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

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*ISCJB **01** 00:26:17.2±1.2, 38°71N±0°05×142°2E±0°1, h48km±10km, mb3.4/2, Error ellipse: s-maj=16.2km s-min=6.9km az=17.0*
*JMA **01** 00:26:17.5±0.1, 38°73N×142°16E, h40km±1km, M3.4*
*IDC **01** 00:26:23.4±8.6, 38°60N×141°87E, h88km±65km, mb3.1/2, mb1 3.2/3, mb1mx2.9/29, mbtmp3.3/3, ML3.0/1, Error ellipse: s-maj=69.0km s-min=35.5km az=69.0*
ISC 01 00:26:16.8±2.0, 38°74N±0°05×142°2E±0°1, h31km±11km, n15, σ1s31/25, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.54	310	P	Pn	00 26 28.6	+0.2
OFUJ				eS	Sb	00 26 36.3	+0.7
JKMT	Kesennumamotoy	0.58	278	P	Pn	00 26 28.8	-0.1
JKMT				eS	Sb	00 26 36.5	0.0
JIKH	Ishinomakikobu	0.72	234	P	Pb	00 26 30.6	-0.2
JIKH				S	Sb	00 26 39.6	-0.8
JIO	Ouri	0.73	248	P	Pn	00 26 30.7	-0.2
JIO				S	Sb	00 26 39.7	-0.9
JMK	Ichinoseki	0.80	286	P	Pn	00 26 32.0	+0.1
JMK				S	Sn	00 26 42.2	-0.6
JOM	Ohasama	1.02	316	P	Pn	00 26 35.5	+0.5
JOM				S	Sn	00 26 48.5	+0.2
JTH	Tanohata	1.23	348	P	Pn	00 26 38.7	+0.8
JOU	Okura	1.27	253	P	Pn	00 26 38.4	+0.1
JOU				eS	Sn	00 26 54.4	+0.1
JRG	Rokugo	1.39	299	P	Pn	00 26 40.5	+0.4
JMM	Marumori	1.41	232	P	Pn	00 26 40.1	-0.2
JMM				S	Sn	00 26 57.3	-0.5
JYK	Kaneyama	1.45	278	P	Pn	00 26 41.6	+0.7
MJAR	Matsushiro Arr	3.85	237	P	Pn	00 27 16.1	+2.1
	1.5nm,0.3s,baz=42,slow=12,SNR=24						
MJAR				S	Sn	00 27 57.9	-0.3
	0.2nm,0.3s,baz=26,slow=44,SNR=1.2						
MAT	Matsushiro	3.86	237	P	Pn	00 27 16.2	+2.2
MAT				eS	Sn	00 28 02.8	+4.6
MKAR	Makanchi Array	43.77	301	P	P	00 34 18.9	-0.5
	0.7nm,1.0s,baz=89,slow=8.9,SNR=3.8						
WRA	Warramunga Arr	58.83	189	P	P	00 36 11.4	-1.0
	0.5nm,1.0s,baz=5.1,slow=7.1,SNR=5.3						

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*IDC **01** 00:36:30.9±1.2, 10°78S×113°80E, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.7/29, mbtmp3.8/8, ML3.8/2, Error ellipse: s-maj=40.2km s-min=19.0km az=57.0*
*ISCJB **01** 00:36:34.4±0.9, 10°6S±0°1×114°10E±0°09, h33km, mb3.7/6, Error ellipse: s-maj=19.9km s-min=11.6km az=19.3*
ISC 01 00:36:36.4±1.1, 10°8S±0°1×114°0E±0°1, h35km, n8, σ1s06/9, mb3.9/6, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	9.52	88	Pn	Pn	00 38 51.1	0.0
	1.0nm,0.3s,baz=252,slow=3.2,SNR=2.2						
BATI				Sn	Sn	00 40 36.2	-0.7
	1.7nm,0.3s,baz=198,slow=3.2,SNR=3.4						
FITZ	Fitzroy Crossi	13.42	124	Pn	Pn	00 39 43.5	-1.0
	0.3nm,0.3s,baz=327,slow=11,SNR=7.4						
FITZ				Sn	Sn	00 42 04.2	-8.2
	0.1nm,0.3s,baz=328,slow=19,SNR=4.0						
WRA	Warramunga Arr	21.61	117	P	P	00 41 25.2	+1.6
	2.8nm,0.6s,baz=289,slow=12,SNR=41						
ASAR	Alice Springs	22.90	127	P	P	00 41 38.7	+1.4
	1.1nm,0.6s,baz=300,slow=9.0,SNR=28						
USRK	Ussuriysk Ar.	57.09	15	P	P	00 46 19.5	+0.3
	1.3nm,0.7s,baz=201,slow=12,SNR=3.4						
SONM	Songino Array	58.73	354	P	P	00 46 30.2	-0.6
	0.4nm,0.4s,baz=167,slow=7.2,SNR=2.5						
MKAR	Makanchi Array	63.93	336	P	P	00 47 05.8	-0.1
	0.1nm,0.3s,baz=148,slow=7.9,SNR=4.4						
VNDA	Vanda	71.06	170	P	P	00 47 50.2	-0.2
	1.0nm,0.9s,baz=297,slow=6.8,SNR=7.1						

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*MOS **01** 01:14:15.3±2.7, 48°29N×102°89E, h10km, mb3.9/2, Error ellipse: s-maj=12.6km s-min=7.3km az=82.6*
*BYKL **01** 01:14:16.3±0.5, 48°66N×102°84E*
*IDC **01** 01:14:16.5±0.9, 48°21N×102°69E, h0km, mb3.4/5, mb1 3.6/8, mb1mx3.4/50, mbtmp3.5/8, ML3.0/3, MS2.8/1, Ms1 2.8/1, ms1mx2.3/41, Error ellipse: s-maj=36.0km s-min=11.5km az=12.0*
ISC 01 01:14:16.7±0.7, 48°45N±0°04×102°91E±0°03, h10km, n59, σ2s65/100, mb3.6/4, 6C-5D, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAK	Zakamensk	1.95	7	⇑ePg	Pn	01 14 47.7	-2.2
ZAK				e		01 14 52.3	
ZAK				max		01 14 52.5	
	459nm,0.3s						
ZAK				eSg	Sn	01 15 11.5	-3.0
ZAK				Smax		01 15 12.8	
	6µm,0.6s						
ZAK	Zakamensk	1.95	7	ePN	Pn	01 14 47.5	-2.4
ZAK				pmax	pmax		
	comp=Z,431nm,0.3s						
SONM	Songino Array	2.42	104	Pn	Pb	01 14 57.8	-2.5
	comp=Z,8.1nm,0.3s,baz=287,slow=15,SNR=66						
SONM				Pg	Pg	01 15 02.8	-0.2
	comp=Z,42nm,0.3s,baz=289,slow=18,SNR=145						
SONM				Lg	Lg	01 15 36.0	
	comp=Z,635nm,0.3s,baz=283,slow=34,SNR=42						
ULN	Ulaanbaatar	2.84	100	⇑iPn	Pb	01 15 03.6	-3.9
ULN				e		01 15 06.8	
ULN				⇓iPg	Pg	01 15 09.7	-1.4
ULN				e		01 15 40.0	
ULN				eSg	Sg	01 15 47.2	-0.6
ULN				e		01 15 50.3	
ULN	Ulaanbaatar	2.84	100	c iPN	Pb	01 15 03.3	-4.2
TLY	Talaya	3.27	8	ePn	Pn	01 15 06.0	-2.0
TLY				ePg	Pb	01 15 11.4	-3.4
TLY				Pmax		01 15 11.9	
	comp=Z,193nm,0.3s						
TLY				eSn	Sn	01 15 41.9	-5.0
TLY				eSg	Sb	01 15 51.6	-3.0
TLY				e		01 15 54.1	
TLY				max		01 16 01.3	
	comp=Z,1µm,1.2s						
MOY	Mondy	3.44	340	⇑ePn	Pn	01 15 08.5	-2.0
MOY				ePg	Pb	01 15 14.3	-3.6
MOY				Pmax		01 15 15.2	
	comp=Z,315nm,0.3s						
MOY				eSg	Sn	01 15 56.8	+5.4
MOY				e		01 16 03.2	
MOY				max		01 16 04.4	
	comp=Z,1µm,1.0s						
MOY	Mondy	3.44	340	ePN	Pn	01 15 14.1	+3.6
MOY				e		01 15 56.4	
MOY				i		01 16 04.4	
ARS	Arshan	3.48	355	⇑iPn	Pn	01 15 09.2	-1.8
ARS				ePg	Pb	01 15 16.0	-2.5
ARS				e		01 15 20.8	
ARS				max		01 15 26.4	
	comp=Z,239nm,0.5s						
ARS				eSg	Sn	01 15 59.2	+6.8
ARS				Smax		01 16 13.5	
	comp=Z,2µm,1.0s						
ARS	Arshan	3.48	355	ePN	Pn	01 15 15.5	+4.5
ARS				e		01 15 58.3	
ARS				pmax	pmax		
	comp=Z,116nm,1.3s						
ARS				smax	smax		
	comp=E,2µm,1.1s						
IVK	Ivanovka	3.49	16	ePn	Pn	01 15 09.4	-1.6
IVK				e		01 15 13.8	
IVK				ePg	Pb	01 15 16.0	-2.5
IVK				Pmax		01 15 20.7	
	comp=E,34nm,0.5s						
IVK				eSn	Sn	01 15 36.7	-16
IVK				eSg	Sb	01 15 59.6	-1.4
IVK				e		01 16 06.9	
IVK				max		01 16 15.6	
	comp=E,648nm,1.2s						
IVK	Ivanovka	3.49	16	ePN	Pn	01 15 09.5	-1.6
IVK				e		01 15 59.2	
IVK				pmax	pmax		
	comp=Z,39nm,0.8s						
IVK				smax	smax		
	comp=N,649nm,1.1s						
LSTR	Listvyanka	3.63	19	ePn	Pn	01 15 10.5	-2.5
LSTR				e		01 15 15.7	
LSTR				ePg	Pb	01 15 18.3	-2.7
LSTR				Pmax		01 15 21.2	
	comp=N,65nm,0.5s						
LSTR				e		01 15 43.5	
LSTR				eSg	Sb	01 16 03.4	-1.8
LSTR				e		01 16 10.2	
LSTR				max		01 16 17.1	
	comp=N,818nm,1.5s						
LSTR	Listvyanka	3.63	19	ePN	Pb	01 15 18.6	-2.4
LSTR				e		01 16 03.4	
LSTR				pmax	pmax		
	comp=Z,64nm,0.6s						
LSTR				smax	smax		
	comp=E,819nm,1.6s						
IRK	Irkutsk	3.89	12	ePn	Pn	01 15 12.4	-4.2
IRK				e		01 15 17.6	
IRK				ePg	Pb	01 15 22.8	-2.6
IRK				Pmax		01 15 25.3	
	comp=E,165nm,0.4s						
IRK				eSg	Sb	01 16 10.9	-1.7
IRK				Smax		01 16 20.0	
	comp=E,3µm,0.5s						
IRK	Irkutsk	3.89	12	ePN	Pb	01 15 23.7	-1.7
IRK				e		01 16 10.9	
IRK				pmax	pmax		
	comp=Z,165nm,0.4s						
IRK				smax	smax		
	comp=N,3µm,0.5s						
BGT	Bolshoye Golou	3.94	23	ePn	Pn	01 15 15.8	-1.4
BGT				ePg	Pb	01 15 23.9	-2.2
BGT				Pmax		01 15 26.0	
	comp=N,68nm,0.5s						
BGT				e		01 15 29.9	
BGT				eSg	Sb	01 16 13.7	-0.2
BGT				Smax		01 16 19.2	
	comp=N,1µm,0.5s						
BGT	Bolshoye Golou	3.94	23	ePN	Pb	01 15 24.0	-2.2
BGT				pmax	pmax		
	comp=Z,43nm,0.6s						
HRMR	Khuramsha	4.11	38	⇓iPn	Pn	01 15 17.7	-1.9
HRMR				ePg	Pb	01 15 27.9	-1.3
HRMR				Pmax		01 15 28.8	
	comp=Z,392nm,0.5s						
HRMR				eSg	Sb	01 16 21.0	+2.1
HRMR				Smax		01 16 27.4	
	comp=Z,4µm,0.6s						
KAB	Kabansk	4.33	32	ePg	Pb	01 15 31.8	-1.1
KAB				Pmax		01 15 33.3	
	comp=Z,188nm,0.5s						
KAB				eSg	Sb	01 16 26.7	+1.6
KAB				Smax		01 16 33.2	
	comp=Z,5µm,0.7s						
KAB	Kabansk	4.33	32	ePN	Pb	01 15 32.1	-0.8
KAB				pmax	pmax		
	comp=Z,264nm,0.5s						
STDB	Stepnoy Dvoret	4.33	29	ePg	Pb	01 15 31.5	-1.4
STDB				eSg	Sb	01 16 26.9	+1.8
ORL	Orlik	4.54	335	ePn	Pn	01 15 23.2	-2.4
ORL				⇓iPg	Pb	01 15 33.9	-2.6
ORL				Pmax		01 15 43.1	
	comp=Z,82nm,0.5s						
ORL				eSg	Sb	01 16 30.0	-1.4
ORL				e		01 16 34.8	
ORL				max		01 16 50.9	
	comp=Z,312nm,1.2s						
ORL	Orlik	4.54	335	ePN	Pb	01 15 34.0	-2.6
ORL				pmax	pmax		
	comp=Z,101nm,0.6s						
UUDB	Ulan-Yde	4.58	40	⇓iPn	Pn	01 15 24.7	-1.4
UUDB				ePg	Pb	01 15 36.3	-0.9
UUDB				Pmax		01 15 37.4	
	comp=Z,259nm,0.8s						
UUDB				e		01 15 42.0	
UUDB				eSg	Sb	01 16 35.4	+2.9
UUDB				Smax		01 16 38.9	
	comp=Z,1µm,0.9s						
TRG	Tyrgan	4.84	26	⇑iPn	Pn	01 15 27.5	-2.1
TRG				e		01 15 33.9	
TRG				ePg	Pb	01 15 40.8	-0.7
TRG				Pmax		01 15 45.4	
	comp=Z,28nm,0.5s						
TRG				eSg	Sb	01 16 41.4	+1.7
TRG				Smax		01 16 44.4	
	comp=Z,631nm,0.6s						
TRG				e		01 16 45.5	
TRG	Tyrgan	4.84	26	ePN	Pn	01 15 27.4	-2.1
TRG				pmax	pmax		
	comp=Z,39nm,0.3s						
TRTB	Turuntaevo	4.84	37	ePn	Pn	01 15 28.1	-1.5
TRTB				ePg	Pb	01 15 40.0	-1.6
TRTB				eSg	Sb	01 16 42.2	+2.3
ZRHB	Zarechye	4.92	32	ePn	Pn	01 15 29.3	-1.4
ZRHB				ePg	Pb	01 15 42.3	-0.6
ZRHB				Pmax		01 15 43.3	
	comp=Z,652nm,0.9s						
ZRHB				eSg	Sb	01 16 44.3	+2.3
ZRHB				Smax		01 16 49.3	
	comp=Z,4µm,1.0s						
ERNS	Erzin	5.38	293	e	Pn	01 15 35.8	-1.3
ERNS				ePg	Pb	01 15 50.9	+0.1
ERNS				e		01 15 59.6	
ERNS				e		01 16 38.2	
ERNS				eSg	Sb	01 17 00.4	+5.0
KELR	Kotokel	5.42	35	ePn	Pn	01 15 34.4	-3.2
KELR				e		01 15 36.1	
KELR				ePg	Pb	01 15 49.7	-1.8
KELR				eSg	Sb	01 16 59.0	+2.4
OGRR	Ongureny	5.98	28	⇓iPn	Pn	01 15 44.5	-0.7
OGRR				e		01 15 48.9	
OGRR				ePg	Pb	01 16 01.3	+0.4
OGRR				Pmax		01 16 09.0	
	comp=Z,31nm,0.8s						
OGRR				e		01 17 13.0	
OGRR				eSg	Sb	01 17 17.0	+4.5
OGRR				Smax		01 17 31.0	
	comp=Z,350nm,0.7s						
OGRR	Ongureny	5.98	28	ePN	Pn	01 15 44.6	-0.7
OGRR				e		01 16 02.3	
OGRR				pmax	pmax		
	comp=Z,31nm,0.8s						
MXMB	Maximikha	6.07	35	ePn	Pn	01 15 44.8	-1.7
MXMB				e		01 15 49.5	
MXMB				ePg	Pb	01 16 01.5	-1.0
MXMB				e		01 16 04.6	
MXMB				e		01 16 55.8	
MXMB				eSg	Sb	01 17 19.6	+4.5
MXMB				e		01 17 26.2	
KZLR	Kyzyl	6.34	304	e	Pb	01 16 04.5	-2.6
KZLR				ePg	Pg	01 16 07.9	-10
KZLR				e		01 17 06.0	
KZLR				eSg	Sb	01 17 27.9	+5.0
KPC	Khapcheranga	6.35	75	ePn	Pn	01 15 49.1	-1.3
KPC				e		01 15 55.1	
KPC				ePg	Pb	01 16 11.0	+3.7
KPC				Pmax		01 16 14.3	
	comp=Z,22nm,0.4s						
KPC				e		01 17 16.4	
KPC				eSg	Sg	01 17 34.0	-6.4
KPC				Smax		01 17 54.6	
	comp=Z,390nm,1.6s						
KPC	Khapcheranga	6.35	75	ePN	Pn	01 15 49.1	-1.3
KPC				e		01 16 09.0	
KPC				e		01 17 31.3	
KPC				pmax	pmax		
	comp=Z,21nm,0.4s						
KPC				smax	smax		
	comp=N,391nm,1.6s						
SYVR	Suvo	6.86	38	i Pn	Pn	01 15 55.7	-1.7
SYVR				e		01 16 00.6	
SYVR				ePg	Pb	01 16 17.2	+1.2
SYVR				Pmax		01 16 18.1	
	comp=N,19nm,0.7s						
SYVR				eSg	Sb	01 17 46.0	+8.1
SYVR				Smax		01 18 02.1	
	comp=N,257nm,1.7s						
SYVR	Suvo	6.86	38	ePN	Pn	01 15 55.6	-1.8
SYVR				pmax	pmax		
	comp=Z,65nm,1.3s						
CIT	Chita	7.70	58	eSg	Sb	01 18 12.2	+10
CIT				e		01 18 17.4	
CIT				e		01 18 21.3	
CIT				max		01 18 28.9	
	comp=Z,281nm,1.3s						
YLYR	Ulyunkhan	8.22	35	ePn	Pn	01 16 13.8	-2.2
YLYR				e		01 16 18.8	
YLYR				e		01 16 23.2	
YLYR				ePg	Pb	01 16 40.3	+1.2
YLYR				Pmax		01 16 53.2	
	comp=Z,12nm,1.5s						
YLYR				e		01 18 18.5	
YLYR				eSg	Sb	01 18 25.3	+8.3
YLYR				Smax		01 18 33.8	
	comp=Z,142nm,1.5s						
NIZ	Nizh Angarsk	8.39	27	ePn	Pn	01 16 16.0	-2.3
NIZ				e		01 16 30.1	
NIZ				e		01 16 39.3	
NIZ				max		01 16 44.0	
	comp=Z,4.0nm,0.4s						
NIZ				e		01 18 05.0	
NIZ				eSg	Sg	01 18 29.6	-16
NIZ				e		01 18 34.8	
NIZ				max		01 18 41.7	
	comp=Z,115nm,1.2s						
NIZ	Nizh Angarsk	8.39	27	ePN	Pn	01 16 16.4	-1.9
NIZ				e		01 16 45.9	
KMO	Kumora	9.02	31	e	Pn	01 16 33.9	+7.0
KMO				e		01 16 55.5	
KMO				max		01 17 05.6	
	comp=Z,8.0nm,0.4s						
KMO				e		01 18 27.6	
KMO				eSg	Sn	01 18 49.8	+41
KMO				Smax		01 19 16.3	
	comp=Z,175nm,1.2s						
UKT	Uakit	9.65	39	e	Pn	01 16 34.2	-1.5
UKT				e		01 16 42.1	
UKT				e		01 17 08.6	
UKT				max		01 17 21.1	
	comp=Z,9.0nm,0.6s						
UKT				eSg	Sn	01 19 13.3	+49
UKT				Smax		01 19 20.6	
	comp=Z,195nm,1.6s						
KRAR	Krasnoyarsk	9.75	325	i P	Pn	01 16 26.0	-11
DGZ	Jazzator, Alta	10.23	283	i P	Pn	01 16 44.8	+1.1
TUP	Tupik	12.19	54	e	Pn	01 17 11.8	+1.5
TUP				e		01 17 55.4	
TUP				e		01 20 23.0	
TUP				eSg		01 20 30.7	
TUP				Smax		01 20 53.3	
	comp=Z,127nm,1.1s						
ZALV	Zalesovo Beam	12.59	303	Pg	Pn	01 18 01.6	+46
	comp=Z,0.1nm,0.3s,baz=109,slow=17,SNR=4.0						
ZALV				Lg	Lg	01 20 49.7	
	comp=Z,0.2nm,0.3s,baz=106,slow=22,SNR=7.0						
MKAR	Makanchi Array	14.00	271	Pn	Pn	01 17 36.3	+1.2
	comp=Z,0.0nm,0.3s,baz=70,slow=17,SNR=3.3						
MKAR				Lg	Lg	01 21 33.9	
	comp=Z,0.2nm,0.3s,baz=80,slow=30,SNR=9.3						
KURK	Kurchatov	15.89	287	P	Pn	01 18 00.8	+0.5
KURBB	Kurchatov Arra	15.96	287	Pn	Pn	01 18 00.8	-0.3
	comp=Z,0.1nm,0.3s,baz=90,slow=12,SNR=4.0						
KURBB				Lg	Lg	01 22 39.8	
	baz=88,slow=30,SNR=5.0						
BVAR	Borovoye Array	20.97	295	P	P	01 18 58.7	-1.0
	comp=Z,0.9nm,0.5s,baz=81,slow=9.8,SNR=9.3						
JOW	Kunigami	29.25	128	LR	LR	01 33 03.8	
	comp=Z,21nm,21.2s,baz=214,slow=39						
BRTR	Keskin Array B	48.95	287	P	P	01 23 02.9	-0.3
	comp=Z,0.8nm,0.8s,baz=46,slow=6.2,SNR=5.4						
BRTR	Keskin Array B	48.95	287	eP	P	01 23 03.3	+0.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	Yellowknife Ar	65.44	18	P	P	01 25 03.4	+4.3
	comp=Z,0.1nm,0.7s,baz=334,slow=6.6,SNR=2.2						
WRA	Warramunga Arr	73.66	149	P	P	01 25 50.8	+0.4
	comp=Z,0.8nm,1.1s,baz=346,slow=6.8,SNR=4.1						
ASAR	Alice Springs	76.97	151	P	P	01 26 10.5	+1.1
	comp=Z,0.4nm,0.8s,baz=345,slow=6.1,SNR=6.3						

MAN 01 01:23:42.2, 10°55N×122°39E, h33km, mb4.0, ML2.8, MS2.4, 1D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIM	Jordan	0.21	69	eP	Pb	01 23 50.6	+1.7
GUIM				eS	Sb	01 23 55.5	+2.0
RCP	Roxas	1.06	19	⇓iP	Pb	01 24 02.0	-0.1
RCP				eS	Sb	01 24 15.2	-0.6
CUYO	Cuyo Island	1.38	283	eP	Pn	01 24 06.0	+0.8
CUYO				eS	Sn	01 24 22.2	-0.1
OTRP	Odiongan	1.84	349	eP	Pn	01 24 11.1	-0.4
OTRP				eS	Sn	01 24 31.8	-1.8

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*IDC **01** 01:30:10.3±2.3, 31°24S×179°82W, h360km±20km, mb3.0/3, mb1 3.3/4, mb1mx3.1/25, mbtmp3.9/4, Error ellipse: s-maj=27.2km s-min=21.3km az=173.0*
*WEL **01** 01:30:12.3±0.8, 32°S±7°×17°9W±1°5, h365km±11km*
ISC 01 01:30:09.7±0.6, 31°24S±0°07×179°7W±0°1, h350km, n57, σ2s09/61, mb3.1/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.49	38	P	Pn	01 31 08.6	+3.9
GLKZ				S	S	01 31 52.4	+3.4
GRZ	Great Barrier	6.43	218	P	Pn	01 31 50.7	+5.4
MXZ	Matakaoa Point	6.52	194	P	Pn	01 31 49.6	+3.2
MXZ				S	S	01 33 04.5	-0.4
WMGZ	Waiomatatini S	6.75	193	P	Pn	01 31 52.7	+3.7
WMGZ				S	S	01 33 11.2	+1.5
HAZ	Te Kaha	6.83	197	P	Pn	01 31 52.5	+2.6
HAZ				S	S	01 33 11.1	-0.3
WCZ	Waipu Caves	6.84	225	P	Pn	01 31 55.3	+5.1
PKGZ	Pakihiroa	6.89	195	P	Pn	01 31 54.5	+3.8
OUZ	Omahuta	6.89	233	P	Pn	01 31 55.1	+4.4
WIAZ	Waiheke Island	7.01	216	P	Pn	01 31 57.5	+5.4
PUZ	Puketiti	7.02	193	P	Pn	01 31 54.6	+2.4
RUGZ	Raukumara Rang	7.05	197	P	Pn	01 31 55.8	+3.1
MBAZ	Motutapu North	7.12	218	P	Pn	01 31 59.3	+6.0
TWGZ	Tauwhareparae	7.18	195	P	Pn	01 31 57.5	+3.4
TWGZ				S	S	01 33 20.6	+1.5
MKAZ	Moumakai	7.24	215	P	Pn	01 32 00.1	+5.3
OPRZ	Ohinepanea	7.28	204	P	Pn	01 32 01.3	+6.1
MARZ	Manawahe	7.37	203	P	Pn	01 31 58.3	+2.0
CNGZ	Carnagh Statio	7.43	193	P	Pn	01 31 59.8	+2.8
MWZ	Matawai	7.44	197	P	Pn	01 31 58.6	+1.5
TKGZ	Te Karaka	7.46	195	P	Pn	01 31 57.2	-0.1
URZ	Urewera	7.48	200	P	Pn	01 31 59.4	+1.8
	10nm,0.3s,baz=347,slow=10,SNR=41						
URZ				S	S	01 33 23.5	-1.9
	13nm,0.3s,baz=68,slow=19,SNR=20						
URZ	Urewera	7.48	200	P	Pn	01 31 59.4	+1.8
TOZ	Tahuroa Road	7.60	210	P	Pn	01 32 02.6	+3.6
RAGZ	Rawiri	7.62	197	P	Pn	01 32 00.2	+0.9
RIGZ	Rimuhau	7.74	195	P	Pn	01 32 04.9	+4.2
MUGZ	Murupara	7.79	201	P	Pn	01 32 03.3	+2.2
RTZ	Ruatahuna	7.85	200	P	Pn	01 32 04.7	+2.7
RAHZ	Arahi	8.10	198	P	Pn	01 32 06.8	+1.8
MTHZ	Maungataniwha	8.11	200	P	Pn	01 32 07.1	+2.0
MHGZ	Mahia Peninsul	8.14	193	P	Pn	01 32 07.0	+1.7
WHHZ	Waihua	8.22	197	P	P	01 32 09.0	-0.2
MRHZ	Matea Rd	8.22	202	P	P	01 32 09.7	+0.3
NMHZ	Naumai	8.35	199	P	Pn	01 32 09.5	+1.6
WTVZ	West Tongariro	8.76	205	P	Pn	01 32 14.5	+1.7
FWVZ	Far West T-bar	8.89	205	P	Pn	01 32 16.2	+1.7
BHHZ	Black Hill Sta	8.93	202	P	Pn	01 32 15.0	+0.2
MOVZ	Moawhango	8.96	203	P	Pn	01 32 15.9	+0.7
VRZ	Vera Road	9.09	209	P	P	01 32 20.3	+1.5
PNHZ	Pukenui	9.28	200	P	Pn	01 32 17.9	-1.1
TSZ	Takapari Road	9.49	201	P	Pn	01 32 21.2	-0.2
MRZ	Mangatainoka R	10.15	201	P	Pn	01 32 28.4	-0.9
HOWZ	Holdsworth Sta	10.39	201	P	Pn	01 32 31.8	-0.4
OGWZ	Otaki Gorge	10.42	202	P	Pn	01 32 32.3	-0.2
STKA	Stephens Creek	32.89	259	P	P	01 36 12.6	+0.3
	0.7nm,0.4s,baz=121,slow=19,SNR=3.6						
ASAR	Alice Springs	41.63	269	P	P	01 37 23.2	-1.9
	0.4nm,0.5s,baz=102,slow=7.2,SNR=12						
ASAR				PcP	sP	01 39 13.4	+1.2
	0.2nm,0.3s,baz=112,slow=4.0,SNR=5.8						
ASAR				ScP	ScP	01 42 27.4	-3.4
	0.2nm,0.7s,baz=104,slow=4.0,SNR=4.3						
WRA	Warramunga Arr	42.70	274	P	P	01 37 31.7	-2.0
	1.0nm,0.8s,baz=111,slow=8.0,SNR=21						
WRA				PcP	PcP	01 39 17.1	-1.1
	0.7nm,0.8s,baz=119,slow=3.0,SNR=4.2						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA				ScP	**ScP**	**01 42 32.6**	**-2.5**
	0.3nm,0.8s,baz=93,slow=3.7,SNR=3.3						
VNA3	**Neumayer Olymp**	**77.56**	**177**	P	**P**	**01 41 28.1**	**+0.9**
VNA2	**Neumayer--Watz**	**77.98**	**177**	P	**P**	**01 41 30.5**	**+1.0**
	baz=184,slow=3.9						
MKAR	**Makanchi Array**	**117.20**	**310**	PKP	**PKPdf**	**01 48 12.0**	**-1.4**
	0.3nm,0.6s,baz=93,slow=1.0,SNR=4.2						
KBZ	**Khabaz**	**144.36**	**303**	PKP	**PKPab**	**01 49 02.8**	**-0.8**
	1.1nm,0.7s,baz=204,slow=6.2,SNR=5.7						
FINES	**FINESS Array B**	**145.41**	**338**	PKPbc	**PKPdf**	**01 49 05.3**	**-0.2**
	4.5nm,0.5s,baz=52,slow=3.7,SNR=78						
NB2	**NORSAR Subarra**	**149.34**	**350**	PKP	**PKPbc**	**01 49 16.0**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=15,slow=2.6						
NOA	**NORSAR Array B**	**149.34**	**350**	PKPbc	**PKPbc**	**01 49 16.2**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=39,slow=2.0,SNR=3.8						
HFS	**Hagfors**	**149.75**	**347**	PKPbc	**PKPbc**	**01 49 16.9**	**-1.0**
	comp=Z,2.9nm,0.8s,baz=108,slow=4.8,SNR=6.3						
AKASG	**Malin Array Be**	**151.06**	**321**	PKPbc	**PKPbc**	**01 49 20.4**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=48,slow=3.2,SNR=7.8						
BRTR	**Keskin Array B**	**151.71**	**297**	PKPbc	**PKPbc**	**01 49 22.2**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=140,slow=4.3,SNR=15						
TORD	**Torodi Ar. Bea**	**161.95**	**184**	PKPab	**PKPab**	**01 50 18.0**	**0.0**
	comp=Z,0.4nm,0.4s,baz=166,slow=5.3,SNR=7.5						
MDT	**Midelt**	**175.53**	**68**	PKPab	**PKPab**	**01 51 16.3**	**-1.9**
	comp=Z,0.9nm,0.4s,baz=257,slow=6.8,SNR=5.7						

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*IDC **01** 02:22:55.2±1.2, 2.°83S×141.°69E, h0km, mb3.8/5, mb1 4.1/7, mb1mx3.8/33, mbtmp4.0/7, ML4.2/2, MS3.3/3, Ms1 3.3/3, ms1mx2.9/31, Error ellipse: s-maj=14.8km s-min=11.0km az=63.0*

*ISCJB **01** 02:22:58.8±1.1, 2.°8S±0.°1×141.°6E±0.°1, h35km, mb3.8/5, MS3.1/1, Error ellipse: s-maj=21.1km s-min=15.1km az=166.9*

ISC 01 02:23:00.4±1.3**, 2.°7S**±0.°1×**141.°5E**±0.°2**, h35km, n9, σ1s17**/10**, mb3.8**/5**, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.84**	**283**	Pg	**Pn**	**02 23 14.8**	**-1.1**
	57nm,0.3s,baz=139,slow=9.3,SNR=66						
JAY				Lg	Lg	02 23 29.4	
	50nm,0.3s,baz=126,slow=14,SNR=12						
JAY				LR	LR	02 23 43.1	
	comp=Z,472nm,20.5s,baz=348,slow=46						
SIJI	**Sorong**	**10.42**	**280**	LR	LR	02 30 15.0	
	comp=Z,136nm,19.1s,slow=42						
WRA	**Warramunga Arr**	**18.51**	**202**	P	**P**	**02 27 13.1**	**-0.7**
	0.4nm,0.3s,baz=26,slow=12,SNR=23						
WRA				S	**Sn**	**02 30 41.6**	**+1.4**
	0.0nm,0.3s,baz=13,slow=19,SNR=3.5						
WRA				LR	LR	02 34 56.5	
	comp=Z,126nm,18.9s,baz=220,slow=39						
BATI	**Baumata**	**19.24**	**246**	P	**Pn**	**02 27 24.2**	**+1.1**
	2.5nm,0.3s,baz=62,slow=18,SNR=4.2						
FITZ	**Fitzroy Crossi**	**21.83**	**224**	P	**P**	**02 27 49.4**	**-0.5**
	1.9nm,0.5s,baz=27,slow=12,SNR=5.7						
FITZ				LR	LR	02 36 52.2	
	comp=Z,80nm,18.7s,baz=50,slow=38						
ASAR	**Alice Springs**	**22.10**	**199**	P	**P**	**02 27 52.4**	**-0.5**
	1.0nm,0.5s,baz=26,slow=11,SNR=23						
ASAR				S	**S**	**02 31 55.5**	**+0.9**
	0.4nm,0.8s,baz=30,slow=20,SNR=2.6						
STKA	**Stephens Creek**	**29.01**	**180**	P	**P**	**02 28 55.7**	**-1.4**
	0.6nm,0.2s,baz=0.0,slow=14,SNR=1.5						
MKAR	**Makanchi Array**	**71.53**	**322**	P	**P**	**02 34 18.9**	**+1.0**
	0.6nm,0.7s,baz=103,slow=7.9,SNR=7.9						
ILAR	**Eielson Array**	**84.68**	**24**	P	**P**	**02 35 30.9**	**+0.6**
	0.9nm,0.7s,baz=267,slow=5.0,SNR=12						

RSNC 01 02:48:44.5±1.4**, 6.°81N×73.°15W, h140km**±6km**, ML3.1, Mw3.5, 3C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**188**	*i* P	Pn	02 49 03.8	-0.2
BARC				*e*S	Sn	02 49 18.0	-0.7
BARC				*i*		02 49 19.6	
	comp=Z,447nm,0.4s						
BRRC	**Barranca, Sant**	**0.63**	**298**	⇑*i*P	Pn	02 49 05.7	+0.3
BRRC				*e*S	Sn	02 49 21.2	-0.1
BRRC				*i*		02 49 22.9	
	comp=N,636nm,0.2s						
RUSC	**La Rusia**	**0.92**	**176**	⇑*i*P	Pn	02 49 07.7	-0.5
RUSC				*e*S	Sn	02 49 25.9	-0.3
RUSC				*i*		02 49 27.8	
	comp=N,371nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.32**	**258**	*e*P	Pn	02 49 10.3	-1.2
PTBC				*e*S	Sn	02 49 31.0	-1.0
PTBC				*i*		02 49 34.0	
	comp=N,453nm,0.3s						
TAMC	**Tame, Arauca**	**1.40**	**105**	*e*S	Sn	02 49 33.1	-0.5
OCAC	**Ocana**	**1.43**	**353**	*e*P	Pn	02 49 12.5	-0.2
OCAC				*e*S	Sn	02 49 33.6	-0.6
OCAC				*i*		02 49 38.4	
	comp=N,272nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	*e*P	Pn	02 49 17.1	+0.2
ZARC				*e*S	Sn	02 49 41.8	0.0
ZARC				*i*		02 49 47.4	
	comp=N,186nm,0.4s						
CTAU	**Tausa, Cundina**	**1.83**	**209**	*e*P	Pn	02 49 19.9	+2.3
CTAU				*i*		02 49 21.1	
	comp=Z,46nm,0.3s						
CTAU				*e*S	Sn	02 49 44.5	+1.7
CTAB	**Cerro Tablazo,**	**2.07**	**210**	*e*P	Pn	02 49 22.2	+1.8
CTAB				*e*S	Sn	02 49 51.8	+3.9
CHIC	**Chingaza**	**2.25**	**195**	*e*P	Pn	02 49 22.0	-0.5
CHIC				*i*		02 49 23.8	
	comp=Z,26nm,0.2s						
CHIC				*e*S	Sn	02 49 50.2	-1.3
ROSC	**El Rosal**	**2.28**	**211**	⇑*i*P	Pn	02 49 23.6	+0.8
ROSC				*i*		02 49 26.7	
	comp=Z,39nm,0.2s						
ROSC				*e*S	Sn	02 49 52.0	-0.2
HELC	**Santa Helena**	**2.44**	**255**	*e*P	Pn	02 49 24.8	0.0
HELC				*e*S	Sn	02 49 54.9	-0.8
HELC				*i*		02 50 01.7	
	comp=N,50nm,0.3s						
UREC	**San Jos de Ur**	**2.54**	**292**	*e*P	Pn	02 49 24.3	-1.3
UREC				*e*S	Sn	02 49 55.6	-1.7
UREC				*i*		02 49 57.5	
	comp=N,98nm,0.2s						
VILC	**Villavicencio,**	**2.74**	**191**	*e*P	Pn	02 49 27.4	-0.9
VILC				*e*S	Sn	02 50 01.0	-1.1
VILC				*i*		02 50 07.2	
	comp=N,108nm,0.5s						
RREF	**El Recreo**	**2.89**	**229**	*e*P	Pn	02 49 30.4	-0.3
RREF				*e*S	Sn	02 50 06.6	+0.3
RREF				*i*		02 50 16.1	
	comp=Z,30nm,0.3s						
DBBC	**Dabeiba**	**3.04**	**274**	*e*P	Pn	02 49 32.0	-0.1
DBBC				*e*S	Sn	02 50 07.9	-1.0
TOLC	**Tolima**	**3.09**	**224**	*e*P	Pn	02 49 34.0	+1.0
CODC	**Agustn Codazz**	**3.11**	**355**	*e*P	Pn	02 49 31.9	-1.1
CODC				*i*		02 50 17.2	
	comp=N,14nm,0.3s						
MOTC	**Monteria, Cord**	**3.16**	**308**	*e*P	Pn	02 49 31.7	-1.9
MOTC				*e*S	Sn	02 50 09.9	-1.7
ANIL	**Santa Ana**	**3.21**	**224**	*e*P	Pn	02 49 34.8	+0.2
ANIL				*e*S	Sn	02 50 13.2	-0.1
ANIL				*i*		02 50 25.3	
	comp=N,66nm,0.4s						
SDV	**Santo Domingo**	**3.24**	**50**	*e*P	Pn	02 49 33.5	-1.2
SJCC	**San Jacinto, C**	**3.66**	**327**	*e*P	Pn	02 49 38.6	-1.5
SJCC				*e*S	Sn	02 50 19.9	-3.4
SJCC				*i*		02 50 23.1	
	comp=N,31nm,0.4s						
POPC	**Popayan, Colom**	**5.51**	**220**	*e*P	Pn	02 50 04.6	-0.2

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*IDC **01** 03:09:55.9±3.0, 15.°27S×167.°45E, h48km±26km, mb3.6/8, mb1 3.8/9, mb1mx3.6/29, mbtmp3.9/9, ML4.2/1, Error ellipse: s-maj=30.4km s-min=21.8km az=107.0*

*NEIC **01** 03:09:58.3±2.5, 15.°31S×167.°49E, h72km±25km, mb4.3/6, Error ellipse: s-maj=25.5km s-min=12.9km az=159.0*

*ISCJB **01** 03:10:01.8±0.6, 15.°68S±0.°04×167.°6E±0.°1, h124km, mb3.9/14, Error ellipse: s-maj=14.9km s-min=5.7km az=175.4*

ISC 01 03:10:03.6±0.8**, 15.°69S**±0.°07×**167.°8E**±0.°2**, h124km, n25, σ2s57**/35**, mb4.0**/14**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**5.76**	**178**	*e*Pn	**Pn**	**03 11 23.3**	**-3.6**
MARNC				*e*Sn	**Sn**	**03 12 30.9**	**-1.1**
DZM	**Mont Dzumac**	**6.47**	**191**	P	**Pn**	**03 11 35.0**	**-1.5**
	4.9nm,0.3s,baz=45,slow=19,SNR=24						
DZM				S	**Sn**	**03 12 49.8**	**+0.7**
	3.5nm,0.3s,baz=130,slow=23,SNR=5.9						
ONTNC	**Ouen Toro**	**6.70**	**190**	*e*Pn	**Pn**	**03 11 38.8**	**-0.7**
ONTNC				*e*Sn	**Sn**	**03 12 53.7**	**-0.7**
PINNC	**Pines Island,**	**6.89**	**182**	*e*Pn	**Pn**	**03 11 42.2**	**+0.1**
PINNC				*e*Sn	**Sn**	**03 12 59.0**	**-0.1**
STKA	**Stephens Creek**	**28.75**	**231**	P	**P**	**03 15 49.4**	**-0.2**
	1.0nm,0.7s,baz=36,slow=8.7,SNR=2.9						
WB2	**Warramunga Arr**	**32.06**	**257**	*e*P	**P**	**03 16 16.2**	**-2.7**
	4.6nm,1.3s						
WRAB	**Tennant Creek**	**32.06**	**257**	*e*P	**P**	**03 16 19.8**	**+0.9**
	3.7nm,0.8s						
WR1	**Warramunga Arr**	**32.07**	**257**	*e*P	**P**	**03 16 15.6**	**-3.4**
	6.3nm,1.4s						
WR1				*e*PcP	**PcP**	**03 19 07.2**	**+1.4**
WRA	**Warramunga Arr**	**32.07**	**257**	P	**P**	**03 16 15.6**	**-3.4**
	0.4nm,0.4s,baz=86,slow=9.0,SNR=7.5						
WRA				PcP	**PcP**	**03 19 07.2**	**+1.4**
	0.2nm,0.6s,baz=90,slow=6.4,SNR=3.3						
AS01	**Alice Springs**	**32.75**	**251**	*e*P	**P**	**03 16 23.4**	**-1.6**
AS31	**Alice Springs**	**32.79**	**251**	*e*P	**P**	**03 16 23.0**	**-2.3**
	0.9nm,0.4s						
AS31				*e*PcP	**PcP**	**03 19 09.7**	**+2.0**
AS31				*e*ScP	**ScP**	**03 22 48.1**	**+7.6**
ASAR	**Alice Springs**	**32.79**	**251**	P	**P**	**03 16 23.0**	**-2.3**
	1.3nm,0.4s,baz=78,slow=9.0,SNR=45						
ASAR				PcP	**PcP**	**03 19 09.7**	**+1.9**
	0.2nm,0.7s,baz=76,slow=3.9,SNR=3.4						
ASAR				ScP	**ScP**	**03 22 48.1**	**+7.6**
	0.6nm,1.0s,baz=84,slow=4.8,SNR=4.2						
BBOO	**Buckleboo**	**33.38**	**234**	*e*P	**P**	**03 16 30.4**	**+0.1**
	8.4nm,1.3s						
FITZ	**Fitzroy Crossi**	**40.31**	**260**	*e*P	**P**	**03 17 27.3**	**-1.8**
	13nm,1.5s						
VNDA	**Vanda**	**61.92**	**181**	P	**P**	**03 20 13.0**	**+3.4**
	0.8nm,1.1s,baz=354,slow=7.9,SNR=4.3						
SONA0	**Songino Array**	**83.55**	**323**	*e*P	**P**	**03 22 17.6**	**-0.4**
SONM	**Songino Array**	**83.55**	**323**	P	**P**	**03 22 17.6**	**-0.4**
	0.2nm,0.3s,baz=132,slow=2.1,SNR=3.5						
ILAR	**Eielson Array**	**87.29**	**18**	P	**P**	**03 22 34.3**	**-1.7**
	0.3nm,0.6s,baz=232,slow=5.2,SNR=6.6						
ILB	**Eielson Array**	**87.29**	**18**	*e*P	**P**	**03 22 34.3**	**-1.7**
YKA	**Yellowknife Ar**	**98.18**	**27**	P	**P**	**03 23 25.4**	**-0.8**
	0.2nm,0.7s,baz=254,slow=4.8,SNR=3.0						
YKB5	**Yellowknife Ar**	**98.18**	**27**	*e*P	**P**	**03 23 25.4**	**-0.8**
MK32	**Makanchi Array**	**98.22**	**316**	*e*P	**P**	**03 23 26.4**	**-0.5**
MKAR	**Makanchi Array**	**98.22**	**316**	P	**P**	**03 23 26.3**	**-0.5**
	0.3nm,0.6s,baz=96,slow=5.0,SNR=4.5						
ARA0	**ARCESS Array S**	**121.30**	**345**	*e*PKPdf	**PKPdf**	**03 28 41.4**	**-0.1**
ARCES	**ARCESS Array B**	**121.30**	**345**	PKP	**PKPdf**	**03 28 41.4**	**-0.1**
	0.9nm,0.6s,baz=90,slow=1.6,SNR=7.6						

IDC 01 03:18:18.6±11.0**, 15.°93S×175.°21W, h0km, mb4.0**/4**, mb1 4.2**/4**, mb1mx3.7**/39**, mbtmp4.0**/4**, MS4.0**/2**, Ms1 4.1**/2**, ms1mx3.0**/41**, Error ellipse: s-maj=263.5km s-min=45.1km az=33.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.26**	**240**	P	P	03 26 14.2	+0.2
	0.6nm,0.5s,baz=87,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**48.03**	**257**	P	P	03 26 59.8	-0.2
	0.6nm,0.4s,baz=89,slow=8.0,SNR=35						
ASAR	**Alice Springs**	**48.29**	**252**	P	P	03 27 01.8	-0.3
	6.3nm,0.6s,baz=88,slow=8.4,SNR=139						
FITZ	**Fitzroy Crossi**	**56.40**	**259**	LR	LR	03 50 58.7	
	comp=Z,60nm,18.1s,baz=124,slow=35						
VNDA	**Vanda**	**62.68**	**185**	P	P	03 28 44.7	0.0
	0.3nm,0.4s,baz=40,slow=4.8,SNR=7.1						
PLCA	**Paso Flores**	**90.44**	**133**	LR	LR	04 03 27.2	
	comp=Z,199nm,21.7s,baz=22,slow=30						

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*ISCJB **01** 03:25:26.3±0.5, 17.°63N±0.°06×101.°27W±0.°04, h45km±7km, mb3.5/4, MS4.1/1, Error ellipse: s-maj=10.9km s-min=5.5km az=18.4*

*NEIC **01** 03:25:28.2±0.0, 17.°69N×101.°28W, h45km, MD4.0(MEX), After MEX.*

*MEX **01** 03:25:28.2±0.6, 17.°69N×101.°28W, h45km±5km, MD4.0*

*IDC **01** 03:25:37.4±5.1, 18.°06N×100.°56W, h128km±45km, mb3.2/4, mb1 3.4/7, mb1mx3.2/37, mbtmp3.4/7, MS3.6/2, Ms1 3.6/2, ms1mx2.8/19, Error ellipse: s-maj=61.5km s-min=15.6km az=52.0*

ISC 01 03:25:27.5±0.8**, 17.°65N**±0.°06×**101.°27W**±0.°03**, h42km**±7km**, n22, σ1s67**/33**, mb3.6**/4**, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.20**	**256**	*i* P	**Pn**	**03 25 34.2**	**-0.7**
ZIIG				*e*S	**Sn**	**03 25 39.8**	**-0.3**
ZIIG	**Zihuatanejo**	**0.20**	**256**	*i* P	**Pn**	**03 25 34.2**	**-0.7**
ZIIG				*e*S	**Sn**	**03 25 39.8**	**-0.3**
ARIG	**Puente Sto Nin**	**1.07**	**54**	*e*P	**Pn**	**03 25 44.8**	**-1.4**
ARIG				*e*S	**Sn**	**03 25 58.2**	**-1.7**
ARIG	**Puente Sto Nin**	**1.07**	**54**	*e*P	**Pn**	**03 25 44.8**	**-1.4**
ARIG				*e*S	**Sn**	**03 25 58.2**	**-1.7**
CAIG	**El Cayaco**	**1.13**	**122**	*e*P	**Pn**	**03 25 46.3**	**-0.6**
CAIG				*e*S	**Sn**	**03 26 00.5**	**-0.7**
CAIG	**El Cayaco**	**1.13**	**122**	*e*P	**Pn**	**03 25 46.3**	**-0.6**
CAIG				*e*S	**Sn**	**03 26 00.5**	**-0.7**
ACP2	**Acapulco**	**1.53**	**120**	*e*P	**Pn**	**03 25 52.3**	**-0.1**
ACP2				*i* S	**Sn**	**03 26 09.8**	**-1.2**
MEIG	**Mezcala**	**1.59**	**80**	*e*P	**Pn**	**03 25 53.3**	**0.0**
MEIG				*e*S	**Sn**	**03 26 11.8**	**-0.9**
MEIG	**Mezcala**	**1.59**	**80**	*e*P	**Pn**	**03 25 53.3**	**0.0**
MEIG				*e*S	**Sn**	**03 26 11.8**	**-0.9**
MMIG	**Aquila**	**2.08**	**288**	*i* P	**Pn**	**03 25 58.9**	**-1.1**
MMIG				*e*S	**Sn**	**03 26 22.6**	**-2.0**
MMIG	**Aquila**	**2.08**	**288**	*i* P	**Pn**	**03 25 58.9**	**-1.1**
MMIG				*e*S	**Sn**	**03 26 22.6**	**-2.0**
CMIG	**Matias Romero**	**6.12**	**94**	P	**Pn**	**03 26 57.3**	**+1.9**
	0.6nm,0.3s,baz=279,slow=10,SNR=9.2						
CMIG				S	**Sn**	**03 27 59.6**	**-4.7**
	1.4nm,0.3s,baz=264,slow=17,SNR=4.4						
TXAR	**Lajitas Array**	**11.83**	**350**	P	Pn	03 28 19.6	+5.8
	0.1nm,0.3s,baz=165,slow=15,SNR=2.2						
TXAR				S	**Sn**	**03 30 29.1**	**+4.5**
	0.1nm,0.3s,baz=164,slow=23,SNR=2.7						
ANMO	**Albuquerque**	**17.83**	**346**	P	**P**	**03 29 34.2**	**+1.1**
	0.1nm,0.3s,baz=145,slow=10,SNR=5.9						
ANMO				LR	LR	03 36 50.3	
	comp=Z,75nm,19.7s,baz=93,slow=38						
NVAR	**Mina Array Bea**	**25.50**	**328**	P	**P**	**03 30 53.8**	**+1.5**
	2.2nm,0.7s,baz=138,slow=10,SNR=11						
PDAR	**Pinedale Array**	**26.01**	**346**	P	**P**	**03 30 57.0**	**+0.2**
	1.3nm,1.0s,baz=144,slow=7.8,SNR=6.3						
YKA	**Yellowknife Ar**	**45.76**	**351**	P	**P**	**03 33 42.6**	**-1.9**
	0.2nm,0.8s,baz=156,slow=7.4,SNR=3.4						
LVC	**Limon Verde**	**51.02**	**140**	LR	LR	03 53 43.8	
	comp=Z,192nm,20.2s,baz=328,slow=33						
ILAR	**Eielson Array**	**56.07**	**338**	P	**P**	**03 35 02.5**	**+0.3**
	0.9nm,0.9s,baz=152,slow=7.0,SNR=7.8						
WRA	**Warramunga Arr**	**127.51**	**258**	PKP	**PKPdf**	**03 44 28.4**	**-0.4**
	0.4nm,0.8s,baz=76,slow=2.4,SNR=3.3						
ASAR	**Alice Springs**	**128.29**	**254**	PKP	**PKPdf**	**03 44 30.4**	**+0.1**
	0.4nm,0.9s,baz=54,slow=2.4,SNR=3.4						
MAW	**Mawson**	**129.04**	**172**	PKP	**PKPdf**	**03 44 31.3**	**+1.1**
	2.6nm,0.3s,baz=198,slow=3.2,SNR=4.7						

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*NIED **01** 03:32:00, 40.°50N×141.°70E, h107km, Mw4.1 Best double couple: M0 1.86000×10^15 NP1: φs351.00000°, δ24.00000°, λ-133.00000°. NP2: φs217.00000°, δ73.00000°, λ-73.00000°.*

*BJI **01** 03:32:08.5, 40.°13N×141.°88E, h100km, mb4.6/36, mB5.0/14*

*ISCJB **01** 03:32:12.1±0.2, 40.°45N±0.°02×141.°65E±0.°04, h110km±1km, mb4.1/48, Error ellipse: s-maj=4.9km s-min=3.7km az=21.3*

*MOS **01** 03:32:12.0±1.0, 40.°57N×141.°51E, h103km, mb4.0/17, Error ellipse: s-maj=8.0km s-min=5.9km az=95.3*

*NEIC **01** 03:32:13.0±0.5, 40.°35N×141.°55E, h107km±5km, mb4.3/17, Error ellipse: s-maj=7.0km s-min=5.8km az=140.0*

NEIC Felt at Misawa.

*JMA **01** 03:32:13.2±0.1, 40.°44N×141.°72E, h105km±1km, M4.0 Broadband fault plane solution: P waves. NP1: φs348.00000°, δ89.00000°, λ41.00000°. NP2: φs257.00000°, δ49.00000°, λ178.00000°. Principal axes: T Plg29.0000°, Azm221.0000°; N Plg49.0000°, Azm350.0000°; P Plg27.0000°, Azm115.0000°;*

JMA Felt III J1.

*IDC **01** 03:32:14.1±1.6, 40.°36N×141.°55E, h114km±14km, mb3.6/22, mb1 3.8/29, mb1mx3.7/44, mbtmp4.0/29, MS2.9/2, Ms1 2.9/2, ms1mx2.4/50 Error ellipse: s-maj=13.2km s-min=10.3km az=103.0*

ISC 01 03:32:12.5±0.6**, 40.°43N**±0.°03×**141.°71E**±0.°04**, h101km**±5km**, n140, σ1s54**/164**, mb4.2**/53**, 12C-9D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.16**	**249**	⇓P	**Pn**	**03 32 27.9**	**+1.2**
JANG				S	**Sn**	**03 32 38.5**	**+1.2**
JKEN	**Kujiedanarisaw**	**0.22**	**180**	P	**Pn**	**03 32 28.3**	**+1.4**
JKEN				S	**Sn**	**03 32 39.2**	**+1.6**
JTH	**Tanohata**	**0.51**	**166**	⇑P	**Pn**	**03 32 29.6**	**+1.2**
JTH				S	**Sn**	**03 32 41.6**	**+1.3**
JTM	**Tenmabayashi**	**0.60**	**306**	⇓P	**Pn**	**03 32 30.0**	**+0.9**
JTM				*e*S	**Sn**	**03 32 43.3**	**+1.6**
JAH	**Hinai**	**0.86**	**254**	⇓P	**Pn**	**03 32 32.8**	**+1.4**
JAH				S	**Sn**	**03 32 47.2**	**+1.5**
JOM	**Ohasama**	**1.01**	**199**	⇑P	**Pn**	**03 32 34.1**	**+1.0**
JOM				S	**Sn**	**03 32 49.4**	**+0.8**
JOT	**Ohata**	**1.07**	**332**	⇓P	**Pn**	**03 32 34.5**	**+0.7**
JOT				S	**Sn**	**03 32 50.6**	**+0.8**
JIW	**Iwasaki**	**1.31**	**278**	⇓P	**Pn**	**03 32 37.8**	**+1.3**
JIW				*e*S	**Sn**	**03 32 56.5**	**+1.9**
JRG	**Rokugo**	**1.32**	**219**	P	**Pn**	**03 32 38.1**	**+1.5**
JRG				S	**Sn**	**03 32 56.9**	**+2.0**
JSR	**Shiriuchi**	**1.47**	**319**	⇓P	**Pn**	**03 32 39.1**	**+0.7**
JMK	**Ichinoseki**	**1.52**	**195**	⇑P	**Pn**	**03 32 39.9**	**+0.8**
JMK				*e*S	**Sn**	**03 32 59.5**	**+0.3**
JKB	**Kayabe**	**1.54**	**341**	⇓P	**Pn**	**03 32 40.0**	**+0.7**
JKB				S	**Sn**	**03 33 00.3**	**+0.7**
JYK	**Kaneyama**	**1.83**	**215**	⇑P	**Pn**	**03 32 44.0**	**+1.0**
JYK				*e*S	**Sn**	**03 33 07.9**	**+1.7**
ERM	**Erimo**	**1.92**	**34**	*e*Pn	**Pn**	**03 32 45.4**	**+1.4**
ERM				*e*Sn	**Sn**	**03 33 07.8**	**-0.3**
ERM	**Erimo**	**1.92**	**34**	*ce*P	**Pn**	**03 32 44.8**	**+0.8**
ERM				pmax	pmax		
	comp=Z,112nm,0.8s						
ASAJ	**Asahikawa**	**3.74**	**10**	P	**Pn**	**03 33 09.3**	**+1.1**
	comp=Z,6.9nm,0.3s,baz=234,slow=13,SNR=26						
ASAJ				S	**Sn**	**03 33 50.0**	**-1.2**
	comp=Z,12nm,0.3s,baz=192,slow=13,SNR=5.0						
ASAJ	**Asahikawa**	**3.74**	**10**	*e*Pn	**Pn**	**03 33 09.2**	**+1.0**
ASAJ				*e*Sn	**Sn**	**03 33 50.3**	**-0.9**
YUK	**Yuzh-Kuril'sk**	**4.74**	**39**	*d i*P	**Pn**	**03 33 21.5**	**-0.1**
YUK				*e*S	**Sn**	**03 34 12.3**	**-3.0**
YUK				pmax	pmax		
	comp=Z,328nm,0.3s						
YUK				pmax	pmax		
	comp=N,12nm,0.1s						
YUK				pmax	pmax		
	comp=E,31nm,0.1s						
YUK				smax	smax		
	comp=N,2μm,0.4s						
YUK				smax	smax		
	comp=E,2μm,0.5s						
MJB9	**Matsu-Tunnel**	**4.75**	**216**	*e*Pn	**Pn**	**03 33 22.4**	**+0.5**
MAJO	**Matsushiro**	**4.75**	**216**	*e*Pn	**Pn**	**03 33 21.0**	**-0.9**
MAJO	**Matsushiro**	**4.75**	**216**	*i* P	**Pn**	**03 33 23.0**	**+1.1**
MAT	**Matsushiro**	**4.75**	**216**	P	**Pn**	**03 33 22.8**	**+0.9**
MAT				*e*S	**Sn**	**03 34 18.8**	**+2.9**
MJAR	**Matsushiro Arr**	**4.75**	**216**	P	**Pn**	**03 33 23.3**	**+1.4**
	comp=E,1.2nm,0.3s,baz=33,slow=12,SNR=31						
SHO	**Shikotan**	**5.13**	**46**	*d i*P	**Pn**	**03 33 25.8**	**-1.0**
SHO				*e*S	**Sn**	**03 34 18.8**	**-5.9**
SHO				pmax	pmax		
	comp=Z,64nm,0.3s						
SHO				smax	smax		
	comp=E,702nm,0.3s						
SHO				smax	smax		
	comp=N,830nm,0.6s						
TEY	**Ternei**	**5.94**	**322**	⇑*e*P	**Pn**	**03 33 38.7**	**+0.8**
TEY				pmax	pmax		
	comp=N,30nm,0.8s						
TEY				pmax	pmax		
	comp=Z,60nm,0.6s						
TEY				pmax	pmax		
	comp=E,30nm,0.5s						
INU	**Inuyama**	**6.28**	**218**	*e*Pn	**Pn**	**03 33 40.9**	**-1.7**
YSS	**Yuzh-Sakhalins**	**6.56**	**6**	*e*P	**Pn**	**03 33 44.2**	**-2.1**
KUR	**Kuril'sk**	**6.60**	**41**	P	**Pn**	**03 33 46.6**	**-0.1**
KUR				*e*S	**Sn**	**03 34 58.4**	**-2.0**
KUR				pmax	pmax		
	comp=E,219nm,0.5s						
KUR				pmax	pmax		
	comp=Z,273nm,0.5s						
KUR				pmax	pmax		
	comp=N,145nm,0.4s						
JHJ	**Hachijo jima 2**	**7.46**	**193**	P	**Pn**	**03 33 57.7**	**-0.8**
	comp=N,12nm,0.3s,baz=334,slow=22,SNR=4.2						
JHJ				S	**Sn**	**03 35 14.7**	**-6.9**
	comp=N,22nm,0.3s,baz=94,slow=22,SNR=4.5						
JHJ2	**Mitsune**	**7.46**	**192**	*e*Pn	**Pn**	**03 33 56.3**	**-2.3**
JHJ2				*e*Sn	**Sn**	**03 35 16.0**	**-5.6**
VLA	**Vladivostok**	**7.82**	**293**	*i* P	**Pn**	**03 34 02.2**	**-1.2**
USA0B	**Ussuriysk Arra**	**8.13**	**301**	*e*Pn	**Pn**	**03 34 08.4**	**+0.9**
USRK	**Ussuriysk Ar.**	**8.13**	**301**	P	**Pn**	**03 34 09.6**	**+2.0**
	comp=N,1.3nm,0.3s,baz=111,slow=14,SNR=43						
USRK				S	**Sn**	**03 35 38.7**	**+1.0**
	baz=111,slow=28,SNR=2.6						
USRK				LR	LR	03 36 45.7	
	comp=N,101nm,19.7s,baz=180,slow=34						
MSHR	**Mys Shultsa**	**8.21**	**289**	*i* P	**Pn**	**03 34 07.1**	**-1.5**
MDJ	**Mudanjiang**	**9.87**	**299**	P	**Pn**	**03 34 33.1**	**+1.8**
MDJ				pmax	pmax		
	comp=N,23nm,1.0s						
MDJ	**Mudanjiang**	**9.87**	**299**	*e*Pn	**Pn**	**03 34 33.2**	**+1.9**
KSRS	**Korea Array**	**11.14**	**259**	P	**Pn**	**03 34 49.9**	**+1.4**
	comp=N,0.2nm,0.3s,baz=62,slow=13,SNR=4.8						
KLR	**Kul'dur**	**11.28**	**325**	P	**Pn**	**03 34 52.1**	**+1.7**
	comp=N,0.1nm,0.3s,baz=134,slow=18,SNR=2.5						
KLR				LR	LR	03 39 57.0	
	comp=N,40nm,20.0s,baz=122,slow=41						
KLR	**Kul'dur**	**11.28**	**325**	*i* P	**Pn**	**03 34 47.0**	**-3.3**
JNU	**Nakatsue**	**11.34**	**233**	P	**Pn**	**03 34 50.5**	**-0.7**
	comp=N,0.2nm,0.3s,baz=198,slow=12,SNR=3.0						
ZEA	**Zeya**	**16.51**	**329**	*e*P	**Pn**	**03 35 57.2**	**-0.6**
ZEA				pmax	pmax		
	comp=Z,15nm,0.7s						
HIA	**Hailar**	**17.86**	**307**	*e*P	**P**	**03 36 11.4**	**-2.1**
	comp=Z,20nm,0.6s						
HIA	**Hailar**	**17.86**	**307**	*e*P	**P**	**03 36 11.4**	**-2.1**
HIA				pmax	pmax		
	comp=Z,20nm,0.6s						
BJT	**Baijiatuau**	**19.49**	**277**	*e*P	**P**	**03 36 29.4**	**-1.9**
	comp=Z,13nm,1.1s						
BJT	**Baijiatuau**	**19.49**	**277**	*e*P	**P**	**03 36 29.5**	**-1.9**
BJT				pmax	pmax		
	comp=Z,13nm,1.1s						
NJ2	**Nanjing**	**20.20**	**253**	*e*P	**P**	**03 36 36.8**	**-2.3**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC	**Hu-ho-hao-te**	**22.83**	**281**	*e*P	**P**	**03 37 05.6**	**-1.4**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,120nm,4.6s						
SEY	**Seymchan**	**23.42**	**12**	P	**P**	**03 37 14.8**	**+2.6**
	comp=Z,1.3nm,0.5s,baz=184,slow=8.0,SNR=6.0						
BOD	**Bodaibo**	**24.85**	**324**	*e*P	**P**	**03 37 24.4**	**-0.8**
BOD				pmax	pmax		
	comp=Z,8.0nm,2.0s						
ULN	**Ulaanbaatar**	**25.79**	**298**	*e*P	**P**	**03 37 33.1**	**-0.9**
	comp=Z,3.9nm,0.6s						
ULN	**Ulaanbaatar**	**25.79**	**298**	*ce*P	**P**	**03 37 32.1**	**-1.9**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.3s						
SONA1	**Songino Array**	**26.23**	**298**	*e*P	**P**	**03 37 35.9**	**-2.1**
SONM	**Songino Array**	**26.23**	**298**	P	**P**	**03 37 37.2**	**-0.7**
	comp=Z,3.2nm,0.6s,baz=83,slow=8.0,SNR=21						
ZAK	**Zakamensk**	**28.47**	**303**	*e*P	**P**	**03 37 57.0**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.5s						
LZH	**Lanzhou**	**29.89**	**274**	*e*P	**P**	**03 38 11.1**	**+0.4**
LZH				pP	pP	03 38 33.9	+0.4
LZH				sP	sP	03 38 46.2	+0.9

LZH ePP PnPn 03 39 12.1 +0.7
LZH pmax pmax
comp=Z,26nm,1.4s
GTA Gaotai 31.93 282 eP **P 03 38 28.7 +0.1**
GTA pP pP 03 38 51.3 -0.1
GTA sP sP 03 39 02.7 -0.5
GTA PcP **PcP 03 41 16.8 +0.3**
GTA S **S 03 43 32.3 -0.1**
GTA pmax pmax
comp=Z,3.0nm,1.1s
GTA pmax pmax
comp=Z,170nm,6.8s
CD2 Chengdu 32.05 265 eP **P 03 38 27.8 -1.8**
KMI Kunming 35.83 257 P **P 03 38 59.9 -2.7**
KMI pmax pmax
comp=Z,19nm,1.6s
DGZ Jazzator, Alta 38.68 302c iP **P 03 39 25.6 -0.7**
DGZ pmax pmax
comp=Z,7.0nm,0.8s
WMQ Urumqi 39.61 293 eP **P 03 39 34.1 +0.1**
WMQ pP pP 03 39 59.0 +1.6
WMQ pmax pmax
comp=Z,22nm,0.7s
ZAA0 Zalesovo Array 39.87 309 eP **P 03 39 35.0 -0.9**
comp=Z,8.3nm,0.6s
ZALV Zalesovo Beam 39.87 309 P **P 03 39 36.0 +0.1**
comp=Z,11nm,0.6s,baz=90,slow=7.8,SNR=28
ZALV Zalesovo Beam 39.87 309 eP **P 03 39 34.8 -1.1**
ZALV Zalesovo Beam 39.87 309 P **P 03 39 36.0 +0.1**
ZALV pmax pmax
comp=Z,10.0nm,0.6s
NVS Novosibirsk 40.73 311 eP **P 03 39 45.4 +2.4**
MK01 Makanchi Array 42.59 299 eP **P 03 39 57.8 -0.5**
MK31 Makanchi Array 42.59 299 eP **P 03 39 58.1 -0.3**
MK31 Makanchi Array 42.59 299 eP **P 03 39 58.1 -0.3**
MKAR Makanchi Array 42.59 299 P **P 03 39 58.0 -0.3**
comp=Z,4.2nm,0.6s,baz=82,slow=11,SNR=56
MKAR Makanchi Array 42.59 299 eP **P 03 39 58.1 -0.3**
comp=Z,36nm,0.8s
MKAR Makanchi Array 42.59 299 eP **P 03 39 58.1 -0.3**
MKAR pmax pmax
comp=Z,36nm,0.8s
CMAR Chiang Mai Arr 42.67 252 P **P 03 39 58.6 -0.7**
comp=Z,0.7nm,0.5s,baz=53,slow=6.0,SNR=5.2
CM01 Chiang Mai Arr 42.69 252 eP **P 03 39 58.1 -1.3**
MAKZ Makanchi 42.80 299 eP **P 03 39 59.9 -0.1**
comp=Z,6.8nm,0.8s
MAKZ Makanchi 42.80 299 eP **P 03 39 59.9 -0.1**
MAKZ pmax pmax
comp=Z,7.0nm,0.8s
IM3 Indian Mountai 43.64 32 eP **P 03 40 07.3 +0.8**
KURK Kurchatov 44.09 305 eP **P 03 40 09.7 -0.5**
comp=Z,40nm,0.6s
KURK Kurchatov 44.09 305ceP **P 03 40 09.9 -0.3**
KURK pmax pmax
comp=Z,24nm,0.8s
OHAK Old Harbor 44.15 45 eP **P 03 40 11.9 +1.2**
comp=Z,249nm,0.6s
ILAR Eielson Array 46.53 34 P **P 03 40 30.4 +1.0**
comp=Z,0.5nm,0.7s,baz=268,slow=6.0,SNR=10.0
GUN Gumba 47.14 273 eP **P 03 40 35.1 +0.1**
comp=Z,17nm,0.5s
KKN Kakani 47.66 273 eP **P 03 40 39.5 +0.6**
comp=Z,20nm,0.8s
DMN Daman 47.88 273 eP **P 03 40 42.0 +1.3**
comp=Z,3.7nm,0.3s
DANN Dangsing 48.53 274 eP **P 03 40 45.9 +0.2**
comp=Z,36nm,0.5s
BRVK Borovoye 48.56 310 eP **P 03 40 45.8 +0.6**
comp=Z,6.7nm,0.5s
BRVK Borovoye 48.56 310 i P **P 03 40 44.0 -1.2**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
KOLN Koldanda 48.95 274 eP **P 03 40 50.8 +2.0**
AAK Ala-Archa 49.15 296 i P **P 03 40 49.7 -0.4**
AAK pmax pmax
comp=Z,1.0nm,0.9s
PYUN Piuthan 49.24 275 eP **P 03 40 52.4 +1.4**
comp=Z,24nm,0.8s
KSH Kashi 49.30 292 P P 03 40 56.9 +5.6
KSH pmax pmax
comp=Z,9.0nm,0.2s
INK Inuvik 51.28 28 P **P 03 41 06.8 +1.3**
comp=Z,1.0nm,0.6s,baz=296,slow=6.5,SNR=7.6
INK Inuvik 51.28 28 eP **P 03 41 07.1 +1.6**
comp=Z,2.3nm,1.1s
INK Inuvik 51.28 28 eP **P 03 41 07.1 +1.6**
INK pmax pmax
comp=Z,2.0nm,1.1s
KK31 Karatay Array 51.68 298 eP **P 03 41 08.6 -0.4**
KK31 Karatay Array 51.68 298 eP **P 03 41 08.6 -0.4**
KKAR Karatay Array 51.68 298 eP **P 03 41 08.6 -0.4**
KKAR Karatay Array 51.68 298 eP **P 03 41 08.6 -0.4**
SVE Sverdlovsk 52.79 317 eP **P 03 41 17.5 +0.6**
ARU Arti 54.00 317 P **P 03 41 24.2 -1.6**
ARU S **S 03 48 52.5 -1.2**
ARU SS **SKiKP 03 52 28.7 +1.3**
WRAB Tennant Creek 60.44 188 i P **P 03 42 13.9 +2.5**
WRAB pmax pmax
comp=Z,4.0nm,1.2s
WB2 Warramunga Arr 60.45 188 eP **P 03 42 10.1 -1.4**
WRA Warramunga Arr 60.45 188 P **P 03 42 10.5 -1.0**
comp=Z,2.4nm,0.4s,baz=7.8,slow=7.7,SNR=111
YKA Yellowknife Ar 60.77 31 P **P 03 42 14.0 +0.9**
comp=Z,0.3nm,0.5s,baz=300,slow=6.4,SNR=2.3
ARCES ARCESS Array B 60.91 339 P **P 03 42 15.7 +1.6**
comp=Z,4.7nm,0.9s,baz=45,slow=26,SNR=2.8
KLMR Klimovskoe 61.03 327 eP P 03 42 09.8 -5.1
KLMR pmax pmax
comp=Z,13nm,1.4s
KLMR Klimovskoe 61.03 327 eP P 03 42 09.8 -5.1
KLMR AMP 03 42 14.4
comp=Z,13nm,1.4s
AS01 Alice Springs 64.17 188 eP **P 03 42 35.6 -0.6**
ASAR Alice Springs 64.18 188 P **P 03 42 35.8 -0.5**
comp=Z,2.7nm,0.8s,baz=0.2,slow=6.0,SNR=44
FIA1 FINESS Array S 65.93 332 eP **P 03 42 47.0 -0.2**
FINES FINESS Array B 65.93 332 P **P 03 42 46.8 -0.4**
comp=Z,0.8nm,0.5s,baz=32,slow=11,SNR=8.1
FINES FINESS Array B 65.93 332ceP **P 03 42 47.2 0.0**
FINES pmax pmax
comp=Z,1.0nm,0.5s
KBZ Khabaz 68.89 310 P **P 03 43 06.5 +0.4**
comp=Z,1.1nm,0.6s,baz=355,slow=2.1,SNR=5.0
NOA NORSAR Array B 71.15 337 P **P 03 43 19.8 0.0**
comp=Z,0.7nm,0.8s,baz=25,slow=5.3,SNR=2.4
AKASG Malin Array Be 71.77 322 P **P 03 43 23.1 -0.5**
comp=Z,0.7nm,0.4s,baz=47,slow=5.9,SNR=5.0
AKASG Malin Array Be 71.77 322ceP **P 03 43 22.6 -0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
STKA Stephens Creek 71.94 180 P **P 03 43 25.6 +0.9**
comp=Z,0.3nm,0.2s,baz=298,slow=7.8,SNR=2.8
NV01 Mina Array Sit 72.79 54 eP **P 03 43 31.3 +1.1**
NVAR Mina Array Bea 72.79 54 P **P 03 43 31.6 +1.4**
comp=Z,0.7nm,0.6s,baz=295,slow=4.3,SNR=6.2
ELK Elko 73.20 51 P **P 03 43 34.6 +2.0**
comp=Z,0.3nm,0.4s,baz=354,slow=10,SNR=3.2
DUG Dugway, Tooele 74.97 50 eP **P 03 43 45.2 +2.4**
comp=Z,2.0nm,0.8s
DUG Dugway, Tooele 74.97 50 P **P 03 43 45.2 +2.4**
DUG pmax pmax
comp=Z,2.0nm,0.8s
TPNV Topopah Spring 74.98 54 eP **P 03 43 44.7 +1.7**
comp=Z,2.2nm,1.0s
TPNV Topopah Spring 74.98 54 eP **P 03 43 44.7 +1.7**
TPNV pmax pmax
comp=Z,2.0nm,1.0s
PDAR Pinedale Array 75.14 46 P **P 03 43 44.8 +1.0**
comp=Z,0.9nm,0.9s,baz=249,slow=1.7,SNR=5.3
PDAR Pinedale Array 75.14 46 eP **P 03 43 45.1 +1.3**
BUR04 Bucovina Ar. S 75.80 321 eP **P 03 43 45.6 -1.7**
SHPR Sheep Range 75.94 54 eP **P 03 43 49.3 +0.9**
comp=Z,1.2nm,0.8s
TIRR Tirgusor 76.43 317 eP **P 03 43 50.1 -0.7**
comp=Z,15nm,1.4s
TIRR Tirgusor 76.43 317 eP **P 03 43 50.1 -0.7**
TIRR pmax pmax
comp=Z,15nm,1.4s
BRTR Keskin Array B 76.78 311 P **P 03 43 53.0 -0.1**
comp=Z,0.3nm,0.5s,baz=94,slow=3.1,SNR=4.5
PV10 Paradox Valley 78.37 49 eP **P 03 44 03.1 +1.0**
PV14 Lion Creek, Pa 78.38 49 eP **P 03 44 02.9 +0.7**
comp=Z,4.3nm,0.8s
PV17 East Wray Mesa 78.48 49 eP **P 03 44 04.2 +1.5**
comp=Z,7.2nm,1.0s
PV16 Nyswonger Mesa 78.49 49 eP **P 03 44 02.9 +0.3**
comp=Z,1.0nm,0.6s
PV03 Paradox Valley 78.56 49 eP **P 03 44 04.1 +1.0**
PV13 Radium Mtn., P 78.64 49 eP **P 03 44 04.1 +0.5**
comp=Z,3.5nm,0.9s
GERES GERESS Array B 79.95 328 P **P 03 44 10.3 0.0**
comp=Z,0.2nm,0.7s,baz=24,slow=11,SNR=3.0
ANMO Albuquerque 82.23 50ceP **P 03 44 23.6 +0.8**
ANMO pmax pmax
comp=Z,6.0nm,2.5s
TXAR Lajitas Array 87.87 53 P **P 03 44 51.4 +0.5**
comp=Z,0.6nm,0.9s,baz=307,slow=1.8,SNR=2.4
SIV San Ignacio 148.62 46 PKPbc **PKPbc 03 51 47.9 -0.2**
comp=Z,1.9nm,0.7s,baz=283,slow=2.6,SNR=9.9

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*IDC **01** 03:49:40.2±2.6, 6.°61S×129.°83E, h147km±29km, mb3.6/4, mb1 3.5/8, mb1mx3.2/38, mbtmp3.9/8, Error ellipse: s-maj=51.4km s-min=16.8km az=81.0*
ISC 01 03:49:38.9±0.9**, 6.°70S**±0.°06×**129.°9E**±0.°2**, h146**km**, n8,** σ**2.§96**/12**, mb3.5**/3**, Banda Sea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SIJI Sorong 5.94 13 P **Pn 03 51 05.6 +0.7**
2.8nm,0.3s,baz=196,slow=19,SNR=25
SIJI S **Sn 03 52 08.0 -4.0**
3.6nm,0.3s,baz=253,slow=23,SNR=13
FITZ Fitzroy Crossi 12.08 200 P **Pn 03 52 27.7 +1.2**
0.4nm,0.3s,baz=10,slow=13,SNR=17
FITZ S **Sn 03 54 35.1 -4.9**
0.6nm,0.3s,baz=220,slow=20,SNR=8.9
WRA Warramunga Arr 13.84 162 P **Pn 03 52 49.9 +0.8**
0.1nm,0.3s,baz=348,slow=12,SNR=7.1
WRA S **Sn 03 55 18.5 -3.9**
0.6nm,0.3s,baz=335,slow=22,SNR=9.5
ASAR Alice Springs 17.30 168 P **Pn 03 53 35.0 +3.2**
0.4nm,0.3s,baz=335,slow=9.3,SNR=34
ASAR S **S 03 56 43.2 -0.6**
0.2nm,0.3s,baz=328,slow=16,SNR=5.4
STKA Stephens Creek 27.32 158 P **P 03 55 12.7 +2.6**
0.4nm,0.3s,baz=315,slow=8.2,SNR=3.2
MKAR Makanchi Array 67.94 327 P **P 04 00 22.8 +0.8**
1.4nm,0.5s,baz=118,slow=7.9,SNR=28
KURBB Kurchatov Arra 72.22 328 P **P 04 00 48.2 +0.3**
0.3nm,0.3s,baz=101,slow=4.8,SNR=5.5
BRTR Keskin Array B 99.08 309 P **Pdif 04 03 02.2 -1.6**
0.4nm,0.9s,baz=106,slow=2.1,SNR=2.4

MAN 01 03:49:44.0, 9.°42N×125.°45E, h2km, mb4.5, ML3.4, MS3.2, 3C, Mindanao

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BUTP Butuan 0.48 160 eP Pg 03 49 53.4 +0.1
BUTP eS Sb 03 50 01.9 -0.9
MSLP Maasin 0.92 321 eP Pg 03 50 01.6 0.0
MSLP eS Sn 03 50 17.7 +0.1
CGP Cagayan de Oro 1.22 218⇑iP Pg 03 50 07.6 +0.2
CGP eS Sn 03 50 25.5 +0.3
BIPH Bislig 1.53 144⇑iP Pb 03 50 12.8 -0.3
BIPH i S Sn 03 50 30.6 -2.2
BUKP Musuan 1.58 194 eP Pn 03 50 12.3 -0.8
BUKP eS Sg 03 50 34.9 0.0
LLP Lapu-Lapu 1.71 301 eP Pn 03 50 13.4 -1.4
LLP eS Sg 03 50 41.7 +2.7
DCPH Dipolog City 2.23 248⇑eP Pb 03 50 25.0 -0.1
DCPH eS Sb 03 50 52.5 -0.8
PAGZ Pagadian 2.58 233 eP Pn 03 50 26.6 -0.2
PAGZ eS Sn 03 50 50.2 -8.4

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*VAO **01** 03:51:10.4±0.6, 20.°62S×69.°29W, h10km, mb5.0*
*ISCJB **01** 03:51:12.4±0.2, 20.°81S±0.°02×69.°50W±0.°03, h67km±2km, mb4.5/34, Error ellipse: s-maj=4.5km s-min=2.8km az=174.5*
*GUC **01** 03:51:12.7±0.6, 20.°81S×69.°67W, h59km±3km, ML5.1*
*NEIC **01** 03:51:13.0±0.0, 20.°81S×69.°67W, h56km, mb5.1/18, ML5.0(GUC), After GUC.*
NEIC Felt [IV] at Alto Hospicio, Cerro Colorado, Colchane, Collahuasi, Huara, Iquique, La Tirana, Mamina, Pica, Pozo Almonte, Quebrada Blanca and Ujina; [III] at Quillagua and Tocopilla; [II] at Camina and Cuya.
*IDC **01** 03:51:14.6±0.4, 20.°78S×69.°37W, h68km±3km, mb4.0/19, mb1 4.1/21, mb1mx4.1/31, mbtmp4.3/21, MS3.6/10, Ms1 3.6/10, ms1mx3.4/30, Error ellipse: s-maj=14.2km s-min=7.9km az=79.0*
ISC 01 03:51:13.1±0.4**, 20.°82S**±0.°03×**69.°61W**±0.°04**, h59**km±3km**, n219,** σ**1.§52**/251**, mb4.8**/34**, MS3.8**/7**, 2C-13D, Northern Chile**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PB01 IPOC Station P 0.25 153 ePn **Pn 03 51 23.1 +0.2**
PB01 eSn **Sn 03 51 30.5 +0.4**
PB01 IPOC Station P 0.25 153⇓iP **Pn 03 51 23.1 +0.2**
PB01 eS **Sn 03 51 30.1 +0.1**
PB01 IAML 03 51 30.8
comp=E,146μm,0.3s
PB02 IPOC Station P 0.57 208⇓iP **Pn 03 51 25.9 0.0**
PB02 eS **Sn 03 51 35.2 0.0**
PB02 IAML 03 51 37.2
comp=N,158μm,0.3s
PB08 IPOC Station P 0.80 33⇓iP **Pn 03 51 29.7 +0.8**
PB08 eS **Sn 03 51 42.0 +1.6**
PB08 IAML 03 51 43.3
comp=N,89μm,0.5s
PB07 IPOC Station P 0.94 196⇓iP **Pn 03 51 30.7 +0.1**
PB07 i S **Sn 03 51 44.0 +0.7**
PB07 IAML 03 51 45.3
comp=E,125μm,0.5s
PB09 IPOC Station P 1.03 161⇑eP **Pn 03 51 32.5 +0.8**
PB09 eS **Sn 03 51 47.0 +1.5**
PB11 IPOC Station P 1.05 358 ePn **Pn 03 51 32.1 +0.1**
PB11 eSn **Sn 03 51 46.0 +0.1**
PB11 IPOC Station P 1.05 358⇓iP **Pn 03 51 31.9 -0.1**
PB11 eS **Sn 03 51 46.6 +0.7**
PB11 IAML 03 51 48.9
comp=N,70μm,0.5s
GO01 Chusmiza 1.21 19 ePn **Pn 03 51 35.3 +0.9**
GO01 eSn **Sn 03 51 49.1 -1.0**
PB03 IPOC Station P 1.23 186⇓iP **Pn 03 51 34.7 +0.3**
PB03 eS **Sn 03 51 51.1 +0.9**
PB03 IAML 03 51 54.6
comp=E,53μm,0.4s
PSGC Pisagua 1.30 338⇓iP **Pn 03 51 34.8 -0.5**
PSGC i S **Sn 03 51 51.0 -0.8**
PB04 IPOC Station P 1.59 198 ePn **Pn 03 51 39.5 +0.3**
PB04 eSn **Sn 03 51 59.9 +1.1**
PB04 IPOC Station P 1.59 198⇓iP **Pn 03 51 39.3 +0.1**
PB04 eS **Sn 03 51 59.3 +0.5**
PB04 IAML 03 52 02.5
comp=N,49μm,0.4s
MNMC Minye Minye 1.68 1 ePn **Pn 03 51 41.2 +0.7**
MNMC eSn **Sn 03 52 00.5 -0.6**
PB06 IPOC Station P 1.88 179⇓iP **Pn 03 51 43.5 +0.4**
PB06 eS **Sn 03 52 07.3 +1.4**
PB06 IAML 03 52 10.6
comp=E,16μm,0.3s
LVC Limon Verde 1.90 160 P **Pn 03 51 45.7 +2.1**
comp=E,5μm,0.3s,baz=332,slow=8.5
LVC S **Sn 03 52 08.7 +2.0**
comp=E,647nm,0.3s,baz=283,slow=8.4,SNR=3.0
LVC Limon Verde 1.90 160 ePn **Pn 03 51 45.4 +1.8**
LVC eSn **Sn 03 52 05.2 -1.4**
PB05 IPOC Station P 2.10 195⇓iP **Pn 03 51 45.9 -0.2**
PB05 i S **Sn 03 52 11.5 +0.4**
PB05 IAML 03 52 16.8
comp=N,20μm,0.7s
PB12 IPOC Station P 2.29 343⇓iP **Pn 03 51 48.4 -0.3**
PB12 i S **Sn 03 52 15.7 -0.1**
PB12 IAML 03 52 22.3
comp=E,24μm,0.5s
PB15 IPOC Station P 2.38 177⇓iP **Pn 03 51 50.7 +0.7**
PB16 IPOC Station P 2.47 2⇓iP **Pn 03 51 52.9 +1.4**
PB10 IPOC Station P 2.82 198 ePn **Pn 03 51 54.6 -1.2**
PB10 eSn **Sn 03 52 29.7 +1.0**
PB14 IPOC Station P 3.86 191 eP **Pn 03 52 09.7 -0.6**
GO02 Mina Guanaco 4.33 180 ePn **Pn 03 52 16.2 -0.5**
GO02 eSn **Sn 03 53 02.3 -3.7**
LPAZ La Paz 4.72 18 P **Pn 03 52 26.3 +3.9**
comp=E,51nm,0.3s,baz=199,slow=7.4,SNR=482
LPAZ S **Sn 03 53 18.4 +2.2**
comp=E,9.7nm,0.3s,baz=168,slow=14,SNR=1.4
LPAZ La Paz 4.72 18 ePn **Pn 03 52 25.8 +3.4**
LPAZ eSn **Sn 03 53 18.4 +2.2**
LCO Las Campanas 8.22 187 ePn **Pn 03 53 05.8 -4.2**
LCO eSn **Sn 03 54 39.5 -2.0**
SIV San Ignacio 9.42 61 P **Pn 03 53 25.2 -1.0**
comp=E,26nm,0.3s,baz=258,slow=11,SNR=276
SIV S **Sn 03 55 08.0 -2.7**
baz=257,slow=17,SNR=1.9
SIV LR LR 03 57 20.4
comp=E,138nm,20.5s,baz=271,slow=40
NNA Nana 11.19 321 P **Pn 03 53 50.0 -0.4**
comp=E,2.2nm,0.3s,baz=163,slow=11,SNR=8.4
NNA S **Sn 03 55 52.5 -1.5**
comp=E,7.1nm,0.3s,baz=208,slow=8.1,SNR=4.0
NNA LR LR 03 57 47.6
comp=E,158nm,20.0s,baz=153,slow=35
NNA Nana 11.19 321 ePn **Pn 03 53 49.5 -0.9**
NNA eSn **Sn 03 55 49.7 -4.3**
CPUP Villa Florida 12.53 118 P **Pn 03 54 07.8 -0.8**
comp=E,0.5nm,0.3s,baz=301,slow=10,SNR=7.4
CPUP LR LR 04 00 03.7
comp=E,110nm,18.9s,baz=300,slow=43
CPUP Villa Florida 12.53 118 ePn **Pn 03 54 07.7 -1.0**
CPUP Villa Florida 12.53 118 eP **Pn 03 54 07.4 -1.2**
AQDB Aquidauana 13.03 91 eP **Pn 03 54 12.7 -2.9**
SALV Santo Antonio 14.09 72 eP Pn 03 54 25.3 -4.5
TRCB Terra Rica 15.89 100 eP **Pn 03 54 51.3 -1.9**
PTGB Pitanga 16.64 107 eP **Pn 03 55 02.2 -0.4**
ITAB Concordia 17.19 115 eP **Pn 03 55 08.9 -0.4**
CPSB Cacapava Do Su 17.42 126 eP **Pn 03 55 11.3 -0.8**
PLTB Pedras Altas 18.00 131 eP **Pn 03 55 19.5 +0.2**
ITRB Iturama 18.10 90 eP **P 03 55 20.0 -0.3**
TRQA Tornquist 18.41 161 eP **P 03 55 22.6 -0.9**
comp=E,62nm,0.6s
FRTB Fartura 18.75 101 eP **P 03 55 27.6 +0.2**
CNLB Canela 18.97 120 eP **P 03 55 30.4 +0.6**
TIJ01 Guaruva-PR 19.48 107 eP **P 03 55 35.0 -0.4**
BB19B Bebedouro 19.70 94 eP **P 03 55 36.0 -1.8**
PLCA Paso Flores 19.87 182 P **P 03 55 40.5 +1.0**
comp=E,1.2nm,0.3s,baz=23,slow=8.7,SNR=4.7
PLCA Paso Flores 19.87 182 eP **P 03 55 38.8 -0.7**
comp=E,43nm,0.9s
TER01 Tubaro-SC 20.12 116 eP **P 03 55 41.0 -1.3**
IPMB Ipameri, GO 20.38 86 eP **P 03 55 43.5 -1.7**
RCLB Rio Claro- Sao 20.59 98 eP **P 03 55 45.4 -2.1**
PTLC Puerto Leguiza 21.47 346 eP **P 03 55 52.2 -4.6**
PTLC Puerto Leguiza 21.47 346 eP **P 03 55 52.2 -4.6**
PTGA Pitinga 22.08 26 P **P 03 56 01.3 -2.0**
comp=E,5.5nm,0.4s,baz=317,slow=22,SNR=18
PTGA Pitinga 22.08 26 eP **P 03 56 02.1 -1.2**
comp=E,24nm,0.6s
PTGA Pitinga 22.08 26 eP **P 03 56 01.8 -1.5**
GO07 Milladeo Hill, 22.49 188 eP **P 03 56 08.4 +0.8**
comp=E,355nm,1.4s
OTAV Otavalo 22.64 336 eP **P 03 56 10.6 +0.7**
comp=E,26nm,0.8s
FLOC Florencia 23.03 344 eP **P 03 56 13.4 -0.1**
FLOC Florencia 23.03 344 eP **P 03 56 13.4 -0.1**
CMBC Cumbal 23.07 339 eP **P 03 56 16.3 +2.0**
CMBC Cumbal 23.07 339 eP **P 03 56 16.3 +2.0**
GCUF Volcan Galeras 23.18 340 eP **P 03 56 18.7 +3.2**
GCUF Volcan Galeras 23.18 340 eP **P 03 56 18.7 +3.2**
BSCB Bom Sucesso 23.20 95 eP **P 03 56 13.4 -1.8**
CRUC La Cruz 23.38 341 eP **P 03 56 19.8 +2.7**
CRUC La Cruz 23.38 341 eP **P 03 56 19.8 +2.7**
ESAR Angra dos Reis 23.45 100 eP **P 03 56 18.7 +1.3**
SOTA Rioblanco 23.82 342 eP **P 03 56 24.2 +2.8**
SOTA Rioblanco 23.82 342 eP **P 03 56 24.2 +2.8**
PCON Cinco Dias 23.94 343 eP **P 03 56 24.9 +2.3**
PCON Cinco Dias 23.94 343 eP **P 03 56 24.9 +2.3**
BETC Betania 24.04 346 eP **P 03 56 23.9 +1.0**
BETC Betania 24.04 346 eP **P 03 56 23.9 +1.0**
POPC Popayan, Colom 24.22 343 eP **P 03 56 27.5 +2.7**
POPC Popayan, Colom 24.22 343 eP **P 03 56 27.5 +2.7**
MARP Paez Belalcaza 24.32 344 eP **P 03 56 26.5 +0.7**
MARP Paez Belalcaza 24.32 344 eP **P 03 56 26.5 +0.7**
SMTB Santa Maria do 24.34 64 eP **P 03 56 25.6 -0.1**
VAS01 Vassouras-RJ 24.38 98 eP **P 03 56 26.9 +1.0**
MCI6 Montes Claros 24.66 85 eP **P 03 56 27.5 -1.2**
MCI8 Montes Claros 24.67 85 eP **P 03 56 27.7 -1.0**
MCI9 Montes Claros 24.68 85 eP **P 03 56 27.9 -0.9**
JANB Januaria 24.73 81 eP **P 03 56 27.9 -1.3**
VILC Villavicencio, 25.09 350 eP **P 03 56 33.5 +0.9**
VILC Villavicencio, 25.09 350 eP **P 03 56 33.5 +0.9**
DUB01 Friburgo-RJ 25.37 98 eP **P 03 56 34.8 -0.3**
YOTC Yotoco, Valle 25.52 344 eP **P 03 56 36.9 +0.5**
YOTC Yotoco, Valle 25.52 344 eP **P 03 56 36.9 +0.5**
CHIC Chingaza 25.61 350 eP **P 03 56 36.3 -1.3**
CHIC Chingaza 25.61 350 eP **P 03 56 36.3 -1.3**
ANIL Santa Ana 25.78 347 eP **P 03 56 36.3 -2.8**
ANIL Santa Ana 25.78 347 eP **P 03 56 36.3 -2.8**
ROSC El Rosal 25.91 349 P **P 03 56 41.7 +1.4**
comp=E,5.5nm,0.5s,baz=155,slow=5.1,SNR=6.3
ROSC LR LR 04 09 09.4
comp=E,210nm,18.1s,baz=202,slow=42
ROSC El Rosal 25.91 349 eP **P 03 56 40.8 +0.5**
comp=E,9.1nm,0.8s
ROSC El Rosal 25.91 349 eP **P 03 56 38.0 -2.3**
ROSC El Rosal 25.91 349 eP **P 03 56 38.0 -2.3**
CAM01 Campos-RJ 26.05 97 eP **P 03 56 42.1 +1.0**
PLMC San Jos del P 26.39 345 eP **P 03 56 45.3 +1.0**
PLMC San Jos del P 26.39 345 eP **P 03 56 45.3 +1.0**
RUSC La Rusia 26.76 352 eP **P 03 56 48.2 +0.2**
RUSC La Rusia 26.76 352 eP **P 03 56 48.2 +0.2**
ALF01 Guarapari-ES 27.01 95 eP **P 03 56 50.7 +1.0**
BSFB Barra de Sao F 27.12 91 eP **P 03 56 50.7 -0.1**
HELC Santa Helena 27.46 347 eP **P 03 56 53.9 -0.3**
HELC Santa Helena 27.46 347 eP **P 03 56 53.9 -0.3**
BARC Barichara 27.46 352 eP **P 03 56 53.0 -1.1**
BARC Barichara 27.46 352 eP **P 03 56 53.0 -1.1**
PTBC PUERTO BERRIO, 27.60 350 eP **P 03 56 52.9 -2.2**
PTBC PUERTO BERRIO, 27.60 350 eP **P 03 56 52.9 -2.2**
ZARC Zaragoza, Cauc 28.60 349 eP **P 03 57 02.4 -1.6**
ZARC Zaragoza, Cauc 28.60 349 eP **P 03 57 02.4 -1.6**
UREC San Jos de Ur 28.98 348 eP **P 03 57 05.0 -2.3**
UREC San Jos de Ur 28.98 348 eP **P 03 57 05.0 -2.3**
SDV Santo Domingo 29.53 358 P **P 03 57 11.6 -0.9**
comp=E,6.2nm,0.8s,baz=110,slow=23,SNR=7.0
SDV Santo Domingo 29.53 358 eP **P 03 57 12.1 -0.4**
comp=E,16nm,1.0s
SDV Santo Domingo 29.53 358 eP **P 03 57 15.2 +2.8**
SDV Santo Domingo 29.53 358 eP **P 03 57 15.2 +2.8**
SDV Santo Domingo 29.53 358 eP **P 03 57 14.7 +2.2**
MOTC Monteria, Cord 30.01 348 eP **P 03 57 14.4 -2.0**
MOTC Monteria, Cord 30.01 348 eP **P 03 57 14.4 -2.0**
MDP Montagnes des 30.68 35 P **P 03 57 22.7 +0.3**
comp=E,20nm,0.9s
CODC Agustn Codazz 30.79 353 eP P 03 57 18.0 -5.4
CODC Agustn Codazz 30.79 353 eP P 03 57 18.0 -5.4
SJCC San Jacinto, C 31.01 349 eP **P 03 57 24.9 -0.5**
SJCC San Jacinto, C 31.01 349 eP **P 03 57 24.9 -0.5**
PCRV Puerto La Cruz 31.18 9 P **P 03 57 27.2 +0.3**
comp=E,12nm,1.1s,baz=213,slow=3.3,SNR=5.2
USHA Ushuaia 33.97 179 P **P 03 57 51.5 +0.7**
comp=E,7.2nm,0.7s,baz=8.9,slow=10,SNR=7.5
RCBR Riachuelo 35.92 70 eP **P 03 58 08.7 +0.6**
ICMP Isla Caja de M 38.58 5 eP **P 03 58 28.0 -2.5**
comp=E,44nm,0.8s
OBIP Obispado Ponce 38.73 5 eP **P 03 58 30.9 -0.8**
comp=E,40nm,0.7s
SJG San Juan 38.84 5 eP **P 03 58 30.1 -2.5**
comp=E,30nm,1.0s
MPR Mayaguez 38.86 4 eP **P 03 58 30.6 -2.2**
comp=E,53nm,0.8s
MTP Monte Pirata 38.88 6 eP **P 03 58 30.3 -2.7**
comp=E,59nm,1.4s
HUMP Col San Antoni 38.89 6 eP **P 03 58 31.8 -1.3**
comp=E,41nm,1.4s
CBYP Canovanas 39.02 6 eP **P 03 58 31.2 -3.0**
comp=E,118nm,1.4s
CUPR Culebra, Puert 39.11 7 eP **P 03 58 33.4 -1.5**
comp=E,45nm,1.1s
APG El Apazote 41.07 328 P **P 03 58 53.2 +1.7**
comp=E,1.7nm,0.7s,baz=309,slow=16,SNR=1.5
APG LR LR 04 13 38.5
comp=E,63nm,20.5s,baz=139,slow=33
CMIG Matias Romero 45.10 325 P **P 03 59 25.6 +1.8**
comp=E,0.4nm,0.4s,baz=273,slow=1.9,SNR=2.9
OXF Oxford 58.16 341 eP **P 04 00 59.1 -1.8**
comp=E,28nm,1.0s

T49A	Edmonton	59.54	345	P	P	04 01 09.7	-0.7
	baz=163						
MIAR	Mount Ida	59.59	337	P	P	04 01 10.7	-0.2
	baz=154						
LTX	Lajitas	59.70	326	eP	P	04 01 14.5	+2.7
TXAR	Lajitas Array	59.70	326	P	P	04 01 14.5	+2.7
	comp=E,0.3nm,0.5s,baz=46,slow=7.7,SNR=3.5						
S48A	Wiedeman Farm,	60.19	345	P	P	04 01 16.2	+1.3
	baz=162						
ABTX	Abilene, Hawle	60.40	331	P	P	04 01 16.7	+0.2
	baz=148						
U41A	Viola	60.64	339	P	P	04 01 17.4	-0.7
	baz=156						
P55A	Reedsville	60.76	351	P	P	04 01 19.2	+0.4
	baz=169						
S45A	Carrier Mills	60.86	343	P	P	04 01 20.7	+1.2
	baz=160						
VNA3	Neumayer Olymp	60.93	161	P	P	04 01 19.8	+0.1
O55A	Ligonier	61.38	352	P	P	04 01 23.2	+0.3
	baz=170						
VNA2	Neumayer--Watz	61.51	161	P	P	04 01 23.9	+0.4
	baz=285,slow=7.6						
N55A	Marion Center	61.90	352	P	P	04 01 27.3	+0.8
	baz=170						
P47A	Martinsville	61.98	345	P	P	04 01 27.8	+0.8
	baz=162						
MNTX	Cornudas Mount	62.47	326	P	P	04 01 29.8	-0.6
	baz=142						
Q42A	Golden Eagle	62.57	342	P	P	04 01 31.6	+0.7
	baz=158						
MSTX	Muleshoe	62.98	329	P	P	04 01 34.2	+0.3
	baz=145						
214A	Organ Pipe Nat	66.82	321	P	P	04 02 00.5	+1.7
	baz=136						
J39A	Decorah	66.99	343	P	P	04 01 58.7	-0.9
	baz=158						
SDCO	Great Sand Dun	67.33	330	P	P	04 02 03.1	+0.9
	baz=144						
BGNE	Belgrade	67.33	337	P	P	04 02 02.2	+0.3
	baz=151						
MVCO	Mesa Verde	68.37	327	P	P	04 02 09.8	+1.0
	baz=141						
LIC	Lamto	68.83	74	eP	P	04 02 11.1	-0.8
	comp=E,20nm,0.7s						
TIC	Toumodi	69.02	74	eP	P	04 02 12.6	-0.4
ISCO	Idaho Springs	69.03	331	P	P	04 02 13.6	+0.6
	baz=144						
KIC	Kosan Boka	69.15	74	eP	P	04 02 12.6	-1.2
	comp=E,20nm,0.6s						
DBIC	Dimbokro	69.17	74	P	P	04 02 13.2	-0.7
	comp=E,12nm,0.8s,baz=213,slow=6.9,SNR=22						
DBIC				pP	pP	04 02 31.0	+0.5
	comp=E,11nm,0.7s,baz=231,slow=8.2,SNR=7.2						
DBIC				LR	LR	04 29 43.6	
	comp=E,52nm,21.0s,baz=268,slow=34						
QSPA	South Pole Qui	69.37	180	eP	P	04 02 15.4	+0.9
	comp=E,16nm,1.3s						
BC3	Big Chuckawall	69.59	320	P	P	04 02 18.0	+1.7
	baz=134						
LSQQ	Lebel-sur-Quev	69.87	355	P	P	04 02 17.4	-0.1
	baz=173						
PFO	Pinyon Flats O	70.17	320	P	P	04 02 21.4	+1.5
	baz=134						
GMRC	Granite Mounta	70.50	321	P	P	04 02 23.6	+1.7
	baz=135						
O20A	White River Ci	70.52	329	P	P	04 02 23.0	+1.0
	baz=142						
GSC	Goldstone, Bar	71.53	321	P	P	04 02 29.6	+1.5
	baz=134						
EDW2	Edwards Air Fo	71.96	320	P	P	04 02 31.9	+1.4
	baz=133						
TPNV	Topopah Spring	72.35	322	P	P	04 02 34.8	+1.7
	baz=135						
MPMC	Manual Prospec	72.46	321	P	P	04 02 35.1	+1.4
	baz=134						
ISA	Isabella, Lake	72.78	320	P	P	04 02 37.1	+1.7
	baz=133						
DUG	Dugway, Tooele	72.83	327	P	P	04 02 37.5	+1.8
	baz=138						
R11A	Troy Canyon, C	72.97	324	P	P	04 02 38.3	+1.6
	baz=135						
CWC	Cottonwood Cre	73.07	321	P	P	04 02 39.1	+1.8
	baz=133						
BW06	Boulder Array	73.19	330	P	P	04 02 39.4	+1.4
	baz=141						
PD31	Pinedale Array	73.19	330	eP	P	04 02 39.0	+1.0
PDAR	Pinedale Array	73.19	330	P	P	04 02 39.0	+1.0
	comp=E,0.5nm,0.5s,baz=131,slow=5.9,SNR=7.4						
PDAR				pP	sP	04 02 59.1	-2.2
	comp=E,1.4nm,0.7s,baz=116,slow=5.8,SNR=7.7						
VES	Vestal, Richgr	73.26	320	P	P	04 02 39.9	+1.7
	baz=132						
AHID	Auburn Hatcher	73.92	329	eP	P	04 02 42.6	+0.4
	comp=E,4.5nm,0.6s						
ULM	Lac du Bonnet	74.47	343	P	P	04 02 45.0	0.0
	comp=E,1.4nm,0.5s,baz=178,slow=9.9,SNR=3.0						
ULM				LR	LR	04 38 12.6	
	comp=E,70nm,18.1s,baz=20,slow=38						
NV01	Mina Array Sit	74.55	322	eP	P	04 02 46.9	+0.9
NVAR	Mina Array Bea	74.55	322	P	P	04 02 46.9	+0.9
	comp=E,1.0nm,0.7s,baz=140,slow=4.8,SNR=7.7						
LAO	LASA Array	74.89	335	P	P	04 02 48.6	+1.1
	baz=145						
RLMT	Red Lodge	74.91	332	P	P	04 02 49.0	+1.2
	baz=142						
SCHQ	Schefferville	75.38	2	P	P	04 02 50.1	0.0
	comp=E,5.3nm,1.1s,baz=264,slow=11,SNR=3.5						
HLID	Hailey	76.12	328	P	P	04 02 56.6	+1.7
	baz=137						
SYO	Syowa Base	77.37	160	⇑eP	P	04 02 56.0	-5.3
EGMT	Eagleton	77.39	334	P	P	04 03 02.4	+0.7
	baz=142						
VNDA	Vanda	77.41	190	P	P	04 03 01.9	+0.4
	comp=E,1.0nm,0.9s,baz=111,slow=5.3,SNR=3.9						
VNDA				LR	LR	04 36 41.2	
	comp=E,35nm,18.1s,baz=162,slow=35						
TOA1	Torodi Ar. Sit	77.75	71	eP	P	04 03 02.5	-1.8
TORD	Torodi Ar. Bea	77.75	71	P	P	04 03 02.5	-1.8
	comp=E,4.3nm,0.7s,baz=265,slow=8.5,SNR=41						
TORD				pP	pP	04 03 23.8	+2.5
	comp=E,7.5nm,0.6s,baz=252,slow=5.6,SNR=9.0						
TORD				LR	LR	04 36 40.6	
	comp=E,57nm,18.3s,baz=305,slow=35						
BOSA	Boshof	84.35	118	P	P	04 03 38.8	-0.7
	comp=E,6.2nm,1.1s,baz=332,slow=1.3,SNR=3.3						
BOSA				LR	LR	04 38 23.9	
	comp=E,54nm,19.5s,baz=226,slow=34						
ESDC	Sonseca Array	85.81	45	P	P	04 03 46.0	-0.4
	comp=E,0.1nm,0.4s,baz=89,slow=18,SNR=4.0						
ESDC				pP	pP	04 04 05.5	+2.2
	comp=E,0.6nm,0.6s,baz=263,slow=8.1,SNR=2.9						
YKA	Yellowknife Ar	90.33	341	P	P	04 04 07.2	0.0
	comp=E,1.3nm,0.7s,baz=136,slow=4.4,SNR=15						
YKA				pP	pP	04 04 25.9	+1.5
	comp=E,4.4nm,0.7s,baz=135,slow=4.8,SNR=14						
YKB5	Yellowknife Ar	90.33	341	eP	P	04 04 07.2	0.0
AS31	Alice Springs	130.20	209	ePKPdf	PKPdf	04 10 16.9	-0.5
ASAR	Alice Springs	130.20	209	PKP	PKPdf	04 10 17.0	-0.5
	comp=E,0.5nm,0.9s,baz=142,slow=1.9,SNR=6.3						
ASAR				pPKP	pPKPdf	04 10 35.5	+0.4
	comp=E,0.4nm,0.6s,baz=140,slow=1.9,SNR=3.3						
WR1	Warramunga Arr	133.20	212	ePKPdf	PKPdf	04 10 23.6	+0.5
WRA	Warramunga Arr	133.20	212	PKP	PKPdf	04 10 23.6	+0.5
	comp=E,0.3nm,0.5s,baz=149,slow=1.7,SNR=9.8						
WRA				pPKP	pPKPdf	04 10 41.4	+0.5
	comp=E,0.8nm,0.6s,baz=158,slow=1.6,SNR=5.5						
MBWA	Marble Bar	137.29	193	eP	PKiKP	04 10 35.0	+2.4
KURK	Kurchatov	141.11	32	ePKPdf	PKPdf	04 10 37.2	+0.6
KURBB	Kurchatov Arra	141.12	32	PKP	PKPdf	04 10 37.2	+0.5
	comp=E,0.6nm,0.8s,baz=298,slow=2.9,SNR=4.4						
ZAA1	Zalesovo Array	141.61	24	ePKPdf	PKPdf	04 10 36.8	-0.7
ZALV	Zalesovo Beam	141.61	24	PKP	PKPdf	04 10 36.8	-0.7
	comp=E,0.9nm,0.5s,baz=274,slow=2.1,SNR=5.0						
ZALV				pPKP	pPKPdf	04 10 55.9	+0.7
	comp=E,3.1nm,0.6s,baz=291,slow=3.5,SNR=7.2						
MAKZ	Makanchi	145.28	35	ePKPbc	PKPab	04 10 44.2	0.0
MK31	Makanchi Array	145.46	35	ePKPdf	PKPab	04 10 44.8	-0.1
MK32	Makanchi Array	145.46	35	ePKPdf	PKPbc	04 10 44.6	0.0
MKAR	Makanchi Array	145.46	35	PKPbc	PKPbc	04 10 44.6	0.0
	comp=E,2.7nm,0.6s,baz=324,slow=4.0,SNR=33						
MKAR				pPKPbc	pPKPab	04 11 02.1	-0.1
	comp=E,4.4nm,0.7s,baz=327,slow=3.4,SNR=10						
MK01	Makanchi Array	145.48	35	ePKPdf	PKPbc	04 10 44.7	0.0
USRK	Ussuriysk Ar.	150.58	327	PKPbc	PKiKP	04 10 59.2	+0.1
	comp=E,2.6nm,0.8s,baz=74,slow=2.1,SNR=5.9						
USRK				pPKPbc	pPKPbc	04 11 16.5	+0.4
	comp=E,1.7nm,0.6s,baz=300,slow=1.9,SNR=3.8						
SONA0	Songino Array	152.85	6	ePKPbc	PKPbc	04 11 03.0	-0.7
SONM	Songino Array	152.85	6	PKPbc	PKPbc	04 11 03.0	-0.7
	comp=E,0.8nm,0.7s,baz=355,slow=1.7,SNR=4.3						

GUC 01 03:52:11.7±0.5, 36.98S×74.10W, h18km±4km, ML3.6, 1C,
Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.80	80	eP	Pb	03 52 25.7	-1.4
CCSP				eS	Sb	03 52 36.1	-1.5
CCSP				IAML		03 52 40.5	
	comp=N,5μm,0.5s						
CCHI	Chillan	1.67	77	eP	Pn	03 52 38.9	-1.0
CCHI				eS	Sn	03 53 00.5	-0.3
CCHI				IAML		03 53 21.2	
	comp=N,1μm,0.4s						
TMU	Temuco	2.11	146	eP	Pn	03 52 46.6	+0.5
TMU				eS	Sn	03 53 13.1	+1.3
TMU				IAML		03 53 26.5	
	comp=N,407nm,0.6s						
GO05	Huala	2.64	42	eP	Pn	03 52 51.2	-2.1
GO05				eS	Sn	03 53 23.3	-1.6
GO05				IAML		03 53 48.2	
	comp=E,321nm,0.6s						
GO06	Curarrehue	3.32	142	⇑eP	Pn	03 53 03.6	+0.8
GO06				IAML		03 54 03.0	
	comp=N,99nm,0.7s						
LMEL	Las Melosas	4.46	47	eP	Pn	03 53 17.2	-1.3
LMEL				i S	Sn	03 54 08.7	-1.4
PLCA	Paso Flores	4.66	145	eP	Pn	03 53 22.4	+1.3
PEL	Peldehue	4.74	37	eP	Pn	03 53 20.3	-2.1
PEL				i S	Sn	03 54 13.9	-3.0

*MOS **01** 04:08:33.7±1.2, 36.51N×71.41E, h112km, mb4.4/43, Error ellipse: s-maj=5.9km s-min=4.0km az=108.7*
*ISCJB **01** 04:08:33.3±0.3, 36.47N±0.02×71.42E±0.03, h110km±3km, mb4.2/73, Error ellipse: s-maj=3.5km s-min=2.9km az=176.2*
*IDC **01** 04:08:34.8±0.6, 36.36N×71.28E, h116km±5km, mb3.7/21, mb1 3.9/24, mb1mx3.8/43, mbtmp4.2/24, Error ellipse: s-maj=14.5km s-min=9.9km az=16.0*
*BJI **01** 04:08:34.2, 36.50N×71.31E, h108km, mb4.6/30, mB5.0/20*
*NEIC **01** 04:08:34.9±0.6, 36.53N×71.19E, h112km±6km, mb4.4/18, Error ellipse: s-maj=7.4km s-min=6.4km az=117.0*
*NNC **01** 04:08:37.9±3.4, 36.84N×70.92E, h131km±44km, mb3.9, mpv4.7, Error ellipse: s-maj=28.6km s-min=27.7km az=53.0*

ISC 01 04:08:34.5±0.4, 36.47N±0.03×71.25E±0.03, h114km±3km, h114km:pP-P, n258, σ2.26/310, mb4.3/73, 33C-14D,
Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.64	224	ePn	Pn	04 09 17.1	+1.0
KBL				eSn	Sn	04 09 48.2	+0.3
KBL	Kabul	2.64	224	ePN	Pn	04 09 17.1	+1.0
CEP	Cherat	2.70	168	P	Pn	04 09 18.3	+1.5
CEP				S	Sn	04 09 51.0	+1.7
CHCP	Chirah Chowk	3.26	149	P	Pn	04 09 25.8	+1.7
NIL	Nilore	3.26	149	ePn	Pn	04 09 25.8	+1.7
NIL				eSn	Sn	04 10 00.7	-1.6
NIL	Nilore	3.26	149	ePN	Pn	04 09 25.8	+1.7
NIL				e		04 10 00.7	
BTK	Batken	3.60	355	ePn	Pn	04 09 29.4	+0.8
BTK				eSn	Sn	04 10 07.6	-2.8
BTK	Batken	3.60	355	ePN	Pn	04 09 29.4	+0.8
THW	Thamme Wali	3.69	174	P	Pn	04 09 30.5	+0.7
SFK	Sufi-Kurgan	3.95	26	⇓P	Pn	04 09 35.3	+1.8
	83nm,0.3s						
SFK				⇓S	Sn	04 10 20.3	+1.1
	67nm,0.2s						
SFK	Sufi-Kurgan	3.95	26	PN	Pn	04 09 35.3	+1.8
SFK				S	Sn	04 10 20.3	+1.1
SFK				pmax	pmax		
	comp=Z,83nm,0.3s						
SFK				smax	smax		
	comp=N,67nm,0.2s						
KSH	Kashi	4.81	49	P	Pn	04 09 40.7	-4.2
KSH				sP		04 10 07.7	
KSH				S	Sn	04 10 29.2	-10
KSH				pmax	pmax		
	comp=N,330nm,0.8s						
ARSB	Arslanbob	5.03	15	ePn	Pn	04 09 47.2	-0.6
ARSB				eSn	Sn	04 10 39.0	-5.9
DHRM	DHARAMSHALA	5.93	134	eP	Pn	04 10 00.4	+0.2
DHRM				eS	Sn	04 11 03.6	-3.3
DHRM				IAML		04 11 08.2	
	comp=E,1μm,0.4s						
DHRM				IAML		04 11 08.2	
	comp=N,796nm,0.3s						
AML	Almayashu	5.96	18	P	Pn	04 10 00.5	-0.1
	SNR=91						
NRN	Naryn	6.18	35	ePn	Pn	04 10 02.6	-1.0
NRN				eSn	Sn	04 11 13.0	0.0
NRN	Naryn	6.18	35	ePN	Pn	04 10 02.6	-1.0
NRN				e		04 11 13.0	
UCH	Uchtor	6.28	23	P	Pn	04 10 04.7	-0.3
	SNR=59						
KZA	Kyzart	6.40	28	P	Pn	04 10 06.1	-0.5
	SNR=26						
EKS2	Erkin-Say	6.48	17	P	Pn	04 10 07.6	+0.1
	SNR=88						
AAK	Ala-Archa	6.65	21	P	Pn	04 10 10.1	+0.4
	comp=N,34nm,0.3s,baz=179,slow=7.2,SNR=382						
AAK				S	Sn	04 11 20.0	-4.1
	comp=N,14nm,0.3s,baz=330,slow=22,SNR=13						
AAK	Ala-Archa	6.65	21	P	Pn	04 10 10.0	+0.3
	SNR=117						
AAK	Ala-Archa	6.65	21	ePn	Pn	04 10 09.9	+0.1
AAK				eSn	Sn	04 11 22.6	-1.4
AAK	Ala-Archa	6.65	21	⇑P	Pn	04 10 09.8	+0.1
	comp=N,39nm,0.3s						
AAK				⇓S	Sn	04 11 21.0	-3.0
	comp=N,121nm,0.7s						
AAK	Ala-Archa	6.65	21	i P	Pn	04 10 10.0	+0.3
	SNR=131						
AAK	Ala-Archa	6.65	21	cePN	Pn	04 10 09.5	-0.2
AAK				pmax	pmax		
	comp=Z,36nm,0.4s						
KK31	Karatay Array	6.65	355	ePn	Pn	04 10 08.6	-1.0
KK31				eSn	Sn	04 11 18.7	-5.2
KK31	Karatay Array	6.65	355	⇓P	Pn	04 10 08.6	-1.0
	comp=Z,11nm,0.2s,baz=189,slow=13,SNR=757						
KK31				⇑S	Sn	04 11 18.6	-5.2
	comp=Z,66nm,0.5s,baz=181,slow=13,SNR=6.7						
KK31	Karatay Array	6.65	355	ePN	Pn	04 10 08.6	-1.0
KKAR	Karatay Array	6.65	355	ePn	Pn	04 10 08.6	-1.0
KKAR				eSn	Sn	04 11 18.8	-5.0
KKAR	Karatay Array	6.65	355	ePN	Pn	04 10 08.6	-1.0
KBK	Karagaybulak	6.80	24	P	Pn	04 10 12.1	+0.2
	SNR=26						
FRU1	Bishkek	6.84	21	ePn	Pn	04 10 13.3	+1.1
FRU1				eSn	Sn	04 11 28.5	-0.2
FRU1	Bishkek	6.84	21	ePN	Pn	04 10 13.4	+1.1
FRU	Bishkek	6.86	21	ePN	Pn	04 10 11.0	-1.5
FRU				pmax	pmax		
	comp=Z,50nm,1.8s						
ULHL	Ulahol	6.94	32	P	Pn	04 10 13.5	-0.2
	SNR=29						
CHMS	Chumysh	7.05	21	P	Pn	04 10 15.0	-0.1
	SNR=64						
USP	Ospenovka	7.23	19	P	Pn	04 10 17.6	+0.1
	SNR=56						
SMLA	Simla	7.25	136	eP	Pn	04 10 17.1	-0.8
SMLA				eS	Sn	04 11 33.4	-5.3
SMLA				IAML		04 11 37.1	
	comp=E,398nm,0.8s						
SMLA				IAML		04 11 37.5	
	comp=N,327nm,0.1s						
TKM2	Tokmak 2	7.26	26	P	Pn	04 10 18.0	0.0
	SNR=26						
TKM2	Tokmak 2	7.26	26	⇑P	Pn	04 10 18.1	+0.1
	comp=N,28nm,0.5s						
TKM2				⇓S	Sn	04 11 36.2	-2.7
	comp=N,65nm,0.8s						
TKM2	Tokmak 2	7.26	26	PN	Pn	04 10 18.9	+0.9
TKM2				pmax	pmax		
	comp=Z,28nm,0.5s						
MDOK	Medeo	8.03	32	⇑P	Pn	04 10 28.0	-0.5
	comp=Z,12nm,0.6s						
KNDC	Almaty	8.04	31	⇓P	Pn	04 10 28.7	+0.2
	comp=Z,30nm,0.8s						
PRZ	Przheval'sk	8.16	40	ePn	Pn	04 10 31.0	+0.8
PRZ	Przheval'sk	8.16	40	ePN	Pn	04 10 31.0	+0.8
DDI	Dehra Dun	8.36	135	eP	Pn	04 10 32.8	-0.1
DDI				eS	Sn	04 12 00.4	-5.3
DDI				IAML		04 12 05.8	
	comp=N,327nm,0.1s						
DDI				IAML		04 12 06.9	
	comp=E,307nm,0.6s						
NDI	New Delhi	9.25	145	eP	Pn	04 10 44.0	-0.9
NDI				eS	Sn	04 12 19.0	-8.2
PDGK	Podgornoye	9.32	40	⇓P	Pn	04 10 44.1	-1.8
	comp=E,21nm,1.4s						
PDGK				⇑S	Sn	04 12 34.6	+5.8
	comp=E,27nm,0.9s						
PDGK	Podgornoye	9.32	40	P	Pn	04 10 44.9	-1.0
PDGK				S	Sn	04 12 34.7	+5.8
PDGK				pmax	pmax		
	comp=Z,21nm,1.4s						
PDGK				smax	smax		
	comp=N,27nm,0.9s						
GEYT	Alibeck	10.58	282	P	Pn	04 10 59.7	-3.2
	comp=N,7.9nm,0.3s,baz=108,slow=10,SNR=8.0						
GEYT				S	Sn	04 12 46.4	-13
	comp=N,3.3nm,0.3s,baz=108,slow=27,SNR=3.5						
GYA0B	ALIBECK ARRAY	10.58	282	ePn	Pn	04 10 58.9	-4.0
GYA0B				eSn	Sn	04 12 54.9	-4.5
OTUK	Ortayu	11.79	4	⇓P	Pn	04 11 16.3	-2.7
	comp=N,7.0nm,0.9s						
OTUK				⇑S	Sn	04 13 22.1	-6.5
	comp=N,41nm,0.9s						
OTUK	Ortayu	11.79	4	P	Pn	04 11 16.3	-2.7
OTUK				S	Sn	04 13 22.1	-6.5
OTUK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
OTUK				smax	smax		
	comp=N,41nm,0.9s						
PYUN	Piuthan	12.96	127	eP	Pn	04 11 31.2	-3.5
	comp=N,153nm,0.5s						
MKAR	Makanchi Array	13.20	35	P	Pn	04 11 35.6	-1.8
	comp=N,0.3nm,0.3s,baz=221,slow=16,SNR=5.0						
BHJ	Bhuj	13.25	186	eP	Pn	04 11 38.3	+0.2
DANN	Dangsing	13.30	124	eP	Pn	04 11 36.2	-3.0
	comp=N,240nm,0.6s						
KOLN	Koldanda	13.58	126	eP	Pn	04 11 39.1	-3.6
	comp=N,47nm,0.3s						
GKN	Gorkha	14.12	123	eP	Pn	04 11 46.5	-3.0
	comp=N,0.7nm,0.3s						
BHPL	Bhopal	14.23	156	eP	Pn	04 11 48.5	-2.4
BHPL				ex	x	04 14 10.1	
WMQ	Urumqi	14.55	55	eP	P	04 11 57.0	-1.2
WMQ				sP	Pn	04 12 28.7	+34
WMQ				pmax	pmax		
	comp=N,26nm,0.9s						
WMQ				pmax	pmax		
	comp=N,630nm,5.3s						
DMN	Daman	14.69	123	eP	Pn	04 11 53.5	-3.4
	comp=N,66nm,0.4s						
KKN	Kakani	14.69	122	eP	Pn	04 11 53.2	-3.7
	comp=N,107nm,0.5s						
PKIN	Phulchoki	14.91	123	eP	Pn	04 11 55.9	-3.8
	comp=N,134nm,0.6s						
PKI	Pulchoki	14.92	123	eP	Pn	04 11 56.2	-3.7
	comp=N,122nm,0.5s						
GUN	Gumba	15.03	120	eP	Pn	04 11 57.7	-3.6
	comp=N,118nm,0.5s						
KURBB	Kurchatov Arra	15.08	18	P	Pn	04 12 01.0	-0.4
	comp=N,0.5nm,0.3s,baz=204,slow=11,SNR=22						
KURBB				S	S	04 14 54.2	-3.2
	comp=N,0.0nm,0.3s,baz=205,slow=19,SNR=2.8						
KURBB	Kurchatov Arra	15.08	18	⇑P	P	04 12 03.9	-0.1
	comp=N,5.8nm,0.5s						
KURK	Kurchatov	15.19	18	ePn	Pn	04 12 02.4	-0.4
	comp=N,5.8nm,0.9s						
KURK	Kurchatov	15.19	18	⇓P	P	04 12 04.8	-0.4
	comp=N,5.8nm,0.9s						
KURK	Kurchatov	15.19	18	ceP	Pn	04 12 01.9	-0.9
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AB31	Akbulak array	15.21	331	⇑P	Pn	04 12 00.3	-2.7
	comp=Z,12nm,0.5s,baz=248,slow=4.4,SNR=3.9						
AB31	Akbulak array	15.21	331	P	Pn	04 12 00.3	-2.7
AB31				pmax	pmax		
	comp=Z,12nm,0.5s						
ABKAR	Akbulak array	15.21	331	ePn	Pn	04 12 00.1	-2.8
ABKAR				eSn	Sn	04 14 35.5	-15
JBP	Jabalpur	15.26	148	⇑eP	Pn	04 12 05.0	+1.1
JBP				ex	x	04 14 35.0	
JIRN	Jiri	15.40	121	eP	Pn	04 12 02.5	-3.5
	comp=Z,180nm,0.4s						
RAMN	Ramite	16.13	122	eP	Pn	04 12 11.1	-3.8
	comp=Z,150nm,0.6s						
SHME	Shamm	16.56	235	P	P	04 12 21.5	+1.0
BVA0	Borovoye Array	16.56	358	⇓P	Pn	04 12 18.4	-1.4
	comp=Z,1.8nm,0.5s,baz=168,slow=12,SNR=18						
BVA0	Borovoye Array	16.56	358	P	Pn	04 12 18.4	-1.4
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BVAR	Borovoye Array	16.56	358	P	Pn	04 12 18.6	-1.2
	comp=Z,1.1nm,0.3s,baz=168,slow=11,SNR=15						
BVAR				S	Sn	04 15 12.0	-12
	comp=Z,0.2nm,0.3s,baz=163,slow=22,SNR=5.2						
BRVK	Borovoye	16.60	358	ePn	Pn	04 12 19.3	-0.9
	comp=Z,12nm,1.1s						
BRVK	Borovoye	16.60	358	eP	Pn	04 12 19.3	-0.9
BRVK				pmax	pmax		
	comp=Z,12nm,1.1s						
ODAN	Odare	16.73	120	eP	Pn	04 12 18.8	-3.5
	comp=Z,116nm,0.6s						
AKTO	Aktyubinsk	16.91	330	P	Pn	04 12 22.9	-1.0
	comp=Z,1.0nm,0.3s,baz=137,slow=13,SNR=26						
AKTO				S	Sn	04 15 18.2	-14
	comp=Z,0.9nm,0.3s,baz=247,slow=24,SNR=4.3						
AKTO	Aktyubinsk	16.91	330	⇑P	Pn	04 12 23.2	-0.8
	comp=Z,17nm,0.7s						
MDH	Madha	16.97	233	P	P	04 12 27.0	+1.9
MSFE	Esma-Masafi	17.02	234	P	Pn	04 12 26.5	+0.9
UOSS	Minazif	17.28	233	eP	P	04 12 27.7	-0.8
	comp=Z,19nm,1.2s						
UOSS	Minazif	17.28	233	P	Pn	04 12 29.9	+1.1
ASHO	Ashiyiah	17.56	232	i P	Pn	04 12 33.3	+1.2
	SNR=7.6						
NAZ	Nazwa, Dubai	17.60	234	P	Pn	04 12 34.3	+1.7
DGZ	Jazzator, Alta	17.68	37	i P	P	04 12 31.8	-1.0
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FAQ	Al Faqa, Dubai	17.81	233	P	Pn	04 12 37.6	+2.5
BOK	Bokaro	17.86	131	eP	P	04 12 33.4	-1.4
BOK				IAmb	IAmb	04 12 37.2	
	comp=Z,41nm,1.3s						
LSA	Lhasa	17.98	106	eP	P	04 12 33.7	-2.8
	comp=Z,22nm,0.9s						
LSA	Lhasa	17.98	106	P	Pn	04 12 38.3	+0.7
LSA	Lhasa	17.98	106	eP	P	04 12 33.7	-2.8
LSA				pmax	pmax		
	comp=Z,22nm,0.9s						
POO	Poona	18.02	172	eP	Pn	04 12 38.0	+0.3
ASUD	Al Ashush, Dub	18.07	234	P	P	04 12 37.2	+0.1
ALNE	Al Ain	18.20	231	i P	Pn	04 12 40.3	+0.4
	SNR=5.6						
AKT	Akhty	18.94	292	i P	Pn	04 12 48.7	+0.2
GNBR	Gunib	19.64	295	i P	Pn	04 12 57.2	+0.6
GNBR				pmax	pmax		
	comp=Z,56nm,0.9s						
ZAA0	Zalesovo Array	19.86	24	eP	P	04 12 56.0	-0.3
	comp=Z,13nm,0.9s						
ZALV	Zalesovo Beam	19.86	24	P	P	04 12 55.7	-0.6
	comp=Z,6.1nm,0.3s,baz=214,slow=10,SNR=70						
ZALV				S	S	04 16 32.1	-1.4
	comp=Z,0.1nm,0.3s,baz=210,slow=17,SNR=2.9						
ZALV	Zalesovo Beam	19.86	24	eP	P	04 12 55.6	-0.7
HYB	Hyderabad	20.05	159	i P	Pn	04 13 03.0	+1.4
HYB				eS	S	04 16 35.0	-3.0
HYB	Hyderabad	20.05	159	eP	P	04 13 00.5	+1.7
HYB				IAmb	IAmb	04 13 04.6	
	comp=Z,26nm,1.1s						
NVS	Novosibirsk	20.14	20	eP	Pn	04 13 01.2	-1.0
NVS				e		04 13 35.8	
NVS				eS	S	04 16 38.4	-0.6
NVS				pmax	pmax		
	comp=N,5.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.5s						
NVS				pmax	pmax		
	comp=Z,5.0nm,0.5s						

NVS smax smax
comp=N,5.0nm,1.0s
NVS smax smax
comp=E,9.0nm,1.0s
GROC Groznyy 20.62 297 *e*P **P 04 13 04.6 -0.1**
GROC *e**SP **sP 04 13 40.3 +0.1**
GROC *e*S **S 04 16 49.6 +0.8**
GROC *e* 04 17 12.2
GROC *e**SS **sS 04 17 23.8 -0.3**
GROC pmax pmax
comp=Z,52nm,1.3s
SHL Shillong 20.71 116 *e*P **P 04 13 06.8 +0.8**
comp=Z,55nm,0.9s
SHL *e*S **S 04 16 47.9 -3.3**
SHL Shillong 20.71 116 *e*P **P 04 13 06.8 +0.8**
SHL *e*S **S 04 16 47.9 -3.3**
SHL pmax pmax
comp=Z,55nm,0.9s
SHL Shillong 20.71 116 *e*P **P 04 13 06.6 +0.6**
SHL *ex* x 04 16 44.6
SVE Sverdlovsk 21.58 344 *e*P **P 04 13 17.3 +2.6**
SVE *e*S **S 04 17 03.5 -3.4**
SVE pmax pmax
comp=Z,14nm,0.9s
ARU Arti 21.72 341 *e*P **P 04 13 17.8 +1.5**
comp=Z,19nm,1.3s
ARU Arti 21.72 341 *c i*P **P 04 13 16.0 -0.3**
ARU 04 13 42.2
ARU S **S 04 17 09.1 -0.5**
ARU SS **SnSn 04 17 53.5 +8.1**
ARU pmax pmax
comp=Z,16nm,1.3s
ZEI Tsey 21.93 295 *e*P **P 04 13 20.7 +1.8**
ZEI pmax pmax
comp=Z,14nm,0.7s
NCK Nalchik 22.26 297 *i*P **P 04 13 22.5 +0.5**
NCK pmax pmax
comp=Z,24nm,1.0s
KARS Kars 22.38 289 *e*P **P 04 13 23.5 0.0**
comp=Z,58nm,1.0s
KARS Kars 22.38 289 *e*P **P 04 13 23.5 0.0**
KARS pmax pmax
comp=Z,58nm,1.0s
GTA Gaotai 22.68 74 ⇑P **P 04 13 28.3 +1.8**
GTA pP pP 04 13 53.2 +4.9
GTA sP sP 04 14 06.5 +4.0
GTA S **S 04 17 24.6 -1.6**
GTA sS sS 04 18 04.9 -0.4
GTA SS **SnSn 04 18 18.3 +9.4**
GTA pmax pmax
comp=Z,21nm,1.0s
GTA pmax pmax
comp=Z,280nm,5.9s
GTA LR LR
comp=Z,200nm,14.3s
GTA LR LR
comp=Z,230nm,14.9s
GTA LR LR
comp=Z,220nm,14.3s
EPOS Posof 22.68 292 *i*P **P 04 13 29.9 +3.4**
PYA1 Pyatigorsk 22.71 298 *i*P **P 04 13 26.9 +0.3**
KBZ Khabaz 22.79 297 P **P 04 13 28.1 +0.7**
comp=Z,9.5nm,1.1s,baz=132,slow=6.6,SNR=12
NEY Neytrino 22.85 296 *i*P **P 04 13 30.1 +1.9**
NEY pmax pmax
comp=Z,2.0nm,0.8s
GOF Gofitskoye 22.93 301 *e*P **P 04 13 30.8 +2.1**
GOF pmax pmax
comp=Z,40nm,0.9s
SHA1 Shidzhatmaz 22.97 297 *i*P **P 04 13 30.5 +1.2**
KIV Kislovodsk 22.98 298⇓*e*P **P 04 13 30.3 +1.0**
KIV *e*S **S 04 17 36.3 +5.4**
KIV pmax pmax
comp=Z,8.0nm,0.7s
DOMR Dombai 23.65 296 *i*P **P 04 13 37.3 +1.7**
DOMR pmax pmax
comp=Z,12nm,0.9s
VRH Novokhopyorsk 25.67 314 *e*P **P 04 13 57.5 +4.0**
VRH *e**PP **pP 04 14 16.9 -1.3**
VRH pmax pmax
comp=Z,20nm,1.8s
RAYN Ar Rayn 25.67 247 *e*P **P 04 13 54.1 +0.2**
comp=Z,7.8nm,0.8s
RAYN Ar Rayn 25.67 247 *e*P **P 04 13 54.1 +0.2**
RAYN pmax pmax
comp=Z,8.0nm,0.8s
LZH Lanzhou 26.21 81 *e*P **P 04 14 01.2 +2.4**
LZH pP pP 04 14 23.8 +0.3
LZH sP sP 04 14 35.5 -1.3
LZH PP **PnPn 04 14 48.4 +3.7**
LZH pmax pmax
comp=Z,25nm,1.4s
VSR Storozhevoye 27.17 313 *e*P **P 04 14 07.8 +0.8**
VSR *e**PP **pP 04 14 32.3 +0.5**
VSR pmax pmax
comp=Z,10.0nm,1.4s
CD2 Chengdu 27.53 92 *e*P **P 04 14 11.0 +0.5**
LPSR Galich'ya Gora 27.81 316 *e*P **P 04 14 14.1 +1.4**
LPSR pmax pmax
comp=Z,7.0nm,0.8s
SONM Songino Array 28.18 55 P **P 04 14 17.1 +0.8**
comp=Z,2.3nm,0.6s,baz=262,slow=9.7,SNR=9.8
SONA1 Songino Array 28.19 55 *e*P **P 04 14 17.5 +1.1**
ASF Jabal al Asfar 28.60 272 P **P 04 14 20.1 0.0**
comp=Z,1.3nm,0.7s,baz=72,slow=2.7,SNR=1.9
ULN Ulaanbaatar 28.62 55 *e*P **P 04 14 21.9 +1.6**
comp=Z,1.5nm,0.8s
ULN Ulaanbaatar 28.62 55*ce*P **P 04 14 20.0 -0.2**
ULN pmax pmax
comp=Z,10.0nm,2.5s
BR131 Keskin Array S 29.64 288 *e*P **P 04 14 31.4 +2.2**
BR131 *e*pP **pP 04 14 56.3 +2.1**
BRTR Keskin Array B 29.64 288 P **P 04 14 31.1 +1.9**
comp=Z,1.2nm,0.7s,baz=102,slow=9.4,SNR=11
BRTR pP **pP 04 14 53.5 -0.7**
comp=Z,1.8nm,0.7s,baz=103,slow=8.9,SNR=7.5
OBN Obninsk 30.09 319⇑*e*P **P 04 14 33.4 +0.6**
OBN *i* 04 15 34.5
OBN *e*S **S 04 19 23.0 +0.2**
OBN pmax pmax
comp=Z,4.0nm,0.7s
CMAR Chiang Mai Arr 30.26 119 P **P 04 14 35.5 +0.7**
comp=Z,2.0nm,0.7s,baz=305,slow=8.3,SNR=13
CMAR Chiang Mai Arr 30.26 119*ce*P **P 04 14 36.7 +1.9**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CM01 Chiang Mai Arr 30.30 119 *e*P **P 04 14 35.9 +0.7**
XAN Xi'an 30.73 83 P **P 04 14 40.1 +1.3**
XAN pmax pmax
comp=Z,4.0nm,0.6s
XAN pmax pmax
comp=Z,170nm,4.9s
HHC Hu-ho-hao-te 31.58 70 *e*P **P 04 14 48.0 +1.7**
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,110nm,5.2s
KLMR Klimovskoe 31.60 331 *e*P **P 04 14 46.0 -0.1**
KLMR pmax pmax
comp=Z,16nm,1.5s
KLMR Klimovskoe 31.60 331 *e*P **P 04 14 46.0 -0.1**
KLMR AMP 04 14 47.3
comp=Z,16nm,1.5s
AKASG Malin Array Be 33.12 309 P **P 04 15 00.7 +1.2**
comp=Z,4.1nm,0.6s,baz=78,slow=7.5,SNR=32
AKBB Malin Array Si 33.12 309 *e*P **P 04 14 59.5 +0.1**
comp=Z,7.7nm,0.8s
KIEV Kiev 33.13 309 *e*P **P 04 15 00.0 +0.5**
comp=Z,7.3nm,0.7s
KIEV Kiev 33.13 309 *i*P **P 04 15 00.7 +1.1**
KIEV pmax pmax
comp=Z,5.0nm,0.8s
AK11 Malin Array Si 33.15 309 *e*P **P 04 15 00.9 +1.2**
TIRR Tirgusor 33.24 297 *e*P **P 04 14 58.9 -1.7**
comp=Z,14nm,1.4s
TIRR Tirgusor 33.24 297 *e*P **P 04 14 58.9 -1.7**
TIRR pmax pmax
comp=Z,14nm,1.4s
CFR Carcaliu 33.43 299⇑*i*P **P 04 15 04.3 +2.1**
CFR Carcaliu 33.43 299 P **P 04 15 04.0 +1.8**
CFR pmax pmax
comp=Z,6.0nm,1.1s
VRI Vrincioaia 34.42 300⇑*i*P **P 04 15 13.8 +2.9**
VRI Vrincioaia 34.42 300 P **P 04 15 13.7 +2.9**
PLOR Plostina 34.47 300⇑*i*P **P 04 15 14.5 +3.2**
PLOR Plostina 34.47 300 P **P 04 15 14.5 +3.2**
ISR Istrita 34.56 299⇑*i*P **P 04 15 15.2 +3.1**
ISR Istrita 34.56 299 P **P 04 15 15.6 +3.5**
ISR pmax pmax
comp=Z,20nm,2.3s
PRAR RASCA 34.78 303⇑*i*P **P 04 15 16.0 +2.1**
MLR Muntele Rosu 34.97 299 *e*P **P 04 15 15.6 -0.1**
comp=Z,15nm,0.9s
MLR Muntele Rosu 34.97 299⇑*i*P **P 04 15 18.5 +2.8**
MLR Muntele Rosu 34.97 299 *e*P **P 04 15 15.6 -0.1**
MLR pmax pmax
comp=Z,15nm,0.9s
DOPR Dopca 35.35 300⇑*i*P **P 04 15 21.5 +2.7**
BURAR Bucovina Array 35.47 303⇑*i*P **P 04 15 22.4 +2.5**
BURAR Bucovina Array 35.47 303 P **P 04 15 22.4 +2.5**
BUR04 Bucovina Ar. S 35.47 303 *e*P **P 04 15 21.3 +1.3**
BUR08 Bucovina Ar. S 35.48 303 *e*P **P 04 15 19.9 -0.2**
VOIR 35.60 299⇑*i*P **P 04 15 23.6 +2.5**
VOIR 35.60 299 P **P 04 15 23.2 +2.1**
VOIR pmax pmax
comp=Z,6.0nm,0.8s
ARR Arges 35.90 299⇑*i*P **P 04 15 26.3 +2.7**
CJR Cluj-Napoca 36.58 301⇓*i*P **P 04 15 32.6 +3.3**
CJR Cluj-Napoca 36.58 301 P **P 04 15 32.6 +3.3**
BMR Baia Mare 36.63 303⇓*i*P **P 04 15 32.3 +2.6**
DEV Beva 37.09 300 P **P 04 15 36.3 +2.7**
PUNG Punghina 37.18 297⇑*i*P **P 04 15 36.7 +2.4**
DRGR 37.18 302⇑*i*P **P 04 15 37.4 +2.9**
DRGR 37.18 302 P **P 04 15 37.0 +2.5**
DRGR pmax pmax
comp=Z,13nm,1.0s
KWP Kalwaria Pacla 37.19 306 P **P 04 15 36.7 +2.3**
KWP pmax pmax
comp=Z,21nm,1.3s
TRPA Tarpa 37.28 304⇑*i*P **P 04 15 37.9 +2.8**
FINES FINESS Array B 37.62 326 P **P 04 15 38.9 +1.1**
comp=Z,1.1nm,0.4s,baz=116,slow=9.4,SNR=14
APA Apatity 37.74 337⇓*i*P P
APA pmax pmax
comp=Z,7.0nm,1.1s
APA MLR MLR
comp=Z,2µm,11.0s
SIRR Siria 37.93 301*i*P **P 04 15 43.8 +3.1**
BZS Buzias 38.00 300⇑*i*P **P 04 15 43.2 +1.9**
BZS Buzias 38.00 300 P **P 04 15 43.6 +2.3**
BEL Belsk 38.51 310 P **P 04 15 49.1 +3.7**
NIE Niedzica 38.76 306 P **P 04 15 50.5 +2.9**
NIE pmax pmax
comp=Z,6.0nm,1.6s
PSZ Piszkesteto 39.06 304 P **P 04 15 52.9 +2.7**
PSZ pmax pmax
comp=Z,9.0nm,2.4s
OJC Ojcow 39.08 307 *e*P **P 04 15 49.0 -1.2**
comp=Z,6.7nm,0.8s
OJC Ojcow 39.08 307 *e*P **P 04 15 49.0 -1.2**
OJC pmax pmax
comp=Z,7.0nm,0.8s
NJ2 Nanjing 39.28 82 *e*P **P 04 15 52.1 0.0**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
BUD Budapest 39.67 303 P **P 04 15 57.3 +2.2**
BUD pmax pmax
comp=Z,7.0nm,0.7s
VYHS Vyhne 39.74 304 *e*P **P 04 15 57.5 +1.7**
VYHS Vyhne 39.74 304 *e*P **P 04 15 57.5 +1.7**
MORC Moravsky Berou 40.54 306 *e*P **P 04 16 02.8 +0.4**
comp=Z,5.4nm,0.8s
MORC Moravsky Berou 40.54 306 *e*P **P 04 16 02.8 +0.4**
MORC pmax pmax
comp=Z,5.0nm,0.8s
VRAC Vranov 41.18 306 P **P 04 16 10.4 +2.8**
VRAC pmax pmax
comp=Z,12nm,1.4s
ARCES ARCESS Array B 41.25 338 P **P 04 16 09.0 +1.2**
comp=Z,4.3nm,0.7s,baz=117,slow=9.1,SNR=35
DPC Dobruska-Polom 41.31 307 *e*P **P 04 16 10.9 +2.2**
DPC Dobruska-Polom 41.31 307 *e*P **P 04 16 10.9 +2.2**
KRUC Moravsky 41.32 305 P **P 04 16 10.7 +1.9**
UPC Upice 41.50 308 *e*P **P 04 16 12.7 +2.5**
UPC Upice 41.50 308 *e*P **P 04 16 12.7 +2.5**
CONA Conrad Observa 41.76 304 *i*P **P 04 16 14.4 +2.0**
comp=Z,7.1nm,1.0s
TREC Trest 41.90 306 P **P 04 16 15.8 +2.3**
TREC pmax pmax
comp=Z,2.0nm,1.5s
SOKA Soboth 42.45 302 *i*P **P 04 16 20.1 +2.0**
comp=Z,4.1nm,0.7s
PRU Pruhonice 42.47 307 *e*P **P 04 16 20.6 +2.5**
PRU Pruhonice 42.47 307 *e*P **P 04 16 20.6 +2.5**
BRG Berggiesshubel 42.80 308 *i*P **P 04 16 22.7 +2.0**
comp=Z,8.1nm,0.8s
BRG Berggiesshubel 42.80 308 *i*P **P 04 16 22.7 +2.0**
BRG pmax pmax
comp=Z,8.0nm,0.8s
OBKA Obir 42.81 302 *i*P **P 04 16 23.2 +2.2**
comp=Z,4.6nm,1.6s
MOA Molln 42.84 304 *i*P **P 04 16 22.8 +1.7**
comp=Z,10nm,1.9s,SNR=6.3
GEA0 GERESS Array S 43.11 305 *e*P **P 04 16 22.6 -0.8**
GERES GERESS Array B 43.11 305 P **P 04 16 24.6 +1.2**
comp=Z,1.1nm,0.9s,baz=96,slow=8.3,SNR=7.4
KHC Kasperske Hory 43.16 306 *e*P **P 04 16 26.2 +2.5**
KHC *e*pP **pP 04 16 50.0 +0.2**
KHC Kasperske Hory 43.16 306 *e*P **P 04 16 26.2 +2.5**
KHC *e* 04 16 50.0
CLL Collm 43.37 309 *e*P **P 04 16 27.0 +1.7**
comp=Z,4.0nm,0.8s
CLL Collm 43.37 309 *e*P **P 04 16 27.0 +1.7**
CLL pmax pmax
comp=Z,44nm,0.8s
KBA Koelnbreinsper 43.55 303 P **P 04 16 28.5 +1.4**
KBA Koelnbreinsper 43.55 303 *i*P **P 04 16 28.7 +1.6**
comp=Z,2.5nm,0.8s
NORES NORESS Array B 44.34 323 P **P 04 16 33.1 +0.2**
NORES pmax pmax
comp=Z,1.0nm,0.3s
NC303 NORSAR Array S 44.47 323 *e*P **P 04 16 34.5 +0.6**
NC303 *e*pP **pP 04 16 59.3 -0.9**
NB201 NORSAR Array S 44.49 323 *e*P **P 04 16 34.5 +0.4**
NB2 NORSAR Subarra 44.52 323 P **P 04 16 34.8 +0.4**
comp=Z,3.8nm,0.6s,baz=98,slow=7.9
NOA NORSAR Array B 44.52 323 P **P 04 16 35.2 +0.8**
comp=Z,3.6nm,0.6s,baz=96,slow=7.8,SNR=21
NOA pP **pP 04 17 00.9 +0.3**
comp=Z,2.5nm,0.6s,baz=96,slow=8.0,SNR=3.8
NOA NORSAR Array B 44.52 323 P **P 04 16 35.2 +0.8**
NOA *PP **pP 04 17 01.0 +0.3**
NOA pmax pmax
comp=Z,6.0nm,0.7s
KSRS Korea Array 44.70 71 P **P 04 16 36.1 +0.1**
comp=Z,1.9nm,0.5s,baz=271,slow=7.3,SNR=8.6
WATA Walderalm 44.71 303 *i*P **P 04 16 37.3 +1.1**
comp=Z,1.7nm,0.8s
NBO00 NORSAR Array S 44.73 323 *e*P **P 04 16 36.7 +0.6**
NBO00 *e*pP **pP 04 17 02.6 +0.2**
NC204 NORSAR Array S 44.76 323 *e*P **P 04 16 37.2 +0.8**
KLR Kul'dur 45.00 54 P **P 04 16 38.8 +0.5**
comp=Z,1.7nm,0.6s,baz=282,slow=7.9,SNR=7.7
MOTA Moosalm 45.03 304 *i*P **P 04 16 39.7 +0.9**
comp=Z,2.2nm,0.7s
TIXI Tiksi 45.72 22*ce*P **P 04 16 43.5 -0.2**
TIXI pmax pmax
comp=Z,16nm,2.5s
DAVA Damuels 45.86 304 *i*P **P 04 16 46.8 +1.5**
comp=Z,14nm,1.4s,SNR=5.2
ES19 SONSECA Array 57.59 298 *e*P **P 04 18 11.6 -0.9**
ESDC Sonseca Array 57.65 298 P **P 04 18 14.2 +1.3**
comp=Z,0.2nm,0.5s,baz=59,slow=7.8,SNR=4.6
ESDC pP **pP 04 18 41.2 +0.9**
comp=Z,2.3nm,0.8s,baz=64,slow=8.3,SNR=7.1
BILL Bilibino 58.54 26 *e*P **P 04 18 19.0 +0.4**
BILL pmax pmax
comp=Z,3.0nm,0.9s
SUMG Summit 61.15 341 *e*P **P 04 18 38.2 +1.4**
comp=Z,21nm,1.5s
SUMG Summit 61.15 341 *e*P **P 04 18 38.2 +1.4**
SUMG pmax pmax
comp=Z,21nm,1.5s
TOA0 Torodi Ar. Sit 65.92 269 *e*P **P 04 19 07.0 -1.6**
TORD Torodi Ar. Bea 65.92 269 P **P 04 19 07.9 -0.7**
comp=Z,1.0nm,0.5s,baz=64,slow=6.1,SNR=30
RES Resolute Bay 68.74 356 P **P 04 19 26.9 +1.5**
comp=Z,0.6nm,0.8s,baz=10,slow=11,SNR=3.1
INK Inuvik 73.90 9 P **P 04 19 57.8 +1.3**
comp=Z,2.1nm,0.6s,baz=345,slow=8.7,SNR=6.0
ILAR Eielson Array 74.75 16 P **P 04 20 01.6 +0.1**
comp=Z,0.7nm,0.5s,baz=3.8,slow=4.3,SNR=5.1
SCRK Sand Creek 76.07 15 *e*P **P 04 20 06.2 -3.0**
comp=Z,5.2nm,0.7s
BOSA Boshof 77.86 220 P **P 04 20 19.0 -0.6**
comp=Z,3.6nm,1.1s,baz=59,slow=2.0,SNR=2.5
YKA Yellowknife Ar 81.26 3 P **P 04 20 38.2 +0.7**
comp=Z,2.1nm,0.6s,baz=351,slow=5.5,SNR=7.8
YKA pP **pP 04 21 09.0 +2.5**
comp=Z,1.0nm,0.8s,baz=350,slow=5.3,SNR=3.1
YKB5 Yellowknife Ar 81.26 3 *e*P **P 04 20 36.8 -0.7**
WRA Warramunga Arr 81.80 122 P **P 04 20 39.4 -1.6**
comp=Z,0.7nm,0.7s,baz=325,slow=4.9,SNR=12
WRA pP **pP 04 21 11.0 +0.8**
comp=Z,0.6nm,0.6s,baz=324,slow=5.1,SNR=2.7
ASAR Alice Springs 84.07 125 P **P 04 20 51.8 -0.9**
comp=Z,0.8nm,0.8s,baz=309,slow=4.9,SNR=10
ASAR pP **pP 04 21 23.2 +1.3**
comp=Z,0.4nm,0.6s,baz=310,slow=5.2,SNR=2.7

MAN 01 04:09:04.5, 9.40N×125.43E, h1km, mb4.7, ML3.6, MS3.5, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.47**	**156**	*e*P		Pg	04 09 13.6	+0.1
BUTP				*e*S		Sb	04 09 22.2	-0.9
MSLP	**Maasin**	**0.92**	**323**	*e*P		Pg	04 09 22.3	+0.2
MSLP				*e*S		Sn	04 09 37.5	-0.9
CGP	**Cagayan de Oro**	**1.19**	**218**⇑*e*P			Pn	04 09 34.7	+6.4
CGP				*e*S		Sn	04 09 46.1	+1.1
BIPH	**Bislig**	**1.52**	**143**⇑*i*P			Pn	04 09 31.8	-1.1
BIPH				*i* S		Sn	04 09 51.0	-2.4
BUKP	**Musuan**	**1.56**	**193**	*e*P		Pn	04 09 33.1	-0.3
BUKP				*e*S		Sg	04 09 54.9	+0.4
PAGZ	**Pagadian**	**2.54**	**233**	*e*P		Pn	04 09 47.6	+0.6
PAGZ				*e*S		Sn	04 10 12.4	-6.2

RSNC 01 04:20:03.3±1.1, 6.80N×73.11W, h144km±5km, ML3.2, Mw3.5, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BARC	**Barichara**	**0.22**	**200**	*i* P		Pn	04 20 23.0	-0.2
BARC				*e*S		Sn	04 20 37.7	-0.6
BARC				*i*			04 20 38.8	
	comp=Z,241nm,0.4s							
BRRC	**Barranca, Sant**	**0.67**	**297**⇓*i*P			Pn	04 20 25.0	0.0
BRRC				*e*S		Sn	04 20 41.6	+0.2
BRRC				*i*			04 20 46.0	
	comp=N,643nm,0.2s							
RUSC	**La Rusia**	**0.90**	**178**⇑*i*P			Pn	04 20 27.0	-0.2
RUSC				*e*S		Sn	04 20 45.2	-0.2
RUSC				*i*			04 20 47.1	
	comp=N,143nm,0.2s							
PTBC	**PUERTO BERRIO,**	**1.36**	**259**	*e*P		Pn	04 20 29.8	-1.2
PTBC				*e*S		Sn	04 20 51.1	-1.0
OCAC	**Ocana**	**1.45**	**352**	*e*P		Pn	04 20 31.4	-0.6
OCAC				*e*S		Sn	04 20 52.7	-1.3
OCAC				*i*			04 20 57.5	
	comp=N,476nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.87**	**292**	*e*P		Pn	04 20 36.0	-0.5
ZARC				*e*S		Sn	04 21 01.8	-0.2
ZARC				*i*			04 21 08.5	
	comp=N,163nm,0.3s							
CHIC	**Chingaza**	**2.24**	**196**	*e*P		Pn	04 20 41.4	0.0
CHIC				*e*S		Sn	04 21 09.9	-0.7
CHIC				*i*			04 21 14.0	
	comp=N,75nm,0.3s							
ROSC	**El Rosal**	**2.29**	**212**	*e*S		Sn	04 21 10.3	-1.3
HELC	**Santa Helena**	**2.48**	**256**	*e*P		Pn	04 20 43.7	-0.6
HELC				*i*			04 21 22.9	
	comp=N,32nm,0.5s							
VILC	**Villavicencio,**	**2.73**	**192**	*e*P		Pn	04 20 47.3	+0.1
VILC				*e*S		Sn	04 21 20.3	-0.7
VILC				*i*			04 21 28.4	
	comp=N,133nm,0.5s							
MOTC	**Monteria, Cord**	**3.21**	**308**	*e*P		Pn	04 20 50.9	-2.3
MOTC				*e*S		Sn	04 21 29.3	-2.4
MOTC				*i*			04 21 31.8	
	comp=N,30nm,0.4s							
SDV	**Santo Domingo**	**3.21**	**50**	*e*P		Pn	04 20 52.4	-0.9
ANIL	**Santa Ana**	**3.24**	**225**	*e*P		Pn	04 20 53.9	+0.1
ANIL				*e*S		Sn	04 21 32.7	0.0
ANIL				*i*			04 21 41.6	
	comp=N,52nm,0.3s							

*VIE **01** 04:46:24.6±0.9, 48.65N×11.75E, h10km±41km, ml1.5/5, Error ellipse: s-maj=6.4km s-min=1.5km az=133.0 23 km SE of Altmuehltal*

PRU 01 04:46:26.5±0.0, 48.85N×11.65E, h1km, Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KHC	**Kasperske Hory**	**1.30**	**77**	*e*SG		Sg	04 47 07.2	-1.1
NKC	**Novy Kostel**	**1.48**	**20**	*e*SG		Sb	04 47 14.1	0.0
RETA	**Reutte**	**1.49**	**204**	*e*Sg		Sg	04 47 09.0	-5.3
	0.7nm,0.2s							
WATA	**Walderalm**	**1.52**	**182**	Pg		Pn	04 46 49.5	-5.4
	0.3nm,0.2s							
WATA				Sg		Sg	04 47 10.1	-5.1
	0.5nm,0.1s							
MOTA	**Moosalm**	**1.55**	**194**	*e*Sg		Sn	04 47 10.2	-5.9
	0.8nm,0.1s							
SQTA	**Sankt Quirin**	**1.66**	**190**	*e*Pg		Pn	04 46 53.0	-3.8
	0.7nm,0.2s							
SQTA				Sg		Sn	04 47 14.3	-4.4
	1.8nm,0.3s							
MOA	**Molln**	**2.01**	**119**	Sg		Sn	04 47 26.0	-1.4
	0.1nm,0.2s							

VIE 01 04:46:53.6±0.3, 47.70N×15.73E, h8km, ml0.3/2, Error ellipse: s-maj=7.4km s-min=1.1km az=98.0 10 km N of Spital am Semmering, Austria

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CONA	**Conrad Observa**	**0.24**	**21**	*e*Pg		Pg	04 46 58.6	0.0
	0.3nm,0.3s							
CONA				*e*Sg		Sg	04 47 02.2	+0.3
	0.4nm,0.1s							
CONA	**Conrad Observa**	**0.24**	**21**	*e*Pg		Pg	04 46 58.6	0.0
	0.3nm,0.3s							
CONA				*e*Sg		Sg	04 47 02.2	+0.3
	0.4nm,0.1s							
ARSA	**Arzberg**	**0.47**	**198**	*i* Pg		Pg	04 47 02.9	+0.2
	0.2nm,0.1s							
ARSA				*i* Sg		Sg	04 47 09.4	+0.5
	0.4nm,0.2s							
ARSA	**Arzberg**	**0.47**	**198**	*i* Pg		Pg	04 47 02.9	+0.2
	0.2nm,0.1s							
ARSA				*i* Sg		Sg	04 47 09.4	+0.5
	0.4nm,0.2s							

RSNC 01 04:47:13.6±1.6, 6.81N×73.11W, h146km±7km, ML3.0, Mw3.5, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BARC	**Barichara**	**0.23**	**198**	*i* P		Pn	04 47 33.6	-0.2
BARC				*e*S		Sn	04 47 48.4	-0.7
BARC				*i*			04 47 52.7	
	comp=Z,158nm,0.5s							
BRRC	**Barranca, Sant**	**0.67**	**296**⇑*i*P			Pn	04 47 35.5	0.0
BRRC				*e*S		Sn	04 47 52.8	+0.7
BRRC				*i*			04 47 56.5	
	comp=E,139nm,0.2s							
RUSC	**La Rusia**	**0.91**	**178**⇓*i*P			Pn	04 47 37.5	-0.4
RUSC				*e*S		Sn	04 47 55.7	-0.6
RUSC				*i*			04 47 57.3	
	comp=E,157nm,0.5s							
PTBC	**PUERTO BERRIO,**	**1.36**	**259**	*e*P		Pn	04 47 40.1	-1.4
PTBC				*e*S		Sn	04 48 01.7	-1.0
PTBC				*i*			04 48 02.8	
	comp=N,135nm,0.2s							
OCAC	**Ocana**	**1.43**	**352**	*e*P		Pn	04 47 42.0	-0.4
OCAC				*e*S		Sn	04 48 03.9	-0.5
OCAC				*i*			04 48 07.1	
	comp=N,358nm,0.3s							
CTAU	**Tausa, Cundina**	**1.85**	**210**	*e*P		Pn	04 47 51.3	+4.0
CTAU				*e*S		Sn	04 48 16.8	+3.8

ZARC	Zaragoza, Cauc	1.86	291	eP	Pn	04 47 46.0	-0.9
ZARC				eS	Sn	04 48 11.8	-0.6
ZARC				i		04 48 18.2	
	comp=E,164nm,0.2s						
CTAB	Cerro Tablazo,	2.09	211	eP	Pn	04 47 49.4	-0.7
CTAB				eS	Sn	04 48 18.6	+0.6
CHIC	Chingaza	2.25	196	eP	Pn	04 47 51.4	-0.6
CHIC				i		04 47 53.7	
	comp=Z,29nm,0.2s						
CHIC				eS	Sn	04 48 20.6	-0.9
ROSC	El Rosal	2.30	212	eP	Pn	04 47 53.0	+0.5
ROSC				eS	Sn	04 48 22.4	+0.1
ROSC				i		04 48 31.2	
	comp=Z,54nm,0.5s						
CVER	Cruz Verde, Cu	2.47	203	eP	Pn	04 47 56.0	+1.3
CVER				eS	Sn	04 48 30.2	+4.0
HELC	Santa Helena	2.48	256	eP	Pn	04 47 54.6	0.0
HELC				eS	Sn	04 48 26.1	-0.1
HELC				i		04 48 33.6	
	comp=E,43nm,0.5s						
UREC	San Jos de Ur	2.58	291	eP	Pn	04 47 53.5	-2.1
VILC	Villavicencio,	2.74	192	eP	Pn	04 47 56.9	-0.9
VILC				eS	Sn	04 48 31.5	-0.3
TOLC	Tolima	3.12	225	eP	Pn	04 48 02.9	+0.2
TOLC				i		04 48 44.9	
	comp=Z,13nm,0.5s						
SDV	Santo Domingo	3.20	50	eP	Pn	04 48 02.9	-0.8
ANIL	Santa Ana	3.24	225	eP	Pn	04 48 04.2	0.0
ANIL				eS	Sn	04 48 43.4	0.0
ANIL				i		04 48 48.2	
	comp=E,72nm,0.4s						

*ISCJB **01** 04:55:37.6±1.0, 1°.7N±0°.2×89°.4E±0°.1, h10km, mb3.7/7, Error ellipse: s-maj=25.4km s-min=15.4km az=35.3*
*IDC **01** 04:55:38.1±1.2, 1°.67N×89°.45E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.6/38, mbtmp3.6/9, ML3.6/1, Error ellipse: s-maj=39.7km s-min=20.4km az=46.0*
ISC 01 04:55:39.7±1.2, **1°.7N**±0°.2×**89°.5E**±0°.2, **h10**km, **n9**, σ**0s83**/9, **mb3.7**/7, **North Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	10.36	303	Pn	Pn	04 58 08.7	+0.2
	0.5nm,0.3s,baz=117,slow=14,SNR=2.7						
CMAR	Chiang Mai Arr	19.10	29	P	Pn	05 00 04.6	+1.0
	baz=218,slow=12,SNR=3.6						
MKAR	Makanchi Array	45.38	353	P	P	05 03 57.9	-0.4
	0.4nm,0.6s,baz=171,slow=10.0,SNR=5.5						
SONM	Songino Array	48.27	15	P	P	05 04 20.9	-0.2
	0.9nm,0.5s,baz=193,slow=8.3,SNR=6.3						
WRA	Warramunga Arr	48.96	118	P	P	05 04 26.6	-0.1
	0.6nm,0.7s,baz=296,slow=8.5,SNR=8.1						
ASAR	Alice Springs	49.99	123	P	P	05 04 34.8	+0.2
	0.3nm,0.7s,baz=296,slow=7.9,SNR=7.0						
ZALV	Zalesovo Beam	52.25	357	P	P	05 04 49.4	-1.5
	0.6nm,0.5s,baz=183,slow=7.3,SNR=4.6						
BRTR	Keskin Array B	63.16	314	P	P	05 06 08.1	-0.1
	0.5nm,0.6s,baz=140,slow=7.9,SNR=4.7						
GERES	GERESS Array B	79.39	319	P	P	05 07 46.9	+0.7
	0.4nm,0.7s,baz=91,slow=6.7,SNR=5.3						

*ISCJB **01** 05:18:32.0±1.7, 36°.7N±0°.1×68°.0E±0°.2, h30km, mb3.4/1, Error ellipse: s-maj=24.2km s-min=14.2km az=19.1*
*IDC **01** 05:19:16.4±14.0, 37°.31N×72°.42E, h301km±150km, mb2.8/2, mb1 2.7/4, mb1mx2.5/39, mbtmp3.4/4, Error ellipse: s-maj=102.8km s-min=31.7km az=9.0*
ISC 01 05:18:33.6±1.5, **36°.5N**±0°.1×**68°.1E**±0°.2, **h30**km, **n6**, σ**1s46**/8, **2C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	5.51	49	⇓Pn	Pn	05 19 55.0	+1.2
	1.4nm,0.3s						
SFK				⇓Sn	Sn	05 20 57.0	+0.7
	2.4nm,0.4s						
SFK				⇑Lg	Lg	05 21 18.0	
	2.9nm,0.5s						
KK31	Karatay Array	6.83	15	Pn	Pn	05 20 13.8	+2.1
	0.3nm,0.5s,baz=195,slow=13,SNR=11						
KK31				⇓Sn	Sn	05 21 27.1	-1.3
	0.4nm,0.3s						
KK31				⇑Lg	Lg	05 22 04.4	
	1.5nm,0.6s,baz=195,slow=26,SNR=4.3						
MKAR	Makanchi Array	14.75	42	P	Pn	05 21 58.4	-1.6
	0.0nm,0.3s,baz=231,slow=13,SNR=8.2						
ZALV	Zalesovo Beam	20.94	28	P	P	05 23 13.4	-0.3
	0.1nm,0.3s,baz=226,slow=11,SNR=4.7						
TORD	Torodi Ar. Bea	63.36	267	P	PcP	05 29 36.9	-0.2
	0.7nm,1.0s,baz=46,slow=6.2,SNR=2.3						
ASAR	Alice Springs	86.23	123	P	P	05 31 12.4	0.0
	0.2nm,0.7s,baz=330,slow=4.7,SNR=3.1						

*ISK **01** 05:21:57.9, 38°.79N×41°.85E, h2km, ML2.0/9*
*DDA **01** 05:21:58.2, 38°.78N×41°.85E, h7km±2km, ML2.7*
ISC 01 05:21:58.0±1.3, **38°.80N**±0°.03×**41°.84E**±0°.03, **h5**km±13km, **n16**, σ**0s41**/24, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GURO	Guroymak-BITLI	0.29	148	PG	Pg	05 22 04.3	+0.5
MLAZ	Malazgirt-MUS	0.65	58	PG	Pb	05 22 11.5	-0.5
MLAZ				SG	Sb	05 22 20.9	-0.5
ADCV	BITLIS_Adilcev	0.69	89	IAML_P			
	comp=Z,588nm,0.1s						
ADCV				i P	Pb	05 22 12.6	-0.1
ADCV				i S	Sb	05 22 22.3	-0.4
KARO	Karliova-Bingo	0.80	310	PG	Pb	05 22 14.3	-0.1
SRTM	Siirt_Merkez	0.81	175	IAML_P			
	comp=Z,990nm,0.2s						
SRTM				eP	Pb	05 22 14.9	+0.3
SRTM				i S	Sb	05 22 25.6	-0.3
SVAN	Silvan-Diyarba	0.82	218	PG	Pb	05 22 14.6	-0.2
SVAN				SG	Sb	05 22 26.6	+0.5
SVAN	Silvan-Diyarba	0.82	218	i P	Pb	05 22 14.5	-0.2
SVAN				i S	Sb	05 22 25.9	-0.1
BNGB	Bingl	0.92	282	PG	Pg	05 22 15.7	0.0
BGOL	Bingol	0.93	282	eP	Pg	05 22 15.6	-0.2
BGOL				i S	Sg	05 22 27.9	0.0
TUTA	Tutak	0.97	51	i P	Pb	05 22 17.2	-0.2
AKDM	Akdamar-Van	1.01	117	PG	Pg	05 22 17.2	-0.3
ECAT	Cat-ERZURUM	1.05	321	i P	Pb	05 22 19.4	+0.6
ECAT				i S	Sn	05 22 34.9	+0.3
EATA	Eleskirt	1.18	25	IAML_P			
	comp=Z,190nm,0.1s						
EATA				i P	Pg	05 22 20.8	+0.2
EATA				i S	Sn	05 22 38.6	+0.7
AGRB	Hanur-Agry	1.19	49	PN	Pb	05 22 21.1	0.0
MAZI	Mazidag	1.73	220	PN	Pb	05 22 29.9	-0.4
PTK	Pertek	1.91	273	PN	Pb	05 22 32.7	-0.7

MAN 01 05:27:07.7, 9°.33N×125°.70E, h21km, mb4.7, ML3.6, MS3.5, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.37	192	eP	Pb	05 27 16.5	+1.0
BUTP				eS	Sn	05 27 25.6	+1.1
MSLP	Maasin	1.15	314	eP	Pn	05 27 25.7	-2.8
MSLP				eS	Sn	05 27 44.0	+0.3
CGP	Cagayan de Oro	1.32	229	⇑eP	Pn	05 27 31.1	+0.1
CGP				eS	Sb	05 27 48.4	+0.1
BUKP	Musuan	1.58	204	eP	Pb	05 27 35.8	-0.4
BUKP				eS	Sb	05 27 58.8	+3.1
PLP	Palo	1.95	339	⇓eP	Pn	05 27 40.3	+0.6
PLP				eS	Sn	05 28 04.3	+0.7
DCPH	Dipolog City	2.44	252	⇑eP	Pn	05 27 36.7	-10
DCPH				eS	Sn	05 28 16.2	+0.7
PAGZ	Pagadian	2.73	237	eP	Pn	05 27 50.3	+0.1
PAGZ				eS	Sn	05 28 18.3	-4.4

*ISCJB **01** 05:34:55.9±1.1, 37°.79N±0°.04×143°.54E±0°.08, h33km, mb3.2/2, Error ellipse: s-maj=9.5km s-min=5.8km az=177.7*
*IDC **01** 05:34:55.5±2.4, 37°.41N×143°.68E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.3/48, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=44.6km s-min=31.0km az=63.0*
*JMA **01** 05:34:56.3±0.2, 37°.85N×143°.55E, h47km, M3.0*
ISC 01 05:34:56.6±1.8, **37°.82N**±0°.05×**143°.6E**±0°.1, **h35**km, **n16**, σ**1s18**/25, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.77	287	P	Pn	05 35 24.5	-0.2
JIKH				eS	Sn	05 35 44.6	-1.4
JIO	Ouri	1.90	290	P	Pn	05 35 26.3	-0.2
JIO				eS	Sn	05 35 48.2	-1.0
JKMT	Kesennumamotoy	1.96	301	P	Pn	05 35 27.1	-0.2
JKMT				S	Sn	05 35 49.8	-0.8
OFUJ	Ofunato	1.98	310	P	Pn	05 35 27.2	-0.5
OFUJ				eS	Sn	05 35 50.5	-0.8
JMK	Ichinoseki	2.20	302	P	Pn	05 35 30.7	+0.1
JOM	Ohasama	2.46	313	P	Pn	05 35 34.6	+0.4
JOM				eS	Sn	05 36 02.8	-0.3
JFT	Otama	2.62	264	P	Pn	05 35 37.2	+0.7
JFT				eS	Sn	05 36 06.3	-0.8
JYK	Kaneyama	2.79	294	P	Pn	05 35 39.5	+0.7
JANG	Nango	3.03	328	eS	Sn	05 36 16.3	-0.9
JAG	Ashikaga	3.61	249	P	Pn	05 35 51.0	+0.9
JAG				eS	Sn	05 36 31.3	-0.2
JRY	Ryogami san	4.19	246	P	Pn	05 35 58.5	+0.5
JRY				eS	Sn	05 36 43.1	-2.7
JOD2	Odawara 2	4.45	236	P	Pn	05 36 01.8	+0.1
JOD2				eS	Sn	05 36 50.2	-2.1
MJAR	Matsushiro Arr	4.51	255	Pn	Pn	05 36 04.3	+1.9
	0.8nm,0.3s,baz=84,slow=12,SNR=11						
MJAR				Sn	Sn	05 36 55.8	+2.2
	0.1nm,0.3s,baz=73,slow=37,SNR=3.3						
JHJ	Hachijo jima 2	5.64	215	Pn	Pn	05 36 16.8	-1.1
	3.6nm,0.3s,baz=102,slow=20,SNR=4.5						
MKAR	Makanchi Array	45.19	302	P	P	05 43 16.4	+6.3
	0.2nm,0.6s,baz=83,slow=8.6,SNR=3.7						
WRA	Warramunga Arr	58.11	190	P	P	05 44 47.6	+0.9
	0.2nm,0.7s,baz=7.5,slow=7.5,SNR=3.1						

*IDC **01** 05:35:48.2±2.5, 16°.14N×98°.48W, h0km, mb3.9/5, mb1 4.1/9, mb1mx3.8/39, mbtmp3.8/9, ML3.0/4, MS3.4/6, Ms1 3.4/6, ms1mx3.0/33, Error ellipse: s-maj=50.4km s-min=15.1km az=16.0*
*ISCJB **01** 05:35:49.4±0.4, 15°.97N±0°.04×98°.52W±0°.02, h17km, mb4.1/86, MS3.6/3, Error ellipse: s-maj=6.1km s-min=3.3km az=10.4*
*NEIC **01** 05:35:52.1±0.0, 16°.01N×98°.55W, h14km, mb4.1/97, MD4.2(MEX), After MEX.*
*MEX **01** 05:35:52.1±0.7, 16°.01N×98°.55W, h14km±12km, MD4.2*
ISC 01 05:35:51.2±0.7, **16°.08N**±0°.06×**98°.55W**±0°.04, **h17**km, **n236**, σ**1s18**/243, **mb4.2**/86, **MS3.6**/3, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.51	53	ePg	Pg	05 36 01.3	-0.1
PNIG				eSg	Sg	05 36 08.4	+0.2
PNIG	Pinotepa	0.51	53	eP	Pg	05 36 01.3	-0.1
PNIG				i S	Sg	05 36 08.4	+0.2
TLIG	Tlapa	1.47	359	ePn	Pn	05 36 16.0	-1.1
TLIG				eSn	Sn	05 36 34.0	-2.1
TLIG				eSg	Sg	05 36 38.7	-0.1
TLIG	Tlapa	1.47	359	eP	Pn	05 36 15.6	-1.5
TLIG				eS	Sn	05 36 34.0	-2.1
CAIG	El Cayaco	1.91	300	ePn	Pn	05 36 18.1	-4.9
CAIG				eSn	Sn	05 36 44.4	-2.2
CAIG	El Cayaco	1.91	300	eP	Pn	05 36 18.1	-4.9
CAIG				i S	Sn	05 36 44.4	-2.2
VHO	Vista Hermosa	2.00	60	ePn	Pn	05 36 23.2	-1.2
VHO				eSn	Sn	05 36 47.7	-1.4
VHO	Vista Hermosa	2.00	60	eP	Pn	05 36 23.2	-1.2
VHO				i S	Sn	05 36 47.7	-1.4
UNM	Universidad Na	3.28	350	ePn	Pn	05 36 44.4	+2.2
UNM				eSn	Sn	05 37 20.7	-0.3
CMIG	Matias Romero	3.65	74	Pn	Pn	05 36 45.1	-1.8
	1.9nm,0.3s,baz=240,slow=11,SNR=33						
CMIG				Lg	Lg	05 37 41.4	
	5.0nm,0.3s,baz=279,slow=18,SNR=6.9						
CMIG				LR	LR	05 37 51.1	
	comp=Z,84nm,19.1s,baz=262,slow=34						
LVIG	Laguna Verde	4.15	29	ePn	Pn	05 36 53.9	+0.1
LVIG				eSn	Sb	05 37 52.8	-0.9
CCIG	Comitan	6.16	87	ePn	Pn	05 37 23.2	+1.5
ZAIG	Zacatecas	7.66	331	ePn	Pn	05 37 45.3	+3.0
APG	El Apazote	7.86	97	Pn	Pn	05 37 43.4	-1.7
	0.2nm,0.3s,baz=326,slow=13,SNR=2.4						
APG				Sn	Sn	05 39 14.2	+0.3
	0.2nm,0.3s,baz=312,slow=13,SNR=2.8						
APG				Lg	Lg	05 39 55.4	
	0.2nm,0.3s,baz=193,slow=18,SNR=3.5						
TEIG	Tepich	10.60	66	ePn	Pn	05 38 22.2	-0.1
H06E1	SOCORRO T-PHAS	12.12	285	T	T	05 50 59.3	
	SNR=8.0						
H06S1	SOCORRO T	12.14	284	T	T	05 51 02.2	
	SNR=8.7						
833A	Chaparral WMA,	12.21	356	ePn	Pn	05 38 45.5	+1.1
833A	Chaparral WMA,	12.21	356	P	Pn	05 38 46.5	+2.1
	baz=176						
BOAB	BOACO BROADBAN	13.00	104	ePn	Pn	05 38 54.3	-0.9
SLBS	Sierra La Lagu	13.12	307	ePn	Pn	05 38 57.1	+0.3
LPIG	La Paz	13.62	308	LR	LR	05 44 11.6	
	comp=Z,73nm,21.3s,baz=66,slow=37						
LTX	Lajitas	14.01	341	ePn	Pn	05 39 09.8	+0.8
TXAR	Lajitas Array	14.01	341	Pn	Pn	05 39 09.8	+0.8
	0.0nm,0.3s,baz=163,slow=13,SNR=5.1						
TXAR				LR	LR	05 44 14.0	
	comp=Z,109nm,20.7s,baz=0.0,slow=36						
JCT	Junction City	14.38	356	ePn	Pn	05 39 15.7	+1.6
JCT	Junction City	14.38	356	P	Pn	05 39 16.2	+2.1
	baz=175						
JTS	JuntasAbangare	14.43	112	Pn	Pn	05 39 13.9	-1.0
	0.2nm,0.3s,baz=240,slow=21,SNR=2.0						
JTS	JuntasAbangare	14.43	112	ePn	Pn	05 39 13.9	-1.0
JTS				eP	P	05 39 15.2	-6.4
435B	Jarrell	14.66	3	ePn	Pn	05 39 19.9	+2.0
HDC	Heredia	15.30	112	ePn	Pn	05 39 27.0	+0.3
	23nm,0.8s						
WHTX	Lake Whitney,	15.87	3	ePn	P	05 39 36.3	-1.1
	13nm,0.9s						
WHTX	Lake Whitney,	15.87	3	P	P	05 39 37.4	-0.1
	baz=184						
NATX	Nacogdoches	16.00	12	ePn	P	05 39 37.5	-1.5
	18nm,1.1s						
ABTX	Abilene, Hawle	16.50	357	ePn	P	05 39 45.8	+1.3
	22nm,1.1s						
ABTX	Abilene, Hawle	16.50	357	P	P	05 39 44.6	+0.1
	baz=176,SNR=5.5						
MNTX	Cornudas Mount	16.75	339	ePn	P	05 39 46.5	-0.8
	4.4nm,1.1s						
MNTX	Cornudas Mount	16.75	339	P	P	05 39 46.3	-0.9
	baz=157						
GDL2	Guadalupe Moun	16.89	343	ePn	P	05 39 49.6	+0.6
HSIG		17.21	321	ePn	P	05 39 53.0	+0.6
	4.4nm,1.0s						
EPT	El Paso	17.22	337	ePn	Pn	05 39 48.9	-2.2
	12nm,1.1s						
Z41A	Richland Creek	17.87	16	ePn	P	05 40 00.8	+1.1
	21nm,1.1s						
319A	Douglas	18.10	329	ePn	P	05 40 03.6	+1.3
	16nm,1.1s						
MSTX	Muleshoe	18.21	349	ePn	P	05 40 03.6	+0.1
	12nm,1.1s						
MSTX	Muleshoe	18.21	349	P	P	05 40 04.4	+0.8
	baz=167						
121A	Cookes Peak, D	18.40	335	P	Pn	05 40 06.7	+1.0
	baz=151						
WMOK	Wichita Mounta	18.58	359	eP	P	05 40 05.4	-2.1
	1.9nm,0.6s						
MIAR	Mount Ida	18.92	13	eP	Pn	05 40 12.6	+0.8
	6.2nm,1.0s						
MIAR	Mount Ida	18.92	13	P	Pn	05 40 12.6	+0.8
	baz=195						
AMTX	Amarillo	18.93	352	eP	Pn	05 40 12.2	+0.1
	5.4nm,0.8s						
147A	Livingston	18.96	28	eP	P	05 40 09.2	-2.5
	7.1nm,1.0s						
BNM	Barren Site	19.41	339	eP	Pn	05 40 18.0	+0.1
Y45A	Yeager Farm, C	19.48	23	P	Pn	05 40 18.0	-0.6
	baz=207						
Z47A	Carrollton	19.50	27	P	Pn	05 40 18.8	0.0
	baz=211						
W39A	Magazine	19.51	12	P	Pn	05 40 19.1	+0.2
	baz=194						
LENM	Lemitar	19.54	339	eP	P	05 40 17.8	-0.4
TUC	Tucson	19.61	328	eP	Pn	05 40 19.9	-0.3
	0.8nm,0.6s						
TUC				eP	sP	05 40 25.8	+0.1
LAZ	Ladron	19.81	339	eP	P	05 40 21.3	+0.2
TUL1	Leonard	19.90	7	eP	P	05 40 22.1	+0.2
	9.0nm,0.9s						
TUL1				eP	sP	05 40 29.9	+1.2
ANMO	Albuquerque	20.08	341	P	P	05 40 22.8	-1.3
	5.3nm,0.9s,baz=151,slow=12,SNR=21						
ANMO				LR	LR	05 48 40.9	
	comp=Z,296nm,19.1s,baz=162,slow=38						
ANMO	Albuquerque	20.08	341	eP	Pn	05 40 26.0	+0.1
	8.6nm,1.0s						
ANMO	Albuquerque	20.08	341	P	Pn	05 40 26.2	+0.3
	baz=158						
214A	Organ Pipe Nat	20.45	323	P	Pn	05 40 29.2	-0.9
	baz=138						
Y48A	Jasper	20.50	28	P	P	05 40 28.7	+0.3
	baz=213						
HHAR	Hobbs	20.53	11	eP	P	05 40 27.8	-1.0
	7.2nm,1.2s						
HHAR				eP	pP	05 40 33.8	+0.2
U40A	Yellville	20.82	13	P	Pn	05 40 33.3	-1.1
	baz=196						
X48A	Hartselle	21.01	27	eP	P	05 40 36.0	+2.0
	6.9nm,1.1s						
PLAL	Pickwick Lake	21.03	25	eP	P	05 40 34.5	+0.3
	9.1nm,1.0s						
U42A	Revenden	21.21	16	P	P	05 40 38.5	+2.4
	baz=200						
W18A	Petrified Fore	21.44	334	eP	P	05 40 38.4	-0.4
	10nm,1.0s						
113A	Mohawk Valley,	21.59	323	eP	P	05 40 40.8	+0.6
	3.7nm,0.9s						
154A	Montrose	21.61	38	P	P	05 40 41.0	+0.7
	baz=224						
T25A	Trinidad	21.61	347	eP	P	05 40 42.6	+2.0
	17nm,1.1s						
T25A	Trinidad	21.61	347	P	P	05 40 42.8	+2.2
	baz=165						
X16A	Lo Mia Camp, P	21.62	330	eP	P	05 40 42.1	+1.3
	19nm,1.1s						
T41A	Mountain View	21.73	15	P	P	05 40 42.2	+0.6
	baz=198						
GLAT	Glass	21.73	21	eP	P	05 40 41.9	+0.3
	51nm,1.2s						
V46A	Holladay	21.73	23	P	P	05 40 43.4	+1.7
	baz=208						
T42A	Van Buren	21.89	16	eP	P	05 40 45.0	+1.7
	11nm,1.1s						
T42A				eP	sP	05 40 52.9	+2.7
T42A	Van Buren	21.89	16	P	P	05 40 44.6	+1.2
	baz=199						
PARMO	Parma	21.94	19	eP	P	05 40 44.2	+0.4
GOGA	Godfrey	21.98	36	P	P	05 40 45.6	+1.2
	baz=222						
V47A	Nunnelly	21.99	25	P	P	05 40 46.6	+2.1
	baz=209						
WVT	Waverly	22.13	24	eP	P	05 40 48.0	+2.1
	12nm,1.0s						
WVT	Waverly	22.13	24	P	P	05 40 47.7	+1.7
	baz=208						
T43A	Greenville	22.16	18	P	P	05 40 47.2	+0.9
	baz=201						
V48A	Smith Brothers	22.20	26	P	P	05 40 47.3	+0.6
	baz=211						
Z54A	Sparta	22.21	37	P	P	05 40 46.6	-0.3
	baz=223						
S41A	Jillco Farms,	22.25	14	P	P	05 40 48.0	+0.8
	baz=197						
T44A	Benton	22.38	19	P	P	05 40 49.9	+1.3
	baz=203						
GLA	Glamis	22.41	322	eP	P	05 40 49.0	-0.2
	5.0nm,1.0s						
GLA	Glamis	22.41	322	P	P	05 40 50.0	+0.8
	baz=135						
W50A	Signal Mountai	22.42	29	P	P	05 40 49.2	0.0
	baz=215						
SDCO	Great Sand Dun	22.44	345	eP	P	05 40 50.7	+1.1
	5.5nm,1.1s						
SDCO	Great Sand Dun	22.44	345	P	P	05 40 50.6	+1.0
	baz=162,SNR=5.7						
WUAZ	Wupatki	22.50	332	eP	P	05 40 50.1	0.0
	18nm,0.9s						
WUAZ	Wupatki	22.50	332	P	P	05 40 52.3	+2.2
	baz=146,SNR=7.6						
V49A	McMinnville	22.62	28	P	P	05 40 51.2	-0.1
	baz=213						
S42A	Caledonia	22.66	16	P	P	05 40 53.2	+1.6
	baz=200						
CBKS	Cedar Bluff	22.67	358	eP	P	05 40 53.3	+1.5
	12nm,1.0s						
S43A	Fulton Ridge,	22.68	18	P	P	05 40 53.4	+1.5
	baz=201						
Y12C	Blythe	22.74	324	eP	P	05 40 53.5	+1.1
	5.5nm,0.8s						
Y54A	Tignall	22.75	36	P	P	05 40 52.1	-0.5
	baz=223						
S22A	4UR Ranch, Cre	22.79	343	eP	P	05 40 53.7	+0.4
	6.8nm,1.0s						
S22A	4UR Ranch, Cre	22.79	343	P	P	05 40 54.7	+1.4
	baz=159,SNR=5.3						
CCM	Cathedral Cave	22.82	15	eP	P	05 40 54.1	+0.9
	1.4nm,0.8s						
CCM	Cathedral Cave	22.82	15	P	P	05 40 54.5	+1.2
	baz=198						
MVCO	Mesa Verde	22.82	339	eP	P	05 40 54.4	+0.9
	15nm,1.1s						
MVCO	Mesa Verde	22.82	339	P	P	05 40 54.8	+1.2
	baz=155,SNR=13						
X53A	Estanollee	22.89	34	P	P	05 40 54.0	-0.1
	baz=220						
V50A	Pikevile	22.91	29	P	P	05 40 54.1	-0.2
	baz=215						
T46A	Princeton	22.91	22	P	P	05 40 55.3	+1.0
	baz=207						
IKP	In-Ko-Pah, Jac	22.92	319	P	P	05 40 54.9	+0.3
	baz=132						
PDMCI	Parker Dam,Lak	22.93	325	P	P	05 40 56.0	+1.5
	baz=139,SNR=6.3						
R41A	Rosebud	23.01	15	P	P	05 40 57.0	+1.7
	baz=198						
SIUC	Southern Illin	23.07	19	eP	P	05 40 57.0	+1.1
	11nm,0.9s						
KSCO	Kaye Shedlock'	23.12	352	eP	P	05 40 57.2	+0.6
	18nm,1.0s						
KSCO	Kaye Shedlock'	23.12	352	P	P	05 40 58.4	+1.8
	baz=170						
R42A	Luebbering	23.14	16	P	P	05 40 57.5	+0.8
	baz=199						
BC3	Big Chuckawall	23.21	322	P	P	05 40 58.3	+0.8
	baz=135						
S45A	Carrier Mills	23.24	20	P	P	05 40 58.4	+0.7
	baz=205						
MONP2	Monument Peak	23.28	319	P	P	05 40 59.3	+1.0
	baz=132						
V51A	Loudon	23.37	30	P	P	05 40 59.0	0.0
	baz=216						
R43A	Red Bud	23.37	17	P	P	05 40 59.7	+0.7
	baz=201						
IRM	Iron Mountain	23.39	323	P	P	05 41 00.0	+0.8
	baz=136,SNR=8.3						
W13A	Hualapai Mount	23.39	327	eP	P	05 40 59.5	+0.1
	0.5nm,0.8s						
W53A	Cullowhee	23.47	33	P	P	05 41 00.2	0.0
	baz=220						
T48A	Bowling Green	23.55	25	P	P	05 41 00.3	-0.5
	baz=210						
SLM	Saint Louis	23.62	16	eP	P	05 41 02.1	+0.7
	8.4nm,0.6s						
U15A	North Rim	23.66	331	eP	P	05 41 04.1	+1.9
	4.6nm,1.0s						
Q41A	Truxton	23.67	14	P	P	05 41 03.0	+1.2
	baz=198						
PV01	Paradox Valley	23.68	340	eP	P	05 41 03.5	+1.3
	2.6nm,1.0s						
CPE	Camp Elliot	23.71	318	eP	P	05 41 02.7	+0.4
	6.0nm,1.1s						
BELC	Belle Mtn. Jos	23.77	322	P	P	05 41 03.1	-0.1
	baz=135						
PV13	Radium Mtn., P	23.78	340	eP	P	05 41 04.2	+0.9
	5.7nm,1.1s						
PFO	Pinyon Flats O	23.78	320	P	P	05 41 03.0	-0.2
	baz=133						
PV05	Paradox Valley	23.80	339	eP	P	05 41 04.4	+1.0
	5.5nm,1.1s						
USIN	University of	23.82	22	eP	P	05 41 04.6	+1.3
	9.8nm,0.8s						
PV15	Paradox Valley	23.84	340	eP	P	05 41 05.1	+1.3
	12nm,1.2s						

T49A	**Edmonton**	**23.91**	**26**	*e*P	**P**	**05 41 05.2**	**+1.0**
	3.9nm,1.1s						
T49A	**Edmonton**	**23.91**	**26**	P	**P**	**05 41 03.9**	**-0.3**
	baz=212						
PV12	**Saucer Basin,**	**23.92**	**340**	*e*P	**P**	**05 41 05.7**	**+1.1**
	12nm,1.2s						
PV11	**David Mesa, Pa**	**23.93**	**340**	*e*P	**P**	**05 41 05.7**	**+1.2**
	8.0nm,1.1s						
PV17	**East Wray Mesa**	**23.94**	**339**	*e*P	**P**	**05 41 05.9**	**+1.2**
	6.3nm,1.1s						
PV16	**Nyswonger Mesa**	**23.95**	**340**	*e*P	**P**	**05 41 04.6**	**-0.3**
	2.5nm,0.8s						
PV07	**Paradox Valley**	**23.98**	**340**	*e*P	**P**	**05 41 06.6**	**+1.5**
	4.9nm,1.1s						
LDFC	**Landfair**	**24.04**	**325**	*e*P	**P**	**05 41 07.8**	**+2.2**
	11nm,1.1s						
V53A	**Saluda**	**24.04**	**33**	P	**P**	**05 41 05.1**	**-0.3**
	baz=220						
GMRC	**Granite Mounta**	**24.13**	**324**	P	**P**	**05 41 06.4**	**-0.1**
	baz=136						
SMCO	**Snowmass**	**24.16**	**344**	*e*P	**P**	**05 41 08.1**	**+1.0**
	10nm,1.1s						
PV09	**Paradox Valley**	**24.19**	**339**	*e*P	**P**	**05 41 08.7**	**+1.5**
PV21	**Cone Mtn., Par**	**24.20**	**340**	*e*P	**P**	**05 41 08.3**	**+1.2**
	3.7nm,1.1s						
Q44A	**Meyer Farm, Va**	**24.22**	**18**	*e*P	**P**	**05 41 08.3**	**+1.2**
	11nm,1.0s						
KNB	**Kanab**	**24.39**	**331**	*e*P	**P**	**05 41 10.6**	**+1.7**
	7.1nm,1.1s						
P41A	**Barry, Barry**	**24.40**	**14**	P	**P**	**05 41 08.8**	**+0.1**
	baz=198						
ISCO	**Idaho Springs**	**24.42**	**347**	*e*P	**P**	**05 41 10.8**	**+1.5**
	4.9nm,1.1s						
ISCO	**Idaho Springs**	**24.42**	**347**	P	**P**	**05 41 10.4**	**+1.1**
	baz=164,SNR=6.1						
P42A	**Winchester**	**24.49**	**15**	*e*P	**P**	**05 41 09.6**	**+0.1**
	8.8nm,1.0s						
P42A	**Winchester**	**24.49**	**15**	P	**P**	**05 41 10.9**	**+1.4**
	baz=199						
PKCU	**Pink Cliffs**	**24.51**	**333**	*e*P	**P**	**05 41 11.7**	**+1.5**
	11nm,1.1s						
R47A	**Wooly Knot Far**	**24.53**	**23**	P	**P**	**05 41 10.6**	**+0.8**
	baz=209						
WCI	**Wyandotte Cave**	**24.56**	**24**	*e*P	**P**	**05 41 11.2**	**+1.1**
	14nm,1.1s						
LCMT	**Little Creek M**	**24.58**	**331**	*e*P	**P**	**05 41 10.6**	**0.0**
	2.6nm,1.0s						
TUQ	**Turquoise Moun**	**24.75**	**324**	P	**P**	**05 41 13.3**	**+1.2**
	baz=137,SNR=12						
O41A	**Passleys Farm,**	**24.86**	**14**	P	**P**	**05 41 13.4**	**+0.5**
	baz=198						
MTPU	**Mount Pierson**	**24.96**	**334**	*e*P	**P**	**05 41 14.9**	**+0.6**
	6.7nm,1.0s						
SZCU	**Shurtz Canyon**	**24.99**	**332**	*e*P	**P**	**05 41 14.4**	**+0.1**
	4.5nm,1.2s						
CCUT	**Cedar City**	**25.07**	**331**	*e*P	**P**	**05 41 17.7**	**+2.6**
	3.3nm,1.2s						
Q47A	**Bedord North L**	**25.13**	**23**	P	**P**	**05 41 14.9**	**-0.3**
	baz=208						
SHPR	**Sheep Range**	**25.14**	**327**	*e*P	**P**	**05 41 17.0**	**+1.4**
	3.0nm,1.2s						
GSC	**Goldstone, Bar**	**25.16**	**323**	*e*P	**P**	**05 41 14.6**	**-1.1**
	7.9nm,1.1s						
GSC	**Goldstone, Bar**	**25.16**	**323**	P	**P**	**05 41 15.5**	**-0.3**
	baz=135						
BLO	**Bloomington**	**25.30**	**22**	*e*P	**P**	**05 41 18.5**	**+1.7**
	5.8nm,0.8s						
Q16A	**Castle Valley**	**25.30**	**336**	*e*P	**P**	**05 41 18.7**	**+1.6**
	10nm,1.1s						
OTAV	**Otavalo**	**25.32**	**127**	*e*P	**P**	**05 41 16.3**	**-1.5**
	0.8nm,0.8s						
MSU	**Marysvale**	**25.36**	**334**	*e*P	**P**	**05 41 17.8**	**+0.1**
O20A	**White River Ci**	**25.41**	**342**	*e*P	**P**	**05 41 19.3**	**+1.3**
	10nm,1.1s						
O20A	**White River Ci**	**25.41**	**342**	P	**P**	**05 41 20.4**	**+2.3**
	baz=158,SNR=6.4						
N23A	**Red Feather La**	**25.54**	**347**	*e*P	**P**	**05 41 21.0**	**+1.6**
	5.8nm,1.1s						
EDW2	**Edwards Air Fo**	**25.58**	**321**	P	**P**	**05 41 19.8**	**+0.3**
	baz=132						
P17A	**Butcher Ranch,**	**25.63**	**338**	*e*P	**P**	**05 41 21.2**	**+1.1**
	3.0nm,0.7s						
TMUT	**Trail Mountain**	**25.64**	**337**	*e*P	**P**	**05 41 21.6**	**+1.2**
	5.8nm,1.1s						
R51A	**Hillsboro**	**25.75**	**28**	P	**P**	**05 41 22.2**	**+1.2**
	baz=215						
LRMC	**Laurel Mtn Rad**	**25.80**	**322**	P	**P**	**05 41 22.4**	**+0.8**
	baz=134						
PHWY	**Pilot Hill**	**25.83**	**348**	*e*P	**P**	**05 41 23.4**	**+1.3**
	5.8nm,1.1s						
OSI	**Osito Audit: C**	**25.85**	**319**	*e*P	**P**	**05 41 22.8**	**+0.8**
	7.1nm,1.0s						
M39A	**Webster**	**25.90**	**11**	P	**P**	**05 41 22.7**	**+0.5**
	baz=194						
TPNV	**Topopah Spring**	**26.04**	**326**	*e*P	**P**	**05 41 25.6**	**+1.7**
	4.1nm,1.0s						
TPNV	**Topopah Spring**	**26.04**	**326**	P	**P**	**05 41 24.3**	**+0.5**
	baz=138						
MPMC	**Manual Prospec**	**26.09**	**323**	P	**P**	**05 41 24.6**	**+0.3**
	baz=135						
M41A	**Milan**	**26.14**	**14**	P	**P**	**05 41 26.1**	**+1.7**
	baz=198						
SCIA	**State Center**	**26.14**	**9**	*e*P	**P**	**05 41 25.4**	**+0.9**
	22nm,1.0s						
SCIA	**State Center**	**26.14**	**9**	P	**P**	**05 41 26.6**	**+2.2**
	baz=192						
DAC	**Darwin (Calif)**	**26.30**	**323**	*e*P	**P**	**05 41 26.2**	**0.0**
	3.5nm,1.1s						
ISA	**Isabella, Lake**	**26.39**	**321**	*e*P	**P**	**05 41 27.5**	**+0.6**
	2.1nm,0.9s						
ISA	**Isabella, Lake**	**26.39**	**321**	P	**P**	**05 41 27.5**	**+0.6**
	baz=133						
Q51A	**Peebles**	**26.46**	**27**	*e*P	**P**	**05 41 27.8**	**+0.5**
	8.2nm,0.8s						
BLA	**Blacksburg**	**26.46**	**34**	*e*P	**P**	**05 41 29.0**	**+1.5**
	13nm,1.1s						
NLU	**North Lily Min**	**26.55**	**336**	*e*P	**P**	**05 41 29.2**	**+0.8**
	6.6nm,1.2s						
RWWY	**Rawlins**	**26.59**	**345**	*e*P	**P**	**05 41 29.5**	**+0.6**
	5.8nm,1.0s						
CWC	**Cottonwood Cre**	**26.69**	**323**	P	**P**	**05 41 30.1**	**+0.3**
	baz=134						
R11A	**Troy Canyon, C**	**26.77**	**329**	*e*P	**P**	**05 41 31.6**	**+1.2**
	0.3nm,0.9s						
R11A	**Troy Canyon, C**	**26.77**	**329**	P	**P**	**05 41 31.3**	**+0.8**
	baz=142						
VES	**Vestal, Richgr**	**26.88**	**321**	P	**P**	**05 41 31.6**	**+0.4**
	baz=132						
BANI	**BANI**	**27.01**	**81**	*e*P	**P**	**05 41 34.1**	**+1.4**
DUG	**Dugway, Tooele**	**27.04**	**335**	*e*P	**P**	**05 41 33.4**	**+0.6**
	2.4nm,1.0s						
CTU	**Camp Tracy**	**27.07**	**338**	*e*P	**P**	**05 41 34.5**	**+1.4**
	2.1nm,0.6s						
TCUT	**Toone Canyon**	**27.32**	**339**	*e*P	**P**	**05 41 36.7**	**+1.3**
	11nm,1.0s						
BGU	**Big Grassy Mou**	**27.75**	**336**	*e*P	**P**	**05 41 40.8**	**+1.6**
	2.6nm,1.0s						
SPUT	**South Promonto**	**27.86**	**337**	*e*P	**P**	**05 41 41.8**	**+1.6**
	5.7nm,1.0s						
OMMB	**Old Mammoth Mi**	**28.04**	**324**	*e*P	**P**	**05 41 43.4**	**+1.4**
	2.6nm,1.2s						
SDV	**Santo Domingo**	**28.15**	**101**	LR	LR	05 54 31.5	
	comp=Z,80nm,18.1s,baz=58,slow=40						
BW06	**Boulder Array**	**28.22**	**343**	*e*P	**P**	**05 41 44.2**	**+0.8**
	3.7nm,1.0s						
BW06	**Boulder Array**	**28.22**	**343**	P	**P**	**05 41 44.2**	**+0.8**
	baz=157						
PDAR	**Pinedale Array**	**28.22**	**343**	P	**P**	**05 41 43.4**	**0.0**
	2.5nm,1.1s,baz=162,slow=12,SNR=9.6						
PDAR				LR	LR	05 54 01.1	
	comp=Z,287nm,19.3s,baz=165,slow=39						
NV01	**Mina Array Sit**	**28.23**	**326**	*e*P	**P**	**05 41 42.0**	**-1.6**
NVAR	**Mina Array Bea**	**28.23**	**326**	P	**P**	**05 41 42.5**	**-1.1**
	2.8nm,1.0s,baz=151,slow=11,SNR=14						
HVU	**Hansel Valley**	**28.39**	**337**	*e*P	**P**	**05 41 44.0**	**-0.9**
KVN	**Kaiserville**	**28.58**	**327**	*e*P	**P**	**05 41 45.7**	**-0.9**
	4.5nm,1.2s						
SNOW	**Snow King Moun**	**29.21**	**342**	*e*P	**P**	**05 41 51.7**	**-0.5**
	4.7nm,0.9s						
SNOW				*e*P	**pP**	**05 41 57.2**	**-0.1**
LOHW	**Long Hollow**	**29.30**	**342**	*e*P	**P**	**05 41 53.6**	**+0.6**
	2.1nm,0.9s						
H41A	**Junction City**	**29.42**	**13**	P	**P**	**05 41 56.0**	**+2.2**
	baz=198						
N54A	**Moraine State**	**29.54**	**29**	P	**P**	**05 41 56.4**	**+1.5**
	baz=218						
BEKR	**Beckworth**	**30.38**	**326**	*e*P	**P**	**05 42 00.6**	**-2.0**
	5.4nm,1.1s						
MFID	**Camas Ranch**	**30.97**	**335**	*e*P	**P**	**05 42 07.5**	**-0.1**
	5.1nm,1.1s						
MCMT	**McKenzie Canyo**	**31.09**	**340**	*e*P	**P**	**05 42 08.7**	**-0.2**
BOZ	**Bozeman (W)**	**31.41**	**342**	P	**P**	**05 42 12.7**	**+1.2**
	baz=156						
WVOR	**Wild Horse Val**	**31.41**	**331**	*e*P	**P**	**05 42 11.9**	**+0.4**
	2.6nm,1.1s						
MDND	**Maddock**	**31.69**	**359**	*e*P	**P**	**05 42 15.1**	**+1.3**
	37nm,1.1s						
O02D	**Mt. Diablo Mer**	**31.95**	**324**	P	**P**	**05 42 16.8**	**+0.5**
	baz=132						
J55A	**Hilton**	**32.35**	**29**	P	**P**	**05 42 19.0**	**-0.6**
	baz=219						
HRY	**Holter Researc**	**32.48**	**343**	*e*P	**P**	**05 42 21.6**	**+0.7**
YKA	**Yellowknife Ar**	**47.72**	**350**	P	**P**	**05 44 25.2**	**-1.6**
	0.6nm,0.9s,baz=159,slow=6.9,SNR=6.6						
RAGM	**Ragged Mountai**	**55.26**	**334**	*e*P	**P**	**05 45 22.5**	**-0.9**
	676nm,0.6s						
IL1	**Eielson Array**	**58.49**	**338**	*e*P	**P**	**05 45 46.2**	**0.0**
ILAR	**Eielson Array**	**58.49**	**338**	P	**P**	**05 45 46.1**	**-0.1**
	1.8nm,1.0s,baz=157,slow=6.1,SNR=11						
ILB	**Eielson Array**	**58.49**	**338**	*e*P	**P**	**05 45 46.1**	**-0.1**

IDC 01 05:38:34.9±7.8**, 29°.60S**×**175°.77W, h0**km**, mb3.2**/2**, mb1 3.5**/2**, mb1mx3.4**/32**, mbtmp3.2**/2**, Error ellipse: s-maj=329.3km s-min=60.2km az=153.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.10**	**265**	P	P	05 46 52.4	-0.7
	0.1nm,0.3s,baz=103,slow=7.2,SNR=4.8						
WRA	**Warramunga Arr**	**46.02**	**270**	P	P	05 47 00.9	+0.4
	0.2nm,0.3s,baz=109,slow=8.1,SNR=7.8						
FINES	**FINESS Array B**	**145.03**	**342**	PKPbc	PKPbc	05 58 12.0	-0.8
	4.3nm,1.1s,baz=54,slow=7.1,SNR=3.9						

IDC 01 05:47:45.8±1.3**, 2°.47S**×**139°.88E, h0**km**, mb2.8**/2**, mb1 3.1**/3**, mb1mx3.0**/29**, mbtmp2.9**/3**, ML2.7**/1**, Error ellipse: s-maj=20.7km s-min=18.0km az=173.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.82**	**93**	Pn	Pn	05 48 04.8	+0.2
	4.3nm,0.3s,baz=270,slow=19,SNR=15						
JAY				Sn	Sn	05 48 17.7	+0.2
	13nm,0.3s,baz=270,slow=20,SNR=11						
WRA	**Warramunga Arr**	**18.19**	**197**	P	P	05 52 00.4	+0.1
	0.0nm,0.3s,baz=19,slow=13,SNR=2.8						
ASAR	**Alice Springs**	**21.85**	**195**	P	P	05 52 40.9	+0.6
	0.2nm,0.8s,baz=24,slow=9.4,SNR=3.4						
MKAR	**Makanchi Array**	**70.32**	**322**	P	P	05 59 01.0	-0.4
	0.1nm,0.5s,baz=121,slow=6.9,SNR=4.1						

MEX 01 05:48:27.9±0.7**, 15°.80N**×**98°.67W, h12**km±21km**, MD3.8, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.79**	**42**	*e*P	Pg	05 48 40.2	-3.0
PNIG				*i* S	Sg	05 48 50.9	-2.5
TLIG	**Tlapa**	**1.75**	**3**	*e*P	Pn	05 48 54.9	-3.3
TLIG				*i* S	Sn	05 49 15.4	-5.1

LDG ***01*** *05:48:55.6±0.1, 48°.37N×9°.02E, h8km, Md2.5/2, Ml2.4/10, Error ellipse: s-maj=1.2km s-min=0.9km az=150.0*
BGR ***01*** *05:48:55.4±0.4, 48°.39N×9°.00E, h10km, ML2.0/5, Error ellipse: s-maj=10.0km s-min=4.4km az=172.0*
ZUR ***01*** *05:48:55.6, 48°.35N×8°.97E, h-0km±3km, MLh2.0/16, Error ellipse: s-maj=10.7km s-min=3.3km az=236.0*
STR ***01*** *05:48:56.6±0.6, 48°N±2°×°±°, h35km, M2.2/3, MLv2.2/3*
ISC 01 05:48:55.3±0.8**, 48°.37N**±0°.01×**8°.98E**±0°.01**, h13**km±6km**, n74, σ0s.93**/122**, 11C-3D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUBL	**Tuebingen-Lenn**	**0.17**	**25**	⇑*i*P*	**Pg**	**05 48 58.7**	**-0.6**
TUBL				S*	**Sg**	**05 49 01.0**	**-1.0**
BUCH	**Bad Urach**	**0.26**	**72**	⇑*i*P*	**Pg**	**05 49 00.4**	**-0.5**
BUCH				S*	**Sg**	**05 49 04.1**	**-0.6**
GUT	**Gutenstein**	**0.31**	**163**	⇓Pg	**Pg**	**05 49 01.4**	**-0.3**
GUT	**Gutenstein**	**0.31**	**163**	⇓P*	**Pg**	**05 49 01.4**	**-0.3**
GUT				S*	**Sg**	**05 49 05.6**	**-0.5**
LBG	**Lerchenberg**	**0.32**	**338**	S*	**Sg**	**05 49 06.3**	**+0.1**
STU	**Stuttgart**	**0.43**	**20**	⇑*i*P*	**Pg**	**05 49 03.5**	**-0.3**
STU				S*	**Sg**	**05 49 09.2**	**-0.4**
BFO	**Black Forest**	**0.43**	**265**	⇑Pg	**Pg**	**05 49 04.0**	**+0.1**
BFO	**Black Forest**	**0.43**	**265**	*e*Pg	**Pg**	**05 49 04.1**	**+0.1**
BFO				P*	**Pb**	**05 49 05.0**	**+0.1**
BFO				*e*Sg	**Sg**	**05 49 09.9**	**+0.1**
BFO				S*	**Sb**	**05 49 11.8**	**+0.5**
BFO				SmS		05 49 13.9	
OPP	**Oppenau**	**0.54**	**284**	⇑*i*P*	**Pg**	**05 49 06.0**	**+0.1**
OPP				S*	**Sg**	**05 49 13.3**	**+0.2**
OPP				SmS		05 49 16.4	
BRET	**Bretten**	**0.67**	**344**	P*	**Pg**	**05 49 08.5**	**+0.1**
BRET				PmP		05 49 09.8	
BRET				S*	**Sg**	**05 49 17.8**	**+0.5**
BRET				SmS		05 49 19.8	
SISB	**Singen-Schiene**	**0.68**	**181**	P*	**Pg**	**05 49 08.4**	**-0.2**
SISB				S*	**Sg**	**05 49 17.8**	**+0.2**
SISB				SmS		05 49 20.4	
SLE	**Schleitheim**	**0.69**	**208**	⇑Pg	**Pg**	**05 49 08.4**	**-0.2**
SLE	**Schleitheim**	**0.69**	**208**	⇑*i*P*	**Pg**	**05 49 08.4**	**-0.2**
SLE				PmP		05 49 09.8	
SLE				S*	**Sg**	**05 49 17.2**	**-0.5**
SLE				SmS		05 49 19.8	
BERGE	**Lenzkirch (DE)**	**0.73**	**227**	⇑Pg	**Pg**	**05 49 09.4**	**-0.1**
BERGE	**Lenzkirch (DE)**	**0.73**	**227**	P*	**Pg**	**05 49 10.1**	**+0.6**
BERGE				PmP		05 49 10.6	
BERGE				S*	**Sg**	**05 49 19.1**	**0.0**
TRULL	**Truellikon**	**0.75**	**195**	Pg	**Pg**	**05 49 10.1**	**+0.2**
FELD	**Feldberg im Sc**	**0.82**	**233**	Pn	**Pg**	**05 49 11.0**	**-0.1**
FELD	**Feldberg im Sc**	**0.82**	**233**	PmP		05 49 11.9	
KIZ	**Kirchzarten**	**0.82**	**240**	Pg	**Pg**	**05 49 11.1**	**-0.1**
KIZ				Sg	**Sg**	**05 49 22.7**	**+0.7**
KIZ	**Kirchzarten**	**0.82**	**240**	⇑Pn	**Pg**	**05 49 11.1**	**-0.1**
KIZ	**Kirchzarten**	**0.82**	**240**	⇑*i*P*	**Pg**	**05 49 11.1**	**-0.1**
KIZ				PmP		05 49 11.8	
KIZ				S*	**Sg**	**05 49 21.9**	**0.0**
KIZ				SmS		05 49 23.9	
FBB	**Freiburg im Br**	**0.84**	**244**	SmS		05 49 24.4	
WEIN	**Weingarten**	**0.84**	**180**	⇓Pn	**Pg**	**05 49 11.5**	**-0.1**
FLACH	**Flaach**	**0.84**	**199**	Pn	**Pg**	**05 49 11.5**	**-0.2**
HDH	**Heidenheim-Cha**	**0.85**	**75**	P*	**Pg**	**05 49 11.1**	**-0.6**
HDH				PmP		05 49 11.8	
HDH				S*	**Sg**	**05 49 21.9**	**-0.9**
HDH				SmS		05 49 23.9	
SGT02	**Zihlschlacht**	**0.88**	**168**	Pn	**Pg**	**05 49 12.4**	**+0.2**
ACHB	**Acheberg**	**0.92**	**212**	⇑Pn	**Pg**	**05 49 12.8**	**-0.3**
WILA	**Wila**	**0.96**	**183**	Pn	**Pg**	**05 49 13.6**	**-0.2**
WILA	**Wila**	**0.96**	**183**	PmP		05 49 14.2	
WILA				S*	**Sg**	**05 49 26.6**	**+0.3**
WILA				SmS		05 49 28.2	
LANF	**Langenberg**	**0.99**	**309**	Pg	**Pn**	**05 49 16.3**	**+1.4**
LANF				Sg	**Sg**	**05 49 28.1**	**+0.8**
SULZ	**Cheisacher**	**1.02**	**215**	Pn	**Pg**	**05 49 14.0**	**-1.1**
SULZ	**Cheisacher**	**1.02**	**215**	P	**Pg**	**05 49 13.9**	**-1.1**
SULZ				Pg	**Pb**	**05 49 15.2**	**+0.3**
SULZ				Sg	**Sg**	**05 49 29.0**	**+0.6**
UBR	**Ueberruh**	**1.03**	**132**	PmP		05 49 15.5	
SGT04	**Schlatt-Haslen**	**1.05**	**167**	Pn	**Pg**	**05 49 15.5**	**0.0**
SGT04				S	**Sb**	**05 49 29.8**	**+0.8**
ENDD	**Endenburg**	**1.06**	**232**	P	**Pg**	**05 49 14.3**	**-1.4**
ENDD				Pg	**Pb**	**05 49 15.8**	**+0.3**
ENDD				S	**Sg**	**05 49 28.5**	**-1.0**
ENDD				Sg	**Sb**	**05 49 30.3**	**+1.1**
SIND	**Sindeldorf**	**1.06**	**23**	Pg	**Pg**	**05 49 15.2**	**-0.6**
SIND				S	**Sg**	**05 49 28.3**	**-1.4**
WLS	**Welschbruch**	**1.08**	**273**	Pg	**Pb**	**05 49 15.9**	**-0.1**
WLS				Sg	**Sg**	**05 49 30.7**	**+0.3**
WLS	**Welschbruch**	**1.08**	**273**	Sg	**Sg**	**05 49 31.1**	**+0.8**
PEB	**Petersbachel**	**1.09**	**310**	Pg	**Pb**	**05 49 16.5**	**+0.5**
PEB				Sg	**Sg**	**05 49 31.4**	**+0.9**
SWS	**Schriesheim-Wi**	**1.13**	**351**	Sg	**Sg**	**05 49 32.3**	**+0.4**
CDF	**Champ du Feu**	**1.13**	**273**	*e*Pn	**Pb**	**05 49 17.1**	**+0.3**
CDF				*e*Sn	**Sb**	**05 49 32.0**	**+0.5**
	18nm,0.2s						
ECH	**Echery**	**1.22**	**263**	Pg	**Pn**	**05 49 18.5**	**+0.4**
ECH				Sg	**Sb**	**05 49 34.9**	**+0.9**
ECH	**Echery**	**1.22**	**263**	P	**Pn**	**05 49 16.7**	**-1.4**
ECH				Pg	**Pn**	**05 49 18.6**	**+0.4**
ECH				Sg	**Sb**	**05 49 35.0**	**+1.0**
DAVA	**Damuels**	**1.24**	**150**	Pg	**Pg**	**05 49 19.1**	**-0.2**
	0.3nm,0.1s						
DAVA				Sg	**Sn**	**05 49 36.2**	**+1.0**
	3.4nm,0.3s						
TOD	**Tromm**	**1.24**	**355**	Sg	**Sb**	**05 49 35.3**	**+0.8**
WBA	**Furth**	**1.29**	**355**	Sg	**Sg**	**05 49 39.4**	**+2.5**
BALST	**Balsthal**	**1.35**	**220**	Pn	**Pn**	**05 49 20.7**	**+0.8**
BALST	**Balsthal**	**1.35**	**220**	Pg	**Pb**	**05 49 21.0**	**+0.6**
WBB	**Darmstadt**	**1.49**	**352**	Sg	**Sg**	**05 49 45.1**	**+1.8**
RETA	**Reutte**	**1.49**	**126**	Pg	**Pg**	**05 49 23.7**	**-0.3**
RETA				Sg	**Sg**	**05 49 42.8**	**-0.5**
RETA	**Reutte**	**1.49**	**126**	*e*Pg	**Pg**	**05 49 23.7**	**-0.3**
	0.5nm,0.2s						
RETA				*e*Sn	**Sg**	**05 49 42.8**	**-0.5**
	13nm,0.3s						
HINF	**Hinteralfeld**	**1.53**	**250**	*e*Pn	**Pn**	**05 49 20.8**	**-1.5**
HINF	**Hinteralfeld**	**1.53**	**250**	*e*Pg	**Pb**	**05 49 24.3**	**+0.8**
HINF				*e*Sn	**Sn**	**05 49 41.1**	**-0.9**
HINF				*e*Sg	**Sb**	**05 49 44.4**	**+1.6**
	6.6nm,0.3s						
BNALP	**Bannalp**	**1.55**	**194**	Pn	**Pb**	**05 49 24.7**	**+0.9**
BNALP				S	**Sg**	**05 49 45.3**	**+0.3**
FUR	**Furstenfeldbru**	**1.55**	**97**	*e*Pg	**Pb**	**05 49 24.4**	**+0.5**
FUR				*e*Sg	**Sg**	**05 49 44.5**	**-0.7**
MOTA	**Moosalm**	**1.76**	**125**	*e*Pg	**Pg**	**05 49 29.1**	**0.0**
	0.3nm,0.2s						
MOTA				Sn	**Sb**	**05 49 50.4**	**+0.8**
	4.2nm,0.2s						
FETA	**Feichten**	**1.79**	**138**	Pg	**Pg**	**05 49 30.1**	**+0.3**
	0.2nm,0.2s						
FETA				Sg	**Sg**	**05 49 52.1**	**-0.9**
	1.4nm,0.4s						
HAU	**Haudompre**	**1.80**	**259**	*e*Pg	**Pb**	**05 49 29.3**	**+1.2**
HAU				*e*Sn	**Sn**	**05 49 48.6**	**-0.1**
HAU				*e*Sg	**Sb**	**05 49 52.6**	**+2.1**
	7.8nm,0.2s						
GRC1	**Grafenberg Arr**	**1.80**	**69**	Sg	**Sb**	**05 49 50.8**	**+0.2**
WBG	**Bieber**	**1.82**	**7**	Sg	**Sg**	**05 49 53.6**	**-0.2**
SQTA	**Sankt Quirin**	**1.89**	**127**	Sn	**Sb**	**05 49 54.4**	**+1.0**
	5.6nm,0.2s						
GRF	**Grafenberg Arr**	**1.98**	**47**	Pg	**Pg**	**05 49 32.5**	**-0.9**
GRF				S	**Sn**	**05 49 50.9**	**-2.4**
GRF				Sg	**Sb**	**05 49 56.5**	**+0.7**
WATA	**Walderalm**	**2.03**	**120**	*e*Sg	**Sg**	**05 50 00.4**	**-0.3**
	1.5nm,0.1s						
MANZ	**Manzenberg**	**2.62**	**51**	*e*Pg	**Pb**	**05 49 43.8**	**+1.7**
MEZF	**Maizieres J'vi**	**2.62**	**274**	*e*Pn	**Pn**	**05 49 37.5**	**+0.3**
MEZF	**Maizieres J'vi**	**2.62**	**274**	*e*Pg	**Pb**	**05 49 44.3**	**+2.3**
MEZF				*e*Sn	**Sn**	**05 50 08.2**	**-0.6**
MEZF				*e*Sg	**Sg**	**05 50 18.2**	**-1.2**
	1.8nm,0.2s						
CABF	**La Chapelle**	**2.63**	**229**	*e*Pg	**Pg**	**05 49 45.2**	**-0.6**
CABF				*e*Sg	**Sg**	**05 50 19.0**	**-0.9**
	1.9nm,0.3s						
SFTF	**Sexfontaines**	**2.63**	**268**	*e*Pg	**Pg**	**05 49 45.2**	**-0.6**
SFTF				*e*Sg	**Sg**	**05 50 18.9**	**-1.1**
	4.1nm,0.3s						
BAIF	**Baives**	**3.55**	**300**	*e*Pn	**Pn**	**05 49 50.3**	**+0.2**
BAIF	**Baives**	**3.55**	**300**	*e*Pg	**Pg**	**05 50 01.8**	**-1.6**
BAIF				*e*Sn	**Sn**	**05 50 29.8**	**-2.1**
BAIF				*e*Sg	**Sg**	**05 50 47.3**	**-2.1**
	0.8nm,0.2s						
LOR	**Lormes**	**3.62**	**254**	*e*Pn	**Pn**	**05 49 51.2**	**+0.1**
LOR	**Lormes**	**3.62**	**254**	*e*Pg	**Pg**	**05 50 03.3**	**-1.3**
LOR				*e*Sn	**Sn**	**05 50 31.9**	**-1.7**
LOR				*e*Sg	**Sg**	**05 50 49.5**	**-2.0**
	0.9nm,0.2s						
SSF	**Saint Saulge**	**3.92**	**253**	*e*Pn	**Pn**	**05 49 54.9**	**-0.2**
SSF	**Saint Saulge**	**3.92**	**253**	*e*Pg	**Pg**	**05 50 08.9**	**-1.4**
SSF				*e*Sg	**Sg**	**05 50 58.8**	**-2.3**
	0.6nm,0.2s						

IDC ***01*** *06:09:53.0±2.3, 37°.71N×45°.58E, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.2/53, mbtmp3.3/5, ML2.6/2, MS3.3/1, Ms1 3.3/1, ms1mx2.3/30, Error ellipse: s-maj=41.2km s-min=19.9km az=3.0*
NSSP ***01*** *06:09:57.0, 38°.87N×45°.32E, h10km, Ms3.6*
AZER ***01*** *06:09:57.7±0.7, 38°.92N×45°.37E, h10km, ml3.5/26, Error ellipse: s-maj=1.8km s-min=0.7km az=31.0*
TEH ***01*** *06:09:58.9, 38°.88N×45°.44E, h4km, ML3.5*
THR ***01*** *06:09:59.1, 39°.03N×45°.46E, h14km, ML3.2*
DDA ***01*** *06:10:01.7, 39°.06N×45°.23E, h8km±3km, ML3.1*
ISC 01 06:09:58.8±1.0**, 38°.89N**±0°.02×**45°.51E**±0°.02**, h11**km±8km**, n143, σ1s.58**/202**, mb3.1**/3**, 48C-60D, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMRD	**Marand**	**0.23**	**139**	IAMB	IAmb	06 10 10.6	
	comp=Z,81μm,0.1s						
IMRD				*e*Pg	**Pg**	**06 10 04.3**	**+0.5**
IMRD				*e*Sg	**Sg**	**06 10 09.3**	**+2.1**
NAX	**Nakhchivan**	**0.28**	**358**	⇓P	**Pb**	**06 10 05.4**	**-0.6**
	SNR=958						
NAX				⇓S	**Sb**	**06 10 10.4**	**-0.4**
NAX	**Nakhchivan**	**0.28**	**358**	*e*Pg	**Pb**	**06 10 05.3**	**-0.7**
NAX	**Nakhchivan**	**0.28**	**358**	⇓P	**Pb**	**06 10 05.4**	**-0.6**
	SNR=958						
NAX				⇓S	**Sb**	**06 10 10.4**	**-0.4**
ORD	**Ordubad**	**0.38**	**85**	⇓P	**Pb**	**06 10 08.2**	**+0.5**
ORD				⇑S	**Sb**	**06 10 15.5**	**+1.8**
ORD	**Ordubad**	**0.38**	**85**	*e*Pg	**Pb**	**06 10 08.2**	**+0.5**
ORD	**Ordubad**	**0.38**	**85**	⇓P	**Pb**	**06 10 08.2**	**+0.5**
ORD				⇑S	**Sb**	**06 10 15.5**	**+1.8**
SBZ	**Shahbuz**	**0.51**	**4**	⇓P	**Pb**	**06 10 09.4**	**-0.5**
SBZ				⇑S	**Sb**	**06 10 17.9**	**+0.6**
SBZ	**Shahbuz**	**0.51**	**4**	*e*Pg	**Pb**	**06 10 09.3**	**-0.5**
SBZ	**Shahbuz**	**0.51**	**4**	⇓P	**Pb**	**06 10 09.4**	**-0.5**
SBZ				⇑S	**Sb**	**06 10 17.9**	**+0.6**
ISHB	**Shabestar**	**0.61**	**172**	*e*Pg	**Pg**	**06 10 10.3**	**-0.5**
ISHB				IAMB	IAmb	06 10 10.6	
	comp=Z,9μm,0.1s						
ISHB				*e*Sg	**Sb**	**06 10 19.2**	**-1.3**
MAKU	**Maku**	**0.79**	**306**	AML	AML	06 10 26.1	
	comp=N,1μm,0.4s						
MAKU				*e*Pg	**Pg**	**06 10 12.4**	**-1.8**
ITBZ	**Tabriz**	**0.83**	**142**	*e*Pg	**Pb**	**06 10 14.5**	**-0.9**
ITBZ				IAMB	IAmb	06 10 32.4	
	comp=Z,21μm,0.1s						
GRS	**Goris**	**0.88**	**46**	⇑*i*P	**Pg**	**06 10 15.0**	**-0.9**
GRS				⇓*i*S	**Sn**	**06 10 30.0**	**-0.3**
HYR	**Heyderabad**	**0.97**	**329**	⇓P	**Pg**	**06 10 16.6**	**-0.9**
HYR				⇑S	**Sg**	**06 10 30.0**	**-0.2**
HYR	**Heyderabad**	**0.97**	**329**	*e*Pg	**Pg**	**06 10 16.6**	**-0.9**
HYR	**Heyderabad**	**0.97**	**329**	⇓P	**Pg**	**06 10 16.6**	**-0.9**
HYR				⇑S	**Sg**	**06 10 30.0**	**-0.2**
CLDR	**Caldiran**	**1.26**	**282**	P	**Pg**	**06 10 23.5**	**+0.3**
CLDR	**Caldiran**	**1.26**	**282**	IAML_P			
	comp=Z,8μm,0.3s						
CLDR				*i* P	**Pn**	**06 10 21.1**	**-1.6**
CLDR	**Caldiran**	**1.26**	**282**	*e*Pn	**Pn**	**06 10 20.5**	**-2.2**
IHRS	**Heris**	**1.33**	**115**	*e*Pg	**Pg**	**06 10 24.5**	**0.0**
IHRS				IAMB	IAmb	06 10 46.8	
	comp=Z,14μm,0.2s						
GNI	**Garni**	**1.39**	**335**	P	**Pn**	**06 10 23.3**	**-1.1**
GNI				S	**Sg**	**06 10 43.3**	**-0.3**
GNI	**Garni**	**1.39**	**335**	⇓*i*P	**Pb**	**06 10 24.7**	**-0.2**
GNI				⇑*i*S	**Sg**	**06 10 44.4**	**+0.8**
GNI	**Garni**	**1.39**	**335**	*e*Pg	**Pn**	**06 10 23.2**	**-1.1**
TASB	**TASBURUN-IGDIR**	**1.47**	**318**	P	**Pb**	**06 10 25.6**	**-0.6**
TASB	**TASBURUN-IGDIR**	**1.47**	**318**	*e*Pn	**Pb**	**06 10 25.6**	**-0.6**
IGDI	**IGDIR**	**1.48**	**312**	*e*Pn	**Pn**	**06 10 24.3**	**-1.2**
VMUR	**Van-Muradiye**	**1.51**	**274**	*i* P	**Pg**	**06 10 27.7**	**-0.2**
VMUR	**Van-Muradiye**	**1.51**	**274**	*e*Pn	**Pb**	**06 10 26.8**	**-0.3**
IBST	**Bostanabad**	**1.61**	**137**	*e*Pn	**Pb**	**06 10 28.0**	**-0.8**
IBST				IAMB	IAmb	06 10 38.1	
	comp=Z,3μm,0.3s						
TVAN	**Van**	**1.68**	**258**	IAML_P			
	comp=Z,2μm,0.5s						
TVAN				*i* P	**Pg**	**06 10 31.2**	**0.0**
TVAN	**Van**	**1.68**	**258**	*e*Pn	**Pg**	**06 10 30.5**	**-0.7**
VANB	**Van**	**1.68**	**260**	P	**Pg**	**06 10 30.1**	**-1.1**
VANB	**Van**	**1.68**	**260**	*e*Pn	**Pg**	**06 10 30.0**	**-1.1**
GDB	**GEDABAY**	**1.84**	**6**	⇑P	**Pb**	**06 10 32.9**	**+0.3**
	SNR=237						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GDB				⇓S	Sg	06 10 58.3	+0.4
GDB	GEDABAY	1.84	6	ePn	Pb	06 10 32.8	+0.3
GDB	GEDABAY	1.84	6	⇑P	Pb	06 10 32.9	+0.3
	SNR=237						
GDB				⇓S	Sg	06 10 58.3	+0.4
GANJ	Ganja	1.86	19	⇓P	Pg	06 10 33.8	-0.7
	SNR=172						
GANJ				⇑S	Sg	06 11 00.4	+1.7
GANJ	Ganja	1.86	19	ePn	Pg	06 10 33.8	-0.7
GANJ	Ganja	1.86	19	⇓P	Pg	06 10 33.8	-0.7
	SNR=172						
GANJ				⇑S	Sg	06 11 00.4	+1.7
GRMI	Germi	1.86	92	ePn	Pg	06 10 33.5	-1.1
GRMI	Germi	1.86	92	ePn	Pg	06 10 33.5	-1.1
GRMI				eSg	Sg	06 10 59.4	+0.5
BRDA	Brd	1.88	43	⇓P	Pg	06 10 35.4	+0.4
	SNR=6.1						
BRDA				⇑S	Sg	06 11 02.5	+3.2
BRDA	Brd	1.88	43	ePn	Pg	06 10 34.2	-0.7
BRDA	Brd	1.88	43	⇓P	Pg	06 10 35.4	+0.4
	SNR=6.1						
BRDA				⇑S	Sg	06 11 02.5	+3.2
GEVA	Gevas	2.00	254	IAML_P			
	comp=Z,2μm,0.3s						
GEVA				iP	Pb	06 10 34.7	-0.8
GEVA	Gevas	2.00	254	ePn	Pb	06 10 34.3	-1.1
ISRB	Sarab	2.00	121	ePn	Pg	06 10 36.8	-0.5
ISRB				IAMB	IAmb	06 10 48.9	
	comp=Z,4μm,0.5s						
AKDM	Akdamar-Van	2.06	255	P	Pb	06 10 35.4	-1.0
AGRB	Hanur-Agry	2.07	290	P	Pb	06 10 34.8	-1.8
AGRB	Hanur-Agry	2.07	290	ePn	Pb	06 10 34.8	-1.8
TUTA	Tutak	2.15	284	IAML_P			
	comp=Z,2μm,0.2s						
TUTA				iP	Pb	06 10 37.3	-0.8
TUTA	Tutak	2.15	284	ePn	Pb	06 10 37.1	-0.9
QZX	Qazax, Azerbai	2.17	357	⇓P	Pb	06 10 37.8	-0.3
	SNR=80						
QZX				⇑S	Sg	06 11 07.2	-1.2
QZX	Qazax, Azerbai	2.17	357	ePn	Pb	06 10 37.6	-0.5
QZX	Qazax, Azerbai	2.17	357	⇓P	Pb	06 10 37.8	-0.3
	SNR=80						
QZX				⇑S	Sg	06 11 07.2	-1.2
ZRD	Zardab	2.18	50	⇓P	Pg	06 10 39.6	-1.0
	SNR=5.3						
ZRD				⇓S	Sg	06 11 09.2	+0.3
ZRD	Zardab	2.18	50	ePn	Pb	06 10 37.8	-0.5
ZRD	Zardab	2.18	50	⇓P	Pg	06 10 39.6	-1.0
	SNR=5.3						
ZRD				⇓S	Sg	06 11 09.2	+0.3
CUKT	Cukurca	2.22	223	P	Pb	06 10 38.4	-0.7
CUKT	Cukurca	2.22	223	iP	Pb	06 10 39.0	-0.1
CUKT	Cukurca	2.22	223	ePn	Pb	06 10 38.4	-0.7
LRK	Lerik	2.23	96	⇓P	Pb	06 10 39.9	+0.7
	SNR=35						
LRK				⇑S	Sg	06 11 12.1	+1.6
LRK	Lerik	2.23	96	ePn	Pb	06 10 39.9	+0.7
LRK	Lerik	2.23	96	⇓P	Pb	06 10 39.9	+0.7
	SNR=35						
LRK				⇑S	Sg	06 11 12.1	+1.6
MNGR	Mingechevir, A	2.24	32	⇑P	Pb	06 10 38.5	-0.8
	SNR=7.5						
MNGR				⇑S	Sb	06 11 07.3	+0.3
MNGR	Mingechevir, A	2.24	32	ePn	Pb	06 10 38.4	-0.8
MNGR	Mingechevir, A	2.24	32	⇑P	Pb	06 10 38.5	-0.8
	SNR=7.5						
MNGR				⇑S	Sb	06 11 07.3	+0.3
DIGO	Kars	2.24	313	IAML_P			
	comp=Z,1μm,0.3s						
DIGO				iP	Pb	06 10 39.4	-0.2
DIGO	Kars	2.24	313	ePn	Pb	06 10 38.6	-0.9
STEZ	Stepenevan	2.27	338	eP	Pb	06 10 39.0	-1.0
STEZ				eS	Sg	06 11 15.0	+3.2
GLBA	Clilabad	2.27	80	⇓P	Pb	06 10 39.6	-0.4
	SNR=4.4						
GLBA				⇓S	Sg	06 11 10.7	-1.2
GLBA	Clilabad	2.27	80	ePn	Pb	06 10 39.5	-0.4
GLBA	Clilabad	2.27	80	⇓P	Pb	06 10 39.6	-0.4
	SNR=4.4						
GLBA				⇓S	Sg	06 11 10.7	-1.2
EAK	Akyaka	2.31	321	IAML_P			
	comp=Z,2μm,0.3s						
EAK				iP	Pb	06 10 40.8	+0.1
EAK	Akyaka	2.31	321	ePn	Pb	06 10 40.4	-0.3
MLAZ	Malazgirt-MUS	2.32	277	P	Pb	06 10 38.5	-2.3
SAAT	Saatly	2.46	66	⇓P	Pb	06 10 41.1	-1.9
	SNR=4.2						
SAAT				⇑S	Sb	06 11 15.1	+1.8
SAAT	Saatly	2.46	66	ePn	Pb	06 10 41.1	-1.9
SAAT	Saatly	2.46	66	⇓P	Pb	06 10 41.1	-1.9
	SNR=4.2						
SAAT				⇑S	Sb	06 11 15.1	+1.8
EATA	Eleskirt	2.53	293	IAML_P			
	comp=Z,1μm,0.5s						
EATA				iP	Pb	06 10 44.6	+0.1
EATA	Eleskirt	2.53	293	ePn	Pb	06 10 44.2	-0.3
KARS	Kars	2.55	314	eP	Pn	06 10 40.8	+0.5
KARS	Kars	2.55	314	ePn	Pn	06 10 40.8	+0.5
LKRN	Lenkeran, Azer	2.56	93	⇑P	Pb	06 10 43.5	-1.3
	SNR=18						
LKRN				⇑S	Sg	06 11 18.8	-2.4
LKRN	Lenkeran, Azer	2.56	93	ePn	Pb	06 10 43.5	-1.3
LKRN	Lenkeran, Azer	2.56	93	⇑P	Pb	06 10 43.5	-1.3
	SNR=18						
LKRN				⇑S	Sg	06 11 18.8	-2.4
ASTR	Astara	2.59	96	⇑P	Pb	06 10 44.9	-0.4
	SNR=12						
ASTR				⇓S	Sg	06 11 20.2	-1.8
ASTR	Astara	2.59	96	ePn	Pb	06 10 44.9	-0.4
ASTR	Astara	2.59	96	⇑P	Pb	06 10 44.9	-0.4
	SNR=12						
ASTR				⇓S	Sg	06 11 20.2	-1.8
SEKA	Sheki	2.65	29	⇑P	Pb	06 10 45.3	-1.2
	SNR=9.7						
SEKA				⇑S	Sg	06 11 21.8	-2.2
SEKA	Sheki	2.65	29	ePn	Pb	06 10 45.2	-1.2
SEKA	Sheki	2.65	29	⇑P	Pb	06 10 45.3	-1.2
	SNR=9.7						
SEKA				⇑S	Sg	06 11 21.8	-2.2
QBL	Gabala	2.72	40	⇓P	Pb	06 10 47.1	-0.6
	SNR=9.0						
QBL				⇓S	Sb	06 11 23.5	+2.5
QBL	Gabala	2.72	40	ePn	Pb	06 10 47.3	-0.3
QBL	Gabala	2.72	40	⇓P	Pb	06 10 47.1	-0.6
	SNR=9.0						
QBL				⇓S	Sb	06 11 23.5	+2.5
GURO	Guroymak-BITLI	2.74	264	eP	Pb	06 10 45.2	-2.7
GURO	Guroymak-BITLI	2.74	264	ePn	Pb	06 10 45.1	-2.8
SIRT	Sirnak	2.79	241	eP	Pb	06 10 46.3	-2.4
SIRT	Sirnak	2.79	241	ePn	Pb	06 10 46.3	-2.4
IML	Ismayilli	2.80	46	⇑P	Pb	06 10 47.2	-1.7
	SNR=6.7						
IML				⇓S	Sb	06 11 23.8	+0.6
IML	Ismayilli	2.80	46	ePn	Pb	06 10 49.1	+0.2
IML	Ismayilli	2.80	46	⇑P	Pb	06 10 47.2	-1.7
	SNR=6.7						
IML				⇓S	Sb	06 11 23.8	+0.6
ZKTA	Zakatala	2.87	17	⇓P	Pb	06 10 48.3	-1.9
	SNR=18						
ZKTA				⇑S	Sb	06 11 25.6	+0.3
ZKTA	Zakatala	2.87	17	ePn	Pb	06 10 50.3	+0.2
ZKTA	Zakatala	2.87	17	⇓P	Pb	06 10 48.3	-1.9
	SNR=18						
ZKTA				⇑S	Sb	06 11 25.6	+0.3
TBLG	Delisi	2.90	349	P	Pb	06 10 51.6	+1.0
TBLG				S	Sg	06 11 29.8	-2.0
SRTM	Siirt_Merkez	2.96	253	iP	Pn	06 10 47.4	+1.6
SRTM	Siirt_Merkez	2.96	253	ePn	Pn	06 10 47.2	+1.4
HOMI	Horasan	3.02	294	IAML_P			
	comp=Z,571nm,0.5s						
HOMI				iP	Pb	06 10 53.9	+1.2
KOPR	Koprukoy-ERZUR	3.03	292	eP	Pn	06 10 48.7	+1.7
PQL	Pirkuli	3.04	50	⇓P	Pb	06 10 50.9	-2.1
	SNR=9.4						
PQL				⇑S	Sb	06 11 31.5	+1.3
PQL	Pirkuli	3.04	50	ePn	Pb	06 10 52.6	-0.4
PQL	Pirkuli	3.04	50	⇓P	Pb	06 10 50.9	-2.1
	SNR=9.4						
PQL				⇑S	Sb	06 11 31.5	+1.3
XNQ	Khinaliq	3.04	41	⇓P	Pb	06 10 50.4	-2.8
	SNR=6.7						
XNQ				⇑S	Sb	06 11 30.6	+0.1
XNQ	Khinaliq	3.04	41	ePn	Pb	06 10 50.4	-2.8
XNQ	Khinaliq	3.04	41	⇓P	Pb	06 10 50.4	-2.8
	SNR=6.7						
XNQ				⇑S	Sb	06 11 30.6	+0.1
GBS	Qobustan	3.12	57	⇓P	Pb	06 10 52.0	-2.4
GBS				⇓S	Sb	06 11 32.8	+0.4
GBS	Qobustan	3.12	57	ePn	Pb	06 10 51.9	-2.4
GBS	Qobustan	3.12	57	⇓P	Pb	06 10 52.0	-2.4
GBS				⇓S	Sb	06 11 32.8	+0.4
ATGJ	Altiaghaj	3.29	52	⇓P	Pb	06 10 55.5	-1.9
	SNR=7.4						
ATGJ				⇑S	Sb	06 11 34.8	-2.6
ATGJ	Altiaghaj	3.29	52	ePn	Pb	06 10 57.9	+0.6
ATGJ	Altiaghaj	3.29	52	⇓P	Pb	06 10 55.5	-1.9
	SNR=7.4						
ATGJ				⇑S	Sb	06 11 34.8	-2.6
QUB	Quba	3.31	40	ePn	Pb	06 10 57.4	-0.2
ZNJK	Zanjan	3.36	130	ePn	Pb	06 10 54.9	-3.6
ZNJK	Zanjan	3.36	130	ePn	Pb	06 10 54.9	-3.6
QUBA	Quba, Azerbaij	3.36	42	⇓P	Pb	06 10 55.2	-3.3
	SNR=4.0						
QUBA				⇑S	Sb	06 11 36.8	-2.5
QUBA	Quba, Azerbaij	3.36	42	⇓P	Pb	06 10 55.2	-3.3
	SNR=4.0						
QUBA				⇑S	Sb	06 11 36.8	-2.5
QSAR	Qusar	3.36	38	⇑P	Pb	06 10 54.8	-3.7
	SNR=4.1						
QSAR				⇓S	Sb	06 11 37.8	-1.7
QSAR	Qusar	3.36	38	ePn	Pb	06 10 57.2	-1.3
QSAR	Qusar	3.36	38	⇑P	Pb	06 10 54.8	-3.7
	SNR=4.1						
QSAR				⇓S	Sb	06 11 37.8	-1.7
SIZA	Siyzn	3.40	49	⇓P	Pb	06 10 55.9	-3.3
SIZA				⇓S	Sb	06 11 36.7	-3.8
SIZA	Siyzn	3.40	49	ePn	Pb	06 10 59.2	+0.1
SIZA	Siyzn	3.40	49	⇓P	Pb	06 10 55.9	-3.3
SIZA				⇓S	Sb	06 11 36.7	-3.8
KARO	Karliova-Bingo	3.49	278	eP	Pn	06 10 55.6	+2.3
BNGB	Bingl	3.77	273	eP	Pn	06 10 59.5	+2.5
BINT	Bingol	3.92	271	ePn	Pn	06 10 59.4	+0.3
KBZ	Khabaz	5.22	339	Pn	Pb	06 11 31.3	+1.2
	comp=Z,0.2nm,0.3s,baz=163,slow=12,SNR=9.7						
BRTR	Keskin Array B	9.24	279	Pn	Pn	06 12 15.8	+3.6
	comp=Z,0.0nm,0.3s,baz=103,slow=16,SNR=5.6						
GERES	GERESS Array B	24.83	304	P	P	06 15 22.2	+1.0
	comp=Z,0.6nm,0.6s,baz=86,slow=8.2,SNR=7.1						
KURBB	Kurchatov Arra	26.00	52	P	P	06 15 32.1	+0.5
	comp=Z,0.3nm,0.7s,baz=258,slow=8.7,SNR=2.9						
MKAR	Makanchi Array	27.90	62	P	P	06 15 51.1	+2.3
	comp=Z,0.2nm,0.7s,baz=266,slow=7.6,SNR=2.4						
ZALV	Zalesovo Beam	30.54	47	LR	LR	06 31 24.2	
	comp=Z,48nm,18.6s,baz=239,slow=41						

*ISCJB **01** 06:10:46.6±0.3, 24°.70N±0°.03×122°.39E±0°.02, h15km±6km, Error ellipse: s-maj=5.3km s-min=2.8km az=17.6*
*TAP **01** 06:10:46.2, 24°.72N×122°.35E, h22km, ML2.9, C*
*JMA **01** 06:10:46.6, 24°.67N×122°.36E, h14km±3km, M2.3*
ISC 01 06:10:46.1±1.0**, 24°.71N**±0°.03×**122°.37E**±0°.02**, h16**km±8km**, n34, σ0s.49**/57**, 6C-6D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EOS1	EOS1	0.27	234	iP	Pb	06 10 52.6	0.0
	baz=225						
EOS1				iS	Sb	06 10 57.8	+0.8
	baz=225						
TWC	Suao	0.49	258	⇓iP	Pg	06 10 55.3	-0.5
	baz=257						
NTC	Toucheng	0.51	286	⇓iP	Pg	06 10 56.1	-0.2
	baz=286						
TIPB	Shuangxi	0.56	298	P	Pg	06 10 57.4	+0.2
	baz=304						
TIPB				S	Sg	06 11 04.6	-0.2
	baz=304						
JYNG	Yonagunijimaku	0.58	116	P	Pg	06 10 57.7	+0.1
JYNG				eS	Sg	06 11 05.6	+0.2
NANB	Nanao	0.63	244	⇑iP	Pg	06 10 58.2	-0.3
	baz=250						
NANB				S	Sg	06 11 06.8	-0.2
	baz=250						
YOJ	Yonaguni jima	0.63	113	P	Pb	06 10 58.8	0.0
	baz=112						
YOJ				S	Sg	06 11 07.2	+0.2
	baz=112						
YOJ	Yonaguni jima	0.63	113	P	Pb	06 10 58.6	-0.2
YOJ				S	Sg	06 11 06.8	-0.2
ENA	Nanau	0.64	244	⇑iP	Pg	06 10 58.5	-0.2
	baz=250						
ENA				S	Sg	06 11 06.8	-0.4
	baz=250						
TWE	Neicheng	0.64	271	⇓iP	Pg	06 10 58.2	-0.5
	baz=270						
WFSB	Wu-fen Shan	0.65	304	eP	Pb	06 10 58.1	-0.9
	baz=317						
WFSB				S	Sb	06 11 08.2	+0.4
	baz=317						
SLBB	Yuanshan	0.67	274	⇑iP	Pb	06 10 59.1	-0.3
	baz=274						
SLBB				eS	Sg	06 11 08.1	-0.1
	baz=274						
ENTT	Nioudou	0.74	265	⇑iP	Pb	06 11 00.1	-0.5
	baz=264						
TWA	Mucha	0.76	291	eP	Pn	06 11 01.9	-0.3
	baz=291						
TWA				eS	Sg	06 11 12.0	+0.9
	baz=291						
NWLT	Wulai	0.79	275	⇓iP	Pb	06 11 01.0	-0.5
	baz=275						
YM07	YM07	0.82	304	⇓iP	Pb	06 11 02.2	+0.1
	baz=305						
YM07				iS	Sg	06 11 13.4	+0.3
	baz=305						
YM01	YM01	0.85	301	eP	Pn	06 11 03.6	+0.3
	baz=301						
YM01				eS	Sn	06 11 15.3	-0.2
	baz=301						
YM08	YM08	0.85	304	eP	Pn	06 11 03.7	+0.3
	baz=304						
YM08				iS	Sb	06 11 13.6	-0.1
	baz=304						
YM11	YM11	0.85	302	eP	Pn	06 11 03.7	+0.2
	baz=303						
YM11				eS	Sg	06 11 14.8	+0.8
	baz=303						
YM05	YM05	0.86	302	eP	Pn	06 11 03.8	+0.2
	baz=302						
YM05				iS	Sb	06 11 14.2	+0.2
	baz=302						
NACB	Ninganchiao	0.89	233	⇑iP	Pb	06 11 02.8	-0.4
	baz=241						
NACB				iS	Sg	06 11 14.6	-0.4
	baz=241						
YHNB	Yeheng	0.91	268	P	Pb	06 11 03.1	-0.4
	baz=267						
NSK	Sanguang	0.92	268	P	Pg	06 11 03.9	-0.1
	baz=276						
NNSB	Datong	0.94	253	⇑iP	Pb	06 11 03.8	-0.4
	baz=253						
NNSB				S	Sg	06 11 16.8	-0.1
	baz=253						
NNS	Nan Shan	0.95	254	P	Pb	06 11 04.3	0.0
	baz=242						
LIOB	Emei	1.23	267	eP	Pg	06 11 10.1	+0.2
	baz=283						
NSTT	Nanjuang	1.25	267	⇓eP	Pg	06 11 11.0	+0.8
	baz=282						
CHGB	Renai	1.27	240	P	Pg	06 11 10.6	0.0
	baz=247						
CHGB				eS	Sg	06 11 28.9	+1.7
	baz=247						
IRIF	Iriomote-Funau	1.29	107	P	Pb	06 11 10.4	+0.4
IRIF				S	Sb	06 11 26.7	+0.3
HATJ	Hateruma jima	1.46	116	P	Pb	06 11 12.8	-0.1
HATJ				eS	Sb	06 11 31.4	+0.2
VWDT	VWDT	1.47	230	eP	Pg	06 11 14.3	-0.1
	baz=213						
VWDT				eS	Sg	06 11 34.5	+0.8
	baz=213						
JKRS	Kuro-shima	1.56	107	P	Pn	06 11 13.7	+0.5
JKRS				S	Sn	06 11 33.5	+0.3
JIJ	Ishigaki jima	1.65	102	P	Pn	06 11 13.6	-0.8
JIJ				eS	Sn	06 11 34.2	-1.1
JISG	Ishigakijimahi	1.77	94	S	Sb	06 11 39.8	-0.3

*NEIC **01** 06:17:01.5±0.0, 51°.42N×178°.81E, h40km, ML2.7(AEIC), After AEIC.*
*IDC **01** 06:17:22.3±26.0, 51°.49N×174°.40W, h0km, mb3.0/2, mb1 3.3/3, mb1mx3.1/63, mbtmp2.9/3, ML3.0/1, Error ellipse: s-maj=481.8km s-min=83.7km az=75.0*
ISC 01 06:17:00.3±2.3**, 51°.4N**±0°.2×**178°.7E**±0°.1**, h45km, n15, σ0s.97**/17**, mb3.2**/3**, Rat Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.37	91	P	Pn	06 17 10.2	+0.5
AMKA				S	Sn	06 17 16.4	0.0
LSSA	Little Sitkin	0.58	348	P	Pn	06 17 13.3	+1.0
LSPA	Little Sitkin	0.58	352	P	Pn	06 17 13.4	+1.1
LSNW	Little Sitkin	0.60	349	P	Pn	06 17 13.4	+0.9
CESW	Semis' Southwe	0.74	45	P	Pn	06 17 15.0	+0.5
CERAA	Semis' Rag'd T	0.80	49	P	Pn	06 17 15.8	+0.5
CEAP	Semis' Anvil P	0.82	41	P	Pn	06 17 16.2	+0.7
TASE	Tanaga Southea	2.08	76	P	Pn	06 17 33.8	+1.1
TASE				S	Sn	06 17 57.9	+0.5
TAPA	Tanaga Point A	2.21	77	P	Pn	06 17 35.6	+1.0
KIKV	Kanaga Island	2.62	77	P	Pn	06 17 41.2	+1.1
ADK	Adak	2.91	78	P	Pn	06 17 45.0	+0.9
ADK				S	Sn	06 18 17.8	0.0
GSMY	Great Sitkin M	3.32	77	P	Pn	06 17 50.7	+1.0
ILAR	Eielson Array	22.23	40	P	P	06 21 50.8	-1.9
	0.1nm,0.3s,baz=232,slow=8.7,SNR=4.1						
YKA	Yellowknife Ar	36.35	46	P	P	06 23 59.2	-0.3
	0.2nm,0.6s,baz=280,slow=7.9,SNR=4.5						
PDAR	Pinedale Array	47.79	71	P	P	06 25 28.6	-4.6
	0.1nm,0.4s,baz=291,slow=7.6,SNR=2.3						

IDC 01 06:26:33.7±1.9**, 3°.40N×125°.45E, h0km, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.5**/37**, mbtmp3.8**/3**, Error ellipse: s-maj=210.6km s-min=25.8km az=63.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.78	160	P	P	06 31 57.4	-0.1
	1.4nm,0.3s,baz=338,slow=10,SNR=8.9						
STKA	Stephens Creek	38.29	158	P	P	06 33 56.0	-0.1
	1.1nm,0.4s,baz=328,slow=10,SNR=4.2						
MKAR	Makanchi Array	57.11	326	P	P	06 36 21.9	-0.1
	0.2nm,0.4s,baz=118,slow=8.0,SNR=8.4						

DJA 01 06:27:46.2±1.2**, 9°S**±8°×**12°4E**±°**, h99**km±13km**, M3.5**/5**, MLv3.5**/5**, Timor region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOEI	Soe	0.92	186	P	Pn	06 28 05.7	-0.1
SOEI				S	Sn	06 28 21.5	+1.0
BATI	Baumata	1.53	207	P	Pn	06 28 12.7	-0.1
BATI				S	Sn	06 28 33.6	+0.7
MMRI	Maumere	2.12	275	P	Pn	06 28 20.6	+0.3
MMRI				S	Sn	06 28 46.7	+0.4
EDFI	Ende, Flores	2.65	272	P	Pn	06 28 27.1	-0.3

UCR 01 06:56:19.8±5.5**, 11°.39N×86°.75W, h28**km±19km**, MD4.0, ML3.7, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.80	11	eP	Pn	06 56 37.2	+2.0
MGAN	Managua	0.90	33	eP	Pn	06 56 36.5	-0.1
MGAN				eS	Sn	06 56 52.3	+3.7
MOMN	Momotombo	1.03	11	eP	Pn	06 56 38.1	-0.3
CNGN	Cerro Negro	1.10	3	eP	Pn	06 56 39.4	-0.1
CNGN				eP	Pb	06 56 39.6	-0.7
CRIN	San Cristobal	1.33	347	eP	Pn	06 56 43.1	+0.4
CRIN				eS	Sb	06 57 04.0	+3.1
CRIN				IAML		06 57 08.1	
	comp=N,1μm,0.3s						
NY14	Universidad de	1.40	122	iP	Pb	06 56 45.4	+0.1
GBS3	Finca Las Img	1.41	115	iP	Pn	06 56 43.8	+0.2
LAPC	Finca la Perla	1.43	116	iP	Pn	06 56 43.9	-0.1
LAPC				iS	Sb	06 57 04.0	+0.3
BUEV	Buena Vista	1.44	114	iP	Pn	06 56 44.4	+0.3
BOAB	BOACO BROADBAN	1.49	45	eP	Pn	06 56 39.8	-5.0
GPS1	Guardaparques	1.50	114	iS	Sb	06 57 06.2	+0.3
MATN	Matagalpa	1.73	28	eP	Pn	06 56 42.8	-5.3
ESTN	Estel	1.74	12	eP	Pn	06 56 43.3	-4.9
ESTN				eP	Pb	06 56 44.2	-7.0
PACA	Pacayal	2.57	323	eP	Pn	06 56 59.2	-0.5
TECA	Tecapa	2.70	321	eP	Pn	06 57 01.1	-0.5
TECA				eS	Sn	06 57 35.2	+1.7
LFRS	El Faro	3.17	315	eP	Pn	06 57 07.8	0.0
LFRS				eS	Sn	06 57 46.4	+1.6
LOMA	San Marcos	3.26	314	eP	Pn	06 57 09.8	+0.7
SBLS	San Blas	3.71	311	eP	Pn	06 57 16.2	+0.6
SBLS				eS	Sn	06 58 01.1	+2.6
IXG	Ixpaco	4.55	308	eP	Pn	06 57 26.9	-0.1
IXG				eS	Sn	06 58 20.6	+1.5

*IDC **01** 07:09:21.5±1.6, 52°.77N×169°.98W, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.4/47, mbtmp3.4/6, ML2.9/1, Error ellipse: s-maj=49.0km s-min=27.8km az=139.0*
*NEIC **01** 07:09:24.1±0.0, 52°.66N×169°.48W, h12km, ML3.3(AEIC), After AEIC.*
ISC 01 07:09:23.8±1.9**, 52°.8N**±0°.2×**169°.64W**±0°.08**, h8**km±13km**, n18, σ0s.98**/23**, mb3.3**/5**, Fox Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.49	74	ePg	Pb	07 09 34.3	-0.4
NIKH				eSg	Sb	07 09 42.3	+0.3
OKSP	Okmok Steeple	0.91	63	P	Pg	07 09 41.5	+0.3
OKSP				S	Sb	07 09 54.6	+0.5
OKER	Okmok East Rim	1.13	57	ePg	Pn	07 09 46.4	+0.3
OKER				eSn	Sn	07 10 03.2	+1.4
MREP	Makushin Rep't	1.99	60	P	Pn	07 09 58.4	+0.7
MSW	Makushin Switc	2.02	57	ePn	Pn	07 09 59.4	+1.2
MSW				eSn	Sb	07 10 27.0	+1.0
UNV	Unalaska Valle	2.13	61	ePn	Pn	07 09 59.5	-0.1
UNV				eSn	Sn	07 10 26.3	+0.1
AKMO	Akutan Morgan	2.50	59	ePn	Pb	07 10 07.7	-1.3
AKUT	Akutan	2.65	59	ePn	Pn	07 10 07.0	+0.3
KOFP	Korovin Flat P	2.78	260	ePn	Pn	07 10 09.4	+0.8
ATKA	Atka Island	2.86	259	ePn	Pn	07 10 09.9	+0.3
ADK	Adak	4.42	260	ePn	Pn	07 10 32.6	+1.5
KIWB	Kanaga Island	4.71	261	ePn	Pn	07 10 35.8	+0.7
ILAR	Eielson Array	16.66	35	Pn	Pn	07 13 16.2	-1.1
	0.0nm,0.3s,baz=228,slow=11,SNR=4.1						
YKA	Yellowknife Ar	30.05	49	P	P	07 15 33.0	+0.1
	0.2nm,0.4s,baz=273,slow=7.6,SNR=12						
NVAR	Mina Array Bea	37.84	91	P	P	07 16 42.6	+1.7
	0.5nm,0.9s,baz=293,slow=5.8,SNR=2.8						
PDAR	Pinedale Array	40.48	79	P	P	07 17 02.9	-0.1
	0.4nm,0.7s,baz=301,slow=4.5,SNR=4.3						
TXAR	Lajitas Array	52.90	89	P	P	07 18 40.2	-0.1
	0.8nm,0.7s,baz=308,slow=4.6,SNR=5.5						
ASAR	Alice Springs	90.58	230	P	P	07 22 24.5	-1.8
	0.4nm,0.9s,baz=27,slow=6.3,SNR=3.5						

*IDC **01** 07:21:31.5±2.4, 7°.08S×154°.10E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/31, mbtmp3.8/6, ML2.2/1, Error ellipse: s-maj=76.5km s-min=26.6km az=122.0*
ISC 01 07:21:38.3±1.9**, 6°.9S**±0°.4×**153°.7E**±0°.3**, h30km, n7, σ0s.95**/8**, mb3.6**/5**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.89	249	Pn	Pn	07 23 18.8	+1.5
	2.4nm,0.3s,baz=69,slow=10,SNR=12						
PMG				Sn	Sn	07 24 33.9	-1.0
	0.9nm,0.3s,baz=112,slow=19,SNR=2.5						
WRA	Warramunga Arr	22.78	234	P	P	07 26 38.3	-0.3
	1.0nm,0.6s,baz=61,slow=9.6,SNR=11						
ASAR	Alice Springs	25.24	227	P	P	07 27 02.0	+0.1
	1.3nm,0.6s,baz=60,slow=9.0,SNR=35						
FITZ	Fitzroy Crossi	29.47	245	P	P	07 27 39.0	-1.0
	0.6nm,0.5s,baz=67,slow=18,SNR=5.2						
MKAR	Makanchi Array	82.48	319	P	P	07 33 58.6	+0.5
	0.2nm,0.7s,baz=124,slow=4.6,SNR=2.7						
ZALV	Zalesovo Beam	83.39	326	P	P	07 34 02.1	-0.5
	0.4nm,0.5s,baz=114,slow=6.5,SNR=2.7						
TORD	Torodi Ar. Bea	151.73	285	PKPbc	PKPbc	07 41 31.0	0.0
	0.2nm,0.8s,baz=67,slow=2.8,SNR=1.9						

NIED ***01*** *07:35:00.47˝.00N×150˝.70E,h41km,Mw5.5 Best double couple: M₀1.84000×10¹⁷ NP1:φs 11.00000°,δ 19.00000°, λ 56.00000°. NP2:φs 227.00000°,δ 74.00000°,λ 101.00000°.*

BJI ***01*** *07:35:44.0,46˝.84N×151˝.73E,h39km, mb5.1/71,mB5.2/58, Ms5.2/82,Ms7 5.0/75*

ISCJB ***01*** *07:35:46.8± 0.7,46˝.84N± 0˝.02×151˝.12E± 0˝.02,h30km± 4km, mb5.5/543,MS4.7/69,Error ellipse: s-maj=3.5km s-min=1.7km az=156.7*

SKHL ***01*** *07:35:46.7± 0.1,46˝.69N×151˝.37E,h39km± 5km,mb6.1/2, Ms5.3/13*

MOS ***01*** *07:35:47.8± 0.8,46˝.83N×151˝.11E,h41km,mb5.6/131, MS4.7/32,Error ellipse: s-maj=6.3km s-min=5.1km az=66.0*

IDC ***01*** *07:35:50.0± 1.4,46˝.84N×151˝.04E,h45km± 12km,mb4.7/33, mb1 4.9/38,mb1mx4.9/44,mbtmp5.0/38,ML4.7/5,MS4.3/40, Ms1 4.3/40,ms1mx4.2/56,Error ellipse: s-maj=11.4km s-min=8.0km az=130.0*

NEIC ***01*** *07:35:49.1± 0.1,46˝.87N×151˝.06E,h35km,mb5.7/295, MW5.1,Error ellipse: s-maj=2.6km s-min=1.4km az=154.0, Moment Tensor Solution. s15 Moment tensor: Scale 10¹⁶Nm; Mrr 3.55; Mθθ 0.99; Mφφ -4.54; Mrθ 2.30; Mθφ -2.56; Mφr -1.62; Best double couple: M₀5.60000×10¹⁶ NP1: φs 52.00000°,δ 51.00000°,λ 140.00000°. NP2: φs 170.00000°,δ 59.00000°,λ 46.00000°. Principal axes: T 5.6400, Plg53.0000°, Azm26.0000°; N -0.0400, Plg37.0000°, Azm196.0000°; P -5.6000, Plg5.0000°, Azm290.0000°;*

GCMT ***01*** *07:35:49.1± 0.1,46˝.90N± 0˝.01×151˝.26E± 0˝.01,h20km, MW5.3/113,Moment Tensor Solution. s62,c106; s113,c217; Duration: 1ŝ1 Moment tensor: Scale 10¹⁷ Nm; Mrr 0.83±.03; Mθθ -0.13±.02; Mφφ -0.70±.02; Mrθ -0.14±.04; Mθφ -0.69±.01; Mφr -0.49±.04; Best double couple: M₀1.13000×10¹⁷ NP1:φs 202.00000°,δ 59.00000°, λ 75.00000°. NP2:φs 49.00000°,δ 34.00000°,λ 113.00000°. Principal axes: T 0.9810, Plg72.0000°, Azm77.0000°; N 0.2990, Plg13.0000°, Azm209.0000°; P -1.2800, Plg13.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 01 07:35:49.4±0.2, 46˚.83N±0˝.03× 151˚.10E±0˝.03, h39km±2km, h40km:pP-P,n1610,σ1ŝ12/1722, mb5.6/565, MS4.7/70, 42C-57D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.76**	**236**	⇓*i*P		**Pn**	**07 36 30.4**	**-0.7**
KUR					AMB	AMB	07 36 35.3	
	600nm,0.4s							
KUR					AMB	AMB	07 36 35.3	
	510nm,0.4s							
KUR					AMB	AMB	07 36 35.3	
	2μm,0.4s							
KUR				*e*S		**Sn**	**07 37 03.1**	**-0.1**
KUR					A	A	07 37 04.5	
	7μm,0.6s							
KUR					A	A	07 37 04.5	
	2μm,0.6s							
KUR					A	A	07 37 15.3	
	19μm,1.3s							
KUR					AMS	AMS	07 37 40.0	
	40μm,14.0s							
KUR					AMS	AMS	07 37 40.0	
	78μm,14.0s							
KUR					AMS	AMS	07 37 40.0	
	39μm,14.0s							
KUR	**Kuril'sk**	**2.76**	**236**	*d i*PN		**Pn**	**07 36 30.6**	**-0.5**
KUR				*e*S		**Sn**	**07 37 03.7**	**+0.5**
KUR					pmax	pmax		
	comp=N,596nm,0.4s							
KUR					pmax	pmax		
	comp=E,511nm,0.4s							
KUR					pmax	pmax		
	comp=Z,2μm,0.4s							
KUR					smax	smax		
	comp=N,8μm,0.5s							
KUR					smax	smax		
	comp=E,2μm,0.7s							
KUR					MLR	MLR		
	comp=Z,34μm,13.0s							
KUR					MLR	MLR		
	comp=N,16μm,11.0s							
SHO	**Shikotan**	**4.22**	**227**	⇑*i*P		**Pn**	**07 36 49.6**	**-1.6**
SHO					AMB	AMB	07 36 59.9	
	comp=N,150nm,0.5s							
SHO					AMB	AMB	07 36 59.9	
	comp=N,300nm,0.5s							
SHO					AMB	AMB	07 36 59.9	
	comp=N,570nm,0.5s							
SHO				*e*S		**Sn**	**07 37 36.9**	**-2.3**
SHO					A	A	07 37 49.0	
	comp=N,2μm,0.7s							
SHO					A	A	07 37 49.0	
	comp=N,1μm,0.7s							
SHO					AMS	AMS	07 38 41.0	
	comp=N,25μm,12.0s							
SHO					AMS	AMS	07 38 41.0	
	comp=N,21μm,12.0s							
SHO					AMS	AMS	07 38 41.0	
	comp=N,11μm,12.0s							
SHO	**Shikotan**	**4.22**	**227**	*e*PN		**Pn**	**07 36 48.9**	**-2.3**
SHO					pmax	pmax		
	comp=N,151nm,0.5s							
SHO					pmax	pmax		
	comp=Z,565nm,0.5s							
SHO					pmax	pmax		
	comp=E,303nm,0.4s							
SHO					MLR	MLR		
	comp=Z,7μm,10.0s							
YUK	**Yuzh-Kuril'sk**	**4.63**	**235**	⇓*i*P		**Pn**	**07 36 57.0**	**+0.3**
YUK					AMB	AMB	07 37 12.0	
	comp=Z,2μm,0.5s							
YUK					AMB	AMB	07 37 12.0	
	comp=Z,920nm,0.5s							
YUK					AMB	AMB	07 37 12.0	
	comp=Z,2μm,0.5s							
YUK				*e*S		**Sn**	**07 37 49.0**	**-0.2**
YUK					A	A	07 38 05.0	
	comp=Z,2μm,0.7s							
YUK					A	A	07 38 05.6	
	comp=Z,690nm,0.4s							
YUK					AMS	AMS	07 38 51.0	
	comp=Z,32μm,14.0s							
YUK					AMS	AMS	07 38 51.0	
	comp=Z,35μm,14.0s							
YUK					AMS	AMS	07 38 51.0	
	comp=Z,18μm,14.0s							
YUK	**Yuzh-Kuril'sk**	**4.63**	**235**	*d i*PN		**Pn**	**07 36 57.5**	**+0.8**
YUK				*e*S		**Sn**	**07 37 52.4**	**+3.2**
YUK					pmax	pmax		
	comp=N,2μm,0.5s							
YUK					pmax	pmax		
	comp=E,916nm,0.5s							
YUK					pmax	pmax		
	comp=Z,2μm,0.5s							
YUK					smax	smax		
	comp=N,2μm,0.7s							
YUK					smax	smax		
	comp=E,687nm,0.4s							
YUK					MLR	MLR		
	comp=Z,18μm,14.0s							
LAGR	**Lagunnoye**	**4.66**	**235**	*e*P		**Pn**	**07 36 57.9**	**+0.8**
LAGR					AMB	AMB	07 37 11.5	
	comp=Z,1μm,0.7s							
LAGR					AMB	AMB	07 37 11.5	
	comp=Z,3μm,0.7s							
LAGR				*e*S		**Sn**	**07 37 52.0**	**+2.1**
LAGR					A	A	07 38 04.8	
	comp=Z,5μm,0.7s							
LAGR					A	A	07 38 04.8	
	comp=Z,2μm,0.7s							
LAGR					AMS	AMS	07 38 59.0	
	comp=Z,30μm,11.0s							
LAGR					AMS	AMS	07 38 59.0	
	comp=Z,25μm,11.0s							
LAGR					AMS	AMS	07 38 59.0	
	comp=Z,17μm,11.0s							
LAGR	**Lagunnoye**	**4.66**	**235**	PN		**Pn**	**07 36 57.9**	**+0.8**
LAGR				*e*S		**Sn**	**07 37 52.0**	**+2.1**
LAGR					pmax	pmax		
	comp=N,1μm,0.7s							
LAGR					pmax	pmax		
	comp=N,5μm,0.7s							
LAGR					smax	smax		
	comp=E,2μm,0.8s							
LAGR					MLR	MLR		
	comp=N,30μm,11.0s							
LAGR					MLR	MLR		
	comp=E,25μm,11.0s							
LAGR					MLR	MLR		
	comp=Z,17μm,11.0s							
GRPR	**Tuman**	**4.71**	**235**	*e*P		**Pn**	**07 36 59.1**	**+1.3**
GRPR					AMB	AMB	07 37 10.8	
	comp=Z,880nm,0.5s							
GRPR					AMB	AMB	07 37 10.8	
	comp=Z,1μm,0.5s							
GRPR					AMB	AMB	07 37 10.8	
	comp=Z,2μm,0.5s							
GRPR				*e*S		**Sn**	**07 37 53.1**	**+2.0**
GRPR					A	A	07 38 05.1	
	comp=Z,1μm,0.4s							
GRPR					A	A	07 38 05.1	
	comp=Z,580nm,0.4s							
GRPR					AMS	AMS	07 39 00.0	
	comp=Z,18μm,13.0s							
GRPR					AMS	AMS	07 39 00.0	
	comp=Z,28μm,13.0s							
GRPR	**Tuman**	**4.71**	**235**	*e*PN		**Pn**	**07 36 59.1**	**+1.3**
GRPR				S		**Sn**	**07 37 53.1**	**+2.0**
GRPR					pmax	pmax		
	comp=Z,2μm,0.6s							
GRPR					pmax	pmax		
	comp=N,878nm,0.4s							
GRPR					pmax	pmax		
	comp=E,1μm,0.4s							
GRPR					smax	smax		
	comp=N,1μm,0.4s							
GRPR					smax	smax		
	comp=E,578nm,0.3s							
GRPR					MLR	MLR		
	comp=Z,28μm,13.0s							
GRPR					MLR	MLR		
	comp=E,18μm,12.0s							
GLVR	**Golovnino**	**5.01**	**234**	*e*P		**Pn**	**07 37 02.9**	**+0.9**
GLVR					AMB	AMB	07 37 09.9	
	comp=E,140nm,0.5s							
GLVR					AMB	AMB	07 37 09.9	
	comp=E,940nm,0.5s							
GLVR				*e*S		**Sn**	**07 38 00.2**	**+1.7**
GLVR					A	A	07 38 03.7	
	comp=E,1μm,0.6s							
GLVR					A	A	07 38 03.7	
	comp=E,1μm,0.6s							
GLVR					AMS	AMS	07 39 18.0	
	comp=E,22μm,11.0s							
GLVR	**Golovnino**	**5.01**	**234**	*e*PN		**Pn**	**07 37 02.9**	**+0.9**
GLVR				*e*S		**Sn**	**07 38 00.2**	**+1.7**
GLVR					pmax	pmax		
	comp=Z,936nm,0.5s							
GLVR					pmax	pmax		
	comp=N,144nm,0.4s							
GLVR					pmax	pmax		
	comp=E,136nm,0.4s							
GLVR					smax	smax		
	comp=N,1μm,0.6s							
GLVR					smax	smax		
	comp=E,1μm,0.6s							
GLVR					MLR	MLR		
	comp=Z,22μm,11.0s							
SKR	**Severo-Kuril's**	**5.08**	**39**	⇑*e*P		**Pn**	**07 37 02.6**	**-0.4**
SKR					AMB	AMB	07 37 07.9	
	comp=Z,3μm,0.7s							
SKR					AMB	AMB	07 37 09.8	
	comp=Z,5μm,4.5s							
SKR				*e*S		**Sn**	**07 37 57.9**	**-2.5**
SKR					A	A	07 38 18.9	
	comp=Z,2μm,0.8s							
SKR					A	A	07 38 18.9	
	comp=Z,3μm,0.8s							
SKR					AMS	AMS	07 39 04.0	
	comp=Z,12μm,15.0s							
SKR					AMS	AMS	07 39 04.0	
	comp=Z,17μm,15.0s							
SKR					AMS	AMS	07 39 04.0	
	comp=Z,14μm,15.0s							
SKR	**Severo-Kuril's**	**5.08**	**39**	*e*PN		**Pn**	**07 37 03.3**	**+0.3**
SKR				*e*S		**Sn**	**07 38 05.8**	**+5.4**
SKR					pmax	pmax		
	comp=Z,3μm,0.7s							
SKR					pmax	pmax		
	comp=Z,1μm,4.4s							
SKR					pmax	pmax		
	comp=Z,5μm,4.6s							
SKR					smax	smax		
	comp=N,2μm,0.7s							
SKR					smax	smax		
	comp=E,3μm,0.8s							
SKR					MLR	MLR		
	comp=Z,12μm,13.0s							
SKR					MLR	MLR		
	comp=Z,14μm,11.0s							
NEM2	**Nemuro 2**	**5.14**	**230**	P		**Pn**	**07 37 02.4**	**-1.3**
NEM2				*e*S		**Sn**	**07 37 58.3**	**-3.4**
JNK	**Nakash**	**5.56**	**237**	P		**Pn**	**07 37 09.7**	**+0.2**
YSS	**Yuzh-Sakhalins**	**5.72**	**274**	⇓*i*P		**Pn**	**07 37 13.3**	**+1.5**
YSS					AMB	AMB	07 37 13.9	
	comp=Z,620nm,0.8s							
YSS				*e*S		**Sn**	**07 38 18.5**	**+2.3**
YSS					A	A	07 38 19.7	
	comp=Z,680nm,0.6s							
YSS					A	A	07 38 19.7	
	comp=Z,840nm,0.6s							
YSS					AMS	AMS	07 39 52.0	
	comp=Z,6μm,12.0s							
YSS					AMS	AMS	07 39 52.0	
	comp=Z,5μm,12.0s							
YSS					AMS	AMS	07 39 52.0	
	comp=Z,7μm,12.0s							
YSS	**Yuzh-Sakhalins**	**5.72**	**274**	κ *i*PN		**Pn**	**07 37 13.3**	**+1.5**
YSS				*e*S		**Sn**	**07 38 18.5**	**+2.3**
YSS					pmax	pmax		
	comp=Z,620nm,0.8s							
YSS					smax	smax		
	comp=N,680nm,0.6s							
YSS					smax	smax		
	comp=E,840nm,0.6s							
YSS					MLR	MLR		
	comp=Z,7μm,11.0s							
YSS					MLR	MLR		
	comp=N,6μm,12.0s							
YSS					MLR	MLR		
	comp=E,5μm,14.0s							
JTKR	**Abashiri--Toko**	**5.82**	**243**	P		**Pn**	**07 37 13.0**	**-0.1**
JTKR				*e*S		**Sn**	**07 38 16.9**	**-1.5**
JAK	**Akkeshi**	**5.95**	**232**	P		**Pn**	**07 37 14.4**	**-0.5**
PAU	**Pauzhetka**	**5.96**	**37**	*e*P		**Pn**	**07 37 16.1**	**+1.1**
PAU					AMB	AMB	07 37 17.9	
	comp=E,3μm,0.5s							
PAU				*e*S		**Sn**	**07 38 21.5**	**-0.5**
PAU					A	A	07 38 35.3	
	comp=E,2μm,0.7s							
PAU					A	A	07 38 35.3	
	comp=E,1μm,0.7s							
PAU					AMS	AMS	07 40 04.8	
	comp=E,12μm,13.0s							
PAU					AMS	AMS	07 40 04.8	
	comp=E,12μm,13.0s							
PAU					AMS	AMS	07 40 04.8	
	comp=E,11μm,13.0s							
JMP	**Maruseppu**	**6.14**	**245**	P		**Pn**	**07 37 17.7**	**+0.2**
JMP				*e*S		**Sn**	**07 38 24.6**	**-1.8**
JSE	**Soyaes**	**6.23**	**256**	P		**Pn**	**07 37 19.8**	**+1.0**
JAR	**Ashorobuto**	**6.28**	**238**	P		**Pn**	**07 37 20.6**	**+1.2**
UGL	**Uglegorsk**	**6.47**	**294**	⇑*i*P		**Pn**	**07 37 24.4**	**+2.4**
UGL					AMB	AMB	07 37 25.4	
	comp=E,3μm,0.7s							
UGL				*e*S		**Sn**	**07 38 38.5**	**+4.0**
UGL					A	A	07 38 40.7	
	comp=E,2μm,0.6s							
UGL					AMS	AMS	07 41 12.5	
	comp=E,12μm,12.0s							
UGL					AMS	AMS	07 41 12.5	
	comp=E,9μm,12.0s							
UGL					AMS	AMS	07 41 12.5	
	comp=E,8μm,12.0s							
UGL	**Uglegorsk**	**6.47**	**294**	⇑*i*PN		**Pn**	**07 37 24.4**	**+2.4**
UGL				*e*S		**Sn**	**07 38 39.0**	**+4.5**
UGL					pmax	pmax		
	comp=Z,3μm,0.7s							
UGL					smax	smax		
	comp=E,2μm,0.6s							
UGL					MLR	MLR		
	comp=Z,8μm,9.0s							
UGL					MLR	MLR		
	comp=N,12μm,13.0s							
UGL					MLR	MLR		
	comp=E,9μm,11.0s							
HRK	**Horoka**	**6.56**	**242**	*e*P		**Pn**	**07 37 24.1**	**+0.7**
JKA	**Kamikawa-asahi**	**6.57**	**249**	*e*P		**Pn**	**07 37 24.2**	**+0.8**
ASAJ	**Asahikawa**	**6.57**	**249**	P		**Pn**	**07 37 24.2**	**+0.8**
	comp=E,5.3nm,0.3s,baz=40,slow=5.4,SNR=33							
ASAJ					LR	LR	07 39 55.3	
	comp=E,3μm,21.6s,baz=72,slow=38							
ASAJ	**Asahikawa**	**6.57**	**249**	*e*Pn		**Pn**	**07 37 24.9**	**+1.5**
ASAJ				*e*Sn		**Sn**	**07 38 38.2**	**+1.3**
ASAJ	**Asahikawa**	**6.57**	**249**	P		**Pn**	**07 37 24.5**	**+1.1**
JWK2	**Keihoku**	**6.58**	**260**	P		**Pn**	**07 37 25.1**	**+1.6**
JKK2	**Kamakawa 2**	**6.59**	**246**	P		**Pn**	**07 37 24.2**	**+0.5**
TYV	**Tymovskoe**	**6.88**	**309**	⇑*i*P		**Pn**	**07 37 29.3**	**+1.7**
TYV					AMB	AMB	07 37 30.0	
	comp=E,1μm,1.0s							
TYV					AMB	AMB	07 37 30.6	
	comp=E,700nm,0.8s							
TYV				*e*S		**Sn**	**07 38 47.5**	**+2.9**
TYV					A	A	07 38 50.2	
	comp=E,270nm,0.8s							
TYV					A	A	07 38 50.2	
	comp=E,260nm,0.8s							
TYV	**Tymovskoe**	**6.88**	**309**	*e*PN		**Pn**	**07 37 28.7**	**+1.1**
TYV					pmax	pmax		
	comp=Z,1μm,0.9s							
TYV					pmax	pmax		
	comp=Z,704nm,0.8s							
JAB	**Ashibetsu**	**7.10**	**245**	P		**Pn**	**07 37 32.6**	**+1.9**
MYR	**Moyori**	**7.19**	**234**	*e*P		**Pn**	**07 37 32.2**	**+0.2**
JHR	**Hokuryu**	**7.30**	**248**	P		**Pn**	**07 37 35.5**	**+2.1**
JBT2	**Biratori 2**	**7.42**	**240**	P		**Pn**	**07 37 36.7**	**+1.7**
ERM	**Erimo**	**7.45**	**233**	*e*Pn		**Pn**	**07 37 37.0**	**+1.5**
ERM				*e*Sn		**Sn**	**07 39 02.3**	**+3.6**
ERM	**Erimo**	**7.45**	**233**	⇓*e*P		**Pn**	**07 37 37.5**	**+2.0**
ERM	**Erimo**	**7.45**	**233**	*de*PN		**Pn**	**07 37 37.5**	**+2.0**
JNBK	**Urakawa-nobuka**	**7.50**	**236**	P		**Pn**	**07 37 35.9**	**-0.3**
PEA0B	**Petropavlovsk-**	**7.58**	**32**	*e*Pn		**Pn**	**07 37 38.7**	**+1.4**
PETK	**Petropavlovsk-**	**7.58**	**32**	P		**Pn**	**07 37 38.8**	**+1.5**
	comp=Z,47nm,0.3s,baz=194,slow=9.2,SNR=198							
PETK					LR	LR	07 40 40.0	
	comp=Z,4μm,20.2s,baz=206,slow=38							
PETK	**Petropavlovsk-**	**7.58**	**32**	*e*Pn		**Pn**	**07 37 38.2**	**+0.9**
PET	**Petropavlovsk**	**7.88**	**35**	*e*P		**Pn**	**07 37 41.8**	**+0.5**
PET					AMB	AMB	07 37 46.2	
	comp=Z,450nm,1.2s							
PET				*e*S		**Sn**	**07 39 08.1**	**-1.0**
PET					A	A	07 39 21.0	
	comp=Z,370nm,0.7s							
PET					A	A	07 39 21.0	
	comp=Z,600nm,0.7s							
PET					AMS	AMS	07 40 40.6	
	comp=Z,11μm,16.0s							
PET					AMS	AMS	07 40 40.6	
	comp=Z,14μm,16.0s							
PET					AMS	AMS	07 40 40.6	
	comp=Z,11μm,16.0s							
PET	**Petropavlovsk**	**7.88**	**35**	*e*PN		**Pn**	**07 37 43.2**	**+1.9**
PET				*e*S		**Sn**	**07 39 17.5**	**+8.4**
PET					pmax	pmax		
	comp=Z,448nm,1.2s							
PET					MLR	MLR		
	comp=Z,13μm,17.0s							
PET					MLR	MLR		
	comp=Z,10μm,17.0s							
JEW	**Eniwo**	**7.94**	**243**	P		**Pn**	**07 37 44.7**	**+2.6**
OKH	**Okha**	**8.52**	**325**	⇓*i*P		**Pn**	**07 37 51.1**	**+1.0**
OKH					AMB	AMB	07 37 55.8	
	comp=Z,630nm,0.8s							
OKH					AMS	AMS	07 42 47.0	
	comp=Z,3μm,13.0s							
JKB	**Kayabe**	**8.74**	**239**	P		**Pn**	**07 37 53.0**	**-0.2**
JSH	**Shimam**	**8.91**	**246**	P		**Pn**	**07 37 58.7**	**+3.2**
JYM2	**Yakumo 2**	**9.00**	**242**	P		**Pn**	**07 37 58.0**	**+1.2**
JANG	**Nango**	**9.48**	**231**	P		**Pn**	**07 38 00.4**	**-3.0**
JANG				*e*S		**Sn**	**07 39 41.2**	**-7.4**
JOSM	**Okushiri--Mats**	**9.57**	**244**	P		**Pn**	**07 38 06.1**	**+1.6**
TEY	**Ternei**	**10.26**	**265**	⇓*i*P		Pn	07 38 19.0	+5.0
TEY					AMB	AMB	07 39 19.8	
	comp=Z,30nm,0.8s							
TEY					AMB	AMB	07 39 19.8	
	comp=Z,230nm,0.8s							
TEY					AMB	AMB	07 39 19.8	
	comp=Z,210nm,0.8s							
TEY					AMS	AMS	07 42 10.0	
	comp=Z,2μm,16.0s							
TEY					AMS	AMS	07 42 10.0	
	comp=Z,4μm,16.0s							
TEY					AMS	AMS	07 42 10.0	
	comp=Z,5μm,16.0s							
TEY	**Ternei**	**10.26**	**265**	⇑*e*PN		Pn	07 38 19.2	+5.2
TEY					pmax	pmax		
	comp=Z,210nm,0.8s							
TEY					pmax	pmax		
	comp=N,30nm,0.8s							
TEY					pmax	pmax		
	comp=E,230nm,0.8s							
TEY					MLR	MLR		
	comp=N,2μm,16.0s							
TEY					MLR	MLR		
	comp=E,4μm,16.0s							
TEY					MLR	MLR		
	comp=Z,5μm,15.0s							
GRNR	**Gornyy**	**10.46**	**298**	⇓*i*P		**Pn**	**07 38 19.0**	**+2.4**
GRNR					AMB	AMB	07 38 19.8	
	comp=Z,120nm,0.8s							
GRNR					AMB	AMB	07 38 19.8	
	comp=Z,130nm,0.8s							
GRNR	**Gornyy**	**10.46**	**298**	*e*PN		**Pn**	**07 38 18.8**	**+2.2**
GRNR					pmax	pmax		
	comp=E,120nm,0.8s							
GRNR					pmax	pmax		
	comp=Z,130nm,0.8s							
JIO	**Ouri**	**11.02**	**224**	P		**Pn**	**07 38 20.0**	**-4.4**
JFY	**Yanaizu**	**12.65**	**226**	P		**Pn**	**07 38 43.6**	**-3.0**
MA2	**Magadan**	**12.77**	**359**	P		**Pn**	**07 38 46.8**	**-1.4**
	comp=Z,3.2nm,0.3s,baz=179,slow=10,SNR=15							
MA2					S	**Sn**	**07 41 00.2**	**-8.6**
	comp=Z,1.2nm,0.3s,baz=135,slow=17,SNR=2.4							
MA2					LR	LR	07 43 26.2	
	comp=Z,2μm,18.8s,baz=188,slow=36							
MA2	**Magadan**	**12.77**	**359**	⇓*e*P		**Pn**	**07 38 48.4**	**+0.2**
MA2	**Magadan**	**12.77**	**359**	⇓*e*PN		**Pn**	**07 38 48.4**	**+0.2**
KLR	**Kul'dur**	**13.17**	**288**	P		**Pn**	**07 38 57.4**	**+3.7**
	comp=Z,1.4nm,0.3s,baz=98,slow=15,SNR=138							
KLR					LR	LR	07 44 30.5	
	comp=Z,1μm,18.4s,baz=99,slow=40							
EKMR	**Ekimchan**	**13.23**	**305**	*e*P		**Pn**	**07 38 56.9**	**+2.3**
EKMR					AMB	AMB	07 39 23.9	
	comp=Z,60nm,0.8s							
EKMR					AMB	AMB	07 39 23.9	
	comp=Z,100nm,0.8s							
EKMR					AMB	AMB	07 39 23.9	
	comp=Z,140nm,0.8s							
USA0B	**Ussuriysk Arra**	**13.66**	**266**	*e*Pn		**Pn**	**07 38 59.3**	**-1.1**
USRK	**Ussuriysk Ar.**	**13.66**	**266**	P		**P**	**07 39 05.3**	**-3.2**
	comp=Z,1.0nm,0.3s,baz=68,slow=13,SNR=109							
USRK					LR	LR	07 44 09.5	
	comp=Z,2μm,21.1s,baz=69,slow=37							
MJAR	**Matsushiro Arr**	**14.07**	**228**	P		**Pn**	**07 39 02.7**	**-3.4**
	comp=Z,0.6nm,0.3s,baz=26,slow=12,SNR=15							
MJAR					LR	LR	07 45 09.7	
	comp=Z,3μm,20.3s,baz=30,slow=40							
MJB9	**Matsu-Tunnel**	**14.07**	**228**	*e*Pn		**Pn**	**07 39 04.1**	**-1.9**
MAJO	**Matsushiro**	**14.07**	**228**	*e*Pn		**Pn**	**07 39 03.2**	**-2.9**
MAJO	**Matsushiro**	**14.07**	**228**	⇑*i*P		**Pn**	**07 39 04.5**	**-1.6**
MAJO	**Matsushiro**	**14.07**	**228**	⇑*i*P		**Pn**	**07 39 04.5**	**-1.6**
MAJO					pmax	pmax		
	comp=Z,31nm,1.1s							
MAT	**Matsushiro**	**14.07**	**228**	P		**Pn**	**07 39 03.0**	**-3.1**
MAT				*e*S		**Sn**	**07 41 37.0**	**-3.8**
VLA	**Vladivostok**	**14.10**	**262**	⇑*e*P		**P**	**07 39 10.8**	**-2.5**
VLA					pmax	pmax		
	comp=Z,315nm,1.6s							
MSHR	**Mys Shultsa**	**14.80**	**261**	⇓*e*P		**P**	**07 39 19.7**	**-1.4**
MDJ	**Mudanjiang**	**15.18**	**269**	P		**P**	**07 39 24.6**	**-0.8**

MDJ				pP	pP	07 39 32.0	-2.7
MDJ				sP	sP	07 39 39.6	+0.9
MDJ				S	Sn	07 42 06.1	-1.6
MDJ				pmax	pmax		
	comp=Z,150nm,1.1s						
MDJ				LR	LR		
	comp=Z,4μm,12.7s						
MDJ				LR	LR		
	comp=Z,4μm,13.9s						
MDJ				LR	LR		
	comp=Z,5μm,13.1s						
MDJ	Mudanjiang	15.18	269	ePn	Pn	07 39 20.0	-0.9
	comp=Z,414nm,1.1s						
INU	Inuyama	15.60	228	ePn	Pn	07 39 25.9	-0.5
	comp=Z,128nm,1.0s						
SMY	Shemya	15.95	60	ePn	Pn	07 39 29.8	-0.9
	comp=Z,389nm,0.7s						
SMY	Shemya	15.95	60	eP	Pn	07 39 29.8	-0.9
SMY				pmax	pmax		
	comp=Z,389nm,0.7s						
BMKR	Bomnak	16.09	308⇓	eP	Pn	07 39 33.4	+0.9
BMKR				AMB	AMB	07 39 39.6	
	comp=Z,460nm,0.8s						
SEY	Seymchan	16.16	2	P	P	07 39 35.4	-0.6
	comp=Z,1.6nm,0.3s,baz=171,slow=9.8,SNR=67						
SEY	Seymchan	16.16	2⇑	eP	P	07 39 36.6	+0.6
JHJ2	Mitsune	16.18	216	ePn	P	07 39 35.4	-1.1
	comp=Z,547nm,1.1s						
JHJ	Hachijo jima 2	16.19	216	LR	LR	07 46 26.5	
	comp=Z,478nm,19.5s,baz=106,slow=39						
ZEA	Zeya	16.69	303	eP	Pn	07 39 40.5	+0.4
ZEA				AMB	AMB	07 39 43.2	
	comp=Z,100nm,1.2s						
ZEA				AMB	AMB	07 39 43.2	
	comp=Z,140nm,1.2s						
ZEA				AMB	AMB	07 39 43.2	
	comp=Z,160nm,1.2s						
ZEA				AMB	AMB	07 39 54.0	
	comp=Z,1μm,4.0s						
ZEA				AMB	AMB	07 39 54.0	
	comp=Z,2μm,7.0s						
ZEA				eS	Sn	07 42 38.0	-6.2
ZEA				A	A	07 43 18.0	
	comp=Z,2μm,9.0s						
ZEA				AMS	AMS	07 47 54.0	
	comp=Z,3μm,12.0s						
ZEA				AMS	AMS	07 47 54.0	
	comp=Z,2μm,12.0s						
ZEA				AMS	AMS	07 47 54.0	
	comp=Z,3μm,12.0s						
ZEA	Zeya	16.69	303	eP	P	07 39 41.8	-0.2
ZEA				pmax	pmax		
	comp=N,100nm,1.2s						
ZEA				pmax	pmax		
	comp=E,140nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,160nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,2μm,7.0s						
ZEA				pmax	pmax		
	comp=E,1μm,4.0s						
ZEA				MLR	MLR		
	comp=E,2μm,11.0s						
ZEA				MLR	MLR		
	comp=Z,3μm,11.0s						
ZEA				MLR	MLR		
	comp=N,3μm,12.0s						
KROS	Kirovskiy	17.04	305⇓	iP	Pn	07 39 41.5	-2.9
KROS				AMB	AMB	07 39 46.0	
	comp=N,60nm,0.7s						
CN2	Changchun	18.27	270	eP	Pn	07 40 01.5	+1.8
CN2				eS	S	07 43 26.2	-0.2
CN2				pmax	pmax		
	comp=N,30nm,0.8s						
CN2				pmax	pmax		
	comp=N,200nm,5.0s						
CN2				LR	LR		
	comp=N,2μm,15.0s						
CN2				LR	LR		
	comp=N,3μm,15.0s						
CN2				LR	LR		
	comp=N,3μm,15.0s						
KSRS	Korea Array	19.52	250	P	Pn	07 40 14.7	0.0
	comp=N,0.7nm,0.3s,baz=57,slow=10,SNR=26						
KSRS				PcP	PcP	07 44 32.2	-0.2
	comp=N,0.1nm,0.3s,baz=29,slow=1.3,SNR=5.9						
KSRS				LR	LR	07 46 53.9	
	comp=N,976nm,20.6s,baz=50,slow=34						
KS01	Wonju Array Si	19.52	250	eP	Pn	07 40 14.5	-0.3
YAK	Yakutsk	19.52	329	eP	Pn	07 40 15.4	+0.8
YAK	Yakutsk	19.52	329	eP	Pn	07 40 15.4	+0.8
YAK				eS	Sn	07 43 52.4	-0.1
YAK				pmax	pmax		
	comp=Z,151nm,0.8s						
YAK				pmax	pmax		
	comp=N,42nm,0.8s						
YAK				pmax	pmax		
	comp=E,57nm,0.9s						
YAK				smax	smax		
	comp=N,615nm,2.8s						
YAK				smax	smax		
	comp=E,327nm,2.6s						
KS15	Wonju Array Si	19.55	250	eP	Pn	07 40 15.8	+0.7
KSAR	Wonju Array Be	19.55	250	P	Pn	07 40 14.7	-0.4
KSAR				PcP	PcP	07 44 32.2	-0.3
KSAR	Wonju Array Be	19.55	250	P	Pn	07 40 14.7	-0.4
SNY	Shenyang	20.26	266	⇑P	Pn	07 40 30.9	+7.4
SNY				S	Sn	07 44 19.8	+9.2
SNY				pmax	pmax		
	comp=Z,59nm,1.0s						
SNY				pmax	pmax		
	comp=Z,570nm,5.3s						
SNY				LR	LR		
	comp=N,1μm,16.1s						
SNY				LR	LR		
	comp=E,4μm,14.1s						
SNY				LR	LR		
	comp=Z,6μm,15.1s						
TJN	Taejon	20.52	248⇑	eP	Pn	07 40 26.0	-0.6
JNU	Nakatsue	20.60	236	P	P	07 40 24.8	-0.3
	comp=Z,39nm,0.9s,baz=63,slow=3.1,SNR=9.5						
JNU				LR	LR	07 48 26.9	
	comp=Z,1μm,18.9s,baz=21,slow=37						
JNU	Nakatsue	20.60	236	eP	P	07 40 25.0	-0.1
	comp=Z,193nm,1.1s						
CBIJ	Chichi jima	20.92	203	eP	P	07 40 29.1	+0.6
	comp=Z,150nm,0.6s						
JCJ	Chichijima	20.92	203	P	P	07 40 28.4	-0.1
	comp=Z,46nm,0.4s,baz=336,slow=19,SNR=2.6						
HIA	Hailar	21.03	288	eP	P	07 40 29.3	-0.4
	comp=Z,254nm,0.8s						
HIA	Hailar	21.03	288	eP	P	07 40 29.3	-0.4
HIA				pmax	pmax		
	comp=Z,255nm,0.8s						
KIWB	Kanaga Island	21.18	65	eP	P	07 40 29.9	-1.3
ADK	Adak	21.47	65	eP	P	07 40 33.3	-1.0
	comp=Z,158nm,1.1s						
ADK	Adak	21.47	65	eP	P	07 40 33.3	-1.0
ADK				pmax	pmax		
	comp=Z,158nm,1.1s						
GSTR	Great Sitkin T	21.86	64	eP	P	07 40 39.0	+0.5
BILL	Bilibino	22.65	15⇓	eP	P	07 40 44.7	-2.0
BILL				e		07 41 14.4	
BILL				e		07 44 37.8	
BILL				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BILL				MLR	MLR		
	comp=Z,3μm,16.0s						
DL2	Dalian	22.91	260	P	P	07 40 50.5	+0.8
DL2				pP	pP	07 40 59.8	+0.6
DL2				S	S	07 44 56.0	-0.7
DL2				sS	Sn	07 45 08.6	-5.5
DL2				pmax	pmax		
	comp=Z,45nm,1.0s						
DL2				pmax	pmax		
	comp=Z,260nm,5.3s						
DL2				LR	LR		
	comp=Z,1μm,10.4s						
DL2				LR	LR		
	comp=Z,1μm,12.6s						
DL2				LR	LR		
	comp=Z,2μm,14.6s						
ATKA	Atka Island	23.01	64	eP	P	07 40 49.4	-1.2
	comp=Z,379nm,1.6s						
CIT	Chita	24.77	296	eP	P	07 41 09.8	+2.5
CIT				e		07 41 17.6	
CIT				e		07 41 45.3	
CIT				pmax	pmax		
	comp=Z,195nm,1.2s						
BOD	Bodaibo	24.88	310	eP	P	07 41 08.4	+0.3
BOD	Bodaibo	24.88	310	eP	P	07 41 08.4	+0.3
BOD				pmax	pmax		
	comp=Z,148nm,1.3s						
BJT	Baijiatuau	26.11	268	eP	P	07 41 19.6	+0.1
	comp=Z,42nm,0.9s						
BJT	Baijiatuau	26.11	268	eP	P	07 41 19.6	+0.1
BJT	Baijiatuau	26.11	268	eP	P	07 41 19.6	+0.1
BJT				pmax	pmax		
	comp=Z,42nm,0.9s						
GAMB	Gambell	26.58	37	eP	P	07 41 23.5	+0.1
	comp=Z,92nm,0.8s						
JOW	Kunigami	26.89	230	P	P	07 41 25.5	-1.1
	comp=Z,34nm,0.9s,baz=8.2,slow=9.9,SNR=5.7						
JOW	Kunigami	26.89	230	eP	P	07 41 26.8	+0.2
	comp=Z,122nm,1.2s						
TIXI	Tiksi	27.01	345	P	P	07 41 26.9	-0.3
	comp=Z,6.2nm,0.5s,baz=126,slow=12,SNR=14						
TIXI				PcP	PcP	07 44 47.9	+0.3
	comp=Z,11nm,0.9s,baz=118,slow=3.9,SNR=5.0						
TIXI	Tiksi	27.01	345⇓	iP	P	07 41 27.2	-0.1
TIXI				pmax	pmax		
	comp=Z,38nm,1.7s						
TIA	Tai'an	27.37	260	P	P	07 41 31.5	+0.7
TIA				S	S	07 46 14.0	+5.9
TIA				LR	LR		
	comp=Z,610nm,14.4s						
TIA				LR	LR		
	comp=Z,540nm,15.1s						
TIA				LR	LR		
	comp=Z,480nm,16.1s						
NJ2	Nanjing	28.71	251	eP	P	07 41 43.5	+0.7
NJ2				S	S	07 46 36.4	+7.2
NJ2				sS	sS	07 46 48.9	+1.8
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,260nm,8.2s						
NJ2				LR	LR		
	comp=Z,2μm,18.4s						
NJ2				LR	LR		
	comp=Z,2μm,16.3s						
NJ2				LR	LR		
	comp=Z,3μm,15.7s						
HHC	Hu-ho-hao-te	28.91	273	eP	P	07 41 45.0	+0.3
HHC				pP	pP	07 41 54.8	+0.2
HHC				S	S	07 46 29.1	-3.4
HHC				pmax	pmax		
	comp=Z,42nm,1.0s						
HHC				pmax	pmax		
	comp=Z,300nm,5.5s						
HHC				LR	LR		
	comp=Z,3μm,10.4s						
HHC				LR	LR		
	comp=Z,2μm,10.8s						
HHC				LR	LR		
	comp=Z,2μm,12.0s						
FALS	False Pass	29.36	57	eP	P	07 41 49.6	+1.3
	comp=Z,207nm,0.9s						
ANM	Nome	29.46	37	eP	P	07 41 49.4	+0.3
	comp=Z,183nm,1.4s						
ANM	Nome	29.46	37	eP	P	07 41 49.4	+0.3
ANM				pmax	pmax		
	comp=Z,183nm,1.4s						
TIY	Taiyuan	29.77	266	eP	P	07 42 01.8	+10
TIY				pP	sP	07 42 13.2	+6.8
TIY				S	S	07 46 53.2	+7.2
TIY				sS	sS	07 47 18.0	+14
TIY				pmax	pmax		
	comp=Z,27nm,0.7s						
TIY				pmax	pmax		
	comp=Z,360nm,6.0s						
TIY				LR	LR		
	comp=N,640nm,13.8s						
TIY				LR	LR		
	comp=E,2μm,14.7s						
TIY				LR	LR		
	comp=Z,2μm,14.6s						
SONA1	Songino Array	29.99	289	eP	P	07 41 54.0	-0.2
SONM	Songino Array	30.00	289	P	P	07 41 54.5	+0.3
	comp=Z,2.3nm,0.7s,baz=74,slow=8.2,SNR=16						
SONM				PcP	PcP	07 44 55.6	0.0
	comp=Z,6.7nm,0.8s,baz=131,slow=1.3,SNR=6.6						
SONM				ScP	ScP	07 48 33.4	-1.2
	comp=Z,1.7nm,0.9s,baz=90,slow=3.0,SNR=4.2						
SONM				LR	LR	07 54 57.3	
	comp=Z,663nm,21.9s,baz=80,slow=38						
IRK	Irkutsk	30.44	298	eP	P	07 42 06.2	+8.3
IRK				pmax	pmax		
	comp=Z,49nm,3.3s						
ZAK	Zakamensk	31.39	294	eP	P	07 42 06.3	-0.2
ZAK				e		07 43 23.2	
ZAK				pmax	pmax		
	comp=Z,35nm,1.3s						
RDOG	Red Dog Mine	31.46	31	eP	P	07 42 07.1	+0.3
	comp=Z,182nm,0.8s						
MOY	Mondy	32.54	297	eP	P	07 42 22.1	+5.6
MOY				pmax	pmax		
	comp=Z,35nm,1.5s						
WHN	Wuhan	32.62	253	⇑P	P	07 42 17.4	+0.1
WHN				S	S	07 47 32.5	+2.0
WHN				LR	LR		
	comp=Z,1μm,14.3s						
WHN				LR	LR		
	comp=Z,4μm,16.5s						
WHN				LR	LR		
	comp=Z,3μm,15.0s						
SVW2	Sparrevohn	33.41	45	eP	P	07 42 23.9	0.0
	comp=Z,82nm,1.1s						
YULB	Yu-li	33.45	236	eP	P	07 42 25.2	+0.6
	comp=Z,15nm,0.9s						
QZH	Quanzhou	33.85	241	⇓P	P	07 42 30.5	+2.5
QZH				S	S	07 47 58.0	+8.5
QZH				LR	LR		
	comp=Z,830nm,14.7s						
QZH				LR	LR		
	comp=Z,690nm,13.7s						
TPUB	Ta-pu	33.90	237	eP	P	07 42 29.4	+0.8
	comp=Z,54nm,1.0s						
XAN	Xi'an	34.15	263	P	P	07 42 30.9	+0.2
XAN				pP	sP	07 42 43.5	-1.4
XAN				sP	pP	07 42 48.5	+7.4
XAN				PP	PP	07 43 49.6	+1.3
XAN				S	S	07 48 00.0	+5.8
XAN				sS	sS	07 48 20.2	+8.1
XAN				ScS	ScS	07 52 45.3	-5.8
XAN				pmax	pmax		
	comp=Z,36nm,0.9s						
XAN				pmax	pmax		
	comp=Z,150nm,3.8s						
XAN				LR	LR		
	comp=Z,2μm,12.5s						
XAN				LR	LR		
	comp=Z,2μm,14.1s						
XAN				LR	LR		
	comp=Z,2μm,13.8s						
IM3	Indian Mountai	34.52	36	eP	P	07 42 33.2	-0.2
RSO	Redoubt South	34.81	46	eP	P	07 42 36.7	+0.4
OHAK	Old Harbor	34.81	52	eP	P	07 42 35.4	-0.7
	comp=Z,201nm,1.1s						
PPLA	Purkeypile	35.02	42	eP	P	07 42 38.7	+0.6
	comp=Z,390nm,1.6s						
CAST	Castle Rocks	35.08	41	eP	P	07 42 39.1	+0.7
	comp=Z,55nm,0.8s						
SPU	Mount Spurr	35.12	45	eP	P	07 42 38.9	+0.1
KDAK	Kodiak Island	35.12	51	P	P	07 42 38.0	-0.7
	comp=Z,112nm,0.8s,baz=291,slow=4.4,SNR=22						
KDAK	Kodiak Island	35.12	51	eP	P	07 42 37.6	-1.1
	comp=Z,115nm,0.8s						
KDAK	Kodiak Island	35.12	51	iP	P	07 42 37.8	-0.9
KDAK	Kodiak Island	35.12	51	iP	P	07 42 37.8	-0.9
SKT	Skwentna	35.34	43	eP	P	07 42 40.9	+0.2
	comp=Z,50nm,0.9s						
BPAW	Bear Paw Mtn.	35.58	40	eP	P	07 42 42.9	+0.3
	comp=Z,99nm,1.0s						
CNPM	China Poot	35.64	48	eP	P	07 42 43.1	-0.1
	comp=Z,119nm,0.6s						
MLY	Manley	35.70	38	eP	P	07 42 43.9	+0.1
	comp=Z,78nm,0.9s						
MLY				ePcP	PcP	07 45 12.1	+1.1
SUA	Susitna One	35.74	44	eP	P	07 42 43.9	-0.2
	comp=Z,62nm,0.8s						
SUA				ePcP	PcP	07 45 11.2	-0.1
BRLK	Bradley Lake	35.79	47	eP	P	07 42 44.0	-0.5
	comp=Z,72nm,0.6s						
TRF	Thorofare Moun	35.88	41	eP	P	07 42 45.9	+0.4
	comp=Z,97nm,0.9s						
ENH	Enshi	36.03	258	eP	P	07 42 47.0	+0.2
	comp=Z,98nm,1.1s						
COLD	Coldfoot	36.04	34	eP	P	07 42 47.3	+0.7
	comp=Z,40nm,1.0s						
COLD				ePcP	PcP	07 45 12.9	+0.9
RC01	Rabbit Creek A	36.25	45	eP	P	07 42 48.1	-0.2
	comp=Z,90nm,0.7s						
RC01				ePcP	PcP	07 45 12.8	+0.1
SEW	Seward	36.48	47	eP	P	07 42 50.0	-0.3
	comp=Z,51nm,0.6s						
MCK	McKinley	36.48	40	eP	P	07 42 50.5	+0.1
	comp=Z,81nm,0.8s						
MCK				ePcP	PcP	07 45 13.4	0.0
MCK	McKinley	36.48	40	eP	P	07 42 50.7	+0.3
PMR	Palmer	36.50	44	eP	P	07 42 50.0	-0.5
	comp=Z,54nm,0.6s						
PMR				ePcP	PcP	07 45 13.7	+0.3
LZH	Lanzhou	36.51	270	⇑P	P	07 42 52.6	+1.5
LZH				pP	pwP	07 43 03.8	+2.1
LZH				sP	sP	07 43 10.1	+4.8
LZH				PP	PP	07 44 19.8	+5.4
LZH				S	S	07 48 28.6	-2.0
LZH				sS	sS	07 48 49.1	+0.9
LZH				SS	SnSn	07 51 01.8	+0.5
LZH				pmax	pmax		
	comp=Z,31nm,1.5s						
LZH				pmax	pmax		
	comp=Z,620nm,4.9s						
LZH				LR	LR		
	comp=Z,3μm,17.9s						
LZH				LR	LR		
	comp=Z,4μm,15.7s						
LZH				LR	LR		
	comp=Z,3μm,15.2s						
RND	Reindeer	36.53	41	eP	P	07 42 49.9	-0.9
	comp=Z,101nm,0.8s						
RND				ePcP	PcP	07 45 13.6	0.0
RND	Reindeer	36.53	41	eP	P	07 42 49.9	-0.9
RND				e		07 45 13.6	
RND				pmax	pmax		
	comp=Z,101nm,0.8s						
GHO	Glory Hole Cre	36.59	44	eP	P	07 42 51.2	-0.2
	comp=Z,119nm,1.3s						
MDM	Murphy Dome	36.77	38	eP	P	07 42 53.1	+0.3
	comp=Z,90nm,0.8s						
WRH	Wood River Hil	36.84	39	eP	P	07 42 53.6	+0.3
	comp=Z,134nm,1.0s						
WRH				ePcP	PcP	07 45 14.3	-0.1
KNK	Knik Glacier	36.84	44	eP	P	07 42 53.6	+0.1
	comp=Z,204nm,0.9s						
KNK				ePcP	PcP	07 45 14.9	+0.5
SML	Sawmill	36.86	44	eP	P	07 42 53.9	+0.2
	comp=Z,415nm,0.7s						
SML	Sawmill	36.86	44	eP	P	07 42 53.9	+0.2
SML	Sawmill	36.86	44	eP	P	07 42 53.9	+0.2
SML				pmax	pmax		
	comp=Z,415nm,0.7s						
TCOL	CIGO, UAF Yank	36.93	38	P	P	07 42 55.0	+0.9
	baz=271						
COLA	College	36.93	38	eP	P	07 42 54.7	+0.6
	comp=Z,237nm,1.1s						
COLA	College	36.93	38	eP	P	07 42 54.7	+0.6
COLA	College	36.93	38	eP	P	07 42 54.7	+0.6
COLA				pmax	pmax		
	comp=Z,237nm,1.1s						
POKR	Poker Plat Res	37.10	38	P	P	07 42 56.8	+1.2
	baz=271						
DHY	Denali Highway	37.22	41	eP	P	07 42 56.7	0.0
	comp=Z,70nm,0.8s						
DHY				ePcP	PcP	07 45 17.1	+1.4
HDA	Harding Lake	37.33	39	eP	P	07 42 57.5	-0.1
	comp=Z,75nm,0.8s						
HDA	Harding Lake	37.33	39	P	P	07 42 57.3	-0.3
	baz=272						
SCM	Sheep Creek Mo	37.34	43	eP	P	07 42 57.8	+0.1
	comp=Z,102nm,0.8s						
SCM	Sheep Creek Mo	37.34	43	eP	P	07 42 57.8	+0.1
SCM				pmax	pmax		
	comp=Z,102nm,0.8s						
IL1	Eielson Array	37.35	39	eP	P	07 42 57.4	-0.3
IL1				ePcP	PcP	07 45 15.2	-0.7
ILAR	Eielson Array	37.35	39	P	P	07 42 57.6	0.0
	comp=Z,34nm,0.9s,baz=264,slow=7.1,SNR=121						
ILAR				PcP	PcP	07 45 14.4	-1.5
	comp=Z,4.9nm,0.7s,baz=281,slow=3.0,SNR=5.9						
ILAR				PKiKP	PKiKP	07 52 30.3	-1.9
	comp=Z,0.4nm,0.8s,baz=291,slow=2.5,SNR=3.9						
ILAR				LR	LR	07 59 54.3	
	comp=Z,729nm,18.4s,baz=290,slow=39						
ILB	Eielson Array	37.35	39	eP	P	07 42 57.8	+0.1
GLI	Glacier Island	37.55	45	eP	P	07 42 59.3	-0.1
	comp=Z,101nm,0.7s						
GTA	Gaotai	37.59	278	⇓P	P	07 43 01.3	+1.1
GTA				pP	pP	07 43 10.6	+0.2
GTA				sP	sP	07 43 14.5	-0.1
GTA				PcP	PcP	07 45 18.2	+0.9
GTA				S	S	07 48 46.8	-0.2
GTA				ScP	ScP	07 49 04.0	+2.6
GTA				pmax	pmax		
	comp=Z,23nm,0.8s						
GTA				pmax	pmax		
	comp=Z,78nm,8.6s						
GTA				LR	LR		
	comp=Z,1μm,14.3s						
GTA				LR	LR		
	comp=Z,1μm,14.3s						
GTA				LR	LR		
	comp=Z,2μm,14.6s						
FYU	Fort Yukon	37.98	36	eP	P	07 43 03.7	+0.7
	comp=Z,442nm,1.3s						
KLU	Klutina	38.04	44	eP	P	07 43 03.9	+0.2
	comp=Z,156nm,1.0s						
PAX	Paxson	38.09	41	eP	P	07 43 04.4	+0.3
	comp=Z,36nm,0.9s						
PAX				ePcP	PcP	07 45 19.1	+0.7
PAX	Paxson	38.09	41	eP	P	07 43 04.4	+0.3
PAX				e		07 45 19.1	
PAX				pmax	pmax		
	comp=Z,36nm,0.9s						
DIV	Divide	38.16	44	eP	P	07 43 04.9	+0.2
	comp=Z,128nm,0.8s						
HARP	HAARP	38.29	42	eP	P	07 43 06.3	+0.6
	comp=Z,130nm,0.8s						
RIDG	Independ'e Rid	38.30	40	eP	P	07 43 05.6	-0.2
	comp=Z,132nm,1.2s						
RIDG				ePcP	PcP	07 45 20.3	+1.3
GZH	Guangzhou	38.43	245	P	P	07 43 02.0	-5.2
DOT	Dot Lake	38.66	40	eP	P	07 43 08.4	-0.4
	comp=Z,51nm,0.8s						
DOT				ePcP	PcP	07 45 21.3	+1.2
SCRK	Sand Creek	38.66	40	eP	P	07 43 08.5	-0.4
	comp=Z,115nm,1.4s						
CD2	Chengdu	39.51	263	P	P	07 43 17.0	+0.7
CD2				pP	sP	07 43 30.0	-0.8
CD2				sP	pP	07 43 36.1	+9.1
CD2				PP	PP	07 44 48.2	+0.8
CD2				S	S	07 49 15.7	-0.3
CD2				sS	sS	07 49 38.1	+4.1
CD2				SS	SS	07 52 12.0	+0.6
CD2				pmax	pmax		
	comp=Z,110nm,0.7s						
CD2				pmax	pmax		
	comp=Z,340nm,5.0s						
CD2				LR	LR		
	comp=Z,2μm,12.9s						
CD2				LR	LR		
	comp=Z,1μm,14.4s						
CD2				LR	LR		
	comp=Z,2μm,13.9s						
GYA	Guiyang	40.39	256⇑	iP	P	07 43 23.8	+0.1
GYA				pP	sP	07 43 38.4	+0.4
GYA				sP	pP	07 43 43.0	+8.6
GYA				PcP	PcP	07 45 28.6	+2.3
GYA				ScP	ScP	07 49 12.3	0.0
GYA				S	S	07 49 28.1	-1.2
GYA				sS	sS	07 49 51.0	+3.4
GYA				ScS	ScS	07 53 24.7	-1.9
GYA				pmax	pmax		
	comp=Z,100nm,0.9s						
GYA				pmax	pmax		
	comp=Z,270nm,5.9s						

GYA LR LR
comp=Z,890nm,17.7s
GYA LR LR
comp=Z,560nm,15.2s
GYA LR LR
comp=Z,620nm,16.8s
DAWY Dawson 40.65 39 *e*P **P** **07 43 25.7 +0.3**
comp=Z,20nm,0.8s
DGZ Jazzator, Alta 41.35 298 *de*P **P** **07 43 32.5 +1.1**
DGZ pmax pmax
comp=Z,6.0nm,0.7s
EPYK Eagle Plains 41.40 35 *e*P **P** **07 43 32.4 +0.9**
comp=Z,154nm,1.2s
EPYK Eagle Plains 41.40 35 P **P** **07 43 32.5 +1.0**
baz=279
ZAA0 Zalesovo Array 41.44 305 *e*P **P** **07 43 31.0 -0.9**
comp=Z,6.6nm,0.7s
ZALV Zalesovo Beam 41.44 305 P **P** **07 43 31.1 -0.8**
comp=Z,2.3nm,0.6s,baz=69,slow=6.3,SNR=9.8
ZALV PcP **PcP** **07 45 28.9 -0.1**
comp=Z,24nm,0.7s,baz=70,slow=2.8,SNR=24
ZALV ScP **ScP** **07 49 14.3 -1.5**
comp=Z,3.2nm,1.0s,baz=72,slow=4.8,SNR=4.4
ZALV PKiKP **PKiKP** **07 52 34.2 -1.8**
comp=Z,0.9nm,0.7s,baz=337,slow=3.3,SNR=4.1
ZALV LR LR 08 00 58.0
comp=Z,835nm,20.3s,baz=68,slow=36
NVS Novosibirsk 42.04 307 *e*P **P** **07 43 36.2 -0.6**
NVS Novosibirsk 42.04 307 *e*P **P** **07 43 36.2 -0.6**
NVS *e* 07 45 31.5
NVS pmax pmax
comp=N,9.0nm,1.5s
NVS pmax pmax
comp=E,42nm,1.5s
NVS pmax pmax
comp=Z,31nm,1.5s
HYT Haines Junctio 42.17 44 *e*P **P** **07 43 38.7 +0.8**
comp=Z,177nm,1.0s
INK Inuvik 42.32 32 P **P** **07 43 40.0 +1.2**
comp=Z,102nm,0.9s,baz=286,slow=7.4,SNR=236
INK Inuvik 42.32 32 *e*P **P** **07 43 39.6 +0.7**
comp=Z,171nm,1.0s
INK Inuvik 42.32 32 *e*P **P** **07 43 39.6 +0.7**
INK Inuvik 42.32 32 *e*P **P** **07 43 39.6 +0.7**
INK pmax pmax
comp=Z,171nm,1.0s
WHY Whitehorse 43.46 43 *e*P **P** **07 43 49.2 +0.9**
comp=Z,61nm,0.8s
SKAG Skagway 43.59 45 *e*P **P** **07 43 50.2 +0.9**
comp=Z,61nm,1.0s
WMQ Urumqi 43.61 290 P **P** **07 43 50.7 +1.0**
WMQ pP pP 07 44 00.1 -0.2
WMQ sP sP 07 44 07.5 +2.9
WMQ PP **PcP** **07 45 36.6 0.0**
WMQ S **S** **07 50 22.5 +6.1**
WMQ SS **SS** **07 53 24.2 -7.6**
WMQ pmax pmax
comp=Z,94nm,0.9s
WMQ pmax pmax
comp=Z,1μm,5.3s
WMQ LR LR
comp=Z,4μm,15.1s
WMQ LR LR
comp=Z,2μm,18.9s
WMQ LR LR
comp=Z,1μm,28.3s
QIZ Qiongzhong 43.62 245 P **P** **07 43 50.7 +0.7**
QIZ S **S** **07 50 18.5 +1.6**
QIZ LR LR
comp=Z,630nm,18.1s
QIZ LR LR
comp=Z,650nm,17.2s
QIZ LR LR
comp=Z,950nm,14.2s
KMI Kunming 43.90 258 P **P** **07 43 53.4 +0.9**
KMI pP pP 07 44 02.7 -0.6
KMI sP sP 07 44 07.6 +0.8
KMI S **S** **07 50 20.5 -0.9**
KMI sS sS 07 50 40.9 +1.2
KMI SS **SS** **07 53 35.0 -3.5**
KMI pmax pmax
comp=Z,51nm,1.3s
KMI pmax pmax
comp=Z,390nm,5.1s
KMI LR LR
comp=Z,900nm,16.4s
KMI LR LR
comp=Z,1μm,15.9s
KMI LR LR
comp=Z,1μm,17.2s
BESE Bessie Mountai 44.10 46 *e*P **P** **07 43 54.4 +0.9**
comp=Z,184nm,1.6s
SIT Sitka 44.35 49 *e*P **P** **07 43 56.8 +1.4**
comp=Z,168nm,1.4s
SIT Sitka 44.35 49 *e*P **P** **07 43 56.8 +1.4**
SIT pmax pmax
comp=Z,168nm,1.4s
JIS Juneau Island 44.43 47 *e*P **P** **07 43 56.9 +0.9**
comp=Z,109nm,0.9s
SEM Semipalatinsk 45.35 302 *c i*P **P** **07 44 02.1 -1.6**
SEM pmax pmax
comp=Z,73nm,0.7s
SEM MLR MLR
comp=Z,615nm,13.0s
SEM Semipalatinsk 45.35 302⇑ *i*P **P** **07 44 02.2 -1.6**
comp=Z,72nm,0.7s
SEM *e*LRM MLR 08 04 06.0
comp=Z,615nm,13.5s
MK31 Makanchi Array 45.67 296 *e*P **P** **07 44 05.8 -0.3**
MK31 Makanchi Array 45.67 296 *e*P **P** **07 44 05.8 -0.3**
MKAR Makanchi Array 45.67 296 P **P** **07 44 05.8 -0.3**
comp=Z,6.3nm,0.7s,baz=68,slow=7.6,SNR=75
MKAR PcP **PcP** **07 45 43.4 -0.2**
comp=Z,6.6nm,0.6s,baz=64,slow=1.7,SNR=9.1
MKAR ScP **ScP** **07 49 31.4 -1.8**
comp=Z,1.6nm,1.0s,baz=60,slow=3.9,SNR=3.4
MKAR LR LR 08 03 43.2
comp=Z,987nm,21.9s,baz=64,slow=37
MKAR Makanchi Array 45.67 296 *e*P **P** **07 44 05.7 -0.4**
comp=Z,228nm,0.8s
MKAR PcP **PcP** **07 45 43.4 -0.2**
MKAR ScP **ScP** **07 49 31.4 -1.8**
MK01 Makanchi Array 45.68 296 *e*P **P** **07 44 05.6 -0.5**
MAKZ Makanchi 45.86 297 *e*P **P** **07 44 07.4 -0.2**
comp=Z,32nm,0.8s
MAKZ Makanchi 45.86 297 *e*P **P** **07 44 07.4 -0.2**
MAKZ pmax pmax
comp=Z,32nm,0.8s
WRAK Wrangell Islan 46.12 49 *e*P **P** **07 44 09.3 -0.1**
comp=Z,46nm,1.0s
KURK Kurchatov 46.16 303 *e*P **P** **07 44 09.2 -0.7**
comp=Z,25nm,0.8s
KURK PcP **PcP** **07 45 45.5 +0.3**
KURK Kurchatov 46.16 303⇑ *i*P **P** **07 44 09.0 -0.8**
KURK Kurchatov 46.16 303 *c i*P **P** **07 44 09.0 -0.8**
KURK pmax pmax
comp=Z,12nm,0.7s
KURK Kurchatov 46.16 303 P **P** **07 44 09.0 -0.8**
SNR=17
KURBB Kurchatov Arra 46.26 303 P **P** **07 44 09.8 -0.7**
comp=Z,11nm,0.7s,baz=70,slow=8.6,SNR=68
KURBB PcP **PcP** **07 45 45.5 0.0**
comp=Z,12nm,0.8s,baz=67,slow=3.7,SNR=7.7
DLBC Dease Lake 46.52 45 *e*P **P** **07 44 14.1 +1.4**
comp=Z,84nm,0.9s
DIB Dawson Inlet, 47.33 53 *e*P **P** **07 44 18.7 -0.2**
comp=Z,30nm,0.7s
NONG Nongkai 48.59 250 P **P** **07 44 30.3 +1.2**
comp=Z,2.7nm,1.1s
SKNT Sakolnakorn 48.85 249 P **P** **07 44 32.5 +1.4**
comp=Z,58nm,1.0s
LSA Lhasa 48.89 272 *e*P **P** **07 44 32.1 +0.2**
comp=Z,61nm,1.4s
LSA Lhasa 48.89 272 *e*P **P** **07 44 32.1 +0.2**
LSA Lhasa 48.89 272 P **P** **07 44 33.7 +1.8**
LSA Lhasa 48.89 272 *e*P **P** **07 44 32.1 +0.2**
LSA pmax pmax
comp=Z,61nm,1.4s
TDK Taldyqorghan 48.91 296 *e*P **P** **07 44 31.0 -0.3**
TDK pmax pmax
comp=Z,585nm,0.7s
TDK MLR MLR
comp=Z,2μm,14.0s
TDK Taldyqorghan 48.91 296 *e*P **P** **07 44 31.1 -0.3**
comp=Z,585nm,0.7s
TDK *e*LRM MLR 08 06 19.7
comp=Z,2μm,13.8s
PDGK Podgornoye 49.07 294 P **P** **07 44 34.1 +1.4**
PDGK pmax pmax
comp=Z,17nm,0.8s
SHLS Shalkode 49.17 293 *de*P **P** **07 44 30.5 -3.0**
SHLS pmax pmax
comp=Z,96nm,1.0s
SHLS MLR MLR
comp=Z,480nm,13.0s
SHLS Shalkode 49.17 293⇓ *e*P **P** **07 44 30.5 -3.0**
comp=Z,96nm,1.0s
SHLS *e*LRM MLR 08 07 35.0
comp=Z,480nm,13.3s
KDM Kudat 49.44 227 P **P** **07 44 38.0 +2.5**
KPKS Kokpek 49.51 294 *e*P **P** **07 44 35.7 -0.3**
KPKS pmax pmax
comp=Z,166nm,1.1s
KPKS MLR MLR
comp=Z,1μm,13.0s
KPKS Kokpek 49.51 294 *e*P **P** **07 44 35.7 -0.3**
comp=Z,166nm,1.1s
KPKS *e*LRM MLR 08 07 33.5
comp=Z,1μm,12.7s
BRVK Borovoye 49.78 309 *e*P **P** **07 44 37.7 0.0**
comp=Z,15nm,0.6s
BRVK Borovoye 49.78 309 *c i*P **P** **07 44 37.8 0.0**
BRVK pmax pmax
comp=Z,9.0nm,0.7s
PAYA Payao 49.80 255 P **P** **07 44 39.9 +1.5**
comp=Z,56nm,0.8s,comp=Z,482nm
JAY Jayapura 49.98 194 LR LR 08 02 40.9
comp=Z,205nm,19.7s,baz=3.0,slow=32
BBB Bella Bella 50.16 52 *e*P **P** **07 44 41.2 +0.6**
comp=Z,134nm,1.4s
KKM Kota Kinabalu 50.49 227 P **P** **07 44 46.3 +2.6**
UTTA Uttaradit 50.51 252 P **P** **07 44 45.0 +1.3**
comp=Z,26nm,0.8s,comp=Z,203nm
LAMP Lampang 50.55 254 P **P** **07 44 45.6 +1.6**
comp=Z,55nm,0.8s,comp=Z,437nm
SIJI Sorong 50.59 206 P **P** **07 44 44.0 -0.3**
baz=38,slow=16,SNR=6.4
SIJI LR LR 08 05 28.8
comp=Z,157nm,19.6s,slow=35
MDOK Medeo 50.69 295 *e*P **P** **07 44 44.7 -0.3**
MDOK pmax pmax
comp=Z,76nm,1.0s
MDOK MLR MLR
comp=Z,609nm,14.0s
MDOK Medeo 50.69 295 *e*P **P** **07 44 44.8 -0.3**
comp=Z,76nm,1.0s
MDOK *e*LRM MLR 08 08 43.7
comp=Z,609nm,14.2s
KUU Kurty 50.75 296 *d i*P **P** **07 44 43.7 -1.6**
KUU pmax pmax
comp=Z,41nm,0.7s
KUU MLR MLR
comp=Z,462nm,13.0s
KUU Kurty 50.75 296⇓ *i*P **P** **07 44 43.7 -1.6**
comp=Z,41nm,0.7s
KUU *e*LRM MLR 08 08 25.8
comp=Z,462nm,12.9s
CMMT Chiang Mai 50.80 255 P **P** **07 44 46.9 +1.0**
comp=Z,152nm,0.9s,comp=Z,2μm
CHTO Chiang Mai 50.80 255 *e*P **P** **07 44 46.8 +0.9**
comp=Z,105nm,0.8s
CHTO Chiang Mai 50.80 255 *e*P **P** **07 44 46.8 +0.9**
CHTO pmax pmax
comp=Z,105nm,0.8s
CHTO Chiang Mai 50.80 255 P **P** **07 44 47.2 +1.3**
SNR=26
CHTO Chiang Mai 50.80 255 P **P** **07 44 47.0 +1.1**
comp=Z,677nm,0.8s,comp=Z,7μm
CHAI Chaiyaphum 50.92 250 P **P** **07 44 47.7 +0.9**
comp=Z,40nm,1.0s,comp=Z,365nm
POHA Pohakuloa 50.94 103 *e*P **P** **07 44 47.8 +0.6**
comp=Z,235nm,0.9s
OTUK Ortayu 50.94 302 P **P** **07 44 46.8 +0.1**
OTUK pmax pmax
comp=Z,15nm,1.2s
SHL Shillong 50.99 267 *e*P **P** **07 44 47.7 +0.2**
comp=Z,254nm,1.0s
SHL Shillong 50.99 267 *e*P **P** **07 44 47.7 +0.2**
SHL pmax pmax
comp=Z,254nm,1.0s
SHL Shillong 50.99 267 *e*P **P** **07 44 47.7 +0.2**
SHL *i*P **P** **07 44 48.0 +0.5**
SHL IAmb IAmb 07 44 53.6
comp=Z,92nm,0.4s
CM31 Chiang Mai Arr 51.05 255 *e*P **P** **07 44 48.7 +0.9**
CM31 Chiang Mai Arr 51.05 255 P **P** **07 44 49.3 +1.4**
SNR=18
CMAR Chiang Mai Arr 51.05 255 P **P** **07 44 49.2 +1.4**
comp=Z,28nm,0.8s,baz=38,slow=7.2,SNR=93
CMAR ScP **ScP** **07 49 57.4 +1.0**
comp=Z,3.2nm,1.1s,baz=30,slow=3.7,SNR=6.3
CMAR LR LR 08 08 16.1
comp=Z,593nm,18.2s,baz=56,slow=38
CM01 Chiang Mai Arr 51.07 254 *e*P **P** **07 44 48.2 +0.2**
PBKT Sadao Pong 51.09 251 *e*P **P** **07 44 48.9 +0.8**
comp=Z,49nm,0.9s
PBKT Sadao Pong 51.09 251 P **P** **07 44 49.3 +1.2**
comp=Z,62nm,0.9s
KDJ Kajisay 51.15 293 *e*P **P** **07 44 50.0 +1.5**
comp=Z,43nm,0.8s
RES Resolute Bay 51.19 18 LR LR 08 08 33.6
comp=Z,872nm,20.1s,baz=314,slow=38
RES Resolute Bay 51.19 18 *e*P **P** **07 44 48.1 0.0**
comp=Z,145nm,0.9s
RES Resolute Bay 51.19 18 *e*P **P** **07 44 48.1 0.0**
RES pmax pmax
comp=Z,145nm,0.9s
KHU Kahuku 51.24 104 *e*P **P** **07 44 50.5 +1.0**
comp=Z,152nm,0.9s
KHU Kahuku 51.24 104 *e*P **P** **07 44 50.5 +1.0**
KHU pmax pmax
comp=Z,153nm,0.9s
SUKH Sukhothai 51.30 253 P **P** **07 44 51.4 +1.8**
comp=Z,22nm,0.6s
YKW3 Yellowknife Ar 51.64 36 *e*P **P** **07 44 51.2 -0.4**
comp=Z,38nm,0.7s
YKW3 *e*PcP **PcP** **07 46 05.6 +0.8**
YKA Yellowknife Ar 51.68 36 P **P** **07 44 52.4 +0.5**
comp=Z,30nm,0.7s,baz=298,slow=7.1,SNR=313
YKA PcP **PcP** **07 46 05.1 +0.2**
comp=Z,8.4nm,0.7s,baz=304,slow=3.7,SNR=9.4
YKA LR LR 08 09 51.5
comp=Z,41nm,18.0s,baz=292,slow=40
YKA PKPPKP P'P'df 08 15 25.0 -10
comp=Z,0.2nm,0.7s,baz=158,slow=2.0,SNR=4.2
YKB5 Yellowknife Ar 51.68 36 *e*P **P** **07 44 51.5 -0.4**
YKB5 *e*PcP **PcP** **07 46 05.7 +0.8**
TKM2 Tokmak 2 51.72 295 P **P** **07 44 53.4 +0.6**
SNR=6.9
USP Ospenovka 52.21 296 P **P** **07 44 56.9 +0.6**
SNR=26
KBK Karagaybulak 52.26 295 P **P** **07 44 58.9 +2.1**
SNR=9.9
NRN Naryn 52.27 293 *e*P **P** **07 44 57.3 +0.3**
comp=Z,11nm,0.9s
NRN Naryn 52.27 293 *e*P **P** **07 44 57.3 +0.3**
NRN pmax pmax
comp=Z,11nm,0.9s
SRAK Srakaew 52.29 248 P **P** **07 44 56.6 -0.5**
comp=Z,179nm,1.2s,comp=Z,2μm
FRU Bishkek 52.37 295 *e*P P 07 45 05.0 +7.5
FRU *e* 07 46 07.0
FRU pmax pmax
comp=Z,55nm,1.5s
KZA Kyzart 52.39 294 P **P** **07 44 59.2 +1.2**
SNR=8.2
AAK Ala-Archa 52.55 295 P **P** **07 44 59.4 +0.4**
SNR=15
AAK Ala-Archa 52.55 295 *e*P **P** **07 44 59.3 +0.3**
comp=Z,18nm,0.8s
AAK Ala-Archa 52.55 295⇓ *e*P **P** **07 44 59.5 +0.5**
AAK Ala-Archa 52.55 295 *i*P **P** **07 44 59.2 +0.3**
SNR=19
AAK Ala-Archa 52.55 295 *de*P **P** **07 44 59.5 +0.5**
AAK pmax pmax
comp=Z,15nm,0.8s
UMPA Umpang Tak 52.73 253 P P 07 45 07.1 +6.8
UCH Uchtor 52.77 295 P P 07 45 10.7 +10
SNR=5.5
UTHA Uthaitani 52.82 252 P **P** **07 45 02.6 +1.6**
comp=Z,22nm,0.8s,comp=Z,192nm
SVE Sverdlovsk 52.83 316 *e*P **P** **07 45 01.3 +0.8**
SVE Sverdlovsk 52.83 316 *e*P **P** **07 45 01.3 +0.8**
SVE pmax pmax
comp=Z,46nm,0.8s
SVE MLR MLR
comp=Z,758nm,14.0s
EKS2 Erkin-Say 52.99 296 P **P** **07 45 02.6 +0.5**
SNR=16
ODAN Odare 53.25 271 *e*P **P** **07 45 05.0 +0.7**
comp=Z,152nm,1.1s
AML Almayashu 53.33 295 P **P** **07 45 05.8 +0.8**
SNR=9.9
KSH Kashi 53.34 291 P **P** **07 45 09.0 +4.2**
KSH pP sP 07 45 21.6 +1.7
KSH PcP **PcP** **07 46 14.2 +2.4**
KSH PP **PP** **07 47 10.3 +5.3**
KSH S **S** **07 52 36.4 +2.6**
KSH sS sS 07 52 59.4 +8.5
KSH pmax pmax
comp=Z,38nm,1.3s
KSH pmax pmax
comp=Z,550nm,4.9s
KSH LR LR
comp=Z,1μm,9.7s
KSH LR LR
comp=Z,3μm,13.8s
KSH LR LR
comp=Z,1μm,21.5s
SANI Sanana 53.45 212 P **P** **07 45 04.4 -1.2**
JIRN Jiri 53.56 273 *e*P **P** **07 45 07.5 +0.7**
comp=Z,344nm,1.1s
GUN Gumba 53.62 274 *e*P **P** **07 45 07.5 +0.3**
comp=Z,115nm,1.0s
RAMN Ramite 53.73 272 *e*P **P** **07 45 08.4 +0.5**
comp=Z,178nm,0.8s
MPSI Mapaga 53.74 220 P **P** **07 45 07.5 -0.2**
SRDT SRDT 53.92 251 P P 07 45 15.1 +6.0
comp=Z,47nm,0.8s
ARU Arti 54.01 317 *e*P **P** **07 45 08.8 -0.4**
comp=Z,31nm,0.9s
ARU *e*PcP **PcP** **07 46 14.8 +0.9**
ARU Arti 54.01 317⇑ *i*P **P** **07 45 08.9 -0.4**
ARU Arti 54.01 317 *c i*P **P** **07 45 08.9 -0.4**
ARU *PP **sP** **07 45 24.0 +0.1**
ARU 07 46 13.1
ARU 07 47 09.7
ARU S **S** **07 52 43.3 +1.1**
ARU pmax pmax
comp=Z,76nm,1.8s
ARU MLR MLR
comp=Z,689nm,15.0s
KKN Kakani 54.10 274 *e*P **P** **07 45 11.5 +0.9**
comp=Z,145nm,1.2s
PKI Pulchoki 54.15 274 *e*P **P** **07 45 11.4 +0.3**
comp=Z,175nm,1.3s
PKIN Phulchoki 54.16 274 *e*P **P** **07 45 11.3 +0.2**
comp=Z,106nm,1.2s
ARSB Arslanbob 54.22 295 *e*P **P** **07 45 12.1 +0.9**
comp=Z,37nm,0.8s
TULEG Thule 54.31 11 *e*P **P** **07 45 10.4 -0.7**
comp=Z,94nm,1.5s
DMN Daman 54.34 274 *e*P **P** **07 45 13.0 +0.7**
comp=Z,268nm,1.2s
BTM Bintulu 54.52 229 P **P** **07 45 15.9 +2.5**
PGC Sidney 54.53 54 *e*P **P** **07 45 13.2 +0.2**
comp=Z,20nm,0.8s
SFK Sufi-Kurgan 54.63 293 P **P** **07 45 15.4 +1.1**
SFK pmax pmax
comp=Z,34nm,1.1s
PHET Kaeng Krachan 54.66 249 P **P** **07 45 16.6 +2.1**
comp=Z,19nm,0.8s,comp=Z,325nm
KK31 Karatay Array 54.74 298 *e*P **P** **07 45 14.6 -0.2**
KK31 Karatay Array 54.74 298 *e*P **P** **07 45 14.6 -0.2**
KKAR Karatay Array 54.74 298 *e*P **P** **07 45 14.6 -0.2**
KKAR Karatay Array 54.74 298 *e*P **P** **07 45 14.6 -0.2**
DANN Dangsing 54.79 275 *e*P **P** **07 45 16.4 +0.7**
comp=Z,116nm,0.7s
A04D Lummi Island 54.90 54 P **P** **07 45 16.5 +0.7**
baz=303
NLWA Neilton Lookou 54.98 56 *e*P **P** **07 45 17.2 +0.7**
comp=Z,44nm,0.9s
KOLN Koldanda 55.27 275 *e*P **P** **07 45 19.6 +0.6**
comp=Z,242nm,1.2s
D03D Eldon 55.34 55 P **P** **07 45 20.0 +1.0**
baz=304,SNR=22
PYUN Piuthan 55.48 276 *e*P **P** **07 45 21.1 +0.6**
comp=Z,325nm,1.2s
B05A Bryant 55.49 54 P **P** **07 45 20.7 +0.6**
baz=304,SNR=24
IUG Iuzhnay 55.58 297 *de*P **P** **07 45 20.1 -0.8**
IUG pmax pmax
comp=Z,126nm,0.6s
IUG MLR MLR
comp=Z,444nm,13.0s
IUG Iuzhnay 55.58 297⇓ *e*P **P** **07 45 20.1 -0.8**
comp=Z,126nm,0.6s
IUG *e*LRM MLR 08 10 28.2
comp=Z,444nm,13.1s
SBUM Sibu 55.61 229 P **P** **07 45 24.0 +2.7**
B06A Marblemount 55.69 54 *e*P **P** **07 45 21.6 +0.1**
comp=Z,127nm,1.4s
B06A *e*PcP **PcP** **07 46 22.2 +1.8**
D04E Lakebay 55.72 55 P **P** **07 45 22.8 +1.1**
baz=304
MMPI Merauke 55.87 193 P **P** **07 45 23.7 +0.6**
PMG Port Moresby 56.09 185 *e*P **P** **07 45 25.6 +1.0**
comp=Z,42nm,1.4s
PMG Port Moresby 56.09 185 *e*P **P** **07 45 25.6 +1.0**
PMG pmax pmax
comp=Z,42nm,1.4s
LVZ Lovozero 56.14 336 *ce*P **P** **07 45 24.4 -0.1**
LVZ pmax pmax
comp=Z,3.0nm,0.8s
D05A Enumclaw 56.16 55 *e*P **P** **07 45 25.5 +0.7**
comp=Z,41nm,0.8s
D05A *e*PcP **PcP** **07 46 23.5 +1.1**
E04D Cinebar 56.19 56 P **P** **07 45 26.2 +1.1**
baz=305,SNR=13
F04D Rainier, OR 56.20 57 P **P** **07 45 25.7 +0.6**
baz=305
BOK Bokaro 56.27 270 *e*P **P** **07 45 26.6 +0.6**
BOK IAmb IAmb 07 45 28.3
comp=Z,29nm,1.1s
BTK Batken 56.29 295 *e*P **P** **07 45 26.0 0.0**
comp=Z,32nm,1.1s
BTK Batken 56.29 295 *e*P **P** **07 45 26.0 0.0**
BTK pmax pmax
comp=Z,33nm,1.1s
C06D Leavenworth 56.35 54 P **P** **07 45 26.9 +0.6**
baz=305
DAG Danmarks Havn 56.50 357 *i*P **P** **07 45 27.1 +0.2**
DAG Danmarks Havn 56.50 357 *i*P **P** **07 45 27.1 +0.2**
comp=Z,30nm,1.1s
DAG Danmarks Havn 56.50 357 *i*P **P** **07 45 27.1 +0.2**
DAG pmax pmax
comp=Z,37nm,1.1s
LON Longmire 56.50 55 *e*P **P** **07 45 27.1 -0.3**
comp=Z,8.3nm,0.8s
LON *e*PcP **PcP** **07 46 24.3 +0.5**
LON Longmire 56.50 55 *e*P **P** **07 45 27.1 -0.3**
LON *e* 07 46 24.3
LON pmax pmax
comp=Z,8.0nm,0.8s
PRGR Permogore 56.55 327⇓ *i*P **P** **07 45 27.6 +0.2**
PRGR pmax pmax
comp=Z,63nm,0.8s
G03D McMinnville, O 56.55 58 P **P** **07 45 28.7 +1.1**
baz=305
HNR Honiara 56.56 170 LR LR 08 12 58.0
comp=Z,369nm,18.0s,baz=348,slow=39
APA Apatity 56.71 336⇓ *i*P **P** **07 45 27.5 -1.0**
APA Apatity 56.71 336⇓ *i*P **P** **07 45 27.5 -1.0**
APA *i* 07 46 26.0
APA *i* S **S** **07 53 12.0 -5.8**
APA pmax pmax
comp=Z,23nm,0.9s
APA MLR MLR
comp=Z,2μm,16.0s
I02D Swisshome 56.84 59 P **P** **07 45 30.8 +1.0**
baz=305
LTY Liberty 56.85 54 *e*P **P** **07 45 29.8 -0.1**
LTY *e*PcP **PcP** **07 46 25.9 +0.8**
COR Corvallis 56.89 58 *e*P **P** **07 45 31.2 +1.2**
comp=Z,72nm,0.8s
COR Corvallis 56.89 58 *e*P **P** **07 45 31.2 +1.2**
COR pmax pmax
comp=Z,72nm,0.8s
B08A Colville Reser 56.96 53 *e*P **P** **07 45 30.6 -0.1**

B08A ePcP PcP 07 46 26.6 +1.1
F05D White Salmon 57.20 56 P P 07 45 33.1 +0.8
baz=306
H04D Lebanon 57.25 58 P P 07 45 34.1 +1.4
baz=306,SNR=10.0
ABKAR Akbulak array 57.31 309 eP P 07 45 32.5 -0.5
ARCES ARCESS Array B 57.31 340 P P 07 45 32.7 -0.1
comp=Z,13nm,0.9s,baz=46,slow=6.3,SNR=13
ARCES PcP PcP 07 46 26.5 0.0
comp=Z,19nm,0.7s,baz=35,slow=4.6,SNR=13
ARCES ARCESS Array B 57.31 340 eP P 07 45 32.3 -0.4
ARCES ePcP PcP 07 46 27.1 +0.6
J01E Myrtle Point 57.34 60 P P 07 45 34.7 +1.4
baz=306,SNR=6.7
I03D Drain, OR 57.37 59 P P 07 45 35.2 +1.7
baz=306,SNR=9.4
KULLO Kullorsuaq 57.40 9 *i* P P 07 45 32.8 -0.4
KULLO Kullorsuaq 57.40 9 *i* P P 07 45 32.8 -0.4
DHRM DHARAMSHALA 57.41 284 IAmb IAmb 07 45 08.0
comp=Z,30nm,0.7s
DHRM eP P 07 45 34.0 -0.2
DDI Dehra Dun 57.43 281 IAmb IAmb 07 45 06.1
comp=Z,55nm,0.8s
DDI eP P 07 45 35.0 +0.8
H04A Detroit Lake 57.48 58 eP P 07 45 35.2 +0.9
comp=Z,129nm,1.1s
SMLA Simla 57.53 282 eP P 07 45 34.0 -0.8
SMLA IAmb IAmb 07 45 40.6
comp=Z,64nm,0.4s
G05D Wamic, OR 57.66 57 P P 07 45 36.5 +1.0
baz=306,SNR=15
E07A Sunnyside 57.72 55 eP P 07 45 36.2 +0.2
comp=Z,91nm,1.4s
E07A ePcP PcP 07 46 30.1 +1.6
K02D Willamette Mer 57.77 60 P P 07 45 37.7 +1.2
baz=306,SNR=9.4
C09A Chrisman Ranch 57.86 53 eP P 07 45 36.6 -0.3
comp=Z,69nm,0.9s
I04A Tendick Farm, 57.87 59 P P 07 45 38.1 +1.1
baz=306,SNR=15
D08A Wollman Farm, 57.94 54 eP P 07 45 37.4 -0.2
comp=Z,113nm,1.6s
HAWA Hanford 57.99 55 eP P 07 45 37.7 -0.2
comp=Z,112nm,1.5s
HAWA ePcP PcP 07 46 31.1 +1.5
G06A Carlson Farm, 58.05 56 eP P 07 45 38.5 +0.2
comp=Z,57nm,1.4s
F07A Phinny Hill Vi 58.06 55 eP P 07 45 38.9 +0.6
comp=Z,72nm,0.8s
I05D Terrebonne, OR 58.17 58 P P 07 45 40.4 +1.1
baz=306,SNR=28
E08A Dider Farm, El 58.20 54 eP P 07 45 39.6 +0.3
comp=Z,21nm,0.8s
NEW Newport 58.22 52 eP P 07 45 39.5 +0.1
comp=Z,93nm,1.0s
NEW Newport 58.22 52 eP P 07 45 39.5 +0.1
NEW pmax pmax
comp=Z,93nm,1.0s
NEW Newport 58.22 52 P P 07 45 39.8 +0.4
baz=306,SNR=82
HUMO Hull Mountain 58.25 60 eP P 07 45 39.6 -0.1
comp=Z,53nm,1.4s
J04D Umpqua Nationa 58.37 59 P P 07 45 42.1 +1.2
baz=306,SNR=19
KRAB Krabi 58.49 246 P P 07 45 43.6 +1.9
NIL Nilore 58.57 287 eP P 07 45 42.5 +0.4
comp=Z,98nm,0.9s
NIL Nilore 58.57 287 eP P 07 45 42.5 +0.4
NIL pmax pmax
comp=Z,98nm,0.9s
JCC Jacoby Creek, 58.67 62 eP P 07 45 43.6 +1.0
comp=Z,164nm,1.6s
E09A Wood Farm, Sta 58.70 54 eP P 07 45 43.0 +0.3
comp=Z,190nm,1.5s
PINE Pine Mountain 58.73 58 eP P 07 45 43.7 +0.4
comp=Z,92nm,0.8s
KHMM Horse Mountain 58.81 62 eP P 07 45 44.6 +0.7
comp=Z,65nm,1.0s
J05D Fort Rock, OR 58.86 58 P P 07 45 45.6 +1.4
baz=307,SNR=34
L04D Klamath Falls 58.87 60 P P 07 45 45.3 +1.1
baz=307,SNR=28
YBH Yreka Blue Hor 58.91 61 eP P 07 45 45.0 +0.5
comp=Z,33nm,0.9s
YBH Yreka Blue Hor 58.91 61 eP P 07 45 45.0 +0.5
YBH pmax pmax
comp=Z,33nm,0.9s
K04D Chiloquin, OR 58.95 59 P P 07 45 45.9 +1.2
baz=307
G08A Pilot Rock 58.97 55 eP P 07 45 44.7 -0.2
comp=Z,23nm,0.8s
M02C Callahan 59.03 61 P P 07 45 46.4 +1.1
baz=307,SNR=14
MSF Maaselka 59.11 336 P P 07 45 46.6 +1.3
MSF pmax pmax
comp=Z,25nm,1.5s
KMRM Mail Ridge 59.22 63 eP P 07 45 46.8 +0.2
comp=Z,43nm,1.0s
KLMR Klimovskoe 59.32 328 eP P 07 45 46.3 -0.5
KLMR *e* 07 47 58.9
KLMR pmax pmax
comp=Z,33nm,0.8s
KLMR Klimovskoe 59.32 328 eP P 07 45 46.3 -0.5
KLMR AMP 07 45 47.8
comp=Z,33nm,0.8s
KLMR ePP PP 07 47 59.0 +1.5
N02D Trinity Center 59.37 61 P P 07 45 49.0 +1.4
baz=307,SNR=20
M04C Macdoel 59.40 60 P P 07 45 49.0 +1.0
baz=307,SNR=18
F10A Beach Ranch, E 59.53 54 eP P 07 45 49.1 +0.4
comp=Z,35nm,0.9s
F10A ePcP PcP 07 46 37.4 +1.6
KCPM Cahto Peak 59.62 63 eP P 07 45 50.4 +0.9
comp=Z,64nm,1.0s
WDC Whiskeytown Da 59.71 62 eP P 07 45 50.5 +0.6
comp=Z,40nm,0.9s
WDC Whiskeytown Da 59.71 62 eP P 07 45 50.5 +0.6
WDC pmax pmax
comp=Z,40nm,0.9s
O02D Mt. Diablo Mer 59.81 62 P P 07 45 52.0 +1.3
baz=308,SNR=27
KULM Kulim 59.87 243 eP P 07 45 52.0 +0.8
comp=Z,40nm,1.1s
KULM Kulim 59.87 243 P P 07 45 52.7 +1.4
JTMT Jette 60.05 51 eP P 07 45 52.5 +0.3
comp=Z,73nm,0.7s
PBA Port Blair 60.08 254 eP P 07 45 52.5 -0.2
BMO Blue Mountains 60.17 55 eP P 07 45 53.2 +0.1
comp=Z,40nm,1.0s
BMO Blue Mountains 60.17 55 eP P 07 45 53.2 +0.1
BMO pmax pmax
comp=Z,40nm,1.0s
MOD Modoc Plateau 60.24 59 eP P 07 45 54.4 +0.7
comp=Z,64nm,0.8s
IPM Ipoh 60.28 242 P P 07 45 55.4 +1.3
O03E Paynes Creek 60.33 62 P P 07 45 54.7 +0.4
baz=308,SNR=55
HOPS Hopland Field 60.36 63 eP P 07 45 54.8 +0.5
comp=Z,52nm,1.1s
J08A Circle Bar Ran 60.42 57 eP P 07 45 55.2 +0.4
comp=Z,96nm,1.3s
J08A ePcP PcP 07 46 40.6 +1.2
SUMG Summit 60.71 3 eP P 07 45 56.0 -0.6
comp=Z,39nm,0.8s
SUMG Summit 60.71 3 *i* P P 07 45 57.3 +0.6
comp=Z,106nm,0.9s
SUMG Summit 60.71 3 *i* P P 07 45 57.3 +0.6
SUMG pmax pmax
comp=Z,110nm,0.9s
KBL Kabul 60.75 290 eP P 07 45 57.5 +0.1
comp=Z,40nm,0.9s
KBL Kabul 60.75 290 eP P 07 45 57.5 +0.1
KBL pmax pmax
comp=Z,40nm,0.9s
MYKOM Kota Tinggi 60.77 237 P P 07 45 59.2 +1.9
MSO Missoula 60.80 52 eP P 07 45 57.6 +0.2
comp=Z,150nm,1.0s
MSO Missoula 60.80 52 P P 07 45 58.1 +0.7
baz=309,SNR=121
KGM Kluang 60.89 238 P P 07 46 00.1 +1.9
WVOR Wild Horse Val 60.89 58 eP P 07 45 58.6 +0.5
comp=Z,71nm,0.8s
FRIM Kepong 60.91 240 P P 07 46 00.3 +2.0
COEN Coen 60.92 189 eP P 07 45 58.5 +0.3
comp=Z,23nm,0.8s

ORV Oroville 60.97 62 eP P 07 45 58.4 -0.1
comp=Z,31nm,0.8s
ORV Oroville 60.97 62 eP P 07 45 58.4 -0.1
ORV pmax pmax
comp=Z,31nm,0.8s
BEKR Beckworth 61.47 61 eP P 07 46 02.3 +0.3
comp=Z,78nm,0.9s
FFC Flin Flon 61.56 39 eP P 07 46 02.3 +0.1
comp=Z,67nm,0.9s
FFC ePcP PcP 07 46 44.5 +0.8
FFC Flin Flon 61.56 39 eP P 07 46 02.3 +0.1
FFC *e* 07 46 44.5
FFC pmax pmax
comp=Z,67nm,0.9s
AFDM Forest Hills D 61.67 62 eP P 07 46 03.4 +0.1
comp=Z,49nm,1.3s
BATI Baumata 61.85 211 P P 07 46 03.1 -1.5
comp=Z,8.3nm,0.4s,baz=95,slow=12,SNR=2.2
BATI LR LR 08 09 08.0
comp=Z,152nm,21.8s,baz=22,slow=32
FCC Fort Churchill 61.94 32 eP P 07 46 04.5 -0.2
comp=Z,204nm,1.6s
FCC Fort Churchill 61.94 32 eP P 07 46 04.5 -0.2
FCC Fort Churchill 61.94 32 eP P 07 46 04.5 -0.2
FCC pmax pmax
comp=Z,204nm,1.6s
HRY Holter Researc 62.00 51 eP P 07 46 06.0 +0.5
DSRI Dabo 62.20 235 P P 07 46 09.5 +2.5
LRM Limekiln Ridge 62.24 52 eP P 07 46 07.9 +0.6
EGMT Eagleton 62.25 48 eP P 07 46 07.4 +0.3
comp=Z,231nm,1.1s
EGMT Eagleton 62.25 48 P P 07 46 07.7 +0.6
baz=310,SNR=73
BHPL Bhopal 62.44 275 eP P 07 46 08.3 -0.3
BHPL IAmb IAmb 07 46 14.4
comp=Z,96nm,1.2s
DLMT Dillon 62.45 52 eP P 07 46 08.9 +0.4
comp=Z,124nm,1.5s
HLID Hailey 62.60 55 eP P 07 46 10.3 +0.6
comp=Z,47nm,1.3s
HLID ePcP PcP 07 46 50.1 +1.8
HLID Hailey 62.60 55 P P 07 46 10.2 +0.6
baz=310,SNR=29
CMB Columbia Colle 62.60 63 eP P 07 46 09.4 -0.1
comp=Z,56nm,1.1s
CMB Columbia Colle 62.60 63 eP P 07 46 09.4 -0.1
CMB pmax pmax
comp=Z,55nm,1.1s
MCMT McKenzie Canyo 62.66 53 eP P 07 46 10.0 0.0
YERR Yerington 62.69 61 eP P 07 46 10.3 0.0
comp=Z,103nm,1.0s
NGP Nagpur 62.72 272 eP P 07 46 10.2 -0.3
NGP IAmb IAmb 07 46 16.2
comp=Z,64nm,0.5s
PPBI Pangkal Pinang 62.73 233 P P 07 46 11.8 +1.3
SAO San Andreas Ge 62.75 64 eP P 07 46 11.1 +0.5
comp=Z,37nm,1.0s
SAO San Andreas Ge 62.75 64 eP P 07 46 11.1 +0.5
SAO pmax pmax
comp=Z,37nm,1.0s
CMBY CAMPBELL BAY 62.77 250 eP P 07 46 10.9 0.0
BOZ Bozeman (W) 62.82 52 eP P 07 46 11.4 +0.3
comp=Z,388nm,1.6s
BOZ Bozeman (W) 62.82 52 eP P 07 46 11.4 +0.3
BOZ Bozeman (W) 62.82 52 eP P 07 46 11.4 +0.3
BOZ pmax pmax
comp=Z,388nm,1.6s
BOZ Bozeman (W) 62.82 52 P P 07 46 12.1 +1.1
baz=310,SNR=158
WAKR Walker 62.88 62 eP P 07 46 12.3 +0.7
comp=Z,59nm,0.9s
PSI Prapat 62.88 242 P P 07 46 12.1 +0.4
comp=Z,14nm,1.0s,baz=360,slow=4.8,SNR=7.1
PSI Prapat 62.88 242 eP P 07 46 12.5 +0.8
comp=Z,14nm,0.9s
PSI Prapat 62.88 242 eP P 07 46 12.5 +0.8
PSI pmax pmax
comp=Z,14nm,0.9s
SCO Scoresbysund 62.89 357 *i* P P 07 46 12.6 +1.7
SCO Scoresbysund 62.89 357 *i* P P 07 46 12.6 +1.7
BMN Battle Mountai 62.98 59 eP P 07 46 12.6 +0.4
BMN Battle Mountai 62.98 59 eP P 07 46 12.6 +0.4
ILULI Ilulissat 63.12 9 *i* P P 07 46 11.8 -0.6
comp=Z,112nm,0.9s
ILULI Ilulissat 63.12 9 *i* P P 07 46 11.8 -0.6
ILULI pmax pmax
comp=Z,110nm,0.9s
PUL Pulkovo 63.31 331⇑ eP P 07 46 14.1 +0.3
PUL Pulkovo 63.31 331⇑ eP P 07 46 14.1 +0.3
PUL pmax pmax
comp=Z,55nm,0.6s
KVN Kaiserville 63.34 61 eP P 07 46 14.9 +0.3
comp=Z,107nm,0.9s
KVN Kaiserville 63.34 61 eP P 07 46 14.9 +0.3
KVN pmax pmax
comp=Z,107nm,0.9s
RYN Ryan 63.35 61 eP P 07 46 15.2 +0.5
comp=Z,66nm,0.8s
FIA1 FINESS Array S 63.37 334 eP P 07 46 13.5 -0.6
FIA1 ePcP PcP 07 46 51.4 +0.5
FINES FINESS Array B 63.37 334 P P 07 46 12.9 -1.2
comp=Z,22nm,0.6s,baz=37,slow=6.6,SNR=79
FINES PcP PcP 07 46 51.0 +0.2
comp=Z,24nm,0.8s,baz=92,slow=3.4,SNR=7.6
FINES LR LR 08 16 41.3
comp=Z,323nm,19.1s,baz=36,slow=39
FINES FINESS Array B 63.37 334 eP P 07 46 13.0 -1.2
QLMT Earthquake Lak 63.43 52 eP P 07 46 15.7 +0.6
MOS Moscow 63.58 325 eP P 07 46 14.6 -1.1
MOS Moscow 63.58 325 eP P 07 46 14.6 -1.1
MOS *e* 07 46 51.4
MOS pmax pmax
comp=Z,28nm,1.1s
MOS MLR MLR
comp=Z,700nm,19.0s
YHB Horse Butte 63.60 52 eP P 07 46 16.5 +0.2
comp=Z,67nm,0.8s
NV01 Mina Array Sit 63.61 61 eP P 07 46 16.5 0.0
NVAR Mina Array Bea 63.61 61 P P 07 46 17.1 +0.7
comp=Z,52nm,0.7s,baz=296,slow=5.8,SNR=280
NVAR LR LR 08 10 28.6
comp=Z,79nm,21.1s,baz=305,slow=33
NV11 Mina Array Sit 63.70 61 eP P 07 46 17.2 +0.3
comp=Z,4.8nm,1.0s
GCMT Greycliff 63.74 50 eP P 07 46 18.0 +0.9
YMR Madison River 63.78 52 eP P 07 46 18.2 +0.7
comp=Z,57nm,0.7s
MLAC Mammoth, Mammo 63.80 62 P P 07 46 19.0 +1.2
baz=310,SNR=18
YNR Norris Junctio 63.91 52 eP P 07 46 19.1 +0.7
comp=Z,102nm,1.4s
ELK Elko 63.93 58 eP P 07 46 18.8 +0.2
comp=Z,18nm,0.6s
ELK Elko 63.93 58 eP P 07 46 18.8 +0.2
ELK pmax pmax
comp=Z,18nm,0.6s
YFT Old Faithful 63.99 52 eP P 07 46 20.7 +1.7
comp=Z,49nm,0.8s
YPP Pitchstone Pla 64.13 52 eP P 07 46 20.8 +0.9
comp=Z,17nm,0.7s
PAGB Antelope Grade 64.16 65 eP P 07 46 20.4 +0.6
comp=Z,112nm,1.0s
H17A Grant Village 64.17 52 eP P 07 46 21.7 +1.6
comp=Z,92nm,1.0s
H17A Grant Village 64.17 52 P P 07 46 22.6 +2.5
baz=311,SNR=54
IMW Indian Meadow 64.30 53 eP P 07 46 21.9 +0.9
comp=Z,107nm,1.4s
FLWY Flagg Ranch 64.31 52 eP P 07 46 21.9 +1.0
comp=Z,69nm,1.2s
RLMT Red Lodge 64.40 51 eP P 07 46 22.2 +0.7
comp=Z,155nm,1.3s
RLMT Red Lodge 64.40 51 P P 07 46 22.7 +1.2
baz=312,SNR=85
FXWY Fox Creek 64.42 53 eP P 07 46 22.7 +0.9
comp=Z,32nm,0.7s
OBN Obninsk 64.45 325 eP P 07 46 21.1 -0.3
comp=Z,43nm,1.2s
OBN Obninsk 64.45 325‖ eP P 07 46 21.2 -0.2
OBN Obninsk 64.45 325 *de*P P 07 46 21.2 -0.2
OBN *i* 07 46 55.9
OBN *e* 07 48 45.3
OBN *e*S S 07 54 53.2 -3.8
OBN pmax pmax
comp=Z,59nm,1.7s
OBN MLR MLR
comp=Z,426nm,17.0s
MOOW Moose Ponds 64.51 53 eP P 07 46 22.9 +0.6
comp=Z,132nm,1.4s
TIN Tinemaha, Big 64.54 62 P P 07 46 23.4 +0.9
baz=311,SNR=19
TPAW Teton Pass 64.56 53 eP P 07 46 23.7 +1.0
comp=Z,103nm,0.8s
SMMC Simnler 64.59 65 P P 07 46 23.5 +0.8
baz=311,SNR=13
HVU Hansel Valley 64.67 55 eP P 07 46 24.1 +0.8
comp=Z,46nm,0.9s
HVU Hansel Valley 64.67 55 eP P 07 46 24.1 +0.8
HVU pmax pmax
comp=Z,46nm,0.9s
LOHW Long Hollow 64.67 53 eP P 07 46 24.2 +0.9
comp=Z,145nm,1.4s
SNOW Snow King Moun 64.69 53 eP P 07 46 24.3 +0.8
comp=Z,76nm,0.9s
REDW Red Top Meadow 64.70 53 eP P 07 46 24.2 +0.7
comp=Z,104nm,1.0s
DGMT Dagmar 64.74 45 eP P 07 46 23.8 +0.3
comp=Z,157nm,0.8s
DGMT Dagmar 64.74 45 P P 07 46 24.0 +0.5
baz=313,SNR=44
VES Vestal, Richgr 64.81 64 P P 07 46 23.8 -0.2
baz=311,SNR=34
LAO LASA Array 64.94 48 eP P 07 46 25.4 +0.6
comp=Z,152nm,0.8s
LAO LASA Array 64.94 48 P P 07 46 25.8 +1.0
baz=312,SNR=68
AHID Auburn Hatcher 64.96 54 eP P 07 46 25.6 +0.4
comp=Z,67nm,1.1s
PKM Mcpherson Peak 64.98 65 P P 07 46 26.2 +0.8
baz=311,SNR=17
CWC Cottonwood Cre 65.03 63 P P 07 46 26.2 +0.5
baz=311
VRH Novokhopyorsk 65.05 319 eP P 07 46 23.6 -1.8
VRH *e**PP pP 07 46 34.7 -1.3
VRH *e* 07 48 46.8
VRH pmax pmax
comp=Z,20nm,1.1s
BGU Big Grassy Mou 65.09 56 eP P 07 46 26.6 +0.6
comp=Z,14nm,0.8s
GRAC Grapevine Rang 65.11 62 P P 07 46 27.1 +1.1
baz=311,SNR=10
SPUT South Promonto 65.16 56 eP P 07 46 27.4 +0.9
comp=Z,53nm,0.9s
LPSR Galich'ya Gora 65.29 322 eP P 07 46 25.6 -1.3
LPSR *e**PP pP 07 46 35.1 -2.4
LPSR pmax pmax
comp=Z,20nm,0.9s
R11A Troy Canyon, C 65.29 60 eP P 07 46 27.4 0.0
comp=Z,87nm,1.1s
R11A Troy Canyon, C 65.29 60 P P 07 46 27.9 +0.6
baz=311,SNR=120
ISA Isabella, Lake 65.30 64 eP P 07 46 27.1 -0.3
comp=Z,38nm,0.9s
ISA Isabella, Lake 65.30 64 eP P 07 46 27.1 -0.3
ISA pmax pmax
comp=Z,38nm,0.9s
ISA Isabella, Lake 65.30 64 P P 07 46 26.9 -0.4
baz=311,SNR=40
SFJD Kangerlussuaq 65.30 9 eP P 07 46 26.6 -0.2
comp=Z,115nm,0.9s
SFJD Kangerlussuaq 65.30 9⇑ *i*P P 07 46 26.5 -0.2
comp=Z,94nm,0.9s
SFJD Kangerlussuaq 65.30 9 eP P 07 46 26.6 -0.2
SFJD pmax pmax
comp=Z,115nm,0.9s
SBC Santa Barbara 65.33 65 P P 07 46 27.9 +0.4
baz=311,SNR=6.7
GEYT Alibeck 65.37 300 P P 07 46 28.3 +0.5
comp=Z,47nm,0.7s,baz=7.1,slow=6.0,SNR=15
GEYT LR LR 08 17 31.1
comp=Z,491nm,18.8s,baz=30,slow=38
ARVC Arvin 65.43 64 P P 07 46 28.0 -0.1
baz=311,SNR=22
DAC Darwin (Calif) 65.44 63 eP P 07 46 28.7 +0.3
comp=Z,37nm,1.0s
DAC Darwin (Calif) 65.44 63 eP P 07 46 28.7 +0.3
DAC pmax pmax
comp=Z,37nm,1.0s
VSU Vasula 65.50 332‖ eP P 07 46 27.6 -0.5
VSU pmax pmax
comp=Z,66nm,0.7s
HYB Hyderabad 65.62 270 *i* P P 07 46 29.0 -0.5
comp=Z,100nm,1.0s
HYB *e* 07 46 39.0
HYB Hyderabad 65.62 270 eP P 07 46 29.1 -0.5
HYB IAmb IAmb 07 46 35.5
comp=Z,76nm,1.3s
MPMC Manual Prospec 65.64 63 P P 07 46 30.2 +0.5
baz=311,SNR=86
DUG Dugway, Tooele 65.69 57 eP P 07 46 29.5 -0.4
comp=Z,125nm,1.1s
DUG Dugway, Tooele 65.69 57 eP P 07 46 29.5 -0.4
DUG pmax pmax
comp=Z,125nm,1.1s
DUG Dugway, Tooele 65.69 57 P P 07 46 30.8 +0.9
baz=312,SNR=91
FURC Furnace Creek, 65.76 62 P P 07 46 31.1 +0.9
baz=311,SNR=114
BW06 Boulder Array 65.81 53 eP P 07 46 30.6 -0.1
comp=Z,102nm,0.9s
BW06 Boulder Array 65.81 53 P P 07 46 31.1 +0.4
baz=312,SNR=146
PD31 Pinedale Array 65.81 53 eP P 07 46 30.6 -0.2
PDAR Pinedale Array 65.81 53 P P 07 46 30.9 +0.2
comp=Z,71nm,0.7s,baz=290,slow=1.4,SNR=510
PDAR Pinedale Array 65.81 53 eP P 07 46 30.2 -0.5
TPNV Topopah Spring 65.81 61 eP P 07 46 30.8 0.0
comp=Z,83nm,0.9s
TPNV Topopah Spring 65.81 61 eP P 07 46 30.8 0.0
TPNV pmax pmax
comp=Z,83nm,0.9s
TPNV Topopah Spring 65.81 61 P P 07 46 31.3 +0.5
baz=311,SNR=93
OSI Osito Audit: C 65.83 65 eP P 07 46 31.1 +0.3
comp=Z,101nm,0.9s
OSI Osito Audit: C 65.83 65 P P 07 46 31.5 +0.7
baz=311,SNR=19
TCUT Toone Canyon 65.88 55 eP P 07 46 31.7 +0.4
comp=Z,82nm,1.0s
LRMC Laurel Mtn Rad 65.91 63 P P 07 46 31.5 +0.1
baz=311,SNR=31
BLG Laguna Peak, P 65.95 65 P P 07 46 31.5 0.0
baz=311,SNR=9.1
CTU Camp Tracy 65.97 56 eP P 07 46 32.0 +0.2
comp=Z,66nm,1.2s
EDW2 Edwards Air Fo 66.11 64 P P 07 46 33.1 +0.5
baz=312,SNR=91
VSR Storozhevoye 66.18 320 eP P 07 46 31.0 -1.6
VSR *e**PP pP 07 46 40.8 -2.4
VSR *e* 07 48 54.6
VSR pmax pmax
comp=Z,20nm,0.9s
PSUT Pine Spring 66.19 59 eP P 07 46 33.5 +0.3
comp=Z,52nm,1.2s
JLU Jordanelle 66.20 56 eP P 07 46 33.4 +0.1
comp=Z,48nm,1.0s
SNCC San Nicolas Is 66.23 66 P P 07 46 33.7 +0.4
baz=312
NLU North Lily Min 66.27 56 eP P 07 46 33.9 +0.2
comp=Z,74nm,1.0s
DECC Green Verdugo 66.31 65 P P 07 46 34.2 +0.3
baz=312,SNR=20
PASC Pasadena Art C 66.46 65 eP P 07 46 34.9 +0.2
comp=Z,63nm,1.1s
SHOC Shoshone, Teco 66.49 62 P P 07 46 35.3 +0.3
baz=312,SNR=38
MWC Mount Wilson 66.50 65 eP P 07 46 35.2 0.0
comp=Z,101nm,1.2s
MWC Mount Wilson 66.50 65 eP P 07 46 35.3 0.0
MWC pmax pmax
comp=Z,101nm,1.2s
GSC Goldstone, Bar 66.56 63 eP P 07 46 35.8 +0.3
comp=Z,61nm,0.9s
GSC Goldstone, Bar 66.56 63 eP P 07 46 35.8 +0.3
GSC pmax pmax
comp=Z,61nm,0.9s
GSC Goldstone, Bar 66.56 63 P P 07 46 35.8 +0.3
baz=312,SNR=54
FMP Fort Macarthur 66.69 65 P P 07 46 36.5 +0.2
baz=312
RRX Edison Barstow 66.73 63 P P 07 46 36.9 +0.4
baz=312
BFSC Mount Baldy Ra 66.74 64 P P 07 46 36.6 -0.1

baz=312,SNR=17
SHPR Sheep Range 66.76 61 *e*P **P 07 46 37.2 +0.3**
comp=Z,68nm,1.1s
CIS Catalina Islan 66.83 65 P **P 07 46 37.2 +0.1**
baz=312,SNR=14
TUQ Turquoise Moun 67.01 62 P **P 07 46 39.0 +0.6**
baz=312,SNR=118
SCI2 San Clemente I 67.02 66 P **P 07 46 38.6 +0.3**
baz=312
CCUT Cedar City 67.13 59 *e*P **P 07 46 39.5 +0.2**
comp=Z,73nm,1.2s
HEC Hector,Ludlow 67.16 63 P **P 07 46 39.9 +0.5**
baz=312,SNR=42
BBRC Big Bear Solar 67.18 64 P **P 07 46 39.8 +0.2**
baz=312,SNR=6.2
MSU Marysvale 67.18 58 *e*P **P 07 46 40.1 +0.5**
TMUT Trail Mountain 67.21 57 *e*P **P 07 46 40.0 +0.1**
comp=Z,78nm,1.1s
SZCU Shurtz Canyon 67.26 59 *e*P **P 07 46 40.5 +0.4**
comp=Z,45nm,1.0s
ULM Lac du Bonnet 67.35 40 P **P 07 46 39.7 -0.4**
comp=Z,23nm,0.8s,baz=313,slow=6.6,SNR=39
ULM PcP **PcP 07 47 07.5 0.0**
comp=Z,18nm,0.7s,baz=323,slow=4.0,SNR=9.2
ULM LR LR 08 19 19.2
comp=Z,337nm,18.0s,baz=337,slow=39
ULM Lac du Bonnet 67.35 40 *e*P **P 07 46 39.8 -0.4**
comp=Z,30nm,0.9s
ULM *e*PcP **PcP 07 47 07.8 +0.2**
P17A Butcher Ranch, 67.36 56 *e*P **P 07 46 41.2 +0.6**
comp=Z,132nm,1.2s
MDND Maddock 67.38 44 *e*P **P 07 46 40.9 +0.5**
comp=Z,196nm,0.8s
MDND Maddock 67.38 44 P **P 07 46 40.7 +0.3**
baz=316,SNR=31
MURC Murrieta 67.45 65 P **P 07 46 41.2 +0.1**
baz=312,SNR=29
Q16A Castle Valley 67.49 57 *e*P **P 07 46 41.9 +0.4**
comp=Z,60nm,1.0s
MTPU Mount Pierson 67.49 58 *e*P **P 07 46 42.2 +0.5**
comp=Z,46nm,0.9s
MDRS Chennai 67.50 265 *e*P **P 07 46 41.4 -0.1**
NC405 NORSAR Array S 67.51 340 *e*P **P 07 46 40.7 -0.3**
K22A Casper 67.53 51 *e*P **P 07 46 41.4 -0.2**
comp=Z,72nm,0.6s
K22A Casper 67.53 51 P **P 07 46 41.8 +0.2**
baz=314,SNR=60
LCMT Little Creek M 67.56 60 *e*P **P 07 46 42.5 +0.6**
comp=Z,93nm,0.9s
NC204 NORSAR Array S 67.59 341 *e*P **P 07 46 41.2 -0.3**
GMRC Granite Mounta 67.61 63 P **P 07 46 42.8 +0.6**
baz=312,SNR=59
NB201 NORSAR Array S 67.67 340 *e*P **P 07 46 41.9 -0.1**
NB2 NORSAR Subarra 67.69 340 P **P 07 46 40.8 -1.4**
comp=Z,3.9nm,0.7s,baz=28,slow=6.5
NOA NORSAR Array B 67.69 340 P **P 07 46 41.4 -0.8**
comp=Z,5.9nm,0.7s,baz=28,slow=6.3,SNR=23
NOA LR LR 08 20 58.2
comp=Z,272nm,18.3s,baz=35,slow=40
LDFC Landfair 67.74 62 *e*P **P 07 46 42.9 -0.1**
comp=Z,180nm,0.9s
KNB Kanab 67.81 59 *e*P **P 07 46 44.5 +0.9**
comp=Z,108nm,1.0s
KNB Kanab 67.81 59 P **P 07 46 44.7 +1.2**
RSSD Black Hills 67.82 49 *e*P **P 07 46 43.4 -0.1**
comp=Z,144nm,0.6s
RSSD Black Hills 67.82 49 *e*P **P 07 46 43.4 -0.1**
RSSD pmax pmax
comp=Z,145nm,0.6s
RSSD Black Hills 67.82 49 P **P 07 46 43.7 +0.2**
baz=314
RWWY Rawlins 67.82 52 *e*P **P 07 46 43.6 +0.1**
comp=Z,89nm,0.9s
PKCU Pink Cliffs 67.82 59 *e*P **P 07 46 44.4 +0.6**
comp=Z,56nm,1.1s
PFO Pinyon Flats O 67.90 64 *e*P **P 07 46 44.1 0.0**
comp=Z,63nm,1.3s
PFO Pinyon Flats O 67.90 64 *e*P **P 07 46 44.1 0.0**
PFO pmax pmax
comp=Z,63nm,1.3s
PFO Pinyon Flats O 67.90 64 P **P 07 46 44.1 0.0**
baz=312,SNR=15
BELC Belle Mtn. Jos 67.92 64 P **P 07 46 44.0 -0.3**
baz=312,SNR=41
MAK Makhachkala 67.97 310 *e*P **P 07 46 42.8 -1.3**
MAK *e*S **S 07 55 38.4 -1.7**
MAK pmax pmax
comp=Z,21nm,0.4s
MAK MLR MLR
comp=Z,739nm,14.0s
109C Camp Elliot, M 67.98 65 P **P 07 46 44.5 +0.1**
baz=312,SNR=19
CPE Camp Elliot 67.98 65 *e*P **P 07 46 44.7 +0.3**
comp=Z,85nm,1.0s
POO Poona 68.08 274 *e*P **P 07 46 44.6 -0.6**
WRAB Tennant Creek 68.15 197 *e*P **P 07 46 44.8 -0.6**
comp=Z,38nm,0.9s
WRAB Tennant Creek 68.15 197 *ce*P **P 07 46 44.4 -1.0**
WRAB pmax pmax
comp=Z,16nm,0.9s
WB2 Warramunga Arr 68.16 197 *e*P **P 07 46 44.5 -1.0**
WRA Warramunga Arr 68.16 197 P **P 07 46 44.7 -0.8**
comp=Z,19nm,0.7s,baz=15,slow=6.6,SNR=111
WRA PKP2bc 08 15 03.7
comp=Z,7.4nm,1.0s,baz=202,slow=3.1,SNR=25
WRA LR LR 08 16 40.9
comp=Z,92nm,19.7s,baz=325,slow=36
WRA Warramunga Arr 68.16 197 *i* P **P 07 46 44.5 -1.0**
WRA pmax pmax
comp=Z,19nm,0.7s
NEE2 Needles Airpor 68.25 62 P **P 07 46 46.2 +0.1**
baz=313,SNR=12
NACGM Naroch 68.29 329 *e* **P 07 46 43.0 -2.9**
O20A White River Ci 68.32 54 *e*P **P 07 46 46.1 -0.6**
comp=Z,61nm,0.8s
O20A White River Ci 68.32 54 P **P 07 46 47.0 +0.4**
baz=314,SNR=50
IRM Iron Mountain 68.34 63 P **P 07 46 47.2 +0.5**
baz=313,SNR=107
BAR Barrett 68.39 65 *e*P **P 07 46 47.1 0.0**
comp=Z,56nm,1.0s
MONP2 Monument Peak 68.41 65 P **P 07 46 47.4 +0.1**
baz=313,SNR=16
W13A Hualapai Mount 68.47 61 *e*P **P 07 46 47.4 -0.3**
comp=Z,52nm,1.1s
BC3 Big Chuckawall 68.49 63 P **P 07 46 47.7 0.0**
baz=313,SNR=41
U15A North Rim 68.52 59 *e*P **P 07 46 48.2 +0.1**
comp=Z,82nm,1.0s
FITZ Fitzroy Crossi 68.58 206 P **P 07 46 48.1 +0.1**
comp=Z,14nm,0.7s,baz=8.8,slow=6.5,SNR=35
FITZ LR LR 08 16 31.0
comp=Z,32nm,21.4s,baz=32,slow=36
FITZ Fitzroy Crossi 68.58 206 *e*P **P 07 46 48.2 +0.1**
comp=Z,23nm,0.9s
SWSC Sam W. Stewart 68.76 64 P **P 07 46 49.3 +0.1**
baz=313,SNR=16
IKP In-Ko-Pah, Jac 68.76 65 P **P 07 46 49.5 +0.1**
baz=313,SNR=24
GOF Gofitskoye 68.78 314 *e*P **P 07 46 47.7 -1.5**
GOF pmax pmax
comp=Z,30nm,0.7s
PDMCI Parker Dam,Lak 68.85 62 P **P 07 46 50.2 +0.4**
baz=313,SNR=45
PV09 Paradox Valley 68.94 56 *e*P **P 07 46 50.5 -0.2**
PV21 Cone Mtn., Par 68.99 56 *e*P **P 07 46 51.1 +0.2**
comp=Z,105nm,0.8s
Y12C Blythe 69.00 63 *e*P **P 07 46 51.1 +0.4**
comp=Z,108nm,0.9s
Y12C Blythe 69.00 63 P **P 07 46 51.4 +0.7**
baz=313,SNR=16
PHWY Pilot Hill 69.03 52 *e*P **P 07 46 51.0 -0.2**
comp=Z,19nm,0.8s
PV23 Carpenter Ridg 69.04 56 *e*P **P 07 46 51.6 +0.3**
comp=Z,190nm,1.3s
N23A Red Feather La 69.06 52 *e*P **P 07 46 51.6 +0.3**
comp=Z,160nm,1.4s
N23A Red Feather La 69.06 52 P **P 07 46 52.2 +0.8**
baz=314,SNR=41
PV10 Paradox Valley 69.08 56 *e*P **P 07 46 51.6 +0.1**
PV14 Lion Creek, Pa 69.09 56 *e*P **P 07 46 51.7 +0.1**
comp=Z,98nm,0.8s
PV20 West Nyswonger 69.14 56 *e*P **P 07 46 52.2 +0.4**
comp=Z,120nm,0.8s
PV19 Morning Glory 69.16 56 *e*P **P 07 46 52.1 +0.2**
comp=Z,101nm,0.8s
PV17 East Wray Mesa 69.19 56 *e*P **P 07 46 52.5 +0.3**
comp=Z,212nm,0.7s
PV16 Nyswonger Mesa 69.19 56 *e*P **P 07 46 52.3 +0.2**
comp=Z,104nm,0.9s
PV11 David Mesa, Pa 69.22 56 *e*P **P 07 46 52.4 +0.1**
comp=Z,331nm,1.4s
PV05 Paradox Valley 69.25 56 *e*P **P 07 46 52.7 +0.2**
PV12 Saucer Basin, 69.25 56 *e*P **P 07 46 52.8 +0.2**
comp=Z,74nm,0.9s
PV03 Paradox Valley 69.27 56 *e*P **P 07 46 52.7 +0.1**
GLA Glamis 69.28 64 *e*P **P 07 46 52.7 +0.1**
comp=Z,103nm,0.9s
GLA Glamis 69.28 64 *e*P **P 07 46 52.7 +0.1**
GLA pmax pmax
comp=Z,103nm,0.9s
GLA Glamis 69.28 64 P **P 07 46 53.2 +0.6**
baz=313,SNR=60
PV13 Radium Mtn., P 69.35 56 *e*P **P 07 46 53.5 +0.3**
comp=Z,141nm,0.7s
PV02 Paradox Valley 69.37 56 *e*P **P 07 46 53.6 +0.4**
comp=Z,52nm,0.8s
PV01 Paradox Valley 69.51 56 *e*P **P 07 46 54.4 +0.3**
NCK Nalchik 69.61 312 ǁ *e*P **P 07 46 55.2 +0.8**
NCK pmax pmax
comp=Z,24nm,1.2s
SMCO Snowmass 69.69 54 *e*P **P 07 46 55.4 0.0**
comp=Z,80nm,0.8s
WUAZ Wupatki 69.69 60 *e*P **P 07 46 55.7 +0.5**
comp=Z,71nm,1.0s
WUAZ Wupatki 69.69 60 P **P 07 46 56.0 +0.8**
baz=314,SNR=46
KIV Kislovodsk 69.74 313 ǁ *i*P **P 07 46 56.3 +1.0**
KIV Kislovodsk 69.74 313 *d*iP **P 07 46 56.3 +1.0**
KIV *e* 07 47 16.9
KIV *e* 07 49 31.7
KIV *e*S **S 07 55 55.5 -5.9**
KIV pmax pmax
comp=Z,32nm,1.6s
KIV MLR MLR
comp=Z,592nm,18.0s
KBZ Khabaz 69.80 313 P **P 07 46 55.6 +0.1**
comp=Z,4.0nm,0.7s,baz=57,slow=3.2,SNR=12
KBZ LR LR 08 19 23.4
comp=Z,437nm,19.8s,baz=40,slow=38
ZEI Tsey 69.97 312 *e*P **P 07 46 55.5 -1.3**
ZEI pmax pmax
comp=Z,19nm,1.5s
DZM Mont Dzumac 69.97 165 LR LR 08 15 32.9
comp=Z,296nm,18.2s,baz=334,slow=34
DZM Mont Dzumac 69.97 165 *e*P P 07 47 06.1 +9.4
comp=Z,85nm,1.1s
DZM Mont Dzumac 69.97 165 *e*LR LR 08 08 08.8
comp=Z,305nm,21.0s
ISCO Idaho Springs 70.00 53 *e*P **P 07 46 57.6 +0.4**
comp=Z,80nm,0.9s
ISCO Idaho Springs 70.00 53 *e*P **P 07 46 57.6 +0.4**
ISCO pmax pmax
comp=Z,80nm,0.9s
ISCO Idaho Springs 70.00 53 P **P 07 46 58.1 +0.9**
baz=315,SNR=102
113A Mohawk Valley, 70.13 63 *e*P **P 07 46 57.8 +0.1**
comp=Z,51nm,1.0s
SUSD Miller 70.15 46 P **P 07 46 57.6 -0.1**
baz=317,SNR=23
MVCO Mesa Verde 70.19 57 *e*P **P 07 46 58.2 -0.1**
comp=Z,89nm,0.8s
MVCO Mesa Verde 70.19 57 P **P 07 46 58.6 +0.3**
baz=314,SNR=79
GOA Goa 70.20 272 *e*P **P 07 46 58.4 +0.1**
GOA IAmb IAmb 07 47 03.8
comp=Z,32nm,1.0s
NEY Neytrino 70.23 313 ǁ *e*P **P 07 46 59.1 +0.7**
X16A Lo Mia Camp, P 70.40 60 *e*P **P 07 47 00.6 +0.9**
AKASG Malin Array Be 70.70 325 P **P 07 46 59.4 -1.5**
comp=Z,17nm,0.8s,baz=34,slow=6.4,SNR=33
AKASG LR LR 08 19 54.6
comp=Z,374nm,19.6s,baz=15,slow=37
AKASG Malin Array Be 70.70 325 *i* P **P 07 46 59.5 -1.4**
AKASG pmax pmax
comp=Z,17nm,0.9s
AKBB Malin Array Si 70.70 325 *e*P **P 07 46 60.0 -0.9**
comp=Z,18nm,0.9s
KIEV Kiev 70.71 325 *e*P **P 07 46 59.9 -1.0**
comp=Z,17nm,0.9s
KIEV Kiev 70.71 325 *i* P **P 07 46 59.3 -1.6**
SNR=14
KIEV Kiev 70.71 325 *ce*P **P 07 46 59.7 -1.3**
KIEV pmax pmax
comp=Z,21nm,1.0s
AK11 Malin Array Si 70.74 325 *e*P **P 07 47 00.6 -0.6**
S22A 4UR Ranch, Cre 70.77 55 *e*P **P 07 47 02.5 +0.6**
comp=Z,90nm,0.9s
S22A 4UR Ranch, Cre 70.77 55 P **P 07 47 02.7 +0.8**
baz=315,SNR=144
Q24A Divide 70.84 53 *e*P **P 07 47 02.9 +0.5**
comp=Z,44nm,0.8s
Q24A Divide 70.84 53 P **P 07 47 02.6 +0.2**
baz=315,SNR=19
W18A Petrified Fore 70.93 59 *e*P **P 07 47 03.7 +0.9**
comp=Z,43nm,1.0s
W18A Petrified Fore 70.93 59 P **P 07 47 03.4 +0.6**
baz=314,SNR=31
EYMN Ely 70.99 39 *e*P **P 07 47 02.8 0.0**
comp=Z,95nm,1.0s
EYMN Ely 70.99 39 P **P 07 47 02.3 -0.4**
baz=320,SNR=16
IVI Ivigtut 71.19 10 *e*P **P 07 47 04.0 +0.3**
comp=Z,202nm,0.8s
214A Organ Pipe Nat 71.27 63 P **P 07 47 05.1 +0.3**
baz=314,SNR=44
PALK Pallekele 71.34 261 P **P 07 47 04.3 -1.0**
comp=Z,7.7nm,0.8s,baz=114,slow=2.1,SNR=3.4
PALK Pallekele 71.34 261 *e*P **P 07 47 06.1 +0.8**
comp=Z,37nm,1.0s
PALK Pallekele 71.34 261 P **P 07 47 05.8 +0.4**
GNI Garni 71.42 309 *e*P **P 07 47 06.1 +0.5**
comp=Z,16nm,0.9s
GNI Garni 71.42 309 ǁ *e*P **P 07 47 07.4 +1.7**
GNI pmax pmax
comp=Z,80nm,1.5s
SDCO Great Sand Dun 71.51 54 *e*P **P 07 47 06.5 0.0**
comp=Z,33nm,0.8s
SDCO Great Sand Dun 71.51 54 P **P 07 47 07.1 +0.6**
baz=315,SNR=61
NRS Narsarsuaq 71.54 8 *i* P **P 07 47 05.7 0.0**
comp=Z,108nm,1.0s
NRS Narsarsuaq 71.54 8 *i* P **P 07 47 05.7 0.0**
NRS pmax pmax
comp=Z,110nm,1.0s
ANN Anapa 71.68 317 *e*P **P 07 47 03.3 -3.6**
ANN *e**PP **pP 07 47 19.2 +1.6**
ANN *e*PPP PPP 07 51 29.7
ANN *e*S **S 07 56 18.2 -5.4**
ANN pmax pmax
comp=Z,39nm,1.1s
ECSD EROS Data Cent 71.81 45 *e*P **P 07 47 07.8 -0.1**
comp=Z,181nm,0.8s
ECSD EROS Data Cent 71.81 45 P **P 07 47 07.7 -0.1**
baz=318,SNR=164
AS01 Alice Springs 71.86 197 *e*P **P 07 47 08.5 +0.4**
EIDS Eidsvold 71.86 180 *e*P **P 07 47 08.7 +0.7**
comp=Z,42nm,1.5s
AS31 Alice Springs 71.87 197 *e*P **P 07 47 08.5 +0.3**
comp=Z,9.7nm,0.6s
ASAR Alice Springs 71.87 197 P **P 07 47 08.5 +0.3**
comp=Z,17nm,0.7s,baz=11,slow=6.4,SNR=287
ASAR LR LR 08 16 32.2
comp=Z,65nm,21.2s,baz=11,slow=34
E38A The Farm, Brul 71.99 40 *e*P **P 07 47 08.5 -0.3**
comp=Z,96nm,0.8s
E38A The Farm, Brul 71.99 40 P **P 07 47 08.3 -0.4**
baz=320,SNR=12
C40A Isle Royale Na 72.01 38 P **P 07 47 07.9 -1.0**
baz=321
F37A Hinrichs Farm, 72.18 41 P **P 07 47 09.5 -0.5**
baz=320,SNR=13
KSCO Kaye Shedlock' 72.19 52 *e*P **P 07 47 10.2 -0.1**
comp=Z,72nm,0.9s
KSCO Kaye Shedlock' 72.19 52 P **P 07 47 10.2 -0.1**
baz=316,SNR=17
TUC Tucson 72.26 62 *e*P **P 07 47 11.1 +0.4**
comp=Z,57nm,1.1s
TUC Tucson 72.26 62 *e*P **P 07 47 11.1 +0.4**
TUC pmax pmax
comp=Z,57nm,1.1s
TUC Tucson 72.26 62 P **P 07 47 11.4 +0.7**
baz=315
F38A Pierce - Schro 72.34 41 P **P 07 47 11.1 +0.2**
baz=320,SNR=38
SPMN Marine on St. 72.48 42 *e*P **P 07 47 11.6 -0.1**
comp=Z,78nm,0.9s
SPMN Marine on St. 72.48 42 P **P 07 47 11.3 -0.5**
baz=320,SNR=23
T25A Trinidad 72.55 54 *e*P **P 07 47 11.0 -1.6**
comp=Z,90nm,0.8s
T25A Trinidad 72.55 54 P **P 07 47 13.1 +0.5**
baz=316,SNR=70
E39A Mellen 72.61 40 P **P 07 47 11.9 -0.6**
baz=321,SNR=22
BGNE Belgrade 72.78 47 *e*P **P 07 47 13.5 -0.1**
comp=Z,238nm,0.9s
BGNE Belgrade 72.78 47 P **P 07 47 13.2 -0.4**
baz=318,SNR=29
F39A Loretta 72.80 40 P **P 07 47 13.4 -0.3**
baz=321,SNR=21
D41A Chassel 72.93 38 P **P 07 47 14.1 -0.2**
baz=322
LAZ Ladron 72.95 58 *e*P **P 07 47 16.0 +1.0**
ANMO Albuquerque 72.96 57 *e*P **P 07 47 15.2 +0.3**
comp=Z,49nm,0.8s
ANMO Albuquerque 72.96 57 *e*P **P 07 47 15.3 +0.3**
ANMO pmax pmax
comp=Z,49nm,0.8s
ANMO Albuquerque 72.96 57 P **P 07 47 15.7 +0.7**
baz=316
G38A Ridgeland 72.96 41 P **P 07 47 13.8 -0.7**
baz=320,SNR=20
TRD Trivandrum 73.00 264 *e*P **P 07 47 14.8 -0.5**
SIM Simferopol' 73.10 319 *e*P P 07 47 25.7 +10
SIM pmax pmax
comp=Z,14nm,0.7s
SIM MLR MLR
comp=Z,530nm,12.2s
H38A Maiden Rock 73.14 42 P **P 07 47 15.5 -0.2**
baz=320,SNR=14
F40A Park Falls 73.15 40 P **P 07 47 15.4 -0.3**
baz=321,SNR=17
G39A Holcombe 73.18 41 P **P 07 47 15.1 -0.8**
baz=321,SNR=12
LENM Lemitar 73.21 58 *e*P **P 07 47 17.8 +1.3**
E41A Kenton 73.23 39 P **P 07 47 15.9 -0.2**
baz=322,SNR=20
LPM Los Pinos Moun 73.31 58 *e*P **P 07 47 17.6 +0.5**
Y22D IRIS PASSCAL I 73.31 58 P **P 07 47 17.9 +0.8**
baz=316
MBWA Marble Bar 73.36 210 *e*P **P 07 47 16.8 -0.3**
comp=Z,30nm,1.2s
BNM Barren Site 73.43 58 *e*P **P 07 47 18.7 +0.9**
H39A Augusta 73.59 41 P **P 07 47 17.7 -0.7**
baz=321,SNR=16
G40A Rib Lake 73.62 40 P **P 07 47 17.8 -0.7**
baz=321,SNR=14
E42A Champion 73.70 38 P **P 07 47 18.8 -0.2**
baz=322,SNR=7.8
F41A Three Lakes 73.74 39 P **P 07 47 19.1 -0.1**
baz=322,SNR=20
SCHQ Schefferville 73.76 22 P **P 07 47 19.3 +0.2**
comp=Z,55nm,0.7s,baz=354,slow=6.1,SNR=90
SCHQ LR LR 08 22 13.4
comp=Z,424nm,19.9s,baz=322,slow=38
SCHQ Schefferville 73.76 22 *e*P **P 07 47 19.0 -0.1**
comp=Z,101nm,1.0s
KIS Kishinev 73.80 323 *e*P **P 07 47 17.0 -2.5**
KIS LRM MLR 08 22 18.0
comp=Z,300nm,17.0s
KIS Kishinev 73.80 323 *e*P **P 07 47 17.0 -2.5**
KIS MLR MLR
comp=Z,400nm,20.0s
KIS MLR MLR
comp=N,300nm,17.0s
319A Douglas 73.82 61 *e*P **P 07 47 20.6 +0.6**
comp=N,170nm,0.9s
CBKS Cedar Bluff 73.87 50 *e*P **P 07 47 19.4 -0.7**
comp=N,117nm,1.1s
CBKS Cedar Bluff 73.87 50 *e*P **P 07 47 19.4 -0.7**
CBKS pmax pmax
comp=Z,117nm,1.1s
CBKS Cedar Bluff 73.87 50 P **P 07 47 19.4 -0.7**
baz=318,SNR=6.5
121A Cookes Peak, D 73.90 60 P **P 07 47 21.7 +1.2**
baz=316,SNR=27
H40A Chili 74.04 41 P **P 07 47 20.6 -0.3**
baz=321,SNR=18
G41A Antigo 74.12 40 P **P 07 47 21.0 -0.4**
baz=322,SNR=8.3
I39A Houston 74.12 42 *e*P **P 07 47 20.9 -0.5**
comp=Z,126nm,0.8s
I39A Houston 74.12 42 P **P 07 47 20.9 -0.5**
baz=321,SNR=32
E43A Lone Tree Farm 74.13 38 P **P 07 47 21.0 -0.5**
baz=323
F42A Maple Grove Fa 74.14 39 P **P 07 47 21.0 -0.5**
baz=322,SNR=8.5
KAC Achnashellach 74.20 347 *e*P **P 07 47 22.3 +0.7**
H41A Junction City 74.38 40 *e*P **P 07 47 22.6 -0.4**
comp=Z,132nm,1.3s
H41A Junction City 74.38 40 P **P 07 47 22.5 -0.4**
baz=322,SNR=17
E44A Grand Marais A 74.39 37 P **P 07 47 22.8 -0.1**
baz=323
G42A Mountain 74.42 39 P **P 07 47 22.9 -0.2**
baz=322,SNR=9.1
J39A Decorah 74.44 42 P **P 07 47 22.5 -0.8**
baz=321,SNR=47
HSIG 74.47 64 *e*P **P 07 47 23.9 +0.2**
comp=Z,93nm,1.6s
F43A Flat Rock, Esc 74.49 38 P **P 07 47 23.4 -0.1**
baz=323,SNR=12
I40A Norwalk 74.51 41 P **P 07 47 23.3 -0.4**
baz=321,SNR=21
OJC Ojcow 74.57 330 *e*P **P 07 47 23.6 -0.3**
OJC Ojcow 74.57 330 *e*P **P 07 47 23.6 -0.3**
comp=Z,15nm,0.9s
OJC Ojcow 74.57 330 *e*P **P 07 47 23.6 -0.3**
OJC Ojcow 74.57 330 *e*P **P 07 47 23.6 -0.3**
OJC pmax pmax
comp=Z,15nm,0.9s
F44A Big Bay de Noc 74.69 38 P **P 07 47 23.9 -0.8**
baz=323,SNR=6.3
I41A Arkdale 74.71 41 *e*P **P 07 47 24.3 -0.6**
comp=Z,74nm,1.0s
I41A Arkdale 74.71 41 P **P 07 47 24.4 -0.4**
baz=322,SNR=12
G43A Wallace 74.73 39 P **P 07 47 24.8 -0.1**
baz=323,SNR=16
BUR08 Bucovina Ar. S 74.73 325 *e*P **P 07 47 24.8 -0.3**
BUR04 Bucovina Ar. S 74.75 325 *e*P **P 07 47 24.4 -0.8**
BURAR Bucovina Array 74.75 325 ǁ *i*P **P 07 47 25.3 +0.2**
SCIA State Center 74.83 44 *e*P **P 07 47 25.4 -0.2**
comp=Z,376nm,0.8s
SCIA State Center 74.83 44 P **P 07 47 25.7 +0.1**
baz=320,SNR=42
J40A Soldiers Grove 74.84 42 P **P 07 47 24.6 -1.0**
baz=321,SNR=7.6
K39A Oelwein 74.84 43 P **P 07 47 24.6 -1.1**
baz=321,SNR=34
E45A Wooded Hills, 74.90 37 P **P 07 47 25.1 -0.8**
baz=324
D46A Sault St. Mari 74.93 36 P **P 07 47 25.3 -0.8**
baz=324
BIZ Bicaz 74.95 324 ǁ *i*P **P 07 47 26.6 +0.4**
H42A Shiocton 74.95 40 *e*P **P 07 47 25.7 -0.5**
comp=Z,66nm,0.9s
H42A Shiocton 74.95 40 P **P 07 47 25.7 -0.5**
baz=322,SNR=9.2
UZH Uzhgorod 75.02 328 *e*P **P 07 47 26.8 +0.3**
UZH Uzhgorod 75.02 328 *e*P **P 07 47 26.8 +0.3**
UZH *e* 07 47 36.3
INVG Invergeldie, C 75.03 346 *e*P **P 07 47 26.8 +0.4**
WSAR Wadi Sarin 75.05 288 LR LR 08 23 31.9
comp=Z,246nm,21.9s,baz=66,slow=38
NIE Niedzica 75.07 329 *e*P **P 07 47 27.3 +0.4**
NIE Niedzica 75.07 329 *e*P **P 07 47 27.3 +0.4**
D47A Chapleau 75.17 35 P **P 07 47 26.5 -1.0**
baz=325,SNR=6.5
J41A Loganville 75.19 41 P **P 07 47 26.9 -0.8**
baz=322,SNR=22
K40A Colesburg 75.20 42 P **P 07 47 27.2 -0.5**
baz=321,SNR=21
EPT El Paso 75.20 59 *e*P **P 07 47 27.7 -0.3**
comp=Z,67nm,1.0s
KSP Ksiaz 75.20 332 *e*P **P 07 47 27.2 -0.3**
KSP Ksiaz 75.20 332 *e*P **P 07 47 27.3 -0.3**
L39A Vinton 75.24 43 P **P 07 47 27.7 -0.2**
baz=321,SNR=48

TLCR 75.25 322⇑ *i*P P P 07 47 28.1 +0.2
TLCR 75.25 322 P P P 07 47 28.0 +0.2
E46A **Sault Ste Mari** 75.25 36 P P P 07 47 26.9 -1.0
baz=324,SNR=7.7
I42A **Draeger Farm,** 75.27 40 *e*P P P 07 47 27.9 -0.2
comp=Z,70nm,0.8s
I42A **Draeger Farm,** 75.27 40 P P P 07 47 27.8 -0.3
baz=322,SNR=12
KSU1 **Kansas State U** 75.28 48 *e*P P P 07 47 26.9 -1.4
comp=Z,105nm,0.7s
KSU1 **Kansas State U** 75.28 48 P P P 07 47 27.2 -1.0
baz=319,SNR=40
EAB **Aberfoyle** 75.31 346 *e*P P P 07 47 28.8 +0.8
F45A **CMU Biological** 75.31 37 P P P 07 47 27.8 -0.4
baz=324
H43A **Windswept, Lux** 75.32 39 P P P 07 47 28.1 -0.2
baz=323,SNR=8.8
TRPA **Tarpa** 75.34 327⇓ *i*P P P 07 47 28.4 0.0
TRPA **Tarpa** 75.34 327⇑ *e*P P P 07 47 28.0 -0.3
BMR **Baia Mare** 75.36 326⇑ *i*P P P 07 47 28.6 +0.1
JFWS **Jewell Farm** 75.44 42 *e*P P P 07 47 28.3 -0.8
comp=Z,26nm,0.8s
JFWS **Jewell Farm** 75.44 42 *e*P P P 07 47 28.3 -0.8
JFWS pmax pmax
comp=Z,26nm,0.8s
JFWS **Jewell Farm** 75.44 42 P P P 07 47 28.1 -1.0
baz=322,SNR=6.1
ODBI **Odobesti** 75.52 323⇓ *i*P P P 07 47 30.1 +0.7
ARCR **ARCALIA** 75.52 326⇓ *i*P P P 07 47 30.0 +0.6
CFR **Carcaliu** 75.54 322⇑ *i*P P P 07 47 29.8 +0.2
CFR **Carcaliu** 75.54 322 P P P 07 47 29.8 +0.2
F46A **Macinaw City C** 75.55 37 P P P 07 47 29.1 -0.5
baz=324,SNR=17
HATD **Hatta, Dubai** 75.55 291 P P P 07 47 30.5 +0.5
VRI **Vrincioaia** 75.57 323⇑ *i*P P P 07 47 30.3 +0.5
VRI **Vrincioaia** 75.57 323 P P P 07 47 30.3 +0.5
D48A **Paudash Townsh** 75.58 34 P P P 07 47 28.8 -1.0
baz=326,SNR=5.5
UPC **Upice** 75.58 332 *e*P P P 07 47 29.9 +0.2
UPC *e*pP pP pP 07 47 38.3 -2.2
UPC AMS AMS 08 23 00.0
comp=Z,700nm,17.8s
UPC **Upice** 75.58 332 *e*P P P 07 47 29.9 +0.2
UPC *e* 07 47 38.3
UPC MLR MLR
comp=Z,700nm,17.8s
E47A **Iron Bridge** 75.59 35 P P P 07 47 28.9 -0.9
baz=325,SNR=5.4
LANS **Liptovska Anna** 75.59 330 *e*P P P 07 47 30.5 +0.6
LANS *e* 07 50 16.8
LANS **Liptovska Anna** 75.59 330 *e*P P PP 07 47 30.5 +0.6
LANS *e*PP PP 07 50 16.8 -2.1
PLOR **Plostina** 75.61 323⇓ *i*P P P 07 47 30.6 +0.5
PLOR **Plostina** 75.61 323 P P P 07 47 30.6 +0.5
DPC **Dobruska-Polom** 75.62 332 *e*P P P 07 47 30.4 +0.4
DPC *e*pP pP pP 07 47 39.9 -0.9
DPC **Dobruska-Polom** 75.62 332 *e*P P P 07 47 30.4 +0.4
DPC *e* 07 47 39.9
I43A **Langenfeld Bro** 75.62 40 P P P 07 47 29.1 -0.9
baz=323,SNR=7.2
J42A **Columbus** 75.63 41 P P P 07 47 29.5 -0.7
baz=322,SNR=23
L40A **Anamosa** 75.65 43 *e*P P P 07 47 29.5 -0.8
comp=Z,137nm,1.1s
L40A **Anamosa** 75.65 43 P P P 07 47 29.6 -0.8
baz=321,SNR=23
K41A **Shullsburg** 75.65 42 P P P 07 47 29.7 -0.6
baz=322,SNR=14
M39A **Webster** 75.66 44 P P P 07 47 30.2 -0.1
baz=321,SNR=110
AMTX **Amarillo** 75.71 54 *e*P P P 07 47 31.0 +0.1
comp=Z,206nm,0.8s
AMTX **Amarillo** 75.71 54 P P P 07 47 31.3 +0.4
baz=318
MORC **Moravsky Berou** 75.71 331 *e*P P P 07 47 30.4 -0.1
comp=Z,17nm,0.9s
MORC **Moravsky Berou** 75.71 331⇓ *i*P P P 07 47 30.9 +0.3
MORC **Moravsky Berou** 75.71 331 *e*P P P 07 47 30.4 -0.1
MORC pmax pmax
comp=Z,17nm,0.9s
MORC **Moravsky Berou** 75.71 331 *e*P P P 07 47 30.5 -0.1
G45A **Suttons Bay** 75.77 38 P P P 07 47 30.5 -0.3
baz=324
MSTX **Muleshoe** 75.77 55 *e*P P P 07 47 31.4 +0.1
comp=Z,94nm,0.9s
MSTX **Muleshoe** 75.77 55 P P P 07 47 31.2 0.0
baz=317,SNR=59
CLL **Collm** 75.81 334 *e*P P P 07 47 30.5 -0.5
comp=Z,16nm,0.8s
CLL **Collm** 75.81 334⇓ *i*P P P 07 47 30.5 -0.5
comp=Z,12nm,0.8s
CLL *i* sP sP 07 47 45.4 -0.3
CLL **Collm** 75.81 334 *e*P P P 07 47 30.5 -0.5
CLL **Collm** 75.81 334 *e*P P P 07 47 30.5 -0.5
CLL pmax pmax
comp=Z,16nm,0.8s
J43A **Natural Harves** 75.90 40 P P P 07 47 31.1 -0.6
baz=323,SNR=6.6
BRG **Berggiesshubel** 75.91 334 *e*P P P 07 47 30.8 -0.8
comp=Z,12nm,1.2s
BRG *e* 07 47 45.1
comp=Z,12nm,1.1s
BRG *e* 07 50 13.4
comp=Z,7.6nm,1.2s
comp=N,239nm,14.9s
comp=E,466nm,18.1s
comp=Z,944nm,17.5s
BRG **Berggiesshubel** 75.91 334 *e*P P P 07 47 30.8 -0.8
BRG *e* 07 47 45.1
BRG pmax pmax
comp=Z,12nm,1.2s
BRG MLR MLR
comp=N,239nm,14.9s
BRG MLR MLR
comp=E,466nm,18.1s
BRG MLR MLR
comp=Z,944nm,17.5s
MNTX **Cornudas Mount** 75.91 59 *e*P P P 07 47 32.0 0.0
comp=Z,60nm,0.8s
MNTX **Cornudas Mount** 75.91 59 P P P 07 47 32.5 +0.6
baz=317,SNR=85
H45A **Beulah** 75.94 38 P P P 07 47 31.9 0.0
baz=324,SNR=6.6
K42A **Prairie Point,** 75.95 41 P P P 07 47 31.2 -0.8
baz=322,SNR=18
L41A **Preston** 75.98 42 P P P 07 47 31.5 -0.7
baz=322,SNR=21
E48A **Lockeyer** 76.01 35 P P P 07 47 31.4 -0.8
baz=326,SNR=8.2
PVCC **Panska Ves** 76.02 333 *e*P P P 07 47 32.1 -0.1
PVCC **Panska Ves** 76.02 333 *e*P P P 07 47 32.1 -0.1
M40A **Post Highland** 76.03 43 P P P 07 47 32.1 -0.3
baz=321,SNR=47
CJR **Cluj-Napoca** 76.12 326⇑ *i*P P P 07 47 33.3 +0.3
CJR **Cluj-Napoca** 76.12 326 P P P 07 47 33.2 +0.3
GDL2 **Guadalupe Moun** 76.14 58 *e*P P P 07 47 33.9 +0.5
MLR **Muntele Rosu** 76.19 324 *e*P P P 07 47 33.3 -0.2
comp=Z,8.8nm,0.8s
MLR **Muntele Rosu** 76.19 324⇑ *i*P P P 07 47 33.3 -0.2
MLR **Muntele Rosu** 76.19 324 *e*P P P 07 47 33.3 -0.2
MLR pmax pmax
comp=Z,9.0nm,0.8s
ISR **Istrita** 76.25 323⇑ *i*P P P 07 47 34.1 +0.3
ISR **Istrita** 76.25 323 P P P 07 47 34.0 +0.3
I45A **Fountain** 76.33 39 P P P 07 47 34.2 +0.1
baz=324,SNR=5.9
ALNE **Al Ain** 76.34 291 P P P 07 47 34.6 +0.1
H46A **Fife Lake** 76.36 38 P P P 07 47 34.2 -0.1
baz=324,SNR=36
F48A **Evansville** 76.37 35 P P P 07 47 33.7 -0.6
baz=325,SNR=5.5
VYHS **Vyhne** 76.37 330 *e*P P P 07 47 33.3 -1.0
VYHS pmax pmax
comp=Z,6.0nm,0.8s
VYHS **Vyhne** 76.37 330 *e*P P P 07 47 33.3 -1.0
VYHS *e*PP PP 07 50 26.0 +0.6
GLMI **Grayling** 76.37 37 *e*P P P 07 47 34.2 -0.2
comp=Z,191nm,0.8s
GLMI **Grayling** 76.37 37 P P P 07 47 34.4 0.0
baz=324,SNR=14
DRGR 76.39 326⇑ *i*P P P 07 47 34.6 0.0
DRGR 76.39 326 P P P 07 47 34.5 0.0
N40A **Mertquake, Sal** 76.40 44 P P P 07 47 34.5 -0.1
baz=321,SNR=43
L42A **Oliver, Polo** 76.42 42 *e*P P P 07 47 33.9 -0.8
comp=Z,67nm,0.9s
L42A **Oliver, Polo** 76.42 42 P P P 07 47 33.8 -0.8
baz=322,SNR=11
VRAC **Vranov** 76.43 331⇓ *i*P P P 07 47 35.2 +0.6
VRAC **Vranov** 76.43 331 P P P 07 47 35.1 +0.5
VRAC **Vranov** 76.43 331 *e*P P P 07 47 34.7 +0.1
K43A **Burlington** 76.47 41 *e*P P P 07 47 34.4 -0.5
comp=Z,150nm,1.0s
K43A **Burlington** 76.47 41 P P P 07 47 34.2 -0.7
baz=323,SNR=12
AJN **Ajban** 76.47 291 P P P 07 47 35.0 -0.2
GOPC **GO Pecny, Ondr** 76.48 333 *e*P P P 07 47 34.9 0.0
GOPC *ex* x 07 47 41.3
GOPC **GO Pecny, Ondr** 76.48 333 *e*P P P 07 47 34.9 0.0
GOPC *e* 07 47 41.3
PSZ **Piszkesteto** 76.49 329 *e*P P P 07 47 34.7 -0.3
comp=Z,15nm,0.9s
PSZ **Piszkesteto** 76.49 329⇓ *i*P P P 07 47 35.7 +0.7
PSZ **Piszkesteto** 76.49 329⇓ *e*P P P 07 47 35.0 0.0
PSZ **Piszkesteto** 76.49 329 *e*P P P 07 47 34.7 -0.3
PSZ pmax pmax
comp=Z,15nm,0.9s
PRU **Pruhonice** 76.50 333 *e*P P P 07 47 34.5 -0.5
PRU *ex* x 07 47 41.1
PRU AMS AMS 08 25 10.0
comp=Z,600nm,17.8s
PRU **Pruhonice** 76.50 333 *e*P P P 07 47 34.5 -0.5
PRU **Pruhonice** 76.50 333 *e*P P P 07 47 34.5 -0.5
PRU *e* 07 47 41.1
PRU MLR MLR
comp=Z,600nm,17.8s
M41A **Milan** 76.51 43 P P P 07 47 34.6 -0.6
baz=322,SNR=31
D51A **Lot 18 Range I** 76.57 33 P P P 07 47 34.6 -0.8
baz=327,SNR=7.9
VOIR 76.60 324⇑ *i*P P P 07 47 36.0 +0.3
VOIR 76.60 324 P P P 07 47 36.0 +0.3
E50A **Wahnapitae** 76.61 34 P P P 07 47 34.9 -0.8
baz=326,SNR=5.8
F49A **Sandfield** 76.65 35 P P P 07 47 34.8 -1.0
baz=326,SNR=6.6
L43A **Garden Prairie** 76.70 41 P P P 07 47 35.4 -0.8
baz=323,SNR=6.5
KRUC **Moravsky** 76.71 331 *e*P P P 07 47 36.2 0.0
H47A **Mio** 76.73 37 P P P 07 47 35.9 -0.5
baz=325,SNR=12
I46A **Reed City** 76.74 38 P P P 07 47 36.5 +0.1
baz=324,SNR=22
J45A **Montague** 76.74 39 P P P 07 47 36.0 -0.4
baz=324
M42A **Sheffield** 76.81 42 P P P 07 47 36.0 -0.9
baz=322,SNR=11
N41A **Harden Midland** 76.88 44 *e*P P P 07 47 36.1 -1.2
comp=Z,247nm,1.0s
N41A **Harden Midland** 76.88 44 P P P 07 47 36.9 -0.3
baz=322,SNR=14
ARMA **Armidale** 76.89 180 *e*P P P 07 47 38.3 +1.0
comp=Z,21nm,1.0s
HPK **Haverah Park** 76.95 344 *e*P P P 07 47 38.5 +1.1
HPK IAmb IAmb 07 47 39.0
comp=Z,64nm,1.0s
E51A **G1948 Merrick** 76.99 33 P P P 07 47 37.0 -0.8
baz=327,SNR=11
H48A **Harrisville** 77.01 37 P P P 07 47 37.6 -0.3
baz=325,SNR=5.7
MODS **Modra-Piesok** 77.01 330 *e*P P P 07 47 37.5 -0.4
MODS pmax pmax
comp=Z,14nm,1.0s
MODS **Modra-Piesok** 77.01 330 *e*P P P 07 47 37.5 -0.4
D52A **ZEK Kipawa Sen** 77.02 32 P P P 07 47 37.2 -0.8
baz=328,SNR=8.3
I47A **Gladwin** 77.07 38 P P P 07 47 38.3 0.0
baz=325,SNR=7.1
L44A **Lake County Fo** 77.08 41 P P P 07 47 37.6 -0.8
baz=323,SNR=5.8
J46A **Howard City** 77.14 39 P P P 07 47 38.7 0.0
baz=324,SNR=22
N42A **Yates City** 77.17 43 P P P 07 47 38.6 -0.4
baz=322,SNR=38
M43A **Waltham Townsh** 77.19 42 P P P 07 47 38.6 -0.4
baz=323,SNR=9.0
SIRR **Siria** 77.23 327⇑ *i*P P P 07 47 39.3 +0.1
I48A **Sherman Twp** 77.27 37 P P P 07 47 39.3 -0.1
baz=325
O41A **Passleys Farm,** 77.33 44 P P P 07 47 39.7 -0.2
baz=322,SNR=33
F51A **Arnstein** 77.34 34 P P P 07 47 38.8 -1.0
baz=327
BR131 **Keskin Array S** 77.37 315 *e*P P P 07 47 40.4 +0.1
BRTR **Keskin Array B** 77.37 315 P P P 07 47 39.6 -0.6
comp=Z,4.3nm,0.8s,baz=74,slow=4.4,SNR=14
BRTR **Keskin Array B** 77.37 315 *i* P P P 07 47 40.4 +0.1
BRTR pmax pmax
comp=Z,4.0nm,0.8s
WMOK **Wichita Mounta** 77.41 52 *e*P P P 07 47 40.1 -0.3
comp=Z,60nm,0.8s
WMOK **Wichita Mounta** 77.41 52 *e*P P P 07 47 40.1 -0.3
WMOK pmax pmax
comp=Z,60nm,0.8s
WMOK **Wichita Mounta** 77.41 52 P P P 07 47 40.5 0.0
baz=319,SNR=70
GMM **Mts of Mourne** 77.44 346 *e*P P P 07 47 40.7 +0.6
N43A **Stutzman Famil** 77.49 42 P P P 07 47 40.3 -0.4
baz=322,SNR=23
E52A **Mattawa** 77.51 33 P P P 07 47 39.6 -1.1
baz=328
GZR **Gura Zlata** 77.53 326⇓ *i*P P P 07 47 40.5 -0.5
GZR **Gura Zlata** 77.53 326 P P P 07 47 40.4 -0.5
KHC **Kasperske Hory** 77.55 333 *e*P P P 07 47 40.9 -0.1
comp=Z,5.2nm,0.7s
KHC **Kasperske Hory** 77.55 333 *e*P P P 07 47 41.2 +0.2
KHC *ex* x 07 47 47.7
KHC AMS AMS 08 30 10.0
comp=Z,700nm,16.8s
KHC **Kasperske Hory** 77.55 333 *e*P P P 07 47 41.2 +0.2
KHC **Kasperske Hory** 77.55 333 *e*P P P 07 47 41.2 +0.2
KHC *e* 07 47 47.7
KHC MLR MLR
comp=Z,700nm,16.8s
J47A **Sunmer** 77.58 38 P P P 07 47 41.5 +0.4
baz=324,SNR=26
P41A **Barry, Barry** 77.59 44 P P P 07 47 41.2 -0.1
baz=322,SNR=79
K46A **Dorr** 77.61 39 P P P 07 47 41.0 -0.4
baz=324,SNR=8.7
M44A **Midewin, Midew** 77.65 41 *e*P P P 07 47 41.2 -0.3
comp=Z,150nm,1.0s
M44A **Midewin, Midew** 77.65 41 P P P 07 47 41.2 -0.3
baz=323,SNR=12
O42A **Bath** 77.65 43 P P P 07 47 41.1 -0.5
baz=322
F52A **Sundridge** 77.68 34 P P P 07 47 41.0 -0.7
baz=327,SNR=6.1
HDIL **Hopedale** 77.73 43 *e*P P P 07 47 41.7 -0.4
comp=Z,201nm,0.8s
HDIL **Hopedale** 77.73 43 P P P 07 47 41.9 -0.1
baz=322
GEC2 **GERESS Array S** 77.77 333 *e*P P P 07 47 41.7 -0.5
comp=Z,7.8nm,1.1s
GEC2 **GERESS Array S** 77.77 333 *e*P P P 07 47 41.7 -0.5
GEC2 pmax pmax
comp=Z,8.0nm,1.1s
GERES **GERESS Array B** 77.77 333 P P P 07 47 41.7 -0.5
comp=Z,3.5nm,0.6s,baz=31,slow=5.4,SNR=32
GERES PP PP 07 50 32.5 -4.7
comp=Z,1.1nm,0.9s,baz=38,slow=6.8,SNR=3.4
GERES LR LR 08 26 53.0
comp=Z,462nm,18.7s,baz=32,slow=39
GRA1 **Grafenberg Arr** 77.77 335 *e*P P P 07 47 41.9 -0.2
comp=Z,20nm,0.9s
GRF **Grafenberg Arr** 77.77 335 *e*P P P 07 47 41.9 -0.2
comp=Z,13nm,1.1s,baz=28,slow=4.8
GRF **Grafenberg Arr** 77.77 335 *e*P P P 07 47 41.9 -0.2
GRF pmax pmax
comp=Z,20nm,0.9s
GRFO **Grafenberg** 77.77 335 *e*P P P 07 47 42.0 -0.1
comp=Z,27nm,1.1s
GRFO **Grafenberg** 77.77 335 *e*P P P 07 47 42.0 -0.1
GRFO pmax pmax
comp=Z,27nm,1.1s
GEA0 **GERESS Array S** 77.77 333 *e*P P P 07 47 41.7 -0.6
BZS **Buzias** 77.79 326⇓ *i*P P P 07 47 42.2 -0.1
E53A **Dumoine, Ponti** 77.80 32 P P P 07 47 41.5 -0.9
baz=328
I49A **Point Hope** 77.84 37 P P P 07 47 42.2 -0.4
baz=326
SOP **Sopron** 77.85 330 *e*P P P 07 47 45.0 +2.5
SOP **Sopron** 77.85 330 P P P 07 47 43.7 +1.1
CONA **Conrad Observa** 77.87 331 *i* P P P 07 47 43.3 +0.5
comp=Z,10nm,0.8s
E54A **Lac Daplat, Po** 77.93 32 P P P 07 47 42.1 -0.9
baz=328
L46A **Eue Claire** 77.93 40 P P P 07 47 42.8 -0.3
baz=324,SNR=8.7
O43A **Sugar Creek Fa** 77.94 43 P P P 07 47 43.0 -0.2
baz=322,SNR=14
K47A **Vermontville** 77.96 39 P P P 07 47 42.9 -0.4
baz=324,SNR=15
J48A **Bridge Port** 77.97 38 P P P 07 47 43.6 +0.3
baz=326,SNR=6.5
P42A **Winchester** 78.00 44 *e*P P P 07 47 43.2 -0.4
comp=Z,166nm,1.1s
P42A **Winchester** 78.00 44 P P P 07 47 43.4 -0.2
baz=322,SNR=43
M45A **Boilermakers S** 78.01 41 P P P 07 47 43.0 -0.5
baz=324
CWF **Charnwood Fore** 78.04 343 *e*P P P 07 47 44.3 +0.7
Q41A **Truxton** 78.07 45 P P P 07 47 44.0 0.0
baz=322,SNR=97
N44A **Piper City** 78.08 42 P P P 07 47 43.7 -0.2
baz=323,SNR=18
TUL1 **Leonard** 78.12 50 *e*P P P 07 47 43.9 -0.4
comp=Z,111nm,0.8s
TUL1 **Leonard** 78.12 50 P P P 07 47 44.4 +0.1
baz=320,SNR=54
J49A **Marlette** 78.19 37 P P P 07 47 44.4 -0.2
baz=325
K48A **Perry** 78.23 38 P P P 07 47 44.8 0.0
baz=325,SNR=20
FOEL **Foel Wylfa** 78.26 344 *e*P P P 07 47 45.7 +0.9
FOEL IAmb IAmb 07 47 49.2
comp=Z,53nm,1.1s
N45A **Kentland** 78.32 41 P P P 07 47 45.1 -0.2
baz=323,SNR=12
P43A **Skaggs, Pawnee** 78.35 43 P P P 07 47 45.2 -0.3
baz=322,SNR=25
MEM **Membach** 78.37 338⇓ *i*P P P 07 47 45.4 0.0
M46A **Old House Fiel** 78.39 40 *e*P P P 07 47 45.7 0.0
comp=Z,103nm,1.1s
M46A **Old House Fiel** 78.39 40 P P P 07 47 45.2 -0.5
baz=324
H52A **Wyevale** 78.43 34 P P P 07 47 45.1 -0.7
baz=327,SNR=7.1
L47A **Sherwood** 78.44 39 P P P 07 47 45.6 -0.4
baz=324,SNR=21
O44A **Mansfield** 78.44 42 P P P 07 47 45.5 -0.4
baz=323,SNR=25
Q42A **Golden Eagle** 78.44 44 P P P 07 47 46.3 +0.2
baz=322,SNR=81
MOA **Molln** 78.46 332 *i* P P P 07 47 46.0 0.0
comp=Z,7.3nm,0.8s
G53A **Haliburton** 78.51 33 P P P 07 47 45.6 -0.7
baz=328,SNR=7.9
R41A **Rosebud** 78.52 45 P P P 07 47 46.2 -0.2
baz=322,SNR=37
ABTX **Abilene, Hawle** 78.52 54 *e*P P P 07 47 46.4 -0.2
comp=Z,101nm,1.2s
ABTX **Abilene, Hawle** 78.52 54 P P P 07 47 46.7 +0.1
baz=319,SNR=25
K49A **Clarkson** 78.53 38 P P P 07 47 46.8 +0.4
baz=325,SNR=17
ARSA **Arzberg** 78.57 331 *i* P P P 07 47 46.9 +0.2
comp=Z,4.9nm,1.0s
N46A **Monticello** 78.63 41 P P P 07 47 46.4 -0.6
baz=324,SNR=7.0
TX31 **Lajitas Ar. Si** 78.64 59 *e*P P P 07 47 47.2 -0.2
TXAR **Lajitas Array** 78.65 59 P P P 07 47 48.0 +0.5
comp=Z,77nm,0.7s,baz=300,slow=4.0,SNR=386
TXAR **Lajitas Array** 78.65 59 *e*P P P 07 47 48.0 +0.5
TXAR **Lajitas Array** 78.65 59 P P P 07 47 48.0 +0.5
TXAR pmax pmax
comp=Z,77nm,0.7s
I51A **Listowel** 78.68 36 P P P 07 47 47.1 -0.1
baz=327
O45A **Potomac** 78.70 42 P P P 07 47 47.5 +0.1
baz=323,SNR=50
F55A **Otter Lake** 78.74 32 P P P 07 47 46.7 -0.8
baz=329
M47A **Cromwell** 78.75 40 P P P 07 47 47.5 -0.2
baz=324,SNR=24
CCM **Cathedral Cave** 78.77 45 *e*P P P 07 47 47.2 -0.6
comp=Z,126nm,0.9s
CCM **Cathedral Cave** 78.77 45 *e*P P P 07 47 47.2 -0.6
CCM pmax pmax
comp=Z,126nm,0.9s
CCM **Cathedral Cave** 78.77 45 P P P 07 47 47.7 -0.2
baz=322
I52A **Shelburne** 78.80 35 P P P 07 47 47.4 -0.5
baz=327
L48A **N Adams** 78.80 39 P P P 07 47 47.9 0.0
baz=325,SNR=21
HHAR **Hobbs** 78.80 48 *e*P P P 07 47 47.6 -0.5
comp=Z,92nm,0.8s
SLM **Saint Louis** 78.80 44 *e*P P P 07 47 48.0 0.0
comp=Z,200nm,1.0s
STKA **Stephens Creek** 78.81 188 P P P 07 47 47.9 0.0
comp=Z,4.4nm,0.8s,baz=356,slow=6.1,SNR=14
STKA LR LR 08 20 37.0
comp=Z,137nm,21.9s,baz=12,slow=34
STKA **Stephens Creek** 78.81 188 *e*P P P 07 47 48.1 +0.3
comp=Z,3.7nm,1.0s
STKA **Stephens Creek** 78.81 188 *e*P P P 07 47 48.1 +0.3
STKA pmax pmax
comp=Z,4.0nm,1.0s
R42A **Luebbering** 78.81 45 P P P 07 47 47.8 -0.3
baz=322,SNR=39
Q43A **New Douglas** 78.82 44 P P P 07 47 47.9 -0.2
baz=322,SNR=13
AAM **Ann Arbor** 78.84 38 *e*P P P 07 47 47.9 -0.2
comp=Z,89nm,0.8s
AAM **Ann Arbor** 78.84 38 *e*P P P 07 47 47.9 -0.2
AAM pmax pmax
comp=Z,89nm,0.8s
AAM **Ann Arbor** 78.84 38 P P P 07 47 48.2 +0.1
baz=325,SNR=16
K50A **Casco** 78.88 37 P P P 07 47 48.3 0.0
baz=326
SFIN **Lafayette** 78.89 41 *e*P P P 07 47 47.6 -0.8
comp=Z,191nm,1.4s
SFIN **Lafayette** 78.89 41 P P P 07 47 48.0 -0.4
baz=324,SNR=20
S41A **Jillco Farms,** 78.89 46 P P P 07 47 48.1 -0.4
baz=322,SNR=49
SLBS **Sierra La Lagu** 78.90 67 *e*P P P 07 47 49.1 +0.2
comp=Z,48nm,1.0s
L49A **Milan** 78.95 38 P P P 07 47 48.9 +0.1
baz=325,SNR=17
M48A **Edgerton** 79.05 39 *e*P P P 07 47 48.5 -0.8
comp=Z,135nm,0.9s
M48A **Edgerton** 79.05 39 P P P 07 47 49.0 -0.3
baz=325,SNR=18
MCH1 **Michaelchurch** 79.07 344 *e*P P P 07 47 50.1 +0.8
MCH1 IAmb IAmb 07 47 50.7
comp=Z,278nm,1.8s
N47A **Urbana** 79.11 40 P P P 07 47 49.1 -0.6
baz=324,SNR=26
STRD **Stroud** 79.12 343 *e*P P P 07 47 50.7 +1.2
STRD IAmb IAmb 07 47 53.1
comp=Z,63nm,0.9s
GIVF **Givet** 79.14 339 *e*P P P 07 47 51.8 +2.2
GIVF pmax pmax
comp=Z,20nm,1.1s
PLVO **Plevna** 79.16 33 *e*P P P 07 47 49.4 -0.4
comp=Z,39nm,0.9s
Q44A **Meyer Farm, Va** 79.17 44 P P P 07 47 49.7 -0.3
baz=323,SNR=40
STU **Stuttgart** 79.18 335 *e*P P P 07 47 49.6 -0.2
comp=Z,14nm,1.1s
STU **Stuttgart** 79.18 335 *e*P P P 07 47 49.7 -0.2
STU pmax pmax
comp=Z,14nm,1.1s
DOU **Dourbes** 79.20 339⇑ *i*P P P 07 47 50.8 +0.9
comp=Z,14nm,2.4s
HPIG 79.21 62 *e*P P P 07 47 50.1 -0.6
comp=Z,49nm,1.0s
S42A **Caledonia** 79.22 45 P P P 07 47 50.1 -0.2
baz=322,SNR=98
R43A **Red Bud** 79.23 45 P P P 07 47 50.1 -0.3
baz=322,SNR=29
SOKA **Soboth** 79.23 331 *i* P P P 07 47 50.4 0.0
comp=Z,18nm,1.3s
PERS **Pernice** 79.24 331 *i* P P P 07 47 50.3 -0.1
P45A **Graceland, Par** 79.27 42 *e*P P P 07 47 50.3 -0.2
comp=Z,127nm,0.8s
P45A **Graceland, Par** 79.27 42 P P P 07 47 50.5 -0.1

baz=323,SNR=37
U40A Yellville 79.29 48 P P 07 47 50.4 -0.4
baz=321,SNR=219
T41A Mountain View 79.31 46 P P 07 47 50.3 -0.6
baz=322,SNR=61
BAIF Baives 79.33 339 *e*P P 07 47 52.9 +2.2
BAIF pmax pmax
comp=Z,33nm,1.6s
M49A Liberty Center 79.38 39 P P 07 47 50.8 -0.3
baz=325,SNR=11
K51A Iona Station 79.38 37 P P 07 47 51.1 0.0
baz=326,SNR=7.9
L50A Kingsville 79.41 38 P P 07 47 51.0 -0.2
baz=326,SNR=6.3
O47A Sheridan 79.42 41 P P 07 47 50.6 -0.7
baz=324,SNR=15
N48A Decatur 79.42 40 P P 07 47 51.1 -0.2
baz=325,SNR=52
RSBS Rosebush, Pemb 79.44 345 *e*P P 07 47 52.2 +1.0
KBA Koelnbreinsper 79.44 332 P P 07 47 52.0 +0.5
KBA Koelnbreinsper 79.44 332 *i* P P 07 47 52.0 +0.5
comp=Z,28nm,1.0s,SNR=15
P46A Rosedale 79.45 42 P P 07 47 51.5 0.0
baz=324,SNR=92
H55A Tweed 79.53 33 P P 07 47 51.4 -0.5
baz=329
OBKA Obir 79.54 331 *i* P P 07 47 51.9 -0.2
comp=Z,5.0nm,0.7s
Q45A Warren Harvey, 79.58 43 P P 07 47 52.4 +0.1
baz=323,SNR=42
GOLS Golise 79.62 330 *i* P P 07 47 52.0 -0.3
I55A Frankford 79.63 33 P P 07 47 51.7 -0.7
baz=328
T42A Van Buren 79.65 46 *e*P P 07 47 52.1 -0.5
comp=Z,93nm,0.9s
T42A Van Buren 79.65 46 P P 07 47 52.3 -0.3
baz=322,SNR=52
K52A Tillsonburg 79.66 36 P P 07 47 52.6 0.0
baz=327,SNR=5.2
DIVS Divibare 79.69 327 *e*P P 07 47 52.5 -0.4
comp=Z,30nm,1.6s
VTS Vitosha 79.70 324 *e*P P 07 47 51.9 -1.1
comp=Z,17nm,0.7s
VTS Vitosha 79.70 324⇑ *i*P P 07 47 53.1 +0.1
VTS Vitosha 79.70 324 *e*P P 07 47 51.9 -1.1
VTS pmax pmax
comp=Z,17nm,0.7s
W39A Magazine 79.72 49 *e*P P 07 47 52.7 -0.3
comp=Z,126nm,1.3s
W39A Magazine 79.72 49 P P 07 47 52.6 -0.5
baz=321,SNR=30
S43A Fulton Ridge, 79.72 45 P P 07 47 52.3 -0.8
baz=322,SNR=43
MYKA Terra Mystica 79.74 332 *i* P P 07 47 53.2 +0.2
comp=Z,6.6nm,0.7s
N49A Columbus Grove 79.74 39 *e*P P 07 47 52.8 -0.3
comp=Z,90nm,0.8s
N49A Columbus Grove 79.74 39 P P 07 47 52.9 -0.2
baz=325,SNR=22
OLIL Olney 79.74 43 *e*P P 07 47 52.6 -0.5
comp=Z,108nm,0.8s
WATA Walderalm 79.76 333 *i* P P 07 47 53.3 0.0
comp=Z,13nm,0.6s,SNR=15
U41A Viola 79.77 47 P P 07 47 52.8 -0.6
baz=322,SNR=74
BFO Black Forest 79.83 336 *e*P P 07 47 53.0 -0.4
comp=Z,23nm,1.2s
BFO Black Forest 79.83 336 *i* P P 07 47 56.4 +2.9
M50A Fremont 79.83 38 *e*P P 07 47 53.0 -0.6
comp=Z,92nm,0.8s
M50A Fremont 79.83 38 P P 07 47 53.1 -0.5
baz=326,SNR=11
H56A Elgin 79.84 32 P P 07 47 52.8 -0.7
baz=329
Q46A CEJHS Indians, 79.86 42 P P 07 47 53.6 -0.2
baz=324
O48A Farmland 79.86 40 P P 07 47 53.3 -0.5
baz=325,SNR=48
RETA Reutte 79.88 334 *i* P P 07 47 54.0 +0.2
comp=Z,13nm,0.8s
MOTA Moosalm 79.90 334 *i* P P 07 47 54.1 +0.1
comp=Z,20nm,0.9s,SNR=13
P47A Martinsville 79.98 41 P P 07 47 54.0 -0.5
baz=324,SNR=38
SQTA Sankt Quirin 79.98 334 *i* P P 07 47 54.9 +0.4
comp=Z,17nm,0.9s,SNR=7.6
ABTA Abfaltersbach 80.00 332 *i* P P 07 47 55.4 +0.9
comp=Z,8.0nm,1.4s
T43A Greenville 80.00 45 P P 07 47 54.3 -0.2
baz=322,SNR=59
FORT Forrest 80.00 200 *e*P P 07 47 54.8 +0.5
comp=Z,34nm,0.8s
R45A Skylar, Fairfi 80.01 43 P P 07 47 54.5 -0.1
baz=323,SNR=20
S44A Carbondale 80.02 44 P P 07 47 54.3 -0.3
baz=323,SNR=37
SIUC Southern Illin 80.02 44 *e*P P 07 47 54.2 -0.4
comp=Z,238nm,1.1s
JCT Junction City 80.04 56 *e*P P 07 47 54.8 -0.1
comp=Z,89nm,0.8s
JCT Junction City 80.04 56 *e*P P 07 47 54.8 -0.1
JCT pmax pmax
comp=Z,89nm,0.8s
JCT Junction City 80.04 56 P P 07 47 54.9 0.0
baz=319,SNR=70
CDF Champ du Feu 80.04 336 *e*P P 07 47 54.3 -0.4
J54A Appleton 80.07 34 P P 07 47 54.5 -0.3
baz=328
V41A Mountainview 80.09 47 P P 07 47 54.5 -0.6
baz=322,SNR=108
U42A Revenden 80.11 47 P P 07 47 54.4 -0.7
baz=322,SNR=32
BLO Bloomington 80.12 42 *e*P P 07 47 54.9 -0.2
comp=Z,84nm,0.7s
BLO Bloomington 80.12 42 *e*P P 07 47 54.9 -0.2
BLO pmax pmax
comp=Z,84nm,0.7s
WHTX Lake Whitney, 80.21 53 *e*P P 07 47 51.7 -4.0
comp=Z,162nm,0.9s
WHTX Lake Whitney, 80.21 53 P P 07 47 55.8 0.0
baz=320,SNR=17
ECH Echery 80.26 336 *e*P P 07 47 55.6 -0.2
comp=Z,10nm,0.7s
ECH Echery 80.26 336 *e*P P 07 47 55.6 -0.2
ECH pmax pmax
comp=Z,10.0nm,0.7s
M51A Elyria 80.26 38 P P 07 47 55.3 -0.6
baz=326,SNR=9.1
O49A Covington 80.27 40 *e*P P 07 47 55.6 -0.4
comp=Z,114nm,1.0s
O49A Covington 80.27 40 P P 07 47 55.6 -0.4
baz=325,SNR=23
FETA Feichten 80.30 334 *i* P P 07 47 57.8 +1.6
comp=Z,10nm,1.0s
N50A Nevada 80.31 39 P P 07 47 56.2 +0.1
baz=326,SNR=24
DAVA Damuels 80.32 334 *i* P P 07 47 56.4 +0.1
comp=Z,9.6nm,0.8s
MIAR Mount Ida 80.33 49 *e*P P 07 47 56.3 -0.1
comp=Z,117nm,0.8s
MIAR Mount Ida 80.33 49 *e*P P 07 47 56.3 -0.1
MIAR pmax pmax
comp=Z,117nm,0.8s
MIAR Mount Ida 80.33 49 P P 07 47 56.6 +0.2
baz=321,SNR=64
T44A Benton 80.34 45 P P 07 47 56.5 +0.1
baz=323,SNR=91
Q47A Bedord North L 80.35 42 P P 07 47 56.5 +0.1
baz=324,SNR=128
S45A Carrier Mills 80.36 44 P P 07 47 56.5 0.0
baz=323,SNR=51
P48A Milroy 80.38 41 P P 07 47 56.2 -0.4
baz=325,SNR=50
J55A Hilton 80.39 34 P P 07 47 56.1 -0.4
baz=328
BBOO Buckleboo 80.43 193 *e*P P 07 47 56.2 -0.4
comp=Z,36nm,1.1s
R46A Gibon Southern 80.43 43 P P 07 47 57.0 +0.1
baz=324,SNR=28
V42A Cord 80.46 47 P P 07 47 56.5 -0.5
baz=322,SNR=83
ERPA Erie 80.51 36 *e*P P 07 47 57.3 +0.1
comp=Z,114nm,0.7s
ERPA Erie 80.51 36 P P 07 47 57.1 -0.1
baz=327,SNR=5.3
U43A Rector 80.51 46 P P 07 47 57.4 +0.1
baz=322,SNR=56
N51A Ashland 80.52 38 *e*P P 07 47 57.2 -0.1
comp=Z,143nm,0.7s
N51A Ashland 80.52 38 P P 07 47 57.1 -0.2
baz=326,SNR=18
W41B Gary Mavity, V 80.52 48 *e*P P 07 47 57.3 -0.1
comp=Z,152nm,0.8s
W41B Gary Mavity, V 80.52 48 P P 07 47 57.3 -0.1
baz=322,SNR=75
USIN University of 80.56 43 *e*P P 07 47 57.3 -0.2
comp=Z,282nm,0.9s
O50A Cable 80.62 39 P P 07 47 57.7 -0.1
baz=326,SNR=44
MOQ Mont Orford 80.62 29 *e*P P 07 47 57.8 -0.1
P49A Miami Univ. Ec 80.64 40 P P 07 47 57.7 -0.2
baz=325,SNR=32
HAU Haudompre 80.67 337 *e*P P 07 47 58.5 +0.5
HAU pmax pmax
comp=Z,9.0nm,0.8s
Q48A North Vernon 80.68 41 P P 07 47 58.1 -0.1
baz=324,SNR=45
HINF Hinteralfeld 80.70 336 *e*P P 07 47 57.3 -0.9
HINF pmax pmax
comp=Z,9.0nm,1.0s
K55A Perry 80.75 34 P P 07 47 58.2 -0.4
baz=328,SNR=7.9
U44A Portageville 80.75 45 P P 07 47 59.1 +0.5
baz=323,SNR=14
X40A Basin Creek Fa 80.76 49 *e*P P 07 47 58.3 -0.4
comp=Z,118nm,1.2s
X40A Basin Creek Fa 80.76 49 P P 07 47 58.5 -0.2
baz=322,SNR=34
S46A Don Dixon Farm 80.76 43 P P 07 47 58.7 0.0
baz=324,SNR=23
SRS Serrai 80.77 323 P P 07 47 59.6 +0.9
PQI Presque Isle 80.77 26 *e*P P 07 47 58.4 -0.1
comp=Z,60nm,1.3s
UALR University of 80.79 48 *e*P P 07 47 58.4 -0.4
comp=Z,141nm,1.5s
BATG Bathurst New B 80.80 25 *e*P P 07 47 58.7 0.0
comp=Z,195nm,1.4s
FUORN Ofenpass-Fuorn 80.81 334 *e*P P 07 47 59.0 0.0
comp=Z,37nm,1.4s
MMNY Mt. Morris Dam 80.81 34 *e*P P 07 47 58.2 -0.6
comp=Z,71nm,0.7s
W42A Bald Knob 80.81 47 P P 07 47 58.9 -0.1
baz=322,SNR=17
R47A Wooly Knot Far 80.83 42 P P 07 47 59.1 +0.2
baz=324,SNR=57
ACSO Alum Creek Sta 80.83 39 *e*P P 07 47 58.0 -1.0
comp=Z,122nm,0.7s
ACSO Alum Creek Sta 80.83 39 P P 07 47 58.9 -0.1
baz=326,SNR=30
T45A Paducah 80.85 44 *e*P P 07 47 59.5 +0.3
comp=Z,189nm,0.8s
T45A Paducah 80.85 44 P P 07 47 59.2 +0.1
baz=323,SNR=17
STIP Stip 80.87 324 *i* P P 07 47 59.3 +0.2
V43A Jonesboro 80.90 46 P P 07 47 59.6 +0.2
baz=322
X41A Kaden, Bauxite 80.92 49 P P 07 47 59.4 -0.1
baz=322,SNR=49
SKO Skopje 80.93 324 *e*P P 07 48 01.7 +2.2
P50A Jamestown 80.98 40 P P 07 47 59.6 -0.2
baz=326,SNR=49
WCI Wyandotte Cave 80.99 42 *e*P P 07 47 59.6 -0.2
comp=Z,208nm,1.0s
WCI Wyandotte Cave 80.99 42 *e*P P 07 47 59.6 -0.2
WCI pmax pmax
comp=Z,208nm,1.0s
WCI Wyandotte Cave 80.99 42 P P 07 48 00.0 +0.2
baz=324
Q49A Aurora 80.99 41 P P 07 47 59.9 +0.1
baz=325,SNR=23
VAY Valandovo 81.02 323 *i* P P 07 48 00.0 +0.1
VAY Valandovo 81.02 323 P P 07 48 01.2 +1.2
R48A Northridge Ran 81.04 42 P P 07 48 00.5 +0.4
baz=324,SNR=54
U44B Burton Farm, H 81.05 45 P P 07 48 00.5 +0.3
baz=323,SNR=14
435B Jarrell 81.06 54 *e*P P 07 48 00.4 +0.1
comp=Z,27nm,0.9s
435B Jarrell 81.06 54 P P 07 48 00.4 +0.1
baz=320,SNR=8.7
O51A Pataskala 81.06 39 P P 07 48 00.1 -0.1
baz=326,SNR=26
NCB Newcomb 81.11 31 *e*P P 07 48 00.1 -0.4
comp=Z,21nm,0.9s
DRLN Deer Lake 81.12 19 *e*P P 07 48 01.0 +0.7
comp=Z,161nm,1.2s
GLAT Glass 81.14 45 *e*P P 07 48 01.1 +0.5
comp=Z,472nm,1.0s
M54A Oil Creek Stat 81.15 36 *e*P P 07 48 00.1 -0.5
comp=Z,140nm,1.0s
M54A Oil Creek Stat 81.15 36 P P 07 48 00.7 0.0
baz=326,SNR=14
V44A Blythville 81.19 46 P P 07 48 01.7 +0.8
baz=323,SNR=14
T46A Princeton 81.19 44 P P 07 48 01.7 +0.7
baz=324,SNR=78
TUE Stuetta 81.21 334 *e*P P 07 48 00.9 -0.2
comp=Z,29nm,1.2s
S47A Hartford 81.23 43 P P 07 48 00.9 -0.2
baz=324,SNR=18
N53A Lisbon 81.26 37 P P 07 48 01.4 +0.2
baz=327,SNR=23
VT1 Waterbury 81.31 30 *e*P P 07 48 01.4 -0.1
comp=Z,130nm,1.6s
X42A Stuttgart 81.33 48 P P 07 48 01.5 -0.2
baz=322,SNR=5.3
U45A Rockin P Farm, 81.33 45 P P 07 48 02.1 +0.4
baz=323,SNR=38
Y41A Eaglette Beard 81.35 49 P P 07 48 02.1 +0.3
baz=322,SNR=31
W43A Forest City 81.37 47 P P 07 48 02.0 +0.1
baz=322
HALT Halls 81.40 46 *e*P P 07 48 01.8 -0.3
comp=Z,194nm,0.9s
PDG Podgorica 81.40 326⇓ *i*P P 07 48 01.5 -0.4
TTG Podgorica 81.40 326 *e*P P 07 48 01.1 -0.7
comp=Z,18nm,1.0s
TTG Podgorica 81.40 326 *e*P P 07 48 01.2 -0.7
TTG pmax pmax
comp=Z,18nm,1.0s
P51A Williamsport 81.41 39 P P 07 48 01.8 -0.3
baz=326,SNR=17
O52A Adamsville 81.41 38 *e*P P 07 48 01.9 -0.2
comp=Z,170nm,0.8s
O52A Adamsville 81.41 38 P P 07 48 02.1 0.0
baz=326,SNR=39
R49A Shelbyville 81.45 41 P P 07 48 02.5 +0.2
baz=325,SNR=16
N54A Moraine State 81.48 37 *e*P P 07 48 02.4 -0.1
comp=Z,145nm,0.9s
N54A Moraine State 81.48 37 P P 07 48 02.1 -0.3
baz=327,SNR=21
KRUS Krusevo 81.52 324 *e*P P 07 48 02.2 -0.5
Q50A Georgetown 81.53 40 P P 07 48 02.7 0.0
baz=326,SNR=25
S48A Wiedeman Farm, 81.56 42 P P 07 48 02.9 0.0
baz=324,SNR=41
O53A New Philadelph 81.57 38 P P 07 48 02.7 -0.2
baz=327,SNR=37
U46A Springville 81.60 45 P P 07 48 03.3 +0.2
baz=324,SNR=16
T47A Sharon Grove 81.61 43 *e*P P 07 48 03.6 +0.5
comp=Z,129nm,1.1s
T47A Sharon Grove 81.61 43 P P 07 48 03.4 +0.2
baz=324,SNR=13
FLN La Foliniere 81.63 341 *e*P P 07 48 02.6 -0.4
FLN pmax pmax
comp=Z,254nm,2.2s
PKME Peaks-Kenny Pk 81.64 28 P P 07 48 03.0 -0.1
baz=333
Q51A Peebles 81.66 40 *e*P P 07 48 03.4 -0.1
comp=Z,174nm,0.8s
Q51A Peebles 81.66 40 P P 07 48 03.5 +0.1
baz=326,SNR=43
LBNH Lisbon 81.68 30 P P 07 48 03.2 -0.2
baz=332
P52A Corning 81.69 39 P P 07 48 03.1 -0.4
baz=326,SNR=18
LDF La Druitiere 81.71 341 *e*P P 07 48 03.7 +0.2
LDF pmax pmax
comp=Z,126nm,1.9s
V45A Humboldt 81.72 45 P P 07 48 03.6 -0.1
baz=323,SNR=30
X43A Marvell 81.73 47 *e*P P 07 48 04.3 +0.5
comp=Z,201nm,0.9s
X43A Marvell 81.73 47 P P 07 48 03.9 +0.1
baz=322,SNR=32
Z41A Richland Creek 81.73 49 P P 07 48 04.1 +0.2
baz=322,SNR=14
CCAR Cane Creek 81.75 48 *e*P P 07 48 03.5 -0.4
comp=Z,178nm,0.9s
W44A Shelby Farms P 81.77 46 P P 07 48 04.2 +0.2
baz=323,SNR=5.6
Y42A Garnett, Star 81.81 48 P P 07 48 04.7 +0.5
baz=322,SNR=32
S49A Springfield 81.81 42 P P 07 48 04.4 +0.2
baz=325,SNR=52
R50A Paris 81.84 41 P P 07 48 04.3 -0.1
baz=325,SNR=20
T48A Bowling Green 81.85 43 P P 07 48 04.3 -0.1
baz=324,SNR=22
833A Chaparral WMA, 81.89 57 *e*P P 07 48 05.1 +0.4
comp=Z,122nm,1.5s
833A Chaparral WMA, 81.89 57 P P 07 48 05.2 +0.4
baz=319,SNR=16
SENIN Lac Senin/Sane 81.91 336 *e*P P 07 48 04.9 0.0
comp=Z,26nm,1.4s
NATX Nacogdoches 81.91 52 *e*P P 07 48 04.7 -0.2
comp=Z,353nm,0.8s
NATX Nacogdoches 81.91 52 P P 07 48 05.8 +0.9
baz=321,SNR=64
OHR Ohrid 81.92 324 *i* P P 07 48 04.1 -0.7
MORW Morawa 81.92 211 *e*P P 07 48 04.9 +0.3
comp=Z,45nm,1.4s
WVT Waverly 81.95 44 *e*P P 07 48 04.4 -0.6
comp=Z,97nm,0.9s
WVT Waverly 81.95 44 *e*P P 07 48 04.4 -0.6
WVT pmax pmax
comp=Z,97nm,0.9s
WVT Waverly 81.95 44 P P 07 48 05.1 +0.1
baz=324
FNA Florina 81.96 324 *e*P P 07 48 04.2 -0.8
comp=Z,8.1nm,0.8s
FNA Florina 81.96 324 *e*P P 07 48 04.2 -0.8
FNA pmax pmax
comp=Z,8.0nm,0.8s
U47A Clarksville 81.96 44 P P 07 48 05.2 +0.2
baz=324,SNR=40
O54A Avella 81.97 37 P P 07 48 05.3 +0.3
baz=327,SNR=24
BINY Binghamton 82.00 33 *e*P P 07 48 04.6 -0.5
comp=Z,140nm,1.6s
BINY Binghamton 82.00 33 P P 07 48 04.7 -0.5
baz=330
LOR Lormes 82.00 338 *e*P P 07 48 04.5 -0.6
LOR pmax pmax
comp=Z,22nm,0.8s
CABF La Chapelle 82.02 336 *e*P P 07 48 06.3 +1.0
CABF pmax pmax
comp=Z,90nm,1.8s
HNH Hanover 82.03 30 *e*P P 07 48 05.0 -0.2
comp=Z,19nm,0.8s
N55A Marion Center 82.04 36 P P 07 48 05.4 0.0
baz=328,SNR=25
GRR Gorron 82.07 342 *e*P P 07 48 05.7 +0.4
GRR pmax pmax
comp=Z,34nm,0.9s
W45A Hickory Valley 82.07 46 P P 07 48 05.8 +0.1
baz=323,SNR=37
V46A Holladay 82.08 45 P P 07 48 05.6 -0.1
baz=324,SNR=47
X44A Crenshaw 82.12 47 P P 07 48 06.1 +0.2
baz=323,SNR=37
P53A Whipple 82.13 38 *e*P P 07 48 05.5 -0.4
comp=Z,55nm,0.8s
P53A Whipple 82.13 38 P P 07 48 05.8 0.0
baz=327,SNR=13
WVL Waterville 82.14 28 *e*P P 07 48 06.1 +0.3
comp=Z,34nm,1.0s
R51A Hillsboro 82.16 40 P P 07 48 06.1 +0.1
baz=326,SNR=32
Z42A Norrel Spur, H 82.16 49 P P 07 48 07.0 +0.8
baz=322
Y43A Makayla and Ka 82.19 48 P P 07 48 06.8 +0.6
baz=322,SNR=13
Q52A Bidwell 82.19 39 P P 07 48 05.9 -0.2
baz=326,SNR=13
T49A Edmonton 82.25 42 *e*P P 07 48 06.5 0.0
comp=Z,198nm,1.4s
T49A Edmonton 82.25 42 P P 07 48 06.7 +0.2
baz=325,SNR=36
U48A Cassie Pea, Po 82.26 43 P P 07 48 06.7 +0.1
baz=324,SNR=31
PMOR Pomariorio Ree 82.26 121 *e*T T 09 18 14.5
comp=Z,157nm,0.2s
SSF Saint Saulge 82.28 338 *e*P P 07 48 08.2 +1.7
SSF pmax pmax
comp=Z,18nm,0.9s
S50A Richmond 82.30 41 P P 07 48 06.8 0.0
baz=325,SNR=24
V47A Nunnelly 82.35 44 P P 07 48 07.1 +0.1
baz=324,SNR=62
O55A Ligonier 82.39 37 P P 07 48 07.3 0.0
baz=328,SNR=20
OXF Oxford 82.47 46 *e*P P 07 48 07.3 -0.4
comp=Z,416nm,1.3s
OXF Oxford 82.47 46 *e*P P 07 48 07.3 -0.4
OXF pmax pmax
comp=Z,416nm,1.3s
OXF Oxford 82.47 46 P P 07 48 07.8 +0.1
baz=323
W46A Michie 82.49 45 P P 07 48 07.5 -0.3
baz=324,SNR=12
Y44A Strider, Charl 82.51 47 P P 07 48 08.3 +0.4
baz=323,SNR=44
GGN Saint George 82.53 26 *e*P P 07 48 07.4 -0.4
comp=Z,89nm,1.3s
R52A Catlettsburg 82.54 40 P P 07 48 07.9 -0.1
baz=326,SNR=18
X45A UM Field Stati 82.55 47 P P 07 48 08.2 0.0
baz=323,SNR=27
SGMF Saint Gilles 82.55 343 *e*P P 07 48 09.0 +1.1
SGMF pmax pmax
comp=Z,126nm,1.4s
AVF Avril sur Loir 82.58 338 *e*P P 07 48 07.6 -0.4
AVF pmax pmax
comp=Z,16nm,1.0s
Z43A Armstrong Fami 82.58 48 P P 07 48 08.7 +0.5
baz=322,SNR=18
SSPA Standing Stone 82.60 35 *e*P P 07 48 07.3 -0.9
comp=Z,61nm,0.8s
SSPA Standing Stone 82.60 35 P P 07 48 08.3 0.0
baz=329
U49A Red Boiling Sp 82.62 43 P P 07 48 08.6 +0.1
baz=325,SNR=44
ROSF Rostrenen 82.62 343 *e*P P 07 48 09.4 +1.2
ROSF pmax pmax
comp=Z,143nm,1.3s
MCWV Mont Chateau 82.63 37 *e*P P 07 48 08.4 -0.1
comp=Z,47nm,0.8s
MCWV Mont Chateau 82.63 37 P P 07 48 08.9 +0.4
baz=328,SNR=18
T50A Nancy 82.64 42 P P 07 48 08.7 +0.1
baz=325,SNR=61
O56A Blue Knob Stat 82.64 36 *e*P P 07 48 08.4 -0.1
comp=Z,97nm,0.8s
O56A Blue Knob Stat 82.64 36 P P 07 48 08.6 0.0
baz=328,SNR=19
S51A Beattyville 82.70 41 *e*P P 07 48 08.2 -0.7
comp=Z,92nm,0.8s
S51A Beattyville 82.70 41 P P 07 48 08.6 -0.3
baz=326,SNR=29
V48A Smith Brothers 82.75 44 *e*P P 07 48 09.0 -0.2
comp=Z,87nm,0.8s
V48A Smith Brothers 82.75 44 P P 07 48 09.0 -0.2
baz=324,SNR=50
PLAL Pickwick Lake 82.76 45 *e*P P 07 48 08.3 -0.8
comp=Z,89nm,0.9s
P55A Reedsville 82.77 37 P P 07 48 09.8 +0.5
baz=328,SNR=35
W47A Westpoint 82.77 45 P P 07 48 09.3 0.0
baz=324,SNR=45
LPL La Plagne 82.84 336 *e*P P 07 48 11.1 +1.4
LPL pmax pmax
comp=Z,25nm,1.0s
X46A Booneville 82.85 46 P P 07 48 09.6 -0.1
baz=324,SNR=24
LPG La Plagne 82.85 336 *e*P P 07 48 09.7 -0.2
LPG pmax pmax
comp=Z,43nm,1.1s
S52A Salyersville 82.89 40 P P 07 48 09.9 0.0
baz=326,SNR=38
BGF Bois d'Agland 82.92 339 *e*P P 07 48 12.2 +2.4
BGF pmax pmax

Y45A **Yeager Farm, C** 82.92 47 P P 07 48 10.8 +0.7
baz=323,SNR=44
T51A **Gray** 83.09 41 P P 07 48 10.9 0.0
baz=326,SNR=23
Q55A **Buckhannon** 83.09 38 P P 07 48 11.3 +0.3
baz=328,SNR=18
U50A **Jamestown** 83.13 42 P P 07 48 11.4 +0.2
baz=325,SNR=46
RAYN **Ar Rayn** 83.16 297 eP P 07 48 11.4 -0.1
comp=Z,38nm,1.5s
RAYN **Ar Rayn** 83.16 297 P P 07 48 09.7 -1.9
RAYN **Ar Rayn** 83.16 297 eP P 07 48 11.4 -0.1
RAYN pmax pmax
comp=Z,38nm,1.5s
V49A **McMinnville** 83.17 43 P P 07 48 11.2 -0.1
baz=325,SNR=28
W48A **Pulaski** 83.18 44 P P 07 48 11.5 +0.1
baz=324,SNR=74
N59A **State Game Lan** 83.19 34 eP P 07 48 10.8 -0.5
comp=Z,80nm,1.1s
N59A **State Game Lan** 83.19 34 P P 07 48 11.4 0.0
baz=330,SNR=12
X47A **Russelville** 83.24 45 P P 07 48 11.3 -0.4
baz=324,SNR=33
Z45A **Winona** 83.24 47 eP P 07 48 12.2 +0.5
comp=Z,223nm,0.9s
Z45A **Winona** 83.24 47 P P 07 48 12.1 +0.4
baz=323,SNR=29
Y46A **Houston** 83.25 46 P P 07 48 12.0 +0.3
baz=323,SNR=77
BNI **Bardonecchia** 83.28 335 eP P 07 48 12.0 +0.1
comp=Z,32nm,1.3s
BNI **Bardonecchia** 83.28 335 eP P 07 48 12.0 +0.1
BNI pmax pmax
comp=Z,32nm,1.3s
TCF **Toulx Ste Croi** 83.33 339 eP P 07 48 13.2 +1.2
HRV **Adam Dziewonsk** 83.33 30 eP P 07 48 12.4 +0.4
comp=Z,126nm,1.4s
HRV **Adam Dziewonsk** 83.33 30 eP P 07 48 12.4 +0.4
HRV pmax pmax
comp=Z,126nm,1.4s
HRV **Adam Dziewonsk** 83.33 30 P P 07 48 12.1 +0.1
baz=332
PPT **Papeete** 83.33 124 LR LR 08 17 02.5
comp=Z,225nm,20.1s,baz=288,slow=30
PPT2 **Papeete2** 83.35 124 eLR LR 08 14 00.9
comp=Z,613nm,23.5s,baz=322
PPT2 **Papeete2** 83.35 124 eT T 09 19 35.5
comp=Z,13nm,0.3s
T52A **Hallie** 83.41 41 P P 07 48 12.6 +0.1
baz=326,SNR=17
PAGS **Pennsylvania G** 83.41 35 eP P 07 48 11.6 -0.9
comp=Z,60nm,0.8s
TIAR **Tiarei** 83.46 124 eT T 09 19 42.8
comp=Z,8.2nm,0.2s
144A **Alexander Plac** 83.46 48 P P 07 48 13.5 +0.7
baz=323
ODNJ **Ogdensburg** 83.48 33 eP P 07 48 12.5 -0.3
comp=Z,61nm,1.3s
W49A **Belvidere** 83.52 44 P P 07 48 13.1 0.0
baz=325,SNR=38
WES **Weston** 83.52 30 eP P 07 48 13.2 +0.3
comp=Z,111nm,1.3s
WES **Weston** 83.52 30 eP P 07 48 13.3 +0.3
WES pmax pmax
comp=Z,111nm,1.3s
U51A **La Follette** 83.54 42 P P 07 48 13.2 -0.1
baz=326,SNR=18
MBDF **Montbardon** 83.55 335 eP P 07 48 14.0 +0.7
MBDF pmax pmax
comp=Z,54nm,1.6s
MFF **Saint Martin d** 83.60 341 eP P 07 48 13.4 +0.1
MFF pmax pmax
comp=Z,26nm,0.8s
SWET **Sewanee** 83.60 44 eP P 07 48 13.2 -0.4
comp=Z,123nm,0.8s
TZTN **Tazewell** 83.62 41 eP P 07 48 13.9 +0.3
comp=Z,54nm,0.8s
TZTN **Tazewell** 83.62 41 P P 07 48 13.8 +0.2
baz=326,SNR=17
V50A **Pikevile** 83.62 43 P P 07 48 13.4 -0.2
baz=325,SNR=26
ORIF **Oris-en-Rattie** 83.63 336 eP P 07 48 13.9 +0.2
ORIF pmax pmax
comp=Z,16nm,0.7s
X48A **Hartselle** 83.69 45 eP P 07 48 13.4 -0.5
comp=Z,64nm,0.7s
X48A **Hartselle** 83.69 45 P P 07 48 13.5 -0.5
baz=324,SNR=35
145A **Houston Renfro** 83.73 48 P P 07 48 14.9 +0.6
baz=323,SNR=8.6
VBMS **Vicksburg** 83.73 49 P P 07 48 14.9 +0.7
baz=323,SNR=15
Y47A **UCPARC, Winfie** 83.73 46 P P 07 48 14.0 -0.2
baz=324,SNR=54
MVL **Millersville** 83.75 35 eP P 07 48 13.8 -0.4
comp=Z,48nm,0.8s
Z46A **Louisville** 83.76 47 P P 07 48 14.9 +0.5
baz=323,SNR=18
244A **Avery, Jackson** 83.79 49 P P 07 48 15.3 +0.8
baz=323,SNR=46
PAL **Palisades** 83.81 33 P P 07 48 14.3 -0.2
baz=331
U52A **Thorn Hill** 83.83 41 P P 07 48 15.0 +0.2
baz=326,SNR=34
V51A **Loudon** 83.86 42 eP P 07 48 14.7 -0.2
comp=Z,87nm,0.9s
V51A **Loudon** 83.86 42 P P 07 48 14.9 0.0
baz=326,SNR=26
W50A **Signal Mountai** 83.91 43 eP P 07 48 14.9 -0.3
comp=Z,85nm,1.0s
W50A **Signal Mountai** 83.91 43 P P 07 48 15.1 -0.1
baz=325,SNR=24
CPNY **Central Park** 83.98 33 eP P 07 48 15.4 +0.1
comp=Z,121nm,1.2s
X49A **Woodville** 83.98 44 P P 07 48 15.6 0.0
baz=325,SNR=51
VIVF **Saint-Julien-l** 84.02 337 eP P 07 48 18.0 +2.4
VIVF pmax pmax
comp=Z,54nm,1.6s
Y48A **Jasper** 84.06 45 P P 07 48 15.4 -0.5
baz=324,SNR=39
SDMD **Soldier's Deli** 84.06 35 eP P 07 48 15.7 -0.1
comp=Z,39nm,1.1s
CPCT **Cooper Cave** 84.07 43 eP P 07 48 15.9 -0.1
comp=Z,92nm,1.0s
OUZ **Omahuta** 84.15 162 eP P 07 48 16.9 +0.9
comp=Z,53nm,1.6s
146A **Union** 84.15 47 eP P 07 48 17.7 +1.3
comp=Z,430nm,0.9s
146A **Union** 84.15 47 P P 07 48 17.5 +1.2
baz=323,SNR=16
SBF **Sospel** 84.15 334 eP P 07 48 17.0 +0.7
SBF pmax pmax
comp=Z,39nm,1.3s
ZAIG **Zacatecas** 84.17 63 eP P 07 48 16.9 -0.1
comp=Z,45nm,1.0s
V52A **Sevierville** 84.18 42 eP P 07 48 16.0 -0.5
comp=Z,113nm,1.0s
V52A **Sevierville** 84.18 42 P P 07 48 16.5 0.0
baz=326,SNR=34
Z47A **Carrollton** 84.19 46 P P 07 48 16.7 +0.2
baz=324,SNR=41
W51A **Cleveland** 84.20 43 P P 07 48 16.5 -0.1
baz=325,SNR=21
245A **Little AP, Sta** 84.20 48 P P 07 48 17.7 +1.0
baz=323,SNR=75
U53A **Fall Branch** 84.21 41 P P 07 48 16.8 +0.1
baz=326,SNR=29
TKL **Tuckaleechee C** 84.25 42 LR LR 08 27 11.8
comp=Z,117nm,20.7s,baz=344,slow=37
TKL **Tuckaleechee C** 84.25 42 eP P 07 48 16.9 +0.1
comp=Z,85nm,0.9s
TKL **Tuckaleechee C** 84.25 42 eP P 07 48 16.9 +0.1
TKL pmax pmax
comp=Z,85nm,0.9s
Z48A **Northport** 84.30 46 P P 07 48 16.7 -0.4
baz=324,SNR=18
X50B **Fort Payne** 84.35 44 P P 07 48 17.3 -0.1
baz=325,SNR=22
RJF **Les Rejaudoux** 84.42 339 eP P 07 48 19.0 +1.4
RJF pmax pmax
comp=Z,76nm,1.5s
LNIG **Linares** 84.44 59 eP P 07 48 17.3 -0.7
comp=Z,33nm,1.0s
BLA **Blacksburg** 84.45 39 eP P 07 48 17.4 -0.5
comp=Z,100nm,0.9s

BLA **Blacksburg** 84.45 39 eP P 07 48 17.4 -0.5
BLA pmax pmax
comp=Z,100nm,0.9s
BLA **Blacksburg** 84.45 39 P P 07 48 18.0 +0.1
baz=328,SNR=26
Y49A **Blount Mountai** 84.47 45 eP P 07 48 17.6 -0.4
comp=Z,68nm,0.8s
Y49A **Blount Mountai** 84.47 45 P P 07 48 17.9 -0.2
baz=325,SNR=30
M65A **Busby, Falmout** 84.48 30 P P 07 48 17.5 -0.4
baz=333
147A **Livingston** 84.51 47 eP P 07 48 18.6 +0.4
comp=Z,323nm,1.0s
147A **Livingston** 84.51 47 P P 07 48 18.7 +0.4
baz=324,SNR=45
EIL **Elat** 84.57 308 LR LR 08 32 58.4
comp=Z,144nm,18.3s,baz=22,slow=41
246A **Jackson Lee, B** 84.61 48 P P 07 48 19.9 +1.2
baz=323,SNR=6.3
CAF **Calviac** 84.64 338 eP P 07 48 19.3 +0.6
CAF pmax pmax
comp=Z,60nm,1.3s
X51A **Calhoun** 84.64 43 eP P 07 48 18.9 +0.1
comp=Z,151nm,1.4s
X51A **Calhoun** 84.64 43 P P 07 48 18.8 0.0
baz=325,SNR=18
W52A **Murphy** 84.64 42 eP P 07 48 19.1 +0.2
comp=Z,142nm,1.4s
W52A **Murphy** 84.64 42 P P 07 48 19.1 +0.2
baz=326,SNR=14
V53A **Saluda** 84.68 41 eP P 07 48 18.8 -0.3
comp=Z,83nm,1.4s
V53A **Saluda** 84.68 41 P P 07 48 19.0 -0.1
baz=326,SNR=12
Y50A **Piedmont** 84.77 44 P P 07 48 19.4 -0.1
baz=325,SNR=38
ITM **Ithoni** 84.78 322 eP P 07 48 19.1 -0.5
comp=Z,30nm,0.9s
247A **Quitman** 84.84 47 P P 07 48 21.1 +1.2
baz=324,SNR=22
LRAL **Lakeview Retre** 84.85 46 eP P 07 48 19.4 -0.4
comp=Z,43nm,0.8s
LRAL **Lakeview Retre** 84.85 46 P P 07 48 19.5 -0.4
baz=324,SNR=20
R58B **Mineral** 84.88 37 eP P 07 48 19.9 -0.1
comp=Z,54nm,1.0s
R58B **Mineral** 84.88 37 P P 07 48 20.1 +0.1
baz=329,SNR=14
148A **Greensboro** 84.88 46 P P 07 48 20.1 0.0
baz=324,SNR=18
CBN **Corbin Frederi** 84.88 36 eP P 07 48 20.1 +0.2
comp=Z,95nm,0.9s
CBN **Corbin Frederi** 84.88 36 P P 07 48 20.0 0.0
baz=329,SNR=8.5
W53A **Cullowhee** 84.93 42 P P 07 48 20.7 +0.3
baz=326,SNR=30
346A **Big Creek Wild** 84.94 48 eP P 07 48 21.3 +0.9
comp=Z,175nm,0.7s
346A **Big Creek Wild** 84.94 48 P P 07 48 21.1 +0.8
baz=323,SNR=24
Z49A **Columbiana** 84.95 45 P P 07 48 20.3 -0.1
baz=325,SNR=35
X52A **Dahlonega** 85.06 43 P P 07 48 21.1 +0.1
baz=326,SNR=19
544A **White Castle** 85.07 50 P P 07 48 22.6 +1.6
baz=323
Y51A **Rockmart** 85.09 44 P P 07 48 21.0 -0.1
baz=325,SNR=57
TIP **Timpagrande** 85.16 326 eP P 07 48 20.8 -0.7
comp=Z,16nm,1.1s
TIP **Timpagrande** 85.16 326 i P 07 48 21.4 -0.1
248A **Dixon Mills** 85.25 47 P P 07 48 22.8 +0.9
baz=324,SNR=14
149A **Jones** 85.31 46 P P 07 48 22.6 +0.3
baz=324,SNR=60
X53A **Estanollee** 85.42 42 P P 07 48 23.5 +0.7
baz=326,SNR=80
Z51A **Franklin** 85.51 44 P P 07 48 23.1 -0.1
baz=325,SNR=38
Y52A **Lilburn** 85.59 43 eP P 07 48 24.1 +0.5
comp=Z,87nm,0.9s
Y52A **Lilburn** 85.59 43 P P 07 48 24.0 +0.4
baz=326,SNR=27
249A **Camden** 85.65 46 P P 07 48 24.8 +0.9
baz=324,SNR=84
150A **Eclectic** 85.68 45 P P 07 48 24.2 +0.1
baz=325,SNR=48
348A **Jackson** 85.71 47 eP P 07 48 25.5 +1.3
comp=Z,401nm,1.4s
348A **Jackson** 85.71 47 P P 07 48 25.1 +0.9
baz=324,SNR=11
KMSC **Kings Mountain** 85.78 41 eP P 07 48 24.4 -0.2
comp=Z,73nm,1.0s
KMSC **Kings Mountain** 85.78 41 P P 07 48 24.6 0.0
baz=327,SNR=18
Y53A **Monroe** 85.82 43 P P 07 48 25.1 +0.4
baz=326,SNR=26
Z52A **Williamson** 85.98 44 P P 07 48 25.9 +0.3
baz=326,SNR=26
250A **Grady** 86.07 46 eP P 07 48 26.1 +0.1
comp=Z,197nm,0.8s
250A **Grady** 86.07 46 P P 07 48 26.4 +0.4
baz=325,SNR=41
MTLF **Montolieu** 86.08 338 eP P 07 48 27.6 +1.7
MTLF pmax pmax
comp=Z,7.0nm,0.8s
151A **Opelika** 86.08 45 P P 07 48 25.8 -0.3
baz=325,SNR=33
349A **Repton** 86.12 47 P P 07 48 27.4 +1.1
baz=324,SNR=11
448A **Bay Minette** 86.12 48 P P 07 48 27.4 +1.2
baz=324,SNR=8.3
Y54A **Tignall** 86.23 42 P P 07 48 27.5 +0.7
baz=326,SNR=128
GOGA **Godfrey** 86.24 43 eP P 07 48 27.2 +0.4
comp=Z,26nm,0.7s
GOGA **Godfrey** 86.24 43 eP P 07 48 27.2 +0.4
GOGA pmax pmax
comp=Z,26nm,0.7s
GOGA **Godfrey** 86.24 43 P P 07 48 27.1 +0.2
baz=326,SNR=18
152A **Waverly Hall** 86.26 44 eP P 07 48 27.0 0.0
comp=Z,119nm,1.3s
152A **Waverly Hall** 86.26 44 P P 07 48 26.8 -0.1
baz=326,SNR=18
Z53A **Monticello** 86.30 43 P P 07 48 27.3 +0.2
baz=326,SNR=26
BRAL **Brewton** 86.34 47 eP P 07 48 27.7 +0.4
comp=Z,162nm,0.6s
BRAL **Brewton** 86.34 47 P P 07 48 28.2 +0.9
baz=324,SNR=5.3
251A **Midway** 86.40 45 P P 07 48 27.8 +0.1
baz=325,SNR=23
350A **Dozier** 86.49 46 P P 07 48 29.0 +0.9
baz=325,SNR=19
JSC **Jenkinsville** 86.53 41 eP P 07 48 28.4 +0.1
comp=Z,72nm,1.0s
JSC **Jenkinsville** 86.53 41 eP P 07 48 28.4 +0.1
JSC pmax pmax
comp=Z,72nm,1.0s
449A **Pace** 86.58 47 P P 07 48 29.7 +1.1
baz=324
Z54A **Sparta** 86.68 43 P P 07 48 29.3 +0.3
baz=326,SNR=24
153A **Fort Valley** 86.70 44 P P 07 48 29.4 +0.3
baz=326,SNR=18
252A **Lumpkin** 86.80 45 P P 07 48 29.8 +0.2
baz=326,SNR=16
EPF **Esparros** 86.85 339 eP P 07 48 29.6 -0.1
EPF pmax pmax
comp=Z,14nm,1.0s
450A **Crestview** 86.86 47 P P 07 48 31.1 +1.2
baz=325,SNR=7.1
351A **Pinckard** 86.97 46 P P 07 48 31.2 +0.8
baz=325,SNR=19
JRQG **Juriquilla Cam** 87.01 63 eP P 07 48 31.2 +0.1
Z55A **Blythe** 87.02 42 P P 07 48 31.3 +0.7
baz=327,SNR=17
253A **Americus** 87.04 44 P P 07 48 31.1 +0.4
baz=326,SNR=17
154A **Montrose** 87.07 43 P P 07 48 31.5 +0.6
baz=326,SNR=24
352A **Blakely** 87.13 45 eP P 07 48 31.4 +0.2
comp=Z,231nm,0.6s
352A **Blakely** 87.13 45 P P 07 48 31.9 +0.6
baz=325,SNR=40
ETSF **Etsaut** 87.19 340 eP P 07 48 31.0 -0.4
CNNC **Cliffs of the** 87.20 38 P P 07 48 31.9 +0.5
baz=329,SNR=5.9
155A **Kite** 87.36 43 P P 07 48 32.8 +0.5
baz=327,SNR=12
451A **Vernon** 87.44 46 eP P 07 48 34.3 +1.6
comp=Z,298nm,1.1s
451A **Vernon** 87.44 46 P P 07 48 33.6 +0.9
baz=325
452A **Marianna** 87.52 46 P P 07 48 33.9 +0.8
baz=325
254A **Abbeville** 87.54 44 P P 07 48 33.8 +0.7
baz=326,SNR=23
353A **Camilla** 87.59 45 P P 07 48 34.2 +0.8
baz=326,SNR=23
156A **Sylvania** 87.79 42 P P 07 48 35.4 +1.1
baz=327,SNR=14
TIGA **Tifton** 87.81 44 eP P 07 48 34.9 +0.4
comp=Z,236nm,0.8s
TIGA **Tifton** 87.81 44 P P 07 48 35.5 +1.0
baz=326,SNR=34
255A **Hazlehurst** 87.94 43 eP P 07 48 36.0 +0.9
comp=Z,165nm,1.1s
255A **Hazlehurst** 87.94 43 P P 07 48 36.0 +0.9
baz=327,SNR=12
453A **Whigham** 87.94 45 eP P 07 48 36.2 +1.1
comp=Z,85nm,0.9s
453A **Whigham** 87.94 45 P P 07 48 36.1 +0.9
baz=326
NHSC **New Hope** 88.01 41 eP P 07 48 35.8 +0.4
comp=Z,121nm,1.0s
NHSC **New Hope** 88.01 41 P P 07 48 35.9 +0.5
baz=328,SNR=9.0
TBI **Tubuai** 88.03 128 eLR LR 08 15 52.9
comp=Z,534nm,37.5s,baz=320
TBI **Tubuai** 88.03 128 eT T 09 25 23.8
comp=Z,40nm,0.3s
552A **Lynn Haven** 88.05 46 P P 07 48 36.6 +1.0
baz=325
256A **Glennville** 88.17 43 P P 07 48 36.9 +0.8
baz=327,SNR=11
355A **Pearson** 88.24 44 P P 07 48 37.3 +0.7
baz=326,SNR=19
454A **Quitman** 88.39 45 P P 07 48 37.9 +0.7
baz=326
553A **Crawfordville** 88.43 46 P P 07 48 38.3 +0.8
baz=326
257A **Skidaway Islan** 88.57 42 P P 07 48 39.0 +1.0
baz=327
356A **Blackshear** 88.60 43 P P 07 48 39.0 +0.8
baz=327,SNR=12
455A **Stateville** 88.66 44 P P 07 48 39.4 +0.9
baz=326,SNR=6.9
357A **Townsend** 88.82 43 P P 07 48 40.1 +0.9
baz=327
554A **Perry** 88.89 45 P P 07 48 40.5 +0.9
baz=326
456A **Hilliard** 89.15 44 eP P 07 48 42.0 +1.1
comp=Z,218nm,0.8s
456A **Hilliard** 89.15 44 P P 07 48 41.9 +1.1
baz=327,SNR=14
555A **McAlpin** 89.20 45 P P 07 48 42.1 +1.0
baz=326,SNR=9.4
457A **Yulee** 89.46 43 P P 07 48 43.8 +1.5
baz=327,SNR=7.1
655A **Horseshoe Beac** 89.57 45 P P 07 48 42.9 +0.2
baz=326
556A **Lake Butler** 89.57 44 P P 07 48 44.0 +1.2
baz=327,SNR=15
PBRG **Braganca** 89.58 344 eP P 07 48 42.2 -0.5
PGAV **Gavieira, Arco** 89.71 345 eP P 07 48 43.2 -0.2
557A **Orange Park** 89.88 44 P P 07 48 45.6 +1.3
baz=327,SNR=26
656A **Willston** 90.03 45 eP P 07 48 46.3 +1.4
comp=Z,187nm,0.8s
656A **Willston** 90.03 45 P P 07 48 46.2 +1.2
baz=327,SNR=12
657A **Interlachen** 90.17 44 P P 07 48 46.8 +1.2
baz=327,SNR=8.0
POLO **Lamas de Olo** 90.19 344 eP P 07 48 44.7 -1.0
MVO **Moncorvo** 90.25 344 eP P 07 48 44.5 -1.4
comp=Z,45nm,1.4s
TLIG **Tlapa** 90.55 63 eP P 07 48 47.5 -0.1
comp=Z,7.5nm,0.9s
658A **Bunnell** 90.60 44 P P 07 48 47.5 -0.1
baz=327
757A **Oxford** 90.61 45 P P 07 48 47.0 -0.6
baz=327
PVIS **Viseu** 90.85 344 eP P 07 48 48.2 -0.5
KEST **Kesra** 90.92 330 P P 07 48 48.3 -0.8
comp=Z,5.9nm,0.9s,baz=186,slow=3.6,SNR=5.9
KEST LR LR 08 32 57.6
comp=Z,327nm,19.8s,baz=320,slow=38
KEST **Kesra** 90.92 330 eP P 07 48 49.4 +0.3
comp=Z,17nm,1.1s
ES19 **SONSECA Array** 91.00 341 eP P 07 48 48.6 -0.8
758A **Lake Helen** 91.01 44 P P 07 48 50.0 +0.5
baz=327
ESDC **Sonseca Array** 91.04 341 P P 07 48 48.9 -0.7
comp=Z,5.8nm,0.9s,baz=12,slow=4.4,SNR=21
ESDC LR LR 08 35 59.4
comp=Z,117nm,18.1s,baz=30,slow=40
ESLA **Sonseca Array** 91.04 341 eP P 07 48 49.1 -0.5
comp=Z,19nm,1.2s
MTE **Manteigas** 91.09 344 eP P 07 48 49.0 -0.8
857A **Zephyrhills** 91.10 45 P P 07 48 50.5 +0.5
baz=327
858A **St. Cloud** 91.56 44 P P 07 48 51.3 -0.8
baz=327
957A **Wimauma** 91.59 45 P P 07 48 52.0 -0.2
baz=327
PCAS **Casmilo, Conde** 91.60 344 eP P 07 48 51.4 -0.7
DWPF **Disney Wildern** 91.61 45 P P 07 48 52.1 -0.2
baz=327
PCBR **Castelo Branco** 91.62 344 eP P 07 48 50.9 -1.2
958A **Wauchula** 91.89 45 P P 07 48 53.8 +0.1
baz=327
859A **Kempfer Cattle** 91.91 44 P P 07 48 53.8 +0.1
baz=327
PTOM **Tomar** 92.01 344 eP P 07 48 53.0 -1.0
058A **Arcadia** 92.31 45 P P 07 48 55.7 +0.2
baz=327
959A **Okeechobee** 92.37 44 P P 07 48 55.8 -0.1
baz=327
PESTR **Estremoz** 92.58 344 eP P 07 48 55.3 -1.4
comp=Z,31nm,1.5s
059Z **Ave Maria** 93.09 46 P P 07 48 58.3 -0.8
baz=327
060Z **West Palm Beac** 93.46 45 P P 07 49 00.8 -0.1
baz=328
PNCL **Nicolau / Gran** 93.49 344 eP P 07 49 00.1 -0.7
MESJ **Messejana** 93.69 344 eP P 07 49 00.8 -1.0
TORD **Torodi Ar. Bea** 114.30 327 PKP PKiKP 07 54 23.0 -2.0
comp=Z,1.3nm,0.5s,baz=30,slow=2.0,SNR=13
TORD PKKPbc PKKPbc 08 05 01.7 -1.4
comp=Z,0.6nm,0.5s,baz=211,slow=1.8,SNR=10.0
DBIC **Dimbokro** 122.61 331 PKP PKPdf 07 54 40.4 -0.7
comp=Z,12nm,0.7s,baz=18,slow=2.7,SNR=30
TIC **Toumodi** 122.69 331 ePKIKP PKPdf 07 54 40.3 -1.0
KIC **Kosan Boka** 122.86 331 ePKIKP PKPdf 07 54 40.6 -1.0
comp=Z,22nm,0.7s
LIC **Lamto** 123.09 331 ePKIKP PKPdf 07 54 41.0 -1.0
comp=Z,46nm,0.8s
LSZ **Lusaka** 123.40 284 ePKPdf PKiKP 07 54 43.0 +0.2
VNDA **Vanda** 124.25 177 PKP PKPdf 07 54 41.8 -0.5
comp=Z,4.0nm,0.8s,baz=327,slow=4.5,SNR=16
VNDA PKKPbc PKKPbc 08 04 26.6 -0.9
comp=Z,0.8nm,0.9s,baz=186,slow=4.8,SNR=4.0
VNDA **Vanda** 124.25 177 ePKPdf PKiKP 07 54 42.4 -0.1
PTGA **Pitinga** 126.67 40 PKP PKPdf 07 54 48.8 -0.1
baz=317,slow=19
PTGA **Pitinga** 126.67 40 ePKPdf PKPdf 07 54 48.2 -0.7
NNA **Nana** 126.87 65 PKP PKPdf 07 54 48.4 -0.8
comp=Z,16nm,0.7s,baz=302,slow=4.5,SNR=13
LBTB **Lobatse** 131.88 277 ePKPdf PKPdf 07 54 58.5 0.0
BOSA **Boshof** 134.42 274 PKP PKPdf 07 55 01.5 -1.7
comp=Z,2.9nm,0.9s,baz=110,slow=6.7,SNR=3.7
BOSA **Boshof** 134.42 274 PKIKP PKPdf 07 55 01.5 -1.7
BOSA pmax pmax
comp=Z,2.0nm,0.7s
LPAZ **La Paz** 135.51 60 PKhKP PKPpre 07 54 55.4
comp=Z,1.4nm,0.7s,baz=31,slow=4.0,SNR=7.0
LPAZ PKP PKPdf 07 55 06.5 +0.4
comp=Z,9.5nm,0.8s,baz=13,slow=4.6,SNR=27
LPAZ **La Paz** 135.51 60 PKPpre PKPpre 07 54 55.4
LPAZ ePKPdf PKPdf 07 55 06.1 -0.1
LPAZ **La Paz** 135.51 60 PKHKP PKPpre 07 54 55.4
LPAZ e 07 55 06.1
QSPA **South Pole Qui** 136.57 180 ePKPdf PKiKP 07 55 07.3 -0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PB11	IPOC Station P	137.24	65	ePKPdf	PKPdf	07 55 09.2	+0.4
GO01	Chusmiza	137.45	64	ePKPdf	PKPdf	07 55 10.3	+0.7
PB01	IPOC Station P	138.29	66	ePKPdf	PKPdf	07 55 11.2	+0.6
LVC	Limon Verde	139.80	67	PKhKP	PKPpre	07 55 05.7	
	comp=Z,3.0nm,0.7s,baz=288,slow=6.6,SNR=3.0						
LVC				PKP	PKPdf	07 55 12.9	-0.8
	comp=Z,5.3nm,0.6s,baz=283,slow=2.7,SNR=9.7						
LVC	Limon Verde	139.80	67	PKPpre	PKPpre	07 55 05.7	
LVC				ePKPdf	PKPdf	07 55 14.2	+0.6
LVC	Limon Verde	139.80	67	PKHKP	PKPpre	07 55 05.7	
LVC				e		07 55 14.2	
LCO	Las Campanas	143.04	76	ePKPdf	PKPdf	07 55 19.0	-0.2
LCO	Las Campanas	143.04	76	ePKIKP	PKPdf	07 55 19.0	-0.2
PEL	Peldehue	145.60	82	ePKPdf	PKPbc	07 55 23.6	+0.1
PEL	Peldehue	145.60	82	ePKP2	PKPbc	07 55 23.6	+0.1
GO05	Huala	145.81	86	ePKPdf	PKPdf	07 55 23.4	0.0
GO06	Curarrehue	148.45	92	ePKPdf	PKPdf	07 55 27.3	-0.5
GO06				ePKPbc	PKPbc	07 55 31.6	+0.2
NVL	N'lazarevskaya	149.13	205⇓	iPKP2	PKPbc	07 55 31.8	-0.2
NVL				pmax	pmax		
	comp=Z,19nm,0.6s						
PLCA	Paso Flores	149.59	94	PKP	PKPdf	07 55 28.8	-0.8
	comp=Z,5.1nm,0.9s,baz=238,slow=1.3,SNR=23						
PLCA				PKPbc	PKPbc	07 55 34.4	+0.2
	comp=Z,30nm,0.6s,baz=311,slow=2.8,SNR=100						
PLCA	Paso Flores	149.59	94	ePKPdf	PKPdf	07 55 30.0	+0.4
PLCA				ePKPbc	PKPbc	07 55 34.7	+0.5
CPUP	Villa Florida	149.61	58	PKP	PKPdf	07 55 28.9	-1.1
	comp=Z,4.7nm,1.0s,baz=254,slow=3.2,SNR=4.9						
CPUP				PKPbc	PKPbc	07 55 34.5	-0.1
	comp=Z,44nm,0.7s,baz=186,slow=5.1,SNR=4.9						
GO09	Cerro Castillo	151.50	115	ePKPbc	PKiKP	07 55 39.1	+0.4
GO09				ePKPab	pPKPbc	07 55 49.1	-0.5
VNA2	Neumayer--Watz	153.72	196	P	PKPbc	07 55 42.4	-0.3
VNA3	Neumayer Olymp	153.85	194	P	PKPbc	07 55 42.6	-0.4
VNA1	Neumayer--Stat	154.11	196	P	PKPbc	07 55 42.5	-1.0

IDC 01 07:54:46.0±2.1**,6.39°S×129.35°E,h0km,mb3.2**/1**, mb1 3.6**/3**,mb1mx3.4**/24**,mbtmp3.4**/3**,ML3.7**/2**,Error ellipse: s-maj=133.6km s-min=30.7km az=68.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.32	161	Pn	Pn	07 58 08.6	-1.6
	0.4nm,0.3s,baz=339,slow=10,SNR=23						
WRA				Sn	Sn	08 00 36.1	-14
	0.6nm,0.3s,baz=344,slow=21,SNR=7.3						
ASAR	Alice Springs	17.73	166	P	P	07 58 55.5	0.0
	0.2nm,0.3s,baz=351,slow=11,SNR=12						
ASAR				S	Sn	08 01 59.7	-13
	0.1nm,0.3s,baz=358,slow=29,SNR=3.3						
MKAR	Makanchi Array	67.36	327	P	P	08 05 43.0	0.0
	0.2nm,0.7s,baz=120,slow=5.2,SNR=2.6						

ISCJB 01 08:10:47.7±0.8,48.79°S±0.08°×106.5°E±0.2°,h10km, mb4.3/15,MS3.8/8,Error ellipse: s-maj=23.4km s-min=10.6km az=16.2

IDC 01 08:10:47.6±0.9,48.84°S×106.41°E,h0km,mb4.3/9, mb1 4.5/9,mb1mx4.2/42,mbtmp4.3/9,MS3.8/8,Ms1 3.8/8, ms1mx3.5/26,Error ellipse: s-maj=33.2km s-min=19.2km az=104.0

NEIC 01 08:10:49.1±0.3,48.80°S×106.44°E,h10km,mb4.4/12,Error ellipse: s-maj=13.2km s-min=6.0km az=111.0

ISC 01 08:10:48.8±0.8**,48.8°S**±0.1°×**106.4°E**±0.2°**,h10km,n48, σ0.66**/42**,mb4.4**/15**,MS3.8**/8**,Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	15.04	25	T	T	08 29 41.6	
	baz=199,slow=74,SNR=54						
H01W1	Cape Leeuwin H	15.05	25	T	T	08 29 54.9	
	baz=199,slow=74,SNR=53						
H01W3	Cape Leeuwin H	15.05	25	T	T	08 29 45.6	
	baz=199,slow=74,SNR=87						
CASY	Casey	17.64	174	ePn	P	08 14 55.4	+0.1
	13nm,0.9s						
MORW	Morawa	21.06	24	eP	P	08 15 33.3	+0.3
	24nm,1.1s						
FORT	Forrest	24.38	50	eP	P	08 16 06.0	-1.1
	16nm,1.0s						
BBOO	Buckleboo	27.32	65	eP	P	08 16 33.9	+0.2
	7.4nm,0.8s						
MAW	Mawson	28.75	213	LR	LR	08 25 37.2	
	comp=Z,178nm,21.8s,baz=72,slow=31						
STKA	Stephens Creek	31.35	70	P	P	08 17 09.3	-0.2
	3.1nm,0.8s,baz=224,slow=6.0,SNR=8.0						
STKA	Stephens Creek	31.35	70	eP	P	08 17 09.5	0.0
	0.7nm,1.0s						
ASAR	Alice Springs	33.16	51	P	P	08 17 25.4	0.0
	2.9nm,0.7s,baz=210,slow=8.2,SNR=39						
ASAR				PcP	PcP	08 20 07.1	-1.1
	1.0nm,0.9s,baz=181,slow=2.2,SNR=7.2						
ASAR				LR	LR	08 28 53.8	
	comp=Z,190nm,21.2s,baz=228,slow=33						
AS31	Alice Springs	33.16	51	eP	P	08 17 25.4	-0.1
	1.2nm,0.8s						
AS01	Alice Springs	33.19	51	eP	P	08 17 25.3	-0.4
FITZ	Fitzroy Crossi	34.38	34	P	P	08 17 37.8	+1.8
	3.1nm,0.9s,baz=231,slow=9.2,SNR=4.1						
FITZ	Fitzroy Crossi	34.38	34	eP	P	08 17 37.2	+1.2
	3.9nm,1.0s						
VNDA	Vanda	35.51	162	P	P	08 17 45.7	+0.5
	3.9nm,1.0s,baz=286,slow=9.6,SNR=9.2						
VNDA				LR	LR	08 30 37.9	
	comp=Z,306nm,21.5s,baz=311,slow=34						
VNDA	Vanda	35.51	162	eP	P	08 17 45.5	+0.4
	7.7nm,1.1s						
WR1	Warramunga Arr	36.50	48	eP	P	08 17 54.8	+0.6
	5.4nm,0.8s						
WRA	Warramunga Arr	36.50	48	P	P	08 17 54.8	+0.6
	5.2nm,0.8s,baz=211,slow=8.2,SNR=35						
WRA				PcP	PcP	08 20 16.8	-1.2
	0.7nm,0.9s,baz=223,slow=2.9,SNR=5.1						
WRA				LR	LR	08 31 28.5	
	comp=Z,151nm,18.1s,baz=240,slow=34						
WB2	Warramunga Arr	36.51	48	eP	P	08 17 54.3	0.0
WRAB	Tennant Creek	36.52	48	eP	P	08 17 54.3	-0.1
	6.9nm,0.8s						
QSPA	South Pole Qui	41.32	180	P	P	08 18 34.9	+0.6
	3.0nm,1.1s,baz=302,slow=4.8,SNR=3.6						
QSPA	South Pole Qui	41.32	180	eP	P	08 18 34.9	+0.6
	1.8nm,1.1s						
CTA	Charters Tower	42.84	62	P	P	08 18 47.8	+0.7
	8.0nm,0.8s,baz=218,slow=14,SNR=8.3						
CTAO	Charters Tower	42.84	62	eP	P	08 18 47.0	-0.1
	11nm,0.9s						
PSI	Prapat	51.82	350	LR	LR	08 37 06.1	
	comp=Z,138nm,21.9s,baz=264,slow=30						
CMAR	Chiang Mai Arr	67.30	352	P	P	08 21 44.9	+1.3
	2.7nm,0.8s,baz=184,slow=4.9,SNR=11						
CMAR				LR	LR	08 50 11.9	
	comp=Z,62nm,18.9s,baz=218,slow=35						
KSRS	Korea Array	88.00	17	LR	LR	09 00 47.7	
	comp=Z,7.5nm,21.7s,baz=175,slow=34						
SONA0	Songino Array	96.27	360	eP	P	08 24 16.4	-0.5
SONM	Songino Array	96.27	360	P	P	08 24 16.4	-0.5
	1.1nm,0.8s,baz=174,slow=5.7,SNR=2.9						
MKAR	Makanchi Array	97.52	344	LR	LR	09 09 44.3	
	comp=Z,42nm,18.5s,baz=184,slow=36						
ILAR	Eielson Array	139.41	39	PKP	PKiKP	08 30 16.0	-1.2
	0.4nm,0.8s,baz=243,slow=4.3,SNR=3.7						
WDC	Whiskeytown Da	144.77	85	ePKPdf	PKPbc	08 30 24.3	0.0
INK	Inuvik	145.06	34	PKPbc	PKPab	08 30 24.2	-0.2
	5.9nm,1.1s,baz=249,slow=3.1,SNR=7.5						
INK	Inuvik	145.06	34	ePKPbc	PKPdf	08 30 24.4	-0.4
ZAIG	Zacatecas	145.33	128	ePKPbc	PKPbc	08 30 26.0	-0.9
GSC	Goldstone, Bar	145.66	97	ePKPdf	PKPbc	08 30 27.3	-0.2
BEKR	Beckworth	145.85	87	ePKPdf	PKPbc	08 30 27.9	-0.1
NVAR	Mina Array Bea	146.45	91	PKPbc	PKPbc	08 30 30.3	+0.4
	2.1nm,0.8s,baz=213,slow=4.7,SNR=15						
X16A	Lo Mia Camp, P	148.61	103	ePKPbc	PKPbc	08 30 36.4	+0.5
G08A	Pilot Rock	149.24	79	ePKPbc	PKPbc	08 30 37.3	+0.3
KNB	Kanab	149.27	98	ePKPbc	PKPbc	08 30 37.6	+0.1
PSUT	Pine Spring	149.44	94	ePKPbc	PKiKP	08 30 39.0	-0.1
TX31	Lajitas Ar. Si	149.90	119	ePKPbc	PKPbc	08 30 39.4	+0.2
TXAR	Lajitas Array	149.90	119	PKPbc	PKiKP	08 30 39.6	-0.5
	3.6nm,0.9s,baz=204,slow=5.5,SNR=16						
ANMO	Albuquerque	152.12	108	PKPbc	PKiKP	08 30 44.6	0.0
	1.4nm,0.7s,baz=187,slow=4.6,SNR=6.4						
YKA	Yellowknife Ar	153.66	43	PKPbc	PKiKP	08 30 46.3	-0.3
	0.5nm,0.7s,baz=293,slow=2.4,SNR=6.1						
PDAR	Pinedale Array	154.37	90	PKPbc	PKPbc	08 30 48.3	-0.7
	0.6nm,0.9s,baz=242,slow=1.9,SNR=3.2						

NEIC 01 08:16:37.9±0.2,18.35°N×118.92°E,h10km,mb4.7/48,Error ellipse: s-maj=5.1km s-min=4.3km az=120.0

ISCJB 01 08:16:39.7±1.0,18.41°N±0.02°×119.01°E±0.02°,h33km±7km, mb4.6/113,MS3.9/16,Error ellipse: s-maj=4.0km s-min=3.3km az=148.7

MAN 01 08:16:40.5,18.21°N×118.91°E,h30km,mb5.1,ML4.1, MS4.2

MOS 01 08:16:40.5±0.8,18.45°N×118.99°E,h38km,mb4.9/43,Error ellipse: s-maj=9.1km s-min=4.9km az=118.3

BJI 01 08:16:40.2,18.60°N×118.89°E,h20km,mb4.5/46,mB4.9/30, ML4.2/4,Ms4.3/28,Ms7 4.1/27

IDC 01 08:16:44.6±2.0,18.32°N×119.07°E,h65km±19km,mb4.1/33, mb1 4.2/36,mb1mx4.1/54,mbtmp4.4/36,MS3.7/16, Ms1 3.7/16,ms1mx3.4/52,Error ellipse: s-maj=12.6km s-min=9.3km az=79.0

ISC 01 08:16:40.7±1.3**,18.36°N**±0.03°×**118.93°E**±0.04°**,h29km**±10km**, n275,**σ**1.45**/311**,mb4.7**/113**,MS3.8**/16**,37C-13D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	Bolinao	2.18	154	eP	Pn	08 17 13.1	-1.9
BOLP				eS	Sn	08 17 37.1	-3.9
APYP	Conner	2.26	102	eP	Pn	08 17 15.1	-0.9
APYP				eS	Sn	08 17 38.9	-4.0
SCZP	Santa Cruz	2.73	160	eP	Pn	08 17 17.9	-4.7
SCZP				eS	Sn	08 17 52.9	-1.8
SMPP	San Manuel, Pa	2.76	142	eP	Pn	08 17 20.8	-2.2
SMPP				eS	Sn	08 17 45.4	-10
CVP	Callao Caves	2.83	103⇓	iP	Pn	08 17 23.8	-0.1
CVP				i S	Sn	08 17 55.7	-1.4
SGCP	Mt. Cagua	2.96	92	eP	Pn	08 17 25.8	0.0
SGCP				eS	Sn	08 17 56.5	-3.9
CAUP	Cauayan	3.10	117	eP	Pn	08 17 28.8	+1.2
CAUP				eS	Sb	08 18 09.0	-3.5
PCPH	Palayan	3.47	143⇑	eP	Pn	08 17 32.2	-0.5
PCPH				eS	Pb	08 17 42.3	+0.9
PALP	Palanan	3.57	111	eP	Pn	08 17 34.7	+0.5
PALP				eS	Sn	08 18 16.3	+0.8
POLP	Polilio Island	4.62	141	eP	Pn	08 17 50.3	+1.7
POLP				eS	Sn	08 18 39.3	-2.1
TGY	Tagaytay City	4.65	155	P	Pn	08 17 51.2	+2.1
	90nm,0.3s,baz=281,slow=4.2,SNR=10						
TGY				S	Sn	08 18 45.6	+3.4
	89nm,0.3s,baz=10,slow=14,SNR=3.6						
TGY				LR	LR	08 19 57.3	
	comp=Z,1μm,20.7s,baz=298,slow=42						
TGY	Tagaytay City	4.65	155⇓	eP	Pn	08 17 49.7	+0.7
TWG	Pinlang	4.87	24	ePn	Pn	08 17 51.9	-0.1
TWG				eSn	Sn	08 18 44.2	-3.3
TPUB	Ta-pu	5.17	18	ePn	Pn	08 17 55.2	-0.9
TPUB				eSn	Sn	08 18 50.8	-4.0
YULB	Yu-li	5.47	23	ePn	Pn	08 18 01.0	+0.7
YULB				eSn	Sn	08 18 58.5	-3.9
SSLB	Suanglung	5.72	19	ePn	Pn	08 18 03.0	-0.7
SSLB				eSn	Sn	08 19 06.2	-2.3
MCO	Taipa Grande	6.28	307	P	Pn	08 18 10.0	-1.4
NACB	Ninganchiao	6.30	23	ePn	Pn	08 18 11.8	+0.2
NACB				eSn	Sn	08 19 22.5	-0.1
QZH	Quanzhou	6.56	357⇑	iPn	Pn	08 18 14.1	-1.1
QZH				Sn	Sn	08 19 24.3	-4.7
QZH				smax	smax		
	comp=N,170nm,0.5s						
QZH				smax	smax		
	comp=E,130nm,0.4s						
QZH				LR	LR		
	comp=N,760nm,14.9s						
QZH				LR	LR		
	comp=Z,830nm,14.2s						
YHNB	Yeheng	6.68	20	ePn	Pn	08 18 17.1	+0.2
YHNB				eSn	Sn	08 19 30.2	-2.0
TATO	Taipei	7.00	19	ePn	Pn	08 18 22.0	+0.8
YOJ	Yonaguni jima	7.16	31	ePn	Pn	08 18 23.6	+0.1
YOJ				eSn	Sn	08 19 43.8	-0.2
YOJ	Yonaguni jima	7.16	31	eP	Pn	08 18 23.6	+0.1
YOJ				e		08 19 43.8	
QIZ	Qiongzhong	8.64	276	P	Pn	08 18 41.2	-2.6
QIZ				S	Sn	08 20 17.6	-2.7
QIZ				pmax	pmax		
	comp=Z,67nm,0.6s						
QIZ				LR	LR		
	comp=N,400nm,11.9s						
QIZ				LR	LR		
	comp=E,580nm,16.9s						
QIZ				LR	LR		
	comp=Z,510nm,15.2s						
QIZ	Qiongzhong	8.64	276	ePn	Pn	08 18 40.6	-3.2
JOW	Kunigami	12.06	44	P	Pn	08 19 31.5	+0.9
	comp=Z,1.2nm,0.3s,baz=78,slow=19,SNR=3.8						
JOW				LR	LR	08 24 03.8	
	comp=Z,231nm,20.9s,baz=300,slow=37						
JOW	Kunigami	12.06	44	ePn	Pn	08 19 31.1	+0.5
KKM	Kota Kinabalu	12.52	193	ePn	Pn	08 19 35.5	-1.6
DAV	Davao City (W)	12.96	149	LR	LR	08 26 24.3	
	comp=Z,541nm,18.2s,baz=351,slow=45						
NJ2	Nanjing	13.63	360	eP	Pn	08 19 50.2	-1.9
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
GYA	Guiyang	13.91	308⇑	iP	Pn	08 19 54.4	-1.6
GYA				pP	P	08 20 01.6	-2.2
GYA				S	Sn	08 22 28.0	-1.5
GYA				SS	SnSn	08 22 44.8	+2.6
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,4.6s						
GYA				LR	LR		
	comp=Z,390nm,13.0s						
GYA				LR	LR		
	comp=Z,360nm,12.2s						
GYA				LR	LR		
	comp=Z,320nm,12.8s						
KMI	Kunming	16.47	297	P	P	08 20 31.5	-1.0
KMI				pP	pP	08 20 37.2	-1.9
KMI				sP	sP	08 20 40.9	-1.4
KMI				pmax	pmax		
	comp=Z,21nm,0.7s						
KMI				pmax	pmax		
	comp=Z,140nm,5.2s						
KMI				LR	LR		
	comp=Z,250nm,15.9s						
KMI				LR	LR		
	comp=Z,560nm,15.3s						
KMI				LR	LR		
	comp=Z,600nm,13.3s						
PBKT	Sadao Pong	17.23	267	eP	P	08 20 40.5	-0.1
	comp=Z,24nm,1.1s						
XAN	Xi'an	18.00	332	P	P	08 20 50.8	+1.7
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,280nm,5.4s						
PAYA	Payao	18.07	276	P	P	08 20 56.9	+6.9
	comp=Z,5.6nm,1.0s						
JNU	Nakatsue	18.20	34	P	P	08 20 51.6	+0.3
	comp=Z,0.7nm,0.3s,baz=196,slow=5.7,SNR=9.0						
JNU				LR	LR	08 27 40.7	
	comp=Z,112nm,19.2s,baz=295,slow=36						
JNU	Nakatsue	18.20	34	ePn	P	08 20 52.6	+1.3
	comp=Z,36nm,0.9s						
CD2	Chengdu	18.58	315	eP	P	08 20 54.5	-1.1
CD2				S	Sn	08 24 18.6	-4.4
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
CD2				LR	LR		
	comp=Z,760nm,8.8s						
CD2				LR	LR		
	comp=Z,740nm,11.1s						
CD2				LR	LR		
	comp=Z,790nm,8.6s						
CMMT	Chiang Mai	18.95	275	P	Pn	08 21 03.7	+3.3
	comp=Z,10.0nm,1.7s						
CHTO	Chiang Mai	18.95	275	eP	Pn	08 21 01.0	+0.5
	comp=Z,10nm,1.1s						
CHTO	Chiang Mai	18.95	275	eP	Pn	08 21 01.0	+0.5
CHTO				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CHTO	Chiang Mai	18.95	275	P	Pn	08 21 03.8	+3.3
	comp=Z,45nm,1.6s						
CM01	Chiang Mai Arr	18.95	273	eP	Pn	08 21 01.2	+0.7
CM31	Chiang Mai Arr	18.97	273	eP	Pn	08 21 01.3	+0.7
CMAR	Chiang Mai Arr	18.97	273	P	Pn	08 21 02.1	+1.5
	comp=Z,0.1nm,0.3s,baz=87,slow=9.0,SNR=20						
CMAR				PcP	PcP	08 25 25.9	+0.9
	comp=Z,0.2nm,0.3s,baz=72,slow=1.3,SNR=5.3						
CMAR				LR	LR	08 27 23.4	
	comp=Z,126nm,20.2s,baz=93,slow=33						
CMAR	Chiang Mai Arr	18.97	273c	eP	Pn	08 21 03.0	+2.3
CMAR				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KS15	Wonju Array Si	20.57	21	eP	Pn	08 21 18.4	-1.1
KSAR	Wonju Array Be	20.57	21	P	P	08 21 17.8	+0.7
KSAR	Wonju Array Be	20.57	21	P	P	08 21 17.8	+0.7
KSRS	Korea Array	20.59	21	P	P	08 21 17.8	+0.4
	comp=Z,6.9nm,0.8s,baz=199,slow=10,SNR=14						
KSRS				LR	LR	08 29 00.6	
	comp=Z,78nm,19.7s,baz=159,slow=36						
BJT	Baijiatuau	21.72	354	eP	P	08 21 30.2	+0.8
	comp=Z,34nm,0.8s						
BJT	Baijiatuau	21.72	354	eP	P	08 21 30.2	+0.8
BJT				pmax	pmax		
	comp=Z,35nm,0.8s						
BJI	Beijing	21.74	354	P	P	08 21 30.7	+1.1
BJI				pmax	pmax		
	comp=Z,32nm,0.8s						
LZH	Lanzhou	22.12	326	⇑P	P	08 21 35.3	+1.2
LZH				pP	sP	08 21 42.0	-2.0
LZH				sP	pwP	08 21 47.6	+1.5
LZH				PP	PnPn	08 21 59.4	+2.7
LZH				S	S	08 25 32.3	-4.2
LZH				sS	pS	08 25 41.0	-4.4
LZH				SS	SnSn	08 26 10.9	+6.8
LZH				pmax	pmax		
	comp=Z,26nm,1.5s						
LZH				pmax	pmax		
	comp=Z,100nm,5.4s						
LZH				LR	LR		
	comp=Z,1μm,12.5s						
LZH				LR	LR		
	comp=Z,800nm,13.0s						
LZH				LR	LR		
	comp=Z,1μm,14.1s						
SIJI	Sorong	22.64	146	P	P	08 21 39.7	+0.2
	comp=Z,8.9nm,0.5s,baz=337,slow=12,SNR=4.6						
INU	Inuyama	23.32	40	eP	P	08 21 46.9	+0.6
	comp=Z,26nm,0.9s						
MJAR	Matsushiro Arr	24.83	39	P	P	08 21 59.6	-1.0
	comp=Z,1.7nm,1.0s,baz=244,slow=11,SNR=3.9						
PSI	Prapat	24.96	234	P	P	08 22 03.2	+1.2
	comp=Z,4.8nm,0.8s,baz=0.0,slow=6.6,SNR=4.4						
PSI	Prapat	24.96	234	eP	P	08 22 04.1	+2.1
	comp=Z,23nm,1.5s						
PSI	Prapat	24.96	234	eP	P	08 22 04.1	+2.1
PSI				pmax	pmax		
	comp=Z,23nm,1.5s						
SHL	Shillong	26.06	291	eP	P	08 22 12.7	+0.8
	comp=Z,18nm,1.0s						
SHL	Shillong	26.06	291	eP	P	08 22 12.7	+0.8
SHL				pmax	pmax		
	comp=Z,18nm,1.0s						
GTA	Gaotai	26.73	326	eP	P	08 22 17.9	+0.1
GTA				pP	pP	08 22 24.3	-0.7
GTA				sP	sP	08 22 27.0	-1.1
GTA				PcP	PcP	08 25 40.8	0.0
GTA				S	S	08 26 49.1	-2.7
GTA				sS	sS	08 27 00.8	-3.0
GTA				SS	SnSn	08 28 02.1	+5.6
GTA				PcS	PcS	08 29 20.9	-1.2
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,240nm,7.5s						
GTA				LR	LR		
	comp=Z,390nm,14.6s						
GTA				LR	LR		
	comp=Z,320nm,15.2s						
GTA				LR	LR		
	comp=Z,530nm,15.6s						
MDJ	Mudanjiang	27.66	17	P	P	08 22 27.2	+1.2
MDJ				pmax	pmax		
	comp=Z,18nm,0.9s						
LSA	Lhasa	27.70	299	eP	P	08 22 27.9	+0.9
	comp=Z,4.8nm,0.8s						
LSA	Lhasa	27.70	299	eP	P	08 22 27.9	+0.9
LSA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
USA0B	Ussuriysk Arra	28.00	20	eP	P	08 22 29.9	+0.9
	comp=Z,5.0nm,0.9s						
USRK	Ussuriysk Ar.	28.00	20	P	P	08 22 30.1	+1.1
	comp=Z,3.1nm,0.8s,baz=185,slow=5.9,SNR=12						
USRK				LR	LR	08 35 52.9	
	comp=Z,84nm,18.3s,baz=176,slow=41						
SONM	Songino Array	31.13	344	P	P	08 22 57.1	+0.2
	comp=Z,1.5nm,0.7s,baz=165,slow=8.6,SNR=6.8						
SONA1	Songino Array	31.14	344	eP	P	08 22 56.8	-0.2
ASAJ	Asahikawa	32.47	33	P	P	08 23 08.5	0.0
	comp=Z,8.1nm,0.7s,baz=323,slow=20,SNR=3.1						
KLR	Kul'dur	32.49	16	P	P	08 23 09.2	+0.6
	comp=Z,6.5nm,0.7s,baz=222,slow=6.4,SNR=20						
KLR				PcP	PcP	08 25 54.8	-0.3
	comp=Z,1.8nm,0.7s,baz=192,slow=1.0,SNR=4.6						
KLR				LR	LR	08 36 13.9	
	comp=Z,107nm,18.3s,baz=223,slow=36						
KLR	Kul'dur	32.49	16⇑	eP	P	08 23 09.1	+0.5
ZAK	Zakamensk	34.31	342	eP	P	08 23 22.6	-2.0
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
ZEA	Zeya	35.89	8	eP	P	08 23 39.1	+1.0
ZEA				pmax	pmax		
	comp=N,59nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,73nm,1.0s						
WMQ	Urumqi	36.50	321	eP	P	08 23 45.5	+2.0
WMQ				sP	pwP	08 23 55.9	-0.3
WMQ				pmax	pmax		
	comp=Z,19nm,0.7s						
WMQ				LR	LR		
	comp=Z,680nm,18.7s						
WMQ				LR	LR		
	comp=Z,310nm,16.9s						
WMQ				LR	LR		
	comp=Z,570nm,16.7s						
PMG	Port Moresby	39.21	132	P	P	08 24 04.2	-2.4
	comp=Z,3.1nm,0.4s,baz=338,slow=16,SNR=2.4						
PMG	Port Moresby	39.21	132	eP	P	08 24 08.6	+2.0
	comp=Z,32nm,1.3s						
PMG	Port Moresby	39.21	132	eP	P	08 24 08.6	+2.0
PMG				pmax	pmax		
	comp=Z,33nm,1.3s						
BOD	Bodaibo	39.57	356	eP	P	08 24 10.4	+1.3
BOD				pmax	pmax		
	comp=Z,13nm,1.8s						
COEN	Coen	40.03	142	eP	P	08 24 13.3	-0.1
	comp=Z,20nm,1.4s						
DGZ	Jazzator, Alta	40.19	328c	iP	P	08 24 16.0	+1.4
DGZ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WRAB	Tennant Creek	40.95	158	eP	P	08 24 20.3	-0.7
	comp=Z,18nm,1.3s						
WRAB	Tennant Creek	40.95	158⇑	eP	P	08 24 21.6	+0.6
WRAB				pmax	pmax		
	comp=Z,19nm,2.5s						
WRA	Warramunga Arr	40.96	158	P	P	08 24 18.7	-2.3
	comp=Z,1.7nm,0.6s,baz=328,slow=10,SNR=20						
WRA				PcP	PcP	08 26 20.3	-0.8
	comp=Z,0.5nm,0.5s,baz=348,slow=3.5,SNR=3.3						
WB2	Warramunga Arr	40.96	158	eP	P	08 24 20.6	-0.4
MK01	Makanchi Array	41.30	322	eP	P	08 24 23.2	-0.4
MK01				ePcP	PcP	08 26 21.9	+0.1
MK31	Makanchi Array	41.32	322	eP	P	08 24 23.7	0.0
MK31				ePcP	PcP	08 26 21.7	-0.2
MK31	Makanchi Array	41.32	322	eP	P	08 24 23.7	0.0
MK31				e		08 26 21.7	
MKAR	Makanchi Array	41.32	322	P	P	08 24 24.9	+1.2
	comp=Z,2.6nm,0.9s,baz=121,slow=9.4,SNR=16						
MKAR				PcP	PcP	08 26 21.5	-0.4
	comp=Z,2.7nm,0.7s,baz=105,slow=4.1,SNR=9.9						
MKAR				LR	LR	08 42 25.8	
	comp=Z,126nm,18.9s,baz=96,slow=37						
MKAR	Makanchi Array	41.32	322	eP	P	08 24 24.2	+0.4
	comp=Z,30nm,1.1s						
MKAR				ePcP	PcP	08 26 21.8	-0.1
MKAR	Makanchi Array	41.32	322	eP	P	08 24 24.2	+0.4

MKAR *e* 08 26 21.8
MKAR pmax pmax
comp=Z,30nm,1.1s
PDGK Podgornoye 41.47 316 P **P** **08 24 26.3 +1.1**
PDGK pmax pmax
comp=Z,10.0nm,1.1s
MAKZ Makanchi 41.51 321 *eP* **P** **08 24 25.0 -0.3**
comp=Z,4.4nm,1.1s
MAKZ Makanchi 41.51 321 *eP* **P** **08 24 25.0 -0.3**
MAKZ pmax pmax
comp=Z,4.0nm,1.1s
NRN Naryn 43.17 312 *eP* **P** **08 24 39.1 -0.2**
comp=Z,5.2nm,0.9s
NRN Naryn 43.17 312 *eP* **P** **08 24 39.1 -0.2**
NRN pmax pmax
comp=Z,5.0nm,0.9s
NIL Nilore 43.43 300 *eP* **P** **08 24 41.2 0.0**
comp=Z,17nm,0.9s
NIL Nilore 43.43 300 *eP* **P** **08 24 41.2 0.0**
NIL pmax pmax
comp=Z,17nm,0.9s
ZAA0 Zalesovo Array 44.16 332 *eP* **P** **08 24 46.6 -0.1**
comp=Z,4.1nm,0.8s
ZALV Zalesovo Beam 44.16 332 P **P** **08 24 47.0 +0.3**
comp=Z,3.8nm,0.8s,baz=132,slow=7.0,SNR=18
ZALV PcP **PP** **08 26 30.2 +0.4**
comp=Z,1.3nm,0.6s,baz=120,slow=2.5,SNR=5.3
ZALV LR LR 08 43 20.1
comp=Z,65nm,19.1s,baz=246,slow=36
ZALV Zalesovo Beam 44.16 332 *eP* **P** **08 24 46.5 -0.2**
ZALV PcP **PP** **08 26 30.2 +0.4**
ZALV Zalesovo Beam 44.16 332 *eP* **P** **08 24 46.5 -0.2**
ZALV 08 26 30.3
AS31 Alice Springs 44.25 160 *eP* **P** **08 24 47.2 -0.6**
comp=Z,5.8nm,0.4s
ASAR Alice Springs 44.25 160 P **P** **08 24 46.6 -1.1**
comp=Z,6.3nm,0.5s,baz=342,slow=6.7,SNR=37
AS01 Alice Springs 44.27 160 *eP* **P** **08 24 47.3 -0.6**
YAK Yakutsk 44.28 7 *eP* **P** **08 24 47.3 -0.1**
YAK pmax pmax
comp=Z,26nm,0.8s
YAK pmax pmax
comp=N,13nm,0.9s
SFK Sufi-Kurgan 44.57 309 P **P** **08 24 51.8 +1.4**
SFK pmax pmax
comp=Z,3.0nm,1.2s
KURK Kurchatov 45.41 325 *eP* **P** **08 24 56.8 +0.1**
comp=Z,17nm,0.8s
KURK Kurchatov 45.41 325 *ceP* **P** **08 24 57.6 +1.0**
KURK pmax pmax
comp=Z,23nm,1.0s
KURBB Kurchatov Arra 45.41 325 P **P** **08 24 57.7 +1.1**
comp=Z,9.3nm,0.7s,baz=122,slow=8.5,SNR=53
PETK Petropavlovsk- 45.88 32 P **P** **08 25 00.6 +0.2**
comp=Z,5.7nm,0.7s,baz=184,slow=8.2,SNR=9.1
PETK LR LR 08 46 42.8
comp=Z,88nm,18.9s,baz=231,slow=39
KK31 Karatay Array 47.56 312 *eP* **P** **08 25 14.1 +0.4**
KK31 *e*PcP **PcP** **08 26 43.3 0.0**
KK31 Karatay Array 47.56 312 *eP* **P** **08 25 14.1 +0.4**
KK31 *e* 08 26 43.3
KKAR Karatay Array 47.56 312 *eP* **P** **08 25 13.8 +0.1**
KKAR *e*PcP **PcP** **08 26 43.2 -0.1**
KKAR Karatay Array 47.56 312 *eP* **P** **08 25 13.8 +0.1**
KKAR *e* 08 26 43.2
OTUK Ortayu 48.00 319 P **P** **08 25 18.3 +1.2**
OTUK pmax pmax
comp=Z,11nm,0.9s
SEY Seymchan 50.14 19 P **P** **08 25 34.2 +1.1**
comp=Z,3.6nm,0.8s,baz=229,slow=6.0,SNR=5.4
SEY Seymchan 50.14 19⇑ *eP* **P** **08 25 34.0 +0.9**
BVAR Borovoye Array 51.00 324 P **P** **08 25 40.7 +0.9**
comp=Z,1.5nm,0.6s,baz=121,slow=9.0,SNR=8.4
BVAR PcP **PcP** **08 26 55.1 -0.6**
comp=Z,2.9nm,0.7s,baz=129,slow=4.0,SNR=11
BRVK Borovoye 51.07 324 *eP* **P** **08 25 40.6 +0.3**
comp=Z,20nm,1.6s
BRVK Borovoye 51.07 324⇑ *eP* **P** **08 25 41.3 +1.0**
BRVK pmax pmax
comp=Z,12nm,1.6s
BBOO Buckleboo 53.45 162 *eP* **P** **08 25 59.1 +0.9**
comp=Z,8.5nm,0.9s
TIXI Tiksi 53.61 4 P **P** **08 25 56.9 -1.9**
comp=Z,6.7nm,0.3s,baz=206,slow=4.3,SNR=15
TIXI Tiksi 53.61 4⇓ *eP* **P** **08 25 56.9 -1.9**
TIXI pmax pmax
comp=Z,24nm,1.0s
STKA Stephens Creek 54.48 156 P **P** **08 26 08.6 +2.9**
comp=Z,4.7nm,0.8s,baz=348,slow=8.0,SNR=9.1
STKA Stephens Creek 54.48 156 *eP* **P** **08 26 07.2 +1.5**
comp=Z,1.4nm,0.7s
STKA Stephens Creek 54.48 156 *eP* **P** **08 26 07.2 +1.5**
STKA pmax pmax
comp=Z,1.0nm,0.7s
GEYT Alibeck 56.09 304 P **P** **08 26 18.9 +1.5**
comp=Z,15nm,0.5s,baz=122,slow=5.6,SNR=16
GYA0B ALIBECK ARRAY 56.09 304 *eP* **P** **08 26 16.4 -1.0**
comp=Z,10nm,0.9s
ABKAR Akbulak array 56.14 317 *eP* **P** **08 26 17.8 +0.2**
ABKAR *e*PcP **PcP** **08 27 14.2 -1.1**
AKTO Aktyubinsk 57.59 319 P **P** **08 26 28.2 +0.4**
comp=Z,2.3nm,0.6s,baz=99,slow=8.4,SNR=8.0
SVE Sverdlovsk 57.59 326 *eP* **P** **08 26 28.4 +0.7**
SVE pmax pmax
comp=Z,25nm,1.4s
BILL Bilibino 57.85 19⇑ *eP* **P** **08 26 29.7 +0.4**
BILL pmax pmax
comp=Z,6.0nm,1.0s
ARU Arti 58.59 326 *eP* **P** **08 26 34.3 -0.4**
comp=Z,10nm,0.9s
ARU Arti 58.59 326 P **P** **08 26 35.1 +0.4**
ARU 08 28 41.7
ARU S **S** **08 34 38.9 +2.1**
PRGR Permogore 66.08 330 *eP* **P** **08 27 23.8 -0.9**
PRGR pmax pmax
comp=Z,13nm,0.7s
GNI Garni 66.46 306⇓ *eP* **P** **08 27 29.3 +1.5**
GNI pmax pmax
comp=Z,47nm,1.2s
ZEI Tsey 66.89 309 *eP* **P** **08 27 30.4 -0.2**
ZEI pmax pmax
comp=Z,7.0nm,0.9s
ANM Nome 67.44 27 *eP* **P** **08 27 33.7 +0.3**
comp=Z,4.4nm,1.0s
ANM Nome 67.44 27 *eP* **P** **08 27 33.7 +0.3**
ANM pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 67.55 310 P **P** **08 27 34.3 -0.1**
comp=Z,5.1nm,0.9s,baz=126,slow=4.0,SNR=11
KVAR Kislovodsk Arr 67.68 311 P **P** **08 27 37.5 +2.0**
comp=Z,2.8nm,0.6s,baz=72,slow=20,SNR=4.9
KIV Kislovodsk 67.69 311⇓ *iP* **P** **08 27 36.6 +1.1**
KIV *i* 08 27 49.2
KIV pmax pmax
comp=Z,15nm,0.7s
KIV MLR MLR
comp=Z,96nm,16.0s
VRH Novokhopyorsk 67.94 319 *eP* **P** **08 27 36.3 -0.4**
VRH pmax pmax
comp=Z,30nm,0.6s
RAYN Ar Rayn 68.11 289 *eP* **P** **08 27 37.7 -0.7**
comp=Z,6.0nm,0.9s
RAYN Ar Rayn 68.11 289 *eP* **P** **08 27 37.7 -0.7**
RAYN pmax pmax
comp=Z,6.0nm,0.9s
KLMR Klimovskoe 69.00 329 *eP* **P** **08 27 41.7 -1.5**
KLMR pmax pmax
comp=Z,32nm,1.3s
KLMR Klimovskoe 69.00 329 *eP* **P** **08 27 41.7 -1.5**
KLMR AMP 08 27 44.2
comp=Z,32nm,1.3s
VSR Storozhevoye 69.54 319 *eP* **P** **08 27 46.0 -0.7**
VSR pmax pmax
comp=Z,10.0nm,0.8s
LPSR Galich'ya Gora 69.59 320 *eP* **P** **08 27 46.9 -0.1**
LPSR pmax pmax
comp=Z,20nm,0.7s
MOS Moscow 70.16 324 *eP* **P** **08 27 48.2 -2.2**
MOS *e* 08 28 07.2
OBN Obninsk 70.81 323⇑ *eP* **P** **08 27 54.1 -0.3**
OBN pmax pmax
comp=Z,37nm,2.5s
OBN MLR MLR
comp=Z,61nm,13.0s
IM3 Indian Mountai 72.31 25 *eP* **P** **08 28 02.9 -0.4**
JOF Joensuu 72.76 331 P **P** **08 28 05.8 -0.2**

CAST Castle Rocks 73.31 28 *eP* **P** **08 28 09.6 +0.3**
comp=Z,9.9nm,0.8s
PPLA Purkeypile 73.33 29 *eP* **P** **08 28 09.6 0.0**
comp=Z,46nm,1.6s
MSF Maaselka 73.37 335 P **P** **08 28 09.6 0.0**
KEV Kevo 73.60 339 *eP* **P** **08 28 10.6 -0.2**
comp=Z,37nm,1.4s
KEV Kevo 73.60 339 *eP* **P** **08 28 10.6 -0.2**
KEV pmax pmax
comp=Z,37nm,1.4s
SPU Mount Spurr 73.63 30 *eP* **P** **08 28 11.3 0.0**
MLY Manley 73.67 26 *eP* **P** **08 28 11.5 +0.1**
comp=Z,7.1nm,0.8s
SGF Sodankyl 74.13 336 P **P** **08 28 14.2 +0.2**
ARCES ARCESS Array B 74.15 339 P **P** **08 28 14.0 -0.1**
comp=Z,4.5nm,0.7s,baz=75,slow=7.9,SNR=17
ARCES ARCESS Array B 74.15 339 *eP* **P** **08 28 13.9 -0.2**
ARCES ARCESS Array B 74.15 339 *eP* **P** **08 28 13.9 -0.2**
SUA Susitna One 74.22 30 *eP* **P** **08 28 14.9 +0.1**
comp=Z,18nm,1.1s
SPA0 Spitsbergen Ar 74.71 348 *eP* **P** **08 28 17.4 +0.2**
SPITS Spitsbergen Ar 74.71 348 P **P** **08 28 17.5 +0.2**
comp=Z,9.7nm,0.7s,baz=90,slow=7.6,SNR=7.2
MDM Murphy Dome 74.74 26 *eP* **P** **08 28 17.6 -0.1**
comp=Z,6.3nm,0.8s
RND Reindeer 74.75 28 *eP* **P** **08 28 16.8 -1.0**
comp=Z,11nm,0.8s
RND Reindeer 74.75 28 *eP* **P** **08 28 16.8 -1.0**
RND pmax pmax
comp=Z,11nm,0.8s
WRH Wood River Hil 74.89 27 *eP* **P** **08 28 18.3 -0.2**
comp=Z,5.8nm,0.8s
MMAI Mount Meron Ar 74.94 300 LR LR 09 05 19.4
comp=Z,48nm,18.2s,baz=130,slow=39
BRTR Keskin Array B 74.96 307 P **P** **08 28 19.0 -0.6**
comp=Z,0.8nm,0.6s,baz=132,slow=4.7,SNR=6.1
SUF Sumiainen 75.13 332 P **P** **08 28 19.4 -0.5**
SUF pmax pmax
comp=Z,24nm,2.5s
ILAR Eielson Array 75.33 26 P **P** **08 28 19.8 -1.2**
comp=Z,1.0nm,0.8s,baz=265,slow=5.0,SNR=17
ILB Eielson Array 75.33 26 *eP* **P** **08 28 20.0 -1.1**
FIA1 FINESS Array S 75.41 330 *eP* **P** **08 28 21.1 -0.4**
comp=Z,26nm,1.3s
FINES FINESS Array B 75.41 330 P **P** **08 28 21.6 +0.1**
comp=Z,2.7nm,0.6s,baz=42,slow=4.6,SNR=23
AKASG Malin Array Be 75.83 319 P **P** **08 28 23.6 -0.5**
comp=Z,3.4nm,0.8s,baz=65,slow=5.8,SNR=8.4
AKBB Malin Array Si 75.83 319 *eP* **P** **08 28 23.6 -0.5**
comp=Z,9.3nm,1.0s
KIEV Kiev 75.84 319 *eP* **P** **08 28 23.1 -1.1**
comp=Z,9.1nm,1.0s
KIEV Kiev 75.84 319⇓ *eP* **P** **08 28 23.8 -0.4**
KIEV pmax pmax
comp=Z,11nm,1.2s
AK11 Malin Array Si 75.87 319 *eP* **P** **08 28 23.4 -1.0**
EIL Elat 76.06 297 LR LR 09 06 36.9
comp=Z,46nm,18.1s,baz=76,slow=39
CSS Mathiatis 76.20 303 *eP* **P** **08 28 25.7 -0.9**
comp=Z,16nm,0.8s
NACGM Naroch 76.41 324 *e* **P** **08 28 26.0 -1.3**
RIDG Independ'e Rid 76.44 27 *eP* **P** **08 28 27.2 -0.2**
comp=Z,18nm,1.4s
VAF Ylistaro 76.61 332 P **P** **08 28 28.0 -0.3**
CFR Carcaliu 77.76 314⇑ *iP* **P** **08 28 34.4 -0.7**
CFR Carcaliu 77.76 314⇑ P **P** **08 28 34.4 -0.7**
HARR Harsova 78.02 313⇑ *iP* P 08 28 43.0 +6.4
HARR Harsova 78.02 313⇑ P P 08 28 43.0 +6.4
VRI Vrincioaia 78.55 315⇓ *iP* **P** **08 28 40.7 +1.2**
VRI Vrincioaia 78.55 315⇓ *iP* **P** **08 28 40.7 +1.2**
PLOR Plostina 78.61 315⇑ *iP* **P** **08 28 40.9 +1.0**
PLOR Plostina 78.61 315⇑ P **P** **08 28 40.9 +1.0**
BIZ Bicaz 78.70 316⇑ *iP* **P** **08 28 40.6 +0.3**
EPYK Eagle Plains 78.95 23 *eP* **P** **08 28 40.8 -0.5**
comp=Z,11nm,1.4s
BURAR Bucovina Array 79.11 317⇑ *iP* **P** **08 28 43.1 +0.4**
BURAR Bucovina Array 79.11 317⇑ P **P** **08 28 43.1 +0.4**
BUR04 Bucovina Ar. S 79.11 317 *eP* **P** **08 28 42.4 -0.3**
BUR08 Bucovina Ar. S 79.11 317 *eP* **P** **08 28 42.8 +0.1**
MLR Muntele Rosu 79.18 314 *eP* **P** **08 28 42.9 -0.3**
comp=Z,5.5nm,0.7s
MLR Muntele Rosu 79.18 314⇓ *iP* **P** **08 28 43.7 +0.6**
MLR Muntele Rosu 79.18 314 *eP* **P** **08 28 42.9 -0.3**
MLR pmax pmax
comp=Z,6.0nm,0.7s
INK Inuvik 79.39 21 P **P** **08 28 43.0 -0.6**
comp=Z,1.1nm,0.7s,baz=317,slow=7.6,SNR=8.3
INK Inuvik 79.39 21 *eP* **P** **08 28 43.1 -0.5**
comp=Z,0.7nm,0.8s
DOPR Dopca 79.43 315⇑ *iP* **P** **08 28 44.6 +0.2**
VOIR 79.80 314⇑ *iP* **P** **08 28 46.5 0.0**
VOIR 79.80 314⇑ P **P** **08 28 46.5 0.0**
ARCR ARCALIA 79.82 316⇑ *iP* **P** **08 28 47.3 +0.9**
ARR Arges 80.10 314⇑ *iP* **P** **08 28 48.2 +0.1**
BEL Belsk 80.67 322 P **P** **08 28 50.9 0.0**
BEL pmax pmax
comp=Z,34nm,1.1s
DRGR 80.98 316⇑ *iP* **P** **08 28 52.8 0.0**
DRGR 80.98 316⇑ P **P** **08 28 52.8 0.0**
DEV Deva 81.12 315 P **P** **08 28 54.7 +1.3**
DEV pmax pmax
comp=Z,5.0nm,0.6s
NIE Niedzica 81.72 319 P **P** **08 28 56.9 +0.3**
NIE pmax pmax
comp=Z,6.0nm,1.5s
DAG Danmarks Havn 81.77 351 P **P** **08 28 55.1 -1.2**
DAG pmax pmax
comp=Z,9.0nm,2.1s
OJC Ojcow 81.77 320 *eP* **P** **08 28 56.1 -0.7**
comp=Z,6.2nm,0.7s
OJC Ojcow 81.77 320 *eP* **P** **08 28 56.1 -0.7**
OJC pmax pmax
comp=Z,6.0nm,0.7s
SIRR Siria 81.83 316⇑ *iP* **P** **08 28 57.5 +0.3**
VTS Vitosha 81.88 312 *eP* **P** **08 28 57.4 -0.3**
comp=Z,5.5nm,0.9s
VTS Vitosha 81.88 312⇑ *iP* **P** **08 28 57.9 +0.2**
VTS Vitosha 81.88 312 *eP* **P** **08 28 57.4 -0.3**
VTS pmax pmax
comp=Z,6.0nm,0.9s
BZS Buzias 82.06 315⇓ *iP* **P** **08 28 57.8 -0.6**
BZS Buzias 82.06 315⇓ P **P** **08 28 57.8 -0.6**
LANS Liptovska Anna 82.32 319 *eP* **P** **08 29 00.7 +0.9**
LANS Liptovska Anna 82.32 319 *eP* **P** **08 29 00.6 +0.8**
NB2 NORSAR Subarra 82.37 332 P **P** **08 28 58.5 -1.2**
comp=Z,2.2nm,0.6s,baz=68,slow=5.1
NOA NORSAR Array B 82.37 332 P **P** **08 28 58.7 -1.0**
comp=Z,1.9nm,0.6s,baz=68,slow=5.0,SNR=6.7
NOA LR LR 09 08 20.1
comp=Z,79nm,18.0s,baz=350,slow=38
KMBO Kilima Mbogo 82.45 266 P **P** **08 29 02.5 +1.1**
comp=Z,1.7nm,0.6s,baz=58,slow=5.0,SNR=5.1
KMBO Kilima Mbogo 82.45 266 *ceP* **P** **08 29 03.0 +1.7**
KMBO pmax pmax
comp=Z,2.0nm,0.6s
KNT Kendrikon 82.53 311 P **P** **08 28 59.9 -1.1**
KNT pmax pmax
comp=Z,10.0nm,1.5s
VYHS Vyhne 82.93 319 *eP* **P** **08 29 02.1 -0.9**
VYHS Vyhne 82.93 319 *eP* **P** **08 29 02.0 -0.9**
MORC Moravsky Berou 83.29 320⇑ *iP* **P** **08 29 05.0 +0.2**
MORC Moravsky Berou 83.29 320⇑ P **P** **08 29 05.0 +0.2**
KSP Ksiaz 83.66 322 P **P** **08 29 06.7 +0.1**
DPC Dobruska-Polom 83.82 321 *eP* **P** **08 29 07.9 +0.4**
DPC Dobruska-Polom 83.82 321 *eP* **P** **08 29 07.9 +0.4**
VRAC Vranov 84.04 320 LR LR 09 06 54.5
comp=Z,28nm,20.2s,baz=52,slow=36
VRAC Vranov 84.04 320⇑ *iP* **P** **08 29 09.0 +0.4**
VRAC Vranov 84.04 320⇑ P **P** **08 29 09.0 +0.4**
KRUC Moravsky 84.25 320 P **P** **08 29 10.1 +0.5**
KRUC pmax pmax
comp=Z,9.0nm,1.7s
PDG Podgorica 84.70 313⇑ *iP* **P** **08 29 11.4 -0.7**
RES Resolute Bay 84.71 9 *eP* **P** **08 29 11.1 -0.3**
comp=Z,2.5nm,0.8s
RES Resolute Bay 84.71 9 *eP* **P** **08 29 11.1 -0.3**
RES pmax pmax
comp=Z,3.0nm,0.8s
CONA Conrad Observa 84.99 319 *i* P **P** **08 29 13.9 +0.4**
comp=Z,4.1nm,1.0s
DLBC Dease Lake 85.02 30 P **P** **08 29 14.1 +0.7**
baz=183,slow=19
BRG Berggiesshubel 85.03 322 *eP* **P** **08 29 13.1 -0.4**
comp=Z,8.1nm,1.0s
BRG Berggiesshubel 85.03 322 *eP* **P** **08 29 13.1 -0.4**
BRG pmax pmax
comp=Z,8.0nm,1.0s
BLY Banja Luka 85.30 316 *eP* **P** **08 29 13.7 -1.4**
comp=Z,7.9nm,1.1s
CLL Collm 85.40 323⇓ *iP* **P** **08 29 15.0 -0.4**
comp=Z,5.0nm,0.8s
CLL Collm 85.40 323⇓ *iP* **P** **08 29 15.0 -0.4**
CLL pmax pmax
comp=Z,12nm,0.8s
ARSA Arzberg 85.46 318 *i* P **P** **08 29 15.6 -0.2**
comp=Z,2.7nm,0.8s
KHC Kasperske Hory 85.93 321 *eP* **P** **08 29 18.5 +0.4**
KHC Kasperske Hory 85.93 321 *eP* **P** **08 29 18.5 +0.4**
GEC2 GERESS Array S 85.97 320 *eP* **P** **08 29 17.8 -0.6**
comp=Z,6.9nm,1.0s
GEC2 GERESS Array S 85.97 320 *eP* **P** **08 29 17.8 -0.6**
GEC2 pmax pmax
comp=Z,7.0nm,1.0s
GERES GERESS Array B 85.97 320 P **P** **08 29 18.6 +0.1**
comp=Z,2.3nm,0.8s,baz=57,slow=4.9,SNR=24
GERES LR LR 09 12 16.5
comp=Z,78nm,18.1s,baz=89,slow=39
GEA0 GERESS Array S 85.97 320 *eP* **P** **08 29 17.4 -1.0**
SOKA Soboth 85.99 318 *i* P **P** **08 29 18.5 0.0**
comp=Z,6.5nm,1.3s
MOA Molln 86.02 319 *i* P **P** **08 29 18.7 +0.2**
comp=Z,9.6nm,0.9s
OBKA Obir 86.36 318 *i* P **P** **08 29 17.9 -2.4**
comp=Z,4.0nm,1.2s
MOX Moxa 86.48 322 P **P** **08 29 20.2 -0.5**
MOX pmax pmax
comp=Z,8.0nm,2.7s
WATA Walderalm 87.89 319 *i* PcP **PcP** **08 29 28.9 -0.8**
comp=Z,2.8nm,0.8s
SQTA Sankt Quirin 88.16 319 *i* P **P** **08 29 28.8 -0.4**
comp=Z,4.8nm,1.0s
MOTA Moosalm 88.18 320 *i* P **P** **08 29 29.0 -0.2**
comp=Z,2.5nm,0.7s
FETA Feichten 88.55 319 *i* P **P** **08 29 30.7 -0.3**
comp=Z,7.6nm,1.3s
FUORN Ofenpass-Fuorn 89.01 319 *eP* **P** **08 29 33.1 -0.2**
comp=Z,21nm,1.5s
YKA Yellowknife Ar 89.13 22 P **P** **08 29 32.9 -0.3**
comp=Z,2.6nm,0.8s,baz=315,slow=4.6,SNR=48
ELK Elko 102.64 39 P **Pdif** **08 30 38.9 +3.5**
TXAR Lajitas Array 117.25 42 PKP **PKPdf** **08 35 23.8 -0.2**
comp=Z,1.2nm,0.7s,baz=217,slow=1.4,SNR=8.2

TAP 01 08:24:26.1, 22.92N×120.58E, h15km, ML1.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SLGT	**Liugui** baz=38	**0.10**	**39**	*i* P		Pg	08 24 29.7	+0.3
SLGT				*i* S		Sg	08 24 32.6	+1.1
SGST	**Jiashian** baz=3.0	**0.17**	**1**	*i* P		Pg	08 24 30.6	+0.3
SGST				*i* S		Sb	08 24 34.2	0.0
TWM1	**Shoushan** baz=235	**0.17**	**237**	*eP*		Pb	08 24 31.1	+0.1
TWM1				*eS*		Sb	08 24 34.5	+0.1
SSD	**Sandimen** baz=161	**0.18**	**164**	P		Pb	08 24 31.1	-0.1
SSD				*eS*		Sb	08 24 34.8	+0.3
CHN1	**Nanshi** baz=350	**0.27**	**350**	P		Pb	08 24 32.4	-0.4
CHN1				S		Sb	08 24 37.9	+0.7
STYT	**Tauyuan** baz=35	**0.30**	**34**	*eP*		Pb	08 24 33.0	-0.2
STYT				*eS*		Sb	08 24 38.3	+0.3
MASBT	**Mashibuluo** baz=170	**0.31**	**171**	*eP*		Pb	08 24 33.2	-0.1
MASBT				*eS*		Sb	08 24 38.3	+0.2
WTP	**Ta-pu** baz=6.0	**0.33**	**6**	*i* P		Pb	08 24 33.5	-0.3
WTP				S		Sb	08 24 39.2	+0.3
TWK	**Hsinying** baz=348	**0.36**	**347**	*eP*		Pb	08 24 34.2	-0.1
TWK				*eS*		Sb	08 24 40.9	+1.1
TPUB	**Ta-pu** baz=6.0	**0.39**	**7**	*eP*		Pg	08 24 34.2	+0.2
TPUB				*eS*		Sb	08 24 40.9	+0.4
CHN4	**Tsaushan** baz=1.0	**0.43**	**2**	*eP*		Pb	08 24 35.6	+0.1
CHN4				*eS*		Sb	08 24 42.5	+0.6
TWG	**Pinlang** baz=101	**0.46**	**102**	*eP*		Pb	08 24 37.0	+1.0
TWG				*eS*		Sb	08 24 43.8	+1.1
TWG	**Pinlang** baz=99	**0.46**	**102**	*eP*		Sb	08 24 43.7	+1.0
ECL	**Taimali** baz=131	**0.47**	**132**	*eP*		Pb	08 24 36.2	0.0
ECL				*eS*		Sb	08 24 43.0	+0.1
TWGBT	**Beinan** baz=101	**0.47**	**102**	*eP*		Pb	08 24 37.0	+0.9
TWGBT				*eS*		Sb	08 24 43.7	+0.7
TWGBT	**Beinan** baz=99	**0.47**	**102**	*eP*		Sb	08 24 43.7	+0.7
SCZT	**Fangliau** baz=175	**0.54**	**176**	*eP*		Pb	08 24 38.2	+0.9
ALS	**Alishan** baz=20	**0.63**	**19**	*eP*		Pg	08 24 38.7	+0.2
ALS				*eS*		Sb	08 24 48.7	+0.9
CHN5	**Tsauling** baz=7.0	**0.68**	**8**	*eP*		Pb	08 24 39.9	+0.1
CHN5				*eS*		Sn	08 24 50.9	-0.9
YULB	**Yu-li** baz=54	**0.81**	**54**	*eP*		Pg	08 24 42.0	0.0
YULB				*eS*		Sb	08 24 53.4	+0.6
VWDT	**VWDT** baz=31	**0.98**	**32**	*eP*		Pb	08 24 44.1	-0.8
VWDT				*eS*		Sn	08 24 59.4	+0.4

TAP 01 08:24:32.8, 22.90N×120.53E, h11km±1km, ML1.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWM1	**Shoushan** baz=228	**0.13**	**232**	*eP*		Pg	08 24 36.3	+0.4
TWM1				*eS*		Sg	08 24 39.2	+1.1
SLGT	**Liugui** baz=49	**0.14**	**49**	*i* P		Pg	08 24 36.3	+0.2
SLGT				*i* S		Sg	08 24 39.8	+1.4
SSD	**Sandimen** baz=147	**0.18**	**149**	*eP*		Pb	08 24 37.6	-0.6
SSD				*eS*		Sg	08 24 41.4	+1.9
MASBT	**Mashibuluo** baz=162	**0.30**	**162**	*eP*		Pb	08 24 40.5	+0.1
MASBT				*eS*		Sb	08 24 44.9	-0.5
WTP	**Ta-pu** baz=13	**0.35**	**12**	*eP*		Pb	08 24 40.9	-0.3

TAP 01 08:24:38.8, 22.91N×120.60E, h16km, ML1.5, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SLGT	**Liugui** baz=27	**0.09**	**28**	*i* P		Pg	08 24 42.4	+0.3
SLGT				S		Sg	08 24 45.5	+1.2
SSD	**Sandimen** baz=167	**0.17**	**170**	P		Pb	08 24 43.8	+0.2
SGST	**Jiashian**	**0.17**	**355**	*eP*		Pg	08 24 43.2	+0.1

	baz=357						
SGST				S	Sb	08 24 46.8	-0.1
	baz=357						
CHN1	Nanshi	0.28	346	eP	Pg	08 24 44.9	+0.1
	baz=346						
CHN1				eS	Sb	08 24 51.0	+1.0
	baz=346						
MASBT	Mashibuluo	0.30	174	eS	Sb	08 24 51.0	+0.5
	baz=174						
WTP	Ta-pu	0.33	2	eP	Pb	08 24 46.2	-0.2
	baz=3.0						
WTP				eS	Sb	08 24 52.0	+0.4
	baz=3.0						
WTP	Ta-pu	0.33	2	eS	Pb	08 24 46.7	+0.2
	baz=13						
TWK	Hsinying	0.37	344	eS	Sb	08 24 53.9	+1.3
	baz=345						
TPUB	Ta-pu	0.39	4	eP	Pb	08 24 47.4	0.0
	baz=4.0						
TPUB				eS	Sb	08 24 53.7	+0.5
	baz=4.0						
ECL	Taimali	0.45	134	eS	Sb	08 24 55.7	+0.8
	baz=133						
CHN5	Tsauling	0.69	6	eS	Sn	08 25 03.4	-1.0
	baz=5.0						

*IDC **01** 08:35:38.5±0.9, 29°.14N×51°.20E, h0km, mb3.8/18, mb1 4.0/21, mb1mx3.9/49, mbtmp3.9/21, ML3.3/3, Error ellipse: s-maj=22.8km s-min=15.0km az=176.0*
*TEH **01** 08:35:39.9, 29°.21N×51°.29E, h12km, ML3.8*
*ISCJB **01** 08:35:40.4±0.2, 29°.17N±0°.02×51°.26E±0°.03, h17km, mb3.9/29, Error ellipse: s-maj=4.0km s-min=3.1km az=140.6*
*THR **01** 08:35:41.1, 29°.30N×51°.35E, h9km, ML3.5*
*MOS **01** 08:35:41.7±1.2, 29°.13N×51°.30E, h29km, mb4.3/7, Error ellipse: s-maj=9.4km s-min=6.7km az=110.5*
*NEIC **01** 08:35:41.1±0.4, 29°.26N×51°.20E, h10km, mb4.1/12, ML3.5(THR), MN3.8(TEH), Error ellipse: s-maj=7.9km s-min=5.3km az=166.0*
*DSN **01** 08:35:47.5±1.6, 28°.84N×51°.47E, h15km, ML3.6/12, Error ellipse: s-maj=22.0km s-min=10.8km az=8.0*

ISC 01 08:35:41.5±0.5, 29°.18N±0°.05×51°.31E±0°.05, h17km, n149, σ1s.43/152, mb4.0/30, 13C-8D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	Kazeroun	0.76	37	ePg	Pg	08 35 54.0	-2.4
IKAZ				IAMB	IAmb	08 36 05.0	
	comp=Z,92µm,0.4s						
SHI	Shiraz	1.15	66	P	Pn	08 36 02.2	-0.8
SHI	Shiraz	1.15	66	ePg	Pn	08 36 02.1	-0.9
SHI				IAMB	IAmb	08 36 24.7	
	comp=Z,10µm,0.3s						
IPAR	Pars	1.65	66	ePg	Pg	08 36 12.9	-0.5
IPAR				IAMB	IAmb	08 36 43.5	
	comp=Z,8µm,0.6s						
KLNJ	Kolanjah	1.84	8	ePn	Pn	08 36 13.6	+0.9
IRAM	Ramesheh	2.78	19	ePn	Pn	08 36 26.2	+0.7
IRAM				IAMB	IAmb	08 36 41.0	
	comp=Z,2µm,0.4s						
ZNGN	Zangian	2.96	352	ePn	Pn	08 36 29.1	+1.1
ROKH	ROKH	3.17	356	ePn	Pn	08 36 31.7	+0.9
ROKH				IAMB	IAmb	08 37 43.8	
	comp=Z,0.0nm,1.0s						
IGAR	Gharneh	3.28	11	ePn	Pn	08 36 33.7	+1.4
IGAR				IAMB	IAmb	08 36 44.6	
	comp=Z,1µm,0.4s						
ISAD	Sadrabad	3.41	36	ePn	Pn	08 36 35.9	+1.7
ISAD				IAMB	IAmb	08 36 37.1	
	comp=Z,2µm,0.2s						
IPIR	Pirpir	3.52	354	ePn	Pn	08 36 36.9	+1.2
IPIR				IAMB	IAmb	08 36 53.3	
	comp=Z,1µm,0.4s						
IMEH	Mehriz	3.61	51	ePn	Pn	08 36 39.3	+2.4
IMEH				IAMB	IAmb	08 37 24.9	
	comp=Z,1µm,0.2s						
SHGR	Shooshtar-Gavs	3.64	324	ePn	Pn	08 36 38.5	+1.4
SHGR				eS	Sn	08 37 20.5	+0.9
IZEF	Zefreh	3.81	13	ePn	Pn	08 36 40.7	+1.0
IZEF				IAMB	IAmb	08 36 42.2	
	comp=Z,935nm,0.2s						
ICHK	Chekchek	4.06	40	ePn	Pn	08 36 44.7	+1.7
ICHK				IAMB	IAmb	08 36 45.6	
	comp=Z,1µm,0.2s						
IKLH	Kolahrood	4.14	3	ePn	Pn	08 36 45.0	+0.8
IKLH				IAMB	IAmb	08 36 47.7	
	comp=Z,1µm,0.2s						
YZKH	Yazd	4.27	41	ePn	Pn	08 36 47.3	+1.4
ANAR	Anarak	4.51	27	ePn	Pn	08 36 49.4	+0.3
GENO	Geno	4.64	111	ePn	Pn	08 36 51.4	+0.4
GENO				IAMB	IAmb	08 37 53.5	
	comp=Z,0.0nm,0.2s						
KHMZ	Khomeyn	4.69	346	ePn	Pn	08 36 53.0	+1.2
KRBR	Kerman	4.81	79	eAML	AML	08 37 59.2	
	comp=E,33nm,0.3s						
KRBR				eAML	AML	08 38 03.2	
	comp=N,34nm,0.5s						
KRBR	Kerman	4.81	79	eP	Pn	08 36 55.3	+1.8
KRSH	Karshahi	4.83	8	ePn	Pn	08 36 54.0	+0.4
KRSH				IAMB	IAmb	08 37 52.4	
	comp=Z,0.0nm,0.3s						
IKMR	Kamar-syah	5.00	331	ePn	Pn	08 36 56.1	+0.3
IKMR				IAMB	IAmb	08 36 57.7	
	comp=Z,0.0nm,0.2s						
IKFM	Kafar-mosalman	5.25	327	ePn	Pn	08 36 59.5	+0.3
IKFM				IAMB	IAmb	08 38 06.3	
	comp=Z,0.0nm,0.4s						
SHME	Shamm	5.30	125	P	Pn	08 37 01.0	+1.1
ASAO	Ashtian	5.47	349	ePn	Pn	08 37 03.4	+1.0
BANOM	Banah	5.49	125	iP	Pn	08 37 04.3	+1.8
	SNR=25						
HSAM	Samen	5.53	336	ePn	Pn	08 37 03.8	+0.5
HSAM				IAMB	IAmb	08 38 11.8	
	comp=N,0.0nm,0.6s						
AJN	Ajban	5.65	144	P	Pn	08 37 06.6	+2.0
NAZ	Nazwa, Dubai	5.69	136	P	Pn	08 37 07.8	+2.4
MSFE	Esma-Masafi	5.75	130	P	Pn	08 37 07.8	+1.7
ASUD	Al Ashush, Dub	5.78	141	P	Pn	08 37 09.2	+2.7
FAQ	Al Faqa, Dubai	5.84	138	P	Pn	08 37 09.8	+2.5
MDH	Madha	5.88	130	P	Pn	08 37 09.5	+1.5
MDH	Madha	5.88	130	ePn	Pn	08 37 09.4	+1.5
HAGD	Aghdareh	5.92	342	IAMB	IAmb	08 37 10.2	
	comp=Z,0.0nm,0.2s						
HAGD				ePn	Pn	08 37 09.8	+1.1
IKOM	Komasi	5.94	328	ePn	Pn	08 37 09.9	+1.0
IKOM				IAMB	IAmb	08 38 22.0	
	comp=Z,0.0nm,0.5s						
UOSS	Minazif	6.06	133	ePn	Pn	08 37 13.3	+2.9
UOSS				eSn	Sn	08 38 16.6	-2.8
UOSS	Minazif	6.06	133	iP	Pn	08 37 11.9	+1.4
	SNR=9.7						
UOSS	Minazif	6.06	133	ePn	Pn	08 37 11.8	+1.4
HATD	Hatta, Dubai	6.10	134	P	Pn	08 37 13.1	+2.1
ASHO	Ashiyiah	6.16	135	P	Pn	08 37 13.3	+1.5
ASHO				S	Sn	08 38 19.9	-2.0
ASHO	Ashiyiah	6.16	135	ePn	Pn	08 37 11.8	0.0
IRAZ	Razeghan	6.32	350	ePn	Pn	08 37 14.8	+0.7
IRAZ				IAMB	IAmb	08 37 16.9	
	comp=Z,354nm,0.2s						
MZR	Muzera	6.45	162	P	Pn	08 37 18.6	+2.9
MZR	Muzera	6.45	162	ePn	Pn	08 37 18.9	+3.2
ALNE	Al Ain	6.46	141	iP	Pn	08 37 18.2	+2.3
	SNR=15						
ALNE	Al Ain	6.46	141	ePn	Pn	08 37 18.4	+2.5
IFIR	Firoozkooh	6.56	10	ePn	Pn	08 37 17.4	-0.1
IFIR				IAMB	IAmb	08 37 19.7	
	comp=Z,473nm,0.3s						
TNSJ	Nastanj	6.57	42	ePn	Pn	08 37 18.3	+0.8
IANJ	Anjilo	6.65	19	ePn	Pn	08 37 18.8	+0.1
TKDS	Koohdasht(Taba	6.65	47	ePn	Pn	08 37 19.1	+0.5
TABS	Tabas	6.67	47	ePn	Pn	08 37 20.0	+1.1
ISHM	Shahmirzad	6.82	14	ePn	Pn	08 37 20.9	-0.2
IALA	Alasht	7.00	10	ePn	Pn	08 37 24.5	+0.9
RAYN	Ar Rayn	7.67	224	ePn	Pn	08 37 33.9	+1.4
RAYN				eSn	Sn	08 38 58.0	-1.1
RAYN	Ar Rayn	7.67	224	iP	Pn	08 37 34.6	+2.1
	SNR=10						
RAYN	Ar Rayn	7.67	224	eP	Pn	08 37 33.9	+1.4
RAYN				e		08 38 58.0	
GEYT	Alibeck	10.41	31	Pn	Pn	08 38 10.8	+0.7
	comp=Z,0.2nm,0.3s,baz=144,slow=48,SNR=3.6						
ZEI	Tsey	14.84	338	eP	Pn	08 39 12.4	+1.7
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KBZ	Khabaz	16.01	337	Pn	Pn	08 39 27.4	+1.6
	comp=Z,0.2nm,0.3s,baz=151,slow=10.0,SNR=7.5						
KIV	Kislovodsk	16.28	337	⇓iP	Pn	08 39 30.5	+1.1
KIV				pmax	pmax		
	comp=Z,23nm,1.4s						
BR101	Keskin Array S	17.95	311	ePn	Pn	08 39 49.9	-0.4
BRTR	Keskin Array B	17.95	311	P	Pn	08 39 49.9	-0.4
	comp=Z,0.1nm,0.3s,baz=124,slow=15,SNR=4.4						
BRTR	Keskin Array B	17.95	311	P	Pn	08 39 50.0	-0.4
BTK	Batken	19.34	51	eP	Pn	08 40 07.5	+0.2
	comp=Z,4.9nm,0.9s						
BTK	Batken	19.34	51	eP	Pn	08 40 07.5	+0.2
BTK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KKAR	Karatay Array	20.76	43	eP	P	08 40 22.3	+0.8
KKAR	Karatay Array	20.76	43	eP	P	08 40 22.3	+0.8
ABKAR	Akbulak array	21.11	16	eP	P	08 40 25.7	+0.5
ARSB	Arslanbob	21.39	50	eP	P	08 40 29.1	+0.7
	comp=Z,4.0nm,0.8s						
AAK	Ala-Archa	23.00	48	P	P	08 40 47.1	+1.5
	comp=Z,0.7nm,0.5s,baz=242,slow=15,SNR=2.4						
IDI	Anoyia	23.13	292	P	P	08 40 44.0	-2.9
	comp=Z,12nm,0.9s,baz=322,slow=16,SNR=2.8						
IDI	Anoyia	23.13	292	eP	P	08 40 44.9	-2.0
	comp=Z,26nm,1.1s						
NRN	Naryn	23.48	52	eP	P	08 40 50.7	0.0
	comp=Z,2.7nm,0.8s						
NRN	Naryn	23.48	52	eP	P	08 40 50.7	0.0
NRN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MFTR	Murfatlar	23.58	316	⇓iP	P	08 40 48.9	-2.3
TIRR	Tirgusor	23.73	316	eP	P	08 40 52.0	-0.7
	comp=Z,4.3nm,1.1s						
TIRR	Tirgusor	23.73	316	⇑iP	P	08 40 50.0	-2.7
TIRR	Tirgusor	23.73	316	eP	P	08 40 52.0	-0.7
TIRR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CFR	Carcaliu	24.29	317	⇑iP	P	08 40 57.3	-0.6
CFR	Carcaliu	24.29	317	⇑P	P	08 40 57.3	-0.6
VRI	Vrincioaia	25.50	318	⇑iP	P	08 41 10.4	+1.5
VRI	Vrincioaia	25.50	318	⇑P	P	08 41 10.4	+1.5
PLOR	Plostina	25.53	317	⇓iP	P	08 41 11.3	+2.1
PLOR	Plostina	25.53	317	⇓P	P	08 41 11.3	+2.1
MLR	Muntele Rosu	25.77	316	P	P	08 41 12.0	+0.5
	comp=Z,1.3nm,0.4s,baz=22,slow=19,SNR=8.4						
MLR	Muntele Rosu	25.77	316	eP	P	08 41 11.0	-0.5
	comp=Z,4.4nm,0.6s						
MLR	Muntele Rosu	25.77	316	⇑iP	P	08 41 12.4	+0.9
MLR	Muntele Rosu	25.77	316	⇑P	P	08 41 12.4	+0.9
ITM	Ithomi	25.78	296	eP	P	08 41 11.5	0.0
	comp=Z,7.4nm,1.1s						
AGG	Agios Georgios	25.84	300	eP	P	08 41 11.4	-0.6
	comp=Z,8.1nm,1.2s						
AGG	Agios Georgios	25.84	300	eP	P	08 41 11.4	-0.6
AGG				pmax	pmax		
	comp=Z,8.0nm,1.2s						
VOIR		26.29	315	⇑iP	P	08 41 17.2	+1.1
VOIR		26.29	315	⇑P	P	08 41 17.2	+1.1
DOPR	Dopca	26.35	317	⇑iP	P	08 41 18.0	+1.4
BIZ	Bicaz	26.44	319	⇑iP	P	08 41 20.3	+2.9
ARR	Arges	26.51	315	⇓iP	P	08 41 20.1	+2.0
AKASG	Malin Array Be	27.18	328	P	P	08 41 22.7	-1.3
	comp=Z,0.6nm,0.3s,baz=133,slow=9.1,SNR=6.7						
KIEV	Kiev	27.18	328	eP	P	08 41 23.5	-0.5
	comp=Z,1.0nm,1.0s						
KIEV	Kiev	27.18	328	eP	P	08 41 23.5	-0.5
KIEV				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BURAR	Bucovina Array	27.31	320	⇓iP	P	08 41 27.6	+2.2
BURAR	Bucovina Array	27.31	320	⇓P	P	08 41 27.6	+2.2
DRGR		28.36	316	⇑iP	P	08 41 37.7	+2.9
DRGR		28.36	316	⇑P	P	08 41 37.7	+2.9
SIRR	Siria	28.77	315	⇓iP	P	08 41 41.0	+2.7
KURBB	Kurchatov Arra	29.63	36	P	P	08 41 46.7	+0.9
	comp=Z,0.8nm,0.6s,baz=235,slow=9.3,SNR=6.0						
KURK	Kurchatov	29.73	36	eP	P	08 41 46.7	0.0
KURK	Kurchatov	29.73	36	eP	P	08 41 46.7	0.0
MK32	Makanchi Array	29.83	45	eP	P	08 41 48.5	+0.8
MKAR	Makanchi Array	29.83	45	P	P	08 41 48.5	+0.8
	comp=Z,0.3nm,0.5s,baz=254,slow=6.3,SNR=7.2						
LANS	Liptovska Anna	31.40	318	eP	P	08 42 04.6	+3.1
LANS	Liptovska Anna	31.40	318	eP	P	08 42 04.6	+3.1
ZAA0	Zalesovo Array	34.69	35	eP	P	08 42 31.4	+1.2
	comp=Z,1.9nm,0.9s						
ZALV	Zalesovo Beam	34.69	35	P	P	08 42 29.4	-0.8
	comp=Z,1.3nm,0.6s,baz=249,slow=9.7,SNR=7.8						
ZALV	Zalesovo Beam	34.69	35	eP	P	08 42 30.6	+0.5
ZALV	Zalesovo Beam	34.69	35	eP	P	08 42 30.7	+0.5
ZAA1	Zalesovo Array	34.70	35	eP	P	08 42 29.4	-0.8
GERES	GERESS Array B	34.74	315	P	P	08 42 30.5	-0.3
	comp=Z,0.2nm,0.5s,baz=95,slow=8.0,SNR=3.7						
WATA	Walderalm	35.62	312	pP	P	08 42 39.1	+0.7
	comp=Z,1.4nm,0.4s						
SQTA	Sankt Quirin	35.82	311	iP	P	08 42 39.9	-0.3
	comp=Z,2.1nm,0.4s						
MOTA	Moosalm	35.93	312	iP	P	08 42 40.6	-0.5
	comp=Z,1.0nm,0.3s						
RETA	Reutte	36.19	312	iP	P	08 42 42.3	-0.9
	comp=Z,1.9nm,0.5s						
FIA0	FINESS Array S	36.35	340	eP	P	08 42 43.1	-1.1
FIA0	FINESS Array S	36.35	340	eP	P	08 42 43.2	-1.1
FINES	FINESS Array B	36.35	340	P	P	08 42 43.1	-1.1
	comp=Z,2.8nm,0.8s,baz=140,slow=8.5,SNR=6.1						
BNI	Bardonecchia	38.44	307	eP	P	08 43 03.5	+1.0
	comp=Z,4.6nm,1.0s						
BNI	Bardonecchia	38.44	307	eP	P	08 43 03.5	+1.0
BNI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NB2	NORSAR Subarra	41.47	332	P	P	08 43 26.1	-1.3
	comp=Z,0.4nm,0.5s,baz=122,slow=8.6						
NB200	NORSAR Array S	41.47	332	eP	P	08 43 25.9	-1.3
NOA	NORSAR Array B	41.47	332	P	P	08 43 25.9	-1.3
	comp=Z,0.8nm,0.6s,baz=127,slow=9.1,SNR=4.0						
NOA	NORSAR Array B	41.47	332	P	P	08 43 26.0	-1.3
ARA0	ARCESS Array S	43.04	347	eP	P	08 43 39.8	-0.1
ARCES	ARCESS Array B	43.04	347	P	P	08 43 39.8	-0.1
	comp=Z,0.8nm,0.5s,baz=167,slow=7.2,SNR=15						
TOA0	Torodi Ar. Sit	48.58	262	eP	P	08 44 24.1	-0.2
TOA1	Torodi Ar. Sit	48.58	262	eP	P	08 44 24.1	-0.3
TORD	Torodi Ar. Bea	48.58	262	P	P	08 44 24.1	-0.3
	comp=Z,0.9nm,0.6s,baz=39,slow=9.6,SNR=8.4						
DBIC	Dimbokro	57.34	259	P	P	08 45 28.6	-0.5
	comp=Z,2.4nm,0.7s,baz=80,slow=8.6,SNR=4.5						
DBIC	Dimbokro	57.34	259	eP	P	08 45 29.2	+0.1
	comp=Z,3.8nm,0.9s						
DBIC	Dimbokro	57.34	259	eP	P	08 45 29.2	+0.1
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KSAR	Wonju Array Be	62.92	60	P	P	08 46 08.4	+1.4
KSAR	Wonju Array Be	62.92	60	P	P	08 46 08.4	+1.4
KSRS	Korea Array	62.95	60	P	P	08 46 08.4	+1.2
	comp=Z,1.5nm,0.9s,baz=273,slow=6.9,SNR=4.1						
IM3	Indian Mountai	83.21	10	eP	P	08 48 06.8	+0.2
ILAR	Eielson Array	85.29	8	P	P	08 48 15.2	-1.9
	comp=Z,0.2nm,0.8s,baz=322,slow=4.2,SNR=3.9						
YKA	Yellowknife Ar	87.95	354	P	P	08 48 30.4	+0.2
	comp=Z,0.4nm,0.9s,baz=12,slow=4.4,SNR=5.8						
WRA	Warramunga Arr	93.70	111	P	P	08 48 57.4	-0.3
	comp=Z,0.5nm,0.9s,baz=300,slow=8.9,SNR=2.7						
ASAR	Alice Springs	95.18	114	P	P	08 49 03.2	-1.2
	comp=Z,0.3nm,0.5s,baz=306,slow=5.0,SNR=4.3						

MAN 01 08:38:25.4, 8°.24N×126°.45E, h23km, mb4.6, ML3.4, MS3.3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.10	237	⇑iP	Pn	08 38 32.5	+0.9
BIPH				iS	Sb	08 38 38.9	+6.2
BUTP	Butuan	1.09	312	eP	Pn	08 38 44.7	-0.6
BUTP				eS	Sb	08 38 49.6	-10
BUKP	Musuan	1.42	255	eP	Pn	08 38 48.8	-1.0
BUKP				eS	Sb	08 39 08.7	-0.1

*IDC **01** 08:38:60.0±1.0, 2°.87N×91°.53E, h0km, mb3.8/12, mb1 4.0/15, mb1mx3.8/49, mbtmp3.8/15, ML3.8/3, MS3.6/2, Ms1 3.6/2, ms1mx2.9/48, Error ellipse: s-maj=33.1km s-min=16.8km az=35.0*
*NEIC **01** 08:39:00.1±0.7, 2°.64N×91°.40E, h10km, mb4.1/10, Error ellipse: s-maj=15.8km s-min=10.4km az=205.0*
*ISCJB **01** 08:39:01.8±0.6, 2°.69N±0°.08×91°.45E±0°.05, h33km, mb4.0/23, MS4.0/2, Error ellipse: s-maj=12.4km s-min=5.8km az=21.3*
*DJA **01** 08:40:03.2±6.4, 2°N±8°×9°6E±5°9, h10km, M3.1/4, MLv3.1/4*

ISC 01 08:39:03.7±0.9, 2°.6N±0°.1×91°.38E±0°.07, h35km, n71, σ1s.83/59, mb4.1/23, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		5.83	83	P	Pn	08 40 26.7	-1.0
GSI	Gunungsitoli	6.33	102	P	Pn	08 40 34.0	-0.6
KCSI	Kotacane, Aceh	6.45	82	P	Pn	08 40 36.5	+0.2
PSI	Prapat	7.54	88	Pn	Pn	08 40 50.3	-1.1
	1.5nm,0.3s,baz=359,slow=4.5,SNR=5.9						
PSI				Sn	Sn	08 42 14.9	-0.8
	2.9nm,0.3s,baz=0.3,slow=8.9,SNR=11						
PSI	Prapat	7.54	88	ePn	Pn	08 40 48.0	-3.4
PSI				eSn	Sn	08 42 15.9	+0.2
PBA	Port Blair	9.09	8	ePn	Pn	08 41 14.1	+1.6
KULM	Kulim	9.62	74	ePn	Pn	08 41 18.1	-1.7
IPM	Ipoh	9.81	79	ePn	Pn	08 41 20.2	-2.2
PALK	Pallekele	11.60	294	Pn	Pn	08 41 45.6	-1.4
	1.0nm,0.3s,baz=116,slow=12,SNR=5.2						
PALK				Sn	Sn	08 43 42.2	-13
	4.4nm,0.3s,baz=117,slow=4.1,SNR=11						
PALK	Pallekele	11.60	294	ePn	Pn	08 41 41.1	-5.8
PALK				Sn	Sn	08 43 42.2	-13
PBKT	Sadao Pong	16.78	34	ePn	P	08 42 57.3	-0.7
	3.8nm,1.0s						
SUKH	Sukhothai	16.86	28	P	P	08 43 07.7	+8.8
CM31	Chiang Mai Arr	17.41	25	ePn	P	08 43 04.4	-0.6
CMAR	Chiang Mai Arr	17.41	25	P	Pn	08 43 01.3	-2.7
	0.1nm,0.3s,baz=219,slow=13,SNR=7.3						
CHTO	Chiang Mai	17.73	24	ePn	P	08 43 11.5	+3.0
	4.3nm,0.9s						
CHTO	Chiang Mai	17.73	24	P	P	08 43 17.5	+8.9
CMMT	Chiang Mai	17.73	24	P	P	08 43 17.4	+8.8
LEM	Lembang	18.73	120	LR	LR	08 49 53.1	
	comp=Z,99nm,18.4s,baz=12,slow=35						
H08S2	Diego Garcia H	21.42	241	T	T	09 05 57.4	
	baz=61,slow=74,SNR=32						
H08S3	Diego Garcia H	21.42	242	T	T	09 05 53.9	
	baz=61,slow=74,SNR=131						
H08S1	Diego Carcia H	21.44	241	T	T	09 05 55.6	
	baz=61,slow=74,SNR=7.1						
SHL	Shillong	22.83	1	eP	P	08 44 04.7	+0.7
	14nm,1.2s						
POO	Poona	23.35	314	eP	P	08 44 18.0	+8.7
LSA	Lhasa	26.94	360	eP	P	08 44 41.8	-0.7
	4.4nm,0.6s						
LZH	Lanzhou	35.25	18	eP	P	08 45 57.9	+2.6
LZH				pP	pP	08 46 05.2	+1.1
LZH				sP	sP	08 46 07.3	-0.5
LZH				ePP	PP	08 47 22.0	+6.3
LZH				pmax	pmax		
	comp=Z,22nm,1.5s						
LZH				pmax	pmax		
	comp=Z,93nm,4.9s						
GTA	Gaotai	37.43	11	eP	P	08 46 17.9	+4.1
GTA				pP	pP	08 46 22.3	-0.4
GTA				sP	sP	08 46 25.1	-1.3
GTA				S	S	08 52 09.9	+10
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,120nm,6.0s						
GTA				LR	LR		
	comp=N,130nm,15.2s						
GTA				LR	LR		
	comp=E,130nm,16.5s						
GTA				LR	LR		
	comp=Z,190nm,15.2s						
KSH	Kashi	39.32	341	P	P	08 46 28.4	-1.3
WMQ	Urumqi	41.17	356	eP	P	08 46 45.4	+0.5
BTK	Batken	41.68	336	eP	P	08 46 47.9	-1.3
	comp=Z,2.5nm,0.6s						
ARSB	Arslanbob	41.95	339	eP	P	08 46 50.5	-1.0
	comp=Z,5.1nm,0.9s						
HHC	Hu-ho-hao-te	42.20	23	eP	P	08 46 51.8	-1.7
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,200nm,5.7s						
H01W3	Cape Leeuwin H	42.98	152	T	T	09 33 10.0	
	baz=327,slow=76,SNR=5.3						
H01W2	Cape Leeuwin H	42.99	152	T	T	09 32 57.2	
	baz=327,slow=76,SNR=5.1						
H01W1	Cape Leeuwin H	43.00	152	T	T	09 32 60.0	
	baz=327,slow=76,SNR=6.9						
KK31	Karatay Array	44.40	338	eP	P	08 47 10.1	-1.0
KKAR	Karatay Array	44.40	338	eP	P	08 47 10.2	-0.8
MK01	Makanchi Array	44.69	351	eP	P	08 47 12.1	-1.2
MK31	Makanchi Array	44.72	351	eP	P	08 47 12.2	-1.3
MK32	Makanchi Array	44.72	351	eP	P	08 47 12.3	-1.2
MKAR	Makanchi Array	44.72	351	P	P	08 47 12.3	-1.2
	comp=Z,0.6nm,0.8s,baz=163,slow=9.0,SNR=7.2						
MKAR	Makanchi Array	44.72	351	eP	P	08 47 12.4	-1.1
	comp=Z,7.6nm,0.8s						
GEYT	Alibeck	46.51	323	P	P	08 47 27.7	-0.2
	comp=Z,28nm,0.6s,baz=138,slow=11,SNR=3.0						
SONA0	Songino Array	46.88	14	eP	P	08 47 29.8	-1.0
SONM	Songino Array	46.88	14	P	P	08 47 29.8	-1.0
	comp=Z,1.8nm,0.8s,baz=193,slow=8.9,SNR=8.9						
SONA1	Songino Array	46.90	14	eP	P	08 47 30.8	0.0
WRA	Warramunga Arr	47.74	120	P	P	08 47 38.7	+0.9
	comp=Z,2.0nm,0.9s,baz=298,slow=8.8,SNR=12						
WR1	Warramunga Arr	47.74	120	eP	P	08 47 38.7	+0.9
	comp=Z,1.9nm,0.8s						
ASAR	Alice Springs	48.93	125	P	P	08 47 47.9	+1.1
	comp=Z,0.7nm,1.1s,baz=307,slow=7.7,SNR=3.8						
KURBB	Kurchatov Arra	49.06	349	P	P	08 47 46.3	-1.0
	comp=Z,0.2nm,0.3s,baz=173,slow=8.4,SNR=2.9						
KURK	Kurchatov	49.13	349	eP	P	08 47 46.3	-1.6
ZAA0	Zalesovo Array	51.46	355	eP	P	08 48 04.8	-0.6
	comp=Z,0.9nm,0.8s						
ZALV	Zalesovo Beam	51.46	355	P	P	08 48 04.3	-1.2
	comp=Z,0.4nm,0.4s,baz=188,slow=9.0,SNR=4.2						
ZALV	Zalesovo Beam	51.46	355	eP	P	08 48 04.9	-0.5
ZAA1	Zalesovo Array	51.46	355	eP	P	08 48 04.3	-1.2
ABKAR	Akbulak array	53.66	335	eP	P	08 48 20.2	-1.6
BR101	Keskin Array S	63.90	313	eP	P	08 49 35.1	+1.7
BRTR	Keskin Array B	63.90	313	P	P	08 49 35.1	+1.7
	comp=Z,0.3nm,0.8s,baz=149,slow=5.9,SNR=2.8						
AKASG	Malin Array Be	70.63	323	P	P	08 50 17.6	+2.0
	comp=Z,0.1nm,0.3s,baz=118,slow=7.3,SNR=2.3						
MLR	Muntele Rosu	71.08	317	P	P	08 50 20.2	+1.5
	comp=Z,1.4nm,0.6s,baz=338,slow=6.4,SNR=5.7						
MLR	Muntele Rosu	71.08	317	eP	P	08 50 15.5	-3.2
BUR04	Bucovina Ar. S	72.16	319	eP	P	08 50 22.8	-2.3
TIXI	Tiksi	72.91	12	eP	P	08 50 28.7	-0.2
	comp=Z,2.6nm,0.8s						
FIA0	FINESS Array S	76.10	333	eP	P	08 50 50.2	+2.6
FINES	FINESS Array B	76.10	333	P	P	08 50 50.2	+2.6
	comp=Z,2.6nm,0.9s,baz=77,slow=13,SNR=3.1						
ARA0	ARCESS Array S	79.28	341	eP	P	08 51 06.0	+0.7
ARCES	ARCESS Array B	79.28	341	P	P	08 51 06.0	+0.7
	comp=Z,3.3nm,1.1s,baz=151,slow=3.9,SNR=2.2						
SYO	Syowa Base	79.60	197	⇑eP	P	08 50 57.0	-10
GEC2	GERESS Array S	79.93	319	eP	P	08 51 06.7	-2.6
	comp=Z,0.2nm,0.4s						
GERES	GERESS Array B	79.93	319	P	P	08 51 10.3	+0.9
	comp=Z,0.9nm,0.7s,baz=94,slow=5.4,SNR=9.2						
DBIC	Dimbokro	95.89	277	LR	LR	09 34 50.0	
	comp=Z,46nm,18.3s,baz=100,slow=35						
TXAR	Lajitas Array	145.12	23	PKP	PKPdf	08 58 39.7	+1.3
	comp=Z,0.3nm,0.7s,baz=251,slow=2.8,SNR=1.9						

WEL 01 08:43:51.6, 44°S±4°×16°8E±°, h5km, ML4.2/18, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.23	208	P	Pg	08 43 57.6	+1.5
MSZ				S	Sg	08 44 01.5	+2.4
JCZ	Jackson Bay	0.65	52	P	Pg	08 44 04.3	+0.3
JCZ				S	Sg	08 44 13.3	+0.9
WKZ	Wanaka	0.76	118	P	Pb	08 44 08.0	+0.7
WKZ				S	Sb	08 44 19.1	+1.2
MLZ	Mavora Lakes	0.90	178	P	Pb	08 44 10.1	+0.5
EAZ	Earnscleugh	1.16	131	P	Pn	08 44 14.9	+0.5
EAZ				S	Sn	08 44 31.6	+1.0
DCZ	Deep Cove	1.19	213	P	Pg	08 44 14.1	-0.3

DCZ				S	Sb	08 44 30.6	+0.3
WHZ	**Wether Hill Ro**	**1.42**	**184**	P	Pb	08 44 18.4	-0.2
LBZ	**Lake Benmore**	**1.51**	**87**	P	Pg	08 44 21.1	+0.5
FOZ	**Fox Glacier**	**1.57**	**54**	P	Pn	08 44 19.0	-1.0
TUZ	**Tuapeka**	**1.84**	**144**	P	Pb	08 44 25.6	-0.1
ODZ	**Otahua Downs**	**1.92**	**108**	P	Pb	08 44 26.3	-0.7
PYZ	**Puysegur Point**	**1.96**	**210**	P	Pb	08 44 27.7	-0.1
SYZ	**Scrubby Hill**	**2.20**	**161**	P	Pn	08 44 30.1	+1.4
RPZ	**Rata Peaks**	**2.27**	**72**	P	Pn	08 44 30.9	+1.1
HHSZ	**Highcliff Hill**	**2.27**	**129**	P	Pb	08 44 31.9	-1.2
APZ	**The Paps**	**2.36**	**181**	P	Pn	08 44 32.7	+1.7
WVZ	**Waitaha Valley**	**2.38**	**55**	P	Pn	08 44 30.8	-0.3
INZ	**Inchbonnie**	**3.00**	**56**	P	Pn	08 44 38.6	-1.2
OXZ	**Oxford**	**3.08**	**70**	P	Pn	08 44 41.0	+0.1
MQZ	**McQueen's Vall**	**3.38**	**79**	P	Pn	08 44 45.0	0.0
CRLZ	**Canterbury Las**	**3.40**	**76**	P	Pn	08 44 45.5	+0.2
LTZ	**Lake Taylor**	**3.48**	**62**	P	Pn	08 44 45.7	-0.8
AKCZ	**Akaroa Harbour**	**3.53**	**82**	P	Pn	08 44 47.2	+0.2
DSZ	**Denniston Nort**	**3.86**	**46**	P	Pn	08 44 50.4	-1.2
THZ	**Tophouse**	**4.45**	**54**	P	Pn	08 44 59.8	0.0
QRZ	**Quartz Range**	**4.90**	**44**	P	Pn	08 45 04.5	-1.4
BSWZ	**Blackbirch Sta**	**5.06**	**59**	P	Pn	08 45 11.6	+3.5
NNZ	**Nelson**	**5.08**	**52**	P	Pn	08 45 07.9	-0.3
TUWZ	**Tuamarina**	**5.27**	**57**	P	Pn	08 45 12.3	+1.4
TCW	**Tory Channel**	**5.60**	**57**	P	Pn	08 45 16.8	+1.3
DUWZ	**D'Urville Isla**	**5.66**	**52**	P	Pn	08 45 16.5	+0.1
OGWZ	**Otaki Gorge**	**6.38**	**58**	P	Pn	08 45 25.8	-0.4
KHEZ	**Kahui Hut**	**6.81**	**43**	P	Pn	08 45 31.2	-1.0
PREZ	**Palmer Road**	**6.84**	**44**	P	Pn	08 45 32.5	-0.1
PKE	**Pukeiti**	**6.87**	**42**	P	Pn	08 45 32.0	-1.0
WAZ	**Wanganui**	**6.97**	**50**	P	Pn	08 45 34.6	+0.3
VRZ	**Vera Road**	**7.31**	**45**	P	Pn	08 45 39.0	0.0
ANWZ	**Angora Road**	**7.39**	**60**	P	Pn	08 45 46.4	+6.4
PKVZ	**Pokaka**	**7.50**	**49**	P	Pn	08 45 42.3	+0.7
NGZ	**Ngauruhoe**	**7.71**	**49**	P	Pn	08 45 46.6	+1.9
WTVZ	**West Tongariro**	**7.75**	**49**	P	Pn	08 45 47.0	+1.9
HIZ	**Hauiti**	**7.83**	**43**	P	Pn	08 45 45.6	-0.5
TLZ	**Tolley Road**	**8.31**	**45**	P	Pn	08 45 52.7	0.0
TOZ	**Tahuroa Road**	**8.76**	**42**	P	Pn	08 45 57.6	-1.2

*ISCJB **01** 08:45:37.9±0.2, 7°.50S±0°.04×155°.99E±0°.05, h44km, mb4.7/71, MS3.9/10, Error ellipse: s-maj=6.8km s-min=5.2km az=24.9*

*MOS **01** 08:45:37.5±0.9, 7°.49S×156°.03E, h40km, mb5.1/26, Error ellipse: s-maj=9.7km s-min=8.2km az=81.9*

*NEIC **01** 08:45:38.5±0.6, 7°.50S×156°.05E, h37km±5km, mb4.8/31, Error ellipse: s-maj=4.9km s-min=3.6km az=109.0*

*IDC **01** 08:45:41.2±2.7, 7°.48S×155°.98E, h53km±24km, mb4.3/20, mb1 4.4/23, mb1mx4.3/34, mbtmp4.5/23, ML2.7/2, MS3.8/12, Ms1 3.8/12, ms1mx3.5/34, Error ellipse: s-maj=18.1km s-min=14.8km az=110.0*

*BJI **01** 08:45:43.7, 7°.20S×156°.10E, h84km, mb4.8/31, mB5.0/9, Ms4.8/4, Ms7 4.7/4*

ISC 01 08:45:39.5±0.3**, 7°.55S**±0°.06×**155°.99E**±0°.06**, h44**km**, n165,** σ1**s**.**20**/166**, mb4.8**/71**, MS3.8**/10**, 5C-7D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.34**	**116**	P	**Pn**	**08 46 45.2**	**+2.1**
	16nm,0.3s,baz=28,slow=2.6,SNR=3.5						
HNR				S	Sn	08 47 45.0	+13
	120nm,0.3s,baz=77,slow=21,SNR=4.8						
HNR				LR	LR	08 48 16.2	
	comp=Z,614nm,20.9s,baz=289,slow=35						
HNR	**Honiara**	**4.34**	**116**	*e*P	Pn	08 46 50.0	+7.0
HNR				*e*S	Sn	08 47 45.0	+13
HNR	**Honiara**	**4.34**	**116**	*e*Pn	**Pn**	**08 46 41.2**	**-1.8**
HNR				*e*Sn	**Sn**	**08 47 32.5**	**+0.1**
HNR	**Honiara**	**4.34**	**116**	*e*P	**Pn**	**08 46 41.2**	**-1.8**
HNR				*e*		08 47 32.5	
RABL	**Rabaul**	**5.06**	**311**	*e*Pn	**Pn**	**08 46 52.5**	**-0.4**
PMG	**Port Moresby**	**8.92**	**257**	P	**Pn**	**08 47 48.7**	**+2.7**
	0.9nm,0.3s,baz=66,slow=5.6,SNR=7.9						
PMG				LR	LR	08 51 01.8	
	comp=Z,646nm,20.1s,baz=60,slow=36						
PMG	**Port Moresby**	**8.92**	**257**	*e*Pn	**Pn**	**08 47 45.1**	**-0.8**
PMG				*e*Sn	**Sn**	**08 49 21.2**	**-3.9**
PMG	**Port Moresby**	**8.92**	**257**	*e*P	**Pn**	**08 47 45.2**	**-0.8**
PMG				*e*		08 49 21.3	
MANU	**Manus Island**	**10.18**	**302**	*e*Pn	**Pn**	**08 48 01.9**	**-1.3**
COEN	**Coen**	**14.10**	**242**	*e*Pn	**Pn**	**08 48 56.7**	**-0.1**
PATS	**Pohnpei**	**14.48**	**9**	*e*Pn	**Pn**	**08 49 00.5**	**-1.3**
CTA	**Charters Tower**	**15.63**	**216**	P	**P**	**08 49 19.1**	**-1.3**
	0.1nm,0.3s,baz=337,slow=13,SNR=3.5						
CTA				LR	LR	08 54 44.9	
	comp=Z,369nm,21.6s,baz=82,slow=35						
CTAO	**Charters Tower**	**15.63**	**216**	*e*Pn	**Pn**	**08 49 17.3**	**+0.4**
	27nm,1.2s						
CTAO	**Charters Tower**	**15.63**	**216**	*e*P	**Pn**	**08 49 17.3**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,27nm,1.2s						
DZM	**Mont Dzumac**	**17.61**	**146**	LR	LR	08 55 41.2	
	comp=Z,303nm,18.5s,baz=252,slow=34						
ARMA	**Armidale**	**23.11**	**190**	*e*P	**P**	**08 50 41.6**	**-0.3**
	comp=Z,34nm,1.5s						
LHI	**Lord Howe Isla**	**24.02**	**174**	*e*P	**P**	**08 50 50.5**	**+0.1**
	comp=Z,130nm,1.4s						
WC3	**Warramunga Arr**	**24.31**	**237**	*e*P	**P**	**08 50 53.3**	**+0.1**
	comp=Z,29nm,1.1s						
WRAB	**Tennant Creek**	**24.32**	**237**	*e*P	**P**	**08 50 53.5**	**+0.2**
	comp=Z,28nm,1.1s						
WRAB	**Tennant Creek**	**24.32**	**237***d*	*i*P	**P**	**08 50 54.0**	**+0.8**
WRAB				pmax	pmax		
	comp=Z,24nm,1.3s						
WB2	**Warramunga Arr**	**24.32**	**237**	*e*P	**P**	**08 50 53.1**	**-0.2**
	comp=Z,46nm,1.4s						
WR1	**Warramunga Arr**	**24.33**	**237**	*e*P	**P**	**08 50 54.5**	**+1.1**
	comp=Z,31nm,1.1s						
WRA	**Warramunga Arr**	**24.33**	**237**	P	**P**	**08 50 54.5**	**+1.1**
	comp=Z,16nm,1.1s,baz=62,slow=9.5,SNR=28						
WRA				LR	LR	09 00 25.1	
	comp=Z,282nm,18.0s,baz=60,slow=36						
SIJI	**Sorong**	**25.52**	**284**	LR	LR	09 02 49.1	
	comp=Z,198nm,19.8s,baz=98,slow=40						
AS01	**Alice Springs**	**26.52**	**230**	*e*P	**P**	**08 51 13.3**	**+0.1**
AS31	**Alice Springs**	**26.56**	**230**	*e*P	**P**	**08 51 13.9**	**+0.3**
	comp=Z,1.4nm,0.8s						
ASAR	**Alice Springs**	**26.56**	**230**	P	**P**	**08 51 14.1**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=58,slow=9.9,SNR=8.1						
ASAR				LR	LR	09 01 23.1	
	comp=Z,256nm,18.7s,baz=84,slow=35						
STKA	**Stephens Creek**	**27.67**	**207**	P	**P**	**08 51 24.7**	**+1.2**
	comp=Z,3.8nm,0.9s,baz=35,slow=10.0,SNR=6.4						
STKA				LR	LR	09 02 11.5	
	comp=Z,244nm,19.2s,baz=20,slow=36						
STKA	**Stephens Creek**	**27.67**	**207**	*e*P	**P**	**08 51 24.1**	**+0.6**
	comp=Z,1.6nm,1.1s						
STKA	**Stephens Creek**	**27.67**	**207**	*e*P	**P**	**08 51 24.1**	**+0.6**
STKA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BBOO	**Buckleboo**	**31.20**	**214**	*e*P	**P**	**08 51 54.7**	**-0.1**
	comp=Z,8.3nm,1.2s						
FITZ	**Fitzroy Crossi**	**31.34**	**248**	P	**P**	**08 51 56.1**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=53,slow=20,SNR=3.5						
FITZ				LR	LR	09 04 14.5	
	comp=Z,94nm,18.5s,baz=78,slow=36						
FITZ	**Fitzroy Crossi**	**31.34**	**248**	*e*P	**P**	**08 51 56.2**	**+0.1**
	comp=Z,7.8nm,1.1s						
TOO	**Toolangi**	**31.37**	**196**	*e*P	**P**	**08 51 57.1**	**+0.9**
	comp=Z,34nm,1.5s						
TOO	**Toolangi**	**31.37**	**196**	*e*P	**P**	**08 51 57.1**	**+0.9**
TOO				pmax	pmax		
	comp=Z,34nm,1.5s						
BATI	**Baumata**	**32.03**	**263**	LR	LR	09 06 25.9	
	comp=Z,366nm,18.5s,baz=116,slow=39						
FORT	**Forrest**	**34.88**	**225**	*e*P	**P**	**08 52 26.8**	**0.0**
	comp=Z,22nm,0.9s						
NACB	**Ninganchiao**	**46.05**	**314**	*e*P	**P**	**08 53 58.8**	**-0.4**
	comp=Z,32nm,1.3s						
MJAR	**Matsushiro Arr**	**46.93**	**340**	P	**P**	**08 54 05.1**	**-0.8**
	comp=Z,4.9nm,0.9s,baz=171,slow=8.3,SNR=9.9						
MAJO	**Matsushiro**	**46.93**	**340**	*e*P	**P**	**08 54 05.1**	**-0.8**
MAJO	**Matsushiro**	**46.93**	**340**⇑	*e*P	**P**	**08 54 05.3**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,91nm,3.9s						
MAT	**Matsushiro**	**46.93**	**340**	P	**P**	**08 54 04.9**	**-1.0**
JNU	**Nakatsue**	**46.97**	**331**	*e*P	**P**	**08 54 05.8**	**-0.5**
	comp=Z,28nm,1.0s						
KSRS	**Korea Array**	**51.89**	**332**	P	**P**	**08 54 43.6**	**-0.1**
	comp=Z,5.8nm,1.0s,baz=154,slow=9.7,SNR=8.2						
KS15	**Wonju Array Si**	**51.90**	**332**	*e*P	**P**	**08 54 43.6**	**-0.2**
KSAR	**Wonju Array Be**	**51.90**	**332**	P	**P**	**08 54 43.6**	**-0.2**
KSAR	**Wonju Array Be**	**51.90**	**332**	P	**P**	**08 54 43.6**	**-0.2**
KS01	**Wonju Array Si**	**51.92**	**332**	*e*P	**P**	**08 54 43.8**	**-0.1**
NJ2	**Nanjing**	**52.97**	**320**	*e*P	**P**	**08 54 52.5**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,19nm,0.5s						
PPT	**Papeete**	**53.90**	**106**	LR	LR	09 13 51.6	
	comp=Z,46nm,19.9s,baz=270,slow=31						
YSS	**Yuzh-Sakhalins**	**55.52**	**349**⇓	*e*P	**P**	**08 55 11.9**	**+1.8**
YSS				pmax	pmax		
	comp=Z,244nm,4.2s						
USRK	**Ussuriysk Ar.**	**55.89**	**339**	P	**P**	**08 55 13.5**	**+0.7**
	comp=Z,7.4nm,1.0s,baz=140,slow=6.3,SNR=9.3						
ENH	**Enshi**	**58.33**	**313**	*e*P	**P**	**08 55 29.6**	**-0.9**
	comp=Z,13nm,0.4s						
KLR	**Kul'dur**	**60.39**	**342**⇓	*e*P	**P**	**08 55 44.1**	**-0.1**
PETK	**Petropavlovsk-**	**60.44**	**1**	P	**P**	**08 55 44.9**	**+0.4**
	comp=Z,8.5nm,0.9s,baz=170,slow=9.0,SNR=4.1						
PETK	**Petropavlovsk-**	**60.44**	**1**	*e*P	**P**	**08 55 44.0**	**-0.5**
PETK	**Petropavlovsk-**	**60.44**	**1**	*e*P	**P**	**08 55 44.0**	**-0.5**
PEA1	**Petropavlovsk-**	**60.45**	**1**	*e*P	**P**	**08 55 44.9**	**+0.4**
NANT	**Nan**	**60.46**	**296**	P	**P**	**08 55 47.2**	**+1.9**
	comp=Z,3.4nm,1.1s,comp=Z,316nm						
UTHA	**Uthaitani**	**60.52**	**293**	P	**P**	**08 55 47.8**	**+2.0**
	comp=Z,3.1nm,0.9s						
KMI	**Kunming**	**61.14**	**304**	P	**P**	**08 55 51.3**	**+1.2**
KMI				pP	sP	08 56 14.0	+6.6
KMI				pmax	pmax		
	comp=Z,14nm,0.9s						
KMI				pmax	pmax		
	comp=Z,95nm,5.3s						
CM01	**Chiang Mai Arr**	**61.88**	**295**	*e*P	**P**	**08 55 54.5**	**-0.4**
CM31	**Chiang Mai Arr**	**61.91**	**295**	*e*P	**P**	**08 55 54.5**	**-0.6**
CMAR	**Chiang Mai Arr**	**61.91**	**295**	P	**P**	**08 55 56.3**	**+1.1**
	comp=Z,2.3nm,0.8s,baz=124,slow=5.2,SNR=12						
CMAR	**Chiang Mai Arr**	**61.91**	**295**	*i* P	**P**	**08 55 56.2**	**+1.1**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**63.12**	**323**	*e*P	**P**	**08 56 03.9**	**+1.0**
HHC				pmax	pmax		
	comp=Z,17nm,1.1s						
HIA	**Hailar**	**64.84**	**335**	*e*P	**P**	**08 56 13.7**	**-0.3**
	comp=Z,10nm,0.9s						
HIA	**Hailar**	**64.84**	**335**	*e*P	**P**	**08 56 13.7**	**-0.3**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LZH	**Lanzhou**	**65.40**	**315**	*e*P	**P**	**08 56 22.1**	**+4.1**
LZH				pP	sP	08 56 39.6	+4.2
LZH				sP	PcP	08 56 50.4	+0.6
LZH				*e*PP	**PP**	**08 58 45.7**	**+3.2**
LZH				pmax	pmax		
	comp=Z,24nm,1.4s						
LZH				pmax	pmax		
	comp=Z,140nm,6.0s						
LZH				LR	LR		
	comp=Z,250nm,15.3s						
LZH				LR	LR		
	comp=Z,260nm,15.5s						
LZH				LR	LR		
	comp=Z,370nm,18.6s						
ZEA	**Zeya**	**65.70**	**342**	*e*P	**P**	**08 56 20.1**	**+0.7**
ZEA				pmax	pmax		
	comp=Z,29nm,1.0s						
UNV	**Unalaska Valle**	**68.85**	**23**	*e*P	**P**	**08 56 38.4**	**-0.9**
	comp=Z,63nm,1.3s						
GTA	**Gaotai**	**69.81**	**317**	*e*P	**P**	**08 56 47.1**	**+1.3**
GTA				pP	sP	08 57 04.9	+1.7
GTA				sP	PcP	08 57 13.5	+5.3
GTA				S	**S**	**09 05 52.3**	**0.0**
GTA				sS	SKiKP	09 06 26.3	-3.4
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,180nm,7.1s						
GTA				LR	LR		
	comp=Z,140nm,17.1s						
GTA				LR	LR		
	comp=Z,170nm,18.7s						
GTA				LR	LR		
	comp=Z,190nm,17.8s						
VNDA	**Vanda**	**70.00**	**179**	P	**P**	**08 56 47.8**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=18,slow=8.5,SNR=3.4						
VNDA	**Vanda**	**70.00**	**179**	*e*P	**P**	**08 56 46.4**	**+0.2**
VNDA	**Vanda**	**70.00**	**179**	*e*P	**P**	**08 56 46.4**	**+0.2**
SEY	**Seymchan**	**70.33**	**358**⇑	*e*P	**P**	**08 56 48.1**	**-0.2**
SONA0	**Songino Array**	**70.33**	**327**	*e*P	**P**	**08 56 50.0**	**+1.2**
SONM	**Songino Array**	**70.33**	**327**	P	**P**	**08 56 50.0**	**+1.2**
	comp=Z,14nm,0.9s,baz=135,slow=6.5,SNR=54						
SONA1	**Songino Array**	**70.33**	**327**	*e*P	**P**	**08 56 49.2**	**+0.3**
SHL	**Shillong**	**70.42**	**300**	*e*P	**P**	**08 56 49.2**	**-0.7**
	comp=Z,9.9nm,0.8s						
SHL	**Shillong**	**70.42**	**300**	*e*P	**P**	**08 56 49.2**	**-0.7**
SHL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YAK	**Yakutsk**	**72.31**	**347**	*e*P	**P**	**08 57 00.6**	**+0.4**
YAK				pmax	pmax		
	comp=Z,24nm,1.0s						
LSA	**Lhasa**	**72.39**	**304**	*e*P	**P**	**08 57 01.0**	**-1.0**
	comp=Z,11nm,1.3s						
LSA	**Lhasa**	**72.39**	**304**	*e*P	**P**	**08 57 01.0**	**-1.0**
LSA				pmax	pmax		
	comp=Z,11nm,1.3s						
ZAK	**Zakamensk**	**73.48**	**328**	*e*P	**P**	**08 57 07.9**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MOY	**Mondy**	**75.40**	**328**	*e*P	**P**	**08 57 19.6**	**+0.9**
MOY				pmax	pmax		
	comp=Z,22nm,1.6s						
BILL	**Bilibino**	**75.76**	**4**	*e*P	**P**	**08 57 20.5**	**+0.2**
	comp=Z,12nm,1.0s						
BILL	**Bilibino**	**75.76**	**4**⇑	*e*P	**P**	**08 57 20.6**	**+0.3**
BILL				pmax	pmax		
	comp=Z,14nm,1.0s						
PALK	**Pallekele**	**76.50**	**279**	LR	LR	09 32 08.0	
	comp=Z,40nm,21.1s,baz=117,slow=36						
WMQ	**Urumqi**	**79.90**	**317**	P	**P**	**08 57 44.6**	**+0.7**
WMQ				pP	sP	08 58 07.5	+6.0
WMQ				sP	pP	08 58 16.7	+20
WMQ				pmax	pmax		
	comp=Z,16nm,1.1s						
RDOG	**Red Dog Mine**	**80.80**	**14**	*e*P	**P**	**08 57 48.0**	**-0.2**
	comp=Z,11nm,1.4s						
CAST	**Castle Rocks**	**80.88**	**21**	*e*P	**P**	**08 57 47.8**	**-0.9**
	comp=Z,18nm,1.4s						
TIXI	**Tiksi**	**81.04**	**352**⇑	*e*P	**P**	**08 57 50.5**	**+1.2**
TIXI				pmax	pmax		
	comp=Z,12nm,2.6s						
IM3	**Indian Mountai**	**81.94**	**19**	*e*P	**P**	**08 57 53.7**	**-0.5**
RND	**Reindeer**	**82.05**	**22**	*e*P	**P**	**08 57 54.4**	**-0.5**
	comp=Z,13nm,1.3s						
RND	**Reindeer**	**82.05**	**22**	*e*P	**P**	**08 57 54.4**	**-0.5**
RND				pmax	pmax		
	comp=Z,13nm,1.3s						
DGZ	**Jazzator, Alta**	**82.18**	**322***d*	*i*P	**P**	**08 57 56.6**	**+0.6**
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
QSPA	**South Pole Qui**	**82.43**	**180**	*e*P	**P**	**08 57 56.8**	**-0.3**
	comp=Z,13nm,1.1s						
IL1	**Eielson Array**	**83.53**	**21**	*e*P	**P**	**08 58 01.1**	**-1.5**
ILAR	**Eielson Array**	**83.53**	**21**	P	**P**	**08 58 01.5**	**-1.1**
	comp=Z,1.2nm,0.9s,baz=248,slow=5.3,SNR=13						
MK32	**Makanchi Array**	**84.47**	**319**	*e*P	**P**	**08 58 08.2**	**+0.5**
MKAR	**Makanchi Array**	**84.47**	**319**	P	**P**	**08 58 08.2**	**+0.5**
	comp=Z,20nm,0.9s,baz=102,slow=5.6,SNR=128						
MKAR	**Makanchi Array**	**84.47**	**319**	*e*P	**P**	**08 58 07.7**	**0.0**
	comp=Z,116nm,0.9s						
MKAR	**Makanchi Array**	**84.47**	**319**	*i* P	**P**	**08 58 08.1**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,20nm,0.9s						
MAKZ	**Makanchi**	**84.68**	**318**	*e*P	**P**	**08 58 08.1**	**-0.7**
	comp=Z,33nm,1.0s						
MAKZ	**Makanchi**	**84.68**	**318**	*e*P	**P**	**08 58 08.1**	**-0.7**
MAKZ				pmax	pmax		
	comp=Z,33nm,1.0s						
ZALV	**Zalesovo Beam**	**85.19**	**326**	P	**P**	**08 58 10.7**	**-0.5**
	comp=Z,15nm,0.7s,baz=110,slow=5.1,SNR=67						
ZAA1	**Zalesovo Array**	**85.19**	**326**	*e*P	**P**	**08 58 10.7**	**-0.5**
HYT	**Haines Junctio**	**85.42**	**27**	*e*P	**P**	**08 58 12.3**	**-0.1**
	comp=Z,23nm,1.6s						
NVS	**Novosibirsk**	**86.35**	**326**	*e*P	**P**	**08 58 16.2**	**-0.7**
NVS				pmax	pmax		
	comp=N,6.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.4s						
NVS				pmax	pmax		
	comp=Z,16nm,1.4s						
KSH	**Kashi**	**87.12**	**310**	P	**P**	**08 58 23.1**	**+1.9**
KSH				pP	sP	08 58 45.6	+6.7
KSH				PP	**PP**	**09 01 48.7**	**+3.4**
KSH				S	**S**	**09 08 51.0**	**-6.6**
KSH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,190nm,10.0s						
NRN	**Naryn**	**87.50**	**312**	*e*P	**P**	**08 58 23.0**	**-0.2**
	comp=Z,7.2nm,1.5s						
NRN	**Naryn**	**87.50**	**312**	*e*P	**P**	**08 58 23.0**	**-0.2**
NRN				pmax	pmax		
	comp=Z,7.0nm,1.5s						
KURK	**Kurchatov**	**87.87**	**322**	*e*P	**P**	**08 58 23.7**	**-0.6**
	comp=Z,8.8nm,1.0s						
KURK	**Kurchatov**	**87.87**	**322**⇓	*i*P	**P**	**08 58 24.1**	**-0.2**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KURBB	**Kurchatov Arra**	**87.91**	**322**	P	**P**	**08 58 24.3**	**-0.2**
	comp=Z,3.5nm,0.7s,baz=107,slow=3.3,SNR=34						
EPYK	**Eagle Plains**	**88.01**	**22**	*e*P	**P**	**08 58 24.6**	**-0.1**
	comp=Z,9.0nm,0.9s						
AAK	**Ala-Archa**	**88.84**	**313**	P	**P**	**08 58 30.6**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=127,slow=6.3,SNR=6.2						
AAK	**Ala-Archa**	**88.84**	**313**	*e*P	**P**	**08 58 29.0**	**-0.4**
	comp=Z,3.6nm,1.0s						
AAK	**Ala-Archa**	**88.84**	**313**⇓	*e*P	**P**	**08 58 29.8**	**+0.4**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
INK	**Inuvik**	**89.89**	**21**	*e*P	**P**	**08 58 32.0**	**-1.4**
	comp=Z,12nm,1.4s						
INK	**Inuvik**	**89.89**	**21**	*e*P	**P**	**08 58 32.0**	**-1.4**
INK				pmax	pmax		
	comp=Z,12nm,1.4s						
MWC	**Mount Wilson**	**90.87**	**56**	*e*P	**P**	**08 58 38.3**	**-0.8**
	comp=Z,13nm,1.1s						
MWC	**Mount Wilson**	**90.87**	**56**	*e*P	**P**	**08 58 38.3**	**-0.8**
MWC				pmax	pmax		
	comp=Z,13nm,1.1s						
NV01	**Mina Array Sit**	**91.29**	**52**	*e*P	**P**	**08 58 39.4**	**-1.6**
NVAR	**Mina Array Bea**	**91.29**	**52**	P	**P**	**08 58 42.4**	**+1.4**
	comp=Z,1.9nm,0.9s,baz=238,slow=5.2,SNR=8.1						
NV11	**Mina Array Sit**	**91.41**	**52**	*e*P	**P**	**08 58 41.4**	**-0.1**
	comp=Z,0.3nm,1.1s						
DAC	**Darwin (Calif)**	**91.54**	**54**	*e*P	**P**	**08 58 41.0**	**-1.2**
	comp=Z,6.1nm,1.0s						
DAC	**Darwin (Calif)**	**91.54**	**54**	*e*P	**P**	**08 58 41.0**	**-1.2**
DAC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TPNV	**Topopah Spring**	**92.70**	**53**	*e*P	**P**	**08 58 46.6**	**-0.9**
	comp=Z,4.6nm,1.1s						
TPNV	**Topopah Spring**	**92.70**	**53**	*e*P	**P**	**08 58 46.6**	**-0.9**
TPNV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BVAR	**Borovoye Array**	**93.33**	**323**	P	**P**	**08 58 49.2**	**-0.6**
	comp=Z,4.8nm,0.8s,baz=90,slow=5.9,SNR=20						
BRVK	**Borovoye**	**93.39**	**323**	*e*P	**P**	**08 58 49.2**	**-0.9**
	comp=Z,6.3nm,1.0s						
BRVK	**Borovoye**	**93.39**	**323**⇓	*e*P	**P**	**08 58 49.4**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
SHPR	**Sheep Range**	**93.52**	**54**	*e*P	**P**	**08 58 50.0**	**-1.3**
	comp=Z,2.7nm,1.0s						
YKA	**Yellowknife Ar**	**96.36**	**28**	P	**P**	**08 59 03.3**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=265,slow=4.6,SNR=27						
YKB5	**Yellowknife Ar**	**96.36**	**28**	*e*P	**P**	**08 59 03.3**	**-0.1**
NVL	**N'lazarevskaya**	**98.23**	**191**	*e*P	Pdif	08 59 18.5	+6.7
NVL				pmax	pmax		
	comp=Z,5.0nm,0.6s						
PDAR	**Pinedale Array**	**98.34**	**48**	P	**P**	**08 59 12.7**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=122,slow=1.9,SNR=3.5						
ARU	**Arti**	**100.35**	**326**	P	**Pdif**	**08 59 20.5**	**-0.9**
ARU						09 03 28.8	
ARU				S	**SKSac**	**09 09 52.0**	**-4.7**
ARU				SS	**SS**	**09 17 51.2**	**+1.5**
OBN	**Obninsk**	**112.74**	**327**⇑	*i*PKIKP	**PKiKP**	**09 04 12.2**	**+1.0**
OBN				pmax	pmax		
	comp=Z,9.0nm,2.0s						
FINES	**FINESS Array B**	**114.84**	**336**	PKP	**PKiKP**	**09 04 14.0**	**-1.1**
	comp=Z,6.0nm,1.1s,baz=62,slow=3.3,SNR=2.9						
AKASG	**Malin Array Be**	**118.56**	**325**	PKP	**PKPdf**	**09 04 22.4**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=56,slow=2.1,SNR=4.2						
NB200	**NORSAR Array S**	**120.54**	**341**	*e*PKPdf	**PKiKP**	**09 04 26.7**	**+0.4**
NOA	**NORSAR Array B**	**120.54**	**341**	PKP	**PKiKP**	**09 04 26.7**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=330,slow=8.2,SNR=2.6						
MNMC	**Minye Minye**	**127.85**	**121**	*e*PKPdf	**PKPdf**	**09 04 41.1**	**-0.6**
GO01	**Chusmiza**	**127.95**	**122**	*e*PKPdf	**PKPdf**	**09 04 41.0**	**-1.2**
GERES	**GERESS Array B**	**128.03**	**329**	PKP	**PKiKP**	**09 04 41.6**	**0.0**
	comp=Z,0.7nm,0.6s,baz=95,slow=1.6,SNR=8.5						
LPAZ	**La Paz**	**130.33**	**119**	PKP	**PKiKP**	**09 04 47.9**	**+0.1**
	comp=Z,3.3nm,0.9s,baz=3.3,slow=2.5,SNR=11						
LPAZ	**La Paz**	**130.33**	**119**	*e*PKPdf	**PKPdf**	**09 04 46.4**	**-0.5**
LPAZ	**La Paz**	**130.33**	**119**	*e*PKIKP	**PKPdf**	**09 04 46.4**	**-0.5**
DAVOX	**Davos/Dischmat**	**131.33**	**329**	PKP	**PKPdf**	**09 04 47.6**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=284,slow=2.7,SNR=4.4						
ESDC	**Sonseca Array**	**143.30**	**334**	PKP	PKPbc	09 05 07.4	+0.8
	comp=Z,2.5nm,1.0s,baz=40,slow=3.3,SNR=7.3						
PMRV	**Marv??o**	**144.92**	**337**	*e*PKP	**PKiKP**	**09 05 14.8**	**-1.3**
PTOM	**Tomar**	**145.13**	**339**	*e*PKP	**PKPdf**	**09 05 13.4**	**+0.8**
PESTR	**Estremoz**	**145.48**	**337**	*e*PKP	**PKPab**	**09 05 13.8**	**+0.2**
PESTR	**Estremoz**	**145.48**	**337**	*e*PKPdf	**PKPdf**	**09 05 12.8**	**-0.5**
EVO	**Evora**	**145.94**	**337**	*e*PKP	**PKiKP**	**09 05 17.3**	**-0.9**
PBEJ	**Beja**	**146.32**	**337**	*e*PKP	**PKiKP**	**09 05 18.6**	**-0.4**
PNCL	**Nicolau / Gran**	**146.50**	**338**	*e*PKP	**PKPbc**	**09 05 16.5**	**+0.1**
MESJ	**Messejana**	**146.62**	**337**	*e*PKP	**PKPab**	**09 05 17.8**	**-0.1**
PVAQ	**Vaqueiros**	**146.80**	**336**	*e*PKP	**PKPab**	**09 05 18.5**	**-0.1**
MDT	**Midelt**	**149.07**	**327**	PKPbc	**PKiKP**	**09 05 24.9**	**-0.1**
	comp=Z,3.1nm,0.9s,baz=54,slow=3.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**154.12**	**285**	PKPbc	**PKPbc**	**09 05 35.4**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=20,slow=4.7,SNR=6.4						
DBIC	**Dimbokro**	**160.97**	**269**	PKP	**PKPdf**	**09 05 36.6**	**+0.5**
	comp=Z,3.6nm,1.0s,baz=127,slow=5.8,SNR=3.0						
DBIC				PKPab	**PKPab**	**09 06 19.7**	**+0.6**
	comp=Z,3.3nm,0.9s,baz=60,slow=4.7,SNR=4.3						

IDC 01 09:01:20.1±1.3**, 0°.10S**×**124°.17E, h0**km**, mb3.2**/4**, mb1 3.4**/4**, mb1mx3.2**/39**, mbtmp3.3**/4**, Error ellipse: s-maj=86.1km s-min=22.3km az=71.0, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.09**	**154**	P	P	09 06 17.1	0.0
	0.4nm,0.9s,baz=332,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**25.26**	**159**	P	P	09 06 48.2	0.0
	0.2nm,0.5s,baz=340,slow=15,SNR=5.7						
USRK	**Ussuriysk Ar.**	**44.66**	**8**	P	P	09 09 34.3	-0.2
	0.7nm,0.7s,baz=204,slow=7.4,SNR=4.6						
MKAR	**Makanchi Array**	**59.31**	**328**	P	P	09 11 23.8	0.0
	0.2nm,0.3s,baz=126,slow=8.7,SNR=7.0						

*NIED **01** 09:19:00, 27°.10N×127°.50E, h92km, Mw4.2 Best double couple: $M_0$2.24000×10^{15} NP1:ϕ_s112.00000°, δ65.00000°, λ-162.00000°. NP2:ϕ_s15.00000°, δ74.00000°, λ-26.00000°.*

*BJI **01** 09:19:14.0, 26°.80N×127°.60E, h98km, mb4.4/32, mB4.7/19*

*MOS **01** 09:19:15.0±1.1, 27°.03N×127°.45E, h92km, mb4.6/37, Error ellipse: s-maj=10.0km s-min=5.8km az=114.5*

*NEIC **01** 09:19:16.1±0.3, 27°.00N×127°.38E, h93km±3km, mb4.7/43, Error ellipse: s-maj=6.6km s-min=3.2km az=153.0*

NEIC Felt in Chatan, Ginowan, Kitanakagusuku, Kumejima, Nanjo and Urasoe, Okinawa. Recorded [1 JMA] in the Kerama-retto and on Kume-jima, Okinawa and Tonaki-jima.

*IDC **01** 09:19:16.6±0.5, 27°.11N×127°.49E, h93km±4km, mb4.1/22, mb1 4.2/24, mb1mx4.0/61, mbtmp4.4/24, Error ellipse: s-maj=12.5km s-min=9.8km az=60.0*

*ISCJB **01** 09:19:16.0±0.2, 27°.03N±0°.04×127°.47E±0°.03, h102km±2km, mb4.5/89, Error ellipse: s-maj=6.8km s-min=3.8km az=146.7*

*JMA **01** 09:19:17.4±0.2, 27°.08N×127°.47E, h94km±3km, M4.0*

JMA Felt I J1.

ISC 01 09:19:17.3±0.5**, 27°.00N**±0°.05×**127°.51E**±0°.05**, h104**km±4km**, n266,** σ1**s**.**13**/291**, mb4.5**/106**, 22C-12D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.41**	**85**	P	**Pn**	**09 19 32.6**	**-0.2**
JIH				*e*S	**Sn**	**09 19 43.8**	**-0.7**
JAGN	**Aguni-jima**	**0.48**	**211**	P	**Pn**	**09 19 33.0**	**-0.3**
JAGN				S	**Sn**	**09 19 44.1**	**-1.2**

JNTH **Nagotoyohara** 0.66 136 P Pn 09 19 35.0 +0.3
JNTH S Sn 09 19 47.2 -0.6
JOW Kunigami 0.70 104 P Pn 09 19 35.0 -0.1
1µm,0.3s,baz=122,slow=5.2,SNR=7855
JOW S Sn 09 19 47.4 -1.0
3µm,0.3s,baz=40,slow=19,SNR=105
JOW Kunigami 0.70 104 *e*Pn Pn 09 19 34.0 -1.0
JOW Kunigami 0.70 104 P Pn 09 19 35.0 -0.1
JOW S Sn 09 19 47.4 -1.0
JYRO Yoronjima 0.84 88 P Pn 09 19 36.2 -0.1
JYRO S Sn 09 19 49.5 -1.1
JJT3 Tamagusuku3 0.89 164 P Pn 09 19 37.9 +1.1
JJT3 S Sn 09 19 52.9 +1.4
JKE Kume jima 2 0.94 224 P Pn 09 19 36.9 -0.4
JKE S Sn 09 19 51.5 -0.9
JOKE Okinoerabujima 1.01 69 P Pn 09 19 37.6 -0.5
JOKE *e*S Sn 09 19 52.5 -1.3
JTK Tokunoshima 1.50 58 P Pn 09 19 43.3 -0.4
JTK *e*S Sn 09 20 02.6 -1.2
JAMN Amaminishikomi 1.93 50 P Pn 09 19 48.3 -0.7
JAMN *e*S Sn 09 20 11.4 -1.8
YOJ Yonaguni jima 4.78 239 *e*Pn Pn 09 20 24.8 -2.3
YOJ Yonaguni jima 4.78 239 *e*P Pn 09 20 24.8 -2.3
TATO Taipei 5.79 251 *e*Pn Pn 09 20 38.5 -2.1
YHNB Yeheng 6.00 249 *e*Pn Pn 09 20 41.0 -2.6
NACB Ninganchiao 6.04 244 *e*Pn Pn 09 20 41.3 -2.9
YULB Yu-li 6.68 239 *e*Pn Pn 09 20 49.4 -3.5
SSLB Suanglung 6.74 243 *e*Pn Pn 09 20 50.8 -2.9
JNU Nakatsue 6.76 25 P Pn 09 20 53.9 0.0
4.7nm,0.3s,baz=222,slow=8.1,SNR=46
JNU S Sn 09 22 09.7 +0.2
2.2nm,0.3s,baz=352,slow=19,SNR=3.6
JNU Nakatsue 6.76 25 *e*Pn Pn 09 20 53.3 -0.6
TWG Pinlang 7.18 236 *e*Pn Pn 09 20 55.9 -3.7
TPUB Ta-pu 7.24 241 *e*Pn Pn 09 20 58.2 -2.3
QZH Quanzhou 8.29 258 ⇓*i*P Pn 09 21 15.0 +0.4
NJ2 Nanjing 9.07 306 *e*P Pn 09 21 24.3 -0.9
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
KSRS Korea Array 10.43 2 P Pn 09 21 44.8 +1.1
0.2nm,0.3s,baz=182,slow=13,SNR=7.6
INU Inuyama 11.63 42 *e*Pn Pn 09 21 60.0 +0.1
JHJ2 Mitsune 12.27 57 *e*Pn Pn 09 22 08.9 +0.5
MAJO Matsushiro 13.15 41 *e*Pn Pn 09 22 20.8 +0.9
MAJO Matsushiro 13.15 41⇓*e*P Pn 09 22 18.9 -1.1
MAT Matsushiro 13.15 41 P Pn 09 22 20.9 +0.9
MJAR Matsushiro Arr 13.15 41 P Pn 09 22 20.8 +0.8
0.5nm,0.3s,baz=248,slow=15,SNR=9.6
BJI Beijing 16.06 327⇑*e*P P 09 22 59.6 +1.3
BJI pmax pmax
comp=Z,7.0nm,0.7s
CN2 Changchun 16.85 355 *e*P P 09 23 08.9 +1.9
CN2 pmax pmax
comp=Z,10.0nm,0.8s
XAN Xi'an 17.48 298 P Pn 09 23 14.5 +0.1
XAN pmax pmax
comp=Z,6.0nm,0.9s
XAN pmax pmax
comp=Z,120nm,6.0s
USRK Ussuriysk Ar. 17.54 11 P P 09 23 12.1 -2.5
0.1nm,0.3s,baz=184,slow=8.2,SNR=3.3
USRK pP **pP** 09 23 35.3 +1.7
0.1nm,0.3s,baz=185,slow=10,SNR=2.7
HHC Hu-ho-hao-te 19.09 320 *e*P Pn 09 23 33.7 0.0
HHC pmax pmax
comp=Z,21nm,0.9s
HHC pmax pmax
comp=Z,200nm,4.5s
CD2 Chengdu 21.14 286 *e*P P 09 23 53.0 -0.9
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.8s
LZH Lanzhou 22.07 300 *e*P P 09 24 05.9 +2.0
LZH pP pP 09 24 22.4 -1.2
LZH *e*PP **sP** 09 24 36.4 +0.1
LZH sP sP 09 24 38.7 +2.4
LZH pmax pmax
comp=Z,21nm,1.3s
KMI Kunming 22.33 271 P P 09 24 06.9 +0.1
KMI pP pwP 09 24 27.8 -0.8
KMI pmax pmax
comp=Z,11nm,1.1s
KMI pmax pmax
comp=Z,120nm,4.9s
KLR Kul'dur 22.44 7 P P 09 24 05.8 -1.6
1.1nm,0.7s,baz=186,slow=10,SNR=2.9
GTA Gaotai 26.16 305 ⇑P P 09 24 41.0 -1.0
GTA pP pP 09 25 02.1 -2.3
GTA sP sP 09 25 14.3 -2.1
GTA S **S** 09 29 05.4 -0.9
GTA sS sS 09 29 42.9 -3.2
GTA SS **SnSn** 09 30 24.1 +7.4
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA pmax pmax
comp=Z,150nm,6.4s
GTA LR LR
comp=N,220nm,14.6s
GTA LR LR
comp=E,200nm,14.0s
GTA LR LR
comp=Z,150nm,15.9s
SONA0 Songino Array 26.56 327 *e*P P 09 24 45.8 +0.3
SONM Songino Array 26.56 327 P P 09 24 45.8 +0.3
4.1nm,0.4s,baz=143,slow=11,SNR=36
SONA1 Songino Array 26.57 327 *e*P P 09 24 46.2 +0.6
UTHA Uthaitani 28.46 252 P P 09 25 00.7 -1.9
5.8nm,1.0s,96nm
ODAN Odare 35.67 279 *e*P P 09 26 06.2 +0.4
15nm,0.4s
WMQ Urumqi 36.14 308 *e*P P 09 26 11.9 +2.5
WMQ pmax pmax
comp=Z,22nm,1.3s
RAMN Ramite 36.35 279 *e*P P 09 26 11.6 0.0
3.9nm,0.5s
GUN Gumba 36.83 281 *e*P P 09 26 16.7 +0.9
8.0nm,0.3s
PKI Pulchoki 37.29 281 *e*P P 09 26 19.8 +0.1
7.2nm,0.4s
PKIN Phulchoki 37.30 281 *e*P P 09 26 19.7 -0.1
11nm,0.4s
KKN Kakani 37.37 281 *e*P P 09 26 20.7 +0.4
6.5nm,0.3s
DGZ Jazzator, Alta 38.12 317⇑*e*P P 09 26 27.1 +0.9
DANN Dangsing 38.62 282 *e*P P 09 26 31.2 +0.4
14nm,0.5s
KOLN Koldanda 38.85 282 *e*P P 09 26 33.0 +0.4
5.4nm,0.5s
PYUN Piuthan 39.33 282 *e*P P 09 26 37.1 +0.5
14nm,0.8s
MK01 Makanchi Array 40.53 311 *e*P P 09 26 45.1 -1.0
MK31 Makanchi Array 40.55 311 *e*P P 09 26 45.0 -1.3
MK31 Makanchi Array 40.55 311 *e*P P 09 26 45.0 -1.3
MK32 Makanchi Array 40.55 311 *e*P P 09 26 45.5 -0.8
MK32 *e*PcP **PcP** 09 28 47.1 +0.5
MKAR Makanchi Array 40.55 311 P P 09 26 45.5 -0.8
1.6nm,0.4s,baz=92,slow=9.6,SNR=42
MKAR PcP **PcP** 09 28 47.1 +0.5
0.8nm,0.6s,baz=88,slow=2.7,SNR=5.1
MKAR Makanchi Array 40.55 311 *e*P P 09 26 45.0 -1.2
17nm,0.8s
MAKZ Makanchi 40.76 311 *e*P P 09 26 47.3 -0.7
4.9nm,1.0s
MAKZ Makanchi 40.76 311 *e*P P 09 26 47.3 -0.7
MAKZ pmax pmax
comp=Z,5.0nm,1.0s
ZAA0 Zalesovo Array 41.25 323 *e*P P 09 26 50.6 -1.3
comp=Z,3.3nm,0.8s
ZALV Zalesovo Beam 41.25 323 P P 09 26 50.7 -1.1
comp=Z,3.3nm,0.6s,baz=116,slow=7.5,SNR=15
ZALV PcP **PcP** 09 28 48.2 -0.5
comp=Z,0.9nm,0.4s,baz=124,slow=3.6,SNR=4.7
ZALV Zalesovo Beam 41.25 323 *e*P P 09 26 51.0 -0.9
ZAA1 Zalesovo Array 41.25 323 *e*P P 09 26 50.7 -1.2
ZAA1 *e*PcP **PcP** 09 28 48.2 -0.5
PDGK Podgornoye 41.91 306 P P 09 26 57.8 +0.2
PDGK pmax pmax
comp=Z,7.0nm,1.0s
KURK Kurchatov 43.82 316 *e*P P 09 27 12.0 -0.7
comp=Z,4.4nm,0.7s
KURK Kurchatov 43.82 316 *de*P P 09 27 12.1 -0.7
KURK pmax pmax
comp=Z,7.0nm,1.3s
KURBB Kurchatov Arra 43.85 316 P P 09 27 12.3 -0.7
comp=Z,2.7nm,0.4s,baz=104,slow=8.1,SNR=15
KSH Kashi 44.32 300 P P 09 27 19.1 +2.0
KSH PcP **PcP** 09 28 59.6 +0.1
KSH S **S** 09 33 43.7 +0.1
KSH sS sS 09 34 29.8 +4.8
KSH pmax pmax
comp=Z,14nm,0.6s
KSH pmax pmax
comp=Z,280nm,6.2s
KSH LR LR
comp=Z,340nm,5.3s
KSH LR LR
comp=Z,240nm,8.0s
KSH LR LR
comp=Z,460nm,7.5s
NRN Naryn 44.34 303 *e*P P 09 27 18.5 +1.1
comp=Z,10.0nm,1.4s
NRN Naryn 44.34 303 *e*P P 09 27 18.5 +1.1
NRN pmax pmax
comp=Z,10.0nm,1.4s
TIXI Tiksi 44.70 1⇓*e*P P 09 27 19.1 -0.3
TIXI pmax pmax
comp=Z,4.0nm,1.1s
AAK Ala-Archa 45.51 304 *e*P P 09 27 26.1 -0.4
comp=Z,3.0nm,1.1s
AAK Ala-Archa 45.51 304⇓*e*P P 09 27 26.9 +0.4
AAK pmax pmax
comp=Z,3.0nm,1.2s
WR1 Warramunga Arr 47.13 171 *e*P P 09 27 40.0 +0.9
comp=Z,15nm,1.5s
WRA Warramunga Arr 47.13 171 P P 09 27 40.0 +0.9
comp=Z,0.9nm,0.7s,baz=353,slow=8.4,SNR=11
WRA pP **pP** 09 28 02.9 -0.6
comp=Z,1.4nm,0.8s,baz=353,slow=8.6,SNR=6.2
WRA Warramunga Arr 47.13 171 *i* P P 09 27 43.9 +4.8
WRA pmax pmax
comp=Z,1.0nm,0.7s
OTUK Ortayu 47.43 312 P P 09 27 42.8 +1.5
OTUK pmax pmax
comp=Z,5.0nm,1.0s
KK31 Karatay Array 48.44 305 *e*P P 09 27 49.2 +0.1
KK31 Karatay Array 48.44 305 *e*P P 09 27 49.2 +0.1
KKAR Karatay Array 48.44 305 *e*P P 09 27 49.2 +0.1
KKAR Karatay Array 48.44 305 *e*P P 09 27 49.2 +0.1
COCO West Island 49.04 221 *i* P P 09 27 54.4 +0.5
BRVK Borovoye 49.34 318 *e*P P 09 27 55.2 -0.6
comp=Z,6.5nm,0.8s
BRVK Borovoye 49.34 318⇑*i*P P 09 27 55.1 -0.7
BRVK pmax pmax
comp=Z,7.0nm,0.8s
KBL Kabul 50.21 294 P P 09 28 05.0 +2.1
KBL pmax pmax
comp=Z,9.0nm,1.3s
ASAR Alice Springs 50.75 172 P P 09 28 08.2 +1.5
comp=Z,0.5nm,0.8s,baz=354,slow=7.1,SNR=3.6
ASAR pP **pP** 09 28 32.2 +0.8
comp=Z,0.6nm,0.5s,baz=7.1,slow=11,SNR=4.7
AS01 Alice Springs 50.75 172 *e*P P 09 28 06.7 -0.1
ABKAR Akbulak array 55.65 313 *e*P P 09 28 42.0 -0.4
ARU Arti 56.39 321 *e*P P 09 28 47.0 -0.6
comp=Z,4.6nm,0.5s
ARU Arti 56.39 321⇑*e*P P 09 28 47.1 -0.5
ARU pmax pmax
comp=Z,17nm,1.2s
GEYT Alibeck 58.35 300 P P 09 29 02.6 +0.9
comp=Z,4.9nm,0.6s,baz=68,slow=5.1,SNR=15
GYA0B ALIBECK ARRAY 58.35 300 *e*P P 09 29 02.8 +1.1
comp=Z,3.8nm,0.6s
IM3 Indian Mountai 61.10 27 *e*P P 09 29 21.5 +1.5
CAST Castle Rocks 61.95 30 *e*P P 09 29 26.0 +0.2
comp=Z,21nm,1.6s
SKT Skwentna 62.34 32 *e*P P 09 29 29.4 +1.0
comp=Z,31nm,1.6s
BPAW Bear Paw Mtn. 62.38 29 *e*P P 09 29 28.9 +0.2
comp=Z,5.9nm,0.6s
MLY Manley 62.40 28 *e*P P 09 29 30.3 +1.4
comp=Z,8.3nm,1.6s
COLD Coldfoot 62.45 26 *e*P P 09 29 29.6 +0.6
comp=Z,10nm,1.6s
SUA Susitna One 62.77 32 *e*P P 09 29 31.8 +0.4
comp=Z,34nm,1.3s
MCK McKinley 63.32 30 *e*P P 09 29 35.5 +0.6
comp=Z,31nm,1.6s
MCK McKinley 63.32 30 *e*P P 09 29 35.5 +0.6
MCK pmax pmax
comp=Z,31nm,1.6s
RND Reindeer 63.40 30 *e*P P 09 29 36.2 +0.7
comp=Z,26nm,1.7s
RND Reindeer 63.40 30 *e*P P 09 29 36.2 +0.7
RND pmax pmax
comp=Z,26nm,1.7s
MDM Murphy Dome 63.47 28 *e*P P 09 29 37.3 +1.5
comp=Z,19nm,1.4s
WRH Wood River Hil 63.59 29 *e*P P 09 29 37.6 +0.9
comp=Z,7.8nm,1.2s
IL1 Eielson Array 64.07 28 *e*P P 09 29 39.6 -0.1
ILAR Eielson Array 64.07 28 P P 09 29 39.3 -0.4
comp=Z,0.4nm,0.5s,baz=245,slow=4.6,SNR=14
ILB Eielson Array 64.07 28 *e*P P 09 29 39.5 -0.2
PRP Porcupine Dome 64.52 27 *e*P P 09 29 43.6 +0.7
comp=Z,7.1nm,1.4s
RIDG Independ'e Rid 65.12 29 *e*P P 09 29 48.0 +1.4
comp=Z,22nm,1.6s
HARP HAARP 65.23 31 *e*P P 09 29 49.0 +1.6
comp=Z,43nm,1.5s
SCRK Sand Creek 65.44 29 *e*P P 09 29 49.0 +0.1
comp=Z,8.7nm,1.7s
DAWY Dawson 67.39 28 *e*P P 09 30 01.6 +0.4
ZEI Tsey 67.75 308 *e*P P 09 30 03.0 -1.0
ZEI pmax pmax
comp=Z,10.0nm,0.6s
EPYK Eagle Plains 67.84 26 *e*P P 09 30 04.4 +0.5
comp=Z,13nm,1.1s
SPA0 Spitsbergen Ar 67.94 348 *e*P P 09 30 03.9 -0.5
SPITS Spitsbergen Ar 67.94 348 P P 09 30 04.2 -0.2
comp=Z,40nm,1.2s,baz=93,slow=5.8,SNR=9.4
SPITS Spitsbergen Ar 67.94 348 P P 09 30 04.2 -0.2
SPITS pmax pmax
comp=Z,39nm,1.2s
KBZ Khabaz 68.18 309 P P 09 30 07.2 +0.8
comp=Z,10nm,0.7s,baz=116,slow=4.2,SNR=28
KIV Kislovodsk 68.26 309⇑*e*P P 09 30 07.0 0.0
KIV pmax pmax
comp=Z,16nm,0.8s
INK Inuvik 68.44 23 P P 09 30 08.2 +0.7
comp=Z,3.3nm,0.5s,baz=290,slow=7.1,SNR=28
INK Inuvik 68.44 23 *e*P P 09 30 08.6 +1.1
comp=Z,10nm,1.2s
INK Inuvik 68.44 23 *e*P P 09 30 08.6 +1.1
INK pmax pmax
comp=Z,11nm,1.2s
NEY Neytrino 68.44 309⇑*i*P P 09 30 09.6 +1.3
NEY pmax pmax
comp=Z,1.0nm,0.7s
OBN Obninsk 68.83 322⇑*e*P P 09 30 09.6 -0.6
OBN pmax pmax
comp=Z,27nm,2.5s
ARA0 ARCESS Array S 69.06 338 *e*P P 09 30 10.9 -0.5
ARCES ARCESS Array B 69.06 338 P P 09 30 10.9 -0.5
comp=Z,1.0nm,0.4s,baz=72,slow=8.1,SNR=16
ARCES pP **PcP** 09 30 34.5 -0.4
comp=Z,3.5nm,0.8s,baz=74,slow=4.6,SNR=2.0
ARCES ARCESS Array B 69.06 338 *e*P P 09 30 11.4 0.0
HYT Haines Junctio 69.16 31 *e*P P 09 30 12.8 +0.4
comp=Z,6.9nm,1.0s
SOCY Socotra 70.00 274 *e*P P 09 30 16.3 -1.9
comp=Z,59nm,1.4s
WHY Whitehorse 70.44 31 *e*P P 09 30 20.7 +0.5
comp=Z,8.0nm,1.2s
FIA1 FINESS Array S 71.88 330 *e*P P 09 30 28.1 -0.5
FIA0 FINESS Array S 71.88 330 *e*P P 09 30 28.3 -0.4
FIA0 FINESS Array S 71.88 330 *e*P P 09 30 28.3 -0.4
FINES FINESS Array B 71.88 330 P P 09 30 28.3 -0.4
comp=Z,3.3nm,0.3s,baz=61,slow=5.9,SNR=56
DAG Danmarks Havn 74.41 352 *i* P P 09 30 42.9 -0.4
comp=Z,6.7nm,0.7s
DAG Danmarks Havn 74.41 352 *i* P P 09 30 42.9 -0.4
DAG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 74.53 319 P P 09 30 43.7 -0.8
comp=Z,6.6nm,0.5s,baz=61,slow=6.5,SNR=12
AKBB Malin Array Si 74.53 319 *e*P P 09 30 43.8 -0.7
comp=Z,8.8nm,0.5s
KIEV Kiev 74.54 319 *e*P P 09 30 43.7 -0.8
comp=Z,8.7nm,0.5s
KIEV Kiev 74.54 319 *e*P P 09 30 43.7 -0.8
KIEV pmax pmax
comp=Z,9.0nm,0.5s
AK11 Malin Array Si 74.57 319 *e*P P 09 30 43.9 -0.8
RES Resolute Bay 74.91 11 P P 09 30 46.5 +0.3
comp=Z,5.3nm,0.7s,baz=309,slow=5.7,SNR=24
RES Resolute Bay 74.91 11 *e*P P 09 30 46.4 +0.2
comp=Z,6.9nm,0.8s
BR101 Keskin Array S 76.06 308 *e*P P 09 30 53.8 +0.2
BR131 Keskin Array S 76.06 308 *e*P P 09 30 53.9 +0.2
BRTR Keskin Array B 76.06 308 P P 09 30 53.8 +0.2
comp=Z,8.7nm,0.8s,baz=104,slow=4.7,SNR=49
ASF Jabal al Asfar 76.64 299 P P 09 30 57.9 +0.9
comp=Z,3.5nm,0.6s,baz=348,slow=6.7,SNR=8.0
BIR Birlad 77.35 316⇓*i*P P 09 31 01.3 +0.7
BIR Birlad 77.35 316 P P 09 31 01.3 +0.7
CFR Carcaliu 77.50 314⇑*i*P P 09 31 01.3 -0.2
CFR Carcaliu 77.50 314 P P 09 31 01.2 -0.2
VRI Vrincioaia 78.09 315⇓*i*P P 09 31 05.1 +0.4
VRI Vrincioaia 78.09 315 P P 09 31 05.1 +0.4
YKA Yellowknife Ar 78.10 25 P P 09 31 05.1 +0.7
comp=Z,1.5nm,0.6s,baz=302,slow=5.6,SNR=52
YKB5 Yellowknife Ar 78.10 25 *e*P P 09 31 03.7 -0.8
NC405 NORSAR Array S 78.10 333 *e*P P 09 31 03.7 -0.8
PLOR Plostina 78.15 315⇑*i*P P 09 31 05.7 +0.6
PLOR Plostina 78.15 315 P P 09 31 05.7 +0.6
NC303 NORSAR Array S 78.17 334 *e*P P 09 31 04.8 -0.1
CSS Mathiatis 78.22 303 *e*P P 09 31 05.9 +0.2
comp=Z,24nm,0.6s
BUR08 Bucovina Ar. S 78.23 318 *e*P P 09 31 05.6 0.0
BURAR Bucovina Array 78.23 318⇓*i*P P 09 31 05.9 +0.3
BURAR Bucovina Array 78.23 318 P P 09 31 05.9 +0.3
BUR04 Bucovina Ar. S 78.23 318 *e*P P 09 31 06.0 +0.4
NB201 NORSAR Array S 78.30 334 *e*P P 09 31 05.2 -0.5
NB2 NORSAR Subarra 78.34 334 P P 09 31 05.0 -0.9
comp=Z,2.8nm,0.5s,baz=54,slow=5.6
NB200 NORSAR Array S 78.34 334 *e*P P 09 31 05.2 -0.7
NOA NORSAR Array B 78.34 334 P P 09 31 05.2 -0.7
comp=Z,4.2nm,0.7s,baz=57,slow=5.4,SNR=18
NC204 NORSAR Array S 78.38 334 *e*P P 09 31 05.4 -0.7
NC602 NORSAR Array S 78.39 333 *e*P P 09 31 05.4 -0.6
NORES NORESS Array B 78.39 333 P P 09 31 04.7 -1.3
NBO00 NORSAR Array S 78.52 334 *e*P P 09 31 06.3 -0.5
MLR Muntele Rosu 78.75 315 *e*P P 09 31 07.0 -1.5
comp=Z,4.9nm,1.1s
MLR Muntele Rosu 78.75 315⇓*i*P P 09 31 09.2 +0.7
MLR Muntele Rosu 78.75 315 *e*P P 09 31 07.0 -1.5
MLR pmax pmax
comp=Z,5.0nm,1.1s
DOPR Dopca 78.88 316⇑*i*P P 09 31 09.5 +0.4
BMR Baia Mare 79.23 318⇑*i*P P 09 31 11.4 +0.4
VOIR 79.33 316⇑*i*P P 09 31 12.1 +0.4
VOIR 79.33 316 P P 09 31 12.1 +0.4
ARR Arges 79.63 316⇑*i*P P 09 31 14.2 +1.0
HUMR Humele 79.80 315⇓*i*P P 09 31 14.3 +0.2
OJC Ojcow 80.11 322 *e*P P 09 31 15.0 -0.7
comp=Z,7.7nm,0.4s
OJC Ojcow 80.11 322 *e*P P 09 31 15.0 -0.7
OJC pmax pmax
comp=Z,8.0nm,0.4s
DRGR 80.13 318⇑*i*P P 09 31 16.2 +0.3
DRGR 80.13 318 P P 09 31 17.3 +1.4
DRGR pmax pmax
comp=Z,10.0nm,1.6s
SUMG Summit 80.22 356 *e*P P 09 31 16.4 0.0
SUMG Summit 80.22 356 *i* P P 09 31 17.3 +1.0
SUMG Summit 80.22 356 *i* P P 09 31 17.3 +1.0
SCO Scoresbysund 80.39 350 *i* P P 09 31 17.1 +0.4
SCO Scoresbysund 80.39 350 *i* P P 09 31 17.1 +0.4
GZR Gura Zlata 80.76 316⇓*i*P P 09 31 20.0 +0.7
GZR Gura Zlata 80.76 316 P P 09 31 20.0 +0.7
LANS Liptovska Anna 80.84 321 *e*P P 09 31 21.0 +1.4
LANS Liptovska Anna 80.84 321 *e*P P 09 31 21.0 +1.4
SIRR Siria 81.02 317⇓*i*P P 09 31 21.1 +0.5
PUNG Punghina 81.21 315⇑*i*P P 09 31 22.4 +0.8
BZS Buzias 81.36 317⇑*i*P P 09 31 22.2 -0.2
BZS Buzias 81.36 317 P P 09 31 22.2 -0.2
VYHS Vyhne 81.54 320 *e*P P 09 31 24.2 +0.9
VYHS pmax pmax
comp=Z,4.0nm,0.8s
VYHS Vyhne 81.54 320 *e*P P 09 31 24.2 +0.9
MORC Moravsky Berou 81.59 322 *e*P P 09 31 23.1 -0.4
comp=Z,3.8nm,0.8s
MORC Moravsky Berou 81.59 322⇑*i*P P 09 31 24.3 +0.7
MORC Moravsky Berou 81.59 322 *e*P P 09 31 23.2 -0.4
MORC pmax pmax
comp=Z,4.0nm,0.8s
MORC Moravsky Berou 81.59 322 *e*P P 09 31 25.5 +1.9
KSP Ksiaz 81.69 323 P P 09 31 24.7 +0.7
KSP pmax pmax
comp=Z,14nm,1.0s
VTS Vitosha 81.85 314 *e*P P 09 31 24.3 -0.9
comp=Z,4.7nm,0.6s
VTS Vitosha 81.85 314⇑*i*P P 09 31 26.1 +0.8
VTS Vitosha 81.85 314 *e*P P 09 31 24.3 -0.9
VTS pmax pmax
comp=Z,5.0nm,0.6s
DPC Dobruska-Polom 81.95 323 *e*P P 09 31 26.2 +0.8
DPC Dobruska-Polom 81.95 323 *e*P P 09 31 26.2 +0.8
UPC Upice 82.03 323 *e*P P 09 31 26.3 +0.5
UPC Upice 82.03 323 *e*P P 09 31 26.3 +0.5
VRAC Vranov 82.36 322⇑*i*P P 09 31 28.6 +1.0
VRAC Vranov 82.36 322 P P 09 31 29.7 +2.1
VRAC pmax pmax
comp=Z,13nm,0.9s
VRAC Vranov 82.36 322 *e*P P 09 31 29.8 +2.1
KRUC Moravsky 82.61 322 P P 09 31 30.7 +1.9
KRUC pmax pmax
comp=Z,12nm,2.3s
KRUC Moravsky 82.61 322 *e*P P 09 31 30.7 +1.9
PVCC Panska Ves 82.78 324 *e*P P 09 31 30.5 +0.8
PVCC Panska Ves 82.78 324 *e*P P 09 31 30.5 +0.8
GOPC GO Pecny, Ondr 83.01 323 *e*P P 09 31 31.6 +0.6
GOPC GO Pecny, Ondr 83.01 323 *e*P P 09 31 31.6 +0.6
PRU Pruhonice 83.10 323 *e*P P 09 31 32.1 +0.7
PRU Pruhonice 83.10 323 *e*P P 09 31 32.1 +0.7
CLL Collm 83.16 325 *e*P P 09 31 31.2 -0.4
comp=Z,5.5nm,0.7s
CLL Collm 83.16 325 *i* P P 09 31 31.7 +0.1
comp=Z,4.0nm,0.6s
CLL Collm 83.16 325 *i* P P 09 31 31.7 +0.1
CLL pmax pmax
comp=Z,5.0nm,0.6s
CONA Conrad Observa 83.52 321 *i* PcP P 09 31 34.8 +1.1
comp=Z,6.9nm,1.1s
NKC Novy Kostel 84.07 324 P P 09 31 38.8 +2.5
NKC pmax pmax
comp=Z,5.0nm,1.2s
KHC Kasperske Hory 84.10 323 *e*P P 09 31 37.2 +0.6
KHC Kasperske Hory 84.10 323 *e*P P 09 31 37.2 +0.6
CLZ Clausthal 84.17 326 P P 09 31 38.4 +1.6
CLZ pmax pmax
comp=Z,22nm,1.0s
GEC2 GERESS Array S 84.20 323 *e*P P 09 31 36.2 -0.9
comp=Z,2.6nm,0.7s
GEC2 GERESS Array S 84.20 323 *e*P P 09 31 36.2 -0.9
GEC2 pmax pmax
comp=Z,3.0nm,0.7s
GERES GERESS Array B 84.20 323 P P 09 31 37.4 +0.3
comp=Z,3.3nm,0.7s,baz=52,slow=6.0,SNR=11
GEA0 GERESS Array S 84.20 323 *e*P P 09 31 36.5 -0.6
PDG Podgorica 84.46 315⇑*i*P P 09 31 38.3 -0.1
MOA Molln 84.46 322 *i* PcP P 09 31 39.9 +1.5
comp=Z,4.9nm,1.1s
BLY Banja Luka 84.49 318⇑*i*P P 09 31 39.4 +0.8
SOKA Soboth 84.69 320 *i* PcP P 09 31 39.8 +0.2
comp=Z,2.3nm,0.5s
GRF Grafenberg Arr 85.03 324 *e*P P 09 31 40.8 -0.4
comp=Z,9.6nm,0.9s,baz=60,slow=4.7
NEW Newport 85.38 37 P P 09 31 44.2 +1.2
comp=Z,1.0nm,0.6s,baz=298,slow=5.8,SNR=3.9
ITM Ithomi 85.40 309 *e*P P 09 31 42.3 -1.0
comp=Z,30nm,0.7s
KBA Koelnbreinsper 85.41 321 P P 09 31 45.1 +1.7
KBA pmax pmax
comp=Z,8.0nm,1.7s
KBA Koelnbreinsper 85.41 321 *i* PcP P 09 31 43.4 0.0
comp=Z,3.9nm,0.5s
MYKA Terra Mystica 85.50 321 *i* PcP P 09 31 43.6 -0.1
comp=Z,3.7nm,0.9s
FUR Furstenfeldbru 85.91 323 P P 09 31 47.7 +2.1
FUR pmax pmax
comp=Z,26nm,1.1s
ABTA Abfaltersbach 86.07 321 *i* P P 09 31 46.1 -0.5
comp=Z,7.1nm,0.9s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WATA	Walderalm	86.24	322	iP	P	09 31 46.9	-0.5
	comp=Z,3.4nm,0.5s,SNR=5.1						
MOTA	Moosalm	86.49	322	iPcP	P	09 31 48.5	-0.2
	comp=Z,5.2nm,1.0s						
SQTA	Sankt Quirin	86.51	322	iPcP	P	09 31 50.0	+1.3
	comp=Z,5.0nm,1.0s						
RETA	Reutte	86.59	323	iPcP	P	09 31 50.7	+1.6
	comp=Z,2.6nm,0.6s,SNR=4.0						
DAVA	Damuels	87.19	323	iPcP	P	09 31 52.3	+0.3
	comp=Z,5.5nm,0.6s						
FUORN	Ofenpass-Fuorn	87.39	322	eP	P	09 31 52.3	-0.8
	comp=Z,14nm,1.1s						
TIP	Timpagrande	87.80	313	eP	P	09 31 54.4	-0.7
	comp=Z,7.2nm,1.4s						
FCC	Fort Churchill	87.84	20	eP	P	09 31 54.6	0.0
FCC	Fort Churchill	87.84	20	eP	P	09 31 54.6	0.0
FFC	Flin Flon	88.19	26	eP	P	09 31 55.8	-0.7
	comp=Z,8.6nm,0.9s						
FFC	Flin Flon	88.19	26	eP	P	09 31 55.8	-0.7
FFC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PDAR	Pinedale Array	92.96	38	P	P	09 32 18.3	-0.9
	comp=Z,0.3nm,0.7s,baz=46,slow=2.6,SNR=3.3						

IDC 01 09:21:12.8±1.1, 0°.25S×98°.51E, h0km, mb4.2/12, mb1 4.3/14, mb1mx4.0/56, mbtmp4.2/14, ML4.3/2, MS3.2/2, Ms1 3.2/2, ms1mx2.8/35, Error ellipse: s-maj=42.4km s-min=13.5km az=61.0
ISCJB 01 09:21:17.7±0.4, 0°.21S±0°.04×98°.46E±0°.05, h48km, mb4.3/25, MS3.7/2, Error ellipse: s-maj=7.2km s-min=4.4km az=150.0
NEIC 01 09:21:17.9±0.4, 0°.23S×98°.50E, h35km, mb4.4/13, Error ellipse: s-maj=9.3km s-min=5.5km az=68.0
DJA 01 09:21:20.0±0.3, 0°S±3°×9°8E±°, h50km±5km, M4.5/12, mb4.4/3, MLv4.5/12
KLM 01 09:21:20.6, 0°.17S×98°.44E, h74km, mb4.4
ISC 01 09:21:19.6±0.5, 0°.16S±0°.04×98°.52E±0°.05, h48km, n85, σ1s.51/85, mb4.5/25, Southern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PBSI	Pulau Batu	0.26	294	P	Pn	09 21 29.3	+1.1
PBSI				S	Sn	09 21 36.5	+2.2
SISI	Saibi	1.29	154	P	Pn	09 21 42.5	+1.3
MNSI	Mandailing Nat	1.42	48	P	Pn	09 21 43.8	+0.8
MNSI				S	Sn	09 22 00.6	0.0
GSI	Gunungsitoli	1.73	327	P	Pn	09 21 47.7	+0.4
PDSI	Padang	2.08	111	P	Pn	09 21 52.6	+0.6
BKNI	Bangkinang	2.56	79	P	Pn	09 21 59.8	+1.1
PSI	Prapat	2.97	8	Pn	Pn	09 22 03.1	-1.3
	23nm,0.3s,baz=180,slow=7.7,SNR=69						
PSI				LR	LR	09 23 25.4	
	comp=Z,189nm,19.2s,baz=180,slow=45						
PSI	Prapat	2.97	8	ePn	Pn	09 22 03.2	-1.2
SDSI	Sungai Dareh	3.01	105	P	Pn	09 22 05.8	+1.1
KRJI	Kerinci	3.51	123	P	Pn	09 22 14.4	+2.7
TSI	Tuntungan	3.64	1	P	Pn	09 22 14.6	+1.2
TPTI		3.65	338	P	Pn	09 22 12.9	-0.7
KCSI	Kotacane, Aceh	3.73	348	P	Pn	09 22 13.9	-0.9
FRIM	Kepong	4.58	43	P	Pn	09 22 28.1	+1.7
MASI	Maura Aman, Be	4.75	129	P	Pn	09 22 30.0	+1.3
IPM	Ipoh	5.25	28	ePn	Pn	09 22 36.2	+0.7
IPM	Ipoh	5.25	28	P	Pn	09 22 37.6	+2.1
MYKOM	Kota Tinggi	5.67	70	ePn	Pn	09 22 41.5	+0.2
KULM	Kulim	5.82	21	ePn	Pn	09 22 43.7	+0.3
KULM	Kulim	5.82	21	P	Pn	09 22 44.7	+1.3
MDSI	Maura Dua	7.10	127	P	Pn	09 23 02.4	+1.5
	76nm,0.5s						
KTGM	Kuala Trenggan	7.14	40	P	Pn	09 23 03.9	+2.4
COCO	West Island	12.07	188	ePn	Pn	09 24 09.3	+0.4
SBUM	Sibu	13.94	79	ePn	Pn	09 24 34.3	-0.3
SBUM	Sibu	13.94	79	P	Pn	09 24 36.1	+1.5
PBKT	Sadao Pong	16.80	8	ePn	Pn	09 25 11.5	-0.1
	10nm,0.7s						
PBKT	Sadao Pong	16.80	8	P	P	09 25 12.5	-0.6
	15nm,0.8s						
SUKH	Sukhothai	17.57	4	P	P	09 25 23.4	+1.8
	5.1nm,0.8s						
UTTA	Uttaradit	17.91	6	P	P	09 25 25.7	+0.4
	6.9nm,0.8s,61nm						
CM31	Chiang Mai Arr	18.51	1	eP	P	09 25 32.0	0.0
CMAR	Chiang Mai Arr	18.51	1	P	P	09 25 31.8	-0.2
	0.6nm,0.3s,baz=189,slow=11,SNR=38						
LAMP	Lampang	18.60	3	P	Pn	09 25 34.6	+0.9
	4.5nm,0.7s,86nm						
KKM	Kota Kinabalu	18.71	70	eP	P	09 25 33.9	-0.5
	23nm,0.7s						
KKM	Kota Kinabalu	18.71	70	P	P	09 25 31.9	-2.4
CMMT	Chiang Mai	18.86	1	P	Pn	09 25 36.9	+0.1
	7.7nm,0.8s						
CHTO	Chiang Mai	18.86	1	eP	P	09 25 35.2	-0.7
	4.9nm,0.6s						
CHTO	Chiang Mai	18.86	1	P	Pn	09 25 37.1	+0.3
	32nm,0.8s						
PAYA	Payao	19.45	4	P	Pn	09 25 44.6	+0.8
	4.7nm,0.8s						
MDRS	Chennai	22.38	307	ex	P	09 26 10.8	-3.2
MDRS				ex	x	09 28 58.8	
MDRS				ex	x	09 34 58.8	
MDRS				ex	x	09 43 10.8	
MDRS				ex	x	09 56 34.8	
SHL	Shillong	26.37	346	eP	P	09 26 51.2	-0.4
	16nm,0.8s						
BATI	Baumata	26.93	113	LR	LR	09 39 17.2	
	comp=Z,91nm,18.8s,baz=276,slow=40						
H08S2	Diego Garcia H	26.99	253	T	T	09 54 48.7	
	baz=75,slow=76,SNR=23						
H08S3	Diego Garcia H	27.00	253	T	T	09 54 32.2	
	baz=75,slow=76,SNR=170						
H08S1	Diego Carcia H	27.01	253	T	T	09 54 36.9	
	baz=75,slow=76,SNR=9.0						
H08N1	Diego Carcia H	28.13	257	T	T	09 56 34.9	
	baz=77,slow=80						
H08N2	Diego Garcia H	28.14	257	T	T	09 56 56.1	
	baz=77,slow=80,SNR=7.2						
H08N3	Diego Garcia H	28.15	257	T	T	09 57 00.0	
	baz=77,slow=80,SNR=3.4						
FITZ	Fitzroy Crossi	32.07	125	P	P	09 27 41.0	-1.2
	1.9nm,0.6s,baz=270,slow=20						
FITZ	Fitzroy Crossi	32.07	125	eP	P	09 27 41.1	-1.1
	6.6nm,1.1s						
LZH	Lanzhou	36.40	7	eP	P	09 28 22.9	+3.2
LZH				pP	sP	09 28 36.8	-1.3
LZH				sP	pP	09 28 40.9	+8.5
LZH				PP	PP	09 29 45.4	+2.1
LZH				pmax	pmax		
	comp=Z,21nm,1.5s						
GTA	Gaotai	39.40	2	eP	P	09 28 45.4	+0.5
GTA				pP	pP	09 28 57.8	+0.1
GTA				sP	sP	09 29 03.2	-0.2
GTA				S	S	09 34 45.5	+2.2
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,120nm,6.8s						
GTA				LR	LR		
	comp=N,160nm,14.9s						
GTA				LR	LR		
	comp=E,99nm,15.9s						
GTA				LR	LR		
	comp=Z,200nm,15.2s						
WR1	Warramunga Arr	40.20	121	eP	P	09 28 50.5	-1.2
	comp=Z,4.6nm,0.6s						
WRA	Warramunga Arr	40.20	121	P	P	09 28 50.5	-1.2
	comp=Z,2.3nm,0.5s,baz=303,slow=8.9,SNR=36						
WRA				PcP	PcP	09 30 56.0	+0.7
	comp=Z,0.2nm,0.4s,baz=314,slow=2.5,SNR=2.7						
WRA				S	S	09 34 49.0	-6.7
	comp=Z,0.3nm,0.7s,baz=293,slow=15,SNR=2.6						
WRAB	Tennant Creek	40.21	121	eP	P	09 28 50.6	-1.2
	comp=Z,4.4nm,0.5s						
WB2	Warramunga Arr	40.21	121	eP	P	09 28 50.2	-1.6
AS31	Alice Springs	41.53	127	eP	P	09 29 01.8	-0.9
	comp=Z,1.0nm,0.4s						
ASAR	Alice Springs	41.53	127	P	P	09 29 02.0	-0.6
	comp=Z,1.8nm,0.6s,baz=297,slow=7.5,SNR=39						
ASAR				PcP	PcP	09 31 00.4	+0.8
	comp=Z,0.4nm,0.7s,baz=302,slow=1.7,SNR=4.0						
ASAR				S	S	09 35 11.1	-4.2
	comp=Z,0.4nm,1.0s,baz=298,slow=12,SNR=4.1						
AS01	Alice Springs	41.56	127	eP	P	09 29 02.1	-0.8
HHC	Hu-ho-hao-te	42.51	15	eP	P	09 29 12.2	+1.8
HHC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,190nm,5.1s						
KSH	Kashi	44.55	335	P	P	09 29 30.2	+3.3
KSH				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,410nm,5.4s						
WMQ	Urumqi	44.85	349	eP	P	09 29 30.8	+1.7
WMQ				pmax	pmax		
	comp=Z,15nm,1.5s						
NRN	Naryn	46.15	336	eP	P	09 29 40.4	+0.5
	comp=Z,2.9nm,0.5s						
KS15	Wonju Array Si	46.21	33	eP	P	09 29 39.6	-0.4
KSRS	Korea Array	46.24	33	P	P	09 29 39.5	-0.7
	comp=Z,1.8nm,0.7s,baz=225,slow=8.7,SNR=5.0						
SONA0	Songino Array	48.29	7	eP	P	09 29 57.1	+0.9
SONM	Songino Array	48.29	7	P	P	09 29 57.1	+0.9
	comp=Z,1.8nm,0.3s,baz=189,slow=10,SNR=14						
SONA1	Songino Array	48.31	7	eP	P	09 29 56.1	-0.2
MK01	Makanchi Array	48.85	345	eP	P	09 30 00.1	-0.3
MK31	Makanchi Array	48.88	345	eP	P	09 30 00.6	0.0
MK32	Makanchi Array	48.88	345	eP	P	09 30 01.2	+0.7
MKAR	Makanchi Array	48.88	345	P	P	09 30 01.2	+0.7
	comp=Z,1.7nm,0.3s,baz=156,slow=8.9,SNR=31						
MKAR	Makanchi Array	48.88	345	eP	P	09 30 00.4	-0.1
	comp=Z,22nm,0.8s						
MAKZ	Makanchi	48.97	345	eP	P	09 30 01.5	+0.2
	comp=Z,4.3nm,0.9s						
STKA	Stephens Creek	51.47	132	P	P	09 30 20.6	+0.2
	comp=Z,2.0nm,0.7s,baz=316,slow=10,SNR=5.6						
STKA	Stephens Creek	51.47	132	eP	P	09 30 19.4	-1.0
	comp=Z,0.3nm,0.6s						
USRK	Ussuriysk Ar.	53.27	30	P	P	09 30 33.4	-0.1
	comp=Z,2.2nm,0.9s,baz=224,slow=8.0,SNR=4.7						
KURBB	Kurchatov Arra	53.38	344	P	P	09 30 35.1	+0.9
	comp=Z,0.9nm,0.4s,baz=164,slow=6.7,SNR=7.0						
KURK	Kurchatov	53.45	344	eP	P	09 30 34.9	+0.2
	comp=Z,3.8nm,1.0s						
ZAA0	Zalesovo Array	55.11	350	eP	P	09 30 46.5	-0.2
	comp=Z,5.2nm,0.5s						
ZALV	Zalesovo Beam	55.11	350	P	P	09 30 47.0	+0.2
	comp=Z,2.5nm,0.5s,baz=184,slow=6.3,SNR=15						
ZALV	Zalesovo Beam	55.11	350	eP	P	09 30 46.1	-0.6
ZAA1	Zalesovo Array	55.11	350	eP	P	09 30 47.0	+0.2
BVAR	Borovoye Array	57.96	340	P	P	09 31 06.4	-0.6
	comp=Z,0.7nm,0.5s,baz=145,slow=10,SNR=4.2						
FINES	FINESS Array B	81.81	332	P	P	09 33 33.8	+0.6
	comp=Z,1.8nm,0.9s,baz=127,slow=4.2,SNR=4.4						
TXAR	Lajitas Array	144.09	34	PKP	PKPbc	09 40 49.4	+0.5
	comp=Z,0.2nm,0.4s,baz=308,slow=4.4,SNR=3.6						

DDA 01 09:22:40.2, 36°.83N×38°.72E, h4km±1km, ML2.8
ISC 01 09:22:40.2±2.0, 36°.83N±0°.09×38°.73E±0°.05, h3km±13km, n7, σ0s.48/12, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SURC	SANLIURFA_SURC	0.10	297	IAML_P			
	comp=Z,20μm,0.2s						
SURC				iP	Pg	09 22 42.4	+0.1
SANL	SANLIURFA_Merk	0.40	32	iP	Pb	09 22 49.3	-0.7
URFA	Urfa	0.61	7	ePG	Pg	09 22 52.2	+0.2
URFA				eSG	Sb	09 23 03.2	+0.5
ATAB	Bozova	0.72	332	IAML_P			
	comp=Z,3μm,0.2s						
ATAB				iP	Pg	09 22 54.6	+0.4
ATAB				iS	Sb	09 23 05.2	-0.7
GZT	Gaziantep	1.07	300	IAML_P			
	comp=Z,638nm,0.1s						
GZT				iP	Pb	09 23 01.5	+0.1
GZT				iS	Sn	09 23 17.9	+0.2
KUZU	Kuzuini	1.33	268	iP	Pn	09 23 05.4	-0.4
KUZU				iS	Sn	09 23 24.4	+0.4
MAZI	Mazidag	1.51	65	ePG	Pn	09 23 08.3	0.0
MAZI				eSG	Sb	09 23 28.8	+0.3

SJA 01 09:23:15.2±0.6, 33°.61S×72°.40W, h10km±13km, ML3.2, MW3.9
ISCJB 01 09:23:18.6±1.6, 33°.60S±0°.05×72°.21W±0°.09, h15km±11km, Error ellipse: s-maj=13.9km s-min=6.9km az=22.6
GUC 01 09:23:19.9±0.5, 33°.62S×72°.13W, h50km±5km, ML3.2
ISC 01 09:23:16.3±2.0, 33°.61S±0°.06×72°.16W±0°.09, h2km±14km, n12, σ1s.35/19, 1C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ROC1	El Roble	1.15	57	iP	Pn	09 23 40.4	+0.7
ROC1				iS	Sn	09 23 59.0	+2.9
ROCH	El Roble	1.16	57⇓	eP	Pn	09 23 40.0	+0.4
ROCH				eS	Sn	09 23 55.8	-0.4
ROCH				IAML		09 24 16.2	
	comp=N,590nm,0.5s						
PEL	Peldehue	1.32	70⇓	iP	Pg	09 23 42.6	+1.0
PEL				eS	Sn	09 23 59.7	-0.3
PEL				IAML		09 24 04.9	
	comp=E,667nm,0.3s						
CLCH	Cerro Calan	1.38	81	eP	Pg	09 23 43.3	+0.7
CLCH				eS	Sb	09 24 01.0	+0.2
CLCH				IAML		09 24 06.5	
	comp=E,817nm,0.7s						
GO05	Huala	1.41	172⇑	eP	Pg	09 23 44.1	+0.9
GO05				eS	Sn	09 24 01.9	-0.2
GO05				IAML		09 24 10.3	
	comp=N,491nm,0.8s						
FCH	Farellones	1.59	80	eP	Pg	09 23 47.1	+0.3
FCH				eS	Sb	09 24 07.8	+0.6
FCH				IAML		09 24 11.8	
	comp=N,479nm,0.3s						
LMEL	Las Melosas	1.65	99	eP	Pn	09 23 46.9	+0.4
LMEL				IAML		09 24 13.3	
	comp=N,542nm,0.6s						
CMCH	Combarbala	2.62	22	eP	Pn	09 24 00.6	+0.9
CMCH				eS	Sn	09 24 31.8	-0.4
AUSP	Uspallata	2.71	60	iP	Pb	09 24 04.9	-0.8
AAGR	Agrelo	2.84	80	iP	Pb	09 24 06.2	-1.6
ASAL	Salagasta	2.97	71	iP	Pb	09 24 07.7	-2.3
RTLS	Leoncito	3.02	54	iP	Pb	09 24 08.5	-2.4
RTLS				IAML		09 24 58.7	
	comp=Z,59nm,0.6s						

IDC 01 09:28:36.2±2.8, 6°.47S×129°.85E, h145km±40km, mb3.0/1, mb1 2.9/5, mb1mx2.8/35, mbtmp3.3/5, MS3.4/1, Ms1 3.4/1, ms1mx2.6/10, Error ellipse: s-maj=76.3km s-min=21.1km az=89.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.74	14	P	Pn	09 29 59.5	+0.1
	0.5nm,0.3s,baz=143,slow=20,SNR=4.4						
SIJI				S	Sn	09 31 01.3	-3.2
	1.5nm,0.3s,baz=287,slow=19,SNR=6.2						
FITZ	Fitzroy Crossi	12.27	199	P	Pn	09 31 26.5	+0.3
	0.1nm,0.3s,baz=27,slow=14,SNR=3.6						
FITZ				S	Sn	09 33 34.3	-7.5
	0.3nm,0.3s,baz=331,slow=19,SNR=5.4						
WRA	Warramunga Arr	14.09	162	P	Pn	09 31 48.2	-1.3
	0.1nm,0.3s,baz=339,slow=14,SNR=5.9						
WRA				S	Sn	09 34 13.7	-12
	0.2nm,0.3s,baz=344,slow=23,SNR=7.5						
ASAR	Alice Springs	17.54	168	P	Pn	09 32 31.6	-0.4
	0.1nm,0.3s,baz=340,slow=8.7,SNR=4.0						
ASAR				S	S	09 35 35.2	-11
	0.0nm,0.3s,baz=354,slow=27,SNR=3.4						
HNR	Honiara	29.95	98	LR	LR	09 47 49.2	
	comp=Z,69nm,18.4s,baz=56,slow=38						
MKAR	Makanchi Array	67.70	327	P	P	09 39 17.8	-0.1
	0.2nm,0.8s,baz=143,slow=8.1,SNR=3.7						

IDC 01 09:32:14.0±10.0, 17°.94S×177°.82W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/26, mbtmp3.8/4, Error ellipse: s-maj=259.9km s-min=44.0km az=115.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.10	241	P	P	09 39 43.4	+0.2
	0.7nm,0.4s,baz=88,slow=9.1,SNR=4.7						
WRA	Warramunga Arr	45.17	259	P	P	09 40 32.6	-0.3
	0.1nm,0.3s,baz=96,slow=8.7,SNR=14						
ASAR	Alice Springs	45.32	254	P	P	09 40 34.0	-0.1
	1.3nm,0.4s,baz=90,slow=8.6,SNR=37						
MJAR	Matsushiro Arr	68.27	323	P	P	09 43 16.6	-0.2
	1.1nm,0.7s,baz=153,slow=5.6,SNR=4.9						

MEX 01 09:51:25.5±0.6, 16°.56N×98°.66W, h16km±13km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.54	108	eP	Pg	09 51 34.2	-2.1
PNIG				eS	Sg	09 51 41.1	-2.3
TLIG	Tlapa	1.00	5	eP	Pb	09 51 40.7	-3.8
TLIG				eS	Sb	09 51 52.6	-4.9

MAN 01 10:10:25.8, 12°.44N×123°.76E, h25km, mb4.7, ML3.6, MS3.4
MAN INTENSITY III - SAN JACINTO MASBATE; INTENSITY II - MASBATE CITY.
ISCJB 01 10:10:26.4±2.0, 12°.42N±0°.04×123°.77E±0°.03, h33km±19km, mb3.5/3, MS3.0/5, Error ellipse: s-maj=5.9km s-min=5.2km az=168.1
IDC 01 10:10:26.9±2.2, 11°.72N×123°.19E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/45, mbtmp3.6/4, ML4.7/1, MS3.1/6, Ms1 3.2/6, ms1mx2.9/27, Error ellipse: s-maj=191.6km s-min=21.4km az=61.0
ISC 01 10:10:27.1±1.0, 12°.40N±0°.03×123°.82E±0°.03, h24km±8km, n23, σ2s.10/28, mb3.5/3, MS3.0/5, 1C-4D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.19	257⇓	iP	Pb	10 10 32.7	+0.1
MMPH				iS	Sb	10 10 35.8	-0.4
CNP	Catarman	0.83	82	eP	Pb	10 10 41.5	-1.4
CNP				eS	Sb	10 10 55.1	+1.4
PVCP	Virac	1.23	15	eP	Pn	10 10 47.6	-1.2
PVCP				eS	Sn	10 11 03.3	-1.4
RCP	Roxas	1.34	232⇑	eP	Pn	10 10 48.5	-1.8
RCP				eS	Sn	10 11 05.9	-1.5
AUQP	San Andres	1.44	310	eP	Pn	10 10 52.4	+0.7
AUQP				eS	Sb	10 11 14.9	+3.7
PLP	Palo	1.67	137⇓	eP	Pn	10 10 54.3	-0.6
PLP				eS	Sn	10 11 16.8	+1.1
OTRP	Odiongan	1.75	269	eP	Pn	10 10 53.2	-2.9
OTRP				eS	Sn	10 11 14.5	-3.1
GQP	Guinayangan	2.00	318⇓	eP	Pn	10 10 59.4	-0.1
GQP				eS	Sb	10 11 30.0	+2.6
LLP	Lapu-Lapu	2.08	176	eP	Pn	10 10 59.3	-1.1
LLP				eS	Sn	10 11 28.0	+2.4
GUIM	Jordan	2.13	214	eP	Pn	10 11 00.3	-0.9
GUIM				eS	Sn	10 11 26.4	-0.6
BOAC	Boac	2.19	299	eP	Pn	10 11 00.5	-1.6
BOAC				eS	Sn	10 11 23.6	-4.8
JAP	San Jose, Anti	2.46	228⇓	eP	Pn	10 11 06.0	+0.3
MSLP	Maasin	2.47	155	eP	Pn	10 11 03.4	-2.5
MSLP				eS	Sb	10 11 42.8	+1.8
TGY	Tagaytay City	3.27	301	Pn	Pn	10 11 17.3	+0.3
	75nm,0.3s,baz=112,slow=5.4,SNR=3.0						
SIJI	Sorong	15.12	150	LR	LR	10 20 31.3	
	comp=Z,111nm,18.9s,slow=41						
CMAR	Chiang Mai Arr	24.71	287	LR	LR	10 26 02.5	
	comp=Z,32nm,18.6s,baz=190,slow=38						
KSRS	Korea Array	25.22	8	LR	LR	10 26 08.2	
	comp=Z,54nm,20.2s,baz=191,slow=36						
PSI	Prapat	26.42	251	LR	LR	10 27 35.1	
	comp=Z,38nm,18.2s,baz=91,slow=40						
MJAR	Matsushiro Arr	27.30	26	LR	LR	10 26 23.1	
	comp=Z,19nm,19.7s,baz=30,slow=34						
WRA	Warramunga Arr	33.77	162	P	P	10 17 05.7	-1.5
	0.6nm,1.0s,baz=342,slow=9.7,SNR=3.6						
ASAR	Alice Springs	37.18	165	P	P	10 17 36.7	+0.2
	0.5nm,0.5s,baz=344,slow=6.8,SNR=6.8						
MKAR	Makanchi Array	48.89	323	P	P	10 19 16.8	+5.8
	0.4nm,0.7s,baz=124,slow=8.7,SNR=5.8						
MKAR				PcP	PcP	10 20 39.1	+3.8
	0.3nm,0.7s,baz=121,slow=4.3,SNR=3.6						
NOA	NORSAR Array B	89.79	333	LR	LR	11 10 21.6	
	comp=Z,18nm,18.1s,baz=240,slow=40						

IDC 01 10:13:36.1±0.9, 2°.89S×139°.00E, h0km, mb3.7/7, mb1 4.1/10, mb1mx3.8/35, mbtmp3.9/10, ML4.1/3, Error ellipse: s-maj=21.7km s-min=17.5km az=128.0
DJA 01 10:13:37.1±2.4, 4°S±28°×13°9E±°, h27km±34km, M4.4/3, MLv4.4/3
ISCJB 01 10:13:40.0±0.5, 3°.01S±0°.08×138°.94E±0°.05, h46km, mb3.8/6, Error ellipse: s-maj=12.1km s-min=6.1km az=161.1
ISC 01 10:13:41.7±0.7, 3°.05S±0°.08×138°.99E±0°.07, h46km, n14, σ2s.25/19, mb3.8/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GENI	Genyem	1.26	69	P	Pn	10 14 01.3	-1.6
GENI				S	Sn	10 14 20.3	+1.5
JAY	Jayapura	1.80	73	Pn	Pn	10 14 08.2	-2.0
	19nm,0.3s,baz=39,slow=5.2,SNR=56						
JAY				Sn	Sn	10 14 30.3	-1.6
	31nm,0.3s,baz=335,slow=11,SNR=8.8						
JAY				LR	LR	10 14 53.0	
	comp=Z,260nm,18.8s,slow=44						
JAY	Jayapura	1.80	73	P	Pn	10 14 08.4	-1.8
JAY				S	Sn	10 14 32.1	+0.2
SRPI	Serui, Papua	2.98	293	P	Pn	10 14 26.5	0.0
SIJI	Sorong	8.02	286	Pn	Pn	10 15 33.8	-1.9
	1.5nm,0.3s,baz=172,slow=20,SNR=4.2						
BATI	Baumata	16.79	244	Pn	Pn	10 17 34.2	+0.5
	2.7nm,0.3s,baz=209,slow=10,SNR=2.0						
WRA	Warramunga Arr	17.39	195	P	Pn	10 17 40.8	-0.4
	0.5nm,0.3s,baz=17,slow=13,SNR=26						
WRA				S	Sn	10 20 47.6	-6.4
	0.2nm,0.3s,baz=9.2,slow=22,SNR=5.5						
FITZ	Fitzroy Crossi	19.87	220	P	P	10 18 09.4	+0.3
	0.6nm,0.4s,baz=32,slow=15,SNR=3.9						
ASAR	Alice Springs	21.08	193	P	P	10 18 24.2	+2.0
	2.9nm,0.7s,baz=23,slow=9.0,SNR=29						
ASAR				S	S	10 22 16.3	+1.9
	0.9nm,0.8s,baz=12,slow=24,SNR=5.3						
USRK	Ussuriysk Ar.	47.46	353	P	P	10 22 11.3	-0.5
	0.5nm,0.6s,baz=170,slow=9.5,SNR=2.9						
KLR	Kul'dur	52.45	354	P	P	10 22 50.3	+0.6
	1.1nm,0.5s,baz=175,slow=5.9,SNR=7.3						
MKAR	Makanchi Array	70.23	322	P	P	10 24 50.2	+0.2
	0.4nm,0.4s,baz=111,slow=7.7,SNR=14						
VNDA	Vanda	75.42	175	P	P	10 25 23.7	+3.5
	0.8nm,1.0s,baz=322,slow=6.1,SNR=2.0						
ILAR	Eielson Array	86.03	24	P	P	10 26 16.1	-1.0
	1.0nm,0.8s,baz=269,slow=4.4,SNR=12						

MEX 01 10:13:46.0±0.5, 16°.28N×98°.32W, h8km±3km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.22	60	iP	Pg	10 13 49.9	-0.5
PNIG				eS	Sg	10 13 53.4	0.0
TLIG	Tlapa	1.29	350	eP	Pn	10 14 07.1	-3.5
TLIG				eS	Sb	10 14 22.4	-5.2

TAP 01 10:36:59.0, 24°.41N×121°.96E, h29km, ML3.0, B
ISCJB 01 10:36:59.3±0.3, 24°.38N±0°.01×122°.03E±0°.02, h20km±3km, Error ellipse: s-maj=2.7km s-min=2.0km az=42.0
JMA 01 10:36:59.0, 24°.31N×121°.94E, h38km±1km, M2.3
ISC 01 10:36:59.3±0.9, 24°.38N±0°.02×121°.98E±0°.02, h25km±6km, n87, σ1s.06/150, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NANB	Nanao	0.21	282	P	Pb	10 37 05.1	-0.1
	baz=276						
NANB				S	Sb	10 37 09.6	+0.4
	baz=276						
EOS1	EOS1	0.21	40	iP	Pn	10 37 05.6	-1.2
	baz=48						
EOS1				iS	Sb	10 37 10.7	+1.6
	baz=48						
ENA	Nanau	0.22	282	P	Pb	10 37 05.1	-0.1
	baz=275						
ENA				S	Sb	10 37 09.7	+0.4
	baz=275						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWC	Suao	0.25	332	*i* P	Pb	10 37 05.4	-0.3
	baz=336						
TWC				S	Sb	10 37 09.8	-0.3
	baz=336						
NACB	Ninganchiao	0.41	239	P	Pb	10 37 07.8	-0.2
	baz=237						
NACB				S	Sn	10 37 15.7	-0.6
	baz=237						
TWE	Neicheng	0.44	320	P	Pb	10 37 08.2	-0.3
	baz=321						
TWE				S	Sn	10 37 14.9	-2.2
	baz=321						
ENTT	Nioudou	0.45	304	P	Pn	10 37 08.8	-1.5
	baz=303						
ENTT				*e*S	Sn	10 37 15.8	-1.8
	baz=303						
EGS		0.46	355	*e*P	Pb	10 37 08.7	-0.2
	baz=359						
TWD	Chiawan	0.46	229	P	Pb	10 37 08.6	-0.3
	baz=232						
TWD				S	Sn	10 37 16.8	-0.9
	baz=232						
SLBB	Yuanshan	0.48	320	*e*P	Pn	10 37 09.2	-1.5
	baz=320						
SLBB				*e*S	Sn	10 37 16.6	-1.7
	baz=320						
NTC	Toucheng	0.49	344	*e*P	Pb	10 37 09.1	-0.3
	baz=345						
HWA	Hwalien	0.53	220	*e*P	Pn	10 37 10.8	-0.4
	baz=215						
NNSB	Datong	0.55	275	P	Pn	10 37 10.2	-1.3
	baz=275						
NNSB				*e*S	Sb	10 37 17.9	0.0
	baz=275						
NNS	Nan Shan	0.56	276	P	Pb	10 37 10.2	-0.3
	baz=276						
NNS				S	Sn	10 37 18.3	-1.9
	baz=276						
NWLT	Wulai	0.58	312	P	Pb	10 37 10.6	-0.4
	baz=311						
ENLB	Shoufeng	0.59	216	P	Pn	10 37 11.8	-0.2
	baz=211						
ENLB				S	Sn	10 37 22.6	+1.8
	baz=211						
TIPB	Shuangxi	0.60	347	*e*P	Pn	10 37 11.0	-1.3
	baz=348						
TIPB				S	Sn	10 37 19.3	-2.0
	baz=348						
YHNB	Yeheng	0.62	298	*i* P	Pn	10 37 11.3	-1.2
	baz=301						
YHNB				S	Sn	10 37 20.0	-1.7
	baz=301						
NSK	Sanguang	0.64	297	P	Pn	10 37 11.5	-1.2
	baz=296						
NSK				S	Sn	10 37 20.5	-1.6
	baz=296						
TWA	Mucha	0.69	329	*e*P	Pn	10 37 13.1	-0.4
	baz=323						
TWA				*e*S	Sn	10 37 22.7	-0.7
	baz=323						
NWF	Wu-fen Shan	0.71	345	*e*P	Pb	10 37 11.8	-1.3
	baz=340						
NWF				*e*S	Sn	10 37 23.1	-0.8
	baz=340						
WFSB	Wu-fen Shan	0.71	345	*e*P	Pb	10 37 11.7	-1.3
	baz=340						
WFSB				*e*S	Sn	10 37 22.6	-1.2
	baz=340						
TATO	Taipei	0.74	323	*e*P	Pn	10 37 13.7	-0.5
	baz=318						
TATO				*e*S	Sn	10 37 23.9	-0.7
	baz=318						
TWT	Tachien	0.74	260	*e*P	Pn	10 37 14.0	-0.4
	baz=257						
TWT				*e*S	Sn	10 37 24.8	-0.2
	baz=257						
ESL	Shilin	0.76	221	*e*P	Pb	10 37 13.1	-0.7
	baz=230						
ESL				*e*S	Sn	10 37 24.0	-0.9
	baz=230						
TDCB	Techi	0.76	260	*e*P	Pn	10 37 13.9	-0.6
	baz=257						
TDCB				S	Sn	10 37 24.7	-0.5
	baz=257						
CHGB	Renai	0.80	247	P	Pb	10 37 14.5	-0.3
	baz=243						
CHGB				*e*S	Sn	10 37 26.3	-0.1
	baz=243						
WLTB	Daxi	0.81	305	*e*P	Pb	10 37 15.4	+0.7
	baz=307						
WLTB				S	Sn	10 37 27.8	+1.5
	baz=307						
YM01	YM01	0.85	334	*e*P	Pb	10 37 16.6	+1.3
	baz=347						
YM01				*e*S	Sn	10 37 28.2	+0.9
	baz=347						
YM07	YM07	0.85	338	*e*P	Pb	10 37 15.4	-0.1
	baz=338						
YM07				*e*S	Sn	10 37 27.4	0.0
	baz=338						
YM10	YM10	0.86	334	*e*P	Pb	10 37 15.7	+0.1
	baz=346						
YM10				*e*S	Sn	10 37 29.0	+1.4
	baz=346						
YM11	YM11	0.86	335	*e*P	Pb	10 37 15.7	0.0
	baz=347						
YM11				*e*S	Sn	10 37 28.5	+0.8
	baz=347						
YM05	YM05	0.86	334	*e*P	Pb	10 37 15.7	0.0
	baz=347						
YM05				*e*S	Sn	10 37 28.4	+0.7
	baz=347						
YM04	YM04	0.87	332	*e*P	Pb	10 37 15.7	0.0
	baz=343						
YM04				*e*S	Sn	10 37 28.6	+0.9
	baz=343						
YM08	YM08	0.88	336	*e*P	Pb	10 37 15.6	-0.3
	baz=337						
TWS1	Kuangyinshan	0.88	325	*e*P	Pb	10 37 16.2	+0.3
	baz=335						
TWS1				*e*S	Sn	10 37 29.1	+1.2
	baz=335						
JYNG	Yonagunijimaku	0.88	85	P	Pn	10 37 15.6	-0.5
JYNG				*e*S	Sb	10 37 28.4	+1.0
YM03	YM03	0.89	333	*e*P	Pb	10 37 15.9	-0.2
	baz=333						
LIOB	Emei	0.92	287	P	Pb	10 37 17.1	+0.6
	baz=285						
LIOB				*e*S	Sb	10 37 29.4	+1.1
	baz=285						
NSTT	Nanjuang	0.92	286	P	Pb	10 37 17.0	+0.4
	baz=284						
NSTT				S	Sb	10 37 29.4	+0.8
	baz=284						
NCU	National Centr	0.93	309	*e*P	Pb	10 37 16.8	+0.1
	baz=309						
NCU				*e*S	Sb	10 37 30.9	+2.3
	baz=309						
NCUH	Zhongli	0.93	309	*e*P	Pb	10 37 16.7	-0.1
	baz=308						
NCUH				*e*S	Sb	10 37 30.6	+2.0
	baz=308						
YOJ	Yonaguni jima	0.94	85	*e*P	Pn	10 37 16.4	-0.6
	baz=81						
YOJ				*e*S	Sb	10 37 29.4	+0.3
	baz=81						
YOJ	Yonaguni jima	0.94	85	P	Pn	10 37 16.7	-0.2
YOJ				S	Sb	10 37 29.4	+0.3
TWY	Chenhua	0.95	339	*e*P	Pb	10 37 17.8	+0.6
	baz=339						
TWY				*e*S	Sb	10 37 30.2	+0.9
	baz=339						
VWDT	VWDT	0.99	231	*e*P	Pb	10 37 17.2	-0.5
	baz=227						
VWDT				*e*S	Sb	10 37 31.2	+0.8
	baz=227						
SBCB	Hsinchu	0.99	294	*e*P	Pb	10 37 18.3	+0.5
	baz=293						
SBCB				*e*S	Sb	10 37 32.6	+2.2
	baz=293						
HGSD	Ruisui	1.02	210	*e*P	Pn	10 37 17.7	-0.3
	baz=206						
EHY	Hungye	1.06	215	*e*P	Pn	10 37 17.4	-1.2
	baz=209						
EHY				*e*S	Sb	10 37 32.3	-0.1
	baz=209						
NMLH	Miaoli	1.09	278	*e*P	Pb	10 37 18.9	-0.7
	baz=276						
TWQ1	Liyutan	1.10	268	*e*P	Pb	10 37 20.4	+0.8
	baz=265						
TWQ1				S	Sb	10 37 35.3	+1.7
	baz=265						
SMLT	Sun Moon Lake	1.10	243	*e*P	Pb	10 37 19.3	-0.5
	baz=234						
SMLT				*e*S	Sb	10 37 34.9	+1.1
	baz=234						
SSLB	Suanglung	1.11	238	*e*P	Pn	10 37 18.8	-0.4
	baz=228						
SSLB				*e*S	Sb	10 37 34.2	+0.3
	baz=228						
NSY	Sanyi	1.11	272	*e*P	Pb	10 37 21.1	+1.3
	baz=269						
NSY				*e*S	Sb	10 37 36.4	+2.5
	baz=269						
TYC	Yuchr	1.13	245	*e*P	Pb	10 37 19.6	-0.6
	baz=242						
TYC				*e*S	Sb	10 37 37.0	+2.6
	baz=242						
YULB	Yu-li	1.17	212	*e*P	Pn	10 37 18.7	-1.3
	baz=207						
YULB				*e*S	Sn	10 37 33.6	-1.5
	baz=207						
TWF1	Yuli	1.20	211	*e*P	Pn	10 37 19.2	-1.2
	baz=220						
TWF1				*e*S	Sb	10 37 36.1	-0.4
	baz=220						
TCU	Taichung	1.21	259	*e*S	Sb	10 37 38.2	+1.5
	baz=256						
WJS	Zhushan	1.27	244	*e*P	Pb	10 37 22.9	+0.4
	baz=241						
WJS				*e*S	Sb	10 37 41.8	+3.3
	baz=241						
WNT	Mingjian	1.28	247	*e*P	Pb	10 37 23.1	+0.3
	baz=243						
WNT				*e*S	Sb	10 37 41.3	+2.4
	baz=243						
YUS	Yu-Shan	1.29	227	*e*P	Pb	10 37 22.7	-0.6
	baz=224						
CHN5	Tsauling	1.42	237	*e*P	Pb	10 37 25.2	0.0
	baz=234						
CHN5				*e*S	Sb	10 37 45.1	+2.1
	baz=234						
RLNB	Erlin	1.56	252	*e*S	Sb	10 37 47.2	+0.5
	baz=250						
IRIF	Iriomote-Funau	1.60	91	P	Pn	10 37 26.1	+0.2
IRIF				*e*S	Sn	10 37 45.9	+0.2
CHN2	Minshiung	1.62	239	*e*P	Pb	10 37 29.2	+0.8
	baz=235						
CHN2				*e*S	Sb	10 37 51.6	+3.2
	baz=235						
TPUB	Ta-pu	1.64	229	*e*P	Pb	10 37 28.5	-0.3
	baz=212						
TPUB				*e*S	Sb	10 37 50.2	+1.1
	baz=212						
STYT	Tauyuan	1.65	223	*e*P	Pb	10 37 28.0	-1.1
	baz=210						
STYT				*e*S	Sb	10 37 49.7	+0.1
	baz=210						
CHY	Chiayi	1.67	239	*e*S	Sb	10 37 50.8	+0.7
	baz=235						
WTP	Ta-pu	1.69	228	*e*P	Pb	10 37 29.2	-0.4
	baz=209						
WTP				*e*S	Sb	10 37 51.8	+1.3
	baz=209						
TWK	Hsinying	1.76	231	*e*P	Pb	10 37 30.2	-0.7
	baz=227						
TWK				*e*S	Sb	10 37 53.5	+0.9
	baz=227						
TWGBT	Beinan	1.76	208	*e*P	Pn	10 37 28.2	0.0
	baz=193						
CHN1	Nanshi	1.79	228	*e*P	Pb	10 37 31.0	-0.4
	baz=225						
CHN1				*e*S	Sb	10 37 54.1	+0.8
	baz=225						
SGST	Jiashian	1.82	225	*e*P	Pb	10 37 30.8	-1.1
	baz=207						
SGST				*e*S	Sb	10 37 55.1	+0.8
	baz=207						
SLGT	Liugui	1.85	222	*e*P	Pn	10 37 30.1	+0.8
	baz=220						
JKRS	Kuro-shima	1.86	94	P	Pn	10 37 30.4	+0.9
JKRS				S	Sn	10 37 52.8	+0.6
JIJ	Ishigaki jima	1.97	90	P	Pn	10 37 30.7	-0.4
JIJ				*e*S	Sn	10 37 54.5	-0.5
SSD	Sandimen	2.04	217	*e*P	Pb	10 37 34.8	-1.0
	baz=212						
SSD				*e*S	Sb	10 38 00.1	-0.7
	baz=212						
JISG	Ishigakijimahi	2.13	84	*e*S	Sn	10 37 59.6	+0.6
MASBT	Mashibuluo	2.15	215	*e*P	Pn	10 37 34.6	+1.0
	baz=212						
PHUB	P'eng-hu	2.37	249	*e*S	Sn	10 38 03.8	-0.9
	baz=247						
VWUC	VWUC	2.38	285	*e*P	Pn	10 37 35.5	-1.1
	baz=282						
MATB	Ma-tsu	2.55	314	*e*P	Pn	10 37 38.0	-1.0
	baz=311						
VCHM	Qimei	2.61	244	*e*S	Sn	10 38 10.8	0.0
	baz=242						
PTMZ	Houxiangcun	2.68	285	*e*P	Pn	10 37 40.7	-0.1
	baz=282						
LYJJ	Jianjiangzhen	2.94	318	*e*P	Pn	10 37 44.1	-0.4
	baz=315						
XPSS	Dashiqiu	3.01	328	*e*P	Pn	10 37 44.4	-0.9
	baz=325						
KNMB	Chin-men Tao	3.27	272	*e*P	Pn	10 37 48.0	-1.0
	baz=269						

IDC 01 10:49:12.8±2.3, 1°.65N×91°.97E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/28, mbtmp3.3/4, ML3.8/1, Error ellipse: s-maj=81.2km s-min=23.0km az=61.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	18.06	22	P	Pn	10 53 25.1	-0.2
	0.1nm,0.3s,baz=228,slow=14,SNR=6.7						
WRA	Warramunga Arr	46.76	120	P	P	10 57 43.0	-1.4
	0.2nm,0.7s,baz=300,slow=8.6,SNR=5.4						
ASAR	Alice Springs	47.90	124	P	P	10 57 53.4	+0.2
	0.2nm,0.7s,baz=293,slow=8.0,SNR=2.7						
KURBB	Kurchatov Arra	50.11	349	P	P	10 58 09.9	+0.2
	baz=174,slow=7.4						
ZALV	Zalesovo Beam	52.46	355	P	P	10 58 27.7	+0.5
	0.4nm,0.3s,baz=160,slow=6.8,SNR=3.7						

*SOME **01** 11:18:32.3, 41°.23N×70°.95E, h10km*
*KRNET **01** 11:18:32.9±0.1, 41°.47N×70°.71E, h30km, mb2.6*
*NNC **01** 11:18:34.1±1.8, 41°.28N×70°.92E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=17.9km s-min=8.0km az=36.0*
ISC 01 11:18:32.9±1.3, 41°.34N±0°.03×70°.92E±0°.03, h1km±11km, n24, σ1s.30/45, 23C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARK	Arkit	0.91	59	⇑*i*P	Pg	11 18 50.4	+0.1
	baz=72						
ARK				⇑*i*S	Sn	11 19 04.4	-2.3
	baz=72						
IUG	Iuzhnay	1.05	321	P	Pn	11 18 54.3	-0.5
	15nm,0.4s						
IUG				S	Sn	11 19 10.2	0.0
	36nm,0.6s						
IUG	Iuzhnay	1.05	321	*e*P	Pn	11 18 54.4	-0.5
	15nm,0.4s						
IUG				*e*S	Sn	11 19 10.2	0.0
	36nm,0.6s						
BTK	Batken	1.28	184	⇑*i*P	Pg	11 18 57.9	+0.5
	baz=77						
BTK				⇑*i*S	Sn	11 19 16.5	+0.7
	baz=77						
ARSB	Arslanbob	1.55	90	⇑*e*P	Pb	11 19 02.0	-0.5
	baz=94						
ARSB				⇑*i*S	Sg	11 19 24.1	+1.4
	baz=94						
KK31	Karatay Array	1.79	350	Pn	Pg	11 19 07.8	+0.6
	5.5nm,0.3s,baz=167,slow=15,SNR=58						
KK31				⇓Sn	Sg	11 19 31.8	+1.3
	8.1nm,0.4s,baz=169,slow=34,SNR=23						
BRLS	Borolday	1.88	335	*e*P	Pb	11 19 07.1	-0.8
	0.8nm,0.4s						
BRLS				*e*S	Sg	11 19 32.9	-0.2
	4.7nm,0.7s						
MRKS	Merke	2.22	50	Pg	Pb	11 19 13.7	-0.2
	6.1nm,0.3s						
MRKS				Lg	Lg	11 19 42.7	
	6.3nm,0.3s						
MRKS	Merke	2.22	50	*e*P	Pb	11 19 13.7	-0.2
	6.1nm,0.3s						
MRKS				*e*S	Sb	11 19 42.8	+0.8
	6.3nm,0.3s						
AML	Almayashu	2.22	68	⇓*i*P	Pn	11 19 11.5	+0.3
	baz=73						
AML				⇓*i*S	Sb	11 19 40.4	-1.8
	baz=73						
SFK	Sufi-Kurgan	2.37	123	⇓Pn	Pn	11 19 13.8	+0.7
	0.2nm,0.1s						
SFK				⇓Sn	Sb	11 19 44.3	-1.9
	4.0nm,0.5s						
SFK	Sufi-Kurgan	2.37	123	⇑*i*P	Pb	11 19 15.3	-1.1
	baz=24						
SFK				⇑*i*S	Sb	11 19 46.1	-0.1
	baz=24						
EKS2	Erkin-Say	2.51	57	⇑*i*P	Pn	11 19 15.2	+0.3
	baz=62						
EKS2				⇑*i*S	Sn	11 19 46.8	+0.6
	baz=62						
ARLS	Aral	2.60	77	⇑*i*P	Pn	11 19 17.6	+1.3
	baz=80						
ARLS				⇑*i*S	Sb	11 19 50.1	-2.9
	baz=80						
UCH	Uchtor	2.83	70	⇑*i*P	Pn	11 19 20.3	+0.6
	baz=74						
UCH				⇑*i*S	Sn	11 19 55.5	+0.9
	baz=74						
AAK	Ala-Archa	2.96	63	⇓Pn	Pb	11 19 24.5	-2.1
	2.2nm,0.5s						
AAK				⇑Sn	Sb	11 20 04.4	+1.0
	2.7nm,0.5s						
AAK	Ala-Archa	2.96	63	⇑*i*P	Pn	11 19 21.7	+0.5
	baz=66						
AAK				⇑*i*S	Sn	11 19 58.0	+0.5
	baz=66						
KBK	Karagaybulak	3.28	65	⇑*i*P	Pn	11 19 25.5	-0.1
	baz=68						
KBK				⇑*i*S	Sn	11 20 05.8	+0.5
	baz=68						
USP	Ospenovka	3.28	53	⇑*i*P	Pn	11 19 25.3	-0.2
	baz=56						
USP				⇑*i*S	Sn	11 20 04.8	-0.4
	baz=56						
KZA	Kyzart	3.32	76	⇑*i*P	Pn	11 19 26.8	+0.4
	baz=78						
KZA				⇑*i*S	Sn	11 20 07.5	+0.8
	baz=78						
DGS	Degeres	4.07	60	Pg	Pb	11 19 45.8	+0.4
	4.3nm,0.5s						
DGS				Lg	Lg	11 20 38.7	
	1.4nm,0.5s						
DGS	Degeres	4.07	60	*e*P	Pb	11 19 45.8	+0.4
	4.3nm,0.5s						
DGS				*e*S	Sb	11 20 38.7	+3.5
	1.4nm,0.5s						
KUU	Kurty	4.74	56	Pg	Pb	11 19 59.9	+3.1
	1.4nm,0.6s						
KUU				Lg	Lg	11 21 04.6	
	2.2nm,0.5s						
KUU	Kurty	4.74	56	*e*P	Pg	11 20 01.2	-2.6
	1.8nm,0.9s						
KUU				*e*S	Sg	11 21 04.6	-0.6
	2.2nm,0.5s						

SJA 01 11:46:11.0±0.8, 33°.91S×68°.51W, h10km±12km, ML2.7, MW3.8, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RFA	San Rafael	0.86	177	*i* P	Pg	11 46 27.8	+0.2
RFA				*i* S	Sb	11 46 39.8	+0.2
AAGR	Agrelo	0.87	342	*i* P	Pg	11 46 27.7	0.0
ARCO	CERRO ARCO	1.13	342	*i* P	Pg	11 46 32.5	-0.2
ARCO				IAML		11 46 49.7	
	comp=Z,231nm,0.2s						
ASAL	Salagasta	1.35	348	*i* P	Pb	11 46 36.6	+0.2
RTLS	Leoncito	2.21	342	*i* P	Pb	11 46 50.4	-0.8
RTLS				IAML		11 47 25.1	
	comp=Z,36nm,0.6s						
ROC1	El Roble	2.29	293	*i* P	Pb	11 46 52.0	-0.6
MRA	San Martin	2.78	58	*i* P	Pb	11 46 58.5	-2.3

*DJA **01** 11:55:35.8±0.4, 8°S±4°×10°7E±°, h10km, M4.5/14, MLv4.5/14*
*ISCJB **01** 11:55:37.8±0.5, 7°.77S±0°.08×107°.43E±0°.06, h100km, mb3.9/16, Error ellipse: s-maj=12.9km s-min=5.7km az=32.4*
*IDC **01** 11:55:39.8±1.3, 7°.61S×107°.53E, h100km±10km, mb3.6/15, mb1 3.8/16, mb1mx3.7/40, mbtmp4.0/16, MS3.2/2, Ms1 3.3/2, ms1mx2.7/44, Error ellipse: s-maj=24.6km s-min=11.0km az=49.0*
ISC 01 11:55:38.0±0.8, 7°.8S±0°.1×107°.40E±0°.07, h100km, n42, σ2s.28/32, mb3.9/16, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.50	56	P	Pn	11 55 49.4	-4.5
CISI				S	Sn	11 55 58.1	-7.6
LEM	Lembang	1.03	12	P	Pn	11 55 58.6	-0.3
	525nm,0.3s,baz=82,slow=23,SNR=125						
LEM				S	Sn	11 56 16.1	+1.4
	1µm,0.3s,baz=165,slow=22,SNR=19						
LEM				LR	LR	11 56 16.6	
	comp=Z,138nm,20.1s,baz=174,slow=47						
CMJI	Cimerak	1.04	87	P	Pn	11 55 55.6	-3.3
CMJI				S	Sn	11 56 10.4	-4.2
DBJI	Dramaga	1.43	333	P	Pn	11 56 02.0	-1.4
KPJI	Karang Pucung	1.60	72	P	Pn	11 56 04.9	-0.6
TNG	Tangerang	1.82	336	P	Pn	11 56 10.5	+2.3
CGJI	Cibinong	2.08	306	P	Pn	11 56 08.7	-2.9
SBJI	Serang	2.12	324	P	Pn	11 56 11.7	-0.4
UGM	Wanagama	3.10	92	P	Pn	11 56 27.9	+2.8
SMRI	Semarang	3.12	76	P	Pn	11 56 26.7	+1.3
BLSI	Bandar Lampung	3.25	319	P	Pn	11 56 30.4	+3.2
WOJI	Wonogiri, Jawa	3.50	90	P	Pn	11 56 30.7	+0.3
KASI	Kota Agung	3.69	308	P	Pn	11 56 44.4	+11
PCJI	Pacitan	3.76	96	P	Pn	11 56 34.5	+0.6
KLI	Kotabumi	3.89	319	P	Pn	11 56 46.2	+11
NGJI	Ngawi	4.06	84	P	Pn	11 56 44.5	+6.6
LWLI	Liwa	4.34	310	P	Pn	11 56 49.2	+7.3
PWJI	Pagerwojo	4.37	93	P	Pn	11 56 42.7	+0.5
MDSI	Maura Dua	4.62	316	P	Pn	11 56 46.6	+1.1
BATI	Baumata	16.24	100	P	P	11 59 21.2	-0.4
	2.6nm,0.3s,baz=309,slow=7.8,SNR=2.7						
BATI				S	S	12 02 25.3	-1.4
	1.4nm,0.3s,baz=34,slow=12,SNR=2.0						
FITZ	Fitzroy Crossi	20.47	122	P	Pn	12 00 09.8	-1.2
	7.9nm,0.7s,baz=303,slow=8.1,SNR=19						
SIJI	Sorong	24.77	75	P	P	12 00 50.8	+0.1
	4.1nm,0.6s,baz=26,slow=22,SNR=1.8						
CMAR	Chiang Mai Arr	27.43	342	P	P	12 01 13.9	-0.6
	0.5nm,0.3s,baz=184,slow=8.4,SNR=5.8						
CMAR				LR	LR	12 13 10.0	
	comp=Z,46nm,18.8s,baz=174,slow=38						
WRA	Warramunga Arr	28.73	118	P	P	12 01 28.1	+1.8
	1.1nm,0.5s,baz=292,slow=10,SNR=17						
ASAR	Alice Springs	29.89	125	P	P	12 01 38.0	+1.6
	1.3nm,0.9s,baz=301,slow=8.9,SNR=11						
H08S2	Diego Garcia H	34.58	268	T	T	12 39 41.6	
	baz=93,slow=74						
H08S3	Diego Garcia H	34.59	268	T	T	12 39 42.1	
	baz=93,slow=74						
H08S1	Diego Carcia H	34.60	268	T	T	12 39 39.5	
	baz=93						
PMG	Port Moresby	39.33	95	P	P	12 02 58.7	+0.9
	2.4nm,0.7s,baz=285,slow=16,SNR=1.8						
STKA	Stephens Creek	39.79	132	P	P	12 03 04.2	+2.7
	15nm,0.6s,baz=308,slow=7.9,SNR=40						
STKA				LR	LR	12 20 42.2	
	comp=Z,32nm,19.8s,baz=27,slow=38						
MJAR	Matsushiro Arr	52.78	31	P	P	12 04 42.1	-0.8
	0.4nm,0.4s,baz=212,slow=8.7,SNR=3.5						
SONM	Songino Array	55.44	359	P	P	12 05 02.8	+0.6
	1.3nm,0.9s,baz=178,slow=5.8,SNR=4.2						
SONM				PcP	PcP	12 06 02.0	+0.7
	1.5nm,0.5s,baz=180,slow=4.6,SNR=6.3						
USRK	Ussuriysk Ar.	56.37	21	P	P	12 05 09.2	+0.5
	0.6nm,0.7s,baz=191,slow=4.4,SNR=4.4						
MKAR	Makanchi Array	58.80	340	P	P	12 05 25.8	0.0

1.0nm,0.8s,baz=150,slow=8.0,SNR=8.8
ZALV Zalesovo Beam 64.44 345 P P 12 06 03.6 +0.2
0.5nm,0.4s,baz=146,slow=5.4,SNR=4.4
GEYT Alibeck 64.65 318 P P 12 06 07.1 +1.8
28nm,0.8s,baz=92,slow=7.5,SNR=3.8
VNDA Vanda 75.08 169 P P 12 07 10.6 +2.2
0.6nm,0.6s,baz=263,slow=10,SNR=4.2
KBZ Khabaz 77.53 318 P P 12 07 25.1 +2.3
2.6nm,0.9s,baz=162,slow=5.0,SNR=5.0
BRTR Keskin Array B 82.68 312 P P 12 07 53.2 +2.3
0.6nm,0.7s,baz=146,slow=8.1,SNR=4.3
AKASG Malin Array Be 88.59 321 P P 12 08 21.0 +1.4
0.7nm,0.6s,baz=88,slow=4.9,SNR=3.3
TXAR Lajitas Array 143.81 50 PKP PKiKP 12 15 03.9 -1.9
0.4nm,0.7s,baz=252,slow=1.1,SNR=6.3
LPAZ La Paz 155.62 190 PKPab PKPab 12 15 49.9 +1.9
1.4nm,1.0s,baz=153,slow=6.8,SNR=3.8

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*SJA **01** 12:21:18.6±0.5, 26°.91S×64°.02W, h636km±12km, ML4.4, MW4.5*
*MOS **01** 12:21:24.8±0.9, 26°.86S×63°.31W, h571km, mb4.5/26, Error ellipse: s-maj=14.8km s-min=7.9km az=106.8*
*NEIC **01** 12:21:25.0±0.2, 26°.92S×63°.26W, h565km±2km, mb4.5/134, Error ellipse: s-maj=4.9km s-min=3.0km az=71.0*
*ISCJB **01** 12:21:24.4±0.1, 26°.79S±0°.03×63°.29W±0°.03, h561km, mb4.4/149, Error ellipse: s-maj=3.6km s-min=3.0km az=23.5*
*IDC **01** 12:21:25.8±0.8, 26°.85S×63°.26W, h566km±8km, mb4.0/21, mb1 4.1/25, mb1mx4.1/34, mbtmp5.0/25, Error ellipse: s-maj=13.0km s-min=8.9km az=72.0*
*VAO **01** 12:21:25.9±0.3, 26°.93S×63°.38W, h568km±4km, mb4.5*
ISC 01 12:21:25.1±0.3**, 26°.91S**±0°.05×**63°.38W**±0°.05**, h561**km**, n782, σ0s.89**/805**, mb4.5**/149**, 7C-11D, Santiago del Estero Province**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
FSA Cafayete 2.47 288 iP P 12 22 39.3 +0.9
FSA IAML 12 22 39.9
comp=Z,96nm,0.4s
FSA iS S 12 23 38.5 +0.7
CYA Choya 2.64 234 iP P 12 22 39.6 +0.7
CYA IAML 12 22 40.0
comp=Z,400nm,0.3s
CYA Choya 2.64 234⇓iP P 12 22 39.8 +0.8
CYA iS S 12 23 36.6 -2.5
SLA San Lorenzo 2.91 318⇓eP P 12 22 42.3 +1.4
ALOL LOMAS DE OLMED 3.13 350 iP P 12 22 44.6 +2.5
HJA Humahuaca 4.12 333 iP P 12 22 51.3 +2.0
HJA IAML 12 22 55.7
comp=Z,30nm,0.4s
YJA Yavi 5.10 337 iP P 12 22 58.9 +1.8
CPUP Villa Florida 5.44 85 P P 12 23 01.4 +2.0
comp=Z,15nm,0.3s,baz=254,slow=8.4,SNR=531
CPUP S S 12 24 06.2 -10
comp=Z,0.3nm,0.3s,baz=20,slow=18,SNR=1.2
CPUP Villa Florida 5.44 85 eP P 12 23 00.1 +0.7
CPUP Villa Florida 5.44 85 eP P 12 23 00.1 +0.7
CPUP Villa Florida 5.44 85 eP P 12 23 01.6 +2.2
CPUP Villa Florida 5.44 85 eP P 12 23 01.6 +2.2
GO02 Mina Guanaco 5.86 286 eP P 12 23 05.1 +1.7
GO02 eS S 12 24 24.4 +0.7
GO02 Mina Guanaco 5.86 286⇓iP P 12 23 05.1 +1.7
GO02 eS S 12 24 23.3 -0.3
GO03 Copiap 6.14 262 eP P 12 23 06.5 +0.9
GO03 eS S 12 24 28.9 +1.0
LVC Limon Verde 6.61 309 P P 12 23 11.6 +1.2
comp=Z,13nm,0.3s,baz=151,slow=6.9,SNR=134
LVC S S 12 24 33.3 -3.0
comp=Z,19nm,0.3s,baz=162,slow=4.6,SNR=32
LVC Limon Verde 6.61 309 eP P 12 23 11.2 +0.8
LVC Limon Verde 6.61 309 eP P 12 23 11.5 +1.1
PB15 IPOC Station P 6.64 302⇓eP P 12 23 11.7 +1.2
PB15 eS S 12 24 35.7 -0.9
PB14 IPOC Station P 6.73 288 eP P 12 23 12.1 +0.7
LCO Las Campanas 6.81 250 eP P 12 23 13.1 +1.1
LCO Las Campanas 6.81 250 eP P 12 23 13.1 +1.1
LCO Las Campanas 6.81 250⇓iP P 12 23 13.1 +1.1
LCO eS S 12 24 39.9 +0.5
LCO Las Campanas 6.81 250 eP P 12 23 13.3 +1.3
PB10 IPOC Station P 7.33 296 eP P 12 23 17.8 +1.1
PB10 eS S 12 24 48.7 +0.6
PB09 IPOC Station P 7.38 312⇓iP P 12 23 18.8 +1.3
PB09 eS S 12 24 48.6 -0.8
PB05 IPOC Station P 7.40 302⇓iP P 12 23 18.4 +0.8
PB05 eS S 12 24 48.9 -0.7
LSCH La Serena 7.54 245 eP P 12 23 19.1 +0.5
PB03 IPOC Station P 7.56 308 eP P 12 23 20.0 +0.8
PB04 IPOC Station P 7.67 305 eP P 12 23 20.8 +0.6
PB04 eS S 12 24 55.1 +0.7
PB07 IPOC Station P 7.87 310⇓iP P 12 23 23.1 +0.9
PB07 iS S 12 24 57.0 -1.0
PB01 IPOC Station P 8.08 315 eP P 12 23 25.1 +0.8
PB01 eS S 12 25 01.3 -0.5
PEL Peldehue 8.87 224 eP P 12 23 32.4 +0.7
PEL Peldehue 8.87 224 eP P 12 23 32.4 +0.7
ROC1 El Roble 8.97 226 eP P 12 23 33.0 0.0
ROC1 eS S 12 25 18.0 +0.1
GO01 Chusmiza 8.98 322 eP P 12 23 34.6 +1.0
PB11 IPOC Station P 9.16 320 eP P 12 23 35.5 +0.4
CPSB Cacapava Do Su 9.39 114 eP P 12 23 38.1 +1.0
AQDB Aquidauana 9.51 49 eP P 12 23 40.2 +1.8
MNMC Minye Minye 9.63 322 eP P 12 23 41.0 +1.1
MNMC eS S 12 25 31.8 +1.3
PLTB Pedras Altas 9.80 122 eP P 12 23 42.1 +1.0
ITAB Concordia 10.03 94 eP P 12 23 44.5 +1.0
PTGB Pitanga 10.42 80 eP P 12 23 49.3 +1.6
TRCB Terra Rica 10.58 70 eP P 12 23 51.1 +1.8
GO05 Huala 10.90 220 eP P 12 23 52.0 -0.4
TRQA Tornquist 11.17 174 eP P 12 23 54.0 -1.0
TRQA Tornquist 11.17 174 eP P 12 23 54.0 -1.0
TRQA Tornquist 11.17 174 eP P 12 23 54.2 -0.8
CNLB Canela 11.31 105 eP P 12 23 57.5 +0.9
LPAZ La Paz 11.46 336 P P 12 23 59.3 +0.3
comp=Z,4.9nm,0.3s,baz=141,slow=5.0,SNR=84
LPAZ S S 12 26 03.1 -2.2
comp=Z,1.5nm,0.3s,baz=318,slow=15,SNR=8.7
LPAZ La Paz 11.46 336 eP P 12 23 59.2 +0.3
LPAZ eS S 12 26 03.4 -1.9
LPAZ La Paz 11.46 336 eP P 12 23 59.2 +0.3
LPAZ eS S 12 26 03.4 -1.9
LPAZ La Paz 11.46 336 eP P 12 23 59.0 +0.1
C2SB Chapadao do Su 12.65 52 eP P 12 24 10.2 -0.3
TER01 Tubaro-SC 12.72 101 eP P 12 24 11.8 +0.6
FRTB Fartura 13.01 77 eP P 12 24 16.1 +1.9
TIJ01 Guaruva-PR 13.01 86 eP P 12 24 13.4 -0.8
SALV Santo Antonio 13.08 35 eP P 12 24 14.9 -0.1
ITRB Iturama 13.94 62 eP P 12 24 24.4 +0.6
GO06 Curarrehue 14.33 206 eP P 12 24 27.3 -0.3
BB19B Bebedouro 14.76 70 eP P 12 24 32.1 0.0
PLCA Paso Flores 15.01 202 P P 12 24 33.7 -0.7
comp=Z,3.7nm,0.3s,baz=44,slow=10,SNR=139
PLCA S S 12 27 08.3 -1.5
comp=Z,0.1nm,0.3s,baz=171,slow=23,SNR=1.5
PLCA Paso Flores 15.01 202 eP P 12 24 33.7 -0.7
comp=Z,23nm,0.6s
PLCA Paso Flores 15.01 202 eP P 12 24 33.6 -0.7
PLCA Paso Flores 15.01 202 eP P 12 24 34.0 -0.4
RCLB Rio Claro- Sao 15.08 76 eP P 12 24 35.2 -0.2
IPMB Ipameri, GO 16.58 61 eP P 12 24 50.2 +0.4
ESAR Angra dos Reis 17.60 81 eP P 12 24 59.9 +1.1
PMNB Patos De Minas 17.70 65 eP P 12 25 01.2 +1.3
BSCB Bom Sucesso 17.99 75 eP P 12 25 03.3 +0.8
MCI7 Montes Claros 20.74 65 eP P 12 25 27.9 +0.3
JANB Januaria 21.32 60 eP P 12 25 33.5 +0.7
ALF01 Guarapari-ES 21.64 78 eP P 12 25 36.1 +0.6
SJMB Sao Joao De Ma 22.00 73 eP P 12 25 38.6 -0.2
BSFB Barra de Sao F 22.24 74 eP P 12 25 41.6 +0.7
RIB01 Linhares ES 22.43 75 eP P 12 25 43.6 +1.0
EFI East Falkland 25.05 172⇓eP P 12 26 08.2 +2.8
EFI pmax pmax
comp=Z,78nm,1.7s
PTGA Pitinga 26.24 8 P P 12 26 16.2 -0.2
comp=Z,43nm,0.5s,baz=318,slow=22,SNR=110
PTGA Pitinga 26.24 8 eP P 12 26 16.0 -0.4
comp=Z,44nm,0.6s
PTGA Pitinga 26.24 8 eP P 12 26 16.3 -0.1
USHA Ushuaia 28.14 186 P P 12 26 32.8 +0.3
comp=Z,19nm,0.4s,baz=15,slow=7.9,SNR=42
OTAV Otavalo 30.65 329 eP P 12 26 55.8 +0.5
comp=Z,7.4nm,0.8s
OTAV Otavalo 30.65 329 eP P 12 26 55.8 +0.5
OTAV pmax pmax
comp=Z,7.0nm,0.8s
OTAV Otavalo 30.65 329 eP P 12 26 55.7 +0.5
FLOC Florencia 30.70 335 eP P 12 26 54.2 -1.0
FLOC Florencia 30.70 335 eP P 12 26 54.2 -1.0
GCUF Volcan Galeras 31.05 332 eP P 12 27 00.1 +1.4
GCUF Volcan Galeras 31.05 332 eP P 12 27 00.1 +1.4
SOTA Rioblanco 31.57 334 eP P 12 27 04.1 +0.9
SOTA Rioblanco 31.57 334 eP P 12 27 04.1 +0.9
CHIC Chingaza 32.92 341 eP P 12 27 13.9 -0.5
CHIC Chingaza 32.92 341 eP P 12 27 13.9 -0.5
YOTC Yotoco, Valle 33.18 336 eP P 12 27 14.6 -1.7
YOTC Yotoco, Valle 33.18 336 eP P 12 27 14.6 -1.7
ROSC El Rosal 33.30 340 P P 12 27 18.2 +0.6
comp=Z,14nm,0.6s,baz=169,slow=8.0,SNR=9.2
ROSC El Rosal 33.30 340 eP P 12 27 18.1 +0.5
comp=Z,9.5nm,0.7s
ROSC El Rosal 33.30 340 eP P 12 27 17.9 +0.2
ROSC El Rosal 33.30 340 eP P 12 27 17.9 +0.2
ANIL Santa Ana 33.32 338 eP P 12 27 16.9 -0.8
ANIL Santa Ana 33.32 338 eP P 12 27 16.9 -0.8
TOLC Tolima 33.38 338 eP P 12 27 16.6 -1.7
TOLC Tolima 33.38 338 eP P 12 27 16.6 -1.7
MDP Montagnes des 33.48 20 P P 12 27 18.6 -0.1
comp=Z,29nm,0.4s,baz=180,slow=12
RCBR Riachuelo 33.53 56 eP P 12 27 20.1 +0.9
RREF El Recreo 33.68 338 eP P 12 27 21.5 +0.4
RREF El Recreo 33.68 338 eP P 12 27 21.5 +0.4
RUSC La Rusia 33.94 343 eP P 12 27 22.3 -0.9
RUSC eP P 12 27 22.7 -0.5
RUSC La Rusia 33.94 343 eP P 12 27 22.3 -0.9
RUSC eP P 12 27 22.7 -0.5
BARC Barichara 34.64 343 eP P 12 27 26.2 -2.5
BARC Barichara 34.64 343 eP P 12 27 26.2 -2.5
PTBC PUERTO BERRIO, 34.95 341 eP P 12 27 27.4 -3.5
PTBC PUERTO BERRIO, 34.95 341 eP P 12 27 27.4 -3.5
HELC Santa Helena 34.95 339 eP P 12 27 29.2 -2.3
HELC Santa Helena 34.95 339 eP P 12 27 29.2 -2.3
BRRC Barranca, Sant 35.27 342 eP P 12 27 30.2 -3.5
BRRC Barranca, Sant 35.27 342 eP P 12 27 30.2 -3.5
ZARC Zaragoza, Cauc 35.97 340 eP P 12 27 36.8 -2.7
ZARC Zaragoza, Cauc 35.97 340 eP P 12 27 36.8 -2.7
OCAC Ocana 36.25 343 eP P 12 27 38.7 -3.2
OCAC Ocana 36.25 343 eP P 12 27 38.7 -3.2
SDV Santo Domingo 36.28 348 P P 12 27 40.8 -1.4
comp=Z,24nm,0.3s,baz=130,slow=2.7,SNR=99
SDV Santo Domingo 36.28 348 eP P 12 27 40.6 -1.5
comp=Z,30nm,0.4s
SDV Santo Domingo 36.28 348 eP P 12 27 40.7 -1.5
SDV Santo Domingo 36.28 348 eP P 12 27 40.7 -1.5
SDV Santo Domingo 36.28 348 eP P 12 27 41.1 -1.1
UREC San Jos de Ur 36.42 339 eP P 12 27 40.5 -2.7
UREC San Jos de Ur 36.42 339 eP P 12 27 40.5 -2.7
PCRV Puerto La Cruz 36.89 358 P P 12 27 47.1 +0.1
comp=Z,13nm,0.3s,baz=35,slow=2.9,SNR=23
MOTC Monteria, Cord 37.43 340 eP P 12 27 49.2 -2.2
MOTC Monteria, Cord 37.43 340 eP P 12 27 49.2 -2.2
CODC Agustn Codazz 37.91 344 eP P 12 27 51.0 -4.3
CODC Agustn Codazz 37.91 344 eP P 12 27 51.0 -4.3
BIM Bigot 41.24 3 eP P 12 28 22.4 +0.3
TRMF Trois Ilets 41.26 3 eP P 12 28 22.3 +0.2
FDF Fort de France 41.45 3 eP P 12 28 22.9 -0.8
comp=Z,112nm,1.0s
FDF Fort de France 41.45 3 eP P 12 28 23.4 -0.4
FDF Fort de France 41.45 3 eP P 12 28 22.9 -0.8
FDF pmax pmax
comp=Z,112nm,1.0s
ILAM Ilet Lapin Mar 41.51 4 eP P 12 28 24.8 +0.7
GBMF Grand Be 41.52 3 eP P 12 28 23.8 -0.5
PCM Pelee Case Pet 41.53 3 eP P 12 28 22.4 -1.9
BAMF Morne Balai 41.53 3 eP P 12 28 23.9 -0.5
JTS JuntasAbangare 42.50 328 P P 12 28 33.7 +1.7
comp=Z,6.5nm,0.5s,baz=348,slow=18,SNR=8.4
JTS JuntasAbangare 42.50 328 eP P 12 28 32.4 +0.4
comp=Z,7.4nm,0.8s
JTS JuntasAbangare 42.50 328⇑eP P 12 28 33.3 +1.3
MAGL Barre de l'ile 42.66 3 eP P 12 28 32.7 -0.4
ABD La Joyeuse, An 43.17 3 eP P 12 28 35.5 -1.6
ANWB Willy Bob 44.34 2 eP P 12 28 44.0 -2.2
comp=Z,72nm,0.8s
ANWB Willy Bob 44.34 2 eP P 12 28 44.0 -2.2
MTP Monte Pirata 44.79 357 eP P 12 28 47.5 -2.1
comp=Z,22nm,1.1s
OBIP Obispado Ponce 44.80 356 eP P 12 28 48.5 -1.2
comp=Z,24nm,0.9s
SJG San Juan 44.84 356 P P 12 28 48.0 -1.9
comp=Z,16nm,0.7s,baz=142,slow=3.2,SNR=12
HUMP Col San Antoni 44.85 357 eP P 12 28 48.3 -1.7
comp=Z,22nm,0.8s
CBYP Canovanas 44.98 357 eP P 12 28 49.7 -1.4
comp=Z,29nm,1.1s
APG El Apazote 49.28 325 P P 12 29 23.8 +0.1
comp=Z,8.2nm,0.6s,baz=139,slow=8.7,SNR=13
CCIG Comitan 51.22 324 eP P 12 29 37.8 0.0
comp=Z,10nm,0.6s
VNA1 Neumayer--Stat 53.51 160 P P 12 29 53.6 +0.5
VNA2 Neumayer--Watz 53.88 160 P P 12 29 56.1 +0.4
baz=292,slow=7.4
061Z Ochoppi 55.13 341 P P 12 30 06.1 +1.0
baz=161
060Z West Palm Beac 55.53 341 P P 12 30 08.8 +1.0
baz=161
959A Okeechobee 56.68 341 P P 12 30 16.7 +0.9
baz=161
859A Kempfer Cattle 57.19 342 P P 12 30 20.0 +0.7
baz=161
757A Oxford 58.36 341 P P 12 30 27.7 +0.6
baz=160
657A Interlachen 58.91 341 P P 12 30 31.4 +0.6
baz=161
555A McAlpin 59.73 340 P P 12 30 36.7 +0.4
baz=160
456A Hilliard 60.02 341 P P 12 30 38.7 +0.5
baz=161
553A Crawfordville 60.25 339 P P 12 30 40.4 +0.7
baz=158
356A Blackshear 60.62 342 P P 12 30 42.6 +0.5
baz=161
257A Skidaway Islan 60.93 343 P P 12 30 44.8 +0.6
baz=162
256A Glennville 61.17 342 P P 12 30 46.1 +0.4
baz=161
353A Camilla 61.26 340 P P 12 30 46.3 0.0
baz=159
255A Hazlehurst 61.28 342 eP P 12 30 46.5 +0.1
comp=Z,24nm,1.0s
255A Hazlehurst 61.28 342 P P 12 30 46.6 +0.1
baz=160
254A Abbeville 61.53 341 P P 12 30 48.2 0.0
baz=160
352A Blakely 61.60 339 eP P 12 30 48.7 +0.1
comp=Z,21nm,0.5s
352A Blakely 61.60 339 P P 12 30 48.5 -0.1
baz=158
351A Pinckard 61.63 338 P P 12 30 48.8 +0.1
baz=157
156A Sylvania 61.70 343 P P 12 30 50.1 +1.0
baz=162
NHSC New Hope 61.79 344 eP P 12 30 50.0 +0.2
comp=Z,28nm,0.6s
NHSC New Hope 61.79 344 P P 12 30 50.6 +0.9
baz=163
253A Americus 61.89 340 P P 12 30 50.3 -0.2
baz=159
155A Kite 61.93 342 P P 12 30 51.1 +0.4
baz=161
252A Lumpkin 62.02 339 P P 12 30 51.3 0.0
baz=158
BRAL Brewton 62.02 337 P P 12 30 51.4 0.0
baz=156
154A Montrose 62.10 341 P P 12 30 51.9 +0.1
baz=160
LNIG Linares 62.17 323 eP P 12 30 52.6 +0.1
comp=Z,8.0nm,0.8s
349A Repton 62.24 337 P P 12 30 52.9 +0.1
baz=156
251A Midway 62.32 339 P P 12 30 52.9 -0.3
baz=158
153A Fort Valley 62.35 341 P P 12 30 53.4 -0.1
baz=159
250A Grady 62.50 338 eP P 12 30 54.4 0.0
comp=Z,13nm,0.7s
250A Grady 62.50 338 P P 12 30 54.3 -0.1
baz=157
348A Jackson 62.55 336 eP P 12 30 54.8 +0.1
comp=Z,21nm,0.5s
348A Jackson 62.55 336 P P 12 30 54.6 -0.1
baz=155
Z54A Sparta 62.62 342 P P 12 30 55.0 -0.2
baz=160
151A Opelika 62.70 339 P P 12 30 55.1 -0.6
baz=158
249A Camden 62.78 337 P P 12 30 55.9 -0.4
baz=156
Z53A Monticello 62.86 341 P P 12 30 56.3 -0.4
baz=160
GOGA Godfrey 62.96 341 eP P 12 30 56.7 -0.6
GOGA Godfrey 62.96 341 eP P 12 30 56.7 -0.6
GOGA Godfrey 62.96 341 P P 12 30 57.1 -0.2
baz=160
150A Eclectic 62.99 339 P P 12 30 57.4 -0.2
baz=157
Z52A Williamson 63.03 340 P P 12 30 57.7 -0.1
baz=159
248A Dixon Mills 63.11 337 P P 12 30 58.1 -0.2
baz=156
Y54A Tignall 63.16 342 P P 12 30 58.7 +0.1
baz=161
JSC Jenkinsville 63.18 343 eP P 12 30 58.4 -0.3
comp=Z,15nm,0.8s
JSC Jenkinsville 63.18 343 eP P 12 30 58.4 -0.3
JSC pmax pmax
comp=Z,15nm,0.8s
149A Jones 63.24 338 P P 12 30 58.9 -0.3
baz=157
QSPA South Pole Qui 63.31 180 eP P 12 30 58.9 -0.4
comp=Z,16nm,0.9s
247A Quitman 63.38 336 P P 12 31 00.0 0.0
baz=155
Z51A Franklin 63.38 340 P P 12 31 00.1 +0.1
baz=158
Y53A Monroe 63.41 341 P P 12 31 00.1 -0.1
baz=160,SNR=5.5
148A Greensboro 63.55 337 P P 12 31 00.8 -0.3
baz=156
Y52A Lilburn 63.55 341 eP P 12 31 00.5 -0.6
comp=Z,12nm,1.1s
Y52A Lilburn 63.55 341 P P 12 31 01.1 0.0
baz=159
Z49A Columbiana 63.70 338 P P 12 31 01.9 -0.2
baz=157,SNR=6.3
LRAL Lakeview Retre 63.71 338 eP P 12 31 01.9 -0.2
comp=Z,10nm,0.7s
LRAL Lakeview Retre 63.71 338 P P 12 31 02.0 -0.1
baz=156,SNR=6.9
245A Little AP, Sta 63.84 335 P P 12 31 02.9 0.0
baz=154,SNR=7.0
Y51A Rockmart 63.89 340 P P 12 31 03.1 -0.2
baz=158
X53A Estanollee 63.93 342 P P 12 31 03.9 +0.4
baz=160
KMSC Kings Mountain 64.01 344 eP P 12 31 03.8 -0.3
comp=Z,17nm,0.9s
KMSC Kings Mountain 64.01 344 P P 12 31 04.5 +0.5
baz=162
146A Union 64.07 336 eP P 12 31 04.4 -0.1
comp=Z,22nm,0.9s
146A Union 64.07 336 P P 12 31 04.3 -0.1
baz=154
Y50A Piedmont 64.09 339 P P 12 31 04.3 -0.2
baz=158,SNR=6.1
244A Avery, Jackson 64.15 334 P P 12 31 05.1 +0.2
baz=153
X52A Dahlonega 64.19 341 P P 12 31 05.2 -0.1
baz=160
Z48A Northport 64.21 338 P P 12 31 05.1 -0.2
baz=156,SNR=5.8
Z47A Carrollton 64.22 337 P P 12 31 05.3 -0.1
baz=156,SNR=5.7
VBMS Vicksburg 64.24 335 P P 12 31 05.7 +0.2
baz=153
Y49A Blount Mountai 64.27 339 eP P 12 31 05.3 -0.5
comp=Z,21nm,0.8s
Y49A Blount Mountai 64.27 339 P P 12 31 05.6 -0.1
baz=157,SNR=6.8
145A Houston Renfro 64.36 335 P P 12 31 06.5 +0.3
baz=154
X51A Calhoun 64.44 340 eP P 12 31 06.1 -0.6
comp=Z,18nm,0.6s
X51A Calhoun 64.44 340 P P 12 31 06.8 0.0
baz=159,SNR=5.4
W53A Cullowhee 64.52 342 P P 12 31 07.6 +0.2
baz=160
Z46A Louisville 64.53 336 P P 12 31 07.5 +0.2
baz=155
144A Alexander Plac 64.57 335 P P 12 31 08.1 +0.5
baz=153
Y48A Jasper 64.57 338 P P 12 31 07.2 -0.3
baz=156
X50B Fort Payne 64.59 340 P P 12 31 07.2 -0.5
baz=158
W52A Murphy 64.66 341 P P 12 31 08.1 -0.1
baz=160
Y47A UCPARC, Winfie 64.79 338 P P 12 31 09.0 0.0
baz=156,SNR=12
X49A Woodville 64.85 339 P P 12 31 09.1 -0.2
baz=157
V53A Saluda 64.90 343 eP P 12 31 10.1 +0.4
comp=Z,17nm,1.0s
V53A Saluda 64.90 343 P P 12 31 09.8 +0.1
baz=161,SNR=6.6
833A Chaparral WMA, 64.90 325 eP P 12 31 10.5 +0.7
comp=Z,24nm,0.8s
833A Chaparral WMA, 64.90 325 P P 12 31 10.7 +1.0
baz=145,SNR=7.4
Z45A Winona 64.96 336 P P 12 31 10.2 +0.2
baz=154
W51A Cleveland 64.97 341 P P 12 31 09.8 -0.3
baz=159
X48A Hartselle 65.02 339 eP P 12 31 10.4 0.0
comp=Z,15nm,0.7s
X48A Hartselle 65.02 339 P P 12 31 10.5 +0.1
baz=157,SNR=10.0
Y46A Houston 65.12 337 P P 12 31 10.7 -0.3
baz=155
TKL Tuckaleechee C 65.15 342 eP P 12 31 11.0 -0.2
comp=Z,19nm,1.1s
TKL Tuckaleechee C 65.15 342 eP P 12 31 11.0 -0.2
TKL pmax pmax
comp=Z,19nm,1.1s
CPCT Cooper Cave 65.17 341 eP P 12 31 11.3 0.0
comp=Z,13nm,0.6s
W50A Signal Mountai 65.17 340 eP P 12 31 11.4 0.0
comp=Z,17nm,0.8s
W50A Signal Mountai 65.17 340 P P 12 31 11.4 0.0
baz=158,SNR=5.3
V52A Sevierville 65.27 342 eP P 12 31 11.7 -0.3
comp=Z,14nm,0.9s
V52A Sevierville 65.27 342 P P 12 31 11.6 -0.4
baz=160
LIC Lamto 65.33 69 eP P 12 31 12.6 -0.2
comp=Z,32nm,0.6s
Y45A Yeager Farm, C 65.35 336 P P 12 31 12.8 +0.3
baz=154,SNR=5.3
X47A Russelville 65.35 338 P P 12 31 12.2 -0.3
baz=156,SNR=8.1
SWET Sewanee 65.37 340 eP P 12 31 12.4 -0.2
comp=Z,21nm,0.5s
W49A Belvidere 65.39 339 P P 12 31 12.6 -0.1
baz=158,SNR=8.2
V51A Loudon 65.45 341 eP P 12 31 12.9 -0.1
comp=Z,9.5nm,0.8s
V51A Loudon 65.45 341 P P 12 31 12.8 -0.3
baz=159
U53A Fall Branch 65.49 343 P P 12 31 13.3 0.0
baz=161
NATX Nacogdoches 65.53 331 P P 12 31 14.5 +0.8
baz=149
V50A Pikevile 65.54 341 P P 12 31 13.6 -0.1
baz=159,SNR=10
TIC Toumodi 65.57 68 eP P 12 31 14.1 -0.2
W48A Pulaski 65.62 339 P P 12 31 14.2 +0.1
baz=157,SNR=16
X46A Booneville 65.63 337 P P 12 31 14.0 -0.2
baz=155,SNR=5.6
KIC Kosan Boka 65.64 69 eP P 12 31 14.8 0.0
comp=Z,37nm,0.5s
Y44A Strider, Charl 65.68 336 P P 12 31 14.5 0.0
baz=154
DBIC Dimbokro 65.72 68 P P 12 31 15.4 +0.2
comp=Z,15nm,0.4s,baz=211,slow=4.5,SNR=94

DBIC **Dimbokro** 65.72 68 *e*P P 12 31 13.6 -1.6
comp=Z,21nm,0.8s
DBIC **Dimbokro** 65.72 68 *e*P P 12 31 13.6 -1.6
DBIC pmax pmax
comp=Z,21nm,0.8s
DBIC **Dimbokro** 65.72 68 *e*P P 12 31 15.2 0.0
U52A **Thorn Hill** 65.73 342 P P 12 31 14.7 -0.2
baz=160
BLA **Blacksburg** 65.77 345 *e*P P 12 31 15.0 -0.1
comp=Z,8.1nm,0.6s
BLA **Blacksburg** 65.77 345 *e*P P 12 31 15.0 -0.1
BLA pmax pmax
comp=Z,8.0nm,0.6s
BLA **Blacksburg** 65.77 345 P P 12 31 15.9 +0.8
baz=163
X45A **UM Field Stati** 65.80 337 P P 12 31 15.2 -0.1
baz=155
PLAL **Pickwick Lake** 65.85 338 *e*P P 12 31 15.2 -0.4
comp=Z,18nm,0.4s
V49A **McMinnville** 65.87 340 P P 12 31 15.1 -0.6
baz=158,SNR=15
OXF **Oxford** 65.88 337 P P 12 31 15.4 -0.3
baz=155
U51A **La Follette** 65.89 342 P P 12 31 15.7 -0.1
baz=160
Y43A **Makayla and Ka** 65.90 335 P P 12 31 16.3 +0.4
baz=153
TZTN **Tazewell** 65.92 342 *e*P P 12 31 15.7 -0.3
comp=Z,7.2nm,0.6s
TZTN **Tazewell** 65.92 342 P P 12 31 15.7 -0.3
baz=160
W47A **Westpoint** 65.93 338 P P 12 31 15.9 -0.2
baz=156,SNR=25
R58B **Mineral** 65.95 347 *e*P P 12 31 16.6 +0.4
comp=Z,7.1nm,0.6s
R58B **Mineral** 65.95 347 P P 12 31 16.9 +0.7
baz=166
435B **Jarrell** 66.03 328 P P 12 31 17.5 +0.7
baz=147
W46A **Michie** 66.09 338 P P 12 31 16.4 -0.6
baz=156,SNR=5.2
V48A **Smith Brothers** 66.13 339 *e*P P 12 31 16.8 -0.5
comp=Z,20nm,0.5s
V48A **Smith Brothers** 66.13 339 P P 12 31 17.0 -0.3
baz=157,SNR=12
U50A **Jamestown** 66.16 341 P P 12 31 17.2 -0.3
baz=159,SNR=5.5
T52A **Hallie** 66.30 343 P P 12 31 18.5 +0.1
baz=161
W45A **Hickory Valley** 66.39 337 P P 12 31 18.7 -0.2
baz=155,SNR=7.3
T51A **Gray** 66.42 342 P P 12 31 19.1 0.0
baz=160,SNR=7.2
X43A **Marvell** 66.42 335 *e*P P 12 31 19.8 +0.7
comp=Z,27nm,0.6s
X43A **Marvell** 66.42 335 P P 12 31 19.6 +0.5
baz=153
V47A **Nunnelly** 66.44 339 P P 12 31 18.6 -0.6
baz=156,SNR=16
Y41A **Eaglette Beard** 66.52 334 P P 12 31 20.2 +0.4
baz=152
U49A **Red Boiling Sp** 66.53 340 P P 12 31 19.3 -0.4
baz=158,SNR=7.1
V46A **Holladay** 66.61 338 P P 12 31 19.5 -0.7
baz=156,SNR=11
T50A **Nancy** 66.72 341 P P 12 31 20.6 -0.3
baz=159,SNR=7.1
U48A **Cassie Pea, Po** 66.75 340 P P 12 31 20.9 -0.3
baz=158,SNR=5.8
WVT **Waverly** 66.81 339 *e*P P 12 31 21.0 -0.5
comp=Z,18nm,0.7s
WVT **Waverly** 66.81 339 *e*P P 12 31 21.0 -0.5
WVT pmax pmax
comp=Z,18nm,0.7s
WVT **Waverly** 66.81 339 P P 12 31 20.8 -0.7
baz=156
V45A **Humboldt** 66.83 338 P P 12 31 21.5 -0.1
baz=155,SNR=16
JCT **Junction City** 66.86 326 *e*P P 12 31 21.6 -0.4
comp=Z,14nm,0.7s
JCT **Junction City** 66.86 326 *e*P P 12 31 21.6 -0.4
JCT pmax pmax
comp=Z,13nm,0.7s
JCT **Junction City** 66.86 326 P P 12 31 22.6 +0.6
baz=145,SNR=11
S52A **Salyersville** 66.86 343 P P 12 31 21.8 0.0
baz=161
U47A **Clarksville** 66.92 339 P P 12 31 21.7 -0.4
baz=157,SNR=16
S51A **Beattyville** 66.96 343 *e*P P 12 31 22.3 -0.1
comp=Z,11nm,0.8s
S51A **Beattyville** 66.96 343 P P 12 31 22.6 +0.2
baz=160
T49A **Edmonton** 67.00 341 P P 12 31 22.4 -0.2
baz=158,SNR=22
U46A **Springville** 67.14 338 P P 12 31 23.0 -0.5
baz=156,SNR=8.8
X40A **Basin Creek Fa** 67.14 334 P P 12 31 23.6 0.0
baz=152
UALR **University of** 67.20 334 *e*P P 12 31 23.9 -0.1
comp=Z,9.2nm,0.8s
S50A **Richmond** 67.22 342 P P 12 31 24.0 +0.1
baz=160,SNR=5.4
T48A **Bowling Green** 67.26 340 P P 12 31 23.7 -0.5
baz=158
U45A **Rockin P Farm,** 67.32 338 P P 12 31 24.6 0.0
baz=156
W42A **Bald Knob** 67.33 335 P P 12 31 24.6 -0.1
baz=153
T47A **Sharon Grove** 67.37 340 P P 12 31 24.5 -0.4
baz=157
Q55A **Buckhannon** 67.40 346 P P 12 31 25.3 +0.2
baz=164
V43A **Jonesboro** 67.43 336 P P 12 31 25.3 0.0
baz=154
MIAR **Mount Ida** 67.49 333 *e*P P 12 31 25.5 -0.2
comp=Z,7.7nm,0.6s
MIAR **Mount Ida** 67.49 333 *e*P P 12 31 25.5 -0.2
MIAR pmax pmax
comp=Z,8.0nm,0.6s
MIAR **Mount Ida** 67.49 333 P P 12 31 26.0 +0.3
baz=151,SNR=6.6
U44B **Burton Farm, H** 67.51 337 P P 12 31 25.7 -0.1
baz=155
W41B **Gary Mavity, V** 67.52 335 P P 12 31 26.2 +0.3
baz=152
S49A **Springfield** 67.56 341 P P 12 31 25.7 -0.4
baz=159
R51A **Hillsboro** 67.58 343 P P 12 31 26.3 +0.1
baz=160,SNR=8.5
T46A **Princeton** 67.67 339 P P 12 31 26.1 -0.7
baz=156
S48A **Wiedeman Farm,** 67.67 341 P P 12 31 25.8 -0.9
baz=158,SNR=6.4
V42A **Cord** 67.76 336 P P 12 31 27.2 -0.1
baz=153
R50A **Paris** 67.76 342 P P 12 31 27.3 0.0
baz=160
U44A **Portageville** 67.78 337 P P 12 31 27.8 +0.4
baz=155
P55A **Reedsville** 67.84 346 P P 12 31 28.6 +0.9
baz=164
S47A **Hartford** 67.86 340 P P 12 31 27.0 -0.9
baz=157,SNR=10
Q52A **Bidwell** 67.87 344 P P 12 31 28.0 +0.1
baz=162
T45A **Paducah** 67.89 338 P P 12 31 27.5 -0.5
baz=156
U43A **Rector** 67.91 337 P P 12 31 28.4 +0.2
baz=154,SNR=6.6
LTX **Lajitas** 67.96 322 *e*P P 12 31 29.3 +0.5
LTX **Lajitas** 67.96 322 *e*P P 12 31 29.3 +0.5
TXAR **Lajitas Array** 67.96 322 P P 12 31 29.3 +0.5
comp=Z,1.7nm,0.4s,baz=150,slow=7.2,SNR=100
TX31 **Lajitas Ar. Si** 67.96 322 *e*P P 12 31 28.8 0.0
MCWV **Mont Chateau** 67.99 346 P P 12 31 29.5 +0.9
baz=164
R49A **Shelbyville** 68.00 342 P P 12 31 28.4 -0.4
baz=159
V41A **Mountainview** 68.02 335 P P 12 31 29.0 +0.1
baz=152,SNR=21
W39A **Magazine** 68.14 333 *e*P P 12 31 29.6 0.0
comp=Z,14nm,0.7s
W39A **Magazine** 68.14 333 P P 12 31 30.5 +0.9
baz=151,SNR=6.8
P53A **Whipple** 68.16 345 *e*P P 12 31 29.7 0.0
comp=Z,23nm,0.9s
P53A **Whipple** 68.16 345 P P 12 31 30.2 +0.5
baz=163
U42A **Revenden** 68.19 336 P P 12 31 29.9 0.0
baz=153,SNR=11
Q50A **Georgetown** 68.19 343 P P 12 31 29.7 -0.2
baz=160
S46A **Don Dixon Farm** 68.20 339 P P 12 31 29.0 -0.9
baz=157
Q51A **Peebles** 68.20 343 *e*P P 12 31 29.7 -0.2
comp=Z,15nm,0.8s
Q51A **Peebles** 68.20 343 P P 12 31 30.0 +0.1
baz=161
T44A **Benton** 68.27 338 P P 12 31 30.1 -0.3
baz=155
WCI **Wyandotte Cave** 68.27 341 *e*P P 12 31 29.6 -0.8
comp=Z,19nm,0.7s
WCI **Wyandotte Cave** 68.27 341 *e*P P 12 31 29.6 -0.8
WCI pmax pmax
comp=Z,19nm,0.7s
WCI **Wyandotte Cave** 68.27 341 P P 12 31 29.9 -0.4
baz=158
R48A **Northridge Ran** 68.30 341 P P 12 31 30.6 0.0
baz=158
O56A **Blue Knob Stat** 68.32 348 P P 12 31 31.5 +0.9
baz=165
R47A **Wooly Knot Far** 68.40 341 P P 12 31 30.5 -0.6
baz=158
O55A **Ligonier** 68.40 347 P P 12 31 31.6 +0.5
baz=165
U41A **Viola** 68.43 335 P P 12 31 31.5 +0.1
baz=153,SNR=25
N59A **State Game Lan** 68.46 350 P P 12 31 32.4 +0.9
baz=168
S45A **Carrier Mills** 68.47 339 P P 12 31 30.9 -0.7
baz=156,SNR=7.8
P52A **Corning** 68.48 345 P P 12 31 31.7 +0.1
baz=162,SNR=7.1
T43A **Greenville** 68.50 337 P P 12 31 31.4 -0.4
baz=154,SNR=13
ABTX **Abilene, Hawle** 68.53 328 *e*P P 12 31 31.9 -0.3
comp=Z,8.2nm,0.8s
ABTX **Abilene, Hawle** 68.53 328 P P 12 31 32.3 +0.2
baz=145
SSPA **Standing Stone** 68.55 348 P P 12 31 32.8 +0.8
baz=166
P51A **Williamsport** 68.56 344 P P 12 31 32.0 -0.1
baz=161
Q49A **Aurora** 68.59 342 P P 12 31 32.1 -0.2
baz=159
O54A **Avella** 68.60 346 P P 12 31 32.7 +0.4
baz=164
R46A **Gibon Southern** 68.62 340 P P 12 31 31.8 -0.6
baz=157
S44A **Carbondale** 68.70 338 P P 12 31 32.3 -0.7
baz=155
T42A **Van Buren** 68.74 336 *e*P P 12 31 32.5 -0.7
comp=Z,5.4nm,0.9s
T42A **Van Buren** 68.74 336 P P 12 31 32.8 -0.4
baz=154
Q48A **North Vernon** 68.75 341 P P 12 31 33.5 +0.2
baz=159
U40A **Yellville** 68.79 335 P P 12 31 33.6 +0.1
baz=152,SNR=9.0
O53A **New Philadelph** 68.85 345 P P 12 31 34.1 +0.2
baz=163
O52A **Adamsville** 68.86 345 P P 12 31 34.1 +0.2
baz=162
P50A **Jamestown** 68.87 343 P P 12 31 34.0 +0.1
baz=160
S43A **Fulton Ridge,** 68.87 337 P P 12 31 33.3 -0.8
baz=154,SNR=7.5
N55A **Marion Center** 68.89 347 P P 12 31 34.6 +0.5
baz=165
R45A **Skylar, Fairfi** 68.94 339 P P 12 31 33.6 -0.8
baz=156,SNR=5.8
Q47A **Bedord North L** 68.96 341 P P 12 31 34.4 -0.1
baz=158
T41A **Mountain View** 68.99 336 P P 12 31 34.7 -0.1
baz=153,SNR=11
P49A **Miami Univ. Ec** 69.04 342 P P 12 31 34.4 -0.6
baz=160
O51A **Pataskala** 69.08 344 P P 12 31 35.3 +0.1
baz=162
HHAR **Hobbs** 69.15 334 *e*P P 12 31 35.4 -0.4
comp=Z,15nm,0.6s
P48A **Milroy** 69.16 342 P P 12 31 35.1 -0.6
baz=159
BLO **Bloomington** 69.21 341 *e*P P 12 31 35.5 -0.5
comp=Z,13nm,0.6s
BLO **Bloomington** 69.21 341 *e*P P 12 31 35.5 -0.5
BLO pmax pmax
comp=Z,13nm,0.6s
ACSO **Alum Creek Sta** 69.25 344 *e*P P 12 31 36.3 0.0
comp=Z,15nm,0.6s
ACSO **Alum Creek Sta** 69.25 344 P P 12 31 36.2 0.0
baz=161,SNR=5.0
N54A **Moraine State** 69.27 347 *e*P P 12 31 36.6 +0.2
comp=Z,18nm,0.7s
N54A **Moraine State** 69.27 347 P P 12 31 37.2 +0.9
baz=164,SNR=5.3
S42A **Caledonia** 69.30 337 P P 12 31 35.8 -0.7
baz=154,SNR=8.8
N53A **Lisbon** 69.30 346 P P 12 31 36.9 +0.4
baz=163
O50A **Cable** 69.33 344 P P 12 31 36.4 -0.3
baz=161
P47A **Martinsville** 69.43 341 P P 12 31 36.5 -0.8
baz=158
Q45A **Warren Harvey,** 69.45 340 P P 12 31 36.8 -0.6
baz=156,SNR=6.3
R43A **Red Bud** 69.46 338 P P 12 31 36.8 -0.7
baz=155
S41A **Jillco Farms,** 69.47 336 P P 12 31 37.6 0.0
baz=153,SNR=29
O49A **Covington** 69.55 343 P P 12 31 38.1 +0.1
baz=160
TUL1 **Leonard** 69.57 332 *e*P P 12 31 38.3 0.0
comp=Z,10nm,0.5s
TUL1 **Leonard** 69.57 332 P P 12 31 38.5 +0.2
baz=149
SYO **Syowa Base** 69.65 158⇑ *ep*P pP 12 33 35.0 +2.1
CCM **Cathedral Cave** 69.71 337 *e*P P 12 31 38.5 -0.5
comp=Z,20nm,0.6s
CCM **Cathedral Cave** 69.71 337 *e*P P 12 31 38.5 -0.5
CCM pmax pmax
comp=Z,20nm,0.6s
CCM **Cathedral Cave** 69.71 337 P P 12 31 38.9 -0.2
baz=154
Q44A **Meyer Farm, Va** 69.73 339 P P 12 31 38.7 -0.4
baz=156
M54A **Oil Creek Stat** 69.73 347 P P 12 31 39.6 +0.5
baz=164
BINY **Binghamton** 69.75 350 P P 12 31 40.2 +1.1
baz=168
N51A **Ashland** 69.75 345 P P 12 31 39.4 +0.2
baz=162
R42A **Luebbering** 69.76 337 P P 12 31 39.0 -0.2
baz=154,SNR=15
N50A **Nevada** 69.80 344 P P 12 31 39.3 -0.2
baz=161
P46A **Rosedale** 69.82 341 P P 12 31 39.1 -0.5
baz=157
O48A **Farmland** 69.83 342 P P 12 31 39.4 -0.3
baz=159,SNR=5.1
WMOK **Wichita Mounta** 69.88 329 P P 12 31 40.4 +0.3
baz=147
P45A **Graceland, Par** 69.90 340 *e*P P 12 31 39.2 -0.9
comp=Z,20nm,0.9s
P45A **Graceland, Par** 69.90 340 P P 12 31 39.2 -0.9
baz=157
R41A **Rosebud** 69.97 337 P P 12 31 40.3 -0.3
baz=154,SNR=8.7
Q43A **New Douglas** 69.98 338 P P 12 31 40.1 -0.5
baz=155,SNR=5.8
O47A **Sheridan** 70.09 342 P P 12 31 40.8 -0.5
baz=158
M51A **Elyria** 70.10 345 P P 12 31 41.5 +0.2
baz=162
N49A **Columbus Grove** 70.20 343 *e*P P 12 31 41.3 -0.6
comp=Z,21nm,0.6s
N49A **Columbus Grove** 70.20 343 P P 12 31 41.8 0.0
baz=160,SNR=6.0
Q42A **Golden Eagle** 70.23 338 P P 12 31 41.7 -0.4
baz=154,SNR=8.8
N48A **Decatur** 70.36 343 P P 12 31 42.4 -0.5
baz=160
M50A **Fremont** 70.37 344 P P 12 31 43.0 +0.1
baz=161
ERPA **Erie** 70.38 347 P P 12 31 43.5 +0.6
baz=164
SFIN **Lafayette** 70.49 341 *e*P P 12 31 42.5 -1.0
comp=Z,16nm,0.6s
SFIN **Lafayette** 70.49 341 P P 12 31 42.8 -0.7
baz=158
Q41A **Truxton** 70.51 337 P P 12 31 43.4 -0.3
baz=154
O45A **Potomac** 70.56 340 P P 12 31 43.4 -0.6
baz=157
P43A **Skaggs, Pawnee** 70.56 339 P P 12 31 43.3 -0.7
baz=155,SNR=5.3
N47A **Urbana** 70.56 342 P P 12 31 43.4 -0.5
baz=159
K55A **Perry** 70.61 349 P P 12 31 44.8 +0.5
baz=166
M49A **Liberty Center** 70.67 344 P P 12 31 44.5 -0.1
baz=160,SNR=6.1
O44A **Mansfield** 70.69 340 P P 12 31 44.0 -0.7
baz=156,SNR=5.7
MNTX **Cornudas Mount** 70.72 323 *e*P P 12 31 44.3 -0.9
comp=Z,2.5nm,0.6s
MNTX **Cornudas Mount** 70.72 323 P P 12 31 44.7 -0.4
baz=141
P42A **Winchester** 70.78 338 *e*P P 12 31 44.4 -0.9
comp=Z,13nm,0.8s
P42A **Winchester** 70.78 338 P P 12 31 44.7 -0.6
baz=155,SNR=5.5
N46A **Monticello** 70.86 341 P P 12 31 45.2 -0.6
baz=158
M47A **Cromwell** 70.99 342 P P 12 31 46.3 -0.2
baz=159
N45A **Kentland** 71.05 341 P P 12 31 46.4 -0.5
baz=157
O43A **Sugar Creek Fa** 71.08 339 P P 12 31 46.6 -0.4
baz=156,SNR=5.8
P41A **Barry, Barry** 71.10 338 P P 12 31 46.6 -0.5
baz=154,SNR=9.3
MSTX **Muleshoe** 71.15 326 *e*P P 12 31 47.6 -0.2
comp=Z,21nm,1.0s
MSTX **Muleshoe** 71.15 326 P P 12 31 48.2 +0.4
baz=143,SNR=10
K52A **Tillsonburg** 71.17 347 P P 12 31 48.0 +0.5
baz=164
L49A **Milan** 71.22 344 P P 12 31 48.2 +0.4
baz=161
L48A **N Adams** 71.22 344 P P 12 31 47.4 -0.5
baz=160
LBNH **Lisbon** 71.24 354 P P 12 31 49.3 +1.4
baz=172
O42A **Bath** 71.24 339 P P 12 31 48.0 0.0
baz=155
K51A **Iona Station** 71.28 346 P P 12 31 48.5 +0.4
baz=163
HDIL **Hopedale** 71.32 339 *e*P P 12 31 48.0 -0.4
comp=Z,23nm,0.5s
HDIL **Hopedale** 71.32 339 P P 12 31 48.0 -0.4
baz=156
AMTX **Amarillo** 71.35 327 *e*P P 12 31 48.3 -0.6
comp=Z,7.7nm,1.1s
AMTX **Amarillo** 71.35 327 P P 12 31 49.2 +0.3
baz=144
AAM **Ann Arbor** 71.37 344 P P 12 31 48.7 0.0
baz=161
SBA **Scott Base** 71.41 190 *e*P P 12 31 49.0 +0.5
comp=Z,8.9nm,1.0s
SBA **Scott Base** 71.41 190 *e*P P 12 31 49.0 +0.5
SBA pmax pmax
comp=Z,9.0nm,1.0s
O41A **Passleys Farm,** 71.43 338 P P 12 31 48.2 -0.9
baz=154
L47A **Sherwood** 71.45 343 P P 12 31 48.9 -0.3
baz=160
SUR **Sutherland** 71.55 117 *e*P P 12 31 50.0 -0.4
comp=Z,10nm,0.9s
K50A **Casco** 71.58 345 P P 12 31 49.8 -0.1
baz=162
N43A **Stutzman Famil** 71.63 340 P P 12 31 49.8 -0.5
baz=156
K49A **Clarkson** 71.78 345 P P 12 31 50.9 -0.2
baz=161
L46A **Eue Claire** 71.78 342 P P 12 31 50.4 -0.7
baz=158
N42A **Yates City** 71.80 339 P P 12 31 51.1 -0.2
baz=155
K48A **Perry** 71.96 344 P P 12 31 51.9 -0.2
baz=160
N41A **Harden Midland** 71.96 338 P P 12 31 51.7 -0.4
baz=154
I55A **Frankford** 71.99 349 P P 12 31 52.7 +0.5
baz=166
GBN **Guysborough** 71.99 1 *e*P P 12 31 52.2 0.0
comp=Z,23nm,1.0s
M43A **Waltham Townsh** 72.02 340 P P 12 31 52.4 -0.1
baz=156
PKME **Peaks-Kenny Pk** 72.03 356 P P 12 31 53.9 +1.5
baz=174
K47A **Vermontville** 72.05 343 P P 12 31 52.5 -0.2
baz=160
H56A **Elgin** 72.13 350 P P 12 31 53.9 +0.9
baz=168
I51A **Listowel** 72.21 347 P P 12 31 54.1 +0.5
baz=163
J49A **Marlette** 72.25 345 P P 12 31 53.4 -0.4
baz=162
K46A **Dorr** 72.27 343 P P 12 31 53.5 -0.4
baz=159
M42A **Sheffield** 72.28 339 P P 12 31 53.8 -0.2
baz=155
I52A **Shelburne** 72.29 347 P P 12 31 54.4 +0.4
baz=164
J48A **Bridge Port** 72.34 345 P P 12 31 53.8 -0.5
baz=162
N40A **Mertquake, Sal** 72.36 338 P P 12 31 53.9 -0.5
baz=154
VNDA **Vanda** 72.38 189 P P 12 31 55.6 +1.4
comp=Z,3.9nm,0.8s,baz=144,slow=4.8,SNR=14
VNDA **Vanda** 72.38 189 *e*P P 12 31 54.4 +0.2
comp=Z,5.4nm,1.0s
VNDA **Vanda** 72.38 189 *e*P P 12 31 54.4 +0.2
VNDA pmax pmax
comp=Z,5.0nm,1.0s
M41A **Milan** 72.46 339 P P 12 31 54.4 -0.6
baz=155,SNR=5.4
J47A **Sunmer** 72.54 344 P P 12 31 55.2 -0.3
baz=160
L43A **Garden Prairie** 72.64 341 P P 12 31 56.2 +0.2
baz=156
KSU1 **Kansas State U** 72.64 333 *e*P P 12 31 55.9 -0.3
comp=Z,16nm,0.6s
KSU1 **Kansas State U** 72.64 333 P P 12 31 56.1 0.0
baz=149,SNR=8.1
319A **Douglas** 72.65 320 *e*P P 12 31 56.7 +0.1
comp=Z,6.0nm,0.7s
121A **Cookes Peak, D** 72.67 322 P P 12 31 57.5 +0.8
baz=139
L42A **Oliver, Polo** 72.75 340 P P 12 31 56.2 -0.5
baz=156
H52A **Wyevale** 72.79 348 P P 12 31 56.8 -0.1
baz=164
M40A **Post Highland** 72.80 338 P P 12 31 56.6 -0.4
baz=154,SNR=5.9
J46A **Howard City** 72.85 343 P P 12 31 56.8 -0.4
baz=159
K43A **Burlington** 72.99 341 P P 12 31 57.9 -0.2
baz=157
G53A **Haliburton** 73.03 349 P P 12 31 59.0 +0.8
baz=166
L41A **Preston** 73.08 339 P P 12 31 58.2 -0.3
baz=155,SNR=5.4
I48A **Sherman Twp** 73.16 345 P P 12 31 59.1 +0.1
baz=161
I47A **Gladwin** 73.20 344 P P 12 31 59.6 +0.4
baz=160
L40A **Anamosa** 73.30 339 *e*P P 12 31 59.2 -0.6
comp=Z,28nm,0.8s
L40A **Anamosa** 73.30 339 P P 12 31 59.8 -0.1
baz=154,SNR=9.6
I46A **Reed City** 73.36 344 P P 12 31 59.6 -0.5
baz=160
K42A **Prairie Point,** 73.36 340 P P 12 32 00.2 0.0
baz=156
K41A **Shullsburg** 73.50 340 P P 12 32 00.8 -0.2
baz=155
H48A **Harrisville** 73.56 345 P P 12 32 01.5 +0.3
baz=161
L39A **Vinton** 73.61 338 P P 12 32 01.3 -0.3
baz=154,SNR=5.2
J43A **Natural Harves** 73.64 341 P P 12 32 01.8 +0.1

baz=157
CBKS **Cedar Bluff** 73.70 331 *e*P P 12 32 02.3 +0.1
comp=Z,34nm,0.8s
CBKS **Cedar Bluff** 73.70 331 P P 12 32 03.4 +1.2
baz=146,SNR=12
TSUM **Tsumeb** 73.75 104 *e*P P 12 32 02.7 -0.5
comp=Z,8.7nm,0.8s
JFWS **Jewell Farm** 73.76 340 *e*P P 12 32 02.1 -0.3
comp=Z,30nm,0.7s
JFWS **Jewell Farm** 73.76 340 *e*P P 12 32 02.1 -0.3
JFWS pmax pmax
comp=Z,30nm,0.7s
JFWS **Jewell Farm** 73.76 340 P P 12 32 02.4 -0.1
baz=155,SNR=10.0
J42A **Columbus** 73.79 341 P P 12 32 02.6 +0.1
baz=156
ANMO **Albuquerque** 73.80 324 *e*P P 12 32 03.2 +0.1
comp=Z,3.6nm,0.7s
ANMO **Albuquerque** 73.80 324⇑ *i*P P 12 32 03.8 +0.7
ANMO pmax pmax
comp=Z,4.0nm,0.8s
ANMO **Albuquerque** 73.80 324 P P 12 32 04.4 +1.2
baz=141
F52A **Sundridge** 73.80 348 P P 12 32 02.9 +0.3
baz=165
SCIA **State Center** 73.83 337 P P 12 32 03.0 +0.1
baz=152
K40A **Colesburg** 73.84 339 P P 12 32 02.8 -0.1
baz=154
H46A **Fife Lake** 73.86 344 P P 12 32 02.7 -0.2
baz=160
GLMI **Grayling** 73.98 344 P P 12 32 04.0 +0.4
baz=160
E54A **Lac Daplat, Po** 74.07 350 P P 12 32 04.5 +0.5
baz=167
E53A **Dumoine, Ponti** 74.09 350 P P 12 32 04.9 +0.7
baz=167
K39A **Oelwein** 74.09 339 P P 12 32 03.9 -0.4
baz=154,SNR=7.9
J41A **Loganville** 74.10 340 P P 12 32 04.3 0.0
baz=155,SNR=5.8
TUC **Tucson** 74.20 320 P P 12 32 04.2 -1.2
baz=137
I42A **Draeger Farm,** 74.25 341 *e*P P 12 32 05.3 +0.1
comp=Z,23nm,0.4s
I42A **Draeger Farm,** 74.25 341 P P 12 32 05.5 +0.3
baz=156
F49A **Sandfield** 74.30 347 P P 12 32 05.7 +0.3
baz=163
J40A **Soldiers Grove** 74.35 340 P P 12 32 05.8 0.0
baz=155
F48A **Evansville** 74.48 346 P P 12 32 06.4 0.0
baz=162
T25A **Trinidad** 74.48 327 *e*P P 12 32 07.4 +0.4
comp=Z,6.6nm,0.8s
T25A **Trinidad** 74.48 327 P P 12 32 08.4 +1.5
baz=143,SNR=6.2
E51A **G1948 Merrick** 74.55 349 P P 12 32 07.2 +0.4
baz=165
J39A **Decorah** 74.60 339 P P 12 32 06.9 -0.2
baz=154,SNR=13
TOA0 **Torodi Ar. Sit** 74.64 66 *e*P P 12 32 05.9 -2.1
TOA1 **Torodi Ar. Sit** 74.64 66 *e*P P 12 32 06.0 -2.0
TORD **Torodi Ar. Bea** 74.64 66 P P 12 32 06.0 -2.0
comp=Z,22nm,0.6s,baz=269,slow=3.6,SNR=106
E50A **Wahnapitae** 74.67 348 P P 12 32 07.7 +0.3
baz=164
I41A **Arkdale** 74.68 341 P P 12 32 07.3 -0.3
baz=156
H42A **Shiocton** 74.71 342 P P 12 32 07.9 +0.2
baz=157
I40A **Norwalk** 74.76 340 P P 12 32 07.9 -0.2
baz=155
D52A **ZEK Kipawa Sen** 74.79 349 P P 12 32 08.8 +0.7
baz=166
F46A **Macinaw City C** 74.91 345 P P 12 32 09.2 +0.4
baz=160
I39A **Houston** 75.00 339 *e*P P 12 32 09.1 -0.4
comp=Z,18nm,0.5s
I39A **Houston** 75.00 339 P P 12 32 09.2 -0.3
baz=154,SNR=5.9
F45A **CMU Biological** 75.01 344 P P 12 32 09.8 +0.4
baz=160,SNR=5.6
E48A **Lockeyer** 75.01 347 P P 12 32 09.8 +0.4
baz=163
D51A **Lot 18 Range I** 75.06 349 P P 12 32 09.8 +0.2
baz=165
H41A **Junction City** 75.13 341 P P 12 32 10.3 +0.2
baz=156
214A **Organ Pipe Nat** 75.14 318 P P 12 32 12.0 +1.5
baz=136,SNR=5.1
KSCO **Kaye Shedlock'** 75.14 329 *e*P P 12 32 10.7 +0.2
comp=Z,9.3nm,0.6s
KSCO **Kaye Shedlock'** 75.14 329 P P 12 32 11.8 +1.4
baz=144
G43A **Wallace** 75.17 342 P P 12 32 10.3 0.0
baz=158
E47A **Iron Bridge** 75.22 346 P P 12 32 10.8 +0.3
baz=162
BGNE **Belgrade** 75.22 334 P P 12 32 11.1 +0.4
baz=148
H40A **Chili** 75.35 340 P P 12 32 11.4 0.0
baz=155
G42A **Mountain** 75.35 342 P P 12 32 11.6 +0.2
baz=157
E46A **Sault Ste Mari** 75.36 345 P P 12 32 11.7 +0.4
baz=161
SDCO **Great Sand Dun** 75.49 327 *e*P P 12 32 13.2 +0.5
comp=Z,3.4nm,0.6s
SDCO **Great Sand Dun** 75.49 327 P P 12 32 14.0 +1.3
baz=142,SNR=6.6
F44A **Big Bay de Noc** 75.50 344 P P 12 32 12.3 +0.2
baz=159
E45A **Wooded Hills,** 75.56 345 P P 12 32 13.0 +0.6
baz=160
F43A **Flat Rock, Esc** 75.56 343 P P 12 32 12.7 +0.3
baz=158,SNR=5.2
D48A **Paudash Townsh** 75.60 347 P P 12 32 12.9 +0.3
baz=163
D49A **Beulah Townshi** 75.60 347 P P 12 32 13.3 +0.7
baz=163
H39A **Augusta** 75.67 340 P P 12 32 13.2 0.0
baz=154
D47A **Chapleau** 75.75 346 P P 12 32 13.6 +0.1
baz=162
D46A **Sault St. Mari** 75.80 346 P P 12 32 13.9 +0.1
baz=161
F41A **Three Lakes** 76.00 342 *e*P P 12 32 14.7 -0.2
comp=Z,14nm,0.5s
F41A **Three Lakes** 76.00 342 P P 12 32 15.5 +0.6
baz=156,SNR=5.3
E43A **Lone Tree Farm** 76.02 343 P P 12 32 15.5 +0.6
baz=158
S22A **4UR Ranch, Cre** 76.15 326 *e*P P 12 32 16.4 +0.1
comp=Z,2.7nm,0.8s
S22A **4UR Ranch, Cre** 76.15 326 P P 12 32 17.6 +1.3
baz=141
G39A **Holcombe** 76.19 340 P P 12 32 16.6 +0.7
baz=155
Q24A **Divide** 76.28 328 P P 12 32 18.5 +1.5
baz=142
G38A **Ridgeland** 76.29 340 P P 12 32 16.7 +0.2
baz=154
E42A **Champion** 76.31 343 P P 12 32 17.3 +0.7
baz=158
F40A **Park Falls** 76.45 341 P P 12 32 17.8 +0.4
baz=156
BOSA **Boshof** 76.51 115 P P 12 32 18.8 +0.3
comp=Z,15nm,0.5s,baz=251,slow=3.3,SNR=40
BOSA **Boshof** 76.51 115 *e*P P 12 32 18.2 -0.2
comp=Z,16nm,0.6s
BOSA **Boshof** 76.51 115 *e*P P 12 32 18.2 -0.2
BOSA pmax pmax
comp=Z,16nm,0.6s
MVCO **Mesa Verde** 76.59 324 *e*P P 12 32 18.6 0.0
comp=Z,4.9nm,0.6s
MVCO **Mesa Verde** 76.59 324 P P 12 32 20.1 +1.4
baz=140,SNR=5.3
E41A **Kenton** 76.62 342 P P 12 32 18.6 +0.3
baz=157
ECSD **EROS Data Cent** 76.63 336 *e*P P 12 32 18.1 -0.3
comp=Z,12nm,0.9s
ECSD **EROS Data Cent** 76.63 336 P P 12 32 18.6 +0.2
baz=150,SNR=11
SPMN **Marine on St.** 76.64 339 P P 12 32 18.4 0.0
baz=153
F39A **Loretta** 76.68 341 P P 12 32 19.2 +0.6
baz=155
WUAZ **Wupatki** 76.88 322 P P 12 32 21.5 +1.3
baz=137
E39A **Mellen** 76.99 341 P P 12 32 20.6 +0.3
baz=155
F38A **Pierce - Schro** 77.01 340 P P 12 32 20.6 +0.2
baz=154
F37A **Hinrichs Farm,** 77.03 339 P P 12 32 21.1 +0.6
baz=153
D41A **Chassel** 77.06 343 *e*P P 12 32 20.8 +0.1
comp=Z,51nm,0.8s
D41A **Chassel** 77.06 343 P P 12 32 21.6 +0.9
baz=157
ISCO **Idaho Springs** 77.16 328 *e*P P 12 32 21.9 +0.1
comp=Z,4.6nm,0.7s
ISCO **Idaho Springs** 77.16 328 *e*P P 12 32 21.9 +0.1
ISCO pmax pmax
comp=Z,5.0nm,0.7s
ISCO **Idaho Springs** 77.16 328 P P 12 32 23.2 +1.4
baz=142,SNR=8.3
SMCO **Snowmass** 77.33 327 *e*P P 12 32 21.7 -1.2
comp=Z,8.6nm,0.8s
PV13 **Radium Mtn., P** 77.48 325 *e*P P 12 32 23.4 0.0
comp=Z,7.2nm,1.1s
PV12 **Saucer Basin,** 77.59 325 *e*P P 12 32 24.1 +0.1
comp=Z,7.2nm,0.8s
PV14 **Lion Creek, Pa** 77.74 325 *e*P P 12 32 24.9 0.0
comp=Z,6.1nm,1.2s
PV21 **Cone Mtn., Par** 77.86 325 *e*P P 12 32 25.8 +0.3
comp=Z,3.8nm,0.6s
BC3 **Big Chuckawall** 77.91 318 P P 12 32 26.9 +1.1
baz=134
W13A **Hualapai Mount** 78.00 320 *e*P P 12 32 26.4 +0.1
comp=Z,3.3nm,0.9s
U15A **North Rim** 78.05 322 *e*P P 12 32 26.8 +0.2
comp=Z,5.7nm,0.8s
IRM **Iron Mountain** 78.08 318 P P 12 32 27.8 +1.2
baz=134
SUSD **Miller** 78.11 335 P P 12 32 26.8 +0.4
baz=148
N23A **Red Feather La** 78.18 328 P P 12 32 28.4 +1.3
baz=142
LBTB **Lobatse** 78.24 112 *e*P P 12 32 27.3 -0.5
comp=Z,15nm,0.8s
LBTB **Lobatse** 78.24 112 *e*P P 12 32 27.3 -0.5
LBTB pmax pmax
comp=Z,15nm,0.8s
PHWY **Pilot Hill** 78.27 329 *e*P P 12 32 27.4 -0.3
comp=Z,7.7nm,1.0s
BELC **Belle Mtn. Jos** 78.48 318 P P 12 32 30.0 +1.2
baz=134
TPFO **Pinon Flats** 78.48 317 P P 12 32 30.1 +1.2
baz=133
PFO **Pinyon Flats O** 78.49 317 P P 12 32 30.0 +1.1
baz=133
EYMN **Ely** 78.69 341 P P 12 32 29.4 0.0
baz=155
O20A **White River Ci** 78.69 327 *e*P P 12 32 30.2 +0.4
comp=Z,8.4nm,1.0s
O20A **White River Ci** 78.69 327 P P 12 32 31.2 +1.4
baz=140,SNR=5.1
KNB **Kanab** 78.77 322 *e*P P 12 32 30.6 +0.3
comp=Z,12nm,0.8s
KNB **Kanab** 78.77 322 *e*P P 12 32 30.7 +0.3
KNB pmax pmax
comp=Z,12nm,0.8s
GMRC **Granite Mounta** 78.82 318 P P 12 32 32.0 +1.4
baz=134,SNR=5.9
LCMT **Little Creek M** 79.00 321 *e*P P 12 32 31.6 +0.1
comp=Z,3.7nm,0.9s
MTPU **Mount Pierson** 79.16 323 *e*P P 12 32 32.7 +0.1
comp=Z,4.4nm,0.7s
BBRC **Big Bear Solar** 79.22 317 P P 12 32 34.1 +1.2
baz=133
SCI2 **San Clemente I** 79.36 315 P P 12 32 34.8 +1.5
baz=132
RWWY **Rawlins** 79.39 328 *e*P P 12 32 34.0 +0.3
comp=Z,11nm,0.8s
TUQ **Turquoise Moun** 79.42 319 P P 12 32 35.2 +1.4
baz=134
CCUT **Cedar City** 79.45 322 *e*P P 12 32 34.1 +0.1
comp=Z,7.2nm,0.8s
P17A **Butcher Ranch,** 79.45 325 *e*P P 12 32 34.0 +0.1
comp=Z,1.1nm,1.0s
MSU **Marysvale** 79.50 323 *e*P P 12 32 34.8 +0.6
MSU **Marysvale** 79.50 323 *e*P P 12 32 34.8 +0.6
TMUT **Trail Mountain** 79.56 324 *e*P P 12 32 34.9 +0.2
comp=Z,3.0nm,0.7s
BFSC **Mount Baldy Ra** 79.65 317 P P 12 32 35.7 +0.7
baz=133
K22A **Casper** 79.82 329 *e*P P 12 32 35.9 +0.2
comp=Z,5.2nm,1.0s
K22A **Casper** 79.82 329 P P 12 32 36.7 +1.0
baz=142
GSC **Goldstone, Bar** 79.86 318 P P 12 32 36.6 +0.6
baz=133
RSSD **Black Hills** 79.89 332 *e*P P 12 32 35.8 -0.3
comp=Z,3.7nm,1.0s
RSSD **Black Hills** 79.89 332 *e*P P 12 32 35.8 -0.3
RSSD pmax pmax
comp=Z,4.0nm,1.0s
RSSD **Black Hills** 79.89 332 P P 12 32 36.6 +0.4
baz=144
EDW2 **Edwards Air Fo** 80.28 317 P P 12 32 38.4 +0.2
baz=132
AGMN **Agassiz Nation** 80.34 339 P P 12 32 38.7 +0.6
baz=151
PSUT **Pine Spring** 80.43 322 *e*P P 12 32 38.7 -0.3
comp=Z,4.1nm,0.8s
JLU **Jordanelle** 80.65 325 *e*P P 12 32 40.2 0.0
comp=Z,4.2nm,0.5s
TPNV **Topopah Spring** 80.66 320 P P 12 32 41.2 +1.0
baz=134
FURC **Furnace Creek,** 80.69 319 P P 12 32 41.3 +1.2
baz=133
TCUT **Toone Canyon** 81.01 325 *e*P P 12 32 41.8 -0.3
comp=Z,8.8nm,0.7s
DUG **Dugway, Tooele** 81.06 324 *e*P P 12 32 42.6 +0.4
comp=Z,3.4nm,0.8s
DUG **Dugway, Tooele** 81.06 324 *e*P P 12 32 42.6 +0.4
DUG pmax pmax
comp=Z,3.0nm,0.8s
DUG **Dugway, Tooele** 81.06 324 P P 12 32 43.3 +1.1
baz=137
MDND **Maddock** 81.23 336 *e*P P 12 32 43.2 +0.4
comp=Z,35nm,0.7s
MDND **Maddock** 81.23 336 P P 12 32 43.6 +0.9
baz=148,SNR=6.4
R11A **Troy Canyon, C** 81.26 321 *e*P P 12 32 43.6 +0.3
comp=Z,2.8nm,0.9s
R11A **Troy Canyon, C** 81.26 321 P P 12 32 44.8 +1.5
baz=134,SNR=5.4
BW06 **Boulder Array** 81.33 327 *e*P P 12 32 43.7 0.0
comp=Z,6.3nm,1.1s
BW06 **Boulder Array** 81.33 327 P P 12 32 44.2 +0.5
baz=139,SNR=5.6
PD31 **Pinedale Array** 81.33 327 *e*P P 12 32 43.3 -0.4
PDAR **Pinedale Array** 81.33 327 P P 12 32 44.1 +0.5
comp=Z,3.4nm,0.6s,baz=119,slow=8.1,SNR=44
PDAR **Pinedale Array** 81.33 327 *e*P P 12 32 43.4 -0.3
CWC **Cottonwood Cre** 81.39 318 P P 12 32 45.3 +1.3
baz=133
SCHQ **Schefferville** 81.46 358 *e*P P 12 32 43.8 +0.1
comp=Z,9.2nm,0.8s,baz=164,slow=6.0,SNR=8.3
SCHQ **Schefferville** 81.46 358 *e*P P 12 32 43.3 -0.4
comp=Z,10nm,0.8s
VES **Vestal, Richgr** 81.59 317 P P 12 32 46.2 +1.4
baz=132
ULM **Lac du Bonnet** 82.05 340 P P 12 32 46.8 0.0
comp=Z,4.4nm,0.5s,baz=141,slow=4.7,SNR=14
ULM **Lac du Bonnet** 82.05 340 *e*P P 12 32 46.3 -0.5
comp=Z,5.1nm,0.8s
ULM **Lac du Bonnet** 82.05 340 *e*P P 12 32 46.3 -0.5
ULM pmax pmax
comp=Z,5.0nm,0.8s
AHID **Auburn Hatcher** 82.08 327 *e*P P 12 32 46.8 -0.7
comp=Z,5.5nm,0.6s
HVU **Hansel Valley** 82.20 325 *e*P P 12 32 47.8 -0.2
comp=Z,4.3nm,0.6s
HVU **Hansel Valley** 82.20 325 *e*P P 12 32 47.8 -0.2
HVU pmax pmax
comp=Z,4.0nm,0.6s
LOHW **Long Hollow** 82.47 327 *e*P P 12 32 49.6 +0.2
comp=Z,4.7nm,0.8s
TPAW **Teton Pass** 82.55 327 *e*P P 12 32 50.1 +0.3
comp=Z,0.3nm,0.4s
MOOW **Moose Ponds** 82.64 327 *e*P P 12 32 50.0 -0.2
comp=Z,1.8nm,0.9s
ELK **Elko** 82.75 323 *e*P P 12 32 50.9 0.0
comp=Z,3.4nm,0.7s
ELK **Elko** 82.75 323 *e*P P 12 32 50.9 0.0
ELK pmax pmax
comp=Z,3.0nm,0.7s
IMW **Indian Meadow** 82.85 327 *e*P P 12 32 51.4 0.0
comp=Z,5.5nm,0.6s
NV01 **Mina Array Sit** 82.86 320 *e*P P 12 32 51.4 -0.1
NVAR **Mina Array Bea** 82.86 320 P P 12 32 52.3 +0.8
comp=Z,0.8nm,0.8s,baz=130,slow=4.7,SNR=5.2
LAO **LASA Array** 82.87 332 *e*P P 12 32 50.9 -0.2
comp=Z,7.3nm,0.8s
LAO **LASA Array** 82.87 332 P P 12 32 51.6 +0.5
baz=142
TAM **Tamanrasset** 82.92 60 *e*P P 12 32 51.9 -0.2
comp=Z,9.2nm,0.7s
TAM **Tamanrasset** 82.92 60 *e*P P 12 32 51.9 -0.2
TAM pmax pmax
comp=Z,9.0nm,0.7s
RLMT **Red Lodge** 82.99 329 *e*P P 12 32 52.2 +0.2
RLMT **Red Lodge** 82.99 329 P P 12 32 52.6 +0.6
baz=140
H17A **Grant Village** 83.05 328 P P 12 32 52.3 0.0
baz=139
KVN **Kaiserville** 83.16 320 *e*P P 12 32 52.9 0.0
comp=Z,3.3nm,1.0s
KVN **Kaiserville** 83.16 320 *e*P P 12 32 52.9 0.0
KVN pmax pmax
comp=Z,3.0nm,1.0s
YMR **Madison River** 83.44 328 *e*P P 12 32 54.0 -0.2
comp=Z,1.7nm,0.7s
DGMT **Dagmar** 83.47 334 *e*P P 12 32 54.0 0.0
comp=Z,14nm,0.7s
DGMT **Dagmar** 83.47 334 P P 12 32 54.9 +0.8
baz=144
HLID **Hailey** 84.32 325 *e*P P 12 32 59.0 +0.5
comp=Z,7.9nm,0.8s
HLID **Hailey** 84.32 325 P P 12 33 00.1 +1.5
baz=136,SNR=15
BOZ **Bozeman (W)** 84.44 328 P P 12 32 59.8 +0.7
baz=138
MCMT **McKenzie Canyo** 84.46 327 *e*P P 12 32 59.7 +0.5
LSZ **Lusaka** 84.58 104 *e*P P 12 33 00.4 -0.1
comp=Z,14nm,0.8s
LSZ **Lusaka** 84.58 104 *e*P P 12 33 00.4 -0.1
LSZ pmax pmax
comp=Z,15nm,0.8s
EGMT **Eagleton** 85.42 331 P P 12 33 04.4 +0.8
baz=140
ORV **Oroville** 85.47 319 *e*P P 12 33 03.9 -0.1
ORV **Oroville** 85.47 319 *e*P P 12 33 03.9 -0.1
O03E **Paynes Creek** 86.13 319 P P 12 33 07.8 +0.6
baz=130
J08A **Circle Bar Ran** 86.29 323 *e*P P 12 33 08.3 +0.3
comp=Z,8.0nm,0.6s
ESDC **Sonseca Array** 86.31 42 P P 12 33 07.5 -0.6
comp=Z,3.0nm,0.7s,baz=231,slow=4.6,SNR=16
ES19 **SONSECA Array** 86.36 42 *e*P P 12 33 07.7 -0.6
MSO **Missoula** 86.44 328 P P 12 33 09.6 +1.1
baz=136
M04C **Macdoel** 87.11 320 P P 12 33 12.9 +1.1
baz=130
JTMT **Jette** 87.26 328 *e*P P 12 33 12.1 -0.4
comp=Z,7.4nm,0.7s
G05D **Wamic, OR** 89.07 323 P P 12 33 21.7 +0.9
baz=131
FCC **Fort Churchill** 89.09 345 *e*P P 12 33 19.9 -0.5
FCC **Fort Churchill** 89.09 345 *e*P P 12 33 19.9 -0.5
D03D **Eldon** 91.49 324 P P 12 33 32.4 +0.5
baz=130
KEST **Kesra** 92.64 51 P P 12 33 38.2 +0.7
comp=Z,3.3nm,0.8s,baz=128,slow=6.7,SNR=4.1
YKA **Yellowknife Ar** 98.00 339 P P 12 34 01.2 +0.2
comp=Z,1.1nm,0.6s,baz=128,slow=4.6,SNR=56
YKA PP PP 12 37 56.8 -13
comp=Z,0.2nm,0.6s,baz=127,slow=5.8,SNR=5.4
YKA PKiKP **PKiKP** 12 38 31.1 +0.7
comp=Z,0.1nm,0.5s,baz=145,slow=1.5,SNR=4.5
YKB5 **Yellowknife Ar** 98.00 339 *e*Pdf P 12 34 01.0 0.0
FINES **FINESS Array B** 113.00 31 PKiKP **PKiKP** 12 38 57.8 -0.4
comp=Z,1.9nm,1.0s,baz=273,slow=2.6,SNR=4.0
FINES **FINESS Array B** 113.00 31 *i* PKiKP **PKiKP** 12 38 59.9 +1.7
FINES pmax pmax
comp=Z,2.0nm,1.0s
ARA0 **ARCESS Array S** 114.54 23 *e*PKPdf PKPdf 12 39 00.7 -0.3
ARCES **ARCESS Array B** 114.54 23 PKP PKPdf 12 39 00.7 -0.3
comp=Z,3.6nm,0.9s,baz=252,slow=4.1,SNR=7.8
KBZ **Khabaz** 119.44 53 PKP **PKiKP** 12 39 11.3 +0.1
comp=Z,1.0nm,0.6s,baz=224,slow=2.9,SNR=3.6
ASAR **Alice Springs** 127.02 200 PKP **PKPdf** 12 39 25.9 -0.6
comp=Z,0.5nm,0.5s,baz=144,slow=1.8,SNR=11
ASAR SKPbc SKPbc 12 41 49.9
comp=Z,0.7nm,0.5s,baz=151,slow=2.8,SNR=12
ASAR SKP 12 42 08.1
comp=Z,0.6nm,0.5s,baz=142,slow=2.3,SNR=7.3
AS31 **Alice Springs** 127.02 200 *e*PKPdf **PKPdf** 12 39 24.5 -2.0
ARU **Arti** 129.55 38 *i* PKiKP **PKiKP** 12 39 30.6 -0.4
ARU 12 41 46.9
GEYT **Alibeck** 130.12 62 PKP **PKPdf** 12 39 31.9 0.0
comp=Z,16nm,0.3s,baz=319,slow=1.7,SNR=3.2
WR1 **Warramunga Arr** 130.36 202 *e*PKPdf **PKPdf** 12 39 32.9 0.0
WRA **Warramunga Ar** 130.36 202 PKP **PKPdf** 12 39 32.9 0.0
comp=Z,0.2nm,0.3s,baz=159,slow=1.8,SNR=14
WRA SKPbc **SKPbc** 12 42 02.8 -1.5
comp=Z,7.1nm,0.6s,baz=155,slow=3.5,SNR=55
ABKAR **Akbulak array** 131.41 47 *e*PKPdf **PKPdf** 12 39 34.2 +0.3
MBWA **Marble Bar** 132.12 184 *e*P **PKPdf** 12 39 36.7 +0.5
FITZ **Fitzroy Crossi** 134.41 192 PKP **PKiKP** 12 39 42.0 0.0
comp=Z,1.6nm,0.9s,baz=219,slow=2.4,SNR=3.8
FITZ SKPbc **SKPbc** 12 42 17.6 -0.6
comp=Z,5.6nm,0.6s,baz=195,slow=5.6,SNR=28
FITZ **Fitzroy Crossi** 134.41 192 *e*PKPdf **PKPdf** 12 39 37.9 -2.6
BRVK **Borovoye** 136.97 40 *e*PKPdf **PKPdf** 12 39 43.9 -0.2
BRVK **Borovoye** 136.97 40 *e*PKiKP **PKPdf** 12 39 43.9 -0.2
SEY **Seymchan** 137.04 337⇑ *i*PKiKP **PKiKP** 12 39 46.5 +0.6
PEA1 **Petropavlovsk-** 139.91 322 *e*PKPdf **PKPdf** 12 39 48.5 -1.0
PETK **Petropavlovsk-** 139.91 322 PKP **PKPdf** 12 39 48.5 -1.0
comp=Z,7.2nm,1.1s,baz=133,slow=2.4,SNR=3.0
ARSB **Arslanbob** 141.52 57 *e*PKPpre PKPpre 12 39 49.2
NIL **Nilore** 142.16 69 *e*PKPpre PKPpre 12 39 50.3
NIL **Nilore** 142.16 69 *e*PKiKP PKPpre 12 39 50.3
AAK **Ala-Archa** 142.42 54 *e*PKPdf **PKPdf** 12 39 51.7 -2.9
AAK **Ala-Archa** 142.42 54⇑ *i*PKiKP **PKPdf** 12 39 52.4 -2.2
KURK **Kurchatov** 142.64 40 *e*PKPdf **PKPdf** 12 39 51.8 -2.6
KURK **Kurchatov** 142.64 40⇑ *i*PKiKP **PKPdf** 12 39 52.5 -1.9
NVS **Novosibirsk** 142.99 32 *e*PKiKP **PKPdf** 12 39 54.2 -0.7
NVS pmax pmax
comp=N,3.0nm,0.4s
NVS pmax pmax
comp=E,7.0nm,0.4s
NVS pmax pmax
comp=Z,21nm,0.4s
HYB **Hyderabad** 143.62 97 *i* PKP **PKPdf** 12 39 57.0 -0.2
NRN **Naryn** 143.75 56 *e*PKPbc PKPbc 12 39 55.2 -1.1
NRN **Naryn** 143.75 56 *e*PKiKP PKPbc 12 39 55.2 -1.0
KSH **Kashi** 144.03 59 PKP **PKPab** 12 39 57.0 -0.2
KSH pPKP pPKPdf 12 42 00.8 -7.8
KSH PP **PP** 12 43 24.7 +5.4
KSH AMB AMB
comp=Z,300nm,5.2s
ZAA1 **Zalesovo Array** 144.26 32 *e*PKPbc **PKPab** 12 39 57.5 +0.1
ZAA1 *e*SKPbc **SKPbc** 12 42 43.2 -0.4
ZAA0 **Zalesovo Array** 144.26 32 *e*PKPbc PKPbc 12 39 56.6 -0.4
ZALV **Zalesovo Beam** 144.26 32 PKP **PKPab** 12 39 57.5 +0.1
comp=Z,15nm,0.3s,baz=288,slow=4.1,SNR=141
ZALV SKPbc **SKPbc** 12 42 43.2 -0.4
comp=Z,2.0nm,0.3s,baz=306,slow=3.3,SNR=7.8
ZALV **Zalesovo Beam** 144.26 32 *e*PKPbc PKPbc 12 39 56.3 -0.6
ZALV **Zalesovo Beam** 144.26 32 *e*PKiKP PKPbc 12 39 56.3 -0.7
KDJ **Kajisay** 144.47 54 *e*PKPdf **PKPab** 12 39 58.6 -0.3
KDJ **Kajisay** 144.47 54 *e*PKiKP **PKPab** 12 39 58.6 -0.3
MAKZ **Makanchi** 146.28 45 *e*PKPdf **PKPdf** 12 40 00.8 -0.1
MAKZ *e*PKPbc **PKPbc** 12 40 03.6 +0.5
MAKZ *e*PKPab **PKPab** 12 40 06.5 +0.9
MAKZ **Makanchi** 146.28 45 *e*PKiKP **PKPdf** 12 40 00.8 -0.1
MAKZ *e* 12 40 03.7
MK32 **Makanchi Array** 146.48 45 *e*PKPbc **PKPbc** 12 40 02.8 -1.0
MK32 *e*SKPbc **SKPbc** 12 42 48.4 -0.5
MKAR **Makanchi Array** 146.48 45 PKPbc **PKPbc** 12 40 02.8 -1.0
comp=Z,12nm,0.4s,baz=280,slow=1.9,SNR=157
MKAR SKPbc **SKPbc** 12 42 48.4 -0.5
comp=Z,1.5nm,0.7s,baz=288,slow=2.4,SNR=4.7
MKAR **Makanchi Array** 146.48 45 *e*PKPdf **PKPbc** 12 40 00.9 -0.4
MKAR *e*PKPbc **PKPbc** 12 40 04.5 +0.8
MKAR *e*PKPab **PKPab** 12 40 07.3 +0.9
MKAR **Makanchi Array** 146.48 45 *e*PKP2 **PKPdf** 12 40 02.3 +1.1

DGZ	Jazzator, Alta	148.05	37	d iPKP2	PKiKP	12 40 08.5	-0.7
BOD	Bodaibo	149.06	3	⇓iPKHKP	PKPpre	12 40 09.6	
BOD				pmax	pmax		
	comp=Z,11nm,1.6s						
MOY	Mondy	152.60	21	ePKIKP	PKiKP	12 40 19.5	+1.0
MOY				pmax	pmax		
	comp=Z,12nm,1.6s						
SONA0	Songino Array	157.63	18	ePKPdf	PKPdf	12 40 16.8	-0.8
SONA0				ePKPab	PKPab	12 40 53.2	-0.3
SONM	Songino Array	157.63	18	PKP	PKPdf	12 40 16.8	-0.8
	comp=Z,0.4nm,0.4s,baz=318,slow=1.9,SNR=3.4						
SONM				PKPab	PKPab	12 40 53.2	-0.3
	comp=Z,1.1nm,0.5s,baz=329,slow=5.4,SNR=3.2						
GTA	Gaotai	161.24	44	⇑PKP	PKPdf	12 40 23.1	+1.1
GTA				PKPab	PKPab	12 41 10.2	+0.6
GTA				pPKP	pPKPdf	12 42 32.3	-1.7
GTA				sPKP		12 43 23.6	
CMAR	Chiang Mai Arr	161.66	114	PKPab	PKPab	12 41 11.1	-0.8
	comp=Z,0.4nm,0.5s,baz=265,slow=5.2,SNR=4.9						
LZH	Lanzhou	165.78	47	ePKP	PKPdf	12 40 26.0	-0.3
LZH				pPKP	pPKPdf	12 42 37.8	-0.7
LZH				sPKP		12 43 27.8	

WEL 01 12:33:32.0±,38°S±10°×18°0W±°,h33km,ML3.8/19,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	1.50	259	P	Pn	12 33 57.7	+1.1
WMGZ				S	Sb	12 34 16.8	-1.3
MXZ	Matakaoa Point	1.57	269	P	Pn	12 33 57.7	+0.2
MXZ				S	Sn	12 34 16.3	-0.3
PUZ	Puketiti	1.69	251	P	Pn	12 34 00.4	+1.3
PUZ				S	Sn	12 34 21.3	+1.7
PKGZ	Pakihiroa	1.78	258	P	Pn	12 34 01.1	+0.6
PKGZ				S	Sn	12 34 22.3	+0.3
CNGZ	Carnagh Statio	1.89	240	P	Pb	12 34 04.3	-1.5
TWGZ	Tauwhareparae	1.93	250	P	Pn	12 34 04.1	+1.6
TWGZ				S	Sn	12 34 27.5	+2.0
HAZ	Te Kaha	1.99	263	P	Pn	12 34 04.1	+0.8
HAZ				S	Sn	12 34 28.0	+0.9
RUGZ	Raukumara Rang	2.10	258	P	Pn	12 34 05.8	+0.8
TKGZ	Te Karaka	2.12	244	P	Pn	12 34 06.6	+1.5
TKGZ				S	Sn	12 34 32.4	+2.2
RIGZ	Rimuhau	2.30	239	P	Pn	12 34 09.5	+1.9
MWZ	Matawai	2.31	249	P	Pn	12 34 08.9	+1.1
MWZ				S	Sn	12 34 35.5	+0.4
PRGZ	Paritu Road	2.33	233	P	Pn	12 34 10.1	+2.0
MHGZ	Mahia Peninsul	2.46	229	P	Pn	12 34 12.0	+2.2
KNZ	Kokohu	2.52	233	P	Pn	12 34 12.0	+1.3
URZ	Urewera	2.60	253	P	Pn	12 34 13.1	+1.3
URZ				S	Sn	12 34 43.2	+0.9
SNGZ	Shannon Statio	2.62	241	P	Pn	12 34 13.6	+1.5
RTZ	Ruatahuna	2.81	247	P	Pn	12 34 16.4	+1.7
WHHZ	Waihua	2.84	237	P	Pn	12 34 17.2	+2.1
WHHZ				S	Sn	12 34 50.5	+2.4
RAHZ	Arahi	2.86	240	P	Pn	12 34 17.0	+1.6
MUGZ	Murupara	2.92	250	P	Pn	12 34 18.2	+2.0
OPRZ	Ohinepanea	2.97	263	P	Pn	12 34 17.4	+0.7
MTHZ	Maungataniwha	3.01	243	P	Pn	12 34 18.9	+1.5
MTHZ				S	Sn	12 34 53.6	+1.4
TARZ	Mount Tarawera	3.06	256	P	Pn	12 34 20.0	+1.8
ARHZ	Aropaoanui	3.10	235	P	Pn	12 34 20.5	+2.0
NMHZ	Naumai	3.14	239	P	Pn	12 34 20.8	+1.6
CKHZ	Cape Kidnapper	3.28	229	P	Pn	12 34 22.5	+1.5
MRHZ	Matea Rd	3.30	246	P	Pn	12 34 22.9	+1.5
BKZ	Black Stump Fm	3.39	240	P	Pn	12 34 23.9	+1.3
MCHZ	McNeill Hill	3.39	235	P	Pn	12 34 24.3	+1.7
KAHZ	Kahuranaki	3.48	229	P	Pn	12 34 25.3	+1.4
KWHZ	Kaweka Forest	3.56	237	P	Pn	12 34 26.6	+1.6
KUZ	Kuaotunu	3.73	281	P	Pn	12 34 26.5	-0.8
TOZ	Tahuroa Road	3.80	266	P	Pn	12 34 29.9	+1.7
MKAZ	Moumakai	4.10	275	P	Pn	12 34 32.5	+0.1

ISCJB 01 12:40:58.5±0.8,7°89S±0°05×127°83E±0°07,h150km, mb3.2/3,Error ellipse: s-maj=9.7km s-min=6.4km az=17.2
IDC 01 12:40:59.5±1.8,7°71S×127°62E,h178km±21km,mb3.1/3, mb1 3.6/8,mb1mx3.3/41,mbtmp4.0/8,Error ellipse: s-maj=21.7km s-min=19.1km az=123.0
ISC 01 12:40:57.3±0.8,7°88S±0°06×127°86E±0°09,h150km,n8, σ2^{s}90/13,mb3.4/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	4.74	241	P	Pn	12 42 10.1	+2.7
	14nm,0.3s,baz=61,slow=19,SNR=20						
BATI				S	Sn	12 43 02.7	+0.7
	16nm,0.3s,baz=271,slow=23,SNR=13						
SIJI	Sorong	7.75	26	P	Pn	12 42 48.9	+1.4
	3.5nm,0.3s,baz=202,slow=19,SNR=13						
SIJI				S	Sn	12 44 16.4	+2.5
	0.5nm,0.3s,baz=243,slow=23,SNR=2.0						
FITZ	Fitzroy Crossi	10.38	192	P	Pn	12 43 24.6	+2.2
	1.2nm,0.3s,baz=17,slow=9.9,SNR=38						
FITZ				S	Sn	12 45 17.3	-0.1
	0.9nm,0.3s,baz=271,slow=23,SNR=3.2						
WRA	Warramunga Arr	13.54	153	P	P	12 44 06.7	-0.6
	0.5nm,0.3s,baz=324,slow=13,SNR=18						
WRA				S	Sn	12 46 31.5	-1.9
	1.2nm,0.3s,baz=330,slow=22,SNR=11						
ASAR	Alice Springs	16.74	160	P	Pn	12 44 47.7	+4.6
	1.1nm,0.3s,baz=341,slow=12,SNR=79						
ASAR				S	S	12 47 45.4	-3.9
	0.1nm,0.3s,baz=327,slow=20,SNR=3.5						
CMAR	Chiang Mai Arr	38.71	313	P	P	12 48 04.1	-2.9
	0.3nm,0.4s,baz=149,slow=6.8,SNR=2.2						
MKAR	Makanchi Array	67.82	328	P	P	12 51 37.1	-2.0
	0.1nm,0.3s,baz=141,slow=5.2,SNR=2.0						
ZALV	Zalesovo Beam	71.45	335	P	P	12 51 57.9	-3.3
	0.4nm,0.4s,baz=132,slow=6.2,SNR=3.7						

ISCJB 01 12:42:25.0±0.9,37°15N±0°07×28°57E±0°06,h14km,Error ellipse: s-maj=10.1km s-min=6.1km az=24.7
DDA 01 12:42:25.3,37°06N×28°57E,h7km±2km,ML2.5
ISK 01 12:42:25.1,37°08N×28°57E,h5km±1km,ML2.1/8
ISC 01 12:42:25.0±1.0,37°15N±0°04×28°64E±0°04,h14km,n13, σ0^{s}92/15,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	Turunc	0.28	186	PG	Pn	12 42 33.3	-1.4
TURN				SG	Sn	12 42 38.9	-1.8
TURN	Turunc	0.28	186	IAML_P			
	comp=Z,2µm,0.1s						
TURN				iP	Pn	12 42 33.9	-0.8
DALY	Dalyan (Mula)	0.33	178	PG	Pg	12 42 30.7	-1.2
DALY	Dalyan (Mula)	0.33	178	IAML_P			
	comp=Z,2µm,0.2s						
DALY				iP	Pg	12 42 31.6	-0.3
TAVA	DENIZLI_Tavas	0.38	34	IAML_P			
	comp=Z,533nm,0.1s						
TAVA				iP	Pn	12 42 35.5	-0.7
FETY	Fethiye	0.62	145	PG	Pb	12 42 37.6	-0.2
FETY	Fethiye	0.62	145	iP	Pb	12 42 37.5	-0.2
MLSB	Milas	0.71	282	PG	Pg	12 42 38.4	-0.4
AYDN	Tasoluk	0.79	310	IAML_P			
	comp=Z,1µm,0.2s						
AYDN				iP	Pb	12 42 41.2	+0.5
DAT	Datca	0.95	244	PG	Pb	12 42 42.4	-1.0
DAT				SG	Sb	12 42 55.2	-0.7
AYDB	Zeytinkoy-Aydi	0.99	323	PG	Pg	12 42 44.7	+0.4
BODT	Bodrum	1.07	266	PG	Pb	12 42 45.2	-0.1
AKAS	Kas	1.20	140	PN	Pg	12 42 48.4	+0.2

SJA 01 12:43:04.1±0.8,31°36S×65°14W,h11km±5km,ML3.2, MW3.7,1D,Cordoba Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCA	Tanti	0.46	87	iP	Pb	12 43 14.0	-0.3
TCA				iS	Sb	12 43 20.5	-0.7
MRA	San Martin	1.16	205	iP	Pn	12 43 26.5	0.0
MRA				iS	Sb	12 43 41.3	-0.2
MRA				IAML		12 43 45.5	
	comp=Z,1µm,0.3s						
ACAN	Cantantal	1.97	242	iP	Pb	12 43 40.8	+0.8
ACAN				iS	Sg	12 44 06.6	-0.9
ACAN				e		12 44 06.6	
SUCO	SUCO	1.99	174	iP	Pb	12 43 39.3	-1.0
SUCO				iS	Sg	12 44 06.7	-1.4
CFA	Coronel Fontan	2.66	264	iP	Pn	12 43 49.2	+2.2
CFA				iS	Sb	12 44 26.9	+2.4
RTLL	Cerro Villicun	2.86	270	iP	Pb	12 43 52.5	-2.7
RTLL				iS	Sg	12 44 33.1	-2.8
AMOG	MOGNA	2.91	277	iP	Pb	12 43 54.9	-1.1
RTCV	Cerro Valdivia	2.95	259	iP	Pn	12 43 53.4	+2.5
RTCV				iS	Sb	12 44 35.6	+2.8
CYA	Choya	2.97	349	iP	Pn	12 43 53.7	+2.5
CYA				iS	Sg	12 44 37.8	-1.6
CYA				IAML		12 44 39.0	
	comp=Z,31nm,0.4s						
ASAL	Salagasta	3.37	248	iP	Pb	12 44 00.7	-3.3
AGUA	GUANDACOL	3.45	302	iP	Pn	12 44 01.2	+3.3
AGUA				iS	Sb	12 44 46.7	-0.5
ACCO	Cerro Coronel	3.46	282	iP	Pn	12 44 01.4	+3.1
ACCO				iS	Sb	12 44 47.7	-0.1
ARCO	CERRO ARCO	3.54	244	iP	Pb	12 44 08.8	+1.9
ARCO				iS	Sg	12 44 57.0	-1.0
AAGR	Agrelo	3.57	240	iP	Pg	12 44 10.2	-2.4
AAGR				⇓iS	Sg	12 44 57.8	-1.0
RTLS	Leoncito	3.58	262	iP	Pn	12 44 02.7	+2.9
AUSP	Uspallata	3.72	256	iP	Pn	12 44 05.0	+3.3
AROD	Rodeo	3.92	287	iP	Pn	12 44 08.5	+4.0
RFA	San Rafael	4.40	219	iP	Pn	12 44 14.1	+3.1
RFA				iS	Sg	12 45 20.1	-5.4

MEX 01 12:53:44.7±1.0,19°02N×104°91W,h18km±7km,MD3.8, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	Chamela	0.50	345	eP	Pg	12 53 52.6	-2.1
CJM				eS	Sg	12 53 59.2	-2.3
R15V		0.89	80	eP	Pb	12 53 58.1	-3.5
R15V				iS	Sb	12 54 09.0	-4.2
EZ5V		1.32	69	eP	Pn	12 54 05.3	-3.1
EZ5V				iS	Sn	12 54 21.4	-4.3
MMIG	Aquila	1.65	116	eP	Pn	12 54 09.4	-3.4
MMIG				eS	Sn	12 54 28.6	-5.0
ANIG	Ahuacatlan	2.06	10	iP	Pn	12 54 16.1	-2.4
ANIG				iS	Sn	12 54 39.6	-4.2

IDC 01 12:59:27.4±11.0,18°51S×179°32W,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.5/50,mbtmp3.6/3,Error ellipse: s-maj=337.8km s-min=91.0km az=133.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	43.68	260	P	P	13 07 35.5	+1.1
	0.6nm,0.8s,baz=92,slow=8.3,SNR=11						
ASAR	Alice Springs	43.80	255	P	P	13 07 33.7	-1.7
	0.7nm,0.8s,baz=88,slow=8.7,SNR=5.2						
CMAR	Chiang Mai Arr	88.28	290	P	P	13 12 21.3	0.0
	0.2nm,0.6s,baz=128,slow=3.8,SNR=4.2						

IDC 01 13:01:56.5±1.7,3°03S×129°08E,h0km,mb3.1/2, mb1 3.3/4,mb1mx3.2/50,mbtmp3.2/4,ML3.0/2,Error ellipse: s-maj=46.4km s-min=26.9km az=86.0
ISCJB 01 13:01:59.4±1.2,3°0S±0°1×129°4E±0°2,h33km,mb3.1/2, Error ellipse: s-maj=26.3km s-min=8.8km az=27.9
DJA 01 13:02:02.1±1.5,3°S±103°×12°9E±1°7,h102km±238km, M3.3/3,MLv3.3/3
ISC 01 13:02:01.2±1.4,3°0S±0°1×129°4E±0°2,h33km,n5,σ0^{s}59/7, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	2.82	42	Pn	Pn	13 02 44.8	+0.7
	4.8nm,0.3s,baz=229,slow=19,SNR=70						
SIJI				Sn	Sn	13 03 16.5	-0.4
	4.0nm,0.3s,baz=357,slow=24,SNR=12						
SWI	Sorong	2.82	42	P	Pn	13 02 43.8	-0.2
SWI				S	Sn	13 03 16.9	0.0
WRA	Warramunga Arr	17.53	164	P	Pn	13 06 02.7	-0.6
	0.0nm,0.3s,baz=338,slow=13,SNR=2.3						
ASAR	Alice Springs	21.02	168	P	P	13 06 42.8	+0.5
	0.5nm,0.6s,baz=348,slow=11,SNR=14						
MKAR	Makanchi Array	64.56	326	P	P	13 12 35.1	-0.1
	0.1nm,0.5s,baz=109,slow=8.4,SNR=1.6						

NEIC 01 13:08:11.8±4.1,7°11S×130°37E,h18km±29km,mb4.4/7, Error ellipse: s-maj=14.2km s-min=7.9km az=156.0
IDC 01 13:08:11.8±2.6,6°85S×130°12E,h52km±30km,mb3.6/4, mb1 4.1/10,mb1mx3.7/43,mbtmp4.2/10,ML4.3/5,MS3.3/1, Ms1 3.3/1,ms1mx2.6/21,Error ellipse: s-maj=29.7km s-min=17.3km az=71.0
ISCJB 01 13:08:13.1±0.4,6°92S±0°04×130°32E±0°05,h100km, mb4.2/7,Error ellipse: s-maj=7.0km s-min=6.0km az=16.2
DJA 01 13:08:15.3±0.7,7°S±5°×13°0E±°,h113km±22km,M4.3/5, mB4.3/5,mB4.7/3,MLv4.3/2,Mw(mB)4.0/3
ISC 01 13:08:14.7±0.6,6°80S±0°05×130°31E±0°06,h100km,n32, σ2^{s}41/30,mb4.5/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.54	140	P	Pn	13 08 42.9	+1.5
BNDI	Bandanaira	2.29	350	P	Pn	13 08 51.8	+0.7
FAKI	Fak Fak	4.31	27	P	Pn	13 09 17.7	-0.4
SIJI	Sorong	5.96	9	P	Pn	13 09 40.1	-0.4
	5.5nm,0.3s,baz=203,slow=7.7,SNR=25						
SIJI				S	Sn	13 10 43.7	-3.8
	7.8nm,0.3s,baz=333,slow=23,SNR=7.1						
SANI	Sanana	6.38	317	P	Pn	13 09 47.8	+1.5
RKPI	Ransiki, Papua	6.51	36	P	Pn	13 09 52.0	+3.9
SOEI	Soe	6.66	243	P	Pn	13 09 50.5	+0.3
BATI	Baumata	7.39	242	P	Pn	13 09 58.6	-1.4
	16nm,0.3s,baz=108,slow=4.0,SNR=15						
BATI				S	Sn	13 11 20.7	-1.7
	20nm,0.3s,baz=47,slow=20,SNR=7.2						
BATI	Baumata	7.39	242	P	Pn	13 10 01.0	+1.0
JAY	Jayapura	11.20	68	P	Pn	13 10 51.4	-0.5
	0.6nm,0.3s,baz=24,slow=22,SNR=1.8						
FITZ	Fitzroy Crossi	12.12	202	P	Pn	13 11 00.2	-3.8
	4.9nm,0.3s,baz=36,slow=12,SNR=54						
FITZ				S	Sn	13 13 05.6	-12
	4.9nm,0.3s,baz=100,slow=9.3,SNR=8.0						
FITZ	Fitzroy Crossi	12.12	202	ePn	Pn	13 10 59.7	-4.3
FITZ				S	Sn	13 13 05.6	-12
WRAB	Tennant Creek	13.64	164	ePn	Pn	13 11 20.0	-4.0
WRA	Warramunga Arr	13.64	164	P	Pn	13 11 20.9	-3.2
	1.4nm,0.3s,baz=350,slow=14,SNR=39						
WRA				S	Sn	13 13 40.9	-13
	5.8nm,0.3s,baz=342,slow=22,SNR=22						
WB2	Warramunga Arr	13.65	164	ePn	Pn	13 11 20.3	-3.8
COEN	Coen	14.52	120	ePn	Pn	13 11 33.1	-2.3
PMG	Port Moresby	16.88	100	P	P	13 12 06.0	+0.5
	0.3nm,0.3s,baz=295,slow=14,SNR=3.4						
PMG				LR	LR	13 19 27.9	
	comp=Z,98nm,18.1s,baz=45,slow=40						
PMG	Port Moresby	16.88	100	ePn	P	13 12 06.3	+0.8
	13nm,1.1s						
AS31	Alice Springs	17.13	169	ePn	Pn	13 12 05.2	-2.8
	2.5nm,0.4s						
ASAR	Alice Springs	17.13	169	P	Pn	13 12 07.5	-0.5
	0.6nm,0.3s,baz=352,slow=12,SNR=43						
ASAR				S	Sn	13 15 06.0	-13
	1.3nm,0.3s,baz=352,slow=27,SNR=7.8						
AS01	Alice Springs	17.14	169	ePn	Pn	13 12 06.1	-2.0
MBWA	Marble Bar	17.57	215	ePn	P	13 12 13.0	0.0
	24nm,1.2s						
CTA	Charters Tower	20.35	132	P	Pn	13 12 46.1	-0.1
	5.0nm,0.8s,baz=310,slow=8.7,SNR=4.4						
CTAO	Charters Tower	20.35	132	eP	Pn	13 12 46.0	-0.2
	16nm,1.1s						
FORT	Forrest	23.95	185	eP	P	13 13 20.6	+0.9
	17nm,0.8s						
MORW	Morawa	25.93	210	eP	P	13 13 41.5	+3.8
	41nm,1.6s						
BBOO	Buckleboo	26.43	169	eP	P	13 13 44.9	+2.7
	28nm,1.5s						
STKA	Stephens Creek	27.09	159	P	P	13 13 50.3	+2.2
	0.6nm,0.3s,baz=339,slow=15,SNR=3.3						
ARMA	Armidale	30.87	142	eP	P	13 14 24.9	+3.1
	68nm,1.9s						
CMAR	Chiang Mai Arr	39.84	310	P	P	13 15 39.2	+0.5
	0.5nm,0.6s,baz=137,slow=7.4,SNR=5.9						
WMQ	Urumqi	63.39	327	eP	P	13 18 45.0	+11
MKAR	Makanchi Array	68.22	327	P	P	13 19 06.6	+2.0
	1.6nm,0.6s,baz=117,slow=8.0,SNR=17						

THE 01 13:09:06.9,36°03N×22°11E,h19km±2km,ML2.3/5,Error ellipse: s-maj=2.6km s-min=0.9km az=36.0
ATH 01 13:09:07.7,36°14N×22°18E,h20km±7km,ML2.1/2,Error ellipse: s-maj=7.7km s-min=1.3km az=31.0,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYR	Agios Nikonas	0.63	12	P	Pg	13 09 20.5	+0.2
DYR				S	Sg	13 09 28.9	+0.1
DYR				AML	AML	13 09 34.4	
	comp=E,386µm,0.6s						
DYR				AML	AML	13 09 36.5	
	comp=N,354µm,0.4s						
DYR	Agios Nikonas	0.63	12	P	Pg	13 09 20.7	+0.4
DYR				S	Sn	13 09 32.1	+0.9
KYTH	Kithira	0.71	80	P	Pg	13 09 21.9	+0.1
KYTH				S	Sb	13 09 31.1	+0.2
KYTH	Kithira	0.71	80	P	Pg	13 09 21.9	+0.1
KYTH				S	Sn	13 09 32.6	-0.6
MES2	Methoni	0.78	331	P	Pb	13 09 22.6	0.0
PYL	PYLOS	0.83	335	P	Pb	13 09 23.4	-0.1
PYL				S	Sn	13 09 35.5	-0.5
PYL				AML	AML	13 09 42.5	
	comp=N,300µm,0.6s						
PYL				AML	AML	13 09 49.9	
	comp=E,331µm,0.6s						
PYL	PYLOS	0.83	335	P	Pb	13 09 23.6	+0.1
PYL				S	Sn	13 09 36.3	+0.3
VLI	Veliai	0.84	47	P	Pg	13 09 24.0	-0.1
VLI	Veliai	0.84	47	P	Pg	13 09 24.1	-0.1
VLI				S	Sn	13 09 38.8	+2.5
ITM	Ithomi	1.05	349	P	Pb	13 09 27.3	0.0
ITM	Ithomi	1.05	349	P	Pn	13 09 27.8	+0.4
ITM				S	Sg	13 09 42.8	+0.7
VLX	Vlachokerasia	1.23	8	P	Pb	13 09 31.0	+0.6
TRIP	Tripoli	1.38	3	P	Pg	13 09 33.8	-0.6
AMT	Artemida-Makis	1.44	345	P	Pg	13 09 34.9	-0.5
IMMV	Iera Moni Meta	1.62	114	P	Pn	13 09 34.2	-1.0
IMMV				S	Sn	13 09 54.7	-0.8
KLV	Kalavryta, Ach	1.90	359	P	Pb	13 09 41.3	-0.4

JMA 01 13:10:31.6±0.1,38°89N×141°97E,h50km±1km,M3.5
JMA Felt I J1.
IDC 01 13:10:32.8±3.8,39°32N×140°95E,h0km,mb3.6/1, mb1 3.3/4,mb1mx3.1/47,mbtmp3.3/4,ML3.0/2,MS2.7/1, Ms1 2.7/1,ms1mx2.1/44,Error ellipse: s-maj=68.6km s-min=32.1km az=110.0
ISC 01 13:10:30.2±1.4,38°88N±0°04×142°00E±0°08,h22km±9km, n16,σ1^{s}52/25,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.32	308	P	Pn	13 10 40.8	+1.2
OFUJ				S	Sn	13 10 47.0	+1.4
JKMT	Kesennumamotoy	0.42	260	P	Pn	13 10 41.6	+0.8
JKMT				S	Sn	13 10 48.4	+0.5
JMK	Ichinoseki	0.61	277	P	Pn	13 10 43.9	+0.4
JMK				S	Sn	13 10 52.6	-0.1
JIO	Ouri	0.67	230	P	Pn	13 10 44.5	+0.2
JIO				S	Sb	13 10 53.2	+1.3
JOM	Ohasama	0.81	317	P	Pn	13 10 46.5	+0.3
JOM				S	Sn	13 10 57.1	-0.4
JOU	Okura	1.17	244	P	Pn	13 10 51.2	0.0
JOU				S	Sn	13 11 05.9	-0.5
JRG	Rokugo	1.18	296	P	Pb	13 10 51.4	-0.4
JRG				eS	Sb	13 11 06.7	0.0
JYK	Kaneyama	1.28	272	P	Pb	13 10 52.8	-0.8
JMM	Marumori	1.39	223	P	Pn	13 10 53.9	-0.3
JMM				eS	Sn	13 11 10.6	-1.3
JANG	Nango	1.53	346	P	Pb	13 10 56.1	-1.8
MAT	Matsushiro	3.81	233	P	Pn	13 11 29.3	+1.8
MAT				eS	Sn	13 12 15.7	+4.1
MJAR	Matsushiro Arr	3.81	233	Pn	Pn	13 11 29.1	+1.6
	1.4nm,0.3s,baz=36,slow=12,SNR=35						
MJAR				Sn	Sb	13 12 22.7	+0.4
	0.5nm,0.3s,baz=30,slow=16,SNR=4.0						
ASAJ	Asahikawa	5.25	5	Pn	Pn	13 11 48.7	+1.4
	0.5nm,0.3s,baz=198,slow=20,SNR=5.8						
ASAJ				Sn	Sn	13 12 49.8	+2.7
	0.4nm,0.3s,baz=257,slow=32,SNR=1.4						
JHJ	Hachijo jima 2	6.03	198	LR	LR	13 14 25.8	
	comp=Z,68nm,19.9s,baz=246,slow=37						
USRK	Ussuriysk Ar.	9.19	308	Pn	Pn	13 12 35.0	-6.4
	0.1nm,0.3s,baz=118,slow=14,SNR=1.9						
MKAR	Makanchi Array	43.55	301	P	P	13 18 30.2	-2.1
	0.5nm,0.6s,baz=72,slow=8.2,SNR=6.7						

BJI 01 13:13:55.5,80°77N×122°33E,h15km,mb4.4/14,Ms4.8/3, Ms7 4.6/3
IDC 01 13:13:56.7±0.5,80°52N×122°18E,h0km,mb4.1/22, mb1 4.3/24,mb1mx4.1/40,mbtmp4.1/24,ML3.6/1,MS3.8/31, Ms1 3.8/31,ms1mx3.7/43,Error ellipse: s-maj=15.7km s-min=11.2km az=155.0
MOS 01 13:13:56.9±1.0,80°47N×122°78E,h10km,mb4.7/34,Error ellipse: s-maj=28.4km s-min=7.6km az=91.3
GCMT 01 13:13:57.2±0.3,80°66N±0°04×121°7E±0°2,h16km±1km, MW4.9/72,Moment Tensor Solution. s18,c22; s72,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.74±.22; $M_{\theta\theta}$0.83±.14; $M_{\phi\phi}$1.92±.14; $M_{r\theta}$0.88±.54; $M_{\theta\phi}$-0.87±.08; $M_{\phi r}$0.96±.47; Best double couple: $M_0$2.82000×10^{16} NP1:ϕ_s171.00000°,δ53.00000°,λ-66.00000°. NP2: ϕ_s315.00000°,δ43.00000°,λ-118.00000°. Principal axes: T 2.4410, Plg5.0000°, Azm244.0000°; N 0.7660, Plg19.0000°, Azm336.0000°; P -3.2000, Plg70.0000°, Azm139.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISCJB 01 13:13:58.0±0.2,80°55N±0°04×122°6E±0°2,h17km, mb4.5/94,MS3.9/35 Error ellipse: s-maj=6.3km s-min=3.5km az=167.4
NEIC 01 13:13:58.2±0.2,80°52N×122°25E,h10km,mb4.7/44,Error ellipse: s-maj=5.6km s-min=3.2km az=160.0
IEPN 01 13:14:04.0,80°78N×121°69E,h20km
ISC 01 13:13:59.4±0.4,80°67N±0°05×122°12E±0°05,h17km,n241, σ1^{s}78/236,mb4.6/96,MS3.9/35,32C-28D,East of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIXI	Tiksi	9.20	167	Pn	Pn	13 16 06.3	-4.8
	0.5nm,0.3s,baz=356,slow=12,SNR=5.5						
TIXI				Sn	Sn	13 17 41.2	-13
	0.5nm,0.3s,baz=335,slow=2.5,SNR=1.5						
TIXI				LR	LR	13 20 03.5	
	comp=Z,119nm,18.8s,baz=13,slow=40						
TIXI	Tiksi	9.20	167	⇓eP	Pn	13 16 06.2	-4.8
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TIXI	Tiksi	9.20	167	eP	Pn	13 16 06.0	-5.0
ZFI2	Zemlya Franca-	11.25	307	eP	Pn	13 16 38.8	-0.2
ZFI2				eS	Sn	13 18 35.4	-8.8
BILL	Bilibino	16.63	114	⇑eP	P	13 17 53.1	-0.5
BILL				pmax	pmax		
	comp=Z,76nm,1.4s						
BILL				MLR	MLR		
	comp=Z,190nm,19.0s						
SPA0	Spitsbergen Ar	17.01	317	eP	P	13 17 59.8	+2.0
SPITS	Spitsbergen Ar	17.01	317	Pn	Pn	13 17 53.6	-2.4
	baz=274,slow=13,SNR=5.8						
SPITS				Sn	Sn	13 20 58.7	-5.7
	baz=52,slow=26,SNR=2.0						
SPITS				LR	LR	13 23 41.4	
	comp=Z,151nm,18.2s,baz=350,slow=34						
AMDE	Amderma	17.65	267	eP	Pn	13 18 03.9	0.0
AMDE				eS	Sn	13 21 05.4	-14
SEY	Seymchan	19.64	137	P	P	13 18 25.3	-1.4
	comp=Z,0.2nm,0.3s,baz=333,slow=6.7,SNR=7.0						
SEY	Seymchan	19.64	137	⇑eP	P	13 18 26.6	-0.1
DAG	Danmarks Havn	21.42	336	⇓iP	P	13 18 47.2	+1.4
	comp=Z,68nm,1.2s						
DAG	Danmarks Havn	21.42	336	⇓iP	P	13 18 47.2	+1.4
DAG				pmax	pmax		

comp=Z,110nm,1.2s
RDOG Red Dog Mine 21.54 81 *e*P **P 13 18 45.6 -1.6**
comp=Z,34nm,1.1s
MA2 Magadan 22.75 141 LR LR 13 29 17.1
comp=Z,375nm,18.1s,baz=116,slow=41
TULEG Thule 22.84 7 *e*P **P 13 19 01.1 0.0**
comp=Z,17nm,1.0s
BOD Bodaibo 23.09 191 *e*P **P 13 19 01.5 -2.2**
BOD pmax pmax
comp=Z,16nm,1.6s
ARCES ARCESS Array B 23.52 299 P **P 13 19 07.9 -0.1**
comp=Z,9.4nm,0.6s,baz=36,slow=8.0,SNR=38
ARCES PcP **PcP 13 22 52.7 +0.1**
comp=Z,2.2nm,0.9s,baz=40,slow=2.1,SNR=6.8
ARE0 ARCESS Array S 23.52 299 *e*P **P 13 19 07.9 0.0**
RES Resolute Bay 23.59 24 P **P 13 19 09.5 +1.0**
comp=Z,3.4nm,0.9s,baz=357,slow=9.0,SNR=8.6
RES LR LR 13 29 31.9
comp=Z,53nm,18.0s,baz=320,slow=39
RES Resolute Bay 23.59 24 *e*P **P 13 19 09.2 +0.6**
comp=Z,24nm,1.5s
APA Apatity 24.16 290⇑*i*P **P 13 19 14.1 +0.1**
APA pmax pmax
comp=Z,9.0nm,1.0s
APA MLR MLR
comp=Z,2μm,14.0s
COLD Coldfoot 24.31 71 *e*P **P 13 19 15.3 -0.2**
comp=Z,8.7nm,0.7s
KTK1 Kautokeino 24.32 300 *e*P **P 13 19 16.2 +0.6**
TRO Tromso 24.34 304 *e*P **P 13 19 17.6 +2.0**
LSH Leshukonskoye 24.69 277 *e*P **P 13 19 17.2 -1.6**
comp=Z,7.4nm,1.4s
IM3 Indian Mountai 24.91 75 *e*P **P 13 19 20.5 -0.4**
SGF Sodankyl 25.30 296 P **P 13 19 28.0 +3.6**
SGF pmax pmax
comp=Z,32nm,2.5s
FYU Fort Yukon 25.68 67 *e*P **P 13 19 29.5 +1.7**
comp=Z,69nm,1.1s
INK Inuvik 25.73 56 P **P 13 19 29.5 +1.2**
comp=Z,3.5nm,0.9s,baz=339,slow=12,SNR=12
INK LR LR 13 30 03.3
comp=Z,297nm,21.3s,baz=279,slow=38
INK Inuvik 25.73 56 *e*P **P 13 19 29.3 +1.0**
comp=Z,13nm,1.1s
MLY Manley 26.27 73 *e*P **P 13 19 34.3 +1.0**
comp=Z,17nm,1.0s
STEI Steigen 26.43 306 *e*P **P 13 19 35.8 +1.3**
MDM Murphy Dome 26.72 71 *e*P **P 13 19 38.6 +1.3**
comp=Z,17nm,1.1s
COLA College 26.86 71 *e*P **P 13 19 42.8 +4.3**
IL1 Eielson Array 27.11 70 *e*P **P 13 19 41.0 +0.3**
ILAR Eielson Array 27.11 70 P **P 13 19 42.0 +1.3**
comp=Z,8.6nm,0.9s,baz=338,slow=8.9,SNR=40
ILAR LR LR 13 31 29.1
comp=Z,398nm,18.4s,baz=341,slow=39
ILB Eielson Array 27.11 70 *e*P **P 13 19 40.6 -0.1**
WRH Wood River Hil 27.20 71 *e*P **P 13 19 42.5 +1.0**
comp=Z,19nm,1.2s
HDA Harding Lake 27.44 70 *e*P **P 13 19 44.5 +0.8**
comp=Z,23nm,1.1s
PRGR Permogore 27.75 274 *e*P **P 13 19 45.2 -1.2**
PRGR pmax pmax
comp=Z,11nm,0.9s
PRGR Permogore 27.75 274 *e*P **P 13 19 44.4 -2.0**
comp=Z,12nm,0.9s
MOR8 Moi Rana 28.20 305 *e*P **P 13 19 50.3 -0.2**
STOK Stokkvaagen 28.23 306 *e*P **P 13 19 52.0 +1.3**
NVS Novosibirsk 28.56 229 *e*P **P 13 19 55.7 +1.9**
ZALV Zalesovo Beam 29.25 227 P **P 13 19 58.4 -1.4**
comp=Z,0.7nm,0.6s,baz=4.3,slow=7.7,SNR=4.1
ZALV LR LR 13 32 34.8
comp=Z,592nm,19.7s,baz=66,slow=38
ZALV Zalesovo Beam 29.25 227 *i* P **P 13 20 01.3 +1.4**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
KLMR Klimovskoe 29.48 279 *e*P **P 13 20 03.4 +1.6**
KLMR pmax pmax
comp=Z,11nm,1.4s
KLMR Klimovskoe 29.48 279 *e*P **P 13 20 03.4 +1.6**
KLMR AMP 13 20 12.7
comp=Z,11nm,1.4s
KLMR Klimovskoe 29.48 279 *e*P **P 13 20 00.9 -0.9**
comp=Z,18nm,1.7s
KLMR Klimovskoe 29.48 279 *e*P **P 13 20 00.9 -0.9**
KLMR *e*P **P 13 20 00.9 -0.9**
KLMR *e*P **P 13 20 00.9 -0.9**
KLMR AMP 13 20 12.8
comp=Z,18nm,1.7s
PETK Petropavlovsk- 29.87 135 LR LR 13 33 55.4
comp=Z,90nm,20.3s,baz=353,slow=40
SVE Sverdlovsk 29.89 256 *e*P **P 13 20 06.3 +0.7**
SVE pmax pmax
comp=Z,9.0nm,0.9s
ARU Arti 30.60 258 P **P 13 20 11.7 -0.1**
ARU S **S 13 25 14.6 +1.9**
FINES FINESS Array B 31.02 292 P **P 13 20 15.8 +0.3**
comp=Z,4.8nm,0.7s,baz=2.9,slow=7.6,SNR=8.9
FINES LR LR 13 34 06.2
comp=Z,173nm,20.0s,baz=44,slow=39
BRVK Borovoye 32.06 243 *e*P **P 13 20 24.7 0.0**
comp=Z,8.6nm,1.0s
BRVK Borovoye 32.06 243*de*P **P 13 20 25.0 +0.3**
BRVK pmax pmax
comp=Z,10.0nm,1.1s
MOL Molde 32.55 308 *e*P **P 13 20 30.1 +1.2**
DGZ Jazzator, Alta 33.12 223 *i* P **P 13 20 36.0 +1.8**
KURK Kurchatov 33.19 233 *e*P **P 13 20 34.3 -0.3**
comp=Z,14nm,1.5s
KURK Kurchatov 33.19 233⇓*i*P **P 13 20 36.5 +1.9**
KURK pmax pmax
comp=Z,9.0nm,1.3s
SONM Songino Array 33.39 199 P **P 13 20 36.0 -0.6**
comp=Z,0.6nm,0.5s,baz=10,slow=8.8,SNR=4.1
SONM LR LR 13 34 16.3
comp=Z,166nm,20.2s,baz=9.0,slow=37
SONM Songino Array 33.39 199 P **P 13 20 36.0 -0.6**
NB2 NORSAR Subarra 33.54 305 P **P 13 20 38.4 +0.8**
comp=Z,2.9nm,0.6s,baz=16,slow=9.3
NB2 NORSAR Subarra 33.54 305 P **P 13 20 38.4 +0.8**
baz=16,slow=9.3
NOA NORSAR Array B 33.54 305 P **P 13 20 38.4 +0.8**
comp=Z,1.6nm,0.6s,baz=16,slow=8.8,SNR=6.9
NOA LR LR 13 35 04.4
comp=Z,69nm,20.4s,baz=15,slow=38
YKA Yellowknife Ar 33.67 44 P **P 13 20 38.9 +0.3**
comp=Z,1.0nm,0.7s,baz=344,slow=8.2,SNR=16
YKA Yellowknife Ar 33.67 44 P **P 13 20 39.0 +0.3**
OBN Obninsk 35.44 279⇓*e*P **P 13 20 54.1 +0.1**
OBN *e* 13 22 13.9
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,121nm,14.0s
OTUK Ortayu 36.46 239 P **P 13 21 03.0 +0.1**
OTUK pmax pmax
comp=Z,11nm,0.9s
MKAR Makanchi Array 36.58 228 P **P 13 21 03.0 -0.9**
comp=Z,1.6nm,0.8s,baz=356,slow=7.8,SNR=9.7
MKAR PcP **PcP 13 23 25.7 -1.0**
comp=Z,0.3nm,0.4s,baz=16,slow=2.3,SNR=11
MKAR LR LR 13 37 00.5
comp=Z,392nm,21.2s,baz=358,slow=38
MKAR Makanchi Array 36.58 228 *e*P **P 13 21 02.7 -1.3**
comp=Z,10nm,0.8s
MKAR PcP **PcP 13 23 25.7 -1.0**
MKAR Makanchi Array 36.58 228*ce*P **P 13 21 05.5 +1.5**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MAKZ Makanchi 36.61 228 *e*P **P 13 21 02.8 -1.4**
comp=Z,7.6nm,0.9s
MAKZ Makanchi 36.61 228 *e*P **P 13 21 02.8 -1.4**
MAKZ pmax pmax
comp=Z,8.0nm,0.9s
USRK Ussuriysk Ar. 36.76 168 LR LR 13 36 36.6
comp=Z,122nm,18.5s,baz=218,slow=37
ABKAR Akbulak array 37.32 253 *e*P **P 13 21 09.6 -0.6**
LPSR Galich'ya Gora 37.48 275 *e*P **P 13 21 11.3 -0.1**
LPSR pmax pmax
comp=Z,3.0nm,0.4s
VSR Storozhevoye 38.77 275 *e*P **P 13 21 21.7 -0.7**
VSR pmax pmax
comp=Z,6.0nm,0.5s
WMQ Urumqi 38.90 221 *e*P **P 13 21 26.0 +2.4**
WMQ pP sP 13 21 29.1 -0.3
WMQ sP pwP 13 21 35.2 +2.6
WMQ pmax pmax
comp=Z,24nm,1.1s
WMQ LR LR
comp=Z,2μm,9.9s
WMQ LR LR
comp=Z,1μm,6.1s
WMQ LR LR
comp=Z,1μm,18.7s
FCC Fort Churchill 39.34 29 *e*P **P 13 21 27.4 +0.4**
comp=Z,16nm,1.3s
FCC Fort Churchill 39.34 29 *e*P **P 13 21 27.4 +0.4**
FCC pmax pmax
comp=Z,16nm,1.3s
AKASG Malin Array Be 40.87 284 P **P 13 21 39.8 0.0**
comp=Z,3.3nm,0.8s,baz=16,slow=8.9,SNR=7.0
AKASG LR LR 13 40 07.0
comp=Z,174nm,21.6s,baz=0.0,slow=38
KIEV Kiev 40.88 284 *e*P **P 13 21 39.4 -0.4**
comp=Z,33nm,1.9s
KIEV Kiev 40.88 284⇑*e*P **P 13 21 40.4 +0.5**
KIEV pmax pmax
comp=Z,18nm,1.9s
AAK Ala-Archa 41.67 235 *e*P **P 13 21 47.1 +0.5**
comp=Z,8.9nm,1.1s
AAK Ala-Archa 41.67 235⇓*e*P **P 13 21 46.6 0.0**
AAK pmax pmax
comp=Z,13nm,1.7s
GTA Gaotai 42.20 206 *e*P **P 13 21 50.7 -0.2**
GTA pP pP 13 21 55.5 +0.4
GTA sP sP 13 21 58.1 +1.4
GTA PcP **PcP 13 23 46.4 +1.6**
GTA S **S 13 28 10.0 0.0**
GTA pmax pmax
comp=Z,2.0nm,1.3s
GTA LR LR
comp=Z,240nm,16.8s
GTA LR LR
comp=Z,240nm,17.8s
GTA LR LR
comp=Z,300nm,17.8s
LVV L'vov 42.54 288 *e*P **P 13 21 54.7 +1.2**
LVV MLR MLR
comp=Z,100nm,15.0s
KSP Ksiaz 42.72 296 P **P 13 21 57.5 +2.6**
KSP pmax pmax
comp=Z,16nm,2.3s
CLL Collm 42.74 299 *e*P **P 13 21 56.0 +1.0**
CLL *ep*P **pP 13 21 59.0 -0.2**
CLL Collm 42.74 299 *e*P **P 13 21 53.0 -2.0**
CLL *e* 13 21 56.0
CLL pmax pmax
comp=Z,4.0nm,0.7s
OJC Ojcow 42.80 293 *e*P **P 13 21 56.2 +0.6**
comp=Z,61nm,1.9s
OJC Ojcow 42.80 293 *e*P **P 13 21 56.2 +0.6**
OJC pmax pmax
comp=Z,61nm,1.9s
KWP Kalwaria Pacla 42.93 290 P **P 13 21 58.4 +1.8**
KWP pmax pmax
comp=Z,46nm,1.8s
DPC Dobruska-Polom 43.19 296 *e*P **P 13 22 00.5 +1.7**
DPC *ex* x 13 22 03.1
DPC *ep*P **pwP 13 22 09.2 +1.4**
DPC Dobruska-Polom 43.19 296 *e*P **P 13 22 00.5 +1.7**
DPC *e* 13 22 03.1
DPC *e* 13 22 09.2
KSRS Korea Array 43.39 173 LR LR 13 41 18.4
comp=Z,74nm,18.6s,baz=4.5,slow=38
OKC Ostrava-Krasne 43.42 294 *e*P **P 13 21 57.6 -3.0**
OKC Ostrava-Krasne 43.42 294 *e*P **P 13 21 57.6 -3.0**
NIE Niedzica 43.51 292 P **P 13 22 03.5 +2.2**
NIE pmax pmax
comp=Z,8.0nm,1.9s
MORC Moravsky Berou 43.57 294 *e*P **P 13 22 03.2 +1.4**
comp=Z,16nm,1.3s
MORC Moravsky Berou 43.57 294⇑*i*P **P 13 22 03.8 +1.9**
MORC Moravsky Berou 43.57 294⇑P **P 13 22 03.8 +1.9**
MORC Moravsky Berou 43.57 294 *e*P **P 13 22 03.6 +1.7**
PRU Pruhonice 43.80 297 *e*P **P 13 22 06.4 +2.7**
PRU Pruhonice 43.80 297 *e*P **P 13 22 06.4 +2.7**
NKC Novy Kostel 43.87 299 P **P 13 22 07.9 +3.7**
NKC pmax pmax
comp=Z,4.0nm,1.4s
LANS Liptovska Anna 43.89 292 *e*P **P 13 22 06.8 +2.4**
LANS Liptovska Anna 43.89 292 *e*P **P 13 22 06.8 +2.4**
UZH Uzhgorod 43.97 290 *e*P **P 13 22 06.8 +1.8**
UZH *e* 13 22 09.4
VRAC Vranov 44.17 295 LR LR 13 44 18.4
comp=Z,173nm,18.2s,baz=18,slow=41
VRAC Vranov 44.17 295⇓*i*P **P 13 22 08.5 +1.9**
VRAC Vranov 44.17 295⇓P **P 13 22 08.5 +1.9**
VRAC Vranov 44.17 295 *e*P **P 13 22 08.4 +1.9**
TREC Trest 44.34 296 P **P 13 22 10.2 +2.2**
TREC pmax pmax
comp=Z,3.0nm,2.1s
SFK Sufi-Kurgan 44.38 235 P **P 13 22 10.9 +2.2**
SFK pmax pmax
comp=Z,7.0nm,1.0s
MEM Membach 44.39 305⇓x P 13 22 15.0 +6.7
TRPA Tarpa 44.42 289⇑*i*P **P 13 22 10.4 +1.8**
KRUC Moravsky 44.44 295 P **P 13 22 11.0 +2.2**
KRUC Moravsky 44.44 295 *e*P **P 13 22 10.6 +1.9**
JAVC Velka Javorina 44.45 295 *e*P **P 13 22 11.6 +2.7**
BUR08 Bucovina Ar. S 44.48 287 *e*P **P 13 22 09.5 +0.3**
BUR04 Bucovina Ar. S 44.50 287 *e*P **P 13 22 09.7 +0.2**
BURAR Bucovina Array 44.50 287⇑*i*P **P 13 22 10.6 +1.2**
BURAR Bucovina Array 44.50 287⇑P **P 13 22 10.6 +1.2**
KSH Kashi 44.54 233 P **P** 13 22 15.5 +5.7
KSH PcP **PcP 13 23 52.3 -0.4**
KSH S **S 13 28 53.1 +8.8**
KSH pmax pmax
comp=Z,10.0nm,1.1s
PRAR RASCA 44.59 286⇓*i*P **P 13 22 11.3 +1.3**
VYHS Vyhne 44.63 293 *e*P **P 13 22 12.0 +1.7**
VYHS pmax pmax
comp=Z,5.0nm,1.0s
VYHS Vyhne 44.63 293 *e*P **P 13 22 12.0 +1.7**
BMR Baia Mare 44.71 288⇓*i*P **P 13 22 13.1 +2.1**
BMR Baia Mare 44.71 288⇓P **P 13 22 13.1 +2.1**
KHC Kasperske Hory 44.78 298 *e*P **P 13 22 08.4 -3.1**
KHC *ex* x 13 22 12.9
KHC Kasperske Hory 44.78 298 *e*P **P 13 22 14.6 +3.1**
MODS Modra-Piesok 44.98 294 *e*P **P 13 22 14.5 +1.4**
MODS pmax pmax
comp=Z,43nm,1.8s
MODS Modra-Piesok 44.98 294 *e*P **P 13 22 14.5 +1.4**
BIZ Bicaz 45.02 286⇑*i*P **P 13 22 14.8 +1.4**
PSZ Piszkesteto 45.03 292 *e*P **P 13 22 15.3 +1.7**
comp=Z,28nm,1.3s
PSZ Piszkesteto 45.03 292⇑*i*P **P 13 22 16.0 +2.4**
PSZ Piszkesteto 45.03 292⇑P **P 13 22 16.0 +2.4**
PSZ Piszkesteto 45.03 292 *e*P **P** 13 22 19.0 +5.5
GERES GERESS Array B 45.04 298 P **P 13 22 14.9 +1.2**
comp=Z,2.4nm,0.9s,baz=22,slow=8.5,SNR=14
GERES LR LR 13 44 21.9
comp=Z,162nm,18.9s,baz=41,slow=40
ARCR ARCALIA 45.15 287⇑*i*P **P 13 22 16.5 +2.0**
KIV Kislovodsk 45.25 269⇑*e*P **P 13 22 16.8 +1.4**
KIV *e* 13 24 02.0
KIV pmax pmax
comp=Z,12nm,0.9s
KIV MLR MLR
comp=Z,279nm,18.0s
KBZ Khabaz 45.44 268 P **P 13 22 18.2 +1.5**
comp=Z,2.9nm,0.8s,baz=319,slow=3.6,SNR=8.4
KBZ LR LR 13 43 31.8
comp=Z,320nm,19.7s,baz=8.0,slow=39
CONA Conrad Observa 45.62 295 *i* pP **P 13 22 20.5 +2.3**
comp=Z,12nm,1.5s
CJR Cluj-Napoca 45.63 288⇑*i*P **P 13 22 20.5 +2.1**
CJR Cluj-Napoca 45.63 288⇑P **P 13 22 20.5 +2.1**
DRGR 45.70 289⇓*i*P **P 13 22 20.5 +1.6**
DRGR 45.70 289⇓P **P 13 22 20.5 +1.6**
MOA Molln 45.93 297 *i* P **P 13 22 19.9 -0.8**
comp=Z,10.0nm,1.8s
VRI Vrincioaia 45.97 285⇓*i*P **P 13 22 23.5 +2.5**
VRI Vrincioaia 45.97 285⇓P **P 13 22 23.5 +2.5**
PLOR Plostina 46.00 285⇓*i*P **P 13 22 22.4 +1.2**
PLOR Plostina 46.00 285⇓P **P 13 22 22.4 +1.2**
ODBI Odobesti 46.02 284⇑*i*P **P 13 22 23.6 +2.3**
PETR Petresti 46.03 284⇓*i*P **P 13 22 23.3 +1.9**
DOPR Dopca 46.08 286⇑*i*P **P 13 22 23.9 +2.0**
ARSA Arzberg 46.33 296 *i* pP **P 13 22 26.3 +2.5**
comp=Z,5.3nm,1.9s
SIRR Siria 46.37 290⇓*i*P **P 13 22 26.2 +2.1**
CFR Carcaliu 46.42 283⇑*i*P **P 13 22 25.2 +0.8**
CFR Carcaliu 46.42 283⇑P **P 13 22 25.2 +0.8**
MLR Muntele Rosu 46.46 285 LR LR 13 43 55.7
comp=Z,226nm,19.2s,baz=12,slow=39
MLR Muntele Rosu 46.46 285 *e*P **P 13 22 25.7 +0.7**
comp=Z,7.4nm,0.7s
MLR Muntele Rosu 46.46 285⇓*i*P **P 13 22 26.8 +1.8**
MLR Muntele Rosu 46.46 285⇓P **P 13 22 26.8 +1.8**
VOIR 46.65 286⇑*i*P **P 13 22 28.4 +2.0**
VOIR 46.65 286⇑P **P 13 22 28.4 +2.0**
ISR Istrita 46.73 285⇑*i*P **P 13 22 28.6 +1.6**
ISR Istrita 46.73 285⇑P **P 13 22 28.6 +1.6**
ARR Arges 46.78 286⇓*i*P **P 13 22 29.2 +1.8**
KBA Koelnbreinsper 46.82 297 P **P 13 22 31.6 +3.8**
KBA pmax pmax
comp=Z,8.0nm,1.7s
KBA Koelnbreinsper 46.82 297 *i* pP **P 13 22 29.5 +1.7**
comp=Z,7.5nm,0.8s
MORH Mrgy, Hungar 46.88 292 *e*P **P 13 22 32.1 +4.0**
B08A Colville Reser 46.92 53 *e*P **P 13 22 29.2 +0.8**
comp=Z,14nm,1.5s
HARR Harsova 46.92 283⇑*i*P **P 13 22 29.6 +1.2**
HARR Harsova 46.92 283⇑P **P 13 22 29.6 +1.2**
BZS Buzias 47.01 289⇓*i*P **P 13 22 30.7 +1.6**
BZS Buzias 47.01 289⇓P **P 13 22 30.7 +1.6**
TIRR Tirgusor 47.07 283 *e*P **P 13 22 29.4 -0.2**
comp=Z,5.7nm,0.7s
TIRR Tirgusor 47.07 283⇑*i*P **P 13 22 30.7 +1.1**
TIRR Tirgusor 47.07 283⇑P **P 13 22 30.7 +1.1**
OBKA Obir 47.20 296 *i* P **P 13 22 30.8 +0.1**
comp=Z,9.3nm,1.2s
NEW Newport 47.30 51 *e*P **P 13 22 31.4 0.0**
comp=Z,10.0nm,1.3s
NEW Newport 47.30 51 *e*P **P 13 22 31.4 0.0**
NEW pmax pmax
comp=Z,10.0nm,1.3s
DAVOX Davos/Dischmat 47.61 301 LR LR 13 44 55.0
comp=Z,124nm,18.0s,baz=56,slow=39
ULM Lac du Bonnet 47.64 32 P **P 13 22 33.8 -0.1**
comp=Z,2.8nm,0.9s,baz=352,slow=2.8,SNR=4.2
ULM LR LR 13 42 01.2
comp=Z,132nm,19.0s,baz=330,slow=35
JNU Nakatsue 47.78 170 LR LR 13 45 12.6
comp=Z,38nm,19.8s,baz=310,slow=39
MDVR Moldovita 47.81 289⇓*i*P **P 13 22 36.8 +1.4**
TUE Stuetta 47.98 301 *e*P **P 13 22 37.9 +1.0**
comp=Z,47nm,1.7s
GEYT Alibeck 48.66 251 LR LR 13 45 35.8
comp=Z,189nm,18.7s,baz=15,slow=39
F10A Beach Ranch, E 49.53 52 *e*P **P 13 22 49.1 +0.4**
comp=Z,9.3nm,1.3s
VTS Vitosha 49.72 287⇑*i*P **P 13 22 50.4 +0.2**
VTS Vitosha 49.72 287⇑P **P 13 22 50.4 +0.2**
G08A Pilot Rock 49.98 54 *e*P **P 13 22 52.7 +0.6**
comp=Z,6.9nm,1.1s
KBL Kabul 50.37 239 *e*P **P 13 22 54.5 -0.8**
comp=Z,10.0nm,1.1s
KBL Kabul 50.37 239 *e*P **P 13 22 54.5 -0.8**
KBL pmax pmax
comp=Z,10.0nm,1.1s
BMO Blue Mountains 50.62 52 *e*P **P 13 22 58.0 +1.1**
comp=Z,7.8nm,1.1s
BMO Blue Mountains 50.62 52 *e*P **P 13 22 58.1 +1.1**
BMO pmax pmax
comp=Z,8.0nm,1.1s
NIL Nilore 50.67 234 *e*P **P 13 22 57.3 -0.1**
comp=Z,21nm,1.1s
NIL Nilore 50.67 234 *e*P **P 13 22 57.3 -0.1**
NIL pmax pmax
comp=Z,21nm,1.1s
BRTR Keskin Array B 50.85 276 P **P 13 23 00.1 +1.3**
comp=Z,2.6nm,0.7s,baz=15,slow=3.5,SNR=16
BRTR LR LR 13 47 19.0
comp=Z,94nm,20.6s,baz=358,slow=39
AQU L'Aquila 51.44 296 *e*P **P 13 23 04.1 +1.1**
comp=Z,20nm,1.2s
AQU L'Aquila 51.44 296 *e*P **P 13 23 04.1 +1.1**
AQU pmax pmax
comp=Z,20nm,1.2s
YPP Pitchstone Pla 52.00 47 *e*P **P 13 23 09.5 +2.0**
comp=Z,21nm,1.9s
MANT Manisa 52.88 281 *e*P **P 13 23 14.7 +0.7**
comp=Z,39nm,0.9s
PDAR Pinedale Array 53.63 46 P **P 13 23 20.1 +0.5**
comp=Z,0.8nm,0.8s,baz=12,slow=3.5,SNR=5.8
PDAR LR LR 13 47 37.6
comp=Z,82nm,20.1s,baz=356,slow=38
TIP Timpagrande 54.05 292⇓*i*P **P 13 23 23.9 +1.5**
ELK Elko 54.93 51 P **P** 13 23 24.0 -5.1
comp=Z,0.7nm,0.8s,baz=160,slow=24,SNR=3.8
ELK Elko 54.93 51 P **P** 13 23 24.0 -5.0
TCUT Toone Canyon 55.04 48 *e*P **P 13 23 30.8 +0.9**
comp=Z,6.9nm,0.8s
VAE Valguarnera 56.06 294 LR LR 13 53 26.3
comp=Z,105nm,18.6s,baz=336,slow=42
ESDC Sonseca Array 56.42 312 P **P 13 23 39.8 +0.3**
comp=Z,0.8nm,0.7s,baz=12,slow=7.7,SNR=5.6
IDI Anoyia 56.59 284 LR LR 13 50 35.0
comp=Z,40nm,19.8s,baz=20,slow=39
P17A Butcher Ranch, 56.74 48 *e*P **P 13 23 42.1 +0.2**
comp=Z,25nm,1.8s
NVAR Mina Array Bea 56.81 55 P **P 13 23 43.7 +1.2**
comp=Z,0.8nm,0.9s,baz=350,slow=3.1,SNR=4.1
Q16A Castle Valley 57.24 48 *e*P **P 13 23 45.9 +0.4**
comp=Z,5.5nm,1.0s
R11A Troy Canyon, C 57.25 52 *e*P **P 13 23 46.4 +0.9**
comp=Z,14nm,1.9s
PV13 Radium Mtn., P 58.27 46 *e*P **P 13 23 53.4 +0.6**
comp=Z,4.9nm,1.0s
PV01 Paradox Valley 58.32 46 *e*P **P 13 23 53.6 +0.4**
S22A 4UR Ranch, Cre 58.91 44 *e*P **P 13 23 58.4 +1.1**
comp=Z,24nm,1.9s
SDCO Great Sand Dun 59.06 43 *e*P **P 13 23 59.7 +1.4**
comp=Z,5.5nm,1.4s
ANMO Albuquerque 61.72 44 *e*P **P 13 24 16.6 +0.2**
comp=Z,19nm,1.8s
ANMO Albuquerque 61.72 44⇑*e*P **P 13 24 17.9 +1.5**
ANMO pmax pmax
comp=Z,10.0nm,1.8s
WMOK Wichita Mounta 62.74 37 *e*P **P 13 24 23.2 +0.1**
comp=Z,7.3nm,0.9s
WMOK Wichita Mounta 62.74 37 *e*P **P 13 24 23.2 +0.1**
WMOK pmax pmax
comp=Z,7.0nm,0.9s
CMAR Chiang Mai Arr 63.07 205 P **P 13 24 24.1 -1.3**
comp=Z,1.1nm,0.9s,baz=353,slow=7.7,SNR=7.4
CMAR LR LR 13 56 02.0
comp=Z,36nm,18.3s,baz=358,slow=40
MDT Midelt 63.26 311 LR LR 13 54 08.4
comp=Z,44nm,18.7s,baz=176,slow=38
X40A Basin Creek Fa 63.54 32 *e*P **P 13 24 27.9 -0.4**
comp=Z,13nm,1.1s
OXF Oxford 63.80 29 *e*P **P 13 24 30.0 0.0**
comp=Z,32nm,1.1s
OXF Oxford 63.80 29 *e*P **P 13 24 30.0 0.0**
OXF pmax pmax
comp=Z,32nm,1.1s
319A Douglas 64.91 48 *e*P **P 13 24 37.5 0.0**
comp=Z,12nm,1.1s
JCT Junction City 66.86 39 *e*P **P 13 24 50.0 +0.1**
comp=Z,21nm,1.6s
JCT Junction City 66.86 39 *e*P **P 13 24 50.0 +0.1**
JCT pmax pmax
comp=Z,21nm,1.6s
TX31 Lajitas Ar. Si 67.58 43 *e*P **P 13 24 54.4 -0.2**
TXAR Lajitas Array 67.58 43 P **P 13 24 54.9 +0.3**
comp=Z,0.9nm,0.5s,baz=32,slow=6.4,SNR=33
TXAR LR LR 13 55 33.4
comp=Z,95nm,18.9s,baz=0.0,slow=37
TOA0 Torodi Ar. Sit 81.81 302 *e*P **P 13 26 16.9 -0.2**
TORD Torodi Ar. Bea 81.81 302 P **P 13 26 16.3 -0.8**
comp=Z,1.9nm,0.8s,baz=0.0,slow=6.5,SNR=12
DBIC Dimbokro 89.07 307 P **P 13 26 53.2 0.0**
comp=Z,1.9nm,0.7s,baz=355,slow=6.8,SNR=5.0
KMBO Kilima Mbogo 90.27 265 LR LR 14 11 35.9
comp=Z,39nm,18.5s,baz=77,slow=38
WRA Warramunga Arr 100.63 168 P **Pdif 13 27 45.4 -0.4**
comp=Z,0.4nm,1.0s,baz=5.1,slow=4.8,SNR=3.6
PLCA Paso Flores 139.67 15 PKP **PKPdf 13 33 25.1 +0.2**
comp=Z,2.0nm,1.0s,baz=90,slow=1.0,SNR=2.4

*ISCJB **01** 13:38:15.9±0.3,5°.37N±0°.06×124°.07E±0°.07,h521km±4km, mb4.2/28, Error ellipse: s-maj=12.9km s-min=6.5km az=144.5*

MAN 01 13:38:15.2, 4°.87N×124°.05E, h489km, mb5.1, ML4.1, MS4.2
IDC 01 13:38:17.1±0.6, 5°.36N×124°.00E, h521km±7km, mb3.6/21, mb1 3.7/26, mb1mx3.5/47, mbtmp4.6/26, Error ellipse: s-maj=14.0km s-min=6.7km az=67.0
ISC 01 13:38:16.7±0.6, 5°.32N±0°.07×124°.05E±0°.09, h518km±6km, n56, σ1s.19/72, mb4.2/38, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSPH	General Santos	1.18	50	⇑iP	P	13 39 21.6	+1.1
SKMP	Bagumbayan, Su	1.29	22	eP	P	13 39 18.9	-1.8
CTBH	Cotabato--PC H	1.90	6	⇓eP	P	13 39 23.0	0.0
DMPH	Davao City--Mi	2.27	40	⇑iP	P	13 39 30.4	+5.5
DMPH				iS	S	13 39 32.9	-47
DAV	Davao City (W)	2.31	41	P	P	13 39 23.9	-1.2
	135nm,0.3s,baz=249,slow=3.5,SNR=17						
DAV				S	S	13 40 21.9	+1.2
	27nm,0.3s,baz=290,slow=22,SNR=1.3						
MATI	Mati	2.73	54	eP	P	13 39 25.9	-1.6
MATI				eS	S	13 40 21.5	-3.4
BUKP	Musuan	2.73	22	eP	P	13 39 27.1	-0.5
BUKP				eS	S	13 40 24.3	-0.9
IPIL	Ipil	2.86	329	eP	P	13 39 27.3	-0.9
BIPH	Bislig	3.66	39	⇑iP	P	13 39 33.6	-0.2
MSLP	Maasin	4.85	9	eP	P	13 39 47.4	+4.0
MSLP				eS	S	13 40 36.6	-18
TGY	Tagaytay City	9.25	341	P	P	13 40 26.4	-0.1
	20nm,0.3s,baz=220,slow=7.9,SNR=3.6						
SIJI	Sorong	9.47	130	P	P	13 40 31.0	+2.2
	6.9nm,0.3s,baz=326,slow=13,SNR=38						
SIJI				S	S	13 42 15.2	-2.3
	baz=291,slow=22,SNR=1.3						
BATI	Baumata	15.43	181	P	P	13 41 31.7	+0.5
	9.0nm,0.3s,baz=3.3,slow=2.6,SNR=7.8						
JAY	Jayapura	18.37	115	P	P	13 42 01.7	+2.0
	4.7nm,0.3s,baz=270,slow=3.7,SNR=11						
LEM	Lembang	20.36	234	P	P	13 42 18.5	+0.5
	26nm,0.7s,baz=111,slow=18,SNR=7.9						
FITZ	Fitzroy Crossi	23.32	176	P	P	13 42 44.1	-0.2
	1.2nm,0.4s,baz=8.1,slow=8.5,SNR=13						
CHAI	Chaiyaphum	24.07	298	P	P	13 42 51.1	0.0
	5.1nm,0.7s						
PSI	Prapat	25.18	265	P	P	13 43 00.2	-0.9
	3.0nm,0.4s,baz=180,slow=5.1,SNR=5.4						
PBKT	Sadao Pong	25.23	298	P	P	13 43 02.3	+0.9
	5.2nm,1.0s						
UTHA	Uthaitani	26.21	295	P	P	13 43 11.0	+0.9
	2.7nm,0.6s						
WRA	Warramunga Arr	27.07	158	P	P	13 43 17.9	+0.4
	6.8nm,0.4s,baz=340,slow=9.3,SNR=180						
WRA				PcP	PcP	13 46 21.6	-0.3
	0.4nm,0.5s,baz=325,slow=2.8,SNR=3.0						
WRA				S	S	13 47 16.6	-2.4
	0.8nm,0.6s,baz=336,slow=16,SNR=4.6						
WRA				ScP	ScP	13 49 13.1	-0.1
	0.9nm,0.6s,baz=343,slow=3.3,SNR=7.7						
PMG	Port Moresby	27.29	122	P	P	13 43 19.7	+0.1
	8.0nm,0.8s,baz=328,slow=4.7,SNR=4.6						
CMAR	Chiang Mai Arr	27.77	300	P	P	13 43 24.2	+0.5
	2.5nm,0.6s,baz=118,slow=7.5,SNR=27						
CMAR				PcP	PcP	13 46 23.8	+0.1
	0.5nm,0.7s,baz=139,slow=1.4,SNR=4.7						
CMAR				ScP	ScP	13 49 14.3	-1.1
	1.2nm,0.8s,baz=135,slow=2.2,SNR=9.7						
CMMT	Chiang Mai	27.91	301	P	P	13 43 25.4	+0.4
	11nm,0.6s						
CHTO	Chiang Mai	27.92	301	P	P	13 43 25.5	+0.4
	47nm,0.7s						
ASAR	Alice Springs	30.37	162	P	P	13 43 47.5	+1.2
	10nm,0.5s,baz=338,slow=7.1,SNR=289						
ASAR				PcP	PcP	13 46 30.8	+0.5
	0.4nm,0.6s,baz=348,slow=2.7,SNR=3.0						
ASAR				S	S	13 48 10.6	+0.3
	2.2nm,0.9s,baz=342,slow=15,SNR=18						
ASAR				ScP	ScP	13 49 23.2	-0.5
	0.4nm,0.4s,baz=337,slow=3.1,SNR=6.6						
USRK	Ussuriysk Ar.	39.35	9	P	P	13 45 00.9	-0.1
	1.9nm,0.9s,baz=192,slow=9.5,SNR=3.4						
GTA	Gaotai	40.39	331	P	P	13 45 10.6	+1.0
GTA				PcP	PcP	13 47 01.0	+0.7
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
STKA	Stephens Creek	40.59	157	P	P	13 45 12.8	+1.6
	comp=Z,6.3nm,0.5s,baz=333,slow=8.7,SNR=22						
STKA				ScP	ScP	13 50 00.8	-0.2
	comp=Z,2.4nm,0.8s,baz=332,slow=7.1,SNR=4.8						
RAMN	Ramite	41.66	305	eP	P	13 45 20.7	+0.7
	comp=Z,14nm,0.4s						
JIRN	Jiri	42.28	306	eP	P	13 45 25.3	+0.2
	comp=Z,22nm,0.6s						
GUN	Gumba	42.63	306	eP	P	13 45 28.0	+0.1
	comp=Z,25nm,0.6s						
PKI	Pulchoki	42.88	305	eP	P	13 45 29.6	-0.1
	comp=Z,4.0nm,0.4s						
PKIN	Phulchoki	42.89	305	eP	P	13 45 29.5	-0.3
	comp=Z,5.7nm,0.5s						
KKN	Kakani	43.07	306	eP	P	13 45 30.8	-0.3
	comp=Z,10nm,0.6s						
DMN	Daman	43.14	305	eP	P	13 45 31.7	0.0
	comp=Z,10nm,0.8s						
KLR	Kul'dur	44.24	7	P	P	13 45 39.8	+0.3
	comp=Z,0.5nm,0.4s,baz=198,slow=13,SNR=2.6						
KOLN	Koldanda	44.43	305	eP	P	13 45 41.9	+0.2
	comp=Z,18nm,0.4s						
DANN	Dangsing	44.52	306	eP	P	13 45 42.5	0.0
	comp=Z,50nm,0.6s						
SONM	Songino Array	44.98	343	P	P	13 45 46.1	+0.6
	comp=Z,1.9nm,0.5s,baz=163,slow=8.8,SNR=7.7						
PYUN	Piuthan	45.05	305	eP	P	13 45 46.9	+0.4
	comp=Z,36nm,0.8s						
MKAR	Makanchi Array	54.74	326	P	P	13 46 57.6	+0.4
	comp=Z,7.2nm,0.4s,baz=121,slow=8.0,SNR=272						
MKAR				PcP	PcP	13 47 51.5	-0.3
	comp=Z,2.0nm,0.4s,baz=114,slow=3.7,SNR=12						
MKAR				ScP	ScP	13 50 60.0	-0.6
	comp=Z,0.9nm,0.6s,baz=122,slow=4.5,SNR=7.1						
KSH	Kashi	55.04	315	P	P	13 47 01.2	+1.7
KSH				pmax	pmax		
	comp=Z,16nm,1.1s						
KSH				pmax	pmax		
	comp=Z,270nm,5.4s						
ZALV	Zalesovo Beam	57.98	334	P	P	13 47 18.6	-0.7
	comp=Z,2.5nm,0.4s,baz=135,slow=7.1,SNR=14						
ZALV				PcP	PcP	13 48 03.1	-1.3
	comp=Z,0.4nm,0.3s,baz=151,slow=3.4,SNR=2.3						
GEYT	Alibeck	67.82	309	P	P	13 48 23.5	+0.3
	comp=Z,37nm,0.7s,baz=131,slow=6.7,SNR=12						
AKTO	Aktyubinsk	70.76	322	P	P	13 48 40.5	0.0
	comp=Z,10.0nm,0.5s,baz=103,slow=9.0,SNR=48						
KLMR	Klimovskoe	82.72	331	eP	P	13 49 42.9	-2.8
KLMR				AMP		13 49 45.8	
	comp=Z,6.0nm,0.7s						
BRTR	Keskin Array B	86.95	309	P	P	13 50 05.8	-1.2
	comp=Z,1.5nm,0.8s,baz=121,slow=4.9,SNR=12						
ARCES	ARCESS Array B	88.04	340	P	P	13 50 10.3	-0.9
	comp=Z,1.8nm,0.7s,baz=72,slow=6.0,SNR=5.4						
SPITS	Spitsbergen Ar	88.41	349	P	P	13 50 12.5	-0.3
	comp=Z,11nm,1.1s,baz=74,slow=11,SNR=4.2						
AKASG	Malin Array Be	88.98	321	P	P	13 50 14.6	-1.4
	comp=Z,0.8nm,0.5s,baz=68,slow=4.2,SNR=4.0						
FINES	FINESS Array B	89.17	332	P	P	13 50 15.2	-1.5
	comp=Z,1.9nm,0.7s,baz=68,slow=4.4,SNR=9.2						
MLR	Muntele Rosu	91.91	316	P	P	13 50 29.5	-0.3
	comp=Z,0.7nm,0.4s,baz=104,slow=12,SNR=2.7						
NOA	NORSAR Array B	96.18	333	P	P	13 50 47.4	-1.5
	comp=Z,0.3nm,0.6s,baz=63,slow=5.0,SNR=2.3						
TORD	Torodi Ar. Bea	119.89	288	PKP	PKPdf	13 56 07.8	-1.2
	comp=Z,0.7nm,0.5s,baz=85,slow=2.2,SNR=7.3						
DBIC	Dimbokro	127.63	283	PKP	PKPdf	13 56 24.0	0.0
	comp=Z,1.0nm,0.8s,baz=84,slow=10,SNR=1.8						

IDC 01 14:04:48.2±4.0, 26°.08S×178°.49W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/31, mbtmp3.5/3, Error ellipse: s-maj=214.2km s-min=35.9km az=156.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.07	263	P	P	14 12 49.5	-0.7
	0.2nm,0.5s,baz=97,slow=7.2,SNR=4.3						
WRA	Warramunga Arr	43.66	268	P	P	14 12 55.4	+0.3
	0.2nm,0.3s,baz=105,slow=7.9,SNR=8.7						
ILAR	Eielson Array	93.83	13	P	P	14 18 06.3	-0.5
	0.9nm,1.1s,baz=218,slow=6.9,SNR=3.5						
ARCES	ARCESS Array B	134.29	348	PKP	PKPdf	14 24 07.4	+0.1
	2.1nm,0.8s,baz=28,slow=2.9,SNR=5.4						
FINES	FINESS Array B	140.94	342	PKhKP	PKPpre	14 24 15.2	
	4.7nm,1.0s,baz=17,slow=1.5,SNR=3.5						
NOA	NORSAR Array B	144.43	352	PKP	PKPdf	14 24 26.2	+0.2
	0.4nm,0.4s,baz=16,slow=4.6,SNR=3.2						
HFS	Hagfors	144.94	349	PKP	PKPab	14 24 26.0	0.0
	2.0nm,0.8s,baz=40,slow=3.2,SNR=5.7						
AKASG	Malin Array Be	147.53	327	PKPbc	PKPbc	14 24 33.9	-0.2
	0.6nm,0.5s,baz=40,slow=2.4,SNR=4.0						
BRTR	Keskin Array B	149.96	305	PKPbc	PKPbc	14 24 39.6	-1.3
	0.5nm,0.4s,baz=132,slow=4.2,SNR=4.2						

IDC 01 14:19:12.2±4.2, 2°.79S×132°.80E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.2/25, mbtmp3.3/3, ML2.6/2, Error ellipse: s-maj=175.1km s-min=21.5km az=63.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	2.45	321	Pn	Pn	14 19 54.1	+0.6
	9.4nm,0.3s,baz=112,slow=19,SNR=43						
SIJI				Sn	Sn	14 20 23.9	-0.2
	2.1nm,0.3s,baz=250,slow=23,SNR=6.1						
WRA	Warramunga Arr	17.11	175	P	Pn	14 23 12.9	-0.2
	0.0nm,0.3s,baz=350,slow=12,SNR=2.5						
ASAR	Alice Springs	20.78	177	P	P	14 23 56.0	+0.9
	0.1nm,0.3s,baz=348,slow=10,SNR=2.8						
STKA	Stephens Creek	30.09	165	P	P	14 25 22.9	-0.7
	0.7nm,0.4s,baz=323,slow=20,SNR=5.1						

SJA 01 14:25:49.2±0.5, 27°.22S×65°.38W, h71km±18km, ML3.4, MW4.1, Tucuman Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SLA	San Lorenzo	2.49	357	iP	Pn	14 26 29.6	+1.9
SLA				iS	Sn	14 26 60.0	+2.8
SLA				IAML		14 27 02.5	
	comp=Z,157nm,0.5s						
AZAP	Zapla	2.99	5	iP	Pn	14 26 37.2	+2.6
AZAP				iS	Sn	14 27 12.3	+2.7
HJA	Humahuaca	3.99	360	iP	Pn	14 26 50.9	+2.6

ISCJB 01 14:43:40.8±0.4, 26°.35N±0°.03×93°.17E±0°.03, h61km±6km, mb3.4/3, Error ellipse: s-maj=5.5km s-min=4.9km az=155.3
IDC 01 14:43:41.4±3.4, 26°.39N×93°.16E, h45km±40km, mb3.0/3, mb1 3.3/4, mb1mx2.9/52, mbtmp3.2/4, ML3.6/2, Error ellipse: s-maj=41.5km s-min=22.5km az=79.0
NDI 01 14:43:42.5±2.9, 26°.38N×93°.22E, h39km±338km, ML3.5
ISC 01 14:43:42.0±1.0, 26°.37N±0°.04×93°.19E±0°.04, h51km±11km, n16, σ1s.20/26, mb3.4/3, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TEZP	TEZPUR	0.43	305	eP	Pn	14 43 52.8	+0.3
TEZP				eS	Sn	14 43 59.3	-0.8
TEZP				IAML		14 44 00.7	
TEZP				IAML		14 44 01.4	
	comp=E,8μm,0.1s						
JORH	JORHAT	1.02	68	eP	Pn	14 44 00.4	+0.4
JORH				eS	Sn	14 44 13.2	0.0
JORH				IAML		14 44 14.8	
	comp=N,3μm,0.1s						
JORH				IAML		14 44 15.2	
	comp=E,3μm,0.2s						
KOHI	KOHIMA	1.05	128	eP	Pn	14 44 01.2	+0.6
KOHI				eS	Sn	14 44 15.2	+1.0
KOHI				IAML		14 44 15.9	
	comp=E,622nm,0.3s						
KOHI				IAML		14 44 17.4	
	comp=N,377nm,0.2s						
MOKO	MOKOCHONG	1.19	92	eP	Pn	14 44 02.8	+0.4
MOKO				eS	Sn	14 44 17.1	-0.5
ZIRO	ZIRO	1.29	27	eP	Pn	14 44 04.7	+0.8
ZIRO				eS	Sn	14 44 19.5	-0.7
ZIRO				IAML		14 44 24.1	
	comp=E,3μm,0.2s						
ZIRO				IAML		14 44 24.6	
	comp=N,5μm,0.3s						
SHL	Shillong	1.43	236	eP	Pn	14 44 06.1	+0.4
SHL				eS	Sn	14 44 23.0	-0.4
SHL				IAML		14 44 24.6	
	comp=E,697nm,0.1s						
TAWA	Tawang	1.70	316	eP	Pn	14 44 11.4	+1.8
TAWA				eS	Sn	14 44 29.1	-1.2
TAWA				IAML		14 44 35.0	
	comp=E,793nm,0.2s						
LKP	Lekhapani	2.56	67	eP	Pn	14 44 20.8	-0.2
LKP				eS	Sn	14 44 48.7	-2.2
LKP				IAML		14 44 50.9	
	comp=N,77nm,0.1s						
LKP				IAML		14 44 53.1	
	comp=E,246nm,0.2s						
AZL	Aizawl	2.66	190	eS	Sn	14 44 51.4	-2.3
SAIH	SAIHA	3.87	183	eP	Pn	14 44 41.7	+2.5
SAIH				eS	Sn	14 45 21.4	-2.0
SAIH				IAML		14 45 24.8	
	comp=N,27nm,0.1s						
SAIH				IAML		14 45 29.4	
	comp=E,82nm,0.2s						
BRDH	Bariadhala	3.94	201	P	Pn	14 44 39.5	-0.5
	comp=E,23nm,0.3s,baz=90,slow=22,SNR=1.2						
BRDH				S	Sn	14 45 24.8	-0.2
	comp=E,62nm,0.3s,baz=230,slow=22,SNR=1.9						
GTK	Tadong	4.21	284	eS	Sn	14 45 30.6	-1.1
GTK				IAML		14 45 34.2	
	comp=E,58nm,0.3s						
GTK				IAML		14 45 34.3	
	comp=N,81nm,0.2s						
CMAR	Chiang Mai Arr	9.50	145	P	Pn	14 45 56.9	+0.7
	comp=N,0.1nm,0.3s,baz=329,slow=13,SNR=7.5						
MKAR	Makanchi Array	22.14	340	P	P	14 48 32.8	-0.5
	comp=N,0.5nm,0.7s,baz=146,slow=11,SNR=6.7						
WRA	Warramunga Arr	60.94	135	P	P	14 53 50.0	0.0
	comp=N,0.5nm,1.1s,baz=323,slow=7.4,SNR=3.7						
ASAR	Alice Springs	63.44	138	P	P	14 54 07.2	+0.5
	comp=N,0.2nm,0.6s,baz=316,slow=6.1,SNR=3.2						

IDC 01 14:51:54.9±1.1, 14°.41N×55°.73E, h0km, mb3.7/10, mb1 3.9/10, mb1mx3.6/39, mbtmp3.7/10, MS3.4/14, Ms1 3.4/14, ms1mx3.2/42, Error ellipse: s-maj=27.2km s-min=20.7km az=17.0
ISCJB 01 14:51:56.6±0.9, 14°.5N±0°.1×55°.7E±0°.1, h22km, mb3.7/11, MS3.4/12, Error ellipse: s-maj=22.0km s-min=17.1km az=19.4
ISC 01 14:51:58.4±1.1, 14°.5N±0°.2×55°.7E±0°.2, h22km, n26, σ0s.83/11, mb3.9/11, MS3.2/12, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	9.15	17	LR	LR	14 57 33.3	
	comp=Z,216nm,18.7s,baz=213,slow=37						
ATD	Arta Tunnel	12.89	258	LR	LR	14 58 48.5	
	comp=Z,92nm,18.2s,baz=44,slow=32						
GEYT	Alibeck	23.47	5	P	P	14 57 05.4	-1.1
	3.1nm,0.8s,baz=187,slow=11,SNR=8.9						
GEYT				LR	LR	15 06 07.9	
	comp=Z,72nm,20.6s,baz=30,slow=36						
KMBO	Kilima Mbogo	23.98	231	LR	LR	15 05 46.0	
	comp=Z,78nm,20.2s,baz=84,slow=35						
EIL	Elat	24.43	312	LR	LR	15 07 26.2	
	comp=Z,62nm,18.4s,baz=222,slow=38						
PALK	Pallekele	25.52	104	LR	LR	15 05 55.5	
	comp=Z,58nm,18.9s,baz=295,slow=33						
H08N2	Diego Garcia H	25.61	143	T	T	15 23 54.8	
	baz=324,slow=76,SNR=55						
H08N3	Diego Garcia H	25.62	143	T	T	15 23 54.8	
	baz=324,slow=76,SNR=48						
H08N1	Diego Carcia H	25.63	143	T	T	15 23 56.5	
	baz=324,slow=76,SNR=51						
MMAI	Mount Meron Ar	26.13	318	LR	LR	15 08 22.5	
	comp=Z,46nm,18.8s,baz=220,slow=38						
KBZ	Khabaz	31.17	342	LR	LR	15 13 52.8	
	comp=Z,49nm,18.2s,baz=184,slow=42						
MKAR	Makanchi Array	39.13	29	P	P	14 59 25.1	+0.7
	0.6nm,0.6s,baz=215,slow=8.8,SNR=8.1						
MKAR				LR	LR	15 16 32.0	
	comp=Z,70nm,18.7s,baz=262,slow=38						
KURBB	Kurchatov Arra	40.52	22	P	P	14 59 35.3	-0.5
	0.6nm,0.8s,baz=222,slow=7.9,SNR=5.1						
CMAR	Chiang Mai Arr	41.56	78	P	P	14 59 44.8	0.0
	0.4nm,0.7s,baz=272,slow=6.2,SNR=3.1						
ZALV	Zalesovo Beam	45.53	24	P	P	15 00 17.4	+1.1
	1.7nm,0.6s,baz=248,slow=7.0,SNR=7.4						
ZALV				LR	LR	15 20 26.1	
	comp=Z,42nm,18.1s,baz=256,slow=38						
GERES	GERESS Array B	48.58	324	P	P	15 00 41.5	+1.2
	0.3nm,0.7s,baz=129,slow=7.7,SNR=2.3						
FINES	FINESS Array B	51.53	342	P	P	15 01 01.7	-0.6
	1.5nm,0.6s,baz=134,slow=11,SNR=4.7						
FINES				LR	LR	15 27 50.8	
	comp=Z,51nm,18.7s,baz=240,slow=42						
BOSA	Boshof	51.99	214	LR	LR	15 22 18.8	
	comp=Z,48nm,18.7s,baz=283,slow=35						
TORD	Torodi Ar. Bea	52.40	276	P	P	15 01 09.3	-0.2
	0.5nm,0.9s,baz=87,slow=5.6,SNR=2.8						
NOA	NORSAR Array B	56.43	336	LR	LR	15 28 13.7	
	comp=Z,12nm,19.6s,baz=300,slow=39						
ESDC	Sonseca Array	57.66	308	P	P	15 01 47.2	-0.1
	1.1nm,0.8s,baz=87,slow=5.7,SNR=7.5						
H01W3	Cape Leeuwin H	73.98	133	T	T	16 24 18.6	
	baz=301,slow=76,SNR=4.5						
H01W2	Cape Leeuwin H	73.98	133	T	T	16 24 18.6	
	baz=301,slow=76,SNR=4.8						
H01W1	Cape Leeuwin H	74.00	133	T	T	16 24 20.3	
	baz=301,slow=76,SNR=5.0						
WRA	Warramunga Arr	84.49	112	P	P	15 04 30.4	+0.2
	0.8nm,0.9s,baz=297,slow=3.8,SNR=5.3						
ASAR	Alice Springs	85.23	116	P	P	15 04 33.4	-0.5
	0.6nm,0.8s,baz=293,slow=5.4,SNR=7.3						
ASAR				LR	LR	15 37 43.9	
	comp=Z,136nm,19.9s,baz=350,slow=32						

IDC 01 15:03:03.7±28.0, 18°.05S×175°.46W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/32, mbtmp3.8/4, MS4.3/2, Ms1 4.3/2, ms1mx3.2/28, Error ellipse: s-maj=541.6km s-min=156.3km az=87.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.03	242	P	P	15 10 49.0	+0.1
	0.5nm,0.3s,baz=68,slow=11,SNR=3.0						
JAY	Jayapura	45.65	285	LR	LR	15 28 54.3	
	comp=Z,1μm,21.6s,baz=273,slow=34						
WRA	Warramunga Arr	47.37	259	P	P	15 11 39.8	-0.1
	0.5nm,0.4s,baz=98,slow=7.5,SNR=33						
ASAR	Alice Springs	47.45	254	P	P	15 11 40.7	+0.1
	1.2nm,0.7s,baz=87,slow=8.2,SNR=38						
FITZ	Fitzroy Crossi	55.77	260	P	P	15 12 42.5	-0.4
	1.4nm,0.9s,baz=90,slow=3.0,SNR=5.5						
USRK	Ussuriysk Ar.	78.34	324	LR	LR	15 46 51.4	
	comp=Z,55nm,18.6s,baz=178,slow=34						

MAN 01 15:07:16.8, 12°.46N×123°.76E, h30km, mb3.8, ML2.6, MS2.1, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMPH	Masbate	0.17	233	⇓iP	Pn	15 07 23.6	+0.4
MMPH				iS	Sb	15 07 26.7	+0.1
CNP	Catarman	0.88	87	eP	Pn	15 07 33.0	-0.1
CNP				eS	Sb	15 07 45.2	+0.2
PVCP	Virac	1.19	19	eP	Pb	15 07 38.7	-0.1
PVCP				eS	Sn	15 07 52.5	-0.2
RCP	Roxas	1.34	228	⇑eP	Pn	15 07 39.2	-0.2
RCP				eS	Sn	15 07 56.6	+0.4

IDC 01 15:14:30.2±2.8, 6°.86S×129°.52E, h140km±38km, mb3.2/1, mb1 3.1/5, mb1mx2.9/38, mbtmp3.5/5, Error ellipse: s-maj=66.1km s-min=20.3km az=90.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	6.20	16	P	Pn	15 15 59.8	+0.2
	0.9nm,0.3s,baz=204,slow=20,SNR=26						
SIJI				S	Sn	15 17 03.5	-6.0
	1.4nm,0.3s,baz=122,slow=23,SNR=11						
FITZ	Fitzroy Crossi	11.79	198	P	Pn	15 17 14.3	+0.2
	0.1nm,0.3s,baz=23,slow=13,SNR=12						
FITZ				S	Sn	15 19 17.9	-6.5
	0.1nm,0.3s,baz=96,slow=19,SNR=3.7						
WRA	Warramunga Arr	13.82	161	P	Pn	15 17 38.5	-1.9
	0.2nm,0.3s,baz=343,slow=14,SNR=14						
WRA				S	Sn	15 20 05.0	-8.4
	0.2nm,0.3s,baz=324,slow=27,SNR=9.1						
ASAR	Alice Springs	17.23	166	P	Pn	15 18 23.4	+0.8
	0.2nm,0.3s,baz=346,slow=10,SNR=27						
ASAR				S	S	15 21 28.9	-5.6
	0.0nm,0.3s,baz=350,slow=26,SNR=3.8						
MKAR	Makanchi Array	67.85	327	P	P	15 25 13.3	-0.1
	0.2nm,0.4s,baz=124,slow=8.0,SNR=8.0						

BJI 01 15:18:28.6, 1°.78S×127°.54E, h30km, mb4.9/61, mB5.1/23, Ms4.7/14, Ms7 4.2/13
MOS 01 15:18:33.9±1.0, 1°.07S×126°.97E, h25km, mb5.1/29, Error ellipse: s-maj=11.4km s-min=6.4km az=118.2
GCMT 01 15:18:35.3±0.3, 1°.04S±0°.02×126°.97E±0°.03, h16km±1km, MW4.9/60, Moment Tensor Solution. s20,c25; s60,c87; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.80±.15; $M_{\theta\theta}$1.46±.11; $M_{\phi\phi}$-0.66±.10; $M_{r\theta}$1.39±.33; $M_{\theta\phi}$1.26±.07; $M_{\phi r}$-1.46±.35; Best double couple: $M_0$2.61900×10^{16} NP1:ϕ_s286.00000°,δ75.00000°,λ-45.00000°. NP2: ϕ_s31.00000°,δ47.00000°,λ-159.00000°. Principal axes: T 2.2520, Plg18.0000°, Azm345.0000°; N 0.7280, Plg43.0000°, Azm92.0000°; P -2.9860, Plg42.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
NEIC 01 15:18:35.3±2.3, 1°.09S×126°.96E, h21km±16km, mb4.9/29 Error ellipse: s-maj=6.9km s-min=3.9km az=58.0
IDC 01 15:18:36.5±2.0, 1°.11S×126°.91E, h26km±13km, mb4.5/26, mb1 4.6/28, mb1mx4.5/40, mbtmp4.7/28, ML4.3/2, MS3.6/15, Ms1 3.6/15, ms1mx3.5/36, Error ellipse: s-maj=15.0km s-min=9.8km az=72.0
DJA 01 15:18:36.6±0.2, 1°S±2°×12°7E±°, h10km, M4.9/24, mb5.1/24, mB5.4/14, MLv5.1/16, Mw(mB)4.8/14, Mwp6.5/2
ISCJB 01 15:18:36.4±0.5, 1°.05S±0°.03×126°.97E±0°.03, h38km±5km, mb4.8/77, MS3.7/18, Error ellipse: s-maj=4.8km s-min=4.0km az=136.5
ISC 01 15:18:35.9±0.9, 1°.02S±0°.04×127°.00E±0°.04, h23km±6km, n215, σ1s.61/226, mb5.0/88, MS3.8/18, 11C-7D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANI	Sanana	1.44	224	P	Pn	15 18 58.2	-2.4
SANI				S	Sn	15 19 19.2	+0.4
TNTI	Ternate	1.82	12	P	Pb	15 19 06.7	-1.8
NLAI	Namlea	2.21	177	P	Pn	15 19 10.8	-0.4
NLAI				S	Sn	15 19 37.1	-0.8
KMSI	Cibinong	3.41	298	P	Pn	15 19 26.6	-1.1
LUWI	Luwuk	4.22	270	P	Pn	15 19 38.9	-0.1
SWI	Sorong	4.27	88	P	Pn	15 19 43.7	+4.2
SIJI	Sorong	4.27	88	Pn	Pn	15 19 41.9	+2.2
	20nm,0.3s,baz=229,slow=13,SNR=73						
SIJI				Sn	Sn	15 20 32.6	+3.8
	baz=351,slow=19,SNR=2.8						
MRSI	Marisa	5.27	286	P	Pn	15 19 52.6	-0.7
	121nm,0.6s,1μm0.5nm						
FAKI	Fak Fak	5.58	110	P	Pn	15 19 58.8	+1.2
	528nm,0.9s,4μm1.9nm						
BBSI	Bau Bau	6.26	225	P	Pn	15 20 08.6	+1.6
	50nm,1.0s,1μm369μm						
RKPI	Ransiki, Papua	7.20	94	P	Pn	15 20 28.7	+8.9
MPSI	Mapaga	7.22	281	P	Pn	15 20 23.7	+3.5
	24nm,0.8s,628nm0.2nm						
TTSI	Tana Toraja	7.45	254	P	Pn	15 20 23.7	+0.4
	238nm,0.8s,2μm0.8nm						
BNSI	Bone	7.66	244	P	Pn	15 20 26.5	+0.3
	97nm,0.9s						
SPSI	Sidrap Palu	7.79	248	P	Pn	15 20 29.1	+1.1
	263nm,0.8s,4μm1.2nm						
BKSI	Bulukumba	8.09	238	P	Pn	15 20 34.4	+2.4
	134nm,1.0s,1μm0.4nm						
SAUI	Saumlaki	8.14	148	P	Pn	15 20 35.2	+2.4
	234nm,0.7s,0.7nm						
KAPI	Kappang	8.25	241	ePn	Pn	15 20 34.9	+0.6
KAPI	Kappang	8.25	241	eP	Pn	15 20 34.9	+0.6

EDFI Ende, Flores 9.32 214 P **Pn** **15 20 51.7 +2.6**
61nm,0.9s
BATI Baumata 9.71 200 Pn **Pn** **15 20 57.6 +3.2**
baz=345,slow=20,SNR=2.0
BKB Balikpapan 10.10 269 P Pn 15 21 15.7 +16
MTKI Muara Teweh, K 12.10 270 P **Pn** **15 21 30.2 +3.1**
83nm,1.1s,3µm
KDU Kakadu 12.80 155 P **Pn** **15 21 34.6 -2.0**
baz=13,SNR=31
KKM Kota Kinabalu 12.85 303 *e*Pn **Pn** **15 21 35.3 -2.1**
GENI Genyem 13.26 97 P **P** **15 21 47.8 -4.8**
171nm,1.4s,3µm
JAY Jayapura 13.78 96 Pn **P** **15 21 57.6 -0.8**
0.9nm,0.3s,baz=218,slow=9.7,SNR=4.9
KNRA Kununurra 14.67 173 P **Pn** **15 22 01.5 -0.7**
baz=15,SNR=14
JAGI Jajag, Banyuwa 14.78 240 P **P** **15 22 11.4 +1.9**
SBUM Sibu 15.17 283 *e*Pn **Pn** **15 22 08.3 -0.6**
7.2nm,1.4s
STKI Sintang 15.55 274 P **Pn** **15 22 14.8 +0.8**
48nm,1.5s
PWJI Pagerwojo 16.66 245 P **P** **15 22 30.8 +0.4**
135nm,1.3s
NGJI Ngawi 16.72 247 P **P** **15 22 35.3 +4.2**
KSM Kuching 16.87 278 *e*Pn **Pn** **15 22 29.7 -1.1**
43nm,1.0s
FITZ Fitzroy Crossi 17.03 184 Pn **Pn** **15 22 30.7 -2.0**
0.6nm,0.3s,baz=29,slow=9.5,SNR=18
FITZ Fitzroy Crossi 17.03 184 P **Pn** **15 22 31.5 -1.3**
baz=17,SNR=13
FITZ Fitzroy Crossi 17.03 184 *e*Pn **Pn** **15 22 31.2 -1.5**
16nm,0.8s
PCJI Pacitan 17.30 245 P **P** **15 22 40.0 +2.6**
115nm,1.5s,2µm
WOJI Wonogiri, Jawa 17.39 247 P **P** **15 22 39.5 +1.0**
85nm,1.6s
KPJI Karang Pucung 19.07 250 P **Pn** **15 22 59.8 +1.9**
92nm,1.2s
JCJI Jatiwangi 19.45 253 P **Pn** **15 23 07.0 +4.5**
138nm,0.6s
CMJI Cimerak 19.67 249 P **P** **15 23 05.3 +1.8**
84nm,1.6s
WRAB Tennant Creek 20.13 160 *e*P **P** **15 23 06.5 -2.1**
50nm,0.9s
WRAB Tennant Creek 20.13 160 *e*P **P** **15 23 06.5 -2.1**
WRAB pmax pmax
comp=Z,50nm,0.9s
WRA Warramunga Arr 20.14 160 P **P** **15 23 06.5 -2.1**
comp=Z,34nm,0.9s,baz=337,slow=11,SNR=118
WRA ScP **ScP** **15 30 57.4 -1.2**
comp=Z,0.9nm,1.0s,baz=334,slow=2.5,SNR=2.7
WB2 Warramunga Arr 20.14 160 *e*P **P** **15 23 06.3 -2.3**
LEM Lembang 20.17 253 P **P** **15 23 10.1 +0.9**
comp=Z,44nm,0.9s,baz=82,slow=9.3,SNR=9.6
LEM LR LR 15 32 45.6
comp=Z,226nm,19.5s,baz=66,slow=42
CISI Cisompet, Garu 20.19 251 P **P** **15 23 09.9 +0.6**
comp=Z,213nm,1.1s
COEN Coen 20.53 130 P **P** **15 23 13.3 +0.4**
baz=21,SNR=90
COEN Coen 20.53 130 *e*P **P** **15 23 13.0 +0.1**
comp=Z,158nm,0.8s
PPBI Pangkal Pinang 20.88 267 P **P** **15 23 17.3 +0.5**
comp=Z,39nm,1.2s,comp=Z,653nm
DBJI Dramaga 20.93 254 P **P** **15 23 21.1 +3.8**
MBWA Marble Bar 21.24 199 *e*P **P** **15 23 19.5 -1.0**
comp=Z,48nm,1.1s
PMG Port Moresby 21.72 113 P **P** **15 23 27.4 +1.6**
comp=Z,47nm,0.8s,baz=289,slow=6.2,SNR=32
PMG LR LR 15 34 40.1
comp=Z,190nm,18.9s,baz=318,slow=44
PMG Port Moresby 21.72 113 *e*P **P** **15 23 26.2 +0.4**
comp=Z,59nm,0.8s
PMG Port Moresby 21.72 113 *e*P **P** **15 23 26.2 +0.4**
PMG pmax pmax
comp=Z,59nm,0.8s
GUMO Guam 22.90 50 LR LR 15 33 04.0
comp=Z,197nm,18.9s,baz=228,slow=38
QIS Mount Isa 23.00 148 P **P** **15 23 38.3 -1.0**
baz=23,SNR=98
MYKOM Kota Tinggi 23.31 277 *e*P **P** **15 23 41.1 -1.5**
comp=Z,64nm,1.2s
AS31 Alice Springs 23.49 164 *e*P **P** **15 23 42.3 -1.9**
comp=Z,15nm,0.8s
ASAR Alice Springs 23.49 164 P **P** **15 23 42.6 -1.6**
comp=Z,45nm,0.8s,baz=344,slow=10,SNR=337
ASAR PcP **PcP** **15 27 32.5 +2.5**
comp=Z,1.1nm,0.8s,baz=1.2,slow=2.2,SNR=3.8
ASAR ScP **ScP** **15 31 05.5 -1.5**
comp=Z,0.7nm,0.9s,baz=354,slow=1.9,SNR=3.7
AS01 Alice Springs 23.50 164 *e*P **P** **15 23 42.2 -2.2**
WRKA Warakurna 23.91 177 P **P** **15 23 47.6 -0.7**
baz=24,SNR=29
MTSU Mount Surprise 24.06 136 P **P** **15 23 50.3 +0.6**
baz=24,SNR=11
YULB Yu-li 24.89 347 *e*P **P** **15 23 56.0 -1.2**
comp=Z,68nm,1.5s
TPUB Ta-pu 24.95 346 *e*P **P** **15 23 57.6 -0.2**
comp=Z,102nm,1.0s
SSLB Suanglung 25.35 347 *e*P **P** **15 24 01.4 0.0**
comp=Z,20nm,0.9s
IPM Ipoh 26.52 282 *e*P **P** **15 24 11.5 -0.7**
comp=Z,23nm,1.0s
CTA Charters Tower 26.72 136 P **P** **15 24 13.5 -0.4**
comp=Z,36nm,1.0s,baz=315,slow=13,SNR=14
CTAO Charters Tower 26.72 136 *e*P **P** **15 24 13.8 -0.1**
comp=Z,70nm,1.2s
CTAO Charters Tower 26.72 136 *e*P **P** **15 24 13.8 -0.1**
CTAO pmax pmax
comp=Z,70nm,1.2s
JOW Kunigami 27.72 2 P **P** **15 24 23.6 +0.9**
comp=Z,30nm,0.8s,baz=210,slow=9.3,SNR=6.0
JOW LR LR 15 34 32.4
comp=Z,70nm,20.8s,baz=181,slow=34
JOW Kunigami 27.72 2 *e*P **P** **15 24 23.9 +1.1**
comp=Z,55nm,1.1s
PSI Prapat 28.32 278 P **P** **15 24 27.5 -1.0**
comp=Z,31nm,0.9s,baz=179,slow=0.6,SNR=27
PSI LR LR 15 37 28.5
comp=Z,226nm,20.3s,baz=262,slow=40
CHAI Chaiyaphum 29.88 305 P **P** **15 24 45.4 +3.3**
comp=Z,3.2nm,0.9s
QLP Quilpie 30.35 148 P **P** **15 24 46.6 +0.5**
baz=30,SNR=9.8
SUKH Sukhothai 32.63 306 P **P** **15 25 08.9 +2.6**
comp=Z,3.9nm,0.9s
BBOO Buckleboo 32.76 166 P **P** **15 25 07.6 +0.3**
baz=33,SNR=9.8
BBOO Buckleboo 32.76 166 *e*P **P** **15 25 07.2 -0.1**
comp=Z,17nm,0.8s
WHN Wuhan 33.62 340 ⇑P **P** **15 25 17.2 +2.4**
GYA Guiyang 33.63 326 *e*P **P** **15 25 16.2 +1.1**
GYA pmax pmax
comp=Z,10.0nm,0.8s
STKA Stephens Creek 33.65 157 P **P** **15 25 15.3 +0.3**
comp=Z,32nm,0.8s,baz=330,slow=10.0,SNR=57
STKA Stephens Creek 33.65 157 P **P** **15 25 15.7 +0.6**
baz=34,SNR=22
STKA Stephens Creek 33.65 157 *e*P **P** **15 25 15.2 +0.1**
comp=Z,8.0nm,0.9s
STKA Stephens Creek 33.65 157 *e*P **P** **15 25 15.2 +0.1**
STKA pmax pmax
comp=Z,8.0nm,0.9s
CMAR Chiang Mai Arr 33.70 306 P **P** **15 25 15.6 -0.1**
comp=Z,1.6nm,0.9s,baz=135,slow=7.7,SNR=12
CMAR PcP **PcP** **15 27 56.8 +1.4**
comp=Z,1.6nm,1.0s,baz=169,slow=1.2,SNR=5.3
CMAR ScP **ScP** **15 31 39.8 +0.9**
comp=Z,1.3nm,0.8s,baz=170,slow=3.1,SNR=10.0
CMAR LR LR 15 40 60.0
comp=Z,41nm,19.8s,baz=115,slow=40
NJ2 Nanjing 33.78 348 *e*P **P** **15 25 17.8 +1.6**
NJ2 pmax pmax
comp=Z,14nm,0.5s
CMMT Chiang Mai 33.88 307 P **P** **15 25 17.6 +0.3**
comp=Z,8.9nm,2.1s
CHTO Chiang Mai 33.88 307 *e*P **P** **15 25 16.6 -0.7**
comp=Z,8.7nm,1.1s
CHTO Chiang Mai 33.88 307 *e*P **P** **15 25 16.6 -0.7**
CHTO pmax pmax
comp=Z,9.0nm,1.1s
CHTO Chiang Mai 33.88 307 P **P** **15 25 17.8 +0.5**
comp=Z,40nm,2.2s
HTT Hallett 34.13 162 P **P** **15 25 20.3 +1.0**
baz=34,SNR=7.3
JNU Nakatsue 34.15 6 P **P** **15 25 21.1 +1.6**
comp=Z,8.8nm,1.0s,baz=6.6,slow=6.1,SNR=6.9
KMI Kunming 35.03 320 P **P** **15 25 29.2 +1.8**
KMI pP sP 15 25 39.7 +2.7
KMI sP pP 15 25 45.0 +11
KMI S **S** **15 31 00.1 +1.4**
KMI pmax pmax
comp=Z,14nm,1.4s
KMI pmax pmax
comp=Z,66nm,4.2s
KMI LR LR
comp=Z,190nm,27.1s
KMI LR LR
comp=Z,210nm,23.4s
KMI LR LR
comp=Z,190nm,21.9s
CMSA Cobar Meteorol 35.13 152 P **P** **15 25 28.8 +0.9**
baz=35,SNR=15
ENH Enshi 35.31 333 *e*P **P** **15 25 28.5 -1.0**
comp=Z,34nm,1.0s
ARMA Armidale 37.44 144 P **P** **15 25 49.2 +1.4**
baz=38,SNR=6.9
ARMA Armidale 37.44 144 *e*P **P** **15 25 48.3 +0.5**
comp=Z,13nm,0.8s
ARPS Mount Arapiles 38.13 161 P **P** **15 25 54.6 +1.2**
baz=38,SNR=10
KSAR Wonju Array Be 38.28 1 P **P** **15 25 55.8 +1.2**
KSAR Wonju Array Be 38.28 1 P **P** **15 25 55.8 +1.2**
KSRS Korea Array 38.29 1 P **P** **15 25 55.8 +1.1**
comp=Z,6.8nm,0.7s,baz=178,slow=9.8,SNR=13
KS01 Wonju Array Si 38.31 1 *e*P **P** **15 25 54.6 -0.3**
CD2 Chengdu 38.68 327 *e*P **P** **15 25 59.0 +0.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
YNG Young 38.69 151 P **P** **15 25 59.8 +1.6**
baz=39,SNR=7.6
XAN Xi'an 38.79 336 P **P** **15 25 59.2 +0.1**
XAN pmax pmax
comp=Z,25nm,1.2s
XAN pmax pmax
comp=Z,180nm,4.3s
MJAR Matsushiro Arr 38.80 14 P **P** **15 25 58.3 -0.7**
comp=Z,2.0nm,0.6s,baz=194,slow=10.0,SNR=11
MAJO Matsushiro 38.80 14⇓ *e*P **P** **15 26 00.4 +1.4**
MAJO pmax pmax
comp=Z,48nm,2.8s
MAT Matsushiro 38.80 14 P **P** **15 25 58.0 -1.0**
CAN Canberra 39.80 151 *e*P **P** **15 26 08.2 +0.7**
comp=Z,25nm,0.8s
CAN Canberra 39.80 151 *e*P **P** **15 26 08.3 +0.7**
CAN pmax pmax
comp=Z,25nm,0.8s
TOO Toolangi 40.17 157 P **P** **15 26 13.0 +2.5**
baz=40,SNR=4.0
TOO Toolangi 40.17 157 *e*P **P** **15 26 10.7 +0.1**
comp=Z,42nm,1.1s
TOO Toolangi 40.17 157 *e*P **P** **15 26 10.7 +0.1**
TOO pmax pmax
comp=Z,42nm,1.1s
TIY Taiyuan 40.82 342 *e*P **P** **15 26 20.4 +4.4**
BJT Baijiatuao 42.02 348 *e*P **P** **15 26 25.9 +0.3**
comp=Z,46nm,1.1s
BJT Baijiatuao 42.02 348 *e*P **P** **15 26 26.0 +0.3**
BJT pmax pmax
comp=Z,47nm,1.1s
BJI Beijing 42.04 348⇑ *i*P **P** **15 26 26.4 +0.6**
BJI pmax pmax
comp=Z,15nm,1.2s
LZH Lanzhou 42.75 332 ⇑P **P** **15 26 34.1 +2.2**
LZH pP sP 15 26 44.9 +3.3
LZH sP pP 15 26 49.1 +10
LZH *e*PP **PcP** **15 28 17.5 -5.8**
LZH pmax pmax
comp=Z,23nm,1.8s
USA0B Ussuriysk Arra 45.24 5 *e*P **P** **15 26 51.8 +0.3**
comp=Z,33nm,1.4s
USRK Ussuriysk Ar. 45.24 5 P **P** **15 26 52.1 +0.7**
comp=Z,5.9nm,0.6s,baz=181,slow=7.6,SNR=23
MDJ Mudanjiang 45.49 3 P **P** **15 26 53.7 +0.2**
MDJ pP pP 15 27 01.0 +0.5
MDJ sP sP 15 27 05.3 +2.0
MDJ pmax pmax
comp=Z,19nm,0.8s
MDJ Mudanjiang 45.49 3 *e*P **P** **15 26 53.6 +0.1**
comp=Z,16nm,0.8s
LSA Lhasa 45.86 315 *e*P **P** **15 26 57.0 -0.2**
comp=Z,16nm,1.4s
LSA Lhasa 45.86 315 *e*P **P** **15 26 57.0 -0.2**
LSA pmax pmax
comp=Z,16nm,1.4s
ASAJ Asahikawa 47.05 15 P **P** **15 27 06.9 +1.2**
comp=Z,4.6nm,0.4s,baz=223,slow=32,SNR=6.7
GTA Gaotai 47.32 331 ⇓P **P** **15 27 09.0 +0.8**
GTA pP pP 15 27 13.5 -1.7
GTA PcP **PcP** **15 28 39.3 +0.4**
GTA S **S** **15 34 02.7 +2.0**
GTA SS **SS** **15 37 26.1 -2.5**
GTA pmax pmax
comp=Z,9.0nm,1.5s
GTA pmax pmax
comp=Z,200nm,6.7s
GTA LR LR
comp=Z,150nm,15.9s
GTA LR LR
comp=Z,160nm,15.2s
GTA LR LR
comp=Z,180nm,19.0s
RAMN Ramite 47.80 309 *e*P **P** **15 27 14.2 +2.0**
comp=Z,41nm,0.6s
JIRN Jiri 48.46 309 *e*P **P** **15 27 18.6 +1.1**
comp=Z,94nm,1.1s
GUN Gumba 48.82 309 *e*P **P** **15 27 21.4 +1.2**
comp=Z,79nm,0.8s
PKI Pulchoki 49.02 309 *e*P **P** **15 27 22.6 +0.8**
comp=Z,33nm,1.0s
PKIN Phulchoki 49.04 309 *e*P **P** **15 27 22.6 +0.8**
comp=Z,20nm,0.8s
KKN Kakani 49.23 309 *e*P **P** **15 27 24.1 +0.9**
comp=Z,64nm,1.1s
DMN Daman 49.28 309 *e*P **P** **15 27 24.9 +1.3**
comp=Z,73nm,1.0s
KLR Kul'dur 50.22 4 P **P** **15 27 30.5 +0.4**
comp=Z,9.0nm,1.1s,baz=212,slow=4.2,SNR=12
KLR Kul'dur 50.22 4⇑ *e*P **P** **15 27 29.4 -0.7**
KOLN Koldanda 50.54 308 *e*P **P** **15 27 34.4 +1.3**
comp=Z,157nm,1.0s
DANN Dangsing 50.68 309 *e*P **P** **15 27 35.3 +1.0**
comp=Z,116nm,0.7s
HYB Hyderabad 51.10 293⇓ *i*P **P** **15 27 37.0 -0.3**
comp=Z,107nm,1.2s
PYUN Piuthan 51.17 308 *e*P **P** **15 27 39.2 +1.3**
comp=Z,236nm,1.0s
SONM Songino Array 51.86 342 P **P** **15 27 43.1 +0.5**
comp=Z,7.1nm,0.9s,baz=162,slow=8.3,SNR=21
SONM ScP **ScP** **15 32 49.9 -1.2**
comp=Z,1.2nm,0.8s,baz=191,slow=3.0,SNR=3.9
SONA1 Songino Array 51.87 342 *e*P **P** **15 27 43.0 +0.3**
GRNR Gornyy 52.22 8 *e*P P 15 27 33.2 -12
ZAK Zakamensk 55.08 342 *e*P **P** **15 28 04.8 -1.3**
ZAK pmax pmax
comp=Z,9.0nm,1.3s
POO Poona 55.71 293 *e*P **P** **15 28 10.0 -1.2**
WMQ Urumqi 56.78 327 P **P** **15 28 19.6 +1.2**
WMQ pP pP 15 28 26.2 +0.6
WMQ sP sP 15 28 34.5 +6.2
WMQ PcP **PcP** **15 29 15.4 +1.2**
WMQ pmax pmax
comp=Z,56nm,0.9s
WMQ LR LR
comp=Z,330nm,24.5s
WMQ LR LR
comp=Z,150nm,22.5s
WMQ LR LR
comp=Z,200nm,21.5s
MOY Mondy 56.92 341 *e*P **P** **15 28 20.3 +1.0**
MOY pmax pmax
comp=Z,32nm,1.8s
URZ Urewera 58.96 135 LR LR 15 54 38.3
comp=Z,99nm,19.2s,baz=310,slow=37
BOD Bodaibo 59.57 352 *e*P **P** **15 28 37.5 -0.1**
BOD pmax pmax
comp=Z,17nm,1.7s
PETK Petropavlovsk- 59.72 21 P **P** **15 28 38.9 +0.2**
comp=Z,11nm,1.0s,baz=182,slow=4.3,SNR=13
DGZ Jazzator, Alta 60.85 332 *d i*P **P** **15 28 48.1 +1.3**
DGZ pmax pmax
comp=Z,5.0nm,1.0s
NIL Nilore 61.09 310 *e*P **P** **15 28 48.8 +0.3**
comp=Z,20nm,0.8s
NIL Nilore 61.09 310 *e*P **P** **15 28 48.8 +0.3**
NIL pmax pmax
comp=Z,20nm,0.8s
PDGK Podgornoye 61.26 322 P **P** **15 28 49.6 0.0**
PDGK pmax pmax
comp=Z,13nm,1.0s
MK01 Makanchi Array 61.59 327 *e*P **P** **15 28 51.6 -0.1**
MK31 Makanchi Array 61.61 327 *e*P **P** **15 28 51.9 +0.1**
MK31 Makanchi Array 61.61 327 *e*P **P** **15 28 51.9 +0.1**
MKAR Makanchi Array 61.61 327 P **P** **15 28 52.1 +0.3**
comp=Z,9.5nm,0.9s,baz=116,slow=7.9,SNR=29
MKAR ScP **ScP** **15 33 31.7 -2.2**
comp=Z,1.4nm,0.9s,baz=116,slow=5.5,SNR=4.3
MKAR LR LR 15 58 18.8
comp=Z,62nm,18.2s,baz=102,slow=39
MKAR Makanchi Array 61.61 327 *e*P **P** **15 28 51.9 +0.1**
comp=Z,60nm,0.9s
MKAR ScP **ScP** **15 33 31.7 -2.2**
KSH Kashi 61.62 317 P **P** **15 28 53.2 +1.1**
KSH PcP **PcP** **15 29 36.3 +2.7**
KSH S **S** **15 37 12.9 -0.5**
KSH ScS **SKKSac** **15 38 40.6 -2.1**
KSH pmax pmax
comp=Z,23nm,1.0s
KSH LR LR
comp=Z,65nm,7.6s
KSH LR LR
comp=Z,190nm,6.4s
KSH LR LR
comp=Z,270nm,8.3s
MAKZ Makanchi 61.79 327 *e*P **P** **15 28 52.7 -0.3**
comp=Z,22nm,1.2s
MAKZ Makanchi 61.79 327 *e*P **P** **15 28 52.7 -0.3**
MAKZ pmax pmax
comp=Z,22nm,1.2s
YAK Yakutsk 62.91 1 *e*P **P** **15 29 00.5 +0.4**
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.1s
MA2 Magadan 63.22 13⇑ *i*P **P** **15 29 02.9 +0.6**
MA2 pmax pmax
comp=Z,117nm,3.0s
KZA Kyzart 63.31 319 P **P** **15 29 07.7 +4.0**
SNR=7.6
TKM2 Tokmak 2 63.50 320 P **P** **15 29 08.2 +3.5**
SNR=5.8
KBK Karagaybulak 63.79 320 P **P** **15 29 10.4 +3.9**
SNR=9.0
UCH Uchtor 63.87 319 P **P** **15 29 09.1 +1.7**
SNR=13
AAK Ala-Archa 64.07 319 P **P** **15 29 12.3 +3.9**
SNR=7.0
AAK Ala-Archa 64.07 319 *e*P **P** **15 29 08.4 0.0**
AAK Ala-Archa 64.07 319⇓ *e*P **P** **15 29 08.9 +0.4**
AAK pmax pmax
comp=Z,20nm,1.3s
AML Almayashu 64.36 319 P **P** **15 29 11.9 +1.2**
SNR=12
USP Ospenovka 64.37 320 P **P** **15 29 11.3 +1.1**
SNR=7.2
EKS2 Erkin-Say 64.55 319 P **P** **15 29 12.7 +1.1**
SNR=6.5
KBL Kabul 64.66 309 P **P** **15 29 12.5 0.0**
KBL pmax pmax
comp=Z,12nm,0.9s
ZALV Zalesovo Beam 64.93 334 P **P** **15 29 13.0 -0.6**
comp=Z,2.4nm,0.6s,baz=131,slow=6.1,SNR=10.0
ZALV Zalesovo Beam 64.93 334 *e*P **P** **15 29 12.5 -1.1**
ZALV Zalesovo Beam 64.93 334 *e*P **P** **15 29 12.5 -1.1**
KURK Kurchatov 65.88 329 *e*P **P** **15 29 19.0 -0.9**
comp=Z,166nm,1.0s
KURK Kurchatov 65.88 329⇑ *e*P **P** **15 29 19.4 -0.4**
KURK pmax pmax
comp=Z,17nm,1.2s
NVS Novosibirsk 66.22 334 *e*P **P** **15 29 19.9 -2.0**
NVS pmax pmax
comp=N,6.0nm,1.2s
NVS pmax pmax
comp=E,8.0nm,1.2s
NVS pmax pmax
comp=Z,13nm,1.2s
BRVK Borovoye 71.51 328 *e*P **P** **15 29 53.1 -1.8**
comp=Z,41nm,1.1s
BRVK Borovoye 71.51 328⇑ *i*P **P** **15 29 55.0 +0.1**
BRVK pmax pmax
comp=Z,18nm,1.3s
TIXI Tiksi 72.55 1 LR LR 16 02 05.6
comp=Z,58nm,21.6s,baz=159,slow=36
TIXI Tiksi 72.55 1⇑ *e*P **P** **15 30 00.6 -0.2**
TIXI pmax pmax
comp=Z,18nm,1.4s
RAR Rarotonga 74.01 112 LR LR 16 03 10.2
comp=Z,32nm,21.5s,baz=252,slow=36
GEYT Alibeck 74.09 310 P **P** **15 30 10.8 +0.1**
comp=Z,42nm,0.8s,baz=118,slow=5.7,SNR=8.8
ABKAR Akbulak array 75.99 322 *e*P **P** **15 30 20.3 -0.9**
SVE Sverdlovsk 78.13 329 *e*P **P** **15 30 32.9 -0.2**
VNDA Vanda 78.72 173 P **P** **15 30 34.0 -2.0**
comp=Z,2.0nm,0.9s,baz=4.3,slow=3.7,SNR=6.6
VNDA LR LR 16 04 32.9
comp=Z,50nm,20.2s,baz=332,slow=35
VNDA Vanda 78.72 173 P **P** **15 30 34.0 -2.0**
ARU Arti 79.08 328 *e*P **P** **15 30 37.4 -1.0**
comp=Z,19nm,1.0s
ARU Arti 79.08 328 *c i*P **P** **15 30 37.7 -0.7**
ARU S **S** **15 40 38.1 +1.8**
ARU pmax pmax
comp=Z,11nm,1.6s
CHGN Chignik 82.33 33 *e*P **P** **15 30 55.1 -0.6**
comp=Z,142nm,0.8s
RAYN Ar Rayn 82.60 294 *e*P **P** **15 30 58.0 0.0**
comp=Z,5.6nm,0.8s
RAYN Ar Rayn 82.60 294 *e*P **P** **15 30 58.0 0.0**
RAYN pmax pmax
comp=Z,6.0nm,0.8s
ZEI Tsey 85.61 313 *e*P **P** **15 31 12.3 -0.8**
ZEI pmax pmax
comp=Z,7.0nm,0.9s
NCK Nalchik 85.90 314⇑ *i*P **P** **15 31 14.6 +0.3**
NCK pmax pmax
comp=Z,6.0nm,0.5s
KBZ Khabaz 86.42 314 P **P** **15 31 16.1 -0.6**
comp=Z,2.1nm,0.9s,baz=120,slow=1.7,SNR=4.0
NEY Neytrino 86.51 313⇓ *e*P **P** **15 31 15.0 -2.5**
NEY pmax pmax
comp=Z,2.0nm,1.4s
SYO Syowa Base 88.12 201⇓ *e*P **P** **15 31 24.4 -0.1**
SYO Syowa Base 88.12 201⇑ *es*P P 15 31 30.2 +5.7
QSPA South Pole Qui 88.92 180 P **P** **15 31 28.9 +0.4**
comp=Z,1.2nm,0.6s,baz=271,slow=18,SNR=14
QSPA South Pole Qui 88.92 180 *e*P **P** **15 31 28.2 -0.3**
comp=Z,8.2nm,1.3s
ILAR Eielson Array 89.25 25 P **P** **15 31 26.1 -3.8**
comp=Z,1.0nm,1.1s,baz=260,slow=4.5,SNR=3.2
KMBO Kilima Mbogo 89.72 269 P **P** **15 31 33.5 0.0**
comp=Z,1.1nm,0.3s,baz=100,slow=5.4,SNR=4.8
BRTR Keskin Array B 93.23 310 P **P** **15 31 48.5 -0.7**
comp=Z,0.6nm,0.8s,baz=146,slow=9.0,SNR=4.8
BRTR PP **PP** **15 35 28.9 -4.0**
comp=Z,0.9nm,0.9s,baz=134,slow=5.3,SNR=4.1
BRTR LR LR 16 18 42.3
comp=Z,16nm,21.2s,baz=90,slow=39
BRTR Keskin Array B 93.23 310 *i* P **P** **15 31 49.2 0.0**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
INK Inuvik 94.45 22 P **P** **15 31 55.5 +1.6**
comp=Z,0.9nm,0.8s,baz=270,slow=2.5,SNR=2.7
AKASG Malin Array Be 95.72 321 LR LR 16 18 40.3
comp=Z,20nm,20.6s,baz=35,slow=38
FINES FINESS Array B 96.11 332 LR LR 16 17 32.8
comp=Z,48nm,21.4s,baz=66,slow=37
BOSA Boshof 99.81 241 LR LR 16 14 19.9
comp=Z,27nm,18.1s,baz=86,slow=34
TXAR Lajitas Array 124.19 55 PKP **PKPdf** **15 37 34.8 +1.1**
comp=Z,2.0nm,0.9s,baz=291,slow=2.7,SNR=2.6
TORD Torodi Ar. Bea 124.53 285 PKP **PKPdf** **15 37 33.7 -0.9**
comp=Z,1.6nm,1.0s,baz=126,slow=2.5,SNR=5.3
CPUP Villa Florida 152.49 172 PKPbc **PKPbc** **15 38 31.9 +0.7**
comp=Z,5.1nm,1.2s,baz=153,slow=11,SNR=2.6
CPUP PKPab **pPKPbc** **15 38 38.8 -0.1**
comp=Z,4.5nm,0.8s,baz=137,slow=5.2,SNR=6.0

*IDC **01** 15:20:49.0±0.9, 30°.30N×138°.61E, h417km±9km, mb2.9/10, mb1 3.1/14, mb1mx2.9/45, mbtmp3.6/14, Error ellipse: s-maj=21.6km s-min=12.5km az=96.0*
*ISCJB **01** 15:20:50.1±0.7, 30°.37N±0°.08×138°.6E±0°.2, h450km, mb3.1/10, Error ellipse: s-maj=24.1km s-min=11.0km az=2.9*
ISC 01 15:20:50.7±0.8**, 30°.34N**±0°.09×**138°.9E**±0°.1**, h450km, n15, σ2.94**/17**, mb3.1**/10**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.88**	**16**	P	**P**	**15 21 55.3**	**-1.5**
	20nm,0.3s,baz=240,slow=20,SNR=11						
JHJ				S	**S**	**15 22 45.0**	**-5.6**
	13nm,0.3s,baz=246,slow=20,SNR=3.1						
JCJ	**Chichijima**	**4.35**	**137**	S	**S**	**15 23 06.5**	**-6.3**
	31nm,0.3s,baz=302,slow=23,SNR=8.6						
MJAR	**Matsushiro Arr**	**6.21**	**355**	P	**P**	**15 22 24.9**	**-2.2**
	0.3nm,0.3s,baz=176,slow=11,SNR=6.4						
MJAR				S	**S**	**15 23 41.9**	**-4.1**
	0.2nm,0.3s,baz=161,slow=17,SNR=3.4						
USRK	**Ussuriysk Ar.**	**14.87**	**340**	P	**P**	**15 24 00.5**	**+0.2**
	0.3nm,0.3s,baz=157,slow=8.3,SNR=11						
KLR	**Kul'dur**	**19.63**	**346**	P	**P**	**15 24 49.6**	**+1.1**
	0.2nm,0.3s,baz=151,slow=5.8,SNR=11						
CMAR	**Chiang Mai Arr**	**38.05**	**261**	P	**P**	**15 27 28.0**	**-1.4**
	0.3nm,0.6s,baz=72,slow=5.8,SNR=3.2						
WRA	**Warramunga Arr**	**50.18**	**186**	P	**P**	**15 29 03.9**	**+0.1**
	0.4nm,0.5s,baz=2.1,slow=7.6,SNR=4.7						
ASAR	**Alice Springs**	**53.91**	**186**	P	**P**	**15 29 31.0**	**+0.3**
	0.4nm,0.8s,baz=19,slow=12,SNR=3.0						
INK	**Inuvik**	**61.32**	**25**	P	**P**	**15 30 22.7**	**+1.9**
	0.3nm,0.5s,baz=276,slow=5.9,SNR=4.4						
ARCES	**ARCESS Array B**	**69.52**	**340**	P	**P**	**15 31 13.3**	**+0.8**
	1.8nm,0.7s,baz=68,slow=7.5,SNR=5.9						
YKA	**Yellowknife Ar**	**70.68**	**28**	P	**P**	**15 31 20.7**	**+1.2**
	0.3nm,0.8s,baz=292,slow=5.8,SNR=3.9						
FINES	**FINESS Array B**	**73.75**	**333**	P	**P**	**15 31 37.5**	**0.0**
	0.5nm,0.4s,baz=69,slow=5.3,SNR=7.3						
NOA	**NORSAR Array B**	**79.51**	**337**	P	**P**	**15 32 09.9**	**+0.6**
	0.6nm,0.8s,baz=51,slow=4.4,SNR=3.0						
PDAR	**Pinedale Array**	**83.92**	**44**	P	**P**	**15 32 34.7**	**+2.0**
	0.2nm,0.7s,baz=20,slow=2.9,SNR=2.4						
TXAR	**Lajitas Array**	**95.93**	**51**	P	**P**	**15 33 32.3**	**+3.5**
	0.2nm,1.0s,baz=298,slow=6.0,SNR=3.2						

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*NNC **01** 15:23:37.9±2.1, 39°.17N×76°.12E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=15.8km s-min=7.6km az=147.0*
ISC 01 15:23:42.1±4.3**, 38°.6N**±0°.3×**75°.38E**±0°.10**, h10km, n20, σ1.58**/18**, 10C-5D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.03**	**315**	⇓Pn	**Pn**	**15 24 15.5**	**-1.1**
	14nm,0.6s						
SFK				⇑Pg	**Pb**	**15 24 21.1**	**+1.8**
	18nm,0.4s						
SFK				⇑Lg	Lg	15 24 46.7	
	141nm,0.6s						
SFK	**Sufi-Kurgan**	**2.03**	**315**	Pg	**Pn**	**15 24 15.5**	**-1.1**
	23nm,0.2s						
SFK				Lg	Lg	15 24 46.9	
	85nm,0.4s						
KZA	**Kyzart**	**3.48**	**358**	P	Pn	15 24 32.4	-4.3
	SNR=18						
UCH	**Uchtor**	**3.69**	**350**	P	**Pn**	**15 24 38.4**	**-1.2**
	SNR=7.8						
ULHL	**Ulahol**	**3.70**	**10**	P	Pn	15 24 33.1	-6.5
	SNR=8.7						
AML	**Almayashu**	**3.76**	**340**	P	**Pn**	**15 24 42.0**	**+1.4**
	SNR=5.9						
KBK	**Karagaybulak**	**4.07**	**355**	P	**Pn**	**15 24 43.9**	**-0.7**
	SNR=19						
AAK	**Ala-Archa**	**4.09**	**351**	⇓Pg	**Pn**	**15 24 44.0**	**-0.9**
	8.6nm,0.5s						
AAK				⇓Lg	Lg	15 25 35.7	
	20nm,0.7s						
TKM2	**Tokmak 2**	**4.32**	**2**	P	**Pn**	**15 24 46.5**	**-1.6**
	SNR=11						
TKM2	**Tokmak 2**	**4.32**	**2**	⇑Pg	**Pn**	**15 24 46.4**	**-1.7**
	6.3nm,0.4s						
TKM2				⇑Lg	Lg	15 25 39.3	
	18nm,0.5s						
KST	**Kastek**	**4.46**	**5**	Pg	**Pn**	**15 24 50.1**	**+0.1**
	18nm,0.5s						
KST				Lg	Lg	15 25 42.3	
	18nm,0.6s						
TNSS	**Tian-Shan**	**4.59**	**14**	Pg	**Pn**	**15 24 50.0**	**-2.0**
	19nm,0.5s						
TNSS				Lg	Lg	15 25 43.2	
	22nm,0.6s						
MTBS	**Maitube**	**4.60**	**10**	Pg	**Pn**	**15 24 51.4**	**-0.3**
	6.3nm,0.3s						
MTBS				Lg	Lg	15 25 45.0	
	20nm,0.5s						
DGS	**Degeres**	**4.65**	**4**	Pg	**Pn**	**15 24 50.9**	**-1.6**
	25nm,0.6s						
DGS				Lg	Lg	15 25 45.0	
	24nm,0.8s						
MDOK	**Medeo**	**4.73**	**15**	⇑Pg	Pn	15 24 50.6	-3.1
	6.2nm,0.5s						
MDOK				⇑Lg	Lg	15 25 45.8	
	36nm,1.0s						
KNDC	**Almaty**	**4.77**	**14**	⇑Lg	Lg	15 25 48.5	
	35nm,0.5s						
SGDS	**Sogindy**	**4.88**	**354**	Pg	**Pn**	**15 24 59.1**	**+3.4**
	7.8nm,0.5s						
SGDS				Lg	Lg	15 25 58.2	
	17nm,0.7s						
KUU	**Kurty**	**5.34**	**7**	Pg	**Pn**	**15 25 03.3**	**+1.4**
	6.0nm,0.7s						
KUU				Lg	Lg	15 26 05.2	
	42nm,0.7s						
PDGK	**Podgornoye**	**5.66**	**32**	⇑Pg	**Pn**	**15 25 06.9**	**+0.5**
	6.7nm,0.8s						
PDGK				⇑Lg	Lg	15 26 11.5	
	22nm,0.9s						
KK31	**Karatay Array**	**5.82**	**322**	⇑Pg	**Pb**	**15 25 22.8**	**-0.9**
	0.2nm,0.3s,baz=128,slow=12,SNR=5.4						
KK31				⇓Sn	**Sn**	**15 26 14.9**	**-0.4**
	5.0nm,0.8s						
KK31				⇓Lg	Lg	15 26 39.1	
	1.6nm,0.5s,baz=132,slow=13,SNR=5.3						

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*ISCJB **01** 15:28:26.7±0.3, 42°.82N±0°.02×7°.12W±0°.03, h12km±2km, Error ellipse: s-maj=3.6km s-min=2.1km az=36.9*
*LDG **01** 15:28:29.9±0.1, 42°.89N×7°.33W, h10km, Ml3.4/22, Error ellipse: s-maj=2.8km s-min=1.7km az=123.0*
*IGIL **01** 15:28:29.0, 42°.82N×7°.26W, h0km, ML3.2*
*MDD **01** 15:28:29.7±0.2, 42°.85N×7°.27W, h10km, mbLg3.5/31, Error ellipse: s-maj=2.9km s-min=2.0km az=145.0, PRXIMO*
MDD EMS: III INTENSIDAD MAXIMA.
*SFS **01** 15:28:29.0, 42°.82N×7°.25W, ML3.4, TRIACASTELA (LUGO)*
*INMG **01** 15:28:30.5±1.5, 42°.86N×7°.29W, h21km±3km, MD3.2, ML3.4, Error ellipse: s-maj=2.0km s-min=1.9km az=85.0*
ISC 01 15:28:27.5±0.9**, 42°.94N**±0°.03×**7°.21W**±0°.02**, h15km**±5km**, n136, σ2.39**/255**, 6C-1D, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EXBE	**Becerrea'**	**0.09**	**158**	Pg	**Pb**	**15 28 31.8**	**+1.1**
	SNR=7.9						
EXBE				Lg	Lg	15 28 33.3	
	SNR=7.9						
EXSA	**Sarria**	**0.23**	**224**	Pg	**Pg**	**15 28 32.9**	**+0.3**
	SNR=7.9						
EXSA				Lg	Lg	15 28 35.1	
	SNR=7.9						
EPON	**Pontenova**	**0.39**	**6**	⇑Pg	**Pn**	**15 28 38.7**	**0.0**
	36nm,0.1s,SNR=18						
EPON				Lg	Lg	15 28 45.2	
	232nm,0.1s,SNR=5.0						
EAGO	**Agolada(Pontev**	**0.66**	**258**	⇑Pg	**Pg**	**15 28 41.4**	**+1.0**
	177nm,0.1s,SNR=18						
EAGO				Lg	Lg	15 28 49.3	
	2µm,0.1s,SNR=7.9						
ECAL	**Calabor**	**1.06**	**161**	⇓Pg	**Pb**	**15 28 47.5**	**-0.1**
	25nm,0.2s,SNR=18						
ECAL				Lg	Lg	15 29 00.6	
	599nm,0.1s,SNR=11						
PBRG	**Braganca**	**1.18**	**163**	*e*P	**Pn**	**15 28 50.0**	**+0.4**
PBRG				*e*S	**Sb**	**15 29 04.2**	**-0.7**
PBRG				A	A	15 29 06.0	
	573nm,0.4s						
PBRG	**Braganca**	**1.18**	**163**	Pg	**Pn**	**15 28 50.0**	**+0.4**
PBRG				Lg	Lg	15 29 04.2	
	286nm,0.4s						
ELOB	**Lobios**	**1.24**	**211**	⇑Pn	**Pn**	**15 28 49.9**	**-0.6**
	33nm,0.2s,SNR=18						
ELOB				Pg	**Pb**	**15 28 51.0**	**+0.2**
	277nm,0.2s,SNR=7.9						
ELOB				Lg	Lg	15 29 05.1	
	271nm,0.1s,SNR=18						
PGAV	**Gavieira, Arco**	**1.25**	**219**	*e*Pn	**Pn**	**15 28 50.0**	**-0.6**
PGAV	**Gavieira, Arco**	**1.25**	**219**	*e*Pg	**Pn**	**15 28 51.3**	**+0.7**
PGAV				*e*Sn	**Sb**	**15 29 05.2**	**-1.7**
PGAV				*e*Sg	**Sn**	**15 29 06.7**	**-0.5**
PGAV				A	A	15 29 07.4	
	632nm,0.3s						
PGAV	**Gavieira, Arco**	**1.25**	**219**	Pg	**Pn**	**15 28 51.3**	**+0.7**
PGAV				Lg	Lg	15 29 06.7	
	632nm,0.3s						
EMAZ	**Mazaricos**	**1.30**	**271**	⇑Pn	**Pn**	**15 28 51.7**	**+0.6**
	4.5nm,0.1s,SNR=18						
EMAZ				Pg	**Pg**	**15 28 53.4**	**+0.9**
	124nm,0.1s,SNR=7.9						
EMAZ				Sn	**Sb**	**15 29 07.5**	**-0.7**
	97nm,0.1s,SNR=7.9						
EMAZ				Lg	Lg	15 29 09.7	
	169nm,0.1s,SNR=7.9						
EZAM	**Zamans**	**1.35**	**235**	⇑Pg	**Pn**	**15 28 51.6**	**-0.3**
	3.9nm,0.0s,SNR=18						
EZAM				Pg	**Pb**	**15 28 53.4**	**+0.8**
	125nm,0.1s,SNR=7.9						
EZAM				Lg	Lg	15 29 08.1	
	175nm,0.1s,SNR=7.9						
POLO	**Lamas de Olo**	**1.62**	**196**	*e*Pn	**Pn**	**15 28 55.2**	**-0.5**
POLO	**Lamas de Olo**	**1.62**	**196**	*e*Pg	**Pn**	**15 28 57.8**	**+2.1**
POLO				*e*Sn	**Sn**	**15 29 14.0**	**-2.4**
POLO				*e*Sg	**Sb**	**15 29 17.7**	**+0.1**
POLO				A	A	15 29 18.3	
	247nm,0.2s						
POLO	**Lamas de Olo**	**1.62**	**196**	Pn	**Pn**	**15 28 55.2**	**-0.5**
POLO				Pg	**Pn**	**15 28 57.8**	**+2.1**
POLO				Sn	**Sn**	**15 29 14.0**	**-2.4**
POLO				Lg	Lg	15 29 17.7	
	247nm,0.2s						
MVO	**Moncorvo**	**1.78**	**176**	*e*Pn	**Pn**	**15 28 58.1**	**+0.3**
MVO				*e*Sg	**Sn**	**15 29 21.9**	**+1.7**
MVO				A	A	15 29 22.7	
	394nm,0.5s						
MVO	**Moncorvo**	**1.78**	**176**	Pn	**Pn**	**15 28 58.0**	**+0.2**
	3.8nm,0.1s,SNR=7.9						
MVO				Pg	**Pb**	**15 28 59.7**	**-0.2**
	35nm,0.1s,SNR=7.9						
MVO				Sn	**Sn**	**15 29 18.5**	**-1.7**
	55nm,0.1s,SNR=7.9						
MVO				Lg	Lg	15 29 21.7	
	342nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**2.55**	**186**	*e*Pg	**Pb**	**15 29 15.0**	**+2.0**
MTE				*e*Sn	**Sn**	**15 29 37.3**	**-1.9**
MTE				*e*Sg	**Sb**	**15 29 46.7**	**+2.5**
MTE				A	A	15 29 47.3	
	232nm,0.3s						
MTE	**Manteigas**	**2.55**	**186**	Pg	**Pb**	**15 29 15.0**	**+2.0**
MTE				Sn	**Sn**	**15 29 37.3**	**-1.9**
MTE				Lg	Lg	15 29 46.7	
	116nm,0.3s						
ELAN	**Lanestosa**	**2.78**	**83**	Pn	**Pn**	**15 29 15.4**	**+3.9**
	1.2nm,0.1s,SNR=22						
ELAN				Pg	**Pg**	**15 29 20.8**	**+0.1**
	29nm,0.3s,SNR=9.5						
ELAN				Sn	**Sb**	**15 29 49.5**	**-1.2**
	36nm,0.3s,SNR=4.8						
ELAN				Lg	Lg	15 29 57.4	
	138nm,0.4s,SNR=5.0						
COI	**Coimbra**	**2.88**	**199**	Pn	**Pn**	**15 29 12.9**	**+0.1**
COI				Pg	**Pb**	**15 29 21.0**	**+2.5**
COI				Lg	Lg	15 29 56.4	
	86nm,0.6s						
EPLA	**Plasencia**	**2.99**	**163**	Pn	**Pn**	**15 29 15.1**	**+0.6**
	6.0nm,0.1s,SNR=45						
EPLA				Pg	**Pb**	**15 29 23.3**	**+2.8**
	13nm,0.1s,SNR=11						
EPLA				Sn	**Sn**	**15 29 49.3**	**-0.9**
	28nm,0.1s,SNR=18						
EPLA				Lg	Lg	15 29 58.7	
	29nm,0.2s,SNR=8.0						
PCAS	**Casmilo, Conde**	**3.04**	**199**	*e*Pn	**Pn**	**15 29 15.3**	**+0.2**
PCAS	**Casmilo, Conde**	**3.04**	**199**	*e*Pg	**Pb**	**15 29 24.3**	**+2.9**
PCAS				*e*Sn	**Sn**	**15 29 49.9**	**-1.4**
PCAS				*e*Sg	**Sb**	**15 30 01.5**	**+3.2**
PCAS				A	A	15 30 06.0	
	114nm,0.4s						
PCAS	**Casmilo, Conde**	**3.04**	**199**	Pn	**Pn**	**15 29 15.3**	**+0.2**
PCAS				Pg	**Pb**	**15 29 24.3**	**+2.9**
PCAS				Sn	**Sn**	**15 29 49.9**	**-1.4**
PCAS				Lg	Lg	15 30 01.5	
	114nm,0.4s						
GUD	**Guadarrama**	**3.23**	**134**	Pn	**Pn**	**15 29 19.1**	**+1.2**
	0.1nm,0.2s,SNR=17						
GUD				Pg	**Pb**	**15 29 28.3**	**+3.5**
	0.1nm,0.1s,SNR=17						
GUD				Lg	Lg	15 30 07.7	
	81nm,0.3s,SNR=10.0						
PMRV	**Marv??o**	**3.51**	**182**	*e*Pn	**Pn**	**15 29 24.4**	**+2.8**
PMRV				*e*Sn	**Sn**	**15 30 02.5**	**-0.4**
PMRV				*e*Sg	**Sg**	**15 30 18.4**	**-1.8**
PMRV				A	A	15 30 22.4	
	80nm,0.4s						
PMRV	**Marv??o**	**3.51**	**182**	Pn	**Pn**	**15 29 24.4**	**+2.8**
PMRV				Sn	**Sn**	**15 30 02.5**	**-0.4**
PMRV				Lg	Lg	15 30 18.4	
	80nm,0.4s						
ALMR	**Almeirim**	**3.92**	**196**	*e*P	**Pn**	**15 29 27.1**	**0.0**
ALMR	**Almeirim**	**3.92**	**196**	*e*P	**Pn**	**15 29 27.1**	**0.0**
ALMR	**Almeirim**	**3.92**	**196**	Pn	**Pn**	**15 29 27.1**	**0.0**
PAB	**San Pablo**	**4.02**	**147**	Pn	**Pn**	**15 29 29.6**	**+1.0**
	0.4nm,0.2s,SNR=7.9						
PAB				Pg	**Pb**	**15 29 38.6**	**+0.6**
	2.2nm,0.2s,SNR=7.9						
PAB				Sn	**Sn**	**15 30 13.2**	**-2.2**
	3.3nm,0.3s,SNR=7.9						
PAB				Lg	Lg	15 30 30.2	
	27nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**4.07**	**142**	Pn	**Pn**	**15 29 30.2**	**+0.8**
	2.9nm,0.1s,baz=322,slow=12,SNR=34						
ESDC				Pg	Pb	15 29 43.8	+4.8
	2.5nm,0.2s,baz=323,slow=18,SNR=8.6						
ESDC				Sn	**Sn**	**15 30 16.5**	**-0.3**
	1.4nm,0.1s,baz=313,slow=8.4,SNR=4.2						
ESDC				Lg	Lg	15 30 33.0	
	12nm,0.3s,baz=330,slow=29,SNR=13						
PESTR	**Estremoz**	**4.08**	**184**	*e*Pn	**Pn**	**15 29 29.6**	**+0.2**
PESTR				A	A	15 30 43.4	
	49nm,0.5s						
EARA	**Aranguren**	**4.14**	**90**	Pn	**Pn**	**15 29 33.8**	**+3.6**
	0.8nm,0.1s,SNR=5.6						
EARA				Pg	**Pb**	**15 29 44.5**	**+4.4**
	17nm,0.6s,SNR=7.9						
EARA				Sn	**Sn**	**15 30 21.0**	**+2.7**
	33nm,0.3s,SNR=5.0						
EARA				Lg	Lg	15 30 42.5	
	29nm,0.3s,SNR=4.6						
EBAD	**Badajoz**	**4.18**	**178**	Pn	**Pn**	**15 29 31.5**	**+0.8**
	0.6nm,0.1s,SNR=16						
EBAD				Pg	**Pb**	**15 29 45.1**	**+4.4**
	3.9nm,0.2s,SNR=7.9						
EBAD				Sn	**Sn**	**15 30 16.9**	**-2.5**
	27nm,0.2s,SNR=5.9						
EBAD				Lg	Lg	15 30 36.7	
	49nm,0.2s,SNR=5.0						
EALK	**Alkurruntz**	**4.18**	**84**	Pn	**Pn**	**15 29 34.4**	**+3.6**
	0.2nm,0.1s,SNR=7.5						
EALK				Sn	**Sn**	**15 30 22.2**	**+2.6**
	8.2nm,0.3s,SNR=4.5						
EALK				Lg	Lg	15 30 46.1	
	42nm,0.5s,SNR=5.0						
PMAFR	**Mafra**	**4.28**	**202**	*e*Pn	**Pn**	**15 29 32.5**	**+0.4**
PMAFR				*e*Sn	**Sn**	**15 30 18.5**	**-3.3**
PMAFR				*e*Sg	**Sg**	**15 30 41.4**	**-3.5**
PMAFR				A	A	15 30 46.7	
	59nm,0.6s						
PMAFR	**Mafra**	**4.28**	**202**	Pn	**Pn**	**15 29 32.4**	**+0.2**
	8.6nm,0.2s,SNR=7.9						
PMAFR				Sn	**Sn**	**15 30 18.1**	**-3.7**
	33nm,0.3s,SNR=7.9						
PMAFR				Lg	Lg	15 30 41.7	
	116nm,0.3s,SNR=7.9						
SJPF	**Ste Jean**	**4.39**	**86**	*e*Pn	**Pn**	**15 29 36.2**	**+2.6**
SJPF				*e*Sn	**Sn**	**15 30 25.0**	**+0.5**
	6.6nm,0.3s						
SJPF	**Ste Jean**	**4.39**	**86**	Pn	**Pn**	**15 29 36.2**	**+2.6**
SJPF				Sn	**Sn**	**15 30 25.0**	**+0.5**
	3.3nm,0.3s						
ETOR	**Torete**	**4.39**	**117**	Pn	**Pn**	**15 29 35.7**	**+2.0**
	1.6nm,0.3s,SNR=14						
ETOR				Pg	**Pg**	**15 29 50.5**	**-1.0**
	16nm,0.3s,SNR=30						
ETOR				Lg	Lg	15 30 46.5	
	43nm,0.3s,SNR=5.0						
EVO	**Evora**	**4.45**	**188**	*e*Pn	**Pn**	**15 29 36.5**	**+2.1**
EVO				*e*Sn	**Sn**	**15 30 24.7**	**-1.2**
EVO				*e*Sg	**Sg**	**15 30 47.7**	**-2.5**
EVO				A	A	15 30 53.5	
	46nm,0.5s						
EVO	**Evora**	**4.45**	**188**	Pn	**Pn**	**15 29 36.5**	**+2.1**
EVO				Sn	**Sn**	**15 30 24.7**	**-1.2**
EVO				Lg	Lg	15 30 47.7	
	46nm,0.5s						
EVO	**Evora**	**4.45**	**188**	⇑*i*P	**Pn**	**15 29 36.8**	**+2.4**
EVO				*e*S	**Sn**	**15 30 23.5**	**-2.4**
PMST	**Lisbon--Monsan**	**4.46**	**200**	*e*Sg	**Sg**	**15 30 47.0**	**-3.6**
PMST				A	A	15 30 53.6	
	38nm,0.5s						
LIS	**Lisbon**	**4.47**	**200**	*e*Sg	**Sg**	**15 30 48.2**	**-2.7**
LIS	**Lisbon**	**4.47**	**200**	Lg	Lg	15 30 48.2	
ATE	**Arette**	**4.77**	**86**	Pn	**Pn**	**15 29 42.7**	**+3.8**
	6.5nm,0.3s,SNR=7.9						
ATE				Sn	**Sn**	**15 30 37.5**	**+3.5**
	12nm,0.4s,SNR=7.9						
ETSF	**Etsaut**	**4.88**	**88**	*e*Pn	**Pn**	**15 29 43.1**	**+2.6**
ETSF				*e*Sn	**Sn**	**15 30 36.9**	**+0.2**
	5.2nm,0.2s						
ETSF	**Etsaut**	**4.88**	**88**	Pn	**Pn**	**15 29 43.1**	**+2.6**
ETSF				Sn	**Sn**	**15 30 36.9**	**+0.2**
	2.6nm,0.2s						
PNCL	**Nicolau / Gran**	**4.93**	**192**	*e*Pn	**Pn**	**15 29 41.1**	**+0.1**
PNCL				*e*Sn	**Sn**	**15 30 34.5**	**-3.2**
PNCL				*e*Sg	Sb	15 31 00.9	+8.4
PNCL				A	A	15 31 09.2	
	22nm,0.4s						
PNCL	**Nicolau / Gran**	**4.93**	**192**	Pn	**Pn**	**15 29 41.1**	**+0.1**
PNCL				Sn	**Sn**	**15 30 34.5**	**-3.2**
PNCL				Lg	Lg	15 31 00.9	
	22nm,0.4s						
ECAB	**El Cabril**	**5.04**	**164**	Pn	**Pn**	**15 29 43.3**	**+0.6**
	0.2nm,0.2s,SNR=25						
ECAB				Sn	**Sn**	**15 30 39.1**	**-1.6**
	8.3nm,0.2s,SNR=10						
ECAB				Lg	Lg	15 31 03.5	
	21nm,0.3s,SNR=5.0						
ESAC	**San Caprasio**	**5.14**	**101**	Pn	**Pn**	**15 29 46.8**	**+2.8**
	3.9nm,0.1s,SNR=7.9						
ESAC				Pg	Pb	15 30 03.0	+5.9
	32nm,0.4s,SNR=7.9						
ESAC				Sn	**Sn**	**15 30 42.6**	**-0.5**
	39nm,0.2s,SNR=4.7						
ESAC				Lg	Lg	15 31 10.6	
	134nm,0.4s,SNR=5.0						
MESJ	**Messejana**	**5.15**	**189**	*e*P	**Pn**	**15 29 44.1**	**+0.1**
MESJ				*e*S	**Sn**	**15 30 38.0**	**-5.3**
MESJ				*e*Sg	**Sb**	**15 31 04.9**	**+5.9**
MESJ				AML	AML	15 31 13.8	
	comp=N,39nm,1.1s						
MESJ	**Messejana**	**5.15**	**189**	*e*Pn	**Pn**	**15 29 44.2**	**+0.1**
MESJ				*e*Sn	**Sn**	**15 30 38.5**	**-4.8**
MESJ				*e*Sg	Sb	15 31 06.8	+7.8
MESJ				A	A	15 31 12.4	
	comp=N,24nm,0.6s						
MESJ	**Messejana**	**5.15**	**189**	Pn	**Pn**	**15 29 44.2**	**+0.1**
MESJ				Sn	**Sn**	**15 30 38.5**	**-4.8**
MESJ				Lg	Lg	15 31 06.8	
	comp=N,24nm,0.6s						
EADA	**Adamuz**	**5.17**	**156**	Pn	**Pn**	**15 29 44.5**	**+0.1**
	comp=N,0.2nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**15 30 41.7**	**-2.1**
	comp=N,1.5nm,0.1s,SNR=4.7						
EADA				Lg	Lg	15 31 08.2	
	comp=N,11nm,0.2s,SNR=8.1						
EMIN	**Mina Concepcio**	**5.18**	**175**	Pn	**Pn**	**15 29 45.2**	**+0.7**
	comp=N,1.5nm,0.4s,SNR=6.7						
EMIN				Pg	**Pb**	**15 30 00.7**	**+2.9**
	comp=N,1.8nm,0.3s,SNR=7.9						
EMIN				Sn	**Sn**	**15 30 40.7**	**-3.3**
	comp=N,1.5nm,0.2s,SNR=8.3						
EMIN				Lg	Lg	15 31 07.9	
	comp=N,15nm,0.3s,SNR=8.5						
EGRO	**El Granado**	**5.40**	**182**	Pn	**Pn**	**15 29 48.4**	**+0.8**
	comp=N,1.4nm,0.2s,SNR=7.9						
EGRO				Sn	**Sn**	**15 30 45.2**	**-4.2**
	comp=N,4.1nm,0.2s,SNR=4.8						
EGRO				Lg	Lg	15 31 15.8	
	comp=N,44nm,0.5s,SNR=7.9						
ECHI	**Chisagues Biel**	**5.45**	**90**	Pn	**Pn**	**15 29 51.3**	**+2.9**
	comp=N,0.9nm,0.1s,SNR=7.9						
ECHI				Sn	**Sn**	**15 30 51.5**	**+0.6**
	comp=N,4.6nm,0.1s,SNR=7.9						
EPF	**Esparros**	**5.54**	**86**	*e*Pn	**Pn**	**15 29 52.1**	**+2.7**
EPF				*e*Sn	**Sn**	**15 30 53.1**	**+0.3**
	comp=N,2.1nm,0.2s						
EPF	**Esparros**	**5.54**	**86**	Pn	**Pn**	**15 29 52.1**	**+2.7**
EPF				Sn	**Sn**	**15 30 53.1**	**+0.3**
	comp=N,1.1nm,0.2s						
PVAQ	**Vaqueiros**	**5.54**	**184**	*e*Pn	**Pn**	**15 29 49.6**	**+0.1**
PVAQ				*e*Sn	**Sn**	**15 30 47.6**	**-5.3**
PVAQ				*e*Sg	Sb	15 31 19.5	+9.2
PVAQ				A	A	15 31 27.8	
	comp=N,32nm,0.5s						
PVAQ	**Vaqueiros**	**5.54**	**184**	Pn	**Pn**	**15 29 49.6**	**+0.1**
PVAQ				Sn	**Sn**	**15 30 47.6**	**-5.3**
PVAQ				Lg	Lg	15 31 19.5	
	comp=N,32nm,0.5s						
EMOS	**Mosqueruela**	**5.66**	**115**	Pn	**Pn**	**15 29 54.2**	**+2.9**
	comp=N,0.5nm,0.1s,SNR=8.9						
EMOS				Pg	**Pg**	**15 30 13.7**	**-2.1**
	comp=N,34nm,0.9s,SNR=7.9						
EMOS				Sn	**Sn**	**15 30 55.8**	**-0.3**
	comp=N,10nm,0.2s,SNR=8.4						
EMOS				Lg	Lg	15 31 27.7	
	comp=N,9.5nm,0.4s,SNR=5.0						
PBDV	**Barranco-do-Ve**	**5.72**	**186**	*e*Pn	**Pn**	**15 29 52.4**	**+0.5**
PBDV				*e*Sn	**Sn**	**15 30 54.7**	**-2.6**
PBDV				*e*Sg	**Sg**	**15 31 26.3**	**-4.6**
PBDV				A	A	15 31 33.2	
	comp=N,34nm,0.6s						
PBDV	**Barranco-do-Ve**	**5.72**	**186**	Pn	**Pn**	**15 29 52.4**	**+0.5**
PBDV				Sn	**Sn**	**15 30 54.7**	**-2.6**
PBDV				Lg	Lg	15 31 26.3	
	comp=N,34nm,0.6s						
QUIF	**Quistinic**	**5.73**	**28**	*e*Pn	**Pn**	**15 29 53.9**	**+1.9**
QUIF				*e*Sn	**Sn**	**15 30 56.2**	**-1.3**
QUIF	**Quistinic**	**5.73**	**28**	Pn	**Pn**	**15 29 53.9**	**+1.9**
QUIF				Sn	**Sn**	**15 30 56.2**	**-1.3**
MORF	**Marmelete**	**5.73**	**192**	*e*P	**Pn**	**15 29 52.0**	**-0.2**
MORF				*e*S	**Sn**	**15 30 51.5**	**-6.2**
MORF				AML	AML	15 31 32.1	
	comp=N,32nm,0.8s						
MORF	**Marmelete**	**5.73**	**192**	*e*Pn	**Pn**	**15 29 52.5**	**+0.3**
MORF				*e*Sn	**Sn**	**15 30 54.0**	**-3.7**
MORF				*e*Sg	**Sb**	**15 31 21.0**	**+5.2**
MORF				A	A	15 31 34.8	
	comp=N,15nm,0.5s						
MORF	**Marmelete**	**5.73**	**192**	Pn	**Pn**	**15 29 52.5**	**+0.3**
MORF				Sn	**Sn**	**15 30 54.0**	**-3.7**
MORF				Lg	Lg	15 31 21.0	
	comp=N,15nm,0.5s						
ECHE	**Chera**	**5.77**	**123**	Pg	**Pg**	**15 30 16.4**	**-1.5**
	comp=N,6.2nm,0.6s,SNR=7.9						
ECHE				Lg	Lg	15 31 28.1	
	comp=N,32nm,0.6s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.93**	**193**	*e*Pn	**Pn**	**15 29 55.5**	**+0.7**
PFVI				*e*Sn	**Sn**	**15 30 59.2**	**-3.3**
PFVI				*e*Sg	Sb	15 31 29.3	+7.9
PFVI				A	A	15 31 35.6	
	comp=N,15nm,0.6s						
ERTA	**Horta de San J**	**5.96**	**107**	Pn	**Pn**	**15 29 57.6**	**+2.3**
	comp=N,0.8nm,0.1s,SNR=7.9						
ERTA				Pg	**Pg**	**15 30 19.3**	**-2.3**
	comp=N,8.1nm,0.6s,SNR=7.9						
ERTA				Sn	**Sn**	**15 31 02.6**	**-0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,1.6nm,0.1s,SNR=7.9						
ERTA				Lg	Lg	15 31 40.7	
	comp=N,12nm,0.3s,SNR=7.9						
SESP	Santiago Espad	5.98	142	Lg	Lg	15 31 32.0	
	comp=N,28nm,0.5s,SNR=7.9						
EQES	Quesada	6.02	147	Pn	Pn	15 29 58.4	+2.2
	comp=N,0.6nm,0.4s,SNR=7.9						
EQES				Pg	Pb	15 30 18.0	+5.8
	comp=N,0.4nm,0.2s,SNR=7.9						
EQES				Lg	Lg	15 31 39.1	
	comp=N,14nm,0.4s,SNR=6.8						
ROSF	Rostrenen	6.06	26	*e*Pn	Pn	15 29 59.1	+2.6
ROSF				*e*Sn	Sn	15 31 04.4	-1.2
	comp=N,3.6nm,0.3s						
ROSF	Rostrenen	6.06	26	Pn	Pn	15 29 59.1	+2.6
ROSF				Sn	Sn	15 31 04.4	-1.2
	comp=N,1.8nm,0.3s						
ETOB	Tobarra	6.07	133	Pn	Pn	15 29 57.8	+1.1
	comp=N,0.5nm,0.1s,SNR=9.9						
ETOB				Sn	Sn	15 31 05.2	-0.8
	comp=N,5.1nm,0.3s,SNR=7.0						
ETOB				Lg	Lg	15 31 38.1	
	comp=N,29nm,0.5s,SNR=7.1						
LFF	La Frestale	6.08	68	*e*Pn	Pn	15 29 59.2	+2.4
LFF				*e*Sn	Sn	15 31 06.4	+0.4
	comp=N,2.8nm,0.3s						
LFF	La Frestale	6.08	68	Pn	Pn	15 29 59.2	+2.4
LFF				Sn	Sn	15 31 06.4	+0.4
	comp=N,1.4nm,0.3s						
ESPR	Espera	6.15	170	Sn	Sn	15 31 06.4	-1.5
	comp=N,2.2nm,0.1s,SNR=7.9						
CSOR	Sort	6.17	92	Pn	Pn	15 30 01.7	+3.5
	comp=N,0.4nm,0.2s,SNR=7.4						
CSOR				Sn	Sn	15 31 09.5	+0.9
	comp=N,6.0nm,0.4s,SNR=5.0						
MFF	Saint Martin d	6.22	51	*e*Pn	Pn	15 30 00.6	+1.9
MFF				*e*Sn	Sn	15 31 07.3	-2.2
	comp=N,15nm,0.4s						
MFF	Saint Martin d	6.22	51	Pn	Pn	15 30 00.6	+1.9
MFF				Sn	Sn	15 31 07.3	-2.2
	comp=N,7.7nm,0.4s						
SGMF	Saint Gilles	6.24	30	*e*Pn	Pn	15 30 00.5	+1.6
SGMF				*e*Sn	Sn	15 31 07.9	-2.0
SGMF	Saint Gilles	6.24	30	Pn	Pn	15 30 00.5	+1.6
SGMF				Sn	Sn	15 31 07.9	-2.0
EGOR	Sierra Gorda,	6.29	157	Pn	Pn	15 30 03.0	+3.1
	comp=N,1.1nm,0.4s,SNR=7.9						
EPOB	Poblet	6.36	102	Pn	Pn	15 30 02.3	+1.6
	comp=N,20nm,0.9s,SNR=7.9						
EPOB				Pg	Pg	15 30 27.4	-1.8
	comp=N,5.3nm,0.4s,SNR=7.9						
EPOB				Sn	Sn	15 31 11.1	-2.0
	comp=N,1.2nm,0.3s,SNR=6.0						
EPOB				Lg	Lg	15 31 46.2	
	comp=N,15nm,0.5s,SNR=7.9						
EQUE	Quentar	6.41	152	Lg	Lg	15 31 49.0	
	comp=N,6.1nm,0.4s,SNR=7.9						
EMIJ	Mijas	6.64	163	Pn	Pn	15 30 07.6	+3.0
	comp=N,0.1nm,0.1s,SNR=7.9						
RJF	Les Rejaudoux	6.71	66	*e*Pn	Pn	15 30 07.6	+2.1
RJF				*e*Sn	Sn	15 31 20.3	-1.3
	comp=N,7.2nm,0.3s						
RJF	Les Rejaudoux	6.71	66	Pn	Pn	15 30 07.6	+2.1
RJF				Sn	Sn	15 31 20.3	-1.3
	comp=N,3.6nm,0.3s						
CLLI	Llivia	6.78	91	Pn	Pn	15 30 10.0	+3.4
	comp=N,1.9nm,0.3s,SNR=7.9						
CLLI				Sn	Sn	15 31 22.0	-1.5
	comp=N,3.1nm,0.5s,SNR=7.9						
EMUR	La Murta	6.83	136	Pn	Pn	15 30 09.2	+2.1
	comp=N,3.1nm,0.5s,SNR=7.9						
EMUR				Pg	Pg	15 30 38.9	+0.7
	comp=N,2.9nm,0.3s,SNR=7.9						
EMUR				Lg	Lg	15 32 01.4	
	comp=N,9.6nm,0.4s,SNR=7.9						
MTLF	Montolieu	6.91	83	*e*Pn	Pn	15 30 10.8	+2.6
MTLF				*e*Sn	Sn	15 31 25.1	-1.4
MTLF	Montolieu	6.91	83	Pn	Pn	15 30 10.8	+2.6
MTLF				Sn	Sn	15 31 25.1	-1.4
CAF	Calviac	6.98	70	*e*Pn	Pn	15 30 11.0	+1.8
CAF				*e*Sn	Sn	15 31 25.4	-3.0
	comp=N,2.6nm,0.2s						
CAF	Calviac	6.98	70	Pn	Pn	15 30 11.0	+1.8
CAF				Sn	Sn	15 31 25.4	-3.0
	comp=N,1.3nm,0.2s						
GRR	Gorron	7.03	37	*e*Sn	Sn	15 31 26.2	-3.3
	comp=N,4.8nm,0.3s						
GRR	Gorron	7.03	37	Sn	Sn	15 31 26.2	-3.3
	comp=N,2.4nm,0.3s						
ENIJ	Nijar	7.09	146	Lg	Lg	15 32 10.6	
	comp=N,6.0nm,0.4s,SNR=7.9						
FLN	La Foliniere	7.48	37	*e*Pn	Pn	15 30 16.5	+0.5
	baz=218						
FLN				*e*Sn	Sn	15 31 37.9	-2.6
	comp=N,2.3nm,0.3s						
FLN	La Foliniere	7.48	37	Pn	Pn	15 30 16.5	+0.5
FLN				Sn	Sn	15 31 37.9	-2.6
	comp=N,1.2nm,0.3s						
TCF	Toulx Ste Croi	7.51	60	*e*Pn	Pn	15 30 18.2	+1.8
TCF				*e*Sn	Sn	15 31 35.6	-5.7
	comp=N,12nm,0.3s						
TCF	Toulx Ste Croi	7.51	60	Pn	Pn	15 30 18.2	+1.8
TCF				Sn	Sn	15 31 35.6	-5.7
	comp=N,6.2nm,0.3s						
LDF	La Druitiere	7.51	39	*e*Pn	Pn	15 30 19.0	+2.5
LDF				*e*Sn	Sn	15 31 36.8	-4.6
	comp=N,3.0nm,0.3s						
BGF	Bois d'Agland	8.02	60	*e*Pn	Pn	15 30 25.3	+1.9
BGF				*e*Sn	Sn	15 31 51.7	-2.1
	comp=N,15nm,0.4s						
BGF	Bois d'Agland	8.02	60	Pn	Pn	15 30 25.3	+1.9
BGF				Sn	Sn	15 31 51.7	-2.1
	comp=N,7.5nm,0.4s						
LASF	Ste Croix	8.12	78	*e*Pn	Pn	15 30 27.1	+2.2
LASF				*e*Sn	Sn	15 31 54.2	-2.2
	comp=N,1.0nm,0.2s						
LASF	Ste Croix	8.12	78	Pn	Pn	15 30 27.1	+2.2
LASF				Sn	Sn	15 31 54.2	-2.2
	comp=N,0.5nm,0.2s						
HYF	Humbligny	8.20	55	*e*Pn	Pn	15 30 28.2	+2.3
HYF	Humbligny	8.20	55	Pn	Pn	15 30 28.2	+2.3
AVF	Avril sur Loir	8.43	59	*e*Pn	Pn	15 30 30.5	+1.5
AVF				*e*Sn	Sn	15 32 01.3	-2.6
	comp=N,1.8nm,0.3s						
AVF	Avril sur Loir	8.43	59	Pn	Pn	15 30 30.5	+1.5
AVF				Sn	Sn	15 32 01.3	-2.6
	comp=N,0.9nm,0.3s						
SSF	Saint Saulge	8.63	58	*e*Pn	Pn	15 30 33.2	+1.3
SSF				*e*Sn	Sn	15 32 05.5	-3.5
	comp=N,3.1nm,0.3s						
SSF	Saint Saulge	8.63	58	Pn	Pn	15 30 33.2	+1.3
SSF				Sn	Sn	15 32 05.5	-3.5
	comp=N,1.6nm,0.3s						
SMF	Signal de Mont	8.69	61	*e*Pn	Pn	15 30 33.8	+1.2
SMF				*e*Sn	Sn	15 32 07.8	-2.4
	comp=N,1.2nm,0.2s						
SMF	Signal de Mont	8.69	61	Pn	Pn	15 30 33.8	+1.2
SMF				Sn	Sn	15 32 07.8	-2.4
	comp=N,0.6nm,0.2s						
VIVF	Saint-Julien-l	8.79	73	*e*Pn	Pn	15 30 36.5	+2.5
VIVF				*e*Sn	Sn	15 32 10.3	-2.5
	comp=N,2.1nm,0.3s						
VIVF	Saint-Julien-l	8.79	73	Pn	Pn	15 30 36.5	+2.5
VIVF				Sn	Sn	15 32 10.3	-2.5
	comp=N,1.1nm,0.3s						
LOR	Lormes	8.94	57	*e*Pn	Pn	15 30 38.0	+1.9
	baz=240						
LOR				*e*Sn	Sn	15 32 14.0	-2.5
	comp=N,11nm,0.7s						
LOR	Lormes	8.94	57	Pn	Pn	15 30 38.0	+1.9
LOR				Sn	Sn	15 32 14.0	-2.5
	comp=N,5.4nm,0.7s						
SFTF	Sexfontaines	10.07	54	*e*Pn	Pn	15 30 53.6	+2.1
SFTF	Sexfontaines	10.07	54	Pn	Pn	15 30 53.6	+2.1
MEZF	Maizieres J'vi	10.21	53	*e*Pn	Pn	15 30 56.2	+2.7
MEZF	Maizieres J'vi	10.21	53	Pn	Pn	15 30 56.2	+2.7
BAIF	Baives	10.60	44	*e*Pn	Pn	15 31 00.1	+1.3
BAIF				*e*Sn	Sn	15 32 50.4	-6.8
	comp=N,0.8nm,0.2s						
BAIF	Baives	10.60	44	Pn	Pn	15 31 00.1	+1.3
BAIF				Sn	Sn	15 32 50.4	-6.8
	comp=N,0.4nm,0.2s						
PAGF	Fort de Pagny	10.63	54	*e*Pn	Pn	15 31 00.7	+1.4
GIVF	Givet	10.95	45	*e*Sn	Sn	15 33 03.4	-2.2
GIVF	Givet	10.95	45	Sn	Sn	15 33 03.4	-2.2

IDC 01 15:42:03.0±7.5, 15°.40S×177°.51W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/32, mbtmp3.6/3, Error ellipse: s-maj=336.6km s-min=34.3km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.98	257	P	P	15 50 28.5	+0.2
	0.1nm,0.4s,baz=92,slow=7.4,SNR=11						
ASAR	Alice Springs	46.34	252	P	P	15 50 30.8	-0.4
	1.7nm,0.7s,baz=84,slow=7.9,SNR=26						
ILAR	Eielson Array	83.26	13	P	P	15 54 31.1	0.0
	0.3nm,0.8s,baz=213,slow=6.5,SNR=3.5						

IDC 01 15:53:15.1±0.9, 46°.16N×152°.82E, h0km, mb3.5/13, mb1 3.7/16, mb1mx3.6/47, mbtmp3.5/16, ML2.7/3, Error ellipse: s-maj=26.2km s-min=19.0km az=133.0
ISCJB 01 15:53:17.8±0.7, 46°.2N±0°.1×152°.8E±0°.1, h31km, mb3.5/13, Error ellipse: s-maj=19.3km s-min=10.9km az=143.8
ISC 01 15:53:19.9±0.9, 46°.2N±0°.1×152°.8E±0°.1, h31km, n16, σ0s.86/16, mb3.4/13, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	7.52	258	Pn	Pn	15 55 08.0	+0.6
	0.3nm,0.3s,baz=109,slow=18,SNR=1.3						
PETK	Petropavlovsk-	7.61	23	Pn	Pn	15 55 08.0	-0.5
	0.3nm,0.3s,baz=169,slow=12,SNR=5.9						
USRK	Ussuriysk Ar.	14.82	270	Pn	Pn	15 56 47.5	+0.3
	0.1nm,0.3s,baz=75,slow=12,SNR=3.5						
ILAR	Eielson Array	37.11	38	P	P	16 00 27.6	+0.6
	0.5nm,1.1s,baz=275,slow=6.3,SNR=2.8						
ZALV	Zalesovo Beam	42.77	306	P	P	16 01 13.0	-1.2
	0.2nm,0.3s,baz=45,slow=25,SNR=1.8						
MKAR	Makanchi Array	47.02	298	P	P	16 01 46.1	-2.0
	0.3nm,0.7s,baz=59,slow=8.6,SNR=2.9						
YKA	Yellowknife Ar	51.49	36	P	P	16 02 22.7	+0.7
	0.1nm,0.7s,baz=295,slow=6.7,SNR=3.7						
CMAR	Chiang Mai Arr	52.05	257	P	P	16 02 27.0	+0.3
	0.2nm,0.5s,baz=30,slow=7.3,SNR=3.2						
ARCES	ARCESS Array B	58.31	341	P	P	16 03 11.0	-0.2
	2.9nm,0.9s,baz=32,slow=7.5,SNR=2.4						
FINES	FINESS Array B	64.45	335	P	P	16 03 52.9	0.0
	3.7nm,1.1s,baz=80,slow=1.6,SNR=3.1						
WRA	Warramunga Arr	67.92	199	P	P	16 04 15.0	-0.5
	0.4nm,1.0s,baz=9.3,slow=6.9,SNR=2.7						
NOA	NORSAR Array B	68.69	341	P	P	16 04 20.5	+0.6
	0.2nm,0.5s,baz=28,slow=6.6,SNR=3.4						
KBZ	Khabaz	71.10	314	P	P	16 04 36.0	+1.0
	1.2nm,0.8s,baz=78,slow=9.3,SNR=2.7						
ASAR	Alice Springs	71.62	198	P	P	16 04 38.0	-0.2
	0.4nm,1.0s,baz=12,slow=5.9,SNR=4.3						
AKASG	Malin Array Be	71.89	326	P	P	16 04 39.9	+0.2
	0.5nm,0.5s,baz=35,slow=6.0,SNR=2.8						
TXAR	Lajitas Array	77.94	60	P	P	16 05 14.4	-0.7
	0.2nm,0.6s,baz=306,slow=3.2,SNR=3.2						

DRS 01 16:27:15.5±0.0, 42°.98N×46°.10E, h14km, ML2.3/3
NORS 01 16:27:16.2±0.0, 42°.89N×46°.30E, h10km, MPVA3.6
MOS 01 16:27:16.1±0.0, 42°.88N×46°.29E, h10km, MPVA3.5
ISC 01 16:27:17.6±0.9, 42°.87N±0°.03×46°.27E±0°.02, h13km±8km, n22, σ1s.50/44, 5C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BTLR	Botlikh	0.21	191	⇑*e*Pg	Pg	16 27 21.9	-0.3
	163nm,0.4s						
BTLR				⇑*e*Sg	Sg	16 27 25.3	-0.1
	567nm,0.7s						
DLMR	Dylym	0.33	52	*e*Pg	Pg	16 27 23.0	-1.4
DLMR				*i* Sg	Sb	16 27 28.5	-2.1
UNCR	Uncukul	0.41	112	*i* Pg	Pg	16 27 25.8	-0.1
UNCR				*i* Sg	Sg	16 27 32.8	+1.4
DBC	Dubki	0.44	69	*i* Pg	Pb	16 27 25.9	-1.3
DBC				*e*Sg	Sb	16 27 33.1	-0.6
XNZR	Khunzakh	0.45	135	*e*Pg	Pb	16 27 27.3	-0.3
XNZR				*e*Sg	Sb	16 27 34.6	+0.3
KRNR	Karanay	0.47	95	*i* Pg	Pg	16 27 26.5	-0.4
KRNR				*i* Sg	Sb	16 27 35.0	+0.4
GROC	Groznyy	0.49	314	*i* Pg	Pn	16 27 28.2	-2.1
GROC				*e*Sg	Sb	16 27 36.7	+1.7
ARKR	Arakani	0.59	116	*e*Pg	Pb	16 27 29.5	-0.3
ARKR				*e*Sg	Sb	16 27 39.0	+0.9
BUJR	Buynaksk	0.61	94	*e*Pg	Pb	16 27 30.0	-0.2
BUJR				*e*Sg	Sb	16 27 40.0	+1.2
GNBR	Gunib	0.70	133	⇑*e*Pg	Pb	16 27 32.0	+0.4
	43nm,0.4s						
GNBR				⇑*e*Sg	Sb	16 27 42.8	+1.6
	132nm,0.4s						
KMKR	Kumukh	0.95	140	*e*Pg	Pn	16 27 36.5	-0.4
KMKR				*e*Sg	Sn	16 27 50.5	+0.1
KMGR	Komgaron	1.05	281	*e*Pg	Pn	16 27 39.1	+1.0
	16nm,0.2s						
KMGR				*e*Sg	Sn	16 27 53.9	+1.3
	98nm,0.3s						
GUDG	Gudauri	1.39	254	P	Pg	16 27 43.6	-0.7
GUDG				S	Sg	16 28 02.2	-0.1
TRKR	Terskaya	1.42	308	*e*Pg	Pg	16 27 45.5	+0.6
	57nm,0.2s						
TRKR				*e*Sg	Sg	16 28 07.5	+4.3
	64nm,0.2s						
LACR	Lac	1.46	269	*e*Pg	Pg	16 27 45.1	-0.5
	46nm,0.1s						
LACR				*e*Sg	Sg	16 28 05.4	+0.9
	118nm,0.3s						
STDR	Stavd-Durt	1.69	288	*e*Pg	Pg	16 27 50.1	-0.1
	11nm,0.2s						
STDR				*e*Sg	Sg	16 28 15.0	+2.9
	15nm,0.4s						
PRTR	Priterechnaya	1.70	302	*e*Pg	Pg	16 27 50.4	+0.1
	19nm,0.3s						
PRTR				*e*Sg	Sg	16 28 16.0	+3.6
	57nm,0.4s						
ZEI	Tsey	1.75	268	*e*Pg	Pg	16 27 50.5	-0.7
ZEI				*e*Sg	Sg	16 28 13.8	-0.1
AKT	Akhty	1.76	142	⇓*e*Pg	Pg	16 27 51.2	-0.1
	11nm,0.4s						
AKT				⇑*e*Sg	Sg	16 28 15.4	+1.2
	27nm,2.2s						
DIGR	Digorskoe uzhe	1.98	272	*e*Pg	Pg	16 27 52.8	-2.8
DIGR				*e*Sg	Sg	16 28 20.6	-0.7
TRLG	Trialeti	2.09	231	P	Pg	16 27 55.7	-2.0
TRLG				S	Sg	16 28 24.5	-0.3
KBTC	Kuba-Taba	2.30	295	*e*Pn	Pg	16 27 59.1	-2.6
KBTC				*e*Sn	Sg	16 28 30.1	-1.3

NEIC 01 16:59:29.8±0.9, 5°.30S×104°.15E, h81km±7km, mb4.5/8, Error ellipse: s-maj=14.1km s-min=4.7km az=52.0
IDC 01 16:59:29.3±0.8, 5°.37S×104°.07E, h76km±6km, mb3.9/19, mb1 4.0/22, mb1mx3.9/43, mbtmp4.2/22, MS3.0/2, Ms1 3.1/2, ms1mx2.6/33, Error ellipse: s-maj=21.2km s-min=9.0km az=52.0
ISCJB 01 16:59:30.6±0.5, 5°.44S±0°.06×104°.12E±0°.06, h107km±3km, mb4.2/24, Error ellipse: s-maj=13.2km s-min=4.4km az=41.5
DJA 01 16:59:32.1±0.4, 6°S±5°×10°4E±°, h44km±12km, M4.8/18, mB5.7/3, mb4.8/4, MLv4.7/18, Mw(mB)5.3/3
ISC 01 16:59:29.0±0.6, 5°.54S±0°.07×104°.04E±0°.08, h80km±5km, h80km:pP-P, n113, σ1s.62/119, mb4.3/27, Southern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KASI	Kota Agung	0.45	88	P	Pn	16 59 45.1	+2.8
LWLI	Liwa	0.52	2	P	Pn	16 59 45.9	+2.8
KLI	Kotabumi	1.05	50	P	Pn	16 59 50.9	+2.2
MDSI	Maura Dua	1.06	7	P	Pn	16 59 51.3	+2.6
BLSI	Bandar Lampung	1.21	82	P	Pn	16 59 52.5	+1.9
MNAI	Manna	1.60	317	P	Pn	16 59 59.4	+3.8
CGJI	Cibinong	1.96	123	P	Pn	17 00 02.2	+1.9
SBJI	Serang	2.15	106	P	Pn	17 00 05.0	+2.1
TNG	Tangerang	2.66	104	P	Pn	17 00 12.8	+3.0
PMBI	Palembang	2.70	16	P	Pn	17 00 13.3	+3.0
DBJI	Dramaga	2.87	111	P	Pn	17 00 15.8	+3.2
CBJI	Citeko	2.92	107	P	Pn	17 00 19.0	+5.7
MASI	Maura Aman, Be	2.99	323	P	Pn	17 00 19.0	+4.8
LEM	Lembang	3.77	110	P	Pn	17 00 27.1	+2.1
	23nm,0.3s,baz=299,slow=17,SNR=47						
JMBI	JAMBI	3.90	354	P	Pn	17 00 30.6	+4.0
PPBI	Pangkal Pinang	3.95	32	P	Pn	17 00 31.1	+3.8
CISI	Cisompet, Garu	4.25	118	P	Pn	17 00 33.1	+1.7
KRJI	Kerinci	4.29	323	P	Pn	17 00 35.9	+3.9
XMIS	Christmas Isla	5.16	162	*e*Pn	Pn	17 00 41.0	-2.8
KPJI	Karang Pucung	5.17	110	P	Pn	17 00 50.4	+6.5
	80nm,1.1s,0.3nm						
SDSI	Sungai Dareh	5.27	330	P	Pn	17 00 59.1	+14
PDSI	Padang	5.83	322	P	Pn	17 00 56.5	+3.6
	71nm,0.6s,2µm0.5nm						
SISI	Saibi	6.48	310	P	Pn	17 01 03.8	+2.0
MYKOM	Kota Tinggi	7.29	358	*e*Pn	Pn	17 01 07.7	-5.1
MNSI	Mandailing Nat	7.71	325	P	Pn	17 01 21.6	+2.9
PWJI	Pagerwojo	8.09	108	P	Pn	17 01 35.9	+12
STKI	Sintang	9.28	53	P	Pn	17 01 47.3	+7.3
	27nm,0.9s,15µm						
GSI	Gunungsitoli	9.38	316	P	Pn	17 01 43.2	+1.8
PSI	Prapat	9.74	328	P	Pn	17 01 41.9	-4.5
	0.7nm,0.3s,baz=180,slow=20,SNR=3.9						
PSI				LR	LR	17 05 00.8	
	comp=Z,101nm,18.7s,baz=250,slow=35						
PSI	Prapat	9.74	328	*e*Pn	Pn	17 01 44.3	-2.1
IPM	Ipoh	10.40	343	*e*Pn	Pn	17 01 47.9	-7.5
KULM	Kulim	11.28	342	*e*Pn	Pn	17 02 06.6	-0.7
GIRL	Giralia	19.64	151	*e*P	Pn	17 03 55.4	+1.9
	345nm,1.7s						
BATI	Baumata	19.97	105	P	P	17 03 55.3	+0.1
	8.2nm,0.3s,baz=230,slow=4.8,SNR=11						
BATI				S	S	17 07 30.1	-5.5
	5.7nm,0.3s,baz=316,slow=15,SNR=5.7						
CM31	Chiang Mai Arr	24.37	348	*e*P	P	17 04 37.6	-2.2
CMAR	Chiang Mai Arr	24.37	348	P	P	17 04 38.8	-1.0
	2.2nm,0.6s,baz=182,slow=9.5,SNR=26						
CMAR				LR	LR	17 15 08.8	
	comp=Z,26nm,20.0s,baz=176,slow=39						
FITZ	Fitzroy Crossi	24.51	122	P	P	17 04 41.0	0.0
	2.5nm,0.6s,baz=277,slow=4.3,SNR=8.0						
FITZ	Fitzroy Crossi	24.51	122	*e*P	P	17 04 40.7	-0.3
	9.7nm,1.3s						
SIJI	Sorong	27.57	81	P	P	17 05 08.2	-0.6
	2.1nm,0.5s,baz=288,slow=20,SNR=2.9						
H01W3	Cape Leeuwin H	30.65	164	T	T	17 37 30.6	
	baz=343,slow=76,SNR=7.1						
H01W2	Cape Leeuwin H	30.66	164	T	T	17 37 32.1	
	baz=343,slow=76,SNR=8.9						
H01W1	Cape Leeuwin H	30.67	164	T	T	17 37 32.9	
	baz=343,slow=76,SNR=7.7						
H08S2	Diego Garcia H	31.41	264	T	T	17 38 30.0	
	baz=89,slow=76,SNR=5.9						
H08S3	Diego Garcia H	31.42	264	T	T	17 38 30.0	
	baz=89,slow=76,SNR=4.8						
H08S1	Diego Carcia H	31.43	264	T	T	17 38 30.0	
	baz=89,slow=76,SNR=5.5						
WR1	Warramunga Arr	32.75	119	*e*P	P	17 05 55.5	+0.9
WR1				*e*pP	pP	17 06 13.6	+0.3
WR1				*e*PcP	PcP	17 08 39.5	+1.1
WR1				*e*S	S	17 11 04.0	-1.8
WRA	Warramunga Arr	32.75	119	P	P	17 05 55.5	+1.0
	1.0nm,0.3s,baz=306,slow=8.7,SNR=59						
WRA				pP	pP	17 06 13.6	+0.3
	0.6nm,0.5s,baz=302,slow=9.0,SNR=2.2						
WRA				PcP	PcP	17 08 39.5	+1.1
	0.7nm,0.4s,baz=302,slow=2.0,SNR=12						
WRA				S	S	17 11 04.0	-1.8
	1.0nm,1.0s,baz=295,slow=18,SNR=4.3						
WRAB	Tennant Creek	32.75	119	*e*P	P	17 05 54.9	+0.4
	29nm,2.0s						
WB2	Warramunga Arr	32.76	119	*e*P	P	17 05 54.0	-0.6
AS31	Alice Springs	33.92	125	*e*P	P	17 06 05.4	+0.6
	0.9nm,0.6s						
ASAR	Alice Springs	33.92	125	P	P	17 06 06.1	+1.3
	2.6nm,0.6s,baz=294,slow=7.9,SNR=76						
ASAR				pP	pP	17 06 25.4	+1.8
	0.9nm,0.5s,baz=294,slow=7.8,SNR=3.3						
ASAR				PcP	PcP	17 08 43.5	+1.8
	1.7nm,0.5s,baz=309,slow=2.6,SNR=16						
ASAR				S	S	17 11 22.2	-1.7
	1.4nm,0.8s,baz=295,slow=15,SNR=11						
AS01	Alice Springs	33.96	125	*e*PcP	PcP	17 08 43.2	+1.4
RAMN	Ramite	36.45	333	*e*P	P	17 06 27.5	+0.9
JIRN	Jiri	37.24	333	*e*P	P	17 06 33.3	-0.2
	7.5nm,0.6s						
PKI	Pulchoki	37.52	332	*e*P	P	17 06 36.0	+0.2
PKIN	Phulchoki	37.53	332	*e*P	P	17 06 35.8	0.0
	1.5nm,0.3s						
GUN	Gumba	37.60	333	*e*P	P	17 06 35.8	-0.6
	8.0nm,0.5s						
PYUN	Piuthan	39.13	330	*e*P	P	17 06 49.0	-0.2
PMG	Port Moresby	42.90	98	*e*P	P	17 07 19.3	-0.8
	9.7nm,0.8s						
CTA	Charters Tower	43.47	113	P	P	17 07 26.7	+2.1
	4.0nm,0.8s,baz=296,slow=10						
STKA	Stephens Creek	43.80	131	P	P	17 07 28.4	+1.3
	3.6nm,0.5s,baz=312,slow=8.3,SNR=13						
STKA				PcP	PcP	17 09 12.3	-0.2
	2.2nm,0.8s,baz=355,slow=3.5,SNR=3.2						
STKA	Stephens Creek	43.80	131	*e*P	P	17 07 28.0	+0.9
	2.3nm,1.0s						
STKA				PcP	PcP	17 09 12.3	-0.2
KSAR	Wonju Array Be	48.20	26	P	P	17 08 02.7	+1.2
KSRS	Korea Array	48.22	26	P	P	17 08 02.7	+1.0
	0.9nm,0.5s,baz=224,slow=7.6,SNR=6.4						
SONA0	Songino Array	53.19	2	*e*P	P	17 08 39.3	+0.2
SONA0				*e*pP	pP	17 08 56.0	-3.0
SONA0				*e*PcP	PcP	17 09 45.4	-0.7
SONM	Songino Array	53.19	2	P	P	17 08 39.3	+0.2
	1.1nm,0.5s,baz=190,slow=9.2,SNR=20						
SONM				pP	pP	17 08 56.0	-3.0
	0.8nm,0.6s,baz=185,slow=8.1,SNR=2.2						
SONM				PcP	PcP	17 09 45.4	-0.7
	2.6nm,0.6s,baz=184,slow=4.3,SNR=14						
MK01	Makanchi Array	55.54	342	*e*P	P	17 08 55.0	-1.1
USRK	Ussuriysk Ar.	55.54	24	P	P	17 08 55.6	-0.4
	2.0nm,0.5s,baz=214,slow=5.0,SNR=12						
MK31	Makanchi Array	55.56	342	*e*P	P	17 08 54.8	-1.4
MK32	Makanchi Array	55.56	342	*e*P	P	17 08 55.7	-0.5
MK32				*e*pP	pP	17 09 15.7	-0.6
MKAR	Makanchi Array	55.56	342	P	P	17 08 55.7	-0.5
	0.8nm,0.5s,baz=148,slow=9.0,SNR=24						
MKAR				pP	pP	17 09 15.7	-0.6
	0.5nm,0.5s,baz=154,slow=10,SNR=2.5						
MKAR	Makanchi Array	55.56	342	*e*P	P	17 08 54.9	-1.3
	6.9nm,0.6s						
MKAR				pP	pP	17 09 15.7	-0.6
GEYT	Alibeck	60.74	319	P	P	17 09 32.2	-0.3
	13nm,0.3s,baz=133,slow=4.0,SNR=6.3						
ZAA0	Zalesovo Array	61.43	347	*e*P	P	17 09 35.3	-1.5
	5.4nm,1.4s						
ZALV	Zalesovo Beam	61.43	347	P	P	17 09 35.7	-1.1
	2.3nm,0.4s,baz=161,slow=5.0,SNR=13						
ZALV				pP	pP	17 09 56.1	-1.1
	0.9nm,0.5s,baz=173,slow=5.0,SNR=2.8						
ZALV	Zalesovo Beam	61.43	347	*e*P	P	17 09 35.3	-1.5
ZALV				pP	pP	17 09 56.1	-1.1
ZAA1	Zalesovo Array	61.44	347	*e*P	P	17 09 35.7	-1.1
ZAA1				*e*pP	pP	17 09 56.1	-1.1
ABKAR	Akbulak array	66.68	330	*e*P	P	17 10 10.8	-0.5
URZ	Urewera	73.30	128	P	P	17 10 51.7	-0.5
	3.9nm,0.7s,baz=278,slow=14,SNR=4.0						
PETK	Petropavlovsk-	73.79	30	P	P	17 10 53.8	-0.9
	7.3nm,1.0s,baz=216,slow=7.4,SNR=5.0						
PEA1	Petropavlovsk-	73.80	30	*e*P	P	17 10 53.8	-0.9
VNDA	Vanda	77.94	169	P	P	17 11 20.5	+2.7
	1.9nm,0.8s,baz=315,slow=6.5,SNR=9.3						
VNDA	Vanda	77.94	169	*e*P	P	17 11 20.4	+2.5
BR101	Keskin Array S	78.67	312	*e*P	P	17 11 22.9	+0.1
BRTR	Keskin Array B	78.67	312	P	P	17 11 22.9	+0.1
	0.8nm,0.7s,baz=135,slow=8.0,SNR=7.0						
FIA0	FINESS Array S	89.11	332	*e*P	P	17 12 15.8	+0.6
FINES	FINESS Array B	89.11	332	P	P	17 12 15.8	+0.6
	1.7nm,0.8s,baz=116,slow=4.4,SNR=10						
ARA0	ARCESS Array S	91.16	340	*e*P	P	17 12 24.8	+0.1
ARCES	ARCESS Array B	91.16	340	P	P	17 12 24.8	+0.1
	3.6nm,1.0s,baz=101,slow=5.5,SNR=7.2						
GERES	GERESS Array B	94.36	319	P	P	17 12 40.8	+0.8
	0.2nm,0.5s,baz=156,slow=5.0,SNR=3.0						
NVAR	Mina Array Bea	129.58	43	PKP	PKPdf	17 18 29.9	+0.4
	0.4nm,0.6s,baz=318,slow=1.2,SNR=3.2						
ULM	Lac du Bonnet	132.40	17	PKP	PKPdf	17 18 35.0	+0.8
	1.0nm,0.4s,baz=289,slow=3.5,SNR=3.6						
PDAR	Pinedale Array	132.49	34	PKP	PKPdf	17 18 35.8	+0.9
	0.2nm,0.5s,baz=103,slow=2.9,SNR=2.7						
TUL1	Leonard	144.70	28	*e*PKPdf	PKPab	17 18 55.8	-0.1
TX31	Lajitas Ar. Si	144.71	45	*e*PKPdf	PKPdf	17 18 57.2	-0.2
TX31				*e*PKPdf	PKPbc	17 18 57.6	+1.2
TXAR	Lajitas Array	144.71	45	PKP	PKPdf	17 18 57.6	+0.2
	3.3nm,0.5s,baz=266,slow=0.6,SNR=83						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OLIL	**Olney**	**145.17**	**17**	*e*PKPbc	**PKPbc**	**17 18 57.3**	**-0.2**
BLO	**Bloomington**	**145.18**	**14**	*e*PKPbc	**PKPbc**	**17 18 57.5**	**+0.1**
HHAR	**Hobbs**	**145.24**	**26**	*e*PKPbc	**PKPbc**	**17 18 57.2**	**-0.5**
O56A	**Blue Knob Stat**	**145.35**	**4**	*e*PKPbc	**PKPab**	**17 18 58.2**	**0.0**
T42A	**Van Buren**	**145.74**	**22**	*e*PKPdf	**PKPdf**	**17 18 59.0**	**+0.2**
WCI	**Wyandotte Cave**	**146.13**	**15**	*e*PKPdf	**PKPbc**	**17 19 00.5**	**+0.1**
JCT	**Junction City**	**146.55**	**39**	*e*PKPdf	**PKPbc**	**17 19 02.1**	**+0.1**
MIAR	**Mount Ida**	**146.85**	**27**	*e*PKPdf	**PKPbc**	**17 19 02.2**	**-0.5**
WVT	**Waverly**	**147.66**	**18**	*e*PKPbc	**PKPbc**	**17 19 04.8**	**0.0**
V48A	**Smith Brothers**	**148.33**	**17**	*e*PKPbc	**PKPbc**	**17 19 06.4**	**-0.3**
V52A	**Sevierville**	**149.04**	**12**	*e*PKPbc	**PKPbc**	**17 19 08.2**	**-0.3**
SWET	**Sewanee**	**149.07**	**16**	*e*PKPbc	**PKPbc**	**17 19 07.7**	**-0.9**
CPCT	**Cooper Cave**	**149.21**	**14**	*e*PKPbc	**PKPbc**	**17 19 09.0**	**+0.1**
V53A	**Saluda**	**149.36**	**11**	*e*PKPbc	**PKPbc**	**17 19 09.4**	**0.0**
X48A	**Hartselle**	**149.46**	**18**	*e*PKPbc	**PKPbc**	**17 19 09.0**	**-0.6**
Y49A	**Blount Mountai**	**150.20**	**18**	*e*PKPbc	**PKPbc**	**17 19 11.2**	**-0.2**
LPAZ	**La Paz**	**156.97**	**200**	PKPab	**PKPab**	**17 19 48.0**	**+0.7**
	0.7nm,0.6s,baz=113,slow=13,SNR=2.5						

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*IDC **01** 17:02:40.6±9.5, 15°.05S×177°.35W, h235km±90km, mb3.3/10, mb1 3.5/10, mb1mx3.3/36, mbtmp3.9/10, Error ellipse: s-maj=25.0km s-min=23.4km az=11.0*
*ISCJB **01** 17:02:53.5±0.8, 15°.0S±0°.2×177°.7W±0°.2, h372km, mb3.4/10, Error ellipse: s-maj=37.8km s-min=16.1km az=145.2*
ISC 01 17:02:54.4±0.8**, 15°.2S**±0°.2×**177°.5W**±0°.2**, h372**km**, n10, σ1s.54**/11**, mb3.3**/10**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**23.48**	**191**	P	**P**	**17 07 29.3**	**-3.0**
	2.8nm,0.3s,baz=278,slow=4.7,SNR=11						
CTA	**Charters Tower**	**34.81**	**257**	P	**P**	**17 09 11.3**	**-0.5**
	2.8nm,0.8s,baz=86,slow=6.9,SNR=5.2						
STKA	**Stephens Creek**	**40.73**	**239**	P	**P**	**17 10 02.2**	**+1.6**
	1.3nm,0.9s,baz=73,slow=11,SNR=2.4						
WRA	**Warramunga Arr**	**46.02**	**257**	P	**P**	**17 10 41.5**	**-1.1**
	0.4nm,0.6s,baz=91,slow=7.4,SNR=7.4						
ASAR	**Alice Springs**	**46.40**	**252**	P	**P**	**17 10 45.5**	**+0.1**
	7.6nm,0.5s,baz=84,slow=8.4,SNR=151						
ASAR				PcP	**PcP**	**17 12 13.5**	**0.0**
	0.2nm,0.6s,baz=86,slow=3.8,SNR=3.1						
QSPA	**South Pole Qui**	**74.87**	**180**	P	**P**	**17 13 57.2**	**+2.2**
	0.9nm,0.8s,baz=348,slow=14,SNR=5.0						
ILAR	**Eielson Array**	**83.04**	**13**	P	**P**	**17 14 38.8**	**+0.2**
	0.4nm,0.6s,baz=224,slow=5.7,SNR=7.1						
TXAR	**Lajitas Array**	**83.82**	**58**	P	**P**	**17 14 42.7**	**-0.8**
	0.3nm,0.8s,baz=210,slow=5.2,SNR=2.7						
PDAR	**Pinedale Array**	**84.79**	**43**	P	**P**	**17 14 48.6**	**+0.5**
	0.2nm,0.6s,baz=269,slow=5.1,SNR=1.8						
YKA	**Yellowknife Ar**	**91.50**	**24**	P	**P**	**17 15 18.7**	**-0.4**
	0.3nm,0.9s,baz=230,slow=4.8,SNR=3.1						

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*ISCJB **01** 17:04:44.1±0.7, 5°.3N±0°.1×127°.0E±0°.2, h150km, mb3.2/4, Error ellipse: s-maj=36.6km s-min=6.1km az=151.5*
*IDC **01** 17:04:45.9±2.6, 5°.55N×127°.56E, h170km±24km, mb3.0/4, mb1 3.1/5, mb1mx2.9/39, mbtmp3.5/5, Error ellipse: s-maj=79.6km s-min=17.8km az=66.0*
ISC 01 17:04:45.1±0.9**, 5°.3N**±0°.2×**127°.0E**±0°.3**, h150**km**, n9, σ2s.00**/12**, mb3.3**/4**, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.79**	**334**	*e*P	**Pn**	**17 05 18.6**	**+0.6**
MATI				*e*S	**Sn**	**17 05 42.6**	**-0.5**
BIPH	**Bislig**	**2.92**	**347**	⇓*i*P	Sn	17 06 02.6	-4.8
BUKP	**Musuan**	**3.21**	**322**	*e*P	**Pn**	**17 05 36.7**	**+1.5**
BUKP				*e*S	**Sn**	**17 06 11.8**	**-2.2**
BUTP	**Butuan**	**3.89**	**339**	*e*P	**Pn**	**17 05 45.9**	**+2.0**
BUTP				*e*S	Sn	17 06 23.9	-5.8
SIJI	**Sorong**	**7.46**	**145**	P	**Pn**	**17 06 33.0**	**+1.6**
	1.3nm,0.3s,baz=306,slow=20,SNR=6.7						
SIJI				S	**Sn**	**17 07 52.5**	**-2.3**
	0.3nm,0.3s,baz=267,slow=18,SNR=2.4						
FITZ	**Fitzroy Crossi**	**23.31**	**183**	P	**P**	**17 09 41.0**	**+1.1**
	1.4nm,0.9s,baz=17,slow=11,SNR=4.1						
WRA	**Warramunga Arr**	**26.11**	**164**	P	**P**	**17 10 04.2**	**-1.1**
	0.1nm,0.3s,baz=349,slow=10,SNR=3.3						
WRA				ScP	**ScP**	**17 16 51.3**	**-3.6**
	0.1nm,0.7s,baz=330,slow=3.6,SNR=3.0						
ASAR	**Alice Springs**	**29.58**	**167**	P	**P**	**17 10 36.8**	**+0.7**
	0.2nm,0.5s,baz=356,slow=7.6,SNR=3.6						
MKAR	**Makanchi Array**	**56.44**	**325**	P	**P**	**17 14 10.4**	**-0.8**
	0.4nm,0.4s,baz=111,slow=7.9,SNR=8.9						

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*IDC **01** 17:31:24.3±1.4, 5°.47S×145°.97E, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.5/25, mbtmp3.5/6, ML2.7/2, Error ellipse: s-maj=44.0km s-min=23.5km az=110.0*
*ISCJB **01** 17:31:31.2±1.2, 5°.75S±0°.10×146°.1E±0°.2, h69km, mb3.3/4, Error ellipse: s-maj=24.2km s-min=11.7km az=161.1*
ISC 01 17:31:32.5±1.2**, 5°.7S**±0°.1×**146°.1E**±0°.2**, h69**km**, n6, σ0s.46**/7**, mb3.5**/4**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.80**	**164**	Pn	**Pn**	**17 32 28.6**	**0.0**
	4.7nm,0.3s,baz=348,slow=9.3,SNR=21						
PMG				Sn	**Sn**	**17 33 11.9**	**-0.2**
	6.1nm,0.3s,baz=64,slow=15,SNR=6.7						
WRA	**Warramunga Arr**	**18.17**	**218**	P	**P**	**17 35 39.5**	**-0.2**
	0.1nm,0.3s,baz=39,slow=12,SNR=9.2						
ASAR	**Alice Springs**	**21.35**	**212**	P	**P**	**17 36 15.0**	**+0.8**
	0.4nm,0.8s,baz=40,slow=8.1,SNR=7.7						
FITZ	**Fitzroy Crossi**	**23.45**	**237**	P	**P**	**17 36 35.7**	**-0.4**
	1.2nm,0.6s,baz=62,slow=9.8,SNR=4.4						
MKAR	**Makanchi Array**	**76.73**	**321**	P	**P**	**17 43 16.5**	**+0.1**
	0.3nm,0.6s,baz=100,slow=6.5,SNR=4.7						
ILAR	**Eielson Array**	**85.59**	**23**	P	**P**	**17 44 03.0**	**-0.1**
	0.7nm,0.6s,baz=255,slow=4.9,SNR=12						

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*IDC **01** 17:43:51.6±0.6, 55°.84S×24°.88W, h0km, mb4.5/9, mb1 4.6/9, mb1mx4.3/21, mbtmp4.5/9, MS3.6/4, Ms1 3.6/4, ms1mx3.2/21, Error ellipse: s-maj=23.8km s-min=18.4km az=90.0*
*ISCJB **01** 17:43:53.9±0.3, 55°.94S±0°.06×24°.84W±0°.10, h30km, mb4.9/33, Error ellipse: s-maj=8.8km s-min=6.8km az=42.8*
*NEIC **01** 17:43:56.7±0.3, 56°.00S×24°.87W, h35km, mb4.9/27, Error ellipse: s-maj=10.3km s-min=7.4km az=14.0*
ISC 01 17:43:55.7±0.4**, 55°.97S**±0°.09×**24°.86W**±0°.08**, h30**km**, n73, σ1s.04**/67**, mb5.0**/32**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.88**	**279**	*e*Pn	**Pn**	**17 45 33.1**	**-1.2**
HOPE				*e*Sn	Sn	17 46 36.7	-15
VNA1	**Neumayer--Stat**	**16.41**	**160**	P	**Pn**	**17 47 43.8**	**+0.4**
VNA3	**Neumayer Olymp**	**16.66**	**163**	P	**Pn**	**17 47 46.6**	**0.0**
VNA2	**Neumayer--Watz**	**16.80**	**160**	P	**Pn**	**17 47 48.5**	**+0.1**
	baz=323,slow=14						
EFI	**East Falkland**	**19.94**	**268**	*e*P	**P**	**17 48 23.9**	**-1.0**
	95nm,1.5s						
PMSA	**Palmer Station**	**20.94**	**229**	P	**P**	**17 48 36.3**	**+0.7**
	26nm,0.8s,baz=68,slow=5.6,SNR=7.0						
PMSA				LR	LR	17 55 04.8	
	comp=Z,237nm,19.2s,baz=70,slow=32						
USHA	**Ushuaia**	**24.47**	**254**	LR	LR	17 56 19.0	
	comp=Z,134nm,19.6s,baz=46,slow=30						
GO09	**Cerro Castillo**	**28.10**	**259**	*e*P	**P**	**17 49 42.3**	**-2.2**
	15nm,1.0s						
TRQA	**Tornquist**	**30.51**	**290**	*e*P	**P**	**17 50 07.2**	**+1.2**
	11nm,0.7s						
PLCA	**Paso Flores**	**33.28**	**278**	P	**P**	**17 50 28.5**	**-1.9**
	2.7nm,1.0s,baz=180,slow=10,SNR=3.4						
PLCA				LR	LR	18 03 01.4	
	comp=Z,60nm,20.6s,baz=164,slow=35						
PLCA	**Paso Flores**	**33.28**	**278**	*e*P	**P**	**17 50 29.4**	**-0.9**
	11nm,1.4s						
QSPA	**South Pole Qui**	**34.28**	**180**	P	**P**	**17 50 40.2**	**+1.3**
	8.9nm,0.5s,baz=213,slow=1.7,SNR=95						
QSPA				PcP	**PcP**	**17 53 14.4**	**0.0**
	2.6nm,0.8s,baz=268,slow=2.8,SNR=4.5						
QSPA	**South Pole Qui**	**34.28**	**180**	*e*P	**P**	**17 50 40.1**	**+1.2**
	68nm,1.4s						
QSPA				*e*PcP	**PcP**	**17 53 14.4**	**0.0**
CPUP	**Villa Florida**	**37.77**	**308**	P	**P**	**17 51 07.3**	**-1.6**
	4.7nm,1.0s,baz=137,slow=7.2,SNR=4.9						
CPUP	**Villa Florida**	**37.77**	**308**	*e*P	**P**	**17 51 09.4**	**+0.6**
	44nm,1.9s						
GO05	**Huala**	**38.12**	**283**	*e*P	**P**	**17 51 10.3**	**-1.6**
	67nm,1.8s						
PEL	**Peldehue**	**38.85**	**286**	*e*P	**P**	**17 51 18.7**	**+0.6**
	78nm,1.7s						
ROC1	**El Roble**	**39.16**	**286**	*e*P	**P**	**17 51 20.9**	**+0.1**
	12nm,0.6s						
SUR	**Sutherland**	**39.36**	**73**	*e*P	**P**	**17 51 21.2**	**-1.3**
	119nm,1.7s						
MAW	**Mawson**	**39.43**	**143**	*e*P	**P**	**17 51 21.0**	**-1.4**
	25nm,1.7s						
LCO	**Las Campanas**	**42.09**	**290**	*e*P	**P**	**17 51 45.7**	**+0.6**
	21nm,1.3s						
GO03	**Copiap**	**42.98**	**292**	*e*P	**P**	**17 51 52.9**	**+0.8**
	17nm,0.7s						
GO02	**Mina Guanaco**	**44.63**	**295**	*e*P	**P**	**17 52 06.6**	**+1.0**
	17nm,0.7s						
BOSA	**Boshof**	**44.69**	**74**	LR	LR	18 06 48.9	
	comp=Z,114nm,18.8s,baz=218,slow=31						
BOSA	**Boshof**	**44.69**	**74**	*e*P	**P**	**17 52 04.7**	**-1.2**
	62nm,1.9s						
SBA	**Scott Base**	**46.25**	**183**	*e*P	**P**	**17 52 17.1**	**-0.4**
	89nm,2.0s						
PB10	**IPOC Station P**	**46.48**	**295**	*e*P	**P**	**17 52 21.0**	**+1.1**
	16nm,1.1s						
VNDA	**Vanda**	**46.71**	**182**	P	**P**	**17 52 22.9**	**+1.9**
	6.5nm,0.7s,baz=189,slow=6.4,SNR=26						
VNDA	**Vanda**	**46.71**	**182**	*e*P	**P**	**17 52 23.2**	**+2.1**
	8.0nm,0.8s						
PB04	**IPOC Station P**	**47.26**	**296**	*e*P	**P**	**17 52 27.5**	**+1.3**
	37nm,1.4s						
H10S2	**ASCENSION HYDR**	**47.58**	**14**	T	T	18 43 49.8	
	baz=188,slow=75,SNR=5.2						
H10S3	**ASCENSION HYDR**	**47.58**	**14**	T	T	18 43 49.8	
	baz=188,slow=75,SNR=4.0						
H10S1	**ASCENSION HYDR**	**47.59**	**14**	T	T	18 43 51.0	
	baz=188,slow=75,SNR=3.9						
LBTB	**Lobatse**	**47.74**	**71**	*e*P	**P**	**17 52 30.8**	**+0.9**
	47nm,1.8s						
GO01	**Chusmiza**	**49.03**	**299**	*e*P	**P**	**17 52 39.7**	**-0.6**
	25nm,1.4s						
MNMC	**Minye Minye**	**49.68**	**299**	*e*P	**P**	**17 52 44.8**	**-0.3**
	7.8nm,0.7s						
LPAZ	**La Paz**	**51.41**	**303**	P	**P**	**17 52 59.8**	**+1.3**
	7.8nm,0.7s,baz=144,slow=6.0,SNR=20						
LPAZ	**La Paz**	**51.41**	**303**	*e*P	**P**	**17 53 00.2**	**+1.7**
	9.1nm,0.8s						
LIC	**Lamto**	**64.11**	**22**	*e*P	**P**	**17 54 26.4**	**-0.5**
	25nm,1.1s						
KIC	**Kosan Boka**	**64.30**	**22**	*e*P	**P**	**17 54 27.0**	**-1.1**
	114nm,2.1s						
TIC	**Toumodi**	**64.52**	**22**	*e*P	**P**	**17 54 31.0**	**+1.4**
DBIC	**Dimbokro**	**64.57**	**22**	P	**P**	**17 54 29.7**	**-0.2**
	2.8nm,0.7s,baz=164,slow=8.0,SNR=5.7						
DBIC	**Dimbokro**	**64.57**	**22**	*e*P	**P**	**17 54 29.7**	**-0.2**
	18nm,1.5s						
OTAV	**Otavalo**	**70.71**	**302**	*e*P	**P**	**17 55 11.6**	**+2.3**
	9.3nm,1.4s						
TOA0	**Torodi Ar. Sit**	**72.36**	**27**	*e*P	**P**	**17 55 19.2**	**+0.7**
TORD	**Torodi Ar. Bea**	**72.36**	**27**	P	**P**	**17 55 18.2**	**-0.3**
	4.3nm,0.6s,baz=206,slow=6.0,SNR=20						
TOA1	**Torodi Ar. Sit**	**72.37**	**27**	*e*P	**P**	**17 55 18.2**	**-0.3**
PAYG	**Puerto Ayora**	**75.91**	**290**	*e*P	**P**	**17 55 40.0**	**+0.6**
	40nm,1.1s						
FDF	**Fort de France**	**76.73**	**324**	*e*P	**P**	**17 55 42.8**	**-1.1**
	96nm,1.2s						
WHZ	**Wether Hill Ro**	**77.94**	**189**	*e*P	**P**	**17 55 49.2**	**-1.2**
	237nm,2.0s						
MLZ	**Mavora Lakes**	**78.44**	**189**	*e*P	**P**	**17 55 53.3**	**0.0**
	100nm,1.6s						
ASAR	**Alice Springs**	**98.65**	**160**	P	Pdif	17 57 32.5	+0.6
	0.7nm,0.8s,baz=194,slow=3.8,SNR=5.3						
AS31	**Alice Springs**	**98.65**	**160**	*e*P	**P**	**17 57 30.4**	**-1.6**
	1.4nm,1.3s						
PD31	**Pinedale Array**	**121.41**	**301**	*e*PKPdf	**PKiKP**	**18 02 46.9**	**+1.4**
PDAR	**Pinedale Array**	**121.41**	**301**	PKP	**PKPdf**	**18 02 45.3**	**-0.1**
	0.1nm,0.5s,baz=96,slow=9.2,SNR=3.5						
NVAR	**Mina Array Bea**	**122.57**	**292**	PKP	**PKiKP**	**18 02 49.5**	**+1.6**
	0.4nm,0.7s,baz=142,slow=4.5,SNR=2.7						
FIA0	**FINESS Array S**	**123.71**	**27**	*e*PKPdf	**PKiKP**	**18 02 49.1**	**0.0**
FINES	**FINESS Array B**	**123.71**	**27**	PKP	**PKiKP**	**18 02 49.1**	**0.0**
	1.6nm,1.0s,baz=212,slow=4.9,SNR=2.7						
CM01	**Chiang Mai Arr**	**123.84**	**108**	*e*PKPdf	**PKiKP**	**18 02 50.8**	**+0.1**
CM31	**Chiang Mai Arr**	**123.86**	**108**	*e*PKPdf	**PKiKP**	**18 02 50.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**123.86**	**108**	PKP	**PKPdf**	**18 02 50.5**	**-0.1**
	1.1nm,0.8s,baz=231,slow=3.7,SNR=12						
MK32	**Makanchi Array**	**135.63**	**70**	*e*PKPpre	PKPpre	18 03 05.9	
MKAR	**Makanchi Array**	**135.63**	**70**	PKhKP	PKPpre	18 03 05.9	
	0.1nm,0.5s,baz=169,slow=1.5,SNR=2.6						
YKA	**Yellowknife Ar**	**136.99**	**317**	PKP	**PKPdf**	**18 03 14.9**	**+1.0**
	0.6nm,0.6s,baz=128,slow=2.2,SNR=15						
YKB5	**Yellowknife Ar**	**136.99**	**317**	*e*PKPdf	**PKPdf**	**18 03 14.4**	**+0.5**
INK	**Inuvik**	**146.57**	**320**	*e*PKPdf	**PKPab**	**18 03 33.4**	**-0.2**
DAWY	**Dawson**	**147.71**	**312**	*e*PKPdf	**PKPbc**	**18 03 36.4**	**+0.5**
SONA0	**Songino Array**	**149.42**	**85**	*e*PKPbc	**PKiKP**	**18 03 41.5**	**-0.5**
SONM	**Songino Array**	**149.42**	**85**	PKPbc	**PKiKP**	**18 03 41.5**	**-0.5**
	1.0nm,0.6s,baz=224,slow=3.2,SNR=13						
RIDG	**Independ'e Rid**	**149.95**	**310**	*e*PKPbc	**PKiKP**	**18 03 43.3**	**+0.8**
IL1	**Eielson Array**	**151.04**	**311**	*e*PKPbc	**PKiKP**	**18 03 44.9**	**+0.3**
ILAR	**Eielson Array**	**151.04**	**311**	PKPbc	**PKiKP**	**18 03 45.1**	**+0.5**
	4.7nm,0.8s,baz=139,slow=2.7,SNR=34						
ILB	**Eielson Array**	**151.04**	**311**	*e*PKPbc	**PKiKP**	**18 03 44.9**	**+0.3**

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*ISCJB **01** 17:45:11.7±0.4, 6°.56S±0°.04×130°.27E±0°.06, h150km, mb3.6/4, Error ellipse: s-maj=8.2km s-min=6.3km az=2.8*
*IDC **01** 17:45:12.4±2.0, 6°.50S×130°.27E, h140km±21km, mb3.4/4, mb1 3.7/10, mb1mx3.5/37, mbtmp4.1/10, Error ellipse: s-maj=21.9km s-min=18.1km az=104.0*
*DJA **01** 17:45:15.1±0.5, 6°S±5°×13°0E±°, h10km, M4.7/7, mb5.0/6, mB5.6/3, MLv4.5/7, Mw(mB)5.1/3*
ISC 01 17:45:12.5±0.7**, 6°.51S**±0°.06×**130°.34E**±0°.08**, h150**km**, n26, σ2s.49**/27**, mb4.1**/7**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.75**	**147**	P	**Pn**	**17 45 48.0**	**+3.2**
FAKI	**Fak Fak**	**4.04**	**28**	P	**Pn**	**17 46 16.1**	**+2.8**
NLAI	**Namlea**	**4.58**	**315**	P	Pn	17 46 25.7	+5.3
SIJI	**Sorong**	**5.68**	**9**	P	**Pn**	**17 46 34.5**	**-0.5**
	3.4nm,0.3s,baz=57,slow=23,SNR=35						
SIJI				S	**Sn**	**17 47 32.1**	**-7.4**
	14nm,0.3s,baz=162,slow=19,SNR=20						
SANI	**Sanana**	**6.20**	**315**	P	**Pn**	**17 46 44.4**	**+2.5**
	30nm,0.8s,0.1nm						
RKPI	**Ransiki, Papua**	**6.27**	**38**	P	**Pn**	**17 46 44.4**	**+1.6**
	113nm,0.6s,3µm1.0nm						
BATI	**Baumata**	**7.56**	**240**	P	**Pn**	**17 47 00.9**	**+0.8**
	16nm,0.3s,baz=73,slow=2.5,SNR=27						
BATI				S	**Sn**	**17 48 22.4**	**-2.2**
	14nm,0.3s,baz=131,slow=19,SNR=8.3						
MRSI	**Marisa**	**10.88**	**309**	P	**Pn**	**17 47 46.4**	**+2.1**
	41nm,0.9s						
FITZ	**Fitzroy Crossi**	**12.40**	**201**	P	**Pn**	**17 48 03.0**	**-1.0**
	1.4nm,0.3s,baz=31,slow=9.1,SNR=35						
FITZ				S	Sn	17 50 09.8	-11
	1.8nm,0.3s,baz=84,slow=2.1,SNR=4.5						
WRA	**Warramunga Arr**	**13.91**	**164**	P	**Pn**	**17 48 22.1**	**-1.2**
	1.3nm,0.3s,baz=344,slow=13,SNR=62						
WRA				S	Sn	17 50 48.1	-9.4
	3.3nm,0.3s,baz=333,slow=25,SNR=12						
MTKI	**Muara Teweh, K**	**16.37**	**289**	P	P	17 49 04.1	+10
PMG	**Port Moresby**	**16.90**	**101**	P	**Pn**	**17 49 01.9**	**+1.5**
	0.8nm,0.3s,baz=314,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**17.40**	**169**	P	**Pn**	**17 49 08.0**	**+1.7**
	0.5nm,0.3s,baz=348,slow=13,SNR=45						
ASAR				S	**S**	**17 52 12.2**	**-6.7**
	0.6nm,0.3s,baz=342,slow=20,SNR=6.7						
CMAR	**Chiang Mai Arr**	**39.68**	**309**	P	**P**	**17 52 30.9**	**+0.7**
	0.8nm,0.7s,baz=135,slow=7.0,SNR=15						
RAMN	**Ramite**	**53.84**	**310**	*e*P	**P**	**17 54 21.2**	**+0.7**
JIRN	**Jiri**	**54.52**	**311**	*e*P	**P**	**17 54 25.9**	**+0.3**
GUN	**Gumba**	**54.89**	**311**	*e*P	**P**	**17 54 28.5**	**+0.3**
	12nm,0.5s						
PKI	**Pulchoki**	**55.07**	**310**	*e*P	**P**	**17 54 29.4**	**-0.1**
	3.4nm,0.5s						
PKIN	**Phulchoki**	**55.08**	**310**	*e*P	**P**	**17 54 29.3**	**-0.2**
KKN	**Kakani**	**55.28**	**310**	*e*P	**P**	**17 54 31.1**	**+0.2**
DMN	**Daman**	**55.32**	**310**	*e*P	**P**	**17 54 31.4**	**+0.2**
	2.1nm,0.4s						
KOLN	**Koldanda**	**56.55**	**309**	*e*P	**P**	**17 54 40.4**	**+0.5**
PYUN	**Piuthan**	**57.18**	**309**	*e*P	**P**	**17 54 45.0**	**+0.6**
SONM	**Songino Array**	**58.09**	**341**	P	**P**	**17 54 51.4**	**+1.2**
	0.6nm,0.6s,baz=150,slow=6.8,SNR=6.0						
MKAR	**Makanchi Array**	**68.00**	**327**	P	**P**	**17 55 56.8**	**+1.2**
	1.4nm,0.4s,baz=115,slow=8.1,SNR=54						
ZALV	**Zalesovo Beam**	**71.30**	**334**	P	**P**	**17 56 15.0**	**-0.5**
	0.4nm,0.6s,baz=123,slow=5.3,SNR=3.0						

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*ISCJB **01** 18:03:30.5±0.4, 4°.10S±0°.05×142°.32E±0°.06, h109km, mb4.0/13, Error ellipse: s-maj=9.2km s-min=5.5km az=147.7*
*IDC **01** 18:03:33.0±0.6, 4°.06S×142°.22E, h114km±5km, mb3.7/12, mb1 4.0/18, mb1mx3.9/32, mbtmp4.3/18, MS3.1/2, Ms1 3.1/2, ms1mx2.6/31, Error ellipse: s-maj=15.2km s-min=8.1km az=62.0*
*DJA **01** 18:03:35.0±0.6, 4°S±9°×14°2E±°, h98km±11km, M4.6/7, mb4.6/7, mB5.1/2, MLv4.6/3, Mw(mB)4.5/2*
ISC 01 18:03:32.8±0.5**, 4°.16S**±0°.06×**142°.16E**±0°.07**, h109**km**, n39, σ1s.48**/47**, mb4.1**/18**, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.19**	**318**	P	**Pn**	**18 04 08.6**	**+0.4**
	20nm,0.3s,baz=172,slow=9.5,SNR=74						
JAY				S	**Sn**	**18 04 34.9**	**-0.5**
	37nm,0.3s,baz=308,slow=19,SNR=10						
JAY	**Jayapura**	**2.19**	**318**	P	**Pn**	**18 04 08.5**	**+0.3**
GENI	**Genyem**	**2.53**	**308**	P	**Pn**	**18 04 13.3**	**+0.7**
PMG	**Port Moresby**	**7.19**	**137**	P	**Pn**	**18 05 17.8**	**+2.4**
	11nm,0.3s,baz=19,slow=5.1,SNR=64						
PMG				S	**Sn**	**18 06 33.9**	**-1.6**
	1.0nm,0.3s,baz=122,slow=19,SNR=7.1						
PMG				LR	LR	18 08 46.5	
	comp=Z,52nm,21.6s,baz=86,slow=43						
SIJI	**Sorong**	**11.37**	**286**	P	**Pn**	**18 06 11.7**	**-0.3**
	0.6nm,0.3s,baz=81,slow=11,SNR=7.8						
CTA	**Charters Tower**	**16.32**	**166**	P	**Pn**	**18 07 15.7**	**0.0**
	0.1nm,0.3s,baz=342,slow=9.6,SNR=3.2						
WRA	**Warramunga Arr**	**17.44**	**205**	P	**P**	**18 07 29.0**	**0.0**
	3.4nm,0.3s,baz=23,slow=12,SNR=94						
WRA				S	Sn	18 10 33.8	-10
	0.1nm,0.3s,baz=26,slow=24,SNR=2.5						
HNR	**Honiara**	**18.41**	**107**	P	**P**	**18 07 37.3**	**-2.3**
	8.6nm,0.3s,baz=292,slow=19,SNR=5.5						
SOEI	**Soe**	**18.61**	**252**	P	**P**	**18 07 44.1**	**+2.2**
	176nm,0.8s,1µm						
BATI	**Baumata**	**19.30**	**251**	P	**P**	**18 07 51.8**	**+2.4**
	8.6nm,0.3s,baz=190,slow=0.6,SNR=14						
BATI				LR	LR	18 17 41.6	
	comp=Z,154nm,18.2s,baz=310,slow=44						
BATI	**Baumata**	**19.30**	**251**	P	**Pn**	**18 07 52.2**	**+0.6**
EDFI	**Ende, Flores**	**20.84**	**256**	P	**P**	**18 08 05.2**	**-0.9**
ASAR	**Alice Springs**	**20.96**	**202**	P	**P**	**18 08 08.6**	**+1.3**
	16nm,0.7s,baz=31,slow=11,SNR=156						
ASAR				sP	**sP**	**18 08 42.9**	**+1.3**
	22nm,0.9s,baz=30,slow=9.1,SNR=7.3						
ASAR				S	**S**	**18 11 51.6**	**-3.3**
	2.1nm,0.9s,baz=24,slow=25,SNR=5.1						
FITZ	**Fitzroy Crossi**	**21.29**	**228**	P	**P**	**18 08 11.2**	**+0.4**
	16nm,0.5s,baz=48,slow=10,SNR=64						
FITZ				S	**S**	**18 11 56.1**	**-5.2**
	3.3nm,0.9s,baz=240,slow=20,SNR=2.0						
STKA	**Stephens Creek**	**27.57**	**181**	P	**P**	**18 09 09.8**	**+0.1**
	1.5nm,1.0s,baz=17,slow=11,SNR=5.2						
MJAR	**Matsushiro Arr**	**40.66**	**355**	P	**P**	**18 11 00.5**	**-1.9**
	1.0nm,0.9s,baz=174,slow=8.9,SNR=4.3						
KSRS	**Korea Array**	**43.48**	**343**	P	**P**	**18 11 24.9**	**-0.3**
	1.6nm,0.8s,baz=164,slow=8.1,SNR=3.9						
CMAR	**Chiang Mai Arr**	**48.15**	**299**	P	**P**	**18 12 02.4**	**+0.1**
	0.8nm,0.7s,baz=118,slow=6.5,SNR=9.6						
USRK	**Ussuriysk Ar.**	**49.01**	**350**	P	**P**	**18 12 08.6**	**+0.2**
	1.1nm,0.8s,baz=188,slow=12,SNR=4.2						
GTA	**Gaotai**	**58.30**	**322**	*e*P	**P**	**18 13 17.0**	**+0.5**
GTA				pP	pP	18 13 26.2	-17
GTA				sP	sP	18 13 30.4	-25
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM	**Songino Array**	**60.53**	**333**	P	**P**	**18 13 31.0**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=159,slow=9.0,SNR=3.5						
JIRN	**Jiri**	**62.50**	**304**	*e*P	**P**	**18 13 46.0**	**+0.4**
	comp=Z,7.9nm,0.5s						
GUN	**Gumba**	**62.85**	**304**	*e*P	**P**	**18 13 48.3**	**+0.4**
	comp=Z,14nm,0.7s						
PKI	**Pulchoki**	**63.12**	**304**	*e*P	**P**	**18 13 49.4**	**-0.2**
PKIN	**Phulchoki**	**63.13**	**304**	*e*P	**P**	**18 13 49.3**	**-0.4**
KKN	**Kakani**	**63.30**	**304**	*e*P	**P**	**18 13 51.1**	**+0.4**
	comp=Z,13nm,0.7s						
DMN	**Daman**	**63.38**	**304**	*e*P	**P**	**18 13 51.7**	**+0.4**
	comp=Z,12nm,0.7s						
KOLN	**Koldanda**	**64.69**	**303**	*e*P	**P**	**18 14 00.2**	**+0.4**
DANN	**Dangsing**	**64.75**	**304**	*e*P	**P**	**18 14 00.4**	**+0.1**
	comp=Z,16nm,0.6s						
PYUN	**Piuthan**	**65.31**	**303**	*e*P	**P**	**18 14 03.8**	**0.0**
	comp=Z,14nm,0.7s						
MKAR	**Makanchi Array**	**73.05**	**322**	P	**P**	**18 14 50.9**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=106,slow=7.7,SNR=22						
MKAR				pP	**pP**	**18 15 19.5**	**+1.0**
	comp=Z,2.7nm,1.0s,baz=107,slow=4.4,SNR=4.5						
VNDA	**Vanda**	**74.06**	**176**	P	**P**	**18 14 56.5**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=340,slow=7.2,SNR=8.6						
VNDA				pP	**pP**	**18 15 25.7**	**+1.8**
	comp=Z,0.8nm,0.9s,baz=347,slow=16,SNR=1.8						
ZALV	**Zalesovo Beam**	**74.93**	**329**	P	**P**	**18 15 00.5**	**-1.3**
	comp=Z,1.6nm,0.6s,baz=105,slow=5.0,SNR=9.9						
ZALV				pP	**pP**	**18 15 31.2**	**+1.8**
	comp=Z,1.0nm,0.7s,baz=115,slow=5.5,SNR=3.4						
ILAR	**Eielson Array**	**85.74**	**24**	P	**P**	**18 15 57.1**	**-2.3**
	comp=Z,2.0nm,0.7s,baz=256,slow=4.6,SNR=22						
ILAR				pP	**pP**	**18 16 27.7**	**0.0**
	comp=Z,1.1nm,0.7s,baz=253,slow=4.9,SNR=4.9						
LPAZ	**La Paz**	**143.80**	**125**	PKP	PKPab	18 22 55.5	+1.4
	comp=Z,5.5nm,0.7s,baz=261,slow=3.6,SNR=16						
KIC	**Kosan Boka**	**146.98**	**275**	*e*PKP1	**PKPdf**	**18 23 02.9**	**+1.1**
	comp=Z,21nm,1.1s						
DBIC	**Dimbokro**	**147.08**	**276**	PKPbc	**PKPdf**	**18 23 03.7**	**+1.8**
	comp=Z,3.6nm,0.6s,baz=68,slow=2.8,SNR=10						
TIC	**Toumodi**	**147.24**	**276**	*e*PKP1	**PKPdf**	**18 23 03.7**	**+1.5**
LIC	**Lamto**	**147.26**	**275**	*e*PKP1	**PKPdf**	**18 23 03.7**	**+1.5**
	comp=Z,25nm,0.9s						

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*ISCJB **01** 18:35:10.5±0.9, 5°.50S±0°.09×147°.4E±0°.2, h200km, mb3.7/9, Error ellipse: s-maj=26.6km s-min=9.8km az=18.1*
*IDC **01** 18:35:12.9±1.8, 5°.61S×147°.35E, h212km±18km, mb3.4/9, mb1 3.6/11, mb1mx3.5/35, mbtmp4.0/11, Error ellipse: s-maj=37.7km s-min=9.9km az=112.0*
ISC 01 18:35:11.9±0.9**, 5°.60S**±0°.08×**147°.3E**±0°.2**, h200**km**, n14, σ1s.78**/17**, mb3.6**/9**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.78**	**182**	P	**Pn**	**18 36 11.0**	**0.0**
	13nm,0.3s,baz=330,slow=6.6,SNR=27						
PMG				S	**Sn**	**18 36 54.0**	**-3.5**
	34nm,0.3s,baz=196,slow=21,SNR=18						
CTA	**Charters Tower**	**14.43**	**184**	P	**P**	**18 38 32.0**	**+3.4**
	0.5nm,0.3s,baz=15,slow=13,SNR=2.2						
WRA	**Warramunga Arr**	**19.01**	**220**	P	**Pn**	**18 39 20.1**	**-1.9**
	1.7nm,0.3s,baz=48,slow=12,SNR=57						
WRA				S	**S**	**18 42 43.1**	**-1.0**
	0.1nm,0.3s,baz=50,slow=19,SNR=4.8						
ASAR	**Alice Springs**	**22.10**	**214**	P	**P**	**18 39 52.8**	**+1.5**
	3.5nm,0.6s,baz=50,slow=8.7,SNR=30						
ASAR				S	**S**	**18 43 41.5**	**+1.3**
	0.4nm,0.7s,baz=32,slow=18,SNR=4.5						
BATI	**Baumata**	**23.83**	**257**	P	**P**	**18 40 08.1**	**+1.1**
	15nm,0.6s,baz=140,slow=1.9,SNR=3.2						
FITZ	**Fitzroy Crossi**	**24.51**	**238**	P	**P**	**18 40 14.1**	**+1.0**
	2.6nm,0.5s,baz=38,slow=7.9,SNR=3.7						
MJAR	**Matsushiro Arr**	**42.77**	**349**	P	**P**	**18 42 49.9**	**+0.1**
	1.9nm,1.1s,baz=161,slow=11,SNR=1.7						
KSRS	**Korea Array**	**46.48**	**339**	P	**P**	**18 43 19.7**	**+0.7**
	0.9nm,0.7s,baz=149,slow=10,SNR=1.9						
SONM	**Songino Array**	**64.19**	**331**	P	**P**	**18 45 26.0**	**+0.5**
	0.7nm,0.8s,baz=147,slow=7.4,SNR=5.8						
MKAR	**Makanchi Array**	**77.37**	**320**	P	**P**	**18 46 44.2**	**-0.6**
	0.3nm,0.4s,baz=98,slow=8.8,SNR=4.9						
ZALV	**Zalesovo Beam**	**78.83**	**328**	P	**P**	**18 46 51.3**	**-1.2**
	0.5nm,0.4s,baz=107,slow=5.8,SNR=5.1						
ILAR	**Eielson Array**	**85.01**	**23**	P	**P**	**18 47 23.9**	**-0.6**
	0.4nm,0.6s,baz=251,slow=4.6,SNR=2.9						
GERES	**GERESS Array B**	**121.74**	**326**	PKP	**PKiKP**	**18 53 42.3**	**-0.1**
	0.3nm,0.6s,baz=299,slow=1.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**145.26**	**285**	PKPbc	**PKPab**	**18 54 24.6**	**-2.7**
	1.0nm,0.6s,baz=65,slow=3.0,SNR=7.1						

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*IDC **01** 18:49:14.8±1.3, 63°.08N×150°.74W, h96km±14km, mb3.2/5, mb1 3.4/10, mb1mx3.2/46, mbtmp3.5/10, MS3.3/1,*

Ms1 3.3/1, ms1mx2.6/20, Error ellipse: s-maj=15.1km s-min=10.3km az=107.0
ISCJB ***01*** *18:49:16.1±0.3, 63°.14N±0°.02×150°.42W±0°.05, h125km±3km, mb3.3/5, Error ellipse: s-maj=3.9km s-min=3.0km az=14.2*
NEIC ***01*** *18:49:18.0±0.0, 63°.13N×150°.47W, h113km, ML3.3(AEIC), After AEIC.*
ISC 01 18:49:17.2±0.7**, 63°.13N**±0°.03×**150°.45W**±0°.04**, h123**km±6km**, n77,** σ**1s.26**/106**, mb3.4**/5**, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRF	Thorofare Moun	0.33	13	ePn	Pn	18 49 34.9	0.0
TRF				eSn	Sn	18 49 47.6	-0.6
HUR	Hurricane	0.40	113	ePn	Pn	18 49 34.8	-0.1
RND	Reindeer	0.77	69	ePn	Pn	18 49 37.5	0.0
RND				eSn	Sn	18 49 52.5	-0.3
CAST	Castle Rocks	0.79	292	ePn	Pn	18 49 37.3	-0.3
CAST				eSn	Sn	18 49 52.1	-1.0
PPLA	Purkeypile	0.83	254	ePn	Pn	18 49 38.2	+0.1
PPLA				eSn	Sn	18 49 53.1	-0.7
MCK	McKinley	0.91	48	ePn	Pn	18 49 38.7	+0.1
MCK				eSn	Sn	18 49 53.6	-1.2
BPAW	Bear Paw Mtn.	1.00	346	ePn	Pn	18 49 39.1	-0.4
BPAW				eSn	Sn	18 49 54.9	-1.5
SKT	Skwentna	1.26	204	ePn	Pn	18 49 42.1	0.0
SKT				eSn	Sn	18 49 59.8	-1.3
SKT				eSn	Sn	18 50 00.8	-0.3
DHY	Denali Highway	1.40	91	ePn	Pn	18 49 43.9	+0.1
DHY				eSn	Sn	18 50 04.6	+0.6
GHO	Glory Hole Cre	1.54	152	ePn	Pn	18 49 45.4	0.0
GHO				eSn	Sn	18 50 06.8	+0.1
SML	Sawmill	1.65	143	ePn	Pn	18 49 46.5	-0.1
SML				eSn	Sn	18 50 08.5	-0.5
PMR	Palmer	1.67	158	ePn	Pn	18 49 46.2	-0.5
PMR				eSn	Sn	18 50 08.9	-0.3
SUA	Susitna One	1.68	185	ePn	Pn	18 49 47.2	+0.2
SUA				eSn	Sn	18 50 09.1	-0.6
WRH	Wood River Hil	1.70	37	ePn	Pn	18 49 47.0	-0.1
WRH				eSn	Sn	18 50 08.7	-1.3
MLY	Manley	1.91	356	ePn	Pn	18 49 49.6	0.0
SCM	Sheep Creek Mo	1.95	131	P	Pn	18 49 49.9	-0.3
KNK	Knik Glacier	1.96	151	ePn	Pn	18 49 50.3	0.0
KNK				eSn	Sn	18 50 15.9	+0.2
HDA	Harding Lake	2.02	49	ePn	Pn	18 49 50.8	-0.1
SPCP	Crater Peak Br	2.04	204	ePn	Pn	18 49 51.8	+0.4
MDM	Murphy Dome	2.08	27	ePn	Pn	18 49 51.7	0.0
RC01	Rabbit Creek A	2.08	170	ePn	Pn	18 49 51.8	0.0
RC01				eSn	Sn	18 50 17.1	-1.1
COLA	College	2.09	32	ePn	Pn	18 49 52.0	+0.2
SPU	Mount Spurr	2.10	202	ePn	Pn	18 49 50.9	-1.1
SPU				eSn	Sn	18 50 15.4	-3.3
PAX	Paxson	2.27	92	ePn	Pn	18 49 54.7	+0.5
PAX				eSn	Sn	18 50 21.7	-1.0
IL1	Eielson Array	2.27	42	ePn	Pn	18 49 53.7	-0.4
IL1				eSn	Sn	18 50 20.4	-2.1
ILAR	Eielson Array	2.27	42	P	Pn	18 49 54.0	-0.2
	7.1nm,0.3s,baz=224,slow=13,SNR=422						
ILAR				S	Sn	18 50 21.2	-1.3
	7.7nm,0.3s,baz=221,slow=14,SNR=14						
ILB	Eielson Array	2.27	42	ePn	Pn	18 49 54.0	-0.2
ILB				eSn	Sn	18 50 21.2	-1.3
PWL	Port Wells	2.49	155	ePn	Pn	18 49 56.7	-0.3
HARP	HAARP	2.54	104	ePn	Pn	18 49 58.4	+0.9
RIDG	Independ'e Rid	2.59	74	ePn	Pn	18 49 58.9	+0.6
RIDG				eSn	Sn	18 50 26.4	-3.5
KLU	Klutina	2.68	126	ePn	Pn	18 49 58.7	-0.7
RSO	Redoubt South	2.90	203	ePn	Pn	18 50 03.3	+0.9
DOT	Dot Lake	2.92	77	ePn	Pn	18 50 02.6	+0.1
DOT				eSn	Sn	18 50 32.0	-5.4
DIV	Divide	2.98	130	ePn	Pn	18 50 02.4	-0.9
DIV				eSn	Sn	18 50 36.9	-1.9
SCRK	Sand Creek	3.01	71	ePn	Pn	18 50 03.8	0.0
SCRK				eSn	Sn	18 50 37.9	-1.8
SEW	Seward	3.08	171	ePn	Pn	18 50 04.2	-0.3
SVW2	Sparrevohn	3.16	232	ePn	Pn	18 50 05.7	0.0
IM3	Indian Mountai	3.20	335	ePn	Pn	18 50 05.8	-0.3
PRP	Porcupine Dome	3.21	40	ePn	Pn	18 50 06.2	-0.2
BRLK	Bradley Lake	3.39	184	ePn	Pn	18 50 09.1	+0.5
BRLK				eSn	Sn	18 50 48.0	-0.3
EYAK	Cordova Ski Ar	3.42	137	ePn	Pn	18 50 09.0	0.0
BMRM	Bremner River	3.51	126	ePn	Pn	18 50 09.4	-0.8
BMRM				eSn	Sn	18 50 50.7	-0.5
HOM	Homer	3.54	190	ePn	Pn	18 50 11.7	+1.2
CNPM	China Poot	3.64	186	ePn	Pn	18 50 12.4	+0.4
CNPM				eSn	Sn	18 50 52.5	-1.8
BCA3	Beaver Creek A	3.94	87	ePn	Pn	18 50 15.6	-0.3
HMT	Hamilton	4.07	131	ePn	Pn	18 50 17.4	-0.3
FYU	Fort Yukon	4.10	31	ePn	Pn	18 50 18.5	+0.5
COLD	Coldfoot	4.11	1	ePn	Pn	18 50 19.0	+0.8
COLD				eSn	Sn	18 51 03.4	-2.1
MID	Middleton Isla	4.21	150	ePn	Pn	18 50 19.5	0.0
BM3	Burnt Mountain	4.95	27	ePn	Pn	18 50 29.8	+0.4
DAWY	Dawson	5.02	74	ePn	Pn	18 50 30.2	-0.2
KDAK	Kodiak Island	5.47	192	P	Pn	18 50 34.5	-1.8
	1.1nm,0.3s,baz=330,slow=14,SNR=15						
KDAK				S	Sn	18 51 32.6	-5.5
	1.5nm,0.3s,baz=191,slow=15,SNR=10						
KDAK	Kodiak Island	5.47	192	ePn	Pn	18 50 35.0	-1.3
OHAK	Old Harbor	6.10	195	ePn	Pn	18 50 45.5	+0.7
HYT	Haines Junctio	6.52	105	ePn	Pn	18 50 50.6	0.0
EPYK	Eagle Plains	6.71	55	ePn	Pn	18 50 53.1	+0.1
ANM	Nome	6.75	289	ePn	Pn	18 50 53.7	+0.2
DHAK	Deception Hill	7.18	119	ePn	Pn	18 50 59.1	-0.3
WHY	Whitehorse	7.76	102	ePn	Pn	18 51 06.9	-0.4
CHGN	Chignik	7.94	214	ePn	Pn	18 51 07.2	-2.5
SKAG	Skagway	8.15	110	ePn	Pn	18 51 11.9	-0.6
INK	Inuvik	8.67	46	P	Pn	18 51 18.7	-0.7
	0.1nm,0.3s,baz=237,slow=13,SNR=4.0						
INK	Inuvik	8.67	46	ePn	Pn	18 51 18.4	-1.0
BESE	Bessie Mountai	8.86	114	ePn	Pn	18 51 21.3	-0.9
JIS	Juneau Island	9.25	114	ePn	Pn	18 51 26.4	-0.9
GAMB	Gambell	9.53	283	ePn	Pn	18 51 32.5	+1.6
SIT	Sitka	9.69	122	ePn	Pn	18 51 34.0	+0.9
DLBC	Dease Lake	11.01	106	P	Pn	18 51 51.6	+0.6
	0.1nm,0.3s,baz=315,slow=5.7,SNR=2.9						
DLBC				LR	LR	18 56 27.7	
	comp=Z,152nm,19.3s,baz=280,slow=39						
DLBC	Dease Lake	11.01	106	ePn	Pn	18 51 52.0	+0.9
YKA	Yellowknife Ar	16.26	76	P	Pn	18 52 58.3	+0.2
	0.1nm,0.3s,baz=293,slow=10,SNR=8.8						
RES	Resolute Bay	22.01	36	P	P	18 54 02.1	+1.1
	0.9nm,0.5s,baz=247,slow=9.6,SNR=5.7						
SEY	Seymchan	25.20	295	P	P	18 54 29.9	-0.9
	1.1nm,0.5s,baz=24,slow=20,SNR=6.2						
PD31	Pinedale Array	31.17	111	eP	P	18 55 26.8	+2.4
PDAR	Pinedale Array	31.17	111	P	P	18 55 26.8	+2.4
	0.3nm,0.7s,baz=324,slow=6.0,SNR=3.5						
TXAR	Lajitas Array	45.10	116	P	P	18 57 21.8	+0.9
	0.4nm,0.8s,baz=331,slow=5.4,SNR=3.9						
MK32	Makanchi Array	62.72	322	eP	P	18 59 27.9	-0.7
MKAR	Makanchi Array	62.72	322	P	P	18 59 27.9	-0.7
	0.4nm,0.6s,baz=42,slow=6.9,SNR=7.4						

NIED ***01*** *19:00:00, 29°.20N×130°.80E, h8km, Mw3.7 Best double couple: M0 3.84000×10^14 NP1:φs250.00000°, δ54.00000°, λ-165.00000°. NP2:φs152.00000°, δ78.00000°, λ-37.00000°.*
IDC ***01*** *19:00:09.2±1.4, 29°.24N×130°.54E, h0km, mb3.3/5, mb1 3.4/7, mb1mx3.3/33, mbtmp3.3/7, ML3.0/2, Error ellipse: s-maj=39.9km s-min=18.9km az=83.0*
ISCJB ***01*** *19:00:11.1±1.3, 29°.21N±0°.03×130°.84E±0°.06, h28km±9km, mb3.2/5, Error ellipse: s-maj=10.1km s-min=3.6km az=23.8*
JMA ***01*** *19:00:11.5±0.2, 29°.23N×130°.83E, h31km±5km, M3.5*
ISC 01 19:00:10.8±1.7**, 29°.25N**±0°.04×**130°.72E**±0°.07**, h14**km±10km**, n20,** σ**0s.64**/35**, mb3.2**/5**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.95	309	P	Pn	19 00 29.9	+0.2
JNN				eS	Sn	19 00 43.6	+0.6
JYAK	Yakushimahirau	1.00	349	P	Pg	19 00 30.2	0.0
JYAK				eS	Sn	19 00 44.4	0.0
JZK	Kikaishima	1.14	215	P	Pn	19 00 32.8	+0.4
JZK				eS	Sb	19 00 46.9	-0.1
JMTN	Minamitane	1.15	8	P	Pb	19 00 32.2	-0.4
JMTN				eS	Sb	19 00 47.8	+0.4
JAM	Amami Oshima	1.29	230	P	Pn	19 00 34.5	+0.1
JAM				eS	Sb	19 00 51.0	-0.2
JKC	Kuchinoerabu	1.29	339	P	Pn	19 00 34.4	0.0
JKC				S	Sg	19 00 52.0	-0.6
JTAJ	Takarajima	1.33	266	P	Pg	19 00 36.5	0.0
JTAJ				eS	Sg	19 00 54.8	+0.9
JTN	Tanegashima 3	1.42	9	P	Pn	19 00 35.9	-0.3
JTN				eS	Sn	19 00 55.1	+0.5
JAMN	Amaminishikomi	1.69	234	P	Pn	19 00 40.4	+0.5
JAMN				eS	Sb	19 01 02.7	-0.1
JTSR	Tashiro 2	1.92	5	P	Pn	19 00 43.5	+0.4
JTSR				eS	Sn	19 01 06.9	-0.1
JTK	Tokunoshima	2.14	227	P	Pn	19 00 46.7	+0.7
JTK				eS	Sn	19 01 13.2	+0.9
JSU	Suzuyama	2.26	354	P	Pn	19 00 47.4	-0.4
JSU				eS	Sn	19 01 16.2	+0.7
JNAR	Kushima--Naru	2.32	12	P	Pn	19 00 49.2	+0.7
JNAR				eS	Sn	19 01 17.8	+1.0
JOW	Kunigami	3.24	223	Pn	Pn	19 01 01.1	-0.1
	3.4nm,0.3s,baz=115,slow=20,SNR=77						
JOW				Sn	Sn	19 01 38.0	-1.5
	10nm,0.3s,baz=131,slow=26,SNR=7.3						
JNU	Nakatsue	3.86	2	Pn	Pn	19 01 10.7	+0.9
	1.1nm,0.3s,baz=191,slow=12,SNR=26						
JNU				Sn	Sn	19 01 54.3	-0.7
	0.9nm,0.3s,baz=234,slow=18,SNR=2.5						
SONM	Songino Array	26.40	321	P	P	19 05 46.4	-0.6
	0.3nm,0.5s,baz=137,slow=8.0,SNR=2.8						
MKAR	Makanchi Array	41.27	309	P	P	19 07 54.5	-1.1
	0.1nm,0.4s,baz=99,slow=6.3,SNR=2.8						
WRA	Warramunga Arr	49.03	175	P	P	19 08 57.0	-0.3
	0.3nm,0.6s,baz=350,slow=8.2,SNR=2.1						
ASAR	Alice Springs	52.70	176	P	P	19 09 25.9	+1.0
	0.2nm,0.6s,baz=14,slow=13,SNR=4.3						
BRTR	Keskin Array B	76.92	308	P	P	19 12 03.7	+0.7
	0.7nm,1.0s,baz=73,slow=5.0,SNR=3.9						

SJA ***01*** *19:11:26.2±0.4, 34°.73S×72°.18W, h40km±105km, ML2.9, MW4.1*
GUC ***01*** *19:11:27.5±0.6, 34°.90S×71°.87W, h55km±5km, ML3.3*
ISCJB ***01*** *19:11:29.1±0.9, 34°.78S±0°.06×71°.9W±0°.1, h35km, Error ellipse: s-maj=17.9km s-min=5.9km az=23.3*
ISC 01 19:11:29.4±1.6**, 34°.79S**±0°.07×**71°.9W**±0°.1**, h35**km**, n11,** σ**0s.95**/18**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GO05	Huala	0.22	180	iP	Pn	19 11 35.9	-0.6
GO05				iS	Sn	19 11 41.9	+0.6
GO05				IAML		19 11 42.8	
	comp=N,2µm,0.2s						
LMEL	Las Melosas	1.71	57	eP	Pn	19 11 55.0	-1.9
LMEL				iS	Sn	19 12 17.0	-0.6
LMEL				IAML		19 12 20.8	
	comp=N,674nm,0.2s						
CLCH	Cerro Calan	1.81	40	eP	Pn	19 11 57.5	-0.7
CLCH				iS	Sn	19 12 19.6	-0.3
CLCH				IAML		19 12 23.7	
	comp=E,421nm,0.2s						
PEL	Peldehue	1.94	33	iP	Pn	19 11 59.1	-0.9
PEL				iS	Sn	19 12 23.4	+0.3
ROC1	El Roble	1.96	23	iP	Pn	19 11 59.5	-0.9
ROC1				iS	Sn	19 12 24.2	+0.3
ROCH	El Roble	1.97	23	eP	Pn	19 11 59.9	-0.6
ROCH				iS	Sn	19 12 24.6	+0.6
ROCH				IAML		19 12 30.5	
	comp=N,366nm,0.3s						
FCH	Farellones	2.00	44	eP	Pn	19 12 00.1	-0.8
FCH				iS	Sn	19 12 24.7	-0.2
FCH				IAML		19 12 29.5	
	comp=N,236nm,0.2s						
AAGR	Agrelo	3.09	57	iP	Pn	19 12 17.1	+1.3
AUSP	Uspallata	3.33	40	iP	Pn	19 12 20.4	+1.1
ASAL	Salagasta	3.39	51	iP	Pn	19 12 20.8	+0.9
RTLS	Leoncito	3.71	37	iP	Pn	19 12 25.6	+1.1
RTLS				IAML		19 13 25.7	
	comp=Z,20nm,0.7s						

ISCJB ***01*** *19:21:58.4±0.4, 27°.40N±0°.06×126°.05E±0°.06, h228km±6km, mb3.0/6, Error ellipse: s-maj=12.7km s-min=4.3km az=138.4*
IDC ***01*** *19:21:59.6±1.7, 27°.52N×126°.00E, h232km±20km, mb2.8/6, mb1 3.1/9, mb1mx2.9/42, mbtmp3.7/9, Error ellipse: s-maj=30.1km s-min=14.0km az=67.0*
JMA ***01*** *19:22:00.0±0.3, 27°.52N×125°.96E, h214km, M3.7*
ISC 01 19:21:58.4±0.8**, 27°.51N**±0°.08×**125°.97E**±0°.07**, h223**km±9km**, n31,** σ**1s.81**/51**, mb2.9**/6**, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JKE	Kume jima 2	1.39	148	P	Pn	19 22 34.6	+1.3
JAGN	Aguni-jima	1.46	129	P	Pn	19 22 35.4	+1.6
JAGN				eS	S	19 23 00.9	-0.4
JIH	Iheya	1.84	104	P	Pn	19 22 38.7	+1.6
JIH				S	S	19 23 06.1	-1.0
JNTH	Nagotoyohara	2.08	118	P	Pn	19 22 41.1	+1.7
JNTH				S	S	19 23 10.0	-1.3
JJT3	Tamagusuku3	2.12	130	P	Pn	19 22 41.9	+2.1
JJT3				eS	S	19 23 13.0	+1.0
JOW	Kunigami	2.16	108	P	Pn	19 22 41.5	+1.3
	27nm,0.3s,baz=120,slow=22,SNR=288						
JOW				S	S	19 23 11.0	-1.8
	31nm,0.3s,baz=107,slow=27,SNR=14						
JOW	Kunigami	2.16	108	P	Pn	19 22 41.5	+1.3
JOW				eS	S	19 23 11.0	-1.8
JYRO	Yoronjima	2.26	102	P	Pn	19 22 42.4	+1.2
JYRO				eS	S	19 23 12.6	-1.9
JOKE	Okinoerabujima	2.31	93	P	Pn	19 22 42.8	+1.0
JOKE				S	S	19 23 13.6	-2.0
JIKM	Ikemajima	2.66	194	P	Pn	19 22 47.3	+1.8
JIKM				eS	S	19 23 21.2	-1.0
JTK	Tokunoshima	2.66	83	P	Pn	19 22 46.4	+1.0
JTK				S	S	19 23 20.1	-2.0
JMJ	Miyako jima 2	2.75	193	P	Pn	19 22 47.6	+1.0
JMJ				S	S	19 23 21.9	-2.2
JOGS	Gusukube	2.79	191	P	Pn	19 22 47.8	+0.9
JOGS				S	S	19 23 23.8	-1.0
JAMN	Amaminishikomi	2.93	75	P	Pn	19 22 49.2	+0.8
JAMN				S	S	19 23 25.8	-1.7
JTJ	Tarama	3.08	202	P	Pn	19 22 51.0	+0.8
JTJ				S	S	19 23 28.8	-1.8
JISG	Ishigakijimahi	3.27	208	P	Pn	19 22 52.8	+0.4
JISG				S	S	19 23 32.2	-2.5
JAM	Amami Oshima	3.34	74	P	Pn	19 22 54.4	+1.3
JAM				eS	S	19 23 33.6	-2.3
JIJ	Ishigaki jima	3.54	208	P	Pn	19 22 55.4	-0.2
JIJ				S	S	19 23 36.6	-3.8
HATJ	Hateruma jima	3.96	210	S	S	19 23 47.4	-1.9
JMZ	Minamidaito 2	4.99	109	P	Pn	19 23 14.8	+1.5
JMZ				eS	S	19 24 08.3	-4.1
JMTN	Minamitane	5.19	55	P	Pn	19 23 17.6	+1.9
JMTN				eS	S	19 24 15.4	-1.5
JTN	Tanegashima 3	5.39	53	P	Pn	19 23 19.7	+1.5
JTN				eS	S	19 24 17.0	-4.4
JTZ	Takazaki	6.24	44	P	Pn	19 23 31.5	+2.5
JNU	Nakatsue	7.02	36	P	Pn	19 23 41.3	+2.3
	1.1nm,0.3s,baz=295,slow=5.0,SNR=14						
JHJ	Hachijo jima 2	13.17	62	P	Pn	19 24 57.9	+0.6
	7.4nm,0.3s,baz=231,slow=19,SNR=3.9						
SONM	Songino Array	25.40	328	P	P	19 27 04.7	-0.9
	0.3nm,0.8s,baz=143,slow=10,SNR=3.8						
MKAR	Makanchi Array	39.18	311	P	P	19 29 05.5	+0.8
	0.8nm,0.5s,baz=92,slow=11,SNR=26						
ZALV	Zalesovo Beam	40.01	323	P	P	19 29 12.0	+0.5
	0.8nm,0.4s,baz=110,slow=8.3,SNR=4.7						
WRA	Warramunga Arr	47.86	169	P	P	19 30 13.4	-0.8
	0.2nm,0.8s,baz=354,slow=9.3,SNR=3.5						
ASAR	Alice Springs	51.45	171	P	P	19 30 42.5	+1.4
	0.1nm,0.5s,baz=359,slow=15,SNR=5.0						
YKA	Yellowknife Ar	78.21	24	P	P	19 33 32.8	-0.2
	0.2nm,1.0s,baz=298,slow=5.7,SNR=4.1						

IDC 01 19:27:59.3±1.7**, 56°.54S**×**27°.55W, h0**km**, mb3.6**/1**, mb1 3.6**/1**, mb1mx3.4**/15**, mbtmp3.6**/1**, Error ellipse: s-maj=99.2km s-min=68.3km az=139.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	73.58	30	P	P	19 39 34.1	0.0
	0.4nm,0.5s,baz=211,slow=5.0,SNR=3.6						
YKA	Yellowknife Ar	136.40	318	PKP	PKPdf	19 47 20.5	-0.8
	0.1nm,0.5s,baz=130,slow=2.0,SNR=3.3						
MKAR	Makanchi Array	137.23	72	PKP	PKPdf	19 47 21.5	-2.0
	0.1nm,0.4s,baz=207,slow=1.3,SNR=4.1						
ILAR	Eielson Array	150.29	311	PKPbc	PKPbc	19 47 50.6	-0.2
	0.5nm,0.6s,baz=128,slow=3.0,SNR=9.7						
SONM	Songino Array	150.95	88	PKPbc	PKPbc	19 47 53.2	+0.1
	0.3nm,0.4s,baz=221,slow=3.6,SNR=6.2						

IDC 01 20:04:04.7±3.4**, 2°.72S**×**128°.26E, h87**km±32km**, mb3.5**/2**, mb1 3.6**/5**, mb1mx3.3**/33**, mbtmp3.8**/5**, MS3.5**/1**, Ms1 3.5**/1**, ms1mx2.7**/17**, Error ellipse: s-maj=34.6km s-min=18.4km az=107.0, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	3.52	59	P	Pn	20 04 55.3	-2.0
	9.4nm,0.3s,baz=242,slow=23,SNR=38						
SIJI				S	Sn	20 05 39.1	+1.1
	6.2nm,0.3s,baz=58,slow=21,SNR=15						
FITZ	Fitzroy Crossi	15.50	189	P	Pn	20 07 38.6	+0.3
	0.1nm,0.3s,baz=18,slow=13,SNR=3.3						
WRA	Warramunga Arr	18.12	161	P	P	20 08 10.2	+0.2
	0.3nm,0.3s,baz=341,slow=12,SNR=31						
WRA				S	S	20 11 32.6	+0.1
	0.1nm,0.3s,baz=346,slow=21,SNR=4.1						
ASAR	Alice Springs	21.53	166	P	P	20 08 47.6	+0.7
	1.1nm,0.5s,baz=345,slow=11,SNR=38						
ASAR				S	S	20 12 41.8	+0.9
	3.0nm,1.0s,baz=346,slow=20,SNR=15						
STKA	Stephens Creek	31.61	158	P	P	20 10 19.2	-0.1
	2.0nm,0.9s,baz=343,slow=11,SNR=3.0						
URZ	Urewera	56.87	135	LR	LR	20 38 50.1	
	comp=Z,39nm,19.1s,baz=30,slow=37						

IDC ***01*** *20:04:56.6±0.8, 2°.19N×96°.07E, h0km, mb4.2/14, mb1 4.3/17, mb1mx4.1/38, mbtmp4.2/17, ML3.6/3, MS3.4/8, Ms1 3.5/8, ms1mx3.2/35, Error ellipse: s-maj=29.2km s-min=13.3km az=44.0*
BJI ***01*** *20:04:57.6, 1°.91N×96°.24E, h35km, mb4.7/48, mB5.0/30, Ms4.4/22, Ms7 4.1/21*
DJA ***01*** *20:04:58.6±1.2, 2°N±7°×9°6E±°, h11km±5km, M4.5/8, mb4.7/5, mB4.9/2, MLv4.4/8, Mw(mB)4.2/2*
ISCJB ***01*** *20:04:59.3±0.3, 2°.23N±0°.04×96°.14E±0°.03, h27km, mb4.6/57, MS3.9/11, Error ellipse: s-maj=6.1km s-min=4.2km az=32.5*
NEIC ***01*** *20:05:03.1±0.7, 2°.33N×96°.21E, h41km±6km, mb4.7/34, Error ellipse: s-maj=6.6km s-min=3.9km az=53.0*
ISC 01 20:05:00.6±0.4**, 2°.19N**±0°.05×**96°.07E**±0°.06**, h27**km**, n157,** σ**1s.40**/155**, mb4.7**/71**, MS3.9**/12**, 8C-3D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	0.34	50	P	Pb	20 05 06.4	-1.9
GSI	Gunungsitoli	1.74	120	P	Pn	20 05 28.7	-0.5
KCSI	Kotacane, Aceh	2.15	52	P	Pn	20 05 34.2	-0.6
TSI	Tuntungan	2.81	62	P	Pn	20 05 44.5	+0.7
PSI	Prapat	2.91	78	Pn	Pn	20 05 44.9	-0.5
	1.9nm,0.3s,baz=353,slow=0.3,SNR=24						
PSI				LR	LR	20 07 05.6	
	comp=Z,617nm,18.0s,baz=273,slow=45						
PSI	Prapat	2.91	78	ePn	Pn	20 05 44.5	-0.8
LHMI	Lhok Sumawe	3.14	16	P	Pb	20 06 03.2	+7.4
MNSI	Mandailing Nat	3.77	112	P	Pn	20 05 57.2	+0.1
SISI	Saibi	4.62	139	P	Pb	20 06 18.4	-2.6
CMBY	CAMPBELL BAY	5.24	336	eP	Pn	20 06 14.1	-3.2
PDSI	Padang	5.37	125	P	Pb	20 06 27.9	-5.8
IPM	Ipoh	5.44	65	ePn	Pn	20 06 19.2	-0.8
KULM	Kulim	5.51	56	ePn	Pn	20 06 19.9	-1.0
SDSI	Sungai Dareh	6.19	120	P	Pb	20 06 45.1	-2.7
KRAB	Krabi	6.75	27	P	Pn	20 06 39.1	+1.1
	51nm,0.6s,427nm0.2nm						
MYKOM	Kota Tinggi	7.79	93	ePn	Pn	20 06 52.6	+0.4
PBA	Port Blair	9.96	341	eP	Pn	20 07 19.0	-3.2
KSM	Kuching	14.25	93	ePn	P	20 08 28.6	+0.8
COCO	West Island	14.31	177	ePn	P	20 08 26.5	-2.0
LEM	Lembang	14.60	128	LR	LR	20 14 48.0	
	comp=Z,288nm,20.0s,baz=294,slow=40						
CHAI	Chaiyaphum	14.82	23	P	P	20 08 35.2	+1.1
PBKT	Sadao Pong	15.08	18	ePn	Pn	20 08 33.3	+1.3
PBKT	Sadao Pong	15.08	18	P	P	20 08 34.8	-2.2
	15nm,0.7s						
STKI	Sintang	15.55	98	P	P	20 08 43.9	+1.6
SUKH	Sukhothai	15.59	13	P	P	20 08 42.4	-0.3
	6.0nm,0.8s						
UTTA	Uttaradit	16.07	16	P	P	20 08 47.3	-0.7
	5.0nm,0.8s						
PALK	Pallekele	16.12	289	Pn	Pn	20 08 46.0	+0.3
	0.2nm,0.3s,baz=116,slow=16,SNR=2.3						
PALK				LR	LR	20 13 09.1	
	comp=Z,37nm,20.7s,baz=116,slow=30						
PALK	Pallekele	16.12	289	ePn	Pn	20 08 46.4	+0.8
	34nm,1.3s						
CM01	Chiang Mai Arr	16.38	10	ePn	Pn	20 08 48.2	-0.6
CM31	Chiang Mai Arr	16.41	10	ePn	Pn	20 08 47.2	-2.0
CMAR	Chiang Mai Arr	16.41	10	Pn	Pn	20 08 47.5	-1.7
	0.2nm,0.3s,baz=197,slow=11,SNR=56						
CMAR				LR	LR	20 16 00.3	
	comp=Z,262nm,18.0s,baz=201,slow=40						
LAMP	Lampang	16.60	12	P	P	20 08 55.5	+1.6
	4.1nm,0.8s						
CMMT	Chiang Mai	16.76	9	P	Pn	20 08 51.9	-1.7
	6.4nm,0.8s,491nm						
CHTO	Chiang Mai	16.76	9	ePn	Pn	20 08 50.8	-2.9
	4.6nm,0.8s						
CHTO	Chiang Mai	16.76	9	P	Pn	20 08 52.3	-1.3
	28nm,0.9s						
NONG	Nongkai	17.23	23	P	P	20 09 02.2	+1.3
	0.3nm,1.6s,248nm						
MDRS	Chennai	19.03	305	eP	Pn	20 09 24.6	+3.0
KKM	Kota Kinabalu	20.45	79	eP	P	20 09 35.1	-1.3
	24nm,0.8s						
QIZ	Qiongzhong	21.49	38	P	P	20 09 47.6	+0.1
QIZ				S	S	20 13 44.7	0.0
QIZ				LR	LR		
	comp=N,420nm,13.9s						
QIZ				LR	LR		
	comp=E,310nm,13.9s						
QIZ				LR	LR		
	comp=Z,500nm,12.3s						
HYB	Hyderabad	22.91	312	eP	P	20 10 02.4	-0.4
SHL	Shillong	23.59	351	eP	P	20 10 05.9	-3.6
	40nm,0.8s						
SHL	Shillong	23.59	351	eP	P	20 10 07.4	-2.1
SHL				IAmb	IAmb	20 10 10.3	
	comp=Z,30nm,1.1s						
BOK	Bokaro	23.63	336	eP	P	20 10 09.7	-0.1
BOK				IAmb	IAmb	20 10 12.8	
	comp=Z,60nm,1.1s						
KMI	Kunming	23.69	15	P	P	20 10 11.7	+1.1
KMI				sP	sP	20 10 24.1	+2.6
KMI				pmax	pmax		
	comp=Z,15nm,1.2s						
KMI				pmax	pmax		
	comp=Z,76nm,5.6s						
KMI				LR	LR		
	comp=Z,310nm,15.2s						
KMI				LR	LR		
	comp=Z,140nm,11.2s						
KMI				LR	LR		
	comp=Z,270nm,12.0s						
NGP	Nagpur	25.10	320	eP	P	20 10 24.0	+0.6
NGP				IAmb	IAmb	20 10 26.2	
	comp=Z,5.5nm,0.6s						
H08S2	Diego Garcia H	25.47	247	T	T	20 36 55.7	
	baz=68,slow=75,SNR=1196						
H08S3	Diego Garcia H	25.47	247	T	T	20 37 00.4	
	baz=68,slow=75,SNR=4747						
H08S1	Diego Carcia H	25.49	247	T	T	20 36 57.8	
	baz=68,slow=75,SNR=304						
GOA	Goa	25.60	302	eP	P	20 10 28.8	+0.8
GOA				IAmb	IAmb	20 10 34.6	
	comp=Z,32nm,1.5s						
GYA	Guiyang	26.19	22	eP	P	20 10 33.8	+0.5
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA	Guiyang	26.19	22	⇑iP	P	20 10 32.5	-0.8
GYA				pP	sP	20 10 45.2	+0.9
GYA				PP	PnPn	20 11 17.6	+5.1
GYA				S	S	20 15 01.8	-2.1

GYA sS sS 20 15 19.0 +2.1
GYA SS **SnSn** **20 16 09.4 +5.4**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,110nm,4.8s
GYA LR LR
comp=Z,490nm,17.0s
GYA LR LR
comp=Z,460nm,17.2s
GYA LR LR
comp=Z,420nm,16.8s
RAMN Ramite 26.24 341 *e*P **P** **20 10 35.6 +1.7**
comp=Z,33nm,0.6s
JIRN Jiri 27.03 340 *e*P **P** **20 10 42.3 +1.1**
comp=Z,87nm,0.7s
POO Poona 27.16 308 *e*P **P** **20 10 43.1 +1.0**
POO IAmb IAmb 20 10 48.3
comp=Z,20nm,0.1s
PKI Pulchoki 27.22 339 *e*P **P** **20 10 44.1 +1.3**
comp=Z,27nm,0.8s
PKIN Phulchoki 27.23 339 *e*P **P** **20 10 43.6 +0.7**
comp=Z,16nm,0.9s
DMN Daman 27.37 338 *e*P **P** **20 10 45.5 +1.4**
GUN Gumba 27.37 340 *e*P **P** **20 10 45.3 +1.1**
comp=Z,55nm,0.7s
LSA Lhasa 27.75 351 *e*P **P** **20 10 47.8 0.0**
comp=Z,20nm,0.9s
KOLN Koldanda 28.09 336 *e*P **P** **20 10 51.7 +1.2**
comp=Z,27nm,0.7s
DANN Dangsing 28.54 337 *e*P **P** **20 10 55.4 +0.8**
PYUN Piuthan 28.64 335 *e*P **P** **20 10 56.5 +1.2**
comp=Z,18nm,0.8s
CD2 Chengdu 29.48 14 *e*P **P** **20 11 03.5 +0.9**
CD2 S **S** **20 15 55.6 +0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.8s
CD2 LR LR
comp=Z,490nm,12.9s
CD2 LR LR
comp=Z,340nm,9.3s
ENH Enshi 30.69 23 *e*P **P** **20 11 11.7 -1.6**
comp=Z,12nm,0.8s
DDI Dehra Dun 32.78 330 *e*P **P** **20 11 32.2 +0.5**
DDI IAmb IAmb 20 11 34.2
comp=Z,9.2nm,0.5s
SMLA Simla 33.88 330 *e*P **P** **20 11 41.1 -0.1**
SMLA IAmb IAmb 20 11 43.2
comp=Z,23nm,1.5s
XAN Xi'an 33.88 19 P **P** **20 11 39.9 -1.4**
XAN pP sP 20 11 52.0 -0.5
XAN pmax pmax
comp=Z,30nm,0.8s
XAN pmax pmax
comp=Z,76nm,5.2s
LZH Lanzhou 34.49 11 *e*P **P** **20 11 46.1 -0.5**
LZH pP sP 20 11 58.4 +0.6
LZH sP pP 20 12 02.8 +8.3
LZH *e*PP **PP** **20 13 06.3 +1.2**
LZH pmax pmax
comp=Z,16nm,1.4s
LZH LR LR
comp=Z,300nm,11.9s
LZH LR LR
comp=Z,310nm,13.6s
DHRM DHARAMSHALA 35.22 330 *e*P **P** **20 11 53.0 0.0**
DHRM IAmb IAmb 20 11 54.8
comp=Z,13nm,1.1s
FITZ Fitzroy Crossi 35.42 126 P **P** **20 11 54.1 -0.6**
comp=Z,3.6nm,0.8s,baz=291,slow=4.1,SNR=7.6
FITZ Fitzroy Crossi 35.42 126 *e*P **P** **20 11 54.4 -0.3**
FAKI Fak Fak 36.52 98 P P 20 12 15.0 +11
NJ2 Nanjing 36.64 33 *e*P **P** **20 12 04.9 -0.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
GTA Gaotai 37.20 5 ⇑P **P** **20 12 09.3 -0.5**
GTA pP pP 20 12 19.2 +1.8
GTA sP sP 20 12 23.2 +2.7
GTA S **S** **20 17 51.2 -4.0**
GTA pmax pmax
comp=Z,10.0nm,1.2s
GTA pmax pmax
comp=Z,130nm,6.7s
GTA LR LR
comp=Z,95nm,17.8s
GTA LR LR
comp=Z,170nm,15.2s
GTA LR LR
comp=Z,150nm,18.1s
NIL Nilore 37.88 328 *e*P **P** **20 12 15.6 0.0**
comp=Z,11nm,0.8s
H01W3 Cape Leeuwin H 40.59 157 T T 20 55 51.7
baz=333,slow=76,SNR=181
H01W2 Cape Leeuwin H 40.60 157 T T 20 55 54.5
baz=333,slow=76,SNR=244
H01W1 Cape Leeuwin H 40.60 157 T T 20 55 53.4
baz=333,slow=76,SNR=247
HHC Hu-ho-hao-te 40.95 18 *e*P **P** **20 12 42.2 +1.0**
HHC S **S** **20 18 53.1 +1.5**
HHC pmax pmax
comp=Z,11nm,1.0s
HHC pmax pmax
comp=Z,170nm,5.2s
HHC LR LR
comp=Z,330nm,15.1s
HHC LR LR
comp=Z,350nm,14.4s
HHC LR LR
comp=Z,180nm,15.6s
KSH Kashi 41.41 336 P **P** **20 12 44.7 -0.3**
KSH pP pP 20 12 54.1 +1.3
KSH PP **PnPn** **20 14 23.4 -2.3**
KSH S **S** **20 18 53.4 -5.1**
KSH sS sS 20 19 12.4 +0.7
KSH pmax pmax
comp=Z,14nm,0.8s
KSH pmax pmax
comp=Z,220nm,8.7s
KSH LR LR
comp=Z,280nm,7.6s
KSH LR LR
comp=Z,120nm,8.9s
BJT Baijiatuan 41.84 23 *e*P **P** **20 12 47.8 -0.6**
comp=Z,27nm,0.7s
BJI Beijing 41.86 23⇑*e*P **P** **20 12 49.0 +0.5**
BJI pmax pmax
comp=Z,27nm,0.7s
WMQ Urumqi 42.12 351 *e*P **P** **20 12 51.0 +0.4**
WMQ pP sP 20 13 02.2 +0.8
WMQ pmax pmax
comp=Z,13nm,1.1s
WMQ pmax pmax
comp=Z,280nm,5.9s
WMQ LR LR
comp=Z,140nm,17.5s
WMQ LR LR
comp=Z,140nm,21.5s
WMQ LR LR
comp=Z,130nm,18.5s
NRN Naryn 43.05 338 *e*P **P** **20 12 59.7 +1.1**
comp=Z,4.4nm,0.9s
WR1 Warramunga Arr 43.52 122 *e*P **P** **20 13 02.1 -0.1**
comp=Z,4.9nm,0.9s
WRA Warramunga Arr 43.52 122 P **P** **20 13 02.1 -0.2**
comp=Z,2.0nm,0.8s,baz=302,slow=9.0,SNR=16
WRAB Tennant Creek 43.52 122 *e*P **P** **20 13 01.8 -0.5**
comp=Z,17nm,1.6s
WB2 Warramunga Arr 43.52 122 *e*P **P** **20 13 01.8 -0.6**
comp=Z,20nm,1.8s
BTK Batken 44.11 332 *e*P **P** **20 13 08.6 +1.8**
comp=Z,19nm,1.4s
ARSB Arslanbob 44.16 335 *e*P **P** **20 13 08.5 +1.1**
comp=Z,14nm,0.8s
AAK Ala-Archa 44.66 337 *e*P **P** **20 13 12.4 +1.1**
comp=Z,11nm,1.6s
FORT Forrest 44.76 140 *e*P **P** **20 13 14.1 +2.0**
comp=Z,19nm,0.8s
JNU Nakatsue 44.83 43 *e*P **P** **20 13 12.4 -0.2**
comp=Z,135nm,2.0s
AS31 Alice Springs 44.89 127 *e*P **P** **20 13 13.8 +0.5**
comp=Z,1.8nm,1.4s
ASAR Alice Springs 44.89 127 P **P** **20 13 13.2 0.0**
comp=Z,1.0nm,0.6s,baz=302,slow=7.9,SNR=13
AS01 Alice Springs 44.93 127 *e*P **P** **20 13 14.0 +0.4**

KSRS Korea Array 45.70 36 LR LR 20 33 20.0
comp=Z,59nm,19.1s,baz=219,slow=37
MK01 Makanchi Array 45.99 347 *e*P **P** **20 13 21.5 -0.1**
MK31 Makanchi Array 46.02 347 *e*P **P** **20 13 21.9 0.0**
MK32 Makanchi Array 46.02 347 *e*P **P** **20 13 22.1 +0.2**
MKAR Makanchi Array 46.02 347 P **P** **20 13 22.1 +0.2**
comp=Z,11nm,0.9s,baz=161,slow=7.7,SNR=84
MKAR LR LR 20 36 37.9
comp=Z,29nm,18.0s,baz=157,slow=41
MKAR Makanchi Array 46.02 347 *e*P **P** **20 13 21.7 -0.1**
comp=Z,47nm,0.7s
MAKZ Makanchi 46.10 347 *e*P **P** **20 13 22.4 -0.1**
comp=Z,13nm,1.1s
SONA0 Songino Array 46.34 10 *e*P **P** **20 13 24.1 -0.4**
SONA0 *e*PcP **PcP** **20 14 59.8 +0.5**
SONM Songino Array 46.34 10 P **P** **20 13 24.1 -0.4**
comp=Z,5.2nm,0.6s,baz=190,slow=9.1,SNR=44
SONM PcP **PcP** **20 14 59.8 +0.5**
comp=Z,1.2nm,0.7s,baz=182,slow=3.4,SNR=4.5
SONA1 Songino Array 46.35 10 *e*P **P** **20 13 23.7 -0.8**
SONA1 *e*PcP **PcP** **20 14 59.3 -0.1**
KK31 Karatay Array 46.68 334 *e*P **P** **20 13 27.9 +0.9**
KKAR Karatay Array 46.68 334 *e*P **P** **20 13 27.2 +0.2**
COEN Coen 49.37 110 *e*P **P** **20 13 49.3 +1.0**
comp=Z,25nm,1.6s
GEYT Alibeck 49.73 320 P **P** **20 13 51.8 +1.0**
comp=Z,70nm,0.8s,baz=161,slow=6.3,SNR=11
GYA0B ALIBECK ARRAY 49.73 320 *e*P **P** **20 13 52.3 +1.5**
comp=Z,4.9nm,0.8s
KURK Kurchatov 50.55 346 *e*P **P** **20 13 57.2 +0.5**
comp=Z,18nm,1.6s
HIA Hailar 51.08 20 *e*P **P** **20 14 00.2 -0.5**
comp=Z,7.8nm,1.0s
MJB9 Matsu-Tunnel 51.74 43 *e*P **P** **20 14 05.4 -0.5**
comp=Z,96nm,1.9s
MAJO Matsushiro 51.74 43 *e*P **P** **20 14 05.6 -0.3**
comp=Z,92nm,1.9s
MJAR Matsushiro Arr 51.74 43 LR LR 20 36 34.1
comp=Z,34nm,21.5s,baz=75,slow=37
PMG Port Moresby 52.18 104 *e*P **P** **20 14 09.2 -0.3**
comp=Z,7.6nm,0.8s
ZAA0 Zalesovo Array 52.41 352 *e*P **P** **20 14 10.3 -0.2**
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 52.41 352 P **P** **20 14 10.8 +0.2**
comp=Z,14nm,0.7s,baz=180,slow=7.4,SNR=72
ZALV Zalesovo Beam 52.41 352 *e*P **P** **20 14 10.3 -0.2**
ZAA1 Zalesovo Array 52.42 352 *e*P **P** **20 14 10.8 +0.2**
USRK Ussuriysk Ar. 52.52 32 P **P** **20 14 11.9 +0.4**
comp=Z,1.3nm,0.7s,baz=233,slow=6.1,SNR=5.3
CTAO Charters Tower 53.95 117 *e*P **P** **20 14 23.2 +0.6**
comp=Z,30nm,1.5s
STKA Stephens Creek 54.85 132 P **P** **20 14 29.5 +0.6**
comp=Z,2.3nm,1.0s,baz=297,slow=9.0,SNR=3.6
STKA Stephens Creek 54.85 132 *e*P **P** **20 14 30.0 +1.1**
BRVK Borovoye 55.01 341 *e*P **P** **20 14 29.5 -0.1**
comp=Z,3.6nm,0.8s
ABKAR Akbulak array 56.12 332 *e*P **P** **20 14 37.9 +0.2**
KBZ Khabaz 62.59 319 P **P** **20 15 22.8 +0.4**
comp=Z,1.2nm,0.9s,baz=157,slow=7.7,SNR=4.1
BR101 Keskin Array S 67.61 312 *e*P **P** **20 15 55.2 -0.2**
BRTR Keskin Array B 67.61 312 P **P** **20 15 55.2 -0.2**
comp=Z,0.8nm,0.8s,baz=140,slow=6.7,SNR=7.5
AKASG Malin Array Be 73.79 322 P **P** **20 16 31.9 -0.7**
comp=Z,1.6nm,0.7s,baz=96,slow=5.4,SNR=5.1
KIEV Kiev 73.80 322 *e*P **P** **20 16 32.4 -0.2**
comp=Z,16nm,1.7s
VRI Vrincioaia 74.13 317⇑*i*P **P** **20 16 35.6 +0.9**
PLOR Plostina 74.18 317⇓*i*P **P** **20 16 36.5 +1.4**
MLR Muntele Rosu 74.58 317 *e*P **P** **20 16 38.9 +1.5**
comp=Z,23nm,2.0s
MLR Muntele Rosu 74.58 317⇑*i*P **P** **20 16 39.0 +1.5**
ZIMR 74.59 315⇓*i*P **P** **20 16 39.8 +2.4**
VOIR 75.18 316⇓*i*P **P** **20 16 40.8 -0.1**
BURAR Bucovina Array 75.54 319⇑*i*P **P** **20 16 44.1 +1.1**
BUR04 Bucovina Ar. S 75.54 319 *e*P **P** **20 16 43.5 +0.5**
BUR08 Bucovina Ar. S 75.56 319 *e*P **P** **20 16 43.7 +0.7**
VTS Vitosha 75.93 313 *e*P **P** **20 16 45.3 -0.1**
comp=Z,14nm,2.0s
TRPA Tarpa 77.41 319⇑*i*P **P** **20 16 53.7 +0.3**
FIA0 FINESS Array S 78.60 333 *e*P **P** **20 16 59.5 -0.2**
FINES FINESS Array B 78.60 333 P **P** **20 16 59.5 -0.2**
comp=Z,1.9nm,0.7s,baz=134,slow=5.5,SNR=9.4
PDG Podgorica 78.80 313⇑*i*P **P** **20 16 57.4 -3.8**
VYHS Vyhne 79.91 319 *e*P **P** **20 17 09.1 +1.9**
ARA0 ARCESS Array S 81.23 340 *e*P **P** **20 17 14.1 +0.3**
ARCES ARCESS Array B 81.23 340 P **P** **20 17 14.1 +0.3**
comp=Z,1.8nm,0.7s,baz=93,slow=5.4,SNR=12
ARCES ARCESS Array B 81.23 340 *e*P **P** **20 17 14.4 +0.6**
ARE0 ARCESS Array S 81.23 340 *e*P **P** **20 17 14.5 +0.7**
comp=Z,2.3nm,1.4s
AQU L'Aquila 83.11 312 *e*P **P** **20 17 24.7 +0.3**
comp=Z,18nm,1.5s
GEA0 GERESS Array S 83.33 319 *e*P **P** **20 17 25.7 +0.3**
GEC2 GERESS Array S 83.33 319 *e*P **P** **20 17 25.6 +0.2**
comp=Z,4.8nm,1.3s
GERES GERESS Array B 83.33 319 P **P** **20 17 26.8 +1.4**
comp=Z,1.0nm,0.8s,baz=76,slow=5.6,SNR=8.8
NOA NORSAR Array B 85.60 331 LR LR 20 59 44.9
comp=Z,43nm,18.1s,baz=100,slow=38
TXAR Lajitas Array 143.40 30 PKP PKPbc 20 24 32.0 +1.4
comp=Z,0.3nm,0.6s,baz=339,slow=2.8,SNR=4.2

*ROM **01** 20:21:06.9±0.1, 44.840N±0.005×11.37E±0.01, h8km, ML1.9/4*
*VIE **01** 20:21:14.1±1.0, 45.10N×11.37E, h6km, ml2.0/6, Error ellipse: s-maj=8.0km s-min=5.1km az=66.0 67 km N of Bologna*

ISC 01 20:21:09.7±1.1, 44.87N±0.04×11.36E±0.07, h17km±8km, n12, σ1°14/18, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SERM	**Sermide**	**0.15**	**342**	P	**Pg**		**20 21 13.4**	**-0.3**
SERM				S	**Sg**		**20 21 17.7**	**+1.3**
RAVA	**Ravarino**	**0.21**	**237**	P	**Pg**		**20 21 13.3**	**-1.3**
RAVA				S	**Sg**		**20 21 17.8**	**0.0**
RAVA				AML	AML			
	comp=E,414μm,0.2s							
RAVA				AML	AML			
	comp=N,466μm,0.5s							
RAVA				AML	AML			
	comp=E,414μm,0.2s							
RAVA				AML	AML			
	comp=N,466μm,0.5s							
FIU	**Minerbio Fiu**	**0.25**	**158**	P	**Pg**		**20 21 13.8**	**-1.4**
FIU				S	**Sg**		**20 21 19.5**	**+0.6**
FIU				AML	AML			
	comp=E,365μm,1.1s							
FIU				AML	AML			
	comp=N,263μm,1.2s							
FIU				AML	AML			
	comp=E,365μm,1.1s							
FIU				AML	AML			
	comp=N,264μm,1.2s							
FIU				AML	AML			
	comp=E,365μm,1.1s							
TEOL	**Teolo**	**0.54**	**24**	P	**Pb**		**20 21 20.6**	**-0.2**
TEOL				AML	AML			
	comp=E,103μm,0.6s							
TEOL				AML	AML			
	comp=N,128μm,0.3s							
TEOL				AML	AML			
	comp=E,103μm,0.6s							
TEOL				AML	AML			
	comp=N,128μm,0.3s							
TEOL				AML	AML			
	comp=N,128μm,0.3s							
TEOL				AML	AML			
	comp=E,103μm,0.6s							
ZOVE	**Zovencedo**	**0.59**	**9**	P	**Pb**		**20 21 21.6**	**0.0**
ROVR	**Rover Verones**	**0.80**	**345**	P	**Pb**		**20 21 25.1**	**-0.3**
MAGA	**Magasa**	**1.04**	**331**	P	**Pb**		**20 21 29.5**	**+0.1**
MAGA				AML	AML			
	comp=E,148μm,1.5s							
MAGA				AML	AML			
	comp=N,118μm,0.2s							
MAGA				AML	AML			
	comp=N,118μm,0.2s							
MAGA				AML	AML			
	comp=E,148μm,1.5s							
KOSI	**Kohlern**	**1.59**	**0**	P	**Pg**		**20 21 38.9**	**-1.5**
FETA	**Feichten**	**2.20**	**349**	*i* Sg	**Sg**		**20 22 19.6**	**-0.8**
comp=E,0.8nm,0.4s								
SQTA	**Sankt Quirin**	**2.35**	**357**	*e*Pn	**Pb**		**20 21 51.4**	**-0.4**
	comp=E,0.7nm,0.2s							
SQTA				Sg	**Sg**		**20 22 23.9**	**-1.5**
	comp=E,4.7nm,0.3s							
WATA	**Walderalm**	**2.47**	**3**	Pn	**Pn**		**20 21 51.6**	**+2.2**
	comp=E,0.7nm,0.2s							
WATA				Sg	**Sg**		**20 22 29.3**	**+0.2**
	comp=E,0.7nm,0.2s							
MOTA	**Moosalm**	**2.48**	**356**	*e*Pn	**Pg**		**20 21 55.9**	**-1.4**
	comp=E,0.8nm,0.3s							
MOTA				Sg	**Sg**		**20 22 29.3**	**-0.2**
	comp=E,1.9nm,0.4s							

ROM 01 20:22:08.6±0.1, 43.896N±0.004×11.875E±0.007, h8km, ML1.9/3, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.02**	**294**	P	**Pg**		**20 22 10.2**	**+0.2**
SFI				S	**Sg**		**20 22 11.3**	**+0.2**
ASQU	**Asqua**	**0.12**	**212**	P	**Pg**		**20 22 11.8**	**+0.5**
ASQU				S	**Sg**		**20 22 14.1**	**+1.0**
ASQU				AML	AML			
	comp=E,2385μm,0.2s							
ASQU				AML	AML			
	comp=N,1386μm,0.3s							
ASQU				AML	AML			
	comp=E,2385μm,0.2s							
ASQU				AML	AML			
	comp=N,1386μm,0.3s							
ASQU				AML	AML			
	comp=N,1386μm,0.3s							
ASQU				AML	AML			
	comp=E,2385μm,0.2s							
CRE	**Caprese Michel**	**0.28**	**169**	P	**Pg**		**20 22 14.7**	**+0.5**
CRE				S	**Sb**		**20 22 19.9**	**-1.1**
CRE				AML	AML			
	comp=E,91μm,0.6s							
CRE				AML	AML			
	comp=N,252μm,0.2s							
CRE				AML	AML			
	comp=E,126μm,1.4s							
CRE				AML	AML			
	comp=N,252μm,0.2s							
CRE				AML	AML			
	comp=N,252μm,0.2s							
CRE				AML	AML			
	comp=E,126μm,1.4s							
CPGN	**Carpegna, Ital**	**0.34**	**106**	P	**Pb**		**20 22 16.7**	**-0.3**
PARC	**Parchiule**	**0.36**	**133**	P	**Pg**		**20 22 16.3**	**+0.6**
PARC				S	**Sb**		**20 22 22.2**	**-1.0**
PARC				AML	AML			
	comp=E,63μm,0.5s							
PARC				AML	AML			
	comp=N,103μm,0.6s							
PARC				AML	AML			
	comp=E,312μm,0.4s							
PARC				AML	AML			
	comp=N,374μm,0.2s							
PARC				AML	AML			
	comp=N,374μm,0.2s							
PARC				AML	AML			
	comp=E,312μm,0.4s							
BRIS	**BRISIGHELLA**	**0.37**	**314**	P	**Pg**		**20 22 16.1**	**+0.3**
BRIS				S	**Sb**		**20 22 22.1**	**-1.2**
SSP9	**Sansepolcro**	**0.37**	**150**	P	**Pg**		**20 22 16.5**	**+0.6**
SSP9				S	**Sb**		**20 22 23.0**	**-0.4**
BADI	**Badiali**	**0.47**	**145**	P	**Pg**		**20 22 18.2**	**+0.5**
BADI				S	**Sb**		**20 22 25.7**	**-0.5**
BADI				AML	AML			
	comp=E,68μm,0.9s							
BADI				AML	AML			
	comp=N,68μm,0.3s							
BADI				AML	AML			
	comp=E,1615μm,0.2s							
BADI				AML	AML			
	comp=N,836μm,1.4s							
BADI				AML	AML			
	comp=N,836μm,1.4s							
BADI				AML	AML			
	comp=E,1615μm,0.2s							
CAFI	**Castiglion Fio**	**0.57**	**173**	AML	AML			
	comp=E,3065μm,0.3s							
CAFI				AML	AML			
	comp=N,2400μm,1.6s							
CAFI				AML	AML			
	comp=E,3175μm,0.3s							
CAFI				AML	AML			
	comp=N,2615μm,0.3s							
CAFI				AML	AML			
	comp=E,3175μm,0.3s							
CAFI				AML	AML			
	comp=N,2615μm,0.3s							
CAFI				AML	AML			
	comp=E,3065μm,0.3s							
CAFI				AML	AML			
	comp=N,2400μm,1.6s							
PTF	**Prato**	**0.58**	**277**	P	**Pg**		**20 22 20.2**	**+0.3**
PTF				S	**Sb**		**20 22 29.2**	**-0.4**
ATPC	**Poggio Castell**	**0.59**	**134**	P	**Pb**		**20 22 20.8**	**-0.5**
ATPC				S	**Sb**		**20 22 29.9**	**+0.1**
ATPC				AML	AML			
	comp=E,55μm,1.3s							
ATPC				AML	AML			
	comp=N,39μm,1.1s							
ATPC				AML	AML			
	comp=E,320μm,0.5s							
ATPC				AML	AML			
	comp=N,978μm,0.2s							
ATPC				AML	AML			
	comp=E,1060μm,0.7s							
ATPC				AML	AML			
	comp=N,1014μm,0.1s							
ATPC				AML	AML			
	comp=E,320μm,0.5s							
ATPC				AML	AML			
	comp=N,1015μm,0.1s							
ATPC				AML	AML			
	comp=N,978μm,0.2s							
ATPC				AML	AML			
	comp=E,1060μm,0.7s							
CSNT	**Castellina Chi**	**0.60**	**225**	P	**Pb**		**20 22 21.1**	**-0.3**
CSNT				S	**Sb**		**20 22 29.2**	**-0.8**

ROM 01 20:23:07.2±0.1, 43.378N±0.003×12.139E±0.004, h9km, ML2.1/26, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ATMC	**Monte Cedrone**	**0.08**	**30**	P	**Pg**		**20 23 09.9**	**+0.5**
ATMC				S	**Sg**		**20 23 11.7**	**+0.7**
ATMC				AML	AML			
	comp=E,8810μm,0.2s							
ATMC				AML	AML			
	comp=N,6500μm,0.1s							
ATMC				AML	AML			
	comp=E,8805μm,0.2s							
ATMC				AML	AML			
	comp=N,6500μm,0.1s							
ATMC				AML	AML			
	comp=N,6500μm,0.1s							
ATMC				AML	AML			
	comp=E,8805μm,0.2s							
CDCA	**Citt' di Caste**	**0.11**	**41**	P	**Pg**		**20 23 10.2**	**+0.5**
CDCA				S	**Sg**		**20 23 12.7**	**+1.3**
CDCA				AML	AML			
	comp=E,2650μm,0.7s							
CDCA				AML	AML			
	comp=N,5340μm,0.1s							
CDCA				AML	AML			
	comp=E,1118μm,0.4s							
CDCA				AML	AML			
	comp=N,904μm,1.2s							
CDCA				AML	AML			
	comp=E,2650μm,0.7s							
CDCA				AML	AML			
	comp=N,5340μm,0.1s							
CDCA				AML	AML			
	comp=E,2650μm,0.7s							
CDCA				AML	AML			
	comp=N,5340μm,0.1s							
CAFI	**Castiglion Fio**	**0.14**	**249**	P	**Pg**		**20 23 10.7**	**+0.5**
CAFI				S	**Sg**		**20 23 13.1**	**+0.8**
BADI	**Badiali**	**0.15**	**30**	P	**Pg**		**20 23 11.0**	**+0.5**

BADI				S	Sg	20 23 13.9	+1.2
BADI				AML	AML		
	comp=E,1615μm,0.2s						
BADI				AML	AML		
	comp=N,836μm,1.4s						
BADI				AML	AML		
	comp=E,1615μm,0.2s						
BADI				AML	AML		
	comp=N,836μm,1.4s						
BADI				AML	AML		
	comp=N,836μm,1.4s						
BADI				AML	AML		
	comp=E,1615μm,0.2s						
ATVO	**AVT- Monte Val**	**0.20**	**89**	P	Pg	20 23 11.8	+0.6
ATVO				S	Sg	20 23 15.3	+1.3
ATVO				AML	AML		
	comp=E,897μm,0.7s						
ATVO				AML	AML		
	comp=N,1390μm,0.9s						
ATVO				AML	AML		
	comp=E,896μm,0.7s						
ATVO				AML	AML		
	comp=N,1395μm,0.9s						
ATVO				AML	AML		
	comp=N,1395μm,0.9s						
ATVO				AML	AML		
	comp=E,896μm,0.7s						
SSP9	**Sansepolcro**	**0.20**	**358**	P	Pg	20 23 12.0	+0.8
SSP9				S	Sg	20 23 15.4	+1.4
ATPI	**Pietralunga -**	**0.20**	**69**	P	Pg	20 23 12.0	+0.6
ATPI				S	Sg	20 23 15.5	+1.2
ATPI				AML	AML		
	comp=E,884μm,0.3s						
ATPI				AML	AML		
	comp=N,1111μm,0.2s						
ATPI				AML	AML		
	comp=N,1111μm,0.2s						
ATPI				AML	AML		
	comp=E,884μm,0.3s						
ATTE	**AVT- Monte Tez**	**0.24**	**139**	P	Pg	20 23 12.6	+0.6
ATTE				AML	AML		
	comp=E,472μm,0.2s						
ATTE				AML	AML		
	comp=N,406μm,0.5s						
ATTE				AML	AML		
	comp=E,472μm,0.2s						
ATTE				AML	AML		
	comp=N,405μm,0.5s						
ATTE				AML	AML		
	comp=E,472μm,0.2s						
ATTE				AML	AML		
	comp=N,405μm,0.5s						
ATPC	**Poggio Castell**	**0.25**	**66**	P	Pg	20 23 12.9	+0.7
ATPC				S	Sb	20 23 17.5	-1.1
ATPC				AML	AML		
	comp=E,1060μm,0.7s						
ATPC				AML	AML		
	comp=N,1014μm,0.1s						
ATPC				AML	AML		
	comp=E,1060μm,0.7s						
ATPC				AML	AML		
	comp=N,1014μm,0.1s						
ATPC				AML	AML		
	comp=N,1015μm,0.1s						
ATPC				AML	AML		
	comp=E,1060μm,0.7s						
CRE	**Caprese Michel**	**0.28**	**331**	AML	AML		
	comp=N,192μm,0.2s						
CRE				AML	AML		
	comp=E,126μm,1.4s						
CRE				AML	AML		
	comp=N,192μm,0.2s						
CRE				AML	AML		
	comp=E,126μm,1.4s						
PARC	**Parchiule**	**0.28**	**15**	P	Pg	20 23 13.3	+0.5
PARC				S	Sg	20 23 17.7	+1.2
PARC				AML	AML		
	comp=E,312μm,0.4s						
PARC				AML	AML		
	comp=N,374μm,0.2s						
PARC				AML	AML		
	comp=E,312μm,0.4s						
PARC				AML	AML		
	comp=N,374μm,0.2s						
PARC				AML	AML		
	comp=N,374μm,0.2s						
PARC				AML	AML		
	comp=E,312μm,0.4s						
MURB	**Monte Urbino**	**0.30**	**112**	P	Pg	20 23 13.8	+0.6
MURB				S	Sb	20 23 19.2	-0.8
MURB				AML	AML		
	comp=E,1124μm,0.2s						
MURB				AML	AML		
	comp=N,1125μm,0.3s						
MURB				AML	AML		
	comp=E,1130μm,0.2s						
MURB				AML	AML		
	comp=N,1245μm,0.4s						
MURB				AML	AML		
	comp=E,1124μm,0.2s						
MURB				AML	AML		
	comp=E,1130μm,0.2s						
MURB				AML	AML		
	comp=N,1245μm,0.4s						
MURB				AML	AML		
	comp=N,1125μm,0.3s						
ATBU	**Serra di Buran**	**0.31**	**72**	P	Pg	20 23 14.1	+0.7
ATBU				S	Sb	20 23 19.6	-0.7
ATBU				AML	AML		
	comp=E,738μm,1.2s						
ATBU				AML	AML		
	comp=N,653μm,1.5s						
ATBU				AML	AML		
	comp=N,653μm,1.5s						
ATBU				AML	AML		
	comp=E,738μm,1.2s						
NARO	**Abbazia di Nar**	**0.40**	**54**	P	Pg	20 23 15.2	+0.3
NARO				S	Sb	20 23 21.7	-1.0
NARO				AML	AML		
	comp=E,142μm,1.0s						
NARO				AML	AML		
	comp=N,168μm,1.0s						
NARO				AML	AML		
	comp=E,142μm,1.0s						
NARO				AML	AML		
	comp=N,168μm,1.0s						
PE3	**Peglio**	**0.41**	**39**	P	Pg	20 23 15.8	+0.6
PE3				S	Sb	20 23 23.0	0.0
PE3				AML	AML		
	comp=E,436μm,1.3s						
PE3				AML	AML		
	comp=N,391μm,0.3s						
PE3				AML	AML		
	comp=N,391μm,0.3s						
PE3				AML	AML		
	comp=E,436μm,1.3s						
ATCC	**AVT- Casa Cast**	**0.41**	**118**	P	Pg	20 23 15.9	+0.7
ATCC				S	Sb	20 23 22.4	-0.7
ATCC				AML	AML		
	comp=E,273μm,1.3s						
ATCC				AML	AML		
	comp=N,240μm,0.5s						
ATCC				AML	AML		
	comp=E,273μm,1.3s						
ATCC				AML	AML		
	comp=N,240μm,0.5s						
MGAB	**Montegabbione**	**0.47**	**182**	P	Pg	20 23 16.6	+0.3
MGAB				S	Sb	20 23 24.5	-0.1
MGAB				AML	AML		
	comp=E,404μm,1.1s						
MGAB				AML	AML		
	comp=N,392μm,1.0s						
MGAB				AML	AML		
	comp=E,484μm,1.0s						
MGAB				AML	AML		
	comp=N,375μm,1.0s						
MGAB				AML	AML		
	comp=E,404μm,1.1s						
MGAB				AML	AML		
	comp=N,375μm,1.0s						
MGAB				AML	AML		
	comp=E,484μm,1.0s						
MGAB				AML	AML		
	comp=N,392μm,1.0s						
SSFR	**Montelago di S**	**0.47**	**83**	P	Pg	20 23 16.6	+0.3
SSFR				S	Sb	20 23 24.3	-0.5
SSFR				AML	AML		
	comp=E,749μm,0.2s						
SSFR				AML	AML		
	comp=N,556μm,0.3s						
SSFR				AML	AML		
	comp=E,749μm,0.2s						
SSFR				AML	AML		
	comp=N,556μm,0.3s						
ASQU	**Asqua**	**0.49**	**329**	P	Pg	20 23 17.3	+0.6
ASQU				AML	AML		
	comp=E,57μm,0.4s						
ASQU				AML	AML		
	comp=N,76μm,0.3s						
ASQU				AML	AML		
	comp=N,76μm,0.3s						
ASQU				AML	AML		
	comp=E,57μm,0.4s						
MPAG	**Monte Paganucc**	**0.52**	**61**	P	Pg	20 23 17.5	+0.3
MPAG				S	Sb	20 23 25.6	-0.6
MPAG				AML	AML		
	comp=E,86μm,0.5s						
MPAG				AML	AML		
	comp=N,126μm,0.4s						
MPAG				AML	AML		
	comp=E,86μm,0.5s						
MPAG				AML	AML		
	comp=N,126μm,0.4s						
SACS	**San Casciano d**	**0.56**	**198**	P	Pg	20 23 18.2	+0.3
SACS				S	Sb	20 23 27.2	-0.1
SACS				AML	AML		
	comp=E,188μm,0.4s						
SACS				AML	AML		
	comp=N,194μm,0.3s						
SACS				AML	AML		
	comp=E,178μm,0.4s						
SACS				AML	AML		
	comp=N,201μm,0.3s						
SACS				AML	AML		
	comp=N,201μm,0.3s						
SACS				AML	AML		
	comp=E,178μm,0.4s						
SACS				AML	AML		
	comp=E,188μm,0.4s						
SACS				AML	AML		
	comp=N,194μm,0.3s						
FSSB	**Fossombrone**	**0.56**	**56**	P	Pg	20 23 18.3	+0.3
FSSB				S	Sb	20 23 27.3	0.0
FSSB				AML	AML		
	comp=E,234μm,1.2s						
FSSB				AML	AML		
	comp=N,271μm,0.5s						
FSSB				AML	AML		
	comp=N,271μm,0.5s						
FSSB				AML	AML		
	comp=E,234μm,1.2s						
ARVD	**Arcevia**	**0.60**	**78**	P	Pg	20 23 18.9	+0.2
ARVD				S	Sb	20 23 28.3	-0.1
ARVD				AML	AML		
	comp=E,71μm,0.6s						
ARVD				AML	AML		
	comp=N,79μm,0.5s						
ARVD				AML	AML		
	comp=E,71μm,0.6s						
ARVD				AML	AML		
	comp=N,79μm,0.5s						
SNTG	**Esanatoglia**	**0.60**	**102**	P	Pg	20 23 19.1	+0.3
SNTG				S	Sb	20 23 28.4	-0.1
SNTG				AML	AML		
	comp=E,102μm,0.7s						
SNTG				AML	AML		
	comp=N,109μm,0.6s						
SNTG				AML	AML		
	comp=E,102μm,0.7s						
SNTG				AML	AML		
	comp=N,109μm,0.6s						
CSNT	**Castellina Chi**	**0.62**	**279**	P	Pb	20 23 20.2	-0.1
CESI	**CESI - Serrava**	**0.67**	**123**	P	Pg	20 23 20.6	+0.4
CESI				AML	AML		
	comp=E,31μm,0.9s						
CESI				AML	AML		
	comp=N,37μm,0.3s						
CESI				AML	AML		
	comp=E,31μm,0.9s						
CESI				AML	AML		
	comp=N,37μm,0.3s						
EL6	**Elcito**	**0.70**	**94**	P	Pg	20 23 21.2	+0.4
FDMO	**Fiordimonte**	**0.77**	**116**	P	Pg	20 23 22.0	-0.1
FDMO				AML	AML		
	comp=E,36μm,0.7s						
FDMO				AML	AML		
	comp=N,44μm,0.9s						
FDMO				AML	AML		
	comp=N,44μm,0.9s						
FDMO				AML	AML		
	comp=E,36μm,0.7s						

IDC 01 20:40:47.1±1.5, 3°.62S×127°.03E, h0km, mb3.8/2, mb1 4.1/4, mb1mx3.6/38, mbtmp3.9/4, ML3.8/2, Error ellipse: s-maj=45.9km s-min=26.2km az=70.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.03**	**57**	Pn	Pn	20 42 04.0	+0.1
	5.3nm,0.3s,baz=120,slow=24,SNR=35						
SIJI				Sn	Sn	20 42 55.8	-7.0
	4.8nm,0.3s,baz=174,slow=23,SNR=13						
WRA	**Warramunga Arr**	**17.72**	**157**	P	Pn	20 44 53.6	-1.9
	0.2nm,0.3s,baz=334,slow=12,SNR=17						
ASAR	**Alice Springs**	**21.01**	**162**	P	P	20 45 33.5	+1.0
	8.0nm,0.8s,baz=341,slow=9.8,SNR=67						
MKAR	**Makanchi Array**	**63.80**	**327**	P	P	20 51 21.1	-0.1
	0.4nm,0.8s,baz=129,slow=5.7,SNR=3.1						

*TAP **01** 20:50:41.4, 25°.71N×122°.18E, h289km, ML3.0, C*
*ISCJB **01** 20:50:43.6±0.9, 25°.4N±0°.1×122°.15E±0°.04, h267km±7km, Error ellipse: s-maj=18.7km s-min=5.9km az=174.1*
*JMA **01** 20:50:43.6±0.2, 25°.38N×122°.10E, h268km, M3.0*
ISC 01 20:50:44.1±3.2, 25°.4N±0°.1×122°.14E±0°.06, h264km±18km, n33, σ0°56/53, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCYT	**Pengchaiyu**	**0.23**	**344**	*e*P	**Pn**	**20 51 17.6**	**-0.4**
	baz=226						
TWA	**Mucha**	**0.66**	**230**	*e*P	**Pn**	**20 51 19.5**	**+0.3**
	baz=216						
SLBB	**Yuanshan**	**0.79**	**216**	*e*P	**Pn**	**20 51 19.4**	**-0.4**
	baz=207						
SLBB				S	**S**	**20 51 48.2**	**+0.3**
	baz=207						
TWE	**Neicheng**	**0.80**	**213**	*e*P	**Pn**	**20 51 20.0**	**+0.3**
	baz=204						
TWE				*e*S	**S**	**20 51 48.5**	**+0.7**
	baz=204						
TWC	**Suao**	**0.83**	**199**	*e*P	**Pn**	**20 51 20.0**	**+0.1**
	baz=195						
EOS1	**EOS1**	**0.85**	**181**	*e*P	**Pn**	**20 51 20.1**	**+0.2**
	baz=182						
EOS1				S	**S**	**20 51 48.9**	**+0.7**
	baz=182						
NWLT	**Wulai**	**0.85**	**223**	*e*P	**Pn**	**20 51 19.8**	**-0.2**
	baz=213						
NWLT				*e*S	**S**	**20 51 48.3**	**0.0**
	baz=213						
ENTT	**Nioudou**	**0.92**	**215**	P	**Pn**	**20 51 20.6**	**+0.2**
	baz=207						
ENTT				S	**S**	**20 51 49.4**	**+0.5**
	baz=207						
YHNB	**Yeheng**	**1.01**	**224**	P	**Pn**	**20 51 20.6**	**-0.3**
	baz=215						
YHNB				*e*S	**S**	**20 51 49.7**	**-0.1**
	baz=215						
NSK	**Sanguang**	**1.01**	**225**	*e*P	**Pn**	**20 51 21.0**	**+0.1**
	baz=216						
NSK				*e*S	**S**	**20 51 49.5**	**-0.3**
	baz=216						
ENA	**Nanau**	**1.04**	**201**	*e*P	**Pn**	**20 51 21.3**	**+0.4**
	baz=197						
ENA				*e*S	**S**	**20 51 50.7**	**+0.8**
	baz=197						
NNSB	**Datong**	**1.19**	**216**	*e*P	**Pn**	**20 51 22.1**	**+0.2**
	baz=210						
NNSB				*e*S	**S**	**20 51 52.1**	**+0.3**
	baz=210						
YOJ	**Yonaguni jima**	**1.23**	**140**	*e*P	**Pn**	**20 51 21.1**	**-0.9**
	baz=149						
LIOB	**Emei**	**1.27**	**234**	*e*P	**Pn**	**20 51 22.4**	**+0.1**
	baz=225						
NACB	**Ninganchiao**	**1.32**	**202**	*e*P	**Pn**	**20 51 21.5**	**-1.1**
	baz=199						
NACB				*e*S	**S**	**20 51 52.3**	**-0.7**
	baz=199						
TWD	**Chiawan**	**1.41**	**201**	*e*P	**Pn**	**20 51 22.4**	**-0.8**
	baz=198						
TWT	**Tachien**	**1.44**	**218**	*e*P	**Pn**	**20 51 24.1**	**+0.4**
	baz=213						
TDCB	**Techi**	**1.45**	**218**	*e*P	**Pn**	**20 51 23.9**	**+0.2**
	baz=213						
TDCB				*e*S	**S**	**20 51 54.1**	**-0.8**
	baz=213						
WHF	**Hehuan Shan**	**1.48**	**213**	*e*P	**Pn**	**20 51 23.7**	**-0.5**
	baz=208						
CHGB	**Renai**	**1.60**	**214**	*e*P	**Pn**	**20 51 24.8**	**-0.1**
	baz=209						
CHGB				*e*S	**S**	**20 51 57.7**	**+0.7**
	baz=209						
ESL	**Shilin**	**1.71**	**202**	*e*P	**Pn**	**20 51 25.8**	**+0.4**
	baz=200						
IRIF	**Iriomote-Funau**	**1.79**	**126**	P	**Pn**	**20 51 26.3**	**+0.3**
IRIF				S	**S**	**20 51 58.9**	**-0.3**
VWDT	**VWDT**	**1.88**	**209**	*e*P	**Pn**	**20 51 26.5**	**-0.3**
	baz=206						
SSLB	**Suanglung**	**1.94**	**214**	*e*P	**Pn**	**20 51 27.8**	**+0.4**
	baz=210						
SSLB				*e*S	**S**	**20 52 01.6**	**0.0**
	baz=210						
HGSD	**Ruisui**	**2.01**	**199**	*e*P	**Pn**	**20 51 27.9**	**-0.1**
	baz=197						
JKRS	**Kuro-shima**	**2.06**	**124**	P	**Pn**	**20 51 28.8**	**+0.5**
JKRS				S	**S**	**20 52 04.1**	**+0.9**
JIJ	**Ishigaki jima**	**2.09**	**119**	P	**Pn**	**20 51 28.6**	**0.0**
JIJ				S	**S**	**20 52 02.6**	**-1.2**
JISG	**Ishigakijimahi**	**2.13**	**112**	P	**Pn**	**20 51 29.3**	**+0.4**
JISG				S	**S**	**20 52 04.3**	**0.0**
YULB	**Yu-li**	**2.15**	**201**	*e*P	**Pn**	**20 51 29.7**	**+0.6**
	baz=199						
CHN5	**Tsauling**	**2.24**	**217**	*e*P	**Pn**	**20 51 29.9**	**-0.2**
	baz=213						
CHN5				*e*S	**S**	**20 52 05.5**	**-0.9**
	baz=213						
JTJ	**Tarama**	**2.44**	**108**	P	**Pn**	**20 51 32.4**	**+0.6**
JTJ				S	**S**	**20 52 09.1**	**-0.5**
JIRB	**Irabujima**	**2.81**	**101**	P	**Pn**	**20 51 35.8**	**+0.3**
JIRB				*e*S	**S**	**20 52 14.7**	**-1.5**
JIKM	**Ikemajima**	**2.85**	**99**	*e*S	**S**	**20 52 17.6**	**+0.5**

*JMA **01** 20:53:32.4±0.3, 33°.30N×127°.13E, h0km, M2.8*
*KMA **01** 20:53:37.3±0.9, 33°.34N×127°.28E, h25km±18km, Error ellipse: s-maj=19.3km s-min=6.2km az=21.0*
ISC 01 20:53:34.6±2.1, 33°.31N±0°.08×127°.24E±0°.04, h8km±15km, n9, σ0°50/14, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSJJU	**Jeju**	**0.60**	**282**	P	**Pn**	**20 53 49.6**	**+0.2**
KSJJU				S	**Sn**	**20 53 58.5**	**-0.8**
KSSGP	**Seogwipo**	**0.62**	**266**	P	**Pn**	**20 53 50.2**	**+0.5**
KSWAN	**Wando**	**1.17**	**337**	P	**Pg**	**20 53 57.8**	**+0.7**
KSWAN				S	**Sn**	**20 54 13.6**	**+0.3**
KOHB	**KOHEUNG**	**1.31**	**1**	P	**Pg**	**20 53 59.7**	**0.0**
KOHB				S	**Sg**	**20 54 16.4**	**-0.3**
KSJDO	**Jindo**	**1.39**	**327**	P	**Pg**	**20 54 00.9**	**-0.4**
JFU	**Fukue jima 2**	**1.42**	**117**	P	**Pn**	**20 54 00.6**	**-0.1**
JFU				*e*S	**Sn**	**20 54 20.0**	**+0.4**
JII	**Iki**	**2.13**	**76**	P	**Pn**	**20 54 10.6**	**+0.1**
JII				*e*S	**Sb**	**20 54 39.4**	**-0.7**
JTU	**Tsushima**	**2.16**	**55**	P	**Pn**	**20 54 11.2**	**+0.3**
JUR	**Ureshino**	**2.28**	**95**	*e*S	**Sb**	**20 54 44.3**	**+0.1**

*ISCJB **01** 20:56:22.7±0.6, 7°.7S±0°.2×111°.90E±0°.08, h150km, mb3.3/4, Error ellipse: s-maj=23.3km s-min=7.1km az=21.2*
*IDC **01** 20:56:23.1±2.5, 7°.40S×111°.96E, h135km±26km, mb3.1/4, mb1 3.4/7, mb1mx3.2/30, mbtmp3.8/7, Error ellipse: s-maj=47.6km s-min=15.1km az=41.0*
*DJA **01** 20:56:27.8±0.9, 8°S±11°×11°2E±°, h98km±12km, M3.3/7, MLv3.3/7*
ISC 01 20:56:23.7±0.9, 7°.8S±0°.2×111°.83E±0°.07, h150km, n15, σ2°24/17, mb3.4/4, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PWJI	**Pagerwojo**	**0.18**	**189**	P	**Pn**	**20 56 42.7**	**-1.2**
NGJI	**Ngawi**	**0.60**	**322**	P	**Pn**	**20 56 46.8**	**+1.2**
PCJI	**Pacitan**	**0.74**	**242**	P	**Pn**	**20 56 44.6**	**-1.8**
WOJI	**Wonogiri, Jawa**	**0.90**	**270**	P	**Pn**	**20 56 46.2**	**-1.4**
GRJI	**Gresik**	**1.12**	**35**	P	Sn	20 57 14.0	+4.7
GMJI	**Gumukmas**	**1.65**	**105**	P	**Pn**	**20 56 57.3**	**+2.4**
KPJI	**Karang Pucung**	**2.92**	**280**	P	**Pn**	**20 57 12.0**	**+1.9**
CISI	**Cisompet, Garu**	**3.99**	**274**	P	**Pn**	**20 57 25.1**	**+1.2**
LEM	**Lembang**	**4.30**	**283**	P	**Pn**	**20 57 27.4**	**-0.6**
	3.9nm,0.3s,baz=80,slow=19,SNR=20						
BATI	**Baumata**	**11.92**	**102**	P	**Pn**	**20 59 08.2**	**-0.8**
	2.8nm,0.3s,baz=282,slow=3.3,SNR=6.1						
BATI				S	**Sn**	**21 01 15.6**	**-5.3**
	0.8nm,0.3s,baz=73,slow=20,SNR=2.1						
FITZ	**Fitzroy Crossi**	**16.87**	**129**	P	**Pn**	**21 00 13.6**	**+2.5**
	0.2nm,0.3s,baz=307,slow=8.5,SNR=6.9						
FITZ				S	S	21 03 10.2	-8.5
	0.1nm,0.3s,baz=115,slow=10.0,SNR=3.5						
WRA	**Warramunga Arr**	**24.90**	**121**	P	**P**	**21 01 35.2**	**+2.3**
	0.2nm,0.5s,baz=299,slow=11,SNR=13						
WRA				PcP	**PcP**	**21 05 05.8**	**+0.9**
	0.2nm,0.5s,baz=315,slow=2.4,SNR=4.5						
ASAR	**Alice Springs**	**26.37**	**129**	P	**P**	**21 01 48.7**	**+2.5**
	0.3nm,0.4s,baz=302,slow=7.9,SNR=10						
ASAR				PcP	**PcP**	**21 05 08.8**	**+0.6**
	0.3nm,0.6s,baz=304,slow=2.5,SNR=3.8						
MKAR	**Makanchi Array**	**60.41**	**337**	P	**P**	**21 06 16.5**	**-0.8**
	0.2nm,0.4s,baz=152,slow=7.6,SNR=6.0						
ZALV	**Zalesovo Beam**	**65.64**	**343**	P	**P**	**21 06 50.2**	**-1.4**
	0.3nm,0.3s,baz=145,slow=5.3,SNR=3.4						

*ISK **01** 21:11:09.9, 37°.84N×36°.46E, h3km, ML2.0/6*
*DDA **01** 21:11:11.2, 37°.85N×36°.43E, h7km±4km, ML2.5*
ISC 01 21:11:10.4±1.5, 37°.85N±0°.04×36°.44E±0°.03, h2km±15km, n13, σ0°85/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANDN	**Andirin**	**0.28**	**196**	IAML_P			
	comp=Z,4μm,0.2s						
SAIM	**ADANA**	**0.31**	**295**	IAML_P			
	comp=Z,2μm,0.2s						
SAIM				*i* P	**Pg**	**21 11 17.1**	**+0.7**
SAIM				*i* S	**Sb**	**21 11 23.1**	**-1.3**
KMRS	**Kahramanmaras**	**0.50**	**133**	PG	**Pg**	**21 11 19.5**	**-0.4**
KOZT	**Kozan**	**0.61**	**233**	PG	**Pg**	**21 11 22.8**	**+0.7**
KOZT				SG	**Sb**	**21 11 31.9**	**-0.9**
GAZ	**Gaziantep**	**0.91**	**138**	PG	**Pb**	**21 11 28.3**	**-0.6**
GAZ				SG	**Sb**	**21 11 40.8**	**-0.7**
GZT	**Gaziantep**	**1.02**	**119**	IAML_P			
	comp=Z,837nm,0.2s						
GZT				*i* P	**Pn**	**21 11 31.7**	**-0.1**
GZT				*i* S	**Sb**	**21 11 44.5**	**-0.2**
DARE	**Darende-Malaty**	**1.09**	**48**	PN	**Pg**	**21 11 31.4**	**+0.1**
BNN	**Bunyan**	**1.11**	**335**	PN	**Pg**	**21 11 31.9**	**+0.3**
KUZU	**Kuzuini**	**1.18**	**155**	*i* P	**Pn**	**21 11 34.7**	**+0.7**
KUZU				*i* S	**Sn**	**21 11 51.8**	**+1.1**
AKCD	**Akcadag**	**1.25**	**69**	IAML_P			
	comp=Z,236nm,0.2s						
AKCD				*i* P	**Pn**	**21 11 35.8**	**+0.8**
TAHT	**Tahtakopru-Hat**	**1.48**	**188**	PN	**Pb**	**21 11 38.2**	**-0.4**
CUKAN	**kangal_SIVAS**	**1.67**	**28**	*i* P	**Pg**	**21 11 43.4**	**+1.0**
YOZ	**Yozgat**	**2.00**	**334**	PN	**Pb**	**21 11 46.4**	**-1.1**

IDC 01 21:13:05.8±2.2, 32°.84S×178°.48W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.7/29, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=63.1km s-min=41.6km az=135.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.49**	**212**	Pn	Pn	21 14 42.1	-0.5
	1.0nm,0.3s,baz=275,slow=3.3,SNR=9.9						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ				Sn	Sn	21 15 48.6	-8.7
	3.4nm,0.3s,baz=181,slow=23,SNR=13						
ASAR	Alice Springs	42.63	270	P	P	21 21 04.2	0.0
	0.7nm,0.6s,baz=109,slow=7.7,SNR=14						
WRA	Warramunga Arr	43.84	275	P	P	21 21 14.0	0.0
	0.3nm,0.3s,baz=114,slow=7.9,SNR=19						
FINES	FINESS Array B	147.28	338	PKPbc	PKPbc	21 32 50.5	0.0
	1.2nm,0.7s,baz=46,slow=4.0,SNR=8.4						
BRTR	Keskin Array B	153.31	294	PKPbc	PKPbc	21 33 05.1	-1.0
	0.3nm,0.5s,baz=128,slow=2.4,SNR=3.1						

*ISCJB **01** 21:43:51.6±1.1, 44˚.27N±0˚.08×147˚.3E±0˚.1, h81km±9km, Error ellipse: s-maj=17.9km s-min=7.0km az=136.8*
*JMA **01** 21:43:51.4±0.4, 44˚.13N×147˚.47E, h70km, M3.9*
*MOS **01** 21:43:52.3±1.5, 44˚.28N×147˚.32E, h86km, mb4.3/1, Error ellipse: s-maj=50.2km s-min=22.3km az=144.2*
*SKHL **01** 21:43:52.2±0.6, 44˚.31N×147˚.27E, h82km±4km, mb5.1/6, msh5.7/6*
ISC 01 21:43:52.2±2.0**, 44˚.27N**±0˚.08×**147˚.32E**±0˚.09**, h79**km±14km**, n21, σ0˚.52**/36**, 4C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHO	Shikotan	0.54	222	⇓iP	Pn	21 44 06.3	+0.2
SHO				AMB	AMB	21 44 08.4	
	190nm,0.1s						
SHO				AMB	AMB	21 44 08.4	
	90nm,0.1s						
SHO				AMB	AMB	21 44 08.4	
	420nm,0.1s						
SHO				iS	Sn	21 44 16.8	+0.5
SHO				A	A	21 44 17.2	
	1μm,0.3s						
SHO				A	A	21 44 17.2	
	2μm,0.3s						
SHO	Shikotan	0.54	222	d iPN	Pn	21 44 06.3	+0.2
SHO				iS	Sn	21 44 16.8	+0.5
SHO				pmax	pmax		
	comp=N,187nm,0.1s						
SHO				pmax	pmax		
	comp=E,93nm,0.1s						
SHO				pmax	pmax		
	comp=Z,424nm,0.1s						
SHO				smax	smax		
	comp=N,1μm,0.3s						
SHO				smax	smax		
	comp=E,2μm,0.3s						
KUR	Kuril'sk	1.04	22	⇑iP	Pn	21 44 11.0	-0.6
KUR				AMB	AMB	21 44 11.0	
	comp=E,30nm,0.4s						
KUR				AMB	AMB	21 44 11.0	
	comp=E,50nm,0.4s						
KUR				AMB	AMB	21 44 11.0	
	comp=E,210nm,0.4s						
KUR				eS	Sn	21 44 25.8	-0.3
KUR				A	A	21 44 28.0	
	comp=E,670nm,0.2s						
KUR				A	A	21 44 28.0	
	comp=E,190nm,0.2s						
KUR	Kuril'sk	1.04	22	c ePN	Pn	21 44 11.7	+0.1
KUR				eS	Sn	21 44 26.7	+0.6
KUR				pmax	pmax		
	comp=Z,205nm,0.4s						
KUR				pmax	pmax		
	comp=N,32nm,0.3s						
KUR				pmax	pmax		
	comp=E,50nm,0.1s						
KUR				smax	smax		
	comp=N,670nm,0.2s						
KUR				smax	smax		
	comp=E,193nm,0.2s						
YUK	Yuzh-Kuril'sk	1.08	258	⇑iP	Pn	21 44 12.0	0.0
YUK				AMB	AMB	21 44 12.0	
	comp=E,60nm,0.2s						
YUK				AMB	AMB	21 44 12.0	
	comp=E,140nm,0.2s						
YUK				AMB	AMB	21 44 12.0	
	comp=E,360nm,0.2s						
YUK				eS	Sn	21 44 26.0	-0.9
YUK				A	A	21 44 28.0	
	comp=E,800nm,0.2s						
YUK				A	A	21 44 28.0	
	comp=E,430nm,0.2s						
YUK	Yuzh-Kuril'sk	1.08	258	c iPN	Pn	21 44 12.1	0.0
YUK				eS	Sn	21 44 26.7	-0.2
YUK				pmax	pmax		
	comp=Z,363nm,0.2s						
YUK				pmax	pmax		
	comp=N,56nm,0.1s						
YUK				pmax	pmax		
	comp=E,136nm,0.1s						
YUK				smax	smax		
	comp=E,426nm,0.1s						
YUK				smax	smax		
	comp=N,795nm,0.2s						
LAGR	Lagunnoye	1.13	260	eP	Pn	21 44 12.7	+0.1
LAGR				AMB	AMB	21 44 13.3	
	comp=N,20nm,0.2s						
LAGR				AMB	AMB	21 44 13.3	
	comp=N,240nm,0.2s						
LAGR				eS	Sn	21 44 28.1	+0.1
LAGR				A	A	21 44 30.1	
	comp=N,600nm,0.2s						
LAGR				A	A	21 44 30.1	
	comp=N,360nm,0.2s						
LAGR	Lagunnoye	1.13	260	ePN	Pn	21 44 12.7	+0.1
LAGR				eS	Sn	21 44 28.1	+0.1
LAGR				pmax	pmax		
	comp=Z,239nm,0.1s						
LAGR				pmax	pmax		
	comp=E,24nm,0.2s						
LAGR				smax	smax		
	comp=N,604nm,0.2s						
LAGR				smax	smax		
	comp=E,355nm,0.2s						
GRPR	Tuman	1.15	257	eP	Pn	21 44 12.5	-0.5
GRPR				AMB	AMB	21 44 15.9	
	comp=E,120nm,0.2s						
GRPR				AMB	AMB	21 44 15.9	
	comp=E,270nm,0.2s						
GRPR				eS	Sn	21 44 27.7	-0.8
GRPR				A	A	21 44 31.6	
	comp=E,860nm,0.2s						
GRPR				A	A	21 44 31.6	
	comp=E,510nm,0.2s						
GRPR	Tuman	1.15	257	ePN	Pn	21 44 12.5	-0.5
GRPR				eS	Sn	21 44 27.7	-0.8
GRPR				pmax	pmax		
	comp=Z,270nm,0.3s						
GRPR				pmax	pmax		
	comp=N,121nm,0.1s						
GRPR				pmax	pmax		
	comp=E,117nm,0.2s						
GRPR				smax	smax		
	comp=N,860nm,0.1s						
GRPR				smax	smax		
	comp=E,506nm,0.1s						
GLVR	Golovnino	1.41	248	eP	Pn	21 44 16.2	0.0
GLVR				AMB	AMB	21 44 19.3	
	comp=E,240nm,0.2s						
GLVR				eS	Sn	21 44 33.9	-0.4
GLVR				A	A	21 44 38.9	
	comp=E,640nm,0.2s						
GLVR				A	A	21 44 38.9	
	comp=E,630nm,0.2s						
GLVR	Golovnino	1.41	248	ePN	Pn	21 44 16.2	0.0
GLVR				S	Sn	21 44 33.9	-0.4
GLVR				pmax	pmax		
	comp=Z,240nm,0.1s						
GLVR				smax	smax		
	comp=N,637nm,0.1s						
GLVR				smax	smax		
	comp=E,629nm,0.1s						
NEM2	Nemuro 2	1.46	232	P	Pn	21 44 16.3	-0.5
NEM2				eS	Sn	21 44 34.9	-0.6
JRA	Rausu	1.62	259	P	Pn	21 44 19.5	+0.5
JKHN	Kushirohamanak	1.97	234	P	Pn	21 44 23.3	-0.2
JKHN				eS	Sn	21 44 47.8	+0.4
JNK	Nakash	2.00	251	P	Pn	21 44 24.2	+0.2
JAK	Akkeshi	2.29	237	P	Pn	21 44 27.5	-0.4
JTKR	Abashiri--Toko	2.48	264	P	Pn	21 44 30.7	+0.3
JAR	Ashorobuto	2.75	251	P	Pn	21 44 35.2	+1.1
JAR				eS	Sn	21 45 07.4	+1.1
JOB	Onbets	2.88	243	P	Pn	21 44 36.2	+0.4
JNBK	Urakawa-nobuka	3.88	241	P	Pn	21 44 49.0	-0.5

IDC 01 22:01:49.8±3.3**, 3˚.75S**×**151˚.66E, h0**km**, mb3.5**/3**, mb1 3.8**/3**, mb1mx3.4**/19**, mbtmp3.5**/3**, Error ellipse: s-maj=114.7km s-min=29.6km az=109.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.33	225	P	P	22 07 00.6	+0.7
	0.6nm,0.4s,baz=52,slow=10.0,SNR=7.2						
ASAR	Alice Springs	26.19	219	P	P	22 07 26.4	-0.1
	0.2nm,0.3s,baz=54,slow=9.4,SNR=2.5						
MJAR	Matsushiro Arr	42.01	344	P	P	22 09 42.7	-0.3
	1.9nm,0.9s,baz=163,slow=8.9,SNR=2.5						
TORD	Torodi Ar. Bea	148.89	289	PKPbc	PKPbc	22 21 39.4	-1.2
	0.3nm,0.7s,baz=56,slow=2.6,SNR=2.4						

*IDC **01** 22:36:14.2±1.1, 0˚.16S×122˚.25E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/38, mbtmp3.6/4, Error ellipse: s-maj=214.0km s-min=20.7km az=61.0*
*ISCJB **01** 22:36:16.3±0.7, 1˚.12S±0˚.06×120˚.3E±0˚.1, h10km, mb3.6/4, Error ellipse: s-maj=15.6km s-min=8.7km az=10.2*
*DJA **01** 22:36:18.0±0.3, 1˚S±4˚×12˚0E±˚, h10km, M3.8/7, MLv3.8/7*
ISC 01 22:36:16.5±1.0**, 1˚.15S**±0˚.06×**120˚.37E**±0˚.09**, h10**km**, n11, σ1˚.70**/12**, mb3.8**/4**, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MPSI	Mapaga	1.54	342	P	Pn	22 36 45.0	+0.9
TTSI	Tana Toraja	1.96	196	P	Pn	22 36 50.4	+0.5
MRSI	Marisa	2.25	44	P	Pn	22 36 55.9	+2.1
LUWI	Luwuk	2.41	88	P	Pn	22 36 56.9	+0.9
SPSI	Sidrap Palu	2.86	192	P	Pn	22 37 04.2	+1.9
BNSI	Bone	3.24	185	P	Pn	22 37 09.6	+2.1
BKSI	Bulukumba	4.16	183	P	Pn	22 37 21.7	+1.6
WRA	Warramunga Arr	23.15	145	P	P	22 41 21.0	-2.2
	2.3nm,1.0s,baz=327,slow=10,SNR=12						
ASAR	Alice Springs	25.95	151	P	P	22 41 48.0	-1.4
	0.7nm,0.8s,baz=337,slow=11,SNR=9.2						
ASAR				PcP	PcP	22 45 17.1	-1.1
	0.2nm,0.5s,baz=354,slow=1.7,SNR=2.9						
MKAR	Makanchi Array	58.24	330	P	P	22 46 11.9	+0.7
	0.7nm,0.7s,baz=128,slow=7.5,SNR=7.4						
KURBB	Kurchatov Arra	62.66	331	P	P	22 46 40.7	-0.6
	0.8nm,0.8s,baz=141,slow=5.9,SNR=5.7						

IDC 01 22:43:40.6±32.0**, 13˚.10N**×**125˚.70E, h0**km**, mb3.6**/4**, mb1 3.7**/4**, mb1mx3.3**/52**, mbtmp3.6**/4**, Error ellipse: s-maj=610.7km s-min=58.6km az=137.0, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	26.28	285	P	P	22 49 17.9	-0.1
	1.0nm,0.8s,baz=95,slow=7.5,SNR=11						
SONM	Songino Array	38.19	339	P	P	22 51 01.8	-0.4
	0.3nm,0.7s,baz=145,slow=5.3,SNR=3.1						
MKAR	Makanchi Array	49.46	322	P	P	22 52 32.8	+0.1
	0.4nm,0.7s,baz=118,slow=7.6,SNR=5.8						
KURBB	Kurchatov Arra	53.45	324	P	P	22 53 02.5	0.0
	0.8nm,0.8s,baz=124,slow=7.3,SNR=7.5						

*ISCJB **01** 22:54:56.5±0.8, 17˚.8S±0˚.2×178˚.3W±0˚.2, h579km, mb3.6/14, Error ellipse: s-maj=25.0km s-min=14.1km az=140.1*
*IDC **01** 22:55:03.2±2.3, 17˚.87S×178˚.49W, h645km±28km, mb3.1/14, mb1 3.3/14, mb1mx3.2/37, mbtmp4.1/14, Error ellipse: s-maj=20.7km s-min=12.0km az=148.0*
ISC 01 22:54:57.6±0.8**, 17˚.8S**±0˚.2×**178˚.4W**±0˚.1**, h579**km**, n32, σ1˚.26**/36**, mb3.6**/14**, 7C-2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	33.44	260	P	P	23 00 49.6	-0.2
	1.7nm,0.3s,baz=94,slow=8.2,SNR=5.2						
STKA	Stephens Creek	38.66	241	P	P	23 01 33.9	+1.3
	0.7nm,0.3s,baz=99,slow=11,SNR=3.6						
WRA	Warramunga Arr	44.63	259	P	P	23 02 21.0	+1.2
	2.5nm,0.3s,baz=95,slow=7.6,SNR=165						
WRA				PcP	PcP	23 03 49.6	-0.2
	0.3nm,0.3s,baz=91,slow=3.9,SNR=4.7						
WRA				S	S	23 08 09.8	-5.0
	0.3nm,0.7s,baz=102,slow=12,SNR=3.0						
ASAR	Alice Springs	44.80	254	P	P	23 02 22.6	+1.6
	8.5nm,0.5s,baz=86,slow=8.6,SNR=87						
ASAR				PcP	PcP	23 03 50.2	-0.3
	0.7nm,0.4s,baz=103,slow=3.7,SNR=5.8						
ASAR				S	S	23 08 15.8	-1.3
	1.1nm,0.8s,baz=89,slow=16,SNR=8.8						
FITZ	Fitzroy Crossi	53.02	260	P	P	23 03 23.1	+1.4
	2.6nm,0.9s,baz=59,slow=8.6,SNR=6.2						
VNDA	Vanda	60.55	185	P	P	23 04 12.2	0.0
	0.7nm,0.8s,baz=27,slow=6.8,SNR=3.4						
MJAR	Matsushiro Arr	67.80	323	P	P	23 04 59.0	+0.3
	0.9nm,0.4s,baz=163,slow=5.7,SNR=7.1						
PETK	Petropavlovsk-	73.56	345	P	P	23 05 32.6	+0.5
	7.6nm,1.1s,baz=113,slow=7.3,SNR=5.7						
USRK	Ussuriysk Ar.	76.51	326	P	P	23 05 50.4	+1.6
	0.7nm,0.5s,baz=156,slow=7.6,SNR=3.1						
ILAR	Eielson Array	85.78	13	P	P	23 06 34.5	-1.3
	0.4nm,0.4s,baz=219,slow=5.0,SNR=12						
TXAR	Lajitas Array	85.96	58	P	P	23 06 38.0	+0.4
	0.2nm,0.6s,baz=213,slow=6.5,SNR=3.4						
CMAR	Chiang Mai Arr	88.82	290	P	P	23 06 52.4	+1.2
	0.8nm,0.9s,baz=123,slow=2.4,SNR=5.1						
SONM	Songino Array	93.45	319	P	P	23 07 12.4	+0.4
	0.2nm,0.6s,baz=123,slow=5.3,SNR=2.9						
YKA	Yellowknife Ar	94.24	25	P	P	23 07 14.1	-1.0
	0.1nm,0.4s,baz=236,slow=4.2,SNR=4.3						
MKAR	Makanchi Array	109.04	314	PKiKP	PKiKP	23 12 20.0	-2.1
	0.2nm,0.5s,baz=209,slow=0.6,SNR=7.9						
ARCES	ARCESS Array B	126.20	350	PKP	PKPdf	23 12 52.7	-1.6
	2.9nm,0.9s,baz=37,slow=0.5,SNR=3.8						
AKASG	Malin Array Be	140.45	332	PKP	PKPdf	23 13 22.2	+0.8
	0.3nm,0.4s,baz=48,slow=2.7,SNR=2.6						
BRTR	Keskin Array B	144.68	315	PKP	PKPdf	23 13 29.4	-0.1
	1.4nm,0.7s,baz=132,slow=5.1,SNR=13						
TRPA	Tarpa	145.23	335	⇓iP	PKPbc	23 13 30.8	-0.2
ARCR	ARCALIA	145.28	332	⇑iP	PKPbc	23 13 31.5	+0.3
CLL	Collm	145.35	347	⇑iPKP	PKPbc	23 13 30.7	-0.5
	comp=Z,3.0nm,0.7s						
UPC	Upice	145.37	344	eP	PKPbc	23 13 31.2	-0.2
DPC	Dobruska-Polom	145.43	343	eP	PKPbc	23 13 31.6	0.0
DOPR	Dopca	145.65	330	⇓iP	PKPbc	23 13 32.7	+0.4
DRGR		146.23	334	⇑iP	PKPbc	23 13 33.8	-0.2
PRU	Pruhonice	146.23	345	eP	PKPbc	23 13 33.3	-0.5
VRAC	Vranov	146.29	342	⇑iP	PKPbc	23 13 33.3	-0.7
ARR	Arges	146.44	330	⇑iP	PKPbc	23 13 35.0	+0.4
KHC	Kasperske Hory	147.26	345	eP	PKPbc	23 13 36.1	-0.5
GERES	GERESS Array B	147.50	345	PKPbc	PKPbc	23 13 36.6	-0.7
	comp=Z,1.6nm,0.5s,baz=29,slow=3.4,SNR=28						
BZS	Buzias	147.62	333	⇑iP	PKPbc	23 13 36.7	-0.9
VTS	Vitosha	149.18	328	⇑iP	PKPbc	23 13 41.0	-0.8

*ISCJB **01** 23:03:00.9±0.8, 17˚.85N±0˚.07×63˚.49W±0˚.04, h115km±7km, Error ellipse: s-maj=12.2km s-min=3.5km az=28.0*
*TRN **01** 23:03:00.4, 17˚.89N×63˚.49W, h110km, MD3.5*
*NEIC **01** 23:03:02.5±0.0, 17˚.84N×63˚.51W, h104km, MD3.3(RSPR), After RSPR.*
*RSPR **01** 23:03:02.5, 17˚.84N×63˚.51W, h104km±1km, MD3.3/6*
ISC 01 23:03:01.6±1.4**, 17˚.87N**±0˚.06×**63˚.48W**±0˚.04**, h112**km±8km**, n52, σ0˚.45**/80**, 23C-5D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SABA	Saba	0.34	137	⇓eP	Pn	23 03 17.6	-0.2
SABA	Saba	0.34	137	⇓eP	Pn	23 03 17.6	-0.2
SABA				eP		23 03 17.9	
SABA				eS	Sn	23 03 30.3	+0.3
SABA	Saba	0.34	137	eP	Pn	23 03 17.9	+0.1
SABA				eS	Sn	23 03 30.3	+0.3
SEUS	St. Eustatius	0.61	128	eP	Pn	23 03 19.5	+0.1
SEUS				eS	Sn	23 03 32.8	0.0
SEUS	St. Eustatius	0.61	128	eP	Pn	23 03 19.5	+0.1
SEUS				eS	Sn	23 03 32.8	0.0
NEV	Hard Times	1.14	130	eP	Pn	23 03 24.2	-0.3
NEV				eS	Sn	23 03 42.9	+1.2
NEV	Hard Times	1.14	130	eP	Pn	23 03 24.2	-0.3
NEV	Hard Times	1.14	130	e	Pn	23 03 39.5	+15
NEV				eS	Sn	23 03 42.9	+1.2
ABV	Anegada	1.17	317	⇑eP	Pn	23 03 25.2	+0.4
ABV	Anegada	1.17	317	eS	Sn	23 03 42.6	+0.3
ABV	Anegada	1.17	317	⇑eP	Pn	23 03 25.2	+0.4
ABV				eS	Sn	23 03 42.6	+0.3
ABVI	Anegada Island	1.17	317	⇑eP	Pn	23 03 25.2	+0.4
ABVI				eS	Sn	23 03 42.6	+0.3
TBVI	Tortola	1.21	297	⇑eP	Pn	23 03 24.8	-0.3
TBVI				eS	Sn	23 03 42.3	-0.6
TBVI	Tortola	1.21	297	⇑eP	Pn	23 03 24.8	-0.3
TBVI	Tortola	1.21	297	⇑eP	Pn	23 03 24.8	-0.3
TBVI				eS	Sn	23 03 42.3	-0.6
CDVI	St. Croix	1.23	265	⇑eP	Pn	23 03 25.4	0.0
CDVI	St. Croix	1.23	265	eS	Sn	23 03 42.5	-0.9
CDVI	St. Croix	1.23	265	⇑eP	Pn	23 03 25.4	0.0
CDVI				eS	Sn	23 03 42.5	-0.9
CDVI	St. Croix	1.23	265	⇑eP	Pn	23 03 25.4	0.0
CDVI				eS	Sn	23 03 42.5	-0.9
STVI	Saint Thomas	1.48	289	⇓eP	Pn	23 03 28.1	-0.1
STVI	Saint Thomas	1.48	289	eS	Sn	23 03 48.0	-0.4
STVI	Saint Thomas	1.48	289	⇓eP	Pn	23 03 28.1	-0.1
STVI				eS	Sn	23 03 48.0	-0.4
STVI	Saint Thomas	1.48	289	⇓eP	Pn	23 03 28.1	-0.1
STVI				eS	Sn	23 03 48.0	-0.4
ANWB	Willy Bob	1.63	97	eP	Pn	23 03 29.5	-0.6
ANWB				eS	Sn	23 03 50.5	-1.3
ANWB	Willy Bob	1.63	97	eP	Pn	23 03 29.5	-0.6
ANWB				eS	Sn	23 03 51.6	-0.2
MLYT	Lee's Yard	1.68	133	eP	Pn	23 03 31.2	+0.4
MLYT				eS	Sn	23 03 53.2	+0.2
BPA	Boggy Peak	1.76	118	eP	Pn	23 03 32.4	+0.7
BPA				eS	Sn	23 03 54.6	+0.1
BPA	Boggy Peak	1.76	118	eP	Pn	23 03 32.4	+0.7
BPA				eS	Sn	23 03 54.6	+0.1
MTP	Monte Pirata	1.98	277	⇑eP	Pn	23 03 34.4	0.0
MTP	Monte Pirata	1.98	277	eS	Sn	23 03 59.8	+0.3
MTP	Monte Pirata	1.98	277	⇑eP	Pn	23 03 34.4	0.0
MTP				eS	Sn	23 03 59.8	+0.3
MTP	Monte Pirata	1.98	277	⇑eP	Pn	23 03 34.4	0.0
MTP				eS	Sn	23 03 59.8	+0.3
HUMP	Col San Antoni	2.27	277	⇑eP	Pn	23 03 38.2	+0.1
HUMP	Col San Antoni	2.27	277	⇑eP	Pn	23 03 38.0	-0.1
HUMP	Col San Antoni	2.27	277	⇑eP	Pn	23 03 38.0	-0.1
HUMP	Col San Antoni	2.27	277	⇑eP	Pn	23 03 38.0	-0.1
CBYP	Canovanas	2.29	280	⇑eP	Pn	23 03 38.5	+0.1
CBYP	Canovanas	2.29	280	⇑eP	Pn	23 03 38.9	+0.4
CBYP	Canovanas	2.29	280	eS	Sn	23 04 06.9	+0.2
CBYP	Canovanas	2.29	280	⇑eP	Pn	23 03 38.5	+0.1
CBYP				eS	Sn	23 04 06.9	+0.2
CBYP	Canovanas	2.29	280	⇑eP	Pn	23 03 38.5	+0.1
CBYP				eS	Sn	23 04 06.9	+0.2
SJG	San Juan	2.55	276	⇑eP	Pn	23 03 42.0	+0.3
SJG	San Juan	2.55	276	eS	Sn	23 04 13.0	+0.4
SJG	San Juan	2.55	276	⇑eP	Pn	23 03 42.0	+0.3
SJG				eS	Sn	23 04 13.0	+0.4
SJG	San Juan	2.55	276	⇑eP	Pn	23 03 42.0	+0.3
SJG				eS	Sn	23 04 13.0	+0.4
TBG	Guadaloupe-3	2.67	138	eP	Pn	23 03 43.3	0.0
MGG	Marie-Galante	2.84	133	eP	Pn	23 03 46.0	+0.4
MGG	Marie-Galante	2.84	133	eP	Pn	23 03 46.0	+0.4
BBL	Barber's Block	3.03	140	eP	Pn	23 03 48.0	-0.1
BBL				eS	Sn	23 04 23.0	-0.9
BBL	Barber's Block	3.03	140	eP	Pn	23 03 48.0	-0.1
BBL				eS	Sn	23 04 23.0	-0.9
DLPL	La Plaine	3.31	139	eP	Pn	23 03 52.1	+0.2
DLPL				eS	Sn	23 04 30.2	-0.4
DLPL	La Plaine	3.31	139	eP	Pn	23 03 52.1	+0.2
DLPL				eS	Sn	23 04 30.2	-0.4

*IDC **01** 23:12:08.6±9.8, 14˚.38S×167˚.53E, h143km±83km, mb3.7/10, mb1 3.9/10, mb1mx3.6/30, mbtmp4.1/10, Error ellipse: s-maj=50.4km s-min=26.1km az=122.0*
*ISCJB **01** 23:12:10.0±1.6, 14˚.4S±0˚.3×167˚.5E±0˚.3, h170km, mb3.8/10, Error ellipse: s-maj=57.0km s-min=18.1km az=42.5*
ISC 01 23:12:11.8±1.4**, 14˚.4S**±0˚.3×**167˚.5E**±0˚.3**, h170**km**, n15, σ0˚.93**/16**, mb3.7**/10**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	29.38	229	P	P	23 17 60.0	+0.8
	1.4nm,0.4s,baz=55,slow=8.3,SNR=9.1						
WRA	Warramunga Arr	32.10	255	P	P	23 18 21.9	-1.4
	0.6nm,0.5s,baz=86,slow=9.3,SNR=16						
WRA				PcP	PcP	23 21 07.9	-0.6
	0.2nm,0.7s,baz=82,slow=3.3,SNR=3.6						
ASAR	Alice Springs	32.98	249	P	P	23 18 30.1	-0.8
	0.8nm,0.4s,baz=75,slow=9.4,SNR=22						
PETK	Petropavlovsk-	67.71	354	P	P	23 22 51.6	+1.0
	7.7nm,1.0s,baz=162,slow=7.5,SNR=2.8						
CMAR	Chiang Mai Arr	74.97	294	P	P	23 23 35.6	+0.7
	0.3nm,0.3s,baz=119,slow=5.2,SNR=3.4						
SONM	Songino Array	82.31	323	P	P	23 24 14.6	+0.1
	0.3nm,0.4s,baz=142,slow=5.9,SNR=6.7						
ILAR	Eielson Array	86.11	18	P	P	23 24 32.1	-1.0
	0.9nm,0.7s,baz=245,slow=4.7,SNR=12						
MKAR	Makanchi Array	97.06	316	P	P	23 25 24.6	+0.1
	0.8nm,0.7s,baz=87,slow=6.4,SNR=7.7						
YKA	Yellowknife Ar	97.13	27	P	P	23 25 23.8	-0.5
	0.1nm,0.6s,baz=251,slow=4.4,SNR=3.3						
ZALV	Zalesovo Beam	97.20	324	P	P	23 25 24.1	-0.8
	0.7nm,0.7s,baz=131,slow=5.9,SNR=3.4						
ARCES	ARCESS Array B	119.94	346	PKP	PKPdf	23 30 41.0	-0.4
	1.2nm,0.4s,baz=68,slow=2.1,SNR=43						
FINES	FINESS Array B	125.44	338	PKP	PKPdf	23 30 51.9	-0.3
	0.4nm,0.3s,baz=83,slow=2.7,SNR=9.6						
BRTR	Keskin Array B	132.41	311	PKP	PKPdf	23 31 06.4	0.0
	0.3nm,0.7s,baz=90,slow=3.0,SNR=2.9						
GERES	GERESS Array B	139.40	333	PKP	PKPdf	23 31 20.9	+1.9
	0.5nm,0.8s,baz=20,slow=3.1,SNR=4.2						
KEST	Kesra	151.04	321	PKPbc	PKPbc	23 31 45.8	+0.6
	3.2nm,0.7s,baz=205,slow=23,SNR=4.0						

IDC 01 23:30:27.4±14.0**, 6˚.32S**×**154˚.81E, h241**km±133km**, mb3.1**/5**, mb1 3.3**/5**, mb1mx3.0**/37**, mbtmp3.5**/5**, Error ellipse: s-maj=72.7km s-min=42.4km az=103.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.06	234	P	P	23 35 21.4	+0.3
	1.1nm,0.4s,baz=57,slow=10,SNR=34						
ASAR	Alice Springs	26.49	227	P	P	23 35 42.5	-0.4
	0.1nm,0.3s,baz=58,slow=9.2,SNR=3.0						
SONM	Songino Array	68.67	327	P	P	23 41 05.0	0.0
	0.2nm,0.4s,baz=147,slow=4.6,SNR=4.9						
MKAR	Makanchi Array	82.78	319	P	P	23 42 24.6	-0.1
	0.3nm,0.7s,baz=94,slow=5.7,SNR=3.6						
YKA	Yellowknife Ar	95.83	28	P	P	23 43 26.0	-0.1
	0.1nm,0.5s,baz=266,slow=4.2,SNR=3.4						
TORD	Torodi Ar. Bea	152.67	286	PKPbc	PKPbc	23 49 56.5	0.0
	0.6nm,1.2s,baz=103,slow=2.8,SNR=3.5						

*DJA **01** 23:37:52.0±2.7, 2˚N±14˚×12˚8E±1˚8, h254km±20km, M4.7/8, mb4.4/5, mB4.8/2, MLv4.8/8, Mw(mB)4.1/2*
*ISCJB **01** 23:37:58.0±0.5, 1˚.99N±0˚.06×127˚.91E±0˚.09, h250km, mb3.8/13, Error ellipse: s-maj=12.0km s-min=8.1km az=13.6*
*IDC **01** 23:37:58.2±1.9, 2˚.01N×127˚.97E, h233km±19km, mb3.5/14, mb1 3.6/14, mb1mx3.4/47, mbtmp4.1/14, Error ellipse: s-maj=16.6km s-min=9.3km az=84.0*
ISC 01 23:37:59.8±0.6**, 1˚.98N**±0˚.07×**127˚.91E**±0˚.10**, h250**km**, n26, σ1˚.44**/27**, mb3.7**/13**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	1.32	204	P	Pn	23 38 34.4	-2.4
SGSI	Sangihe	2.92	305	P	Pn	23 38 44.0	-7.4
KMSI	Cibinong	4.17	250	P	Pn	23 39 03.2	-2.4
SANI	Sanana	4.44	206	P	Pn	23 39 05.4	-3.5
NLAI	Namlea	5.25	189	P	Pn	23 39 17.5	-1.1
	132nm,0.7s,6μm0.6nm						
LUWI	Luwuk	5.95	240	P	Pn	23 39 26.2	-1.2
	82nm,0.8s						
MRSI	Marisa	6.15	256	P	Pn	23 39 29.1	-0.8
EDFI	Ende, Flores	12.33	210	P	P	23 40 52.8	+2.5
KBKI	Kotabaru	12.86	246	P	Pn	23 40 42.6	-11
SRBI	Singaraja	16.14	232	P	Pn	23 41 33.1	-0.5

PWJI Pagerwojo 18.89 238 P Pn 23 42 05.1 -0.9
FITZ Fitzroy Crossi 20.08 186 P P 23 42 13.7 -1.0
0.9nm,0.3s,baz=13,slow=11,SNR=8.4
LEM Lembang 22.07 246 P P 23 42 36.2 +1.5
20nm,0.6s,baz=354,slow=19,SNR=5.4
WRA Warramunga Arr 22.68 164 P P 23 42 40.0 -0.2
1.0nm,0.4s,baz=344,slow=10,SNR=47
WRA ScP ScP 23 49 39.4 +1.3
0.4nm,0.7s,baz=339,slow=3.1,SNR=4.6
ASAR Alice Springs 26.15 167 P P 23 43 11.7 +0.2
0.2nm,0.3s,baz=346,slow=7.3,SNR=4.8
ASAR PcP PcP 23 46 32.4 +0.6
0.3nm,0.6s,baz=0.0,slow=2.3,SNR=3.0
ASAR ScP ScP 23 49 49.4 +1.6
0.8nm,0.7s,baz=342,slow=3.1,SNR=7.6
PSI Prapat 28.97 272 P P 23 43 36.5 -0.3
7.7nm,0.7s,baz=168,slow=0.6,SNR=8.6
CMAR Chiang Mai Arr 32.78 302 P P 23 44 10.7 +0.8
1.7nm,0.8s,baz=120,slow=6.7,SNR=14
KSRS Korea Array 35.30 0 P P 23 44 31.0 -0.2
2.0nm,0.6s,baz=174,slow=9.1,SNR=5.0
MJAR Matsushiro Arr 35.68 14 P P 23 44 33.1 -1.4
2.8nm,0.5s,baz=194,slow=9.6,SNR=15
STKA Stephens Creek 36.09 160 P P 23 44 38.9 +0.8
2.0nm,0.4s,baz=333,slow=8.9,SNR=9.2
USRK Ussuriysk Ar. 42.20 4 P P 23 45 27.5 -0.7
2.1nm,0.7s,baz=206,slow=9.6,SNR=4.6
SONM Songino Array 49.32 341 P P 23 46 24.0 +0.1
0.4nm,0.6s,baz=149,slow=7.2,SNR=4.1
PETK Petropavlovsk- 56.61 21 P P 23 47 17.5 +0.8
9.8nm,1.1s,baz=245,slow=6.2,SNR=3.1
MKAR Makanchi Array 59.66 325 P P 23 47 37.8 -0.1
0.4nm,0.3s,baz=126,slow=6.5,SNR=8.8
ILAR Eielson Array 86.17 25 P P 23 50 12.5 -0.2
0.2nm,0.5s,baz=246,slow=5.3,SNR=4.7
TORD Torodi Ar. Bea 124.57 287 PKP PKiKP 23 56 29.2 -1.6
0.1nm,0.3s,baz=92,slow=1.8,SNR=4.4

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*IDC **01** 23:40:37.3±2.7, 36.°29N×71.°30E, h128km±24km, mb3.5/14, mb1 3.7/18, mb1mx3.5/45, mbtmp4.1/18, Error ellipse: s-maj=18.6km s-min=12.7km az=19.0*
*ISCJB **01** 23:40:39.3±0.2, 36.°56N±0.°02×71.°53E±0.°04, h150km, mb3.9/26, Error ellipse: s-maj=4.7km s-min=3.1km az=171.2*
*MOS **01** 23:40:39.6±1.1, 36.°59N×71.°50E, h147km, mb3.9/17, Error ellipse: s-maj=9.0km s-min=4.9km az=89.2*
*NEIC **01** 23:40:40.5±0.6, 36.°61N×71.°46E, h141km±8km, mb4.0/10, Error ellipse: s-maj=9.3km s-min=7.5km az=98.0*
*NNC **01** 23:40:42.1±3.0, 36.°85N×71.°09E, h135km±37km, mb3.7, mpv4.5, Error ellipse: s-maj=31.2km s-min=17.7km az=158.0*
ISC 01 23:40:40.1±0.4**, 36.°60N**±0.°04×**71.°37E**±0.°04**, h150km, n118, σ2.s18**/134**, mb3.9**/26**, 17C-7D, Afghanistan-Tajikistan border region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KBL Kabul 2.80 223 ePn Pn 23 41 24.9 -0.3
KBL eSn Sn 23 41 56.8 -3.0
KBL Kabul 2.80 223 ePN Pn 23 41 24.9 -0.3
CEP Cherat 2.81 171 P Pn 23 41 25.1 -0.1
CEP S Sn 23 41 58.0 -2.0
CHCP Chirah Chowk 3.32 152 P Pn 23 41 32.0 +0.3
NIL Nilore 3.33 152 ePn Pn 23 41 32.1 +0.4
NIL eSn Sn 23 42 08.8 -2.9
NIL Nilore 3.33 152 ePN Pn 23 41 32.1 +0.4
SFK Sufi-Kurgan 3.80 26 ⇓P Pn 23 41 39.2 +1.3
43nm,0.3s
SFK ⇑S Sn 23 42 22.1 -0.7
108nm,0.3s
SFK Sufi-Kurgan 3.80 26 PN Pn 23 41 39.2 +1.3
SFK S Sn 23 42 22.9 +0.1
SFK pmax pmax
comp=Z,43nm,0.3s
SFK smax smax
comp=N,108nm,0.3s
THW Thamme Wali 3.81 175 P Pn 23 41 37.5 -0.5
KSH Kashi 4.66 50 P Pn 23 41 44.8 -4.2
KSH S Sn 23 42 32.2 -11
KSH pmax pmax
comp=Z,290nm,0.4s
KSH LR LR
comp=N,2μm,0.8s
KSH LR LR
comp=E,1μm,0.8s
AML Almayashu 5.81 17 ⇑P Pn 23 42 04.3 -0.2
SNR=89
NRN Naryn 6.02 35 ePn Pn 23 42 06.6 -0.8
NRN Naryn 6.02 35 ePN Pn 23 42 06.6 -0.8
UCH Uchtor 6.12 22 P Pn 23 42 08.7 -0.1
SNR=51
KZA Kyzart 6.24 28 P Pn 23 42 10.8 +0.5
SNR=42
EKS2 Erkin-Say 6.33 16 P Pn 23 42 11.5 +0.2
SNR=35
AAK Ala-Archa 6.49 21 P Pn 23 42 13.8 +0.4
comp=E,12nm,0.3s,baz=166,slow=6.1,SNR=174
AAK S Sn 23 43 23.7 -2.9
comp=E,11nm,0.3s,baz=323,slow=21,SNR=16
AAK Ala-Archa 6.49 21 P Pn 23 42 13.8 +0.4
SNR=34
AAK Ala-Archa 6.49 21 ePn Pn 23 42 13.5 0.0
AAK eSn Sn 23 43 22.9 -3.6
AAK Ala-Archa 6.49 21 ⇑P Pn 23 42 13.7 +0.3
comp=E,17nm,0.4s
AAK ⇑S Sn 23 43 24.1 -2.4
comp=E,44nm,0.5s
KK31 Karatay Array 6.53 354 ⇑P Pn 23 42 13.5 -0.3
comp=E,25nm,0.2s,baz=178,slow=13,SNR=1014
KK31 ⇓S Sn 23 43 24.0 -3.1
comp=E,24nm,0.3s,baz=185,slow=22,SNR=13
KK31 Karatay Array 6.53 354 PN Pn 23 42 13.5 -0.3
KK31 pmax pmax
comp=Z,25nm,0.3s
KKAR Karatay Array 6.53 354 ePn Pn 23 42 13.6 -0.2
KKAR eSn Sn 23 43 21.9 -5.2
KKAR Karatay Array 6.53 354 ePN Pn 23 42 13.6 -0.2
KBK Karagaybulak 6.65 23 P Pn 23 42 16.3 +0.7
SNR=16
FRU1 Bishkek 6.69 21 ePn Pn 23 42 16.9 +0.9
FRU1 Bishkek 6.69 21 ePN Pn 23 42 16.9 +0.9
ULHL Ulahol 6.78 32 P Pn 23 42 17.2 -0.1
SNR=16
CHMS Chumysh 6.90 21 P Pn 23 42 18.8 +0.1
SNR=18
USP Ospenovka 7.08 19 P Pn 23 42 21.8 +0.6
SNR=19
TKM2 Tokmak 2 7.10 26 P Pn 23 42 22.2 +0.6
SNR=13
TKM2 Tokmak 2 7.10 26 ⇑P Pn 23 42 21.7 +0.1
comp=Z,6.0nm,0.5s
TKM2 ⇑S Sn 23 43 39.4 -1.8
comp=Z,17nm,0.7s
TKM2 Tokmak 2 7.10 26 PN Pn 23 42 21.7 +0.1
TKM2 pmax pmax
comp=Z,6.0nm,0.5s
KNDC Almaty 7.88 31 ⇓P Pn 23 42 33.7 +1.8
comp=Z,22nm,0.6s
KNDC ⇑S Sn 23 43 58.3 -1.4
comp=Z,8.5nm,0.4s
PDGK Podgornoye 9.16 40 ⇑P Pn 23 42 47.6 -1.5
comp=Z,6.0nm,0.9s
PDGK Podgornoye 9.16 40 P Pn 23 42 47.5 -1.5
PDGK pmax pmax
comp=Z,6.0nm,0.9s
GEYT Alibeck 10.64 281 P Pn 23 43 06.1 -2.5
comp=Z,3.5nm,0.3s,baz=92,slow=9.2,SNR=55
GEYT S Sn 23 45 01.6 -4.7
comp=Z,2.8nm,0.3s,baz=78,slow=40,SNR=8.5
GYA0B ALIBECK ARRAY 10.64 281 ⇓P Pn 23 43 06.4 -2.2
comp=Z,9.7nm,0.4s
GYA0B ⇓S Sn 23 45 01.8 -4.6
comp=Z,30nm,0.6s
OTUK Ortayu 11.66 3 ⇑P Pn 23 43 19.9 -1.8
comp=Z,2.0nm,0.5s
OTUK Ortayu 11.66 3 P Pn 23 43 19.8 -2.0
OTUK pmax pmax
comp=Z,4.0nm,0.6s
MAKZ Makanchi 12.90 35 ePn Pn 23 43 37.1 -0.8
MAKZ Makanchi 12.90 35 ⇑P Pn 23 43 36.5 -1.5
comp=Z,4.1nm,0.8s
MAKZ Makanchi 12.90 35 eP Pn 23 43 37.1 -0.8
PYUN Piuthan 12.97 128 eP Pn 23 43 35.6 -3.5
comp=Z,108nm,0.4s
MK31 Makanchi Array 13.04 35 ⇓P Pn 23 43 39.1 -0.6
comp=Z,1.1nm,0.4s,baz=221,slow=13,SNR=52
MK31 Makanchi Array 13.04 35 P Pn 23 43 39.5 -0.1
MK31 pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 13.04 35 P Pn 23 43 39.6 0.0
comp=Z,0.2nm,0.3s,baz=219,slow=13,SNR=20
DANN Dangsing 13.30 125 eP Pn 23 43 40.3 -3.1
comp=Z,143nm,0.7s
KOLN Koldanda 13.59 127 eP Pn 23 43 44.0 -3.0
comp=Z,24nm,0.2s
GKN Gorkha 14.11 124 eP Pn 23 43 51.5 -2.1
WMQ Urumqi 14.40 55 eP P 23 43 58.1 -1.5
DMN Daman 14.68 124 eP Pn 23 43 58.8 -2.0
comp=Z,66nm,0.4s
PKIN Phulchoki 14.90 123 eP Pn 23 44 01.2 -2.3
comp=Z,52nm,0.5s
PKI Pulchoki 14.91 123 eP Pn 23 44 01.1 -2.7
comp=Z,35nm,0.3s
KURBB Kurchatov Arra 14.93 18 P Pn 23 44 01.1 -2.4
comp=Z,0.2nm,0.3s,baz=208,slow=12,SNR=8.1
KURBB Kurchatov Arra 14.93 18 ⇑P P 23 44 06.5 +1.2
comp=Z,9.7nm,0.7s
GUN Gumba 15.02 121 eP Pn 23 44 02.3 -2.8
comp=Z,49nm,0.5s
KURK Kurchatov 15.04 18 ePn P 23 44 07.3 +0.8
comp=Z,7.0nm,0.8s
KURK Kurchatov 15.04 18 ⇑P P 23 44 08.5 +2.0
comp=Z,5.7nm,0.7s
KURK Kurchatov 15.04 18 eP P 23 44 07.3 +0.8
KURK pmax pmax
comp=Z,7.0nm,0.8s
AB31 Akbulak array 15.14 330 ⇑P Pn 23 44 05.9 -0.2
comp=Z,3.3nm,0.4s,baz=142,slow=11,SNR=236
AB31 Akbulak array 15.14 330 P Pn 23 44 05.9 -0.2
AB31 pmax pmax
comp=Z,3.0nm,0.4s
ABKAR Akbulak array 15.14 330 ePn Pn 23 44 05.8 -0.2
JBP Jabalpur 15.32 149⇑eP P 23 44 14.7 +4.8
JBP eS Sn 23 46 42.9 -16
JIRN Jiri 15.39 121 eP Pn 23 44 07.6 -2.1
comp=Z,221nm,0.4s
RAMN Ramite 16.12 122 eP Pn 23 44 15.7 -2.9
comp=Z,61nm,0.6s
BVA0 Borovoye Array 16.43 358 ⇑P P 23 44 21.9 -0.1
comp=Z,2.6nm,0.6s,baz=157,slow=12,SNR=38
BVA0 Borovoye Array 16.43 358 P P 23 44 21.9 -0.1
BVA0 pmax pmax
comp=Z,3.0nm,0.6s
BVAR Borovoye Array 16.43 358 P Pn 23 44 21.1 -0.8
comp=Z,1.0nm,0.3s,baz=156,slow=12,SNR=29
BVAR S S 23 47 17.0 -7.3
comp=Z,0.4nm,0.3s,baz=169,slow=22,SNR=5.5
BRVK Borovoye 16.47 358 ePn Pn 23 44 23.0 +0.6
comp=Z,5.0nm,0.5s
BRVK Borovoye 16.47 358 ⇓P Pn 23 44 24.6 +2.2
comp=Z,2.0nm,0.4s
BRVK Borovoye 16.47 358 eP Pn 23 44 23.0 +0.6
BRVK pmax pmax
comp=Z,5.0nm,0.5s
AKTO Aktyubinsk 16.84 329 P Pn 23 44 28.4 +1.5
comp=Z,2.9nm,0.3s,baz=142,slow=11,SNR=40
AKTO S S 23 47 25.4 -8.5
comp=Z,0.3nm,0.3s,baz=285,slow=19,SNR=3.4
AKTO Aktyubinsk 16.84 329 ⇑P Pn 23 44 28.3 +1.5
comp=Z,8.4nm,0.5s
LSA Lhasa 17.92 107 eP Pn 23 44 39.4 -1.1
comp=Z,4.1nm,0.5s
LSA Lhasa 17.92 107 eP Pn 23 44 39.4 -1.1
LSA pmax pmax
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 19.70 24 P P 23 44 58.7 +1.2
comp=Z,9.0nm,0.3s,baz=211,slow=11,SNR=75
NVS Novosibirsk 19.98 20 eP Pn 23 45 02.6 -1.2
NVS pmax pmax
comp=N,3.0nm,0.6s
NVS pmax pmax
comp=E,2.0nm,0.6s
NVS pmax pmax
comp=Z,6.0nm,0.6s
GROC Groznyy 20.65 296 eP Pn 23 45 10.4 -1.5
GROC e*PP pP 23 45 33.3 -1.2
GROC eS S 23 48 54.4 +4.1
GROC e*SS sS 23 49 33.6 -2.6
GROC pmax pmax
comp=Z,24nm,1.3s
SHL Shillong 20.69 116 eP P 23 45 09.8 +1.2
comp=Z,7.6nm,0.6s
SHL Shillong 20.69 116 eP P 23 45 09.8 +1.2
SHL pmax pmax
comp=Z,8.0nm,0.6s
GNI Garni 21.14 288 eP P 23 45 17.0 +3.6
comp=Z,9.8nm,0.8s
GNI Garni 21.14 288 eP P 23 45 17.0 +3.6
GNI pmax pmax
comp=Z,10.0nm,0.8s
ARU Arti 21.63 340 eP P 23 45 19.1 +0.9
comp=Z,7.1nm,0.6s
ARU Arti 21.63 340 P P 23 45 19.3 +1.1
ARU S S 23 49 20.1 +12
GTA Gaotai 22.55 74 eP P 23 45 30.2 +2.5
GTA pP pP 23 46 00.0 +3.4
GTA sP sP 23 46 16.4 +0.3
GTA S S 23 49 20.8 -3.0
GTA pmax pmax
comp=Z,7.0nm,0.8s
GTA pmax pmax
comp=Z,29nm,5.9s
KIV Kislovodsk 23.00 298 eP P 23 45 34.0 +2.1
comp=Z,3.3nm,0.6s
KIV Kislovodsk 23.00 298 eP P 23 45 34.0 +2.1
KIV pmax pmax
comp=Z,3.0nm,0.6s
RAYN Ar Rayn 25.81 247 eP P 23 45 60.0 +2.5
comp=Z,0.8nm,0.4s
RAYN Ar Rayn 25.81 247 eP P 23 46 00.0 +2.5
RAYN pmax pmax
comp=Z,1.0nm,0.4s
LZH Lanzhou 26.10 81 eP P 23 46 00.7 +0.6
LZH pP pP 23 46 30.3 -2.5
LZH sP sP 23 46 47.1 -3.8
LZH ePP PnPn 23 46 48.4 +0.4
LZH pmax pmax
comp=Z,22nm,1.6s
SONM Songino Array 28.03 55 P P 23 46 19.0 +1.8
comp=Z,1.5nm,0.6s,baz=268,slow=8.4,SNR=12
SONM Songino Array 28.03 55 P P 23 46 19.0 +1.8
SONM pmax pmax
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 29.68 288 P P 23 46 33.4 +1.5
comp=Z,0.3nm,0.6s,baz=95,slow=9.0,SNR=4.4
CMAR Chiang Mai Arr 30.25 119 P P 23 46 36.4 -0.5
comp=Z,0.6nm,0.8s,baz=294,slow=7.6,SNR=4.2
XAN Xi'an 30.62 84 P P 23 46 33.5 -6.6
XAN pmax pmax
comp=Z,3.0nm,0.8s
XAN pmax pmax
comp=Z,76nm,4.3s
HHC Hu-ho-hao-te 31.45 70 eP P 23 46 49.0 +1.6
HHC pmax pmax
comp=Z,11nm,1.0s
HHC pmax pmax
comp=Z,140nm,5.2s
AKASG Malin Array Be 33.11 309 P P 23 47 03.1 +1.5
comp=Z,0.3nm,0.3s,baz=84,slow=7.3,SNR=3.3
VOIR 35.62 299 P P 23 47 26.1 +2.7
JOF Joensuu 35.93 330 P P 23 47 28.2 +2.6
JOF pmax pmax
comp=Z,21nm,1.1s
FINES FINESS Array B 37.56 326 P P 23 47 41.6 +2.2
comp=Z,0.7nm,0.4s,baz=118,slow=11,SNR=12
SUF Sumiainen 37.99 328 P P 23 47 47.0 +3.9
SUF pmax pmax
comp=Z,29nm,2.8s
NIE Niedzica 38.75 306 P P 23 47 53.1 +3.4
ARCES ARCESS Array B 41.16 337 P P 23 48 11.4 +2.2
comp=Z,2.9nm,0.9s,baz=112,slow=7.8,SNR=10
TRO Tromso 43.29 336 P P 23 48 28.2 +1.8
TRO pmax pmax
comp=Z,1.0nm,2.6s
NORES NORESS Array B 44.29 323 P P 23 48 35.9 +1.4
NORES pmax pmax
comp=Z,1.0nm,0.3s
NB2 NORSAR Subarra 44.48 323 P P 23 48 38.8 +2.7
NB2 pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 44.48 323 P P 23 48 37.6 +1.6
comp=Z,1.0nm,0.5s,baz=101,slow=7.3,SNR=8.6
TORD Torodi Ar. Bea 66.02 269 P P 23 51 08.1 -2.7
comp=Z,0.6nm,0.4s,baz=67,slow=5.8,SNR=16
INK Inuvik 73.75 9 P P 23 51 58.8 +1.6
comp=Z,1.4nm,0.5s,baz=339,slow=6.8,SNR=11
INK Inuvik 73.75 9 eP P 23 51 58.6 +1.3
comp=Z,1.5nm,0.5s
ILAR Eielson Array 74.60 16 P P 23 52 01.8 -0.4
comp=Z,0.3nm,0.8s,baz=292,slow=5.6,SNR=5.1
YKA Yellowknife Ar 81.13 3 P P 23 52 39.6 +1.3
comp=Z,1.1nm,0.6s,baz=350,slow=5.4,SNR=26
YKB5 Yellowknife Ar 81.13 3 eP P 23 52 38.7 +0.4
WRA Warramunga Arr 81.80 122 P P 23 52 41.8 -0.6
comp=Z,0.6nm,0.4s,baz=324,slow=5.0,SNR=25
WRAB Tennant Creek 81.80 122 eP P 23 52 41.9 -0.6
comp=Z,1.0nm,0.4s
WRAB Tennant Creek 81.80 122 eP P 23 52 41.9 -0.6
WRAB pmax pmax
comp=Z,1.0nm,0.4s
ASAR Alice Springs 84.07 125 P P 23 52 53.2 -0.9
comp=Z,0.9nm,0.7s,baz=310,slow=5.1,SNR=11

SJA 01 23:50:59.7±0.7**, 31.°33S×64.°73W, h75km**±6km**, ML3.0, MW3.6, Cordoba Province**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TCA Tanti 0.12 93 *i* P Pn 23 51 11.5 +0.8
TCA IAML 23 51 19.4
comp=Z,170nm,0.7s
TCA *i* S Sn 23 51 19.9 +1.1
MRA San Martin 1.37 218 *i* P Pn 23 51 24.1 +0.8
MRA *i* S Sn 23 51 43.0 +2.1
MRA IAML 23 51 45.7
comp=Z,516nm,0.2s
APLL PUNTA DE LOS L 1.81 301 *i* P Pn 23 51 30.4 +1.4
APLL IAML 23 51 52.2
comp=Z,156nm,0.7s
APLL *i* S Sn 23 51 53.2 +2.1
ACAN Cantantal 2.29 245 *i* P Pn 23 51 37.6 +2.2
ACAN *i* S Sn 23 52 05.0 +2.2

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*IGIL **01** 23:58:50.6, 39.°72N×13.°44W, h10km, ML2.2*
*MDD **01** 23:58:52.4±1.6, 39.°73N×13.°17W, h0km, mb4.3/4, Error ellipse: s-maj=14.6km s-min=9.4km az=83.0, PRXIMO*
*INMG **01** 23:58:54.7±1.9, 39.°71N×13.°55W, h10km, ML2.3, Error ellipse: s-maj=7.7km s-min=4.1km az=87.0*
ISC 01 23:58:51.9±1.8**, 39.°72N**±0.°04×**13.°08W**±0.°08**, h10km, n57, σ1.s78**/97**, North Atlantic Ocean**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMAFR Mafra 3.04 103 ePn Pb 23 59 42.0 -4.2
PMAFR eSn Sb 00 00 18.7 -4.7
PMAFR A A 00 00 26.7
10.0nm,1.0s
PMAFR Mafra 3.04 103 P Pb 23 59 41.9 -4.2
1.8nm,0.1s,SNR=8.2
PMAFR S Sb 00 00 18.7 -4.7
5.3nm,0.1s,SNR=6.0
PMST Lisbon--Monsan 3.18 107 ePn Pb 23 59 44.8 -3.7
PMST eSn Sb 00 00 23.5 -3.8
ALMR Almeirim 3.53 98 eS Sn 00 00 29.5 +0.8
ALMR AML AML 00 00 34.9
comp=N,7.1nm,0.3s
ALMR Almeirim 3.53 98 eS Sn 00 00 29.5 +0.8
ALMR Almeirim 3.53 98 S Sn 00 00 29.5 +0.8
comp=N,3.6nm,0.3s
PCAS Casmilo, Conde 3.54 83 ePn Pn 23 59 49.1 +2.1
PCAS eSn Sn 00 00 29.0 +0.1
PCAS A A 00 00 34.6
comp=N,3.4nm,0.5s
PCAS Casmilo, Conde 3.54 83 P Pn 23 59 49.1 +2.1
PCAS S Sn 00 00 29.0 +0.1
comp=N,3.4nm,0.5s
PTOM Tomar 3.60 90 ePn Pn 23 59 49.9 +2.1
PTOM eSn Sn 00 00 32.2 +1.8
PTOM A A 00 00 36.9
comp=N,6.2nm,0.4s
PTOM Tomar 3.60 90 P Pn 23 59 49.9 +2.1
PTOM S Sn 00 00 32.2 +1.8
comp=N,3.1nm,0.4s
PNCL Nicolau / Gran 3.90 113 ePn Pn 23 59 53.7 +1.9
PNCL eSn Sn 00 00 37.2 -0.4
PNCL A A 00 00 46.5
comp=N,2.8nm,0.7s
PNCL Nicolau / Gran 3.90 113 P Pn 23 59 53.7 +1.9
PNCL S Sn 00 00 37.2 -0.4
comp=N,2.8nm,0.7s
PTEO Sao Teotonio 4.04 121 ePn Pn 23 59 54.2 +0.4
PTEO eSn Sn 00 00 39.7 -1.5
PTEO Sao Teotonio 4.04 121 P Pn 23 59 54.2 +0.4
PTEO S Sn 00 00 39.7 -1.5
PVIS Viseu 4.09 74 ePn Pn 23 59 56.3 +1.7
PVIS eSn Sn 00 00 42.4 -0.2
PVIS A A 00 00 46.9
comp=N,7.2nm,0.1s
PVIS Viseu 4.09 74 P Pn 23 59 56.3 +1.7
PVIS S Sn 00 00 42.4 -0.2
comp=N,3.6nm,0.1s
EZAM Zamans 4.11 52 P Pn 23 59 56.6 +1.8
comp=N,0.4nm,0.1s,SNR=4.0
EZAM S Sn 00 00 41.2 -1.8
comp=N,0.9nm,0.1s,SNR=7.9
EVO Evora 4.12 105 ePn Pb 23 59 58.4 -6.0
EVO eSn Sn 00 00 44.9 +1.9
EVO A A 00 00 51.6
comp=N,4.1nm,0.4s
EVO Evora 4.12 105 P Pb 23 59 58.4 -6.0
EVO S Sn 00 00 44.9 +1.9
comp=N,4.1nm,0.4s
PFVI Vila Bisbo 4.22 126 ePn Pn 23 59 56.7 +0.4
PFVI eSn Sn 00 00 44.9 -0.8
PFVI Vila Bisbo 4.22 126 P Pn 23 59 56.4 0.0
comp=N,2.1nm,0.1s,SNR=7.9
PFVI S Sn 00 00 43.0 -2.7
comp=N,1.6nm,0.1s,SNR=7.9
MORF Marmelete 4.23 123 eP Pn 23 59 56.3 -0.1
MORF Marmelete 4.23 123 ePn Pn 23 59 56.4 -0.1
MORF eSn Sn 00 00 43.3 -2.6
MORF A A 00 00 52.6
comp=N,4.2nm,0.1s
MORF Marmelete 4.23 123 P Pn 23 59 56.3 -0.1
MORF S Sn 00 00 43.3 -2.6
comp=N,4.2nm,0.1s
MESJ Messejana 4.24 115 eP Pn 23 59 56.9 +0.4
MESJ eS Sn 00 00 45.1 -0.9
MESJ AML AML 00 00 50.9
comp=N,4.2nm,0.2s
MESJ Messejana 4.24 115 ePn Pn 23 59 57.7 +1.2
MESJ eSn Sn 00 00 45.4 -0.6
MESJ A A 00 00 56.3
comp=N,2.0nm,0.4s
MESJ Messejana 4.24 115 P Pn 23 59 57.7 +1.2
MESJ S Sn 00 00 45.4 -0.6
comp=N,2.0nm,0.4s
PGAV Gavieira, Arco 4.28 57 ePn Pn 23 59 58.1 +0.9
PGAV eSn Sn 00 00 45.7 -1.6
PGAV A A 00 00 53.4
comp=N,3.5nm,0.2s
PGAV Gavieira, Arco 4.28 57 P Pn 23 59 58.1 +0.9
PGAV S Sn 00 00 45.7 -1.6
comp=N,3.5nm,0.2s
MTE Manteigas 4.30 79 ePn Pn 00 00 00.2 +2.7
MTE eSn Sn 00 00 47.7 0.0
MTE A A 00 00 50.4
comp=N,2.8nm,0.3s
MTE Manteigas 4.30 79 P Pn 00 00 00.2 +2.7
MTE S Sn 00 00 47.7 0.0
comp=N,1.4nm,0.3s
PCBR Castelo Branco 4.32 87 ePn Pn 23 59 59.8 +2.2
PCBR eSn Sn 00 00 48.1 +0.1
PCBR A A 00 00 51.4
comp=N,3.0nm,0.1s
PCBR Castelo Branco 4.32 87 P Pn 23 59 59.8 +2.2
PCBR S Sn 00 00 48.1 +0.1
comp=N,1.5nm,0.1s
PCAB Cabril 4.32 61 ePn Pn 23 59 58.7 +1.0
PCAB eSn Sn 00 00 48.0 -0.2
PCAB A A 00 00 57.9
comp=N,6.0nm,0.3s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCAB	**Cabril**	**4.32**	**61**	P	**Pn**	**23 59 58.7**	**+1.0**
PCAB				S	**Sn**	**00 00 48.0**	**-0.2**
	comp=N,3.0nm,0.3s						
PESTR	**Estremoz**	**4.34**	**100**	*e*Pn	**Pn**	**23 59 59.2**	**+1.2**
PESTR				A	A	00 00 52.2	
	comp=N,1.5nm,0.5s						
POLO	**Lamas de Olo**	**4.35**	**66**	*e*Pn	**Pn**	**23 59 59.9**	**+1.7**
POLO				*e*Sn	**Sn**	**00 00 48.1**	**-0.9**
POLO				A	A	00 00 55.3	
	comp=N,1.2nm,0.9s						
POLO	**Lamas de Olo**	**4.35**	**66**	P	**Pn**	**23 59 59.9**	**+1.7**
POLO				S	**Sn**	**00 00 48.1**	**-0.9**
	comp=N,1.2nm,0.9s						
ELOB	**Lobios**	**4.37**	**59**	P	**Pn**	**23 59 59.2**	**+0.8**
	comp=N,0.5nm,0.0s,SNR=4.0						
ELOB				S	**Sn**	**00 00 49.1**	**-0.4**
	comp=N,3.0nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**4.41**	**92**	*e*Pn	Pb	00 00 02.9	-6.5
PMRV				*e*Sn	**Sn**	**00 00 52.8**	**+2.6**
PMRV				A	A	00 00 54.6	
	comp=N,3.9nm,0.3s						
PMRV	**Marv??o**	**4.41**	**92**	P	Pb	00 00 02.9	-6.5
PMRV				S	**Sn**	**00 00 52.8**	**+2.6**
	comp=N,3.9nm,0.3s						
PBEJ	**Beja**	**4.41**	**111**	*e*Sn	**Sn**	**00 00 51.0**	**+0.8**
PBEJ	**Beja**	**4.41**	**111**	S	**Sn**	**00 00 51.0**	**+0.8**
EMAZ	**Mazaricos**	**4.47**	**42**	P	**Pn**	**23 59 59.8**	**+0.2**
	comp=N,0.7nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**00 00 48.6**	**-3.1**
	comp=N,1.0nm,0.1s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**4.74**	**120**	*e*Sn	**Sn**	**00 00 56.2**	**-2.2**
PBDV	**Barranco-do-Ve**	**4.74**	**120**	S	**Sn**	**00 00 56.2**	**-2.2**
PVAQ	**Vaqueiros**	**4.80**	**117**	*e*Pn	**Pn**	**00 00 05.4**	**+1.2**
PVAQ				*e*Sn	**Sn**	**00 00 57.7**	**-2.2**
PVAQ				A	A	00 01 02.9	
	comp=N,2.6nm,0.8s						
PVAQ	**Vaqueiros**	**4.80**	**117**	P	**Pn**	**00 00 05.4**	**+1.2**
PVAQ				S	**Sn**	**00 00 57.7**	**-2.2**
	comp=N,2.6nm,0.8s						
EBAD	**Badajoz**	**4.81**	**100**	P	**Pn**	**00 00 05.3**	**+1.0**
	comp=N,2.6nm,0.1s,SNR=22						
EBAD				S	**Sn**	**00 00 59.6**	**-0.6**
	comp=N,0.8nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**4.84**	**71**	*e*Pn	**Pn**	**00 00 06.9**	**+2.1**
MVO				*e*Sn	**Sn**	**00 00 59.5**	**-1.4**
MVO				A	A	00 01 06.5	
	comp=N,4.3nm,0.3s						
MVO	**Moncorvo**	**4.84**	**71**	P	Pn	00 00 07.5	+2.7
	comp=N,1.6nm,0.1s,SNR=5.9						
MVO				S	**Sn**	**00 00 59.6**	**-1.4**
	comp=N,1.2nm,0.1s,SNR=6.2						
EAGO	**Agolada(Pontev**	**4.86**	**49**	P	**Pn**	**00 00 05.7**	**+0.6**
	comp=N,0.7nm,0.0s,SNR=7.9						
EAGO				S	**Sn**	**00 00 58.3**	**-3.2**
	comp=N,1.2nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.90**	**115**	P	**Pn**	**00 00 06.6**	**+1.1**
	comp=N,0.7nm,0.1s,SNR=4.7						
EGRO				S	**Sn**	**00 01 01.9**	**-0.4**
	comp=N,0.6nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.30**	**63**	P	**Pn**	**00 00 12.8**	**+1.6**
	comp=N,0.6nm,0.2s,SNR=7.2						
ECAL				S	**Sn**	**00 01 11.6**	**-0.7**
	comp=N,0.8nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.38**	**109**	P	**Pn**	**00 00 13.6**	**+1.4**
	comp=N,0.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**00 01 15.1**	**+0.9**
	comp=N,0.2nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**5.39**	**84**	P	Pn	00 00 15.2	+2.7
	comp=N,0.4nm,0.1s,SNR=5.9						
EPLA				S	**Sn**	**00 01 15.0**	**+0.3**
	comp=N,0.8nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**5.73**	**49**	P	**Pn**	**00 00 18.0**	**+1.0**
	comp=N,0.3nm,0.1s,SNR=7.9						
EPON				S	**Sn**	**00 01 20.6**	**-2.1**
	comp=N,0.3nm,0.1s,SNR=7.9						

*MDD **02** 00:14:27.8±1.8, 37°.26N×14°.35W, h0km, mb4.4/5, Error ellipse: s-maj=16.2km s-min=14.6km az=38.0, PRXIMO*
*IGIL **02** 00:14:27.9, 37°.31N×14°.37W, h1km, ML2.5*
*INMG **02** 00:14:29.4±0.9, 37°.12N×14°.73W, h10km, ML2.5, Error ellipse: s-maj=4.4km s-min=3.6km az=98.0*
ISC 02 00:14:28.0±3.6, **37°.37N**±0°.09×**14°.3W**±0°.2, **h10km, n57,** σ1s.55/112, **Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**4.22**	**66**	*e*Pn	**Pn**	**00 15 34.0**	**+1.5**
PMAFR				*e*Sn	**Sn**	**00 16 22.3**	**+0.5**
PMAFR				A	A	00 16 27.1	
	18nm,0.2s						
PMAFR	**Mafra**	**4.22**	**66**	P	**Pn**	**00 15 34.0**	**+1.5**
	5.6nm,0.1s,SNR=12						
PMAFR				S	**Sn**	**00 16 22.5**	**+0.7**
	2.6nm,0.1s,SNR=7.9						
PMST	**Lisbon--Monsan**	**4.22**	**70**	*e*Pn	**Pn**	**00 15 33.6**	**+1.1**
PMST				*e*Sn	**Sn**	**00 16 22.1**	**+0.3**
PFVI	**Vila Bisbo**	**4.33**	**92**	*e*Pn	**Pn**	**00 15 34.3**	**+0.4**
PFVI				*e*Sn	**Sn**	**00 16 23.1**	**-1.4**
PFVI				A	A	00 16 29.6	
	8.0nm,0.9s						
PFVI	**Vila Bisbo**	**4.33**	**92**	P	**Pn**	**00 15 34.5**	**+0.6**
	2.3nm,0.1s,SNR=6.3						
PFVI				S	**Sn**	**00 16 24.5**	**0.0**
	3.0nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**4.40**	**86**	*e*Pn	**Pn**	**00 15 35.8**	**+0.9**
PTEO				*e*Sn	**Sn**	**00 16 25.1**	**-1.0**
PTEO				A	A	00 16 28.0	
	7.0nm,0.6s						
PTEO	**Sao Teotonio**	**4.40**	**86**	P	**Pn**	**00 15 35.8**	**+0.9**
PTEO				S	**Sn**	**00 16 25.1**	**-1.0**
	3.5nm,0.6s						
MORF	**Marmelete**	**4.46**	**89**	*e*P	**Pn**	**00 15 36.0**	**+0.3**
MORF				*e*S	**Sn**	**00 16 25.8**	**-1.9**
MORF				AML	AML	00 16 30.9	
	comp=N,9.1nm,0.3s						
MORF	**Marmelete**	**4.46**	**89**	*e*Pn	**Pn**	**00 15 36.1**	**+0.3**
MORF				*e*Sn	**Sn**	**00 16 26.6**	**-1.2**
MORF				A	A	00 16 30.9	
	comp=N,5.0nm,0.1s						
MORF	**Marmelete**	**4.46**	**89**	P	**Pn**	**00 15 36.1**	**+0.3**
MORF				S	**Sn**	**00 16 26.6**	**-1.2**
	comp=N,5.0nm,0.1s						
PNCL	**Nicolau / Gran**	**4.59**	**79**	*e*Pn	**Pn**	**00 15 38.2**	**+0.7**
PNCL				*e*Sn	**Sn**	**00 16 29.9**	**-1.0**
PNCL				A	A	00 16 36.9	
	comp=N,4.3nm,0.2s						
PNCL	**Nicolau / Gran**	**4.59**	**79**	P	**Pn**	**00 15 38.2**	**+0.7**
PNCL				S	**Sn**	**00 16 29.9**	**-1.0**
	comp=N,4.3nm,0.2s						
MESJ	**Messejana**	**4.81**	**83**	*e*P	**Pn**	**00 15 40.8**	**+0.3**
MESJ				*e*S	**Sn**	**00 16 34.0**	**-2.3**
MESJ				AML	AML	00 16 41.3	
	comp=N,5.6nm,0.4s						
MESJ	**Messejana**	**4.81**	**83**	*e*Pn	**Pn**	**00 15 41.0**	**+0.5**
MESJ				*e*Sn	**Sn**	**00 16 35.7**	**-0.6**
MESJ				A	A	00 16 40.8	
	comp=N,2.5nm,0.2s						
MESJ	**Messejana**	**4.81**	**83**	P	**Pn**	**00 15 41.0**	**+0.5**
MESJ				S	**Sn**	**00 16 35.7**	**-0.6**
	comp=N,2.5nm,0.2s						
PBDV	**Barranco-do-Ve**	**5.04**	**90**	*e*Pn	**Pn**	**00 15 44.4**	**+0.7**
PBDV				*e*Sn	**Sn**	**00 16 40.7**	**-1.2**
PBDV				A	A	00 16 44.8	
	comp=N,3.9nm,0.7s						
PBDV	**Barranco-do-Ve**	**5.04**	**90**	P	**Pn**	**00 15 44.4**	**+0.7**
PBDV				S	**Sn**	**00 16 40.7**	**-1.2**
	comp=N,3.9nm,0.7s						
EVO	**Evora**	**5.06**	**75**	*e*Pn	**Pn**	**00 15 47.1**	**+3.1**
EVO				*e*Sn	**Sn**	**00 16 43.6**	**+1.1**
EVO				A	A	00 16 49.2	
	comp=N,6.8nm,0.1s						
EVO	**Evora**	**5.06**	**75**	P	**Pn**	**00 15 47.1**	**+3.1**
EVO				S	**Sn**	**00 16 43.6**	**+1.1**
	comp=N,6.8nm,0.1s						
PTOM	**Tomar**	**5.10**	**62**	*e*Pn	**Pn**	**00 15 46.0**	**+1.5**
PTOM				*e*Sn	**Sn**	**00 16 43.6**	**+0.2**
PTOM				A	A	00 16 53.2	
	comp=N,6.3nm,0.5s						
PTOM	**Tomar**	**5.10**	**62**	P	**Pn**	**00 15 46.0**	**+1.5**
PTOM				S	**Sn**	**00 16 43.6**	**+0.2**
	comp=N,3.2nm,0.5s						
PBEJ	**Beja**	**5.10**	**81**	*e*Pn	**Pn**	**00 15 46.0**	**+1.4**
PBEJ				*e*Sn	**Sn**	**00 16 42.8**	**-0.7**
PBEJ				A	A	00 16 46.6	
	comp=N,2.3nm,0.2s						
PBEJ	**Beja**	**5.10**	**81**	P	**Pn**	**00 15 46.0**	**+1.4**
PBEJ				S	**Sn**	**00 16 42.8**	**-0.7**
	comp=N,1.2nm,0.2s						
PVAQ	**Vaqueiros**	**5.20**	**88**	*e*Pn	**Pn**	**00 15 46.6**	**+0.7**
PVAQ				*e*Sn	**Sn**	**00 16 44.7**	**-1.2**
PVAQ				A	A	00 16 52.5	
	comp=N,2.8nm,0.2s						
PVAQ	**Vaqueiros**	**5.20**	**88**	P	**Pn**	**00 15 46.6**	**+0.7**
PVAQ				S	**Sn**	**00 16 44.7**	**-1.2**
	comp=N,2.8nm,0.2s						
PCAS	**Casmilo, Conde**	**5.23**	**57**	*e*Pn	**Pn**	**00 15 48.4**	**+2.1**
PCAS				*e*Sn	**Sn**	**00 16 47.1**	**+0.4**
PCAS				A	A	00 16 57.8	
	comp=N,2.5nm,0.9s						
PCAS	**Casmilo, Conde**	**5.23**	**57**	P	**Pn**	**00 15 48.4**	**+2.1**
PCAS				S	**Sn**	**00 16 47.1**	**+0.4**
	comp=N,2.5nm,0.9s						
EGRO	**El Granado**	**5.38**	**86**	P	**Pn**	**00 15 49.1**	**+0.7**
	comp=N,1.3nm,0.1s,SNR=14						
EGRO				S	**Sn**	**00 16 50.8**	**+0.4**
	comp=N,1.1nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**5.46**	**72**	*e*Pn	**Pn**	**00 15 49.9**	**+0.5**
PESTR				*e*Sn	**Sn**	**00 16 51.2**	**-1.1**
PESTR				A	A	00 16 53.6	
	comp=N,1.7nm,0.2s						
PMRV	**Marv??o**	**5.76**	**67**	*e*Pn	**Pn**	**00 15 57.0**	**+3.4**
PMRV				*e*Sn	**Sn**	**00 17 01.4**	**+1.6**
PMRV				A	A	00 17 04.7	
	comp=N,4.4nm,0.2s						
PMRV	**Marv??o**	**5.76**	**67**	P	**Pn**	**00 15 57.0**	**+3.4**
PMRV				S	**Sn**	**00 17 01.4**	**+1.6**
	comp=N,4.4nm,0.2s						
PCBR	**Castelo Branco**	**5.85**	**63**	*e*Pn	**Pn**	**00 15 55.8**	**+1.0**
PCBR				*e*Sn	**Sn**	**00 17 01.0**	**-0.8**
PCBR				A	A	00 17 03.3	
	comp=N,1.7nm,0.5s						
PCBR	**Castelo Branco**	**5.85**	**63**	P	**Pn**	**00 15 55.8**	**+1.0**
PCBR				S	**Sn**	**00 17 01.0**	**-0.8**
	comp=N,0.9nm,0.5s						
EBAD	**Badajoz**	**5.87**	**74**	P	**Pn**	**00 15 56.5**	**+1.4**
	comp=N,1.1nm,0.1s,SNR=14						
EBAD				S	**Sn**	**00 17 01.1**	**-1.4**
	comp=N,1.5nm,0.1s,SNR=8.0						
PVIS	**Viseu**	**5.97**	**54**	*e*Pn	**Pn**	**00 15 57.3**	**+0.8**
PVIS				*e*Sn	**Sn**	**00 17 03.8**	**-1.1**
PVIS				A	A	00 17 05.7	
	comp=N,2.1nm,0.2s						
PVIS	**Viseu**	**5.97**	**54**	P	**Pn**	**00 15 57.3**	**+0.8**
PVIS				S	**Sn**	**00 17 03.8**	**-1.1**
	comp=N,1.1nm,0.2s						
EMIN	**Mina Concepcio**	**6.03**	**84**	P	**Pn**	**00 15 58.3**	**+1.0**
	comp=N,0.6nm,0.1s,SNR=10						
EMIN				S	**Sn**	**00 17 05.4**	**-1.0**
	comp=N,0.4nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**6.04**	**58**	*e*Pn	**Pn**	**00 15 58.8**	**+1.3**
MTE				*e*Sn	**Sn**	**00 17 06.7**	**0.0**
MTE				A	A	00 17 10.0	
	comp=N,2.8nm,0.3s						
MTE	**Manteigas**	**6.04**	**58**	P	**Pn**	**00 15 58.8**	**+1.3**
MTE				S	**Sn**	**00 17 06.7**	**0.0**
	comp=N,1.4nm,0.3s						
POLO	**Lamas de Olo**	**6.40**	**49**	*e*Pn	**Pn**	**00 16 03.8**	**+1.3**
POLO				*e*Sn	**Sn**	**00 17 14.2**	**-1.4**
POLO				A	A	00 17 20.6	
	comp=N,0.7nm,0.3s						
POLO	**Lamas de Olo**	**6.40**	**49**	P	**Pn**	**00 16 03.8**	**+1.3**
POLO				S	**Sn**	**00 17 14.2**	**-1.4**
	comp=N,0.7nm,0.3s						
PGAV	**Gavieira, Arco**	**6.50**	**43**	*e*Pn	**Pn**	**00 16 05.5**	**+1.6**
PGAV				*e*Sn	**Sn**	**00 17 16.5**	**-1.7**
PGAV				A	A	00 17 22.5	
	comp=N,2.3nm,0.1s						
PGAV	**Gavieira, Arco**	**6.50**	**43**	P	**Pn**	**00 16 05.5**	**+1.6**
PGAV				S	**Sn**	**00 17 16.5**	**-1.7**
	comp=N,2.3nm,0.1s						
ELOB	**Lobios**	**6.55**	**45**	P	**Pn**	**00 16 06.1**	**+1.6**
	comp=N,0.3nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**00 17 18.0**	**-1.4**
	comp=N,1.4nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**6.76**	**54**	*e*Pn	**Pn**	**00 16 08.4**	**+1.0**
MVO				*e*Sn	**Sn**	**00 17 22.9**	**-1.6**
MVO				A	A	00 17 25.7	
	comp=N,3.9nm,0.6s						
MVO	**Moncorvo**	**6.76**	**54**	P	**Pn**	**00 16 08.3**	**+0.9**
	comp=N,0.7nm,0.1s,SNR=6.2						
MVO				S	**Sn**	**00 17 23.3**	**-1.2**
	comp=N,0.7nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.88**	**34**	P	**Pn**	**00 16 11.7**	**+2.7**
	comp=N,0.5nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**00 17 23.1**	**-4.1**
	comp=N,1.4nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**6.93**	**65**	P	**Pn**	**00 16 11.1**	**+1.5**
	comp=N,0.2nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**00 17 27.1**	**-1.4**
	comp=N,0.6nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**7.03**	**82**	P	**Pn**	**00 16 12.2**	**+1.1**
	comp=N,0.5nm,0.1s,SNR=15						
ECAB				S	**Sn**	**00 17 27.5**	**-3.6**
	comp=N,0.2nm,0.2s,SNR=7.9						
EAGO	**Agolada(Pontev**	**7.19**	**39**	P	**Pn**	**00 16 14.1**	**+0.9**
	comp=N,0.3nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**00 17 30.7**	**-4.2**
	comp=N,0.5nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**7.29**	**50**	*e*Pn	**Pn**	**00 16 15.9**	**+1.2**
PBRG				*e*Sn	**Sn**	**00 17 35.3**	**-2.2**
PBRG	**Braganca**	**7.29**	**50**	P	**Pn**	**00 16 15.9**	**+1.2**
PBRG				Sn	**Sn**	**00 17 35.3**	**-2.2**
ECAL	**Calabor**	**7.37**	**49**	P	**Pn**	**00 16 18.5**	**+2.7**
	comp=N,1.4nm,0.2s,SNR=6.1						
ECAL				S	**Sn**	**00 17 39.0**	**-0.6**
	comp=N,0.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**7.70**	**81**	P	**Pn**	**00 16 21.5**	**+1.2**
	comp=N,0.6nm,0.1s,SNR=12						
EADA				S	**Sn**	**00 17 46.3**	**-1.2**
	comp=N,0.4nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**8.05**	**40**	S	**Sn**	**00 17 52.0**	**-4.0**
	comp=N,0.4nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**8.06**	**71**	P	**Pn**	**00 16 26.1**	**+0.8**
	comp=N,0.1nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**00 17 53.7**	**-2.9**
	comp=N,0.1nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**8.38**	**71**	P	**Pn**	**00 16 30.3**	**+0.7**
	comp=N,0.2nm,0.2s,baz=258,slow=14,SNR=14						

WEL 02 00:28:13.7, 39°S±1°×**17°4E**±°, **h9km**±1km, **ML3.6**/22, **Off west coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NBEZ	**Newall Road No**	**0.15**	**63**	P	Pg	00 28 17.9	+1.0
NMEZ	**Namu Road**	**0.16**	**118**	P	Pg	00 28 17.9	+0.7
NMEZ				S	Sg	00 28 21.2	+1.7
KHEZ	**Kahui Hut**	**0.26**	**80**	P	Pb	00 28 19.7	-0.8
KHEZ				S	Sb	00 28 24.3	-0.8
PKE	**Pukeiti**	**0.27**	**58**	P	Pb	00 28 20.1	-0.6
PKE				S	Sb	00 28 24.9	-0.6
PREZ	**Palmer Road**	**0.36**	**91**	P	Pb	00 28 21.8	-0.5
PREZ				S	Sb	00 28 27.7	-0.5
DREZ	**Durham Road**	**0.42**	**70**	P	Pg	00 28 22.6	+0.7
MHEZ	**Mangahewa**	**0.56**	**62**	P	Pb	00 28 25.3	-0.3
LREZ	**Lake Rotokare**	**0.56**	**103**	P	Pb	00 28 25.3	-0.4
LREZ				S	Sb	00 28 34.2	+0.3
VRZ	**Vera Road**	**0.86**	**76**	P	Pg	00 28 30.4	+0.2
WAZ	**Wanganui**	**1.08**	**113**	P	Pg	00 28 33.8	-0.7
HIZ	**Hauiti**	**1.23**	**48**	P	Pn	00 28 35.6	-1.5
HIZ				S	Sg	00 28 53.1	0.0
MTVZ	**Mangateitei**	**1.38**	**93**	P	Pn	00 28 38.5	-0.7
TWVZ	**Taurewa**	**1.38**	**79**	P	Pn	00 28 38.6	-0.6
TRVZ	**Turoa**	**1.44**	**89**	P	Pn	00 28 40.4	+0.2
COVZ	**Chateau Observ**	**1.44**	**85**	P	Pn	00 28 40.0	-0.1
FWVZ	**Far West T-bar**	**1.45**	**87**	P	Pn	00 28 39.9	-0.3
DUWZ	**D'Urville Isla**	**1.47**	**173**	P	Pn	00 28 40.2	-0.3
WHVZ	**Whangaehu Hut**	**1.47**	**88**	P	Pn	00 28 40.6	-0.1
NGZ	**Ngauruhoe**	**1.49**	**84**	P	Pn	00 28 40.9	+0.1
WTVZ	**West Tongariro**	**1.49**	**82**	P	Pn	00 28 40.8	0.0
OHWZ	**Ohakea**	**1.52**	**125**	P	Pb	00 28 41.9	-0.2
KRVZ	**Karewarewa**	**1.54**	**82**	P	Pn	00 28 41.1	-0.3
KATZ	**Kakaramea**	**1.60**	**78**	P	Pn	00 28 42.2	-0.1
MOVZ	**Moawhango**	**1.60**	**93**	P	Pn	00 28 42.3	+0.1
RATZ	**Rangitukua**	**1.69**	**74**	P	Pn	00 28 44.1	+0.7
WATZ	**Wairara**	**1.71**	**69**	P	Pb	00 28 45.2	-0.1
RITZ	**Rihia Road**	**1.72**	**79**	P	Pb	00 28 45.1	-0.4
QRZ	**Quartz Range**	**1.73**	**211**	P	Pn	00 28 42.5	-1.5
TLZ	**Tolley Road**	**1.76**	**56**	P	Pn	00 28 43.7	-0.7
KIW	**Kapiti Island**	**1.79**	**149**	P	Pn	00 28 45.5	+0.8
BHHZ	**Black Hill Sta**	**1.84**	**95**	P	Pn	00 28 46.0	+0.4
OGWZ	**Otaki Gorge**	**1.86**	**143**	P	Pb	00 28 47.0	-0.9
KUTZ	**Kaahu Road**	**1.87**	**64**	P	Pn	00 28 46.9	+1.1
NNZ	**Nelson**	**1.89**	**187**	P	Pn	00 28 45.6	-0.6
TSZ	**Takapari Road**	**1.89**	**113**	P	Pb	00 28 47.4	-1.1
POWZ	**Post Office Ro**	**1.92**	**124**	P	Pb	00 28 48.2	-0.6
TCW	**Tory Channel**	**1.92**	**167**	P	Pn	00 28 47.1	+0.5
MRZ	**Mangatainoka R**	**1.96**	**133**	P	Pb	00 28 48.9	-0.7
PNHZ	**Pukenui**	**2.02**	**107**	P	Pb	00 28 49.6	-1.0
CAW	**Cannon Point**	**2.06**	**150**	P	Pb	00 28 50.4	-0.8
HOWZ	**Holdsworth Sta**	**2.09**	**139**	P	Pb	00 28 51.1	-0.7
KRHZ	**Kereru**	**2.10**	**99**	P	Pb	00 28 51.2	-0.7
TUWZ	**Tuamarina**	**2.10**	**175**	P	Pn	00 28 49.7	+0.7
KWHZ	**Kaweka Forest**	**2.12**	**93**	P	Pb	00 28 52.4	+0.1
GRRZ	**Galatos Road**	**2.13**	**63**	P	Pb	00 28 51.3	-1.2
PRWZ	**Pori Road**	**2.13**	**125**	P	Pb	00 28 52.4	-0.1
DVHZ	**Dannevirke**	**2.13**	**118**	P	Pb	00 28 51.8	-0.7
TOZ	**Tahuroa Road**	**2.14**	**42**	P	Pn	00 28 49.4	-0.2
BKZ	**Black Stump Fm**	**2.18**	**86**	P	Pb	00 28 52.9	-0.5
WPHZ	**Waipukurau**	**2.24**	**110**	P	Pb	00 28 53.5	-0.8
BHW	**Baring Head**	**2.26**	**157**	P	Pb	00 28 54.0	-0.6
MTW	**Mount Morrison**	**2.29**	**143**	P	Pb	00 28 53.8	-1.3
BFZ	**Birch Farm**	**2.38**	**125**	P	Pn	00 28 54.3	+1.5
BSWZ	**Blackbirch Sta**	**2.38**	**177**	P	Pn	00 28 53.7	+0.8
MSWZ	**Moikau Station**	**2.39**	**151**	P	Pb	00 28 56.1	-0.9
ANWZ	**Angora Road**	**2.42**	**119**	P	Pb	00 28 56.8	-0.6
PAWZ	**Paruwai Farm**	**2.44**	**148**	P	Pb	00 28 58.5	+0.9
TMWZ	**Te Maipa**	**2.44**	**137**	P	Pb	00 28 57.3	-0.5
THZ	**Tophouse**	**2.50**	**194**	P	Pn	00 28 54.4	-0.1
KAHZ	**Kahuranaki**	**2.50**	**101**	P	Pb	00 28 59.0	+0.1
MKAZ	**Moumakai**	**2.51**	**28**	P	Pn	00 28 55.3	+0.6
PLWZ	**Palliser**	**2.53**	**152**	P	Pb	00 28 57.8	-1.5
KHZ	**Kahutara**	**3.08**	**182**	P	Pn	00 29 03.4	+1.0
MWZ	**Matawai**	**3.16**	**73**	P	Pb	00 29 09.4	-0.6
LTZ	**Lake Taylor**	**3.60**	**197**	P	Pn	00 29 10.2	+0.4
INZ	**Inchbonnie**	**3.79**	**206**	P	Pn	00 29 12.3	+0.1

MAN 02 00:48:02.8, 8°.53N×126°.20E, h32km, mb4.2, ML3.0, MS2.6, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.38**	**154**	⇓*i*P	Pn	00 48 12.4	+0.4
BIPH				*i* S	Sn	00 48 18.2	+0.1
BUTP	**Butuan**	**0.72**	**308**	*e*P	Pn	00 48 16.6	-0.1
BUTP				*e*S	Sb	00 48 25.6	-0.9
BUKP	**Musuan**	**1.29**	**240**	*e*P	Pn	00 48 23.9	-0.7
BUKP				*e*S	Sn	00 48 41.1	+0.1
CGP	**Cagayan de Oro**	**1.49**	**267**	⇑*e*P	Pn	00 48 28.5	+1.2
CGP				*e*S	Sn	00 48 45.2	-0.4

*ISK **02** 00:59:32.4, 39°.59N×25°.80E, h13km, ML3.0/14*
*ISCJB **02** 00:59:33.6±0.4, 39°.60N±0°.02×25°.88E±0°.03, h11km±3km, Error ellipse: s-maj=3.4km s-min=2.8km az=175.6*
*ATH **02** 00:59:33.8, 39°.57N×25°.86E, h32km, ML2.3/6, Error ellipse: s-maj=1.7km s-min=0.8km az=233.0*
*DDA **02** 00:59:33.4, 39°.56N×25°.93E, h7km±2km, ML3.1*
*THE **02** 00:59:34.4, 39°.60N×25°.89E, h15km±1km, ML2.2/8, Error ellipse: s-maj=1.6km s-min=0.8km az=96.0*
ISC 02 00:59:33.7±0.9, **39°.59N**±0°.02×**25°.87E**±0°.02, **h15**km±7km, **n68,** σ**0s.58**/92, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GPNR	**Gulpinar-Canak**	**0.24**	**123**	PG	**Pg**	**00 59 39.1**	**+0.1**
BOZC	**Bozcaada**	**0.29**	**28**	PG	**Pg**	**00 59 39.8**	**-0.1**
BOZC				SG	**Sg**	**00 59 44.4**	**+0.3**
BOZC	**Bozcaada**	**0.29**	**28**	IAML_P			
	comp=Z,10µm,0.2s						
BOZC				*i* P	**Pg**	**00 59 40.1**	**+0.2**
SIGR	**SIGRI**	**0.38**	**182**	PG	**Pg**	**00 59 39.9**	**-1.4**
SIGR				SG	**Sg**	**00 59 46.4**	**-0.1**
SIGR	**SIGRI**	**0.38**	**182**	P	**Pb**	**00 59 41.9**	**-0.2**
SIGR				S	**Sb**	**00 59 48.0**	**+0.3**
SIGR				AML	AML	00 59 48.0	
	comp=N,484µm,0.3s						
SIGR				AML	AML	00 59 48.5	
	comp=E,482µm,0.2s						
SIGR	**SIGRI**	**0.38**	**182**	P	**Pb**	**00 59 41.9**	**-0.2**
SIGR				S	**Sb**	**00 59 47.6**	**-0.1**
EZN	**Ezine**	**0.42**	**55**	PG	**Pg**	**00 59 42.0**	**-0.2**
EZN	**Ezine**	**0.42**	**55**	P	**Pg**	**00 59 42.1**	**-0.2**
EZN				S	**Sg**	**00 59 47.9**	**-0.1**
PRK	**Paraskevi**	**0.46**	**138**	P	**Pb**	**00 59 44.5**	**+1.0**
PRK				S	**Sb**	**00 59 51.0**	**+0.9**
PRK				AML	AML	00 59 51.4	
	comp=N,2019µm,0.3s						
PRK				AML	AML	00 59 52.0	
	comp=E,2590µm,0.5s						
PRK	**Paraskevi**	**0.46**	**138**	P	**Pb**	**00 59 44.5**	**+1.0**
PRK				S	**Sb**	**00 59 51.0**	**+0.9**
BAYC	**CANAKKALE_Bayr**	**0.54**	**73**	IAML_P			
	comp=Z,16µm,0.1s						
BAYC				*i* P	**Pb**	**00 59 44.7**	**-0.2**
BAYC				*i* S	**Sg**	**00 59 51.4**	**-0.3**
GADA	**Gvkgeada**	**0.60**	**2**	PG	**Pg**	**00 59 44.9**	**-0.7**
GADA				SG	**Sg**	**00 59 53.9**	**+0.2**
GADA	**Gvkgeada**	**0.60**	**2**	P	**Pg**	**00 59 45.6**	**0.0**
GADA				S	**Sb**	**00 59 54.2**	**-0.2**
GOKC	**Gokceada-Canak**	**0.61**	**3**	PG	**Pg**	**00 59 44.5**	**-1.3**
LIA	**Limnos Island**	**0.62**	**301**	P	**Pb**	**00 59 46.7**	**+0.5**
LIA				S	**Sb**	**00 59 55.6**	**+0.9**
LIA				AML	AML	00 59 57.9	
	comp=N,552µm,0.3s						
LIA				AML	AML	00 59 57.9	
	comp=E,1268µm,0.4s						
LIA	**Limnos Island**	**0.62**	**301**	P	**Pb**	**00 59 46.7**	**+0.5**
LIA				S	**Sb**	**00 59 55.4**	**+0.7**
EFSA	**Agios Efstrati**	**0.69**	**266**	P	**Pb**	**00 59 47.5**	**+0.1**
EFSA				S	**Sb**	**00 59 58.0**	**+1.3**
AYVA	**Ayvalik**	**0.69**	**113**	IAML_P			
	comp=Z,555nm,0.1s						
AYVA				*i* P	**Pn**	**00 59 48.2**	**-0.8**
SMTH	**Samothraki Isl**	**0.92**	**343**	P	**Pg**	**00 59 51.6**	**+0.1**
SMTH				S	**Sn**	**01 00 04.7**	**-0.5**
SMTH				AML	AML	01 00 05.1	
	comp=E,259µm,0.3s						
SMTH				AML	AML	01 00 05.8	
	comp=N,279µm,0.2s						
SMTH	**Samothraki Isl**	**0.92**	**343**	P	**Pg**	**00 59 51.7**	**+0.1**
SMTH				S	**Sn**	**01 00 04.7**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.93**	**29**	PG	**Pb**	**00 59 51.3**	**-0.3**
DKL	**Dikili**	**0.95**	**122**	PG	**Pg**	**00 59 52.1**	**0.0**
LPK	**Lapseki**	**1.04**	**41**	PG	**Pb**	**00 59 53.3**	**-0.1**
PSRA	**Psara**	**1.07**	**193**	P	**Pb**	**00 59 53.6**	**-0.4**
ENEZ	**Enez**	**1.17**	**10**	PN	**Pn**	**00 59 55.2**	**-0.4**
ERIK	**Erikli-Kesan**	**1.19**	**24**	PN	**Pn**	**00 59 55.5**	**-0.3**
CHOS	**Chios island**	**1.21**	**173**	PN	**Pn**	**00 59 56.0**	**-0.1**
CHOS	**Chios island**	**1.21**	**173**	P	**Pn**	**00 59 55.9**	**-0.3**
CHOS				S	**Sn**	**01 00 12.1**	**-0.2**
CHOS				AML	AML	01 00 18.1	
	comp=N,311µm,0.3s						
CHOS				AML	AML	01 00 19.3	
	comp=E,394µm,0.4s						
CHOS	**Chios island**	**1.21**	**173**	P	**Pn**	**00 59 56.0**	**-0.1**
CHOS				S	**Sn**	**01 00 12.1**	**-0.2**
SKY	**Skiros Island**	**1.25**	**236**	P	**Pn**	**00 59 56.8**	**+0.2**
ALN	**Alexandroupoli**	**1.32**	**6**	PN	**Pn**	**00 59 57.3**	**-0.3**
ALN	**Alexandroupoli**	**1.32**	**6**	P	**Pn**	**00 59 57.7**	**+0.1**
ALN				S	**Sg**	**01 00 16.2**	**0.0**
ALN				AML	AML	01 00 16.8	
	comp=N,265µm,0.4s						
ALN				AML	AML	01 00 18.3	
	comp=E,117µm,0.4s						
ALN	**Alexandroupoli**	**1.32**	**6**	P	**Pn**	**00 59 57.5**	**-0.1**
ALN				S	**Sb**	**01 00 14.8**	**0.0**
URLA	**Izmir**	**1.35**	**155**	PN	**Pn**	**00 59 58.0**	**0.0**
URLA	**Izmir**	**1.35**	**155**	IAML_P			
	comp=Z,1µm,0.2s						
URLA				*i* P	**Pb**	**00 59 58.7**	**0.0**
THAS	**Thassos island**	**1.35**	**319**	P	**Pn**	**00 59 58.1**	**0.0**
THAS	**Thassos island**	**1.35**	**319**	P	**Pn**	**00 59 58.1**	**0.0**
THAS				S	**Sn**	**01 00 14.8**	**-0.9**
BALY	**Balya**	**1.36**	**83**	IAML_P			
	comp=Z,693nm,0.2s						
BALY				*i* P	**Pb**	**00 59 59.0**	**+0.1**
BALY				*i* S	**Sg**	**01 00 16.9**	**-0.6**

KRBG	Karabiga-Canak	1.36	53	PN	Pn	00 59 57.9	-0.3
KESN	Edirne-Kesan	1.38	26	IAML_P			
	comp=Z,270nm,0.1s						
KESN				*i* P	Pb	00 59 59.6	+0.1
KESN				*i* S	Sb	01 00 17.3	+0.1
KNL	Balıkesir	1.44	61	IAML_P			
	comp=Z,528nm,0.1s						
KNL				*i* P	Pb	01 00 00.6	+0.3
KNL				*i* S	Sg	01 00 19.7	-0.5
STEP	BALIKESIR_Sava	1.44	98	IAML_P			
	comp=Z,996nm,0.1s						
STEP				*i* P	Pb	01 00 00.7	+0.4
GONE	Gonen-Balikesi	1.47	71	PN	Pb	01 00 00.2	-0.6
BLCB	Balcova	1.51	142	PN	Pn	00 59 59.8	-0.4
BALB	Balikesir	1.55	87	PN	Pn	01 00 00.6	-0.2
RDO	Rodhopi	1.58	351	PN	Pn	00 59 59.7	-1.5
RDO	Rodhopi	1.58	351	P	Pn	01 00 01.5	+0.3
RDO	Rodhopi	1.58	351	P	Pn	01 00 01.6	+0.4
RDO				S	Sn	01 00 20.4	-1.0
AOS	Alonnisos	1.60	256	P	Pn	01 00 01.7	+0.3
OUR	Ouranopolis	1.64	298	PN	Pn	01 00 01.0	-1.0
OUR	Ouranopolis	1.64	298	P	Pn	01 00 02.5	+0.6
EDC	Edincik	1.71	63	PN	Pn	01 00 03.4	+0.4
SBT4	Kumbag-Tekirda	1.78	45	PN	Pn	01 00 03.8	0.0
DURS	Dursunbey	2.01	89	*i* P	Pn	01 00 08.1	+0.9
SMG	Samos	2.02	158	P	Pn	01 00 07.8	+0.5
PLG	Polygyros	2.02	294	P	Pn	01 00 08.3	+0.9
CRLT	Corlu	2.10	42	PN	Pn	01 00 08.5	+0.2
AYDB	Zeytinkoy-Aydi	2.27	135	PN	Pn	01 00 11.3	+0.4
SRS	Serrai	2.32	312	P	Pn	01 00 12.5	+1.1
NVR	Nevrokopi	2.34	320	P	Pn	01 00 12.2	+0.5
EDRB	Edirne	2.35	16	PN	Pn	01 00 12.1	+0.2
KULA	Kula-Manisa	2.42	115	PN	Pn	01 00 13.2	+0.4
SLVT	Silivri	2.42	47	PN	Pn	01 00 13.6	+0.8
MDNY	Mudanya-Bursa	2.44	70	PN	Pn	01 00 13.6	+0.6
SIMA	Simav-Kutahya	2.46	101	PN	Pn	01 00 14.4	+1.0
ARMT	Armutlu	2.49	66	PN	Pn	01 00 14.8	+1.0
SBT5	Esenkoy-Cinarc	2.53	65	PN	Pn	01 00 15.6	+1.4
CTKS	Kestanelik-??a	2.60	50	PN	Pn	01 00 15.6	+0.4

*SOME **02** 01:07:17.9, 40°.82N×68°.93E, h5km*
*NNC **02** 01:07:17.2±1.5, 41°.09N×68°.30E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=12.0km s-min=9.9km az=4.0*
ISC 02 01:07:16.5±2.4**, 40°.98N**±0°.07×**68°.54E**±0°.08**, h3**km±13km**,**
n19, σ2.88/30**, 7C-6D, Southeastern Uzbekistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHM	Chimkent	1.56	31	*e*P	Pg	01 07 47.2	+0.9
	54nm,0.2s						
CHM				*e*S	Sg	01 08 08.5	+2.0
	1μm,0.4s						
IUG	Iuzhnay	1.61	43	P	Pg	01 07 48.0	+0.5
	71nm,0.2s						
IUG				S	Sg	01 08 10.8	+2.4
	359nm,0.3s						
IUG	Iuzhnay	1.61	43	*e*P	Pg	01 07 48.1	+0.7
	22nm,0.2s						
IUG				*e*S	Sg	01 08 10.0	+1.6
	359nm,0.3s						
BRLS	Borolday	2.26	25	Pg	Pn	01 07 54.1	-0.7
	0.8nm,0.2s						
BRLS				Lg	Lg	01 08 20.3	
	58nm,0.3s						
BRLS	Borolday	2.26	25	*e*P	Pn	01 07 54.1	-0.7
	0.8nm,0.2s						
BRLS				*e*S	Sn	01 08 20.3	-2.9
	58nm,0.3s						
KK31	Karatay Array	2.58	34	⇑Pn	Pn	01 07 59.9	+0.8
	0.2nm,0.3s,baz=229,slow=16,SNR=225						
KK31				⇑Pg	Pg	01 08 05.7	-0.2
	3.4nm,0.3s,baz=229,slow=18,SNR=6.2						
KK31				⇑Lg	Lg	01 08 38.2	
	35nm,0.3s,baz=220,slow=29,SNR=22						
DZA	Taraz	2.83	47	*e*P	Pn	01 08 05.5	+3.0
DZA				*e*S	Sn	01 08 40.0	+2.9
SFK	Sufi-Kurgan	3.91	103	⇑Pn	Pn	01 08 21.5	+3.9
	0.6nm,0.4s						
SFK				⇑Lg	Lg	01 09 29.7	
	10nm,0.6s						
SFK	Sufi-Kurgan	3.91	103	Pg	Pb	01 08 26.1	-0.1
	1.7nm,0.1s						
SFK				Lg	Lg	01 09 15.4	
	5.1nm,0.3s						
MRKS	Merke	3.92	62	Pg	Pb	01 08 27.9	+1.7
	5.8nm,0.4s						
MRKS				Lg	Lg	01 09 18.9	
	24nm,0.4s						
MRKS	Merke	3.92	62	*e*P	Pg	01 08 30.5	-1.1
	2.6nm,0.2s						
MRKS				*e*S	Sg	01 09 22.2	-0.2
	24nm,0.4s						
AAK	Ala-Archa	4.75	68	⇓Pn	Pn	01 08 31.9	+2.8
	4.6nm,1.1s						
AAK				⇓Lg	Lg	01 09 49.4	
	4.0nm,0.5s						
TKM2	Tokmak 2	5.61	67	⇓Pg	Pg	01 09 00.9	-3.0
	4.9nm,1.1s						
TKM2				⇓Lg	Lg	01 10 18.0	
	8.9nm,0.9s						
BTLS	Baital	5.72	43	*e*P	Pb	01 09 01.9	+5.0
	1.0nm,0.2s						
BTLS				*e*S	Sg	01 10 17.3	-2.9
	3.8nm,0.5s						
DGS	Degeres	5.83	65	*e*P	Pg	01 09 04.1	-4.1
	1.1nm,0.6s						
DGS				*e*S	Sg	01 10 20.3	-3.5
	11nm,0.8s						
KST	Kastek	5.90	67	*e*P	Pg	01 09 05.8	-3.8
	9.2nm,2.3s						
KST				*e*S	Sg	01 10 23.7	-2.3
	12nm,0.7s						
KUU	Kurty	6.46	61	*e*P	Pb	01 09 14.3	+4.7
	2.4nm,1.6s						
KUU				*e*S	Sg	01 10 37.5	-6.5
	8.4nm,0.6s						
AB31	Akbulak array	10.26	327	⇑Pn	Pn	01 09 40.8	-3.6
	0.4nm,0.4s,baz=135,slow=15,SNR=37						
AB31				⇑Sn	Sn	01 11 36.3	-3.5
	1.0nm,0.6s,baz=154,slow=23,SNR=3.1						
AKTO	Aktyubinsk	11.96	326	⇓Pn	Pn	01 10 08.1	+0.3
	0.7nm,0.7s						
AKTO				⇓Sn	Sn	01 12 19.4	-2.3
	1.0nm,0.8s						

*ISCJB **02** 01:18:08.1±0.9, 14°.08N±0°.07×92°.10W±0°.05, h49km±10km, mb4.0/4, MS3.0/2, Error ellipse: s-maj=13.4km s-min=4.3km az=36.2*
*MEX **02** 01:18:08.9±0.9, 14°.14N×91°.77W, h24km±327km, MD4.0*
*UCR **02** 01:18:09.9±1.8, 13°.98N×91°.93W, h20km±15km, MD3.8, ML3.5*
*IDC **02** 01:18:11.1±2.3, 14°.14N×92°.04W, h60km±17km, mb3.7/4, mb1 4.0/7, mb1mx3.5/32, mbtmp3.9/7, MS2.9/4, Ms1 2.9/4, ms1mx2.7/34, Error ellipse: s-maj=23.8km s-min=10.0km az=17.0*
ISC 02 01:18:09.7±1.6**, 14°.14N**±0°.10×**92°.08W**±0°.08**, h46**km±15km**,**
n29, σ1.17/42**, mb4.0**/4**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.79	347	*e*P	Pn	01 18 23.6	-0.9
THIG				*i* S	Sn	01 18 34.4	-0.8
FUG	Fuego 3	1.24	75	*e*P	Pn	01 18 30.4	-0.4
PCG	Pacaya	1.45	80	*e*P	Pn	01 18 33.9	+0.2
PCG				*e*S	Sn	01 18 52.9	+1.3
IXG	Ixpaco	1.57	88	*e*P	Pn	01 18 34.2	-1.1
IXG				*e*P	Pn	01 18 35.2	-0.1
NBG	Las Nubes	1.74	75	*e*P	Pn	01 18 39.2	+1.5
APG	El Apazote	1.78	61	P	Pn	01 18 38.4	+0.1
	18nm,0.3s,baz=200,slow=15,SNR=125						
APG				S	Sn	01 19 01.1	+1.3
	184nm,0.3s,baz=111,slow=14,SNR=48						
APG				LR	LR	01 19 20.2	
	comp=Z,327nm,21.5s,baz=188,slow=40						
CCIG	Comitan	2.14	358	*i* P	Pn	01 18 40.5	-2.5
CCIG				*e*P	Pn	01 18 44.2	+1.2
CCIG				*e*S	Sn	01 19 07.3	-1.1
RTR	El Retiro	2.37	95	*e*P	Pn	01 18 45.8	-0.5
CEVE	Cerro Verde	2.40	97	*e*P	Pn	01 18 45.9	-0.8
CEVE				*e*S	Sn	01 19 14.9	-0.1
SBLS	San Blas	2.40	97	*e*P	Pn	01 18 46.1	-0.6
SBLS				*e*S	Sn	01 19 13.9	-1.2
SNJE	San Jose	2.41	96	*e*P	Pn	01 18 46.5	-0.3
CEDA	San Andres	2.62	97	*e*P	Pn	01 18 49.5	-0.1
CEDA				*e*S	Sn	01 19 19.7	-0.6
BOQS	Boqueron	2.74	98	*e*P	Pn	01 18 51.3	-0.2
BOQS				*e*S	Sn	01 19 24.5	+1.0
SNET	Serv Nac Est T	2.80	99	*e*P	Pn	01 18 52.0	0.0
SNET				*e*S	Sn	01 19 23.5	-1.1
LOMA	San Marcos	2.86	99	*e*P	Pn	01 18 53.0	+0.2
LOMA				IAML		01 19 41.1	
	comp=Z,656nm,0.4s						
LFU	La Fuente	2.90	97	*e*P	Pn	01 18 53.4	0.0
LBRS	Las Brisas	2.97	97	*e*P	Pn	01 18 54.2	-0.2
LFRS	El Faro	2.97	99	*e*P	Pn	01 18 54.4	-0.1
LFRS				*e*S	Sn	01 19 27.4	-1.5
CMIG	Matias Romero	3.99	318	P	Pn	01 19 08.2	-0.2
	comp=Z,6.0nm,0.3s,baz=132,slow=11,SNR=56						
CMIG				S	Sn	01 19 56.9	+2.9
	comp=Z,20nm,0.3s,baz=61,slow=19,SNR=3.5						
LCND	La Caada	4.15	101	*e*P	Pn	01 19 09.1	-1.5
LCND				IAML		01 20 16.6	
	comp=Z,224nm,0.4s						
JTS	JuntasAbangare	7.94	118	P	Pn	01 20 02.5	-0.1
	comp=Z,0.4nm,0.3s,baz=13,slow=19,SNR=4.4						
JTS				S	Sn	01 21 33.9	+2.7
	comp=Z,0.2nm,0.3s,baz=12,slow=20,SNR=1.8						
JTS				LR	LR	01 22 09.6	
	comp=Z,36nm,21.4s,baz=10,slow=30						
TXAR	Lajitas Array	18.54	327	P	Pn	01 22 23.9	+0.7
	comp=Z,0.1nm,0.3s,baz=150,slow=11,SNR=20						
TXAR				LR	LR	01 29 08.9	
	comp=Z,37nm,20.6s,baz=0.0,slow=35						
SDV	Santo Domingo	21.64	102	LR	LR	01 31 35.9	
	comp=Z,61nm,19.4s,baz=282,slow=37						
TKL	Tuckaleechee C	22.70	18	LR	LR	01 31 48.3	
	comp=Z,59nm,20.1s,baz=246,slow=36						
ANMO	Albuquerque	24.45	330	P	P	01 23 25.4	+1.0
	comp=Z,2.3nm,0.7s,baz=143,slow=11,SNR=12						
NVAR	Mina Array Bea	33.52	321	P	P	01 24 47.0	+1.8
	comp=Z,2.7nm,0.7s,baz=132,slow=9.0,SNR=16						
YKA	Yellowknife Ar	50.88	347	P	P	01 27 03.9	-1.8
	comp=Z,0.6nm,0.5s,baz=150,slow=7.4,SNR=37						
YKA				PcP	PcP	01 28 21.3	-0.4
	comp=Z,0.3nm,0.8s,baz=147,slow=3.3,SNR=5.1						
ILAR	Eielson Array	62.69	337	P	P	01 28 29.1	-0.4
	comp=Z,1.2nm,0.9s,baz=118,slow=4.4,SNR=9.4						
CMAR	Chiang Mai Arr	145.84	341	PKPbc	PKPdf	01 37 44.0	-0.4
	comp=Z,2.7nm,0.8s,baz=340,slow=4.1,SNR=14						

MAN 02 01:40:41.9, 11°.62N×125°.43E, h24km, mb4.4, ML3.2, MS2.9, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.02	154	*e*P	Pb	01 40 47.2	+1.1
BESP				*e*S	Sb	01 40 51.3	+2.5
PLP	Palo	0.63	224	⇓*i*P	Pb	01 40 54.1	-0.3
PLP				*e*S	Sn	01 41 05.5	+0.8
CNP	Catarman	1.16	320	*e*P	Pn	01 41 01.6	-1.0
CNP				*e*S	Sn	01 41 14.5	-3.1
MSLP	Maasin	1.58	201	*e*P	Pb	01 41 10.0	-0.5
MSLP				*e*S	Sb	01 41 29.7	-0.3
RCP	Roxas	2.63	269	⇑*e*P	Pn	01 41 25.3	+2.4

DJA 02 01:58:50.3±0.6**, 8°S**±10°×**12°1E**±°**, h10**km**, M4.3**/6**, MLv4.3**/6**, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	Ende, Flores	0.48	138	P	Pg	01 58 58.9	-0.9
MMRI	Maumere	0.90	106	P	Pg	01 59 05.3	-2.4
BASI	Baing, Sumba	1.98	203	P	Pn	01 59 23.4	-0.4
BATI	Baumata	2.90	129	P	Pn	01 59 39.3	+2.7
SOEI	Soe	3.18	116	P	Pn	01 59 42.0	+1.5
BKSI	Bulukumba	3.29	338	P	Pg	02 00 00.6	+7.3
PLAI	Plampang	3.57	263	P	Pn	01 59 46.0	+0.2
JAGI	Jajag, Banyuwa	7.13	269	P	Pn	02 00 26.0	-8.8

MAN 02 02:00:11.1, 7°.92N×126°.62E, h40km, mb4.7, ML3.5, MS3.4, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.37	316	⇑*i*P	Pn	02 00 21.2	+1.0
BIPH				*i* S	Sn	02 00 27.3	+0.9
BUTP	Butuan	1.44	317	*e*P	Pn	02 00 35.0	+0.4
BUTP				*e*S	Sn	02 00 53.1	+0.8
BUKP	Musuan	1.54	269	*e*P	Pn	02 00 37.6	+1.4
BUKP				*e*S	Sn	02 00 56.1	+1.1
CGP	Cagayan de Oro	1.98	286	⇑*e*P	Pn	02 00 43.4	+1.3
CGP				*i* S	Sn	02 01 06.3	+0.7
SKMP	Bagumbayan, Su	2.48	236	*e*P	Pn	02 00 49.3	+0.2
SKMP				*e*S	Sn	02 01 27.3	+9.2
DCPH	Dipolog City	3.30	282	⇓*e*P	Sn	02 01 40.7	+2.4

*MOS **02** 02:00:19.5±1.1, 2°.76S×101°.28E, h42km, mb5.1/44, Error ellipse: s-maj=12.1km s-min=5.3km az=119.1*
*BJI **02** 02:00:20.2, 2°.90S×101°.10E, h41km, mb4.7/42, mB5.1/31, Ms4.4/17, Ms7 4.2/17*
*DJA **02** 02:00:20.6±0.6, 3°S±3°×10°1E±°, h13km±5km, M5.0/19, mb5.1/17, mB5.2/7, MLv5.3/19, Mw(mB)4.5/7*
*NEIC **02** 02:00:21.6±0.5, 2°.90S×101°.17E, h49km±4km, mb4.9/51, Error ellipse: s-maj=6.7km s-min=3.3km az=48.0*
*KLM **02** 02:00:21.8, 3°.08S×100°.90E, h60km, mb5.0*
*IDC **02** 02:00:22.3±1.4, 2°.94S×101°.12E, h57km±12km, mb4.3/30, mb1 4.4/32, mb1mx4.3/50, mbtmp4.6/32, MS3.8/31, Ms1 3.8/31, ms1mx3.8/45, Error ellipse: s-maj=14.3km s-min=9.6km az=50.0*
*ISCJB **02** 02:00:22.4±0.4, 2°.92S±0°.03×101°.19E±0°.03, h70km±3km, mb4.7/106, Error ellipse: s-maj=6.0km s-min=3.0km az=141.6*
ISC 02 02:00:22.1±0.5**, 2°.99S**±0°.04×**101°.07E**±0°.04**, h55**km±4km**,**
h55km:pP-P, n378, σ1.66/395**, mb4.8**/120**, MS3.9**/38**, 24C-14D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	Kerinci	0.97	24	P	Pn	02 00 39.9	+0.2
PPSI	Pulau Pagai	1.08	282	P	Pn	02 00 40.9	-0.2
MASI	Maura Aman, Be	1.18	97	P	Pn	02 00 42.7	+0.4
SDSI	Sungai Dareh	2.08	10	P	Pn	02 00 55.5	+1.0
PDSI	Padang	2.15	344	P	Pn	02 00 55.6	0.0
MNAI	Manna	2.32	126	*e*Pn	Pn	02 00 58.6	+0.7
MNAI				*e*Sn	Sn	02 01 24.7	-0.6
MNAI	Manna	2.32	126	P	Pn	02 00 58.0	+0.1
SISI	Saibi	2.58	310	P	Pn	02 01 01.1	-0.3
PPI	Padang Panjang	2.61	345	P	Pn	02 01 02.9	+1.1
JMBI	JAMBI	2.90	62	P	Pn	02 01 06.9	+1.1
BKNI	Bangkinang	3.29	359	*e*Pn	Pn	02 01 12.6	+1.3
BKNI				*e*Sn	Sn	02 01 45.2	-4.0
BKNI	Bangkinang	3.29	359	P	Pn	02 01 12.9	+1.7
MDSI	Maura Dua	3.44	116	P	Pn	02 01 15.0	+1.9
LWLI	Liwa	3.60	124	P	Pn	02 01 17.5	+2.1
PMBI	Palembang	3.69	89	P	Pn	02 01 27.3	+11
MNSI	Mandailing Nat	4.05	338	P	Pn	02 01 21.9	+0.4
KLI	Kotabumi	4.21	116	P	Pn	02 01 28.1	+4.4
KLI	Kotabumi	4.21	116	P	Pn	02 01 28.4	+4.7
KASI	Kota Agung	4.24	126	P	Pn	02 01 25.3	+1.1
BLSI	Bandar Lampung	4.79	120	P	Pn	02 01 36.5	+4.8
TPRI	Tanjung Pinang	5.20	42	P	Pn	02 01 38.9	+1.6
	496nm,0.7s,5.0nm						
KGM	Kluang	5.46	24	P	Pn	02 01 42.9	+2.1
MYKOM	Kota Tinggi	5.50	30	*e*Pn	Pn	02 01 43.3	+1.8
MYKOM				*e*Sn	Sn	02 02 41.2	-2.3
MYKOM	Kota Tinggi	5.50	30	P	Pn	02 01 43.6	+2.1
GSI	Gunungsitoli	5.51	321	*e*Pn	Pn	02 01 40.5	-1.2
GSI				*e*Sn	Sn	02 02 41.4	-2.5
GSI	Gunungsitoli	5.51	321	P	Pn	02 01 40.4	-1.3
	225nm,1.3s,4μm3.1nm						
CGJI	Cibinong	5.84	128	P	Pn	02 01 45.5	-0.7
	197nm,0.8s,4μm						
SBJI	Serang	5.92	122	P	Pn	02 01 55.4	+8.1
PSI	Prapat	6.14	340	P	Pn	02 01 47.1	-3.2
	4.2nm,0.3s,baz=180,slow=5.9,SNR=14						
PSI				S	Sn	02 03 04.5	+5.1
	baz=180,slow=18,SNR=2.6						
PSI				LR	LR	02 04 37.3	
	comp=Z,2μm,20.2s,baz=91,slow=42						
PSI	Prapat	6.14	340	*e*Pn	Pn	02 01 48.0	-2.4
PSI				*e*Sn	Sn	02 02 55.5	-3.8
PSI	Prapat	6.14	340	*e*P	Pn	02 01 48.0	-2.4
PSI				*e*		02 02 55.6	
FRIM	Kepong	6.21	5	P	Pn	02 01 53.6	+2.4
TSI	Tuntungan	6.92	339	P	Pn	02 02 09.4	+8.5
KCSI	Kotacane, Aceh	7.26	333	P	Pn	02 02 14.5	+8.8
IPM	Ipoh	7.42	360	*e*Pn	Pn	02 02 09.7	+1.9
IPM				*e*Sn	Sn	02 03 32.3	+1.6
LEM	Lembang	7.55	121	P	Pn	02 02 09.2	-0.6
	4.1nm,0.3s,baz=300,slow=20,SNR=1.7						
LEM				S	Sn	02 03 43.9	+10
	6.2nm,0.3s,baz=330,slow=20,SNR=2.5						
LEM				LR	LR	02 05 28.8	
	comp=Z,714nm,18.8s,baz=264,slow=41						
CISI	Cisompet, Garu	8.10	124	*e*Pn	Pn	02 02 16.2	-1.0
CISI				*e*Sn	Sn	02 03 40.1	-7.3
CISI	Cisompet, Garu	8.10	124	P	Pn	02 02 17.9	+0.7
	121nm,0.4s,10μm1.2nm						
KULM	Kulim	8.24	357	*e*Pn	Pn	02 02 21.6	+2.6
KULM				*e*Sn	Sn	02 03 46.3	-4.3
XMIS	Christmas Isla	8.72	149	*e*Pn	Pn	02 02 19.2	-6.5
XMIS				*e*Sn	Sn	02 03 52.3	-10
CMJI	Cimerak	8.75	123	P	Pn	02 02 37.1	+11
KPJI	Karang Pucung	8.94	119	P	Pn	02 02 31.7	+3.1
	115nm,0.7s						
COCO	West Island	10.06	204	*e*Pn	Pn	02 02 40.5	-3.4
COCO	West Island	10.06	204	*e*P	Pn	02 02 40.5	-3.4
SMRI	Semarang	10.16	114	*e*Pn	Pn	02 02 46.2	+0.8
SMRI	Semarang	10.16	114	P	Pn	02 02 48.3	+2.9
	119nm,0.7s						
UGM	Wanagama	10.60	118	*e*Pn	Pn	02 02 49.0	-2.3
UGM				*e*Sn	Sn	02 04 48.6	-0.1
TRTT	Trang	10.84	353	P	Pn	02 02 59.6	+4.9
	14nm,0.9s						
WOJI	Wonogiri, Jawa	10.92	117	P	Pn	02 02 58.4	+2.6
	41nm,1.6s						
KRAB	Krabi	11.29	350	P	Pn	02 03 06.0	+5.2
	33nm,0.5s						
PWJI	Pagerwojo	11.79	116	P	Pn	02 03 10.0	+2.4
	52nm,0.6s						
SBUM	Sibu	12.38	64	*e*Pn	Pn	02 03 13.5	-2.2
JAGI	Jajag, Banyuwa	14.10	113	*e*Pn	Pn	02 03 37.5	-1.7
JAGI				*e*Sn	Sn	02 06 10.8	-3.4
SRAK	Srakaew	16.92	3	P	P	02 04 16.0	-0.5
	87nm,1.2s,846nm						
PLAI	Plampang	17.59	110	P	P	02 04 26.8	+2.9
	107nm,0.7s						
TSM	Tawau	18.28	67	P	Pn	02 04 33.9	+2.0
SPSI	Sidrap Palu	18.69	94	P	Pn	02 04 41.5	+4.6
TTSI	Tana Toraja	18.72	91	P	Pn	02 04 42.4	+5.1
	56nm,1.0s,1μm						
CHAI	Chaiyaphum	18.79	3	P	Pn	02 04 54.5	+16
BNSI	Bone	19.05	95	P	Pn	02 04 46.9	+5.7
	102nm,1.1s						
BKSI	Bulukumba	19.14	98	P	Pn	02 04 44.8	+2.5
SKNT	Sakolnakorn	20.05	8	P	P	02 04 51.1	+0.3
	5.3nm,0.8s						
UTTA	Uttaradit	20.61	359	P	Pn	02 05 13.5	+14
NONG	Nongkai	21.02	6	P	P	02 04 59.5	-1.8
CM01	Chiang Mai Arr	21.38	354	*e*P	P	02 05 04.0	-1.2
CM31	Chiang Mai Arr	21.42	354	*e*P	P	02 05 02.8	-2.8
CMAR	Chiang Mai Arr	21.42	354	P	P	02 05 02.8	-2.8
	1.5nm,0.7s,baz=182,slow=10,SNR=8.5						
CMAR				LR	LR	02 14 14.5	
	comp=Z,301nm,19.1s,baz=177,slow=39						
CMAR	Chiang Mai Arr	21.42	354	*ce*P	P	02 05 02.2	-3.4
LAMP	Lampang	21.43	356	P	P	02 05 16.2	+11
PALK	Pallekele	22.74	297	LR	LR	02 13 01.2	
	comp=Z,319nm,21.9s,baz=115,slow=33						
QIZ	Qiongzhong	23.52	21	P	P	02 05 26.5	-0.9
QIZ				S	S	02 09 39.9	+2.5
QIZ				LR	LR		
	comp=N,370nm,13.7s						
QIZ				LR	LR		
	comp=E,320nm,20.1s						
QIZ				LR	LR		
	comp=Z,330nm,25.5s						
BATI	Baumata	23.54	109	P	P	02 05 25.8	-1.9
	9.9nm,0.3s,baz=76,slow=4.2,SNR=2.1						
BATI				S	S	02 09 31.2	-6.8
	18nm,0.6s,baz=330,slow=20,SNR=6.0						
SOEI	Soe	24.00	107	*e*P	P	02 05 32.1	+0.1
	23nm,0.9s						
MBWA	Marble Bar	25.61	136	*e*P	P	02 05 46.7	+0.2
	17nm,0.9s						
TGY	Tagaytay City	26.01	49	LR	LR	02 17 30.3	
	comp=Z,274nm,18.6s,baz=189,slow=40						
DAV	Davao City (W)	26.42	68	LR	LR	02 17 12.6	
	comp=Z,297nm,22.0s,baz=248,slow=38						
BRDH	Bariadhala	27.12	341	P	P	02 05 59.8	-0.3
	45nm,0.3s,baz=72,slow=21,SNR=3.7						
BRDH				LR	LR	02 18 01.5	
	comp=Z,211nm,20.0s,baz=190,slow=39						
KMI	Kunming	27.99	3	P	P	02 06 12.3	+4.2
KMI				pmax	pmax		
	comp=Z,22nm,0.5s						
KMI				LR	LR		
	comp=N,370nm,17.8s						
KMI				LR	LR		
	comp=E,350nm,16.0s						
KMI				LR	LR		
	comp=Z,500nm,17.8s						
FITZ	Fitzroy Crossi	28.37	124	P	P	02 06 10.7	-0.7
	5.2nm,0.6s,baz=287,slow=9.2,SNR=6.7						
FITZ				LR	LR	02 19 43.5	
	comp=Z,120nm,18.8s,baz=299,slow=41						
FITZ	Fitzroy Crossi	28.37	124	P	P	02 06 11.5	+0.2
	baz=28,SNR=9.7						
FITZ	Fitzroy Crossi	28.37	124	*e*P	P	02 06 10.7	-0.7
	19nm,1.3s						
MEEK	Meekatharra	28.91	146	P	P	02 06 17.0	+1.0
	baz=29,SNR=7.6						
KNRA	Kununurra	30.04	117	P	P	02 06 25.8	-0.3
	baz=30,SNR=4.4						
FAKI	Fak Fak	31.14	91	*e*P	P	02 06 34.5	-1.4
	16nm,1.1s						
BLDU	Ballidu	31.20	153	P	P	02 06 38.2	+2.0
	baz=32						
MUN	Mundaring	32.16	155	P	P	02 06 46.4	+1.8
	baz=32,SNR=3.5						
RAMN	Ramite	32.88	336	*e*Pn	P	02 06 52.3	+1.0
	16nm,0.6s						
NWAO	Narrogin (SRO)	33.41	155	LR	LR	02 19 19.5	
	comp=Z,387nm,21.9s,baz=189,slow=34						
NWAO	Narrogin (SRO)	33.41	155	*e*P	P	02 06 55.8	+0.2
	28nm,0.9s						
NWAO	Narrogin (SRO)	33.41	155	*e*P	P	02 06 55.8	+0.2
NWAO				pmax	pmax		
	comp=Z,28nm,0.9s						
JIRN	Jiri	33.68	336	*e*Pn	P	02 06 59.0	+0.6
	comp=Z,145nm,1.0s						
CD2	Chengdu	33.81	4	P	P	02 07 00.5	+1.4
CD2				pP	pP	02 07 11.8	-1.2
CD2				sP	sP	02 07 17.0	-2.5
CD2				S	S	02 12 23.2	+3.9
CD2				sS	sS	02 12 42.6	0.0
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,4.8s						
CD2				LR	LR		
	comp=Z,670nm,17.4s						
CD2				LR	LR		
	comp=Z,630nm,13.4s						
CD2				LR	LR		
	comp=Z,670nm,18.4s						
PKIN	Phulchoki	33.94	335	*e*Pn	P	02 07 01.2	+0.7
	comp=Z,29nm,0.9s						
H01W3	Cape Leeuwin H	33.98	161	T	T	02 43 11.6	
	baz=336,slow=76,SNR=3.2						
H01W2	Cape Leeuwin H	33.99	161	T	T	02 43 09.2	
	baz=336,slow=76,SNR=3.5						
H01W1	Cape Leeuwin H	33.99	161	T	T	02 42 56.1	
	baz=336,slow=76,SNR=5.3						
DMN	Daman	34.09	334	*e*Pn	P	02 07 02.6	+0.7
KKN	Kakani	34.17	335	*e*Pn	P	02 07 04.0	+1.5
POO	Poona	34.29	310	*e*P	P	02 07 04.0	+0.6
KOLN	Koldanda	34.91	332	*e*Pn	P	02 07 09.7	+0.8
	comp=Z,96nm,0.8s						
DANN	Dangsing	35.33	333	*e*Pn	P	02 07 13.3	+0.7
PYUN	Piuthan	35.47	332	*e*Pn	P	02 07 14.4	+0.7
	comp=Z,145nm,1.1s						
WHN	Wuhan	35.67	20	⇓P	P	02 07 20.0	+4.9
WRA	Warramunga Arr	36.57	120	P	P	02 07 22.7	-0.3
	comp=Z,6.1nm,0.4s,baz=307,slow=9.0,SNR=60						
WRA				S	S	02 12 57.7	-4.4

comp=Z,3.5nm,1.0s,baz=293,slow=16,SNR=8.5
WRA LR LR 02 24 08.3
comp=Z,92nm,19.4s,baz=290,slow=39
WR1 Warramunga Arr 36.57 120 *e*P **P 02 07 22.7 -0.3**
comp=Z,15nm,0.9s
WRAB Tennant Creek 36.58 120 *e*P **P 02 07 23.2 +0.1**
comp=Z,19nm,1.0s
WRAB Tennant Creek 36.58 120*c i*P **P 02 07 22.7 -0.4**
WRAB pmax pmax
comp=Z,11nm,0.9s
WB2 Warramunga Arr 36.58 120 *e*P **P 02 07 23.2 +0.1**
WC3 Warramunga Arr 36.61 120 *e*P **P 02 07 23.2 -0.1**
comp=Z,18nm,1.0s
XAN Xi'an 37.57 11 P **P 02 07 29.7 -1.6**
XAN pP pP 02 07 41.4 -4.0
XAN sP sP 02 07 46.1 -5.7
XAN PP **PP 02 08 57.5 -0.5**
XAN S **S 02 13 13.0 -3.8**
XAN sS ScP 02 13 33.3 +2.0
XAN pmax pmax
comp=Z,12nm,0.7s
XAN pmax pmax
comp=Z,63nm,4.3s
XAN LR LR
comp=Z,280nm,18.7s
XAN LR LR
comp=Z,290nm,19.8s
XAN LR LR
comp=Z,380nm,22.8s
FORT Forrest 37.60 140 *e*P **P 02 07 31.5 0.0**
comp=Z,17nm,0.9s
AS31 Alice Springs 37.81 126 *e*P **P 02 07 33.6 +0.1**
comp=Z,3.8nm,0.6s
AS31 *e*PcP **PcP 02 09 48.7 -0.7**
ASAR Alice Springs 37.81 126 P **P 02 07 33.7 +0.2**
comp=Z,6.4nm,0.6s,baz=303,slow=8.1,SNR=34
ASAR PcP **PcP 02 09 48.7 -0.7**
comp=Z,2.7nm,0.8s,baz=308,slow=4.0,SNR=5.1
ASAR S **S 02 13 18.1 -2.7**
comp=Z,5.4nm,1.0s,baz=299,slow=14,SNR=14
ASAR LR LR 02 25 48.9
comp=Z,88nm,19.5s,baz=294,slow=40
AS01 Alice Springs 37.84 126 *e*P **P 02 07 33.3 -0.5**
NJ2 Nanjing 38.73 24 *e*P **P 02 07 38.6 -2.4**
NJ2 pmax pmax
comp=Z,17nm,0.5s
LZH Lanzhou 38.96 4 *e*P **P 02 07 46.3 +3.2**
LZH pP pP 02 07 57.6 +0.3
LZH sP sP 02 08 03.4 -0.3
LZH *e*PP **PnPn 02 09 20.0 +3.8**
LZH pmax pmax
comp=Z,20nm,1.2s
LZH pmax pmax
comp=Z,120nm,5.8s
LZH LR LR
comp=Z,280nm,16.8s
LZH LR LR
comp=Z,210nm,16.3s
LZH LR LR
comp=Z,350nm,16.8s
JOW Kunigami 39.61 40 LR LR 02 23 21.2
comp=Z,78nm,20.7s,baz=295,slow=35
QIS Mount Isa 41.40 118 P **P 02 08 03.2 -0.2**
baz=41,SNR=6.9
GTA Gaotai 42.21 359 *e*P **P 02 08 09.9 +0.1**
GTA pP pP 02 08 21.3 -2.7
GTA sP sP 02 08 26.1 -4.2
GTA ScP **ScP 02 13 48.8 -0.5**
GTA S **S 02 14 28.1 +1.8**
GTA sS sS 02 14 47.0 -3.0
GTA SS **SS 02 17 32.3 -4.0**
GTA ScS **ScS 02 18 04.5 -2.8**
GTA pmax pmax
comp=Z,3.0nm,1.3s
GTA pmax pmax
comp=Z,100nm,7.9s
GTA LR LR
comp=Z,260nm,17.5s
GTA LR LR
comp=Z,170nm,18.1s
GTA LR LR
comp=Z,330nm,18.4s
BBOO Buckleboo 44.20 136 P **P 02 08 26.4 +0.5**
baz=44,SNR=6.9
BBOO Buckleboo 44.20 136 *e*P **P 02 08 25.6 -0.3**
comp=Z,21nm,1.1s
HHC Hu-ho-hao-te 44.67 11 *e*P **P 02 08 32.2 +2.6**
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,94nm,5.2s
NIL Nilore 44.91 327 *e*P **P 02 08 32.3 +0.7**
comp=Z,28nm,0.7s
NIL Nilore 44.91 327 *e*P **P 02 08 32.3 +0.7**
NIL pmax pmax
comp=Z,28nm,0.7s
MTSU Mount Surprise 44.94 113 P **P 02 08 31.8 -0.3**
baz=45,SNR=6.8
JNU Nakatsue 45.65 36 P **P 02 08 38.4 +0.9**
comp=Z,11nm,0.9s,baz=214,slow=7.3,SNR=4.4
JNU LR LR 02 26 55.3
comp=Z,104nm,20.4s,baz=282,slow=35
JNU Nakatsue 45.65 36 *e*P **P 02 08 37.7 +0.2**
comp=Z,46nm,1.1s
PMG Port Moresby 46.22 100 LR LR 02 29 47.8
comp=Z,118nm,20.9s,baz=19,slow=38
HTT Hallett 46.54 135 P **P 02 08 45.6 +1.2**
baz=47,SNR=11
CTA Charters Tower 47.21 115 P **P 02 08 50.3 +0.4**
comp=Z,3.3nm,0.6s,baz=284,slow=11,SNR=8.7
CTAO Charters Tower 47.21 115 *e*P **P 02 08 49.3 -0.6**
comp=Z,14nm,1.2s
CTAO Charters Tower 47.21 115 *e*P **P 02 08 49.3 -0.6**
CTAO pmax pmax
comp=Z,14nm,1.2s
KS15 Wonju Array Si 47.31 29 *e*P **P 02 08 51.1 +0.8**
KSAR Wonju Array Be 47.31 29 P **P 02 08 51.1 +0.8**
KSAR Wonju Array Be 47.31 29 P **P 02 08 51.1 +0.8**
KSRS Korea Array 47.34 29 P **P 02 08 51.1 +0.6**
comp=Z,1.5nm,0.4s,baz=221,slow=8.6,SNR=4.2
KSRS LR LR 02 30 47.6
comp=Z,83nm,18.1s,baz=249,slow=39
QLP Quilpie 47.52 124 P **P 02 08 53.1 +0.9**
baz=48,SNR=8.6
STKA Stephens Creek 47.70 132 P **P 02 08 53.9 +0.4**
comp=Z,17nm,0.7s,baz=304,slow=7.6,SNR=31
STKA LR LR 02 31 18.8
comp=Z,84nm,19.6s,baz=323,slow=39
STKA Stephens Creek 47.70 132 P **P 02 08 54.3 +0.8**
baz=48,SNR=27
STKA Stephens Creek 47.70 132 *e*P **P 02 08 54.0 +0.6**
comp=Z,5.1nm,0.8s
STKA Stephens Creek 47.70 132 *e*P **P 02 08 54.1 +0.6**
STKA pmax pmax
comp=Z,5.0nm,0.8s
KBL Kabul 47.96 324 *e*P **P 02 08 55.7 0.0**
comp=Z,5.7nm,0.8s
KBL Kabul 47.96 324 *e*P **P 02 08 55.7 0.0**
KBL pmax pmax
comp=Z,6.0nm,0.8s
WMQ Urumqi 48.13 347 *e*P **P 02 08 57.1 +0.5**
WMQ pP pP 02 09 06.4 -4.7
WMQ sP sP 02 09 14.3 -3.1
WMQ PcP **PcP 02 10 26.2 +2.7**
WMQ PP **PP 02 10 43.3 -6.1**
WMQ pmax pmax
comp=Z,78nm,1.5s
WMQ pmax pmax
comp=Z,360nm,3.6s
WMQ LR LR
comp=Z,180nm,29.5s
WMQ LR LR
comp=Z,220nm,36.1s
WMQ LR LR
comp=Z,170nm,23.1s
KSH Kashi 48.19 334 P **P 02 08 57.1 -0.1**
KSH pP pP 02 09 10.0 -1.6
KSH PP **PP 02 10 52.6 +2.5**
KSH S **S 02 15 50.8 -1.9**
KSH sS sS 02 16 14.6 -2.2
KSH ScS **ScS 02 18 46.8 +1.2**
KSH pmax pmax
comp=Z,26nm,1.1s
KSH pmax pmax
comp=Z,320nm,5.2s
KSH LR LR
comp=Z,240nm,8.3s
KSH LR LR
comp=Z,310nm,6.3s
KSH LR LR
comp=Z,190nm,10.7s
NRN Naryn 49.76 335 *e*P **P 02 09 08.0 -1.5**
comp=Z,20nm,0.9s
NRN Naryn 49.76 335 *e*P **P 02 09 08.0 -1.5**
NRN pmax pmax
comp=Z,21nm,0.9s
KDJ Kajisay 49.87 337 *e*P **P 02 09 08.2 -1.9**
comp=Z,61nm,1.0s
KDJ *es*P **pP 02 09 26.6 +2.1**
KDJ Kajisay 49.87 337 *e*P **P 02 09 08.2 -1.9**
KDJ *e**SP **pP 02 09 26.6 +2.1**
KDJ pmax pmax
comp=Z,61nm,1.0s
CMSA Cobar Meteorol 50.66 129 P **P 02 09 17.2 +1.1**
baz=51,SNR=12
SONA0 Songino Array 50.83 5 *e*P **P 02 09 17.5 +0.3**
SONM Songino Array 50.83 5 P **P 02 09 17.5 +0.3**
comp=Z,12nm,1.1s,baz=186,slow=8.4,SNR=34
SONM LR LR 02 33 28.1
comp=Z,150nm,18.7s,baz=184,slow=39
SONA1 Songino Array 50.84 5 *e*P **P 02 09 17.6 +0.2**
ARSB Arslanbob 50.99 333 *e*P **P 02 09 20.0 +1.4**
comp=Z,71nm,1.0s
BTK Batken 51.03 330 *e*P **P 02 09 20.3 +1.4**
comp=Z,15nm,1.3s
BTK Batken 51.03 330 *e*P **P 02 09 20.3 +1.4**
BTK pmax pmax
comp=Z,15nm,1.3s
AAK Ala-Archa 51.39 335 *e*P **P 02 09 23.3 +1.7**
comp=Z,14nm,0.9s
AAK Ala-Archa 51.39 335⇑*e*P **P 02 09 21.9 +0.4**
AAK pmax pmax
comp=Z,8.0nm,1.5s
FRU1 Bishkek 51.47 335 *e*pP pP 02 09 34.4 -2.1
CN2 Changchun 51.47 22 *e*P **P 02 09 21.6 -0.3**
CN2 *e*pP pP 02 09 34.1 -2.5
CN2 *e*S **S 02 16 37.8 -0.3**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
MK01 Makanchi Array 52.24 344 *e*P **P 02 09 27.3 -0.4**
MK31 Makanchi Array 52.27 344 *e*P **P 02 09 27.1 -0.8**
MK31 Makanchi Array 52.27 344 *e*P **P 02 09 27.1 -0.8**
MK32 Makanchi Array 52.27 344 *e*P **P 02 09 27.4 -0.5**
MKAR Makanchi Array 52.27 344 P **P 02 09 27.4 -0.5**
comp=Z,4.1nm,0.6s,baz=159,slow=8.6,SNR=52
MKAR LR LR 02 37 21.5
comp=Z,77nm,18.8s,baz=152,slow=42
MKAR Makanchi Array 52.27 344 *e*P **P 02 09 27.1 -0.8**
comp=Z,44nm,0.8s
MKAR Makanchi Array 52.27 344*ce*P **P 02 09 28.0 +0.1**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MAKZ Makanchi 52.37 344 *e*P **P 02 09 27.9 -0.7**
comp=Z,8.8nm,1.1s
MAKZ Makanchi 52.37 344 *e*P **P 02 09 27.9 -0.7**
MAKZ pmax pmax
comp=Z,9.0nm,1.1s
MAJO Matsushiro 52.38 38 *e*P **P 02 09 27.9 -1.0**
MAJO Matsushiro 52.38 38⇓*e*P **P 02 09 26.0 -2.9**
MAJO pmax pmax
comp=Z,31nm,1.9s
MAT Matsushiro 52.38 38 P **P 02 09 30.9 +2.0**
MJAR Matsushiro Arr 52.38 38 P **P 02 09 27.9 -1.0**
comp=Z,3.7nm,0.9s,baz=220,slow=7.7,SNR=8.2
MJAR LR LR 02 33 20.1
comp=Z,39nm,18.4s,baz=195,slow=38
EIDS Eidsvold 52.94 120 P **P 02 09 33.0 -0.2**
baz=53,SNR=4.0
EIDS Eidsvold 52.94 120 *e*P **P 02 09 32.7 -0.5**
comp=Z,27nm,1.4s
ZAK Zakamensk 53.20 2 *e*P **P 02 09 33.8 -1.0**
ZAK pmax pmax
comp=Z,3.0nm,1.1s
KK31 Karatay Array 53.52 332 *e*P **P 02 09 37.5 +0.3**
KK31 Karatay Array 53.52 332 *e*P **P 02 09 37.5 +0.3**
KKAR Karatay Array 53.52 332 *e*P **P 02 09 37.5 +0.3**
KKAR Karatay Array 53.52 332 *e*P **P 02 09 37.5 +0.3**
DGZ Jazzator, Alta 53.79 349*c i*P **P 02 09 39.4 +0.2**
DGZ pmax pmax
comp=Z,11nm,0.7s
MOY Mondy 54.45 360 *e*P **P 02 09 44.0 +0.1**
USA0B Ussuriysk Arra 54.53 27 *e*P **P 02 09 45.6 +1.1**
comp=Z,29nm,0.8s
USRK Ussuriysk Ar. 54.53 27 P **P 02 09 44.5 0.0**
comp=Z,14nm,0.6s,baz=227,slow=7.9,SNR=21
USRK LR LR 02 36 03.4
comp=Z,115nm,18.2s,baz=202,slow=39
CAN Canberra 54.76 132 *e*P **P 02 09 46.1 -0.3**
comp=Z,24nm,1.0s
CAN Canberra 54.76 132 *e*P **P 02 09 46.1 -0.3**
CAN pmax pmax
comp=Z,25nm,1.0s
KURK Kurchatov 56.86 343 *e*P **P 02 10 00.7 -0.3**
comp=Z,24nm,0.8s
KURK Kurchatov 56.86 343*ce*P **P 02 10 00.9 -0.1**
KURK pmax pmax
comp=Z,15nm,1.3s
GEYT Alibeck 56.89 320 P **P 02 10 01.9 +0.3**
comp=Z,48nm,0.7s,baz=134,slow=6.4,SNR=7.4
GEYT LR LR 02 36 39.2
comp=Z,104nm,19.9s,baz=100,slow=38
ZAA0 Zalesovo Array 58.34 349 *e*P **P 02 10 10.9 -0.4**
comp=Z,44nm,1.2s
ZALV Zalesovo Beam 58.34 349 P **P 02 10 10.9 -0.5**
comp=Z,17nm,0.9s,baz=160,slow=4.7,SNR=62
ZALV LR LR 02 37 05.0
comp=Z,106nm,21.0s,baz=71,slow=38
ZALV Zalesovo Beam 58.34 349 *i* P **P 02 10 10.8 -0.6**
ZALV pmax pmax
comp=Z,17nm,0.9s
ZAA1 Zalesovo Array 58.34 349 *e*P **P 02 10 10.9 -0.5**
KLR Kul'dur 58.41 23 P **P 02 10 11.6 -0.3**
comp=Z,1.9nm,0.7s,baz=228,slow=3.4,SNR=6.1
KLR Kul'dur 58.41 23⇓*e*P **P 02 10 11.1 -0.8**
DAMY Dhamar 58.79 289 *e*P **P 02 10 16.7 +1.1**
comp=Z,42nm,1.1s
NVS Novosibirsk 59.49 348 *e*P **P 02 10 18.7 -0.6**
NVS *e*S **S 02 18 23.3 -1.4**
NVS pmax pmax
comp=N,14nm,1.3s
NVS pmax pmax
comp=E,7.0nm,1.3s
NVS pmax pmax
comp=Z,18nm,1.3s
NVS smax smax
comp=N,15nm,1.9s
NVS smax smax
comp=E,25nm,1.9s
ASAJ Asahikawa 59.83 34 P **P 02 10 22.0 +0.1**
comp=E,5.5nm,0.4s,baz=225,slow=9.8,SNR=11
ASAJ Asahikawa 59.83 34 *e*P **P 02 10 22.0 +0.1**
comp=E,54nm,1.4s
RAYN Ar Rayn 60.15 299 *e*P **P 02 10 25.4 +0.8**
comp=E,3.5nm,0.9s
RAYN Ar Rayn 60.15 299 *e*P **P 02 10 25.4 +0.8**
RAYN pmax pmax
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 61.48 339 P **P 02 10 32.3 -0.7**
comp=Z,2.5nm,0.5s,baz=142,slow=9.3,SNR=5.6
BOD Bodaibo 61.50 8 *e*P **P 02 10 32.2 -0.8**
BOD pmax pmax
comp=Z,10.0nm,1.4s
BRVK Borovoye 61.54 339 *e*P **P 02 10 32.8 -0.6**
comp=Z,15nm,0.8s
BRVK Borovoye 61.54 339⇓*e*P **P 02 10 33.1 -0.3**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
YSS Yuzh-Sakhalins 61.76 31 *e*P **P 02 10 34.2 -0.7**
YSS *e* 02 10 48.2
YSS *e* 02 18 48.5
ABKAR Akbulak array 63.02 331 *e*P **P 02 10 43.1 -0.2**
KMBO Kilima Mbogo 63.80 270 P **P 02 10 49.5 0.0**
comp=Z,3.4nm,0.6s,baz=62,slow=9.1,SNR=9.3
KMBO LR LR 02 34 18.3
comp=Z,95nm,19.7s,baz=88,slow=32
KMBO Kilima Mbogo 63.80 270 *e*P **P 02 10 49.5 0.0**
comp=Z,8.3nm,1.2s
KMBO Kilima Mbogo 63.80 270*ce*P **P 02 10 50.9 +1.4**
KMBO pmax pmax
comp=Z,3.0nm,0.6s
GNI Garni 66.98 316⇑*e*P **P 02 11 11.9 +2.4**
GNI pmax pmax
comp=Z,49nm,1.4s
GROC Groznyy 67.63 319 *e*P **P 02 11 11.6 -1.7**
GROC *e* 02 11 35.2
GROC *e* 02 13 40.5
GROC pmax pmax
comp=Z,25nm,1.3s
SVE Sverdlovsk 68.00 337 *e*P **P 02 11 15.9 +0.6**
SVE pmax pmax
comp=Z,45nm,0.9s
YAK Yakutsk 68.43 14 *e*P **P 02 11 16.2 -1.7**
YAK pmax pmax
comp=Z,18nm,1.1s
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=E,11nm,1.4s
ARU Arti 68.54 336 *e*P **P 02 11 17.9 -0.8**
comp=E,22nm,1.0s
ARU Arti 68.54 336⇓*e*P **P 02 11 18.7 0.0**
ARU pmax pmax
comp=Z,44nm,1.4s
MAW Mawson 69.60 195 LR LR 02 34 53.4
comp=Z,208nm,20.6s,baz=12,slow=30
KBZ Khabaz 69.75 319 P **P 02 11 27.3 +0.8**
comp=Z,5.5nm,0.9s,baz=117,slow=4.6,SNR=10
KIV Kislovodsk 69.99 319 *e*P **P 02 11 28.1 0.0**
comp=Z,8.4nm,0.9s
KIV Kislovodsk 69.99 319 *i* P **P 02 11 26.5 -1.6**
KIV *i* 02 11 41.7
KIV *i* 02 14 06.7
KIV *i* S **S 02 20 39.7 +5.2**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,36nm,17.0s
LSZ Lusaka 72.71 255 *e*P **P 02 11 46.3 +1.2**
comp=Z,17nm,1.4s
PETK Petropavlovsk- 73.15 32 P **P 02 11 44.8 -2.0**
comp=Z,3.1nm,0.8s,baz=222,slow=2.5,SNR=6.1
PETK LR LR 02 43 43.4
comp=Z,42nm,21.1s,baz=226,slow=36
PEA1 Petropavlovsk- 73.15 32 *e*P **P 02 11 44.8 -2.0**
RPZ Rata Peaks 73.53 135 LR LR 02 43 22.4
comp=Z,189nm,18.4s,baz=269,slow=35
VRH Novokhopyorsk 73.74 326 *e*P **P 02 11 49.5 -0.8**
VRH pmax pmax
comp=Z,10.0nm,0.7s
BR101 Keskin Array S 74.78 312 *e*P **P 02 11 56.5 -0.3**
BR131 Keskin Array S 74.78 312 *e*P **P 02 11 56.6 -0.2**
BRTR Keskin Array B 74.78 312 P **P 02 11 56.5 -0.3**
comp=Z,3.0nm,0.7s,baz=135,slow=7.1,SNR=25
BRTR LR LR 02 48 00.8
comp=Z,20nm,18.1s,baz=92,slow=38
ILGA Ilgaz 75.11 314 *e*P **P 02 12 00.3 +1.5**
comp=Z,9.9nm,1.0s
VSR Storozhevoye 75.20 325 *e*P **P 02 11 57.5 -1.2**
VSR pmax pmax
comp=Z,20nm,1.4s
ANTO Ankara 75.44 312⇓*i*P **P 02 12 00.6 +0.1**
LBTB Lobatse 75.58 245 *e*P **P 02 12 03.4 +1.7**
comp=Z,15nm,1.1s
LPSR Galich'ya Gora 75.91 326 *e*P **P 02 12 01.8 -0.9**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
SIM Simferopol' 76.05 318 *e*P P 02 12 18.8 +15
SIM pmax pmax
comp=Z,8.0nm,0.8s
BOSA Boshof 76.12 241 P **P 02 12 05.8 +1.1**
comp=Z,8.8nm,0.6s,baz=99,slow=4.5,SNR=26
BOSA LR LR 02 41 15.0
comp=Z,54nm,18.1s,baz=62,slow=32
SEY Seymchan 76.14 22 P **P 02 12 02.9 -1.0**
comp=Z,2.8nm,0.7s,baz=156,slow=8.2,SNR=5.8
SEY Seymchan 76.14 22⇓*e*P **P 02 12 04.2 +0.3**
TIXI Tiksi 76.66 9 P **P 02 12 05.5 -1.1**
comp=Z,3.4nm,0.5s,baz=222,slow=3.7,SNR=5.7
TIXI Tiksi 76.66 9⇓*i*P **P 02 12 05.6 -1.1**
TIXI pmax pmax
comp=Z,14nm,1.4s
PRGR Permogore 77.00 336 *e*P **P 02 12 08.0 -0.7**
PRGR pmax pmax
comp=Z,15nm,0.7s
SYO Syowa Base 77.28 199⇑*e*P P 02 12 01.4 -8.8
MOS Moscow 77.89 329 *e*P **P 02 12 12.8 -1.1**
MOS *e* 02 12 22.1
MOS pmax pmax
comp=Z,18nm,0.6s
OBN Obninsk 78.20 328 *i* P **P 02 12 15.9 +0.4**
OBN *i* 02 12 26.1
OBN *i* 02 15 10.6
OBN pmax pmax
comp=Z,25nm,1.4s
KLMR Klimovskoe 79.18 334 *e*P **P 02 12 19.7 -1.2**
KLMR pmax pmax
comp=Z,15nm,1.3s
KLMR Klimovskoe 79.18 334 *e*P **P 02 12 19.7 -1.2**
KLMR AMP 02 12 22.9
comp=Z,15nm,1.3s
TIRR Tirgusor 79.81 316 *e*P **P 02 12 25.2 +0.6**
comp=Z,11nm,0.9s
TIRR *ep*P **pP 02 12 40.0 +0.1**
TIRR Tirgusor 79.81 316⇑*i*P **P 02 12 24.3 -0.3**
TIRR Tirgusor 79.81 316 *e*P **P 02 12 25.2 +0.6**
TIRR *e**PP **pP 02 12 40.0 +0.1**
TIRR pmax pmax
comp=Z,11nm,0.9s
ICOR Ion Corvin 80.15 316⇑*i*P pP 02 12 42.6 +0.8
CFR Carcaliu 80.18 317⇑*i*P **P 02 12 27.2 +0.6**
LEOM Leova 80.42 318⇑*i*P **P 02 12 28.9 +1.0**
AKASG Malin Array Be 80.92 322 P **P 02 12 29.0 -1.4**
comp=Z,1.1nm,0.8s,baz=90,slow=4.7,SNR=6.6
AKASG Malin Array Be 80.92 322 *i* P **P 02 12 31.0 +0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.8s
AKBB Malin Array Si 80.92 322 *e*P **P 02 12 29.0 -1.4**
comp=Z,3.0nm,0.8s
AKBB Malin Array Si 80.92 322 *e*P **P 02 12 29.0 -1.4**
AKBB pmax pmax
comp=Z,3.0nm,0.8s
LEHL Lehliu 80.92 316⇑*i*P **P 02 12 31.9 +1.3**
KIEV Kiev 80.93 322⇓*e*P **P 02 12 29.8 -0.7**
KIEV pmax pmax
comp=Z,3.0nm,1.1s
VNDA Vanda 80.99 169 P **P 02 12 30.2 -0.1**
comp=Z,5.6nm,1.1s,baz=293,slow=6.1,SNR=11
VNDA Vanda 80.99 169 *e*P **P 02 12 32.0 +1.6**
comp=Z,7.1nm,1.1s
VNDA Vanda 80.99 169 *e*P **P 02 12 32.0 +1.6**
VNDA pmax pmax
comp=Z,7.0nm,1.1s
VRI Vrincioaia 81.30 317⇑*i*P **P 02 12 33.9 +1.2**
PLOR Plostina 81.35 317⇑*i*P **P 02 12 34.1 +1.1**
MLR Muntele Rosu 81.75 317 *e*P **P 02 12 36.2 +1.0**
comp=Z,18nm,1.1s
MLR Muntele Rosu 81.75 317⇓*i*P **P 02 12 36.5 +1.3**
MLR Muntele Rosu 81.75 317 *e*P **P 02 12 36.2 +1.0**
MLR pmax pmax
comp=Z,18nm,1.1s
PRAR RASCA 81.98 318⇓*i*P **P 02 12 37.4 +1.2**
VOIR 82.36 316⇑*i*P **P 02 12 38.8 +0.5**
VLAD Vladila 82.51 315⇓*i*P **P 02 12 40.7 +1.7**
ARR Arges 82.63 316⇓*i*P **P 02 12 42.3 +2.6**
BURAR Bucovina Array 82.71 319⇑*i*P **P 02 12 41.8 +1.7**
BUR04 Bucovina Ar. S 82.71 319 *e*P **P 02 12 41.1 +1.0**
BUR08 Bucovina Ar. S 82.72 319 *e*P **P 02 12 41.8 +1.6**
TSUM Tsumeb 82.88 251 *e*P **P 02 12 42.9 +1.2**
comp=Z,14nm,1.1s
VTS Vitosha 83.10 313 *e*P **P 02 12 42.3 0.0**
comp=Z,11nm,1.0s
VTS *ep*P **PcP 02 12 51.9 +5.0**
VTS Vitosha 83.10 313⇑*i*P **P 02 12 42.6 +0.3**
VTS Vitosha 83.10 313 *e*P **P 02 12 42.3 0.0**
VTS *e**PP **PcP 02 12 51.9 +5.0**
VTS pmax pmax
comp=Z,11nm,1.0s
LIT Litokhoron 83.20 311 *e*P **P 02 12 42.7 0.0**
comp=Z,14nm,0.7s
LIT Litokhoron 83.20 311 *e*P **P 02 12 42.7 0.0**
LIT pmax pmax
comp=Z,14nm,0.7s
CJR Cluj-Napoca 83.60 317⇑*i*P **P 02 12 46.3 +1.6**
BILL Bilibino 83.71 20⇑*e*P **P 02 12 44.0 -0.7**
BILL pmax pmax

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,14nm,1.9s						
DRGR		84.22	317	⇑iP	P	02 12 47.8	0.0
MDVR	Moldovita	84.55	315	⇑iP	P	02 12 50.5	+0.9
TRPA	Tarpa	84.58	319	⇓iP	P	02 12 50.9	+1.4
SUW	Suwalki	85.31	325	eP	P	02 12 53.2	+0.2
	comp=Z,23nm,0.7s						
SUW	Suwalki	85.31	325	eP	P	02 12 53.2	+0.2
SUW				pmax	pmax		
	comp=Z,23nm,0.7s						
FIA0	FINESS Array S	85.48	332	eP	P	02 12 54.0	+0.3
FIA0	FINESS Array S	85.48	332	eP	P	02 12 54.0	+0.3
FINES	FINESS Array B	85.48	332	P	P	02 12 54.0	+0.3
	comp=Z,0.7nm,0.4s,baz=116,slow=6.3,SNR=15						
FINES				LR	LR	02 55 08.2	
	comp=Z,64nm,18.1s,baz=100,slow=38						
FINES	FINESS Array B	85.48	332	i P	P	02 12 54.2	+0.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
DIVS	Divibare	85.66	314	eP	P	02 12 55.9	+0.8
	comp=Z,10nm,1.3s						
QSPA	South Pole Qui	86.98	180	eP	P	02 13 02.7	+1.5
	comp=Z,9.5nm,1.1s						
VYHS	Vyhne	87.07	319	eP	P	02 13 02.9	+1.0
VYHS	Vyhne	87.07	319	eP	P	02 13 02.9	+1.0
OKC	Ostrava-Krasne	87.70	320	eP	P	02 13 04.8	-0.1
OKC				epP	pP	02 13 18.3	-2.1
OKC	Ostrava-Krasne	87.70	320	eP	P	02 13 04.8	-0.1
OKC				e		02 13 18.3	
ARA0	ARCESS Array S	87.76	340	eP	P	02 13 05.0	+0.3
ARCES	ARCESS Array B	87.76	340	P	P	02 13 05.0	+0.3
	comp=Z,2.1nm,0.8s,baz=101,slow=6.6,SNR=11						
JAVC	Velka Javorina	87.89	319	eP	P	02 13 07.5	+1.6
MORC	Moravsky Berou	88.08	320	eP	P	02 13 07.3	+0.6
	comp=Z,6.3nm,1.2s						
MORC	Moravsky Berou	88.08	320	⇑iP	P	02 13 07.7	+1.0
MORC	Moravsky Berou	88.08	320	eP	P	02 13 07.3	+0.6
MORC				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MORC	Moravsky Berou	88.08	320	eP	P	02 13 07.8	+1.0
MODS	Modra-Piesok	88.09	318	eP	P	02 13 06.9	+0.1
MODS	Modra-Piesok	88.09	318	eP	P	02 13 06.9	+0.1
KRLC	Kraliky	88.60	320	eP	P	02 13 09.8	+0.6
KRLC				epP	pP	02 13 26.1	+1.4
KRLC	Kraliky	88.60	320	eP	P	02 13 09.8	+0.6
KRLC				e		02 13 26.1	
DPC	Dobruska-Polom	88.93	320	eP	P	02 13 12.3	+1.6
DPC				epP	pP	02 13 24.1	-2.2
DPC	Dobruska-Polom	88.93	320	eP	P	02 13 12.3	+1.6
DPC				e		02 13 24.1	
CONA	Conrad Observa	88.98	318	ePcP	P	02 13 11.9	+0.8
	comp=Z,3.4nm,1.3s						
ARSA	Arzberg	89.15	317	ePcP	P	02 13 13.0	+1.1
	comp=Z,5.7nm,1.3s						
BOJS	Bojanci	89.18	315	i P	P	02 13 12.0	0.0
BOJS				i pP	pP	02 13 28.7	+1.2
PERS	Pernice	89.37	317	i P	P	02 13 14.2	+1.3
PERS				i pP	pP	02 13 29.4	+0.9
SOKA	Soboth	89.43	317	ePcP	P	02 13 14.6	+1.3
	comp=Z,4.9nm,0.9s						
VISS	Visnje	89.49	316	i P	P	02 13 14.5	+1.1
VISS				i pP	pP	02 13 29.8	+0.8
OBKA	Obir	89.75	316	ePcP	P	02 13 16.1	+1.3
	comp=Z,6.2nm,0.9s						
PRU	Pruhonice	90.03	320	eP	P	02 13 17.3	+1.4
PRU				epP	pP	02 13 32.2	+0.8
PRU	Pruhonice	90.03	320	eP	P	02 13 17.3	+1.4
PRU				e		02 13 32.2	
AQU	L'Aquila	90.27	312	eP	P	02 13 17.5	+0.3
	comp=Z,13nm,1.0s						
AQU	L'Aquila	90.27	312	eP	P	02 13 17.5	+0.3
AQU				pmax	pmax		
	comp=Z,13nm,1.0s						
BRG	Berggiesshubel	90.48	321	eP	P	02 13 19.3	+1.4
	comp=Z,12nm,1.6s						
BRG				e		02 13 36.4	
	comp=Z,16nm,1.6s						
BRG	Berggiesshubel	90.48	321	eP	P	02 13 19.3	+1.4
BRG				e		02 13 36.4	
BRG				pmax	pmax		
	comp=Z,12nm,1.6s						
GEA0	GERESS Array S	90.50	319	eP	P	02 13 18.7	+0.6
GEC2	GERESS Array S	90.50	319	eP	P	02 13 19.3	+1.1
	comp=Z,13nm,1.4s						
GEC2	GERESS Array S	90.50	319	eP	P	02 13 19.3	+1.1
GEC2				pmax	pmax		
	comp=Z,13nm,1.4s						
GERES	GERESS Array B	90.50	319	P	P	02 13 19.3	+1.1
	comp=Z,1.4nm,0.7s,baz=97,slow=4.3,SNR=16						
KHC	Kasperske Hory	90.60	319	eP	P	02 13 19.2	+0.6
KHC				epP	pP	02 13 35.3	+1.2
KHC	Kasperske Hory	90.60	319	eP	P	02 13 19.2	+0.6
KHC				e		02 13 35.3	
KBA	Koelnbreinsper	90.62	317	eP	P	02 13 17.6	-1.3
	comp=Z,1.6nm,0.6s						
ABTA	Abfaltersbach	91.17	317	eP	P	02 13 21.4	+0.1
	comp=Z,3.5nm,0.9s						
WATA	Walderalm	91.83	317	ePcP	P	02 13 24.8	+0.3
	comp=Z,1.5nm,0.5s						
SQTA	Sankt Quirin	92.08	317	ePcP	P	02 13 26.0	+0.4
	comp=Z,4.3nm,0.6s						
MOTA	Moosalm	92.16	317	ePcP	P	02 13 26.3	+0.3
	comp=Z,2.1nm,0.8s						
RETA	Reutte	92.39	317	ePcP	P	02 13 27.7	+0.7
	comp=Z,2.5nm,0.6s						
FETA	Feichten	92.40	317	ePcP	P	02 13 27.5	+0.4
	comp=Z,3.2nm,1.3s						
NB2	NORSAR Subarra	92.53	331	P	P	02 13 27.3	+0.1
	comp=Z,9.3nm,1.7s,baz=90,slow=5.1						
NB200	NORSAR Array S	92.53	331	eP	P	02 13 25.9	-1.3
NOA	NORSAR Array B	92.53	331	P	P	02 13 25.9	-1.3
	comp=Z,0.5nm,0.6s,baz=93,slow=4.7,SNR=3.0						
NOA				LR	LR	03 00 10.9	
	comp=Z,38nm,18.1s,baz=310,slow=39						
DAVA	Damuels	92.99	317	ePcP	P	02 13 30.9	+1.0
	comp=Z,5.2nm,1.1s						
IM3	Indian Mountai	98.88	24	eP	Pdif	02 13 56.0	+0.1
TORD	Torodi Ar. Bea	99.80	283	P	Pdif	02 14 01.4	+0.2
	comp=Z,0.5nm,0.9s,baz=114,slow=3.5,SNR=3.3						
TORD				LR	LR	02 57 00.4	
	comp=Z,80nm,18.8s,baz=300,slow=34						
TOA1	Torodi Ar. Sit	99.80	283	ePdif	Pdif	02 14 01.4	+0.2
YKA	Yellowknife Ar	115.00	17	PKP	PKiKP	02 18 56.0	-0.6
	comp=Z,0.1nm,0.5s,baz=316,slow=1.0,SNR=3.4						
YKA	Yellowknife Ar	115.00	17	PKIKP	PKiKP	02 18 56.0	-0.6
YKB5	Yellowknife Ar	115.00	17	ePKiKP	PKiKP	02 18 56.0	-0.6
NVAR	Mina Array Bea	129.67	40	SKPbc	SKPab	02 22 42.9	0.0
	comp=Z,1.9nm,0.8s,baz=274,slow=2.5,SNR=6.6						
ULM	Lac du Bonnet	130.77	14	PKP	PKPdf	02 19 25.9	-1.3
	comp=Z,1.0nm,0.4s,baz=162,slow=3.2,SNR=3.9						
ULM				SKPbc	SKPbc	02 22 44.5	-2.3
	comp=Z,2.6nm,1.0s,baz=1.3,slow=13,SNR=4.6						
ULM	Lac du Bonnet	130.77	14	PKIKP	PKPdf	02 19 26.0	-1.3
PD31	Pinedale Array	131.90	30	ePKPdf	PKPdf	02 19 29.8	-0.2
PD31				eSKPbc	SKPbc	02 22 50.1	-1.3
PDAR	Pinedale Array	131.90	30	PKP	PKPdf	02 19 29.8	-0.2
	comp=Z,0.3nm,0.6s,baz=320,slow=0.3,SNR=4.0						
PDAR				SKPbc	SKPbc	02 22 49.6	-1.9
	comp=Z,1.7nm,0.8s,baz=40,slow=0.5,SNR=13						
PFO	Pinyon Flats O	133.59	45	SKPbc	SKPbc	02 22 57.5	+0.1
	comp=Z,5.7nm,1.0s,baz=296,slow=0.8,SNR=5.4						
WMOK	Wichita Mounta	143.41	28	ePKPdf	PKPdf	02 19 52.2	+1.1
CPUP	Villa Florida	144.14	214	PKP	PKPbc	02 19 51.3	+0.7
	comp=Z,9.2nm,0.9s,baz=134,slow=3.5,SNR=11						
CPUP	Villa Florida	144.14	214	ePKPdf	PKPdf	02 19 51.7	-0.8
CPUP	Villa Florida	144.14	214	ePKIKP	PKPdf	02 19 51.7	-0.8
T42A	Van Buren	144.32	17	ePKPdf	PKPab	02 19 50.5	-0.1
TX31	Lajitas Ar. Si	144.81	39	ePKPdf	PKPbc	02 19 53.3	+0.4
TX31				ePKPdf	PKPdf	02 19 53.4	-0.4
LTX	Lajitas	144.81	39	ePKPdf	PKPbc	02 19 53.2	+0.4
LTX	Lajitas	144.81	39	ePKIKP	PKPbc	02 19 53.2	+0.4
TXAR	Lajitas Array	144.81	39	PKP	PKPbc	02 19 53.2	+0.4
	comp=Z,3.8nm,0.5s,baz=267,slow=0.6,SNR=70						
TXAR				SKPbc	SKPbc	02 23 28.3	-0.3
	comp=Z,1.4nm,0.7s,baz=293,slow=0.3,SNR=5.9						
R58B	Mineral	145.18	359	ePKPbc	PKPbc	02 19 53.4	-0.2
S51A	Beattyville	145.25	7	ePKPbc	PKPbc	02 19 53.4	-0.5
MIAR	Mount Ida	145.77	22	ePKPdf	PKPab	02 19 57.3	+1.3
WVT	Waverly	146.01	13	ePKPdf	PKPbc	02 19 56.2	-0.1
WVT	Waverly	146.01	13	ePKP2	PKPbc	02 19 56.2	-0.1
JCT	Junction City	146.27	34	ePKPdf	PKPbc	02 19 57.8	+0.5
JCT	Junction City	146.27	34	ePKP2	PKPbc	02 19 57.8	+0.5
V48A	Smith Brothers	146.60	12	ePKPdf	PKPbc	02 19 57.6	-0.5
TKL	Tuckaleechee C	147.19	7	PKPbc	PKPdf	02 19 58.6	+1.1
	comp=Z,3.0nm,0.8s,baz=138,slow=6.4,SNR=4.7						
LCO	Las Campanas	147.22	193	ePKPbc	PKPab	02 20 01.5	-0.6
LCO	Las Campanas	147.22	193	ePKP2	PKPab	02 20 01.5	-0.6
V53A	Saluda	147.28	6	ePKPdf	PKPbc	02 19 59.7	-0.4
CPCT	Cooper Cave	147.29	8	ePKPbc	PKPab	02 20 01.1	-0.7
X48A	Hartselle	147.80	13	ePKPdf	PKPbc	02 20 00.6	-0.8
BG3	Lake Jocassee	147.94	6	ePKPbc	PKPbc	02 20 01.9	0.0
Y49A	Blount Mountai	148.51	12	ePKPbc	PKPbc	02 20 02.8	-0.5
GO02	Mina Guanaco	150.58	197	ePKPbc	PKiKP	02 20 10.1	+0.3
LVC	Limon Verde	152.74	201	ePKPbc	PKiKP	02 20 16.1	+1.8
LPAZ	La Paz	158.07	209	PKP	PKPdf	02 20 15.9	+1.2
	comp=Z,1.9nm,1.0s,baz=209,slow=1.7,SNR=4.0						

IDC 02 02:12:09.6±7.7, 17.°70S×178.°62W, h543km±84km, mb2.8/6, mb1 3.2/6, mb1mx2.9/46, mbtmp3.6/6, Error ellipse: s-maj=96.8km s-min=27.6km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.47	259	P	P	02 19 33.5	+0.4
	0.1nm,0.4s,baz=94,slow=7.7,SNR=8.2						
WRA				PcP	PcP	02 21 04.0	-0.8
	0.3nm,0.8s,baz=91,slow=4.7,SNR=2.6						
ASAR	Alice Springs	44.66	254	P	P	02 19 33.8	-0.7
	0.6nm,0.5s,baz=87,slow=8.7,SNR=8.4						
ILAR	Eielson Array	85.73	13	P	P	02 23 50.5	-0.4
	0.3nm,0.4s,baz=216,slow=4.9,SNR=7.5						
TXAR	Lajitas Array	86.05	58	P	P	02 23 53.7	+0.4
	1.8nm,1.1s,baz=231,slow=5.7,SNR=3.4						
PDAR	Pinedale Array	87.34	44	P	P	02 23 58.9	-0.3
	0.5nm,0.7s,baz=216,slow=4.5,SNR=2.8						
YKA	Yellowknife Ar	94.22	25	P	P	02 24 29.9	-0.4
	0.1nm,0.8s,baz=238,slow=4.4,SNR=4.2						
BRTR	Keskin Array B	144.49	315	PKP	PKPdf	02 30 44.5	-0.2
	0.3nm,0.6s,baz=82,slow=3.0,SNR=2.9						
GERES	GERESS Array B	147.36	345	PKPbc	PKPbc	02 30 52.2	-0.3
	0.5nm,0.6s,baz=9.5,slow=4.1,SNR=6.2						

IDC 02 02:18:27.2±1.0, 8.°95N×77.°66W, h0km, mb3.6/6, mb1 4.0/9, mb1mx3.7/37, mbtmp3.8/9, ML3.3/3, MS3.0/4, Ms1 3.0/4, ms1mx2.8/29, Error ellipse: s-maj=38.2km s-min=18.8km az=39.0
ISCJB 02 02:18:31.4±0.3, 8.°83N±0.°03×77.°46W±0.°02, h50km±5km, mb3.5/5, Error ellipse: s-maj=5.3km s-min=3.3km az=9.6
RSNC 02 02:18:33.4±1.0, 8.°76N×77.°49W, h39km±3km, ML4.2, Mw4.5
ISC 02 02:18:32.3±0.8, 8.°83N±0.°04×77.°45W±0.°03, h44km±8km, n41, σ1.61/60, mb3.5/5, 9C-2D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAPC	Capurgana	0.21	152	⇑iP	Pn	02 18 39.9	-0.3
CAPC				eS	Sn	02 18 45.4	-0.3
UPD2	Meteti	0.62	244	⇓iP	Pn	02 18 43.8	-1.1
UPD2				eS	Sn	02 18 52.3	-1.5
PTAC	Punta Ardita,	1.70	192	i Pg	Pn	02 18 59.3	-0.3
PTAC				eS	Sn	02 19 18.4	-1.8
PTAC				i		02 19 26.6	
	comp=Z,3µm,0.2s						
MOTC	Monteria, Cord	1.77	91	⇑iP	Pn	02 19 01.8	+1.3
MOTC				eS	Sn	02 19 23.4	+1.6
UPA	Univ. de Panam	2.06	274	⇑iP	Pn	02 19 04.4	-0.1
UPA				i		02 19 06.2	
	comp=Z,783nm,0.3s						
UPA				eS	Sn	02 19 29.1	+0.1
DBBC	Dabeiba	2.18	145	i P	Pn	02 19 06.6	+0.4
UREC	San Jos de Ur	2.18	119	⇑iP	Pn	02 19 06.8	+0.6
UREC				eS	Sn	02 19 32.0	0.0
UREC				i		02 19 36.3	
	comp=N,1µm,0.3s						
BCIP	Isla Barro Col	2.38	278	⇑iP	Pn	02 19 08.9	+0.1
BCIP				i		02 19 14.5	
	comp=Z,1µm,0.2s						
BCIP				eS	Sn	02 19 36.1	-0.7
SJCC	San Jacinto, C	2.48	64	eS	Sn	02 19 39.4	-0.1
ZARC	Zaragoza, Cauc	2.89	117	⇑iP	Pn	02 19 16.6	+0.7
ZARC				eS	Sn	02 19 48.8	-0.6
AZU	Azuero	2.97	250	eP	Pn	02 19 17.8	+0.8
AZU				i		02 20 13.0	
	comp=Z,529nm,0.5s						
HELC	Santa Helena	3.24	144	⇑iP	Pn	02 19 21.7	+0.6
HELC				eS	Sn	02 19 59.2	+0.6
PTBC	PUERTO BERRIO,	3.74	127	⇑iP	Pn	02 19 27.6	0.0
PTBC				eS	Sn	02 20 10.0	-0.4
PTBC				i		02 20 12.9	
	comp=N,670nm,0.5s						
SMRC	Santa Marta, M	3.94	54	eP	Pn	02 19 32.3	+2.0
SMRC				eS	Sn	02 20 16.5	+1.2
PLMC	San Jos del P	4.07	163	eP	Pn	02 19 31.9	-0.2
PLMC				eS	Sn	02 20 16.6	-2.0
BRRC	Barranca, Sant	4.08	114	⇑iP	Pn	02 19 33.3	+1.1
BRRC				i		02 19 35.1	
	comp=Z,267nm,0.4s						
BRRC				eS	Sn	02 20 20.1	+1.3
CODC	Agustn Codazz	4.11	74	⇓iP	Pn	02 19 34.2	+1.5
CODC				eS	Sn	02 20 19.8	+0.3
CODC				i		02 20 24.3	
	comp=N,280nm,0.4s						
OCAC	Ocana	4.13	98	eP	Pn	02 19 33.9	+0.9
OCAC				eS	Sn	02 20 20.4	+0.2
OCAC				i		02 20 24.9	
	comp=N,2µm,0.4s						
RREF	El Recreo	4.42	152	eP	Pn	02 19 40.2	+2.6
RREF				eS	Sn	02 20 29.1	+1.0
ANIL	Santa Ana	4.76	155	eP	Pn	02 19 45.2	+3.3
BARC	Barichara	4.78	117	eP	Pn	02 19 43.0	+0.9
YOTC	Yotoco, Valle	4.94	167	eP	Pn	02 19 44.0	-0.2
YOTC				eS	Sn	02 20 38.0	-2.0
ROSC	El Rosal	5.04	142	Pn	Pn	02 19 48.5	+2.7
	comp=N,6.5nm,0.3s,baz=317,slow=8.5,SNR=23						
ROSC				Sn	Sn	02 20 47.0	+4.1
	comp=N,7.8nm,0.3s,baz=23,slow=23,SNR=5.9						
CHIC	Chingaza	5.57	138	eP	Pn	02 19 54.9	+1.8
PRVC	Isla de Provid	5.93	320	eP	Pn	02 19 58.0	+0.3
POPC	Popayan, Colom	6.29	173	eP	Pn	02 20 04.2	+1.3
SOTA	Rioblanco	6.70	173	eP	Pn	02 20 10.9	+2.2
SDV	Santo Domingo	6.74	89	Pn	Pn	02 20 10.1	+1.1
	comp=N,3.0nm,0.3s,baz=285,slow=9.7,SNR=24						
SDV				Sn	Sn	02 21 24.0	-0.6
	comp=N,36nm,0.3s,baz=354,slow=14,SNR=15						
JTS	JuntasAbangare	7.54	282	Pn	Pn	02 20 21.1	+1.4
	comp=N,4.3nm,0.3s,baz=112,slow=5.0,SNR=18						
JTS				Sn	Sn	02 21 49.1	+5.1
	comp=N,0.9nm,0.3s,baz=218,slow=19,SNR=2.6						
JTS				LR	LR	02 23 31.0	
	comp=N,80nm,19.4s,baz=173,slow=42						
PCRV	Puerto La Cruz	12.71	83	Pn	Pn	02 21 31.4	+0.8
	comp=N,1.3nm,0.3s,baz=256,slow=7.5,SNR=7.5						
PCRV				Sn	Sn	02 23 49.5	-1.5
	comp=N,1.3nm,0.3s,baz=94,slow=21,SNR=8.3						
APG	El Apazote	14.13	297	LR	LR	02 28 44.2	
	comp=N,48nm,18.3s,baz=125,slow=44						
SJG	San Juan	14.35	49	Pn	Pn	02 21 48.5	-4.3
	comp=N,3.3nm,0.3s,baz=235,slow=12,SNR=9.4						
CMIG	Matias Romero	18.86	298	LR	LR	02 31 37.3	
	comp=N,47nm,19.5s,baz=86,slow=42						
PTGA	Pitinga	19.84	118	P	Pn	02 23 03.5	+1.9
	comp=N,1.4nm,0.5s,baz=284,slow=15,SNR=4.1						
PTGA				LR	LR	02 31 24.7	
	comp=N,80nm,18.3s,baz=292,slow=39						
TXAR	Lajitas Array	31.95	313	P	P	02 24 54.0	-0.3
	comp=N,0.6nm,0.8s,baz=124,slow=8.0,SNR=4.1						
PDAR	Pinedale Array	43.98	326	P	P	02 26 34.6	-1.0
	comp=N,0.2nm,0.6s,baz=124,slow=8.1,SNR=3.0						
YKA	Yellowknife Ar	59.95	341	P	P	02 28 34.1	+0.2
	comp=N,0.9nm,0.6s,baz=131,slow=7.2,SNR=36						
INK	Inuvik	69.72	341	P	P	02 29 37.6	+0.3
	comp=N,0.9nm,0.9s,baz=118,slow=4.8,SNR=4.0						
ILAR	Eielson Array	73.35	335	P	P	02 29 59.1	-0.2
	comp=N,0.3nm,0.7s,baz=110,slow=3.9,SNR=3.6						
ASAR	Alice Springs	146.58	240	PKPbc	PKPdf	02 38 09.1	+0.6
	comp=N,0.4nm,0.5s,baz=124,slow=3.4,SNR=8.6						
WRA	Warramunga Arr	147.35	247	PKPbc	PKPbc	02 38 13.1	+0.9
	comp=N,0.2nm,0.4s,baz=99,slow=3.5,SNR=6.2						

VAO 02 02:24:20.4±0.6, 34.°75S×71.°46W, h10km, mb4.9
SJA 02 02:24:20.0±0.6, 34.°85S×71.°78W, h14km±23km, ML4.3, MW4.7
GUC 02 02:24:22.6±0.6, 34.°82S×71.°61W, h46km±3km, ML4.7
NEIC 02 02:24:22.0±0.0, 34.°81S×71.°65W, h49km, mb4.7/33, ML4.7(GUC), After GUC.
NEIC Felt [V] at Curico, Romeral, Sagrada Familia and Talca; [IV] at Hualane, Iloca, Longavi, Maule, Paredones, Pichilemu, Rancagua, Rio Claro, San Fernando, San Javier, Santa Cruz and Vichuquen. Felt widely in central Chile from Cauquenes to Vina del Mar. Also felt at Mendoza, Argentina.
ISCJB 02 02:24:24.0±0.4, 34.°78S±0.°02×71.°70W±0.°05, h67km±3km, mb4.6/42, Error ellipse: s-maj=7.2km s-min=3.5km az=10.6
IDC 02 02:24:27.0±2.5, 34.°72S×71.°44W, h75km±22km, mb4.2/15, mb1 4.3/19, mb1mx4.2/32, mbtmp4.5/19, MS3.5/7, Ms1 3.5/7, ms1mx3.4/24, Error ellipse: s-maj=22.0km s-min=11.7km az=88.0
ISC 02 02:24:23.7±0.6, 34.°78S±0.°04×71.°69W±0.°05, h48km±5km, n343, σ1.21/362, mb4.8/42, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GO05	Huala	0.30	220	ePn	Pn	02 24 32.8	0.0
GO05	Huala	0.30	220	eP	Pn	02 24 32.6	-0.2
GO05				i S	Sn	02 24 39.3	+0.1
LMEL	Las Melosas	1.54	53	eP	Pn	02 24 49.7	+0.9
LMEL				i S	Sn	02 25 09.6	+1.8
LMEL				IAML		02 25 11.9	
	comp=N,21µm,0.3s						
CLCH	Cerro Calan	1.68	35	⇑iP	Pn	02 24 51.7	+1.0
CLCH				i S	Sn	02 25 13.4	+2.3
CLCH				IAML		02 25 16.1	
	comp=E,25µm,0.4s						
PEL	Peldehue	1.83	27	ePn	Pn	02 24 54.0	+1.3
PEL				eSn	Sn	02 25 13.3	-1.4
PEL	Peldehue	1.83	27	i P	Pn	02 24 54.4	+1.7
PEL	Peldehue	1.83	27	⇓iP	Pn	02 24 54.1	+1.3
PEL				i S	Sn	02 25 17.6	+2.8
PEL				IAML		02 25 23.0	
	comp=N,9µm,0.5s						
CCHI	Chillan	1.85	190	eP	Pn	02 24 53.4	+0.5
CCHI				i S	Sn	02 25 16.6	+1.5
FCH	Farellones	1.85	39	⇓iP	Pn	02 24 54.4	+1.1
FCH				i S	Sn	02 25 19.0	+3.2
FCH				IAML		02 25 23.2	
	comp=E,8µm,0.2s						
ROC1	El Roble	1.88	18	ePn	Pn	02 24 55.6	+2.0
ROC1				eSn	Sn	02 25 15.6	-0.7
ROC1	El Roble	1.88	18	i P	Pn	02 24 55.9	+2.3
ROC1				i S	Sn	02 25 21.9	+5.6
ROCH	El Roble	1.89	18	⇓iP	Pn	02 24 55.2	+1.5
ROCH				eS	Sn	02 25 20.0	+3.6
ROCH				IAML		02 25 23.9	
	comp=N,12µm,0.5s						
CCSP	San Pedro de C	2.36	209	eP	Pn	02 25 00.9	+1.0
CCSP				IAML		02 25 41.6	
	comp=N,3µm,0.4s						
RFA	San Rafael	2.65	91	i P	Pn	02 25 06.0	+1.9
AAGR	Agrelo	2.92	55	i P	Pn	02 25 10.6	+2.9
ARCO	CERRO ARCO	3.00	51	i P	Pn	02 25 11.7	+2.8
ARCO				IAML		02 25 33.5	
	comp=Z,614nm,0.4s						
AUSP	Uspallata	3.19	38	i P	Pn	02 25 14.8	+3.2
ASAL	Salagasta	3.23	48	i P	Pn	02 25 14.7	+2.8
RTLS	Leoncito	3.58	35	i P	Pn	02 25 20.2	+3.2
RTLS				IAML		02 26 25.2	
	comp=Z,682nm,0.8s						
GO06	Curarrehue	4.80	178	ePn	Pn	02 25 35.0	+1.4
GO06				eSn	Sn	02 26 31.1	+3.1
GO06	Curarrehue	4.80	178	eP	Pn	02 25 34.8	+1.3
LCO	Las Campanas	5.81	9	ePn	Pn	02 25 46.3	-1.2
	comp=Z,84nm,0.4s						
LCO				eSn	Sn	02 26 51.7	-1.3
LCO	Las Campanas	5.81	9	eP	Pn	02 25 46.9	-0.6
PLCA	Paso Flores	6.01	172	P	Pn	02 25 52.5	+2.4
	comp=Z,4.1nm,0.3s,baz=358,slow=12,SNR=80						
PLCA				S	Sn	02 27 01.6	+4.0
	baz=49,slow=19,SNR=1.5						
PLCA				LR	LR	02 28 18.5	
	comp=Z,280nm,19.3s,baz=18,slow=38						
PLCA	Paso Flores	6.01	172	eP	Pn	02 25 50.1	-0.1
GO03	Copiap	7.27	10	ePn	Pn	02 26 06.4	-1.0
GO03				eSn	Sn	02 27 26.5	-2.1
TRQA	Tornquist	8.48	116	ePn	Pn	02 26 25.3	+1.4
TRQA				eSn	Sn	02 27 53.7	-4.6
GO02	Mina Guanaco	9.75	11	ePn	Pn	02 26 42.4	+0.7
GO02				eSn	Sn	02 28 25.8	-4.1
LVC	Limon Verde	12.37	12	P	Pn	02 27 19.1	+1.7
	comp=Z,0.6nm,0.3s,baz=172,slow=12,SNR=5.1						
LVC				S	Sn	02 29 37.4	+3.5
	comp=Z,0.5nm,0.3s,baz=150,slow=14,SNR=3.6						
LVC				LR	LR	02 32 15.9	
	comp=Z,175nm,19.6s,baz=214,slow=38						
PB01	IPOC Station P	13.82	9	ePn	Pn	02 27 34.8	-2.3
CPUP	Villa Florida	14.95	60	P	Pn	02 27 51.5	-0.4
	comp=Z,0.3nm,0.3s,baz=225,slow=11,SNR=6.1						
CPUP				LR	LR	02 34 12.7	
	comp=Z,318nm,19.9s,baz=229,slow=40						
PB11	IPOC Station P	15.07	7	ePn	P	02 27 59.2	+1.2
	comp=Z,20nm,0.9s						
GO01	Chusmiza	15.21	9	ePn	Pn	02 27 56.5	+0.7
	comp=Z,8.6nm,1.1s						
MNMC	Minye Minye	15.70	7	ePn	Pn	02 28 00.9	-0.9
	comp=Z,46nm,0.7s						
LPAZ	La Paz	18.69	11	P	Pn	02 28 40.6	+1.3
	comp=Z,0.6nm,0.3s,baz=183,slow=7.3,SNR=41						
LPAZ	La Paz	18.69	11	eP	Pn	02 28 40.8	+1.4
	comp=Z,12nm,0.8s						
LPAZ	La Paz	18.69	11	eP	P	02 28 38.9	+0.3
AQDB	Aquidauana	20.05	49	eP	P	02 28 52.6	-0.3
USHA	Ushuaia	20.18	175	P	Pn	02 28 55.4	-0.8
	comp=Z,5.4nm,0.5s,baz=15,slow=9.3,SNR=10.0						
USHA				LR	LR	02 37 31.7	
	comp=Z,97nm,21.3s,baz=30,slow=39						
TRCB	Terra Rica	20.49	59	eP	P	02 28 56.9	-0.8
C2SB	Chapadao do Su	23.12	51	eP	P	02 29 25.8	+0.2
NNA	Nana	23.17	347	P	P	02 29 28.2	+2.0
	comp=Z,4.3nm,0.5s,baz=208,slow=12,SNR=3.7						
NNA				LR	LR	02 36 25.6	
	comp=Z,69nm,21.6s,baz=157,slow=31						
ITRB	Iturama	24.11	57	eP	P	02 29 34.0	-1.1
BB19B	Bebedouro	24.53	62	eP	P	02 29 38.3	-0.6
PMSA	Palmer Station	30.39	174	eP	P	02 30 26.2	-4.5
	comp=Z,372nm,0.6s						
PTGA	Pitinga	35.60	20	P	P	02 31 16.2	-0.6
	comp=Z,22nm,0.8s,baz=205,slow=10,SNR=25						
PTGA	Pitinga	35.60	20	eP	P	02 31 16.1	-0.6
	comp=Z,19nm,0.8s						
PTGA	Pitinga	35.60	20	eP	P	02 31 16.2	-0.6
PCON	Cinco Dias	37.17	352	eP	P	02 31 34.4	+3.6
PCON	Cinco Dias	37.17	352	eP	P	02 31 34.4	+3.6
VILC	Villavicencio,	38.73	357	eP	P	02 31 45.0	+1.6
VILC	Villavicencio,	38.73	357	eP	P	02 31 45.0	+1.6
CHIC	Chingaza	39.24	357	eP	P	02 31 48.3	+0.3
CHIC	Chingaza	39.24	357	eP	P	02 31 48.3	+0.3
ROSC	El Rosal	39.48	356	P	P	02 31 53.0	+3.1
	comp=Z,6.3nm,0.5s,baz=22,slow=20,SNR=6.9						
ROSC	El Rosal	39.48	356	eP	P	02 31 53.5	+3.6
	comp=Z,17nm,1.4s						
ROSC	El Rosal	39.48	356	eP	P	02 31 53.3	+3.3
ROSC	El Rosal	39.48	356	eP	P	02 31 53.3	+3.3
RUSC	La Rusia	40.47	358	eP	P	02 32 00.0	+1.7
RUSC	La Rusia	40.47	358	eP	P	02 32 00.0	+1.7
HELC	Santa Helena	40.91	354	eP	P	02 32 01.6	-0.2
HELC	Santa Helena	40.91	354	eP	P	02 32 01.6	-0.2
BARC	Barichara	41.17	358	eP	P	02 32 04.0	+0.2
BARC	Barichara	41.17	358	eP	P	02 32 04.0	+0.2
PTBC	PUERTO BERRIO,	41.18	356	eP	P	02 32 02.7	-0.9
PTBC	PUERTO BERRIO,	41.18	356	eP	P	02 32 02.7	-0.9
ZARC	Zaragoza, Cauc	42.15	355	eP	P	02 32 11.3	-0.2
ZARC	Zaragoza, Cauc	42.15	355	eP	P	02 32 11.3	-0.2
SDV	Santo Domingo	43.44	2	P	P	02 32 21.6	-0.6
	comp=Z,4.9nm,0.5s,baz=167,slow=11,SNR=9.4						
SDV	Santo Domingo	43.44	2	eP	P	02 32 22.0	-0.2
	comp=Z,6.8nm,0.8s						
SDV	Santo Domingo	43.44	2	eP	P	02 32 21.5	-0.6
SDV	Santo Domingo	43.44	2	eP	P	02 32 21.5	-0.6
SDV	Santo Domingo	43.44	2	eP	P	02 32 22.0	-0.2
MDP	Montagnes des	43.54	28	P	P	02 32 21.4	-1.4
	comp=Z,33nm,1.2s,baz=180,slow=6.7						
CODC	Agustn Codazz	44.50	358	eP	P	02 32 27.5	-2.9
CODC	Agustn Codazz	44.50	358	eP	P	02 32 27.5	-2.9
VNA3	Neumayer Olymp	48.53	158	P	P	02 33 01.8	+0.3

VNA1	Neumayer--Stat	48.85	157	P	P	02 33 04.5	+0.6
VNA2	Neumayer--Watz	49.19	157	P	P	02 33 06.7	+0.2
	baz=292,slow=10						
QSPA	South Pole Qui	55.46	180	P	P	02 33 54.6	+1.3
	comp=Z,6.8nm,0.7s,baz=137,slow=3.9,SNR=15						
VNDA	Vanda	63.40	191	P	P	02 34 49.1	+1.5
	comp=Z,0.5nm,0.7s,baz=90,slow=6.1,SNR=3.6						
VNDA				LR	LR	03 00 00.3	
	comp=Z,62nm,18.8s,baz=128,slow=34						
657A	Interlachen	64.73	350	P	P	02 34 56.7	-0.2
	baz=171						
SYO	Syowa Base	65.04	158⇑	*e*P	P	02 34 58.0	-0.4
SYO	Syowa Base	65.04	158⇑	*e*pP	pP	02 35 09.8	-2.3
352A	Blakely	67.07	348	P	P	02 35 11.6	-0.2
	baz=168						
253A	Americus	67.51	349	P	P	02 35 13.5	-1.1
	baz=169						
251A	Midway	67.76	347	P	P	02 35 15.5	-0.7
	baz=168						
154A	Montrose	67.89	350	P	P	02 35 16.4	-0.5
	baz=170						
249A	Camden	67.97	346	P	P	02 35 17.3	-0.2
	baz=166						
150A	Eclectic	68.37	347	P	P	02 35 19.6	-0.4
	baz=167						
Z54A	Sparta	68.46	350	P	P	02 35 20.0	-0.5
	baz=170						
149A	Jones	68.51	346	P	P	02 35 20.4	-0.5
	baz=167						
Z53A	Monticello	68.61	349	P	P	02 35 21.2	-0.3
	baz=170						
Z52A	Williamson	68.66	349	P	P	02 35 21.6	-0.2
	baz=169						
GOGA	Godfrey	68.73	349	P	P	02 35 21.8	-0.3
	baz=170						
244A	Avery, Jackson	68.83	343	P	P	02 35 23.0	+0.2
	baz=163						
Z49A	Columbiana	69.03	347	P	P	02 35 24.3	+0.2
	baz=167						
Y54A	Tignall	69.06	350	P	P	02 35 24.3	0.0
	baz=170						
Y53A	Monroe	69.18	349	P	P	02 35 24.9	-0.1
	baz=170						
Y52A	Lilburn	69.26	349	P	P	02 35 25.3	-0.2
	baz=169						
Z47A	Carrollton	69.34	345	P	P	02 35 26.0	-0.1
	baz=166						
Z48A	Northport	69.41	346	P	P	02 35 26.4	-0.1
	baz=166						
Y51A	Rockmart	69.46	348	P	P	02 35 26.8	0.0
	baz=168						
Z46A	Louisville	69.53	345	P	P	02 35 28.0	+0.9
	baz=165						
Y50A	Piedmont	69.57	348	P	P	02 35 27.9	+0.4
	baz=168						
X53A	Estanollee	69.77	350	P	P	02 35 28.6	-0.1
	baz=170						
CNNC	Cliffs of the	69.90	355	P	P	02 35 29.4	+0.1
	baz=175						
X52A	Dahlonega	69.96	349	P	P	02 35 29.8	-0.1
	baz=169						
Y47A	UCPARC, Winfie	69.98	346	P	P	02 35 30.1	+0.2
	baz=166						
X51A	Calhoun	70.08	348	*e*P	P	02 35 31.1	+0.6
	comp=Z,26nm,0.9s						
X51A	Calhoun	70.08	348	P	P	02 35 30.5	0.0
	baz=168,SNR=5.5						
X50B	Fort Payne	70.11	348	P	P	02 35 30.7	0.0
	baz=168						
KMSC	Kings Mountain	70.14	352	P	P	02 35 30.9	0.0
	baz=172						
Y46A	Houston	70.17	345	P	P	02 35 31.0	-0.1
	baz=165						
Y45A	Yeager Farm, C	70.31	344	P	P	02 35 32.7	+0.7
	baz=164						
X48A	Hartselle	70.35	347	P	P	02 35 32.6	+0.4
	baz=167						
W53A	Cullowhee	70.41	350	P	P	02 35 33.0	+0.3
	baz=170						
W52A	Murphy	70.44	349	P	P	02 35 33.4	+0.5
	baz=169						
LTX	Lajitas	70.55	331	*e*P	P	02 35 34.8	+1.1
TX31	Lajitas Ar. Si	70.55	331	*e*P	P	02 35 33.0	-0.7
TX31				*e*pP	pP	02 35 47.8	+0.2
TXAR	Lajitas Array	70.55	331	P	P	02 35 34.8	+1.1
	comp=Z,1.1nm,0.7s,baz=158,slow=8.6,SNR=22						
X47A	Russelville	70.58	346	P	P	02 35 33.6	0.0
	baz=166						
W51A	Cleveland	70.64	349	P	P	02 35 34.4	+0.4
	baz=169						
X46A	Booneville	70.76	345	P	P	02 35 34.9	+0.2
	baz=165						
W50A	Signal Mountai	70.77	348	*e*P	P	02 35 35.3	+0.5
	comp=Z,11nm,0.8s						
W50A	Signal Mountai	70.77	348	P	P	02 35 35.1	+0.3
	baz=168						
V53A	Saluda	70.85	350	*e*P	P	02 35 35.4	+0.1
	comp=Z,6.9nm,0.9s						
V53A	Saluda	70.85	350	P	P	02 35 35.0	-0.3
	baz=170						
W49A	Belvidere	70.86	347	P	P	02 35 35.1	-0.2
	baz=167						
CPCT	Cooper Cave	70.89	349	*e*P	P	02 35 36.0	+0.6
	comp=Z,7.8nm,0.8s						
SWET	Sewanee	70.89	348	*e*P	P	02 35 36.0	+0.5
	comp=Z,18nm,0.9s						
OXF	Oxford	70.90	345	*e*P	P	02 35 35.6	+0.1
	comp=Z,16nm,0.9s						
OXF	Oxford	70.90	345	P	P	02 35 35.7	+0.2
	baz=165						
TKL	Tuckaleechee C	70.98	350	P	P	02 35 35.8	-0.2
	comp=Z,5.4nm,0.8s,baz=162,slow=9.4,SNR=5.2						
TKL	Tuckaleechee C	70.98	350	*e*P	P	02 35 35.8	-0.2
	comp=Z,6.8nm,0.9s						
W48A	Pulaski	71.00	347	P	P	02 35 36.1	-0.1
	baz=167						
V52A	Sevierville	71.13	350	P	P	02 35 36.7	-0.3
	baz=170						
V50A	Pikevile	71.20	348	P	P	02 35 37.2	-0.1
	baz=168						
V51A	Loudon	71.21	349	P	P	02 35 37.5	+0.1
	baz=169						
W47A	Westpoint	71.23	346	P	P	02 35 37.8	+0.2
	baz=166						
V49A	McMinnville	71.42	348	P	P	02 35 38.5	-0.3
	baz=168,SNR=5.1						
W45A	Hickory Valley	71.47	345	P	P	02 35 38.6	-0.3
	baz=165						
U53A	Fall Branch	71.50	351	P	P	02 35 38.7	-0.5
	baz=171						
V48A	Smith Brothers	71.56	347	*e*P	P	02 35 39.9	+0.3
	comp=Z,32nm,1.0s						
V48A	Smith Brothers	71.56	347	P	P	02 35 39.5	0.0
	baz=167,SNR=16						
U51A	La Follette	71.72	350	P	P	02 35 40.3	-0.1
	baz=169						
V47A	Nunnelly	71.78	347	P	P	02 35 40.7	-0.2
	baz=166,SNR=10						
TZTN	Tazewell	71.81	350	P	P	02 35 40.8	-0.3
	baz=170						
V46A	Holladay	71.87	346	P	P	02 35 41.0	-0.4
	baz=166,SNR=5.5						
U50A	Jamestown	71.88	349	P	P	02 35 41.0	-0.5
	baz=169						
ABTX	Abilene, Hawle	72.00	335	P	P	02 35 42.5	+0.2
	baz=156						
U49A	Red Boiling Sp	72.13	348	P	P	02 35 42.6	-0.3
	baz=168						
WVT	Waverly	72.13	346	*e*P	P	02 35 43.0	0.0
	comp=Z,25nm,0.8s						
WVT	Waverly	72.13	346	P	P	02 35 42.9	0.0
	baz=166						
W41B	Gary Mavity, V	72.19	342	P	P	02 35 43.1	-0.2
	baz=162						
T51A	Gray	72.28	350	P	P	02 35 43.1	-0.7
	baz=169						
T52A	Hallie	72.29	351	P	P	02 35 43.6	-0.2
	baz=170						
U47A	Clarksville	72.33	347	P	P	02 35 43.9	-0.2
	baz=167,SNR=8.1						
U46A	Springville	72.42	346	P	P	02 35 44.5	-0.1
	baz=166,SNR=5.8						
T50A	Nancy	72.47	349	P	P	02 35 44.8	-0.1
	baz=169						
U45A	Rockin P Farm,	72.53	346	P	P	02 35 45.4	+0.1
	baz=165						
W39A	Magazine	72.61	341	*e*P	P	02 35 46.6	+0.8
	comp=Z,13nm,0.9s						
W39A	Magazine	72.61	341	P	P	02 35 46.3	+0.5
	baz=161						
T49A	Edmonton	72.67	348	P	P	02 35 45.7	-0.4
	baz=168						
V41A	Mountainview	72.75	343	P	P	02 35 46.6	-0.1
	baz=162						
T48A	Bowling Green	72.82	348	P	P	02 35 47.2	+0.2
	baz=167						
S52A	Salyersville	72.86	351	P	P	02 35 47.3	0.0
	baz=170						
S51A	Beattyville	72.89	350	*e*P	P	02 35 47.5	+0.1
	comp=Z,11nm,0.8s						
S51A	Beattyville	72.89	350	P	P	02 35 47.5	+0.1
	baz=170						
T46A	Princeton	73.03	346	P	P	02 35 48.1	-0.1
	baz=166						
S50A	Richmond	73.05	349	P	P	02 35 48.5	+0.2
	baz=169						
U42A	Revenden	73.07	344	P	P	02 35 48.4	-0.1
	baz=163						
U41A	Viola	73.23	343	P	P	02 35 49.5	0.0
	baz=163						
S48A	Wiedeman Farm,	73.30	348	P	P	02 35 49.2	-0.6
	baz=168						
MNTX	Cornudas Mount	73.33	330	P	P	02 35 49.9	-0.2
	baz=152						
S47A	Hartford	73.38	347	P	P	02 35 49.5	-0.8
	baz=167						
T44A	Benton	73.41	345	P	P	02 35 50.7	+0.2
	baz=165						
U40A	Yellville	73.47	342	P	P	02 35 50.8	-0.1
	baz=162						
R51A	Hillsboro	73.54	350	P	P	02 35 50.8	-0.4
	baz=170						
T43A	Greenville	73.56	345	P	P	02 35 51.1	-0.2
	baz=164						
S46A	Don Dixon Farm	73.62	347	P	P	02 35 51.0	-0.7
	baz=166						
WMOK	Wichita Mounta	73.65	337	P	P	02 35 51.8	-0.2
	baz=157						
T42A	Van Buren	73.69	344	P	P	02 35 52.1	0.0
	baz=164						
R49A	Shelbyville	73.77	349	P	P	02 35 52.6	0.0
	baz=168						
S45A	Carrier Mills	73.78	346	P	P	02 35 51.9	-0.7
	baz=166						
TUL1	Leonard	73.83	340	P	P	02 35 52.9	-0.1
	baz=160						
T41A	Mountain View	73.86	343	P	P	02 35 53.1	-0.1
	baz=163						
WCI	Wyandotte Cave	73.89	348	P	P	02 35 52.8	-0.5
	baz=168						
S44A	Carbondale	73.93	346	P	P	02 35 53.1	-0.5
	baz=165						
S43A	Fulton Ridge,	73.98	345	P	P	02 35 53.4	-0.5
	baz=164,SNR=9.7						
Q51A	Peebles	74.22	351	P	P	02 35 55.5	+0.2
	baz=170						
P55A	Reedsville	74.30	353	P	P	02 35 55.4	-0.3
	baz=173						
R45A	Skylar, Fairfi	74.31	347	P	P	02 35 55.2	-0.5
	baz=166						
S42A	Caledonia	74.33	344	P	P	02 35 55.4	-0.5
	baz=164						
S41A	Jillco Farms,	74.37	344	P	P	02 35 56.1	0.0
	baz=163						
Q49A	Aurora	74.42	349	P	P	02 35 56.2	-0.2
	baz=169						
Q48A	North Vernon	74.48	349	P	P	02 35 56.2	-0.6
	baz=168						
R43A	Red Bud	74.63	345	P	P	02 35 57.4	-0.2
	baz=164						
P51A	Williamsport	74.64	351	P	P	02 35 57.4	-0.2
	baz=170						
P52A	Corning	74.67	352	P	P	02 35 57.1	-0.7
	baz=171						
CCM	Cathedral Cave	74.70	344	*e*P	P	02 35 58.5	+0.5
	comp=Z,12nm,0.8s						
CCM	Cathedral Cave	74.70	344	P	P	02 35 58.7	+0.7
	baz=163						
LIC	Lamto	74.75	71	*e*P	P	02 35 58.5	-0.4
	comp=Z,20nm,0.6s						
AMTX	Amarillo	74.76	335	P	P	02 35 58.9	+0.3
	baz=155						
R42A	Luebbering	74.82	345	P	P	02 35 58.7	0.0
	baz=164						
P50A	Jamestown	74.86	350	P	P	02 35 58.7	-0.2
	baz=170						
Q45A	Warren Harvey,	74.87	347	P	P	02 35 58.1	-0.9
	baz=166						
P49A	Miami Univ. Ec	74.92	350	P	P	02 35 58.8	-0.4
	baz=169						
P48A	Milroy	74.95	349	P	P	02 35 59.0	-0.4
	baz=168						
R41A	Rosebud	74.97	344	P	P	02 35 59.6	0.0
	baz=163,SNR=6.1						
TIC	Toumodi	75.02	71	*e*P	P	02 36 00.0	-0.4
KIC	Kosan Boka	75.06	71	*e*P	P	02 36 00.4	-0.3
	comp=Z,24nm,0.6s						
O52A	Adamsville	75.11	352	P	P	02 35 59.8	-0.6
	baz=171						
P47A	Martinsville	75.11	348	P	P	02 35 59.7	-0.7
	baz=168						
DBIC	Dimbokro	75.16	71	P	P	02 36 01.0	-0.2
	comp=Z,9.5nm,0.6s,baz=216,slow=5.7,SNR=20						
DBIC	Dimbokro	75.16	71	*e*P	P	02 36 01.3	+0.1
Q43A	New Douglas	75.22	346	P	P	02 36 00.7	-0.3
	baz=165						
O51A	Pataskala	75.23	351	P	P	02 36 00.6	-0.4
	baz=171						
ACSO	Alum Creek Sta	75.36	351	*e*P	P	02 36 01.8	0.0
	comp=Z,12nm,0.7s						
ACSO	Alum Creek Sta	75.36	351	P	P	02 36 01.6	-0.2
	baz=170						
O50A	Cable	75.36	351	P	P	02 36 01.4	-0.4
	baz=170						
Q42A	Golden Eagle	75.37	345	P	P	02 36 01.9	+0.1
	baz=164						
P46A	Rosedale	75.40	348	P	P	02 36 02.5	+0.5
	baz=167						
P45A	Graceland, Par	75.41	347	P	P	02 36 02.1	0.0
	baz=166						
N59A	State Game Lan	75.42	357	P	P	02 36 03.0	+0.9
	baz=176						
N55A	Marion Center	75.49	354	P	P	02 36 03.0	+0.5
	baz=174						
O49A	Covington	75.50	350	P	P	02 36 02.4	-0.2
	baz=169						
Q41A	Truxton	75.56	344	P	P	02 36 02.8	-0.1
	baz=164,SNR=6.8						
O48A	Farmland	75.69	349	P	P	02 36 02.8	-0.9
	baz=169						
N54A	Moraine State	75.75	354	P	P	02 36 04.0	0.0
	baz=173						
O47A	Sheridan	75.83	349	P	P	02 36 04.0	-0.4
	baz=168						
P43A	Skaggs, Pawnee	75.86	346	P	P	02 36 04.9	+0.2
	baz=165						
N50A	Nevada	75.92	351	P	P	02 36 04.6	-0.3
	baz=170						
P42A	Winchester	75.98	345	P	P	02 36 05.1	-0.2
	baz=164						
O45A	Potomac	76.11	347	P	P	02 36 05.6	-0.4
	baz=166						
O44A	Mansfield	76.15	347	P	P	02 36 05.8	-0.4
	baz=166						
N49A	Columbus Grove	76.20	350	P	P	02 36 05.4	-1.1
	baz=169						
P41A	Barry, Barry	76.22	345	P	P	02 36 05.3	-1.4
	baz=164						
N48A	Decatur	76.26	350	P	P	02 36 05.8	-1.1
	baz=169						
N47A	Urbana	76.38	349	P	P	02 36 06.9	-0.7
	baz=168						
O43A	Sugar Creek Fa	76.44	346	P	P	02 36 07.7	-0.2
	baz=165						
N46A	Monticello	76.56	348	P	P	02 36 08.2	-0.4
	baz=167						
O41A	Passleys Farm,	76.60	345	P	P	02 36 08.6	-0.2
	baz=164						
ANMO	Albuquerque	76.60	331	P	P	02 36 09.8	+0.6
	baz=151						
HDIL	Hopedale	76.70	346	P	P	02 36 09.6	+0.2
	baz=165						
N44A	Piper City	76.71	347	P	P	02 36 09.2	-0.2
	baz=166						
M49A	Liberty Center	76.72	351	P	P	02 36 09.2	-0.2
	baz=170						
M48A	Edgerton	76.83	350	P	P	02 36 09.7	-0.4
	baz=169						
KSU1	Kansas State U	77.04	340	P	P	02 36 11.3	-0.1
	baz=159						
N42A	Yates City	77.11	346	P	P	02 36 11.3	-0.3
	baz=165						
N41A	Harden Midland	77.16	345	P	P	02 36 11.7	-0.2
	baz=164						
L49A	Milan	77.31	351	P	P	02 36 13.0	+0.3
	baz=170						
M43A	Waltham Townsh	77.49	347	P	P	02 36 14.5	+0.7
	baz=166						
N40A	Mertquake, Sal	77.49	345	P	P	02 36 13.8	0.0
	baz=163						
M41A	Milan	77.74	346	P	P	02 36 14.5	-0.7
	baz=164						
T25A	Trinidad	77.76	334	*e*P	P	02 36 17.5	+1.8
	comp=Z,5.9nm,0.9s						
T25A	Trinidad	77.76	334	P	P	02 36 16.7	+1.1
	baz=153						
K50A	Casco	77.83	352	P	P	02 36 14.4	-1.2
	baz=171						
K48A	Perry	78.04	351	P	P	02 36 16.6	-0.2
	baz=170						
J52A	Paris	78.06	353	P	P	02 36 16.1	-0.8
	baz=173						
L42A	Oliver, Polo	78.17	346	P	P	02 36 17.8	+0.2
	baz=165						
L41A	Preston	78.40	346	P	P	02 36 18.6	-0.2
	baz=164						
J48A	Bridge Port	78.48	351	P	P	02 36 18.5	-0.7
	baz=171						
L40A	Anamosa	78.54	345	P	P	02 36 19.3	-0.3
	baz=164						
SDCO	Great Sand Dun	78.69	333	P	P	02 36 22.1	+1.2
	baz=152						
K42A	Prairie Point,	78.86	347	P	P	02 36 21.3	0.0
	baz=165						
K41A	Shullsburg	78.88	346	P	P	02 36 20.9	-0.5
	baz=164						
S22A	4UR Ranch, Cre	79.19	332	P	P	02 36 24.2	+0.6
	baz=151						
BOSA	Boshof	79.46	117	P	P	02 36 25.4	0.0
	comp=Z,13nm,0.6s,baz=250,slow=3.2,SNR=42						
J41A	Loganville	79.55	347	P	P	02 36 25.3	+0.2
	baz=165						
Q24A	Divide	79.64	334	P	P	02 36 26.2	+0.1
	baz=153						
GLMI	Grayling	80.09	351	P	P	02 36 28.7	+0.7
	baz=169						
I40A	Norwalk	80.17	346	P	P	02 36 28.0	-0.5
	baz=164						
I39A	Houston	80.32	346	*e*P	P	02 36 29.5	+0.2
	comp=Z,11nm,0.6s						
I39A	Houston	80.32	346	P	P	02 36 29.2	-0.1
	baz=164						
PV13	Radium Mtn., P	80.33	331	*e*P	P	02 36 31.2	+1.4
	comp=Z,3.1nm,0.9s						
GMRC	Granite Mounta	80.49	325	P	P	02 36 31.9	+1.3
	baz=145						
E54A	Lac Daplat, Po	80.99	356	P	P	02 36 33.0	+0.2
	baz=175						
ECSD	EROS Data Cent	81.38	342	*e*P	P	02 36 35.4	+0.5
	comp=Z,8.6nm,0.9s						
ECSD	EROS Data Cent	81.38	342	P	P	02 36 35.7	+0.8
	baz=160						
E46A	Sault Ste Mari	81.57	351	P	P	02 36 35.8	0.0
	baz=170						
D52A	ZEK Kipawa Sen	81.61	355	P	P	02 36 36.5	+0.4
	baz=174						
N23A	Red Feather La	81.63	334	P	P	02 36 37.9	+1.2
	baz=152						
EDW2	Edwards Air Fo	81.70	323	P	P	02 36 38.3	+1.3
	baz=143						
CCUT	Cedar City	81.72	328	*e*P	P	02 36 39.5	+2.4
	comp=Z,3.0nm,1.2s						
LBTB	Lobatse	81.72	115	*e*P	P	02 36 37.3	-0.2
	comp=Z,13nm,0.8s						
O20A	White River Ci	81.81	333	P	P	02 36 38.1	+0.6
	baz=150						
F37A	Hinrichs Farm,	82.34	345	P	P	02 36 40.0	+0.1
	baz=163						
TPNV	Topopah Spring	82.53	325	P	P	02 36 41.5	+0.2
	baz=144						
ISA	Isabella, Lake	82.56	323	P	P	02 36 42.4	+1.0
	baz=143						
PSUT	Pine Spring	82.75	328	*e*P	P	02 36 45.1	+2.6
	comp=Z,3.9nm,1.1s						
MPU	Maple Canyon	83.05	330	*e*P	P	02 36 46.3	+2.3
	comp=Z,2.6nm,0.8s						
R11A	Troy Canyon, C	83.36	327	P	P	02 36 47.6	+2.0
	baz=145						
TOA0	Torodi Ar. Sit	84.21	70	*e*P	P	02 36 48.2	-2.1
TORD	Torodi Ar. Bea	84.21	70	P	P	02 36 48.5	-1.8
	comp=Z,6.8nm,0.8s,baz=290,slow=5.4,SNR=35						
TOA1	Torodi Ar. Sit	84.21	70	*e*P	P	02 36 48.5	-1.8
PD31	Pinedale Array	84.58	333	*e*P	P	02 36 52.0	+0.1
PDAR	Pinedale Array	84.58	333	P	P	02 36 52.0	+0.1
	comp=Z,0.7nm,0.7s,baz=156,slow=4.9,SNR=8.8						
NV01	Mina Array Sit	84.69	325	*e*P	P	02 36 52.7	+0.2
NVAR	Mina Array Bea	84.69	325	P	P	02 36 53.2	+0.8
	comp=Z,0.9nm,0.7s,baz=152,slow=5.6,SNR=4.8						
HVU	Hansel Valley	85.00	330	*e*P	P	02 36 54.7	+0.8
	comp=Z,3.4nm,0.9s						
FLWY	Flagg Ranch	86.14	333	*e*P	P	02 36 59.3	-0.2
	comp=Z,4.4nm,0.9s						
YMR	Madison River	86.74	333	*e*P	P	02 37 04.4	+1.9
	comp=Z,3.7nm,0.8s						
HLID	Hailey	87.15	330	P	P	02 37 05.3	+0.8
	baz=146						
ULM	Lac du Bonnet	87.32	345	P	P	02 37 04.7	-0.2
	comp=Z,2.0nm,0.7s,baz=67,slow=2.3,SNR=4.1						
M02C	Callahan	89.18	324	P	P	02 37 14.7	+0.7
	baz=140						
LSZ	Lusaka	89.29	108	*e*P	P	02 37 17.0	+1.7
	comp=Z,4.7nm,1.0s						
I02D	Swisshome	91.72	325	P	P	02 37 26.8	+1.1
	baz=140						
MDT	Midelt	92.08	51	LR	LR	03 17 45.3	
	comp=Z,54nm,18.7s,baz=168,slow=35						
YKA	Yellowknife Ar	102.89	341	P	Pdif	02 38 15.5	-0.1
	comp=Z,0.2nm,0.7s,baz=149,slow=4.6,SNR=4.1						
YKB5	Yellowknife Ar	102.89	341	*e*Pdif	Pdif	02 38 15.5	-0.1
BESE	Bessie Mountai	106.80	331	*e*Sdif	Sdif	02 50 26.5	-3.6
WR1	Warramunga Arr	120.22	209	*e*PKPdf	PKPdf	02 43 08.8	-1.1
WRA	Warramunga Arr	120.22	209	PKP	PKPdf	02 43 08.8	-1.1
	comp=Z,0.6nm,0.7s,baz=158,slow=1.7,SNR=14						
BR131	Keskin Array S	121.96	61	*e*PKPdf	PKiKP	02 43 12.8	-0.1
BRTR	Keskin Array B	121.96	61	PKP	PKPdf	02 43 12.2	-0.4
	comp=Z,1.0nm,0.7s,baz=185,slow=3.9,SNR=10						
BR101	Keskin Array S	121.96	61	*e*PKPdf	PKPdf	02 43 12.2	-0.4
AKASG	Malin Array Be	122.50	48	PKP	PKPdf	02 43 11.6	-1.6
	comp=Z,0.2nm,0.3s,baz=273,slow=1.6,SNR=4.6						
AKBB	Malin Array Si	122.50	48	*e*PKPdf	PKPdf	02 43 11.6	-1.6
PEA1	Petropavlovsk-	140.90	313	*e*PKPdf	PKPdf	02 43 43.4	-4.3
ABKAR	Akbulak array	141.93	53	*e*PKPpre	PKPpre	02 43 44.1	
PSI	Prapat	147.01	163	*e*PKPdf	PKPbc	02 44 01.0	-0.8
BRVK	Borovoye	147.57	44	*e*PKPdf	PKPbc	02 44 02.9	+0.8
HYB	Hyderabad	148.34	115	*i* PKP	PKPbc	02 44 05.0	-0.2
HYB				*e*		02 44 22.0	
KK31	Karatay Array	149.65	63	*e*PKPbc	PKPbc	02 44 07.5	-0.2
KKAR	Karatay Array	149.65	63	*e*PKPbc	PKPbc	02 44 07.5	-0.2
BTK	Batken	149.91	69	*e*PKPbc	PKPbc	02 44 08.7	+0.1
NIL	Nilore	151.07	82	*e*PKPbc	PKPbc	02 44 11.6	+0.1
ARSB	Arslanbob	151.56	66	*e*PKPbc	PKiKP	02 44 12.9	0.0
AAK	Ala-Archa	152.61	63	*e*PKPbc	PKiKP	02 44 15.5	+0.4
KURK	Kurchatov	153.24	44	*e*PKPbc	PKiKP	02 44 16.0	+0.1
NRN	Naryn	153.82	66	*e*PKPbc	PKiKP	02 44 18.3	+0.5
KSH	Kashi	153.88	70	PKPbc	PKPbc	02 44 16.6	-1.1
KSH				pPKP	pPKPdf	02 44 27.2	+2.7
KSH				PKS	PKSdf	02 47 44.5	+0.5
KSH				PP	PP	02 48 06.5	+0.3
KSH				AMB	AMB		
	comp=Z,290nm,5.0s						
ZAA1	Zalesovo Array	154.72	33	*e*PKPbc	PKPbc	02 44 18.7	-0.1
ZAA1				*e*PKPab	pPKPbc	02 44 33.0	-0.6
ZALV	Zalesovo Beam	154.72	33	PKPbc	PKPbc	02 44 18.7	-0.1
	comp=Z,0.9nm,0.6s,baz=304,slow=3.4,SNR=6.4						
ZALV				PKPab	pPKPbc	02 44 33.0	-0.6
	comp=Z,1.6nm,0.7s,baz=294,slow=5.6,SNR=5.7						
MK32	Makanchi Array	157.04	51	*e*PKPdf	PKPdf	02 44 12.3	-1.3
MK32				*e*PKPab	PKPab	02 44 43.0	-1.2
MKAR	Makanchi Array	157.04	51	PKP	PKPdf	02 44 12.3	-1.3
	comp=Z,0.2nm,0.7s,baz=321,slow=1.7,SNR=4.2						
MKAR				PKPab	PKPab	02 44 43.0	-1.2
	comp=Z,1.0nm,0.8s,baz=267,slow=3.0,SNR=5.7						
MK01	Makanchi Array	157.06	51	*e*PKPab	PKPab	02 44 43.9	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WMQ	**Urumqi**	**161.70**	**54**	*e*PKP	**PKPdf**	**02 44 19.6**	**+0.5**
NJ2	**Nanjing**	**170.78**	**256**	*e*PKP	**PKPdf**	**02 44 27.3**	**+0.8**
GTA	**Gaotai**	**171.79**	**53**	*e*PKP	**PKPdf**	**02 44 27.9**	**+0.9**
GTA				pPKP	pPKPdf	02 44 40.2	-1.6
GTA				sPKP		02 44 45.5	
HHC	**Hu-ho-hao-te**	**173.41**	**338**	*e*PKP	**PKPdf**	**02 44 28.6**	**+1.0**
LZH	**Lanzhou**	**176.13**	**69**	*e*PKP	**PKPdf**	**02 44 29.9**	**+1.3**
LZH				pPKP	pPKPdf	02 44 38.6	-4.9
LZH				sPKP		02 44 44.5	

*ISK **02** 03:02:30.7, 35.°38N×27.°82E, h5km, ML3.1/12*
*IDC **02** 03:02:30.3±1.1, 35.°40N×27.°78E, h0km, mb3.6/8, mb1 3.6/12, mb1mx3.4/47, mbtmp3.5/12, ML3.1/3, Error ellipse: s-maj=20.7km s-min=17.1km az=2.0*
*ISCJB **02** 03:02:30.7±0.9, 35.°32N±0.°03×27.°94E±0.°03, h1km±6km, mb3.6/8, Error ellipse: s-maj=5.7km s-min=3.6km az=159.4*
*DDA **02** 03:02:31.8, 35.°29N×27.°86E, h30km±1km, ML3.3*
*THE **02** 03:02:34.8, 35.°60N×27.°72E, h1km±2km, ML2.6/3, Error ellipse: s-maj=6.0km s-min=1.3km az=142.0*
*ATH **02** 03:02:34.8, 35.°58N×27.°68E, h9km±2km, ML2.7/4, Error ellipse: s-maj=4.2km s-min=1.3km az=138.0*
ISC 02 03:02:31.9±1.2, **35.°38N**±0.°04×**27.°81E**±0.°02, **h9**km±8km, **n73**, σ**1.s60**/92, **mb3.5**/8, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.56**	**288**	PG	**Pg**	**03 02 42.6**	**-0.1**
KARP				SG	**Sb**	**03 02 52.3**	**+0.4**
KARP	**Karpathos**	**0.56**	**288**	P	**Pb**	**03 02 43.5**	**-0.4**
KARP				S	**Sg**	**03 02 49.4**	**-0.7**
KARP				AML	AML	03 02 56.8	
	comp=E,2111µm,0.5s						
KARP				AML	AML	03 02 57.3	
	comp=N,2731µm,0.6s						
KARP	**Karpathos**	**0.56**	**288**	P	**Pb**	**03 02 43.6**	**-0.3**
KARP				S	**Sb**	**03 02 51.3**	**-0.6**
ARG	**Arkhangelos**	**0.88**	**17**	PG	**Pb**	**03 02 48.9**	**-0.4**
ARG				SG	**Sb**	**03 03 01.7**	**+0.6**
ARG	**Arkhangelos**	**0.88**	**17**	P	**Pg**	**03 02 48.7**	**-0.1**
ARG				S	**Sg**	**03 02 59.3**	**-0.9**
ARG				AML	AML	03 03 07.1	
	comp=E,1042µm,0.3s						
ARG				AML	AML	03 03 07.9	
	comp=N,1063µm,0.7s						
ARG	**Arkhangelos**	**0.88**	**17**	P	**Pg**	**03 02 48.3**	**-0.5**
ARG				S	**Sg**	**03 02 59.0**	**-1.1**
ZKR	**Zakros**	**1.33**	**259**	PN	**Pg**	**03 02 57.4**	**0.0**
ZKR	**Zakros**	**1.33**	**259**	P	**Pg**	**03 02 58.3**	**+0.9**
ZKR				S	**Sn**	**03 03 16.2**	**+1.7**
ZKR				AML	AML	03 03 28.7	
	comp=E,753µm,0.6s						
ZKR				AML	AML	03 03 29.8	
	comp=N,411µm,0.5s						
ZKR	**Zakros**	**1.33**	**259**	P	**Pg**	**03 02 58.4**	**+0.9**
ZKR				S	**Sn**	**03 03 17.3**	**+2.8**
DAT	**Datca**	**1.36**	**352**	PN	**Pg**	**03 02 57.4**	**-0.7**
DAT				SN	**Sn**	**03 03 17.8**	**+2.4**
DAT	**Datca**	**1.36**	**352**	IAML_P			
	comp=Z,1µm,0.2s						
DATC	**Datca-Mugla**	**1.38**	**355**	PN	**Pg**	**03 02 58.1**	**-0.4**
STIA	**Sitia Lasithi**	**1.42**	**263**	P	**Pg**	**03 03 00.4**	**+1.3**
DALY	**Dalyan (Mula)**	**1.59**	**25**	PN	**Pb**	**03 03 01.1**	**-0.3**
DALY	**Dalyan (Mula)**	**1.59**	**25**	IAML_P			
	comp=Z,1µm,0.2s						
DALY				*i* P	**Pg**	**03 03 02.9**	**+0.5**
FETY	**Fethiye**	**1.62**	**39**	PN	**Pb**	**03 03 01.8**	**-0.3**
FETY	**Fethiye**	**1.62**	**39**	IAML_P			
	comp=Z,2µm,0.2s						
FETY				*i* P	**Pn**	**03 03 01.6**	**+0.8**
FETY				*i* S	**Sg**	**03 03 30.8**	**+6.6**
TURN	**Turunc**	**1.62**	**23**	PN	**Pn**	**03 02 59.4**	**-1.3**
TURN	**Turunc**	**1.62**	**23**	IAML_P			
	comp=Z,3µm,0.3s						
TURN				*i* P	**Pn**	**03 03 00.6**	**-0.1**
TURN				*i* S	**Sg**	**03 03 24.4**	**+0.2**
AKAS	**Kas**	**1.69**	**59**	PN	**Pb**	**03 03 03.0**	**-0.2**
AKAS	**Kas**	**1.69**	**59**	IAML_P			
	comp=Z,2µm,0.2s						
AKAS				*i* P	**Pb**	**03 03 03.0**	**-0.2**
BDRM	**Kayabasi**	**1.71**	**350**	IAML_P			
	comp=Z,1µm,0.4s						
BDRM				*i* P	**Pb**	**03 03 02.6**	**-0.9**
BDRM				*i* S	**Sg**	**03 03 28.3**	**+1.4**
BODT	**Bodrum**	**1.73**	**347**	PN	**Pn**	**03 03 02.8**	**+0.6**
BODT	**Bodrum**	**1.73**	**347**	P	**Pn**	**03 03 02.8**	**+0.6**
NPS	**Neapolis**	**1.80**	**267**	P	**Pg**	**03 03 07.3**	**+0.8**
NPS				S	**Sg**	**03 03 29.0**	**-0.8**
NPS				AML	AML	03 03 38.0	
	comp=E,608µm,0.7s						
NPS				AML	AML	03 03 38.4	
	comp=N,404µm,0.7s						
NPS	**Neapolis**	**1.80**	**267**	P	**Pg**	**03 03 07.0**	**+0.5**
MLSB	**Milas**	**1.91**	**359**	PN	**Pn**	**03 03 05.6**	**+0.9**
LAST	**Lasithi**	**1.92**	**264**	P	**Pg**	**03 03 09.1**	**+0.3**
LAST				S	**Sg**	**03 03 33.3**	**-0.4**
ANAF	**Anafi Island**	**1.92**	**301**	P	**Pb**	**03 03 07.0**	**-0.1**
ANAF				S	**Sg**	**03 03 31.6**	**-2.1**
AMGA	**Amorgos Island**	**2.12**	**314**	P	**Pb**	**03 03 09.2**	**-1.4**
AMGA				S	**Sb**	**03 03 35.9**	**-1.2**
SANT	**Santorini**	**2.15**	**298**	PN	**Pn**	**03 03 08.8**	**+0.8**
SANT	**Santorini**	**2.15**	**298**	P	**Pb**	**03 03 10.9**	**-0.1**
ELL	**Elmali**	**2.18**	**51**	PN	**Pn**	**03 03 09.7**	**+1.2**
TAVA	**DENIZLI_Tavas**	**2.27**	**23**	IAML_P			
	comp=Z,1µm,0.2s						
TAVA				*i* P	**Pb**	**03 03 11.6**	**-1.5**
AYDN	**Tasoluk**	**2.28**	**1**	IAML_P			
	comp=Z,982nm,0.2s						
AYDN				*i* P	**Pb**	**03 03 11.7**	**-1.5**
GOLH	**Golhisar**	**2.33**	**37**	IAML_P			
	comp=Z,1µm,0.4s						
GOLH				*i* P	**Pb**	**03 03 13.0**	**-1.2**
GCAM	**G?zelcaml?**	**2.36**	**349**	PN	**Pn**	**03 03 11.9**	**+1.0**
GCAM	**G?zelcaml?**	**2.36**	**349**	IAML_P			
	comp=Z,645nm,0.3s						
GCAM				*i* P	**Pb**	**03 03 14.9**	**+0.3**
IDI	**Anoyia**	**2.39**	**269**	PN	**Pn**	**03 03 13.1**	**+1.8**
IDI	**Anoyia**	**2.39**	**269**	Pn	**Pb**	**03 03 14.8**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=33,slow=6.6,SNR=18						
IDI				Sn	**Sg**	**03 03 50.7**	**+2.0**
	comp=Z,3.0nm,0.3s,baz=345,slow=20,SNR=4.2						
IOSP	**Ios island**	**2.44**	**304**	P	**Pb**	**03 03 14.4**	**-1.7**
SMG	**Samos**	**2.46**	**342**	P	**Pb**	**03 03 14.2**	**-2.0**
SIVA	**Sivas**	**2.48**	**263**	P	**Pb**	**03 03 16.9**	**+0.2**
APE	**Apeiranthos**	**2.50**	**313**	PN	**Pn**	**03 03 13.0**	**+0.2**
APE	**Apeiranthos**	**2.50**	**313**	P	**Pn**	**03 03 14.1**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**2.56**	**1**	PN	**Pn**	**03 03 15.0**	**+1.2**
KORT	**Korkueli**	**2.62**	**51**	PN	**Pn**	**03 03 15.5**	**+1.0**
KORT	**Korkueli**	**2.62**	**51**	IAML_P			
	comp=Z,619nm,0.2s						
KORT				*i* P	**Pb**	**03 03 17.5**	**-1.5**
BRDR	**BURDUR-Merkez**	**2.94**	**37**	IAML_P			
	comp=Z,251nm,0.4s						
BRDR				*i* P	**Pb**	**03 03 22.1**	**-2.4**
VAM	**Vamos**	**2.95**	**272**	P	**Pb**	**03 03 23.8**	**-0.9**
BLCB	**Balcova**	**3.06**	**349**	PN	**Pn**	**03 03 22.5**	**+2.0**
IMMV	**Iera Moni Meta**	**3.13**	**273**	P	**Pb**	**03 03 25.4**	**-2.3**
URLA	**Izmir**	**3.13**	**342**	*i* P	**Pn**	**03 03 23.4**	**+2.0**
MANT	**Manisa**	**3.16**	**11**	IAML_P			
	comp=Z,100nm,0.2s						
MANT				*i* P	**Pn**	**03 03 23.1**	**+1.0**
KULA	**Kula-Manisa**	**3.20**	**12**	PN	**Pn**	**03 03 23.3**	**+0.8**
KHAL	**Karahalli**	**3.28**	**24**	IAML_P			
	comp=Z,165nm,0.2s						
KHAL				*i* P	**Pn**	**03 03 25.7**	**+2.2**
CHOS	**Chios island**	**3.32**	**335**	P	**Pn**	**03 03 26.3**	**+2.3**
SIMA	**Simav-Kutahya**	**3.81**	**14**	PN	**Pn**	**03 03 32.7**	**+1.8**
KYTH	**Kithira**	**3.97**	**284**	P	**Pn**	**03 03 36.5**	**+3.5**
STEP	**BALIKESIR_Sava**	**3.99**	**359**	IAML_P			
	comp=Z,440nm,0.3s						
STEP				*i* P	**Pn**	**03 03 35.6**	**+2.3**
VLI	**Veliai**	**4.17**	**290**	P	**Pn**	**03 03 38.3**	**+2.6**
BRTR	**Keskin Array B**	**6.34**	**45**	Pn	**Pn**	**03 04 07.7**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=216,slow=18,SNR=5.7						
BRTR				Sn	**Sn**	**03 05 21.4**	**+3.1**
	comp=Z,0.1nm,0.3s,baz=216,slow=25,SNR=4.2						
MMAI	**Mount Meron Ar**	**6.72**	**108**	Pn	**Pn**	**03 04 08.7**	**-2.1**
	comp=Z,1.1nm,0.3s,baz=304,slow=12,SNR=8.8						
MMAI				Sn	**Sn**	**03 05 27.3**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=286,slow=21,SNR=3.0						
EIL	**Elat**	**8.29**	**131**	Pn	**Pn**	**03 04 30.6**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=335,slow=4.6,SNR=14						
EIL				Sn	**Sn**	**03 06 01.5**	**-4.5**
	comp=Z,0.3nm,0.3s,baz=20,slow=18,SNR=4.2						
GERES	**GERESS Array B**	**17.01**	**327**	Pn	**Pn**	**03 06 30.3**	**+0.3**
	baz=142,slow=15,SNR=5.2						
ESDC	**Sonseca Array**	**25.49**	**289**	P	**P**	**03 08 00.6**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=81,slow=9.4,SNR=6.3						
FINES	**FINESS Array B**	**26.11**	**358**	P	**P**	**03 08 04.6**	**-1.2**
	comp=Z,9.0nm,1.3s,baz=180,slow=19,SNR=3.5						
HFS	**Hagfors**	**26.41**	**344**	P	**P**	**03 08 07.0**	**-1.6**
	comp=Z,2.1nm,0.8s,baz=142,slow=13,SNR=4.4						
NOA	**NORSAR Array B**	**27.79**	**343**	P	**P**	**03 08 20.1**	**-0.8**
	comp=Z,1.1nm,1.1s,baz=147,slow=10,SNR=2.7						
TORD	**Torodi Ar. Bea**	**32.33**	**233**	P	**P**	**03 09 01.7**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=30,slow=9.9,SNR=10						
ARCES	**ARCESS Array B**	**34.24**	**359**	P	**P**	**03 09 15.8**	**-1.9**
	comp=Z,2.9nm,1.0s,baz=164,slow=7.5,SNR=4.4						
KURBB	**Kurchatov Arra**	**39.30**	**51**	P	**P**	**03 10 01.9**	**+1.0**
	comp=Z,0.1nm,0.4s,baz=278,slow=9.0,SNR=3.0						
MKAR	**Makanchi Array**	**41.84**	**57**	P	**P**	**03 10 23.1**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=275,slow=7.2,SNR=4.6						

*KRNET **02** 03:05:15.4±0.1, 42.°93N×77.°01E, h13km, mb2.6*
*SOME **02** 03:05:17.2, 43.°05N×76.°97E, h0km*
*NNC **02** 03:05:17.4±0.4, 43.°04N×76.°95E, h2km±2km, mb2.1, mpv2.1, Error ellipse: s-maj=4.3km s-min=1.8km az=155.0*
ISC 02 03:05:16.4±1.1, **42.°97N**±0.°02×**76.°99E**±0.°02, **h1**km±10km, **n32**, σ**0.s83**/62, **8C-10D**, **Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**0.07**	**337**	P	**Pg**	**03 05 17.9**	**-0.1**
	5.2nm,0.1s						
TNSS				S	**Sg**	**03 05 18.7**	**-0.4**
	11nm,0.1s						
TNSS	**Tian-Shan**	**0.07**	**337**	*e*P	**Pg**	**03 05 17.9**	**-0.1**
	1.8nm,0.1s						
TNSS				*e*S	**Sg**	**03 05 18.7**	**-0.4**
	11nm,0.1s						
MDOK	**Medeo**	**0.20**	**14**	Pg	**Pg**	**03 05 20.2**	**-0.1**
	2.5nm,0.1s						
MDOK				Lg	Lg	03 05 22.1	
	19nm,0.2s						
MDOK	**Medeo**	**0.20**	**14**	*e*P	**Pg**	**03 05 20.1**	**-0.2**
	2.0nm,0.1s						
MDOK				*e*S	**Sg**	**03 05 22.1**	**-0.8**
	19nm,0.3s						
KOTS	**Kotyrbulak**	**0.28**	**19**	P	**Pg**	**03 05 21.7**	**-0.2**
	5.0nm,0.1s						
KOTS				S	**Sg**	**03 05 24.9**	**-0.6**
	39nm,0.2s						
KOTS	**Kotyrbulak**	**0.28**	**19**	*e*P	**Pg**	**03 05 21.7**	**-0.2**
	5.0nm,0.1s						
KOTS				*e*S	**Sg**	**03 05 24.9**	**-0.6**
	39nm,0.2s						
IZV	**Izvestkoviy**	**0.28**	**284**	P	**Pg**	**03 05 22.8**	**+0.9**
	2.0nm,0.1s						
IZV				S	**Sg**	**03 05 27.2**	**+1.6**
	21nm,0.3s						
IZV	**Izvestkoviy**	**0.28**	**284**	*e*P	**Pg**	**03 05 22.8**	**+0.9**
	2.1nm,0.1s						
IZV				*e*S	**Sg**	**03 05 27.1**	**+1.6**
	18nm,0.2s						
KST	**Kastek**	**0.75**	**276**	P	**Pg**	**03 05 31.9**	**+1.1**
	1.4nm,0.4s						
KST				S	**Sb**	**03 05 42.4**	**-0.8**
	2.5nm,0.3s						
KST	**Kastek**	**0.75**	**276**	*e*P	**Pg**	**03 05 31.9**	**+1.1**
	0.3nm,0.1s						
KST				*e*S	**Sb**	**03 05 42.4**	**-0.8**
	2.5nm,0.2s						
KDJ	**Kajisay**	**0.85**	**170**	⇑*i*P	**Pg**	**03 05 31.4**	**-1.4**
	baz=70						
KDJ				⇑*i*S	**Sg**	**03 05 42.7**	**-1.1**
	baz=70						
CHKK	**Chushkaly**	**0.88**	**0**	P	**Pg**	**03 05 32.7**	**-0.7**
	1.9nm,0.1s						
CHKK				S	**Sg**	**03 05 43.8**	**-1.1**
	5.9nm,0.2s						
CHKK	**Chushkaly**	**0.88**	**0**	*e*P	**Pg**	**03 05 32.7**	**-0.7**
	1.9nm,0.1s						
CHKK				*e*S	**Sg**	**03 05 43.8**	**-1.1**
	5.9nm,0.2s						
BOOM	**Boomskoye usch**	**0.91**	**238**	⇓*e*P	**Pg**	**03 05 32.8**	**-1.0**
	baz=41						
BOOM				⇓*i*S	**Sg**	**03 05 45.5**	**-0.1**
	baz=41						
ULHL	**Ulahol**	**0.91**	**217**	⇑*i*P	**Pg**	**03 05 32.7**	**-1.2**
	baz=20						
ULHL				⇑*i*S	**Sg**	**03 05 44.9**	**-0.7**
	baz=20						
DGS	**Degeres**	**0.93**	**287**	P	**Pg**	**03 05 34.6**	**+0.3**
	1.1nm,0.4s						
DGS				S	**Sg**	**03 05 47.0**	**+0.7**
	3.3nm,0.3s						
DGS	**Degeres**	**0.93**	**287**	*e*P	**Pg**	**03 05 34.5**	**+0.3**
	0.3nm,0.1s						
DGS				*e*S	**Sg**	**03 05 47.0**	**+0.7**
	0.9nm,0.1s						
TKM2	**Tokmak 2**	**1.02**	**268**	⇑P	**Pg**	**03 05 36.8**	**+0.8**
	0.3nm,0.4s						
TKM2				⇓S	**Sb**	**03 05 50.9**	**-0.1**
	0.7nm,0.4s						
TKM2	**Tokmak 2**	**1.02**	**268**	⇑*i*P	**Pg**	**03 05 35.0**	**-1.0**
	baz=70						
TKM2				⇑*i*S	**Sg**	**03 05 50.2**	**+1.0**
	baz=70						
KUU	**Kurty**	**1.03**	**333**	P	**Pg**	**03 05 36.2**	**-0.1**
	0.3nm,0.2s						
KUU				S	**Sb**	**03 05 50.0**	**-1.2**
	5.6nm,0.3s						
KUU	**Kurty**	**1.03**	**333**	*e*P	**Pg**	**03 05 36.2**	**-0.1**
	0.3nm,0.2s						
KUU				*e*S	**Sb**	**03 05 50.0**	**-1.2**
	5.6nm,0.3s						
SATY	**Saty**	**1.05**	**85**	P	**Pg**	**03 05 37.5**	**+1.0**
	1.1nm,0.2s						
SATY				S	**Sb**	**03 05 51.9**	**+0.3**
	7.1nm,0.1s						
SATY	**Saty**	**1.05**	**85**	*e*P	**Pg**	**03 05 37.5**	**+1.0**
	0.3nm,0.1s						
SATY				*e*S	**Sb**	**03 05 51.9**	**+0.3**
	3.4nm,0.2s						
ARXS	**Arharly**	**1.39**	**26**	P	**Pb**	**03 05 43.2**	**+0.1**
	1.2nm,0.4s						
ARXS				S	**Sn**	**03 06 01.9**	**-0.1**
	2.9nm,0.3s						
ARXS	**Arharly**	**1.39**	**26**	*e*P	**Pb**	**03 05 43.2**	**+0.1**
	0.5nm,0.1s						
ARXS				*e*S	**Sn**	**03 06 01.9**	**-0.1**
	1.7nm,0.3s						
UZB	**Uzynbulak**	**1.50**	**83**	P	**Pb**	**03 05 45.9**	**+0.7**
	1.3nm,0.4s						
UZB				S	**Sg**	**03 06 06.5**	**+1.7**
	1.4nm,0.1s						
UZB	**Uzynbulak**	**1.50**	**83**	*e*P	**Pb**	**03 05 45.9**	**+0.7**
	0.5nm,0.1s						
UZB				*e*S	**Sg**	**03 06 06.4**	**+1.7**
	2.1nm,0.1s						
KBK	**Karagaybulak**	**1.53**	**259**	⇓*i*P	**Pn**	**03 05 44.3**	**-0.8**
	baz=60						
KBK				⇓*i*S	**Sn**	**03 06 05.6**	**-0.1**
	baz=60						
KZA	**Kyzart**	**1.56**	**236**	⇓*i*P	**Pn**	**03 05 44.7**	**-1.0**
	baz=37						
KZA				⇓*i*S	**Sn**	**03 06 06.6**	**-0.1**
	baz=37						
USP	**Ospenovka**	**1.84**	**280**	⇓*i*P	**Pn**	**03 05 50.1**	**+0.9**
	baz=81						
USP				⇓*i*S	**Sg**	**03 06 15.7**	**0.0**
	baz=81						
AAK	**Ala-Archa**	**1.86**	**261**	⇓Pn	**Pn**	**03 05 50.1**	**+0.5**
	0.8nm,0.7s						
AAK				⇑Sn	**Sn**	**03 06 14.5**	**+0.7**
	0.8nm,0.6s						
PDGK	**Podgornoye**	**1.87**	**78**	Pg	**Pg**	**03 05 52.7**	**+0.4**
	0.2nm,0.3s						
PDGK				Lg	Lg	03 06 18.0	
	0.7nm,0.3s						

*SKHL **02** 03:10:19.3±0.6, 46.°36N×153.°90E, h30km±4km, mb4.7/3*
*IDC **02** 03:10:36.0±2.8, 46.°86N×152.°42E, h81km±25km, mb3.3/10, mb1 3.6/13, mb1mx3.3/56, mbtmp3.7/13, MS3.4/3, Ms1 3.4/3, ms1mx2.8/27, Error ellipse: s-maj=23.1km s-min=16.3km az=117.0*
ISC 02 03:10:30.9±0.8, **46.°6N**±0.°1×**153.°0E**±0.°1, **h35**km, **n21**, σ**2.s13**/22, **mb3.6**/10, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.80**	**251**	*e*P	**Pn**	**03 11 24.3**	**-2.5**
KUR				AMB	AMB	03 11 27.8	
	210nm,1.0s						
KUR				*e*S	**Sn**	**03 12 12.6**	**+2.3**
KUR				A	A	03 12 28.1	
	60nm,0.6s						
KUR				A	A	03 12 28.1	
	140nm,0.6s						
SHO	**Shikotan**	**5.11**	**240**	*e*P	**Pn**	**03 11 41.8**	**-3.0**
SHO				AMB	AMB	03 11 57.2	
	10.0nm,0.4s						
SHO				AMB	AMB	03 11 57.2	
	20nm,0.4s						
SHO				*i* S	**Sn**	**03 12 44.1**	**+1.6**
SHO				A	A	03 12 59.0	
	30nm,0.3s						
SHO				A	A	03 12 59.0	
	60nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.62**	**245**	*e*P	**Pn**	**03 11 49.8**	**-2.0**
YUK				AMB	AMB	03 11 56.2	
	10.0nm,0.4s						
YUK				AMB	AMB	03 11 56.2	
	40nm,0.4s						
YUK				*e*S	**Sn**	**03 12 57.2**	**+2.2**
YUK				A	A	03 13 05.5	
	60nm,0.4s						
YUK				A	A	03 13 05.5	
	30nm,0.4s						
YSS	**Yuzh-Sakhalins**	**7.01**	**277**	*e*P	**Pn**	**03 12 11.2**	**+0.2**
PETK	**Petropavlovsk-**	**7.21**	**23**	P	**Pn**	**03 12 17.4**	**+3.7**
	0.5nm,0.3s,baz=184,slow=10,SNR=10						
ASAJ	**Asahikawa**	**7.70**	**255**	P	**Pn**	**03 12 21.7**	**+1.3**
	0.2nm,0.3s,baz=90,slow=13,SNR=3.3						
MJAR	**Matsushiro Arr**	**14.89**	**233**	P	**Pn**	**03 14 01.2**	**+2.5**
	0.1nm,0.3s,baz=24,slow=13,SNR=2.9						
USRK	**Ussuriysk Ar.**	**14.92**	**268**	LR	LR	03 19 35.3	
	comp=Z,69nm,18.0s,baz=17,slow=37						
ZALV	**Zalesovo Beam**	**42.62**	**306**	LR	LR	03 36 58.8	
	comp=Z,42nm,20.6s,baz=72,slow=38						
MKAR	**Makanchi Array**	**46.92**	**297**	P	P	03 18 52.6	-5.1
	0.6nm,0.9s,baz=64,slow=5.5,SNR=4.6						
MKAR				LR	LR	03 39 33.8	
	comp=Z,74nm,18.5s,baz=18,slow=37						
YKA	**Yellowknife Ar**	**51.12**	**37**	P	**P**	**03 19 29.5**	**-0.1**
	0.3nm,0.8s,baz=294,slow=7.3,SNR=4.0						
YKA				PcP	**PcP**	**03 20 44.0**	**-0.8**
	0.3nm,1.0s,baz=303,slow=4.0,SNR=4.7						
FINES	**FINESS Array B**	**64.14**	**335**	P	**P**	**03 20 59.4**	**-1.8**
	0.7nm,0.3s,baz=38,slow=6.3,SNR=13						
PDAR	**Pinedale Array**	**64.93**	**54**	P	**P**	**03 21 07.9**	**+1.0**
	0.4nm,0.7s,baz=107,slow=1.5,SNR=4.0						
WRA	**Warramunga Arr**	**68.33**	**199**	P	**P**	**03 21 29.2**	**+0.8**
	0.5nm,1.1s,baz=26,slow=7.4,SNR=4.4						
NB2	**NORSAR Subarra**	**68.34**	**341**	P	**P**	**03 21 26.1**	**-2.0**
	comp=Z,1.0nm,0.8s,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.34**	**341**	P	**P**	**03 21 26.2**	**-2.0**
	comp=Z,1.0nm,0.7s,baz=27,slow=6.3,SNR=5.3						
HFS	**Hagfors**	**68.57**	**339**	P	**P**	**03 21 27.8**	**-1.7**
	baz=45,slow=4.5						
AKASG	**Malin Array Be**	**71.62**	**326**	P	**P**	**03 21 46.0**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=37,slow=6.1,SNR=4.8						
ASAR	**Alice Springs**	**72.02**	**198**	P	**P**	**03 21 52.3**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=15,slow=5.2,SNR=8.7						
TXAR	**Lajitas Array**	**77.67**	**60**	P	**P**	**03 22 24.4**	**+0.5**
	comp=Z,0.4nm,0.9s,baz=270,slow=2.5,SNR=3.6						
BRTR	**Keskin Array B**	**78.43**	**317**	P	**P**	**03 22 25.1**	**-2.9**
	comp=Z,0.3nm,0.8s,baz=52,slow=6.6,SNR=3.7						

*SJA **02** 03:12:29.7±0.6, 33.°92S×73.°15W, h44km±27km, ML3.2, MW4.0*
*GUC **02** 03:12:33.3±0.4, 34.°39S×72.°43W, h40km±2km, ML3.6*
ISC 02 03:12:23.8±2.2, **34.°20S**±0.°05×**72.°9W**±0.°1, **h14**km±12km, **n15**, σ**1.s15**/20, **1C-1D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**1.15**	**135**	*e*P	**Pg**	**03 12 47.0**	**+1.1**
GO05				*i* S	**Sb**	**03 12 57.3**	**-2.9**
GO05				IAML		03 12 57.7	
	comp=E,8µm,0.2s						
ROC1	**El Roble**	**2.00**	**53**	*i* P	**Pg**	**03 13 02.8**	**+0.6**
ROC1				*i* S	**Sg**	**03 13 28.1**	**-0.1**
ROCH	**El Roble**	**2.00**	**53**	*e*P	**Pg**	**03 13 02.6**	**+0.3**
ROCH				IAML		03 13 35.9	
	comp=N,441nm,0.5s						
CLCH	**Cerro Calan**	**2.13**	**69**	*e*P	**Pb**	**03 13 03.2**	**+1.0**
CLCH				*i* S	**Sn**	**03 13 26.4**	**+1.0**
CLCH				IAML		03 13 34.1	
	comp=E,676nm,0.3s						
PEL	**Peldehue**	**2.14**	**61**	*e*P	**Pg**	**03 13 04.0**	**-0.7**
PEL				*i* S	**Sn**	**03 13 27.4**	**+2.0**
PEL				IAML		03 13 35.9	
	comp=N,521nm,0.3s						
LMEL	**Las Melosas**	**2.28**	**82**	⇑*i*P	**Pb**	**03 13 04.8**	**0.0**
LMEL				IAML		03 13 35.3	
	comp=N,1µm,0.2s						
FCH	**Farellones**	**2.35**	**69**	⇓*i*P	**Pb**	**03 13 06.2**	**+0.1**
FCH				*i* S	**Sn**	**03 13 32.0**	**+0.9**
FCH				IAML		03 13 39.4	
	comp=N,508nm,0.3s						
CCHI	**Chillan**	**2.49**	**164**	*e*P	**Pb**	**03 13 08.1**	**-0.2**
CCHI				*e*S	**Sn**	**03 13 34.9**	**+0.8**
CCHI				IAML		03 13 45.6	
	comp=E,617nm,0.6s						
CMCH	**Combarbala**	**3.42**	**29**	*e*P	**Pb**	**03 13 24.1**	**0.0**
AUSP	**Uspallata**	**3.55**	**57**	*i* P	**Pb**	**03 13 26.0**	**-0.6**
AAGR	**Agrelo**	**3.58**	**73**	*i* P	**Pb**	**03 13 27.1**	**+0.1**
ARCO	**CERRO ARCO**	**3.59**	**69**	*i* P	**Pb**	**03 13 27.1**	**0.0**
ARCO				IAML		03 13 38.1	
	comp=Z,51nm,0.5s						
ASAL	**Salagasta**	**3.77**	**66**	*i* P	**Pb**	**03 13 29.4**	**-0.7**
RTLS	**Leoncito**	**3.87**	**53**	*i* P	**Pb**	**03 13 30.5**	**-1.5**
RTLS				IAML		03 13 51.1	
	comp=Z,31nm,0.4s						
ACCO	**Cerro Coronel**	**4.85**	**43**	*i* P	Pb	03 13 43.1	-5.6

*ISCJB **02** 03:42:24.0±0.3, 42.°45N±0.°02×40.°86E±0.°03, h10km, Error ellipse: s-maj=3.1km s-min=2.5km az=42.4*
*MOS **02** 03:42:25.6±0.0, 42.°54N×40.°99E, h4km, MPVA3.8*
*ISK **02** 03:42:25.7, 42.°13N×40.°78E, h5km, ML3.4/4*
*TIF **02** 03:42:25.7, 42.°22N×40.°85E, h24km±2km*
*NORS **02** 03:42:27.3±0.0, 42.°21N×41.°62E, h1km, MPVA3.6*
*DDA **02** 03:42:34.1, 41.°70N×41.°03E, h15km±3km, ML2.8*
ISC 02 03:42:24.0±0.7, **42.°44N**±0.°02×**40.°92E**±0.°02, **h10**km, **n58**, σ**1.s80**/98, **1C**, **Black Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DOMR	**Dombai**	**1.00**	**31**	*i* Pg	**Pb**	**03 42 43.2**	**-0.3**
DOMR				*e*Sg	**Sb**	**03 42 55.8**	**-1.0**
BATM	**Batumi**	**1.01**	**145**	P	**Pg**	**03 42 43.1**	**-0.3**
BATM				S	**Sg**	**03 42 55.8**	**-0.8**
BCA	**Borcka**	**1.12**	**152**	PG	**Pb**	**03 42 44.4**	**-1.1**
BCA				SG	**Sb**	**03 42 58.8**	**-1.3**
ARXR	**Arkhyz**	**1.16**	**13**	*e*Pg	**Pn**	**03 42 46.3**	**-0.1**
ARXR				*e*Sg	**Sn**	**03 43 00.6**	**-1.7**
DBOC	**Borcka**	**1.22**	**153**	IAML_P			
	comp=Z,8µm,0.1s						
DBOC				*i* P	**Pn**	**03 42 46.2**	**-1.0**
RPOR	**Krasnaya Polya**	**1.35**	**339**	*e*Pg	**Pg**	**03 42 50.5**	**+0.6**
RPOR				*e*Sg	**Sn**	**03 43 08.9**	**+1.9**
SOC	**Sochi**	**1.45**	**323**	*e*PG	**Pn**	**03 42 51.3**	**+1.1**
SOC				*e*		03 43 11.8	
SOC				pmax	pmax		
	comp=Z,37nm,0.2s						
SOC				smax	smax		
	comp=N,63nm,0.1s						
SOC				smax	smax		
	comp=E,429nm,0.2s						
SOC	**Sochi**	**1.45**	**323**	*e*Pg	**Pn**	**03 42 51.3**	**+1.1**
SOC				*e*Sg	**Sg**	**03 43 11.9**	**+1.3**
DBAD	**Bademkaya**	**1.53**	**157**	IAML_P			
	comp=Z,4µm,0.2s						
DBAD				*i* P	**Pn**	**03 42 51.3**	**-0.2**
DBAD				*i* S	**Sn**	**03 43 08.5**	**-3.0**
DAGI	**Agillar**	**1.55**	**151**	IAML_P			
	comp=Z,1µm,0.2s						
DAGI				*i* P	**Pn**	**03 42 51.9**	**+0.2**

DAGI				*i* S	Sn	03 43 09.1	-2.9
EPOS	**Posof**	1.64	124	*i* P	Pn	03 42 53.6	+0.6
EPOS				*i* S	Sn	03 43 14.3	+0.1
DDEM	**Demirkent**	1.66	158	IAML_P			
	comp=Z,4μm,0.2s						
DDEM				*i* P	Pn	03 42 53.9	+0.6
DDEM				*i* S	Sn	03 43 14.4	-0.3
MACK	**Trabzon**	1.72	210	*i* P	Pg	03 43 16.4	+19
SHA1	**Shidzhatmaz**	1.82	44	*e*Pg	Pb	03 42 57.6	0.0
SHA1				*e*Sg	Sg	03 43 21.6	-0.9
KIV	**Kislovodsk**	1.99	40*c*	*i* PN	Pb	03 43 00.5	+0.1
KIV				pmax	pmax		
	comp=Z,22nm,1.0s						
KIV0	**Kislovodsk Arr**	2.00	40	*i* Pg	Pb	03 43 00.5	0.0
KIV0				*e*Sg	Sg	03 43 25.5	-2.7
DIGR	**Digorskoe uzhe**	2.02	76	*i* PN	Pn	03 42 59.8	+1.5
DIGR	**Digorskoe uzhe**	2.02	76	*e*Pg	Pn	03 42 59.4	+1.2
DIGR				*e*Sg	Sb	03 43 24.7	-1.4
BAYT	**Aydıntepe-Bayb**	2.12	196	PN	Pn	03 42 59.2	-0.5
AKH	**Akhalkalaki**	2.18	117	P	Pn	03 43 02.0	+1.5
AKH				S	Sn	03 43 28.7	+1.2
AKH	**Akhalkalaki**	2.18	117	*e*PN	Pn	03 43 02.0	+1.5
AKH				*e*S	Sn	03 43 28.7	+1.2
BAYB	**BAYBURT**	2.23	193	IAML_P			
	comp=Z,151nm,0.3s						
BAYB				*i* P	Pn	03 43 03.0	+1.8
ESPY	**Espiye-Giresun**	2.24	228	PN	Pn	03 43 01.4	+0.3
ESPY				SN	Sn	03 43 27.5	-1.3
KBTC	**Kuba-Taba**	2.29	52	*e*PN	Pg	03 43 07.6	-0.2
KBTC				*e*S	Sg	03 43 37.6	+0.2
KBTC	**Kuba-Taba**	2.29	52	*e*Pg	Pg	03 43 07.6	-0.2
KBTC				*e*Sg	Sg	03 43 37.6	+0.2
LSNR	**Lesken**	2.30	68	*e*PN	Pb	03 43 06.5	+1.0
LSNR				*e*S	Sb	03 43 34.3	+0.3
LSNR	**Lesken**	2.30	68	*e*Pg	Pb	03 43 05.3	-0.2
LSNR				*e*Sg	Sb	03 43 33.7	-0.3
BGD	**Bogdanovka**	2.32	119	P	Pn	03 43 04.8	+2.3
BGD				S	Sn	03 43 33.1	+2.0
KARS	**Kars**	2.43	137	PN	Pn	03 43 06.2	+2.3
KARS	**Kars**	2.43	137	PN	Pn	03 43 07.1	+3.2
KOPT	**Kop Dagi**	2.44	188	IAML_P			
	comp=Z,235nm,0.2s						
KOPT				*i* P	Pn	03 43 07.2	+3.1
STDR	**Stavd-Durt**	2.49	67	*e*PN	Pg	03 43 11.8	+0.1
STDR				*e*S	Sg	03 43 42.7	-1.3
STDR	**Stavd-Durt**	2.49	67	*e*Pn	Pg	03 43 11.3	-0.4
STDR				*e*Sn	Sg	03 43 42.4	-1.6
HOMI	**Horasan**	2.50	162	IAML_P			
	comp=Z,318nm,0.2s						
HOMI				*i* P	Pn	03 43 08.9	+3.9
LACR	**Lac**	2.52	80	*e*PN	Pb	03 43 08.1	-1.3
LACR				*e*S	Sn	03 43 37.3	+1.3
LACR	**Lac**	2.52	80	*e*Pn	Pn	03 43 07.6	+2.5
LACR				*e*Sn	Sb	03 43 39.0	-1.6
TRLG	**Trialeti**	2.54	110	P	Pn	03 43 08.1	+2.8
TRLG				S	Sn	03 43 39.3	+2.9
KOPR	**Koprukoy-ERZUR**	2.54	164	PN	Pn	03 43 06.2	+0.7
KELT	**Kelkit**	2.61	209	IAML_P			
	comp=Z,98nm,0.2s						
KELT				*i* P	Pn	03 43 09.0	+2.6
KELT				*i* S	Sn	03 43 40.2	+2.0
GUDG	**Gudauri**	2.63	88	P	Pn	03 43 09.7	+3.0
GUDG				S	Sn	03 43 40.8	+1.9
EAK	**Akyaka**	2.67	130	IAML_P			
	comp=Z,191nm,0.3s						
EAK				*i* P	Pb	03 43 12.4	+0.5
PRTR	**Priterechnaya**	2.79	61	*e*Pn	Pn	03 43 10.6	+1.9
PRTR				*e*Sn	Sb	03 43 45.9	-2.2
TBLG	**Delisi**	2.93	103	P	Pn	03 43 12.4	+1.8
TBLG				S	Sn	03 43 47.7	+1.9
TBLG	**Delisi**	2.93	103	*e*PN	Pn	03 43 12.5	+1.8
TBLG				*e*S	Sn	03 43 47.7	+1.9
KMGR	**Komgaron**	2.97	77	*e*Pn	Pb	03 43 14.8	-2.3
GOF	**Gofitskoye**	3.04	30	*e*PN	Pn	03 43 08.3	-3.8
GOF				*e*S	Sn	03 43 49.7	+1.1
GOF				pmax	pmax		
	comp=Z,20nm,0.5s						
GOF				smax	smax		
	comp=N,60nm,0.7s						
ANN	**Anapa**	3.46	314	*e*PN	Pb	03 43 22.8	-2.6
ANN				*e*		03 44 06.2	
ANN	**Anapa**	3.46	314	*e*Pn	Pb	03 43 22.8	-2.6
ANN				*e*Sn	Sb	03 44 06.2	-1.3
GROC	**Groznyy**	3.67	76	*e*PN	Pg	03 43 32.7	-1.5
GROC				S	Sg	03 44 21.7	-0.1
GROC				pmax	pmax		
	comp=Z,5.0nm,0.4s						
GROC				smax	smax		
	comp=N,12nm,0.7s						
GROC				smax	smax		
	comp=N,10.0nm,0.5s						
GROC	**Groznyy**	3.67	76	*e*Pn	Pn	03 43 22.7	+1.9
GROC				*e*Sn	Sn	03 44 05.7	+1.7
GNI	**Garni**	3.67	127	PN	Pn	03 43 25.2	+4.2
GNI	**Garni**	3.67	127	PN	Pn	03 43 25.2	+4.2
SUDU	**Sudak**	4.95	302	*e*PN	Pn	03 43 40.1	+1.8
SUDU				*e*S	Sn	03 44 37.4	+1.9
SUDU	**Sudak**	4.95	302	*e*Pn	Pn	03 43 40.1	+1.8
SUDU				*e*Sn	Sn	03 44 37.4	+1.9
ALU	**Alushta**	5.24	298	*e*PN	Pn	03 43 44.3	+1.9
ALU				*e*S	Sn	03 44 43.6	+0.8
ALU	**Alushta**	5.24	298	*e*Pn	Pn	03 43 44.3	+1.9
ALU				*e*Sn	Sn	03 44 43.6	+0.8
SEV	**Sevastopol'**	5.68	294	*e*P	Pn	03 43 50.0	+1.6
SEV				*e*S	Sn	03 44 55.5	+1.9
SEV	**Sevastopol'**	5.68	294	*e*Pn	Pn	03 43 50.0	+1.6
SEV				*e*Sn	Sn	03 44 55.5	+1.9

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*IDC **02** 03:58:50.0±1.2, 35°.86N×21°.72E, h0km, mb3.6/8, mb1 3.6/11, mb1mx3.4/45, mbtmp3.5/11, ML2.6/3, Error ellipse: s-maj=24.8km s-min=19.5km az=14.0*
*THE **02** 03:58:52.7, 35°.73N×21°.75E, h0km±1km, ML3.0/11, Error ellipse: s-maj=2.6km s-min=1.0km az=237.0*
*PDG **02** 03:58:56.0±1.2, 36°.01N×21°.43E, h20km±3km, ML3.9/11, Error ellipse: s-maj=5.8km s-min=4.1km az=90.0*
ISC 02 03:58:52.1±1.7**, 35°.78N**±0°.05×**21°.53E**±0°.04**, h18**km±9km**, n74,** σ1s.96/100**, mb3.6**/8**, 7C-5D, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PYL	**PYLOS**	1.13	9	P	Pg	03 59 13.2	-0.8
PYL				S	Sn	03 59 32.4	+4.2
DYR	**Agios Nikonas**	1.18	33	P	Pg	03 59 12.8	-2.2
DYR				S	Sb	03 59 29.6	+0.6
KYTH	**Kithira**	1.32	68	P	Pn	03 59 15.0	-0.8
KYTH				S	Sb	03 59 32.8	-0.4
ITM	**Ithomi**	1.44	13	P	Pn	03 59 18.6	+1.2
ITM				S	Sg	03 59 40.9	+2.3
VLI	**Veliai**	1.48	50	P	Pn	03 59 18.2	+0.3
VLI				S	Sn	03 59 38.1	+1.3
VLX	**Vlachokerasia**	1.73	23	P	Pn	03 59 23.1	+1.6
VLX				S	Sb	03 59 45.8	+0.8
AMT	**Artemida-Makis**	1.76	5	P	Pn	03 59 23.6	+1.8
AMT				S	Sg	03 59 49.2	+0.4
TRIP	**Tripoli**	1.85	19	P	Pn	03 59 25.7	+2.6
IMMV	**Iera Moni Meta**	2.02	98	P	Pn	03 59 25.2	-0.2
IMMV				S	Sn	03 59 49.7	-0.6
DRO	**Drossia**	2.18	4	P	Pn	03 59 29.9	+2.4
DID	**Didima**	2.21	38	P	Pn	03 59 28.3	+0.3
DID				S	Sn	03 59 55.5	+0.7
VAM	**Vamos**	2.21	99	P	Pn	03 59 27.8	-0.2
VAM				S	Sn	03 59 54.0	-0.9
GVD	**Gavdhos**	2.29	113	P	Pn	03 59 28.5	-0.6
GVD				S	Sn	03 59 56.5	-0.4
KLV	**Kalavryta, Ach**	2.32	12	P	Pn	03 59 31.9	+2.4
LAKA	**Lakka**	2.48	8	P	Pn	03 59 34.8	+3.0
LOUT	**Loutraki**	2.49	27	P	Pn	03 59 34.7	+2.8
VLS	**Valsamata**	2.51	343	P	Pn	03 59 34.5	+2.4
TRIZ	**Trizonia**	2.62	9	P	Pn	03 59 37.1	+3.5
KALE	**Kalithea**	2.65	10	P	Pn	03 59 36.9	+2.8
EFP	**Efpalio**	2.66	6	P	Pn	03 59 37.6	+3.4
IDI	**Anoyia**	2.79	99	Pn	Pn	03 59 35.0	-1.0
	1.1nm,0.3s,baz=263,slow=7.8,SNR=14						
IDI				Sn	Sn	04 00 08.3	-0.9
	16nm,0.3s,baz=296,slow=19,SNR=19						
PVO	**Paravola**	2.83	360	P	Pn	03 59 40.4	+3.9
EVGI	**Lefkada island**	2.92	346	P	Pn	03 59 40.8	+3.0
LKD2	**Lefkada island**	3.08	347	P	Pn	03 59 43.2	+3.2
LKR	**Lokris**	3.10	22	P	Pn	03 59 39.4	-0.8
AXAR	**Agios Charalam**	3.12	17	P	Pn	03 59 45.3	+4.8
ATAL	**Atalanti**	3.15	22	P	Pn	03 59 41.6	+0.8
MAKR	**Makrakomi, Fth**	3.27	8	P	Pn	03 59 46.3	+3.8
AGG	**Agios Georgios**	3.30	11	P	Pn	03 59 45.5	+2.5
NEO	**Neokhori**	3.77	20	P	Pn	03 59 49.9	+0.4
THL	**Klokotos Trika**	3.80	6	P	Pn	03 59 52.0	+2.2
IGT	**Igoumenitsa**	3.87	346	P	Pn	03 59 52.6	+1.8
NEST	**Nestorio**	4.64	355	P	Pn	04 00 05.0	+3.5
BIA	**Bitola**	5.24	358	*i* Pn	Pn	04 00 12.2	+2.5
KRUS	**Krusevo**	5.59	358	*i* Pn	Pn	04 00 15.8	+1.3
VAY	**Valandovo**	5.59	8	*i* Pn	Pn	04 00 15.9	+1.4
TAR1	**Taranto**	5.80	326	*e*Pn	Pn	04 00 18.9	+1.6
TAR1				Sn	Sn	04 01 22.5	-0.9
CGL1	**Ceglie Messapi**	5.82	328	*e*Pn	Pn	04 00 19.0	+1.4
CGL1				Sn	Sn	04 01 22.6	-1.3
STIP	**Stip**	5.93	5	*i* Pn	Pn	04 00 21.2	+2.1
MASS	**Massafra**	5.95	326	*e*Pn	Pn	04 00 20.8	+1.4
MASS				Sn	Sn	04 01 28.4	+1.3
FASA	**Fasano**	6.00	328	*e*Pn	Pn	04 00 21.6	+1.5
SG1	**Sgolgore (BA)**	6.33	324	*e*Pn	Pn	04 00 26.2	+1.6
SG1				Sn	Sn	04 01 32.9	-3.6
ULC	**Ulcinj**	6.43	345	⇑*i*Pn	Pn	04 00 26.3	+0.3
ULC				*e*Sn	Sn	04 01 36.9	-2.0
DRME	**Dracevica, Mon**	6.66	345	⇑*i*Pn	Pn	04 00 29.8	+0.8
DRME				*e*Sn	Sn	04 01 41.4	-3.0
DRME	**Dracevica, Mon**	6.66	345	*e*Pn	Pn	04 00 29.6	+0.6
BUM	**Brajici-Budva**	6.83	343	⇑*i*Pn	Pn	04 00 32.6	+1.1
BUM				*e*Sn	Sn	04 01 46.0	-2.8
PDG	**Podgorica**	6.87	346	*e*Pn	Pn	04 00 32.4	+0.4
TTG	**Podgorica**	6.87	346	⇓*i*Pn	Pn	04 00 32.9	+0.9
TTG				*e*Sn	Sn	04 01 47.6	-2.2
PVY	**Plav**	6.92	350	⇑*i*Pn	Pn	04 00 34.7	+2.0
PVY				*e*Sn	Sn	04 01 48.0	-3.0
CEME	**Cevo**	7.06	344	⇓*i*Pn	Pn	04 00 35.1	+0.5
CEME				*e*Sn	Sn	04 01 51.4	-3.0
HCY	**Herceg Novi**	7.07	341	⇑*i*Pn	Pn	04 00 35.2	+0.5
HCY				*e*Sn	Sn	04 01 51.8	-2.7
HCY	**Herceg Novi**	7.07	341	*e*Pn	Pn	04 00 33.2	-1.5
IVA	**Berane**	7.20	350	⇓*i*Pn	Pn	04 00 38.1	+1.5
IVA				*e*Sn	Sn	04 01 54.6	-3.3
KOME	**Kolasin**	7.23	348	⇑*i*Pn	Pn	04 00 38.1	+1.0
KOME				*e*Sn	Sn	04 01 55.9	-2.9
NKME	**Niksic**	7.26	345	⇓*i*Pn	Pn	04 00 38.0	+0.6
NKME				*e*Sn	Sn	04 01 56.4	-3.0
TREB	**Trebinje**	7.35	341	*e*Pn	Pn	04 00 37.9	-0.7
BRY	**Bratogost**	7.48	343	⇓*i*Pn	Pn	04 00 41.8	+1.3
BRY				*e*Sn	Sn	04 02 01.9	-3.1
BRY	**Bratogost**	7.48	343	*e*Pn	Pn	04 00 40.3	-0.2
STON	**Ston**	7.68	338	*e*Pn	Pn	04 00 42.4	-0.7
PLE	**Pljevlja**	7.72	348	⇑*i*Pn	Pn	04 00 44.6	+0.8
PLE				*e*Sn	Sn	04 02 07.7	-3.1
BBLS	**Lazići**	8.24	349	*e*Pn	Pn	04 00 48.1	-2.8
DIVS	**Divibare**	8.39	352	*e*Pn	Pn	04 00 52.5	-0.5
HAPS	**Han Pijesak,Bl**	8.53	347	*e*Pn	Pn	04 00 52.8	-2.1
FRGS	**Fruska Gora**	9.46	353	*e*Pn	Pn	04 01 06.2	-1.3
BRTR	**Keskin Array B**	10.37	64	Pn	Pn	04 01 19.0	-1.1
	0.0nm,0.3s,baz=249,slow=12,SNR=2.3						
KBZ	**Khabaz**	18.22	58	P	Pn	04 03 03.2	-0.8
	0.1nm,0.3s,baz=242,slow=17,SNR=5.0						
HFS	**Hagfors**	24.89	351	P	P	04 04 13.9	+0.2
	0.6nm,0.4s,baz=146,slow=11,SNR=8.1						
FINES	**FINESS Array B**	25.85	5	P	P	04 04 21.2	-1.1
	1.3nm,0.8s,baz=163,slow=10,SNR=4.2						
EKA	**Eskdalemuir Ar**	25.86	327	P	P	04 04 24.4	+1.9
	1.1nm,0.6s,baz=128,slow=8.4,SNR=4.1						
NOA	**NORSAR Array B**	26.13	349	P	P	04 04 25.4	+0.4
	0.4nm,0.7s,baz=165,slow=11,SNR=2.4						
TORD	**Torodi Ar. Bea**	28.75	223	P	P	04 04 50.5	+1.7
	0.3nm,0.6s,baz=24,slow=10,SNR=4.9						
ARCES	**ARCESS Array B**	33.88	3	P	P	04 05 32.9	-0.6
	3.5nm,1.1s,baz=191,slow=9.9,SNR=16						
MKAR	**Makanchi Array**	45.91	57	P	P	04 07 12.1	-1.6
	0.3nm,0.4s,baz=269,slow=7.5,SNR=8.6						
YKA	**Yellowknife Ar**	75.92	341	P	P	04 10 38.1	+0.7
	0.1nm,0.6s,baz=35,slow=5.5,SNR=4.0						

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*IDC **02** 04:06:37.5±0.9, 11°.15N×125°.64E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/34, mbtmp3.8/8, Error ellipse: s-maj=82.6km s-min=19.4km az=68.0*
*MAN **02** 04:06:46.8, 11°.16N×125°.47E, h27km, mb4.6, ML3.4, MS3.3*
ISC 02 04:06:42.1±1.6**, 11°.21N**±0°.04×**125°.78E**±0°.07**, h27**km±11km**, n19,** σ1s.33/27**, mb3.8**/8**, 1C-1D, Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BESP	**Borongan**	0.52	319	*e*P	Pn	04 06 56.2	+2.5
BESP				*e*S	Sn	04 07 05.2	+3.5
PLP	**Palo**	0.79	267	⇓*i*P	Pn	04 06 57.9	+0.4
PLP				*i* S	Sb	04 07 06.5	-1.1
OCLP	**Ormoc**	1.16	262	*e*P	Pb	04 07 03.2	-0.3
OCLP				*e*S	Sb	04 07 17.9	-0.3
MSLP	**Maasin**	1.40	221	*e*P	Pb	04 07 08.1	+0.5
MSLP				*e*S	Sn	04 07 23.0	-0.5
CNP	**Catarman**	1.70	320	*e*P	Pb	04 07 12.5	-0.1
CNP				*e*S	Sb	04 07 32.6	-1.0
LLP	**Lapu-Lapu**	1.99	244	*e*P	Pn	04 07 14.7	+0.6
LLP				*e*S	Sn	04 07 40.0	+1.9
BUTP	**Butuan**	2.23	184	*e*P	Pb	04 07 23.3	+1.6
BUTP				*e*S	Sb	04 07 47.8	-1.1
TBP	**Tagbilaran**	2.42	232	*e*P	Pn	04 07 21.5	+1.6
PVCP	**Virac**	2.86	326	*e*P	Pb	04 07 31.5	-0.9
PVCP				*e*S	Sb	04 08 06.5	-0.5
RCP	**Roxas**	3.00	277	⇑*e*P	Pn	04 07 29.6	+1.7
SJMP	**San Jose**	4.73	286	*e*P	Pb	04 08 11.5	+7.1
SJMP				*e*S	Sn	04 08 19.0	-27
WRA	**Warramunga Arr**	32.08	165	P	P	04 13 06.0	-1.0
	0.2nm,0.6s,baz=343,slow=8.9,SNR=4.6						
WRA				PcP	PcP	04 15 55.3	-0.9
	0.5nm,1.0s,baz=340,slow=2.7,SNR=3.0						
ASAR	**Alice Springs**	35.56	167	P	P	04 13 36.8	-0.5
	0.5nm,0.4s,baz=350,slow=7.1,SNR=10						
MKAR	**Makanchi Array**	51.00	323	P	P	04 15 41.5	-0.2
	0.4nm,0.3s,baz=119,slow=8.5,SNR=9.6						
ZALV	**Zalesovo Beam**	53.58	331	P	P	04 16 00.3	-0.3
	0.3nm,0.3s,baz=120,slow=8.8,SNR=4.1						
AKTO	**Aktyubinsk**	67.30	320	P	P	04 17 33.6	-0.9
	0.9nm,0.7s,baz=100,slow=5.6,SNR=4.6						
ARCES	**ARCESS Array B**	83.15	340	P	P	04 19 04.8	-0.6
	3.6nm,1.0s,baz=86,slow=6.8,SNR=6.9						
FINES	**FINESS Array B**	84.84	332	P	P	04 19 13.1	-1.0
	1.1nm,0.7s,baz=71,slow=6.0,SNR=3.6						
YKA	**Yellowknife Ar**	93.10	24	P	P	04 19 54.0	+0.7
	0.1nm,0.4s,baz=304,slow=4.9,SNR=4.5						

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*DDA **02** 04:08:31.7, 37°.62N×26°.89E, h5km±3km, ML2.9*
*THE **02** 04:08:31.8, 37°.62N×26°.91E, h4km±4km, ML2.3/5, Error ellipse: s-maj=4.8km s-min=1.3km az=101.0*
*ISK **02** 04:08:31.6, 37°.62N×26°.89E, h10km, ML3.3/6*
*ISCJB **02** 04:08:33.0±0.3, 37°.65N±0°.02×26°.91E±0°.03, h19km±7km, Error ellipse: s-maj=4.5km s-min=3.5km az=165.0*
*ATH **02** 04:08:33.5, 37°.71N×26°.81E, h38km±5km, ML2.3/2, Error ellipse: s-maj=5.4km s-min=1.5km az=29.0*
ISC 02 04:08:32.1±1.0**, 37°.63N**±0°.02×**26°.89E**±0°.02**, h18**km±4km**, n43,** σ0s.69/62**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	0.28	76	PG	Pg	04 08 38.2	-0.1
GCAM				SG	Sb	04 08 42.8	-0.1
GCAM	**G?zelcaml?**	0.28	76	IAML_P			
	comp=Z,13μm,0.1s						
GCAM				*i* P	Pb	04 08 38.8	+0.2
DGB	**zmir**	0.42	359	IAML_P			
	comp=Z,16μm,0.1s						
DGB				*i* P	Pb	04 08 41.2	+0.2
GMLD	**Gumuldur**	0.45	3	PG	Pb	04 08 41.6	+0.2
GMLD				SG	Sb	04 08 48.0	+0.2
YKAV	**Yalikavak-Bodr**	0.59	148	PG	Pg	04 08 43.6	-0.3
BODT	**Bodrum**	0.66	149	PG	Pg	04 08 44.7	-0.4
BODT	**Bodrum**	0.66	149	P	Pb	04 08 45.0	0.0
BODT				S	Sg	04 08 53.5	-0.4
BDRM	**Kayabasi**	0.72	142	IAML_P			
	comp=Z,7μm,0.2s						
BDRM				*i* P	Pn	04 08 48.1	+0.7
BDRM				*i* S	Sb	04 08 56.5	+1.0
BLCB	**Balcova**	0.76	9	PG	Pb	04 08 47.1	+0.3
URLA	**Izmir**	0.76	343	PG	Pg	04 08 46.6	-0.4
URLA	**Izmir**	0.76	343	IAML_P			
	comp=Z,4μm,0.1s						
URLA				*i* P	Pn	04 08 47.7	-0.3
URLA				*i* S	Sn	04 08 58.4	-0.6
MLSB	**Milas**	0.78	115	PG	Pb	04 08 47.3	+0.2
AYDN	**Tasoluk**	0.79	87	IAML_P			
	comp=Z,4μm,0.2s						
AYDN				*i* P	Pn	04 08 48.0	-0.3
AYDN				*i* S	Sn	04 08 58.8	-0.9
AYDB	**Zeytinkoy-Aydi**	0.85	68	PG	Pb	04 08 48.3	-0.2
AYDB				SG	Sg	04 09 00.5	+0.4
KRBN	**Karaburun**	1.00	345	PG	Pn	04 08 51.4	+0.3
CHOS	**Chios island**	1.00	319	PG	Pb	04 08 51.1	+0.2
CHOS	**Chios island**	1.00	319	P	Pb	04 08 51.1	+0.2
CHOS				S	Sb	04 09 03.7	-0.1
CHOS				AML	AML	04 09 07.7	
	comp=N,256μm,0.3s						
CHOS				AML	AML	04 09 09.2	
	comp=E,482μm,0.3s						
CHOS	**Chios island**	1.00	319	P	Pg	04 08 51.3	-0.2
CHOS				S	Sn	04 09 05.1	+0.1
NISR	**Nisiros**	1.03	169	P	Pg	04 08 54.5	+2.4
DAT	**Datca**	1.05	148	PG	Pb	04 08 51.9	+0.1
DAT	**Datca**	1.05	148	IAML_P			
	comp=Z,239nm,0.2s						
DAT				*i* P	Pg	04 08 52.4	-0.1
DAT				*i* S	Sn	04 09 07.0	+0.7
AMGA	**Amorgos Island**	1.12	225	P	Pg	04 08 53.9	+0.1
AMGA				S	Sg	04 09 09.4	+0.8
AMGA	**Amorgos Island**	1.12	225	P	Pb	04 08 52.0	-1.0
AMGA				S	Sn	04 09 07.9	0.0
APE	**Apeiranthos**	1.22	243	P	Pg	04 08 55.6	0.0
APE				S	Sg	04 09 11.9	+0.4
APE				AML	AML	04 09 16.1	
	comp=N,194μm,0.2s						
APE				AML	AML	04 09 16.5	
	comp=E,182μm,0.2s						
APE	**Apeiranthos**	1.22	243	P	Pg	04 08 55.1	-0.5
APE				S	Sg	04 09 12.2	+0.7
DKL	**Dikili**	1.44	1	PN	Pb	04 08 58.4	+0.1
AKHS	**Akhisar**	1.44	30	IAML_P			
	comp=Z,586nm,0.2s						
AKHS				*i* P	Pg	04 08 59.6	-0.3
ANAF	**Anafi Island**	1.55	215	P	Pg	04 09 01.3	-0.7
TURN	**Turunc**	1.56	118	PN	Pn	04 08 56.7	-2.2
TURN	**Turunc**	1.56	118	IAML_P			
	comp=Z,361nm,0.2s						
TURN				*i* P	Pn	04 08 57.7	-1.2
IOSP	**Ios island**	1.56	235	P	Pb	04 09 00.3	-0.2
IOSP				S	Sb	04 09 21.1	+1.2
IOSP	**Ios island**	1.56	235	P	Pb	04 09 00.3	-0.2
IOSP				S	Sg	04 09 21.3	-1.3
MANT	**Manisa**	1.57	56	IAML_P			
	comp=Z,366nm,0.1s						
MANT				*i* P	Pg	04 09 02.2	-0.2
TAVA	**DENIZLI_Tavas**	1.62	95	IAML_P			
	comp=Z,123nm,0.2s						
TAVA				*i* P	Pb	04 09 01.9	+0.4
KULA	**Kula-Manisa**	1.66	57	PN	Pb	04 09 01.5	-0.6
AYVA	**Ayvalik**	1.68	355	IAML_P			
	comp=Z,102nm,0.3s						
AYVA				*i* P	Pg	04 09 04.4	0.0
SIGR	**SIGRI**	1.77	333	PN	Pb	04 09 03.8	-0.2
SIGR	**SIGRI**	1.77	333	P	Pn	04 09 02.1	+0.2
SIGR				S	Sn	04 09 23.1	-0.8
SIGR	**SIGRI**	1.77	333	P	Pn	04 09 02.4	+0.6
SIGR				S	Sb	04 09 25.4	-0.6
STEP	**BALIKESIR_Sava**	1.86	20	IAML_P			
	comp=Z,297nm,0.1s						
STEP				*i* P	Pg	04 09 08.7	+0.9
STEP				*i* S	Sg	04 09 33.0	+1.0
DEMI	**Demirci**	2.01	45	IAML_P			
	comp=Z,477nm,0.3s						
DEMI				*i* P	Pg	04 09 10.9	+0.1
BAYC	**CANAKKALE_Bayr**	2.12	353	IAML_P			
	comp=Z,128nm,0.1s						
BAYC				*i* P	Pn	04 09 07.9	+1.2
DURS	**Dursunbey**	2.33	32	IAML_P			
	comp=Z,160nm,0.2s						
DURS				*i* P	Pg	04 09 16.4	-0.4

IDC 02 04:11:50.5±1.7**, 39°.44N**×**110°.43E, h0**km**, mb3.5**/3**, mb1 3.8**/4**, mb1mx3.3**/33**, mbtmp3.5**/4**, ML2.8**/1**, Error ellipse: s-maj=41.6km s-min=24.3km az=94.0, Western Nei Mongol**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	**Songino Array**	8.89	342	Pn	Pn	04 14 00.1	-0.2
	0.1nm,0.3s,baz=154,slow=13,SNR=21						
SONM				Lg	Lg	04 16 31.3	
	0.1nm,0.3s,baz=161,slow=27,SNR=4.0						
MKAR	**Makanchi Array**	21.74	299	P	P	04 16 43.9	+0.5
	1.5nm,0.8s,baz=98,slow=12,SNR=11						
CMAR	**Chiang Mai Arr**	23.16	209	P	P	04 16 58.2	-0.4
	1.1nm,0.4s,baz=11,slow=9.1,SNR=8.0						
YKA	**Yellowknife Ar**	72.17	20	P	P	04 23 16.8	+0.2
	0.2nm,0.8s,baz=329,slow=5.1,SNR=4.2						

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*IDC **02** 04:26:33.3±1.9, 4°.34S×153°.98E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/32, mbtmp3.9/6, ML2.5/1, MS3.5/2, Ms1 3.5/2, ms1mx2.7/33, Error ellipse: s-maj=78.2km s-min=22.1km az=126.0*
*ISCJB **02** 04:26:36.2±1.5, 4°.5S±0°.3×154°.1E±0°.3, h33km, mb3.7/5, MS3.5/2, Error ellipse: s-maj=64.3km s-min=12.6km az=135.5*
ISC 02 04:26:37.7±1.9**, 4°.6S**±0°.4×**154°.3E**±0°.4**, h35**km**, n9,** σ0s.80/8**, mb3.7**/5**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	8.53	235	Pn	Pn	04 28 38.7	-0.1
	2.9nm,0.3s,baz=45,slow=11,SNR=2.1						
PMG				Sn	Sn	04 30 14.8	+1.0
	3.5nm,0.3s,baz=127,slow=20,SNR=3.5						
SIJI	**Sorong**	23.25	278	LR	LR	04 40 19.4	
	comp=Z,222nm,20.6s,slow=36						
WRA	**Warramunga Arr**	24.70	230	P	P	04 31 55.7	0.0
	2.4nm,0.7s,baz=53,slow=9.8,SNR=28						
ASAR	**Alice Springs**	27.32	224	P	P	04 32 19.4	-0.1
	0.8nm,0.4s,baz=54,slow=8.8,SNR=22						
FITZ	**Fitzroy Crossi**	31.05	242	P	P	04 32 51.9	-0.7
	2.3nm,0.5s,baz=54,slow=7.7,SNR=15						
MKAR	**Makanchi Array**	81.11	319	P	P	04 38 49.3	-0.2
	0.2nm,0.5s,baz=96,slow=7.4,SNR=7.0						
ILAR	**Eielson Array**	81.40	22	P	P	04 38 51.6	+1.0
	0.4nm,0.9s,baz=246,slow=5.8,SNR=4.7						
WSAR	**Wadi Sarin**	96.94	293	LR	LR	05 28 49.3	
	comp=Z,14nm,19.4s,baz=288,slow=39						
TORD	**Torodi Ar. Bea**	151.61	289	PKPbc	PKPbc	04 46 28.5	-0.9
	0.2nm,0.3s,baz=64,slow=2.6,SNR=5.8						

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*THE **02** 04:27:46.9, 37°.65N×26°.94E, h0km±1km, ML2.5/7, Error ellipse: s-maj=2.3km s-min=1.0km az=59.0*
*ISK **02** 04:27:46.3, 37°.61N×26°.86E, h6km, ML3.1/8*
*DDA **02** 04:27:47.3, 37°.62N×26°.92E, h14km±1km, ML2.9*
*ATH **02** 04:27:47.9, 37°.62N×26°.86E, h23km±1km, ML2.4/3, Error ellipse: s-maj=2.0km s-min=1.1km az=89.0*
ISC 02 04:27:47.3±1.0**, 37°.62N**±0°.02×**26°.91E**±0°.02**, h13**km±9km**, n54,** σ0s.75/82**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	0.27	73	PG	Pb	04 27 53.5	-0.5
GCAM				SG	Sb	04 27 57.7	-0.7
GCAM	**G?zelcaml?**	0.27	73	IAML_P			
	comp=Z,37μm,0.1s						
GCAM				*i* P	Pb	04 27 53.8	-0.2
DGB	**zmir**	0.43	357	IAML_P			
	comp=Z,13μm,0.1s						
DGB				*i* P	Pg	04 27 56.1	+0.2
DGB				*i* S	Sg	04 28 02.1	+0.5
GMLD	**Gumuldur**	0.45	0	PG	Pg	04 27 55.8	-0.5
GMLD				SG	Sg	04 28 02.9	+0.6
YKAV	**Yalikavak-Bodr**	0.58	149	PG	Pg	04 27 58.2	-0.4
BODT	**Bodrum**	0.64	150	PG	Pg	04 27 59.4	-0.4
BODT				SG	Sb	04 28 08.9	-0.4
BODT	**Bodrum**	0.64	150	P	Pg	04 28 00.0	+0.2
BODT				S	Sb	04 28 09.7	+0.4
BDRM	**Kayabasi**	0.70	143	IAML_P			

comp=Z,9μm,0.2s
BDRM i P Pb 04 28 01.6 +0.3
BDRM i S Sb 04 28 11.9 +1.0
MLSB Milas 0.76 115 PG Pg 04 28 01.8 -0.2
AYDN Tasoluk 0.77 87 IAML_P
comp=Z,5μm,0.2s
AYDN i P **Pn 04 28 03.4 -0.5**
AYDN i S **Sb 04 28 13.2 +0.2**
BLCB Balcova 0.77 8 PG **Pg 04 28 01.4 -0.8**
URLA Izmir 0.78 341 PG **Pg 04 28 01.8 -0.6**
URLA Izmir 0.78 341 IAML_P
comp=Z,3μm,0.2s
URLA i P **Pn 04 28 03.5 -0.6**
URLA i S **Sb 04 28 13.8 +0.5**
AYDB Zeytinkoy-Aydi 0.84 67 PG **Pb 04 28 03.7 -0.2**
KRBN Karaburun 1.01 344 PG **Pb 04 28 06.5 -0.2**
CHOS Chios island 1.02 319 PG **Pb 04 28 05.8 -1.1**
CHOS Chios island 1.02 319 P **Pb 04 28 06.7 -0.2**
CHOS S **Sn 04 28 21.2 -0.5**
CHOS AML AML 04 28 24.2
comp=E,505μm,0.2s
CHOS AML AML 04 28 25.8
comp=N,238μm,0.5s
CHOS Chios island 1.02 319 P **Pb 04 28 06.3 -0.6**
CHOS S **Sn 04 28 21.3 -0.5**
NISR Nisiros 1.02 170 P **Pn 04 28 07.6 +0.3**
NISR S **Sn 04 28 22.6 +1.0**
DAT Datca 1.04 149 PG **Pb 04 28 06.6 -0.6**
DAT Datca 1.04 149 IAML_P
comp=Z,300nm,0.2s
DAT i P **Pg 04 28 07.3 0.0**
DAT i S **Sn 04 28 23.0 +0.8**
AMGA Amorgos Island 1.13 226 P **Pb 04 28 08.7 -0.1**
AMGA S **Sn 04 28 25.2 +0.9**
AMGA Amorgos Island 1.13 226 P **Pb 04 28 08.5 -0.3**
AMGA S **Sn 04 28 25.3 +0.9**
APE Apeiranthos 1.23 244 PN **Pn 04 28 08.9 -1.4**
APE Apeiranthos 1.23 244 P **Pb 04 28 10.7 +0.2**
APE S **Sg 04 28 28.1 +1.1**
APE AML AML 04 28 31.1
comp=N,176μm,0.2s
APE AML AML 04 28 31.8
comp=E,179μm,0.3s
APE Apeiranthos 1.23 244 P **Pb 04 28 10.5 0.0**
APE S **Sg 04 28 28.2 +1.1**
AKHS Akhisar 1.44 29 IAML_P
comp=Z,757nm,0.2s
AKHS i P **Pg 04 28 15.2 +0.2**
AKHS i S **Sg 04 28 34.5 +0.8**
DKL Dikili 1.45 360 PN **Pn 04 28 13.2 0.0**
TURN Turunc 1.54 119 PN **Pn 04 28 12.2 -2.3**
TURN Turunc 1.54 119 IAML_P
comp=Z,648nm,0.2s
TURN i P **Pn 04 28 12.6 -2.0**
ANAF Anafi Island 1.56 216 P **Pb 04 28 16.1 +0.1**
ANAF S **Sg 04 28 37.5 0.0**
ANAF Anafi Island 1.56 216 P **Pb 04 28 15.4 -0.7**
ANAF S **Sg 04 28 38.2 +0.7**
MANT Manisa 1.56 56 IAML_P
comp=Z,630nm,0.2s
MANT i P **Pg 04 28 18.6 +1.3**
IOSP Ios island 1.58 236 P **Pb 04 28 15.8 -0.6**
IOSP S **Sb 04 28 36.2 0.0**
IOSP Ios island 1.58 236 P **Pb 04 28 15.8 -0.6**
IOSP S **Sg 04 28 38.2 +0.1**
TAVA DENIZLI_Tavas 1.60 95 IAML_P
comp=Z,172nm,0.2s
TAVA i P **Pb 04 28 16.4 -0.4**
KULA Kula-Manisa 1.64 57 PN **Pb 04 28 17.2 -0.3**
AYVA Ayvalik 1.69 354 IAML_P
comp=Z,143nm,0.3s
AYVA i P **Pg 04 28 19.5 -0.3**
PRK Paraskevi 1.70 343 P **Pb 04 28 18.4 0.0**
PRK S **Sb 04 28 39.7 0.0**
PRK AML AML 04 28 45.9
comp=E,273μm,0.8s
PRK AML AML 04 28 48.8
comp=N,265μm,0.4s
PRK Paraskevi 1.70 343 P **Pb 04 28 19.0 +0.6**
PRK S **Sg 04 28 40.8 -1.1**
THR3 Thira Island, 1.71 225 P **Pb 04 28 19.2 +0.5**
SIGR SIGRI 1.79 333 PN **Pn 04 28 18.3 +0.3**
SIGR SIGRI 1.79 333 P **Pb 04 28 19.8 -0.2**
SIGR S **Sb 04 28 42.8 +0.4**
SIGR SIGRI 1.79 333 P **Pn 04 28 17.5 -0.5**
SIGR S **Sb 04 28 41.6 -0.8**
STEP BALIKESIR_Sava 1.86 20 IAML_P
comp=Z,319nm,0.1s
STEP i P **Pb 04 28 21.9 +0.6**
STEP i S **Sg 04 28 47.9 +0.7**
SERI Serifos 1.99 257 P **Pn 04 28 21.8 +1.0**
SERI S **Sb 04 28 46.9 -1.2**
FETY Fethiye 1.99 119 PN **Pb 04 28 22.3 -1.2**
DEMI Demirci 2.00 44 IAML_P
comp=Z,578nm,0.3s
DEMI i P **Pg 04 28 25.8 0.0**
BAYC CANAKKALE_Bayr 2.13 352 i P **Pn 04 28 22.0 -0.7**
BALB Balikesir 2.15 20 PN **Pn 04 28 23.9 +1.0**
SIMA Simav-Kutahya 2.19 47 PN **Pn 04 28 24.6 +1.1**
BALY Balya 2.19 14 IAML_P
comp=Z,358nm,0.3s
BALY i P **Pg 04 28 27.9 -1.3**
BALY i S **Sg 04 28 57.2 -0.3**
EZN Ezine 2.25 348 PN **Pn 04 28 25.4 +1.2**
BOZC Bozcaada 2.32 343 PN **Pn 04 28 26.2 +1.0**

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*DDA **02** 04:36:08.6, 42.°03N×40.°72E, h7km±5km, ML2.5*
*MOS **02** 04:36:08.3±0.0, 42.°51N×41.°05E, h8km, MPVA2.9*
ISC 02 04:36:05.7±1.3, **42.°37N**±0.°03×**41.°06E**±0.°05, **h5**km±12km, **n11**, σ**0.s45**/20, **Western Caucasus**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
DBOC Borcka 1.12 156 IAML_P
comp=Z,694nm,0.1s
DBOC i P **Pn 04 36 28.9 +0.8**
ARXR Arkhyz 1.20 8 ePg **Pn 04 36 29.2 -0.1**
ARXR eSg **Sg 04 36 44.4 0.0**
ARTV Artvin 1.35 151 IAML_P
comp=Z,501nm,0.1s
ARTV i P **Pg 04 36 32.2 +0.6**
ARTV i S **Sn 04 36 49.5 -0.3**
DBAD Bademkaya 1.43 160 IAML_P
comp=Z,280nm,0.1s
DBAD i P **Pg 04 36 33.2 0.0**
DBAD i S **Sg 04 36 51.2 -0.6**
DAGI Agillar 1.44 153 IAML_P
comp=Z,112nm,0.1s
DAGI i P **Pg 04 36 33.8 +0.4**
DAGI i S **Sg 04 36 52.3 +0.2**
RPOR Krasnaya Polya 1.45 337 ePg **Pg 04 36 33.8 +0.3**
RPOR i Sg **Sb 04 36 51.9 -0.1**
SOC Sochi 1.56 321 ePg **Pb 04 36 35.0 -0.1**
SOC eSg **Sb 04 36 55.1 +0.1**
DDEM Demirkent 1.57 160 IAML_P
comp=Z,143nm,0.1s
DDEM i P **Pb 04 36 34.3 -0.9**
SHA1 Shidzhatmaz 1.80 40 ePg **Pg 04 36 40.5 +0.2**
SHA1 eSg **Sg 04 37 03.1 -0.6**
DIGR Digorskoe uzhe 1.94 73 ePg **Pg 04 36 42.9 0.0**
DIGR eSg **Sb 04 37 06.8 +0.6**
KIV0 Kislovodsk Arr 1.99 37 ePg **Pb 04 36 42.4 0.0**
KIV0 eSg **Sb 04 37 07.5 0.0**

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*ISCJB **02** 04:42:44.7±0.3, 6.°87N±0.°03×73.°12W±0.°04, h157km±3km, mb3.5/8, Error ellipse: s-maj=6.1km s-min=4.3km az=24.0*
*IDC **02** 04:42:45.3±0.6, 6.°63N×72.°89W, h167km±7km, mb3.3/8, mb1 3.7/11, mb1mx3.5/29, mbtmp3.9/11, Error ellipse: s-maj=16.0km s-min=7.4km az=135.0*
*RSNC **02** 04:42:46.3±1.3, 6.°83N×73.°14W, h150km±5km, ML4.1, Mw4.2*
ISC 02 04:42:45.3±0.7, **6.°86N**±0.°04×**73.°09W**±0.°05, **h156**km±5km, **n44**, σ**1.s27**/60, **mb3.4**/8, **6C-4D**, **Northern Colombia**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
BARC Barichara 0.28 199 i P **Pn 04 43 06.8 0.0**
BARC eS **Sn 04 43 21.7 -1.5**
BARC i 04 43 24.1
comp=Z,3μm,0.3s
BRRC Barranca, Sant 0.66 291⇓i P **Pn 04 43 08.7 +0.5**
BRRC eS **Sn 04 43 25.3 -0.3**
BRRC i 04 43 26.1
comp=E,3μm,0.2s
RUSC La Rusia 0.96 180⇑i P **Pn 04 43 10.6 -0.4**
RUSC i 04 43 11.7
comp=Z,605nm,0.2s
RUSC eS **Sn 04 43 28.6 -1.9**
OCAC Ocana 1.39 351⇓i P **Pn 04 43 15.1 +0.7**
OCAC eS **Sn 04 43 36.8 +0.1**
OCAC i 04 43 41.6
comp=E,4μm,0.2s
PTBC PUERTO BERRIO, 1.40 257⇑i P **Pn 04 43 13.3 -1.0**
PTBC eS **Sn 04 43 33.9 -2.6**
PTBC i 04 43 40.2
comp=E,1μm,0.4s
ZARC Zaragoza, Cauc 1.86 290 eP **Pn 04 43 19.3 0.0**
ZARC eS **Sn 04 43 45.0 -0.3**
ZARC i 04 43 50.5
comp=E,2μm,0.2s
CTAU Tausa, Cundina 1.90 210 eP **Pn 04 43 22.6 +2.4**
CTAU eS **Sn 04 43 48.7 +1.7**
CTAB Cerro Tablazo, 2.15 211 eS **Sn 04 43 51.2 -0.8**
CHIC Chingaza 2.31 196⇑i P **Pn 04 43 24.6 -0.2**
CHIC eS **Sn 04 43 54.8 -0.6**
CHIC i 04 43 58.6
comp=E,962nm,0.6s
ROSC El Rosal 2.35 211 P **Pn 04 43 26.4 +1.0**
comp=E,78nm,0.3s,baz=126,slow=15,SNR=317
ROSC S **Sn 04 43 55.9 -0.3**
comp=E,154nm,0.3s,baz=184,slow=21,SNR=32
ROSC El Rosal 2.35 211⇑i P **Pn 04 43 26.5 +1.1**
ROSC eS **Sn 04 43 55.7 -0.5**
ROSC i 04 44 02.5
comp=Z,713nm,0.5s
HELC Santa Helena 2.51 255 eP **Pn 04 43 27.0 -0.2**
HELC eS **Sn 04 43 58.4 -1.2**
HELC i 04 44 05.8
comp=E,451nm,0.5s
UREC San Jos de Ur 2.58 290 eP **Pn 04 43 27.0 -0.7**
UREC eS **Sn 04 43 58.4 -2.1**
VILC Villavicencio, 2.80 192 eP **Pn 04 43 30.0 -0.6**
VILC eS **Sn 04 44 03.6 -1.9**
RREF El Recreo 2.97 229 eP **Pn 04 43 33.5 +0.3**
CODC Agustn Codazz 3.07 353⇓i P **Pn 04 43 34.4 +0.5**
CODC i 04 44 18.3
comp=N,211nm,0.3s
SDV Santo Domingo 3.16 50 P **Pn 04 43 36.4 +1.3**
comp=N,80nm,0.3s,baz=220,slow=12,SNR=1080
SDV S **Sn 04 44 14.8 +1.2**
comp=N,25nm,0.3s,baz=251,slow=21,SNR=8.7
SDV Santo Domingo 3.16 50 eP **Pn 04 43 35.7 +0.6**
TOLC Tolima 3.17 225 eP **Pn 04 43 35.7 +0.3**
MOTC Monteria, Cord 3.18 307⇑i P **Pn 04 43 34.3 -1.0**
MOTC i 04 44 32.6
comp=E,190nm,0.5s
ANIL Santa Ana 3.29 224 eP **Pn 04 43 37.5 +0.5**
ANIL eS **Sn 04 44 15.4 -1.5**
ANIL i 04 44 25.2
comp=E,1μm,0.4s
SJCC San Jacinto, C 3.66 326 eP **Pn 04 43 40.9 -0.5**
SJAC San Juan de Ar 3.67 194 eP **Pn 04 43 43.1 +1.5**
PLMC San Jos del P 3.72 239⇑i P **Pn 04 43 42.8 +0.5**
YOTC Yotoco, Valle 4.32 229 eP **Pn 04 43 49.6 -0.5**
SMRC Santa Marta, M 4.42 345 eP **Pn 04 43 51.6 +0.4**
CAPC Capurgana 4.58 293 eP **Pn 04 43 51.8 -1.5**
BETC Betania 4.77 210 eP **Pn 04 43 55.7 -0.2**
MARP Paez Belalcaza 4.91 216 eP **Pn 04 43 57.6 -0.4**
POPC Popayan, Colom 5.59 220⇓i P **Pn 04 44 06.5 -0.4**
FLOC Florencia 5.83 206 eP **Pn 04 44 09.2 -0.8**
SOTA Rioblanco 5.86 217 eP **Pn 04 44 11.6 +0.8**
PCRV Puerto La Cruz 8.98 68 P **Pn 04 44 51.5 -0.4**
comp=E,1.2nm,0.3s,baz=280,slow=5.5,SNR=15
PCRV S **Sn 04 46 30.6 -1.2**
comp=E,0.5nm,0.3s,baz=292,slow=19,SNR=2.3
JTS JuntasAbangare 12.21 287 P **P 04 45 43.1 +2.8**
comp=E,0.6nm,0.3s,baz=158,slow=4.0,SNR=4.2
LPAZ La Paz 23.52 168 P **P 04 47 38.4 -3.7**
comp=E,1.2nm,1.0s,baz=333,slow=9.0,SNR=2.9
TXAR Lajitas Array 36.46 312 P **P 04 49 37.0 +1.5**
comp=E,0.5nm,0.4s,baz=122,slow=9.0,SNR=7.4
ULM Lac du Bonnet 47.26 340 P **P 04 51 03.2 +0.5**
comp=E,2.9nm,0.4s,baz=144,slow=7.5,SNR=16
PDAR Pinedale Array 48.06 324 P **P 04 51 10.2 +0.8**
comp=E,0.5nm,0.5s,baz=122,slow=8.7,SNR=9.2
NVAR Mina Array Bea 51.48 315 P **P 04 51 36.7 +1.5**
comp=E,0.4nm,0.6s,baz=122,slow=6.7,SNR=3.5
YKA Yellowknife Ar 63.23 340 P **P 04 52 57.4 +0.5**
comp=E,1.9nm,0.5s,baz=133,slow=6.6,SNR=101
TORD Torodi Ar. Bea 73.70 78 P **P 04 54 00.8 -1.9**
comp=E,0.3nm,0.8s,baz=292,slow=6.3,SNR=2.7
ILAR Eielson Array 76.94 335 P **P 04 54 20.8 +0.5**
comp=E,0.4nm,0.8s,baz=114,slow=5.2,SNR=5.8
MKAR Makanchi Array 122.27 20 PKP **PKPdf 05 01 20.5 -1.6**
comp=E,0.1nm,0.3s,baz=261,slow=4.8,SNR=4.6
SONM Songino Array 125.54 0 PKP **PKPdf 05 01 26.8 -1.6**
comp=E,0.9nm,1.1s,baz=349,slow=1.5,SNR=3.8

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*TIF **02** 04:57:50.5, 42.°39N×40.°98E, h32km±3km*
*DDA **02** 04:57:51.5, 42.°26N×41.°06E, h7km±3km, ML3.3*
*MOS **02** 04:57:52.9±2.5, 42.°66N×41.°09E, h6km, mb3.9/2, Error ellipse: s-maj=14.0km s-min=9.0km az=66.9*
ISC 02 04:57:49.4±1.3, **42.°38N**±0.°03×**40.°97E**±0.°04, **h4**km±11km, **n25**, σ**1.s18**/33, **4C-4D**, **Black Sea**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
BATM Batumi 0.94 145 P **Pn 04 58 09.2 -0.3**
BATM S **Sn 04 58 22.5 -0.9**
DOMR Dombai 1.03 27d i PG **Pg 04 58 09.2 -0.1**
BCA Borcka 1.05 152 ePG **Pn 04 58 10.5 -0.5**
BCA eSG **Sn 04 58 25.0 -1.1**
DBOC Borcka 1.15 153 i P **Pn 04 58 12.2 -0.2**
CHOM Cayeli-Rize 1.29 187 ePG **Pg 04 58 14.2 +0.1**
CHOM eSG **Sg 04 58 32.1 +1.3**
ARTV Artvin 1.39 149 IAML_P
comp=Z,7μm,0.1s
ARTV i P **Pg 04 58 16.5 +0.4**
ARTV i S **Sg 04 58 34.4 +0.3**
DBAD Bademkaya 1.46 158 IAML_P
comp=Z,3μm,0.1s
DBAD i P **Pg 04 58 17.4 0.0**
DAGI Agillar 1.48 151 IAML_P
comp=Z,984nm,0.1s
DAGI i P **Pb 04 58 17.0 -0.5**
DAGI i S **Sb 04 58 36.1 -0.6**
SOC Sochi 1.52 323 ePG **Pb 04 58 17.4 -0.8**
SOC e 04 58 37.6
SOC pmax pmax
comp=Z,32nm,0.2s
SOC smax smax
comp=N,207nm,0.2s
SOC smax smax
comp=E,406nm,0.2s
EPOS Posof 1.57 123 i P **Pg 04 58 19.2 -0.4**
EPOS i S **Sg 04 58 40.1 +0.1**
DDEM Demirkent 1.59 158 IAML_P
comp=Z,3μm,0.2s
DDEM i P **Pg 04 58 19.8 -0.2**
DDEM i S **Sg 04 58 39.9 -0.7**
SHA1 Shidzhatmaz 1.84 42 i PG **Pb 04 58 23.6 -0.2**
DIGR Digorskoe uzhe 2.00 74d ePN **Pb 04 58 25.9 -0.5**
KIV Kislovodsk 2.02 38c i PN **Pb 04 58 26.3 -0.4**
KIV i 04 58 51.3
KIV pmax pmax
comp=Z,11nm,0.9s
BAYB BAYBURT 2.18 195 IAML_P
comp=Z,161nm,0.2s
BAYB i P **Pg 04 58 30.0 -1.3**
ESPY Espiye-Giresun 2.23 230 ePG **Pn 04 58 26.9 -0.3**
ESPY eSG **Sn 04 58 54.2 -0.9**
TRLG Trialeti 2.48 109 P **Pb 04 58 34.3 -0.4**
TRLG S **Sb 04 59 06.2 +0.5**
LACR Lac 2.50 78⇓ ePN **Pb 04 58 35.1 +0.2**
VLKR Vladikavkaz 2.81 75⇑ ePN **Pb 04 58 37.5 -2.8**
TBLG Delisi 2.88 102 P Sg 04 59 12.1 -10
GOF Gofitskoye 3.07 29 ePN Pn 04 58 32.7 -6.1
GOF eS **Sn 04 59 12.7 -3.3**
GOF pmax pmax
comp=Z,10.0nm,0.5s
GOF smax smax
comp=N,40nm,0.7s
ANN Anapa 3.53 315 ePN **Pb 04 58 51.5 -1.0**
ANN e 04 59 32.3
ANN pmax pmax
comp=Z,7.0nm,0.5s
ANN smax smax
comp=N,4.0nm,0.3s
ANN smax smax
comp=E,11nm,0.2s
OBN Obninsk 13.07 349⇓ eP **Pn 05 00 57.5 +1.7**
OBN pmax pmax
comp=Z,5.0nm,0.5s
BRVK Borovoye 22.27 51⇑ eP **P 05 02 48.7 +1.3**
BRVK pmax pmax
comp=Z,3.0nm,2.1s
KURK Kurchatov 26.96 59⇑ eP **P 05 03 34.4 +2.5**
KURK pmax pmax
comp=Z,1.0nm,1.2s

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*IDC **02** 04:58:14.7±0.7, 6.°82S×131.°59E, h0km, mb4.0/9, mb1 4.2/14, mb1mx4.1/38, mbtmp4.2/14, ML4.2/4, MS3.7/13, Ms1 3.7/13, ms1mx3.4/35, Error ellipse: s-maj=26.9km s-min=15.3km az=70.0*
*ISCJB **02** 04:58:16.4±0.3, 7.°04S±0.°03×131.°83E±0.°04, h35km, mb4.3/20, MS3.7/11, Error ellipse: s-maj=6.3km s-min=4.1km az=169.2*
*NEIC **02** 04:58:19.9±0.3, 6.°74S×131.°86E, h35km, mb4.6/15, Error ellipse: s-maj=10.0km s-min=6.5km az=55.0*
ISC 02 04:58:18.6±0.5, **6.°92S**±0.°04×**131.°89E**±0.°06, **h35**km, **n54**, σ**2.s56**/60, **mb4.4**/20, **MS3.6**/11, **Tanimbar Islands region**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
SAUI Saumlaki 1.21 209 ePn **Pn 04 58 43.5 +4.3**
SAUI eSn **Sn 04 58 59.2 +4.9**
FAKI Fak Fak 3.98 5 ePn **Pn 04 59 15.7 -1.6**
FAKI eSn **Sn 05 00 00.0 -2.8**
SIJI Sorong 6.04 354 Pn **Pn 04 59 44.0 -1.5**
3.5nm,0.3s,baz=210,slow=20,SNR=7.3
SIJI Sn **Sn 05 00 47.1 -6.3**
2.8nm,0.3s,baz=270,slow=20,SNR=4.0
SOEI Soe 8.05 249 ePn **Pn 05 00 11.7 -1.7**
SOEI eSn **Sn 05 01 41.8 -1.5**
BATI Baumata 8.77 248 Pn **Pn 05 00 19.4 -3.7**
3.1nm,0.3s,baz=60,slow=8.1,SNR=2.1
BATI Sn **Sn 05 02 01.1 +0.3**
3.7nm,0.3s,baz=107,slow=11,SNR=2.7
FITZ Fitzroy Crossi 12.68 208 Pn **Pn 05 01 14.6 -1.9**
2.0nm,0.3s,baz=33,slow=9.8,SNR=46
FITZ Sn Sn 05 03 27.4 -9.1
8.3nm,0.3s,baz=188,slow=18,SNR=13
FITZ Fitzroy Crossi 12.68 208 ePn **Pn 05 01 15.8 -0.7**
COEN Coen 13.11 123 ePn **Pn 05 01 23.4 +0.8**
COEN eSn **Sn 05 03 42.9 -4.3**
WRAB Tennant Creek 13.16 170 ePn **Pn 05 01 20.5 -2.6**
WRAB eSn **Sn 05 03 46.5 -1.9**
WR1 Warramunga Arr 13.17 170 ePn **Pn 05 01 21.1 -2.2**
WR1 eSn **Sn 05 03 43.8 -4.7**
WRA Warramunga Arr 13.17 170 Pn **Pn 05 01 21.1 -2.2**
2.0nm,0.3s,baz=350,slow=13,SNR=59
WRA Sn **Sn 05 03 43.8 -4.7**
3.2nm,0.3s,baz=52,slow=23,SNR=8.7
WRA LR LR 05 07 30.1
comp=Z,468nm,18.8s,baz=345,slow=42
WB2 Warramunga Arr 13.17 170 ePn **Pn 05 01 21.2 -2.1**
WB2 eSn Sn 05 03 39.8 -8.8
PMG Port Moresby 15.31 100 Pn **Pn 05 01 55.5 +3.2**
1.6nm,0.3s,baz=307,slow=13,SNR=5.0
PMG LR LR 05 08 45.5
comp=Z,147nm,20.2s,baz=250,slow=40
PMG Port Moresby 15.31 100 eP **Pn 05 01 53.8 +1.5**
27nm,1.1s
AS31 Alice Springs 16.77 174 ePn **Pn 05 02 09.9 -1.0**
3.8nm,0.4s
AS31 eSn **Sn 05 05 12.3 -3.9**
ASAR Alice Springs 16.77 174 Pn **Pn 05 02 08.9 -2.0**
1.3nm,0.3s,baz=355,slow=8.8,SNR=43
ASAR Sn **Sn 05 05 12.3 -4.0**
1.1nm,0.3s,baz=355,slow=17,SNR=8.7
AS01 Alice Springs 16.77 173 ePn **Pn 05 02 09.5 -1.5**
AS01 eSn **Sn 05 05 08.6 -7.7**
CTA Charters Tower 19.12 135 P **Pn 05 02 43.8 +3.9**
0.4nm,0.3s,baz=318,slow=12,SNR=7.0
RABL Rabaul 20.36 83 eP **P 05 02 53.3 +1.0**
81nm,0.6s
SBUM Sibu 21.73 295 eP **P 05 03 05.3 -1.8**
6.3nm,1.0s
FORT Forrest 24.01 188 eP **P 05 03 33.0 +2.7**
31nm,0.9s
GUMO Guam 24.10 32 LR LR 05 13 23.8
comp=Z,126nm,21.5s,baz=132,slow=38
BBOO Buckleboo 26.06 172 eP **P 05 03 50.1 +1.3**
12nm,1.1s
STKA Stephens Creek 26.43 161 P **P 05 03 55.0 +2.7**
1.5nm,0.4s,baz=320,slow=8.6,SNR=5.4
STKA LR LR 05 15 30.6
comp=Z,368nm,18.6s,baz=344,slow=39
HNR Honiara 27.88 97 LR LR 05 16 19.3
comp=Z,173nm,20.1s,baz=264,slow=38
JOW Kunigami 33.73 354 eP **P 05 04 56.1 -0.8**
19nm,0.9s
UTTA Uttaradit 39.47 309 P **P 05 05 46.8 +0.8**
CMAR Chiang Mai Arr 41.13 308 P **P 05 05 58.9 -0.9**
0.8nm,0.4s,baz=140,slow=7.3,SNR=9.6
CMAR LR LR 05 25 32.0
comp=Z,51nm,20.4s,baz=146,slow=40
MAJO Matsushiro 43.63 7 eP **P 05 06 19.9 +0.1**
MJAR Matsushiro Arr 43.63 7 P **P 05 06 19.9 +0.1**
1.6nm,0.9s,baz=196,slow=12,SNR=3.7
MJAR LR LR 05 22 17.6
comp=Z,78nm,21.8s,baz=175,slow=33
KSRS Korea Array 44.29 355 LR LR 05 27 16.3
comp=Z,49nm,18.4s,baz=152,slow=39
ASAJ Asahikawa 51.71 10 LR LR 05 26 59.6
comp=Z,80nm,20.6s,baz=187,slow=33
KLR Kul'dur 55.91 360 LR LR 05 32 54.8
comp=Z,48nm,19.2s,baz=172,slow=37
ULN Ulaanbaatar 58.78 341 eP **P 05 08 14.5 +1.0**
11nm,1.5s
SONA0 Songino Array 58.98 340 eP **P 05 08 15.0 +0.2**
SONM Songino Array 58.98 340 P **P 05 08 15.0 +0.2**
2.4nm,1.0s,baz=175,slow=6.2,SNR=10.0
MK32 Makanchi Array 69.19 326 eP **P 05 09 22.1 +0.3**
MKAR Makanchi Array 69.19 326 P **P 05 09 22.1 +0.4**
2.9nm,0.7s,baz=121,slow=8.1,SNR=31
MKAR LR LR 05 42 03.8
comp=Z,35nm,20.1s,baz=90,slow=38
MKAR Makanchi Array 69.19 326 eP **P 05 09 22.2 +0.4**
45nm,1.3s
MAKZ Makanchi 69.38 326 eP **P 05 09 23.3 +0.3**
6.8nm,1.0s
AAK Ala-Archa 71.70 319 eP **P 05 09 38.6 +1.3**
8.8nm,1.3s
ARSB Arslanbob 72.09 317 eP **P 05 09 41.0 +1.3**
13nm,1.3s
VNDA Vanda 72.31 173 P **P 05 09 42.1 +1.8**
0.6nm,0.7s,baz=31,slow=4.5,SNR=2.8
VNDA LR LR 05 41 06.1
comp=Z,90nm,18.7s,baz=300,slow=36
ZALV Zalesovo Beam 72.35 333 P **P 05 09 40.4 -0.4**
2.4nm,0.9s,baz=119,slow=4.4,SNR=9.1
ZAA1 Zalesovo Array 72.35 333 eP **P 05 09 40.4 -0.4**
KURK Kurchatov 73.43 328 eP **P 05 09 47.4 +0.1**
8.3nm,1.1s
MAW Mawson 75.72 202 LR LR 05 39 50.0
comp=Z,64nm,20.5s,baz=182,slow=33
BVAR Borovoye Array 79.00 327 P **P 05 10 19.1 +0.2**
baz=142,slow=5.1
BRVK Borovoye 79.07 327 eP **P 05 10 19.8 +0.5**
3.9nm,1.0s
AKTO Aktyubinsk 85.16 322 P **P 05 10 51.5 +0.3**
1.8nm,1.0s,baz=104,slow=4.2,SNR=4.4
RAYN Ar Rayn 89.43 294 eP **P 05 11 13.7 +1.1**
4.3nm,1.1s
ILAR Eielson Array 92.47 25 P **P 05 11 27.3 +1.6**
0.3nm,0.8s,baz=276,slow=5.8,SNR=2.6
ILB Eielson Array 92.47 25 eP **P 05 11 27.3 +1.6**
LPAZ La Paz 149.60 139 PKPbc **PKiKP 05 18 08.9 +1.5**
1.3nm,0.9s,baz=270,slow=2.0,SNR=4.5

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*ISCJB **02** 05:35:36.8±0.7, 9.°30N±0.°04×83.°07W±0.°02, h8km±5km, Error ellipse: s-maj=6.6km s-min=3.1km az=23.1*
*UCR **02** 05:35:37.8±2.3, 9.°24N×83.°12W, h11km±6km, MD4.3*
ISC 02 05:35:37.1±1.3, **9.°31N**±0.°04×**83.°09W**±0.°04, **h4**km±11km,

n28,σ1s14/41,1C,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EDBA	Buenos Aires	0.24	231	eP	Pg	05 35 42.1	+0.3
EDBA				eS	Sg	05 35 45.5	+0.7
EDLM	Las Mercedes	0.50	266	eP	Pg	05 35 46.2	-0.5
EDLM				eS	Sg	05 35 53.0	-0.2
EDSV	San Vito	0.50	167	eP	Pg	05 35 46.8	0.0
EDSV				eS	Sb	05 35 54.2	-2.1
EDPN	Palmar Norte	0.51	226	eP	Pg	05 35 46.9	+0.1
EDPN				eS	Sb	05 35 54.6	-1.7
BRU2	Volcan	0.65	143	⇑eP	Pg	05 35 49.2	-0.3
BRU2				eS	Sg	05 35 57.9	-0.1
EDDO	Dominical	0.77	266	eP	Pg	05 35 51.7	-0.1
EDDO				eS	Sg	05 36 02.7	+0.8
PTJ1	Puerto Jimnez	0.80	195	eP	Pg	05 35 51.4	-1.1
PTJ1				eS	Sg	05 36 02.3	-0.6
LCR2	La Lucha 2	1.00	295	eP	Pg	05 35 55.1	-1.2
LCR2				eS	Sg	05 36 08.8	-0.5
SJS	Escuela Geolog	1.14	303	eP	Pg	05 35 59.1	+0.1
HDC	Heredia	1.22	304	eP	Pg	05 35 59.5	-1.1
HDC				eS	Sg	05 36 17.0	+0.6
SRA1	San Ramn	1.57	299	eP	Pn	05 36 05.5	-0.5
FORC	Fortuna	1.94	306	iP	Pn	05 36 11.9	+1.0
CASO	Castillo	1.97	305	iP	Pn	05 36 11.9	+0.6
ARE1	Arenal 1	1.97	305	eP	Pn	05 36 12.5	+1.2
JTS	JuntasAbangare	2.08	298	eP	Pn	05 36 12.1	-0.7
JTS				eS	Sn	05 36 39.6	+0.4
CUI	Cuipilapa	2.44	303	iP	Pn	05 36 19.6	+1.7
ESPN	Las Esperanzas	3.10	337	eP	Pn	05 36 27.1	+0.3
AZU	Azuero	3.17	118	eP	Pn	05 36 29.4	+1.7
AZU				eS	Sn	05 37 06.5	+0.6
BCIP	Isla Barro Col	3.21	92	eP	Pn	05 36 28.1	-0.2
BCIP				eS	Sn	05 37 06.0	-1.0
UPA	Univ. de Panam	3.52	95	eP	Pn	05 36 32.8	+0.2
UPA				eS	Sn	05 37 14.4	-0.3
MOTC	Monteria, Cord	7.35	94	eP	Pn	05 37 27.9	+2.6
MOTC	Monteria, Cord	7.35	94	eP	Pn	05 37 27.9	+2.6
SJCC	San Jacinto, C	7.82	85	eP	Pn	05 37 33.8	+2.1
SJCC	San Jacinto, C	7.82	85	eP	Pn	05 37 33.8	+2.1
SMRC	Santa Marta, M	8.91	77	eP	Pn	05 37 46.9	+0.1
SMRC	Santa Marta, M	8.91	77	eP	Pn	05 37 46.9	+0.1
CODC	Agustn Codazz	9.53	85	eP	Pn	05 37 55.9	+0.8
CODC	Agustn Codazz	9.53	85	eP	Pn	05 37 55.9	+0.8

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*IDC **02** 06:05:55.8±3.3, 45.00N×150.88E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.2/32, mbtmp3.3/4, ML3.1/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/19, Error ellipse: s-maj=124.7km s-min=35.4km az=159.0*
*SKHL **02** 06:06:10.0±0.4, 44.91N×150.08E, h70km±4km, mb4.6/6*
*JMA **02** 06:06:12.1±0.5, 44.75N×149.67E, h145km, M3.6*
ISC 02 06:06:01.3±1.1**, 44.8N**±0.1×**150.64E**±0.08**, h51km, n21, σ3s72**/30**, mb3.0**/3**, 2C, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.03	285	⇑iP	Pn	06 06 35.5	+2.6
KUR				AMB	AMB	06 06 37.0	
	30nm,0.3s						
KUR				AMB	AMB	06 06 37.0	
	130nm,0.3s						
KUR				eS	Sn	06 06 55.0	-2.0
KUR				A	A	06 07 00.0	
	180nm,0.3s						
KUR				A	A	06 07 00.0	
	380nm,0.3s						
SHO	Shikotan	2.88	253	⇑iP	Pn	06 06 49.6	+5.0
SHO				AMB	AMB	06 06 53.0	
	10.0nm,0.3s						
SHO				AMB	AMB	06 06 53.0	
	40nm,0.3s						
SHO				eS	Sn	06 07 19.0	+1.1
SHO				A	A	06 07 24.0	
	160nm,0.3s						
SHO				A	A	06 07 24.0	
	140nm,0.3s						
YUK	Yuzh-Kuril'sk	3.50	260	eP	Pn	06 06 57.0	+3.9
YUK				AMB	AMB	06 07 04.0	
	30nm,0.3s						
YUK				AMB	AMB	06 07 04.0	
	60nm,0.3s						
YUK				AMB	AMB	06 07 04.0	
	100nm,0.3s						
YUK				eS	Sn	06 07 33.0	-0.3
YUK				A	A	06 07 38.0	
	140nm,0.3s						
YUK				A	A	06 07 38.0	
	160nm,0.3s						
LAGR	Lagunnoye	3.55	260	eP	Pn	06 06 58.0	+4.2
LAGR				AMB	AMB	06 07 00.0	
	50nm,0.3s						
LAGR				AMB	AMB	06 07 00.0	
	20nm,0.3s						
LAGR				AMB	AMB	06 07 00.0	
	90nm,0.3s						
LAGR				eS	Sn	06 07 34.0	-0.5
LAGR				A	A	06 07 37.0	
	260nm,0.3s						
LAGR				A	A	06 07 37.0	
	80nm,0.3s						
GRPR	Tuman	3.57	259	eP	Pn	06 06 58.0	+3.9
GRPR				AMB	AMB	06 07 01.0	
	50nm,0.3s						
GRPR				AMB	AMB	06 07 01.0	
	60nm,0.3s						
GRPR				eS	Sn	06 07 34.0	-1.1
GRPR				A	A	06 07 38.0	
	180nm,0.3s						
GRPR				A	A	06 07 38.0	
	40nm,0.3s						
NEM2	Nemuro 2	3.79	250	P	Pn	06 07 01.8	+4.6
NEM2				eS	Sn	06 07 40.4	-0.1
GLVR	Golovnino	3.82	256	eP	Pn	06 07 02.0	+4.5
GLVR				AMB	AMB	06 07 02.0	
	50nm,0.3s						
GLVR				eS	Sn	06 07 41.0	-0.1
GLVR				A	A	06 07 49.0	
	210nm,0.4s						
GLVR				A	A	06 07 49.0	
	140nm,0.4s						
JRA	Rausu	4.04	260	P	Pn	06 07 04.8	+4.2
JNK	Nakash	4.42	257	P	Pn	06 07 09.5	+3.8
JAK	Akkeshi	4.64	250	P	Pn	06 07 12.5	+3.7
JAK				eS	Sn	06 07 59.3	-2.1
JAR	Ashorobuto	5.17	256	P	Pn	06 07 20.1	+4.1
JOB	Onbets	5.26	252	eS	Sn	06 08 14.2	-2.4
JCH	Churui	5.70	250	P	Pn	06 07 26.7	+3.5
JCH				eS	Sn	06 08 23.3	-4.0
ASAJ	Asahikawa	5.80	267	Pn	Pn	06 07 25.6	+1.0
	0.5nm,0.3s,baz=63,slow=15,SNR=4.1						
MYR	Moyori	5.89	248	eP	Pn	06 07 30.0	+4.1
JNB	Noboribetsu	7.33	255	P	Pn	06 07 47.3	+1.6
JNB				eS	Sn	06 09 00.8	-6.7
JKB	Kayabe	7.57	251	P	Pn	06 07 50.4	+1.5
JKB				eS	Sn	06 09 04.6	-8.7
JANG	Nango	8.03	240	eS	Sn	06 09 18.0	-6.7
ILAR	Eielson Array	39.19	37	P	P	06 13 22.8	-1.0
	0.1nm,0.4s,baz=264,slow=7.6,SNR=6.8						
YKA	Yellowknife Ar	53.55	35	P	P	06 15 14.9	-1.5
	0.3nm,0.7s,baz=296,slow=6.2,SNR=7.5						
YKA				LR	LR	06 41 16.9	
	comp=Z,6.9nm,18.6s,baz=118,slow=40						
TXAR	Lajitas Array	80.00	59	P	P	06 18 06.1	+0.8
	0.1nm,0.5s,baz=292,slow=4.8,SNR=3.7						

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*NIED **02** 06:16:00, 35.70N×141.10E, h5km, Mw3.9 Best double couple: M0 7.77000×10^14 NP1:φs198.00000°, δ18.00000°, λ-33.00000°. NP2:φs320.00000°, δ80.00000°, λ-105.00000°.*
*IDC **02** 06:16:13.3±1.0, 35.65N×141.09E, h0km, mb3.4/7, mb1 3.5/10, mb1mx3.5/36, mbtmp3.4/10, ML3.5/3, MS2.4/2, Ms1 2.4/2, ms1mx2.3/28, Error ellipse: s-maj=23.9km s-min=17.4km az=90.0*
*ISCJB **02** 06:16:14.5±0.8, 35.70N±0.03×141.16E±0.06, h22km±5km, mb3.3/7, Error ellipse: s-maj=8.3km s-min=5.2km az=175.1*
*JMA **02** 06:16:15.8±0.2, 35.69N×141.05E, h16km±1km, M4.3*
JMA Felt I J1.
ISC 02 06:16:15.1±1.4**, 35.70N**±0.04×**141.08E**±0.06**, h12km**±7km**, n21, σ0s63**/30**, mb3.4**/7**, 1C-2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	Chosi	0.18	270	⇑P	Pg	06 16 19.8	+0.6
CHOJ				S	Sg	06 16 22.3	+0.3
JSMT	Sammumatsuo	0.52	264	P	Pb	06 16 25.9	-0.3
JSMT				S	Sb	06 16 33.9	+0.2
JIHU	Itakohorinouch	0.53	300	P	Pb	06 16 26.4	+0.2
JIHU				S	Sb	06 16 34.1	+0.3
JHYU	Hitachinakayam	0.75	328	P	Pb	06 16 30.2	0.0
JHYU				S	Sb	06 16 40.6	+0.2
JCN	Nagara	0.77	249	P	Pn	06 16 30.8	-1.0
JYT	Yasato	0.89	306	⇓P	Pg	06 16 31.5	-0.9
JYT				S	Sg	06 16 42.9	-1.1
JHO	Hitachi	1.00	335	⇓P	Pg	06 16 33.6	-0.8
JHO				S	Sg	06 16 47.1	-0.3
BSO3	Boso 3	1.01	208	P	Pn	06 16 34.2	-0.7
BSO1	Boso 1	1.05	185	P	Pn	06 16 34.6	-0.5
MJAR	Matsushiro Arr	2.47	291	Pn	Pn	06 16 54.8	-0.4
	4.7nm,0.3s,baz=196,slow=8.2,SNR=42						
MJAR				Sn	Sn	06 17 26.3	+0.9
	8.9nm,0.3s,baz=326,slow=17,SNR=6.7						
MAT	Matsushiro	2.48	291	P	Pn	06 16 55.1	-0.2
MAT				eS	Sn	06 17 25.1	-0.3
JHJ	Hachijo jima 2	2.79	203	Pn	Pn	06 17 00.1	+0.5
	12nm,0.3s,baz=305,slow=22,SNR=12						
JHJ				LR	LR	06 17 25.8	
	comp=Z,42nm,19.7s,baz=189,slow=26						
JHJ				Sn	Sn	06 17 32.5	-0.7
	17nm,0.3s,baz=90,slow=20,SNR=3.8						
ASAJ	Asahikawa	8.48	7	Pn	Pn	06 18 17.2	-0.6
	1.0nm,0.3s,baz=235,slow=7.5,SNR=5.1						
ASAJ				Sn	Sn	06 19 53.6	+0.3
	0.3nm,0.3s,baz=268,slow=33,SNR=2.0						
KSRS	Korea Array	10.73	283	LR	LR	06 22 46.3	
	comp=Z,40nm,20.3s,baz=60,slow=36						
SONM	Songino Array	28.33	306	P	P	06 22 09.4	+0.6
	0.3nm,0.6s,baz=93,slow=9.6,SNR=2.7						
ZALV	Zalesovo Beam	42.62	313	P	P	06 24 11.5	+0.4
	0.4nm,0.4s,baz=91,slow=7.4,SNR=3.7						
MKAR	Makanchi Array	44.61	303	P	P	06 24 27.5	+0.3
	0.7nm,0.8s,baz=93,slow=9.3,SNR=5.4						
ILAR	Eielson Array	50.76	32	P	P	06 25 15.5	+0.9
	0.5nm,1.0s,baz=253,slow=5.5,SNR=4.1						
WRA	Warramunga Arr	55.71	188	P	P	06 25 50.5	-1.0
	0.4nm,0.7s,baz=5.4,slow=7.9,SNR=7.1						
ASAR	Alice Springs	59.44	188	P	P	06 26 17.4	-0.3
	0.2nm,0.6s,baz=22,slow=10,SNR=3.6						
YKA	Yellowknife Ar	65.09	30	P	P	06 26 55.7	+0.5
	0.1nm,0.7s,baz=307,slow=7.6,SNR=2.9						

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*ISCJB **02** 06:19:36.8±0.6, 38.88N±0.03×27.07E±0.05, h4km±8km, Error ellipse: s-maj=6.2km s-min=4.5km az=176.7*
*DDA **02** 06:19:36.9, 38.88N×27.10E, h7km±3km, ML2.3*
*ISK **02** 06:19:36.2, 38.88N×27.05E, h18km, ML2.7/3*
ISC 02 06:19:36.7±1.0**, 38.87N**±0.03×**27.08E**±0.03**, h12km**±9km**, n16, σ0s52**/24**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DKL	Dikili	0.24	327	PG	Pg	06 19 42.1	+0.2
DKL				SG	Sg	06 19 45.6	+0.3
FOCM	Foa	0.31	240	PG	Pg	06 19 42.5	-0.6
BLCB	Balcova	0.48	183	PG	Pb	06 19 47.2	+0.1
BLCB				SG	Sb	06 19 54.0	-0.1
KRBN	Karaburun	0.49	236	PG	Pg	06 19 46.4	0.0
AKHS	Akhisar	0.57	89	IAML_P			
	comp=Z,677nm,0.1s						
AKHS				iP	Pb	06 19 49.4	+0.7
URLA	Izmir	0.63	217	PG	Pg	06 19 49.0	0.0
URLA	Izmir	0.63	217	IAML_P			
	comp=Z,517nm,0.2s						
URLA				iP	Pb	06 19 49.8	+0.1
URLA				iS	Sn	06 20 02.4	+0.9
STEP	BALIKESIR_Sava	0.71	44	IAML_P			
	comp=Z,1μm,0.1s						
STEP				iP	Pb	06 19 50.9	-0.2
STEP				iS	Sb	06 20 00.1	-0.8
DGB	zmir	0.83	191	IAML_P			
	comp=Z,1μm,0.2s						
DGB				iP	Pb	06 19 53.4	+0.4
DGB				iS	Sn	06 20 05.8	-0.5
CHOS	Chios island	0.93	239	PG	Pg	06 19 54.5	-0.2
BAYC	CANAKKALE_Bayr	0.96	335	iP	Pn	06 19 56.5	+0.5
BAYC				iS	Sb	06 20 07.8	-0.3
BALB	Balikesir	0.99	39	PG	Pg	06 19 55.7	-0.2
SIGR	SIGRI	1.01	290	PG	Pg	06 19 56.1	-0.1
MANT	Manisa	1.22	108	IAML_P			
	comp=Z,162nm,0.2s						
MANT				iP	Pg	06 20 00.8	+0.6
MANT				iS	Sn	06 20 17.1	+0.9
KULA	Kula-Manisa	1.29	105	PN	Pn	06 19 59.6	-1.0
DURS	Dursunbey	1.31	56	IAML_P			
	comp=Z,206nm,0.2s						
DURS				iP	Pg	06 20 01.6	-0.3
DURS				iS	Sg	06 20 18.7	-0.2

IDC 02 06:35:28.1±11.0**, 0.62S**×**127.92E, h0km, mb3.4**/3**, mb1 3.7**/4**, mb1mx3.4**/34**, mbtmp3.5**/4**, ML3.5**/2**, Error ellipse: s-maj=190.2km s-min=36.1km az=146.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	3.35	94	Pn	Pn	06 36 21.5	-0.3
	3.2nm,0.3s,baz=270,slow=19,SNR=7.8						
BATI	Baumata	10.42	204	Pn	Pn	06 37 58.3	-0.6
	14nm,0.3s,baz=169,slow=5.2,SNR=9.0						
FITZ	Fitzroy Crossi	17.51	187	P	Pn	06 39 34.0	+0.2
	0.1nm,0.3s,baz=14,slow=9.3,SNR=6.9						
WRA	Warramunga Arr	20.20	162	P	P	06 40 03.0	-1.7
	0.3nm,0.3s,baz=344,slow=13,SNR=12						
ASAR	Alice Springs	23.63	166	P	P	06 40 42.6	+1.5
	1.2nm,0.7s,baz=340,slow=9.2,SNR=16						
STKA	Stephens Creek	33.67	159	P	P	06 42 10.5	-0.3
	0.4nm,0.3s,baz=339,slow=8.6,SNR=2.0						

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*KRNET **02** 07:08:25.6±0.1, 41.18N×77.96E, h26km, mb2.0*
*NNC **02** 07:08:32.6±1.8, 41.96N×78.05E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=14.0km s-min=6.0km az=173.0, Suspected Mining explosion.*
*SOME **02** 07:08:33.3, 42.12N×78.13E, h0km*
ISC 02 07:08:30.8±1.6**, 41.88N**±0.08×**78.07E**±0.04**, h0km, n26, σ0s92**/40**, 11C-5D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KDJ	Kajisay	0.71	291	⇑iP	Pb	07 08 46.2	0.0
	baz=29						
KDJ				⇑iS	Sn	07 09 01.0	+1.0
	baz=29						
ULHL	Ulahol	1.41	286	⇑iP	Pg	07 08 55.2	-2.6
	baz=10.0						
ULHL				⇑eS	Sn	07 09 17.4	0.0
	baz=10.0						
MDOK	Medeo	1.49	330	Pg	Pb	07 08 59.6	+0.2
	1.9nm,0.2s						
MDOK				Lg	Lg	07 09 18.6	
	3.1nm,0.2s						
MDOK	Medeo	1.49	330	eP	Pb	07 08 59.6	+0.2
	0.6nm,0.1s						
MDOK				eS	Sg	07 09 18.5	-0.1
	2.3nm,0.2s						
KOTS	Kotyrbulak	1.53	333	P	Pn	07 08 59.5	0.0
	1.4nm,0.2s						
KOTS				S	Sg	07 09 18.4	-1.4
	4.8nm,0.5s						
KOTS	Kotyrbulak	1.53	333	eP	Pn	07 08 59.5	0.0
	0.6nm,0.2s						
KOTS				eS	Sg	07 09 18.4	-1.4
	4.8nm,0.5s						
NRN	Naryn	1.62	255	⇑iP	Pn	07 08 53.2	-7.7
	baz=80						
NRN				⇑iS	Sn	07 09 12.9	-10
	baz=80						
BOOM	Boomskoye usch	1.70	292	⇑iP	Pn	07 08 59.7	-2.1
	baz=12						
BOOM				⇑iS	Sn	07 09 24.7	+0.3
	baz=12						
PDGK	Podgornoye	1.79	35	P	Pn	07 09 03.6	+0.6
	0.6nm,0.2s						
PDGK				S	Sn	07 09 25.2	-1.2
	0.9nm,0.5s						
PDGK	Podgornoye	1.79	35	⇓Pn	Pn	07 09 03.8	+0.8
	1.0nm,0.6s						
PDGK				⇓Sn	Sg	07 09 28.9	+0.8
	0.6nm,0.5s						
KST	Kastek	1.95	307	Pg	Pg	07 09 09.1	+1.0
	1.5nm,0.2s						
KST				Lg	Lg	07 09 35.1	
	2.5nm,0.4s						
KST	Kastek	1.95	307	eP	Pg	07 09 09.0	+1.0
	0.8nm,0.1s						
KST				eS	Sg	07 09 34.8	+1.5
	1.4nm,0.3s						
KTBS	Karatobe	2.10	331	Pg	Pb	07 09 09.8	+0.1
	1.4nm,0.2s						
KTBS				Lg	Lg	07 09 36.0	
	5.1nm,0.2s						
KTBS	Karatobe	2.10	331	eP	Pb	07 09 09.8	+0.1
	1.4nm,0.2s						
KTBS				eS	Sb	07 09 36.0	-0.3
	5.1nm,0.2s						
TKM2	Tokmak 2	2.11	300	⇓Pg	Pb	07 09 10.0	0.0
	2.5nm,0.9s						
TKM2				⇑Lg	Lg	07 09 40.4	
	1.5nm,0.3s						
CHKK	Chushkaly	2.13	338	Pg	Pg	07 09 11.2	-0.3
	2.8nm,0.2s						
CHKK				Lg	Lg	07 09 38.9	
	8.4nm,0.2s						
CHKK	Chushkaly	2.13	338	eP	Pg	07 09 11.4	-0.2
	2.5nm,0.2s						
CHKK				eS	Sg	07 09 38.9	-0.2
	6.7nm,0.2s						
DGS	Degeres	2.18	309	Pg	Pg	07 09 12.8	+0.3
	1.4nm,0.3s						
DGS				Lg	Lg	07 09 41.4	
	2.9nm,0.3s						
DGS	Degeres	2.18	309	eP	Pg	07 09 12.8	+0.3
	1.4nm,0.3s						
DGS				eS	Sg	07 09 41.4	+0.7
	2.9nm,0.3s						
ARXS	Arharly	2.34	356	Pg	Pb	07 09 13.6	-0.2
	1.7nm,0.3s						
ARXS				Lg	Lg	07 09 42.7	
	2.7nm,0.4s						
ARXS	Arharly	2.34	356	eP	Pb	07 09 13.6	-0.2
	1.7nm,0.3s						
ARXS				eS	Sb	07 09 42.7	-0.5
	2.7nm,0.4s						
KUU	Kurty	2.38	328	Pg	Pb	07 09 14.8	+0.3
	0.8nm,0.3s						
KUU				Lg	Lg	07 09 44.5	
	1.9nm,0.3s						
KUU	Kurty	2.38	328	⇑iP	Pb	07 09 14.8	+0.3
	0.8nm,0.3s						
KUU				⇓iS	Sb	07 09 44.5	0.0
	1.9nm,0.3s						
DJR	Jarkent	2.75	27	Pg	Pb	07 09 20.9	0.0
	0.6nm,0.3s						
DJR				Lg	Lg	07 09 55.0	
	1.2nm,0.3s						
DJR	Jarkent	2.75	27	eP	Pb	07 09 20.9	0.0
	0.6nm,0.3s						
DJR				eS	Sb	07 09 55.0	-0.2
	1.2nm,0.3s						
AAK	Ala-Archa	2.76	287	⇑Pg	Pn	07 09 18.8	+2.4
	1.8nm,0.9s						
AAK				⇓Lg	Lg	07 09 55.7	
	3.0nm,1.1s						

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*IDC **02** 07:13:59.9±1.1, 27.47S×65.52E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.7/46, mbtmp3.9/7, ML3.8/1, MS3.4/8, Ms1 3.4/8, ms1mx3.1/39, Error ellipse: s-maj=37.0km s-min=31.2km az=77.0*
*ISCJB **02** 07:14:00.1±1.0, 27.5S±0.2×65.4E±0.2, h14km, mb3.9/6, MS3.5/8, Error ellipse: s-maj=27.6km s-min=22.4km az=21.6*
ISC 02 07:14:02.1±1.1**, 27.5S**±0.2×**65.5E**±0.2**, h14km, n14, σ0s51**/8**, mb4.1**/6**, MS3.5**/8**, Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OPO	Ambohidratompo	19.00	294	P	P	07 18 23.1	-0.6
	0.3nm,0.3s,baz=97,slow=14,SNR=2.5						
BOSA	Boshof	35.40	259	LR	LR	07 34 03.2	
	comp=Z,45nm,18.2s,baz=118,slow=34						
KMBO	Kilima Mbogo	37.65	309	LR	LR	07 35 56.9	
	comp=Z,26nm,18.5s,baz=96,slow=35						
MAW	Mawson	40.19	182	LR	LR	07 34 21.9	
	comp=Z,92nm,20.1s,baz=18,slow=30						
CMAR	Chiang Mai Arr	56.01	39	P	P	07 23 39.9	-0.6
	1.4nm,0.3s,baz=236,slow=6.4,SNR=8.6						
CMAR				LR	LR	07 45 39.2	
	comp=Z,14nm,18.5s,baz=5.0,slow=34						
VNDA	Vanda	64.76	166	P	P	07 24 39.6	0.0
	1.2nm,1.0s,baz=272,slow=5.2,SNR=4.0						
VNDA				LR	LR	07 50 03.5	
	comp=Z,48nm,18.4s,baz=249,slow=33						
STKA	Stephens Creek	65.01	114	LR	LR	07 49 16.6	
	comp=Z,27nm,18.3s,baz=25,slow=33						
AAK	Ala-Archa	70.25	7	LR	LR	07 52 25.3	
	comp=Z,42nm,20.0s,baz=200,slow=33						
BRTR	Keskin Array B	73.14	335	P	P	07 25 32.9	+0.6
	0.5nm,0.8s,baz=134,slow=6.2,SNR=3.3						
KBZ	Khabaz	73.82	343	LR	LR	07 56 27.5	
	comp=Z,48nm,21.9s,baz=203,slow=34						
MKAR	Makanchi Array	75.47	12	P	P	07 25 45.4	-0.1
	0.5nm,0.8s,baz=193,slow=3.7,SNR=4.5						
ZALV	Zalesovo Beam	82.79	11	P	P	07 26 25.4	+0.1
	1.2nm,0.7s,baz=216,slow=4.6,SNR=5.1						
SONM	Songino Array	83.50	26	P	P	07 26 29.5	+0.1
	0.5nm,0.4s,baz=224,slow=4.0,SNR=7.5						
YKA	Yellowknife Ar	144.98	0	PKP	PKPab	07 33 38.0	+0.5
	1.0nm,0.6s,baz=343,slow=3.4,SNR=32						

MAN 02 07:14:59.4, 9.20N×125.48E, h1km, mb4.5, ML3.4, MS3.2, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	Butuan	0.27	147	eP	Pg	07 15 04.3	-0.1
BUTP				eS	Sg	07 15 09.2	+1.3
CGP	Cagayan de Oro	1.07	226	⇑eP	Pn	07 15 21.3	-0.2
CGP				eS	Sn	07 15 36.9	0.0
MSLP	Maasin	1.11	327	eP	Pg	07 15 20.2	-0.6
MSLP				eS	Sn	07 15 38.1	0.0
BUKP	Musuan	1.37	197	eP	Pg	07 15 25.3	-0.4
BUKP				eS	Sg	07 15 41.6	-1.8
DCPH	Dipolog City	2.19	254	eP	Pn	07 15 35.1	-1.8
DCPH				eS	Sg	07 16 09.7	0.0
PAGZ	Pagadian	2.47	237	eP	Pn	07 15 41.1	+0.4
PAGZ				eS	Sn	07 16 07.5	-4.1

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*NIED **02** 07:15:00, 38.00N×143.80E, h5km, Mw3.5 Best double couple: M0 1.83000×10^14 NP1:φs20.00000°, δ42.00000°, λ-67.00000°. NP2:φs170.00000°, δ52.00000°, λ-109.00000°.*
*IDC **02** 07:15:51.2±2.3, 37.86N×144.16E, h0km, mb3.0/2, mb1 3.5/5, mb1mx3.3/47, mbtmp3.5/5, ML3.8/3, Error ellipse: s-maj=51.0km s-min=25.5km az=136.0*
*ISCJB **02** 07:15:54.6±0.9, 38.08N±0.04×143.97E±0.06, h33km, mb3.0/2, Error ellipse: s-maj=7.3km s-min=5.3km az=43.2*
*JMA **02** 07:15:56.0±0.2, 38.03N×143.83E, h41km, M3.7*
ISC 02 07:15:56.6±1.4**, 38.02N**±0.06×**143.91E**±0.10**, h35km, n19, σ1s81**/33**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.94	279	P	Pn	07 16 26.8	-0.3
JIKH				S	Sn	07 16 49.6	-0.7
OFUJ	Ofunato	2.05	302	P	Pn	07 16 28.3	-0.2
OFUJ				eS	Sn	07 16 52.7	-0.1
JIO	Ouri	2.06	283	P	Pn	07 16 28.5	-0.1
JIO				S	Sn	07 16 51.9	-1.2
JKMT	Kesennumamotoy	2.06	293	P	Pn	07 16 28.5	-0.2
JKMT				eS	Sn	07 16 52.9	-0.3
JMK	Ichinoseki	2.30	295	P	Pn	07 16 32.1	+0.1
JMK				eS	Sn	07 16 59.2	+0.1
JOM	Ohasama	2.50	306	P	Pn	07 16 35.5	+0.7

JOM				eS	Sn	07 17 04.6	+0.5
JFT	**Otama**	**2.87**	**261**	P	**Pn**	**07 16 40.4**	**+0.5**
JFT				S	Sn	07 17 13.4	+0.2
JYK	**Kaneyama**	**2.92**	**289**	P	**Pn**	**07 16 41.6**	**+1.1**
JYK				eS	Sn	07 17 14.8	+0.4
JANG	**Nango**	**2.99**	**322**	eS	**Sn**	**07 17 16.4**	**+0.2**
JOT	**Ohata**	**4.01**	**328**	eS	**Sn**	**07 17 40.0**	**-1.3**
JRY	**Ryogami san**	**4.48**	**245**	P	**Pn**	**07 17 01.8**	**-0.1**
JRY				eS	Sn	07 17 50.0	-2.8
JCH	**Churui**	**4.61**	**355**	P	**Pn**	**07 17 03.6**	**-0.1**
JCH				eS	Sn	07 17 53.8	-2.1
JOD2	**Odawara 2**	**4.75**	**236**	eS	**Sn**	**07 17 57.0**	**-2.6**
MJAR	**Matsushiro Arr**	**4.78**	**254**	Pn	**Pn**	**07 17 07.2**	**+1.2**
	2.3nm,0.3s,baz=90,slow=15,SNR=22						
MJAR				Sn	Sn	07 18 03.0	+2.8
	0.8nm,0.3s,baz=53,slow=50,SNR=3.4						
NEM2	**Nemuro 2**	**5.52**	**14**	P	**Pn**	**07 17 14.1**	**-2.0**
NEM2				eS	Sn	07 18 13.6	-4.7
JHJ	**Hachijo jima 2**	**5.93**	**216**	Pn	**Pn**	**07 17 20.3**	**-1.7**
	9.6nm,0.3s,baz=40,slow=16,SNR=6.4						
JHJ				Sn	Sn	07 18 23.2	-5.5
	6.5nm,0.3s,baz=73,slow=19,SNR=3.0						
ASAJ	**Asahikawa**	**6.17**	**351**	Pn	**Pn**	**07 17 26.7**	**+1.6**
	2.0nm,0.3s,baz=189,slow=13,SNR=27						
ASAJ				Sn	Sn	07 18 33.4	-1.0
	0.4nm,0.3s,baz=24,slow=20,SNR=2.0						
MKAR	**Makanchi Array**	**45.28**	**302**	P	**P**	**07 24 12.1**	**+1.4**
	0.2nm,0.7s,baz=91,slow=8.6,SNR=3.2						
YKA	**Yellowknife Ar**	**61.95**	**31**	P	**P**	**07 26 12.5**	**+0.1**
	0.1nm,0.8s,baz=298,slow=6.7,SNR=2.6						

*ISCJB **02** 07:19:46.1±0.3, 6°.52S±0°.03×129°.87E±0°.04, h146^{km}, mb4.2/14, Error ellipse: s-maj=6.0km s-min=4.2km az=169.0*
*IDC **02** 07:19:47.4±2.2, 6°.46S×129°.81E, h143^{km}±21^{km}, mb3.8/9, mb1 3.9/12, mb1mx3.7/38, mbtmp4.3/12, Error ellipse: s-maj=20.5km s-min=9.9km az=61.0*
*NEIC **02** 07:19:48.4±0.8, 6°.51S×129°.90E, h154^{km}±9^{km}, mb4.5/12, Error ellipse: s-maj=10.3km s-min=7.3km az=62.0*
*DJA **02** 07:19:50.4±0.5, 6°S±4°×13°0E±°, h168^{km}±13^{km}, M4.7/7, mb4.7/6, mB5.1/6, MLv4.9/7, Mw(mB)4.5/6*
ISC 02 07:19:47.0±0.5**, 6°.58S**±0°.04×**129°.99E**±0°.05**, h146^{km}, n53,** σ**2^{s}60**/58**, mb4.1**/14**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.91**	**137**	ePn	Pn	07 20 26.2	+5.4
SAUI				eSn	**Sn**	**07 20 48.2**	**+1.5**
SAUI	**Saumlaki**	**1.91**	**137**	P	Pn	07 20 26.5	+5.7
BNDI	**Bandanaira**	**2.04**	**358**	P	Pn	07 20 26.7	+4.3
FAKI	**Fak Fak**	**4.27**	**32**	ePn	**Pn**	**07 20 51.1**	**+0.3**
FAKI	**Fak Fak**	**4.27**	**32**	P	**Pn**	**07 20 51.1**	**+0.3**
NLAI	**Namlea**	**4.39**	**319**	P	Pn	07 21 00.6	+8.2
SIJI	**Sorong**	**5.81**	**13**	P	**Pn**	**07 21 10.2**	**-1.0**
	21nm,0.3s,baz=187,slow=19,SNR=75						
SIJI				S	**Sn**	**07 22 11.3**	**-5.8**
	43nm,0.3s,baz=309,slow=22,SNR=16						
SWI	**Sorong**	**5.82**	**13**	P	**Pn**	**07 21 11.3**	**0.0**
SANI	**Sanana**	**6.01**	**318**	P	Pn	07 21 18.3	+4.4
	29nm,0.6s,930nm						
SOEI	**Soe**	**6.49**	**241**	ePn	**Pn**	**07 21 19.8**	**-0.5**
SOEI	**Soe**	**6.49**	**241**	P	Pn	07 21 25.0	+4.7
	76nm,0.8s						
RKPI	**Ransiki, Papua**	**6.54**	**40**	P	**Pn**	**07 21 22.5**	**+1.6**
BATI	**Baumata**	**7.22**	**240**	P	**Pn**	**07 21 33.6**	**+3.5**
	32nm,0.3s,baz=102,slow=2.9,SNR=18						
BATI				S	**Sn**	**07 22 52.0**	**+1.1**
	16nm,0.3s,baz=129,slow=20,SNR=9.6						
BATI	**Baumata**	**7.22**	**240**	P	**Pn**	**07 21 34.3**	**+4.2**
	80nm,0.6s,799nm						
BAKI	**Biak**	**8.11**	**49**	P	**Pn**	**07 21 45.6**	**+3.6**
PCI	**Palu**	**11.59**	**299**	P	**P**	**07 22 37.9**	**+2.2**
FITZ	**Fitzroy Crossi**	**12.21**	**200**	P	**Pn**	**07 22 37.0**	**+0.8**
	1.5nm,0.3s,baz=24,slow=12,SNR=41						
FITZ				S	**Sn**	**07 24 47.0**	**-4.1**
	2.6nm,0.3s,baz=53,slow=22,SNR=8.5						
FITZ	**Fitzroy Crossi**	**12.21**	**200**	ePn	**Pn**	**07 22 37.5**	**+1.3**
FITZ				eSn	**Sn**	**07 24 49.9**	**-1.3**
WRAB	**Tennant Creek**	**13.93**	**163**	ePn	**Pn**	**07 22 58.6**	**+0.2**
WR1	**Warramunga Arr**	**13.94**	**163**	ePn	**Pn**	**07 22 57.9**	**-0.5**
WR1				eSn	**Sn**	**07 25 25.7**	**-7.1**
WRA	**Warramunga Arr**	**13.94**	**163**	P	**Pn**	**07 22 57.9**	**-0.5**
	1.2nm,0.3s,baz=349,slow=13,SNR=42						
WRA				S	**Sn**	**07 25 25.7**	**-7.1**
	4.2nm,0.3s,baz=342,slow=21,SNR=9.4						
WB2	**Warramunga Arr**	**13.94**	**163**	ePn	**Pn**	**07 22 58.7**	**+0.2**
WB2				ePn	**P**	**07 22 59.0**	**-2.8**
COEN	**Coen**	**14.89**	**121**	ePn	**P**	**07 23 12.8**	**+0.4**
	26nm,0.7s						
PMG	**Port Moresby**	**17.23**	**101**	P	**Pn**	**07 23 42.1**	**+3.1**
	1.0nm,0.3s,baz=302,slow=5.2,SNR=3.5						
PMG				S	**S**	**07 26 48.8**	**-1.8**
	0.8nm,0.3s,baz=300,slow=16,SNR=3.2						
AS31	**Alice Springs**	**17.40**	**168**	eP	**Pn**	**07 23 43.5**	**+2.4**
	7.6nm,0.6s						
AS31				eS	**S**	**07 26 49.0**	**-5.0**
ASAR	**Alice Springs**	**17.40**	**168**	P	**Pn**	**07 23 43.2**	**+2.2**
	3.9nm,0.3s,baz=346,slow=9.8,SNR=249						
ASAR				S	**S**	**07 26 49.0**	**-5.0**
	0.7nm,0.3s,baz=350,slow=28,SNR=6.4						
ASAR				ScP	**ScP**	**07 31 31.9**	**-3.8**
	0.2nm,0.3s,baz=355,slow=2.1,SNR=5.4						
AS01	**Alice Springs**	**17.41**	**168**	eP	**Pn**	**07 23 42.8**	**+1.7**
SBUM	**Sibu**	**19.88**	**296**	eP	**Pn**	**07 24 08.5**	**-1.8**
	6.8nm,0.8s						
CTA	**Charters Tower**	**20.72**	**132**	P	Pn	07 24 19.0	-1.2
	9.5nm,0.6s,baz=307,slow=12,SNR=14						
CTA				S	**S**	**07 28 05.1**	**+5.4**
	2.0nm,0.8s,baz=233,slow=20,SNR=1.9						
CTAO	**Charters Tower**	**20.72**	**132**	eP	Pn	07 24 19.0	-1.2
	12nm,0.8s						
CISI	**Cisompet, Garu**	**22.03**	**266**	eP	**P**	**07 24 29.5**	**-0.6**
	77nm,1.0s						
FORT	**Forrest**	**24.14**	**184**	eP	**P**	**07 24 51.6**	**+2.1**
	18nm,0.8s						
BBOO	**Buckleboo**	**26.70**	**169**	eP	**P**	**07 25 13.8**	**+1.2**
	8.8nm,0.6s						
STKA	**Stephens Creek**	**27.41**	**158**	P	**P**	**07 25 20.9**	**+1.9**
	5.1nm,0.4s,baz=335,slow=8.5,SNR=24						
STKA	**Stephens Creek**	**27.41**	**158**	eP	**P**	**07 25 20.9**	**+1.9**
	1.4nm,0.6s						
NWAO	**Narrogin (SRO)**	**28.78**	**203**	P	**P**	**07 25 33.2**	**+2.0**
	1.6nm,0.4s,baz=45,slow=10.0,SNR=3.5						
CMAR	**Chiang Mai Arr**	**39.46**	**310**	P	**P**	**07 27 01.0**	**-2.3**
	2.0nm,0.6s,baz=133,slow=7.7,SNR=8.9						
USRK	**Ussuriysk Ar.**	**50.57**	**2**	P	**P**	**07 28 30.6**	**0.0**
	1.3nm,0.8s,baz=184,slow=7.5,SNR=4.3						
SONA0	**Songino Array**	**58.04**	**341**	eP	**P**	**07 29 24.9**	**+0.2**
SONM	**Songino Array**	**58.04**	**341**	P	**P**	**07 29 24.9**	**+0.2**
	0.4nm,0.4s,baz=161,slow=6.5,SNR=3.5						
MK01	**Makanchi Array**	**67.85**	**327**	eP	**P**	**07 30 29.6**	**+0.1**
MK31	**Makanchi Array**	**67.87**	**327**	eP	**P**	**07 30 30.1**	**+0.4**
MK32	**Makanchi Array**	**67.87**	**327**	eP	**P**	**07 30 29.9**	**+0.3**
MKAR	**Makanchi Array**	**67.87**	**327**	P	**P**	**07 30 29.9**	**+0.3**
	4.9nm,0.5s,baz=115,slow=8.5,SNR=101						
MKAR	**Makanchi Array**	**67.87**	**327**	eP	**P**	**07 30 30.1**	**+0.4**
	39nm,0.6s						
MAKZ	**Makanchi**	**68.05**	**327**	eP	**P**	**07 30 31.1**	**+0.4**
	4.4nm,0.6s						
ARSB	**Arslanbob**	**70.58**	**318**	eP	**P**	**07 30 45.6**	**-1.0**
	8.1nm,0.7s						
ZALV	**Zalesovo Beam**	**71.20**	**334**	P	**P**	**07 30 48.8**	**-1.1**
	1.1nm,0.5s,baz=146,slow=5.1,SNR=5.3						
ZAA1	**Zalesovo Array**	**71.21**	**334**	eP	**P**	**07 30 48.8**	**-1.1**
KURK	**Kurchatov**	**72.16**	**329**	eP	**P**	**07 30 55.6**	**-0.1**
	2.2nm,1.0s						
VNDA	**Vanda**	**72.86**	**173**	P	**P**	**07 30 60.0**	**+0.5**
	1.0nm,0.8s,baz=331,slow=6.3,SNR=5.5						
CPUP	**Villa Florida**	**146.53**	**168**	PKPbc	**PKPbc**	**07 39 12.0**	**+0.1**
	1.1nm,0.6s,baz=125,slow=3.5,SNR=3.6						
LPAZ	**La Paz**	**151.05**	**142**	PKPbc	**PKPbc**	**07 39 25.8**	**+1.2**
	0.5nm,0.4s,baz=33,slow=3.2,SNR=5.8						

*ISCJB **02** 07:26:31.3±2.2, 36°.9N±0°.1×70°.77E±0°.09, h88^{km}, Error ellipse: s-maj=17.9km s-min=10.2km az=0.0*
*NNC **02** 07:26:36.7±1.8, 37°.13N×71°.17E, h182^{km}±23^{km}, mb2.6, mpv3.6, Error ellipse: s-maj=19.4km s-min=14.9km az=63.0*
ISC 02 07:26:33.9±1.5**, 37°.00N**±0°.09×**70°.8E**±0°.1**, h88^{km}, n7,** σ**1^{s}99**/13**, 8C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.69**	**34**	⇓P	**Pn**	**07 27 30.4**	**+1.5**
	5.3nm,0.3s						
SFK				⇑S	**Sn**	**07 28 12.9**	**+1.4**
	14nm,0.4s						
KK31	**Karatay Array**	**6.10**	**358**	⇑P	**Pn**	**07 28 04.3**	**+2.8**
	3.5nm,0.3s,baz=170,slow=12,SNR=189						
KK31				⇑S	**Sn**	**07 29 13.2**	**+3.3**
	5.6nm,0.3s,baz=178,slow=21,SNR=12						
AAK	**Ala-Archa**	**6.32**	**26**	⇑P	**Pn**	**07 28 05.2**	**+0.6**
	3.7nm,1.1s						
AAK				⇑S	**Sn**	**07 29 14.1**	**-1.2**
	6.6nm,1.0s						
TKM2	**Tokmak 2**	**6.98**	**30**	⇑P	**Pn**	**07 28 13.5**	**-0.1**
	2.7nm,0.6s						
TKM2				⇓S	**Sn**	**07 29 30.4**	**-1.1**
	1.9nm,0.6s						
AB31	**Akbulak array**	**14.57**	**331**	⇓P	**Pn**	**07 29 53.0**	**-2.4**
	0.7nm,0.7s						
AB31				⇑S	**Sn**	**07 32 35.5**	**-0.2**
	0.8nm,0.7s,baz=160,slow=21,SNR=3.6						
AKTO	**Aktyubinsk**	**16.27**	**330**	⇓P	**Pn**	**07 30 15.7**	**-1.2**
	2.9nm,1.0s						
AKTO				⇑S	**Sn**	**07 33 14.4**	**-2.4**
	0.4nm,0.6s						
POO	**Poona**	**18.59**	**171**	ex	**P**	**07 30 45.0**	**+0.7**

*ISCJB **02** 07:31:53.2±0.8, 5°.60S±0°.05×150°.21E±0°.08, h130^{km}±8^{km}, mb4.0/24, Error ellipse: s-maj=13.9km s-min=6.7km az=19.9*
*NEIC **02** 07:31:54.5±0.7, 5°.63S×150°.24E, h128^{km}±7^{km}, mb4.3/7, Error ellipse: s-maj=10.4km s-min=5.4km az=104.0*
*IDC **02** 07:31:55.2±1.4, 5°.65S×150°.12E, h132^{km}±12^{km}, mb3.8/20, mb1 3.9/22, mb1mx3.9/42, mbtmp4.3/22, MS4.1/1, Ms1 4.1/1, ms1mx2.8/23, Error ellipse: s-maj=16.2km s-min=7.7km az=108.0*
ISC 02 07:31:53.8±1.0**, 5°.70S**±0°.06×**150°.27E**±0°.08**, h124^{km}**±9^{km}**, n51,** σ**1^{s}05**/64**, mb4.0**/22**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.41**	**52**	ePn	**Pn**	**07 32 32.0**	**-0.6**
MANU	**Manus Island**	**4.64**	**321**	ePn	**Pn**	**07 33 03.0**	**+0.9**
PMG	**Port Moresby**	**4.80**	**220**	P	**Pn**	**07 33 04.8**	**+0.6**
	27nm,0.3s,baz=56,slow=5.9,SNR=41						
PMG				S	**Sn**	**07 33 59.4**	**+0.4**
	44nm,0.3s,baz=279,slow=17,SNR=15						
COEN	**Coen**	**10.78**	**220**	ePn	**Pn**	**07 34 25.4**	**+0.7**
COEN				eSn	**Sn**	**07 36 19.1**	**-4.5**
CTA	**Charters Tower**	**14.83**	**195**	P	**P**	**07 35 19.3**	**-0.6**
	0.9nm,0.3s,baz=20,slow=12,SNR=14						
CTAO	**Charters Tower**	**14.83**	**195**	ePn	**P**	**07 35 19.5**	**-0.4**
EIDS	**Eidsvold**	**19.58**	**178**	eP	**Pn**	**07 36 14.8**	**+0.1**
	21nm,0.8s						
WRAB	**Tennant Creek**	**20.97**	**226**	eP	**P**	**07 36 27.4**	**+0.2**
	12nm,1.0s						
WB2	**Warramunga Arr**	**20.98**	**226**	eP	**P**	**07 36 26.6**	**-0.7**
WB2				eP	Pn	07 36 27.5	-3.7
WB2				ePcP	**PcP**	**07 40 30.8**	**+0.8**
WR1	**Warramunga Arr**	**20.99**	**226**	eP	**P**	**07 36 27.6**	**+0.3**
	13nm,0.4s						
WR1				eS	**S**	**07 40 14.2**	**-0.2**
WR1				ePcP	**PcP**	**07 40 30.4**	**+0.5**
WRA	**Warramunga Arr**	**20.99**	**226**	P	**P**	**07 36 27.6**	**+0.2**
	6.6nm,0.4s,baz=50,slow=10,SNR=128						
WRA				S	**S**	**07 40 14.2**	**-0.2**
	2.4nm,0.9s,baz=50,slow=20,SNR=5.7						
WRA				PcP	**PcP**	**07 40 30.4**	**+0.5**
	1.5nm,0.8s,baz=47,slow=1.9,SNR=5.5						
WRA				ScP	**ScP**	**07 43 55.6**	**+0.1**
	2.0nm,0.8s,baz=51,slow=2.7,SNR=17						
DZM	**Mont Dzumac**	**22.57**	**138**	P	**P**	**07 36 45.9**	**+1.9**
	14nm,0.5s,baz=238,slow=8.2,SNR=11						
AS01	**Alice Springs**	**23.79**	**220**	eP	**P**	**07 36 56.0**	**+0.7**
AS31	**Alice Springs**	**23.82**	**220**	eP	**P**	**07 36 56.8**	**+1.2**
	1.7nm,0.5s						
AS31				ePcP	**PcP**	**07 40 36.1**	**+0.4**
AS31				eS	**S**	**07 41 02.3**	**-0.1**
ASAR	**Alice Springs**	**23.82**	**220**	P	**P**	**07 36 56.5**	**+0.9**
	2.1nm,0.5s,baz=57,slow=8.6,SNR=70						
ASAR				PcP	**PcP**	**07 40 36.1**	**+0.4**
	0.4nm,0.9s,baz=52,slow=3.8,SNR=4.8						
ASAR				S	**S**	**07 41 02.3**	**-0.1**
	1.5nm,1.0s,baz=57,slow=11,SNR=5.8						
ASAR				ScP	**ScP**	**07 44 02.0**	**-0.7**
	0.9nm,0.9s,baz=43,slow=4.0,SNR=6.0						
FITZ	**Fitzroy Crossi**	**27.02**	**241**	P	**P**	**07 37 24.2**	**-0.3**
	4.0nm,0.5s,baz=50,slow=6.2,SNR=28						
FITZ	**Fitzroy Crossi**	**27.02**	**241**	eP	**P**	**07 37 24.3**	**-0.2**
	26nm,1.6s						
STKA	**Stephens Creek**	**27.28**	**196**	P	**P**	**07 37 27.3**	**+0.6**
	3.8nm,0.5s,baz=22,slow=14,SNR=17						
STKA	**Stephens Creek**	**27.28**	**196**	eP	**P**	**07 37 27.4**	**+0.8**
	0.9nm,0.7s						
JNU	**Nakatsue**	**42.77**	**336**	P	**P**	**07 39 39.5**	**+0.4**
	10.0nm,0.9s,baz=173,slow=5.0,SNR=4.0						
JNU				LR	LR	07 55 57.0	
	comp=Z,236nm,20.2s,baz=7.0,slow=34						
MJAR	**Matsushiro Arr**	**43.51**	**346**	P	**P**	**07 39 44.4**	**-0.6**
	2.1nm,0.6s,baz=66,slow=1.1,SNR=6.6						
MAJO	**Matsushiro**	**43.51**	**346**	eP	**P**	**07 39 44.4**	**-0.6**
KSRS	**Korea Array**	**47.72**	**336**	P	**P**	**07 40 18.6**	**+0.5**
	1.8nm,0.7s,baz=156,slow=8.2,SNR=5.3						
KS15	**Wonju Array Si**	**47.73**	**336**	eP	**P**	**07 40 18.6**	**+0.5**
KSAR	**Wonju Array Be**	**47.73**	**336**	P	**P**	**07 40 18.6**	**+0.5**
ASAJ	**Asahikawa**	**50.07**	**353**	P	**P**	**07 40 36.7**	**+0.8**
	5.3nm,0.6s,baz=226,slow=9.2,SNR=7.5						
ASAJ	**Asahikawa**	**50.07**	**353**	eP	**P**	**07 40 36.7**	**+0.8**
	152nm,2.0s						
USRK	**Ussuriysk Ar.**	**52.33**	**343**	P	**P**	**07 40 53.6**	**+0.9**
	2.1nm,0.6s,baz=137,slow=7.1,SNR=8.6						
KLR	**Kul'dur**	**57.04**	**346**	P	**P**	**07 41 27.3**	**+0.7**
	1.7nm,0.6s,baz=186,slow=4.7,SNR=8.5						
PETK	**Petropavlovsk-**	**58.92**	**5**	P	**P**	**07 41 39.8**	**+0.1**
	2.7nm,0.7s,baz=166,slow=7.7,SNR=12						
PEA1	**Petropavlovsk-**	**58.93**	**5**	eP	**P**	**07 41 39.8**	**+0.1**
ULN	**Ulaanbaatar**	**65.46**	**330**	eP	**P**	**07 42 24.9**	**+1.2**
	2.6nm,0.7s						
SONA0	**Songino Array**	**65.77**	**329**	eP	**P**	**07 42 26.0**	**+0.4**
SONM	**Songino Array**	**65.77**	**329**	P	**P**	**07 42 26.0**	**+0.4**
	3.2nm,0.5s,baz=143,slow=5.0,SNR=35						
SONA1	**Songino Array**	**65.77**	**329**	eP	**P**	**07 42 26.3**	**+0.7**
SEY	**Seymchan**	**68.46**	**1**	P	**P**	**07 42 42.4**	**+0.3**
	1.0nm,0.5s,baz=136,slow=9.7,SNR=4.4						
VNDA	**Vanda**	**72.04**	**177**	P	**P**	**07 43 05.5**	**+1.7**
	0.6nm,0.6s,baz=336,slow=6.9,SNR=4.3						
MK32	**Makanchi Array**	**79.36**	**320**	eP	**P**	**07 43 45.0**	**-1.0**
MKAR	**Makanchi Array**	**79.36**	**320**	P	**P**	**07 43 45.0**	**-1.0**
	0.6nm,0.8s,baz=99,slow=7.9,SNR=6.1						
ZALV	**Zalesovo Beam**	**80.51**	**327**	P	**P**	**07 43 50.2**	**-1.8**
	0.8nm,0.4s,baz=114,slow=5.9,SNR=4.0						
ZAA1	**Zalesovo Array**	**80.51**	**327**	eP	**P**	**07 43 50.2**	**-1.8**
KURK	**Kurchatov**	**82.93**	**323**	eP	**P**	**07 44 03.8**	**-1.0**
KURBB	**Kurchatov Arra**	**82.96**	**322**	P	**P**	**07 44 03.8**	**-1.1**
	0.5nm,0.6s,baz=112,slow=4.0,SNR=5.7						
ILAR	**Eielson Array**	**83.94**	**23**	P	**P**	**07 44 08.0**	**-1.7**
	0.7nm,0.6s,baz=252,slow=4.9,SNR=12						
ILB	**Eielson Array**	**83.94**	**23**	eP	**P**	**07 44 08.0**	**-1.7**
BVAR	**Borovoye Array**	**88.45**	**323**	P	**P**	**07 44 30.3**	**-1.7**
	0.5nm,0.6s,baz=131,slow=6.7,SNR=2.9						
YKA	**Yellowknife Ar**	**97.39**	**28**	P	**P**	**07 45 12.1**	**-0.7**
	0.2nm,0.6s,baz=270,slow=4.8,SNR=8.3						
TORD	**Torodi Ar. Bea**	**148.16**	**286**	PKPbc	**PKPbc**	**07 51 24.7**	**-1.4**
	0.4nm,0.4s,baz=26,slow=3.7,SNR=4.6						
TOA1	**Torodi Ar. Sit**	**148.16**	**286**	ePKPdf	**PKPbc**	**07 51 24.7**	**-1.4**
PTGA	**Pitinga**	**149.14**	**101**	PKPbc	**PKPbc**	**07 51 29.1**	**+0.3**
	7.2nm,0.6s,baz=254,slow=3.1,SNR=13						
BDFB	**Brasilia**	**152.12**	**140**	PKPbc	**PKiKP**	**07 51 36.2**	**+0.1**
	2.1nm,0.4s,baz=262,slow=0.3,SNR=7.2						

*ISCJB **02** 07:44:48.0±0.2, 12°.54N±0°.02×87°.79W±0°.02, h72^{km}±1^{km}, mb4.7/241, Error ellipse: s-maj=3.6km s-min=2.1km az=30.4*
*IDC **02** 07:44:48.5±0.6, 12°.81N×87°.40W, h62^{km}±4^{km}, mb4.1/17, mb1 4.3/20, mb1mx4.2/29, mbtmp4.4/20, MS3.8/19, Ms1 3.8/19, ms1mx3.7/28, Error ellipse: s-maj=20.7km s-min=7.5km az=53.0*
*UCR **02** 07:44:48.3±2.2, 12°.54N×87°.83W, h46^{km}±38^{km}, MD4.2, ML4.8, mb4.8(NEIC)*
*GCMT **02** 07:44:49.4±0.4, 12°.37N±0°.02×88°.01W±0°.03, h54^{km}±1^{km}, MW5.0/61, Moment Tensor Solution. s43,c52; s61,c83; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.10±.14; $M_{\theta\theta}$-2.11±.11; $M_{\phi\phi}$-0.99±.14; $M_{r\theta}$0.20±.07; $M_{\theta\phi}$1.83±.08; $M_{\phi r}$-0.24±.08; Best double couple: $M_0$3.29800×10^{16} NP1:ϕ_s128.00000°, δ48.00000°, λ92.00000°. NP2: ϕ_s305.00000°, δ42.00000°, λ88.00000°. Principal axes: T 3.1160, Plg87.0000°, Azm66.0000°; N 0.3610, Plg2.0000°, Azm307.0000°; P -3.4790, Plg3.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **02** 07:44:50.4±0.4, 12°.47N×87°.69W, h86^{km}±3^{km}, mb4.8/242, MD4.9(SNET) Error ellipse: s-maj=4.0km s-min=2.7km az=221.0*
NEIC Felt at Managua. Felt [II] at Usulutan, El Salvador.
*BJI **02** 07:44:51.8, 12°.60N×87°.70W, h91^{km}*
*MOS **02** 07:44:51.2±1.2, 12°.68N×87°.50W, h101^{km}, mb4.7/32, Error ellipse: s-maj=12.6km s-min=5.0km az=114.5*
ISC 02 07:44:48.4±0.5**, 12°.55N**±0°.04×**87°.81W**±0°.03**, h67^{km}**±4^{km}**, h68^{km}:pP-P, n924,** σ**1^{s}34**/943**, mb4.8**/241**, 2C-1D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.76**	**79**	eP	**Pn**	**07 45 03.6**	**-0.2**
CRIN				eS	**Sn**	**07 45 15.8**	**+0.6**
LCND	**La Caada**	**0.76**	**354**	eP	**Pn**	**07 45 03.7**	**-0.1**
LCND				eS	**Sn**	**07 45 15.1**	**0.0**
LCND				IAML		07 45 16.9	
	comp=Z,91μm,0.4s						
VSM	**San Miguel**	**0.98**	**333**	eP	**Pn**	**07 45 06.5**	**-0.3**
LCY	**Lacayo**	**0.99**	**331**	eP	**Pn**	**07 45 06.4**	**-0.3**
PACA	**Pacayal**	**1.04**	**331**	eP	**Pn**	**07 45 07.1**	**-0.3**
PACA				eS	**Sn**	**07 45 21.8**	**+0.3**
CNGN	**Cerro Negro**	**1.09**	**93**	eP	**Pn**	**07 45 06.9**	**-1.0**
CNGN				eS	**Sn**	**07 45 21.1**	**-1.3**
CNGN				IAML		07 45 28.6	
	comp=N,11μm,0.2s						
TECA	**Tecapa**	**1.15**	**324**	eP	**Pn**	**07 45 08.6**	**-0.3**
COPN	**Copaltepe**	**1.25**	**107**	eP	**Pn**	**07 45 08.7**	**-1.3**
MOMN	**Momotombo**	**1.25**	**96**	eP	**Pn**	**07 45 08.9**	**-1.1**
BRAN	**Las Pilas**	**1.44**	**83**	eP	**Pn**	**07 45 12.6**	**+0.3**
BRAN				eS	**Sn**	**07 45 30.8**	**+0.3**
SNVI	**San Vicente**	**1.45**	**317**	eP	**Pn**	**07 45 12.5**	**-0.3**
XAVN	**Gruta Xavier**	**1.50**	**105**	eP	**Pn**	**07 45 12.6**	**-0.7**
ESTN	**Estel**	**1.51**	**69**	ePn	**Pn**	**07 45 13.5**	**0.0**
ESTN				eSn	**Sn**	**07 45 34.6**	**+2.3**
ESTN	**Estel**	**1.51**	**69**	eP	**Pn**	**07 45 13.5**	**0.0**
MGAN	**Managua**	**1.58**	**105**	eP	**Pn**	**07 45 13.5**	**-0.8**
MGAN				eS	**Sn**	**07 45 32.3**	**-1.6**
MGAN				IAML		07 45 34.1	
	comp=N,4μm,0.3s						
CRUN	**El Crucero**	**1.58**	**111**	eP	**Pn**	**07 45 14.1**	**-0.3**
PAVA	**Las Pavas**	**1.59**	**317**	eP	**Pn**	**07 45 14.7**	**0.0**
PAVA				eS	**Sn**	**07 45 33.7**	**-0.7**
LFRS	**El Faro**	**1.62**	**311**	i P	**Pn**	**07 45 14.6**	**-0.4**
LBRS	**Las Brisas**	**1.68**	**315**	eP	**Pn**	**07 45 16.1**	**+0.3**
MASN	**Masaya**	**1.72**	**109**	eP	**Pn**	**07 45 14.7**	**-1.5**
MASN				eS	**Sn**	**07 45 35.6**	**-1.7**
LOMA	**San Marcos**	**1.72**	**310**	eP	**Pn**	**07 45 16.0**	**-0.3**
LOMA				eS	**Sn**	**07 45 35.9**	**-1.4**
LOMA				IAML		07 45 41.5	
	comp=Z,34μm,0.3s						
LFU	**La Fuente**	**1.74**	**313**	eP	**Pn**	**07 45 16.8**	**+0.3**
UDBS	**Soyapango**	**1.76**	**312**	eP	**Pn**	**07 45 16.6**	**-0.1**
UDBS				eS	**Sn**	**07 45 37.6**	**-0.7**
UESS	**San Salvador**	**1.77**	**310**	eP	**Pn**	**07 45 17.1**	**+0.1**
UESS				eS	**Sn**	**07 45 38.4**	**-0.4**
OPAM	**San Salvador**	**1.78**	**311**	eP	**Pn**	**07 45 16.9**	**-0.2**
OPAM				eS	**Sn**	**07 45 37.9**	**-1.0**
SNET	**Serv Nac Est T**	**1.79**	**309**	eP	**Pn**	**07 45 16.7**	**-0.4**
SNET				eS	**Sn**	**07 45 38.3**	**-0.7**
BOQS	**Boqueron**	**1.85**	**310**	eP	**Pn**	**07 45 18.2**	**0.0**
MATN	**Matagalpa**	**1.88**	**78**	eP	**Pn**	**07 45 18.2**	**-0.2**
MATN				eS	**Sn**	**07 45 41.5**	**+0.3**
LLGN	**La Laguna**	**1.96**	**325**	eP	**Pn**	**07 45 19.5**	**+0.1**
CEDA	**San Andres**	**1.98**	**309**	eP	**Pn**	**07 45 19.7**	**-0.1**
CEDA				eS	**Sn**	**07 45 43.7**	**+0.1**
CEDA				IAML		07 46 03.2	
	comp=Z,15μm,0.4s						
BOAB	**BOACO BROADBAN**	**2.10**	**93**	ePn	**Pn**	**07 45 21.0**	**-0.3**
BOAB				eSn	**Sn**	**07 45 47.3**	**+1.0**
BOAB	**BOACO BROADBAN**	**2.10**	**93**	eP	**Pn**	**07 45 20.6**	**-0.6**
CEVE	**Cerro Verde**	**2.17**	**306**	eP	**Pn**	**07 45 22.4**	**-0.1**
SBLS	**San Blas**	**2.18**	**306**	eP	**Pn**	**07 45 22.5**	**-0.2**
SNJE	**San Jose**	**2.18**	**307**	eP	**Pn**	**07 45 22.9**	**+0.2**
RTR	**El Retiro**	**2.23**	**307**	eP	**Pn**	**07 45 23.6**	**+0.3**
CONN	**Concepcion**	**2.35**	**114**	eP	**Pn**	**07 45 23.8**	**-0.9**
ESPN	**Las Esperanzas**	**3.45**	**96**	ePn	**Pn**	**07 45 39.7**	**0.0**
ESPN	**Las Esperanzas**	**3.45**	**96**	eP	**Pn**	**07 45 39.5**	**-0.1**
APG	**El Apazote**	**3.55**	**314**	P	**Pn**	**07 45 42.5**	**+1.3**
	comp=Z,3.6nm,0.3s,baz=128,slow=9.4,SNR=30						
APG				S	Sn	07 46 32.8	+11
	comp=Z,29nm,0.3s,baz=273,slow=19,SNR=4.8						
JTS	**JuntasAbangare**	**3.59**	**128**	P	**Pn**	**07 45 41.4**	**-0.3**
	comp=Z,11nm,0.3s,baz=0.4,slow=14,SNR=133						
JTS				S	**Sn**	**07 46 21.2**	**-1.8**
	comp=Z,71nm,0.3s,baz=36,slow=13,SNR=7.1						
JTS	**JuntasAbangare**	**3.59**	**128**	ePn	**Pn**	**07 45 42.0**	**+0.3**
JTS				e		07 46 21.2	
JTS				eSn	**Sn**	**07 46 22.6**	**-0.4**
JTS	**JuntasAbangare**	**3.59**	**128**	d iP	**Pn**	**07 45 42.2**	**+0.5**
HDC	**Heredia**	**4.42**	**125**	ePn	**Pn**	**07 45 54.1**	**+0.9**
HDC	**Heredia**	**4.42**	**125**	⇑eP	**Pn**	**07 45 54.0**	**+0.9**
LCR2	**La Lucha 2**	**4.66**	**126**	eP	**Pn**	**07 45 58.6**	**+2.1**
THIG		**4.92**	**299**	P	**Pn**	**07 46 00.4**	**+0.6**
THIG				S	**Sn**	**07 46 54.2**	**-1.3**
EDLM	**Las Mercedes**	**5.27**	**128**	eP	**Pn**	**07 46 06.8**	**+2.1**
DRK0	**Durika**	**5.55**	**126**	eP	**Pn**	**07 46 10.1**	**+1.5**
EDPN	**Palmar Norte**	**5.57**	**129**	eP	**Pn**	**07 46 10.9**	**+2.2**
EDBA	**Buenos Aires**	**5.58**	**127**	eP	**Pn**	**07 46 10.4**	**+1.4**
CCIG	**Comitan**	**5.60**	**312**	ePn	**Pn**	**07 46 11.1**	**+1.9**
EDSV	**San Vito**	**6.03**	**127**	eP	**Pn**	**07 46 17.8**	**+2.7**
BRU2	**Volcan**	**6.27**	**126**	⇑eP	**Pn**	**07 46 20.1**	**+1.7**
	baz=309,slow=18						
ICCO	**Coco Island**	**7.00**	**174**	eP	**Pn**	**07 46 29.2**	**+0.9**
TEIG	**Tepich**	**7.64**	**357**	ePn	**Pn**	**07 46 40.0**	**+2.9**
CMIG	**Matias Romero**	**8.19**	**304**	P	**Pn**	**07 46 46.5**	**+1.9**
	comp=Z,2.9nm,0.3s,baz=155,slow=8.1,SNR=39						
CMIG				S	**Sn**	**07 48 14.0**	**-1.7**
	comp=Z,7.6nm,0.3s,baz=24,slow=20,SNR=4.9						
BCIP	**Isla Barro Col**	**8.52**	**112**	ePn	**Pn**	**07 46 49.2**	**+0.1**
BCIP	**Isla Barro Col**	**8.52**	**112**	eP	**Pn**	**07 46 49.2**	**+0.1**
BCIP	**Isla Barro Col**	**8.52**	**112**	eP	**Pn**	**07 46 49.2**	**+0.1**
MYIG	**Mrida**	**8.56**	**348**	ePn	**Pn**	**07 46 51.7**	**+2.1**
AZU	**Azuero**	**8.80**	**122**	eP	**Pn**	**07 46 55.4**	**+2.5**
WBCY	**West Bay, Gran**	**9.17**	**41**	ePn	**Pn**	**07 47 00.1**	**+2.2**
FSCY	**Frank Sound, G**	**9.26**	**43**	ePn	**Pn**	**07 47 01.2**	**+2.1**
MTDJ	**Mount Denham**	**11.40**	**59**	ePn	**Pn**	**07 47 29.0**	**+0.5**
TLIG	**Tlapa**	**11.52**	**297**	ePn	**Pn**	**07 47 32.1**	**+2.0**
PAYG	**Puerto Ayora**	**13.37**	**191**	ePn	**Pn**	**07 47 57.5**	**+2.3**
PAYG	**Puerto Ayora**	**13.37**	**191**	eP	**P**	**07 48 00.0**	**-2.4**
PAYG	**Puerto Ayora**	**13.37**	**191**	eP	**P**	**07 48 00.0**	**-2.4**
ZARC	**Zaragoza, Cauc**	**13.71**	**110**	eP	**P**	**07 48 03.6**	**-2.7**
ZARC	**Zaragoza, Cauc**	**13.71**	**110**	eP	**P**	**07 48 03.6**	**-2.7**
YOTC	**Yotoco, Valle**	**14.18**	**126**	eP	**Pn**	**07 48 07.8**	**+1.7**
YOTC	**Yotoco, Valle**	**14.18**	**126**	eP	**Pn**	**07 48 07.8**	**+1.7**
GTBY	**Guantanamo Bay**	**14.22**	**57**	ePn	**Pn**	**07 48 07.4**	**+0.9**
GTBY	**Guantanamo Bay**	**14.22**	**57**	eP	**P**	**07 48 11.3**	**-0.6**
GTBY	**Guantanamo Bay**	**14.22**	**57**	eP	**P**	**07 48 11.3**	**-0.6**
PTBC	**PUERTO BERRIO,**	**14.46**	**113**	eP	**P**	**07 48 13.4**	**-1.1**
PTBC	**PUERTO BERRIO,**	**14.46**	**113**	eP	**P**	**07 48 13.4**	**-1.1**
JRQG	**Juriquilla Cam**	**14.56**	**305**	ePn	**Pn**	**07 48 12.9**	**+1.7**
061Z	**Ochoppi**	**14.75**	**25**	ePn	**Pn**	**07 48 15.6**	**+2.2**
061Z	**Ochoppi**	**14.75**	**25**	P	**Pn**	**07 48 15.4**	**+2.1**
	baz=207						
POPC	**Popayan, Colom**	**14.85**	**131**	eP	**Pn**	**07 48 16.3**	**+1.3**
POPC	**Popayan, Colom**	**14.85**	**131**	eP	**Pn**	**07 48 16.3**	**+1.3**
OCAC	**Ocana**	**14.88**	**105**	eP	**P**	**07 48 19.8**	**+0.4**
OCAC	**Ocana**	**14.88**	**105**	eP	**P**	**07 48 19.8**	**+0.4**
BRRC	**Barranca, Sant**	**14.90**	**110**	eP	**P**	**07 48 21.9**	**+2.4**
BRRC	**Barranca, Sant**	**14.90**	**110**	eP	**P**	**07 48 21.9**	**+2.4**
059Z	**Ave Maria**	**14.96**	**23**	P	**P**	**07 48 18.7**	**-1.4**
	baz=204,SNR=7.7						
SOTA	**Rioblanco**	**15.17**	**132**	eP	**P**	**07 48 24.0**	**+1.0**
SOTA	**Rioblanco**	**15.17**	**132**	eP	**P**	**07 48 24.0**	**+1.0**
MARP	**Paez Belalcaza**	**15.19**	**128**	eP	**P**	**07 48 23.3**	**+0.3**
MARP	**Paez Belalcaza**	**15.19**	**128**	eP	**P**	**07 48 23.3**	**+0.3**
CMBC	**Cumbal**	**15.20**	**139**	eP	**P**	**07 48 27.5**	**+4.3**

CMBC **Cumbal** 15.20 139 *e*P P 07 48 27.5 +4.3
GCUF **Volcan Galeras** 15.30 137 *e*P P 07 48 25.4 +0.9
GCUF **Volcan Galeras** 15.30 137 *e*P P 07 48 25.4 +0.9
CRUC **La Cruz** 15.33 135 *e*P P 07 48 25.4 +0.8
CRUC **La Cruz** 15.33 135 *e*P P 07 48 25.4 +0.8
OTAV **Otavalo** 15.36 142 *e*Pn Pn 07 48 22.3 +0.6
comp=Z,9.1nm,0.8s
OTAV **Otavalo** 15.36 142 *e*P P 07 48 26.8 +1.8
OTAV **Otavalo** 15.36 142 *e*P Pn 07 48 22.3 +0.6
OTAV pmax pmax
comp=Z,9.0nm,0.8s
OTAV **Otavalo** 15.36 142 *e*P P 07 48 26.8 +1.8
ROSC **El Rosal** 15.37 119 P P 07 48 25.5 +0.4
comp=Z,0.9nm,0.3s,baz=139,slow=19,SNR=7.1
ROSC LR LR 07 54 44.1
comp=Z,226nm,21.6s,baz=298,slow=39
ROSC **El Rosal** 15.37 119 *e*Pn Pn 07 48 20.5 -1.3
comp=Z,13nm,1.0s
ROSC **El Rosal** 15.37 119 *e*P P 07 48 26.1 +1.0
ROSC **El Rosal** 15.37 119 *e*P P 07 48 26.1 +1.0
060Z **West Palm Beac** 15.38 25 P P 07 48 23.1 -1.5
baz=207
058A **Arcadia** 15.49 20 P P 07 48 24.6 -1.3
baz=202,SNR=7.5
059A **Moore Haven** 15.64 23 *e*Pn P 07 48 26.3 -1.3
comp=Z,97nm,1.0s
059A **Moore Haven** 15.64 23 P P 07 48 26.4 -1.3
baz=204
957A **Wimauma** 15.92 18 *e*Pn P 07 48 30.4 -0.2
comp=Z,105nm,0.9s
957A **Wimauma** 15.92 18 P P 07 48 30.1 -0.6
baz=200
RUSC **La Rusia** 15.96 113 *e*P P 07 48 31.1 -0.7
RUSC **La Rusia** 15.96 113 *e*P P 07 48 31.1 -0.7
CHIC **Chingaza** 15.98 118 *e*P P 07 48 31.8 -0.1
CHIC **Chingaza** 15.98 118 *e*P P 07 48 31.8 -0.1
958A **Wauchula** 15.99 20 P P 07 48 31.2 -0.4
baz=201
060A **Indiantown** 16.01 25 *e*Pn P 07 48 31.8 +0.1
comp=Z,78nm,0.7s
060A **Indiantown** 16.01 25 P P 07 48 30.8 -0.9
baz=207
FLOC **Florencia** 16.25 131 *e*P Pn 07 48 33.2 +0.7
FLOC **Florencia** 16.25 131 *e*P Pn 07 48 33.2 +0.7
959A **Okeechobee** 16.25 23 P P 07 48 33.7 -0.7
baz=204
857A **Zephyrhills** 16.48 18 P P 07 48 36.9 0.0
baz=199
LNIG **Linares** 16.50 320 *e*Pn P 07 48 39.2 +2.0
comp=Z,19nm,0.7s
DWPF **Disney Wildern** 16.59 20 *e*Pn P 07 48 39.1 +1.1
comp=Z,42nm,0.8s
DWPF **Disney Wildern** 16.59 20 P P 07 48 37.7 -0.4
baz=202
858A **St. Cloud** 16.70 20 P P 07 48 39.6 +0.3
baz=202
859A **Kempfer Cattle** 16.73 22 P P 07 48 39.9 +0.3
baz=204,SNR=5.3
757A **Oxford** 17.16 17 P P 07 48 45.5 +1.1
baz=199
SDV **Santo Domingo** 17.26 100 P Pn 07 48 44.7 -0.7
comp=Z,1.0nm,0.3s,baz=267,slow=5.2,SNR=28
SDV PcP PcP 07 53 25.1 -0.2
comp=Z,0.1nm,0.3s,baz=270,slow=2.1,SNR=3.6
SDV **Santo Domingo** 17.26 100 *e*Pn Pn 07 48 45.3 -0.1
comp=Z,18nm,0.7s
SDV *e*PcP PcP 07 53 25.1 -0.2
SDV **Santo Domingo** 17.26 100 *e*P Pn 07 48 45.2 -0.1
SDV **Santo Domingo** 17.26 100 *e*P Pn 07 48 45.2 -0.1
ZAIG **Zacatecas** 17.33 308 *e*Pn P 07 48 48.8 +2.0
comp=Z,9.9nm,0.8s
655A **Horseshoe Beac** 17.40 13 P P 07 48 48.4 +1.4
baz=194
656A **Willston** 17.44 16 *e*Pn P 07 48 49.9 +2.5
comp=Z,88nm,1.1s
656A **Willston** 17.44 16 P P 07 48 48.9 +1.4
baz=197
758A **Lake Helen** 17.45 20 P P 07 48 49.1 +1.5
baz=202
552A **Lynn Haven** 17.65 7 P P 07 48 51.7 +1.9
baz=188
BANI **BANI** 17.79 69 *e*P P 07 48 50.9 -0.6
657A **Interlachen** 17.82 17 P Pn 07 48 53.3 +1.5
baz=199
553A **Crawfordville** 17.83 10 P Pn 07 48 53.6 +1.8
baz=190
PTLC **Puerto Leguiza** 17.83 133 *e*P Pn 07 48 56.5 +4.4
PTLC **Puerto Leguiza** 17.83 133 *e*P Pn 07 48 56.5 +4.4
658A **Bunnell** 17.86 19 P Pn 07 48 53.6 +1.3
baz=201
555A **McAlpin** 18.05 14 *e*P Pn 07 48 55.8 +1.2
comp=Z,155nm,1.1s
555A **McAlpin** 18.05 14 P Pn 07 48 56.6 +2.0
baz=195,SNR=5.4
556A **Lake Butler** 18.07 15 P Pn 07 48 56.7 +1.8
baz=197
451A **Vernon** 18.08 6 P Pn 07 48 57.0 +2.1
baz=186
449A **Pace** 18.13 2 P Pn 07 48 57.5 +2.0
baz=182
557A **Orange Park** 18.27 17 P Pn 07 48 57.9 +0.7
baz=199
448A **Bay Minette** 18.29 360 P Pn 07 48 58.8 +1.3
baz=180
452A **Marianna** 18.37 7 P Pn 07 48 59.8 +1.4
baz=188
454A **Quitman** 18.48 11 P Pn 07 49 01.4 +1.6
baz=192
453A **Whigham** 18.50 9 *e*P Pn 07 48 59.9 -0.1
comp=Z,50nm,0.8s
453A **Whigham** 18.50 9 P Pn 07 49 00.8 +0.9
baz=190
455A **Stateville** 18.63 13 P Pn 07 49 02.6 +1.0
baz=194
349A **Repton** 18.72 2 P Pn 07 49 03.4 +0.8
baz=182,SNR=6.5
351A **Pinckard** 18.74 6 P Pn 07 49 04.4 +1.4
baz=186
348A **Jackson** 18.77 360 *e*P Pn 07 49 03.8 +0.5
comp=Z,54nm,1.1s
348A **Jackson** 18.77 360 P Pn 07 49 04.5 +1.3
baz=179
346A **Big Creek Wild** 18.81 356 *e*P Pn 07 49 04.5 +0.8
comp=Z,28nm,0.7s
346A **Big Creek Wild** 18.81 356 P Pn 07 49 05.1 +1.4
baz=175
350A **Dozier** 18.83 4 P Pn 07 49 05.0 +1.1
baz=184
456A **Hilliard** 18.86 16 *e*P Pn 07 49 04.5 +0.2
comp=Z,55nm,1.0s
456A **Hilliard** 18.86 16 P Pn 07 49 05.5 +1.2
baz=197
457A **Yulee** 18.89 17 P Pn 07 49 05.5 +0.8
baz=199
353A **Camilla** 19.00 9 P Pn 07 49 06.7 +0.8
baz=190,SNR=11
352A **Blakely** 19.02 8 *e*P Pn 07 49 07.5 +1.3
comp=Z,90nm,1.1s
352A **Blakely** 19.02 8 P Pn 07 49 07.8 +1.5
baz=188,SNR=9.8
833A **Chaparral WMA,** 19.06 327 *e*P Pn 07 49 07.6 +0.9
comp=Z,73nm,0.9s
833A **Chaparral WMA,** 19.06 327 P Pn 07 49 07.1 +0.4
baz=143,SNR=35
TIGA **Tifton** 19.20 11 *e*P Pn 07 49 08.9 +0.6
comp=Z,83nm,0.8s
TIGA **Tifton** 19.20 11 P Pn 07 49 10.1 +1.8
baz=192,SNR=16
355A **Pearson** 19.25 13 P Pn 07 49 09.9 +0.9
baz=194
249A **Camden** 19.34 2 P Pn 07 49 10.7 +0.6
baz=182,SNR=13
250A **Grady** 19.39 4 *e*P Pn 07 49 11.4 +0.8
comp=Z,36nm,1.0s
250A **Grady** 19.39 4 P Pn 07 49 11.6 +1.0
baz=184
356A **Blackshear** 19.40 15 P Pn 07 49 11.3 +0.5
baz=196
247A **Quitman** 19.42 358 P Pn 07 49 12.1 +1.1
baz=177
248A **Dixon Mills** 19.45 0 P Pn 07 49 12.7 +1.4
baz=180,SNR=5.6
245A **Little AP, Sta** 19.48 355 P Pn 07 49 12.7 +0.9
baz=174,SNR=9.8
252A **Lumpkin** 19.56 8 P Pn 07 49 13.5 +0.9
baz=189,SNR=21
251A **Midway** 19.57 6 P Pn 07 49 13.3 +0.6
baz=187,SNR=13
244A **Avery, Jackson** 19.58 353 P Pn 07 49 14.0 +1.2
baz=171,SNR=14
253A **Americus** 19.71 9 *e*P Pn 07 49 14.9 +0.6
comp=Z,56nm,0.6s
253A **Americus** 19.71 9 P Pn 07 49 15.3 +0.9
baz=190,SNR=7.9
VBMS **Vicksburg** 19.73 353 *e*P Pn 07 49 15.3 +0.7
comp=Z,106nm,1.0s
VBMS **Vicksburg** 19.73 353 P Pn 07 49 15.7 +1.1
baz=172
254A **Abbeville** 19.74 11 P Pn 07 49 15.5 +0.7
baz=193,SNR=15
255A **Hazlehurst** 19.90 13 *e*P Pn 07 49 17.2 +0.6
comp=Z,43nm,0.8s
255A **Hazlehurst** 19.90 13 P Pn 07 49 17.5 +0.9
baz=195
149A **Jones** 19.97 3 P Pn 07 49 18.3 +0.8
baz=183,SNR=16
148A **Greensboro** 20.00 1 P Pn 07 49 18.5 +0.7
baz=180
151A **Opelika** 20.01 6 P Pn 07 49 18.9 +0.9
baz=187,SNR=21
146A **Union** 20.02 357 *e*P Pn 07 49 17.7 -0.4
comp=Z,63nm,0.9s
146A **Union** 20.02 357 P Pn 07 49 17.9 -0.1
baz=176
150A **Eclectic** 20.03 4 P Pn 07 49 18.9 +0.8
baz=185,SNR=25
147A **Livingston** 20.03 359 *e*P Pn 07 49 19.2 +1.1
comp=Z,94nm,1.1s
147A **Livingston** 20.03 359 P Pn 07 49 18.5 +0.3
baz=178,SNR=6.3
145A **Houston Renfro** 20.05 355 P Pn 07 49 17.9 -0.5
baz=174
256A **Glennville** 20.09 15 P Pn 07 49 18.8 0.0
baz=197
144A **Alexander Plac** 20.13 354 P Pn 07 49 19.7 +0.4
baz=172
NATX **Nacogdoches** 20.13 343 P Pn 07 49 19.7 +0.3
baz=160
152A **Waverly Hall** 20.22 8 *e*P Pn 07 49 21.3 +0.9
comp=Z,32nm,0.6s
152A **Waverly Hall** 20.22 8 P Pn 07 49 20.8 +0.4
baz=188,SNR=18
435B **Jarrell** 20.27 335 *e*P Pn 07 49 20.3 -0.7
comp=Z,31nm,0.8s
435B **Jarrell** 20.27 335 P Pn 07 49 22.2 +1.2
baz=151,SNR=6.4
153A **Fort Valley** 20.33 10 P Pn 07 49 21.7 0.0
baz=191,SNR=9.9
LRAL **Lakeview Retre** 20.40 2 *e*P Pn 07 49 22.6 +0.1
comp=Z,51nm,0.9s
LRAL **Lakeview Retre** 20.40 2 P Pn 07 49 23.5 +1.0
baz=182,SNR=13
154A **Montrose** 20.43 11 *e*P Pn 07 49 22.9 +0.1
comp=Z,156nm,0.6s
154A **Montrose** 20.43 11 P Pn 07 49 22.6 -0.2
baz=193,SNR=16
Z47A **Carrollton** 20.55 359 P Pn 07 49 24.4 +0.1
baz=179,SNR=8.6
155A **Kite** 20.57 13 P Pn 07 49 24.3 -0.2
baz=195,SNR=12
Z46A **Louisville** 20.57 357 P Pn 07 49 24.0 -0.5
baz=177
Z49A **Columbiana** 20.58 3 P Pn 07 49 24.4 -0.2
baz=183
Z48A **Northport** 20.73 1 P Pn 07 49 26.3 -0.1
baz=180,SNR=6.0
Z52A **Williamson** 20.77 8 P Pn 07 49 26.1 -0.8
baz=189,SNR=11
Z45A **Winona** 20.79 356 *e*P Pn 07 49 26.1 -1.0
comp=Z,31nm,0.8s
Z45A *e*pP pP 07 49 42.2 +3.8
Z45A **Winona** 20.79 356 P Pn 07 49 26.5 -0.6
baz=174
Z43A **Armstrong Fami** 20.80 352 P Pn 07 49 26.2 -1.0
baz=170
Z51A **Franklin** 20.81 6 P Pn 07 49 26.7 -0.6
baz=187,SNR=7.6
156A **Sylvania** 20.83 15 P Pn 07 49 26.9 -0.6
baz=197
Z53A **Monticello** 20.99 10 P P 07 49 27.8 +1.6
baz=191,SNR=24
JCT **Junction City** 21.01 330 *e*P P 07 49 28.3 +1.8
comp=Z,20nm,0.6s
JCT **Junction City** 21.01 330 *e*P P 07 49 28.3 +1.8
JCT pmax pmax
comp=Z,20nm,0.6s
JCT **Junction City** 21.01 330 P P 07 49 28.3 +1.8
baz=146,SNR=23
Z54A **Sparta** 21.08 12 P P 07 49 29.1 +1.8
baz=193,SNR=12
Z41A **Richland Creek** 21.11 348 *e*P P 07 49 29.4 +1.9
comp=Z,42nm,0.6s
Z41A **Richland Creek** 21.11 348 P P 07 49 29.6 +2.1
baz=166,SNR=13
GOGA **Godfrey** 21.14 10 *e*P P 07 49 29.9 +2.1
comp=Z,58nm,0.9s
GOGA **Godfrey** 21.14 10 *e*P P 07 49 29.9 +2.1
GOGA pmax pmax
comp=Z,58nm,0.9s
GOGA **Godfrey** 21.14 10 P P 07 49 30.1 +2.3
baz=191,SNR=27
Z55A **Blythe** 21.22 13 P P 07 49 30.2 +1.6
baz=195,SNR=5.4
Y49A **Blount Mountai** 21.25 3 *e*P P 07 49 31.4 +2.4
comp=Z,71nm,0.8s
Y49A **Blount Mountai** 21.25 3 P P 07 49 31.1 +2.1
baz=183,SNR=12
Y47A **UCPARC, Winfie** 21.25 360 P P 07 49 31.1 +2.1
baz=180,SNR=14
Y46A **Houston** 21.25 358 P P 07 49 31.1 +2.1
baz=177,SNR=14
Y48A **Jasper** 21.27 1 P P 07 49 31.5 +2.3
baz=181,SNR=10
Y45A **Yeager Farm, C** 21.27 356 P P 07 49 32.1 +2.8
baz=175
WHTX **Lake Whitney,** 21.28 337 *e*P P 07 49 30.8 +1.5
comp=Z,13nm,0.7s
WHTX **Lake Whitney,** 21.28 337 P P 07 49 31.4 +2.1
baz=153
Y50A **Piedmont** 21.33 5 P P 07 49 32.2 +2.4
baz=185,SNR=8.9
Y51A **Rockmart** 21.40 6 P P 07 49 32.7 +2.1
baz=187,SNR=13
Y44A **Strider, Charl** 21.42 355 P P 07 49 33.2 +2.4
baz=173
Y43A **Makayla and Ka** 21.45 353 P P 07 49 34.0 +2.9
baz=171
Y52A **Lilburn** 21.49 9 *e*P P 07 49 34.6 +3.1
comp=Z,52nm,0.6s
Y52A **Lilburn** 21.49 9 P P 07 49 34.0 +2.4
baz=190,SNR=30
Y42A **Garnett, Star** 21.50 351 P P 07 49 34.6 +3.0
baz=169
Y53A **Monroe** 21.55 10 P P 07 49 34.4 +2.2
baz=191,SNR=22
SJG **San Juan** 21.60 72 P P 07 49 31.5 -1.4
comp=Z,16nm,0.7s,baz=279,slow=6.1,SNR=6.8
SJG LR LR 07 58 02.1
comp=Z,359nm,21.4s,baz=261,slow=38
SJG **San Juan** 21.60 72 *e*P P 07 49 31.5 -1.4
SJG *e*P P 07 49 33.3 +0.5
NHSC **New Hope** 21.62 18 *e*P P 07 49 34.4 +1.6
comp=Z,52nm,1.0s
NHSC **New Hope** 21.62 18 P P 07 49 35.1 +2.2
baz=200
Y41A **Eaglette Beard** 21.68 349 P P 07 49 35.5 +1.9
baz=167,SNR=14
Y54A **Tignall** 21.72 12 P P 07 49 36.0 +2.0
baz=193,SNR=28
X48A **Hartselle** 21.81 2 *e*P P 07 49 36.9 +1.9
comp=Z,48nm,0.9s
X48A **Hartselle** 21.81 2 P P 07 49 36.6 +1.6
baz=182,SNR=6.4
X45A **UM Field Stati** 21.82 356 P P 07 49 36.4 +1.4
baz=176,SNR=7.9
X47A **Russelville** 21.87 360 P P 07 49 37.0 +1.4
baz=180,SNR=10
X50B **Fort Payne** 21.90 5 P P 07 49 37.5 +1.6
baz=185,SNR=12
X49A **Woodville** 21.90 3 P P 07 49 37.8 +1.9
baz=184,SNR=11
CBYP **Canovanas** 21.91 72 *e*P P 07 49 36.8 +0.6
comp=Z,24nm,1.1s
OXF **Oxford** 21.91 356 *e*P P 07 49 38.2 +2.2
comp=Z,23nm,0.6s
OXF **Oxford** 21.91 356 P P 07 49 37.7 +1.7
baz=176,SNR=6.1
X46A **Booneville** 21.92 358 P P 07 49 37.9 +1.8
baz=178,SNR=10
X44A **Crenshaw** 21.95 355 P P 07 49 38.9 +2.4
baz=174
HPIG 22.03 313 *e*P P 07 49 39.2 +1.5
comp=Z,13nm,1.0s
X43A **Marvell** 22.05 353 P P 07 49 39.7 +2.2
baz=172
X51A **Calhoun** 22.08 6 *e*P P 07 49 39.0 +1.1
comp=Z,21nm,0.8s
X51A **Calhoun** 22.08 6 P P 07 49 39.2 +1.4
baz=187
MTP **Monte Pirata** 22.15 73 *e*P P 07 49 40.3 +1.5
comp=Z,36nm,0.7s
HODGE **Hodges** 22.16 12 *e*P P 07 49 40.8 +2.0
comp=Z,87nm,1.1s
X42A **Stuttgart** 22.18 352 P P 07 49 41.6 +2.8
baz=170
X53A **Estanollee** 22.23 10 P P 07 49 40.9 +1.3
baz=191,SNR=21
X52A **Dahlonega** 22.24 9 P P 07 49 41.2 +1.6
baz=190,SNR=16
X41A **Kaden, Bauxite** 22.26 350 P P 07 49 41.2 +1.4
baz=168,SNR=27
LTX **Lajitas** 22.27 321 *e*P P 07 49 41.8 +1.7
LTX *e*PcP PcP 07 53 35.4 +1.4
LTX **Lajitas** 22.27 321 *e*P P 07 49 41.8 +1.7
LTX *e* 07 53 35.4
TXAR **Lajitas Array** 22.27 321 P P 07 49 41.8 +1.6
comp=Z,28nm,0.7s,baz=145,slow=8.9,SNR=112
TXAR PcP PcP 07 53 35.4 +1.4
comp=Z,1.1nm,0.5s,baz=141,slow=3.5,SNR=6.1
TXAR ScP ScP 07 57 06.7 +0.9
comp=Z,0.6nm,0.6s,baz=145,slow=6.0,SNR=4.1
TX31 **Lajitas Ar. Si** 22.27 321 *e*P P 07 49 41.7 +1.6
TX31 *e*P P 07 49 41.9 +1.7
TX31 *e*PcP PcP 07 53 35.5 +1.5
X40A **Basin Creek Fa** 22.31 349 *e*P P 07 49 42.0 +1.7
comp=Z,21nm,1.0s
X40A **Basin Creek Fa** 22.31 349 P P 07 49 41.7 +1.4
baz=167,SNR=6.9
PLAL **Pickwick Lake** 22.33 359 *e*P P 07 49 41.7 +1.2
PLAL *e*pP pP 07 49 58.5 +3.5
W46A **Michie** 22.49 359 P P 07 49 42.6 +0.4
baz=178
W48A **Pulaski** 22.50 2 P P 07 49 43.8 +1.4
baz=182,SNR=7.9
UALR **University of** 22.50 350 *e*P P 07 49 43.8 +1.4
comp=Z,23nm,0.8s
W49A **Belvidere** 22.51 3 P P 07 49 43.9 +1.4
baz=184,SNR=5.3
MIAR **Mount Ida** 22.51 347 *e*P P 07 49 44.0 +1.5
comp=Z,47nm,0.6s
MIAR **Mount Ida** 22.51 347 *e*P P 07 49 44.0 +1.5
MIAR pmax pmax
comp=Z,47nm,0.6s
MIAR **Mount Ida** 22.51 347 P P 07 49 44.0 +1.5
baz=165,SNR=36
W45A **Hickory Valley** 22.54 357 P P 07 49 43.2 +0.4
baz=176,SNR=7.5
W43A **Forest City** 22.59 354 P P 07 49 44.7 +1.4
baz=172
W47A **Westpoint** 22.60 0 P P 07 49 44.0 +0.5
baz=180,SNR=6.5
SWET **Sewanee** 22.63 4 *e*P P 07 49 44.7 +0.9
comp=Z,19nm,0.8s
W50A **Signal Mountai** 22.66 5 *e*P P 07 49 45.3 +1.1
comp=Z,23nm,0.8s
W50A **Signal Mountai** 22.66 5 P P 07 49 45.0 +0.8
baz=186
W51A **Cleveland** 22.68 6 P P 07 49 45.4 +1.1
baz=187,SNR=9.4
W52A **Murphy** 22.71 8 *e*P P 07 49 46.6 +1.9
comp=Z,14nm,0.6s
W52A **Murphy** 22.71 8 P P 07 49 46.1 +1.4
baz=190,SNR=7.3
ABTX **Abilene, Hawle** 22.73 333 *e*P P 07 49 45.9 +1.0
comp=Z,25nm,0.7s
ABTX **Abilene, Hawle** 22.73 333 P P 07 49 46.1 +1.1
baz=149,SNR=17
STVI **Saint Thomas** 22.76 72 *e*P P 07 49 45.4 +0.1
comp=Z,49nm,0.7s
BG3 **Lake Jocassee** 22.77 10 *e*P P 07 49 47.9 +2.5
comp=Z,57nm,0.6s
PAULI **Pauline** 22.83 13 *e*P P 07 49 47.9 +2.1
comp=Z,48nm,0.9s
PCRV **Puerto La Cruz** 22.84 94 P P 07 49 46.4 +0.2
comp=Z,17nm,0.8s,baz=230,slow=6.4,SNR=10
W42A **Bald Knob** 22.87 352 P P 07 49 47.7 +1.5
baz=170
W41B **Gary Mavity, V** 22.88 351 *e*P P 07 49 47.6 +1.3
comp=Z,13nm,0.9s
W41B **Gary Mavity, V** 22.88 351 P P 07 49 47.1 +0.8
baz=169,SNR=9.3
W53A **Cullowhee** 22.91 10 P P 07 49 48.3 +1.6
baz=191,SNR=9.6
CPCT **Cooper Cave** 22.99 7 *e*P P 07 49 49.4 +1.9
comp=Z,15nm,0.6s
HBAR **Harrisburg** 23.05 354 *e*P P 07 49 47.4 -0.6
comp=Z,36nm,0.7s
V48A **Smith Brothers** 23.10 2 *e*P P 07 49 49.6 +1.0
comp=Z,9.3nm,0.6s
V48A **Smith Brothers** 23.10 2 P P 07 49 49.4 +0.8
baz=182
V45A **Humboldt** 23.11 358 P P 07 49 48.4 -0.2
baz=177
V50A **Pikevile** 23.15 6 P P 07 49 49.4 +0.3
baz=186
V46A **Holladay** 23.15 359 P P 07 49 49.1 +0.1
baz=179
V47A **Nunnelly** 23.18 1 P P 07 49 49.6 +0.4
baz=180,SNR=6.9
V49A **McMinnville** 23.18 4 P P 07 49 49.4 +0.1
baz=184,SNR=6.2
W39A **Magazine** 23.18 347 *e*P P 07 50.9 +1.5
comp=Z,26nm,0.9s
W39A **Magazine** 23.18 347 P P 07 50.6 +1.3
baz=165,SNR=8.0
KMSC **Kings Mountain** 23.24 14 *e*P P 07 51.9 +1.9
comp=Z,44nm,0.6s
KMSC **Kings Mountain** 23.24 14 P P 07 49 51.4 +1.5
baz=196,SNR=17
TKL **Tuckaleechee C** 23.29 8 P P 07 49 51.9 +1.5
comp=Z,29nm,0.6s,baz=177,slow=11,SNR=40
TKL **Tuckaleechee C** 23.29 8 *e*P P 07 49 52.4 +2.0
comp=Z,49nm,0.9s
TKL **Tuckaleechee C** 23.29 8 *e*P P 07 49 52.4 +2.0
TKL pmax pmax
comp=Z,49nm,0.9s
HALT **Halls** 23.30 357 *e*P P 07 49 50.9 +0.5
comp=Z,52nm,0.5s
V51A **Loudon** 23.36 7 *e*P P 07 49 52.4 +1.4
comp=Z,24nm,1.1s
V51A **Loudon** 23.36 7 P P 07 49 52.2 +1.2
baz=188
V42A **Cord** 23.38 353 P P 07 49 51.2 0.0
baz=171,SNR=9.1
V53A **Saluda** 23.45 10 *e*P P 07 49 54.0 +2.0
comp=Z,39nm,0.9s
V53A **Saluda** 23.45 10 P P 07 49 53.2 +1.2
baz=192,SNR=12
V41A **Mountainview** 23.46 351 P P 07 49 52.3 +0.3
baz=169,SNR=18
WVT **Waverly** 23.48 360 *e*P P 07 49 52.4 +0.4
comp=Z,5.2nm,0.8s
WVT **Waverly** 23.48 360 *e*P P 07 49 52.4 +0.4
WVT pmax pmax
comp=Z,5.0nm,0.8s
WVT **Waverly** 23.48 360 P P 07 49 52.5 +0.4
baz=180
V52A **Sevierville** 23.50 9 *e*P P 07 49 54.1 +1.8
comp=Z,30nm,1.1s
V52A **Sevierville** 23.50 9 P P 07 49 53.3 +1.0
baz=190,SNR=5.9
GLAT **Glass** 23.65 357 *e*P P 07 49 54.7 +1.1
comp=Z,61nm,1.1s
U46A **Springville** 23.71 359 P P 07 49 54.3 +0.1
baz=179,SNR=20
U47A **Clarksville** 23.79 1 P P 07 49 54.8 -0.1
baz=181,SNR=16
U43A **Rector** 23.83 355 P P 07 49 55.6 +0.4
baz=174,SNR=14
U48A **Cassie Pea, Po** 23.88 3 P P 07 49 56.0 +0.2

baz=183,SNR=6.8
U42A Revenden 23.90 353 P P 07 49 56.2 +0.4
baz=172,SNR=8.3
U44A Portageville 23.91 356 P P 07 49 56.7 +0.7
baz=175
U50A Jamestown 23.91 6 P P 07 49 56.9 +0.9
baz=187,SNR=9.6
U49A Red Boiling Sp 23.93 4 P P 07 49 56.8 +0.6
baz=185,SNR=8.9
U51A La Follette 23.97 8 P P 07 49 57.3 +0.7
baz=189,SNR=9.0
U41A Viola 23.98 352 P P 07 49 56.7 0.0
baz=170,SNR=7.6
PARMO Parma 24.07 356 eP P 07 49 58.0 +0.6
comp=Z,47nm,0.6s
U52A Thorn Hill 24.07 9 P P 07 49 58.3 +0.8
baz=190,SNR=6.1
U40A Yellville 24.13 350 P P 07 49 58.6 +0.6
baz=168,SNR=18
U53A Fall Branch 24.17 10 P P 07 49 59.5 +1.1
baz=192,SNR=14
TZTN Tazewell 24.19 8 eP P 07 50 00.1 +1.5
comp=Z,14nm,0.8s
TZTN Tazewell 24.19 8 P P 07 49 59.6 +1.0
baz=190
WMOK Wichita Mounta 24.23 338 eP P 07 49 59.6 +0.6
comp=Z,14nm,0.7s
WMOK Wichita Mounta 24.23 338 eP P 07 49 59.6 +0.6
WMOK pmax pmax
comp=Z,14nm,0.7s
WMOK Wichita Mounta 24.23 338 P P 07 49 59.5 +0.6
baz=153,SNR=21
HHAR Hobbs 24.26 348 eP P 07 50 00.2 +1.0
comp=Z,19nm,0.7s
T47A Sharon Grove 24.34 1 eP P 07 50 00.5 +0.6
comp=Z,29nm,0.6s
T47A Sharon Grove 24.34 1 P P 07 50 00.7 +0.8
baz=181
TUL1 Leonard 24.35 344 eP P 07 50 00.7 +0.8
comp=Z,34nm,0.9s
TUL1 Leonard 24.35 344 P P 07 50 00.5 +0.6
baz=161,SNR=8.5
T45A Paducah 24.38 358 P P 07 50 01.1 +0.9
baz=178
T46A Princeton 24.39 360 P P 07 50 00.6 +0.3
baz=180,SNR=8.6
T44A Benton 24.48 357 P P 07 50 01.5 +0.4
baz=176,SNR=8.5
T48A Bowling Green 24.49 3 P P 07 50 01.3 +0.1
baz=183
T50A Nancy 24.51 6 P P 07 50 01.3 -0.2
baz=187
T43A Greenville 24.53 355 P P 07 50 02.0 +0.4
baz=174,SNR=17
T49A Edmonton 24.53 4 eP P 07 50 02.8 +1.1
comp=Z,26nm,1.0s
T49A Edmonton 24.53 4 P P 07 50 02.2 +0.5
baz=185,SNR=6.4
T42A Van Buren 24.55 354 eP P 07 50 01.9 +0.1
comp=Z,20nm,0.6s
T42A Van Buren 24.55 354 P P 07 50 01.8 0.0
baz=172,SNR=15
T51A Gray 24.56 7 P P 07 50 02.3 +0.5
baz=189,SNR=7.5
T41A Mountain View 24.64 352 P P 07 50 02.8 +0.2
baz=170,SNR=15
GDL2 Guadalupe Moun 24.77 325 eP P 07 50 05.4 +1.4
T52A Hallie 24.83 9 P P 07 50 05.3 +0.9
baz=191
S47A Hartford 24.95 2 P P 07 50 05.2 -0.3
baz=182
MNTX Cornudas Mount 24.99 322 eP P 07 50 06.9 +1.0
comp=Z,14nm,0.8s
MNTX Cornudas Mount 24.99 322 P P 07 50 06.7 +0.8
baz=136,SNR=17
S43A Fulton Ridge, 25.00 356 P P 07 50 05.7 -0.2
baz=174,SNR=8.0
S46A Don Dixon Farm 25.03 0 P P 07 50 06.1 0.0
baz=180
S45A Carrier Mills 25.03 359 P P 07 50 06.1 0.0
baz=178
S48A Wiedeman Farm, 25.05 3 P P 07 50 06.2 -0.1
baz=184
S44A Carbondale 25.07 357 P P 07 50 07.0 +0.5
baz=176,SNR=8.7
SIUC Southern Illin 25.09 357 eP P 07 50 07.2 +0.5
comp=Z,20nm,0.6s
CPRX Cap Rock 25.12 327 eP P 07 50 08.9 +1.6
S41A Jillco Farms, 25.18 353 P P 07 50 07.6 0.0
baz=171,SNR=13
S50A Richmond 25.21 6 P P 07 50 08.3 +0.5
baz=188
S49A Springfield 25.23 5 P P 07 50 08.2 +0.2
baz=186
S42A Caledonia 25.25 354 P P 07 50 08.0 -0.2
baz=173
S51A Beattyville 25.27 8 eP P 07 50 09.8 +1.5
comp=Z,24nm,0.9s
S51A Beattyville 25.27 8 P P 07 50 09.2 +0.9
baz=189,SNR=6.5
MSTX Muleshoe 25.30 330 eP P 07 50 09.7 +0.8
comp=Z,56nm,0.8s
MSTX Muleshoe 25.30 330 P P 07 50 09.6 +0.8
baz=144,SNR=46
USIN University of 25.31 0 eP P 07 50 09.4 +0.8
comp=Z,22nm,0.6s
S52A Salyersville 25.38 9 P P 07 50 10.2 +0.8
baz=190
BLA Blacksburg 25.43 14 eP P 07 50 11.7 +1.8
comp=Z,16nm,0.8s
BLA Blacksburg 25.43 14 P P 07 50 11.7 +1.8
BLA pmax pmax
comp=Z,16nm,0.9s
BLA Blacksburg 25.43 14 P P 07 50 11.2 +1.3
baz=197
AMTX Amarillo 25.54 333 eP P 07 50 12.1 +1.1
comp=Z,30nm,0.6s
AMTX Amarillo 25.54 333 P P 07 50 11.9 +0.9
baz=147
R46A Gibson Southern 25.55 1 P P 07 50 11.4 +0.5
baz=180,SNR=5.9
CCM Cathedral Cave 25.58 354 eP P 07 50 11.2 +0.1
comp=Z,23nm,0.7s
CCM Cathedral Cave 25.58 354 eP P 07 50 11.2 +0.1
CCM pmax pmax
comp=Z,23nm,0.7s
CCM Cathedral Cave 25.58 354 P P 07 50 11.7 +0.6
baz=172
WCI Wyandotte Cave 25.61 3 eP P 07 50 12.1 +0.7
comp=Z,26nm,0.7s
WCI Wyandotte Cave 25.61 3 eP P 07 50 12.1 +0.7
WCI pmax pmax
comp=Z,26nm,0.7s
WCI Wyandotte Cave 25.61 3 P P 07 50 12.0 +0.7
baz=183
R45A Skylar, Fairfi 25.64 359 P P 07 50 12.5 +0.9
baz=179
R47A Wooly Knot Far 25.66 2 P P 07 50 12.0 +0.1
baz=183
R43A Red Bud 25.69 356 P P 07 50 12.5 +0.4
baz=175,SNR=5.6
R49A Shelbyville 25.74 5 P P 07 50 13.0 +0.4
baz=186
R42A Luebbering 25.76 355 P P 07 50 12.4 -0.4
baz=173
R48A Northridge Ran 25.80 4 P P 07 50 13.0 -0.1
baz=184
R50A Paris 25.81 6 P P 07 50 13.4 +0.2
baz=188
R41A Rosebud 25.84 354 P P 07 50 13.6 +0.2
baz=172,SNR=15
R51A Hillsboro 25.92 8 P P 07 50 14.7 +0.5
baz=189
OLIL Olney 26.08 359 eP P 07 50 16.2 +0.5
comp=Z,17nm,0.8s
R52A Catlettsburg 26.09 9 P P 07 50 16.3 +0.5
baz=191
Q45A Warren Harvey, 26.24 359 P P 07 50 17.9 +0.9
baz=179
Q44A Meyer Farm, Va 26.27 358 eP P 07 50 17.8 +0.4
comp=Z,23nm,0.7s
Q44A Meyer Farm, Va 26.27 358 P P 07 50 17.2 -0.1
baz=177,SNR=8.2
Q47A Bedord North L 26.31 2 P P 07 50 18.0 +0.3
baz=183,SNR=8.7
Q48A North Vernon 26.34 4 P P 07 50 17.7 -0.3
baz=184
Q42A Golden Eagle 26.36 355 P P 07 50 18.2 0.0
baz=174
Q50A Georgetown 26.41 7 P P 07 50 19.0 +0.4
baz=188
Q41A Truxton 26.47 354 P P 07 50 19.3 +0.2
baz=172,SNR=6.6
Q49A Aurora 26.47 5 P P 07 50 19.8 +0.6
baz=186
BLO Bloomington 26.54 2 eP P 07 50 20.2 +0.4
comp=Z,8.1nm,0.7s
BLO Bloomington 26.54 2 eP P 07 50 20.2 +0.4
BLO pmax pmax
comp=Z,8.0nm,0.7s
Q51A Peebles 26.66 8 eP P 07 50 22.2 +1.2
comp=Z,25nm,0.7s
Q51A Peebles 26.66 8 P P 07 50 21.8 +0.9
baz=189,SNR=9.7
NNA Nana 26.70 156 PcP PcP 07 53 44.3 +0.5
comp=Z,2.5nm,0.5s,baz=241,slow=10,SNR=3.2
Q52A Bidwell 26.76 10 P P 07 50 22.8 +1.0
baz=192,SNR=5.3
R58B Mineral 26.81 18 P P 07 50 24.0 +1.8
baz=202
P47A Martinsville 26.86 3 P P 07 50 22.5 -0.2
baz=183,SNR=6.9
P45A Graceland, Par 26.87 0 P P 07 50 22.7 -0.1
baz=180
P48A Milroy 26.88 4 P P 07 50 22.4 -0.5
baz=185
P46A Rosedale 26.96 1 P P 07 50 23.3 -0.3
baz=181
P49A Miami Univ. Ec 27.01 5 P P 07 50 23.9 -0.2
baz=186
P42A Winchester 27.02 356 eP P 07 50 24.0 -0.1
comp=Z,9.6nm,0.5s
P42A Winchester 27.02 356 P P 07 50 23.6 -0.5
baz=174
P43A Skaggs, Pawnee 27.02 357 P P 07 50 24.1 0.0
baz=176
121A Cookes Peak, D 27.03 321 P P 07 50 26.7 +2.2
baz=133,SNR=7.3
P51A Williamsport 27.15 8 eP P 07 50 26.1 +0.8
comp=Z,14nm,0.6s
P51A epP pP 07 50 41.9 +0.5
P51A Williamsport 27.15 8 P P 07 50 25.6 +0.3
baz=190
P41A Barry, Barry 27.17 354 P P 07 50 25.1 -0.4
baz=173,SNR=6.6
P50A Jamestown 27.18 7 P P 07 50 26.4 +0.8
baz=188
CBN Corbin Frederi 27.19 18 eP P 07 50 27.2 +1.6
comp=Z,32nm,0.6s
CBN Corbin Frederi 27.19 18 P P 07 50 27.4 +1.8
baz=202,SNR=5.5
Q55A Buckhannon 27.21 13 P P 07 50 27.4 +1.5
baz=196,SNR=5.0
319A Douglas 27.24 317 eP P 07 50 29.0 +2.6
comp=Z,13nm,1.0s
P53A Whipple 27.42 11 eP P 07 50 29.2 +1.5
comp=Z,61nm,1.1s
P53A Whipple 27.42 11 P P 07 50 28.9 +1.2
baz=193,SNR=12
P52A Corning 27.44 10 P P 07 50 28.7 +0.9
baz=192,SNR=6.6
BNM Barren Site 27.48 325 eP P 07 50 30.2 +1.6
O44A Mansfield 27.50 359 P P 07 50 28.2 -0.2
baz=178
KSU1 Kansas State U 27.57 345 eP P 07 50 29.9 +0.8
comp=Z,14nm,0.8s
KSU1 Kansas State U 27.57 345 P P 07 50 29.1 +0.1
baz=161
O41A Passleys Farm, 27.59 355 P P 07 50 28.3 -0.9
baz=173
O45A Potomac 27.59 0 P P 07 50 29.1 -0.1
baz=180
Y22D IRIS PASSCAL I 27.60 324 eP P 07 50 31.6 +2.1
comp=Z,23nm,0.8s
O42A Bath 27.61 356 P P 07 50 28.8 -0.5
baz=175
O47A Sheridan 27.61 3 P P 07 50 28.9 -0.5
baz=183,SNR=7.4
LENM Lemitar 27.69 324 eP P 07 50 33.8 +3.4
O48A Farmland 27.70 4 P P 07 50 30.0 -0.1
baz=185
O49A Covington 27.70 6 eP P 07 50 30.6 +0.4
comp=Z,13nm,0.8s
O49A Covington 27.70 6 P P 07 50 30.4 +0.2
baz=187
SFIN Lafayette 27.73 1 eP P 07 50 30.6 +0.1
comp=Z,12nm,0.6s
SFIN Lafayette 27.73 1 P P 07 50 30.0 -0.4
baz=181
O50A Cable 27.73 7 P P 07 50 31.2 +0.7
baz=188,SNR=14
P55A Reedsville 27.76 13 P P 07 50 31.7 +0.9
baz=197
O51A Pataskala 27.87 9 P P 07 50 32.9 +1.2
baz=191
ACSO Alum Creek Sta 27.90 8 eP P 07 50 32.9 +0.9
comp=Z,18nm,0.8s
ACSO Alum Creek Sta 27.90 8 P P 07 50 32.9 +0.9
baz=190,SNR=5.8
MCWV Mont Chateau 27.90 13 eP P 07 50 32.8 +0.8
comp=Z,8.2nm,0.7s
MCWV Mont Chateau 27.90 13 P P 07 50 33.3 +1.3
baz=196,SNR=5.7
HDIL Hopedale 27.93 358 eP P 07 50 32.7 +0.5
comp=Z,13nm,0.8s
HDIL Hopedale 27.93 358 P P 07 50 32.7 +0.5
baz=177
O52A Adamsville 27.96 10 eP P 07 50 33.5 +1.0
O52A epP pP 07 50 49.8 +1.1
O52A Adamsville 27.96 10 P P 07 50 33.4 +0.9
baz=192,SNR=6.7
LAZ Ladron 27.96 324 eP P 07 50 32.7 -0.1
ANMO Albuquerque 27.98 326 P P 07 50 35.1 +2.1
comp=Z,2.6nm,0.5s,baz=115,slow=7.9,SNR=24
ANMO PcP PcP 07 53 47.7 +0.9
comp=Z,1.5nm,0.6s,baz=60,slow=4.5,SNR=3.5
ANMO Albuquerque 27.98 326 P P 07 50 34.8 +1.8
baz=138
N44A Piper City 28.14 359 P P 07 50 34.0 0.0
baz=179
N41A Harden Midland 28.17 355 P P 07 50 33.9 -0.5
baz=174
N45A Kentland 28.19 0 P P 07 50 34.1 -0.4
baz=180
O53A New Philadelph 28.19 11 P P 07 50 35.6 +1.0
baz=193,SNR=6.6
CBKS Cedar Bluff 28.22 340 eP P 07 50 36.1 +1.2
comp=Z,16nm,0.7s
CBKS Cedar Bluff 28.22 340 eP P 07 50 36.1 +1.2
CBKS pmax pmax
comp=Z,16nm,0.7s
CBKS Cedar Bluff 28.22 340 P P 07 50 35.7 +0.7
baz=155,SNR=6.9
N46A Monticello 28.25 2 P P 07 50 35.1 +0.1
baz=182,SNR=5.9
N47A Urbana 28.28 3 P P 07 50 34.9 -0.5
baz=184
N43A Stutzman Famil 28.30 358 P P 07 50 35.7 +0.2
baz=177
N48A Decatur 28.30 4 P P 07 50 34.7 -0.9
baz=186
N50A Nevada 28.41 7 P P 07 50 37.1 +0.6
baz=189
N40A Mertquake, Sal 28.42 354 P P 07 50 36.4 -0.1
baz=172
N49A Columbus Grove 28.44 6 eP P 07 50 37.4 +0.6
comp=Z,56nm,1.0s
N49A Columbus Grove 28.44 6 P P 07 50 37.2 +0.4
baz=187
SDMD Soldier's Deli 28.46 18 eP P 07 50 38.3 +1.3
comp=Z,8.8nm,0.6s
T25A Trinidad 28.65 332 eP P 07 50 40.9 +2.0
comp=Z,5.0nm,0.7s
T25A Trinidad 28.65 332 P P 07 50 41.0 +2.0
baz=144
N51A Ashland 28.66 9 P P 07 50 38.9 +0.1
baz=191
M47A Cromwell 28.76 3 P P 07 50 40.2 +0.6
baz=184
M46A Old House Fiel 28.77 2 P P 07 50 39.5 -0.3
baz=183
M43A Waltham Townsh 28.79 358 P P 07 50 40.3 +0.4
baz=177
N53A Lisbon 28.80 11 P P 07 50 40.3 +0.3
baz=194
M41A Milan 28.81 356 P P 07 50 39.9 -0.2
baz=174
TUC Tucson 28.83 317 eP P 07 50 41.9 +1.5
comp=Z,3.9nm,0.8s
TUC ePcP PcP 07 53 51.1 +2.3
TUC Tucson 28.83 317 eP P 07 50 41.9 +1.5
TUC e 07 53 51.1
TUC pmax pmax
comp=Z,4.0nm,0.8s
TUC Tucson 28.83 317 P P 07 50 40.7 +0.3
baz=128
M40A Post Highland 28.93 354 P P 07 50 40.8 -0.3
baz=172
M48A Edgerton 28.95 5 eP P 07 50 41.5 +0.2
comp=Z,9.0nm,0.6s
M48A Edgerton 28.95 5 P P 07 50 41.1 -0.2
baz=186
M49A Liberty Center 29.01 6 P P 07 50 41.9 +0.1
baz=188
M50A Fremont 29.04 7 eP P 07 50 42.9 +0.7
comp=Z,20nm,0.6s
M50A Fremont 29.04 7 P P 07 50 42.7 +0.6
baz=189
M39A Webster 29.07 353 P P 07 50 42.2 -0.1
baz=171
M51A Elyria 29.09 9 P P 07 50 43.4 +0.8
baz=191
N54A Moraine State 29.12 12 eP P 07 50 44.1 +1.3
comp=Z,21nm,0.6s
N54A Moraine State 29.12 12 P P 07 50 43.8 +0.9
baz=196,SNR=6.4
MVL Millersville 29.15 18 eP P 07 50 44.9 +1.9
comp=Z,8.3nm,0.5s
N55A Marion Center 29.17 14 P P 07 50 44.2 +0.9
baz=198
PAGS Pennsylvania G 29.25 18 eP P 07 50 45.0 +1.1
comp=Z,22nm,0.6s
SSPA Standing Stone 29.30 16 eP P 07 50 45.2 +0.8
comp=Z,12nm,0.6s
SSPA Standing Stone 29.30 16 P P 07 50 45.5 +1.1
baz=200
L46A Eue Claire 29.38 2 P P 07 50 44.3 -0.8
baz=183
L42A Oliver, Polo 29.39 357 eP P 07 50 45.3 +0.1
comp=Z,10nm,0.6s
L42A Oliver, Polo 29.39 357 P P 07 50 44.6 -0.6
baz=176
L47A Sherwood 29.40 4 P P 07 50 45.0 -0.3
baz=185
L48A N Adams 29.43 5 P P 07 50 45.4 -0.2
baz=186
KSCO Kaye Shedlock' 29.45 336 eP P 07 50 47.0 +1.1
comp=Z,16nm,0.6s
KSCO Kaye Shedlock' 29.45 336 P P 07 50 46.9 +1.0
baz=149,SNR=6.6
L41A Preston 29.51 356 P P 07 50 45.7 -0.5
baz=174
L44A Lake County Fo 29.52 360 P P 07 50 45.5 -0.8
baz=180
L43A Garden Prairie 29.53 359 P P 07 50 45.7 -0.8
baz=178
L40A Anamosa 29.55 355 eP P 07 50 46.4 -0.2
comp=Z,16nm,0.9s
L40A Anamosa 29.55 355 P P 07 50 46.5 -0.2
baz=179
SDCO Great Sand Dun 29.65 331 eP P 07 50 50.3 +2.4
comp=Z,9.6nm,1.0s
SDCO Great Sand Dun 29.65 331 P P 07 50 49.9 +2.0
baz=143,SNR=14
L49A Milan 29.66 6 P P 07 50 47.4 -0.2
baz=188
M54A Oil Creek Stat 29.71 12 eP P 07 50 49.0 +0.8
comp=Z,32nm,0.5s
M54A Oil Creek Stat 29.71 12 P P 07 50 48.9 +0.8
baz=196,SNR=8.8
AAM Ann Arbor 29.86 6 eP P 07 50 49.6 +0.3
comp=Z,20nm,0.7s
AAM Ann Arbor 29.86 6 eP P 07 50 49.7 +0.3
AAM pmax pmax
comp=Z,20nm,0.7s
AAM Ann Arbor 29.86 6 P P 07 50 50.1 +0.8
baz=188
W18A Petrified Fore 29.98 322 eP P 07 50 52.5 +1.7
comp=Z,6.9nm,0.7s
W18A Petrified Fore 29.98 322 P P 07 50 53.0 +2.2
baz=133,SNR=6.4
214A Organ Pipe Nat 30.01 314 P P 07 50 52.2 +1.4
baz=124
K41A Shullsburg 30.02 356 P P 07 50 50.8 0.0
baz=175
K46A Dorr 30.07 3 P P 07 50 50.6 -0.6
baz=184
K47A Vermontville 30.11 4 P P 07 50 50.9 -0.7
baz=185
BGNE Belgrade 30.14 344 P P 07 50 52.6 +0.8
baz=160
N59A State Game Lan 30.17 18 eP P 07 50 53.9 +1.8
comp=Z,29nm,0.6s
N59A State Game Lan 30.17 18 P P 07 50 54.1 +1.9
baz=204,SNR=8.8
K40A Colesburg 30.18 355 P P 07 50 51.8 -0.3
baz=173
ERPA Erie 30.23 12 eP P 07 50 53.5 +0.8
comp=Z,36nm,0.7s
ERPA Erie 30.23 12 P P 07 50 53.8 +1.2
baz=195
K39A Oelwein 30.25 354 P P 07 50 52.5 -0.3
baz=172
S22A 4UR Ranch, Cre 30.30 329 eP P 07 50 55.7 +2.0
comp=Z,15nm,0.6s
S22A 4UR Ranch, Cre 30.30 329 P P 07 50 55.6 +2.0
baz=141,SNR=22
K48A Perry 30.31 5 P P 07 50 53.0 -0.3
baz=187
JFWS Jewell Farm 30.32 356 P P 07 50 53.6 +0.2
baz=175
K49A Clarkson 30.36 6 P P 07 50 53.8 +0.1
baz=188,SNR=5.8
X16A Lo Mia Camp, P 30.57 319 eP P 07 50 58.0 +2.0
comp=Z,7.7nm,0.6s
PTGA Pitinga 30.62 114 P P 07 50 55.0 -1.5
comp=Z,2.7nm,0.9s,baz=305,slow=16,SNR=4.0
PTGA PcP PcP 07 53 53.8 +0.2
comp=Z,1.4nm,0.6s,baz=210,slow=9.8,SNR=2.8
J42A Columbus 30.68 358 P P 07 50 56.3 -0.2
baz=177
J47A Sunmer 30.68 4 P P 07 50 56.1 -0.5
baz=186
J43A Natural Harves 30.72 359 P P 07 50 56.9 0.0
baz=178
J46A Howard City 30.74 3 P P 07 50 56.8 -0.3
baz=184
J41A Loganville 30.76 357 P P 07 50 57.7 +0.3
baz=176
MVCO Mesa Verde 30.76 327 eP P 07 50 59.6 +1.9
comp=Z,12nm,0.7s
MVCO ePcP PcP 07 53 55.3 +1.4
MVCO Mesa Verde 30.76 327 P P 07 50 59.5 +1.8
baz=138,SNR=12
J40A Soldiers Grove 30.84 356 P P 07 50 57.4 -0.6
baz=174
PAL Palisades 30.86 21 P P 07 50 58.0 -0.1
baz=207
J39A Decorah 30.86 354 P P 07 50 57.8 -0.4
baz=172
J49A Marlette 30.96 7 P P 07 50 57.8 -1.3
baz=189
I43A Langenfeld Bro 31.22 360 P P 07 51 01.1 -0.2
baz=179
WUAZ Wupatki 31.24 321 eP P 07 51 04.2 +2.3
comp=Z,5.1nm,0.9s
WUAZ ePcP PcP 07 53 55.1 0.0
WUAZ Wupatki 31.24 321 P P 07 51 04.1 +2.3
baz=131,SNR=5.4
I42A Draeger Farm, 31.24 358 P P 07 51 01.1 -0.4
baz=178
BINY Binghamton 31.28 17 eP P 07 51 03.5 +1.5
comp=Z,17nm,0.9s
BINY Binghamton 31.28 17 P P 07 51 02.9 +1.0
baz=202
I40A Norwalk 31.32 356 P P 07 51 01.5 -0.8
baz=174
I46A Reed City 31.34 3 P P 07 51 01.8 -0.7
baz=184
I39A Houston 31.35 355 eP P 07 51 02.4 -0.1
comp=Z,23nm,0.6s
I39A Houston 31.35 355 P P 07 51 02.1 -0.4
baz=173,SNR=9.2
ISCO Idaho Springs 31.36 333 eP P 07 51 05.0 +2.0

comp=Z,1.2nm,0.6s
ISCO Idaho Springs 31.36 333 *e*P **P 07 51 05.0 +2.0**
ISCO pmax pmax
comp=Z,1.0nm,0.6s
ISCO Idaho Springs 31.36 333 P **P 07 51 03.5 +0.4**
baz=145
I41A Arkdale 31.45 357 *e*P **P 07 51 03.4 +0.1**
comp=Z,15nm,0.6s
I41A Arkdale 31.45 357 P **P 07 51 03.2 -0.1**
baz=176,SNR=5.2
PV01 Paradox Valley 31.49 328 *e*P **P 07 51 06.2 +2.1**
SMCO Snowmass 31.49 331 *e*P **P 07 51 06.6 +2.4**
comp=Z,11nm,0.7s
J54A Appleton 31.62 13 P **P 07 51 05.8 +1.0**
baz=197
PV02 Paradox Valley 31.63 328 *e*P **P 07 51 07.3 +2.0**
comp=Z,12nm,0.5s
PV13 Radium Mtn., P 31.64 327 *e*P **P 07 51 07.5 +2.1**
comp=Z,13nm,0.5s
PV03 Paradox Valley 31.72 327 *e*P **P 07 51 08.1 +2.0**
PV05 Paradox Valley 31.72 327 *e*P **P 07 51 08.2 +2.1**
PV12 Saucer Basin, 31.74 328 *e*P **P 07 51 08.6 +2.3**
comp=Z,60nm,0.6s
PV11 David Mesa, Pa 31.77 328 *e*P **P 07 51 08.9 +2.4**
comp=Z,48nm,0.6s
PV17 East Wray Mesa 31.80 327 *e*P **P 07 51 08.8 +2.0**
comp=Z,54nm,0.6s
PV16 Nyswonger Mesa 31.80 327 *e*P **P 07 51 08.9 +2.1**
comp=Z,35nm,0.5s
PV19 Morning Glory 31.83 327 *e*P **P 07 51 09.2 +2.1**
comp=Z,28nm,0.6s
PV20 West Nyswonger 31.85 327 *e*P **P 07 51 09.4 +2.2**
comp=Z,35nm,0.6s
H42A Shiocton 31.85 359 P **P 07 51 06.5 -0.4**
baz=178
PV14 Lion Creek, Pa 31.90 327 *e*P **P 07 51 09.9 +2.2**
comp=Z,28nm,0.6s
PV14 *e*PcP **PcP 07 53 58.2 +1.3**
PV10 Paradox Valley 31.91 327 *e*P **P 07 51 09.1 +1.3**
PV23 Carpenter Ridg 31.95 328 *e*P **P 07 51 09.9 +1.7**
comp=Z,23nm,0.7s
ECSD EROS Data Cent 31.98 348 *e*P **P 07 51 07.8 -0.3**
comp=Z,13nm,0.6s
ECSD EROS Data Cent 31.98 348 P **P 07 51 07.8 -0.3**
baz=164,SNR=16
H41A Junction City 31.99 358 P **P 07 51 07.7 -0.4**
baz=176
PV21 Cone Mtn., Par 32.02 328 *e*P **P 07 51 10.3 +1.6**
comp=Z,9.1nm,0.6s
H40A Chili 32.03 357 P **P 07 51 08.2 -0.3**
baz=175,SNR=8.0
PV09 Paradox Valley 32.05 327 *e*P **P 07 51 10.7 +1.6**
I52A Shelburne 32.08 10 P **P 07 51 09.0 +0.1**
baz=194
H47A Mio 32.09 5 P **P 07 51 08.4 -0.5**
baz=186
H39A Augusta 32.15 355 P **P 07 51 09.0 -0.6**
baz=173
Y12C Blythe 32.21 315 *e*P **P 07 51 11.8 +1.6**
comp=Z,3.0nm,0.6s
Y12C *e*PcP **PcP 07 53 59.9 +2.4**
H38A Maiden Rock 32.24 354 P **P 07 51 09.8 -0.5**
baz=172,SNR=6.4
H48A Harrisville 32.27 6 P **P 07 51 10.0 -0.5**
baz=188
PDMCI Parker Dam,Lak 32.27 317 P **P 07 51 11.3 +0.7**
baz=126
U15A North Rim 32.40 321 *e*P **P 07 51 14.2 +2.1**
comp=Z,2.6nm,0.7s
N23A Red Feather La 32.41 334 *e*P **P 07 51 14.1 +1.9**
comp=Z,3.3nm,0.6s
N23A Red Feather La 32.41 334 P **P 07 51 13.1 +0.9**
baz=145
PHWY Pilot Hill 32.54 335 *e*P **P 07 51 15.1 +1.8**
comp=Z,4.9nm,0.6s
G41A Antigo 32.57 358 P **P 07 51 12.4 -0.7**
baz=177
W13A Hualapai Mount 32.57 318 *e*P **P 07 51 15.8 +2.3**
comp=Z,4.3nm,0.7s
G42A Mountain 32.58 359 P **P 07 51 12.5 -0.8**
baz=179
G40A Rib Lake 32.67 357 *e*P **P 07 51 13.9 -0.1**
comp=Z,6.0nm,0.8s
G40A Rib Lake 32.67 357 P **P 07 51 13.7 -0.3**
baz=176
G47A Hillman 32.68 5 P **P 07 51 14.2 0.0**
baz=187
G38A Ridgeland 32.69 355 P **P 07 51 13.5 -0.7**
baz=172,SNR=5.7
H52A Wyevale 32.69 10 P **P 07 51 14.6 +0.3**
baz=194,SNR=5.2
G39A Holcombe 32.75 356 P **P 07 51 14.5 -0.2**
baz=174,SNR=10
BC3 Big Chuckawall 32.80 314 P **P 07 51 16.9 +1.4**
baz=123
SPMN Marine on St. 32.84 353 *e*P **P 07 51 15.1 -0.4**
comp=Z,27nm,0.4s
SPMN Marine on St. 32.84 353 P **P 07 51 15.0 -0.5**
baz=171,SNR=12
O20A White River Ci 32.85 330 *e*P **P 07 51 18.1 +2.2**
comp=Z,29nm,0.8s
O20A White River Ci 32.85 330 P **P 07 51 18.1 +2.2**
baz=141,SNR=33
SADO Sadowa 32.95 11 *e*P **P 07 51 17.0 +0.5**
comp=Z,30nm,0.6s
PKCU Pink Cliffs 33.08 323 *e*P **P 07 51 20.8 +2.6**
comp=Z,14nm,1.0s
F41A Three Lakes 33.09 358 P **P 07 51 17.1 -0.7**
baz=178
KNB Kanab 33.10 322 *e*P **P 07 51 20.5 +2.3**
comp=Z,4.2nm,1.0s
KNB Kanab 33.10 322 *e*P **P 07 51 20.5 +2.3**
KNB pmax pmax
comp=Z,4.0nm,1.0s
F43A Flat Rock, Esc 33.17 1 P **P 07 51 17.9 -0.5**
baz=181
SUSD Miller 33.19 345 P **P 07 51 18.6 0.0**
baz=160
F37A Hinrichs Farm, 33.31 354 P **P 07 51 19.6 -0.1**
baz=171,SNR=5.1
F40A Park Falls 33.31 357 P **P 07 51 19.0 -0.6**
baz=176
F44A Big Bay de Noc 33.33 2 P **P 07 51 18.9 -0.9**
baz=182
F39A Loretta 33.36 356 P **P 07 51 19.3 -0.8**
baz=174,SNR=8.5
LCMT Little Creek M 33.36 321 *e*P **P 07 51 22.4 +2.0**
comp=Z,3.6nm,0.8s
BELC Belle Mtn. Jos 33.37 314 P **P 07 51 21.2 +0.7**
baz=123
G53A Haliburton 33.39 12 P **P 07 51 19.8 -0.5**
baz=196
MTPU Mount Pierson 33.41 324 *e*P **P 07 51 23.6 +2.5**
comp=Z,6.7nm,0.7s
H56A Elgin 33.43 15 P **P 07 51 21.2 +0.5**
baz=200
Q16A Castle Valley 33.45 326 *e*P **P 07 51 23.1 +1.9**
comp=Z,12nm,0.6s
F48A Evansville 33.46 7 P **P 07 51 19.9 -0.9**
baz=189
F38A Pierce - Schro 33.47 355 P **P 07 51 20.4 -0.7**
baz=173,SNR=7.9
PFO Pinyon Flats O 33.48 314 P **P 07 51 22.1 +0.6**
baz=122
GMRC Granite Mounta 33.57 316 P **P 07 51 24.3 +2.1**
baz=124
RWWY Rawlins 33.60 333 *e*P **P 07 51 24.3 +1.8**
comp=Z,13nm,0.6s
P17A Butcher Ranch, 33.62 327 *e*P **P 07 51 24.6 +1.9**
comp=Z,30nm,0.7s
SZCU Shurtz Canyon 33.64 322 *e*P **P 07 51 25.2 +2.3**
comp=Z,6.0nm,0.8s
MSU Marysvale 33.73 324 *e*P **P 07 51 26.1 +2.5**
MSU Marysvale 33.73 324 *e*P **P 07 51 26.1 +2.5**
TMUT Trail Mountain 33.74 326 *e*P **P 07 51 26.0 +2.2**
comp=Z,6.9nm,0.8s
TMUT *e*PcP **PcP 07 54 03.8 +1.7**
CCUT Cedar City 33.78 322 *e*P **P 07 51 26.6 +2.5**
comp=Z,3.4nm,0.8s
E39A Mellen 33.79 357 P **P 07 51 23.6 -0.3**
baz=175
E40A Wakefield 33.83 357 P **P 07 51 24.2 +0.1**
baz=176
F52A Sundridge 33.91 11 P **P 07 51 24.7 -0.2**
baz=195
G55A Calabogie 33.94 14 P **P 07 51 24.8 -0.2**
baz=199
MURC Murrieta 34.00 313 P **P 07 51 27.1 +1.2**
baz=121
E47A Iron Bridge 34.01 6 P **P 07 51 25.5 -0.2**
baz=188
HEC Hector,Ludlow 34.05 315 P **P 07 51 27.8 +1.4**
baz=124
E38A The Farm, Brul 34.09 355 *e*P **P 07 51 26.2 -0.2**
comp=Z,21nm,1.1s
E38A The Farm, Brul 34.09 355 P **P 07 51 25.8 -0.6**
baz=173
K22A Casper 34.10 335 *e*P **P 07 51 28.6 +1.8**
comp=Z,8.9nm,0.5s
K22A Casper 34.10 335 P **P 07 51 28.3 +1.6**
baz=146,SNR=8.5
RSSD Black Hills 34.41 339 *e*P **P 07 51 31.4 +1.9**
comp=Z,12nm,0.6s
RSSD Black Hills 34.41 339 *e*P **P 07 51 31.4 +1.9**
RSSD pmax pmax
comp=Z,12nm,0.6s
RSSD Black Hills 34.41 339 P **P 07 51 30.7 +1.2**
baz=151
E52A Mattawa 34.50 11 P **P 07 51 30.7 +0.7**
baz=196
F55A Otter Lake 34.57 14 P **P 07 51 31.0 +0.5**
baz=200
E51A G1948 Merrick 34.59 10 P **P 07 51 30.8 0.0**
baz=194
GSC Goldstone, Bar 34.64 316 P **P 07 51 33.5 +2.1**
baz=124
LPAZ La Paz 34.64 145 P **P 07 51 32.9 +0.7**
comp=Z,1.6nm,0.5s,baz=318,slow=7.6,SNR=9.8
LPAZ LR LR 08 06 37.0
comp=Z,87nm,20.4s,baz=314,slow=38
LPAZ La Paz 34.64 145 *e*P **P 07 51 31.6 -0.6**
LPAZ *e* 07 51 31.9
LPAZ La Paz 34.64 145 *e*P **P 07 51 33.8 +1.6**
LPAZ pmax pmax
comp=Z,2.0nm,0.5s
NLU North Lily Min 34.68 326 *e*P **P 07 51 33.2 +1.4**
comp=Z,3.7nm,0.7s
PSUT Pine Spring 34.72 323 *e*P **P 07 51 34.3 +2.1**
comp=Z,5.5nm,0.7s
PSUT *e*PcP **PcP 07 54 06.9 +2.1**
JLU Jordanelle 34.81 328 *e*P **P 07 51 34.7 +1.7**
comp=Z,12nm,0.7s
D48A Paudash Townsh 34.88 7 P **P 07 51 32.9 -0.3**
baz=190
E54A Lac Daplat, Po 34.95 13 P **P 07 51 34.3 +0.5**
baz=198
D49A Beulah Townshi 35.03 8 P **P 07 51 34.6 +0.1**
baz=191
CTU Camp Tracy 35.03 327 *e*P **P 07 51 36.8 +1.9**
comp=Z,14nm,0.6s
D51A Lot 18 Range I 35.15 10 P **P 07 51 35.8 +0.2**
baz=194
TCUT Toone Canyon 35.17 328 *e*P **P 07 51 38.2 +2.1**
comp=Z,41nm,0.6s
TPNV Topopah Spring 35.21 319 *e*P **P 07 51 38.6 +2.2**
comp=Z,4.6nm,1.0s
TPNV Topopah Spring 35.21 319 P **P 07 51 38.6 +2.2**
baz=126
D52A ZEK Kipawa Sen 35.22 11 P **P 07 51 37.2 +1.1**
baz=196
EDW2 Edwards Air Fo 35.23 314 P **P 07 51 38.0 +1.5**
baz=122
DUG Dugway, Tooele 35.25 326 *e*P **P 07 51 38.5 +1.8**
comp=Z,3.3nm,0.8s
DUG Dugway, Tooele 35.25 326 *e*P **P 07 51 38.5 +1.8**
DUG pmax pmax
comp=Z,5.0nm,0.8s
DUG Dugway, Tooele 35.25 326 P **P 07 51 38.4 +1.7**
baz=134,SNR=9.4
EYMN Ely 35.42 356 *e*P **P 07 51 37.2 -0.6**
comp=Z,7.1nm,0.6s
EYMN Ely 35.42 356 P **P 07 51 37.0 -0.8**
baz=174
BW06 Boulder Array 35.52 332 *e*P **P 07 51 40.3 +1.2**
comp=Z,7.4nm,0.6s
BW06 Boulder Array 35.52 332 P **P 07 51 40.3 +1.2**
baz=142,SNR=12
PD31 Pinedale Array 35.52 332 *e*P **P 07 51 40.3 +1.3**
PDAR Pinedale Array 35.52 332 P **P 07 51 40.2 +1.1**
comp=Z,6.9nm,0.6s,baz=121,slow=9.8,SNR=100
PDAR PcP **PcP 07 54 07.2 +0.2**
comp=Z,1.1nm,0.7s,baz=136,slow=4.0,SNR=4.0
PDAR ScP **ScP 07 57 49.6 +2.3**
comp=Z,0.2nm,0.5s,baz=126,slow=4.6,SNR=2.4
PDAR LR LR 08 08 38.8
comp=Z,146nm,18.5s,baz=131,slow=40
MPMC Manual Prospec 35.52 316 P **P 07 51 40.5 +1.4**
baz=124
R11A Troy Canyon, C 35.64 321 *e*P **P 07 51 42.2 +2.1**
comp=Z,1.8nm,0.8s
R11A Troy Canyon, C 35.64 321 P **P 07 51 41.7 +1.6**
baz=129
SPUT South Promonto 35.84 328 *e*P **P 07 51 43.6 +1.8**
comp=Z,16nm,0.8s
BGU Big Grassy Mou 35.88 327 *e*P **P 07 51 44.0 +1.9**
comp=Z,6.0nm,0.8s
ARVC Arvin 35.94 314 P **P 07 51 44.3 +1.8**
baz=121
CWC Cottonwood Cre 36.13 316 P **P 07 51 45.7 +1.4**
baz=124
AHID Auburn Hatcher 36.24 330 *e*P **P 07 51 46.5 +1.3**
comp=Z,49nm,0.6s
MNMC Minye Minye 36.24 150 *e*P **P 07 51 47.1 +1.6**
comp=Z,16nm,0.8s
AGMN Agassiz Nation 36.26 351 *e*P **P 07 51 44.8 -0.3**
comp=Z,29nm,1.1s
AGMN Agassiz Nation 36.26 351 P **P 07 51 44.8 -0.3**
baz=166,SNR=11
HVU Hansel Valley 36.35 328 *e*P **P 07 51 47.6 +1.5**
comp=Z,15nm,0.7s
HVU Hansel Valley 36.35 328 *e*P **P 07 51 47.6 +1.5**
HVU pmax pmax
comp=Z,15nm,0.7s
VES Vestal, Richgr 36.49 315 P **P 07 51 48.6 +1.4**
baz=122
MDND Maddock 36.54 347 *e*P **P 07 51 48.0 +0.6**
comp=Z,86nm,0.6s
MDND Maddock 36.54 347 P **P 07 51 47.9 +0.4**
baz=160,SNR=10
REDW Red Top Meadow 36.58 331 *e*P **P 07 51 49.7 +1.6**
comp=Z,95nm,0.5s
SNOW Snow King Moun 36.61 332 *e*P **P 07 51 50.2 +1.8**
comp=Z,84nm,0.6s
LOHW Long Hollow 36.66 332 *e*P **P 07 51 50.3 +1.6**
comp=Z,24nm,1.1s
TPAW Teton Pass 36.72 331 *e*P **P 07 51 51.1 +1.7**
comp=Z,32nm,0.6s
PB11 IPOC Station P 36.75 151 *e*P **P 07 51 49.8 +0.1**
comp=Z,9.9nm,0.8s
MOOW Moose Ponds 36.83 332 *e*P **P 07 51 51.6 +1.4**
comp=Z,16nm,0.6s
GO01 Chusmiza 36.90 150 *e*P **P 07 51 53.8 +2.5**
comp=Z,7.8nm,0.8s
ELK Elko 36.98 324 *e*P **P 07 51 53.5 +1.9**
comp=Z,6.3nm,0.8s
ELK Elko 36.98 324 *e*P **P 07 51 53.5 +1.9**
ELK pmax pmax
comp=Z,6.0nm,0.8s
FLWY Flagg Ranch 37.06 332 *e*P **P 07 51 54.0 +1.8**
comp=Z,22nm,0.6s
H17A Grant Village 37.25 333 *e*P **P 07 51 56.1 +2.3**
comp=Z,8.4nm,0.9s
H17A Grant Village 37.25 333 P **P 07 51 55.8 +1.9**
baz=141,SNR=7.2
YPP Pitchstone Pla 37.26 332 *e*P **P 07 51 55.7 +1.8**
comp=Z,8.3nm,0.8s
RLMT Red Lodge 37.26 335 *e*P **P 07 51 54.5 +0.7**
comp=Z,10nm,0.7s
RLMT Red Lodge 37.26 335 P **P 07 51 55.0 +1.1**
baz=144,SNR=15
NV11 Mina Array Sit 37.30 319 *e*P **P 07 51 57.0 +2.7**
comp=Z,0.3nm,0.8s
LKWY Lake 37.31 333 *e*P **P 07 51 57.0 +2.8**
comp=Z,7.2nm,0.6s
LKWY Lake 37.31 333 *e*P **P 07 51 57.1 +2.8**
LKWY pmax pmax
comp=Z,7.0nm,0.6s
NV01 Mina Array Sit 37.40 319 *e*P **P 07 51 57.3 +2.2**
NV01 *e*PcP **PcP 07 54 14.6 +1.8**
NVAR Mina Array Bea 37.40 319 P **P 07 51 57.5 +2.4**
comp=Z,4.4nm,0.7s,baz=127,slow=8.6,SNR=32
NVAR PcP **PcP 07 54 14.2 +1.3**
comp=Z,6.5nm,0.6s,baz=126,slow=4.8,SNR=20
NVAR ScP **ScP 07 57 56.5 +2.2**
comp=Z,1.9nm,0.7s,baz=130,slow=4.7,SNR=12
NVAR LR LR 08 08 24.5
comp=Z,245nm,19.6s,baz=127,slow=38
YFT Old Faithful 37.41 333 *e*P **P 07 51 58.4 +3.3**
comp=Z,22nm,0.6s
YNR Norris Junctio 37.55 333 *e*P **P 07 51 58.3 +2.0**
comp=Z,9.7nm,0.7s
KVN Kaiserville 37.63 320 *e*P **P 07 51 59.3 +2.3**
comp=Z,4.4nm,0.8s
KVN Kaiserville 37.63 320 *e*P **P 07 51 59.3 +2.3**
KVN pmax pmax
comp=Z,4.0nm,0.8s
YMR Madison River 37.64 333 *e*P **P 07 51 59.6 +2.5**
comp=Z,31nm,1.0s
YHB Horse Butte 37.81 333 *e*P **P 07 52 00.9 +2.4**
comp=Z,22nm,0.6s
GCMT Greycliff 37.97 335 *e*P **P 07 52 01.5 +1.7**
QLMT Earthquake Lak 37.97 332 *e*P **P 07 52 02.6 +2.7**
ULM Lac du Bonnet 38.17 352 P **P 07 52 00.3 -0.8**
comp=Z,17nm,0.6s,baz=167,slow=8.9,SNR=54
ULM LR LR 08 09 01.5
comp=Z,118nm,20.3s,baz=141,slow=38
ULM Lac du Bonnet 38.17 352 *e*P **P 07 52 00.3 -0.8**
comp=Z,18nm,0.6s
ULM Lac du Bonnet 38.17 352 *e*P **P 07 52 00.3 -0.8**
ULM pmax pmax
comp=Z,19nm,0.6s
WAKR Walker 38.17 318 *e*P **P 07 52 03.4 +1.8**
comp=Z,3.0nm,0.8s
YERR Yerington 38.31 319 *e*P **P 07 52 05.0 +2.2**
comp=Z,4.1nm,0.6s
DGMT Dagmar 38.32 342 *e*P **P 07 52 03.8 +1.3**
comp=Z,78nm,0.6s
DGMT Dagmar 38.32 342 P **P 07 52 03.6 +1.1**
baz=154,SNR=23
HLID Hailey 38.47 328 *e*P **P 07 52 05.6 +1.5**
comp=Z,8.0nm,0.7s
HLID Hailey 38.47 328 P **P 07 52 05.3 +1.3**
baz=135,SNR=14
MCMT McKenzie Canyo 38.63 331 *e*P **P 07 52 07.9 +2.5**
BOZ Bozeman (W) 38.66 333 *e*P **P 07 52 07.2 +1.7**
comp=Z,17nm,0.6s
BOZ Bozeman (W) 38.66 333 *e*P **P 07 52 07.2 +1.7**
BOZ pmax pmax
comp=Z,17nm,0.6s
BOZ Bozeman (W) 38.66 333 P **P 07 52 07.3 +1.8**
baz=141,SNR=32
DLMT Dillon 38.91 332 *e*P **P 07 52 09.6 +1.9**
comp=Z,20nm,0.7s
BEKR Beckworth 39.53 319 *e*P **P 07 52 14.7 +1.7**
comp=Z,2.6nm,0.7s
LVC Limon Verde 39.55 152 P **P 07 52 15.6 +2.2**
comp=Z,4.2nm,0.6s,baz=346,slow=8.3,SNR=6.4
HRY Holter Researc 39.61 334 *e*P **P 07 52 15.0 +1.5**
EGMT Eagleton 39.82 337 *e*P **P 07 52 16.3 +1.2**
comp=Z,12nm,0.8s
EGMT Eagleton 39.82 337 P **P 07 52 16.4 +1.2**
baz=145
WVOR Wild Horse Val 40.01 324 *e*P **P 07 52 18.0 +1.1**
comp=Z,12nm,0.8s
WVOR Wild Horse Val 40.01 324 *e*P **P 07 52 18.0 +1.1**
WVOR pmax pmax
comp=Z,12nm,0.8s
ORV Oroville 40.09 318 *e*P **P 07 52 19.7 +2.3**
comp=Z,3.5nm,0.8s
ORV Oroville 40.09 318 *e*P **P 07 52 19.7 +2.3**
ORV pmax pmax
comp=Z,4.0nm,0.8s
J08A Circle Bar Ran 40.51 325 *e*P **P 07 52 22.1 +1.2**
comp=Z,6.7nm,0.7s
MSO Missoula 40.63 332 *e*P **P 07 52 22.7 +0.8**
comp=Z,15nm,1.0s
MSO Missoula 40.63 332 P **P 07 52 22.9 +1.0**
baz=139,SNR=8.9
MOD Modoc Plateau 40.67 322 *e*P **P 07 52 20.9 -1.4**
comp=Z,15nm,0.6s
MOD *e*PcP **PcP 07 54 25.4 +2.4**
O03E Paynes Creek 40.69 319 P **P 07 52 22.9 +0.5**
baz=123
O02D Mt. Diablo Mer 41.26 318 P **P 07 52 27.6 +0.5**
baz=122
JTMT Jette 41.48 333 *e*P **P 07 52 29.9 +1.0**
comp=Z,5.2nm,1.0s
GO02 Mina Guanaco 41.48 155 *e*P **P 07 52 30.4 +1.1**
comp=Z,20nm,1.1s
M04C Macdoel 41.53 321 P **P 07 52 30.3 +0.9**
baz=124,SNR=5.5
F10A Beach Ranch, E 41.59 329 *e*P **P 07 52 30.4 +0.7**
comp=Z,16nm,0.6s
N02D Trinity Center 41.63 319 P **P 07 52 30.1 -0.1**
baz=123
M02C Callahan 41.95 320 P **P 07 52 32.7 -0.1**
baz=123
K04D Chiloquin, OR 41.97 322 P **P 07 52 33.3 +0.4**
baz=125
G08A Pilot Rock 42.03 327 *e*P **P 07 52 34.2 +0.9**
comp=Z,3.4nm,0.8s
G08A *e*PcP **PcP 07 54 29.2 +1.9**
J05D Fort Rock, OR 42.05 323 P **P 07 52 34.3 +0.8**
baz=127
YBH Yreka Blue Hor 42.05 320 *e*P **P 07 52 33.3 -0.2**
comp=Z,1.4nm,0.7s
YBH Yreka Blue Hor 42.05 320 *e*P **P 07 52 33.3 -0.2**
YBH pmax pmax
comp=Z,1.0nm,0.7s
L04D Klamath Falls 42.07 321 P **P 07 52 34.0 +0.2**
baz=124
PINE Pine Mountain 42.18 324 *e*P **P 07 52 35.2 +0.5**
comp=Z,12nm,0.7s
KHMM Horse Mountain 42.24 319 *e*P **P 07 52 36.1 +0.9**
comp=Z,14nm,0.7s
WALA Waterton Lakes 42.32 335 *e*P **P 07 52 37.2 +1.6**
comp=Z,9.1nm,0.8s
E09A Wood Farm, Sta 42.42 329 *e*P **P 07 52 37.1 +0.7**
comp=Z,11nm,0.8s
J04D Umpqua Nationa 42.53 322 P **P 07 52 38.5 +0.9**
baz=126
I05D Terrebonne, OR 42.74 324 P **P 07 52 39.6 +0.5**
baz=127
E08A Dider Farm, El 42.88 328 *e*P **P 07 52 40.6 +0.5**
comp=Z,6.3nm,0.8s
F07A Phinny Hill Vi 42.94 327 *e*P **P 07 52 42.2 +1.6**
comp=Z,7.2nm,0.6s
I04A Tendick Farm, 43.04 323 P **P 07 52 42.0 +0.5**
baz=126,SNR=5.7
HAWA Hanford 43.05 328 *e*P **P 07 52 42.2 +0.7**
comp=Z,11nm,0.7s
NEW Newport 43.15 331 *e*P **P 07 52 42.8 +0.4**
comp=Z,8.1nm,0.7s
NEW Newport 43.15 331 *e*P **P 07 52 42.8 +0.4**
NEW pmax pmax
comp=Z,8.0nm,0.7s
NEW Newport 43.15 331 P **P 07 52 42.9 +0.6**
baz=136,SNR=11
K02D Willamette Mer 43.17 321 P **P 07 52 43.1 +0.4**
baz=123
D08A Wollman Farm, 43.19 329 *e*P **P 07 52 43.4 +0.8**
comp=Z,29nm,0.6s
G05D Wamic, OR 43.28 325 P **P 07 52 44.6 +1.2**
baz=128,SNR=5.2
E07A Sunnyside 43.33 328 *e*P **P 07 52 44.8 +1.0**
comp=Z,34nm,0.6s
C09A Chrisman Ranch 43.37 330 *e*P **P 07 52 45.0 +0.9**
comp=Z,55nm,0.6s
H04A Detroit Lake 43.43 324 *e*P **P 07 52 45.0 +0.3**
comp=Z,15nm,0.6s
FFC Flin Flon 43.52 348 *e*P **P 07 52 45.6 +0.5**
comp=Z,13nm,0.6s
FFC Flin Flon 43.52 348 *i* P **P 07 52 45.9 +0.7**
I03D Drain, OR 43.54 322 P **P 07 52 46.4 +0.9**
baz=124
J01E Myrtle Point 43.59 321 P **P 07 52 47.1 +1.3**
baz=123
H04D Lebanon 43.65 324 P **P 07 52 46.6 +0.2**
baz=126
F05D White Salmon 43.76 326 P **P 07 52 48.3 +1.1**
baz=129
I02D Swisshome 44.06 322 P **P 07 52 50.6 +0.9**
baz=124
LTY Liberty 44.21 328 *e*P **P 07 52 51.1 +0.2**
comp=Z,14nm,0.6s
B08A Colville Reser 44.27 330 *e*P **P 07 52 51.8 +0.5**
comp=Z,10nm,0.6s
G03D McMinnville, O 44.36 324 P **P 07 52 53.3 +1.3**
baz=126
LON Longmire 44.49 327 *e*P **P 07 52 54.2 +1.1**
comp=Z,12nm,0.8s
LON Longmire 44.49 327 *e*P **P 07 52 54.2 +1.1**
LON pmax pmax
comp=Z,12nm,0.8s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
F04D	**Rainier, OR**	**44.73**	**325**	P	**P**	**07 52 56.3**	**+1.3**
	baz=127						
C06D	**Leavenworth**	**44.76**	**329**	P	**P**	**07 52 56.1**	**+0.9**
	baz=131						
D05A	**Enumclaw**	**44.86**	**327**	*e*P	**P**	**07 52 56.7**	**+0.7**
	comp=Z,20nm,0.8s						
D04E	**Lakebay**	**45.27**	**327**	P	**P**	**07 53 00.1**	**+1.0**
	baz=128						
SCHQ	**Schefferville**	**45.28**	**17**	P	**P**	**07 52 58.4**	**-0.8**
	comp=Z,39nm,0.6s,baz=218,slow=6.4,SNR=71						
SCHQ				LR	LR	08 12 30.6	
	comp=Z,435nm,18.1s,baz=148,slow=37						
SCHQ	**Schefferville**	**45.28**	**17**	*e*P	**P**	**07 52 59.1**	**-0.1**
	comp=Z,41nm,0.6s						
B06A	**Marblemount**	**45.45**	**329**	*e*P	**P**	**07 53 01.2**	**+0.6**
	comp=Z,33nm,0.8s						
B05A	**Bryant**	**45.60**	**328**	P	**P**	**07 53 01.8**	**+0.1**
	baz=130,SNR=6.1						
D03D	**Eldon**	**45.66**	**327**	P	**P**	**07 53 02.6**	**+0.3**
	baz=128,SNR=9.9						
FCC	**Fort Churchill**	**46.36**	**355**	*e*P	**P**	**07 53 07.3**	**-0.2**
	comp=Z,15nm,0.6s						
FCC	**Fort Churchill**	**46.36**	**355**	*e*P	**P**	**07 53 07.3**	**-0.2**
FCC				pmax	pmax		
	comp=Z,15nm,0.6s						
BDFB	**Brasilia**	**48.33**	**124**	P	**P**	**07 53 23.3**	**-0.3**
	comp=Z,3.8nm,0.6s,baz=300,slow=8.1,SNR=6.1						
BDFB				LR	LR	08 14 35.4	
	comp=Z,184nm,19.4s,baz=282,slow=37						
CPUP	**Villa Florida**	**48.71**	**143**	P	**P**	**07 53 25.9**	**-0.4**
	comp=Z,6.1nm,0.8s,baz=329,slow=8.2,SNR=9.3						
CPUP				LR	LR	08 15 30.4	
	comp=Z,83nm,18.0s,baz=348,slow=38						
CPUP	**Villa Florida**	**48.71**	**143**	P	**P**	**07 53 25.9**	**-0.4**
CPUP				*e*P	**P**	**07 53 26.1**	**-0.1**
YKA	**Yellowknife Ar**	**53.42**	**345**	P	**P**	**07 54 00.8**	**-0.3**
	comp=Z,4.0nm,0.6s,baz=134,slow=8.4,SNR=158						
YKA				pP	**pP**	**07 54 17.2**	**-1.2**
	comp=Z,4.7nm,0.6s,baz=139,slow=7.7,SNR=11						
YKA				PcP	**PcP**	**07 55 07.1**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=147,slow=4.0,SNR=11						
YKA				ScP	**ScP**	**07 59 00.5**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=142,slow=4.4,SNR=7.7						
YKB5	**Yellowknife Ar**	**53.42**	**345**	*e*P	**P**	**07 53 60.0**	**-1.1**
YKB5				*e*pP	**pP**	**07 54 17.2**	**-1.2**
YKB5				*e*PcP	**PcP**	**07 55 07.1**	**-0.3**
YKW3	**Yellowknife Ar**	**53.48**	**345**	*e*P	**P**	**07 54 00.8**	**-0.7**
	comp=Z,7.7nm,0.8s						
PLCA	**Paso Flores**	**55.37**	**164**	P	**P**	**07 54 16.4**	**+0.8**
	comp=Z,4.6nm,0.8s,baz=14,slow=7.9,SNR=11						
PLCA				PcP	**PcP**	**07 55 16.1**	**+0.7**
	comp=Z,3.0nm,0.9s,baz=354,slow=4.3,SNR=2.2						
PLCA				LR	LR	08 14 14.0	
	comp=Z,59nm,18.1s,baz=7.5,slow=32						
PLCA	**Paso Flores**	**55.37**	**164**	*e*P	**P**	**07 54 17.1**	**+1.5**
	comp=Z,6.4nm,0.8s						
PLCA				PcP	**PcP**	**07 55 16.1**	**+0.7**
PLCA	**Paso Flores**	**55.37**	**164**	*e*P	**P**	**07 54 16.8**	**+1.2**
PLCA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
DLBC	**Dease Lake**	**55.67**	**335**	*e*P	**P**	**07 54 18.6**	**+1.1**
	comp=Z,14nm,0.8s						
RKT	**Rikitea**	**58.21**	**233**	*e*T	T	08 56 51.5	
	comp=Z,1.9nm,0.3s						
RES	**Resolute Bay**	**62.25**	**358**	P	**P**	**07 55 01.9**	**-0.8**
RES				pmax	pmax		
	comp=Z,6.0nm,0.6s						
EPYK	**Eagle Plains**	**62.85**	**340**	P	**P**	**07 55 06.6**	**-0.4**
	baz=124						
INK	**Inuvik**	**63.00**	**343**	*e*P	**P**	**07 55 08.1**	**+0.3**
	comp=Z,7.1nm,1.0s						
INK	**Inuvik**	**63.00**	**343**	*e*P	**P**	**07 55 08.1**	**+0.3**
INK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TULEG	**Thule**	**64.77**	**5**	*e*P	**P**	**07 55 19.5**	**+0.2**
	comp=Z,5.3nm,0.7s						
PRP	**Porcupine Dome**	**65.56**	**337**	*e*P	**P**	**07 55 25.0**	**+0.1**
	comp=Z,4.8nm,0.8s						
HDA	**Harding Lake**	**65.67**	**336**	*e*P	**P**	**07 55 25.3**	**0.0**
	comp=Z,12nm,1.1s						
HDA	**Harding Lake**	**65.67**	**336**	P	**P**	**07 55 24.5**	**-0.8**
	baz=113						
IL1	**Eielson Array**	**65.78**	**336**	*e*P	**P**	**07 55 25.5**	**-0.6**
ILAR	**Eielson Array**	**65.78**	**336**	P	**P**	**07 55 25.8**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=162,slow=5.0,SNR=47						
ILAR				pP	**pP**	**07 55 41.7**	**-2.3**
	comp=Z,2.8nm,0.9s,baz=163,slow=4.8,SNR=6.7						
ILAR				LR	LR	08 26 59.8	
	comp=Z,32nm,18.6s,baz=132,slow=38						
ILAR	**Eielson Array**	**65.78**	**336**	*e*P	**P**	**07 55 25.6**	**-0.5**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ILB	**Eielson Array**	**65.78**	**336**	*e*P	**P**	**07 55 25.7**	**-0.5**
KDAK	**Kodiak Island**	**66.09**	**328**	*i* P	**P**	**07 55 28.7**	**+0.6**
POKR	**Poker Plat Res**	**66.14**	**336**	P	**P**	**07 55 27.5**	**-0.8**
	baz=113						
COLA	**College**	**66.20**	**336**	P	**P**	**07 55 28.2**	**-0.5**
COLA				pmax	pmax		
	comp=Z,13nm,2.6s						
TCOL	**CIGO, UAF Yank**	**66.21**	**336**	P	**P**	**07 55 28.7**	**0.0**
	baz=112						
MLY	**Manley**	**67.41**	**336**	*e*P	**P**	**07 55 36.2**	**-0.3**
	comp=Z,5.4nm,0.6s						
PPT2	**Papeete2**	**67.93**	**245**	*e*LR	LR	08 16 12.7	
	comp=Z,360nm,26.2s,baz=52						
COLD	**Coldfoot**	**67.97**	**338**	*e*P	**P**	**07 55 41.1**	**+1.2**
	comp=Z,4.1nm,0.9s						
TBI	**Tubuai**	**70.06**	**239**	*e*LR	LR	08 17 15.3	
	comp=Z,333nm,27.0s						
TBI	**Tubuai**	**70.06**	**239**	*e*T	T	09 11 43.8	
	comp=Z,3.0nm,0.3s						
ESDC	**Sonseca Array**	**77.40**	**52**	P	**P**	**07 56 34.2**	**-2.3**
	comp=Z,0.5nm,0.5s,baz=283,slow=5.6,SNR=5.4						
ESDC				pP	**pP**	**07 56 52.8**	**-2.1**
	comp=Z,4.2nm,0.9s,baz=286,slow=5.7,SNR=4.9						
ES19	**SONSECA Array**	**77.45**	**52**	*e*P	**P**	**07 56 36.1**	**-0.7**
DBIC	**Dimbokro**	**81.73**	**85**	LR	LR	08 29 51.9	
	comp=Z,72nm,22.0s,baz=264,slow=33						
KONO	**Kongsberg**	**82.99**	**30**	*i* P	**P**	**07 57 05.0**	**-1.0**
KONO				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NB200	**NORSAR Array S**	**83.45**	**29**	*e*P	**P**	**07 57 05.7**	**-2.8**
NOA	**NORSAR Array B**	**83.45**	**29**	P	**P**	**07 57 05.7**	**-2.8**
	comp=Z,0.6nm,0.6s,baz=284,slow=5.1,SNR=4.8						
NOA				LR	LR	08 30 27.1	
	comp=Z,30nm,21.7s,baz=275,slow=33						
NOA	**NORSAR Array B**	**83.45**	**29**	*e*P	**P**	**07 57 06.9**	**-1.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BILL	**Bilibino**	**84.30**	**339**	*i* P	**P**	**07 57 10.8**	**-1.8**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BILL				MLR	MLR		
	comp=Z,139nm,18.0s						
ARA0	**ARCESS Array S**	**86.20**	**19**	*e*P	**P**	**07 57 20.9**	**-1.2**
ARCES	**ARCESS Array B**	**86.20**	**19**	P	**P**	**07 57 20.9**	**-1.2**
	comp=Z,1.8nm,0.8s,baz=292,slow=4.8,SNR=6.7						
TOA1	**Torodi Ar. Sit**	**86.73**	**77**	*e*P	**P**	**07 57 22.5**	**-3.2**
TORD	**Torodi Ar. Bea**	**86.73**	**77**	P	**P**	**07 57 22.5**	**-3.3**
	comp=Z,0.2nm,0.5s,baz=290,slow=6.0,SNR=2.9						
TORD				LR	LR	08 31 24.4	
	comp=Z,76nm,21.6s,baz=315,slow=32						
GEC2	**GERESS Array S**	**88.09**	**40**	*e*P	**P**	**07 57 29.0**	**-2.7**
GEC2				*e*pP	**pP**	**07 57 48.0**	**-2.4**
GEC2	**GERESS Array S**	**88.09**	**40**	*e*P	**P**	**07 57 29.0**	**-2.7**
GERES	**GERESS Array B**	**88.09**	**40**	P	**P**	**07 57 29.0**	**-2.7**
	comp=Z,0.3nm,0.6s,baz=310,slow=6.1,SNR=2.6						
GERES				pP	**pP**	**07 57 48.0**	**-2.4**
	comp=Z,0.9nm,0.8s,baz=29,slow=3.0,SNR=4.3						
GERES				LR	LR	08 31 41.9	
	comp=Z,77nm,19.0s,baz=288,slow=32						
GEA0	**GERESS Array S**	**88.09**	**40**	*e*P	**P**	**07 57 29.5**	**-2.3**
GEA0				*e*pP	**pP**	**07 57 51.9**	**+1.5**
FINES	**FINESS Array B**	**90.03**	**26**	LR	LR	08 38 19.6	
	comp=Z,28nm,19.2s,baz=302,slow=36						
VSU	**Vasula**	**91.69**	**29**	*i* P	**P**	**07 57 46.5**	**-1.7**
VSU				pmax	pmax		
	comp=Z,33nm,1.2s						
TIXI	**Tiksi**	**92.48**	**349**	LR	LR	08 40 39.1	
	comp=Z,51nm,19.8s,baz=360,slow=36						
TIXI	**Tiksi**	**92.48**	**349**	*i* P	**P**	**07 57 49.7**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MA2	**Magadan**	**94.20**	**334**	LR	LR	08 49 51.0	
	comp=Z,47nm,20.1s,baz=106,slow=42						
AKASG	**Malin Array Be**	**96.64**	**35**	LR	LR	08 40 30.1	
	comp=Z,40nm,19.5s,baz=295,slow=35						
ZAA1	**Zalesovo Array**	**113.46**	**5**	*e*PKiKP	**PKiKP**	**08 03 16.6**	**-2.1**
ZALV	**Zalesovo Beam**	**113.47**	**5**	PKiKP	**PKiKP**	**08 03 16.6**	**-2.1**
	comp=Z,0.5nm,0.5s,baz=332,slow=2.1,SNR=3.3						
MAJO	**Matsushiro**	**114.71**	**320**	*e*PKiKP	PKPdf	08 03 21.7	+0.1
MAJO	**Matsushiro**	**114.71**	**320**	*e*PKIKP	PKPdf	08 03 21.7	+0.1
MJAR	**Matsushiro Arr**	**114.71**	**320**	PKP	PKPdf	08 03 21.7	+0.1
	comp=Z,1.6nm,0.9s,baz=86,slow=0.3,SNR=5.1						
BOSA	**Boshof**	**116.05**	**116**	PKP	**PKPdf**	**08 03 24.4**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=297,slow=2.4,SNR=3.6						
CN2	**Changchun**	**116.25**	**334**	Pdif	**Pdif**	**07 59 34.2**	**-4.4**
SONA0	**Songino Array**	**118.56**	**349**	*e*PKPdf	**PKPdf**	**08 03 28.2**	**-0.7**
SONM	**Songino Array**	**118.56**	**349**	PKP	**PKPdf**	**08 03 28.2**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=199,slow=1.2,SNR=4.3						
KSRS	**Korea Array**	**120.00**	**328**	PKP	**PKPdf**	**08 03 31.8**	**0.0**
	comp=Z,3.1nm,0.6s,baz=13,slow=2.1,SNR=9.7						
KSRS	**Korea Array**	**120.00**	**328**	*e*PKIKP	**PKiKP**	**08 03 32.2**	**+0.4**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KS15	**Wonju Array Si**	**120.03**	**328**	*e*PKPdf	**PKPdf**	**08 03 31.8**	**0.0**
KSAR	**Wonju Array Be**	**120.03**	**328**	PKP	**PKPdf**	**08 03 31.8**	**0.0**
MK32	**Makanchi Array**	**120.26**	**8**	*e*PKPdf	**PKPdf**	**08 03 30.3**	**-1.7**
MKAR	**Makanchi Array**	**120.26**	**8**	PKP	**PKPdf**	**08 03 30.3**	**-1.7**
	comp=Z,0.2nm,0.6s,baz=349,slow=3.1,SNR=2.8						
WMQ	**Urumqi**	**123.75**	**4**	*e*PKP	**PKiKP**	**08 03 39.1**	**-0.1**
HHC	**Hu-ho-hao-te**	**123.92**	**342**	*e*PKP	**PKPdf**	**08 03 38.5**	**-0.9**
NJ2	**Nanjing**	**128.82**	**331**	*e*PKP	**PKiKP**	**08 03 49.4**	**-0.1**
LZH	**Lanzhou**	**130.39**	**348**	*e*PKP	**PKPdf**	**08 03 50.7**	**-1.2**
LZH				sPKP		08 04 30.4	
LZH				LR	LR		
	comp=Z,79nm,18.1s						
LZH				LR	LR		
	comp=Z,85nm,18.0s						
LZH				LR	LR		
	comp=Z,120nm,20.3s						
STKA	**Stephens Creek**	**130.85**	**239**	PKP	**PKiKP**	**08 03 54.3**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=129,slow=3.0,SNR=9.1						
CD2	**Chengdu**	**135.38**	**346**	PKP	**PKPdf**	**08 04 00.5**	**-0.8**
WRAB	**Tennant Creek**	**138.95**	**254**	*e*PKPdf	**PKPdf**	**08 04 09.0**	**+0.9**
WR1	**Warramunga Arr**	**138.96**	**254**	*e*PKPpre	PKPpre	08 04 00.2	
WR1				*e*PKPdf	**PKiKP**	**08 04 09.2**	**-1.1**
WRA	**Warramunga Arr**	**138.96**	**254**	PKhKP	PKPpre	08 04 00.2	
	comp=Z,1.0nm,0.6s,baz=95,slow=3.0,SNR=14						
WRA				PKP	**PKiKP**	**08 04 09.2**	**-1.1**
	comp=Z,3.8nm,0.8s,baz=89,slow=2.2,SNR=24						
AS31	**Alice Springs**	**138.98**	**248**	*e*PKPdf	**PKiKP**	**08 04 09.2**	**-1.1**
ASAR	**Alice Springs**	**138.98**	**248**	PKhKP	PKPpre	08 03 59.5	
	comp=Z,0.7nm,0.6s,baz=106,slow=3.0,SNR=11						
ASAR				PKP	**PKiKP**	**08 04 09.2**	**-1.1**
	comp=Z,2.5nm,0.7s,baz=87,slow=2.1,SNR=20						
ASAR				SKPbc	**SKiKP**	**08 07 40.2**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=106,slow=2.7,SNR=9.8						
FITZ	**Fitzroy Crossi**	**147.30**	**256**	PKPbc	**PKPbc**	**08 04 25.4**	**+0.2**
	comp=Z,5.5nm,0.7s,baz=102,slow=4.3,SNR=8.6						
CM31	**Chiang Mai Arr**	**148.47**	**348**	*e*PKPbc	**PKPbc**	**08 04 28.3**	**0.0**
CMAR	**Chiang Mai Arr**	**148.47**	**348**	PKPbc	**PKPdf**	**08 04 25.9**	**+1.1**
	comp=Z,5.1nm,0.6s,baz=346,slow=3.7,SNR=20						

IDC 02 07:55:42.8±2.4**, 4°.11N**×**127°.37E, h0**^{km}**, mb3.3**/3**, mb1 3.5**/3**, mb1mx3.3**/35**, mbtmp3.3**/3**, Error ellipse: s-maj=179.4km s-min=26.9km az=66.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.86**	**164**	P	P	08 01 07.3	0.0
	1.4nm,0.7s,baz=344,slow=9.8,SNR=9.1						
ASAR	**Alice Springs**	**28.33**	**167**	P	P	08 01 38.6	0.0
	0.1nm,0.3s,baz=354,slow=14,SNR=3.2						
MKAR	**Makanchi Array**	**57.61**	**325**	P	P	08 05 34.6	0.0
	0.1nm,0.3s,baz=119,slow=7.9,SNR=5.1						

WEL 02 08:07:34.7, 40°S±1°×**17°7E**±°**, h67**^{km}±1^{km}**, ML3.6**/19**, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCHZ	**McNeill Hill**	**0.10**	**44**	P	Pn	08 07 45.0	+0.4
MCHZ				S	Sn	08 07 52.3	+0.6
KWHZ	**Kaweka Forest**	**0.17**	**304**	P	Pn	08 07 45.0	+0.1
KWHZ				S	Sn	08 07 52.1	-0.2
KRHZ	**Kereru**	**0.22**	**235**	P	Pn	08 07 45.2	+0.2
KRHZ				S	Sn	08 07 52.7	0.0
KAHZ	**Kahuranaki**	**0.35**	**143**	P	Pn	08 07 46.5	+0.5
KAHZ				S	Sn	08 07 54.8	+0.7
BKZ	**Black Stump Fm**	**0.36**	**346**	P	Pn	08 07 46.3	+0.2
BKZ				S	Sn	08 07 54.3	-0.1
CKHZ	**Cape Kidnapper**	**0.39**	**111**	P	Pn	08 07 46.6	+0.4
ARHZ	**Aropaoanui**	**0.40**	**50**	P	Pn	08 07 46.5	+0.3
BHHZ	**Black Hill Sta**	**0.42**	**274**	P	Pn	08 07 47.1	+0.6
BHHZ				S	Sn	08 07 55.4	+0.2
NMHZ	**Naumai**	**0.45**	**20**	P	Pn	08 07 47.3	+0.5
NMHZ				S	Sn	08 07 56.4	+0.7
PNHZ	**Pukenui**	**0.50**	**218**	P	Pn	08 07 47.7	+0.4
PNHZ				S	Sn	08 07 57.4	+0.9
PXZ	**Pawanui**	**0.55**	**159**	P	Pn	08 07 48.1	+0.4
PXZ				S	Sn	08 07 57.7	+0.5
WPHZ	**Waipukurau**	**0.56**	**193**	P	Pn	08 07 48.2	+0.4
WHHZ	**Waihua**	**0.66**	**48**	P	Pn	08 07 49.3	+0.4
WHHZ				S	Sn	08 08 00.2	+0.9
MTHZ	**Maungataniwha**	**0.69**	**15**	P	Pn	08 07 49.5	+0.2
MRHZ	**Matea Rd**	**0.70**	**348**	P	Pn	08 07 50.2	+0.7
RAHZ	**Arahi**	**0.71**	**32**	P	Pn	08 07 49.8	+0.3
TSZ	**Takapari Road**	**0.73**	**222**	P	Pn	08 07 50.1	+0.4
PRHZ	**Porangahau**	**0.75**	**178**	P	Pn	08 07 50.2	+0.3
TUVZ	**Tukino**	**0.78**	**288**	P	Pn	08 07 52.4	+2.0
RITZ	**Rihia Road**	**0.79**	**313**	P	Pn	08 07 51.8	+1.3
WHVZ	**Whangaehu Hut**	**0.82**	**286**	P	Pn	08 07 52.3	+1.3
TRVZ	**Turoa**	**0.85**	**285**	P	Pn	08 07 53.1	+1.8
DVHZ	**Dannevirke**	**0.85**	**203**	P	Pn	08 07 51.2	+0.1
NGZ	**Ngauruhoe**	**0.85**	**293**	P	Pn	08 07 52.7	+1.4
FWVZ	**Far West T-bar**	**0.86**	**288**	P	Pn	08 07 52.6	+1.1
KRVZ	**Karewarewa**	**0.86**	**299**	P	Pn	08 07 52.6	+1.2
KRVZ				P	Pn	08 07 52.6	+1.2
COVZ	**Chateau Observ**	**0.88**	**291**	P	Pn	08 07 52.9	+1.2
WTVZ	**West Tongariro**	**0.89**	**297**	P	Pn	08 07 53.0	+1.3
KATZ	**Kakaramea**	**0.89**	**307**	P	Pn	08 07 52.9	+1.1
SNGZ	**Shannon Statio**	**0.93**	**38**	P	Pn	08 07 52.3	+0.1
ANWZ	**Angora Road**	**0.94**	**186**	P	Pn	08 07 52.6	+0.3
RTZ	**Ruatahuna**	**0.95**	**18**	P	Pn	08 07 52.7	+0.2
KNZ	**Kokohu**	**0.97**	**59**	P	Pn	08 07 52.4	-0.2
WHTZ	**Whakaora**	**0.99**	**329**	P	Pn	08 07 54.0	+1.1
TWVZ	**Taurewa**	**1.01**	**296**	P	Pn	08 07 54.1	+0.8
PRRZ	**Plateau Road**	**1.03**	**351**	P	Pn	08 07 54.2	+0.8
MUGZ	**Murupara**	**1.05**	**7**	P	Pn	08 07 53.8	+0.1
MHGZ	**Mahia Peninsul**	**1.07**	**71**	P	Pn	08 07 54.1	+0.2
POWZ	**Post Office Ro**	**1.08**	**216**	P	Pn	08 07 54.4	+0.3
PRWZ	**Pori Road**	**1.14**	**205**	P	Pn	08 07 55.2	+0.3
HRRZ	**Handcock Road**	**1.15**	**347**	P	Pn	08 07 56.0	+0.9
PRGZ	**Paritu Road**	**1.16**	**59**	P	Pn	08 07 55.0	-0.1
RRRZ	**Republican Roa**	**1.18**	**357**	P	Pn	08 07 55.6	+0.2
BFZ	**Birch Farm**	**1.19**	**193**	P	Pn	08 07 55.4	-0.1
KUTZ	**Kaahu Road**	**1.20**	**329**	P	Pn	08 07 56.5	+0.9
RAGZ	**Rawiri**	**1.20**	**32**	P	Pn	08 07 55.6	0.0
OHWZ	**Ohakea**	**1.21**	**235**	P	Pn	08 07 57.2	+1.5
RIGZ	**Rimuhau**	**1.21**	**48**	P	Pn	08 07 55.7	-0.1
HSRZ	**Hossack Road**	**1.24**	**347**	P	Pn	08 07 56.8	+0.7
WAZ	**Wanganui**	**1.27**	**259**	P	Pn	08 07 58.7	+2.2
TARZ	**Mount Tarawera**	**1.28**	**357**	P	Pn	08 07 57.3	+0.5
URZ	**Urewera**	**1.32**	**18**	P	Pn	08 07 56.7	-0.4
TIWZ	**Tintock**	**1.37**	**203**	P	Pn	08 07 57.9	0.0
MWZ	**Matawai**	**1.39**	**32**	P	Pn	08 07 57.8	-0.3
MRZ	**Mangatainoka R**	**1.39**	**214**	P	Pn	08 07 57.9	-0.1
EDRZ	**Edgecumbe**	**1.41**	**4**	P	Pn	08 07 58.5	0.0
CPWZ	**Castlepoint**	**1.42**	**192**	P	Pn	08 07 58.8	+0.3
TKGZ	**Te Karaka**	**1.45**	**42**	P	Pn	08 07 58.6	-0.3
VRZ	**Vera Road**	**1.48**	**285**	P	Pn	08 08 00.7	+1.4
HOWZ	**Holdsworth Sta**	**1.61**	**211**	P	Pn	08 08 00.4	-0.6
CNGZ	**Carnagh Statio**	**1.62**	**51**	P	Pn	08 08 00.8	-0.3
TMWZ	**Te Maipa**	**1.68**	**199**	P	Pn	08 08 01.3	-0.7
HIZ	**Hauiti**	**1.69**	**306**	P	Pn	08 08 03.3	+1.2
OGWZ	**Otaki Gorge**	**1.70**	**220**	P	Pn	08 08 01.9	-0.3
LREZ	**Lake Rotokare**	**1.71**	**271**	P	Pn	08 08 04.6	+2.3
TWGZ	**Tauwhareparae**	**1.72**	**39**	P	Pn	08 08 02.4	-0.1
RUGZ	**Raukumara Rang**	**1.76**	**29**	P	Pn	08 08 02.8	-0.4
MTW	**Mount Morrison**	**1.84**	**207**	P	Pn	08 08 03.0	-1.1
KIW	**Kapiti Island**	**1.87**	**224**	P	Pn	08 08 04.2	-0.2
PUZ	**Puketiti**	**1.94**	**42**	P	Pn	08 08 04.6	-0.9
CAW	**Cannon Point**	**1.98**	**216**	P	Pn	08 08 05.0	-0.9
TOZ	**Tahuroa Road**	**1.98**	**334**	P	Pn	08 08 06.7	+0.7
HAZ	**Te Kaha**	**1.99**	**28**	P	Pn	08 08 04.9	-1.2
PKGZ	**Pakihiroa**	**1.99**	**36**	P	Pn	08 08 05.9	-0.3
TRWZ	**Traveller**	**2.00**	**200**	P	Pn	08 08 05.2	-1.1
KHEZ	**Kahui Hut**	**2.02**	**276**	P	Pn	08 08 09.8	+3.2
PKE	**Pukeiti**	**2.06**	**278**	P	Pn	08 08 09.9	+2.9
PAWZ	**Paruwai Farm**	**2.07**	**205**	P	Pn	08 08 05.9	-1.3
NMEZ	**Namu Road**	**2.11**	**272**	P	Pn	08 08 09.9	+2.2
NBEZ	**Newall Road No**	**2.14**	**276**	P	Pn	08 08 10.6	+2.5
NBEZ				P	Pn	08 08 10.6	+2.5
MSWZ	**Moikau Station**	**2.16**	**208**	P	Pn	08 08 06.8	-1.6
WMGZ	**Waiomatatini S**	**2.21**	**40**	P	Pn	08 08 08.3	-0.8
PLWZ	**Palliser**	**2.29**	**206**	P	Pn	08 08 08.5	-1.8
BHW	**Baring Head**	**2.31**	**214**	P	Pn	08 08 08.8	-1.5
MXZ	**Matakaoa Point**	**2.37**	**35**	P	Pn	08 08 10.9	-0.3
DUWZ	**D'Urville Isla**	**2.42**	**237**	P	Pn	08 08 11.5	-0.5
TCW	**Tory Channel**	**2.45**	**226**	P	Pn	08 08 11.3	-1.0
MKAZ	**Moumakai**	**2.67**	**334**	P	Pn	08 08 16.3	+1.1
KBAZ	**Karaka Road Bo**	**2.77**	**330**	P	Pn	08 08 18.1	+1.5
ETAZ	**East Tamaki Re**	**2.88**	**332**	P	Pn	08 08 19.5	+1.3
AWAZ	**Awhitu Peninsu**	**2.90**	**327**	P	Pn	08 08 20.0	+1.6
NNZ	**Nelson**	**2.99**	**234**	P	Pn	08 08 18.8	-0.9
BSWZ	**Blackbirch Sta**	**3.02**	**223**	P	Pn	08 08 18.5	-1.6
WTAZ	**Waiatarua**	**3.04**	**328**	P	Pn	08 08 21.9	+1.5
QRZ	**Quartz Range**	**3.38**	**246**	P	Pn	08 08 24.1	-1.0
THZ	**Tophouse**	**3.60**	**230**	P	Pn	08 08 26.9	-1.1
KHZ	**Kahutara**	**3.71**	**218**	P	Pn	08 08 26.8	-2.6
CTZ	**Chatham Island**	**6.60**	**132**	P	Pn	08 09 09.1	+0.2

IDC 02 08:18:13.8±1.9**, 17°.60S**×**69°.38W, h168**^{km}±14^{km}**, mb3.4**/3**, mb1 3.4**/4**, mb1mx3.1**/29**, mbtmp3.8**/4**, Error ellipse: s-maj=44.8km s-min=15.4km az=99.0, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.77**	**43**	P	Pn	08 18 48.0	-0.2
	22nm,0.3s,baz=250,slow=6.3,SNR=595						
LPAZ				LR	LR	08 19 48.2	
	comp=Z,40nm,19.8s,baz=56,slow=53						
LVC	**Limon Verde**	**5.00**	**175**	P	Pn	08 19 29.5	+1.7
	1.2nm,0.3s,baz=34,slow=9.6,SNR=22						
LVC				S	Sn	08 20 25.3	-0.6
	2.7nm,0.3s,baz=171,slow=20,SNR=13						
DBIC	**Dimbokro**	**68.11**	**75**	P	P	08 28 56.8	+0.8
	1.6nm,0.7s,baz=233,slow=10,SNR=2.0						
TORD	**Torodi Ar. Bea**	**76.50**	**71**	P	P	08 29 45.2	-0.5
	0.7nm,0.7s,baz=252,slow=5.2,SNR=4.7						
YKA	**Yellowknife Ar**	**87.38**	**341**	P	P	08 30 41.2	-0.2
	0.2nm,0.5s,baz=134,slow=4.7,SNR=8.9						

*ISCJB **02** 08:19:24.8±0.4, 17°.46S±0°.09×177°.03W±0°.09, h10^{km}, mb4.5/27, MS4.4/19, Error ellipse: s-maj=16.0km s-min=8.7km az=138.1*

*IDC **02** 08:19:24.6±0.7, 17°.36S×176°.91W, h0^{km}, mb4.2/14, mb1 4.4/14, mb1mx4.2/50, mbtmp4.2/14, MS4.4/22, Ms1 4.4/22, ms1mx4.3/27, Error ellipse: s-maj=31.3km s-min=16.1km az=148.0*

*GCMT **02** 08:19:29.7±0.1, 17°.52S±0°.01×176°.57W±0°.01, h16^{km}, MW5.2/113, Moment Tensor Solution. s74,c105; s113,c179; Duration: 1^{s}0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.08±.01; $M_{\theta\theta}$-0.65±.01; $M_{\phi\phi}$0.73±.01; $M_{r\theta}$0.08±.04; $M_{\theta\phi}$0.26±.01; $M_{\phi r}$0.29±.04; Best double couple: $M_0$0.78500×10^{17} NP1:ϕ_s56.00000°, δ80.00000°, λ14.00000°. NP2:ϕ_s324.00000°, δ76.00000°, λ169.00000°. Principal axes: T 0.8700, Plg17.0000°, Azm280.0000°; N -0.1700, Plg72.0000°, Azm92.0000°; P -0.7000, Plg2.0000°, Azm190.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **02** 08:19:32.7±5.0, 17°.39S×177°.09W, h58^{km}±44^{km}, mb4.7/19 Error ellipse: s-maj=16.6km s-min=12.2km az=146.0*

ISC 02 08:19:27.5±0.5**, 17°.6S**±0°.1×**176°.8W**±0°.2**, h10**^{km}**, n99,** σ1^s**74**/60**, mb4.6**/27**, MS4.4**/19**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**11.62**	**185**	LR	LR	08 26 05.3	
	comp=Z,5µm,20.5s,baz=30,slow=34						
DZM	**Mont Dzumac**	**16.39**	**252**	LR	LR	08 28 28.0	
	comp=Z,4µm,20.3s,baz=64,slow=33						
DZM	**Mont Dzumac**	**16.39**	**252**	*e*LQ	LQ	08 26 35.4	
	10µm,26.9s						
DZM				*e*LR	LR	08 27 18.2	
	comp=Z,5µm,24.8s						
RAR	**Rarotonga**	**16.43**	**105**	LR	LR	08 28 04.0	
	comp=Z,2µm,20.2s,baz=275,slow=31						
OUZ	**Omahuta**	**19.51**	**204**	*e*P	**P**	**08 23 56.4**	**+1.4**
	20nm,0.9s						
HNR	**Honiara**	**24.03**	**287**	LR	LR	08 32 39.2	
	comp=Z,2µm,19.3s,baz=115,slow=33						
PAE	**Paea**	**25.91**	**94**	*e*T	T	08 51 19.0	
	1.7nm,0.2s						
PPT2	**Papeete2**	**25.92**	**94**	*e*LQ	LQ	08 30 09.0	
	793nm,26.2s						
PPT2				*e*LR	LR	08 31 17.3	
	comp=Z,5µm,27.5s						
PPT2	**Papeete2**	**25.92**	**94**	*e*T	T	08 51 20.6	
	2.9nm,0.4s						
PPT	**Papeete**	**25.92**	**94**	LR	LR	08 32 24.2	
	comp=Z,1µm,19.8s,baz=244,slow=30						
TBI	**Tubuai**	**26.19**	**107**	*e*LQ	LQ	08 30 16.4	
	1µm,27.5s						
TBI				*e*LR	LR	08 31 32.5	
	comp=Z,4µm,29.2s						
TBI	**Tubuai**	**26.19**	**107**	*e*T	T	08 51 44.9	
	5.5nm,0.3s						
TVO	**Taravao**	**26.22**	**95**	*e*T	T	08 51 42.0	
	1.1nm,0.3s						
CTA	**Charters Tower**	**35.02**	**260**	P	P	08 26 18.4	-2.3
	3.9nm,0.7s,baz=103,slow=13,SNR=3.6						
CTAO	**Charters Tower**	**35.02**	**260**	*e*P	P	08 26 18.9	-1.8
	12nm,0.9s						
PMG	**Port Moresby**	**35.95**	**278**	LR	LR	08 39 05.7	
	comp=Z,611nm,19.0s,baz=84,slow=33						
RKT	**Rikitea**	**39.47**	**105**	*e*LR	LR	08 37 32.6	
	comp=Z,3µm,28.8s						
STKA	**Stephens Creek**	**40.13**	**241**	P	P	08 27 03.0	-0.8
	4.1nm,0.7s,baz=87,slow=12,SNR=11						
STKA				LR	LR	08 42 28.1	
	comp=Z,341nm,18.1s,baz=69,slow=34						
STKA	**Stephens Creek**	**40.13**	**241**	*e*P	**P**	**08 27 03.1**	**-0.7**
	1.9nm,0.9s						
WB2	**Warramunga Arr**	**46.20**	**259**	*e*P	P	08 27 50.4	-2.7
WR1	**Warramunga Arr**	**46.21**	**259**	*e*P	P	08 27 50.1	-3.1
	8.2nm,0.9s						
WRA	**Warramunga Arr**	**46.21**	**259**	P	P	08 27 50.1	-3.1
	2.0nm,0.7s,baz=94,slow=6.3,SNR=15						
WRA				LR	LR	08 46 43.2	
	comp=Z,926nm,18.0s,baz=105,slow=36						
AS01	**Alice Springs**	**46.32**	**254**	*e*P	P	08 27 50.2	-3.8
AS31	**Alice Springs**	**46.36**	**254**	*e*P	P	08 27 49.8	-4.5
	4.7nm,0.7s						
ASAR	**Alice Springs**	**46.36**	**254**	P	P	08 27 52.5	-1.8
	4.3nm,0.7s,baz=89,slow=8.2,SNR=18						
ASAR				LR	LR	08 46 38.3	
	comp=Z,444nm,18.9s,baz=98,slow=35						
SIJI	**Sorong**	**53.69**	**282**	P	P	08 28 47.7	-2.3
	22nm,0.8s,baz=89,slow=8.0,SNR=6.8						
FITZ	**Fitzroy Crossi**	**54.61**	**260**	P	P	08 28 54.1	-2.6
	2.7nm,0.8s,baz=60,slow=8.1,SNR=3.4						
FITZ	**Fitzroy Crossi**	**54.61**	**260**	*e*P	**P**	**08 28 58.9**	**+2.1**
	9.4nm,1.1s						
VNDA	**Vanda**	**60.86**	**185**	P	**P**	**08 29 39.8**	**0.0**
	2.1nm,1.0s,baz=36,slow=8.3,SNR=5.3						
VNDA				LR	LR	08 54 26.3	
	comp=Z,197nm,18.3s,baz=23,slow=34						
VNDA	**Vanda**	**60.86**	**185**	*e*P	**P**	**08 29 40.3**	**+0.5**
	4.9nm,1.0s						
QSPA	**South Pole Qui**	**72.43**	**180**	*e*P	**P**	**08 30 53.7**	**-0.3**
	20nm,1.0s						
PETK	**Petropavlovsk-**	**73.81**	**344**	LR	LR	08 59 11.5	
	comp=Z,184nm,19.1s,baz=149,slow=32						
GDXM	**Geysers**	**75.50**	**41**	*e*P	**P**	**08 31 11.8**	**-0.5**
	17nm,1.1s						
KSRS	**Korea Array**	**75.53**	**317**	LR	LR	08 57 38.1	
	comp=Z,61nm,20.4s,baz=120,slow=30						
USRK	**Ussuriysk Ar.**	**77.27**	**325**	LR	LR	09 00 47.8	
	comp=Z,94nm,19.6s,baz=115,slow=32						
YBH	**Yreka Blue Hor**	**77.33**	**38**	P	**P**	**08 31 21.2**	**-1.4**
	1.2nm,0.9s,baz=170,slow=6.1,SNR=2.8						
NV01	**Mina Array Sit**	**78.15**	**43**	*e*P	**P**	**08 31 25.2**	**-2.2**
NVAR	**Mina Array Bea**	**78.15**	**43**	P	**P**	**08 31 26.9**	**-0.5**
	1.5nm,0.8s,baz=224,slow=5.0,SNR=5.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NVAR				LR	LR	08 58 54.9	
	comp=Z,192nm,19.6s,baz=240,slow=30						
TMUT	Trail Mountain	83.33	45	eP	P	08 31 58.5	+3.3
	3.4nm,0.9s						
TCUT	Toone Canyon	84.08	44	eP	P	08 31 57.5	-1.5
	10nm,1.0s						
PV14	Lion Creek, Pa	84.39	47	eP	P	08 32 00.4	-0.2
	7.2nm,1.0s						
PV23	Carpenter Ridg	84.44	47	eP	P	08 32 01.0	+0.1
	6.0nm,0.8s						
TXAR	Lajitas Array	84.53	57	LR	LR	09 01 54.1	
	comp=Z,151nm,20.2s,baz=0.0,slow=30						
MAW	Mawson	84.65	199	LR	LR	09 07 19.5	
	comp=Z,489nm,20.1s,baz=119,slow=34						
WRH	Wood River Hil	84.76	12	eP	P	08 32 02.7	+1.2
	9.8nm,1.2s						
HDA	Harding Lake	84.94	13	eP	P	08 31 59.8	-2.6
	6.5nm,0.8s						
IM3	Indian Mountai	85.14	9	eP	P	08 32 01.2	-2.2
COLA	College	85.17	12	eP	P	08 32 01.4	-2.2
	14nm,0.8s						
MDM	Murphy Dome	85.17	12	eP	P	08 32 02.4	-1.2
	12nm,1.1s						
ILAR	Eielson Array	85.27	12	P	P	08 32 00.6	-3.6
	3.5nm,0.9s,baz=220,slow=6.1,SNR=18						
ILAR				LR	LR	09 01 13.0	
	comp=Z,357nm,21.9s,baz=218,slow=30						
ILB	Eielson Array	85.27	12	eP	P	08 32 02.2	-1.9
PSI	Prapat	85.41	274	P	P	08 32 04.7	-1.4
	3.9nm,0.8s,baz=180,slow=15,SNR=1.9						
PSI	Prapat	85.41	274	eP	P	08 32 01.2	-4.9
	7.7nm,1.0s						
PDAR	Pinedale Array	86.08	43	P	P	08 32 06.6	-2.4
	0.3nm,0.4s,baz=328,slow=2.4,SNR=4.4						
PDAR				LR	LR	09 05 11.0	
	comp=Z,134nm,18.8s,baz=248,slow=32						
PRP	Porcupine Dome	86.21	13	eP	P	08 32 08.6	-0.4
	3.3nm,0.9s						
HRY	Holter Researc	86.59	39	eP	P	08 32 15.1	+3.9
CMAR	Chiang Mai Arr	90.25	289	P	P	08 32 28.3	-0.8
	0.8nm,0.3s,baz=119,slow=3.1,SNR=10						
CMAR				LR	LR	09 09 22.3	
	comp=Z,63nm,21.4s,baz=114,slow=33						
PLCA	Paso Flores	90.40	133	LR	LR	09 08 03.8	
	comp=Z,104nm,18.1s,baz=272,slow=32						
VNA3	Neumayer Olymp	90.92	176	P	P	08 32 29.8	-1.5
VNA2	Neumayer--Watz	91.37	177	P	P	08 32 32.1	-1.3
	baz=176,slow=3.5						
VNA1	Neumayer--Stat	91.59	176	P	P	08 32 33.9	-0.4
YKA	Yellowknife Ar	93.43	24	P	P	08 32 39.1	-3.7
	0.6nm,1.0s,baz=245,slow=4.6,SNR=4.7						
YKA				LR	LR	09 06 54.5	
	comp=Z,34nm,22.0s,baz=250,slow=31						
YKB5	Yellowknife Ar	93.43	24	eP	P	08 32 39.1	-3.7
ULM	Lac du Bonnet	97.70	40	LR	LR	09 11 09.5	
	comp=Z,363nm,19.9s,baz=267,slow=32						
OJC	Ojcow	144.86	341	ePKP	PKPbc	08 39 06.3	+2.4
BUR04	Bucovina Ar. S	145.07	334	ePKPdf	PKPbc	08 39 04.9	+0.1
KSP	Ksiaz	145.25	345	ePKP	PKPbc	08 39 07.1	+2.0
NIE	Niedzica	145.41	340	ePKP	PKPbc	08 39 02.8	-2.9
CLL	Collm	145.50	349	ePKiKP	PKPbc	08 39 07.0	+1.1
	comp=Z,8.0nm,0.9s						
UPC	Upice	145.63	345	ex	x	08 40 55.7	
BR101	Keskin Array S	145.67	316	ePKPbc	PKPdf	08 39 03.4	-3.4
BRTR	Keskin Array B	145.67	316	PKPbc	PKPdf	08 39 03.4	-3.4
	comp=Z,2.2nm,0.9s,baz=349,slow=1.5,SNR=5.9						
DPC	Dobruska-Polom	145.70	345	ePKP	PKPdf	08 39 04.8	-1.5
DPC				ex	x	08 40 55.5	
BRG	Berggiesshubel	145.74	348	ePKP	PKPab	08 39 09.2	+2.2
	comp=Z,18nm,1.5s						
KRLC	Kraliky	145.84	344	ePKP	PKPdf	08 39 05.9	-0.7
LANS	Liptovska Anna	145.91	341	ePKP	PKPdf	08 39 06.5	-0.2
LANS				e		08 39 10.5	
MORC	Moravsky Berou	145.91	343	ePKPdf	PKPdf	08 39 06.0	-0.7
MORC	Moravsky Berou	145.91	343	ePKP	PKPdf	08 39 05.9	-0.8
MORC				e		08 39 09.7	
PVCC	Panska Ves	145.94	347	ePKP	PKPdf	08 39 06.1	-0.6
PRU	Pruhonice	146.45	347	ePKP		08 40 59.4	
VYHS	Vyhne	146.68	341	ePKP	PKPdf	08 39 09.0	+1.0
VYHS				e		08 39 11.9	
MODS	Modra-Piesok	147.25	343	ePKP	PKPdf	08 39 11.7	+2.7
GRF	Grafenberg Arr	147.37	350	ePKP	PKPdf	08 39 09.9	+0.8
	baz=14,slow=2.0						
KHC	Kasperske Hory	147.47	347	ePKP	PKPdf	08 39 09.3	0.0
KHC				ex	x	08 41 01.4	
GEC2	GERESS Array S	147.71	347	ePKPbc	PKPdf	08 39 10.0	+0.2
GERES	GERESS Array B	147.71	347	PKPbc	PKPdf	08 39 10.0	+0.2
	comp=Z,2.1nm,0.9s,baz=22,slow=5.4,SNR=3.6						
CONA	Conrad Observa	148.05	344	i PKiKP	PKPbc	08 39 15.6	+2.1
	comp=Z,18nm,1.8s						
MOA	Molln	148.52	346	i PKPab	PKPbc	08 39 16.1	+1.4
	comp=Z,9.5nm,1.4s						
MORH	Mrgy, Hungar	148.75	339	ePKPdf	PKPbc	08 39 16.1	+0.8
ARSA	Arzberg	148.76	344	i PKPab	PKPbc	08 39 17.0	+1.6
	comp=Z,4.7nm,1.2s						
SOKA	Soboth	149.42	344	i PKPab	PKPbc	08 39 19.4	+2.3
	comp=Z,8.2nm,1.5s						
SQTA	Sankt Quirin	149.76	349	i PKPab	PKiKP	08 39 20.7	+1.8
	comp=Z,12nm,1.4s						
MYKA	Terra Mystica	149.82	346	i PKPab	PKPbc	08 39 20.1	+2.0
	comp=Z,8.1nm,1.4s						
DAVA	Damuels	149.91	351	i PKPab	PKiKP	08 39 21.7	+2.4
	comp=Z,16nm,1.6s						
ABTA	Abfaltersbach	149.96	347	i PKPab	PKPbc	08 39 19.3	+0.9
	comp=Z,11nm,1.3s						
FETA	Feichten	150.04	350	i PKiKP	PKPbc	08 39 18.3	-0.3
	comp=Z,12nm,1.3s						
FUORN	Ofenpass-Fuorn	150.50	350	ePKPbc	PKPdf	08 39 17.8	+3.2
TORD	Torodi Ar. Bea	175.31	161	PKPab	PKPab	08 41 14.4	-0.4
	comp=Z,1.8nm,1.0s,baz=194,slow=3.7,SNR=6.9						
TOA1	Torodi Ar. Sit	175.32	161	ePKPab	PKPab	08 41 14.4	-0.4

*IDC **02** 08:21:23.1±1.6, 19°.11S×167°.40E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/49, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=49.9km s-min=27.7km az=118.0*

ISC 02 08:21:24.6±1.3**, 19°.3S**±0°.1×**167°.4E**±0°.3**, h10**km**, n7, σ0s.82**/8**, mb3.8**/3**, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.96	198	Pn	Pn	08 22 12.7	+1.0
	14nm,0.3s,baz=38,slow=17,SNR=43						
DZM				Sn	Sb	08 22 52.8	-1.0
	26nm,0.3s,baz=127,slow=20,SNR=6.7						
WRA	Warramunga Arr	31.16	263	P	P	08 27 44.1	+0.2
	0.2nm,0.7s,baz=92,slow=7.3,SNR=2.1						
ASAR	Alice Springs	31.47	256	P	P	08 27 46.4	-0.3
	1.1nm,0.7s,baz=87,slow=8.4,SNR=8.1						
ILAR	Eielson Array	90.75	18	P	P	08 34 26.9	-0.5
	0.4nm,0.7s,baz=226,slow=6.2,SNR=2.6						
ARCES	ARCESS Array B	124.63	345	PKP	PKiKP	08 40 23.4	-0.7
	1.8nm,0.7s,baz=60,slow=2.5,SNR=5.6						
BRG	Berggiesshubel	142.11	333	i PKP	PKPdf	08 40 57.3	+0.3
	6.5nm,0.8s						
GERES	GERESS Array B	143.67	330	PKP	PKPdf	08 41 00.7	+0.7
	0.8nm,0.6s,baz=20,slow=3.1,SNR=13						

SJA 02 08:24:01.1±0.8**, 31°.41S×64°.90W, h40**km±12km**, ML3.0, MW3.5, Cordoba Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TCA	Tanti	0.27	75	eP	Pn	08 24 10.2	+1.0
TCA				eS	Sn	08 24 16.2	+1.3
TCA				IAML		08 24 17.5	
	comp=Z,154nm,0.5s						
MRA	San Martin	1.22	214	eP	Pn	08 24 22.9	+1.0
MRA				IAML		08 24 41.7	
	comp=Z,445nm,0.3s						
APLL	PUNTA DE LOS L	1.73	305	eP	Pn	08 24 30.2	+1.5
APLL				eS	Sn	08 24 52.1	+2.5
APLL				IAML		08 24 52.7	
	comp=Z,140nm,0.2s						
ACAN	Cantantal	2.13	246	eP	Pn	08 24 36.3	+2.0
ACLC	CERRO LA CRUZ	2.66	318	eP	Pn	08 24 43.5	+1.9
CFA	Coronel Fontan	2.86	265	eP	Pn	08 24 45.8	+1.5
CYA	Choya	3.06	345	eP	Pn	08 24 49.5	+2.5
RTLL	Cerro Villicun	3.06	271	eP	Pn	08 24 49.4	+2.4
AMOG	MOGNA	3.12	278	eP	Pn	08 24 50.3	+2.5
RTCV	Cerro Valdivia	3.14	261	eP	Pn	08 24 50.1	+2.0
ZON	Zonda	3.23	267	eP	Pn	08 24 51.1	+1.8
ASAL	Salagasta	3.54	250	eP	Pn	08 24 56.8	+3.1
AGUA	GUANDACOL	3.65	301	eP	Pn	08 24 57.2	+2.0
ACCO	Cerro Coronel	3.67	282	eP	Pn	08 24 59.1	+3.5
ARCO	CERRO ARCO	3.71	246	eP	Pn	08 25 05.2	+9.2
ARCO				IAML		08 25 58.6	
	comp=Z,68nm,0.3s						
AAGR	Agrelo	3.72	242	eP	Pn	08 25 05.4	+9.2
RTLS	Leoncito	3.77	263	eP	Pn	08 25 00.6	+3.6
RTLS				IAML		08 25 54.3	
	comp=Z,30nm,0.3s						
AUSP	Uspallata	3.91	257	eP	Pn	08 25 01.5	+2.7
AROD	Rodeo	4.12	286	eP	Pn	08 25 05.3	+3.4
RFA	San Rafael	4.49	221	eP	Pn	08 25 10.1	+3.3
LCO	Las Campanas	5.56	294	eP	Pn	08 25 24.6	+3.0

*ISCJB **02** 08:33:58.9±0.4, 57°.22N±0°.05×156°.80W±0°.08, h108km±5km, mb3.3/4, Error ellipse: s-maj=10.2km s-min=4.1km az=140.7*
*NEIC **02** 08:34:01.5±0.0, 57°.13N×156°.74W, h92km, ML3.2(AEIC), After AEIC.*
*IDC **02** 08:34:01.7±3.6, 57°.51N×156°.66W, h104km±28km, mb3.0/4, mb1 3.5/7, mb1mx3.1/48, mbtmp3.5/7, Error ellipse: s-maj=36.0km s-min=21.8km az=42.0*

ISC 02 08:34:00.1±0.9**, 57°.23N**±0°.06×**156°.74W**±0°.06**, h100**km±9km**, n42, σ1s.40**/52**, mb3.3**/4**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANNE	Aniakchak Nort	0.79	247	P	Pn	08 34 17.8	-0.5
ANNW	Aniakchak Nort	0.85	252	P	Pn	08 34 19.1	+0.1
ANPK	Aniakchak Peak	0.85	243	P	Pn	08 34 18.6	-0.5
ANPB	Aniakchak Plen	0.94	244	P	Pn	08 34 19.4	-0.5
CAHL	Cahill	1.13	43	P	Pn	08 34 22.9	+0.9
CNTC	Contact Creek	1.14	24	P	Pn	08 34 22.8	+0.7
CHGN	Chignik	1.31	225	P	Pn	08 34 23.2	-0.8
CHGN				S	Sn	08 34 40.2	-1.9
KABR	Katmai Barrier	1.31	46	P	Pn	08 34 25.0	+0.9
KABR				S	Sn	08 34 43.2	+0.9
KBM	Katmai Bkd Mtn	1.33	38	P	Pn	08 34 25.6	+1.2
KVTA	Katmai Vly 10	1.39	33	P	Pn	08 34 26.1	+1.1
VNHG	Veniaminof 1	1.68	234	P	Pn	08 34 28.3	-0.3
VNSS	Veniaminof 8	1.80	237	P	Pn	08 34 29.8	-0.6
OHAK	Old Harbor	1.88	89	P	Pn	08 34 31.4	+0.3
OHAK				S	Sn	08 34 54.3	-0.4
KDAK	Kodiak Island	2.31	74	P	Pn	08 34 37.3	+0.6
	8.7nm,0.3s,baz=212,slow=2.8,SNR=214						
KDAK				S	Sn	08 35 04.7	0.0
	7.9nm,0.3s,baz=164,slow=24,SNR=4.3						
KDAK	Kodiak Island	2.31	74	ePn	Pn	08 34 37.1	+0.5
KDAK				eSn	Sn	08 35 06.1	+1.4
SDPT	Sand Point	2.81	229	P	Pn	08 34 42.5	-0.8
SDPT				S	Sn	08 35 13.9	-2.5
ILS	Iliamna Low So	3.34	34	P	Pn	08 34 51.6	+1.2
ILW	Iliamna West	3.41	32	P	Pn	08 34 52.8	+1.4
HOM	Homer	3.62	46	P	Pn	08 34 52.9	-1.1
CNPM	China Poot	3.70	49	P	Pn	08 34 55.9	+0.7
DT1	Dutton Round H	3.76	238	P	Pn	08 34 55.2	-0.8
RDWB	Redoubt West	3.84	30	P	Pn	08 34 58.0	+0.7
SVW2	Sparrevohn	3.92	8	P	Pn	08 34 58.7	+0.5
BRLK	Bradley Lake	3.99	48	P	Pn	08 34 58.9	-0.2
BRLK				S	Sn	08 35 43.5	-1.3
CKL	Chakachamna La	4.58	28	P	Pn	08 35 08.6	+1.5
SEW	Seward	4.77	50	P	Pn	08 35 10.1	+0.5
SUA	Susitna One	5.24	33	P	Pn	08 35 16.7	+0.7
SUA				S	Sn	08 36 14.2	-0.9
RC01	Rabbit Creek A	5.29	40	P	Pn	08 35 16.8	+0.2
SKT	Skwentna	5.45	27	P	Pn	08 35 19.8	+1.0
PWL	Port Wells	5.66	47	P	Pn	08 35 21.3	-0.4
TT01	Tatalina	5.71	3	P	Pn	08 35 22.9	+0.6
CAST	Castle Rocks	6.62	18	P	Pn	08 35 35.6	+0.8
SCM	Sheep Creek Mo	6.65	42	P	Pn	08 35 35.6	+0.5
TRF	Thorofare Moun	7.01	24	P	Pn	08 35 40.3	+0.2
RND	Reindeer	7.32	29	P	Pn	08 35 44.6	+0.3
BPAW	Bear Paw Mtn.	7.45	20	P	Pn	08 35 45.9	0.0
ILAR	Eielson Array	8.94	28	P	Pn	08 36 04.0	-2.2
	0.9nm,0.3s,baz=215,slow=13,SNR=98						
ILAR				S	Sn	08 37 39.5	-5.4
	0.3nm,0.3s,baz=212,slow=25,SNR=6.3						
INK	Inuvik	15.24	34	P	Pn	08 37 26.9	-2.5
	0.3nm,0.3s,baz=215,slow=11,SNR=15						
INK				S	Sn	08 40 21.1	+3.8
	0.0nm,0.3s,baz=272,slow=28,SNR=6.0						
YKA	Yellowknife Ar	21.49	58	P	P	08 38 40.4	+0.1
	0.5nm,0.4s,baz=273,slow=9.5,SNR=29						
NVAR	Mina Array Bea	31.35	110	P	P	08 40 12.9	+1.7
	0.5nm,0.7s,baz=316,slow=7.7,SNR=2.4						
PDAR	Pinedale Array	32.87	96	P	P	08 40 25.5	+1.1
	0.1nm,0.3s,baz=320,slow=4.0,SNR=4.2						
SONM	Songino Array	54.80	305	P	P	08 43 19.4	0.0
	0.3nm,0.7s,baz=29,slow=3.3,SNR=1.7						

JMA 02 09:00:41.4±0.1**, 38°.50N×142°.00E, h39**km±1km**, M3.5, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.46	246	P	Pn	09 00 51.4	-0.1
JIKH				S	Sn	09 00 58.2	-0.4
JIO	Ouri	0.51	265	P	Pn	09 00 52.1	-0.2
JIO				S	Sn	09 00 59.3	-0.6
JKMT	Kesennumamotoy	0.52	307	P	Pn	09 00 52.3	0.0
JKMT				S	Sn	09 00 59.7	-0.3
OFUJ	Ofunato	0.63	336	P	Pn	09 00 53.8	-0.2
OFUJ				eS	Sn	09 01 02.7	-0.2
JMK	Ichinoseki	0.76	307	P	Pn	09 00 55.7	+0.1
JMK				S	Sn	09 01 05.8	-0.1
JOU	Okura	1.06	263	P	Pn	09 01 00.0	+0.3
JOU				S	Sn	09 01 13.7	+0.5
JOM	Ohasama	1.12	331	P	Pn	09 01 00.9	+0.4
JMM	Marumori	1.14	237	P	Pn	09 01 00.5	-0.4
JMM				S	Sn	09 01 14.3	-1.0
JYK	Kaneyama	1.35	289	P	Pn	09 01 04.3	+0.6
JYK				eS	Sn	09 01 21.5	+1.1
JRG	Rokugo	1.39	310	P	Pn	09 01 05.1	+0.8
JRG				S	Sn	09 01 22.3	+0.9
JFK	Kawauchi	1.44	219	P	Pn	09 01 04.6	-0.4
JFK				S	Sn	09 01 21.2	-1.5

MEX 02 09:04:56.8±0.7**, 17°.41N×94°.95W, h133**km±8km**, MD3.9, Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.33	169	eP	Pn	09 05 14.0	-1.4
CMIG				i S	Sn	09 05 27.5	-2.0
TUIG	Tuzandepetl	0.80	39	i P	Pn	09 05 17.9	-0.4
TUIG				i S	Sn	09 05 33.3	-1.2
VHO	Vista Hermosa	1.74	259	eP	Pn	09 05 27.6	-0.5
VHO				i S	Sn	09 05 50.8	-1.1
HUIG	Huatulco	1.98	214	eP	Pn	09 05 28.7	-2.0
HUIG				i S	Sn	09 05 55.0	-1.6
TPIG	Tehuac#an	2.51	294	eP	Pn	09 05 36.0	-1.3
TPIG				eS	Sn	09 06 06.0	-2.6
PNIG	Pinotepa	3.21	252	eP	Pn	09 05 43.4	-2.9
PNIG				i S	Sn	09 06 21.9	-2.5

JMA 02 09:06:21.0±0.5**, 38°.50N×144°.70E, h45**km**, M3.5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.44	285	eS	Sn	09 07 28.6	+1.7
MIYJ	Miyakonagasawa	2.49	297	eS	Sn	09 07 29.4	+1.3
JKMT	Kesennumamotoy	2.54	278	eS	Sn	09 07 30.9	+1.4
JIKH	Ishinomakikobu	2.55	267	eS	Sn	09 07 30.3	+0.7
JMK	Ichinoseki	2.76	280	eS	Sn	09 07 36.6	+1.8
JOM	Ohasama	2.83	291	eS	Sn	09 07 38.2	+1.7
JYK	Kaneyama	3.42	278	P	Pn	09 07 14.7	+2.9
JFT	Otama	3.58	255	P	Pn	09 07 16.7	+2.7
JFT				eS	Sn	09 07 56.9	+1.8
JCH	Churui	4.23	347	P	Pn	09 07 24.1	+1.2
JCH				eS	Sn	09 08 10.7	-0.4
NEM2	Nemuro 2	4.92	9	P	Pn	09 07 31.2	-1.2
NEM2				eS	Sn	09 08 24.3	-3.7
JRY	Ryogami san	5.25	244	P	Pn	09 07 38.5	+1.6
JRY				eS	Sn	09 08 35.0	-1.1
JTKR	Abashiri--Toko	5.50	354	P	Pn	09 07 41.1	+0.8

GUC 02 09:10:23.2±0.5**, 24°.02S×67°.66W, h227**km±8km**, ML4.0, 6C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB15	IPOC Station P	1.84	295⇑	iP	Pn	09 11 03.7	+1.1
PB15				i S	S	09 11 35.1	+1.9
PB06	IPOC Station P	2.19	306⇑	iP	Pn	09 11 07.4	+1.6
PB06				i S	S	09 11 41.0	+2.0
PB06				IAML		09 11 43.3	
	comp=N,641nm,0.1s						
PB05	IPOC Station P	2.60	296⇑	iP	Pn	09 11 12.0	+1.9
PB05				i S	S	09 11 48.6	+1.9
PB05				IAML		09 11 52.4	
	comp=E,170nm,0.4s						
PB09	IPOC Station P	2.65	326	i S	S	09 11 50.1	+2.4
PB09				IAML		09 11 52.0	
	comp=N,185nm,0.5s						
PB10	IPOC Station P	2.69	280⇑	iP	Pn	09 11 12.8	+1.8
PB10				i S	S	09 11 50.4	+2.1
PB10				IAML		09 11 55.8	
	comp=E,149nm,0.3s						
PB03	IPOC Station P	2.75	315	eS	S	09 11 52.0	+2.4
PB03				IAML		09 11 55.3	
	comp=E,303nm,0.2s						
PB04	IPOC Station P	2.83	306⇑	iP	Pn	09 11 15.1	+2.4
PB04				eS	S	09 11 54.0	+2.6
PB04				IAML		09 11 56.3	
	comp=N,359nm,0.3s						
PB07	IPOC Station P	3.06	318⇑	iP	Pn	09 11 17.4	+2.1
PB07				i S	S	09 11 58.4	+2.3
PB02	IPOC Station P	3.38	322	i S	S	09 12 04.7	+2.2

RSNC 02 09:25:33.4±1.3**, 6°.83N×73°.13W, h148**km±6km**, ML3.2, Mw3.6, 2D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.24	193	i P	Pn	09 25 53.6	-0.3
BARC				eS	Sn	09 26 08.4	-0.9
BARC				i		09 26 11.2	
	comp=Z,220nm,0.2s						
BRRC	Barranca, Sant	0.64	295⇓	iP	Pn	09 25 55.5	+0.2
BRRC				eS	Sn	09 26 12.8	+0.8
BRRC				i		09 26 15.4	
	comp=N,420nm,0.2s						
RUSC	La Rusia	0.93	177⇓	iP	Pn	09 25 57.4	-0.6
RUSC				eS	Sn	09 26 15.8	-0.9
RUSC				i		09 26 17.9	
	comp=N,143nm,0.4s						
PTBC	PUERTO BERRIO,	1.35	258	eP	Pn	09 26 00.1	-1.2
PTBC				eS	Sn	09 26 21.0	-1.5
PTBC				i		09 26 27.0	
	comp=N,353nm,0.5s						
OCAC	Ocana	1.41	352	eP	Pn	09 26 01.9	-0.2
OCAC				eS	Sn	09 26 24.0	0.0
OCAC				i		09 26 27.7	
	comp=N,426nm,0.4s						
ZARC	Zaragoza, Cauc	1.84	291	eP	Pn	09 26 05.8	-0.7
ZARC				i		09 26 38.0	
	comp=N,205nm,0.6s						
CHIC	Chingaza	2.27	195	eP	Pn	09 26 11.5	-0.6
CHIC				eS	Sn	09 26 41.2	-0.5
CHIC				i		09 26 48.8	
	comp=N,82nm,0.5s						
ROSC	El Rosal	2.31	211	eP	Pn	09 26 13.1	+0.6
ROSC				i		09 26 51.2	
	comp=Z,106nm,0.5s						
HELC	Santa Helena	2.47	255	eP	Pn	09 26 13.5	-0.8
HELC				eS	Sn	09 26 45.7	-0.2
HELC				i		09 26 53.8	
	comp=N,48nm,0.3s						
UREC	San Jos de Ur	2.55	291	eP	Pn	09 26 13.4	-1.7
UREC				i		09 26 55.9	
	comp=N,82nm,0.3s						
VILC	Villavicencio,	2.76	192	eP	Pn	09 26 16.3	-1.5
VILC				eS	Sn	09 26 52.7	+0.6
VILC				i		09 26 58.2	
	comp=N,158nm,0.5s						
RREF	El Recreo	2.92	229	eP	Pn	09 26 20.6	+0.3
RREF				eS	Sn	09 26 56.9	+0.4
RREF				i		09 27 01.9	
	comp=Z,53nm,0.3s						
CODC	Agustn Codazz	3.10	354	eP	Pn	09 26 21.3	-0.7
CODC				eS	Sn	09 26 58.7	-0.9
CODC				i		09 27 04.6	
	comp=N,32nm,0.5s						
TOLC	Tolima	3.12	224	eP	Pn	09 26 22.8	+0.3
SDV	Santo Domingo	3.21	50	eP	Pn	09 26 22.7	-0.8
ANIL	Santa Ana	3.24	224	eP	Pn	09 26 24.1	0.0
ANIL				eS	Sn	09 27 03.3	0.0
ANIL				i		09 27 08.6	
	comp=N,108nm,0.2s						
YOTC	Yotoco, Valle	4.27	229	eP	Pn	09 26 36.1	-1.3

*IDC **02** 09:26:11.7±1.9, 37°.26N×141°.98E, h0km, mb3.3/2, mb1 3.5/5, mb1mx3.2/37, mbtmp3.4/5, ML3.4/3, Error ellipse: s-maj=37.0km s-min=27.2km az=95.0*
*JMA **02** 09:26:16.7±0.1, 37°.30N×141°.73E, h44km±3km, M3.6*

ISC 02 09:26:12.7±1.8**, 37°.28N**±0°.04×**141°.90E**±0°.06**, h12**km±10km**, n17, σ1s.29**/32**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.82	277	P	Pn	09 26 30.0	-0.2
JFK				S	Sg	09 26 39.1	-0.3
ONAJ	Iwakimizuishiy	0.90	259	P	Pn	09 26 31.2	0.0
ONAJ				S	Sg	09 26 41.1	-0.7
JMM	Marumori	1.06	304	P	Pg	09 26 33.6	+0.5
JMM				S	Sb	09 26 45.7	-1.1
JFFD	Fukushimafurud	1.08	261	P	Pb	09 26 33.8	+0.4
JFFD				S	Sb	09 26 46.1	-1.5
JIO	Ouri	1.25	340	P	Pg	09 26 37.0	+0.1
JIO				S	Sb	09 26 50.8	-1.7
JHO	Hitachi	1.26	239	P	Pn	09 26 36.2	+0.1
JHO				S	Sb	09 26 49.8	-2.7
JFT	Otama	1.27	281	P	Pg	09 26 37.2	+0.1
JFT				S	Sb	09 26 51.4	-1.5
JOU	Okura	1.46	318	P	Pb	09 26 40.2	+0.3
JOU				S	Sn	09 26 57.3	-0.8
JYS	Shirataka	1.73	304	P	Pb	09 26 44.0	-0.5
JYS				S	Sn	09 27 05.0	+0.3
JFY	Yanaizu	1.75	275	P	Pn	09 26 43.8	+0.8
JFY				S	Sn	09 27 04.2	-1.1
JMK	Ichinoseki	1.76	342	P	Pb	09 26 44.6	-0.3
JMK				eS	Sn	09 27 04.8	-0.5
MJAR	Matsushiro Arr	3.05	257	Pn	Pn	09 27 02.6	+1.9
	1.5nm,0.3s,baz=340,slow=10,SNR=20						
MJAR				Sn	Sn	09 27 38.9	+1.8
	2.7nm,0.3s,baz=335,slow=10.0,SNR=6.5						
MAT	Matsushiro	3.05	257	P	Pn	09 27 04.0	+3.2
MAT				eS	Sn	09 27 37.9	+0.7
JHJ	Hachijo jima 2	4.49	203	Pn	Pn	09 27 21.8	+1.2
	14nm,0.3s,baz=338,slow=23,SNR=18						
JHJ				Sn	Sn	09 28 10.6	-2.3
	21nm,0.3s,baz=254,slow=15,SNR=2.3						
ASAJ	Asahikawa	6.86	4	Pn	Pn	09 27 54.5	+1.4
	0.7nm,0.3s,baz=182,slow=10,SNR=6.8						
ASAJ				Sn	Sn	09 29 10.3	-0.6
	0.2nm,0.3s,baz=28,slow=15,SNR=1.8						
MKAR	Makanchi Array	44.32	302	P	P	09 34 23.0	+0.6
	0.2nm,0.6s,baz=79,slow=7.5,SNR=1.8						
WRA	Warramunga Arr	57.35	188	P	P	09 36 01.4	+0.6
	0.3nm,0.5s,baz=7.0,slow=7.4,SNR=5.8						

*ISCJB **02** 09:34:17.3±0.8, 37°.11N±0°.06×74°.3E±0°.1, h10km, mb3.6/3, Error ellipse: s-maj=18.1km s-min=5.6km az=155.6*
*IDC **02** 09:34:23.0±4.6, 37°.76N×74°.40E, h0km, mb3.8/3, mb1 3.8/5, mb1mx3.4/44, mbtmp3.7/5, ML2.9/2, Error ellipse: s-maj=82.8km s-min=35.4km az=176.0*
*NNC **02** 09:34:23.4±3.3, 37°.29N×74°.31E, h167km±18km, mb2.9, mpv3.9, Error ellipse: s-maj=27.7km s-min=26.5km az=71.0*
*KNET **02** 09:35:14.9±2.5, 41°.23N×74°.47E, h24km±11km, ml1.8, Error ellipse: s-maj=22.8km s-min=7.0km az=19.0*

ISC 02 09:34:19.1±1.1**, 37°.19N**±0°.09×**74°.3E**±0°.1**, h10**km**, n22, σ2s.63**/25**, mb3.7**/3**, 17C-3D, Tajikistan-Xinjiang border region**

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

SFK	**Sufi-Kurgan**	**2.88**	**348**	⇑P	**Pn**	**09 35 07.9**	**+2.6**
	33nm,0.5s						
SFK				⇑S	**Sn**	**09 35 45.2**	**+5.1**
	57nm,0.5s						
KZA	**Kyzart**	**4.94**	**9**	⇓P	**Pn**	**09 35 34.2**	**+0.4**
	3.7nm,0.2s,SNR=17						
KZA				⇑S	Pg	09 35 50.2	-3.6
	15nm,0.5s						
AML	**Almayashu**	**4.96**	**355**	⇑P	**Pn**	**09 35 35.2**	**+1.2**
	5.9nm,0.2s,SNR=6.4						
AML				⇑S	Pg	09 35 50.7	-3.3
	14nm,0.7s						
UCH	**Uchtor**	**5.04**	**2**	⇑P	**Pn**	**09 35 35.2**	**+0.1**
	1.7nm,0.3s,SNR=17						
AAK	**Ala-Archa**	**5.45**	**2**	⇑P	**Pn**	**09 35 43.1**	**+2.7**
	13nm,0.7s						
AAK				⇑S	**Sn**	**09 36 44.9**	**+1.6**
	20nm,1.1s						
EKS2	**Erkin-Say**	**5.48**	**356**	⇑P	**Pn**	**09 35 43.3**	**+2.4**
	5.3nm,0.6s,SNR=5.9						
CHMS	**Chumysh**	**5.82**	**4**	⇑P	**Pn**	**09 35 48.2**	**+2.8**
	1.7nm,0.3s,SNR=5.7						
TKM2	**Tokmak 2**	**5.82**	**10**	⇑P	**Pn**	**09 35 47.7**	**+2.1**
	4.0nm,0.2s,SNR=20						
TKM2	**Tokmak 2**	**5.82**	**10**	⇑P	**Pn**	**09 35 46.8**	**+1.2**
	12nm,0.4s						
TKM2				⇓S	**Sn**	**09 36 50.3**	**-2.2**
	13nm,0.8s						
KK31	**Karatay Array**	**6.56**	**335**	⇑P	**Pn**	**09 35 57.7**	**+2.0**
	2.7nm,0.5s,baz=148,slow=12,SNR=57						
KK31				⇓S	**Sn**	**09 37 11.2**	**+0.6**
	3.9nm,0.4s,baz=154,slow=24,SNR=6.7						
MKAR	**Makanchi Array**	**11.30**	**29**	Pn	**Pn**	**09 37 00.4**	**-0.2**
	0.1nm,0.3s,baz=214,slow=13,SNR=5.0						
PYUN	**Piuthan**	**11.67**	**138**	*e*P	**Pn**	**09 37 06.2**	**+0.3**
	14nm,0.4s						
DANN	**Dangsing**	**11.90**	**135**	*e*P	**Pn**	**09 37 09.2**	**+0.1**
	12nm,0.4s						
KOLN	**Koldanda**	**12.26**	**137**	*e*P	**Pn**	**09 37 13.9**	**-0.1**
	11nm,0.7s						
JIRN	**Jiri**	**13.84**	**130**	*e*P	**Pn**	**09 37 33.9**	**-1.8**
	12nm,0.4s						
RAMN	**Ramite**	**14.61**	**131**	*e*P	Pn	09 37 42.0	-4.1
	8.7nm,0.6s						
AB31	**Akbulak array**	**15.91**	**324**	⇑P	**Pn**	**09 38 00.2**	**-2.8**
	0.5nm,0.5s,baz=129,slow=14,SNR=9.9						
AB31				⇑S	**Sn**	**09 40 52.6**	**-6.7**
	0.3nm,0.5s,baz=156,slow=18,SNR=4.1						
AKTO	**Aktyubinsk**	**17.63**	**324**	⇑P	Pn	09 38 17.4	-7.3
	2.7nm,0.9s						
AKTO				⇑S	Sn	09 41 30.2	-11
	0.2nm,0.8s						
ZALV	**Zalesovo Beam**	**18.28**	**20**	P	**Pn**	**09 38 28.9**	**-3.8**
	0.2nm,0.3s,baz=204,slow=12,SNR=9.0						
SONM	**Songino Array**	**25.80**	**55**	P	**P**	**09 39 51.9**	**+1.6**
	0.4nm,0.5s,baz=258,slow=9.8,SNR=4.3						
FINES	**FINESS Array B**	**38.40**	**325**	P	**P**	**09 41 42.7**	**+2.4**
	0.8nm,0.6s,baz=105,slow=10,SNR=4.1						
ARCES	**ARCESS Array B**	**41.53**	**336**	P	**P**	**09 42 07.2**	**+1.0**
	2.9nm,0.9s,baz=108,slow=8.7,SNR=2.2						

*IDC **02** 09:41:16.4±4.7, 4°.78S×152°.45E, h75km±42km, mb3.7/11, mb1 3.9/12, mb1mx3.7/36, mbtmp4.0/12, ML2.0/1, MS3.4/7, Ms1 3.4/7, ms1mx3.2/22, Error ellipse: s-maj=42.7km s-min=20.4km az=120.0*
*ISCJB **02** 09:41:21.2±0.4, 4°.55S±0°.05×151°.68E±0°.07, h100km, mb4.5/2, Error ellipse: s-maj=10.8km s-min=6.5km az=28.3*
*NEIC **02** 09:41:21.6±0.5, 4°.51S×151°.58E, h80km±6km, mb4.4/6, Error ellipse: s-maj=8.3km s-min=6.8km az=122.0*
ISC 02 09:41:22.6±0.6**, 4°.56S**±0°.06×**151°.68E**±0°.07**, h100**km**, n41,** σ**1§75**/41**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.60**	**53**	*e*Pn	**Pn**	**09 41 37.7**	**-1.6**
MANU	**Manus Island**	**4.98**	**300**	*e*Pn	**Pn**	**09 42 31.5**	**-3.7**
PMG	**Port Moresby**	**6.58**	**223**	P	**Pn**	**09 42 55.3**	**-1.6**
	1.8nm,0.3s,baz=29,slow=8.0,SNR=9.5						
PMG				S	**Sn**	**09 44 10.1**	**-0.4**
	0.5nm,0.3s,baz=15,slow=15,SNR=1.3						
PMG				LR	LR	09 45 34.3	
	comp=Z,244nm,21.5s,baz=358,slow=37						
PMG	**Port Moresby**	**6.58**	**223**	*e*Pn	**Pn**	**09 42 55.1**	**-1.8**
PMG				*e*Sn	**Sn**	**09 44 10.3**	**-0.2**
HNR	**Honiara**	**9.53**	**121**	*e*Pn	**Pn**	**09 43 36.7**	**-0.2**
COEN	**Coen**	**12.55**	**221**	*e*Pn	**Pn**	**09 44 16.7**	**-1.1**
CTAO	**Charters Tower**	**16.32**	**198**	*e*Pn	**Pn**	**09 45 06.5**	**+0.5**
	18nm,1.4s						
SAUI	**Saumlaki**	**20.54**	**259**	*e*P	**P**	**09 45 54.0**	**+0.7**
	159nm,1.3s						
EIDS	**Eidsvold**	**20.70**	**182**	*e*P	**P**	**09 45 55.6**	**+0.7**
	26nm,1.4s						
WRAB	**Tennant Creek**	**22.77**	**226**	*e*P	**P**	**09 46 17.7**	**+0.9**
	34nm,1.8s						
WRA	**Warramunga Arr**	**22.79**	**226**	P	**P**	**09 46 16.6**	**-0.4**
	2.3nm,0.7s,baz=50,slow=9.6,SNR=12						
WRA				LR	LR	09 56 20.3	
	comp=Z,56nm,20.9s,baz=55,slow=39						
TNTI	**Ternate**	**24.86**	**282**	*e*P	**P**	**09 46 36.2**	**+0.1**
	53nm,1.4s						
AS01	**Alice Springs**	**25.56**	**220**	*e*P	**P**	**09 46 43.4**	**+1.0**
AS31	**Alice Springs**	**25.59**	**220**	*e*P	**P**	**09 46 43.4**	**+0.7**
	1.4nm,1.0s						
ASAR	**Alice Springs**	**25.59**	**220**	P	**P**	**09 46 43.4**	**+0.7**
	1.6nm,0.8s,baz=50,slow=8.2,SNR=21						
SOEI	**Soe**	**27.68**	**258**	*e*P	**P**	**09 47 01.6**	**0.0**
	45nm,1.3s						
BATI	**Baumata**	**28.33**	**257**	LR	LR	09 59 23.3	
	comp=Z,164nm,20.5s,baz=90,slow=37						
FITZ	**Fitzroy Crossi**	**28.80**	**240**	P	**P**	**09 47 11.7**	**+0.2**
	6.2nm,1.1s,baz=66,slow=12,SNR=4.1						
FITZ				LR	LR	09 59 26.1	
	comp=Z,126nm,18.1s,baz=68,slow=37						
FORT	**Forrest**	**34.28**	**218**	*e*P	**P**	**09 48 00.1**	**+0.7**
	21nm,1.1s						
MJAR	**Matsushiro Arr**	**42.78**	**344**	LR	LR	10 03 27.2	
	comp=Z,46nm,21.8s,baz=195,slow=31						
KSRS	**Korea Array**	**47.29**	**334**	LR	LR	10 10 29.3	
	comp=Z,23nm,18.1s,baz=134,slow=37						
KLR	**Kul'dur**	**56.31**	**344**	P	**P**	**09 50 52.1**	**-0.9**
	1.2nm,0.7s,baz=152,slow=6.8,SNR=3.6						
CM01	**Chiang Mai Arr**	**56.74**	**295**	*e*P	**P**	**09 50 56.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**56.77**	**295**	P	**P**	**09 50 59.0**	**+2.2**
	1.6nm,0.5s,baz=116,slow=5.3,SNR=12						
CMAR				LR	LR	10 16 06.0	
	comp=Z,18nm,19.0s,baz=85,slow=36						
PETK	**Petropavlovsk-**	**57.68**	**4**	P	**P**	**09 51 01.5**	**-1.0**
	3.6nm,0.6s,baz=166,slow=7.9,SNR=15						
HHC	**Hu-ho-hao-te**	**58.21**	**325**	*e*P	**P**	**09 51 10.6**	**+4.0**
HHC				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC				pmax	pmax		
	comp=Z,130nm,4.3s						
LZH	**Lanzhou**	**60.28**	**316**	*e*P	**P**	**09 51 23.7**	**+2.6**
LZH				pP	pP	09 51 47.7	+2.3
LZH				sP	sP	09 51 54.0	-2.3
LZH				*e*PP	**PP**	**09 53 40.6**	**+5.4**
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
GTA	**Gaotai**	**64.73**	**318**	*e*P	**P**	**09 51 51.0**	**+0.4**
GTA				pP	pP	09 52 12.9	-2.2
GTA				sP	PcP	09 52 21.2	-2.2
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**65.53**	**328**	P	**P**	**09 51 56.0**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=142,slow=6.2,SNR=5.5						
SONA1	**Songino Array**	**65.53**	**328**	*e*P	**P**	**09 51 56.2**	**+0.6**
WMQ	**Urumqi**	**74.81**	**318**	*e*P	**P**	**09 52 54.0**	**+1.7**
WMQ				LR	LR		
	comp=E,77nm,20.9s						
WMQ				LR	LR		
	comp=Z,76nm,20.9s						
RDOG	**Red Dog Mine**	**79.06**	**16**	*e*P	**P**	**09 53 17.9**	**+2.4**
	comp=Z,6.3nm,0.9s						
MKAR	**Makanchi Array**	**79.41**	**319**	P	**P**	**09 53 18.8**	**+0.8**
	comp=Z,1.0nm,0.9s,baz=116,slow=4.4,SNR=6.3						
ZALV	**Zalesovo Beam**	**80.34**	**327**	P	**P**	**09 53 21.0**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=93,slow=5.8,SNR=2.4						
IM3	**Indian Mountai**	**80.53**	**20**	*e*P	**P**	**09 53 24.6**	**+1.1**
IL1	**Eielson Array**	**82.36**	**22**	*e*P	**P**	**09 53 31.9**	**-1.3**
ILAR	**Eielson Array**	**82.36**	**22**	P	P	09 53 27.9	-5.3
	comp=Z,0.7nm,0.6s,baz=260,slow=5.4,SNR=21						
KK31	**Karatay Array**	**86.66**	**314**	*e*P	**P**	**09 53 55.4**	**+0.1**
KKAR	**Karatay Array**	**86.66**	**314**	*e*P	**P**	**09 53 55.2**	**-0.2**
YKA	**Yellowknife Ar**	**95.73**	**28**	P	**P**	**09 54 34.1**	**-3.0**
	comp=Z,0.2nm,0.7s,baz=270,slow=4.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**149.17**	**288**	PKPbc	**PKPbc**	**10 00 58.6**	**-2.0**
	comp=Z,1.1nm,1.0s,baz=0.0,slow=2.9,SNR=3.9						
TORD				PKPab	**PKPab**	**10 01 04.1**	**-1.2**
	comp=Z,3.5nm,1.0s,baz=113,slow=3.9,SNR=11						

*JMA **02** 09:42:06.2, 39°.02N×142°.07E, h51km±1km, M3.6*
JMA Felt I J1.
*IDC **02** 09:42:06.7±2.3, 39°.00N×142°.26E, h67km±21km, mb3.1/4, mb1 3.3/8, mb1mx3.2/39, mbtmp3.6/8, MS2.9/1, Ms1 2.9/1, ms1mx2.3/13, Error ellipse: s-maj=37.4km s-min=15.2km az=94.0*
ISC 02 09:42:03.8±1.6**, 38°.97N**±0°.04×**142°.26E**±0°.08**, h31**km±11km**, n21,** σ**1§61**/35**, mb3.3**/4**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.47**	**284**	P	**Pn**	**09 42 15.6**	**+1.1**
OFUJ				S	**Sn**	**09 42 22.3**	**+0.6**
JKMT	**Kesennumamotoy**	**0.63**	**256**	P	**Pn**	**09 42 17.5**	**+0.8**
JKMT				*e*S	**Sn**	**09 42 25.6**	**-0.1**
MIYJ	**Miyakonagasawa**	**0.70**	**331**	P	**Pn**	**09 42 18.4**	**+0.9**
MIYJ				*e*S	**Sn**	**09 42 27.3**	**+0.1**
JMK	**Ichinoseki**	**0.81**	**269**	P	**Pn**	**09 42 19.6**	**+0.5**
JMK				S	**Sb**	**09 42 29.2**	**-0.9**
JIO	**Ouri**	**0.88**	**234**	P	**Pb**	**09 42 21.0**	**+0.4**
JIO				S	**Sb**	**09 42 31.6**	**-0.4**
JOM	**Ohasama**	**0.90**	**304**	P	**Pn**	**09 42 20.7**	**+0.3**
JOM				*e*S	**Sb**	**09 42 31.3**	**-1.5**
JTH	**Tanohata**	**1.01**	**343**	P	**Pb**	**09 42 22.9**	**0.0**
JTH				*e*S	**Sn**	**09 42 36.2**	**+1.1**
JRG	**Rokugo**	**1.33**	**289**	P	**Pn**	**09 42 26.6**	**+0.3**
JRG				S	**Sn**	**09 42 42.2**	**-0.8**
JOU	**Okura**	**1.39**	**245**	P	**Pn**	**09 42 27.6**	**+0.5**
JOU				*e*S	**Sn**	**09 42 44.4**	**+0.1**
JYK	**Kaneyama**	**1.48**	**269**	P	**Pn**	**09 42 28.6**	**+0.2**
JANG	**Nango**	**1.52**	**338**	P	**Pn**	**09 42 29.4**	**+0.6**
JANG				*e*S	**Sn**	**09 42 47.8**	**+0.3**
JMM	**Marumori**	**1.59**	**227**	P	**Pn**	**09 42 30.5**	**+0.6**
JMM				*e*S	**Sn**	**09 42 49.4**	**0.0**
MJAR	**Matsushiro Arr**	**4.02**	**234**	P	**Pn**	**09 43 06.3**	**+3.0**
	1.6nm,0.3s,baz=40,slow=11,SNR=33						
MAT	**Matsushiro**	**4.02**	**234**	P	**Pn**	**09 43 06.0**	**+2.7**
MAT				*e*S	**Sn**	**09 43 54.2**	**+4.8**
ASAJ	**Asahikawa**	**5.15**	**3**	P	**Pn**	**09 43 20.5**	**+1.8**
	0.5nm,0.3s,baz=201,slow=21,SNR=7.1						
ASAJ				S	**Sn**	**09 44 19.4**	**+2.3**
	0.3nm,0.3s,baz=114,slow=20,SNR=2.1						
JHJ	**Hachijo jima 2**	**6.17**	**200**	P	**Pn**	**09 43 34.4**	**+1.5**
	3.7nm,0.3s,baz=122,slow=22,SNR=7.2						
JHJ				S	**Sn**	**09 44 40.5**	**-1.9**
	2.5nm,0.3s,baz=61,slow=19,SNR=2.2						
USRK	**Ussuriysk Ar.**	**9.30**	**307**	P	**Pn**	**09 44 19.1**	**+3.5**
	0.2nm,0.3s,baz=114,slow=13,SNR=2.6						
SONM	**Songino Array**	**27.32**	**301**	P	**P**	**09 47 44.5**	**-1.3**
	0.2nm,0.4s,baz=116,slow=6.6,SNR=1.3						
SONM				LR	LR	09 57 53.7	
	comp=Z,25nm,20.9s,baz=60,slow=35						
ZALV	**Zalesovo Beam**	**41.13**	**311**	P	**P**	**09 49 44.1**	**-0.6**
	0.5nm,0.5s,baz=79,slow=7.8,SNR=2.3						
MKAR	**Makanchi Array**	**43.69**	**301**	P	**P**	**09 50 04.1**	**-1.6**
	0.3nm,0.5s,baz=82,slow=10,SNR=6.3						
WRA	**Warramunga Arr**	**59.07**	**189**	P	**P**	**09 52 00.5**	**-0.5**
	0.1nm,0.4s,baz=6.3,slow=6.9,SNR=7.6						

*ISCJB **02** 09:42:08.1±0.6, 1°.69S±0°.05×77°.70W±0°.09, h200km, mb3.4/9, Error ellipse: s-maj=12.5km s-min=7.0km az=1.3*
*IDC **02** 09:42:09.7±2.8, 1°.77S×77°.75W, h198km±29km, mb3.2/9, mb1 3.5/14, mb1mx3.4/30, mbtmp3.9/14, MS2.8/1, Ms1 2.8/1, ms1mx2.4/7, Error ellipse: s-maj=18.9km s-min=13.1km az=69.0*
ISC 02 09:42:09.2±0.7**, 1°.73S**±0°.08×**77°.66W**±0°.10**, h200**km**, n46,** σ**2§12**/43**, mb3.4**/9**, 2C, Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBC	**Cumbal**	**2.66**	**356**	*e*P	**Pn**	**09 42 52.6**	**-2.8**
CMBC	**Cumbal**	**2.66**	**356**	*e*P	**Pn**	**09 42 52.6**	**-2.8**
GCUF	**Volcan Galeras**	**2.95**	**6**	*e*P	**Pn**	**09 42 56.0**	**-2.8**
GCUF	**Volcan Galeras**	**2.95**	**6**	*e*P	**Pn**	**09 42 56.0**	**-2.8**
CRUC	**La Cruz**	**3.35**	**12**	*e*P	**Pn**	**09 43 01.3**	**-2.1**
CRUC	**La Cruz**	**3.35**	**12**	*e*P	**Pn**	**09 43 01.3**	**-2.1**
PTLC	**Puerto Leguiza**	**3.43**	**57**	⇑*i*P	**Pn**	**09 43 00.4**	**-3.7**
PTLC	**Puerto Leguiza**	**3.43**	**57**	⇑*i*P	**Pn**	**09 43 00.4**	**-3.7**
FLOC	**Florencia**	**3.85**	**31**	*e*P	**Pn**	**09 43 07.0**	**-2.3**
FLOC	**Florencia**	**3.85**	**31**	*e*P	**Pn**	**09 43 07.0**	**-2.3**
SOTA	**Rioblanco**	**3.98**	**15**	*e*P	**Pn**	**09 43 09.9**	**-1.4**
SOTA	**Rioblanco**	**3.98**	**15**	*e*P	**Pn**	**09 43 09.9**	**-1.4**
PCON	**Cinco Dias**	**4.22**	**17**	*e*P	**Pn**	**09 43 13.6**	**-0.8**
PCON	**Cinco Dias**	**4.22**	**17**	*e*P	**Pn**	**09 43 13.6**	**-0.8**
MARP	**Paez Belalcaza**	**4.85**	**21**	*e*P	**Pn**	**09 43 21.0**	**-1.1**
MARP	**Paez Belalcaza**	**4.85**	**21**	*e*P	**Pn**	**09 43 21.0**	**-1.1**
BETC	**Betania**	**4.91**	**27**	*e*P	**Pn**	**09 43 22.0**	**-0.6**
BETC	**Betania**	**4.91**	**27**	*e*P	**Pn**	**09 43 22.0**	**-0.6**
YOTC	**Yotoco, Valle**	**5.82**	**13**	*e*P	**Pn**	**09 43 30.3**	**-4.1**
YOTC	**Yotoco, Valle**	**5.82**	**13**	*e*P	**Pn**	**09 43 30.3**	**-4.1**
VILC	**Villavicencio,**	**7.03**	**34**	*e*P	**Pn**	**09 43 50.0**	**0.0**
VILC	**Villavicencio,**	**7.03**	**34**	*e*P	**Pn**	**09 43 50.0**	**0.0**
CHIC	**Chingaza**	**7.44**	**32**	*e*P	**Pn**	**09 43 54.6**	**-1.1**
CHIC	**Chingaza**	**7.44**	**32**	*e*P	**Pn**	**09 43 54.6**	**-1.1**
ZARC	**Zaragoza, Cauc**	**9.58**	**17**	*e*P	**Pn**	**09 44 18.4**	**-4.7**
ZARC	**Zaragoza, Cauc**	**9.58**	**17**	*e*P	**Pn**	**09 44 18.4**	**-4.7**
UREC	**San Jos de Ur**	**9.65**	**13**	*e*P	**Pn**	**09 44 23.9**	**-0.2**
UREC	**San Jos de Ur**	**9.65**	**13**	*e*P	**Pn**	**09 44 23.9**	**-0.2**
NNA	**Nana**	**10.22**	**175**	P	**Pn**	**09 44 29.9**	**-1.6**
	1.9nm,0.3s,baz=37,slow=5.2,SNR=6.1						
NNA				S	Sn	09 46 09.2	-17
	1.2nm,0.3s,baz=266,slow=19,SNR=3.9						
SDV	**Santo Domingo**	**12.66**	**33**	P	**Pn**	**09 45 03.1**	**+0.4**
	1.3nm,0.3s,baz=226,slow=1.3,SNR=13						
JTS	**JuntasAbangare**	**13.97**	**329**	LR	LR	09 49 45.7	
	comp=Z,34nm,18.9s,baz=16,slow=33						
LPAZ	**La Paz**	**17.25**	**148**	P	**Pn**	**09 45 58.7**	**-0.4**
	0.4nm,0.3s,baz=319,slow=7.4,SNR=12						
PCRV	**Puerto La Cruz**	**17.55**	**47**	P	**Pn**	**09 46 03.8**	**+1.6**
	1.1nm,0.3s,baz=329,slow=4.1,SNR=6.4						
PTGA	**Pitinga**	**17.72**	**87**	P	**Pn**	**09 46 04.2**	**+0.1**
	0.5nm,0.3s,baz=310,slow=20,SNR=3.6						
LVC	**Limon Verde**	**22.43**	**158**	P	**P**	**09 46 51.8**	**-0.2**
	2.9nm,0.5s,baz=290,slow=3.1,SNR=7.0						
MDP	**Montagnes des**	**25.90**	**75**	P	**P**	**09 47 25.1**	**+2.0**
	7.4nm,0.8s,baz=180,slow=4.5						
PLCA	**Paso Flores**	**39.36**	**171**	P	**P**	**09 49 20.7**	**+1.4**
	2.5nm,0.8s,baz=3.4,slow=7.7,SNR=8.0						
TXAR	**Lajitas Array**	**39.66**	**323**	P	**P**	**09 49 22.5**	**+0.5**
	0.2nm,0.5s,baz=150,slow=7.3,SNR=3.1						
PDAR	**Pinedale Array**	**52.80**	**331**	P	**P**	**09 51 05.1**	**+0.8**
	0.2nm,0.8s,baz=112,slow=9.8,SNR=3.0						
NVAR	**Mina Array Bea**	**54.75**	**321**	P	**P**	**09 51 19.3**	**+0.7**
	0.6nm,0.7s,baz=120,slow=5.3,SNR=3.9						
YKA	**Yellowknife Ar**	**69.86**	**343**	P	**P**	**09 52 58.5**	**+0.5**
	0.1nm,0.5s,baz=139,slow=6.2,SNR=6.1						
TORD	**Torodi Ar. Bea**	**80.03**	**76**	P	**P**	**09 53 57.1**	**-0.2**
	0.3nm,0.4s,baz=278,slow=5.3,SNR=6.6						
ILAR	**Eielson Array**	**82.83**	**336**	P	**P**	**09 54 11.2**	**+0.3**
	0.4nm,0.7s,baz=130,slow=3.4,SNR=3.1						
MKAR	**Makanchi Array**	**131.83**	**18**	PKP	**PKPdf**	**10 00 59.0**	**+0.1**
	0.2nm,0.5s,baz=270,slow=2.7,SNR=3.4						
ASAR	**Alice Springs**	**140.26**	**229**	PKhKP	PKPpre	10 01 08.1	
	0.2nm,0.5s,baz=120,slow=3.2,SNR=4.9						
WRA	**Warramunga Arr**	**141.93**	**234**	PKhKP	PKPpre	10 01 14.1	
	0.6nm,0.8s,baz=116,slow=2.9,SNR=9.2						

IDC 02 09:42:23.2±1.6**, 4°.40S**×**152°.23E, h0**km**, mb3.8**/8**, mb1 4.0**/8**, mb1mx3.8**/34**, mbtmp3.8**/8**, MS3.6**/1**, Ms1 3.6**/1**, ms1mx2.8**/21**, Error ellipse: s-maj=55.0km s-min=25.1km az=121.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.14**	**124**	LR	LR	09 47 37.9	
	comp=Z,376nm,20.7s,baz=300,slow=34						
WRA	**Warramunga Arr**	**23.29**	**227**	P	P	09 47 31.8	-1.1
	1.8nm,1.0s,baz=48,slow=9.7,SNR=2.5						
ASAR	**Alice Springs**	**26.07**	**221**	P	P	09 47 58.5	-0.2
	0.9nm,0.8s,baz=53,slow=9.1,SNR=2.7						
CMAR	**Chiang Mai Arr**	**57.19**	**295**	P	P	09 52 11.7	-0.9
	0.5nm,0.3s,baz=99,slow=5.6,SNR=4.3						
PETK	**Petropavlovsk-**	**57.48**	**4**	P	P	09 52 11.9	-2.1
	3.5nm,0.8s,baz=200,slow=12,SNR=2.6						
SONM	**Songino Array**	**65.69**	**328**	P	P	09 53 11.0	+1.2
	0.4nm,0.6s,baz=154,slow=5.0,SNR=3.6						
MKAR	**Makanchi Array**	**79.65**	**319**	P	P	09 54 32.5	-0.2
	0.8nm,0.9s,baz=93,slow=7.4,SNR=3.8						
ILAR	**Eielson Array**	**82.01**	**22**	P	P	09 54 44.4	-0.5
	0.7nm,0.8s,baz=252,slow=5.6,SNR=3.3						
YKA	**Yellowknife Ar**	**95.34**	**28**	P	P	09 55 49.5	+0.4
	0.2nm,0.7s,baz=274,slow=4.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**149.64**	**289**	PKPbc	PKiKP	10 02 17.3	+0.2
	1.1nm,0.8s,baz=52,slow=2.4,SNR=3.9						

*AZER **02** 09:56:36.4±5.3, 38°.44N×42°.85E, h5km, ml3.3/7, Error ellipse: s-maj=54.4km s-min=41.1km az=148.0*
*ISK **02** 09:56:39.9, 38°.73N×43°.20E, h5km, ML3.8/13*
*NSSP **02** 09:56:39.0, 38°.78N×43°.17E, h10km, Ms3.5*
*DDA **02** 09:56:40.7, 38°.74N×43°.20E, h21km±1km, ML3.9*
*TEH **02** 09:56:40.9, 38°.75N×43°.20E, h12km, ML3.5*
ISC 02 09:56:41.9±0.9**, 38°.76N**±0°.02×**43°.18E**±0°.02**, h14**km±7km**, n82,** σ**1§22**/102**, 8C-8D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.23**	**134**	PG	**Pg**	**09 56 47.0**	**0.0**
VANB				SG	**Sg**	**09 56 51.7**	**+1.2**
VANB	**Van**	**0.23**	**134**	*e*Pg	**Pg**	**09 56 47.2**	**+0.2**
TVAN	**Van**	**0.29**	**142**	*i* P	**Pg**	**09 56 47.6**	**-0.5**
TVAN				*i* S	**Sb**	**09 56 52.8**	**-0.9**
TVAN	**Van**	**0.29**	**142**	*e*Pg	**Pg**	**09 56 47.2**	**-0.9**
ERCV	**ERCIS-VAN**	**0.29**	**25**	PG	**Pg**	**09 56 47.3**	**-0.9**
ERCV				SG	**Sb**	**09 56 52.4**	**-1.4**
ERCV	**ERCIS-VAN**	**0.29**	**25**	*e*Pg	**Pg**	**09 56 47.2**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.36**	**279**	*e*Pg	**Pb**	**09 56 49.0**	**-1.1**
VMUR	**Van-Muradiye**	**0.39**	**53**	*i* P	**Pb**	**09 56 49.6**	**-1.0**
VMUR				*i* S	**Sb**	**09 56 56.6**	**+0.1**
VMUR	**Van-Muradiye**	**0.39**	**53**	*e*Pg	**Pb**	**09 56 49.3**	**-1.3**
GEVA	**Gevas**	**0.45**	**192**	IAML_P			
	comp=Z,33μm,0.1s						
GEVA				*i* P	**Pg**	**09 56 49.9**	**-1.1**
GEVA	**Gevas**	**0.45**	**192**	*e*Pg	**Pg**	**09 56 49.4**	**-1.5**
AKDM	**Akdamar-Van**	**0.45**	**200**	PG	**Pg**	**09 56 49.5**	**-1.5**
AKDM				SG	**Sg**	**09 56 56.5**	**-0.6**
MLAZ	**Malazgirt-MUS**	**0.62**	**308**	PG	**Pb**	**09 56 53.8**	**-0.8**
MLAZ				SG	**Sb**	**09 57 03.7**	**+0.4**
CLDR	**Caldiran**	**0.69**	**56**	PG	**Pg**	**09 56 54.4**	**-1.1**
CLDR	**Caldiran**	**0.69**	**56**	IAML_P			
	comp=Z,46μm,0.2s						
CLDR				*i* P	**Pb**	**09 56 54.9**	**-1.0**
CLDR				*i* S	**Sb**	**09 57 04.8**	**-0.6**
CLDR	**Caldiran**	**0.69**	**56**	*e*Pg	**Pg**	**09 56 54.4**	**-1.1**
AGRB	**Hanur-Agry**	**0.83**	**350**	PG	**Pg**	**09 56 57.1**	**-1.0**
AGRB	**Hanur-Agry**	**0.83**	**350**	*e*Pg	**Pg**	**09 56 57.1**	**-1.0**
DYDN	**Diyadin**	**0.88**	**27**	IAML_P			
	comp=Z,24μm,0.4s						
DYDN				*i* P	**Pg**	**09 56 57.8**	**-1.2**
DYDN	**Diyadin**	**0.88**	**27**	*e*Pg	**Pg**	**09 56 57.4**	**-1.6**
GURO	**Guroymak-BITLI**	**0.92**	**258**	PG	**Pg**	**09 56 58.2**	**-1.5**
GURO	**Guroymak-BITLI**	**0.92**	**258**	*e*Pg	**Pg**	**09 56 58.2**	**-1.5**
BASK	**Baskale_VAN**	**0.96**	**137**	*i* P	**Pg**	**09 56 58.9**	**-1.5**
BASK				*i* S	**Sb**	**09 57 13.8**	**+0.9**
EATA	**Eleskirt**	**1.23**	**335**	*i* P	**Pb**	**09 57 04.4**	**-0.6**
EATA				*i* S	**Sn**	**09 57 22.0**	**+0.6**
EATA	**Eleskirt**	**1.23**	**335**	*e*Pn	**Pg**	**09 57 04.2**	**-1.4**
SRTM	**Siirt_Merkez**	**1.25**	**233**	*i* P	**Pg**	**09 57 04.7**	**-1.2**
SRTM				*i* S	**Sn**	**09 57 22.8**	**+1.2**
SRTM	**Siirt_Merkez**	**1.25**	**233**	*e*Pg	**Pg**	**09 57 04.3**	**-1.6**
IGDI	**IGDIR**	**1.31**	**32**	IAML_P			
	comp=Z,2μm,0.2s						
IGDI				*i* P	**Pg**	**09 57 05.9**	**-1.2**
IGDI	**IGDIR**	**1.31**	**32**	*e*Pg	**Pn**	**09 57 05.4**	**-0.4**
SIRT	**Sirnak**	**1.38**	**205**	PN	**Pb**	**09 57 07.2**	**-0.3**
SIRT	**Sirnak**	**1.38**	**205**	*e*Pg	**Pg**	**09 57 08.0**	**-0.5**
SIRN	**Sırnak**	**1.39**	**206**	IAML_P			
	comp=Z,17μm,0.3s						
SIRN				*i* P	**Pg**	**09 57 08.6**	**-0.1**
SIRN				*i* S	**Sg**	**09 57 27.8**	**+0.9**
SIRN	**Sırnak**	**1.39**	**206**	*e*Pg	**Pg**	**09 57 07.8**	**-0.9**
TASB	**TASBURUN-IGDIR**	**1.48**	**34**	PN	**Pb**	**09 57 08.7**	**-0.4**
TASB	**TASBURUN-IGDIR**	**1.48**	**34**	*e*Pg	**Pg**	**09 57 09.7**	**-0.6**
CUKT	**Cukurca**	**1.54**	**167**	PN	**Pn**	**09 57 09.4**	**+0.3**
CUKT	**Cukurca**	**1.54**	**167**	*e*Pn	**Pn**	**09 57 09.4**	**+0.3**
KOPR	**Koprukoy-ERZUR**	**1.60**	**321**	PN	**Pb**	**09 57 10.9**	**-0.5**
HYR	**Heyderabad**	**1.62**	**53**	⇑P	**Pb**	**09 57 11.4**	**-0.2**
HYR				⇑S	**Sg**	**09 57 36.7**	**+2.7**
HOMI	**Horasan**	**1.62**	**323**	IAML_P			
	comp=Z,6μm,0.2s						
HOMI				*i* P	**Pg**	**09 57 11.8**	**-1.3**
DIGO	**Kars**	**1.66**	**5**	IAML_P			
	comp=Z,25μm,0.2s						
DIGO				*i* P	**Pg**	**09 57 12.2**	**-1.7**
DIGO	**Kars**	**1.66**	**5**	*e*Pn	**Pb**	**09 57 12.1**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.67**	**249**	PN	**Pb**	**09 57 11.8**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.67**	**249**	*e*Pn	**Pg**	**09 57 13.0**	**-0.9**
BTMN	**Batman**	**1.73**	**241**	*i* P	**Pb**	**09 57 12.6**	**-0.9**
KARO	**Karliova-Bingo**	**1.75**	**289**	PN	**Pb**	**09 57 12.9**	**-0.9**
GNI	**Garni**	**1.84**	**41**	PN	**Pb**	**09 57 14.3**	**-1.2**
GNI	**Garni**	**1.84**	**41**	⇑*i*P	**Pb**	**09 57 14.8**	**-0.7**
GNI				⇑*i*S	**Sg**	**09 57 40.0**	**-1.4**
GNI	**Garni**	**1.84**	**41**	*e*Pn	**Pb**	**09 57 15.1**	**-0.4**
NAX	**Nakhchivan**	**1.85**	**76**	⇓P	**Pn**	**09 57 13.6**	**+0.3**
NAX				⇑S	**Sg**	**09 57 40.8**	**-0.7**
KARS	**Kars**	**1.87**	**358**	PN	**Pb**	**09 57 14.9**	**-1.0**
KARS	**Kars**	**1.87**	**358**	*e*Pn	**Pb**	**09 57 15.5**	**-0.4**
ECAT	**Cat-ERZURUM**	**1.91**	**297**	*i* P	**Pb**	**09 57 16.1**	**-0.6**
EAK	**Akyaka**	**1.96**	**10**	IAML_P			
	comp=Z,10μm,0.5s						
EAK				*i* P	**Pg**	**09 57 18.8**	**-0.7**
EAK	**Akyaka**	**1.96**	**10**	*e*Pn	**Pg**	**09 57 18.3**	**-1.1**
SBZ	**Shahbuz**	**1.96**	**70**	⇓P	**Pn**	**09 57 15.0**	**+0.3**
SBZ				⇑S	**Sg**	**09 57 44.9**	**0.0**
BNGB	**Bingl**	**1.96**	**278**	PN	**Pb**	**09 57 15.9**	**-1.6**
BGOL	**Bingol**	**1.97**	**278**	*i* P	**Pn**	**09 57 15.5**	**+0.6**
ISHB	**Shabestar**	**1.97**	**103**	*e*Pn	**Pn**	**09 57 15.8**	**+0.8**
ISHB				*e*Sg	**Sg**	**09 57 46.3**	**+1.0**
ISHB				IAMB	IAmb	09 57 51.8	
	comp=N,4μm,0.5s						
IMRD	**Marand**	**1.98**	**90**	*e*Pn	**Pn**	**09 57 15.3**	**+0.2**
IMRD				IAMB	IAmb	09 57 30.3	
	comp=Z,5μm,0.7s						
BINT	**Bingol**	**2.10**	**274**	*e*Pn	**Pn**	**09 57 17.3**	**+0.5**
HANI	**Diyarbakir_Han**	**2.20**	**262**	*i* P	**Pb**	**09 57 19.8**	**-1.7**
ORD	**Ordubad**	**2.21**	**85**	⇓P	**Pn**	**09 57 18.0**	**-0.1**
ORD				⇓S	**Sg**	**09 57 51.1**	**-1.8**
MARD	**Mardin**	**2.38**	**233**	*i* P	**Pn**	**09 57 20.1**	**-0.4**
DDEM	**Demirkent**	**2.40**	**333**	IAML_P			
	comp=Z,3μm,0.3s						
DDEM				*i* P	**Pg**	**09 57 25.6**	**-2.4**
MAZI	**Mazidag**	**2.51**	**240**	PN	**Pn**	**09 57 23.9**	**+1.5**
MAZI	**Mazidag**	**2.51**	**240**	*e*Pn	**Pb**	**09 57 24.6**	**-2.2**
DAGI	**Agillar**	**2.51**	**338**	*i* P	**Pb**	**09 57 26.8**	**-0.1**
DYBB	**Diyarbakir**	**2.52**	**252**	PN	**Pn**	**09 57 24.3**	**+1.9**
DBAD	**Bademkaya**	**2.53**	**334**	*i* P	**Pg**	**09 57 28.4**	**-2.1**
ARTV	**Artvin**	**2.61**	**339**	*i* P	**Pg**	**09 57 29.9**	**-2.1**
BAYB	**BAYBURT**	**2.71**	**305**	*i* P	**Pb**	**09 57 31.0**	**+0.8**
GDB	**GEDABAY**	**2.79**	**45**	⇓P	**Pn**	**09 57 27.8**	**+1.5**
GDB				⇑S	**Sb**	**09 58 07.7**	**+2.0**
QZX	**Qazax, Azerbai**	**2.85**	**36**	⇓P	**Pn**	**09 57 28.8**	**+1.8**
QZX				⇑S	**Sb**	**09 58 08.9**	**+1.6**
BAYT	**Aydıntepe-Bayb**	**2.86**	**306**	PN	**Pn**	**09 57 28.9**	**+1.7**
BCA	**Borcka**	**2.94**	**337**	PN	**Pn**	**09 57 30.1**	**+2.0**
PTK	**Pertek**	**2.96**	**274**	PN	**Pn**	**09 57 30.7**	**+2.1**
PTK	**Pertek**	**2.96**	**274**	*e*Pn	**Pn**	**09 57 30.7**	**+2.1**
CHOM	**Cayeli-Rize**	**2.99**	**322**	PN	**Pn**	**09 57 30.9**	**+2.1**
IHRS	**Heris**	**3.06**	**97**	*e*Pn	**Pn**	**09 57 30.7**	**+0.7**
IHRS				IAMB	IAmb	09 57 44.4	
	comp=Z,865nm,0.6s						
GANJ	**Ganja**	**3.07**	**51**	⇓P	**Pn**	**09 57 30.5**	**+0.5**
GANJ				⇓S	**Sb**	**09 58 14.8**	**+1.1**
URFA	**Urfa**	**3.68**	**250**	PN	**Pn**	**09 57 40.6**	**+2.2**

*NIED **02** 10:30:00, 29°.50N×142°.60E, h5km, Mw4.5 Best double couple: M₀5.81000×10^15 NP1:φs162.00000°, δ14.00000°, λ69.00000°. NP2:φs3.00000°, δ77.00000°, λ95.00000°.*
*IDC **02** 10:30:57.6±0.5, 29°.31N×142°.08E, h0km, mb4.1/22, mb1 4.3/24, mb1mx4.3/37, mbtmp4.1/24, ML4.1/3, MS3.6/15, Ms1 3.6/15, ms1mx3.4/38, Error ellipse: s-maj=18.2km s-min=11.9km az=82.0*

*BJI **02** 10:30:58.7, 29.°29N×142.°36E, h33km, mb4.5/36, mB4.9/27, Ms4.4/11, Ms7 4.1/10*
*JMA **02** 10:30:58.1±0.2, 29.°45N×142.°62E, h28km, M4.6*
*ISCJB **02** 10:30:59.3±0.3, 29.°42N±0.°02×142.°17E±0.°05, h24km, mb4.4/70, MS3.8/15, Error ellipse: s-maj=6.3km s-min=3.4km az=173.6*
*MOS **02** 10:31:00.0±1.1, 29.°33N×142.°31E, h35km, mb4.8/31, Error ellipse: s-maj=11.2km s-min=5.5km az=116.2*
*NEIC **02** 10:31:02.5±0.3, 29.°34N×142.°22E, h35km, mb4.8/14, Error ellipse: s-maj=6.8km s-min=5.6km az=91.0*
ISC 02 10:31:00.9±0.4**, 29.°34N**±0.°04×**142.°16E**±0.°07**, h24km, n145, σ1.s34**/160**, mb4.5**/70**, MS3.7**/15**, 6C-1D, Southeast of Honshu**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CBIJ Chichi jima 2.23 179 *e*Pn **Pn 10 31 36.8 +0.5**
CBIJ Sn **Sb 10 32 05.5 -2.2**
CBIJ Chichi jima 2.23 179 P **Pn 10 31 36.9 +0.5**
CBIJ *e*S **Sb 10 32 05.2 -2.5**
JCJ Chichijima 2.23 179 Pn **Pn 10 31 37.0 +0.6**
20nm,0.3s,baz=273,slow=20,SNR=11
JCJ Sn **Sb 10 32 05.5 -2.2**
60nm,0.3s,baz=51,slow=21,SNR=6.6
JHHJ Haha-jima-NKT 2.70 180 P **Pn 10 31 42.6 -0.1**
JHJ2 Mitsune 4.26 333 *e*Pn **Pn 10 32 04.0 -0.3**
JHJ2 *e*Sn **Sn 10 32 53.4 +0.1**
JHJ2 Mitsune 4.26 333 P **Pn 10 32 04.6 +0.3**
JHJ Hachijo jima 2 4.29 332 Pn **Pn 10 32 04.4 -0.2**
30nm,0.3s,baz=244,slow=22,SNR=14
JHJ Sn **Sn 10 32 52.3 -1.6**
42nm,0.3s,baz=262,slow=23,SNR=6.1
JHJ LR LR 10 33 58.3
comp=Z,683nm,18.1s,baz=105,slow=42
BSO1 Boso 1 5.40 350 P **Pn 10 32 19.1 -0.2**
BSO3 Boso 3 5.63 346 P **Pn 10 32 22.4 -0.4**
BSO4 Boso 4 5.84 345 P **Pn 10 32 26.5 +0.6**
JHU Hanno 6.94 340 P **Pn 10 32 41.1 +0.1**
JRY Ryogami san 7.21 338 P **Pn 10 32 45.3 +0.6**
JHO Hitachi 7.38 350 P **Pn 10 32 45.7 -1.3**
INU Inuyama 7.41 325 *e*Pn **Pn 10 32 49.6 +2.2**
JAG Ashikaga 7.43 343 P **Pn 10 32 46.9 -0.8**
MJAR Matsushiro Arr 7.92 336 Pn **Pn 10 32 55.2 +0.7**
5.0nm,0.3s,baz=168,slow=16,SNR=53
MJAR Sn **Sn 10 34 18.7 -4.6**
baz=122,slow=21,SNR=1.9
MJAR LR LR 10 36 02.0
comp=Z,274nm,18.9s,baz=160,slow=39
MAJO Matsushiro 7.92 336 *e*Pn **Pn 10 32 55.3 +0.8**
MAJO Matsushiro 7.92 336 *i* P **Pn 10 32 55.1 +0.6**
MAT Matsushiro 7.92 336 P **Pn 10 32 55.6 +1.1**
MAT *e*S **Sn 10 34 21.5 -1.8**
MJB9 Matsu-Tunnel 7.92 336 *e*Pn **Pn 10 32 55.4 +0.9**
JNU Nakatsue 10.37 294 LR LR 10 37 23.5
comp=Z,386nm,18.7s,baz=106,slow=37
JOW Kunigami 12.51 262 LR LR 10 38 12.4
comp=Z,377nm,20.7s,baz=149,slow=35
ERM Erimo 12.68 3 *e*Pn **Pn 10 33 59.4 -0.2**
ERM Erimo 12.68 3 *i* P **Pn 10 33 59.1 -0.5**
KSRS Korea Array 14.38 308 Pn **P 10 34 26.8 -2.7**
0.3nm,0.3s,baz=114,slow=11,SNR=7.3
KSRS LR LR 10 39 59.4
comp=Z,236nm,18.2s,baz=114,slow=38
KSAR Wonju Array Be 14.40 308 Pn **P 10 34 26.8 -3.0**
KSAR Wonju Array Be 14.40 308 P **P 10 34 26.8 -3.0**
ASAJ Asahikawa 14.76 1 Pn **Pn 10 34 24.8 -3.1**
0.5nm,0.3s,baz=306,slow=19,SNR=6.4
ASAJ Asahikawa 14.76 1 *e*Pn **Pn 10 34 28.0 +0.1**
KUR Kuril'sk 16.50 14 *i* P **Pn 10 34 48.5 -2.1**
USRK Ussuriysk Ar. 16.90 334 Pn **Pn 10 34 52.5 -3.3**
0.1nm,0.3s,baz=153,slow=13,SNR=3.1
USRK LR LR 10 41 50.4
comp=Z,147nm,18.4s,baz=104,slow=39
YOJ Yonaguni jima 17.75 259 *e*Pn **P 10 35 09.2 +2.1**
137nm,1.1s
YOJ Yonaguni jima 17.75 259 *e*P **P 10 35 09.2 +2.1**
YOJ pmax pmax
comp=Z,137nm,1.1s
MDJ Mudanjiang 18.23 330 P **P 10 35 12.1 -0.1**
MDJ pmax pmax
comp=Z,12nm,1.5s
NACB Ninganchiao 19.06 259 *e*P **P 10 35 22.4 +0.8**
comp=Z,82nm,1.6s
YHNB Yeheng 19.09 261 *e*P **Pn 10 35 23.4 +0.6**
comp=Z,72nm,1.3s
YULB Yu-li 19.60 257 *e*P **Pn 10 35 29.3 +0.4**
comp=Z,180nm,2.0s
SSLB Suanglung 19.75 259 *e*P **Pn 10 35 31.3 +0.6**
comp=Z,128nm,1.8s
NJ2 Nanjing 20.22 284 *e*P **P 10 35 35.4 +1.3**
NJ2 pmax pmax
comp=Z,12nm,0.5s
KLR Kul'dur 21.40 341 P **P 10 35 47.0 +0.3**
comp=Z,1.2nm,0.3s,baz=139,slow=14,SNR=6.3
KLR Kul'dur 21.40 341 *i* P **P 10 35 47.8 +1.1**
GRNR Gornyy 21.84 350 *e*P **P 10 35 52.7 +1.2**
ZEA Zeya 26.70 340 *e*P **P 10 36 38.6 +0.5**
ZEA pmax pmax
comp=Z,26nm,0.8s
HHC Hu-ho-hao-te 27.41 303 *e*P **P 10 36 45.4 +0.7**
HHC S **S 10 41 21.6 -2.1**
HHC pmax pmax
comp=Z,11nm,1.0s
HHC pmax pmax
comp=Z,110nm,5.2s
HHC LR LR
comp=Z,870nm,16.4s
HHC LR LR
comp=Z,730nm,13.0s
HHC LR LR
comp=Z,770nm,13.0s
XAN Xi'an 28.59 288 P **P 10 36 53.1 -2.2**
XAN pmax pmax
comp=Z,5.0nm,0.9s
XAN pmax pmax
comp=Z,130nm,5.4s
ULN Ulaanbaatar 32.72 314 *e*P **P 10 37 31.7 0.0**
comp=Z,6.6nm,1.2s
ULN Ulaanbaatar 32.72 314*ce*P **P 10 37 32.1 +0.4**
ULN pmax pmax
comp=Z,6.0nm,1.3s
LZH Lanzhou 32.78 292 *e*P **P 10 37 34.6 +2.3**
LZH pP sP 10 37 45.0 +2.5
LZH sP pP 10 37 49.8 +10
LZH *e*PP **PP 10 38 44.3 -2.2**
LZH pmax pmax
comp=Z,21nm,1.1s
LZH pmax pmax
comp=Z,120nm,5.4s
LZH LR LR
comp=Z,590nm,13.0s
LZH LR LR
comp=Z,610nm,13.3s
LZH LR LR
comp=Z,580nm,15.5s
SONA1 Songino Array 33.12 314 *e*P **P 10 37 35.2 +0.1**
SONM Songino Array 33.12 314 P **P 10 37 35.0 -0.1**
comp=Z,2.9nm,0.7s,baz=114,slow=8.1,SNR=20
SONM LR LR 10 50 52.8
comp=Z,65nm,18.1s,baz=351,slow=36
CD2 Chengdu 33.15 282 *e*P **P 10 37 35.0 -0.5**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
SEY Seymchan 34.26 8 P **P 10 37 45.3 +0.7**
comp=Z,2.3nm,0.7s,baz=18,slow=20,SNR=2.5
BOD Bodaibo 34.54 334 *e*P **P 10 37 45.8 -1.4**
BOD pmax pmax
comp=Z,8.0nm,1.3s
KMI Kunming 35.19 273 P **P 10 37 57.2 +3.7**
KMI pP sP 10 38 05.1 +1.5
KMI pmax pmax
comp=Z,15nm,1.1s
KMI pmax pmax
comp=Z,60nm,3.1s
KMI LR LR
comp=Z,140nm,18.4s
KMI LR LR
comp=Z,200nm,18.2s
ZAK Zakamensk 35.94 317 *e*P **P 10 38 00.0 +0.5**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
GTA Gaotai 36.08 298 *e*P **P 10 38 00.1 -0.8**
GTA pP sP 10 38 11.6 +0.5
GTA sP pP 10 38 16.3 +8.2
GTA S **S 10 43 38.7 -0.2**
GTA sS sS 10 43 53.8 +2.9
GTA ScP **ScP 10 44 09.8 -1.7**
GTA SS **SnSn 10 46 06.0 +1.4**
GTA pmax pmax
comp=Z,2.0nm,0.8s
GTA pmax pmax
comp=Z,62nm,7.1s
GTA LR LR
comp=Z,82nm,15.2s
GTA LR LR
comp=Z,140nm,15.6s
GTA LR LR
comp=Z,150nm,16.5s
SKNT Sakolnakorn 37.03 259 P **P 10 38 09.9 +0.9**
comp=Z,11nm,1.3s
NONG Nongkai 37.28 261 P **P 10 38 11.6 +0.5**
comp=Z,0.7nm,0.9s,comp=Z,71nm
MOY Mondy 37.75 318 *e*P **P 10 38 13.8 -1.0**
MOY pmax pmax
comp=Z,25nm,2.1s
CHAI Chaiyaphum 39.22 259 P **P 10 38 27.4 -0.1**
comp=Z,20nm,0.8s,comp=Z,157nm
UTTA Uttaradit 39.66 263 P **P 10 38 31.1 0.0**
comp=Z,5.9nm,0.8s,comp=Z,132nm
SRAK Srakaew 40.06 256 P **P 10 38 31.2 -3.3**
comp=Z,75nm,0.9s,comp=Z,790nm
CMMT Chiang Mai 40.62 265 P **P 10 38 38.8 -0.3**
comp=Z,12nm,1.0s
CHTO Chiang Mai 40.62 265 *e*P **P 10 38 38.4 -0.7**
comp=Z,9.9nm,0.8s
CHTO Chiang Mai 40.62 265 *e*P **P 10 38 38.4 -0.7**
CHTO pmax pmax
comp=Z,10.0nm,0.8s
CHTO Chiang Mai 40.62 265 P **P 10 38 38.9 -0.2**
comp=Z,55nm,1.0s
CMAR Chiang Mai Arr 40.77 265 P **P 10 38 40.2 -0.1**
comp=Z,2.0nm,0.6s,baz=76,slow=4.6,SNR=16
CMAR PcP **PcP 10 40 42.5 +1.1**
comp=Z,0.6nm,0.3s,baz=358,slow=2.2,SNR=4.0
CMAR LR LR 10 55 36.6
comp=Z,94nm,20.5s,baz=80,slow=36
CM01 Chiang Mai Arr 40.77 264 *e*P **P 10 38 40.0 -0.3**
BILL Bilibino 41.29 13 *i* P **P 10 38 43.6 -0.4**
BILL pmax pmax
comp=Z,2.0nm,0.8s
UMPA Umpang Tak 41.78 261 P **P 10 38 51.0 +2.3**
comp=Z,4.3nm,1.0s,comp=Z,288nm
TIXI Tiksi 42.99 354*ce*P **P 10 38 58.9 +1.1**
TIXI pmax pmax
comp=Z,8.0nm,2.5s
WMQ Urumqi 45.28 304 *e*P **P 10 39 16.2 -0.5**
WMQ LR LR
comp=Z,110nm,17.9s
WMQ LR LR
comp=Z,95nm,20.9s
WMQ LR LR
comp=Z,150nm,20.9s
DGZ Jazzator, Alta 45.73 312 *i* P **P 10 39 20.3 +0.1**
DGZ pmax pmax
comp=Z,3.0nm,0.7s
ZAA0 Zalesovo Array 47.80 318 *e*P **P 10 39 36.5 +0.3**
comp=Z,11nm,1.0s
ZAA0 *e*pP **sP 10 39 49.1 +2.6**
ZALV Zalesovo Beam 47.80 318 P **P 10 39 35.9 -0.3**
comp=Z,7.3nm,0.9s,baz=102,slow=6.2,SNR=27
ZALV Zalesovo Beam 47.80 318 *e*P **P 10 39 36.1 0.0**
ZALV Zalesovo Beam 47.80 318 *i* P **P 10 39 36.5 +0.3**
ZALV pmax pmax
comp=Z,7.0nm,0.9s
NVS Novosibirsk 48.83 319 *e*P **P 10 39 44.1 0.0**
NVS pmax pmax
comp=N,6.0nm,1.4s
NVS pmax pmax
comp=E,11nm,1.4s
NVS pmax pmax
comp=Z,16nm,1.4s
MK01 Makanchi Array 49.05 308 *e*P **P 10 39 45.5 -0.4**
MK31 Makanchi Array 49.06 308 *e*P **P 10 39 45.3 -0.7**
MK31 Makanchi Array 49.06 308 *e*P **P 10 39 45.3 -0.7**
MKAR Makanchi Array 49.06 308 P **P 10 39 46.0 0.0**
comp=Z,3.4nm,0.6s,baz=93,slow=9.3,SNR=39
MKAR LR LR 11 01 21.4
comp=Z,85nm,18.1s,baz=77,slow=37
MKAR Makanchi Array 49.06 308 *e*P **P 10 39 45.3 -0.7**
comp=Z,30nm,0.7s
MKAR Makanchi Array 49.06 308 P **P 10 39 46.0 0.0**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR MLR MLR
comp=Z,85nm,18.1s
MAKZ Makanchi 49.27 308 *e*P **P 10 39 47.1 -0.6**
comp=Z,3.3nm,0.8s
MAKZ Makanchi 49.27 308 *e*P **P 10 39 47.1 -0.6**
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
WRAB Tennant Creek 49.56 190 *e*P **P 10 39 49.8 -0.1**
comp=Z,18nm,1.5s
WRAB Tennant Creek 49.56 190 *i* P **P 10 39 49.2 -0.8**
WRAB pmax pmax
comp=Z,21nm,2.6s
WRA Warramunga Arr 49.57 190 P **P 10 39 49.2 -0.9**
comp=Z,2.8nm,0.6s,baz=10.0,slow=8.1,SNR=49
WRA PcP **PcP 10 41 12.5 +0.9**
comp=Z,1.3nm,0.8s,baz=4.6,slow=3.7,SNR=3.8
WRA ScP **ScP 10 45 07.1 +1.5**
comp=Z,0.3nm,0.8s,baz=1.1,slow=4.4,SNR=4.1
WRA LR LR 11 00 01.3
comp=Z,42nm,18.9s,baz=25,slow=35
PDGK Podgornoye 51.26 304 P **P 10 40 02.0 -0.9**
PDGK pmax pmax
comp=Z,6.0nm,0.9s
KURK Kurchatov 51.42 313 *e*P **P 10 40 03.8 0.0**
comp=Z,24nm,1.1s
KURK Kurchatov 51.42 313*ce*P **P 10 40 04.2 +0.4**
KURK pmax pmax
comp=Z,26nm,1.3s
ASAR Alice Springs 53.29 189 P **P 10 40 17.4 -0.5**
comp=Z,0.5nm,0.5s,baz=1.4,slow=5.4,SNR=21
ASAR LR LR 11 02 16.0
comp=Z,39nm,19.6s,baz=300,slow=35
AAK Ala-Archa 54.98 304 LR LR 11 07 05.2
comp=Z,54nm,18.4s,baz=46,slow=40
AAK Ala-Archa 54.98 304 *e*P **P 10 40 29.0 -1.4**
comp=Z,1.9nm,0.8s
AAK Ala-Archa 54.98 304*ce*P **P 10 40 31.4 +1.0**
OTUK Ortayu 55.68 311 P **P 10 40 35.9 +0.8**
OTUK pmax pmax
comp=Z,9.0nm,1.6s
ILAR Eielson Array 55.77 29 P **P 10 40 35.6 +0.1**
comp=Z,0.3nm,0.8s,baz=281,slow=6.3,SNR=4.1
SFK Sufi-Kurgan 56.20 301 P **P 10 40 38.7 -0.6**
SFK pmax pmax
comp=Z,5.0nm,0.7s
BRVK Borovoye 56.46 317 *e*P **P 10 40 41.3 +0.7**
comp=Z,15nm,0.9s
BRVK Borovoye 56.46 317*c i*P **P 10 40 41.7 +1.1**
BRVK pmax pmax
comp=Z,15nm,1.0s
KK31 Karatay Array 57.78 305 *e*P **P 10 40 50.0 -0.1**
KK31 Karatay Array 57.78 305 *e*P **P 10 40 50.0 -0.1**
KKAR Karatay Array 57.78 305 *e*P **P 10 40 50.1 0.0**
KKAR Karatay Array 57.78 305 *e*P **P 10 40 50.1 0.0**
STKA Stephens Creek 60.88 181 P **P 10 41 11.8 +0.3**
comp=Z,1.8nm,0.8s,baz=358,slow=8.3,SNR=3.8
INK Inuvik 61.01 25 P **P 10 41 12.8 +0.8**
comp=Z,1.5nm,1.1s,baz=302,slow=2.9,SNR=2.7
SVE Sverdlovsk 61.45 322 *e*P **P 10 41 14.1 -1.0**
SVE pmax pmax
comp=Z,13nm,1.1s
ARU Arti 62.65 322 *e*P **P 10 41 23.1 -0.1**
comp=Z,22nm,0.9s
ARU Arti 62.65 322*d i*P **P 10 41 23.4 +0.2**
ARU 10 43 38.8
ARU S **S 10 49 52.6 +2.7**
ARU SS **SS 10 53 59.0 +5.0**
ARU pmax pmax
comp=Z,13nm,1.0s
ABKAR Akbulak array 63.53 314 *e*P **P 10 41 29.4 +0.2**
PRGR Permogore 67.61 329 *e*P **P 10 41 55.2 -0.1**
PRGR pmax pmax
comp=Z,14nm,1.0s
GEYT Alibeck 68.28 302 P **P 10 41 59.2 -0.9**
comp=Z,1.6nm,0.3s,baz=59,slow=5.7,SNR=6.5
GEYT LR LR 11 14 25.7
comp=Z,45nm,18.8s,baz=5.0,slow=38
YKA Yellowknife Ar 70.19 29 P **P 10 42 11.6 +0.3**
comp=Z,0.4nm,0.7s,baz=294,slow=6.3,SNR=9.3
ARCES ARCESS Array B 71.43 341 P **P 10 42 19.9 +1.1**
comp=Z,2.3nm,0.8s,baz=67,slow=7.0,SNR=3.7
JOF Joensuu 73.07 333 P **P 10 42 28.6 -0.1**
VRH Novokhopyorsk 73.78 320 *e*P **P 10 42 32.1 -0.9**
VRH pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 74.67 322 *e*P **P 10 42 36.6 -1.6**
LPSR pmax pmax
comp=Z,9.0nm,0.8s
OBN Obninsk 74.69 325 *i* P **P 10 42 37.4 -0.8**
OBN *i* 10 42 51.4
OBN pmax pmax
comp=Z,4.0nm,1.0s
OBN MLR MLR
comp=Z,77nm,16.0s
SUF Sumiainen 75.16 335 P **P 10 42 40.9 +0.1**
SUF pmax pmax
comp=Z,8.0nm,1.7s
VSR Storozhevoye 75.20 321 *e*P **P 10 42 39.8 -1.5**
VSR pmax pmax
comp=Z,7.0nm,1.0s
FINES FINESS Array B 75.94 334 P **P 10 42 45.5 +0.2**
comp=Z,2.1nm,0.7s,baz=64,slow=6.3,SNR=9.0
KBZ Khabaz 76.47 313 P **P 10 42 50.0 +1.3**
comp=Z,9.1nm,0.8s,baz=80,slow=3.6,SNR=31
KIV Kislovodsk 76.50 313*ce*P **P 10 42 50.6 +1.6**
KIV *i* 10 42 57.5
KIV pmax pmax
comp=Z,4.0nm,0.8s
NEY Neytrino 76.81 312 *i* P **P 10 42 51.4 +0.5**
NEY pmax pmax
comp=Z,1.0nm,0.8s
BEKR Beckworth 77.07 52 *e*P **P 10 42 50.8 -1.7**
comp=Z,3.3nm,0.9s
NV01 Mina Array Sit 79.16 52 *e*P **P 10 43 03.8 -0.2**
NVAR Mina Array Bea 79.16 52 P **P 10 43 05.5 +1.4**
comp=Z,1.0nm,0.7s,baz=308,slow=4.4,SNR=7.3
AKASG Malin Array Be 80.81 324 P **P 10 43 13.2 +0.8**
comp=Z,0.7nm,0.4s,baz=51,slow=6.1,SNR=3.2
KIEV Kiev 80.82 324 *i* P **P 10 43 12.6 +0.1**
KIEV pmax pmax
comp=Z,3.0nm,0.9s
NB2 NORSAR Subarra 81.53 338 P **P 10 43 15.9 -0.3**
comp=Z,0.8nm,0.9s,baz=43,slow=4.8
NOA NORSAR Array B 81.53 338 P **P 10 43 16.3 +0.1**
comp=Z,1.0nm,0.8s,baz=74,slow=4.3,SNR=3.8
NOA LR LR 11 23 24.4
comp=Z,22nm,18.5s,baz=290,slow=39
PDAR Pinedale Array 82.64 45 P **P 10 43 23.6 +1.0**
comp=Z,0.6nm,0.8s,baz=300,slow=3.8,SNR=3.0
RAYN Ar Rayn 84.23 294 *e*P **P 10 43 31.6 +0.7**
RAYN Ar Rayn 84.23 294 *e*P **P 10 43 31.6 +0.7**
BR131 Keskin Array S 84.47 313 *e*P **P 10 43 32.3 +0.4**
BRTR Keskin Array B 84.47 313 P **P 10 43 32.6 +0.7**
comp=Z,4.1nm,0.8s,baz=87,slow=3.0,SNR=23
BRTR LR LR 11 26 50.3
comp=Z,22nm,18.2s,baz=279,slow=40
PV14 Lion Creek, Pa 85.41 48 *e*P **P 10 43 34.9 -2.0**
comp=Z,16nm,1.3s
PV17 East Wray Mesa 85.51 48 *e*P **P 10 43 36.2 -1.1**
comp=Z,9.2nm,1.0s
ISCO Idaho Springs 86.77 46 P **P 10 43 40.8 -2.8**
ISCO pmax pmax
comp=Z,6.0nm,2.7s
GERES GERESS Array B 89.59 329 P **P 10 43 56.2 -0.3**
comp=Z,0.3nm,0.5s,baz=74,slow=7.3,SNR=3.5
TXAR Lajitas Array 94.28 53 P **P 10 44 20.0 +1.4**
comp=Z,0.4nm,0.5s,baz=289,slow=2.8,SNR=3.5
TORD Torodi Ar. Bea 123.08 312 PKP **PKPdf 10 49 58.4 +2.3**
comp=Z,0.6nm,1.2s,baz=11,slow=0.6,SNR=2.6
LPAZ La Paz 149.31 72 PKPbc **PKPbc 10 50 49.8 +0.7**
comp=Z,2.2nm,0.9s,baz=3.4,slow=2.9,SNR=3.6
PLCA Paso Flores 151.06 122 PKPbc **PKPbc 10 50 52.8 +0.9**
comp=Z,2.4nm,0.8s,baz=14,slow=4.2,SNR=2.8

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*ISCJB **02** 10:47:34.5±0.6, 37.°02N±0.°07×35.°61E±0.°06, h12km±7km, Error ellipse: s-maj=11.8km s-min=7.5km az=165.5*
*ISK **02** 10:47:34.2, 37.°02N×35.°56E, h9km, ML2.5/5*
*DDA **02** 10:47:37.2, 37.°38N×35.°54E, h7km±7km, ML2.3*
ISC 02 10:47:34.6±1.0**, 37.°04N**±0.°05×**35.°59E**±0.°05**, h14km**±9km**, n11, σ1.s09**/14**, Turkey**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CEYT Ceyhan 0.13 104 PG **Pg 10 47 37.9 -0.1**
CEYT SG **Sg 10 47 40.9 +0.6**
KOZT Kozan 0.48 23 PG **Pg 10 47 44.3 +0.3**
GULE Gulek 0.70 291 IAML_P
comp=Z,1µm,0.2s
GULE *i* P **Pb 10 47 48.9 +0.2**
ANDN Andirin 0.81 48 IAML_P
comp=Z,457nm,0.2s
ANDN *e*P **Pn 10 47 52.0 +0.3**
TAHT Tahtakopru-Hat 0.82 144 PG **Pg 10 47 50.0 -0.4**
MERS Mersin 0.88 259 PG **Pb 10 47 50.9 -0.7**
MERS SG **Sb 10 48 03.2 0.0**
SAIM ADANA 1.01 22 *e*P **Pg 10 47 51.9 -2.2**
KERG Konya-Eregli 1.23 288 *i* P **Pn 10 47 58.5 +1.0**
KERG *i* S **Sn 10 48 15.6 +1.6**
KIZK Mersin 1.29 245 PN **Pg 10 47 58.6 -0.8**
IKL Isikli 1.73 243 PN **Pb 10 48 04.9 -1.2**
TEVE Tevekalti-Mers 1.83 251 PN **Pn 10 48 05.9 +0.2**

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*IDC **02** 10:50:24.8±1.3, 21.°79N×143.°12E, h0km, mb3.7/8, mb1 3.7/9, mb1mx3.6/41, mbtmp3.7/9, ML3.8/1, Error ellipse: s-maj=48.1km s-min=18.5km az=83.0*
*ISCJB **02** 10:50:27.7±1.1, 21.°83N±0.°07×143.°1E±0.°3, h33km, mb3.6/8, Error ellipse: s-maj=40.7km s-min=10.3km az=176.4*
ISC 02 10:50:29.7±1.3**, 21.°8N**±0.°1×**143.°1E**±0.°3**, h35km, n10, σ1.s07**/11**, mb3.6**/8**, Mariana Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
JCJ Chichijima 5.34 351 Pn **Pn 10 51 45.2 -1.6**
3.0nm,0.3s,baz=261,slow=18,SNR=1.7
JCJ Sn **Sn 10 52 47.8 +0.7**
10.0nm,0.3s,baz=114,slow=24,SNR=10
SONM Songino Array 39.22 320 P **P 10 57 55.1 +0.4**
0.5nm,0.9s,baz=97,slow=9.6,SNR=2.4
WRA Warramunga Arr 42.37 192 P **P 10 58 21.2 +0.5**
0.2nm,0.3s,baz=13,slow=8.7,SNR=15
ASAR Alice Springs 46.08 192 P **P 10 58 49.5 -0.9**
0.2nm,0.4s,baz=10,slow=6.3,SNR=6.7
MKAR Makanchi Array 54.58 313 PcP **PcP 11 00 56.0 -1.4**
0.2nm,0.5s,baz=86,slow=4.8,SNR=4.5
KURBB Kurchatov Arra 57.41 317 P **P 11 00 15.5 +0.8**
0.5nm,0.5s,baz=92,slow=7.5,SNR=6.4
AAK Ala-Archa 60.06 308 P **P 11 00 33.6 +0.2**
2.0nm,0.3s,baz=167,slow=7.4,SNR=6.8
BVAR Borovoye Array 62.55 319 P **P 11 00 51.1 +1.1**
0.4nm,0.4s,baz=99,slow=7.9,SNR=5.0
AKTO Aktyubinsk 70.45 317 P **P 11 01 40.6 +0.2**
0.3nm,0.3s,baz=69,slow=8.6,SNR=3.7
YKA Yellowknife Ar 76.39 28 P **P 11 02 16.1 +0.9**
0.2nm,0.7s,baz=292,slow=6.0,SNR=4.0

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*IDC **02** 10:55:48.7±2.5, 31.°55N×77.°55E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.2/36, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=113.0km s-min=29.7km az=63.0*
ISC 02 10:55:50.4±1.1**, 31.°60N**±0.°07×**77.°4E**±0.°2**, h10km, n6, σ1.s65**/7**, Northern India**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
DDI Dehra Dun 1.40 156 *e*P **Sb 10 56 35.2 +0.7**
NDI New Delhi 2.91 183 *e*P **Sb 10 57 16.0 -2.1**
NDI *e*P **Sb 10 57 20.3 +2.2**
MKAR Makanchi Array 15.64 13 Pn **Pn 10 59 31.0 +0.2**
0.1nm,0.3s,baz=202,slow=11,SNR=4.0
BVAR Borovoye Array 22.01 349 P **P 11 00 44.6 -0.1**
0.3nm,0.4s,baz=168,slow=10,SNR=3.9
ARCES ARCESS Array B 47.67 338 P **P 11 04 27.1 +0.5**
2.1nm,0.9s,baz=110,slow=7.8,SNR=3.6
WRA Warramunga Arr 74.87 125 P **P 11 07 30.6 -0.9**
1.0nm,1.2s,baz=326,slow=6.7,SNR=5.4

DRS ***02*** *11:49:59.1±0.0, 43°.32N×46°.49E, h12km, ML2.7/2*

ISC 02 11:49:59.7±2.7**, 43°.3N**±0°.1×**46°.49E**±0°.05**, h3**km±12km**, n11,** σ**0**^{s}**74**/22**, 4C, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.28**	**159**	*e*Pg	**Pg**	**11 50 05.0**	**-0.2**
DLMR				*e*Sg	**Sg**	**11 50 09.0**	**+0.2**
DBC	**Dubki**	**0.40**	**142**	*i* Pg	**Pg**	**11 50 07.2**	**-0.2**
DBC				*e*Sg	**Sg**	**11 50 13.1**	**+0.5**
KRNR	**Karanay**	**0.59**	**149**	*i* Pg	**Pg**	**11 50 10.2**	**-0.9**
KRNR				*i* Sg	**Sg**	**11 50 19.5**	**+0.8**
UNCR	**Uncukul**	**0.66**	**160**	*i* Pg	**Pg**	**11 50 11.5**	**-0.8**
UNCR				*e*Sg	**Sg**	**11 50 21.0**	**+0.1**
BTLR	**Botlikh**	**0.70**	**197**	⇑*e*Pg	**Pg**	**11 50 12.0**	**-1.1**
	72nm,0.5s						
BTLR				⇑*e*Sg	**Sg**	**11 50 21.7**	**-0.5**
	141nm,0.6s						
XNZR	**Khunzakh**	**0.81**	**169**	*e*Pg	**Pg**	**11 50 15.0**	**-0.2**
XNZR				*e*Sg	**Sg**	**11 50 26.2**	**+0.5**
ARKR	**Arakani**	**0.82**	**153**	*e*Pg	**Pg**	**11 50 15.5**	**+0.1**
ARKR				*e*Sg	**Sn**	**11 50 30.0**	**-0.8**
KMKR	**Kumukh**	**1.28**	**159**	*i* Pg	**Pn**	**11 50 24.0**	**-0.7**
KMKR				*e*Sg	**Sn**	**11 50 42.5**	**0.0**
GUDG	**Gudauri**	**1.72**	**240**	P	**Pn**	**11 50 30.6**	**-0.1**
GUDG				S	**Sn**	**11 50 53.0**	**-0.2**
AKT	**Akhty**	**2.07**	**153**	⇑*e*Pg	**Pb**	**11 50 37.8**	**-0.2**
	54nm,0.4s						
AKT				⇑*e*Sg	**Sg**	**11 51 07.5**	**+1.4**
	54nm,0.5s						
TRLG	**Trialeti**	**2.52**	**225**	P	**Pn**	**11 50 42.5**	**+0.8**
TRLG				S	**Sb**	**11 51 18.4**	**+1.3**

NIED ***02*** *12:00:00, 42°.20N×143°.00E, h56km, Mw4.3   Best double couple: $M_0$2.91000×10^{15} NP1:ϕ_s167.00000°, δ50.00000°, λ-55.00000°.   NP2:ϕ_s300.00000°, δ51.00000°, λ-124.00000°.*

IDC ***02*** *12:00:06.2±0.7, 42°.47N×142°.91E, h0km, mb4.1/18, mb1 4.3/22, mb1mx4.2/44, mbtmp4.1/22, ML4.2/4, MS3.1/8, Ms1 3.1/8, ms1mx2.9/41, Error ellipse: s-maj=20.5km s-min=13.9km az=160.0*

ISCJB ***02*** *12:00:11.8±0.3, 42°.12N±0°.03×143°.05E±0°.04, h68km±2km, mb4.1/35, Error ellipse: s-maj=5.4km s-min=3.4km az=138.4*

NEIC ***02*** *12:00:12.3±0.6, 42°.16N×143°.31E, h68km±6km, mb4.2/3, Error ellipse: s-maj=10.1km s-min=6.7km az=128.0*

NEIC Recorded [2 JMA] in southern Hokkaido.

MOS ***02*** *12:00:12.1±1.4, 42°.20N×143°.11E, h71km, mb4.4/14, Error ellipse: s-maj=8.4km s-min=5.7km az=79.8*

JMA ***02*** *12:00:13.2±0.1, 42°.22N×143°.01E, h55km±1km, M4.3 Broadband fault plane solution: P waves.   NP1: ϕ_s155.00000°, δ61.00000°, λ-72.00000°.   NP2: ϕ_s302.00000°, δ34.00000°, λ-119.00000°.   Principal axes: T Plg14.0000°, Azm232.0000°; N Plg15.0000°, Azm326.0000°; P Plg69.0000°, Azm102.0000°;*

JMA   Felt II J1.

ISC 02 12:00:13.0±0.6**, 42°.17N**±0°.05×**143°.08E**±0°.04**, h63**km±5km**, n115,** σ**1**^{s}**71**/129**, mb4.1**/35**, 7C-9D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.17**	**159**	⇓P	**Pn**	**12 00 22.4**	**-0.2**
ERM	**Erimo**	**0.17**	**160**	*e*Pn	**Pn**	**12 00 22.6**	**+0.1**
ERM				*e*Sn	**Sn**	**12 00 31.3**	**+1.8**
ERM	**Erimo**	**0.17**	**160**	*de*PN	**Pn**	**12 00 22.4**	**-0.2**
ERM				pmax	pmax		
	comp=Z,4µm,0.6s						
JTHR	**Tokachihiroo**	**0.20**	**54**	⇓P	**Pn**	**12 00 22.4**	**-0.3**
JTHR				*e*S	**Sn**	**12 00 29.4**	**-0.4**
JNBK	**Urakawa-nobuka**	**0.26**	**294**	⇓P	**Pn**	**12 00 22.0**	**-1.1**
JNBK				*e*S	**Sn**	**12 00 29.3**	**-1.2**
JCH	**Churui**	**0.49**	**25**	P	**Pn**	**12 00 24.6**	**-0.4**
JCH				*e*S	**Sn**	**12 00 33.5**	**-0.3**
JSHD	**Hidakashinhida**	**0.51**	**298**	⇓P	**Pn**	**12 00 24.4**	**-0.8**
JBT2	**Biratori 2**	**0.80**	**319**	⇓P	**Pn**	**12 00 27.8**	**-0.8**
JBT2				*e*S	**Sn**	**12 00 39.9**	**-0.2**
JOB	**Onbets**	**0.92**	**37**	⇑P	**Pn**	**12 00 30.9**	**+0.8**
JIAM	**Iburiatsuma**	**0.97**	**298**	P	**Pn**	**12 00 30.8**	**+0.1**
JFR	**Furan**	**1.05**	**340**	⇓P	**Pn**	**12 00 30.5**	**-1.3**
JAR	**Ashorobuto**	**1.23**	**24**	⇑P	**Pn**	**12 00 33.9**	**-0.2**
JEW	**Eniwo**	**1.38**	**300**	⇓P	**Pn**	**12 00 35.8**	**-0.2**
JEW				*e*S	**Sn**	**12 00 52.9**	**-0.5**
JAB	**Ashibetsu**	**1.47**	**335**	P	**Pn**	**12 00 37.4**	**+0.1**
ASAJ	**Asahikawa**	**1.97**	**350**	*e*Pn	**Pn**	**12 00 44.7**	**+0.6**
GLVR	**Golovnino**	**2.38**	**48**	*c i*PN	**Pn**	**12 00 50.3**	**+0.8**
GLVR				*i* S	**Sn**	**12 01 19.9**	**+2.3**
GLVR				pmax	pmax		
	comp=N,443nm,0.2s						
GLVR				pmax	pmax		
	comp=E,545nm,0.2s						
GLVR				pmax	pmax		
	comp=Z,848nm,0.2s						
GLVR				smax	smax		
	comp=N,2µm,0.2s						
GLVR				smax	smax		
	comp=E,2µm,0.2s						
GRPR	**Tuman**	**2.68**	**46**	*e*PN	**Pn**	**12 00 54.3**	**+0.6**
GRPR				*e*S	**Sn**	**12 01 27.0**	**+2.0**
GRPR				pmax	pmax		
	comp=N,95nm,0.2s						
GRPR				pmax	pmax		
	comp=Z,414nm,0.2s						
GRPR				pmax	pmax		
	comp=E,143nm,0.3s						
GRPR				smax	smax		
	comp=N,2µm,0.2s						
GRPR				smax	smax		
	comp=E,1µm,0.2s						
LAGR	**Lagunnoye**	**2.73**	**46**	*e*PN	**Pn**	**12 00 55.7**	**+1.3**
LAGR				*e*S	**Sn**	**12 01 29.6**	**+3.4**
LAGR				pmax	pmax		
	comp=E,403nm,0.3s						
LAGR				pmax	pmax		
	comp=Z,853nm,0.3s						
LAGR				pmax	pmax		
	comp=N,560nm,0.2s						
LAGR				smax	smax		
	comp=N,3µm,0.4s						
LAGR				smax	smax		
	comp=E,2µm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.76**	**47**	*e*PN	**Pn**	**12 00 55.3**	**+0.6**
YUK				*i* S	**Sn**	**12 01 28.9**	**+2.0**
YUK				pmax	pmax		
	comp=N,391nm,0.2s						
YUK				pmax	pmax		
	comp=Z,2µm,0.2s						
YUK				pmax	pmax		
	comp=E,183nm,0.3s						
YUK				smax	smax		
	comp=E,2µm,0.3s						
YUK				smax	smax		
	comp=N,2µm,0.5s						
SHO	**Shikotan**	**3.23**	**57**	*e*PN	**Pn**	**12 01 00.5**	**-0.7**
SHO				*i* S	**Sn**	**12 01 38.0**	**-0.4**
SHO				pmax	pmax		
	comp=N,40nm,0.2s						
SHO				pmax	pmax		
	comp=E,67nm,0.2s						
SHO				pmax	pmax		
	comp=Z,151nm,0.2s						
SHO				smax	smax		
	comp=N,1µm,0.4s						
SHO				smax	smax		
	comp=E,863nm,0.5s						
KUR	**Kuril'sk**	**4.63**	**47**	*e*PN	**Pn**	**12 01 22.0**	**+1.8**
KUR				*e*S	**Sn**	**12 02 15.7**	**+3.1**
KUR				pmax	pmax		
	comp=Z,226nm,0.5s						
KUR				pmax	pmax		
	comp=N,53nm,0.3s						
KUR				pmax	pmax		
	comp=E,27nm,0.3s						
KUR				smax	smax		
	comp=N,233nm,0.5s						
KUR				smax	smax		
	comp=E,280nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.79**	**357**	⇓*e*PN	**Pn**	**12 01 24.2**	**+1.8**
YSS				*e*S	**Sn**	**12 02 18.8**	**+2.3**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				smax	smax		
	comp=E,70nm,1.3s						
TEY	**Ternei**	**5.50**	**304**	*e*PN	**Pn**	**12 01 35.7**	**+3.5**
MJB9	**Matsu-Tunnel**	**6.77**	**215**	*e*Pn	**Pn**	**12 01 50.1**	**+0.4**
MAJO	**Matsushiro**	**6.77**	**215**	*e*Pn	**Pn**	**12 01 50.1**	**+0.4**
MAJO	**Matsushiro**	**6.77**	**215**	*e*PN	**Pn**	**12 01 50.1**	**+0.4**
MAT	**Matsushiro**	**6.77**	**215**	P	**Pn**	**12 01 50.5**	**+0.8**
MAT				*e*S	**Sn**	**12 03 04.7**	**-0.7**
MJAR	**Matsushiro Arr**	**6.77**	**215**	Pn	**Pn**	**12 01 50.1**	**+0.4**
	comp=E,2.9nm,0.3s,baz=32,slow=12,SNR=42						
UGL	**Uglegorsk**	**6.94**	**354**	*e*PN	**Pn**	**12 01 53.9**	**+2.0**
UGL				pmax	pmax		
	comp=Z,98nm,0.7s						
INU	**Inuyama**	**8.29**	**217**	*e*Pn	**Pn**	**12 02 11.1**	**+0.6**
USA0B	**Ussuriysk Arra**	**8.35**	**288**	*e*Pn	**Pn**	**12 02 14.4**	**+3.2**
USRK	**Ussuriysk Ar.**	**8.35**	**288**	Pn	**Pn**	**12 02 12.0**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=92,slow=13,SNR=7.5						
USRK				LR	LR	12 04 39.5	
	comp=Z,49nm,21.4s,baz=51,slow=34						
TYV	**Tymovskoe**	**8.70**	**358**	*e*PN	**Pn**	**12 02 18.2**	**+2.3**
TYV				pmax	pmax		
	comp=Z,50nm,0.7s						
JHJ	**Hachijo jima 2**	**9.41**	**197**	Pn	**Pn**	**12 02 21.9**	**-3.8**
	comp=Z,16nm,0.3s,baz=329,slow=21,SNR=10						
JHJ				Sn	Sn	12 03 59.9	-10
	comp=Z,28nm,0.3s,baz=256,slow=22,SNR=8.1						
JHJ2	**Mitsune**	**9.41**	**197**	*e*Pn	**Pn**	**12 02 24.2**	**-1.5**
KLR	**Kul'dur**	**10.60**	**316**	LR	LR	12 07 05.0	
	comp=Z,94nm,18.1s,baz=104,slow=41						
KLR	**Kul'dur**	**10.60**	**316**	*i* PN	**Pn**	**12 02 44.7**	**+2.8**
KSRS	**Korea Array**	**12.57**	**253**	Pn	**Pn**	**12 03 12.2**	**+3.4**
	comp=Z,1.6nm,0.3s,baz=64,slow=14,SNR=31						
KSRS				LR	LR	12 07 13.9	
	comp=Z,84nm,20.1s,baz=190,slow=34						
KS01	**Wonju Array Si**	**12.58**	**253**	*e*Pn	**Pn**	**12 03 12.4**	**+3.5**
KS15	**Wonju Array Si**	**12.60**	**253**	*e*Pn	**Pn**	**12 03 13.1**	**+3.8**
KSAR	**Wonju Array Be**	**12.60**	**253**	Pn	**Pn**	**12 03 12.2**	**+2.9**
KSAR	**Wonju Array Be**	**12.60**	**253**	PN	**Pn**	**12 03 12.2**	**+2.9**
JNU	**Nakatsue**	**13.22**	**231**	Pn	**Pn**	**12 03 17.8**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=45,slow=7.1,SNR=5.0						
PEA0B	**Petropavlovsk-**	**14.69**	**37**	*e*Pn	**Pn**	**12 03 34.0**	**-3.1**
PETK	**Petropavlovsk-**	**14.69**	**37**	Pn	**Pn**	**12 03 33.7**	**-3.4**
	comp=Z,1.3nm,0.3s,baz=214,slow=10,SNR=26						
PETK	**Petropavlovsk-**	**14.69**	**37**	*e*Pn	**Pn**	**12 03 32.8**	**-4.3**
CBIJ	**Chichi jima**	**15.06**	**183**	Pn	**Pn**	**12 03 39.9**	**-2.1**
JCJ	**Chichijima**	**15.06**	**183**	Pn	**Pn**	**12 03 39.9**	**-2.1**
	comp=Z,3.1nm,0.3s,baz=287,slow=19,SNR=4.3						
ZEA	**Zeya**	**15.65**	**323**	*e*P	P	12 04 02.8	+10
ZEA				pmax	pmax		
	comp=Z,12nm,1.0s						
MA2	**Magadan**	**18.07**	**13**	P	**P**	**12 04 16.0**	**-3.0**
	comp=Z,0.4nm,0.3s,baz=170,slow=12,SNR=2.3						
MA2				LR	LR	12 10 49.9	
	comp=Z,40nm,18.1s,baz=157,slow=36						
MA2	**Magadan**	**18.07**	**13**	P	**P**	**12 04 16.0**	**-3.0**
SEY	**Seymchan**	**21.50**	**12**	*i* P	**P**	**12 04 53.6**	**-2.6**
HHC	**Hu-ho-hao-te**	**23.57**	**277**	*e*P	**P**	**12 05 18.5**	**+0.6**
HHC				S	**S**	**12 09 26.4**	**-1.0**
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,150nm,6.1s						
HHC				LR	LR		
	comp=N,800nm,8.3s						
HHC				LR	LR		
	comp=E,440nm,8.3s						
HHC				LR	LR		
	comp=Z,410nm,9.5s						
ULN	**Ulaanbaatar**	**25.93**	**295**	*e*P	**P**	**12 05 38.9**	**-0.3**
	comp=Z,10nm,1.7s						
ULN	**Ulaanbaatar**	**25.93**	**295**	*i* P	**P**	**12 05 38.6**	**-0.7**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SONA1	**Songino Array**	**26.36**	**295**	*e*P	**P**	**12 05 43.2**	**-0.1**
SONM	**Songino Array**	**26.37**	**295**	P	**P**	**12 05 42.3**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=74,slow=8.1,SNR=8.9						
GUMO	**Guam**	**28.52**	**176**	LR	LR	12 17 43.6	
	comp=Z,32nm,18.9s,baz=102,slow=37						
BILL	**Bilibino**	**28.74**	**18**	*i* P	**P**	**12 06 05.1**	**+1.0**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TIXI	**Tiksi**	**30.38**	**351**	*i* P	**P**	**12 06 20.5**	**+2.0**
TIXI				pmax	pmax		
	comp=Z,9.0nm,2.7s						
LZH	**Lanzhou**	**30.84**	**272**	*e*P	**P**	**12 06 25.5**	**+2.4**
LZH				pP	pP	12 06 42.0	+3.5
LZH				sP	sP	12 06 51.5	+5.6
LZH				*e*PP	**PP**	**12 07 31.4**	**-2.2**
LZH				pmax	pmax		
	comp=Z,24nm,1.4s						
GTA	**Gaotai**	**32.61**	**280**	*e*P	**P**	**12 06 38.7**	**0.0**
GTA				pP	pP	12 06 56.2	+2.1
GTA				S	**S**	**12 11 50.5**	**+0.5**
GTA				sS	sS	12 12 22.2	+5.7
GTA				SS	**SnSn**	**12 13 55.2**	**+5.5**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,56nm,6.2s						
GTA				LR	LR		
	comp=N,270nm,7.6s						
GTA				LR	LR		
	comp=E,300nm,12.4s						
GTA				LR	LR		
	comp=Z,410nm,11.1s						
DGZ	**Jazzator, Alta**	**38.64**	**301**	*i* P	**P**	**12 07 30.7**	**+0.5**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ZAA0	**Zalesovo Array**	**39.58**	**308**	*e*P	**P**	**12 07 37.5**	**-0.3**
	comp=Z,3.2nm,0.8s						
ZALV	**Zalesovo Beam**	**39.58**	**308**	P	**P**	**12 07 37.4**	**-0.4**
	comp=Z,3.2nm,0.7s,baz=84,slow=7.4,SNR=16						
ZALV	**Zalesovo Beam**	**39.58**	**308**	*e*P	**P**	**12 07 36.9**	**-0.9**
WMQ	**Urumqi**	**39.90**	**292**	*e*P	**P**	**12 07 41.6**	**+1.0**
WMQ				LR	LR		
	comp=N,130nm,14.9s						
WMQ				LR	LR		
	comp=E,140nm,13.9s						
WMQ				LR	LR		
	comp=Z,140nm,13.9s						
KDAK	**Kodiak Island**	**42.50**	**46**	P	**P**	**12 08 01.9**	**+0.3**
	comp=Z,12nm,1.0s,baz=218,slow=1.7,SNR=6.8						
MK01	**Makanchi Array**	**42.67**	**298**	*e*P	**P**	**12 08 02.9**	**-0.4**
MK31	**Makanchi Array**	**42.67**	**298**	*e*P	**P**	**12 08 03.1**	**-0.1**
MK31	**Makanchi Array**	**42.67**	**298**	*e*P	**P**	**12 08 03.1**	**-0.1**
MKAR	**Makanchi Array**	**42.67**	**298**	P	**P**	**12 08 02.6**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=84,slow=9.6,SNR=23						
MKAR	**Makanchi Array**	**42.67**	**298**	*e*P	**P**	**12 08 03.1**	**-0.1**
	comp=Z,22nm,0.8s						
MKAR	**Makanchi Array**	**42.67**	**298**	*e*P	**P**	**12 08 03.1**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,22nm,0.8s						
MAKZ	**Makanchi**	**42.87**	**298**	*e*P	**P**	**12 08 04.8**	**-0.1**
	comp=Z,6.5nm,1.1s						
MAKZ	**Makanchi**	**42.87**	**298**	*e*P	**P**	**12 08 04.8**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KURK	**Kurchatov**	**43.94**	**304**	P	**P**	**12 08 13.3**	**0.0**
KURK	**Kurchatov**	**43.94**	**304**	*ce*P	**P**	**12 08 11.9**	**-1.5**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KURBB	**Kurchatov Arra**	**44.02**	**304**	P	**P**	**12 08 13.3**	**-0.6**
	comp=Z,3.0nm,0.5s,baz=76,slow=8.8,SNR=19						
CMAR	**Chiang Mai Arr**	**44.20**	**251**	P	**P**	**12 08 16.4**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=40,slow=7.8,SNR=4.1						
ILAR	**Eielson Array**	**44.51**	**35**	P	**P**	**12 08 18.0**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=263,slow=6.3,SNR=16						
BRVK	**Borovoye**	**48.24**	**309**	*i* P	**P**	**12 08 49.7**	**+2.6**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
OTUK	**Ortayu**	**48.59**	**303**	P	**P**	**12 08 50.2**	**+0.2**
OTUK				pmax	pmax		
	comp=Z,4.0nm,2.4s						
SFK	**Sufi-Kurgan**	**51.13**	**292**	P	**P**	**12 09 08.9**	**-0.7**
SFK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KK31	**Karatay Array**	**51.79**	**297**	*e*P	**P**	**12 09 13.8**	**-0.4**
KK31	**Karatay Array**	**51.79**	**297**	*e*P	**P**	**12 09 13.8**	**-0.4**
KKAR	**Karatay Array**	**51.79**	**297**	*e*P	**P**	**12 09 13.6**	**-0.6**
KKAR	**Karatay Array**	**51.79**	**297**	*e*P	**P**	**12 09 13.6**	**-0.6**
SVE	**Sverdlovsk**	**52.23**	**316**	*e*P	**P**	**12 09 17.1**	**-0.1**
ARU	**Arti**	**53.44**	**316**	*e*P	**P**	**12 09 25.3**	**-0.9**
	comp=Z,16nm,0.8s						
ARU	**Arti**	**53.44**	**316**	*c i*P	**P**	**12 09 25.4**	**-0.7**
ARU						12 11 23.4	
ARU				S	**S**	**12 16 54.1**	**+0.5**
ARU				SS	**SS**	**12 20 30.5**	**-3.3**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ABKAR	**Akbulak array**	**55.70**	**308**	*e*P	**P**	**12 09 41.9**	**-0.7**
SPITS	**Spitsbergen Ar**	**55.74**	**348**	LR	LR	12 33 49.5	
	comp=Z,47nm,20.6s,baz=25,slow=36						
YKA	**Yellowknife Ar**	**58.75**	**32**	P	**P**	**12 10 04.2**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=305,slow=6.6,SNR=10						
ARCES	**ARCESS Array B**	**59.66**	**339**	P	**P**	**12 10 09.8**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=47,slow=7.1,SNR=3.7						
JOF	**Joensuu**	**62.06**	**331**	P	**P**	**12 10 25.2**	**-1.2**
JOF				pmax	pmax		
	comp=Z,10.0nm,2.2s						
WRA	**Warramunga Arr**	**62.33**	**189**	LR	LR	12 36 23.6	
	comp=Z,17nm,20.4s,baz=20,slow=35						
GEYT	**Alibeck**	**62.54**	**297**	P	**P**	**12 10 29.5**	**-0.7**
	comp=Z,8.6nm,0.3s,baz=264,slow=3.0,SNR=4.3						
PALK	**Pallekele**	**64.78**	**256**	*i* P	**P**	**12 10 41.1**	**-4.1**
FINES	**FINESS Array B**	**64.88**	**332**	P	**P**	**12 10 44.0**	**-1.1**
	comp=Z,2.7nm,0.7s,baz=42,slow=5.9,SNR=11						
FINES	**FINESS Array B**	**64.88**	**332**	*ce*P	**P**	**12 10 44.2**	**-0.9**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KIV	**Kislovodsk**	**68.54**	**310**	*i* P	**P**	**12 11 08.5**	**-0.3**
KIV				*i*		12 11 33.0	
KIV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBZ	**Khabaz**	**68.56**	**310**	P	**P**	**12 11 09.2**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=42,slow=14,SNR=4.1						
NB2	**NORSAR Subarra**	**69.95**	**337**	P	**P**	**12 11 16.1**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=36,slow=6.2						
NOA	**NORSAR Array B**	**69.95**	**337**	P	**P**	**12 11 16.1**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=36,slow=6.2,SNR=9.0						
SFJD	**Kangerlussuaq**	**70.66**	**6**	LR	LR	12 42 39.8	
	comp=Z,31nm,18.1s,baz=220,slow=36						
NVAR	**Mina Array Bea**	**70.94**	**55**	P	**P**	**12 11 25.5**	**+1.7**
	comp=Z,1.5nm,0.7s,baz=296,slow=5.7,SNR=11						
AKASG	**Malin Array Be**	**71.03**	**322**	P	**P**	**12 11 22.8**	**-1.1**
	comp=Z,1.6nm,0.7s,baz=42,slow=5.7,SNR=5.8						
AKASG	**Malin Array Be**	**71.03**	**322**	*ce*P	**P**	**12 11 23.2**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FRB	**Frobisher Bay**	**71.48**	**14**	P	**P**	**12 11 26.0**	**-0.3**
PDAR	**Pinedale Array**	**73.19**	**47**	P	**P**	**12 11 38.0**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=254,slow=1.5,SNR=9.0						
STKA	**Stephens Creek**	**73.70**	**181**	P	**P**	**12 11 43.1**	**+3.3**
	comp=Z,1.6nm,0.6s,baz=344,slow=5.6,SNR=6.5						
BRTR	**Keskin Array B**	**76.41**	**312**	P	**P**	**12 11 55.6**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=54,slow=2.5,SNR=3.1						
CLL	**Collm**	**77.27**	**331**	*e*P	**P**	**12 12 00.0**	**-0.2**
TXAR	**Lajitas Array**	**86.00**	**54**	P	**P**	**12 12 48.2**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=297,slow=4.4,SNR=12						

NIED ***02*** *12:01:00, 24°.00N×121°.80E, h5km, Mw4.4   Best double couple: $M_0$4.07000×10^{15} NP1:ϕ_s215.00000°, δ13.00000°, λ63.00000°.   NP2:ϕ_s63.00000°, δ78.00000°, λ96.00000°.*

IDC ***02*** *12:01:44.8±0.6, 23°.83N×121°.72E, h0km, mb4.1/18, mb1 4.2/20, mb1mx4.1/42, mbtmp4.1/20, ML3.7/2, MS3.4/5, Ms1 3.5/5, ms1mx3.1/30, Error ellipse: s-maj=20.7km s-min=14.3km az=66.0*

BJI ***02*** *12:01:45.5, 23°.93N×121°.79E, h5km, mb4.3/33, mB4.5/19, ML4.4/6, Ms4.5/33, Ms7 4.3/31*

JMA ***02*** *12:01:46.1±0.2, 23°.96N×121°.75E, h0km, M4.5*

ISCJB ***02*** *12:01:46.3±0.3, 23°.938N±0°.009×121°.80E±0°.01, h6km±1km, mb4.3/46, Error ellipse: s-maj=1.9km s-min=1.3km az=35.4*

TAP ***02*** *12:01:46.5, 23°.97N×121°.74E, h7km, ML4.7, B*

NEIC ***02*** *12:01:47.1±0.3, 23°.90N×121°.80E, h10km, mb4.4/11, Error ellipse: s-maj=6.1km s-min=4.9km az=125.0*

MOS ***02*** *12:01:48.2±1.4, 23°.86N×121°.84E, h33km, mb4.7/16, Error ellipse: s-maj=10.0km s-min=7.3km az=111.2*

ISC 02 12:01:47.1±0.8**, 23°.94N**±0°.01×**121°.77E**±0°.02**, h9**km±5km**,** **n245,** σ**1**^{s}**29**/348**, mb4.4**/46**, 52C-3D, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.16**	**284**	⇓*i*P	**Pg**	**12 01 50.1**	**-0.4**
	baz=263						
HWA				S	**Sg**	**12 01 52.7**	**-0.1**
	baz=263						
ENLB	**Shoufeng**	**0.16**	**258**	⇑P	**Pg**	**12 01 50.6**	**+0.1**
	baz=233						
ENLB				S	**Sg**	**12 01 53.8**	**+0.9**
	baz=233						
TWD	**Chiawan**	**0.21**	**312**	⇑*i*P	**Pg**	**12 01 50.6**	**-0.8**
	baz=297						
TWD				S	**Sg**	**12 01 53.9**	**-0.5**
	baz=297						
NACB	**Ninganchiao**	**0.28**	**326**	*e*Pg	**Pg**	**12 01 51.8**	**-1.0**
NACB				*e*Sg	**Sg**	**12 01 56.1**	**-0.5**
NACB	**Ninganchiao**	**0.28**	**326**	⇑P	**Pg**	**12 01 51.9**	**-1.0**
	baz=314						
NACB				S	**Sg**	**12 01 55.7**	**-1.0**
	baz=314						
ESL	**Shilin**	**0.33**	**248**	⇑*i*P	**Pg**	**12 01 53.3**	**-0.4**
	baz=248						
ESL				S	**Sg**	**12 01 58.2**	**+0.1**
	baz=248						
ENA	**Nanau**	**0.49**	**357**	⇑*i*P	**Pg**	**12 01 56.3**	**-0.3**
	baz=348						
ENA				S	**Sg**	**12 02 03.4**	**+0.4**
	baz=348						
WHF	**Hehuan Shan**	**0.51**	**294**	⇑*i*P	**Pg**	**12 01 56.1**	**-0.9**
	baz=288						
WHF				S	**Sg**	**12 02 03.1**	**-0.7**
	baz=288						
HGSD	**Ruisui**	**0.55**	**216**	⇓P	**Pb**	**12 01 58.5**	**-0.2**
	baz=210						
HGSD				*e*S	**Sb**	**12 02 07.2**	**+0.5**
	baz=210						
CHGB	**Renai**	**0.56**	**283**	⇑P	**Pg**	**12 01 57.4**	**-0.6**
	baz=276						
CHGB				S	**Sg**	**12 02 04.5**	**-0.9**
	baz=276						
EHY	**Hungye**	**0.59**	**224**	⇑*i*P	**Pg**	**12 01 58.7**	**0.0**
	baz=206						
EHY				S	**Sb**	**12 02 07.7**	**-0.4**
	baz=206						
NNSB	**Datong**	**0.60**	**324**	⇑P	**Pg**	**12 01 58.1**	**-0.7**
	baz=320						
NNSB				S	**Sg**	**12 02 06.5**	**-0.2**
	baz=320						
VWDT	**VWDT**	**0.60**	**252**	⇑P	**Pg**	**12 01 58.7**	**-0.1**
	baz=255						
VWDT				S	**Sg**	**12 02 06.2**	**-0.5**
	baz=255						
NNS	**Nan Shan**	**0.62**	**324**	⇑*i*P	**Pg**	**12 01 58.4**	**-0.7**
	baz=320						
NNS				S	**Sg**	**12 02 06.9**	**-0.3**
	baz=320						
TWT	**Tachien**	**0.63**	**300**	⇑P	**Pg**	**12 01 58.9**	**-0.3**
	baz=296						
TWT				S	**Sg**	**12 02 08.1**	**+0.6**
	baz=296						
TDCB	**Techi**	**0.64**	**299**	⇑P	**Pg**	**12 01 59.0**	**-0.6**
	baz=296						
TDCB				S	**Sg**	**12 02 07.2**	**-0.8**
	baz=296						
TWC	**Suao**	**0.67**	**6**	⇑P	**Pg**	**12 02 00.1**	**0.0**
	baz=2.0						
TWC				S	**Sb**	**12 02 09.7**	**-0.7**
	baz=2.0						
EOS1	**EOS1**	**0.69**	**28**	*e*P	**Pn**	**12 02 02.2**	**-0.7**
	baz=53						
EOS1				*e*S	**Sn**	**12 02 14.7**	**+1.0**
	baz=53						
YULB	**Yu-li**	**0.69**	**219**	*e*Pg	**Pg**	**12 02 00.6**	**+0.1**
YULB				*e*Sg	**Sg**	**12 02 09.3**	**-0.3**
YULB	**Yu-li**	**0.69**	**219**	*e*P	**Pg**	**12 02 00.2**	**-0.3**
	baz=214						
YULB				S	**Sb**	**12 02 10.9**	**-0.1**
	baz=214						
ENTT	**Nioudou**	**0.72**	**345**	⇑*i*P	**Pg**	**12 02 00.8**	**-0.3**
	baz=334						
ENTT				S	**Sg**	**12 02 10.5**	**0.0**
	baz=334						
TWF1	**Yuli**	**0.73**	**217**	*e*P	**Pg**	**12 02 01.2**	**0.0**
	baz=228						
TWF1				*e*S	**Sb**	**12 02 11.2**	**-0.7**
	baz=228						
SSLB	**Suanglung**	**0.76**	**259**	*e*Pg	**Pg**	**12 02 01.1**	**-0.7**
SSLB	**Suanglung**	**0.76**	**259**	⇑P	**Pg**	**12 02 01.4**	**-0.4**
	baz=263						

SSLB eS Sg 12 02 11.3 -0.4
baz=263
TWE Neicheng 0.79 353 ⇑P Pg 12 02 02.0 -0.2
baz=345
TWE eS Sg 12 02 12.5 0.0
baz=345
SMLT Sun Moon Lake 0.80 266 ⇑*i*P Pg 12 02 02.1 -0.4
baz=271
SMLT eS Sg 12 02 11.9 -1.0
baz=271
YHNB Yeheng 0.81 334 *e*Pg Pg 12 02 02.7 0.0
YHNB *e*Sn Sg 12 02 13.4 0.0
YHNB Yeheng 0.81 334 ⇑P Pg 12 02 02.3 -0.5
baz=333
YHNB S Sg 12 02 13.2 -0.2
baz=333
SLBB Yuanshan 0.82 351 ⇑P Pg 12 02 02.8 -0.2
baz=340
SLBB S Sb 12 02 14.5 -0.2
baz=340
ILA Ilan 0.82 359 P Pg 12 02 03.0 0.0
baz=351
ILA S Sb 12 02 14.8 +0.1
baz=351
NSK Sanguang 0.82 333 ⇑*i*P Pg 12 02 02.5 -0.5
baz=332
NSK S Sg 12 02 13.5 -0.3
baz=332
TYC Yuchr 0.84 268 ⇑*i*P Pg 12 02 02.7 -0.5
baz=272
TYC S Sg 12 02 13.5 -0.6
baz=272
NWLT Wulai 0.87 344 ⇑*e*P Pg 12 02 03.6 -0.3
baz=329
YUS Yu-Shan 0.87 239 P Pg 12 02 04.0 0.0
baz=233
YUS S Sg 12 02 15.9 +0.5
baz=233
CHKT Chengkung 0.91 204 *e*P Pg 12 02 04.5 -0.1
baz=201
CHKT eS Sn 12 02 19.6 +0.3
baz=201
NTC Toucheng 0.91 3 *e*P Pg 12 02 04.5 -0.2
baz=351
EGS 0.92 9 *e*P Pb 12 02 05.0 -0.1
baz=11
WJS Zhushan 0.96 263 *e*P Pg 12 02 05.7 +0.1
baz=265
WJS S Sb 12 02 19.3 +0.7
baz=265
ALS Alishan 0.98 244 ⇑P Pg 12 02 05.8 -0.2
baz=238
ALS eS Sb 12 02 19.6 0.0
baz=238
NSTT Nanjuang 0.98 315 ⇑*i*P Pg 12 02 05.8 -0.2
baz=310
NSTT S Sg 12 02 18.9 0.0
baz=310
LIOB Emei 0.98 316 ⇑P Pg 12 02 06.0 -0.1
baz=311
LIOB S Sg 12 02 18.8 -0.1
baz=311
WNT Mingjian 1.00 267 ⇑*i*P Pb 12 02 06.6 +0.1
baz=268
WNT S Sb 12 02 20.3 +0.6
baz=268
TWQ1 Liyutan 1.00 294 ⇑P Pg 12 02 06.3 0.0
baz=301
TWQ1 S Sb 12 02 19.8 0.0
baz=301
ELDTW Lidau 1.02 223 *e*P Pg 12 02 05.6 -1.0
baz=205
ELDTW eS Sb 12 02 20.1 -0.3
baz=205
TCU Taichung 1.02 282 *e*P Pn 12 02 07.2 -0.3
baz=273
TCU eS Sn 12 02 21.7 -0.3
baz=273
TIPB Shuangxi 1.03 3 ⇑P Pg 12 02 06.8 -0.1
baz=353
NSY Sanyi 1.04 298 ⇑P Pb 12 02 07.4 +0.2
baz=303
NSY eS Sb 12 02 20.9 -0.1
baz=303
TWA Mucha 1.05 351 ⇑*i*P Pg 12 02 07.0 -0.3
baz=351
TWA S Sb 12 02 21.3 0.0
baz=351
CHN5 Tsauling 1.06 251 ⇑P Pb 12 02 07.6 0.0
baz=234
CHN5 S Sn 12 02 22.6 -0.3
baz=234
TATO Taipei 1.06 346 *e*Pg Pb 12 02 07.8 +0.1
TATO eSg Sg 12 02 21.2 -0.2
TATO Taipei 1.06 346 ⇑*e*P Pg 12 02 07.2 -0.4
baz=335
TATO eS Sg 12 02 21.4 -0.1
baz=335
NMLH Miaoli 1.07 304 ⇑P Pn 12 02 08.2 -0.1
baz=298
NMLH S Sb 12 02 22.6 +0.7
baz=298
PTSB Yuanli 1.10 298 *e*P Pg 12 02 08.2 0.0
baz=303
PTSB eS Sn 12 02 23.8 0.0
baz=303
SBCB Hsinchu 1.11 320 P Pn 12 02 08.9 +0.1
baz=316
SBCB S Sb 12 02 23.6 +0.6
baz=316
WCHH Zhanghua 1.12 277 *e*P Pb 12 02 08.4 -0.1
baz=270
WCHH eS Sn 12 02 25.4 +1.1
baz=270
HSN Hsinchu 1.13 320 *e*P Pn 12 02 09.0 0.0
baz=318
HSN eS Sn 12 02 24.1 -0.5
baz=318
NWF Wu-fen Shan 1.13 1 ⇑*i*P Pb 12 02 08.7 -0.1
baz=352
NWF eS Sg 12 02 21.9 -1.6
baz=352
WFSB Wu-fen Shan 1.13 1 ⇑P Pb 12 02 08.8 0.0
baz=352
WFSB eS Sg 12 02 21.9 -1.6
baz=352
WGK Gukeng 1.13 257 *e*P Pn 12 02 09.2 +0.1
baz=250
WGK eS Sn 12 02 26.2 +1.4
baz=250
WDLH Douliu 1.16 258 *e*P Pn 12 02 09.4 0.0
baz=251
NCUH Zhongli 1.16 333 *e*P Pb 12 02 08.4 -0.8
baz=331
NCUH eS Sn 12 02 25.9 +0.5
baz=331
NCU National Centr 1.16 333 P Pb 12 02 09.0 -0.2
baz=331
NCU eS Sn 12 02 26.1 +0.8
baz=331
JYNG Yonagunijimaku 1.19 64 P Pb 12 02 09.5 -0.3
JYNG S Sn 12 02 27.3 +1.2
TWS1 Kuangyinshan 1.20 345 ⇑P Pg 12 02 10.2 0.0
baz=345
TWS1 eS Sn 12 02 27.5 +1.1
baz=345
YM01 YM01 1.22 351 ⇑P Pg 12 02 11.1 +0.6
baz=348
YM01 eS Sn 12 02 27.4 +0.5
baz=348
TPUB Ta-pu 1.22 239 *e*Pn Pg 12 02 10.8 +0.2
TPUB Ta-pu 1.22 239 *e*P Pn 12 02 10.3 -0.1
baz=233
TPUB eS Sg 12 02 26.4 -0.1
baz=233
CHN4 Tsaushan 1.23 242 *e*P Pb 12 02 10.4 0.0
baz=236
CHN4 eS Sn 12 02 28.4 +1.3
baz=236
YM10 YM10 1.23 351 ⇑P Pn 12 02 10.3 -0.1
baz=348
YM10 eS Sn 12 02 27.1 0.0
baz=348
YM04 YM04 1.23 350 P Pn 12 02 10.3 -0.2
baz=341
YM04 eS Sn 12 02 27.1 -0.1
baz=341
YM05 YM05 1.23 351 ⇑P Pn 12 02 10.5 0.0
baz=348
YM05 eS Sn 12 02 28.0 +0.6
baz=348
YM11 YM11 1.23 352 ⇑P Pb 12 02 10.7 0.0
baz=348
YM11 eS Sn 12 02 27.7 +0.3
baz=348
YM07 YM07 1.24 354 P Pn 12 02 10.6 0.0
baz=349
YOJ Yonaguni jima 1.25 65 *e*Pn Pg 12 02 10.9 -0.1
YOJ Yonaguni jima 1.25 65 ⇓P Pn 12 02 10.5 -0.1
baz=70
YOJ Yonaguni jima 1.25 65 *e*P Pg 12 02 10.9 -0.1
YOJ Yonaguni jima 1.25 65 P Pn 12 02 10.6 -0.1
YOJ *e*S Sn 12 02 29.0 +1.5
CHN2 Minshiung 1.25 251 *e*P Pg 12 02 11.3 +0.1
baz=244
CHN2 eS Sn 12 02 29.1 +1.4
baz=244
YM03 YM03 1.25 350 ⇑P Pn 12 02 10.8 0.0
baz=351
YM03 eS Sn 12 02 28.1 +0.3
baz=351
YM08 YM08 1.25 353 ⇑P Pn 12 02 10.6 -0.2
baz=330
YM08 eS Sb 12 02 26.1 -1.1
baz=330
NTST Danshui 1.26 347 *e*P Pn 12 02 10.7 0.0
baz=340
WTP Ta-pu 1.27 237 *e*P Pb 12 02 11.1 0.0
baz=231
WTP eS Sn 12 02 28.6 +0.5
baz=231
TWGBT Beinan 1.28 210 *e*P Pn 12 02 08.9 -2.3
baz=200
TWG Pinlang 1.28 210 *e*Pn Pn 12 02 09.3 -1.8
TWG Pinlang 1.28 210 *e*P Pn 12 02 08.9 -2.2
baz=200
RLNB Erlin 1.29 268 ⇑P Pn 12 02 10.9 -0.3
baz=261
RLNB S Sg 12 02 28.9 +0.2
baz=261
CHY Chiayi 1.31 251 *e*P Pn 12 02 11.2 -0.3
baz=243
CHY eS Sg 12 02 29.6 +0.3
baz=243
TTN Taitung 1.31 206 *e*P Pg 12 02 13.2 +0.9
baz=204
TWY Chenhua 1.34 353 *e*P Pg 12 02 12.7 -0.2
baz=348
TWK Hsinying 1.35 241 *e*P Pb 12 02 12.5 -0.1
baz=234
TWK eS Sg 12 02 31.4 +0.8
baz=234
CHN1 Nanshi 1.36 237 *e*P Pg 12 02 13.1 -0.2
baz=231
CHN1 eS Sg 12 02 31.2 +0.2
baz=231
WTCT Ta-ch'eng 1.36 267 *e*P Pn 12 02 12.3 +0.1
baz=259
WTCT S Sg 12 02 31.5 +0.5
baz=259
SGST Jiashian 1.38 232 P Pb 12 02 12.8 -0.2
baz=213
SGST S Sg 12 02 32.9 +1.3
baz=213
SLGT Liugui 1.40 228 *e*P Pn 12 02 12.8 +0.1
baz=212
WLGB Puzi 1.42 252 *e*P Pn 12 02 13.3 +0.2
baz=244
WLGB eS Sg 12 02 33.6 +0.7
baz=244
WMLT Mailiao 1.42 265 *e*P Pn 12 02 12.9 -0.1
baz=258
WSF Szhu 1.45 258 *e*P Pn 12 02 13.8 +0.3
baz=252
ECL Taimali 1.53 210 *e*P Pn 12 02 13.2 -1.3
baz=206
ECL eS Sn 12 02 33.7 -0.9
baz=206
CHN8 Yiju 1.55 248 P Pn 12 02 15.1 +0.4
baz=240
CHN8 eS Sg 12 02 36.6 -0.2
baz=240
CHN3 Shinhua 1.55 237 P Pb 12 02 16.2 +0.3
baz=230
CHN3 eS Sg 12 02 38.5 +1.6
baz=230
SSD Sandimen 1.58 222 *e*P Pn 12 02 15.1 -0.1
baz=207
SSD eS Sg 12 02 37.4 -0.6
baz=207
SCLT Jiali 1.63 243 *e*P Pb 12 02 16.9 -0.4
baz=237
TWM1 Shoushan 1.66 228 *e*P Pg 12 02 18.8 -0.2
baz=224
TAI1 Yung-k'ang 1.67 238 *e*P Pb 12 02 17.8 -0.3
baz=233
MASBT Mashibuluo 1.68 219 *e*P Pn 12 02 16.8 +0.1
baz=214
MASBT eS Sg 12 02 40.4 -0.9
baz=214
SGLT Jiouru 1.69 224 *e*P Pg 12 02 18.9 -0.5
baz=206
PCYT Pengchaiyu 1.71 9 *e*P Pn 12 02 17.3 +0.3
baz=5.0
EAST Anshuo 1.77 209 *e*P Pn 12 02 15.9 -1.9
baz=195
EAST eS Sn 12 02 40.8 +0.4
baz=195
TAW Tawu 1.77 207 *e*P Pn 12 02 18.3 +0.5
baz=195
IRIF Iriomote-Funau 1.83 77 P Pn 12 02 18.8 +0.1
IRIF S Sb 12 02 43.6 -0.2
HATJ Hateruma jima 1.86 86 P Pn 12 02 19.3 +0.2
HATJ S Sb 12 02 44.0 -0.7
SCZT Fangliau 1.88 214 *e*P Pb 12 02 20.8 -0.8
baz=196
SCZT eS Sb 12 02 45.9 +0.7
baz=196
LAY Lan-yu 1.90 186 *e*P Pn 12 02 16.7 -3.0
baz=187
KAU Kaohsiung 1.92 225 *e*P Pb 12 02 21.2 -0.9
baz=221
WLCH Liuqiu 2.03 219 *e*P Pg 12 02 25.5 -0.6
baz=216
TWP Hsiaoliuchiu 2.05 220 *e*P Pb 12 02 24.2 -0.2
baz=216
WDGT Dungji 2.05 251 *e*P Pn 12 02 21.5 -0.2
baz=243
WDGT eS Sn 12 02 47.7 +0.3
baz=243
PHUB P'eng-hu 2.06 259 *e*P Pn 12 02 21.9 +0.1
baz=250
PHUB eS Sn 12 02 47.9 +0.3
baz=250
PNG Penghu 2.06 260 *e*P Pn 12 02 22.3 +0.4
baz=251
PNG eS Sn 12 02 46.9 -0.8
baz=251
JKRS Kuro-shima 2.07 81 P Pn 12 02 22.3 +0.4
JKRS S Sb 12 02 49.9 -0.6
HEN Hengchun 2.15 207 *e*P Pb 12 02 24.6 -1.5
baz=193
TWK1 Hengchun 2.17 204 *e*P Pn 12 02 23.6 +0.2
baz=191
TWKBT Hengchun 2.17 204 *e*P Pn 12 02 24.2 +0.8
baz=191
TSEB Hengchuen, Pin 2.18 202 *e*P Pn 12 02 23.3 -0.2
baz=191
JIJ Ishigaki jima 2.21 78 P Pn 12 02 23.5 -0.4
JIJ *e*S Sn 12 02 51.3 0.0
VCHM Qimei 2.27 252 *e*P Pn 12 02 23.7 -0.9
baz=245
VWUC VWUC 2.36 297 *e*P Pn 12 02 24.9 -1.0
baz=289
PTTC Pingtan 2.39 311 *e*P Pn 12 02 25.4 -1.0
baz=303
JISG Ishigakijimahi 2.41 74 P Pn 12 02 26.3 -0.3
JISG *e*S Sn 12 02 56.5 +0.3
PTMZ Houxiangcun 2.65 295 *e*P Pn 12 02 28.9 -1.1
baz=286
MATB Ma-tsu 2.76 323 *e*P Pn 12 02 31.2 -0.2
baz=314
JTJ Tarama 2.77 75 P Pn 12 02 32.2 +0.7
JTJ *e*S Sn 12 03 05.6 +0.6
QZH Quanzhou 3.06 290 ⇑*i*Pn Pn 12 02 35.4 -0.2
QZH Sn Sn 12 03 10.0 -2.4
QZH LR LR
comp=N,3μm,6.9s
QZH LR LR
comp=E,4μm,6.6s
QZH LR LR
comp=Z,5μm,7.8s
KNM Kinmen 3.08 280 *e*P Pn 12 02 37.0 +1.1
baz=270
KNMB Chin-men Tao 3.13 280 ⇑P Pn 12 02 36.0 -0.6
baz=271
LYJJ Jianjiangzhen 3.17 325 *e*P Pn 12 02 37.5 +0.3
baz=317
JIRB Irabujima 3.23 73 P Pn 12 02 38.0 +0.1
JIRB S Sn 12 03 16.7 +0.3
MHZQ Yeshan 3.29 311 *e*P Pn 12 02 38.3 -0.4
baz=304
XPSS Dashiqiu 3.30 335 *e*P Pn 12 02 38.8 -0.2
baz=326
JIKM Ikemajima 3.32 72 P Pn 12 02 39.9 +0.8
JIKM S Sn 12 03 19.2 +0.5
JMJ Miyako jima 2 3.33 74 S Sn 12 03 19.9 +1.0
JOGS Gusukube 3.42 75 P Pn 12 02 41.9 +1.4
JOGS S Sn 12 03 23.3 +2.2
AXDP Jialang 3.59 286 *e*P Pn 12 02 42.5 -0.5
baz=277
ZPLA Ao Xicun 3.68 271 *e*P Pn 12 02 43.5 -0.6
baz=262
ZZJH Jiuhuzhen 3.82 279 *e*P Pn 12 02 45.2 -0.8
baz=270
JOW Kunigami 6.55 63 Pn Pn 12 03 22.2 -1.4
4.2nm,0.3s,baz=220,slow=11,SNR=13
JOW Sn Sn 12 04 40.1 +1.7
baz=144,slow=19,SNR=1.8
JOW Kunigami 6.55 63 *e*Pn Pn 12 03 22.5 -1.1
JOW Sn Sn 12 04 40.1 +1.7
JOW Kunigami 6.55 63 *e*P Pn 12 03 22.2 -1.4
baz=76
GZH Guangzhou 7.78 265 P Pn 12 03 35.0 -5.5
GZH S Sn 12 04 56.1 -13
GZH smax smax
comp=N,380nm,1.1s
GZH smax smax
comp=E,240nm,0.9s
NJ2 Nanjing 8.48 343 *e*P Pn 12 03 49.2 -0.9
NJ2 S Sn 12 05 24.3 -1.6
NJ2 pmax pmax
comp=E,23nm,0.6s
NJ2 smax smax
comp=E,160nm,1.0s
NJ2 smax smax
comp=E,160nm,1.0s
NJ2 LR LR
comp=E,1μm,9.2s
NJ2 LR LR
comp=E,1μm,6.8s
NJ2 LR LR
comp=E,2μm,8.1s
WHN Wuhan 9.32 317 *e*P Pn 12 04 04.3 +2.7
WHN S Sn 12 05 48.0 +1.5
WHN LR LR
comp=E,4μm,7.5s
WHN LR LR
comp=E,3μm,8.9s
WHN LR LR
comp=E,4μm,9.0s
QIZ Qiongzhong 12.13 249 P Pn 12 04 39.1 -1.0
QIZ S Sn 12 06 54.0 -1.5
QIZ pmax pmax
comp=E,22nm,1.1s
QIZ LR LR
comp=E,620nm,13.7s
QIZ LR LR
comp=E,300nm,14.2s
QIZ LR LR
comp=E,360nm,8.8s
GYA Guiyang 13.90 284 P P 12 05 22.1 +9.3
GYA S Sn 12 07 41.0 +1.9
GYA pmax pmax
comp=Z,20nm,0.8s
GYA LR LR
comp=N,720nm,7.1s
GYA LR LR
comp=E,1μm,9.9s
GYA LR LR
comp=Z,1μm,8.7s
KSAR Wonju Array Be 14.45 20 Pn P 12 05 15.8 -2.8
KSAR Wonju Array Be 14.45 20 P P 12 05 15.8 -2.8
KSRS Korea Array 14.47 20 Pn P 12 05 15.8 -3.0
comp=Z,0.1nm,0.3s,baz=200,slow=12,SNR=6.3
XAN Xi'an 15.08 315 P P 12 05 23.4 -2.3
XAN pP pP 12 05 26.0 -1.9
XAN sP sP 12 05 28.4 -0.6
XAN S Sn 12 08 11.2 +3.7
XAN pmax pmax
comp=Z,8.0nm,0.8s
XAN LR LR
comp=Z,720nm,7.9s
XAN LR LR
comp=Z,890nm,7.3s
XAN LR LR
comp=Z,1μm,9.2s
DAV Davao City (W) 17.17 167 LR LR 12 12 24.2
comp=Z,65nm,18.0s,baz=342,slow=38
KMI Kunming 17.36 278 P Pn 12 05 50.1 +0.2
KMI pmax pmax
comp=Z,20nm,0.6s
KMI LR LR
comp=Z,410nm,9.6s
KMI LR LR
comp=Z,1μm,9.9s
KMI LR LR
comp=Z,1μm,9.6s
NONG Nongkai 18.34 255 P P 12 06 20.9 +19
HHC Hu-ho-hao-te 18.91 335 *e*P Pn 12 06 09.5 +0.8
HHC S S 12 09 46.8 +3.6
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,100nm,6.1s
HHC LR LR
comp=Z,800nm,8.4s
HHC LR LR
comp=Z,420nm,9.2s
HHC LR LR
comp=Z,400nm,9.5s
MJAR Matsushiro Arr 18.93 45 P Pn 12 06 09.2 +0.4
comp=Z,0.1nm,0.3s,baz=236,slow=8.7,SNR=2.8
LZH Lanzhou 19.65 312 *e*P P 12 06 14.9 -1.4
LZH pP sP 12 06 21.0 +1.4
LZH PP PnPn 12 06 34.4 +3.2
LZH *e*S S 12 09 48.8 -9.4
LZH SS SnSn 12 10 18.3 +5.5
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,95nm,4.3s
LZH LR LR
comp=Z,1μm,10.1s
LZH LR LR
comp=Z,1μm,10.3s
LZH LR LR
comp=Z,1μm,11.1s
CHAI Chaiyaphum 20.23 250 P Pn 12 06 32.8 +8.3
comp=Z,2.2nm,0.8s
LAMP Lampang 21.32 260 P P 12 06 40.7 +6.3
comp=Z,3.8nm,0.9s
CMMT Chiang Mai 21.85 261 P P 12 06 44.2 +4.2
comp=Z,8.2nm,1.2s
CHTO Chiang Mai 21.85 261 *e*P P 12 06 41.7 +1.6
comp=Z,9.5nm,1.1s
CHTO Chiang Mai 21.85 261 *e*P P 12 06 41.7 +1.6
CHTO pmax pmax
comp=Z,10.0nm,1.1s
CHTO Chiang Mai 21.85 261 P P 12 06 44.2 +4.1
comp=Z,37nm,1.2s
USRK Ussuriysk Ar. 21.88 20 P P 12 06 40.1 -0.1
comp=Z,2.2nm,0.8s,baz=183,slow=11,SNR=3.9
CM01 Chiang Mai Arr 21.96 260 *e*P P 12 06 42.2 +0.9
CMAR Chiang Mai Arr 21.96 260 P P 12 06 42.4 +1.1
comp=Z,0.9nm,0.7s,baz=64,slow=7.7,SNR=9.4
CMAR LR LR 12 16 30.2
comp=Z,86nm,19.9s,baz=65,slow=40
UMPA Umpang Tak 22.83 255 P P 12 07 00.2 +10
GTA Gaotai 24.14 315 *e*P P 12 07 05.2 +1.7
GTA pP sP 12 07 09.9 +2.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GTA				sP	pP	12 07 12.2	+6.1
GTA				S	**S**	**12 11 22.4**	**+0.9**
GTA				sS	sS	12 11 31.6	+6.0
GTA				pmax	pmax		
	comp=Z,3.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,100nm,6.2s						
GTA				LR	LR		
	comp=Z,270nm,9.8s						
GTA				LR	LR		
	comp=Z,300nm,12.4s						
GTA				LR	LR		
	comp=Z,410nm,10.8s						
KLR	**Kul'dur**	**26.44**	**15**	P	**P**	**12 07 25.9**	**+1.9**
	comp=Z,3.9nm,0.8s,baz=237,slow=2.9,SNR=6.6						
KLR	**Kul'dur**	**26.44**	**15**	*i* P	**P**	**12 07 22.6**	**-1.5**
ULN	**Ulaanbaatar**	**26.59**	**338**	*e*P	**P**	**12 07 25.4**	**-0.3**
	comp=Z,6.4nm,0.9s						
ULN	**Ulaanbaatar**	**26.59**	**338**	*ce*P	**P**	**12 07 25.9**	**+0.2**
ULN				pmax	pmax		
	comp=Z,18nm,2.5s						
SONM	**Songino Array**	**26.80**	**337**	P	**P**	**12 07 28.7**	**+1.2**
	comp=Z,4.4nm,0.8s,baz=154,slow=9.5,SNR=13						
SONM				LR	LR	12 19 06.6	
	comp=Z,187nm,18.6s,baz=90,slow=39						
SONA1	**Songino Array**	**26.81**	**337**	*e*P	**P**	**12 07 27.7**	**+0.1**
SHL	**Shillong**	**27.16**	**280**	*e*P	**P**	**12 07 33.5**	**+2.4**
	comp=Z,23nm,1.5s						
SHL	**Shillong**	**27.16**	**280**	*e*P	**P**	**12 07 33.5**	**+2.4**
SHL				pmax	pmax		
	comp=Z,23nm,1.5s						
LSA	**Lhasa**	**27.87**	**289**	*e*P	**P**	**12 07 39.1**	**+1.3**
LSA	**Lhasa**	**27.87**	**289**	*e*P	**P**	**12 07 39.1**	**+1.3**
ZEA	**Zeya**	**30.04**	**7**	*e*P	**P**	**12 07 56.9**	**+0.7**
ZEA				pmax	pmax		
	comp=Z,12nm,1.0s						
PBA	**Port Blair**	**30.14**	**251**	*e*P	P	12 07 58.0	+0.5
	comp=Z,247nm,1.3s						
PSI	**Prapat**	**30.48**	**230**	*e*P	**P**	**12 08 01.7**	**+1.1**
	comp=Z,7.3nm,1.0s						
PSI	**Prapat**	**30.48**	**230**	*e*P	**P**	**12 08 01.7**	**+1.1**
PSI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CISI	**Cisompet, Garu**	**34.14**	**205**	*e*P	**P**	**12 08 30.8**	**-1.7**
	comp=Z,99nm,1.4s						
WMQ	**Urumqi**	**34.21**	**314**	*e*P	**P**	**12 08 35.5**	**+2.5**
WMQ				LR	LR		
	comp=Z,130nm,13.9s						
WMQ				LR	LR		
	comp=Z,150nm,13.9s						
WMQ				LR	LR		
	comp=Z,140nm,12.1s						
DGZ	**Jazzator, Alta**	**37.12**	**323**	*i* P	**P**	**12 08 56.4**	**-1.6**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MK01	**Makanchi Array**	**38.87**	**316**	*e*P	**P**	**12 09 13.8**	**+1.1**
MKAR	**Makanchi Array**	**38.89**	**316**	P	**P**	**12 09 12.9**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=114,slow=9.4,SNR=8.0						
MAKZ	**Makanchi**	**39.09**	**316**	*e*P	**P**	**12 09 15.1**	**+0.6**
	comp=Z,6.5nm,1.1s						
MAKZ	**Makanchi**	**39.09**	**316**	*e*P	**P**	**12 09 15.1**	**+0.6**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
PETK	**Petropavlovsk-**	**39.77**	**34**	LR	LR	12 27 01.2	
	comp=Z,60nm,18.0s,baz=156,slow=38						
ZAA0	**Zalesovo Array**	**40.74**	**327**	*e*P	**P**	**12 09 28.7**	**+0.6**
	comp=Z,6.5nm,0.8s						
ZALV	**Zalesovo Beam**	**40.74**	**327**	P	**P**	**12 09 26.8**	**-1.3**
	comp=Z,6.4nm,0.7s,baz=111,slow=7.9,SNR=14						
ZALV				LR	LR	12 27 50.8	
	comp=Z,31nm,18.7s,baz=70,slow=38						
ZALV	**Zalesovo Beam**	**40.74**	**327**	*e*P	**P**	**12 09 28.3**	**+0.2**
ZALV	**Zalesovo Beam**	**40.74**	**327**	*e*P	**P**	**12 09 28.3**	**+0.2**
KURK	**Kurchatov**	**42.62**	**320**	*e*P	**P**	**12 09 43.3**	**-0.3**
	comp=Z,3.9nm,0.8s						
KURK	**Kurchatov**	**42.62**	**320**	*ce*P	**P**	**12 09 42.2**	**-1.3**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KURBB	**Kurchatov Arra**	**42.64**	**320**	P	**P**	**12 09 43.5**	**-0.2**
	comp=Z,3.5nm,0.9s,baz=110,slow=8.4,SNR=5.1						
AAK	**Ala-Archa**	**43.08**	**307**	*i* P	**P**	**12 09 45.9**	**-1.7**
AAK				pmax	pmax		
	comp=Z,13nm,3.6s						
COEN	**Coen**	**43.09**	**149**	*e*P	**P**	**12 09 48.2**	**+0.6**
	comp=Z,19nm,1.0s						
WRA	**Warramunga Arr**	**45.30**	**163**	P	**P**	**12 10 03.7**	**-1.7**
	comp=Z,1.3nm,0.7s,baz=345,slow=8.6,SNR=12						
KK31	**Karatay Array**	**46.05**	**307**	*e*P	**P**	**12 10 11.8**	**+0.7**
KK31	**Karatay Array**	**46.05**	**307**	*e*P	**P**	**12 10 11.8**	**+0.7**
KKAR	**Karatay Array**	**46.05**	**307**	*e*P	**P**	**12 10 11.6**	**+0.5**
KKAR	**Karatay Array**	**46.05**	**307**	*e*P	**P**	**12 10 11.6**	**+0.5**
TIXI	**Tiksi**	**47.91**	**3**	P	**P**	**12 10 23.8**	**-1.4**
	comp=Z,3.5nm,0.9s,baz=182,slow=2.2,SNR=4.5						
TIXI	**Tiksi**	**47.91**	**3**	*ce*P	**P**	**12 10 22.6**	**-2.6**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BRVK	**Borovoye**	**48.27**	**321**	*e*P	**P**	**12 10 29.6**	**+1.3**
	comp=Z,4.4nm,0.7s						
BRVK	**Borovoye**	**48.27**	**321**	*c i*P	**P**	**12 10 27.9**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ASAR	**Alice Springs**	**48.77**	**165**	P	**P**	**12 10 30.9**	**-1.4**
	comp=Z,1.0nm,0.8s,baz=339,slow=6.9,SNR=11						
ASAR	**Alice Springs**	**48.77**	**165**	P	**P**	**12 10 31.0**	**-1.4**
CTA	**Charters Tower**	**49.84**	**149**	P	**P**	**12 10 39.4**	**-1.2**
	comp=Z,4.2nm,0.8s,baz=337,slow=13,SNR=3.2						
BILL	**Bilibino**	**51.73**	**20**	*i* P	**P**	**12 10 54.5**	**+0.1**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ABKAR	**Akbulak array**	**53.99**	**314**	*e*P	**P**	**12 11 11.3**	**0.0**
SVE	**Sverdlovsk**	**54.56**	**324**	*e*P	**P**	**12 11 16.3**	**+1.0**
ARU	**Arti**	**55.62**	**323**	*e*P	**P**	**12 11 25.1**	**+2.0**
	comp=Z,16nm,0.8s						
ARU	**Arti**	**55.62**	**323**	*c i*P	**P**	**12 11 25.8**	**+2.7**
ARU						12 13 26.1	
ARU				S	**S**	**12 19 08.9**	**0.0**
ARU				SS	**SS**	**12 22 47.9**	**-5.8**
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PRGR	**Permogore**	**62.67**	**329**	*e*P	**P**	**12 12 10.9**	**-0.8**
PRGR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ZEI	**Tsey**	**65.50**	**308**	*e*P	**P**	**12 12 32.8**	**+1.8**
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KLMR	**Klimovskoe**	**65.66**	**328**	*e*P	**P**	**12 12 29.7**	**-1.6**
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KLMR	**Klimovskoe**	**65.66**	**328**	*e*P	**P**	**12 12 29.8**	**-1.6**
KLMR				AMP		12 12 34.1	
	comp=Z,10.0nm,1.3s						
KBZ	**Khabaz**	**66.05**	**309**	P	**P**	**12 12 35.7**	**+1.5**
	comp=Z,3.1nm,0.8s,baz=123,slow=2.6,SNR=6.1						
KIV	**Kislovodsk**	**66.16**	**309**	*i* P	**P**	**12 12 37.2**	**+2.1**
KIV				*i*		12 13 07.8	
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CAST	**Castle Rocks**	**67.17**	**29**	*e*P	**P**	**12 12 41.9**	**+0.8**
	comp=Z,8.1nm,1.0s						
MLY	**Manley**	**67.52**	**27**	*e*P	**P**	**12 12 43.9**	**+0.6**
	comp=Z,12nm,1.1s						
KDAK	**Kodiak Island**	**67.80**	**35**	*ce*P	**P**	**12 12 49.2**	**+4.1**
MDM	**Murphy Dome**	**68.59**	**27**	*e*P	**P**	**12 12 50.8**	**+0.8**
	comp=Z,15nm,1.2s						
ILAR	**Eielson Array**	**69.19**	**27**	P	**P**	**12 12 54.2**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=295,slow=7.7,SNR=11						
FINES	**FINESS Array B**	**71.93**	**330**	P	**P**	**12 13 09.5**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=72,slow=6.0,SNR=3.8						
DAWY	**Dawson**	**72.51**	**27**	*e*P	**P**	**12 13 15.6**	**+1.6**
	comp=Z,4.8nm,0.9s						
INK	**Inuvik**	**73.25**	**22**	*e*P	**P**	**12 13 18.2**	**0.0**
	comp=Z,3.6nm,1.0s						
INK	**Inuvik**	**73.25**	**22**	*e*P	**P**	**12 13 18.2**	**0.0**
INK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AKASG	**Malin Array Be**	**73.41**	**318**	P	**P**	**12 13 19.0**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=61,slow=5.5,SNR=3.3						
BR131	**Keskin Array S**	**73.75**	**307**	*e*P	**P**	**12 13 22.0**	**+0.1**
BRTR	**Keskin Array B**	**73.75**	**307**	P	**P**	**12 13 20.4**	**-1.5**
	comp=Z,1.7nm,0.7s,baz=110,slow=5.3,SNR=8.0						
NOA	**NORSAR Array B**	**78.69**	**332**	P	**P**	**12 13 47.5**	**-1.9**
	comp=Z,0.5nm,0.7s,baz=44,slow=2.3,SNR=2.9						
YKA	**Yellowknife Ar**	**82.99**	**23**	P	**P**	**12 14 11.5**	**-0.8**
	comp=Z,2.4nm,0.6s,baz=314,slow=4.9,SNR=26						
YKB5	**Yellowknife Ar**	**82.99**	**23**	*e*P	**P**	**12 14 12.1**	**-0.2**
NVAR	**Mina Array Bea**	**96.24**	**43**	P	**P**	**12 15 17.5**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=302,slow=5.2,SNR=3.6						
SDV	**Santo Domingo**	**145.20**	**22**	*e*PKPbc	**PKPbc**	**12 21 25.7**	**0.0**

IDC 02 12:04:57.4±2.9**, 6°.56S**×**129°.53E, h114**km±39km**, mb2.9**/1**, mb1 3.0**/5**, mb1mx2.9**/31**, mbtmp3.3**/5**, Error ellipse: s-maj=65.3km s-min=21.5km az=90.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.91**	**17**	P	Pn	12 06 21.9	-0.7
	0.4nm,0.3s,baz=180,slow=20,SNR=14						
SIJI				S	Sn	12 07 22.3	-6.8
	0.7nm,0.3s,baz=290,slow=23,SNR=6.7						
FITZ	**Fitzroy Crossi**	**12.08**	**198**	P	Pn	12 07 46.4	+0.6
	0.1nm,0.3s,baz=14,slow=12,SNR=4.4						
FITZ				S	Sn	12 09 53.8	-4.9
	0.1nm,0.3s,baz=246,slow=18,SNR=3.1						
WRA	**Warramunga Arr**	**14.10**	**161**	P	Pn	12 08 11.1	-1.1
	0.1nm,0.3s,baz=338,slow=12,SNR=9.5						
ASAR	**Alice Springs**	**17.52**	**167**	P	P	12 08 53.8	-0.3
	0.0nm,0.3s,baz=346,slow=9.7,SNR=7.4						
MKAR	**Makanchi Array**	**67.60**	**327**	P	P	12 15 42.1	+0.3
	0.2nm,0.5s,baz=131,slow=8.2,SNR=4.2						

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*IDC **02** 12:22:04.0±1.1, 11°.83N×125°.78E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/33, mbtmp3.7/8, Error ellipse: s-maj=165.1km s-min=16.4km az=69.0*
*ISCJB **02** 12:22:09.4±0.8, 11°.78N±0°.05×125°.51E±0°.08, h49km±6km, mb3.7/8, Error ellipse: s-maj=13.9km s-min=7.5km az=173.6*
*MAN **02** 12:22:09.9, 11°.77N×125°.50E, h33km, mb4.5, ML3.4, MS3.2*
ISC 02 12:22:08.9±2.0**, 11°.77N**±0°.05×**125°.6E**±0°.1**, h31**km±14km**, n15,** σ**1s.03**/22**, mb3.7**/8**, 2D, Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.22**	**220**	*e*P	Pn	12 22 17.8	+1.7
BESP				*e*S	**Sn**	**12 22 22.8**	**+2.2**
PLP	**Palo**	**0.85**	**224**	⇓*i*P	**Pn**	**12 22 24.8**	**+0.2**
PLP				*e*S	**Sn**	**12 22 34.1**	**-2.0**
CNP	**Catarman**	**1.16**	**309**	*e*P	**Pn**	**12 22 29.5**	**+0.5**
CNP				*e*S	**Sn**	**12 22 42.3**	**-1.5**
OCLP	**Ormoc**	**1.19**	**233**	*e*P	**Pn**	**12 22 29.6**	**+0.1**
OCLP				*e*S	**Sn**	**12 22 43.8**	**-0.8**
MSLP	**Maasin**	**1.78**	**204**	*e*P	**Pb**	**12 22 40.0**	**-0.8**
MSLP				*e*S	**Sn**	**12 22 59.9**	**+0.9**
PVCP	**Virac**	**2.29**	**323**	*e*P	**Pn**	**12 22 44.7**	**+0.2**
PVCP				*e*S	**Sb**	**12 23 18.2**	**+0.9**
RCP	**Roxas**	**2.79**	**266**	⇓*e*P	**Pn**	**12 22 52.4**	**+1.0**
WRA	**Warramunga Arr**	**32.67**	**165**	P	**P**	**12 28 39.2**	**+0.7**
	0.4nm,1.0s,baz=346,slow=9.5,SNR=2.9						
WRA				PcP	**PcP**	**12 31 23.2**	**-0.9**
	0.1nm,0.5s,baz=336,slow=2.6,SNR=5.0						
ASAR	**Alice Springs**	**36.15**	**167**	P	**P**	**12 29 08.0**	**-0.6**
	0.1nm,0.3s,baz=347,slow=6.9,SNR=9.7						
ASAR				PcP	**PcP**	**12 31 33.1**	**-0.9**
	0.2nm,0.4s,baz=339,slow=2.9,SNR=5.1						
SONM	**Songino Array**	**39.38**	**340**	P	**P**	**12 29 36.6**	**+0.8**
	0.3nm,0.6s,baz=161,slow=7.9,SNR=3.1						
STKA	**Stephens Creek**	**46.03**	**161**	P	**P**	**12 30 30.0**	**+0.3**
	1.4nm,0.9s,baz=333,slow=14,SNR=3.2						
MKAR	**Makanchi Array**	**50.43**	**322**	P	**P**	**12 31 04.2**	**+0.5**
	0.7nm,0.7s,baz=122,slow=9.0,SNR=8.4						
ZALV	**Zalesovo Beam**	**52.99**	**331**	P	**P**	**12 31 22.4**	**-0.1**
	0.5nm,0.6s,baz=131,slow=8.2,SNR=2.4						
ARCES	**ARCESS Array B**	**82.56**	**340**	P	**P**	**12 34 28.4**	**0.0**
	3.7nm,1.0s,baz=70,slow=6.1,SNR=4.6						
FINES	**FINESS Array B**	**84.26**	**332**	P	**P**	**12 34 36.5**	**-0.9**
	2.9nm,1.1s,baz=87,slow=2.9,SNR=3.9						

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*ISCJB **02** 12:23:59.0±0.3, 24°.42N±0°.01×121°.95E±0°.01, h10km±2km, Error ellipse: s-maj=2.3km s-min=2.1km az=149.1*
*JMA **02** 12:23:58.1±0.2, 24°.29N×121°.80E, h48km±3km, M3.1*
*TAP **02** 12:23:59.6, 24°.44N×121°.89E, h13km, ML3.7, B*
ISC 02 12:23:59.1±0.9**, 24°.40N**±0°.02×**121°.95E**±0°.02**, h12**km±6km**, n76,** σ**0s.76**/124**, 15C-14D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.19**	**279**	⇓*i*P	**Pg**	**12 24 03.1**	**-0.2**
	baz=262						
ENA				S	**Sg**	**12 24 05.3**	**-0.8**
	baz=262						
EOS1	**EOS1**	**0.23**	**48**	⇓P	**Pg**	**12 24 05.0**	**+1.1**
	baz=58						
EOS1				S	**Sg**	**12 24 09.4**	**+2.3**
	baz=58						
TWC	**Suao**	**0.23**	**337**	⇑*i*P	**Pg**	**12 24 03.7**	**-0.3**
	baz=359						
TWC				S	**Sg**	**12 24 05.9**	**-1.3**
	baz=359						
NACB	**Ninganchiao**	**0.39**	**235**	⇓P	**Pg**	**12 24 06.9**	**0.0**
	baz=225						
NACB				S	**Sg**	**12 24 12.3**	**+0.1**
	baz=225						
ILA	**Ilan**	**0.41**	**334**	P	**Pg**	**12 24 07.2**	**0.0**
	baz=340						
ILA				S	**Sg**	**12 24 12.3**	**-0.3**
	baz=340						
TWE	**Neicheng**	**0.41**	**322**	⇑*i*P	**Pg**	**12 24 06.9**	**-0.3**
	baz=326						
TWE				S	**Sg**	**12 24 11.4**	**-1.4**
	baz=326						
ENTT	**Nioudou**	**0.42**	**305**	⇓*i*P	**Pg**	**12 24 07.2**	**-0.3**
	baz=304						
ENTT				S	**Sg**	**12 24 11.8**	**-1.4**
	baz=304						
EGS		**0.45**	**358**	⇑*i*P	**Pg**	**12 24 08.0**	**0.0**
	baz=8.0						
EGS				*e*S	**Sg**	**12 24 14.3**	**+0.4**
	baz=8.0						
TWD	**Chiawan**	**0.45**	**225**	⇑P	**Pb**	**12 24 08.1**	**-0.9**
	baz=216						
TWD				S	**Sb**	**12 24 14.4**	**-1.2**
	baz=216						
SLBB	**Yuanshan**	**0.45**	**322**	P	**Pg**	**12 24 08.1**	**0.0**
	baz=323						
NTC	**Toucheng**	**0.47**	**347**	*e*P	**Pg**	**12 24 08.2**	**-0.1**
	baz=353						
NTC				*e*S	**Sg**	**12 24 14.4**	**-0.1**
	baz=353						
NNSB	**Datong**	**0.51**	**274**	⇓P	**Pg**	**12 24 09.0**	**-0.2**
	baz=269						
NNSB				*e*S	**Sg**	**12 24 15.5**	**-0.6**
	baz=269						
HWA	**Hwalien**	**0.52**	**217**	*e*P	**Pb**	**12 24 10.4**	**+0.2**
	baz=216						
HWA				*e*S	**Sb**	**12 24 18.3**	**+0.5**
	baz=216						
NNS	**Nan Shan**	**0.52**	**275**	⇓P	**Pg**	**12 24 09.1**	**-0.3**
	baz=270						
NNS				S	**Sg**	**12 24 15.4**	**-0.9**
	baz=270						
NWLT	**Wulai**	**0.55**	**313**	*e*P	**Pg**	**12 24 09.8**	**-0.2**
	baz=313						
TIPB	**Shuangxi**	**0.58**	**349**	⇑P	**Pg**	**12 24 10.3**	**-0.2**
	baz=354						
TIPB				S	**Sg**	**12 24 17.2**	**-1.0**
	baz=354						
ENLB	**Shoufeng**	**0.58**	**213**	*e*P	**Pb**	**12 24 11.5**	**+0.2**
	baz=213						
YHNB	**Yeheng**	**0.58**	**298**	⇓P	**Pg**	**12 24 10.5**	**-0.1**
	baz=302						
YHNB				S	**Sg**	**12 24 16.9**	**-1.5**
	baz=302						
NSK	**Sanguang**	**0.60**	**297**	⇓*i*P	**Pg**	**12 24 10.7**	**-0.2**
	baz=296						
NSK				S	**Sg**	**12 24 17.1**	**-1.8**
	baz=296						
TWA	**Mucha**	**0.67**	**331**	⇑*i*P	**Pg**	**12 24 12.1**	**0.0**
	baz=321						
TWA				S	**Sg**	**12 24 19.7**	**-1.2**
	baz=321						
WHF	**Hehuan Shan**	**0.67**	**248**	⇓*i*P	**Pg**	**12 24 12.0**	**-0.2**
	baz=242						
WHF				S	**Sg**	**12 24 21.0**	**-0.2**
	baz=242						
NWF	**Wu-fen Shan**	**0.69**	**347**	⇑*i*P	**Pg**	**12 24 12.6**	**+0.1**
	baz=342						
NWF				*e*S	**Sg**	**12 24 21.0**	**-0.6**
	baz=342						
WFSB	**Wu-fen Shan**	**0.69**	**347**	⇑P	**Pg**	**12 24 12.6**	**+0.1**
	baz=342						
WFSB				S	**Sg**	**12 24 20.9**	**-0.6**
	baz=342						
TATO	**Taipei**	**0.71**	**324**	⇑P	**Pg**	**12 24 12.8**	**-0.1**
	baz=326						
TATO				S	**Sg**	**12 24 20.7**	**-1.5**
	baz=326						
TDCB	**Techi**	**0.73**	**259**	⇓P	**Pg**	**12 24 13.3**	**0.0**
	baz=248						
TDCB				S	**Sg**	**12 24 22.4**	**-0.6**
	baz=248						
ESL	**Shilin**	**0.75**	**219**	*e*P	**Pb**	**12 24 13.5**	**-0.5**
	baz=220						
CHGB	**Renai**	**0.78**	**245**	⇓P	**Pg**	**12 24 14.2**	**-0.1**
	baz=240						
CHGB				S	**Sg**	**12 24 24.5**	**0.0**
	baz=240						
YM01	**YM01**	**0.82**	**335**	⇑P	**Pb**	**12 24 16.3**	**+0.9**
	baz=338						
YM01				*e*S	**Sg**	**12 24 25.7**	**-0.1**
	baz=338						
YM07	**YM07**	**0.83**	**339**	⇑P	**Pg**	**12 24 15.4**	**+0.2**
	baz=342						
YM10	**YM10**	**0.83**	**335**	⇑P	**Pg**	**12 24 15.5**	**+0.3**
	baz=338						
YM10				*e*S	**Sg**	**12 24 24.9**	**-1.2**
	baz=338						
YM11	**YM11**	**0.84**	**336**	⇑P	**Pg**	**12 24 15.7**	**+0.4**
	baz=339						
YM05	**YM05**	**0.84**	**336**	P	**Pg**	**12 24 15.7**	**+0.3**
	baz=338						
YM05				*e*S	**Sg**	**12 24 25.5**	**-0.8**
	baz=338						
YM04	**YM04**	**0.84**	**334**	P	**Pg**	**12 24 15.5**	**+0.2**
	baz=336						
YM04				*e*S	**Sg**	**12 24 25.2**	**-1.1**
	baz=336						
TWS1	**Kuangyinshan**	**0.85**	**326**	P	**Pg**	**12 24 16.2**	**+0.7**
	baz=320						
TWS1				*e*S	**Sg**	**12 24 26.8**	**+0.2**
	baz=320						
YM08	**YM08**	**0.85**	**338**	⇑P	**Pg**	**12 24 15.6**	**0.0**
	baz=340						
YM03	**YM03**	**0.86**	**335**	⇑P	**Pg**	**12 24 15.9**	**+0.2**
	baz=337						
YM03				*e*S	**Sg**	**12 24 26.4**	**-0.7**
	baz=337						
LIOB	**Emei**	**0.88**	**286**	*e*P	**Pg**	**12 24 16.6**	**+0.5**
	baz=285						
LIOB				S	**Sg**	**12 24 27.0**	**-0.7**
	baz=285						
NSTT	**Nanjuang**	**0.89**	**285**	⇓P	**Pg**	**12 24 16.3**	**0.0**
	baz=283						
NSTT				S	**Sg**	**12 24 27.0**	**-1.0**
	baz=283						
NCU	**National Centr**	**0.90**	**310**	*e*P	**Pg**	**12 24 17.1**	**+0.7**
	baz=319						
NCU				*e*S	**Sg**	**12 24 28.3**	**+0.2**
	baz=319						
NCUH	**Zhongli**	**0.90**	**310**	*e*P	**Pg**	**12 24 17.2**	**+0.8**
	baz=300						
JYNG	**Yonagunijimaku**	**0.91**	**86**	P	**Pb**	**12 24 16.4**	**-0.5**
JYNG				S	**Sb**	**12 24 29.2**	**+0.2**
TWY	**Chenhua**	**0.93**	**340**	*e*P	**Pg**	**12 24 17.3**	**+0.3**
	baz=343						
TWY				*e*S	**Sg**	**12 24 28.1**	**-1.1**
	baz=343						
SBCB	**Hsinchu**	**0.96**	**294**	*e*P	**Pb**	**12 24 18.6**	**+0.9**
	baz=288						
SBCB				*e*S	**Sb**	**12 24 31.7**	**+1.4**
	baz=288						
YOJ	**Yonaguni jima**	**0.97**	**86**	⇓*e*P	**Pb**	**12 24 17.8**	**-0.1**
	baz=88						
YOJ				*e*S	**Sn**	**12 24 32.2**	**-0.1**
	baz=88						
YOJ	**Yonaguni jima**	**0.97**	**86**	P	**Pb**	**12 24 17.8**	**-0.1**
YOJ				S	**Sn**	**12 24 31.8**	**-0.6**
HSN	**Hsinchu**	**0.97**	**295**	*e*P	**Pg**	**12 24 17.9**	**0.0**
	baz=295						
VWDT	**VWDT**	**0.97**	**229**	⇓*e*P	**Pb**	**12 24 17.5**	**-0.4**
	baz=225						
VWDT				*e*S	**Sb**	**12 24 31.0**	**+0.2**
	baz=225						
NMLH	**Miaoli**	**1.06**	**278**	*e*P	**Pn**	**12 24 20.6**	**+0.7**
	baz=275						
NSY	**Sanyi**	**1.08**	**271**	*e*P	**Pb**	**12 24 20.2**	**+0.5**
	baz=268						
SMLT	**Sun Moon Lake**	**1.08**	**242**	*e*P	**Pb**	**12 24 19.9**	**0.0**
	baz=238						
SMLT				*e*S	**Sg**	**12 24 33.5**	**-0.7**
	baz=238						
SSLB	**Suanglung**	**1.09**	**236**	P	**Pb**	**12 24 19.9**	**0.0**
	baz=233						
SSLB				*e*S	**Sg**	**12 24 32.9**	**-1.4**
	baz=233						
TYC	**Yuchr**	**1.11**	**244**	*e*P	**Pg**	**12 24 20.2**	**-0.3**
	baz=239						
PCYT	**Pengchaiyu**	**1.23**	**5**	*e*P	**Pn**	**12 24 21.2**	**-1.0**
	baz=10.0						
WJS	**Zhushan**	**1.25**	**243**	*e*P	**Pg**	**12 24 24.1**	**+0.9**
	baz=231						
WNT	**Mingjian**	**1.26**	**246**	*e*P	**Pg**	**12 24 23.8**	**+0.4**
	baz=257						
CHN5	**Tsauling**	**1.41**	**236**	P	**Pg**	**12 24 26.8**	**+0.6**
	baz=233						
CHN5				*e*S	**Sg**	**12 24 46.3**	**+1.8**
	baz=233						
WGK	**Gukeng**	**1.45**	**241**	*e*P	**Pn**	**12 24 25.3**	**+0.1**
	baz=237						
RLNB	**Erlin**	**1.53**	**251**	*e*P	**Pg**	**12 24 28.1**	**-0.5**
	baz=261						
IRIF	**Iriomote-Funau**	**1.63**	**92**	P	**Pn**	**12 24 27.3**	**-0.3**
IRIF				S	**Sn**	**12 24 48.0**	**-0.5**
CHY	**Chiayi**	**1.66**	**238**	*e*P	**Pb**	**12 24 29.8**	**+0.2**
	baz=219						
HATJ	**Hateruma jima**	**1.73**	**101**	P	**Pb**	**12 24 29.7**	**-1.2**
HATJ				S	**Sn**	**12 24 50.3**	**-0.8**
JKRS	**Kuro-shima**	**1.89**	**94**	P	**Pn**	**12 24 31.5**	**+0.3**
JKRS				*e*S	**Sn**	**12 24 55.0**	**0.0**
JIJ	**Ishigaki jima**	**2.00**	**91**	P	**Pn**	**12 24 32.3**	**-0.5**
JIJ				S	**Sn**	**12 24 56.3**	**-1.5**
JISG	**Ishigakijimahi**	**2.16**	**85**	P	**Pn**	**12 24 34.5**	**-0.5**
JISG				S	**Sn**	**12 25 01.7**	**0.0**
PNG	**Penghu**	**2.34**	**250**	*e*P	**Pn**	**12 24 38.2**	**+0.9**
	baz=247						
PHUB	**P'eng-hu**	**2.34**	**248**	*e*P	**Pn**	**12 24 38.6**	**+1.1**
	baz=245						
VWUC	**VWUC**	**2.35**	**285**	*e*P	**Pn**	**12 24 37.4**	**-0.1**
	baz=282						
LAY	**Lan-yu**	**2.38**	**189**	*e*P	**Pn**	**12 24 38.0**	**0.0**
	baz=190						
MATB	**Ma-tsu**	**2.52**	**314**	*e*P	**Pn**	**12 24 40.2**	**+0.3**
	baz=313						
JTJ	**Tarama**	**2.52**	**84**	P	**Pn**	**12 24 40.3**	**+0.4**
JTJ				*e*S	**Sn**	**12 25 10.6**	**0.0**
VCHM	**Qimei**	**2.59**	**243**	*e*P	**Pn**	**12 24 42.6**	**+1.7**
	baz=241						
JIRB	**Irabujima**	**2.97**	**81**	P	**Pn**	**12 24 46.6**	**+0.5**
JIKM	**Ikemajima**	**3.05**	**79**	P	**Pn**	**12 24 46.9**	**-0.3**
JOGS	**Gusukube**	**3.17**	**83**	P	**Pn**	**12 24 49.7**	**+0.8**
JOGS				S	**Sn**	**12 25 28.3**	**+1.7**
KNM	**Kinmen**	**3.20**	**271**	*e*P	**Pn**	**12 24 51.1**	**+1.9**
	baz=268						
KNMB	**Chin-men Tao**	**3.24**	**272**	*e*P	**Pn**	**12 24 49.9**	**0.0**
	baz=269						

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*IDC **02** 12:41:02.5±1.6, 8°.55S×112°.62E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.4/33, mbtmp3.5/6, ML3.1/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/29, Error ellipse: s-maj=94.5km s-min=18.7km az=52.0*
*ISCJB **02** 12:41:11.3±0.7, 8°.8S±0°.1×112°.53E±0°.06, h91km, mb3.4/5, Error ellipse: s-maj=17.2km s-min=7.5km az=18.7*
*DJA **02** 12:41:12.6±1.8, 9°S±13°×11°3E±°, h30km±21km, M3.9/7, mb4.0/1, MLv3.9/7*
ISC 02 12:41:12.7±0.9**, 8°.8S**±0°.1×**112°.52E**±0°.06**, h91**km**, n15,** σ**1s.27**/16**, mb3.5**/5**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.47**	**295**	P	**Pn**	**12 41 36.7**	**-1.5**
JAGI	**Jajag, Banyuwa**	**1.65**	**78**	P	**Pn**	**12 41 38.8**	**-1.7**
WOJI	**Wonogiri, Jawa**	**1.86**	**302**	P	**Pn**	**12 41 42.8**	**-0.4**
UGM	**Wanagama**	**2.18**	**295**	P	**Pn**	**12 41 47.5**	**+0.2**
KMMI	**Kalianget**	**2.27**	**39**	P	**Pn**	**12 41 48.7**	**+0.1**
IGBI	**Denpasar**	**2.59**	**90**	P	**Pn**	**12 41 51.6**	**-1.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**2.76**	**75**	P	**Pn**	**12 41 54.2**	**-0.9**
PLAI	**Plampang**	**5.19**	**90**	P	**Pn**	**12 42 29.6**	**+1.6**
LEM	**Lembang**	**5.25**	**292**	LR	LR	12 44 42.9	
	comp=Z,67nm,18.2s,baz=235,slow=42						
FITZ	**Fitzroy Crossi**	**15.73**	**127**	Pn	**Pn**	**12 44 47.4**	**-1.8**
	0.1nm,0.3s,baz=312,slow=13,SNR=3.7						
FITZ				Sn	Sn	12 47 28.4	-15
	0.0nm,0.3s,baz=342,slow=20,SNR=3.0						
WRA	**Warramunga Arr**	**23.81**	**120**	P	**P**	**12 46 17.9**	**+0.3**
	0.5nm,0.5s,baz=296,slow=12,SNR=13						
WRA				PcP	**PcP**	**12 50 00.4**	**+1.6**
	0.2nm,0.6s,baz=311,slow=1.9,SNR=4.6						
ASAR	**Alice Springs**	**25.23**	**128**	P	**P**	**12 46 31.4**	**+1.0**
	0.2nm,0.4s,baz=305,slow=9.1,SNR=13						
ASAR				PcP	**PcP**	**12 50 03.8**	**+1.9**
	0.2nm,0.5s,baz=319,slow=1.9,SNR=6.2						
SONM	**Songino Array**	**56.67**	**355**	P	**P**	**12 50 46.8**	**0.0**
	0.3nm,0.6s,baz=178,slow=7.6,SNR=4.0						
MKAR	**Makanchi Array**	**61.58**	**337**	P	**P**	**12 51 20.4**	**-0.1**
	0.4nm,0.3s,baz=148,slow=7.1,SNR=15						
ZALV	**Zalesovo Beam**	**66.78**	**343**	P	**P**	**12 51 53.6**	**-0.7**
	0.5nm,0.4s,baz=163,slow=6.3,SNR=3.0						

*IDC **02** 12:57:20.6±0.8, 16°.43S×173°.36W, h45km±6km, mb3.9/12, mb1 4.2/12, mb1mx3.9/38, mbtmp4.2/12, MS3.4/7, Ms1 3.4/7, ms1mx3.2/29, Error ellipse: s-maj=36.4km s-min=14.4km az=141.0*

ISC 02 12:57:22.4±0.7**, 16°.5S**±0°.2×**173°.3W**±0°.2**, h66**km**, n54, σ0s.99**/46**, mb4.2**/12**, 7C-10D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.60**	**112**	P	Pn	13 00 26.7	-5.6
	1.9nm,0.3s,baz=276,slow=6.9,SNR=4.5						
DZM	**Mont Dzumac**	**19.92**	**251**	*e*LR	LR	13 06 55.8	
	comp=Z,272nm,25.3s						
PAE	**Paea**	**22.67**	**96**	*e*T	T	13 24 56.3	
	3.2nm,0.5s						
PPT	**Papeete**	**22.68**	**96**	LR	LR	13 09 36.1	
	comp=Z,56nm,18.1s,baz=238,slow=32						
PPT2	**Papeete2**	**22.68**	**96**	*e*LR	LR	13 07 35.5	
	comp=Z,127nm,24.0s						
PPT2	**Papeete2**	**22.68**	**96**	*e*T	T	13 24 57.9	
	4.4nm,0.4s						
TVO	**Taravao**	**22.98**	**97**	*e*T	T	13 25 21.5	
	1.5nm,0.4s						
URZ	**Urewera**	**23.25**	**199**	P	**P**	**13 02 24.0**	**0.0**
	4.9nm,0.5s,baz=42,slow=5.6,SNR=5.6						
TBI	**Tubuai**	**23.37**	**111**	*e*T	T	13 26 06.2	
	13nm,0.4s						
HNR	**Honiara**	**27.01**	**282**	LR	LR	13 12 02.9	
	comp=Z,243nm,20.7s,baz=116,slow=33						
RKT	**Rikitea**	**36.55**	**107**	*e*T	T	13 42 27.9	
	4.8nm,0.3s						
STKA	**Stephens Creek**	**43.59**	**241**	P	**P**	**13 05 19.5**	**-0.7**
	2.8nm,0.7s,baz=67,slow=8.7,SNR=9.0						
STKA				LR	LR	13 20 26.2	
	comp=Z,38nm,21.1s,baz=28,slow=32						
WRA	**Warramunga Arr**	**49.72**	**258**	P	**P**	**13 06 06.6**	**-1.7**
	1.1nm,0.4s,baz=93,slow=6.8,SNR=34						
WRA				PcP	**PcP**	**13 07 29.9**	**+1.2**
	0.9nm,0.7s,baz=95,slow=3.6,SNR=5.5						
ASAR	**Alice Springs**	**49.89**	**253**	P	**P**	**13 06 08.5**	**-1.1**
	7.7nm,0.6s,baz=89,slow=8.1,SNR=237						
ASAR				PcP	**PcP**	**13 07 30.4**	**+1.1**
	1.0nm,0.7s,baz=108,slow=4.0,SNR=3.5						
ASAR				LR	LR	13 26 37.9	
	comp=Z,47nm,18.6s,baz=92,slow=35						
FITZ	**Fitzroy Crossi**	**58.11**	**259**	P	**P**	**13 07 10.0**	**+0.5**
	2.8nm,1.0s,baz=100,slow=6.1,SNR=4.5						
MJAR	**Matsushiro Arr**	**69.87**	**320**	LR	LR	13 33 22.9	
	comp=Z,19nm,21.0s,baz=120,slow=31						
PETK	**Petropavlovsk-**	**73.73**	**342**	P	**P**	**13 08 49.1**	**0.0**
	8.1nm,0.8s,baz=110,slow=8.8,SNR=10						
NVAR	**Mina Array Bea**	**75.08**	**42**	P	**P**	**13 08 57.9**	**+0.4**
	1.1nm,0.8s,baz=218,slow=8.1,SNR=7.3						
NVAR				pP	**PcP**	**13 09 11.1**	**+0.2**
	2.2nm,0.8s,baz=220,slow=9.3,SNR=10.0						
TXAR	**Lajitas Array**	**81.13**	**56**	P	**P**	**13 09 32.5**	**+1.4**
	0.2nm,0.6s,baz=234,slow=7.7,SNR=2.6						
PDAR	**Pinedale Array**	**83.01**	**42**	P	**P**	**13 09 40.4**	**-0.5**
	1.1nm,0.7s,baz=208,slow=4.0,SNR=14						
PDAR				pP	**pP**	**13 09 54.5**	**-3.8**
	1.3nm,0.7s,baz=218,slow=3.4,SNR=8.5						
ILAR	**Eielson Array**	**83.51**	**11**	P	**P**	**13 09 41.8**	**-0.8**
	0.8nm,0.6s,baz=228,slow=6.2,SNR=22						
PLCA	**Paso Flores**	**88.67**	**132**	LR	LR	13 40 39.7	
	comp=Z,47nm,21.9s,baz=82,slow=29						
YKA	**Yellowknife Ar**	**91.07**	**23**	P	**P**	**13 10 19.2**	**0.0**
	0.4nm,0.8s,baz=234,slow=4.3,SNR=5.5						
CMAR	**Chiang Mai Arr**	**93.08**	**288**	P	**P**	**13 10 31.2**	**+1.7**
	1.2nm,1.1s,baz=95,slow=2.3,SNR=5.4						
CMAR				LR	LR	13 46 56.8	
	comp=Z,8.7nm,22.0s,baz=45,slow=32						
MKAR	**Makanchi Array**	**111.69**	**314**	PKiKP	**PKiKP**	**13 15 49.5**	**-0.1**
	0.2nm,0.7s,baz=0.0,slow=0.3,SNR=3.7						
ARCES	**ARCESS Array B**	**125.73**	**352**	PKP	**PKPdf**	**13 16 16.0**	**+0.1**
	2.7nm,0.9s,baz=357,slow=3.6,SNR=4.3						
KMBO	**Kilima Mbogo**	**145.15**	**243**	PKPbc	**PKPdf**	**13 16 55.4**	**+1.6**
	1.3nm,0.4s,baz=229,slow=6.7,SNR=4.1						
DPC	**Dobruska-Polom**	**145.38**	**349**	*e*PKP	**PKPab**	**13 16 54.0**	**+1.1**
BURAR	**Bucovina Array**	**145.45**	**338**	⇓*i*P	**PKPab**	**13 16 53.5**	**+0.1**
KRLC	**Kraliky**	**145.56**	**349**	*e*PKP	**PKPab**	**13 16 54.5**	**+0.9**
BIZ	**Bicaz**	**145.68**	**336**	⇓*i*P	**PKPab**	**13 16 54.8**	**+0.7**
MORC	**Moravsky Berou**	**145.69**	**348**	⇓*i*P	**PKPab**	**13 16 55.0**	**+0.9**
MORC	**Moravsky Berou**	**145.69**	**348**	*e*PKP	**PKPab**	**13 16 54.5**	**+0.4**
TRPA	**Tarpa**	**145.90**	**341**	⇓*i*P	**PKPab**	**13 16 55.2**	**+0.3**
TLCR		**145.93**	**332**	⇓*i*P	**PKPab**	**13 16 55.5**	**+0.4**
PRU	**Pruhonice**	**146.02**	**351**	*e*PKP	**PKPab**	**13 16 56.1**	**+0.8**
GOPC	**GO Pecny, Ondr**	**146.06**	**351**	*e*PKP	**PKPab**	**13 16 55.9**	**+0.4**
CFR	**Carcaliu**	**146.24**	**332**	⇓*i*P	**PKPab**	**13 16 56.8**	**+0.5**
VRI	**Vrincioaia**	**146.30**	**334**	⇑*i*P	**PKPab**	**13 16 56.3**	**-0.3**
TLB	**Topalu**	**146.75**	**332**	⇓*i*P	**PKPab**	**13 16 58.3**	**+0.1**
DOPR	**Dopca**	**146.76**	**336**	⇑*i*P	**PKPab**	**13 16 59.0**	**+0.7**
KHC	**Kasperske Hory**	**147.00**	**352**	*e*PKP	**PKPab**	**13 16 58.6**	**-0.6**
DRGR		**147.03**	**340**	⇓*i*P	**PKPab**	**13 16 58.7**	**-0.7**
BRTR	**Keskin Array B**	**147.09**	**320**	PKPbc	**PKPbc**	**13 16 59.1**	**+0.8**
	4.6nm,0.7s,baz=116,slow=2.4,SNR=30						
GERES	**GERESS Array B**	**147.26**	**351**	PKPbc	**PKPbc**	**13 16 59.0**	**+0.5**
	1.4nm,0.6s,baz=29,slow=3.0,SNR=9.3						
GERES				pPKPbc	**pPKPdf**	**13 17 12.7**	**-1.9**
	1.2nm,0.6s,baz=35,slow=4.9,SNR=5.5						
VOIR		**147.33**	**336**	⇑*i*P	**PKPab**	**13 17 00.7**	**0.0**
ARR	**Arges**	**147.55**	**336**	⇑*i*P	**PKiKP**	**13 17 01.2**	**-0.2**
CONA	**Conrad Observa**	**147.79**	**348**	*i* PKPab	**PKiKP**	**13 17 01.3**	**-0.6**
	3.4nm,0.7s						
SIRR	**Siria**	**147.83**	**340**	⇓*i*P	**PKiKP**	**13 17 01.3**	**-0.6**
BZS	**Buzias**	**148.42**	**340**	⇓*i*P	**PKiKP**	**13 17 02.6**	**-0.5**
HERR	**Herculane**	**148.79**	**338**	⇑*i*P	**PKiKP**	**13 17 03.4**	**-0.5**
ABTA	**Abfaltersbach**	**149.48**	**352**	*i* PKPbc	**PKiKP**	**13 17 04.9**	**-0.4**
	2.1nm,0.6s						
VTS	**Vitosha**	**150.44**	**335**	⇑*i*P	**PKiKP**	**13 17 08.0**	**+0.4**
MATE	**Matera**	**154.45**	**342**	⇑*i*P	PKPdf	13 16 56.4	-11

*ISK **02** 12:59:14.7, 37°.76N×37°.36E, h16km, ML2.4/3*
*ISCJB **02** 12:59:15.5±0.6, 37°.79N±0°.03×37°.30E±0°.05, h10km±7km, Error ellipse: s-maj=7.1km s-min=4.3km az=28.7*
*DDA **02** 12:59:15.8, 37°.72N×37°.42E, h7km±2km, ML2.9*

ISC 02 12:59:15.2±1.2**, 37°.76N**±0°.03×**37°.39E**±0°.03**, h8**km±10km**, n16, σ1s.06**/26**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GZT	**Gaziantep**	**0.42**	**161**	IAML_P			
	comp=Z,2μm,0.1s						
GZT				*i* P	**Pg**	**12 59 23.6**	**+0.1**
KMRS	**Kahramanmaras**	**0.46**	**237**	PG	**Pg**	**12 59 23.9**	**-0.3**
KMRS				SG	**Sg**	**12 59 30.6**	**+0.4**
GAZ	**Gaziantep**	**0.60**	**194**	PG	**Pg**	**12 59 26.7**	**-0.1**
GAZ				SG	**Sb**	**12 59 36.1**	**-0.5**
ELBS	**KAHRAMANMARAS**	**0.60**	**341**	IAML_P			
	comp=Z,433nm,0.3s						
ELBS				*i* P	**Pn**	**12 59 29.3**	**-0.9**
ELBS				*i* S	**Sn**	**12 59 39.9**	**-0.3**
AKCD	**Akcadag**	**0.69**	**38**	IAML_P			
	comp=Z,2μm,0.2s						
AKCD				*i* P	**Pb**	**12 59 29.4**	**-0.1**
AKCD				*i* S	**Sb**	**12 59 40.3**	**+1.2**
ATAB	**Bozova**	**0.77**	**111**	IAML_P			
	comp=Z,6μm,0.1s						
ATAB				*i* P	**Pg**	**12 59 30.2**	**+0.1**
ATAB				*i* S	**Sn**	**12 59 44.0**	**-0.3**
DARE	**Darende-Malaty**	**0.82**	**5**	PG	**Pg**	**12 59 30.6**	**-0.4**
DARE				SG	**Sb**	**12 59 42.9**	**-0.1**
ANDN	**Andirin**	**0.85**	**258**	IAML_P			
	comp=Z,967nm,0.1s						
ANDN				*i* P	**Pn**	**12 59 32.7**	**-0.8**
ANDN				*i* S	**Sn**	**12 59 45.9**	**-0.2**
KUZU	**Kuzuini**	**1.01**	**194**	*i* P	**Pn**	**12 59 35.7**	**-0.1**
KUZU				*i* S	**Sn**	**12 59 50.4**	**+0.3**
SAIM	**ADANA**	**1.06**	**282**	IAML_P			
	comp=Z,2μm,0.2s						
SAIM				*i* P	**Pn**	**12 59 37.2**	**+0.8**
SAIM				*i* S	**Sn**	**12 59 55.0**	**+3.7**
URFA	**Urfa**	**1.18**	**105**	PN	**Pb**	**12 59 37.1**	**-0.8**
KOZT	**Kozan**	**1.27**	**258**	PN	**Pn**	**12 59 38.2**	**-1.0**
SURC	**SANLIURFA_SURC**	**1.31**	**131**	IAML_P			
	comp=Z,385nm,0.1s						
SURC				*i* P	**Pg**	**12 59 40.0**	**-0.3**
SURC				*i* S	**Sg**	**12 59 59.0**	**+1.6**
BNN	**Bunyan**	**1.63**	**313**	PN	**Pn**	**12 59 43.2**	**-1.2**
TAHT	**Tahtakopru-Hat**	**1.68**	**215**	PN	**Pn**	**12 59 44.1**	**-0.8**
PTK	**Pertek**	**1.94**	**54**	PN	**Pn**	**12 59 48.5**	**-0.2**

*IDC **02** 13:04:26.3±2.1, 2°.99N×95°.71E, h0km, mb3.5/5, mb1 3.6/7, mb1mx3.4/46, mbtmp3.5/7, ML3.6/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/34, Error ellipse: s-maj=65.9km s-min=20.4km az=57.0*
*ISCJB **02** 13:04:30.7±1.3, 3°.2N±0°.1×96°.2E±0°.1, h31km, mb3.4/5, MS3.3/1, Error ellipse: s-maj=24.8km s-min=11.3km az=34.3*

ISC 02 13:04:32.7±1.7**, 3°.2N**±0°.2×**96°.1E**±0°.2**, h31**km**, n8, σ1s.78**/8**, mb3.5**/5**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.83**	**97**	Pn	**Pn**	**13 05 18.0**	**+2.1**
	2.1nm,0.3s,baz=359,slow=4.8,SNR=11						
PSI				Sn	**Sn**	**13 05 46.5**	**-2.5**
	7.3nm,0.3s,baz=0.1,slow=16,SNR=9.9						
CMAR	**Chiang Mai Arr**	**15.45**	**10**	Pn	**Pn**	**13 08 09.7**	**+1.2**
	0.2nm,0.3s,baz=191,slow=13,SNR=4.1						
WRA	**Warramunga Arr**	**44.00**	**123**	P	**P**	**13 12 37.6**	**-0.1**
	0.8nm,0.9s,baz=304,slow=9.4,SNR=5.7						
MKAR	**Makanchi Array**	**45.09**	**347**	P	**P**	**13 12 44.0**	**-1.9**
	0.2nm,0.3s,baz=159,slow=8.7,SNR=8.4						
SONM	**Songino Array**	**45.37**	**10**	P	**P**	**13 12 48.3**	**0.0**
	0.1nm,0.4s,baz=196,slow=9.3,SNR=2.9						
ASAR	**Alice Springs**	**45.45**	**128**	P	**P**	**13 12 49.1**	**-0.1**
	0.3nm,0.5s,baz=303,slow=7.8,SNR=11						
ZALV	**Zalesovo Beam**	**51.46**	**351**	P	**P**	**13 13 34.8**	**-0.2**
	0.7nm,0.5s,baz=173,slow=6.8,SNR=4.1						
USRK	**Ussuriysk Ar.**	**51.68**	**32**	LR	LR	13 36 27.4	
	comp=Z,29nm,20.0s,baz=345,slow=37						

TRN 02 13:17:56.8, 10°.36N×60°.71W, h75km**, MD3.6, Trinidad**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TBH	**Brigand Hill**	**0.37**	**289**	*e*P	Pn	13 18 08.8	-0.3
TBH				*e*S	Sn	13 18 18.8	+0.7
TPP	**Pointe-a-Pierr**	**0.73**	**266**	*e*P	Pn	13 18 11.8	-0.6
TPP				*e*S	Sn	13 18 23.9	-0.2
TRN	**Trinidad (W)**	**0.74**	**293**	*e*P	Pn	13 18 13.6	+1.1
TRN				*e*S	Sn	13 18 23.8	-0.4
BOT	**Bacolet**	**0.80**	**359**	*e*P	Pn	13 18 14.1	+0.9
BOT				*e*S	Sn	13 18 25.1	-0.2
TPR	**Prospect**	**0.82**	**355**	*e*P	Pn	13 18 13.9	+0.4
TPR				*e*S	Sn	13 18 26.1	+0.3
TOSP	**Speyside**	**0.94**	**10**	*e*P	Pn	13 18 15.1	+0.1
TOSP				*e*S	Sn	13 18 27.8	-0.6
GRSS	**Sisters**	**2.12**	**335**	*e*P	Pn	13 18 31.3	+1.1
GRSS				*e*S	Sn	13 18 55.3	-0.3
FCV	**Fort Charlotte**	**2.83**	**349**	*e*P	Pn	13 18 40.7	+0.9
FCV				*e*S	Sn	13 19 11.6	-1.2
SVCV	**St. Vincent, C**	**2.92**	**352**	*e*P	Pn	13 18 41.4	+0.3
SVCV				*e*S	Sn	13 19 14.1	-1.1
SVB	**Belmont**	**2.94**	**350**	*e*P	Pn	13 18 41.3	0.0
SVB				*e*S	Sn	13 19 14.8	-0.8
SVV	**Soufriere Volc**	**2.98**	**350**	*e*P	Pn	13 18 42.0	+0.2
SVV				*e*S	Sn	13 19 15.2	-1.3
SSV	**Crater Summit**	**2.98**	**351**	*e*S	Sn	13 19 15.9	-0.9
SFAN	**Fancy Village**	**3.04**	**351**	*e*P	Pn	13 18 42.5	-0.1
SLDE	**Delcer**	**3.44**	**354**	*e*P	Pn	13 18 49.4	+1.4
SLDE				*e*S	Sn	13 19 26.6	-1.1
SLB	**Belfond**	**3.46**	**355**	*e*P	Pn	13 18 48.5	+0.1
SLB				*e*S	Sn	13 19 26.1	-2.2
SLW	**Petit Monier**	**3.64**	**356**	*e*P	Pn	13 18 51.0	+0.2

*ISK **02** 13:47:09.4, 37°.32N×32°.31E, h5km, ML3.5/24*
*DDA **02** 13:47:10.2, 37°.33N×32°.29E, h9km±2km, ML3.2*

ISC 02 13:47:11.1±1.1**, 37°.31N**±0°.02×**32°.31E**±0°.02**, h5**km±10km**, n66, σ1s.03**/85**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMER	**Konya-Meram**	**0.46**	**6**	IAML_P			
	comp=Z,10μm,0.2s						
KMER				*i* P	**Pg**	**13 47 20.0**	**-0.1**
KONT	**Konya--Tatoy**	**0.64**	**4**	PG	**Pg**	**13 47 22.6**	**-0.8**
KONT	**Konya--Tatoy**	**0.64**	**4**	IAML_P			
	comp=Z,9μm,0.1s						
KONT				*i* P	**Pb**	**13 47 23.6**	**-1.2**
KONT				*i* S	**Sb**	**13 47 32.1**	**-1.9**
KEPZ	**Antalya-Kepez**	**0.69**	**234**	*i* P	**Pb**	**13 47 25.4**	**-0.3**
KEPZ				*i* S	**Sg**	**13 47 34.5**	**+1.0**
ERMK	**Ermenek**	**0.82**	**144**	*i* P	**Pb**	**13 47 27.9**	**-0.1**
ERMK				*i* S	**Sb**	**13 47 40.0**	**+0.5**
MNVG	**Manavgat-Antal**	**0.88**	**234**	PG	**Pg**	**13 47 27.6**	**-0.4**
LADK	**Ladik-KONYA**	**0.89**	**3**	PG	**Pg**	**13 47 27.6**	**-0.6**
LADK				SG	**Sb**	**13 47 40.4**	**-0.9**
DOGA	**KONYA_Doganhis**	**0.94**	**328**	IAML_P			
	comp=Z,11μm,0.3s						
DOGA				*i* P	**Pg**	**13 47 27.9**	**-1.3**
DOGA				*i* S	**Sg**	**13 47 41.6**	**+0.2**
KDHN	**Kadinhani**	**1.22**	**353**	IAML_P			
	comp=Z,3μm,0.3s						
KDHN				*i* P	**Pg**	**13 47 33.4**	**-1.1**
KDHN				*i* S	**Sn**	**13 47 50.8**	**-1.1**
TEVE	**Tevekalti-Mers**	**1.26**	**133**	PN	**Pg**	**13 47 34.4**	**-0.9**
TEVE				SN	**Sn**	**13 47 53.0**	**+0.2**
SULT	**Sultanhani-AKS**	**1.30**	**47**	PN	**Pg**	**13 47 35.2**	**-1.0**
SULT				SN	**Sn**	**13 47 54.4**	**+0.4**
BOZY	**Bozyazi-Mersin**	**1.32**	**156**	PN	**Pn**	**13 47 35.5**	**-0.6**
TEKE	**Tekeli-Mersin**	**1.33**	**151**	PN	**Pn**	**13 47 35.8**	**-0.6**
CHBY	**Cihanbeyli**	**1.35**	**20**	PN	**Pb**	**13 47 36.2**	**-0.8**
BCK	**Bucak**	**1.38**	**277**	PN	**Pn**	**13 47 36.2**	**-0.9**
ANTB	**Antalya**	**1.38**	**253**	PN	**Pn**	**13 47 37.3**	**+0.2**
BAGO	**Egridir - ISPA**	**1.38**	**300**	IAML_P			
	comp=Z,6μm,0.3s						
BAGO				*i* P	**Pn**	**13 47 36.2**	**-0.9**
OREN	**Orenkoy-Mersin**	**1.44**	**140**	PN	**Pb**	**13 47 37.8**	**-0.6**
KERG	**Konya-Eregli**	**1.45**	**85**	*i* P	**Pg**	**13 47 38.0**	**-1.0**
KERG				*i* S	**Sn**	**13 48 01.8**	**+4.2**
TEPE	**Tepekoy-Mersin**	**1.48**	**137**	PN	**Pb**	**13 47 38.6**	**-0.6**
GULN	**MERSIN_Gulnar**	**1.50**	**138**	IAML_P			
	comp=Z,3μm,0.1s						
GULN				*i* P	**Pg**	**13 47 39.4**	**-0.5**
GULN				*i* S	**Sg**	**13 47 59.1**	**-0.2**
AKKU	**Akkuyu-Mersin**	**1.52**	**139**	PN	**Pb**	**13 47 39.4**	**-0.4**
AKK2	**Akkuyu-Mersin**	**1.54**	**139**	PN	**Pb**	**13 47 39.4**	**-0.7**
IKL	**Isikli**	**1.54**	**134**	PN	**Pb**	**13 47 39.1**	**-1.0**
YESI	**Yesilovacik-Me**	**1.54**	**136**	PN	**Pb**	**13 47 39.7**	**-0.5**
KORT	**Korkueli**	**1.59**	**259**	PN	**Pn**	**13 47 40.4**	**+0.3**
KORT	**Korkueli**	**1.59**	**259**	IAML_P			
	comp=Z,730nm,0.2s						
KORT				*i* P	**Pb**	**13 47 40.9**	**-0.3**
KIZT	**Kizilcal**	**1.60**	**348**	PN	**Pn**	**13 47 39.9**	**-0.3**
KIZK	**Mersin**	**1.69**	**119**	PN	**Pb**	**13 47 41.5**	**-1.2**
KIZK	**Mersin**	**1.69**	**119**	*i* P	**Pg**	**13 47 43.0**	**-0.5**
KIZK				*i* S	**Sg**	**13 48 04.2**	**-1.2**
AKSY	**AKSARAY - Alti**	**1.76**	**40**	IAML_P			
	comp=Z,346nm,0.3s						
AKSY				*i* P	**Pg**	**13 47 44.8**	**-0.1**
AKSY				*i* S	**Sg**	**13 48 10.5**	**+2.7**
BOLV	**Bolvadin**	**1.77**	**323**	IAML_P			
	comp=Z,2μm,0.3s						
BOLV				*i* P	**Pb**	**13 47 43.8**	**-0.3**
BOLV				*i* S	**Sg**	**13 48 09.4**	**+1.5**
KULU	**Kulu**	**1.81**	**17**	PN	**Pn**	**13 47 43.1**	**0.0**
MERS	**Mersin**	**1.82**	**103**	PN	**Pn**	**13 47 43.3**	**+0.1**
BRDR	**BURDUR-Merkez**	**1.83**	**283**	IAML_P			
	comp=Z,1μm,0.3s						
BRDR				*i* P	**Pg**	**13 47 45.8**	**-0.3**
BRDR				*i* S	**Sb**	**13 48 09.3**	**+1.0**
SHUT	**Suhut-Afyon**	**1.86**	**312**	PN	**Pn**	**13 47 43.6**	**-0.2**
KKUL	**Konya-Kulu**	**1.92**	**14**	IAML_P			
	comp=Z,198nm,0.2s						
KKUL				*i* P	**Pb**	**13 47 45.8**	**-0.8**
KKUL				*i* S	**Sg**	**13 48 15.5**	**+2.6**
KZIL	**AFYON_Kizioren**	**1.96**	**300**	IAML_P			
	comp=Z,2μm,0.3s						
KZIL				*i* P	**Pb**	**13 47 46.5**	**-0.9**
KZIL				*i* S	**Sb**	**13 48 12.7**	**+0.5**
GULE	**Gulek**	**1.97**	**90**	IAML_P			
	comp=Z,195nm,0.1s						
GULE				*i* P	**Pb**	**13 47 47.0**	**-0.5**
GULE				*i* S	**Sg**	**13 48 17.3**	**+2.9**
ELL	**Elmali**	**2.00**	**254**	PN	**Pn**	**13 47 46.2**	**+0.5**
YAYX	**Yaylak**	**2.01**	**36**	PN	**Pn**	**13 47 45.7**	**-0.1**
ALFC	**Alefka**	**2.16**	**174**	P	**Pn**	**13 47 48.4**	**+0.6**
	baz=359						
ALFC				S	**Sn**	**13 48 14.4**	**-0.6**
GOLH	**Golhisar**	**2.19**	**269**	IAML_P			
	comp=Z,568nm,0.2s						
GOLH				*i* P	**Pb**	**13 47 52.2**	**+0.9**
KARA	**Karaisali**	**2.19**	**90**	PN	**Pn**	**13 47 48.3**	**+0.1**
AUSIV	**SIVRIHISAR**	**2.21**	**344**	PN	**Pn**	**13 47 48.0**	**-0.6**
AUSIV	**SIVRIHISAR**	**2.21**	**344**	*i* P	**Pn**	**13 47 48.7**	**+0.1**
AFSR	**Afar-Bala (An**	**2.22**	**15**	PN	**Pn**	**13 47 48.9**	**+0.3**
SVRH	**Sivrihisar-ESK**	**2.22**	**344**	PN	**Pn**	**13 47 48.0**	**-0.7**
LEF	**Lefka**	**2.24**	**168**	PN	**Pn**	**13 47 49.1**	**+0.3**
EREN	**Erenkoy**	**2.33**	**139**	PN	**Pn**	**13 47 50.4**	**+0.4**
KAMT	**Kaman**	**2.33**	**28**	PN	**Pn**	**13 47 50.4**	**+0.1**
PPCY	**Paphos**	**2.42**	**179**	P	**Pb**	**13 47 53.7**	**-1.4**
	baz=4.0						
KHAL	**Karahalli**	**2.47**	**296**	*i* P	**Pn**	**13 47 53.4**	**+1.3**
CSS	**Mathiatis**	**2.48**	**160**	PN	**Pn**	**13 47 51.5**	**-0.7**
CSS	**Mathiatis**	**2.48**	**160**	P	**Pn**	**13 47 53.0**	**+0.8**
	baz=345						
CSS				S	**Sn**	**13 48 21.8**	**-1.2**
FETY	**Fethiye**	**2.67**	**256**	PN	**Pn**	**13 47 55.4**	**+0.6**
CEYT	**Ceyhan**	**2.77**	**95**	PN	**Pn**	**13 47 56.9**	**+0.8**
KOZT	**Kozan**	**2.81**	**85**	PN	**Pn**	**13 47 57.2**	**+0.5**
CDAG	**Cicekdag**	**2.82**	**34**	IAML_P			
	comp=Z,100nm,0.3s						
CDAG				*i* P	**Pn**	**13 47 55.1**	**-1.9**
BORA	**Eskisehir**	**2.95**	**331**	PN	**Pn**	**13 47 59.3**	**+0.6**
DALY	**Dalyan (Mula)**	**2.96**	**262**	PN	**Pn**	**13 47 59.3**	**+0.5**
TURN	**Turunc**	**2.99**	**263**	PN	**Pb**	**13 48 04.0**	**-0.9**
KULA	**Kula-Manisa**	**3.12**	**294**	PN	**Pn**	**13 48 01.4**	**+0.3**
TAHT	**Tahtakopru-Hat**	**3.25**	**106**	PN	**Pn**	**13 48 03.5**	**+0.8**
CORM	**Corum**	**3.39**	**32**	PN	**Pn**	**13 48 05.4**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**3.56**	**282**	PN	**Pn**	**13 48 07.2**	**0.0**

IDC 02 14:06:00.7±2.1**, 1°.02N×126°.60E, h0**km**, mb3.3**/3**, mb1 3.6**/3**, mb1mx3.3**/27**, mbtmp3.4**/3**, Error ellipse: s-maj=176.0km s-min=26.4km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.17**	**160**	P	P	14 10 58.0	-0.5
	0.6nm,0.4s,baz=339,slow=11,SNR=13						
ASAR	**Alice Springs**	**25.54**	**164**	P	P	14 11 31.8	+0.4
	0.7nm,0.7s,baz=346,slow=10,SNR=15						
MKAR	**Makanchi Array**	**59.71**	**326**	P	P	14 16 07.2	-0.1
	0.1nm,0.3s,baz=123,slow=8.1,SNR=4.2						

*IDC **02** 14:35:11.2±6.2, 2°.01S×100°.77E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.2/42, mbtmp3.3/4, Error ellipse: s-maj=310.7km s-min=23.5km az=53.0*
*DJA **02** 14:35:14.8±0.3, 2°S±2°×10°1E±°, h10km, M3.6/7, MLv3.6/7*
*ISCJB **02** 14:35:16.0±0.6, 2°.11S±0°.05×100°.62E±0°.05, h56km, mb3.3/4, Error ellipse: s-maj=7.0km s-min=6.8km az=171.0*

ISC 02 14:35:17.4±1.0**, 2°.11S**±0°.05×**100°.61E**±0°.05**, h56**km**, n14, σ1s.66**/15**, mb3.4**/4**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**0.86**	**89**	P	**Pn**	**14 35 30.4**	**-3.1**
KRJI				S	**Sn**	**14 35 43.3**	**-2.0**
PPSI	**Pulau Pagai**	**0.88**	**222**	P	**Pn**	**14 35 32.1**	**-1.6**
PPSI				S	**Sn**	**14 35 45.1**	**-0.7**
PDSI	**Padang**	**1.20**	**353**	P	**Pn**	**14 35 35.9**	**-2.0**
PDSI				S	**Sn**	**14 35 52.9**	**-0.3**
SDSI	**Sungai Dareh**	**1.43**	**35**	P	**Pn**	**14 35 40.6**	**-0.4**
SISI	**Saibi**	**1.70**	**297**	P	**Pn**	**14 35 43.9**	**-0.8**
MASI	**Maura Aman, Be**	**1.93**	**122**	P	**Pn**	**14 35 48.7**	**+0.8**
MASI				S	**Sn**	**14 36 13.7**	**+2.7**
MNSI	**Mandailing Nat**	**3.06**	**340**	P	**Pn**	**14 36 04.7**	**+1.4**
H08S2	**Diego Garcia H**	**28.53**	**258**	T	T	15 10 20.4	
	baz=83						
H08S3	**Diego Garcia H**	**28.54**	**258**	T	T	15 10 20.5	
	baz=83						
H08S1	**Diego Carcia H**	**28.55**	**258**	T	T	15 10 22.6	
	baz=83						
WRA	**Warramunga Arr**	**37.42**	**121**	P	**P**	**14 42 25.8**	**+0.3**
	0.1nm,0.5s,baz=297,slow=8.6,SNR=2.3						
ASAR	**Alice Springs**	**38.70**	**126**	P	**P**	**14 42 36.1**	**-0.1**
	0.3nm,0.7s,baz=298,slow=8.0,SNR=5.0						
MKAR	**Makanchi Array**	**51.30**	**344**	P	**P**	**14 44 16.7**	**+0.9**
	0.3nm,0.6s,baz=146,slow=7.9,SNR=4.3						
ZALV	**Zalesovo Beam**	**57.39**	**349**	P	**P**	**14 45 00.7**	**+0.8**
	0.3nm,0.4s,baz=167,slow=7.0,SNR=4.1						

*IDC **02** 14:41:37.0±1.1, 35°.68S×73°.17W, h0km, mb4.1/6, mb1 4.2/8, mb1mx4.0/30, mbtmp4.1/8, ML3.9/2, MS3.4/5, Ms1 3.3/5, ms1mx3.2/22, Error ellipse: s-maj=38.4km s-min=17.7km az=87.0*
*SJA **02** 14:41:38.2±0.8, 35°.64S×73°.50W, h33km±55km, ML3.9, MW4.6*
*VAO **02** 14:41:39.8±0.9, 35°.71S×73°.33W, h10km, mb4.5*
*ISCJB **02** 14:41:39.8±0.6, 35°.76S±0°.03×73°.41W±0°.08, h33km, mb4.3/8, MS4.1/2, Error ellipse: s-maj=9.2km s-min=3.6km az=11.5*
*GUC **02** 14:41:40.6±0.6, 35°.85S×73°.54W, h39km±3km, ML4.1*
*NEIC **02** 14:41:46.3±1.2, 35°.87S×72°.29W, h50km±10km, mb4.3/5, Error ellipse: s-maj=25.8km s-min=7.8km az=89.0*

ISC 02 14:41:41.6±0.7**, 35°.76S**±0°.04×**73°.48W**±0°.08**, h35**km**, n79, σ1s.58**/80**, mb4.3**/8**, 1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**1.12**	**165**	*e*P	**Pn**	**14 41 58.8**	**-2.0**
CCSP				*i* S	**Sn**	**14 42 12.4**	**-2.6**
CCSP				IAML		14 42 19.1	
	comp=N,7μm,0.7s						
CCHI	**Chillan**	**1.41**	**127**	*e*P	**Pn**	**14 42 03.5**	**-1.2**
CCHI				*e*S	**Sn**	**14 42 22.1**	**0.0**
CCHI				IAML		14 42 34.7	
	comp=N,8μm,0.5s						
GO05	**Huala**	**1.47**	**60**	*e*Pn	**Pn**	**14 42 03.1**	**-2.5**
GO05	**Huala**	**1.47**	**60**	*e*P	**Pn**	**14 42 06.5**	**+0.9**
GO05				*i* S	**Sn**	**14 42 26.1**	**+2.5**
GO05				IAML		14 42 36.7	
	comp=E,3μm,0.5s						
TMU	**Temuco**	**3.05**	**167**	⇓*e*P	**Pn**	**14 42 26.1**	**-1.2**
TMU				*e*S	**Sn**	**14 43 00.4**	**-2.1**
TMU				IAML		14 43 03.0	
	comp=E,548nm,0.4s						
ROC1	**El Roble**	**3.44**	**37**	*e*Pn	**Pn**	**14 42 30.5**	**-2.4**
ROC1	**El Roble**	**3.44**	**37**	*e*P	**Pn**	**14 42 31.2**	**-1.7**
ROC1				*e*S	**Sn**	**14 43 11.3**	**-1.3**
ROCH	**El Roble**	**3.45**	**37**	*e*P	**Pn**	**14 42 30.9**	**-2.0**
ROCH				*i* S	**Sn**	**14 43 11.7**	**-1.1**
PEL	**Peldehue**	**3.48**	**42**	*e*Pn	**Pn**	**14 42 32.0**	**-1.3**
GO06	**Curarrehue**	**4.13**	**158**	*e*Pn	**Pn**	**14 42 41.2**	**-1.2**
RFA	**San Rafael**	**4.22**	**78**	*e*P	**Pn**	**14 42 44.0**	**+0.6**
RFA				*e*S	**Sn**	**14 43 31.5**	**+0.1**
AAGR	**Agrelo**	**4.68**	**57**	*e*P	**Pn**	**14 42 49.4**	**-0.4**
AUSP	**Uspallata**	**4.90**	**45**	*e*P	**Pn**	**14 42 53.5**	**+0.5**
ASAL	**Salagasta**	**4.98**	**52**	*e*P	**Pn**	**14 42 54.8**	**+0.9**
RTLS	**Leoncito**	**5.26**	**43**	*e*P	**Pn**	**14 42 58.1**	**0.0**
RTLS				IAML		14 42 59.9	
	comp=Z,61nm,0.6s						
PLCA	**Paso Flores**	**5.47**	**156**	Pn	**Pn**	**14 42 60.0**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=350,slow=11,SNR=41						
PLCA				LR	LR	14 44 29.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,41nm,21.9s,baz=357,slow=32						
PLCA				Lg	Lg	14 44 30.3	
	comp=Z,5.5nm,0.3s,baz=293,slow=15,SNR=6.6						
PLCA	Paso Flores	5.47	156	ePn	Pn	14 43 00.4	-0.2
PLCA				Lg	Lg	14 44 30.3	
PLCA	Paso Flores	5.47	156	eP	Pn	14 43 00.7	+0.1
RTCV	Cerro Valdivia	5.66	48	eP	Pn	14 43 02.5	-0.7
CFA	Coronel Fontan	6.02	48	eP	Pn	14 43 07.1	-1.0
RTLL	Cerro Villicun	6.08	45	eP	Pn	14 43 07.8	-1.2
ACAN	Cantantal	6.27	58	eP	Pn	14 43 11.7	+0.1
ACCO	Cerro Coronel	6.34	37	eP	Pn	14 43 11.8	-1.1
AMOG	MOGNA	6.36	42	eP	Pn	14 43 11.7	-1.3
AROD	Rodeo	6.51	32	eP	Pn	14 43 15.1	-0.1
LCO	Las Campanas	7.13	20	ePn	Pn	14 43 19.1	-4.5
MRA	San Martin	7.25	65	eP	Pn	14 43 24.1	-1.0
AGUA	GUANDACOL	7.54	35	eP	Pn	14 43 27.9	-1.2
APLL	PUNTA DE LOS L	7.91	49	eP	Pn	14 43 31.1	-3.0
APLL				IAML		14 45 26.4	
	comp=Z,14nm,0.6s						
ACLC	CERRO LA CRUZ	8.38	43	eP	Pn	14 43 37.2	-3.5
GO03	Copiap	8.60	20	ePn	Pn	14 43 40.9	-2.7
TRQA	Tornquist	9.49	107	ePn	Pn	14 43 47.1	-8.6
GO02	Mina Guanaco	11.08	19	ePn	Pn	14 44 15.1	-2.7
LVC	Limon Verde	13.69	18	LR	LR	14 49 34.3	
	comp=Z,104nm,18.9s,baz=172,slow=35						
PB01	IPOC Station P	15.07	14	ePn	P	14 45 15.2	-1.8
PB11	IPOC Station P	16.29	13	ePn	P	14 45 31.2	+0.7
	comp=Z,24nm,1.1s						
GO01	Chusmiza	16.47	14	ePn	P	14 45 34.4	+1.6
	comp=Z,7.5nm,1.0s						
CPUP	Villa Florida	16.71	60	LR	LR	14 51 58.4	
	comp=Z,105nm,18.9s,baz=233,slow=38						
MNMC	Minye Minye	16.92	13	ePn	P	14 45 39.8	+2.2
	comp=Z,86nm,1.9s						
PLTB	Pedras Altas	17.00	82	eP	Pn	14 45 34.8	-1.7
CPSB	Cacapava Do Su	17.61	78	eP	Pn	14 45 42.8	-1.4
USHA	Ushuaia	19.39	171	P	Pn	14 46 05.7	+0.2
	comp=Z,0.2nm,0.3s,baz=328,slow=13,SNR=3.8						
LPAZ	La Paz	19.97	15	P	Pn	14 46 14.9	+1.5
	comp=Z,0.1nm,0.3s,baz=190,slow=8.4,SNR=7.5						
LPAZ	La Paz	19.97	15	eP	Pn	14 46 13.4	0.0
	comp=Z,6.4nm,0.8s						
LPAZ	La Paz	19.97	15	eP	P	14 46 09.9	-1.7
ITAB	Concordia	20.06	71	eP	Pn	14 46 12.0	-1.7
CNLB	Canela	20.11	78	eP	P	14 46 11.9	-0.5
PTGB	Pitanga	21.48	65	eP	P	14 46 27.2	0.0
AQDB	Aquidauana	21.80	50	eP	P	14 46 29.4	-1.1
TER01	Tubaro-SC	21.80	78	eP	P	14 46 29.9	-0.7
TRCB	Terra Rica	22.25	60	eP	P	14 46 35.0	-0.4
SIV	San Ignacio	22.59	33	P	P	14 46 37.3	-1.9
	comp=Z,4.3nm,1.0s,baz=220,slow=12,SNR=11						
FRTB	Fartura	24.13	66	eP	P	14 46 56.0	+1.7
ITRB	Iturama	25.87	58	eP	P	14 47 09.6	-0.5
RCLB	Rio Claro- Sao	26.19	67	eP	P	14 47 14.6	+1.6
BB19B	Bebedouro	26.28	63	eP	P	14 47 14.9	+1.1
ESAR	Angra dos Reis	28.19	71	eP	P	14 47 32.2	+1.3
BSCB	Bom Sucesso	29.09	67	eP	P	14 47 40.9	+1.8
VAS01	Vassouras-RJ	29.37	71	eP	P	14 47 43.1	+1.7
MCI6	Montes Claros	32.36	62	eP	P	14 48 09.7	+1.8
RIB01	Linhares ES	33.40	69	eP	P	14 48 17.4	+0.5
QSPA	South Pole Qui	54.48	180	P	P	14 51 06.2	+0.8
	comp=Z,3.5nm,0.9s,baz=168,slow=1.6,SNR=10						
MAW	Mawson	71.83	164	LR	LR	15 25 12.5	
	comp=Z,79nm,18.2s,baz=202,slow=36						
LIC	Lamto	76.44	72	eP	P	14 53 28.3	+0.3
	comp=Z,25nm,1.2s						
TIC	Toumodi	76.71	72	eP	P	14 53 29.5	0.0
KIC	Kosan Boka	76.75	72	eP	P	14 53 30.0	+0.3
	comp=Z,14nm,0.9s						
DBIC	Dimbokro	76.86	72	P	P	14 53 30.6	+0.3
	comp=Z,5.4nm,0.9s,baz=189,slow=5.0,SNR=7.4						
DBIC	Dimbokro	76.86	72	eP	P	14 53 29.6	-0.6
	comp=Z,5.9nm,0.8s						
DBIC	Dimbokro	76.86	72	eP	P	14 53 31.0	+0.7
BOSA	Boshof	80.29	118	P	P	14 53 49.8	+0.5
	comp=Z,1.8nm,0.7s,baz=243,slow=6.5,SNR=3.0						
NVAR	Mina Array Bea	84.67	326	P	P	14 54 13.4	+1.7
	comp=Z,0.1nm,0.3s,baz=169,slow=5.1,SNR=1.5						
TORD	Torodi Ar. Bea	85.91	71	P	P	14 54 15.9	-2.3
	comp=Z,1.1nm,0.9s,baz=251,slow=5.6,SNR=4.8						
GCMT	Greycliff	87.50	336	eP	P	14 54 32.2	+6.8
MDT	Midelt	93.83	52	LR	LR	15 37 47.3	
	comp=Z,70nm,18.3s,baz=202,slow=36						
ABKAR	Akbulak array	143.69	53	ePKPpre	PKPpre	15 01 09.8	
KSH	Kashi	155.58	72	PKP	PKPdf	15 01 30.2	-1.3
KSH				pPKP	pPKPdf	15 01 41.3	-1.3
KSH				PP	PP	15 05 37.8	+2.7
KSH				AMB	AMB		
	comp=Z,480nm,5.6s						
ZALV	Zalesovo Beam	156.34	33	PKPab	PKPab	15 02 00.1	-0.2
	comp=Z,1.1nm,0.6s,baz=295,slow=5.3,SNR=4.6						
MKAR	Makanchi Array	158.80	51	PKP	PKPdf	15 01 35.0	-0.3
	comp=Z,0.3nm,0.7s,baz=302,slow=2.7,SNR=3.8						
MKAR				PKPab	PKPab	15 02 11.1	-0.2
	comp=Z,0.6nm,0.9s,baz=319,slow=3.5,SNR=5.0						
LZH	Lanzhou	177.80	81	ePKP	PKPdf	15 01 51.8	+3.4
LZH				pPKP	sPKPdf	15 02 02.9	-0.5
LZH				sPKP		15 02 07.5	

*SOME **02** 14:50:51.0, 42°.42N×83°.42E, h5km*
*NNC **02** 14:51:01.1±3.9, 42°.74N×83°.18E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=36.5km s-min=19.3km az=143.0*
ISC 02 14:50:47.5±3.4**, 42°.4N**±0°.1×**83°.6E**±0°.1**, h10km, n8, σ2s.68**/14**, 5C-2D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	3.12	286	eP	Pb	14 51 42.0	-1.2
	1.5nm,0.2s						
SHLS				eS	Sb	14 52 18.9	-2.4
	38nm,0.6s						
PDGK	Podgornoye	3.14	289	⇑Pn	Pg	14 51 47.5	-0.3
	1.8nm,0.6s						
PDGK				⇓Lg	Lg	14 52 28.1	
	7.7nm,0.5s						
DJR	Jarkent	3.38	307	eP	Pb	14 51 50.0	+2.4
	0.5nm,0.3s						
DJR				eS	Sb	14 52 32.3	+3.5
	3.7nm,0.4s						
UZB	Uzynbulak	3.43	285	eP	Pb	14 51 52.2	+3.7
	0.9nm,0.2s						
UZB				eS	Sg	14 52 36.4	-1.3
	6.0nm,0.5s						
SATY	Saty	3.86	282	eP	Pg	14 52 00.2	-1.3
	1.2nm,0.1s						
SATY				eS	Sg	14 52 49.9	-1.5
	7.0nm,0.2s						
KAPS	Kapalarasan	4.22	315	eP	Pb	14 52 05.8	+4.0
	0.2nm,0.1s						
KAPS				eS	Sg	14 52 59.7	-3.2
	3.1nm,0.4s						
MK31	Makanchi Array	4.53	349	⇑Pn	Pb	14 52 04.6	-2.5
	0.3nm,0.6s,baz=176,slow=12,SNR=9.1						
MK31				⇓Pg	Pg	14 52 15.7	+1.5
	0.4nm,0.3s,baz=175,slow=16,SNR=8.2						
MK31				⇑Lg	Lg	14 53 13.8	
	7.3nm,0.6s,baz=169,slow=26,SNR=11						
MAKZ	Makanchi	4.59	346	⇑Pg	Pg	14 52 15.0	-0.4
	1.0nm,0.7s						
MAKZ				⇑Lg	Lg	14 53 15.7	
	2.3nm,0.6s						

*NEIC **02** 14:57:40.2±1.9, 10°.86S×113°.88E, h5km±12km, mb4.5/12, Error ellipse: s-maj=6.6km s-min=4.1km az=212.0*
*ISCJB **02** 14:57:42.5±0.3, 10°.86S±0°.04×113°.91E±0°.03, h33km, mb4.4/29, Error ellipse: s-maj=5.6km s-min=4.1km az=40.8*
*DJA **02** 14:57:45.5±0.6, 11°S±12°×11°4E±°, h89km±40km, M4.8/13, mb5.0/3, mB5.2/2, MLv4.7/13, Mw(mB)4.6/2*
*IDC **02** 14:57:46.2±0.8, 10°.68S×114°.07E, h42km±6km, mb4.1/15, mb1 4.3/18, mb1mx4.1/40, mbtmp4.4/18, ML4.9/3, MS3.2/3, Ms1 3.2/3, ms1mx2.8/30, Error ellipse: s-maj=19.9km s-min=11.0km az=53.0*
ISC 02 14:57:44.7±0.4**, 10°.90S**±0°.05×**114°.01E**±0°.05**, h35km, n86, σ2s.13**/101**, mb4.5**/29**, 1C-1D, South of Bali**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IGBI	Denpasar	2.35	28	P	Pn	14 58 21.1	+0.3
JAGI	Jajag, Banyuwa	2.42	3	ePn	Pn	14 58 20.7	-1.1
JAGI	Jajag, Banyuwa	2.42	3	P	Pn	14 58 21.1	-0.7
JAGI				S	Sn	14 58 49.0	-1.2
DNP	Denpasar	2.50	28	P	Pn	14 58 23.1	+0.2
GMJI	Gumukmas	2.67	348	P	Pn	14 58 23.7	-1.5
GMJI				S	Sn	14 58 52.4	-4.0
SRBI	Singaraja	3.04	23	P	Pn	14 58 31.2	+0.9
KMMI	Kalianget	3.83	359	P	Pn	14 58 41.9	+0.8
PCJI	Pacitan	3.88	314	P	Pn	14 58 39.0	-2.9
PLAI	Plampang	4.24	61	P	Pn	14 58 47.1	+0.2
WOJI	Wonogiri, Jawa	4.31	315	P	Pn	14 58 45.4	-2.4
WOJI				S	Sn	14 59 31.1	-5.7
UGM	Wanagama	4.55	310	ePn	Pn	14 58 48.8	-2.3
SMRI	Semarang	5.21	317	ePn	Pn	14 58 58.0	-2.1
CISI	Cisompet, Garu	6.96	298	ePn	Pn	14 59 21.3	-3.0
CISI	Cisompet, Garu	6.96	298	P	Pn	14 59 21.6	-2.7
	100nm,0.6s,3µm1.4nm						
LEM	Lembang	7.50	302	P	Pn	14 59 32.6	+0.7
	4.8nm,0.3s,baz=144,slow=19,SNR=2.7						
LEM				S	Sn	15 00 58.0	+2.1
	3.3nm,0.3s,baz=319,slow=19,SNR=2.3						
LEM				LR	LR	15 03 04.2	
	comp=Z,166nm,18.3s,baz=79,slow=43						
EDFI	Ende, Flores	7.86	75	P	Pn	14 59 38.3	+1.6
BKSI	Bulukumba	8.20	48	P	Pn	14 59 42.3	+1.0
XMIS	Christmas Isla	8.23	272	ePn	Pn	14 59 36.8	-4.9
MMRI	Maumere	8.41	75	ePn	Pn	14 59 45.7	+1.5
BATI	Baumata	9.51	87	P	Pn	14 59 59.6	+0.3
	14nm,0.3s,baz=293,slow=4.1,SNR=21						
BATI				S	Sn	15 01 40.3	-4.8
	6.2nm,0.3s,baz=324,slow=17,SNR=9.5						
SOEI	Soe	10.15	85	ePn	Pn	15 00 09.4	+1.2
MBWA	Marble Bar	11.58	152	ePn	Pn	15 00 24.4	-3.2
GIRL	Giralia	11.68	179	ePn	Pn	15 00 26.0	-3.0
MNAI	Manna	12.74	300	ePn	Pn	15 00 38.3	-5.1
FITZ	Fitzroy Crossi	13.33	124	P	Pn	15 00 49.4	-2.2
	0.3nm,0.3s,baz=287,slow=7.4,SNR=13						
FITZ				S	Sn	15 03 07.0	-12
	0.8nm,0.3s,baz=16,slow=23,SNR=8.7						
FITZ	Fitzroy Crossi	13.33	124	ePn	Pn	15 00 48.9	-2.6
FITZ				S	Sn	15 03 07.0	-12
COCO	West Island	16.88	264	ePn	Pn	15 01 35.7	-2.7
	383nm,1.9s						
SAUI	Saumlaki	17.30	82	ePn	Pn	15 01 43.1	-0.5
	96nm,0.9s						
TNTI	Ternate	17.63	50	ePn	Pn	15 01 47.7	0.0
	25nm,1.0s						
MORW	Morawa	18.18	174	ePn	P	15 01 52.1	-2.3
	34nm,1.4s						
FAKI	Fak Fak	19.75	68	eP	P	15 02 10.6	-1.2
	21nm,0.8s						
SIJI	Sorong	19.82	61	P	P	15 02 11.7	-0.9
	8.8nm,0.3s,baz=262,slow=5.8,SNR=19						
WRA	Warramunga Arr	21.54	117	P	P	15 02 32.4	+1.3
	5.5nm,0.7s,baz=290,slow=11,SNR=65						
WRA				S	S	15 06 20.2	-8.0
	0.6nm,0.8s,baz=281,slow=22,SNR=4.3						
WRAB	Tennant Creek	21.54	117	eP	P	15 02 33.2	+2.1
	6.8nm,0.6s						
WB2	Warramunga Arr	21.55	117	eP	P	15 02 32.5	+1.3
ASAR	Alice Springs	22.80	126	P	P	15 02 45.8	+1.2
	4.1nm,0.5s,baz=302,slow=9.0,SNR=126						
ASAR				PcP	PcP	15 06 36.9	+1.4
	0.9nm,0.7s,baz=291,slow=2.3,SNR=5.6						
ASAR				S	S	15 06 52.5	+0.9
	0.9nm,0.7s,baz=294,slow=23,SNR=3.9						
AS31	Alice Springs	22.81	126	eP	P	15 02 46.5	+1.8
	1.9nm,0.5s						
AS01	Alice Springs	22.84	126	eP	P	15 02 46.4	+1.3
FORT	Forrest	23.69	149	eP	P	15 02 54.4	+1.1
	29nm,0.6s						
JAY	Jayapura	27.76	74	P	P	15 03 31.4	+0.9
	11nm,0.7s,baz=307,slow=20,SNR=3.2						
CM01	Chiang Mai Arr	32.70	333	eP	P	15 04 13.4	-0.7
CMAR	Chiang Mai Arr	32.74	333	P	P	15 04 14.7	+0.2
	1.7nm,0.8s,baz=164,slow=8.0,SNR=13						
CMAR				LR	LR	15 18 12.4	
	comp=Z,28nm,18.2s,baz=180,slow=38						
STKA	Stephens Creek	32.92	134	P	P	15 04 17.6	+1.7
	4.1nm,0.8s,baz=310,slow=7.8,SNR=11						
STKA				pP	sP	15 04 30.2	+2.5
	4.2nm,0.7s,baz=315,slow=10,SNR=7.4						
STKA	Stephens Creek	32.92	134	eP	P	15 04 17.6	+1.6
	1.0nm,0.8s						
STKA				pP	sP	15 04 30.2	+2.5
KMI	Kunming	37.45	343	P	P	15 04 57.7	+2.5
KMI				pmax	pmax		
	comp=Z,11nm,1.1s						
H08S2	Diego Garcia H	41.08	271	T	T	15 49 14.4	
	baz=96,slow=75,SNR=9.0						
H08S3	Diego Garcia H	41.09	271	T	T	15 49 14.6	
	baz=96,slow=75,SNR=14						
H08S1	Diego Carcia H	41.10	271	T	T	15 49 20.2	
	baz=96,slow=75,SNR=6.2						
NJ2	Nanjing	42.96	6	eP	P	15 05 39.9	-0.5
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
LZH	Lanzhou	47.71	349	eP	P	15 06 20.2	+2.0
LZH				pP	pP	15 06 24.8	-2.8
LZH				sP	sP	15 06 26.8	-4.5
LZH				ePP	PP	15 08 10.5	+0.2
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
KSAR	Wonju Array Be	49.82	14	P	P	15 06 33.5	-0.7
KSRS	Korea Array	49.84	14	P	P	15 06 33.5	-0.9
	comp=Z,0.9nm,0.6s,baz=191,slow=7.2,SNR=2.9						
KSRS				LR	LR	15 29 43.6	
	comp=Z,23nm,19.2s,baz=308,slow=39						
HHC	Hu-ho-hao-te	51.54	358	eP	P	15 06 51.7	+4.4
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,210nm,6.0s						
GTA	Gaotai	51.77	346	eP	P	15 06 47.3	-1.7
GTA				pP	pP	15 06 51.9	-6.0
GTA				sP	sP	15 06 54.5	-6.8
GTA				S	S	15 14 08.2	-0.6
GTA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,110nm,6.3s						
GTA				LR	LR		
	comp=N,99nm,17.1s						
GTA				LR	LR		
	comp=E,100nm,17.8s						
GTA				LR	LR		
	comp=Z,84nm,17.5s						
MJAR	Matsushiro Arr	52.40	25	P	P	15 06 51.1	-2.5
	comp=Z,2.1nm,0.7s,baz=208,slow=9.3,SNR=9.4						
CN2	Changchun	55.42	10	eP	P	15 07 17.7	+2.1
USRK	Ussuriysk Ar.	57.22	15	P	P	15 07 27.6	-0.7
	comp=Z,3.1nm,0.6s,baz=178,slow=6.0,SNR=9.9						
ULN	Ulaanbaatar	58.83	355	eP	P	15 07 39.3	-0.5
	comp=Z,17nm,2.0s						
SONM	Songino Array	58.86	354	P	P	15 07 39.3	-0.7
	comp=Z,1.5nm,0.5s,baz=174,slow=7.9,SNR=19						
SONA1	Songino Array	58.87	354	eP	P	15 07 39.4	-0.8
RPZ	Rata Peaks	58.88	135	P	P	15 07 41.4	+1.2
	comp=Z,19nm,0.6s,baz=332,slow=18,SNR=3.0						
WMQ	Urumqi	59.49	338	eP	P	15 07 45.7	+1.3
KSH	Kashi	61.36	327	P	P	15 08 01.5	+4.2
KSH				PcP	PcP	15 08 44.4	+5.0
KSH				PP	PP	15 10 19.4	+6.5
KSH				S	S	15 16 19.5	+3.7
KSH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,440nm,5.2s						
MK01	Makanchi Array	64.03	336	eP	P	15 08 14.3	-0.6
MK31	Makanchi Array	64.06	336	eP	P	15 08 14.4	-0.6
MKAR	Makanchi Array	64.06	336	P	P	15 08 14.7	-0.4
	comp=Z,1.3nm,0.4s,baz=149,slow=7.5,SNR=41						
MKAR	Makanchi Array	64.06	336	eP	P	15 08 14.5	-0.5
	comp=Z,12nm,0.4s						
AAK	Ala-Archa	64.39	329	eP	P	15 08 17.6	+0.1
	comp=Z,4.9nm,1.0s						
KK31	Karatay Array	66.80	327	eP	P	15 08 32.1	-0.7
KKAR	Karatay Array	66.80	327	eP	P	15 08 32.2	-0.7
KURK	Kurchatov	68.66	337	eP	P	15 08 44.0	-0.3
	comp=Z,3.3nm,0.6s						
ZALV	Zalesovo Beam	69.19	342	P	P	15 08 46.8	-0.7
	comp=Z,2.1nm,0.5s,baz=157,slow=5.7,SNR=12						
ZALV				pP	sP	15 08 59.0	-1.3
	comp=Z,2.6nm,0.5s,baz=160,slow=4.3,SNR=7.9						
ZALV	Zalesovo Beam	69.19	342	eP	P	15 08 46.5	-1.1
ZALV				pP	sP	15 08 59.0	-1.3
VNDA	Vanda	70.93	170	P	P	15 08 59.0	+1.1
	comp=Z,1.9nm,0.9s,baz=313,slow=5.5,SNR=5.7						
GEYT	Alibeck	71.31	316	P	P	15 09 01.1	+0.1
	comp=Z,1.7nm,0.6s,baz=139,slow=7.0,SNR=4.8						
SYO	Syowa Base	74.32	201	⇓eP	P	15 09 18.4	+0.2
SYO	Syowa Base	74.32	201	⇑ePcP	PcP	15 09 32.0	-0.9
RAYN	Ar Rayn	75.19	298	eP	P	15 09 23.7	-0.5
	comp=Z,4.0nm,0.8s						
ABKAR	Akbulak array	76.37	327	eP	P	15 09 30.0	-0.3
KBZ	Khabaz	84.20	316	P	P	15 10 13.1	+0.6
	comp=Z,1.2nm,0.8s,baz=200,slow=6.4,SNR=3.7						
BRTR	Keskin Array B	89.60	311	P	P	15 10 39.2	+0.1
	comp=Z,0.7nm,0.9s,baz=142,slow=4.2,SNR=4.4						
TORD	Torodi Ar. Bea	113.94	280	PKiKP	PKiKP	15 16 20.6	-0.4
	comp=Z,0.3nm,0.8s,baz=91,slow=0.8,SNR=3.4						
YKA	Yellowknife Ar	117.89	23	PKP	PKiKP	15 16 27.7	+0.5
	comp=Z,0.4nm,0.5s,baz=308,slow=1.9,SNR=10						
YKA				pPKP	sPKPdf	15 16 40.1	0.0
	comp=Z,0.3nm,0.6s,baz=315,slow=2.2,SNR=4.4						
PB11	IPOC Station P	149.32	173	ePKPbc	PKPbc	15 17 31.6	+0.6
LPAZ	La Paz	152.90	175	PKPbc	PKiKP	15 17 41.5	+1.3
	comp=Z,0.7nm,0.5s,baz=256,slow=4.2,SNR=3.7						
LPAZ				PKPab	sPKPbc	15 17 52.3	-0.3
	comp=Z,4.0nm,0.7s,baz=190,slow=6.2,SNR=11						
LPAZ	La Paz	152.90	175	PKPbc	PKiKP	15 17 41.5	+1.3
LPAZ				ePKPab	PKPab	15 17 51.7	+0.8

WEL 02 15:00:23.9, 39°S±2°×**17°4E**±°**, h10km**±1km**, ML3.6**/22**, Off west coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NBEZ	Newall Road No	0.15	63	P	Pb	15 00 28.3	-0.6
NBEZ				S	Sg	15 00 31.7	+2.0
NMEZ	Namu Road	0.16	117	P	Pg	15 00 28.2	+0.7
NMEZ				S	Sg	15 00 31.5	+1.5
KHEZ	Kahui Hut	0.25	80	P	Pb	15 00 30.0	-0.6
KHEZ				S	Sb	15 00 34.5	-0.7
PKE	Pukeiti	0.27	58	P	Pb	15 00 30.4	-0.5
PKE				S	Sb	15 00 35.3	-0.2
PREZ	Palmer Road	0.36	91	P	Pb	15 00 32.0	-0.5
PREZ				S	Sb	15 00 37.9	-0.3
DREZ	Durham Road	0.42	69	P	Pb	15 00 33.0	-0.5
DREZ				S	Sb	15 00 39.6	-0.3
MHEZ	Mangahewa	0.56	62	P	Pb	15 00 35.4	-0.4
LREZ	Lake Rotokare	0.56	103	P	Pb	15 00 35.6	-0.3
LREZ				S	Sb	15 00 44.5	+0.5
VRZ	Vera Road	0.86	76	P	Pg	15 00 40.2	-0.2
WAZ	Wanganui	1.08	113	P	Pb	15 00 44.1	-0.7
HIZ	Hauiti	1.23	48	P	Pn	15 00 45.8	-1.3
HIZ				S	Sb	15 01 02.8	-0.2
PKVZ	Pokaka	1.28	88	P	Pn	15 00 47.2	-0.7
PKVZ				S	Sb	15 01 04.7	-0.1
TWVZ	Taurewa	1.38	79	P	Pn	15 00 48.9	-0.4
TRVZ	Turoa	1.44	89	P	Pn	15 00 49.8	-0.5
COVZ	Chateau Observ	1.44	85	P	Pn	15 00 50.0	-0.2
FWVZ	Far West T-bar	1.45	87	P	Pn	15 00 50.4	+0.1
DUWZ	D'Urville Isla	1.47	173	P	Pb	15 00 51.0	-0.4
WHVZ	Whangaehu Hut	1.47	88	P	Pn	15 00 50.9	+0.2
WTVZ	West Tongariro	1.49	82	P	Pn	15 00 50.6	-0.3
OHWZ	Ohakea	1.52	125	P	Pb	15 00 51.9	-0.3
KRVZ	Karewarewa	1.53	81	P	Pn	15 00 51.2	-0.3
KATZ	Kakaramea	1.60	78	P	Pn	15 00 52.1	-0.3
MOVZ	Moawhango	1.60	93	P	Pn	15 00 52.5	+0.2
RATZ	Rangitukua	1.69	74	P	Pb	15 00 54.3	-0.7
WATZ	Wairara	1.71	69	P	Pn	15 00 53.6	-0.2
RITZ	Rihia Road	1.72	79	P	Pb	15 00 55.4	-0.2
QRZ	Quartz Range	1.73	211	P	Pn	15 00 53.1	-1.0
TLZ	Tolley Road	1.76	56	P	Pn	15 00 53.7	-0.7
KIW	Kapiti Island	1.79	149	P	Pb	15 00 55.9	-0.9
BHHZ	Black Hill Sta	1.84	95	P	Pn	15 00 56.1	+0.5
OGWZ	Otaki Gorge	1.86	143	P	Pb	15 00 57.2	-0.8
KUTZ	Kaahu Road	1.87	64	P	Pn	15 00 56.0	+0.1
NNZ	Nelson	1.89	187	P	Pn	15 00 56.3	0.0
TSZ	Takapari Road	1.89	113	P	Pb	15 00 58.2	-0.4
POWZ	Post Office Ro	1.91	124	P	Pb	15 00 58.6	-0.3
TCW	Tory Channel	1.92	167	P	Pn	15 00 57.2	+0.5
MRZ	Mangatainoka R	1.96	133	P	Pb	15 00 59.3	-0.4
PNHZ	Pukenui	2.02	107	P	Pb	15 00 60.0	-0.8
CAW	Cannon Point	2.06	150	P	Pb	15 01 00.5	-0.8
KRHZ	Kereru	2.10	99	P	Pb	15 01 02.0	-0.1
TUWZ	Tuamarina	2.10	175	P	Pn	15 00 59.9	+0.8
KWHZ	Kaweka Forest	2.12	93	P	Pb	15 01 02.7	+0.3
PRWZ	Pori Road	2.13	125	P	Pb	15 01 03.0	+0.4
DVHZ	Dannevirke	2.13	118	P	Pb	15 01 02.3	-0.4
TOZ	Tahuroa Road	2.14	42	P	Pn	15 00 58.9	-0.8
WPHZ	Waipukurau	2.24	110	P	Pb	15 01 04.2	-0.3
BHW	Baring Head	2.25	157	P	Pb	15 01 04.4	-0.3
MTW	Mount Morrison	2.29	143	P	Pb	15 01 04.3	-0.9
BFZ	Birch Farm	2.38	125	P	Pb	15 01 06.2	-0.6
BSWZ	Blackbirch Sta	2.38	177	P	Pb	15 01 05.3	-1.5
AWAZ	Awhitu Peninsu	2.39	19	P	Pn	15 01 03.0	-0.1
KARZ	Kaharoa	2.39	57	P	Pb	15 01 07.6	+0.5
MSWZ	Moikau Station	2.39	151	P	Pb	15 01 06.2	-0.8
KBAZ	Karaka Road Bo	2.43	23	P	Pn	15 01 03.5	-0.1
PAWZ	Paruwai Farm	2.43	148	P	Pb	15 01 08.1	+0.3
TMWZ	Te Maipa	2.44	137	P	Pg	15 01 09.5	-1.2
THZ	Tophouse	2.50	194	P	Pn	15 01 05.5	+0.9
WTAZ	Waiatarua	2.50	16	P	Pn	15 01 04.7	+0.1
MKAZ	Moumakai	2.51	28	P	Pn	15 01 04.7	-0.1
PLWZ	Palliser	2.53	152	P	Pb	15 01 09.1	-0.3
ETAZ	East Tamaki Re	2.57	23	P	Pn	15 01 05.3	-0.3
RVAZ	Riverhead Bore	2.66	16	P	Pn	15 01 06.7	-0.1
URZ	Urewera	2.88	69	P	Pb	15 01 13.0	-2.4
KUZ	Kuaotunu	3.04	32	P	Pn	15 01 11.3	-0.8
KHZ	Kahutara	3.08	182	P	Pn	15 01 14.2	+1.7
MWZ	Matawai	3.16	73	P	Pb	15 01 17.0	-3.2
WCZ	Waipu Caves	3.43	9	P	Pn	15 01 17.4	0.0
OUZ	Omahuta	4.11	359	P	Pn	15 01 27.3	+0.5

*NEIC **02** 15:01:36.0±0.6, 16°.81S×178°.19W, h10km, mb4.3/3, Error ellipse: s-maj=16.6km s-min=11.5km az=154.0*
*IDC **02** 15:01:35.4±1.7, 16°.82S×178°.30W, h0km, mb4.0/6, mb1 4.3/6, mb1mx4.0/27, mbtmp4.0/6, MS3.4/1, Ms1 3.4/1, ms1mx2.7/28, Error ellipse: s-maj=156.2km s-min=20.3km az=152.0*
ISC 02 15:01:39.2±0.9**, 16°.8S**±0°.1×**178°.1W**±0°.1**, h35km, n14, σ1s.17**/12**, mb4.0**/8**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIUE	Niue	8.13	108	ePn	Pn	15 03 33.5	-1.3
FUNA	Funafuti	8.60	342	ePn	Pn	15 03 40.7	-0.6
KNTN	Kanton	15.26	25	ePn	Pn	15 05 10.8	-1.4
	239nm,1.5s						
PPT	Papeete	27.27	96	LR	LR	15 17 29.7	
	comp=Z,65nm,18.2s,baz=79,slow=35						
STKA	Stephens Creek	39.43	240	P	P	15 09 06.2	+0.1
	3.8nm,0.8s,baz=79,slow=12,SNR=7.5						
STKA	Stephens Creek	39.43	240	eP	P	15 09 05.8	-0.2
	2.0nm,1.1s						
WR1	Warramunga Arr	45.12	258	eP	P	15 09 52.2	-0.4
	18nm,1.8s						
WRA	Warramunga Arr	45.12	258	P	P	15 09 52.2	-0.4
	0.9nm,0.5s,baz=98,slow=7.2,SNR=18						
AS01	Alice Springs	45.33	253	eP	P	15 09 53.5	-0.8
AS31	Alice Springs	45.37	253	eP	P	15 09 54.1	-0.5
	2.6nm,0.6s						
ASAR	Alice Springs	45.38	253	P	P	15 09 54.4	-0.3
	9.9nm,0.6s,baz=90,slow=7.8,SNR=112						
NVAR	Mina Array Bea	78.41	44	P	P	15 13 40.5	+3.8
	0.4nm,0.6s,baz=224,slow=10,SNR=3.0						
TXAR	Lajitas Array	85.15	58	P	P	15 14 14.3	+2.0
	0.5nm,0.6s,baz=219,slow=6.9,SNR=4.5						
PDAR	Pinedale Array	86.33	43	P	P	15 14 19.7	+1.7
	0.2nm,0.4s,baz=208,slow=3.7,SNR=3.7						

*IDC **02** 15:06:45.5±6.2, 15°.98S×177°.38W, h376km±64km, mb3.4/8, mb1 3.7/8, mb1mx3.4/27, mbtmp4.1/8, Error ellipse: s-maj=36.0km s-min=19.0km az=156.0*
*ISCJB **02** 15:06:46.4±0.8, 16°.0S±0°.2×177°.5W±0°.2, h400km, mb3.7/8, Error ellipse: s-maj=34.0km s-min=16.0km az=136.4*
ISC 02 15:06:47.3±0.8**, 15°.9S**±0°.2×**177°.5W**±0°.2**, h400km, n12, σ1s.27**/14**, mb3.6**/8**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	22.76	191	P	P	15 11 15.9	-0.8
	13nm,1.0s,baz=81,slow=15,SNR=3.1						
STKA	Stephens Creek	40.37	239	P	P	15 13 48.4	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.6nm,0.6s,baz=80,slow=9.0,SNR=3.9						
WRA	Warramunga Arr	45.88	258	P	P	15 14 32.7	+0.6
	0.9nm,0.5s,baz=93,slow=6.7,SNR=29						
WRA				PcP	PcP	15 16 02.9	+1.2
	0.2nm,0.7s,baz=93,slow=3.4,SNR=2.6						
ASAR	Alice Springs	46.19	252	P	P	15 14 36.0	+1.4
	9.9nm,0.6s,baz=85,slow=8.1,SNR=153						
ASAR				PcP	PcP	15 16 03.2	+0.4
	0.1nm,0.7s,baz=81,slow=5.7,SNR=2.4						
NVAR	Mina Array Bea	77.39	44	P	P	15 18 00.9	+1.1
	1.0nm,0.7s,baz=223,slow=8.1,SNR=8.4						
ILAR	Eielson Array	83.76	13	P	P	15 18 31.5	-0.8
	1.0nm,0.7s,baz=222,slow=5.2,SNR=12						
TXAR	Lajitas Array	84.20	57	P	P	15 18 36.7	+1.2
	0.8nm,0.7s,baz=223,slow=6.8,SNR=5.4						
YKA	Yellowknife Ar	92.17	24	P	P	15 19 12.4	+0.2
	0.2nm,0.6s,baz=246,slow=4.1,SNR=5.7						
ARCES	ARCESS Array B	124.51	350	PKP	PKiKP	15 24 58.6	-0.9
	2.8nm,0.9s,baz=63,slow=4.2,SNR=5.7						
BRTR	Keskin Array B	143.96	317	PKP	PKPdf	15 25 35.8	-0.6
	2.2nm,0.9s,baz=98,slow=3.7,SNR=12						
MMAI	Mount Meron Ar	145.74	306	PKPbc	PKiKP	15 25 42.3	-1.5
	0.3nm,0.3s,baz=19,slow=9.2,SNR=2.4						
GERES	GERESS Array B	145.90	347	PKPbc	PKiKP	15 25 41.2	-2.5
	0.5nm,0.5s,baz=31,slow=2.3,SNR=3.6						

*NSSC **02** 15:18:24.6±0.6, 33°.50N×35°.63E, h35km±7km, ML1.5*
*GRAL **02** 15:18:25.8±0.3, 33°.80N×35°.75E, h0km±23km, MD2.9*
ISC 02 15:18:24.3±1.2**, 33°.79N**±0°.04×**35°.76E**±0°.06**, h12**km±12km**, n7, σ0s.67**/12**, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BHL	Bhannes	0.14	322	eP	Pg	15 18 28.1	+0.2
BHL				eS	Sg	15 18 29.7	-0.8
DQRL	Deir Qamar	0.18	242	eP	Pg	15 18 28.9	+0.4
DQRL				eS	Sg	15 18 31.3	0.0
BEYL	Beirut	0.24	290	eP	Pg	15 18 29.8	+0.4
BRBR	Barbar	0.41	157	eP	Pg	15 18 32.3	-0.3
BRBR				eS	Sg	15 18 38.0	0.0
BRBR				AML	AML	15 18 42.6	
	comp=N,50nm,0.6s						
BRBR				AML	AML	15 18 43.7	
	comp=E,47nm,0.5s						
QASN	Qassioun	0.50	121	eP	Pn	15 18 36.5	-0.9
QASN				eS	Sb	15 18 43.6	+1.2
QASN				AML	AML	15 18 45.1	
	comp=E,34nm,0.4s						
QASN				AML	AML	15 18 46.2	
	comp=N,67nm,0.2s						
HWQ	Hawqa	0.51	17	eP	Pg	15 18 34.7	+0.3
TOTH	TOTAH	0.70	127	eP	Pg	15 18 38.1	+0.1
TOTH				eS	Sg	15 18 47.6	+0.4
TOTH				AML	AML	15 18 53.0	
	comp=N,15nm,0.6s						
TOTH				AML	AML	15 18 55.8	
	comp=E,10nm,0.6s						

*IDC **02** 15:28:27.9±1.9, 6°.73S×154°.00E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.7/32, mbtmp3.7/8, ML2.1/1, MS2.8/2, Ms1 2.8/2, ms1mx2.5/34, Error ellipse: s-maj=66.7km s-min=21.4km az=125.0*
*ISCJB **02** 15:28:33.2±1.3, 6°.6S±0°.2×153°.6E±0°.2, h35km, mb3.6/7, Error ellipse: s-maj=39.4km s-min=11.4km az=140.8*
ISC 02 15:28:34.4±1.6**, 6°.7S**±0°.3×**153°.7E**±0°.2**, h35**km**, n10, σ0s.97**/11**, mb3.6**/7**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.74	115	LR	LR	15 32 35.7	
	comp=Z,58nm,19.0s,baz=200,slow=38						
PMG	Port Moresby	7.06	247	Pn	Pn	15 30 15.6	+0.2
	1.8nm,0.3s,baz=56,slow=9.7,SNR=8.9						
PMG				Sn	Sn	15 31 33.8	-0.7
	0.3nm,0.3s,baz=124,slow=18,SNR=2.5						
PMG				LR	LR	15 32 55.2	
	comp=Z,112nm,18.9s,baz=353,slow=37						
WRA	Warramunga Arr	23.00	233	P	P	15 33 35.6	-0.8
	0.8nm,0.7s,baz=65,slow=10,SNR=7.5						
ASAR	Alice Springs	25.48	226	P	P	15 33 59.8	+0.1
	0.8nm,0.5s,baz=58,slow=9.6,SNR=22						
FITZ	Fitzroy Crossi	29.66	245	P	P	15 34 37.4	+0.4
	1.5nm,0.7s,baz=90,slow=9.9,SNR=3.7						
SONM	Songino Array	68.38	328	P	P	15 39 33.0	+0.4
	0.3nm,0.6s,baz=135,slow=4.2,SNR=3.4						
MKAR	Makanchi Array	82.33	319	P	P	15 40 53.4	+0.6
	0.4nm,0.8s,baz=110,slow=6.5,SNR=4.2						
ZALV	Zalesovo Beam	83.20	326	P	P	15 40 56.5	-0.5
	0.5nm,0.5s,baz=129,slow=5.8,SNR=2.6						
ILAR	Eielson Array	83.52	22	P	P	15 40 57.3	-1.1
	0.9nm,1.0s,baz=232,slow=5.1,SNR=7.1						
TORD	Torodi Ar. Bea	151.73	285	PKPbc	PKPbc	15 48 26.0	-0.4
	0.6nm,0.7s,baz=20,slow=4.7,SNR=4.6						
TORD				PKPab	sPKPdf	15 48 34.8	+2.0
	0.5nm,0.6s,baz=53,slow=3.1,SNR=3.6						

*IDC **02** 15:40:48.7±3.5, 24°.61S×179°.69E, h484km±34km, mb3.1/6, mb1 3.4/6, mb1mx3.2/34, mbtmp4.0/6, Error ellipse: s-maj=99.3km s-min=21.6km az=159.0*
*ISCJB **02** 15:40:49.1±1.7, 24°.8S±0°.8×179°.7E±0°.4, h500km, mb3.6/6, Error ellipse: s-maj=109.9km s-min=19.4km az=159.3*
ISC 02 15:40:49.8±1.8**, 24°.7S**±0°.8×**179°.7E**±0°.3**, h500**km**, n8, σ0s.81**/9**, mb3.6**/6**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.18	249	P	P	15 46 53.2	+0.3
	0.9nm,0.4s,baz=84,slow=10,SNR=7.2						
ASAR	Alice Springs	41.65	262	P	P	15 47 53.8	-0.3
	0.8nm,0.3s,baz=94,slow=7.3,SNR=61						
WRA	Warramunga Arr	42.10	267	P	P	15 47 56.9	-0.8
	3.1nm,0.4s,baz=99,slow=6.8,SNR=132						
WRA				ScP	ScP	15 52 44.6	+1.0
	0.2nm,0.7s,baz=101,slow=4.2,SNR=5.7						
FITZ	Fitzroy Crossi	50.51	266	P	P	15 49 01.6	-0.1
	baz=106,slow=9.1						
NVAR	Mina Array Bea	85.52	44	P	P	15 52 34.9	+0.1
	0.4nm,0.7s,baz=216,slow=7.6,SNR=3.5						
CMAR	Chiang Mai Arr	89.57	290	P	P	15 52 54.9	+0.9
	0.3nm,0.4s,baz=108,slow=5.8,SNR=3.8						
TXAR	Lajitas Array	91.08	58	P	P	15 53 00.9	0.0
	0.5nm,0.7s,baz=199,slow=2.5,SNR=4.6						
ARCES	ARCESS Array B	132.64	348	PKP	PKPdf	15 59 05.4	-1.2
	1.3nm,0.7s,baz=20,slow=3.2,SNR=2.8						

*ISCJB **02** 15:52:31.7±1.1, 3°.0S±0°.1×81°.9W±0°.1, h10km, Error ellipse: s-maj=17.5km s-min=11.9km az=138.9*
*IDC **02** 15:52:31.8±1.6, 3°.08S×81°.86W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/23, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=105.9km s-min=32.2km az=58.0*
ISC 02 15:52:33.1±1.1**, 3°.1S**±0°.1×**81°.9W**±0°.1**, h10**km**, n20, σ1s.48**/18**, Near coast of northern Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMBC	Cumbal	5.70	46	eP	Pn	15 54 01.6	+3.3
CMBC	Cumbal	5.70	46	eP	Pn	15 54 01.6	+3.3
GCUF	Volcan Galeras	6.24	47	eP	Pn	15 54 10.2	+4.4
GCUF	Volcan Galeras	6.24	47	eP	Pn	15 54 10.2	+4.4
SOTA	Rioblanco	7.40	46	eP	Pn	15 54 21.8	+0.1
SOTA	Rioblanco	7.40	46	eP	Pn	15 54 21.8	+0.1
POPC	Popayan, Colom	7.64	43	eP	Pn	15 54 24.2	-0.5
POPC	Popayan, Colom	7.64	43	eP	Pn	15 54 24.2	-0.5
PCON	Cinco Dias	7.69	46	eP	Pn	15 54 26.3	+0.6
PCON				eS	Sn	15 55 53.8	+0.6
PCON	Cinco Dias	7.69	46	eP	Pn	15 54 26.3	+0.6
PCON				eS	Sn	15 55 53.8	+0.6
MARP	Paez Belalcaza	8.36	46	eP	Pn	15 54 35.2	+0.5
MARP	Paez Belalcaza	8.36	46	eP	Pn	15 54 35.2	+0.5
YOTC	Yotoco, Valle	8.94	39	eP	Pn	15 54 39.0	-3.5
YOTC	Yotoco, Valle	8.94	39	eP	Pn	15 54 39.0	-3.5
LPAZ	La Paz	18.89	135	P	Pn	15 56 54.7	-0.4
	0.1nm,0.3s,baz=313,slow=11,SNR=4.0						
NVAR	Mina Array Bea	53.23	324	P	P	16 01 54.0	+1.8
	0.6nm,0.8s,baz=133,slow=6.6,SNR=3.1						
ULM	Lac du Bonnet	54.44	349	P	P	16 02 01.0	+0.5
	1.8nm,0.5s,baz=175,slow=8.7,SNR=4.1						
YKA	Yellowknife Ar	69.92	345	P	P	16 03 43.8	-0.4
	0.1nm,0.6s,baz=142,slow=6.2,SNR=2.9						
ASAR	Alice Springs	136.16	231	PKhKP	PKPpre	16 11 48.0	
	0.3nm,0.8s,baz=114,slow=3.8,SNR=7.2						
ASAR				PKP	PKPdf	16 11 54.6	-1.1
	0.5nm,0.9s,baz=122,slow=2.6,SNR=4.7						
WRA	Warramunga Arr	137.70	236	PKP	PKPdf	16 11 58.2	-0.5
	0.5nm,0.7s,baz=117,slow=1.7,SNR=8.0						

*TEH **02** 15:54:42.7, 30°.16N×57°.54E, h10km, ML3.6*
*ISCJB **02** 15:54:43.6±0.7, 30°.12N±0°.05×57°.49E±0°.06, h15km, Error ellipse: s-maj=8.9km s-min=5.1km az=139.1*
*THR **02** 15:54:43.1, 30°.13N×57°.50E, h14km, ML3.3*
ISC 02 15:54:43.3±1.0**, 30°.18N**±0°.05×**57°.52E**±0°.05**, h15**km**, n24, σ2s.12**/25**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHMN	Cheshme madani	0.32	177	ePg	Pg	15 54 48.9	-1.1
CHMN				IAMB	IAmb	15 54 53.9	
	comp=Z,0.0nm,0.1s						
TVBK	TV Kerman	0.69	254	ePg	Pb	15 54 56.8	-0.4
TVBK				IAMB	IAmb	15 55 09.5	
	comp=N,0.0nm,0.3s						
KRBR	Kerman	0.69	254	ePg	Pg	15 54 55.8	-1.0
KRBR	Kerman	0.69	254	ePg	Pg	15 54 55.8	-1.0
KRBR				eSg	Sg	15 55 05.3	-0.7
NGRK	Negar Kerman	0.87	233	ePg	Pg	15 54 59.8	-0.4
NGRK				IAMB	IAmb	15 55 00.1	
	comp=Z,0.0nm,0.2s						
KHGB	Koh Gabri	0.93	283	ePg	Pb	15 54 59.9	-1.3
KHGB				IAMB	IAmb	15 55 16.7	
	comp=Z,0.0nm,0.2s						
IKOO	Kooshah	2.57	29	ePn	Pn	15 55 25.8	+1.1
IKOO				IAMB	IAmb	15 56 12.5	
	comp=Z,5μm,0.2s						
NIAN	Nian	2.68	193	ePn	Pb	15 55 31.5	+0.6
NIAN				IAMB	IAmb	15 56 13.0	
	comp=Z,0.0nm,0.4s						
IMEH	Mehriz	2.78	297	ePn	Pn	15 55 30.0	+2.5
IMEH				IAMB	IAmb	15 56 17.2	
	comp=Z,1μm,0.6s						
ITEG	Tejag	2.91	21	ePn	Pn	15 55 30.6	+1.4
ITEG				IAMB	IAmb	15 56 20.8	
	comp=Z,2μm,0.6s						
TPRV	Parvadeh(Tabas	2.93	346	ePn	Pn	15 55 31.1	+1.6
TPRV				IAMB	IAmb	15 56 28.0	
	comp=Z,0.0nm,0.4s						
GENO	Geno	3.01	204	ePn	Pb	15 55 34.2	-2.5
GENO				IAMB	IAmb	15 55 40.2	
	comp=Z,0.0nm,0.3s						
IDAH	Dahanechah	3.25	38	ePn	Pn	15 55 36.2	+2.3
IDAH				IAMB	IAmb	15 56 38.1	
	comp=Z,1μm,0.4s						
YZKH	Yazd	3.34	312	ePn	Pn	15 55 37.4	+2.3
YZKH	Yazd	3.34	312	ePn	Pn	15 55 37.7	+2.6
TKDS	Koohdasht(Taba	3.44	354	ePn	Pn	15 55 38.7	+2.2
TKDS				IAMB	IAmb	15 56 38.0	
	comp=Z,0.0nm,0.4s						
TABS	Tabas	3.48	354	ePn	Pn	15 55 39.3	+2.3
TABS	Tabas	3.48	354	eAML	AML	15 56 41.4	
	comp=N,54nm,0.7s						
TABS	Tabas	3.48	354	ePn	Pn	15 55 39.3	+2.3
TABS				eSg	Sg	15 56 32.5	-2.5
ISAD	Sadrabad	3.72	299	ePn	Pn	15 55 44.2	+3.7
ISAD				IAMB	IAmb	15 56 48.5	
	comp=Z,428nm,0.5s						
TNSJ	Nastanj	3.85	349	ePn	Pn	15 55 44.3	+2.1
TNSJ				IAMB	IAmb	15 56 58.8	
	comp=Z,0.0nm,0.5s						
SHRT	Shahrakht	4.18	34	ePn	Pn	15 55 49.4	+2.7
SHRT	Shahrakht	4.18	34	ePn	Pn	15 55 49.4	+2.7
ANAR	Anarak	4.41	314	ePn	Pn	15 55 51.4	+1.5

*ISCJB **02** 15:56:20.7±0.2, 0°.66S±0°.03×121°.86E±0°.04, h49km, mb4.4/34, MS3.5/8, Error ellipse: s-maj=5.7km s-min=4.1km az=150.0*
*DJA **02** 15:56:21.9±1.6, 1°S±3°×12°2E±°, h36km±34km, M4.9/12, mb5.0/6, mB5.3/4, MLv4.9/12, Mw(mB)4.7/4*
*NEIC **02** 15:56:22.7±1.0, 0°.55S×122°.01E, h50km±10km, mb4.6/11, Error ellipse: s-maj=9.1km s-min=7.2km az=63.0*
*IDC **02** 15:56:23.7±2.8, 0°.57S×121°.96E, h57km±27km, mb3.9/16, mb1 4.1/20, mb1mx3.9/42, mbtmp4.3/20, ML4.2/4, MS3.4/10, Ms1 3.5/10, ms1mx3.2/34, Error ellipse: s-maj=20.1km s-min=12.1km az=67.0*
ISC 02 15:56:22.9±0.4**, 0°.70S**±0°.06×**121°.86E**±0°.05**, h49**km**, n96, σ1s.54**/92**, mb4.6**/41**, MS3.5**/8**, 3C, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.98	110	ePn	Pn	15 56 40.3	0.0
LUWI	Luwuk	0.98	110	P	Pn	15 56 40.2	0.0
LUWI				S	Sn	15 56 56.0	+2.9
PCI	Palu	2.03	264	P	Pn	15 56 52.1	-2.6
TTSI	Tana Toraja	3.10	221	P	Pn	15 57 08.6	-0.7
KDI	Kendari	3.33	167	P	Pn	15 57 11.0	-1.4
SPSI	Sidrap Palu	3.86	213	P	Pn	15 57 18.4	-1.3
BNSI	Bone	4.07	205	P	Pn	15 57 22.4	-0.3
SGKI	Sangatta, Kali	4.26	272	P	Pn	15 57 28.9	+3.7
SANI	Sanana	4.34	108	P	Pn	15 57 25.4	-1.0
SMKI	Samarinda	4.65	273	P	Pn	15 57 35.6	+4.9
BBSI	Bau Bau	4.81	171	P	Pn	15 57 32.5	-0.3
BKSI	Bulukumba	4.91	201	P	Pn	15 57 33.3	-0.9
BKB	Balikpapan	4.99	264	P	Pn	15 57 33.8	-1.5
TNTI	Ternate	5.70	75	ePn	Pn	15 57 39.6	-5.5
TNTI	Ternate	5.70	75	P	Pn	15 57 48.6	+3.6
	40nm,0.8s,2μm0.4nm						
NLAI	Namlea	5.82	116	P	Pn	15 57 48.0	+1.4
	447nm,0.7s,4μm1.7nm						
KBKI	Kotabaru	6.25	245	P	Pn	15 57 58.2	+5.7
MTKI	Muara Teweh, K	6.96	268	P	Pn	15 58 07.9	+5.5
MMRI	Maumere	7.89	177	ePn	Pn	15 58 13.2	-1.9
MMRI	Maumere	7.89	177	P	Pn	15 58 15.1	-0.1
	111nm,0.7s,0.3nm						
EDFI	Ende, Flores	8.00	181	P	Pn	15 58 16.3	-0.4
	43nm,0.7s,0.1nm						
DAV	Davao City (W)	8.56	26	LR	LR	16 01 52.8	
	comp=Z,435nm,19.5s,baz=184,slow=39						
SOEI	Soe	9.31	165	ePn	Pn	15 58 31.8	-2.9
SIJI	Sorong	9.41	91	P	Pn	15 58 35.6	-0.4
	3.3nm,0.3s,baz=259,slow=9.2,SNR=25						
SIJI				S	Sn	16 00 19.0	-1.4
	0.2nm,0.3s,baz=150,slow=20,SNR=1.4						
BATI	Baumata	9.62	169	P	Pn	15 58 42.0	+3.3
	4.5nm,0.3s,baz=347,slow=1.4,SNR=10						
FAKI	Fak Fak	10.62	102	ePn	Pn	15 58 50.6	-1.9
TGY	Tagaytay City	14.73	356	LR	LR	16 06 17.3	
	comp=Z,115nm,18.2s,baz=116,slow=41						
LEM	Lembang	15.45	246	P	P	16 00 01.6	0.0
	1.9nm,0.3s,baz=71,slow=11,SNR=6.1						
LEM				LR	LR	16 06 48.2	
	comp=Z,308nm,19.3s,baz=44,slow=40						
FITZ	Fitzroy Crossi	17.69	168	P	P	16 00 26.5	+0.3
	0.2nm,0.3s,baz=5.1,slow=7.0,SNR=7.8						
FITZ				LR	LR	16 08 12.4	
	comp=Z,86nm,18.1s,baz=356,slow=40						
FITZ	Fitzroy Crossi	17.69	168	P	P	16 00 26.9	+0.7
	baz=18,SNR=5.4						
FITZ	Fitzroy Crossi	17.69	168	ePn	Pn	16 00 25.3	-0.5
	8.6nm,1.1s						
MNAI	Manna	19.23	259	eP	Pn	16 00 42.5	-2.1
	550nm,1.3s						
WRAB	Tennant Creek	22.69	148	eP	P	16 01 20.2	-0.4
	10nm,1.0s						
WRA	Warramunga Arr	22.70	148	P	P	16 01 20.2	-0.4
	5.3nm,0.8s,baz=326,slow=10,SNR=23						
WRA				PcP	PcP	16 05 12.1	+0.4
	0.3nm,0.8s,baz=328,slow=2.0,SNR=2.9						
WB2	Warramunga Arr	22.70	148	eP	P	16 01 20.2	-0.4
PSI	Prapat	23.19	279	LR	LR	16 10 43.1	
	comp=Z,159nm,20.8s,baz=270,slow=37						
WRKA	Warakurna	24.98	166	P	P	16 01 44.6	+2.4
	baz=25,SNR=3.6						
CHAI	Chaiyaphum	25.64	311	P	P	16 01 53.5	+5.4
	4.6nm,0.8s						
ASAR	Alice Springs	25.65	154	P	P	16 01 48.9	+0.6
	1.6nm,0.8s,baz=339,slow=13,SNR=13						
ASAR				PcP	PcP	16 05 18.2	+0.2
	0.6nm,0.8s,baz=337,slow=2.8,SNR=4.4						
AS01	Alice Springs	25.67	154	eP	P	16 01 49.8	+1.4
PMG	Port Moresby	26.62	110	P	P	16 01 57.5	+0.4
	7.6nm,0.7s,baz=309,slow=8.5,SNR=4.7						
CMAR	Chiang Mai Arr	29.49	311	P	P	16 02 22.6	-0.1
	0.7nm,0.8s,baz=139,slow=7.4,SNR=4.5						
CMAR				LR	LR	16 16 01.8	
	comp=Z,38nm,18.4s,baz=138,slow=40						
CMMT	Chiang Mai	29.71	312	P	P	16 02 37.8	+13
CHTO	Chiang Mai	29.71	312	P	P	16 02 37.8	+13
NJ2	Nanjing	32.70	355	eP	P	16 02 50.7	0.0
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
ENH	Enshi	32.98	340	eP	P	16 02 53.3	+0.1
	comp=Z,15nm,0.8s						
STKA	Stephens Creek	36.19	151	P	P	16 03 21.1	+0.1
	comp=Z,3.5nm,1.1s,baz=342,slow=10,SNR=3.1						
HTT	Hallett	36.29	156	P	P	16 03 23.5	+1.7
	baz=36,SNR=4.3						
XAN	Xi'an	36.63	342	P	P	16 03 27.2	+2.5
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,110nm,3.8s						
KSRS	Korea Array	38.38	8	LR	LR	16 19 28.0	
	comp=Z,43nm,20.0s,baz=199,slow=36						
MJAR	Matsushiro Arr	40.05	21	P	P	16 03 50.5	-2.9
	comp=Z,3.9nm,0.9s,baz=203,slow=8.8,SNR=6.0						
MJAR				LR	LR	16 20 44.2	
	comp=Z,23nm,19.3s,baz=210,slow=37						
LZH	Lanzhou	40.26	337	eP	P	16 03 57.4	+2.1
LZH				pP	pP	16 04 03.6	-4.8
LZH				sP	sP	16 04 06.0	-8.1
LZH				ePP	PnPn	16 05 30.8	-1.9
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
LSA	Lhasa	42.09	318	eP	P	16 04 10.7	-0.2
	comp=Z,3.9nm,0.6s						
HHC	Hu-ho-hao-te	42.40	348	eP	P	16 04 13.4	+0.6
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,160nm,6.1s						
RAMN	Ramite	43.66	312	eP	P	16 04 26.3	+2.9
	comp=Z,15nm,0.6s						
JIRN	Jiri	44.36	312	eP	P	16 04 28.5	-0.6
	comp=Z,17nm,0.5s						
GUN	Gumba	44.73	312	eP	P	16 04 31.3	-0.7
	comp=Z,24nm,0.6s						
GTA	Gaotai	44.73	336	⇑P	P	16 04 32.4	+0.8
GTA				pP	pP	16 04 36.5	-8.3
GTA				sP	sP	16 04 39.3	-11
GTA				PcP	PP	16 06 19.4	+2.5
GTA				S	S	16 11 09.8	+4.6
GTA				sS	sS	16 11 14.6	-13
GTA				SS	ScS	16 14 22.4	-2.8
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,97nm,6.8s						
GTA				LR	LR		
	comp=N,74nm,16.5s						
GTA				LR	LR		
	comp=E,100nm,17.5s						
GTA				LR	LR		
	comp=Z,130nm,18.4s						
PKIN	Phulchoki	44.90	312	eP	P	16 04 32.8	-0.5
	comp=Z,6.4nm,0.6s						
DMN	Daman	45.14	311	eP	P	16 04 36.1	+0.9
	comp=Z,8.1nm,0.6s						
USRK	Ussuriysk Ar.	45.61	10	P	P	16 04 37.2	-1.1
	comp=Z,1.0nm,0.5s,baz=185,slow=5.9,SNR=6.0						
KOLN	Koldanda	46.36	311	eP	P	16 04 44.9	+0.2
	comp=Z,11nm,0.6s						
PYUN	Piuthan	46.99	311	eP	P	16 04 47.7	-2.0
	comp=Z,32nm,0.9s						
ASAJ	Asahikawa	48.31	20	P	P	16 04 58.5	-0.9
	comp=Z,8.6nm,0.8s,baz=153,slow=2.3,SNR=4.1						
ULN	Ulaanbaatar	50.06	347	eP	P	16 05 12.8	-0.1
	comp=Z,8.2nm,0.8s						
SONM	Songino Array	50.18	346	P	P	16 05 13.3	-0.4
	comp=Z,5.3nm,0.7s,baz=166,slow=8.6,SNR=52						
SONM				LR	LR	16 28 28.6	
	comp=Z,38nm,18.2s,baz=156,slow=38						
SONA1	Songino Array	50.19	346	eP	P	16 05 13.4	-0.4
KLR	Kul'dur	50.46	8	P	P	16 05 16.1	+0.4
	comp=Z,0.7nm,0.5s,baz=162,slow=9.6,SNR=3.4						
WMQ	Urumqi	53.80	330	eP	P	16 05 43.6	+2.8
WMQ				LR	LR		
	comp=E,83nm,21.3s						
WMQ				LR	LR		
	comp=Z,60nm,24.1s						
KSH	Kashi	57.94	319	P	P	16 06 11.4	+0.9
KSH				pP	pP	16 06 16.1	-8.1
KSH				PP	PP	16 08 24.5	+5.1
KSH				S	S	16 14 09.5	+2.1
KSH				sS	pS	16 14 16.7	-6.6
KSH				ScS	ScS	16 15 56.0	-0.3
KSH				pmax	pmax		
	comp=Z,34nm,1.6s						
KSH				pmax	pmax		
	comp=Z,220nm,4.9s						
KSH				LR	LR		
	comp=N,120nm,6.1s						
KSH				LR	LR		
	comp=E,86nm,8.1s						
KSH				LR	LR		
	comp=Z,410nm,5.8s						
MK01	Makanchi Array	58.59	329	eP	P	16 06 14.6	-0.3
MK31	Makanchi Array	58.61	329	eP	P	16 06 14.6	-0.3
MKAR	Makanchi Array	58.61	329	P	P	16 06 14.6	-0.4
	comp=Z,5.3nm,0.7s,baz=130,slow=7.8,SNR=62						
MKAR	Makanchi Array	58.61	329	eP	P	16 06 14.6	-0.4
	comp=Z,33nm,0.8s						
MAKZ	Makanchi	58.78	329	eP	P	16 06 15.7	-0.4
	comp=Z,3.3nm,0.8s						
NRN	Naryn	58.96	321	eP	P	16 06 16.5	-1.3
	comp=Z,2.1nm,0.9s						
KBL	Kabul	60.52	311	eP	P	16 06 27.3	-1.3
	comp=Z,9.3nm,0.7s						
AAK	Ala-Archa	60.55	321	P	P	16 06 28.3	-0.2
	comp=Z,4.1nm,0.8s,baz=140,slow=5.5,SNR=7.0						
AAK	Ala-Archa	60.55	321	eP	P	16 06 28.4	-0.2
	comp=Z,4.7nm,0.8s						
PETK	Petropavlovsk-	61.38	24	P	P	16 06 32.8	-0.9
	comp=Z,1.8nm,0.6s,baz=210,slow=3.3,SNR=8.5						
ZAA0	Zalesovo Array	62.48	336	eP	P	16 06 39.3	-1.8
	comp=Z,7.3nm,0.8s						
ZALV	Zalesovo Beam	62.48	336	P	P	16 06 39.2	-1.9
	comp=Z,5.7nm,0.7s,baz=131,slow=5.3,SNR=21						
ZALV	Zalesovo Beam	62.48	336	eP	P	16 06 39.6	-1.5
KURBB	Kurchatov Arra	63.00	331	P	P	16 06 43.6	-1.0
	comp=Z,4.3nm,0.8s,baz=137,slow=5.8,SNR=28						
KURK	Kurchatov	63.02	331	eP	P	16 06 43.7	-1.0
	comp=Z,16nm,0.9s						
KK31	Karatay Array	63.31	320	eP	P	16 06 45.7	-1.2
KKAR	Karatay Array	63.31	320	eP	P	16 06 45.6	-1.3
BRVK	Borovoye	68.56	329	eP	P	16 07 19.1	-1.3
	comp=Z,4.4nm,0.8s						
GEYT	Alibeck	69.97	311	P	P	16 07 30.6	+1.1
	comp=Z,1.9nm,0.8s,baz=164,slow=7.7,SNR=3.9						
ABKAR	Akbulak array	72.58	323	eP	P	16 07 44.5	-0.5
SYO	Syowa Base	86.57	201	⇑eP	P	16 09 01.4	+0.9
SYO	Syowa Base	86.57	201	⇑ePcP	PcP	16 09 04.2	+1.4
ILAR	Eielson Array	91.17	25	P	P	16 09 20.6	-1.7
	comp=Z,0.2nm,0.6s,baz=256,slow=4.6,SNR=6.8						
BOSA	Boshof	95.47	241	LR	LR	16 48 26.2	
	comp=Z,38nm,18.8s,baz=29,slow=33						
TORD	Torodi Ar. Bea	119.48	285	PKP	PKPdf	16 15 07.8	-0.4
	comp=Z,0.4nm,0.7s,baz=31,slow=3.4,SNR=2.1						
N54A	Moraine State	135.30	24	ePKPdf	PKPdf	16 15 36.5	-1.1

*IDC **02** 16:24:05.7±0.7, 4°.05N×127°.83E, h126km±7km, mb4.1/18, mb1 4.2/21, mb1mx4.0/40, mbtmp4.5/21, MS2.6/1, Ms1 2.8/1, ms1mx2.3/32, Error ellipse: s-maj=19.2km s-min=7.9km az=72.0*
*ISCJB **02** 16:24:06.5±0.2, 4°.04N±0°.03×127°.81E±0°.05, h150km, mb4.5/50, Error ellipse: s-maj=7.4km s-min=3.4km az=154.6*
*NEIC **02** 16:24:07.6±0.6, 4°.01N×127°.72E, h145km±6km, mb4.5/16, Error ellipse: s-maj=7.9km s-min=4.2km az=70.0*
*DJA **02** 16:24:09.6±0.7, 4°N±7°×12°8E±°, h149km±7km, M4.7/13, mb4.7/13, mB5.2/7, MLv4.8/7, Mw(mB)4.6/7*
ISC 02 16:24:08.0±0.4**, 4°.06N**±0°.05×**127°.83E**±0°.07**, h150**km**, n103, σ2s.11**/121**, mb4.5**/55**, 2C-2D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	Mati	3.26	331	eP	Pn	16 24 56.1	-2.6

MATI eS Sn 16 25 30.9 -7.2
TNTI Ternate 3.30 188 ePn Pn 16 24 57.2 -2.0
TNTI Ternate 3.30 188 P Pn 16 24 59.1 -0.1
GSPH General Santos 3.50 305 ⇑iP Pn 16 24 59.1 -2.8
GSPH iS Sn 16 25 38.7 -5.0
DAV Davao City (W) 3.73 323 P Pn 16 25 04.0 -0.8
30nm,0.3s,baz=108,slow=12,SNR=4.7
DAV S Sn 16 25 49.7 +0.8
79nm,0.3s,baz=246,slow=22,SNR=10
DMPH Davao City--Mi 3.79 323 ⇓iP Pn 16 25 09.4 +3.9
DMPH iS Sn 16 25 53.5 +3.4
BIPH Bislig 4.35 341 ⇑iP Pn 16 25 08.9 -3.9
BIPH iS Sn 16 25 51.4 -12
BUKP Musuan 4.68 324 eP Pn 16 25 14.8 -2.5
BUKP eS Sn 16 26 05.8 -5.5
BUTP Butuan 5.35 336 eP Pn 16 25 24.2 -1.8
BUTP eS Sn 16 26 11.3 -16
CGP Cagayan de Oro 5.36 325 ⇓eP Pn 16 25 28.1 +1.9
CGP eS Sn 16 26 26.0 -1.3
SWI Sorong 5.97 145 P Pn 16 25 35.8 +1.4
70nm,0.5s,1µm2.1nm
SIJI Sorong 5.98 145 P Pn 16 25 33.8 -0.8
16nm,0.3s,baz=334,slow=13,SNR=82
SIJI S Sn 16 26 39.4 -2.8
30nm,0.3s,baz=177,slow=22,SNR=35
SANI Sanana 6.34 197 P Pn 16 25 35.9 -3.4
92nm,0.5s,2µm0.6nm
MRSI Marisa 6.87 239 P Pn 16 25 47.7 +1.3
82nm,0.6s
LUWI Luwuk 7.16 225 ePn Pn 16 25 48.7 -1.5
FAKI Fak Fak 8.22 147 ePn Pn 16 26 04.8 +0.4
FAKI Fak Fak 8.22 147 P Pn 16 26 05.3 +0.9
131nm,0.9s,1µm0.4nm
PCI Palu 9.38 238 P Pn 16 26 22.1 +2.2
36nm,0.9s
SAUI Saumlaki 12.46 164 ePn Pn 16 26 59.2 -1.0
MMRI Maumere 13.79 204 ePn Pn 16 27 15.6 -1.7
GENI Genyem 13.99 118 P P 16 27 25.9 +2.8
EDFI Ende, Flores 14.12 206 P P 16 27 27.2 +2.6
SOEI Soe 14.18 194 ePn Pn 16 27 19.2 -3.1
SOEI Soe 14.18 194 P P 16 27 30.1 +4.8
JAY Jayapura 14.43 117 P P 16 27 27.6 -0.4
1.1nm,0.3s,baz=252,slow=20,SNR=4.2
BATI Baumata 14.77 196 P Pn 16 27 29.1 -0.5
7.1nm,0.3s,baz=39,slow=2.1,SNR=16
BATI Baumata 14.77 196 P P 16 27 32.7 +1.0
22nm,0.9s
STKI Sintang 16.81 257 P Pn 16 27 56.2 +1.5
31nm,1.6s,5µm
JAGI Jajag, Banyuwa 18.46 228 eP P 16 28 10.0 -2.5
39nm,0.8s
FITZ Fitzroy Crossi 22.12 186 P P 16 28 50.5 -1.0
10.0nm,0.6s,baz=8.5,slow=6.7,SNR=44
FITZ Fitzroy Crossi 22.12 186 eP P 16 28 50.3 -1.2
11nm,0.6s
KLI Kotabumi 24.60 249 P P 16 29 11.9 -2.6
166nm,0.5s,3µm
WRAB Tennant Creek 24.69 165 eP P 16 29 14.8 -0.5
25nm,0.6s
WRA Warramunga Arr 24.70 165 P P 16 29 15.2 -0.1
12nm,0.3s,baz=338,slow=10,SNR=165
WRA ScP ScP 16 36 15.8 +2.1
0.2nm,0.6s,baz=343,slow=3.3,SNR=2.9
WB2 Warramunga Ar 24.70 165 eP P 16 29 14.8 -0.5
SKNT Sakolnakorn 26.68 300 P P 16 29 33.6 +0.3
11nm,1.7s
SRAK Srakaew 27.28 293 P P 16 29 34.2 -4.5
34nm,0.8s
NONG Nongkai 27.88 302 P P 16 29 44.5 +0.6
0.2nm,0.9s
CHAI Chaiyaphum 27.99 297 P P 16 29 46.0 +1.0
4.3nm,0.6s
AS31 Alice Springs 28.19 168 eP P 16 29 46.3 -0.3
7.4nm,0.5s
ASAR Alice Springs 28.19 168 P P 16 29 46.8 +0.1
13nm,0.5s,baz=354,slow=7.4,SNR=819
ASAR pP pP 16 30 12.8 -4.4
3.5nm,0.5s,baz=338,slow=7.9,SNR=3.3
ASAR PcP PcP 16 32 57.2 +0.4
1.2nm,0.6s,baz=349,slow=2.5,SNR=4.2
ASAR ScP ScP 16 36 25.3 +1.3
0.6nm,0.8s,baz=343,slow=3.2,SNR=4.5
AS01 Alice Springs 28.20 168 eP P 16 29 46.5 -0.3
NJ2 Nanjing 29.09 344 eP P 16 29 55.9 +1.4
NJ2 pmax pmax
comp=Z,17nm,0.5s
PBKT Sadao Pong 29.15 297 eP P 16 29 55.2 0.0
comp=Z,6.9nm,0.8s
PBKT Sadao Pong 29.15 297 P P 16 29 56.0 +0.8
comp=Z,11nm,1.0s
SRDT SRDT 30.08 292 P P 16 30 04.7 +1.2
comp=Z,19nm,0.9s,comp=Z,2µm
UTHA Uthaitani 30.16 294 P P 16 30 04.9 +0.7
comp=Z,7.0nm,0.8s,comp=Z,121nm
NANT Nan 30.28 301 P P 16 30 06.1 +0.9
comp=Z,3.6nm,0.6s
UMPA Umpang Tak 30.91 295 P P 16 30 11.6 +0.8
comp=Z,5.7nm,0.8s,comp=Z,904nm
CM01 Chiang Mai Arr 31.63 299 eP P 16 30 17.1 0.0
CM31 Chiang Mai Arr 31.66 299 eP P 16 30 17.8 +0.4
CMAR Chiang Mai Arr 31.66 299 P P 16 30 18.2 +0.9
comp=Z,4.3nm,0.7s,baz=106,slow=6.7,SNR=55
CMAR LR LR 16 43 13.6
comp=Z,11nm,20.9s,baz=60,slow=36
CMMT Chiang Mai 31.80 300 P P 16 30 18.9 +0.3
comp=Z,16nm,0.9s
CHTO Chiang Mai 31.80 300 eP P 16 30 18.6 +0.1
comp=Z,10nm,0.6s
CHTO Chiang Mai 31.80 300 P P 16 30 19.0 +0.4
comp=Z,68nm,0.9s
KMI Kunming 31.93 313 P P 16 30 23.5 +3.6
KMI pmax pmax
comp=Z,9.0nm,0.8s
KSAR Wonju Array Be 33.22 0 P P 16 30 31.2 +0.5
KSRS Korea Array 33.23 0 P P 16 30 31.2 +0.4
comp=Z,3.1nm,0.6s,baz=178,slow=9.2,SNR=13
MJAR Matsushiro Arr 33.71 15 P P 16 30 33.6 -1.4
comp=Z,1.5nm,0.7s,baz=182,slow=10,SNR=9.8
XAN Xi'an 34.63 332 P P 16 30 43.0 0.0
XAN pmax pmax
comp=Z,9.0nm,0.9s
XAN pmax pmax
comp=Z,99nm,5.2s
FORT Forrest 34.64 180 eP P 16 30 43.2 +0.1
comp=Z,40nm,0.6s
BBOO Buckleboo 37.49 169 eP P 16 31 07.3 0.0
comp=Z,12nm,0.6s
STKA Stephens Creek 38.06 161 P P 16 31 12.3 +0.2
comp=Z,10nm,0.4s,baz=342,slow=7.8,SNR=56
STKA Stephens Creek 38.06 161 eP P 16 31 12.2 +0.2
comp=Z,2.6nm,0.6s
LZH Lanzhou 38.79 328 eP P 16 31 20.0 +1.7
LZH pP pwP 16 31 55.9 +2.4
LZH sP sP 16 32 09.6 +2.6
LZH ePP PnPn 16 33 01.8 +7.6
LZH pmax pmax
comp=Z,23nm,1.0s
HHC Hu-ho-hao-te 39.44 340 eP P 16 31 26.1 +2.5
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,120nm,5.2s
CN2 Changchun 39.63 357 eP P 16 31 26.0 +1.0
USRK Ussuriysk Ar. 40.14 5 P P 16 31 30.3 +1.1
comp=Z,2.3nm,0.6s,baz=187,slow=8.8,SNR=8.0
SHL Shillong 40.57 305 eP P 16 31 33.1 -0.1
comp=Z,33nm,0.5s
ASAJ Asahikawa 41.97 16 P P 16 31 44.2 +0.1
comp=Z,7.8nm,0.9s,baz=194,slow=17,SNR=4.1
GTA Gaotai 43.39 328 eP P 16 31 56.9 +1.1
GTA pP pwP 16 32 30.3 -1.6
GTA sP sP 16 32 45.3 +0.4
GTA PcP PcP 16 33 43.7 +2.0
GTA S S 16 38 14.8 +2.1
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA pmax pmax
comp=Z,110nm,6.0s
GTA LR LR
comp=N,87nm,17.1s
GTA LR LR
comp=E,96nm,17.1s
GTA LR LR
comp=Z,83nm,16.5s
TOO Toolangi 44.56 160 eP P 16 32 05.8 +0.8
comp=Z,15nm,1.3s

JIRN Jiri 46.07 305 eP P 16 32 17.8 +0.2
GUN Gumba 46.42 305 eP P 16 32 20.5 +0.2
comp=Z,31nm,0.9s
PKI Pulchoki 46.68 305 eP P 16 32 21.9 -0.3
PKIN Phulchoki 46.69 305 eP P 16 32 21.8 -0.5
KKN Kakani 46.87 305 eP P 16 32 23.6 0.0
DMN Daman 46.94 305 eP P 16 32 24.3 +0.1
comp=Z,10nm,0.9s
ULN Ulaanbaatar 47.16 341 eP P 16 32 25.2 -0.2
comp=Z,4.6nm,0.6s
SONM Songino Array 47.34 340 P P 16 32 28.7 +1.9
comp=Z,1.2nm,0.4s,baz=155,slow=9.9,SNR=11
KOLN Koldanda 48.24 304 eP P 16 32 34.6 +0.4
comp=Z,29nm,0.8s
DANN Dangsing 48.32 305 eP P 16 32 35.2 +0.3
comp=Z,36nm,0.6s
PYUN Piuthan 48.86 304 eP P 16 32 39.5 +0.6
comp=Z,32nm,0.9s
WMQ Urumqi 53.09 324 eP P 16 33 11.3 +1.2
WMQ pmax pmax
comp=Z,23nm,1.1s
WMQ pmax pmax
comp=Z,250nm,4.5s
WMQ LR LR
comp=E,77nm,21.7s
WMQ LR LR
comp=Z,69nm,19.3s
PETK Petropavlovsk- **54.72 22** P P 16 33 22.1 +0.5
comp=Z,6.9nm,1.0s,baz=188,slow=4.6,SNR=4.7
MK01 Makanchi Array 57.90 325 eP P 16 33 44.2 -0.1
MK31 Makanchi Array 57.91 325 eP P 16 33 44.7 +0.3
MKAR Makanchi Array 57.91 325 P P 16 33 45.0 +0.5
comp=Z,4.8nm,0.6s,baz=115,slow=8.1,SNR=69
MKAR pP pP 16 34 13.8 -4.8
comp=Z,2.2nm,0.6s,baz=124,slow=8.3,SNR=3.5
MKAR Makanchi Array 57.91 325 eP P 16 33 44.7 +0.2
comp=Z,27nm,0.6s
MKAR pP pP 16 34 13.8 -4.8
MAKZ Makanchi 58.10 325 eP P 16 33 45.9 +0.2
comp=Z,4.4nm,0.8s
KSH Kashi 58.59 315 P P 16 33 50.5 +1.1
KSH sP PcP 16 34 36.1 -1.9
KSH PP PP 16 36 06.2 +5.5
KSH S S 16 41 39.5 -2.4
KSH pmax pmax
comp=Z,17nm,0.3s
KSH pmax pmax
comp=Z,340nm,5.1s
ZALV Zalesovo Beam 60.80 332 P P 16 34 03.6 -0.5
comp=Z,0.8nm,0.6s,baz=116,slow=9.8,SNR=2.5
ZALV pP pP 16 34 34.5 -4.1
comp=Z,0.7nm,0.6s,baz=141,slow=9.3,SNR=2.5
KURK Kurchatov 62.06 327 eP P 16 34 12.4 -0.1
comp=Z,5.8nm,0.7s
BRVK Borovoye 67.72 327 eP P 16 34 48.8 -0.3
comp=Z,4.1nm,1.0s
GEYT Alibeck 71.54 309 P P 16 35 13.6 +0.6
comp=Z,74nm,0.7s,baz=151,slow=6.4,SNR=8.2
ABKAR Akbulak array 72.59 320 eP P 16 35 18.5 -0.3
RAYN Ar Rayn 81.36 293 eP P 16 36 07.9 -0.7
comp=Z,3.8nm,0.9s
VNDA Vanda 83.62 173 P P 16 36 19.8 +0.8
comp=Z,2.8nm,0.7s,baz=315,slow=6.6,SNR=20
VNDA Vanda 83.62 173 eP P 16 36 19.9 +0.8
comp=Z,12nm,1.6s
ARCES ARCESS Array B 90.52 340 P P 16 36 51.2 -1.3
comp=Z,1.6nm,0.8s,baz=91,slow=6.3,SNR=3.3
KMBO Kilima Mbogo 90.65 269 P P 16 36 55.1 +0.5
comp=Z,1.3nm,0.3s,baz=33,slow=8.8,SNR=2.7
BRTR Keskin Array B 90.65 310 P P 16 36 52.9 -1.1
comp=Z,0.5nm,0.8s,baz=80,slow=3.2,SNR=2.8
AKASG Malin Array Be 92.33 321 P P 16 37 00.1 -1.2
comp=Z,0.6nm,0.6s,baz=64,slow=4.7,SNR=4.9

*ISCJB **02** 16:50:37.4±0.2,4.°15N±0.°02×76.°38W±0.°02,h137km±2km, mb4.2/60, Error ellipse: s-maj=3.7km s-min=2.4km az=32.6*
*RSNC **02** 16:50:39.2±1.1,4.°15N×76.°44W,h122km±5km, ML4.4, Mw4.4*
*NEIC **02** 16:50:39.5±0.2,4.°10N×76.°27W, mb4.6/60, Error ellipse: s-maj=4.3km s-min=3.6km az=15.0*
NEIC Felt [II] at Cali. Also felt at Circasia and Manizales.
*IDC **02** 16:50:39.4±0.5,4.°14N×76.°23W, h145km±4km, mb3.8/20, mb1 4.0/28, mb1mx4.0/44, mbtmp4.4/28, Error ellipse: s-maj=13.1km s-min=9.0km az=46.0*
ISC 02 16:50:38.8±0.4,4.°16N±0.°03×76.°42W±0.°03, h139km±3km, n178, σ1§52/224, mb4.3/60, 6C-16D, Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YOTC	**Yotoco, Valle**	**0.19**	**156**	⇑*i*P			**Pn**	**16 50 56.3**	**-1.7**
YOTC				eS			**Sn**	**16 51 08.7**	**-3.7**
YOTC				*i*				16 51 12.7	
comp=Z,7µm,0.6s									
PLMC	**San Jos del P**	**0.76**	**10**	⇑*i*P			**Pn**	**16 50 59.2**	**-1.6**
PLMC				eS			**Sn**	**16 51 14.7**	**-2.7**
MALC	**Bahia Malaga**	**0.92**	**261**	*i* P			**Pn**	**16 51 02.2**	**+0.3**
MALC				eS			**Sn**	**16 51 20.4**	**+1.0**
ANIL	**Santa Ana**	**1.07**	**72**	⇑*i*P			**Pn**	**16 51 01.7**	**-1.8**
ANIL				eS			**Sn**	**16 51 19.7**	**-2.6**
ANIL				*i*				16 51 21.7	
comp=Z,7µm,0.4s									
TOLC	**Tolima**	**1.18**	**69**	*i* P			**Pn**	**16 51 03.2**	**-1.4**
TOLC				eS			**Sn**	**16 51 21.1**	**-3.1**
TOLC				*i*				16 51 27.1	
comp=Z,3µm,0.5s									
RREF	**El Recreo**	**1.30**	**55**	⇑*i*P			**Pn**	**16 51 05.1**	**-1.1**
RREF				eS			**Sn**	**16 51 25.2**	**-1.7**
RREF				*i*				16 51 28.1	
comp=Z,2µm,0.3s									
MARP	**Paez Belalcaza**	**1.39**	**160**	⇓*i*P			**Pn**	**16 51 06.1**	**-0.6**
MARP				eS			**Sn**	**16 51 25.6**	**-2.4**
MARP				*i*				16 51 29.0	
comp=Z,7µm,0.4s									
POPC	**Popayan, Colom**	**1.63**	**189**	⇓*i*P			**Pn**	**16 51 07.7**	**-1.5**
POPC				eS			**Sn**	**16 51 29.3**	**-3.2**
POPC				*i*				16 51 30.6	
comp=Z,4µm,0.4s									
BETC	**Betania**	**1.76**	**146**	*i* P			**Pn**	**16 51 09.9**	**-0.7**
BETC				eS			**Sn**	**16 51 32.4**	**-2.5**
BETC				*i*				16 51 35.6	
comp=Z,1µm,0.7s									
PCON	**Cinco Dias**	**1.82**	**179**	⇓*i*P			**Pn**	**16 51 11.6**	**-0.2**
PCON				eS			**Sn**	**16 51 34.8**	**-2.1**
PCON				*i*				16 51 40.0	
comp=Z,6µm,0.4s									
SOTA	**Rioblanco**	**2.02**	**185**	⇓*i*P			**Pn**	**16 51 13.4**	**-0.7**
SOTA				eS			**Sn**	**16 51 39.1**	**-1.9**
SOTA				*i*				16 51 44.2	
comp=Z,5µm,0.6s									
NORC	**Norcasia**	**2.08**	**48**	⇓*i*P			**Pn**	**16 51 13.8**	**-0.6**
NORC				eS			**Sn**	**16 51 39.8**	**-1.9**
NORC				*i*				16 51 42.8	
comp=Z,2µm,0.8s									
GRGC	**Isla de Gorgon**	**2.09**	**237**	⇓*i*P			**Pn**	**16 51 12.7**	**-1.7**
GRGC				eS			**Sn**	**16 51 39.0**	**-2.6**
GRGC				*i*				16 51 50.7	
comp=Z,705nm,0.4s									
ROSC	**El Rosal**	**2.20**	**72**	P			**Pn**	**16 51 17.0**	**+0.8**
comp=Z,571nm,0.3s,baz=225,slow=5.7,SNR=467									
ROSC				S			**Sn**	**16 51 46.7**	**+2.0**
comp=Z,197nm,0.3s,baz=198,slow=19,SNR=22									
ROSC	**El Rosal**	**2.20**	**72**	⇑*i*P			**Pn**	**16 51 17.0**	**+0.8**
ROSC				eS			**Sn**	**16 51 46.4**	**+1.6**
HELC	**Santa Helena**	**2.21**	**24**	⇓*i*P			**Pn**	**16 51 15.3**	**-0.9**
HELC				eS			**Sn**	**16 51 43.7**	**-1.2**
HELC				*i*				16 51 50.0	
comp=Z,1µm,0.6s									
CTAB	**Cerro Tablazo,**	**2.37**	**69**	*e*P			**Pn**	**16 51 19.0**	**+0.8**
CVER	**Cruz Verde, Cu**	**2.37**	**81**	*e*P			**Pn**	**16 51 18.4**	**+0.2**
SJAC	**San Juan de Ar**	**2.62**	**110**	*i* P			**Pn**	**16 51 22.7**	**+1.6**
CRUC	**La Cruz**	**2.63**	**192**	*e*P			**Pn**	**16 51 20.6**	**-0.8**
CRUC				eS			**Sn**	**16 51 52.7**	**-1.5**
CRUC				*i*				16 51 59.4	
comp=Z,3µm,0.6s									
FLOC	**Florencia**	**2.67**	**163**	⇓*i*P			**Pn**	**16 51 20.8**	**-0.8**
FLOC				eS			**Sn**	**16 51 52.0**	**-2.7**
FLOC				*i*				16 51 54.5	
comp=Z,668nm,0.3s									
VILC	**Villavicencio,**	**2.72**	**91**	*i* P			**Pn**	**16 51 22.3**	**-0.1**
VILC				eS			**Sn**	**16 51 54.9**	**-0.9**
VILC				*i*				16 52 00.6	
comp=Z,3µm,0.4s									

CHIC Chingaza 2.72 80 ⇑*i*P Pn 16 51 23.0 +0.4
CHIC eS Sn 16 51 55.2 -1.1
CHIC *i* 16 51 58.1
comp=Z,1µm,0.5s
CPAS2 Pasto 3.03 196 *e*P Pn 16 51 26.9 +0.3
CPAS2 eS Sn 16 52 01.7 -1.6
CPAS2 IAML 16 52 12.9
comp=Z,2µm,0.5s
GCUF Volcan Galeras 3.05 198 ⇓*e*P Pn 16 51 25.7 -1.3
GCUF eS Sn 16 52 01.7 -2.4
GCUF *i* 16 52 06.8
comp=Z,1µm,0.3s
PTBC PUERTO BERRIO, 3.07 39 ⇓*i*P Pn 16 51 25.7 -1.0
PTBC eS Sn 16 52 01.6 -2.2
PTBC *i* 16 52 07.0
comp=Z,733nm,0.4s
TUMC Tumaco 3.27 225 ⇓*i*P Pn 16 51 27.5 -1.8
TUMC eS Sn 16 52 06.7 -1.5
TUMC *i* 16 52 12.6
comp=Z,660nm,0.5s
PTAC Punta Ardita, 3.28 335 *e*P Pn 16 51 29.0 -0.4
PTAC eS Sn 16 52 06.3 -2.2
CMBC Cumbal 3.49 204 *e*P Pn 16 51 31.5 -1.0
ZARC Zaragoza, Cauc 3.66 25 ⇓*i*P Pn 16 51 33.4 -1.0
ZARC eS Sn 16 52 14.7 -2.8
ZARC *i* 16 52 20.3
comp=Z,519nm,0.4s
UREC San Jos de Ur 3.68 14 *e*P Pn 16 51 33.7 -0.9
UREC eS Sn 16 52 16.7 -1.2
UREC *i* 16 52 19.4
comp=Z,375nm,0.7s
RUSC La Rusia 3.75 62 ⇓*e*P Pn 16 51 36.0 0.0
RUSC eS Sn 16 52 19.9 -0.2
RUSC *i* 16 52 24.0
comp=Z,407nm,0.7s
BRRC Barranca, Sant 3.98 42 ⇓*e*P Pn 16 51 37.2 -1.4
BRRC eS Sn 16 52 21.7 -3.3
BARC Barichara 4.03 53 *i* P Pn 16 51 38.9 -0.5
BARC eS Sn 16 52 26.6 +0.1
BARC *i* 16 52 33.6
comp=Z,675nm,0.5s
PTLC Puerto Leguiza 4.28 158 ⇓*e*P Pn 16 51 46.4 +3.8
PTLC *i* 16 52 26.5
comp=Z,294nm,0.4s
OTAV Otavalo 4.39 208 *e*Pn Pn 16 51 42.8 -1.7
OTAV Otavalo 4.39 208 ⇓*i*P Pn 16 51 42.9 -1.5
OTAV eS Sn 16 52 33.3 -2.0
MOTC Monteria, Cord 4.65 9 *e*P Pn 16 51 46.2 -1.2
MOTC eS Sn 16 52 39.5 -1.5
OCAC Ocana 5.09 37 *e*P Pn 16 51 52.4 -1.1
OCAC eS Sn 16 52 48.6 -3.1
BCIP Isla Barro Col 6.02 326 *e*Pn Pn 16 52 05.6 -0.2
SDV Santo Domingo 7.42 50 P Pn 16 52 23.5 -1.2
comp=Z,37nm,0.3s,baz=208,slow=2.8,SNR=146
SDV S Sn 16 53 43.6 -4.1
comp=Z,19nm,0.3s,baz=220,slow=21,SNR=7.0
SDV Santo Domingo 7.42 50 *e*Pn Pn 16 52 22.8 -2.0
SDV S Sn 16 53 43.6 -4.1
SDV Santo Domingo 7.42 50 eP Pn 16 52 22.6 -2.2
HDC Heredia 9.59 308 *e*Pn Pn 16 52 54.2 +0.5
JTS JuntasAbangare 10.43 306 P Pn 16 53 08.6 +3.8
comp=Z,0.7nm,0.3s,baz=117,slow=2.3,SNR=5.4
PCRV Puerto La Cruz 13.13 62 P Pn 16 53 40.0 -0.3
comp=Z,1.3nm,0.3s,baz=206,slow=10,SNR=5.4
MTDJ Mount Denham 14.03 356 eP P 16 53 55.2 0.0
TGUH Tegucigalpa,Un 14.54 313 *e*Pn Pn 16 54 00.5 +2.4
BANI BANI 15.34 22 *e*Pn P 16 54 09.0 -0.8
SDDR Presa de Saban 15.56 18 *e*Pn P 16 54 12.9 +0.7
comp=Z,238nm,2.0s
NNA Nana 16.04 181 P Pn 16 54 16.5 -0.3
comp=Z,1.4nm,0.3s,baz=347,slow=9.2,SNR=6.4
NNA Nana 16.04 181 *e*Pn Pn 16 54 16.7 -0.2
comp=Z,22nm,1.1s
TPP Pointe-a-Pierr 16.06 67 eP P 16 54 20.8 +3.2
TRN Trinidad (W) 16.22 66 eP P 16 54 21.0 +1.5
TBH Brigand Hill 16.47 67 eP P 16 54 25.9 +3.7
CRPR Cabo Rojo, PR 16.51 33 eP P 16 54 23.2 +0.7
comp=Z,56nm,0.6s
GRGR Grenville 16.62 61 eP P 16 54 22.9 -1.0
comp=Z,97nm,0.7s
GRGR Grenville 16.62 61 eP P 16 54 23.5 -0.3
MPR Mayaguez 16.66 32 eP P 16 54 23.0 -1.3
comp=Z,178nm,1.7s
GRHS Sauteurs 16.67 60 eP Pn 16 54 24.8 +0.3
ICMP Isla Caja de M 16.73 35 eP Pn 16 54 24.6 -0.6
comp=Z,66nm,1.0s
OBIP Obispado Ponce 16.82 34 eP Pn 16 54 26.5 +0.4
comp=Z,91nm,1.3s
AGP Aguadilla 16.82 32 eP Pn 16 54 26.0 -0.2
comp=Z,165nm,1.1s
TPR Prospect 17.00 65 eP Pn 16 54 29.3 +0.9
BOT Bacolet 17.04 65 eP Pn 16 54 29.8 +0.9
SJG San Juan 17.13 35 P P 16 54 28.1 -1.3
comp=Z,6.2nm,0.3s,baz=199,slow=13,SNR=6.8
SJG San Juan 17.13 35 eP P 16 54 28.4 -1.0
comp=Z,123nm,1.6s
PTGA Pitinga 17.14 106 P Pn 16 54 29.0 -1.2
comp=Z,2.3nm,0.3s,baz=300,slow=18,SNR=10
PTGA Pitinga 17.14 106 eP Pn 16 54 29.5 -0.7
comp=Z,42nm,1.8s
EMPR Esperanza - Ma 17.21 33 eP Pn 16 54 32.0 +1.1
comp=Z,362nm,0.4s
TOSP Speyside 17.26 65 eP Pn 16 54 30.7 -0.8
HUMP Col San Antoni 17.33 36 eP P 16 54 31.1 -0.4
comp=Z,53nm,0.6s
CBYP Canovanas 17.43 36 eP Pn 16 54 32.6 -0.9
comp=Z,104nm,0.7s
FCV Fort Charlotte 17.45 58 eP Pn 16 54 32.5 -1.4
MTP Monte Pirata 17.47 37 eP Pn 16 54 33.5 -0.5
comp=Z,31nm,0.9s
SVB Belmont 17.50 58 eP Pn 16 54 33.0 -1.5
comp=Z,119nm,0.7s
SVB Belmont 17.50 58 eP Pn 16 54 33.5 -1.0
APG El Apazote 17.53 309 P P 16 54 34.9 +0.8
comp=Z,4.4nm,0.3s,baz=104,slow=3.5,SNR=9.2
SVV Soufriere Volc 17.56 58 eP Pn 16 54 36.0 +0.9
SSV Crater Summit 17.58 58 eP Pn 16 54 35.0 -0.5
SVCV St. Vincent, C 17.59 58 eP Pn 16 54 34.2 -1.4
CDVI St. Croix 17.69 39 eP P 16 54 35.1 -0.4
comp=Z,133nm,0.7s
CUPR Culebra, Puert 17.79 37 eP P 16 54 35.4 -1.3
comp=Z,110nm,1.1s
SLB Belfond 17.96 57 eP Pn 16 54 39.5 -0.5
GRTK Grand Turk 18.00 16 eP P 16 54 38.3 -0.6
comp=Z,440nm,1.7s
STVI Saint Thomas 18.02 38 eP P 16 54 38.1 -1.1
comp=Z,83nm,1.1s
SLPA Patience 18.07 57 eP Pn 16 54 41.3 0.0
SLW Petit Monier 18.14 56 eP Pn 16 54 41.9 -0.2
FDF Fort de France 18.35 54 eP P 16 54 42.3 -0.6
comp=Z,86nm,0.6s
FDF Fort de France 18.35 54 eP Pn 16 54 43.3 -1.3
BBL Barber's Block 18.55 51 eP P 16 54 44.5 -0.5
ABVI Anegada Island 18.69 38 eP Pn 16 54 47.0 -1.5
comp=Z,180nm,1.0s
DWS Wesley 18.69 52 eP P 16 54 46.3 -0.2
MGG Marie-Galante 18.89 51 eP Pn 16 54 51.4 +0.5
BBGH Gun Hill 18.90 61 eP P 16 54 48.5 -0.3
comp=Z,911nm,1.4s
CCIG Comitan 19.58 309 eP P 16 54 56.8 +0.3
comp=Z,33nm,1.0s
ANWB Willy Bob 19.64 46 eP P 16 54 54.6 -2.2
comp=Z,62nm,0.7s
TEIG Tepich 19.71 325 eP P 16 54 59.5 +2.0
comp=Z,21nm,1.3s
LPAZ La Paz 21.91 158 P P 16 55 21.2 -0.5
comp=Z,0.8nm,0.3s,baz=307,slow=8.6,SNR=3.4
LPAZ La Paz 21.91 158 eP P 16 55 21.4 -0.4
comp=Z,5.8nm,0.9s
CMIG Matias Romero 22.21 307 P P 16 55 22.5 -1.6
comp=Z,4.2nm,0.7s,baz=117,slow=2.3,SNR=7.2
MDP Montagnes des 23.72 87 P P 16 55 35.4 -3.0
comp=Z,7.5nm,0.5s,baz=0.0,slow=0.1
MNMC Minye Minye 24.10 164 eP P 16 55 42.4 +0.4
comp=Z,15nm,1.0s
PB11 IPOC Station P 24.68 165 eP P 16 55 47.0 -0.2
comp=Z,16nm,0.9s
GO01 Chusmiza 24.72 164 eP P 16 55 47.2 -0.7
comp=Z,5.5nm,0.9s
SIV San Ignacio 25.13 143 P P 16 55 50.0 -1.1
comp=Z,0.8nm,0.4s,baz=338,slow=9.0,SNR=5.1
SIV pP pP 16 56 20.4 -0.1
comp=Z,5.6nm,0.8s,baz=331,slow=11,SNR=7.0
LVC Limon Verde 27.60 165 P P 16 56 17.2 +3.6
comp=Z,1.2nm,0.5s,baz=350,slow=6.1,SNR=2.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LRAL	Lakeview Retre	30.38	342	eP	P	16 56 38.7	+0.9
ABTX	Abilene, Hawle	35.70	325	eP	P	16 57 24.2	+0.2
	comp=Z,12nm,0.6s						
TX31	Lajitas Ar. Si	35.97	317	eP	P	16 57 27.4	+0.9
TXAR	Lajitas Array	35.97	317	P	P	16 57 28.0	+1.6
	comp=Z,0.9nm,0.6s,baz=136,slow=8.6,SNR=7.9						
TXAR				PcP	PcP	16 59 52.0	+1.7
	comp=Z,0.7nm,0.5s,baz=147,slow=6.5,SNR=5.9						
MSTX	Muleshoe	38.48	324	eP	P	16 57 47.7	+0.1
	comp=Z,15nm,1.0s						
MNTX	Cornudas Mount	38.60	319	eP	P	16 57 49.3	+0.8
	comp=Z,5.7nm,0.8s						
319A	Douglas	41.07	315	eP	P	16 58 11.0	+1.9
	comp=Z,11nm,1.0s						
ANMO	Albuquerque	41.38	322	P	P	16 58 13.4	+1.7
	comp=Z,5.8nm,0.7s,baz=127,slow=9.3,SNR=13						
ANMO	Albuquerque	41.38	322	eP	P	16 58 13.0	+1.3
	comp=Z,6.5nm,0.8s						
TUC	Tucson	42.65	315	eP	P	16 58 22.6	+0.7
	comp=Z,7.7nm,0.9s						
SDCO	Great Sand Dun	42.70	325	eP	P	16 58 24.1	+1.6
	comp=Z,4.5nm,0.6s						
S22A	4UR Ranch, Cre	43.47	324	eP	P	16 58 30.1	+1.5
	comp=Z,3.7nm,1.0s						
W18A	Petrified Fore	43.57	319	eP	P	16 58 30.7	+1.4
	comp=Z,11nm,0.8s						
ISCO	Idaho Springs	44.22	327	eP	P	16 58 35.9	+1.3
	comp=Z,2.1nm,0.7s						
X16A	Lo Mia Camp, P	44.29	317	eP	P	16 58 36.9	+1.8
	comp=Z,5.2nm,0.8s						
WUAZ	Wupatki	44.88	319	eP	P	16 58 41.7	+1.9
	comp=Z,8.6nm,0.9s						
PV13	Radium Mtn., P	44.91	323	eP	P	16 58 41.6	+1.5
	comp=Z,7.9nm,0.9s						
PLCA	Paso Flores	44.99	174	P	P	16 58 40.8	+0.4
	comp=Z,2.3nm,0.8s,baz=9.3,slow=8.0,SNR=6.1						
PV12	Saucer Basin,	45.01	323	eP	P	16 58 42.5	+1.7
	comp=Z,5.8nm,0.8s						
PV16	Nyswonger Mesa	45.07	323	eP	P	16 58 43.4	+2.1
	comp=Z,5.1nm,0.8s						
PV17	East Wray Mesa	45.08	323	eP	P	16 58 43.1	+1.7
	comp=Z,5.5nm,0.7s						
PV10	Paradox Valley	45.19	323	eP	P	16 58 43.4	+1.2
RSSD	Black Hills	46.65	333	eP	P	16 58 54.5	+0.9
	comp=Z,6.6nm,0.7s						
MTPU	Mount Pierson	46.91	321	eP	P	16 58 57.0	+1.1
	comp=Z,17nm,2.0s						
LCMT	Little Creek M	46.98	319	eP	P	16 58 58.2	+2.1
	comp=Z,3.4nm,0.9s						
SZCU	Shurtz Canyon	47.22	320	eP	P	16 58 59.5	+1.4
	comp=Z,4.6nm,0.9s						
TCUT	Toone Canyon	48.35	325	eP	P	16 59 08.0	+1.1
	comp=Z,15nm,0.6s						
PDAR	Pinedale Array	48.41	327	P	P	16 59 08.2	+1.0
	comp=Z,1.1nm,0.6s,baz=121,slow=8.8,SNR=15						
PDAR				pP	pP	16 59 41.8	+2.7
	comp=Z,0.3nm,0.6s,baz=110,slow=12,SNR=3.1						
DUG	Dugway, Tooele	48.60	323	eP	P	16 59 09.8	+1.2
	comp=Z,4.0nm,0.7s						
ULM	Lac du Bonnet	48.78	343	P	P	16 59 08.9	-0.7
	comp=Z,2.1nm,0.4s,baz=154,slow=8.8,SNR=8.5						
TPNV	Topopah Spring	48.95	317	eP	P	16 59 13.7	+2.4
	comp=Z,24nm,1.9s						
HVU	Hansel Valley	49.56	324	eP	P	16 59 17.2	+1.3
	comp=Z,3.0nm,0.9s						
ELK	Elko	50.41	322	eP	P	16 59 23.5	+1.0
	comp=Z,14nm,1.8s						
NV11	Mina Array Sit	51.02	318	eP	P	16 59 28.5	+1.6
	comp=Z,0.3nm,0.8s						
NV01	Mina Array Sit	51.11	318	eP	P	16 59 29.0	+1.3
NVAR	Mina Array Bea	51.11	318	P	P	16 59 29.6	+1.9
	comp=Z,6.2nm,0.7s,baz=126,slow=7.6,SNR=46						
NVAR				PcP	PcP	17 00 42.9	+1.4
	comp=Z,0.8nm,0.5s,baz=125,slow=5.6,SNR=5.8						
SCHQ	Schefferville	51.12	7	P	P	16 59 27.9	+0.8
	comp=Z,4.4nm,0.5s,baz=190,slow=6.9,SNR=11						
BOZ	Bozeman (W)	51.43	329	eP	P	16 59 30.8	+1.0
	comp=Z,8.2nm,1.4s						
HLID	Hailey	51.62	325	eP	P	16 59 32.1	+0.8
	comp=Z,3.0nm,0.8s						
WVOR	Wild Horse Val	53.47	322	eP	P	16 59 45.8	+0.9
	comp=Z,7.1nm,0.7s						
J08A	Circle Bar Ran	53.88	323	eP	P	16 59 48.8	+0.9
	comp=Z,5.2nm,0.7s						
G08A	Pilot Rock	55.27	324	eP	P	16 59 58.9	+1.1
	comp=Z,7.5nm,0.8s						
E09A	Wood Farm, Sta	55.52	326	eP	P	16 59 60.0	+0.5
	comp=Z,6.9nm,0.8s						
PINE	Pine Mountain	55.62	322	eP	P	17 00 02.1	+1.6
	comp=Z,6.7nm,0.8s						
YBH	Yreka Blue Hor	55.69	319	P	P	17 00 00.7	-0.2
	comp=Z,1.1nm,0.5s,baz=39,slow=6.5,SNR=5.7						
B08A	Colville Reser	57.26	327	eP	P	17 00 12.5	+0.7
	comp=Z,5.2nm,0.6s						
YKA	Yellowknife Ar	64.67	341	P	P	17 01 00.8	-0.7
	comp=Z,1.3nm,0.4s,baz=135,slow=6.2,SNR=40						
YKA				pP	PcP	17 01 34.9	+0.8
	comp=Z,1.1nm,0.5s,baz=135,slow=6.8,SNR=4.1						
TIC	Toumodi	71.08	84	eP	P	17 01 41.0	-1.6
LIC	Lamto	71.08	85	eP	P	17 01 41.4	-1.2
	comp=Z,33nm,1.0s						
DBIC	Dimbokro	71.24	84	P	P	17 01 42.1	-1.5
	comp=Z,4.1nm,0.6s,baz=254,slow=7.6,SNR=11						
DBIC				pP	pP	17 02 17.7	+0.1
	comp=Z,1.6nm,0.6s,baz=294,slow=4.9,SNR=2.1						
KIC	Kosan Boka	71.36	85	eP	P	17 01 43.2	-1.1
	comp=Z,6.8nm,0.5s						
ESDC	Sonseca Array	73.87	50	P	P	17 01 59.1	+0.3
	comp=Z,1.5nm,0.6s,baz=262,slow=5.8,SNR=14						
ESDC				pP	pP	17 02 33.4	+0.4
	comp=Z,0.8nm,0.8s,baz=235,slow=5.2,SNR=1.6						
ES19	SONSECA Array	73.92	50	eP	P	17 01 58.9	-0.1
INK	Inuvik	74.44	341	P	P	17 02 01.6	+0.2
	comp=Z,0.9nm,0.4s,baz=115,slow=5.2,SNR=8.6						
TOA0	Torodi Ar. Sit	77.50	78	eP	P	17 02 17.7	-2.1
TORD	Torodi Ar. Bea	77.50	78	P	P	17 02 18.0	-1.8
	comp=Z,1.3nm,0.6s,baz=287,slow=6.2,SNR=8.2						
TORD				pP	pP	17 02 54.0	-0.5
	comp=Z,0.5nm,0.5s,baz=276,slow=7.2,SNR=2.6						
ILAR	Eielson Array	78.00	336	P	P	17 02 21.5	-0.1
	comp=Z,1.5nm,0.6s,baz=112,slow=4.2,SNR=33						
ILAR				pP	pP	17 02 57.9	+1.7
	comp=Z,0.6nm,0.7s,baz=105,slow=4.4,SNR=2.6						
ILB	Eielson Array	78.00	336	eP	P	17 02 21.4	-0.1
GERES	GERESS Array B	86.98	41	P	P	17 03 07.0	-1.6
	comp=Z,0.5nm,0.5s,baz=268,slow=2.7,SNR=5.0						
GERES				pP	pP	17 03 45.5	+1.5
	comp=Z,0.6nm,0.7s,baz=242,slow=2.9,SNR=3.6						
ARCES	ARCESS Array B	90.29	20	P	P	17 03 23.1	-0.6
	comp=Z,3.0nm,1.0s,baz=297,slow=4.0,SNR=2.7						
QSPA	South Pole Qui	94.18	180	P	P	17 03 41.5	-0.2
	comp=Z,1.7nm,0.8s,baz=149,slow=1.9,SNR=6.0						
QSPA				pP	pP	17 04 18.7	+1.4
	comp=Z,1.6nm,0.8s,baz=158,slow=2.1,SNR=3.3						
ZALV	Zalesovo Beam	120.01	13	PKP	PKPdf	17 09 11.9	-1.0
	comp=Z,0.3nm,0.4s,baz=258,slow=4.3,SNR=3.2						
MKAR	Makanchi Array	125.89	18	PKP	PKPdf	17 09 24.1	-0.5
	comp=Z,0.2nm,0.5s,baz=0.5,slow=3.5,SNR=4.2						
SONM	Songino Array	128.17	358	PKP	PKPdf	17 09 29.1	+0.1
	comp=Z,0.5nm,0.8s,baz=75,slow=7.8,SNR=4.3						
STKA	Stephens Creek	134.94	228	PKP	PKPdf	17 09 40.5	-1.6
	comp=Z,1.0nm,0.8s,baz=148,slow=11,SNR=4.3						
LZH	Lanzhou	139.97	360	ePKP	PKPdf	17 09 48.9	-2.6
LZH				pPKP	pPKPdf	17 10 25.5	-3.1
LZH				sPKP		17 10 48.9	
ASAR	Alice Springs	144.90	234	PKPbc	PKPbc	17 09 59.0	-0.8
	comp=Z,5.1nm,0.7s,baz=117,slow=4.0,SNR=118						
WRAB	Tennant Creek	146.17	240	ePKPdf	PKPdf	17 10 03.2	+0.6
WRA	Warramunga Arr	146.17	240	PKPbc	PKPdf	17 10 02.7	+0.1
	comp=Z,4.0nm,0.8s,baz=107,slow=3.0,SNR=39						
SIJI	Sorong	152.15	276	PKPbc	PKPbc	17 10 18.9	-0.2
	comp=Z,2.6nm,0.4s,baz=348,slow=9.8,SNR=4.4						
CMAR	Chiang Mai Arr	157.07	11	PKP	PKPdf	17 10 19.7	+0.7
	comp=Z,0.2nm,0.6s,baz=328,slow=3.2,SNR=3.1						

IDC 02 16:56:06.0±2.4, 6°.21S×126°.70E, h0km, mb3.1/1, mb1 3.3/3, mb1mx3.1/39, mbtmp3.1/3, ML3.0/2, Error ellipse: s-maj=314.2km s-min=31.8km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.54	152	Pn	Pn	16 59 48.6	+1.9
	0.1nm,0.3s,baz=330,slow=13,SNR=7.7						
ASAR	Alice Springs	18.69	159	P	P	17 00 25.1	-1.0
	0.1nm,0.3s,baz=342,slow=12,SNR=6.4						
MKAR	Makanchi Array	65.80	328	P	P	17 06 53.2	0.0
	0.1nm,0.6s,baz=114,slow=5.2,SNR=3.3						

MOS 02 17:00:04.0±1.1, 45°.49N×152°.80E, h62km, mb4.2/1, Error ellipse: s-maj=99.9km s-min=19.7km az=161.4

SKHL 02 17:00:04.0±0.1, 45°.37N×152°.74E, h33km±3km, mb4.7/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.44	269	iP	Pn	17 00 56.0	+0.8
KUR				AMB	AMB	17 00 59.0	
	30nm,0.4s						
KUR				AMB	AMB	17 00 59.0	
	31nm,0.4s						
KUR				AMB	AMB	17 00 59.0	
	80nm,0.4s						
KUR				iS	Sn	17 01 35.0	+0.2
KUR				A	A	17 01 40.0	
	170nm,0.4s						
KUR				A	A	17 01 40.0	
	100nm,0.4s						
KUR	Kuril'sk	3.44	269	ePN	Pn	17 00 56.6	+1.4
KUR				eS	Sn	17 01 35.6	+0.8
KUR				pmax	pmax		
	comp=Z,65nm,0.5s						
KUR				pmax	pmax		
	comp=N,32nm,0.3s						
KUR				pmax	pmax		
	comp=E,22nm,0.2s						
KUR				smax	smax		
	comp=N,169nm,0.4s						
KUR				smax	smax		
	comp=E,98nm,0.4s						
SHO	Shikotan	4.48	253	eP	Pn	17 01 11.0	+1.5
SHO				AMB	AMB	17 01 18.0	
	comp=E,10.0nm,0.3s						
SHO				AMB	AMB	17 01 18.0	
	comp=E,30nm,0.3s						
SHO				eS	Sn	17 02 01.3	+0.9
SHO				A	A	17 02 11.0	
	comp=E,40nm,0.4s						
SHO				A	A	17 02 11.0	
	comp=E,80nm,0.4s						
SHO	Shikotan	4.48	253	ePN	Pn	17 01 11.8	+2.3
SHO				eS	Sn	17 02 03.4	+3.0
SHO				pmax	pmax		
	comp=Z,26nm,0.2s						
SHO				pmax	pmax		
	comp=E,10.0nm,0.3s						
SHO				pmax	pmax		
	comp=N,3.0nm,0.1s						
SHO				smax	smax		
	comp=N,26nm,0.3s						
SHO				smax	smax		
	comp=E,53nm,0.5s						
YUK	Yuzh-Kuril'sk	5.08	257	eP	Pn	17 01 19.5	+1.7
YUK				AMB	AMB	17 01 22.0	
	comp=E,70nm,0.5s						
YUK				eS	Sn	17 02 16.0	+0.7
YUK				A	A	17 02 24.0	
	comp=E,70nm,0.3s						
YUK				A	A	17 02 24.0	
	comp=E,40nm,0.3s						
YUK	Yuzh-Kuril'sk	5.08	257	PN	Pn	17 01 20.4	+2.6
YUK				eS	Sn	17 02 17.5	+2.2
YUK				pmax	pmax		
	comp=Z,65nm,0.5s						
YUK				smax	smax		
	comp=N,66nm,0.3s						
YUK				smax	smax		
	comp=E,19nm,0.3s						
LAGR	Lagunnoye	5.13	258	eP	Pn	17 01 19.0	+0.6
LAGR				AMB	AMB	17 01 23.0	
	comp=E,80nm,0.6s						
LAGR				eS	Sn	17 02 16.0	-0.4
LAGR				A	A	17 02 29.0	
	comp=E,150nm,0.5s						
LAGR				A	A	17 02 29.0	
	comp=E,170nm,0.5s						
LAGR	Lagunnoye	5.13	258	PN	Pn	17 01 19.4	+1.0
LAGR				eS	Sn	17 02 16.8	+0.4
LAGR				pmax	pmax		
	comp=Z,82nm,0.6s						
LAGR				smax	smax		
	comp=N,148nm,0.4s						
LAGR				smax	smax		
	comp=E,167nm,0.6s						
GRPR	Tuman	5.16	257	eP	Pn	17 01 20.0	+1.2
GRPR				AMB	AMB	17 01 22.0	
	comp=E,50nm,0.8s						
GRPR				eS	Sn	17 02 19.0	+1.9
GRPR				A	A	17 02 35.0	
	comp=E,70nm,0.4s						
GRPR				A	A	17 02 35.0	
	comp=E,90nm,0.4s						
GRPR	Tuman	5.16	257	ePN	Pn	17 01 20.6	+1.8
GRPR				eS	Sn	17 02 19.3	+2.2
GRPR				pmax	pmax		
	comp=Z,46nm,0.8s						
GRPR				smax	smax		
	comp=E,86nm,0.4s						
GRPR				smax	smax		
	comp=N,68nm,0.3s						
GLVR	Golovnino	5.41	255	eP	Pn	17 01 23.9	+1.6
GLVR				AMB	AMB	17 01 32.5	
	comp=N,170nm,0.8s						
GLVR				eS	Sn	17 02 24.0	+0.6
GLVR				A	A	17 02 29.0	
	comp=N,260nm,0.7s						
GLVR	Golovnino	5.41	255	PN	Pn	17 01 23.5	+1.2
GLVR				pmax	pmax		
	comp=Z,172nm,0.7s						
YSS	Yuzh-Sakhalins	7.11	286	eP	Pn	17 01 47.8	+2.1
YSS				AMB	AMB	17 01 50.3	
	comp=Z,30nm,1.1s						
YSS				eS	Sn	17 03 06.3	+1.0
YSS				A	A	17 03 23.5	
	comp=Z,20nm,1.3s						
YSS				A	A	17 03 23.5	
	comp=Z,30nm,1.3s						

ISCJB 02 17:00:35.5±1.0, 57°.1S±0°.1×25°.6W±0°.5, h35km, mb4.2/4, Error ellipse: s-maj=39.4km s-min=14.3km az=158.9

NEIC 02 17:00:36.9±0.6, 57°.10S×25°.61W, h35km, mb4.6/1, Error ellipse: s-maj=31.4km s-min=16.5km az=83.0

IDC 02 17:00:39.7±0.8, 57°.13S×25°.71W, h58km±6km, mb3.9/4, mb1 4.0/4, mb1mx3.6/24, mbtmp4.2/4, Error ellipse: s-maj=36.0km s-min=21.4km az=82.0

ISC 02 17:00:37.1±0.8, 57°.1S±0°.1×25°.6W±0°.3, h35km, n11, σ0s.50/14, mb4.3/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	15.49	158	P	Pn	17 04 13.0	+0.4
VNA3	Neumayer Olymp	15.71	161	P	Pn	17 04 15.4	0.0
VNA3				S	Sn	17 06 52.6	-15
VNA2	Neumayer--Watz	15.89	158	P	Pn	17 04 17.6	0.0
	baz=319,slow=14						
VNA2				S	Sn	17 06 59.8	-13
QSPA	South Pole Qui	33.15	180	P	P	17 07 09.8	0.0
	2.8nm,0.5s,baz=196,slow=1.7,SNR=36						
QSPA	South Pole Qui	33.15	180	eP	P	17 07 09.6	-0.2
	4.4nm,0.5s						
VNDA	Vanda	45.56	182	P	P	17 08 52.8	0.0
	0.8nm,0.6s,baz=197,slow=7.1,SNR=9.2						
LPAZ	La Paz	51.69	304	P	P	17 09 41.4	+0.1
	2.2nm,0.4s,baz=169,slow=5.2,SNR=13						
TORD	Torodi Ar. Bea	73.56	28	P	P	17 12 06.6	+0.3
	1.2nm,0.6s,baz=201,slow=6.3,SNR=8.1						
YKA	Yellowknife Ar	137.54	317	PKP	PKPdf	17 19 54.9	-0.6
	0.5nm,0.5s,baz=124,slow=2.4,SNR=11						
YKA				pPKP	sPKPdf	17 20 11.5	+0.6
	0.3nm,0.7s,baz=120,slow=2.1,SNR=3.4						
SONM	Songino Array	149.92	87	PKPbc	PKPbc	17 20 22.2	-0.5
	0.9nm,0.7s,baz=226,slow=3.1,SNR=7.4						
SONM				pPKPbc	pPKPab	17 20 39.5	-0.2
	0.6nm,0.6s,baz=240,slow=3.1,SNR=4.8						
ILAR	Eielson Array	151.46	310	PKPbc	PKPbc	17 20 25.0	-0.6
	0.7nm,0.5s,baz=142,slow=2.6,SNR=14						
ILAR				pPKPbc	sPKPbc	17 20 42.0	+1.0
	0.8nm,0.7s,baz=150,slow=4.5,SNR=5.9						

ISCJB 02 17:25:37.3±0.2, 22°.59N±0°.03×93°.89E±0°.03, h50km, mb4.2/29, MS3.5/4, Error ellipse: s-maj=5.5km s-min=3.1km az=135.4

NDI 02 17:25:38.1±3.6, 22°.59N×93°.90E, h21km±27km, ML4.3, mb4.4(NEIC)

NEIC 02 17:25:40.5±0.3, 22°.62N×94°.02E, mb4.4/10, Error ellipse: s-maj=10.6km s-min=4.8km az=50.0

IDC 02 17:25:40.1±1.9, 22°.66N×94°.06E, h57km±19km, mb3.9/22, mb1 4.0/24, mb1mx3.8/50, mbtmp4.2/24, ML4.4/2, MS3.4/7, Ms1 3.4/7, ms1mx3.0/38, Error ellipse: s-maj=16.1km s-min=10.7km az=45.0

ISC 02 17:25:39.5±0.4, 22°.67N±0°.04×93°.90E±0°.05, h50km, n90, σ1s.48/98, mb4.2/29, MS3.5/4, 1C, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAIH	SAIHA	0.86	258	eP	Pn	17 25 55.6	0.0
SAIH				eS	Sn	17 26 04.6	-2.7
SAIH				IAML		17 26 06.1	
	comp=E,4μm,0.5s						
SAIH				IAML		17 26 07.8	
	comp=N,1μm,0.5s						
BRDH	Bariadhala	2.09	271	P	Pn	17 26 13.3	+1.3
	comp=N,119nm,0.3s,baz=248,slow=19,SNR=23						
BRDH				S	Sn	17 26 42.0	+5.1
	comp=N,212nm,0.3s,baz=240,slow=20,SNR=9.3						
BRDH				LR	LR	17 27 00.0	
	comp=N,427nm,19.1s,baz=96,slow=36						
BELO	BELONIA	2.33	285	eP	Pn	17 26 17.0	+1.6
BELO				eS	Sn	17 26 43.7	+0.8
BELO				IAML		17 26 52.8	
	comp=N,17μm,0.2s						
BELO				IAML		17 26 56.9	
	comp=E,23μm,0.3s						
KOHI	KOHIMA	3.04	4	eP	Pn	17 26 25.7	+0.4
KOHI				eS	Sn	17 27 03.0	+2.4
SHL	Shillong	3.42	328	ePn	Pn	17 26 31.1	+0.6
SHL	Shillong	3.42	328	eP	Pn	17 26 31.3	+0.7
SHL				eS	Sn	17 27 10.0	0.0
MOKO	MOKOCHONG	3.68	9	eP	Pn	17 26 35.1	+1.1
MOKO				ex	Sn	17 27 19.7	+3.5
TEZP	TEZPUR	4.05	346	eP	Pn	17 26 40.0	+1.0
TEZP				eS	Sn	17 27 28.2	+3.0
ZIRO	ZIRO	4.83	359	eP	Pn	17 26 51.0	+1.0
ZIRO				eS	Sn	17 27 42.8	-2.0
ZIRO				IAML		17 27 57.4	
	comp=E,351nm,0.7s						
ZIRO				IAML		17 27 59.1	
	comp=N,330nm,0.6s						
TAWA	Tawang	5.24	340	eP	Pn	17 26 56.5	+0.9
TAWA				eS	Sn	17 27 50.6	-4.3
CHTO	Chiang Mai	6.08	128	ePn	Pn	17 27 05.1	-1.9
CHTO	Chiang Mai	6.08	128	P	Pn	17 27 05.2	-1.7
CMMT	Chiang Mai	6.08	128	P	Pn	17 27 05.1	-1.9
CM31	Chiang Mai Arr	6.32	131	ePn	Pn	17 27 08.5	-1.6
CM31				e		17 30 12.9	
CMAR	Chiang Mai Arr	6.32	131	P	Pn	17 27 08.4	-1.8
	comp=N,2.2nm,0.3s,baz=308,slow=13,SNR=93						
CMAR				LR	LR	17 30 12.9	
	comp=N,174nm,20.9s,baz=299,slow=44						
CM01	Chiang Mai Arr	6.35	131	ePn	Pn	17 27 08.0	-2.6
GTK	Tadong	6.67	315	eP	Pn	17 27 15.4	+0.3
GTK				eS	Sn	17 28 27.9	-2.1
LAMP	Lampang	6.77	127	P	Pn	17 27 17.7	+1.3
LSA	Lhasa	7.42	341	ePn	Pn	17 27 26.9	+1.2
NANT	Nan	7.44	120	P	Pn	17 27 26.5	+1.0
BOK	Bokaro	7.46	280	eP	Pn	17 27 26.0	+0.2
BOK				eS	Sn	17 28 43.0	-6.0
SUKH	Sukhothai	7.46	133	P	Pn	17 27 26.5	+0.7
RAMN	Ramite	7.88	304	eP	Pn	17 27 31.5	-0.3
	comp=N,29nm,0.4s						
UTTA	Uttaradit	7.94	127	P	Pn	17 27 31.9	-0.5
JIRN	Jiri	8.57	307	eP	Pn	17 27 39.9	-1.4
	comp=N,52nm,0.3s						
UTHA	Uthaitani	8.80	143	P	Pn	17 27 45.2	+1.0
GUN	Gumba	8.94	307	eP	Pn	17 27 45.3	-1.1
PKI	Pulchoki	9.11	304	eP	Pn	17 27 47.4	-1.3
	comp=N,44nm,0.6s						
PKIN	Phulchoki	9.12	304	eP	Pn	17 27 47.4	-1.4
	comp=N,31nm,0.3s						
KKN	Kakani	9.32	305	eP	Pn	17 27 50.4	-1.1
	comp=N,25nm,0.5s						
DMN	Daman	9.36	303	eP	Pn	17 27 51.4	-0.7
	comp=N,24nm,0.5s						
SRDT	SRDT	9.64	148	P	Pn	17 27 58.8	+3.1
	comp=N,8.0nm,1.2s,comp=N,0.1nm						
NONG	Nongkai	9.81	116	P	Pn	17 28 04.8	+6.8
KOLN	Koldanda	10.62	301	eP	Pn	17 28 07.5	-1.7
	comp=N,44nm,0.6s						
DANN	Dangsing	10.76	304	eP	Pn	17 28 08.6	-2.7
	comp=N,40nm,0.6s						
PYUN	Piuthan	11.25	301	eP	Pn	17 28 14.4	-3.4
	comp=N,48nm,0.9s						
NGP	Nagpur	13.87	267	⇑iP	Pn	17 28 52.2	-1.3
NGP				ex	x	17 31 08.2	
HYB	Hyderabad	15.34	253	iP	P	17 29 19.0	+2.2
TSI	Tuntungan	19.59	166	P	Pn	17 30 08.0	+2.7
	comp=N,94nm,1.0s						
PALK	Pallekele	19.90	222	LR	LR	17 39 00.5	
	comp=N,48nm,19.2s,baz=115,slow=40						
NIL	Nilore	21.20	306	eP	P	17 30 21.5	+0.5
	comp=N,9.9nm,0.7s						
MNSI	Mandailing Nat	22.43	165	P	P	17 30 35.4	+1.1
	comp=N,22nm,0.4s						
AAK	Ala-Archa	25.64	325	P	P	17 31 06.4	+1.7
	comp=N,1.2nm,0.6s,baz=132,slow=4.7,SNR=7.3						
AAK	Ala-Archa	25.64	325	eP	P	17 31 03.5	-1.2
	comp=N,4.0nm,1.0s						
MK01	Makanchi Array	25.81	341	eP	P	17 31 06.8	+0.9
MK31	Makanchi Array	25.83	341	eP	P	17 31 07.0	+0.8
MK32	Makanchi Array	25.83	341	eP	P	17 31 07.2	+1.1
MKAR	Makanchi Array	25.83	341	P	P	17 31 07.2	+1.1
	comp=N,8.7nm,0.8s,baz=150,slow=10.0,SNR=90						
MKAR	Makanchi Array	25.83	341	eP	P	17 31 07.0	+0.8
	comp=N,47nm,0.8s						
MAKZ	Makanchi	25.94	341	eP	P	17 31 08.3	+1.2
	comp=N,5.4nm,1.1s						
SONA0	Songino Array	27.03	19	eP	P	17 31 18.1	+1.0
SONA0				e		17 44 02.3	
SONM	Songino Array	27.03	19	P	P	17 31 18.1	+1.0
	comp=N,1.2nm,0.7s,baz=204,slow=9.5,SNR=9.1						
SONM				LR	LR	17 44 02.3	
	comp=N,108nm,19.2s,baz=350,slow=41						
ZALV	Zalesovo Beam	31.98	350	P	P	17 32 01.9	+1.2
	comp=N,2.0nm,0.6s,baz=176,slow=6.7,SNR=10						
ZAA1	Zalesovo Array	31.98	350	eP	P	17 32 01.9	+1.1
WSAR	Wadi Sarin	32.44	278	LR	LR	17 46 28.6	
	comp=N,115nm,18.8s,baz=100,slow=38						
KSRS	Korea Array	32.72	55	LR	LR	17 47 27.3	
	comp=N,65nm,18.2s,baz=352,slow=40						
ABKAR	Akbulak array	37.68	323	eP	P	17 32 50.8	+0.9
MAJO	Matsushiro	40.58	60	eP	P	17 33 12.3	-2.0
MAJO				epP	pP	17 33 28.4	+0.8
MAJO				e		17 51 46.2	
MJAR	Matsushiro Arr	40.58	60	P	P	17 33 12.3	-2.0
	comp=N,3.0nm,1.0s,baz=269,slow=10.0,SNR=4.2						
MJAR				pP	pP	17 33 28.4	+0.8
	comp=N,0.6nm,0.4s,baz=107,slow=20,SNR=2.1						
MJAR				LR	LR	17 51 46.2	
	comp=N,90nm,20.8s,baz=265,slow=39						
SIJI	Sorong	43.26	118	P	P	17 33 35.5	-1.0
	comp=N,2.8nm,0.6s,baz=252,slow=20,SNR=3.1						
TIXI	Tiksi	52.90	13	P	P	17 34 48.8	-1.2
	comp=N,2.9nm,0.3s,baz=239,slow=3.3,SNR=15						
AKASG	Malin Array Be	56.84	317	P	P	17 35 18.8	-0.1
	comp=N,0.5nm,0.3s,baz=82,slow=6.6,SNR=2.5						
AKBB	Malin Array Si	56.84	317	eP	P	17 35 18.8	-0.1
	comp=N,11nm,1.5s						
WRA	Warramunga Arr	57.90	134	P	P	17 35 25.8	-1.0
	comp=N,2.5nm,0.8s,baz=322,slow=7.4,SNR=46						
WRA				PcP	PcP	17 36 17.8	-0.9
	comp=N,0.5nm,0.4s,baz=334,slow=3.7,SNR=5.7						
WR1	Warramunga Arr	57.90	134	eP	P	17 35 25.8	-1.0
WR1				ePcP	PcP	17 36 17.8	-0.9
WB2	Warramunga Arr	57.91	134	eP	P	17 35 26.8	0.0
	comp=N,7.8nm,1.3s						
NWAO	Narrogin (SRO)	59.60	157	P	P	17 35 38.2	-0.1
	comp=N,8.6nm,0.9s,baz=248,slow=5.4,SNR=3.2						
FIA0	FINESS Array S	59.76	329	eP	P	17 35 39.8	+0.7
FINES	FINESS Array B	59.76	329	P	P	17 35 39.8	+0.7
	comp=N,0.7nm,0.8s,baz=117,slow=27,SNR=3.6						
AS31	Alice Springs	60.28	137	eP	P	17 35 43.2	0.0
	comp=N,1.9nm,1.2s						

ASAR	Alice Springs	60.28	137	P	P	17 35 42.8	-0.5
	comp=N,3.8nm,0.8s,baz=320,slow=6.6,SNR=34						
AS01	Alice Springs	60.31	137	eP	P	17 35 42.9	-0.5
ARA0	ARCESS Array S	61.42	338	eP	P	17 35 51.1	+0.8
ARCES	ARCESS Array B	61.42	338	P	P	17 35 51.1	+0.8
	comp=N,3.1nm,0.9s,baz=91,slow=8.5,SNR=5.3						
NB200	NORSAR Array S	66.92	328	eP	P	17 36 25.1	-1.4
NOA	NORSAR Array B	66.92	328	P	P	17 36 25.1	-1.4
	comp=N,0.5nm,0.7s,baz=84,slow=6.6,SNR=2.7						
GERES	GERESS Array B	66.95	315	P	P	17 36 27.6	+0.7
	comp=N,0.8nm,0.6s,baz=84,slow=5.9,SNR=6.8						
BBOO	Buckleboo	68.29	143	eP	P	17 36 35.5	+0.1
	comp=N,7.4nm,0.9s						
STKA	Stephens Creek	70.88	138	P	P	17 36 51.3	-0.1
	comp=N,1.4nm,0.6s,baz=320,slow=7.4,SNR=3.7						
STKA	Stephens Creek	70.88	138	eP	P	17 36 51.3	-0.1
	comp=N,2.0nm,1.5s						
ILAR	Eielson Array	81.20	22	P	P	17 37 48.3	-1.4
	comp=N,0.5nm,0.6s,baz=301,slow=4.8,SNR=11						
ILB	Eielson Array	81.20	22	eP	P	17 37 48.3	-1.4
KDAK	Kodiak Island	82.75	30	P	P	17 37 56.6	-1.4
	comp=N,11nm,1.1s,baz=0.0,slow=4.0,SNR=5.7						
INK	Inuvik	82.91	16	P	P	17 37 58.5	0.0
	comp=N,2.0nm,0.6s,baz=329,slow=6.1,SNR=8.1						
INK	Inuvik	82.91	16	eP	P	17 37 57.2	-1.4
	comp=N,20nm,1.8s						
BOSA	Boshof	83.50	236	P	P	17 38 02.0	-0.5
	comp=N,2.6nm,0.9s,baz=114,slow=3.2,SNR=3.9						
TOA1	Torodi Ar. Sit	87.02	283	eP	P	17 38 20.8	+0.6
TORD	Torodi Ar. Bea	87.02	283	P	P	17 38 20.8	+0.6
	comp=N,0.7nm,0.9s,baz=57,slow=5.3,SNR=3.1						
YKA	Yellowknife Ar	92.14	13	P	P	17 38 42.5	-0.8
	comp=N,0.2nm,0.5s,baz=330,slow=3.9,SNR=5.8						
TXAR	Lajitas Array	125.60	19	PKP	PKPdf	17 44 35.5	-0.5
	comp=N,0.1nm,0.4s,baz=333,slow=3.0,SNR=2.6						

*IDC **02** 17:27:38.7±0.7, 55°.00N×165°.73E, h0^{km}, mb3.7/16, mb1 4.0/18, mb1mx3.8/50, mbtmp3.8/18, ML3.8/2, MS3.3/2, Ms1 3.3/2, ms1mx2.6/41, Error ellipse: s-maj=23.2km s-min=13.3km az=161.0*
*ISCJB **02** 17:27:40.2±0.3, 54°.95N±0°.03×165°.65E±0°.04, h20^{km}, mb3.8/18, MS3.4/1, Error ellipse: s-maj=4.9km s-min=3.3km az=158.7*
*KRSC **02** 17:27:42.1±2.4, 54°.93N×165°.47E, h82^{km}±28^{km}, ML4.3*
*NEIC **02** 17:27:43.0±1.9, 54°.99N×165°.73E, h28^{km}±14^{km}, mb4.6/3, Error ellipse: s-maj=9.3km s-min=4.5km az=159.0*
*MOS **02** 17:27:44.6±0.8, 54°.96N×165°.33E, h78^{km}, mb4.7/1, Error ellipse: s-maj=8.4km s-min=6.9km az=147.9*
ISC 02 17:27:41.5±0.6**, 54°.91N**±0°.04×**165°.67E**±0°.06**, h20**^{km}**, n100,** σ1^{s}**40**/132**, mb3.8**/18**, 1D, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	2.08	310	eP	Pn	17 28 13.2	-2.0
KBTR				eS	Sn	17 28 36.7	-3.7
KBTR	Krutoberegovo	2.08	310	PN	Pn	17 28 13.2	-2.0
KBTR				S	Sn	17 28 36.7	-3.7
KBG	Krutoberegovo	2.16	310	eP	Pn	17 28 16.7	+0.5
KBG				eS	Sn	17 28 41.4	-0.9
KBG	Krutoberegovo	2.16	310	PN	Pn	17 28 16.7	+0.5
KBG				S	Sn	17 28 41.4	-0.9
MKZ	Mys Kozlova	2.31	263	eP	Pn	17 28 18.6	+0.2
MKZ				eS	Sn	17 28 45.1	-1.2
MKZ	Mys Kozlova	2.31	263	PN	Pn	17 28 18.6	+0.2
MKZ				S	Sn	17 28 45.1	-1.2
SMKR	Semkarok	2.91	307	eP	Pn	17 28 26.8	+0.1
SMKR				eS	Sn	17 28 59.3	-1.7
SMKR	Semkarok	2.91	307	PN	Pn	17 28 26.8	+0.1
SMKR				S	Sn	17 28 59.3	-1.7
ZLN	Zelenaya	2.98	294	eP	Pn	17 28 27.0	-0.8
ZLN	Zelenaya	2.98	294	PN	Pn	17 28 27.0	-0.8
BZGR	Bezymyannyi-Gr	3.02	292	eP	Pn	17 28 29.2	+1.0
BZGR	Bezymyannyi-Gr	3.02	292	PN	Pn	17 28 29.2	+1.0
BDR	Baidarnaya	3.02	305	eP	Pn	17 28 29.4	+1.2
BDR	Baidarnaya	3.02	305	PN	Pn	17 28 29.4	+1.2
TUMD	Tumrok D	3.05	278	eP	Pn	17 28 29.4	+0.8
TUMD				eS	Sn	17 29 03.8	-0.6
CIRR	Tsirk	3.05	295	eP	Pn	17 28 29.8	+1.1
CIRR	Tsirk	3.05	295	PN	Pn	17 28 29.8	+1.1
SRKR	Sorokina	3.08	306	eP	Pn	17 28 31.7	+2.6
SRKR	Sorokina	3.08	306	PN	Pn	17 28 31.7	+2.6
KZV	Kizimen	3.10	276	eP	Pn	17 28 29.6	+0.1
KZV	Kizimen	3.10	276	PN	Pn	17 28 29.6	+0.1
KLY	Klyuchi	3.17	298	eP	Pn	17 28 31.2	+1.0
KLY				eS	Sn	17 29 05.9	-1.6
KLY	Klyuchi	3.17	298	PN	Pn	17 28 31.2	+1.0
KLY				S	Sn	17 29 05.9	-1.6
KRSR	Krestovskiy	3.18	296	eS	Sn	17 29 08.6	+0.8
TUMR	Tumrok	3.20	279	eP	Pn	17 28 32.2	+1.5
TUMR	Tumrok	3.20	279	PN	Pn	17 28 29.4	-1.3
TUMR				S	Sn	17 29 03.8	-4.4
KII	Karymskiy	3.74	259	eP	Pn	17 28 39.1	+1.0
KII	Karymskiy	3.74	259	PN	Pn	17 28 39.1	+1.0
SPN	Mys Shipunski	3.80	244	eP	Pn	17 28 38.6	-0.2
SPN				eS	Sn	17 29 20.2	-2.7
SPN	Mys Shipunski	3.80	244	PN	Pn	17 28 38.6	-0.2
SPN				S	Sn	17 29 20.2	-2.7
ESO	Esso	4.10	287	eP	Pn	17 28 44.7	+1.7
ESO	Esso	4.10	287	PN	Pn	17 28 44.7	+1.7
NLC	Nalytchevo	4.12	248	eP	Pn	17 28 43.5	+0.3
NLC	Nalytchevo	4.12	248	PN	Pn	17 28 43.5	+0.3
SDLR	Sedlovina	4.32	250	eP	Pn	17 28 47.0	+0.9
SDLR				eS	Sn	17 29 34.8	-1.1
SDLR	Sedlovina	4.32	250	PN	Pn	17 28 47.0	+0.9
SDLR				S	Sn	17 29 34.8	-1.1
SMAR	Somma	4.37	251	eP	Pn	17 28 47.7	+0.8
SMAR	Somma	4.37	251	PN	Pn	17 28 47.7	+0.8
UGLR	Uglovaya	4.38	250	eP	Pn	17 28 48.0	+1.0
UGLR				eS	Sn	17 29 36.4	-1.0
UGLR	Uglovaya	4.38	250	PN	Pn	17 28 48.0	+1.0
UGLR				S	Sn	17 29 36.4	-1.0
AVH	Avacha	4.41	251	eP	Pn	17 28 48.4	+1.2
AVH				eS	Sn	17 29 35.5	-2.4
AVH	Avacha	4.41	251	PN	Pn	17 28 48.4	+1.2
AVH				S	Sn	17 29 35.5	-2.4
KRX	Arik	4.42	252	eP	Pn	17 28 48.6	+1.2
KRX	Arik	4.42	252	PN	Pn	17 28 48.6	+1.2
KOK	Koryaka	4.45	251	eP	Pn	17 28 49.0	+1.1
KOK	Koryaka	4.45	251	PN	Pn	17 28 49.0	+1.1
DALK	Dalny	4.50	248	eP	Pn	17 28 48.8	+0.4
DALK				eS	Sn	17 29 37.5	-2.6
DALK	Dalny	4.50	248	PN	Pn	17 28 48.8	+0.4
DALK				S	Sn	17 29 37.5	-2.6
PET	Petropavlovsk	4.56	248	eP	Pn	17 28 50.4	+1.2
PET	Petropavlovsk	4.56	248⇓	iPN	Pn	17 28 50.2	+1.0
PET				eS	Sn	17 29 39.3	-2.2
PET				pmax	pmax		
	comp=Z,59nm,0.6s						
PET				smax	smax		
	comp=E,118nm,0.6s						
PET				smax	smax		
	comp=N,159nm,0.7s						
OSSR	Ossora	4.58	343	eP	Pn	17 28 49.4	-0.1
OSSR				eS	Sn	17 29 41.1	-0.9
OSSR	Ossora	4.58	343	PN	Pn	17 28 49.4	-0.1
OSSR				S	Sn	17 29 41.1	-0.9
GNL	Ganaly	4.69	258	eP	Pn	17 28 53.0	+1.8
GNL	Ganaly	4.69	258	PN	Pn	17 28 53.0	+1.8
KRMR	Karymshinskiy	4.93	248	eP	Pn	17 28 55.3	+1.0
KRMR				eS	Sn	17 29 50.2	-0.5
KRMR	Karymshinskiy	4.93	248	PN	Pn	17 28 55.3	+1.0
KRMR				S	Sn	17 29 50.2	-0.5
RUS	Russkaya	4.93	243	eP	Pn	17 28 54.9	+0.6
RUS				eS	Sn	17 29 48.6	-2.1
RUS	Russkaya	4.93	243	PN	Pn	17 28 54.9	+0.6
RUS				S	Sn	17 29 48.6	-2.1
PEA1	Petropavlovsk-	5.04	252	ePn	Pn	17 28 57.4	+1.6
PEA1				eSn	Sn	17 29 54.4	+1.0
PEA0B	Petropavlovsk-	5.04	252	ePn	Pn	17 28 57.6	+1.7
PETK	Petropavlovsk-	5.04	252	Pn	Pn	17 28 57.4	+1.5
	comp=N,13nm,0.3s,baz=77,slow=16,SNR=174						
PETK				Sn	Sn	17 29 54.4	+1.0
	comp=N,2.4nm,0.3s,baz=84,slow=19,SNR=3.2						
PETK				LR	LR	17 31 09.1	
	comp=N,168nm,19.1s,baz=74,slow=41						
MTVR	Mutnovka	5.07	244	eP	Pn	17 28 57.6	+1.1
MTVR	Mutnovka	5.07	244	PN	Pn	17 28 57.6	+1.1
KDTR	Khodutka, Kamc	5.51	239	eP	Pn	17 29 02.5	+0.2
KDTR				eS	Sn	17 30 00.8	-4.2
KDTR	Khodutka, Kamc	5.51	239	PN	Pn	17 29 02.5	+0.2
KDTR				S	Sn	17 30 00.8	-4.2
ASAJ	Asahikawa	18.38	244	P	Pn	17 31 55.6	+0.7
	comp=N,0.8nm,0.3s,baz=71,slow=15,SNR=7.2						
IM3	Indian Mountai	22.42	44	eP	P	17 32 38.6	+0.1
KDAK	Kodiak Island	23.04	66	P	P	17 32 44.1	-1.0
	comp=N,11nm,0.9s,baz=315,slow=8.6,SNR=4.2						
WRH	Wood River Hil	24.65	49	eP	P	17 33 00.8	+0.5
	comp=N,30nm,1.6s						
ILAR	Eielson Array	25.17	48	P	P	17 33 04.3	-0.7
	comp=N,3.5nm,0.7s,baz=247,slow=8.2,SNR=39						
ILB	Eielson Array	25.17	48	eP	P	17 33 04.3	-0.7
INK	Inuvik	30.39	40	P	P	17 33 51.3	-0.3
	comp=N,1.3nm,0.5s,baz=288,slow=8.0,SNR=8.6						
INK	Inuvik	30.39	40	eP	P	17 33 51.3	-0.3
	comp=N,9.8nm,1.6s						
INK	Inuvik	30.39	40	eP	P	17 33 51.3	-0.3
INK				pmax	pmax		
	comp=Z,10.0nm,1.6s						
JNU	Nakatsue	32.66	243	LR	LR	17 48 32.8	
	comp=Z,70nm,18.2s,baz=294,slow=38						
SONA0	Songino Array	36.67	284	eP	P	17 34 48.4	+1.7
SONM	Songino Array	36.67	284	P	P	17 34 48.4	+1.7
	comp=Z,0.4nm,0.6s,baz=48,slow=9.1,SNR=4.1						
YKA	Yellowknife Ar	39.56	46	P	P	17 35 09.6	-1.1
	comp=Z,0.8nm,0.7s,baz=297,slow=8.0,SNR=14						
YKB5	Yellowknife Ar	39.56	46	eP	P	17 35 10.5	-0.2
MK32	Makanchi Array	50.29	297	eP	P	17 36 35.9	-0.3
MKAR	Makanchi Array	50.29	297	P	P	17 36 35.9	-0.3
	comp=Z,0.3nm,0.7s,baz=46,slow=8.3,SNR=4.2						
NV01	Mina Array Sit	52.05	75	eP	P	17 36 50.5	+0.7
NVAR	Mina Array Bea	52.05	75	P	P	17 36 50.6	+0.7
	comp=Z,1.0nm,0.7s,baz=304,slow=6.0,SNR=8.3						
PDAR	Pinedale Array	53.76	65	P	P	17 37 02.5	+0.1
	comp=Z,0.5nm,0.8s,baz=297,slow=2.9,SNR=4.1						
FIA0	FINESS Array S	59.68	339	eP	P	17 37 43.9	0.0
FIA0	FINESS Array S	59.68	339	eP	P	17 37 43.9	0.0
FINES	FINESS Array B	59.68	339	P	P	17 37 43.9	0.0
	comp=Z,1.6nm,0.7s,baz=34,slow=10,SNR=3.8						
NB2	NORSAR Subarra	62.63	346	P	P	17 38 03.3	-0.6
	comp=Z,0.8nm,0.6s,baz=16,slow=6.9						
NB200	NORSAR Array S	62.63	346	eP	P	17 38 03.7	-0.2
NOA	NORSAR Array B	62.63	346	P	P	17 38 03.7	-0.2
	comp=Z,0.8nm,0.6s,baz=18,slow=6.9,SNR=5.7						
LTX	Lajitas	66.91	72	eP	P	17 38 32.7	+0.3
LTX	Lajitas	66.91	72	eP	P	17 38 32.7	+0.3
TXAR	Lajitas Array	66.91	72	P	P	17 38 32.7	+0.3
	comp=Z,0.8nm,0.6s,baz=302,slow=3.9,SNR=5.1						
AKASG	Malin Array Be	68.65	332	P	P	17 38 42.7	-0.1
	comp=Z,0.1nm,0.3s,baz=33,slow=7.4,SNR=2.3						
GERES	GERESS Array B	73.96	341	P	P	17 39 15.2	+0.1
	comp=Z,0.1nm,0.3s,baz=24,slow=9.9,SNR=2.2						
BR101	Keskin Array S	77.20	324	eP	P	17 39 33.8	0.0
BRTR	Keskin Array B	77.20	324	P	P	17 39 33.8	0.0
	comp=Z,0.3nm,0.8s,baz=5.7,slow=1.4,SNR=2.0						
WR1	Warramunga Arr	79.21	210	eP	P	17 39 45.2	+0.3
	comp=Z,18nm,1.7s						
WRA	Warramunga Arr	79.21	210	P	P	17 39 45.2	+0.3
	comp=Z,0.4nm,0.9s,baz=26,slow=6.3,SNR=2.8						
ASAR	Alice Springs	82.87	209	P	P	17 40 05.5	+1.2
	comp=Z,0.7nm,1.1s,baz=15,slow=5.5,SNR=4.1						

*IDC **02** 17:31:09.4±1.2, 35°.78S×73°.36W, h0^{km}, mb3.9/4, mb1 3.9/6, mb1mx3.8/28, mbtmp3.8/6, ML3.6/2, MS3.0/1, Ms1 3.0/1, ms1mx2.7/25, Error ellipse: s-maj=41.7km s-min=18.3km az=82.0*
*ISCJB **02** 17:31:11.6±0.8, 35°.80S±0°.03×73°.5W±0°.1, h33^{km}, mb3.8/4, Error ellipse: s-maj=11.7km s-min=4.3km az=4.2*
*GUC **02** 17:31:12.5±0.6, 35°.84S×73°.46W, h33^{km}±4^{km}, ML3.8*
ISC 02 17:31:13.6±1.1**, 35°.84S**±0°.05×**73°.5W**±0°.1**, h35**^{km}**, n25,** σ1^{s}**56**/28**, mb4.0**/4**, 1C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCSP	San Pedro de C	1.06	161	eP	Pn	17 31 30.4	-1.5
CCSP				i S	Sn	17 31 43.9	-1.6
CCSP				IAML		17 31 54.4	
	comp=N,4μm,0.4s						
CCHI	Chillan	1.41	123	eP	Pn	17 31 35.5	-1.2
CCHI				eS	Sn	17 31 52.3	-1.7
CCHI				IAML		17 32 08.8	
	comp=N,3μm,0.5s						
GO05	Huala	1.56	58⇑	eP	Pn	17 31 35.7	-3.0
GO05				i S	Sn	17 32 00.7	+2.9
GO05				IAML		17 32 03.4	
	comp=N,845nm,0.3s						
TMU	Temuco	2.98	166	i S	Sn	17 32 33.0	+0.1
LMEL	Las Melosas	3.39	55	eP	Pn	17 32 03.6	-0.6
LMEL				i S	Sn	17 32 56.7	+13
LMEL				IAML		17 33 03.2	
	comp=N,428nm,0.8s						
ROC1	El Roble	3.54	37	eP	Pn	17 32 04.2	-2.0
ROC1				eS	Sn	17 32 45.9	-1.2
ROCH	El Roble	3.54	37	eP	Pn	17 32 04.0	-2.3
ROCH				IAML		17 33 16.6	
	comp=N,175nm,0.4s						
GO06	Curarrehue	4.08	157	eP	Pn	17 32 13.3	-0.3
RFA	San Rafael	4.28	77	eP	Pn	17 32 17.2	+0.8
RFA				IAML		17 33 35.6	
	comp=Z,58nm,0.7s						
AUSP	Uspallata	4.99	45	eP	Pn	17 32 25.9	-0.4
ASAL	Salagasta	5.07	52	eP	Pn	17 32 28.0	+0.8
RTLS	Leoncito	5.36	42	eP	Pn	17 32 30.8	-0.5
RTLS				IAML		17 34 05.7	
	comp=Z,26nm,0.7s						
PLCA	Paso Flores	5.42	155	Pn	Pn	17 32 32.1	+0.2
	comp=Z,0.4nm,0.3s,baz=341,slow=12,SNR=14						
PLCA				Lg	Lg	17 34 00.8	
	comp=Z,0.9nm,0.3s,baz=350,slow=6.1,SNR=2.9						
PLCA				LR	LR	17 34 41.0	
	comp=Z,153nm,20.0s,baz=281,slow=39						
RTCV	Cerro Valdivia	5.75	48	eP	Pn	17 32 35.2	-1.3
CFA	Coronel Fontan	6.11	48	eP	Pn	17 32 40.4	-1.1
RTLL	Cerro Villicun	6.17	45	eP	Pn	17 32 40.6	-1.7
ACCO	Cerro Coronel	6.44	37	eP	Pn	17 32 44.5	-1.7
AMOG	MOGNA	6.46	42	eP	Pn	17 32 44.3	-1.9
AROD	Rodeo	6.61	32	eP	Pn	17 32 47.8	-0.8
AGUA	GUANDACOL	7.63	35	eP	Pn	17 33 00.7	-1.7
LPAZ	La Paz	20.06	15	P	Pn	17 35 44.8	-1.7
	comp=Z,0.1nm,0.3s,baz=174,slow=9.2,SNR=4.6						
SIV	San Ignacio	22.69	33	P	P	17 36 11.2	-0.9
	comp=Z,3.9nm,1.1s,baz=236,slow=12,SNR=6.3						
QSPA	South Pole Qui	54.40	180	P	P	17 40 38.6	+1.7
	comp=Z,2.3nm,0.9s,baz=139,slow=5.7,SNR=5.8						
TXAR	Lajitas Array	70.76	332	P	P	17 42 27.4	+1.1
	comp=Z,0.2nm,0.6s,baz=156,slow=9.9,SNR=2.1						
DBIC	Dimbokro	76.93	72	P	P	17 43 02.9	+0.1
	comp=Z,2.8nm,0.8s,baz=207,slow=9.0,SNR=3.7						

*ISCJB **02** 17:40:58.4±0.5, 27°.48N±0°.04×104°.10E±0°.05, h10^{km}, mb3.9/8, Error ellipse: s-maj=6.9km s-min=5.5km az=11.3*
*BJI **02** 17:41:01.5, 27°.51N×104°.03E, h7^{km}, ML3.6/16*
*IDC **02** 17:41:06.7±3.9, 27°.51N×103°.94E, h61^{km}±39^{km}, mb3.6/9, mb1 3.7/10, mb1mx3.5/51, mbtmp3.8/10, ML3.7/1, Error ellipse: s-maj=29.9km s-min=15.8km az=77.0*
ISC 02 17:41:02.1±0.7**, 27°.53N**±0°.04×**104°.06E**±0°.05**, h10**^{km}**, n15,** σ1^{s}**55**/20**, mb4.0**/8**, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GYA	Guiyang	2.56	114	Pn	Pn	17 41 45.3	+1.5
GYA				Pg	Pb	17 41 48.2	0.0
GYA				Sn	Sn	17 42 16.9	+1.9
GYA				Sg	Sb	17 42 20.9	+1.1
GYA				smax	smax		
	comp=N,330nm,0.6s						
GYA				smax	smax		
	comp=E,480nm,0.6s						
KMI	Kunming	2.67	207	Pg	Pn	17 41 46.1	+0.6
KMI				Sg	Sb	17 42 25.2	+2.0
CD2	Chengdu	3.38	356	Pg	Pb	17 42 04.6	+2.4
CD2				Sg	Sb	17 42 46.9	+3.5
CD2				smax	smax		
	comp=N,540nm,0.7s						
CD2				smax	smax		
	comp=E,670nm,0.9s						
XAN	Xi'an	7.72	32	Pn	Pn	17 42 52.9	-1.8
XAN				Sn	Sn	17 44 22.2	0.0
XAN				Sg	Sg	17 45 09.4	-0.5
XAN				smax	smax		
	comp=N,70nm,1.0s						
XAN				smax	smax		
	comp=E,49nm,1.1s						
CMAR	Chiang Mai Arr	10.18	209	P	Pn	17 43 29.4	+1.0
	0.2nm,0.3s,baz=18,slow=12,SNR=14						
SONM	Songino Array	20.35	5	P	P	17 45 38.4	-0.4
	2.1nm,0.7s,baz=189,slow=12,SNR=7.2						
WMQ	Urumqi	20.94	325	eP	P	17 45 44.7	-0.4
KSRS	Korea Array	22.38	58	P	P	17 45 60.0	-0.6
	1.2nm,0.7s,baz=254,slow=11,SNR=4.3						
USRK	Ussuriysk Ar.	27.90	46	P	P	17 46 52.2	-0.1
	1.3nm,0.7s,baz=250,slow=10,SNR=2.6						
ZALV	Zalesovo Beam	29.95	337	P	P	17 47 09.4	-0.9
	1.8nm,0.7s,baz=154,slow=8.8,SNR=9.1						
WRA	Warramunga Arr	55.56	145	P	P	17 50 36.3	-1.7
	1.1nm,0.6s,baz=334,slow=8.4,SNR=23						
ASAR	Alice Springs	58.48	148	P	P	17 50 57.5	-1.2
	0.7nm,0.5s,baz=324,slow=6.7,SNR=13						
ARCES	ARCESS Array B	60.50	337	P	P	17 51 08.5	-3.5
	2.0nm,0.9s,baz=87,slow=7.2,SNR=6.1						
CTA	Charters Tower	62.52	135	P	P	17 51 23.6	-2.7
	1.2nm,0.5s,baz=256,slow=4.2,SNR=3.3						
YKA	Yellowknife Ar	85.11	17	P	P	17 53 36.9	-1.1
	0.3nm,0.8s,baz=327,slow=5.2,SNR=4.5						

*BJI **02** 17:42:15.1, 29°.47N×81°.13E, h10^{km}, mb4.2/13, mB4.6/6, Ms4.0/10, Ms7 3.8/8*
*ISCJB **02** 17:42:16.4±0.1, 29°.44N±0°.02×81°.18E±0°.02, h17^{km}, mb4.6/109, MS3.4/10, Error ellipse: s-maj=3.7km s-min=2.1km az=31.4*
*NDI **02** 17:42:16.7±2.7, 29°.29N×81°.22E, h10^{km}±14^{km}, ML4.6, mb4.7(NEIC)*
*NEIC **02** 17:42:16.7±0.2, 29°.37N×81°.20E, h10^{km}, mb4.7/26, Error ellipse: s-maj=5.9km s-min=4.3km az=214.0*
*MOS **02** 17:42:17.3±1.0, 29°.42N×81°.20E, h25^{km}, mb4.9/57, Error ellipse: s-maj=7.3km s-min=3.5km az=120.3*
*DMN **02** 17:42:18.4±0.3, 29°.37N×81°.04E, h10^{km}, Ml4.8/6, Error ellipse: s-maj=15.2km s-min=5.9km az=23.0*
*IDC **02** 17:42:19.2±2.6, 29°.30N×81°.18E, h28^{km}±17^{km}, mb4.2/24, mb1 4.4/27, mb1mx4.2/47, mbtmp4.4/27, ML4.4/3, MS3.4/12, Ms1 3.4/12, ms1mx3.2/36, Error ellipse: s-maj=12.8km s-min=10.9km az=57.0*
*NNC **02** 17:42:23.4±4.0, 29°.66N×80°.87E, h36^{km}±33^{km}, mb4.6, Error ellipse: s-maj=37.9km s-min=22.2km az=70.0*
ISC 02 17:42:17.6±0.3**, 29°.38N**±0°.04×**81°.15E**±0°.03**, h17**^{km}**, n328,** σ1^{s}**88**/369**, mb4.7**/112**, MS3.4**/10**, 32C-12D, Nepal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PYUN	Piuthan	2.06	128	ePn	Pn	17 42 52.2	+0.5
PYUN				eSn	Sn	17 43 17.4	+0.3
	983nm,0.4s						
DANN	Dangsing	2.51	114	ePn	Pn	17 42 59.1	+1.1
DANN				eSn	Sn	17 43 28.3	-0.1
	2μm,0.6s						
KOLN	Koldanda	2.69	126	ePn	Pn	17 43 00.9	+0.6
DDI	Dehra Dun	2.84	290	eP	Pn	17 43 04.7	+2.4
DDI				eS	Sn	17 43 36.7	+0.5
DDI				IAML		17 43 53.4	
	comp=E,3μm,1.2s						
DDI				IAML		17 43 54.0	
GKN	Gorkha	3.36	113	ePn	Pn	17 43 10.5	+1.0
NDI	New Delhi	3.51	260	eP	Pn	17 43 12.0	+0.5
NDI				eS	Sn	17 43 52.0	-0.6
SMLA	Simla	3.86	298	eP	Pn	17 43 17.9	+1.8
SMLA				eS	Sn	17 44 02.1	+1.0
SMLA				IAML		17 44 24.9	
	comp=E,2μm,0.6s						
SMLA				IAML		17 44 26.9	
	comp=N,15μm,1.0s						
DMN	Daman	3.91	116	ePn	Pn	17 43 18.1	+1.0
DMN				eSn	Sn	17 44 02.4	-0.3
	comp=N,2μm,1.2s						
KKN	Kakani	3.96	113	ePn	Pn	17 43 18.3	+0.4
PKIN	Phulchoki	4.15	115	ePn	Pn	17 43 20.7	+0.2
PKIN				eSn	Sn	17 44 07.5	-1.3
PKI	Pulchoki	4.16	115	ePn	Pn	17 43 20.9	+0.2
PKI				eSn	Sn	17 44 07.9	-1.3
GUN	Gumba	4.41	108	ePn	Pn	17 43 25.1	+1.0
GUN				eSn	Sn	17 44 13.5	-1.8
	comp=N,462nm,0.5s						
JIRN	Jiri	4.76	110	ePn	Pn	17 43 30.0	+1.1
JIRN				eSn	Sn	17 44 22.5	-1.4
	comp=N,331nm,0.3s						
DHRM	DHARAMSHALA	5.05	306	eP	Pn	17 43 35.1	+2.2
DHRM				ex	Sn	17 44 26.2	-4.9
DHRM				IAML		17 45 06.4	
	comp=N,971nm,0.2s						
DHRM				IAML		17 45 14.6	
	comp=E,835nm,0.4s						
RAMN	Ramite	5.39	115	ePn	Pn	17 43 37.8	+0.3
RAMN				eSn	Sn	17 44 36.7	-2.6
	comp=E,236nm,0.3s						
JBP	Jabalpur	6.28	190	eP	Pn	17 43 54.1	+4.6
JBP				eS	Sn	17 44 46.1	-15
JBP	Jabalpur	6.28	190	eP	Pn	17 43 49.6	+0.1
BHPL	Bhopal	6.97	209	eP	Pn	17 43 57.6	-1.4
BHPL				eS	Sn	17 45 12.0	-5.9
BOK	Bokaro	7.00	142	eP	Pn	17 43 57.5	-1.8
BOK				eS	Sn	17 45 10.7	-7.8
BOK				IAML		17 45 59.9	
	comp=N,289nm,1.0s						
CHCP	Chirah Chowk	7.96	304	P	Pn	17 44 13.6	+0.9
NIL	Nilore	7.97	304	ePn	Pn	17 44 13.5	+0.7
NIL	Nilore	7.97	304	eP	Pn	17 44 13.5	+0.7
NGP	Nagpur	8.41	194⇑	iP	Pn	17 44 17.4	-1.5
NGP				eS	Sn	17 45 46.9	-6.6
LSA	Lhasa	8.72	85	ePn	Pn	17 44 23.1	-0.3
LSA	Lhasa	8.72	85	eP	Pn	17 44 23.1	-0.3
THW	Thamme Wali	8.75	295	P	Pn	17 44 23.1	-0.4
THW				S	Sn	17 46 00.0	-1.8
CEP	Cherat	9.04	302	P	Pn	17 44 28.2	+0.7
SHL	Shillong	10.26	109	ePn	Pn	17 44 41.2	-3.1
SHL	Shillong	10.26	109	eP	Pn	17 44 41.2	-3.1
SHL	Shillong	10.26	109	eP	Pn	17 44 41.0	-3.3
SHL				eS	Sn	17 46 28.0	-11
KSH	Kashi	10.97	338	P	Pn	17 44 50.4	-3.6
KSH				pP		17 44 54.3	
KSH				S	Sn	17 46 47.4	-9.0
KSH				SS	SnSn	17 47 04.1	-4.4
KSH				PcP	PcP	17 50 57.7	+5.3
KSH				LR	LR		
	comp=N,1μm,10.9s						
KSH				LR	LR		
	comp=N,730nm,6.1s						
KSH				LR	LR		
	comp=N,1μm,9.0s						
KBL	Kabul	11.49	300	ePn	Pn	17 45 01.2	+0.1
KBL	Kabul	11.49	300	eP	Pn	17 45 01.2	+0.1
BRDH	Bariadhala	11.56	123	LR	LR	17 49 57.6	
	comp=N,200nm,18.0s,baz=324,slow=40						
BHJ	Bhuj	11.97	242	ex	Pn	17 45 03.6	-4.0
HYB	Hyderabad	12.14	192	i P	Pn	17 45 08.0	-2.0
HYB				e		17 47 13.0	
HYB				eS	Sn	17 47 28.0	+2.9
HYB	Hyderabad	12.14	192	eP	Pn	17 45 07.4	-2.6
SFK	Sufi-Kurgan	12.32	331	⇑P	Pn	17 45 12.7	+0.2
	comp=N,3.4nm,0.4s						
SFK				⇓S	Sn	17 47 25.4	-4.2
	comp=N,28nm,0.9s						
SFK	Sufi-Kurgan	12.32	331	P	Pn	17 45 12.7	+0.2
SFK				S	Sn	17 47 25.4	-4.2
SFK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
SFK				smax	smax		
	comp=N,27nm,0.9s						
POO	Poona	12.69	213	eP	Pn	17 45 13.9	-3.6
NRN	Naryn	12.73	342	ePn	Pn	17 45 18.0	-0.2
NRN	Naryn	12.73	342	eP	Pn	17 45 18.0	-0.2
KDJ	Kajisay	13.12	347	ePn	Pn	17 45 24.5	+1.2
KDJ	Kajisay	13.12	347	eP	Pn	17 45 24.5	+1.2
PRZ	Przheval'sk	13.26	351	ePn	Pn	17 45 25.6	+0.3
PRZ	Przheval'sk	13.26	351	eP	Pn	17 45 25.6	+0.3
BTK	Batken	13.61	324	ePn	Pn	17 45 28.3	-1.7
BTK	Batken	13.61	324	eP	Pn	17 45 28.3	-1.7
ARSB	Arslanbob	13.64	333	ePn	Pn	17 45 28.3	-2.2
PDGK	Podgornoye	13.98	355	⇓P	Pn	17 45 33.5	-1.6
	comp=N,13nm,0.6s						
PDGK				⇓S	Sn	17 48 05.0	-5.0
	comp=N,6.5nm,0.6s						
PDGK	Podgornoye	13.98	355	P	Pn	17 45 33.5	-1.6
PDGK				S	Sn	17 48 05.0	-5.0
PDGK				pmax	pmax		

comp=Z,13nm,0.6s
PDGK smax smax
comp=Z,6.0nm,0.6s
MDOK Medeo 14.14 348 ⇑P **Pn** **17 45 36.7 -0.6**
comp=Z,9.2nm,0.6s
MDOK S **Sn** **17 48 09.5 -4.4**
comp=Z,9.7nm,1.0s
TKM2 Tokmak 2 14.23 343 ⇑P **Pn** **17 45 38.4 -0.1**
comp=Z,24nm,1.2s
TKM2 ⇓S **Sn** **17 48 13.1 -3.0**
comp=Z,10nm,1.1s
TKM2 Tokmak 2 14.23 343 P **Pn** **17 45 38.4 -0.1**
TKM2 S **Sn** **17 48 13.7 -2.4**
TKM2 pmax pmax
comp=Z,24nm,1.2s
TKM2 smax smax
comp=Z,10.0nm,1.1s
AAK Ala-Archa 14.27 340 Pn **Pn** **17 45 38.4 -0.7**
comp=Z,1.7nm,0.3s,baz=171,slow=12,SNR=30
AAK Sn **Sn** **17 48 12.1 -5.0**
comp=Z,0.1nm,0.3s,baz=180,slow=20,SNR=2.9
AAK LR LR 17 51 38.5
comp=Z,224nm,19.8s,baz=142,slow=39
AAK Ala-Archa 14.27 340 ⇓P **Pn** **17 45 38.3 -0.8**
comp=Z,19nm,0.9s
AAK S **Sn** **17 48 11.7 -5.4**
comp=Z,8.6nm,0.8s
AAK Ala-Archa 14.27 340 *i* P **Pn** **17 45 39.0 -0.1**
SNR=19
AAK Ala-Archa 14.27 340 *ce*P **Pn** **17 45 37.7 -1.4**
AAK pmax pmax
comp=Z,25nm,1.3s
FRU1 Bishkek 14.39 340 *e*Pn **Pn** **17 45 41.1 +0.5**
FRU1 Bishkek 14.39 340 *e*P **Pn** **17 45 41.1 +0.5**
FRU Bishkek 14.42 340 *e*P **Pn** **17 45 39.0 -1.9**
GOA Goa 15.38 208 *e*P **Pn** **17 45 54.0 0.0**
KK31 Karatay Array 16.14 331 *e*Pn **Pn** **17 45 59.8 -3.9**
KK31 Karatay Array 16.14 331 ⇑P **Pn** **17 46 00.1 -3.6**
comp=Z,7.1nm,0.6s,baz=140,slow=12,SNR=41
KK31 ⇓S **Sn** **17 48 58.2 -4.1**
comp=Z,5.9nm,0.6s,baz=148,slow=20,SNR=8.2
KK31 Karatay Array 16.14 331 *e*P **Pn** **17 45 59.8 -3.9**
KKAR Karatay Array 16.14 331 *e*Pn **Pn** **17 45 59.8 -3.9**
KKAR Karatay Array 16.14 331 *e*P **Pn** **17 45 59.8 -3.9**
MK01 Makanchi Array 17.38 3 *e*Pn **Pn** **17 46 18.1 -1.3**
MK31 Makanchi Array 17.41 3 *e*Pn **Pn** **17 46 18.8 -0.9**
MK31 Makanchi Array 17.41 3 ⇑P **P** **17 46 21.5 +0.6**
comp=Z,22nm,0.8s,baz=180,slow=12,SNR=134
MK31 Makanchi Array 17.41 3 *e*P **Pn** **17 46 18.8 -0.9**
MK32 Makanchi Array 17.41 3 *e*Pn **Pn** **17 46 19.5 -0.2**
MK32 *e*Sn **Sn** **17 49 27.9 -5.0**
MKAR Makanchi Array 17.41 3 P **Pn** **17 46 19.5 -0.2**
comp=Z,1.4nm,0.3s,baz=183,slow=11,SNR=66
MKAR S **Sn** **17 49 27.9 -5.0**
comp=Z,0.1nm,0.3s,baz=186,slow=25,SNR=4.6
MKAR LR LR 17 54 03.8
comp=Z,130nm,20.2s,baz=145,slow=40
MKAR Makanchi Array 17.41 3 *e*Pn **Pn** **17 46 18.8 -0.9**
comp=Z,101nm,0.7s
MKAR S **Sn** **17 49 27.9 -5.0**
MKAR Makanchi Array 17.41 3 *i* P **P** **17 46 21.1 +0.2**
MKAR pmax pmax
comp=Z,11nm,0.6s
MAKZ Makanchi 17.41 2 *e*Pn **Pn** **17 46 19.3 -0.4**
comp=Z,20nm,0.9s
MAKZ Makanchi 17.41 2 ⇑P **P** **17 46 21.1 +0.2**
comp=Z,28nm,1.0s
MAKZ Makanchi 17.41 2 *e*P **Pn** **17 46 19.3 -0.4**
MAKZ pmax pmax
comp=Z,20nm,0.9s
GTA Gaotai 18.34 52 *e*P **Pn** **17 46 29.1 -2.2**
GTA pP pP 17 46 34.0 -2.7
GTA sP sP 17 46 36.3 -2.9
GTA pmax pmax
comp=Z,91nm,6.7s
GTA LR LR
comp=Z,200nm,13.3s
GTA LR LR
comp=Z,110nm,15.9s
CHTO Chiang Mai 19.33 119 *e*P **P** **17 46 42.5 +0.3**
comp=Z,11nm,1.4s
CHTO Chiang Mai 19.33 119 *e*P **P** **17 46 42.5 +0.3**
CHTO pmax pmax
comp=Z,11nm,1.4s
CHTO Chiang Mai 19.33 119 P **Pn** **17 46 46.5 +3.2**
comp=Z,23nm,1.5s
CMMT Chiang Mai 19.33 119 P **Pn** **17 46 46.4 +3.0**
comp=Z,5.1nm,1.0s
CM31 Chiang Mai Arr 19.54 120 *e*P **Pn** **17 46 45.6 -0.2**
CMAR Chiang Mai Arr 19.54 120 P **P** **17 46 44.8 +0.2**
comp=Z,0.5nm,0.3s,baz=311,slow=9.9,SNR=23
CMAR PcP **PcP** **17 51 05.7 +1.0**
baz=292,slow=4.5,SNR=5.2
CMAR ScP **ScP** **17 54 39.1 -0.9**
comp=Z,0.1nm,0.3s,baz=287,slow=3.8,SNR=10
CMAR LR LR 17 56 06.7
comp=Z,63nm,20.2s,baz=278,slow=42
CM01 Chiang Mai Arr 19.57 120 *e*P **P** **17 46 44.9 0.0**
OTUK Ortayu 20.02 343 ⇑P Pn 17 46 50.6 -0.7
comp=Z,16nm,0.9s
OTUK Ortayu 20.02 343 P Pn 17 46 50.6 -0.8
OTUK pmax pmax
comp=Z,16nm,0.9s
NANT Nan 20.70 116 P Pn 17 47 01.1 +1.6
comp=Z,3.1nm,0.9s
DGZ Jazzator, Alta 20.85 12*c i*P Pn 17 47 00.1 -1.1
DGZ pmax pmax
comp=Z,20nm,1.3s
UMPA Umpang Tak 20.91 125 P Pn 17 47 15.0 +13
GEYT Alibeck 20.94 300 P **P** **17 47 00.3 +0.6**
comp=Z,27nm,1.1s,baz=113,slow=11,SNR=50
GYA0B ALIBECK ARRAY 20.94 300 *e*P **P** **17 47 00.3 +0.7**
comp=Z,22nm,0.9s
WSAR Wadi Sarin 21.07 258 P **P** **17 47 02.8 +1.6**
comp=Z,12nm,0.8s,baz=110,slow=8.3,SNR=14
WSAR LR LR 17 55 51.9
comp=Z,38nm,21.7s,baz=124,slow=38
UTTA Uttaradit 21.19 119 P **P** **17 47 07.1 +4.7**
comp=Z,5.9nm,1.0s,comp=Z,41nm
KURBB Kurchatov Arra 21.31 355 P **P** **17 47 03.5 +0.1**
comp=Z,22nm,0.7s,baz=181,slow=10,SNR=198
KURBB PP **PnPn** **17 47 23.3 +0.1**
comp=Z,4.8nm,0.7s,baz=182,slow=9.5,SNR=4.5
KURBB S **S** **17 51 01.9 +2.5**
comp=Z,0.4nm,0.3s,baz=218,slow=5.4,SNR=6.0
KURK Kurchatov 21.39 356 *es*P **PnPn** **17 47 23.3 -1.1**
KURK *e*S **S** **17 51 01.9 +0.8**
KURK Kurchatov 21.39 356 ⇑P **P** **17 47 04.0 -0.4**
comp=Z,28nm,0.6s
KURK Kurchatov 21.39 356*ce*P **P** **17 47 04.6 +0.3**
KURK pmax pmax
comp=Z,36nm,0.7s
UTHA Uthaitani 21.75 125 P **P** **17 47 11.4 +2.9**
comp=Z,4.8nm,1.1s
PALK Pallekele 22.00 181 *i* P P 17 47 25.6 +14
PBKT Sadao Pong 22.22 121 P **P** **17 47 16.3 +2.8**
comp=Z,19nm,1.1s
SRDT SRDT 22.36 128 P **P** **17 47 21.2 +6.2**
comp=Z,10nm,0.8s
MDH Madha 22.43 265 P **P** **17 47 16.3 +0.5**
MSFE Esma-Masafi 22.54 266 P **P** **17 47 17.7 +0.8**
UOSS Minazif 22.61 265 *e*P **P** **17 47 19.3 +1.6**
comp=Z,15nm,1.0s
UOSS Minazif 22.61 265 P **P** **17 47 18.7 +1.1**
ASHO Ashiyiah 22.82 264 *i* P **P** **17 47 22.7 +2.9**
SNR=9.9
NAZ Nazwa, Dubai 23.07 265 P **P** **17 47 24.9 +2.4**
CHAI Chaiyaphum 23.40 120 P **P** **17 47 28.3 +2.5**
comp=Z,5.4nm,1.1s,comp=Z,56nm
ASUD Al Ashush, Dub 23.47 264 P **P** **17 47 29.8 +3.4**
SRAK Srakaew 24.65 124 P P 17 47 47.9 +10
ZAA0 Zalesovo Array 24.69 5 *e*P **P** **17 47 38.5 +0.9**
comp=Z,17nm,0.8s
ZALV Zalesovo Beam 24.69 5 P **P** **17 47 38.1 +0.5**
comp=Z,16nm,0.7s,baz=198,slow=10,SNR=40
ZALV LR LR 17 57 43.5
comp=Z,28nm,18.3s,baz=162,slow=37
ZALV Zalesovo Beam 24.69 5 *e*P **P** **17 47 37.8 +0.2**
ZAA1 Zalesovo Array 24.70 5 *e*P **P** **17 47 38.1 +0.4**
BRVK Borovoye 24.97 344 *e*P **P** **17 47 41.1 +1.0**
comp=Z,7.6nm,0.8s
BRVK Borovoye 24.97 344*c i*P **P** **17 47 40.9 +0.8**
BRVK pmax pmax
comp=Z,10.0nm,0.8s
NVS Novosibirsk 25.49 3 *e*P **P** **17 47 44.3 -0.5**
NVS pmax pmax
comp=N,13nm,1.4s
NVS pmax pmax
comp=E,9.0nm,1.4s
NVS pmax pmax
comp=Z,15nm,1.4s
ABKAR Akbulak array 25.59 327 *e*P **P** **17 47 47.6 +1.8**
SONA0 Songino Array 26.80 40 *e*P **P** **17 47 58.6 +1.6**
SONM Songino Array 26.80 40 P **P** **17 47 58.6 +1.6**
comp=Z,1.9nm,0.9s,baz=231,slow=10,SNR=8.5
SONM PcP **PcP** **17 51 19.9 +0.3**
comp=Z,0.5nm,0.6s,baz=222,slow=1.9,SNR=3.7
SONM ScP **ScP** **17 54 55.3 -3.6**
comp=Z,1.1nm,1.2s,baz=237,slow=3.1,SNR=3.2
SONM LR LR 17 58 51.6
comp=Z,54nm,18.5s,baz=230,slow=37
ZAK Zakamensk 26.80 32 *e*P **P** **17 47 57.4 +0.5**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
SONA1 Songino Array 26.82 40 *e*P **P** **17 47 59.3 +2.2**
ULN Ulaanbaatar 27.19 40*ce*P **P** **17 48 01.0 +0.5**
ULN pmax pmax
comp=Z,13nm,2.8s
AKTO Aktyubinsk 27.31 327 ⇓P **P** **17 48 01.2 -0.1**
comp=Z,3.2nm,0.7s
AKTO Aktyubinsk 27.31 327 P **P** **17 48 01.2 -0.1**
AKTO pmax pmax
comp=Z,3.0nm,0.7s
SVE Sverdlovsk 31.00 338 *e*P **P** **17 48 35.1 +1.1**
SVE pmax pmax
comp=Z,16nm,1.3s
PSI Prapat 31.37 144 LR LR 18 03 13.0
comp=Z,63nm,18.7s,baz=272,slow=40
ARU Arti 31.40 336 *e*P **P** **17 48 39.0 +1.5**
comp=Z,51nm,0.7s
ARU Arti 31.40 336*d i*P **P** **17 48 39.3 +1.8**
ARU 17 49 42.0
ARU S **S** **17 53 47.1 +2.9**
ARU SS **SnSn** **17 55 32.6 +4.3**
ARU pmax pmax
comp=Z,22nm,0.7s
GNI Garni 31.58 300*ce*P **P** **17 48 41.7 +2.2**
GNI pmax pmax
comp=Z,61nm,1.3s
RAYN Ar Rayn 32.36 268 *e*P **P** **17 48 47.6 +1.2**
comp=Z,14nm,1.5s
RAYN Ar Rayn 32.36 268 *i* P **P** **17 48 47.4 +1.0**
SNR=7.6
RAYN Ar Rayn 32.36 268 *e*P **P** **17 48 47.6 +1.2**
RAYN pmax pmax
comp=Z,14nm,1.5s
ZEI Tsey 32.67 304 *e*P **P** **17 48 50.0 +0.9**
ZEI pmax pmax
comp=Z,18nm,1.5s
NCK Nalchik 33.03 306 *i* P **P** **17 48 51.9 -0.2**
NCK pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 33.58 306 P **P** **17 48 57.8 +1.0**
comp=Z,3.1nm,0.8s,baz=115,slow=8.2,SNR=10
NEY Neytrino 33.61 305 *e*P **P** **17 49 01.5 +4.2**
NEY pmax pmax
comp=Z,2.0nm,1.0s
KIV Kislovodsk 33.78 306 *i* P **P** **17 48 59.1 +0.4**
KIV *i* 17 49 08.8
KIV *i* 17 50 12.7
KIV *i* 17 51 38.2
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,66nm,17.0s
VRH Novokhopyorsk 36.53 318 *e*P **P** **17 49 22.4 +0.3**
VRH pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 38.04 317 *e*P **P** **17 49 35.2 +0.2**
VSR pmax pmax
comp=Z,20nm,1.3s
LPSR Galich'ya Gora 38.64 319 *e*P **P** **17 49 40.7 +0.7**
LPSR pmax pmax
comp=Z,20nm,1.0s
KSAR Wonju Array Be 39.50 66 P **P** **17 49 48.1 +0.8**
KSAR Wonju Array Be 39.50 66 P **P** **17 49 48.2 +0.8**
KSRS Korea Array 39.53 66 P **P** **17 49 48.1 +0.5**
comp=Z,2.0nm,0.8s,baz=245,slow=31,SNR=4.3
KSRS LR LR 18 07 40.4
comp=Z,67nm,18.0s,baz=324,slow=38
PRGR Permogore 39.82 334 *e*P **P** **17 49 49.0 -0.6**
PRGR pmax pmax
comp=Z,11nm,0.7s
BR101 Keskin Array S 40.06 298 *e*P **P** **17 49 52.8 +0.6**
BR131 Keskin Array S 40.06 298 *e*P **P** **17 49 53.4 +1.2**
BRTR Keskin Array B 40.06 298 P **P** **17 49 52.8 +0.6**
comp=Z,1.3nm,0.8s,baz=121,slow=9.5,SNR=8.9
BRTR Keskin Array B 40.06 298 *i* P **P** **17 49 53.0 +0.8**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
OBN Obninsk 40.83 322 *i* P **P** **17 49 57.8 -0.3**
OBN *i* 17 50 03.8
OBN *i* 17 51 30.1
OBN *i* 17 51 57.7
OBN pmax pmax
comp=Z,36nm,1.6s
OBN MLR MLR
comp=Z,72nm,15.0s
KLMR Klimovskoe 41.84 331 *e*P **P** **17 50 06.3 -0.1**
KLMR *e* 17 51 42.7
KLMR *e* 17 52 01.9
KLMR pmax pmax
comp=Z,13nm,1.5s
KLMR Klimovskoe 41.84 331 *e*P **P** **17 50 06.4 0.0**
KLMR AMP 17 50 08.1
comp=Z,13nm,1.4s
KLMR *e*PP **PP** **17 51 42.7 -0.4**
KLMR *e*PcP **PcP** **17 52 02.0 0.0**
USRK Ussuriysk Ar. 42.65 55 P **P** **17 50 13.9 +0.8**
comp=Z,2.6nm,0.7s,baz=259,slow=8.5,SNR=6.9
KLR Kul'dur 42.97 48 *i* P **P** **17 50 15.3 -0.4**
AKASG Malin Array Be 44.03 314 P **P** **17 50 24.5 +0.2**
comp=Z,1.4nm,0.6s,baz=76,slow=6.8,SNR=22
AKASG Malin Array Be 44.03 314 *i* P **P** **17 50 24.8 +0.6**
AKASG pmax pmax
comp=Z,8.0nm,0.9s
AKBB Malin Array Si 44.03 314 *e*P **P** **17 50 24.9 +0.7**
comp=Z,7.6nm,0.8s
KIEV Kiev 44.04 314 *e*P **P** **17 50 24.7 +0.4**
comp=Z,6.9nm,0.8s
KIEV Kiev 44.04 314 *i* P **P** **17 50 24.4 +0.1**
SNR=6.8
KIEV Kiev 44.04 314 *e*P **P** **17 50 24.8 +0.5**
KIEV pmax pmax
comp=Z,6.0nm,0.8s
AK11 Malin Array Si 44.06 314 *e*P **P** **17 50 24.8 +0.3**
LEM Lembang 44.10 140 LR LR 18 10 39.2
comp=Z,42nm,18.4s,baz=238,slow=39
CFR Carcaliu 44.24 306 P **P** **17 50 26.6 +0.6**
CFR pmax pmax
comp=Z,6.0nm,1.3s
VRI Vrincioaia 45.25 307 ⇑*i*P **P** **17 50 35.8 +1.7**
VRI Vrincioaia 45.25 307 ⇑P **P** **17 50 35.8 +1.7**
PLOR Plostina 45.30 307 ⇑*i*P **P** **17 50 36.5 +1.9**
PLOR Plostina 45.30 307 ⇑P **P** **17 50 36.5 +1.9**
BIZ Bicaz 45.72 308 ⇑*i*P **P** **17 50 39.3 +1.5**
MLR Muntele Rosu 45.79 306 *e*P **P** **17 50 40.7 +2.2**
comp=Z,28nm,0.9s
MLR Muntele Rosu 45.79 306 ⇓*i*P **P** **17 50 40.7 +2.2**
MLR Muntele Rosu 45.79 306 *e*P **P** **17 50 40.7 +2.2**
MLR pmax pmax
comp=Z,28nm,0.9s
DOPR Dopca 46.19 307 ⇓*i*P **P** **17 50 43.2 +1.7**
JOF Joensuu 46.24 331 P **P** **17 50 43.1 +1.5**
JOF pmax pmax
comp=Z,32nm,0.8s
BURAR Bucovina Array 46.35 309 ⇑*i*P **P** **17 50 44.0 +1.1**
BUR04 Bucovina Ar. S 46.35 309 *e*P **P** **17 50 43.9 +1.0**
BUR08 Bucovina Ar. S 46.36 309 *e*P **P** **17 50 44.4 +1.4**
VOIR 46.42 306 ⇑*i*P **P** **17 50 44.5 +1.1**
VOIR 46.42 306 ⇑P **P** **17 50 44.5 +1.1**
ARR Arges 46.71 306 ⇑*i*P **P** **17 50 47.0 +1.3**
LVV L'vov 47.25 312 *e*P **P** **17 50 50.6 +0.9**
IDI Anoyia 47.37 292 ⇑*i*P **P** **17 50 51.3 +0.4**
VTS Vitosha 47.84 302 *e*P **P** **17 50 55.1 +0.5**
comp=Z,5.0nm,1.0s
VTS Vitosha 47.84 302 ⇓*i*P **P** **17 50 55.9 +1.3**
VTS Vitosha 47.84 302 *e*P **P** **17 50 55.1 +0.5**
VTS pmax pmax
comp=Z,5.0nm,1.0s
DEV Deva 47.92 307 P **P** **17 50 57.6 +2.6**
DEV pmax pmax
comp=Z,17nm,0.5s
FIA1 FINESS Array S 48.07 328 *e*P **P** **17 50 56.5 +0.6**
FIA0 FINESS Array S 48.07 328 *e*P **P** **17 50 56.9 +0.9**
FIA0 *e*pP **sP** **17 51 03.2 -0.9**
FIA0 FINESS Array S 48.07 328 *e*P **P** **17 50 56.9 +0.9**
FIA0 *e**PP **sP** **17 51 03.2 -0.9**
FINES FINESS Array B 48.07 328 P **P** **17 50 56.9 +0.9**
comp=Z,8.5nm,0.6s,baz=108,slow=8.6,SNR=41
FINES pP **sP** **17 51 03.2 -0.9**
comp=Z,5.5nm,0.7s,baz=107,slow=10,SNR=9.5
FINES LR LR 18 12 23.9
comp=Z,130nm,18.5s,baz=96,slow=38
KWP Kalwaria Pacla 48.10 312 *e*P **P** **17 50 58.2 +1.8**
KWP Kalwaria Pacla 48.10 312 *e*P **P** **17 50 58.2 +1.8**
TRPA Tarpa 48.17 310 ⇓*i*P **P** **17 50 58.5 +1.6**
SIRR Siria 48.78 307 ⇑*i*P **P** **17 51 02.9 +1.2**
MDVR Moldovita 48.80 305 ⇑*i*P **P** **17 51 03.5 +1.6**
BZS Buzias 48.83 307 ⇑*i*P **P** **17 51 03.3 +1.3**
BZS Buzias 48.83 307 ⇑P **P** **17 51 03.3 +1.3**
AGG Agios Georgios 48.84 298 *e*P **P** **17 51 02.1 -0.2**
comp=Z,9.7nm,0.9s
AGG Agios Georgios 48.84 298 *e*P **P** **17 51 02.1 -0.2**
AGG pmax pmax
comp=Z,10.0nm,0.9s
VYHS Vyhne 50.64 310 *e*P **P** **17 51 16.8 +1.0**
VYHS pmax pmax
comp=Z,3.0nm,1.0s
VYHS Vyhne 50.64 310 *e*P **P** **17 51 16.8 +1.0**
ARA0 ARCESS Array S 50.94 338 *e*P **P** **17 51 18.8 +1.1**
ARCES ARCESS Array B 50.94 338 P **P** **17 51 18.8 +1.1**
comp=Z,7.5nm,0.9s,baz=118,slow=7.3,SNR=10
OKC Ostrava-Krasne 51.06 312 *e*P **P** **17 51 20.1 +1.2**
OKC Ostrava-Krasne 51.06 312 *e*P **P** **17 51 20.1 +1.2**
JAVC Velka Javorina 51.40 311 *e*P **P** **17 51 24.1 +2.6**
MORC Moravsky Berou 51.45 312 *e*P **P** **17 51 22.8 +0.9**
comp=Z,6.8nm,0.9s
MORC Moravsky Berou 51.45 312 ⇑*i*P **P** **17 51 23.4 +1.5**
MORC Moravsky Berou 51.45 312 *e*P **P** **17 51 22.8 +0.9**
MORC pmax pmax
comp=Z,7.0nm,0.9s
MORC Moravsky Berou 51.45 312 *e*P **P** **17 51 23.2 +1.3**
GKP Gorka Klasztor 51.62 317 *e*P **P** **17 51 24.3 +1.3**
GKP Gorka Klasztor 51.62 317 *e*P **P** **17 51 24.3 +1.3**
KMBO Kilima Mbogo 51.74 242 P **P** **17 51 25.8 +1.1**
comp=Z,1.1nm,0.4s,baz=37,slow=16,SNR=3.9
KMBO Kilima Mbogo 51.74 242 *e*P **P** **17 51 25.8 +1.1**
comp=Z,4.9nm,1.0s
KMBO Kilima Mbogo 51.74 242 *e*P **P** **17 51 25.8 +1.1**
KMBO pmax pmax
comp=Z,5.0nm,1.0s
VRAC Vranov 52.09 311 P **P** **17 51 28.4 +1.8**
VRAC pmax pmax
comp=Z,10.0nm,0.9s
VRAC Vranov 52.09 311 *e*P **P** **17 51 28.2 +1.6**
SOP Sopron 52.20 309 P **P** **17 51 29.2 +1.7**
SOP pmax pmax
comp=Z,14nm,0.7s
DPC Dobruska-Polom 52.22 313 *e*P **P** **17 51 29.5 +1.9**
DPC *ex* x 17 51 51.0
DPC Dobruska-Polom 52.22 313 *e*P **P** **17 51 29.5 +1.9**
KSP Ksiaz 52.22 313 *e*P **P** **17 51 28.6 +1.0**
KSP Ksiaz 52.22 313 *e*P **P** **17 51 28.6 +1.0**
KRUC Moravsky 52.23 311 P **P** **17 51 28.9 +1.2**
KRUC pmax pmax
comp=Z,6.0nm,1.2s
KRUC Moravsky 52.23 311 *e*P **P** **17 51 28.6 +0.9**
UPC Upice 52.41 313 *e*P **P** **17 51 30.7 +1.7**
UPC *e*pP **pP** **17 51 34.1 -0.9**
UPC Upice 52.41 313 *e*P **P** **17 51 30.7 +1.7**
UPC *e* 17 51 34.1
CONA Conrad Observa 52.65 310 *i* pP **P** **17 51 32.3 +1.4**
comp=Z,18nm,1.0s
TREC Trest 52.81 312 P **P** **17 51 33.1 +1.1**
TREC pmax pmax
comp=Z,5.0nm,0.9s
ARSA Arzberg 52.93 309 *i* pP **P** **17 51 34.2 +1.2**
comp=Z,7.6nm,0.9s
SOKA Soboth 53.32 308 *i* pP **P** **17 51 37.2 +1.3**
comp=Z,19nm,0.9s,SNR=11
SOKA *e*pP **P** **17 51 37.5 +1.6**
SNR=5.3
PRU Pruhonice 53.38 312 *e*P **P** **17 51 37.9 +1.7**
PRU *e*pP **pP** **17 51 41.9 -0.3**
PRU Pruhonice 53.38 312 *e*P **P** **17 51 37.9 +1.7**
PRU *e* 17 51 41.9
OBKA Obir 53.67 308 *i* pP **P** **17 51 39.8 +1.3**
comp=Z,11nm,0.8s
BRG Berggiesshubel 53.71 314 *i* P **P** **17 51 39.7 +1.1**
comp=Z,9.9nm,0.7s
BRG *i* 17 51 46.0
comp=Z,6.1nm,0.8s
BRG Berggiesshubel 53.71 314 *i* P **P** **17 51 39.7 +1.1**
BRG *i* 17 51 46.0
BRG pmax pmax
comp=Z,10.0nm,0.7s
MOA Molin 53.73 310 *i* P **P** **17 51 39.6 +0.8**
comp=Z,13nm,1.1s,SNR=9.3
GEC2 GERESS Array S 54.01 311 *e*P **P** **17 51 42.1 +1.2**
comp=Z,4.8nm,0.9s
GERES GERESS Array B 54.01 311 P **P** **17 51 41.6 +0.7**
comp=Z,2.8nm,0.7s,baz=84,slow=6.5,SNR=22
GEA0 GERESS Array S 54.01 311 *e*P **P** **17 51 41.6 +0.7**
KHC Kasperske Hory 54.07 311 *e*P **P** **17 51 42.1 +0.8**
comp=Z,2.7nm,1.0s
KHC Kasperske Hory 54.07 311 *e*P **P** **17 51 42.7 +1.4**
KHC *e*pP **pP** **17 51 46.6 -0.7**
KHC Kasperske Hory 54.07 311 *e*P **P** **17 51 42.1 +0.8**
KHC pmax pmax
comp=Z,3.0nm,1.0s
CLL Collm 54.27 314 *i* P **P** **17 51 43.1 +0.4**
comp=Z,7.0nm,1.2s
CLL Collm 54.27 314 *i* P **P** **17 51 43.1 +0.4**
CLL pmax pmax
comp=Z,8.0nm,1.2s
WET Wettzell 54.53 311 P **P** **17 51 45.6 +1.0**
WET pmax pmax
comp=Z,6.0nm,1.1s
NC405 NORSAR Array S 54.86 326 *e*P **P** **17 51 47.6 +0.8**
NB2 NORSAR Subarra 55.10 326 P **P** **17 51 48.6 0.0**
comp=Z,3.0nm,0.6s,baz=87,slow=7.4
NB200 NORSAR Array S 55.10 326 *e*P **P** **17 51 48.4 -0.2**
NOA NORSAR Array B 55.10 326 P **P** **17 51 48.4 -0.2**
comp=Z,6.3nm,0.8s,baz=92,slow=7.1,SNR=22
NOA LR LR 18 16 41.5
comp=Z,114nm,18.0s,baz=250,slow=37
GRB1 Grafenberg Arr 55.30 312 P **P** **17 51 51.9 +1.7**
GRB1 pmax pmax
comp=Z,14nm,0.9s
NC204 NORSAR Array S 55.32 326 *e*P **P** **17 51 50.7 +0.5**
GRF Grafenberg Arr 55.55 312 *e*P **P** **17 51 52.7 +0.7**
comp=Z,12nm,1.1s,baz=92,slow=6.3
WATA Walderalm 55.60 309 *i* P **P** **17 51 52.5 0.0**
comp=Z,4.5nm,0.6s
SEY Seymchan 55.77 32 *i* P **P** **17 51 55.7 +2.4**
SQTA Sankt Quirin 55.86 309 *i* P **P** **17 51 54.3 0.0**
comp=Z,7.8nm,0.5s,SNR=8.8
MOTA Moosalm 55.91 309 *i* P **P** **17 51 54.7 0.0**
comp=Z,12nm,0.8s,SNR=10
RETA Reutte 56.12 310 *i* P **P** **17 51 56.3 +0.1**
comp=Z,9.4nm,0.8s
FETA Feichten 56.21 309 *i* P **P** **17 51 57.0 0.0**
comp=Z,5.8nm,0.6s,SNR=8.0
DAVA Damuels 56.74 310 *i* P **P** **17 52 01.0 +0.3**
comp=Z,16nm,0.6s,SNR=11
SENIN Lac Senin/Sane 58.65 309 *e*P **P** **17 52 15.1 +0.9**
comp=Z,17nm,0.8s
HINF Hinteralfeld 58.68 311 *e*P **P** **17 52 14.2 0.0**
HINF pmax pmax
comp=Z,7.0nm,0.8s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HAU	Haudompre	58.98	311	eP	P	17 52 16.3	+0.1
HAU				pmax	pmax		
	comp=Z,12nm,0.8s						
SBF	Sospel	59.06	306	eP	P	17 52 18.2	+1.3
SBF				pmax	pmax		
	comp=Z,39nm,1.0s						
LPG	La Plagne	59.20	308	eP	P	17 52 18.7	+0.6
LPG				pmax	pmax		
	comp=Z,21nm,0.8s						
LPL	La Plagne	59.20	308	eP	P	17 52 18.7	+0.6
LPL				pmax	pmax		
	comp=Z,34nm,0.8s						
MBDF	Montbardon	59.34	307	eP	P	17 52 18.8	-0.2
MBDF				pmax	pmax		
	comp=Z,28nm,1.3s						
CABF	La Chapelle	59.42	309	eP	P	17 52 20.2	+0.8
CABF				pmax	pmax		
	comp=Z,17nm,1.1s						
GIVF	Givet	59.58	313	eP	P	17 52 20.8	+0.5
GIVF				pmax	pmax		
	comp=Z,21nm,1.2s						
KEST	Kesra	59.63	296	P	P	17 52 21.1	+0.1
	comp=Z,11nm,0.8s,baz=62,slow=1.1,SNR=10						
KEST	Kesra	59.63	296	eP	P	17 52 21.9	+0.9
	comp=Z,12nm,0.8s						
BAIF	Baives	59.98	314	eP	P	17 52 23.5	+0.5
BAIF				pmax	pmax		
	comp=Z,18nm,1.3s						
LOR	Lormes	60.78	310	eP	P	17 52 28.2	-0.4
LOR				pmax	pmax		
	comp=Z,8.0nm,1.2s						
SMF	Signal de Mont	60.93	310	eP	P	17 52 29.5	-0.1
SMF				pmax	pmax		
	comp=Z,20nm,1.2s						
SSF	Saint Saulge	61.06	310	eP	P	17 52 30.4	-0.1
SSF				pmax	pmax		
	comp=Z,12nm,0.9s						
AVF	Avril sur Loir	61.22	310	eP	P	17 52 31.4	-0.2
AVF				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BILL	Bilibino	61.30	25	ceP	P	17 52 32.0	+0.2
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BGF	Bois d'Agland	61.61	310	eP	P	17 52 34.1	-0.2
BGF				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TCF	Toulx Ste Croi	62.11	310	eP	P	17 52 38.0	+0.4
TCF				pmax	pmax		
	comp=Z,11nm,0.9s						
CAF	Calviac	62.55	308	eP	P	17 52 41.0	+0.4
CAF				pmax	pmax		
	comp=Z,9.0nm,0.9s						
RJF	Les Rejaudoux	62.83	309	eP	P	17 52 43.1	+0.7
RJF				pmax	pmax		
	comp=Z,22nm,1.3s						
MTLF	Montolieu	62.87	306	eP	P	17 52 43.1	+0.4
MTLF				pmax	pmax		
	comp=Z,13nm,1.2s						
LDF	La Druitiere	63.06	313	eP	P	17 52 43.6	-0.3
LDF				pmax	pmax		
	comp=Z,18nm,1.1s						
GRR	Gorron	63.59	313	eP	P	17 52 47.1	-0.3
GRR				pmax	pmax		
	comp=Z,127nm,2.2s						
MFF	Saint Martin d	63.60	310	eP	P	17 52 47.1	-0.4
MFF				pmax	pmax		
	comp=Z,42nm,1.6s						
DAG	Danmarks Havn	63.85	345	i P	P	17 52 48.8	+0.2
	comp=Z,4.4nm,0.8s						
DAG	Danmarks Havn	63.85	345	i P	P	17 52 48.8	+0.2
DAG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SGMF	Saint Gilles	64.72	313	eP	P	17 52 54.8	0.0
TAM	Tamanrasset	67.17	284	P	P	17 53 12.6	+1.4
TAM				pmax	pmax		
	comp=Z,4.0nm,1.1s						
LSZ	Lusaka	67.69	236	eP	P	17 53 15.8	+1.4
	comp=Z,3.8nm,0.8s						
LSZ	Lusaka	67.69	236	eP	P	17 53 15.8	+1.4
LSZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ES19	SONSECA Array	68.36	304	eP	P	17 53 19.1	+0.7
ESDC	Sonseca Array	68.42	304	P	P	17 53 19.0	+0.3
	comp=Z,3.1nm,0.8s,baz=57,slow=6.2,SNR=12						
SUMG	Summit	70.39	344	i P	P	17 53 31.3	+0.5
	comp=Z,17nm,1.0s						
SUMG	Summit	70.39	344	i P	P	17 53 31.3	+0.5
SUMG				pmax	pmax		
	comp=Z,17nm,1.0s						
WR1	Warramunga Arr	70.95	127	eP	P	17 53 33.2	-1.2
	comp=Z,12nm,1.5s						
WRA	Warramunga Arr	70.95	127	P	P	17 53 33.2	-1.2
	comp=Z,1.6nm,0.8s,baz=322,slow=6.1,SNR=9.9						
AS31	Alice Springs	73.17	130	eP	P	17 53 46.0	-1.7
ASAR	Alice Springs	73.17	130	P	P	17 53 46.0	-1.7
	comp=Z,0.8nm,0.7s,baz=319,slow=5.6,SNR=11						
TOA0	Torodi Ar. Sit	74.58	277	eP	P	17 53 54.6	-1.5
TOA1	Torodi Ar. Sit	74.58	277	eP	P	17 53 54.9	-1.3
TORD	Torodi Ar. Bea	74.58	277	P	P	17 53 54.9	-1.3
	comp=Z,4.6nm,0.9s,baz=73,slow=5.0,SNR=14						
CAST	Castle Rocks	78.41	22	eP	P	17 54 17.4	+0.3
	comp=Z,12nm,1.0s						
BOSA	Boshof	78.59	228	P	P	17 54 17.1	-1.6
	comp=Z,3.8nm,0.8s,baz=26,slow=8.7,SNR=5.5						
IL1	Eielson Array	79.00	19	eP	P	17 54 19.4	-0.8
ILAR	Eielson Array	79.00	19	P	P	17 54 19.6	-0.7
	comp=Z,1.9nm,1.0s,baz=302,slow=5.0,SNR=12						
ILAR				PP	PP	17 57 17.1	-1.5
	comp=Z,0.6nm,0.8s,baz=314,slow=7.7,SNR=5.0						
KDAK	Kodiak Island	82.21	26	i P	P	17 54 38.5	+1.0
DBIC	Dimbokro	83.30	274	P	P	17 54 45.1	+1.1
	comp=Z,7.4nm,0.9s,baz=54,slow=8.4,SNR=2.1						
DBIC	Dimbokro	83.30	274	eP	P	17 54 43.9	-0.1
	comp=Z,14nm,1.1s						
DBIC	Dimbokro	83.30	274	eP	P	17 54 43.9	-0.1
DBIC				pmax	pmax		
	comp=Z,14nm,1.1s						
YKW3	Yellowknife Ar	87.51	7	eP	P	17 55 03.9	-0.2
	comp=Z,5.4nm,0.9s						
YKA	Yellowknife Ar	87.58	7	P	P	17 55 04.0	-0.5
	comp=Z,3.3nm,0.8s,baz=341,slow=4.9,SNR=51						
YKA	Yellowknife Ar	87.58	7	P	P	17 55 04.0	-0.5
YKA	Yellowknife Ar	87.58	7	P	P	17 55 04.0	-0.5
YKB5	Yellowknife Ar	87.58	7	eP	P	17 55 03.6	-0.9
MAW	Mawson	97.66	187	P	Pdif	17 55 51.3	+0.7
	comp=Z,6.4nm,0.3s,baz=45,slow=4.3,SNR=10.0						
TXAR	Lajitas Array	121.43	5	PKP	PKPdf	18 01 09.4	-1.3
	comp=Z,0.1nm,0.5s,baz=28,slow=4.1,SNR=2.9						
LPAZ	La Paz	148.94	288	PKPbc	PKPbc	18 02 06.2	+0.2
	comp=Z,5.3nm,1.0s,baz=109,slow=5.4,SNR=3.9						
LPAZ	La Paz	148.94	288	ePKPbc	PKiKP	18 02 06.7	-0.7
LPAZ	La Paz	148.94	288	ePKP2	PKiKP	18 02 06.7	-0.7

*IDC **02** 17:43:37.0±2.3, 22°.64S×171°.12E, h0^{km}, mb4.1/8, mb1 4.2/9, mb1mx4.0/39, mbtmp4.1/9, ML4.7/1, MS3.3/10, Ms1 3.3/10, ms1mx3.2/24, Error ellipse: s-maj=67.3km s-min=32.8km az=164.0*

*NEIC **02** 17:43:37.9±1.6, 22°.82S×171°.15E, h10^{km}, mb4.3/3, Error ellipse: s-maj=53.3km s-min=21.3km az=159.0*

*ISCJB **02** 17:43:40.7±0.8, 22°.9S±0°.2×171°.0E±0°.1, h35^{km}, mb4.0/10, MS3.3/7, Error ellipse: s-maj=26.8km s-min=11.0km az=19.2*

ISC 02 17:43:42.3±1.0**, 23°.0S**±0°.3×**171°.0E**±0°.1**, h35^{km}, n26, σ0^{s}.91**/22**, mb4.1**/10**, MS3.3**/7**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.33	281	Pn	Pn	17 44 45.0	-0.8
	40nm,0.3s,baz=139,slow=15,SNR=70						
DZM				Sn	Sn	17 45 35.7	+0.6
	12nm,0.3s,baz=11,slow=15,SNR=4.3						
DZM				LR	LR	17 45 42.8	
	comp=Z,159nm,20.0s,baz=104,slow=29						
DZM	Mont Dzumac	4.33	281	ePn	Pn	17 44 44.9	-0.9
	142nm,0.3s						
DZM				eSn	Sn	17 45 35.6	+0.5
	86nm,0.3s						
DZM				eLR	LR	17 45 44.5	
	comp=Z,923nm,27.0s						
URZ	Urewera	16.11	163	LR	LR	17 52 12.0	
	comp=Z,160nm,18.7s,baz=355,slow=31						
HNR	Honiara	17.14	320	LR	LR	17 53 05.6	
	comp=Z,134nm,20.8s,baz=142,slow=34						
CTA	Charters Tower	23.22	272	P	P	17 48 48.0	+1.5
	2.7nm,0.6s,baz=82,slow=9.8,SNR=7.9						
PMG	Port Moresby	26.53	297	P	P	17 49 16.9	-0.1
	5.3nm,0.7s,baz=160,slow=16,SNR=3.5						
PMG				LR	LR	17 57 33.8	
	comp=Z,88nm,19.2s,baz=101,slow=32						
RAR	Rarotonga	27.09	92	LR	LR	17 57 44.1	
	comp=Z,44nm,21.5s,baz=233,slow=31						
STKA	Stephens Creek	27.53	245	LR	LR	17 59 47.5	
	comp=Z,72nm,18.3s,baz=29,slow=35						
AS01	Alice Springs	34.00	261	eP	P	17 50 23.9	+0.9
AS31	Alice Springs	34.04	261	eP	P	17 50 24.3	+0.9
	0.9nm,0.7s						
ASAR	Alice Springs	34.04	261	P	P	17 50 23.9	+0.5
	1.8nm,0.8s,baz=84,slow=9.1,SNR=22						
ASAR				LR	LR	18 02 58.0	
	comp=Z,56nm,20.9s,baz=98,slow=34						
WR1	Warramunga Arr	34.22	268	eP	P	17 50 24.2	-0.8
	12nm,1.6s						
WRA	Warramunga Arr	34.23	268	P	P	17 50 24.2	-0.8
	0.4nm,0.4s,baz=96,slow=8.5,SNR=27						
WRA				LR	LR	18 04 37.5	
	comp=Z,70nm,18.2s,baz=60,slow=37						
PPT2	Papeete2	37.26	89	eLR	LR	18 00 51.0	
	comp=Z,145nm,29.8s						
PPT	Papeete	37.27	89	LR	LR	18 03 22.1	
	comp=Z,63nm,18.6s,baz=6.5,slow=32						
FITZ	Fitzroy Crossi	42.66	268	P	P	17 51 35.5	-0.3
	2.6nm,0.7s,baz=108,slow=7.5,SNR=5.5						
FITZ	Fitzroy Crossi	42.66	268	eP	P	17 51 35.5	-0.3
	9.1nm,1.1s						
SIJI	Sorong	44.42	294	P	P	17 51 48.7	-1.4
	2.7nm,0.6s,baz=99,slow=9.0,SNR=3.5						
CMAR	Chiang Mai Arr	81.55	294	P	P	17 55 58.2	+1.4
	0.8nm,0.6s,baz=138,slow=3.8,SNR=7.3						
CMAR				LR	LR	18 35 28.5	
	comp=Z,12nm,18.0s,baz=156,slow=38						
VNA3	Neumayer Olymp	86.05	180	P	P	17 56 18.4	-0.6
VNA2	Neumayer--Watz	86.36	181	P	P	17 56 20.4	-0.2
	baz=175,slow=4.1						
VNA1	Neumayer--Stat	86.64	180	P	P	17 56 21.3	-0.6
SONA0	Songino Array	91.18	322	eP	P	17 56 43.2	-0.6
SONM	Songino Array	91.18	322	P	P	17 56 43.2	-0.6
	0.8nm,1.0s,baz=126,slow=3.3,SNR=5.0						
KHC	Kasperske Hory	148.39	331	ePKP	PKPbc	18 03 25.4	+0.4
GERES	GERESS Array B	148.54	331	PKPbc	PKPdf	18 03 23.4	+1.6
	0.5nm,0.7s,baz=41,slow=2.6,SNR=5.5						

ROM 02 17:49:43.0±0.1**, 43°.592N**±0°.004×**12°.561E**±0°.004**, h15^{km}, ML1.2**/6**, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NARO	Abbazia di Nar	0.02	36	P	Pg	17 49 45.9	+0.1
NARO				S	Sg	17 49 47.9	+0.3
NARO				AML	AML		
	comp=E,125μm,1.3s						
NARO				AML	AML		
	comp=N,186μm,0.1s						
NARO				AML	AML		
	comp=E,125μm,1.3s						
NARO				AML	AML		
	comp=N,187μm,0.1s						
NARO				AML	AML		
	comp=E,125μm,1.3s						
NARO				AML	AML		
	comp=N,187μm,0.1s						
ATBU	Serra di Buran	0.12	185	P	Pb	17 49 46.9	-0.1
ATBU				S	Sb	17 49 49.8	+0.2
ATPC	Poggio Castell	0.13	214	P	Pg	17 49 47.0	+0.2
ATPC				S	Sb	17 49 50.1	-0.1
ATPC				AML	AML		
	comp=E,109μm,0.2s						
ATPC				AML	AML		
	comp=N,95μm,0.2s						
ATPC				AML	AML		
	comp=E,110μm,1.5s						
ATPC				AML	AML		
	comp=N,95μm,0.2s						
ATPC				AML	AML		
	comp=N,95μm,0.2s						
ATPC				AML	AML		
	comp=E,110μm,1.5s						
FRON	Frontone	0.14	122	P	Pg	17 49 47.0	+0.1
FRON				S	Sb	17 49 49.9	-0.4
FRON				AML	AML		
	comp=E,76μm,0.6s						
FRON				AML	AML		
	comp=N,196μm,0.5s						
FRON				AML	AML		
	comp=E,76μm,0.6s						
FRON				AML	AML		
	comp=N,196μm,0.5s						
MPAG	Monte Paganucc	0.15	75	P	Pg	17 49 47.2	+0.2
MPAG				S	Sb	17 49 50.3	-0.3
MPAG				AML	AML		
	comp=E,166μm,0.1s						
MPAG				AML	AML		
	comp=N,118μm,0.1s						
MPAG				AML	AML		
	comp=E,166μm,0.1s						
MPAG				AML	AML		
	comp=N,118μm,0.1s						
MPAG				AML	AML		
	comp=E,166μm,0.1s						
MPAG				AML	AML		
	comp=N,118μm,0.1s						
ATPI	Pietralunga -	0.18	219	P	Pg	17 49 47.7	+0.2
ATPI				S	Sb	17 49 51.2	-0.4
FSSB	Fossombrone	0.19	57	P	Pg	17 49 47.8	+0.3
FSSB				S	Sb	17 49 51.5	-0.2
FSSB				AML	AML		
	comp=E,320μm,0.2s						
FSSB				AML	AML		
	comp=N,234μm,0.3s						
FSSB				AML	AML		
	comp=E,320μm,0.2s						
FSSB				AML	AML		
	comp=N,234μm,0.3s						
FSSB				AML	AML		
	comp=E,320μm,0.2s						
FSSB				AML	AML		
	comp=N,234μm,0.3s						
ATVO	AVT- Monte Val	0.24	208	P	Pg	17 49 48.5	+0.2
ATVO				S	Sb	17 49 52.8	-0.4
PARC	Parchiule	0.24	284	P	Pg	17 49 48.6	+0.3
ARVD	Arcevia	0.29	109	P	Pg	17 49 49.4	+0.2

*IDC **02** 17:52:12.0±2.5, 4°.93N×93°.70E, h0^{km}, mb3.5/5, mb1 3.6/6, mb1mx3.4/40, mbtmp3.5/6, ML3.3/1, Error ellipse: s-maj=84.9km s-min=20.8km az=53.0*

*ISCJB **02** 17:52:13.2±1.5, 4°.7N±0°.2×93°.5E±0°.2, h29^{km}, mb3.5/5, Error ellipse: s-maj=36.1km s-min=10.9km az=38.5*

ISC 02 17:52:15.5±1.9**, 4°.8N**±0°.2×**93°.6E**±0°.2**, h29^{km}, n7, σ1^{s}.01**/8**, mb3.5**/5**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	Prapat	5.72	110	Pn	Pn	17 53 38.1	-0.6
	0.8nm,0.3s,baz=360,slow=18,SNR=4.2						
PSI				Sn	Sn	17 54 43.9	+0.4
	0.6nm,0.3s,baz=360,slow=19,SNR=3.2						
CMAR	Chiang Mai Arr	14.53	21	Pn	P	17 55 44.8	-0.8
	0.1nm,0.3s,baz=215,slow=13,SNR=4.7						
MKAR	Makanchi Array	42.92	349	P	P	18 00 11.1	-0.6
	0.6nm,0.7s,baz=164,slow=8.1,SNR=7.3						
SONM	Songino Array	44.24	12	P	P	18 00 24.0	+1.6
	0.2nm,0.7s,baz=194,slow=7.6,SNR=2.7						
WRA	Warramunga Arr	47.04	123	P	P	18 00 45.7	+0.9
	0.4nm,0.8s,baz=297,slow=8.7,SNR=3.3						
ASAR	Alice Springs	48.47	128	P	P	18 00 55.4	-0.6
	0.4nm,0.9s,baz=310,slow=7.2,SNR=3.9						
ZALV	Zalesovo Beam	49.48	353	P	P	18 01 02.9	-0.3
	0.9nm,0.5s,baz=172,slow=7.3,SNR=6.3						

*VAO **02** 17:53:53.7±0.4, 35°.72S×73°.73W, h10^{km}, mb4.9*

*GUC **02** 17:53:54.7±0.8, 35°.74S×73°.61W, h30^{km}±5^{km}, ML4.3*

*ISCJB **02** 17:53:55.3±1.0, 35°.76S±0°.02×73°.41W±0°.06, h20^{km}±7^{km}, mb4.5/22, MS3.9/7, Error ellipse: s-maj=8.1km s-min=3.8km az=9.5*

*SJA **02** 17:53:57.3±0.9, 35°.53S×73°.55W, h41^{km}±18^{km}, ML4.3, MW4.7*

*IDC **02** 17:53:58.5±0.8, 35°.75S×73°.24W, h27^{km}±5^{km}, mb4.1/11, mb1 4.3/15, mb1mx4.2/32, mbtmp4.3/15, ML3.9/4, MS3.9/9, Ms1 3.9/9, ms1mx3.7/20, Error ellipse: s-maj=24.1km s-min=14.1km az=81.0*

*NEIC **02** 17:53:59.2±0.3, 35°.73S×73°.12W, mb4.8/11, ML4.3(GUC), Error ellipse: s-maj=10.6km s-min=5.9km az=94.0*

NEIC Felt at Cauquenes, Constitucion and Parral.

ISC 02 17:53:57.9±0.6**, 35°.73S**±0°.04×**73°.41W**±0°.07**, h27^{km}**±3^{km}**, h27^{km}:pP-P, n120, σ1^{s}.40**/135**, mb4.5**/21**, MS3.9**/7**, 1C-1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	1.14	168	eP	Pn	17 54 14.7	-3.4
CCSP				eS	Sn	17 54 29.3	-3.6
CCSP				IAML		17 54 43.4	
	comp=N,7μm,0.6s						
CCHI	Chillan	1.39	129	eP	Pn	17 54 20.2	-1.2
CCHI				i S	Sn	17 54 39.1	+0.2
CCHI				IAML		17 54 49.9	
	comp=E,11μm,0.6s						
GO05	Huala	1.41	60	ePn	Pn	17 54 19.9	-1.8
GO05	Huala	1.41	60	eP	Pn	17 54 20.5	-1.2
GO05				i S	Sb	17 54 40.0	-0.9
GO05				IAML		17 54 51.4	
	comp=N,6μm,0.4s						
TMU	Temuco	3.07	168⇓	eP	Pn	17 54 42.7	-1.9
TMU				eS	Sn	17 55 18.3	-2.1
TMU				IAML		17 55 33.1	
	comp=E,559nm,0.4s						
ROC1	El Roble	3.38	36	ePn	Pn	17 54 48.0	-1.2
ROC1	El Roble	3.38	36	eP	Pn	17 54 49.0	-0.2
ROC1				eS	Sn	17 55 27.3	-1.2
ROCH	El Roble	3.39	36	eP	Pn	17 54 47.8	-1.4
ROCH				eS	Sn	17 55 29.3	+0.7
PEL	Peldehue	3.42	42	ePn	Pn	17 54 49.0	-0.5
GO06	Curarrehue	4.14	159	ePn	Pn	17 54 58.5	-1.0
GO06	Curarrehue	4.14	159	i S	Sn	17 55 50.8	+3.7
RFA	San Rafael	4.16	78	eP	Pn	17 55 01.7	+2.1
RFA				IAML		17 56 15.7	
	comp=Z,386nm,0.6s						
AAGR	Agrelo	4.61	56	eP	Pn	17 55 08.2	+2.3
ARCO	CERRO ARCO	4.69	53	eP	Pn	17 55 09.2	+2.1
AUSP	Uspallata	4.83	45	eP	Pn	17 55 10.8	+1.7
ASAL	Salagasta	4.92	52	eP	Pn	17 55 12.1	+2.0
RTLS	Leoncito	5.20	42	eP	Pn	17 55 15.7	+1.4
RTLS				IAML		17 55 17.3	
	comp=Z,152nm,0.4s						
PLCA	Paso Flores	5.48	157	Pn	Pn	17 55 17.1	-0.7
	comp=Z,1.0nm,0.3s,baz=347,slow=11,SNR=30						
PLCA				Sn	Sn	17 56 21.9	+1.9
	comp=Z,0.7nm,0.3s,baz=313,slow=19,SNR=1.5						
PLCA	Paso Flores	5.48	157	ePn	Pn	17 55 16.0	-1.8
PLCA				Sn	Sn	17 56 21.9	+1.9
RTCV	Cerro Valdivia	5.59	48	eP	Pn	17 55 20.4	+1.0
GO04	Tololo Observa	5.96	22	ePn	Pn	17 55 22.6	-1.9
RTLL	Cerro Villicun	6.02	45	eP	Pn	17 55 25.3	+0.2
ACAN	Cantantal	6.21	58	eP	Pn	17 55 28.8	+1.0
ACCO	Cerro Coronel	6.29	37	eP	Pn	17 55 29.5	+0.3
AMOG	MOGNA	6.30	42	eP	Pn	17 55 29.3	+0.1
AROD	Rodeo	6.46	32	eP	Pn	17 55 32.8	+1.3
LCO	Las Campanas	7.08	20	ePn	Pn	17 55 37.7	-2.2
MRA	San Martin	7.18	65	eP	Pn	17 55 41.9	+0.6
MRA				IAML		17 58 06.5	
	comp=Z,46nm,0.7s						
AGUA	GUANDACOL	7.48	35	eP	Pn	17 55 45.6	+0.3
VCA	Vinchina	8.24	34	eP	Pn	17 55 55.5	-0.4
TCA	Tanti	8.56	62	eP	Pn	17 55 59.4	-0.7
TRQA	Tornquist	9.45	108	ePn	Pn	17 56 12.6	+0.4
GO02	Mina Guanaco	11.03	18	ePn	Pn	17 56 32.1	-2.1
LVC	Limon Verde	13.65	18	Pn	Pn	17 57 10.7	+0.7
	comp=Z,0.5nm,0.3s,baz=190,slow=11,SNR=3.8						
LVC				LR	LR	18 02 47.3	
	comp=Z,456nm,19.4s,baz=206,slow=39						
PB01	IPOC Station P	15.03	14	ePn	Pn	17 57 29.6	+1.0
PB11	IPOC Station P	16.25	13	ePn	Pn	17 57 45.0	+0.6
	comp=Z,75nm,1.0s						
CPUP	Villa Florida	16.64	60	Pn	Pn	17 57 43.6	-5.6
	comp=Z,0.2nm,0.3s,baz=260,slow=8.3,SNR=3.3						
CPUP				LR	LR	18 03 51.6	
	comp=Z,240nm,18.8s,baz=237,slow=36						
MNMC	Minye Minye	16.87	13	ePn	Pn	17 57 52.7	+0.3
	comp=Z,31nm,0.8s						
USHA	Ushuaia	19.41	171	P	Pn	17 58 22.9	-0.2
	comp=Z,0.2nm,0.3s,baz=6.6,slow=7.9,SNR=5.8						
LPAZ	La Paz	19.93	15	P	Pn	17 58 30.0	0.0
	comp=Z,0.3nm,0.3s,baz=172,slow=7.7,SNR=21						
LPAZ	La Paz	19.93	15	eP	Pn	17 58 29.7	-0.3
	comp=Z,15nm,1.0s						
TRCB	Terra Rica	22.18	60	eP	P	17 58 51.3	-0.7
SIV	San Ignacio	22.53	32	P	P	17 58 55.2	-0.6
	comp=Z,14nm,1.0s,baz=224,slow=14,SNR=31						
SIV				LR	LR	18 09 34.4	
	comp=Z,675nm,19.6s,baz=227,slow=42						
NNA	Nana	23.84	352	LR	LR	18 06 00.6	
	comp=Z,176nm,21.4s,baz=171,slow=30						
FRTB	Fartura	24.07	66	eP	P	17 59 11.6	+0.5
SALV	Santo Antonio	25.30	43	eP	P	17 59 22.7	+0.4
ITRB	Iturama	25.81	58	eP	P	17 59 26.9	0.0
RCLB	Rio Claro- Sao	26.12	67	eP	P	17 59 29.1	-0.6
BB19B	Bebedouro	26.21	63	eP	P	17 59 29.9	-0.7
ESAR	Angra dos Reis	28.13	71	eP	P	17 59 46.6	-1.1
BDFB	Brasilia	30.24	55	LR	LR	18 13 32.5	
	comp=Z,417nm,19.1s,baz=233,slow=39						
RPN	Rapa Nui	31.69	276	LR	LR	18 09 12.9	
	comp=Z,187nm,21.0s,baz=107,slow=29						
MCI7	Montes Claros	32.37	62	eP	P	18 00 25.6	+0.2
MCI8	Montes Claros	32.38	62	eP	P	18 00 25.2	-0.1
SJMB	Sao Joao De Ma	33.10	68	eP	P	18 00 31.8	+0.2
JANB	Januaria	33.18	59	eP	P	18 00 32.4	0.0
BSFB	Barra de Sao F	33.28	68	eP	P	18 00 32.8	-0.3
RIB01	Linhares ES	33.33	69	eP	P	18 00 34.3	+0.6
SMTB	Santa Maria do	35.63	48	eP	P	18 00 53.8	+0.2
PTGA	Pitinga	37.00	23	eP	P	18 01 05.2	0.0
	comp=Z,7.1nm,0.9s						
PTGA	Pitinga	37.00	23	eP	P	18 01 04.2	-1.0
SDV	Santo Domingo	44.45	4	eP	P	18 02 04.7	-2.2
VNA3	Neumayer Olymp	48.20	157	P	P	18 02 35.8	+0.2
VNA1	Neumayer--Stat	48.54	156	P	P	18 02 38.8	+0.6
VNA2	Neumayer--Watz	48.87	156	P	P	18 02 40.9	+0.2
	baz=269,slow=8.8						
APG	El Apazote	52.98	339	P	P	18 03 12.4	0.0
	comp=Z,2.3nm,0.7s,baz=102,slow=19,SNR=2.8						
QSPA	South Pole Qui	54.51	180	P	P	18 03 23.5	+0.4
	comp=Z,8.0nm,0.9s,baz=148,slow=3.2,SNR=23						
QSPA	South Pole Qui	54.51	180	eP	P	18 03 23.2	+0.1
	comp=Z,17nm,1.2s						
CMIG	Matias Romero	56.33	335	P	P	18 03 40.4	+3.9
	comp=Z,0.7nm,0.3s,baz=194,slow=15,SNR=1.8						
VNDA	Vanda	62.19	192	P	P	18 04 21.6	+5.3
	comp=Z,0.6nm,0.7s,baz=76,slow=4.2,SNR=3.2						
VNDA	Vanda	62.19	192	eP	P	18 04 19.9	+3.6
SYO	Syowa Base	64.68	158⇑	i P	P	18 04 32.0	-0.8
PPT	Papeete	68.90	263	LR	LR	18 26 57.9	
	comp=Z,56nm,18.7s,baz=63,slow=29						
LTX	Lajitas	70.71	332	eP	P	18 05 12.2	+0.7
TXAR	Lajitas Array	70.71	332	P	P	18 05 12.2	+0.7
	comp=Z,0.7nm,0.6s,baz=152,slow=8.6,SNR=10						
MAW	Mawson	71.84	164	LR	LR	18 37 28.5	
	comp=Z,175nm,18.4s,baz=230,slow=36						
V48A	Smith Brothers	72.19	349	eP	P	18 05 20.3	+0.2
	comp=Z,12nm,0.8s						
LIC	Lamto	76.38	72	eP	P	18 05 45.3	+0.2
	comp=Z,13nm,0.5s						
TIC	Toumodi	76.65	72	eP	P	18 05 46.8	+0.2
KIC	Kosan Boka	76.69	72	eP	P	18 05 47.3	+0.5
	comp=Z,33nm,0.9s						
DBIC	Dimbokro	76.79	72	P	P	18 05 47.9	+0.5
	comp=Z,9.3nm,0.8s,baz=212,slow=5.9,SNR=14						
DBIC	Dimbokro	76.79	72	eP	P	18 05 47.5	+0.1
	comp=Z,12nm,0.8s						
DBIC	Dimbokro	76.79	72	eP	P	18 05 47.8	+0.4
BOSA	Boshof	80.26	118	P	P	18 06 05.3	-1.3
	comp=Z,2.3nm,0.7s,baz=183,slow=7.5,SNR=4.4						
BOSA	Boshof	80.26	118	eP	P	18 06 06.8	+0.2
SNZO	South Karori	81.15	225	eP	P	18 06 08.3	-2.6
ECSD	EROS Data Cent	81.86	343	eP	P	18 06 15.4	+1.1
	comp=Z,6.0nm,0.9s						
LBTB	Lobatse	82.59	115	eP	P	18 06 19.1	+0.1
	comp=Z,54nm,1.8s						
R11A	Troy Canyon, C	83.40	328	eP	P	18 06 25.2	+2.5
	comp=Z,24nm,1.9s						
NV01	Mina Array Sit	84.67	326	eP	P	18 06 31.4	+2.2
NVAR	Mina Array Bea	84.67	326	P	P	18 06 31.4	+2.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.5nm,0.6s,baz=141,slow=5.8,SNR=5.3						
PDAR	Pinedale Array	84.81	334	P	P	18 06 31.0	+1.2
	comp=Z,0.5nm,1.0s,baz=113,slow=9.3,SNR=3.6						
TOA0	Torodi Ar. Sit	85.85	71	eP	P	18 06 34.6	-0.7
TORD	Torodi Ar. Bea	85.85	71	P	P	18 06 34.4	-1.0
	comp=Z,2.5nm,1.0s,baz=265,slow=4.2,SNR=9.3						
TORD				pP	pP	18 06 44.8	+0.9
	comp=Z,1.7nm,0.9s,baz=269,slow=4.7,SNR=5.3						
TORD				LR	LR	18 41 53.1	
	comp=Z,49nm,21.0s,baz=265,slow=34						
TOA1	Torodi Ar. Sit	85.85	71	eP	P	18 06 34.4	-1.0
TOA1				epP	pP	18 06 44.8	+0.9
ULM	Lac du Bonnet	87.88	346	P	P	18 06 44.3	-0.1
	comp=Z,2.2nm,0.7s,baz=214,slow=12,SNR=3.0						
ULM				pP	pP	18 06 54.4	+1.8
	comp=Z,2.4nm,0.7s,baz=111,slow=4.4,SNR=3.2						
J08A	Circle Bar Ran	88.77	329	eP	P	18 06 51.8	+2.8
	comp=Z,6.8nm,0.9s						
ESDC	Sonseca Array	98.58	47	P	P	18 07 32.9	-1.2
	comp=Z,0.1nm,0.3s,baz=190,slow=3.9,SNR=3.6						
DZM	Mont Dzumac	99.31	234	P	Pdif	18 07 40.1	+2.1
	comp=Z,6.9nm,0.7s,baz=79,slow=3.0,SNR=3.1						
WR1	Warramunga Arr	118.71	210	ePKPdf	PKPdf	18 12 42.9	-1.1
WRA	Warramunga Arr	118.71	210	PKP	PKPdf	18 12 42.9	-1.1
	comp=Z,0.2nm,0.7s,baz=149,slow=1.7,SNR=3.5						
MBWA	Marble Bar	122.07	195	eP	PKPdf	18 12 48.8	-1.6
ANTO	Ankara	123.09	62	eP	PKPdf	18 12 51.2	-0.6
ABKAR	Akbulak array	143.62	53	ePKPpre	PKPpre	18 13 27.1	
ABKAR				e		18 13 27.3	
HYB	Hyderabad	149.16	119	i PKP	PKPbc	18 13 44.0	-0.3
BRVK	Borovoye	149.23	44	ePKPbc	PKPbc	18 13 43.4	0.0
KK31	Karatay Array	151.34	64	ePKPdf	PKPdf	18 13 44.4	+1.7
KKAR	Karatay Array	151.34	64	ePKPdf	PKPdf	18 13 44.1	+1.4
AAK	Ala-Archa	154.29	65	ePKPbc	PKPbc	18 13 55.4	-0.1
NRN	Naryn	155.49	67	ePKPab	PKPab	18 14 15.2	+0.1
ZAA1	Zalesovo Array	156.28	33	ePKPdf	PKPdf	18 13 48.8	-0.6
ZAA1				ePKPab	PKPab	18 14 18.3	+0.8
ZAA1				epPKPab	sPKPab	18 14 27.6	-1.3
ZAA0	Zalesovo Array	156.28	33	ePKPdf	PKPdf	18 13 49.1	-0.2
ZALV	Zalesovo Beam	156.28	33	PKP	PKPdf	18 13 48.8	-0.6
	comp=Z,1.2nm,0.8s,baz=259,slow=3.0,SNR=5.4						
ZALV				pPKP	pPKPdf	18 13 56.8	-1.1
	comp=Z,1.7nm,0.8s,baz=320,slow=6.6,SNR=4.8						
ZALV				PKPab	PKPab	18 14 18.3	+0.8
	comp=Z,3.4nm,0.7s,baz=296,slow=4.8,SNR=9.4						
ZALV				pPKPab	sPKPab	18 14 27.6	-1.3
	comp=Z,1.6nm,0.7s,baz=292,slow=4.9,SNR=3.8						
MK31	Makanchi Array	158.73	51	ePKPdf	PKPdf	18 13 52.8	0.0
MK32	Makanchi Array	158.73	51	ePKPdf	PKPdf	18 13 52.6	-0.1
MK32				ePKPab	PKPab	18 14 28.7	+0.2
MK32				epPKPab	sPKPab	18 14 40.2	+0.4
MKAR	Makanchi Array	158.73	51	PKP	PKPdf	18 13 52.6	-0.1
	comp=Z,1.0nm,0.8s,baz=270,slow=1.4,SNR=9.9						
MKAR				pPKP	pPKPdf	18 14 01.4	+0.1
	comp=Z,0.8nm,0.9s,baz=290,slow=4.3,SNR=3.7						
MKAR				PKPab	PKPab	18 14 28.7	+0.2
	comp=Z,1.1nm,0.9s,baz=305,slow=4.3,SNR=5.5						
MKAR				pPKPab	sPKPab	18 14 40.2	+0.4
	comp=Z,0.7nm,0.8s,baz=280,slow=3.1,SNR=3.0						
MK01	Makanchi Array	158.75	51	ePKPdf	PKPdf	18 13 52.8	0.0
CMAR	Chiang Mai Arr	161.51	157	PKP	PKPdf	18 13 57.0	+0.4
	comp=Z,0.3nm,0.3s,baz=225,slow=3.3,SNR=4.0						
CMAR				PKPab	PKPab	18 14 40.0	-1.0
	comp=Z,0.2nm,0.4s,baz=210,slow=5.2,SNR=3.3						
SONA0	Songino Array	167.90	1	ePKPab	PKPab	18 15 09.7	+1.1
SONM	Songino Array	167.90	1	PKPab	PKPab	18 15 09.7	+1.1
	comp=Z,0.8nm,0.9s,baz=346,slow=3.6,SNR=6.6						

*IDC **02** 17:59:42.0±3.8, 20°.95S×178°.33W, h450km±41km, mb3.1/6, mb1 3.4/7, mb1mx3.2/29, mbtmp4.0/7, Error ellipse: s-maj=25.4km s-min=18.4km az=117.0*

ISC 02 17:59:42.0±0.9**, 20°.9S**±0°.1×**178°.3W**±0°.2**, h450**km**, n10, σ0°.67**/12**, mb3.4**/6**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	17.72	192	P	P	18 03 21.5	-0.2
	2.1nm,0.3s,baz=99,slow=15,SNR=9.3						
URZ				S	S	18 06 23.0	+0.7
	0.1nm,0.3s,baz=282,slow=20,SNR=2.3						
ASAR	Alice Springs	44.12	257	P	P	18 07 09.1	-0.2
	0.8nm,0.8s,baz=97,slow=8.0,SNR=15						
ASAR				PcP	PcP	18 08 44.9	-0.2
	0.6nm,0.6s,baz=103,slow=3.8,SNR=11						
WRA	Warramunga Arr	44.24	263	P	P	18 07 09.4	-0.8
	0.7nm,0.5s,baz=95,slow=8.2,SNR=42						
WRA				PcP	PcP	18 08 45.6	+0.1
	0.3nm,0.5s,baz=93,slow=3.3,SNR=3.7						
PETK	Petropavlovsk-	76.61	345	P	P	18 10 45.7	+0.9
	3.5nm,1.0s,baz=129,slow=8.9,SNR=3.5						
NVAR	Mina Array Bea	81.55	43	P	P	18 11 11.8	0.0
	0.2nm,0.5s,baz=224,slow=5.0,SNR=2.3						
ILAR	Eielson Array	88.80	13	P	P	18 11 45.9	-0.4
	0.3nm,0.5s,baz=218,slow=5.3,SNR=5.5						
CMAR	Chiang Mai Arr	89.97	290	P	P	18 11 53.8	+1.0
	0.6nm,0.4s,baz=114,slow=3.4,SNR=8.9						
AKASG	Malin Array Be	143.24	331	PKP	PKPab	18 18 20.9	-0.4
	1.8nm,0.4s,baz=45,slow=4.3,SNR=10						
BRTR	Keskin Array B	146.90	312	PKPbc	PKPbc	18 18 32.7	-0.6
	0.6nm,0.6s,baz=110,slow=3.4,SNR=3.8						
GERES	GERESS Array B	150.53	344	PKPbc	PKPbc	18 18 41.2	-0.8
	0.3nm,0.5s,baz=50,slow=6.5,SNR=3.6						

*SJA **02** 18:30:19.3±0.5, 23°.61S×66°.84W, h211km±4km, ML2.7, MW2.6*
*ISCJB **02** 18:30:21.1±0.9, 23°.59S±0°.06×66°.95W±0°.04, h194km±10km, Error ellipse: s-maj=9.9km s-min=6.1km az=1.8*
*GUC **02** 18:30:22.2±0.6, 23°.58S×67°.28W, h213km±7km, ML3.5*

ISC 02 18:30:19.4±2.1**, 23°.62S**±0°.07×**66°.89W**±0°.05**, h209**km±17km**, n30, σ1°.28**/42**, 6C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HJA	Humahuaca	1.42	74	eP	Pn	18 30 54.1	+0.5
HJA				IAML		18 30 54.8	
	comp=Z,81nm,0.5s						
AZAP	Zapla	1.77	110	eP	Pn	18 30 57.1	+0.5
AZAP				IAML		18 30 57.3	
	comp=Z,52nm,0.5s						
YJA	Yavi	1.91	42	eP	Pn	18 30 58.6	+0.4
YJA				IAML		18 31 00.0	
	comp=Z,11nm,0.4s						
YJA				eS	Sn	18 31 28.6	+0.2
LVC	Limon Verde	2.11	298	eP	Pn	18 31 01.2	+1.1
LVC				IAML		18 31 02.6	
	comp=Z,17nm,0.3s						
LVC				eS	Sn	18 31 31.9	+0.1
LVC	Limon Verde	2.11	298	⇑eP	Pn	18 31 01.2	+1.1
LVC				i S	Sn	18 31 31.2	-0.6
PB15	IPOC Station P	2.41	279	eP	Pn	18 31 04.4	+1.4
PB15	IPOC Station P	2.41	279	eP	Pn	18 31 04.0	+0.9
PB15				i S	Sn	18 31 35.6	-1.5
PB15				IAML		18 31 41.5	
	comp=E,379nm,0.2s						
PB06	IPOC Station P	2.63	290	eP	Pn	18 31 06.7	+1.2
PB06	IPOC Station P	2.63	290	⇑iP	Pn	18 31 06.7	+1.2
PB06				eS	Sn	18 31 39.7	-1.7
PB06				IAML		18 31 42.5	
	comp=N,106nm,0.1s						
ALOL	LOMAS DE OLMED	2.67	95	eP	Pn	18 31 05.8	+0.1
PB09	IPOC Station P	2.83	309	eP	Pn	18 31 09.6	+1.8
PB09	IPOC Station P	2.83	309	eP	Pn	18 31 09.3	+1.6
PB09				i S	Sn	18 31 44.8	-0.7
PB09				IAML		18 31 50.6	
	comp=N,31nm,0.2s						
GO02	Mina Guanaco	2.91	237	⇑iP	Pn	18 31 09.9	+1.3
GO02				i S	Sn	18 31 47.6	+0.4
GO02				IAML		18 31 50.0	
	comp=N,108nm,0.2s						
PB03	IPOC Station P	3.07	300	eP	Pn	18 31 11.4	+1.0
PB03	IPOC Station P	3.07	300	⇑iP	Pn	18 31 11.4	+1.0
PB03				eS	Sn	18 31 48.9	-1.5
PB03				IAML		18 31 50.9	
	comp=N,115nm,0.5s						
PB05	IPOC Station P	3.14	283	eP	Pn	18 31 12.2	+0.9
PB05	IPOC Station P	3.14	283	eP	Pn	18 31 12.1	+0.8
PB05				i S	Sn	18 31 50.0	-1.9
PB05				IAML		18 31 54.3	
	comp=E,28nm,0.2s						
PB04	IPOC Station P	3.27	292	eP	Pn	18 31 13.9	+1.2
PB04	IPOC Station P	3.27	292	⇑iP	Pn	18 31 13.6	+0.8
PB04				eS	Sn	18 31 52.8	-1.8
PB04				IAML		18 31 57.2	
	comp=E,78nm,0.2s						
PB07	IPOC Station P	3.35	304	eP	Pn	18 31 14.6	+0.8
PB07	IPOC Station P	3.35	304	i P	Pn	18 31 14.6	+0.8
PB07				eS	Sn	18 31 54.4	-1.9
PB07				IAML		18 31 56.6	
	comp=E,136nm,0.2s						
PB10	IPOC Station P	3.37	271	eP	Pn	18 31 15.0	+1.2
PB10	IPOC Station P	3.37	271	⇑iP	Pn	18 31 14.8	+1.1
PB10				i S	Sn	18 31 54.2	-2.2
PB10				IAML		18 31 57.2	
	comp=N,32nm,0.3s						
PB02	IPOC Station P	3.60	309	eP	Pn	18 31 17.9	+1.2
PB08	IPOC Station P	4.05	328	eP	Pn	18 31 25.3	+2.8
PB11	IPOC Station P	4.62	326	eP	Pn	18 31 30.1	+0.7
PSGCX	Pisagua	5.00	322	eP	Pn	18 31 35.1	+0.9
MNMCX	Minye Minye	5.13	330	eP	Pn	18 31 37.2	+1.2
PB16	IPOC Station P	5.80	335	eP	Pn	18 31 45.8	+1.0
PB12	IPOC Station P	5.92	327	eP	Pn	18 31 45.3	-0.7

*IDC **02** 18:51:41.8±2.8, 6°.59S×129°.72E, h116km±31km, mb3.2/3, mb1 3.3/7, mb1mx3.2/34, mbtmp3.6/7, Error ellipse: s-maj=42.2km s-min=18.3km az=79.0*
*ISCJB **02** 18:51:42.2±0.8, 6°.58S±0°.06×129°.87E±0°.08, h150km, mb3.3/2, Error ellipse: s-maj=11.3km s-min=8.8km az=7.7*

ISC 02 18:51:40.4±0.9**, 6°.68S**±0°.06×**130°.1E**±0°.1**, h150**km**, n8, σ2°.91**/11**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	5.89	12	P	Pn	18 53 06.3	+0.6
	0.8nm,0.3s,baz=198,slow=20,SNR=16						
SIJI				S	Sn	18 54 08.1	-4.4
	2.2nm,0.3s,baz=243,slow=23,SNR=21						
BATI	Baumata	7.25	241	P	Pn	18 53 24.1	+0.2
	0.8nm,0.3s,baz=98,slow=15,SNR=2.6						
BATI				S	Sn	18 54 45.4	+0.4
	1.8nm,0.3s,baz=182,slow=24,SNR=6.6						
FITZ	Fitzroy Crossi	12.15	200	P	P	18 54 32.0	-3.0
	0.2nm,0.3s,baz=24,slow=12,SNR=11						
FITZ				S	Sn	18 56 40.6	-2.3
	0.2nm,0.3s,baz=97,slow=15,SNR=4.5						
WRA	Warramunga Arr	13.82	163	P	P	18 54 54.0	+0.4
	0.2nm,0.3s,baz=344,slow=12,SNR=14						
WRA				S	Sn	18 57 21.0	-2.3
	0.3nm,0.3s,baz=331,slow=21,SNR=12						
ASAR	Alice Springs	17.29	168	P	Pn	18 55 37.2	+4.4
	0.1nm,0.3s,baz=351,slow=12,SNR=16						
ASAR				S	Sn	18 58 44.6	-1.9
	0.1nm,0.3s,baz=357,slow=27,SNR=6.6						
CTA	Charters Tower	20.60	132	P	Pn	18 56 15.7	+3.8
	0.9nm,0.3s,baz=250,slow=12,SNR=5.1						
SONM	Songino Array	58.16	341	P	P	19 01 23.4	+4.7
	0.4nm,0.9s,baz=100,slow=6.4,SNR=2.9						
MKAR	Makanchi Array	68.00	327	P	P	19 02 25.8	+2.4
	0.3nm,0.5s,baz=118,slow=7.6,SNR=7.3						

MAN 02 18:55:12.8, 9°.33N×126°.24E, h45km**, mb4.5, ML3.4, MS3.2, 1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	Butuan	0.71	240	eP	Pn	18 55 28.0	+1.4
BUTP				eS	Sn	18 55 38.3	+1.9
BIPH	Bislig	1.14	174	⇓iP	Pn	18 55 32.0	-0.4
BIPH				i S	Sn	18 55 47.8	+1.0
MSLP	Maasin	1.58	301	eP	Pn	18 55 39.6	+1.2
MSLP				eS	Sn	18 55 59.3	+1.6
CGP	Cagayan de Oro	1.76	241	⇑eP	Pn	18 55 41.4	+0.6
CGP				eS	Sn	18 56 02.8	+0.8
BUKP	Musuan	1.85	219	eP	Pn	18 55 42.8	+0.6
BUKP				eS	Sn	18 56 00.3	-4.1
OCLP	Ormoc	2.35	317	eP	Pn	18 55 47.2	-1.8
OCLP				eS	Sn	18 56 08.3	-8.4
CNP	Catarman	3.52	334	eP	Pn	18 56 05.8	+0.6

IDC 02 19:06:52.6±6.2**, 28°.20S**×**178°.37W, h0**km**, mb3.9**/4**, mb1 4.0**/4**, mb1mx3.7**/24**, mbtmp3.9**/4**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.6**/35**, Error ellipse: s-maj=139.3km s-min=19.1km az=48.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.12	159	Pn	Pn	19 07 16.3	+0.7
	206nm,0.3s,baz=64,slow=21,SNR=5.5						
RAO				Sn	Sb	19 07 30.8	+0.8
	515nm,0.3s,baz=8.7,slow=23,SNR=7.6						
PPT	Papeete	28.49	74	LR	LR	19 22 05.4	
	comp=Z,63nm,20.4s,baz=276,slow=32						
CTA	Charters Tower	33.18	276	P	P	19 13 30.2	-1.0
	1.5nm,0.7s,baz=72,slow=9.6,SNR=2.4						
STKA	Stephens Creek	34.72	254	P	P	19 13 43.9	-0.5
	1.3nm,0.5s,baz=91,slow=10.0,SNR=7.9						
ASAR	Alice Springs	42.94	265	P	P	19 14 53.9	+0.3
	0.5nm,0.6s,baz=104,slow=8.0,SNR=14						
WRA	Warramunga Arr	43.73	270	P	P	19 15 00.4	+0.5
	1.1nm,0.6s,baz=109,slow=7.8,SNR=19						

*IDC **02** 19:35:13.9±0.4, 15°.74S×172°.06W, h0km, mb4.7/26, mb1 4.8/26, mb1mx4.7/46, mbtmp4.6/26, MS4.0/28, Ms1 4.0/28, ms1mx3.9/48, Error ellipse: s-maj=19.2km s-min=12.6km az=144.0*
*NEIC **02** 19:35:15.6±0.2, 15°.84S×172°.14W, h10km, mb5.0/109, Error ellipse: s-maj=7.6km s-min=4.5km az=150.0*
*WEL **02** 19:35:17.0, 15°.73S×172°.18W, h17km*
*ISCJB **02** 19:35:18.4±0.2, 15°.64S±0°.05×172°.17W±0°.05, h33km, mb4.8/138, MS4.0/28, Error ellipse: s-maj=8.0km s-min=4.5km az=136.0*
*MOS **02** 19:35:18.6±1.1, 15°.72S×172°.14W, h33km, mb5.0/28, Error ellipse: s-maj=12.3km s-min=8.7km az=53.8*
*GCMT **02** 19:35:22.6±0.4, 15°.84S±0°.02×171°.95W±0°.02, h46km±1km, MW5.0/77, Moment Tensor Solution. s30,c35; s77,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.61±.23; $M_{\theta\theta}$0.93±.18; $M_{\phi\phi}$-3.54±.14; $M_{r\theta}$-1.80±.13; $M_{\theta\phi}$-0.36±.10; $M_{\phi r}$-0.51±.12; Best double couple: $M_0$3.70500×10^{16} NP1:ϕ_s213.00000°, δ59.00000°, λ128.00000°. NP2: ϕ_s337.00000°, δ47.00000°, λ45.00000°. Principal axes: T 3.7650, Plg58.0000°, Azm176.0000°; N -0.1170, Plg31.0000°, Azm11.0000°; P -3.6440, Plg7.0000°, Azm277.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 19:35:20.0±0.3**, 15°.84S**±0°.06×**171°.93W**±0°.06**, h41**km**, n443, σ1°.46**/423**, mb4.9**/137**, MS4.1**/28**, 9C-8D, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	Niue	3.74	150	ePn	Pn	19 36 13.1	-2.1
RAR	Rarotonga	12.71	117	Pn	Pn	19 38 15.0	-3.2
	9.3nm,0.3s,baz=260,slow=8.5,SNR=20						
RAR				Sn	Sn	19 40 23.9	-15
	1.5nm,0.3s,baz=131,slow=20,SNR=3.3						
GLKZ	Green Lake	14.45	201	P	Pn	19 38 38.0	-3.9
GLKZ				S	Sn	19 41 11.1	-10
DZM	Mont Dzumac	21.36	250	P	P	19 39 59.5	-4.5
	22nm,1.2s,baz=104,slow=12,SNR=2.3						
DZM				LR	LR	19 46 07.2	
	comp=Z,205nm,20.0s,baz=96,slow=31						
DZM	Mont Dzumac	21.36	250	eLR	LR	19 45 28.8	
	comp=Z,783nm,25.4s						
PAE	Paea	21.48	98	eT	T	20 01 35.6	
	1.6nm,0.2s						
PPT	Papeete	21.48	98	LR	LR	19 46 00.0	
	comp=Z,286nm,20.7s,baz=264,slow=30						
PPT2	Papeete2	21.48	98	eS	S	19 43 58.0	-3.7
	334nm,24.1s						
PPT2				eLQ	LQ	19 44 11.6	
	722nm,26.0s						
PPT2				eLR	LR	19 45 08.8	
	comp=Z,738nm,24.8s						
PPT2	Papeete2	21.48	98	eT	T	20 01 38.0	
	3.5nm,0.4s						
TBI	Tubuai	22.43	113	eS	S	19 44 17.0	-2.3
	441nm,29.1s						
TBI				eLQ	LQ	19 44 38.9	
	692nm,29.2s						
TBI				eLR	LR	19 45 27.9	
	comp=Z,1μm,26.8s						
TBI	Tubuai	22.43	113	eT	T	20 02 55.3	
	5.1nm,0.3s						
OUZ	Omahuta	23.25	211	P	P	19 40 24.0	+0.2
WCZ	Waipu Caves	23.46	209	P	P	19 40 27.3	+1.4
WMGZ	Waiomatatini S	23.49	199	P	P	19 40 30.7	+4.6
WMGZ				S	S	19 44 38.5	+1.6
KUZ	Kuaotunu	23.53	205	P	P	19 40 30.6	+4.1
HAZ	Te Kaha	23.65	201	P	P	19 40 33.6	+6.1
HAZ				S	S	19 44 42.0	+2.7
PKGZ	Pakihiroa	23.67	200	P	P	19 40 34.3	+6.5
PUZ	Puketiti	23.77	199	P	P	19 40 33.0	+4.2
PUZ				S	S	19 44 40.5	-1.0
WIAZ	Waiheke Island	23.82	206	P	P	19 40 33.0	+3.8
RUGZ	Raukumara Rang	23.87	201	P	P	19 40 34.1	+4.3
TWGZ	Tauwhareparae	23.96	200	P	P	19 40 38.6	+8.1
MKAZ	Moumakai	24.07	206	P	P	19 40 32.3	+0.7
MWZ	Matawai	24.25	200	P	P	19 40 40.0	+6.8
URZ	Urewera	24.33	201	P	P	19 40 37.2	+3.4
	22nm,0.6s,baz=22,slow=3.2,SNR=23						
URZ				S	S	19 44 57.1	+6.8
	16nm,0.8s,baz=228,slow=23,SNR=5.8						
URZ	Urewera	24.33	201	eP	P	19 40 37.1	+3.3
	33nm,0.7s						
URZ	Urewera	24.33	201	P	P	19 40 39.3	+5.5
URZ				S	S	19 44 55.7	+5.3
LIRZ	Lichensteins R	24.36	203	P	P	19 40 46.6	+12
SNGZ	Shannon Statio	24.72	200	P	P	19 40 45.7	+8.3
SNGZ				S	S	19 45 09.0	+12
HRRZ	Handcock Road	24.74	203	P	P	19 40 45.7	+8.0
KNZ	Kokohu	24.83	200	P	P	19 40 47.7	+9.3
MTHZ	Maungataniwha	24.95	201	P	P	19 40 46.9	+7.3
HNR	Honiara	28.15	280	LR	LR	19 51 33.4	
	comp=Z,237nm,18.1s,baz=122,slow=35						
RKT	Rikitea	35.52	108	eLR	LR	19 51 19.6	
	comp=Z,571nm,28.2s						
RKT	Rikitea	35.52	108	eT	T	20 19 13.7	
	4.2nm,0.3s						
KIP	Kipapa	39.47	21	ceP	P	19 42 48.0	+1.4
KIP				pmax	pmax		
	comp=Z,261nm,2.5s						
PMG	Port Moresby	40.37	274	P	P	19 42 53.1	-1.1
	comp=Z,11nm,0.8s,baz=105,slow=6.8,SNR=7.6						
PMG	Port Moresby	40.37	274	eP	P	19 42 54.1	-0.1
	comp=Z,11nm,0.8s						
TOO	Toolangi	43.29	232	P	P	19 43 17.5	-0.4
TOO				pmax	pmax		
	comp=Z,18nm,2.9s						
COEN	Coen	43.36	266	eP	P	19 43 18.5	-0.2
	comp=Z,17nm,0.8s						
STKA	Stephens Creek	45.05	241	P	P	19 43 31.4	-0.6
	comp=Z,12nm,1.0s,baz=82,slow=9.2,SNR=19						
STKA	Stephens Creek	45.05	241	eP	P	19 43 31.8	-0.2
	comp=Z,2.6nm,0.9s						
WB2	Warramunga Arr	51.11	257	eP	P	19 44 18.0	-1.1
WRAB	Tennant Creek	51.11	257	eP	P	19 44 18.0	-1.0
	comp=Z,19nm,1.1s						
WRAB	Tennant Creek	51.11	257	eP	P	19 44 18.0	-1.0
WRAB				pmax	pmax		
	comp=Z,19nm,1.1s						
WR1	Warramunga Arr	51.12	257	eP	P	19 44 18.0	-1.1
	comp=Z,24nm,1.0s						
WRA	Warramunga Arr	51.12	257	P	P	19 44 18.0	-1.1
	comp=Z,10nm,1.0s,baz=92,slow=7.3,SNR=69						
WRA				LR	LR	20 04 04.7	
	comp=Z,106nm,20.9s,baz=100,slow=34						
AS01	Alice Springs	51.27	252	eP	P	19 44 18.7	-1.5
AS31	Alice Springs	51.32	252	eP	P	19 44 19.6	-1.0
	comp=Z,6.0nm,1.0s						
ASAR	Alice Springs	51.32	252	P	P	19 44 19.4	-1.3
	comp=Z,16nm,0.8s,baz=88,slow=7.9,SNR=147						
ASAR				LR	LR	20 04 45.9	
	comp=Z,197nm,20.1s,baz=96,slow=35						
GUMO	Guam	51.76	302	LR	LR	20 00 30.7	
	comp=Z,77nm,21.0s,baz=76,slow=29						
SIJI	Sorong	57.92	279	P	P	19 45 08.1	-0.5
	comp=Z,33nm,0.8s,baz=74,slow=5.8,SNR=23						
SOEI	Soe	62.32	267	eP	P	19 45 40.5	+1.7
	comp=Z,26nm,1.0s						
SBA	Scott Base	62.93	185	P	P	19 45 43.4	+1.7
SBA				pmax	pmax		
	comp=Z,17nm,1.0s						
VNDA	Vanda	63.09	186	P	P	19 45 43.7	+0.9
	comp=Z,5.7nm,1.0s,baz=6.0,slow=6.2,SNR=17						
VNDA				LR	LR	20 08 17.6	
	comp=Z,36nm,21.6s,baz=48,slow=31						
VNDA	Vanda	63.09	186	eP	P	19 45 43.2	+0.5
VNDA				epP	P	19 45 44.1	+1.4
PCI	Palu	68.83	275	P	P	19 46 22.8	+2.0
PCI				pmax	pmax		
	comp=Z,28nm,1.2s						
MJAR	Matsushiro Arr	70.19	319	P	P	19 46 27.2	-1.5
	comp=Z,2.9nm,1.1s,baz=166,slow=6.4,SNR=5.4						
MJAR				LR	LR	20 11 43.0	
	comp=Z,130nm,21.7s,baz=145,slow=31						
MAJO	Matsushiro	70.19	319	eP	P	19 46 27.2	-1.5
MAJO	Matsushiro	70.19	319	eP	P	19 46 27.2	-1.5
KMRM	Mail Ridge	71.55	37	eP	P	19 46 38.3	+1.3
	comp=Z,17nm,0.8s						
VES	Vestal, Richgr	71.69	43	P	P	19 46 39.2	+1.4
	baz=234						
EDW2	Edwards Air Fo	71.86	44	P	P	19 46 40.0	+1.1
	baz=235						
ISA	Isabella, Lake	71.99	43	eP	P	19 46 41.2	+1.5
	comp=Z,4.4nm,1.0s						
ISA	Isabella, Lake	71.99	43	eP	P	19 46 41.2	+1.5
ISA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ISA	Isabella, Lake	71.99	43	P	P	19 46 41.3	+1.5
	baz=234						
O02D	Mt. Diablo Mer	72.06	38	P	P	19 46 41.9	+1.8
	baz=230						
LPIG	La Paz	72.07	58	LR	LR	20 10 35.2	
	comp=Z,98nm,18.9s,baz=216,slow=29						
CMB	Columbia Colle	72.17	41	eP	P	19 46 41.8	+1.1
	comp=Z,4.6nm,0.8s						
CMB	Columbia Colle	72.17	41	eP	P	19 46 41.8	+1.1
CMB				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TPFO	Pinon Flats	72.20	46	P	P	19 46 43.1	+2.1
	baz=236						
AFDM	Forest Hills D	72.37	39	eP	P	19 46 42.9	+1.0
	comp=Z,3.8nm,0.9s						
WDC	Whiskeytown Da	72.46	37	eP	P	19 46 43.7	+1.4
	comp=Z,22nm,1.7s						
WDC	Whiskeytown Da	72.46	37	eP	P	19 46 43.7	+1.4
WDC				pmax	pmax		
	comp=Z,22nm,1.7s						
N02D	Trinity Center	72.62	37	P	P	19 46 45.0	+1.7
	baz=230						
CWC	Cottonwood Cre	72.70	43	P	P	19 46 45.2	+1.1
	baz=234						
M02C	Callahan	72.80	37	P	P	19 46 45.8	+1.3
	baz=230						
MPMC	Manual Prospec	72.87	44	P	P	19 46 46.4	+1.3
	baz=235						
HEC	Hector,Ludlow	72.96	45	P	P	19 46 46.6	+1.1
	baz=236						
WAKR	Walker	73.05	41	eP	P	19 46 47.5	+1.4
	comp=Z,6.1nm,1.0s						
YBH	Yreka Blue Hor	73.11	36	P	P	19 46 46.9	+0.6
	comp=Z,4.9nm,0.7s,baz=206,slow=1.9,SNR=20						
YBH				LR	LR	20 10 18.9	
	comp=Z,213nm,21.2s,baz=229,slow=29						
BEKR	Beckworth	73.31	39	eP	P	19 46 48.7	+1.1
	comp=Z,4.2nm,0.8s						
YERR	Yerington	73.46	40	eP	P	19 46 49.8	+1.2
	comp=Z,9.5nm,1.1s						
PETK	Petropavlovsk-	73.49	341	P	P	19 46 48.0	-0.1
	comp=Z,4.9nm,0.7s,baz=120,slow=8.8,SNR=4.7						
PETK	Petropavlovsk-	73.49	341	P	P	19 46 48.0	-0.1
PEA1	Petropavlovsk-	73.49	341	eP	P	19 46 48.0	-0.2
M04C	Macdoel	73.64	37	P	P	19 46 50.7	+1.3
	baz=230						
L04D	Klamath Falls	73.65	36	P	P	19 46 50.6	+1.1
	baz=230						
RYN	Ryan	73.70	41	eP	P	19 46 50.9	+1.0
	comp=Z,6.0nm,1.1s						
NV01	Mina Array Sit	73.72	41	eP	P	19 46 50.8	+0.7
NVAR	Mina Array Bea	73.72	41	P	P	19 46 51.2	+1.1
	comp=Z,5.0nm,0.8s,baz=222,slow=9.6,SNR=34						
NVAR				LR	LR	20 12 41.1	
	comp=Z,142nm,19.6s,baz=253,slow=30						
NV11	Mina Array Sit	73.81	41	eP	P	19 46 51.7	+1.1
	comp=Z,0.5nm,1.0s						

TPNV **Topopah Spring** 74.20 43 eP P 19 46 54.0 +1.1
comp=Z,5.4nm,0.9s
TPNV **Topopah Spring** 74.20 43 P P 19 46 53.5 +0.7
baz=236
QSPA **South Pole Qui** 74.21 180 eP P 19 46 53.1 +0.7
comp=Z,36nm,0.9s
KVN **Kaiserville** 74.21 41 eP P 19 46 54.0 +1.0
comp=Z,9.2nm,1.2s
KVN **Kaiserville** 74.21 41 eP P 19 46 54.0 +1.0
KVN pmax pmax
comp=Z,9.0nm,1.2s
J04D **Umpqua Nationa** 74.42 35 P P 19 46 55.6 +1.5
baz=230
MOD **Modoc Plateau** 74.60 37 eP P 19 46 56.2 +1.1
comp=Z,8.1nm,0.8s
SHPR **Sheep Range** 74.68 44 eP P 19 46 56.9 +1.3
comp=Z,6.9nm,1.0s
J05D **Fort Rock, OR** 74.94 36 P P 19 46 58.2 +1.2
baz=230
KDAK **Kodiak Island** 75.08 11 P P 19 46 57.3 +0.1
comp=Z,14nm,0.9s,baz=191,slow=5.2,SNR=3.5
R11A **Troy Canyon, C** 75.42 43 eP P 19 47 00.8 +0.9
comp=Z,7.4nm,1.5s
R11A **Troy Canyon, C** 75.42 43 P P 19 47 00.7 +0.8
baz=236
PINE **Pine Mountain** 75.43 36 eP P 19 47 01.2 +1.3
comp=Z,12nm,0.9s
TUC **Tucson** 75.58 50 P P 19 47 01.8 +0.9
TUC pmax pmax
comp=Z,8.0nm,2.4s
WVOR **Wild Horse Val** 75.91 38 eP P 19 47 02.6 +0.1
comp=Z,12nm,1.3s
WVOR **Wild Horse Val** 75.91 38 eP P 19 47 02.6 +0.1
WVOR pmax pmax
comp=Z,13nm,1.3s
CCUT **Cedar City** 76.45 44 eP P 19 47 06.0 +0.1
comp=Z,6.0nm,1.1s
KNB **Kanab** 76.53 45 eP P 19 47 07.9 +1.6
comp=Z,15nm,1.2s
KNB **Kanab** 76.53 45 eP P 19 47 07.9 +1.6
KNB pmax pmax
comp=Z,15nm,1.2s
J08A **Circle Bar Ran** 76.56 37 eP P 19 47 07.5 +1.2
comp=Z,9.3nm,1.0s
U15A **North Rim** 76.59 46 eP P 19 47 08.3 +1.5
comp=Z,14nm,1.4s
PSUT **Pine Spring** 76.66 43 eP P 19 47 08.2 +1.2
comp=Z,3.8nm,0.9s
SZCU **Shurtz Canyon** 76.66 44 eP P 19 47 09.6 +2.5
comp=Z,8.6nm,1.2s
ELK **Elko** 76.99 41 P P 19 47 09.2 +0.4
comp=Z,2.4nm,0.8s,baz=260,slow=4.4,SNR=12
ELK LR LR 20 13 50.0
comp=Z,176nm,19.9s,baz=228,slow=30
ELK **Elko** 76.99 41 eP P 19 47 09.9 +1.0
comp=Z,5.2nm,1.0s
HPIG 77.08 57 eP P 19 47 09.4 -0.2
comp=Z,18nm,1.3s
PKCU **Pink Cliffs** 77.11 45 eP P 19 47 10.1 +0.4
comp=Z,24nm,1.3s
KSRS **Korea Array** 77.46 315 P P 19 47 11.4 +0.2
comp=Z,2.2nm,0.8s,baz=134,slow=7.0,SNR=3.7
KSRS LR LR 20 15 50.7
comp=Z,40nm,20.4s,baz=90,slow=32
G08A **Pilot Rock** 77.47 35 eP P 19 47 10.9 -0.4
comp=Z,13nm,1.3s
KS15 **Wonju Array Si** 77.48 315 eP P 19 47 10.5 -0.9
KSAR **Wonju Array Be** 77.48 315 P P 19 47 11.4 +0.1
KSAR **Wonju Array Be** 77.48 315 P P 19 47 11.5 +0.1
MTPU **Mount Pierson** 77.50 44 eP P 19 47 13.2 +1.3
comp=Z,8.6nm,1.0s
BBB **Bella Bella** 77.66 26 LR LR 20 15 49.6
comp=Z,84nm,21.1s,baz=180,slow=31
B05A **Bryant** 77.70 32 P P 19 47 13.5 +1.2
baz=229
MSU **Marysvale** 77.76 44 eP P 19 47 15.1 +1.9
MSU **Marysvale** 77.76 44 eP P 19 47 15.1 +1.9
121A **Cookes Peak, D** 77.92 51 P P 19 47 15.8 +1.7
baz=242
BMO **Blue Mountains** 78.13 36 eP P 19 47 15.6 +0.6
comp=Z,4.7nm,1.0s
BMO **Blue Mountains** 78.13 36 eP P 19 47 15.6 +0.6
BMO pmax pmax
comp=Z,5.0nm,1.0s
DUG **Dugway, Tooele** 78.23 42 P P 19 47 16.7 +1.0
baz=238
D08A **Wollman Farm,** 78.58 34 eP P 19 47 18.1 +0.8
comp=Z,13nm,1.1s
USRK **Ussuriysk Ar.** 78.59 322 LR LR 20 15 09.4
comp=Z,119nm,21.2s,baz=119,slow=30
Q16A **Castle Valley** 78.64 44 eP P 19 47 20.4 +2.3
comp=Z,25nm,1.6s
TMUT **Trail Mountain** 78.81 44 eP P 19 47 20.9 +1.9
comp=Z,15nm,1.1s
F10A **Beach Ranch, E** 78.85 35 eP P 19 47 19.3 +0.4
comp=Z,9.0nm,0.9s
SUA **Susitna One** 78.87 10 eP P 19 47 18.6 -0.1
comp=Z,75nm,1.9s
HLID **Hailey** 79.08 39 eP P 19 47 21.3 +1.0
comp=Z,6.3nm,0.8s
HLID **Hailey** 79.08 39 P P 19 47 21.6 +1.3
baz=236
HVU **Hansel Valley** 79.11 41 eP P 19 47 21.2 +0.7
comp=Z,7.4nm,1.1s
HVU **Hansel Valley** 79.11 41 eP P 19 47 21.2 +0.7
HVU pmax pmax
comp=Z,7.0nm,1.1s
B08A **Colville Reser** 79.18 33 eP P 19 47 20.5 0.0
comp=Z,6.5nm,1.0s
P17A **Butcher Ranch,** 79.21 44 eP P 19 47 22.1 +1.0
comp=Z,15nm,1.1s
LENM **Lemitar** 79.27 50 eP P 19 47 21.3 -0.3
MNTX **Cornudas Mount** 79.36 53 eP P 19 47 23.4 +1.4
comp=Z,11nm,1.0s
MNTX **Cornudas Mount** 79.36 53 P P 19 47 23.2 +1.3
baz=244
BNM **Barren Site** 79.52 50 eP P 19 47 24.7 +1.7
PV05 **Paradox Valley** 79.62 46 eP P 19 47 25.4 +2.0
TCUT **Toone Canyon** 79.62 42 eP P 19 47 24.8 +1.4
comp=Z,28nm,0.9s
TX31 **Lajitas Ar. Si** 79.69 56 eP P 19 47 24.9 +1.0
TXAR **Lajitas Array** 79.69 56 P P 19 47 25.4 +1.6
comp=Z,7.4nm,1.0s,baz=224,slow=6.9,SNR=33
TXAR LR LR 20 14 23.8
comp=Z,82nm,21.2s,baz=0.0,slow=30
LTX **Lajitas** 79.69 56 eP P 19 47 25.4 +1.6
LTX **Lajitas** 79.69 56 eP P 19 47 25.5 +1.6
PV09 **Paradox Valley** 79.80 45 eP P 19 47 25.5 +1.0
PV10 **Paradox Valley** 79.81 45 eP P 19 47 25.9 +1.4
PV19 **Morning Glory** 79.81 45 eP P 19 47 26.0 +1.5
comp=Z,18nm,1.1s
PV17 **East Wray Mesa** 79.81 45 eP P 19 47 25.7 +1.2
comp=Z,30nm,1.4s
PV14 **Lion Creek, Pa** 79.82 45 eP P 19 47 25.8 +1.3
comp=Z,22nm,1.1s
PV20 **West Nyswonger** 79.84 45 eP P 19 47 25.8 +1.2
comp=Z,22nm,1.3s
PV13 **Radium Mtn., P** 79.85 46 eP P 19 47 26.0 +1.3
comp=Z,10nm,1.0s
PV16 **Nyswonger Mesa** 79.86 45 eP P 19 47 26.1 +1.3
comp=Z,21nm,1.4s
PV23 **Carpenter Ridg** 79.86 45 eP P 19 47 26.3 +1.4
comp=Z,15nm,0.9s
PV03 **Paradox Valley** 79.88 45 eP P 19 47 26.1 +1.2
PV11 **David Mesa, Pa** 79.88 45 eP P 19 47 26.7 +1.8
comp=Z,24nm,1.4s
PV02 **Paradox Valley** 79.93 46 eP P 19 47 24.3 -0.9
comp=Z,13nm,1.1s
PV12 **Saucer Basin,** 79.94 45 eP P 19 47 26.6 +1.4
comp=Z,29nm,1.3s
PV21 **Cone Mtn., Par** 79.94 45 eP P 19 47 26.7 +1.5
comp=Z,14nm,1.0s
ANMO **Albuquerque** 80.01 49 LR LR 20 15 38.3
comp=Z,122nm,19.1s,baz=260,slow=30
ANMO **Albuquerque** 80.01 49 eP P 19 47 26.7 +1.1
comp=Z,29nm,1.8s
ANMO **Albuquerque** 80.01 49 ceP P 19 47 26.3 +0.7
ANMO pmax pmax
comp=Z,10.0nm,1.3s
ANMO **Albuquerque** 80.01 49 P P 19 47 26.8 +1.2
baz=243
PV01 **Paradox Valley** 80.01 46 eP P 19 47 26.8 +1.2
NEW **Newport** 80.28 34 P P 19 47 25.8 -0.8
comp=Z,1.4nm,0.6s,baz=240,slow=8.6,SNR=2.9
GDL2 **Guadalupe Moun** 80.36 53 eP P 19 47 29.3 +1.9
CAST **Castle Rocks** 80.50 9 eP P 19 47 26.2 -1.2
comp=Z,32nm,2.0s

MCMT **McKenzie Canyo** 80.72 38 eP P 19 47 30.5 +1.2
TRF **Thorofare Moun** 80.81 10 eP P 19 47 29.1 -0.1
comp=Z,16nm,0.8s
S22A **4UR Ranch, Cre** 81.04 47 eP P 19 47 32.5 +1.3
comp=Z,11nm,1.0s
S22A **4UR Ranch, Cre** 81.04 47 P P 19 47 32.7 +1.6
baz=242
TPAW **Teton Pass** 81.16 40 eP P 19 47 32.8 +1.1
comp=Z,7.2nm,0.9s
DLMT **Dillon** 81.16 38 eP P 19 47 32.6 +1.1
comp=Z,12nm,1.4s
MSO **Missoula** 81.20 36 eP P 19 47 31.0 -0.6
comp=Z,11nm,1.4s
MSO **Missoula** 81.20 36 P P 19 47 31.7 +0.1
baz=236
O20A **White River Ci** 81.21 44 P P 19 47 32.6 +0.7
baz=241
MCK **McKinley** 81.30 10 eP P 19 47 31.5 -0.1
comp=Z,35nm,0.9s
MCK **McKinley** 81.30 10 eP P 19 47 31.5 -0.1
MCK pmax pmax
comp=Z,35nm,0.9s
LNIG **Linares** 81.39 61 eP P 19 47 32.9 0.0
comp=Z,15nm,0.8s
DLBC **Dease Lake** 81.60 21 P P 19 47 32.9 -0.5
comp=Z,3.8nm,0.8s,baz=118,slow=6.8,SNR=4.0
DLBC **Dease Lake** 81.60 21 eP P 19 47 32.9 -0.5
comp=Z,22nm,1.8s
SMCO **Snowmass** 81.61 45 eP P 19 47 35.3 +1.0
comp=Z,26nm,1.4s
FLWY **Flagg Ranch** 81.62 40 eP P 19 47 35.5 +1.5
comp=Z,37nm,1.8s
BW06 **Boulder Array** 81.66 41 eP P 19 47 34.8 +0.5
comp=Z,18nm,1.6s
PD31 **Pinedale Array** 81.66 41 eP P 19 47 34.7 +0.4
PDAR **Pinedale Array** 81.66 41 P P 19 47 34.2 0.0
comp=Z,1.5nm,0.8s,baz=205,slow=3.2,SNR=13
PDAR LR LR 20 18 22.1
comp=Z,118nm,20.0s,baz=263,slow=32
PDAR **Pinedale Array** 81.66 41 eP P 19 47 33.8 -0.5
KLR **Kul'dur** 81.66 327 LR LR 20 18 30.2
comp=Z,71nm,21.7s,baz=189,slow=32
YHB **Horse Butte** 81.67 39 eP P 19 47 35.9 +1.6
comp=Z,12nm,1.3s
YMR **Madison River** 81.77 39 eP P 19 47 36.6 +1.8
comp=Z,31nm,1.7s
BOZ **Bozeman (W)** 81.86 38 eP P 19 47 36.2 +1.1
comp=Z,32nm,1.9s
BOZ **Bozeman (W)** 81.86 38 eP P 19 47 36.3 +1.1
BOZ pmax pmax
comp=Z,32nm,1.9s
BOZ **Bozeman (W)** 81.86 38 P P 19 47 36.4 +1.1
baz=238
H17A **Grant Village** 81.86 39 eP P 19 47 35.5 +0.2
comp=Z,24nm,2.0s
H17A **Grant Village** 81.86 39 P P 19 47 37.0 +1.7
baz=239
SDCO **Great Sand Dun** 81.97 47 eP P 19 47 37.2 +1.1
comp=Z,3.6nm,0.8s
SDCO **Great Sand Dun** 81.97 47 P P 19 47 37.1 +1.0
baz=243
RIDG **Independ'e Rid** 82.06 12 eP P 19 47 34.8 -0.8
comp=Z,18nm,1.1s
WRH **Wood River Hil** 82.13 10 eP P 19 47 35.8 -0.1
comp=Z,44nm,0.9s
DOT **Dot Lake** 82.13 12 eP P 19 47 36.5 +0.5
comp=Z,16nm,1.0s
MLY **Manley** 82.23 9 eP P 19 47 36.4 -0.1
comp=Z,18nm,0.8s
HDA **Harding Lake** 82.27 11 eP P 19 47 36.5 -0.2
comp=Z,26nm,1.0s
HDA **Harding Lake** 82.27 11 P P 19 47 36.7 0.0
baz=204
MSTX **Muleshoe** 82.32 52 eP P 19 47 39.0 +1.2
comp=Z,20nm,0.9s
MSTX **Muleshoe** 82.32 52 P P 19 47 38.4 +0.6
baz=245
CN2 **Changchun** 82.33 320 eP P 19 47 36.9 -0.6
HRY **Holter Researc** 82.34 37 eP P 19 47 38.5 +0.9
SCRK **Sand Creek** 82.44 12 eP P 19 47 38.3 +0.6
comp=Z,13nm,1.0s
T25A **Trinidad** 82.47 48 eP P 19 47 39.8 +1.1
comp=Z,6.1nm,0.8s
T25A **Trinidad** 82.47 48 P P 19 47 39.4 +0.8
baz=244
TCOL **CIGO, UAF Yank** 82.54 10 P P 19 47 38.5 +0.5
baz=204
MDM **Murphy Dome** 82.55 10 eP P 19 47 38.3 +0.1
comp=Z,20nm,1.0s
ILAR **Eielson Array** 82.61 11 P P 19 47 38.1 -0.3
comp=Z,6.9nm,0.7s,baz=218,slow=5.9,SNR=57
ILAR LR LR 20 15 21.4
comp=Z,91nm,21.1s,baz=180,slow=29
ILB **Eielson Array** 82.61 11 eP P 19 47 38.4 0.0
IL1 **Eielson Array** 82.61 11 eP P 19 47 38.0 -0.5
RWWY **Rawlins** 82.64 43 eP P 19 47 40.2 +0.7
comp=Z,31nm,1.2s
CMIG **Matias Romero** 82.70 70 LR LR 20 15 47.7
comp=Z,102nm,18.5s,baz=207,slow=29
IM3 **Indian Mountai** 82.72 7 eP P 19 47 39.4 +0.4
Q24A **Divide** 82.77 46 eP P 19 47 41.6 +1.3
comp=Z,15nm,0.9s
Q24A **Divide** 82.77 46 P P 19 47 41.9 +1.6
baz=243
ISCO **Idaho Springs** 82.83 45 eP P 19 47 41.9 +1.3
comp=Z,5.4nm,0.9s
ISCO **Idaho Springs** 82.83 45 P P 19 47 41.8 +1.3
ISCO **Idaho Springs** 82.83 45 P P 19 47 41.5 +0.9
baz=243
POKR **Poker Plat Res** 82.83 10 P P 19 47 39.6 0.0
baz=204
RLMT **Red Lodge** 83.03 39 eP P 19 47 42.6 +1.3
comp=Z,14nm,1.2s
RLMT **Red Lodge** 83.03 39 P P 19 47 42.5 +1.2
baz=240
N23A **Red Feather La** 83.11 44 eP P 19 47 43.2 +1.3
comp=Z,17nm,1.0s
N23A **Red Feather La** 83.11 44 P P 19 47 43.0 +1.0
baz=242
JCT **Junction City** 83.22 56 P P 19 47 42.7 +0.2
baz=247
SEY **Seymchan** 83.31 344 P P 19 47 39.9 -2.3
comp=Z,5.5nm,0.9s,baz=124,slow=6.0,SNR=7.7
SEY **Seymchan** 83.31 344 iP P 19 47 41.5 -0.6
DAWY **Dawson** 83.50 14 eP P 19 47 43.8 +0.7
comp=Z,21nm,0.9s
AMTX **Amarillo** 83.52 51 eP P 19 47 44.6 +0.6
comp=Z,20nm,1.0s
AMTX **Amarillo** 83.52 51 P P 19 47 44.3 +0.4
baz=246
PRP **Porcupine Dome** 83.53 11 eP P 19 47 44.2 +0.9
comp=Z,53nm,1.3s
K22A **Casper** 83.55 42 P P 19 47 45.5 +1.4
baz=242
RDOG **Red Dog Mine** 83.92 3 eP P 19 47 46.4 +1.3
comp=Z,12nm,0.9s
ABTX **Abilene, Hawle** 84.17 54 eP P 19 47 48.2 +0.9
comp=Z,34nm,0.9s
ABTX **Abilene, Hawle** 84.17 54 P P 19 47 47.7 +0.4
baz=247
COLD **Coldfoot** 84.37 8 eP P 19 47 48.8 +1.3
comp=Z,13nm,1.3s
USHA **Ushuaia** 84.76 146 LR LR 20 15 27.5
comp=Z,180nm,21.7s,baz=234,slow=28
BILL **Bilibino** 85.14 352 iP P 19 47 51.4 +0.1
BILL i 19 47 58.1
BILL pmax pmax
comp=Z,17nm,1.1s
WMOK **Wichita Mounta** 85.65 52 eP P 19 47 54.9 +0.2
comp=Z,23nm,1.9s
WMOK **Wichita Mounta** 85.65 52 eP P 19 47 54.9 +0.2
WMOK pmax pmax
comp=Z,23nm,1.9s
WMOK **Wichita Mounta** 85.65 52 P P 19 47 54.8 +0.2
baz=248
RSSD **Black Hills** 85.84 42 P P 19 47 55.2 -0.4
baz=244
EPYK **Eagle Plains** 86.06 13 P P 19 47 56.0 +0.1
baz=214
DGMT **Dagmar** 87.70 38 P P 19 48 05.0 +0.7
baz=243
MAW **Mawson** 87.82 198 P P 19 48 04.8 +0.2
comp=Z,18nm,0.7s,baz=145,slow=5.6,SNR=8.4
MAW LR LR 20 24 10.3
comp=Z,54nm,20.6s,baz=137,slow=33
MAW **Mawson** 87.82 198 eP P 19 48 04.8 +0.2
comp=Z,49nm,1.9s
MAW **Mawson** 87.82 198 eP P 19 48 04.8 +0.2
MAW pmax pmax
comp=Z,49nm,1.9s
GO06 **Currarrehue** 87.87 130 eP P 19 48 07.3 +1.7
comp=Z,16nm,1.1s
PLCA **Paso Flores** 88.17 132 P P 19 48 08.7 +1.8
comp=Z,5.1nm,1.1s,baz=266,slow=6.2,SNR=4.4
PLCA LR LR 20 18 50.3
comp=Z,68nm,18.4s,baz=326,slow=30
PLCA **Paso Flores** 88.17 132 eP P 19 48 09.4 +2.4
comp=Z,17nm,1.4s
INK **Inuvik** 88.36 13 P P 19 48 06.8 -0.1
comp=Z,6.0nm,0.9s,baz=209,slow=4.8,SNR=16
INK **Inuvik** 88.36 13 eP P 19 48 07.2 +0.3
comp=Z,9.9nm,1.0s
MIAR **Mount Ida** 89.59 54 eP P 19 48 16.9 +3.4
comp=Z,44nm,1.3s
JTS **JuntasAbangare** 89.90 79 eP P 19 48 17.9 +2.4
comp=Z,30nm,1.0s
JTS **JuntasAbangare** 89.90 79 eP P 19 48 17.9 +2.4
JTS pmax pmax
comp=Z,30nm,1.0s
YKA **Yellowknife Ar** 89.94 23 P P 19 48 14.5 0.0
comp=Z,5.9nm,0.8s,baz=234,slow=4.3,SNR=47
YKB5 **Yellowknife Ar** 89.94 23 eP P 19 48 14.2 -0.3
YKW3 **Yellowknife Ar** 89.98 23 eP P 19 48 15.1 +0.5
comp=Z,7.7nm,0.9s
X40A **Basin Creek Fa** 90.15 54 eP P 19 48 13.4 -2.7
comp=Z,13nm,0.8s
PEL **Peldehue** 90.57 125 P P 19 48 20.7 +2.4
PEL pmax pmax
comp=Z,27nm,2.2s
W41B **Gary Mavity, V** 90.83 54 eP P 19 48 16.6 -2.7
comp=Z,25nm,1.1s
GO04 **Tololo Observa** 91.45 122 eP P 19 48 24.6 +1.9
comp=Z,19nm,0.9s
U41A **Viola** 91.45 53 P P 19 48 23.1 +0.9
baz=252
NNA **Nana** 91.58 103 LR LR 20 19 13.6
comp=Z,42nm,19.4s,baz=318,slow=29
T41A **Mountain View** 91.79 52 P P 19 48 24.0 +0.3
baz=252
LCO **Las Campanas** 91.91 121 eP P 19 48 26.8 +1.9
comp=Z,9.7nm,0.8s
LCO **Las Campanas** 91.91 121 eP P 19 48 26.8 +1.9
LCO pmax pmax
comp=Z,10.0nm,0.8s
S41A **Jillco Farms,** 91.98 52 P P 19 48 24.7 +0.1
baz=252
U42A **Revenden** 91.98 53 P P 19 48 24.9 +0.3
baz=252
CCM **Cathedral Cave** 92.50 51 P P 19 48 27.3 +0.3
baz=252
T43A **Greenville** 92.93 52 P P 19 48 29.1 +0.1
baz=252
Y46A **Houston** 93.10 56 P P 19 48 31.0 +1.2
baz=253
S43A **Fulton Ridge,** 93.23 52 P P 19 48 30.8 +0.4
baz=253
M40A **Post Highland** 93.34 48 P P 19 48 31.2 +0.5
baz=252
ULM **Lac du Bonnet** 93.39 39 P P 19 48 31.5 +0.7
comp=Z,4.3nm,1.1s,baz=299,slow=10,SNR=2.9
ULM LR LR 20 23 40.5
comp=Z,215nm,18.9s,baz=266,slow=31
O41A **Passleys Farm,** 93.40 49 P P 19 48 31.4 +0.3
baz=252
T44A **Benton** 93.46 53 P P 19 48 32.0 +0.6
baz=253
P42A **Winchester** 93.64 50 P P 19 48 32.3 +0.2
baz=253
L40A **Anamosa** 93.75 47 P P 19 48 33.1 +0.4
baz=252
J39A **Decorah** 93.80 46 P P 19 48 32.8 -0.1
baz=252
CM01 **Chiang Mai Arr** 94.07 288 eP P 19 48 35.1 +0.4
CM31 **Chiang Mai Arr** 94.09 288 eP P 19 48 35.0 +0.3
CMAR **Chiang Mai Arr** 94.09 288 P P 19 48 35.0 +0.3
comp=Z,1.4nm,1.1s,baz=92,slow=3.1,SNR=6.8
CMAR LR LR 20 24 30.4
comp=Z,40nm,21.2s,baz=100,slow=32
J40A **Soldiers Grove** 94.49 46 P P 19 48 35.8 -0.2
baz=253
F38A **Pierce - Schro** 94.50 44 P P 19 48 36.7 +0.7
baz=252
H39A **Augusta** 94.51 45 P P 19 48 36.4 +0.3
baz=252
K41A **Shullsburg** 94.56 47 P P 19 48 36.2 -0.2
baz=253
JFWS **Jewell Farm** 94.69 47 P P 19 48 36.7 -0.3
baz=253
J41A **Loganville** 94.99 46 P P 19 48 38.2 -0.1
baz=253
H40A **Chili** 95.10 45 P P 19 48 38.6 -0.2
baz=253
F39A **Loretta** 95.12 44 P P 19 48 38.7 -0.2
baz=253
K42A **Prairie Point,** 95.29 47 P P 19 48 39.9 +0.2
baz=254
TIXI **Tiksi** 95.81 344 ceP P 19 48 41.0 -0.4
TIXI pmax pmax
comp=Z,2.0nm,0.9s
E40A **Wakefield** 95.96 44 P P 19 48 42.9 +0.2
baz=254
SONM **Songino Array** 96.11 318 LR LR 20 26 03.8
comp=Z,88nm,21.3s,baz=158,slow=32
X51A **Calhoun** 96.47 56 P P 19 48 44.8 -0.5
baz=255
LPAZ **La Paz** 98.33 110 P Pdif 19 48 55.4 +0.5
comp=Z,0.4nm,0.4s,baz=207,slow=4.5,SNR=3.2
ZAA1 **Zalesovo Array** 110.44 322 ePKiKP PKiKP 19 53 46.1 -1.5
ZALV **Zalesovo Beam** 110.44 322 PKiKP PKiKP 19 53 46.1 -1.5
comp=Z,0.7nm,0.6s,baz=18,slow=0.5,SNR=4.3
MK32 **Makanchi Array** 112.14 314 ePKiKP PKiKP 19 53 50.0 -1.1
MKAR **Makanchi Array** 112.14 314 PKiKP PKiKP 19 53 50.0 -1.1
comp=Z,1.0nm,0.8s,baz=77,slow=0.7,SNR=11
KURK **Kurchatov** 114.40 319 ePKiKP PKPdf 19 53 54.9 -0.4
KURK **Kurchatov** 114.40 319 ePKiKP PKPdf 19 53 54.9 -0.4
KURBB **Kurchatov Arra** 114.47 319 PKiKP PKPdf 19 53 54.9 -0.6
comp=Z,1.2nm,0.7s,baz=86,slow=1.9,SNR=9.1
KSH **Kashi** 116.87 307 PKP PKPdf 19 53 57.6 -3.0
BVAR **Borovoye Array** 119.09 322 PKP PKPdf 19 53 03.6 -0.6
comp=Z,2.1nm,0.7s,baz=90,slow=1.5,SNR=16
BRVK **Borovoye** 119.15 322 ciPKiKP PKiKP 19 54 04.4 0.0
BRVK pmax pmax
comp=Z,3.0nm,1.7s
KBL **Kabul** 122.59 301 ePKPdf PKPdf 19 54 11.8 -0.1
KBL **Kabul** 122.59 301 ePKiKP PKPdf 19 54 11.8 -0.1
ARU **Arti** 124.45 329 ePKPdf PKPdf 19 54 14.1 -0.3
ARU **Arti** 124.45 329 iPKiKP PKPdf 19 54 14.2 -0.2
ARU SP SP 20 05 49.0 -5.4
ARA0 **ARCESS Array S** 125.23 353 ePKPdf PKPdf 19 54 14.7 -0.9
ARCES **ARCESS Array B** 125.23 353 PKP PKPdf 19 54 14.7 -0.9
comp=Z,2.0nm,0.6s,baz=315,slow=0.7,SNR=9.7
ABKAR **Akbulak array** 126.46 320 ePKPdf PKPdf 19 54 18.4 -0.1
PRGR **Permogore** 127.06 339 ePKiKP PKPdf 19 54 17.5 -1.8
PRGR pmax pmax
comp=Z,5.0nm,0.6s
FIA0 **FINESS Array S** 132.67 348 ePKPdf PKPdf 19 54 30.1 +0.2
FIA0 **FINESS Array S** 132.67 348 ePKiKP PKPdf 19 54 30.1 +0.2
FINES **FINESS Array B** 132.67 348 PKP PKPdf 19 54 30.1 +0.2
comp=Z,2.0nm,0.8s,baz=222,slow=2.6,SNR=3.8
OBN **Obninsk** 135.07 337 iPKiKP PKPdf 19 54 29.4 -5.2
OBN pmax pmax
comp=Z,7.0nm,1.6s
KIV **Kislovodsk** 139.44 321 ePKiKP PKPdf 19 54 39.5 -3.7
KIV pmax pmax
comp=Z,2.0nm,0.9s
AKASG **Malin Array Be** 141.28 338 PKhKP PKPpre 19 54 39.9
comp=Z,0.8nm,0.6s,baz=34,slow=3.6,SNR=5.2
KIEV **Kiev** 141.29 338 ePKiKP PKPdf 19 54 45.7 -0.5
LSZ **Lusaka** 143.24 214 ePKPpre PKPbc 19 54 48.5 +0.6
LSZ **Lusaka** 143.24 214 ePKiKP PKPbc 19 54 48.5 +0.6
LVV **L'vov** 143.72 342 ePKHKP PKPpre 19 54 45.8
TSUM **Tsumeb** 143.94 195 ePKPdf PKPbc 19 54 50.5 +0.6
CLL **Collm** 144.40 355 ePKPdf PKPab 19 54 49.0 -0.9
CLL **Collm** 144.40 355 iPKPdf PKPab 19 54 49.4 -0.5
comp=Z,7.0nm,0.8s
CLL ePKiKP PKPdf 19 54 53.0 +1.3
CLL i 19 55 00.6
CLL i 19 55 09.1
CLL ePP PP 19 58 07.0 +0.4
CLL **Collm** 144.40 355 ePKiKP PKPab 19 54 49.0 -0.9
OJC **Ojcow** 144.42 347 ePKPdf PKPab 19 54 49.8 -0.2
UPC **Upice** 144.83 351 ePKP PKPab 19 54 51.4 -0.1
UPC ex x 19 55 10.4
UPC **Upice** 144.83 351 ePKiKP PKPab 19 54 51.4 -0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DPC	Dobruska-Polom	144.94	351	ePKP	PKPdf	19 54 52.5	-0.2
DPC				ex	x	19 55 02.9	
DPC				ex	x	19 55 11.0	
DPC	Dobruska-Polom	144.94	351	ePKIKP	PKPdf	19 54 52.5	-0.2
DPC				e		19 55 02.9	
PVCC	Panska Ves	145.00	353	ePKP	PKPdf	19 54 53.0	+0.2
PVCC	Panska Ves	145.00	353	ePKIKP	PKPdf	19 54 53.0	+0.2
OKC	Ostrava-Krasne	145.12	349	ePKP	PKPbc	19 54 52.1	-0.4
OKC				ex	x	19 55 11.0	
OKC	Ostrava-Krasne	145.12	349	ePKIKP	PKPbc	19 54 52.1	-0.4
BUR08	Bucovina Ar. S	145.27	340	ePKPbc	PKPdf	19 54 53.4	-0.1
UZH	Uzhgorod	145.28	343	⇑iPKP2	PKPbc	19 54 52.2	-0.8
BUR04	Bucovina Ar. S	145.29	339	ePKPbc	PKPbc	19 54 52.9	-0.3
MORC	Moravsky Berou	145.29	349	ePKPbc	PKPbc	19 54 52.9	-0.2
MORC	Moravsky Berou	145.29	349	ePKIKP	PKPbc	19 54 52.9	-0.2
MORC	Moravsky Berou	145.29	349	ePKP	PKPbc	19 54 52.9	-0.2
MORC				e		19 55 03.6	
MORC				e		19 55 11.7	
LANS	Liptovska Anna	145.50	347	ePKIKP	PKPab	19 54 54.8	+0.7
LANS				e		19 55 05.2	
LANS	Liptovska Anna	145.50	347	ePKP	PKPab	19 54 54.8	+0.7
LANS				e		19 55 05.2	
LANS				ePP	sPKPab	19 55 13.5	+5.0
NKC	Novy Kostel	145.51	355	ePKP	PKPab	19 54 54.2	+0.2
NKC				ex	x	19 55 12.2	
NKC	Novy Kostel	145.51	355	ePKIKP	PKPab	19 54 54.2	+0.2
PRU	Pruhonice	145.54	353	ePKP	PKPab	19 54 53.9	-0.2
PRU				ex	x	19 55 03.9	
PRU	Pruhonice	145.54	353	ePKIKP	PKPab	19 54 53.9	-0.2
PRU				e		19 55 03.9	
GOPC	GO Pecny, Ondr	145.58	352	ePKP	PKPab	19 54 54.2	-0.1
GOPC				ex	x	19 55 05.2	
GOPC				ex	x	19 55 12.7	
GOPC	GO Pecny, Ondr	145.58	352	ePKIKP	PKPab	19 54 54.2	-0.1
GOPC				e		19 55 05.2	
VRAC	Vranov	145.90	350	ePKP	PKPab	19 54 55.3	-0.2
TLCR		145.93	333	⇓PKP2	PKPab	19 54 55.7	0.0
JAVC	Velka Javorina	146.15	349	ePKP	PKPab	19 54 57.5	+1.0
JAVC				e		19 55 07.2	
KRUC	Moravsky	146.18	350	ePKP	PKPbc	19 54 55.5	-0.3
KRUC				e		19 55 06.1	
KRUC				e		19 55 14.5	
CFR	Carcaliu	146.22	334	⇓PKP2	PKPbc	19 54 56.2	+0.1
VRI	Vrincioaia	146.23	336	⇑PKP2	PKPbc	19 54 56.1	0.0
VYHS	Vyhne	146.26	347	ePKP2	PKPab	19 54 56.9	0.0
VYHS	Vyhne	146.26	347	ePKP	PKPab	19 54 56.9	0.0
VYHS				e		19 55 05.6	
ILGA	Ilgaz	146.48	324	ePKPdf	PKPab	19 54 58.2	-0.1
KHC	Kasperske Hory	146.50	353	ePKPdf	PKPdf	19 54 55.5	+0.1
KHC	Kasperske Hory	146.50	353	ePKP	PKPbc	19 54 56.5	-0.4
KHC				ex	x	19 55 07.9	
KHC				ex	x	19 55 33.7	
KHC	Kasperske Hory	146.50	353	ePKIKP	PKPdf	19 54 55.5	+0.1
KMBO	Kilima Mbogo	146.60	242	PKPbc	PKPbc	19 54 58.7	+0.2
	comp=Z,1.5nm,0.6s,baz=42,slow=6.7,SNR=6.0						
TIRR	Tirgusor	146.68	333	⇓PKP2	PKPdf	19 54 56.5	+0.7
MODS	Modra-Piesok	146.69	349	ePKP2	PKPbc	19 54 56.8	-0.6
MODS	Modra-Piesok	146.69	349	ePKP	PKPbc	19 54 56.8	-0.6
MODS				e		19 55 15.9	
TLB	Topalu	146.74	334	⇓PKP2	PKPbc	19 54 57.5	-0.1
GEC2	GERESS Array S	146.76	353	ePKPdf	PKPdf	19 54 56.4	+0.4
GEC2	GERESS Array S	146.76	353	ePKIKP	PKPdf	19 54 56.4	+0.4
GERES	GERESS Array B	146.76	353	PKPbc	PKPbc	19 54 56.9	-0.8
	comp=Z,2.8nm,0.8s,baz=31,slow=3.1,SNR=13						
GEA0	GERESS Array S	146.77	353	ePKPdf	PKPbc	19 54 57.3	-0.4
DRGR		146.82	341	⇑PKP2	PKPbc	19 54 57.4	-0.5
MLR	Muntele Rosu	146.84	337	ePKPdf	PKPbc	19 54 58.2	+0.1
MLR	Muntele Rosu	146.84	337	ePKP2	PKPbc	19 54 58.2	+0.1
ISR	Istrita	146.92	336	⇓PKP2	PKPbc	19 54 58.5	+0.3
VOIR		147.22	338	⇓PKP2	PKPbc	19 54 59.7	+0.6
CONA	Conrad Observa	147.36	350	i pPKPdf	PKPbc	19 54 59.5	+0.1
	comp=Z,9.8nm,1.0s						
BR101	Keskin Array S	147.38	322	ePKPbc	PKPbc	19 54 60.0	+0.1
BR131	Keskin Array S	147.38	322	ePKPdf	PKPbc	19 54 59.8	-0.1
BRTR	Keskin Array B	147.38	322	PKPbc	PKPbc	19 54 60.0	+0.2
	comp=Z,15nm,0.8s,baz=119,slow=2.1,SNR=96						
BRTR	Keskin Array B	147.38	322	PKP2	PKPbc	19 55 00.0	+0.2
BRTR				pmax	pmax		
	comp=Z,15nm,0.8s						
CLF	Chambon-Foret	147.55	7	ePKPbc	PKPbc	19 55 00.7	+0.9
BFO	Black Forest	147.60	360	ePKPdf	PKPbc	19 54 59.9	-0.1
BFO	Black Forest	147.60	360	⇑ePKP2	PKPbc	19 55 00.4	+0.4
MOA	Molln	147.67	352	i pPKPdf	PKPbc	19 55 00.1	-0.1
	comp=Z,10nm,1.4s						
ANTO	Ankara	147.78	323	ePKPbc	PKPbc	19 55 01.5	+0.7
ANTO	Ankara	147.78	323	⇓PKP2	PKPbc	19 55 01.4	+0.6
BR231	Keskin MP Arra	147.81	323	ePKPbc	PKPbc	19 55 01.7	+0.8
GZR	Gura Zlata	148.04	340	⇑PKIKP	PKPbc	19 55 00.9	-0.4
ARSA	Arzberg	148.08	350	i pPKPdf	PKPbc	19 55 01.1	-0.2
	comp=Z,6.0nm,0.8s						
BZS	Buzias	148.21	342	⇓PKIKP	PKPdf	19 54 58.1	-0.2
WATA	Walderalm	148.46	355	i PKiKP	PKPbc	19 55 02.7	+0.3
	comp=Z,9.2nm,1.2s						
MOTA	Moosalm	148.49	356	i PKiKP	PKPbc	19 55 03.0	+0.4
	comp=Z,6.4nm,0.9s						
WTTA	Wattenberg	148.53	355	i PKPbc	PKPbc	19 55 02.7	0.0
	comp=Z,3.5nm,0.6s						
SQTA	Sankt Quirin	148.60	356	i PKPdf	PKPdf	19 54 59.4	+0.3
	comp=Z,8.3nm,1.6s						
DAVA	Damuels	148.61	358	i PKiKP	PKPbc	19 55 03.4	+0.5
	comp=Z,11nm,1.0s						
FETA	Feichten	148.83	356	i PKPdf	PKPdf	19 55 00.0	+0.5
	comp=Z,6.0nm,1.1s						
ABTA	Abfaltersbach	148.96	354	i PKPbc	PKPbc	19 55 03.2	-0.4
	comp=Z,3.5nm,0.7s						
FUORN	Ofenpass-Fuorn	149.26	357	ePKPbc	PKPbc	19 55 05.1	+0.5
DIVS	Divibare	150.07	343	ePKPbc	PKPbc	19 55 06.4	-0.1
VTS	Vitosha	150.34	337	ePKPbc	PKPbc	19 55 04.9	-2.4
VTS	Vitosha	150.34	337	ePKIKP	PKPbc	19 55 04.9	-2.4
SSB	Saint Sauveur	150.50	5	ePKPbc	PKiKP	19 55 08.2	0.0
SSB	Saint Sauveur	150.50	5	ePKIKP	PKiKP	19 55 08.2	0.0
ALN	Alexandroupoli	150.57	332	ePKPbc	PKPbc	19 55 07.1	-0.5
ALN	Alexandroupoli	150.57	332	ePKIKP	PKPbc	19 55 07.1	-0.5
BNI	Bardonecchia	150.86	2	ePKPbc	PKiKP	19 55 10.2	+1.1
BNI	Bardonecchia	150.86	2	ePKIKP	PKiKP	19 55 10.2	+1.1
POLO	Lamas de Olo	151.10	25	ePKPbc	PKPbc	19 55 09.1	+0.1
MANT	Manisa	151.12	325	ePKPbc	PKPbc	19 55 09.5	+0.1
PBRG	Braganca	151.15	23	ePKPbc	PKPbc	19 55 08.9	-0.2
MVO	Moncorvo	151.58	24	ePKPbc	PKPbc	19 55 10.2	+0.1
PVIS	Viseu	151.60	26	ePKPbc	PKiKP	19 55 13.2	+2.6
MTE	Manteigas	152.02	26	ePKPbc	PKiKP	19 55 11.5	0.0
PTOM	Tomar	152.28	28	ePKPbc	PKiKP	19 55 12.4	+0.5
LIT	Litokhoron	152.75	335	ePKPbc	PKPbc	19 55 12.3	-0.5
LIT	Litokhoron	152.75	335	ePKIKP	PKPbc	19 55 12.3	-0.5
PMRV	Marv??o	152.89	27	ePKPbc	PKiKP	19 55 16.0	+2.8
PESTR	Estremoz	153.26	28	ePKPab	PKPab	19 55 26.0	+0.3
EVO	Evora	153.34	29	ePKPab	PKPab	19 55 28.2	+2.2
MESJ	Messejana	153.79	30	ePKPab	PKPab	19 55 27.9	-0.1
MORF	Marmelete	153.99	32	ePKPab	PKPab	19 55 29.3	+0.4
ES19	SONSECA Array	154.03	21	ePKPbc	PKiKP	19 55 15.8	+0.1
ESDC	Sonseca Array	154.03	22	PKPbc	PKiKP	19 55 15.9	+0.3
	comp=Z,1.2nm,0.8s,baz=332,slow=3.2,SNR=9.7						
ESDC				PKPab	pPKPbc	19 55 26.9	+0.5
	comp=Z,2.3nm,0.7s,baz=332,slow=3.0,SNR=14						
DBIC	Dimbokro	164.40	124	PKP	PKPdf	19 55 18.7	-1.5
	comp=Z,2.0nm,0.8s,baz=45,slow=2.9,SNR=3.4						
TOA0	Torodi Ar. Sit	173.27	113	ePKPdf	PKPdf	19 55 23.0	-2.8
TOA0				ePKPab	PKPab	19 56 53.0	-1.0
TOA0				ePKPab	PKPab	19 56 53.7	-0.3
TOA1	Torodi Ar. Sit	173.27	113	ePKPdf	PKPdf	19 55 24.1	-1.8
TOA1				ePKPab	PKPab	19 56 53.6	-0.4
TORD	Torodi Ar. Bea	173.27	113	PKP	PKPdf	19 55 24.1	-1.8
	comp=Z,2.5nm,1.0s,baz=355,slow=1.6,SNR=11						
TORD				PKPab	PKPab	19 56 53.6	-0.4
	comp=Z,2.3nm,0.8s,baz=271,slow=5.2,SNR=9.8						

IDC 02 19:51:02.9±5.8, 27.93S×176.64W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/35, mbtmp3.7/3, Error ellipse: s-maj=184.0km s-min=91.7km az=152.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.26	253	P	P	19 58 06.9	-1.1
	1.2nm,0.5s,baz=82,slow=12,SNR=5.2						
ASAR	Alice Springs	44.50	264	P	P	19 59 16.5	+0.1
	0.3nm,0.4s,baz=106,slow=8.1,SNR=11						
WRA	Warramunga Arr	45.27	269	P	P	19 59 22.9	+0.4
	0.6nm,0.4s,baz=109,slow=7.7,SNR=14						
FINES	FINESS Array B	143.20	342	PKP	PKPdf	20 10 37.9	-0.5
	1.6nm,0.9s,baz=52,slow=2.3,SNR=4.0						

*ISCJB **02** 19:54:16.7±0.3, 41.68N±0.02×110.60W±0.05, h0km, mb4.5/1, Error ellipse: s-maj=5.2km s-min=3.3km az=176.6*

*NEIC **02** 19:54:17.1±0.4, 41.70N×110.66W, h0km, ML2.9, Error ellipse: s-maj=6.8km s-min=4.4km az=86.0, Suspected Mining explosion.*

NEIC 14 km [9 miles] SW of Kemmerer.

*IDC **02** 19:54:18.5±1.2, 42.16N×110.86W, h0km, mb2.6/1, mb1 3.1/3, mb1mx3.0/43, mbtmp2.7/3, ML2.3/2, Error ellipse: s-maj=40.7km s-min=7.9km az=151.0*

ISC 02 19:54:15.8±0.8, 41.77N±0.02×110.70W±0.03, h0km, n60, σ1s07/59, Wyoming

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TCUT	Toone Canyon	0.84	220	ePg	Pb	19 54 33.0	-0.4
AHID	Auburn Hatcher	1.04	343	ePg	Pn	19 54 38.0	+0.2
JLU	Jordanelle	1.30	206	ePg	Pg	19 54 40.5	-0.1
BW06	Boulder Array	1.31	40	ePg	Pg	19 54 41.5	+0.7
PD31	Pinedale Array	1.31	40	ePg	Pg	19 54 41.5	+0.6
PDAR	Pinedale Array	1.31	40	Pg	Pg	19 54 41.2	+0.4
	3.3nm,0.3s,baz=211,slow=15,SNR=108						
PDAR				Lg	Lg	19 54 58.7	
	9.2nm,0.3s,baz=197,slow=20,SNR=24						
CTU	Camp Tracy	1.34	217	ePg	Pb	19 54 41.3	-0.5
SPUT	South Promonto	1.39	251	ePn	Pb	19 54 43.4	+0.6
HVU	Hansel Valley	1.56	271	ePn	Pb	19 54 46.1	+0.6
REDW	Red Top Meadow	1.60	356	ePn	Pg	19 54 47.7	+1.3
SNOW	Snow King Moun	1.69	359	ePn	Pg	19 54 50.0	+1.7
TPAW	Teton Pass	1.73	354	ePn	Pg	19 54 49.2	+0.3
LOHW	Long Hollow	1.84	2	ePn	Pb	19 54 50.8	+0.3
MPU	Maple Canyon	1.89	202	ePn	Pb	19 54 50.1	-1.2
BGU	Big Grassy Mou	1.95	245	ePn	Pb	19 54 51.7	-0.5
MOOW	Moose Ponds	1.98	359	ePn	Pb	19 54 52.2	-0.6
NLU	North Lily Min	2.09	210	ePn	Pn	19 54 52.4	+0.2
IMW	Indian Meadow	2.13	355	ePn	Pb	19 54 54.8	-0.7
P17A	Butcher Ranch,	2.29	181	ePn	Pb	19 54 56.5	-1.6
FLWY	Flagg Ranch	2.31	360	ePn	Pg	19 54 59.8	-0.3
O20A	White River Ci	2.47	130	ePn	Pb	19 55 00.1	-1.0
TMUT	Trail Mountain	2.50	189	ePn	Pn	19 54 59.2	+1.3
YPP	Pitchstone Pla	2.50	358	ePn	Pg	19 55 03.1	-0.6
RWWY	Rawlins	2.61	91	ePn	Pn	19 55 00.3	+0.8
H17A	Grant Village	2.63	2	ePn	Pg	19 55 05.8	-0.3
YFT	Old Faithful	2.68	358	ePn	Pn	19 55 01.8	+1.3
Q16A	Castle Valley	2.87	187	ePn	Pn	19 55 02.7	-0.2
YMR	Madison River	2.91	356	ePn	Pb	19 55 07.4	-1.2
YHB	Horse Butte	3.00	353	ePn	Pb	19 55 08.7	-1.6
HLID	Hailey	3.28	304	ePn	Pb	19 55 12.8	-2.1
MSU	Marysvale	3.44	200	ePn	Pn	19 55 12.3	+1.4
PV21	Cone Mtn., Par	3.46	157	ePn	Pn	19 55 11.2	0.0
PV09	Paradox Valley	3.48	159	ePn	Pn	19 55 11.8	+0.4
PV23	Carpenter Ridg	3.56	158	ePn	Pn	19 55 14.9	+2.5
ELK	Elko	3.57	255	Pn	Pb	19 55 17.7	-2.3
	0.1nm,0.3s,baz=66,slow=13,SNR=8.4						
ELK				Lg	Lg	19 56 09.3	
	0.3nm,0.3s,baz=197,slow=18,SNR=6.3						
ELK	Elko	3.57	255	ePg	Pb	19 55 20.9	+0.9
ELK				Lg	Lg	19 56 09.3	
PV10	Paradox Valley	3.62	159	ePn	Pn	19 55 13.0	-0.3
PV14	Lion Creek, Pa	3.63	159	ePn	Pn	19 55 13.9	+0.5
PV20	West Nyswonger	3.67	158	ePn	Pn	19 55 14.3	+0.3
N23A	Red Feather La	3.68	102	ePn	Pn	19 55 16.6	+2.4
PV19	Morning Glory	3.70	159	ePn	Pn	19 55 14.4	0.0
PV16	Nyswonger Mesa	3.71	158	ePn	Pn	19 55 15.6	+1.1
PV17	East Wray Mesa	3.73	158	ePn	Pn	19 55 14.9	+0.1
PV11	David Mesa, Pa	3.74	157	ePn	Pn	19 55 14.2	-0.7
PV12	Saucer Basin,	3.74	157	ePn	Pn	19 55 15.4	+0.4
PV03	Paradox Valley	3.79	157	ePn	Pn	19 55 14.2	-1.3
SMCO	Snowmass	3.84	131	ePg	Pb	19 55 24.7	0.0
DLMT	Dillon	3.85	340	ePg	Pg	19 55 29.1	-0.5
PV02	Paradox Valley	3.86	156	ePn	Pn	19 55 16.4	-0.2
PV13	Radium Mtn., P	3.88	158	ePn	Pn	19 55 17.5	+0.6
PV05	Paradox Valley	3.88	161	ePn	Pn	19 55 17.7	+0.7
PV01	Paradox Valley	3.98	155	ePn	Pn	19 55 18.7	+0.5
PSUT	Pine Spring	4.04	218	ePn	Pn	19 55 21.5	+2.5
MVCO	Mesa Verde	4.86	159	ePg	Pb	19 55 41.9	+0.1
S22A	4UR Ranch, Cre	5.00	142	ePg	Pg	19 55 50.6	-0.9
U15A	North Rim	5.47	194	ePg	Pb	19 55 54.7	+2.3
NVAR	Mina Array Bea	6.72	243	Pn	Pn	19 56 00.5	+4.6
	0.1nm,0.3s,baz=68,slow=12,SNR=6.3						
YKA	Yellowknife Ar	20.89	355	P	P	19 58 59.2	-0.1
	0.2nm,0.8s,baz=168,slow=10,SNR=2.5						
PEA1	Petropavlovsk-	58.88	315	eP	P	20 04 15.4	-0.7
PETK	Petropavlovsk-	58.88	315	P	P	20 04 15.4	-0.7
	4.9nm,0.9s,baz=86,slow=7.2,SNR=2.7						

*BGR **02** 19:55:33.9±0.2, 48.29N×9.01E, h10km, ML2.5/10, Error ellipse: s-maj=4.4km s-min=3.3km az=2.0*

*ZUR **02** 19:55:33.1, 48.25N×9.01E, h7km±2km, MLh2.5/13, Error ellipse: s-maj=5.3km s-min=1.3km az=261.0*

*STR **02** 19:55:34.1±0.3, 48°N±2°×°±°, h5km±3km, M2.7/7, MLv2.7/7*

*LDG **02** 19:55:34.0±0.1, 48.24N×9.01E, h10km, Md2.6/4, Ml2.8/11, Error ellipse: s-maj=1.0km s-min=0.8km az=128.0*

*PRU **02** 19:55:38.8±0.0, 48.36N×9.26E, h27km*

ISC 02 19:55:33.5±0.8, 48.25N±0.01×9.00E±0.01, h14km±6km, n99, σ1s16/170, 16C-12D, Germany

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUT	Gutenstein	0.20	157	⇓Pg	Pg	19 55 37.4	-0.7
GUT				Sg	Sg	19 55 40.1	-1.0
GUT	Gutenstein	0.20	157	⇓iP*	Pg	19 55 37.4	-0.7
GUT				S*	Sg	19 55 40.1	-1.0
TUBL	Tuebingen-Lenn	0.28	11	⇑iP*	Pg	19 55 39.2	-0.2
TUBL				S*	Sg	19 55 43.0	-0.4
BUCH	Bad Urach	0.31	50	⇑iP*	Pg	19 55 39.8	-0.1
BUCH				S*	Sg	19 55 44.2	-0.1
LBG	Lerchenberg	0.43	342	⇓iP*	Pg	19 55 42.4	+0.1
LBG				PmP		19 55 44.8	
LBG				S*	Sb	19 55 48.5	-1.0
LBG				SmS		19 55 52.7	
BFO	Black Forest	0.46	280	⇓Pg	Pg	19 55 42.7	0.0
BFO	Black Forest	0.46	280	⇓iP*	Pg	19 55 42.6	0.0
BFO				S*	Sg	19 55 49.1	+0.4
BFO				SmS		19 55 53.0	
STU	Stuttgart	0.54	14	PmP		19 55 45.5	
STU				S*	Sg	19 55 51.1	-0.2
STU				SmS		19 55 54.8	
SISB	Singen-Schiene	0.57	182	⇑P*	Pg	19 55 44.4	-0.3
SISB				S*	Sg	19 55 52.0	-0.2
OPP	Oppenau	0.59	295	Pn	Pg	19 55 45.2	0.0
OPP				Pg	Pb	19 55 46.4	+0.7
OPP	Oppenau	0.59	295	P*	Pg	19 55 45.1	-0.1
OPP				PmP		19 55 46.5	
OPP				S*	Sb	19 55 54.3	+0.3
OPP				SmS		19 55 56.0	
SLE	Schleitheim	0.59	215	⇑Pg	Pg	19 55 44.9	-0.4
SLE	Schleitheim	0.59	215	⇑P*	Pg	19 55 44.8	-0.4
SLE				PmP		19 55 46.8	
SLE				S*	Sg	19 55 53.0	-0.1
SLE				SmS		19 55 56.0	
BERGE	Lenzkirch (DE)	0.67	236	⇑Pg	Pg	19 55 46.4	-0.2
BERGE	Lenzkirch (DE)	0.67	236	⇑iP*	Pg	19 55 46.4	-0.2
BERGE				SmS		19 55 58.1	
FLACH	Flaach	0.74	203	⇑Pg	Pg	19 55 47.6	-0.3
SGT02	Zihlschlacht	0.76	167	⇓Pg	Pg	19 55 48.0	-0.2
FELD	Feldberg im Sc	0.77	241	⇑Pg	Pg	19 55 48.2	-0.3
FELD	Feldberg im Sc	0.77	241	⇑iP*	Pg	19 55 48.2	-0.3
FELD				i PmP		19 55 49.6	
FELD				SmS		19 56 00.9	
KIZ	Kirchzarten	0.78	248	Pn	Pg	19 55 48.5	-0.3
KIZ				Pg	Pb	19 55 49.5	+0.5
KIZ				Sg	Sg	19 55 59.6	+0.6
KIZ	Kirchzarten	0.78	248	⇑Pg	Pg	19 55 48.5	-0.3
KIZ	Kirchzarten	0.78	248	⇑iP*	Pg	19 55 48.5	-0.3
KIZ				PmP		19 55 49.4	
BRET	Bretten	0.79	345	⇓P*	Pb	19 55 49.1	+0.1
BRET				PmP		19 55 50.1	
BRET				S*	Sb	19 55 59.7	+0.1
FBB	Freiburg im Br	0.81	252	PmP		19 55 49.8	
FBB				S*	Sb	19 56 01.0	+1.0
ACHB	Acheberg	0.83	217	⇑Pg	Pg	19 55 49.3	-0.4
WILA	Wila	0.84	184	P*	Pg	19 55 49.6	-0.3
WILA				S*	Sg	19 56 01.1	+0.2
HDH	Heidenheim-Cha	0.87	67	P*	Pg	19 55 49.8	-0.6
HDH				PmP		19 55 50.5	
HDH				SmS		19 56 03.6	
SGT04	Schlatt-Haslen	0.93	166	⇓Pn	Pg	19 55 51.5	0.0
UBR	Ueberruh	0.94	127	⇓Pn	Pg	19 55 51.6	-0.2
UBR	Ueberruh	0.94	127	⇓P*	Pg	19 55 51.5	-0.2
UBR				PmP		19 55 52.4	
UBR				S*	Sg	19 56 04.2	+0.2
SULZ	Cheisacher	0.94	220	Pn	Pg	19 55 51.4	-0.4
SULZ	Cheisacher	0.94	220	⇑iP*	Pg	19 55 51.3	-0.4
SULZ				PmP		19 55 51.9	
ENDD	Endenburg	1.00	238	⇑P	Pg	19 55 52.0	-0.9
ENDD				i PmP		19 55 53.0	
ENDD				S	Sg	19 56 05.7	-0.4
LIENZ	Kamor/St.Gall	1.01	161	⇓P*	Pg	19 55 53.0	-0.2
LIENZ				PmP		19 55 53.6	
LANF	Langenberg	1.08	313	Pn	Pn	19 55 54.9	+0.7
LANF	Langenberg	1.08	313	PmP		19 55 55.2	
LANF				Sg	Sn	19 56 09.3	+0.3
WLS	Welschbruch	1.11	279	Pn	Pb	19 55 55.1	+0.6
WLS				Sg	Sg	19 56 09.7	+0.3
WLS	Welschbruch	1.11	279	Pg	Pb	19 55 55.2	+0.6
DAVA	Damuels	1.13	148	PmP		19 55 55.8	
DAVA	Damuels	1.13	148	ePg	Pb	19 55 55.3	+0.3
	5.0nm,0.1s,SNR=8.6						
DAVA				eSg	Sg	19 56 10.0	-0.2
	5.7nm,0.1s						
CDF	Champ du Feu	1.16	279	ePg	Pb	19 55 55.9	+0.5
CDF				eSg	Sb	19 56 10.9	+0.5
	53nm,0.3s						
SIND	Sindeldorf	1.17	20	⇓iPg	Pn	19 55 56.1	+0.6
SIND				Sg	Sn	19 56 11.2	0.0
NORI	Noerdlinger Ri	1.18	66	ePg	Pb	19 55 55.9	+0.2
NORI				eSg	Sn	19 56 11.7	+0.3
PEB	Petersbachel	1.18	314	Pg	Pn	19 55 56.6	+1.0
PEB				Sg	Sn	19 56 12.5	+1.1
OBER	Oberstdorf	1.21	134	ePg	Pn	19 55 57.1	+0.9
OBER				eSg	Sg	19 56 13.5	+0.7
KTD	Kalmit	1.23	331	Pn	Pg	19 55 57.4	+0.2
KTD				Sg	Sn	19 56 13.3	+0.6
KTD	Kalmit	1.23	331	Pg	Pg	19 55 57.5	+0.2
KTD				Sg	Sn	19 56 14.1	+1.3
ECH	Echery	1.23	269	Pn	Pn	19 55 55.6	-0.8
ECH	Echery	1.23	269	P	Pn	19 55 55.5	-0.8
ECH				Pg	Pb	19 55 57.3	+0.7
ECH				eSg	Sb	19 56 13.2	+0.9
SWS	Schriesheim-Wi	1.25	351	P	Pn	19 55 56.2	-0.3
SWS				Pg	Pg	19 55 57.5	-0.1
SWS				Sg	Sn	19 56 14.4	+1.3
BALST	Balsthal	1.27	224	Pn	Pn	19 55 55.7	-1.2
BALST	Balsthal	1.27	224	⇑P	Pn	19 55 55.7	-1.2
BALST				Pg	Pb	19 55 57.7	+0.4
BALST				Sg	Sb	19 56 14.6	+1.1
MOF	Molkenrain	1.31	253	P	Pn	19 55 56.7	-0.9
MOF				Sg	Sb	19 56 16.2	+1.4
TOD	Tromm	1.36	355	Sg	Sg	19 56 17.7	+0.3
RETA	Reutte	1.41	122	Pg	Pb	19 56 00.5	+0.8
RETA				Sg	Sb	19 56 19.0	+1.4
RETA	Reutte	1.41	122	ePg	Pn	19 56 00.1	+1.3
	0.5nm,0.1s						
RETA				eSn	Sn	19 56 18.7	+1.4
	14nm,0.2s,SNR=7.2						
BOURR	Bourrignon	1.47	235	Pg	Pb	19 56 01.7	+1.0
BOURR				Sg	Sb	19 56 20.9	+1.7
HINF	Hinteralfeld	1.50	254	ePn	Pn	19 55 59.1	-1.0
HINF	Hinteralfeld	1.50	254	ePg	Pb	19 56 02.1	+0.8
HINF				eSn	Sn	19 56 17.9	-1.6
HINF				eSg	Sb	19 56 21.4	+1.2
	18nm,0.3s						
FUR	Furstenfeldbru	1.52	92	eSg	Sg	19 56 22.5	-0.2
WBB	Darmstadt	1.61	352	Sg	Sg	19 56 27.5	+2.1
MOTA	Moosalm	1.68	122	i Pn	Pn	19 56 04.2	+1.5
	0.2nm,0.1s						
MOTA				ePg	Pb	19 56 05.2	+0.8
	1.8nm,0.1s,SNR=6.7						
MOTA				i Sn	Sb	19 56 27.0	+1.6
	2.6nm,0.1s						
FETA	Feichten	1.70	136	ePn	Pn	19 56 03.5	+0.7
	0.2nm,0.1s						
FETA				ePg	Pb	19 56 05.6	+1.0
	0.8nm,0.1s						
FETA				i Sn	Sn	19 56 25.5	+1.1
	0.6nm,0.2s						
LOMF	Lomont	1.72	239	Pn	Pb	19 56 05.6	+0.7
LOMF	Lomont	1.72	239	Pg	Pb	19 56 05.7	+0.7
LOMF				Sg	Sb	19 56 28.5	+2.1
HAU	Haudompre	1.79	263	ePn	Pn	19 56 03.4	-0.7
HAU	Haudompre	1.79	263	eP	Pn	19 56 05.7	+1.6
HAU	Haudompre	1.79	263	ePg	Pb	19 56 07.4	+1.2
HAU				eSg	Sb	19 56 30.6	+2.1
	18nm,0.2s						
SQTA	Sankt Quirin	1.81	124	ePg	Pb	19 56 07.5	+0.9
	2.9nm,0.2s,SNR=6.8						
SQTA				Sg	Sb	19 56 30.5	+1.3
GRC1	Grafenberg Arr	1.83	65	P	Pn	19 56 03.7	-0.8
GRC1				Pg	Pb	19 56 07.7	+0.8
DUP	Duppenweiler	1.87	309	Pg	Pg	19 56 09.5	+0.2
ABH	Alteburg	1.89	330	P	Pn	19 56 05.7	+0.2
ABH				Pg	Pg	19 56 09.7	-0.2
RUP	Ruppelstein	1.93	319	P	Pn	19 56 06.4	+0.4
RUP				Pg	Pg	19 56 10.8	+0.1
WBG	Bieber	1.94	7	S	Sn	19 56 28.6	-1.4
WBG				Sg	Sg	19 56 36.8	+1.0
WATA	Walderalm	1.96	117	i Sg	Sb	19 56 35.6	+2.1
	2.7nm,0.1s						
TNS	Taunus Mts	2.01	350	P	Pn	19 56 07.2	+0.2
TNS				Pg	Pg	19 56 14.2	+2.1
TNS				S	Sn	19 56 29.7	-2.2
GRB2	Grafenberg Arr	2.04	59	P	Pn	19 56 07.1	-0.4
GRB2				Pg	Pb	19 56 11.5	+1.1
GRB2				Sg	Sb	19 56 37.1	+1.5
GRF	Grafenberg Arr	2.05	45	P	Pn	19 56 06.6	-1.0
GRF				Pg	Pg	19 56 12.6	-0.4
GRF				Sg	Sg	19 56 38.6	-1.0
RIVT	Riveris	2.07	316	P	Pn	19 56 08.6	+0.7
RIVT				Pg	Pg	19 56 12.9	-0.4
PAGF	Fort de Pagny	2.20	279	ePg	Pg	19 56 15.2	-0.6
PAGF				eSg	Sg	19 56 43.5	-0.8
	15nm,0.4s,baz=113						
CABF	La Chapelle	2.57	231	ePg	Pb	19 56 21.9	+2.5
CABF				eSg	Sb	19 56 54.7	+3.8
	3.7nm,0.3s						
ROTZ	Rotzenmuhle	2.60	53	ePg	Pb	19 56 20.0	+0.2
MEZF	Maizieres J'vi	2.64	277	ePg	Pb	19 56 22.6	+2.0
MEZF				eSg	Sg	19 56 57.8	-0.7
	6.5nm,0.3s,baz=92						
SFTF	Sexfontaines	2.65	270	ePg	Pg	19 56 23.4	-0.9
SFTF				eSn	Sn	19 56 45.8	-1.9
SFTF				eSg	Sg	19 56 58.3	-0.3
	7.2nm,0.2s,baz=91						
WET	Wettzell	2.72	69	ePg	Pb	19 56 22.8	+0.8
ABTA	Abfaltersbach	2.82	121	Pg	Pg	19 56 26.8	-0.7
	0.7nm,0.2s						
ABTA				Sg	Sg	19 57 02.1	-1.9
	0.9nm,0.2s						
NKC	Novy Kostel	3.01	47	ePG	Pg	19 56 30.0	-1.1
NKC				eSG	Sg	19 57 08.2	-1.9
	comp=Z,6.7nm,0.3s						
WERN	Wernitzgruen	3.01	46	ePg	Pg	19 56 29.4	-1.7
KHC	Kasperske Hory	3.16	72	ePN	Pn	19 56 22.8	0.0
KHC				ePG	Pg	19 56 32.4	-1.6
KHC				eSN	Sn	19 56 59.4	-0.9
KHC				eSG	Sg	19 57 13.2	-1.7
	comp=Z,3.7nm,0.2s						
GEC2	GERESS Array S	3.18	77	ePn	Pn	19 56 23.2	+0.1
GEC2				eSn	Sn	19 56 59.8	-1.1
GEC2				eSg	Sg	19 57 14.0	-1.6
LOR	Lormes	3.60	256	ePn	Pn	19 56 28.2	-0.7
	baz=82						
LOR	Lormes	3.60	256	ePg	Pg	19 56 40.7	-1.9
	baz=78						
LOR				eSn	Sn	19 57 09.1	-2.2
LOR				eSg	Sg	19 57 26.9	-2.4
	3.6nm,0.2s,baz=79						
SMF	Signal de Mont	3.85	247	eSg	Sg	19 57 34.2	-3.0
SSF	Saint Saulge	3.90	254	ePg	Pg	19 56 46.2	-2.0
SSF				eSg	Sg	19 57 36.4	-2.3
	3.3nm,0.3s						
CLL	Collm	4.01	39	ePg	Pg	19 56 49.0	-1.3
CLL				eSg	Sg	19 57 40.0	-2.2
PRU	Pruhonice	4.03	62	eSG	Sg	19 57 41.2	-1.8
	comp=Z,2.0nm,0.4s						
HYF	Humbligny	4.40	259	eSg	Sg	19 57 52.6	-2.2
BGF	Bois d'Agland	4.51	250	eSg	Sg	19 57 54.9	-3.3
	4.7nm,0.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KRUC	Moravsky	4.97	78	eSN	Sn	19 57 44.1	-0.7
KRUC				eSG	Sg	19 58 10.0	-2.9

*NIED **02** 19:56:00, 37°.10N×140°.60E, h5km, Mw3.5 Best double couple: M0 1.94000×10^14 NP1:φs176.00000°, δ71.00000°, λ14.00000°. NP2:φs82.00000°, δ77.00000°, λ161.00000°.*
*IDC **02** 19:56:31.4±1.8, 37°.33N×140°.77E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.3/55, mbtmp3.5/6, ML3.3/2, Error ellipse: s-maj=36.4km s-min=21.8km az=65.0*
*ISCJB **02** 19:56:35.2±0.5, 37°.11N±0°.03×140°.64E±0°.04, h11km±3km, mb3.3/4, Error ellipse: s-maj=5.7km s-min=4.4km az=17.1*
*JMA **02** 19:56:35.5, 37°.10N×140°.61E, h10km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs251.00000°, δ86.00000°, λ-128.00000°. NP2: φs157.00000°, δ38.00000°, λ-6.00000°. Principal axes: T Plg31.0000°, Azm12.0000°; N Plg38.0000°, Azm254.0000°; P Plg37.0000°, Azm128.0000°;*
JMA Felt II J1.
ISC 02 19:56:35.0±0.8**, 37°.11N**±0°.03×**140°.61E**±0°.03**, h13**km±5km**, n15, σ1s12**/26**, mb3.3**/4**, 4C-4D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
JFFD	Fukushimafurud	0.04	239	⇑P	Pg	19 56 37.4	0.0
JFFD				S	Sg	19 56 38.7	-0.4
ONAJ	Iwakimizuishiy	0.15	94	⇓P	Pg	19 56 39.1	+0.4
ONAJ				S	Sg	19 56 41.7	+0.3
JFK	Kawauchi	0.33	40	⇑P	Pg	19 56 42.2	+0.4
JFK				S	Sg	19 56 47.0	+0.7
JFT	Otama	0.46	332	⇓P	Pg	19 56 44.8	+0.7
JFT				S	Sg	19 56 51.3	+1.1
JHO	Hitachi	0.50	183	⇑P	Pg	19 56 44.9	0.0
JHO				S	Sb	19 56 51.6	-1.3
JSB	Shiboa	0.57	255	⇓P	Pb	19 56 47.1	+0.3
JSB				S	Sb	19 56 54.8	-0.1
JMM	Marumori	0.77	11	⇑P	Pg	19 56 49.8	-0.1
JMM				S	Sg	19 57 00.3	+0.4
JFY	Yanaizu	0.78	292	⇓P	Pg	19 56 50.5	+0.4
JFY				S	Sg	19 57 00.6	+0.3
MJAR	Matsushiro Arr	2.01	254	Pn	Pb	19 57 10.5	-0.9
	8.9nm,0.3s,baz=82,slow=15,SNR=106						
MJAR				Sn	Sb	19 57 36.2	0.0
	18nm,0.3s,baz=350,slow=18,SNR=20						
MAT	Matsushiro	2.01	254	P	Pb	19 57 10.8	-0.6
MAT				S	Sb	19 57 37.4	+1.1
JHJ	Hachijo jima 2	4.04	190	Pn	Pn	19 57 38.0	+1.4
	5.2nm,0.3s,baz=127,slow=20,SNR=2.7						
JHJ				Sn	Sn	19 58 26.9	+3.1
	6.8nm,0.3s,baz=68,slow=19,SNR=2.7						
SONM	Songino Array	27.21	304	P	P	20 02 17.3	-1.3
	0.2nm,0.4s,baz=93,slow=10.0,SNR=2.5						
MKAR	Makanchi Array	43.53	302	P	P	20 04 35.7	-2.6
	0.4nm,0.9s,baz=72,slow=9.4,SNR=2.5						
WRA	Warramunga Arr	57.05	187	P	P	20 06 21.2	+0.4
	0.5nm,0.7s,baz=2.4,slow=7.6,SNR=7.3						
ASAR	Alice Springs	60.78	187	P	P	20 06 46.5	-0.2
	0.3nm,0.8s,baz=8.9,slow=6.6,SNR=3.1						

*ISCJB **02** 20:05:12.5±0.3, 43°.80N±0°.03×105°.20W±0°.04, h0km, mb3.8/4, Error ellipse: s-maj=4.1km s-min=3.7km az=174.3*
*NEIC **02** 20:05:14.1±0.3, 43°.83N×105°.23W, h0km, ML3.0, MN2.8, Error ellipse: s-maj=4.1km s-min=3.5km az=96.0, Suspected Mining explosion.*
NEIC 56 km [35 miles] SSE of Gillette.
*IDC **02** 20:05:14.6±0.7, 44°.13N×105°.77W, h0km, mb3.8/4, mb1 3.8/11, mb1mx3.6/53, mbtmp3.6/11, ML3.4/7, Error ellipse: s-maj=20.2km s-min=8.7km az=142.0*
ISC 02 20:05:13.8±0.7**, 43°.85N**±0°.06×**105°.27W**±0°.04**, h0**km**, n87, σ1s38**/87**, mb3.7**/4**, Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
RSSD	Black Hills	0.93	72	ePb	Pb	20 05 32.8	-0.3
K22A	Casper	1.50	218	ePn	Pn	20 05 39.8	-2.4
PHWY	Pilot Hill	2.55	183	ePn	Pn	20 05 56.0	-0.6
RWWY	Rawlins	2.58	214	ePn	Pn	20 05 57.5	+0.3
LAO	LASA Array	2.92	347	ePn	Pn	20 06 02.7	+1.0
N23A	Red Feather La	2.99	190	ePn	Pn	20 06 02.8	0.0
RLMT	Red Lodge	3.13	295	ePn	Pn	20 06 05.7	+1.0
BW06	Boulder Array	3.31	252	ePn	Pn	20 06 07.3	+0.1
PD31	Pinedale Array	3.31	252	ePn	Pn	20 06 07.0	-0.1
PDAR	Pinedale Array	3.31	252	Pn	Pn	20 06 06.8	-0.4
	5.3nm,0.3s,baz=73,slow=15,SNR=76						
PDAR				Sn	Sn	20 06 49.7	+2.4
	14nm,0.3s,baz=78,slow=32,SNR=14						
PDAR	Pinedale Array	3.31	252	ePn	Pn	20 06 06.3	-0.8
PDAR				Sn	Sn	20 06 49.6	+2.4
GCMT	Greycliff	3.68	303	ePn	Pn	20 06 12.5	+0.4
LKWY	Lake	3.76	283	ePn	Pn	20 06 14.6	+1.3
OGNE	Ogallala	3.76	139	ePn	Pn	20 06 13.7	+0.5
H17A	Grant Village	3.86	280	ePn	Pn	20 06 16.4	+1.7
LOHW	Long Hollow	3.87	268	ePn	Pn	20 06 16.2	+1.4
FLWY	Flagg Ranch	3.93	275	ePn	Pn	20 06 16.1	+0.6
MOOW	Moose Ponds	3.96	270	ePn	Pn	20 06 17.9	+1.8
YNR	Norris Junctio	3.98	284	ePn	Pn	20 06 16.2	-0.2
SNOW	Snow King Moun	4.00	266	ePn	Pn	20 06 16.2	-0.4
YPP	Pitchstone Pla	4.01	278	ePn	Pn	20 06 17.7	+0.9
YFT	Old Faithful	4.05	281	ePn	Pn	20 06 17.9	+0.6
ISCO	Idaho Springs	4.05	184	ePn	Pn	20 06 17.5	+0.1
REDW	Red Top Meadow	4.08	265	ePb	Pb	20 06 25.6	-1.2
IMW	Indian Meadow	4.10	273	ePn	Pn	20 06 20.0	+2.0
TPAW	Teton Pass	4.14	267	ePn	Pn	20 06 19.6	+1.1
YMR	Madison River	4.17	283	ePb	Pb	20 06 28.4	+0.1
O20A	White River Ci	4.32	212	ePn	Pn	20 06 21.1	+0.1
YHB	Horse Butte	4.35	284	ePn	Pn	20 06 20.4	-0.9
QLMT	Earthquake Lak	4.53	285	ePn	Pn	20 06 28.1	+4.2
DGMT	Dagmar	4.69	9	ePn	Pn	20 06 28.7	+2.8
SMCO	Snowmass	4.84	196	ePn	Pn	20 06 29.3	+1.1
BOZ	Bozeman (W)	4.86	293	ePn	Pn	20 06 29.8	+1.5
Q24A	Divide	4.88	179	ePn	Pn	20 06 28.6	-0.1
EGMT	Eagleton	5.22	325	ePn	Pn	20 06 35.2	+2.1
KSCO	Kaye Shedlock'	5.22	157	ePn	Pn	20 06 32.3	-1.0
TCUT	Toone Canyon	5.29	241	ePn	Pn	20 06 34.4	0.0
HRY	Holter Researc	5.44	304	ePn	Pn	20 06 38.1	+1.8
DLMT	Dillon	5.45	289	ePn	Pn	20 06 38.6	+2.2
LRM	Limekiln Ridge	5.47	294	ePn	Pn	20 06 39.1	+2.2
MCMT	McKenzie Canyo	5.52	283	ePn	Pn	20 06 40.2	+2.7
JLU	Jordanelle	5.62	237	ePn	Pn	20 06 38.7	-0.1
MDND	Maddock	5.63	43	ePn	Pn	20 06 40.8	+2.1
HVU	Hansel Valley	5.89	252	ePn	Pn	20 06 43.5	+1.0
PV21	Cone Mtn., Par	5.97	209	ePn	Pn	20 06 43.9	+0.2
P17A	Butcher Ranch,	5.99	225	ePn	Pn	20 06 44.9	+1.1
PV23	Carpenter Ridg	6.08	209	ePn	Pn	20 06 46.6	+1.4
PV09	Paradox Valley	6.08	210	ePn	Pn	20 06 45.3	0.0
MPU	Maple Canyon	6.09	233	ePn	Pn	20 06 45.3	0.0
SDCO	Great Sand Dun	6.10	182	ePn	Pn	20 06 45.7	+0.3
PV12	Saucer Basin,	6.13	207	ePn	Pn	20 06 46.6	+0.7
PV14	Lion Creek, Pa	6.16	209	ePn	Pn	20 06 46.1	-0.1
PV10	Paradox Valley	6.16	209	ePn	Pn	20 06 46.7	+0.4
PV20	West Nyswonger	6.17	208	ePn	Pn	20 06 45.3	-1.0
PV11	David Mesa, Pa	6.17	207	ePn	Pn	20 06 47.0	+0.6
PV16	Nyswonger Mesa	6.18	208	ePn	Pn	20 06 47.0	+0.5
PV19	Morning Glory	6.20	208	ePn	Pn	20 06 46.9	+0.1
PV03	Paradox Valley	6.21	207	ePn	Pn	20 06 46.6	-0.2
PV02	Paradox Valley	6.21	206	ePn	Pn	20 06 47.9	+0.9
PV17	East Wray Mesa	6.22	208	ePn	Pn	20 06 47.6	+0.5
PV01	Paradox Valley	6.23	205	ePn	Pn	20 06 47.8	+0.6
ECSD	EROS Data Cent	6.27	88	ePn	Pn	20 06 49.0	+1.4
PV13	Radium Mtn., P	6.28	206	ePn	Pn	20 06 48.1	+0.1
TMUT	Trail Mountain	6.36	226	ePn	Pn	20 06 49.6	+0.5
NLU	North Lily Min	6.39	235	ePn	Pn	20 06 50.9	+1.4
PV05	Paradox Valley	6.45	208	ePn	Pn	20 06 49.3	-1.0
CBKS	Cedar Bluff	6.53	138	ePn	Pn	20 06 51.2	+0.1
DUG	Dugway, Tooele	6.70	240	ePn	Pn	20 06 53.1	-0.5
MVCO	Mesa Verde	7.07	201	ePn	Pn	20 06 59.5	+0.7
ELK	Elko	8.01	251	Pn	Pn	20 07 12.4	+0.7
	0.5nm,0.3s,baz=69,slow=9.7,SNR=12						
ELK				Lg	Lg	20 09 21.3	
	0.0nm,0.3s,baz=236,slow=14,SNR=2.5						
PSUT	Pine Spring	8.37	234	ePn	Pn	20 07 17.4	+0.9
ULM	Lac du Bonnet	9.06	42	Pn	Pn	20 07 25.1	-0.7
	1.1nm,0.3s,baz=238,slow=13,SNR=12						
ULM				Lg	Lg	20 09 55.5	
	0.4nm,0.3s,baz=342,slow=20,SNR=2.5						
NEW	Newport	9.35	302	Lg	Lg	20 09 51.6	
	0.1nm,0.3s,baz=91,slow=10,SNR=2.4						
WUAZ	Wupatki	9.55	212	ePn	Pn	20 07 41.1	+8.4
	3.4nm,0.5s						
NVAR	Mina Array Bea	11.21	246	Pn	Pn	20 07 56.2	+0.6
	0.1nm,0.3s,baz=50,slow=13,SNR=4.8						
TXAR	Lajitas Array	14.54	174	Pn	P	20 08 47.5	-0.2
	0.0nm,0.3s,baz=5.5,slow=10,SNR=3.1						
TXAR				Pg		20 09 45.4	
	0.1nm,0.3s,baz=8.7,slow=12,SNR=4.1						
TKL	Tuckaleechee C	18.41	109	P	P	20 09 35.6	+5.2
	0.2nm,0.3s,baz=329,slow=12,SNR=2.6						
YKA	Yellowknife Ar	19.46	347	P	P	20 09 40.4	-1.4
	0.1nm,0.3s,baz=166,slow=13,SNR=6.2						
YKB5	Yellowknife Ar	19.46	347	eP	P	20 09 40.4	-1.4
ARA0	ARCESS Array S	61.31	18	eP	P	20 15 29.1	-1.5
ARCES	ARCESS Array B	61.31	18	P	P	20 15 29.1	-1.5
	1.6nm,0.9s,baz=316,slow=7.6,SNR=3.9						
ZAA1	Zalesovo Array	82.19	354	eP	P	20 17 35.2	-1.1
ZALV	Zalesovo Beam	82.20	354	P	P	20 17 35.2	-1.1
	0.3nm,0.5s,baz=17,slow=1.5,SNR=4.3						
SONA0	Songino Array	84.54	339	eP	P	20 17 47.6	-1.2
SONM	Songino Array	84.54	339	P	P	20 17 47.6	-1.2
	0.3nm,0.7s,baz=16,slow=4.9,SNR=2.1						
MK32	Makanchi Array	89.50	355	eP	P	20 18 11.4	-1.3
MKAR	Makanchi Array	89.50	355	P	P	20 18 11.4	-1.3
	0.3nm,0.6s,baz=5.9,slow=4.3,SNR=4.1						

IDC 02 20:05:39.7±15.0**, 18°.30S×178°.21W, h604**km±135km**, mb2.8**/3**, mb1 3.1**/3**, mb1mx2.7**/41**, mbtmp3.8**/3**, Error ellipse: s-maj=202.2km s-min=42.7km az=132.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
WRA	Warramunga Arr	44.75	260	P	P	20 13 00.9	-0.3
	0.5nm,0.3s,baz=98,slow=7.5,SNR=24						
WRA				PcP	PcP	20 14 30.2	+0.2
	0.3nm,0.7s,baz=96,slow=3.5,SNR=3.7						
ASAR	Alice Springs	44.87	255	P	P	20 13 02.1	0.0
	0.7nm,0.4s,baz=84,slow=8.4,SNR=25						
ASAR				PcP	PcP	20 14 30.1	-0.4
	0.3nm,0.5s,baz=95,slow=4.2,SNR=5.4						
ILAR	Eielson Array	86.22	13	P	P	20 17 18.4	+0.6
	0.7nm,1.0s,baz=214,slow=6.2,SNR=5.1						
BRTR	Keskin Array B	145.19	315	PKPbc	PKPbc	20 24 10.8	-0.2
	0.5nm,0.5s,baz=127,slow=2.3,SNR=3.3						
GERES	GERESS Array B	148.04	345	PKPbc	PKPdf	20 24 16.2	+2.0
	0.6nm,0.7s,baz=35,slow=3.6,SNR=3.5						

*ISCJB **02** 20:15:53.9±0.7, 46°.65N±0°.10×153°.1E±0°.1, h24km, mb3.6/11, Error ellipse: s-maj=17.0km s-min=5.7km az=142.8*
*SKHL **02** 20:15:55.2±0.6, 45°.82N×153°.64E, h34km±3km, mb4.5/7*
*IDC **02** 20:16:01.3±2.6, 46°.83N×152°.98E, h72km±23km, mb3.3/12, mb1 3.6/17, mb1mx3.5/36, mbtmp3.7/17, Error ellipse: s-maj=23.9km s-min=14.0km az=131.0*
ISC 02 20:15:55.4±0.8**, 46°.64N**±0°.09×**153°.20E**±0°.10**, h24**km**, n28, σ1s70**/31**, mb3.5**/11**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
KUR	Kuril'sk	3.98	251	i P	Pn	20 16 56.0	+1.1
KUR				AMB	AMB	20 17 02.0	
	30nm,0.5s						
KUR				AMB	AMB	20 17 02.0	
	40nm,0.5s						
KUR				eS	Sn	20 17 42.0	+1.3
KUR				A	A	20 17 46.0	
	130nm,0.6s						
KUR				A	A	20 17 46.0	
	150nm,0.6s						
SKR	Severo-Kuril's	4.48	24	eP	Pb	20 17 11.0	-2.3
SKR				AMB	AMB	20 17 14.5	
	50nm,0.7s						
SKR				eS	Sb	20 18 08.0	+1.2
SKR				A	A	20 18 17.0	
	20nm,0.9s						
SHO	Shikotan	5.28	241	eP	Pn	20 17 13.0	+0.2
SHO				AMB	AMB	20 17 15.8	
	20nm,0.3s						
SHO				eS	Sn	20 18 10.9	-2.0
SHO				A	A	20 18 18.0	
	40nm,0.3s						
SHO				A	A	20 18 18.0	
	80nm,0.3s						
YUK	Yuzh-Kuril'sk	5.79	246	eP	Pn	20 17 20.6	+0.8
YUK				AMB	AMB	20 17 21.5	
	30nm,0.4s						
YUK				eS	Sn	20 18 23.0	-2.4
YUK				A	A	20 18 27.0	
	60nm,0.3s						
YUK				A	A	20 18 27.0	
	50nm,0.3s						
GRPR	Tuman	5.87	246	eS	Sn	20 18 26.0	-1.3
GLVR	Golovnino	6.16	245	eP	Pn	20 17 25.0	+0.3
GLVR				eS	Sn	20 18 32.0	-2.3
GLVR				A	A	20 18 36.0	
	40nm,0.5s						
PETK	Petropavlovsk-	7.09	23	P	Pn	20 17 40.3	+2.7
	0.2nm,0.3s,baz=187,slow=13,SNR=5.2						
PETK				S	Sn	20 18 55.1	-2.2
	baz=227,slow=25,SNR=2.6						
YSS	Yuzh-Sakhalins	7.18	276	eP	Pn	20 17 45.4	+6.6
YSS				AMB	AMB	20 17 46.5	
	30nm,1.1s						
ASAJ	Asahikawa	7.88	255	P	Pn	20 17 51.7	+3.3
	0.7nm,0.3s,baz=90,slow=18,SNR=3.1						
TYV	Tymovskoe	8.15	305	eP	Pn	20 18 03.8	+12
TYV				AMB	AMB	20 18 07.0	
	50nm,0.8s						
MA2	Magadan	13.04	355	P	Pn	20 19 00.3	+1.4
	0.8nm,0.3s,baz=168,slow=18,SNR=4.0						
EKMR	Ekimchan	14.53	304	eP	P	20 19 27.0	+1.3
EKMR				AMB	AMB	20 19 28.4	
	4.0nm,0.6s						
MJAR	Matsushiro Arr	15.06	233	P	P	20 19 30.4	-1.3
	0.2nm,0.3s,baz=34,slow=8.1,SNR=5.2						
USRK	Ussuriysk Ar.	15.09	268	P	Pn	20 19 30.1	+3.2
	0.3nm,0.3s,baz=72,slow=11,SNR=6.5						
BMKR	Bomnak	17.35	307	eP	P	20 20 06.3	+9.3
KSRS	Korea Array	20.82	253	P	P	20 20 35.5	+0.4
	0.5nm,0.5s,baz=52,slow=9.9,SNR=4.6						
ILAR	Eielson Array	36.59	38	P	P	20 22 59.5	+0.3
	0.3nm,0.9s,baz=256,slow=5.6,SNR=3.1						
MKAR	Makanchi Array	47.04	297	P	P	20 24 24.3	-0.4
	0.2nm,0.8s,baz=76,slow=8.9,SNR=4.1						
YKA	Yellowknife Ar	50.97	37	P	P	20 24 55.6	+1.0
	0.5nm,0.8s,baz=297,slow=7.4,SNR=6.6						
CMAR	Chiang Mai Arr	52.41	256	P	P	20 25 06.5	+0.7
	0.5nm,0.6s,baz=31,slow=8.6,SNR=5.3						
FINES	FINESS Array B	64.16	335	P	P	20 26 25.8	-1.6
	1.3nm,0.5s,baz=31,slow=7.6,SNR=13						
NB2	NORSAR Subarra	68.35	341	P	P	20 26 53.1	-1.2
	comp=Z,0.7nm,0.6s,baz=27,slow=6.5						
NOA	NORSAR Array B	68.35	341	P	P	20 26 53.0	-1.2
	comp=Z,1.6nm,0.8s,baz=27,slow=6.2,SNR=5.9						
WRA	Warramunga Arr	68.43	199	P	P	20 26 55.5	+0.3
	comp=Z,0.4nm,1.1s,baz=29,slow=7.0,SNR=3.0						
AKASG	Malin Array Be	71.67	326	P	P	20 27 12.7	-2.1
	comp=Z,1.2nm,0.4s,baz=35,slow=6.2,SNR=5.9						
ASAR	Alice Springs	72.13	199	P	P	20 27 19.0	+1.2
	comp=Z,0.5nm,1.0s,baz=18,slow=5.0,SNR=4.4						
TXAR	Lajitas Array	77.49	61	P	P	20 27 49.5	+0.4
	comp=Z,0.3nm,0.4s,baz=304,slow=4.5,SNR=5.4						
BRTR	Keskin Array B	78.51	317	P	P	20 27 53.5	-1.1
	comp=Z,0.3nm,0.6s,baz=60,slow=7.3,SNR=3.9						

*NIED **02** 20:31:00, 33°.60N×141°.70E, h8km, Mw4.0 Best double couple: M0 1.33000×10^15 NP1:φs8.00000°, δ51.00000°, λ46.00000°. NP2:φs244.00000°, δ56.00000°, λ130.00000°.*
*IDC **02** 20:31:03.2±0.7, 33°.48N×141°.89E, h0km, mb3.8/13, mb1 3.9/15, mb1mx3.8/40, mbtmp3.7/15, ML3.3/2, MS3.2/7, Ms1 3.2/7, ms1mx2.9/41, Error ellipse: s-maj=21.1km s-min=14.6km az=75.0*
*NEIC **02** 20:31:04.1±5.2, 33°.46N×141°.91E, h5km±31km, mb4.5/5, Error ellipse: s-maj=17.7km s-min=9.0km az=81.0*
*JMA **02** 20:31:06.4±0.2, 33°.58N×141°.75E, h87km±4km, M3.8*
ISC 02 20:31:04.8±2.4**, 33°.48N**±0°.08×**141°.64E**±0°.08**, h7**km±14km**, n50, σ1s24**/56**, mb3.8**/17**, MS3.2**/5**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
BSO1	Boso 1	1.30	335	P	Pn	20 31 28.9	0.0
BSO1				eS	Sn	20 31 46.2	-0.1
BSO2	Boso 2	1.47	330	eS	Sn	20 31 50.9	0.0
JHJ2	Mitsune	1.57	257	ePn	Pg	20 31 35.4	+0.4
JHJ2	Mitsune	1.57	257	P	Pg	20 31 34.8	-0.2
JHJ2				eS	Sg	20 31 56.1	+0.7
JHJ	Hachijo jima 2	1.60	258	Pn	Pg	20 31 34.9	-0.5
	90nm,0.3s,baz=128,slow=16,SNR=57						
JHJ				Sn	Sg	20 31 55.2	-1.0
	197nm,0.3s,baz=80,slow=23,SNR=7.4						
BSO3	Boso 3	1.62	325	P	Pn	20 31 33.9	+0.3
BSO3				eS	Sn	20 31 54.3	-0.4
JMKN	Mikurajimanish	1.76	284	eS	Sb	20 31 58.2	-1.6
BSO4	Boso 4	1.86	325	P	Pn	20 31 37.4	+0.4
JIM2	Oshima 3	2.21	305	P	Pn	20 31 42.1	0.0
JIM2				eS	Sn	20 32 08.9	-0.8
JOD2	Odawara 2	2.77	311	P	Pn	20 31 49.0	-0.6
JOD2				eS	Sn	20 32 21.7	-1.6
JFNN	Fujinakano	2.99	306	eS	Sn	20 32 27.5	-1.3
JRY	Ryogami san	3.39	319	P	Pn	20 31 58.5	+0.2
JRY				eS	Sn	20 32 38.0	-0.9
JAG	Ashikaga	3.45	329	P	Pn	20 31 59.0	0.0
JAG				eS	Sn	20 32 39.4	-0.7
MJAR	Matsushiro Arr	4.16	318	Pn	Pn	20 32 09.3	+0.5
	2.9nm,0.3s,baz=260,slow=8.5,SNR=56						
MJAR				Sn	Sn	20 32 58.8	+1.0
	8.0nm,0.3s,baz=196,slow=26,SNR=6.3						
MAJO	Matsushiro	4.16	318	ePn	Pn	20 32 11.3	+2.5
MAJO				eSn	Sn	20 32 58.8	+1.0
MAT	Matsushiro	4.16	318	P	Pn	20 32 10.3	+1.5
MAT				eS	Sn	20 32 55.3	-2.5
MJB9	Matsu-Tunnel	4.17	318	ePn	Pn	20 32 11.0	+2.1
JNU	Nakatsue	9.02	271	LR	LR	20 36 22.4	
	comp=Z,66nm,20.5s,baz=121,slow=35						
KSRS	Korea Array	11.87	293	LR	LR	20 38 06.5	
	comp=Z,65nm,19.7s,baz=78,slow=35						
KLR	Kul'dur	17.38	338	P	P	20 35 08.9	-0.2
	0.1nm,0.3s,baz=128,slow=18,SNR=2.1						
SONA1	Songino Array	30.05	309	eP	P	20 37 17.1	+2.4
SONA0	Songino Array	30.05	309	eP	P	20 37 15.7	+1.0
SONM	Songino Array	30.05	309	P	P	20 37 15.7	+1.0
	1.1nm,0.7s,baz=108,slow=8.6,SNR=8.5						
SONM				LR	LR	20 49 42.3	
	comp=Z,29nm,19.1s,baz=346,slow=37						
CMAR	Chiang Mai Arr	40.90	259	P	P	20 38 48.4	+0.4
	0.4nm,0.3s,baz=57,slow=8.7,SNR=5.1						
ZALV	Zalesovo Beam	44.51	315	P	P	20 39 19.1	+2.3
	0.7nm,0.6s,baz=111,slow=6.4,SNR=3.3						
ZALV				LR	LR	20 58 00.5	
	comp=Z,26nm,19.5s,baz=72,slow=36						
ZAA1	Zalesovo Array	44.51	315	eP	P	20 39 19.1	+2.3
BRDH	Bariadhala	45.04	270	LR	LR	20 58 53.4	
	comp=Z,28nm,18.9s,baz=226,slow=37						
MK01	Makanchi Array	46.24	305	eP	P	20 39 31.0	+0.3
MK31	Makanchi Array	46.24	305	eP	P	20 39 31.1	+0.4
MK32	Makanchi Array	46.24	305	eP	P	20 39 30.0	-0.7
MKAR	Makanchi Array	46.24	305	P	P	20 39 30.0	-0.7
	1.2nm,0.6s,baz=90,slow=9.6,SNR=19						
MKAR	Makanchi Array	46.24	305	eP	P	20 39 31.1	+0.4
	12nm,0.6s						
MAKZ	Makanchi	46.45	305	eP	P	20 39 33.2	+0.8
	2.0nm,0.8s						
KURK	Kurchatov	48.33	311	eP	P	20 39 45.5	-1.4
	4.4nm,0.8s						
ILAR	Eielson Array	52.42	31	P	P	20 40 14.2	-3.4
	0.2nm,0.7s,baz=274,slow=6.6,SNR=3.0						
FITZ	Fitzroy Crossi	53.51	199	P	P	20 40 26.5	+0.4
	2.8nm,0.9s,baz=30,slow=11,SNR=5.8						
WB2	Warramunga Arr	53.57	189	eP	P	20 40 27.3	+0.8
WR1	Warramunga Arr	53.57	189	eP	P	20 40 25.5	-1.1
	14nm,1.5s						
WRA	Warramunga Arr	53.57	189	P	P	20 40 25.5	-1.1
	1.1nm,0.6s,baz=6.0,slow=7.6,SNR=19						
AS31	Alice Springs	57.30	188	eP	P	20 40 52.9	-0.5
	0.9nm,1.0s						
ASAR	Alice Springs	57.30	188	P	P	20 40 52.9	-0.5
	0.6nm,0.8s,baz=10,slow=7.6,SNR=9.3						
DZM	Mont Dzumac	60.09	153	LR	LR	21 06 05.4	
	comp=Z,70nm,18.7s,baz=172,slow=35						
ABKAR	Akbulak array	60.41	312	eP	P	20 41 15.2	+0.4
STKA	Stephens Creek	65.00	180	P	P	20 41 45.5	+0.1
	0.5nm,0.2s,baz=315,slow=8.6,SNR=2.6						
KBZ	Khabaz	73.38	312	P	P	20 42 37.7	+0.2
	1.3nm,0.9s,baz=90,slow=1.0,SNR=3.3						
AKASG	Malin Array Be	77.23	323	P	P	20 42 59.3	-0.2
	0.3nm,0.4s,baz=46,slow=5.2,SNR=3.8						
NOA	NORSAR Array B	77.54	338	LR	LR	21 21 43.1	
	comp=Z,17nm,19.4s,baz=210,slow=39						
PDAR	Pinedale Array	80.03	45	P	P	20 43 15.2	-0.2
	0.2nm,0.6s,baz=15,slow=3.7,SNR=3.1						
BR101	Keskin Array S	81.36	312	eP	P	20 43 24.5	+2.0
BRTR	Keskin Array B	81.36	312	P	P	20 43 24.5	+2.0
	0.4nm,0.8s,baz=68,slow=8.4,SNR=3.2						

*ISCJB **02** 20:33:44.8±0.9, 32°.37S±0°.02×70°.61W±0°.05, h8km±8km, Error ellipse: s-maj=7.1km s-min=4.0km az=176.3*
*GUC **02** 20:33:44.5±0.7, 32°.38S×70°.52W, h24km±8km, ML3.0*
*SJA **02** 20:33:46.8±1.1, 32°.30S×70°.27W, h5km±16km, ML2.9, MW3.4*
ISC 02 20:33:43.9±1.6**, 32°.34S**±0°.03×**70°.56W**±0°.04**, h9**km±16km**, n26, σ1s58**/35**, 1C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
ROCH	El Roble	0.73	211	eP	Pg	20 33 58.3	+0.2
ROCH				i S	Sb	20 34 08.8	-0.4
ROCH				IAML		20 34 12.1	
	comp=E,524nm,0.5s						
ROC1	El Roble	0.74	211	eP	Pg	20 33 58.5	+0.3
AUSP	Uspallata	1.00	84	eP	Pb	20 34 02.0	-1.6
AUSP				eS	Sb	20 34 14.3	-2.7
FCH	Farellones	1.01	167	eP	Pb	20 34 02.4	-1.4
FCH				i S	Sb	20 34 16.4	-0.9
FCH				IAML		20 34 17.0	
	comp=E,1μm,0.2s						
CLCH	Cerro Calan	1.05	179	eP	Pb	20 34 03.9	-0.4
CLCH				eS	Sb	20 34 17.8	-0.4
CLCH				IAML		20 34 21.7	
	comp=E,443nm,0.5s						
RTLS	Leoncito	1.20	64	eP	Pn	20 34 06.1	-1.1
RTLS				eS	Sb	20 34 21.3	-1.5
RTLS				IAML		20 34 21.4	
	comp=Z,203nm,0.3s						
CMCH	Combarbala	1.22	342	eP	Pn	20 34 06.0	-1.3
CMCH				i S	Sb	20 34 22.3	-0.9
ARCO	CERRO ARCO	1.47	110	eP	Pb	20 34 11.1	-0.3
ARCO				IAML		20 34 33.4	
	comp=Z,368nm,0.7s						
ASAL	Salagasta	1.48	100	eP	Pb	20 34 11.2	-0.4
LMEL	Las Melosas	1.53	169	⇑eP	Pb	20 34 12.9	+0.3
LMEL				i S	Sb	20 34 32.3	+0.2
LMEL				IAML		20 34 35.5	
	comp=N,324nm,0.2s						
AAGR	Agrelo	1.64	117	eP	Pb	20 34 14.8	+0.4
RTCV	Cerro Valdivia	1.78	75	eP	Pb	20 34 17.2	+0.4
ZON	Zonda	1.79	64	eP	Pg	20 34 18.2	0.0
RTLL	Cerro Villicun	2.04	61	eP	Pb	20 34 22.5	+1.2
RTLL				IAML		20 34 52.6	
	comp=Z,134nm,0.6s						
CFA	Coronel Fontan	2.11	70	eP	Pb	20 34 22.0	-0.4
ACCO	Cerro Coronel	2.17	37	eP	Pb	20 34 23.9	+0.4
GO04	Tololo Observa	2.17	355	eP	Pn	20 34 21.4	+1.0
GO04				i S	Sb	20 34 50.2	-0.4
AMOG	MOGNA	2.25	52	eP	Pb	20 34 24.9	+0.1
AROD	Rodeo	2.36	24	eP	Pb	20 34 27.7	+1.0
LSCH	La Serena	2.50	346	eP	Pn	20 34 26.3	+1.6
LSCH				i S	Sb	20 34 57.4	-2.3
LSCH				IAML		20 35 01.3	
	comp=N,182nm,0.4s						
ACAN	Cantantal	2.86	90	eP	Pb	20 34 33.0	-2.1
RFA	San Rafael	2.99	145	eP	Pb	20 34 34.8	-2.6
AGUA	GUANDACOL	3.36	33	eP	Pb	20 34 41.4	-2.2
APLL	PUNTA DE LOS L	3.96	62	eP	Pn	20 34 48.0	+3.1
MRA	San Martin	4.10	92	eP	Pn	20 34 49.3	+2.5
ACLC	CERRO LA CRUZ	4.25	48	eP	Pn	20 34 52.8	+3.8

IDC 02 20:43:56.6±1.5**, 4°.13N×127°.83E, h0**km**, mb3.3**/4**, mb1 3.4**/4**, mb1mx3.2**/34**, mbtmp3.3**/4**, Error ellipse: s-maj=132.1km s-min=21.5km az=71.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.77	165	P	P	20 49 19.1	-1.1
	0.3nm,0.3s,baz=345,slow=10,SNR=6.4						
ASAR	Alice Springs	28.26	168	P	P	20 49 52.8	+1.0
	0.3nm,1.0s,baz=355,slow=10,SNR=2.8						
SONM	Songino Array	47.28	340	P	P	20 52 31.6	-0.3
	0.2nm,0.4s,baz=157,slow=9.4,SNR=3.2						
MKAR	Makanchi Array	57.86	325	P	P	20 53 50.4	+0.1
	0.4nm,0.6s,baz=113,slow=7.9,SNR=6.8						

*NIED **02** 20:59:00,29°.70N×142°.00E,h5km,Mw4.2 Best double couple: $M_0$2.62000×10^{15} NP1:φs181.00000°,δ39.00000°,λ43.00000°. NP2:φs56.00000°,δ65.00000°,λ121.00000°.*
*IDC **02** 20:59:10.9±0.5,29°.70N×142°.37E,h0km,mb4.1/22,mb1 4.3/26,mb1mx4.3/47,mbtmp4.1/26,ML3.2/4,MS3.6/7,Ms1 3.6/7,ms1mx3.2/41,Error ellipse: s-maj=16.7km s-min=11.5km az=83.0*
*NEIC **02** 20:59:12.2±2.4,29°.67N×142°.36E,h7km±14km,mb4.8/33,Error ellipse: s-maj=5.5km s-min=4.6km az=89.0*
*ISCJB **02** 20:59:13.5±0.3,29°.69N±0°.04×142°.24E±0°.05,h24km,mb4.5/65,MS3.7/6,Error ellipse: s-maj=6.4km s-min=5.1km az=164.7*
*MOS **02** 20:59:14.8±1.0,29°.69N×142°.28E,h35km,mb4.8/26,Error ellipse: s-maj=12.2km s-min=5.9km az=120.1*
ISC 02 20:59:15.2±0.4**,29°.73N**±0°.05×**142°.29E**±0°.08**,h24km,n161,** σ1s30/165**,mb4.6**/73**,MS3.7**/6**,7C,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.63	182	ePn	Pn	20 59 54.4	-1.8
CBIJ				Sn	Sn	21 00 15.0	-12
JCJ	Chichijima	2.63	182	Pn	Pn	20 59 49.4	-6.7
JCJ				Sn	Sn	21 00 15.0	-12
JHJ	Hachijo jima 2	4.00	328	Pn	Pn	21 00 12.7	-2.3
	5.9nm,0.3s,baz=156,slow=18,SNR=3.1						
JHJ				Sn	Sn	21 00 59.1	-2.0
	15nm,0.3s,baz=73,slow=19,SNR=3.5						
INU	Inuyama	7.16	323	ePn	Pn	21 01 02.3	+4.0
MJAR	Matsushiro Arr	7.61	334	Pn	Pn	21 01 04.0	-0.5
	3.1nm,0.3s,baz=160,slow=11,SNR=97						
MJAR				Sn	Sn	21 02 29.5	-0.5
	0.7nm,0.3s,baz=163,slow=18,SNR=6.3						
MJAR				LR	LR	21 03 44.0	
	comp=Z,301nm,18.6s,baz=145,slow=36						
MAJO	Matsushiro	7.61	334	ePn	Pn	21 01 04.5	0.0
MAJO				eSn	Sn	21 02 29.5	-0.5
MAJO	Matsushiro	7.61	334	eP	Pn	21 01 04.5	0.0
MAJO				e		21 02 29.5	
MAT	Matsushiro	7.61	334	P	Pn	21 01 04.2	-0.3
MAT				eS	Sn	21 02 27.4	-2.6
MJB9	Matsu-Tunnel	7.61	334	ePn	Pn	21 01 04.5	0.0
JNU	Nakatsue	10.32	292	LR	LR	21 05 41.0	
	comp=Z,336nm,18.2s,baz=110,slow=38						
KSRS	Korea Array	14.23	307	Pn	Pn	21 02 37.0	+1.9
	0.1nm,0.3s,baz=108,slow=14,SNR=5.5						
KSRS				LR	LR	21 08 13.7	
	comp=Z,229nm,18.4s,baz=118,slow=38						
KSRS	Korea Array	14.23	307	P	Pn	21 02 37.0	+1.9
KSRS				MLR	MLR		
	comp=Z,229nm,18.4s						
KSAR	Wonju Array Be	14.25	306	Pn	Pn	21 02 37.0	+1.5
KSAR	Wonju Array Be	14.25	306	P	Pn	21 02 37.0	+1.5
USRK	Ussuriysk Ar.	16.60	333	Pn	Pn	21 03 04.3	-1.9
	comp=Z,0.1nm,0.3s,baz=98,slow=18,SNR=2.4						
YSS	Yuzh-Sakhalins	17.20	1	eP	P	21 03 15.4	+0.2
YULB	Yu-li	19.80	256	eP	Pn	21 03 44.8	-0.8
	comp=Z,189nm,1.9s						
SSLB	Suanglung	19.94	258	eP	P	21 03 46.2	+0.7
	comp=Z,161nm,1.5s						
KLR	Kul'dur	21.07	341	P	P	21 03 56.9	-0.6
	comp=Z,3.9nm,0.7s,baz=150,slow=9.5,SNR=13						
KLR	Kul'dur	21.07	341	iP	P	21 03 56.3	-1.2
HIA	Hailar	25.97	325	eP	P	21 04 46.6	+0.7
	comp=Z,25nm,1.1s						
HIA	Hailar	25.97	325	eP	P	21 04 46.6	+0.7
HIA				pmax	pmax		
	comp=Z,25nm,1.1s						
ZEA	Zeya	26.37	340	eP	P	21 04 48.7	-0.7
ZEA				pmax	pmax		
	comp=Z,41nm,1.4s						
DAV	Davao City (W)	27.49	218	LR	LR	21 14 26.7	
	comp=Z,85nm,21.6s,baz=342,slow=33						
ENH	Enshi	28.36	279	eP	P	21 05 06.2	-1.4
	comp=Z,6.6nm,0.7s						
ULN	Ulaanbaatar	32.53	314	eP	P	21 05 45.1	+0.8
	comp=Z,8.8nm,0.8s						
ULN	Ulaanbaatar	32.53	314	ceP	P	21 05 44.6	+0.3
ULN				pmax	pmax		
	comp=Z,23nm,1.7s						
SONA1	Songino Array	32.93	313	eP	P	21 05 48.2	+0.4
SONA0	Songino Array	32.93	313	eP	P	21 05 48.7	+0.9
SONM	Songino Array	32.93	313	P	P	21 05 48.7	+0.9
	comp=Z,4.6nm,0.9s,baz=116,slow=7.6,SNR=30						
SONM				LR	LR	21 19 36.1	
	comp=Z,85nm,20.1s,baz=189,slow=37						
ZAK	Zakamensk	35.73	316	eP	P	21 06 12.7	+0.7
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
PBKT	Sadao Pong	39.98	260	eP	P	21 06 48.0	0.0
	comp=Z,4.4nm,0.8s						
CHTO	Chiang Mai	40.77	265	eP	P	21 06 54.1	-0.6
	comp=Z,5.2nm,0.7s						
CHTO	Chiang Mai	40.77	265	eP	P	21 06 54.1	-0.6
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BILL	Bilibino	40.88	14	iP	P	21 06 54.1	-0.8
BILL				i		21 09 03.7	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,82nm,16.0s						
CM31	Chiang Mai Arr	40.92	264	eP	P	21 06 54.7	-1.2
CMAR	Chiang Mai Arr	40.92	264	P	P	21 06 55.5	-0.4
	comp=Z,1.0nm,0.7s,baz=66,slow=5.4,SNR=9.4						
CM01	Chiang Mai Arr	40.92	264	eP	P	21 06 56.4	+0.5
TIXI	Tiksi	42.61	354	iP	P	21 07 12.9	+3.9
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BATI	Baumata	43.57	207	LR	LR	21 24 35.0	
	comp=Z,103nm,21.3s,baz=354,slow=35						
DGZ	Jazzator, Alta	45.55	312	iP	P	21 07 34.0	+0.9
DGZ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ZAA0	Zalesovo Array	47.59	318	eP	P	21 07 49.0	+0.1
	comp=Z,3.2nm,0.8s						
ZAA1	Zalesovo Array	47.59	318	eP	P	21 07 48.9	0.0
ZAA1				ePcP	PcP	21 09 18.1	-0.2
ZALV	Zalesovo Beam	47.59	318	P	P	21 07 48.9	0.0
	comp=Z,1.0nm,0.5s,baz=98,slow=7.6,SNR=8.1						
ZALV				PcP	PcP	21 09 18.1	-0.2
	comp=Z,1.0nm,0.7s,baz=70,slow=1.7,SNR=2.1						
ZALV	Zalesovo Beam	47.59	318	eP	P	21 07 48.4	-0.4
ZALV				PcP	PcP	21 09 18.1	-0.2
ZALV	Zalesovo Beam	47.59	318	eP	P	21 07 48.4	-0.4
ZALV						21 09 18.1	
NVS	Novosibirsk	48.61	319	eP	P	21 07 56.7	0.0
RAMN	Ramite	48.70	281	eP	P	21 07 57.6	-0.5
	comp=Z,16nm,0.7s						
JIRN	Jiri	48.84	282	eP	P	21 07 59.2	-0.2
	comp=Z,25nm,0.6s						
MK01	Makanchi Array	48.90	308	eP	P	21 07 59.3	+0.2
MK31	Makanchi Array	48.91	308	eP	P	21 07 59.5	+0.3
MK31	Makanchi Array	48.91	308	eP	P	21 07 59.5	+0.3
MK32	Makanchi Array	48.91	308	eP	P	21 07 59.6	+0.4
MKAR	Makanchi Array	48.91	308	P	P	21 07 59.6	+0.4
	comp=Z,6.8nm,0.7s,baz=90,slow=9.4,SNR=86						
MKAR	Makanchi Array	48.91	308	eP	P	21 07 59.5	+0.4
	comp=Z,74nm,0.8s						
MKAR	Makanchi Array	48.91	308	eP	P	21 07 59.5	+0.4
MKAR				pmax	pmax		
	comp=Z,74nm,0.8s						
GUN	Gumba	49.04	283	eP	P	21 08 00.4	-0.4
	comp=Z,17nm,0.7s						
MAKZ	Makanchi	49.12	308	eP	P	21 08 01.4	+0.6
	comp=Z,49nm,1.8s						
MAKZ	Makanchi	49.12	308	eP	P	21 08 01.4	+0.6
MAKZ				pmax	pmax		
	comp=Z,49nm,1.8s						
LEM	Lembang	49.30	228	P	P	21 08 01.9	-0.7
	comp=Z,15nm,0.4s,baz=311,slow=20,SNR=3.1						
PKI	Pulchoki	49.53	282	eP	P	21 08 03.6	-1.0
PKIN	Phulchoki	49.54	282	eP	P	21 08 03.4	-1.2
	comp=Z,8.4nm,1.0s						
KKN	Kakani	49.58	283	eP	P	21 08 04.2	-0.6
	comp=Z,13nm,0.8s						
CTA	Charters Tower	49.68	175	P	P	21 08 04.9	-0.3
	comp=Z,3.7nm,0.8s,baz=119,slow=3.0,SNR=3.9						
DMN	Daman	49.78	282	eP	P	21 08 05.9	-0.5
	comp=Z,8.2nm,0.8s						
RDOG	Red Dog Mine	49.78	24	eP	P	21 08 06.2	+0.7
	comp=Z,12nm,1.3s						
MDSI	Maura Dua	49.91	234	P	P	21 08 06.0	-1.1
WRAB	Tennant Creek	49.97	190	eP	P	21 08 07.7	+0.3
	comp=Z,19nm,1.3s						
WRAB	Tennant Creek	49.97	190	ceP	P	21 08 18.9	+12
WRAB				pmax	pmax		
	comp=Z,15nm,1.3s						
WR1	Warramunga Arr	49.98	190	eP	P	21 08 06.3	-1.1
	comp=Z,20nm,1.3s						
WRA	Warramunga Arr	49.98	190	P	P	21 08 06.3	-1.2
	comp=Z,1.4nm,0.6s,baz=9.4,slow=7.7,SNR=24						
FITZ	Fitzroy Crossi	50.19	201	P	P	21 08 08.1	-1.0
	comp=Z,1.0nm,0.6s,baz=13,slow=12,SNR=3.3						
DANN	Dangsing	50.71	284	eP	P	21 08 13.6	+0.1
	comp=Z,20nm,0.6s						
KOLN	Koldanda	51.01	283	eP	P	21 08 15.2	-0.4
KURK	Kurchatov	51.24	313	eP	P	21 08 16.9	+0.2
	comp=Z,17nm,0.9s						
KURK	Kurchatov	51.24	313	ceP	P	21 08 17.5	+0.8
KURK				pmax	pmax		
	comp=Z,12nm,1.2s						
PYUN	Piuthan	51.43	284	eP	P	21 08 18.5	-0.3
	comp=Z,33nm,0.6s						
AS31	Alice Springs	53.70	190	eP	P	21 08 34.2	-1.0
	comp=Z,1.4nm,1.2s						
ASAR	Alice Springs	53.70	190	P	P	21 08 34.2	-1.0
	comp=Z,0.6nm,0.5s,baz=4.3,slow=6.2,SNR=16						
NRN	Naryn	53.97	302	eP	P	21 08 35.4	-2.1
	comp=Z,7.6nm,1.4s						
NRN	Naryn	53.97	302	eP	P	21 08 35.4	-2.1
NRN				pmax	pmax		
	comp=Z,8.0nm,1.4s						
TKM2	Tokmak 2	54.02	304	P	P	21 08 39.0	+1.3
	SNR=6.0						
KZA	Kyzart	54.41	303	P	P	21 08 42.0	+1.2
	SNR=5.1						
KBK	Karagaybulak	54.53	303	P	P	21 08 42.0	+0.6
	SNR=12						
FRU	Bishkek	54.74	304	eP	P	21 08 42.5	-0.3
USP	Ospenovka	54.75	304	P	P	21 08 43.0	+0.2
	SNR=5.3						
AAK	Ala-Archa	54.86	303	P	P	21 08 44.7	+0.8
	SNR=5.8						
AAK	Ala-Archa	54.86	303	eP	P	21 08 44.6	+0.8
	comp=Z,6.0nm,0.9s						
AAK	Ala-Archa	54.86	303	ceP	P	21 08 44.5	+0.7
AAK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
UCH	Uchtor	54.92	303	P	P	21 08 46.2	+1.6
	SNR=7.4						
ILAR	Eielson Array	55.37	29	P	P	21 08 45.5	-1.4
	comp=Z,2.6nm,1.1s,baz=287,slow=5.4,SNR=11						
ILB	Eielson Array	55.37	29	eP	P	21 08 45.5	-1.4
AML	Almayashu	55.54	303	P	P	21 08 50.3	+1.3
	SNR=12						
ARSB	Arslanbob	56.22	302	eP	P	21 08 54.9	+1.3
	comp=Z,38nm,1.5s						
BRVK	Borovoye	56.25	316	eP	P	21 08 53.9	+0.5
	comp=Z,5.8nm,0.8s						
BRVK	Borovoye	56.25	316	c iP	P	21 08 53.4	0.0
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KK31	Karatay Array	57.65	305	eP	P	21 09 04.1	+0.6
KK31	Karatay Array	57.65	305	eP	P	21 09 04.1	+0.6
KKAR	Karatay Array	57.65	305	eP	P	21 09 04.1	+0.6
KKAR	Karatay Array	57.65	305	eP	P	21 09 04.1	+0.6
NIL	Nilore	57.88	293	eP	P	21 09 06.0	+0.7
	comp=Z,7.5nm,0.9s						
NIL	Nilore	57.88	293	eP	P	21 09 06.0	+0.7
NIL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BTK	Batken	58.10	301	eP	P	21 09 07.3	+0.5
	comp=Z,7.2nm,1.1s						
BTK	Batken	58.10	301	eP	P	21 09 07.3	+0.5
BTK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SVE	Sverdlovsk	61.21	322	eP	P	21 09 29.2	+1.4
SVE				pmax	pmax		
	comp=Z,8.0nm,1.4s						
STKA	Stephens Creek	61.27	181	P	P	21 09 28.3	-0.1
	comp=Z,0.9nm,0.6s,baz=338,slow=15,SNR=3.0						
STKA				LR	LR	21 35 56.6	
	comp=Z,62nm,19.4s,baz=26,slow=36						
ARU	Arti	62.42	321	eP	P	21 09 36.4	+0.4
	comp=Z,15nm,0.6s						
ARU	Arti	62.42	321	eP	P	21 09 35.8	-0.1
ARU				*PP	pwP	21 09 50.3	+0.4
ARU						21 11 49.5	
ARU				S	S	21 17 52.7	-8.6
ABKAR	Akbulak array	63.34	313	eP	P	21 09 42.5	+0.2
NWAO	Narrogin (SRO)	66.69	203	P	P	21 10 03.2	-0.8
	comp=Z,5.1nm,0.7s,baz=310,slow=6.7,SNR=4.3						
PRGR	Permogore	67.34	329	eP	P	21 10 10.0	+2.2
PRGR				pmax	pmax		
	comp=Z,13nm,1.4s						
GEYT	Alibeck	68.17	302	P	P	21 10 13.4	-0.2
	comp=Z,2.4nm,0.8s,baz=90,slow=1.5,SNR=6.5						
GYA0B	ALIBECK ARRAY	68.17	302	eP	P	21 10 15.1	+1.4
	comp=Z,9.3nm,1.0s						
LVZ	Lovozero	69.09	337	ceP	P	21 10 20.4	+1.6
LVZ				pmax	pmax		
	comp=Z,12nm,1.7s						
YKA	Yellowknife Ar	69.79	29	P	P	21 10 22.3	-0.8
	comp=Z,1.1nm,0.7s,baz=294,slow=6.3,SNR=13						
YKB5	Yellowknife Ar	69.79	29	eP	P	21 10 22.3	-0.8
KLMR	Klimovskoe	70.36	330	eP	P	21 10 27.4	+0.7
KLMR				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KLMR	Klimovskoe	70.36	330	eP	P	21 10 27.4	+0.7
KLMR				AMP		21 10 30.4	
	comp=Z,9.0nm,1.2s						
OBN	Obninsk	74.43	325	iP	P	21 10 51.3	+0.3
OBN				i		21 11 10.7	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,82nm,19.0s						
FIA0	FINESS Array S	75.64	334	eP	P	21 10 57.9	0.0
FIA0	FINESS Array S	75.64	334	eP	P	21 10 57.9	0.0
FINES	FINESS Array B	75.64	334	P	P	21 10 57.9	0.0
	comp=Z,1.9nm,0.8s,baz=85,slow=4.6,SNR=6.8						
KBZ	Khabaz	76.29	313	P	P	21 11 02.4	+0.4
	comp=Z,5.6nm,0.9s,baz=156,slow=2.9,SNR=14						
KIV	Kislovodsk	76.32	313	eP	P	21 11 04.4	+2.1
	comp=Z,21nm,1.3s						
KIV	Kislovodsk	76.32	313	iP	P	21 11 02.6	+0.3
KIV				i		21 11 14.9	
KIV				pmax	pmax		
	comp=Z,13nm,1.3s						
BEKR	Beckworth	76.74	52	eP	P	21 11 04.9	+0.1
	comp=Z,3.9nm,1.0s						
GNI	Garni	76.75	309	iP	P	21 11 06.3	+1.4
GNI				pmax	pmax		
	comp=Z,110nm,1.6s						
CMB	Columbia Colle	77.57	53	eP	P	21 11 09.8	+0.4
	comp=Z,3.0nm,0.8s						
CMB	Columbia Colle	77.57	53	eP	P	21 11 09.8	+0.4
CMB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YERR	Yerington	77.92	52	eP	P	21 11 12.1	+0.6
	comp=Z,9.5nm,1.3s						
KVN	Kaiserville	78.66	52	eP	P	21 11 15.6	0.0
	comp=Z,8.3nm,1.5s						
KVN	Kaiserville	78.66	52	eP	P	21 11 15.6	0.0
KVN				pmax	pmax		
	comp=Z,8.0nm,1.5s						
NV01	Mina Array Sit	78.83	52	eP	P	21 11 16.6	0.0
NVAR	Mina Array Bea	78.83	52	P	P	21 11 16.6	0.0
	comp=Z,1.2nm,0.6s,baz=305,slow=3.9,SNR=11						
AKASG	Malin Array Be	80.56	324	P	P	21 11 25.2	-0.2
	comp=Z,0.3nm,0.3s,baz=50,slow=5.9,SNR=5.7						
AKBB	Malin Array Si	80.56	324	eP	P	21 11 25.2	-0.1
	comp=Z,28nm,2.0s						
AKBB	Malin Array Si	80.56	324	eP	P	21 11 25.3	-0.1
AKBB				pmax	pmax		
	comp=Z,28nm,2.0s						
KIEV	Kiev	80.57	324	iP	P	21 11 27.8	+2.3
KIEV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
H17A	Grant Village	80.77	44	eP	P	21 11 29.3	+2.2
	comp=Z,21nm,1.6s						
NB2	NORSAR Subarra	81.21	338	P	P	21 11 28.7	-0.1
	comp=Z,7.3nm,1.0s,baz=42,slow=5.6						
NB200	NORSAR Array S	81.21	338	eP	P	21 11 28.3	-0.4
NOA	NORSAR Array B	81.21	338	P	P	21 11 28.3	-0.4
	comp=Z,1.4nm,0.8s,baz=60,slow=4.5,SNR=2.9						
DUG	Dugway, Tooele	81.61	48	eP	P	21 11 30.8	-0.6
	comp=Z,5.5nm,1.2s						
DUG	Dugway, Tooele	81.61	48	eP	P	21 11 30.8	-0.6
DUG				pmax	pmax		
	comp=Z,5.0nm,1.2s						
PD31	Pinedale Array	82.28	45	eP	P	21 11 34.0	-1.0
PDAR	Pinedale Array	82.28	45	P	P	21 11 34.0	-1.0
	comp=Z,0.5nm,0.8s,baz=266,slow=6.8,SNR=3.5						
RAYN	Ar Rayn	84.18	294	eP	P	21 11 46.1	+1.2
	comp=Z,11nm,0.8s						
BR101	Keskin Array S	84.29	313	eP	P	21 11 45.5	+0.1
BR131	Keskin Array S	84.29	313	eP	P	21 11 45.9	+0.6
BRTR	Keskin Array B	84.29	313	P	P	21 11 45.5	+0.1
	comp=Z,2.6nm,0.8s,baz=93,slow=4.9,SNR=12						
PV10	Paradox Valley	85.05	48	eP	P	21 11 50.4	+1.0
PV14	Lion Creek, Pa	85.06	48	eP	P	21 11 49.9	+0.5
	comp=Z,15nm,1.4s						
VYHS	Vyhne	87.17	326	eP	P	21 12 02.8	+3.5
VYHS				e		21 12 10.6	
VYHS	Vyhne	87.17	326	eP	P	21 12 02.8	+3.5
VYHS				e		21 12 10.6	
GERES	GERESS Array B	89.31	329	P	P	21 12 10.8	+1.2
	comp=Z,0.3nm,0.7s,baz=50,slow=5.4,SNR=2.0						
BFO	Black Forest	92.03	331	ceP	P	21 12 25.6	+3.5
LTX	Lajitas	93.95	53	eP	P	21 12 31.8	+0.4
LTX	Lajitas	93.95	53	eP	P	21 12 31.8	+0.4
TXAR	Lajitas Array	93.95	53	P	P	21 12 31.8	+0.4
	comp=Z,1.9nm,0.8s,baz=318,slow=1.7,SNR=10						
LPAZ	La Paz	149.07	71	PKPbc	PKPbc	21 19 01.9	-0.9
	comp=Z,1.3nm,0.6s,baz=270,slow=9.1,SNR=4.8						
PLCA	Paso Flores	151.17	121	PKPbc	PKPbc	21 19 06.5	0.0
	comp=Z,4.6nm,1.1s,baz=252,slow=6.4,SNR=2.7						

*ISCJB **02** 21:03:43.9±0.2,30°.27N±0°.03×138°.57E±0°.04,h440km,mb4.1/62,Error ellipse: s-maj=5.1km s-min=3.5km az=32.6*
*JMA **02** 21:03:43.4±0.3,30°.32N×138°.82E,h473km±4km,M4.3*
*NEIC **02** 21:03:45.4±0.5,30°.26N×138°.50E,h440km±5km,mb4.2/29,Error ellipse: s-maj=9.1km s-min=6.1km az=141.0*
*IDC **02** 21:03:45.6±0.6,30°.34N×138°.52E,h447km±6km,mb3.6/22,mb1 3.8/28,mb1mx3.7/47,mbtmp4.5/28,Error ellipse: s-maj=11.2km s-min=7.1km az=102.0*
ISC 02 21:03:44.9±0.4**,30°.29N**±0°.05×**138°.60E**±0°.06**,h440km, n127,** σ1s71/151**,mb4.2**/72**,2C,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHCJ	Hachijojimakas	2.96	20	P	P	21 04 51.9	+1.2
JHCJ				eS	S	21 05 44.5	+0.2
JHJ	Hachijo jima 2	3.00	19	P	P	21 04 52.3	+1.3
	184nm,0.3s,baz=346,slow=13,SNR=76						
JHJ				S	S	21 05 45.8	+0.9
	53nm,0.3s,baz=72,slow=16,SNR=4.3						
JHJ2	Mitsune	3.00	20	eP	P	21 04 52.4	+1.4
JHJ2				eS	S	21 05 47.3	+2.4
JHJ2	Mitsune	3.00	20	P	P	21 04 52.2	+1.2
JHJ2				eS	S	21 05 45.8	+0.9
TK01	Tokai 1	3.57	346	P	P	21 04 58.1	+2.9
TTO1	TONANKAI O.B.S	3.67	336	P	P	21 04 59.0	+2.9
JTNC	Tanabenakahech	4.34	325	P	P	21 05 04.2	+1.8
JTNC				S	S	21 06 06.6	+0.9
JIE	Ise	4.40	339	P	P	21 05 05.2	+2.3
CBIJ	Chichi jima	4.47	134	eP	P	21 05 02.8	-1.0
CBIJ				eS	S	21 06 05.5	-2.5
CBIJ	Chichi jima	4.47	134	P	P	21 05 03.5	-0.3
CBIJ				S	S	21 06 06.8	-1.2
JCJ	Chichijima	4.47	134	P	P	21 04 56.9	-6.9
	baz=282,slow=20						
JCJ				S	S	21 05 59.2	-8.7
	339nm,0.3s,baz=283,slow=22,SNR=33						
BSO1	Boso 1	4.80	24	P	P	21 05 06.5	+0.5
BSO1				S	S	21 06 10.7	-1.7
JOD2	Odawara 2	4.98	5	P	P	21 05 08.4	-0.1
JOD2				eS	S	21 06 14.2	-2.5
INU	Inuyama	5.22	346	eP	P	21 05 12.2	+1.4
JTO	Tosashimizu	5.58	299	P	P	21 05 16.4	+2.0
JRY	Ryogami san	5.72	2	P	P	21 05 16.0	+0.1
JRY				eS	S	21 06 24.7	-5.6
MJAR	Matsushiro Arr	6.25	357	P	P	21 05 20.9	-0.4
	8.8nm,0.3s,baz=179,slow=12,SNR=86						
MJAR				S	S	21 06 36.7	-3.5
	1.1nm,0.3s,baz=84,slow=12,SNR=4.2						
MAJO	Matsushiro	6.25	357	eP	P	21 05 21.2	-0.1
MAJO				eS	S	21 06 31.7	-8.6
MAT	Matsushiro	6.25	357	P	P	21 05 21.0	-0.3
MAT				eS	S	21 06 36.6	-3.6
MJB9	Matsu-Tunnel	6.25	357	eP	P	21 05 21.2	-0.1
JHS	Saijyo	6.59	317	P	P	21 05 26.6	+1.5
JNU	Nakatsue	7.16	295	P	P	21 05 33.0	+1.8
	2.9nm,0.3s,baz=90,slow=3.4,SNR=29						
JNU	Nakatsue	7.16	295	eP	P	21 05 33.1	+1.9
JSJ	Shimokoshiki	7.76	283	P	P	21 05 38.9	+1.3
JMK	Ichinoseki	8.91	13	P	P	21 05 50.6	+0.7
JOW	Kunigami	9.71	252	P	P	21 06 00.8	+1.8
	11nm,0.3s,baz=68,slow=6.0,SNR=11						
JOW	Kunigami	9.71	252	P	P	21 06 01.2	+2.3
JOT	Ohata	11.25	9	P	P	21 06 16.6	+1.1
KSRS	Korea Array	11.39	312	P	P	21 06 17.6	+0.6
	2.7nm,0.3s,baz=126,slow=10,SNR=69						
KS15	Wonju Array Si	11.41	312	eP	P	21 06 17.8	+0.5
KS01	Wonju Array Si	11.42	312	eP	P	21 06 16.9	-0.6
JKB	Kayabe	11.74	9	P	P	21 06 21.5	+0.7
ERM	Erimo	12.27	16	eP	P	21 06 27.6	+1.0
ERM				eS	S	21 08 41.7	+1.6
USRK	Ussuriysk Ar.	14.85	341	P	P	21 06 54.4	0.0
	8.6nm,0.3s,baz=144,slow=10,SNR=209						
MDJ	Mudanjiang	15.98	336	P	P	21 07 05.8	-0.7
MDJ				S	S	21 09 56.5	+3.4
MDJ				ScP	ScP	21 14 16.4	-11
MDJ				pmax	pmax		
	comp=Z,35nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,450nm,3.7s						
MDJ	Mudanjiang	15.98	336	eP	P	21 07 06.2	-0.2
	comp=Z,24nm,0.7s						
YULB	Yu-li	16.89	250	eP	P	21 07 15.2	-1.3
	comp=Z,27nm,0.8s						
SSLB	Suanglung	17.00	252	eP	P	21 07 17.3	-0.3
	comp=Z,28nm,1.0s						
CN2	Changchun	17.07	326	eP	P	21 07 17.9	-0.1
CN2				ePP		21 07 33.1	
CN2				eS	S	21 10 23.9	+10
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,270nm,14.0s						
CN2				LR	LR		
	comp=E,240nm,14.0s						
CN2				LR	LR		
	comp=Z,250nm,14.0s						
BJT	Baijiatuau	20.71	304	eP	P	21 07 52.1	-1.1
	comp=Z,9.9nm,0.9s						
BJI	Beijing	20.71	304	P	P	21 07 52.1	-1.1
BJI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WHN	Wuhan	20.91	277	⇑P	P	21 07 55.0	-0.2
HIA	Hailar	23.75	328	eP	P	21 08 20.0	-0.5
	comp=Z,10nm,0.8s						
HHC	Hu-ho-hao-te	24.30	303	eP	P	21 08 28.8	+3.1
HHC				pmax	pmax		
	comp=Z,14nm,0.8s						
HHC				pmax	pmax		
	comp=Z,100nm,4.3s						
ENH	Enshi	25.12	277	eP	P	21 08 32.1	-0.9
	comp=Z,35nm,0.5s						
PETK	Petropavlovsk-	26.73	26	P	P	21 08 47.9	+0.9
	comp=Z,7.3nm,1.0s,baz=29,slow=16,SNR=4.9						
GYA	Guiyang	28.31	270	⇑iP	P	21 09 00.8	-0.6
GYA				pP	pP	21 10 17.2	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GYA				S	**S**	**21 13 14.8**	**-1.0**
GYA				sS	sS	21 15 32.0	-6.3
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
LZH	**Lanzhou**	**29.55**	**291**	*e*P	**P**	**21 09 11.6**	**-0.7**
LZH				pP	pP	21 10 26.5	-2.1
LZH				*e*PP	pwP	21 10 43.0	+7.9
LZH				sP	sP	21 11 23.8	+4.4
LZH				pmax	pmax		
	comp=Z,21nm,1.5s						
ULN	**Ulaanbaatar**	**29.85**	**315**	*e*P	**P**	**21 09 14.4**	**-0.2**
	comp=Z,3.7nm,0.5s						
SONM	**Songino Array**	**30.24**	**315**	P	**P**	**21 09 17.6**	**-0.4**
	comp=Z,1.6nm,0.4s,baz=128,slow=9.3,SNR=24						
SONM				ScP	**ScP**	**21 15 03.8**	**-1.9**
	comp=Z,0.6nm,0.6s,baz=110,slow=2.6,SNR=4.4						
MA2	**Magadan**	**30.43**	**12**	P	**P**	**21 09 20.0**	**+0.7**
	comp=Z,38nm,0.8s,baz=199,slow=8.6,SNR=17						
SIJI	**Sorong**	**31.76**	**194**	P	**P**	**21 09 32.1**	**+0.7**
	comp=Z,19nm,0.6s,baz=8.7,slow=14,SNR=13						
GTA	**Gaotai**	**32.90**	**297**	*e*P	**P**	**21 09 39.6**	**-1.4**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SKNT	**Sakolnakorn**	**34.23**	**255**	P	**P**	**21 09 52.9**	**+0.5**
	comp=Z,23nm,0.8s						
NONG	**Nongkai**	**34.42**	**258**	P	**P**	**21 09 54.4**	**+0.4**
	comp=Z,1.1nm,1.0s						
LUWI	**Luwuk**	**34.62**	**209**	*e*P	**P**	**21 09 54.5**	**-1.2**
	comp=Z,36nm,0.5s						
CHAI	**Chaiyaphum**	**36.42**	**255**	P	**P**	**21 10 10.7**	**-0.1**
	comp=Z,19nm,0.8s,comp=Z,137nm						
PBKT	**Sadao Pong**	**36.95**	**257**	*e*P	**P**	**21 10 15.7**	**+0.5**
	comp=Z,19nm,0.7s						
PBKT	**Sadao Pong**	**36.95**	**257**	P	**P**	**21 10 15.3**	**+0.1**
	comp=Z,32nm,0.8s						
LAMP	**Lampang**	**37.20**	**261**	P	**P**	**21 10 17.6**	**+0.3**
	comp=Z,12nm,0.7s,comp=Z,91nm						
CMMT	**Chiang Mai**	**37.66**	**262**	P	**P**	**21 10 20.7**	**-0.4**
	comp=Z,28nm,0.8s						
CHTO	**Chiang Mai**	**37.66**	**262**	*e*P	**P**	**21 10 20.7**	**-0.4**
	comp=Z,24nm,0.9s						
CHTO	**Chiang Mai**	**37.66**	**262**	P	**P**	**21 10 20.7**	**-0.4**
	comp=Z,127nm,0.8s						
CM31	**Chiang Mai Arr**	**37.82**	**261**	*e*P	**P**	**21 10 22.3**	**0.0**
CMAR	**Chiang Mai Arr**	**37.82**	**261**	P	**P**	**21 10 22.2**	**-0.2**
	comp=Z,6.0nm,0.7s,baz=55,slow=6.8,SNR=43						
CMAR				PcP	**PcP**	**21 12 28.5**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=47,slow=2.5,SNR=4.1						
CMAR				ScP	**ScP**	**21 15 32.1**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=67,slow=3.7,SNR=6.2						
CM01	**Chiang Mai Arr**	**37.82**	**261**	*e*P	**P**	**21 10 21.9**	**-0.5**
UTHA	**Uthaitani**	**38.72**	**257**	P	**P**	**21 10 30.1**	**+0.3**
	comp=Z,8.1nm,0.8s,comp=Z,81nm						
UMPA	**Umpang Tak**	**38.91**	**258**	P	**P**	**21 10 33.0**	**+1.7**
	comp=Z,7.0nm,0.9s,comp=Z,86nm						
SRDT	**SRDT**	**39.59**	**255**	P	**P**	**21 10 37.1**	**+0.3**
	comp=Z,33nm,0.8s						
PHET	**Kaeng Krachan**	**39.91**	**253**	P	**P**	**21 10 40.2**	**+0.8**
	comp=Z,12nm,0.8s,comp=Z,157nm						
WMQ	**Urumqi**	**42.18**	**303**	*e*P	**P**	**21 10 56.8**	**-0.6**
WMQ				LR	LR		
	comp=E,140nm,21.3s						
WMQ				LR	LR		
	comp=Z,120nm,19.9s						
ZALV	**Zalesovo Beam**	**45.02**	**318**	P	**P**	**21 11 18.2**	**-1.2**
	comp=Z,1.6nm,0.4s,baz=101,slow=6.7,SNR=9.5						
ZALV				ScP	**ScP**	**21 15 59.0**	**-2.2**
	comp=Z,1.2nm,0.7s,baz=125,slow=4.1,SNR=4.3						
RAMN	**Ramite**	**45.45**	**279**	*e*P	**P**	**21 11 23.0**	**-0.4**
	comp=Z,32nm,0.5s						
JIRN	**Jiri**	**45.60**	**280**	*e*P	**P**	**21 11 24.8**	**+0.1**
	comp=Z,74nm,0.4s						
GUN	**Gumba**	**45.79**	**281**	*e*P	**P**	**21 11 26.1**	**0.0**
	comp=Z,50nm,0.7s						
MKAR	**Makanchi Array**	**46.03**	**307**	P	**P**	**21 11 26.6**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=88,slow=9.5,SNR=11						
MKAR				ScP	**ScP**	**21 16 04.0**	**-1.7**
	comp=Z,1.3nm,0.8s,baz=82,slow=5.1,SNR=7.2						
PKI	**Pulchoki**	**46.29**	**280**	*e*P	**P**	**21 11 29.2**	**-0.7**
	comp=Z,6.2nm,0.5s						
PKIN	**Phulchoki**	**46.30**	**280**	*e*P	**P**	**21 11 29.1**	**-0.8**
	comp=Z,5.6nm,0.5s						
KKN	**Kakani**	**46.33**	**281**	*e*P	**P**	**21 11 29.8**	**-0.3**
	comp=Z,6.7nm,0.4s						
PSI	**Prapat**	**46.42**	**242**	*e*P	**P**	**21 11 30.8**	**0.0**
	comp=Z,10nm,0.9s						
DMN	**Daman**	**46.53**	**281**	*e*P	**P**	**21 11 31.3**	**-0.4**
	comp=Z,6.8nm,0.4s						
LEM	**Lembang**	**47.38**	**224**	P	**P**	**21 11 38.6**	**+0.5**
	comp=Z,56nm,0.7s,baz=59,slow=5.6,SNR=15						
DANN	**Dangsing**	**47.47**	**282**	*e*P	**P**	**21 11 38.9**	**+0.1**
	comp=Z,40nm,0.6s						
KOLN	**Koldanda**	**47.77**	**281**	*e*P	**P**	**21 11 40.8**	**-0.2**
	comp=Z,35nm,0.8s						
PYUN	**Piuthan**	**48.19**	**282**	*e*P	**P**	**21 11 44.2**	**0.0**
	comp=Z,62nm,0.4s						
GSI	**Gunungsitoli**	**48.42**	**241**	*e*P	**P**	**21 11 45.4**	**-0.4**
	comp=Z,99nm,1.1s						
WRAB	**Tennant Creek**	**50.10**	**185**	*e*P	**P**	**21 11 58.4**	**+0.3**
	comp=Z,6.1nm,0.6s						
WRA	**Warramunga Arr**	**50.11**	**185**	P	**P**	**21 11 58.4**	**+0.2**
	comp=Z,6.8nm,0.6s,baz=0.6,slow=7.9,SNR=72						
WRA				S	**S**	**21 18 34.1**	**-1.7**
	comp=Z,1.3nm,1.1s,baz=4.0,slow=13,SNR=4.5						
RDOG	**Red Dog Mine**	**50.59**	**25**	*e*P	**P**	**21 12 02.8**	**+1.6**
	comp=Z,4.9nm,0.8s						
KSH	**Kashi**	**51.27**	**298**	P	**P**	**21 12 08.9**	**+2.1**
KSH				pP	pwP	21 13 38.6	+0.1
KSH				PcS	**PcS**	**21 17 15.2**	**+2.0**
KSH				S	**S**	**21 18 54.1**	**+2.4**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,180nm,4.7s						
KSH				LR	LR		
	comp=N,140nm,7.1s						
KSH				LR	LR		
	comp=E,120nm,6.4s						
KSH				LR	LR		
	comp=Z,120nm,8.3s						
AAK	**Ala-Archa**	**51.88**	**302**	*e*P	**P**	**21 12 10.5**	**-0.7**
	comp=Z,1.2nm,0.4s						
KDAK	**Kodiak Island**	**53.76**	**38**	P	**P**	**21 12 24.4**	**+0.2**
	comp=Z,10nm,0.6s,baz=303,slow=1.2,SNR=14						
ASAR	**Alice Springs**	**53.83**	**185**	P	**P**	**21 12 25.5**	**+0.3**
	comp=Z,2.6nm,0.6s,baz=16,slow=12,SNR=49						
CAST	**Castle Rocks**	**54.16**	**31**	*e*P	**P**	**21 12 28.6**	**+1.6**
	comp=Z,5.5nm,0.8s						
KK31	**Karatay Array**	**54.69**	**304**	*e*P	**P**	**21 12 30.9**	**-0.2**
KKAR	**Karatay Array**	**54.69**	**304**	*e*P	**P**	**21 12 30.9**	**-0.2**
NIL	**Nilore**	**54.71**	**292**	*e*P	**P**	**21 12 31.4**	**-0.1**
	comp=Z,6.0nm,0.8s						
MCK	**McKinley**	**55.57**	**31**	*e*P	**P**	**21 12 37.9**	**+0.9**
	comp=Z,7.3nm,0.9s						
MDM	**Murphy Dome**	**55.90**	**29**	*e*P	**P**	**21 12 40.6**	**+1.4**
	comp=Z,2.5nm,0.9s						
ILAR	**Eielson Array**	**56.47**	**30**	P	**P**	**21 12 42.9**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=260,slow=4.7,SNR=22						
RIDG	**Independ'e Rid**	**57.39**	**31**	*e*P	**P**	**21 12 50.1**	**+0.5**
	comp=Z,6.4nm,0.6s						
DOT	**Dot Lake**	**57.74**	**31**	*e*P	**P**	**21 12 52.8**	**+0.8**
	comp=Z,10nm,0.6s						
SCRK	**Sand Creek**	**57.76**	**31**	*e*P	**P**	**21 12 52.6**	**+0.4**
	comp=Z,11nm,0.6s						
DAWY	**Dawson**	**59.76**	**30**	*e*P	**P**	**21 13 06.8**	**+1.1**
	comp=Z,1.8nm,0.4s						
ARU	**Arti**	**59.98**	**321**	*e*P	**P**	**21 13 05.9**	**-1.3**
	comp=Z,12nm,0.5s						
ABKAR	**Akbulak array**	**60.63**	**313**	*e*P	**P**	**21 13 10.9**	**-0.8**
INK	**Inuvik**	**61.46**	**25**	*e*P	**P**	**21 13 17.2**	**+0.5**
	comp=Z,2.5nm,0.6s						
STKA	**Stephens Creek**	**61.89**	**177**	P	**P**	**21 13 20.8**	**+0.8**
	comp=Z,3.4nm,0.6s,baz=346,slow=7.1,SNR=11						
NWAO	**Narrogin (SRO)**	**66.05**	**200**	P	**P**	**21 13 46.6**	**-0.1**
	comp=Z,4.0nm,0.6s,baz=54,slow=19,SNR=4.3						
ARCES	**ARCESS Array B**	**69.49**	**340**	P	**P**	**21 14 07.3**	**-0.1**
	comp=Z,5.6nm,0.4s,baz=70,slow=8.6,SNR=65						
RES	**Resolute Bay**	**69.69**	**13**	*e*P	**P**	**21 14 08.9**	**+0.3**
	comp=Z,3.4nm,0.6s						
YKB5	**Yellowknife Ar**	**70.83**	**28**	*e*P	**P**	**21 14 15.4**	**-0.1**
YKA	**Yellowknife Ar**	**70.83**	**28**	P	**P**	**21 14 15.6**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=296,slow=5.9,SNR=23						
KBZ	**Khabaz**	**73.54**	**311**	P	**P**	**21 14 30.8**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=80,slow=6.1,SNR=4.4						
FINES	**FINESS Array B**	**73.69**	**332**	P	**P**	**21 14 31.4**	**-0.7**
	comp=Z,4.0nm,0.4s,baz=67,slow=5.4,SNR=49						
AKASG	**Malin Array Be**	**78.19**	**322**	P	**P**	**21 14 56.4**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=53,slow=5.3,SNR=4.9						
NB2	**NORSAR Subarra**	**79.47**	**337**	P	**P**	**21 15 03.2**	**-1.0**
	comp=Z,1.7nm,0.5s,baz=45,slow=5.1						
NOA	**NORSAR Array B**	**79.47**	**337**	P	**P**	**21 15 03.5**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=60,slow=6.2,SNR=14						
NVAR	**Mina Array Bea**	**80.98**	**51**	P	**P**	**21 15 14.4**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=297,slow=4.5,SNR=6.6						
BRTR	**Keskin Array B**	**81.54**	**311**	P	**P**	**21 15 15.4**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=77,slow=2.0,SNR=3.7						
YHB	**Horse Butte**	**82.00**	**42**	*e*P	**P**	**21 15 20.6**	**+2.6**
	comp=Z,3.3nm,0.8s						
BUR08	**Bucovina Ar. S**	**82.11**	**321**	*e*P	**P**	**21 15 18.2**	**-0.1**
H17A	**Grant Village**	**82.56**	**43**	*e*P	**P**	**21 15 24.3**	**+3.4**
	comp=Z,0.6nm,0.4s						
HVU	**Hansel Valley**	**82.73**	**46**	*e*P	**P**	**21 15 23.6**	**+1.9**
	comp=Z,2.7nm,0.7s						
PDAR	**Pinedale Array**	**84.11**	**43**	P	**P**	**21 15 29.2**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=345,slow=0.8,SNR=5.8						
TORD	**Torodi Ar. Bea**	**120.13**	**310**	PKP	**PKPdf**	**21 21 44.2**	**-1.3**
	comp=Z,0.6nm,1.1s,baz=17,slow=1.5,SNR=3.3						
LPAZ	**La Paz**	**151.86**	**66**	PKPbc	**PKPbc**	**21 22 49.8**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=270,slow=3.0,SNR=3.1						

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*NIED **02** 21:11:00, 37.°60N×143.°60E, h5km, Mw4.2 Best double couple: M0 2.15000×10^15 NP1:φs197.00000°, δ42.00000°, λ-81.00000°. NP2:φs5.00000°, δ49.00000°, λ-98.00000°.*

*IDC **02** 21:11:33.8±0.5, 37.°52N×143.°84E, h0km, mb4.1/21, mb1 4.3/27, mb1mx4.3/45, mbtmp4.2/27, ML3.3/4, MS3.4/7, Ms1 3.4/7, ms1mx3.0/43, Error ellipse: s-maj=15.8km s-min=12.4km az=109.0*

*ISCJB **02** 21:11:35.1±1.2, 37.°60N±0.°03×143.°68E±0.°04, h18km±8km, mb4.3/46, Error ellipse: s-maj=5.1km s-min=4.2km az=39.3*

*JMA **02** 21:11:38.2±0.2, 37.°64N×143.°56E, h57km, M4.5*

*NEIC **02** 21:11:39.0±0.2, 37.°59N×143.°81E, h35km, mb4.4/19, Error ellipse: s-maj=5.9km s-min=4.3km az=142.0*

*BJI **02** 21:11:39.0, 37.°77N×143.°58E, h33km, mb4.5/18, mB5.0/10, Ms4.1/3, Ms7 4.1/3*

ISC 02 21:11:37.8±4.1**, 37.°63N**±0.°05×**143.°73E**±0.°07**, h23**km±28km**, n126, σ1.°39**/126**, mb4.4**/55**, 1C, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.91**	**291**	P	Pn	21 12 07.6	-1.3
JIKH				S	**Sn**	**21 12 29.0**	**-3.2**
JIO	**Ouri**	**2.05**	**294**	P	Pn	21 12 09.7	-1.1
JIO				*e*S	**Sn**	**21 12 33.0**	**-2.6**
JKMT	**Kesennumamotoy**	**2.13**	**304**	P	Pn	21 12 10.6	-1.3
JKMT				*e*S	**Sn**	**21 12 34.3**	**-3.3**
OFUJ	**Ofunato**	**2.17**	**312**	P	Pn	21 12 11.1	-1.3
OFUJ				*e*S	**Sn**	**21 12 35.6**	**-3.0**
JMK	**Ichinoseki**	**2.37**	**304**	P	Pn	21 12 14.3	-0.9
JOM	**Ohasama**	**2.65**	**315**	P	Pn	21 12 18.4	-0.6
JOM				S	**Sn**	**21 12 48.0**	**-2.4**
JFT	**Otama**	**2.69**	**269**	P	**Pn**	**21 12 19.2**	**-0.5**
JFT				S	**Sn**	**21 12 49.6**	**-2.0**
JYK	**Kaneyama**	**2.94**	**297**	P	**Pn**	**21 12 23.1**	**0.0**
JANG	**Nango**	**3.23**	**328**	P	**Pn**	**21 12 26.9**	**-0.2**
JANG				*e*S	**Sn**	**21 13 02.2**	**-2.6**
JAG	**Ashikaga**	**3.63**	**252**	P	Pn	21 12 31.3	-1.2
JAG				*e*S	**Sn**	**21 13 11.7**	**-2.9**
BSO1	**Boso 1**	**3.71**	**218**	P	Pn	21 12 31.4	-1.8
BSO1				S	**Sn**	**21 13 13.7**	**-2.3**
JRY	**Ryogami san**	**4.19**	**249**	P	Pn	21 12 39.1	-1.2
JRY				S	**Sn**	**21 13 24.5**	**-4.1**
JOT	**Ohata**	**4.28**	**332**	P	**Pn**	**21 12 41.9**	**+0.5**
JOT				*e*S	**Sn**	**21 13 28.4**	**-2.2**
ERM	**Erimo**	**4.40**	**354**	*e*Pn	Pn	21 12 42.2	-0.8
ERM				*e*Sn	Sn	21 13 26.8	-6.7
JOD2	**Odawara 2**	**4.42**	**239**	P	Pn	21 12 41.8	-1.7
JOD2				S	**Sn**	**21 13 30.3**	**-4.0**
MJAR	**Matsushiro Arr**	**4.54**	**258**	Pn	**Pn**	**21 12 45.6**	**+0.5**
	25nm,0.3s,baz=90,slow=15,SNR=307						
MJAR				Sn	**Sn**	**21 13 35.7**	**-1.5**
	6.0nm,0.3s,baz=83,slow=20,SNR=5.4						
MJAR				LR	LR	21 14 49.8	
	comp=Z,612nm,18.8s,baz=85,slow=43						
MAJO	**Matsushiro**	**4.54**	**258**	*e*Pn	**Pn**	**21 12 45.8**	**+0.6**
MAJO				*e*Sn	**Sn**	**21 13 35.7**	**-1.6**
MAT	**Matsushiro**	**4.54**	**258**	P	**Pn**	**21 12 45.3**	**+0.1**
MAT				*e*S	**Sn**	**21 13 35.1**	**-2.2**
MJB9	**Matsu-Tunnel**	**4.55**	**258**	*e*Pn	**Pn**	**21 12 46.1**	**+0.9**
JKB	**Kayabe**	**4.73**	**335**	*e*S	**Sn**	**21 13 37.9**	**-3.8**
JCH	**Churui**	**4.98**	**357**	P	Pn	21 12 49.6	-1.5
JCH				*e*S	Sn	21 13 42.7	-5.2
JHJ2	**Mitsune**	**5.53**	**216**	*e*Pn	Pn	21 12 55.3	-3.4
JHJ2				*e*Sn	Sn	21 13 53.6	-7.8
JHJ2	**Mitsune**	**5.53**	**216**	P	Pn	21 12 56.3	-2.3
JHJ2				*e*S	Sn	21 13 54.3	-7.2
JHJ	**Hachijo jima 2**	**5.54**	**217**	Pn	Pn	21 12 56.1	-2.6
	80nm,0.3s,baz=110,slow=21,SNR=30						
JHJ				Sn	Sn	21 13 54.0	-7.7
	58nm,0.3s,baz=55,slow=22,SNR=6.5						
INU	**Inuyama**	**5.87**	**249**	*e*Pn	**Pn**	**21 13 04.5**	**+1.2**
ASAJ	**Asahikawa**	**6.53**	**353**	*e*Pn	Pn	21 13 11.0	-1.4
ASAJ				*e*Sn	**Sn**	**21 14 23.1**	**-3.0**
CBIJ	**Chichi jima**	**10.59**	**188**	*e*Pn	Pn	21 14 01.8	-6.3
CBIJ				*e*Sn	Sn	21 15 43.5	-22
JCJ	**Chichijima**	**10.59**	**187**	Pn	Pn	21 13 56.4	-12
	7.6nm,0.3s,baz=85,slow=22,SNR=9.9						
JCJ				Sn	Sn	21 15 36.2	-30
	16nm,0.3s,baz=110,slow=23,SNR=5.6						
USA0B	**Ussuriysk Arra**	**11.03**	**310**	*e*Pn	**Pn**	**21 14 14.6**	**+0.5**
USRK	**Ussuriysk Ar.**	**11.03**	**310**	Pn	**Pn**	**21 14 16.4**	**+2.3**
	0.5nm,0.3s,baz=118,slow=14,SNR=12						
USRK				LR	LR	21 18 15.3	
	comp=Z,131nm,18.5s,baz=120,slow=36						
JNU	**Nakatsue**	**11.41**	**251**	Pn	**Pn**	**21 14 18.8**	**-0.5**
	0.5nm,0.3s,baz=227,slow=0.4,SNR=4.6						
JNU				LR	LR	21 18 37.9	
	comp=Z,123nm,20.2s,baz=109,slow=37						
KSRS	**Korea Array**	**12.55**	**274**	Pn	**Pn**	**21 14 36.9**	**+2.0**
	0.3nm,0.3s,baz=84,slow=14,SNR=12						
KSRS				LR	LR	21 19 18.9	
	comp=Z,199nm,19.1s,baz=78,slow=37						
KSAR	**Wonju Array Be**	**12.58**	**274**	Pn	**Pn**	**21 14 36.9**	**+1.6**
KLR	**Kul'dur**	**14.47**	**327**	Pn	Pn	21 14 59.3	-1.7
	0.2nm,0.3s,baz=152,slow=12,SNR=8.9						
CN2	**Changchun**	**15.15**	**300**	*e*P	**Pn**	**21 15 09.5**	**-0.8**
PETK	**Petropavlovsk-**	**18.27**	**28**	P	**P**	**21 15 47.5**	**-2.2**
	0.1nm,0.3s,baz=207,slow=12,SNR=3.0						
PETK				LR	LR	21 24 14.6	
	comp=Z,60nm,19.3s,baz=194,slow=42						
PEA1	**Petropavlovsk-**	**18.27**	**28**	*e*P	**P**	**21 15 47.5**	**-2.2**
BJT	**Baijiatuau**	**21.57**	**285**	*e*P	**P**	**21 16 26.6**	**+1.0**
	9.6nm,0.7s						
YULB	**Yu-li**	**23.90**	**240**	*e*P	**P**	**21 16 48.6**	**-1.2**
	10nm,0.9s						
TPUB	**Ta-pu**	**24.42**	**241**	*e*P	**P**	**21 16 52.9**	**-1.7**
	7.6nm,0.7s						
BTO	**Baotou**	**26.23**	**287**	*e*P	**P**	**21 17 12.9**	**+1.9**
SONA0	**Songino Array**	**29.00**	**303**	*e*P	**P**	**21 17 36.8**	**+1.0**
SONM	**Songino Array**	**29.00**	**303**	P	**P**	**21 17 36.8**	**+1.0**
	1.4nm,0.9s,baz=99,slow=9.5,SNR=4.5						
SONM				LR	LR	21 28 56.5	
	comp=Z,60nm,19.7s,baz=190,slow=36						
ENH	**Enshi**	**29.22**	**266**	*e*P	**P**	**21 17 40.0**	**+2.2**
	20nm,0.8s						
GTA	**Gaotai**	**34.15**	**287**	⇑P	**P**	**21 18 22.6**	**+1.4**
GTA				pP	sP	21 18 34.6	+6.2
GTA				sP	pwP	21 18 39.4	+4.4
GTA				pmax	pmax		
	comp=Z,7.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,78nm,6.8s						
GTA				LR	LR		
	comp=N,110nm,15.2s						
GTA				LR	LR		
	comp=E,130nm,15.9s						
GTA				LR	LR		
	comp=Z,270nm,15.9s						
SIJI	**Sorong**	**40.01**	**200**	P	**P**	**21 19 09.6**	**-1.3**
	6.2nm,0.9s,baz=327,slow=16,SNR=3.6						
LAMP	**Lampang**	**42.86**	**256**	P	**P**	**21 19 36.1**	**+1.7**
	5.0nm,0.8s						
ZAA0	**Zalesovo Array**	**42.88**	**312**	*e*P	**P**	**21 19 33.7**	**-0.4**
	3.0nm,0.6s						
ZAA1	**Zalesovo Array**	**42.88**	**312**	*e*P	**P**	**21 19 34.8**	**+0.7**
ZAA1				*e*PcP	**PcP**	**21 21 24.9**	**+0.3**
ZALV	**Zalesovo Beam**	**42.88**	**312**	P	**P**	**21 19 34.8**	**+0.7**
	1.1nm,0.5s,baz=90,slow=6.1,SNR=7.5						
ZALV				PcP	**PcP**	**21 21 24.9**	**+0.3**
	3.2nm,0.6s,baz=97,slow=2.8,SNR=8.9						
PBKT	**Sadao Pong**	**43.00**	**253**	P	**P**	**21 19 37.1**	**+1.6**
	7.4nm,1.1s						
CMMT	**Chiang Mai**	**43.22**	**257**	P	**P**	**21 19 38.2**	**+0.9**
	7.6nm,1.8s						
CHTO	**Chiang Mai**	**43.22**	**257**	*e*P	**P**	**21 19 37.3**	**0.0**
	7.3nm,1.0s						
CHTO	**Chiang Mai**	**43.22**	**257**	P	**P**	**21 19 38.3**	**+1.0**
	34nm,1.8s						
CHTO	**Chiang Mai**	**43.22**	**257**	P	**P**	**21 19 38.3**	**+1.0**
	34nm,1.8s						
CM31	**Chiang Mai Arr**	**43.43**	**257**	*e*P	**P**	**21 19 38.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**43.43**	**257**	P	**P**	**21 19 39.1**	**+0.1**
	3.8nm,0.8s,baz=46,slow=6.5,SNR=39						
CMAR				PcP	**PcP**	**21 21 27.0**	**-0.1**
	0.7nm,0.9s,baz=52,slow=3.5,SNR=3.5						
CMAR				LR	LR	21 40 13.2	
	comp=Z,60nm,20.1s,baz=46,slow=40						
CM01	**Chiang Mai Arr**	**43.44**	**257**	*e*P	**P**	**21 19 39.4**	**+0.3**
MK01	**Makanchi Array**	**45.36**	**302**	*e*P	**P**	**21 19 54.6**	**+0.5**
MK31	**Makanchi Array**	**45.36**	**302**	*e*P	**P**	**21 19 54.9**	**+0.7**
MK32	**Makanchi Array**	**45.36**	**302**	*e*P	**P**	**21 19 54.9**	**+0.7**
MKAR	**Makanchi Array**	**45.36**	**302**	P	**P**	**21 19 54.9**	**+0.7**
	4.3nm,0.7s,baz=87,slow=9.6,SNR=47						
MAKZ	**Makanchi**	**45.57**	**302**	*e*P	**P**	**21 19 56.6**	**+0.8**
	3.9nm,0.9s						
PHET	**Kaeng Krachan**	**46.30**	**250**	P	**P**	**21 20 03.7**	**+1.9**
	9.4nm,0.7s,126nm						
MLY	**Manley**	**46.36**	**32**	*e*P	**P**	**21 20 02.4**	**+0.6**
	3.7nm,1.0s						
KURK	**Kurchatov**	**47.02**	**308**	*e*P	**P**	**21 20 07.5**	**+0.5**
MDM	**Murphy Dome**	**47.42**	**32**	*e*P	**P**	**21 20 09.5**	**-0.6**
	6.9nm,1.0s						
IL1	**Eielson Array**	**48.00**	**33**	*e*P	**P**	**21 20 13.3**	**-1.2**
ILAR	**Eielson Array**	**48.00**	**33**	P	**P**	**21 20 15.7**	**+1.2**
	1.3nm,0.7s,baz=259,slow=5.3,SNR=17						
ILB	**Eielson Array**	**48.00**	**33**	*e*P	**P**	**21 20 14.4**	**-0.1**
RAMN	**Ramite**	**48.80**	**275**	*e*P	**P**	**21 20 21.8**	**+0.3**
	19nm,0.9s						
GUN	**Gumba**	**48.93**	**276**	*e*P	**P**	**21 20 23.1**	**+0.5**
	30nm,0.8s						
PKI	**Pulchoki**	**49.45**	**276**	*e*P	**P**	**21 20 26.6**	**0.0**
	4.3nm,0.5s						
KKN	**Kakani**	**49.45**	**277**	*e*P	**P**	**21 20 27.0**	**+0.5**
	31nm,1.1s						
PKIN	**Phulchoki**	**49.46**	**276**	*e*P	**P**	**21 20 26.5**	**-0.1**
DMN	**Daman**	**49.67**	**276**	*e*P	**P**	**21 20 28.5**	**+0.3**
	12nm,0.9s						
DANN	**Dangsing**	**50.40**	**278**	*e*P	**P**	**21 20 34.5**	**+0.8**
	29nm,0.6s						
KOLN	**Koldanda**	**50.79**	**277**	*e*P	**P**	**21 20 37.0**	**+0.5**
PYUN	**Piuthan**	**51.12**	**278**	*e*P	**P**	**21 20 39.4**	**+0.4**
BRVK	**Borovoye**	**51.59**	**312**	*e*P	**P**	**21 20 41.9**	**-0.1**
	4.8nm,0.9s						
AAK	**Ala-Archa**	**51.82**	**299**	*e*P	**P**	**21 20 44.0**	**-0.1**
	3.3nm,1.0s						
INK	**Inuvik**	**53.01**	**28**	P	**P**	**21 20 53.0**	**+0.7**
	1.4nm,0.8s,baz=256,slow=8.3,SNR=3.1						
ARSB	**Arslanbob**	**53.33**	**298**	*e*P	**P**	**21 20 53.4**	**-1.9**
	6.1nm,0.8s						
KK31	**Karatay Array**	**54.41**	**300**	*e*P	**P**	**21 21 02.2**	**-0.8**
KKAR	**Karatay Array**	**54.41**	**300**	*e*P	**P**	**21 21 02.6**	**-0.4**
NIL	**Nilore**	**56.17**	**289**	*e*P	**P**	**21 21 16.2**	**+0.4**
	6.8nm,0.9s						
ARU	**Arti**	**57.13**	**319**	*e*P	**P**	**21 21 22.2**	**+0.1**
	9.4nm,1.0s						
WRAB	**Tennant Creek**	**57.94**	**190**	*e*P	**P**	**21 21 27.3**	**-0.9**
WB2	**Warramunga Arr**	**57.95**	**190**	*e*P	**P**	**21 21 26.4**	**-1.9**
WRA	**Warramunga Arr**	**57.95**	**190**	P	**P**	**21 21 27.2**	**-1.0**
	13nm,0.8s,baz=10,slow=7.3,SNR=91						
FITZ	**Fitzroy Crossi**	**57.99**	**200**	P	**P**	**21 21 27.8**	**-0.8**
	3.7nm,0.7s,baz=21,slow=8.3,SNR=8.8						
KBL	**Kabul**	**58.91**	**292**	*e*P	**P**	**21 21 35.5**	**+0.2**
	3.3nm,0.9s						
ABKAR	**Akbulak array**	**58.96**	**311**	*e*P	**P**	**21 21 35.4**	**+0.3**
AS01	**Alice Springs**	**61.66**	**190**	*e*P	**P**	**21 21 52.9**	**-0.9**
AS31	**Alice Springs**	**61.67**	**190**	*e*P	**P**	**21 21 53.5**	**-0.4**
	1.6nm,0.8s						
ASAR	**Alice Springs**	**61.67**	**190**	P	**P**	**21 21 53.3**	**-0.6**
	4.8nm,0.8s,baz=11,slow=6.1,SNR=53						
YKA	**Yellowknife Ar**	**62.35**	**31**	P	**P**	**21 21 58.7**	**+0.7**
	0.3nm,0.7s,baz=299,slow=6.4,SNR=4.5						
YKB5	**Yellowknife Ar**	**62.35**	**31**	*e*P	**P**	**21 21 58.7**	**+0.7**
GEYT	**Alibeck**	**65.15**	**300**	P	**P**	**21 22 17.6**	**+0.7**
	3.2nm,0.8s,baz=2.9,slow=3.0,SNR=7.4						
FIA0	**FINESS Array S**	**69.13**	**333**	*e*P	**P**	**21 22 41.7**	**0.0**
FINES	**FINESS Array B**	**69.13**	**333**	P	**P**	**21 22 41.7**	**0.0**
	1.9nm,0.7s,baz=26,slow=9.1,SNR=7.8						
STKA	**Stephens Creek**	**69.18**	**182**	P	**P**	**21 22 40.9**	**-1.3**
	2.0nm,0.7s,baz=13,slow=5.4,SNR=6.1						
KIV	**Kislovodsk**	**71.89**	**312**	*e*P	**P**	**21 22 59.0**	**0.0**
KBZ	**Khabaz**	**71.90**	**311**	P	**P**	**21 22 59.4**	**+0.5**
	7.3nm,0.8s,baz=67,slow=3.9,SNR=30						
NV01	**Mina Array Sit**	**73.15**	**54**	*e*P	**P**	**21 23 05.3**	**-1.4**
NVAR	**Mina Array Bea**	**73.15**	**54**	P	**P**	**21 23 05.3**	**-1.4**
	0.1nm,0.3s,baz=283,slow=6.2,SNR=2.2						
NB2	**NORSAR Subarra**	**74.33**	**338**	P	**P**	**21 23 13.6**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=38,slow=6.2						
NB200	**NORSAR Array S**	**74.33**	**338**	*e*P	**P**	**21 23 13.4**	**+0.3**
NOA	**NORSAR Array B**	**74.33**	**338**	P	**P**	**21 23 13.4**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=38,slow=6.1,SNR=3.4						
AKASG	**Malin Array Be**	**74.94**	**323**	P	**P**	**21 23 17.0**	**+0.3**
	comp=Z,3.1nm,0.7s,baz=45,slow=6.1,SNR=14						
AKBB	**Malin Array Si**	**74.94**	**323**	*e*P	**P**	**21 23 17.3**	**+0.6**
	comp=Z,4.4nm,0.8s						
KIEV	**Kiev**	**74.95**	**323**	*e*P	**P**	**21 23 16.9**	**+0.1**
	comp=Z,4.3nm,0.8s						
PD31	**Pinedale Array**	**75.92**	**47**	*e*P	**P**	**21 23 23.7**	**+0.8**
PDAR	**Pinedale Array**	**75.92**	**47**	P	**P**	**21 23 23.7**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=267,slow=0.3,SNR=4.3						
BUR08	**Bucovina Ar. S**	**78.95**	**323**	*e*P	**P**	**21 23 40.9**	**+1.3**
BUR04	**Bucovina Ar. S**	**78.97**	**323**	*e*P	**P**	**21 23 40.5**	**+0.9**
BR101	**Keskin Array S**	**79.82**	**313**	*e*P	**P**	**21 23 44.7**	**+0.2**
BRTR	**Keskin Array B**	**79.82**	**313**	P	**P**	**21 23 44.7**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=58,slow=3.5,SNR=4.3						
CONA	**Conrad Observa**	**82.98**	**328**	*i* PcP	**P**	**21 24 02.5**	**+1.5**
	comp=Z,1.1nm,0.5s						
GEC2	**GERESS Array S**	**83.15**	**329**	*e*P	**P**	**21 24 01.6**	**-0.3**
	comp=Z,2.2nm,1.1s						
GERES	**GERESS Array B**	**83.15**	**329**	P	**P**	**21 24 01.6**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=18,slow=6.2,SNR=7.5						
WATA	**Walderalm**	**85.22**	**330**	*i* PcP	**P**	**21 24 14.0**	**+1.6**
	comp=Z,1.4nm,0.5s						
WTTA	**Wattenberg**	**85.25**	**330**	*i* P	**P**	**21 24 11.0**	**-1.6**
	comp=Z,13nm,1.4s						
MOTA	**Moosalm**	**85.40**	**330**	*i* PcP	**P**	**21 24 14.4**	**+1.0**
	comp=Z,4.1nm,0.9s						
LTX	**Lajitas**	**88.29**	**54**	*e*P	**P**	**21 24 27.4**	**-0.3**
TXAR	**Lajitas Array**	**88.29**	**54**	P	**P**	**21 24 27.5**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=212,slow=4.0,SNR=3.4						

IDC 02 21:41:28.9±5.6**, 18.°30N**×**145.°04E, h0**km**, mb3.5**/4**, mb1 3.7**/4**, mb1mx3.3**/47**, mbtmp3.5**/4**, Error ellipse: s-maj=196.8km s-min=30.7km az=80.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.43**	**196**	P	P	21 49 01.0	0.0
	0.7nm,0.6s,baz=18,slow=9.1,SNR=14						
FITZ	**Fitzroy Crossi**	**40.89**	**209**	P	P	21 49 13.1	+0.1
	1.9nm,1.0s,baz=30,slow=9.2,SNR=5.4						
SONM	**Songino Array**	**43.06**	**322**	P	P	21 49 30.6	-0.1
	0.2nm,0.5s,baz=120,slow=8.5,SNR=3.4						
ASAR	**Alice Springs**	**43.10**	**195**	P	P	21 49 30.6	-0.5
	0.2nm,0.6s,baz=16,slow=7.6,SNR=4.4						

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*NIED **02** 21:50:00, 37.°60N×143.°70E, h5km, Mw4.6 Best double couple: M0 8.99000×10^15 NP1:φs209.00000°, δ42.00000°, λ-78.00000°. NP2:φs13.00000°, δ49.00000°, λ-101.00000°.*

*ISCJB **02** 21:50:44.5±1.0, 37.°60N±0.°03×143.°65E±0.°04, h3km±6km, mb4.4/73, MS4.1/22, Error ellipse: s-maj=5.2km s-min=4.3km az=139.9*

*IDC **02** 21:50:45.0±0.5, 37.°49N×143.°74E, h0km, mb4.2/23, mb1 4.4/29, mb1mx4.3/48, mbtmp4.2/29, ML4.2/5, MS3.8/14, Ms1 3.8/14, ms1mx3.4/47, Error ellipse: s-maj=14.6km s-min=11.6km az=117.0*

*MOS **02** 21:50:46.8±1.4, 37.°66N×143.°74E, h21km, mb4.8/22, Error ellipse: s-maj=8.4km s-min=5.2km az=107.4*

*JMA **02** 21:50:47.2±0.2, 37.°61N×143.°66E, h52km, M4.7*

BJI ***02*** *21:50:47.0, 37°.63N×143°.91E, h34km, mb4.5/54, mB5.0/33, Ms4.5/34, Ms7 4.4/32*

NEIC ***02*** *21:50:47.9±2.5, 37°.53N×143°.75E, h18km±15km, mb4.6/25, Error ellipse: s-maj=7.7km s-min=5.1km az=111.0*

GCMT ***02*** *21:50:51.9±0.5, 37°.69N±0°.04×143°.64E±0°.04, h17km±1km, MW4.8/60, Moment Tensor Solution. s17,c18; s60,c86; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.71±.15; $M_{\theta\theta}$0.33±.09; $M_{\phi\phi}$1.38±.10; $M_{r\theta}$0.20±.24; $M_{\theta\phi}$0.55±.05; $M_{\phi r}$-0.37±.22; Best double couple: $M_0$1.71200×10^{16} NP1:ϕ_s13.00000°,δ50.00000°,λ-103.00000°. NP2: ϕ_s213.00000°,δ41.00000°,λ-75.00000°. Principal axes: T 1.6360, Plg5.0000°, Azm112.0000°; N 0.1480, Plg10.0000°, Azm21.0000°; P -1.7870, Plg79.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 21:50:47.4±0.9**, 37°.60N**±0°.05×**143°.81E**±0°.05**, h16**km±5km**, n214,** σ**2°.11**/240**, mb4.5**/87**, MS4.1**/22**, 14C-18D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.98**	**292**	P	**Pn**	**21 51 17.8**	**-2.5**
JIO	**Ouri**	**2.12**	**294**	P	**Pn**	**21 51 19.8**	**-2.4**
JIO				*e*S	**Sn**	**21 51 43.5**	**-4.7**
JKMT	**Kesennumamotoy**	**2.20**	**304**	P	**Pn**	**21 51 20.7**	**-2.6**
JKMT				*e*S	**Sn**	**21 51 45.4**	**-4.7**
OFUJ	**Ofunato**	**2.24**	**312**	P	**Pn**	**21 51 21.2**	**-2.6**
OFUJ				S	**Sn**	**21 51 46.9**	**-4.2**
JMK	**Ichinoseki**	**2.44**	**304**	P	**Pn**	**21 51 24.5**	**-2.1**
JOM	**Ohasama**	**2.71**	**314**	P	**Pn**	**21 51 28.5**	**-1.9**
JOM				S	**Sn**	**21 51 59.2**	**-3.7**
JFT	**Otama**	**2.76**	**269**	P	**Pn**	**21 51 29.3**	**-1.7**
JFT				*e*S	**Sn**	**21 51 59.6**	**-4.4**
JYK	**Kaneyama**	**3.01**	**297**	P	**Pn**	**21 51 33.2**	**-1.3**
JANG	**Nango**	**3.29**	**328**	P	**Pn**	**21 51 37.2**	**-1.1**
JAG	**Ashikaga**	**3.68**	**253**	P	**Pn**	**21 51 41.7**	**-1.9**
BSO1	**Boso 1**	**3.73**	**219**	P	**Pn**	**21 51 41.7**	**-2.1**
BSO1				*e*S	**Sn**	**21 52 24.3**	**-2.8**
JRY	**Ryogami san**	**4.24**	**250**	P	**Pn**	**21 51 49.2**	**-2.2**
JRY				S	**Sn**	**21 52 35.2**	**-5.4**
JOT	**Ohata**	**4.34**	**331**	P	**Pn**	**21 51 52.2**	**-0.4**
ERM	**Erimo**	**4.44**	**354**	*e*Pn	**Pn**	**21 51 53.6**	**-0.4**
ERM				*e*Sn	**Sn**	**21 52 39.0**	**-6.3**
ERM	**Erimo**	**4.44**	**354**	*e*P	**Pn**	**21 51 53.6**	**-0.4**
ERM				*e*		21 52 39.0	
JOD2	**Odawara 2**	**4.46**	**240**	P	**Pn**	**21 51 52.1**	**-2.3**
JOD2				S	**Sn**	**21 52 40.3**	**-5.8**
MJAR	**Matsushiro Arr**	**4.60**	**258**	Pn	**Pn**	**21 51 56.0**	**-0.3**
	30nm,0.3s,baz=91,slow=15,SNR=110						
MJAR				Sn	**Sn**	**21 52 48.4**	**-1.0**
	5.5nm,0.3s,baz=92,slow=26,SNR=2.7						
MJAR				LR	LR	21 53 51.6	
	comp=Z,2μm,20.7s,baz=85,slow=41						
MAJO	**Matsushiro**	**4.60**	**258**	*e*Pn	**Pn**	**21 51 56.3**	**-0.1**
MAJO	**Matsushiro**	**4.60**	**258**	*e*P	**Pn**	**21 51 56.3**	**-0.1**
MAT	**Matsushiro**	**4.60**	**258**	P	**Pn**	**21 51 55.8**	**-0.5**
MAT				*e*S	**Sn**	**21 52 47.4**	**-2.1**
MJB9	**Matsu-Tunnel**	**4.60**	**258**	*e*Pn	**Pn**	**21 51 56.3**	**-0.1**
MJB9				*e*Sn	**Sn**	**21 52 48.1**	**-1.4**
JKB	**Kayabe**	**4.78**	**334**	P	**Pn**	**21 51 58.0**	**-0.8**
JKB				*e*S	**Sn**	**21 52 48.7**	**-5.2**
JCH	**Churui**	**5.02**	**356**	P	**Pn**	**21 51 59.7**	**-2.3**
JCH				*e*S	**Sn**	**21 52 53.6**	**-6.1**
JHJ2	**Mitsune**	**5.54**	**217**	*e*Pn	**Pn**	**21 52 05.2**	**-4.1**
JHJ2				*e*Sn	**Sn**	**21 53 05.6**	**-6.9**
JHJ2	**Mitsune**	**5.54**	**217**	P	**Pn**	**21 52 06.0**	**-3.2**
JHJ	**Hachijo jima 2**	**5.55**	**217**	Pn	**Pn**	**21 52 06.5**	**-2.8**
	49nm,0.3s,baz=342,slow=21,SNR=31						
JHJ				Sn	**Sn**	**21 53 04.7**	**-8.1**
	101nm,0.3s,baz=54,slow=24,SNR=6.5						
JHJ				LR	LR	21 54 19.5	
	comp=Z,162nm,20.1s,baz=101,slow=40						
INU	**Inuyama**	**5.91**	**250**	*e*Pn	**Pn**	**21 52 15.3**	**+0.9**
NEM2	**Nemuro 2**	**5.94**	**14**	P	**Pn**	**21 52 11.3**	**-3.4**
NEM2				*e*S	**Sn**	**21 53 15.0**	**-7.4**
ASAJ	**Asahikawa**	**6.57**	**352**	Pn	**Pn**	**21 52 23.2**	**-0.2**
	14nm,0.3s,baz=213,slow=13,SNR=18						
ASAJ				Sn	**Sn**	**21 53 33.8**	**-4.1**
	baz=24,slow=20,SNR=2.7						
YUK	**Yuzh-Kuril'sk**	**6.61**	**13**	*e*P	**Pn**	**21 52 21.5**	**-2.4**
YUK				*e*S	**Sn**	**21 53 32.6**	**-6.3**
YUK				pmax	pmax		
	comp=Z,149nm,0.6s						
SHO	**Shikotan**	**6.67**	**19**	*e*P	**Pn**	**21 52 21.9**	**-2.8**
SHO				*e*S	**Sn**	**21 53 33.0**	**-7.3**
SHO				pmax	pmax		
	comp=Z,67nm,0.4s						
KUR	**Kuril'sk**	**8.21**	**21**	P	**Pn**	**21 52 43.7**	**-2.1**
KUR				*e*S	**Sn**	**21 54 11.8**	**-6.4**
KUR				pmax	pmax		
	comp=Z,49nm,0.5s						
TEY	**Ternei**	**9.19**	**326**	⇑*e*P	**Pn**	**21 53 00.9**	**+1.6**
TEY				pmax	pmax		
	comp=N,30nm,0.7s						
TEY				pmax	pmax		
	comp=Z,30nm,1.8s						
YSS	**Yuzh-Sakhalins**	**9.38**	**356**	*e*P	**Pn**	**21 53 02.4**	**+0.6**
YSS				*e*S	**Sn**	**21 54 44.6**	**-2.3**
CBIJ	**Chichi jima**	**10.56**	**188**	*e*Pn	Pn	21 53 13.2	-5.0
CBIJ				*e*Sn	Sn	21 55 02.9	-13
JCJ	**Chichijima**	**10.57**	**188**	Pn	Pn	21 53 07.3	-11
	comp=Z,14nm,0.3s,baz=52,slow=21,SNR=18						
JCJ				Sn	Sn	21 54 57.1	-19
	comp=Z,20nm,0.3s,baz=263,slow=22,SNR=6.3						
USA0B	**Ussuriysk Arra**	**11.10**	**310**	*e*Pn	**Pn**	**21 53 25.7**	**+0.3**
USRK	**Ussuriysk Ar.**	**11.10**	**310**	Pn	**Pn**	**21 53 25.9**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=116,slow=13,SNR=14						
JNU	**Nakatsue**	**11.46**	**251**	Pn	**Pn**	**21 53 29.5**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=54,slow=8.7,SNR=3.7						
JNU	**Nakatsue**	**11.46**	**251**	*e*Pn	**Pn**	**21 53 30.0**	**-0.5**
KSRS	**Korea Array**	**12.61**	**274**	Pn	**Pn**	**21 53 46.4**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=88,slow=12,SNR=9.2						
KSRS				LR	LR	21 58 21.3	
	comp=Z,668nm,18.3s,baz=71,slow=36						
KS01	**Wonju Array Si**	**12.63**	**274**	*e*Pn	**Pn**	**21 53 47.8**	**+1.3**
KSAR	**Wonju Array Be**	**12.64**	**274**	Pn	**Pn**	**21 53 46.4**	**-0.2**
KSAR	**Wonju Array Be**	**12.64**	**274**	P	**Pn**	**21 53 46.4**	**-0.2**
MDJ	**Mudanjiang**	**12.80**	**308**	P	Pn	21 53 54.1	+5.5
MDJ				S	**Sn**	**21 56 14.0**	**+3.3**
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MDJ				LR	LR		
	comp=Z,1μm,11.8s						
MDJ				LR	LR		
	comp=Z,820nm,11.0s						
MDJ				LR	LR		
	comp=Z,670nm,5.9s						
KLR	**Kul'dur**	**14.53**	**327**	Pn	**Pn**	**21 54 10.4**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=137,slow=11,SNR=9.7						
KLR	**Kul'dur**	**14.53**	**327**	*e*P	Pn	21 54 05.5	-6.8
PETK	**Petropavlovsk-**	**18.27**	**28**	P	**Pn**	**21 54 55.9**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=217,slow=8.3,SNR=3.4						
PETK				S	**S**	**21 58 27.9**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=146,slow=16,SNR=4.3						
ZEA	**Zeya**	**19.77**	**330**	*e*P	**P**	**21 55 16.8**	**+0.1**
ZEA				pmax	pmax		
	comp=N,27nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,29nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,400nm,16.0s						
HIA	**Hailar**	**20.91**	**312**	*e*P	**P**	**21 55 27.5**	**-1.6**
	comp=Z,3.9nm,0.6s						
HIA	**Hailar**	**20.91**	**312**	*e*P	**P**	**21 55 27.5**	**-1.6**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NJ2	**Nanjing**	**21.19**	**262**	*e*P	**P**	**21 55 36.3**	**+4.1**
NJ2				S	**S**	**21 59 27.0**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,39nm,1.4s						
NJ2				LR	LR		
	comp=Z,750nm,19.0s						
NJ2				LR	LR		
	comp=Z,460nm,19.5s						
NJ2				LR	LR		
	comp=Z,730nm,14.6s						
TIA	**Tai'an**	**21.36**	**274**	P	**P**	**21 55 32.5**	**-1.5**
TIA				pmax	pmax		
	comp=Z,10.0nm,1.3s						
BJI	**Beijing**	**21.63**	**285**	⇓*e*P	**P**	**21 55 36.3**	**-0.6**
BJI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BJT	**Baijiatuau**	**21.64**	**285**	*e*P	**P**	**21 55 34.6**	**-2.4**
	comp=Z,16nm,1.1s						
BJT	**Baijiatuau**	**21.64**	**285**	*e*P	**P**	**21 55 34.6**	**-2.4**
BJT				pmax	pmax		
	comp=Z,16nm,1.1s						
MA2	**Magadan**	**22.44**	**9**	P	**P**	**21 55 47.9**	**+2.5**
	comp=Z,5.6nm,0.7s,baz=205,slow=16,SNR=2.8						
MA2				LR	LR	22 04 46.9	
	comp=Z,123nm,21.0s,baz=152,slow=37						
YULB	**Yu-li**	**23.93**	**240**	*e*P	**P**	**21 55 59.5**	**-1.3**
	comp=Z,7.8nm,0.6s						
TPUB	**Ta-pu**	**24.46**	**241**	*e*P	**P**	**21 56 04.3**	**-1.4**
	comp=Z,32nm,0.8s						
HHC	**Hu-ho-hao-te**	**25.11**	**288**	*e*P	**P**	**21 56 11.2**	**-0.4**
HHC				S	**S**	**22 00 36.1**	**+0.4**
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,96nm,5.2s						
HHC				LR	LR		
	comp=Z,320nm,9.0s						
HHC				LR	LR		
	comp=Z,700nm,13.2s						
HHC				LR	LR		
	comp=Z,950nm,14.7s						
WHN	**Wuhan**	**25.33**	**263**	⇑P	**P**	**21 56 14.3**	**+0.9**
WHN				sP	**pwP**	**21 56 26.7**	**+1.7**
SEY	**Seymchan**	**25.90**	**9**	P	**P**	**21 56 20.0**	**+1.7**
	comp=Z,3.5nm,0.7s,baz=206,slow=7.2,SNR=6.5						
SEY	**Seymchan**	**25.90**	**9**	*i* P	**P**	**21 56 18.1**	**-0.2**
YAK	**Yakutsk**	**25.98**	**345**	*e*P	**P**	**21 56 18.0**	**-1.0**
YAK				pmax	pmax		
	comp=Z,16nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.3s						
BOD	**Bodaibo**	**28.10**	**326**	*e*P	**P**	**21 56 37.8**	**-0.4**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.4s						
XAN	**Xi'an**	**28.41**	**273**	P	**P**	**21 56 40.8**	**-0.5**
XAN				pP	pwP	21 56 49.3	-3.6
XAN				sP	sP	21 56 53.8	+8.5
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,110nm,5.2s						
XAN				LR	LR		
	comp=Z,480nm,14.4s						
XAN				LR	LR		
	comp=Z,440nm,13.8s						
XAN				LR	LR		
	comp=Z,470nm,14.9s						
ULN	**Ulaanbaatar**	**28.63**	**303**	*e*P	**P**	**21 56 43.8**	**+0.5**
	comp=Z,5.5nm,0.9s						
ULN	**Ulaanbaatar**	**28.63**	**303**	*ce*P	**P**	**21 56 44.2**	**+0.9**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
SONA1	**Songino Array**	**29.06**	**303**	*e*P	**P**	**21 56 48.5**	**+1.5**
SONM	**Songino Array**	**29.07**	**303**	P	**P**	**21 56 47.7**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=96,slow=9.0,SNR=12						
ENH	**Enshi**	**29.28**	**266**	*e*P	**P**	**21 56 49.9**	**+0.9**
	comp=Z,17nm,0.8s						
ZAK	**Zakamensk**	**31.43**	**307**	*e*P	**P**	**21 57 09.4**	**+1.5**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
LZH	**Lanzhou**	**31.85**	**280**	*e*P	**P**	**21 57 12.6**	**+0.8**
LZH				pP	pwP	21 57 23.7	+0.2
LZH				sP	sP	21 57 27.2	+11
LZH				PP	**PnPn**	**21 58 15.2**	**-1.2**
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
LZH				pmax	pmax		
	comp=Z,110nm,5.4s						
LZH				LR	LR		
	comp=Z,900nm,14.1s						
LZH				LR	LR		
	comp=Z,1μm,15.2s						
LZH				LR	LR		
	comp=Z,1μm,14.1s						
BILL	**Bilibino**	**32.96**	**15**	*i* P	**P**	**21 57 21.2**	**+0.2**
BILL				*i*		21 57 33.8	
BILL				*i*		22 00 12.8	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,159nm,17.0s						
CD2	**Chengdu**	**33.58**	**271**	*e*P	**P**	**21 57 26.0**	**-0.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,4.8s						
GTA	**Gaotai**	**34.22**	**287**	⇑P	**P**	**21 57 33.2**	**+0.7**
GTA				pP	pwP	21 57 45.0	+0.8
GTA				sP	sP	21 57 49.7	+13
GTA				S	**S**	**22 02 59.5**	**+0.9**
GTA				sS	sS	22 03 15.4	+12
GTA				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,77nm,7.3s						
GTA				LR	LR		
	comp=Z,280nm,15.9s						
GTA				LR	LR		
	comp=Z,410nm,15.6s						
GTA				LR	LR		
	comp=Z,560nm,15.9s						
DAV	**Davao City (W)**	**34.61**	**213**	LR	LR	22 12 00.5	
	comp=Z,82nm,19.0s,baz=326,slow=37						
QIZ	**Qiongzhong**	**34.90**	**247**	P	**P**	**21 57 36.6**	**-1.8**
QIZ				S	**S**	**22 03 05.6**	**-3.6**
QIZ				LR	LR		
	comp=Z,290nm,21.2s						
QIZ				LR	LR		
	comp=Z,320nm,21.0s						
TIXI	**Tiksi**	**34.98**	**352**	*i* P	**P**	**21 57 37.2**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KMI	**Kunming**	**36.93**	**262**	P	**P**	**21 57 55.8**	**-0.2**
KMI				pP	pwP	21 58 03.5	-4.0
KMI				sP	sP	21 58 07.9	+7.8
KMI				S	**S**	**22 03 41.4**	**+0.8**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.4s						
KMI				pmax	pmax		
	comp=Z,190nm,5.3s						
KMI				LR	LR		
	comp=Z,410nm,12.1s						
KMI				LR	LR		
	comp=Z,340nm,17.3s						
KMI				LR	LR		
	comp=Z,360nm,15.2s						
DGZ	**Jazzator, Alta**	**41.61**	**305**	*i* P	**P**	**21 58 35.2**	**+0.5**
DGZ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WMQ	**Urumqi**	**42.29**	**297**	*e*P	**P**	**21 58 40.8**	**+0.6**
WMQ				sP	pwP	21 58 54.3	+2.3
WMQ				ScS	ScS	22 08 39.1	-2.6
WMQ				pmax	pmax		
	comp=Z,29nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,320nm,4.9s						
LAMP	**Lampang**	**42.91**	**256**	P	**P**	**21 58 47.5**	**+2.0**
	comp=Z,5.4nm,0.7s						
ZAA0	**Zalesovo Array**	**42.95**	**312**	*e*P	**P**	**21 58 45.4**	**+0.1**
	comp=Z,4.2nm,0.9s						
ZALV	**Zalesovo Beam**	**42.95**	**312**	P	**P**	**21 58 45.4**	**0.0**
	comp=Z,2.2nm,0.5s,baz=98,slow=7.2,SNR=13						
ZALV				PcP	**PcP**	**22 00 35.6**	**0.0**
	comp=Z,3.8nm,0.6s,baz=100,slow=3.3,SNR=9.6						
PBKT	**Sadao Pong**	**43.05**	**253**	P	**P**	**21 58 48.8**	**+2.2**
	comp=Z,5.9nm,1.4s,comp=Z,2μm						
CMMT	**Chiang Mai**	**43.28**	**257**	P	**P**	**21 58 49.9**	**+1.4**
	comp=Z,6.3nm,0.9s						
CHTO	**Chiang Mai**	**43.28**	**257**	*e*P	**P**	**21 58 48.5**	**0.0**
	comp=Z,5.0nm,0.9s						
CHTO	**Chiang Mai**	**43.28**	**257**	*e*P	**P**	**21 58 48.5**	**0.0**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CHTO	**Chiang Mai**	**43.28**	**257**	P	**P**	**21 58 50.0**	**+1.5**
	comp=Z,27nm,0.9s						
CMAR	**Chiang Mai Arr**	**43.48**	**257**	P	**P**	**21 58 50.1**	**0.0**
	comp=Z,3.3nm,0.7s,baz=45,slow=7.0,SNR=20						
CMAR				LR	LR	22 19 23.8	
	comp=Z,163nm,18.7s,baz=48,slow=40						
NVS	**Novosibirsk**	**43.83**	**313**	*e*P	**P**	**21 58 52.6**	**+0.1**
MK01	**Makanchi Array**	**45.43**	**302**	*e*P	**P**	**21 59 05.5**	**0.0**
MK31	**Makanchi Array**	**45.43**	**302**	*e*P	**P**	**21 59 05.6**	**+0.2**
MK31	**Makanchi Array**	**45.43**	**302**	*e*P	**P**	**21 59 05.6**	**+0.2**
MKAR	**Makanchi Array**	**45.43**	**302**	P	**P**	**21 59 05.6**	**+0.2**
	comp=Z,5.4nm,0.7s,baz=87,slow=9.6,SNR=54						
MKAR	**Makanchi Array**	**45.43**	**302**	*e*P	**P**	**21 59 05.6**	**+0.2**
	comp=Z,43nm,0.6s						
MAKZ	**Makanchi**	**45.64**	**302**	*e*P	**P**	**21 59 07.7**	**+0.6**
	comp=Z,5.4nm,0.9s						
MAKZ	**Makanchi**	**45.64**	**302**	*e*P	**P**	**21 59 07.7**	**+0.6**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SRDT	**SRDT**	**45.82**	**252**	P	**P**	**21 59 11.0**	**+2.3**
	comp=Z,12nm,1.1s						
PHET	**Kaeng Krachan**	**46.35**	**250**	P	**P**	**21 59 15.3**	**+2.4**
	comp=Z,11nm,0.7s,comp=Z,94nm						
KURK	**Kurchatov**	**47.08**	**308**	*e*P	**P**	**21 59 17.9**	**-0.4**
	comp=Z,19nm,0.7s						
KURK	**Kurchatov**	**47.08**	**308**	*ce*P	**P**	**21 59 18.1**	**-0.2**
KURK				pmax	pmax		
	comp=Z,20nm,0.7s						
COLA	**College**	**47.58**	**33**	P	**P**	**21 59 24.4**	**+2.5**
ILAR	**Eielson Array**	**47.99**	**33**	P	**P**	**21 59 26.4**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=266,slow=6.0,SNR=12						
JIRN	**Jiri**	**48.86**	**276**	*e*P	**P**	**21 59 34.3**	**+1.5**
RAMN	**Ramite**	**48.86**	**275**	*e*P	**P**	**21 59 33.3**	**+0.6**
	comp=Z,12nm,0.5s						
GUN	**Gumba**	**48.99**	**276**	*e*P	**P**	**21 59 35.2**	**+1.4**
HNR	**Honiara**	**49.17**	**159**	LR	LR	22 21 31.7	
	comp=Z,82nm,18.5s,baz=338,slow=38						
PKI	**Pulchoki**	**49.52**	**276**	*e*P	**P**	**21 59 38.6**	**+0.8**
	comp=Z,8.3nm,0.7s						
KKN	**Kakani**	**49.52**	**277**	*e*P	**P**	**21 59 37.8**	**+0.1**
	comp=Z,24nm,0.7s						
PKIN	**Phulchoki**	**49.52**	**276**	*e*P	**P**	**21 59 38.5**	**+0.7**
	comp=Z,5.8nm,0.6s						
DANN	**Dangsing**	**50.46**	**278**	*e*P	**P**	**21 59 45.2**	**+0.3**
	comp=Z,48nm,0.8s						
KOLN	**Koldanda**	**50.85**	**277**	*e*P	**P**	**21 59 48.3**	**+0.5**
	comp=Z,7.2nm,0.6s						
PYUN	**Piuthan**	**51.18**	**278**	*e*P	**P**	**21 59 50.3**	**0.0**
	comp=Z,24nm,0.5s						
BRVK	**Borovoye**	**51.65**	**312**	*e*P	**P**	**21 59 53.1**	**-0.1**
	comp=Z,6.3nm,0.9s						
BRVK	**Borovoye**	**51.65**	**312**	*e*P	**P**	**21 59 53.5**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
AAK	**Ala-Archa**	**51.89**	**299**	*e*P	**P**	**21 59 55.4**	**+0.1**
	comp=Z,3.5nm,0.9s						
AAK	**Ala-Archa**	**51.89**	**299**	*ce*P	**P**	**21 59 54.7**	**-0.6**
AAK				pmax	pmax		
	comp=Z,11nm,2.5s						
KSH	**Kashi**	**51.91**	**294**	P	**P**	**21 59 59.4**	**+3.9**
KSH				pP	pwP	22 00 07.9	+0.7
KSH				PP	**PP**	**22 01 55.1**	**+1.9**
KSH				PcS	**PcS**	**22 05 08.5**	**+2.3**
KSH				S	**S**	**22 07 20.6**	**+2.8**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KSH				LR	LR		
	comp=Z,220nm,6.5s						
KSH				LR	LR		
	comp=Z,130nm,6.8s						
KSH				LR	LR		
	comp=Z,280nm,6.4s						
INK	**Inuvik**	**53.01**	**27**	P	**P**	**22 00 04.9**	**+1.9**
	comp=Z,1.0nm,0.9s,baz=324,slow=5.5,SNR=4.4						
KK31	**Karatay Array**	**54.48**	**300**	*e*P	**P**	**22 00 12.7**	**-1.6**
KK31	**Karatay Array**	**54.48**	**300**	*e*P	**P**	**22 00 12.7**	**-1.6**
KKAR	**Karatay Array**	**54.48**	**300**	*e*P	**P**	**22 00 14.3**	**0.0**
KKAR	**Karatay Array**	**54.48**	**300**	*e*P	**P**	**22 00 14.3**	**0.0**
SVE	**Sverdlovsk**	**55.98**	**319**	*e*P	**P**	**22 00 25.6**	**+0.8**
SVE				pmax	pmax		
	comp=Z,20nm,1.1s						
SVE				MLR	MLR		
	comp=Z,387nm,16.0s						
NIL	**Nilore**	**56.24**	**289**	*e*P	**P**	**22 00 27.7**	**+0.7**
	comp=Z,6.3nm,0.8s						
NIL	**Nilore**	**56.24**	**289**	*e*P	**P**	**22 00 27.7**	**+0.7**
NIL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ARU	**Arti**	**57.19**	**319**	*e*P	**P**	**22 00 33.5**	**+0.2**
	comp=Z,25nm,0.7s						
ARU	**Arti**	**57.19**	**319**	*d i*P	**P**	**22 00 33.9**	**+0.5**
ARU				*PP	**pwP**	**22 00 44.7**	**-1.2**
ARU						22 01 29.3	
ARU						22 02 37.0	
ARU				S	**S**	**22 08 26.0**	**-2.1**
ARU				pmax	pmax		
	comp=Z,29nm,1.8s						
ARU				MLR	MLR		
	comp=Z,374nm,16.0s						
WRAB	**Tennant Creek**	**57.92**	**191**	*e*P	**P**	**22 00 37.8**	**-1.0**
	comp=Z,6.7nm,0.8s						
WRAB	**Tennant Creek**	**57.92**	**191**	*i* P	**P**	**22 00 38.2**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,21nm,2.3s						
WB2	**Warramunga Arr**	**57.92**	**191**	*e*P	**P**	**22 00 36.9**	**-2.0**
	comp=Z,9.3nm,0.8s						
WRA	**Warramunga Arr**	**57.93**	**191**	P	**P**	**22 00 37.9**	**-1.0**
	comp=Z,6.0nm,0.6s,baz=7.6,slow=7.1,SNR=46						
FITZ	**Fitzroy Crossi**	**57.98**	**200**	P	**P**	**22 00 38.7**	**-0.6**
	comp=Z,2.4nm,0.6s,baz=39,slow=11,SNR=7.9						
KBL	**Kabul**	**58.99**	**292**	*e*P	**P**	**22 00 45.0**	**-1.6**
	comp=Z,3.3nm,0.8s						
KBL	**Kabul**	**58.99**	**292**	*e*P	**P**	**22 00 45.0**	**-1.6**
KBL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ABKAR	**Akbulak array**	**59.03**	**311**	*e*P	**P**	**22 00 45.8**	**-0.5**
AS01	**Alice Springs**	**61.64**	**190**	*e*P	**P**	**22 01 03.2**	**-1.2**
AS31	**Alice Springs**	**61.65**	**190**	*e*P	**P**	**22 01 04.2**	**-0.3**
	comp=Z,1.1nm,0.8s						
ASAR	**Alice Springs**	**61.65**	**190**	P	**P**	**22 01 03.8**	**-0.7**
	comp=Z,2.6nm,0.8s,baz=12,slow=7.2,SNR=20						
YKA	**Yellowknife Ar**	**62.35**	**31**	P	**P**	**22 01 09.3**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=302,slow=6.9,SNR=9.6						
ARCES	**ARCESS Array B**	**64.13**	**340**	P	**P**	**22 01 21.6**	**+1.1**
	comp=Z,1.8nm,0.8s,baz=57,slow=8.8,SNR=7.8						
GEYT	**Alibeck**	**65.22**	**300**	P	**P**	**22 01 28.5**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=320,slow=4.4,SNR=10.0						
GYA0B	**ALIBECK ARRAY**	**65.22**	**300**	*e*P	**P**	**22 01 28.7**	**+0.6**
	comp=Z,4.1nm,0.8s						
OBN	**Obninsk**	**68.77**	**324**	*i* P	**P**	**22 01 50.5**	**+0.2**
OBN				*i*		22 02 00.8	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,159nm,15.0s						
STKA	**Stephens Creek**	**69.15**	**182**	P	**P**	**22 01 52.5**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=9.3,slow=6.1,SNR=4.9						
STKA				LR	LR	22 32 48.4	
	comp=Z,32nm,20.5s,baz=24,slow=36						
FINES	**FINESS Array B**	**69.19**	**333**	P	**P**	**22 01 52.5**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=38,slow=9.6,SNR=16						
FINES	**FINESS Array B**	**69.19**	**333**	*ce*P	**P**	**22 01 51.4**	**-1.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZEI	**Tsey**	**71.90**	**310**	*e*P	**P**	**22 02 08.6**	**-1.4**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KIV	**Kislovodsk**	**71.96**	**312**	*e*P	**P**	**22 02 11.2**	**+0.9**
	comp=Z,16nm,0.7s						
KIV	**Kislovodsk**	**71.96**	**312**	*c i*P	**P**	**22 02 11.2**	**+0.9**
KIV				*i*		22 02 24.0	
KIV				*i*		22 04 50.0	
KIV				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KBZ	**Khabaz**	**71.97**	**312**	P	**P**	**22 02 10.2**	**+0.1**
	comp=Z,8.7nm,0.8s,baz=83,slow=2.0,SNR=31						
FFC	**Flin Flon**	**72.19**	**34**	*i* P	**P**	**22 02 15.1**	**+3.9**
NVAR	**Mina Array Bea**	**73.11**	**54**	P	**P**	**22 02 18.6**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=309,slow=4.3,SNR=2.7						
NB2	**NORSAR Subarra**	**74.39**	**338**	P	**P**	**22 02 24.2**	**0.0**
	comp=Z,2.0nm,0.7s,baz=38,slow=5.9						
NOA	**NORSAR Array B**	**74.39**	**338**	P	**P**	**22 02 24.1**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=52,slow=7.0,SNR=7.3						
AKASG	**Malin Array Be**	**75.00**	**323**	P	**P**	**22 02 27.8**	**-0.1**
	comp=Z,3.9nm,0.5s,baz=45,slow=6.1,SNR=19						
AKBB	**Malin Array Si**	**75.00**	**323**	*e*P	**P**	**22 02 27.9**	**+0.1**
	comp=Z,4.9nm,0.7s						
KIEV	**Kiev**	**75.01**	**323**	*e*P	**P**	**22 02 27.6**	**-0.3**
	comp=Z,4.9nm,0.6s						
KIEV	**Kiev**	**75.01**	**323**	*i* P	**P**	**22 02 28.2**	**+0.3**
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AK11	**Malin Array Si**	**75.04**	**323**	*e*P	**P**	**22 02 29.6**	**+1.5**
PDAR	**Pinedale Array**	**75.90**	**47**	P	**P**	**22 02 34.9**	**+1.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,0.5nm,0.7s,baz=299,slow=0.9,SNR=2.0						
BUR08	Bucovina Ar. S	79.02	323	eP	P	22 02 51.0	+0.3
BUR04	Bucovina Ar. S	79.03	323	eP	P	22 02 51.4	+0.6
BURAR	Bucovina Array	79.03	323	⇓iP	P	22 02 51.5	+0.8
BURAR	Bucovina Array	79.03	323	⇓P	P	22 02 51.5	+0.8
BIZ	Bicaz	79.07	322	⇓iP	P	22 02 51.8	+0.9
VRI	Vrincioaia	79.51	321	⇓iP	P	22 02 54.7	+1.4
VRI	Vrincioaia	79.51	321	⇓P	P	22 02 54.7	+1.4
BRTR	Keskin Array B	79.89	313	P	P	22 02 56.8	+1.1
	comp=Z,0.7nm,0.5s,baz=122,slow=3.7,SNR=11						
BRTR				LR	LR	22 42 06.9	
	comp=Z,46nm,18.2s,baz=58,slow=39						
TRPA	Tarpa	79.92	324	⇑iP	P	22 02 56.7	+1.3
DOPR	Dopca	80.11	321	⇑iP	P	22 02 57.9	+1.4
VOIR		80.65	321	⇑iP	P	22 03 00.7	+1.2
VOIR		80.65	321	⇑P	P	22 03 00.7	+1.2
DRGR		80.81	323	⇓iP	P	22 03 00.9	+0.5
DRGR		80.81	323	⇓P	P	22 03 00.9	+0.5
MORC	Moravsky Berou	80.91	328	⇓iP	P	22 02 59.8	-1.0
MORC	Moravsky Berou	80.91	328	⇓P	P	22 02 59.8	-1.0
ARR	Arges	80.91	321	⇓iP	P	22 03 02.6	+1.7
DPC	Dobruska-Polom	80.97	329	eP	P	22 03 03.2	+2.1
DPC	Dobruska-Polom	80.97	329	eP	P	22 03 03.2	+2.1
CLL	Collm	81.53	331	eP	P	22 03 05.0	+1.0
CLL	Collm	81.53	331	eP	P	22 03 05.0	+1.0
VRAC	Vranov	81.66	328	⇓iP	P	22 03 05.6	+0.8
VRAC	Vranov	81.66	328	⇓P	P	22 03 05.6	+0.8
GZR	Gura Zlata	81.80	322	⇑iP	P	22 03 06.2	+0.6
GZR	Gura Zlata	81.80	322	⇑P	P	22 03 06.2	+0.6
VLAD	Vladila	82.00	321	⇓iP	P	22 03 05.8	-0.8
HERR	Herculane	82.35	322	⇓iP	P	22 02 57.6	-11
KHC	Kasperske Hory	83.04	330	eP	P	22 03 13.3	+1.3
KHC				ex	x	22 03 25.8	
KHC	Kasperske Hory	83.04	330	eP	P	22 03 13.3	+1.3
KHC				e		22 03 25.8	
CONA	Conrad Observa	83.04	328	i PcP	P	22 03 14.2	+2.1
	comp=Z,2.6nm,0.7s						
PPT	Papeete	83.20	118	LR	LR	22 33 23.5	
	comp=Z,42nm,20.6s,baz=354,slow=31						
GERES	GERESS Array B	83.21	329	P	P	22 03 13.3	+0.3
	comp=Z,0.7nm,0.5s,baz=39,slow=3.8,SNR=7.9						
GERES				LR	LR	22 42 40.4	
	comp=Z,65nm,19.4s,baz=51,slow=37						
VTS	Vitosha	83.62	320	eP	P	22 03 16.4	+1.2
	comp=Z,2.4nm,0.6s						
VTS	Vitosha	83.62	320	⇓iP	P	22 03 16.3	+1.1
VTS	Vitosha	83.62	320	⇓P	P	22 03 16.3	+1.1
ARSA	Arzberg	83.71	327	i P	P	22 03 15.7	+0.2
	comp=Z,1.3nm,0.5s						
SOKA	Soboth	84.37	327	i PcP	P	22 03 19.5	+0.6
	comp=Z,2.6nm,0.6s						
RPZ	Rata Peaks	84.63	161	LR	LR	22 34 23.5	
	comp=Z,48nm,21.4s,baz=6.0,slow=31						
OBKA	Obir	84.71	328	i PcP	P	22 03 22.2	+1.6
	comp=Z,2.4nm,0.7s						
KBA	Koelnbreinsper	84.76	329	i PcP	P	22 03 22.0	+1.0
	comp=Z,2.8nm,0.6s						
KNT	Kendrikon	84.82	319	P	P	22 03 24.4	+3.2
MOTA	Moosalm	85.46	330	i PcP	P	22 03 25.0	+0.6
	comp=Z,1.5nm,0.6s						
BFO	Black Forest	85.72	332	eP	P	22 03 27.4	+1.8
	comp=Z,5.5nm,1.0s						
BFO	Black Forest	85.72	332	eP	P	22 03 27.4	+1.8
BFO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
FETA	Feichten	85.87	330	i PcP	P	22 03 28.0	+1.5
	comp=Z,2.1nm,0.7s						
DAVA	Damuels	85.99	331	i PcP	P	22 03 28.1	+1.0
	comp=Z,2.3nm,0.5s						
TXAR	Lajitas Array	88.25	54	P	P	22 03 38.1	-0.3
	comp=Z,0.2nm,0.6s,baz=289,slow=2.8,SNR=2.6						
KEST	Kesra	95.70	324	LR	LR	22 52 07.6	
	comp=Z,122nm,18.0s,baz=264,slow=38						
ESDC	Sonseca Array	97.59	335	LR	LR	22 52 25.6	
	comp=Z,46nm,18.4s,baz=110,slow=38						
LPAZ	La Paz	144.75	62	PKP	PKPdf	22 10 25.0	+0.3
	comp=Z,0.5nm,0.4s,baz=277,slow=1.5,SNR=3.2						
MNMC	Minye Minye	145.57	67	ePKPdf	PKPab	22 10 26.9	+0.8

ROM 02 22:01:31.3±0.1, 43.581N±0.003×12.362E±0.004, h10km, Md1.2/6, Central Italy

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BADI	Badiali	0.11	230	P	Pg	22 01 34.5	+0.4
BADI				S	Sg	22 01 36.7	+0.6
BADI				END			
BADI				END			
PARC	Parchiule	0.11	307	P	Pg	22 01 34.6	+0.4
PARC				S	Sg	22 01 36.9	+0.7
PARC				END			
PARC				END			
ATPC	Poggio Castell	0.12	145	P	Pg	22 01 34.8	+0.6
ATPC				S	Sg	22 01 37.4	+1.0
ATPC				END			
ATPC				END			
ATPI	Pietralunga -	0.13	167	P	Pg	22 01 35.0	+0.5
ATPI				S	Sg	22 01 37.5	+0.9
ATPI				END			
ATPI				END			
PE3	Peglio	0.15	40	P	Pb	22 01 35.6	-0.6
NARO	Abbazia di Nar	0.16	79	P	Pg	22 01 35.4	+0.5
NARO				S	Sg	22 01 38.3	+1.0
NARO				END			
NARO				END			
ATVO	AVT- Monte Val	0.20	171	P	Pg	22 01 36.1	+0.6
ATVO				S	Sg	22 01 39.7	+1.2
ATVO				END			
ATVO				END			

*ISCJB **02** 22:02:00.6±0.4, 12.63N±0.06×142.68E±0.06, h100km, mb4.2/21, Error ellipse: s-maj=9.0km s-min=8.2km az=31.8*
*IDC **02** 22:02:04.5±1.7, 12.71N×142.90E, h126km±16km, mb3.8/15, mb1 3.9/16, mb1mx3.7/52, mbtmp4.2/16, MS3.1/1, Ms1 3.1/1, ms1mx2.5/48, Error ellipse: s-maj=19.4km s-min=11.0km az=84.0*
*NEIC **02** 22:02:05.1±1.1, 12.68N×142.91E, h133km±10km, mb4.5/5, Error ellipse: s-maj=12.2km s-min=7.1km az=84.0*
ISC 02 22:02:02.0±0.6, 12.66N±0.09×142.71E±0.09, h100km, n35, σ1§20/36, mb4.4/21, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.30	66	P	Pn	22 02 40.6	+2.2
	15nm,0.3s,baz=339,slow=20,SNR=6.9						
GUMO				S	Sn	22 03 06.8	+0.4
	130nm,0.3s,baz=216,slow=24,SNR=15						
JNU	Nakatsue	23.06	334	eP	P	22 06 59.8	+0.8
	20nm,1.0s						
SSLB	Suanglung	23.40	301	eP	P	22 07 03.1	+0.9
	18nm,1.0s						
USRK	Ussuriysk Ar.	32.75	346	P	P	22 08 23.8	-1.4
	1.9nm,0.7s,baz=178,slow=7.2,SNR=3.9						
WR1	Warramunga Arr	33.43	194	eP	P	22 08 31.6	+0.3
	7.7nm,0.8s						
WRA	Warramunga Arr	33.43	194	P	P	22 08 31.6	+0.3
	5.2nm,0.7s,baz=16,slow=9.4,SNR=79						
FITZ	Fitzroy Crossi	34.90	209	LR	LR	22 23 17.6	
	comp=Z,30nm,21.3s,baz=76,slow=36						
AS01	Alice Springs	37.10	193	eP	P	22 09 02.9	0.0
AS31	Alice Springs	37.11	193	eP	P	22 09 03.5	+0.5
	3.7nm,0.3s						
ASAR	Alice Springs	37.12	193	P	P	22 09 03.5	+0.4
	2.9nm,0.4s,baz=23,slow=12,SNR=84						
ASAR				PcP	PcP	22 11 21.8	+0.3
	0.2nm,0.5s,baz=38,slow=3.2,SNR=4.4						
KLR	Kul'dur	37.57	348	P	P	22 09 07.5	+0.9
	1.7nm,0.7s,baz=229,slow=11,SNR=5.1						
DZM	Mont Dzumac	41.63	146	P	P	22 09 41.1	+0.5
	14nm,1.0s,baz=312,slow=15,SNR=5.0						
STKA	Stephens Creek	44.29	181	P	P	22 10 01.2	-0.7
	2.6nm,0.5s,baz=343,slow=8.9,SNR=9.0						
SONA0	Songino Array	46.31	327	eP	P	22 10 19.0	+1.1
SONM	Songino Array	46.31	327	P	P	22 10 19.0	+1.1
	0.8nm,0.4s,baz=146,slow=7.0,SNR=4.5						
MK32	Makanchi Array	60.71	317	eP	P	22 12 04.2	+1.2
MKAR	Makanchi Array	60.71	317	P	P	22 12 04.2	+1.2
	0.5nm,0.4s,baz=109,slow=6.7,SNR=10						
MAKZ	Makanchi	60.92	317	eP	P	22 12 06.0	+1.6
	2.5nm,0.6s						
ZALV	Zalesovo Beam	61.16	325	P	P	22 12 06.1	+0.2
	2.1nm,0.4s,baz=115,slow=6.9,SNR=16						
ZAA1	Zalesovo Array	61.16	325	eP	P	22 12 06.1	+0.2
KURK	Kurchatov	63.95	320	P	P	22 12 25.6	+1.2
KURBB	Kurchatov Arra	63.98	320	P	P	22 12 25.6	+0.9
	6.0nm,0.6s,baz=106,slow=6.7,SNR=40						
ILAR	Eielson Array	70.31	25	P	P	22 13 02.0	-2.4
	0.5nm,0.5s,baz=244,slow=6.1,SNR=11						
ILB	Eielson Array	70.31	25	eP	P	22 13 02.0	-2.4
ABKAR	Akbulak array	75.81	318	eP	P	22 13 37.4	+0.3
GEYT	Alibeck	78.11	306	P	P	22 13 51.0	+0.6
	17nm,0.5s,baz=91,slow=10,SNR=3.7						
YKA	Yellowknife Ar	84.64	27	P	P	22 14 23.0	-1.3
	0.2nm,0.6s,baz=285,slow=4.8,SNR=6.2						
YKB5	Yellowknife Ar	84.64	27	eP	P	22 14 23.0	-1.3
ARA0	ARCESS Array S	87.31	342	eP	P	22 14 36.1	-1.2
ARCES	ARCESS Array B	87.31	342	P	P	22 14 36.1	-1.2
	1.8nm,0.8s,baz=91,slow=7.2,SNR=4.7						
NV01	Mina Array Sit	89.14	51	eP	P	22 14 46.3	-0.6
NVAR	Mina Array Bea	89.14	51	P	P	22 14 46.3	-0.6
	0.4nm,0.7s,baz=256,slow=3.6,SNR=3.3						
FIA0	FINESS Array S	91.10	335	eP	P	22 14 53.2	-1.9
FINES	FINESS Array B	91.10	335	P	P	22 14 53.2	-1.9
	0.4nm,0.3s,baz=64,slow=4.4,SNR=6.5						
LPAZ	La Paz	149.94	101	PKPbc	PKPbc	22 21 42.5	0.0
	1.9nm,0.5s,baz=279,slow=0.8,SNR=9.9						

*ISCJB **02** 22:03:09.1±1.1, 35.78S±0.03×73.8W±0.1, h33km, Error ellipse: s-maj=14.2km s-min=4.8km az=3.1*
*GUC **02** 22:03:11.5±0.5, 35.84S×73.63W, h35km±3km, ML3.6*
*SJA **02** 22:03:37.0±1.0, 34.02S×71.91W, h7km±19km, ML2.7, MW3.5*
ISC 02 22:03:10.5±2.3, 35.80S±0.05×73.8W±0.2, h35km, n22, σ1§42/26, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	1.17	152	eP	Pn	22 03 30.0	-0.4
CCSP				i S	Sn	22 03 44.3	-0.9
CCSP				IAML		22 03 50.5	
	comp=N,4μm,0.4s						
CCHI	Chillan	1.59	120	eP	Pn	22 03 35.7	-0.5
CCHI				eS	Sn	22 03 54.7	-0.8
CCHI				IAML		22 04 02.3	
	comp=E,2μm,0.4s						
GO05	Huala	1.71	63	eP	Pn	22 03 35.9	-2.0
GO05				i S	Sn	22 03 58.8	+0.3
GO05				IAML		22 04 10.6	
	comp=N,542nm,0.5s						
TMU	Temuco	3.07	162	eP	Pn	22 03 57.8	+1.3
TMU				i S	Sn	22 04 32.3	+0.2
LMEL	Las Melosas	3.54	58	eP	Pn	22 04 03.8	+0.8
LMEL				IAML		22 05 02.2	
	comp=E,156nm,0.6s						
CLCH	Cerro Calan	3.60	49	eP	Pn	22 04 03.4	-0.4
ROC1	El Roble	3.63	40	eP	Pn	22 04 01.4	-3.1
ROC1				eS	Sn	22 04 20.4	-26
GO06	Curarrehue	4.20	155	eP	Pn	22 04 13.5	+1.4
AAGR	Agrelo	4.91	58	eP	Pn	22 04 24.4	+2.5
AAGR				eS	Sn	22 04 58.8	-19
ARCO	CERRO ARCO	4.99	55	eP	Pn	22 04 26.1	+3.1
AUSP	Uspallata	5.11	47	eP	Pn	22 04 25.4	+0.7
ASAL	Salagasta	5.21	53	eP	Pn	22 04 27.5	+1.6
RTLS	Leoncito	5.47	44	eP	Pn	22 04 31.1	+1.3
RTLS				IAML		22 06 15.6	
	comp=Z,14nm,0.7s						
RTCV	Cerro Valdivia	5.87	49	eP	Pn	22 04 35.5	+0.4
CFA	Coronel Fontan	6.24	49	eP	Pn	22 04 40.6	+0.5
RTLL	Cerro Villicun	6.29	46	eP	Pn	22 04 40.9	+0.1
RTLL				IAML		22 04 41.7	
	comp=Z,14nm,0.4s						
ACCO	Cerro Coronel	6.54	39	eP	Pn	22 04 45.2	+0.7
AMOG	MOGNA	6.57	44	eP	Pn	22 04 44.6	0.0
AROD	Rodeo	6.69	34	eP	Pn	22 04 48.0	+1.5
MRA	San Martin	7.49	66	eP	Pn	22 04 57.7	+0.3
AGUA	GUANDACOL	7.72	37	eP	Pn	22 05 00.9	+0.5
APLL	PUNTA DE LOS L	8.13	50	eP	Pn	22 05 04.5	-1.6

*ISCJB **02** 22:06:27.4±0.5, 23.08N±0.04×94.24E±0.05, h35km, mb3.8/14, Error ellipse: s-maj=7.5km s-min=5.8km az=156.0*
*NDI **02** 22:06:30.9±2.2, 23.26N×94.21E, h17km±14km, ML3.2*
*IDC **02** 22:06:30.4±2.6, 23.19N×94.31E, h44km±27km, mb3.6/14, mb1 3.8/16, mb1mx3.5/67, mbtmp3.8/16, ML3.7/2, Error ellipse: s-maj=29.4km s-min=13.7km az=51.0*
ISC 02 22:06:29.7±0.7, 23.21N±0.05×94.28E±0.06, h35km, n36, σ1§90/46, mb3.9/14, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAIH	SAIHA	1.39	239	eP	Pn	22 06 55.5	+2.8
SAIH				eS	Sn	22 07 13.7	+3.8
SAIH				IAML		22 07 18.6	
	comp=N,311nm,0.5s						
SAIH				IAML		22 07 18.9	
	comp=E,601nm,0.4s						
AZL	Aizawl	1.55	290	eP	Pn	22 06 57.5	+2.6
AZL				eS	Sn	22 07 17.6	+3.8
BRDH	Bariadhala	2.48	258	P	Pn	22 07 08.2	+0.5
	comp=E,34nm,0.3s,baz=94,slow=11,SNR=4.1						
KOHI	KOHIMA	2.51	357	eP	Pn	22 07 10.6	+2.5
KOHI				eS	Sn	22 07 39.4	+1.8
KOHI				IAML		22 07 48.5	
	comp=E,98nm,0.6s						
KOHI				IAML		22 07 49.0	
	comp=N,72nm,0.3s						
MOKO	MOKOCHONG	3.11	4	eP	Pn	22 07 18.5	+2.1
MOKO				eS	Sn	22 07 55.1	+2.7
MOKO				IAML		22 08 10.0	
	comp=N,67nm,0.5s						
MOKO				IAML		22 08 10.5	
	comp=E,105nm,0.5s						
SHL	Shillong	3.21	318	eP	Pn	22 07 20.0	+2.2
SHL				eS	Sn	22 07 55.5	+0.7
SHL				IAML		22 08 00.2	
	comp=N,50nm,0.2s						
SHL				IAML		22 08 00.3	
	comp=E,73nm,0.3s						
TEZP	TEZPUR	3.65	339	eP	Pn	22 07 26.7	+3.0
TEZP				eS	Sn	22 08 07.1	+1.5
ZIRO	ZIRO	4.32	355	eP	Pn	22 07 35.0	+1.9
ZIRO				eS	Sn	22 08 20.9	-1.4
TAWA	Tawang	4.88	334	eP	Pn	22 07 42.1	+1.2
TAWA				eS	Sn	22 08 34.0	-2.4
TAWA				eS		22 08 35.1	
TAWA				IAML		22 08 42.1	
	comp=N,135nm,0.4s						
TAWA				IAML		22 08 42.1	
	comp=E,150nm,0.2s						
CMAR	Chiang Mai Arr	6.43	136	P	Pn	22 08 01.4	-0.6
	comp=E,0.2nm,0.3s,baz=310,slow=14,SNR=5.1						
GTK	Tadong	6.57	310	eP	Pn	22 08 06.1	+2.2
GTK				eS	Sn	22 09 12.6	-5.1
GTK				IAML		22 09 20.5	
	comp=N,21nm,0.2s						
GTK				IAML		22 09 20.7	
	comp=E,19nm,0.2s						
BOK	Bokaro	7.72	276	eP	Pn	22 08 20.4	+0.7
BOK				eS	Sn	22 09 42.4	-3.6
RAMN	Ramite	7.89	300	eP	Pn	22 08 23.3	+1.1
	comp=E,32nm,0.5s						
JIRN	Jiri	8.55	303	eP	Pn	22 08 31.9	+0.6
	comp=E,26nm,0.4s						
GUN	Gumba	8.91	303	eP	Pn	22 08 37.7	+1.4
	comp=E,7.9nm,0.2s						
PKI	Pulchoki	9.12	300	eP	Pn	22 08 39.8	+0.7
PKIN	Phulchoki	9.13	300	eP	Pn	22 08 39.7	+0.5
	comp=E,12nm,0.5s						
KKN	Kakani	9.32	301	eP	Pn	22 08 43.3	+1.5
	comp=E,4.9nm,0.2s						
DMN	Daman	9.38	300	eP	Pn	22 08 43.7	+1.1
	comp=E,17nm,0.7s						
KOLN	Koldanda	10.66	297	eP	Pn	22 08 59.8	-0.3
	comp=E,9.4nm,0.5s						
DANN	Dangsing	10.77	301	eP	Pn	22 09 01.2	-0.5
	comp=E,14nm,0.6s						
PYUN	Piuthan	11.28	298	eP	Pn	22 09 08.5	-0.2
	comp=E,16nm,0.7s						
AAK	Ala-Archa	25.41	324	P	P	22 11 55.3	+1.2
	comp=E,1.6nm,1.0s,baz=162,slow=9.6,SNR=4.8						
MKAR	Makanchi Array	25.44	341	P	P	22 11 55.3	+1.1
	comp=E,4.1nm,0.7s,baz=150,slow=10.0,SNR=48						
SONM	Songino Array	26.41	19	P	P	22 12 03.9	+0.7
	comp=E,0.6nm,0.7s,baz=199,slow=9.2,SNR=3.9						
KURBB	Kurchatov Arra	29.99	340	P	P	22 12 34.7	-0.1
	comp=E,0.3nm,0.6s,baz=152,slow=8.6,SNR=7.4						
ZALV	Zalesovo Beam	31.52	349	P	P	22 12 47.4	-0.8
	comp=E,0.7nm,0.4s,baz=163,slow=6.0,SNR=4.3						
AKASG	Malin Array Be	56.69	316	P	P	22 16 09.4	-0.2
	comp=E,1.1nm,0.5s,baz=82,slow=5.9,SNR=4.1						
WRA	Warramunga Arr	58.02	134	P	P	22 16 19.1	-0.4
	comp=E,0.6nm,0.6s,baz=322,slow=7.5,SNR=21						
MLR	Muntele Rosu	58.84	310	P	P	22 16 25.9	+0.9
	comp=E,2.4nm,0.7s,baz=210,slow=8.7,SNR=5.8						
FINES	FINESS Array B	59.48	329	P	P	22 16 28.7	-0.3
	comp=E,2.4nm,1.0s,baz=74,slow=12,SNR=2.6						
ASAR	Alice Springs	60.44	138	P	P	22 16 36.0	-0.1
	comp=E,0.7nm,0.7s,baz=322,slow=6.8,SNR=12						
HFS	Hagfors	65.51	327	P	P	22 17 08.5	-0.7
	comp=E,3.1nm,0.8s,baz=69,slow=8.1,SNR=5.4						
NOA	NORSAR Array B	66.65	328	P	P	22 17 16.1	-0.5
	comp=E,0.4nm,0.5s,baz=56,slow=7.9,SNR=3.5						
GERES	GERESS Array B	66.81	315	P	P	22 17 17.5	-0.5
	comp=E,0.7nm,0.6s,baz=79,slow=6.9,SNR=5.9						
ILAR	Eielson Array	80.57	22	P	P	22 18 36.9	-1.4
	comp=E,0.1nm,0.6s,baz=291,slow=5.4,SNR=3.1						

*ISK **02** 22:14:19.9, 40.56N×37.09E, h5km, ML3.7/24*
*ISCJB **02** 22:14:21.0±0.5, 40.60N±0.02×37.10E±0.02, h1km±4km, mb3.3/4, Error ellipse: s-maj=3.4km s-min=2.7km az=3.5*
*DDA **02** 22:14:20.5, 40.58N×37.09E, h16km±1km, ML3.6*
*IDC **02** 22:14:20.6±0.8, 40.76N×37.00E, h0km, mb3.3/4, mb1 3.3/10, mb1mx3.2/53, mbtmp3.2/10, ML3.2/5, MS2.4/1, Ms1 2.4/1, ms1mx1.9/33, Error ellipse: s-maj=16.0km s-min=8.2km az=157.0*
ISC 02 22:14:20.4±1.1, 40.59N±0.02×37.09E±0.02, h4km±9km, n65, σ1§43/84, mb3.3/4, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ERBA	Erbaa	0.27	290	i P	Pb	22 14 27.9	0.0
ERBA				i S	Sb	22 14 31.6	-1.2
TOKT	Tokat	0.50	237	PG	Pg	22 14 30.3	+0.4
TOKT				SG	Sb	22 14 38.4	-0.9
TOKA	Tokat	0.54	240	i P	Pb	22 14 31.3	-1.1
TOKA				i S	Sb	22 14 39.8	-0.7
SVSK	Karacayir	0.68	186	PG	Pg	22 14 33.6	+0.3
ORDU	Ordu-Boztepe	0.71	55	i P	Pb	22 14 35.4	+0.1
ORDU				i S	Sb	22 14 44.8	-0.5
SCER	sogukcermik	0.73	178	IAML_P			
	comp=Z,12μm,0.2s						
SCER				i P	Pb	22 14 35.4	-0.3
SCER				i S	Sb	22 14 45.5	-0.6
CUZAR	Zara_SIVAS	0.87	143	i P	Pb	22 14 38.0	-0.2
CUZAR				i S	Sn	22 14 50.7	-2.1
SAMS	Samsun-Alacam	1.03	319	i S	Sn	22 14 55.4	-1.0
HAVZ	Havza	1.15	295	i P	Pn	22 14 43.0	-0.3
HAVZ				i S	Sn	22 14 59.5	+0.1
ESPY	Espiye-Giresun	1.28	75	PN	Pb	22 14 44.7	-0.4
CUKAN	kangal_SIVAS	1.31	167	i S	Sg	22 15 05.5	+3.2
CUSAR	Sarkisla-SIVAS	1.34	209	i P	Pn	22 14 45.1	-0.8
CUSAR				i S	Sg	22 15 04.6	+1.2
CUALT	Altinyayla-SIV	1.34	191	i P	Pg	22 14 46.4	+0.3
CUALT				i S	Sg	22 15 06.5	+3.1
ILIC	ilic-Erzincan	1.61	135	PN	Pb	22 14 49.6	-1.1
ILIC				SN	Sg	22 15 12.6	+0.6
COAL	Corum-Alaca	1.64	259	i P	Pb	22 14 50.5	-0.7
YOZ	Yozgat	1.66	236	PN	Pb	22 14 50.7	-0.8
YOZ				SN	Sg	22 15 13.9	+0.3
KEMA	Kemaliye	1.71	140	IAML_P			
	comp=Z,7μm,0.1s						
KEMA				i P	Pb	22 14 52.4	0.0
KEMA				i S	Sg	22 15 15.5	+0.4
KELT	Kelkit	1.71	104	i P	Pg	22 14 53.0	-0.2
DIKM	Dikmen	1.74	308	PN	Pb	22 14 52.7	-0.2
DIKM				SN	Sg	22 15 17.3	+1.0
CTAK	Corum_Osmancik	1.75	273	IAML_P			
	comp=Z,4μm,0.4s						
CTAK				i P	Pg	22 14 53.2	-0.7
CTAK				i S	Sg	22 15 16.9	+0.3
REFA	Refahiye_ERZN	1.75	132	IAML_P			
	comp=Z,7μm,0.3s						
REFA				i P	Pn	22 14 47.2	-4.5
GUMT	Gumushane	1.83	93	PN	Pb	22 14 54.0	-0.4
CORM	Corum	1.92	258	PN	Pb	22 14 55.4	-0.7
BNN	Bunyan	1.98	209	PN	Pb	22 14 56.0	-1.1
SNOP	Sinop	2.01	316	PN	Pb	22 14 56.7	-0.8
SINO	SINOP_Merkez	2.01	316	IAML_P			
	comp=Z,7μm,0.2s						
SINO				i P	Pb	22 14 57.6	+0.1
SINO				i S	Sg	22 15 25.4	+0.4
DARE	Darende-Malaty	2.04	171	PN	Pb	22 14 56.4	-1.6
MACK	Trabzon	2.06	79	i P	Pb	22 14 58.4	0.0
MACK				i S	Sg	22 15 26.8	+0.1
KTUT	Trabzon	2.07	78	PN	Pb	22 14 57.7	-0.8
EUZM	Uzumlu	2.18	113	IAML_P			
	comp=Z,2μm,0.3s						
EUZM				i P	Pb	22 15 00.7	+0.2
ERZN	Erzincan	2.25	116	PN	Pb	22 15 00.1	-1.6
CDAG	Cicekdag	2.30	246	IAML_P			
	comp=Z,1μm,0.3s						
CDAG				i P	Pb	22 15 00.2	-2.2
BAYT	Aydıntepe-Bayb	2.33	94	PN	Pb	22 15 01.1	-2.0
AKCD	Akcadag	2.38	164	i P	Pb	22 15 02.9	-1.0
TNCL	Tunceli-Merkez	2.40	127	IAML_P			
	comp=Z,244nm,0.2s						
TNCL				i P	Pg	22 15 05.6	-0.6
BAYB	BAYBURT	2.44	97	i P	Pb	22 15 05.7	+0.7
BAYB				i S	Sg	22 15 38.3	-0.4
PTK	Pertek	2.46	133	PN	Pb	22 15 02.8	-2.4
AVNS	Nevsehir-Avano	2.48	225	i P	Pb	22 15 03.8	-1.9
ILGA	Ilgaz	2.60	281	IAML_P			
	comp=Z,1μm,0.2s						
ILGA				i P	Pb	22 15 05.9	-1.8
CANT	Cankiri	2.64	271	PN	Pn	22 15 04.8	+1.0
KOPT	Kop Dagi	2.67	101	i P	Pg	22 15 10.8	-0.7
KOPT				i S	Sg	22 15 44.3	-1.8
BZK	Bozkurt	2.70	301	PN	Pb	22 15 06.5	-2.7
BRTR	Keskin Array B	2.78	253	Pn	Pn	22 15 06.8	+0.9
	comp=Z,3.7nm,0.3s,baz=79,slow=13,SNR=125						
CHOM	Cayeli-Rize	2.83	79	PN	Pb	22 15 08.5	-3.0
KAMT	Kaman	2.87	246	PN	Pn	22 15 07.9	+0.9
YAYX	Yaylak	3.02	238	PN	Pn	22 15 09.9	+0.9
KMRS	Kahramanmaras	3.08	183	PN	Pn	22 15 11.6	+1.7
SERE	Sereflikochisa	3.18	240	PN	Pn	22 15 12.2	+1.0
AFSR	Afar-Bala (An	3.29	251	PN	Pn	22 15 14.3	+1.5
KARO	Karliova-Bingo	3.30	112	PN	Pn	22 15 15.3	+2.3
ANTO	Ankara	3.37	259	PN	Pn	22 15 15.9	+2.1
LOD	Lodumlu	3.38	259	PN	Pn	22 15 15.9	+1.9
URFA	Urfa	3.42	156	PN	Pn	22 15 16.3	+1.7
KULU	Kulu	3.51	245	PN	Pn	22 15 17.1	+1.3
BCA	Borcka	3.53	75	PN	Pn	22 15 17.6	+1.6
KOPR	Koprukoy-ERZUR	3.69	98	PN	Pn	22 15 19.9	+1.6
KBZ	Khabaz	5.33	52	Pn	Pn	22 15 42.3	+1.6
	comp=Z,0.4nm,0.3s,baz=237,slow=12,SNR=12						
KBZ				Sn	Sn	22 16 43.0	+0.4
	comp=Z,0.2nm,0.3s,baz=207,slow=18,SNR=2.6						
KVAR	Kislovodsk Arr	5.35	49	Pn	Pn	22 15 43.1	+2.0
	baz=258,slow=19,SNR=10						
KVAR				Sn	Sn	22 16 44.6	+1.6
	baz=105,slow=19,SNR=3.3						
GNI	Garni	5.86	92	Pn	Pn	22 15 52.8	+4.6
	comp=Z,0.1nm,0.3s,baz=336,slow=18,SNR=2.4						
GNI				Pg	Pb	22 16 03.5	+0.4
	comp=Z,0.2nm,0.3s,baz=264,slow=5.0,SNR=3.7						
GNI				LR	LR	22 18 23.3	
	comp=Z,33nm,20.4s,baz=329,slow=41						
MMAI	Mount Meron Ar	7.68	191	Pn	Pn	22 16 17.2	+4.2
	comp=Z,0.2nm,0.3s,baz=354,slow=12,SNR=2.7						
AKASG	Malin Array Be	11.50	334	Pn	Pn	22 17 03.1	-2.2
	comp=Z,0.6nm,0.3s,baz=137,slow=13,SNR=3.6						
FINES	FINESS Array B	21.94	346	P	P	22 19 15.2	+0.6
	comp=Z,1.8nm,0.7s,baz=142,slow=9.6,SNR=5.8						
KURBB	Kurchatov Arra	30.31	57	P	P	22 20 33.2	+0.6
	comp=Z,0.3nm,0.5s,baz=275,slow=8.9,SNR=4.2						
TORD	Torodi Ar. Bea	41.31	239	P	P	22 22 09.7	+2.5
	comp=Z,0.4nm,0.9s,baz=129,slow=2.1,SNR=3.5						
YKA	Yellowknife Ar	74.77	347	P	P	22 26 00.1	-1.0
	comp=Z,0.1nm,0.5s,baz=20,slow=5.0,SNR=4.7						

*ISCJB **02** 22:19:36.8±1.1, 50.05N±0.04×88.18E±0.10, h11km, Error ellipse: s-maj=9.3km s-min=5.4km az=16.8*

*MOS **02** 22:19:36.1±2.9, 49.°82N×88.°26E, h15km, mb4.1/1, Error ellipse: s-maj=17.2km s-min=14.9km az=105.6*
*ASRS **02** 22:19:36.1±0.9, 49.°82N×88.°26E, h15km, Ms2.8/1*
*NNC **02** 22:19:38.4±1.6, 49.°92N×88.°14E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=13.4km s-min=8.2km az=94.0*
ISC 02 22:19:38.9±1.6**, 50.°00N**±0.°05×**88.°19E**±0.°09**, h11**km**, n22,** σ**1.s96**/40**, 20C-4D, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UKR	Ust'-Kan	2.38	295	ePg	Pb	22 20 21.0	-0.7
UKR				eSg	Sb	22 20 54.1	+3.0
UKR	Ust'-Kan	2.38	295	ePN	Pb	22 20 21.0	-0.7
UKR				e		22 20 54.1	
TASR	Tashtagol	2.78	356	ePg	Pb	22 20 29.9	+1.4
TASR				eSg	Sg	22 21 07.9	-0.1
TASR	Tashtagol	2.78	356	ePN	Pb	22 20 29.9	+1.4
TASR				e		22 21 07.9	
ZAA0	Zalesovo Array	4.47	334	⇑Pn	Pn	22 20 47.8	+1.2
	2.7nm,0.6s						
ZAA0				⇑Lg	Lg	22 22 02.0	
	35nm,0.8s						
MK31	Makanchi Array	5.07	233	⇑Pn	Pn	22 20 55.2	+0.4
	1.2nm,0.3s,baz=54,slow=14						
MK31				⇓Pg	Pb	22 21 08.4	+0.9
	7.2nm,0.6s,baz=51,slow=17						
MK31				⇑Sn	Sn	22 21 55.2	+1.9
	3.4nm,0.3s,baz=52,slow=20						
MK31				⇑Lg	Lg	22 22 15.7	
	8.3nm,0.4s,baz=46,slow=29						
MK31	Makanchi Array	5.07	233	PN	Pn	22 20 55.2	+0.4
MK31				PG	Pb	22 21 08.4	+0.9
MK31				S	Sn	22 21 55.2	+1.9
MK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MK31				smax	smax		
	comp=N,3.0nm,0.4s						
MAKZ	Makanchi	5.22	235	⇑Pn	Pn	22 20 58.2	+1.3
	comp=N,2.5nm,0.4s						
MAKZ				⇑Pg	Pb	22 21 09.7	-0.5
	comp=N,2.2nm,0.3s						
MAKZ				⇑Sn	Sn	22 21 57.9	+0.8
	comp=N,3.5nm,0.4s						
MAKZ				⇓Lg	Lg	22 22 20.7	
	comp=N,7.0nm,0.8s						
MAKZ	Makanchi	5.22	235	PN	Pn	22 20 58.2	+1.3
MAKZ				PG	Pb	22 21 09.7	-0.5
MAKZ				S	Sn	22 21 57.9	+0.8
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MAKZ				smax	smax		
	comp=N,3.0nm,0.4s						
NVS	Novosibirsk	5.72	330	ePg	Pg	22 21 24.2	-4.2
NVS				eSg	Sg	22 22 40.1	-2.3
NVS	Novosibirsk	5.72	330	ePN	Pg	22 21 24.2	-4.2
NVS				e		22 22 11.4	
KURK	Kurchatov	6.17	280	⇑Pn	Pn	22 21 10.6	+0.8
	comp=N,3.4nm,0.5s						
KURK				⇑Sn	Sn	22 22 23.3	+3.0
	comp=N,11nm,0.6s						
KURK				⇑Lg	Lg	22 22 53.1	
	comp=N,12nm,0.5s						
KURK	Kurchatov	6.17	280	PN	Pn	22 21 10.6	+0.8
KURK				S	Sn	22 22 23.3	+3.0
KURK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KURK				smax	smax		
	comp=N,11nm,0.6s						
KURBB	Kurchatov Arra	6.22	279	⇑Pn	Pn	22 21 11.3	+0.8
	comp=N,5.9nm,0.6s						
KURBB				⇑Sn	Sn	22 22 24.0	+2.5
	comp=N,20nm,0.5s						
KURBB				⇑Lg	Lg	22 22 55.4	
	comp=N,73nm,0.7s						
PDGK	Podgornoye	8.95	225	⇑Pn	Pn	22 21 46.3	-1.9
	comp=N,3.4nm,1.1s						
PDGK				⇓Lg	Lg	22 24 21.9	
	comp=N,6.3nm,0.8s						
PDGK	Podgornoye	8.95	225	P	Pn	22 21 46.3	-1.9
PDGK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
OTUK	Ortayu	10.54	267	⇑Pn	Pn	22 22 08.4	-1.4
	comp=Z,1.4nm,0.6s						
OTUK				⇑Lg	Lg	22 25 12.5	
	comp=Z,8.5nm,1.0s						
OTUK	Ortayu	10.54	267	P	Pn	22 22 08.4	-1.4
OTUK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVA0	Borovoye Array	11.50	292	⇑Pn	Pn	22 22 23.7	+0.8
	comp=Z,0.6nm,0.7s,baz=108,slow=15,SNR=8.2						
BVA0				⇑Sn	Sn	22 24 31.0	-0.1
	comp=Z,1.7nm,0.7s,baz=104,slow=23,SNR=3.4						
BVA0	Borovoye Array	11.50	292	P	Pn	22 22 23.7	+0.8
BVA0				S	Sn	22 24 31.4	+0.3
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVA0				smax	smax		
	comp=N,2.0nm,0.7s						
BRVK	Borovoye	11.56	292	⇓Pn	Pn	22 22 27.5	+3.7
	comp=N,2.1nm,0.8s						
BRVK				⇑Sn	Sn	22 24 34.5	+1.7
	comp=N,2.5nm,0.9s						
BRVK	Borovoye	11.56	292	P	Pn	22 22 27.5	+3.7
BRVK				S	Sn	22 24 34.5	+1.7
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK				smax	smax		
	comp=N,2.0nm,0.9s						

IDC 02 22:21:58.4±6.4**, 61.°69S**×**155.°71E, h0**km**, mb3.4**/2**, mb1 3.7**/3**, mb1mx3.6**/33**, mbtmp3.4**/3**, ML3.5**/1**, MS3.1**/2**, Ms1 3.1**/2**, ms1mx2.8**/10**, Error ellipse: s-maj=387.1km s-min=40.3km az=75.0, Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	16.03	175	Pn	Pn	22 25 44.8	0.0
	0.2nm,0.3s,baz=350,slow=12,SNR=9.5						
VNDA				LR	LR	22 31 23.1	
	comp=Z,37nm,19.3s,baz=304,slow=35						
URZ	Urewera	26.94	39	LR	LR	22 37 46.0	
	comp=Z,59nm,20.6s,baz=292,slow=35						
H01W1	Cape Leeuwin H	37.45	296	T	T	23 08 22.6	
	baz=148,slow=75,SNR=8.5						
H01W2	Cape Leeuwin H	37.46	296	T	T	23 08 22.6	
	baz=148,slow=75,SNR=9.1						
H01W3	Cape Leeuwin H	37.47	296	T	T	23 08 24.5	
	baz=148,slow=75,SNR=10						
ASAR	Alice Springs	40.82	329	P	P	22 29 41.1	-0.4
	0.4nm,0.7s,baz=167,slow=8.6,SNR=4.3						
WRA	Warramunga Arr	44.30	331	P	P	22 30 09.9	+0.2
	0.5nm,1.1s,baz=163,slow=7.2,SNR=5.3						

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*NIED **02** 22:37:00, 37.°60N×143.°60E, h5km, Mw3.9 Best double couple: M₀8.40000×10^14 NP1:φs18.00000°, δ43.00000°, λ-99.00000°. NP2:φs211.00000°, δ47.00000°, λ-82.00000°.*
*IDC **02** 22:37:31.8±0.8, 37.°51N×143.°70E, h0km, mb4.0/13, mb1 4.1/17, mb1mx3.9/49, mbtmp4.0/17, ML4.1/3, MS3.0/5, Ms1 3.0/5, ms1mx2.8/29, Error ellipse: s-maj=22.4km s-min=16.1km az=99.0*
*ISCJB **02** 22:37:35.0±0.4, 37.°59N±0.°03×143.°64E±0.°04, h33km, mb4.0/17, MS3.0/2, Error ellipse: s-maj=4.9km s-min=4.2km az=18.5*
*JMA **02** 22:37:35.1±0.2, 37.°62N×143.°62E, h54km, M4.0*
*NEIC **02** 22:37:37.2±0.4, 37.°55N×143.°71E, h35km, mb4.5/3, Error ellipse: s-maj=7.6km s-min=5.5km az=117.0*
ISC 02 22:37:37.1±0.8**, 37.°62N**±0.°04×**143.°56E**±0.°08**, h35**km**, n57,** σ**1.s86**/54**, mb4.1**/17**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.80	293	P	Pn	22 38 05.2	-0.4
JIO	Ouri	1.94	296	P	Pn	22 38 07.1	-0.4
JIO				eS	Sn	22 38 30.9	+0.2
JKMT	Kesennumamotoy	2.03	307	P	Pn	22 38 08.1	-0.7
JKMT				eS	Sn	22 38 32.8	-0.2
OFUJ	Ofunato	2.09	315	P	Pn	22 38 08.7	-0.9
OFUJ				eS	Sn	22 38 33.5	-0.8
JMK	Ichinoseki	2.28	307	P	Pn	22 38 11.7	-0.5
JFT	Otama	2.57	269	P	Pn	22 38 16.7	+0.5
JFT				S	Sn	22 38 47.0	+0.8
JOM	Ohasama	2.57	317	P	Pn	22 38 15.9	-0.3
JOM				S	Sn	22 38 46.0	-0.3
JYK	Kaneyama	2.84	298	P	Pn	22 38 20.5	+0.6
JYK				eS	Sn	22 38 54.3	+1.4
JANG	Nango	3.18	331	P	Pn	22 38 24.5	-0.2
JAG	Ashikaga	3.50	251	P	Pn	22 38 29.2	+0.2
BSO1	Boso 1	3.62	216	P	Pn	22 38 29.1	-1.1
BSO1				eS	Sn	22 39 11.3	-0.1
JRY	Ryogami san	4.07	248	P	Pn	22 38 36.6	-0.2
JRY				eS	Sn	22 39 21.0	-2.2
JOD2	Odawara 2	4.30	238	P	Pn	22 38 39.4	-0.7
JOD2				eS	Sn	22 39 26.1	-3.0
ERM	Erimo	4.41	356	ePn	Pn	22 38 40.9	-0.5
ERM				eSn	Sn	22 39 29.5	-1.9
MJAR	Matsushiro Arr	4.41	258	Pn	Pn	22 38 42.8	+1.2
	7.9nm,0.3s,baz=78,slow=7.1,SNR=62						
MJAR				Sn	Sn	22 39 36.0	+4.2
	3.2nm,0.3s,baz=73,slow=24,SNR=5.2						
MJAR				LR	LR	22 40 38.3	
	comp=Z,152nm,19.0s,baz=85,slow=42						
MAJO	Matsushiro	4.42	258	ePn	Pn	22 38 43.7	+2.1
MAJO				eSn	Sn	22 39 36.0	+4.2
MAT	Matsushiro	4.42	258	P	Pn	22 38 43.5	+1.9
MAT				eS	Sn	22 39 31.5	-0.3
MJB9	Matsu-Tunnel	4.42	258	ePn	Pn	22 38 43.7	+2.1
JCH	Churui	5.00	358	P	Pn	22 38 47.6	-1.9
JCH				eS	Sn	22 39 39.9	-6.1
JHJ2	Mitsune	5.44	215	ePn	Pn	22 38 54.8	-0.9
JHJ2				eSn	Sn	22 39 52.2	-4.7
JHJ	Hachijo jima 2	5.45	216	Pn	Pn	22 38 53.4	-2.4
	25nm,0.3s,baz=268,slow=23,SNR=9.5						
JHJ				Sn	Sn	22 39 51.1	-6.1
	34nm,0.3s,baz=253,slow=19,SNR=4.4						
INU	Inuyama	5.74	249	ePn	Pn	22 39 01.5	+1.7
ASAJ	Asahikawa	6.54	354	Pn	Pn	22 39 10.7	0.0
	3.7nm,0.3s,baz=228,slow=4.5,SNR=6.7						
ASAJ				Sn	Sn	22 40 25.3	+1.3
	2.1nm,0.3s,baz=269,slow=30,SNR=6.1						
CBIJ	Chichi jima	10.55	187	ePn	Pn	22 39 59.9	-6.0
CBIJ				eSn	Sn	22 41 47.8	-15
USA0B	Ussuriysk Arra	10.95	311	ePn	Pn	22 40 13.1	+2.0
USRK	Ussuriysk Ar.	10.95	311	Pn	Pn	22 40 13.1	+2.0
	0.5nm,0.3s,baz=108,slow=15,SNR=7.7						
USRK				LR	LR	22 44 22.5	
	comp=Z,103nm,18.0s,baz=192,slow=37						
KSRS	Korea Array	12.42	274	LR	LR	22 45 09.4	
	comp=Z,44nm,21.5s,baz=35,slow=36						
SONA0	Songino Array	28.90	303	eP	P	22 43 32.5	-0.2
SONM	Songino Array	28.90	303	P	P	22 43 32.5	-0.2
	0.3nm,0.4s,baz=96,slow=8.5,SNR=4.7						
SONM				LR	LR	22 55 18.9	
	comp=Z,42nm,19.0s,baz=341,slow=37						
ZAA1	Zalesovo Array	42.80	312	eP	P	22 45 31.9	+0.7
ZAA1				ePcP	PcP	22 47 22.2	+0.3
ZALV	Zalesovo Beam	42.80	312	P	P	22 45 31.9	+0.7
	0.6nm,0.5s,baz=108,slow=9.5,SNR=3.7						
ZALV				PcP	PcP	22 47 22.2	+0.3
	1.4nm,0.5s,baz=75,slow=2.2,SNR=6.9						
CMAR	Chiang Mai Arr	43.30	256	P	P	22 45 34.9	-0.8
	1.4nm,0.3s,baz=45,slow=6.9,SNR=5.7						
MK01	Makanchi Array	45.26	302	eP	P	22 45 52.6	+1.6
MK31	Makanchi Array	45.26	302	eP	P	22 45 52.8	+1.7
MK32	Makanchi Array	45.26	302	eP	P	22 45 52.7	+1.6
MKAR	Makanchi Array	45.26	302	P	P	22 45 52.7	+1.6
	1.5nm,0.7s,baz=87,slow=9.7,SNR=19						
KURK	Kurchatov	46.92	308	eP	P	22 46 05.4	+1.4
	6.9nm,0.8s						
ILAR	Eielson Array	48.08	33	P	P	22 46 13.2	+0.4
	0.6nm,0.8s,baz=263,slow=5.6,SNR=6.6						
ILB	Eielson Array	48.08	33	eP	P	22 46 13.2	+0.4
WB2	Warramunga Arr	57.90	190	eP	P	22 47 25.2	-0.4
WRA	Warramunga Arr	57.91	190	P	P	22 47 24.9	-0.8
	2.5nm,0.7s,baz=10,slow=7.3,SNR=15						
ABKAR	Akbulak array	58.87	310	eP	P	22 47 33.2	+1.0
AS31	Alice Springs	61.63	190	eP	P	22 47 51.1	-0.2
	0.6nm,0.8s						
ASAR	Alice Springs	61.63	190	P	P	22 47 51.1	-0.2
	1.4nm,0.9s,baz=12,slow=7.3,SNR=9.7						
YKA	Yellowknife Ar	62.44	31	P	P	22 47 56.4	+0.2
	0.1nm,0.7s,baz=301,slow=7.2,SNR=3.3						
YKB5	Yellowknife Ar	62.44	31	eP	P	22 47 56.4	+0.2
ARA0	ARCESS Array S	64.05	340	eP	P	22 48 08.6	+1.8
ARCES	ARCESS Array B	64.05	340	P	P	22 48 08.6	+1.8
	2.0nm,0.9s,baz=60,slow=13,SNR=3.6						
GEYT	Alibeck	65.05	300	P	P	22 48 15.6	+1.6
	2.1nm,0.8s,baz=116,slow=9.8,SNR=3.6						
FIA0	FINESS Array S	69.09	333	eP	P	22 48 40.3	+1.2
FINES	FINESS Array B	69.09	333	P	P	22 48 40.3	+1.2
	3.2nm,1.0s,baz=64,slow=9.3,SNR=4.6						
KIV	Kislovodsk	71.81	312	eP	P	22 48 57.4	+1.2
	5.0nm,0.7s						
KBZ	Khabaz	71.81	311	P	P	22 48 57.6	+1.6
	2.6nm,0.8s,baz=16,slow=15,SNR=11						
HFS	Hagfors	74.25	336	P	P	22 49 10.2	+0.1
	0.8nm,0.5s,baz=72,slow=9.5,SNR=6.0						
NOA	NORSAR Array B	74.30	338	LR	LR	23 25 44.5	
	comp=Z,7.4nm,18.6s,baz=280,slow=39						
AKASG	Malin Array Be	74.87	323	P	P	22 49 14.2	+0.2
	1.3nm,0.6s,baz=44,slow=6.0,SNR=8.5						
CLL	Collm	81.43	331	eP	P	22 49 52.0	+1.7

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*TIR **02** 22:50:44.3, 41.°22N×19.°25E, h7km, Md2.6/2*
ISC 02 22:50:45.7±2.5**, 41.°3N**±0.°1×**19.°27E**±0.°09**, h11**km**, n3,** σ**0.s81**/6**, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.45	81	i PG	Pg	22 50 54.0	-0.6
TIR				i SG	Sg	22 51 01.3	+0.7
PUK	Puka	0.90	31	i PG	Pg	22 51 03.0	0.0
PUK				i SG	Sn	22 51 17.0	-0.3
STON	Ston	1.98	324	ePn	Pn	22 51 19.7	+0.6
STON				Sn	Sb	22 51 45.6	-0.8

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*IDC **02** 22:58:00.9±1.0, 53.°14S×22.°20E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.8/29, mbtmp4.0/6, MS3.5/3, Ms1 3.5/3, ms1mx3.1/27, Error ellipse: s-maj=37.3km s-min=28.1km az=36.0*
ISC 02 22:58:02.0±1.1**, 53.°0S**±0.°2×**22.°3E**±0.°2**, h10**km**, n15,** σ**0.s94**/13**, mb4.1**/6**, MS3.5**/3**, South of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	Neumayer--Watz	22.33	205	P	P	23 03 01.0	+1.5
	baz=31,slow=10						
VNA1	Neumayer--Stat	22.39	206	P	P	23 03 01.5	+1.4
VNA3	Neumayer Olymp	23.12	206	P	P	23 03 08.4	+0.7
BOSA	Boshof	24.45	6	LR	LR	23 11 16.5	
	comp=Z,74nm,20.1s,baz=208,slow=32						
QSPA	South Pole Qui	37.24	180	P	P	23 05 13.1	-0.4
	4.0nm,0.7s,baz=242,slow=4.7,SNR=9.5						
VNDA	Vanda	47.36	169	P	P	23 06 34.8	-0.7
	0.5nm,0.8s,baz=212,slow=9.9,SNR=3.1						
VNDA				LR	LR	23 25 52.6	
	comp=Z,48nm,18.5s,baz=210,slow=35						
PLCA	Paso Flores	60.32	241	P	P	23 08 09.9	-0.9
	2.4nm,0.8s,baz=197,slow=7.6,SNR=3.0						
CPUP	Villa Florida	63.29	261	P	P	23 08 30.2	-0.7
	3.3nm,1.1s,baz=162,slow=8.1,SNR=3.3						
ASAR	Alice Springs	83.48	121	P	P	23 10 30.0	0.0
	1.0nm,1.0s,baz=222,slow=4.6,SNR=5.5						
URZ	Urewera	86.54	160	LR	LR	23 48 48.5	
	comp=Z,42nm,19.4s,baz=70,slow=35						
WRA	Warramunga Arr	86.77	119	P	P	23 10 46.6	+0.1
	0.9nm,1.0s,baz=208,slow=3.6,SNR=4.9						
SONM	Songino Array	123.16	53	PKP	PKPdf	23 16 58.3	+0.2
	0.2nm,0.5s,baz=275,slow=2.9,SNR=4.9						
PDAR	Pinedale Array	146.70	272	PKPbc	PKPbc	23 17 43.3	-0.3
	0.5nm,0.7s,baz=107,slow=5.0,SNR=4.2						
NVAR	Mina Array Bea	149.29	258	PKPbc	PKPbc	23 17 51.5	+0.9
	1.2nm,0.8s,baz=148,slow=4.3,SNR=5.7						
YKA	Yellowknife Ar	155.55	310	PKPab	PKPab	23 18 21.7	+1.1
	0.8nm,0.9s,baz=97,slow=5.0,SNR=9.0						

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*NIED **02** 23:17:00, 37.°70N×143.°60E, h5km, Mw4.4 Best double couple: M₀4.43000×10^15 NP1:φs18.00000°, δ41.00000°, λ-97.00000°. NP2:φs207.00000°, δ49.00000°, λ-84.00000°.*
*IDC **02** 23:17:52.8±0.5, 37.°50N×143.°76E, h0km, mb4.3/23, mb1 4.4/30, mb1mx4.4/46, mbtmp4.3/30, ML4.2/5, MS3.6/13, Ms1 3.6/13, ms1mx3.3/36, Error ellipse: s-maj=14.6km s-min=12.0km az=132.0*
*ISCJB **02** 23:17:54.5±0.9, 37.°66N±0.°03×143.°59E±0.°03, h13km±5km, mb4.5/96, MS4.0/17, Error ellipse: s-maj=5.0km s-min=3.8km az=160.4*
*BJI **02** 23:17:55.6, 37.°70N×143.°97E, h39km, mb4.6/57, mB5.0/33, Ms4.5/27, Ms7 4.2/22*
*MOS **02** 23:17:56.7±1.0, 37.°89N×143.°52E, h21km, mb4.9/31, Error ellipse: s-maj=8.7km s-min=5.3km az=117.7*
*JMA **02** 23:17:56.2±0.2, 37.°66N×143.°61E, h46km, M4.7*
*NEIC **02** 23:17:58.4±0.3, 37.°54N×143.°67E, h35km, mb4.7/33, Error ellipse: s-maj=6.5km s-min=4.2km az=144.0*
ISC 02 23:17:57.4±0.7**, 37.°65N**±0.°05×**143.°73E**±0.°05**, h28**km±4km**, n265,** σ**2.s06**/309**, mb4.6**/109**, MS3.9**/17**, 23C-23D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.91	291	P	Pn	23 18 26.1	-1.9
JIKH				S	Sn	23 18 47.7	-3.4
JIO	Ouri	2.05	294	P	Pn	23 18 28.1	-1.8
JIO				eS	Sn	23 18 51.2	-3.3
JKMT	Kesennumamotoy	2.12	304	P	Pn	23 18 29.1	-1.8
JKMT				S	Sn	23 18 53.1	-3.3
OFUJ	Ofunato	2.16	312	P	Pn	23 18 29.6	-1.9
OFUJ				S	Sn	23 18 54.4	-2.9
JMK	Ichinoseki	2.37	304	P	Pn	23 18 32.6	-1.7
JMK				S	Sn	23 19 00.5	-1.9
JOM	Ohasama	2.64	314	P	Pn	23 18 36.7	-1.4
JOM				S	Sn	23 19 07.0	-2.2
JFT	Otama	2.70	268	P	Pn	23 18 37.8	-1.1
JFT				S	Sn	23 19 08.0	-2.7
JYK	Kaneyama	2.94	296	P	Pn	23 18 41.1	-1.1
JYK				eS	Sn	23 19 14.9	-1.7
JANG	Nango	3.22	328	P	Pn	23 18 44.7	-1.4
JNS	Sasagawa	3.50	274	eS	Sn	23 19 28.3	-2.2
JAW	Awa shima	3.63	284	P	Pn	23 18 51.6	-0.1
JAG	Ashikaga	3.64	252	P	Pn	23 18 49.8	-2.0
JAG				eS	Sn	23 19 29.5	-4.2
BSO1	Boso 1	3.73	218	P	Pn	23 18 50.0	-2.6
BSO1				S	Sn	23 19 32.5	-2.8
JRY	Ryogami san	4.21	249	P	Pn	23 18 57.6	-2.0
JRY				S	Sn	23 19 42.7	-5.1
JOT	Ohata	4.26	332	P	Pn	23 18 59.8	-0.6
JOT				eS	Sn	23 19 45.1	-4.1
ERM	Erimo	4.38	354	ePn	Pn	23 19 01.6	-0.4
ERM				eSn	Sn	23 19 47.3	-4.8
ERM	Erimo	4.38	354	i P	Pn	23 19 01.4	-0.6
JOD2	Odawara 2	4.44	239	P	Pn	23 19 00.4	-2.4
JOD2				S	Sn	23 19 48.5	-5.1
MJAR	Matsushiro Arr	4.55	258	Pn	Pn	23 19 04.0	-0.4
	24nm,0.3s,baz=90,slow=15,SNR=184						
MJAR				Sn	Sn	23 19 55.7	-0.7
	8.7nm,0.3s,baz=34,slow=13,SNR=5.2						
MJAR				LR	LR	23 21 08.0	
	comp=Z,828nm,18.1s,baz=90,slow=43						
MAJO	Matsushiro	4.55	258	ePn	Pn	23 19 04.4	-0.1
MAJO				eSn	Sn	23 19 48.4	-8.0
MAJO	Matsushiro	4.55	258	i P	Pn	23 19 04.3	-0.1
MAT	Matsushiro	4.55	258	P	Pn	23 19 04.3	-0.1
MAT				eS	Sn	23 19 52.6	-3.8
MJB9	Matsu-Tunnel	4.56	258	ePn	Pn	23 19 04.7	+0.3
MJB9				eSn	Sn	23 19 48.2	-8.2
JKB	Kayabe	4.71	335	P	Pn	23 19 06.3	-0.3
JKB				eS	Sn	23 19 55.5	-4.8
JCH	Churui	4.96	357	P	Pn	23 19 08.4	-1.6
JCH				S	Sn	23 20 01.1	-5.4
JHJ2	Mitsune	5.54	216	ePn	Pn	23 19 15.1	-2.9
JHJ2				eSn	Sn	23 20 10.9	-10
JHJ2	Mitsune	5.54	216	P	Pn	23 19 14.9	-3.1
JHJ	Hachijo jima 2	5.55	217	Pn	Pn	23 19 14.2	-4.0
	76nm,0.3s,baz=358,slow=21,SNR=20						
JHJ				Sn	Sn	23 20 12.7	-8.3
	108nm,0.3s,baz=247,slow=23,SNR=4.9						
INU	Inuyama	5.88	249	ePn	Pn	23 19 22.7	+0.1
ASAJ	Asahikawa	6.52	353	Pn	Pn	23 19 31.1	-0.3
	9.9nm,0.3s,baz=189,slow=6.1,SNR=21						
ASAJ				Sn	Sn	23 20 44.1	-0.5
	2.4nm,0.3s,baz=180,slow=29,SNR=4.0						
YUK	Yuzh-Kuril'sk	6.58	14	eP	Pn	23 19 30.0	-2.1
YUK				eS	Sn	23 20 40.2	-5.9
YUK				pmax	pmax		
	comp=Z,108nm,0.5s						
SHO	Shikotan	6.64	20	eP	Pn	23 19 29.8	-3.2
SHO				eS	Sn	23 20 39.8	-7.9
SHO				pmax	pmax		
	comp=Z,55nm,0.5s						
SHO				smax	smax		
	comp=N,221nm,0.4s						
SHO				smax	smax		
	comp=E,137nm,0.4s						
KUR	Kuril'sk	8.19	21	eP	Pn	23 19 51.4	-2.8
KUR				eS	Sn	23 21 18.2	-7.5
KUR				pmax	pmax		
	comp=Z,40nm,0.4s						
TEY	Ternei	9.12	326	⇑eP	Pn	23 20 09.6	+2.6
TEY				pmax	pmax		
	comp=Z,30nm,0.6s						
TEY				pmax	pmax		
	comp=N,20nm,0.7s						
YSS	Yuzh-Sakhalins	9.32	356	eP	Pn	23 20 18.4	+8.6
CBIJ	Chichi jima	10.61	188	ePn	Pn	23 20 21.6	-5.9
CBIJ				Sn	Sn	23 22 02.6	-23
JCJ	Chichijima	10.61	188	Pn	Pn	23 20 15.2	-12
	comp=N,9.0nm,0.3s,baz=281,slow=22,SNR=12						
JCJ				Sn	Sn	23 22 02.6	-23
	comp=N,25nm,0.3s,baz=279,slow=23,SNR=10.0						
USA0B	Ussuriysk Arra	11.03	310	ePn	Pn	23 20 29.6	-3.6
USRK	Ussuriysk Ar.	11.03	310	Pn	Pn	23 20 33.6	+0.5
	comp=N,0.7nm,0.3s,baz=109,slow=14,SNR=9.7						
USRK				LR	LR	23 24 43.2	
	comp=N,479nm,18.2s,baz=132,slow=37						
JNU	Nakatsue	11.42	251	Pn	Pn	23 20 36.7	-1.9
	comp=N,0.4nm,0.3s,baz=51,slow=9.9,SNR=4.8						
KSRS	Korea Array	12.55	274	Pn	Pn	23 20 53.6	-0.4
	comp=N,0.3nm,0.3s,baz=86,slow=13,SNR=11						
KSRS				LR	LR	23 25 38.5	
	comp=N,298nm,18.8s,baz=66,slow=37						
KSAR	Wonju Array Be	12.58	274	Pn	Pn	23 20 53.6	-0.8
KSAR	Wonju Array Be	12.58	274	P	Pn	23 20 53.7	-0.8
MDJ	Mudanjiang	12.72	308	P	Pn	23 20 57.9	+1.6
MDJ				pmax	pmax		
	comp=N,5.0nm,1.4s						
MDJ				pmax	pmax		
	comp=N,440nm,3.0s						
KLR	Kul'dur	14.46	327	Pn	Pn	23 21 16.6	-3.3
	comp=N,0.2nm,0.3s,baz=132,slow=14,SNR=12						
KLR				LR	LR	23 26 46.8	
	comp=N,148nm,18.8s,baz=145,slow=37						
PETK	Petropavlovsk-	18.25	28	P	Pn	23 22 07.8	-0.6
	baz=205,slow=6.4,SNR=2.3						
PETK				LR	LR	23 28 57.9	
	comp=N,54nm,21.4s,baz=157,slow=36						
ZEA	Zeya	19.70	330	eP	P	23 22 24.4	+0.1
ZEA				pmax	pmax		
	comp=N,56nm,1.4s						
ZEA				pmax	pmax		
	comp=Z,85nm,1.6s						
ZEA				MLR	MLR		
	comp=Z,500nm,16.0s						
ZEA				MLR	MLR		
	comp=N,500nm,15.0s						
HIA	Hailar	20.83	312	eP	P	23 22 35.2	-1.5
HIA	Hailar	20.83	312	eP	P	23 22 35.2	-1.5
NJ2	Nanjing	21.14	262	eP	P	23 22 40.1	+0.1
NJ2				pmax	pmax		
	comp=N,13nm,0.5s						
TIA	Tai'an	21.30	274	P	P	23 22 40.7	-1.1
TIA				pmax	pmax		
	comp=N,10.0nm,1.2s						
BJI	Beijing	21.57	285	⇑eP	P	23 22 45.1	+0.6
BJI				pmax	pmax		
	comp=N,10.0nm,1.3s						
BJT	Baijiatuau	21.57	285	eP	P	23 22 44.6	0.0
	comp=N,3.6nm,0.4s						
BJT	Baijiatuau	21.57	285	eP	P	23 22 44.6	0.0
BJT				pmax	pmax		
	comp=Z,4.0nm,0.4s						
TATO	Taipei	22.76	243	eP	P	23 22 54.1	-3.3
TPUB	Ta-pu	24.43	241	eP	P	23 23 12.1	-1.6
	comp=Z,35nm,0.8s						

HHC Hu-ho-hao-te 25.04 287 *e*P **P** **23 23 20.1 +0.9**
HHC S **S** **23 27 48.2 +6.5**
HHC pmax pmax
comp=Z,16nm,1.0s
HHC pmax pmax
comp=Z,200nm,5.2s
HHC LR LR
comp=Z,230nm,10.5s
HHC LR LR
comp=Z,450nm,13.4s
HHC LR LR
comp=Z,430nm,13.0s
WHN Wuhan 25.28 262 P **P** **23 23 23.4 +2.1**
WHN pP **sP** **23 23 31.9 +1.7**
SEY Seymchan 25.86 9 P **P** **23 23 26.8 +0.6**
comp=Z,3.7nm,0.6s,baz=13,slow=9.9,SNR=6.4
SEY Seymchan 25.86 9 *i* P **P** **23 23 27.3 +1.1**
YAK Yakutsk 25.91 345 *e*P **P** **23 23 25.6 -1.1**
YAK *e**PP **pP** **23 23 33.2 +0.1**
YAK *e*S **S** **23 27 55.3 +0.4**
YAK *e*SS **SnSn** **23 28 51.2 -1.2**
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.3s
YAK smax smax
comp=N,272nm,5.4s
YAK smax smax
comp=E,334nm,6.8s
YAK MLR MLR
comp=Z,268nm,14.0s
YAK MLR MLR
comp=N,180nm,13.0s
YAK MLR MLR
comp=E,182nm,15.0s
BTO Baotou 26.23 287 *e*P **P** **23 23 31.8 +1.8**
BOD Bodaibo 28.03 326 *e*P **P** **23 23 45.4 -0.4**
BOD pmax pmax
comp=Z,22nm,1.7s
XAN Xi'an 28.35 273 P **P** **23 23 50.8 +1.8**
XAN pP pwP 23 24 02.7 -0.4
XAN sP sP 23 24 07.0 +9.1
XAN S **S** **23 28 31.6 -2.4**
XAN sS sS 23 28 51.7 +6.8
XAN pmax pmax
comp=Z,9.0nm,0.8s
XAN pmax pmax
comp=Z,63nm,4.7s
XAN LR LR
comp=Z,360nm,15.2s
XAN LR LR
comp=Z,250nm,14.1s
ULN Ulaanbaatar 28.56 303 *e*P **P** **23 23 50.2 -0.6**
comp=Z,6.7nm,1.1s
ULN *e*PcP **PcP** **23 27 01.1 -0.5**
ULN Ulaanbaatar 28.56 303 *ce*P **P** **23 23 51.2 +0.4**
ULN pmax pmax
comp=Z,8.0nm,1.3s
SONA1 Songino Array 28.99 303 *e*P **P** **23 23 55.5 +0.9**
SONM Songino Array 28.99 303 P **P** **23 23 55.9 +1.2**
comp=Z,1.0nm,0.4s,baz=100,slow=8.7,SNR=13
SONM PcP **PcP** **23 27 02.4 -0.3**
comp=Z,0.6nm,0.6s,baz=126,slow=3.4,SNR=5.5
SONM LR LR 23 35 41.9
comp=Z,111nm,19.5s,baz=344,slow=37
ENH Enshi 29.23 266 *e*P **P** **23 23 57.8 +1.0**
comp=Z,30nm,0.9s
ENH *e*PP **PP** **23 24 58.6 -4.3**
ZAK Zakamensk 31.36 307 *e*P **P** **23 24 15.6 +0.1**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
LZH Lanzhou 31.79 280 *e*P **P** **23 24 19.0 -0.5**
LZH pP pwP 23 24 32.6 -0.5
LZH sP sP 23 24 37.9 +9.4
LZH pmax pmax
comp=Z,21nm,1.6s
LZH LR LR
comp=Z,530nm,13.0s
LZH LR LR
comp=Z,450nm,13.6s
LZH LR LR
comp=Z,620nm,15.7s
BILL Bilibino 32.93 15 *ce*P **P** **23 24 30.8 +1.9**
BILL pmax pmax
comp=Z,3.0nm,1.0s
CD2 Chengdu 33.52 271 *e*P **P** **23 24 33.0 -1.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
GTA Gaotai 34.15 287 *e*P **P** **23 24 40.6 +0.5**
GTA pP pwP 23 24 53.0 -0.7
GTA sP sP 23 24 57.8 +8.4
GTA PcP **PcP** **23 27 17.9 +1.1**
GTA S **S** **23 30 05.0 +0.3**
GTA sS sS 23 30 24.1 +8.2
GTA SS **SnSn** **23 32 17.9 +4.3**
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,62nm,6.7s
GTA LR LR
comp=Z,160nm,18.1s
GTA LR LR
comp=Z,210nm,18.1s
GTA LR LR
comp=Z,290nm,16.2s
TIXI Tiksi 34.92 352 *i* P **P** **23 24 44.3 -1.9**
TIXI pmax pmax
comp=Z,2.0nm,1.3s
KMI Kunming 36.88 262 P **P** **23 25 03.9 +0.1**
KMI pP pwP 23 25 15.3 -2.5
KMI sP sP 23 25 21.7 +8.8
KMI pmax pmax
comp=Z,6.0nm,1.6s
KMI pmax pmax
comp=Z,130nm,4.8s
KMI LR LR
comp=Z,280nm,11.9s
KMI LR LR
comp=Z,250nm,12.3s
KMI LR LR
comp=Z,240nm,13.6s
DGZ Jazzator, Alta 41.53 305 *i* P **P** **23 25 42.9 +0.6**
DGZ pmax pmax
comp=Z,9.0nm,0.8s
WMQ Urumqi 42.21 297 *e*P **P** **23 25 49.0 +1.2**
WMQ pP pwP 23 26 00.7 -1.7
WMQ sP sP 23 26 04.7 +7.4
WMQ pmax pmax
comp=Z,20nm,0.7s
WMQ pmax pmax
comp=Z,250nm,4.7s
UTTA Uttaradit 42.62 254 P **P** **23 25 52.3 +1.0**
comp=Z,3.6nm,0.9s
LAMP Lampang 42.87 256 P **P** **23 25 54.7 +1.3**
comp=Z,6.8nm,0.8s
ZAA0 Zalesovo Array 42.87 312 *e*P **P** **23 25 53.5 +0.5**
comp=Z,6.8nm,1.1s
ZAA0 *e*PcP **PcP** **23 27 43.9 +0.4**
ZALV Zalesovo Beam 42.87 312 P **P** **23 25 53.4 +0.5**
comp=Z,2.2nm,0.8s,baz=90,slow=7.4,SNR=10
ZALV PcP **PcP** **23 27 43.6 +0.1**
comp=Z,5.2nm,0.6s,baz=91,slow=2.5,SNR=11
ZALV LR LR 23 44 24.6
comp=Z,121nm,18.5s,baz=70,slow=37
PBKT Sadao Pong 43.01 253 P **P** **23 25 55.5 +1.0**
comp=Z,10nm,0.9s
CMMT Chiang Mai 43.23 257 P **P** **23 25 56.8 +0.5**
comp=Z,9.7nm,1.0s
CHTO Chiang Mai 43.23 257 *e*P **P** **23 25 56.5 +0.2**
comp=Z,8.3nm,0.9s
CHTO Chiang Mai 43.23 257 *e*P **P** **23 25 56.5 +0.2**
CHTO pmax pmax
comp=Z,8.0nm,0.9s
CHTO Chiang Mai 43.23 257 P **P** **23 25 56.9 +0.6**
comp=Z,44nm,1.0s
CMAR Chiang Mai Arr 43.44 257 P **P** **23 25 58.2 +0.2**
comp=Z,4.0nm,0.7s,baz=45,slow=6.7,SNR=33
CMAR PcP **PcP** **23 27 45.5 -0.5**
comp=Z,1.7nm,1.1s,baz=29,slow=4.0,SNR=4.7
CMAR LR LR 23 46 40.8
comp=Z,82nm,18.4s,baz=38,slow=40
CM01 Chiang Mai Arr 43.45 256 *e*P **P** **23 25 57.7 -0.3**

SUKH Sukhothai 43.48 255 P **P** **23 25 59.3 +1.0**
comp=Z,5.7nm,0.8s
NVS Novosibirsk 43.76 313 *e*P **P** **23 26 00.3 +0.2**
UTHA Uthaitani 44.78 253 P **P** **23 26 11.7 +3.0**
comp=Z,3.0nm,0.9s
MK01 Makanchi Array 45.36 302 *e*P **P** **23 26 13.2 +0.2**
MK31 Makanchi Array 45.36 302 *e*P **P** **23 26 13.4 +0.3**
MK31 Makanchi Array 45.36 302 *e*P **P** **23 26 13.4 +0.3**
MKAR Makanchi Array 45.36 302 P **P** **23 26 13.4 +0.3**
comp=Z,5.4nm,0.7s,baz=87,slow=9.8,SNR=68
MKAR LR LR 23 45 06.3
comp=Z,80nm,19.5s,baz=48,slow=36
MKAR Makanchi Array 45.36 302 *e*P **P** **23 26 13.4 +0.3**
comp=Z,42nm,0.8s
MKAR Makanchi Array 45.36 302 *e*P **P** **23 26 13.4 +0.3**
MKAR pmax pmax
comp=Z,43nm,0.8s
CAST Castle Rocks 45.67 34 *e*P **P** **23 26 17.9 +2.7**
comp=Z,1.4nm,1.0s
SRDT SRDT 45.78 252 P **P** **23 26 19.3 +2.7**
comp=Z,11nm,0.9s,comp=Z,1μm
PHET Kaeng Krachan 46.31 250 P **P** **23 26 22.3 +1.5**
comp=Z,13nm,0.7s,comp=Z,110nm
MLY Manley 46.34 32 *e*P **P** **23 26 22.8 +2.2**
comp=Z,7.4nm,1.1s
BRDH Bariadhala 46.88 267 LR LR 23 45 24.1
comp=Z,46nm,21.1s,baz=122,slow=35
KURK Kurchatov 47.01 308 *e*P **P** **23 26 26.1 +0.2**
comp=Z,20nm,0.8s
KURK Kurchatov 47.01 308 *de*P **P** **23 26 26.0 +0.2**
KURK pmax pmax
comp=Z,26nm,1.0s
KURBB Kurchatov Arra 47.08 308 P **P** **23 26 26.6 +0.2**
comp=Z,16nm,0.8s,baz=83,slow=7.9,SNR=92
MDM Murphy Dome 47.41 32 *e*P **P** **23 26 30.9 +2.0**
comp=Z,5.4nm,0.9s
IL1 Eielson Array 47.98 33 *e*P **P** **23 26 33.7 +0.5**
ILAR Eielson Array 47.98 33 P **P** **23 26 34.1 +0.8**
comp=Z,3.1nm,0.8s,baz=266,slow=6.5,SNR=22
ILB Eielson Array 47.98 33 *e*P **P** **23 26 34.3 +1.0**
PDGK Podgornoye 48.12 298 P **P** **23 26 35.9 +1.1**
PDGK pmax pmax
comp=Z,9.0nm,1.1s
JIRN Jiri 48.80 276 *e*P **P** **23 26 41.3 +0.8**
comp=Z,33nm,0.9s
RAMN Ramite 48.80 275 *e*P **P** **23 26 40.7 +0.3**
comp=Z,35nm,1.0s
GUN Gumba 48.93 276 *e*P **P** **23 26 42.2 +0.7**
comp=Z,52nm,1.0s
SCRK Sand Creek 49.27 34 *e*P **P** **23 26 44.9 +1.6**
comp=Z,6.6nm,1.2s
PKI Pulchoki 49.45 276 *e*P **P** **23 26 45.0 -0.5**
comp=Z,16nm,1.0s
KKN Kakani 49.46 277 *e*P **P** **23 26 45.8 +0.4**
comp=Z,48nm,1.0s
PKIN Phulchoki 49.46 276 *e*P **P** **23 26 45.4 -0.1**
DANN Dangsing 50.40 278 *e*P **P** **23 26 53.0 +0.4**
comp=Z,122nm,1.3s
KOLN Kolanda 50.79 277 *e*P **P** **23 26 55.1 -0.4**
comp=Z,31nm,1.1s
TKM2 Tokmak 2 50.96 299 P **P** **23 26 57.8 +1.2**
SNR=11
PYUN Piuthan 51.12 278 *e*P **P** **23 26 58.0 0.0**
comp=Z,68nm,1.2s
KBK Karagaybulak 51.50 299 P **P** **23 27 01.4 +0.8**
SNR=9.8
OTUK Ortayu 51.56 306 P **P** **23 27 01.2 +0.4**
OTUK pmax pmax
comp=Z,8.0nm,0.9s
BRVK Borovoye 51.58 312 *e*P **P** **23 27 01.2 +0.4**
comp=Z,6.5nm,0.8s
BRVK Borovoye 51.58 312 *ce*P **P** **23 27 01.5 +0.7**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
USP Ospenovka 51.61 299 P **P** **23 27 01.9 +0.6**
SNR=6.3
FRU Bishkek 51.67 299 *e*P **P** **23 27 06.0 +4.3**
FRU *e* 23 27 11.0
AAK Ala-Archa 51.82 299 *e*P **P** **23 27 03.4 +0.5**
comp=Z,2.9nm,0.8s
AAK Ala-Archa 51.82 299 *ce*P **P** **23 27 02.5 -0.5**
AAK pmax pmax
comp=Z,3.0nm,1.0s
KSH Kashi 51.84 294 P **P** **23 27 07.7 +4.7**
KSH pP pwP 23 27 16.8 -0.8
KSH PcP **PcP** **23 28 21.9 +6.1**
KSH S **S** **23 34 26.0 +2.2**
KSH sS sS 23 34 48.3 +13
KSH pmax pmax
comp=Z,10.0nm,0.9s
KSH pmax pmax
comp=Z,320nm,5.2s
KSH LR LR
comp=N,120nm,6.8s
KSH LR LR
comp=E,98nm,9.4s
KSH LR LR
comp=Z,300nm,7.8s
KSH Kashi 51.84 294 P **P** **23 27 07.8 +4.7**
KSH pP pwP 23 27 16.8 -0.8
KSH sP sP 23 27 26.9 +14
KSH PcP **PcP** **23 28 21.9 +6.1**
KSH PcS **PcS** **23 32 14.5 +0.5**
KSH S **S** **23 34 26.6 +2.8**
KSH sS sS 23 34 48.0 +13
KSH ScS **ScS** **23 36 48.1 -3.3**
KSH pmax pmax
comp=Z,10.0nm,0.9s
KSH pmax pmax
comp=Z,320nm,5.2s
KSH LR LR
comp=Z,120nm,6.8s
KSH LR LR
comp=Z,180nm,5.0s
KSH LR LR
comp=Z,300nm,7.8s
EKS2 Erkin-Say 52.31 299 P **P** **23 27 07.4 +0.8**
SNR=5.1
AML Almayashu 52.55 298 P **P** **23 27 10.0 +1.3**
SNR=10.0
INK Inuvik 52.99 28 P **P** **23 27 12.0 +1.0**
comp=Z,1.2nm,0.7s,baz=254,slow=4.7,SNR=4.5
INK Inuvik 52.99 28 P **P** **23 27 12.0 +1.0**
SFK Sufi-Kurgan 53.43 296 P **P** **23 27 16.1 +1.1**
SFK pmax pmax
comp=Z,13nm,1.2s
KK31 Karatay Array 54.41 300 *e*P **P** **23 27 22.5 +0.7**
KK31 Karatay Array 54.41 300 *e*P **P** **23 27 22.5 +0.7**
KKAR Karatay Array 54.41 300 *e*P **P** **23 27 22.5 +0.7**
KKAR Karatay Array 54.41 300 *e*P **P** **23 27 22.5 +0.7**
SVE Sverdlovsk 55.91 319 ǁ *e*P **P** **23 27 33.7 +1.3**
SVE pmax pmax
comp=Z,20nm,0.9s
SVE MLR MLR
comp=Z,231nm,17.0s
NIL Nilore 56.17 289 *e*P **P** **23 27 35.3 +0.6**
comp=Z,8.6nm,0.8s
NIL Nilore 56.17 289 *e*P **P** **23 27 35.3 +0.6**
NIL pmax pmax
comp=Z,9.0nm,0.8s
DLBC Dease Lake 56.99 39 P **P** **23 27 42.2 +2.0**
comp=Z,2.4nm,0.9s,baz=257,slow=4.2,SNR=2.7
ARU Arti 57.12 319 *e*P **P** **23 27 41.2 +0.2**
comp=Z,27nm,0.8s
ARU Arti 57.12 319 *d* P **P** **23 27 41.4 +0.4**
ARU *PP **sP** **23 27 52.1 +1.9**
ARU 23 28 35.4
ARU 23 29 48.0
ARU S **S** **23 35 33.8 -0.3**
ARU SS **SS** **23 39 22.0 -0.5**
ARU pmax pmax
comp=Z,15nm,0.9s
ARU MLR MLR
comp=Z,199nm,16.0s
WRAB Tennant Creek 57.95 190 *e*P **P** **23 27 45.8 -1.4**
comp=Z,20nm,0.8s
WB2 Warramunga Arr 57.96 190 *e*P **P** **23 27 45.3 -2.0**
WRA Warramunga Arr 57.96 190 P **P** **23 27 45.7 -1.6**
comp=Z,17nm,0.7s,baz=11,slow=7.4,SNR=21
KBL Kabul 58.91 292 *e*P **P** **23 27 54.2 0.0**
comp=Z,4.7nm,0.9s
KBL Kabul 58.91 292 *e*P **P** **23 27 54.2 0.0**
KBL pmax pmax
comp=Z,5.0nm,0.9s
ABKAR Akbulak array 58.95 311 *e*P **P** **23 27 54.1 +0.2**
RES Resolute Bay 61.54 15 *e*P **P** **23 28 12.0 +0.8**

comp=Z,6.1nm,1.0s
RES Resolute Bay 61.54 15 *e*P **P** **23 28 12.0 +0.8**
RES pmax pmax
comp=Z,6.0nm,1.0s
ASAR Alice Springs 61.69 190 P **P** **23 28 11.9 -0.9**
comp=Z,7.8nm,0.9s,baz=8.7,slow=6.8,SNR=24
ASAR Alice Springs 61.69 190 P **P** **23 28 12.0 -0.9**
YKA Yellowknife Ar 62.34 31 P **P** **23 28 17.5 +0.7**
comp=Z,0.4nm,0.5s,baz=300,slow=6.2,SNR=5.0
ARCES ARCESS Array B 64.06 340 P **P** **23 28 28.4 +0.3**
comp=Z,1.6nm,0.8s,baz=46,slow=6.9,SNR=6.3
GEYT Alibeck 65.14 300 P **P** **23 28 36.1 +0.3**
comp=Z,4.1nm,0.8s,baz=66,slow=3.6,SNR=10
GYA0B ALIBECK ARRAY 65.14 300 *e*P **P** **23 28 36.5 +0.7**
comp=Z,4.7nm,0.9s
MOS Moscow 67.84 324 *e*P P 23 29 04.8 +12
VRH Novokhopyorsk 68.35 319 *e*P **P** **23 28 55.6 -0.3**
VRH pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 68.70 324 *i* P **P** **23 28 56.9 -1.1**
OBN *i* 23 29 10.4
OBN *i* 23 29 25.0
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,100nm,15.0s
LPSR Galich'ya Gora 69.00 321 *e*P **P** **23 29 00.1 +0.2**
LPSR pmax pmax
comp=Z,9.0nm,0.7s
FINES FINESS Array B 69.12 333 P **P** **23 29 00.8 +0.2**
comp=Z,4.7nm,0.8s,baz=46,slow=8.2,SNR=10
FINES LR LR 00 03 13.8
comp=Z,56nm,18.4s,baz=32,slow=39
STKA Stephens Creek 69.20 182 P **P** **23 28 59.6 -1.6**
comp=Z,1.9nm,0.5s,baz=333,slow=6.8,SNR=7.9
VSR Storozhevoye 69.67 320 *e*P **P** **23 29 00.1 -4.0**
VSR pmax pmax
comp=Z,9.0nm,0.8s
NCK Nalchik 71.61 311 *i* P **P** **23 29 16.1 0.0**
NCK pmax pmax
comp=Z,5.0nm,1.2s
ZEI Tsey 71.82 310 *e*P **P** **23 29 17.0 -0.7**
ZEI pmax pmax
comp=Z,5.0nm,0.7s
KIV Kislovodsk 71.89 312 *e*P **P** **23 29 19.1 +1.3**
comp=Z,23nm,0.8s
KIV Kislovodsk 71.89 312 *c* *i*P **P** **23 29 18.1 +0.2**
KIV *i* 23 29 30.4
KIV *i* 23 29 36.9
KIV pmax pmax
comp=Z,21nm,1.0s
KBZ Khabaz 71.89 311 P **P** **23 29 19.1 +1.4**
comp=Z,11nm,0.8s,baz=35,slow=3.2,SNR=44
FFC Flin Flon 72.18 34 *e*P **P** **23 29 19.8 +0.5**
comp=Z,5.4nm,1.0s
FFC Flin Flon 72.18 34 *ce*P **P** **23 29 21.0 +1.7**
NEY Neytrino 72.27 311 *i* P **P** **23 29 21.8 +1.5**
NEY pmax pmax
comp=Z,1.0nm,0.9s
GNI Garni 72.81 308 *ce*P **P** **23 29 24.7 +1.2**
GNI pmax pmax
comp=Z,32nm,1.3s
NVAR Mina Array Bea 73.13 54 P **P** **23 29 26.6 +1.0**
comp=Z,0.2nm,0.3s,baz=278,slow=2.6,SNR=2.5
NB2 NORSAR Subarra 74.32 338 P **P** **23 29 31.8 -0.1**
comp=Z,0.8nm,0.6s,baz=39,slow=5.9
NOA NORSAR Array B 74.32 338 P **P** **23 29 32.1 +0.3**
comp=Z,1.7nm,0.8s,baz=38,slow=5.8,SNR=5.6
NOA LR LR 00 08 04.2
comp=Z,48nm,18.1s,baz=30,slow=40
H17A Grant Village 74.32 46 *e*P **P** **23 29 35.8 +3.3**
comp=Z,0.9nm,0.8s
AKASG Malin Array Be 74.93 323 P **P** **23 29 35.8 +0.3**
comp=Z,5.0nm,0.6s,baz=45,slow=5.9,SNR=31
AKASG LR LR 00 04 17.6
comp=Z,32nm,20.2s,baz=25,slow=37
AKBB Malin Array Si 74.93 323 *e*P **P** **23 29 35.9 +0.4**
comp=Z,7.7nm,0.8s
KIEV Kiev 74.94 323 *e*P **P** **23 29 35.5 -0.1**
comp=Z,7.4nm,0.7s
KIEV Kiev 74.94 323 *i* P **P** **23 29 36.0 +0.4**
KIEV pmax pmax
comp=Z,7.0nm,0.9s
PDAR Pinedale Array 75.91 47 P **P** **23 29 41.6 0.0**
comp=Z,0.7nm,0.7s,baz=272,slow=2.5,SNR=7.0
ULM Lac du Bonnet 77.96 34 P **P** **23 29 52.8 +0.1**
comp=Z,1.9nm,0.8s,baz=250,slow=2.9,SNR=3.3
BUR08 Bucovina Ar. S 78.94 323 *e*P **P** **23 29 59.5 +1.2**
BUR04 Bucovina Ar. S 78.96 323 *e*P **P** **23 29 59.1 +0.7**
BURAR Bucovina Array 78.96 323 ǁ *i*P **P** **23 29 59.4 +1.0**
BIZ Bicaz 79.00 322 ⇑ *i*P **P** **23 29 59.8 +1.3**
CFR Carcaliu 79.19 320 ǁ *i*P **P** **23 29 59.5 -0.1**
CFR Carcaliu 79.19 320 ǁ P **P** **23 29 59.5 -0.1**
ODBI Odobesti 79.34 320 ⇑ *i*P **P** **23 30 02.9 +2.5**
VRI Vrincioaia 79.44 321 ⇑ *i*P **P** **23 30 02.9 +1.9**
VRI Vrincioaia 79.44 321 ⇑ P **P** **23 30 02.9 +1.9**
OJC Ojcow 79.54 327 *e*P **P** **23 30 02.5 +1.1**
comp=Z,12nm,1.1s
OJC Ojcow 79.54 327 *e*P **P** **23 30 02.5 +1.1**
OJC pmax pmax
comp=Z,12nm,1.1s
TIRR Tirgusor 79.54 319 ⇑ *i*P **P** **23 30 03.9 +2.4**
TIRR Tirgusor 79.54 319 ⇑ P **P** **23 30 03.9 +2.4**
TLB Topalu 79.65 319 ǁ *i*P **P** **23 30 03.0 +0.9**
TLB Topalu 79.65 319 ǁ P **P** **23 30 03.0 +0.9**
ARCR ARCALIA 79.75 323 ǁ *i*P **P** **23 30 04.8 +2.2**
BRTR Keskin Array B 79.81 313 P **P** **23 30 04.1 +0.8**
comp=Z,1.0nm,0.6s,baz=95,slow=4.2,SNR=9.3
TRPA Tarpa 79.85 324 ⇑ *i*P **P** **23 30 03.1 0.0**
DOPR Dopca 80.03 321 ǁ *i*P **P** **23 30 05.6 +1.4**
ISR Istrita 80.05 320 ǁ *i*P **P** **23 30 06.2 +1.9**
ISR Istrita 80.05 320 ǁ P **P** **23 30 06.2 +1.9**
VOIR 80.58 321 ⇑ *i*P **P** **23 30 07.7 +0.5**
VOIR 80.58 321 ⇑ P **P** **23 30 07.7 +0.5**
DRGR 80.74 323 ǁ *i*P **P** **23 30 08.7 +0.6**
DRGR 80.74 323 ǁ P **P** **23 30 08.7 +0.6**
ARR Arges 80.83 321 ⇑ *i*P **P** **23 30 10.8 +2.2**
MORC Moravsky Berou 80.83 328 *e*P **P** **23 30 08.7 +0.2**
comp=Z,8.7nm,1.1s
MORC Moravsky Berou 80.83 328 ⇑ *i*P **P** **23 30 09.6 +1.1**
MORC Moravsky Berou 80.83 328 ⇑ P **P** **23 30 09.6 +1.1**
MORC Moravsky Berou 80.83 328 *e*P **P** **23 30 09.6 +1.1**
DPC Dobruska-Polom 80.90 329 *e*P **P** **23 30 10.4 +1.6**
DPC Dobruska-Polom 80.90 329 *e*P **P** **23 30 10.4 +1.6**
UPC Upice 80.91 329 *e*P **P** **23 30 10.0 +1.2**
UPC Upice 80.91 329 *e*P **P** **23 30 10.0 +1.2**
PSZ Piszkesteto 81.21 326 ⇑ *i*P **P** **23 30 12.1 +1.6**
PSZ Piszkesteto 81.21 326 ⇑ P **P** **23 30 12.2 +1.7**
VYHS Vyhne 81.25 326 *e*P **P** **23 30 12.0 +1.3**
VYHS pmax pmax
comp=Z,23nm,2.5s
VYHS Vyhne 81.25 326 *e*P **P** **23 30 12.0 +1.3**
CLL Collm 81.46 331 *i* P **P** **23 30 12.1 +0.4**
comp=Z,6.0nm,1.0s
CLL Collm 81.46 331 *i* P **P** **23 30 12.1 +0.4**
CLL pmax pmax
comp=Z,7.0nm,1.0s
JAVC Velka Javorina 81.48 327 *e*P **P** **23 30 14.2 +2.3**
VRAC Vranov 81.59 328 ǁ *i*P **P** **23 30 13.9 +1.5**
VRAC Vranov 81.59 328 ǁ P **P** **23 30 13.9 +1.5**
VRAC Vranov 81.59 328 *e*P **P** **23 30 13.9 +1.5**
SIRR Siria 81.62 324 ǁ *i*P **P** **23 30 13.7 +1.0**
GZR Gura Zlata 81.72 322 ǁ *i*P **P** **23 30 13.9 +0.6**
GZR Gura Zlata 81.72 322 P **P** **23 30 13.9 +0.6**
KRUC Moravsky 81.86 328 *e*P **P** **23 30 15.0 +1.1**
TREC Trest 82.06 329 *e*P **P** **23 30 16.9 +2.0**
TREC Trest 82.06 329 *e*P **P** **23 30 16.9 +2.0**
BZS Buzias 82.12 323 ǁ *i*P **P** **23 30 15.6 +0.3**
BZS Buzias 82.12 323 ǁ P **P** **23 30 15.6 +0.3**
RAYN Ar Rayn 82.12 293 *e*P **P** **23 30 16.0 +0.3**
comp=Z,3.0nm,0.8s
RAYN Ar Rayn 82.12 293 *e*P **P** **23 30 16.0 +0.3**
RAYN pmax pmax
comp=Z,3.0nm,0.8s
MDVR Moldovita 82.69 322 ǁ *i*P **P** **23 30 18.5 +0.2**
CONA Conrad Observa 82.97 328 *e*P **P** **23 30 20.7 +0.9**
comp=Z,5.2nm,0.8s
KHC Kasperske Hory 82.97 330 *e*P **P** **23 30 20.9 +1.2**
comp=Z,2.9nm,1.0s
KHC Kasperske Hory 82.97 330 *e*P **P** **23 30 20.8 +1.1**
KHC *ex* x 23 30 34.7
KHC Kasperske Hory 82.97 330 *e*P **P** **23 30 20.8 +1.1**
KHC *e* 23 30 34.7
GERES GERESS Array B 83.14 329 P **P** **23 30 20.6 -0.1**

	comp=Z,1.8nm,0.8s,baz=14,slow=6.9,SNR=8.5						
VTS	Vitosha	83.54	320	eP	P	23 30 23.7	+0.8
	comp=Z,3.8nm,0.7s						
VTS	Vitosha	83.54	320	⇓iP	P	23 30 24.3	+1.4
VTS	Vitosha	83.54	320	⇓P	P	23 30 24.3	+1.4
ARSA	Arzberg	83.64	327	i PcP	P	23 30 24.5	+1.3
	comp=Z,2.2nm,0.7s						
SOKA	Soboth	84.29	327	i PcP	P	23 30 27.5	+1.0
	comp=Z,7.1nm,0.8s						
MOTA	Moosalm	85.39	330	ePcP	P	23 30 33.0	+0.8
	comp=Z,6.5nm,1.0s						
RETA	Reutte	85.41	330	i PcP	P	23 30 33.1	+0.9
	comp=Z,10nm,0.9s						
BFO	Black Forest	85.65	332	eP	P	23 30 32.4	-0.9
	comp=Z,7.2nm,1.0s						
BFO	Black Forest	85.65	332	eP	P	23 30 32.4	-0.9
BFO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
FNA	Florina	85.80	320	eP	P	23 30 34.4	+0.2
	comp=Z,11nm,1.2s						
FNA	Florina	85.80	320	eP	P	23 30 34.4	+0.2
FNA				pmax	pmax		
	comp=Z,11nm,1.2s						
DAVA	Damuels	85.92	331	ePcP	P	23 30 35.6	+0.8
	comp=Z,10nm,0.9s						
FUORN	Ofenpass-Fuorn	86.31	330	eP	P	23 30 37.9	+1.0
	comp=Z,9.7nm,1.0s						
TXAR	Lajitas Array	88.27	54	P	P	23 30 46.6	+0.1
	comp=Z,0.5nm,0.8s,baz=326,slow=3.1,SNR=5.2						
TORD	Torodi Ar. Bea	118.17	317	PKP	PKPdf	23 36 41.7	-0.6
	comp=Z,0.2nm,0.6s,baz=29,slow=1.0,SNR=3.5						
LPAZ	La Paz	144.78	62	PKP	PKPdf	23 37 33.5	+0.8
	comp=Z,0.8nm,0.5s,baz=1.2,slow=6.0,SNR=4.7						
LCO	Las Campanas	150.10	83	ePKPbc	PKiKP	23 37 46.2	-0.5
LCO	Las Campanas	150.10	83	ePKIKP	PKiKP	23 37 46.2	-0.5

IDC 02 23:22:52.7±1.5**, 1°.27S×130°.06E, h0**^{km}**, mb3.6**/2**, mb1 3.8**/3**, mb1mx3.4**/31**, mbtmp3.6**/3**, ML3.6**/1**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.5**/26**, Error ellipse: s-maj=27.0km s-min=22.4km az=140.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	1.27	72	Pn	Pb	23 23 17.4	-0.2
	74nm,0.3s,baz=158,slow=18,SNR=126						
SIJI				Sn	Sn	23 23 37.8	+2.2
	86nm,0.3s,baz=353,slow=18,SNR=17						
WRA	Warramunga Arr	19.03	168	P	P	23 27 15.7	-0.8
	0.2nm,0.3s,baz=353,slow=11,SNR=21						
WRA				S	Sn	23 30 41.5	-10
	0.1nm,0.3s,baz=360,slow=23,SNR=3.9						
ASAR	Alice Springs	22.58	171	P	P	23 27 55.4	+0.5
	3.2nm,0.9s,baz=355,slow=9.8,SNR=23						
ASAR				S	S	23 32 09.3	+5.7
	1.5nm,1.1s,baz=0.6,slow=27,SNR=6.2						
JNU	Nakatsue	34.21	1	LR	LR	23 44 34.7	
	comp=Z,25nm,18.0s,baz=117,slow=38						
MKAR	Makanchi Array	63.53	325	P	P	23 33 25.1	+0.1
	0.2nm,0.6s,baz=114,slow=7.9,SNR=4.8						

IDC 02 23:33:44.8±2.8**, 6°.23S×130°.00E, h372**^{km}±43^{km}**, mb3.1**/2**, mb1 3.0**/5**, mb1mx2.8**/37**, mbtmp3.8**/5**, Error ellipse: s-maj=109.0km s-min=13.1km az=75.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	5.47	13	P	Pn	23 35 10.8	+0.1
	3.8nm,0.3s,baz=182,slow=23,SNR=14						
WRA	Warramunga Arr	14.27	163	P	P	23 36 50.5	0.0
	0.3nm,0.3s,baz=332,slow=13,SNR=24						
WRA				S	S	23 39 24.9	+0.5
	0.1nm,0.3s,baz=339,slow=21,SNR=4.1						
ASAR	Alice Springs	17.74	168	P	P	23 37 27.8	-0.2
	0.4nm,0.3s,baz=344,slow=12,SNR=24						
ASAR				S	S	23 40 34.4	+1.4
	0.1nm,0.3s,baz=348,slow=26,SNR=4.1						
MKAR	Makanchi Array	67.59	327	P	P	23 44 02.7	+0.2
	0.5nm,0.4s,baz=121,slow=8.1,SNR=17						
KURBB	Kurchatov Arra	71.86	328	P	P	23 44 27.8	-0.4
	0.3nm,0.4s,baz=132,slow=5.1,SNR=5.2						

IDC 02 23:42:20.9±6.4**, 30°.44S×177°.99W, h0**^{km}**, mb3.5**/2**, mb1 3.8**/2**, mb1mx3.6**/26**, mbtmp3.5**/2**, Error ellipse: s-maj=258.5km s-min=56.5km az=155.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.12	267	P	P	23 50 22.9	-0.4
	0.4nm,0.7s,baz=106,slow=8.0,SNR=4.2						
WRA	Warramunga Arr	44.11	272	P	P	23 50 31.3	+0.1
	0.4nm,0.5s,baz=113,slow=7.8,SNR=17						
FINES	FINESS Array B	145.18	340	PKPbc	PKPbc	00 01 58.4	-0.9
	4.8nm,1.1s,baz=26,slow=3.5,SNR=4.6						

*IDC **02** 23:46:54.2±4.8, 29°.20S×67°.19W, h103^{km}±36^{km}, mb3.5/4, mb1 3.6/7, mb1mx3.4/29, mbtmp3.6/7, Error ellipse: s-maj=51.8km s-min=26.2km az=25.0*

*SJA **02** 23:46:55.8±0.7, 29°.02S×67°.37W, h138^{km}±8^{km}, ML3.5, MW3.8*

*ISCJB **02** 23:46:56.7±0.5, 29°.04S±0°.06×67°.32W±0°.07, h129^{km}, mb3.3/4, Error ellipse: s-maj=9.8km s-min=7.2km az=138.1*

ISC 02 23:46:57.2±0.7**, 28°.96S**±0°.07×**67°.32W**±0°.06**, h129**^{km}**, n18, σ1^{s}53**/23**, mb3.4**/4**, La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VCA	Vinchina	0.81	286	i P	Pn	23 47 18.2	-0.3
VCA				i S	Sn	23 47 35.4	+0.8
VCA				IAML		23 47 37.1	
	comp=Z,2µm,0.2s						
AGUA	GUANDACOL	1.15	243	i P	Pn	23 47 21.2	-0.4
AGUA				i S	Sn	23 47 39.4	-0.7
CYA	Choya	1.43	69	i P	Pn	23 47 25.5	+1.0
CYA				IAML		23 47 25.5	
	comp=Z,228nm,0.3s						
CYA				i S	Sn	23 47 46.7	+1.5
APLL	PUNTA DE LOS L	1.59	155	i P	Pn	23 47 26.2	-0.1
APLL				IAML		23 47 48.5	
	comp=Z,225nm,0.2s						
RTLL	Cerro Villicun	2.57	203	i P	Pn	23 47 37.6	-0.7
RTLL				IAML		23 48 10.0	
	comp=Z,376nm,0.4s						
RTCV	Cerro Valdivia	3.08	200	i P	Pn	23 47 43.4	-1.4
RTLS	Leoncito	3.31	211	i P	Pn	23 47 47.3	-0.8
RTLS				IAML		23 47 49.4	
	comp=Z,93nm,0.2s						
LVC	Limon Verde	6.48	347	P	Pn	23 48 30.3	-0.2
	comp=Z,0.3nm,0.3s,baz=168,slow=9.3,SNR=3.3						
LVC				S	Sn	23 49 40.1	-3.4
	comp=Z,0.8nm,0.3s,baz=332,slow=21,SNR=6.8						
CPUP	Villa Florida	9.23	76	P	Pn	23 49 03.9	-3.4
	comp=Z,0.2nm,0.3s,baz=272,slow=4.1,SNR=4.0						
LPAZ	La Paz	12.63	356	P	Pn	23 49 56.0	+3.0
	comp=Z,0.1nm,0.3s,baz=211,slow=12,SNR=1.8						
TORD	Torodi Ar. Bea	78.64	68	P	P	23 58 44.5	-0.7
	comp=Z,1.6nm,0.6s,baz=275,slow=4.2,SNR=20						
PDAR	Pinedale Array	81.26	330	P	P	23 58 59.6	+0.6
	comp=Z,0.2nm,0.4s,baz=126,slow=7.9,SNR=5.4						
NVAR	Mina Array Bea	82.23	322	P	P	23 59 05.9	+1.7
	comp=Z,0.1nm,0.3s,baz=142,slow=7.6,SNR=2.3						
YKA	Yellowknife Ar	98.66	340	P	P	00 00 20.3	-0.7
	comp=Z,0.1nm,0.5s,baz=139,slow=5.0,SNR=5.5						
ASAR	Alice Springs	123.83	204	PKP	PKPdf	00 05 39.6	-0.9
	comp=Z,0.2nm,0.4s,baz=144,slow=1.9,SNR=4.3						
WRA	Warramunga Arr	127.08	206	PKP	PKPdf	00 05 46.6	-0.1
	comp=Z,0.5nm,0.4s,baz=159,slow=1.8,SNR=20						
ZALV	Zalesovo Beam	147.83	31	PKPbc	PKPbc	00 06 27.7	+1.1
	comp=Z,1.0nm,0.5s,baz=297,slow=2.8,SNR=6.4						
MKAR	Makanchi Array	150.38	45	PKPbc	PKPbc	00 06 34.0	+0.7
	comp=Z,0.8nm,0.7s,baz=312,slow=2.5,SNR=10.0						
MKAR				pPKPbc	pPKPbc	00 07 07.3	-0.3
	comp=Z,0.6nm,0.8s,baz=293,slow=3.1,SNR=4.0						

MEX 02 23:57:59.6±0.5**, 16°.31N×98°.07W, h10**^{km}±2^{km}**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.10	326	i P	Pg	23 58 01.4	-0.8
PNIG				i S	Sg	23 58 03.8	-0.3
TLIG	Tlapa	1.33	339	eP	Pn	23 58 20.7	-3.8
TLIG				i S	Sb	23 58 37.5	-4.7
VHO	Vista Hermosa	1.49	59	eP	Pn	23 58 23.6	-3.0
VHO				i S	Sn	23 58 41.4	-4.9
ACP2	Acapulco	1.83	288	i P	Pn	23 58 28.0	-3.2
ACP2				i S	Sn	23 58 49.6	-4.9
TPIG	Tehuac#an	2.21	18	i P	Pn	23 58 32.8	-3.7
TPIG				i S	Sn	23 58 59.4	-4.5
CAIG	El Cayaco	2.23	290	eP	Pn	23 58 33.0	-3.6
CAIG				i S	Sn	23 59 00.1	-4.3

*BJI **03** 00:02:08.9, 2°.11S×127°.77E, h20^{km}, mb5.2/77, mB5.6/59, Ms5.0/69, Ms7 4.7/59*

*IDC **03** 00:02:12.7±0.3, 1°.50S×127°.41E, h0^{km}, mb5.1/36, mb1 5.1/37, mb1mx5.0/50, mbtmp5.1/37, ML5.3/2, MS4.5/27, Ms1 4.5/27, ms1mx4.5/35, Error ellipse: s-maj=14.7km s-min=9.2km az=73.0*

*ISCJB **03** 00:02:16.0±0.7, 1°.52S±0°.02×127°.41E±0°.02, h31^{km}±5^{km}, mb5.2/142, MS4.8/110, Error ellipse: s-maj=3.4km s-min=2.7km az=0.2*

*GCMT **03** 00:02:15.8±0.1, 1°.46S±0°.01×127°.45E±0°.01, h14^{km}, MW5.4/110, Moment Tensor Solution. s93,c158; s110,c239; Duration: 1^{s}2 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.92±.02; $M_{\theta\theta}$-0.24±.01; $M_{\phi\phi}$1.16±.02; $M_{r\theta}$0.73±.04; $M_{\theta\phi}$0.58±.02; $M_{\phi r}$0.29±.04; Best double couple: $M_0$1.44300×10^{17} NP1:ϕ_s228.00000°, δ65.00000°, λ-56.00000°. NP2:ϕ_s351.00000°, δ41.00000°, λ-139.00000°. Principal axes: T 1.4950, Plg13.0000°, Azm294.0000°; N -0.1060, Plg30.0000°, Azm32.0000°; P -1.3910, Plg57.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*MOS **03** 00:02:16.7±1.3, 1°.48S×127°.36E, h36^{km}, mb5.4/44, MS4.6/18 Error ellipse: s-maj=7.9km s-min=5.0km az=111.4*

*NEIC **03** 00:02:16.8±1.7, 1°.56S×127°.39E, h26^{km}±12^{km}, mb5.4/50, MS4.9/65, MW5.6, Error ellipse: s-maj=6.9km s-min=4.5km az=71.0, Moment Tensor Solution. s14 Moment tensor: Scale 10^{17}Nm; M_{rr}0.14; $M_{\theta\theta}$-0.69; $M_{\phi\phi}$0.55; $M_{r\theta}$0.32; $M_{\theta\phi}$2.85; $M_{\phi r}$0.77; Best double couple: $M_0$3.00000×10^{17} NP1:ϕ_s85.00000°, δ76.00000°, λ8.00000°. NP2: ϕ_s353.00000°, δ82.00000°, λ166.00000°. Principal axes: T 3.0700, Plg15.0000°, Azm308.0000°; N -0.0700, Plg74.0000°, Azm145.0000°; P -3.0000, Plg4.0000°, Azm39.0000°;*

NEIC Felt [IV] on Pulau Obi.

*DJA **03** 00:02:18.1±0.2, 1°S±2°×12°7E±°, h39^{km}±3^{km}, M5.5/42, mb5.5/42, mB5.8/30, MLv5.7/7, Mw(mB)5.4/30, Mwp5.6/2*

*KLM **03** 00:02:20.7, 1°.39S×127°.26E, h30^{km}, mb5.5*

ISC 03 00:02:17.9±0.5**, 1°.55S**±0°.03×**127°.39E**±0°.03**, h32**^{km}±3^{km}**, n606, σ1^{s}81**/634**, mb5.2**/153**, MS4.8**/111**, 19C-5D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANI	Sanana	1.49	251	P	Pn	00 02 32.7	-10
SANI				S	Sn	00 02 59.6	-1.2
TNTI	Ternate	2.31	359	ePn	Pn	00 02 53.8	+0.1
TNTI	Ternate	2.31	359	P	Pn	00 02 54.3	+0.6
TNTI				S	Sb	00 03 24.2	-2.8
BNDI	Bandanaira	3.87	140	P	Pn	00 03 15.6	+0.3
BNDI				S	Sn	00 04 01.8	+2.1
SWI	Sorong	3.93	80	P	Pn	00 03 16.7	+0.7
SWI	Sorong	3.93	80	P	Pn	00 03 15.2	-0.8
SWI				S	Sn	00 04 01.9	+0.9
SIJI	Sorong	3.93	80	Pn	Pn	00 03 16.5	+0.4
	166nm,0.3s,baz=224,slow=8.9,SNR=95						
SIJI				Sn	Sn	00 04 03.0	+1.9
	137nm,0.3s,baz=158,slow=20,SNR=14						
SIJI				LR	LR	00 05 23.6	
	comp=Z,15µm,18.0s,baz=281,slow=49						
LUWI	Luwuk	4.65	276	ePn	Pn	00 03 25.0	-0.9
LUWI	Luwuk	4.65	276	P	Pn	00 03 24.8	-1.1
LUWI				S	Sn	00 04 16.2	-2.6
FAKI	Fak Fak	5.04	106	ePn	Pn	00 03 30.1	-1.2
FAKI	Fak Fak	5.04	106	P	Pn	00 03 29.7	-1.6
	1µm,1.1s,15µm32µm5.2nm						
FAKI				S	Sn	00 04 26.6	-1.9
	1µm,1.1s,15µm32µm5.2nm						
KDI	Kendari	5.33	243	P	Pn	00 03 36.5	+1.2
	919nm,0.6s,17µm4.5nm						
KDI				S	Sn	00 04 36.2	+0.5
	919nm,0.6s,17µm4.5nm						
SGSI	Sangihe	5.53	340	P	Pn	00 03 38.1	+0.1
MRSI	Marisa	5.81	290	P	Pn	00 03 41.0	-0.9
	564nm,0.5s						
BBSI	Bau Bau	6.20	231	P	Pn	00 03 49.4	+2.1
	136nm,0.9s,1µm0.4nm						
BBSI				S	Sn	00 04 59.3	+2.2
	136nm,0.9s,1µm0.4nm						
RKPI	Ransiki, Papua	6.78	90	P	Pn	00 03 55.3	0.0
RKPI				S	Sn	00 05 10.5	-1.0
SAUI	Saumlaki	7.48	149	ePn	Pn	00 04 09.1	+4.2
SAUI	Saumlaki	7.48	149	P	Pn	00 04 06.1	+1.2
SAUI				S	Sn	00 05 30.1	+1.4
PCI	Palu	7.58	275	P	Pn	00 04 06.5	+0.2
PCI				pmax	pmax		
	comp=Z,1µm,0.9s						
PCI	Palu	7.58	275	P	Pn	00 04 08.0	+1.7
	comp=Z,1µm,0.9s,comp=Z,15µmcomp=Z,11nm						
PCI				S	Sn	00 05 30.6	-0.6
	comp=Z,1µm,0.9s,comp=Z,15µmcomp=Z,11nm						
TTSI	Tana Toraja	7.71	259	P	Pn	00 04 08.9	+0.9
	comp=Z,493nm,0.7s,comp=Z,5µmcomp=Z,12µm						
TTSI				S	Sn	00 05 32.3	-2.0
	comp=Z,493nm,0.7s,comp=Z,5µmcomp=Z,12µm						
MPSI	Mapaga	7.72	284	P	Pn	00 04 08.0	-0.2
MPSI				S	Sn	00 05 33.2	-1.5
BNSI	Bone	7.81	249	P	Pn	00 04 10.5	+1.2
	comp=Z,156nm,0.8s,comp=Z,2µmcomp=Z,0.8nm						
SPSI	Sidrap Palu	7.98	252	P	Pn	00 04 13.8	+2.0
	comp=Z,513nm,0.7s,comp=Z,6µm						
SPSI				S	Sn	00 05 42.6	+1.6
	comp=Z,513nm,0.7s,comp=Z,6µm						
BKSI	Bulukumba	8.17	243	P	Pn	00 04 17.8	+3.5
	comp=Z,682nm,0.5s,comp=Z,7µm						
BKSI				S	Sn	00 05 47.9	+2.4
	comp=Z,682nm,0.5s,comp=Z,7µm						
MMRI	Maumere	8.71	216	ePn	Pn	00 04 25.0	+3.2
MMRI	Maumere	8.71	216	P	Pn	00 04 25.2	+3.4
SOEI	Soe	8.72	201	ePn	Pn	00 04 14.1	-8.0
SOEI	Soe	8.72	201	P	Pn	00 04 25.4	+3.4
DAV	Davao City (W)	8.75	348	Pn	Pn	00 04 25.2	+2.9
	comp=Z,46nm,0.3s,baz=218,slow=4.5,SNR=4.1						
DAV	Davao City (W)	8.75	348	ePn	Pn	00 04 23.5	+1.1
DAV				eS	Sn	00 05 57.0	-3.0
DAV	Davao City (W)	8.75	348	eP	Pn	00 04 25.9	+3.6
SRPI	Serui, Papua	8.85	92	P	Pn	00 04 31.5	+7.8
SRPI				S	Sn	00 06 01.3	-1.1
EDFI	Ende, Flores	9.13	218	P	Pn	00 04 30.7	+3.1
	comp=Z,334nm,0.8s,comp=Z,3µm						
BATI	Baumata	9.36	203	Pn	Pn	00 04 35.0	+4.3
	comp=Z,8.8nm,0.3s,baz=107,slow=2.6,SNR=25						
BATI				LR	LR	00 07 59.7	
	comp=Z,6µm,20.6s,baz=19,slow=37						
BATI	Baumata	9.36	203	P	Pn	00 04 35.0	+4.3
	comp=Z,181nm,1.1s,comp=Z,2µm						
SGKI	Sangatta, Kali	9.84	276	P	Pn	00 04 38.2	+0.9
SMKI	Samarinda	10.24	276	P	Pn	00 04 43.8	+1.0
BKB	Balikpapan	10.50	271	P	Pn	00 04 47.7	+1.4
	comp=Z,1µm,0.9s,comp=Z,9µm						
WSI	Waingapu	10.72	221	P	Pn	00 04 53.5	+4.3
	comp=Z,792nm,1.1s,comp=Z,11µm						
BASI	Baing, Sumba	10.96	218	P	Pn	00 04 56.7	+4.2
	comp=Z,481nm,1.3s,comp=Z,6µm						
KBKI	Kotabaru	11.35	261	P	Pn	00 04 58.7	+0.8
	comp=Z,28nm,0.8s						
PLAI	Plampang	11.99	233	P	Pn	00 05 10.2	+3.4
	comp=Z,191nm,1.2s,comp=Z,2µm						
MTKI	Muara Teweh, K	12.51	273	P	Pn	00 05 15.1	+1.3
GENI	Genyem	12.81	95	P	Pn	00 05 19.9	+2.0
	comp=Z,622nm,1.2s,comp=Z,9µm						
JAY	Jayapura	13.34	94	Pn	Pn	00 05 26.2	+1.1
	comp=Z,4.2nm,0.3s,baz=244,slow=10,SNR=13						
JAY				LR	LR	00 11 40.1	
	comp=Z,8µm,21.7s,baz=290,slow=43						
JAY	Jayapura	13.34	94	P	Pn	00 05 23.9	-1.3
	comp=Z,1µm,1.8s,comp=Z,26µm						
SRBI	Singaraja	13.76	241	P	P	00 05 43.7	+4.7
JAGI	Jajag, Banyuwa	14.87	242	ePn	P	00 05 50.5	-0.9
JAGI	Jajag, Banyuwa	14.87	242	P	P	00 05 49.9	-1.5
GMJI	Gumukmas	15.41	244	P	P	00 05 57.0	-0.4
	comp=Z,332nm,1.4s,comp=Z,4µm						
SBUM	Sibu	15.68	285	P	Pn	00 05 57.4	+0.7
STKI	Sintang	15.99	276	P	Pn	00 06 00.7	0.0
	comp=Z,78nm,1.1s,comp=Z,14µm						
FITZ	Fitzroy Crossi	16.53	186	Pn	Pn	00 06 05.6	-1.9
	comp=Z,2.3nm,0.3s,baz=14,slow=8.6,SNR=34						
FITZ				LR	LR	00 13 02.9	
	comp=Z,1µm,18.6s,baz=16,slow=39						
FITZ	Fitzroy Crossi	16.53	186	Pn	Pn	00 06 05.6	-1.9
	comp=Z,286nm,1.4s						
PWJI	Pagerwojo	16.80	247	P	P	00 06 12.5	-0.4
TGY	Tagaytay City	16.82	338	Pn	Pn	00 06 09.7	-1.5
	comp=Z,58nm,0.3s,baz=228,slow=6.4,SNR=6.5						
KSM	Kuching	17.34	280	P	Pn	00 06 17.7	0.0
PCJI	Pacitan	17.45	247	P	Pn	00 06 16.2	-2.8
	comp=Z,159nm,1.2s,comp=Z,3µm						
WOJI	Wonogiri, Jawa	17.55	249	P	P	00 06 29.8	+8.6
WRAB	Tennant Creek	19.50	160	eP	P	00 06 39.7	-2.9
	comp=Z,174nm,1.1s						
WRAB	Tennant Creek	19.50	160	deP	P	00 06 39.6	-2.9
WRAB				pmax	pmax		
	comp=Z,126nm,0.8s						
WRA	Warramunga Arr	19.50	160	P	P	00 06 39.6	-3.0
	comp=Z,5.2nm,0.3s,baz=346,slow=11,SNR=123						
WRA				S	S	00 10 11.4	-10
	comp=Z,0.9nm,0.3s,baz=344,slow=19,SNR=4.7						
WRA				LR	LR	00 14 55.0	
	comp=Z,3µm,18.4s,baz=345,slow=39						
WB2	Warramunga Arr	19.50	160	eP	P	00 06 39.5	-3.1
COEN	Coen	19.89	129	eP	P	00 06 46.3	-0.5
	comp=Z,301nm,0.9s						
CISI	Cisompet, Garu	20.40	252	eP	Pn	00 06 53.0	-1.7
	comp=Z,112nm,0.9s						
CISI	Cisompet, Garu	20.40	252	P	P	00 06 52.8	+0.3
LEM	Lembang	20.40	255	P	Pn	00 06 54.5	-0.3
	comp=Z,14nm,0.4s,baz=353,slow=18,SNR=3.3						
LEM				LR	LR	00 16 20.6	
	comp=Z,3µm,18.2s,baz=65,slow=42						
LEM	Lembang	20.40	255	P	Pn	00 06 57.9	+3.1
MBWA	Marble Bar	20.87	200	eP	P	00 06 55.9	-1.6
	comp=Z,205nm,1.0s						
MBWA				LR	LR		
	comp=Z,2µm,19.0s						
MBWA	Marble Bar	20.87	200	P	P	00 06 56.1	-1.3
	SNR=12						
MBWA				P	P	00 06 56.1	-1.3
	SNR=12						
CBJI	Citeko	21.05	256	P	P	00 07 01.3	+1.9
PMG	Port Moresby	21.15	112	P	P	00 06 59.4	-1.2
	comp=Z,66nm,1.0s,baz=310,slow=4.3,SNR=21						
PMG	Port Moresby	21.15	112	eP	P	00 07 00.2	-0.3
	comp=Z,217nm,1.2s						
PMG				LR	LR		
	comp=Z,3µm,19.0s						
PMG	Port Moresby	21.15	112	eP	P	00 07 00.2	-0.3
PMG				pmax	pmax		
	comp=Z,217nm,1.2s						
PMG				MLR	MLR		
	comp=Z,3µm,19.0s						
TNG	Tangerang	21.20	257	P	P	00 07 00.3	-0.7
	comp=Z,1µm,0.5s						
PPBI	Pangkal Pinang	21.25	268	P	P	00 07 00.5	-1.1
SBJI	Serang	21.69	257	P	P	00 07 08.1	+1.8
BLSI	Bandar Lampung	22.43	260	P	P	00 07 13.9	-0.3
PMBI	Palembang	22.64	266	P	P	00 07 18.2	+1.6
KLI	Kotabumi	22.74	261	P	P	00 07 21.6	+4.1
KLI				pmax	pmax		
	comp=Z,285nm,0.7s						
KLI	Kotabumi	22.74	261	P	P	00 07 18.8	+1.3
	comp=Z,294nm,0.6s						
DSRI	Dabo	22.84	272	P	P	00 07 19.2	+0.6
KLSI		22.84	262	P	P	00 07 19.2	+0.6
	comp=Z,34nm,0.7s						
AS31	Alice Springs	22.87	164	eP	P	00 07 16.5	-2.4
	comp=Z,32nm,0.6s						
ASAR	Alice Springs	22.87	164	P	P	00 07 16.4	-2.4
	comp=Z,92nm,0.8s,baz=343,slow=9.6,SNR=602						
ASAR				S	S	00 11 25.0	-1.6
	comp=Z,43nm,0.9s,baz=344,slow=20,SNR=19						
ASAR				LR	LR	00 17 09.0	
	comp=Z,2µm,19.5s,baz=349,slow=39						
AS01	Alice Springs	22.88	164	eP	P	00 07 15.1	-3.9
GUMO	Guam	22.95	49	LR	LR	00 16 30.9	
	comp=Z,1µm,18.7s,baz=230,slow=38						
TPRI	Tanjung Pinang	23.00	276	P	P	00 07 20.7	+0.5
KASI	Kota Agung	23.19	260	P	P	00 07 22.6	+0.5
	comp=Z,160nm,1.1s						
MDSI	Maura Dua	23.36	262	P	P	00 07 24.1	+0.2
	comp=Z,118nm,1.6s,comp=Z,2µm						
LWLI	Liwa	23.55	261	P	P	00 07 26.5	+0.7
JMBI	JAMBI	23.74	269	P	P	00 07 29.4	+1.8
	comp=Z,430nm,0.7s						
GIRL	Giralia	24.56	210	eP	P	00 07 35.5	+0.5
	comp=Z,525nm,1.0s						
TWG	Pinlang	25.00	346	eP	P	00 07 37.3	-1.6
	comp=Z,390nm,0.7s						
MASI	Maura Aman, Be	25.18	266	P	P	00 07 41.8	+1.0
YULB	Yu-li	25.49	347	eP	P	00 07 43.8	+0.3
	comp=Z,61nm,0.9s						
TPUB	Ta-pu	25.56	345	eP	P	00 07 43.4	-0.8
	comp=Z,229nm,0.9s						
SSLB	Suanglung	25.95	346	eP	P	00 07 48.5	+0.9
	comp=Z,137nm,0.8s						
SDSI	Sungai Dareh	25.97	271	P	P	00 07 48.8	+0.9
CTA	Charters Tower	26.07	136	P	P	00 07 49.5	+0.8
	comp=Z,30nm,0.9s,baz=317,slow=10,SNR=33						
CTAO	Charters Tower	26.07	136	eP	P	00 07 49.5	+0.8
	comp=Z,95nm,1.3s						
CTAO				LR	LR		
	comp=Z,3µm,20.0s						
CTAO	Charters Tower	26.07	136	eP	P	00 07 49.5	+0.8
CTAO				pmax	pmax		
	comp=Z,95nm,1.3s						
CTAO				MLR	MLR		
	comp=Z,3µm,20.0s						
FRIM	Kepong	26.19	280	P	P	00 07 51.9	+2.0
BKNI	Bangkinang	26.42	274	P	P	00 07 52.0	0.0
YHNB	Yeheng	26.71	348	eP	P	00 07 54.0	-0.5
	comp=Z,205nm,0.9s						
QIZ	Qiongzhong	26.75	321	P	P	00 07 56.1	+1.2
QIZ				S	S	00 12 30.3	+1.4
QIZ				pmax	pmax		
	comp=Z,28nm,1.5s						
QIZ				pmax	pmax		
	comp=Z,610nm,4.4s						
QIZ				LR	LR		
	comp=Z,1µm,13.7s						
QIZ				LR	LR		
	comp=Z,1µm,10.8s						
QIZ				LR	LR		
	comp=Z,1µm,17.7s						
QIZ	Qiongzhong	26.75	321	PFAKE		00 08 10.0	+15
QIZ				LR	LR		
	comp=Z,1µm,20.0s						
PDSI	Padang	26.93	271	P	P	00 07 56.3	-0.4
TATO	Taipei	26.98	348	eP	P	00 07 58.9	+2.0
	comp=Z,35nm,0.5s						
MCO	Taipa Grande	27.13	331	P	P	00 07 59.0	+0.7
QZH	Quanzhou	27.68	343	eP	P	00 08 03.2	0.0
MNSI	Mandailing Nat	27.91	275	P	P	00 08 06.3	+0.9
JOW	Kunigami	28.23	2	P	P	00 08 10.4	+2.4
	comp=Z,44nm,0.6s,baz=193,slow=12,SNR=6.2						
JOW				LR	LR	00 17 46.9	
	comp=Z,2µm,21.8s,baz=132,slow=33						
SISI	Saibi	28.30	270	P	P	00 08 05.9	-2.9
	comp=Z,42nm,1.6s						
PSI	Prapat	28.79	279	P	P	00 08 13.4	0.0
	comp=Z,34nm,0.8s,baz=178,slow=1.1,SNR=13						
PSI				LR	LR	00 21 50.5	
	comp=Z,1µm,18.2s,baz=90,slow=41						
PSI	Prapat	28.79	279	eP	P	00 08 13.2	-0.2
	comp=Z,50nm,0.9s						
FORT	Forrest	29.08	179	eP	P	00 08 14.6	-1.0
	comp=Z,116nm,0.7s						
TRTT	Trang	29.16	289	P	P	00 08 19.2	+2.7
	comp=Z,11nm,1.1s						
SRAK	Srakaew	29.50	302	P	P	00 08 16.3	-3.2
	comp=Z,47nm,1.0s,comp=Z,591nm						
SKNT	Sakolnakorn	29.53	310	P	P	00 08 20.4	+0.6
	comp=Z,19nm,0.9s						
GSI	Gunungsitoli	29.95	275	eP	P	00 08 22.9	-0.6
	comp=Z,72nm,1.0s						

GSI Gunungsitoli 29.95 275 P **P** **00 08 22.7 -0.8**
KCSI Kotacane, Aceh 30.03 280 P **P** **00 08 22.7 -1.6**
comp=Z,48nm,1.0s,comp=Z,734nm
CHAI Chaiyaphum 30.51 306 P **P** **00 08 28.6 +0.2**
comp=Z,15nm,0.9s,comp=Z,259nm
NONG Nongkai 30.82 310 P **P** **00 08 31.2 +0.1**
comp=Z,0.9nm,0.9s,comp=Z,140nm
PHET Kaeng Krachan 31.07 298 P **P** **00 08 34.6 +1.2**
comp=Z,8.1nm,0.9s
PBKT Sadao Pong 31.69 306 *e*P **P** **00 08 39.0 +0.2**
PBKT Sadao Pong 31.69 306 P **P** **00 08 39.0 +0.2**
comp=Z,23nm,1.8s,comp=Z,2μm
CBIJ Chichi jima 31.85 26 *e*P **P** **00 08 43.1 +3.1**
comp=Z,175nm,1.0s
BBOO Buckleboo 32.15 166 *e*P **P** **00 08 41.5 -1.2**
comp=Z,27nm,0.8s
SRDT SRDT 32.15 300 P **P** **00 08 44.3 +1.4**
comp=Z,37nm,1.9s,comp=Z,1μm
UTHA Uthaitani 32.44 303 P **P** **00 08 46.0 +0.6**
comp=Z,9.9nm,1.0s,comp=Z,106nm
NWAO Narrogin (SRO) 32.64 196 P **P** **00 08 46.5 -0.5**
comp=Z,27nm,0.7s,baz=251,slow=9.2,SNR=16
NWAO Narrogin (SRO) 32.64 196 *e*P **P** **00 08 45.8 -1.2**
comp=Z,32nm,0.8s
NWAO LR LR
comp=Z,1μm,19.0s
EIDS Eidsvold 32.90 138 *e*P **P** **00 08 49.7 +0.3**
comp=Z,58nm,1.5s
STKA Stephens Creek 33.01 157 P **P** **00 08 49.6 -0.6**
comp=Z,31nm,0.8s,baz=327,slow=9.0,SNR=53
STKA LR LR 00 23 31.7
comp=Z,2μm,19.9s,baz=335,slow=39
STKA Stephens Creek 33.01 157 P **P** **00 08 49.6 -0.6**
comp=Z,7.8nm,0.9s
STKA Stephens Creek 33.01 157 P **P** **00 08 49.6 -0.6**
STKA pmax pmax
comp=Z,8.0nm,0.9s
UMPA Umpang Tak 33.25 303 P **P** **00 08 53.8 +1.3**
comp=Z,7.4nm,1.0s,comp=Z,308nm
SUKH Sukhothai 33.26 306 P **P** **00 08 53.6 +1.0**
comp=Z,15nm,0.9s
HNR Honiara 33.31 105 PFAKE 00 09 00.0 +6.9
HNR LR LR
comp=Z,1μm,19.0s
LAMP Lampang 33.81 307 P **P** **00 08 58.8 +1.4**
comp=Z,6.9nm,0.8s,comp=Z,96nm
WHN Wuhan 34.25 340 ⇓P **P** **00 09 02.3 +1.3**
WHN sP **sP** **00 09 11.6 -2.7**
WHN S **S** **00 14 28.0 +2.0**
WHN LR LR
comp=Z,2μm,24.1s
GYA Guiyang 34.29 326⇑ *i*P **P** **00 09 01.6 0.0**
GYA pP sP 00 09 12.8 -2.0
GYA sP pP 00 09 15.0 +4.2
GYA PP **PP** **00 10 20.4 +0.7**
GYA S **S** **00 14 28.3 +1.3**
GYA sS sS 00 14 43.2 +0.8
GYA SS **SnSn** **00 16 41.0 +3.2**
GYA pmax pmax
comp=Z,50nm,0.8s
GYA pmax pmax
comp=Z,400nm,10.5s
GYA LR LR
comp=Z,1μm,16.8s
GYA LR LR
comp=Z,690nm,18.9s
GYA LR LR
comp=Z,1μm,17.1s
CM01 Chiang Mai Arr 34.30 307 *e*P **P** **00 09 02.1 +0.5**
CM31 Chiang Mai Arr 34.33 307 *e*P **P** **00 09 03.0 +1.1**
CM31 Chiang Mai Arr 34.33 307 P **P** **00 09 02.6 +0.7**
SNR=22
CMAR Chiang Mai Arr 34.33 307 P **P** **00 09 02.4 +0.5**
comp=Z,35nm,1.2s,baz=128,slow=6.6,SNR=63
CMAR ScP **ScP** **00 15 23.1 +2.5**
comp=Z,0.6nm,0.4s,baz=147,slow=2.2,SNR=4.2
CMAR LR LR 00 24 23.2
comp=Z,677nm,21.8s,baz=121,slow=39
CMAR Chiang Mai Arr 34.33 307 *i* P **P** **00 09 03.0 +1.1**
CMAR pmax pmax
comp=Z,21nm,1.1s
NJ2 Nanjing 34.39 347 *e*P **P** **00 09 03.4 +1.2**
NJ2 pP **pP** **00 09 11.0 -0.5**
NJ2 S **S** **00 14 30.5 +2.5**
NJ2 pmax pmax
comp=Z,50nm,1.2s
CMMT Chiang Mai 34.52 307 P **P** **00 09 04.1 +0.6**
comp=Z,59nm,1.2s,comp=Z,946nm
CHTO Chiang Mai 34.52 307 *e*P **P** **00 09 04.1 +0.5**
comp=Z,51nm,1.0s
CHTO LR LR
comp=Z,670nm,20.0s
CHTO Chiang Mai 34.52 307 *e*P **P** **00 09 04.1 +0.5**
CHTO pmax pmax
comp=Z,51nm,1.0s
CHTO MLR MLR
comp=Z,670nm,20.0s
CHTO Chiang Mai 34.52 307 P **P** **00 09 04.3 +0.7**
SNR=28
CHTO Chiang Mai 34.52 307 P **P** **00 09 04.1 +0.5**
comp=Z,261nm,1.2s,comp=Z,4μm
CHTO Chiang Mai 34.52 307 *e*P **P** **00 09 03.8 +0.2**
JNU Nakatsue 34.64 5 LR LR 00 21 37.2
comp=Z,2μm,21.9s,baz=179,slow=34
JNU Nakatsue 34.64 5 *e*P **P** **00 09 03.3 -1.1**
comp=Z,43nm,1.1s
KMI Kunming 35.69 320 P **P** **00 09 16.2 +2.4**
KMI pP sP 00 09 26.1 -0.8
KMI PP **PnPn** **00 10 32.8 -1.2**
KMI S **S** **00 14 52.3 +3.6**
KMI sS sS 00 15 09.1 +4.9
KMI pmax pmax
comp=Z,33nm,1.5s
KMI pmax pmax
comp=Z,540nm,5.4s
KMI LR LR
comp=Z,590nm,16.5s
KMI LR LR
comp=Z,610nm,18.7s
KMI LR LR
comp=Z,930nm,17.2s
ENH Enshi 35.96 333 *e*P **P** **00 09 15.8 0.0**
comp=Z,120nm,0.9s
ENH LR LR
comp=Z,952nm,20.0s
JHJ Hachijo jima 2 36.41 18 LR LR 00 22 17.3
comp=Z,914nm,19.8s,baz=100,slow=33
ARMA Armidale 36.78 144 *e*P **P** **00 09 23.7 +0.8**
comp=Z,45nm,0.8s
PBA Port Blair 36.85 292 *e*P P 00 09 26.5 +2.9
TJN Taejon 37.73 360 *i* P **P** **00 09 30.6 -0.2**
INU Inuyama 37.80 13 *e*P **P** **00 09 30.4 -0.9**
comp=Z,74nm,1.1s
TIA Tai'an 38.77 347 P **P** **00 09 38.5 -1.0**
TIA S **S** **00 15 31.6 -3.3**
TIA pmax pmax
comp=Z,7.0nm,0.8s
TIA pmax pmax
comp=Z,170nm,3.7s
TIA LR LR
comp=Z,130nm,5.9s
TIA LR LR
comp=Z,190nm,5.4s
TIA LR LR
comp=Z,290nm,8.8s
KS15 Wonju Array Si 38.80 1 *e*P **P** **00 09 42.7 +3.0**
KSAR Wonju Array Be 38.80 1 P **P** **00 09 39.0 -0.6**
KSAR Wonju Array Be 38.80 1 P **P** **00 09 39.1 -0.6**
KSRS Korea Array 38.81 1 P **P** **00 09 39.0 -0.8**
comp=Z,10nm,0.6s,baz=175,slow=7.8,SNR=25
KS01 Wonju Array Si 38.83 1 *e*P **P** **00 09 39.9 -0.1**
CAN Canberra 39.15 152 *e*P **P** **00 09 41.3 -1.5**
comp=Z,82nm,0.9s
CAN Canberra 39.15 152 P **P** **00 09 41.3 -1.5**
CAN pmax pmax
comp=Z,82nm,0.9s
MAJO Matsushiro 39.21 14 *e*P **P** **00 09 41.2 -2.1**
comp=Z,31nm,0.7s
MAJO LR LR
comp=Z,2μm,21.0s
MAJO Matsushiro 39.21 14 *i* P **P** **00 09 42.3 -0.9**
MAJO pmax pmax
comp=Z,19nm,0.9s
MAT Matsushiro 39.21 14 P **P** **00 09 40.6 -2.6**
MAT S **S** **00 15 39.2 -2.4**
MJAR Matsushiro Arr 39.21 14 P **P** **00 09 40.5 -2.7**
comp=Z,17nm,0.7s,baz=191,slow=10.0,SNR=20
MJAR LR LR 00 23 53.6
comp=Z,1μm,21.1s,baz=200,slow=33
MJB9 Matsu-Tunnel 39.22 14 *e*P **P** **00 09 41.7 -1.6**
comp=Z,32nm,0.7s
CD2 Chengdu 39.34 327 P **P** **00 09 44.7 +0.2**
CD2 pP pP 00 09 49.6 -4.1
CD2 PP **PP** **00 11 15.5 +0.4**
CD2 PcS **PcS** **00 15 42.0 -0.6**
CD2 S **S** **00 15 47.1 +3.3**
CD2 SS **SnSn** **00 18 42.9 +3.1**
CD2 pmax pmax
comp=Z,40nm,0.8s
CD2 pmax pmax
comp=Z,680nm,5.8s
CD2 LR LR
comp=Z,690nm,9.3s
CD2 LR LR
comp=Z,1μm,9.9s
CD2 LR LR
comp=Z,1μm,10.5s
XAN Xi'an 39.44 336 P **P** **00 09 44.5 -0.7**
XAN pP pP 00 09 51.9 -2.5
XAN sP sP 00 09 55.2 -3.3
XAN PP **PnPn** **00 11 19.6 +0.5**
XAN S **S** **00 15 43.4 -1.7**
XAN ScS **ScS** **00 19 49.3 -2.2**
XAN pmax pmax
comp=Z,16nm,0.7s
XAN pmax pmax
comp=Z,690nm,6.0s
XAN LR LR
comp=Z,660nm,18.4s
XAN LR LR
comp=Z,450nm,19.0s
XAN LR LR
comp=Z,660nm,19.5s
TOO Toolangi 39.53 157 *e*P **P** **00 09 47.2 +1.3**
comp=Z,42nm,0.9s
TOO Toolangi 39.53 157 *e*P **P** **00 09 47.2 +1.3**
TOO pmax pmax
comp=Z,42nm,0.9s
DL2 Dalian 40.61 353 *e*P **P** **00 09 56.8 +2.1**
DL2 *e*S **S** **00 16 06.2 +3.9**
DL2 pmax pmax
comp=Z,53nm,0.9s
DL2 pmax pmax
comp=Z,530nm,4.9s
DL2 LR LR
comp=Z,620nm,14.4s
DL2 LR LR
comp=Z,750nm,14.5s
DL2 LR LR
comp=Z,890nm,17.8s
TIY Taiyuan 41.45 342 *e*P **P** **00 10 01.5 -0.3**
TIY S **S** **00 16 17.1 +2.0**
TIY pmax pmax
comp=Z,87nm,0.7s
TIY pmax pmax
comp=Z,330nm,4.4s
TIY LR LR
comp=Z,490nm,7.2s
TIY LR LR
comp=Z,240nm,5.3s
TIY LR LR
comp=Z,380nm,8.6s
BRDH Bariadhala 42.35 307 P **P** **00 10 09.8 +0.4**
comp=Z,71nm,0.3s,baz=98,slow=7.5,SNR=9.8
BJT Baijiatuao 42.63 347 *e*P **P** **00 10 10.7 -0.6**
comp=Z,93nm,1.1s
BJT LR LR
comp=Z,797nm,22.0s
BJT Baijiatuao 42.63 347 *e*P **P** **00 10 10.7 -0.6**
BJT pmax pmax
comp=Z,93nm,1.1s
BJT MLR MLR
comp=Z,797nm,22.0s
BJI Beijing 42.65 347⇑ *e*P **P** **00 10 10.6 -0.8**
BJI S **S** **00 16 33.7 +1.2**
BJI pmax pmax
comp=Z,19nm,1.1s
DZM Mont Dzumac 43.10 121 *e*P **P** **00 10 17.2 +1.6**
comp=Z,162nm,1.6s
DZM *e*S **S** **00 16 41.3 +1.3**
comp=Z,718nm,32.8s
DZM *e*LR LR 00 22 18.3
comp=Z,1μm,24.8s
LZH Lanzhou 43.41 332 ⇑P **P** **00 10 18.6 +0.7**
LZH pP pP 00 10 24.7 -2.5
LZH sP sP 00 10 26.8 -4.5
LZH PP **PcP** **00 12 05.1 -0.9**
LZH S **S** **00 16 41.4 -2.8**
LZH sS sS 00 17 01.4 +1.7
LZH SS **SS** **00 19 57.0 -2.0**
LZH pmax pmax
comp=Z,140nm,1.4s
LZH pmax pmax
comp=Z,560nm,5.3s
LZH LR LR
comp=Z,2μm,18.4s
LZH LR LR
comp=Z,980nm,17.9s
LZH LR LR
comp=Z,2μm,18.6s
SHL Shillong 43.66 311 *e*P **P** **00 10 20.4 +0.2**
comp=Z,145nm,0.8s
SHL Shillong 43.66 311 *e*P **P** **00 10 20.4 +0.2**
SHL pmax pmax
comp=Z,145nm,0.8s
SHL Shillong 43.66 311 *e*P **P** **00 10 18.0 -2.1**
WAKE Wake Island 43.76 60 PFAKE 00 10 30.0 +9.3
WAKE LR LR
comp=Z,2μm,19.0s
MSHR Mys Shultsa 44.06 4 *i* P **P** **00 10 24.3 +1.5**
HHC Hu-ho-hao-te 44.60 343 *e*P **P** **00 10 28.0 +0.7**
HHC sP sP 00 10 39.0 -1.7
HHC S **S** **00 17 03.9 +2.6**
HHC pmax pmax
comp=Z,17nm,1.2s
HHC pmax pmax
comp=Z,500nm,4.8s
HHC LR LR
comp=Z,3μm,17.8s
HHC LR LR
comp=Z,1μm,14.3s
HHC LR LR
comp=Z,2μm,18.2s
BTO Baotou 44.85 341 *e*P **P** **00 10 33.0 +3.7**
TAU Tasmania Unive 44.87 159 PFAKE 00 10 40.0 +11
TAU LR LR
comp=Z,2μm,22.0s
CN2 Changchun 45.18 358 *e*P **P** **00 10 34.8 +3.0**
CN2 *e*S **S** **00 17 13.9 +4.5**
CN2 SS **ScS** **00 20 28.8 +2.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,670nm,17.0s
CN2 LR LR
comp=Z,520nm,17.0s
CN2 LR LR
comp=Z,790nm,18.0s
ERM Erimo 45.65 16 PFAKE 00 10 50.0 +15
ERM LR LR
comp=Z,685nm,20.0s
ERM Erimo 45.65 16 *i* P **P** **00 10 37.9 +2.4**
ERM pmax pmax
comp=Z,86nm,1.1s
USA0B Ussuriysk Arra 45.73 5 *e*P **P** **00 10 35.3 -0.8**
comp=Z,57nm,0.6s
USRK Ussuriysk Ar. 45.73 5 P **P** **00 10 35.4 -0.7**
comp=Z,54nm,0.6s,baz=184,slow=7.4,SNR=47
USRK LR LR 00 27 36.1
comp=Z,502nm,21.8s,baz=158,slow=33
MDJ Mudanjiang 46.01 2 P **P** **00 10 35.1 -3.2**
MDJ pP pP 00 10 42.1 -5.7
MDJ sP sP 00 10 46.3 -5.4
MDJ S **S** **00 17 30.0 +8.7**
MDJ ScS **ScS** **00 20 26.3 -5.3**
MDJ pmax pmax
comp=Z,40nm,0.9s
MDJ pmax pmax
comp=Z,710nm,4.5s
MDJ LR LR
comp=Z,1μm,17.2s
MDJ LR LR
comp=Z,2μm,18.6s
MDJ Mudanjiang 46.01 2 *e*P **P** **00 10 38.0 -0.2**
comp=Z,46nm,1.0s
MDJ LR LR
comp=Z,1μm,21.0s
LSA Lhasa 46.51 315 *e*P **P** **00 10 44.5 +1.4**
comp=Z,100nm,0.7s
LSA LR LR
comp=Z,404nm,22.0s
LSA Lhasa 46.51 315 *i* P **P** **00 10 44.5 +1.4**
SNR=34
LSA Lhasa 46.51 315 *e*P **P** **00 10 44.5 +1.4**
LSA pmax pmax
comp=Z,100nm,0.7s
LSA MLR MLR
comp=Z,404nm,22.0s
TEY Ternei 47.10 9⇑ *e*P **P** **00 10 49.7 +2.9**
TEY pmax pmax
comp=Z,70nm,0.6s
ASAJ Asahikawa 47.46 15 P **P** **00 10 49.6 0.0**
comp=Z,36nm,0.7s,baz=209,slow=8.5,SNR=12
BOK Bokaro 47.55 305 *e*P **P** **00 10 49.5 -1.3**
GTA Gaotai 47.98 331 ⇑P **P** **00 10 53.9 0.0**
GTA pP pP 00 10 59.1 -4.3
GTA sP sP 00 11 02.2 -5.2
GTA S **S** **00 17 52.1 +2.2**
GTA SS **SS** **00 21 16.6 -2.6**
GTA pmax pmax
comp=Z,13nm,1.4s
GTA pmax pmax
comp=Z,430nm,7.5s
GTA LR LR
comp=Z,360nm,17.1s
GTA LR LR
comp=Z,550nm,19.4s
GTA LR LR
comp=Z,750nm,19.0s
YUK Yuzh-Kuril'sk 48.30 18 *e*P **P** **00 10 53.8 -2.3**
YUK *i* 00 12 20.3
YUK *e* 00 12 46.5
YUK *e*S **S** **00 17 55.1 +1.2**
YUK *e* 00 20 42.7
YUK *e*SS **SS** **00 21 23.6 -0.3**
YUK pmax pmax
comp=Z,613nm,1.8s
YUK pmax pmax
comp=N,333nm,1.9s
YUK pmax pmax
comp=E,67nm,0.8s
YUK pmax pmax
comp=Z,2μm,2.6s
RAMN Ramite 48.44 309 *e*P **P** **00 10 58.9 +1.1**
comp=Z,253nm,0.6s
MDRS Chennai 48.97 289 *e*P **P** **00 11 01.8 0.0**
JIRN Jiri 49.10 309 *e*P **P** **00 11 03.8 +0.7**
comp=Z,343nm,0.9s
GUN Gumba 49.47 309 *e*P **P** **00 11 06.4 +0.6**
comp=Z,436nm,0.9s
PKIN Phulchoki 49.68 309 *e*P **P** **00 11 07.3 -0.1**
comp=Z,79nm,0.8s
KKN Kakani 49.87 309 *e*P **P** **00 11 09.1 +0.3**
comp=Z,166nm,0.8s
DMN Daman 49.92 309 *e*P **P** **00 11 09.7 +0.5**
comp=Z,271nm,0.9s
YSS Yuzh-Sakhalins 50.15 14 *e*P **P** **00 11 13.7 +3.4**
YSS MLR MLR
comp=Z,700nm,16.0s
KLR Kul'dur 50.72 4 P **P** **00 11 13.3 -1.2**
comp=Z,28nm,1.0s,baz=215,slow=3.8,SNR=22
KLR Kul'dur 50.72 4 *e*P **P** **00 11 13.6 -0.9**
HIA Hailar 51.05 354 *e*P **P** **00 11 17.0 -0.1**
comp=Z,29nm,1.1s
HIA LR LR
comp=Z,702nm,20.0s
HIA Hailar 51.05 354 *e*P **P** **00 11 17.0 -0.1**
HIA pmax pmax
comp=Z,29nm,1.1s
HIA MLR MLR
comp=Z,702nm,20.0s
KOLN Koldanda 51.17 308 *e*P **P** **00 11 19.4 +0.8**
comp=Z,380nm,1.0s
TRD Trivandrum 51.25 282 *e*P **P** **00 11 19.3 +0.1**
DANN Dangsing 51.32 309 *e*P **P** **00 11 20.3 +0.5**
comp=Z,222nm,0.6s
HYB Hyderabad 51.67 294 *i* P **P** **00 11 22.0 -0.3**
comp=Z,80nm,1.0s
HYB *e*S **S** **00 18 42.0 0.0**
HYB Hyderabad 51.67 294 *e*P **P** **00 11 21.6 -0.7**
HYB IAmb IAmb 00 11 27.5
comp=Z,102nm,1.3s
PYUN Piuthan 51.80 308 *e*P **P** **00 11 24.1 +0.8**
comp=Z,485nm,1.0s
JBP Jabalpur 52.26 301⇑ *e*P **P** **00 11 26.3 -0.2**
JBP *e*x x 00 13 39.0
ULN Ulaanbaatar 52.32 343 *e*Pn **P** **00 11 25.8 -0.9**
comp=Z,108nm,1.2s
ULN LR LR
comp=Z,446nm,21.0s
ULN Ulaanbaatar 52.32 343 *c*e**P** **P** **00 11 25.5 -1.2**
ULN pmax pmax
comp=Z,44nm,1.3s
ULN Ulaanbaatar 52.32 343 P **P** **00 11 25.9 -0.9**
SNR=26
NGP Nagpur 52.37 298 *e*P **P** **00 11 26.4 -1.0**
NGP ⇓*e*x x 00 13 04.6
SONM Songino Array 52.49 342 P **P** **00 11 27.0 -0.9**
comp=Z,11nm,0.6s,baz=152,slow=8.0,SNR=65
SONM LR LR 00 34 41.9
comp=Z,380nm,21.5s,baz=170,slow=37
SONA1 Songino Array 52.50 342 *e*P **P** **00 11 26.6 -1.4**
GRNR Gornyy 52.69 7 *e*P **P** **00 11 29.2 0.0**
GRNR pmax pmax
comp=Z,25nm,1.0s
TYV Tymovskoe 53.82 12 *e*P **P** **00 11 40.6 +3.1**
TYV pmax pmax
comp=Z,20nm,1.8s
BHPL Bhopal 54.49 300 *e*P **P** **00 11 42.5 -0.5**
BHPL IAmb IAmb 00 11 48.4
comp=Z,108nm,1.5s
ZEA Zeya 55.09 360 *e*P **P** **00 11 45.2 -1.5**
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=Z,29nm,1.0s
GOA Goa 55.58 290 *e*P **P** **00 11 50.6 -0.3**
NKL Nikolayevsk 55.63 10 *e*P **P** **00 11 50.0 -0.6**
NKL pmax pmax
comp=Z,33nm,0.9s
ZAK Zakamensk 55.70 342 *e*P **P** **00 11 50.1 -1.2**
ZAK pmax pmax
comp=Z,13nm,1.1s
POO Poona 56.28 293 *e*P **P** **00 11 55.2 -0.8**
DDI Dehra Dun 56.65 308 *e*P **P** **00 11 57.9 -0.6**
IRK Irkutsk 57.04 343 *e*P **P** **00 11 59.4 -1.3**
IRK pmax pmax
comp=Z,77nm,3.8s
WMQ Urumqi 57.44 327 P **P** **00 12 04.7 +0.9**
WMQ pP sP 00 12 14.5 -2.9
WMQ PP **PP** **00 14 12.1 +0.6**
WMQ ScP **ScP** **00 16 55.9 +0.9**
WMQ S **S** **00 19 59.3 +0.4**
WMQ ScS **ScS** **00 21 44.5 -6.5**
WMQ SS **SS** **00 23 55.0 +5.9**
WMQ pmax pmax
comp=Z,160nm,1.3s
WMQ pmax pmax
comp=Z,1μm,5.7s
WMQ LR LR
comp=Z,1μm,26.1s
WMQ LR LR
comp=Z,920nm,26.1s
WMQ LR LR
comp=Z,710nm,22.1s
MOY Mondy 57.55 341 *e*P **P** **00 12 03.1 -1.3**
MOY pmax pmax
comp=Z,88nm,2.0s
SMLA Simla 57.68 309 *e*P **P** **00 12 05.9 +0.3**
SNZO South Karori 58.11 139 PFAKE 00 12 20.0 +12
SNZO LR LR
comp=Z,2μm,19.0s
BKZ Black Stump Fm 58.28 136 *e*P **P** **00 12 10.6 +0.8**
comp=Z,139nm,1.6s
MCQ Macquarie Isla 58.76 159 *e*P **P** **00 12 14.9 +2.3**
comp=Z,188nm,1.0s

MCQ **Macquarie Isla** 58.76 159 *e*P **P** **00 12 14.9 +2.3**
MCQ pmax pmax
comp=Z,188nm,1.0s
DHRM DHARAMSHALA 58.82 310 *e*P **P** **00 12 12.7 -1.1**
PETK Petropavlovsk- 60.08 21 P **P** **00 12 21.9 +0.2**
comp=Z,13nm,0.7s,baz=190,slow=4.5,SNR=15
PETK LR LR 00 35 56.6
comp=Z,288nm,21.6s,baz=210,slow=34
PETK Petropavlovsk- 60.08 21 P **P** **00 12 22.0 +0.2**
BOD Bodaibo 60.15 352 *e*P **P** **00 12 20.6 -1.6**
BOD pmax pmax
comp=Z,32nm,1.5s
PET Petropavlovsk 60.35 21⇑ *e*P **P** **00 12 25.4 +1.8**
PET pmax pmax
comp=Z,109nm,1.3s
MIDW Midway 60.64 56 PFAKE 00 12 40.0 +14
MIDW LR LR
comp=Z,1μm,19.0s
DGZ Jazzator, Alta 61.51 332 *c i*P **P** **00 12 31.4 -0.4**
NIL Nilore 61.73 310 *e*P **P** **00 12 32.1 -1.4**
comp=Z,102nm,0.8s
NIL LR LR
comp=Z,261nm,22.0s
NIL Nilore 61.73 310 *e*P **P** **00 12 32.1 -1.4**
NIL pmax pmax
comp=Z,102nm,0.8s
NIL MLR MLR
comp=Z,261nm,22.0s
MK01 Makanchi Array 62.25 327 *e*P **P** **00 12 35.4 -1.4**
MK31 Makanchi Array 62.27 327 *e*P **P** **00 12 36.1 -0.8**
MK31 Makanchi Array 62.27 327 *e*P **P** **00 12 36.1 -0.8**
MKAR Makanchi Arrray 62.27 327 P **P** **00 12 36.1 -0.8**
comp=Z,23nm,0.7s,baz=126,slow=7.7,SNR=80
MKAR LR LR 00 39 02.0
comp=Z,266nm,20.9s,baz=118,slow=36
MKAR PKPPKP **P'P'df** **00 41 47.6 +4.3**
comp=Z,0.7nm,0.9s,baz=302,slow=2.3,SNR=4.7
MKAR Makanchi Array 62.27 327 *e*P **P** **00 12 36.1 -0.8**
comp=Z,170nm,0.8s
MKAR P'P' 00 41 47.6
MKAR Makanchi Array 62.27 327 *e*P **P** **00 12 36.1 -0.8**
MKAR pmax pmax
comp=Z,170nm,0.8s
KSH Kashi 62.28 317 P **P** **00 12 37.8 +0.6**
KSH pP pP 00 12 41.9 -5.1
KSH sP sP 00 12 47.5 -3.4
KSH PcP **PcP** **00 13 16.8 0.0**
KSH PP **PP** **00 14 54.8 +0.3**
KSH S **S** **00 20 58.0 -3.5**
KSH ScS **SKSac** **00 22 22.3 -5.0**
KSH pmax pmax
comp=Z,45nm,1.2s
KSH pmax pmax
comp=Z,720nm,3.3s
KSH LR LR
comp=Z,410nm,5.6s
KSH LR LR
comp=Z,430nm,4.9s
KSH LR LR
comp=Z,850nm,13.5s
YAK Yakutsk 63.44 1 *e*P **P** **00 12 42.1 -2.1**
YAK *e**PP **sP** **00 12 56.3 -1.6**
YAK *e* 00 13 18.1
YAK *e* 00 15 06.9
YAK *e*S **S** **00 21 11.3 -3.5**
YAK *e**SS sS 00 21 36.8 +5.7
YAK *e*SS **SS** **00 25 19.0 -3.2**
YAK pmax pmax
comp=Z,89nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=N,28nm,1.3s
YAK pmax pmax
comp=Z,112nm,3.7s
YAK pmax pmax
comp=N,229nm,3.8s
YAK pmax pmax
comp=E,132nm,4.3s
YAK smax smax
comp=N,313nm,4.9s
YAK smax smax
comp=E,189nm,4.3s
YAK MLR MLR
comp=Z,842nm,24.0s
YAK MLR MLR
comp=N,578nm,22.0s
YAK MLR MLR
comp=E,566nm,21.0s
MA2 Magadan 63.65 13 P **P** **00 12 46.3 +0.5**
comp=E,36nm,0.7s,baz=196,slow=5.9,SNR=14
MA2 Magadan 63.65 13 *c e*P **P** **00 12 47.1 +1.4**
MA2 pmax pmax
comp=Z,26nm,1.1s
KZA Kyzart 63.98 319 P **P** **00 12 49.2 +0.4**
SNR=13
TKM2 Tokmak 2 64.16 320 P **P** **00 12 49.6 -0.1**
SNR=17
KBK Karagaybulak 64.45 320 P **P** **00 12 55.7 +4.2**
SNR=11
UCH Uchtor 64.53 319 P **P** **00 12 53.1 +0.7**
SNR=15
AAK Ala-Archa 64.73 319 P **P** **00 12 53.5 +0.2**
comp=Z,4.9nm,0.8s,baz=119,slow=3.9,SNR=15
AAK Ala-Archa 64.73 319 P **P** **00 12 54.3 +0.9**
SNR=8.4
AAK Ala-Archa 64.73 319 *e*P **P** **00 12 54.0 +0.6**
comp=Z,19nm,0.9s
AAK LR LR
comp=Z,492nm,22.0s
AAK Ala-Archa 64.73 319 *i* P **P** **00 12 54.0 +0.6**
SNR=13
AAK Ala-Archa 64.73 319 *c e*P **P** **00 12 53.6 +0.2**
AAK pmax pmax
comp=Z,55nm,2.5s
AAK Ala-Archa 64.73 319 P **P** **00 12 54.7 +1.3**
SNR=17
FRU Bishkek 64.75 320 *e*P **P** **00 12 54.0 +0.7**
FRU pmax pmax
comp=Z,230nm,3.0s
AML Almayashu 65.02 319 P **P** **00 12 56.6 +1.0**
SNR=16
USP Ospenovka 65.03 320 P **P** **00 12 55.8 +0.6**
SNR=21
EKS2 Erkin-Say 65.21 319 P **P** **00 12 56.7 +0.2**
SNR=18
KBL Kabul 65.30 309 *e*P **P** **00 12 56.8 -0.5**
comp=Z,42nm,0.8s
KBL Kabul 65.30 309 *e*P **P** **00 12 56.8 -0.5**
KBL pmax pmax
comp=Z,42nm,0.8s
ZALV Zalesovo Beam 65.58 334 P **P** **00 12 57.2 -1.2**
comp=Z,15nm,0.8s,baz=120,slow=5.3,SNR=32
ZALV PKPPKP **P'P'df** **00 41 41.6 +4.2**
comp=Z,0.2nm,0.3s,baz=298,slow=3.2,SNR=5.0
ZALV LR LR 00 44 01.3
comp=Z,321nm,19.4s,baz=75,slow=38
CASY Casey 65.69 187 *e*P **P** **00 12 58.5 -0.5**
comp=Z,31nm,1.2s
CASY *e*PcP **PcP** **00 13 29.5 -0.6**
CASY LR LR
comp=Z,131nm,22.0s
KURBB Kurchatov Arra 66.54 328 P **P** **00 13 03.5 -1.1**
comp=Z,30nm,0.7s,baz=127,slow=6.0,SNR=103
KURBB PP **PP** **00 15 32.7 +1.2**
comp=Z,7.9nm,1.1s,baz=132,slow=9.5,SNR=7.6
KURK Kurchatov 66.54 329 *e*P **P** **00 13 03.6 -1.1**
comp=Z,59nm,0.9s
KURK PP **PP** **00 15 32.7 +1.2**
KURK LR LR
comp=Z,426nm,20.0s
KURK Kurchatov 66.54 329 *c e*P **P** **00 13 04.1 -0.6**
KURK pmax pmax
comp=Z,67nm,1.0s
KURK Kurchatov 66.54 329 P **P** **00 13 03.5 -1.1**
SNR=29
KURK P **P** **00 13 03.5 -1.1**
SNR=29
NVS Novosibirsk 66.86 334 *e*P **P** **00 13 05.3 -1.3**
NVS *e*S **S** **00 21 51.2 -5.9**
NVS pmax pmax
comp=E,28nm,1.5s
NVS pmax pmax
comp=Z,38nm,1.5s
NVS pmax pmax
comp=N,38nm,1.6s
NVS smax smax
comp=N,15nm,1.6s
NVS smax smax
comp=E,28nm,1.5s
SEY Seymchan 67.01 12 P **P** **00 13 07.2 -0.3**
comp=E,10nm,0.9s,baz=194,slow=3.9,SNR=7.8
SEY Seymchan 67.01 12 *c e*P **P** **00 13 07.4 0.0**
KK31 Karatay Array 67.56 318 *e*P **P** **00 13 11.4 +0.1**
KK31 Karatay Array 67.56 318 *e*P **P** **00 13 11.5 +0.1**
KKAR Karatay Array 67.56 318 *e*P **P** **00 13 11.4 +0.1**
KKAR Karatay Array 67.56 318 *e*P **P** **00 13 11.5 +0.1**
JLN Jalan Bani Buh 70.28 294 P **P** **00 13 29.9 +1.2**
SNR=5.2
WSAR Wadi Sarin 71.18 295 P **P** **00 13 34.2 0.0**
comp=E,12nm,0.6s,baz=106,slow=10,SNR=9.2
MHTO MHTO 71.42 293 P **P** **00 13 35.3 -0.3**
SNR=12
BIDO Bidbid 71.69 295 P **P** **00 13 36.9 -0.3**
SNR=14
BVAR Borovoye Array 72.10 328 P **P** **00 13 37.8 -1.2**
comp=E,7.0nm,0.7s,baz=126,slow=7.5,SNR=42
BRVK Borovoye 72.17 328 *e*P **P** **00 13 37.9 -1.5**
BRVK LR LR
comp=Z,162nm,20.0s
BRVK Borovoye 72.17 328 *c e*P **P** **00 13 37.8 -1.7**
BRVK pmax pmax
comp=Z,13nm,1.0s
BRVK Borovoye 72.17 328 P **P** **00 13 38.8 -0.7**
SNR=11
BRVK P **P** **00 13 38.8 -0.7**
SNR=11
BSY Bisya 72.40 294 P **P** **00 13 44.9 +3.4**
SNR=7.0
TIXI Tiksi 73.08 0 P **P** **00 13 42.8 -1.6**
comp=Z,22nm,0.5s,baz=174,slow=5.6,SNR=14
TIXI Tiksi 73.08 0 *c e*P **P** **00 13 43.2 -1.3**
TIXI pmax pmax
comp=Z,12nm,0.9s
ARQ Araqi 73.11 295 P **P** **00 13 47.4 +1.7**
SNR=7.3
SOHO SOHO 73.23 296 P **P** **00 13 46.5 +0.1**
SNR=9.9
RAR Rarotonga 73.44 112 LR LR 00 43 39.3
comp=Z,241nm,20.7s,baz=268,slow=34
MDH Madha 73.64 297 P **P** **00 13 48.1 -0.6**
UOSS Minazif 73.66 296 *e*P **P** **00 13 48.4 -0.5**
UOSS Minazif 73.66 296 P **P** **00 13 48.8 -0.1**
UOSS Minazif 73.66 296 P **P** **00 13 49.0 +0.1**
SNR=5.7
HATD Hatta, Dubai 73.70 296 *i* P **P** **00 13 49.7 +0.5**
SNR=8.1
HATD Hatta, Dubai 73.70 296 P **P** **00 13 49.6 +0.4**
SNR=12
ASHO Ashiyiah 73.75 296 *i* P **P** **00 13 49.1 -0.3**
SNR=6.2
ASHO Ashiyiah 73.75 296 P **P** **00 13 49.6 +0.1**
SNR=7.8
MSFE Esma-Masafi 73.77 297 *i* P **P** **00 13 48.3 -1.3**
SNR=7.6
SHME Shamm 73.90 298 P **P** **00 13 50.5 +0.1**
ALNE Al Ain 73.92 295 *i* P **P** **00 13 50.9 +0.4**
SNR=15
NAZ Nazwa, Dubai 74.15 296 P **P** **00 13 51.8 +0.1**
SNR=5.6
FAQ Al Faqa, Dubai 74.18 296 *i* P **P** **00 13 51.6 -0.4**
SNR=14
FAQ Al Faqa, Dubai 74.18 296 P **P** **00 13 52.0 +0.1**
SNR=5.5
BILL Bilibino 74.47 14 *i* P **P** **00 13 54.8 +2.1**
BILL *e* 00 14 10.7
BILL *e* 00 16 38.8
BILL *e*PPP PPP 00 18 27.7
BILL pmax pmax
comp=Z,4.0nm,1.0s
GEYT Alibeck 74.74 310 P **P** **00 13 54.5 -0.5**
comp=Z,10nm,0.6s,baz=63,slow=0.7,SNR=20
ABKAR Akbulak array 76.65 322 *e*P **P** **00 14 04.2 -1.5**
VNDA Vanda 78.14 173 P **P** **00 14 13.6 +0.2**
comp=Z,16nm,0.9s,baz=311,slow=6.1,SNR=51
VNDA LR LR 00 48 16.3
comp=Z,326nm,19.9s,baz=343,slow=35
AKTO Aktyubinsk 78.20 322 P **P** **00 14 13.4 -0.9**
comp=Z,13nm,0.7s,baz=113,slow=5.6,SNR=23
SVE Sverdlovsk 78.79 329 *e*P **P** **00 14 16.0 -1.4**
SVE pmax pmax
comp=Z,23nm,0.8s
GAMB Gambell 78.94 23 *e*P **P** **00 14 19.1 +1.1**
SBA Scott Base 79.05 172 *e*P **P** **00 14 19.3 +0.9**
SBA LR LR
comp=Z,673nm,19.0s
SBA Scott Base 79.05 172 P **P** **00 14 20.1 +1.7**
MAW Mawson 79.07 201 P **P** **00 14 18.7 0.0**
comp=Z,38nm,1.1s,baz=60,slow=8.2,SNR=7.2
MAW LR LR 00 47 32.7
comp=Z,289nm,19.0s,baz=62,slow=34
ARU Arti 79.74 328 *e*P **P** **00 14 21.6 -0.9**
ARU *e*PP **PP** **00 17 23.0 -0.9**
ARU LR LR
comp=Z,170nm,19.0s
ARU Arti 79.74 328 P **P** **00 14 20.7 -1.8**
ARU 00 17 18.2
ARU PPP PPP 00 19 08.8
ARU S **S** **00 24 20.3 -2.6**
PPT Papeete 82.89 107 LR LR 00 53 34.4
comp=Z,100nm,18.2s,baz=252,slow=37
PPT2 Papeete2 82.89 107 *e*S **S** **00 24 56.8 -0.5**
comp=Z,188nm,24.8s
PPT2 *e*SS **SS** **00 30 17.5 -3.5**
comp=Z,651nm,34.2s
PPT2 Papeete2 82.89 107 *e*LR LR 00 40 46.4
comp=Z,1μm,33.0s
TBI Tubuai 83.09 113 *e*LR LR 00 40 49.0
comp=Z,439nm,33.0s
RAYN Ar Rayn 83.18 294 *e*P **P** **00 14 40.9 -0.7**
RAYN LR LR
comp=Z,424nm,19.0s
RAYN Ar Rayn 83.18 294 *i* P **P** **00 14 40.9 -0.7**
SNR=14
RAYN Ar Rayn 83.18 294 *e*P **P** **00 14 40.9 -0.7**
RAYN MLR MLR
comp=Z,424nm,19.0s
DAMY Dhamar 83.61 285 *e*P **P** **00 14 45.0 +0.7**
MAK Makhachkala 83.65 313 *e*P **P** **00 14 42.1 -1.4**
MAK *e* 00 17 51.9
MAK *e*S **S** **00 25 01.2 -2.7**
MAK *e*SS **SS** **00 30 32.5 +1.5**
MAK pmax pmax
comp=Z,33nm,1.3s
RDOG Red Dog Mine 83.95 21 *e*P **P** **00 14 45.8 +1.2**
GROC Groznyy 84.92 313 *e*P **P** **00 14 46.1 -3.9**
GROC *e* 00 18 05.5
GROC *e*S **S** **00 25 08.7 -8.0**
GROC pmax pmax
comp=Z,21nm,1.3s
SVW2 Sparrevohn 85.09 28 *e*P **P** **00 14 51.5 +1.0**
GNI Garni 85.37 310 P **P** **00 14 55.5 +3.0**
comp=Z,2.4nm,0.8s,baz=51,slow=6.6,SNR=3.9
GNI Garni 85.37 310 *e*P **P** **00 14 55.5 +3.0**
GNI LR LR
comp=Z,281nm,20.0s
GNI Garni 85.37 310 *i* P **P** **00 14 51.0 -1.5**
KDAK Kodiak Island 85.98 32 P **P** **00 14 55.4 +0.5**
comp=Z,20nm,0.6s,baz=296,slow=4.3,SNR=8.2
KDAK Kodiak Island 85.98 32 *c e*P **P** **00 14 55.6 +0.7**
ZEI Tsey 86.26 313 *e*P **P** **00 14 56.0 -0.9**
ZEI pmax pmax
comp=Z,25nm,1.5s
NCK Nalchik 86.55 314 *i* P **P** **00 14 57.0 -1.1**
NCK pmax pmax
comp=Z,6.0nm,1.0s
IM3 Indian Mountai 86.87 24 *e*P **P** **00 14 58.8 -0.4**
KBZ Khabaz 87.08 314 P **P** **00 14 59.8 -0.8**
comp=Z,3.6nm,1.1s,baz=124,slow=3.6,SNR=5.2
KBZ LR LR 00 58 26.0
comp=Z,82nm,19.5s,baz=92,slow=39
GOF Gofitskoye 87.09 315 *e*P **P** **00 15 03.5 +2.9**
GOF pmax pmax
comp=Z,30nm,1.4s
NEY Neytrino 87.16 313 *i* P **P** **00 15 01.6 +0.3**
NEY pmax pmax
comp=Z,2.0nm,1.0s
KIV Kislovodsk 87.25 314 *e*P **P** **00 15 04.7 +3.1**
comp=Z,26nm,1.6s
KIV LR LR
comp=Z,191nm,20.0s
KIV Kislovodsk 87.25 314 *c i*P **P** **00 15 03.4 +1.8**
KIV *i* 00 15 14.2
KIV *e* 00 18 27.6
KIV *e*PPP PPP 00 20 19.5
KIV pmax pmax
comp=Z,14nm,1.7s
KIV MLR MLR
comp=Z,122nm,19.0s
PRGR Permogore 87.44 332 *e*P **P** **00 15 03.3 +1.4**
PRGR pmax pmax
comp=Z,9.0nm,0.8s
SYO Syowa Base 87.77 201⇑ *e*P **P** **00 15 02.8 -0.6**
SYO Syowa Base 87.77 201⇓ *i*PcP **PcP** **00 15 04.2 -1.0**
SYO Syowa Base 87.77 201⇓ *i*pP pP 00 15 08.2 -5.4
MLY Manley 87.95 25 *e*P **P** **00 15 04.3 -0.1**
QSPA South Pole Qui 88.39 180 *e*P **P** **00 15 06.7 +0.1**
comp=Z,296nm,1.1s
QSPA LR LR
comp=Z,666nm,19.0s
COLD Coldfoot 88.47 23 *e*P **P** **00 15 07.7 +0.9**
MCK McKinley 88.57 26 *e*P **P** **00 15 06.5 -0.8**
MCK McKinley 88.57 26 *e*P **P** **00 15 06.5 -0.8**
MDM Murphy Dome 89.00 25 *e*P **P** **00 15 08.6 -0.8**
WRH Wood River Hil 89.02 26 *e*P **P** **00 15 08.4 -1.0**
HDA Harding Lake 89.50 26 P **P** **00 15 10.1 -1.6**
baz=265
IL1 Eielson Array 89.56 25 *e*P **P** **00 15 08.3 -3.7**
ILAR Eielson Array 89.56 25 P **P** **00 15 09.8 -2.2**
comp=Z,6.3nm,1.1s,baz=267,slow=4.1,SNR=25
ILAR PP **PP** **00 18 44.9 +1.2**
comp=Z,2.1nm,1.1s,baz=265,slow=6.2,SNR=5.1
ILB Eielson Array 89.56 25 *e*P **P** **00 15 10.3 -1.7**
DIV Divide 89.81 29 *e*P **P** **00 15 15.2 +2.0**
KMBO Kilima Mbogo 90.11 269 P **P** **00 15 16.9 +1.0**
comp=Z,5.1nm,0.9s,baz=57,slow=5.0,SNR=8.7
KMBO Kilima Mbogo 90.11 269 *e*P **P** **00 15 16.2 +0.3**
comp=Z,5.5nm,0.8s
KMBO LR LR
comp=Z,287nm,19.0s
KMBO Kilima Mbogo 90.11 269 P **P** **00 15 17.1 +1.1**
KMBO Kilima Mbogo 90.11 269 *e*P **P** **00 15 16.2 +0.3**
KMBO pmax pmax
comp=Z,6.0nm,0.8s
KMBO MLR MLR
comp=Z,287nm,19.0s
KLMR Klimovskoe 90.30 331 *e*P **P** **00 15 16.6 +1.2**
KLMR *e* 00 18 50.9
KLMR pmax pmax
comp=Z,8.0nm,1.1s
KLMR Klimovskoe 90.30 331 *e*P **P** **00 15 16.6 +1.2**
KLMR AMP 00 15 28.6
comp=Z,8.0nm,1.1s
KLMR *e*PP **PP** **00 18 51.0 +1.4**
RIDG Independ'e Rid 90.39 26 *e*P **P** **00 15 15.1 -0.8**
SCRK Sand Creek 90.77 26 *e*P **P** **00 15 17.4 -0.4**
MOS Moscow 91.14 326 *e*P P 00 15 29.8 +10
MOS *e* 00 18 57.0
MOS MLR MLR
comp=Z,400nm,20.0s
OBN Obninsk 91.73 325 PFAKE 00 15 30.0 +7.8
OBN LR LR
comp=Z,262nm,20.0s
OBN Obninsk 91.73 325 *i* P **P** **00 15 21.5 -0.7**
OBN *e* 00 15 35.7
OBN *e* 00 18 59.9
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,253nm,24.0s
DAWY Dawson 92.80 26 *e*P **P** **00 15 26.8 -0.3**
comp=Z,16nm,1.0s
APA Apatity 92.95 337⇑ *i*P **P** **00 15 26.0 -1.6**
APA pmax pmax
comp=Z,8.0nm,1.1s
APA MLR MLR
comp=Z,700nm,16.0s
EPYK Eagle Plains 93.78 24 P **P** **00 15 31.7 +0.2**
baz=275
BRTR Keskin Array B 93.88 310 P **P** **00 15 31.6 -1.2**
comp=Z,1.2nm,0.9s,baz=126,slow=6.3,SNR=7.7
BRTR PP **PP** **00 19 12.7 -5.9**
comp=Z,0.4nm,0.6s,baz=106,slow=7.8,SNR=4.2
BRTR LR LR 01 05 16.2
comp=Z,67nm,20.2s,baz=94,slow=40
ANTO Ankara 94.52 310 PFAKE 00 15 50.0 +14
ANTO LR LR
comp=Z,153nm,20.0s
INK Inuvik 94.80 22 P **P** **00 15 34.4 -1.6**
comp=Z,6.7nm,1.0s,baz=309,slow=4.8,SNR=14
SKAG Skagway 95.04 31 *e*P **P** **00 15 38.3 +1.0**
KEV Kevo 95.05 340 *e*P **P** **00 15 41.2 +4.0**
ARCES ARCESS Array B 95.60 340 P **P** **00 15 39.0 -0.8**
comp=Z,2.2nm,0.6s,baz=78,slow=6.6,SNR=13
ARCES LR LR 01 03 48.7
comp=Z,15nm,20.1s,baz=78,slow=39
ARCES ARCESS Array B 95.60 340 P **P** **00 15 39.0 -0.8**
AKASG Malin Array Be 96.38 321 LR LR 01 02 48.3
comp=Z,98nm,21.3s,baz=60,slow=38
KIEV Kiev 96.39 321 PFAKE 00 15 50.0 +6.3
KIEV LR LR
comp=Z,312nm,20.0s
RKT Rikitea 96.42 113 *e*LR LR 00 46 50.5
comp=Z,492nm,23.8s
MBAR Mbarara 96.64 269 PFAKE 00 16 00.0 +14
MBAR LR LR
comp=Z,936nm,21.0s
NVL N'lazarevskaya 96.75 198 *e*P **P** **00 15 45.0 +0.1**
NVL pmax pmax
comp=Z,6.0nm,0.7s
FINES FINESS Array B 96.77 332 P **P** **00 15 44.7 -0.4**
comp=Z,2.2nm,0.8s,baz=116,slow=4.4,SNR=3.9
LSZ Lusaka 98.47 254 PFAKE 00 16 00.0 +5.9
LSZ LR LR
comp=Z,546nm,20.0s
RES Resolute Bay 102.85 11 P **Pdif** **00 16 12.4 +0.3**
comp=Z,1.4nm,0.9s,baz=273,slow=4.0,SNR=3.6
RES PP **PP** **00 20 29.4 +3.5**
comp=Z,2.6nm,1.0s,baz=298,slow=6.7,SNR=4.0
SUR Sutherland 103.12 236 PFAKE 00 16 30.0 +15
SUR LR LR
comp=Z,816nm,21.0s
VYHS Vyhne 103.40 320 *e*PP **PP** **00 20 35.9 +5.1**
OKC Ostrava-Krasne 103.52 321 AMS AMS 01 16 40.0
comp=Z,300nm,18.0s
YKA Yellowknife Ar 103.99 25 Pdiff **Pdif** **00 16 16.2 -1.2**
comp=Z,0.6nm,0.8s,baz=303,slow=4.6,SNR=9.0
YKA PP **PP** **00 20 32.0 -2.6**
comp=Z,0.6nm,1.0s,baz=293,slow=8.1,SNR=4.4
YKA PKKPbc **PKKPbc** **00 32 06.6 -2.8**
comp=Z,0.4nm,0.7s,baz=110,slow=2.7,SNR=6.1
TREC Trest 105.34 321 AMS AMS 01 17 30.0
comp=Z,300nm,20.9s
PVCC Panska Ves 105.56 322 AMS AMS 01 17 20.0
comp=Z,400nm,17.4s
PRU Pruhonice 105.73 322 AMS AMS 01 17 20.0
comp=Z,300nm,20.0s
BRG Berggiesshubel 105.83 323 *e*PKP **PP** **00 20 53.1 +4.4**
comp=Z,11nm,1.5s
BRG *e* 00 21 01.9
comp=Z,12nm,1.4s
comp=N,289nm,17.5s
comp=E,350nm,24.7s
comp=Z,449nm,16.9s
CLL Collm 106.26 323 *e*PP **PP** **00 20 52.0 +0.1**
CLL *e*SKSac **SKSac** **00 27 04.0 -1.6**
CLL *e*(SP) 00 30 02.0
CLL *e*PPS PPS 00 31 07.0
CLL *e*SSS SSS 00 39 54.0
CLL *e*SSSS 00 43 24.0
CLL *e* 00 46 06.0
CLL Lm MLR 01 11 00.0
comp=Z,300nm,22.0s
KHC Kasperske Hory 106.58 321 AMS AMS 01 17 50.0
comp=Z,300nm,21.1s
GERES GERESS Array B 106.59 321 PP **PP** **00 21 00.3 +5.7**
comp=Z,1.8nm,1.1s,baz=60,slow=3.2,SNR=4.1
NEW Newport 107.90 39 PFAKE 00 20 50.0 +7.6
NEW LR LR
comp=Z,430nm,21.0s
TSUM Tsumeb 108.14 249 PFAKE 00 21 00.0 +16
TSUM LR LR
comp=Z,255nm,19.0s
BFO Black Forest 110.12 322 PFAKE 00 21 00.0 +13
BFO LR LR
comp=Z,16nm,19.0s
MSO Missoula 110.41 40 P **PKiKP** **00 20 47.1 -0.2**
baz=291

HLID Hailey 111.21 43 PFAKE 00 21 00.0 +11
HLID LR LR
comp=Z,240nm,19.0s
HLID Hailey 111.21 43 P PKiKP 00 20 50.1 +1.1
baz=289
BOZ Bozeman (W) 112.36 41 P PKiKP 00 20 51.6 +0.5
baz=292
PFO Pinyon Flats O 112.48 54 PFAKE 00 21 00.0 +8.4
PFO LR LR
comp=Z,886nm,21.0s
EGMT Eagleton 112.58 38 PFAKE 00 21 00.0 +8.7
EGMT LR LR
comp=Z,293nm,19.0s
DUG Dugway, Tooele 113.44 46 PFAKE 00 21 00.0 +6.7
DUG LR LR
comp=Z,476nm,20.0s
PDAR Pinedale Array 114.81 43 PKP PKPdf 00 20 55.9 -0.1
comp=Z,0.4nm,0.5s,baz=124,slow=1.1,SNR=5.9
PDAR PKKPbc **PKKPbc 00 31 33.1 -1.3**
comp=Z,0.4nm,0.7s,baz=100,slow=3.6,SNR=5.2
WUAZ Wupatki 116.00 51 PFAKE 00 21 10.0 +12
WUAZ LR LR
comp=Z,601nm,19.0s
WUAZ Wupatki 116.00 51 P PKiKP 00 20 58.7 +0.3
baz=288
O20A White River Ci 116.73 45 P PKiKP 00 20 59.5 -0.2
baz=293
TUC Tucson 117.43 54 PFAKE 00 21 10.0 +8.9
TUC LR LR
comp=Z,634nm,19.0s
MVCO Mesa Verde 117.63 48 P PKiKP 00 21 02.3 +0.7
baz=291
RSSD Black Hills 117.87 40 P PKPdf 00 21 01.3 -0.5
baz=298
N23A Red Feather La 118.04 44 P PKiKP 00 21 02.7 +0.4
baz=295
S22A 4UR Ranch, Cre 118.66 47 P PKiKP 00 21 04.7 +1.1
baz=292
ISCO Idaho Springs 118.72 45 PFAKE 00 21 20.0 +16
ISCO LR LR
comp=Z,466nm,19.0s
ISCO Idaho Springs 118.72 45 P PKiKP 00 21 04.1 +0.3
baz=294
ULM Lac du Bonnet 119.20 30 PKP PKPdf 00 21 03.1 -0.7
comp=Z,4.2nm,1.0s,baz=240,slow=4.1,SNR=5.0
SDCO Great Sand Dun 119.63 47 PFAKE 00 21 20.0 +14
SDCO LR LR
comp=Z,462nm,19.0s
SDCO Great Sand Dun 119.63 47 P PKPdf 00 21 05.3 -0.2
baz=294
ANMO Albuquerque 119.98 50 PFAKE 00 21 20.0 +14
ANMO LR LR
comp=Z,468nm,19.0s
ANMO Albuquerque 119.98 50 *i* PKIKP PKPdf 00 21 05.9 -0.2
ANMO Albuquerque 119.98 50 P PKiKP 00 21 06.4 +0.2
baz=291
T25A Trinidad 120.67 47 P PKiKP 00 21 08.3 +0.8
baz=294
ESDC Sonseca Array 121.79 317 PKP PKPdf 00 21 08.8 -0.5
comp=Z,0.1nm,0.4s,baz=276,slow=2.8,SNR=4.1
ESDC PP **PP 00 22 45.0 +2.8**
comp=Z,3.0nm,0.9s,baz=62,slow=7.3,SNR=9.1
MNTX Cornudas Mount 121.97 53 PFAKE 00 21 20.0 +10
MNTX LR LR
comp=Z,511nm,20.0s
MNTX Cornudas Mount 121.97 53 P PKiKP 00 21 10.4 +0.4
baz=290
ECSD EROS Data Cent 122.66 37 *e*PKPdf PKPdf 00 21 10.0 -0.8
ECSD EROS Data Cent 122.66 37 P PKPdf 00 21 10.4 -0.4
baz=304
BGNE Belgrade 122.98 40 P PKPdf 00 21 10.8 -0.7
baz=302
MSTX Muleshoe 123.17 50 P PKiKP 00 21 12.3 0.0
baz=294
CBKS Cedar Bluff 123.24 43 PFAKE 00 21 20.0 +7.7
CBKS LR LR
comp=Z,504nm,19.0s
F37A Hinrichs Farm, 123.74 33 P PKPdf 00 21 12.6 -0.2
baz=310
SPMN Marine on St. 123.96 33 P PKiKP 00 21 13.1 -0.3
baz=309
F38A Pierce - Schro 124.00 32 P PKiKP 00 21 13.3 -0.1
baz=310
TXAR Lajitas Array 124.17 55 PKP PKiKP 00 21 14.3 -0.2
comp=Z,0.9nm,0.8s,baz=205,slow=2.6,SNR=5.5
E39A Mellen 124.41 31 P PKiKP 00 21 14.0 -0.3
baz=312
F39A Loretta 124.53 32 P PKPdf 00 21 14.0 -0.3
baz=311
H38A Maiden Rock 124.59 34 P PKPdf 00 21 14.0 -0.4
baz=309
G39A Holcombe 124.81 32 P PKPdf 00 21 14.4 -0.4
baz=311
F40A Park Falls 124.94 31 P PKPdf 00 21 14.7 -0.4
baz=312
TORD Torodi Ar. Bea 125.05 285 PKP PKPdf 00 21 14.9 -1.1
comp=Z,4.5nm,0.9s,baz=29,slow=3.4,SNR=22
TORD PP **PP 00 23 07.5 +2.3**
comp=Z,2.6nm,1.0s,baz=87,slow=6.3,SNR=6.4
TORD PKKPbc **PKKPbc 00 30 56.5 +1.1**
comp=Z,0.8nm,1.0s,baz=260,slow=4.4,SNR=4.6
H39A Augusta 125.14 33 P PKPdf 00 21 15.1 -0.3
baz=310
KSU1 Kansas State U 125.20 41 *e*PKPdf PKPdf 00 21 15.7 -0.1
KSU1 LR LR
comp=Z,508nm,19.0s
KSU1 Kansas State U 125.20 41 P PKiKP 00 21 15.9 -0.2
baz=302
G40A Rib Lake 125.34 32 P PKPdf 00 21 15.1 -0.7
baz=312
I39A Houston 125.54 34 P PKPdf 00 21 15.5 -0.8
baz=310
F41A Three Lakes 125.59 31 P PKPdf 00 21 16.2 -0.1
baz=313
SCHQ Schefferville 125.63 10 PKP PKiKP 00 21 16.1 -0.3
comp=Z,6.1nm,0.8s,baz=40,slow=2.5,SNR=5.2
H40A Chili 125.66 33 P PKPdf 00 21 15.8 -0.7
baz=311
SCIA State Center 125.76 37 PFAKE 00 21 30.0 +13
SCIA LR LR
comp=Z,519nm,19.0s
J39A Decorah 125.76 35 P PKPdf 00 21 15.6 -1.1
baz=309
WMOK Wichita Mounta 125.83 47 P PKPdf 00 21 16.8 -0.3
baz=297
I40A Norwalk 126.02 33 P PKPdf 00 21 16.6 -0.5
baz=310
K39A Oelwein 126.05 35 P PKPdf 00 21 15.8 -1.5
baz=309
H41A Junction City 126.06 32 P PKPdf 00 21 17.1 -0.1
baz=312
G42A Mountain 126.28 31 P PKPdf 00 21 17.4 -0.2
baz=314
L39A Vinton 126.35 36 P PKPdf 00 21 17.3 -0.5
baz=308
K40A Colesburg 126.49 35 P PKPdf 00 21 17.2 -0.9
baz=309
F43A Flat Rock, Esc 126.50 30 P PKPdf 00 21 17.9 0.0
baz=315
M39A Webster 126.64 37 P PKPdf 00 21 18.1 -0.4
baz=308
G43A Wallace 126.64 30 P PKiKP 00 21 18.3 -0.5
baz=314
J41A Loganville 126.69 34 P PKPdf 00 21 17.8 -0.7
baz=311
F44A Big Bay de Noc 126.76 29 P PKiKP 00 21 19.7 +0.7
baz=316
EFI East Falkland 126.77 176 PFAKE 00 21 30.0 +11
EFI LR LR
comp=Z,396nm,19.0s
L40A Anamosa 126.84 35 P PKPdf 00 21 18.2 -0.6
baz=309
JFWS Jewell Farm 126.85 34 P PKPdf 00 21 17.8 -1.0
baz=310
JCT Junction City 126.87 52 PFAKE 00 21 30.0 +10
JCT LR LR
comp=Z,548nm,19.0s
JCT Junction City 126.87 52 P PKiKP 00 21 19.6 -0.1
baz=294
O41A Passleys Farm, 128.25 37 P PKPdf 00 21 21.2 -0.3
baz=308
CHGQ Chibougamau 128.37 18 P PKPdf 00 21 20.9 -0.6
baz=332
P41A Barry, Barry 128.41 38 P PKPdf 00 21 21.8 0.0
baz=306
Q41A Truxton 128.74 39 P PKiKP 00 21 22.7 -0.4
baz=307
H47A Mio 128.83 29 P PKiKP 00 21 22.9 -0.3
baz=318
P42A Winchester 128.90 37 P PKiKP 00 21 23.1 -0.3
baz=308
R41A Rosebud 129.04 39 P PKiKP 00 21 23.3 -0.4
baz=306
U40A Yellville 129.18 42 P PKiKP 00 21 23.6 -0.5
baz=304
S41A Jillco Farms, 129.22 40 P PKiKP 00 21 23.7 -0.5
baz=306
CCM Cathedral Cave 129.26 40 P PKiKP 00 21 23.7 -0.5
baz=306
R42A Luebbering 129.42 39 P PKPdf 00 21 23.9 +0.1
baz=307
T41A Mountain View 129.52 41 P PKiKP 00 21 24.4 -0.4
baz=305
J47A Sumner 129.53 30 P PKiKP 00 21 24.4 -0.2
baz=316
MIAR Mount Ida 129.66 45 P PKiKP 00 21 25.6 +0.5
baz=302
Q43A New Douglas 129.69 38 P PKiKP 00 21 25.2 +0.2
baz=308
S42A Caledonia 129.72 40 P PKPdf 00 21 24.6 +0.2
baz=307
U41A Viola 129.81 42 P PKPdf 00 21 24.3 -0.3
baz=305
K47A Vermontville 129.84 31 P PKiKP 00 21 24.8 -0.4
baz=316
T42A Van Buren 129.96 41 P PKiKP 00 21 25.1 -0.6
baz=306
F52A Sundridge 130.09 24 P PKiKP 00 21 25.5 -0.1
baz=324
U42A Revenden 130.26 41 P PKPdf 00 21 25.6 +0.1
baz=305
NATX Nacogdoches 130.27 48 PFAKE 00 21 40.0 +14
NATX LR LR
comp=Z,490nm,19.0s
T43A Greenville 130.45 40 P PKiKP 00 21 26.2 -0.4
baz=307
P45A Graceland, Par 130.49 36 P PKiKP 00 21 26.6 0.0
baz=311
Q45A Warren Harvey, 130.65 37 P PKiKP 00 21 26.4 -0.6
baz=310
L48A N Adams 130.66 31 P PKiKP 00 21 26.5 -0.4
baz=316
R45A Skylar, Fairfi 130.96 37 P PKiKP 00 21 28.0 +0.4
baz=310
DBIC Dimbokro 132.12 278 PKP PKPdf 00 21 29.8 +0.2
comp=Z,2.9nm,0.8s,baz=89,slow=9.2,SNR=3.3
DBIC Dimbokro 132.12 278 *e*P PKiKP 00 21 33.1 +2.4
WVT Waverly 132.60 39 P PKiKP 00 21 30.7 -0.3
baz=309
ACSO Alum Creek Sta 132.65 32 PFAKE 00 21 40.0 +9.0
ACSO LR LR
comp=Z,389nm,19.0s
S48A Wiedeman Farm, 132.71 37 P PKiKP 00 21 30.4 -0.8
baz=312
U47A Clarksville 132.75 39 P PKiKP 00 21 30.6 -0.6
baz=309
J55A Hilton 132.77 25 P PKiKP 00 21 30.8 -0.3
baz=325
Y45A Yeager Farm, C 132.82 43 P PKiKP 00 21 32.0 +0.4
baz=305
S49A Springfield 133.08 36 P PKiKP 00 21 31.2 -0.7
baz=312
U48A Cassie Pea, Po 133.17 38 P PKiKP 00 21 31.4 -0.8
baz=310
W47A Westpoint 133.29 40 P PKPdf 00 21 31.4 +0.2
baz=308
T49A Edmonton 133.39 37 P PKiKP 00 21 32.4 -0.2
baz=312
V48A Smith Brothers 133.48 39 P PKPdf 00 21 31.6 0.0
baz=309
U49A Red Boiling Sp 133.63 38 P PKPdf 00 21 32.0 +0.2
baz=311
T50A Nancy 133.86 36 P PKiKP 00 21 33.0 -0.5
baz=312
Y47A UCPARC, Winfie 133.94 42 P PKPdf 00 21 32.3 -0.2
baz=307
Q52A Bidwell 133.95 32 P PKiKP 00 21 33.0 -0.7
baz=317
P53A Whipple 134.03 31 P PKiKP 00 21 33.5 -0.3
baz=318
PKME Peaks-Kenny Pk 134.05 16 PFAKE 00 21 40.0 +6.4
PKME LR LR
comp=Z,1μm,20.0s
W49A Belvidere 134.23 39 P PKPdf 00 21 32.7 -0.3
baz=310
U50A Jamestown 134.26 37 P PKPdf 00 21 32.8 -0.2
baz=312
X49A Woodville 134.57 40 P PKPdf 00 21 33.8 +0.1
baz=309
PLCA Paso Flores 134.85 161 PKP PKiKP 00 21 34.9 -0.7
comp=Z,1.5nm,0.7s,baz=189,slow=4.3,SNR=5.2
LRAL Lakeview Retre 135.03 42 P PKPdf 00 21 35.0 +0.5
baz=307
X50B Fort Payne 135.03 40 P PKiKP 00 21 35.2 -0.9
baz=310
Q55A Buckhannon 135.07 31 P PKiKP 00 21 35.5 -0.5
baz=319
Z49A Columbiana 135.25 42 P PKPdf 00 21 35.1 +0.2
baz=308
V52A Sevierville 135.39 37 P PKPdf 00 21 35.7 +0.5
baz=313
TKL Tuckaleechee C 135.41 37 PKP PKPdf 00 21 34.7 -0.5
comp=Z,6.0nm,0.7s,baz=166,slow=8.0,SNR=7.8
149A Jones 135.43 43 P PKiKP 00 21 35.9 -0.9
baz=307
U53A Fall Branch 135.63 35 P PKiKP 00 21 36.3 -0.9
baz=315
W52A Murphy 135.70 38 P PKPdf 00 21 35.6 -0.2
baz=312
150A Eclectic 135.94 42 P PKiKP 00 21 37.0 -0.9
baz=308
V53A Saluda 135.98 36 P PKPdf 00 21 36.2 -0.1
baz=314
X52A Dahlonega 136.04 38 P PKPdf 00 21 36.6 +0.1
baz=312
Y52A Lilburn 136.42 39 P PKiKP 00 21 37.9 -1.0
baz=311
251A Midway 136.67 42 P PKiKP 00 21 38.5 -0.8
baz=308
CBN Corbin Frederi 137.03 29 PFAKE 00 21 50.0 +10
CBN LR LR
comp=Z,437nm,22.0s
TRQA Tornquist 139.65 169 PFAKE 00 21 50.0 +4.7
TRQA LR LR
comp=Z,360nm,19.0s
LCO Las Campanas 145.02 152 *e*PKPbc PKPdf 00 21 53.0 0.0
LCO Las Campanas 145.02 152 *e*PKiKP PKPdf 00 21 53.1 0.0
JTS JuntasAbangare 146.71 74 PKPbc PKPab 00 21 58.8 -0.1
JTS JuntasAbangare 146.71 74 *e*PKPbc PKPbc 00 21 57.2 -0.5
JTS *e*PKPab **PKPab 00 21 58.9 0.0**
JTS LR LR
comp=Z,361nm,20.0s
JTS JuntasAbangare 146.71 74 *e*PKP2 PKPbc 00 21 57.2 -0.5
JTS MLR MLR
comp=Z,361nm,20.0s
PLTB Pedras Altas 146.85 178 *e*P PKPab 00 21 58.4 -0.5
CPSB Cacapava Do Su 148.21 179 *e*P PKiKP 00 22 02.4 -0.7
CNLB Canela 149.26 183 *e*P PKPbc 00 22 04.4 +0.2
TER01 Tubaro-SC 149.90 186 *e*P PKPbc 00 22 05.4 -0.4
LVC Limon Verde 151.20 147 PKPbc PKiKP 00 22 10.1 +0.2
comp=Z,18nm,0.9s,baz=295,slow=5.6,SNR=9.2
LVC Limon Verde 151.20 147 *e*PKPbc PKiKP 00 22 10.2 +0.2
LVC LR LR
comp=Z,294nm,22.0s
LVC Limon Verde 151.20 147 *e*P PKiKP 00 22 09.5 -0.5
ITAB Concordia 151.38 181 *e*P PKPbc 00 22 08.0 -1.2
BCIP Isla Barro Col 151.87 73 PFAKE 00 22 20.0 +0.2
BCIP LR LR
comp=Z,381nm,19.0s
CPUP Villa Florida 151.91 171 PKP PKPdf 00 22 02.8 -1.2
comp=Z,2.8nm,0.9s,baz=87,slow=8.7,SNR=4.3
CPUP PKPbc **PKiKP 00 22 10.6 -0.2**
comp=Z,14nm,0.9s,baz=173,slow=1.0,SNR=20
CPUP Villa Florida 151.91 171 *e*P PKPbc 00 22 08.8 -1.6
NNA Nana 152.42 120 PKPbc PKPbc 00 22 11.7 -0.3
comp=Z,15nm,0.8s,baz=267,slow=5.6,SNR=7.3
NNA Nana 152.42 120 *e*PKPbc PKiKP 00 22 12.6 +0.4
NNA LR LR
comp=Z,216nm,20.0s
TIJ01 Guaruva-PR 153.06 187 *e*P PKPbc 00 22 10.0 -3.2
PTGB Pitanga 153.88 181 *e*P PKPbc 00 22 11.6 -3.4
OTAV Otavalo 154.13 93 PFAKE 00 22 20.0 +3.6
OTAV LR LR
comp=Z,313nm,21.0s
OTAV Otavalo 154.13 93 *e*P PKPbc 00 22 13.2 -3.1
CAM01 Campos-RJ 154.42 204 *e*P PKPdf 00 22 10.7 +2.9
DUB01 Friburgo-RJ 154.47 202 *e*P PKPbc 00 22 12.3 -4.0
VAS01 Vassouras-RJ 154.68 200 *e*P PKPbc 00 22 13.5 -3.2
SDDR Presa de Saban 154.80 45 PFAKE 00 22 20.0 +3.0
SDDR LR LR
comp=Z,428nm,21.0s
FRTB Fartura 155.08 187 *e*P PKPdf 00 22 13.5 +4.8
ALF01 Guarapari-ES 155.08 207 *e*P PKPdf 00 22 13.6 +4.9
RCLB Rio Claro- Sao 155.67 191 *e*P PKPdf 00 22 15.2 +5.6
LPAZ La Paz 156.56 140 PKP PKPdf 00 22 12.8 +1.3
comp=Z,2.6nm,1.1s,baz=317,slow=4.8,SNR=5.7
LPAZ PKPab **PKPab 00 22 39.5 -0.9**
comp=Z,5.1nm,0.8s,baz=309,slow=1.0,SNR=6.0
LPAZ La Paz 156.56 140 *e*P PKPdf 00 22 16.2 +4.7
BSFB Barra de Sao F 156.68 209 *e*P PKPdf 00 22 15.0 +4.2
SJMB Sao Joao De Ma 156.95 209 *e*P PKPdf 00 22 15.5 +4.3
AQDB Aquidauana 157.90 172 *e*P PKPdf 00 22 17.4 +5.1
MCI6 Montes Claros 159.83 205 *e*P PKPdf 00 22 19.8 +5.0
IPMB Ipameri, GO 160.11 192 *e*P PKPdf 00 22 20.0 +4.9
SDV Santo Domingo 160.64 67 *e*PKPdf PKPdf 00 22 15.9 -0.1
SDV *e*PKPab **PKPab 00 22 58.1 +0.5**
SDV LR LR
comp=Z,302nm,22.0s
SDV Santo Domingo 160.64 67 *e*P PKPdf 00 22 21.4 +5.4
RCBR Riachuelo 161.78 246 PFAKE 00 22 30.0 +13
RCBR LR LR
comp=Z,24μm,20.0s
RCBR Riachuelo 161.78 246 *e*P PKPdf 00 22 21.6 +4.6
BDFB Brasilia 162.32 195 PKPab PKPab 00 23 05.0 +0.5
comp=Z,4.0nm,0.7s,baz=124,slow=5.5,SNR=6.9
PTGA Pitinga 172.30 107 PFAKE 00 22 40.0 +15
PTGA LR LR
comp=Z,16μm,22.0s

IDC ***03*** *00:07:01.1±0.5, 1°.59S×127°.51E, h0km, mb4.6/23, mb1 4.7/25, mb1mx4.5/52, mbtmp4.6/25, ML4.6/2, Error ellipse: s-maj=20.0km s-min=12.5km az=82.0*
DJA ***03*** *00:07:02.4±0.6, 2°.5±7°×12°.7E±°, h10km, M5.0/6, MLv5.0/6*
ISCJB ***03*** *00:07:03.7±0.2, 1°.62S±0°.03×127°.40E±0°.03, h25km, mb4.7/45, Error ellipse: s-maj=5.0km s-min=3.8km az=138.5*
NEIC ***03*** *00:07:06.4±0.2, 1°.62S×127°.49E, h35km, mb4.8/17, Error ellipse: s-maj=6.6km s-min=4.2km az=70.0*
ISC 03 00:07:05.3±0.4,**1°.63S**±0°.04×**127°.37E**±0°.05,**h25**km,**n99,**
σ**2S00**/107,**mb4.8**/54,**1C, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANI	**Sanana**	**1.44**	**253**	P	Pn	00 07 25.1	-4.8
TNTI	**Ternate**	**2.39**	**360**	*e*Pn	**Pn**	**00 07 42.7**	**-0.3**
TNTI				*e*Sn	**Sn**	**00 08 04.9**	**-6.5**
TNTI	**Ternate**	**2.39**	**360**	P	**Pn**	**00 07 45.1**	**+2.2**
SWI	**Sorong**	**3.96**	**79**	P	**Pn**	**00 08 05.8**	**+1.3**
SIJI	**Sorong**	**3.97**	**79**	Pn	**Pn**	**00 08 05.4**	**+0.7**
	53nm,0.3s,baz=258,slow=15,SNR=7.9						
SIJI				Sn	**Sn**	**00 08 52.0**	**+1.6**
	26nm,0.3s,baz=349,slow=23,SNR=5.9						
LUWI	**Luwuk**	**4.64**	**277**	*e*Pn	**Pn**	**00 08 14.7**	**+0.9**
LUWI				*e*Sn	**Sn**	**00 09 04.0**	**-2.9**
FAKI	**Fak Fak**	**5.04**	**105**	*e*Pn	**Pn**	**00 08 20.2**	**+0.8**
FAKI				*e*Sn	**Sn**	**00 09 16.2**	**-0.6**
SAUI	**Saumlaki**	**7.42**	**148**	*e*Pn	Pn	00 08 58.9	+6.8
SAUI				*e*Sn	**Sn**	**00 10 18.7**	**+3.1**
MMRI	**Maumere**	**8.63**	**216**	*e*Pn	**Pn**	**00 09 09.6**	**+0.9**
BATI	**Baumata**	**9.28**	**203**	Pn	Pn	00 09 23.5	+5.8
	7.1nm,0.3s,baz=34,slow=8.6,SNR=5.1						
BATI				Sn	**Sn**	**00 11 03.7**	**+2.3**
	8.7nm,0.3s,baz=348,slow=23,SNR=7.0						
JAY	**Jayapura**	**13.35**	**94**	Pn	**Pn**	**00 10 16.4**	**+2.9**
	1.5nm,0.3s,baz=218,slow=7.3,SNR=4.5						
JAGI	**Jajag, Banyuwa**	**14.81**	**242**	*e*Pn	**P**	**00 10 38.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**16.45**	**186**	Pn	**P**	**00 10 56.0**	**-1.2**
	0.9nm,0.3s,baz=11,slow=14,SNR=5.2						
KSM	**Kuching**	**17.34**	**280**	*e*Pn	**P**	**00 11 07.6**	**+0.5**
	20nm,0.8s						
WRAB	**Tennant Creek**	**19.43**	**160**	*e*P	**P**	**00 11 29.0**	**-1.0**
	60nm,0.9s						
WR1	**Warramunga Arr**	**19.43**	**160**	*e*P	**P**	**00 11 28.5**	**-1.6**
	80nm,1.1s						
WR1				*e*S	**S**	**00 14 59.6**	**-8.9**
WRA	**Warramunga Arr**	**19.43**	**160**	P	**P**	**00 11 28.5**	**-1.6**
	2.9nm,0.3s,baz=340,slow=11,SNR=10						
WRA				S	**S**	**00 14 59.6**	**-8.9**
	0.4nm,0.3s,baz=345,slow=21,SNR=5.1						
WB2	**Warramunga Arr**	**19.43**	**160**	*e*P	**P**	**00 11 28.6**	**-1.5**
PMG	**Port Moresby**	**21.14**	**112**	P	**P**	**00 11 51.1**	**+2.4**
	12nm,0.6s,baz=236,slow=7.0,SNR=4.2						
AS31	**Alice Springs**	**22.80**	**164**	*e*P	**P**	**00 12 05.5**	**-0.9**
	9.8nm,0.6s						
AS31				*e*S	**S**	**00 16 10.6**	**-3.6**
ASAR	**Alice Springs**	**22.80**	**164**	P	**P**	**00 12 05.5**	**-1.0**
	35nm,0.9s,baz=342,slow=9.8,SNR=8.8						
ASAR				S	**S**	**00 16 10.6**	**-3.6**
	23nm,1.1s,baz=347,slow=24,SNR=10.0						
AS01	**Alice Springs**	**22.81**	**164**	*e*P	**P**	**00 12 05.0**	**-1.6**
YULB	**Yu-li**	**25.57**	**347**	*e*P	**P**	**00 12 31.8**	**-0.7**
	12nm,0.9s						
NACB	**Ninganchiao**	**26.26**	**348**	*e*P	**P**	**00 12 38.5**	**-0.3**
	35nm,1.0s						
IPM	**Ipoh**	**27.02**	**283**	*e*P	**P**	**00 12 47.2**	**+1.4**
	31nm,0.9s						
PSI	**Prapat**	**28.78**	**279**	P	**P**	**00 13 02.6**	**+1.0**
	14nm,0.9s,baz=180,slow=1.7,SNR=6.3						
PSI	**Prapat**	**28.78**	**279**	P	**P**	**00 13 02.6**	**+1.0**
PSI				*e*S	**P**	**00 13 03.7**	**+2.0**
CHAI	**Chaiyaphum**	**30.54**	**306**	P	**P**	**00 13 19.5**	**+2.4**
	4.8nm,0.8s,314nm						
PBKT	**Sadao Pong**	**31.72**	**306**	*e*P	**P**	**00 13 28.7**	**+1.3**
	11nm,1.2s						
PBKT	**Sadao Pong**	**31.72**	**306**	P	**P**	**00 13 30.0**	**+2.5**
	13nm,1.3s						
SRDT	**SRDT**	**32.17**	**301**	P	**P**	**00 13 34.8**	**+3.3**
	16nm,1.4s						
UTTA	**Uttaradit**	**32.69**	**307**	P	**P**	**00 13 37.7**	**+1.7**
	4.0nm,0.8s						
STKA	**Stephens Creek**	**32.94**	**157**	P	**P**	**00 13 38.1**	**+0.1**
	11nm,0.9s,baz=354,slow=6.9,SNR=4.1						
SUKH	**Sukhothai**	**33.29**	**306**	P	**P**	**00 13 43.8**	**+2.6**
	5.5nm,1.0s						
CM01	**Chiang Mai Arr**	**34.33**	**307**	*e*P	**P**	**00 13 50.9**	**+0.7**
CMAR	**Chiang Mai Arr**	**34.36**	**307**	P	**P**	**00 13 51.3**	**+0.7**
	9.8nm,1.1s,baz=133,slow=7.2,SNR=11						
CMMT	**Chiang Mai**	**34.55**	**307**	P	**P**	**00 13 53.8**	**+1.6**
CHTO	**Chiang Mai**	**34.55**	**307**	P	**P**	**00 13 53.9**	**+1.7**
	58nm,0.9s						
KS15	**Wonju Array Si**	**38.88**	**1**	*e*P	**P**	**00 14 29.3**	**+0.5**
KSAR	**Wonju Array Be**	**38.88**	**1**	P	**P**	**00 14 29.3**	**+0.5**
KSRS	**Korea Array**	**38.89**	**1**	P	**P**	**00 14 29.3**	**+0.4**
	1.8nm,0.9s,baz=177,slow=11,SNR=7.3						
MAJO	**Matsushiro**	**39.30**	**14**	*e*P	**P**	**00 14 30.3**	**-2.0**
MJAR	**Matsushiro Arr**	**39.30**	**14**	P	**P**	**00 14 30.3**	**-2.0**
	4.0nm,0.6s,baz=198,slow=8.9,SNR=12						
TOO	**Toolangi**	**39.46**	**157**	*e*P	**P**	**00 14 36.1**	**+2.4**
	9.2nm,0.9s						
BRDH	**Bariadhala**	**42.39**	**307**	P	**P**	**00 14 59.5**	**+1.5**
	74nm,0.3s,baz=132,slow=7.2,SNR=4.3						
SHL	**Shillong**	**43.70**	**311**	*e*P	**P**	**00 15 09.7**	**+0.9**
	23nm,0.8s						
USA0B	**Ussuriysk Arra**	**45.82**	**5**	*e*P	**P**	**00 15 26.0**	**+0.9**
	16nm,0.8s						
USRK	**Ussuriysk Ar.**	**45.82**	**5**	P	**P**	**00 15 24.1**	**-1.0**
	9.6nm,0.6s,baz=184,slow=6.3,SNR=13						
ASAJ	**Asahikawa**	**47.54**	**15**	P	**P**	**00 15 41.9**	**+3.2**
	31nm,0.9s,baz=25,slow=8.5,SNR=3.7						
RAMN	**Ramite**	**48.47**	**309**	*e*P	**P**	**00 15 48.1**	**+1.6**
	59nm,0.5s						
JIRN	**Jiri**	**49.14**	**309**	*e*P	**P**	**00 15 53.3**	**+1.5**
	54nm,0.5s						
GUN	**Gumba**	**49.50**	**310**	*e*P	**P**	**00 15 56.0**	**+1.5**
	64nm,0.7s						
PKIN	**Phulchoki**	**49.71**	**309**	*e*P	**P**	**00 15 56.9**	**+0.9**
	17nm,0.8s						
KKN	**Kakani**	**49.91**	**309**	*e*P	**P**	**00 15 58.7**	**+1.3**
	37nm,0.9s						
DMN	**Daman**	**49.95**	**309**	*e*P	**P**	**00 15 58.9**	**+1.0**
	59nm,1.1s						
KLR	**Kul'dur**	**50.80**	**4**	P	**P**	**00 16 03.4**	**-0.2**
	5.3nm,0.9s,baz=222,slow=7.5,SNR=7.6						
KOLN	**Koldanda**	**51.21**	**308**	*e*P	**P**	**00 16 08.9**	**+1.6**
	255nm,1.4s						
DANN	**Dangsing**	**51.35**	**309**	*e*P	**P**	**00 16 09.8**	**+1.3**
	74nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HYB	Hyderabad	51.69	294	*i* P	P	00 16 11.5	+0.7
PYUN	Piuthan	51.84	308	*e*P	P	00 16 13.7	+1.7
	80nm,0.9s						
SONA0	Songino Array	52.56	342	*e*P	P	00 16 16.0	-0.9
SONM	Songino Array	52.56	342	P	P	00 16 16.0	-0.9
	6.6nm,1.0s,baz=152,slow=8.3,SNR=8.9						
SONA1	Songino Array	52.57	342	*e*P	P	00 16 16.2	-0.7
PETK	Petropavlovsk-	60.16	21	P	P	00 17 10.9	+0.1
	4.8nm,0.7s,baz=196,slow=2.4,SNR=5.4						
PEA1	Petropavlovsk-	60.16	21	*e*P	P	00 17 10.9	0.0
MK01	Makanchi Array	62.31	327	*e*P	P	00 17 25.0	-0.6
MK31	Makanchi Array	62.33	327	*e*P	P	00 17 25.4	-0.3
MK32	Makanchi Array	62.33	327	*e*P	P	00 17 25.5	-0.2
MKAR	Makanchi Array	62.33	327	P	P	00 17 25.5	-0.2
	6.9nm,0.8s,baz=123,slow=7.8,SNR=11						
MAKZ	Makanchi	62.51	327	*e*P	P	00 17 27.9	+1.0
	9.5nm,0.9s						
MA2	Magadan	63.73	13	P	P	00 17 34.8	+0.1
	8.0nm,0.7s,baz=143,slow=5.1,SNR=3.0						
ARSB	Arslanbob	65.18	318	*e*P	P	00 17 45.8	+1.0
	9.2nm,1.1s						
KBL	Kabul	65.34	309	*e*P	P	00 17 45.1	-0.9
	9.9nm,0.8s						
ZAA0	Zalesovo Array	65.64	334	*e*P	P	00 17 45.4	-1.9
	10.0nm,1.1s						
ZALV	Zalesovo Beam	65.64	334	P	P	00 17 46.9	-0.4
	3.0nm,0.8s,baz=107,slow=5.0,SNR=6.9						
ZAA1	Zalesovo Array	65.65	334	*e*P	P	00 17 46.9	-0.4
KURBB	Kurchatov Arra	66.59	328	P	P	00 17 52.4	-1.0
	9.4nm,0.8s,baz=125,slow=6.1,SNR=12						
KURBB				PP	PP	00 20 21.5	+1.1
	0.8nm,0.9s,baz=134,slow=8.2,SNR=4.0						
KURK	Kurchatov	66.60	329	P	P	00 17 52.4	-1.1
SEY	Seymchan	67.09	12	P	P	00 17 56.4	0.0
	2.4nm,0.5s,baz=222,slow=14,SNR=3.3						
KK31	Karatay Array	67.61	318	*e*P	P	00 18 00.8	+0.7
KKAR	Karatay Array	67.61	318	*e*P	P	00 18 00.8	+0.7
WSAR	Wadi Sarin	71.20	295	P	P	00 18 22.8	+0.1
	9.6nm,0.9s,baz=126,slow=7.5,SNR=5.9						
BVAR	Borovoye Array	72.16	328	P	P	00 18 27.3	-0.6
	6.2nm,1.0s,baz=132,slow=6.6,SNR=8.5						
TIXI	Tiksi	73.16	0	P	P	00 18 32.7	-0.7
	6.1nm,0.5s,baz=185,slow=3.8,SNR=8.2						
GEYT	Alibeck	74.77	310	P	P	00 18 44.4	+0.8
	28nm,0.6s,baz=149,slow=3.5,SNR=6.6						
GYA0B	ALIBECK ARRAY	74.77	310	*e*P	P	00 18 42.9	-0.7
	7.6nm,0.9s						
ABKAR	Akbulak array	76.70	322	*e*P	P	00 18 54.0	-0.4
VNDA	Vanda	78.06	173	P	P	00 19 02.1	+0.6
	5.4nm,0.9s,baz=299,slow=6.2,SNR=9.0						
AKTO	Aktyubinsk	78.25	322	P	P	00 19 03.3	+0.3
	3.2nm,0.7s,baz=61,slow=6.0,SNR=6.7						
OPO	Ambohidratompo	80.18	252	P	P	00 19 14.9	+0.5
	9.4nm,0.8s,baz=96,slow=3.7,SNR=7.5						
RAYN	Ar Rayn	83.19	294	*e*P	P	00 19 29.8	-0.3
	8.1nm,1.0s						
SYO	Syowa Base	87.69	201	⇑*e*P	P	00 19 51.8	+0.3
ILAR	Eielson Array	89.64	25	P	P	00 19 58.2	-2.6
	0.7nm,0.8s,baz=244,slow=5.3,SNR=2.7						
BRTR	Keskin Array B	93.91	310	PP	PP	00 24 01.1	-6.1
	0.3nm,0.9s,baz=126,slow=6.3,SNR=3.7						
TORD	Torodi Ar. Bea	125.05	285	PKP	PKPdf	00 26 03.4	-1.2
	0.8nm,0.9s,baz=60,slow=1.7,SNR=5.4						
TOA1	Torodi Ar. Sit	125.05	285	*e*PKPdf	PKPdf	00 26 03.4	-1.2
LCO	Las Campanas	144.95	152	*e*PKPbc	PKPdf	00 26 41.8	+0.3
CPUP	Villa Florida	151.83	171	PKPbc	PKPbc	00 26 58.6	-0.1
	3.5nm,0.8s,baz=256,slow=3.7,SNR=4.9						
MNMC	Minye Minye	153.47	142	*e*PKPbc	PKPbc	00 27 01.9	-1.1

*UCR **03** 00:06:45.6±0.8, 0°.93N×83°.79W, h20km, mb4.0(NEIC)*
*IDC **03** 00:07:13.2±1.3, 3°.11N×84°.28W, h0km, mb3.7/9, mb1 4.0/9, mb1mx3.8/37, mbtmp3.7/9, ML4.9/1, MS3.5/12, Ms1 3.5/12, ms1mx3.3/33, Error ellipse: s-maj=55.7km s-min=22.0km az=52.0*
*NEIC **03** 00:07:14.6±0.5, 3°.03N×84°.25W, h10km, mb4.0/3, Error ellipse: s-maj=10.4km s-min=7.7km az=43.0*
*ISCJB **03** 00:07:17.3±0.7, 3°.19N±0°.06×84°.20W±0°.05, h42km, mb3.7/11, MS3.6/7, Error ellipse: s-maj=10.7km s-min=4.3km az=37.0*
ISC 03 00:07:17.9±0.7**, 3°.04N**±0°.07×**84°.13W**±0°.07**, h42km, n91, σ2.s67**/90**, mb3.8**/11**, MS3.6**/7**, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDBA	Buenos Aires	6.15	8	*e*P	Pn	00 08 45.0	-1.3
EDDO	Dominical	6.18	2	*e*P	Pn	00 08 45.0	-1.7
DRK0	Durika	6.25	8	*e*P	Pn	00 08 45.5	-2.4
OTAV	Otavalo	6.32	116	*e*Pn	Pn	00 08 49.6	+0.4
OTAV				*e*S	Sn	00 10 00.2	-0.1
OTAV	Otavalo	6.32	116	*e*P	Pn	00 08 49.5	+0.4
OTAV	Otavalo	6.32	116	*e*P	Pn	00 08 49.5	+0.4
CMBC	Cumbal	6.64	108	*e*P	Pn	00 08 52.9	-0.5
CMBC	Cumbal	6.64	108	*e*P	Pn	00 08 52.9	-0.5
LCR2	La Lucha 2	6.66	1	*e*P	Pn	00 08 51.9	-1.6
URSC	Urasca	6.76	3	*e*P	Pn	00 08 53.8	-1.1
HDC	Heredia	6.92	0	*e*Pn	Pn	00 08 56.6	-0.4
HDC				*e*Sn	Sn	00 09 58.6	-16
HDC	Heredia	6.92	0	*e*P	Pn	00 08 56.3	-0.7
GCUF	Volcan Galeras	7.02	105	*e*P	Pn	00 09 00.7	+2.0
GCUF				*e*S	Sn	00 10 12.1	-5.4
GCUF	Volcan Galeras	7.02	105	*e*P	Pn	00 09 00.7	+2.0
GCUF				*e*S	Sn	00 10 12.1	-5.4
PAYG	Puerto Ayora	7.17	239	*e*Pn	Pn	00 08 58.0	-2.3
	116nm,1.5s						
VCR	Vista de Mar	7.20	348	*e*P	Pn	00 08 58.2	-2.6
JTS	JuntasAbangare	7.25	354	Pn	Pn	00 09 00.1	-1.3
	22nm,0.3s,baz=166,slow=22,SNR=53						
JTS				Sn	Sn	00 10 18.0	-4.6
	baz=15,slow=22,SNR=6.0						
JTS				LR	LR	00 10 35.7	
	comp=Z,65nm,18.9s,baz=237,slow=28						
JTS	JuntasAbangare	7.25	354	*e*Pn	Pn	00 09 00.2	-1.3
JTS				*e*Sn	Sn	00 10 17.4	-5.2
JTS				Sn	Sn	00 10 18.0	-4.6
JTS	JuntasAbangare	7.25	354	*e*P	Pn	00 09 00.2	-1.3
CRUC	La Cruz	7.32	101	*e*P	Pn	00 09 04.0	+1.3
CRUC	La Cruz	7.32	101	*e*P	Pn	00 09 04.0	+1.3
ARE1	Arenal 1	7.40	356	*e*P	Pn	00 09 03.8	+0.3
POPC	Popayan, Colom	7.46	94	*e*P	Pn	00 09 05.5	+0.9
POPC	Popayan, Colom	7.46	94	*e*P	Pn	00 09 05.5	+0.9
TRT1	Tortuguero	7.53	3	*e*P	Pn	00 09 05.1	-0.1
SOTA	Rioblanco	7.57	97	*e*P	Pn	00 09 08.7	+2.5
SOTA	Rioblanco	7.57	97	*e*P	Pn	00 09 08.7	+2.5
MESS	Mesas	7.73	352	*e*P	Pn	00 09 07.6	-0.4
PCON	Cinco Dias	7.76	95	*e*P	Pn	00 09 12.7	+3.8
PCON	Cinco Dias	7.76	95	*e*P	Pn	00 09 12.7	+3.8
YOTC	Yotoco, Valle	7.83	83	*e*P	Pn	00 09 10.2	+0.7
YOTC	Yotoco, Valle	7.83	83	*e*P	Pn	00 09 10.2	+0.7
PLMC	San Jos del P	8.05	76	*e*P	Pn	00 09 13.1	+0.7
PLMC	San Jos del P	8.05	76	*e*P	Pn	00 09 13.1	+0.7
FLOC	Florencia	8.60	99	*e*P	Pn	00 09 22.9	+3.0
FLOC	Florencia	8.60	99	*e*P	Pn	00 09 22.9	+3.0
DBBC	Dabeiba	8.83	63	*e*P	Pn	00 09 26.5	+3.4
DBBC	Dabeiba	8.83	63	*e*P	Pn	00 09 26.5	+3.4
ANIL	Santa Ana	8.83	80	*e*P	Pn	00 09 27.0	+3.6
ANIL	Santa Ana	8.83	80	*e*P	Pn	00 09 27.0	+3.6
TOLC	Tolima	8.93	80	*e*P	Pn	00 09 28.3	+3.6
TOLC	Tolima	8.93	80	*e*P	Pn	00 09 28.3	+3.6
RREF	El Recreo	8.96	78	*e*P	Pn	00 09 29.1	+3.7
RREF	El Recreo	8.96	78	*e*P	Pn	00 09 29.1	+3.7
ESPN	Las Esperanzas	9.10	359	*e*Pn	Pn	00 09 34.7	+7.9
HELC	Santa Helena	9.13	70	*e*P	Pn	00 09 30.5	+3.0
HELC	Santa Helena	9.13	70	*e*P	Pn	00 09 30.5	+3.0
PTLC	Puerto Leguiza	9.76	107	*e*P	Pn	00 09 38.8	+3.0
PTLC	Puerto Leguiza	9.76	107	*e*P	Pn	00 09 38.8	+3.0
ROSC	El Rosal	9.95	79	Pn	Pn	00 09 43.2	+4.4
	1.3nm,0.3s,baz=123,slow=16,SNR=4.4						
ROSC	El Rosal	9.95	79	*e*Pn	Pn	00 09 39.6	+0.7
MOTC	Monteria, Cord	10.17	56	*e*P	Pn	00 09 45.2	+3.7
MOTC	Monteria, Cord	10.17	56	*e*P	Pn	00 09 45.2	+3.7
ZARC	Zaragoza, Cauc	10.24	64	*e*P	Pn	00 09 46.5	+4.0
ZARC	Zaragoza, Cauc	10.24	64	*e*P	Pn	00 09 46.5	+4.0
ESTN	Estel	10.24	348	*e*Pn	Pn	00 09 40.2	-2.4
PTBC	PUERTO BERRIO,	10.25	70	*e*P	Pn	00 09 46.8	+4.2
PTBC	PUERTO BERRIO,	10.25	70	*e*P	Pn	00 09 46.8	+4.2
VILC	Villavicencio,	10.47	84	*e*P	Pn	00 09 49.3	+3.6
VILC	Villavicencio,	10.47	84	*e*P	Pn	00 09 49.3	+3.6
CHIC	Chingaza	10.50	81	*e*P	Pn	00 09 49.3	+3.0
CHIC	Chingaza	10.50	81	*e*P	Pn	00 09 49.3	+3.0
RUSC	La Rusia	11.38	75	*e*P	Pn	00 09 59.4	+1.0
RUSC	La Rusia	11.38	75	*e*P	Pn	00 09 59.4	+1.0
TGUH	Tegucigalpa,Un	11.38	344	*e*Pn	Pn	00 09 58.8	+0.8
BARC	Barichara	11.47	72	*e*P	Pn	00 10 02.4	+3.0
BARC	Barichara	11.47	72	*e*P	Pn	00 10 02.4	+3.0
CODC	Agustn Codazz	12.64	57	*e*P	Pn	00 10 19.2	+4.0
CODC	Agustn Codazz	12.64	57	*e*P	Pn	00 10 19.2	+4.0
APG	El Apazote	13.43	333	Pn	Pn	00 10 27.1	+0.9
	0.8nm,0.3s,baz=187,slow=4.4,SNR=6.4						
APG				LR	LR	00 14 35.6	
	comp=Z,499nm,21.4s,baz=134,slow=33						
SDV	Santo Domingo	14.63	66	Pn	P	00 10 47.5	-0.5
	0.9nm,0.3s,baz=209,slow=9.8,SNR=12						
SDV				LR	LR	00 16 06.9	
	comp=Z,117nm,21.4s,baz=244,slow=36						
SDV	Santo Domingo	14.63	66	*e*Pn	Pn	00 10 43.9	+1.4
CCIG	Comitan	15.34	330	*e*Pn	P	00 10 54.8	-1.1
	9.8nm,0.8s						
NNA	Nana	16.59	154	LR	LR	00 16 12.4	
	comp=Z,115nm,21.9s,baz=319,slow=32						
CMIG	Matias Romero	17.51	324	P	P	00 11 25.4	+5.6
	1.2nm,0.3s,baz=131,slow=12,SNR=16						
CMIG				LR	LR	00 16 52.2	
	comp=Z,146nm,19.5s,baz=140,slow=33						
PTGA	Pitinga	24.45	98	LR	LR	00 22 06.4	
	comp=Z,200nm,18.4s,baz=306,slow=36						
LPAZ	La Paz	24.88	141	P	P	00 12 39.8	+2.2
	1.9nm,0.7s,baz=359,slow=6.6,SNR=4.4						
TXAR	Lajitas Array	32.07	327	P	P	00 13 40.3	-0.8
	0.2nm,0.6s,baz=123,slow=9.8,SNR=3.4						
TXAR				LR	LR	00 24 54.0	
	comp=Z,67nm,18.1s,baz=0.0,slow=33						
TKL	Tuckaleechee C	32.46	1	LR	LR	00 26 24.3	
	comp=Z,81nm,21.6s,baz=6.5,slow=36						
ANMO	Albuquerque	37.92	329	P	P	00 14 32.2	+0.6
	2.7nm,1.0s,baz=153,slow=9.0,SNR=7.1						
CPUP	Villa Florida	39.04	140	LR	LR	00 33 16.3	
	comp=Z,96nm,18.2s,baz=2.0,slow=40						
SDCO	Great Sand Dun	39.71	333	*e*P	P	00 14 48.1	+1.4
	3.4nm,1.0s						
BDFB	Brasilia	40.26	119	LR	LR	00 31 34.3	
	comp=Z,92nm,19.9s,baz=268,slow=36						
SMCO	Snowmass	41.55	333	*e*P	P	00 15 03.3	+1.3
	1.6nm,0.8s						
PDAR	Pinedale Array	45.59	334	P	P	00 15 34.0	-0.2
	0.7nm,0.8s,baz=134,slow=8.4,SNR=5.5						
PDAR				LR	LR	00 35 25.6	
	comp=Z,67nm,19.3s,baz=181,slow=37						
NVAR	Mina Array Bea	47.04	323	P	P	00 15 46.6	+0.9
	1.5nm,0.7s,baz=134,slow=7.9,SNR=14						
NVAR				LR	LR	00 34 41.7	
	comp=Z,92nm,18.8s,baz=125,slow=35						
ULM	Lac du Bonnet	48.09	350	P	P	00 15 53.1	-0.2
	3.2nm,0.9s,baz=155,slow=6.7,SNR=4.6						
YKA	Yellowknife Ar	63.50	345	P	P	00 17 43.2	-0.3
	0.4nm,0.6s,baz=143,slow=6.3,SNR=9.3						
ILAR	Eielson Array	75.91	337	P	P	00 19 00.3	+0.4
	0.7nm,1.0s,baz=145,slow=4.9,SNR=3.5						
ESDC	Sonseca Array	80.50	50	P	P	00 19 28.5	+2.5
	0.1nm,0.3s,baz=281,slow=9.0,SNR=3.0						
WRA	Warramunga Arr	138.88	243	PKP	PKiKP	00 26 42.3	-0.7
	0.4nm,0.8s,baz=109,slow=1.8,SNR=4.2						

IDC 03 00:16:48.1±1.4**, 1°.88S**×**127°.34E, h0km, mb3.4**/3**, mb1 3.6**/5**, mb1mx3.4**/39**, mbtmp3.5**/5**, ML3.8**/2**, Error ellipse: s-maj=44.4km s-min=23.3km az=68.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	4.05	76	Pn	Pn	00 17 52.4	+1.0
	3.9nm,0.3s,baz=244,slow=6.6,SNR=6.4						
SIJI				Sn	Sn	00 18 35.9	-3.6
	baz=82,slow=23,SNR=1.1						
WRA	Warramunga Arr	19.22	160	P	P	00 21 13.7	-0.2
	0.4nm,0.3s,baz=340,slow=11,SNR=20						
ASAR	Alice Springs	22.58	164	P	P	00 21 50.1	-0.1
	0.8nm,0.5s,baz=343,slow=11,SNR=11						
SONM	Songino Array	52.78	342	P	P	00 26 04.6	-0.5
	0.3nm,0.7s,baz=154,slow=6.8,SNR=1.8						
MKAR	Makanchi Array	62.52	327	P	P	00 27 13.9	+0.2
	0.2nm,0.5s,baz=115,slow=8.2,SNR=2.5						

IDC 03 00:42:39.0±2.1**, 13°.30N**×**87°.57W, h0km, mb3.7**/3**, mb1 3.8**/5**, mb1mx3.5**/34**, mbtmp3.6**/5**, ML2.7**/2**, Error ellipse: s-maj=65.7km s-min=26.1km az=42.0, Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	El Apazote	3.28	301	Pn	Pn	00 43 33.0	+1.1
	0.5nm,0.3s,baz=106,slow=12,SNR=3.2						
APG				Sn	Sn	00 44 12.9	+1.1
	0.9nm,0.3s,baz=274,slow=9.3,SNR=3.0						
JTS	JuntasAbangare	3.94	139	Pn	Pn	00 43 40.9	0.0
	1.0nm,0.3s,baz=167,slow=21,SNR=8.8						
JTS				Sn	Sn	00 44 23.8	-4.0
	1.7nm,0.3s,baz=350,slow=18,SNR=2.0						
TXAR	Lajitas Array	21.85	319	P	P	00 47 32.5	-1.0
	1.8nm,0.7s,baz=145,slow=11,SNR=18						
ULM	Lac du Bonnet	37.47	351	P	P	00 49 54.7	+0.5
	1.6nm,0.8s,baz=169,slow=10,SNR=4.5						
YKA	Yellowknife Ar	52.77	345	P	P	00 51 55.3	-0.3
	0.2nm,0.4s,baz=140,slow=7.2,SNR=8.2						

IDC 03 00:44:21.5±1.6**, 1°.82S**×**127°.45E, h0km, mb3.3**/2**, mb1 3.6**/4**, mb1mx3.4**/36**, mbtmp3.4**/4**, ML3.5**/2**, Error ellipse: s-maj=33.6km s-min=26.2km az=66.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	3.93	76	Pn	Pn	00 45 23.6	+0.5
	3.0nm,0.3s,baz=254,slow=9.8,SNR=9.0						
SIJI				Sn	Sn	00 46 10.8	+0.8
	1.6nm,0.3s,baz=176,slow=21,SNR=4.7						
WRA	Warramunga Arr	19.23	160	P	P	00 48 46.9	-0.5
	0.2nm,0.3s,baz=340,slow=12,SNR=15						
ASAR	Alice Springs	22.60	164	P	P	00 49 24.2	+0.3
	0.9nm,0.7s,baz=343,slow=10,SNR=16						
MKAR	Makanchi Array	62.53	327	P	P	00 54 47.0	-0.1
	0.2nm,0.5s,baz=127,slow=7.5,SNR=4.6						

*NIED **03** 00:58:00, 37°.60N×143°.70E, h5km, Mw4.2 Best double couple: Mo2.06000×10^15 NP1:φs22.00000°, δ20.00000°, λ-93.00000°. NP2:φs206.00000°, δ70.00000°, λ-89.00000°.*
*IDC **03** 00:58:50.8±0.6, 37°.52N×143°.91E, h0km, mb4.0/19, mb1 4.2/24, mb1mx4.1/54, mbtmp4.0/24, ML3.8/4, MS3.4/5, Ms1 3.4/5, ms1mx2.9/46, Error ellipse: s-maj=17.1km s-min=13.9km az=109.0*
*JMA **03** 00:58:53.7±0.1, 37°.64N×143°.67E, h51km, M3.9*
*ISCJB **03** 00:58:54.3±0.4, 37°.63N±0°.03×143°.64E±0°.03, h33km, mb4.1/28, MS3.6/1, Error ellipse: s-maj=4.4km s-min=3.7km az=158.8*
*NEIC **03** 00:58:56.0±0.4, 37°.55N×143°.83E, h35km, mb4.5/9, Error ellipse: s-maj=9.5km s-min=6.7km az=149.0*
ISC 03 00:58:55.1±0.6**, 37°.64N**±0°.04×**143°.69E**±0°.06**, h35km, n73, σ2.s10**/66**, mb4.2**/28**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.88	292	P	Pn	00 59 24.2	-0.5
JIKH				*e*S	Sn	00 59 46.2	-1.0
JIO	Ouri	2.02	295	P	Pn	00 59 26.1	-0.5
JIO				S	Sn	00 59 50.2	-0.4
JKMT	Kesennumamotoy	2.10	305	P	Pn	00 59 27.1	-0.6
JKMT				S	Sn	00 59 52.0	-0.6
OFUJ	Ofunato	2.14	313	P	Pn	00 59 27.5	-0.8
OFUJ				*e*S	Sn	00 59 52.5	-1.2
JMK	Ichinoseki	2.34	305	P	Pn	00 59 30.7	-0.4
JMK				*e*S	Sn	00 59 58.6	0.0
JOM	Ohasama	2.62	315	P	Pn	00 59 34.7	-0.3
JOM				S	Sn	01 00 05.0	-0.6
JFT	Otama	2.66	268	P	Pn	00 59 35.8	+0.3
JFT				S	Sn	01 00 06.8	+0.2
JYK	Kaneyama	2.91	297	P	Pn	00 59 39.5	+0.5
JYK				*e*S	Sn	01 00 13.2	+0.5
JANG	Nango	3.21	329	*e*S	Sn	01 00 19.4	-0.7
JAG	Ashikaga	3.60	252	P	Pn	00 59 48.3	0.0
JAG				*e*S	Sn	01 00 28.8	-0.8
JRY	Ryogami san	4.17	249	P	Pn	00 59 55.9	-0.3
JRY				*e*S	Sn	01 00 41.6	-2.1
JOT	Ohata	4.26	332	P	Pn	00 59 57.6	+0.2
JOT				*e*S	Sn	01 00 44.1	-1.8
ERM	Erimo	4.39	355	*e*Pn	Pn	00 59 59.5	+0.2
ERM				*e*Sn	Sn	01 00 48.3	-0.9
JOD2	Odawara 2	4.40	239	P	Pn	00 59 58.8	-0.6
JOD2				S	Sn	01 00 47.0	-2.4
MJAR	Matsushiro Arr	4.51	258	Pn	Pn	01 00 02.4	+1.5
	3.8nm,0.3s,baz=80,slow=12,SNR=44						
MJAR				Sn	Sn	01 00 53.1	+0.9
	1.6nm,0.3s,baz=92,slow=28,SNR=3.4						
MJAR				LR	LR	01 01 59.1	
	comp=Z,293nm,19.5s,baz=85,slow=41						
MAJO	Matsushiro	4.51	258	*e*Pn	Pn	01 00 01.6	+0.6
MAJO				*e*Sn	Sn	01 00 53.1	+0.8
MAT	Matsushiro	4.51	258	P	Pn	01 00 02.6	+1.6
MAT				S	Sn	01 00 52.6	+0.3
MJB9	Matsu-Tunnel	4.52	258	*e*Pn	Pn	01 00 02.5	+1.5
MJB9				*e*Sn	Sn	01 00 43.7	-8.6
JKB	Kayabe	4.71	335	P	Pn	01 00 04.9	+1.3
JCH	Churui	4.98	357	P	Pn	01 00 06.1	-1.2
JCH				*e*S	Sn	01 00 59.3	-4.3
JHJ2	Mitsune	5.51	216	*e*Pn	Pn	01 00 10.6	-4.0
JHJ	Hachijo jima 2	5.52	216	Pn	Pn	01 00 14.6	-0.2
	13nm,0.3s,baz=335,slow=21,SNR=6.3						
JHJ				Sn	Sn	01 01 11.8	-5.3
	10nm,0.3s,baz=140,slow=24,SNR=3.6						
INU	Inuyama	5.84	249	*e*Pn	Pn	01 00 21.3	+2.1
NEM2	Nemuro 2	5.93	15	P	Pn	01 00 17.7	-2.7
NEM2				*e*S	Sn	01 01 20.5	-6.6
ASAJ	Asahikawa	6.53	353	Pn	Pn	01 00 31.3	+2.7
	2.2nm,0.3s,baz=213,slow=17,SNR=2.8						
CBIJ	Chichi jima	10.59	187	*e*Pn	Pn	01 01 19.6	-4.7
USRK	Ussuriysk Ar.	11.01	310	Pn	Pn	01 01 33.0	+3.0
	0.2nm,0.3s,baz=117,slow=13,SNR=5.8						
USRK				LR	LR	01 05 23.7	
	comp=Z,202nm,21.9s,baz=174,slow=35						
KSRS	Korea Array	12.52	274	Pn	P	01 01 53.5	-8.4
	0.2nm,0.3s,baz=94,slow=14,SNR=4.5						
KSRS				LR	LR	01 06 08.9	
	comp=Z,156nm,18.7s,baz=68,slow=34						
KSAR	Wonju Array Be	12.55	274	Pn	Pn	01 01 53.5	+2.4
KLR	Kul'dur	14.45	327	Pn	Pn	01 02 15.4	-1.5
	0.1nm,0.3s,baz=133,slow=12,SNR=6.0						
KLR				LR	LR	01 07 44.7	
	comp=Z,142nm,19.5s,baz=184,slow=36						
PETK	Petropavlovsk-	18.28	28	*e*P	Pn	01 03 04.7	-1.1
BJT	Baijiatuau	21.54	285	*e*P	P	01 03 41.1	-0.1
	13nm,1.1s						
SEY	Seymchan	25.88	9	P	P	01 04 24.6	+1.3
	2.4nm,0.7s,baz=251,slow=18,SNR=3.4						
ULN	Ulaanbaatar	28.53	303	*e*P	P	01 04 52.6	+5.1
	3.8nm,0.9s						
SONA1	Songino Array	28.97	303	*e*P	P	01 04 49.8	-1.5
SONA0	Songino Array	28.97	303	*e*P	P	01 04 53.6	+2.3
SONM	Songino Array	28.97	303	P	P	01 04 53.6	+2.3
	0.9nm,0.6s,baz=92,slow=8.8,SNR=4.7						
ZAA0	Zalesovo Array	42.85	312	*e*P	P	01 06 51.2	+1.6
	3.3nm,0.8s						
ZAA1	Zalesovo Array	42.85	312	*e*P	P	01 06 52.1	+2.5
ZAA1				*e*PcP	PcP	01 08 42.2	+2.1
ZALV	Zalesovo Beam	42.85	312	P	P	01 06 52.1	+2.5
	1.4nm,0.7s,baz=69,slow=7.9,SNR=2.6						
ZALV				PcP	PcP	01 08 42.2	+2.1
	1.4nm,0.8s,baz=110,slow=3.3,SNR=3.3						
MK01	Makanchi Array	45.33	302	*e*P	P	01 07 11.5	+1.8
MK31	Makanchi Array	45.34	302	*e*P	P	01 07 11.8	+2.2
MK32	Makanchi Array	45.34	302	*e*P	P	01 07 11.6	+1.9
MKAR	Makanchi Array	45.34	302	P	P	01 07 11.6	+1.9
	1.0nm,0.6s,baz=85,slow=8.9,SNR=12						
MKAR				LR	LR	01 25 25.0	
	comp=Z,74nm,21.8s,baz=12,slow=35						
KURK	Kurchatov	46.99	308	*e*P	P	01 07 24.6	+2.1
	5.4nm,0.7s						
MDM	Murphy Dome	47.44	32	*e*P	P	01 07 28.3	+2.4
	11nm,1.2s						
ILAR	Eielson Array	48.01	33	P	P	01 07 29.7	-0.7
	2.1nm,0.9s,baz=264,slow=6.6,SNR=19						
ILB	Eielson Array	48.01	33	*e*P	P	01 07 29.6	-0.7
INK	Inuvik	53.02	27	P	P	01 08 09.4	+1.4
	0.8nm,0.6s,baz=293,slow=5.5,SNR=5.3						
BTK	Batken	55.30	297	*e*P	P	01 08 27.2	+2.0
	2.2nm,0.5s						
DLBC	Dease Lake	57.03	39	P	P	01 08 39.8	+2.5
	2.1nm,0.9s,baz=314,slow=25,SNR=3.3						
WR1	Warramunga Arr	57.94	190	*e*P	P	01 08 44.1	+0.2
	7.3nm,0.8s						
WRA	Warramunga Arr	57.94	190	P	P	01 08 44.1	+0.2
	6.5nm,0.8s,baz=12,slow=7.4,SNR=55						
ABKAR	Akbulak array	58.93	311	*e*P	P	01 08 52.2	+1.6
ASAR	Alice Springs	61.67	190	P	P	01 09 10.3	+0.8
	3.2nm,0.9s,baz=11,slow=6.1,SNR=31						
YKA	Yellowknife Ar	62.37	31	P	P	01 09 15.4	+1.7
	0.6nm,0.8s,baz=302,slow=6.9,SNR=7.6						
FIA0	FINESS Array S	69.11	333	*e*P	P	01 09 59.4	+2.2
FINES	FINESS Array B	69.11	333	P	P	01 09 59.4	+2.2
	2.2nm,0.8s,baz=36,slow=12,SNR=3.3						
STKA	Stephens Creek	69.18	182	P	P	01 09 58.6	+0.7
	1.3nm,0.5s,baz=336,slow=13,SNR=4.0						
KIV	Kislovodsk	71.87	312	*e*P	P	01 10 18.2	+3.7
	5.8nm,0.9s						
KBZ	Khabaz	71.87	311	P	P	01 10 17.6	+3.3
	2.8nm,0.9s,baz=64,slow=3.6,SNR=11						
NVAR	Mina Array Bea	73.17	54	P	P	01 10 24.0	+1.4
	1.0nm,0.9s,baz=290,slow=5.4,SNR=5.0						
HFS	Hagfors	74.27	337	P	P	01 10 30.8	+2.5
	3.6nm,0.9s,baz=52,slow=7.7,SNR=4.8						
NB2	NORSAR Subarra	74.32	338	P	P	01 10 41.3	+13
	comp=Z,0.7nm,0.6s,baz=39,slow=5.9						
NB200	NORSAR Array S	74.32	338	*e*P	P	01 10 31.1	+2.5
NOA	NORSAR Array B	74.32	338	P	P	01 10 31.1	+2.5
	comp=Z,0.5nm,0.7s,baz=24,slow=18,SNR=2.4						
H17A	Grant Village	74.36	46	*e*P	P	01 10 34.1	+4.7
	comp=Z,5.8nm,1.1s						
AKASG	Malin Array Be	74.92	323	P	P	01 10 34.6	+2.4
	comp=Z,0.2nm,0.2s,baz=40,slow=6.0,SNR=3.8						
BR101	Keskin Array S	79.79	313	*e*P	P	01 11 01.2	+1.2
BRTR	Keskin Array B	79.79	313	P	P	01 11 01.2	+1.2
	comp=Z,0.3nm,0.8s,baz=36,slow=5.4,SNR=2.6						
CLL	Collm	81.46	331	*e*pP	pP	01 11 21.0	+3.5
LTX	Lajitas	88.31	54	*e*P	P	01 11 42.6	-0.8
TXAR	Lajitas Array	88.31	54	P	P	01 11 42.6	-0.8
	comp=Z,0.3nm,0.8s,baz=312,slow=4.2,SNR=3.0						

*NNC **03** 01:04:56.4±1.5, 40°.17N×77°.26E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=11.8km s-min=6.9km az=135.0*
*KRNET **03** 01:04:57.5±0.1, 40°.19N×77°.24E, mb2.5*
*SOME **03** 01:04:58.0, 40°.22N×77°.23E, h5km*
ISC 03 01:04:57.3±1.9**, 40°.05N**±0°.09×**77°.22E**±0°.06**, h10km, n33, σ1.s52**/51**, 21C-1D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	Naryn	1.66	327	⇑*i*P	Pn	01 05 26.8	0.0
	baz=22						
NRN				⇑*i*S	Sn	01 05 48.3	-0.1
	baz=22						
KDJ	Kajisay	2.08	359	⇑*i*P	Pb	01 05 33.5	-1.7
	baz=59						
KDJ				⇑*i*S	Sb	01 05 59.3	-1.8
	baz=59						
ULHL	Ulahol	2.31	342	⇑*i*P	Pb	01 05 37.4	-1.8
	baz=40						
ULHL				⇑*i*S	Sb	01 06 06.4	-1.5
	baz=40						
KZA	Kyzart	2.51	324	⇑*i*P	Pb	01 05 40.9	-1.8
	baz=22						
KZA				⇑*i*S	Sb	01 06 12.3	-1.6
	baz=22						
BOOM	Boomskoye usch	2.62	339	⇑*e*P	Pb	01 05 41.7	-2.7
	baz=37						
BOOM				⇑*i*S	Sn	01 06 13.8	+2.0
	baz=37						
ARLS	Aral	2.84	310	⇑*i*P	Pb	01 05 45.1	-3.1
	baz=8.0						
ARLS				⇑*i*S	Sn	01 06 19.3	+2.1
	baz=8.0						
SFK	Sufi-Kurgan	2.85	270	⇑Pg	Pb	01 05 47.1	-1.3
	1.6nm,0.8s						
SFK				⇑Lg	Lg	01 06 29.5	
	1.4nm,0.4s						
TNSS	Tian-Shan	2.99	356	Pg	Pb	01 05 49.4	-1.5
	6.9nm,0.5s						
TNSS				Lg	Lg	01 06 26.4	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	3.9nm,0.4s						
TNSS	Tian-Shan	2.99	356	eP	Pb	01 05 49.4	-1.5
	6.9nm,0.5s						
TNSS				eS	Sb	01 06 26.4	-1.2
	5.0nm,0.5s						
IZV	Izvestkoviy	3.02	352	Pg	Pb	01 05 50.2	-0.9
	2.0nm,0.6s						
IZV				Lg	Lg	01 06 28.1	
	11nm,0.4s						
IZV	Izvestkoviy	3.02	352	eP	Pb	01 05 50.2	-0.9
	2.0nm,0.6s						
IZV				eS	Sb	01 06 28.1	0.0
	11nm,0.4s						
MDOK	Medeo	3.11	358	Pg	Pb	01 05 51.1	-1.7
	4.8nm,1.1s						
MDOK				Lg	Lg	01 06 31.3	
	4.2nm,0.6s						
MDOK	Medeo	3.11	358	Pg	Pb	01 05 52.4	-0.4
	1.4nm,0.3s						
MDOK				Lg	Lg	01 06 31.4	
	8.8nm,0.5s						
MDOK	Medeo	3.11	358	eP	Pb	01 05 52.4	-0.4
	1.4nm,0.3s						
MDOK				eS	Sb	01 06 31.4	+0.6
	8.8nm,0.5s						
TKM2	Tokmak 2	3.11	337	⇑Pg	Pb	01 05 52.5	-0.4
	0.7nm,0.5s						
TKM2				⇑Lg	Lg	01 06 32.7	
	2.5nm,0.4s						
KST	Kastek	3.13	343	Pg	Pb	01 05 53.7	+0.6
	0.8nm,0.1s						
KST				Lg	Lg	01 06 33.7	
	4.9nm,0.5s						
KST	Kastek	3.13	343	eP	Pb	01 05 53.7	+0.6
	0.8nm,0.1s						
KST				eS	Sb	01 06 33.7	+2.2
	4.9nm,0.5s						
KOTS	Kotyrbulak	3.18	359	Pg	Pb	01 05 52.9	-1.1
	2.3nm,0.4s						
KOTS				Lg	Lg	01 06 32.3	
	9.7nm,0.5s						
KOTS	Kotyrbulak	3.18	359	eP	Pb	01 05 52.9	-1.1
	2.3nm,0.4s						
KOTS				eS	Sb	01 06 32.3	-0.5
	9.7nm,0.5s						
AAK	Ala-Archa	3.30	322	⇑Pg	Pb	01 05 53.8	-2.1
	1.4nm,0.8s						
AAK				⇑Lg	Lg	01 06 38.2	
	9.5nm,1.0s						
DGS	Degeres	3.37	342	Pg	Pb	01 05 56.9	-0.1
	1.7nm,0.4s						
DGS				Lg	Lg	01 06 39.8	
	4.5nm,0.5s						
DGS	Degeres	3.37	342	eP	Pb	01 05 57.0	-0.1
	1.7nm,0.4s						
DGS				eS	Sb	01 06 39.7	+1.6
	4.5nm,0.5s						
UZB	Uzynbulak	3.38	23	eP	Pb	01 05 57.6	+0.3
	1.1nm,0.5s						
UZB				eS	Sb	01 06 40.2	+1.8
	1.6nm,0.2s						
ARSB	Arslanbob	3.46	293	⇑eP	Pn	01 05 54.2	+2.8
	baz=91						
ARSB				⇑iS	Sn	01 06 35.4	+2.9
	baz=91						
SHLS	Shalkode	3.53	28	eP	Pg	01 06 02.9	-2.0
	1.8nm,0.2s						
SHLS				eS	Sg	01 06 49.7	-0.9
	4.8nm,0.7s						
KTBS	Karatobe	3.68	354	Pg	Pb	01 06 02.3	-0.1
	0.9nm,0.3s						
KTBS				Lg	Lg	01 06 48.4	
	7.6nm,0.3s						
KTBS	Karatobe	3.68	354	eP	Pb	01 06 02.3	-0.1
	0.9nm,0.3s						
KTBS				eS	Sb	01 06 48.4	+1.3
	7.6nm,0.3s						
PDGK	Podgornoye	3.69	27	Pg	Pb	01 06 01.4	-1.2
	0.6nm,0.3s						
PDGK				Lg	Lg	01 06 46.8	
	1.7nm,0.7s						
PDGK	Podgornoye	3.69	27	⇓Pg	Pb	01 06 00.7	-1.9
	3.1nm,1.4s						
PDGK				⇑Lg	Lg	01 06 45.7	
	3.4nm,0.7s						
CHKK	Chushkaly	3.80	357	Pg	Pb	01 06 05.1	+0.6
	0.5nm,0.1s						
CHKK				Lg	Lg	01 06 53.1	
	5.7nm,0.3s						
CHKK	Chushkaly	3.80	357	eP	Pb	01 06 05.1	+0.6
	0.5nm,0.1s						
CHKK				eS	Sb	01 06 53.1	+2.5
	5.7nm,0.3s						
ARXS	Arharly	4.18	6	Pg	Pb	01 06 10.8	-0.2
	1.1nm,0.2s						
ARXS				Lg	Lg	01 07 03.0	
	2.7nm,0.7s						
ARXS	Arharly	4.18	6	eP	Pb	01 06 10.8	-0.2
	1.1nm,0.2s						
ARXS				eS	Sb	01 07 03.0	+1.4
	2.7nm,0.7s						

*NIED **03** 01:10:00, 37°.60N×143°.60E, h5km, Mw3.7 Best double couple: $M_0$3.89000×10^14 NP1:ϕ_s40.00000°, δ32.00000°, λ-64.00000°. NP2:ϕ_s190.00000°, δ62.00000°, λ-105.00000°.*
*IDC **03** 01:10:24.8±1.0, 37°.47N×143°.72E, h0km, mb3.6/6, mb1 3.8/9, mb1mx3.6/59, mbtmp3.7/9, ML3.9/3, Error ellipse: s-maj=26.3km s-min=18.9km az=92.0*
*ISCJB **03** 01:10:27.6±0.7, 37°.59N±0°.04×143°.62E±0°.05, h33km, mb3.6/6, Error ellipse: s-maj=6.0km s-min=5.2km az=11.6*
*JMA **03** 01:10:28.2±0.2, 37°.65N×143°.59E, h54km, M3.6*
ISC 03 01:10:29.8±1.1**, 37°.61N**±0°.05×**143°.58E**±0°.09**, h35**km**, n24, σ1s.74**/39**, mb3.6**/6**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.81	293	P	Pn	01 10 57.8	-0.7
JIKH				eS	Sn	01 11 19.4	-0.9
JIO	Ouri	1.95	296	P	Pn	01 10 59.8	-0.6
JIO				eS	Sn	01 11 23.0	-0.7
JKMT	Kesennumamotoy	2.05	306	P	Pn	01 11 00.8	-0.9
JKMT				eS	Sn	01 11 24.6	-1.4
OFUJ	Ofunato	2.10	315	P	Pn	01 11 01.3	-1.2
OFUJ				eS	Sn	01 11 26.1	-1.3
JMK	Ichinoseki	2.29	306	P	Pn	01 11 04.5	-0.6
JMK				eS	Sn	01 11 31.6	-0.4
JFT	Otama	2.58	269	P	Pn	01 11 09.5	+0.4
JFT				S	Sn	01 11 39.9	+0.6
JOM	Ohasama	2.58	317	P	Pn	01 11 08.5	-0.6
JOM				eS	Sn	01 11 38.8	-0.5
JYK	Kaneyama	2.85	298	P	Pn	01 11 13.0	+0.2
JYK				eS	Sn	01 11 46.6	+0.7
JAG	Ashikaga	3.51	252	P	Pn	01 11 21.9	0.0
JAG				eS	Sn	01 12 02.4	+0.2
BSO1	Boso 1	3.63	216	P	Pn	01 11 21.9	-1.1
JRY	Ryogami san	4.08	248	P	Pn	01 11 29.4	-0.3
JRY				eS	Sn	01 12 14.5	-1.8
JOT	Ohata	4.24	333	P	Pn	01 11 32.0	+0.1
JOD2	Odawara 2	4.32	238	P	Pn	01 11 32.2	-0.8
JOD2				eS	Sn	01 12 20.1	-2.0
MJAR	Matsushiro Arr	4.43	258	Pn	Pn	01 11 35.7	+1.2
	4.3nm,0.3s,baz=91,slow=15,SNR=51						
MJAR				Sn	Sn	01 12 26.4	+1.5
	baz=96,slow=15,SNR=1.2						
MAT	Matsushiro	4.43	258	P	Pn	01 11 36.3	+1.8
MAT				S	Sn	01 12 27.4	+2.5
JCH	Churui	5.00	358	P	Pn	01 11 40.3	-2.0
JCH				eS	Sn	01 12 33.9	-4.9
JHJ	Hachijo jima 2	5.45	216	Pn	Pn	01 11 45.2	-3.3
	17nm,0.3s,baz=345,slow=23,SNR=8.3						
JHJ				Sn	Sn	01 12 44.6	-5.5
	16nm,0.3s,baz=261,slow=23,SNR=2.9						
ASAJ	Asahikawa	6.54	354	Pn	Pn	01 12 04.4	+0.9
	2.0nm,0.3s,baz=232,slow=12,SNR=6.3						
ZALV	Zalesovo Beam	42.81	312	P	P	01 18 25.9	+1.9
	0.3nm,0.4s,baz=66,slow=6.4,SNR=2.4						
MKAR	Makanchi Array	45.28	302	P	P	01 18 45.0	+1.1
	0.2nm,0.6s,baz=86,slow=6.2,SNR=3.5						
KURBB	Kurchatov Arra	47.01	308	P	P	01 18 58.4	+1.0
	0.8nm,0.6s,baz=82,slow=7.4,SNR=6.8						
WRA	Warramunga Arr	57.91	190	P	P	01 20 17.8	-0.6
	1.6nm,0.6s,baz=11,slow=7.4,SNR=26						
ASAR	Alice Springs	61.63	190	P	P	01 20 43.6	-0.4
	0.7nm,0.8s,baz=12,slow=6.8,SNR=8.3						
YKA	Yellowknife Ar	62.43	31	P	P	01 20 49.6	+0.6
	0.3nm,1.0s,baz=298,slow=5.4,SNR=2.9						

*IDC **03** 01:16:44.7±5.7, 34°.16N×89°.37E, h0km, mb3.1/2, mb1 3.4/5, mb1mx3.2/58, mbtmp3.3/5, ML3.1/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/21, Error ellipse: s-maj=99.3km s-min=55.5km az=26.0*
*BJI **03** 01:17:04.5, 35°.98N×90°.00E, h5km, mb3.6/3, ML3.6/3*
ISC 03 01:16:56.5±3.3**, 35°.0N**±0°.3×**89°.4E**±0°.1**, h35**km**, n9, σ1s.67**/8**, Xizang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	8.90	352	eP	Pn	01 19 01.3	-1.3
WMQ				smax	smax		
	comp=N,76nm,1.3s						
WMQ				smax	smax		
	comp=E,71nm,1.1s						
GTA	Gaotai	9.38	59	eP	Pn	01 19 11.1	+1.8
GTA				pP		01 19 14.6	
GTA				sP		01 19 17.3	
GTA				S	Sn	01 20 52.4	-1.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MKAR	Makanchi Array	12.94	338	Pn	Pn	01 19 58.5	+0.7
	baz=144,slow=13,SNR=1.9						
AAK	Ala-Archa	13.89	308	LR	LR	01 27 10.8	
	comp=Z,51nm,21.7s,baz=114,slow=44						
KURBB	Kurchatov Arra	17.49	336	P	P	01 20 57.8	-0.7
	baz=151,slow=11,SNR=5.1						
SONM	Songino Array	18.01	40	P	Pn	01 21 03.9	-0.1
	0.1nm,0.3s,baz=225,slow=9.2,SNR=13						
ZALV	Zalesovo Beam	19.21	352	P	Pn	01 21 20.4	+2.0
	0.5nm,0.5s,baz=153,slow=9.7,SNR=2.5						
AKTO	Aktyubinsk	27.48	314	LR	LR	01 34 40.4	
	comp=Z,56nm,18.4s,baz=67,slow=38						
YKA	Yellowknife Ar	80.92	11	P	P	01 29 05.3	-1.6
	0.2nm,0.8s,baz=353,slow=4.7,SNR=2.4						

*IDC **03** 01:40:10.5±1.8, 12°.45N×88°.25W, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.8/32, mbtmp3.8/9, ML2.8/2, MS2.8/1, Ms1 2.8/1, ms1mx2.4/40, Error ellipse: s-maj=51.8km s-min=20.5km az=35.0*
*ISCJB **03** 01:40:14.1±0.7, 12°.35N±0°.08×88°.44W±0°.05, h35km, mb4.0/13, MS2.7/1, Error ellipse: s-maj=11.5km s-min=5.2km az=21.5*
*NEIC **03** 01:40:16.9±1.1, 12°.37N×88°.43W, h45km±9km, mb4.3/12, Error ellipse: s-maj=16.1km s-min=7.7km az=216.0*
ISC 03 01:40:14.3±0.7**, 12°.22N**±0°.08×**88°.48W**±0°.06**, h35**km**, n42, σ2s.02**/47**, mb4.1**/13**, Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TGUH	Tegucigalpa,Un	2.17	33	ePn	Pn	01 40 50.8	+2.8
TGUH				eSn	Sn	01 41 10.6	-3.1
ESTN	Estel	2.24	67	ePn	Pn	01 40 51.3	+2.3
ESTN				eSn	Sn	01 41 19.7	+4.2
BOAB	BOACO BROADBAN	2.76	85	ePn	Pn	01 40 57.4	+1.3
BOAB				eSn	Sn	01 41 30.6	+2.4
APG	El Apazote	3.37	325	Pn	Pn	01 41 05.0	+0.3
	0.4nm,0.3s,baz=225,slow=4.9,SNR=2.4						
JTS	JuntasAbangare	3.96	119	Pn	Pn	01 41 16.3	+3.7
	1.0nm,0.3s,baz=344,slow=23,SNR=13						
JTS				Sn	Sn	01 41 57.9	0.0
	2.2nm,0.3s,baz=123,slow=23,SNR=6.5						
JTS	JuntasAbangare	3.96	119	ePn	Pn	01 41 14.0	+1.4
JTS				eSn	Sn	01 41 55.9	-2.0
ESPN	Las Esperanzas	4.09	90	ePn	Pn	01 41 13.3	-1.1
CMIG	Matias Romero	7.86	309	Pn	Pn	01 42 08.4	+2.3
	0.3nm,0.3s,baz=144,slow=4.3,SNR=4.1						
CMIG				Sn	Sn	01 43 36.3	+2.4
	0.2nm,0.3s,baz=58,slow=22,SNR=2.1						
TEIG	Tepich	7.96	1	ePn	Pn	01 42 06.8	-0.8
LNIG	Linares	16.34	322	ePn	Pn	01 44 01.5	+0.4
	6.5nm,0.8s						
BANI	BANI	18.52	68	eP	P	01 44 25.9	-2.0
833A	Chaparral WMA,	18.99	329	eP	P	01 44 30.7	-2.2
	14nm,0.8s						
456A	Hilliard	19.36	17	eP	P	01 44 32.7	-4.3
	78nm,1.4s						
435B	Jarrell	20.30	337	eP	P	01 44 47.5	+0.3
	15nm,0.9s						
JCT	Junction City	20.98	332	eP	P	01 44 55.9	+1.3
	10.0nm,0.6s						
LTX	Lajitas	22.12	323	eP	P	01 45 08.8	+1.8
TXAR	Lajitas Array	22.12	323	P	P	01 45 08.8	+1.8
	2.8nm,0.7s,baz=145,slow=12,SNR=26						
TX31	Lajitas Ar. Si	22.13	323	eP	P	01 45 09.4	+2.4
MIAR	Mount Ida	22.70	349	eP	P	01 45 14.4	+1.4
	8.1nm,0.8s						
ABTX	Abilene, Hawle	22.74	335	eP	P	01 45 13.6	+0.1
	5.3nm,0.9s						
TKL	Tuckaleechee C	23.72	10	P	P	01 45 23.0	-0.1
	3.5nm,0.8s,baz=175,slow=13,SNR=3.9						
TKL	Tuckaleechee C	23.72	10	eP	P	01 45 23.0	-0.1
	15nm,1.4s						
MSTX	Muleshoe	25.27	331	eP	P	01 45 39.3	+1.8
	14nm,1.1s						
AMTX	Amarillo	25.55	334	eP	P	01 45 41.4	+1.4
	13nm,1.1s						
ANMO	Albuquerque	27.89	327	LR	LR	01 57 23.5	
	comp=Z,20nm,20.9s,baz=48,slow=37						
SPMN	Marine on St.	33.10	354	eP	P	01 46 46.9	0.0
	14nm,1.0s						
PD31	Pinedale Array	35.51	333	eP	P	01 47 09.7	+1.6
PDAR	Pinedale Array	35.51	333	P	P	01 47 09.7	+1.6
	0.2nm,0.6s,baz=126,slow=12,SNR=2.9						
NV01	Mina Array Sit	37.22	320	eP	P	01 47 22.9	+0.2
NVAR	Mina Array Bea	37.22	320	P	P	01 47 22.9	+0.2
	0.7nm,1.1s,baz=124,slow=8.0,SNR=2.7						
ULM	Lac du Bonnet	38.40	352	P	P	01 47 30.9	-1.3
	3.8nm,0.6s,baz=157,slow=7.5,SNR=8.6						
YKA	Yellowknife Ar	53.57	345	P	P	01 49 30.5	-1.0
	1.0nm,0.9s,baz=141,slow=7.2,SNR=11						
YKB5	Yellowknife Ar	53.57	345	eP	P	01 49 30.5	-1.0
ILAR	Eielson Array	65.82	336	P	P	01 50 55.5	-0.4
	1.2nm,1.2s,baz=113,slow=3.4,SNR=4.1						
ILB	Eielson Array	65.82	336	eP	P	01 50 55.5	-0.4
DBIC	Dimbokro	82.41	85	P	P	01 52 34.7	+1.1
	0.9nm,0.6s,baz=270,slow=5.1,SNR=2.5						
DBIC	Dimbokro	82.41	85	eP	P	01 52 34.7	+1.1
	8.5nm,1.5s						
LZH	Lanzhou	130.56	347	ePKP	PKPdf	01 59 16.0	-6.2
LZH				pPKP	sPKPdf	01 59 41.8	+4.9
LZH				sPKP		01 59 50.4	
WR1	Warramunga Arr	138.24	254	ePKPdf	PKiKP	01 59 38.7	-0.1
WRA	Warramunga Arr	138.24	254	PKP	PKiKP	01 59 38.7	-0.1
	0.4nm,1.1s,baz=93,slow=1.5,SNR=2.6						
AS31	Alice Springs	138.25	248	ePKPdf	PKiKP	01 59 39.5	+0.8
ASAR	Alice Springs	138.25	248	PKP	PKiKP	01 59 39.5	+0.8
	0.2nm,0.8s,baz=103,slow=2.0,SNR=2.7						

IDC 03 01:41:29.9±2.6**, 18°.61N**×**39°.40E, h0**km**, mb3.5**/4**, mb1 3.5**/4**, mb1mx3.3**/28**, mbtmp3.5**/4**, MS3.2**/4**, Ms1 3.1**/4**, ms1mx2.8**/24**, Error ellipse: s-maj=71.0km s-min=29.2km az=152.0, Red Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRTR	Keskin Array B	21.63	348	P	P	01 46 21.9	+0.1
	1.5nm,1.0s,baz=165,slow=12,SNR=6.7						
KBZ	Khabaz	25.22	6	LR	LR	01 57 19.7	
	comp=Z,48nm,21.1s,baz=218,slow=38						
GEYT	Alibeck	25.26	36	LR	LR	01 57 29.9	
	comp=Z,60nm,19.4s,baz=355,slow=38						
TORD	Torodi Ar. Bea	36.62	267	P	P	01 48 38.2	-0.1
	1.0nm,1.0s,baz=68,slow=8.3,SNR=6.8						
AAK	Ala-Archa	38.13	43	LR	LR	02 08 20.5	
	comp=Z,35nm,18.6s,baz=272,slow=42						
MKAR	Makanchi Array	44.94	41	P	P	01 49 47.1	+0.4
	0.5nm,0.7s,baz=237,slow=5.0,SNR=4.9						
ZALV	Zalesovo Beam	49.51	34	P	P	01 50 21.3	-0.8
	0.2nm,0.3s,baz=258,slow=6.9,SNR=4.1						
ZALV				LR	LR	02 11 33.8	
	comp=Z,19nm,18.7s,baz=262,slow=36						

MEX 03 01:55:38.8±0.3**, 17°.96N**×**100°.60W, h44**km±11km**, MD3.8, Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.89	247	eP	Pn	01 55 53.6	-1.4
ZIIG				i S	Sn	01 56 04.4	-2.4
MEIG	Mezcala	0.94	92	eP	Pn	01 55 53.9	-1.7
MEIG				i S	Sn	01 56 06.0	-1.9
CAIG	El Cayaco	0.96	161	eP	Pn	01 55 54.1	-1.8
CAIG				eS	Sn	01 56 06.4	-2.0
TLIG	Tlapa	1.98	101	eP	Pn	01 56 08.0	-2.0
TLIG				eS	Sn	01 56 31.9	-1.7
MMIG	Aquila	2.63	278	eP	Pn	01 56 17.4	-1.4
MMIG				i S	Sn	01 56 47.7	-1.8

MEX 03 02:01:29.6±0.7**, 16°.09N**×**98°.28W, h6**km±4km**, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.34	26	i P	Pg	02 01 35.6	-0.6
PNIG				i S	Sg	02 01 40.8	+0.2
TLIG	Tlapa	1.49	350	eP	Pn	02 01 53.0	-4.1
TLIG				eS	Sn	02 02 11.3	-5.7

*GUC **03** 02:07:14.0±0.3, 35°.77S×73°.74W, h9km±4km, ML4.0*
*IDC **03** 02:07:14.4±1.9, 35°.79S×73°.25W, h0km, mb4.3/4, mb1 4.2/6, mb1mx3.9/30, mbtmp4.2/6, ML3.8/2, MS3.3/2, Ms1 3.3/2, ms1mx3.0/21, Error ellipse: s-maj=58.5km s-min=21.1km az=78.0*
*ISCJB **03** 02:07:16.1±0.8, 35°.78S±0°.05×73°.6W±0°.1, h33km, mb4.5/6, MS3.4/1, Error ellipse: s-maj=11.7km s-min=6.4km az=4.9*
ISC 03 02:07:18.6±0.9**, 35°.80S**±0°.05×**73°.5W**±0°.1**, h35**km**, n21, σ1s.29**/24**, mb4.5**/6**, 2C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	1.10	162	eP	Pn	02 07 34.6	-2.9
CCSP				eS	Sn	02 07 50.1	-1.2
CCSP				IAML		02 08 03.4	
	comp=N,4μm,0.5s						
CCHI	Chillan	1.42	125	⇑iP	Pn	02 07 40.6	-1.3
CCHI				i S	Sn	02 08 01.2	+1.8
CCHI				IAML		02 08 13.8	
	comp=N,4μm,0.3s						
GO05	Huala	1.53	59	⇑iP	Pn	02 07 40.6	-2.7
GO05				eS	Sn	02 08 01.9	-0.1
GO05				IAML		02 08 12.8	
	comp=E,1μm,0.4s						
LMEL	Las Melosas	3.36	56	eP	Pn	02 08 09.1	+0.3
LMEL				i S	Sn	02 08 56.3	+8.9
LMEL				IAML		02 09 09.2	
	comp=N,509nm,0.8s						
CLCH	Cerro Calan	3.44	47	eP	Pn	02 08 08.2	-1.6
PLCA	Paso Flores	5.45	155	Pn	Pn	02 08 37.1	-0.3
	comp=N,0.9nm,0.3s,baz=348,slow=11,SNR=16						
PLCA				Lg	Lg	02 10 05.2	
	comp=N,1.1nm,0.3s,baz=45,slow=12,SNR=4.8						
PLCA	Paso Flores	5.45	155	eP	Pn	02 08 37.5	+0.1
CPUP	Villa Florida	16.77	60	LR	LR	02 17 01.9	
	comp=N,63nm,20.9s,baz=112,slow=36						
LPAZ	La Paz	20.02	15	P	P	02 11 49.8	+0.8
	comp=N,0.1nm,0.3s,baz=182,slow=7.6,SNR=11						
BDFB	Brasilia	30.36	55	P	P	02 13 26.5	-0.8
	comp=N,4.0nm,0.9s,baz=89,slow=11,SNR=4.1						
BDFB				LR	LR	02 26 39.4	
	comp=N,97nm,20.7s,baz=267,slow=39						
VNA3	Neumayer Olymp	48.17	157	P	P	02 15 56.1	+1.1
VNA2	Neumayer--Watz	48.84	156	P	P	02 16 00.9	+0.8
	baz=278,slow=8.6						
LIC	Lamto	76.50	72	eP	P	02 19 05.7	+0.4
	comp=N,33nm,1.6s						
TIC	Toumodi	76.77	72	eP	P	02 19 07.4	+0.6
KIC	Kosan Boka	76.81	72	eP	P	02 19 07.7	+0.7
	comp=N,12nm,0.9s						
DBIC	Dimbokro	76.91	72	P	P	02 19 08.3	+0.7
	comp=N,4.4nm,0.8s,baz=226,slow=6.0,SNR=6.0						
BOSA	Boshof	80.31	118	P	P	02 19 26.8	+0.4
	comp=N,3.3nm,0.9s,baz=96,slow=17,SNR=3.1						
TORD	Torodi Ar. Bea	85.97	71	P	P	02 19 53.9	-1.6
	comp=N,1.0nm,1.0s,baz=254,slow=3.5,SNR=3.8						
ZALV	Zalesovo Beam	156.40	33	PKPab	PKPab	02 27 38.2	+0.7
	comp=N,1.3nm,0.6s,baz=316,slow=6.2,SNR=5.5						
MKAR	Makanchi Array	158.86	51	PKPab	PKPab	02 27 48.4	-0.1
	comp=N,0.6nm,0.9s,baz=300,slow=5.5,SNR=3.6						
SONM	Songino Array	167.97	0	PKP	PKPdf	02 27 21.5	+0.5
	comp=N,0.5nm,1.0s,baz=90,slow=4.4,SNR=4.0						
SONM				PKPab	PKPab	02 28 29.6	+1.2
	comp=N,0.5nm,1.0s,baz=341,slow=3.5,SNR=2.7						

SJA 03 02:07:47.4±0.3**, 31°.38S**×**65°.11W, h10**km±2km**, ML2.6, MW3.5, Cordoba Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TCA	Tanti	0.45	84	i P	Pg	02 07 56.6	+0.5
TCA				IAML		02 07 57.0	
	comp=Z,52nm,0.6s						
TCA				i S	Sb	02 08 03.6	-0.6
MRA	San Martin	1.15	206	i P	Pb	02 08 09.5	-0.1
MRA				i S	Sn	02 08 25.7	+0.1
MRA				IAML		02 08 26.2	
	comp=N,396nm,0.4s						
APLL	PUNTA DE LOS L	1.56	309	i P	Pb	02 08 16.7	+0.2
APLL				IAML		02 08 38.3	
	comp=Z,181nm,0.2s						
APLL				i S	Sg	02 08 38.5	+0.8
ACAN	Cantantal	1.98	243	i P	Pb	02 08 23.1	-0.4
ACAN				i S	Sb	02 08 49.5	+1.2

*IDC **03** 02:09:51.5±0.8, 10°.68N×40°.86W, h0km, mb4.0/11, mb1 4.2/12, mb1mx3.9/42, mbtmp4.1/12, Error ellipse: s-maj=29.5km s-min=17.4km az=156.0*
*ISCJB **03** 02:09:52.3±0.6, 10°.7N±0°.1×40°.83W±0°.08, h17km, mb4.5/16, Error ellipse: s-maj=18.0km s-min=9.8km az=159.3*
*NEIC **03** 02:09:52.9±0.5, 10°.64N×40°.83W, h10km, mb4.8/4, Error ellipse: s-maj=15.7km s-min=7.6km az=172.0*
ISC 03 02:09:54.0±0.7**, 10°.7N**±0°.1×**40°.84W**±0°.10**, h17**km**, n30, σ0s.67**/23**, mb4.3**/16**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MDP	Montagnes des	12.93	246	Pn	Pn	02 12 56.4	-0.8
H05S1	Guadeloupe/Mar	19.88	283	T	T	02 34 46.4	
	SNR=5.1						
PTGA	Pitinga	22.14	240	P	P	02 14 49.0	-0.2
	4.6nm,0.8s,baz=61,slow=12,SNR=5.8						
SEUS	St. Eustatius	22.52	290	eP	P	02 14 53.8	+0.6
	130nm,0.9s						
ROSA	Rosais	30.13	20	eP	P	02 16 02.1	-0.9
	219nm,1.1s						
H10N3	ASCENSION HYDR	32.01	124	T	T	02 50 15.7	
	baz=304,slow=75,SNR=13						
H10N2	ASCENSION HYDR	32.01	124	T	T	02 50 15.4	
	baz=304,slow=75,SNR=11						
H10N1	ASCENSION HYDR	32.03	124	T	T	02 50 15.7	
	baz=304,slow=75,SNR=15						
H10S3	ASCENSION HYDR	32.52	126	T	T	02 50 54.9	
	baz=306,slow=75,SNR=12						
H10S1	ASCENSION HYDR	32.53	126	T	T	02 50 54.4	
	baz=306,slow=75,SNR=11						
H10S2	ASCENSION HYDR	32.54	126	T	T	02 50 55.3	
	baz=306,slow=75,SNR=11						
DBIC	Dimbokro	35.77	93	P	P	02 16 52.4	-0.2
	4.0nm,0.7s,baz=261,slow=11,SNR=6.6						
LPAZ	La Paz	38.03	226	P	P	02 17 12.9	+0.5
	1.7nm,0.9s,baz=34,slow=6.8,SNR=4.7						
RTC	Rabat Centre	38.78	48	eP	P	02 17 17.4	-0.5
	511nm,0.4s						
TOA1	Torodi Ar. Sit	41.65	82	eP	P	02 17 42.0	0.0
TORD	Torodi Ar. Bea	41.66	82	P	P	02 17 42.0	-0.1
	2.4nm,0.9s,baz=264,slow=7.2,SNR=16						
CPNY	Central Park	41.88	322	eP	P	02 17 43.1	-0.3
	42nm,1.5s						
ESDC	Sonseca Array	43.64	42	P	P	02 17 58.4	+0.6
	0.8nm,0.7s,baz=244,slow=8.9,SNR=6.3						
GERES	GERESS Array B	59.03	39	P	P	02 19 52.4	-0.7
	0.4nm,0.6s,baz=215,slow=8.1,SNR=2.8						
PV11	David Mesa, Pa	66.26	307	eP	P	02 20 42.6	+0.9
	26nm,0.2s						
AKASG	Malin Array Be	69.21	40	P	P	02 21 00.6	+0.7

	0.4nm,0.4s,baz=259,slow=3.9,SNR=6.5						
AKBB	**Malin Array Si**	**69.21**	**40**	*e*P	**P**	**02 21 00.6**	**+0.7**
FIA0	**FINESS Array S**	**69.74**	**28**	*e*P	**P**	**02 21 03.8**	**+0.8**
FINES	**FINESS Array B**	**69.74**	**28**	P	**P**	**02 21 03.8**	**+0.8**
	1.4nm,0.8s,baz=236,slow=2.1,SNR=4.5						
YKA	**Yellowknife Ar**	**73.13**	**332**	P	**P**	**02 21 22.3**	**-1.1**
	0.7nm,0.9s,baz=100,slow=6.0,SNR=8.5						
INK	**Inuvik**	**81.17**	**338**	P	**P**	**02 22 08.8**	**+0.4**
	4.5nm,1.1s,baz=89,slow=6.3,SNR=7.4						
INK	**Inuvik**	**81.17**	**338**	*e*P	**P**	**02 22 08.1**	**-0.3**
	6.7nm,1.1s						
IL1	**Eielson Array**	**87.16**	**336**	*e*P	**P**	**02 22 39.0**	**-0.1**
ILAR	**Eielson Array**	**87.16**	**336**	P	**P**	**02 22 39.8**	**+0.7**
	2.7nm,1.0s,baz=64,slow=3.8,SNR=17						
ILB	**Eielson Array**	**87.16**	**336**	*e*P	**P**	**02 22 39.8**	**+0.7**

IDC 03 02:26:36.7±2.6**, 18°.61N×39°.45E, h0km, mb3.5**/4**, mb1 3.6**/4**, mb1mx3.3**/45**, mbtmp3.6**/4**, MS3.2**/4**, Ms1 3.2**/4**, ms1mx2.8**/33**, Error ellipse: s-maj=70.1km s-min=29.1km az=152.0, Red Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**7.76**	**155**	LR	LR	02 30 43.2	
	comp=Z,65nm,21.3s,baz=46,slow=32						
BRTR	**Keskin Array B**	**21.64**	**348**	P	P	02 31 28.9	+0.1
	1.6nm,1.0s,baz=168,slow=13,SNR=8.2						
GEYT	**Alibeck**	**25.23**	**36**	LR	LR	02 42 24.8	
	comp=Z,43nm,21.2s,baz=25,slow=38						
TORD	**Torodi Ar. Bea**	**36.67**	**267**	P	P	02 33 45.4	-0.1
	0.7nm,0.8s,baz=68,slow=9.4,SNR=7.5						
MKAR	**Makanchi Array**	**44.91**	**41**	P	P	02 34 53.4	+0.2
	1.6nm,1.1s,baz=255,slow=4.6,SNR=4.6						
ZALV	**Zalesovo Beam**	**49.48**	**34**	P	P	02 35 28.1	-0.6
	0.8nm,0.8s,baz=245,slow=6.4,SNR=3.7						
JNU	**Nakatsue**	**81.22**	**58**	LR	LR	03 18 15.8	
	comp=Z,66nm,19.9s,baz=117,slow=38						
DAV	**Davao City (W)**	**84.12**	**85**	LR	LR	03 21 16.4	
	comp=Z,8.9nm,18.5s,baz=270,slow=39						

*TIF **03** 02:31:28.6, 42°.27N×40°.85E, h11km±2km*
*ISK **03** 02:31:31.6, 42°.19N×41°.03E, h14km, ML2.7/2*
*DDA **03** 02:31:44.7, 41°.55N×41°.88E, h7km±6km, ML2.5*
ISC 03 02:31:29.6±2.6**, 42°.33N**±0°.08×**41°.04E**±0°.05**, h8**km±15km**, n15, σ1.05**/26**, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.87**	**146**	P	**Pb**	**02 31 47.0**	**0.0**
BATM				S	**Sn**	**02 31 59.6**	**-1.5**
BCA	**Borcka**	**0.98**	**153**	PG	**Pb**	**02 31 48.6**	**-0.3**
BCA				SG	**Sb**	**02 32 01.4**	**-0.6**
DBOC	**Borcka**	**1.09**	**154**	IAML_P			
	comp=Z,4μm,0.1s						
DBOC				*i* S	**Sn**	**02 32 06.2**	**-0.2**
CHOM	**Cayeli-Rize**	**1.25**	**190**	PN	**Pn**	**02 31 54.2**	**+0.9**
ARTV	**Artvin**	**1.32**	**149**	IAML_P			
	comp=Z,3μm,0.1s						
ARTV				*i* P	**Pb**	**02 31 54.5**	**-0.2**
ARTV				*i* S	**Sn**	**02 32 12.2**	**-0.3**
DBAD	**Bademkaya**	**1.40**	**159**	IAML_P			
	comp=Z,882nm,0.1s						
DBAD				*i* P	**Pb**	**02 31 55.9**	**-0.1**
DBAD				*i* S	**Sn**	**02 32 14.2**	**-0.1**
DAGI	**Agillar**	**1.41**	**152**	*i* P	**Pn**	**02 31 55.2**	**-0.5**
DAGI				*i* S	**Sg**	**02 32 14.7**	**-0.3**
EPOS	**Posof**	**1.51**	**123**	*i* P	**Pn**	**02 31 58.0**	**+0.9**
EPOS				*i* S	**Sb**	**02 32 17.4**	**+0.1**
DDEM	**Demirkent**	**1.53**	**159**	*i* P	**Pn**	**02 31 57.1**	**-0.3**
DDEM				*i* S	**Sg**	**02 32 19.0**	**+0.2**
BAYT	**Aydıntepe-Bayb**	**2.05**	**200**	PN	**Pn**	**02 32 04.9**	**+0.4**
AKH	**Akhalkalaki**	**2.05**	**116**	P	**Pb**	**02 32 07.7**	**+0.5**
AKH				S	**Sg**	**02 32 34.6**	**-0.8**
BGD	**Bogdanovka**	**2.19**	**118**	P	**Pn**	**02 32 07.9**	**+1.4**
BGD				S	**Sb**	**02 32 37.2**	**+0.2**
ESPY	**Espiye-Giresun**	**2.23**	**232**	PN	**Pn**	**02 32 07.4**	**+0.5**
ESPY				SN	**Sn**	**02 32 34.5**	**-0.2**
TRLG	**Trialeti**	**2.42**	**108**	P	**Pn**	**02 32 12.8**	**+3.2**
TRLG				S	**Sb**	**02 32 44.1**	**+0.7**
GUDG	**Gudauri**	**2.55**	**86**	P	**Pn**	**02 32 09.1**	**-2.4**

IDC 03 02:41:12.7±4.2**, 11°.83S×117°.42E, h0km, mb3.3**/1**, mb1 3.2**/3**, mb1mx3.1**/42**, mbtmp3.0**/3**, ML2.8**/1**, Error ellipse: s-maj=264.8km s-min=30.9km az=45.0, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.15**	**118**	P	Pn	02 45 26.3	-0.2
	0.0nm,0.3s,baz=288,slow=14,SNR=2.0						
ASAR	**Alice Springs**	**19.60**	**129**	P	P	02 45 43.2	+0.5
	baz=309,slow=12,SNR=2.3						
MKAR	**Makanchi Array**	**66.29**	**334**	P	P	02 52 02.8	-0.1
	0.2nm,0.4s,baz=142,slow=6.1,SNR=4.6						

*SIGU **03** 02:43:12.9, 46°.96N×25°.31E, h5km, mb2.0*
*BUC **03** 02:43:12.6±0.3, 46°.99N×25°.33E, h1km, MD2.7/4, Error ellipse: s-maj=4.1km s-min=3.3km az=27.0*
ISC 03 02:43:12.9±1.0**, 46°.98N**±0°.02×**25°.34E**±0°.02**, h9**km±9km**, n49, σ1.17**/69**, 20C-18D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOSR	**Joseni**	**0.30**	**156**	⇑*i*P	**Pg**	**02 43 18.8**	**0.0**
JOSR	**Joseni**	**0.30**	**156**	⇑*i*P	**Pg**	**02 43 18.8**	**0.0**
JOSR				*i* S	**Sg**	**02 43 22.2**	**-0.6**
BIZ	**Bicaz**	**0.52**	**94**	⇓*i*P	**Pg**	**02 43 23.0**	**0.0**
BIZ	**Bicaz**	**0.52**	**94**	⇓*i*P	**Pg**	**02 43 23.0**	**0.0**
BIZ				*i* S	**Sg**	**02 43 31.0**	**+1.1**
BURAR	**Bucovina Array**	**0.64**	**352**	⇑*i*P	**Pg**	**02 43 25.1**	**-0.2**
BURAR	**Bucovina Array**	**0.64**	**352**	⇑*i*P	**Pg**	**02 43 25.1**	**-0.2**
BURAR				*i* S	**Sb**	**02 43 35.5**	**0.0**
ARCR	**ARCALIA**	**0.68**	**279**	⇓*i*P	**Pg**	**02 43 26.0**	**-0.1**
ARCR	**ARCALIA**	**0.68**	**279**	⇓*i*P	**Pg**	**02 43 26.0**	**-0.1**
ARCR				*i* S	**Sb**	**02 43 36.8**	**+0.3**
GIRR	**Girov**	**0.80**	**91**	⇓*i*P	**Pg**	**02 43 26.9**	**-1.2**
GIRR	**Girov**	**0.80**	**91**	⇓*i*P	**Pg**	**02 43 26.9**	**-1.2**
DOPR	**Dopca**	**1.01**	**178**	⇑*i*P	**Pn**	**02 43 33.4**	**+0.1**
DOPR	**Dopca**	**1.01**	**178**	⇑*i*P	**Pn**	**02 43 33.4**	**+0.1**
DOPR				*i* S	**Sn**	**02 43 48.4**	**+0.8**
CJR	**Cluj-Napoca**	**1.23**	**258**	⇑*i*P	**Pg**	**02 43 36.2**	**-0.2**
CJR	**Cluj-Napoca**	**1.23**	**258**	⇑*i*P	**Pg**	**02 43 36.2**	**-0.2**
CJR				*i* S	**Sn**	**02 43 54.5**	**+1.5**
RAKU	**Rahkiv**	**1.32**	**323**	*i* Pn	**Pn**	**02 43 37.1**	**-0.4**
RAKU				*e*Sn	**Sg**	**02 43 55.5**	**+0.3**
KSV	**Kosov**	**1.35**	**352**	*i* Pn	**Pg**	**02 43 39.2**	**+0.4**
KSV				Pm		02 43 40.3	
KSV				*e*Sn	**Sg**	**02 43 57.6**	**+1.3**
KSV				Sm		02 44 02.5	
NSLU	**Nyzhne Selyshc**	**1.36**	**334**	*i* Pn	Pg	02 43 45.1	+6.2
NSLU				Pm		02 43 47.9	
NSLU				*e*Sn	Sg	02 44 07.2	+11
NSLU				Sm		02 44 18.4	
CHRU	**Chernivtsi**	**1.38**	**16**	*e*Sn	**Sg**	**02 43 58.1**	**+0.9**
BMR	**Baia Mare**	**1.44**	**300**	⇓*i*P	**Pg**	**02 43 40.4**	**0.0**
BMR	**Baia Mare**	**1.44**	**300**	⇓*i*P	**Pg**	**02 43 40.4**	**0.0**
BMR				*i* S	**Sg**	**02 44 01.5**	**+2.5**
VRI	**Vrincioaia**	**1.47**	**139**	⇑*i*P	**Pg**	**02 43 41.0**	**0.0**
VRI	**Vrincioaia**	**1.47**	**139**	⇑*i*P	**Pg**	**02 43 41.0**	**0.0**
MLR	**Muntele Rosu**	**1.54**	**164**	⇑*i*P	**Pg**	**02 43 43.3**	**+0.8**
MLR	**Muntele Rosu**	**1.54**	**164**	⇑*i*P	**Pg**	**02 43 43.3**	**+0.8**
MLR				*i* S	**Sg**	**02 44 05.7**	**+3.2**
VOIR		**1.56**	**188**	⇑*i*P	**Pg**	**02 43 42.5**	**-0.2**
VOIR		**1.56**	**188**	⇑*i*P	**Pg**	**02 43 42.5**	**-0.2**
VOIR				*i* S	**Sg**	**02 44 03.2**	**+0.4**
ARR	**Arges**	**1.68**	**197**	⇓*i*P	**Pb**	**02 43 44.3**	**+0.2**
ARR	**Arges**	**1.68**	**197**	⇓*i*P	**Pb**	**02 43 44.3**	**+0.2**
ARR				*i* S	**Sg**	**02 44 08.3**	**+1.3**
BIR	**Birlad**	**1.73**	**113**	⇓*i*P	**Pg**	**02 43 45.9**	**-0.1**
BIR	**Birlad**	**1.73**	**113**	⇓*i*P	**Pg**	**02 43 45.9**	**-0.1**
BIR				*i* S	**Sg**	**02 44 09.7**	**+1.3**
KMPD	**K-Podol'skiy**	**1.76**	**25**	*e*Pn	**Pn**	**02 43 44.2**	**+0.7**
KMPD				*i* Sn	**Sb**	**02 44 08.0**	**+0.6**
MTUR	**Matau**	**1.76**	**186**	⇑*i*P	**Pg**	**02 43 46.2**	**-0.4**
MTUR	**Matau**	**1.76**	**186**	⇑*i*P	**Pg**	**02 43 46.2**	**-0.4**
DRGR		**1.81**	**265**	⇑*i*P	**Pb**	**02 43 45.9**	**-0.4**
DRGR		**1.81**	**265**	⇑*i*P	**Pb**	**02 43 45.9**	**-0.4**
DRGR				*i* S	**Sg**	**02 44 11.2**	**+0.1**
LOT	**Lotru**	**1.88**	**216**	⇓*i*P	**Pb**	**02 43 47.5**	**+0.1**
LOT	**Lotru**	**1.88**	**216**	⇓*i*P	**Pb**	**02 43 47.5**	**+0.1**
LOT				*i* S	**Sg**	**02 44 12.2**	**-1.0**
KORU	**Korolevo**	**1.90**	**309**	*e*Sn	**Sb**	**02 44 11.2**	**-0.4**
BRIU	**Brid**	**2.08**	**312**	*e*Pn	**Pn**	**02 43 49.0**	**+1.1**
BRIU				*e*Sn	**Sb**	**02 44 16.1**	**-0.5**
NDNU	**Novodnistrovsk**	**2.12**	**39**	*i* Pn	**Pb**	**02 43 50.0**	**-1.4**
NDNU				*i* Sn	**Sb**	**02 44 17.3**	**-0.5**
HORU	**Horodok**	**2.35**	**18**	*e*Sn	**Sb**	**02 44 23.1**	**-1.5**
MILM	**Milestii Mici**	**2.38**	**90**	⇓*i*P	**Pb**	**02 43 54.4**	**-1.4**
MILM	**Milestii Mici**	**2.38**	**90**	⇓*i*P	**Pb**	**02 43 54.4**	**-1.4**
MILM				*i* S	**Sb**	**02 44 24.2**	**-1.1**
GZR	**Gura Zlata**	**2.38**	**229**	⇓*i*P	**Pn**	**02 43 53.5**	**+1.3**
GZR	**Gura Zlata**	**2.38**	**229**	⇓*i*P	**Pn**	**02 43 53.5**	**+1.3**
GZR				*i* S	**Sb**	**02 44 25.1**	**-0.4**
SIRR	**Siria**	**2.63**	**256**	⇑*i*P	**Pb**	**02 43 57.8**	**-2.4**
SIRR	**Siria**	**2.63**	**256**	⇑*i*P	**Pb**	**02 43 57.8**	**-2.4**
SIRR				*i* S	**Sb**	**02 44 30.4**	**-2.3**
BZS	**Buzias**	**2.92**	**244**	S	**Sb**	**02 44 37.5**	**-3.3**
BZS	**Buzias**	**2.92**	**244**	*i* S	**Sb**	**02 44 37.5**	**-3.3**

*ISCJB **03** 02:44:15.6±1.0, 31°.25N±0°.05×116°.19W±0°.05, h13km±5km, Error ellipse: s-maj=10.9km s-min=3.9km az=42.3*
*ANF **03** 02:44:16.1±1.7, 31°.38N×116°.18W, h3km±6km, ML3.2/7, Error ellipse: s-maj=14.6km s-min=7.5km az=63.0*
*ECX **03** 02:44:16.6±0.6, 31°.27N×116°.15W, h6km, MD3.3, ML3.5, Fault plane solution: NP1:φs344.90000°, δ75.52000°, λ-26.57000°.*
*MEX **03** 02:44:18.6±0.6, 31°.63N×115°.59W, h15km, MD3.5*
ISC 03 02:44:16.4±1.1**, 31°.34N**±0°.05×**116°.11W**±0°.04**, h11**km±9km**, n20, σ0.71**/33**, 7C-1D, Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAX	**El Zacaton**	**0.22**	**321**	⇑*i*P	**Pg**	**02 44 21.6**	**+0.6**
ZAX				*e*S	**Sg**	**02 44 25.4**	**+1.2**
ZAX				*e*		02 44 26.4	
ZAX				IAML		02 44 26.4	
	comp=N,10μm,0.2s						
ECNX	**Esteban Cantu**	**0.52**	**307**	⇑*i*P	**Pg**	**02 44 26.2**	**-0.4**
ECNX				⇑*e*P	**Pn**	**02 44 30.1**	**+0.2**
ECNX				*e*S	**Sg**	**02 44 33.4**	**-0.1**
SPIG	**San Pedro Mart**	**0.63**	**118**	*e*P	**Pg**	**02 44 28.9**	**+0.3**
SPIG				*e*S	**Sg**	**02 44 37.0**	**0.0**
SPIG	**San Pedro Mart**	**0.63**	**118**	*e*P	**Pg**	**02 44 28.4**	**-0.3**
SPIG				*e*S	**Sg**	**02 44 37.0**	**0.0**
SPX	**San Pedro Mart**	**0.63**	**118**	*e*P	**Pg**	**02 44 27.9**	**-0.7**
SPX				*e*S	**Sg**	**02 44 35.9**	**-1.2**
SPX	**San Pedro Mart**	**0.63**	**118**	⇑*i*P	**Pg**	**02 44 28.0**	**-0.7**
SPX				*e*S	**Sg**	**02 44 36.6**	**-0.4**
SPX				IAML		02 44 37.0	
	comp=N,2μm,0.2s						
SPX				⇓*e*		02 44 37.0	
PBX	**Punta Banda**	**0.66**	**307**	⇑*i*P	**Pg**	**02 44 28.4**	**-0.7**
ECBX	**El Chinero**	**0.92**	**82**	⇑*e*P	**Pb**	**02 44 34.7**	**+0.4**
ECBX				*e*S	**Sb**	**02 44 47.6**	**+1.0**
CBX	**Cerro Bola**	**1.07**	**334**	*e*P	**Pg**	**02 44 36.4**	**-0.7**
CBX				*e*S	**Sg**	**02 44 49.9**	**-1.2**
CBX	**Cerro Bola**	**1.07**	**334**	⇑*e*P	**Pg**	**02 44 36.5**	**-0.6**
CBX				IAML		02 44 51.5	
	comp=N,1μm,0.3s						
RMX	**La Rumorosa**	**1.26**	**1**	*e*P	**Pb**	**02 44 39.0**	**-1.2**
RMX				*e*S	**Sg**	**02 44 55.9**	**-1.1**
IKP	**In-Ko-Pah, Jac**	**1.30**	**0**	P	**Pn**	**02 44 41.0**	**+0.4**
	baz=183						
IKP				S	**Sb**	**02 44 58.0**	**+0.3**
	baz=183						
MBIG	**Mexicali**	**1.32**	**36**	*i* P	Pn	02 44 31.6	-9.2
MBIG				*i* S	Sb	02 44 43.2	-15
BAR	**Barrett**	**1.42**	**341**	*e*P	**Pn**	**02 44 41.8**	**-0.3**
MONP2	**Monument Peak**	**1.57**	**350**	P	**Pn**	**02 44 44.8**	**+0.4**
	baz=172						
MONP2				S	**Sn**	**02 45 05.0**	**+0.1**
	baz=172						
SWSC	**Sam W. Stewart**	**1.62**	**9**	P	**Pg**	**02 44 47.2**	**-0.3**
	baz=192						
SWSC				S	**Sg**	**02 45 08.9**	**+0.4**
	baz=192						
109C	**Camp Elliot, M**	**1.76**	**332**	S	**Sn**	**02 45 10.2**	**+1.0**
	baz=152						
PFO	**Pinyon Flats O**	**2.28**	**353**	P	**Pb**	**02 44 57.3**	**-0.4**
	baz=174						
PFO				Sb	**Sb**	**02 45 26.9**	**+1.0**
	baz=174						
214A	**Organ Pipe Nat**	**2.88**	**77**	P	**Pn**	**02 45 02.3**	**0.0**
	baz=260						
BFSC	**Mount Baldy Ra**	**3.17**	**336**	Sb	**Sb**	**02 45 51.9**	**+0.5**
	baz=156						

JMA 03 02:44:35.8±0.2**, 38°.43N×144°.56E, h39km, M3.6, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.35**	**287**	P	Pn	02 45 13.3	+1.4
OFUJ				S	Sn	02 45 41.5	+2.0
MIYJ	**Miyakonagasawa**	**2.42**	**299**	P	Pn	02 45 13.8	+0.9
MIYJ				*e*S	Sn	02 45 42.0	+0.7
JIKH	**Ishinomakikobu**	**2.44**	**268**	*e*S	Sn	02 45 43.2	+1.7
JKMT	**Kesennumamotoy**	**2.45**	**280**	P	Pn	02 45 14.8	+1.6
JMK	**Ichinoseki**	**2.67**	**282**	P	Pn	02 45 18.0	+1.8
JMK				*e*S	Sn	02 45 49.0	+1.8
JOM	**Ohasama**	**2.75**	**293**	P	Pn	02 45 19.1	+1.7
JOM				S	Sn	02 45 51.6	+2.2
JYK	**Kaneyama**	**3.32**	**280**	P	Pn	02 45 27.9	+2.7
JFT	**Otama**	**3.46**	**256**	P	Pn	02 45 29.8	+2.7
JFT				S	Sn	02 46 10.1	+3.3
JCH	**Churui**	**4.28**	**348**	P	Pn	02 45 36.8	-1.5
JCH				*e*S	Sn	02 46 24.0	-3.0
NEM2	**Nemuro 2**	**5.01**	**10**	P	Pn	02 45 44.4	-4.0
NEM2				*e*S	Sn	02 46 37.4	-7.6
JRY	**Ryogami san**	**5.12**	**244**	P	Pn	02 45 51.7	+1.8
JRY				*e*S	Sn	02 46 48.3	+0.5
JTKR	**Abashiri--Toko**	**5.56**	**355**	P	Pn	02 45 54.3	-1.6
JTKR				*e*S	Sn	02 46 53.2	-5.2

*BEO **03** 02:51:56.1±1.1, 47°.47N×25°.82E, h10km, ML3.5/2*
*BUC **03** 02:52:00.9±0.3, 46°.98N×25°.31E, h2km±2km, MD3.9/11, Error ellipse: s-maj=2.6km s-min=2.3km az=30.0*
*SIGU **03** 02:52:01.7±0.1, 46°.9N±0°.7×25°.4E±0°.7, h5km, mb3.0/13*
*IDC **03** 02:52:01.6±0.6, 46°.90N×25°.24E, h0km, mb3.4/5, mb1 3.5/12, mb1mx3.4/41, mbtmp3.4/12, ML2.9/7, Error ellipse: s-maj=11.4km s-min=6.8km az=81.0*
*PRU **03** 02:52:02.1±0.0, 47°.05N×25°.68E, h0km*
ISC 03 02:52:01.1±1.1**, 46°.97N**±0°.01×**25°.35E**±0°.01**, h1**km±8km**, n154, σ1.38**/212**, mb3.5**/6**, 36C-50D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOSR	**Joseni**	**0.29**	**157**	⇑*i*P	**Pg**	**02 52 07.0**	**+0.3**
JOSR				S	**Sg**	**02 52 11.3**	**+0.8**
JOSR	**Joseni**	**0.29**	**157**	⇑*i*P	**Pg**	**02 52 07.0**	**+0.3**
JOSR				*i* S	**Sg**	**02 52 11.3**	**+0.8**
BIZ	**Bicaz**	**0.52**	**94**	⇑*i*P	**Pb**	**02 52 11.8**	**-1.3**
BIZ	**Bicaz**	**0.52**	**94**	⇑*i*P	**Pb**	**02 52 11.8**	**-1.3**
BIZ				*i* S	**Sg**	**02 52 18.4**	**+0.6**
BURAR	**Bucovina Array**	**0.65**	**352**	⇓*i*P	**Pg**	**02 52 13.8**	**+0.2**
BURAR	**Bucovina Array**	**0.65**	**352**	⇓*i*P	**Pg**	**02 52 13.8**	**+0.2**
BURAR				*i* S	**Sb**	**02 52 23.9**	**-1.1**
ARCR	**ARCALIA**	**0.69**	**280**	⇑*i*P	**Pg**	**02 52 14.5**	**+0.1**
ARCR	**ARCALIA**	**0.69**	**280**	⇑*i*P	**Pg**	**02 52 14.5**	**+0.1**
ARCR				*i* S	**Sb**	**02 52 24.9**	**-1.1**
PRAR	**RASCA**	**0.71**	**57**	⇓*i*P	**Pb**	**02 52 16.2**	**-0.2**
PRAR	**RASCA**	**0.71**	**57**	⇓*i*P	**Pb**	**02 52 16.2**	**-0.2**
DOPR	**Dopca**	**1.01**	**178**	⇓*i*P	**Pn**	**02 52 22.1**	**-0.4**
DOPR	**Dopca**	**1.01**	**178**	⇓*i*P	**Pn**	**02 52 22.1**	**-0.4**
MDB	**Medias**	**1.07**	**219**	⇑*i*P	**Pn**	**02 52 23.0**	**-0.3**
MDB	**Medias**	**1.07**	**219**	⇑*i*P	**Pn**	**02 52 23.0**	**-0.3**
MDB				*i* S	**Sn**	**02 52 37.7**	**-1.1**
CJR	**Cluj-Napoca**	**1.23**	**258**	⇑*i*P	**Pn**	**02 52 24.6**	**-1.0**
CJR	**Cluj-Napoca**	**1.23**	**258**	⇑*i*P	**Pn**	**02 52 24.6**	**-1.0**
CJR				*i* S	**Sn**	**02 52 42.8**	**-0.1**
RAKU	**Rahkiv**	**1.32**	**323**	⇓*i*P	**Pg**	**02 52 27.2**	**+0.7**
RAKU				Pm		02 52 28.7	
RAKU				*i* S	**Sg**	**02 52 46.3**	**+2.6**
RAKU				Sm		02 52 52.2	
KSV	**Kosov**	**1.36**	**352**	*e*P	**Pg**	**02 52 27.9**	**+0.8**
KSV				Pm		02 52 30.6	
KSV				*i* S	**Sg**	**02 52 45.9**	**+1.2**
KSV				Sm		02 52 56.0	
NSLU	**Nyzhne Selyshc**	**1.37**	**334**	*i* P	Pg	02 52 34.9	+7.6
NSLU				Pm		02 52 36.3	
NSLU				*i* S	Sg	02 52 58.1	+13
NSLU				Sm		02 53 04.3	
CHRU	**Chernivtsi**	**1.38**	**16**	*e*P	**Pg**	**02 52 28.2**	**+0.6**
CHRU				Pm		02 52 29.4	
CHRU				*i* S	**Sg**	**02 52 47.4**	**+1.9**
CHRU				Sm		02 52 53.3	
PLOR	**Plostina**	**1.44**	**141**	⇓*i*P	**Pg**	**02 52 28.7**	**0.0**
PLOR	**Plostina**	**1.44**	**141**	⇓*i*P	**Pg**	**02 52 28.7**	**0.0**
BMR	**Baia Mare**	**1.44**	**300**	⇑*i*P	**Pn**	**02 52 27.9**	**-0.5**
BMR	**Baia Mare**	**1.44**	**300**	⇑*i*P	**Pn**	**02 52 27.9**	**-0.5**
BMR				*i* S	**Sg**	**02 52 48.7**	**+1.2**
VRI	**Vrincioaia**	**1.46**	**139**	⇓*i*P	**Pg**	**02 52 29.0**	**-0.1**
VRI	**Vrincioaia**	**1.46**	**139**	⇓*i*P	**Pg**	**02 52 29.0**	**-0.1**
VRI				*i* S	**Sg**	**02 52 51.3**	**+3.2**
IAS	**Iasi**	**1.53**	**81**	⇓*i*P	**Pg**	**02 52 30.4**	**0.0**
IAS	**Iasi**	**1.53**	**81**	⇓*i*P	**Pg**	**02 52 30.4**	**0.0**
IAS				*i* S	**Sg**	**02 52 52.7**	**+2.5**
MLR	**Muntele Rosu**	**1.54**	**164**	Pn	**Pn**	**02 52 29.3**	**-0.6**
	6.9nm,0.3s,baz=0.2,slow=14,SNR=22						
MLR				Pg	**Pg**	**02 52 31.9**	**+1.3**
	12nm,0.3s,baz=31,slow=5.9,SNR=22						
MLR				Lg	Lg	02 52 50.5	
	3.7nm,0.3s,baz=139,slow=20,SNR=5.6						
MLR	**Muntele Rosu**	**1.54**	**164**	⇓*i*P	**Pb**	**02 52 29.7**	**-0.8**
MLR	**Muntele Rosu**	**1.54**	**164**	⇓*i*P	**Pb**	**02 52 29.7**	**-0.8**
VOIR		**1.55**	**188**	⇓*i*P	**Pb**	**02 52 29.7**	**-1.0**
VOIR		**1.55**	**188**	⇓*i*P	**Pb**	**02 52 29.7**	**-1.0**
VOIR				*i* S	**Sg**	**02 52 52.3**	**+1.4**
ARR	**Arges**	**1.68**	**197**	⇑*i*P	**Pb**	**02 52 32.4**	**-0.5**
ARR	**Arges**	**1.68**	**197**	⇑*i*P	**Pb**	**02 52 32.4**	**-0.5**
ARR				*i* S	**Sg**	**02 52 56.2**	**+1.1**
ODBI	**Odobesti**	**1.69**	**135**	⇓*i*P	**Pg**	**02 52 34.4**	**+0.9**
ODBI	**Odobesti**	**1.69**	**135**	⇓*i*P	**Pg**	**02 52 34.4**	**+0.9**
BIR	**Birlad**	**1.72**	**113**	⇓*i*P	**Pg**	**02 52 34.5**	**+0.4**
BIR	**Birlad**	**1.72**	**113**	⇓*i*P	**Pg**	**02 52 34.5**	**+0.4**
BIR				*i* S	**Sg**	**02 52 57.8**	**+1.4**
KMPD	**K-Podol'skiy**	**1.76**	**25**	P	**Pb**	**02 52 33.8**	**-0.4**
KMPD				*i* S	**Sg**	**02 52 57.9**	**+0.3**
MTUR	**Matau**	**1.76**	**187**	⇓*i*P	**Pb**	**02 52 34.0**	**-0.3**
MTUR	**Matau**	**1.76**	**187**	⇓*i*P	**Pb**	**02 52 34.0**	**-0.3**
PETR	**Petresti**	**1.81**	**133**	⇓*i*P	**Pg**	**02 52 35.6**	**-0.1**
PETR	**Petresti**	**1.81**	**133**	⇓*i*P	**Pg**	**02 52 35.6**	**-0.1**
DRGR		**1.82**	**265**	*e*Pn	**Pn**	**02 52 33.7**	**0.0**
DRGR		**1.82**	**265**	⇑*i*P	**Pb**	**02 52 34.8**	**-0.5**
DRGR		**1.82**	**265**	⇑*i*P	**Pb**	**02 52 34.8**	**-0.5**
DRGR				*i* S	**Sg**	**02 52 59.4**	**-0.1**
LOT	**Lotru**	**1.88**	**216**	⇓*i*P	**Pb**	**02 52 34.8**	**-1.5**
LOT	**Lotru**	**1.88**	**216**	⇓*i*P	**Pb**	**02 52 34.8**	**-1.5**
LOT				*i* S	**Sb**	**02 53 00.6**	**+0.2**
KORU	**Korolevo**	**1.91**	**309**	*e*P	**Pb**	**02 52 36.5**	**-0.3**
KORU				Pm		02 52 39.6	
KORU				*i* S	**Sb**	**02 53 00.9**	**-0.3**
KORU				Sm		02 53 13.6	
GRER		**1.95**	**144**	⇓*i*P	**Pb**	**02 52 37.7**	**+0.2**
GRER		**1.95**	**144**	⇓*i*P	**Pb**	**02 52 37.7**	**+0.2**
TRSU	**Trosnyk**	**1.97**	**306**	*e*P	**Pb**	**02 52 37.2**	**-0.6**
TRSU				Pm		02 52 47.5	
TRSU				*i* S	**Sb**	**02 53 03.2**	**+0.3**
TRSU				Sm		02 53 19.9	
MEZ	**Mezhgor'ye**	**1.98**	**322**	⇓*i*P	**Pb**	**02 52 37.1**	**-0.8**
MEZ				*i* S	**Sb**	**02 53 03.4**	**+0.3**
DEV	**Deva**	**2.01**	**238**	⇓*i*P	**Pb**	**02 52 37.9**	**-0.6**
DEV	**Deva**	**2.01**	**238**	⇓*i*P	**Pb**	**02 52 37.9**	**-0.6**
DEV				*i* S	**Sb**	**02 53 04.4**	**+0.3**
LEOM	**Leova**	**2.06**	**103**	⇑*i*P	**Pb**	**02 52 38.8**	**-0.4**
LEOM	**Leova**	**2.06**	**103**	⇑*i*P	**Pb**	**02 52 38.8**	**-0.4**
LEOM	**Leova**	**2.06**	**103**	P	**Pb**	**02 52 38.8**	**-0.4**
BRIU	**Brid**	**2.08**	**312**	*e*P	**Pb**	**02 52 38.4**	**-1.3**
BRIU				Pm		02 52 42.8	
BRIU				*i* S	**Sb**	**02 53 06.2**	**+0.1**
BRIU				Sm		02 53 21.6	
CEI	**Carei**	**2.09**	**291**	⇓*i*P	**Pn**	**02 52 36.0**	**-1.3**
CEI	**Carei**	**2.09**	**291**	⇓*i*P	**Pn**	**02 52 36.0**	**-1.3**
CEI				*i* S	**Sb**	**02 53 06.1**	**-0.2**
NDNU	**Novodnistrovsk**	**2.12**	**39**	*i* P	**Pb**	**02 52 38.8**	**-1.5**
NDNU				*i* S	**Sb**	**02 53 06.0**	**-1.1**
BERU	**Beregovo**	**2.22**	**306**	*i* P	**Pb**	**02 52 40.2**	**-1.9**
BERU				*i* S	**Sb**	**02 53 09.5**	**-0.6**
TRPA	**Tarpa**	**2.23**	**302**	⇓*i*P	**Pn**	**02 52 39.3**	**+0.1**
TRPA	**Tarpa**	**2.23**	**302**	⇓*i*P	**Pn**	**02 52 39.3**	**+0.1**
TRPA	**Tarpa**	**2.23**	**302**	*e*Pn	**Pn**	**02 52 38.1**	**-1.1**
TRPA				*e*Pg	**Pb**	**02 52 42.1**	**-0.1**
TRPA				Sn	**Sb**	**02 53 08.0**	**-2.3**
TRPA				*e*Sg	**Sg**	**02 53 15.0**	**+2.4**
MUKU	**Mukachevo**	**2.33**	**310**	*e*P	**Pb**	**02 52 42.3**	**-1.6**
MUKU				Pm		02 52 47.9	
MUKU				*i* S	**Sb**	**02 53 12.1**	**-1.1**
MUKU				Sm		02 53 27.8	
HORU	**Horodok**	**2.35**	**17**	*e*P	**Pb**	**02 52 42.1**	**-2.3**
HORU				*i* S	**Sb**	**02 53 12.4**	**-1.6**
PGOR	**Pogoanele**	**2.36**	**150**	S	**Sb**	**02 53 13.1**	**-1.0**
PGOR	**Pogoanele**	**2.36**	**150**	*i* S	**Sb**	**02 53 13.1**	**-1.0**
MORS	**Morshin**	**2.37**	**336**	*e*P	**Pb**	**02 52 43.0**	**-1.6**
MORS				*i* S	**Sb**	**02 53 13.2**	**-1.2**
MILM	**Milestii Mici**	**2.37**	**90**	⇑*i*P	**Pb**	**02 52 42.3**	**-2.4**
MILM	**Milestii Mici**	**2.37**	**90**	⇑*i*P	**Pb**	**02 52 42.3**	**-2.4**
MILM				*i* S	**Sb**	**02 53 12.7**	**-1.8**
MILM	**Milestii Mici**	**2.37**	**90**	P	**Pb**	**02 52 42.3**	**-2.4**
KIS	**Kishinev**	**2.38**	**88**	*e*P	**Pn**	**02 52 41.0**	**-0.2**
KIS				*i* S	**Sg**	**02 53 16.0**	**-1.4**
KIS				LRM	MLR	02 53 38.0	
	600nm,6.0s						
KIS	**Kishinev**	**2.38**	**88**	P	**Pn**	**02 52 41.0**	**-0.2**
KIS				S	**Sg**	**02 53 16.0**	**-1.4**
GZR	**Gura Zlata**	**2.39**	**229**	*e*Pn	**Pn**	**02 52 42.5**	**+1.1**
GZR				*e*Sn	**Sg**	**02 53 19.0**	**+1.3**
GZR	**Gura Zlata**	**2.39**	**229**	⇑*i*P	**Pn**	**02 52 42.6**	**+1.1**
GZR	**Gura Zlata**	**2.39**	**229**	⇑*i*P	**Pn**	**02 52 42.6**	**+1.1**
GZR				*i* S	**Sb**	**02 53 12.2**	**-2.7**
LTVH	**Ltavrtes, Hu**	**2.39**	**281**	⇑*e*Pn	**Pb**	**02 52 44.1**	**-0.9**
LTVH				Sn	**Sn**	**02 53 11.1**	**-0.2**
LTVH				*e*Sg	**Sg**	**02 53 20.0**	**+2.2**
HUMR	**Humele**	**2.46**	**186**	⇑*i*P	**Pn**	**02 52 43.4**	**+1.0**
HUMR	**Humele**	**2.46**	**186**	⇑*i*P	**Pn**	**02 52 43.4**	**+1.0**
SIRR	**Siria**	**2.64**	**256**	⇓*i*P	**Pn**	**02 52 44.7**	**-0.2**
SIRR	**Siria**	**2.64**	**256**	⇓*i*P	**Pn**	**02 52 44.7**	**-0.2**
SIRR				*i* S	**Sn**	**02 53 18.6**	**+1.0**
CFR	**Carcaliu**	**2.64**	**132**	⇑*i*P	**Pn**	**02 52 45.8**	**+0.9**
CFR	**Carcaliu**	**2.64**	**132**	⇑*i*P	**Pn**	**02 52 45.8**	**+0.9**
UZH	**Uzhgorod**	**2.65**	**310**	*e*P	**Pb**	**02 52 47.0**	**-2.3**
UZH				Pm		02 52 52.5	
UZH				*i* S	**Sb**	**02 53 20.3**	**-2.0**
UZH				Sm		02 53 24.4	
BZS	**Buzias**	**2.92**	**244**	*e*Pn	**Pn**	**02 52 49.2**	**+0.4**
BZS				*e*Sn	**Sb**	**02 53 29.4**	**-0.8**
BZS	**Buzias**	**2.92**	**244**	⇓*i*P	**Pn**	**02 52 49.0**	**+0.2**
BZS	**Buzias**	**2.92**	**244**	⇓*i*P	**Pn**	**02 52 49.0**	**+0.2**
BZS				*i* S	**Sn**	**02 53 25.8**	**+1.3**
HERR	**Herculane**	**2.93**	**225**	⇑*i*P	**Pb**	**02 52 50.8**	**-3.3**
HERR	**Herculane**	**2.93**	**225**	⇑*i*P	**Pb**	**02 52 50.8**	**-3.3**
LVV	**L'vov**	**2.98**	**343**	*e*P	**Pn**	**02 52 51.5**	**+1.9**
LVV				*i* S	**Sb**	**02 53 28.7**	**-3.2**
TLCR		**3.00**	**125**	⇓*i*P	**Pn**	**02 52 51.3**	**+1.5**
TLCR		**3.00**	**125**	⇓*i*P	**Pn**	**02 52 51.3**	**+1.5**
TLB	**Topalu**	**3.04**	**141**	⇓*i*P	**Pn**	**02 52 50.3**	**-0.1**
TLB	**Topalu**	**3.04**	**141**	⇓*i*P	**Pn**	**02 52 50.3**	**-0.1**
TLB				*i* S	**Sn**	**02 53 28.4**	**+1.0**
PUNG	**Punghina**	**3.18**	**213**	⇑*i*P	**Pn**	**02 52 52.3**	**-0.1**
TIRR	**Tirgusor**	**3.31**	**138**	⇑*i*P	**Pn**	**02 52 54.4**	**+0.4**
TIRR	**Tirgusor**	**3.31**	**138**	⇑*i*P	**Pn**	**02 52 54.4**	**+0.4**
TIRR				*i* S	**Sn**	**02 53 34.8**	**+0.8**
BANR	**Banloc**	**3.33**	**243**	⇓*i*P	**Pn**	**02 52 55.3**	**+0.9**
BANR	**Banloc**	**3.33**	**243**	⇓*i*P	**Pn**	**02 52 55.3**	**+0.9**
ICOR	**Ion Corvin**	**3.34**	**148**	⇓*i*P	**Pn**	**02 52 55.5**	**+1.1**
ICOR	**Ion Corvin**	**3.34**	**148**	⇓*i*P	**Pn**	**02 52 55.5**	**+1.1**
MDVR	**Moldovita**	**3.35**	**231**	⇓*i*P	**Pn**	**02 52 55.9**	**+1.1**
MDVR	**Moldovita**	**3.35**	**231**	⇓*i*P	**Pn**	**02 52 55.9**	**+1.1**
KUBS	**Kucevo**	**3.63**	**226**	*e*Pn	**Pn**	**02 52 59.7**	**+1.2**
PSZ	**Piszkesteto**	**3.82**	**286**	⇑*i*P	**Pn**	**02 53 01.3**	**+0.1**
PSZ	**Piszkesteto**	**3.82**	**286**	⇑*i*P	**Pn**	**02 53 01.3**	**+0.1**
PSZ	**Piszkesteto**	**3.82**	**286**	*e*Pn	**Pn**	**02 53 00.1**	**-1.1**
PSZ				*e*Pg	**Pg**	**02 53 15.1**	**+0.8**
PSZ				Sn	**Sn**	**02 53 46.1**	**-0.7**
PSZ				*e*Sg	**Sg**	**02 54 05.1**	**+1.2**
ZAGS	**Zajecar**	**3.85**	**216**	*e*Pn	**Pn**	**02 53 03.8**	**+2.3**
ZAPS	**Zavoj**	**4.17**	**208**	*e*Pn	**Pn**	**02 53 07.9**	**+2.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BOVS	**Bovan**	**4.21**	**219**	*e*Pn	**Pn**	**02 53 07.7**	**+1.2**
FRGS	**Fruska Gora**	**4.26**	**247**	*e*Pn	**Pn**	**02 53 07.7**	**+0.5**
TRUS	**Trudelj**	**4.43**	**233**	*e*Pn	**Pn**	**02 53 10.5**	**+1.1**
GRUS	**Gruza**	**4.49**	**228**	*e*Pn	**Pn**	**02 53 11.1**	**+0.8**
LANS	**Liptovska Anna**	**4.50**	**301**	*e*PN	**Pn**	**02 53 11.0**	**+0.4**
AKASG	**Malin Array Be**	**4.52**	**33**	Pn	**Pn**	**02 53 11.3**	**+0.5**
	3.0nm,0.3s,baz=222,slow=12,SNR=12						
AKASG				Pg	**Pb**	**02 53 22.6**	**+1.3**
	6.4nm,0.3s,baz=218,slow=16,SNR=12						
AKASG				Sn	**Sn**	**02 54 03.6**	**-0.4**
	4.8nm,0.3s,baz=213,slow=24,SNR=6.5						
AKASG				Lg	Lg	02 54 19.9	
	7.2nm,0.3s,baz=214,slow=29,SNR=6.6						
VTS	**Vitosha**	**4.64**	**200**	*e*Pn	**Pn**	**02 53 13.2**	**+0.7**
VYHS	**Vyhne**	**4.65**	**291**	*e*PN	**Pn**	**02 53 12.3**	**-0.2**
MORH	**Mrgy, Hungar**	**4.68**	**263**	*e*Pn	**Pn**	**02 53 13.1**	**+0.1**
MORH				Sn	**Sn**	**02 54 10.0**	**+2.1**
DIVS	**Divibare**	**4.74**	**235**	*e*Pn	**Pn**	**02 53 15.2**	**+1.4**
SELS	**Selova**	**4.80**	**220**	*e*Pn	**Pn**	**02 53 15.4**	**+0.8**
BARS	**Barje**	**4.86**	**212**	*e*Pn	**Pn**	**02 53 17.8**	**+2.4**
IVAS	**Ivanjica**	**5.00**	**229**	*e*Pn	**Pn**	**02 53 18.0**	**+0.6**
BBLS	**Lazići**	**5.21**	**236**	*e*Pn	**Pn**	**02 53 21.2**	**+0.9**
SJES	**Sjenica**	**5.31**	**228**	*e*Pn	**Pn**	**02 53 23.0**	**+1.3**
MODS	**Modra-Piesok**	**5.63**	**287**	*e*PN	**Pn**	**02 53 26.5**	**+0.5**
MORC	**Moravsky Berou**	**5.91**	**301**	⇑*i*P	**Pn**	**02 53 29.3**	**-0.5**
MORC	**Moravsky Berou**	**5.91**	**301**	⇑*i*P	**Pn**	**02 53 29.3**	**-0.5**
SEV	**Sevastopol'**	**6.31**	**110**	P	**Pn**	**02 53 34.8**	**-0.4**
SEV				Pm		02 53 36.0	
SEV				S	**Sn**	**02 54 47.1**	**-0.8**
SEV				Sm		02 54 48.0	
VRAC	**Vranov**	**6.31**	**295**	Pn	**Pn**	**02 53 34.4**	**-0.9**
	0.1nm,0.3s,baz=127,slow=15,SNR=2.3						
SIM	**Simferopol'**	**6.44**	**105**	P	**Pn**	**02 53 36.9**	**-0.2**
SIM				Pm		02 53 37.7	
SIM				S	**Sn**	**02 54 48.5**	**-2.7**
SIM				Sm		02 54 49.9	
ALU	**Alushta**	**6.73**	**107**	P	**Pn**	**02 53 42.7**	**+1.7**
ALU				Pm		02 53 43.0	
ALU				S	**Sn**	**02 54 58.4**	**+0.1**
ALU				Sm		02 54 59.6	
DPC	**Dobruska-Polom**	**6.87**	**303**	*e*PN	**Pn**	**02 53 45.5**	**+2.5**
SUDU	**Sudak**	**7.04**	**104**	P	**Pn**	**02 53 45.0**	**-0.4**
SUDU				Pm		02 53 45.3	
SUDU				S	**Sn**	**02 55 12.0**	**+5.9**
SUDU				Sm		02 55 13.0	
NACGM	**Naroch**	**7.99**	**6**	*e*P	Pb	02 54 10.0	-10
NACGM				*e*S	**Sn**	**02 55 32.0**	**+2.7**
GERES	**GERESS Array B**	**8.05**	**288**	Pn	**Pn**	**02 53 59.9**	**+0.6**
	0.1nm,0.3s,baz=94,slow=15,SNR=2.8						
KHC	**Kasperske Hory**	**8.18**	**290**	*e*PN	**Pn**	**02 54 03.5**	**+2.5**
KHC				*e*SN	**Sn**	**02 55 35.9**	**+1.9**
IDID	**Didziasalis**	**8.40**	**5**	*e*P	**Pn**	**02 54 01.8**	**-2.1**
IDID				IAmb	IAmb	02 54 10.4	
	comp=Z,3.1nm,0.8s						
IIGN	**Ignalina**	**8.41**	**3**	*e*P	**Pn**	**02 54 04.6**	**+0.6**
IIGN				IAmb	IAmb	02 54 12.2	
	comp=Z,3.1nm,0.8s						
ISAL	**Salakas**	**8.62**	**3**	*e*P	**Pn**	**02 54 08.2**	**+1.2**
ISAL				IAmb	IAmb	02 54 13.5	
	comp=Z,4.0nm,0.8s						
IZAR	**Zarasai**	**8.81**	**3**	*e*P	**Pn**	**02 54 07.8**	**-1.7**
IZAR				IAmb	IAmb	02 54 11.8	
	comp=Z,3.3nm,0.9s						
BRTR	**Keskin Array B**	**9.43**	**137**	Pn	**Pn**	**02 54 18.1**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=329,slow=13,SNR=2.9						
FINES	**FINESS Array B**	**14.51**	**1**	Pn	**Pn**	**02 55 23.6**	**-3.7**
	comp=Z,0.3nm,0.3s,baz=171,slow=13,SNR=8.1						
HFS	**Hagfors**	**14.86**	**337**	Pn	**Pn**	**02 55 28.0**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=148,slow=11,SNR=0.9						
NOA	**NORSAR Array B**	**16.30**	**335**	Pn	**Pn**	**02 55 47.5**	**-3.6**
	comp=Z,0.0nm,0.3s,baz=138,slow=9.1,SNR=1.8						
AKTO	**Aktyubinsk**	**21.74**	**69**	P	**P**	**02 56 52.4**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=248,slow=7.9,SNR=3.8						
ESDC	**Sonseca Array**	**22.45**	**262**	P	**P**	**02 56 59.6**	**-1.9**
	comp=Z,3.8nm,1.1s,baz=64,slow=9.7,SNR=10.0						
ARCES	**ARCESS Array B**	**22.63**	**0**	P	**P**	**02 57 02.5**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=172,slow=13,SNR=2.3						
MKAR	**Makanchi Array**	**38.17**	**69**	P	**P**	**02 59 22.4**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=276,slow=8.0,SNR=2.1						
SONM	**Songino Array**	**52.39**	**57**	P	**P**	**03 01 17.1**	**+2.3**
	comp=Z,0.3nm,0.9s,baz=270,slow=4.3,SNR=2.4						
YKA	**Yellowknife Ar**	**66.29**	**341**	P	**P**	**03 02 53.2**	**+2.5**
	comp=Z,0.4nm,0.8s,baz=24,slow=6.3,SNR=5.2						

*IDC **03** 02:52:24.4±2.8, 35.°26N×142.°39E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.2/54, mbtmp3.4/5, ML2.9/2, Error ellipse: s-maj=66.7km s-min=29.5km az=59.0*
*JMA **03** 02:52:26.0±0.5, 35.°29N×142.°45E, h45km, M3.1*
*ISCJB **03** 02:52:27.3±1.2, 35.°23N±0.°07×142.°4E±0.°1, h35km, mb3.5/3, Error ellipse: s-maj=13.9km s-min=9.7km az=12.3*
ISC 03 02:52:29.2±1.6, **35.°26N**±0.°07×**142.°3E**±0.°1, **h35**km, **n13**, σ**1.°00**/15, **mb3.6**/3, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.25**	**241**	P	**Pn**	**02 52 48.8**	**-0.8**
BSO1				*e*S	**Sn**	**02 53 05.7**	**+0.9**
CHOJ	**Chosi**	**1.26**	**291**	P	**Pn**	**02 52 49.5**	**-0.8**
BSO3	**Boso 3**	**1.54**	**253**	P	**Pn**	**02 52 53.8**	**-0.1**
BSO4	**Boso 4**	**1.63**	**261**	P	**Pn**	**02 52 55.8**	**+0.5**
JAG	**Ashikaga**	**2.59**	**298**	P	**Pn**	**02 53 07.7**	**-0.9**
JFT	**Otama**	**2.76**	**325**	P	**Pn**	**02 53 09.8**	**-1.1**
JRY	**Ryogami san**	**2.87**	**286**	P	**Pn**	**02 53 12.4**	**-0.1**
JHJ	**Hachijo jima 2**	**2.98**	**225**	Pn	**Pn**	**02 53 13.2**	**-0.8**
	4.0nm,0.3s,baz=83,slow=20,SNR=1.3						
JHJ				Sn	**Sn**	**02 53 46.2**	**-2.4**
	17nm,0.3s,baz=74,slow=22,SNR=5.8						
JYN	**Shimob**	**3.08**	**276**	P	**Pn**	**02 53 15.2**	**-0.2**
MJAR	**Matsushiro Arr**	**3.56**	**292**	Pn	**Pn**	**02 53 21.7**	**-0.2**
	1.2nm,0.3s,baz=128,slow=8.1,SNR=3.2						
MKAR	**Makanchi Array**	**45.69**	**304**	P	**P**	**03 00 47.3**	**+0.7**
	0.3nm,0.7s,baz=79,slow=7.5,SNR=3.4						
WRA	**Warramunga Arr**	**55.41**	**189**	P	**P**	**03 02 00.4**	**+0.3**
	0.5nm,0.6s,baz=6.2,slow=6.9,SNR=9.4						
ASAR	**Alice Springs**	**59.14**	**189**	P	**P**	**03 02 27.2**	**+0.9**
	0.2nm,0.4s,baz=12,slow=5.9,SNR=4.4						

*IDC **03** 03:03:02.3±1.7, 0.°25S×132.°41E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.4/38, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=29.4km s-min=24.1km az=92.0*
*ISCJB **03** 03:03:05.2±1.4, 0.°2S±0.°1×132.°47E±0.°10, h35km, mb3.4/2, Error ellipse: s-maj=19.0km s-min=13.8km az=174.5*
*DJA **03** 03:03:07.9±1.2, 0°S±16°×13°2E±°, h10km, M3.5/4, MLv3.5/4*
ISC 03 03:03:07.4±1.7, **0.°2S**±0.°1×**132.°3E**±0.°1, **h35**km, **n7**, σ**1.°36**/8, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**1.26**	**239**	Pn	**Pn**	**03 03 27.9**	**-0.6**
	35nm,0.3s,baz=49,slow=19,SNR=54						
SIJI				Sn	**Sn**	**03 03 46.0**	**+1.6**
	79nm,0.3s,baz=180,slow=20,SNR=21						
SWI	**Sorong**	**1.27**	**239**	P	**Pn**	**03 03 28.5**	**-0.1**
FAKI	**Fak Fak**	**2.70**	**182**	P	**Pn**	**03 03 49.0**	**+0.7**
FITZ	**Fitzroy Crossi**	**18.96**	**200**	P	**P**	**03 07 23.6**	**-2.2**
	0.1nm,0.3s,baz=29,slow=10,SNR=2.2						
FITZ				S	Sn	03 10 44.0	-14
	0.0nm,0.3s,baz=171,slow=19,SNR=2.9						
WRA	**Warramunga Arr**	**19.71**	**174**	P	**P**	**03 07 33.8**	**-0.2**
	0.1nm,0.3s,baz=356,slow=12,SNR=8.1						
ASAR	**Alice Springs**	**23.37**	**176**	P	**P**	**03 08 12.5**	**-0.5**
	1.1nm,0.8s,baz=354,slow=10,SNR=13						
MKAR	**Makanchi Array**	**63.99**	**324**	P	**P**	**03 13 38.1**	**+0.7**
	0.4nm,0.8s,baz=119,slow=7.6,SNR=3.3						

*WEL **03** 03:03:48.5±1.1, 30°S±18°×17°9W±5°3, h252km±15km*
*ISCJB **03** 03:03:50.4±0.5, 30.°46S±0.°06×179.°2W±0.°1, h200km, mb3.5/4, Error ellipse: s-maj=13.9km s-min=5.0km az=27.4*
*IDC **03** 03:03:50.8±0.9, 30.°34S×178.°75W, h224km±8km, mb3.3/4, mb1 3.4/5, mb1mx3.3/31, mbtmp3.9/5, Error ellipse: s-maj=28.0km s-min=18.3km az=146.0*
ISC 03 03:03:50.8±0.7, **30.°56S**±0.°08×**179.°1W**±0.°1, **h200**km, **n63**, σ**2.°40**/66, **mb3.5**/4, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.67**	**39**	P	**Pn**	**03 04 27.0**	**+1.0**
GLKZ				S	**Sn**	**03 04 53.1**	**-0.2**
RIZ	**Raoul Island**	**1.67**	**39**	P	**Pn**	**03 04 27.7**	**+1.5**
RAO	**Raoul Island**	**1.68**	**39**	P	**Pn**	**03 04 26.9**	**+0.7**
	126nm,0.3s,baz=81,slow=19,SNR=3.4						
RAO				S	**Sn**	**03 04 51.8**	**-1.7**
	269nm,0.3s,baz=90,slow=22,SNR=6.9						
MXZ	**Matakaoa Point**	**7.30**	**196**	P	**Pn**	**03 05 37.4**	**+2.5**
WMGZ	**Waiomatatini S**	**7.52**	**195**	P	**Pn**	**03 05 40.0**	**+2.3**
HAZ	**Te Kaha**	**7.62**	**199**	P	**Pn**	**03 05 42.0**	**+3.0**
PKGZ	**Pakihiroa**	**7.67**	**197**	P	**Pn**	**03 05 41.6**	**+2.0**
PUZ	**Puketiti**	**7.80**	**195**	P	**Pn**	**03 05 42.5**	**+1.1**
RUGZ	**Raukumara Rang**	**7.84**	**199**	P	**Pn**	**03 05 45.1**	**+3.0**
TWGZ	**Tauwhareparae**	**7.96**	**197**	P	**Pn**	**03 05 45.9**	**+2.4**
TWGZ				S	**Sn**	**03 07 18.8**	**+5.5**
CNGZ	**Carnagh Statio**	**8.20**	**195**	P	**Pn**	**03 05 47.6**	**+1.1**
MWZ	**Matawai**	**8.23**	**199**	P	**Pn**	**03 05 48.2**	**+1.2**
MWZ				S	**Sn**	**03 07 24.3**	**+4.7**
TKGZ	**Te Karaka**	**8.24**	**197**	P	**Pn**	**03 05 48.2**	**+1.1**
URZ	**Urewera**	**8.28**	**201**	P	**Pn**	**03 05 50.1**	**+2.4**
	1.3nm,0.3s,baz=275,slow=5.1,SNR=24						
URZ				S	**Sn**	**03 07 23.3**	**+2.5**
	19nm,0.3s,baz=101,slow=23,SNR=14						
URZ	**Urewera**	**8.28**	**201**	P	**Pn**	**03 05 50.4**	**+2.8**
RAGZ	**Rawiri**	**8.41**	**199**	P	**Pn**	**03 05 49.0**	**-0.4**
MUGZ	**Murupara**	**8.59**	**202**	P	**Pn**	**03 05 53.7**	**+2.0**
PRGZ	**Paritu Road**	**8.70**	**196**	P	**Pn**	**03 05 53.6**	**+0.6**
SNGZ	**Shannon Statio**	**8.70**	**199**	P	**Pn**	**03 05 53.7**	**+0.6**
KNZ	**Kokohu**	**8.84**	**196**	P	**Pn**	**03 05 55.5**	**+0.6**
MTHZ	**Maungataniwha**	**8.91**	**201**	P	**Pn**	**03 05 57.5**	**+1.7**
MCHZ	**McNeill Hill**	**9.50**	**200**	P	**Pn**	**03 06 03.8**	**+0.4**
KRHZ	**Kereru**	**9.78**	**201**	P	**Pn**	**03 06 06.6**	**-0.5**
MRZ	**Mangatainoka R**	**10.96**	**202**	P	**Pn**	**03 06 20.5**	**-1.7**
MRZ	**Mangatainoka R**	**10.96**	**202**	P	**Sn**	**03 08 22.7**	**-1.7**
TIWZ	**Tintock**	**10.97**	**200**	P	**Sn**	**03 08 23.5**	**-1.2**
CPWZ	**Castlepoint**	**11.00**	**199**	P	**Sn**	**03 08 27.6**	**+2.2**
HOWZ	**Holdsworth Sta**	**11.19**	**201**	P	**Pn**	**03 06 22.9**	**-2.3**
OGWZ	**Otaki Gorge**	**11.23**	**203**	P	**Pn**	**03 06 24.2**	**-1.5**
OGWZ	**Otaki Gorge**	**11.23**	**203**	P	**Sn**	**03 08 30.1**	**-0.8**
MTW	**Mount Morrison**	**11.43**	**201**	P	**Sn**	**03 08 31.7**	**-4.0**
CAW	**Cannon Point**	**11.53**	**202**	P	**Sn**	**03 08 37.0**	**-0.9**
TRWZ	**Traveller**	**11.60**	**200**	P	**Sn**	**03 08 35.6**	**-4.1**
PAWZ	**Paruwai Farm**	**11.66**	**201**	P	**Sn**	**03 08 36.1**	**-5.2**
DUWZ	**D'Urville Isla**	**11.67**	**207**	P	**Pn**	**03 06 31.4**	**0.0**
DUWZ	**D'Urville Isla**	**11.67**	**207**	P	**Sn**	**03 08 41.4**	**-0.1**
MSWZ	**Moikau Station**	**11.75**	**201**	P	**Sn**	**03 08 39.1**	**-4.1**
BHW	**Baring Head**	**11.86**	**203**	P	**Sn**	**03 08 43.0**	**-2.9**
PLWZ	**Palliser**	**11.88**	**201**	P	**Sn**	**03 08 41.5**	**-5.0**
TCW	**Tory Channel**	**11.89**	**205**	P	**Pn**	**03 06 31.9**	**-2.3**
TCW	**Tory Channel**	**11.89**	**205**	P	**Sn**	**03 08 43.9**	**-2.8**
TUWZ	**Tuamarina**	**12.20**	**205**	P	**Sn**	**03 08 51.2**	**-2.9**
NNZ	**Nelson**	**12.24**	**208**	P	**Pn**	**03 06 40.9**	**+2.3**
NNZ	**Nelson**	**12.24**	**208**	P	**Sn**	**03 08 53.0**	**-2.0**
QRZ	**Quartz Range**	**12.28**	**211**	P	**Pn**	**03 06 42.0**	**+3.0**
QRZ	**Quartz Range**	**12.28**	**211**	P	**Sn**	**03 08 56.9**	**+1.1**
BSWZ	**Blackbirch Sta**	**12.48**	**205**	P	**Sn**	**03 08 58.1**	**-2.5**
THZ	**Tophouse**	**12.89**	**208**	P	**Pn**	**03 06 47.1**	**+0.3**
KHZ	**Kahutara**	**13.21**	**204**	P	Sn	03 09 07.6	-11
CTA	**Charters Tower**	**32.87**	**280**	P	**P**	**03 10 07.8**	**+1.8**
	1.7nm,0.4s,baz=104,slow=14,SNR=3.9						
STKA	**Stephens Creek**	**33.49**	**257**	P	**P**	**03 10 11.3**	**0.0**
	0.4nm,0.3s,baz=49,slow=9.3,SNR=2.3						
ASAR	**Alice Springs**	**42.13**	**268**	P	**P**	**03 11 23.6**	**0.0**
	0.3nm,0.4s,baz=100,slow=7.1,SNR=7.9						
ASAR				ScP	**ScP**	**03 16 40.4**	**-5.4**
	0.6nm,0.7s,baz=116,slow=3.8,SNR=5.1						
WRA	**Warramunga Arr**	**43.13**	**273**	P	**P**	**03 11 31.6**	**-0.2**
	0.6nm,0.4s,baz=110,slow=8.1,SNR=8.5						
VNA3	**Neumayer Olymp**	**78.21**	**177**	P	**P**	**03 15 28.5**	**+0.8**
VNA2	**Neumayer--Watz**	**78.63**	**177**	P	**P**	**03 15 30.7**	**+0.8**
	baz=184,slow=4.8						
VNA1	**Neumayer--Stat**	**78.86**	**177**	P	P	03 15 36.6	+5.4
ARCES	**ARCESS Array B**	**138.54**	**347**	PKP	**PKPdf**	**03 22 49.5**	**-2.2**
	1.2nm,0.9s,baz=79,slow=2.6,SNR=5.7						
KBZ	**Khabaz**	**144.39**	**304**	PKP	**PKPab**	**03 23 00.2**	**-1.4**
	0.5nm,0.4s,baz=105,slow=4.5,SNR=5.8						
FINES	**FINESS Array B**	**144.96**	**339**	PKP	PKPbc	03 22 59.9	-3.2
	1.9nm,0.4s,baz=57,slow=4.4,SNR=31						
NB2	**NORSAR Subarra**	**148.75**	**350**	PKP	**PKPdf**	**03 23 10.9**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=15,slow=4.3						
NOA	**NORSAR Array B**	**148.75**	**350**	PKPbc	**PKPdf**	**03 23 08.3**	**-1.5**
	comp=Z,0.7nm,0.8s,baz=12,slow=3.3,SNR=3.2						
AKASG	**Malin Array Be**	**150.83**	**322**	PKPbc	**PKPdf**	**03 23 16.0**	**+2.7**
	comp=Z,0.6nm,0.5s,baz=45,slow=2.7,SNR=4.0						
TORD	**Torodi Ar. Bea**	**162.65**	**183**	PKPab	**PKPab**	**03 24 18.2**	**-0.4**
	comp=Z,1.2nm,0.9s,baz=180,slow=3.0,SNR=7.0						

*BUC **03** 03:07:41.3±0.4, 46.°97N×25.°31E, h2km±3km, MD3.2/10, Error ellipse: s-maj=3.3km s-min=2.8km az=16.0*
*SIGU **03** 03:07:42.0±0.1, 47.°0N±0.°6×25.°4E±0.°5, h5km, mb2.0/6*
ISC 03 03:07:41.7±1.2, **46.°98N**±0.°02×**25.°33E**±0.°02, **h1**km±10km, **n67**, σ**0.°90**/96, **26C-26D**, **Romania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOSR	**Joseni**	**0.30**	**156**	⇓*i*P	**Pg**	**03 07 47.3**	**-0.1**
JOSR	**Joseni**	**0.30**	**156**	⇓*i*P	**Pg**	**03 07 47.3**	**-0.1**
BIZ	**Bicaz**	**0.53**	**94**	⇓*i*P	**Pg**	**03 07 52.2**	**+0.4**
BIZ	**Bicaz**	**0.53**	**94**	⇓*i*P	**Pg**	**03 07 52.2**	**+0.4**
BIZ				*i* S	**Sb**	**03 08 00.7**	**-1.2**
BURAR	**Bucovina Array**	**0.64**	**353**	⇓*i*P	**Pg**	**03 07 54.2**	**+0.3**
BURAR	**Bucovina Array**	**0.64**	**353**	⇓*i*P	**Pg**	**03 07 54.2**	**+0.3**
BURAR				*i* S	**Sb**	**03 08 04.8**	**-0.4**
ARCR	**ARCALIA**	**0.68**	**279**	⇑*i*P	**Pg**	**03 07 54.9**	**+0.2**
ARCR	**ARCALIA**	**0.68**	**279**	⇑*i*P	**Pg**	**03 07 54.9**	**+0.2**
ARCR				*i* S	**Sb**	**03 08 05.4**	**-0.8**
PRAR	**RASCA**	**0.72**	**58**	⇓*i*P	**Pb**	**03 07 56.7**	**-0.3**
PRAR	**RASCA**	**0.72**	**58**	⇓*i*P	**Pb**	**03 07 56.7**	**-0.3**
DOPR	**Dopca**	**1.01**	**178**	⇓*i*P	**Pg**	**03 08 01.3**	**+0.2**
DOPR	**Dopca**	**1.01**	**178**	⇓*i*P	**Pg**	**03 08 01.3**	**+0.2**
MDB	**Medias**	**1.07**	**218**	⇑*i*P	**Pn**	**03 08 03.3**	**-0.4**
MDB	**Medias**	**1.07**	**218**	⇑*i*P	**Pn**	**03 08 03.3**	**-0.4**
MDB				*i* S	**Sn**	**03 08 18.8**	**-0.4**
CJR	**Cluj-Napoca**	**1.22**	**258**	⇑*i*P	**Pg**	**03 08 05.2**	**+0.2**
CJR	**Cluj-Napoca**	**1.22**	**258**	⇑*i*P	**Pg**	**03 08 05.2**	**+0.2**
CJR				*i* S	**Sn**	**03 08 22.8**	**-0.3**
RAKU	**Rahkiv**	**1.31**	**323**	*e*Pg	**Pg**	**03 08 06.6**	**-0.2**
RAKU				Pm		03 08 13.2	
RAKU				*e*Sg	**Sn**	**03 08 26.0**	**+0.7**
RAKU				Sm		03 08 38.3	
KSV	**Kosov**	**1.35**	**352**	*e*Pg	**Pn**	**03 08 07.3**	**-0.3**
KSV				Pm		03 08 17.1	
KSV				*e*Sg	**Sn**	**03 08 26.4**	**+0.3**
KSV				Sm		03 08 36.9	
NSLU	**Nyzhne Selyshc**	**1.35**	**334**	*e*Pn	Pb	03 08 14.3	+6.5
NSLU				Pm		03 08 17.9	
NSLU				*e*Sn	Sn	03 08 37.8	+12
NSLU				Sm		03 08 59.5	
CHRU	**Chernivtsi**	**1.38**	**17**	*e*Pg	**Pn**	**03 08 06.8**	**-1.2**
CHRU				Pm		03 08 09.4	
CHRU				*e*Sg	**Sn**	**03 08 26.5**	**-0.3**
CHRU				Sm		03 08 33.8	
BMR	**Baia Mare**	**1.43**	**300**	⇑*i*P	**Pb**	**03 08 09.0**	**-0.1**
BMR	**Baia Mare**	**1.43**	**300**	⇑*i*P	**Pb**	**03 08 09.0**	**-0.1**
BMR				*i* S	**Sn**	**03 08 29.3**	**+1.2**
PLOR	**Plostina**	**1.45**	**141**	⇓*i*P	**Pg**	**03 08 09.7**	**+0.2**
PLOR	**Plostina**	**1.45**	**141**	⇓*i*P	**Pg**	**03 08 09.7**	**+0.2**
VRI	**Vrincioaia**	**1.47**	**139**	⇓*i*P	**Pg**	**03 08 09.7**	**-0.2**
VRI	**Vrincioaia**	**1.47**	**139**	⇓*i*P	**Pg**	**03 08 09.7**	**-0.2**
MLR	**Muntele Rosu**	**1.55**	**164**	⇑*i*P	**Pg**	**03 08 11.8**	**+0.4**
MLR	**Muntele Rosu**	**1.55**	**164**	⇑*i*P	**Pg**	**03 08 11.8**	**+0.4**
MLR				*i* S	**Sg**	**03 08 33.5**	**+2.1**
VOIR		**1.56**	**187**	⇓*i*P	**Pn**	**03 08 10.4**	**-0.1**
VOIR		**1.56**	**187**	⇓*i*P	**Pn**	**03 08 10.4**	**-0.1**
VOIR				*i* S	**Sg**	**03 08 33.9**	**+2.3**
ARR	**Arges**	**1.69**	**197**	⇑*i*P	**Pb**	**03 08 12.8**	**-0.7**
ARR	**Arges**	**1.69**	**197**	⇑*i*P	**Pb**	**03 08 12.8**	**-0.7**
ARR				*i* S	**Sg**	**03 08 35.3**	**-0.5**
KMPD	**K-Podol'skiy**	**1.76**	**25**	*e*Pn	**Pb**	**03 08 13.9**	**-0.7**
KMPD				*e*Sn	**Sb**	**03 08 37.2**	**0.0**
MTUR	**Matau**	**1.77**	**186**	⇑*i*P	**Pb**	**03 08 14.0**	**-0.9**
MTUR	**Matau**	**1.77**	**186**	⇑*i*P	**Pb**	**03 08 14.0**	**-0.9**
DRGR		**1.81**	**265**	⇑*i*P	**Pb**	**03 08 14.9**	**-0.7**
DRGR		**1.81**	**265**	⇑*i*P	**Pb**	**03 08 14.9**	**-0.7**
DRGR				*i* S	**Sg**	**03 08 39.3**	**-0.4**
LOT	**Lotru**	**1.88**	**216**	⇑*i*P	**Pn**	**03 08 15.2**	**+0.2**
LOT	**Lotru**	**1.88**	**216**	⇑*i*P	**Pn**	**03 08 15.2**	**+0.2**
LOT				*i* S	**Sb**	**03 08 40.6**	**-0.2**
KORU	**Korolevo**	**1.90**	**309**	*e*Pn	**Pb**	**03 08 16.2**	**-0.9**
KORU				Pm		03 08 31.8	
KORU				*e*Sn	**Sb**	**03 08 40.8**	**-0.4**
KORU				Sm		03 09 05.7	
TRSU	**Trosnyk**	**1.96**	**306**	*e*Pn	**Pb**	**03 08 17.2**	**-0.9**
TRSU				*e*Sn	**Sb**	**03 08 42.8**	**-0.2**
DEV	**Deva**	**2.01**	**238**	⇑*i*P	**Pn**	**03 08 17.3**	**+0.6**
DEV	**Deva**	**2.01**	**238**	⇑*i*P	**Pn**	**03 08 17.3**	**+0.6**
DEV				*i* S	**Sg**	**03 08 45.1**	**-1.0**
LEOM	**Leova**	**2.07**	**103**	⇓*i*P	**Pb**	**03 08 18.6**	**-1.3**
LEOM	**Leova**	**2.07**	**103**	⇓*i*P	**Pb**	**03 08 18.6**	**-1.3**
LEOM				*i* S	**Sb**	**03 08 45.3**	**-0.8**
LEOM	**Leova**	**2.07**	**103**	P	**Pb**	**03 08 18.6**	**-1.3**
BRIU	**Brid**	**2.07**	**312**	*e*Pn	**Pb**	**03 08 18.7**	**-1.3**
BRIU				*e*Sn	**Sb**	**03 08 45.3**	**-0.9**
NDNU	**Novodnistrovsk**	**2.12**	**40**	*e*Pn	**Pn**	**03 08 18.9**	**+0.7**
NDNU				*e*Sn	**Sn**	**03 08 45.7**	**+0.6**
BERU	**Beregovo**	**2.21**	**306**	*e*Pn	**Pn**	**03 08 19.9**	**+0.5**
BERU				*e*Sn	**Sn**	**03 08 48.2**	**+0.9**
TRPA	**Tarpa**	**2.21**	**302**	⇑*i*P	**Pn**	**03 08 19.4**	**-0.1**
TRPA	**Tarpa**	**2.21**	**302**	⇑*i*P	**Pn**	**03 08 19.4**	**-0.1**
TRPA				*i* S	**Sb**	**03 08 48.7**	**-1.6**
MUKU	**Mukachevo**	**2.31**	**310**	*e*Pn	**Pn**	**03 08 22.1**	**+1.2**
MUKU				Pm		03 08 34.2	
MUKU				*e*Sn	**Sn**	**03 08 50.4**	**+0.4**
MUKU				Sm		03 09 05.6	
HORU	**Horodok**	**2.35**	**18**	*e*Pn	**Pn**	**03 08 22.5**	**+1.1**
HORU				*e*Sn	**Sb**	**03 08 52.4**	**-1.9**
GZR	**Gura Zlata**	**2.38**	**229**	⇑*i*P	**Pn**	**03 08 23.0**	**+1.1**
GZR	**Gura Zlata**	**2.38**	**229**	⇑*i*P	**Pn**	**03 08 23.0**	**+1.1**
GZR				*i* S	**Sb**	**03 08 53.4**	**-1.9**
MILM	**Milestii Mici**	**2.38**	**90**	⇓*i*P	**Pn**	**03 08 23.1**	**+1.3**
MILM	**Milestii Mici**	**2.38**	**90**	⇓*i*P	**Pn**	**03 08 23.1**	**+1.3**
MILM				*i* S	**Sb**	**03 08 53.4**	**-1.8**
MILM	**Milestii Mici**	**2.38**	**90**	P	**Pn**	**03 08 23.1**	**+1.3**
SIRR	**Siria**	**2.63**	**256**	⇑*i*P	**Pn**	**03 08 24.9**	**-0.3**
SIRR	**Siria**	**2.63**	**256**	⇑*i*P	**Pn**	**03 08 24.9**	**-0.3**
SIRR				*i* S	**Sn**	**03 08 59.5**	**+1.7**
BZS	**Buzias**	**2.92**	**243**	⇓*i*P	**Pn**	**03 08 29.2**	**+0.1**
BZS	**Buzias**	**2.92**	**243**	⇓*i*P	**Pn**	**03 08 29.2**	**+0.1**
BZS				*i* S	**Sn**	**03 09 05.8**	**+1.0**
HERR	**Herculane**	**2.92**	**225**	⇓*i*P	**Pn**	**03 08 29.4**	**+0.1**
HERR	**Herculane**	**2.92**	**225**	⇓*i*P	**Pn**	**03 08 29.4**	**+0.1**
HERR				*i* S	**Sn**	**03 09 06.4**	**+1.4**
MDVR	**Moldovita**	**3.35**	**230**	⇓*i*P	**Pn**	**03 08 36.4**	**+1.2**
MDVR	**Moldovita**	**3.35**	**230**	⇓*i*P	**Pn**	**03 08 36.4**	**+1.2**
VYHS	**Vyhne**	**4.64**	**291**	*e*PN	**Pn**	**03 08 55.2**	**+2.4**

*IDC **03** 03:19:27.4±0.9, 37.°47N×143.°86E, h0km, mb3.5/7, mb1 3.7/9, mb1mx3.6/41, mbtmp3.5/9, ML3.6/2, Error ellipse: s-maj=23.5km s-min=19.1km az=99.0*
*ISCJB **03** 03:19:30.5±0.7, 37.°61N±0.°05×143.°67E±0.°06, h33km, mb3.5/7, Error ellipse: s-maj=7.5km s-min=6.5km az=174.1*
*JMA **03** 03:19:30.5±0.2, 37.°62N×143.°64E, h48km, M3.3*
ISC 03 03:19:33.1±1.0, **37.°67N**±0.°06×**143.°65E**±0.°08, **h35**km, **n21**, σ**1.°31**/29, **mb3.6**/7, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.84**	**291**	P	**Pn**	**03 20 00.7**	**-1.4**
JIKH				S	**Sn**	**03 20 22.5**	**-1.7**
JIO	**Ouri**	**1.98**	**294**	P	**Pn**	**03 20 02.8**	**-1.2**
JIO				*e*S	**Sn**	**03 20 26.9**	**-0.6**
JKMT	**Kesennumamotoy**	**2.06**	**304**	P	**Pn**	**03 20 03.7**	**-1.4**
JKMT				S	**Sn**	**03 20 28.7**	**-0.8**
OFUJ	**Ofunato**	**2.10**	**313**	P	**Pn**	**03 20 04.4**	**-1.3**
JMK	**Ichinoseki**	**2.30**	**305**	P	**Pn**	**03 20 07.6**	**-0.9**
JOM	**Ohasama**	**2.58**	**315**	P	**Pn**	**03 20 11.6**	**-0.7**
JOM				*e*S	**Sn**	**03 20 42.6**	**+0.1**
JFT	**Otama**	**2.63**	**268**	P	**Pn**	**03 20 12.2**	**-0.9**
JFT				*e*S	**Sn**	**03 20 43.0**	**-0.8**
JYK	**Kaneyama**	**2.87**	**297**	P	**Pn**	**03 20 16.1**	**-0.3**
JANG	**Nango**	**3.17**	**329**	P	**Pn**	**03 20 19.4**	**-1.1**
JAG	**Ashikaga**	**3.57**	**251**	P	**Pn**	**03 20 24.6**	**-1.4**
JRY	**Ryogami san**	**4.14**	**248**	P	**Pn**	**03 20 32.1**	**-1.8**
MJAR	**Matsushiro Arr**	**4.49**	**257**	Pn	**Pn**	**03 20 39.0**	**+0.4**
	2.6nm,0.3s,baz=90,slow=15,SNR=40						
MJAR				Sn	**Sn**	**03 21 31.9**	**+2.3**
	baz=78,slow=30,SNR=2.4						
MAT	**Matsushiro**	**4.49**	**257**	P	**Pn**	**03 20 38.9**	**+0.3**
MAT				*e*S	**Sn**	**03 21 28.3**	**-1.3**
ASAJ	**Asahikawa**	**6.49**	**353**	Pn	**Pn**	**03 21 05.9**	**-0.2**
	1.4nm,0.3s,baz=194,slow=17,SNR=5.4						
ASAJ				Sn	**Sn**	**03 22 17.0**	**-1.9**
	0.4nm,0.3s,baz=53,slow=19,SNR=2.6						
SONM	**Songino Array**	**28.93**	**303**	P	**P**	**03 25 31.3**	**+2.4**
	0.2nm,0.6s,baz=97,slow=12,SNR=2.2						
ZALV	**Zalesovo Beam**	**42.81**	**312**	P	**P**	**03 27 28.1**	**+0.9**
	0.4nm,0.5s,baz=92,slow=8.8,SNR=2.9						
MKAR	**Makanchi Array**	**45.29**	**302**	P	**P**	**03 27 48.5**	**+1.2**
	0.8nm,0.8s,baz=88,slow=9.8,SNR=7.2						
ILAR	**Eielson Array**	**48.01**	**33**	P	**P**	**03 28 08.7**	**+0.5**
	0.5nm,0.9s,baz=262,slow=6.4,SNR=5.1						
WRA	**Warramunga Arr**	**57.97**	**190**	P	**P**	**03 29 20.3**	**-1.8**
	2.0nm,0.8s,baz=11,slow=7.4,SNR=19						
ASAR	**Alice Springs**	**61.69**	**190**	P	**P**	**03 29 46.1**	**-1.5**
	0.8nm,0.8s,baz=9.5,slow=5.3,SNR=9.7						
YKA	**Yellowknife Ar**	**62.36**	**31**	P	**P**	**03 29 51.9**	**+0.2**
	0.1nm,0.7s,baz=306,slow=7.9,SNR=3.3						

*IDC **03** 03:21:19.9±0.7, 10.°57N×40.°85W, h0km, mb4.1/15, mb1 4.3/16, mb1mx4.0/43, mbtmp4.2/16, MS3.6/9, Ms1 3.6/9, ms1mx3.2/29, Error ellipse: s-maj=22.7km s-min=15.9km az=161.0*
*ISCJB **03** 03:21:21.1±0.4, 10.°59N±0.°09×40.°90W±0.°07, h17km, mb4.2/23, MS3.6/8, Error ellipse: s-maj=13.2km s-min=9.1km az=157.4*
*NEIC **03** 03:21:21.3±0.4, 10.°54N×40.°90W, h10km, mb4.6/9, Error ellipse: s-maj=14.1km s-min=7.8km az=165.0*
ISC 03 03:21:22.6±0.5, **10.°6N**±0.°1×**40.°94W**±0.°09, **h17**km, **n49**, σ**1.°05**/42, **mb4.3**/23, **MS3.6**/8, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**12.80**	**246**	Pn	**Pn**	**03 24 23.8**	**-0.2**
	baz=7.4,slow=10						
MDP				LR	LR	03 28 28.9	
	comp=Z,170nm,20.9s,baz=343,slow=33						
PTGA	**Pitinga**	**22.01**	**240**	P	**P**	**03 26 16.2**	**-0.2**
	9.5nm,0.8s,baz=56,slow=11,SNR=12						
PTGA				LR	LR	03 34 12.2	
	comp=Z,151nm,18.6s,baz=65,slow=35						
PTGA	**Pitinga**	**22.01**	**240**	*e*P	**P**	**03 26 17.7**	**+1.3**
	9.9nm,0.8s						
SJG	**San Juan**	**25.52**	**290**	P	**P**	**03 26 48.1**	**-2.5**
	16nm,0.2s,baz=7.2,slow=19,SNR=18						
SJG				LR	LR	03 35 42.9	
	comp=Z,165nm,18.1s,baz=105,slow=34						
H10N3	**ASCENSION HYDR**	**32.05**	**124**	T	T	04 01 40.2	
	baz=304,slow=75,SNR=16						
H10N2	**ASCENSION HYDR**	**32.06**	**124**	T	T	04 01 40.5	
	baz=304,slow=75,SNR=14						
H10N1	**ASCENSION HYDR**	**32.07**	**124**	T	T	04 01 41.7	
	baz=304,slow=75,SNR=18						
H10S3	**ASCENSION HYDR**	**32.56**	**126**	T	T	04 02 19.8	
	baz=306,slow=75,SNR=8.3						
H10S1	**ASCENSION HYDR**	**32.57**	**126**	T	T	04 02 20.2	
	baz=306,slow=75,SNR=11						
H10S2	**ASCENSION HYDR**	**32.58**	**126**	T	T	04 02 21.2	
	baz=306,slow=75,SNR=9.7						
DBIC	**Dimbokro**	**35.87**	**93**	P	**P**	**03 28 21.3**	**-0.7**
	5.1nm,0.6s,baz=271,slow=9.3,SNR=9.8						
DBIC				LR	LR	03 41 34.2	
	comp=Z,47nm,18.1s,baz=233,slow=34						
DBIC	**Dimbokro**	**35.87**	**93**	*e*P	**P**	**03 28 21.9**	**-0.1**
	5.7nm,0.7s						
LPAZ	**La Paz**	**37.90**	**226**	P	**P**	**03 28 41.2**	**+1.2**
	1.0nm,0.8s,baz=144,slow=19,SNR=3.4						
LPAZ				LR	LR	03 44 53.6	
	comp=Z,75nm,19.4s,baz=43,slow=37						
LPAZ	**La Paz**	**37.90**	**226**	*e*P	**P**	**03 28 39.0**	**-0.9**
TOA1	**Torodi Ar. Sit**	**41.76**	**82**	*e*P	**P**	**03 29 09.8**	**-1.6**
TOA0	**Torodi Ar. Sit**	**41.77**	**82**	*e*P	**P**	**03 29 11.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**41.77**	**82**	P	**P**	**03 29 09.8**	**-1.7**
	3.8nm,0.8s,baz=277,slow=8.1,SNR=22						
ESDC	**Sonseca Array**	**43.76**	**42**	P	**P**	**03 29 27.8**	**+0.4**
	0.7nm,0.7s,baz=240,slow=8.1,SNR=5.7						
TAM	**Tamanrasset**	**45.95**	**69**	*e*P	**P**	**03 29 44.3**	**-1.0**
	4.4nm,1.2s						
KEST	**Kesra**	**51.89**	**53**	P	**P**	**03 30 32.3**	**+1.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	2.3nm,0.9s,baz=252,slow=20,SNR=3.6						
KEST				LR	LR	03 51 33.4	
	comp=Z,53nm,19.7s,baz=290,slow=35						
KEST	**Kesra**	**51.89**	**53**	*e*P	**P**	**03 30 32.3**	**+1.8**
	7.9nm,1.1s						
FETA	**Feichten**	**56.62**	**40**	*i* P	**P**	**03 31 05.6**	**+0.6**
	1.5nm,0.7s						
SQTA	**Sankt Quirin**	**56.99**	**40**	*i* P	**P**	**03 31 08.1**	**+0.5**
	0.9nm,0.4s						
OBKA	**Obir**	**58.89**	**42**	*i* pP	**P**	**03 31 22.9**	**+2.0**
GEC2	**GERESS Array S**	**59.15**	**39**	*e*P	**P**	**03 31 21.4**	**-1.2**
	3.7nm,1.2s						
GERES	**GERESS Array B**	**59.15**	**39**	P	**P**	**03 31 21.4**	**-1.2**
	0.8nm,0.9s,baz=179,slow=9.3,SNR=4.4						
ULM	**Lac du Bonnet**	**59.84**	**323**	P	**P**	**03 31 27.5**	**+0.3**
	2.5nm,0.9s,baz=148,slow=10.0,SNR=3.7						
ULM				LR	LR	03 55 46.2	
	comp=Z,66nm,19.3s,baz=152,slow=34						
PDAR	**Pinedale Array**	**67.21**	**312**	LR	LR	03 58 48.0	
	comp=Z,38nm,19.4s,baz=122,slow=33						
AKASG	**Malin Array Be**	**69.33**	**40**	P	**P**	**03 32 28.9**	**-0.3**
	2.6nm,0.8s,baz=257,slow=6.6,SNR=6.2						
AKBB	**Malin Array Si**	**69.33**	**40**	*e*P	**P**	**03 32 28.9**	**-0.3**
	8.8nm,1.4s						
FIA0	**FINESS Array S**	**69.85**	**28**	*e*P	**P**	**03 32 32.0**	**-0.2**
FINES	**FINESS Array B**	**69.85**	**28**	P	**P**	**03 32 32.0**	**-0.2**
	1.6nm,0.7s,baz=270,slow=3.8,SNR=5.2						
BR101	**Keskin Array S**	**71.47**	**52**	*e*P	**P**	**03 32 42.9**	**+0.1**
BRTR	**Keskin Array B**	**71.47**	**52**	P	**P**	**03 32 42.9**	**+0.1**
	0.9nm,0.8s,baz=247,slow=5.0,SNR=6.5						
YKA	**Yellowknife Ar**	**73.14**	**332**	P	**P**	**03 32 51.2**	**-0.8**
	1.0nm,0.8s,baz=100,slow=6.0,SNR=16						
YKB5	**Yellowknife Ar**	**73.14**	**332**	*e*P	**P**	**03 32 52.0**	**-0.1**
BOSA	**Boshof**	**74.81**	**124**	P	**P**	**03 33 01.9**	**-0.7**
	4.9nm,1.1s,baz=270,slow=15,SNR=3.4						
BOSA				LR	LR	03 58 48.8	
	comp=Z,64nm,21.2s,baz=266,slow=30						
KBZ	**Khabaz**	**78.33**	**47**	P	**P**	**03 33 22.7**	**+0.5**
	1.5nm,0.9s,baz=162,slow=8.1,SNR=4.5						
INK	**Inuvik**	**81.20**	**338**	P	**P**	**03 33 37.9**	**+0.7**
	3.3nm,1.0s,baz=76,slow=5.3,SNR=9.2						
INK	**Inuvik**	**81.20**	**338**	*e*P	**P**	**03 33 38.0**	**+0.8**
	6.0nm,0.8s						
VNA1	**Neumayer--Stat**	**84.04**	**170**	P	**P**	**03 33 52.5**	**+0.8**
DAWY	**Dawson**	**84.24**	**334**	*e*P	**P**	**03 33 54.2**	**+1.0**
	9.1nm,1.1s						
VNA3	**Neumayer Olymp**	**84.30**	**170**	P	**P**	**03 33 54.4**	**+1.2**
VNA2	**Neumayer--Watz**	**84.43**	**169**	P	**P**	**03 33 54.4**	**+0.6**
	baz=318,slow=5.4						
SCRK	**Sand Creek**	**86.23**	**334**	*e*P	**P**	**03 34 03.5**	**+0.3**
	7.2nm,0.9s						
IL1	**Eielson Array**	**87.19**	**336**	*e*P	**P**	**03 34 08.7**	**+1.0**
ILAR	**Eielson Array**	**87.19**	**336**	P	**P**	**03 34 09.6**	**+1.8**
	2.6nm,0.9s,baz=61,slow=3.2,SNR=18						
ILB	**Eielson Array**	**87.19**	**336**	*e*P	**P**	**03 34 07.0**	**-0.8**
IM3	**Indian Mountai**	**89.40**	**338**	*e*P	**P**	**03 34 18.9**	**+0.7**

*ISCJB **03** 03:25:16.2±0.6, 42°.40N±0°.05×138°.55E±0°.07, h244km, mb3.3/2, Error ellipse: s-maj=7.5km s-min=6.7km az=144.2*

*IDC **03** 03:25:16.1±1.2, 42°.44N×138°.53E, h240km±23km, mb3.1/2, mb1 2.9/5, mb1mx2.7/36, mbtmp3.5/5, Error ellipse: s-maj=30.9km s-min=20.5km az=132.0*

*JMA **03** 03:25:17.7±0.2, 42°.35N×138°.62E, h244km, M3.2*

ISC 03 03:25:16.4±1.1, 42°.37N±0°.06×138°.60E±0°.08, h244km, n23, σ1.s22/29, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**0.71**	**114**	P	**Pn**	**03 25 50.6**	**+1.3**
JHST	**Hiyamasetana**	**0.95**	**86**	P	**Pn**	**03 25 51.9**	**+1.5**
JSH	**Shimam**	**1.10**	**75**	P	**Pn**	**03 25 52.7**	**+1.4**
JYM2	**Yakumo 2**	**1.34**	**100**	P	**Pn**	**03 25 54.6**	**+1.7**
JSR	**Shiriuchi**	**1.60**	**121**	P	**Pn**	**03 25 56.3**	**+1.4**
JKB	**Kayabe**	**1.87**	**104**	P	**Pn**	**03 25 58.4**	**+1.2**
JOT	**Ohata**	**2.08**	**118**	P	**Pn**	**03 26 00.0**	**+0.9**
JEW	**Eniwo**	**2.16**	**76**	P	**Pn**	**03 26 01.4**	**+1.7**
JHR	**Hokuryu**	**2.67**	**58**	P	**Pn**	**03 26 06.9**	**+2.0**
JANG	**Nango**	**2.97**	**131**	P	**Pn**	**03 26 09.2**	**+1.1**
JANG				*e*S	**S**	**03 26 49.2**	**+0.2**
JFR	**Furan**	**3.05**	**74**	P	**Pn**	**03 26 09.8**	**+0.9**
JNBK	**Urakawa-nobuka**	**3.08**	**90**	P	**Pn**	**03 26 10.2**	**+0.9**
JKK2	**Kamakawa 2**	**3.39**	**62**	P	**Pn**	**03 26 14.1**	**+1.4**
JKK2				*e*S	**S**	**03 26 57.5**	**+0.1**
ASAJ	**Asahikawa**	**3.40**	**58**	P	**Pn**	**03 26 13.7**	**+0.8**
	1.7nm,0.3s,baz=262,slow=11,SNR=7.9						
ASAJ				S	**S**	**03 26 57.2**	**-0.4**
	baz=128,slow=19,SNR=3.1						
JCH	**Churui**	**3.53**	**84**	P	**Pn**	**03 26 14.6**	**+0.2**
JCH				*e*S	**S**	**03 26 59.1**	**-1.2**
JYK	**Kaneyama**	**3.70**	**158**	P	**Pn**	**03 26 18.1**	**+1.7**
JAR	**Ashorobuto**	**3.91**	**75**	P	**Pn**	**03 26 19.3**	**+0.5**
JAR				*e*S	**S**	**03 27 06.5**	**-1.8**
JMK	**Ichinoseki**	**3.95**	**149**	P	**Pn**	**03 26 19.6**	**+0.2**
JMK				*e*S	**S**	**03 27 08.2**	**-1.1**
JTKR	**Abashiri--Toko**	**4.20**	**66**	P	**Pn**	**03 26 23.5**	**+1.3**
USRK	**Ussuriysk Ar.**	**5.16**	**293**	P	**Pn**	**03 26 32.7**	**-1.1**
	0.4nm,0.3s,baz=102,slow=12,SNR=6.3						
MJAR	**Matsushiro Arr**	**5.83**	**183**	P	**Pn**	**03 26 42.6**	**+0.3**
	0.5nm,0.3s,baz=0.0,slow=12,SNR=8.5						
ZALV	**Zalesovo Beam**	**36.83**	**307**	P	**P**	**03 32 00.2**	**-0.8**
	0.6nm,0.5s,baz=104,slow=7.7,SNR=3.4						
MKAR	**Makanchi Array**	**39.62**	**296**	P	**P**	**03 32 23.8**	**-0.5**
	0.5nm,0.5s,baz=79,slow=7.5,SNR=8.1						

IDC 03 03:25:46.5±1.6, 28°.48N×142°.43E, h0km, mb4.0/2, mb1 4.0/3, mb1mx3.3/33, mbtmp3.8/3, Error ellipse: s-maj=52.3km s-min=21.3km az=83.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.40**	**189**	Pn	Pn	03 26 12.8	-0.4
	34nm,0.3s,baz=8.1,slow=23,SNR=55						
JCJ				Sn	Sg	03 26 29.1	-2.3
	49nm,0.3s,baz=308,slow=22,SNR=15						
MJAR	**Matsushiro Arr**	**8.79**	**337**	Pn	Pn	03 27 55.8	+0.9
	baz=149,slow=16,SNR=2.4						
WRA	**Warramunga Arr**	**48.77**	**190**	P	P	03 34 33.7	+0.4
	0.9nm,0.6s,baz=6.8,slow=8.4,SNR=18						
FINES	**FINESS Array B**	**76.80**	**334**	P	P	03 37 39.3	-0.4
	2.0nm,1.0s,baz=59,slow=9.1,SNR=3.3						

ATH 03 03:26:32.9, 38°.66N×23°.38E, h22km±5km, ML1.5/2, Error ellipse: s-maj=5.7km s-min=2.2km az=177.0, Greece

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MRKA	**Markates**	**0.17**	**74**	P	Pb	03 26 38.2	+0.2
MRKA				S	Sb	03 26 40.2	-1.3
MRKA				AML	AML	03 26 40.4	
	comp=N,805μm,0.1s						
MRKA				AML	AML	03 26 40.4	
	comp=E,398μm,0.1s						
MRKA	**Markates**	**0.17**	**74**	P	Pb	03 26 38.2	+0.2
MRKA				S	Sb	03 26 40.3	-1.2
MRKA				AML	AML	03 26 40.4	
	comp=N,805μm,0.1s						
MRKA				AML	AML	03 26 40.4	
	comp=E,398μm,0.1s						
SMIA	**Simia**	**0.26**	**328**	P	Pb	03 26 39.7	+0.5
SMIA				S	Sb	03 26 44.0	+0.6
SMIA				AML	AML	03 26 44.2	
	comp=N,139μm,0.4s						
SMIA				AML	AML	03 26 46.8	
	comp=E,157μm,0.3s						
SMIA	**Simia**	**0.26**	**328**	P	Pb	03 26 40.2	+1.1
SMIA				S	Sb	03 26 44.0	+0.7
SMIA				AML	AML	03 26 44.2	
	comp=N,139μm,0.4s						
SMIA				AML	AML	03 26 46.8	
	comp=E,157μm,0.3s						
ATAL	**Atalanti**	**0.28**	**276**	P	Pb	03 26 39.1	-0.4
ATAL	**Atalanti**	**0.28**	**276**	P	Pn	03 26 43.0	+1.3
ATAL				S	Sn	03 26 48.6	+1.3
VIL2	**Platees**	**0.46**	**191**	P	Pn	03 26 47.3	+3.2
EREA	**Eretria**	**0.49**	**119**	P	Pn	03 26 45.8	+1.1
EREA				S	Sn	03 26 53.1	+0.6
EREA				AML	AML	03 26 54.1	
	comp=E,100μm,0.2s						
EREA				AML	AML	03 26 55.0	
	comp=N,76μm,0.2s						
SKIA	**Skiathos**	**0.51**	**7**	P	Pb	03 26 43.0	-0.2
AOS	**Alonnisos**	**0.64**	**37**	P	Pb	03 26 45.4	-0.1
AOS	**Alonnisos**	**0.64**	**37**	P	Pb	03 26 44.7	-0.7
AOS				S	Sb	03 26 51.6	-2.4
NEO	**Neokhori**	**0.66**	**349**	P	Pb	03 26 46.0	+0.2
NEO				S	Sb	03 26 54.5	0.0
NEO	**Neokhori**	**0.66**	**349**	P	Pb	03 26 46.2	+0.4
NEO				S	Sb	03 26 53.4	-1.1
XOR	**Xorichti**	**0.72**	**348**	P	Pb	03 26 47.2	+0.4
AGG	**Agios Georgios**	**0.90**	**294**	P	Pn	03 26 53.1	+2.9
SKY	**Skiros Island**	**0.94**	**76**	P	Pn	03 26 52.0	+1.3

*DDA **03** 03:27:16.5, 38°.54N×43°.56E, h6km±4km, ML2.5*

*ISK **03** 03:27:16.6, 38°.60N×43°.52E, h5km, ML2.4/9*

*ISCJB **03** 03:27:17.6±0.8, 38°.59N±0°.05×43°.53E±0°.06, h5km±5km, Error ellipse: s-maj=9.4km s-min=6.2km az=138.4*

ISC 03 03:27:17.8±1.2, 38°.59N±0°.04×43°.52E±0°.05, h5km±9km, n19, σ0.s84/24, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.10**	**274**	PG	**Pg**	**03 27 19.6**	**-0.4**
VANB				SG	**Sg**	**03 27 22.3**	**+0.8**
TVAN	**Van**	**0.11**	**236**	IAML_P			
	comp=Z,15μm,0.2s						
TVAN				*i* P	**Pg**	**03 27 19.4**	**-0.7**
VMUR	**Van-Muradiye**	**0.40**	**6**	*i* P	**Pg**	**03 27 26.1**	**+0.5**
VMUR				*i* S	**Sb**	**03 27 36.5**	**+2.4**
ERCV	**ERCIS-VAN**	**0.45**	**342**	PG	**Pg**	**03 27 26.0**	**-0.6**
GEVA	**Gevas**	**0.46**	**233**	*i* P	**Pg**	**03 27 26.4**	**-0.2**
AKDM	**Akdamar-Van**	**0.50**	**239**	PG	**Pg**	**03 27 26.6**	**-0.7**
CLDR	**Caldiran**	**0.64**	**29**	*i* P	**Pb**	**03 27 31.1**	**-0.4**
CLDR				*i* S	**Sn**	**03 27 43.2**	**-1.1**
ADCV	**BITLIS_Adilcev**	**0.66**	**290**	IAML_P			
	comp=Z,249nm,0.1s						
ADCV				*i* P	**Pg**	**03 27 30.6**	**+0.2**
ADCV				*i* S	**Sb**	**03 27 41.8**	**+0.3**
MLAZ	**Malazgirt-MUS**	**0.94**	**306**	PG	**Pg**	**03 27 35.7**	**-0.1**
TUTA	**Tutak**	**0.98**	**326**	*i* P	**Pg**	**03 27 35.3**	**-1.3**
AGRB	**Hanur-Agry**	**1.07**	**338**	PG	**Pg**	**03 27 37.4**	**-0.9**
GURO	**Guroymak-BITLI**	**1.17**	**269**	PN	**Pg**	**03 27 39.4**	**-0.7**
GURO				SN	**Sn**	**03 27 56.9**	**-0.4**
CUKT	**Cukurca**	**1.34**	**177**	PN	**Pn**	**03 27 43.1**	**-0.2**
SIRT	**Sirnak**	**1.38**	**218**	PN	**Pn**	**03 27 43.8**	**0.0**
SRTM	**Siirt_Merkez**	**1.39**	**245**	*i* P	**Pg**	**03 27 45.5**	**+1.0**
EATA	**Eleskirt**	**1.50**	**328**	IAML_P			
	comp=Z,307nm,0.4s						
EATA				*i* P	**Pn**	**03 27 45.6**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.50**	**22**	PN	**Pb**	**03 27 45.8**	**-0.4**
GNI	**Garni**	**1.82**	**31**	PN	**Pn**	**03 27 50.2**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.88**	**257**	PN	**Pn**	**03 27 50.8**	**+0.2**

*IDC **03** 03:29:59.7±1.6, 12°.36N×88°.23W, h0km, mb4.2/9, mb1 4.4/11, mb1mx4.0/34, mbtmp4.1/11, ML3.0/2, MS3.0/2, Ms1 3.0/2, ms1mx2.7/27, Error ellipse: s-maj=36.8km s-min=31.0km az=38.0*

*UCR **03** 03:30:02.6±1.4, 12°.05N×88°.68W, h36km±999km, ML3.7, mb4.5(NEIC)*

*ISCJB **03** 03:30:04.5±0.6, 12°.22N±0°.05×88°.53W±0°.03, h50km±3km, mb4.4/48, MS2.9/1, Error ellipse: s-maj=9.4km s-min=3.8km az=26.4*

*NEIC **03** 03:30:06.9±0.9, 12°.33N×88°.44W, h44km±7km, mb4.5/49, Error ellipse: s-maj=12.5km s-min=6.2km az=212.0*

ISC 03 03:30:06.5±1.1, 12°.31N±0°.07×88°.50W±0°.04, h43km±9km, n256, σ1.s50/272, mb4.4/48, Off coast of central America

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**1.13**	**11**	*e*P	**Pn**	**03 30 27.6**	**+1.5**
LCND	**La Caada**	**1.16**	**31**	*e*P	**Pn**	**03 30 26.1**	**-0.1**
LCND				*e*S	**Sn**	**03 30 46.3**	**+5.4**
LCND				IAML		03 30 54.5	
	comp=Z,2μm,0.3s						
PACA	**Pacayal**	**1.16**	**8**	*e*P	**Pn**	**03 30 26.3**	**-0.2**
PACA				*e*S	**Sn**	**03 30 45.3**	**+4.0**
SNVI	**San Vicente**	**1.34**	**346**	*e*P	**Pn**	**03 30 28.0**	**-0.8**
LFRS	**El Faro**	**1.42**	**337**	*e*P	**Pn**	**03 30 28.5**	**-1.4**
PAVA	**Las Pavas**	**1.46**	**343**	*e*P	**Pn**	**03 30 29.6**	**-0.9**
PAVA				*e*S	**Sn**	**03 30 51.7**	**+3.2**
PAVA				IAML		03 30 57.0	
	comp=Z,2μm,0.5s						
CRIN	**San Cristobal**	**1.46**	**75**	*e*P	**Pn**	**03 30 30.1**	**-0.4**
CRIN				*e*S	**Sn**	**03 30 51.0**	**+2.4**
LOMA	**San Marcos**	**1.49**	**334**	*e*P	**Pn**	**03 30 29.3**	**-1.5**
LOMA				*e*S	**Sn**	**03 30 50.0**	**+0.9**
LOMA				IAML		03 30 53.0	
	comp=Z,2μm,0.4s						
LBRS	**Las Brisas**	**1.52**	**339**	*e*P	**Pn**	**03 30 30.4**	**-0.9**
SNET	**Serv Nac Est T**	**1.54**	**332**	*e*P	**Pn**	**03 30 30.1**	**-1.5**
SNET				*e*S	**Sn**	**03 30 51.2**	**+0.7**
SNET				IAML		03 30 58.2	
	comp=Z,1μm,0.4s						
LFU	**La Fuente**	**1.55**	**337**	*e*P	**Pn**	**03 30 30.2**	**-1.6**
OPAM	**San Salvador**	**1.56**	**334**	IAML		03 30 59.0	
	comp=Z,853nm,0.6s						
BOQS	**Boqueron**	**1.61**	**332**	*e*P	**Pn**	**03 30 31.3**	**-1.4**
CEDA	**San Andres**	**1.72**	**330**	*e*P	**Pn**	**03 30 32.8**	**-1.2**
CNGN	**Cerro Negro**	**1.77**	**84**	*e*P	**Pn**	**03 30 33.8**	**-0.9**
CNGN				*e*S	**Sn**	**03 30 57.6**	**+1.6**
CEVE	**Cerro Verde**	**1.87**	**324**	*e*P	**Pn**	**03 30 34.4**	**-1.8**
CEVE				IAML		03 31 08.6	
	comp=Z,2μm,0.4s						
COPN	**Copaltepe**	**1.87**	**94**	*e*P	**Pn**	**03 30 35.3**	**-0.7**
SBLS	**San Blas**	**1.88**	**324**	*e*P	**Pn**	**03 30 34.9**	**-1.4**
SNJE	**San Jose**	**1.89**	**325**	*e*P	**Pn**	**03 30 35.1**	**-1.4**
MOMN	**Momotombo**	**1.91**	**87**	*e*P	**Pn**	**03 30 35.9**	**-0.8**
RTR	**El Retiro**	**1.93**	**325**	*e*P	**Pn**	**03 30 36.0**	**-1.0**
TGUH	**Tegucigalpa,Un**	**2.10**	**34**	*e*Pn	**Pn**	**03 30 40.6**	**+1.3**
TGUH				*e*Sn	**Sn**	**03 30 58.5**	**-5.7**
TGUH	**Tegucigalpa,Un**	**2.10**	**34**	*e*P	**Pn**	**03 30 40.3**	**+1.1**
MGAN	**Managua**	**2.21**	**94**	*e*P	**Pn**	**03 30 40.0**	**-0.6**
MGAN				*e*S	**Sn**	**03 31 07.6**	**+0.9**
MGAN				IAML		03 31 09.2	
	comp=N,88nm,0.6s						
ESTN	**Estel**	**2.22**	**69**	*e*Pn	**Pn**	**03 30 40.9**	**0.0**
ESTN				*e*Sn	**Sn**	**03 31 02.8**	**-4.4**
ESTN	**Estel**	**2.22**	**69**	*e*P	**Pn**	**03 30 41.0**	**0.0**
MATN	**Matagalpa**	**2.58**	**76**	*e*P	**Pn**	**03 30 45.4**	**-0.6**
BOAB	**BOACO BROADBAN**	**2.77**	**87**	*e*Pn	**Pn**	**03 30 45.8**	**-2.5**
BOAB				*e*Sn	**Sn**	**03 31 16.5**	**-4.1**
APG	**El Apazote**	**3.29**	**325**	Pn	**Pn**	**03 30 54.4**	**-1.3**
	comp=N,0.7nm,0.3s,baz=154,slow=3.9,SNR=11						
APG				LR	LR	03 32 25.7	
	comp=N,193nm,21.5s,baz=231,slow=43						
JTS	**JuntasAbangare**	**4.01**	**120**	Pn	**Pn**	**03 31 06.3**	**+0.8**
	comp=N,3.9nm,0.3s,baz=22,slow=17,SNR=15						
JTS				Sn	**Sn**	**03 31 49.0**	**-2.4**
	comp=N,1.9nm,0.3s,baz=348,slow=20,SNR=3.0						
ESPN	**Las Esperanzas**	**4.10**	**91**	*e*Pn	**Pn**	**03 31 08.2**	**+1.4**
CCIG	**Comitan**	**5.29**	**319**	*e*Pn	**Pn**	**03 31 25.3**	**+2.1**
CMIG	**Matias Romero**	**7.79**	**308**	Pn	**Pn**	**03 31 57.1**	**-0.3**
	comp=N,0.5nm,0.3s,baz=141,slow=8.0,SNR=8.1						
CMIG				Sn	**Sn**	**03 33 21.7**	**-2.7**
	comp=N,0.1nm,0.3s,baz=36,slow=8.7,SNR=2.6						
TEIG	**Tepich**	**7.87**	**2**	*e*Pn	**Pn**	**03 31 57.4**	**-1.1**
TLIG	**Tlapa**	**11.04**	**299**	*e*Pn	**Pn**	**03 32 43.4**	**+1.4**
LNIG	**Linares**	**16.26**	**322**	*e*Pn	**Pn**	**03 33 51.3**	**-0.6**
	comp=N,22nm,0.9s						
655A	**Horseshoe Beac**	**17.80**	**15**	P	**P**	**03 34 11.9**	**+0.6**
	baz=197						
SDV	**Santo Domingo**	**17.88**	**99**	P	**Pn**	**03 34 10.4**	**-2.0**
	comp=N,0.2nm,0.3s,baz=282,slow=9.3,SNR=3.5						
833A	**Chaparral WMA,**	**18.91**	**329**	*e*P	**P**	**03 34 24.4**	**+0.8**
	comp=N,37nm,0.8s						
833A	**Chaparral WMA,**	**18.91**	**329**	P	**P**	**03 34 24.1**	**+0.5**
	baz=145,SNR=8.7						
351A	**Pinckard**	**19.06**	**8**	P	**Pn**	**03 34 26.7**	**+0.4**
	baz=188						
353A	**Camilla**	**19.35**	**11**	P	**Pn**	**03 34 30.2**	**+0.4**
	baz=192						
352A	**Blakely**	**19.36**	**9**	*e*P	**Pn**	**03 34 31.4**	**+1.5**
	comp=N,41nm,0.8s						
352A	**Blakely**	**19.36**	**9**	P	**Pn**	**03 34 30.5**	**+0.6**
	baz=190						
TIGA	**Tifton**	**19.57**	**13**	P	**P**	**03 34 31.5**	**+0.7**
	baz=194						
247A	**Quitman**	**19.65**	**360**	P	**P**	**03 34 33.2**	**+1.5**
	baz=180						
245A	**Little AP, Sta**	**19.67**	**356**	P	**P**	**03 34 33.1**	**+1.2**
	baz=176						
248A	**Dixon Mills**	**19.70**	**2**	P	**P**	**03 34 32.7**	**+0.5**
	baz=182						
244A	**Avery, Jackson**	**19.74**	**354**	P	**P**	**03 34 34.0**	**+1.3**
	baz=174,SNR=5.1						
356A	**Blackshear**	**19.82**	**16**	P	**P**	**03 34 34.3**	**+0.9**
	baz=198						
251A	**Midway**	**19.89**	**8**	P	**P**	**03 34 35.8**	**+1.5**
	baz=189						
252A	**Lumpkin**	**19.90**	**9**	P	**P**	**03 34 36.0**	**+1.6**
	baz=191,SNR=5.7						
VBMS	**Vicksburg**	**19.90**	**355**	P	**P**	**03 34 36.0**	**+1.6**
	baz=174						
253A	**Americus**	**20.06**	**11**	P	**P**	**03 34 37.0**	**+0.8**
	baz=192						
254A	**Abbeville**	**20.12**	**13**	P	**P**	**03 34 37.8**	**+1.0**
	baz=195						
NATX	**Nacogdoches**	**20.17**	**345**	*e*P	**P**	**03 34 35.8**	**-1.6**
	comp=N,17nm,0.6s						
NATX	**Nacogdoches**	**20.17**	**345**	P	**P**	**03 34 37.8**	**+0.5**
	baz=162						
435B	**Jarrell**	**20.21**	**337**	*e*P	**P**	**03 34 38.3**	**+0.5**
	comp=N,30nm,0.8s						
435B	**Jarrell**	**20.21**	**337**	P	**P**	**03 34 38.0**	**+0.1**
	baz=153,SNR=5.4						
146A	**Union**	**20.24**	**359**	*e*P	Pn	03 34 40.2	-0.1
	comp=N,33nm,0.9s						
146A	**Union**	**20.24**	**359**	P	**P**	**03 34 39.3**	**+1.2**
	baz=178						
149A	**Jones**	**20.25**	**4**	P	**P**	**03 34 39.0**	**+0.7**
	baz=185						
148A	**Greensboro**	**20.26**	**2**	P	**P**	**03 34 40.0**	**+1.7**
	baz=182						
147A	**Livingston**	**20.27**	**1**	P	**P**	**03 34 39.9**	**+1.5**
	baz=180						
255A	**Hazlehurst**	**20.29**	**15**	P	**P**	**03 34 40.1**	**+1.5**
	baz=197						
150A	**Eclectic**	**20.33**	**6**	P	**P**	**03 34 39.4**	**+0.4**
	baz=187						
151A	**Opelika**	**20.33**	**8**	P	**P**	**03 34 39.7**	**+0.6**
	baz=189						
256A	**Glennville**	**20.50**	**16**	P	**P**	**03 34 41.1**	**+0.2**
	baz=198						
152A	**Waverly Hall**	**20.56**	**9**	P	**P**	**03 34 42.1**	**+0.6**
	baz=190						
LRAL	**Lakeview Retre**	**20.67**	**4**	P	**P**	**03 34 43.6**	**+0.8**
	baz=184						
Z46A	**Louisville**	**20.79**	**359**	P	**P**	**03 34 45.6**	**+1.6**
	baz=179						
154A	**Montrose**	**20.80**	**13**	P	**P**	**03 34 45.2**	**+1.0**
	baz=195						
JCT	**Junction City**	**20.89**	**332**	*e*P	**P**	**03 34 45.5**	**+0.3**
	comp=N,25nm,0.7s						
JCT	**Junction City**	**20.89**	**332**	P	**P**	**03 34 45.4**	**+0.1**
	baz=148,SNR=20						
155A	**Kite**	**20.96**	**14**	P	**P**	**03 34 46.7**	**+0.9**
	baz=196						
WHTX	**Lake Whitney,**	**21.25**	**339**	*e*P	**P**	**03 34 48.5**	**-0.5**
	comp=N,14nm,0.9s						
WHTX	**Lake Whitney,**	**21.25**	**339**	P	**P**	**03 34 48.9**	**-0.2**
	baz=155						
Z53A	**Monticello**	**21.35**	**11**	P	**P**	**03 34 50.5**	**+0.4**
	baz=193						
Z54A	**Sparta**	**21.46**	**13**	P	**P**	**03 34 51.8**	**+0.5**
	baz=195						
Y46A	**Houston**	**21.48**	**359**	P	**P**	**03 34 51.3**	**-0.1**
	baz=179,SNR=5.9						
Y45A	**Yeager Farm, C**	**21.48**	**358**	P	**P**	**03 34 52.9**	**+1.5**
	baz=177						
GOGA	**Godfrey**	**21.50**	**12**	*e*P	**P**	**03 34 48.3**	**-3.3**
	comp=N,12nm,1.2s						
GOGA	**Godfrey**	**21.50**	**12**	P	**P**	**03 34 52.0**	**+0.4**
	baz=193						
Y47A	**UCPARC, Winfie**	**21.50**	**1**	P	**P**	**03 34 52.6**	**+0.9**
	baz=182						
Y49A	**Blount Mountai**	**21.53**	**5**	P	**P**	**03 34 52.2**	**+0.1**
	baz=185						
Y48A	**Jasper**	**21.54**	**3**	P	**P**	**03 34 52.3**	**+0.2**
	baz=183						
Y43A	**Makayla and Ka**	**21.62**	**355**	P	**P**	**03 34 53.6**	**+0.7**
	baz=173						
Y50A	**Piedmont**	**21.63**	**6**	P	**P**	**03 34 53.4**	**+0.3**
	baz=187						
HPIG		**21.71**	**315**	*e*P	**P**	**03 34 58.1**	**+3.9**
	comp=N,9.9nm,1.1s						
Y51A	**Rockmart**	**21.72**	**8**	P	**P**	**03 34 54.7**	**+0.7**
	baz=189						
Y41A	**Eaglette Beard**	**21.80**	**351**	P	**P**	**03 34 56.1**	**+1.2**
	baz=169						
Y52A	**Lilburn**	**21.83**	**10**	P	**P**	**03 34 55.3**	**0.0**
	baz=192						
Y53A	**Monroe**	**21.91**	**11**	P	**P**	**03 34 57.7**	**+1.7**
	baz=193						
LTX	**Lajitas**	**22.05**	**322**	*e*P	**P**	**03 34 58.4**	**+0.7**
TXAR	**Lajitas Array**	**22.05**	**322**	P	**P**	**03 34 58.4**	**+0.7**
	comp=N,6.5nm,0.7s,baz=145,slow=12,SNR=41						
TXAR				LR	LR	03 45 47.7	
	comp=N,46nm,20.7s,baz=0.0,slow=43						
TX31	**Lajitas Ar. Si**	**22.05**	**322**	*e*P	**P**	**03 34 58.5**	**+0.7**
X48A	**Hartselle**	**22.08**	**3**	P	**P**	**03 34 57.9**	**0.0**
	baz=184						
Y54A	**Tignall**	**22.10**	**13**	P	**P**	**03 34 59.5**	**+1.4**
	baz=195						
X47A	**Russelville**	**22.11**	**1**	P	**P**	**03 34 58.7**	**+0.5**
	baz=182						
OXF	**Oxford**	**22.12**	**358**	P	**P**	**03 34 59.1**	**+0.8**
	baz=178						
X46A	**Booneville**	**22.15**	**360**	P	**P**	**03 34 59.1**	**+0.5**
	baz=180						
X49A	**Woodville**	**22.19**	**5**	P	**P**	**03 34 58.4**	**-0.7**
	baz=186						
X50B	**Fort Payne**	**22.20**	**6**	P	**P**	**03 34 59.1**	**-0.1**
	baz=187						
X42A	**Stuttgart**	**22.32**	**353**	P	**P**	**03 35 01.0**	**+0.5**
	baz=172						
X41A	**Kaden, Bauxite**	**22.39**	**351**	P	**P**	**03 35 02.1**	**+1.0**
	baz=170						
X40A	**Basin Creek Fa**	**22.43**	**351**	P	**P**	**03 35 02.2**	**+0.6**
	baz=169						
X52A	**Dahlonega**	**22.58**	**10**	P	**P**	**03 35 03.7**	**+0.3**
	baz=192						
X53A	**Estanollee**	**22.59**	**11**	P	**P**	**03 35 03.5**	**+0.1**
	baz=193						
MIAR	**Mount Ida**	**22.61**	**349**	*e*P	**P**	**03 35 03.8**	**+0.2**
	comp=N,17nm,0.8s						
MIAR	**Mount Ida**	**22.61**	**349**	P	**P**	**03 35 03.3**	**-0.3**
	baz=167,SNR=9.5						
ABTX	**Abilene, Hawle**	**22.66**	**335**	*e*P	**P**	**03 35 03.4**	**-0.8**
	comp=N,16nm,0.9s						
ABTX	**Abilene, Hawle**	**22.66**	**335**	P	**P**	**03 35 02.9**	**-1.3**
	baz=151,SNR=8.8						
W48A	**Pulaski**	**22.77**	**3**	P	**P**	**03 35 04.6**	**-0.7**
	baz=184						
W47A	**Westpoint**	**22.85**	**2**	P	**P**	**03 35 04.9**	**-1.2**
	baz=182						
W50A	**Signal Mountai**	**22.97**	**7**	P	**P**	**03 35 05.8**	**-1.6**
	baz=188						
W51A	**Cleveland**	**23.00**	**8**	P	**P**	**03 35 06.7**	**-1.0**
	baz=189						
W41B	**Gary Mavity, V**	**23.02**	**352**	*e*P	**P**	**03 35 08.0**	**+0.2**
	comp=N,8.6nm,0.8s						
W41B	**Gary Mavity, V**	**23.02**	**352**	P	**P**	**03 35 07.7**	**0.0**
	baz=170						
W53A	**Cullowhee**	**23.27**	**11**	P	**P**	**03 35 09.4**	**-1.0**
	baz=193						
W39A	**Magazine**	**23.28**	**349**	*e*P	**P**	**03 35 11.2**	**+0.8**
	comp=N,11nm,0.8s						
W39A	**Magazine**	**23.28**	**349**	P	**P**	**03 35 09.8**	**-0.6**
	baz=167						
V46A	**Holladay**	**23.39**	**1**	P	**P**	**03 35 09.9**	**-1.5**
	baz=181						
V47A	**Nunnelly**	**23.43**	**2**	P	**P**	**03 35 11.1**	**-0.7**
	baz=182						
V49A	**McMinnville**	**23.47**	**5**	P	**P**	**03 35 11.2**	**-1.1**
	baz=186						
V42A	**Cord**	**23.54**	**354**	P	**P**	**03 35 12.1**	**-0.8**
	baz=173						
V41A	**Mountainview**	**23.61**	**353**	P	**P**	**03 35 13.1**	**-0.4**
	baz=171,SNR=9.8						
TKL	**Tuckaleechee C**	**23.63**	**10**	P	**P**	**03 35 13.2**	**-0.6**
	comp=N,9.8nm,0.9s,baz=187,slow=10,SNR=9.5						
TKL	**Tuckaleechee C**	**23.63**	**10**	*e*P	**P**	**03 35 14.2**	**+0.4**
	comp=N,18nm,1.0s						
KMSC	**Kings Mountain**	**23.64**	**15**	P	**P**	**03 35 14.0**	**+0.1**
	baz=198						
WVT	**Waverly**	**23.72**	**1**	P	**P**	**03 35 13.6**	**-1.0**
	baz=182						
V53A	**Saluda**	**23.82**	**12**	P	**P**	**03 35 16.3**	**+0.7**
	baz=194						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
U46A	**Springville**	**23.95**	**1**	P	**P**	**03 35 15.7**	**-1.0**
	baz=181						
U43A	**Rector**	**24.02**	**356**	P	**P**	**03 35 16.4**	**-0.9**
	baz=175						
U47A	**Clarksville**	**24.05**	**2**	P	**P**	**03 35 16.4**	**-1.3**
	baz=183						
U42A	**Revenden**	**24.06**	**355**	P	**P**	**03 35 16.9**	**-0.8**
	baz=173						
U41A	**Viola**	**24.13**	**353**	P	**P**	**03 35 17.7**	**-0.7**
	baz=172,SNR=5.6						
WMOK	**Wichita Mounta**	**24.20**	**339**	*e*P	**P**	**03 35 18.9**	**-0.2**
	comp=N,19nm,1.4s						
WMOK	**Wichita Mounta**	**24.20**	**339**	P	**P**	**03 35 18.7**	**-0.4**
	baz=155						
U49A	**Red Boiling Sp**	**24.22**	**5**	P	**P**	**03 35 18.5**	**-0.7**
	baz=186						
U50A	**Jamestown**	**24.23**	**7**	P	**P**	**03 35 18.9**	**-0.4**
	baz=189						
U40A	**Yellville**	**24.26**	**351**	P	**P**	**03 35 19.4**	**-0.3**
	baz=170,SNR=16						
HHAR	**Hobbs**	**24.37**	**349**	*e*P	**P**	**03 35 20.9**	**+0.3**
	comp=N,15nm,0.9s						
TUL1	**Leonard**	**24.40**	**346**	*e*P	**P**	**03 35 20.9**	**0.0**
	comp=N,11nm,0.8s						
TUL1	**Leonard**	**24.40**	**346**	P	**P**	**03 35 20.6**	**-0.2**
	baz=162						
U53A	**Fall Branch**	**24.54**	**12**	P	**P**	**03 35 21.8**	**-0.3**
	baz=194						
T46A	**Princeton**	**24.63**	**1**	P	**P**	**03 35 20.9**	**-2.1**
	baz=181						
T43A	**Greenville**	**24.72**	**357**	P	**P**	**03 35 22.2**	**-1.5**
	baz=176						
T42A	**Van Buren**	**24.73**	**355**	P	**P**	**03 35 22.3**	**-1.5**
	baz=174						
MNTX	**Cornudas Mount**	**24.78**	**324**	*e*P	**P**	**03 35 24.8**	**+0.3**
	comp=N,2.2nm,0.8s						
MNTX	**Cornudas Mount**	**24.78**	**324**	P	**P**	**03 35 23.9**	**-0.5**
	baz=137						
T41A	**Mountain View**	**24.80**	**354**	P	**P**	**03 35 22.8**	**-1.7**
	baz=172						
T51A	**Gray**	**24.89**	**9**	P	**P**	**03 35 23.6**	**-1.7**
	baz=190						
MSTX	**Muleshoe**	**25.18**	**331**	*e*P	**P**	**03 35 28.2**	**+0.1**
	comp=N,26nm,1.0s						
MSTX	**Muleshoe**	**25.18**	**331**	P	**P**	**03 35 28.2**	**+0.1**
	baz=146,SNR=8.0						
S43A	**Fulton Ridge,**	**25.20**	**357**	P	**P**	**03 35 27.2**	**-0.9**
	baz=176						
S44A	**Carbondale**	**25.29**	**359**	P	**P**	**03 35 27.7**	**-1.1**
	baz=178						
S41A	**Jillco Farms,**	**25.34**	**354**	P	**P**	**03 35 28.3**	**-1.0**
	baz=172						
AMTX	**Amarillo**	**25.46**	**334**	*e*P	**P**	**03 35 30.6**	**0.0**
	comp=N,31nm,1.2s						
AMTX	**Amarillo**	**25.46**	**334**	P	**P**	**03 35 30.9**	**+0.3**
	baz=149						
CCM	**Cathedral Cave**	**25.76**	**355**	*e*P	**P**	**03 35 32.7**	**-0.4**
	comp=N,19nm,0.9s						
CCM	**Cathedral Cave**	**25.76**	**355**	P	**P**	**03 35 32.9**	**-0.2**
	baz=174						
WCI	**Wyandotte Cave**	**25.89**	**4**	P	**P**	**03 35 33.3**	**-1.0**
	baz=185						
R43A	**Red Bud**	**25.89**	**357**	P	**P**	**03 35 33.9**	**-0.4**
	baz=177						
R42A	**Luebbering**	**25.94**	**356**	P	**P**	**03 35 34.4**	**-0.4**
	baz=175						
R41A	**Rosebud**	**26.01**	**355**	P	**P**	**03 35 34.6**	**-0.8**
	baz=174,SNR=9.3						
Q45A	**Warren Harvey,**	**26.48**	**1**	P	**P**	**03 35 38.5**	**-1.1**
	baz=181						
Q44A	**Meyer Farm, Va**	**26.49**	**359**	P	**P**	**03 35 38.4**	**-1.3**
	baz=179						
Q41A	**Truxton**	**26.65**	**355**	P	**P**	**03 35 41.4**	**+0.3**
	baz=174						
BNM	**Barren Site**	**27.30**	**326**	*e*P	**P**	**03 35 49.8**	**+2.4**
KSU1	**Kansas State U**	**27.64**	**346**	*e*P	**P**	**03 35 49.8**	**-0.3**
	comp=N,11nm,0.9s						
ANMO	**Albuquerque**	**27.81**	**327**	P	**P**	**03 35 55.2**	**+3.3**
	comp=N,0.8nm,0.6s,baz=143,slow=12,SNR=5.4						
O50A	**Cable**	**28.06**	**8**	P	**P**	**03 35 52.5**	**-1.4**
	baz=190						
CBKS	**Cedar Bluff**	**28.23**	**341**	P	**P**	**03 35 55.5**	**+0.1**
	baz=156						
T25A	**Trinidad**	**28.55**	**333**	*e*P	**P**	**03 36 00.5**	**+1.9**
	comp=N,9.3nm,0.9s						
T25A	**Trinidad**	**28.55**	**333**	P	**P**	**03 36 00.2**	**+1.7**
	baz=146						
M39A	**Webster**	**29.23**	**354**	P	**P**	**03 36 03.9**	**-0.3**
	baz=173						
KSCO	**Kaye Shedlock'**	**29.41**	**337**	*e*P	**P**	**03 36 06.8**	**+0.8**
	comp=N,13nm,0.7s						
KSCO	**Kaye Shedlock'**	**29.41**	**337**	P	**P**	**03 36 06.4**	**+0.4**
	baz=151						
SDCO	**Great Sand Dun**	**29.54**	**332**	*e*P	**P**	**03 36 09.9**	**+2.5**
	comp=N,3.6nm,0.9s						
SDCO	**Great Sand Dun**	**29.54**	**332**	P	**P**	**03 36 08.6**	**+1.2**
	baz=145						
L41A	**Preston**	**29.70**	**357**	P	**P**	**03 36 07.4**	**-1.0**
	baz=176						
L40A	**Anamosa**	**29.74**	**356**	P	**P**	**03 36 08.1**	**-0.6**
	baz=174						
S22A	**4UR Ranch, Cre**	**30.17**	**330**	*e*P	**P**	**03 36 14.9**	**+1.9**
	comp=N,3.8nm,1.0s						
S22A	**4UR Ranch, Cre**	**30.17**	**330**	P	**P**	**03 36 12.7**	**-0.3**
	baz=142						
K39A	**Oelwein**	**30.43**	**355**	P	**P**	**03 36 14.3**	**-0.5**
	baz=173						
WUAZ	**Wupatki**	**31.01**	**322**	P	**P**	**03 36 20.7**	**+0.4**
	baz=132						
ISCO	**Idaho Springs**	**31.28**	**334**	*e*P	**P**	**03 36 26.4**	**+3.6**
	comp=N,4.1nm,1.1s						
ISCO	**Idaho Springs**	**31.28**	**334**	P	**P**	**03 36 23.7**	**+0.9**
	baz=146						
SMCO	**Snowmass**	**31.38**	**332**	*e*P	**P**	**03 36 27.9**	**+4.1**
	comp=N,3.8nm,0.8s						
I40A	**Norwalk**	**31.52**	**357**	P	**P**	**03 36 23.0**	**-1.4**
	baz=176						
PV11	**David Mesa, Pa**	**31.62**	**328**	*e*P	**P**	**03 36 30.0**	**+4.4**
	comp=N,5.2nm,0.8s						
PV17	**East Wray Mesa**	**31.65**	**328**	*e*P	**P**	**03 36 26.6**	**+0.7**
	comp=N,6.1nm,0.8s						
I41A	**Arkdale**	**31.66**	**358**	P	**P**	**03 36 24.2**	**-1.4**
	baz=177						
ECSD	**EROS Data Cent**	**32.09**	**349**	P	**P**	**03 36 28.1**	**-1.3**
	baz=165						
H40A	**Chili**	**32.24**	**357**	P	**P**	**03 36 29.1**	**-1.7**
	baz=176						
O20A	**White River Ci**	**32.73**	**331**	*e*P	**P**	**03 36 37.7**	**+2.4**
	comp=N,13nm,0.9s						
O20A	**White River Ci**	**32.73**	**331**	P	**P**	**03 36 37.1**	**+1.7**
	baz=142						
G41A	**Antigo**	**32.79**	**359**	P	**P**	**03 36 34.1**	**-1.5**
	baz=179						
G39A	**Holcombe**	**32.94**	**357**	P	**P**	**03 36 36.3**	**-0.6**
	baz=175						
SPMN	**Marine on St.**	**33.01**	**354**	*e*P	**P**	**03 36 36.5**	**-0.9**
	comp=N,21nm,0.6s						
SPMN	**Marine on St.**	**33.01**	**354**	P	**P**	**03 36 36.7**	**-0.7**
	baz=172						
SUSD	**Miller**	**33.26**	**346**	P	**P**	**03 36 39.5**	**-0.2**
	baz=161						
SADO	**Sadowa**	**33.33**	**12**	P	**P**	**03 36 39.4**	**-0.8**
	comp=N,3.3nm,0.6s,baz=254,slow=7.4,SNR=1.6						
SADO	**Sadowa**	**33.33**	**12**	*e*P	**P**	**03 36 39.4**	**-0.8**
	comp=N,23nm,1.2s						
P17A	**Butcher Ranch,**	**33.46**	**328**	*e*P	**P**	**03 36 44.6**	**+2.9**
	comp=N,5.3nm,0.8s						
P17A				*e*pP	**pP**	**03 36 52.8**	**-0.6**
F37A	**Hinrichs Farm,**	**33.49**	**355**	P	**P**	**03 36 41.3**	**-0.3**
	baz=173						
F40A	**Park Falls**	**33.52**	**358**	P	**P**	**03 36 40.5**	**-1.5**
	baz=177						
RWWY	**Rawlins**	**33.52**	**334**	*e*P	**P**	**03 36 44.7**	**+2.4**
	comp=N,4.4nm,0.8s						
F39A	**Loretta**	**33.56**	**357**	P	**P**	**03 36 41.2**	**-1.0**
	baz=176						
H55A	**Tweed**	**33.56**	**15**	P	**P**	**03 36 40.2**	**-2.1**
	baz=200						
F38A	**Pierce - Schro**	**33.66**	**356**	P	**P**	**03 36 41.3**	**-1.8**
	baz=174,SNR=5.9						
E39A	**Mellen**	**34.00**	**357**	P	**P**	**03 36 44.2**	**-1.9**
	baz=176						
E42A	**Champion**	**34.01**	**1**	P	**P**	**03 36 44.2**	**-2.0**
	baz=181						
RSSD	**Black Hills**	**34.40**	**340**	P	**P**	**03 36 51.0**	**+1.1**
	baz=152						
PD31	**Pinedale Array**	**35.42**	**333**	*e*P	**P**	**03 36 58.3**	**-0.4**
PD31				*e*PcP	**PcP**	**03 39 28.0**	**+0.1**
PDAR	**Pinedale Array**	**35.42**	**333**	P	**P**	**03 36 58.3**	**-0.4**
	comp=N,0.8nm,0.8s,baz=118,slow=12,SNR=6.6						
PDAR				PcP	**PcP**	**03 39 28.0**	**+0.1**
	comp=N,0.2nm,0.5s,baz=141,slow=4.6,SNR=3.7						
AGMN	**Agassiz Nation**	**36.40**	**352**	*e*P	**P**	**03 37 05.8**	**-0.9**
	comp=N,10nm,0.8s						
AGMN	**Agassiz Nation**	**36.40**	**352**	P	**P**	**03 37 05.6**	**-1.1**
	baz=168						
REDW	**Red Top Meadow**	**36.47**	**332**	*e*P	**P**	**03 37 08.2**	**+0.5**
	comp=N,6.4nm,0.8s						
TPAW	**Teton Pass**	**36.62**	**332**	*e*P	**P**	**03 37 11.9**	**+2.9**
	comp=N,3.2nm,0.8s						
MDND	**Maddock**	**36.63**	**347**	*e*P	**P**	**03 37 08.5**	**-0.2**
	comp=N,25nm,0.8s						
MDND	**Maddock**	**36.63**	**347**	P	**P**	**03 37 08.2**	**-0.4**
	baz=162						
MOOW	**Moose Ponds**	**36.73**	**333**	*e*P	**P**	**03 37 12.1**	**+2.2**
	comp=N,1.7nm,0.8s						
NV01	**Mina Array Sit**	**37.14**	**320**	*e*P	**P**	**03 37 17.4**	**+4.0**
NV01				*e*PcP	**PcP**	**03 39 34.3**	**+1.2**
NVAR	**Mina Array Bea**	**37.14**	**320**	P	**P**	**03 37 13.9**	**+0.4**
	comp=N,1.3nm,0.8s,baz=125,slow=6.9,SNR=7.5						
NVAR				PcP	**PcP**	**03 39 34.3**	**+1.2**
	comp=N,0.7nm,0.7s,baz=151,slow=3.4,SNR=4.4						
RLMT	**Red Lodge**	**37.20**	**335**	*e*P	**P**	**03 37 14.0**	**+0.2**
	comp=N,6.8nm,0.9s						
RLMT	**Red Lodge**	**37.20**	**335**	P	**P**	**03 37 13.8**	**0.0**
	baz=145						
LAO	**LASA Array**	**37.39**	**340**	P	**P**	**03 37 16.1**	**+0.9**
	baz=151						
YMR	**Madison River**	**37.55**	**333**	*e*P	**P**	**03 37 20.4**	**+3.6**
	comp=N,4.6nm,1.0s						
ULM	**Lac du Bonnet**	**38.31**	**352**	P	**P**	**03 37 20.7**	**-2.2**
	comp=N,9.3nm,0.8s,baz=169,slow=8.6,SNR=16						
ULM	**Lac du Bonnet**	**38.31**	**352**	*e*P	**P**	**03 37 21.4**	**-1.4**
	comp=N,3.3nm,0.8s						
DGMT	**Dagmar**	**38.35**	**343**	*e*P	**P**	**03 37 24.0**	**+0.8**
	comp=N,14nm,0.6s						
DGMT	**Dagmar**	**38.35**	**343**	P	**P**	**03 37 24.1**	**+0.9**
	baz=155						
MCMT	**McKenzie Canyo**	**38.52**	**332**	*e*P	**P**	**03 37 26.2**	**+1.2**
BOZ	**Bozeman (W)**	**38.57**	**334**	*e*P	**P**	**03 37 29.7**	**+4.4**
	comp=N,2.7nm,0.8s						
BOZ	**Bozeman (W)**	**38.57**	**334**	P	**P**	**03 37 27.4**	**+2.0**
	baz=142						
EGMT	**Eagleton**	**39.79**	**338**	*e*P	**P**	**03 37 38.1**	**+2.7**
	comp=N,23nm,1.4s						
EGMT	**Eagleton**	**39.79**	**338**	P	**P**	**03 37 36.3**	**+0.9**
	baz=146						
SCHQ	**Schefferville**	**45.71**	**17**	P	**P**	**03 38 20.6**	**-2.6**
	comp=N,6.2nm,1.0s,baz=240,slow=11,SNR=3.5						
SCHQ	**Schefferville**	**45.71**	**17**	*e*P	**P**	**03 38 20.6**	**-2.6**
	comp=N,14nm,1.2s						
FCC	**Fort Churchill**	**46.55**	**356**	*e*P	**P**	**03 38 28.9**	**-0.8**
	comp=N,5.4nm,0.8s						
YKA	**Yellowknife Ar**	**53.48**	**345**	P	**P**	**03 39 21.1**	**-1.1**
	comp=N,2.8nm,0.9s,baz=142,slow=7.3,SNR=32						
YKB5	**Yellowknife Ar**	**53.48**	**345**	*e*P	**P**	**03 39 21.1**	**-1.1**
ILAR	**Eielson Array**	**65.74**	**336**	P	**P**	**03 40 45.5**	**-1.0**
	comp=N,0.6nm,0.8s,baz=131,slow=4.7,SNR=4.8						
ILB	**Eielson Array**	**65.74**	**336**	*e*P	**P**	**03 40 45.5**	**-1.0**
MK32	**Makanchi Array**	**120.59**	**7**	*e*PKPdf	**PKPdf**	**03 48 54.6**	**+0.8**
MKAR	**Makanchi Array**	**120.59**	**7**	PKP	**PKPdf**	**03 48 54.6**	**+0.8**
	comp=N,0.1nm,0.4s,baz=298,slow=3.3,SNR=2.7						
KSH	**Kashi**	**126.45**	**15**	PKP	**PKPdf**	**03 49 07.6**	**+2.2**
GTA	**Gaotai**	**127.97**	**352**	*e*PKP	**PKPdf**	**03 49 10.1**	**+1.8**
GTA				sPKP		03 49 26.6	
LZH	**Lanzhou**	**130.47**	**347**	*e*PKP	**PKPdf**	**03 49 12.1**	**-1.1**
LZH				pPKP	pPKPdf	03 49 25.3	-1.4
LZH				sPKP		03 49 29.0	
WR1	**Warramunga Arr**	**138.25**	**254**	*e*PKPdf	**PKPdf**	**03 49 27.9**	**0.0**
WRA	**Warramunga Arr**	**138.25**	**254**	PKP	**PKPdf**	**03 49 27.9**	**0.0**
	comp=N,0.3nm,0.8s,baz=78,slow=2.7,SNR=3.2						
AS31	**Alice Springs**	**138.27**	**248**	*e*PKPdf	**PKPdf**	**03 49 28.0**	**+0.1**
ASAR	**Alice Springs**	**138.27**	**248**	PKP	**PKPdf**	**03 49 28.0**	**+0.1**
	comp=N,0.3nm,0.8s,baz=114,slow=3.4,SNR=2.9						
CM31	**Chiang Mai Arr**	**148.56**	**346**	*e*PKPdf	**PKPdf**	**03 49 47.6**	**+1.6**
CMAR	**Chiang Mai Arr**	**148.56**	**346**	PKPbc	**PKPdf**	**03 49 47.6**	**+1.6**
	comp=N,2.4nm,0.8s,baz=338,slow=3.4,SNR=8.7						

IDC 03 03:38:07.5±2.6**, 2°.65N**×**126°.78E, h0**km**, mb3.3**/3**, mb1 3.6**/3**, mb1mx3.3**/28**, mbtmp3.4**/3**, Error ellipse: s-maj=244.0km s-min=25.6km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.64**	**162**	P	P	03 43 20.0	-0.7
	0.5nm,0.4s,baz=341,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**27.06**	**166**	P	P	03 43 52.7	+0.8
	0.2nm,0.4s,baz=340,slow=9.3,SNR=4.5						
MKAR	**Makanchi Array**	**58.47**	**326**	P	P	03 48 05.2	-0.3
	0.2nm,0.4s,baz=127,slow=7.4,SNR=7.1						

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*ISCJB **03** 03:47:16.8±0.8, 20°.4S±0°.2×178°.0W±0°.1, h534km, mb3.6/7, Error ellipse: s-maj=25.8km s-min=14.3km az=146.8*
*IDC **03** 03:47:21.1±2.4, 20°.58S×177°.93W, h582km±32km, mb3.1/7, mb1 3.4/9, mb1mx3.2/35, mbtmp4.1/9, Error ellipse: s-maj=34.8km s-min=13.5km az=153.0*
ISC 03 03:47:17.1±1.0**, 20°.4S**±0°.2×**178°.0W**±0°.2**, h534**km**, n11, σ1s.60**/13**, mb3.5**/7**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.64**	**261**	P	**P**	**03 50 24.6**	**+1.4**
	0.4nm,0.3s,baz=126,slow=19,SNR=2.7						
URZ	**Urewera**	**18.29**	**192**	P	**P**	**03 50 56.9**	**-1.2**
	1.0nm,0.3s,baz=328,slow=4.5,SNR=7.7						
STKA	**Stephens Creek**	**37.86**	**244**	P	**P**	**03 53 49.5**	**+1.0**
	1.2nm,0.5s,baz=100,slow=15,SNR=3.5						
ASAR	**Alice Springs**	**44.58**	**257**	P	**P**	**03 54 43.2**	**+1.3**
	2.5nm,0.4s,baz=92,slow=7.7,SNR=49						
ASAR				S	**S**	**04 00 37.4**	**-1.6**
	0.3nm,0.5s,baz=93,slow=14,SNR=6.1						
WRA	**Warramunga Arr**	**44.65**	**262**	P	**P**	**03 54 43.4**	**+0.9**
	1.4nm,0.3s,baz=96,slow=7.5,SNR=41						
WRA				S	**S**	**04 00 37.8**	**-2.3**
	0.3nm,1.0s,baz=100,slow=13,SNR=2.9						
MJAR	**Matsushiro Arr**	**70.17**	**324**	P	**P**	**03 57 35.3**	**-0.8**
	0.5nm,0.5s,baz=168,slow=4.6,SNR=3.7						
NVAR	**Mina Array Bea**	**80.94**	**43**	P	**P**	**03 58 37.2**	**+1.0**
	0.5nm,0.7s,baz=207,slow=7.8,SNR=3.2						
ILAR	**Eielson Array**	**88.23**	**13**	P	**P**	**03 59 10.6**	**-0.3**
	0.3nm,0.4s,baz=217,slow=5.0,SNR=9.9						
PDAR	**Pinedale Array**	**88.88**	**43**	P	**P**	**03 59 15.8**	**+1.1**
	0.4nm,0.6s,baz=211,slow=1.6,SNR=5.1						
AKASG	**Malin Array Be**	**142.96**	**331**	PKP	**PKPdf**	**04 05 47.1**	**-2.7**
	0.5nm,0.5s,baz=44,slow=4.5,SNR=7.9						
BRTR	**Keskin Array B**	**146.81**	**312**	PKPbc	**PKPbc**	**04 05 59.6**	**-0.1**
	0.4nm,0.7s,baz=82,slow=4.6,SNR=3.4						

NDI 03 03:51:10.0±2.5**, 28°.36N**×**87°.90E, h35**km**, ML3.5, Xizang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GTK	**Tadong**	**1.21**	**149**	*e*P	Pn	03 51 33.2	+2.6
GTK				*e*S	Sn	03 51 47.4	+1.4
GTK				IAML		03 51 53.7	
	comp=E,351nm,0.2s						
TURI	**Tura**	**3.55**	**142**	*e*P	Pn	03 52 01.1	-1.5
TURI				*e*S	Sn	03 52 41.3	-2.1
TURI				IAML		03 52 47.3	
	comp=N,108nm,0.1s						
TURI				IAML		03 52 47.3	
	comp=E,118nm,0.1s						
GUWA	**GUWAHATI**	**4.01**	**122**	*e*P	Pn	03 52 07.8	-1.2
GUWA				*e*S	Sn	03 52 51.9	-2.8
SHL	**Shillong**	**4.52**	**127**	*e*S	Sn	03 53 03.9	-3.7
TEZP	**TEZPUR**	**4.69**	**111**	*e*P	Pn	03 52 19.6	+1.3
TEZP				*e*S	Sn	03 53 08.0	-3.5
TEZP				IAML		03 53 12.5	
	comp=N,151nm,0.1s						
TEZP				IAML		03 53 12.7	
	comp=E,250nm,0.1s						
BOK	**Bokaro**	**4.89**	**202**	*e*S	Sn	03 53 11.9	-4.7
ZIRO	**ZIRO**	**5.33**	**98**	*e*P	Pn	03 52 27.4	+0.1
ZIRO				*e*S	Sn	03 53 23.7	-3.9
ZIRO				IAML		03 53 29.3	
	comp=E,140nm,0.1s						
ZIRO				IAML		03 53 29.5	
	comp=N,289nm,0.1s						
KOHI	**KOHIMA**	**6.13**	**114**	*e*S	Sn	03 53 47.9	+0.6
KOHI				IAML		03 53 49.0	
	comp=E,29nm,0.3s						
KOHI				IAML		03 53 49.8	
	comp=N,29nm,0.2s						

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*IDC **03** 03:55:07.3±0.7, 18°.88N×121°.09E, h0km, mb3.8/15, mb1 4.0/18, mb1mx3.9/44, mbtmp3.9/18, ML3.9/3, Error ellipse: s-maj=21.0km s-min=17.0km az=86.0*
*NEIC **03** 03:55:12.3±0.4, 18°.90N×121°.11E, h35km, mb4.3/8, Error ellipse: s-maj=8.2km s-min=6.1km az=108.0*
*ISCJB **03** 03:55:13.6±0.5, 19°.16N±0°.02×121°.13E±0°.07, h46km±6km, mb3.9/21, Error ellipse: s-maj=10.5km s-min=3.6km az=175.3*
*MAN **03** 03:55:13.8, 19°.12N×121°.15E, h28km, mb4.7, ML3.6, MS3.5*
ISC 03 03:55:12.9±1.3**, 19°.03N**±0°.04×**121°.04E**±0°.06**, h32**km±11km**, n54, σ1s.35**/71**, mb4.0**/20**, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**1.18**	**171**	*e*P	**Pb**	**03 55 35.4**	**+0.6**
APYP				*e*S	**Sb**	**03 55 51.7**	**+2.0**
SGCP	**Mt. Cagua**	**1.23**	**129**	*e*P	**Pb**	**03 55 34.8**	**-0.8**
SGCP				*e*S	**Sb**	**03 55 51.2**	**0.0**
CVP	**Callao Caves**	**1.51**	**151**	⇑*i*P	**Pb**	**03 55 40.2**	**-0.2**
CVP				*i* S	**Sb**	**03 55 59.8**	**+0.5**
BBP	**Basco**	**1.65**	**32**	*e*P	**Pn**	**03 55 38.8**	**-0.8**
BBP				*e*S	**Sn**	**03 55 58.6**	**-1.1**
CAUP	**Cauayan**	**2.21**	**160**	*e*P	**Pb**	**03 55 52.7**	**+0.5**
CAUP				*e*S	**Sb**	**03 56 22.5**	**+3.5**
PALP	**Palanan**	**2.36**	**146**	*e*P	**Pb**	**03 55 52.0**	**-2.7**
PALP				*e*S	**Sn**	**03 56 17.9**	**+0.6**
SMPP	**San Manuel, Pa**	**2.89**	**187**	*e*P	**Pb**	**03 56 00.3**	**-3.4**
SMPP				*e*S	**Sb**	**03 56 37.9**	**-0.8**
TWG	**Pinlang**	**3.77**	**0**	*e*Pn	**Pn**	**03 56 08.7**	**-0.2**
TWG				*e*Sn	**Sn**	**03 56 49.9**	**-2.2**
TPUB	**Ta-pu**	**4.27**	**355**	*e*Pn	**Pn**	**03 56 15.5**	**-0.1**
TPUB				*e*Sn	**Sn**	**03 57 02.6**	**-1.8**
YULB	**Yu-li**	**4.35**	**3**	*e*Pn	**Pn**	**03 56 16.3**	**-0.4**
YULB				*e*Sn	**Sn**	**03 57 06.1**	**-0.2**
SSLB	**Suanglung**	**4.73**	**359**	*e*Pn	**Pn**	**03 56 23.6**	**+1.5**
SSLB				*e*Sn	**Sn**	**03 57 15.1**	**-0.8**
NACB	**Ninganchiao**	**5.14**	**6**	*e*Pn	**Pn**	**03 56 28.0**	**+0.3**
NACB				*e*Sn	**Sn**	**03 57 25.7**	**-0.2**
YHNB	**Yeheng**	**5.62**	**3**	*e*Pn	**Pn**	**03 56 35.3**	**+1.0**
YHNB				*e*Sn	**Sn**	**03 57 38.1**	**+0.3**
JOW	**Kunigami**	**10.23**	**39**	Pn	**Pn**	**03 57 36.8**	**-0.7**
	5.4nm,0.3s,baz=160,slow=12,SNR=3.5						
JNU	**Nakatsue**	**16.57**	**30**	Pn	**Pn**	**03 59 02.8**	**0.0**
	0.1nm,0.3s,baz=144,slow=4.3,SNR=2.6						
JNU	**Nakatsue**	**16.57**	**30**	Pn	**Pn**	**03 59 02.8**	**0.0**
	33nm,1.2s						
KS15	**Wonju Array Si**	**19.30**	**17**	*e*P	**P**	**03 59 34.7**	**-0.4**
KSAR	**Wonju Array Be**	**19.30**	**17**	P	**P**	**03 59 34.7**	**-0.4**
KSRS	**Korea Array**	**19.32**	**17**	P	**P**	**03 59 34.7**	**-0.6**
	0.7nm,0.3s,baz=195,slow=12,SNR=11						
CM01	**Chiang Mai Arr**	**20.93**	**272**	*e*P	**P**	**03 59 51.4**	**-1.6**
CM31	**Chiang Mai Arr**	**20.94**	**272**	*e*P	**P**	**03 59 51.6**	**-1.5**
CMAR	**Chiang Mai Arr**	**20.94**	**272**	P	**P**	**03 59 51.6**	**-1.5**
	0.8nm,0.3s,baz=89,slow=11,SNR=3.5						
MAJO	**Matsushiro**	**23.06**	**37**	*e*P	**P**	**04 00 15.6**	**-0.1**
MJAR	**Matsushiro Arr**	**23.06**	**37**	P	**P**	**04 00 15.6**	**-0.1**
	1.3nm,0.6s,baz=228,slow=11,SNR=3.2						
SONA0	**Songino Array**	**31.11**	**341**	*e*P	**P**	**04 01 29.6**	**+1.1**
SONM	**Songino Array**	**31.11**	**341**	P	**P**	**04 01 29.6**	**+1.1**
	1.4nm,0.7s,baz=161,slow=9.2,SNR=11						
KLR	**Kul'dur**	**31.34**	**14**	P	**P**	**04 01 31.9**	**+1.6**
	1.6nm,0.5s,baz=235,slow=7.2,SNR=5.8						
WR1	**Warramunga Arr**	**40.87**	**161**	*e*P	**P**	**04 02 49.5**	**-2.6**
	8.4nm,1.4s						
WR1				*e*PcP	**PcP**	**04 04 52.9**	**+0.3**
WRA	**Warramunga Arr**	**40.87**	**161**	P	**P**	**04 02 49.5**	**-2.6**
	0.2nm,0.6s,baz=334,slow=11,SNR=5.9						
WRA				PcP	**PcP**	**04 04 52.9**	**+0.3**
	0.3nm,0.5s,baz=346,slow=3.3,SNR=6.1						
MK32	**Makanchi Array**	**42.06**	**320**	*e*P	**P**	**04 03 03.5**	**+1.8**
MK32				*e*PcP	**PcP**	**04 04 57.1**	**+1.0**
MKAR	**Makanchi Array**	**42.06**	**320**	P	**P**	**04 03 03.5**	**+1.8**
	1.3nm,0.6s,baz=102,slow=11,SNR=9.3						
MKAR				PcP	**PcP**	**04 04 57.1**	**+1.0**
	0.5nm,0.7s,baz=108,slow=4.7,SNR=4.0						
NRN	**Naryn**	**44.25**	**310**	*e*P	**P**	**04 03 23.2**	**+3.4**
	6.3nm,1.1s						
AS31	**Alice Springs**	**44.25**	**163**	*e*P	**P**	**04 03 17.6**	**-2.0**
	1.4nm,1.4s						
ASAR	**Alice Springs**	**44.26**	**163**	P	**P**	**04 03 17.6**	**-2.0**
	0.3nm,0.7s,baz=342,slow=6.8,SNR=4.2						
ZALV	**Zalesovo Beam**	**44.56**	**330**	P	**P**	**04 03 22.7**	**+1.1**
	1.7nm,0.7s,baz=114,slow=7.3,SNR=8.2						
ZALV	**Zalesovo Beam**	**44.56**	**330**	*e*P	**P**	**04 03 21.9**	**+0.3**
ZAA1	**Zalesovo Array**	**44.56**	**330**	*e*P	**P**	**04 03 22.7**	**+1.1**
ARSB	**Arslanbob**	**46.42**	**309**	*e*P	**P**	**04 03 37.4**	**+0.6**
	3.5nm,0.8s						
ABKAR	**Akbulak array**	**57.02**	**317**	*e*P	**P**	**04 04 57.3**	**+1.8**
ARU	**Arti**	**59.18**	**325**	*e*P	**P**	**04 05 11.6**	**+1.0**
	6.3nm,0.6s						
ILAR	**Eielson Array**	**73.85**	**26**	P	**P**	**04 06 43.1**	**-1.1**
	0.4nm,1.0s,baz=270,slow=5.1,SNR=3.7						
ILB	**Eielson Array**	**73.85**	**26**	*e*P	**P**	**04 06 43.1**	**-1.1**
ARA0	**ARCESS Array S**	**74.26**	**339**	*e*P	**P**	**04 06 46.6**	**+0.1**
ARCES	**ARCESS Array B**	**74.26**	**339**	P	**P**	**04 06 46.6**	**+0.1**
	1.0nm,0.6s,baz=72,slow=7.8,SNR=6.5						
FIA0	**FINESS Array S**	**75.82**	**330**	*e*P	**P**	**04 06 55.7**	**+0.1**
FINES	**FINESS Array B**	**75.82**	**330**	P	**P**	**04 06 55.7**	**+0.1**
	1.3nm,0.7s,baz=153,slow=0.4,SNR=4.5						
BR101	**Keskin Array S**	**76.15**	**307**	*e*P	**P**	**04 06 58.2**	**+0.1**
BRTR	**Keskin Array B**	**76.15**	**307**	P	**P**	**04 06 58.2**	**+0.1**
	0.3nm,0.6s,baz=125,slow=48,SNR=2.9						
AKASG	**Malin Array Be**	**76.64**	**319**	P	**P**	**04 06 58.9**	**-1.6**
	0.3nm,0.4s,baz=63,slow=5.7,SNR=3.5						
AKBB	**Malin Array Si**	**76.64**	**319**	*e*P	**P**	**04 06 58.9**	**-1.6**
	2.3nm,0.9s						
INK	**Inuvik**	**78.04**	**21**	P	**P**	**04 07 07.7**	**-0.3**
	2.2nm,1.0s,baz=263,slow=3.1,SNR=4.7						
INK	**Inuvik**	**78.04**	**21**	*e*P	**P**	**04 07 07.7**	**-0.3**
	3.3nm,1.0s						
YKA	**Yellowknife Ar**	**87.75**	**23**	P	**P**	**04 07 58.9**	**+0.6**
	1.7nm,0.7s,baz=309,slow=4.5,SNR=60						
YKB5	**Yellowknife Ar**	**87.75**	**23**	*e*P	**P**	**04 07 58.9**	**+0.6**

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*NNC **03** 04:00:27.9±0.2, 43°.35N×78°.06E, h0km, mb3.1, mpv3.6, Error ellipse: s-maj=2.8km s-min=1.2km az=172.0*
*KRNET **03** 04:00:28.8±0.1, 43°.36N×78°.07E, h20km, mb2.7*
*ISCJB **03** 04:00:29.2±0.3, 43°.37N±0°.02×78°.08E±0°.02, h10km, Error ellipse: s-maj=2.9km s-min=2.1km az=162.2*
*SOME **03** 04:00:29.0, 43°.33N×78°.08E, h10km*
ISC 03 04:00:28.7±0.7**, 43°.34N**±0°.02×**78°.05E**±0°.01**, h10**km**, n69, σ1s.52**/122**, 39C-23D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURS	**Kuram**	**0.17**	**32**	P	**Pg**	**04 00 32.7**	**+0.3**
	73nm,0.1s						
KURS				S	**Sg**	**04 00 35.5**	**+0.5**
	212nm,0.1s						
KURS	**Kuram**	**0.17**	**32**	⇑*e*P	**Pg**	**04 00 32.8**	**+0.3**
	73nm,0.1s						
KURS				*e*S	**Sg**	**04 00 35.5**	**+0.5**
	212nm,0.1s						
SATY	**Saty**	**0.39**	**137**	P	**Pb**	**04 00 36.7**	**-1.0**
	280nm,0.1s						
SATY				S	**Sb**	**04 00 42.3**	**-1.5**
	1μm,0.1s						
SATY	**Saty**	**0.39**	**137**	⇓*e*P	**Pb**	**04 00 36.8**	**-1.0**
	280nm,0.1s						
SATY				*e*S	**Sb**	**04 00 42.3**	**-1.5**
	1μm,0.1s						
KOTS	**Kotyrbulak**	**0.69**	**261**	P	**Pb**	**04 00 42.5**	**-0.4**
	89nm,0.2s						
KOTS				S	**Sb**	**04 00 52.2**	**-0.4**
	168nm,0.3s						
KOTS	**Kotyrbulak**	**0.69**	**261**	⇑*e*P	**Pb**	**04 00 42.5**	**-0.4**
	89nm,0.2s						
KOTS				*e*S	**Sb**	**04 00 52.2**	**-0.4**
	168nm,0.3s						
UZB	**Uzynbulak**	**0.74**	**105**	P	**Pb**	**04 00 42.7**	**-1.0**
	14nm,0.2s						
UZB				S	**Sg**	**04 00 52.3**	**-0.4**
	161nm,0.1s						
UZB	**Uzynbulak**	**0.74**	**105**	⇑*e*P	**Pb**	**04 00 42.8**	**-1.0**
	14nm,0.2s						
UZB				*e*S	**Sg**	**04 00 52.3**	**-0.4**
	161nm,0.1s						

MDOK	**Medeo** 8.6nm,0.4s	**0.75**	**256**	⇓P	**Pg**	**04 00 42.4**	**-0.8**
MDOK 9.4nm,0.6s				⇑S	**Sg**	**04 00 53.1**	**+0.1**
MDOK	**Medeo** 15nm,0.1s	**0.75**	**256**	Pg	**Pb**	**04 00 43.0**	**-0.9**
MDOK	15nm,0.1s			Lg	Lg	04 00 53.0	
MDOK	**Medeo** 15nm,0.1s	**0.75**	**256**	⇓eP	**Pb**	**04 00 43.1**	**-0.8**
MDOK	15nm,0.1s			eS	**Sg**	**04 00 53.0**	**0.0**
TNSS	**Tian-Shan** 14nm,0.1s	**0.86**	**249**	P	**Pb**	**04 00 45.1**	**-0.8**
TNSS	26nm,0.1s			S	**Sg**	**04 00 56.6**	**+0.1**
TNSS	**Tian-Shan** 14nm,0.1s	**0.86**	**249**	⇑eP	**Pb**	**04 00 45.1**	**-0.8**
TNSS	26nm,0.1s			eS	**Sg**	**04 00 56.6**	**+0.1**
ARXS	**Arharly** 18nm,0.1s	**0.88**	**350**	P	**Pb**	**04 00 45.2**	**-1.0**
ARXS	58nm,0.1s			S	**Sb**	**04 00 56.8**	**-1.2**
ARXS	**Arharly** 18nm,0.1s	**0.88**	**350**	⇓eP	**Pb**	**04 00 45.2**	**-1.0**
ARXS	58nm,0.1s			eS	**Sb**	**04 00 56.8**	**-1.2**
PRZ	**Przheval'sk** baz=64	**0.90**	**163**	⇑iP	**Pb**	**04 00 45.6**	**-0.9**
PRZ	baz=64			⇑iS	**Sb**	**04 00 58.2**	**-0.4**
CHKK	**Chushkaly** 9.4nm,0.1s	**0.92**	**304**	P	**Pb**	**04 00 46.0**	**-0.8**
CHKK	125nm,0.2s			S	**Sg**	**04 00 58.1**	**-0.3**
CHKK	**Chushkaly** 9.4nm,0.1s	**0.92**	**304**	⇑eP	**Pb**	**04 00 46.0**	**-0.8**
CHKK	125nm,0.2s			eS	**Sg**	**04 00 58.1**	**-0.3**
SHLS	**Shalkode** 7.5nm,0.1s	**1.05**	**100**	P	**Pn**	**04 00 53.5**	**+3.9**
SHLS	52nm,0.4s			S	**Sn**	**04 01 11.1**	**+6.7**
SHLS	**Shalkode** 7.5nm,0.1s	**1.05**	**100**	⇑eP	Pn	04 00 53.6	+4.0
SHLS	52nm,0.4s			eS	**Sn**	**04 01 11.1**	**+6.7**
PDGK	**Podgornoye** 5.1nm,0.1s	**1.05**	**90**	P	**Pg**	**04 00 47.8**	**-1.1**
PDGK	13nm,0.1s			S	**Sg**	**04 01 01.4**	**-1.3**
PDGK	**Podgornoye** 2.5nm,0.3s	**1.05**	**90**	⇑P	**Pg**	**04 00 48.0**	**-0.9**
PDGK	9.1nm,0.4s			⇓S	**Sg**	**04 01 01.7**	**-0.9**
PDGK	**Podgornoye** baz=91	**1.05**	**90**	⇑iP	**Pg**	**04 00 48.0**	**-0.9**
PDGK	baz=91			⇑iS	**Sb**	**04 01 01.9**	**-1.1**
KTBS	**Karatobe** 9.6nm,0.2s	**1.06**	**291**	P	**Pb**	**04 00 48.6**	**-0.5**
KTBS	62nm,0.2s			S	**Sb**	**04 01 02.6**	**-0.4**
KTBS	**Karatobe** 9.6nm,0.2s	**1.06**	**291**	⇑eP	**Pb**	**04 00 48.6**	**-0.5**
KTBS	62nm,0.2s			eS	**Sb**	**04 01 02.6**	**-0.4**
IZV	**Izvestkoviy** 40nm,0.1s	**1.09**	**254**	P	**Pn**	**04 00 49.5**	**-0.7**
IZV	28nm,0.2s			S	**Sn**	**04 01 04.9**	**-0.5**
IZV	**Izvestkoviy** 40nm,0.1s	**1.09**	**254**	⇓eP	**Pn**	**04 00 49.5**	**-0.7**
IZV	28nm,0.2s			eS	**Sn**	**04 01 04.9**	**-0.5**
MTBS	**Maitube** 36nm,0.2s	**1.20**	**260**	P	**Pb**	**04 00 50.5**	**-1.1**
MTBS	68nm,0.2s			S	**Sb**	**04 01 05.9**	**-1.2**
MTBS	**Maitube** 36nm,0.2s	**1.20**	**260**	eP	**Pb**	**04 00 50.5**	**-1.1**
MTBS	68nm,0.2s			eS	**Sb**	**04 01 05.9**	**-1.2**
KUU	**Kurty** 0.7nm,0.1s	**1.36**	**294**	eP	**Pg**	**04 00 55.6**	**+1.0**
KUU	1.3nm,1.1s			eS	**Sg**	**04 01 14.7**	**+2.4**
KDJ	**Kajisay** baz=8.0	**1.37**	**208**	⇓iP	**Pg**	**04 00 54.4**	**-0.6**
KDJ	baz=8.0			⇓iS	**Sg**	**04 01 13.1**	**+0.3**
KST	**Kastek** 34nm,0.2s	**1.55**	**260**	P	**Pb**	**04 00 57.2**	**-0.4**
KST	22nm,0.2s			S	**Sb**	**04 01 17.5**	**+0.1**
KST	**Kastek** 34nm,0.2s	**1.55**	**260**	⇑eP	**Pb**	**04 00 57.2**	**-0.4**
KST	22nm,0.2s			eS	**Sb**	**04 01 17.5**	**+0.1**
DJR	**Jarkent** 8.9nm,0.1s	**1.60**	**51**	P	**Pb**	**04 00 57.5**	**-1.0**
DJR	27nm,0.2s			S	**Sb**	**04 01 17.8**	**-0.9**
DJR	**Jarkent** 8.9nm,0.1s	**1.60**	**51**	⇓eP	**Pb**	**04 00 57.5**	**-1.0**
DJR	27nm,0.2s			eS	**Sb**	**04 01 17.8**	**-0.9**
DGS	**Degeres** 15nm,0.3s	**1.66**	**267**	P	**Pb**	**04 00 58.8**	**-0.6**
DGS	66nm,0.2s			S	**Sb**	**04 01 20.1**	**-0.4**
DGS	**Degeres** 15nm,0.3s	**1.66**	**267**	⇑eP	**Pb**	**04 00 59.1**	**-0.4**
DGS	66nm,0.2s			eS	**Sb**	**04 01 20.1**	**-0.4**
TDK	**Taldyqorghan** 55nm,0.4s	**1.68**	**9**	P	**Pb**	**04 00 58.9**	**-0.8**
TDK	92nm,0.3s			S	**Sb**	**04 01 20.3**	**-0.5**
TDK	**Taldyqorghan** 55nm,0.4s	**1.68**	**9**	eP	**Pb**	**04 00 58.9**	**-0.8**
TDK	92nm,0.3s			eS	**Sb**	**04 01 20.3**	**-0.5**
KTMS	**Ketmen** 20nm,0.1s	**1.68**	**86**	P	**Pb**	**04 00 59.1**	**-0.7**
KTMS	33nm,0.2s			S	**Sg**	**04 01 21.0**	**-1.8**
KTMS	**Ketmen** 20nm,0.1s	**1.68**	**86**	⇑eP	**Pb**	**04 00 59.2**	**-0.7**
KTMS	33nm,0.2s			eS	**Sg**	**04 01 21.0**	**-1.8**
ULHL	**Ulahol** SNR=32	**1.72**	**231**	P	**Pg**	**04 01 00.7**	**-1.0**
ULHL	**Ulahol** baz=31	**1.72**	**231**	⇑iP	**Pb**	**04 01 00.5**	**0.0**
ULHL	baz=31			⇑iS	**Sg**	**04 01 23.4**	**-0.7**
BOOM	**Boomskoye usch** baz=42	**1.77**	**242**	⇓iP	**Pb**	**04 01 01.1**	**-0.2**
BOOM	baz=42			⇓iS	**Sg**	**04 01 25.1**	**-0.4**
TKM2	**Tokmak 2** SNR=15	**1.84**	**258**	P	**Pb**	**04 01 02.2**	**-0.4**
TKM2	**Tokmak 2** 3.4nm,0.3s	**1.84**	**258**	⇑P	**Pb**	**04 01 02.2**	**-0.4**
TKM2	6.2nm,0.2s			⇓S	**Sg**	**04 01 27.0**	**-0.9**
TKM2	**Tokmak 2** baz=57	**1.84**	**258**	⇑iP	**Pb**	**04 01 02.4**	**-0.2**
TKM2	baz=57			⇑iS	**Sg**	**04 01 27.2**	**-0.7**
KAPS	**Kapalarasan** 1.3nm,0.2s	**2.16**	**25**	⇑iP	**Pb**	**04 01 07.7**	**-0.1**
KAPS	21nm,0.4s			⇑iS	**Sg**	**04 01 35.8**	**-2.2**
KBK	**Karagaybulak** SNR=26	**2.37**	**254**	P	**Pb**	**04 01 11.7**	**0.0**
KBK	**Karagaybulak** baz=54	**2.37**	**254**	⇓iP	**Pb**	**04 01 10.2**	**-1.4**
KBK	baz=54			⇓iS	**Sb**	**04 01 40.5**	**-0.5**
KZA	**Kyzart** SNR=18	**2.42**	**239**	P	**Pg**	**04 01 13.2**	**-1.9**
KZA	**Kyzart** baz=39	**2.42**	**239**	⇑iP	**Pb**	**04 01 10.8**	**-1.7**
KZA	baz=39			⇑iS	**Sb**	**04 01 41.4**	**-1.1**
CHMS	**Chumysh** SNR=6.7	**2.44**	**263**	P	**Pb**	**04 01 12.1**	**-0.4**
CHMS	**Chumysh** baz=63	**2.44**	**263**	⇑iP	**Pb**	**04 01 10.9**	**-1.7**
CHMS	baz=63			⇑iS	**Sb**	**04 01 41.7**	**-0.9**
NRN	**Naryn** baz=20	**2.44**	**219**	⇓iP	**Pb**	**04 01 11.0**	**-1.8**
NRN	baz=20			⇓iS	**Sb**	**04 01 42.4**	**-0.6**
USP	**Ospenovka** SNR=14	**2.59**	**270**	P	**Pb**	**04 01 15.1**	**-0.1**
USP	**Ospenovka** baz=69	**2.59**	**270**	⇑iP	**Pb**	**04 01 13.2**	**-2.0**
USP	baz=69			⇑iS	**Sb**	**04 01 45.2**	**-1.9**
AAK	**Ala-Archa** SNR=5.5	**2.70**	**256**	P	**Pb**	**04 01 17.3**	**+0.1**
AAK	**Ala-Archa** 2.4nm,0.5s	**2.70**	**256**	⇑Pg	**Pb**	**04 01 16.7**	**-0.4**
AAK	6.1nm,0.8s			⇓Lg	Lg	04 01 52.4	
AAK	**Ala-Archa** baz=56	**2.70**	**256**	⇓iP	**Pb**	**04 01 14.4**	**-2.8**
AAK	baz=56			⇓iS	**Sb**	**04 01 48.1**	**-2.3**
UCH	**Uchtor** SNR=5.6	**2.83**	**248**	P	**Pb**	**04 01 19.9**	**+0.3**
UCH	**Uchtor** baz=48	**2.83**	**248**	⇓iP	**Pb**	**04 01 16.8**	**-2.7**
UCH	baz=48			⇓iS	**Sb**	**04 01 51.9**	**-2.5**
ARLS	**Aral** baz=43	**3.12**	**243**	⇑iP	**Pn**	**04 01 19.7**	**+1.6**
ARLS	baz=43			⇑iS	**Sn**	**04 01 58.1**	**+2.6**
MRKS	**Merke** 3.7nm,0.3s	**3.58**	**262**	eP	**Pb**	**04 01 32.5**	**+0.3**
MRKS	4.1nm,0.3s			eS	**Sb**	**04 02 17.9**	**+2.2**
MAKZ	**Makanchi** 1.7nm,0.8s	**4.44**	**37**	⇑Pg	**Pg**	**04 01 50.4**	**-3.4**
MAKZ	1.2nm,0.5s			⇑Lg	Lg	04 02 46.9	
MK31	**Makanchi Array** 0.5nm,0.6s,baz=215,slow=15,SNR=4.1	**4.58**	**40**	⇑Pg	**Pg**	**04 01 51.8**	**-4.5**
MK31	0.7nm,0.5s,baz=219,slow=27,SNR=11			⇑Lg	Lg	04 02 51.2	
KK31	**Karatay Array** 1.1nm,0.9s,baz=84,slow=15,SNR=7.5	**5.51**	**270**	⇓Pg	**Pb**	**04 02 07.5**	**+2.5**
KK31	0.8nm,0.5s,baz=82,slow=30,SNR=6.2			⇑Lg	Lg	04 03 23.8	
KURBB	**Kurchatov Arra** 1.9nm,0.6s	**7.29**	**2**	Sn	**Sn**	**04 03 39.7**	**+1.8**
KURBB	3.6nm,0.8s			⇑Lg	Lg	04 04 18.1	
KURK	**Kurchatov** 2.2nm,1.3s	**7.38**	**3**	⇓Sn	**Sn**	**04 03 40.9**	**+0.7**
KURK	1.7nm,0.9s			⇑Lg	Lg	04 04 19.9	

*NIED **03** 04:02:00, 37.70N×143.60E, h5km, Mw4.0 Best double couple: $M_0$1.17000×10^{15} NP1:ϕ_s21.00000°, δ40.00000°, λ-86.00000°. NP2:ϕ_s195.00000°, δ50.00000°, λ-94.00000°.*
*IDC **03** 04:02:30.6±0.6, 37.59N×143.73E, h0km, mb3.9/14, mb1 4.1/19, mb1mx3.9/38, mbtmp3.9/19, ML3.9/4, MS3.1/4, Ms1 3.1/4, ms1mx2.7/38, Error ellipse: s-maj=19.8km s-min=14.1km az=86.0*
*ISCJB **03** 04:02:34.2±0.4, 37.61N±0.03×143.66E±0.03, h33km, mb4.0/20, Error ellipse: s-maj=5.0km s-min=3.9km az=175.1*
*JMA **03** 04:02:34.3±0.2, 37.70N×143.64E, h36km, M4.2*
*NEIC **03** 04:02:36.0±0.4, 37.61N×143.76E, h35km, mb4.6/7, Error ellipse: s-maj=8.4km s-min=6.6km az=121.0*
ISC 03 04:02:36.1±0.6**, 37.63N**±0.05×**143.64E**±0.07**, h35km, n64, σ1.s61**/90**, mb4.1**/20**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.84**	**292**	P	**Pn**	**04 03 04.4**	**-0.8**
JIKH				S	**Sn**	**04 03 26.2**	**-1.1**
JIO	**Ouri**	**1.98**	**295**	P	**Pn**	**04 03 06.4**	**-0.8**
JIO				eS	**Sn**	**04 03 30.4**	**-0.4**
JKMT	**Kesennumamotoy**	**2.07**	**305**	P	**Pn**	**04 03 07.3**	**-1.0**
JKMT				eS	**Sn**	**04 03 31.4**	**-1.5**
OFUJ	**Ofunato**	**2.12**	**314**	P	**Pn**	**04 03 07.8**	**-1.2**
OFUJ				eS	**Sn**	**04 03 32.5**	**-1.6**
JFK	**Kawauchi**	**2.21**	**264**	P	**Pn**	**04 03 09.4**	**-1.0**
JFK				S	**Sn**	**04 03 35.3**	**-1.2**
JMM	**Marumori**	**2.27**	**277**	P	**Pn**	**04 03 10.1**	**-0.9**
JMM				S	**Sn**	**04 03 37.3**	**-0.4**
JMK	**Ichinoseki**	**2.31**	**305**	P	**Pn**	**04 03 11.1**	**-0.6**
JOU	**Okura**	**2.46**	**288**	P	**Pn**	**04 03 13.8**	**+0.1**
JOU				eS	**Sn**	**04 03 42.3**	**-0.3**
JOM	**Ohasama**	**2.60**	**316**	P	**Pn**	**04 03 15.0**	**-0.6**
JOM				S	**Sn**	**04 03 45.0**	**-1.0**
JFT	**Otama**	**2.62**	**269**	P	**Pn**	**04 03 16.4**	**+0.4**
JFT				S	**Sn**	**04 03 46.9**	**+0.3**
JYK	**Kaneyama**	**2.88**	**297**	P	**Pn**	**04 03 19.6**	**+0.1**
JYS	**Shirataka**	**2.88**	**283**	P	**Pn**	**04 03 20.1**	**+0.5**
JYS				S	**Sn**	**04 03 53.6**	**+0.6**
JRG	**Rokugo**	**2.94**	**308**	P	**Pn**	**04 03 21.2**	**+0.9**
ERM	**Erimo**	**4.39**	**355**	ePn	**Pn**	**04 03 40.0**	**-0.3**
ERM				eSn	**Sn**	**04 04 24.9**	**-5.2**
MJAR	**Matsushiro Arr** 10nm,0.3s,baz=90,slow=15,SNR=120	**4.47**	**258**	Pn	**Pn**	**04 03 41.6**	**+0.1**
MJAR	3.1nm,0.3s,baz=88,slow=27,SNR=4.8			Sn	**Sn**	**04 04 30.9**	**-1.4**
MJAR	comp=Z,211nm,20.6s,baz=90,slow=42			LR	LR	04 05 37.8	
MAJO	**Matsushiro**	**4.47**	**258**	ePn	**Pn**	**04 03 43.0**	**+1.5**
MAJO				eSn	**Sn**	**04 04 30.9**	**-1.4**
MAJO				eSg	**Sn**	**04 04 33.9**	**+1.6**
MAT	**Matsushiro**	**4.47**	**258**	P	**Pn**	**04 03 42.6**	**+1.1**
MAT				S	**Sn**	**04 04 33.6**	**+1.3**
MJB9	**Matsu-Tunnel**	**4.48**	**258**	ePn	**Pn**	**04 03 43.0**	**+1.5**
MJB9				eSn	**Sn**	**04 04 34.0**	**+1.7**
JHJ2	**Mitsune**	**5.48**	**216**	ePn	**Pn**	**04 03 52.6**	**-2.7**
JHJ2				eSn	**Sn**	**04 04 52.0**	**-5.1**
JHJ	**Hachijo jima 2** 29nm,0.3s,baz=105,slow=22,SNR=8.2	**5.49**	**216**	Pn	**Pn**	**04 03 53.4**	**-2.1**
JHJ	34nm,0.3s,baz=54,slow=19,SNR=3.1			Sn	**Sn**	**04 04 51.0**	**-6.4**
INU	**Inuyama**	**5.80**	**249**	ePn	**Pn**	**04 04 01.9**	**+2.2**
INU				eSn	**Sn**	**04 05 05.7**	**+0.8**
ASAJ	**Asahikawa** 2.2nm,0.3s,baz=212,slow=8.8,SNR=9.6	**6.53**	**353**	Pn	**Pn**	**04 04 08.9**	**-0.7**
USRK	**Ussuriysk Ar.** 0.1nm,0.3s,baz=157,slow=30,SNR=2.9	**10.98**	**310**	Pn	**Pn**	**04 05 08.8**	**-1.8**
USRK	comp=Z,101nm,19.4s,baz=135,slow=39			LR	LR	04 09 38.8	
KSRS	**Korea Array** baz=81,slow=14,SNR=3.6	**12.48**	**274**	Pn	**Pn**	**04 05 34.1**	**+3.0**
KSRS	comp=Z,68nm,21.7s,baz=57,slow=34			LR	LR	04 09 36.3	
KS15	**Wonju Array Si**	**12.51**	**274**	ePn	**Pn**	**04 05 34.0**	**+2.5**
KSAR	**Wonju Array Be**	**12.51**	**274**	Pn	**Pn**	**04 05 34.0**	**+2.5**
KLR	**Kul'dur** 0.1nm,0.3s,baz=120,slow=14,SNR=4.5	**14.43**	**327**	Pn	**Pn**	**04 05 55.7**	**-2.0**
KLR	comp=Z,63nm,18.9s,baz=284,slow=40			LR	LR	04 12 06.2	
TPUB	**Ta-pu** 61nm,1.4s	**24.35**	**241**	eP	**P**	**04 07 51.1**	**+0.3**
SONA1	**Songino Array**	**28.93**	**303**	eP	**P**	**04 08 34.1**	**+2.1**
SONA0	**Songino Array**	**28.94**	**303**	eP	**P**	**04 08 31.7**	**-0.3**
SONM	**Songino Array** 0.2nm,0.4s,baz=99,slow=8.4,SNR=3.5	**28.94**	**303**	P	**P**	**04 08 31.7**	**-0.3**
ZAA1	**Zalesovo Array**	**42.83**	**312**	eP	**P**	**04 10 31.3**	**+0.9**
ZAA1				ePcP	**PcP**	**04 12 20.6**	**-0.4**
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=91,slow=6.1,SNR=2.5	**42.83**	**312**	P	**P**	**04 10 31.3**	**+0.9**
ZALV	1.9nm,0.6s,baz=114,slow=2.3,SNR=6.7			PcP	**PcP**	**04 12 20.7**	**-0.4**
CMAR	**Chiang Mai Arr** 0.9nm,0.3s,baz=44,slow=6.6,SNR=4.1	**43.36**	**256**	P	**P**	**04 10 30.8**	**-4.4**
CM01	**Chiang Mai Arr**	**43.37**	**256**	eP	**P**	**04 10 35.9**	**+0.7**
MK01	**Makanchi Array**	**45.30**	**302**	eP	**P**	**04 10 51.5**	**+1.1**
MK31	**Makanchi Array**	**45.30**	**302**	eP	**P**	**04 10 51.9**	**+1.5**
MK32	**Makanchi Array**	**45.30**	**302**	eP	**P**	**04 10 51.0**	**+0.6**
MK32				ePcP	**PcP**	**04 12 29.9**	**+0.2**
MKAR	**Makanchi Array** 1.4nm,0.7s,baz=88,slow=9.5,SNR=18	**45.30**	**302**	P	**P**	**04 10 51.0**	**+0.6**
MKAR	0.4nm,0.7s,baz=83,slow=5.1,SNR=2.9			PcP	**PcP**	**04 12 29.9**	**+0.2**
MKAR	**Makanchi Array** 16nm,0.8s	**45.30**	**302**	eP	**P**	**04 10 51.9**	**+1.5**
MKAR				PcP	**PcP**	**04 12 29.9**	**+0.2**
KURK	**Kurchatov** 8.5nm,0.8s	**46.96**	**308**	eP	**P**	**04 11 04.5**	**+1.2**
ILAR	**Eielson Array** 0.7nm,0.7s,baz=258,slow=6.0,SNR=8.6	**48.04**	**33**	P	**P**	**04 11 11.2**	**-0.3**
ILB	**Eielson Array**	**48.04**	**33**	eP	**P**	**04 11 11.2**	**-0.3**
WB2	**Warramunga Arr**	**57.93**	**190**	eP	**P**	**04 12 24.3**	**-0.6**
WR1	**Warramunga Arr** 4.9nm,0.7s	**57.93**	**190**	eP	**P**	**04 12 23.9**	**-0.9**
WR1				ePcP	**PcP**	**04 13 17.3**	**+0.4**
WRA	**Warramunga Arr** 4.5nm,0.7s,baz=11,slow=7.4,SNR=58	**57.93**	**190**	P	**P**	**04 12 23.9**	**-0.9**
WRA	0.7nm,0.6s,baz=2.9,slow=4.2,SNR=3.5			PcP	**PcP**	**04 13 17.3**	**+0.4**
ABKAR	**Akbulak array**	**58.90**	**310**	eP	**P**	**04 12 32.5**	**+1.0**
AS31	**Alice Springs** 0.8nm,0.6s	**61.66**	**190**	eP	**P**	**04 12 50.2**	**-0.3**
ASAR	**Alice Springs** 1.4nm,0.7s,baz=9.9,slow=6.3,SNR=16	**61.66**	**190**	P	**P**	**04 12 50.2**	**-0.3**
YKA	**Yellowknife Ar** 0.3nm,0.8s,baz=294,slow=6.5,SNR=4.2	**62.39**	**31**	P	**P**	**04 12 55.2**	**+0.2**
YKB5	**Yellowknife Ar**	**62.39**	**31**	eP	**P**	**04 12 55.2**	**+0.2**
FIA0	**FINESS Array S**	**69.10**	**333**	eP	**P**	**04 13 38.7**	**+0.5**
FINES	**FINESS Array B** 2.1nm,0.9s,baz=167,slow=9.6,SNR=4.4	**69.10**	**333**	P	**P**	**04 13 38.7**	**+0.5**
STKA	**Stephens Creek** 0.5nm,0.3s,baz=349,slow=16,SNR=2.8	**69.18**	**182**	P	**P**	**04 13 38.4**	**-0.5**
KBZ	**Khabaz** 2.7nm,0.8s,baz=49,slow=3.7,SNR=13	**71.84**	**311**	P	**P**	**04 13 56.0**	**+0.8**
NB200	**NORSAR Array S**	**74.31**	**338**	eP	**P**	**04 14 08.5**	**-1.1**
NOA	**NORSAR Array B** 0.5nm,0.7s,baz=49,slow=5.9,SNR=2.5	**74.31**	**338**	P	**P**	**04 14 08.5**	**-1.1**
AKASG	**Malin Array Be** 1.5nm,0.6s,baz=45,slow=5.8,SNR=6.6	**74.89**	**323**	P	**P**	**04 14 13.6**	**+0.5**
AKBB	**Malin Array Si** 2.4nm,0.8s	**74.89**	**323**	eP	**P**	**04 14 13.6**	**+0.5**
PD31	**Pinedale Array**	**75.98**	**47**	eP	**P**	**04 14 19.6**	**-0.1**
PDAR	**Pinedale Array** 0.5nm,0.9s,baz=243,slow=5.9,SNR=2.6	**75.98**	**47**	P	**P**	**04 14 19.6**	**-0.1**
BUR08	**Bucovina Ar. S**	**78.91**	**323**	eP	**P**	**04 14 37.8**	**+1.8**
BR101	**Keskin Array S**	**79.77**	**313**	eP	**P**	**04 14 42.3**	**+1.5**
BRTR	**Keskin Array B** 0.2nm,0.5s,baz=75,slow=3.7,SNR=2.5	**79.77**	**313**	P	**P**	**04 14 42.3**	**+1.5**

JMA 03 04:04:13.8±0.1**, 37.68N×143.59E, h55km, M3.7, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.79**	**291**	P	Pn	04 04 43.0	+0.7
JIKH				S	Sn	04 05 04.8	+0.8
JIO	**Ouri**	**1.93**	**294**	P	Pn	04 04 45.4	+1.2
JIO				eS	Sn	04 05 08.4	+1.1
JKMT	**Kesennumamotoy**	**2.01**	**305**	P	Pn	04 04 46.1	+0.8
JKMT				eS	Sn	04 05 10.6	+1.3
OFUJ	**Ofunato**	**2.06**	**313**	P	Pn	04 04 46.9	+0.9
OFUJ				S	Sn	04 05 11.1	+0.6
JOM	**Ohasama**	**2.54**	**316**	S	Sn	04 05 23.7	+1.4
JFT	**Otama**	**2.59**	**267**	S	Sn	04 05 25.1	+1.6
JAG	**Ashikaga**	**3.54**	**251**	P	Pn	04 05 07.2	+1.0
JAG				S	Sn	04 05 47.6	+0.8
MAT	**Matsushiro**	**4.45**	**257**	P	Pn	04 05 21.6	+2.9
MAT				S	Sn	04 06 12.9	+3.6

*IDC **03** 04:12:25.0±0.9, 37.45N×143.61E, h0km, mb3.4/6, mb1 3.7/8, mb1mx3.5/38, mbtmp3.5/8, ML3.6/2, MS2.8/1, Ms1 2.8/1, ms1mx2.2/34, Error ellipse: s-maj=25.1km s-min=19.5km az=108.0*
*ISCJB **03** 04:12:27.7±0.7, 37.64N±0.05×143.63E±0.06, h33km, mb3.5/6, Error ellipse: s-maj=6.7km s-min=6.4km az=164.6*
*JMA **03** 04:12:28.0±0.2, 37.64N×143.60E, h52km, M3.5*
ISC 03 04:12:30.4±1.0**, 37.68N**±0.06×**143.59E**±0.08**, h35km, n22, σ1.s17**/29**, mb3.3**/6**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.79**	**291**	P	**Pn**	**04 12 57.7**	**-1.1**
JIKH				S	**Sn**	**04 13 19.3**	**-0.9**
JIO	**Ouri**	**1.93**	**294**	P	**Pn**	**04 12 59.8**	**-0.8**
JIO				eS	**Sn**	**04 13 23.5**	**-0.1**
JKMT	**Kesennumamotoy**	**2.01**	**305**	P	**Pn**	**04 13 00.6**	**-1.2**
JKMT				eS	**Sn**	**04 13 25.1**	**-0.6**
OFUJ	**Ofunato**	**2.06**	**313**	P	**Pn**	**04 13 01.3**	**-1.1**
OFUJ				S	**Sn**	**04 13 25.7**	**-1.1**
JMK	**Ichinoseki**	**2.25**	**305**	P	**Pn**	**04 13 04.7**	**-0.4**
JOM	**Ohasama**	**2.54**	**316**	P	**Pn**	**04 13 08.5**	**-0.6**
JOM				S	**Sn**	**04 13 38.3**	**-0.4**
JFT	**Otama**	**2.58**	**267**	P	**Pn**	**04 13 09.4**	**-0.3**
JFT				S	**Sn**	**04 13 39.8**	**-0.1**
JYK	**Kaneyama**	**2.82**	**297**	P	**Pn**	**04 13 13.1**	**+0.1**
JAG	**Ashikaga**	**3.53**	**251**	P	**Pn**	**04 13 22.0**	**-0.8**
JRY	**Ryogami san**	**4.11**	**248**	P	**Pn**	**04 13 29.3**	**-1.4**
JOD2	**Odawara 2**	**4.35**	**238**	P	**Pn**	**04 13 32.3**	**-1.7**
MJAR	**Matsushiro Arr** 2.4nm,0.3s,baz=80,slow=14,SNR=25	**4.44**	**257**	Pn	**Pn**	**04 13 34.7**	**-0.6**
MJAR	1.4nm,0.3s,baz=87,slow=28,SNR=4.3			Sn	**Sn**	**04 14 25.3**	**-0.5**
MAT	**Matsushiro**	**4.45**	**257**	P	**Pn**	**04 13 36.0**	**+0.7**
MAT				S	**Sn**	**04 14 28.0**	**+2.2**
JCH	**Churui**	**4.93**	**358**	P	**Pn**	**04 13 40.2**	**-1.8**
ASAJ	**Asahikawa** 1.1nm,0.3s,baz=180,slow=20,SNR=5.3	**6.47**	**354**	Pn	**Pn**	**04 14 03.0**	**-0.1**
KSRS	**Korea Array** comp=Z,43nm,20.1s,baz=80,slow=35	**12.43**	**274**	LR	LR	04 19 38.2	
SONM	**Songino Array** 0.1nm,0.3s,baz=124,slow=6.8,SNR=2.0	**28.88**	**303**	P	**P**	**04 18 27.1**	**+1.3**
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=83,slow=11,SNR=6.1	**45.24**	**302**	P	**P**	**04 20 44.1**	**-0.1**
ILAR	**Eielson Array** 0.1nm,0.5s,baz=261,slow=5.9,SNR=4.4	**48.02**	**33**	P	**P**	**04 21 07.2**	**+1.5**
WRA	**Warramunga Arr** 1.7nm,0.7s,baz=10,slow=7.4,SNR=19	**57.97**	**190**	P	**P**	**04 22 17.1**	**-2.4**
ASAR	**Alice Springs** 0.8nm,0.8s,baz=0.6,slow=6.0,SNR=9.4	**61.70**	**190**	P	**P**	**04 22 43.7**	**-1.3**
YKA	**Yellowknife Ar** 0.1nm,0.7s,baz=299,slow=5.8,SNR=2.7	**62.37**	**31**	P	**P**	**04 22 50.5**	**+1.4**

*DDA **03** 04:22:07.7, 38.20N×28.77E, h7km±3km, ML2.5*
*ISCJB **03** 04:22:08.2±1.0, 38.20N±0.05×28.72E±0.07, h15km±8km, Error ellipse: s-maj=11.0km s-min=5.1km az=42.7*
*ISK **03** 04:22:08.7, 38.28N×28.56E, h5km, ML1.6/3*
ISC 03 04:22:08.0±1.3**, 38.23N**±0.05×**28.69E**±0.06**, h10km**±15km**, n7, σ0.s57**/14**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	**Manisa** comp=Z,2μm,0.1s	**0.28**	**338**	IAML_P			
MANT				iP	**Pb**	**04 22 15.1**	**-0.2**
MANT				iS	**Sb**	**04 22 20.1**	**0.0**
KULA	**Kula-Manisa**	**0.28**	**356**	PG	**Pb**	**04 22 14.9**	**-0.4**
KULA				SG	**Sb**	**04 22 19.2**	**-0.9**
KHAL	**Karahalli**	**0.65**	**78**	iP	**Pg**	**04 22 20.7**	**+0.1**
KHAL				iS	**Sg**	**04 22 28.3**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**0.69**	**246**	PG	**Pb**	**04 22 22.0**	**-0.3**
AYDB				SG	**Sb**	**04 22 31.7**	**-0.2**
DEMI	**Demirci** comp=Z,419nm,0.1s	**0.81**	**2**	IAML_P			
DEMI				iP	**Pb**	**04 22 24.6**	**+0.3**
DEMI				iS	**Sg**	**04 22 34.2**	**0.0**
AYDN	**Tasoluk** comp=Z,357nm,0.1s	**0.86**	**228**	IAML_P			
AYDN				iP	**Pb**	**04 22 25.2**	**+0.1**
AYDN				iS	**Sg**	**04 22 36.1**	**+0.4**
SIMA	**Simav-Kutahya**	**0.88**	**15**	PG	**Pb**	**04 22 26.5**	**+1.0**
SIMA				SG	**Sn**	**04 22 39.7**	**+0.2**

IDC 03 04:31:03.5±0.5**, 14.12N×144.83E, h185km**±3km**, mb3.2**/9**, mb1 3.4**/9**, mb1mx3.1**/50**, mbtmp3.7**/9**, Error ellipse: s-maj=29.3km s-min=13.9km az=86.0, Mariana Islands**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GUMO	**Guam**	**0.53**	**176**	P	Pn	04 31 30.6	+1.5
	56nm,0.3s,baz=283,slow=3.0,SNR=11						
GUMO				S	Sn	04 31 49.7	+0.9
	129nm,0.3s,baz=164,slow=23,SNR=21						
CTA	**Charters Tower**	**34.02**	**178**	P	P	04 37 30.9	+0.8
	1.1nm,0.3s,baz=154,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**35.39**	**197**	P	P	04 37 41.6	-0.1
	0.7nm,0.6s,baz=20,slow=9.4,SNR=9.8						
ASAR	**Alice Springs**	**39.05**	**196**	P	P	04 38 11.0	-1.5
	0.2nm,0.5s,baz=171,slow=9.2,SNR=5.1						
DZM	**Mont Dzumac**	**41.75**	**149**	P	P	04 38 36.5	+1.7
	8.5nm,0.7s,baz=232,slow=19,SNR=5.1						
STKA	**Stephens Creek**	**45.84**	**184**	P	P	04 39 06.1	-1.1
	1.1nm,0.5s,baz=16,slow=7.9,SNR=6.0						
MKAR	**Makanchi Array**	**61.08**	**316**	P	P	04 40 58.3	+0.3
	0.2nm,0.6s,baz=85,slow=7.9,SNR=3.1						
KURBB	**Kurchatov Arra**	**64.19**	**320**	P	P	04 41 19.1	+0.7
	0.9nm,0.8s,baz=103,slow=6.5,SNR=5.7						
ILAR	**Eielson Array**	**68.11**	**25**	P	P	04 41 42.0	-1.2
	0.2nm,0.6s,baz=255,slow=5.0,SNR=4.2						
YKA	**Yellowknife Ar**	**82.41**	**27**	P	P	04 43 04.1	-0.6
	0.2nm,0.7s,baz=285,slow=4.9,SNR=3.6						

*NIED **03** 04:36:00, 24°00N×122°90E, h29km, Mw4.3 Best double couple: M₀3.03000×10¹⁵ NP1:φs226.00000°, δ5.00000°, λ38.00000°. NP2:φs97.00000°, δ87.00000°, λ94.00000°.*
*IDC **03** 04:36:10.5±0.6, 24°07N×122°85E, h0km, mb3.8/17, mb1 4.0/19, mb1mx3.9/46, mbtmp3.9/19, ML3.3/2, MS3.5/11, Ms1 3.6/11, ms1mx3.2/40, Error ellipse: s-maj=23.3km s-min=13.0km az=78.0*
*JMA **03** 04:36:15.4±0.2, 23°96N×122°92E, h30km±4km, M3.9*
*NEIC **03** 04:36:16.8±0.6, 24°05N×122°88E, h46km±5km, mb4.4/7, Error ellipse: s-maj=7.3km s-min=5.4km az=121.0*
ISC 03 04:36:15.0±1.1**, 24°03N**±0°04×**122°90E**±0°03**, h29**km±8km**, n66,** σ**1°27**/77**, mb4.1**/23**, MS3.5**/9**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.42**	**6**	P	**Pn**	**04 36 25.3**	**+0.1**
JYNG				*e*S	**Sn**	**04 36 32.4**	**+0.4**
YOJ	**Yonaguni jima**	**0.44**	**14**	*e*Pn	**Pn**	**04 36 25.8**	**+0.3**
YOJ				*e*Sn	**Sb**	**04 36 30.8**	**-0.1**
YOJ	**Yonaguni jima**	**0.44**	**14**	P	**Pn**	**04 36 25.7**	**+0.3**
YOJ				S	**Sn**	**04 36 32.6**	**+0.1**
IRIF	**Iriomote-Funau**	**0.82**	**68**	P	**Pn**	**04 36 30.6**	**0.0**
IRIF				S	**Sb**	**04 36 41.5**	**0.0**
HATJ	**Hateruma jima**	**0.83**	**88**	P	**Pn**	**04 36 30.6**	**-0.2**
HATJ				*e*S	**Sb**	**04 36 39.7**	**-2.1**
JKRS	**Kuro-shima**	**1.04**	**78**	P	**Pn**	**04 36 34.2**	**+0.6**
JIJ	**Ishigaki jima**	**1.19**	**74**	P	**Pn**	**04 36 36.1**	**+0.4**
JIJ				S	**Sn**	**04 36 51.5**	**+0.7**
NACB	**Ninganchiao**	**1.20**	**277**	*e*Pn	**Pb**	**04 36 36.8**	**-0.4**
NACB				*e*Sn	**Sn**	**04 36 48.9**	**-2.3**
JISG	**Ishigakijimahi**	**1.40**	**66**	P	**Pn**	**04 36 39.6**	**+0.9**
JISG				*e*S	**Sn**	**04 36 57.6**	**+1.4**
YHNB	**Yeheng**	**1.53**	**295**	*e*Pn	**Pb**	**04 36 42.5**	**-0.2**
YHNB				*e*Sn	**Sn**	**04 37 00.2**	**+0.9**
TATO	**Taipei**	**1.59**	**307**	*e*Pn	**Pn**	**04 36 41.3**	**+0.1**
TATO				*e*Sn	**Sn**	**04 37 00.8**	**0.0**
YULB	**Yu-li**	**1.60**	**247**	*e*Pn	**Pn**	**04 36 41.7**	**+0.4**
YULB				*e*Sn	**Sn**	**04 37 01.2**	**+0.2**
JTJ	**Tarama**	**1.76**	**69**	P	**Pn**	**04 36 44.8**	**+1.3**
JTJ				*e*S	**Sb**	**04 37 08.1**	**-0.1**
SSLB	**Suanglung**	**1.79**	**263**	*e*Pn	**Pn**	**04 36 45.4**	**+1.3**
SSLB				*e*Sn	**Sn**	**04 37 07.7**	**+1.8**
TWG	**Pinlang**	**2.06**	**235**	*e*Pn	**Pn**	**04 36 47.7**	**0.0**
TWG				*e*Sn	**Sn**	**04 37 12.0**	**-0.6**
TPUB	**Ta-pu**	**2.20**	**251**	*e*Pn	**Pn**	**04 36 52.1**	**+2.4**
TPUB				*e*Sn	**Sn**	**04 37 17.7**	**+1.7**
JIRB	**Irabujima**	**2.22**	**69**	P	**Pb**	**04 36 53.2**	**-1.3**
JIRB				S	**Sb**	**04 37 20.0**	**-1.6**
JIKM	**Ikemajima**	**2.32**	**67**	P	**Pn**	**04 36 53.6**	**+2.3**
JIKM				*e*S	**Sn**	**04 37 22.0**	**+3.2**
JOW	**Kunigami**	**5.61**	**59**	Pn	**Pn**	**04 37 36.8**	**+0.3**
	3.2nm,0.3s,baz=270,slow=12,SNR=2.9						
KS15	**Wonju Array Si**	**14.04**	**17**	*e*Pn	**Pn**	**04 39 35.0**	**+3.1**
KSAR	**Wonju Array Be**	**14.04**	**17**	Pn	**Pn**	**04 39 35.0**	**+3.1**
KSRS	**Korea Array**	**14.06**	**17**	Pn	**Pn**	**04 39 35.0**	**+2.8**
	0.1nm,0.3s,baz=197,slow=11,SNR=3.4						
DAV	**Davao City (W)**	**17.06**	**171**	LR	LR	04 47 20.8	
	comp=Z,88nm,18.1s,baz=346,slow=39						
MAJO	**Matsushiro**	**18.14**	**43**	*e*P	**Pn**	**04 40 24.7**	**-0.2**
MJAR	**Matsushiro Arr**	**18.15**	**43**	P	**Pn**	**04 40 24.7**	**-0.2**
	0.0nm,0.3s,baz=219,slow=9.5,SNR=4.0						
MJAR				LR	LR	04 47 45.1	
	comp=Z,113nm,20.8s,baz=230,slow=38						
USRK	**Ussuriysk Ar.**	**21.45**	**18**	P	**P**	**04 41 00.5**	**-0.4**
	1.6nm,0.6s,baz=204,slow=8.5,SNR=4.6						
CMAR	**Chiang Mai Arr**	**22.99**	**261**	P	**P**	**04 41 19.9**	**+2.3**
	1.0nm,0.3s,baz=62,slow=8.1,SNR=5.6						
CMAR				LR	LR	04 51 06.1	
	comp=Z,102nm,18.0s,baz=68,slow=39						
SBUM	**Sibu**	**23.81**	**207**	*e*P	**P**	**04 41 25.8**	**+0.2**
	8.4nm,1.0s						
KSM	**Kuching**	**25.52**	**210**	*e*P	**P**	**04 41 40.6**	**-0.6**
	28nm,1.2s						
KLR	**Kul'dur**	**26.10**	**13**	P	**P**	**04 41 45.6**	**-0.5**
	0.9nm,0.3s,baz=218,slow=9.2,SNR=5.2						
SONA0	**Songino Array**	**27.14**	**335**	*e*P	**P**	**04 41 55.7**	**0.0**
SONM	**Songino Array**	**27.14**	**335**	P	**P**	**04 41 55.7**	**0.0**
	1.2nm,0.8s,baz=147,slow=9.0,SNR=8.6						
SONM				LR	LR	04 53 56.2	
	comp=Z,189nm,18.4s,baz=82,slow=39						
PSI	**Prapat**	**31.34**	**231**	LR	LR	04 55 31.5	
	comp=Z,93nm,18.2s,baz=287,slow=37						
PSI	**Prapat**	**31.34**	**231**	*e*P	**P**	**04 42 33.8**	**+0.5**
	10nm,1.1s						
LEM	**Lembang**	**34.10**	**208**	LR	LR	04 57 25.4	
	comp=Z,52nm,21.4s,baz=176,slow=37						
PETK	**Petropavlovsk-**	**39.13**	**33**	LR	LR	05 01 13.8	
	comp=Z,57nm,19.7s,baz=239,slow=38						
MK32	**Makanchi Array**	**39.54**	**315**	*e*P	**P**	**04 43 43.3**	**-0.1**
MKAR	**Makanchi Array**	**39.54**	**315**	P	**P**	**04 43 43.3**	**-0.1**
	0.3nm,0.4s,baz=104,slow=8.6,SNR=6.3						
ZALV	**Zalesovo Beam**	**41.23**	**326**	P	**P**	**04 43 55.9**	**-1.3**
	0.4nm,0.4s,baz=135,slow=7.6,SNR=3.1						
ZALV				LR	LR	05 02 05.5	
	comp=Z,66nm,21.0s,baz=66,slow=38						
ZAA1	**Zalesovo Array**	**41.23**	**326**	*e*P	**P**	**04 43 55.9**	**-1.4**
FITZ	**Fitzroy Crossi**	**41.96**	**176**	P	**P**	**04 44 02.9**	**-0.6**
	1.5nm,0.6s,baz=20,slow=4.3,SNR=7.4						
FITZ	**Fitzroy Crossi**	**41.96**	**176**	*e*P	**P**	**04 44 02.9**	**-0.6**
	5.5nm,1.0s						
KURK	**Kurchatov**	**43.22**	**320**	*e*P	**P**	**04 44 11.1**	**-2.3**
KURBB	**Kurchatov Arra**	**43.24**	**319**	P	**P**	**04 44 11.1**	**-2.5**
	0.3nm,0.7s,baz=101,slow=9.6,SNR=2.5						
WR1	**Warramunga Arr**	**45.11**	**165**	*e*P	**P**	**04 44 28.3**	**-0.6**
	3.9nm,0.8s						
WRA	**Warramunga Arr**	**45.11**	**165**	P	**P**	**04 44 28.3**	**-0.6**
	2.6nm,0.8s,baz=346,slow=8.7,SNR=18						
WB2	**Warramunga Arr**	**45.11**	**165**	*e*P	**P**	**04 44 29.7**	**+0.8**
AS31	**Alice Springs**	**48.60**	**167**	*e*P	**P**	**04 44 56.5**	**+0.3**
ASAR	**Alice Springs**	**48.60**	**167**	P	**P**	**04 44 56.5**	**+0.3**
	2.7nm,1.0s,baz=349,slow=6.5,SNR=20						
AS01	**Alice Springs**	**48.61**	**166**	*e*P	**P**	**04 44 57.0**	**+0.8**
STKA	**Stephens Creek**	**58.40**	**161**	P	**P**	**04 46 09.0**	**+1.1**
	3.7nm,0.8s,baz=346,slow=9.1,SNR=12						
UOSS	**Minazif**	**60.12**	**286**	*e*P	**P**	**04 46 18.0**	**-2.1**
	28nm,1.1s						
ILAR	**Eielson Array**	**68.63**	**27**	P	**P**	**04 47 14.8**	**-0.4**
	0.3nm,0.5s,baz=264,slow=5.0,SNR=6.9						
ARA0	**ARCESS Array S**	**70.26**	**338**	*e*P	**P**	**04 47 25.6**	**+0.4**
ARCES	**ARCESS Array B**	**70.26**	**338**	P	**P**	**04 47 25.6**	**+0.4**
	1.5nm,0.8s,baz=65,slow=7.1,SNR=2.9						
FIA0	**FINESS Array S**	**72.36**	**330**	*e*P	**P**	**04 47 37.2**	**-0.8**
FINES	**FINESS Array B**	**72.36**	**330**	P	**P**	**04 47 37.2**	**-0.8**
	1.4nm,0.6s,baz=54,slow=9.7,SNR=4.9						
FINES				LR	LR	05 23 05.8	
	comp=Z,95nm,18.1s,baz=22,slow=39						
INK	**Inuvik**	**72.78**	**22**	P	**P**	**04 47 39.9**	**-0.4**
	0.7nm,0.6s,baz=304,slow=7.4,SNR=6.5						
INK	**Inuvik**	**72.78**	**22**	*e*P	**P**	**04 47 39.9**	**-0.4**
	5.7nm,1.4s						
AKASG	**Malin Array Be**	**74.02**	**319**	P	**P**	**04 47 46.7**	**-1.2**
	0.3nm,0.4s,baz=63,slow=6.1,SNR=3.3						
AKBB	**Malin Array Si**	**74.02**	**319**	*e*P	**P**	**04 47 46.7**	**-1.2**
BR101	**Keskin Array S**	**74.52**	**307**	*e*P	**P**	**04 47 52.6**	**+1.3**
BRTR	**Keskin Array B**	**74.52**	**307**	P	**P**	**04 47 52.6**	**+1.3**
	0.7nm,1.0s,baz=79,slow=6.4,SNR=4.3						
NOA	**NORSAR Array B**	**79.09**	**333**	LR	LR	05 26 23.7	
	comp=Z,36nm,19.4s,baz=290,slow=38						
URZ	**Urewera**	**80.14**	**140**	LR	LR	05 22 30.1	
	comp=Z,26nm,18.3s,baz=20,slow=35						
YKA	**Yellowknife Ar**	**82.50**	**23**	P	**P**	**04 48 34.0**	**-0.6**
	0.6nm,0.6s,baz=303,slow=5.2,SNR=13						

*IDC **03** 04:48:12.6±0.7, 1°60S×127°29E, h0km, mb4.0/11, mb1 4.1/14, mb1mx4.0/39, mbtmp4.0/14, ML3.8/3, MS3.0/3, Ms1 3.0/3, ms1mx2.6/46, Error ellipse: s-maj=25.9km s-min=14.2km az=70.0*
*NEIC **03** 04:48:16.4±2.9, 1°70S×127°25E, h26km±22km, mb4.2/8, Error ellipse: s-maj=13.1km s-min=6.7km az=77.0*
*DJA **03** 04:48:17.3±0.3, 2°S±3°×12°8E±°, h10km, M4.4/8, mb4.7/5, MLv4.3/8*
ISC 03 04:48:15.8±0.5**, 1°73S**±0°04×**127°75E**±0°05**, h25**km**, n53,** σ**1°85**/59**, mb4.3**/21**, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.79**	**260**	P	**Pn**	**04 48 42.8**	**-2.3**
TNTI	**Ternate**	**2.52**	**351**	*e*Pn	**Pn**	**04 48 55.7**	**+0.5**
TNTI				*e*Sn	**Sn**	**04 49 25.9**	**+0.9**
TNTI	**Ternate**	**2.52**	**351**	P	**Pn**	**04 48 55.8**	**+0.7**
TNTI				S	**Sn**	**04 49 27.0**	**+2.0**
SWI	**Sorong**	**3.62**	**76**	P	**Pb**	**04 49 16.3**	**-2.8**
SWI				S	**Sb**	**04 50 03.8**	**+1.3**
SIJI	**Sorong**	**3.62**	**76**	Pn	**Pb**	**04 49 17.7**	**-1.4**
	18nm,0.3s,baz=231,slow=23,SNR=16						
SIJI				Sn	**Sb**	**04 50 04.5**	**+1.8**
	11nm,0.3s,baz=165,slow=22,SNR=11						
SIJI				LR	LR	04 50 49.1	
	comp=Z,157nm,19.7s,baz=185,slow=39						
FAKI	**Fak Fak**	**4.65**	**105**	*e*Pn	Pb	04 49 31.6	-5.1
FAKI				*e*Sn	**Sb**	**04 50 29.2**	**-3.1**
FAKI	**Fak Fak**	**4.65**	**105**	P	**Pb**	**04 49 32.1**	**-4.6**
FAKI				S	**Sb**	**04 50 28.5**	**-3.8**
LUWI	**Luwuk**	**5.02**	**278**	P	**Pn**	**04 49 28.4**	**-1.2**
PCI	**Palu**	**7.95**	**276**	P	**Pn**	**04 50 10.3**	**+0.4**
TTSI	**Tana Toraja**	**8.03**	**260**	P	**Pn**	**04 50 10.9**	**0.0**
SPSI	**Sidrap Palu**	**8.27**	**254**	P	**Pn**	**04 50 15.6**	**+1.3**
SOEI	**Soe**	**8.69**	**203**	*e*Pn	**Pn**	**04 50 18.0**	**-2.2**
JAGI	**Jajag, Banyuwa**	**15.10**	**243**	*e*Pn	Pn	04 51 35.2	-12
FITZ	**Fitzroy Crossi**	**16.40**	**187**	Pn	**P**	**04 52 07.2**	**+0.2**
	0.1nm,0.3s,baz=228,slow=16,SNR=3.1						
FITZ	**Fitzroy Crossi**	**16.40**	**187**	*e*Pn	**Pn**	**04 52 02.5**	**-1.9**
	5.5nm,0.9s						
WRAB	**Tennant Creek**	**19.21**	**161**	*e*P	**Pn**	**04 52 41.9**	**+2.8**
	6.5nm,0.9s						
WR1	**Warramunga Arr**	**19.21**	**161**	*e*P	**Pn**	**04 52 41.2**	**+2.0**
	7.0nm,0.8s						
WR1				*e*Sn	**Sn**	**04 56 13.3**	**-0.7**
WRA	**Warramunga Arr**	**19.21**	**161**	P	**Pn**	**04 52 41.2**	**+2.0**
	0.4nm,0.3s,baz=341,slow=12,SNR=26						
WRA				S	**Sn**	**04 56 13.3**	**-0.7**
	0.0nm,0.3s,baz=340,slow=23,SNR=3.4						
COEN	**Coen**	**19.50**	**129**	*e*P	**Pn**	**04 52 47.9**	**+5.2**
	11nm,1.0s						
ASAR	**Alice Springs**	**22.61**	**165**	P	**P**	**04 53 18.3**	**+3.5**
	4.5nm,0.8s,baz=342,slow=9.3,SNR=43						
ASAR				S	**S**	**04 57 21.0**	**-0.3**
	0.6nm,1.0s,baz=353,slow=15,SNR=5.9						
BBOO	**Buckleboo**	**31.89**	**167**	*e*P	**P**	**04 54 40.7**	**+1.4**
	5.5nm,1.4s						
STKA	**Stephens Creek**	**32.71**	**158**	P	**P**	**04 54 48.3**	**+1.9**
	0.6nm,0.3s,baz=334,slow=15,SNR=2.5						
STKA				LR	LR	05 07 42.1	
	comp=Z,34nm,18.2s,baz=18,slow=35						
CM31	**Chiang Mai Arr**	**34.72**	**307**	*e*P	**P**	**04 55 00.6**	**-3.5**
CMAR	**Chiang Mai Arr**	**34.72**	**307**	P	**P**	**04 55 00.6**	**-3.5**
	0.9nm,0.3s,baz=142,slow=4.6,SNR=3.5						
CAN	**Canberra**	**38.82**	**152**	*e*P	**P**	**04 55 39.5**	**+0.6**
	17nm,1.4s						
MAJO	**Matsushiro**	**39.30**	**13**	*e*P	**P**	**04 55 42.8**	**0.0**
MJAR	**Matsushiro Arr**	**39.30**	**13**	P	**P**	**04 55 42.8**	**0.0**
	0.7nm,0.4s,baz=183,slow=9.5,SNR=5.1						
USRK	**Ussuriysk Ar.**	**45.88**	**4**	P	**P**	**04 56 35.8**	**-0.4**
	2.0nm,0.7s,baz=163,slow=4.5,SNR=4.0						
ODAN	**Odare**	**48.17**	**309**	*e*P	**P**	**04 56 55.5**	**+0.9**
	13nm,0.6s						
RAMN	**Ramite**	**48.83**	**309**	*e*P	**P**	**04 57 00.7**	**+1.0**
	23nm,0.6s						
JIRN	**Jiri**	**49.49**	**309**	*e*P	**P**	**04 57 05.5**	**+0.6**
	29nm,0.9s						
GUN	**Gumba**	**49.85**	**309**	*e*P	**P**	**04 57 08.0**	**+0.3**
	21nm,0.7s						
KOLN	**Koldanda**	**51.56**	**308**	*e*P	**P**	**04 57 21.0**	**+0.6**
	29nm,1.0s						
DANN	**Dangsing**	**51.71**	**309**	*e*P	**P**	**04 57 21.8**	**+0.2**
	15nm,0.6s						
PYUN	**Piuthan**	**52.20**	**308**	*e*P	**P**	**04 57 25.6**	**+0.5**
	17nm,0.9s						
ULN	**Ulaanbaatar**	**52.60**	**343**	*e*P	**P**	**04 57 27.5**	**-0.1**
	7.1nm,1.2s						
SONA0	**Songino Array**	**52.77**	**342**	*e*P	**P**	**04 57 28.2**	**-0.7**
SONM	**Songino Array**	**52.77**	**342**	P	**P**	**04 57 28.2**	**-0.7**
	2.1nm,0.9s,baz=150,slow=8.9,SNR=8.4						
MK01	**Makanchi Array**	**62.60**	**327**	*e*P	**P**	**04 58 37.6**	**-0.4**
MK31	**Makanchi Array**	**62.62**	**327**	*e*P	**P**	**04 58 38.1**	**0.0**
MK32	**Makanchi Array**	**62.62**	**327**	*e*P	**P**	**04 58 36.9**	**-1.2**
MKAR	**Makanchi Array**	**62.62**	**327**	P	**P**	**04 58 36.9**	**-1.2**
	1.4nm,0.8s,baz=123,slow=7.8,SNR=6.0						
MKAR	**Makanchi Array**	**62.62**	**327**	*e*P	**P**	**04 58 38.1**	**0.0**
	15nm,1.0s						
ZALV	**Zalesovo Beam**	**65.90**	**334**	P	**P**	**04 58 57.2**	**-2.2**
	0.3nm,0.4s,baz=347,slow=5.2,SNR=3.7						
ZAA1	**Zalesovo Array**	**65.90**	**334**	*e*P	**P**	**04 58 57.2**	**-2.2**
KURBB	**Kurchatov Arra**	**66.88**	**328**	P	**P**	**04 59 04.3**	**-1.4**
	1.2nm,0.8s,baz=129,slow=5.9,SNR=8.7						
KURK	**Kurchatov**	**66.88**	**328**	*e*P	**P**	**04 59 05.5**	**-0.3**
WSAR	**Wadi Sarin**	**71.58**	**295**	LR	LR	05 36 40.0	
	comp=Z,9.5nm,18.4s,baz=222,slow=41						
VNDA	**Vanda**	**77.92**	**173**	P	**P**	**05 00 13.2**	**+2.1**
	1.2nm,1.0s,baz=328,slow=5.8,SNR=4.7						
ILAR	**Eielson Array**	**89.57**	**25**	P	**P**	**05 01 11.2**	**+0.2**
	0.2nm,0.6s,baz=219,slow=4.5,SNR=4.2						
ILB	**Eielson Array**	**89.57**	**25**	*e*P	**P**	**05 01 11.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**125.44**	**285**	PKP	**PKPdf**	**05 07 15.5**	**-0.3**
	0.6nm,1.0s,baz=89,slow=1.1,SNR=3.5						
TOA1	**Torodi Ar. Sit**	**125.44**	**285**	*e*PKPdf	**PKPdf**	**05 07 15.5**	**-0.3**

*IDC **03** 04:53:00.7±1.1, 1°54S×127°39E, h0km, mb3.3/4, mb1 3.4/6, mb1mx3.4/39, mbtmp3.3/6, ML3.5/2, Error ellipse: s-maj=34.1km s-min=20.5km az=57.0*
*ISCJB **03** 04:53:01.4±1.0, 1°7S±0°1×127°31E±0°08, h25km, mb3.3/4, Error ellipse: s-maj=19.8km s-min=11.7km az=1.9*
ISC 03 04:53:04.0±1.1**, 1°6S**±0°1×**127°3E**±0°1**, h25**km**, n6,** σ**1°56**/7**, mb3.3**/4**, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.00**	**79**	Pn	**Pn**	**04 54 03.0**	**-0.8**
	8.6nm,0.3s,baz=266,slow=14,SNR=24						
SIJI				Sn	**Sn**	**04 54 50.9**	**+0.9**
	1.8nm,0.3s,baz=53,slow=20,SNR=3.4						
WRA	**Warramunga Arr**	**19.43**	**160**	P	**Pn**	**04 57 28.2**	**-1.9**
	0.1nm,0.3s,baz=341,slow=12,SNR=5.6						
ASAR	**Alice Springs**	**22.80**	**164**	P	**P**	**04 58 07.2**	**+2.2**
	0.4nm,0.4s,baz=346,slow=12,SNR=5.8						
SONM	**Songino Array**	**52.56**	**342**	P	**P**	**05 02 15.5**	**0.0**
	0.2nm,0.6s,baz=154,slow=7.9,SNR=2.4						
MKAR	**Makanchi Array**	**62.32**	**327**	P	**P**	**05 03 24.5**	**+0.2**
	0.2nm,0.6s,baz=114,slow=7.0,SNR=2.5						
KURBB	**Kurchatov Arra**	**66.58**	**329**	P	**P**	**05 03 52.0**	**-0.1**
	0.2nm,0.6s,baz=133,slow=5.5,SNR=2.4						

*NNC **03** 04:57:54.3±1.1, 44°64N×79°64E, h0km, mb3.0, mpv3.0, Error ellipse: s-maj=7.4km s-min=5.5km az=32.0*
*SOME **03** 04:57:57.4, 44°58N×79°60E, h15km*
ISC 03 04:57:56.2±1.1**, 44°60N**±0°03×**79°67E**±0°04**, h14**km±8km**, n33,** σ**0°61**/57**, 5C-2D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.28**	**162**	P	**Pg**	**04 58 02.4**	**+0.3**
	3.8nm,0.1s						
DJR				S	**Sg**	**04 58 06.0**	**0.0**
	45nm,0.1s						
DJR	**Jarkent**	**0.28**	**162**	*e*P	**Pg**	**04 58 02.4**	**+0.3**
	3.8nm,0.1s						
DJR				*e*S	**Sg**	**04 58 06.0**	**0.0**
	45nm,0.1s						
KAPS	**Kapalarasan**	**0.72**	**342**	⇑*i*P	**Pb**	**04 58 10.4**	**-0.3**
	1.9nm,0.1s						
KAPS				⇑*i*S	**Sg**	**04 58 19.4**	**-0.5**
	6.0nm,0.2s						
MNBS	**Baschi**	**1.05**	**241**	P	**Pb**	**04 58 15.5**	**-0.7**
	1.5nm,0.1s						
MNBS				S	**Sg**	**04 58 28.8**	**-1.3**
	8.7nm,0.1s						
MNBS	**Baschi**	**1.05**	**241**	*e*P	**Pb**	**04 58 15.5**	**-0.7**
	1.5nm,0.1s						
MNBS				*e*S	**Sg**	**04 58 28.8**	**-1.3**
	8.7nm,0.1s						
KTMS	**Ketmen**	**1.25**	**157**	P	**Pn**	**04 58 19.3**	**-0.1**
	7.6nm,0.1s						
KTMS				S	**Sb**	**04 58 35.4**	**-0.3**
	8.0nm,0.1s						
KTMS	**Ketmen**	**1.25**	**157**	*e*P	**Pn**	**04 58 19.3**	**-0.1**
	7.6nm,0.1s						
KTMS				*e*S	**Sb**	**04 58 35.4**	**-0.3**
	8.0nm,0.1s						
PDGK	**Podgornoye**	**1.27**	**186**	P	**Pn**	**04 58 19.4**	**-0.3**
	2.4nm,0.1s						
PDGK				S	**Sb**	**04 58 35.5**	**-0.9**
	3.3nm,0.1s						
PDGK	**Podgornoye**	**1.27**	**186**	⇓P	**Pn**	**04 58 19.4**	**-0.3**
	1.3nm,0.3s						
PDGK				⇓S	**Sb**	**04 58 36.4**	**0.0**
	2.0nm,0.4s						
ARXS	**Arharly**	**1.38**	**254**	P	**Pn**	**04 58 21.4**	**+0.3**
	2.0nm,0.1s						
ARXS				S	**Sn**	**04 58 38.6**	**-0.5**
	4.6nm,0.1s						
ARXS	**Arharly**	**1.38**	**254**	*e*P	**Pn**	**04 58 21.4**	**+0.3**
	2.0nm,0.1s						
ARXS				*e*S	**Sn**	**04 58 38.6**	**-0.5**
	4.6nm,0.1s						
SHLS	**Shalkode**	**1.45**	**186**	*e*P	**Pb**	**04 58 23.3**	**+0.3**
	3.4nm,0.3s						
SHLS				*e*S	**Sb**	**04 58 41.8**	**+0.5**
	6.9nm,0.6s						
UZB	**Uzynbulak**	**1.52**	**198**	P	**Pb**	**04 58 23.8**	**-0.5**
	3.7nm,0.1s						
UZB				S	**Sn**	**04 58 42.9**	**+0.1**
	9.3nm,0.2s						
UZB	**Uzynbulak**	**1.52**	**198**	*e*P	**Pb**	**04 58 23.8**	**-0.5**
	3.7nm,0.1s						
UZB				*e*S	**Sn**	**04 58 42.9**	**+0.1**
	9.3nm,0.2s						
KURS	**Kuram**	**1.55**	**225**	*e*P	**Pb**	**04 58 25.2**	**+0.5**
	1.6nm,0.3s						
KURS				*e*S	**Sb**	**04 58 45.0**	**+0.8**
	5.7nm,0.4s						
SATY	**Saty**	**1.79**	**211**	P	**Pb**	**04 58 29.2**	**+0.4**
	4.3nm,0.1s						
SATY				S	**Sb**	**04 58 52.2**	**+1.0**
	14nm,0.1s						
SATY	**Saty**	**1.79**	**211**	*e*P	**Pb**	**04 58 29.2**	**+0.4**
	4.3nm,0.1s						
SATY				*e*S	**Sb**	**04 58 52.2**	**+1.0**
	14nm,0.1s						
CHKK	**Chushkaly**	**2.07**	**250**	Pg	**Pb**	**04 58 33.4**	**-0.1**
	1.5nm,0.1s						
CHKK				Lg	Lg	04 58 59.3	
	8.3nm,0.2s						
CHKK	**Chushkaly**	**2.07**	**250**	*e*P	**Pb**	**04 58 33.4**	**-0.1**
	1.5nm,0.1s						
CHKK				*e*S	**Sb**	**04 58 59.3**	**+0.2**
	8.3nm,0.2s						
KOTS	**Kotyrbulak**	**2.30**	**235**	Pg	**Pb**	**04 58 38.0**	**+0.5**
	2.1nm,0.2s						
KOTS				Lg	Lg	04 59 07.1	
	6.6nm,0.4s						
KOTS	**Kotyrbulak**	**2.30**	**235**	*e*P	**Pb**	**04 58 38.0**	**+0.5**
	2.1nm,0.2s						
KOTS				*e*S	**Sb**	**04 59 07.1**	**+1.3**
	6.6nm,0.4s						
MDOK	**Medeo**	**2.38**	**234**	⇑Pg	**Pb**	**04 58 37.7**	**-1.2**
	4.4nm,0.9s						
MDOK				Lg	Lg	04 59 08.2	
	5.3nm,0.6s						
MDOK	**Medeo**	**2.38**	**234**	Pg	**Pb**	**04 58 39.1**	**+0.2**
	1.3nm,0.2s						
MDOK				Lg	Lg	04 59 09.2	
	6.4nm,0.4s						
MDOK	**Medeo**	**2.38**	**234**	*e*P	**Pb**	**04 58 39.1**	**+0.2**
	1.3nm,0.2s						
MDOK				*e*S	**Sb**	**04 59 09.2**	**+1.1**
	6.4nm,0.4s						
TNSS	**Tian-Shan**	**2.51**	**233**	Pg	**Pb**	**04 58 40.8**	**-0.5**
	2.2nm,0.5s						
TNSS				Lg	Lg	04 59 12.1	
	5.5nm,0.3s						
TNSS	**Tian-Shan**	**2.51**	**233**	*e*P	**Pb**	**04 58 40.8**	**-0.5**
	2.2nm,0.5s						
TNSS				*e*S	**Sb**	**04 59 12.1**	**-0.2**
	5.5nm,0.3s						
IZV	**Izvestkoviy**	**2.71**	**236**	Pg	**Pb**	**04 58 44.7**	**+0.2**
	1.3nm,0.3s						
IZV				Lg	Lg	04 59 18.9	
	3.6nm,0.2s						
IZV	**Izvestkoviy**	**2.71**	**236**	*e*P	**Pb**	**04 58 44.8**	**+0.2**
	1.3nm,0.3s						
IZV				*e*S	**Sb**	**04 59 18.9**	**+1.2**
	3.6nm,0.2s						
MTBS	**Maitube**	**2.77**	**239**	Pg	**Pb**	**04 58 45.7**	**+0.2**
	1.9nm,0.1s						
MTBS				Lg	Lg	04 59 20.4	
	11nm,0.3s						
MTBS	**Maitube**	**2.77**	**239**	*e*P	**Pb**	**04 58 45.7**	**+0.2**
	1.9nm,0.1s						
MTBS				*e*S	**Sb**	**04 59 20.4**	**+1.2**
	11nm,0.3s						
MK31	**Makanchi Array**	**2.86**	**39**	⇑Pg	**Pn**	**04 58 41.9**	**+0.4**
	1.0nm,0.6s						
MK31				⇑Lg	Lg	04 59 21.1	
	0.4nm,0.3s						
DGS	**Degeres**	**3.12**	**246**	Pg	**Pb**	**04 58 51.3**	**-0.3**
	1.2nm,0.3s						
DGS				Lg	Lg	04 59 30.0	
	3.2nm,0.5s						
DGS	**Degeres**	**3.12**	**246**	*e*P	**Pb**	**04 58 51.3**	**-0.3**
	1.2nm,0.3s						
DGS				*e*S	**Sb**	**04 59 30.0**	**+0.3**
	3.2nm,0.5s						

IDC 03 05:24:16.8±3.2**, 30°22S**×**177°63W, h0**km**, mb3.6**/2**, mb1 3.8**/2**, mb1mx3.6**/23**, mbtmp3.6**/2**, Error ellipse: s-maj=66.8km s-min=24.2km az=100.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.99**	**345**	Pn	Pn	05 24 39.1	+1.1
	baz=141,slow=10.0						
RAO				Sn	Sn	05 24 51.8	-0.9
	344nm,0.3s,baz=94,slow=23,SNR=9.1						
ASAR	**Alice Springs**	**43.44**	**267**	P	P	05 32 21.4	-0.3
	0.2nm,0.4s,baz=100,slow=7.4,SNR=5.3						
WRA	**Warramunga Arr**	**44.41**	**272**	P	P	05 32 29.6	0.0
	0.4nm,0.3s,baz=110,slow=8.1,SNR=24						
FINES	**FINESS Array B**	**145.08**	**340**	PKPbc	PKPbc	05 43 53.4	-1.5
	2.7nm,0.9s,baz=45,slow=3.9,SNR=4.2						

*NIED **03** 05:27:00, 40°40N×143°00E, h29km, Mw4.3 Best double couple: M₀2.95000×10¹⁵ NP1:φs192.00000°, δ29.00000°, λ81.00000°. NP2:φs22.00000°, δ61.00000°, λ95.00000°.*
*BJI **03** 05:27:38.5, 40°35N×143°41E, h20km, mb4.6/29, mB4.9/10, Ms4.4/11, Ms7 4.1/8*
*JMA **03** 05:27:42.2±0.2, 40°36N×143°00E, h11km±2km, M4.3*
JMA Felt I J1.
*MOS **03** 05:27:43.7±0.8, 40°38N×143°08E, h41km, mb4.6/23, Error ellipse: s-maj=8.4km s-min=5.5km az=90.9*
*NEIC **03** 05:27:45.1±0.3, 40°38N×143°07E, h35km, mb4.4/6, Error ellipse: s-maj=8.0km s-min=5.0km az=119.0*
NEIC Recorded [1 JMA] in Iwate.
*IDC **03** 05:27:47.5±2.0, 40°35N×142°93E, h57km±16km, mb3.8/26, mb1 4.0/31, mb1mx3.9/57, mbtmp4.1/31, MS3.5/14, Ms1 3.5/14, ms1mx3.2/45, Error ellipse: s-maj=14.9km s-min=11.0km az=117.0*
ISC 03 05:27:42.2±1.2**, 40°44N**±0°03×**143°05E**±0°04**, h14**km±6km**, n151,** σ**1°59**/181**, mb4.5**/62**, 8C-1D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.03**	**242**	P	**Pb**	**05 28 00.7**	**-1.1**
JTH				S	**Sb**	**05 28 13.9**	**-1.3**

JKEN Kujiedanarisaw 1.05 258 P **Pb** 05 28 00.8 -1.3
JKEN eS **Sb** 05 28 14.1 -1.5
JANG Nango 1.17 267 P **Pn** 05 28 03.0 -1.1
MIYJ Miyakonagasawa 1.27 228 P **Pn** 05 28 04.0 -1.6
MIYJ eS **Sb** 05 28 20.4 -1.8
JTM Tenmabayashi 1.55 284 P **Pn** 05 28 09.6 +0.3
JTM S **Sn** 05 28 29.7 +0.5
ERM Erimo 1.58 3 ePn **Pb** 05 28 11.3 +0.1
ERM eSn **Sg** 05 28 32.1 -1.0
ERM Erimo 1.58 3 ceP **Pg** 05 28 12.0 -0.5
ERM pmax pmax
comp=Z,349nm,1.3s
JEM Erimo 1.58 3 P **Pb** 05 28 11.6 +0.4
JEM eS **Sg** 05 28 32.3 -0.8
JOM Ohasama 1.66 235 P **Pn** 05 28 10.3 -0.5
JOM eS **Sn** 05 28 30.8 -1.1
JOT Ohata 1.79 303 P **Pn** 05 28 13.2 +0.6
JOT eS **Sn** 05 28 35.7 +0.6
JNBK Urakawa-nobuka 1.86 353 P **Pb** 05 28 15.6 -0.3
JAH Hinai 1.86 263 P **Pn** 05 28 14.5 +0.9
JAH S **Sn** 05 28 38.2 +1.3
JMK Ichinoseki 2.04 224 P **Pn** 05 28 16.8 +0.7
JKB Kayabe 2.10 314 P **Pn** 05 28 18.5 +1.6
JKB eS **Sb** 05 28 44.7 -1.3
JRG Rokugo 2.12 242 P **Pn** 05 28 18.9 +1.6
JRG eS **Sb** 05 28 45.4 -1.3
ASAJ Asahikawa 3.69 355 P **Pn** 05 28 41.7 +2.8
comp=Z,5.3nm,0.3s,baz=218,slow=11,SNR=20
ASAJ S **Sb** 05 29 27.1 -4.7
comp=Z,6.5nm,0.3s,baz=144,slow=23,SNR=4.7
ASAJ LR LR 05 30 38.6
comp=Z,468nm,21.9s,baz=214,slow=45
GLVR Golovnino 3.78 28 eP **Pn** 05 28 41.2 +1.2
GLVR eS **Sn** 05 29 24.2 -0.1
GLVR pmax pmax
comp=Z,218nm,0.7s
GLVR smax smax
comp=N,737nm,0.4s
GLVR smax smax
comp=E,505nm,0.4s
GRPR Tuman 4.09 29 eP **Pn** 05 28 45.3 +1.0
GRPR eS **Sn** 05 29 31.6 -0.4
GRPR pmax pmax
comp=Z,135nm,0.4s
GRPR smax smax
comp=E,326nm,0.6s
GRPR smax smax
comp=N,340nm,0.5s
LAGR Lagunnoye 4.15 28 eP **Pn** 05 28 47.3 +2.2
LAGR eS **Sn** 05 29 34.9 +1.5
LAGR pmax pmax
comp=Z,194nm,0.4s
LAGR smax smax
comp=N,388nm,0.3s
LAGR smax smax
comp=E,605nm,0.5s
YUK Yuzh-Kuril'sk 4.16 29 eP **Pn** 05 28 46.3 +1.1
YUK eS **Sn** 05 29 33.3 -0.3
YUK pmax pmax
comp=Z,133nm,0.5s
YUK smax smax
comp=E,290nm,0.3s
YUK smax smax
comp=N,131nm,0.2s
SHO Shikotan 4.44 38 eP **Pn** 05 28 49.1 +0.1
SHO eS **Sn** 05 29 38.0 -2.5
SHO pmax pmax
comp=Z,38nm,0.3s
SHO smax smax
comp=N,222nm,0.5s
SHO smax smax
comp=E,259nm,0.5s
MJAR Matsushiro Arr 5.43 226 P **Pn** 05 29 04.6 +1.8
comp=E,2.2nm,0.3s,baz=33,slow=12,SNR=78
MJAR LR LR 05 31 28.7
comp=E,477nm,18.3s,baz=50,slow=42
MJB9 Matsu-Tunnel 5.43 226 ePn **Pn** 05 29 05.2 +2.5
MAJO Matsushiro 5.43 226 ePn **Pn** 05 29 04.6 +1.9
MAJO Matsushiro 5.43 226 eP **Pn** 05 29 04.6 +1.9
MAT Matsushiro 5.43 226 P **Pn** 05 29 04.7 +1.9
MAT S **Sn** 05 30 06.4 +1.3
KUR Kuril'sk 5.96 35 ⇓ iP **Pn** 05 29 12.4 +2.4
KUR eS **Sn** 05 30 17.4 -0.6
KUR pmax pmax
comp=Z,74nm,0.5s
KUR smax smax
comp=E,109nm,0.9s
KUR smax smax
comp=N,92nm,0.6s
YSS Yuzh-Sakhalins 6.52 358 eP **Pb** 05 29 32.2 -3.1
INU Inuyama 6.96 225 ePn **Pn** 05 29 26.7 +2.9
JHJ2 Mitsune 7.75 201 ePn **Pn** 05 29 34.1 -0.5
USRK Ussuriysk Ar. 9.01 298 P **Pn** 05 29 56.0 +4.2
comp=N,0.7nm,0.3s,baz=97,slow=14,SNR=11
USRK LR LR 05 33 15.4
comp=N,382nm,19.8s,baz=140,slow=36
MDJ Mudanjiang 10.77 297 P **Pn** 05 30 16.6 +0.7
MDJ pP 05 30 21.9
MDJ sP 05 30 26.2
MDJ S **Sn** 05 32 17.7 +1.5
MDJ SS **SnSn** 05 32 31.4 +3.5
MDJ ScP **ScP** 05 39 45.5 -3.3
MDJ PcS **PcS** 05 39 48.6 -1.8
MDJ pmax pmax
comp=N,11nm,2.1s
MDJ LR LR
comp=N,610nm,4.5s
MDJ LR LR
comp=N,450nm,4.9s
MDJ LR LR
comp=N,790nm,9.6s
KLR Kul'dur 11.89 321 P **Pn** 05 30 33.5 +2.3
comp=N,0.1nm,0.3s,baz=118,slow=13,SNR=6.1
KLR LR LR 05 35 21.4
comp=N,234nm,18.6s,baz=160,slow=38
KSRS Korea Array 12.15 261 P **Pn** 05 30 37.8 +3.1
comp=N,0.2nm,0.3s,baz=71,slow=13,SNR=3.6
KSRS LR LR 05 34 46.3
comp=N,252nm,19.1s,baz=76,slow=35
JNU Nakatsue 12.18 237 LR LR 05 35 09.3
comp=N,90nm,18.2s,baz=118,slow=37
JNU Nakatsue 12.18 237 ePn **Pn** 05 30 35.5 +0.3
KSAR Wonju Array Be 12.18 261 P **Pn** 05 30 37.8 +2.6
KSAR Wonju Array Be 12.18 261 P **Pn** 05 30 37.8 +2.6
CN2 Changchun 13.49 290 eP **P** 05 30 58.2 -4.1
PETK Petropavlovsk- 16.13 33 LR LR 05 38 36.2
comp=N,65nm,19.3s,baz=218,slow=40
ZEA Zeya 17.05 327 eP **Pn** 05 31 38.0 -2.1
ZEA pmax pmax
comp=Z,12nm,1.0s
ZEA MLR MLR
comp=E,400nm,16.0s
ZEA MLR MLR
comp=Z,400nm,16.0s
JOW Kunigami 18.28 227 ePn **Pn** 05 31 54.1 -1.3
comp=Z,58nm,0.5s
BJT Baijiatuan 20.50 278 eP **P** 05 32 18.0 -1.8
comp=Z,12nm,1.1s
BJT Baijiatuan 20.50 278 eP **P** 05 32 18.0 -1.8
BJT pmax pmax
comp=Z,12nm,1.1s
YAK Yakutsk 23.09 344 eP **P** 05 32 44.3 -2.9
YAK pmax pmax
comp=Z,18nm,1.0s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.1s
SEY Seymchan 23.21 11 P **P** 05 32 48.5 0.0
comp=E,7.4nm,0.7s,baz=184,slow=10,SNR=9.7
SEY Seymchan 23.21 11 ceP **P** 05 32 52.3 +3.8
BOD Bodaibo 25.46 323 eP **P** 05 33 08.6 -0.9
BOD pmax pmax
comp=Z,11nm,1.0s
ULN Ulaanbaatar 26.68 298 eP **P** 05 33 21.4 +0.5
comp=Z,2.6nm,0.6s
ULN Ulaanbaatar 26.68 298 iP **P** 05 33 21.1 +0.2
ULN pmax pmax
comp=Z,3.0nm,0.7s
SONA1 Songino Array 27.12 298 eP **P** 05 33 25.1 +0.4
SONM Songino Array 27.13 298 P **P** 05 33 24.5 -0.3
comp=Z,2.5nm,0.7s,baz=87,slow=9.0,SNR=22
XAN Xi'an 27.79 268 P **P** 05 33 26.7 -4.1
XAN pmax pmax
comp=Z,6.0nm,0.9s

BILL Bilibino 30.41 17 iP **P** 05 33 55.4 +1.8
BILL e*SP PP 05 34 50.1 -12
BILL pmax pmax
comp=Z,3.0nm,0.8s
LZH Lanzhou 30.91 275 eP **P** 05 34 00.8 +2.2
LZH pP pwP 05 34 07.5 +3.2
LZH sP sP 05 34 09.7 +5.9
LZH ePP **PnPn** 05 35 02.7 +3.6
LZH pmax pmax
comp=Z,21nm,1.1s
TIXI Tiksi 32.09 352 iP **P** 05 34 07.4 -1.0
TIXI pmax pmax
comp=Z,2.0nm,1.1s
GTA Gaotai 32.93 283 eP **P** 05 34 16.8 +0.5
GTA pP pwP 05 34 28.0 +6.0
GTA S **S** 05 39 32.4 -1.4
GTA sS sS 05 39 49.0 +9.0
GTA SS **SnSn** 05 41 32.8 +1.9
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,63nm,7.0s
GTA LR LR
comp=Z,120nm,16.2s
GTA LR LR
comp=Z,210nm,16.8s
GTA LR LR
comp=Z,260nm,18.1s
KMI Kunming 36.83 258 P **P** 05 34 50.2 0.0
KMI pmax pmax
comp=Z,12nm,0.5s
DGZ Jazzator, Alta 39.53 303 iP **P** 05 35 13.0 +0.4
DGZ pmax pmax
comp=Z,5.0nm,1.0s
WMQ Urumqi 40.55 294 eP **P** 05 35 21.8 +0.8
WMQ sP pwP 05 35 32.9 +6.1
WMQ LR LR
comp=Z,95nm,14.9s
WMQ LR LR
comp=Z,76nm,16.3s
ZAA0 Zalesovo Array 40.65 310 eP **P** 05 35 21.7 +0.1
comp=Z,12nm,0.3s
ZALV Zalesovo Beam 40.65 310 P **P** 05 35 21.3 -0.4
comp=Z,3.5nm,0.7s,baz=87,slow=7.6,SNR=12
ZALV LR LR 05 53 01.2
comp=Z,132nm,18.2s,baz=66,slow=37
ZALV Zalesovo Beam 40.65 310 eP **P** 05 35 21.7 +0.1
ZALV Zalesovo Beam 40.65 310 eP **P** 05 35 21.7 +0.1
IM3 Indian Mountai 43.09 32 eP **P** 05 35 42.3 +0.9
MK01 Makanchi Array 43.48 299 eP **P** 05 35 44.8 0.0
MK31 Makanchi Array 43.48 299 eP **P** 05 35 44.7 -0.2
MK31 Makanchi Array 43.48 299 eP **P** 05 35 44.7 -0.2
MKAR Makanchi Array 43.48 299 P **P** 05 35 45.0 +0.2
comp=Z,4.4nm,0.8s,baz=82,slow=9.7,SNR=39
MKAR PcP **PcP** 05 37 31.7 -1.0
comp=Z,0.3nm,0.5s,baz=64,slow=3.4,SNR=2.0
MKAR Makanchi Array 43.48 299 eP **P** 05 35 44.7 -0.2
comp=Z,28nm,0.6s
MKAR PcP **PcP** 05 37 31.7 -1.0
MKAR Makanchi Array 43.48 299 ceP **P** 05 35 45.0 +0.2
MKAR pmax pmax
comp=Z,5.0nm,0.8s
CMAR Chiang Mai Arr 43.65 253 P **P** 05 35 45.7 -0.8
comp=Z,0.8nm,0.3s,baz=48,slow=6.7,SNR=4.6
CMAR LR LR 05 53 34.8
comp=Z,39nm,18.1s,baz=20,slow=36
MAKZ Makanchi 43.68 299 eP **P** 05 35 46.5 0.0
comp=Z,6.8nm,1.0s
MAKZ Makanchi 43.68 299 eP **P** 05 35 46.5 0.0
MAKZ pmax pmax
comp=Z,7.0nm,1.0s
KURK Kurchatov 44.91 306 eP **P** 05 35 56.0 -0.3
comp=Z,8.2nm,0.7s
KURK Kurchatov 44.91 306 P **P** 05 35 57.1 +0.9
KURK pmax pmax
comp=Z,6.0nm,0.6s
KURBB Kurchatov Arra 44.99 306 P **P** 05 35 57.1 +0.3
comp=Z,6.4nm,0.6s,baz=80,slow=8.5,SNR=43
ILAR Eielson Array 45.95 34 P **P** 05 36 05.8 +1.5
comp=Z,1.4nm,0.7s,baz=263,slow=6.1,SNR=24
ILB Eielson Array 45.95 34 eP **P** 05 36 04.6 +0.3
PDGK Podgornoye 46.39 296 P **P** 05 36 08.2 0.0
PDGK pmax pmax
comp=Z,4.0nm,1.1s
JIRN Jiri 48.05 273 eP **P** 05 36 21.9 +0.3
comp=Z,12nm,0.5s
RAMN Ramite 48.10 272 eP **P** 05 36 22.1 +0.2
comp=Z,13nm,0.6s
GUN Gumba 48.16 273 eP **P** 05 36 22.3 -0.1
comp=Z,26nm,0.7s
KKN Kakani 48.67 274 eP **P** 05 36 26.5 +0.2
comp=Z,8.2nm,0.4s
DMN Daman 48.90 274 eP **P** 05 36 28.3 +0.3
BVAR Borovoye Array 49.28 310 P **P** 05 36 30.9 +0.6
comp=Z,2.0nm,0.6s,baz=70,slow=9.6,SNR=11
BRVK Borovoye 49.34 311 eP **P** 05 36 31.0 +0.3
comp=Z,4.1nm,0.8s
BRVK Borovoye 49.34 311 ceP **P** 05 36 31.4 +0.7
BRVK pmax pmax
comp=Z,8.0nm,1.7s
OTUK Ortayu 49.53 304 P **P** 05 36 32.6 +0.3
OTUK pmax pmax
comp=Z,5.0nm,0.8s
DANN Dangsing 49.55 275 eP **P** 05 36 33.3 +0.3
comp=Z,60nm,0.7s
KOLN Koldanda 49.96 275 eP **P** 05 36 36.1 0.0
comp=Z,19nm,1.0s
AAK Ala-Archa 50.06 296 P **P** 05 36 36.5 -0.1
comp=Z,1.4nm,0.4s,baz=120,slow=1.2,SNR=4.1
AAK Ala-Archa 50.06 296 iP **P** 05 36 35.7 -0.9
AAK pmax pmax
comp=Z,2.0nm,1.0s
KSH Kashi 50.25 292 P **P** 05 36 40.1 +2.1
KSH pP pwP 05 36 46.8 +2.9
KSH PcP **PcP** 05 37 56.3 -0.6
KSH S **S** 05 43 47.6 -2.4
KSH pmax pmax
comp=Z,10.0nm,0.5s
KSH pmax pmax
comp=Z,140nm,7.2s
KSH LR LR
comp=Z,120nm,5.2s
KSH LR LR
comp=Z,170nm,9.8s
KSH LR LR
comp=Z,250nm,8.3s
PYUN Piuthan 50.26 275 eP **P** 05 36 38.4 0.0
comp=Z,26nm,0.9s
INK Inuvik 50.79 28 P **P** 05 36 43.0 +1.5
comp=Z,1.3nm,0.5s,baz=294,slow=7.5,SNR=9.6
INK Inuvik 50.79 28 P **P** 05 36 43.0 +1.5
SFK Sufi-Kurgan 51.78 294 P **P** 05 36 49.9 +0.2
SFK pmax pmax
comp=Z,5.0nm,0.9s
SKAG Skagway 52.25 40 eP **P** 05 36 53.3 +0.7
comp=Z,40nm,1.8s
KK31 Karatay Array 52.58 298 eP **P** 05 36 55.1 -0.2
KK31 Karatay Array 52.58 298 eP **P** 05 36 55.1 -0.2
KKAR Karatay Array 52.58 298 eP **P** 05 36 54.9 -0.4
KKAR Karatay Array 52.58 298 eP **P** 05 36 54.9 -0.4
SVE Sverdlovsk 53.48 317 eP **P** 05 37 02.5 +0.8
SVE pmax pmax
comp=Z,14nm,0.9s
ARU Arti 54.69 317 eP **P** 05 37 11.1 +0.6
comp=Z,19nm,1.0s
ARU eS **S** 05 44 49.9 -0.2
ARU Arti 54.69 317 P **P** 05 37 11.4 +0.9
ARU 05 39 13.2
ARU S **S** 05 44 44.8 -5.3
ARU SS **SKiKP** 05 48 23.1 +4.7
NIL Nilore 54.81 287 eP **P** 05 37 11.8 0.0
comp=Z,13nm,0.8s
NIL Nilore 54.81 287 eP **P** 05 37 11.8 0.0
NIL pmax pmax
comp=Z,13nm,0.8s
ABKAR Akbulak array 56.76 309 eP **P** 05 37 25.6 +0.1
AKTO Aktyubinsk 57.38 311 P **P** 05 37 29.7 -0.2
comp=Z,2.7nm,0.7s,baz=78,slow=12,SNR=9.2
RES Resolute Bay 58.99 15 P **P** 05 37 41.0 +0.3
YKA Yellowknife Ar 60.24 31 P **P** 05 37 50.2 +0.7
comp=Z,0.4nm,0.6s,baz=299,slow=6.2,SNR=11
YKA PcP **PcP** 05 38 35.9 +1.1
comp=Z,0.4nm,0.7s,baz=302,slow=3.2,SNR=5.0
WRAB Tennant Creek 60.60 189 ceP **P** 05 38 04.3 +12
WRAB pmax pmax
comp=Z,11nm,2.5s
WB2 Warramunga Arr 60.61 189 eP **P** 05 37 51.1 -1.4
WRA Warramunga Arr 60.61 189 P **P** 05 37 51.3 -1.2
comp=Z,2.6nm,0.9s,baz=7.5,slow=6.9,SNR=26
ARCES ARCESS Array B 61.27 339 P **P** 05 37 56.6 +0.1
comp=Z,2.8nm,0.9s,baz=34,slow=12,SNR=3.6
KLMR Klimovskoe 61.58 327 eP **P** 05 38 05.4 +6.8
KLMR pmax pmax
comp=Z,14nm,1.5s
KLMR Klimovskoe 61.58 327 eP **P** 05 38 05.4 +6.8
KLMR AMP 05 38 12.3
comp=Z,14nm,1.6s
DAG Danmarks Havn 62.50 355 P **P** 05 38 04.7 +0.1
GEYT Alibeck 63.33 298 P **P** 05 38 09.6 -1.2
comp=Z,2.3nm,0.5s,baz=23,slow=8.0,SNR=4.4
GEYT LR LR 06 06 02.9
comp=Z,21nm,19.5s,baz=215,slow=36
JOF Joensuu 63.57 332 P **P** 05 38 12.2 +0.3
AS01 Alice Springs 64.33 189 eP **P** 05 38 16.7 -0.6
ASAR Alice Springs 64.34 189 P **P** 05 38 16.1 -1.2
comp=Z,1.2nm,0.7s,baz=7.4,slow=5.0,SNR=17
SUF Sumiainen 65.53 333 P **P** 05 38 24.9 +0.2
OBN Obninsk 66.15 323 eP **P** 05 38 28.6 -0.2
OBN e*PP **PcP** 05 39 05.3 +6.3
OBN e 05 40 53.0
OBN pmax pmax
comp=Z,4.0nm,0.9s
FINES FINESS Array B 66.41 332 P **P** 05 38 30.3 -0.1
comp=Z,3.5nm,0.8s,baz=59,slow=7.0,SNR=17
FINES LR LR 06 09 51.2
comp=Z,74nm,20.9s,baz=16,slow=38
FINES FINESS Array B 66.41 332 ceP **P** 05 38 30.7 +0.3
FINES pmax pmax
comp=Z,4.0nm,0.8s
LPSR Galich'ya Gora 66.52 320 eP **P** 05 38 31.2 -0.1
LPSR pmax pmax
comp=Z,5.0nm,0.6s
VSR Storozhevoye 67.22 319 eP **P** 05 38 35.8 0.0
VSR pmax pmax
comp=Z,10.0nm,0.9s
KIV Kislovodsk 69.65 311 eP **P** 05 38 51.9 +0.7
KIV e 05 39 14.5
KIV pmax pmax
comp=Z,15nm,1.0s
KBZ Khabaz 69.66 310 P **P** 05 38 51.3 +0.1
comp=Z,3.8nm,0.8s,baz=36,slow=3.5,SNR=12
KBZ LR LR 06 14 41.3
comp=Z,51nm,19.1s,baz=38,slow=40
GNI Garni 70.70 307 ceP **P** 05 39 00.5 +2.7
GNI pmax pmax
comp=Z,33nm,1.3s
HFS Hagfors 71.51 336 P **P** 05 39 02.1 0.0
comp=Z,1.2nm,0.4s,baz=45,slow=6.5,SNR=7.0
NB2 NORSAR Subarra 71.54 338 P **P** 05 39 02.3 -0.1
comp=Z,1.1nm,0.7s,baz=37,slow=6.2
NOA NORSAR Array B 71.54 338 P **P** 05 39 01.3 -1.1
comp=Z,2.9nm,0.9s,baz=37,slow=6.1,SNR=6.0
NOA LR LR 06 14 39.3
comp=Z,31nm,18.4s,baz=265,slow=39
NVAR Mina Array Bea 71.96 55 P **P** 05 39 06.8 +1.3
comp=Z,0.3nm,0.6s,baz=288,slow=6.1,SNR=3.5
AKASG Malin Array Be 72.39 322 P **P** 05 39 07.1 -0.5
comp=Z,0.5nm,0.4s,baz=44,slow=6.3,SNR=2.7
PDAR Pinedale Array 74.39 47 P **P** 05 39 20.2 +0.3
comp=Z,0.4nm,0.5s,baz=270,slow=1.2,SNR=9.2
BUR04 Bucovina Ar. S 76.43 322 eP **P** 05 39 32.0 +0.7
BRTR Keskin Array B 77.55 312 P **P** 05 39 37.7 -0.1
comp=Z,0.8nm,0.7s,baz=73,slow=4.5,SNR=5.9
BRTR LR LR 06 19 10.3
comp=Z,25nm,19.2s,baz=284,slow=40
BRTR Keskin Array B 77.55 312 ceP **P** 05 39 38.4 +0.6
BRTR pmax pmax
comp=Z,1.0nm,0.7s
CLL Collm 78.77 331 iP **P** 05 39 44.4 +0.2
comp=Z,5.0nm,0.8s
CLL Collm 78.77 331 iP **P** 05 39 44.4 +0.2
CLL pmax pmax
comp=Z,6.0nm,0.8s
CONA Conrad Observa 80.33 327 iP **P** 05 39 54.4 +1.6
EKA Eskdalemuir Ar 80.34 341 P **P** 05 39 52.6 0.0
comp=Z,1.2nm,0.7s,baz=41,slow=6.0,SNR=2.6
GERES GERESS Array B 80.48 329 P **P** 05 39 52.2 -1.5
comp=Z,0.8nm,0.7s,baz=12,slow=6.8,SNR=4.2
MMAI Mount Meron Ar 81.03 306 P **P** 05 39 56.2 -0.6
comp=Z,0.4nm,0.3s,baz=32,slow=5.8,SNR=2.2
TORD Torodi Ar. Bea 115.76 318 PKP **PKiKP** 05 46 22.8 -1.8
comp=Z,0.3nm,0.9s,baz=141,slow=2.1,SNR=2.7
VNA2 Neumayer--Watz 145.94 197 PKP **PKPdf** 05 47 19.7 +0.3
VNA3 Neumayer Olymp 146.18 195 PKP **PKPdf** 05 47 20.0 +0.2
VNA1 Neumayer--Stat 146.34 197 PKP **PKPdf** 05 47 20.1 +0.1

*ISCJB **03** 05:35:52.0±0.4,39.45N±0.01×26.02E±0.03,h8km±3km, Error ellipse: s-maj=3.7km s-min=2.5km az=4.2*
*DDA **03** 05:35:51.7,39.47N×26.06E,h7km±4km,ML3.1*
*ATH **03** 05:35:51.6,39.44N×26.03E,h30km± 1km,ML2.4/6, Error ellipse: s-maj=1.8km s-min=1.1km az=250.0,ML Amplitudes are expressed in micrometres All distances are expressed in km*
*ISK **03** 05:35:51.3,39.46N×25.99E,h8km,ML2.9/19*
*THE **03** 05:35:52.4,39.47N×26.01E,h7km± 1km,ML2.2/7, Error ellipse: s-maj=1.8km s-min=0.6km az=131.0*

ISC 03 05:35:51.9±0.9,**39.46N**±0.01×**26.02E**±0.02,**h11**km±7km, **n57**,σ0**s70**/85,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GPNR	**Gulpinar-Canak**	**0.09**	**92**	PG	**Pg**	**05 35 54.4**	**0.0**
SIGR	**SIGRI**	**0.28**	**207**	PG	**Pg**	**05 35 56.7**	**-0.9**
SIGR	**SIGRI**	**0.28**	**207**	P	**Pg**	**05 35 57.7**	**+0.1**
SIGR				S	**Sg**	**05 36 01.7**	**+0.3**
SIGR				AML	AML	05 36 02.3	
	comp=E,2307μm,0.2s						
SIGR				AML	AML	05 36 02.4	
	comp=N,3176μm,0.4s						
SIGR	**SIGRI**	**0.28**	**207**	P	**Pg**	**05 35 57.7**	**+0.1**
SIGR				S	**Sg**	**05 36 01.7**	**+0.3**
PRK	**Paraskevi**	**0.29**	**137**	P	**Pb**	**05 35 58.9**	**-0.2**
PRK				S	**Sb**	**05 36 03.5**	**-0.5**
PRK	**Paraskevi**	**0.29**	**137**	P	**Pb**	**05 35 58.8**	**-0.3**
PRK				S	**Sb**	**05 36 03.4**	**-0.5**
BOZC	**Bozcaada**	**0.38**	**4**	PG	**Pb**	**05 35 59.9**	**-0.9**
BOZC				SG	**Sb**	**05 36 05.6**	**-1.1**
BOZC	**Bozcaada**	**0.38**	**4**	*i* P	**Pb**	**05 36 00.8**	**0.0**
EZN	**Ezine**	**0.43**	**33**	PG	**Pg**	**05 36 00.6**	**+0.1**
EZN				SG	**Sb**	**05 36 06.9**	**-1.3**
EZN	**Ezine**	**0.43**	**33**	P	**Pg**	**05 36 00.6**	**+0.1**
EZN				S	**Sb**	**05 36 07.0**	**-1.3**
BAYC	**CANAKKALE_Bayr**	**0.49**	**55**	IAML_P			
	comp=Z,6μm,0.1s						
BAYC				*i* P	**Pg**	**05 36 01.7**	**+0.1**
BAYC				*i* S	**Sg**	**05 36 08.7**	**+0.5**
AYVA	**Ayvalik**	**0.54**	**106**	IAML_P			
	comp=Z,1μm,0.1s						
AYVA				*i* P	**Pb**	**05 36 03.0**	**-0.5**
GADA	**Gvkgeada**	**0.74**	**353**	PG	**Pb**	**05 36 06.3**	**-0.5**
GADA	**Gvkgeada**	**0.74**	**353**	P	**Pg**	**05 36 06.0**	**-0.2**
GADA				S	**Sb**	**05 36 16.2**	**-0.7**
LIA	**Limnos Island**	**0.78**	**304**	P	**Pb**	**05 36 07.5**	**0.0**
LIA				S	**Sb**	**05 36 18.8**	**+0.6**
LIA				AML	AML	05 36 20.9	
	comp=E,374μm,0.3s						
LIA				AML	AML	05 36 21.0	
	comp=N,344μm,0.2s						
LIA	**Limnos Island**	**0.78**	**304**	P	**Pb**	**05 36 07.5**	**0.0**
LIA				S	**Sb**	**05 36 19.1**	**+1.0**
DKL	**Dikili**	**0.79**	**119**	PG	**Pb**	**05 36 07.9**	**+0.2**
EFSA	**Agios Efstrati**	**0.80**	**276**	P	**Pb**	**05 36 08.5**	**+0.6**
EFSA				S	**Sb**	**05 36 19.9**	**+1.1**
FOCM	**Foa**	**0.93**	**143**	PG	**Pb**	**05 36 10.1**	**+0.1**
KRBN	**Karaburun**	**0.96**	**154**	PG	**Pg**	**05 36 10.1**	**-0.3**
PSRA	**Psara**	**0.98**	**201**	P	**Pg**	**05 36 10.7**	**-0.1**
PSRA				S	**Sb**	**05 36 24.5**	**+0.6**
GELI	**Tayfur-Gelibol**	**1.00**	**20**	PG	**Pb**	**05 36 11.2**	**-0.1**
CHOS	**Chios island**	**1.07**	**179**	PG	**Pg**	**05 36 11.3**	**-1.2**
CHOS	**Chios island**	**1.07**	**179**	P	**Pg**	**05 36 11.8**	**-0.7**
CHOS				S	**Sg**	**05 36 26.1**	**-0.4**
CHOS	**Chios island**	**1.07**	**179**	P	**Pg**	**05 36 11.9**	**-0.7**
CHOS				S	**Sn**	**05 36 28.1**	**+0.2**
LPK	**Lapseki**	**1.07**	**32**	PN	**Pn**	**05 36 12.7**	**-0.3**
LPK				SN	**Sn**	**05 36 27.4**	**-0.5**
SMTH	**Samothraki Isl**	**1.08**	**340**	P	**Pb**	**05 36 12.6**	**0.0**
SMTH				S	**Sb**	**05 36 27.2**	**+0.4**

SMTH				AML	AML	05 36 28.7	
	comp=N,252μm,0.2s						
SMTH				AML	AML	05 36 29.1	
	comp=E,175μm,0.2s						
SMTH	Samothraki Isl	1.08	340	P	Pb	05 36 12.4	-0.2
SMTH				S	Sb	05 36 27.1	+0.4
URLA	Izmir	1.19	158	PN	Pn	05 36 14.8	+0.3
URLA	Izmir	1.19	158	IAML_P			
	comp=Z,2μm,0.2s						
URLA				*i* P	Pb	05 36 14.2	-0.3
URLA				*i* S	Sg	05 36 29.1	-1.0
ERIK	Erikli-Kesan	1.27	17	PN	Pg	05 36 16.2	-0.1
ERIK				SN	Sn	05 36 33.2	+0.6
ENEZ	Enez	1.28	5	PN	Pg	05 36 16.4	-0.1
SKY	Skiros Island	1.28	244	P	Pn	05 36 14.8	-1.0
SKY				S	Sb	05 36 31.9	-0.6
SKY				AML	AML	05 36 36.9	
	comp=E,292μm,0.2s						
SKY				AML	AML	05 36 37.2	
	comp=N,240μm,0.3s						
STEP	BALIKESIR_Sava	1.32	93	IAML_P			
	comp=Z,1μm,0.1s						
STEP				*i* P	Pg	05 36 16.8	-0.4
STEP				*i* S	Sn	05 36 36.9	+3.0
BLCB	Balcova	1.34	143	PN	Pb	05 36 17.2	+0.2
KRBG	Karabiga-Canak	1.35	46	PN	Pb	05 36 17.0	-0.3
GONE	Gonen-Balikesi	1.41	65	PN	Pn	05 36 17.8	+0.2
KNL	Balıkesir	1.41	55	IAML_P			
	comp=Z,1μm,0.2s						
KNL				*i* P	Pg	05 36 18.6	-0.5
KNL				*i* S	Sg	05 36 37.1	-0.3
ALN	Alexandroupoli	1.44	1	PN	Pn	05 36 18.2	+0.3
ALN	Alexandroupoli	1.44	1	P	Pn	05 36 17.8	-0.1
ALN				S	Sg	05 36 37.7	-0.4
ALN				AML	AML	05 36 38.6	
	comp=E,168μm,0.4s						
ALN				AML	AML	05 36 39.1	
	comp=N,162μm,0.5s						
ALN	Alexandroupoli	1.44	1	P	Pn	05 36 17.8	-0.1
ALN				S	Sn	05 36 36.8	0.0
KESN	Edirne-Kesan	1.46	20	IAML_P			
	comp=Z,381nm,0.1s						
KESN				*i* P	Pg	05 36 19.6	-0.3
KESN				*i* S	Sg	05 36 38.8	-0.1
THAS	Thassos island	1.52	319	P	Pn	05 36 18.6	-0.5
THAS	Thassos island	1.52	319	P	Pn	05 36 18.6	-0.5
THAS				S	Sb	05 36 39.2	-0.2
DGB	zmir	1.56	154	*i* P	Pb	05 36 21.1	+0.3
RDO	Rodhopi	1.73	348	PN	Pn	05 36 21.9	0.0
RDO	Rodhopi	1.73	348	P	Pn	05 36 21.9	0.0
RDO	Rodhopi	1.73	348	P	Pn	05 36 21.7	-0.2
SBT4	Kumbag-Tekirda	1.79	40	PN	Pb	05 36 23.9	-0.8
SMG	Samos	1.86	160	P	Pn	05 36 23.5	-0.2
SMG				S	Sn	05 36 46.7	-0.7
SMG				AML	AML	05 36 53.5	
	comp=N,334μm,0.5s						
SMG				AML	AML	05 36 53.8	
	comp=E,254μm,0.6s						
DURS	Dursunbey	1.90	85	IAML_P			
	comp=Z,484nm,0.1s						
DURS				*i* P	Pn	05 36 24.6	+0.2
KCTX	Karacabey (Bur	1.97	65	PN	Pn	05 36 25.7	+0.4
GCAM	G?zelcaml?	2.00	151	PN	Pn	05 36 27.0	+1.4
AYDB	Zeytinkoy-Aydi	2.10	135	PN	Pn	05 36 27.4	+0.2
ARMT	Armutlu	2.45	62	PN	Pn	05 36 33.2	+1.4
EDRB	Edirne	2.45	13	PN	Pn	05 36 32.9	+1.1
CTKS	Kestanelik-??a	2.60	46	PN	Pn	05 36 36.1	+2.2

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*MOS **03** 05:47:21.7±1.0, 24.°78N×94.°22E, h42^{km}, mb4.6/30, Error ellipse: s-maj=14.1km s-min=5.1km az=126.1*

*ISCJB **03** 05:47:25.8±0.3, 24.°96N±0.°02×93.°94E±0.°02, h63^{km}±2^{km}, mb4.2/58, Error ellipse: s-maj=3.8km s-min=3.3km az=144.1*

*IDC **03** 05:47:25.1±2.2, 24.°87N×94.°14E, h54^{km}±21^{km}, mb3.7/21, mb1 3.8/23, mb1mx3.7/49, mbtmp3.9/23, ML3.9/2, MS3.5/1, Ms1 3.5/1, ms1mx2.5/48, Error ellipse: s-maj=14.4km s-min=13.0km az=59.0*

*NDI **03** 05:47:27.2±2.9, 25.°06N×93.°92E, h26^{km}±8^{km}, ML3.9*

*NEIC **03** 05:47:27.7±0.5, 24.°89N×94.°00E, h74^{km}±5^{km}, mb4.4/18, Error ellipse: s-maj=7.1km s-min=4.1km az=55.0*

*BJI **03** 05:47:27.9, 25.°32N×94.°01E, h53^{km}, mb4.3/24, mB4.5/10, Ms4.1/5, Ms7 3.8/4*

ISC 03 05:47:25.7±0.5**, 25.°00N**±0.°03×**93.°94E**±0.°04**, h50**^{km}±4^{km}**, n174,** σ**2.^{s}02**/213**, mb4.3**/58**, 21C-7D, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	Imphal	0.17	178	*e*P	Pn	05 47 34.5	+0.6
IMP				*e*S	Sn	05 47 39.9	+0.3
IMP				IAML		05 47 43.5	
	comp=N,5μm,0.4s						
IMP				IAML		05 47 43.6	
	comp=E,15μm,0.3s						
KOHI	KOHIMA	0.74	12	*e*P	Pn	05 47 41.9	+1.8
KOHI				*e*S	Sn	05 47 54.2	+3.7
SILR	SILCHAR	1.05	258	*e*P	Pn	05 47 48.0	+3.9
SILR				*e*S	Sn	05 48 04.0	+6.2
SILR				IAML		05 48 10.4	
	comp=N,3μm,0.2s						
SILR				IAML		05 48 12.2	
	comp=E,4μm,0.3s						
MOKO	MOKOCHONG	1.42	21	*e*P	Pn	05 47 51.1	+1.9
MOKO				*e*S	Sn	05 48 09.5	+2.6
AZL	Aizawl	1.69	223	*e*P	Pn	05 47 55.0	+2.0
AZL				*e*S	Sn	05 48 16.6	+3.0
AZL				IAML		05 48 19.9	
	comp=E,3μm,0.1s						
AZL				IAML		05 48 20.1	
	comp=N,1μm,0.3s						
JORH	JORHAT	1.76	9	*e*P	Pn	05 47 55.5	+1.8
JORH				*e*S	Sn	05 48 17.4	+2.4
TEZP	TEZPUR	1.91	328	*e*P	Pn	05 47 56.0	+0.2
TEZP				*e*S	Sn	05 48 17.6	-1.2
TEZP				IAML		05 48 21.4	
	comp=N,2μm,0.2s						
TEZP				IAML		05 48 21.9	
	comp=E,3μm,0.1s						
SHL	Shillong	1.95	287	*e*Pn	Pn	05 47 58.5	+2.0
SHL				*e*Sn	Sn	05 48 22.1	+2.3
SHL	Shillong	1.95	287	*e*P	Pn	05 47 58.5	+2.0
SHL				*e*		05 48 22.1	
SHL	Shillong	1.95	287	*e*P	Pn	05 47 58.7	+2.2
SHL				*e*S	Sn	05 48 22.4	+2.6
SHL				IAML		05 48 23.0	
	comp=N,997nm,0.1s						
SHL				IAML		05 48 23.1	
	comp=E,1μm,0.1s						
GUWA	GUWAHATI	2.35	301	*e*P	Pn	05 48 03.4	+1.5
GUWA				*e*S	Sn	05 48 31.0	+1.4
GUWA				IAML		05 48 32.1	
	comp=N,2μm,0.1s						
GUWA				IAML		05 48 32.3	
	comp=E,983nm,0.1s						
ZIRO	ZIRO	2.52	358	*e*P	Pn	05 48 05.5	+1.1
ZIRO				*e*S	Sn	05 48 34.9	+0.9
DIBR	DIBRUGARH	2.61	19	*e*P	Pn	05 48 08.1	+2.7
DIBR				*e*S	Sn	05 48 37.4	+1.5
SAIH	SAIHA	2.64	199	*e*P	Pn	05 48 06.8	+0.7
SAIH				*e*S	Sn	05 48 40.7	+3.7
AGT	Agartala	2.69	246	*e*P	Pn	05 48 09.2	+2.7
AGT				*e*S	Sn	05 48 41.4	+3.6
AGT				IAML		05 48 44.0	
	comp=N,2μm,0.7s						
AGT				IAML		05 48 44.1	
	comp=E,1μm,0.2s						
BELO	BELONIA	2.87	233	*e*P	Pn	05 48 10.7	+1.8
BELO				*e*S	Sn	05 48 43.6	+1.4
LKP	Lekhapani	2.89	36	*e*P	Pn	05 48 10.5	+1.2
LKP				*e*S	Sn	05 48 44.1	+1.3
LKP				IAML		05 48 56.5	
	comp=E,763nm,0.3s						
LKP				IAML		05 48 58.0	
	comp=N,780nm,0.2s						
BRDH	Bariadhala	3.12	223	P	Pn	05 48 13.2	+0.7
	comp=N,14nm,0.3s,baz=66,slow=14,SNR=5.7						
BRDH				S	Sn	05 48 49.4	+0.9
	comp=N,138nm,0.3s,baz=52,slow=13,SNR=16						
TAWA	Tawang	3.19	325	*e*P	Pn	05 48 16.1	+2.5
TAWA				*e*S	Sn	05 48 51.3	+0.7
TURI	Tura	3.31	280	*e*P	Pn	05 48 18.5	+3.5
TURI				*e*S	Sn	05 48 56.1	+3.0
TURI				IAML		05 48 59.5	
	comp=N,2μm,0.2s						
LSA	Lhasa	5.30	333	*e*Pn	Pn	05 48 46.5	+3.7
LSA	Lhasa	5.30	333	*e*P	Pn	05 48 46.5	+3.7
GTK	Tadong	5.33	297	*e*x	Sn	05 49 35.5	-7.5
GTK				IAML		05 49 48.1	
	comp=N,105nm,0.2s						
GTK				IAML		05 49 48.8	
	comp=E,148nm,0.2s						
ODAN	Odare	6.18	289	*e*Pn	Pn	05 48 57.2	+2.6
	comp=E,297nm,0.4s						
ODAN				*e*Sn	Sn	05 50 04.3	+0.1
	comp=E,377nm,0.3s						
RAMN	Ramite	6.89	288	*e*Pn	Pn	05 49 06.6	+2.3
	comp=E,259nm,0.3s						
BOK	Bokaro	7.44	262	*e*P	Pn	05 49 12.1	+0.4
BOK				*e*S	Sn	05 50 31.2	-3.6
BOK				IAML		05 50 35.6	
	comp=N,66nm,0.1s						
BOK				IAML		05 50 36.1	
	comp=E,34nm,0.1s						
JIRN	Jiri	7.44	293	*e*Pn	Pn	05 49 14.3	+2.3
	comp=E,289nm,0.3s						
JIRN				*e*Sn	Sn	05 50 36.4	+1.1
	comp=E,442nm,0.3s						
CHTO	Chiang Mai	7.71	142	*e*Pn	Pn	05 49 15.8	+0.4
CHTO	Chiang Mai	7.71	142	P	Pn	05 49 15.9	+0.5
CHTO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GUN	Gumba	7.79	294	*e*Pn	Pn	05 49 18.8	+2.1
	comp=Z,169nm,0.3s						
GUN				*e*Sn	Sn	05 50 45.6	+1.9
	comp=Z,452nm,0.6s						
KMI	Kunming	7.98	87	P	Pn	05 49 22.2	+2.9
KMI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CM31	Chiang Mai Arr	8.00	143	*e*Pn	Pn	05 49 20.3	+0.9
CMAR	Chiang Mai Arr	8.00	143	P	Pn	05 49 14.2	-5.2
	comp=Z,0.5nm,0.3s,baz=220,slow=8.6,SNR=5.7						
CMAR	Chiang Mai Arr	8.00	143	*ce*P	Pn	05 49 13.6	-5.8
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CM01	Chiang Mai Arr	8.04	144	*e*Pn	Pn	05 49 20.2	+0.3
PKIN	Phulchoki	8.09	290	*e*Pn	Pn	05 49 22.4	+1.6
	comp=Z,97nm,0.4s						
PKIN				*e*Sn	Sn	05 50 49.6	-1.4
	comp=Z,114nm,0.5s						
KKN	Kakani	8.25	292	*e*Pn	Pn	05 49 24.7	+1.7
	comp=Z,185nm,0.3s						
KKN				*e*Sn	Sn	05 50 55.1	+0.2
	comp=Z,167nm,0.5s						
DMN	Daman	8.34	290	*e*Pn	Pn	05 49 25.8	+1.5
	comp=Z,64nm,0.3s						
DMN				*e*Sn	Sn	05 50 56.1	-1.2
	comp=Z,140nm,0.5s						
GKN	Gorkha	8.85	292	*e*Pn	Pn	05 49 32.4	+1.2
GKN				*e*Sn	Sn	05 51 08.6	-1.1
	comp=Z,1.0nm,0.2s						
KOLN	Koldanda	9.67	289	*e*Pn	Pn	05 49 42.9	+0.4
	comp=Z,66nm,0.3s						
KOLN				*e*Sn	Sn	05 51 26.3	-3.6
	comp=Z,98nm,0.4s						
DANN	Dangsing	9.70	292	*e*Pn	Pn	05 49 42.9	0.0
	comp=Z,67nm,0.4s						
DANN				*e*Sn	Sn	05 51 28.9	-1.7
	comp=Z,108nm,0.5s						
PYUN	Piuthan	10.28	290	*e*Pn	Pn	05 49 49.9	-0.9
	comp=Z,42nm,0.3s						
PYUN				*e*Sn	Sn	05 51 40.6	-4.1
	comp=Z,104nm,0.5s						
PBKT	Sadao Pong	10.65	141	*e*Pn	Pn	05 49 56.9	+1.2
GYA	Guiyang	11.56	80	*e*P	Pn	05 50 11.0	+2.7
GYA				pP		05 50 20.4	
GYA				S	Sn	05 52 19.2	+3.2
GYA				sS		05 52 34.8	
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LZH	Lanzhou	13.95	35	*e*P	P	05 50 45.4	-2.2
LZH				pmax	pmax		
	comp=Z,24nm,1.3s						
LZH				LR	LR		
	comp=Z,460nm,10.4s						
LZH				LR	LR		
	comp=Z,320nm,10.8s						
LZH				LR	LR		
	comp=Z,220nm,10.8s						
NGP	Nagpur	14.23	257	*e*x	Pn	05 50 42.5	-2.0
NGP				*e*S	Sn	05 53 09.9	-11
GTA	Gaotai	15.20	18	*e*P	P	05 51 05.8	+4.4
GTA				pP	sP	05 51 19.8	+0.2
GTA				sP	pP	05 51 27.1	+14
GTA				S	S	05 53 56.4	-2.9
GTA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,47nm,6.8s						
WMQ	Urumqi	19.46	346	*e*P	Pn	05 51 50.6	+0.7
WMQ				pmax	pmax		
	comp=Z,24nm,0.9s						
WMQ				LR	LR		
	comp=Z,110nm,21.3s						
WMQ				LR	LR		
	comp=Z,55nm,20.1s						
NIL	Nilore	19.97	300	*e*P	Pn	05 51 55.4	-0.5
	comp=Z,26nm,0.8s						
NIL	Nilore	19.97	300	*e*P	Pn	05 51 55.4	-0.5
NIL				pmax	pmax		
	comp=Z,26nm,0.8s						
KSH	Kashi	20.93	318	P	P	05 52 05.6	+1.2
KSH				pP	sP	05 52 19.9	-2.6
KSH				S	S	05 55 46.7	-8.3
KSH				SS	SnSn	05 56 24.9	+6.5
KSH				pmax	pmax		
	comp=Z,71nm,1.7s						
KSH				LR	LR		
	comp=Z,220nm,4.6s						
KSH				LR	LR		
	comp=Z,290nm,4.9s						
KSH				LR	LR		
	comp=Z,250nm,6.5s						
HHC	Hu-ho-hao-te	21.59	39	*e*P	P	05 52 14.6	+3.3
HHC				pmax	pmax		
	comp=Z,14nm,0.9s						
HHC				pmax	pmax		
	comp=Z,130nm,5.4s						
PALK	Pallekele	21.70	218	*e*P	P	05 52 11.8	-0.9
	comp=Z,74nm,1.8s						
PALK	Pallekele	21.70	218	*e*P	P	05 52 11.8	-0.9
PALK				pmax	pmax		
	comp=Z,74nm,1.8s						
PDGK	Podgornoye	21.79	331	P	P	05 52 14.7	+1.2
PDGK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KDJ	Kajisay	22.00	325	*e*P	P	05 52 16.7	+0.8
	comp=Z,13nm,0.9s						
KDJ	Kajisay	22.00	325	*e*P	P	05 52 16.7	+0.8
KDJ				pmax	pmax		
	comp=Z,13nm,0.9s						
NRN	Naryn	22.15	322	*e*P	P	05 52 19.6	+1.9
	comp=Z,5.9nm,1.1s						
NRN	Naryn	22.15	322	*e*P	P	05 52 19.6	+1.9
NRN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
PSI	Prapat	22.59	167	*e*P	P	05 52 22.6	+0.4
	comp=Z,12nm,1.2s						
PSI	Prapat	22.59	167	*e*P	P	05 52 22.6	+0.4
PSI				pmax	pmax		
	comp=Z,12nm,1.2s						
SFK	Sufi-Kurgan	22.75	316	P	P	05 52 25.4	+1.4
SFK				pmax	pmax		
	comp=Z,12nm,1.0s						
KBL	Kabul	23.56	300	*e*P	P	05 52 33.1	+1.1
	comp=Z,13nm,0.5s						
KBL	Kabul	23.56	300	*e*P	P	05 52 33.1	+1.1
KBL				pmax	pmax		
	comp=Z,13nm,0.5s						
MK01	Makanchi Array	23.63	340	*e*P	P	05 52 33.4	+1.0
MK31	Makanchi Array	23.66	340	*e*P	P	05 52 33.2	+0.6
MK31	Makanchi Array	23.66	340	*e*P	P	05 52 33.2	+0.6
MKAR	Makanchi Array	23.66	340	P	P	05 52 32.8	+0.2
	comp=Z,1.7nm,0.5s,baz=140,slow=11,SNR=33						
MKAR				PcP	PcP	05 56 16.2	+0.3
	comp=Z,0.4nm,0.7s,baz=225,slow=1.0,SNR=2.8						
MKAR	Makanchi Array	23.66	340	*e*P	P	05 52 33.8	+1.3
	comp=Z,40nm,1.1s						
MKAR				PcP	PcP	05 56 16.2	+0.3
MKAR	Makanchi Array	23.66	340	*ce*P	P	05 52 34.2	+1.6
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MAKZ	Makanchi	23.77	339	*e*P	P	05 52 35.3	+1.7
	comp=Z,6.9nm,1.2s						
AAK	Ala-Archa	23.79	322	P	P	05 52 36.1	+2.1
	comp=Z,1.5nm,0.5s,baz=127,slow=8.3,SNR=5.4						
AAK	Ala-Archa	23.79	322	*e*P	P	05 52 35.2	+1.2
	comp=Z,4.5nm,1.0s						
AAK	Ala-Archa	23.79	322	*ce*P	P	05 52 36.9	+2.9
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
SONM	Songino Array	24.84	20	P	P	05 52 43.9	+0.5
	comp=Z,1.0nm,0.5s,baz=202,slow=11,SNR=11						
SONA1	Songino Array	24.85	20	*e*P	P	05 52 44.7	+1.1
ULN	Ulaanbaatar	25.07	21	*e*P	P	05 52 47.1	+1.5
	comp=Z,2.5nm,0.8s						
ULN	Ulaanbaatar	25.07	21	*ce*P	P	05 52 47.7	+2.1
ULN				pmax	pmax		
	comp=Z,5.0nm,1.7s						
DGZ	Jazzator, Alta	25.18	350	*i* P	P	05 52 48.8	+2.3
DGZ				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BKNI	Bangkinang	25.47	163	*e*P	P	05 52 49.3	0.0
	comp=Z,38nm,0.4s						
KK31	Karatay Array	26.37	319	*e*P	P	05 52 58.9	+1.6
KK31	Karatay Array	26.37	319	*e*P	P	05 52 58.9	+1.6
KKAR	Karatay Array	26.37	319	*e*P	P	05 52 59.1	+1.8
KKAR	Karatay Array	26.37	319	*e*P	P	05 52 59.1	+1.8
KURBB	Kurchatov Arra	28.21	339	P	P	05 53 14.3	+0.6
	comp=Z,1.2nm,0.8s,baz=156,slow=7.6,SNR=4.9						
KURBB				PcP	PcP	05 56 23.6	-2.6
	comp=Z,0.2nm,0.3s,baz=166,slow=2.9,SNR=4.5						
KURK	Kurchatov	28.27	339	*e*P	P	05 53 15.0	+0.9
	comp=Z,2.6nm,0.9s						
KURK				PcP	PcP	05 56 23.6	-2.7
KURK	Kurchatov	28.27	339	*e*P	P	05 53 15.0	+0.9
KURK						05 56 23.6	
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZAA0	Zalesovo Array	29.71	349	*e*P	P	05 53 28.0	+1.1
	comp=Z,1.8nm,0.5s						
ZALV	Zalesovo Beam	29.71	349	P	P	05 53 27.7	+0.8
	comp=Z,1.1nm,0.4s,baz=185,slow=8.5,SNR=9.4						
ZALV	Zalesovo Beam	29.71	349	*e*P	P	05 53 27.3	+0.4
ZALV	Zalesovo Beam	29.71	349	*e*P	P	05 53 27.3	+0.4
GEYT	Alibeck	32.96	302	P	P	05 53 57.8	+2.1
	comp=Z,6.8nm,0.9s,baz=108,slow=4.8,SNR=9.4						
GYA0B	ALIBECK ARRAY	32.96	302	*e*P	P	05 53 56.7	+0.9
	comp=Z,8.6nm,0.9s						
BRVK	Borovoye	33.20	334	*e*P	P	05 53 59.1	+1.5
	comp=Z,13nm,1.8s						
BRVK	Borovoye	33.20	334	*e*P	P	05 53 59.1	+1.5
BRVK				pmax	pmax		
	comp=Z,13nm,1.8s						
ABKAR	Akbulak array	35.87	321	*e*P	P	05 54 22.2	+1.6
USRK	Ussuriysk Ar.	36.30	48	P	P	05 54 22.1	-2.4
	comp=Z,1.6nm,0.6s,baz=253,slow=8.9,SNR=4.1						
SVE	Sverdlovsk	39.83	332	*e*P	P	05 54 55.6	+1.6
ARU	Arti	40.50	330	*i* P	P	05 55 00.2	+0.7
GNI	Garni	43.58	303	*i* P	P	05 55 27.2	+2.0
GNI				pmax	pmax		
	comp=Z,13nm,0.9s						
ZEI	Tsey	44.48	306	*e*P	P	05 55 34.1	+1.7
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KBZ	Khabaz	45.33	308	P	P	05 55 39.0	+0.2
	comp=Z,0.8nm,0.5s,baz=72,slow=4.0,SNR=4.1						
KBZ	Khabaz	45.33	308	P	P	05 55 39.0	+0.2
NEY	Neytrino	45.40	307	*i* P	P	05 55 42.7	+3.1
NEY				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KIV	Kislovodsk	45.51	308	*e*P	P	05 55 42.3	+1.9
KIV				*e**SP	pP	05 55 55.9	+1.9
KIV				*e*		05 57 18.8	
KIV				*e*		05 57 31.4	
KIV				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KIV				MLR	MLR		
	comp=Z,39nm,16.0s						
VSR	Storozhevoye	49.01	317	*e*P	P	05 56 08.0	+0.6
VSR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
LPSR	Galich'ya Gora	49.43	319	*e*P	P	05 56 11.3	+0.8
LPSR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
OBN	Obninsk	51.31	322	*e*P	P	05 56 23.4	-1.3
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KLMR	Klimovskoe	51.33	329	*e*P	P	05 56 22.2	-2.5
KLMR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KLMR	Klimovskoe	51.33	329	*e*P	P	05 56 22.2	-2.5
KLMR				AMP		05 56 27.2	
	comp=Z,6.0nm,0.9s						
MA2	Magadan	52.09	33	LR	LR	06 21 50.6	
	comp=Z,46nm,18.0s,baz=279,slow=40						
BR131	Keskin Array S	52.10	302	*e*P	P	05 56 31.7	+0.6
BRTR	Keskin Array B	52.10	302	P	P	05 56 31.6	+0.6
	comp=Z,1.5nm,0.8s,baz=125,slow=8.1,SNR=9.7						
BRTR	Keskin Array B	52.10	302	*ce*P	P	05 56 32.5	+1.4
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	Malin Array Be	55.20	316	P	P	05 56 52.9	-0.5
	comp=Z,1.6nm,0.5s,baz=81,slow=6.2,SNR=12						
AKASG	Malin Array Be	55.20	316	*ce*P	P	05 56 53.5	+0.2
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKBB	Malin Array Si	55.20	316	*e*P	P	05 56 53.2	-0.1
	comp=Z,4.9nm,0.8s						
AKBB	Malin Array Si	55.20	316	*e*P	P	05 56 53.2	-0.1
AKBB				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KIEV	Kiev	55.20	316	*e*P	P	05 56 53.2	-0.2
	comp=Z,4.4nm,0.7s						
KIEV	Kiev	55.20	316	*i* P	P	05 56 53.1	-0.3
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CFR	Carcaliu	55.94	309	⇑*i*P	P	05 57 00.1	+1.4
CFR	Carcaliu	55.94	309	⇑P	P	05 57 00.1	+1.4
VRI	Vrincioaia	56.89	310	⇑*i*P	P	05 57 07.6	+2.0
VRI	Vrincioaia	56.89	310	⇑P	P	05 57 07.6	+2.0
PLOR	Plostina	56.95	310	⇓*i*P	P	05 57 08.1	+2.1
PLOR	Plostina	56.95	310	⇓P	P	05 57 08.1	+2.1
BIZ	Bicaz	57.27	311	⇓*i*P	P	05 57 09.6	+1.4
MLR	Muntele Rosu	57.46	309	*e*P	P	05 57 11.3	+1.5
	comp=Z,15nm,1.1s						
MLR	Muntele Rosu	57.46	309	⇑*i*P	P	05 57 11.1	+1.3
MLR	Muntele Rosu	57.46	309	*e*P	P	05 57 11.3	+1.5
MLR				pmax	pmax		
	comp=Z,15nm,1.1s						
ALN	Alexandroupoli	57.80	304	P	P	05 57 13.3	+1.3
ALN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FINES	FINESS Array B	57.80	328	P	P	05 57 11.6	0.0
	comp=Z,2.1nm,0.7s,baz=96,slow=5.6,SNR=11						
FINES	FINESS Array B	57.80	328	*ce*P	P	05 57 12.6	+0.9
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
DOPR	Dopca	57.82	310	⇑*i*P	P	05 57 14.1	+2.0
BURAR	Bucovina Array	57.84	312	⇑*i*P	P	05 57 13.3	+0.9
BURAR	Bucovina Array	57.84	312	⇑P	P	05 57 13.3	+0.9
SUF	Sumiainen	57.92	330	P	P	05 57 13.2	+0.7
SUF				pmax	pmax		
	comp=Z,14nm,2.9s						
VOIR		58.09	309	⇓*i*P	P	05 57 14.6	+0.5
VOIR		58.09	309	P	P	05 57 14.7	+0.6
VOIR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ARR	Arges	58.39	309	⇑*i*P	P	05 57 17.3	+1.1
SANT	Santorini	58.88	299	*e*P	P	05 57 20.3	+0.6
	comp=Z,20nm,0.6s						
SANT	Santorini	58.88	299	⇑*i*P	P	05 57 19.9	+0.2
ARCES	ARCESS Array B	59.29	338	P	P	05 57 21.5	-0.5
	comp=Z,1.7nm,0.8s,baz=74,slow=6.7,SNR=6.2						
WRA	Warramunga Arr	59.49	135	P	P	05 57 21.9	-2.2
	comp=Z,0.7nm,0.6s,baz=325,slow=7.4,SNR=8.7						
IDI	Anoyia	59.53	298	⇓*i*P	P	05 57 25.0	+0.8
VAF	Ylistaro	59.55	330	P	P	05 57 25.0	+1.3
VAF				pmax	pmax		
	comp=Z,13nm,2.1s						

DRGR		59.60	311	⇑iP	P	05 57 25.6	+1.0
DRGR		59.60	311	⇑P	P	05 57 25.7	+1.1
TRPA	Tarpa	59.61	313	⇑iP	P	05 57 26.3	+1.8
VTS	Vitosha	59.70	306	⇓iP	P	05 57 26.9	+1.5
VTS	Vitosha	59.70	306	⇓P	P	05 57 26.9	+1.5
BILL	Bilibino	60.46	24	eP	P	05 57 29.3	-0.7
BILL				e*PP	pP	05 57 40.3	-3.9
BILL				e*SP	sP	05 57 45.1	-5.0
BILL				e		05 58 14.0	
BILL				e		05 59 43.2	
BILL				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MDVR	Moldovita	60.51	309	⇑iP	P	05 57 32.1	+1.3
GRG	Griva	60.52	304	P	P	05 57 31.5	+0.6
GRG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AGG	Agios Georgios	60.89	302	eP	P	05 57 32.9	-0.6
	comp=Z,6.2nm,0.8s						
AGG	Agios Georgios	60.89	302	eP	P	05 57 32.9	-0.6
AGG				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NIE	Niedzica	60.98	314	P	P	05 57 35.6	+1.7
NIE				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ASAR	Alice Springs	61.97	138	P	P	05 57 39.0	-1.9
	comp=Z,0.9nm,0.7s,baz=318,slow=7.1,SNR=10						
ASAR	Alice Springs	61.97	138	P	P	05 57 39.0	-1.9
MORC	Moravsky Berou	62.72	315	P	P	05 57 46.8	+1.2
MORC				pmax	pmax		
	comp=Z,4.0nm,1.4s						
VRAC	Vranov	63.40	314	P	P	05 57 51.3	+1.3
VRAC				pmax	pmax		
	comp=Z,9.0nm,1.4s						
NB2	NORSAR Subarra	64.97	328	P	P	05 58 00.5	+0.3
	comp=Z,0.6nm,0.5s,baz=83,slow=6.5						
NOA	NORSAR Array B	64.97	328	P	P	05 58 00.2	0.0
	comp=Z,1.2nm,0.6s,baz=85,slow=6.3,SNR=4.5						
GEC2	GERESS Array S	65.35	314	P	P	05 58 04.0	+1.1
GEC2				pmax	pmax		
	comp=Z,8.0nm,2.4s						
GERES	GERESS Array B	65.35	314	P	P	05 58 03.6	+0.7
	comp=Z,2.2nm,0.7s,baz=76,slow=5.6,SNR=9.8						
KEST	Kesra	71.71	301	P	P	05 58 43.9	+1.0
	comp=Z,7.3nm,0.9s,baz=337,slow=2.2,SNR=5.7						
ILAR	Eielson Array	79.04	22	P	P	05 59 22.8	-1.5
	comp=Z,0.3nm,0.8s,baz=302,slow=5.0,SNR=4.5						
ESDC	Sonseca Array	80.16	309	P	P	05 59 30.0	-0.9
	comp=Z,0.1nm,0.3s,baz=68,slow=6.6,SNR=3.6						
BOSA	Boshof	84.85	235	P	P	05 59 53.5	-2.0
	comp=Z,2.7nm,0.9s,baz=58,slow=4.1,SNR=3.7						
TOA0	Torodi Ar. Sit	86.54	283	eP	P	06 00 04.0	0.0
TORD	Torodi Ar. Bea	86.54	283	P	P	06 00 03.5	-0.6
	comp=Z,1.4nm,0.9s,baz=38,slow=6.0,SNR=7.8						
YKA	Yellowknife Ar	89.88	13	P	P	06 00 17.3	-1.7
	comp=Z,0.1nm,0.7s,baz=336,slow=5.1,SNR=3.7						
ROSC	El Rosal	148.22	337	PKPbc	PKPbc	06 07 07.9	+0.3
	comp=Z,4.8nm,0.5s,baz=68,slow=17,SNR=4.7						
ROSC	El Rosal	148.22	337	ePKPdf	PKPdf	06 07 03.1	-1.1
ROSC				ePKPbc	PKiKP	06 07 08.6	-0.7

IDC 03 06:08:53.6±2.3, 6°.70S×128°.50E, h0km, mb3.3/1, mb1 3.7/4, mb1mx3.4/42, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=107.1km s-min=29.1km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.66	194	Pn	Pn	06 11 41.7	+0.3
	0.3nm,0.3s,baz=20,slow=8.1,SNR=8.3						
FITZ				Sn	Sn	06 13 36.6	-16
	0.2nm,0.3s,baz=342,slow=19,SNR=4.6						
WRA	Warramunga Arr	14.33	157	Pn	Pn	06 12 17.1	-0.9
	0.2nm,0.3s,baz=333,slow=14,SNR=16						
WRA				Sn	Sn	06 14 38.1	-20
	0.5nm,0.3s,baz=334,slow=23,SNR=11						
ASAR	Alice Springs	17.65	163	P	Pn	06 13 01.4	+0.3
	0.2nm,0.3s,baz=341,slow=11,SNR=15						
ASAR				S	Sn	06 15 58.0	-20
	0.1nm,0.3s,baz=341,slow=25,SNR=3.0						
MKAR	Makanchi Array	67.17	327	P	P	06 19 49.5	0.0
	0.3nm,0.7s,baz=128,slow=4.4,SNR=3.4						

IDC 03 06:18:33.0±5.6, 38°.40N×142°.36E, h50km±45km, mb3.2/5, mb1 3.4/7, mb1mx3.2/38, mbtmp3.4/7, ML2.6/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/16, Error ellipse: s-maj=45.5km s-min=19.4km az=80.0

ISCJB 03 06:18:34.9±0.9, 38°.32N±0°.04×141°.9E±0°.1, h69km±5km, mb3.4/5, Error ellipse: s-maj=14.4km s-min=6.0km az=16.6

JMA 03 06:18:36.2, 38°.34N×141°.88E, h63km±1km, M3.7

JMA Felt I J1.

ISC 03 06:18:35.3±1.5, 38°.32N±0°.06×142°.0E±0°.1, h58km±10km, n22, σ1s06/34, mb3.2/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.43	269	P	Pn	06 18 46.9	+0.6
JIKH				S	Sn	06 18 54.4	+0.1
JIO	Ouri	0.54	285	P	Pn	06 18 47.9	+0.4
JIO				S	Sn	06 18 56.1	-0.2
JKMT	Kesennumamotoy	0.65	320	P	Pn	06 18 49.3	+0.5
JKMT				S	Sn	06 18 58.7	+0.1
OFUJ	Ofunato	0.81	341	P	Pn	06 18 51.4	+0.6
OFUJ				S	Sn	06 19 02.5	+0.4
JMK	Ichinoseki	0.89	316	P	Pn	06 18 52.3	+0.5
JMK				S	Sn	06 19 03.8	-0.1
JOU	Okura	1.06	273	P	Pn	06 18 54.0	-0.1
JOU				S	Sn	06 19 07.1	-0.8
JMM	Marumori	1.06	245	P	Pn	06 18 53.7	-0.3
JMM				S	Sn	06 19 06.9	-1.0
JOM	Ohasama	1.28	334	P	Pn	06 18 57.7	+0.7
JOM				S	Sn	06 19 13.4	+0.1
JFK	Kawauchi	1.30	224	P	Pn	06 18 57.5	+0.1
JFK				eS	Sn	06 19 13.5	-0.4
JYK	Kaneyama	1.42	295	P	Pn	06 18 59.0	+0.1
JRG	Rokugo	1.52	316	P	Pn	06 19 00.6	+0.4
JYS	Shirataka	1.53	267	P	Pn	06 19 00.4	0.0
JYS				S	Sn	06 19 18.8	-0.5
JFT	Otama	1.54	239	P	Pn	06 19 00.9	+0.3
JFT				S	Sn	06 19 19.3	-0.3
JYA	Atsumi	1.82	279	P	Pn	06 19 04.3	0.0
MJAR	Matsushiro Arr	3.50	241	P	Pn	06 19 28.1	+0.7
	1.2nm,0.3s,baz=32,slow=14,SNR=13						
MJAR				S	Sn	06 20 12.5	+4.9
	0.1nm,0.3s,baz=128,slow=40,SNR=2.7						
MAT	Matsushiro	3.50	241	P	Pn	06 19 29.0	+1.6
USRK	Ussuriysk Ar.	9.56	311	P	Pn	06 20 50.4	+0.3
	0.2nm,0.3s,baz=121,slow=14,SNR=4.5						
SONM	Songino Array	27.49	302	P	P	06 24 15.6	-0.6
	0.2nm,0.4s,baz=104,slow=11,SNR=2.8						
SONM				LR	LR	06 36 11.6	
	comp=Z,53nm,19.5s,baz=90,slow=38						
ZALV	Zalesovo Beam	41.41	311	P	P	06 26 15.9	+0.1
	0.6nm,0.4s,baz=81,slow=8.9,SNR=3.1						
MKAR	Makanchi Array	43.85	301	P	P	06 26 35.6	-0.2
	0.2nm,0.5s,baz=88,slow=12,SNR=4.8						
WRA	Warramunga Arr	58.40	188	P	P	06 28 24.0	-0.9
	0.4nm,0.4s,baz=6.4,slow=7.2,SNR=12						
ASAR	Alice Springs	62.12	188	P	P	06 28 50.0	-0.3
	0.1nm,0.5s,baz=6.4,slow=5.0,SNR=4.8						

IDC 03 06:30:42.0±2.6, 14°.27N×92°.12W, h79km±18km, mb3.3/4, mb1 3.5/7, mb1mx3.3/46, mbtmp3.5/7, MS3.3/1, Ms1 3.3/1, ms1mx2.4/20, Error ellipse: s-maj=31.0km s-min=10.4km az=15.0

ISC 03 06:30:42.2±1.3, 14°.4N±0°.2×92°.10W±0°.08, h67km, n9, σ1s46/10, mb3.6/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	El Apazote	1.71	68	P	Pn	06 31 10.3	+0.2
	18nm,0.3s,baz=232,slow=21,SNR=201						
APG				S	Sn	06 31 33.0	+1.9
	68nm,0.3s,baz=300,slow=19,SNR=41						
CMIG	Matias Romero	3.81	316	P	Pn	06 31 39.9	+1.4
	3.1nm,0.3s,baz=142,slow=8.6,SNR=18						
CMIG				S	Sn	06 32 23.4	+1.4
	5.6nm,0.3s,baz=153,slow=4.5,SNR=6.0						
JTS	JuntasAbangare	8.08	119	P	Pn	06 32 37.6	+0.6
	0.2nm,0.3s,baz=18,slow=20,SNR=2.6						
TXAR	Lajitas Array	18.34	326	P	Pn	06 34 52.3	+0.2
	0.1nm,0.3s,baz=140,slow=11,SNR=2.6						
ANMO	Albuquerque	24.23	330	P	P	06 35 54.0	+0.9
	0.4nm,0.3s,baz=136,slow=14,SNR=4.2						
NNA	Nana	30.24	149	LR	LR	06 46 16.3	
	comp=Z,54nm,21.2s,baz=68,slow=31						
NVAR	Mina Array Bea	33.32	321	P	P	06 37 12.4	-1.6
	0.4nm,0.6s,baz=140,slow=4.7,SNR=2.2						
YKA	Yellowknife Ar	50.65	347	P	P	06 39 32.9	-1.4
	0.5nm,0.5s,baz=150,slow=7.4,SNR=18						
ILAR	Eielson Array	62.46	337	P	P	06 40 57.1	-1.2
	0.7nm,0.9s,baz=131,slow=4.9,SNR=5.2						

IDC 03 06:39:48.8±1.1, 25°.47S×71°.35W, h0km, mb4.0/4, mb1 4.1/6, mb1mx3.8/30, mbtmp4.0/6, ML3.9/2, MS2.9/2, Ms1 2.9/2, ms1mx2.7/22, Error ellipse: s-maj=40.0km s-min=27.9km az=126.0

ISCJB 03 06:39:52.9±1.3, 25°.08S±0°.05×71°.61W±0°.09, h35km±11km, mb4.2/5, Error ellipse: s-maj=12.9km s-min=8.6km az=0.7

GUC 03 06:39:54.0±0.6, 24°.89S×71°.54W, h35km±5km, ML3.5

ISC 03 06:39:51.3±2.5, 25°.21S±0°.05×71°.5W±0°.1, h15km±13km, n21, σ1s42/30, mb4.3/5, 3C-1D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	IPOC Station P	1.14	60	⇑iP	Pg	06 40 13.3	0.0
PB14				eS	Sn	06 40 28.2	-0.3
PB14				IAML		06 40 30.8	
	comp=N,2μm,0.5s						
GO02	Mina Guanaco	1.71	89	⇓eP	Pb	06 40 22.8	+0.1
GO02				i S	Sg	06 40 45.8	-0.8
GO02				IAML		06 40 50.1	
	comp=E,1μm,0.3s						
PB10	IPOC Station P	1.89	27	⇑eP	Pn	06 40 22.3	-0.7
PB10				i S	Sn	06 40 43.5	-3.0
PB10				IAML		06 40 46.2	
	comp=N,366nm,0.4s						
PB05	IPOC Station P	2.62	27	eP	Pn	06 40 32.7	-0.5
PB05				i S	Sn	06 41 02.1	-2.7
PB05				IAML		06 41 05.1	
	comp=E,169nm,0.4s						
GO03	Copiap	2.63	155	eP	Pn	06 40 33.1	-0.1
GO03				eS	Sn	06 41 03.1	-1.7
GO03				IAML		06 41 05.1	
	comp=E,276nm,0.5s						
PB15	IPOC Station P	2.71	43	eP	Pn	06 40 35.4	+1.0
PB15				eS	Sn	06 41 06.8	-0.2
PB06	IPOC Station P	3.04	35	eP	Pn	06 40 39.3	+0.3
PB06				eS	Sn	06 41 13.6	-1.6
PB06				IAML		06 41 18.1	
	comp=E,214nm,0.3s						
PB04	IPOC Station P	3.11	23	⇑eP	Pn	06 40 39.3	-0.7
PB04				eS	Sn	06 41 14.1	-2.9
PB04				IAML		06 41 34.6	
	comp=E,170nm,0.4s						
LVC	Limon Verde	3.50	43	Pn	Pn	06 40 47.8	+2.3
	comp=E,4.2nm,0.3s,baz=185,slow=8.7,SNR=68						
LVC				Sn	Sn	06 41 27.4	+0.6
	comp=E,30nm,0.3s,baz=30,slow=21,SNR=12						
LVC				LR	LR	06 42 21.6	
	comp=E,151nm,19.8s,baz=256,slow=42						
LPAZ	La Paz	9.41	20	Pn	Pn	06 42 09.1	+2.1
	comp=E,0.8nm,0.3s,baz=211,slow=6.5,SNR=21						
LPAZ				Sn	Sn	06 43 53.2	+0.3
	comp=E,0.2nm,0.3s,baz=270,slow=19,SNR=3.4						
CPUP	Villa Florida	12.80	98	LR	LR	06 48 35.6	
	comp=E,72nm,20.8s,baz=9.5,slow=42						
BDFB	Brasilia	23.93	71	P	P	06 45 03.4	-1.7
	comp=E,3.1nm,0.9s,baz=227,slow=16,SNR=3.2						
PCRV	Puerto La Cruz	35.80	12	P	P	06 46 52.0	+1.8
	comp=E,64nm,1.4s,baz=264,slow=18,SNR=2.8						
DBIC	Dimbokro	72.05	73	P	P	06 51 15.8	+0.6
	comp=E,1.9nm,0.6s,baz=207,slow=2.3,SNR=3.6						
TORD	Torodi Ar. Bea	80.81	71	P	P	06 52 04.2	-0.7
	comp=E,2.3nm,0.7s,baz=258,slow=5.0,SNR=13						
YKA	Yellowknife Ar	93.91	341	P	P	06 53 08.0	+0.3
	comp=E,0.2nm,0.8s,baz=135,slow=4.0,SNR=4.7						
ASAR	Alice Springs	125.54	209	PKP	PKPdf	06 58 52.2	-0.5
	comp=E,0.2nm,0.5s,baz=119,slow=1.6,SNR=4.3						
WRA	Warramunga Arr	128.57	212	PKP	PKPdf	06 58 58.7	+0.2
	comp=E,0.4nm,0.8s,baz=155,slow=1.8,SNR=5.9						
ZALV	Zalesovo Beam	146.30	25	PKPbc	PKPdf	06 59 29.8	0.0
	comp=E,2.3nm,0.7s,baz=295,slow=3.3,SNR=10						
KSH	Kashi	149.22	54	PKPbc	PKPbc	06 59 40.1	+0.5
MKAR	Makanchi Array	150.00	37	PKPbc	PKPbc	06 59 41.9	+0.8
	comp=E,1.4nm,0.7s,baz=340,slow=2.3,SNR=16						

NIED 03 06:51:00, 37°.60N×143°.60E, h5km, Mw3.9 Best double couple: M0 7.91000×10^14 NP1:φs217.00000°, δ34.00000°, λ-64.00000°. NP2:φs7.00000°, δ59.00000°, λ-107.00000°.

IDC 03 06:51:29.0±0.6, 37°.51N×143°.83E, h0km, mb3.9/16, mb1 4.1/21, mb1mx4.0/35, mbtmp4.0/21, ML4.1/4, MS3.0/5, Ms1 3.0/5, ms1mx2.6/44, Error ellipse: s-maj=17.0km s-min=13.0km az=113.0

NEIC 03 06:51:30.3±0.2, 37°.55N×143°.88E, h10km, mb4.3/7, Error ellipse: s-maj=5.4km s-min=4.2km az=130.0

MOS 03 06:51:30.8±1.3, 37°.65N×143°.89E, h27km, mb4.5/15, Error ellipse: s-maj=10.1km s-min=6.5km az=98.1

JMA 03 06:51:33.0±0.2, 37°.63N×143°.58E, h50km, M4.1

ISC 03 06:51:29.3±2.4, 37°.60N±0°.05×143°.80E±0°.06, h3km±14km, n95, σ2s24/123, mb4.2/31, 10C-3D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.98	292	P	Pn	06 52 02.7	-0.9
JIKH				S	Sn	06 52 24.1	-4.8
JIO	Ouri	2.12	294	P	Pn	06 52 04.7	-0.8
JIO				S	Sn	06 52 28.1	-4.2
JKMT	Kesennumamotoy	2.20	304	P	Pn	06 52 05.7	-0.9
JKMT				S	Sn	06 52 29.5	-4.8
OFUJ	Ofunato	2.23	312	P	Pn	06 52 06.3	-0.9
OFUJ				S	Sn	06 52 30.8	-4.5
JMK	Ichinoseki	2.44	304	P	Pn	06 52 09.3	-0.7
JOM	Ohasama	2.71	314	P	Pn	06 52 13.5	-0.3
JOM				S	Sn	06 52 43.5	-3.6
JFT	Otama	2.76	269	P	Pn	06 52 14.3	-0.1
JFT				S	Sn	06 52 45.0	-3.2
JYK	Kaneyama	3.01	297	P	Pn	06 52 18.0	+0.1
JYK				S	Sn	06 52 51.7	-2.8
JANG	Nango	3.29	328	P	Pn	06 52 22.7	+1.0
JAG	Ashikaga	3.68	253	P	Pn	06 52 26.7	-0.3
JAG				eS	Sn	06 53 07.1	-3.8
BSO1	Boso 1	3.73	219	P	Pn	06 52 26.3	-0.9
BSO1				S	Sn	06 53 07.8	-3.6
JRY	Ryogami san	4.24	250	P	Pn	06 52 34.0	-0.8
JRY				S	Sn	06 53 19.1	-5.7
JOT	Ohata	4.33	331	P	Pn	06 52 36.9	+0.9
JOT				S	Sn	06 53 25.1	-1.9
ERM	Erimo	4.43	354	ePn	Pn	06 52 37.7	+0.3
ERM				eSn	Sn	06 53 23.4	-6.1
ERM	Erimo	4.43	354	c iP	Pn	06 52 37.5	+0.1
JOD2	Odawara 2	4.46	240	P	Pn	06 52 36.9	-0.9
JOD2				S	Sn	06 53 24.6	-5.7
MJAR	Matsushiro Arr	4.60	258	Pn	Pn	06 52 40.6	+0.9
	11nm,0.3s,baz=91,slow=16,SNR=154						
MJAR				Sn	Sn	06 53 32.0	-1.6
	2.2nm,0.3s,baz=90,slow=27,SNR=3.0						
MJAR				LR	LR	06 54 44.3	
	comp=Z,148nm,19.0s,baz=80,slow=43						
MAJO	Matsushiro	4.60	258	ePn	Pn	06 52 41.0	+1.2
MAJO				eSn	Sn	06 53 32.0	-1.7
MAJO	Matsushiro	4.60	258	c iP	Pn	06 52 40.8	+1.1
MAT	Matsushiro	4.60	258	P	Pn	06 52 40.8	+1.1
MAT				S	Sn	06 53 32.3	-1.4
MJB9	Matsu-Tunnel	4.60	258	ePn	Pn	06 52 40.8	+1.1
JHJ2	Mitsune	5.54	217	ePn	Pn	06 52 51.9	-0.7
JHJ	Hachijo jima 2	5.55	217	Pn	Pn	06 52 51.1	-1.7
	35nm,0.3s,baz=72,slow=20,SNR=17						
JHJ				Sn	Sn	06 53 48.9	-8.2
	35nm,0.3s,baz=55,slow=24,SNR=6.9						
INU	Inuyama	5.91	250	ePn	Pn	06 52 59.1	+1.4
ASAJ	Asahikawa	6.57	352	Pn	Pn	06 53 07.1	+0.4
	5.2nm,0.3s,baz=212,slow=9.7,SNR=21						
ASAJ				Sn	Sn	06 54 18.1	-4.0
	0.8nm,0.3s,baz=252,slow=20,SNR=2.4						
ASAJ	Asahikawa	6.57	352	ePn	Pn	06 53 08.2	+1.4
ASAJ				eSn	Sn	06 54 18.1	-4.0
YUK	Yuzh-Kuril'sk	6.61	13	eP	Pn	06 53 06.5	-0.8
YUK				eS	Sn	06 54 18.4	-4.7
YUK				pmax	pmax		
	comp=Z,97nm,0.6s						
SHO	Shikotan	6.67	19	eP	Pn	06 53 05.8	-2.3
SHO				eS	Sn	06 54 17.1	-7.4
SHO				pmax	pmax		
	comp=Z,21nm,0.2s						
KUR	Kuril'sk	8.21	21	eP	Pn	06 53 27.4	-1.8
KUR				eS	Sn	06 54 55.6	-6.8
KUR				pmax	pmax		
	comp=Z,27nm,0.3s						
USRK	Ussuriysk Ar.	11.10	310	Pn	Pn	06 54 10.7	+1.8
	comp=Z,0.5nm,0.3s,baz=118,slow=14,SNR=8.1						
USRK				LR	LR	06 58 18.2	
	comp=Z,78nm,19.5s,baz=116,slow=37						
USA0B	Ussuriysk Arra	11.10	310	ePn	Pn	06 54 10.8	+2.0
KSRS	Korea Array	12.61	274	Pn	Pn	06 54 32.2	+2.7
	comp=Z,0.2nm,0.3s,baz=84,slow=13,SNR=4.8						
KSRS				LR	LR	06 59 23.7	
	comp=Z,74nm,19.1s,baz=49,slow=38						
KSAR	Wonju Array Be	12.64	274	Pn	Pn	06 54 32.2	+2.2
KSAR	Wonju Array Be	12.64	274	P	Pn	06 54 32.2	+2.2
KLR	Kul'dur	14.53	327	Pn	Pn	06 54 53.8	-1.9
	comp=Z,0.1nm,0.3s,baz=134,slow=14,SNR=4.5						
KLR				LR	LR	07 00 48.5	
	comp=Z,69nm,19.2s,baz=340,slow=38						
ZEA	Zeya	19.77	330	eP	Pn	06 56 01.6	-0.2
SEY	Seymchan	25.90	9	P	P	06 57 02.2	+0.1
	comp=Z,1.4nm,0.6s,baz=180,slow=20,SNR=3.0						
SEY	Seymchan	25.90	9	⇑eP	P	06 57 02.4	+0.3
ULN	Ulaanbaatar	28.63	303	⇑eP	P	06 57 27.5	+0.4
ULN				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONA0	Songino Array	29.07	303	eP	P	06 57 32.2	+1.3
SONM	Songino Array	29.07	303	P	P	06 57 32.2	+1.3
	comp=Z,0.5nm,0.4s,baz=94,slow=8.1,SNR=5.4						
SONM				LR	LR	07 08 47.5	
	comp=Z,28nm,20.8s,baz=13,slow=36						
BILL	Bilibino	32.96	15	eP	P	06 58 04.7	-0.1
BILL				e		06 59 08.4	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
TIXI	Tiksi	34.97	352	eP	P	06 58 22.5	+0.3
	comp=Z,3.3nm,0.5s						
TIXI	Tiksi	34.97	352	⇓eP	P	06 58 23.1	+0.9
TIXI				pmax	pmax		
	comp=Z,10.0nm,2.5s						
DGZ	Jazzator, Alta	41.61	305	d iP	P	06 59 20.1	+1.5
DGZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ZAA0	Zalesovo Array	42.95	312	eP	P	06 59 29.1	-0.1
	comp=Z,2.3nm,0.8s						
ZALV	Zalesovo Beam	42.95	312	PcP	PcP	07 01 19.8	+0.1
	comp=Z,1.4nm,0.6s,baz=88,slow=3.4,SNR=4.6						
ZALV				ScP	ScP	07 05 09.7	-2.0
	comp=Z,0.3nm,0.3s,baz=100,slow=7.9,SNR=2.0						
ZALV	Zalesovo Beam	42.95	312	eP	P	06 59 29.2	0.0
ZALV				PcP	PcP	07 01 19.8	+0.1
ZALV	Zalesovo Beam	42.95	312	eP	P	06 59 29.2	0.0
ZALV						07 01 19.8	
CM31	Chiang Mai Arr	43.48	257	eP	P	06 59 33.6	-0.4
CMAR	Chiang Mai Arr	43.48	257	P	P	06 59 34.4	+0.4
	comp=Z,1.0nm,0.4s,baz=46,slow=6.4,SNR=6.7						
CMAR	Chiang Mai Arr	43.48	257	c eP	P	06 59 34.7	+0.7
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MK32	Makanchi Array	45.43	302	eP	P	06 59 50.1	+0.8
MKAR	Makanchi Array	45.43	302	P	P	06 59 50.1	+0.8
	comp=Z,2.2nm,0.8s,baz=88,slow=9.1,SNR=19						
KURK	Kurchatov	47.08	308	eP	P	07 00 02.0	-0.2
	comp=Z,8.8nm,0.9s						
KURK	Kurchatov	47.08	308	d iP	P	07 00 02.2	0.0
KURK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ILAR	Eielson Array	47.99	33	P	P	07 00 10.6	+1.6
	comp=Z,1.0nm,0.8s,baz=266,slow=6.2,SNR=9.3						
ILB	Eielson Array	47.99	33	eP	P	07 00 09.3	+0.2
BRVK	Borovoye	51.65	312	eP	P	07 00 37.7	+0.6
	comp=Z,2.9nm,0.7s						
BRVK	Borovoye	51.65	312	⇑iP	P	07 00 38.0	+0.9
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	Inuvik	53.01	27	P	P	07 00 48.0	+1.2
	comp=Z,1.3nm,1.1s,baz=349,slow=5.0,SNR=2.9						
INK	Inuvik	53.01	27	eP	P	07 00 45.1	-1.7
	comp=Z,12nm,1.6s						
ARU	Arti	57.19	319	c iP	P	07 01 18.1	+0.8
ARU						07 03 21.9	
ARU				S	S	07 09 17.1	+3.8
ARU				SS	SS	07 13 04.5	+2.9
ARU				pmax	pmax		
	comp=Z,10.0nm,1.3s						
WRAB	Tennant Creek	57.92	191	⇑eP	P	07 01 22.5	-0.2
WRAB				pmax	pmax		
	comp=Z,12nm,2.5s						
WB2	Warramunga Arr	57.93	191	eP	P	07 01 22.4	-0.4
WR1	Warramunga Arr	57.93	191	eP	P	07 01 22.2	-0.6
	comp=Z,16nm,1.5s						
WR1				ePcP	PcP	07 02 15.4	+0.4
WRA	Warramunga Arr	57.93	191	P	P	07 01 22.2	-0.6
	comp=Z,2.8nm,0.7s,baz=11,slow=7.4,SNR=32						
WRA				PcP	PcP	07 02 15.4	+0.4
	comp=Z,0.5nm,0.6s,baz=359,slow=4.4,SNR=3.0						
ABKAR	Akbulak array	59.02	311	eP	P	07 01 30.4	+0.1
AS31	Alice Springs	61.65	190	eP	P	07 01 48.6	+0.1
	comp=Z,1.0nm,1.1s						
ASAR	Alice Springs	61.65	190	P	P	07 01 47.8	-0.7
	comp=Z,1.1nm,0.8s,baz=12,slow=6.7,SNR=15						
YKA	Yellowknife Ar	62.35	31	P	P	07 01 54.0	+1.3
	comp=Z,0.2nm,0.7s,baz=302,slow=6.8,SNR=4.4						
YKA	Yellowknife Ar	62.35	31	P	P	07 01 54.0	+1.3
YKA	Yellowknife Ar	62.35	31	P	P	07 01 54.0	+1.3
YKB5	Yellowknife Ar	62.35	31	eP	P	07 01 53.5	+0.9
ARA0	ARCESS Array S	64.13	340	eP	P	07 02 04.9	+0.5
ARCES	ARCESS Array B	64.13	340	P	P	07 02 04.9	+0.5
	comp=Z,1.8nm,0.9s,baz=49,slow=11,SNR=3.2						
OBN	Obninsk	68.77	324	eP	P	07 02 34.0	-0.3
OBN				e		07 02 57.8	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
STKA	Stephens Creek	69.15	182	P	P	07 02 36.4	-0.4
	comp=Z,0.4nm,0.5s,baz=330,slow=8.1,SNR=2.7						
STKA	Stephens Creek	69.15	182	eP	P	07 02 36.6	-0.2
	comp=Z,3.7nm,1.8s						
FIA0	FINESS Array S	69.19	333	eP	P	07 02 36.4	-0.4
FIA0	FINESS Array S	69.19	333	eP	P	07 02 36.4	-0.4
FINES	FINESS Array B	69.19	333	P	P	07 02 36.4	-0.4
	comp=Z,2.5nm,0.9s,baz=26,slow=9.3,SNR=4.1						
KIV	Kislovodsk	71.96	312	eP	P	07 02 55.6	+1.4
KIV				e		07 03 08.3	
KIV				e		07 03 13.0	
KIV				e		07 05 36.9	
KIV				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KBZ	Khabaz	71.97	312	P	P	07 02 55.1	+1.1
	comp=Z,3.6nm,0.8s,baz=59,slow=6.2,SNR=12						
NV01	Mina Array Sit	73.11	54	eP	P	07 03 01.6	+0.3
NVAR	Mina Array Bea	73.11	54	P	P	07 03 01.6	+0.3
	comp=Z,0.2nm,0.5s,baz=251,slow=2.8,SNR=2.5						
AKASG	Malin Array Be	75.00	323	P	P	07 03 12.2	+0.4
	comp=Z,1.7nm,0.6s,baz=45,slow=5.9,SNR=4.6						
AKASG	Malin Array Be	75.00	323	c eP	P	07 03 11.5	-0.3
AKBB	Malin Array Si	75.00	323	eP	P	07 03 11.2	-0.6
	comp=Z,4.9nm,0.9s						
AKBB	Malin Array Si	75.00	323	eP	P	07 03 11.2	-0.6
AKBB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KIEV	Kiev	75.01	323	⇑eP	P	07 03 12.1	+0.2
KIEV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PD31	Pinedale Array	75.90	47	eP	P	07 03 17.3	-0.2
PDAR	Pinedale Array	75.90	47	P	P	07 03 17.8	+0.4
	comp=Z,0.1nm,0.5s,baz=162,slow=0.9,SNR=3.5						
TOA1	Torodi Ar. Sit	118.24	317	ePKPdf	PKPdf	07 10 18.4	-0.1
TORD	Torodi Ar. Bea	118.24	317	PKP	PKPdf	07 10 18.4	-0.1
	comp=Z,0.3nm,0.8s,baz=321,slow=2.0,SNR=2.5						

IDC 03 07:15:59.8±3.5, 49°.05S×110°.86E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/25, mbtmp3.4/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/16, Error ellipse: s-maj=232.7km s-min=70.2km az=132.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	14.35	11	T	T	07 34 38.8	
	baz=199,slow=74,SNR=8.6						
H01W1	Cape Leeuwin H	14.35	11	T	T	07 34 39.7	
	baz=199,slow=74,SNR=19						
H01W3	Cape Leeuwin H	14.36	11	T	T	07 34 40.0	
	baz=199,slow=74,SNR=14						
ASAR	Alice Springs	31.16	44	P	P	07 22 20.4	0.0
	0.3nm,0.7s,baz=209,slow=9.4,SNR=3.2						
FITZ	Fitzroy Crossi	33.11	26	LR	LR	07 34 37.2	
	comp=Z,35nm,20.6s,baz=236,slow=34						
VNDA	Vanda	34.40	163	LR	LR	07 35 51.5	
	comp=Z,58nm,18.1s,baz=220,slow=35						
WRA	Warramunga Arr	34.61	41	P	P	07 22 50.5	0.0
	0.6nm,0.9s,baz=208,slow=8.5,SNR=6.4						
YKA	Yellowknife Ar	151.79	44	PKPbc	PKPbc	07 35 54.8	-0.3
	0.2nm,0.8s,baz=292,slow=3.6,SNR=3.8						

IDC 03 07:25:38.1±2.9, 53°.52N×87°.39E, h0km, mb1 2.7/2, mb1mx2.7/49, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=26.5km s-min=15.7km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.58	287	*i*		07 36 41.0	
	baz=102,slow=344,SNR=2.5						
ZALV	Zalesovo Beam	1.58	287	Pg	Pn	07 26 07.0	-0.4
	1.1nm,0.3s,baz=105,slow=15,SNR=15						
ZALV				Lg	Lg	07 26 27.4	
	0.5nm,0.3s,baz=107,slow=31,SNR=5.5						
KURBB	Kurchatov Arra	6.18	246	Pn	Pn	07 27 11.7	+1.1
	0.1nm,0.3s,baz=62,slow=14,SNR=3.8						
KURBB				Lg	Lg	07 28 53.6	
	0.0nm,0.3s,baz=66,slow=30,SNR=3.3						
MKAR	Makanchi Array	7.48	208	Pn	Pn	07 27 29.3	+0.8
	0.1nm,0.3s,baz=30,slow=12,SNR=4.3						
MKAR				Lg	Lg	07 29 33.9	
	0.1nm,0.3s,baz=28,slow=31,SNR=3.9						

*NIED **03** 07:44:00, 37°.60N×143°.60E, h5km, Mw3.5 Best double couple: M0 2.01000×10^14 NP1:φs256.00000°, δ64.00000°, λ-25.00000°. NP2:φs358.00000°, δ67.00000°, λ-152.00000°.*
*IDC **03** 07:44:02.2±1.7, 37°.53N×143°.91E, h0km, mb3.5/5, mb1 3.7/8, mb1mx3.5/42, mbtmp3.7/8, ML3.6/3, Error ellipse: s-maj=37.6km s-min=22.0km az=77.0*
*ISCJB **03** 07:44:05.3±0.8, 37°.58N±0°.04×143°.71E±0°.06, h33km, mb3.4/5, Error ellipse: s-maj=7.2km s-min=5.3km az=177.8*
*JMA **03** 07:44:06.6±0.2, 37°.64N×143°.61E, h52km, M3.6*
ISC 03 07:44:07.7±1.3, 37°.61N±0°.05×143°.7E±0°.1, h35km, n23, σ1s81/35, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.89	292	P	Pn	07 44 36.5	-0.9
JIKH				S	Sn	07 44 58.4	-1.6
JIO	Ouri	2.03	295	P	Pn	07 44 38.6	-0.8
JIO				S	Sn	07 45 02.1	-1.4
JKMT	Kesennumamotoy	2.12	305	P	Pn	07 44 39.5	-1.0
OFUJ	Ofunato	2.16	313	P	Pn	07 44 40.0	-1.2
OFUJ				S	Sn	07 45 04.6	-2.1
JMK	Ichinoseki	2.36	305	P	Pn	07 44 43.0	-0.9
JOM	Ohasama	2.64	315	P	Pn	07 44 47.3	-0.5
JOM				S	Sn	07 45 17.4	-1.2
JFT	Otama	2.67	269	P	Pn	07 44 48.2	+0.1
JFT				S	Sn	07 45 19.2	0.0
JYK	Kaneyama	2.93	297	P	Pn	07 44 52.0	+0.3
JYK				S	Sn	07 45 25.7	+0.1
JANG	Nango	3.24	329	P	Pn	07 44 55.7	-0.3
JAG	Ashikaga	3.59	252	P	Pn	07 45 00.6	-0.2
JAG				S	Sn	07 45 40.8	-1.2
BSO1	Boso 1	3.68	217	P	Pn	07 45 00.4	-1.1
BSO1				*e*S	Sn	07 45 42.4	-1.0
JRY	Ryogami san	4.16	249	P	Pn	07 45 08.1	-0.6
JOD2	Odawara 2	4.39	239	P	Pn	07 45 10.8	-1.0
JOD2				S	Sn	07 45 59.0	-2.7
MJAR	Matsushiro Arr	4.51	258	Pn	Pn	07 45 14.7	+1.2
	2.7nm,0.3s,baz=90,slow=16,SNR=36						
MJAR				Sn	Sn	07 46 07.5	+2.8
	0.6nm,0.3s,baz=24,slow=16,SNR=3.0						
MAT	Matsushiro	4.51	258	P	Pn	07 45 14.7	+1.2
MAT				S	Sn	07 46 08.1	+3.3
JHJ	Hachijo jima 2	5.50	217	Pn	Pn	07 45 25.2	-1.9
	7.6nm,0.3s,baz=61,slow=19,SNR=3.9						
JHJ				Sn	Sn	07 46 22.7	-6.4
	4.1nm,0.3s,baz=78,slow=20,SNR=2.9						
ASAJ	Asahikawa	6.55	353	Pn	Pn	07 45 40.9	-0.5
	1.1nm,0.3s,baz=200,slow=14,SNR=9.8						
ASAJ				Sn	Sn	07 46 53.0	-1.9
	0.4nm,0.3s,baz=114,slow=20,SNR=2.9						
JCJ	Chichijima	10.56	187	Pn	Pn	07 46 25.3	-11
	1.6nm,0.3s,baz=90,slow=20,SNR=2.2						
SONM	Songino Array	28.98	303	P	P	07 50 05.5	+1.5
	0.1nm,0.5s,baz=106,slow=8.9,SNR=2.1						
MKAR	Makanchi Array	45.35	302	P	P	07 52 23.5	+1.1
	0.6nm,0.8s,baz=89,slow=9.3,SNR=5.8						
KURBB	Kurchatov Arra	47.08	308	P	P	07 52 36.9	+1.1
	0.8nm,0.6s,baz=82,slow=8.0,SNR=8.2						
WRA	Warramunga Arr	57.92	190	P	P	07 53 56.2	-0.2
	0.7nm,1.1s,baz=9.8,slow=7.5,SNR=6.7						
ASAR	Alice Springs	61.64	190	P	P	07 54 21.1	-0.8
	0.2nm,0.7s,baz=11,slow=6.9,SNR=2.8						

*ISCJB **03** 08:03:18.1±0.5, 24°.33N±0°.07×123°.40E±0°.03, h24km±5km, Error ellipse: s-maj=12.2km s-min=4.4km az=8.4*
*JMA **03** 08:03:18.4, 24°.36N×123°.42E, h19km±2km, M3.1*
*IDC **03** 08:03:18.0±4.5, 24°.45N×124°.90E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.2/42, mbtmp3.4/3, MS2.3/1, Ms1 2.3/1, ms1mx2.1/28, Error ellipse: s-maj=319.8km s-min=32.6km az=92.0*
ISC 03 08:03:18.1±1.1, 24°.37N±0°.08×123°.41E±0°.03, h17km±8km, n12, σ0s46/19, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	0.29	97	P	Pg	08 03 24.5	+0.1
IRIF				S	Sg	08 03 29.0	+0.3
YOJ	Yonaguni jima	0.38	284	P	Pb	08 03 26.4	0.0
YOJ				*e*S	Sb	08 03 31.9	-0.1
JYNG	Yonagunijimaku	0.43	281	P	Pb	08 03 27.2	-0.2
JYNG				*e*S	Sb	08 03 33.5	-0.1
HATJ	Hateruma jima	0.48	131	P	Pg	08 03 27.4	-0.3
HATJ				S	Sb	08 03 34.3	-0.5
JKRS	Kuro-shima	0.56	104	P	Pg	08 03 29.3	+0.1
JKRS				S	Sb	08 03 37.1	-0.1
JIJ	Ishigaki jima	0.67	91	P	Pg	08 03 30.7	-0.5
JIJ				S	Sg	08 03 39.5	-0.6
JISG	Ishigakijimahi	0.84	75	P	Pb	08 03 34.2	-0.2
JISG				*e*S	Sg	08 03 46.4	+0.6
JTJ	Tarama	1.20	77	P	Pb	08 03 40.6	+0.1
JTJ				S	Sn	08 03 56.5	+0.3
JNU	Nakatsue	10.90	35	LR	LR	08 09 23.0	
	comp=Z,19nm,20.0s,baz=303,slow=36						
WRA	Warramunga Arr	45.31	165	P	P	08 11 36.0	+0.7
	1.1nm,0.8s,baz=348,slow=9.0,SNR=8.9						
ASAR	Alice Springs	48.83	167	P	P	08 12 03.5	+0.8
	0.2nm,0.4s,baz=353,slow=7.6,SNR=4.6						
YKA	Yellowknife Ar	82.00	23	P	P	08 15 36.3	-0.7
	0.1nm,0.5s,baz=304,slow=5.4,SNR=5.8						

*IDC **03** 08:11:26.9±9.4, 36°.15N×71°.26E, h181km±65km, mb2.9/3, mb1 2.9/6, mb1mx2.7/40, mbtmp3.4/6, Error ellipse: s-maj=111.9km s-min=35.7km az=68.0*
*NNC **03** 08:11:32.0±7.2, 37°.10N×70°.37E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=58.1km s-min=46.3km az=169.0*
ISC 03 08:11:29.5±1.6, 36°.5N±0°.1×71°.1E±0°.2, h200km, n10, σ1s49/13, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	4.00	28	⇑Pn	Pn	08 12 32.8	+1.4
	3.0nm,0.3s						
SFK				⇑Sn	Sn	08 13 19.0	-1.1
	9.2nm,0.4s						
KK31	Karatay Array	6.61	356	⇓Pn	Pn	08 13 04.2	-0.4
	0.5nm,0.3s,baz=179,slow=13						
KK31				⇑Sn	Sn	08 14 13.7	-6.3
	4.7nm,0.5s,baz=187,slow=24,SNR=3.2						
AAK	Ala-Archa	6.68	22	P	Pn	08 13 06.3	+0.8
	1.4nm,0.3s,baz=154,slow=4.0,SNR=9.0						
AAK				S	Sn	08 14 19.9	-1.8
	0.4nm,0.3s,baz=138,slow=23,SNR=7.3						
AAK	Ala-Archa	6.68	22	⇓Pn	Pn	08 13 06.3	+0.8
	1.1nm,0.3s						
AAK				⇑Sn	Sn	08 14 19.8	-2.0
	6.9nm,1.4s						
TKM2	Tokmak 2	7.30	27	⇓Pn	Pn	08 13 14.6	+0.9
	5.5nm,0.6s						
MKAR	Makanchi Array	13.26	36	P	Pn	08 14 30.9	+0.8
	0.1nm,0.3s,baz=211,slow=11,SNR=6.6						
KURBB	Kurchatov Arra	15.11	19	P	P	08 14 53.8	+0.5
	0.0nm,0.3s,baz=204,slow=11,SNR=2.9						
ZALV	Zalesovo Beam	19.89	24	P	P	08 15 47.0	+1.6
	0.6nm,0.3s,baz=225,slow=9.8,SNR=3.6						
YKA	Yellowknife Ar	81.24	3	P	P	08 23 24.0	+1.3
	0.1nm,0.4s,baz=351,slow=5.4,SNR=7.1						
WRA	Warramunga Arr	81.95	122	P	P	08 23 24.9	-2.1
	0.4nm,1.0s,baz=318,slow=4.9,SNR=4.1						

*ISK **03** 08:12:23.5, 38°.78N×43°.44E, h3km, ML2.7/7*
*DDA **03** 08:12:24.5, 38°.77N×43°.51E, h7km±6km, ML2.7*
*ISCJB **03** 08:12:25.3±0.5, 38°.78N±0°.03×43°.48E±0°.05, h17km±8km, Error ellipse: s-maj=7.3km s-min=4.3km az=22.5*
ISC 03 08:12:25.0±0.9, 38°.78N±0°.03×43°.50E±0°.03, h16km±7km, n19, σ1s27/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.20	205	PG	Pg	08 12 29.9	0.0
VANB				SG	Sg	08 12 33.7	+0.5
VMUR	Van-Muradiye	0.22	15	*i* P	Pg	08 12 29.4	-0.8
VMUR				*i* S	Sg	08 12 34.0	+0.4
TVAN	Van	0.26	197	*i* S	Sg	08 12 35.5	+0.6
CLDR	Caldiran	0.49	42	PG	Pg	08 12 33.9	-0.9
CLDR				SG	Sb	08 12 42.9	+0.5
CLDR	Caldiran	0.49	42	*i* P	Pb	08 12 34.8	-0.6
CLDR				*i* S	Sb	08 12 43.6	+1.2
GEVA	Gevas	0.58	217	*i* P	Pb	08 12 35.9	-1.0
ADCV	BITLIS_Adilcev	0.61	273	*i* P	Pb	08 12 37.0	-0.4
ADCV				*i* S	Sn	08 12 47.7	-1.1
AKDM	Akdamar-Van	0.61	222	PG	Pg	08 12 35.7	-1.3
DYDN	Diyadin	0.78	11	*e*P	Pg	08 12 39.1	-1.1
DYDN				*i* S	Sb	08 12 52.4	+1.6
TUTA	Tutak	0.82	320	*i* P	Pb	08 12 40.6	-0.5
MLAZ	Malazgirt-MUS	0.82	296	PG	Pg	08 12 39.6	-1.5
BASK	Baskale_VAN	0.83	151	*i* P	Pg	08 12 39.8	-1.3
BASK				*i* S	Sn	08 12 54.0	-0.2
AGRB	Hanur-Agry	0.89	334	PG	Pg	08 12 40.8	-1.5
GURO	Guroymak-BITLI	1.17	259	PN	Pg	08 12 45.7	-2.0
IGDI	IGDIR	1.18	22	*e*P	Pg	08 12 46.0	-1.8
EATA	Eleskirt	1.33	324	IAML_P			
	comp=Z,562nm,0.2s						
EATA				*i* P	Pg	08 12 49.1	-1.7
EATA				*i* S	Sn	08 13 09.7	+2.8
SRTM	Siirt_Merkez	1.47	238	IAML_P			
	comp=Z,628nm,0.3s						
SRTM				*e*P	Pg	08 12 53.5	+0.2
SRTM				*i* S	Sg	08 13 13.9	+1.5
GNI	Garni	1.67	35	PN	Pb	08 12 55.3	-0.2
HOMI	Horasan	1.77	316	*i* P	Pn	08 12 55.6	+0.4

*TEH **03** 08:17:00.3, 32°.87N×46°.16E, h10km, ML3.2*
*ISN **03** 08:17:00.9±0.8, 32°.97N×46°.22E, h1km±3km, ML3.1*
*ISCJB **03** 08:17:02.8±0.5, 32°.97N±0°.04×46°.17E±0°.04, h10km, Error ellipse: s-maj=6.1km s-min=4.8km az=5.1*
ISC 03 08:17:01.5±0.9, 32°.89N±0°.04×46°.22E±0°.04, h10km, n14, σ1s31/19, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	Badra	0.33	312	*e*Pg	Pg	08 17 07.0	-1.0
IBDR				*e*Sg	Sg	08 17 11.0	-1.4
IGHG	Ghaleghazi	1.46	11	*e*Pn	Pn	08 17 27.8	-0.3
IGHG				IAMB	IAmb	08 17 30.7	
	comp=Z,5μm,0.2s						
IKFM	Kafar-mosalman	1.50	65	*e*Pn	Pb	08 17 29.4	0.0
IKFM				IAMB	IAmb	08 17 54.1	
	comp=Z,0.0nm,0.4s						
BHD	Baghdad	1.59	284	*e*Pn	Pg	08 17 31.0	-1.0
BHD				*e*Sn	Sg	08 17 52.5	-0.1
IKOM	Komasi	1.67	40	*e*Pn	Pb	08 17 32.2	-0.2
IKOM				IAMB	IAmb	08 17 55.8	
	comp=Z,0.0nm,0.4s						
IVIS	Veis	1.71	18	*e*Pn	Pb	08 17 32.7	-0.4
IVIS				IAMB	IAmb	08 17 58.4	
	comp=N,4μm,0.5s						
NSR	Nassriya	1.88	182	*e*Pn	Pg	08 17 36.0	-1.5
NSR				*e*Sn	Sg	08 18 02.0	+0.1
IKMR	Kamar-syah	1.92	70	*e*Pn	Pb	08 17 35.6	-0.9
IKMR				IAMB	IAmb	08 18 05.7	
	comp=Z,0.0nm,0.4s						
HSAM	Samen	2.38	56	IAMB	IAmb	08 17 29.5	
	comp=Z,0.0nm,2.4s						
HSAM				*e*Pn	Pb	08 17 42.9	-1.7
HSRG	Sareghieh	2.90	36	*e*Pn	Pn	08 17 50.0	+2.0
HSRG				IAMB	IAmb	08 18 32.1	
	comp=N,0.0nm,1.0s						
IKRK	Kirkuk	2.95	329	*e*Pn	Pn	08 17 49.0	+0.6
IKRK				*e*Sn	Sn	08 18 25.0	+1.2
HAGD	Aghdareh	3.10	51	*e*Pn	Pn	08 17 52.0	+1.4
HAGD				IAMB	IAmb	08 17 53.9	
	comp=Z,0.0nm,0.2s						
HKZM	Kohzaman	3.33	41	*e*Pn	Pn	08 17 56.1	+2.2
HKZM				IAMB	IAmb	08 18 37.4	
	comp=Z,0.0nm,0.8s						
RTB	Rutbah	4.97	273	*e*Pn	Pn	08 18 18.0	+1.8
RTB				*e*Sn	Sn	08 19 15.0	+1.2

*ISCJB **03** 08:19:33.6±0.9, 17°.8N±0°.1×46°.5W±0°.2, h12km, mb3.7/7, MS3.5/11, Error ellipse: s-maj=22.6km s-min=18.8km az=6.2*
*IDC **03** 08:19:33.6±1.1, 17°.70N×46°.52W, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.7/34, mbtmp3.7/7, MS3.5/13, Ms1 3.5/13, ms1mx3.3/38, Error ellipse: s-maj=30.1km s-min=23.0km az=89.0*
ISC 03 08:19:35.4±1.0, 17°.7N±0°.2×46°.5W±0°.2, h12km, n23, σ0s84/7, mb3.8/7, MS3.6/11, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	Montagnes des	13.87	206	LR	LR	08 27 50.2	
	comp=Z,78nm,18.2s,baz=284,slow=36						
H05S1	Guadeloupe/Mar	14.14	259	T	T	08 37 16.9	
	SNR=7.8						
SJG	San Juan	18.69	274	LR	LR	08 28 47.5	
	comp=Z,130nm,21.7s,baz=113,slow=30						
PTGA	Pitinga	22.59	217	P	P	08 24 36.8	+0.7
	2.8nm,0.8s,baz=54,slow=15,SNR=3.9						
PTGA				LR	LR	08 32 28.8	
	comp=Z,244nm,19.6s,baz=50,slow=34						
SDV	Santo Domingo	25.02	253	LR	LR	08 36 54.7	
	comp=Z,115nm,18.2s,baz=61,slow=42						
ROSC	El Rosal	30.05	248	LR	LR	08 39 05.3	
	comp=Z,68nm,19.2s,baz=82,slow=39						
LPAZ	La Paz	39.92	213	P	P	08 27 09.9	-0.5
	2.0nm,0.9s,baz=17,slow=5.1,SNR=7.2						
LPAZ				LR	LR	08 43 06.8	
	comp=Z,58nm,21.6s,baz=44,slow=35						
H10N3	ASCENSION HYDR	40.54	126	T	T	09 10 06.0	
	baz=308,slow=75,SNR=131						
H10N2	ASCENSION HYDR	40.54	126	T	T	09 10 06.2	
	baz=308,slow=75,SNR=110						
H10N1	ASCENSION HYDR	40.56	126	T	T	09 10 07.5	
	baz=308,slow=75,SNR=145						
H10S3	ASCENSION HYDR	41.12	128	T	T	09 10 53.1	
	baz=310,slow=75,SNR=42						
H10S1	ASCENSION HYDR	41.12	128	T	T	09 10 54.0	
	baz=310,slow=75,SNR=41						
H10S2	ASCENSION HYDR	41.14	128	T	T	09 10 54.2	
	baz=310,slow=75,SNR=35						
DBIC	Dimbokro	42.07	100	LR	LR	08 41 29.0	
	comp=Z,96nm,20.6s,baz=274,slow=31						
ESDC	Sonseca Array	42.77	50	LR	LR	08 41 33.4	
	comp=Z,83nm,21.6s,baz=260,slow=31						
CPUP	Villa Florida	45.00	194	P	P	08 27 50.8	-0.1
	1.9nm,0.8s,baz=28,slow=11,SNR=3.8						
CPUP				LR	LR	08 47 14.9	
	comp=Z,51nm,18.9s,baz=20,slow=37						
TORD	Torodi Ar. Bea	46.60	88	P	P	08 28 03.9	+0.1
	0.9nm,1.0s,baz=282,slow=6.8,SNR=4.0						
KEST	Kesra	52.35	58	LR	LR	08 50 53.3	
	comp=Z,103nm,18.4s,baz=338,slow=36						
TXAR	Lajitas Array	53.22	294	P	P	08 28 54.8	+0.7
	0.6nm,0.9s,baz=88,slow=6.4,SNR=3.3						
TXAR				LR	LR	08 52 49.4	
	comp=Z,26nm,19.0s,baz=0.0,slow=38						
PDAR	Pinedale Array	58.49	310	P	P	08 29 30.8	-1.2
	0.4nm,0.8s,baz=107,slow=7.6,SNR=2.6						
PDAR				LR	LR	08 52 40.7	
	comp=Z,43nm,19.8s,baz=99,slow=34						
H09W1	TRISTAN DA CUN	63.31	150	T	T	09 38 31.7	
	SNR=94						
YKA	Yellowknife Ar	64.36	331	P	P	08 30 11.5	+0.5
	0.7nm,1.1s,baz=98,slow=7.4,SNR=3.3						
ATD	Arta Tunnel	85.96	79	LR	LR	09 09 44.3	
	comp=Z,35nm,19.8s,baz=326,slow=35						

*IDC **03** 08:39:07.4±0.6, 34°.16N×25°.08E, h0km, mb4.3/28, mb1 4.4/36, mb1mx4.3/56, mbtmp4.3/36, ML4.7/7, MS3.6/13, Ms1 3.6/13, ms1mx3.2/44, Error ellipse: s-maj=13.9km s-min=11.2km az=168.0*
*ISCJB **03** 08:39:08.9±0.5, 34°.06N±0°.02×25°.12E±0°.02, h23km±4km, mb4.4/79, MS3.7/8, Error ellipse: s-maj=3.4km s-min=2.1km az=37.1*
*HLW **03** 08:39:10.9, 34°.29N×25°.20E, h33km±46km, Md4.2, Ml4.7*
*MED_RC **03** 08:39:10.0±0.8, 34°.05N×25°.10E, h44km±3km, MW4.6/11, Moment Tensor Solution.Mantle waves: s11,c14; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr0.79±.11; Mθθ-0.91±.07; Mφφ0.11±.11; Mrθ0.20±.05; Mθφ0.09±.06; Mφr0.04±.06; Best double couple: M0 0.88000×10^16 NP1:φs90.00000°, δ52.00000°, λ84.00000°. NP2:φs280.00000°, δ39.00000°, λ98.00000°. Principal axes: T 0.8200, Plg82.0000°, Azm327.0000°; N 0.1200, Plg5.0000°, Azm94.0000°; P -0.9400, Plg6.0000°, Azm185.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*THE **03** 08:39:11.7, 34°.05N×25°.07E, h7km±2km, ML4.0/4 Error ellipse: s-maj=4.1km s-min=1.6km az=190.0*
*BGR **03** 08:39:12.6±0.0, 34°.19N×25°.24E, h33km, mb4.7, Ms3.5*
*PDG **03** 08:39:12.9±0.1, 34°.43N×24°.74E, h18km±5km, ML4.5/12, Error ellipse: s-maj=5.3km s-min=3.2km az=90.0*
*JSO **03** 08:39:12.6±0.5, 34°N±6°×2°5E±°, h43km±14km, M4.7/13, mb5.0/9, Mjma4.4/13, MLv4.6/7*
*MOS **03** 08:39:13.3±1.2, 34°.30N×25°.09E, h46km, mb4.5/53, Error ellipse: s-maj=5.1km s-min=2.8km az=99.7*
*NEIC **03** 08:39:13.9±0.0, 34°.25N×25°.08E, h42km, mb4.3/35, ML4.0(THE), ML4.1(ATH), After ATH.*
*ISK **03** 08:39:14.2, 34°.44N×25°.11E, h22km, ML3.9/9*
*ROM **03** 08:39:14.0, 34°.14N×25°.07E, h40km, mb4.5*
*ATH **03** 08:39:14.0, 34°.27N×25°.07E, h42km±2km, ML4.1/5, Error ellipse: s-maj=5.0km s-min=1.8km az=348.0*
*NIC **03** 08:39:18.8±0.3, 35°.14N×25°.68E, h25km, mb4.9, ML4.5*
*GII **03** 08:39:18.3±0.0, 33°.96N×25°.86E, h20km, mb4.3/1, MD4.2/1*
*NSSC **03** 08:39:25.5±0.8, 27°.91N×29°.52E, h5km, ML3.4*
ISC 03 08:39:11.9±0.9, 34°.11N±0°.04×25°.14E±0°.03, h30km±6km, n486, σ2s32/543, mb4.5/84, MS3.8/8, 28C-22D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	Sivas	0.95	343	P	Pb	08 39 29.6	-0.1
SIVA	Sivas	0.95	343	P	Pb	08 39 29.7	0.0
SIVA				S	Sb	08 39 41.7	-0.3
SIVA				AML	AML	08 39 52.6	
	comp=E,86582μm,0.6s						
SIVA				AML	AML	08 39 57.5	
	comp=N,57703μm,0.6s						
SIVA	Sivas	0.95	343	P	Pb	08 39 29.6	-0.1
TMBK	Timbaki Herakl	1.01	342	P	Pb	08 39 30.8	0.0
TMBK				S	Sb	08 39 46.8	+3.1
LAST	Lasithi	1.08	15	*e*Pn	Pb	08 39 32.2	+0.1
LAST	Lasithi	1.08	15	P	Pb	08 39 32.3	+0.1
LAST				S	Sn	08 39 45.6	+0.5
LAST				AML	AML	08 40 05.4	
	comp=N,9419μm,0.9s						
LAST				AML	AML	08 40 07.1	
	comp=E,10435μm,0.7s						
LAST	Lasithi	1.08	15	P	Pb	08 39 32.2	+0.1
GVD	Gavdhos	1.14	310	PG	Pb	08 39 32.5	-0.4
GVD	Gavdhos	1.14	310	*e*Pn	Pb	08 39 32.7	-0.2
GVD	Gavdhos	1.14	310	P	Pb	08 39 32.8	-0.1
GVD				AML	AML	08 39 58.4	
	comp=E,31394μm,0.4s						
GVD				AML	AML	08 40 01.7	
	comp=N,32942μm,0.4s						
GVD	Gavdhos	1.14	310	P	Pb	08 39 32.7	-0.2
KSTL	Kastelli Herak	1.19	357	P	Pn	08 39 32.9	+0.4
IDI	Anoyia	1.19	350	PG	Pn	08 39 31.6	-1.0
IDI	Anoyia	1.19	350	Pn	Pb	08 39 33.3	-0.7
	comp=N,337nm,0.3s,baz=169,slow=21,SNR=564						
IDI				Sn	Sn	08 39 48.0	+0.2
	comp=N,262nm,0.3s,baz=217,slow=11,SNR=11						
IDI	Anoyia	1.19	350	*e*Pn	Pb	08 39 33.6	-0.4
IDI				*e*Sn	Sn	08 39 47.7	-0.1
IDI	Anoyia	1.19	350	P	Pb	08 39 33.2	-0.7
IDI	Anoyia	1.19	350	⇑*i*P	Pb	08 39 33.6	-0.4
IDI	Anoyia	1.19	350	P	Pb	08 39 33.2	-0.7
IDI				S	Sb	08 39 52.5	+3.4
IACM	Heraklion	1.20	357	P	Pb	08 39 34.1	+0.2
NPS	Neapolis	1.21	18	P	Pb	08 39 34.6	+0.3
NPS	Neapolis	1.21	18	P	Pb	08 39 34.7	+0.4
NPS	Neapolis	1.21	18	P	Pb	08 39 34.6	+0.3
NPS				S	Sb	08 39 51.8	+2.2
NPS	Neapolis	1.21	18	P	Pb	08 39 34.6	+0.3
ZKR	Zakros	1.34	41	PN	Pn	08 39 35.3	+0.8
ZKR	Zakros	1.34	41	*e*Pn	Pb	08 39 36.5	+0.1
ZKR				*e*Sn	Sb	08 39 55.8	+2.7
ZKR	Zakros	1.34	41	P	Pb	08 39 36.9	+0.6
ZKR				S	Sb	08 39 53.3	+0.1
ZKR				AML	AML	08 40 07.3	
	comp=N,3187μm,0.7s						
ZKR				AML	AML	08 40 12.6	
	comp=E,8310μm,1.8s						
ZKR	Zakros	1.34	41	P	Pb	08 39 36.5	+0.1
ZKR				S	Sb	08 39 55.8	+2.7
STIA	Sitia Lasithi	1.34	35	P	Pb	08 39 37.2	+0.8
PRNS	Prines Rethymn	1.36	337	P	Pb	08 39 36.0	-0.7
PRNS				S	Sb	08 39 55.0	+1.3
VAM	Vamos	1.51	329	P	Pb	08 39 38.1	-1.1
VAM	Vamos	1.51	329	P	Pb	08 39 38.2	-1.0
VAM				AML	AML	08 40 14.1	
	comp=E,13234μm,0.5s						
VAM				AML	AML	08 40 18.6	
	comp=N,6496μm,0.7s						
VAM	Vamos	1.51	329	P	Pb	08 39 38.1	-1.1
VAM				S	Sb	08 39 58.0	0.0
VAM	Vamos	1.51	329	P	Pb	08 39 38.1	-1.1
IMMV	Iera Moni Meta	1.65	325	PN	Pn	08 39 38.7	-0.1
IMMV	Iera Moni Meta	1.65	325	P	Pb	08 39 40.2	-1.4
IMMV	Iera Moni Meta	1.65	325	P	Pn	08 39 40.1	+1.3
IMMV				S	Sb	08 40 01.2	-0.9
CHAN	Chania	1.67	328	P	Pb	08 39 40.7	-1.3
KERA	Keramoti	1.81	314	P	Pn	08 39 41.5	+0.5
KARP	Karpathos	2.19	49	PN	Pn	08 39 48.1	+1.8
KARP	Karpathos	2.19	49	*e*Pn	Pn	08 39 48.3	+2.0
KARP				*e*Sn	Sn	08 40 11.2	-1.2
KARP	Karpathos	2.19	49	P	Pb	08 39 49.1	-1.9
KARP	Karpathos	2.19	49	P	Pb	08 39 49.2	-1.7
SANT	Santorini	2.27	6	PN	Pn	08 39 46.9	-0.5
SANT	Santorini	2.27	6	*e*Pn	Pn	08 39 47.4	+0.1
SANT				*e*Sn	Sn	08 40 16.1	+1.8
SANT	Santorini	2.27	6	⇑*i*P	Pn	08 39 47.9	+0.5
ANAF	Anafi Island	2.30	13	P	Pn	08 39 48.7	+0.9
ANAF	Anafi Island	2.30	13	P	Pn	08 39 48.7	+0.9
THR3	Thira Island,	2.30	5	P	Pn	08 39 48.2	+0.5
THR5	Thira Island,	2.31	4	P	Pn	08 39 48.6	+0.8
ANKY	Antikythira Is	2.31	320	*e*Pn	Pn	08 39 49.3	+1.4
ANKY	Antikythira Is	2.31	320	P	Pn	08 39 49.2	+1.4
ANKY	Antikythira Is	2.31	320	P	Pn	08 39 49.3	+1.4
THR2	Thira island,	2.34	6	P	Pn	08 39 48.6	+0.2
SLUM	Salum	2.61	179	P	Pn	08 39 53.7	+1.7
	baz=179						
SLUM				AMP		08 40 00.0	

baz=179
SLUM S Sn 08 40 23.7 +1.1
baz=179
MHLO Agia Marina, M 2.65 347 P Pn 08 39 52.5 +0.1
KYTH Kithira 2.75 322 P Pn 08 39 55.2 +1.2
AMGA Amorgos Island 2.79 13 P Pn 08 39 54.8 +0.4
APE Apeiranthos 2.97 6 P Pn 08 39 57.2 +0.3
APE Apeiranthos 2.97 6⇑ *i*P Pn 08 39 56.6 -0.4
APE Apeiranthos 2.97 6*c* *i*P Pn 08 39 57.1 +0.1
VLI Veliai 3.17 326 P Pn 08 39 59.8 +0.2
ARG Arkhangelos 3.22 48 PN Pn 08 40 01.9 +1.5
ARG SN Sn 08 40 37.6 -0.2
ARG Arkhangelos 3.22 48 P Pn 08 40 02.9 +2.5
ARG Arkhangelos 3.22 48 P Pn 08 40 01.9 +1.5
MATC Matruh 3.27 147 P Pn 08 40 01.9 +0.9
baz=149
MATC S Sn 08 40 39.0 +0.1
baz=149
DAT Datca 3.28 37 PN Pn 08 40 02.9 +1.6
DATC Datca-Mugla 3.35 37 PN Pn 08 40 03.4 +1.3
BODT Bodrum 3.44 30 PN Pn 08 40 04.6 +1.3
DYR Agios Nikonas 3.50 320 P Pn 08 40 05.8 +1.5
MLSB Milas 3.83 33 PN Pn 08 40 10.5 +1.7
DALY Dalyan (Mula) 3.94 46 PN Pn 08 40 12.1 +1.9
TURN Turunc 3.95 45 PN Pn 08 40 08.2 -2.1
TURN SN Sn 08 40 48.1 -7.5
ITM Ithomi 4.03 320 *e*Pn Pn 08 40 10.8 -0.7
ITM *e*Sn Sn 08 40 59.0 +1.3
FETY Fethiye 4.09 51 PN Pn 08 40 14.5 +2.2
TRIP Tripoli 4.13 326 P Pn 08 40 13.6 +0.7
CHOS Chios island 4.33 10 PN Pn 08 40 16.3 +0.6
CHOS Chios island 4.33 10 P Pn 08 40 16.9 +1.2
CHOS Chios island 4.33 10 P Pn 08 40 16.9 +1.2
URLA Izmir 4.40 15 PN Pn 08 40 17.3 +0.7
AYDB Zeytinkoy-Aydi 4.43 29 PN Pn 08 40 18.5 +1.4
BLCB Balcova 4.54 19 PN Pn 08 40 19.6 +1.2
ELL Elmali 4.70 55 P Pn 08 40 22.5 +1.7
SWA2 4.86 177 P Pn 08 40 24.2 +1.3
baz=177
SWA2 S Sn 08 41 17.1 -1.0
baz=177
MANT Manisa 5.17 31 *e*Pn Pn 08 40 28.0 +0.6
HBRG Burj al `Arab 5.31 130 AMP 08 41 00.0
baz=132
AGG Agios Georgios 5.40 336 PN Pn 08 40 30.8 +0.4
AGG Agios Georgios 5.40 336 *e*Pn Pn 08 40 30.7 +0.4
AGG Agios Georgios 5.40 336 *e*P Pn 08 40 30.7 +0.4
PPCY Paphos 6.00 81 P Pn 08 40 38.1 -0.4
baz=274
AKMC Akamas 6.00 79 P Pn 08 40 37.9 -0.7
baz=273
ALFC Alefka 6.24 78 P Pn 08 40 41.1 -0.7
baz=271
ALFC S Sn 08 41 44.7 -7.4
LIT Litokhoron 6.34 341 *e*Pn Pn 08 40 42.5 -0.8
LIT *e*Sn Sn 08 41 55.7 +1.0
LIT Litokhoron 6.34 341 *e*P Pn 08 40 42.5 -0.8
LIT *e* 08 41 55.7
SZAC Souni 6.43 82 P Pn 08 40 44.1 -0.4
baz=275
SZAC S Sn 08 41 51.8 -5.0
HNAT Natroun 6.45 132 P Pn 08 40 45.9 +1.2
baz=133
IGT Igoumenitsa 6.65 326 P Pn 08 40 49.0 +1.6
CSS Mathiatis 6.81 81 *e*Pn Pn 08 40 49.8 +0.1
CSS *e*Sn Sn 08 42 04.8 -1.4
CSS Mathiatis 6.81 81 P Pn 08 40 49.4 -0.3
baz=273
CSS S Sn 08 42 00.9 -5.3
CSS Mathiatis 6.81 81 Pn Pn 08 40 50.5 +0.8
CSS Sn Sn 08 42 00.1 -6.1
ALN Alexandroupoli 6.81 6 *e*Pn Pn 08 40 52.1 +2.4
ALN Alexandroupoli 6.81 6 *e*P Pn 08 40 52.1 +2.4
KOT Kottamia 7.04 124 P Pn 08 40 53.4 +0.4
baz=125
SRS Serrai 7.10 350 P Pn 08 40 58.2 +4.5
SRS pmax pmax
comp=Z,27nm,1.5s
GLL Jalalah 7.18 127 P Pn 08 40 55.2 +0.4
baz=128
HHAG Hagoal 7.21 123 P Pn 08 40 56.5 +1.2
baz=124
KNT Kendrikon 7.26 346 P Pn 08 40 59.6 +3.7
KNT pmax pmax
comp=Z,17nm,1.7s
FNA Florina 7.30 337 *e*Pn Pn 08 40 56.9 +0.4
FNA *e*Sn Sn 08 42 15.2 -3.1
FNA Florina 7.30 337 *e*P Pn 08 40 56.9 +0.4
FNA *e* 08 42 15.3
NBNS Bani Suef 7.59 134 P Pn 08 41 01.2 +0.8
baz=135
RSH 7.89 111 P Pn 08 41 03.7 -0.9
baz=112
ZAF Zafarana 7.93 125 P Pn 08 41 05.8 +0.7
baz=126
TIR Tirane 8.35 332 *e*Pn Pn 08 41 09.7 -1.0
TIR Tirane 8.35 332 *e*P Pn 08 41 09.7 -1.0
OFRI `Ofer 8.37 97 Sn Sn 08 42 38.3 -6.2
TIP Timpagrande 8.42 309 *e*Pn Pn 08 41 11.2 -0.6
TIP Timpagrande 8.42 309⇑ *i*P Pn 08 41 12.1 +0.2
HNTI Hanita 8.43 94 Pn Pn 08 41 11.4 -0.6
HNTI Sn Sn 08 42 40.3 -5.8
KZIT Kziot 8.44 110 P Pn 08 41 10.2 -1.9
comp=Z,76nm,0.7s,comp=Z,0.9nm
KZIT Kziot 8.44 110 P Sn 08 42 40.6 -5.8
comp=Z,0.9nmcomp=Z,305nm,0.8s
KZIT Kziot 8.44 110 Pn Pn 08 41 11.2 -0.9
KZIT Sn Sn 08 42 39.2 -7.2
CEL Celeste 8.55 302 *e*Pn Pn 08 41 13.6 +0.1
CEL *e*Sn Sn 08 42 45.1 -3.9
HNKL Nakhl 8.58 117 P Pn 08 41 13.9 -0.2
baz=117
VTS Vitosha 8.60 350 *e*Pn Pn 08 41 15.5 +1.1
VTS Vitosha 8.60 350⇑ *i*P Pn 08 41 13.9 -0.5
VTS Vitosha 8.60 350 *e*P Pn 08 41 15.5 +1.1
AMAZ Amatzia 8.62 105 P Sn 08 42 45.2 -5.5
comp=Z,2.2nmcomp=Z,410nm,0.6s
AMAZ Amatzia 8.62 105 Sn Sn 08 42 44.5 -6.2
MMA0B Mount Meron ar 8.63 94 Pn Pn 08 41 14.7 -0.1
MMA0B Sn Sn 08 42 45.6 -5.5
MMAI Mount Meron Ar 8.63 94 Pn Pn 08 41 14.8 0.0
comp=Z,5.6nm,0.3s,baz=268,slow=12,SNR=11
MMAI Sn Sn 08 42 44.6 -6.5
comp=Z,12nm,0.3s,baz=270,slow=21,SNR=9.2
GRB Gharib 8.76 130 P Pn 08 41 16.8 +0.3
baz=130
MMLI Mount Malkishu 8.77 98 P Sn 08 42 47.8 -6.6
MMLI Mount Malkishu 8.77 98 Pn Pn 08 41 15.0 -1.6
MMLI Sn Sn 08 42 47.1 -7.3
BRTR Keskin Array B 8.81 48 Pn Pn 08 41 17.9 +0.7
comp=Z,0.2nm,0.3s,baz=218,slow=14,SNR=9.6
BRTR Sn Sn 08 42 51.1 -4.5
comp=Z,0.4nm,0.3s,baz=220,slow=26,SNR=4.4
BRTR LR LR 08 45 55.9
comp=Z,265nm,20.9s,baz=230,slow=46
BRTR Keskin Array B 8.81 48 P Pn 08 41 18.0 +0.7
BR101 Keskin Array S 8.81 48 *e*Pn Pn 08 41 17.9 +0.7
BR101 *e*Sn Sn 08 42 51.1 -4.5
KSDI Kefar Szold 8.82 93 P Sn 08 42 53.1 -2.4
comp=Z,0.2nmcomp=Z,56nm,0.7s
KSDI Kefar Szold 8.82 93 Pn Pn 08 41 16.5 -0.7
KSDI Sn Sn 08 42 49.2 -6.3
NATI Neve Ativ 8.87 93 Pn Pn 08 41 18.1 +0.2
NATI Sn Sn 08 42 50.6 -6.2
WDD Wied Dalam 8.88 284 *e*Pn Pn 08 41 17.0 -1.1
WDD *e*Sn Sn 08 42 51.0 -6.2
HMDT Nahal Hemdat 8.90 99 Pn Pn 08 41 18.6 +0.3
HMDT Sn Sn 08 42 51.1 -6.4
CGL1 Ceglie Messapi 8.94 319 *e*Pn Pn 08 41 18.1 -0.7
CGL1 Sn Sn 08 42 47.2 -11
KSHT Keshet 8.98 94 Pn Pn 08 41 18.4 -1.1
DSI Dead Sea 8.98 104 Sn Sn 08 42 52.7 -6.8
BRBR Barbar 9.03 91 *e*P Pn 08 41 19.9 -0.4
BRBR *e*S Sn 08 42 44.1 -17
BRBR AML AML 08 42 59.2
comp=E,57nm,0.6s
BRBR AML AML 08 43 10.0
comp=N,52nm,0.6s
MZDA Masada 9.05 105 Pn Pn 08 41 19.1 -1.3
MZDA Sn Sn 08 42 54.8 -6.5
MASS Massafra 9.10 318 *e*Pn Pn 08 41 19.8 -1.3
FASA Fasano 9.12 320 *e*Pn Pn 08 41 20.6 -0.7
FASA Sn Sn 08 42 51.2 -12

ULC Ulcinj 9.12 331⇓ *i*Pn Pn 08 41 19.5 -1.8
ULC *e*Sn Sn 08 42 54.6 -8.2
PRNI Paran 9.15 111 Pn Pn 08 41 21.2 -0.7
PRNI Sn Sn 08 42 56.7 -7.2
LISJ El Lisan 9.17 105 P Pn 08 41 22.5 +0.5
comp=N,17nm,0.5s
LISJ El Lisan 9.17 105 P Sn 08 42 59.0 -5.2
comp=N,0.4nmcomp=N,110nm,0.6s
ZFRI Zfri 9.20 110 Sn Sn 08 42 57.7 -7.2
GHAJ Ghor Haditha 9.22 105 P Pn 08 41 24.1 +1.4
comp=N,49nm,0.4s
GHAJ Ghor Haditha 9.22 105 P Sn 08 42 59.2 -6.2
comp=N,1.0nmcomp=N,261nm,0.6s
GHAJ Ghor Haditha 9.22 105 Pn Pn 08 41 22.6 -0.1
GHAJ Sn Sn 08 42 59.2 -6.2
QASN Qassioun 9.28 90 *e*P Pn 08 41 25.5 +1.8
HRFI Mount Harif 9.32 113 P Pn 08 41 24.9 +0.7
comp=N,55nm,0.5s
HRFI Mount Harif 9.32 113 P Sn 08 43 00.1 -8.0
comp=N,0.4nmcomp=N,111nm,0.8s
HRFI Mount Harif 9.32 113 Pn Pn 08 41 24.7 +0.5
HRFI Sn Sn 08 43 01.5 -6.6
DRME Dracevica, Mon 9.33 332⇑ *i*Pn Pn 08 41 22.9 -1.3
DRME *e*Sn Sn 08 42 59.8 -8.2
DRME Dracevica, Mon 9.33 332 *e*Pn Pn 08 41 20.2 -4.0
WALJ Wala 9.33 103 P Pn 08 41 24.6 +0.4
WALJ Wala 9.33 103 P Sn 08 43 02.5 -5.6
comp=N,0.9nmcomp=N,183nm,0.8s
VAE Valguarnera 9.34 294 Sn Sn 08 43 04.2 -4.3
comp=N,3.8nm,0.3s,baz=60,slow=20,SNR=3.1
MBRI Mt Berech 9.35 115 Pn Pn 08 41 23.9 -0.7
MBRI Sn Sn 08 43 01.6 -7.2
PVY Plav 9.40 336⇑ *i*Pn Pn 08 41 24.0 -1.3
PVY *e*Sn Sn 08 43 01.5 -8.4
TOTH TOTAH 9.43 91 *e*P Pn 08 41 24.8 -0.9
TOTH *e*S Sn 08 42 50.0 -21
TOTH AML AML 08 43 13.8
comp=N,37nm,0.7s
TOTH AML AML 08 43 19.7
comp=E,28nm,0.6s
EIL Elat 9.44 115 Pn Pn 08 41 25.8 0.0
comp=E,4.5nm,0.3s,baz=310,slow=1.8,SNR=45
EIL Sn Sn 08 43 01.6 -9.3
comp=E,2.6nm,0.3s,baz=323,slow=16,SNR=2.4
AQBJ Aqaba 9.48 115 P Pn 08 41 27.1 +0.7
comp=E,87nm,0.5s
AQBJ Aqaba 9.48 115 P Sn 08 43 03.2 -8.8
CUC Castrocucco 9.49 311 *e*Pn Pn 08 41 26.8 +0.4
CUC *e*Sn Sn 08 43 07.6 -4.4
SG1 Sgolgore (BA) 9.50 317 *e*Pn Pn 08 41 25.6 -1.0
SG1 Sn Sn 08 43 00.3 -12
PDG Podgorica 9.51 333⇓ *i*P Pn 08 41 26.4 -0.2
PDG Podgorica 9.51 333 *e*Pn Pn 08 41 23.6 -3.0
TTG Podgorica 9.51 333⇓ *i*Pn Pn 08 41 25.5 -1.1
TTG *e*Sn Sn 08 43 03.6 -8.8
TTG Podgorica 9.51 333 *e*Pn Pn 08 41 25.2 -1.4
TTG *e*Sn Sn 08 43 07.5 -4.9
TTG Podgorica 9.51 333 *e*P Pn 08 41 25.2 -1.4
TTG *e* 08 43 07.5
JDRJ Daraweish 9.51 108 P Pn 08 41 29.3 +2.4
comp=E,27nm,0.5s
BUM Brajici-Budva 9.54 331⇑ *i*Pn Pn 08 41 25.5 -1.7
BUM *e*Sn Sn 08 43 04.5 -8.8
BAI Bari 9.58 319 *e*Pn Pn 08 41 26.7 -0.9
BAI Sn Sn 08 43 06.0 -8.1
SWQJ Swaqa 9.63 104 P Sn 08 43 12.6 -3.2
IVA Berane 9.66 336⇓ *i*Pn Pn 08 41 27.8 -1.1
IVA *e*Sn Sn 08 43 08.1 -8.3
HSNJ Maan 9.72 110 P Sn 08 41 12.3 -5.8
CEME Cevo 9.74 332⇑ *i*Pn Pn 08 41 27.8 -2.1
CEME *e*Sn Sn 08 43 09.4 -8.8
KOME Kolasin 9.78 335⇑ *i*Pn Pn 08 41 29.6 -0.8
KOME *e*Sn Sn 08 43 10.7 -8.5
HCY Herceg Novi 9.82 330⇑ *i*Pn Pn 08 41 29.6 -1.4
HCY *e*Sn Sn 08 43 11.6 -8.6
HCY Herceg Novi 9.82 330 *e*Pn Pn 08 41 28.8 -2.2
NKME Niksic 9.91 333⇓ *i*Pn Pn 08 41 31.3 -0.9
NKME *e*Sn Sn 08 43 13.9 -8.5
NKY Niksic 9.93 333⇓ *i*Pn Pn 08 41 30.9 -1.7
NKY *e*Sn Sn 08 43 14.4 -8.7
ASF Jabal al Asfar 10.04 98 Pn Pn 08 41 32.7 -1.5
comp=E,0.5nm,0.3s,baz=280,slow=17,SNR=3.8
ASF Sn Sn 08 43 18.1 -7.7
comp=E,0.7nm,0.3s,baz=257,slow=18,SNR=3.0
ASF Jabal al Asfar 10.04 98 P Pn 08 41 34.3 +0.2
TREB Trebinje 10.11 330 *e*Pn Pn 08 41 31.5 -3.4
BRY Bratogost 10.19 331⇓ *i*Pn Pn 08 41 34.2 -1.9
BRY *e*Sn Sn 08 43 20.4 -8.9
BRY Bratogost 10.19 331 *e*Pn Pn 08 41 33.2 -2.9
CLTB Caltabellotta 10.28 293 *e*Pn Pn 08 41 38.0 +0.6
CLTB *e*Sn Sn 08 43 39.4 -1.1
UPM Unac-Piva 10.30 334⇓ *i*Pn Pn 08 41 36.2 -1.5
UPM *e*Sn Sn 08 43 23.3 -8.9
UPM Unac-Piva 10.30 334 *e*Pn Pn 08 41 34.9 -2.8
STON Ston 10.51 329 *e*Pn Pn 08 41 37.6 -2.7
STON Sn Sn 08 43 21.5 -15
STON Ston 10.51 329 *e*Pn Pn 08 41 37.6 -2.7
TIRR Tirgusor 10.64 13 *e*Pn Pn 08 41 41.9 -0.2
TIRR *e*Sn Sn 08 43 41.2 +1.1
TIRR Tirgusor 10.64 13 *e*P Pn 08 41 41.9 -0.2
TIRR *e* 08 43 41.2
BBLS Lazići 10.71 337 *e*Pn Pn 08 41 38.3 -4.9
DIVS Divibare 10.74 340 *e*Pn Pn 08 41 40.9 -2.8
DIVS Divibare 10.74 340 *e*Pn Pn 08 41 40.2 -3.5
HERR Herculane 10.96 350⇑ *i*P Pn 08 41 46.3 -0.2
MDVR Moldovita 10.98 347⇓ *i*P Pn 08 41 46.3 -0.6
HAPS Han Pijesak,Bl 11.06 336 *e*Pn Pn 08 41 43.4 -4.6
VOIR 11.31 360⇑ *i*P Pn 08 41 49.8 -1.7
VOIR 11.31 360 ⇑P Pn 08 41 49.8 -1.7
GZR Gura Zlata 11.41 352⇑ *i*P Pn 08 41 51.2 -1.6
GZR Gura Zlata 11.41 352 ⇑P Pn 08 41 51.2 -1.6
FRGS Fruska Gora 11.77 341 *e*Pn Pn 08 41 53.4 -4.2
BZS Buzias 11.81 348⇓ *i*P Pn 08 41 57.3 -0.8
BZS Buzias 11.81 348 ⇓P Pn 08 41 57.3 -0.8
BLY Banja Luka 12.27 332 *e*Pn Pn 08 42 02.5 -1.9
BLY Banja Luka 12.27 332 *e*Pn Pn 08 42 00.7 -3.7
DRGR 12.80 352⇓ *i*P Pn 08 42 10.0 -1.8
DRGR 12.80 352 ⇓P Pn 08 42 10.0 -1.8
MORH Mrgy, Hungar 13.07 340 *e*Pn Pn 08 42 07.4 -7.9
KEST Kesra 13.07 282 Sn Sn 08 44 28.2 -12
comp=E,0.3nm,0.3s,baz=139,slow=18,SNR=2.4
NVLJ Novalja 13.11 326 *e*Pn Pn 08 42 12.8 -3.1
NVLJ Sn Sn 08 44 26.5 -14
CRES Cresnjev 13.85 331 *e*Pn Pn 08 42 21.4 -4.0
CEY Cerknica 14.21 328 *e*Pn Pn 08 42 27.0 -4.0
SIRT Sirnak 14.44 72 *e*Pn Pn 08 42 32.8 -1.4
TRI Trieste 14.49 326 *e*Pn Pn 08 42 32.8 -1.9
TRI Trieste 14.49 326 *e*P Pn 08 42 32.8 -1.9
SOKA Soboth 14.71 332 *e*Pn Pn 08 42 34.9 -3.0
comp=E,1.4nm,0.3s
OBKA Obir 14.77 330 *i* Pn Pn 08 42 36.6 -2.0
comp=E,2.6nm,0.4s
ARSA Arzberg 15.00 334 *i* Pn Pn 08 42 38.6 -3.1
comp=E,2.3nm,0.5s
VYHS Vyhne 15.12 344 *e*P P 08 42 47.9 -0.2
VYHS Vyhne 15.12 344 *e*P P 08 42 47.9 -0.2
MODS Modra-Piesok 15.42 340 *e*P P 08 42 50.7 -0.7
MODS Modra-Piesok 15.42 340 *e*P P 08 42 50.7 -0.7
KWP Kalwaria Pacla 15.62 354 *e*Pn Pn 08 42 50.3 +0.7
comp=E,83nm,0.8s
KWP Kalwaria Pacla 15.62 354 *e*P Pn 08 42 50.3 +0.7
KWP pmax pmax
comp=Z,83nm,0.8s
KBA Koelnbreinsper 15.73 329 P P 08 42 56.4 +1.4
KBA Koelnbreinsper 15.73 329 P P 08 42 56.4 +1.4
comp=Z,16nm,0.8s
DOMR Dombai 15.78 50⇑ *e*P Pn 08 42 51.2 -0.7
ABTA Abfaltersbach 15.84 327 *i* Pn Pn 08 42 50.8 -1.8
comp=Z,2.0nm,0.4s
ABTA *i* P P 08 42 57.2 +1.0
comp=Z,18nm,0.4s
MOA Molln 15.97 332 *i* P P 08 42 57.9 +0.3
comp=Z,9.5nm,0.5s
KRUC Moravsky 16.29 339 P P 08 43 01.9 +0.9
KRUC pmax pmax
comp=Z,6.0nm,0.9s
KRUC Moravsky 16.29 339 *e*PN P 08 43 01.0 0.0
VRAC Vranov 16.45 340 Pn Pn 08 42 59.7 -0.7
comp=Z,1.2nm,0.3s,baz=153,slow=10,SNR=9.1
VRAC Vranov 16.45 340 *e*PN P 08 43 03.2 +0.3
NEY Neytrino 16.46 51⇓ *e*P Pn 08 43 01.5 +0.9
OJC Ojcow 16.57 348 *e*Pn Pn 08 43 02.2 +0.3

comp=Z,3.4nm,0.5s
OJC Ojcow 16.57 348 *e*P Pn 08 43 02.2 +0.3
OJC pmax pmax
comp=Z,3.0nm,0.5s
WTTA Wattenberg 16.63 326 P P 08 43 04.9 0.0
comp=Z,3.4nm,0.4s
MORC Moravsky Berou 16.63 343 *e*Pn Pn 08 43 02.3 -0.3
comp=Z,3.4nm,0.8s
MORC Moravsky Berou 16.63 343 *e*P Pn 08 43 02.3 -0.3
MORC pmax pmax
comp=Z,3.0nm,0.8s
SHA1 Shidzhatmaz 16.65 50 *e*P P 08 43 06.0 +0.7
WATA Walderalm 16.71 326 *i* Pn Pn 08 43 03.0 -0.7
comp=Z,9.2nm,0.5s
GNI Garni 16.74 63 LR LR 08 51 06.4
comp=Z,284nm,21.1s,baz=268,slow=43
KIV Kislovodsk 16.78 49*c*P P 08 43 07.6 +1.0
KIV pmax pmax
comp=Z,27nm,1.1s
KIV MLR MLR
comp=Z,98nm,23.0s
KVAR Kislovodsk Arr 16.78 49 Pn Pn 08 43 05.2 +0.5
baz=273,slow=21,SNR=8.9
KBZ Khabaz 16.80 50 Pn Pn 08 43 05.3 +0.6
comp=Z,0.5nm,0.3s,baz=248,slow=8.0,SNR=25
KBZ LR LR 08 51 20.4
comp=Z,122nm,20.9s,baz=258,slow=44
FUORN Ofenpass-Fuorn 16.84 322 *e*Pn P 08 43 06.9 -0.5
comp=Z,11nm,1.0s
KIEV Kiev 16.84 9 *e*Pn Pn 08 43 04.1 -1.1
comp=Z,28nm,1.1s
KIEV Kiev 16.84 9 *e*P Pn 08 43 04.1 -1.1
KIEV pmax pmax
comp=Z,28nm,1.1s
AKASG Malin Array Be 16.85 9 Pn Pn 08 43 04.2 -1.1
comp=Z,9.3nm,0.3s,baz=199,slow=11,SNR=16
AKASG LR LR 08 50 12.0
comp=Z,141nm,20.9s,baz=300,slow=40
AKBB Malin Array Si 16.85 9 *e*Pn Pn 08 43 04.2 -1.1
AKBB Malin Array Si 16.85 9 *e*P Pn 08 43 04.2 -1.1
FETA Feichten 16.88 324 *i* P P 08 43 08.1 +0.4
comp=Z,7.0nm,0.8s
GEC2 GERESS Array S 17.01 333 *e*Pn Pn 08 43 07.2 -0.3
GEC2 GERESS Array S 17.01 333 *e*P P 08 43 09.5 +0.4
comp=Z,26nm,0.8s,baz=148,slow=11
GEC2 *e*L L 08 51 00.7
comp=Z,273nm,20.7s
GEC2 GERESS Array S 17.01 333 *e*P Pn 08 43 07.2 -0.3
GERES GERESS Array B 17.01 333 Pn Pn 08 43 07.2 -0.3
comp=Z,3.4nm,0.3s,baz=146,slow=12,SNR=27
GERES LR LR 08 51 11.2
comp=Z,296nm,18.7s,baz=109,slow=43
ZEI Tsey 17.03 54 *e*P P 08 43 10.6 +1.1
ZEI pmax pmax
comp=Z,21nm,1.1s
NCK Nalchik 17.14 51⇓ *e*P P 08 43 11.6 +1.1
DAVOX Davos/Dischmat 17.14 322 P P 08 43 10.3 -0.4
DAVOX LR LR 08 51 16.5
comp=Z,219nm,18.9s,slow=43
RETA Reutte 17.20 325 *e*Pn P 08 43 11.7 +0.5
comp=Z,6.2nm,0.6s
TUE Stuetta 17.21 321 *e*Pn Pn 08 43 09.1 -1.0
comp=Z,7.6nm,1.1s
KHC Kasperske Hory 17.29 334 *e*Pn P 08 43 11.8 -0.4
comp=Z,4.7nm,1.0s
KHC Kasperske Hory 17.29 334 *e*P P 08 43 12.9 +0.8
KHC AMS AMS 08 50 50.0
comp=Z,400nm,16.4s
KHC Kasperske Hory 17.29 334 *e*P P 08 43 12.9 +0.8
KHC MLR MLR
comp=Z,400nm,16.4s
FUR Furstenfeldbru 17.46 328 *e*L L 08 51 13.0
comp=Z,381nm,19.2s
DPC Dobruska-Polom 17.47 341 *e*P P 08 43 14.5 +0.3
DPC Dobruska-Polom 17.47 341 *e*P P 08 43 14.5 +0.3
WET Wettzell 17.56 332 *e*P P 08 43 15.2 +0.1
comp=Z,43nm,1.2s,baz=148,slow=11
WET *e*L L 08 51 28.2
comp=Z,314nm,21.3s
GOF Gofitskoye 17.57 46 *e*P P 08 43 15.7 +0.5
GOF pmax pmax
comp=Z,20nm,0.8s
PRU Pruhonice 17.68 337 *e*P Pn 08 43 15.8 +0.1
PRU Pruhonice 17.68 337 *e*P Pn 08 43 15.8 +0.1
BNI Bardonecchia 17.90 313 *e*Pn P 08 43 19.2 +0.2
comp=Z,4.4nm,1.1s
BNI Bardonecchia 17.90 313 *e*P P 08 43 19.2 +0.2
BNI pmax pmax
comp=Z,4.0nm,1.1s
LPG La Plagne 18.09 314 *e*P P 08 43 23.5 +2.2
LPG pmax pmax
comp=Z,3.0nm,0.4s
LPL La Plagne 18.11 314 *e*P P 08 43 24.0 +2.5
LPL pmax pmax
comp=Z,26nm,1.4s
PVCC Panska Ves 18.14 338 P P 08 43 23.2 +1.7
SENIN Lac Senin/Sane 18.26 317 *e*Pn Pn 08 43 22.2 -0.9
comp=Z,7.8nm,0.3s
GROC Groznyy 18.47 54 *e*P P 08 43 22.4 -2.8
GROC pmax pmax
comp=Z,5.0nm,0.4s
SLE Schleitheim 18.50 322 P Pn 08 43 27.1 +1.3
SLE pmax pmax
comp=Z,27nm,0.5s
NKC Novy Kostel 18.61 334 P Pn 08 43 29.5 +2.4
NKC pmax pmax
comp=Z,6.0nm,0.8s
BRG Berggiesshubel 18.64 337 *e*P P 08 43 27.2 +0.3
comp=Z,8.9nm,1.3s
BRG Berggiesshubel 18.64 337 *e*P P 08 43 27.2 +0.3
BRG pmax pmax
comp=Z,8.0nm,1.3s
GRA1 Grafenberg Arr 18.65 331 *e*P P 08 43 27.5 +0.4
comp=Z,36nm,1.0s
GRF Grafenberg Arr 18.65 331 *e*P Pn 08 43 27.8 +0.2
comp=Z,59nm,1.2s,baz=148,slow=11
GRF *e*L L 08 52 21.1
comp=Z,201nm,19.4s
GRF Grafenberg Arr 18.65 331 *e*P P 08 43 27.5 +0.4
GRF pmax pmax
comp=Z,36nm,1.0s
GRFO Grafenberg 18.65 331 *e*P P 08 43 27.3 +0.2
comp=Z,31nm,1.0s
GRFO Grafenberg 18.65 331 *e*P P 08 43 27.3 +0.2
GRFO pmax pmax
comp=Z,31nm,1.0s
TANN Tannenbergstha 18.76 334 *e*P P 08 43 28.4 0.0
comp=Z,56nm,1.1s,baz=148,slow=11
GUNZ Gunzen 18.76 334 *e*P P 08 43 28.7 +0.3
comp=Z,25nm,1.5s,baz=148,slow=11
BFO Black Forest 18.96 324 *e*P Pn 08 43 31.3 -0.1
comp=Z,111nm,1.1s
BFO Black Forest 18.96 324 *e*L L 08 52 22.7
comp=Z,154nm,18.1s
BFO Black Forest 18.96 324 *i* P Pn 08 43 33.1 +1.8
VIVF Saint-Julien-l 19.05 310 *e*P Pn 08 43 33.2 +0.8
VIVF pmax pmax
comp=Z,109nm,2.5s
CABF La Chapelle 19.09 317 *e*P P 08 43 30.1 -1.9
CABF pmax pmax
comp=Z,5.0nm,0.5s
MOX Moxa 19.26 333 *e*L L 08 52 20.1
comp=Z,322nm,18.4s
MOX Moxa 19.26 333 P Pn 08 43 35.2 +0.3
MOX pmax pmax
comp=Z,10.0nm,1.1s
CLL Collm 19.32 336 *e*P P 08 43 34.5 +0.1
comp=Z,16nm,1.0s
CLL Collm 19.32 336 *i* P P 08 43 34.9 +0.5
comp=Z,24nm,1.3s
CLL *e*pP **pwP** 08 43 45.0 -0.3
CLL *e*PPP PPP 08 43 56.0
CLL Collm 19.32 336 *i* P P 08 43 34.9 +0.5
CLL pmax pmax
comp=Z,5.0nm,1.3s
SSB Saint Sauveur 19.33 311 *e*P P 08 43 35.1 +0.5
comp=Z,4.0nm,0.8s
SSB Saint Sauveur 19.33 311 *e*P P 08 43 35.1 +0.5
SSB pmax pmax
comp=Z,4.0nm,0.8s
HINF Hinteralfeld 19.38 320 *e*P Pn 08 43 36.1 -0.3
HINF pmax pmax
comp=Z,5.0nm,0.5s
ECH Echery 19.48 322 *e*P P 08 43 35.4 -0.8
comp=Z,8.1nm,0.9s
ECH Echery 19.48 322 *e*P P 08 43 35.4 -0.8

ECH pmax pmax
comp=Z,8.0nm,0.9s
CDF Champ du Feu 19.54 322 *e*P **P 08 43 37.7 +0.7**
CDF pmax pmax
comp=Z,16nm,1.2s
HAU Haudompre 19.77 320 *e*P **Pn 08 43 40.5 -0.5**
HAU pmax pmax
comp=Z,5.0nm,0.4s
VSR Storozhevoye 19.91 27 *e*P **P 08 43 40.4 -0.4**
VSR pmax pmax
comp=Z,9.0nm,0.4s
SUW Suwalki 19.95 357 *e*P **P 08 43 39.6 -1.6**
SUW Suwalki 19.95 357 *e*P **P 08 43 40.1 -1.1**
comp=Z,53nm,0.5s
SUW Suwalki 19.95 357 *e*P **P 08 43 40.1 -1.1**
SUW pmax pmax
comp=Z,53nm,0.5s
TNS Taunus Mts 20.23 328 *e*L L 08 52 19.7
comp=Z,155nm,19.0s
GTTG Guttingen 20.61 332 *e*P **P 08 43 48.6 +0.3**
comp=Z,110nm,1.1s,baz=148,slow=11
CLZ Clausthal 20.69 333 *e*P **P 08 43 48.6 -0.7**
comp=Z,29nm,1.3s,baz=148,slow=11
LOR Lormes 20.73 316 *e*P **P 08 43 49.3 -0.5**
LOR pmax pmax
comp=Z,3.0nm,0.4s
CAF Calviac 20.75 308 *e*P **P 08 43 50.1 0.0**
CAF pmax pmax
comp=Z,33nm,1.7s
AVF Avril sur Loir 20.78 314 *e*P **P 08 43 50.4 +0.1**
AVF pmax pmax
comp=Z,6.0nm,0.6s
SSF Saint Saulge 20.83 315 *e*P **P 08 43 51.3 +0.4**
SSF pmax pmax
comp=Z,4.0nm,0.5s
VRH Novokhopyorsk 20.91 30 *e*P **P 08 43 51.3 -0.3**
VRH pmax pmax
comp=Z,60nm,0.9s
WLF Walferdange 20.92 324 *e*P **P 08 43 52.6 +0.8**
comp=Z,104nm,0.9s
WLF Walferdange 20.92 324 *e*P **P 08 43 52.6 +0.8**
WLF pmax pmax
comp=Z,104nm,0.9s
WLF Walferdange 20.92 324 ⇑P Pn 08 43 55.9 +1.4
comp=Z,14nm,0.8s
LPSR Galich'ya Gora 20.96 24 *e*P **P 08 43 49.6 -2.6**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
BGF Bois d'Agland 20.98 313 *e*P **P 08 43 52.5 +0.1**
BGF pmax pmax
comp=Z,15nm,0.9s
TCF Toulx Ste Croi 21.24 312 *e*P **P 08 43 55.5 +0.2**
TCF pmax pmax
comp=Z,64nm,2.0s
RJF Les Rejaudoux 21.26 309 *e*P **P 08 43 55.8 +0.3**
RJF pmax pmax
comp=Z,7.0nm,0.6s
MEM Membach 21.62 325 ⇓P **P 08 44 00.9 +1.6**
comp=Z,7.6nm,0.5s
LFF La Frestale 21.63 307 *e*P **P 08 43 59.7 +0.3**
LFF pmax pmax
comp=Z,7.0nm,0.5s
RETH Rethem/Aller, 21.78 334 *e*P **P 08 44 01.1 +0.1**
comp=Z,52nm,1.0s,baz=148,slow=11
ETSF Etsaut 21.88 301 *e*P **P 08 44 02.9 +0.6**
ETSF pmax pmax
comp=Z,3.0nm,0.4s
DOU Dourbes 21.97 323 ⇓P **P 08 44 03.8 +0.8**
comp=Z,3.9nm,0.5s
BAIF Baives 22.14 322 *e*P **P 08 44 05.0 +0.1**
BAIF pmax pmax
comp=Z,5.0nm,0.4s
BSD Bornholm Skovb 22.18 344 *i*P **P 08 44 02.7 -2.6**
BSD Bornholm Skovb 22.18 344 *i*P **P 08 44 02.7 -2.6**
SJPF Ste Jean 22.41 301 *e*P **P 08 44 09.1 +1.2**
SJPF pmax pmax
comp=Z,40nm,1.7s
BSEG Bad Segeberg 22.42 337 *e*P **P 08 44 05.8 -2.0**
comp=Z,70nm,1.5s,baz=148,slow=11
OBN Obninsk 22.46 17 P **P 08 44 08.7 +0.5**
comp=Z,2.9nm,0.3s,baz=35,slow=22,SNR=5.7
OBN LR LR 08 53 40.7
comp=Z,46nm,18.7s,baz=172,slow=39
OBN Obninsk 22.46 17 *e*P **P 08 44 07.1 -1.2**
comp=Z,17nm,0.9s
OBN Obninsk 22.46 17⇑*e*P **P 08 44 09.2 +0.9**
OBN *e* 08 44 18.9
OBN *e* 08 44 31.4
OBN *e*PPP PPP 08 44 41.3
OBN *e* 08 48 06.1
OBN pmax pmax
comp=Z,73nm,2.5s
OBN MLR MLR
comp=Z,162nm,18.0s
MFF Saint Martin d 22.85 311 *e*P **P 08 44 12.7 +0.3**
MFF pmax pmax
comp=Z,9.0nm,0.8s
MOS Moscow 23.29 18 *e*P **P 08 44 16.2 -0.6**
LDF La Druitiere 23.71 315 *e*P **P 08 44 20.2 -0.8**
LDF pmax pmax
comp=Z,9.0nm,0.5s
ES19 SONSECA Array 23.83 292 *e*P **P 08 44 19.1 -3.2**
ESDC Sonseca Array 23.87 292 P **P 08 44 22.6 -0.1**
comp=Z,1.4nm,0.4s,baz=84,slow=9.1,SNR=14
FLN La Foliniere 24.00 315 *e*P **P 08 44 23.8 +0.1**
FLN pmax pmax
comp=Z,5.0nm,0.4s
PAB San Pablo 24.16 292 *e*P **P 08 44 25.8 +0.4**
comp=Z,1.6nm,0.6s
PAB San Pablo 24.16 292 *e*P **P 08 44 25.8 +0.4**
PAB pmax pmax
comp=Z,2.0nm,0.6s
MDT Midelt 24.82 275 P **P 08 44 32.3 +0.8**
comp=Z,2.0nm,0.5s,baz=123,slow=17,SNR=5.6
SGMF Saint Gilles 25.02 313 *e*P **P 08 44 32.9 -0.1**
SGMF pmax pmax
comp=Z,39nm,1.2s
QUIF Quistinic 25.26 312 *e*P **P 08 44 35.1 0.0**
QUIF pmax pmax
comp=Z,8.0nm,0.4s
ROSF Rostrenen 25.49 312 *e*P **P 08 44 36.6 -0.7**
ROSF pmax pmax
comp=Z,122nm,1.9s
HFS Hagfors 27.09 347 P **P 08 44 50.2 -1.5**
comp=Z,4.8nm,0.4s,baz=148,slow=8.7,SNR=33
FIA0 FINESS Array S 27.36 1 *e*P **P 08 44 52.4 -1.6**
FIA0 *e*PcP **PcP 08 48 12.9 +0.5**
FIA0 FINESS Array S 27.36 1 *e*P **P 08 44 52.4 -1.6**
FIA0 *e* 08 48 12.9
FINES FINESS Array B 27.36 1 P **P 08 44 52.4 -1.6**
comp=Z,3.5nm,0.3s,baz=163,slow=11,SNR=63
FINES PcP **PcP 08 48 12.9 +0.5**
comp=Z,1.2nm,0.7s,baz=219,slow=1.8,SNR=3.8
FINES LR LR 08 56 49.0
comp=Z,119nm,18.7s,baz=190,slow=39
KONO Kongsberg 27.53 343 *e*P **P 08 44 55.1 -0.4**
KONO Kongsberg 27.53 343⇑*i*P **P 08 44 57.4 +1.9**
KONO pmax pmax
comp=Z,39nm,1.4s
NORES NORESS Array B 28.07 346 P **P 08 44 59.2 -1.1**
NORES pmax pmax
comp=Z,2.0nm,0.3s
KLMR Klimovskoe 28.34 15 *e*P **P 08 44 59.8 -2.9**
KLMR pmax pmax
comp=Z,18nm,1.5s
KLMR Klimovskoe 28.34 15 *e*P **P 08 44 59.8 -2.9**
KLMR AMP 08 45 12.4
comp=Z,18nm,1.5s
NB2 NORSAR Subarra 28.41 346 P **P 08 45 02.0 -1.5**
comp=Z,2.6nm,0.6s,baz=156,slow=9.3
NB200 NORSAR Array S 28.41 346 *e*P **P 08 45 02.5 -1.0**
NOA NORSAR Array B 28.41 346 P **P 08 45 02.5 -1.0**
comp=Z,0.6nm,0.4s,baz=157,slow=8.2,SNR=12
NOA LR LR 08 58 13.7
comp=Z,65nm,21.1s,baz=165,slow=40
EKA Eskdalemuir Ar 28.89 326 P **P 08 45 07.4 -0.4**
comp=Z,1.1nm,0.4s,baz=114,slow=12,SNR=18
EKA Eskdalemuir Ar 28.89 326 P **P 08 45 07.4 -0.4**
EKA pmax pmax
comp=Z,2.0nm,0.4s
ESK Eskdalemuir 28.91 326 *e*P **P 08 45 05.8 -2.1**
comp=Z,5.8nm,0.5s
ESK Eskdalemuir 28.91 326 *e*P **P 08 45 05.8 -2.1**
ESK pmax pmax
comp=Z,6.0nm,0.5s
AKTO Aktyubinsk 28.98 46 P **P 08 45 09.2 +0.6**
comp=Z,1.0nm,0.4s,baz=252,slow=6.4,SNR=3.0
ABKAR Akbulak array 29.76 49 *e*P **P 08 45 16.4 +0.9**
TOA1 Torodi Ar. Sit 29.81 231 *e*P **P 08 45 15.7 -0.6**
TOA0 Torodi Ar. Sit 29.81 231 *e*P **P 08 45 15.4 -0.8**
TORD Torodi Ar. Bea 29.81 231 P **P 08 45 15.7 -0.6**
comp=Z,4.5nm,0.3s,baz=194,slow=18,SNR=73
TORD LR LR 09 00 15.6
comp=Z,277nm,20.1s,baz=20,slow=43
PRGR Permogore 30.50 19 *e*P **P 08 45 19.5 -2.4**
PRGR pmax pmax
comp=Z,14nm,0.9s
ARU Arti 31.91 35 *e*P **P 08 45 35.1 +0.7**
comp=Z,7.1nm,1.1s
ARU Arti 31.91 35 *e*P **P 08 45 34.2 -0.2**
ARU 08 46 35.3
ARU S **S 08 50 47.0 +3.7**
ARU SS **SnSn 08 52 33.6 +0.7**
SVE Sverdlovsk 33.11 36 *e*P **P 08 45 45.2 +0.3**
LVZ Lovozero 34.27 6 *e*P **P 08 45 54.5 -0.4**
LVZ Lovozero 34.27 6 *e*P **P 08 45 54.5 -0.4**
ARA0 ARCESS Array S 35.48 0 *e*P **P 08 46 03.5 -1.7**
ARA0 *e*PcP **PcP 08 48 34.7 +0.6**
ARCES ARCESS Array B 35.48 0 P **P 08 46 03.5 -1.7**
comp=Z,2.0nm,0.4s,baz=174,slow=9.5,SNR=50
ARCES PcP **PcP 08 48 34.7 +0.6**
comp=Z,1.0nm,0.5s,baz=172,slow=2.7,SNR=4.6
KEV Kevo 35.71 1 *e*P **P 08 46 07.0 -0.3**
KEV Kevo 35.71 1 *e*P **P 08 46 07.0 -0.3**
KK31 Karatay Array 36.20 62 *e*P **P 08 46 13.5 +1.7**
KK31 Karatay Array 36.20 62 *e*P **P 08 46 13.5 +1.7**
KKAR Karatay Array 36.20 62 *e*P **P 08 46 13.6 +1.8**
KKAR Karatay Array 36.20 62 *e*P **P 08 46 13.6 +1.8**
BRVK Borovoye 37.03 45⇓*i*P **P 08 46 19.5 +0.8**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
BVAR Borovoye Array 37.09 45 P **P 08 46 18.9 -0.3**
comp=Z,3.2nm,1.0s,baz=262,slow=4.5,SNR=8.8
DBIC Dimbokro 38.91 232 P **P 08 46 35.1 +0.3**
comp=Z,1.4nm,0.4s,baz=32,slow=7.1,SNR=6.6
DBIC LR LR 09 06 22.6
comp=Z,267nm,19.5s,baz=17,slow=42
DBIC Dimbokro 38.91 232 *e*P **P 08 46 35.2 +0.3**
comp=Z,3.1nm,1.1s
DBIC Dimbokro 38.91 232 *e*P **P 08 46 35.2 +0.3**
DBIC pmax pmax
comp=Z,3.0nm,1.1s
TIC Toumodi 39.03 232 *e*P **P 08 46 39.7 +3.7**
KIC Kosan Boka 39.06 232 *e*P **P 08 46 37.0 +0.8**
comp=Z,3.7nm,0.3s
AAK Ala-Archa 39.15 62 P **P 08 46 37.9 +1.0**
comp=Z,1.2nm,0.3s,baz=252,slow=16,SNR=3.9
AAK Ala-Archa 39.15 62⇓*i*P **P 08 46 38.6 +1.7**
AAK pmax pmax
comp=Z,5.0nm,1.7s
LIC Lamto 39.35 232 *e*P **P 08 46 38.2 -0.4**
comp=Z,26nm,1.2s
KSH Kashi 40.61 67 P **P 08 46 49.3 +0.2**
KSH sP pP 08 46 56.7 -0.5
KSH PcP **PcP 08 48 54.5 +3.8**
KSH S **S 08 52 56.1 -0.8**
KSH sS pS 08 53 03.2 -2.9
KSH pmax pmax
comp=Z,17nm,1.3s
KSH pmax pmax
comp=Z,190nm,5.1s
KSH LR LR
comp=N,73nm,6.5s
KSH LR LR
comp=E,120nm,7.0s
KSH LR LR
comp=Z,190nm,8.3s
BORG Borgarnes 41.47 332 *e*P **P 08 46 57.5 +2.0**
BORG Borgarnes 41.47 332 *e*P **P 08 46 57.5 +2.0**
KURBB Kurchatov Arra 41.80 50 P **P 08 46 59.5 +1.0**
comp=Z,4.2nm,0.7s,baz=278,slow=8.8,SNR=18
KURK Kurchatov 41.86 50 *e*P **P 08 46 60.0 +1.0**
KURK Kurchatov 41.86 50*c*e**P P 08 46 59.6 +0.6**
KURK pmax pmax
comp=Z,10.0nm,1.3s
ROSA Rosais 42.70 292 *e*P **P 08 47 04.3 -1.8**
comp=Z,106nm,0.9s
MAKZ Makanchi 44.16 56 *e*P **P 08 47 18.0 +0.3**
comp=Z,3.3nm,0.6s
MAKZ Makanchi 44.16 56 *e*P **P 08 47 18.0 +0.3**
MAKZ pmax pmax
comp=Z,3.0nm,0.6s
SCO Scoresbysund 44.31 339 *e*P **P 08 47 20.1 +1.6**
comp=Z,6.1nm,1.1s
SCO Scoresbysund 44.31 339 *e*P **P 08 47 20.1 +1.6**
SCO pmax pmax
comp=Z,6.0nm,1.1s
SPA0 Spitsbergen Ar 44.33 357 *e*P **P 08 47 18.5 -0.2**
SPITS Spitsbergen Ar 44.33 357 P **P 08 47 18.4 -0.2**
comp=Z,2.6nm,0.4s,baz=141,slow=14,SNR=14
MK31 Makanchi Array 44.37 56 *e*P **P 08 47 20.5 +1.1**
MK31 Makanchi Array 44.37 56 *e*P **P 08 47 20.5 +1.1**
MK32 Makanchi Array 44.37 56 *e*P **P 08 47 20.4 +1.0**
MKAR Makanchi Array 44.37 56 P **P 08 47 20.4 +1.0**
comp=Z,3.3nm,0.7s,baz=271,slow=7.4,SNR=78
MKAR Makanchi Array 44.37 56 *e*P **P 08 47 20.4 +1.0**
comp=Z,46nm,0.8s
MKAR Makanchi Array 44.37 56*c*e**P P 08 47 20.3 +0.9**
MKAR pmax pmax
comp=Z,6.0nm,0.6s
MK01 Makanchi Array 44.38 56 *e*P **P 08 47 20.6 +1.2**
NVS Novosibirsk 44.85 44 *e*P **P 08 47 23.8 +0.8**
NVS *e* 08 49 15.3
NVS pmax pmax
comp=Z,17nm,1.3s
NVS pmax pmax
comp=E,4.0nm,0.9s
KBS Kingsbay 45.27 356 *e*P **P 08 47 26.2 +0.2**
comp=E,16nm,1.1s
KBS Kingsbay 45.27 356 *e*P **P 08 47 26.2 +0.2**
KBS pmax pmax
comp=Z,16nm,1.1s
ZAA0 Zalesovo Array 45.74 45 *e*P **P 08 47 30.3 +0.1**
comp=Z,4.5nm,0.8s
ZAA1 Zalesovo Array 45.74 45 *e*P **P 08 47 30.2 +0.1**
ZALV Zalesovo Beam 45.74 45 P **P 08 47 30.2 +0.1**
comp=Z,3.8nm,0.5s,baz=270,slow=9.3,SNR=18
ZALV Zalesovo Beam 45.74 45 *e*P **P 08 47 29.3 -0.8**
DGZ Jazzator, Alta 47.54 51*d i*P **P 08 47 45.8 +1.3**
DGZ pmax pmax
comp=Z,2.0nm,1.0s
PYUN Piuthan 49.34 80 *e*P **P 08 48 00.2 +1.5**
comp=Z,11nm,0.6s
DANN Dangsing 49.87 80 *e*P **P 08 48 04.2 +1.3**
comp=Z,32nm,0.7s
DMN Daman 51.25 80 *e*P **P 08 48 14.5 +1.2**
comp=Z,120nm,0.6s
PKIN Phulchoki 51.50 80 *e*P **P 08 48 15.7 +0.5**
comp=Z,20nm,0.9s
PKI Pulchoki 51.52 80 *e*P **P 08 48 16.1 +0.8**
comp=Z,4.7nm,0.3s
GUN Gumba 51.77 79 *e*P **P 08 48 17.9 +0.7**
comp=Z,8.0nm,0.4s
JIRN Jiri 52.12 80 *e*P **P 08 48 20.9 +1.0**
ZAK Zakamensk 57.45 48 *e*P **P 08 48 59.0 +1.1**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
TULEG Thule 58.05 344 *e*P **P 08 49 02.5 +1.0**
comp=Z,3.2nm,1.1s
GTA Gaotai 58.48 61 *e*P **P 08 49 06.1 +0.9**
GTA pP pP 08 49 10.4 -3.2
GTA sP sP 08 49 13.2 -3.6
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA pmax pmax
comp=Z,57nm,5.7s
GTA LR LR
comp=N,91nm,17.1s
GTA LR LR
comp=E,70nm,16.2s
GTA LR LR
comp=Z,120nm,16.8s
LBTB Lobatse 58.80 180 *e*P **P 08 49 05.1 -2.3**
comp=Z,1.4nm,0.9s
LBTB Lobatse 58.80 180 *e*P **P 08 49 05.1 -2.3**
LBTB pmax pmax
comp=Z,1.0nm,0.9s
SONA0 Songino Array 60.16 50 *e*P **P 08 49 17.6 +0.8**
SONM Songino Array 60.16 50 P **P 08 49 17.6 +0.8**
comp=Z,3.1nm,0.8s,baz=282,slow=7.4,SNR=18
SONA1 Songino Array 60.17 50 *e*P **P 08 49 18.0 +1.2**
ULN Ulaanbaatar 60.57 50 *e*P **P 08 49 19.6 0.0**
comp=Z,4.4nm,0.9s
ULN Ulaanbaatar 60.57 50⇑*i*P **P 08 49 20.7 +1.1**
ULN pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 62.15 20⇓*e*P **P 08 49 29.5 -0.1**
TIXI pmax pmax
comp=Z,1.0nm,1.0s
BOSA Boshof 62.38 180 P **P 08 49 31.4 -0.4**
comp=Z,3.4nm,0.9s,baz=346,slow=7.4,SNR=3.8
BOSA LR LR 09 18 56.1
comp=Z,60nm,19.7s,baz=27,slow=38
BOSA Boshof 62.38 180 *e*P **P 08 49 31.3 -0.4**
comp=Z,4.8nm,0.9s
LZH Lanzhou 62.68 63 *e*P **P 08 49 36.1 +2.1**
LZH pP pP 08 49 41.8 -0.6
LZH sP sP 08 49 43.5 -2.1
LZH *e*PP **PP 08 51 53.4 +1.6**
LZH pmax pmax
comp=Z,19nm,1.6s
SCHQ Schefferville 63.98 320 P **P 08 49 41.7 -0.4**
comp=Z,3.1nm,0.3s,baz=77,slow=4.8,SNR=17
RES Resolute Bay 64.68 345 *e*P **P 08 49 46.8 +0.5**
RES Resolute Bay 64.68 345 *e*P **P 08 49 46.8 +0.5**
HHC Hu-ho-hao-te 66.23 56 *e*P **P 08 49 58.7 +1.6**
HHC sP pwP 08 50 08.9 -0.2
HHC pmax pmax
comp=Z,18nm,1.0s
HHC pmax pmax
comp=Z,260nm,4.7s
KMI Kunming 66.59 75 P **P 08 50 02.4 +2.6**
KMI pmax pmax
comp=Z,7.0nm,0.5s
CMAR Chiang Mai Arr 66.71 83 P **P 08 50 00.5 +0.1**
comp=Z,1.2nm,0.3s,baz=304,slow=8.4,SNR=4.3
BJI Beijing 69.75 55⇓*e*P **P 08 50 20.2 +1.2**
BJI pmax pmax
comp=Z,9μm,3.7s
BILL Bilibino 74.08 14⇑*e*P **P 08 50 45.8 +1.2**
BILL *e* 08 51 01.2
BILL *e*PPP PPP 08 55 16.4
BILL pmax pmax
comp=Z,3.0nm,1.0s
KLR Kul'dur 74.57 41 P **P 08 50 46.7 -1.0**
comp=Z,2.3nm,0.9s,baz=327,slow=11,SNR=3.7
KLR Kul'dur 74.57 41⇑*e*P **P 08 50 48.2 +0.5**
MA2 Magadan 76.44 25⇑*i*P **P 08 50 59.9 +1.7**
MA2 pmax pmax
comp=Z,12nm,1.0s
USRK Ussuriysk Ar. 77.59 45 P **P 08 51 05.2 +0.1**
comp=Z,3.1nm,0.7s,baz=266,slow=6.0,SNR=11
YKA Yellowknife Ar 78.44 342 P **P 08 51 09.3 -0.1**
comp=Z,0.5nm,0.4s,baz=32,slow=5.1,SNR=36
YKB5 Yellowknife Ar 78.44 342 *e*P **P 08 51 09.3 -0.1**
KS15 Wonju Array Si 78.92 52 *e*P **P 08 51 13.1 +0.7**
COLD Coldfoot 78.92 358 *e*P **P 08 51 13.4 +1.4**
comp=Z,5.8nm,1.2s
KSRS Korea Array 78.93 52 P **P 08 51 13.1 +0.6**
comp=Z,2.1nm,0.7s,baz=308,slow=4.3,SNR=5.8
IM3 Indian Mountai 80.23 360 *e*P **P 08 51 20.5 +1.5**
MDM Murphy Dome 81.12 357 *e*P **P 08 51 24.8 +0.9**
comp=Z,4.3nm,0.8s
ULM Lac du Bonnet 81.17 326 P **P 08 51 23.9 -0.4**
comp=Z,1.2nm,0.4s,baz=64,slow=5.5,SNR=8.8
ULM Lac du Bonnet 81.17 326 P **P 08 51 24.0 -0.4**
ULM pmax pmax
comp=Z,1.0nm,0.4s
ILAR Eielson Array 81.25 357 P **P 08 51 24.8 +0.2**
comp=Z,0.6nm,0.5s,baz=339,slow=3.3,SNR=13
WRH Wood River Hil 81.60 357 *e*P **P 08 51 27.3 +0.8**
comp=Z,6.0nm,0.6s
DHY Denali Highway 82.96 357 *e*P **P 08 51 34.1 +0.4**
comp=Z,1.0nm,1.0s
MAJO Matsushiro 86.03 48 *e*P **P 08 51 50.5 +0.9**
MAJO Matsushiro 86.03 48 *e*P **P 08 51 50.6 +0.9**
MJAR Matsushiro Arr 86.04 48 P **P 08 51 50.5 +0.9**
comp=Z,4.1nm,1.1s,baz=305,slow=9.6,SNR=4.3
SIV San Ignacio 95.75 255 LR LR 09 37 19.7
comp=Z,58nm,18.5s,baz=108,slow=36
WR1 Warramunga Arr 116.48 97 *e*PKPdf **PKiKP 08 57 53.2 +0.1**
WRA Warramunga Arr 116.48 97 PKP **PKiKP 08 57 53.2 +0.1**
comp=Z,0.3nm,0.9s,baz=312,slow=1.4,SNR=5.5
ASAR Alice Springs 117.87 101 PKP **PKPdf 08 57 55.1 -0.6**
comp=Z,0.1nm,0.4s,baz=318,slow=1.2,SNR=3.3

IDC ***03*** *08:43:10.3±1.1,26°.89N×102°.54E,h0km,mb3.5/8, mb1 3.7/8,mb1mx3.5/47,mbtmp3.5/8,MS2.9/2,Ms1 3.0/2, ms1mx2.5/37,Error ellipse: s-maj=53.9km s-min=20.4km az=63.0*
ISCJB ***03*** *08:43:13.2±0.9,26°.8N±0°.2×102°.5E±0°.3,h33km,mb3.6/8, MS3.1/2,Error ellipse: s-maj=38.8km s-min=15.5km az=150.7*
ISC 03 08:43:15.7±1.1,26°.9N±0°.2×102°.6E±0°.3,h35km,n11, σ0§60/9,mb3.6/8,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.04**	**203**		LR	LR	08 49 19.9	
	comp=Z,57nm,18.8s,baz=8.5,slow=41							
WMQ	**Urumqi**	**20.75**	**328**	*e*P	**P**		**08 47 54.7**	**+1.2**
WMQ					LR	LR		
	comp=N,110nm,25.5s							
WMQ					LR	LR		
	comp=E,120nm,18.7s							
WMQ					LR	LR		
	comp=Z,150nm,25.5s							
SONM	**Songino Array**	**21.13**	**7**	P	**P**		**08 47 57.5**	**0.0**
	comp=Z,0.3nm,0.4s,baz=188,slow=12,SNR=3.4							
KURBB	**Kurchatov Arra**	**29.98**	**329**	P	**P**		**08 49 20.4**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=134,slow=10,SNR=3.8							
SIJI	**Sorong**	**39.04**	**130**	LR	LR		09 05 38.1	
	comp=Z,17nm,20.0s,baz=124,slow=34							
WRA	**Warramunga Arr**	**55.81**	**143**	P	**P**		**08 52 49.7**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=333,slow=8.4,SNR=7.9							
ASAR	**Alice Springs**	**58.66**	**146**	P	**P**		**08 53 10.0**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=328,slow=6.7,SNR=5.1							
AKASG	**Malin Array Be**	**59.35**	**315**	P	**P**		**08 53 13.9**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=71,slow=6.5,SNR=4.9							
ARCES	**ARCESS Array B**	**60.58**	**337**	P	**P**		**08 53 21.8**	**-0.6**
	comp=Z,4.6nm,1.1s,baz=76,slow=7.6,SNR=3.7							
ILAR	**Eielson Array**	**74.21**	**25**	P	**P**		**08 54 48.8**	**+0.2**
	comp=Z,0.2nm,0.8s,baz=294,slow=4.8,SNR=2.7							
YKA	**Yellowknife Ar**	**86.10**	**16**	P	**P**		**08 55 52.4**	**-0.2**
	comp=Z,0.1nm,0.6s,baz=327,slow=5.0,SNR=3.4							

IDC ***03*** *08:56:37.1±1.3,2°.72N×95°.34E,h0km,mb4.2/10, mb1 4.3/12,mb1mx4.0/43,mbtmp4.2/12,ML4.2/2,MS3.0/3, Ms1 3.1/3,ms1mx2.7/47,Error ellipse: s-maj=41.1km s-min=16.0km az=52.0*
ISCJB ***03*** *08:56:39.9±0.5,2°.76N±0°.05×95°.45E±0°.04,h25km, mb4.4/19,Error ellipse: s-maj=7.3km s-min=4.6km az=27.5*
NEIC ***03*** *08:56:42.6±0.4,2°.75N×95°.41E,h35km,mb4.3/9,Error ellipse: s-maj=9.4km s-min=5.0km az=225.0*
DJA ***03*** *08:56:55.0±0.5,2°.N±8°.×9°.7E±°,h10km,M3.2/6,MLv3.2/6*
ISC 03 08:56:41.7±0.7,2°.77N±0°.06×95°.44E±0°.07,h25km,n65, σ1§60/6,mb4.4/26,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.95**	**112**	P	**Pn**		**08 56 59.4**	**-0.1**
TPTI		**1.80**	**74**	P	**Pb**		**08 57 13.4**	**-0.6**
KCSI	**Kotacane, Aceh**	**2.44**	**72**	P	**Pn**		**08 57 21.4**	**+1.4**
GSI	**Gunungsitoli**	**2.58**	**124**	*e*Pn	**Pn**		**08 57 22.0**	**+0.1**
GSI				*e*Sn	**Sn**		**08 57 51.1**	**-1.5**
GSI	**Gunungsitoli**	**2.58**	**124**	P	**Pb**		**08 57 31.3**	**+3.9**
LHMI	**Lhok Sumawe**	**2.87**	**32**	*e*Pn	**Pn**		**08 57 27.1**	**+1.3**
LHMI				*e*Sn	**Sn**		**08 57 58.6**	**-0.9**
LHMI	**Lhok Sumawe**	**2.87**	**32**	P	Pb		08 57 42.0	+10
PSI	**Prapat**	**3.48**	**89**	P	**Pn**		**08 57 35.6**	**+1.2**
	6.1nm,0.3s,baz=356,slow=0.8,SNR=16							
PSI				LR	LR		08 59 15.8	
	comp=Z,186nm,20.9s,baz=269,slow=44							
PSI	**Prapat**	**3.48**	**89**	*e*Pn	**Pn**		**08 57 35.6**	**+1.2**
PSI				*e*Sn	**Sn**		**08 58 12.4**	**-2.4**
KULM	**Kulim**	**5.76**	**64**	*e*Pn	**Pn**		**08 58 06.5**	**+0.7**
KULM				*e*Sn	**Sn**		**08 59 10.8**	**-0.4**
IPM	**Ipoh**	**5.82**	**73**	*e*Pn	**Pn**		**08 58 08.5**	**+2.0**
IPM				*e*Sn	**Sn**		**08 59 13.4**	**+0.8**
KRAB	**Krabi**	**6.58**	**34**	P	**Pn**		**08 58 20.2**	**+3.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	28nm,0.6s						
CHBT	**CHBT**	12.03	34	P	Pn	08 59 23.0	-8.7
PBKT	**Sadao Pong**	14.75	21	P	**P**	**09 00 15.7**	**+1.1**
	6.6nm,1.1s,1µm						
PALK	**Pallekele**	15.35	287	Sn	Sn	09 02 49.9	-16
	1.9nm,0.3s,baz=117,slow=3.2,SNR=4.1						
PALK				LR	LR	09 05 07.3	
	comp=Z,85nm,20.4s,baz=116,slow=33						
CM31	**Chiang Mai Arr**	15.96	12	*e*Pn	**Pn**	**09 00 23.4**	**-1.4**
CMAR	**Chiang Mai Arr**	15.96	12	Pn	**Pn**	**09 00 23.4**	**-1.4**
	0.9nm,0.3s,baz=202,slow=11,SNR=23						
CMAR				LR	LR	09 06 12.0	
	comp=Z,52nm,19.0s,baz=205,slow=36						
CHTO	**Chiang Mai**	16.31	12	P	**P**	**09 00 31.6**	**-0.4**
	28nm,0.9s						
CMMT	**Chiang Mai**	16.31	12	P	**P**	**09 00 31.1**	**-0.9**
	6.2nm,1.0s						
H08S2	**Diego Garcia H**	25.13	246	T	T	09 27 57.5	
	baz=66,slow=76,SNR=317						
H08S3	**Diego Garcia H**	25.13	246	T	T	09 27 58.1	
	baz=66,slow=76,SNR=329						
H08S1	**Diego Carcia H**	25.14	246	T	T	09 27 57.5	
	baz=66,slow=76,SNR=177						
RAMN	**Ramite**	25.49	341	*e*P	**P**	**09 02 09.2**	**+0.8**
	8.8nm,0.4s						
H08N1	**Diego Carcia H**	26.02	250	T	T	09 29 17.3	
	baz=356,slow=74,SNR=36						
H08N2	**Diego Garcia H**	26.02	250	T	T	09 29 15.6	
	baz=356,slow=74,SNR=72						
H08N3	**Diego Garcia H**	26.04	250	T	T	09 29 15.6	
	baz=356,slow=74,SNR=33						
JIRN	**Jiri**	26.28	341	*e*P	**P**	**09 02 15.9**	**+0.2**
	15nm,0.6s						
PKI	**Pulchoki**	26.46	340	*e*P	**P**	**09 02 17.7**	**+0.4**
	8.9nm,0.6s						
GUN	**Gumba**	26.61	341	*e*P	**P**	**09 02 19.0**	**+0.3**
	11nm,0.5s						
LSA	**Lhasa**	27.09	352	*e*P	**P**	**09 02 23.5**	**+0.4**
	5.4nm,0.6s						
KOLN	**Koldanda**	27.31	337	*e*P	**P**	**09 02 25.5**	**+0.7**
	17nm,0.8s						
DANN	**Dangsing**	27.77	337	*e*P	**P**	**09 02 29.8**	**+0.8**
	18nm,0.7s						
PYUN	**Piuthan**	27.85	336	*e*P	**P**	**09 02 30.8**	**+1.1**
	26nm,1.2s						
YOJ	**Yonaguni jima**	34.24	49	*e*P	**P**	**09 03 26.4**	**+0.6**
	146nm,1.1s						
SIJI	**Sorong**	35.99	95	P	**P**	**09 03 40.3**	**-0.8**
	7.1nm,0.7s,baz=233,slow=5.9,SNR=3.8						
FITZ	**Fitzroy Crossi**	36.27	126	P	**P**	**09 03 42.1**	**-1.1**
	1.4nm,0.7s,baz=333,slow=4.5,SNR=4.2						
FITZ	**Fitzroy Crossi**	36.27	126	*e*P	**P**	**09 03 43.1**	**-0.2**
	2.6nm,0.9s						
FAKI	**Fak Fak**	37.22	98	*e*P	**P**	**09 03 51.1**	**-0.5**
	12nm,0.9s						
H01W3	**Cape Leeuwin H**	41.37	157	T	T	09 48 23.2	
	baz=332,slow=76,SNR=26						
H01W2	**Cape Leeuwin H**	41.38	157	T	T	09 48 23.6	
	baz=332,slow=76,SNR=34						
H01W1	**Cape Leeuwin H**	41.38	156	T	T	09 48 23.6	
	baz=332,slow=76,SNR=30						
BTK	**Batken**	43.31	332	*e*P	**P**	**09 04 41.7**	**0.0**
	3.2nm,0.8s						
ARSB	**Arslanbob**	43.38	335	*e*P	**P**	**09 04 43.0**	**+0.6**
	5.8nm,0.8s						
WRA	**Warramunga Arr**	44.35	122	P	**P**	**09 04 50.2**	**-0.1**
	1.4nm,0.8s,baz=301,slow=9.1,SNR=8.3						
WR1	**Warramunga Arr**	44.35	122	*e*P	**P**	**09 04 50.2**	**-0.1**
	3.8nm,1.0s						
MK32	**Makanchi Array**	45.32	347	*e*P	**P**	**09 04 57.5**	**-0.2**
MKAR	**Makanchi Array**	45.32	347	P	**P**	**09 04 57.5**	**-0.2**
	5.0nm,0.6s,baz=165,slow=7.9,SNR=80						
MKAR	**Makanchi Array**	45.32	347	*e*P	**P**	**09 04 57.5**	**-0.2**
	33nm,0.6s						
MAKZ	**Makanchi**	45.40	347	*e*P	**P**	**09 04 58.3**	**0.0**
	4.9nm,0.7s						
KS15	**Wonju Array Si**	45.57	37	*e*P	**P**	**09 04 59.4**	**-0.3**
KSAR	**Wonju Array Be**	45.57	37	P	**P**	**09 04 59.4**	**-0.3**
KSRS	**Korea Array**	45.60	37	P	**P**	**09 04 59.4**	**-0.5**
	1.1nm,0.7s,baz=218,slow=8.2,SNR=3.6						
ASAR	**Alice Springs**	45.74	127	P	**P**	**09 05 01.4**	**+0.1**
	0.8nm,0.9s,baz=308,slow=7.6,SNR=6.0						
SONA0	**Songino Array**	45.88	10	*e*P	**P**	**09 05 01.6**	**-0.6**
SONA0				*e*PcP	**PcP**	**09 06 39.2**	**+0.1**
SONM	**Songino Array**	45.88	10	P	**P**	**09 05 01.6**	**-0.6**
	3.5nm,0.7s,baz=188,slow=8.8,SNR=28						
SONM				PcP	**PcP**	**09 06 39.2**	**+0.1**
	0.8nm,0.6s,baz=193,slow=4.3,SNR=4.2						
KKAR	**Karatay Array**	45.88	335	*e*P	**P**	**09 05 02.5**	**+0.3**
ULN	**Ulaanbaatar**	46.03	11	*e*P	**P**	**09 05 02.9**	**-0.5**
	3.2nm,1.0s						
KURK	**Kurchatov**	49.84	346	*e*P	**P**	**09 05 32.7**	**0.0**
	3.7nm,1.0s						
ZALV	**Zalesovo Beam**	51.75	352	P	**P**	**09 05 46.8**	**-0.2**
	10nm,0.5s,baz=181,slow=7.2,SNR=59						
ZAA1	**Zalesovo Array**	51.76	352	*e*P	**P**	**09 05 46.8**	**-0.2**
ABKAR	**Akbulak array**	55.31	332	*e*P	**P**	**09 06 12.9**	**-0.3**
FIA0	**FINESS Array S**	77.80	333	*e*P	**P**	**09 08 35.8**	**-0.8**
FINES	**FINESS Array B**	77.80	333	P	**P**	**09 08 35.8**	**-0.8**
	2.0nm,0.7s,baz=86,slow=7.8,SNR=5.6						
ARA0	**ARCESS Array S**	80.47	340	*e*P	**P**	**09 08 50.4**	**-0.8**
ARCES	**ARCESS Array B**	80.47	340	P	**P**	**09 08 50.4**	**-0.8**
	3.1nm,0.9s,baz=51,slow=4.8,SNR=4.8						

IDC 03 09:03:49.2±2.6**, 6°.63S×129°.74E, h118km**±36km**, mb3.4**/1**, mb1 3.4**/5**, mb1mx3.1**/29**, mbtmp3.7**/5**, Error ellipse: s-maj=65.5km s-min=16.3km az=93.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	5.92	15	P	Pn	09 05 16.4	+1.8
	3.6nm,0.3s,baz=184,slow=22,SNR=25						
SIJI				S	Sn	09 06 20.5	-0.7
	5.4nm,0.3s,baz=157,slow=23,SNR=10						
FITZ	**Fitzroy Crossi**	12.09	199	P	Pn	09 06 37.3	-0.3
	0.5nm,0.3s,baz=22,slow=14,SNR=20						
WRA	**Warramunga Arr**	13.97	162	P	Pn	09 07 01.2	-1.0
	0.5nm,0.3s,baz=342,slow=13,SNR=22						
WRA				S	Sn	09 09 26.6	-10
	0.8nm,0.3s,baz=337,slow=22,SNR=12						
ASAR	**Alice Springs**	17.41	167	P	Pn	09 07 45.0	+0.1
	0.1nm,0.3s,baz=348,slow=9.7,SNR=11						
ASAR				S	Sn	09 10 48.6	-11
	0.2nm,0.3s,baz=349,slow=27,SNR=5.2						
MKAR	**Makanchi Array**	67.78	327	P	P	09 14 34.4	0.0
	0.3nm,0.3s,baz=115,slow=7.7,SNR=8.5						

*NIED **03** 09:24:00, 36°.50N×142°.80E, h8km, Mw4.6 Best double couple: M0 9.53000×10^15 NP1:φs199.00000°, δ40.00000°, λ86.00000°. NP2:φs25.00000°, δ50.00000°, λ94.00000°.*

*ISCJB **03** 09:24:23.8±0.9, 36°.48N±0°.03×142°.69E±0°.02, h10km±5km, mb4.5/101, MS4.2/34, Error ellipse: s-maj=4.7km s-min=3.3km az=166.8*

*IDC **03** 09:24:23.2±0.6, 36°.40N×142°.79E, h0km, mb4.3/26, mb1 4.4/32, mb1mx4.3/51, mbtmp4.3/32, ML4.0/5, MS3.9/23, Ms1 4.0/23, ms1mx3.7/41, Error ellipse: s-maj=14.2km s-min=12.7km az=132.0*

*JMA **03** 09:24:24.8±0.3, 36°.51N×142°.82E, h48km, M4.8*

*BJI **03** 09:24:25.0, 36°.32N×143°.01E, h35km, mb4.5/50, mB5.1/37, Ms4.7/48, Ms7 4.4/45*

*NEIC **03** 09:24:26.6±2.0, 36°.45N×142°.74E, h19km±12km, mb4.6/52, Error ellipse: s-maj=5.1km s-min=4.2km az=140.0*

*MOS **03** 09:24:27.7±1.1, 36°.80N×142°.68E, h27km, mb4.8/38, MS4.2/7, Error ellipse: s-maj=8.6km s-min=5.0km az=111.4*

ISC 03 09:24:24.7±0.9**, 36°.49N**±0°.04×**142°.83E**±0°.04**, h9km**±5km**, n256,** σ1s**85**/279**, mb4.7**/108**, MS4.3**/34**, 11C-12D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	1.74	291	P	**Pn**	**09 24 52.9**	**-2.4**
CHOJ	**Chosi**	1.78	244	P	**Pn**	**09 24 54.1**	**-1.6**
JFK	**Kawauchi**	1.80	300	P	**Pn**	**09 24 54.2**	**-1.8**
JFK				S	**Sn**	**09 25 15.5**	**-3.5**
JHYU	**Hitachinakayam**	1.82	266	P	**Pn**	**09 24 53.9**	**-2.3**
JHYU				*e*S	**Sn**	**09 25 15.7**	**-3.7**
JHO	**Hitachi**	1.83	274	P	**Pn**	**09 24 54.0**	**-2.4**
JHO				S	**Sn**	**09 25 15.9**	**-3.8**
JMM	**Marumori**	2.13	311	P	**Pn**	**09 24 59.0**	**-1.5**
JFT	**Otama**	2.25	298	P	**Pn**	**09 25 00.8**	**-1.4**
JFT				S	**Sn**	**09 25 26.9**	**-3.1**
JIO	**Ouri**	2.29	329	P	**Pn**	**09 25 00.6**	**-2.1**
BSO1	**Boso 1**	2.38	220	P	**Pn**	**09 25 02.2**	**-1.2**
BSO1				S	**Sn**	**09 25 30.3**	**-2.1**
JSB	**Shiboa**	2.39	282	P	**Pn**	**09 25 03.3**	**-0.8**
JAG	**Ashikaga**	2.73	270	P	**Pn**	**09 25 06.0**	**-2.7**
JMK	**Ichinoseki**	2.77	333	P	**Pn**	**09 25 08.0**	**-1.3**
JYK	**Kaneyama**	3.12	322	P	**Pn**	**09 25 12.6**	**-1.5**
JRY	**Ryogami san**	3.21	263	P	**Pn**	**09 25 13.4**	**-2.1**
MJAR	**Matsushiro Arr**	3.73	272	Pn	**Pn**	**09 25 21.4**	**-1.1**
	12nm,0.3s,baz=51,slow=12,SNR=113						
MJAR				Sn	**Sn**	**09 26 04.2**	**-2.3**
	5.4nm,0.3s,baz=113,slow=8.3,SNR=6.0						
MJAR				LR	LR	09 27 05.2	
	comp=Z,1µm,21.1s,baz=100,slow=44						
MAJO	**Matsushiro**	3.73	272	*e*Pn	**Pn**	**09 25 22.6**	**+0.1**
MAJO				*e*Sn	**Sn**	**09 26 04.2**	**-2.4**
MAJO	**Matsushiro**	3.73	272	*e*P	**Pn**	**09 25 22.6**	**+0.1**
MAJO				*e*		09 26 04.2	
MAT	**Matsushiro**	3.73	272	P	**Pn**	**09 25 21.9**	**-0.6**
MAT				S	**Sn**	**09 26 04.7**	**-1.9**
MJB9	**Matsu-Tunnel**	3.73	272	*e*Pn	**Pn**	**09 25 22.6**	**0.0**
JHJ2	**Mitsune**	4.18	217	*e*Pn	**Pn**	**09 25 27.8**	**-0.9**
JHJ	**Hachijo jima 2**	4.20	218	Pn	**Pn**	**09 25 27.1**	**-1.9**
	152nm,0.3s,baz=81,slow=1.5,SNR=22						
JHJ				Sn	**Sn**	**09 26 11.9**	**-6.2**
	71nm,0.3s,baz=107,slow=19,SNR=5.4						
INU	**Inuyama**	4.86	258	*e*Pn	**Pn**	**09 25 38.2**	**+0.2**
ERM	**Erimo**	5.52	3	*e*Pn	**Pn**	**09 25 44.8**	**-2.3**
ERM	**Erimo**	5.52	3	⇓*i*P	**Pn**	**09 25 44.9**	**-2.3**
ASAJ	**Asahikawa**	7.62	359	Pn	**Pn**	**09 26 14.7**	**-1.3**
	7.4nm,0.3s,baz=237,slow=9.8,SNR=48						
ASAJ				Sn	**Sn**	**09 27 36.8**	**-5.7**
	0.6nm,0.3s,baz=202,slow=19,SNR=2.1						
ASAJ	**Asahikawa**	7.62	359	*e*Pn	**Pn**	**09 26 15.7**	**-0.3**
ASAJ				*e*Sn	**Sn**	**09 27 36.8**	**-5.7**
YUK	**Yuzh-Kuril'sk**	7.88	16	*e*P	**Pn**	**09 26 17.4**	**-2.1**
YUK				*e*S	**Sn**	**09 27 43.0**	**-5.9**
YUK				pmax	pmax		
	comp=E,153nm,0.9s						
YUK				pmax	pmax		
	comp=Z,45nm,0.9s						
YUK				pmax	pmax		
	comp=N,53nm,0.7s						
YUK				MLR	MLR		
	comp=Z,1µm,12.0s						
SHO	**Shikotan**	7.98	21	*e*P	Pn	09 26 16.9	-4.0
SHO				*e*S	Sn	09 27 42.1	-9.1
SHO				pmax	pmax		
	comp=Z,14nm,0.5s						
SHO				pmax	pmax		
	comp=N,19nm,0.8s						
SHO				pmax	pmax		
	comp=E,42nm,0.8s						
CBIJ	**Chichi jima**	9.38	184	*e*Pn	**Pn**	**09 26 37.1**	**-3.0**
CBIJ				Sn	Sn	09 28 08.2	-18
CBIJ				*e*Sn	Sn	09 28 15.7	-10
JCJ	**Chichijima**	9.38	184	Pn	Pn	09 26 29.5	-11
JCJ				Sn	Sn	09 28 08.2	-18
KUR	**Kuril'sk**	9.53	22	P	**Pn**	**09 26 39.4**	**-2.7**
KUR				*e*S	**Sn**	**09 28 21.8**	**-7.5**
KUR				pmax	pmax		
	comp=N,27nm,0.7s						
KUR				pmax	pmax		
	comp=E,48nm,0.7s						
KUR				pmax	pmax		
	comp=Z,37nm,0.7s						
TEY	**Ternei**	9.75	333	⇑*e*P	**Pn**	**09 26 43.0**	**-2.2**
TEY				pmax	pmax		
	comp=E,20nm,1.4s						
TEY				MLR	MLR		
	comp=E,200nm,15.0s						
TEY				MLR	MLR		
	comp=N,170nm,13.0s						
TEY				MLR	MLR		
	comp=Z,200nm,13.0s						
JNU	**Nakatsue**	10.39	255	Pn	**Pn**	**09 26 52.8**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=142,slow=12,SNR=3.9						
JNU				LR	LR	09 31 29.7	
	comp=Z,862nm,18.9s,baz=72,slow=41						
JNU	**Nakatsue**	10.39	255	*e*Pn	**Pn**	**09 26 54.8**	**+0.8**
YSS	**Yuzh-Sakhalins**	10.46	360	*e*Pn	**Pn**	**09 26 54.5**	**-0.3**
YSS	**Yuzh-Sakhalins**	10.46	360	*e*P	**Pn**	**09 26 54.7**	**-0.1**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
YSS				MLR	MLR		
	comp=Z,1µm,12.0s						
USA0B	**Ussuriysk Arra**	11.30	316	*e*Pn	**Pn**	**09 27 07.9**	**+1.6**
USRK	**Ussuriysk Ar.**	11.30	316	Pn	**Pn**	**09 27 05.5**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=120,slow=15,SNR=2.7						
USRK				LR	LR	09 30 36.2	
	comp=Z,374nm,18.9s,baz=123,slow=33						
KSRS	**Korea Array**	11.97	279	Pn	**Pn**	**09 27 16.4**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=83,slow=12,SNR=7.0						
KSRS				LR	LR	09 31 12.3	
	comp=Z,341nm,18.1s,baz=92,slow=34						
KS15	**Wonju Array Si**	12.00	279	*e*Pn	**Pn**	**09 27 16.4**	**+0.5**
KSAR	**Wonju Array Be**	12.00	279	Pn	**Pn**	**09 27 16.4**	**+0.5**
KSAR	**Wonju Array Be**	12.00	279	P	**Pn**	**09 27 16.4**	**+0.5**
UGL	**Uglegorsk**	12.59	358	P	**Pn**	**09 27 24.1**	**+0.1**
UGL				*e*S	**Sn**	**09 29 47.3**	**+3.0**
UGL				pmax	pmax		
	comp=Z,74nm,1.2s						
UGL				smax	smax		
	comp=E,97nm,0.9s						
UGL				MLR	MLR		
	comp=Z,2µm,13.0s						
UGL				MLR	MLR		
	comp=N,2µm,17.0s						
UGL				MLR	MLR		
	comp=E,2µm,17.0s						
MDJ	**Mudanjiang**	12.92	313	P	**Pn**	**09 27 30.7**	**+2.2**
MDJ				pP		09 27 37.4	
MDJ				sP		09 27 43.2	
MDJ				S	**Sn**	**09 29 52.3**	**-0.1**
MDJ				ScP	**ScP**	**09 36 33.4**	**-2.7**
MDJ				PcS	**PcS**	**09 36 39.4**	**+2.4**
MDJ				pmax	pmax		
	comp=E,12nm,1.8s						
MDJ				pmax	pmax		
	comp=E,500nm,4.3s						
MDJ				LR	LR		
	comp=E,1µm,11.1s						
MDJ				LR	LR		
	comp=E,890nm,9.2s						
MDJ				LR	LR		
	comp=E,920nm,15.8s						
GRNR	**Gornyy**	15.00	344	*e*P	**P**	**09 28 02.6**	**+0.2**
GRNR				pmax	pmax		
	comp=Z,18nm,1.0s						
KLR	**Kul'dur**	15.08	331	Pn	**Pn**	**09 27 55.2**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=145,slow=16,SNR=3.7						
KLR	**Kul'dur**	15.08	331	⇑*e*P	**Pn**	**09 27 57.6**	**-0.4**
CN2	**Changchun**	15.15	304	*e*P	**Pn**	**09 28 00.8**	**+1.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=Z,1µm,13.0s						
CN2				LR	LR		
	comp=Z,1µm,13.0s						
CN2				LR	LR		
	comp=Z,1µm,13.0s						
NKL	**Nikolayevsk**	16.73	355	*e*P	**Pn**	**09 28 19.2**	**0.0**
DL2	**Dalian**	16.95	285	P	P	09 28 32.0	+7.9
DL2				S	**S**	**09 31 49.6**	**+8.7**
DL2				pmax	pmax		
	comp=Z,410nm,7.3s						
DL2				LR	LR		
	comp=N,1µm,11.1s						
DL2				LR	LR		
	comp=E,620nm,14.5s						
DL2				LR	LR		
	comp=Z,1µm,13.5s						
OKH	**Okha**	17.06	0	⇓*e*P	**Pn**	**09 28 22.2**	**-1.2**
OKH				*e*S	**Sn**	**09 31 34.5**	**+1.5**
OKH				pmax	pmax		
	comp=Z,300nm,14.7s						
OKH				smax	smax		
	comp=E,600nm,17.5s						
OKH				smax	smax		
	comp=Z,600nm,13.0s						
NJ2	**Nanjing**	20.29	264	*e*P	**P**	**09 29 00.9**	**+0.1**
NJ2				S	**S**	**09 32 47.6**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
NJ2				LR	LR		
	comp=Z,490nm,9.8s						
NJ2				LR	LR		
	comp=Z,2µm,13.6s						
NJ2				LR	LR		
	comp=Z,1µm,11.9s						
ZEA	**Zeya**	20.38	333	*e*P	**P**	**09 29 02.6**	**+1.0**
ZEA				pmax	pmax		
	comp=N,24nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,43nm,1.2s						
ZEA				MLR	MLR		
	comp=N,2µm,14.0s						
ZEA				MLR	MLR		
	comp=E,600nm,14.0s						
ZEA				MLR	MLR		
	comp=Z,2µm,14.0s						
TIA	**Tai'an**	20.70	277	P	**P**	**09 29 04.6**	**-0.6**
HIA	**Hailar**	21.10	314	*e*P	**P**	**09 29 09.3**	**-0.1**
	comp=Z,17nm,1.1s						
HIA	**Hailar**	21.10	314	*e*P	**P**	**09 29 09.4**	**-0.1**
HIA				pmax	pmax		
	comp=Z,17nm,1.1s						
BJT	**Baijiatuau**	21.20	288	*e*P	**P**	**09 29 10.5**	**-0.2**
	comp=Z,13nm,1.0s						
BJT	**Baijiatuau**	21.20	288	*e*P	**P**	**09 29 10.5**	**-0.2**
BJT				pmax	pmax		
	comp=Z,13nm,1.0s						
GUMO	**Guam**	22.88	175	LR	LR	09 41 01.4	
	comp=Z,198nm,18.1s,baz=69,slow=44						
MA2	**Magadan**	23.67	10	LR	LR	09 39 44.1	
	comp=Z,328nm,18.4s,baz=198,slow=39						
MA2	**Magadan**	23.67	10	⇓*i*P	**P**	**09 29 39.6**	**+3.2**
MA2				pmax	pmax		
	comp=Z,11nm,1.0s						
WHN	**Wuhan**	24.43	264	⇑P	P	09 29 53.2	+9.5
WHN				S	**S**	**09 34 10.5**	**+6.8**
WHN				LR	LR		
	comp=Z,3µm,12.7s						
HHC	**Hu-ho-hao-te**	24.73	290	*e*P	**P**	**09 29 47.3**	**+0.8**
HHC				sP	pwP	09 30 02.0	+6.6
HHC				S	**S**	**09 34 07.4**	**-1.3**
HHC				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC				pmax	pmax		
	comp=Z,230nm,7.9s						
HHC				LR	LR		
	comp=Z,520nm,13.7s						
HHC				LR	LR		
	comp=Z,440nm,12.2s						
HHC				LR	LR		
	comp=Z,560nm,12.1s						
CIT	**Chita**	25.86	316	*e*P	**P**	**09 29 56.7**	**+0.1**
CIT				*e*		09 30 36.6	
CIT				*e*		09 30 41.7	
BTO	**Baotou**	25.90	289	*e*P	**P**	**09 29 58.2**	**+1.0**
YAK	**Yakutsk**	26.86	346	*e*P	**P**	**09 30 04.1**	**-1.3**
YAK				*e**PP	**pwP**	**09 30 12.7**	**-1.5**
YAK				*e*PPP	PPP	09 30 58.2	
YAK				*e*S	**S**	**09 34 38.4**	**-3.4**
YAK				*e*SS	**SnSn**	**09 35 46.7**	**+0.6**
YAK				pmax	pmax		
	comp=Z,24nm,1.5s						
YAK				pmax	pmax		
	comp=N,23nm,1.6s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.8s						
YAK				smax	smax		
	comp=N,147nm,4.0s						
YAK				smax	smax		
	comp=E,196nm,4.8s						
YAK				MLR	MLR		
	comp=Z,1µm,19.0s						
YAK				MLR	MLR		
	comp=N,793nm,16.0s						
YAK				MLR	MLR		
	comp=E,761nm,19.0s						
SEY	**Seymchan**	27.12	10	P	**P**	**09 30 09.2**	**+1.4**
	comp=E,3.1nm,0.8s,baz=184,slow=8.6,SNR=7.6						
SEY	**Seymchan**	27.12	10	⇓*e*P	**P**	**09 30 09.7**	**+1.9**
XAN	**Xi'an**	27.72	275	P	**P**	**09 30 12.4**	**-1.1**
XAN				pP	pwP	09 30 22.3	-0.5
XAN				sP	sP	09 30 26.6	+12
XAN				pmax	pmax		
	comp=E,10.0nm,1.1s						
XAN				pmax	pmax		
	comp=E,300nm,5.6s						
XAN				LR	LR		
	comp=E,560nm,12.5s						
XAN				LR	LR		
	comp=E,510nm,12.2s						
XAN				LR	LR		
	comp=E,790nm,12.5s						
ENH	**Enshi**	28.43	267	*e*P	**P**	**09 30 19.7**	**-0.2**
	comp=E,52nm,1.1s						
BOD	**Bodaibo**	28.60	327	*e*P	**P**	**09 30 24.4**	**+3.3**
BOD				pmax	pmax		
	comp=Z,34nm,1.4s						
ULN	**Ulaanbaatar**	28.60	305	*e*P	**P**	**09 30 20.4**	**-1.0**
	comp=Z,7.1nm,0.9s						
ULN	**Ulaanbaatar**	28.60	305	*ce*P	**P**	**09 30 21.6**	**+0.2**
ULN				pmax	pmax		
	comp=Z,28nm,2.5s						
SONA1	**Songino Array**	29.03	304	*e*P	**P**	**09 30 25.1**	**-0.1**
SONA0	**Songino Array**	29.03	304	*e*P	**P**	**09 30 25.7**	**+0.4**
SONM	**Songino Array**	29.03	304	P	**P**	**09 30 25.7**	**+0.4**
	comp=Z,5.3nm,0.9s,baz=110,slow=7.7,SNR=20						
LZH	**Lanzhou**	31.29	281	⇑P	**P**	**09 30 44.5**	**-0.8**
LZH				pP	pwP	09 30 55.4	+0.8
LZH				sP	sP	09 31 00.4	+14
LZH				PP	**PnPn**	**09 31 50.4**	**+3.1**
LZH				S	**S**	**09 35 49.4**	**-2.9**
LZH				SS	**SnSn**	**09 37 33.5**	**-1.3**
LZH				pmax	pmax		
	comp=Z,28nm,1.1s						
LZH				pmax	pmax		
	comp=Z,370nm,4.3s						
LZH				LR	LR		
	comp=Z,980nm,14.1s						
LZH				LR	LR		
	comp=Z,2µm,14.6s						
LZH				LR	LR		
	comp=Z,2µm,14.6s						
ZAK	**Zakamensk**	31.50	309	*e*P	**P**	**09 30 46.4**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,11nm,1.4s						
CD2	**Chengdu**	32.82	272	P	**P**	**09 30 58.2**	**-0.5**
CD2				pP	pwP	09 31 08.3	+0.3
CD2				sP	sP	09 31 12.9	+13
CD2				PP	**PP**	**09 32 12.5**	**-0.3**
CD2				S	**S**	**09 36 12.8**	**-3.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,4.8s						
CD2				LR	LR		
	comp=Z,1µm,12.7s						
CD2				LR	LR		
	comp=Z,940nm,10.7s						
CD2				LR	LR		
	comp=Z,900nm,11.7s						
MOY	**Mondy**	33.16	311	*e*P	**P**	**09 31 03.9**	**+2.4**
QIZ	**Qiongzhong**	33.76	248	P	**P**	**09 31 07.2**	**+0.3**
QIZ				S	**S**	**09 36 28.8**	**-2.0**
QIZ				LR	LR		
	comp=Z,450nm,7.8s						
GTA	**Gaotai**	33.81	288	⇑P	**P**	**09 31 07.4**	**0.0**
GTA				pP	pwP	09 31 17.6	+1.3
GTA				sP	sP	09 31 22.2	+14
GTA				S	**S**	**09 36 26.6**	**-4.9**
GTA				sS	sS	09 36 44.0	+11
GTA				SS	**SnSn**	**09 38 33.5**	**-2.6**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,160nm,6.7s						
GTA				LR	LR		
	comp=Z,430nm,13.6s						
GTA				LR	LR		
	comp=Z,530nm,14.6s						
GTA				LR	LR		
	comp=Z,500nm,13.7s						
BILL	**Bilibino**	34.24	15	*e*P	**P**	**09 31 12.2**	**+1.7**
BILL				*e*		09 32 26.2	
BILL				*e*PPP	PPP	09 32 38.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BILL				e		09 33 47.1	
BILL				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,188nm,16.0s						
TIXI	**Tiksi**	**35.97**	**353**	P	**P**	**09 31 24.8**	**-0.6**
	comp=Z,2.2nm,0.3s,baz=121,slow=1.1,SNR=6.9						
TIXI	**Tiksi**	**35.97**	**353**	⇓eP	**P**	**09 31 23.5**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KMI	**Kunming**	**36.02**	**263**	P	**P**	**09 31 27.7**	**+1.1**
KMI				pP	pwP	09 31 36.3	+0.4
KMI				sP	sP	09 31 40.9	+13
KMI				pmax	pmax		
	comp=Z,13nm,0.5s						
KMI				LR	LR		
	comp=Z,420nm,12.9s						
KMI				LR	LR		
	comp=Z,560nm,13.1s						
KMI				LR	LR		
	comp=Z,470nm,15.0s						
SIJI	**Sorong**	**38.69**	**199**	LR	LR	09 44 11.2	
	comp=Z,94nm,20.2s,slow=31						
JAY	**Jayapura**	**38.85**	**183**	LR	LR	09 49 03.7	
	comp=Z,113nm,18.5s,slow=38						
DGZ	**Jazzator, Alta**	**41.63**	**306**	d iP	**P**	**09 32 14.4**	**+1.0**
DGZ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
WMQ	**Urumqi**	**42.10**	**298**	eP	**P**	**09 32 18.4**	**+1.2**
WMQ				pP	pwP	09 32 27.2	+1.1
WMQ				pmax	pmax		
	comp=Z,27nm,1.1s						
WMQ				LR	LR		
	comp=Z,360nm,15.7s						
WMQ				LR	LR		
	comp=Z,190nm,15.7s						
WMQ				LR	LR		
	comp=Z,150nm,19.7s						
CMAR	**Chiang Mai Arr**	**42.47**	**257**	P	**P**	**09 32 20.3**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=59,slow=5.4,SNR=2.1						
CMAR				LR	LR	09 52 00.9	
	comp=Z,151nm,18.8s,baz=60,slow=39						
ZAA0	**Zalesovo Array**	**43.12**	**313**	eP	**P**	**09 32 25.2**	**0.0**
	comp=Z,10.0nm,1.1s						
ZAA1	**Zalesovo Array**	**43.12**	**313**	eP	**P**	**09 32 25.4**	**+0.2**
ZALV	**Zalesovo Beam**	**43.12**	**313**	P	**P**	**09 32 25.4**	**+0.2**
	comp=Z,4.3nm,0.9s,baz=91,slow=6.4,SNR=9.6						
ZALV				LR	LR	09 50 18.7	
	comp=Z,89nm,21.1s,baz=68,slow=36						
ZALV	**Zalesovo Beam**	**43.12**	**313**	eP	**P**	**09 32 24.7**	**-0.5**
RDOG	**Red Dog Mine**	**43.48**	**26**	eP	**P**	**09 32 29.2**	**+1.3**
	comp=Z,7.7nm,1.2s						
NVS	**Novosibirsk**	**44.04**	**314**	eP	**P**	**09 32 34.1**	**+1.5**
NVS				pmax	pmax		
	comp=Z,22nm,1.7s						
NVS				pmax	pmax		
	comp=E,12nm,1.3s						
MK01	**Makanchi Array**	**45.37**	**303**	eP	**P**	**09 32 42.8**	**-0.6**
MK31	**Makanchi Array**	**45.37**	**303**	eP	**P**	**09 32 43.9**	**+0.5**
MK31	**Makanchi Array**	**45.37**	**303**	eP	**P**	**09 32 43.9**	**+0.5**
MK32	**Makanchi Array**	**45.37**	**303**	eP	**P**	**09 32 44.0**	**+0.5**
MKAR	**Makanchi Array**	**45.37**	**303**	P	**P**	**09 32 44.0**	**+0.5**
	comp=E,2.7nm,0.9s,baz=83,slow=9.7,SNR=14						
MKAR				LR	LR	09 50 40.2	
	comp=E,91nm,21.0s,baz=82,slow=35						
MKAR	**Makanchi Array**	**45.37**	**303**	eP	**P**	**09 32 43.6**	**+0.2**
	comp=E,52nm,0.9s						
MKAR	**Makanchi Array**	**45.37**	**303**	c eP	**P**	**09 32 47.0**	**+3.6**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MAKZ	**Makanchi**	**45.58**	**303**	eP	**P**	**09 32 45.4**	**+0.3**
	comp=Z,10nm,1.0s						
MAKZ	**Makanchi**	**45.58**	**303**	eP	**P**	**09 32 45.4**	**+0.3**
MAKZ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PMG	**Port Moresby**	**45.83**	**174**	P	**P**	**09 32 47.5**	**+0.3**
	comp=Z,11nm,0.8s,baz=15,slow=12,SNR=4.4						
PMG	**Port Moresby**	**45.83**	**174**	eP	**P**	**09 32 48.1**	**+0.9**
	comp=Z,11nm,0.8s						
PMG	**Port Moresby**	**45.83**	**174**	eP	**P**	**09 32 48.1**	**+0.9**
PMG				pmax	pmax		
	comp=Z,11nm,0.8s						
KURK	**Kurchatov**	**47.16**	**309**	eP	**P**	**09 32 57.4**	**0.0**
KURK	**Kurchatov**	**47.16**	**309**	⇓eP	**P**	**09 32 57.2**	**-0.2**
KURK				pmax	pmax		
	comp=Z,15nm,1.7s						
KURBB	**Kurchatov Arra**	**47.23**	**309**	P	**P**	**09 32 57.4**	**-0.6**
	comp=Z,1.7nm,0.4s,baz=82,slow=8.2,SNR=8.4						
MLY	**Manley**	**47.71**	**32**	eP	**P**	**09 33 03.3**	**+1.8**
	comp=Z,11nm,1.2s						
RAMN	**Ramite**	**48.18**	**275**	eP	P	09 33 13.7	+7.7
	comp=Z,57nm,1.0s						
JIRN	**Jiri**	**48.21**	**276**	eP	P	09 33 12.8	+6.5
	comp=Z,15nm,0.5s						
GUN	**Gumba**	**48.35**	**277**	eP	P	09 33 13.5	+6.2
	comp=Z,41nm,1.1s						
HNR	**Honiara**	**48.43**	**157**	LR	LR	09 53 42.6	
	comp=Z,240nm,18.8s,baz=342,slow=36						
MDM	**Murphy Dome**	**48.77**	**32**	eP	**P**	**09 33 10.5**	**+0.8**
	comp=Z,17nm,1.2s						
DMN	**Daman**	**49.10**	**277**	eP	**P**	**09 33 16.6**	**+3.6**
	comp=Z,53nm,1.4s						
ILAR	**Eielson Array**	**49.34**	**32**	P	**P**	**09 33 14.1**	**0.0**
	comp=Z,2.0nm,0.8s,baz=253,slow=5.5,SNR=14						
ILB	**Eielson Array**	**49.34**	**32**	eP	**P**	**09 33 14.1**	**0.0**
DANN	**Dangsing**	**49.85**	**278**	eP	**P**	**09 33 18.7**	**-0.1**
	comp=Z,74nm,1.1s						
KOLN	**Koldanda**	**50.23**	**278**	eP	**P**	**09 33 21.1**	**-0.5**
	comp=Z,50nm,1.3s						
PYUN	**Piuthan**	**50.57**	**279**	eP	**P**	**09 33 22.4**	**-1.8**
	comp=Z,119nm,1.3s						
SCRK	**Sand Creek**	**50.64**	**33**	eP	**P**	**09 33 23.5**	**-0.5**
	comp=Z,8.2nm,1.2s						
KSH	**Kashi**	**51.67**	**295**	P	**P**	**09 33 36.7**	**+4.6**
KSH				pP	pwP	09 33 44.7	+3.6
KSH				PP	**PP**	**09 35 34.1**	**+4.6**
KSH				S	**S**	**09 40 56.3**	**+2.6**
KSH				sS	sS	09 41 12.9	+18
KSH				pmax	pmax		
	comp=Z,13nm,1.0s						
KSH				pmax	pmax		
	comp=Z,190nm,4.0s						
KSH				LR	LR		
	comp=Z,140nm,6.6s						
KSH				LR	LR		
	comp=Z,130nm,7.0s						
KSH				LR	LR		
	comp=Z,260nm,8.8s						
AAK	**Ala-Archa**	**51.75**	**299**	⇑eP	**P**	**09 33 32.4**	**-0.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.7s						
EPYK	**Eagle Plains**	**53.43**	**30**	eP	**P**	**09 33 46.5**	**+1.8**
	comp=Z,17nm,1.0s						
HYT	**Haines Junctio**	**54.05**	**37**	eP	**P**	**09 33 52.0**	**+2.6**
	comp=Z,11nm,1.1s						
INK	**Inuvik**	**54.35**	**27**	P	**P**	**09 33 52.3**	**+1.0**
	comp=Z,2.5nm,0.9s,baz=283,slow=5.7,SNR=6.6						
INK	**Inuvik**	**54.35**	**27**	eP	**P**	**09 33 52.7**	**+1.4**
	comp=Z,7.4nm,1.1s						
INK	**Inuvik**	**54.35**	**27**	eP	**P**	**09 33 52.7**	**+1.4**
INK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KK31	**Karatay Array**	**54.38**	**301**	eP	**P**	**09 33 52.1**	**+0.1**
KK31	**Karatay Array**	**54.38**	**301**	eP	**P**	**09 33 52.1**	**+0.1**
KKAR	**Karatay Array**	**54.38**	**301**	eP	**P**	**09 33 51.9**	**-0.1**
KKAR	**Karatay Array**	**54.38**	**301**	eP	**P**	**09 33 51.9**	**-0.1**
SVE	**Sverdlovsk**	**56.31**	**319**	eP	**P**	**09 34 06.4**	**+0.8**
SVE				pmax	pmax		
	comp=Z,18nm,1.1s						
FITZ	**Fitzroy Crossi**	**56.67**	**200**	eP	**P**	**09 34 08.5**	**0.0**
	comp=Z,3.6nm,0.9s						
WRAB	**Tennant Creek**	**56.69**	**190**	eP	**P**	**09 34 08.3**	**-0.3**
	comp=Z,7.7nm,1.1s						
WRAB	**Tennant Creek**	**56.69**	**190**	d eP	**P**	**09 34 08.0**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,17nm,1.7s						
WR1	**Warramunga Arr**	**56.70**	**190**	eP	**P**	**09 34 07.8**	**-0.9**
	comp=Z,8.2nm,1.0s						
WRA	**Warramunga Arr**	**56.70**	**190**	P	**P**	**09 34 07.8**	**-0.9**
	comp=Z,5.4nm,1.1s,baz=8.3,slow=7.4,SNR=18						
WRA				LR	LR	09 56 06.4	
	comp=Z,37nm,21.8s,baz=300,slow=34						
ARU	**Arti**	**57.52**	**319**	eP	**P**	**09 34 12.7**	**-1.5**
	comp=Z,14nm,1.0s						
ARU	**Arti**	**57.52**	**319**	d iP	**P**	**09 34 14.5**	**+0.3**
ARU						09 36 19.4	
ARU				S	**S**	**09 42 10.8**	**-0.8**
ARU				SS	**SS**	**09 46 00.3**	**-0.6**
ARU				pmax	pmax		
	comp=Z,21nm,1.6s						
ARU				MLR	MLR		
	comp=Z,367nm,16.0s						
ABKAR	**Akbulak array**	**59.16**	**311**	eP	**P**	**09 34 25.6**	**-0.2**
AKTO	**Aktyubinsk**	**59.88**	**313**	P	**P**	**09 34 30.0**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=110,slow=8.6,SNR=5.3						
AKTO	**Aktyubinsk**	**59.88**	**313**	P	**P**	**09 34 30.0**	**-0.8**
AS01	**Alice Springs**	**60.41**	**189**	eP	**P**	**09 34 33.6**	**-1.0**
AS31	**Alice Springs**	**60.42**	**189**	eP	**P**	**09 34 32.2**	**-2.4**
	comp=Z,0.7nm,0.6s						
ASAR	**Alice Springs**	**60.42**	**189**	P	**P**	**09 34 31.9**	**-2.7**
	comp=Z,1.5nm,0.9s,baz=14,slow=5.3,SNR=9.6						
ASAR	**Alice Springs**	**60.42**	**189**	P	**P**	**09 34 32.0**	**-2.7**
PRGR	**Permogore**	**61.84**	**327**	eP	**P**	**09 34 44.1**	**+0.3**
PRGR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
RES	**Resolute Bay**	**62.84**	**15**	P	**P**	**09 34 50.6**	**+0.3**
	comp=Z,4.7nm,0.9s,baz=339,slow=5.5,SNR=12						
YKA	**Yellowknife Ar**	**63.70**	**30**	P	**P**	**09 34 56.7**	**+0.4**
	comp=Z,1.3nm,1.0s,baz=300,slow=6.6,SNR=11						
YKB5	**Yellowknife Ar**	**63.70**	**30**	eP	**P**	**09 34 56.3**	**+0.1**
KLMR	**Klimovskoe**	**64.82**	**328**	eP	**P**	**09 35 02.4**	**-1.2**
KLMR				pmax	pmax		
	comp=Z,18nm,1.3s						
KLMR	**Klimovskoe**	**64.82**	**328**	eP	**P**	**09 35 02.5**	**-1.2**
KLMR				AMP		09 35 06.8	
	comp=Z,18nm,1.3s						
GEYT	**Alibeck**	**65.09**	**300**	P	**P**	**09 35 05.5**	**-0.4**
	comp=Z,1.2nm,0.4s,baz=18,slow=5.3,SNR=4.2						
GEYT				LR	LR	10 04 49.9	
	comp=Z,49nm,18.0s,baz=300,slow=37						
MOS	**Moscow**	**68.36**	**324**	eP	**P**	**09 35 23.3**	**-3.0**
MOS				e		09 35 35.7	
VRH	**Novokhopyorsk**	**68.74**	**319**	eP	**P**	**09 35 27.9**	**-0.9**
VRH				pmax	pmax		
	comp=Z,8.0nm,0.5s						
OBN	**Obninsk**	**69.21**	**324**	eP	**P**	**09 35 32.1**	**+0.5**
OBN				e		09 35 56.8	
OBN				pmax	pmax		
	comp=Z,14nm,1.3s						
OBN				MLR	MLR		
	comp=Z,333nm,14.0s						
LPSR	**Galich'ya Gora**	**69.45**	**321**	eP	**P**	**09 35 32.3**	**-0.8**
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.4s						
FIA0	**FINESS Array S**	**69.82**	**333**	eP	**P**	**09 35 35.1**	**-0.1**
FIA0	**FINESS Array S**	**69.82**	**333**	eP	**P**	**09 35 35.2**	**-0.1**
FINES	**FINESS Array B**	**69.82**	**333**	P	**P**	**09 35 35.1**	**-0.1**
	comp=Z,5.9nm,0.9s,baz=26,slow=6.8,SNR=6.2						
FINES				LR	LR	10 09 10.9	
	comp=Z,297nm,18.1s,baz=40,slow=38						
FINES	**FINESS Array B**	**69.82**	**333**	iP	**P**	**09 35 39.2**	**+3.9**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VSR	**Storozhevoye**	**70.09**	**319**	eP	**P**	**09 35 35.9**	**-1.2**
VSR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
GOF	**Gofitskoye**	**71.30**	**312**	eP	**P**	**09 35 45.5**	**+0.9**
GOF				pmax	pmax		
	comp=Z,30nm,1.4s						
KVAR	**Kislovodsk Arr**	**72.11**	**312**	P	**P**	**09 35 49.2**	**-0.5**
	comp=Z,2.5nm,0.4s,baz=98,slow=7.1,SNR=5.8						
KBZ	**Khabaz**	**72.12**	**311**	P	**P**	**09 35 49.7**	**+0.2**
	comp=Z,4.7nm,1.0s,baz=268,slow=0.2,SNR=12						
KBZ				LR	LR	10 09 16.3	
	comp=Z,75nm,18.6s,baz=38,slow=37						
KIV	**Kislovodsk**	**72.12**	**312**	eP	**P**	**09 35 50.1**	**+0.4**
	comp=Z,27nm,1.1s						
KIV	**Kislovodsk**	**72.12**	**312**	d eP	**P**	**09 35 50.9**	**+1.2**
KIV				e		09 35 59.4	
KIV				e		09 36 09.6	
KIV				ePPP	PPP	09 40 13.3	
KIV				pmax	pmax		
	comp=Z,18nm,1.3s						
KIV				MLR	MLR		
	comp=Z,163nm,16.0s						
SHA1	**Shidzhatmaz**	**72.26**	**311**	⇑eP	**P**	**09 35 51.9**	**+1.2**
GNI	**Garni**	**72.94**	**307**	P	**P**	**09 35 55.5**	**+0.7**
	comp=Z,4.1nm,0.6s,baz=123,slow=11,SNR=3.7						
GNI	**Garni**	**72.94**	**307**	⇓eP	**P**	**09 35 57.7**	**+2.9**
GNI				pmax	pmax		
	comp=Z,61nm,1.3s						
CMB	**Columbia Colle**	**73.25**	**55**	eP	**P**	**09 35 58.0**	**+1.5**
	comp=Z,3.4nm,1.0s						
CMB	**Columbia Colle**	**73.25**	**55**	eP	**P**	**09 35 58.0**	**+1.5**
CMB				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LRM	**Limekiln Ridge**	**73.73**	**45**	eP	**P**	**09 35 59.7**	**+0.3**
DLMT	**Dillon**	**73.92**	**45**	eP	**P**	**09 36 01.7**	**+1.3**
	comp=Z,5.8nm,1.1s						
KVN	**Kaiserville**	**74.18**	**53**	eP	**P**	**09 36 03.0**	**+0.9**
	comp=Z,5.3nm,1.2s						
KVN	**Kaiserville**	**74.18**	**53**	eP	**P**	**09 36 03.0**	**+0.9**
KVN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BOZ	**Bozeman (W)**	**74.33**	**45**	eP	**P**	**09 36 04.0**	**+1.2**
	comp=Z,4.0nm,1.0s						
BOZ	**Bozeman (W)**	**74.33**	**45**	eP	**P**	**09 36 04.0**	**+1.2**
BOZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NVAR	**Mina Array Bea**	**74.40**	**54**	P	**P**	**09 36 03.5**	**+0.1**
	comp=Z,2.0nm,1.0s,baz=286,slow=5.1,SNR=7.0						
NV01	**Mina Array Sit**	**74.40**	**54**	eP	**P**	**09 36 03.5**	**+0.1**
YHB	**Horse Butte**	**75.08**	**45**	eP	**P**	**09 36 08.8**	**+1.6**
YHB				epP	**pwP**	**09 36 15.6**	**-0.9**
NB2	**NORSAR Subarra**	**75.12**	**338**	P	**P**	**09 36 07.9**	**+0.9**
	comp=Z,25nm,1.7s,baz=40,slow=5.9						
NB2	**NORSAR Subarra**	**75.12**	**338**	P	**P**	**09 36 07.9**	**+0.9**
	baz=40,slow=5.9						
NB200	**NORSAR Array S**	**75.12**	**338**	eP	**P**	**09 36 06.9**	**-0.1**
NOA	**NORSAR Array B**	**75.12**	**338**	P	**P**	**09 36 06.9**	**-0.1**
	comp=Z,6.4nm,1.1s,baz=36,slow=5.9,SNR=3.4						
NOA				LR	LR	10 13 20.5	
	comp=Z,231nm,18.2s,baz=40,slow=39						
AKASG	**Malin Array Be**	**75.42**	**323**	P	**P**	**09 36 08.7**	**-0.1**
	comp=Z,0.2nm,0.2s,baz=43,slow=6.0,SNR=7.6						
AKASG				LR	LR	10 14 14.1	
	comp=Z,116nm,18.4s,baz=40,slow=40						
AKASG	**Malin Array Be**	**75.42**	**323**	c eP	**P**	**09 36 09.0**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKBB	**Malin Array Si**	**75.42**	**323**	eP	**P**	**09 36 08.5**	**-0.3**
	comp=Z,8.2nm,1.1s						
KIEV	**Kiev**	**75.43**	**323**	eP	**P**	**09 36 08.5**	**-0.3**
	comp=Z,6.9nm,1.1s						
KIEV	**Kiev**	**75.43**	**323**	⇓iP	**P**	**09 36 08.8**	**-0.1**
KIEV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
AK11	**Malin Array Si**	**75.46**	**323**	eP	**P**	**09 36 08.5**	**-0.5**
DUG	**Dugway, Tooele**	**76.84**	**50**	eP	**P**	**09 36 17.5**	**+0.2**
DUG	**Dugway, Tooele**	**76.84**	**50**	eP	**P**	**09 36 17.5**	**+0.2**
PSUT	**Pine Spring**	**77.18**	**52**	eP	**P**	**09 36 20.0**	**+0.6**
	comp=Z,4.6nm,1.2s						
PD31	**Pinedale Array**	**77.23**	**46**	eP	**P**	**09 36 19.6**	**+0.1**
PDAR	**Pinedale Array**	**77.23**	**46**	P	**P**	**09 36 19.6**	**+0.1**
	comp=Z,0.9nm,1.1s,baz=318,slow=2.6,SNR=2.6						
PFO	**Pinyon Flats O**	**78.39**	**57**	eP	**P**	**09 36 27.1**	**+1.1**
	comp=Z,5.5nm,0.5s						
XPFO	**Pion Flat**	**78.39**	**57**	eP	**P**	**09 36 27.4**	**+1.4**
	comp=Z,5.5nm,0.6s						
LCMT	**Little Creek M**	**78.48**	**52**	eP	**P**	**09 36 27.2**	**+0.7**
	comp=Z,5.0nm,1.0s						
P17A	**Butcher Ranch,**	**78.55**	**49**	eP	**P**	**09 36 28.1**	**+1.2**
	comp=Z,7.6nm,1.0s						
Q16A	**Castle Valley**	**78.63**	**50**	eP	**P**	**09 36 28.3**	**+0.9**
	comp=Z,3.2nm,1.0s						
KNB	**Kanab**	**78.75**	**52**	eP	**P**	**09 36 27.0**	**-1.0**
	comp=Z,6.6nm,1.1s						
KNB	**Kanab**	**78.75**	**52**	eP	**P**	**09 36 27.0**	**-1.0**
KNB				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BAR	**Barrett**	**78.79**	**58**	eP	**P**	**09 36 30.4**	**+2.2**
	comp=Z,12nm,0.6s						
KWP	**Kalwaria Pacla**	**79.23**	**325**	eP	**P**	**09 36 31.3**	**+1.1**
KWP	**Kalwaria Pacla**	**79.23**	**325**	eP	**P**	**09 36 31.3**	**+1.1**
BUR08	**Bucovina Ar. S**	**79.43**	**322**	eP	**P**	**09 36 31.0**	**-0.4**
BUR04	**Bucovina Ar. S**	**79.44**	**322**	eP	**P**	**09 36 31.6**	**+0.1**
BR101	**Keskin Array S**	**80.06**	**312**	eP	**P**	**09 36 35.5**	**+0.5**
BRTR	**Keskin Array B**	**80.06**	**312**	P	**P**	**09 36 35.5**	**+0.5**
	comp=Z,2.1nm,1.0s,baz=56,slow=2.2,SNR=9.3						
BRTR				LR	LR	10 16 41.3	
	comp=Z,46nm,18.5s,baz=60,slow=39						
BRTR	**Keskin Array B**	**80.06**	**312**	c eP	**P**	**09 36 36.0**	**+0.9**
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
OJC	**Ojcow**	**80.12**	**327**	eP	**P**	**09 36 35.9**	**+0.8**
OJC	**Ojcow**	**80.12**	**327**	eP	**P**	**09 36 34.0**	**-1.0**
	comp=Z,8.6nm,1.0s						
OJC	**Ojcow**	**80.12**	**327**	eP	**P**	**09 36 34.0**	**-1.0**
OJC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
PV23	**Carpenter Ridg**	**80.24**	**49**	eP	**P**	**09 36 38.1**	**+1.8**
	comp=Z,12nm,1.2s						
PV20	**West Nyswonger**	**80.34**	**49**	eP	**P**	**09 36 38.0**	**+1.3**
	comp=Z,11nm,1.0s						
PV19	**Morning Glory**	**80.35**	**49**	eP	**P**	**09 36 38.2**	**+1.4**
	comp=Z,14nm,1.2s						
PV17	**East Wray Mesa**	**80.38**	**49**	eP	**P**	**09 36 37.6**	**+0.6**
	comp=Z,18nm,1.2s						
PV16	**Nyswonger Mesa**	**80.39**	**49**	eP	**P**	**09 36 38.3**	**+1.3**
	comp=Z,7.3nm,1.1s						
PV11	**David Mesa, Pa**	**80.42**	**49**	eP	**P**	**09 36 38.2**	**+1.1**
	comp=Z,10.0nm,1.0s						
PV12	**Saucer Basin,**	**80.45**	**49**	eP	**P**	**09 36 37.6**	**+0.2**
	comp=Z,7.7nm,1.0s						
NIE	**Niedzica**	**80.48**	**326**	eP	**P**	**09 36 37.4**	**+0.4**
NIE	**Niedzica**	**80.48**	**326**	eP	**P**	**09 36 37.4**	**+0.4**
PV13	**Radium Mtn., P**	**80.54**	**49**	eP	**P**	**09 36 38.6**	**+0.8**
	comp=Z,17nm,1.2s						
PV02	**Paradox Valley**	**80.56**	**49**	eP	**P**	**09 36 37.9**	**0.0**
	comp=Z,8.2nm,1.1s						
MVCO	**Mesa Verde**	**81.34**	**50**	eP	**P**	**09 36 43.7**	**+1.6**
	comp=Z,3.2nm,1.0s						
VYHS	**Vyhne**	**81.81**	**326**	eP	**P**	**09 36 47.1**	**+3.0**
VYHS	**Vyhne**	**81.81**	**326**	eP	**P**	**09 36 47.1**	**+3.0**
RAYN	**Ar Rayn**	**81.92**	**293**	eP	**P**	**09 36 45.1**	**0.0**
	comp=Z,5.8nm,1.1s						
RAYN	**Ar Rayn**	**81.92**	**293**	eP	**P**	**09 36 45.1**	**0.0**
RAYN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
S22A	**4UR Ranch, Cre**	**82.02**	**49**	eP	**P**	**09 36 46.6**	**+0.8**
	comp=Z,4.2nm,1.1s						
CLL	**Collm**	**82.13**	**331**	iP	**P**	**09 36 44.0**	**-1.7**
	comp=Z,6.0nm,0.8s						
CLL	**Collm**	**82.13**	**331**	iP	**P**	**09 36 44.0**	**-1.7**
CLL				pmax	pmax		
	comp=Z,24nm,0.8s						
SDCO	**Great Sand Dun**	**82.81**	**48**	eP	**P**	**09 36 52.3**	**+2.4**
	comp=Z,1.8nm,1.1s						
PPT	**Papeete**	**83.37**	**117**	LR	LR	10 12 39.5	
	comp=Z,92nm,18.7s,baz=270,slow=35						
GEC2	**GERESS Array S**	**83.77**	**329**	eP	**P**	**09 36 55.0**	**+0.6**
	comp=Z,4.3nm,1.1s						
GEC2	**GERESS Array S**	**83.77**	**329**	eP	**P**	**09 36 55.0**	**+0.6**
GEC2				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GERES	**GERESS Array B**	**83.77**	**329**	P	**P**	**09 36 55.0**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=353,slow=6.9,SNR=3.1						
GERES				LR	LR	10 19 58.1	
	comp=Z,134nm,18.3s,baz=294,slow=40						
ANMO	**Albuquerque**	**84.06**	**51**	eP	**P**	**09 36 55.9**	**-0.4**
	comp=Z,4.1nm,1.0s						
ANMO	**Albuquerque**	**84.06**	**51**	eP	**P**	**09 36 55.9**	**-0.4**
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
319A	**Douglas**	**84.55**	**55**	eP	**P**	**09 36 59.8**	**+1.1**
	comp=Z,8.7nm,0.9s						
BFO	**Black Forest**	**86.33**	**332**	iP	**P**	**09 37 10.8**	**+3.7**
TX31	**Lajitas Ar. Si**	**89.54**	**53**	eP	**P**	**09 37 22.4**	**-0.6**
LTX	**Lajitas**	**89.54**	**53**	eP	**P**	**09 37 24.4**	**+1.4**
LTX	**Lajitas**	**89.54**	**53**	eP	**P**	**09 37 24.4**	**+1.4**
TXAR	**Lajitas Array**	**89.54**	**53**	P	**P**	**09 37 24.4**	**+1.4**
	comp=Z,1.5nm,0.8s,baz=249,slow=3.5,SNR=5.7						
KEST	**Kesra**	**96.14**	**324**	LR	LR	10 26 38.4	
	comp=Z,102nm,18.8s,baz=283,slow=39						
ESDC	**Sonseca Array**	**98.27**	**335**	LR	LR	10 26 37.3	
	comp=Z,127nm,18.1s,baz=295,slow=38						
LPAZ	**La Paz**	**145.96**	**62**	PKPbc	**PKPdf**	**09 44 06.0**	**+0.7**
	comp=Z,8.4nm,1.1s,baz=354,slow=7.4,SNR=15						
LCO	**Las Campanas**	**150.93**	**85**	ePKPbc	**PKPbc**	**09 44 19.3**	**+0.9**
LCO	**Las Campanas**	**150.93**	**85**	ePKIKP	**PKPbc**	**09 44 19.3**	**+0.9**

IDC 03 09:45:32.8±2.6**, 53°.43N×87°.16E, h0km, mb1 2.8**/2**, mb1mx2.7**/45**, mbtmp2.8**/2**, ML2.4**/2**, Error ellipse: s-maj=24.4km s-min=15.0km az=72.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.48**	**291**	i		09 55 50.0	
	baz=107,slow=347,SNR=1.3						
ZALV	**Zalesovo Beam**	**1.48**	**291**	Pg	Pn	09 46 00.0	-0.7
	0.6nm,0.3s,baz=110,slow=15,SNR=6.1						
ZALV				Lg	Lg	09 46 19.1	
	0.7nm,0.3s,baz=110,slow=31,SNR=9.3						
KURBB	**Kurchatov Arra**	**6.02**	**246**	Pn	Pn	09 47 04.2	+1.2
	0.1nm,0.3s,baz=62,slow=14,SNR=7.1						
KURBB				Lg	Lg	09 48 43.5	
	0.0nm,0.3s,baz=59,slow=30,SNR=4.1						
MKAR	**Makanchi Array**	**7.34**	**207**	Pn	Pn	09 47 22.1	+0.9
	0.1nm,0.3s,baz=27,slow=14,SNR=5.0						
MKAR				Lg	Lg	09 49 23.0	
	0.1nm,0.3s,baz=24,slow=32,SNR=3.2						

MEX 03 09:46:56.3±0.5**, 16°.17N×98°.30W, h2km**±3km**, MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.28**	**37**	eP	Pg	09 47 01.3	-0.3
PNIG				eS	Sg	09 47 05.5	+0.2
TLIG	**Tlapa**	**1.41**	**350**	eP	Pn	09 47 19.5	-3.6
TLIG				eS	Sg	09 47 36.3	-5.3

MAN 03 09:59:54.7, 7°.88N×123°.58E, h24km, mb4.1, ML2.9, MS2.5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.20**	**260**	eP	Pb	10 00 01.2	+0.9
PAGZ				eS	Sb	10 00 08.5	+4.4
IPIL	**Ipil**	**1.01**	**265**	eP	Pb	10 00 13.4	0.0
IPIL				eS	Sn	10 00 27.6	+0.9
CGP	**Cagayan de Oro**	**1.24**	**63**	⇑eP	Pn	10 00 16.4	-0.1
CGP				eS	Sn	10 00 32.5	+0.1

*IDC **03** 09:59:59.2±1.1, 37°.49N×143°.87E, h0km, mb3.6/6, mb1 3.9/10, mb1mx3.7/41, mbtmp3.8/10, ML4.0/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/43, Error ellipse: s-maj=28.9km s-min=18.9km az=83.0*

*NIED **03** 10:00:00, 37°.60N×143°.70E, h35km, Mw3.7 Best double couple: M0 3.87000×10^14 NP1:φs 44.00000°, δ18.00000°, λ-56.00000°. NP2:φs 188.00000°, δ75.00000°, λ-100.00000°.*

*ISCJB **03** 10:00:01.7±0.7, 37°.59N±0°.03×143°.65E±0°.06, h33km, mb3.6/6, Error ellipse: s-maj=6.4km s-min=4.5km az=9.4*

*JMA **03** 10:00:01.9±0.2, 37°.63N×143°.66E, h54km, M3.6*

ISC 03 10:00:04.5±1.0**, 37°.63N**±0°.05**×143°.61E**±0°.09**, h35km, n27, σ1s.49**/41**, mb3.6**/6**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.83**	**293**	P	**Pn**	**10 00 32.4**	**-1.0**
JIKH				S	**Sn**	**10 00 54.6**	**-0.7**
JIO	**Ouri**	**1.97**	**296**	P	**Pn**	**10 00 34.4**	**-1.0**
JIO				S	**Sn**	**10 00 58.2**	**-0.6**
JKMT	**Kesennumamotoy**	**2.06**	**306**	P	**Pn**	**10 00 35.3**	**-1.3**
JKMT				S	**Sn**	**10 00 59.7**	**-1.3**
OFUJ	**Ofunato**	**2.11**	**314**	P	**Pn**	**10 00 35.9**	**-1.4**
JMK	**Ichinoseki**	**2.30**	**306**	P	**Pn**	**10 00 38.9**	**-1.0**
JMK				S	**Sn**	**10 01 07.6**	**+0.6**
JOM	**Ohasama**	**2.59**	**316**	P	**Pn**	**10 00 43.0**	**-0.9**
JOM				S	**Sn**	**10 01 13.4**	**-0.8**
JFT	**Otama**	**2.60**	**269**	P	**Pn**	**10 00 43.8**	**-0.3**
JFT				S	**Sn**	**10 01 14.5**	**0.0**
JYK	**Kaneyama**	**2.87**	**298**	P	**Pn**	**10 00 47.7**	**0.0**
JANG	**Nango**	**3.19**	**330**	P	**Pn**	**10 00 51.3**	**-0.9**
JAG	**Ashikaga**	**3.54**	**251**	P	**Pn**	**10 00 56.4**	**-0.5**
JAG				S	**Sn**	**10 01 36.3**	**-1.2**
BSO1	**Boso 1**	**3.65**	**216**	P	**Pn**	**10 00 56.4**	**-1.6**
BSO1				eS	**Sn**	**10 01 38.7**	**-0.9**
JRY	**Ryogami san**	**4.10**	**248**	P	**Pn**	**10 01 04.1**	**-0.7**
JRY				S	**Sn**	**10 01 49.2**	**-2.4**

JOT	**Ohata**	**4.24**	**333**	P	**Pn**	**10 01 06.5**	**-0.1**
JOT				S	**Sn**	**10 01 54.0**	**-0.9**
JOD2	**Odawara 2**	**4.34**	**238**	P	**Pn**	**10 01 06.8**	**-1.2**
JOD2				*e*S	**Sn**	**10 01 54.4**	**-3.0**
MJAR	**Matsushiro Arr**	**4.45**	**258**	Pn	**Pn**	**10 01 10.5**	**+0.9**
	6.9nm,0.3s,baz=84,slow=14,SNR=114						
MJAR				LR	LR	10 03 23.3	
	comp=Z,86nm,18.7s,baz=225,slow=44						
MAT	**Matsushiro**	**4.45**	**258**	P	**Pn**	**10 01 10.6**	**+1.0**
MAT				*e*S	**Sn**	**10 02 01.8**	**+1.6**
JKB	**Kayabe**	**4.70**	**336**	P	**Pn**	**10 01 12.5**	**-0.4**
JKB				S	**Sn**	**10 02 02.2**	**-3.9**
JHJ	**Hachijo jima 2**	**5.47**	**216**	Pn	**Pn**	**10 01 21.6**	**-2.0**
	13nm,0.3s,baz=113,slow=22,SNR=3.8						
ASAJ	**Asahikawa**	**6.53**	**354**	Pn	**Pn**	**10 01 36.9**	**-1.2**
	3.4nm,0.3s,baz=212,slow=9.8,SNR=28						
ASAJ				Sn	**Sn**	**10 02 50.1**	**-1.2**
	0.7nm,0.3s,baz=217,slow=31,SNR=3.1						
USRK	**Ussuriysk Ar.**	**10.97**	**310**	Pn	**Pn**	**10 02 41.4**	**+2.5**
	0.3nm,0.3s,baz=121,slow=13,SNR=4.6						
KLR	**Kul'dur**	**14.43**	**327**	Pn	**Pn**	**10 03 24.4**	**-1.7**
	0.1nm,0.3s,baz=125,slow=15,SNR=4.0						
SONM	**Songino Array**	**28.93**	**303**	P	**P**	**10 06 03.5**	**+3.1**
	0.3nm,0.4s,baz=112,slow=9.9,SNR=5.7						
ZALV	**Zalesovo Beam**	**42.82**	**312**	P	**P**	**10 07 59.7**	**+1.0**
	0.4nm,0.5s,baz=73,slow=11,SNR=2.5						
MKAR	**Makanchi Array**	**45.29**	**302**	P	**P**	**10 08 19.9**	**+1.2**
	0.6nm,0.7s,baz=84,slow=9.2,SNR=7.0						
ILAR	**Eielson Array**	**48.05**	**33**	P	**P**	**10 08 40.4**	**+0.3**
	0.7nm,0.9s,baz=258,slow=5.8,SNR=4.7						
WRA	**Warramunga Arr**	**57.92**	**190**	P	**P**	**10 09 52.3**	**-0.9**
	1.0nm,0.6s,baz=8.6,slow=7.1,SNR=14						
ASAR	**Alice Springs**	**61.65**	**190**	P	**P**	**10 10 18.2**	**-0.6**
	0.5nm,0.7s,baz=5.3,slow=7.6,SNR=5.9						

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*KRSC **03** 10:34:19.2±1.4, 55°.72N×163°.54E, h24km±15km, ML4.5*
*ISCJB **03** 10:34:21.0±0.8, 55°.77N±0°.02×163°.45E±0°.05, h20km±6km, mb3.8/12, MS3.4/6, Error ellipse: s-maj=5.3km s-min=3.5km az=20.6*
*MOS **03** 10:34:22.2±0.6, 55°.80N×163°.34E, h26km, mb4.1/9, Error ellipse: s-maj=7.1km s-min=4.9km az=71.7*
*IDC **03** 10:34:27.7±3.9, 55°.87N×162°.87E, h56km±35km, mb3.5/12, mb1 3.7/13, mb1mx3.5/53, mbtmp3.8/13, ML2.6/1, MS3.3/9, Ms1 3.3/9, ms1mx3.0/49, Error ellipse: s-maj=25.3km s-min=17.5km az=106.0*
ISC 03 10:34:22.7±1.3**, 55°.80N**±0°.03×**163°.22E**±0°.05**, h18**km±7km**, n108,** σ1s**18**/142**, mb4.0**/12**, MS3.3**/6**, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.47**	**331**	*i* P	**Pg**	**10 34 31.4**	**-0.8**
KBTR				*e*S	**Sg**	**10 34 39.1**	**+0.5**
KBTR	**Krutoberegovo**	**0.47**	**331**	PN	**Pg**	**10 34 31.4**	**-0.8**
KBTR				S	**Sg**	**10 34 39.1**	**+0.5**
KBG	**Krutoberegovo**	**0.54**	**328**	*e*P	**Pb**	**10 34 32.5**	**-1.2**
KBG				*e*S	**Sg**	**10 34 42.5**	**+1.7**
KBG	**Krutoberegovo**	**0.54**	**328**	PN	**Pb**	**10 34 32.5**	**-1.2**
KBG				S	**Sg**	**10 34 42.5**	**+1.7**
SMKR	**Semkarok**	**1.26**	**309**	*e*P	**Pn**	**10 34 45.0**	**-0.5**
SMKR				*e*S	**Sg**	**10 35 03.5**	**+0.1**
SMKR	**Semkarok**	**1.26**	**309**	PN	**Pn**	**10 34 45.0**	**-0.5**
SMKR				S	**Sg**	**10 35 03.5**	**+0.1**
BDR	**Baidarnaya**	**1.37**	**305**	*e*P	**Pn**	**10 34 47.0**	**0.0**
BDR				*e*S	**Sg**	**10 35 08.0**	**+1.1**
BDR	**Baidarnaya**	**1.37**	**305**	PN	**Pn**	**10 34 47.0**	**0.0**
BDR				S	**Sg**	**10 35 08.0**	**+1.1**
ZLN	**Zelenaya**	**1.38**	**280**	*e*P	**Pn**	**10 34 47.0**	**-0.2**
ZLN	**Zelenaya**	**1.38**	**280**	PN	**Pn**	**10 34 47.0**	**-0.2**
CIRR	**Tsirk**	**1.43**	**284**	*e*P	**Pn**	**10 34 47.8**	**-0.1**
CIRR	**Tsirk**	**1.43**	**284**	PN	**Pn**	**10 34 47.8**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**1.43**	**277**	*e*P	**Pn**	**10 34 47.7**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**1.43**	**277**	PN	**Pn**	**10 34 47.7**	**-0.2**
SRKR	**Sorokina**	**1.43**	**308**	*i* P	**Pn**	**10 34 48.2**	**+0.3**
SRKR	**Sorokina**	**1.43**	**308**	PN	**Pn**	**10 34 48.2**	**+0.3**
LGNR	**Loginova**	**1.45**	**282**	*e*P	**Pn**	**10 34 48.3**	**-0.1**
LGNR	**Loginova**	**1.45**	**282**	PN	**Pn**	**10 34 48.3**	**-0.1**
MKZ	**Mys Kozlova**	**1.51**	**215**	*e*P	**Pn**	**10 34 47.5**	**-1.3**
MKZ				*e*S	**Sn**	**10 35 07.5**	**-0.5**
MKZ	**Mys Kozlova**	**1.51**	**215**	PN	**Pn**	**10 34 47.5**	**-1.3**
MKZ				S	**Sn**	**10 35 07.5**	**-0.5**
KLY	**Klyuchi**	**1.53**	**291**	*e*P	**Pn**	**10 34 47.6**	**-1.6**
KLY				*e*S	**Sn**	**10 35 07.3**	**-1.3**
KLY	**Klyuchi**	**1.53**	**291**	PN	**Pn**	**10 34 47.6**	**-1.6**
KLY				S	**Sn**	**10 35 07.3**	**-1.3**
BZWR	**Bezymyannyi-We**	**1.55**	**277**	*e*P	**Pn**	**10 34 49.4**	**-0.1**
BZWR	**Bezymyannyi-We**	**1.55**	**277**	PN	**Pn**	**10 34 49.4**	**-0.1**
BZMR	**Bezymyannaya**	**1.55**	**276**	*e*P	**Pn**	**10 34 49.1**	**-0.4**
BZMR	**Bezymyannaya**	**1.55**	**276**	PN	**Pn**	**10 34 49.1**	**-0.4**
KRSR	**Krestovskiy**	**1.55**	**287**	*e*P	**Pn**	**10 34 49.1**	**-0.4**
KRSR				*e*S	**Sb**	**10 35 10.2**	**-0.1**
KRSR	**Krestovskiy**	**1.55**	**287**	PN	**Pn**	**10 34 49.1**	**-0.4**
KRSR				S	**Sb**	**10 35 10.2**	**-0.1**
KIRR	**Kirishev**	**1.63**	**277**	*e*P	**Pn**	**10 34 50.7**	**0.0**
KIRR				*e*S	**Sb**	**10 35 12.4**	**-0.2**
KIRR	**Kirishev**	**1.63**	**277**	PN	**Pn**	**10 34 50.7**	**0.0**
KIRR				S	**Sb**	**10 35 12.4**	**-0.2**
KMNR	**Kamenistaya**	**1.69**	**270**	*e*P	**Pn**	**10 34 51.7**	**+0.3**
KMNR				*e*S	**Sb**	**10 35 15.1**	**+0.9**
KMNR	**Kamenistaya**	**1.69**	**270**	PN	**Pn**	**10 34 51.7**	**+0.3**
KMNR				S	**Sb**	**10 35 15.1**	**+0.9**
KPT	**Kopyto**	**1.70**	**277**	*e*P	**Pn**	**10 34 51.9**	**+0.3**
KPT				*e*S	**Sb**	**10 35 15.2**	**+0.7**
KPT	**Kopyto**	**1.70**	**277**	PN	**Pn**	**10 34 51.9**	**+0.3**
KPT				S	**Sb**	**10 35 15.2**	**+0.7**
TUMD	**Tumrok D**	**1.71**	**251**	*i* P	**Pn**	**10 34 51.8**	**+0.1**
TUMD				*e*S	**Sb**	**10 35 14.9**	**0.0**
KZV	**Kizimen**	**1.80**	**249**	*e*P	**Pn**	**10 34 53.1**	**+0.1**
KZV	**Kizimen**	**1.80**	**249**	PN	**Pn**	**10 34 53.1**	**+0.1**
TUMR	**Tumrok**	**1.82**	**255**	*e*P	**Pn**	**10 34 53.9**	**+0.6**
TUMR				*e*S	**Sb**	**10 35 19.1**	**+1.0**
TUMR	**Tumrok**	**1.82**	**255**	PN	**Pn**	**10 34 53.9**	**+0.6**
TUMR				S	**Sb**	**10 35 19.1**	**+1.0**
KOZ	**Kozyrevsk**	**1.90**	**279**	*e*P	**Pn**	**10 34 55.6**	**+1.3**
KOZ				*e*S	**Sb**	**10 35 21.1**	**+0.8**
KOZ	**Kozyrevsk**	**1.90**	**279**	PN	**Pn**	**10 34 55.6**	**+1.3**
KOZ				S	**Sb**	**10 35 21.1**	**+0.8**
SRDR	**Sredinnyy**	**2.04**	**286**	*e*P	**Pn**	**10 34 57.1**	**+1.0**
SRDR				*e*S	**Sb**	**10 35 24.4**	**+0.2**
SRDR	**Sredinnyy**	**2.04**	**286**	PN	**Pn**	**10 34 57.1**	**+1.0**
SRDR				S	**Sb**	**10 35 24.4**	**+0.2**
ESO	**Esso**	**2.55**	**275**	*e*P	**Pn**	**10 35 03.8**	**+0.6**
ESO	**Esso**	**2.55**	**275**	PN	**Pn**	**10 35 03.8**	**+0.6**
KII	**Karymskiy**	**2.80**	**233**	*e*P	**Pn**	**10 35 07.0**	**+0.3**
KII	**Karymskiy**	**2.80**	**233**	PN	**Pn**	**10 35 07.0**	**+0.3**
SPN	**Mys Shipunski**	**3.29**	**216**	*e*P	**Pn**	**10 35 12.3**	**-1.0**
SPN				*e*S	**Sn**	**10 35 49.5**	**-2.4**
SPN	**Mys Shipunski**	**3.29**	**216**	PN	**Pn**	**10 35 12.3**	**-1.0**
OSSR	**Ossora**	**3.46**	**359**	*e*P	**Pn**	**10 35 15.7**	**0.0**
OSSR				*e*S	**Sn**	**10 35 55.9**	**-0.3**
OSSR	**Ossora**	**3.46**	**359**	PN	**Pn**	**10 35 15.7**	**0.0**
OSSR				S	**Sn**	**10 35 55.9**	**-0.3**
NLC	**Nalytchevo**	**3.47**	**222**	*e*P	**Pn**	**10 35 17.7**	**+1.9**
NLC				*e*S	**Sn**	**10 35 57.3**	**+1.0**
NLC	**Nalytchevo**	**3.47**	**222**	PN	**Pn**	**10 35 17.7**	**+1.9**
NLC				S	**Sn**	**10 35 57.3**	**+1.0**
SDLR	**Sedlovina**	**3.57**	**227**	*e*P	**Pn**	**10 35 17.7**	**+0.4**
SDLR	**Sedlovina**	**3.57**	**227**	PN	**Pn**	**10 35 17.7**	**+0.4**
KRX	**Arik**	**3.61**	**229**	*e*P	**Pn**	**10 35 19.7**	**+1.8**
KRX	**Arik**	**3.61**	**229**	PN	**Pn**	**10 35 19.7**	**+1.8**
SMAR	**Somma**	**3.62**	**227**	*e*P	**Pn**	**10 35 18.5**	**+0.5**
SMAR	**Somma**	**3.62**	**227**	PN	**Pn**	**10 35 18.5**	**+0.5**
AVH	**Avacha**	**3.64**	**228**	*e*P	**Pn**	**10 35 19.4**	**+1.2**
AVH	**Avacha**	**3.64**	**228**	PN	**Pn**	**10 35 19.4**	**+1.2**
UGLR	**Uglovaya**	**3.65**	**226**	*e*P	**Pn**	**10 35 18.8**	**+0.5**
UGLR	**Uglovaya**	**3.65**	**226**	PN	**Pn**	**10 35 18.8**	**+0.5**
KOK	**Koryaka**	**3.67**	**229**	*e*P	**Pn**	**10 35 19.7**	**+1.1**
KOK	**Koryaka**	**3.67**	**229**	PN	**Pn**	**10 35 19.7**	**+1.1**
GNL	**Ganaly**	**3.71**	**238**	*e*P	**Pn**	**10 35 20.5**	**+1.2**
GNL	**Ganaly**	**3.71**	**238**	PN	**Pn**	**10 35 20.5**	**+1.2**
PALN	**Palana**	**3.74**	**333**	*e*P	**Pn**	**10 35 22.9**	**+3.4**
PALN	**Palana**	**3.74**	**333**	PN	**Pn**	**10 35 22.9**	**+3.4**
DALK	**Dalny**	**3.81**	**225**	*e*P	**Pn**	**10 35 20.6**	**+0.2**
DALK				*e*S	**Sn**	**10 36 05.8**	**+1.1**
DALK	**Dalny**	**3.81**	**225**	PN	**Pn**	**10 35 20.6**	**+0.2**
DALK				S	**Sn**	**10 36 05.8**	**+1.1**
PET	**Petropavlovsk**	**3.85**	**226**	*e*P	**Pn**	**10 35 23.7**	**+2.7**
PET				*e*S	**Sn**	**10 36 07.9**	**+2.1**
PET	**Petropavlovsk**	**3.85**	**226**	*e*PN	**Pn**	**10 35 22.5**	**+1.5**
PET				*e*S	**Sn**	**10 36 07.7**	**+1.9**
PET				pmax	pmax		
	comp=Z,88nm,0.7s						
PET				smax	smax		
	comp=N,295nm,0.7s						
PET				smax	smax		
	comp=E,230nm,1.1s						
PETK	**Petropavlovsk-**	**4.20**	**232**	P	**Pn**	**10 35 27.2**	**+1.4**
	comp=E,1.8nm,0.3s,baz=54,slow=15,SNR=23						
PETK				LR	LR	10 36 50.1	
	comp=E,120nm,19.8s,baz=137,slow=35						
KRMR	**Karymshinskiy**	**4.21**	**227**	*e*P	**Pn**	**10 35 27.4**	**+1.5**
KRMR				*e*S	**Sn**	**10 36 17.1**	**+2.5**
KRMR	**Karymshinskiy**	**4.21**	**227**	PN	**Pn**	**10 35 27.4**	**+1.5**
KRMR				S	**Sn**	**10 36 17.1**	**+2.5**
RUS	**Russkaya**	**4.36**	**221**	*e*P	**Pn**	**10 35 28.6**	**+0.6**
RUS	**Russkaya**	**4.36**	**221**	PN	**Pn**	**10 35 28.6**	**+0.6**
MTVR	**Mutnovka**	**4.45**	**224**	*e*P	**Pn**	**10 35 30.2**	**+0.8**
MTVR	**Mutnovka**	**4.45**	**224**	PN	**Pn**	**10 35 30.2**	**+0.8**
TILK	**Tilichiki**	**4.91**	**17**	*e*P	**Pn**	**10 35 37.2**	**+1.6**
TILK				*e*S	**Sn**	**10 36 33.7**	**+1.8**
TILK	**Tilichiki**	**4.91**	**17**	PN	**Pn**	**10 35 37.2**	**+1.6**
TILK				S	**Sn**	**10 36 33.7**	**+1.8**
KDTR	**Khodutka, Kamc**	**5.03**	**219**	*e*P	**Pn**	**10 35 37.5**	**+0.4**
KDTR				*e*S	**Sn**	**10 36 36.6**	**+1.9**
KDTR	**Khodutka, Kamc**	**5.03**	**219**	PN	**Pn**	**10 35 37.5**	**+0.4**
PAU	**Pauzhetka**	**5.78**	**224**	*e*P	**Pn**	**10 35 50.7**	**+3.3**
PAU	**Pauzhetka**	**5.78**	**224**	PN	**Pn**	**10 35 50.7**	**+3.3**
KMSK	**Kamenskaya**	**6.86**	**12**	*e*P	**Pn**	**10 36 03.6**	**+1.3**
KMSK	**Kamenskaya**	**6.86**	**12**	PN	**Pn**	**10 36 03.6**	**+1.3**
MA2	**Magadan**	**7.67**	**305**	LR	LR	10 39 33.4	
	comp=E,142nm,18.0s,baz=138,slow=41						
ASAJ	**Asahikawa**	**17.60**	**237**	LR	LR	10 45 08.2	
	comp=E,57nm,19.1s,baz=4.0,slow=37						
KLR	**Kul'dur**	**20.12**	**264**	LR	LR	10 47 44.2	
	comp=E,79nm,19.0s,baz=52,slow=40						
TIXI	**Tiksi**	**21.49**	**331**	P	**P**	**10 39 10.2**	**+0.2**
	comp=E,8.0nm,0.6s,baz=114,slow=11,SNR=39						
MJAR	**Matsushiro Arr**	**25.66**	**232**	P	**P**	**10 39 52.3**	**+1.0**
	comp=E,1.8nm,0.6s,baz=28,slow=6.4,SNR=6.6						
MJAR				LR	LR	10 50 57.6	
	comp=E,35nm,19.3s,baz=75,slow=39						
JHJ	**Hachijo jima 2**	**27.92**	**225**	LR	LR	10 50 35.2	
	comp=E,141nm,21.0s,baz=96,slow=35						
KSRS	**Korea Array**	**29.94**	**247**	LR	LR	10 53 58.5	
	comp=E,39nm,18.2s,baz=70,slow=39						
YKA	**Yellowknife Ar**	**39.95**	**46**	P	**P**	**10 41 55.8**	**+0.4**
	comp=E,0.2nm,0.6s,baz=299,slow=7.9,SNR=5.5						
MKAR	**Makanchi Array**	**48.64**	**295**	P	**P**	**10 43 02.6**	**-2.7**
	comp=E,1.0nm,0.7s,baz=61,slow=8.0,SNR=12						
ARCES	**ARCESS Array B**	**51.27**	**342**	P	**P**	**10 43 24.3**	**-0.6**
	comp=E,2.5nm,0.8s,baz=27,slow=8.1,SNR=2.9						
ARCES	**ARCESS Array B**	**51.27**	**342**	P	**P**	**10 43 24.3**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**58.34**	**337**	P	**P**	**10 44 15.4**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=46,slow=10.0,SNR=7.4						
NOA	**NORSAR Array B**	**61.43**	**345**	P	**P**	**10 44 36.9**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=18,slow=6.8,SNR=3.9						
AKASG	**Malin Array Be**	**67.20**	**330**	P	**P**	**10 45 15.5**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=28,slow=6.8,SNR=2.5						
TXAR	**Lajitas Array**	**67.94**	**70**	P	**P**	**10 45 22.2**	**+1.8**
	comp=Z,1.2nm,0.9s,baz=258,slow=3.6,SNR=3.7						
PSI	**Prapat**	**73.46**	**250**	LR	LR	11 20 02.8	
	comp=Z,40nm,19.1s,baz=92,slow=37						
BRTR	**Keskin Array B**	**75.65**	**322**	P	**P**	**10 46 05.3**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=35,slow=5.3,SNR=2.4						
LEM	**Lembang**	**77.33**	**237**	LR	LR	11 24 15.4	
	comp=Z,39nm,18.4s,baz=50,slow=39						
WRA	**Warramunga Arr**	**79.32**	**208**	P	**P**	**10 46 26.5**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=18,slow=6.0,SNR=6.1						
ASAR	**Alice Springs**	**82.99**	**207**	P	**P**	**10 46 46.4**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=20,slow=5.2,SNR=4.9						

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*SOME **03** 10:39:52.2, 41°.23N×71°.02E, h5km*
*NNC **03** 10:39:58.0±6.0, 41°.52N×71°.24E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=51.4km s-min=19.1km az=29.0*
ISC 03 10:39:53.2±3.7**, 41°.2N**±0°.2×**70°.6E**±0°.1**, h10**km**, n5,** σ2s**52**/8**, 5C-2D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**1.08**	**336**	⇓*e*P	**Pn**	**10 40 14.2**	**-0.3**
	6.5nm,0.3s						
IUG				*e*S	**Sb**	**10 40 30.2**	**+2.0**
	14nm,0.8s						
KK31	**Karatay Array**	**1.94**	**357**	⇓P	**Pn**	**10 40 26.8**	**+0.6**
	2.1nm,0.4s,baz=149,slow=13,SNR=52						
KK31				⇑S	**Sn**	**10 40 51.4**	**+0.7**
	7.1nm,0.5s,baz=153,slow=24,SNR=15						
MRKS	**Merke**	**2.50**	**50**	*e*P	**Pn**	**10 40 33.6**	**-0.4**
	1.3nm,0.1s						
MRKS				*e*S	**Sn**	**10 41 03.6**	**-0.9**
	2.8nm,0.3s						
AAK	**Ala-Archa**	**3.24**	**62**	⇑Pg	**Pn**	**10 40 48.5**	**+4.3**
	1.4nm,0.7s						
AAK				⇑Lg	Lg	10 41 22.1	
	1.5nm,0.5s						
TKM2	**Tokmak 2**	**4.09**	**63**	⇑Pg	**Pb**	**10 41 02.8**	**-2.7**
	1.8nm,1.1s						
TKM2				⇑Lg	Lg	10 41 50.1	
	3.1nm,1.4s						

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*ISCJB **03** 11:10:52.6±0.7, 36°.32N±0°.04×71°.05E±0°.09, h100km, Error ellipse: s-maj=10.2km s-min=5.3km az=164.3*
*IDC **03** 11:10:54.9±6.6, 36°.49N×71°.15E, h129km±53km, mb1 3.2/5, mb1mx2.9/67, mbtmp3.8/5, Error ellipse: s-maj=86.6km s-min=25.5km az=146.0*
*NNC **03** 11:10:58.0±3.8, 37°.04N×70°.71E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=31.3km s-min=22.7km az=162.0*
ISC 03 11:10:53.1±1.0**, 36°.41N**±0°.07×**71°.00E**±0°.08**, h100**km**, n30,** σ2s**24**/34**, 3C-7D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.10**	**28**	⇓P	**Pn**	**11 11 57.3**	**+3.4**
	13nm,0.2s						
SFK				⇓S	**Sn**	**11 12 42.5**	**+1.6**
	58nm,0.3s						
AML	**Almayashu**	**6.08**	**19**	P	**Pn**	**11 12 22.5**	**+1.7**
	SNR=46						
UCH	**Uchtor**	**6.42**	**24**	P	**Pn**	**11 12 28.8**	**+3.4**
	SNR=41						
KZA	**Kyzart**	**6.55**	**29**	P	**Pn**	**11 12 29.5**	**+2.3**
	SNR=22						
EKS2	**Erkin-Say**	**6.60**	**18**	P	**Pn**	**11 12 29.6**	**+2.0**
	SNR=14						
KK31	**Karatay Array**	**6.70**	**357**	P	**Pn**	**11 12 30.3**	**+1.5**
	8.2nm,0.4s,baz=193,slow=20,SNR=87						
KK31				⇓S	**Sn**	**11 13 41.2**	**-2.3**
	14nm,0.5s,baz=278,slow=40,SNR=5.0						
AAK	**Ala-Archa**	**6.78**	**22**	P	**Pn**	**11 12 31.9**	**+1.9**
	3.2nm,0.3s,baz=194,slow=8.6,SNR=39						
AAK				S	**Sn**	**11 13 44.1**	**-1.7**
	2.0nm,0.3s,baz=127,slow=20,SNR=9.1						
AAK	**Ala-Archa**	**6.78**	**22**	P	**Pn**	**11 12 33.4**	**+3.3**
	SNR=18						
AAK	**Ala-Archa**	**6.78**	**22**	⇓P	**Pn**	**11 12 31.6**	**+1.5**
	10.0nm,0.6s						
AAK				⇑S	**Sn**	**11 13 43.7**	**-2.1**
	11nm,0.7s						
KBK	**Karagaybulak**	**6.94**	**25**	P	Pn	11 12 37.0	+4.7
	SNR=13						
ULHL	**Ulahol**	**7.10**	**33**	P	**Pn**	**11 12 37.2**	**+2.7**
	SNR=8.7						
CHMS	**Chumysh**	**7.19**	**23**	P	**Pn**	**11 12 38.9**	**+3.4**
	SNR=11						
TKM2	**Tokmak 2**	**7.40**	**27**	P	**Pn**	**11 12 42.5**	**+3.8**
	SNR=7.1						
TKM2	**Tokmak 2**	**7.40**	**27**	⇓P	**Pn**	**11 12 39.9**	**+1.3**
	11nm,0.5s						
TKM2				⇓S	**Sn**	**11 14 02.4**	**+1.3**
	7.2nm,0.7s						
GEYT	**Alibeck**	**10.40**	**282**	P	**Pn**	**11 13 21.5**	**+2.3**
	0.4nm,0.3s,baz=103,slow=10,SNR=3.4						
PYUN	**Piuthan**	**13.09**	**126**	*e*P	**Pn**	**11 13 53.0**	**-2.4**
	5.6nm,0.2s						
MAKZ	**Makanchi**	**13.23**	**35**	⇑Lg	Lg	11 13 13.8	
	2.1nm,1.5s						
MKAR	**Makanchi Array**	**13.36**	**36**	P	**Pn**	**11 13 58.0**	**-0.7**
	0.1nm,0.3s,baz=216,slow=12,SNR=5.1						
DANN	**Dangsing**	**13.44**	**123**	*e*P	**Pn**	**11 13 58.1**	**-1.9**
	7.2nm,0.3s						
KOLN	**Koldanda**	**13.71**	**125**	*e*P	**Pn**	**11 14 01.4**	**-2.1**
	3.7nm,0.3s						
DMN	**Daman**	**14.82**	**122**	*e*P	**Pn**	**11 14 17.4**	**-0.4**
	6.6nm,0.4s						
PKIN	**Phulchoki**	**15.04**	**122**	*e*P	**Pn**	**11 14 19.9**	**-0.7**
	6.7nm,0.5s						
PKI	**Pulchoki**	**15.05**	**122**	*e*P	**Pn**	**11 14 19.9**	**-0.9**
	13nm,0.6s						
AB31	**Akbulak array**	**15.16**	**331**	⇓P	**Pn**	**11 14 22.1**	**+0.3**
	3.2nm,0.8s,baz=145,slow=12,SNR=42						
AB31				⇑S	**Sn**	**11 17 04.8**	**-4.2**
	2.3nm,0.7s,baz=155,slow=23,SNR=6.3						
GUN	**Gumba**	**15.17**	**120**	*e*P	**Pn**	**11 14 21.8**	**-0.5**
	3.4nm,0.2s						
KURBB	**Kurchatov Arra**	**15.21**	**19**	P	**Pn**	**11 14 19.7**	**-2.5**
	0.0nm,0.3s,baz=209,slow=10,SNR=3.0						
JIRN	**Jiri**	**15.54**	**120**	*e*P	**Pn**	**11 14 27.1**	**+0.1**
	15nm,0.3s						
RAMN	**Ramite**	**16.27**	**121**	*e*P	**P**	**11 14 36.9**	**-0.2**
	6.1nm,0.3s						
BVAR	**Borovoye Array**	**16.62**	**359**	P	**P**	**11 14 40.0**	**-0.5**
	0.3nm,0.3s,baz=163,slow=11,SNR=6.8						
ZALV	**Zalesovo Beam**	**20.00**	**24**	P	**P**	**11 15 15.7**	**-1.8**
	0.9nm,0.3s,baz=222,slow=11,SNR=18						

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*NIED **03** 11:12:00, 37°.80N×143°.50E, h8km, Mw3.8 Best double couple: M0 6.13000×10^14 NP1: φs204.00000°, δ42.00000°, λ-23.00000°. NP2: φs311.00000°, δ75.00000°, λ-129.00000°.*
*IDC **03** 11:12:24.9±1.0, 37°.68N×143°.68E, h0km, mb3.9/6, mb1 4.1/9, mb1mx3.8/64, mbtmp4.0/9, ML4.1/3, Error ellipse: s-maj=29.0km s-min=17.4km az=101.0*
*ISCJB **03** 11:12:26.1±0.6, 37°.74N±0°.03×143°.51E±0°.05, h19km, mb3.9/6, Error ellipse: s-maj=5.8km s-min=4.3km az=12.9*
*JMA **03** 11:12:28.2±0.2, 37°.79N×143°.49E, h49km, M3.8*
ISC 03 11:12:27.4±0.9**, 37°.82N**±0°.04×**143°.42E**±0°.06**, h19**km**, n26,** σ2s**02**/40**, mb4.0**/6**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.62**	**288**	P	**Pb**	**11 12 56.0**	**-0.6**
JIKH				S	**Sb**	**11 13 16.3**	**-0.3**
JIO	**Ouri**	**1.75**	**292**	P	**Pb**	**11 12 57.8**	**-1.0**
JIO				S	**Sb**	**11 13 20.2**	**-0.2**
JKMT	**Kesennumamotoy**	**1.82**	**304**	P	**Pb**	**11 12 58.7**	**-1.4**
JKMT				S	**Sb**	**11 13 20.9**	**-1.6**
OFUJ	**Ofunato**	**1.86**	**313**	P	**Pb**	**11 12 59.2**	**-1.6**
JMK	**Ichinoseki**	**2.06**	**304**	P	**Pb**	**11 13 02.5**	**-1.7**
JMK				S	**Sb**	**11 13 27.9**	**-1.6**
JOM	**Ohasama**	**2.34**	**315**	P	**Pb**	**11 13 06.3**	**-2.7**
JOM				S	**Sb**	**11 13 34.9**	**-2.7**
JFT	**Otama**	**2.46**	**264**	P	**Pb**	**11 13 08.3**	**-2.7**
JFT				S	**Sb**	**11 13 37.9**	**-3.1**
JYK	**Kaneyama**	**2.64**	**295**	P	**Pb**	**11 13 11.2**	**-2.9**
JYK				*e*S	**Sb**	**11 13 42.9**	**-3.2**
JANG	**Nango**	**2.95**	**330**	P	**Pn**	**11 13 14.9**	**+1.7**
JANG				*e*S	**Sn**	**11 13 49.7**	**+1.6**
JAG	**Ashikaga**	**3.46**	**247**	P	**Pn**	**11 13 21.6**	**+1.4**
JAG				S	**Sn**	**11 14 01.7**	**+1.0**
BSO1	**Boso 1**	**3.72**	**213**	P	**Pn**	**11 13 23.1**	**-0.2**
BSO1				*e*S	**Sn**	**11 14 06.3**	**-0.1**
JOT	**Ohata**	**4.00**	**334**	P	**Pn**	**11 13 29.3**	**+1.7**
JRY	**Ryogami san**	**4.04**	**245**	P	**Pn**	**11 13 29.6**	**+1.4**
JRY				S	**Sn**	**11 14 15.2**	**+0.2**
JOD2	**Odawara 2**	**4.32**	**235**	P	**Pn**	**11 13 32.7**	**+0.7**
JOD2				*e*S	**Sn**	**11 14 21.3**	**-0.6**
MJAR	**Matsushiro Arr**	**4.35**	**255**	Pn	**Pn**	**11 13 35.5**	**+3.0**
	12nm,0.3s,baz=91,slow=15,SNR=98						
MAT	**Matsushiro**	**4.35**	**255**	P	Pn	11 13 35.8	+3.3
MAT				S	**Sn**	**11 14 25.6**	**+2.9**
JKB	**Kayabe**	**4.46**	**336**	P	**Pn**	**11 13 36.7**	**+2.8**
JCH	**Churui**	**4.79**	**360**	P	**Pn**	**11 13 38.0**	**-0.5**
JCH				*e*S	**Sn**	**11 14 29.4**	**-4.0**
JHJ	**Hachijo jima 2**	**5.55**	**213**	Pn	**Pn**	**11 13 48.6**	**-0.3**
	36nm,0.3s,baz=42,slow=23,SNR=9.4						
JHJ				Sn	**Sn**	**11 14 48.0**	**-4.2**
	83nm,0.3s,baz=80,slow=23,SNR=8.3						
ASAJ	**Asahikawa**	**6.32**	**355**	Pn	**Pn**	**11 14 00.3**	**+0.8**
	2.5nm,0.3s,baz=190,slow=14,SNR=24						
SEY	**Seymchan**	**25.73**	**9**	P	**P**	**11 17 57.9**	**+1.6**
	4.2nm,1.0s,baz=185,slow=12,SNR=4.9						
MKAR	**Makanchi Array**	**45.06**	**302**	P	**P**	**11 20 44.5**	**+2.5**
	0.3nm,0.6s,baz=78,slow=11,SNR=7.7						
KURBB	**Kurchatov Arra**	**46.78**	**308**	P	**P**	**11 20 57.2**	**+1.8**
	1.0nm,0.7s,baz=82,slow=8.1,SNR=8.0						
ILAR	**Eielson Array**	**47.98**	**33**	P	**P**	**11 21 05.3**	**+0.8**
	1.1nm,0.8s,baz=261,slow=6.0,SNR=14						
WRA	**Warramunga Arr**	**58.08**	**190**	P	**P**	**11 22 19.1**	**-0.3**
	3.1nm,0.8s,baz=8.5,slow=7.4,SNR=21						
ASAR	**Alice Springs**	**61.81**	**190**	P	**P**	**11 22 45.0**	**-0.1**
	0.4nm,0.5s,baz=2.8,slow=6.6,SNR=9.6						

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*NIED **03** 11:14:00, 44°.80N×141°.80E, h14km, Mw4.7 Best double couple: M0 1.19000×10^16 NP1: φs339.00000°, δ46.00000°, λ61.00000°. NP2: φs197.00000°, δ51.00000°, λ117.00000°.*
*BJI **03** 11:14:08.9, 44°.67N×142°.29E, h10km, mb4.6/49, mB5.0/37, Ms4.9/45, Ms7 4.7/45*
*IDC **03** 11:14:11.4±0.4, 44°.95N×141°.85E, h0km, mb4.3/30, mb1 4.5/30, mb1mx4.4/61, mbtmp4.3/30, ML2.2/1, MS3.8/18, Ms1 3.8/18, ms1mx3.6/36, Error ellipse: s-maj=11.8km s-min=7.8km az=59.0*
*ISCJB **03** 11:14:12.2±0.8, 44°.94N±0°.02×141°.79E±0°.02, h12km±5km, mb4.5/136, MS4.3/25, Error ellipse: s-maj=3.5km s-min=2.7km az=2.5*
*JMA **03** 11:14:15.1±0.2, 44°.83N×141°.84E, h24km±2km, M4.8 Broadband fault plane solution: P waves. NP1: φs192.00000°, δ55.00000°, λ120.00000°. NP2: φs326.00000°, δ44.00000°, λ54.00000°. Principal axes: T Plg65.0000°, Azm158.0000°; N Plg24.0000°, Azm354.0000°; P Plg6.0000°, Azm261.0000°;*
JMA Felt III J1.
*MOS **03** 11:14:15.2±1.0, 44°.93N×141°.79E, h37km, mb4.8/42, MS4.2/8 Error ellipse: s-maj=7.0km s-min=5.2km az=118.7*
*NEIC **03** 11:14:17.5±0.4, 44°.94N×141°.76E, h40km±4km, mb4.6/73, Error ellipse: s-maj=3.6km s-min=2.7km az=156.0*
NEIC Recorded [3 JMA] in northern Hokkaido.
*GCMT **03** 11:14:17.5±0.4, 45°.01N±0°.03×141°.73E±0°.03, h23km±1km, MW4.9/60, Moment Tensor Solution. s29,c31; s60,c82; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.27±.16; Mθθ0.03±.10; Mφφ-2.29±.11; Mrθ-0.71±.18; Mθφ0.36±.06; Mφr0.21±.14; Best double couple: M0 2.42200×10^16 NP1: φs336.00000°, δ51.00000°, λ70.00000°. NP2: φs186.00000°, δ43.00000°, λ113.00000°. Principal axes: T 2.4770, Plg74.0000°, Azm185.0000°; N -0.1050, Plg15.0000°, Azm349.0000°; P -2.3670, Plg4.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 03 11:14:12.0±0.9**, 44°.98N**±0°.03×**141°.86E**±0°.03**, h1**km±5km**, n318,** σ1s**45**/339**, mb4.7**/139**, MS4.5**/25**, 15C-9D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.34**	**5**	⇑P	**Pn**	**11 14 25.2**	**+1.2**
JRR	**Rishiri**	**0.42**	**293**	⇓P	**Pn**	**11 14 24.2**	**-0.9**
JSE	**Soyaes**	**0.52**	**92**	⇓P	**Pn**	**11 14 25.3**	**-1.1**
JSS	**Shosan**	**0.57**	**180**	⇑P	**Pg**	**11 14 24.3**	**+1.3**
JSS				*e*S	**Sg**	**11 14 31.7**	**+1.3**
JYG	**Yagishiri**	**0.63**	**209**	⇓P	**Pg**	**11 14 24.2**	**+0.2**
JYG				*e*S	**Sg**	**11 14 31.2**	**-0.9**
ASAJ	**Asahikawa**	**1.01**	**148**	Pg	**Pg**	**11 14 31.2**	**0.0**
	577nm,0.3s,baz=278,slow=9.9,SNR=750						
ASAJ				Lg	Lg	11 14 43.6	
	1μm,0.3s,baz=263,slow=33,SNR=28						
ASAJ	**Asahikawa**	**1.01**	**148**	Pg	**Pg**	**11 14 31.2**	**0.0**
ASAJ				*e*Sg	**Sg**	**11 14 44.2**	**-0.1**
ASAJ	**Asahikawa**	**1.01**	**148**	⇑P	**Pg**	**11 14 31.0**	**-0.3**
JHR	**Hokuryu**	**1.24**	**184**	P	**Pg**	**11 14 34.6**	**-1.0**
JKK2	**Kamakawa 2**	**1.27**	**150**	⇑P	**Pn**	**11 14 35.5**	**-1.4**
YSS	**Yuzh-Sakhalins**	**2.08**	**17**	*e*Pn	**Pb**	**11 14 50.6**	**+0.2**
YSS	**Yuzh-Sakhalins**	**2.08**	**17**	*e*PN	**Pb**	**11 14 50.6**	**+0.2**
YSS				*e*S	**Sn**	**11 15 14.7**	**+0.4**
YSS				pmax	pmax		
	comp=Z,14nm,1.0s						
YSS				MLR	MLR		

comp=Z,1μm,13.0s
YSS MLR MLR
comp=N,890nm,14.0s
GLVR Golovnino 2.90 114 *e*PN **Pn 11 15 00.7 +1.5**
GLVR *e*S **Sn 11 15 35.3 +0.6**
GLVR pmax pmax
comp=Z,216nm,0.4s
GLVR smax smax
comp=E,524nm,0.3s
GLVR smax smax
comp=N,712nm,0.4s
LAGR Lagunnoye 2.96 107 *e*PN **Pn 11 15 01.4 +1.4**
LAGR *e*S **Sn 11 15 36.5 +0.5**
LAGR pmax pmax
comp=Z,427nm,0.4s
LAGR smax smax
comp=N,3μm,0.5s
LAGR smax smax
comp=E,2μm,0.6s
GRPR Tuman 2.97 108 *e*PN **Pn 11 15 01.5 +1.4**
GRPR *e*S **Sn 11 15 36.6 +0.3**
GRPR pmax pmax
comp=Z,297nm,0.5s
GRPR smax smax
comp=N,591nm,0.6s
GRPR smax smax
comp=E,2μm,0.6s
YUK Yuzh-Kuril'sk 3.02 107 *e*PN **Pn 11 15 02.0 +1.2**
YUK *e*S **Sn 11 15 37.6 +0.1**
YUK pmax pmax
comp=Z,211nm,0.5s
YUK smax smax
comp=N,2μm,0.5s
YUK smax smax
comp=E,328nm,0.4s
ERM Erimo 3.11 162 *e*Pn **Pn 11 15 04.0 +1.9**
ERM Erimo 3.11 162 *ce*PN **Pn 11 15 03.9 +1.9**
ERM pmax pmax
comp=Z,366nm,1.0s
TEY Ternei 3.73 273‖ *e*PN **Pn 11 15 10.2 -0.4**
TEY *e* 11 15 55.2
TEY pmax pmax
comp=Z,20nm,1.5s
SHO Shikotan 3.73 105 *e*PN **Pn 11 15 12.7 +2.1**
SHO *e*S **Sn 11 15 56.4 +1.3**
SHO pmax pmax
comp=Z,53nm,0.3s
SHO pmax pmax
comp=E,96nm,0.5s
SHO pmax pmax
comp=N,36nm,0.4s
SHO smax smax
comp=N,183nm,0.5s
SHO smax smax
comp=E,167nm,0.5s
KUR Kuril'sk 4.26 84 *e*PN **Pn 11 15 20.7 +2.8**
KUR *e*S **Sn 11 16 10.1 +1.9**
KUR pmax pmax
comp=Z,108nm,0.8s
KUR smax smax
comp=N,167nm,0.7s
KUR smax smax
comp=E,40nm,0.6s
GRNR Gornyy 6.85 330 *e*PN Pn 11 16 00.8 +7.3
GRNR pmax pmax
comp=Z,10.0nm,0.9s
USA0B Ussuriysk Arra 7.09 267 *e*Pn **Pn 11 15 57.5 +0.7**
USRK Ussuriysk Ar. 7.09 267 Pn **Pn 11 15 57.4 +0.7**
comp=Z,0.4nm,0.3s,baz=76,slow=15,SNR=14
VLA Vladivostok 7.42 259‖ *e*PN **Pn 11 16 01.1 -0.2**
KLR Kul'dur 8.10 305 LR LR 11 19 36.6
comp=Z,1μm,20.2s,baz=129,slow=40
NKL Nikolayevsk 8.22 355 *e*PN Pn 11 16 23.0 +11
NKL MLR MLR
comp=N,1μm,11.0s
NKL MLR MLR
comp=E,2μm,11.0s
NKL MLR MLR
comp=Z,2μm,11.0s
MDJ Mudanjiang 8.73 272 P **Pn 11 16 21.9 +2.6**
MDJ pP Pg 11 16 24.0 -35
MDJ sP 11 16 25.6
MDJ pmax pmax
comp=Z,14nm,2.1s
MDJ pmax pmax
comp=Z,320nm,3.7s
MDJ LR LR
comp=Z,2μm,10.9s
MDJ LR LR
comp=Z,3μm,13.1s
MDJ LR LR
comp=Z,4μm,13.1s
MDJ Mudanjiang 8.73 272 *e*Pn **Pn 11 16 19.6 +0.4**
MJB9 Matsu-Tunnel 8.86 199 *e*Pn **Pn 11 16 21.1 0.0**
MAJO Matsushiro 8.87 199 *e*Pn **Pn 11 16 23.5 +2.3**
MAJO Matsushiro 8.87 199 *e*PN **Pn 11 16 23.5 +2.3**
MAT Matsushiro 8.87 199 P **Pn 11 16 22.7 +1.5**
MJAR Matsushiro Arr 8.87 199 Pn **Pn 11 16 23.2 +2.0**
baz=14,slow=15,SNR=11
MJAR LR LR 11 19 43.3
comp=Z,1μm,20.2s,baz=10.0,slow=38
INU Inuyama 10.30 203 *e*Pn **Pn 11 16 42.7 +1.9**
SKR Severo-Kuril's 11.15 54‖ *e*PN **Pn 11 16 53.9 +1.6**
CN2 Changchun 11.80 270 *e*P **Pn 11 17 05.3 +4.0**
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,2μm,12.0s
CN2 LR LR
comp=Z,3μm,12.0s
CN2 LR LR
comp=Z,3μm,13.0s
JHJ Hachijo jima 2 11.95 188 LR LR 11 21 28.2
comp=Z,566nm,20.2s,baz=62,slow=37
KSRS Korea Array 12.89 239 LR LR 11 21 29.1
comp=Z,613nm,18.4s,baz=82,slow=34
PEA0B Petropavlovsk- 13.18 46 *e*Pn **Pn 11 17 21.8 +1.8**
PETK Petropavlovsk- 13.18 46 Pn **P 11 17 26.5 -3.8**
comp=Z,0.5nm,0.3s,baz=228,slow=9.9,SNR=13
PETK LR LR 11 22 33.7
comp=Z,664nm,19.4s,baz=237,slow=38
PETK Petropavlovsk- 13.18 46 *e*Pn **Pn 11 17 23.3 +3.2**
PEA1 Petropavlovsk- 13.18 46 *e*Pn **P 11 17 26.5 -3.8**
PET Petropavlovsk 13.63 48 *e*P P 11 17 44.2 +8.9
PET MLR MLR
comp=Z,1μm,19.0s
PET MLR MLR
comp=Z,2μm,14.0s
JNU Nakatsue 14.57 219 LR LR 11 23 31.3
comp=Z,175nm,18.2s,baz=27,slow=38
MA2 Magadan 15.58 17 LR LR 11 24 38.1
comp=Z,440nm,18.1s,baz=200,slow=40
YAK Yakutsk 18.50 342 *e*P **Pn 11 18 30.6 +1.4**
YAK *e*S **Sn 11 21 56.8 +0.5**
YAK pmax pmax
comp=Z,53nm,1.4s
YAK pmax pmax
comp=N,43nm,1.4s
YAK pmax pmax
comp=E,23nm,1.5s
YAK smax smax
comp=N,160nm,3.8s
YAK smax smax
comp=E,158nm,3.7s
YAK MLR MLR
comp=Z,462nm,13.0s
YAK MLR MLR
comp=E,458nm,16.0s
YAK MLR MLR
comp=N,319nm,15.0s
SEY Seymchan 18.98 15 P **Pn 11 18 38.0 +2.9**
comp=N,0.7nm,0.3s,baz=192,slow=7.9,SNR=13
SEY Seymchan 18.98 15‖ *e*P **Pn 11 18 39.4 +4.3**
BJT Baijiatuau 19.54 264 *e*P **P 11 18 40.6 -0.1**
comp=N,18nm,0.9s
BJT Baijiatuau 19.54 264 *e*P **P 11 18 40.7 -0.1**
BJT pmax pmax
comp=Z,18nm,0.9s
TIA Tai'an 20.66 254 P P 11 18 44.6 -8.4
TIA pmax pmax
comp=Z,4.0nm,1.2s
BOD Bodaibo 21.43 317 ‖ *i*P **P 11 19 02.0 +0.9**
BOD pmax pmax
comp=Z,46nm,1.4s
NJ2 Nanjing 22.06 242 *e*P **P 11 19 06.4 -1.6**
NJ2 S **S 11 23 11.8 -0.2**
NJ2 pmax pmax
comp=Z,21nm,0.8s
NJ2 LR LR
comp=Z,760nm,11.9s
NJ2 LR LR
comp=Z,980nm,11.9s
NJ2 LR LR
comp=Z,890nm,13.0s
HHC Hu-ho-hao-te 22.50 270 *e*P **P 11 19 12.5 -0.4**
HHC sP sP 11 19 23.3 +10
HHC S **S 11 23 14.5 -6.1**
HHC sS sS 11 23 24.6 +3.4
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,220nm,4.8s
HHC LR LR
comp=Z,900nm,10.6s
HHC LR LR
comp=Z,3μm,11.6s
BTO Baotou 23.68 271 *e*P P 11 19 33.6 +8.5
ULN Ulaanbaatar 24.05 289 *e*P **P 11 19 28.4 -0.2**
comp=Z,3.2nm,0.9s
ULN Ulaanbaatar 24.05 289‖ *e*P **P 11 19 28.7 +0.1**
ULN pmax pmax
comp=Z,9.0nm,2.5s
SONA1 Songino Array 24.48 289 *e*P **P 11 19 31.6 -1.0**
SONA0 Songino Array 24.49 289 *e*P **P 11 19 32.0 -0.6**
SONM Songino Array 24.49 289 P **P 11 19 32.0 -0.6**
comp=Z,4.2nm,0.9s,baz=84,slow=8.5,SNR=13
ZAK Zakamensk 26.31 296 *e*P **P 11 19 48.9 -0.2**
ZAK pmax pmax
comp=Z,8.0nm,1.2s
BILL Bilibino 26.39 20 *e*P **P 11 19 50.7 +1.3**
BILL *e* 11 20 08.9
BILL *e* 11 20 33.3
BILL *e*PPP PPP 11 20 42.5
BILL *e* 11 23 20.0
BILL pmax pmax
comp=Z,3.0nm,1.5s
BILL MLR MLR
comp=Z,390nm,16.0s
TIXI Tiksi 27.47 351 P **P 11 19 58.8 -0.3**
comp=Z,0.8nm,0.3s,baz=183,slow=3.7,SNR=4.0
TIXI LR LR 11 30 11.6
comp=Z,148nm,20.4s,baz=179,slow=35
TIXI Tiksi 27.47 351‖ *e*P **P 11 19 59.3 +0.2**
TIXI pmax pmax
comp=Z,8.0nm,1.7s
XAN Xi'an 27.48 258 P **P 11 20 06.7 +7.0**
XAN pP sP 11 20 10.6 +10
XAN sP pP 11 20 12.6 +13
XAN PP **PP 11 21 00.0 -1.6**
XAN S S 11 25 05.6 +24
XAN sS sS 11 25 13.0 +31
XAN SS **SS 11 26 45.4 +9.0**
XAN pmax pmax
comp=Z,8.0nm,1.1s
XAN pmax pmax
comp=Z,140nm,5.7s
XAN LR LR
comp=N,980nm,13.0s
XAN LR LR
comp=E,920nm,12.7s
XAN LR LR
comp=Z,1μm,14.1s
LZH Lanzhou 30.00 266 *e*P **P 11 20 22.0 -0.2**
LZH pP sP 11 20 28.1 +5.3
LZH sP pP 11 20 31.1 +8.5
LZH PP **PP 11 21 24.8 -4.8**
LZH S **S 11 25 21.1 +0.1**
LZH pmax pmax
comp=Z,18nm,1.6s
LZH pmax pmax
comp=Z,95nm,4.3s
LZH LR LR
comp=Z,2μm,13.6s
LZH LR LR
comp=Z,2μm,11.9s
LZH LR LR
comp=Z,2μm,13.6s
GTA Gaotai 31.38 275 *e*P **P 11 20 34.9 +0.6**
GTA pP sP 11 20 40.0 +5.1
GTA sP pP 11 20 42.9 +8.2
GTA PcP **PcP 11 23 27.6 -0.3**
GTA S **S 11 25 42.2 -0.2**
GTA sS sS 11 25 49.8 +6.6
GTA SS **SnSn 11 27 29.3 +4.1**
GTA pmax pmax
comp=Z,2.0nm,1.3s
GTA pmax pmax
comp=Z,77nm,7.6s
GTA LR LR
comp=Z,670nm,12.7s
GTA LR LR
comp=Z,1μm,12.7s
GTA LR LR
comp=Z,1μm,12.7s
GUMO Guam 31.39 174 LR LR 11 33 24.1
comp=Z,117nm,20.6s,baz=16,slow=37
CD2 Chengdu 32.84 258 *e*P **P 11 20 46.0 -1.1**
CD2 S **S 11 26 03.4 -1.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.8s
CD2 LR LR
comp=Z,2μm,13.4s
CD2 LR LR
comp=Z,780nm,11.4s
WAKE Wake Island 32.87 133 *e*P **P 11 20 47.6 +0.3**
GYA Guiyang 33.68 249 *e*P **P 11 20 56.4 +1.8**
GYA pmax pmax
comp=Z,10.0nm,0.8s
DGZ Jazzator, Alta 36.50 297‖ *e*P **P 11 21 20.4 +1.7**
DGZ pmax pmax
comp=Z,2.0nm,1.8s
QIZ Qiongzhong 37.09 236 P **P 11 21 24.2 +0.4**
QIZ S **S 11 27 11.8 +1.0**
QIZ LR LR
comp=Z,700nm,13.5s
QIZ LR LR
comp=Z,470nm,10.6s
QIZ LR LR
comp=Z,950nm,11.6s
KMI Kunming 37.19 251 P **P 11 21 25.4 +0.5**
KMI pmax pmax
comp=Z,20nm,0.5s
ZAA1 Zalesovo Array 37.21 305 *e*P **P 11 21 24.1 -0.4**
ZAA1 *e*PcP **PcP 11 23 43.9 -0.3**
ZAA0 Zalesovo Array 37.21 305 *e*P **P 11 21 24.8 +0.4**
comp=Z,5.7nm,1.0s
ZAA0 *e*PcP **PcP 11 23 43.8 -0.4**
ZALV Zalesovo Beam 37.21 305 P **P 11 21 24.1 -0.4**
comp=Z,2.5nm,0.9s,baz=93,slow=6.1,SNR=8.0
ZALV PcP **PcP 11 23 43.9 -0.3**
comp=Z,4.0nm,0.9s,baz=90,slow=3.0,SNR=10
ZALV LR LR 11 38 42.7
comp=Z,156nm,18.0s,baz=70,slow=40
ZALV Zalesovo Beam 37.21 305 *e*P **P 11 21 23.5 -0.9**
ZALV *e*PcP **PcP 11 23 43.5 -0.6**
NVS Novosibirsk 37.97 307 *e*P **P 11 21 30.0 -0.8**
NVS pmax pmax
comp=Z,9.0nm,1.6s
NVS pmax pmax
comp=E,13nm,1.8s
WMQ Urumqi 38.11 288 *e*P **P 11 21 34.5 +2.2**
WMQ sP sP 11 21 40.7 +7.8
WMQ pmax pmax
comp=E,23nm,0.9s
WMQ pmax pmax
comp=E,530nm,4.7s
WMQ LR LR
comp=E,400nm,12.7s
WMQ LR LR
comp=E,1μm,13.5s
WMQ LR LR
comp=E,1μm,14.5s
IM3 Indian Mountai 39.80 35 *e*P **P 11 21 45.2 -0.9**
DAV Davao City (W) 40.33 205 LR LR 11 37 38.9
comp=E,55nm,20.1s,baz=54,slow=35
MK31 Makanchi Array 40.64 295 *e*P **P 11 21 53.4 0.0**
MK31 Makanchi Array 40.64 295 *e*P **P 11 21 53.4 0.0**
MK32 Makanchi Array 40.64 295 *e*P **P 11 21 53.0 -0.3**
MK32 *e*PcP **PcP 11 23 54.9 -0.3**
MKAR Makanchi Array 40.64 295 P **P 11 21 53.0 -0.3**
comp=E,6.5nm,1.0s,baz=81,slow=7.5,SNR=23
MKAR PcP **PcP 11 23 54.9 -0.3**
comp=E,2.3nm,0.9s,baz=62,slow=3.1,SNR=3.6
MKAR Makanchi Array 40.64 295 *e*P **P 11 21 53.4 0.0**
comp=E,50nm,0.9s
MKAR PcP **PcP 11 23 54.9 -0.3**
MKAR Makanchi Array 40.64 295 *e*P **P 11 21 53.4 0.0**
MKAR 11 23 54.9
MKAR pmax pmax
comp=Z,50nm,0.9s
MK01 Makanchi Array 40.64 295 *e*P **P 11 21 52.9 -0.5**
MAKZ Makanchi 40.84 295 *e*P **P 11 21 55.1 +0.1**
comp=Z,13nm,1.0s
MAKZ Makanchi 40.84 295 *e*P **P 11 21 55.1 +0.1**
MAKZ pmax pmax
comp=Z,13nm,1.0s
KURK Kurchatov 41.67 301 *e*P **P 11 22 02.3 +0.5**
KURK *e*P **P 11 22 02.4 +0.6**
KURK Kurchatov 41.67 301 *e*P **P 11 22 02.3 +0.6**
KURBB Kurchatov Arra 41.76 301 P **P 11 22 02.3 -0.1**
comp=Z,2.3nm,0.8s,baz=76,slow=8.8,SNR=12
COLA College 42.34 37 *e*P **P 11 22 07.7 +0.7**
comp=Z,8.2nm,0.8s
COLA College 42.34 37 *e*P **P 11 22 07.7 +0.7**
COLA pmax pmax
comp=Z,8.0nm,0.8s
ILAR Eielson Array 42.76 37 P **P 11 22 09.8 -0.7**
comp=Z,2.6nm,0.9s,baz=276,slow=7.1,SNR=15
ILB Eielson Array 42.76 37 *e*P **P 11 22 10.3 -0.1**
IL1 Eielson Array 42.76 37 *e*P **P 11 22 09.2 -1.2**
PAYA Payao 43.09 248 P **P 11 22 15.2 +1.5**
comp=Z,12nm,1.0s,comp=Z,152nm
PDGK Podgornoye 43.79 291 P **P 11 22 19.7 +0.5**
PDGK pmax pmax
comp=Z,11nm,1.0s
LAMP Lampang 43.85 247 P **P 11 22 21.2 +1.4**
comp=Z,8.6nm,1.0s,comp=Z,91nm
CMMT Chiang Mai 44.09 248 P **P 11 22 22.5 +0.8**
comp=Z,21nm,1.2s
CHTO Chiang Mai 44.09 248 *e*P **P 11 22 22.1 +0.4**
comp=Z,25nm,1.1s
CHTO Chiang Mai 44.09 248 *e*P **P 11 22 22.2 +0.4**
CHTO pmax pmax
comp=Z,25nm,1.1s
CHTO Chiang Mai 44.09 248 P **P 11 22 22.8 +1.1**
comp=Z,94nm,1.2s
CHAI Chaiyaphum 44.28 242 P P 11 22 31.5 +8.3
CM31 Chiang Mai Arr 44.35 248 *e*P **P 11 22 24.1 +0.3**
CMAR Chiang Mai Arr 44.35 248 P **P 11 22 24.1 +0.3**
comp=Z,2.6nm,0.9s,baz=33,slow=8.0,SNR=14
CMAR LR LR 11 41 57.8
comp=Z,76nm,18.1s,baz=130,slow=38
CM01 Chiang Mai Arr 44.37 248 *e*P **P 11 22 23.5 -0.4**
SHL Shillong 44.39 261 P **P 11 22 24.1 -0.1**
SHL Shillong 44.39 261 *e*P **P 11 22 23.0 -1.2**
PBKT Sadao Pong 44.42 244 P **P 11 22 26.1 +1.8**
comp=Z,4.3nm,1.0s
SUKH Sukhothai 44.61 246 P P 11 22 34.8 +9.0
SRAK Srakaew 45.68 240 P **P 11 22 32.5 -1.9**
comp=Z,54nm,1.4s
BVAR Borovoye Array 45.76 307 P **P 11 22 34.8 +0.2**
comp=Z,1.1nm,0.5s,baz=81,slow=9.2,SNR=11
BVAR LR LR 11 42 45.0
comp=Z,158nm,19.1s,baz=74,slow=37
BRVK Borovoye 45.81 307 *e*P **P 11 22 35.7 +0.7**
comp=Z,9.9nm,1.1s
BRVK Borovoye 45.81 307 *d i*P **P 11 22 35.2 +0.2**
BRVK pmax pmax
comp=Z,8.0nm,1.2s
KDJ Kajisay 45.84 290 *e*P **P 11 22 36.8 +1.1**
comp=Z,19nm,0.9s
KDJ Kajisay 45.84 290 *e*P **P 11 22 36.8 +1.1**
KDJ pmax pmax
comp=Z,19nm,0.9s
UMPA Umpang Tak 46.04 246 P P 11 22 47.4 +10
OTUK Ortayu 46.38 300 P **P 11 22 40.3 +0.7**
OTUK pmax pmax
comp=Z,10.0nm,1.6s
ULHL Ulahol 46.41 291 P **P 11 22 41.2 +1.0**
SNR=7.8
TKM2 Tokmak 2 46.54 292 P **P 11 22 41.9 +0.8**
SNR=30
SIJI Sorong 46.61 195 P **P 11 22 40.8 -0.8**
comp=Z,31nm,0.8s,baz=19,slow=8.9,SNR=22
NRN Naryn 46.95 290 *e*P **P 11 22 45.0 +0.6**
comp=Z,6.3nm,1.1s
NRN Naryn 46.95 290 *e*P **P 11 22 45.1 +0.6**
NRN pmax pmax
comp=Z,6.0nm,1.1s
KBK Karagaybulak 47.08 292 P **P 11 22 46.1 +0.7**
SNR=26
USP Ospenovka 47.10 293 P **P 11 22 45.7 +0.4**
SNR=23
JIRN Jiri 47.13 268 *e*P **P 11 22 46.4 +0.3**
KZA Kyzart 47.15 291 P **P 11 22 48.0 +1.9**
SNR=15
GUN Gumba 47.20 269 *e*P **P 11 22 46.6 -0.1**
FRU Bishkek 47.22 292 *e*P **P 11 22 44.0 -2.3**
FRU *e* 11 22 55.0
INK Inuvik 47.26 30 P **P 11 22 46.2 0.0**
comp=Z,1.0nm,0.8s,baz=294,slow=7.9,SNR=3.5
INK Inuvik 47.26 30 *e*P **P 11 22 46.1 0.0**
comp=Z,1.8nm,0.9s
INK Inuvik 47.26 30 *e*P **P 11 22 46.2 0.0**
INK pmax pmax
comp=Z,2.0nm,0.9s
RAMN Ramite 47.27 267 *e*P **P 11 22 47.1 0.0**
comp=Z,36nm,0.8s
AAK Ala-Archa 47.39 292 P **P 11 22 47.9 +0.2**
SNR=5.9
AAK Ala-Archa 47.39 292 *e*P **P 11 22 48.0 +0.2**
comp=Z,5.5nm,1.0s
AAK Ala-Archa 47.39 292 *e*P **P 11 22 48.0 +0.2**
AAK pmax pmax
comp=Z,5.0nm,1.0s
KKN Kakani 47.70 269 *e*P **P 11 22 50.6 +0.2**
PKI Pulchoki 47.74 269 *e*P **P 11 22 50.9 +0.1**
PKIN Phulchoki 47.74 269 *e*P **P 11 22 51.1 +0.3**
EKS2 Erkin-Say 47.85 293 P **P 11 22 51.7 +0.4**
SNR=10.0
KSH Kashi 47.88 288 P **P 11 22 55.9 +4.4**
KSH sP sP 11 23 04.2 +12
KSH PP **PP 11 24 48.9 +5.8**
KSH S **S 11 29 54.1 +4.6**
KSH pmax pmax
comp=Z,14nm,0.9s
KSH pmax pmax
comp=Z,500nm,5.1s
KSH LR LR
comp=Z,340nm,13.5s
KSH LR LR
comp=Z,330nm,10.3s
KSH LR LR
comp=Z,1μm,14.4s
DMN Daman 47.93 269 *e*P **P 11 22 52.3 +0.1**
AML Almayashu 48.15 292 P **P 11 22 54.6 +0.6**
SNR=6.0
DANN Dangsing 48.44 271 *e*P **P 11 22 57.0 +0.8**
comp=Z,92nm,0.8s
FAKI Fak Fak 48.45 193 P **P 11 22 55.1 -0.8**
KOLN Koldanda 48.90 270 *e*P **P 11 23 00.1 +0.4**
SANI Sanana 48.91 201 P **P 11 22 57.6 -1.9**
ARSB Arslanbob 49.00 291 *e*P **P 11 23 01.1 +0.8**
comp=Z,36nm,0.9s
PYUN Piuthan 49.14 271 *e*P **P 11 23 02.1 +0.6**
comp=Z,59nm,0.9s
SFK Sufi-Kurgan 49.29 290 P **P 11 23 03.2 +0.6**
SFK pmax pmax
comp=Z,14nm,1.3s
SVE Sverdlovsk 49.61 314 *e*P **P 11 23 04.0 -0.4**
SVE pmax pmax
comp=Z,23nm,1.3s
SBUM Sibu 49.74 220 *e*P **P 11 23 05.9 +0.1**
comp=Z,6.1nm,1.1s
KK31 Karatay Array 49.77 295 *e*P **P 11 23 05.7 -0.2**
KK31 Karatay Array 49.77 295 *e*P **P 11 23 05.7 -0.2**
KKAR Karatay Array 49.77 295 *e*P **P 11 23 05.9 0.0**
KKAR Karatay Array 49.77 295 *e*P **P 11 23 05.9 0.0**
ARU Arti 50.82 315 *e*P **P 11 23 13.3 -0.4**
comp=Z,5.7nm,0.9s
ARU Arti 50.82 315 *c i*P **P 11 23 13.0 -0.6**
ARU 11 25 07.3
ARU S **S 11 30 30.0 -0.1**
ARU SS **SS 11 33 59.0 -5.0**

ARU pmax pmax
comp=Z,10.0nm,1.1s
ARU MLR MLR
comp=Z,271nm,13.0s
NIL Nilore 52.81 283 *eP* **P 11 23 29.3 +0.5**
comp=Z,15nm,1.0s
NIL Nilore 52.81 283 *eP* **P 11 23 29.3 +0.5**
NIL pmax pmax
comp=Z,15nm,1.0s
ABKAR Akbulak array 53.30 306 *eP* **P 11 23 32.3 +0.1**
KULM Kulim 53.40 235 *eP* **P 11 23 33.4 +0.1**
comp=Z,27nm,0.9s
AKTO Aktyubinsk 53.83 308 P **P 11 23 35.5 -0.5**
comp=Z,1.0nm,0.3s,baz=70,slow=10.0,SNR=5.4
PRGR Permogore 54.40 324 *eP* **P 11 23 38.7 -1.3**
PRGR pmax pmax
comp=Z,12nm,1.1s
RES Resolute Bay 54.85 16 P **P 11 23 42.1 -1.0**
APA Apatity 55.65 334 *iP* **P 11 23 49.9 +0.9**
APA pmax pmax
comp=Z,4.0nm,0.9s
APA MLR MLR
comp=Z,500nm,17.0s
PSI Prapat 56.41 235 P **P 11 23 55.1 -0.1**
comp=Z,7.0nm,0.7s,baz=0.4,slow=7.1,SNR=5.5
PSI Prapat 56.41 235 *eP* **P 11 23 54.2 -1.0**
comp=Z,12nm,1.0s
PPBI Pangkal Pinang 56.67 224 P **P 11 23 57.2 +0.3**
comp=Z,16nm,1.1s
ARA0 ARCESS Array S 56.73 338 *eP* **P 11 23 56.8 +0.1**
ARCES ARCESS Array B 56.73 338 P **P 11 23 56.8 +0.1**
comp=Z,1.8nm,0.8s,baz=46,slow=6.9,SNR=4.4
SOEI Soe 56.75 201 P **P 11 23 53.2 -4.3**
YKA Yellowknife Ar 56.85 33 P **P 11 23 57.2 -0.4**
comp=Z,1.9nm,0.9s,baz=304,slow=6.6,SNR=22
YKA PcP **PcP 11 24 53.2 0.0**
comp=Z,1.3nm,0.9s,baz=309,slow=4.7,SNR=5.8
YKB5 Yellowknife Ar 56.85 33 *eP* **P 11 23 57.2 -0.4**
YKB5 *e*PcP **PcP 11 24 53.1 -0.1**
RGRI Rengat 57.10 229 P **P 11 23 59.4 -0.5**
BKNI Bangkinang 57.24 231 P **P 11 24 01.2 +0.2**
KLMR Klimovskoe 57.32 325 *eP* **P 11 23 58.9 -2.0**
KLMR pmax pmax
comp=Z,15nm,1.5s
KLMR Klimovskoe 57.32 325 *eP* **P 11 23 58.9 -2.0**
KLMR AMP 11 24 01.4
comp=Z,15nm,1.5s
PMBI Palembang 58.01 225 P **P 11 24 07.2 +0.8**
SDSI Sungai Dareh 58.07 230 P **P 11 24 06.9 +0.1**
GSI Gunungsitoli 58.40 235 P **P 11 24 09.6 +0.4**
MDSI Maura Dua 59.65 225 P **P 11 24 18.0 +0.3**
comp=Z,22nm,1.7s
GEYT Ailbeck 60.50 295 P **P 11 24 23.6 +0.1**
comp=Z,11nm,1.0s,baz=90,slow=3.0,SNR=14
GYA0B ALIBECK ARRAY 60.50 295 *eP* **P 11 24 23.5 0.0**
comp=Z,13nm,0.9s
FIA0 FINESS Array S 62.00 331 *eP* **P 11 24 32.0 -1.2**
FIA0 FINESS Array S 62.00 331 *eP* **P 11 24 32.0 -1.2**
FINES FINESS Array B 62.00 331 P **P 11 24 32.0 -1.2**
comp=Z,2.1nm,0.4s,baz=47,slow=7.7,SNR=15
FINES FINESS Array B 62.00 331 P **P 11 24 32.0 -1.2**
OBN Obninsk 62.03 321 *eP* **P 11 24 31.4 -2.1**
OBN *e* 11 25 11.4
OBN pmax pmax
comp=Z,25nm,1.7s
OBN MLR MLR
comp=Z,355nm,14.0s
FITZ Fitzroy Crossi 64.49 197 P **P 11 24 49.6 -0.5**
comp=Z,8.4nm,0.9s,baz=2.8,slow=6.5,SNR=11
FITZ Fitzroy Crossi 64.49 197 *eP* **P 11 24 49.6 -0.5**
comp=Z,15nm,1.0s
E09A Wood Farm, Sta 64.89 49 *eP* **P 11 24 53.1 +0.6**
comp=Z,6.3nm,1.1s
WRAB Tennant Creek 64.96 188 *eP* **P 11 24 51.7 -1.5**
comp=Z,13nm,1.0s
WRAB Tennant Creek 64.96 188 *eP* **P 11 24 51.3 -1.9**
WRAB pmax pmax
comp=Z,15nm,1.1s
WB2 Warramunga Arr 64.97 188 *eP* **P 11 24 50.8 -2.4**
WB2 *eP* **pP 11 24 51.7 -2.0**
WR1 Warramunga Arr 64.97 188 *eP* **P 11 24 51.3 -1.9**
comp=Z,12nm,1.0s
WRA Warramunga Arr 64.97 188 P **P 11 24 51.3 -1.9**
comp=Z,11nm,1.1s,baz=5.8,slow=6.8,SNR=36
WRA LR LR 11 52 18.6
comp=Z,79nm,22.0s,baz=325,slow=35
PINE Pine Mountain 65.08 52 *eP* **P 11 24 55.3 +1.1**
comp=Z,14nm,1.0s
KIV Kislovodsk 66.08 309 *eP* **P 11 25 00.6 +0.2**
comp=Z,22nm,1.1s
KIV Kislovodsk 66.08 309 *diP* **P 11 25 01.0 +0.6**
KIV *e* 11 25 07.3
KIV *e* 11 25 32.2
KIV *e* 11 27 26.5
KIV *e*PPP PPP 11 29 01.2
KIV pmax pmax
comp=Z,21nm,1.0s
KIV MLR MLR
comp=Z,402nm,17.0s
KBZ Khabaz 66.10 308 P **P 11 25 00.5 0.0**
comp=Z,4.0nm,0.9s,baz=96,slow=3.3,SNR=7.8
KBZ LR LR 11 57 08.6
comp=Z,152nm,18.4s,baz=38,slow=39
ZEI Tsey 66.14 307 *eP* P 11 24 54.8 -6.2
ZEI pmax pmax
comp=Z,4.0nm,0.7s
SHA1 Shidzhatmaz 66.23 309 *iP* **P 11 25 02.3 +0.7**
NEY Neytrino 66.51 308 *eP* **P 11 25 04.4 +1.1**
NEY pmax pmax
comp=Z,1.0nm,1.0s
J08A Circle Bar Ran 66.74 52 *eP* **P 11 25 05.7 +1.0**
comp=Z,7.2nm,1.1s
MSO Missoula 66.89 46 *eP* **P 11 25 06.0 +0.4**
comp=Z,8.0nm,1.0s
FFC Flin Flon 66.91 34 *eP* **P 11 25 05.6 +0.2**
comp=Z,8.8nm,1.0s
FFC Flin Flon 66.91 34 *iP* **P 11 25 06.1 +0.7**
NB2 NORSAR Subarra 67.02 336 P **P 11 25 05.1 -1.1**
comp=Z,0.5nm,0.5s,baz=35,slow=6.2
NB200 NORSAR Array S 67.02 336 *eP* **P 11 25 05.0 -1.1**
NOA NORSAR Array B 67.02 336 P **P 11 25 05.0 -1.1**
comp=Z,0.8nm,0.5s,baz=34,slow=6.4,SNR=3.7
NOA NORSAR Array B 67.02 336 P **P 11 25 05.0 -1.1**
WVOR Wild Horse Val 67.25 52 *eP* **P 11 25 08.2 +0.2**
comp=Z,5.4nm,1.1s
WVOR Wild Horse Val 67.25 52 *eP* **P 11 25 08.2 +0.2**
WVOR pmax pmax
comp=Z,5.0nm,1.1s
GNI Garni 67.36 305 P **P 11 25 10.0 +1.3**
comp=Z,2.5nm,0.4s,baz=213,slow=1.5,SNR=6.9
GNI Garni 67.36 305 *eP* **P 11 25 09.3 +0.5**
comp=Z,12nm,1.0s
GNI *eP* **P 11 25 10.1 +1.3**
HRY Holter Researc 68.04 45 *eP* **P 11 25 13.6 +0.7**
MFID Camas Ranch 68.15 50 *eP* **P 11 25 14.4 +0.7**
comp=Z,3.3nm,1.0s
AFDM Forest Hills D 68.17 56 *eP* **P 11 25 14.0 +0.3**
comp=Z,4.1nm,1.2s
AKASG Malin Array Be 68.29 321 P **P 11 25 12.7 -1.5**
comp=Z,5.3nm,0.9s,baz=43,slow=7.2,SNR=10
AKBB Malin Array Si 68.29 321 *eP* **P 11 25 13.3 -0.9**
comp=Z,7.0nm,1.1s
AKBB Malin Array Si 68.29 321 *eP* **P 11 25 13.3 -0.9**
AKBB pmax pmax
comp=Z,7.0nm,1.1s
KIEV Kiev 68.30 321 *eP* **P 11 25 13.7 -0.6**
comp=Z,6.1nm,1.1s
KIEV Kiev 68.30 321 *eP* **P 11 25 13.4 -0.9**
KIEV pmax pmax
comp=Z,4.0nm,0.9s
LRM Limekiln Ridge 68.33 46 *eP* **P 11 25 10.4 -4.4**
DLMT Dillon 68.56 47 *eP* **P 11 25 15.8 -0.5**
comp=Z,6.3nm,1.0s
AS01 Alice Springs 68.69 188 *eP* **P 11 25 15.9 -1.1**
AS31 Alice Springs 68.69 188 *eP* **P 11 25 16.4 -0.6**
comp=Z,2.9nm,0.9s
ASAR Alice Springs 68.69 188 P **P 11 25 16.1 -0.8**
comp=Z,9.6nm,0.9s,baz=7.0,slow=5.6,SNR=64
ASAR LR LR 11 54 22.3
comp=Z,77nm,21.6s,baz=358,slow=35
MBWA Marble Bar 68.84 202 *eP* **P 11 25 17.0 -0.9**
comp=Z,21nm,0.9s
BOZ Bozeman (W) 68.90 46 *eP* **P 11 25 19.2 +0.9**
comp=Z,4.9nm,0.9s
BOZ Bozeman (W) 68.90 46 *eP* **P 11 25 19.3 +0.9**
BOZ pmax pmax
comp=Z,5.0nm,0.9s
CMB Columbia Colle 69.11 57 *eP* **P 11 25 20.8 +1.2**
comp=Z,6.1nm,1.0s
CMB Columbia Colle 69.11 57 *eP* **P 11 25 20.8 +1.2**
CMB pmax pmax
comp=Z,6.0nm,1.0s
YERR Yerington 69.16 55 *eP* **P 11 25 21.0 +0.9**
comp=Z,6.9nm,1.1s
KVN Kaiserville 69.78 55 *eP* **P 11 25 25.2 +1.3**
comp=Z,6.6nm,1.0s
KVN Kaiserville 69.78 55 *eP* **P 11 25 25.2 +1.3**
KVN pmax pmax
comp=Z,7.0nm,1.0s
RYN Ryan 69.81 55 *eP* **P 11 25 24.8 +0.7**
comp=Z,4.1nm,1.0s
UOSS Minazif 69.86 285 *eP* **P 11 25 24.3 -0.1**
comp=Z,14nm,1.0s
NV01 Mina Array Sit 70.08 55 *eP* **P 11 25 26.6 +0.8**
NVAR Mina Array Bea 70.08 55 P **P 11 25 26.5 +0.7**
comp=Z,2.8nm,0.9s,baz=292,slow=5.0,SNR=12
NV11 Mina Array Sit 70.16 55 *eP* **P 11 25 27.0 +0.7**
comp=Z,0.4nm,1.1s
H17A Grant Village 70.27 47 *eP* **P 11 25 28.6 +1.7**
comp=Z,5.8nm,1.0s
MOOW Moose Ponds 70.63 47 *eP* **P 11 25 30.5 +1.4**
comp=Z,4.4nm,1.0s
TPAW Teton Pass 70.71 47 *eP* **P 11 25 30.9 +1.2**
comp=Z,5.6nm,1.1s
REDW Red Top Meadow 70.85 47 *eP* **P 11 25 31.5 +1.1**
comp=Z,5.7nm,1.1s
R11A Troy Canyon, C 71.70 54 *eP* **P 11 25 36.6 +0.9**
comp=Z,2.1nm,1.1s
ISA Isabella, Lake 71.83 58 *eP* **P 11 25 36.2 -0.2**
comp=Z,2.2nm,1.0s
ISA Isabella, Lake 71.83 58 *eP* **P 11 25 36.2 -0.2**
ISA pmax pmax
comp=Z,2.0nm,1.0s
BW06 Boulder Array 71.94 47 *eP* **P 11 25 37.5 +0.4**
comp=Z,4.3nm,1.0s
PD31 Pinedale Array 71.94 47 *eP* **P 11 25 37.0 -0.2**
PDAR Pinedale Array 71.94 47 P **P 11 25 36.9 -0.2**
comp=Z,2.6nm,0.9s,baz=318,slow=1.5,SNR=15
PDAR Pinedale Array 71.94 47 *eP* **P 11 25 36.7 -0.4**
DUG Dugway, Tooele 71.99 51 *eP* **P 11 25 37.8 +0.5**
comp=Z,7.2nm,1.1s
DUG Dugway, Tooele 71.99 51 *eP* **P 11 25 37.8 +0.5**
DUG pmax pmax
comp=Z,7.0nm,1.1s
TPNV Topopah Spring 72.28 55 *eP* **P 11 25 40.2 +1.1**
comp=Z,9.2nm,1.0s
TPNV Topopah Spring 72.28 55 *eP* **P 11 25 40.2 +1.1**
TPNV pmax pmax
comp=Z,9.0nm,1.0s
BUR08 Bucovina Ar. S 72.33 321 *eP* **P 11 25 38.6 -0.5**
BUR04 Bucovina Ar. S 72.34 321 *eP* **P 11 25 38.4 -0.9**
NLU North Lily Min 72.57 51 *eP* **P 11 25 41.4 +0.5**
comp=Z,3.6nm,0.9s
ULM Lac du Bonnet 72.73 35 P **P 11 25 40.9 -0.5**
comp=Z,7.4nm,0.9s,baz=300,slow=6.8,SNR=10.0
NIE Niedzica 73.09 324 P **P 11 25 43.8 +0.2**
NIE pmax pmax
comp=Z,5.0nm,1.9s
SHPR Sheep Range 73.22 55 *eP* **P 11 25 45.2 +0.5**
comp=Z,7.4nm,1.2s
P17A Butcher Ranch, 73.64 50 *eP* **P 11 25 47.3 +0.1**
comp=Z,8.4nm,1.1s
RSSD Black Hills 73.75 43 *eP* **P 11 25 47.8 0.0**
comp=Z,1.2nm,0.8s
RSSD Black Hills 73.75 43 *eP* **P 11 25 47.8 0.0**
RSSD pmax pmax
comp=Z,1.0nm,0.8s
MTPU Mount Pierson 73.85 52 *eP* **P 11 25 49.5 +0.9**
comp=Z,2.2nm,1.0s
BR101 Keskin Array S 73.90 310 *eP* **P 11 25 48.2 -0.5**
BRTR Keskin Array B 73.90 310 P **P 11 25 48.2 -0.5**
comp=Z,1.7nm,0.8s,baz=50,slow=4.5,SNR=3.3
VOIR 74.05 319 P **P 11 25 49.3 0.0**
VOIR pmax pmax
comp=Z,6.0nm,1.9s
CLL Collm 74.40 330 *i* P **P 11 25 49.8 -1.4**
comp=Z,17nm,1.4s
CLL Collm 74.40 330 *i* P **P 11 25 49.8 -1.4**
CLL pmax pmax
comp=Z,6.0nm,1.4s
VYHS Vyhne 74.42 325 *eP* **P 11 25 50.9 -0.4**
VYHS pmax pmax
comp=Z,5.0nm,1.3s
VYHS Vyhne 74.42 325 *eP* **P 11 25 50.9 -0.4**
O20A White River Ci 74.51 48 *eP* **P 11 25 52.8 +0.5**
comp=Z,4.9nm,1.0s
PV21 Cone Mtn., Par 75.25 50 *eP* **P 11 25 57.2 +0.6**
comp=Z,10nm,1.1s
PV23 Carpenter Ridg 75.31 50 *eP* **P 11 25 57.7 +0.7**
comp=Z,11nm,1.0s
PV17 East Wray Mesa 75.46 50 *eP* **P 11 25 58.5 +0.7**
comp=Z,14nm,1.1s
PV16 Nyswonger Mesa 75.46 50 *eP* **P 11 25 59.0 +1.2**
comp=Z,11nm,1.2s
PV11 David Mesa, Pa 75.50 50 *eP* **P 11 25 58.5 +0.5**
comp=Z,9.9nm,1.1s
PV13 Radium Mtn., P 75.62 50 *eP* **P 11 25 59.9 +1.1**
comp=Z,14nm,1.2s
SMCO Snowmass 75.88 48 *eP* **P 11 26 01.1 +0.7**
comp=Z,4.6nm,1.0s
KHC Kasperske Hory 75.98 328 *eP* **P 11 26 00.1 -0.3**
KHC Kasperske Hory 75.98 328 *eP* **P 11 26 00.1 -0.3**
ISCO Idaho Springs 76.14 47 P **P 11 26 01.4 -0.4**
FORT Forrest 76.43 192 *eP* **P 11 26 02.3 -0.6**
comp=Z,33nm,0.9s
MVCO Mesa Verde 76.49 51 *eP* **P 11 26 04.6 +0.9**
comp=Z,5.2nm,1.1s
STKA Stephens Creek 76.49 180 P **P 11 26 02.7 -0.5**
comp=Z,2.0nm,0.8s,baz=343,slow=5.2,SNR=5.0
STKA LR LR 12 00 42.8
comp=Z,54nm,20.0s,baz=24,slow=36
STKA Stephens Creek 76.49 180 *eP* **P 11 26 02.7 -0.5**
comp=Z,0.6nm,1.1s
STKA Stephens Creek 76.49 180 *eP* **P 11 26 02.7 -0.5**
STKA pmax pmax
comp=Z,1.0nm,1.1s
S22A 4UR Ranch, Cre 77.00 49 *eP* **P 11 26 07.1 +0.4**
comp=Z,3.8nm,1.0s
VTS Vitosha 77.07 318 *eP* **P 11 26 06.3 -0.5**
comp=Z,6.3nm,1.1s
VTS Vitosha 77.07 318 *eP* **P 11 26 06.4 -0.5**
VTS pmax pmax
comp=Z,6.0nm,1.1s
ECSD EPOS Test Cent 77.51 39 *eP* **P 11 26 08.8 -0.3**
comp=Z,6.8nm,1.0s
MMAI Mount Meron Ar 77.70 304 P **P 11 26 11.0 +0.7**
comp=Z,1.0nm,0.3s,baz=49,slow=10,SNR=6.0
RAYN Ar Rayn 78.03 291 *eP* **P 11 26 12.0 -0.3**
comp=Z,12nm,1.1s
RAYN Ar Rayn 78.03 291 *eP* **P 11 26 12.0 -0.3**
RAYN pmax pmax
comp=Z,12nm,1.1s
GRG Griva 78.72 318 P **P 11 26 14.7 -1.2**
GRG pmax pmax
comp=Z,8.0nm,1.5s
ANMO Albuquerque 79.27 51 P **P 11 26 19.9 +0.7**
comp=Z,1.2nm,0.9s,baz=301,slow=7.3,SNR=4.0
ANMO Albuquerque 79.27 51 *eP* **P 11 26 19.5 +0.3**
comp=Z,0.4nm,0.8s
ANMO Albuquerque 79.27 51 *eP* **P 11 26 19.5 +0.3**
IDI Anoyia 81.85 313 *eP* **P 11 26 31.9 -1.0**
comp=Z,13nm,1.1s
TX31 Lajitas Ar. Si 85.03 53 *eP* **P 11 26 49.6 +0.2**
LTX Lajitas 85.03 53 *eP* **P 11 26 49.5 +0.1**
LTX Lajitas 85.03 53 *eP* **P 11 26 49.5 +0.1**
TXAR Lajitas Array 85.03 53 P **P 11 26 49.5 +0.1**
comp=Z,2.4nm,0.9s,baz=290,slow=3.7,SNR=8.9
HPIG 85.69 56 *eP* **P 11 26 53.4 +0.5**
comp=Z,8.2nm,1.1s
PPT Papeete 87.93 117 LR LR 11 57 13.8
comp=Z,32nm,21.6s,baz=12,slow=29
NVL N'lazarevskaya 144.68 206 *e*PKIKP **PKPab 11 33 46.8 -0.9**
NVL *e*SS SS 11 55 48.8 -5.8
NVL pmax pmax
comp=Z,24nm,1.0s
GO02 Mina Guanaco 147.84 63 *e*PKPbc **PKPbc 11 33 58.7 -0.4**
VNA2 Neumayer--Watz 149.97 200 P **PKPbc 11 34 01.6 -1.1**
VNA3 Neumayer Olymp 150.27 198 P **PKPbc 11 34 02.0 -1.4**
VNA1 Neumayer--Stat 150.37 200 P **PKPbc 11 34 02.5 -1.1**

*ISCJB **03** 11:20:53.9±0.5, 12°.19N±0°.05×88°.52W±0°.04, h35km, mb4.2/19, Error ellipse: s-maj=7.6km s-min=3.6km az=32.4*
*UCR **03** 11:20:53.1±1.7, 12°.16N×88°.62W, h25km±27km, ML3.7, mb4.3(NEIC)*
*INET **03** 11:20:54.4±0.7, 12°.32N×88°.52W, h18km, ML3.8*
*NEIC **03** 11:20:57.6±0.9, 12°.45N×88°.34W, h43km±8km, mb4.3/19, Error ellipse: s-maj=13.5km s-min=7.0km az=206.0*
*IDC **03** 11:20:57.2±6.8, 12°.78N×88°.06W, h30km±52km, mb3.8/6, mb1 4.0/8, mb1mx3.7/46, mbtmp3.9/8, ML3.0/2, MS2.4/1, Ms1 2.4/1, ms1mx2.3/25, Error ellipse: s-maj=52.4km s-min=25.3km az=41.0*

ISC 03 11:20:56.5±0.7, 12°.31N±0°.07×88°.49W±0°.05, h35km, n70, σ1°46/80, mb4.2/19, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCY	**Lacayo**	**1.13**	**10**	*eP*	**Pn**	**11 21 15.7**	**-0.2**
VSM	**San Miguel**	**1.13**	**10**	*eP*	**Pn**	**11 21 15.8**	**-0.4**
VSM				*eP*		11 21 16.1	
VSM				*eS*	**Sn**	**11 21 31.6**	**+1.0**
VSM				IAML		11 21 40.8	
	comp=Z,2μm,0.5s						
LCND	**La Caada**	**1.15**	**30**	*eP*	**Pn**	**11 21 15.6**	**-0.5**
LCND				IAML		11 21 39.0	
	comp=Z,849nm,0.4s						
PACA	**Pacayal**	**1.17**	**8**	*eP*	**Pn**	**11 21 15.9**	**-0.6**
PACA				*eS*	**Sn**	**11 21 34.5**	**+3.3**
PACA				IAML		11 21 41.8	
	comp=Z,4μm,0.3s						
TECA	**Tecapa**	**1.18**	**359**	*eP*	**Pn**	**11 21 16.1**	**-0.7**
LFRS	**El Faro**	**1.42**	**337**	*eP*	**Pn**	**11 21 18.6**	**-1.4**
CRIN	**San Cristobal**	**1.46**	**74**	*eP*	**Pn**	**11 21 19.5**	**-0.8**
PAVA	**Las Pavas**	**1.47**	**343**	*eP*	**Pn**	**11 21 19.8**	**-0.8**
PAVA				*eS*	**Sn**	**11 21 38.9**	**+0.3**
LOMA	**San Marcos**	**1.50**	**333**	*eP*	**Pn**	**11 21 19.5**	**-1.4**
LOMA				*eS*	**Sn**	**11 21 40.4**	**+1.2**
LOMA				IAML		11 21 41.2	
	comp=Z,812nm,0.3s						
LBRS	**Las Brisas**	**1.52**	**339**	*eP*	**Pn**	**11 21 20.5**	**-0.9**
SNET	**Serv Nac Est T**	**1.55**	**332**	*eS*	**Sn**	**11 21 40.0**	**-0.7**
SNET				IAML		11 21 51.4	
	comp=Z,572nm,0.3s						
LFU	**La Fuente**	**1.56**	**337**	*eP*	**Pn**	**11 21 20.6**	**-1.2**
BOQS	**Boqueron**	**1.62**	**331**	*eP*	**Pn**	**11 21 21.6**	**-1.2**
BOQS				*eP*	**Pn**	**11 21 21.6**	**-1.2**
BOQS				*eS*	**Sn**	**11 21 42.6**	**+0.1**
CEDA	**San Andres**	**1.73**	**329**	*eP*	**Pn**	**11 21 23.0**	**-1.1**
CEDA				*eS*	**Sn**	**11 21 46.4**	**+1.4**
CEDA				IAML		11 21 57.2	
	comp=Z,1μm,0.4s						
CNGN	**Cerro Negro**	**1.76**	**84**	*eP*	**Pn**	**11 21 22.6**	**-1.9**
CNGN				*eP*		11 21 23.9	
COPN	**Copaltepe**	**1.86**	**94**	*eP*	**Pn**	**11 21 24.3**	**-1.5**
CEVE	**Cerro Verde**	**1.88**	**324**	IAML		11 21 54.5	
	comp=Z,2μm,0.4s						
SBLS	**San Blas**	**1.88**	**324**	*eP*	**Pn**	**11 21 24.0**	**-2.4**
SBLS				*eP*		11 21 25.2	
MOMN	**Momotombo**	**1.90**	**87**	*eP*	**Pn**	**11 21 25.6**	**-0.9**
RTR	**El Retiro**	**1.94**	**325**	*eP*	**Pn**	**11 21 26.3**	**-0.9**
TGUH	**Tegucigalpa,Un**	**2.10**	**34**	*ePn*	**Pn**	**11 21 28.3**	**-0.9**
MGAN	**Managua**	**2.19**	**94**	*eP*	**Pn**	**11 21 29.2**	**-1.2**
MGAN				*eS*	**Sn**	**11 21 56.0**	**-0.4**
ESTN	**Estel**	**2.21**	**69**	*ePn*	**Pn**	**11 21 30.0**	**-0.8**
ESTN	**Estel**	**2.21**	**69**	*eP*	**Pn**	**11 21 29.8**	**-1.0**
MATN	**Matagalpa**	**2.58**	**76**	*eP*	**Pn**	**11 21 34.5**	**-1.3**
MATN				IAML		11 22 15.6	
	comp=E,314nm,0.9s						
BOAB	**BOACO BROADBAN**	**2.76**	**87**	*ePn*	**Pn**	**11 21 37.9**	**-0.3**
JTS	**JuntasAbangare**	**4.00**	**120**	Pn	**Pn**	**11 21 55.8**	**+0.4**
	comp=E,1.3nm,0.3s,baz=1.4,slow=23,SNR=8.8						
JTS				LR	LR	11 23 02.6	
	comp=E,53nm,21.6s,baz=9.0,slow=32						
JTS	**JuntasAbangare**	**4.00**	**120**	*ePn*	**Pn**	**11 21 55.1**	**-0.3**
JTS				*e*		11 21 55.5	
JTS	**JuntasAbangare**	**4.00**	**120**	*eP*	**Pn**	**11 21 54.1**	**-1.3**
ESPN	**Las Esperanzas**	**4.09**	**91**	*ePn*	**Pn**	**11 21 55.9**	**-0.7**
CMIG	**Matias Romero**	**7.81**	**308**	Pn	**Pn**	**11 22 47.5**	**-0.1**
	comp=E,0.2nm,0.3s,baz=80,slow=13,SNR=4.6						
TEIG	**Tepich**	**7.88**	**1**	*ePn*	**Pn**	**11 22 47.1**	**-1.5**
TLIG	**Tlapa**	**11.05**	**299**	*ePn*	**Pn**	**11 23 34.5**	**+2.2**
LNIG	**Linares**	**16.27**	**322**	*ePn*	**Pn**	**11 24 43.2**	**+0.8**
	comp=E,12nm,0.8s						
833A	**Chaparral WMA,**	**18.92**	**329**	*eP*	**P**	**11 25 13.8**	**-0.5**
	comp=E,30nm,0.8s						
352A	**Blakely**	**19.36**	**9**	*eP*	**P**	**11 25 18.4**	**-0.8**
	comp=E,23nm,0.6s						
435B	**Jarrell**	**20.22**	**337**	*eP*	**P**	**11 25 27.4**	**-1.1**
	comp=E,14nm,0.6s						
152A	**Waverly Hall**	**20.56**	**9**	*eP*	**P**	**11 25 32.5**	**+0.3**
	comp=E,8.1nm,0.8s						
JCT	**Junction City**	**20.90**	**332**	*eP*	**P**	**11 25 35.6**	**-0.4**
	comp=E,12nm,0.8s						
LTX	**Lajitas**	**22.06**	**322**	*eP*	**P**	**11 25 49.2**	**+0.7**
TXAR	**Lajitas Array**	**22.06**	**322**	P	**P**	**11 25 49.2**	**+0.7**
	comp=E,3.8nm,0.7s,baz=146,slow=12,SNR=27						
TX31	**Lajitas Ar. Si**	**22.06**	**322**	*eP*	**P**	**11 25 49.2**	**+0.8**
MIAR	**Mount Ida**	**22.62**	**349**	*eP*	**P**	**11 25 53.8**	**-0.5**
	comp=E,10nm,0.8s						
ABTX	**Abilene, Hawle**	**22.67**	**335**	*eP*	**P**	**11 25 53.4**	**-1.5**
	comp=E,8.1nm,0.8s						
W41B	**Gary Mavity, V**	**23.02**	**352**	*eP*	**P**	**11 25 57.9**	**-0.5**
	comp=E,6.5nm,0.7s						
WHAR	**Wooly Hollow**	**23.14**	**352**	*eP*	**P**	**11 25 59.4**	**-0.3**
	comp=E,6.8nm,0.7s						
W39A	**Magazine**	**23.29**	**349**	*eP*	**P**	**11 26 00.8**	**-0.4**
	comp=E,10nm,0.9s						
TKL	**Tuckaleechee C**	**23.64**	**10**	P	**P**	**11 26 03.7**	**-0.9**
	comp=E,5.2nm,0.9s,baz=178,slow=11,SNR=4.7						
WMOK	**Wichita Mounta**	**24.21**	**339**	*eP*	**P**	**11 26 10.4**	**+0.4**
	comp=E,2.0nm,0.8s						
HHAR	**Hobbs**	**24.37**	**349**	*eP*	**P**	**11 26 10.7**	**-0.7**
	comp=E,5.3nm,0.8s						
MSTX	**Muleshoe**	**25.19**	**331**	*eP*	**P**	**11 26 18.7**	**-0.3**
	comp=E,18nm,0.8s						
AMTX	**Amarillo**	**25.47**	**334**	*eP*	**P**	**11 26 21.6**	**+0.2**
	comp=E,7.7nm,0.7s						
CCM	**Cathedral Cave**	**25.76**	**355**	*eP*	**P**	**11 26 22.5**	**-1.4**
	comp=E,6.0nm,0.8s						
SPMN	**Marine on St.**	**33.01**	**354**	*eP*	**P**	**11 27 26.3**	**-2.0**
	comp=E,14nm,0.8s						
PD31	**Pinedale Array**	**35.43**	**333**	*eP*	**P**	**11 27 50.3**	**+0.7**
PDAR	**Pinedale Array**	**35.43**	**333**	P	**P**	**11 27 50.3**	**+0.7**
	comp=E,0.3nm,0.6s,baz=121,slow=11,SNR=2.2						
NV01	**Mina Array Sit**	**37.15**	**320**	*eP*	**P**	**11 28 05.3**	**+1.0**
NV01				*e*PcP	**PcP**	**11 30 24.5**	**+0.3**
NVAR	**Mina Array Bea**	**37.15**	**320**	P	**P**	**11 28 05.3**	**+1.0**
	comp=E,1.0nm,0.9s,baz=140,slow=7.1,SNR=4.0						
NVAR				PcP	**PcP**	**11 30 24.5**	**+0.3**
	comp=E,0.3nm,0.6s,baz=127,slow=6.2,SNR=3.5						
ULM	**Lac du Bonnet**	**38.32**	**352**	P	**P**	**11 28 10.9**	**-2.9**
	comp=E,6.2nm,0.6s,baz=171,slow=9.5,SNR=16						
MCMT	**McKenzie Canyo**	**38.53**	**332**	*eP*	**P**	**11 28 17.9**	**+2.0**
SCHQ	**Schefferville**	**45.71**	**17**	P	**P**	**11 29 11.1**	**-3.0**
	comp=E,4.8nm,0.7s,baz=218,slow=8.0,SNR=4.3						
SCHQ	**Schefferville**	**45.71**	**17**	*eP*	**P**	**11 29 11.1**	**-3.0**
	comp=E,14nm,1.1s						
YKA	**Yellowknife Ar**	**53.49**	**345**	P	**P**	**11 30 10.8**	**-2.3**
	comp=E,1.0nm,0.8s,baz=133,slow=8.6,SNR=20						
YKB5	**Yellowknife Ar**	**53.49**	**345**	*eP*	**P**	**11 30 10.8**	**-2.3**
GAMB	**Gambell**	**76.05**	**333**	*eP*	**P**	**11 32 42.1**	**+2.0**
	comp=E,18nm,1.1s						
WMQ	**Urumqi**	**124.04**	**3**	*eP*	**PKiKP**	**11 39 51.9**	**+0.1**
KSH	**Kashi**	**126.45**	**15**	PKP	**PKPdf**	**11 39 56.0**	**-0.4**
KSH				sPKP		11 40 29.9	
KSH				PP	**PP**	**11 41 57.2**	**+6.5**
KSH				AMB	AMB		
	comp=Z,300nm,6.3s						
LZH	**Lanzhou**	**130.48**	**347**	*e*PKP	**PKiKP**	**11 40 06.6**	**+1.5**
LZH				pPKP	sPKPdf	11 40 18.3	-0.9
LZH				sPKP		11 40 21.2	
CM31	**Chiang Mai Arr**	**148.56**	**346**	*e*PKPbc	**PKPbc**	**11 40 40.3**	**-0.4**
CMAR	**Chiang Mai Arr**	**148.56**	**346**	PKPbc	**PKPbc**	**11 40 40.3**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=345,slow=4.0,SNR=6.0						

IDC 03 11:29:47.1±1.4, 3°.04N×126°.01E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.5/44, mbtmp3.8/5, ML4.1/1, Error ellipse: s-maj=81.1km s-min=22.2km az=60.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.54**	**126**	Pn	Pn	11 31 23.5	-1.1
	4.3nm,0.3s,baz=336,slow=18,SNR=12						

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
SIJI				Sn	Sn	11 32 34.3	-5.7
	0.5nm,0.3s,baz=46,slow=23,SNR=2.8						
WRA	Warramunga Arr	24.26	161	P	P	11 35 06.2	0.0
	3.3nm,1.0s,baz=337,slow=11,SNR=17						
ASAR	Alice Springs	27.64	164	P	P	11 35 37.0	+0.2
	0.2nm,0.3s,baz=347,slow=7.9,SNR=14						
STKA	Stephens Creek	37.76	158	P	P	11 37 05.4	+0.4
	1.0nm,0.4s,baz=343,slow=10,SNR=8.6						
MKAR	Makanchi Array	57.71	326	P	P	11 39 39.3	-0.4
	0.2nm,0.4s,baz=128,slow=7.0,SNR=8.6						

*SOME **03** 11:33:07.9, 42.°68N×75.°65E*
*ISCJB **03** 11:33:08.2±0.5, 42.°67N±0.°03×75.°67E±0.°03, h0km, Error ellipse: s-maj=4.8km s-min=2.7km az=155.4*
*NNC **03** 11:33:08.3±0.3, 42.°68N×75.°66E, h0km, mb2.5, mpv2.8, Error ellipse: s-maj=1.8km s-min=1.3km az=146.0, Suspected Mining explosion.*
*KNET **03** 11:33:08.4±0.2, 42.°69N×75.°67E, h7km±6km, ml1.0, Error ellipse: s-maj=2.2km s-min=1.6km az=59.0*
ISC 03 11:33:08.4±0.9, **42.°69N**±0.°03×**75.°66E**±0.°02, **h0km, n25,** σ0.s71/38, **12C-5D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.24**	**348**	⇑P	**Pg**	**11 33 13.4**	**+0.5**
	16nm,0.1s,SNR=132						
TKM2				⇓S	**Sg**	**11 33 16.9**	**+0.9**
	34nm,0.2s						
TKM2	**Tokmak 2**	**0.24**	**348**	⇑P	**Pg**	**11 33 13.3**	**+0.3**
	2.3nm,0.2s						
TKM2				⇑S	**Sg**	**11 33 16.9**	**+0.9**
	13nm,0.2s						
KST	**Kastek**	**0.42**	**32**	P	**Pg**	**11 33 16.6**	**+0.2**
	17nm,0.1s						
KST				S	**Sg**	**11 33 23.0**	**+1.1**
	15nm,0.3s						
KBK	**Karagaybulak**	**0.53**	**267**	⇑P	**Pg**	**11 33 19.2**	**+0.7**
	10nm,0.1s,SNR=20						
DGS	**Degeres**	**0.56**	**8**	P	**Pg**	**11 33 19.2**	**+0.1**
	2.7nm,0.1s						
DGS				S	**Sg**	**11 33 27.4**	**+1.1**
	5.0nm,0.1s						
ULHL	**Ulahol**	**0.61**	**136**	⇑P	**Pg**	**11 33 20.0**	**-0.2**
	7.4nm,0.1s,SNR=45						
KZA	**Kyzart**	**0.68**	**207**	⇑P	**Pg**	**11 33 22.0**	**+0.5**
	6.6nm,0.1s,SNR=40						
MTBS	**Maitube**	**0.71**	**52**	P	**Pg**	**11 33 22.1**	**-0.1**
	4.1nm,0.2s						
MTBS				S	**Sg**	**11 33 32.7**	**+1.4**
	10nm,0.3s						
CHMS	**Chumysh**	**0.74**	**295**	⇓P	**Pg**	**11 33 22.5**	**-0.1**
	1.7nm,0.1s						
IZV	**Izvestkoviy**	**0.78**	**63**	P	**Pg**	**11 33 23.4**	**+0.1**
	9.1nm,0.1s						
IZV				S	**Sg**	**11 33 34.7**	**+1.3**
	8.5nm,0.2s						
AAK	**Ala-Archa**	**0.86**	**267**	⇑P	**Pg**	**11 33 24.9**	**0.0**
	2.4nm,0.1s,SNR=8.7						
AAK	**Ala-Archa**	**0.86**	**267**	⇓P	**Pg**	**11 33 24.9**	**0.0**
	0.5nm,0.2s						
AAK				⇑S	**Sg**	**11 33 37.0**	**+0.8**
	1.5nm,0.5s						
TNSS	**Tian-Shan**	**1.01**	**69**	P	**Pg**	**11 33 27.8**	**+0.2**
	3.7nm,0.2s						
TNSS				S	**Sb**	**11 33 42.5**	**-0.5**
	4.1nm,0.2s						
USP	**Ospenovka**	**1.03**	**305**	⇓P	**Pg**	**11 33 27.7**	**-0.4**
	2.0nm,0.1s,SNR=17						
MDOK	**Medeo**	**1.12**	**65**	Pg	**Pg**	**11 33 29.6**	**-0.3**
	3.5nm,0.4s						
MDOK				Lg	Lg	11 33 45.2	
	3.9nm,0.7s						
KOTS	**Kotyrbulak**	**1.20**	**62**	P	**Pg**	**11 33 31.3**	**0.0**
	1.9nm,0.2s						
KOTS				S	**Sb**	**11 33 48.1**	**0.0**
	3.8nm,0.4s						
KTBS	**Karatobe**	**1.27**	**36**	P	**Pg**	**11 33 32.4**	**-0.3**
	2.2nm,0.2s						
KTBS				S	**Sb**	**11 33 50.0**	**-0.1**
	3.8nm,0.2s						
KUU	**Kurty**	**1.30**	**22**	P	**Pg**	**11 33 32.5**	**-0.9**
	1.0nm,0.1s						
KUU				S	**Sg**	**11 33 50.4**	**+0.2**
	2.5nm,0.3s						
EKS2	**Erkin-Say**	**1.39**	**270**	⇑P	**Pb**	**11 33 35.3**	**0.0**
	5.8nm,0.1s,SNR=35						
CHKK	**Chushkaly**	**1.52**	**39**	P	**Pn**	**11 33 37.0**	**+0.2**
	2.0nm,0.2s						
CHKK				S	**Sn**	**11 33 57.9**	**+0.7**
	5.0nm,0.3s						
AML	**Almayashu**	**1.56**	**250**	⇑P	**Pn**	**11 33 37.9**	**+0.1**
	2.0nm,0.2s,SNR=5.8						
MRKS	**Merke**	**1.80**	**273**	P	**Pb**	**11 33 41.9**	**-0.4**
	9.7nm,0.1s						
MRKS				S	**Sg**	**11 34 06.5**	**+0.4**
	6.1nm,0.3s						
SATY	**Saty**	**2.05**	**79**	Pg	**Pg**	**11 33 48.0**	**+0.3**
SATY				Lg	Lg	11 34 17.0	
PDGK	**Podgornoye**	**2.88**	**76**	⇑Pg	**Pb**	**11 33 59.0**	**-1.7**
	0.4nm,0.3s						
PDGK				⇓Lg	Lg	11 34 39.7	
	5.7nm,1.3s						
KK31	**Karatay Array**	**3.81**	**278**	Pg	**Pg**	**11 34 19.5**	**-1.9**
	0.3nm,0.5s,baz=98,slow=16,SNR=9.8						
KK31				⇑Lg	Lg	11 35 09.6	
	0.4nm,0.5s,baz=95,slow=29						

WEL 03 11:59:03.2, 45.°S±3°×**16.°7E**±°, **h15km**±4km, **ML3.5**/13, **Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.22**	**138**	P	Pb	11 59 10.6	+1.7
DCZ				S	Sb	11 59 15.6	+2.9
MLZ	**Mavora Lakes**	**0.83**	**95**	P	Pb	11 59 19.4	0.0
MLZ				S	Sb	11 59 31.1	+0.8
PYZ	**Puysegur Point**	**0.89**	**192**	P	Pb	11 59 20.3	0.0
PYZ				S	Sg	11 59 32.3	+0.4
WHZ	**Wether Hill Ro**	**0.92**	**130**	P	Pn	11 59 21.5	-0.1
WHZ				S	Sn	11 59 35.0	+0.5
MSZ	**Milford Sound**	**0.94**	**48**	P	Pb	11 59 20.5	-0.6
WKZ	**Wanaka**	**1.54**	**73**	P	Pb	11 59 30.9	-0.6
EAZ	**Earnscleugh**	**1.67**	**88**	P	Pb	11 59 32.8	-0.8
EAZ				S	Sn	11 59 53.2	+0.1
APZ	**The Paps**	**1.69**	**155**	P	Pb	11 59 34.5	+0.4
JCZ	**Jackson Bay**	**1.80**	**48**	P	Pn	11 59 34.8	+1.0
JCZ				S	Sb	11 59 58.5	+0.3
SYZ	**Scrubby Hill**	**1.97**	**130**	P	Pn	11 59 36.8	+0.9
SYZ				S	Sb	12 00 02.1	-0.9
TUZ	**Tuapeka**	**2.00**	**110**	P	Pn	11 59 37.1	+0.8
LBZ	**Lake Benmore**	**2.48**	**69**	P	Pn	11 59 43.4	+0.3
ODZ	**Otahua Downs**	**2.63**	**86**	P	Pn	11 59 44.8	-0.2
HHSZ	**Highcliff Hill**	**2.63**	**104**	P	Pn	11 59 46.6	+1.6
FOZ	**Fox Glacier**	**2.71**	**50**	P	Pn	11 59 46.8	+0.6
RPZ	**Rata Peaks**	**3.34**	**63**	P	Pn	11 59 54.6	-0.3

*IDC **03** 12:08:07.8±1.2, 22.°79N×121.°73E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/38, mbtmp3.5/6, MS2.9/2, Ms1 3.0/2, ms1mx2.6/30, Error ellipse: s-maj=50.3km s-min=19.2km az=64.0*
*ISCJB **03** 12:08:10.9±0.3, 22.°71N±0.°02×121.°39E±0.°02, h21km±2km, mb3.4/6, MS3.5/1, Error ellipse: s-maj=2.9km s-min=2.6km az=38.6*
*JMA **03** 12:08:10.1±0.2, 22.°72N×121.°32E, h26km±4km, M4.1*
*TAP **03** 12:08:11.6, 22.°78N×121.°30E, h18km, ML4.2, B*
ISC 03 12:08:10.8±0.9, **22.°76N**±0.°02×**121.°37E**±0.°02, **h13km**±7km, **n133,** σ0.s89/180, **mb3.5**/6, **7C-23D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.21**	**268**	⇑iP	**Pb**	**12 08 16.5**	**0.0**
	baz=258						
TTN				iS	**Sg**	**12 08 20.0**	**+1.5**
	baz=258						
TWGBT	**Beinan**	**0.28**	**282**	⇑P	**Pg**	**12 08 16.9**	**+0.3**
	baz=287						
TWGBT				S	**Sb**	**12 08 21.6**	**-0.6**
	baz=287						
TWG	**Pinlang**	**0.28**	**282**	⇑iP	**Pg**	**12 08 16.9**	**+0.1**
	baz=287						
TWG				S	**Sb**	**12 08 21.7**	**-0.8**
	baz=287						
CHKT	**Chengkung**	**0.34**	**359**	⇑iP	**Pb**	**12 08 19.3**	**+0.6**
	baz=25						
CHKT				S	**Sb**	**12 08 24.5**	**+0.4**
	baz=25						
ECL	**Taimali**	**0.42**	**247**	⇓iP	**Pg**	**12 08 19.3**	**+0.1**
	baz=238						
ECL				S	**Sg**	**12 08 24.7**	**-0.1**
	baz=238						
ELDTW	**Lidau**	**0.54**	**323**	⇓iP	**Pg**	**12 08 21.1**	**-0.3**
	baz=329						
ELDTW				S	**Sg**	**12 08 27.2**	**-1.5**
	baz=329						
TWF1	**Yuli**	**0.59**	**353**	⇓P	**Pg**	**12 08 22.6**	**+0.1**
	baz=347						
TWF1				eS	**Sg**	**12 08 30.5**	**+0.1**
	baz=347						
TAW	**Tawu**	**0.59**	**228**	eP	**Pg**	**12 08 22.2**	**-0.3**
	baz=220						
TAW				S	**Sg**	**12 08 30.3**	**-0.1**
	baz=220						
EAST	**Anshuo**	**0.61**	**232**	⇑iP	**Pg**	**12 08 22.7**	**-0.1**
	baz=234						
EAST				eS	**Sg**	**12 08 30.2**	**-0.7**
	baz=234						
YULB	**Yu-li**	**0.63**	**354**	⇓P	**Pg**	**12 08 22.9**	**-0.3**
	baz=350						
SSD	**Sandimen**	**0.68**	**269**	⇓iP	**Pg**	**12 08 23.3**	**-0.8**
	baz=271						
SSD				eS	**Sg**	**12 08 29.9**	**-3.2**
	baz=271						
STYT	**Tauyuan**	**0.69**	**305**	⇓iP	**Pg**	**12 08 23.9**	**-0.5**
	baz=308						
STYT				eS	**Sg**	**12 08 32.5**	**-1.0**
	baz=308						
MASBT	**Mashibuluo**	**0.70**	**258**	⇓P	**Pg**	**12 08 23.9**	**-0.5**
	baz=247						
MASBT				eS	**Sg**	**12 08 31.5**	**-2.1**
	baz=247						
SLGT	**Liugui**	**0.71**	**289**	⇓P	**Pg**	**12 08 24.1**	**-0.6**
	baz=289						
HGSD	**Ruisui**	**0.73**	**4**	eP	**Pg**	**12 08 25.5**	**+0.5**
	baz=18						
HGSD				eS	**Sb**	**12 08 36.7**	**+1.4**
	baz=18						
LAY	**Lan-yu**	**0.74**	**167**	eP	**Pb**	**12 08 25.5**	**0.0**
	baz=151						
LAY				eS	**Sb**	**12 08 36.2**	**+0.6**
	baz=151						
EHY	**Hungye**	**0.74**	**356**	eP	**Pg**	**12 08 24.8**	**-0.5**
	baz=1.0						
SCZT	**Fangliau**	**0.80**	**241**	⇑P	**Pg**	**12 08 25.6**	**-0.6**
	baz=229						
SGST	**Jiashian**	**0.80**	**294**	⇓iP	**Pb**	**12 08 26.4**	**-0.2**
	baz=295						
SGST				S	**Sb**	**12 08 37.6**	**+0.3**
	baz=295						
SGLT	**Jiouru**	**0.81**	**268**	eP	**Pb**	**12 08 26.7**	**-0.2**
	baz=265						
YUS	**Yu-Shan**	**0.82**	**332**	⇓iP	**Pg**	**12 08 26.3**	**-0.6**
	baz=337						
YUS				S	**Sg**	**12 08 36.6**	**-1.1**
	baz=337						
WTP	**Ta-pu**	**0.85**	**305**	⇓iP	**Pg**	**12 08 27.1**	**-0.2**
	baz=307						
WTP				S	**Sg**	**12 08 38.4**	**-0.1**
	baz=307						
TPUB	**Ta-pu**	**0.87**	**308**	⇓P	**Pg**	**12 08 27.6**	**-0.1**
	baz=310						
TPUB				S	**Sg**	**12 08 38.5**	**-0.6**
	baz=310						
TWM1	**Shoushan**	**0.88**	**274**	eP	**Pb**	**12 08 28.3**	**+0.3**
	baz=272						
CHN1	**Nanshi**	**0.89**	**299**	⇓iP	**Pb**	**12 08 28.2**	**+0.1**
	baz=307						
CHN1				S	**Sb**	**12 08 40.2**	**+0.4**
	baz=307						
CHN4	**Tsaushan**	**0.93**	**310**	⇓iP	**Pg**	**12 08 28.7**	**-0.1**
	baz=311						
CHN4				S	**Sb**	**12 08 41.9**	**+0.9**
	baz=311						
HEN	**Hengchun**	**0.95**	**218**	eP	**Pb**	**12 08 29.4**	**+0.2**
	baz=199						
TWK	**Hsinying**	**0.96**	**302**	⇓P	**Pg**	**12 08 29.1**	**-0.3**
	baz=303						
TWK				eS	**Sn**	**12 08 43.6**	**0.0**
	baz=303						
TSEB	**Hengchuen, Pin**	**0.96**	**207**	eP	**Pg**	**12 08 28.8**	**-0.6**
	baz=191						
TWKBT	**Hengchun**	**0.97**	**213**	⇑P	**Pg**	**12 08 28.7**	**-0.8**
	baz=194						
TWK1	**Hengchun**	**0.97**	**213**	eP	**Pg**	**12 08 28.6**	**-0.9**
	baz=194						
CHN3	**Shinhua**	**0.98**	**289**	⇓eP	**Pn**	**12 08 30.9**	**+0.6**
	baz=288						
CHN3				eS	**Sn**	**12 08 45.9**	**+1.9**
	baz=288						
KAU	**Kaohsiung**	**1.00**	**259**	eP	**Pn**	**12 08 31.8**	**+1.3**
	baz=247						
KAU				eS	**Sn**	**12 08 47.3**	**+2.8**
	baz=247						
WLCH	**Liuqiu**	**1.00**	**246**	eP	**Pn**	**12 08 32.8**	**+2.2**
	baz=235						
VWDT	**VWDT**	**1.01**	**348**	⇓P	**Pb**	**12 08 29.6**	**-0.6**
	baz=351						
TWP	**Hsiaoliuchiu**	**1.02**	**246**	eP	**Pn**	**12 08 31.9**	**+1.1**
	baz=235						
CHN5	**Tsauling**	**1.05**	**323**	⇓P	**Pb**	**12 08 30.8**	**-0.1**
	baz=325						
CHN5				eS	**Sn**	**12 08 46.5**	**+0.6**
	baz=325						
ESL	**Shilin**	**1.05**	**3**	eP	**Pb**	**12 08 29.2**	**-1.7**
	baz=6.0						
TAI1	**Yung-k'ang**	**1.09**	**285**	eP	**Pb**	**12 08 30.9**	**-0.7**
	baz=284						
SSLB	**Suanglung**	**1.09**	**339**	⇓P	**Pb**	**12 08 30.9**	**-0.7**
	baz=352						
SSLB				eS	**Sb**	**12 08 46.1**	**+0.3**
	baz=352						
CHN2	**Minshiung**	**1.13**	**313**	P	**Pg**	**12 08 32.9**	**+0.3**
	baz=314						
CHN2				S	**Sn**	**12 08 48.6**	**+0.9**
	baz=314						
CHY	**Chiayi**	**1.14**	**310**	eP	**Pg**	**12 08 32.8**	**0.0**
	baz=311						
CHY				S	**Sn**	**12 08 48.7**	**+0.7**
	baz=311						
ENLB	**Shoufeng**	**1.16**	**10**	eP	**Pb**	**12 08 32.6**	**-0.1**
	baz=29						
ENLB				eS	**Sb**	**12 08 47.6**	**0.0**
	baz=29						
SCLT	**Jiali**	**1.16**	**291**	P	**Pb**	**12 08 32.7**	**0.0**
	baz=290						
SCLT				S	**Sn**	**12 08 49.0**	**+0.5**
	baz=290						
WGK	**Gukeng**	**1.19**	**321**	⇓P	**Pg**	**12 08 33.7**	**0.0**
	baz=321						
WGK				S	**Sn**	**12 08 50.1**	**+1.0**
	baz=321						
SMLT	**Sun Moon Lake**	**1.20**	**339**	eP	**Pg**	**12 08 33.9**	**0.0**
	baz=349						
SMLT				S	**Sn**	**12 08 50.3**	**+0.7**
	baz=349						
WDLH	**Douliu**	**1.20**	**320**	eP	**Pg**	**12 08 34.0**	**0.0**
	baz=320						
WJS	**Zhushan**	**1.21**	**331**	eP	**Pg**	**12 08 34.1**	**-0.1**
	baz=332						
WJS				eS	**Sn**	**12 08 50.6**	**+0.8**
	baz=332						
CHN8	**Yiju**	**1.22**	**299**	eP	**Pn**	**12 08 33.5**	**-0.1**
	baz=299						
CHN8				eS	**Sn**	**12 08 50.2**	**+0.3**
	baz=299						
WLGB	**Puzi**	**1.22**	**306**	⇓P	**Pg**	**12 08 34.0**	**-0.3**
	baz=306						
WLGB				S	**Sn**	**12 08 50.5**	**+0.5**
	baz=306						
HWA	**Hwalien**	**1.23**	**10**	eP	**Pg**	**12 08 35.1**	**+0.6**
	baz=358						
TYC	**Yuchr**	**1.23**	**338**	P	**Pg**	**12 08 34.9**	**+0.3**
	baz=351						
TYC				iS	**Sg**	**12 08 51.4**	**+0.8**
	baz=351						
WNT	**Mingjian**	**1.28**	**331**	⇓iP	**Pg**	**12 08 35.5**	**0.0**
	baz=330						
WNT				eS	**Sg**	**12 08 53.0**	**+0.9**
	baz=330						
CHGB	**Renai**	**1.31**	**352**	eP	**Pn**	**12 08 34.4**	**-0.6**
	baz=3.0						
TWD	**Chiawan**	**1.33**	**9**	eP	**Pn**	**12 08 33.9**	**-1.2**
	baz=359						
WSF	**Szhu**	**1.37**	**310**	eP	**Pn**	**12 08 35.5**	**-0.2**
	baz=309						
WSF				S	**Sb**	**12 08 53.8**	**0.0**
	baz=309						
WHF	**Hehuan Shan**	**1.38**	**356**	eP	**Pn**	**12 08 35.3**	**-1.0**
	baz=8.0						
NACB	**Ninganchiao**	**1.42**	**8**	⇓P	**Pn**	**12 08 34.8**	**-1.6**
	baz=8.0						
RLNB	**Erlin**	**1.46**	**321**	eP	**Pn**	**12 08 37.3**	**+0.4**
	baz=319						
RLNB				eS	**Sn**	**12 08 55.9**	**0.0**
	baz=319						
WMLT	**Mailiao**	**1.48**	**315**	eP	**Pb**	**12 08 38.0**	**-0.3**
	baz=313						
WTCT	**Ta-ch'eng**	**1.49**	**318**	eP	**Pn**	**12 08 37.3**	**0.0**
	baz=318						
TWT	**Tachien**	**1.50**	**353**	eP	**Pn**	**12 08 37.9**	**+0.3**
	baz=4.0						
TDCB	**Techi**	**1.50**	**353**	eP	**Pn**	**12 08 37.5**	**-0.1**
	baz=4.0						
WCHH	**Zhanghua**	**1.51**	**331**	eP	**Pb**	**12 08 38.6**	**-0.1**
	baz=313						
TCU	**Taichung**	**1.52**	**335**	eP	**Pb**	**12 08 39.6**	**+0.6**
	baz=334						
WDGT	**Dungji**	**1.65**	**288**	eP	**Pn**	**12 08 38.7**	**-0.9**
	baz=285						
NNSB	**Datong**	**1.66**	**0**	eP	**Pn**	**12 08 39.3**	**-0.5**
	baz=13						
NNS	**Nan Shan**	**1.67**	**0**	eP	**Pn**	**12 08 39.6**	**-0.4**
	baz=13						
TWQ1	**Liyutan**	**1.67**	**341**	eP	**Pb**	**12 08 41.5**	**0.0**
	baz=337						
TWQ1				eS	**Sg**	**12 09 04.2**	**-0.6**
	baz=337						
ENA	**Nanau**	**1.69**	**11**	eP	**Pn**	**12 08 40.2**	**+0.1**
	baz=359						
NSY	**Sanyi**	**1.74**	**341**	eP	**Pb**	**12 08 42.9**	**+0.2**
	baz=338						
NSY				S	**Sb**	**12 09 05.8**	**+1.3**
	baz=338						
PTSB	**Yuanli**	**1.79**	**340**	eP	**Pn**	**12 08 42.7**	**+1.3**
	baz=336						
PTSB				eS	**Sb**	**12 09 06.5**	**+0.6**
	baz=336						
PHUB	**P'eng-hu**	**1.82**	**295**	eP	**Pn**	**12 08 40.8**	**-1.0**
	baz=293						
PHUB				S	**Sn**	**12 09 02.6**	**-2.1**
	baz=293						
VCHM	**Qimei**	**1.84**	**284**	eP	**Pn**	**12 08 41.1**	**-1.1**
	baz=282						
NMLH	**Miaoli**	**1.85**	**343**	eP	**Pn**	**12 08 43.4**	**+1.1**
	baz=339						
PNG	**Penghu**	**1.85**	**296**	eP	**Pn**	**12 08 41.6**	**-0.8**
	baz=294						
ENTT	**Nioudou**	**1.88**	**5**	eP	**Pn**	**12 08 42.6**	**-0.1**
	baz=4.0						
TWC	**Suao**	**1.89**	**13**	eP	**Pn**	**12 08 43.8**	**+1.0**
	baz=360						
NSTT	**Nanjuang**	**1.89**	**350**	eP	**Pn**	**12 08 43.9**	**+1.0**
	baz=360						
YHNB	**Yeheng**	**1.90**	**0**	eP	**Pn**	**12 08 43.3**	**+0.2**
	baz=11						
LIOB	**Emei**	**1.91**	**350**	eP	**Pn**	**12 08 44.3**	**+1.2**
	baz=359						
NSK	**Sanguang**	**1.91**	**360**	eP	**Pn**	**12 08 43.8**	**+0.7**
	baz=12						
EOS1	**EOS1**	**1.91**	**21**	eP	**Pn**	**12 08 44.0**	**+0.9**
	baz=42						
TWE	**Neicheng**	**1.97**	**8**	eP	**Pn**	**12 08 44.6**	**+0.7**
	baz=7.0						
SLBB	**Yuanshan**	**2.00**	**7**	eP	**Pn**	**12 08 45.5**	**+1.1**
	baz=6.0						
SBCB	**Hsinchu**	**2.05**	**350**	eP	**Pn**	**12 08 46.9**	**+1.8**
	baz=345						
WLTB	**Daxi**	**2.09**	**357**	eP	**Pb**	**12 08 48.0**	**-0.6**
	baz=8.0						
NTC	**Toucheng**	**2.13**	**11**	eP	**Pb**	**12 08 48.2**	**-1.1**
	baz=8.0						
TATO	**Taipei**	**2.21**	**3**	eP	**Pn**	**12 08 48.4**	**+1.2**
	baz=13						
TWA	**Mucha**	**2.22**	**5**	eP	**Pn**	**12 08 48.4**	**+1.0**
	baz=14						
YOJ	**Yonaguni jima**	**2.27**	**41**	eP	**Pn**	**12 08 47.3**	**-0.7**
	baz=51						
YOJ	**Yonaguni jima**	**2.27**	**41**	P	**Pn**	**12 08 48.1**	**+0.1**
YOJ				eS	**Sn**	**12 09 15.8**	**0.0**
TWB1	**Santiao Chiao**	**2.31**	**14**	eP	**Pb**	**12 08 51.0**	**-1.3**
	baz=2.0						
NWF	**Wu-fen Shan**	**2.33**	**9**	eP	**Pn**	**12 08 50.4**	**+1.4**
	baz=4.0						
TWS1	**Kuangyinshan**	**2.33**	**1**	eP	**Pn**	**12 08 50.5**	**+1.7**
	baz=12						
WFSB	**Wu-fen Shan**	**2.33**	**9**	eP	**Pn**	**12 08 49.5**	**+0.7**
	baz=4.0						
YM01	**YM01**	**2.38**	**4**	eP	**Pb**	**12 08 52.2**	**-1.5**
	baz=358						
YM04	**YM04**	**2.39**	**4**	eP	**Pn**	**12 08 51.3**	**+1.6**
	baz=13						
YM10	**YM10**	**2.39**	**4**	eP	**Pn**	**12 08 51.4**	**+1.6**
	baz=358						
YM05	**YM05**	**2.40**	**4**	eP	**Pn**	**12 08 49.6**	**-0.3**
	baz=358						
YM11	**YM11**	**2.40**	**4**	eP	**Pn**	**12 08 51.5**	**+1.5**
	baz=358						
YM03	**YM03**	**2.41**	**4**	eP	**Pn**	**12 08 51.4**	**+1.3**
	baz=13						
YM07	**YM07**	**2.42**	**5**	eP	**Pn**	**12 08 50.7**	**+0.6**
	baz=359						
YM08	**YM08**	**2.42**	**5**	eP	**Pn**	**12 08 50.8**	**+0.5**
	baz=359						
HATJ	**Hateruma jima**	**2.58**	**60**	P	**Pn**	**12 08 52.8**	**+0.5**
HATJ				S	**Sn**	**12 09 22.8**	**-0.8**
IRIF	**Iriomote-Funau**	**2.67**	**54**	P	**Pn**	**12 08 54.5**	**+0.9**
IRIF				S	**Sn**	**12 09 25.4**	**-0.4**
JKRS	**Kuro-shima**	**2.83**	**58**	P	**Pn**	**12 08 56.5**	**+0.7**
JKRS				eS	**Sn**	**12 09 30.3**	**+0.5**
VWUC	**VWUC**	**2.83**	**322**	eP	**Pn**	**12 08 55.0**	**-0.7**
	baz=318						
JIJ	**Ishigaki jima**	**3.00**	**57**	P	**Pn**	**12 08 59.3**	**+1.2**
JIJ				eS	**Sn**	**12 09 33.8**	**-0.2**
PTMZ	**Houxiangcun**	**3.07**	**318**	eP	**Pn**	**12 08 58.9**	**-0.1**
	baz=315						
PTTC	**Pingtan**	**3.10**	**332**	eP	**Pn**	**12 08 59.3**	**-0.1**
	baz=328						
KNM	**Kinmen**	**3.16**	**302**	eP	**Pn**	**12 09 01.5**	**+1.2**
	baz=298						
KNMB	**Chin-men Tao**	**3.22**	**302**	eP	**Pn**	**12 09 00.6**	**-0.5**
	baz=299						
JISG	**Ishigakijimahi**	**3.25**	**55**	P	**Pn**	**12 09 01.9**	**+0.4**
JISG				eS	**Sn**	**12 09 40.0**	**-0.1**
ZPLA	**Ao Xicun**	**3.53**	**290**	eP	**Pn**	**12 09 05.6**	**+0.3**
	baz=287						
JTJ	**Tarama**	**3.58**	**58**	P	**Pn**	**12 09 07.2**	**+1.1**
JTJ				S	**Sn**	**12 09 47.9**	**-0.4**
MATB	**Ma-tsu**	**3.62**	**339**	eP	**Pn**	**12 09 06.2**	**-0.4**
	baz=334						
AXDP	**Jialang**	**3.77**	**305**	eP	**Pn**	**12 09 08.4**	**-0.3**
	baz=302						
ZZJH	**Jiuhuzhen**	**3.83**	**297**	eP	**Pn**	**12 09 09.4**	**-0.1**
	baz=294						
MHZQ	**Yeshan**	**3.95**	**328**	eP	**Pn**	**12 09 11.0**	**-0.1**
	baz=324						
JIRB	**Irabujima**	**4.04**	**59**	P	**Pn**	**12 09 13.5**	**+1.0**
LYJJ	**Jianjiangzhen**	**4.05**	**339**	eP	**Pn**	**12 09 12.2**	**-0.3**
	baz=335						
JMJ	**Miyako jima 2**	**4.13**	**60**	eP	**Pn**	**12 09 14.6**	**+0.9**
	baz=69						
JMJ	**Miyako jima 2**	**4.13**	**60**	P	**Pn**	**12 09 15.0**	**+1.3**
XPSS	**Dashiqiu**	**4.29**	**346**	eP	**Pn**	**12 09 15.5**	**-0.3**
	baz=340						
JNU	**Nakatsue**	**13.30**	**37**	LR	LR	12 15 38.3	
	comp=Z,19nm,20.1s,baz=118,slow=34						
CMAR	**Chiang Mai Arr**	**21.42**	**263**	P	**P**	**12 13 01.1**	**+2.4**
	0.8nm,0.3s,baz=67,slow=8.1,SNR=6.3						
SONM	**Songino Array**	**27.74**	**338**	P	**P**	**12 13 59.2**	**0.0**
	0.4nm,0.7s,baz=153,slow=9.8,SNR=3.0						
MKAR	**Makanchi Array**	**39.48**	**317**	P	**P**	**12 15 41.7**	**+0.7**
	0.4nm,0.6s,baz=115,slow=9.9,SNR=4.7						
ZALV	**Zalesovo Beam**	**41.53**	**328**	P	**P**	**12 15 57.8**	**0.0**
	0.7nm,0.4s,baz=116,slow=8.2,SNR=5.8						
WRA	**Warramunga Arr**	**44.29**	**162**	P	**P**	**12 16 18.3**	**-2.3**
	0.2nm,0.4s,baz=345,slow=8.7,SNR=9.3						
ASAR	**Alice Springs**	**47.73**	**164**	P	**P**	**12 16 46.6**	**-1.0**
	0.4nm,0.7s,baz=340,slow=7.0,SNR=11						
NOA	**NORSAR Array B**	**79.56**	**332**	LR	LR	12 59 28.4	
	comp=Z,20nm,18.6s,baz=275,slow=39						

IDC 03 12:13:33.1±1.6,22°.71N×95°.82E,h0km,mb3.4/2, mb1 3.6/3,mb1mx3.2/39,mbtmp3.3/3,ML3.7/1,Error ellipse: s-maj=40.4km s-min=19.2km az=60.0,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	Chiang Mai	4.86	142	P	Pg	12 15 04.5	-1.7
	51nm,0.8s,0.8nm						
CMMT	Chiang Mai	4.86	142	P	Pg	12 15 04.4	-1.9
	13nm,0.5s,0.2nm						
CMAR	Chiang Mai Arr	5.14	145	Pn	Pn	12 14 51.0	-0.5
	0.7nm,0.3s,baz=322,slow=13,SNR=10						
CMAR				Pg	Pg	12 15 08.3	-3.4
	2.6nm,0.3s,baz=323,slow=19,SNR=6.2						
CMAR				Lg	Lg	12 16 16.5	
	2.3nm,0.3s,baz=320,slow=31,SNR=6.8						
LAMP	Lampang	5.49	139	P	Pg	12 15 17.5	-0.8
	10nm,0.7s,96nm0.1nm						
NANT	Nan	6.00	130	P	Pb	12 15 23.1	+4.5
MKAR	Makanchi Array	26.39	339	P	P	12 19 11.4	+0.1
	0.5nm,0.6s,baz=146,slow=10,SNR=6.6						
WRA	Warramunga Arr	56.67	135	P	P	12 23 18.3	-0.2
	0.4nm,1.0s,baz=323,slow=7.6,SNR=3.9						

IDC 03 12:22:49.5±44.0,18°.77S×172°.98W,h0km,mb4.1/3, mb1 4.3/3,mb1mx3.7/34,mbtmp4.1/3,Error ellipse: s-maj=851.7km s-min=177.9km az=82.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	42.79	243	P	P	12 30 48.5	-0.6
	0.8nm,0.4s,baz=90,slow=6.1,SNR=3.8						
ASAR	Alice Springs	49.53	255	P	P	12 31 42.4	-0.1
	2.5nm,0.5s,baz=90,slow=8.3,SNR=93						
WRA	Warramunga Arr	49.54	259	P	P	12 31 42.7	+0.1
	0.8nm,0.3s,baz=96,slow=7.0,SNR=75						

ISCJB 03 12:30:14.4±0.6,16°.34N±0°.05×95°.13W±0°.04,h62km±6km, mb3.4/3,Error ellipse: s-maj=9.0km s-min=6.5km az=156.1
MEX 03 12:30:16.6±0.6,16°.33N×95°.10W,h58km±8km,MD4.0
NEIC 03 12:30:16.6±0.0,16°.33N×95°.10W,h58km,mb4.3/9, MD4.0(MEX),After MEX.
NEIC Felt at Acapulco and Juchitan.
IDC 03 12:30:17.1±1.8,16°.59N×94°.97W,h68km±5km,mb3.2/3, mb1 3.7/5,mb1mx3.4/42,mbtmp3.6/5,MS2.7/1,Ms1 2.7/1, ms1mx2.3/16,Error ellipse: s-maj=25.4km s-min=22.9km az=35.0
ISC 03 12:30:15.6±0.8,16°.35N±0°.06×95°.11W±0°.04,h71km±8km, n36,σ1^{s}82/48,mb3.7/4,Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.77	17	P	Pn	12 30 30.6	-0.7
	471nm,0.3s,baz=203,slow=9.4						
CMIG				S	Sn	12 30 41.5	-1.5
	1μm,0.3s,baz=308,slow=19,SNR=78						
CMIG	Matias Romero	0.77	17	*i* P	Pn	12 30 30.6	-0.7
CMIG				*e*S	Sn	12 30 41.3	-1.7
HUIG	Huatulco	1.12	239	*e*Pn	Pn	12 30 34.4	-1.2
HUIG				*e*Sn	Sn	12 30 48.6	-2.0
HUIG	Huatulco	1.12	239	*i* P	Pn	12 30 34.4	-1.2
HUIG				*i* S	Sn	12 30 48.6	-2.0
VHO	Vista Hermosa	1.71	295	*e*Pn	Pn	12 30 43.7	+0.1
VHO				*e*Sn	Sn	12 31 03.9	-0.9
VHO	Vista Hermosa	1.71	295	*e*P	Pn	12 30 43.7	+0.1
VHO				*i* S	Sn	12 31 03.9	-0.9
TUIG	Tuzandepetl	1.80	21	*e*Pn	Pn	12 30 43.9	-0.7
TUIG				*e*Sn	Sn	12 31 05.5	-1.1
TUIG	Tuzandepetl	1.80	21	*e*P	Pn	12 30 43.9	-0.7
TUIG				*e*S	Sn	12 31 05.5	-1.1
CCIG	Comitan	2.86	91	*e*Pn	Pn	12 30 59.7	+0.7
TLIG	Tlapa	3.52	290	*e*Pn	Pn	12 31 08.2	+0.1
TLIG				*e*Sn	Sn	12 31 44.2	-4.4
LVIG	Laguna Verde	3.58	340	*e*Pn	Pn	12 31 05.9	-2.7
LVIG				*e*Sn	Sn	12 31 45.4	-4.3
APG	El Apazote	4.67	106	P	Pn	12 31 24.6	+0.8
	10nm,0.3s,baz=237,slow=16,SNR=82						
UNM	Universidad Na	4.87	308	*e*Pn	Pn	12 31 25.4	-1.3
MYIG	Mrida	6.85	47	*e*Pn	Pn	12 31 54.3	+0.9
TEIG	Tepich	7.55	58	*e*Pn	Pn	12 32 01.0	-2.0
TEIG				*e*Sn	Sn	12 33 22.3	-4.8
LNIG	Linares	9.43	335	*e*Pn	Pn	12 32 27.8	-0.8
ESPN	Las Esperanzas	11.26	110	*e*Pn	Pn	12 32 52.2	-1.6
833A	Chaparral WMA,	12.55	342	*e*Pn	Pn	12 33 11.5	+0.2
435B	Jarrell	14.54	351	*e*Pn	Pn	12 33 38.3	+0.6
JCT	Junction City	14.70	344	*e*Pn	Pn	12 33 40.7	+0.9
TXAR	Lajitas Array	15.13	330	P	Pn	12 33 44.3	-1.0
	0.1nm,0.3s,baz=137,slow=16,SNR=3.3						
TXAR				pP	pP	12 34 05.9	+2.4
	0.2nm,0.3s,baz=149,slow=12,SNR=3.9						
WHTX	Lake Whitney,	15.71	353	*e*Pn	P	12 33 55.0	-0.3
	38nm,0.5s						
LPIG	La Paz	16.20	301	LR	LR	12 40 53.2	
	comp=Z,27nm,20.6s,baz=124,slow=39						
ABTX	Abilene, Hawle	16.71	347	*e*Pn	P	12 34 07.1	+0.6
	24nm,0.4s						
Z41A	Richland Creek	16.96	7	*e*Pn	P	12 34 10.3	+1.2
	20nm,0.6s						
MIAR	Mount Ida	18.17	4	*e*P	Pn	12 34 24.3	+1.3
	54nm,1.8s						
WMOK	Wichita Mounta	18.60	350	*e*P	Pn	12 34 31.6	+3.3
	9.1nm,0.9s						
W39A	Magazine	18.80	3	*e*P	Pn	12 34 32.6	+2.0
	12nm,0.5s						
MSTX	Muleshoe	18.85	340	*e*P	Pn	12 34 31.0	-0.3
	5.8nm,0.8s						
W41B	Gary Mavity, V	18.92	7	*e*P	Pn	12 34 33.3	+1.4
	18nm,1.6s						
WHAR	Wooly Hollow	19.03	7	*e*P	Pn	12 34 34.7	+1.4
	15nm,1.2s						
ANMO	Albuquerque	21.12	333	P	P	12 34 56.1	+1.3
	0.7nm,0.6s,baz=142,slow=10,SNR=4.5						
ANMO				pP	pP	12 35 10.6	+0.9
	1.1nm,0.5s,baz=144,slow=12,SNR=3.9						
NVAR	Mina Array Bea	29.97	322	P	P	12 36 19.1	+1.5
	0.7nm,0.7s,baz=133,slow=9.1,SNR=6.1						
NVAR				pP	pP	12 36 37.5	+2.8
	1.1nm,0.7s,baz=123,slow=9.8,SNR=5.9						
YKA	Yellowknife Ar	48.09	348	P	P	12 38 47.2	-0.6
	0.2nm,0.4s,baz=152,slow=7.5,SNR=5.6						
YKA				pP	pP	12 39 04.7	-1.0
	0.7nm,0.6s,baz=153,slow=7.5,SNR=10						
ILAR	Eielson Array	59.51	337	pP	pP	12 40 29.5	-0.1
	0.6nm,1.0s,baz=151,slow=5.5,SNR=3.2						
SPU	Mount Spurr	60.10	332	*e*P	P	12 40 20.7	+5.4

ISCJB 03 12:50:58.9±0.8,12°.85N±0°.06×89°.64W±0°.04,h51km±8km, mb4.0/6,Error ellipse: s-maj=11.1km s-min=4.5km az=31.8
UCR 03 12:50:58.4±1.2,12°.89N×89°.64W,h20km±3km,MD4.0, ML4.1
IDC 03 12:51:03.0±2.5,13°.29N×89°.19W,h57km±22km,mb3.6/7, mb1 3.9/10,mb1mx3.6/42,mbtmp3.9/10,ML3.5/3,MS3.2/5, Ms1 3.2/5,ms1mx3.0/32,Error ellipse: s-maj=58.8km s-min=14.7km az=48.0
ISC 03 12:51:01.3±1.5,12°.99N±0°.09×89°.58W±0°.06,h51km±14km, n45,σ1^{s}17/47,mb4.1/6,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOMA	San Marcos	0.77	31	IAML		12 51 31.8	
	comp=Z,12μm,0.3s						
SNET	Serv Nac Est T	0.77	26	*e*P	Pn	12 51 14.9	-1.3
SNET				*e*S	Sn	12 51 27.7	+0.8
SNET				IAML		12 51 30.7	
	comp=Z,5μm,0.4s						
BOQS	Boqueron	0.79	21	*e*P	Pn	12 51 15.5	-1.1
LFRS	El Faro	0.81	39	*e*P	Pn	12 51 15.6	-1.0
OPAM	San Salvador	0.81	27	*e*S	Sn	12 51 28.8	+1.0
OPAM				IAML		12 51 36.0	
	comp=Z,8μm,0.4s						
CEDA	San Andres	0.83	13	IAML		12 51 37.1	
	comp=Z,6μm,0.3s						
CEVE	Cerro Verde	0.83	357	*e*P	Pn	12 51 15.8	-1.3
CEVE				IAML		12 51 35.4	
	comp=Z,15μm,0.4s						
SBLS	San Blas	0.84	357	*e*P	Pn	12 51 15.9	-1.4
SNJE	San Jose	0.87	358	*e*P	Pn	12 51 16.3	-1.3
LFU	La Fuente	0.88	31	*e*P	Pn	12 51 16.9	-0.7
RTR	El Retiro	0.90	356	*e*P	Pn	12 51 16.7	-1.2
SNVI	San Vicente	0.95	49	*e*P	Pn	12 51 17.7	-0.8
PAVA	Las Pavas	0.95	41	*e*P	Pn	12 51 18.1	-0.4
PAVA				*e*S	Sn	12 51 33.2	+2.0
PAVA				IAML		12 51 34.7	
	comp=Z,6μm,0.3s						
TECA	Tecapa	1.16	64	*e*P	Pn	12 51 20.5	-0.9
PACA	Pacayal	1.31	69	*e*P	Pn	12 51 22.8	-0.6
LLGN	La Laguna	1.32	27	*e*S	Sn	12 51 42.2	+2.1
LLGN				IAML		12 51 47.6	
	comp=Z,2μm,0.4s						
LCY	Lacayo	1.32	71	*e*P	Pn	12 51 22.9	-0.6
VSM	San Miguel	1.34	71	*e*P	Pn	12 51 23.6	-0.4
IXG	Ixpaco	1.45	324	*e*P	Pn	12 51 23.9	-1.5
LCND	La Caada	1.68	79	*e*P	Pn	12 51 27.2	-1.0
LCND				*e*S	Sn	12 51 50.3	+1.7
LCND				IAML		12 52 03.5	
	comp=Z,2μm,0.3s						
PCG	Pacaya	1.71	324	*e*P	Pn	12 51 28.8	-0.3
PCG				*e*S	Sn	12 51 51.9	+1.9
NBG	Las Nubes	1.75	335	*e*P	Pn	12 51 30.4	+0.8
FUG	Fuego 3	1.90	320	*e*P	Pn	12 51 30.3	-1.2
FUG				*e*S	Sn	12 51 55.8	+1.5
APG	El Apazote	2.18	337	P	Pn	12 51 35.1	-0.2
	comp=Z,34nm,0.3s,baz=124,slow=7.2,SNR=58						
CRIN	San Cristobal	2.48	96	*e*P	Pn	12 51 39.3	0.0
CNGN	Cerro Negro	2.85	100	*e*P	Pn	12 51 44.0	-0.4
CNGN				*e*S	Sn	12 52 18.3	+0.7
MOMN	Momotombo	3.02	101	*e*P	Pn	12 51 45.2	-1.5
COPN	Copaltepe	3.03	105	*e*P	Pn	12 51 45.1	-1.6
ESTN	Estel	3.13	88	*e*P	Pn	12 51 48.0	-0.3
ESTN				*e*S	Sn	12 52 26.5	+2.0
MATN	Matagalpa	3.56	91	*e*P	Pn	12 51 53.2	-1.0
BOAB	BOACO BROADBAN	3.86	98	*e*P	Pn	12 51 57.1	-1.0
JTS	JuntasAbangare	5.27	120	P	Pn	12 52 18.0	+0.4
	comp=Z,4.7nm,0.3s,baz=1.4,slow=19,SNR=9.9						
JTS				LR	LR	12 54 31.3	
	comp=Z,211nm,21.2s,baz=12,slow=41						
CMIG	Matias Romero	6.55	309	P	Pn	12 52 34.4	-0.6
	comp=Z,1.9nm,0.3s,baz=100,slow=9.8,SNR=13						
SDV	Santo Domingo	19.04	100	P	P	12 55 18.2	-1.5
	comp=Z,0.3nm,0.3s,baz=289,slow=8.5,SNR=3.7						
SDV				LR	LR	13 02 59.0	
	comp=Z,117nm,19.3s,baz=60,slow=38						
TXAR	Lajitas Array	20.87	323	P	Pn	12 55 41.3	-1.0
	comp=Z,2.2nm,0.5s,baz=148,slow=11,SNR=21						
TKL	Tuckaleechee C	23.17	12	LR	LR	13 06 23.3	
	comp=Z,70nm,18.1s,baz=168,slow=40						
ANMO	Albuquerque	26.67	328	LR	LR	13 07 56.3	
	comp=Z,16nm,19.1s,baz=56,slow=38						
NVAR	Mina Array Bea	35.94	320	P	P	12 57 59.0	+1.7
	comp=Z,2.6nm,0.8s,baz=128,slow=9.6,SNR=16						
ULM	Lac du Bonnet	37.51	353	P	P	12 58 09.5	-0.7
	comp=Z,1.5nm,0.5s,baz=162,slow=8.1,SNR=4.6						
SIV	San Ignacio	40.30	135	P	P	12 58 33.9	-0.1
	comp=Z,3.3nm,0.9s,baz=317,slow=9.1,SNR=15						
YKA	Yellowknife Ar	52.56	346	P	P	13 00 08.1	-1.3
	comp=Z,0.8nm,0.4s,baz=131,slow=7.9,SNR=22						
INK	Inuvik	62.08	343	P	P	13 01 15.7	-0.7
	comp=Z,0.4nm,0.4s,baz=108,slow=6.4,SNR=5.6						
ILAR	Eielson Array	64.69	336	P	P	13 01 34.3	+0.4
	comp=Z,0.2nm,0.4s,baz=133,slow=5.1,SNR=5.5						
ILAR				LR	LR	13 32 31.3	
	comp=Z,31nm,18.0s,baz=148,slow=38						
WRA	Warramunga Arr	137.41	255	PKP	PKPdf	13 10 20.9	+0.7
	comp=Z,0.4nm,0.9s,baz=100,slow=3.1,SNR=4.2						
CMAR	Chiang Mai Arr	147.64	345	PKPbc	PKPbc	13 10 41.1	0.0
	comp=Z,1.1nm,0.7s,baz=346,slow=3.7,SNR=6.7						

JMA 03 12:55:28.0±0.5,34°.77N×141°.43E,h45km±4km,M2.8
IDC 03 12:55:31.6±5.5,34°.78N×141°.37E,h40km±42km,mb3.4/4, mb1 3.5/6,mb1mx3.2/52,mbtmp3.6/6,ML3.2/2,MS2.8/1, Ms1 3.0/1,ms1mx2.3/23,Error ellipse: s-maj=48.8km s-min=16.3km az=86.0
ISC 03 12:55:30.1±1.3,34°.85N±0°.05×141°.3E±0°.1,h27km,n16, σ1^{s}14/18,mb3.9/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.30	230	P	Pn	12 55 37.7	-0.5
BSO1				X		12 55 44.0	
BSO3	Boso 3	0.61	266	P	Pb	12 55 42.7	+0.5
BSO4	Boso 4	0.77	281	P	Pn	12 55 45.4	+0.3
BSO4				X		12 55 57.1	
CHOJ	Chosi	0.91	339	P	Pn	12 55 46.3	-0.9
CHOJ				*e*S	Sb	12 55 59.4	+0.2
JKUC	kamogawauchiur	0.92	290	P	Pn	12 55 47.0	-0.3
JSMT	Sammumatsuo	1.03	321	P	Pb	12 55 49.3	-0.1
JCN	Nagara	1.03	304	P	Pb	12 55 50.0	+0.6
JIM2	Oshima 3	1.51	266	P	Pn	12 55 54.8	-0.6
JHJ	Hachijo jima 2	2.11	216	P	Pn	12 56 04.1	+0.4
	12nm,0.3s,baz=72,slow=20,SNR=3.8						
JHJ				S	Sn	12 56 29.8	+0.7
	31nm,0.3s,baz=73,slow=19,SNR=5.6						
MJAR	Matsushiro Arr	3.00	305	P	Pn	12 56 17.6	+1.6
	3.5nm,0.3s,baz=98,slow=14,SNR=64						
MAT	Matsushiro	3.00	305	P	Pn	12 56 17.8	+1.8
MAT				S	Sb	12 56 56.2	-3.0
CMAR	Chiang Mai Arr	40.86	258	LR	LR	13 20 20.3	
	comp=Z,14nm,19.8s,baz=185,slow=36						
MKAR	Makanchi Array	45.20	304	P	P	13 03 45.3	+0.6
	0.3nm,0.6s,baz=92,slow=11,SNR=4.1						
KURBB	Kurchatov Arra	47.27	310	P	P	13 04 01.5	+0.6
	0.5nm,0.4s,baz=83,slow=7.3,SNR=4.4						
WRA	Warramunga Arr	54.88	188	P	P	13 04 57.4	-0.9
	1.3nm,0.6s,baz=5.0,slow=7.6,SNR=28						
ASAR	Alice Springs	58.61	188	P	P	13 05 24.2	-0.5
	0.5nm,0.6s,baz=13,slow=10.0,SNR=15						

IDC 03 13:07:04.8±5.2,5°.95S×149°.05E,h103km±46km,mb3.5/3, mb1 3.8/5,mb1mx3.4/33,mbtmp3.9/5,Error ellipse: s-maj=95.7km s-min=34.7km az=111.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.91	209	P	Pn	13 08 02.7	-0.2
	2.7nm,0.3s,baz=21,slow=9.2,SNR=9.3						
PMG				S	Sn	13 08 44.1	-3.7
	9.2nm,0.3s,baz=185,slow=23,SNR=6.9						
WRA	Warramunga Arr	19.95	224	P	P	13 11 28.5	-0.3
	0.9nm,0.3s,baz=49,slow=11,SNR=66						
ASAR	Alice Springs	22.86	218	P	P	13 11 59.9	+0.2
	2.8nm,0.4s,baz=55,slow=8.6,SNR=120						
FITZ	Fitzroy Crossi	25.84	240	P	P	13 12 26.5	-0.4
	2.5nm,0.4s,baz=55,slow=8.8,SNR=14						
MKAR	Makanchi Array	78.77	320	P	P	13 18 56.6	+0.4
	0.1nm,0.5s,baz=95,slow=8.4,SNR=2.5						

WEL 03 13:14:08.1±0.8,33°S±10°×17°9W±2°7,h12km,ML4.5/12, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	4.15	16	S	Sn	13 16 00.3	+0.7
MXZ	Matakaoa Point	4.73	204	P	Pn	13 15 22.5	+3.3
WMGZ	Waiomatatini S	4.93	202	P	Pn	13 15 22.5	+0.6
WMGZ				S	Sn	13 16 21.4	+2.6
HAZ	Te Kaha	5.09	207	P	Pn	13 15 24.1	-0.1
PKGZ	Pakihiroa	5.10	204	P	Pn	13 15 26.1	+1.7
PUZ	Puketiti	5.21	202	P	Pn	13 15 25.3	-0.5
PUZ				S	Sn	13 16 26.0	+0.2
RUGZ	Raukumara Rang	5.31	207	P	Pn	13 15 26.5	-0.9
KUZ	Kuaotunu	5.39	228	P	Pn	13 15 29.3	+1.1
TWGZ	Tauwhareparae	5.39	204	P	Pn	13 15 30.6	+2.3
TWGZ				S	Sn	13 16 32.0	+1.6
CNGZ	Carnagh Statio	5.60	201	P	Pn	13 15 30.5	-0.7
TKGZ	Te Karaka	5.67	204	P	Pn	13 15 29.9	-2.3
MWZ	Matawai	5.69	206	P	Pn	13 15 30.0	-2.5
MWZ				S	Sn	13 16 36.3	-1.6
OPRZ	Ohinepanea	5.70	215	P	Pn	13 15 33.6	+1.0
MARZ	Manawahe	5.76	214	P	Pn	13 15 33.4	0.0
URZ	Urewera	5.79	210	P	Pn	13 15 31.2	-2.6
RAGZ	Rawiri	5.88	206	P	Pn	13 15 32.7	-2.3
RIGZ	Rimuhau	5.95	203	P	Pn	13 15 34.2	-1.7
ETAZ	East Tamaki Re	6.02	231	P	Pn	13 15 35.2	-1.7
PRGZ	Paritu Road	6.10	201	P	Pn	13 15 37.7	-0.4
MUGZ	Murupara	6.12	211	P	Pn	13 15 36.5	-1.9
RTZ	Ruatahuna	6.15	209	P	Pn	13 15 35.3	-3.5
SNGZ	Shannon Statio	6.16	206	P	Pn	13 15 35.6	-3.3
TOZ	Tahuroa Road	6.17	222	P	Pn	13 15 39.0	0.0
KNZ	Kokohu	6.26	202	P	Pn	13 15 39.0	-1.2
MHGZ	Mahia Peninsul	6.31	200	P	Pn	13 15 41.1	+0.2
RAHZ	Arahi	6.37	207	P	Pn	13 15 39.9	-1.9
MTHZ	Maungataniwha	6.41	208	P	Pn	13 15 41.1	-1.3
WHHZ	Waihua	6.46	205	P	Pn	13 15 41.6	-1.3
KUTZ	Kaahu Road	6.57	216	P	Pn	13 15 43.2	-1.2
MRHZ	Matea Rd	6.57	211	P	Pn	13 15 41.9	-2.6
TLZ	Tolley Road	6.59	218	P	Pn	13 15 43.7	-1.1
NMHZ	Naumai	6.63	207	P	Pn	13 15 41.3	-4.1
ARHZ	Aropaoanui	6.71	206	P	Pn	13 15 42.5	-3.9
BKZ	Black Stump Fm	6.82	209	P	Pn	13 15 45.3	-2.6
MCHZ	McNeill Hill	6.98	207	P	Pn	13 15 47.7	-2.4
CKHZ	Cape Kidnapper	7.03	204	P	Pn	13 15 48.5	-2.3
KWHZ	Kaweka Forest	7.07	208	P	Pn	13 15 48.3	-3.1
TWVZ	Taurewa	7.21	215	P	Pn	13 15 49.5	-3.8
NGZ	Ngauruhoe	7.21	214	P	Pn	13 15 50.2	-3.3
KAHZ	Kahuranaki	7.22	204	P	Pn	13 15 49.0	-4.5
TUVZ	Tukino	7.26	213	P	Pn	13 15 50.5	-3.7
BHHZ	Black Hill Sta	7.27	210	P	Pn	13 15 49.6	-4.5
KRHZ	Kereru	7.28	208	P	Pn	13 15 49.2	-5.0
FWVZ	Far West T-bar	7.30	213	P	Pn	13 15 51.3	-3.5
MOVZ	Moawhango	7.33	212	P	Pn	13 15 50.3	-4.7
TRVZ	Turoa	7.34	213	P	Pn	13 15 51.4	-3.8
PNHZ	Pukenui	7.58	207	P	Pn	13 15 53.5	-4.8

TIF 03 13:23:38.9,42°.60N×43°.49E,h20km±4km
MOS 03 13:23:40.2±0.0,42°.60N×43°.55E,h17km,MPVA3.2
DDA 03 13:23:41.8,42°.79N×42°.33E,h7km±2km,ML2.7
ISC 03 13:23:40.7±1.0,42°.55N±0°.02×43°.55E±0°.04,h18km±7km, n16,σ0^{s}78/28,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	Digorskoe uzhe	0.35	4	*i* Pg	Pg	13 23 47.5	-0.8
	118nm,0.1s						
DIGR				*e*Sg	Sg	13 23 53.1	-0.3
	132nm,0.2s						
ZEI	Tsey	0.36	47	*e*Pg	Pg	13 23 48.4	+0.1
	52nm,0.1s						
ZEI				*e*Sg	Sg	13 23 54.3	+0.9
	252nm,0.3s						
LACR	Lac	0.62	63	*e*Pg	Pb	13 23 53.1	0.0
	12nm,0.2s						
LACR				*e*Sg	Sg	13 24 02.5	+1.1
	80nm,0.3s						
GUDG	Gudauri	0.69	96	P	Pn	13 24 04.7	+8.8
GUDG				S	Pn	13 24 04.7	+8.8
LSNR	Lesken	0.76	15	*e*Pg	Pb	13 23 55.8	+0.3
	18nm,0.2s						
LSNR				*e*Sg	Sn	13 24 07.6	-0.1
	144nm,0.3s						
TRLG	Trialeti	1.09	158	P	Pb	13 24 01.3	+0.2
TRLG				S	Sg	13 24 16.9	+0.9
KMGR	Komgaron	1.10	62	*e*Pg	Pg	13 24 02.5	+0.5
KMGR				*e*Sg	Sg	13 24 16.9	+0.5
AKH	Akhalkalaki	1.14	182	P	Pn	13 24 01.3	-0.6
AKH				S	Sn	13 24 17.0	-0.1
TBLG	Delisi	1.20	132	P	Pn	13 24 01.2	-1.5
KBTC	Kuba-Taba	1.27	355	*e*Pg	Pb	13 24 05.0	+0.7
KBTC				*e*Sg	Sg	13 24 22.1	+0.1
BGD	Bogdanovka	1.28	178	P	Pn	13 24 02.2	-1.7
BGD				S	Sg	13 24 21.8	-0.4
SHA1	Shidzhatmaz	1.36	332	*e*Pg	Pb	13 24 06.1	+0.3
SHA1				*e*Sg	Sb	13 24 23.1	+0.1
KIV0	Kislovodsk Arr	1.54	336	*e*Pg	Pb	13 24 08.6	-0.3
KIV0				*e*Sg	Sb	13 24 28.7	+0.6
ARTV	Artvin	1.82	222	*i* P	Pn	13 24 12.3	+0.9
DAGI	Agillar	1.91	220	*i* P	Pb	13 24 16.0	+0.9
DAGI				*i* S	Sb	13 24 39.3	+0.7
DBAD	Bademkaya	2.06	223	IAML_P			
	comp=Z,428nm,0.3s						
DBAD				*i* P	Pb	13 24 17.1	-0.6
DBAD				*i* S	Sb	13 24 44.1	+1.1

ISK 03 13:26:08.3,37°.14N×38°.72E,h5km,ML2.1/4
DDA 03 13:26:09.2,37°.34N×38°.78E,h7km±5km,ML2.8
ISCJB 03 13:26:10.1±0.8,37°.12N±0°.05×38°.72E±0°.05,h7km,Error ellipse: s-maj=7.1km s-min=6.2km az=166.0
ISC 03 13:26:10.3±1.1,37°.18N±0°.04×38°.75E±0°.04,h7km,n10, σ1^{s}60/12,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANL	SANLIURFA_Merk	0.20	94	IAML_P			
	comp=Z,11μm,0.3s						
URFA	Urfa	0.26	13	PG	Pg	13 26 15.6	+0.1
URFA				SG	Sg	13 26 21.0	+1.9
SURC	SANLIURFA_SURC	0.32	199	*i* P	Pg	13 26 15.6	-1.0
SURC				*i* S	Sb	13 26 26.8	+3.0
ATAB	Bozova	0.46	309	IAML_P			
	comp=Z,9μm,0.2s						
ATAB				*i* P	Pg	13 26 18.5	-0.7
GZT	Gaziantep	0.96	281	IAML_P			
	comp=Z,1μm,0.1s						
GZT				*i* P	Pg	13 26 28.1	-0.6
GZT				*i* S	Sg	13 26 41.2	0.0
GAZ	Gaziantep	1.23	270	PN	Pb	13 26 32.4	-1.4
AKCD	Akcadag	1.29	330	*i* S	Sn	13 26 53.6	+1.2
MAZI	Mazidag	1.38	78	PN	Pg	13 26 36.1	-0.7
MARD	Mardin	1.63	85	*i* S	Sg	13 27 02.6	-0.1
PTK	Pertek	1.78	16	PN	Pg	13 26 42.3	-2.1

NIED 03 13:42:00,37°.70N×142°.30E,h23km,Mw4.0 Best double couple: $M_0$9.82000×10^{14} NP1:ϕ_s119.00000°,δ9.00000°, λ21.00000°. NP2:ϕ_s8.00000°,δ87.00000°,λ98.00000°.
ISCJB 03 13:42:24.5±1.0,37°.65N±0°.03×142°.41E±0°.05,h16km±6km, mb3.7/13,MS3.0/1,Error ellipse: s-maj=6.8km s-min=5.8km az=13.7
JMA 03 13:42:26.3±0.1,37°.66N×142°.32E,h29km±3km,M4.3
IDC 03 13:42:28.7±3.2,37°.60N×142°.37E,h37km±27km,mb3.6/13, mb1 3.8/17,mb1mx3.7/34,mbtmp3.9/17,ML3.5/4,MS3.0/4, Ms1 3.0/4,ms1mx2.7/36,Error ellipse: s-maj=20.4km s-min=14.3km az=104.0
ISC 03 13:42:24.3±1.9,37°.64N±0°.04×142°.31E±0°.06,h6km±10km, n35,σ1^{s}16/48,mb3.9/13,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.95	315	P	Pb	13 42 43.3	+0.2
JIKH				S	Sg	13 42 55.5	+0.7
JIO	Ouri	1.11	317	P	Pg	13 42 45.9	+0.2
JIO				S	Sg	13 42 59.8	-0.3
JFK	Kawauchi	1.18	257	P	Pg	13 42 47.0	+0.1
JFK				S	Sg	13 43 01.5	-0.6
JMM	Marumori	1.23	281	P	Pn	13 42 47.7	-0.3
JMM				S	Sg	13 43 02.9	-0.8
JKMT	Kesennumamotoy	1.34	331	P	Pn	13 42 48.9	-0.7
JKMT				S	Sb	13 43 05.2	-2.1
JOU	Okura	1.49	300	P	Pn	13 42 52.2	+0.6
JOU				S	Sn	13 43 10.7	-0.7
JMK	Ichinoseki	1.57	327	P	Pn	13 42 52.7	0.0
JMK				S	Sn	13 43 11.9	-1.3
JFT	Otama	1.57	266	P	Pn	13 42 53.7	+0.9
JFT				S	Sn	13 43 13.2	-0.3
JYS	Shirataka	1.87	289	P	Pn	13 42 58.0	+1.2
JYS				S	Sn	13 43 21.2	+0.5
JOM	Ohasama	2.00	337	P	Pn	13 42 58.9	+0.3
JOM				S	Sn	13 43 23.2	-0.7
JYK	Kaneyama	2.00	310	P	Pn	13 42 59.3	+0.7
JFY	Yanaizu	2.09	264	P	Pn	13 43 01.4	+1.6
JFY				S	Sn	13 43 27.2	+1.1
JRG	Rokugo	2.19	324	P	Pn	13 43 02.3	+1.0
JRG				*e*S	Sn	13 43 29.4	+0.7
JYA	Atsumi	2.26	296	P	Pn	13 43 03.9	+1.7
JNS	Sasagawa	2.38	275	P	Pb	13 43 06.4	-1.2
MJAR	Matsushiro Arr	3.46	253	Pn	Pn	13 43 21.1	+2.4
	3.9nm,0.3s,baz=132,slow=7.2,SNR=45						
MAT	Matsushiro	3.46	253	P	Pn	13 43 21.4	+2.7
MAT				S	Sb	13 44 05.7	-2.6
JHJ	Hachijo jima 2	4.96	205	Pn	Pn	13 43 40.4	+1.0
	14nm,0.3s,baz=291,slow=20,SNR=3.5						
JHJ				Sn	Sn	13 44 34.7	-2.3
	23nm,0.3s,baz=138,slow=23,SNR=4.5						
ASAJ	Asahikawa	6.47	2	Pn	Pn	13 44 00.8	+0.7
	1.3nm,0.3s,baz=212,slow=16,SNR=12						
ASAJ				LR	LR	13 47 04.7	

comp=Z,49nm,18.6s,baz=194,slow=42
USRK Ussuriysk Ar. 10.19 313 Pn **Pn 13 44 53.6 +2.5**
0.7nm,0.3s,baz=119,slow=14,SNR=4.4
USRK LR LR 13 48 35.7
comp=Z,129nm,19.3s,baz=82,slow=36
KSRS Korea Array 11.43 273 Pn Pn 13 45 13.5 +5.5
0.2nm,0.3s,baz=87,slow=14,SNR=7.7
KSRS LR LR 13 49 43.1
comp=Z,98nm,18.7s,baz=70,slow=38
SEY Seymchan 26.06 10 P **P 13 47 59.3 +1.1**
1.8nm,0.6s,baz=198,slow=10,SNR=8.5
SONM Songino Array 28.05 303 P **P 13 48 17.3 +0.9**
3.8nm,0.8s,baz=99,slow=8.3,SNR=22
SONM LR LR 14 00 23.3
comp=Z,37nm,19.5s,baz=59,slow=38
ZALV Zalesovo Beam 42.04 312 P **P 13 50 16.5 +0.1**
1.9nm,0.8s,baz=99,slow=5.0,SNR=7.9
MKAR Makanchi Array 44.41 302 P **P 13 50 36.0 +0.3**
1.3nm,0.7s,baz=85,slow=10,SNR=16
ILAR Eielson Array 48.60 33 P **P 13 51 08.1 -0.2**
0.9nm,0.7s,baz=265,slow=6.1,SNR=12
INK Inuvik 53.52 27 P **P 13 51 45.5 +0.3**
0.4nm,0.4s,baz=278,slow=3.9,SNR=6.9
WRA Warramunga Arr 57.77 189 P **P 13 52 15.7 -0.5**
0.6nm,0.6s,baz=5.9,slow=7.4,SNR=17
ASAR Alice Springs 61.49 189 P **P 13 52 41.5 -0.4**
0.2nm,0.7s,baz=13,slow=10,SNR=5.6
YKA Yellowknife Ar 62.92 31 P **P 13 52 50.6 -0.5**
0.4nm,0.6s,baz=302,slow=6.2,SNR=9.4
FINES FINESS Array B 68.61 332 P **P 13 53 27.8 +0.1**
0.4nm,0.3s,baz=53,slow=7.9,SNR=7.5
KBZ Khabaz 71.05 311 P **P 13 53 43.8 +0.7**
1.2nm,0.8s,baz=44,slow=6.1,SNR=4.0
AKASG Malin Array Be 74.25 323 P **P 13 54 01.8 -0.2**
0.3nm,0.4s,baz=45,slow=6.2,SNR=4.9
PDAR Pinedale Array 76.73 46 P **P 13 54 16.9 +0.1**
0.3nm,0.6s,baz=219,slow=1.9,SNR=4.6
LPAZ La Paz 145.77 60 PKPbc **PKPdf 14 02 04.1 -1.0**
1.0nm,0.5s,baz=340,slow=6.7,SNR=4.8

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*ISCJB **03** 13:56:21.8±0.7, 40.36N±0.04×142.07E±0.09, h60km±5km, mb3.6/6, Error ellipse: s-maj=11.9km s-min=6.0km az=0.2*
*JMA **03** 13:56:22.6±0.1, 40.36N×142.09E, h51km±1km, M3.8*
JMA Felt II J1.
*IDC **03** 13:56:23.8±2.4, 40.35N×142.19E, h71km±19km, mb3.4/6, mb1 3.5/9, mb1mx3.2/45, mbtmp3.7/9, Error ellipse: s-maj=32.4km s-min=15.7km az=102.0*
ISC 03 13:56:22.7±1.0, **40.35N**±0.04×**142.03E**±0.08, **h54**km±7km, **n18**, σ1§**00**/30, **mb3.7**/6, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**0.28**	**240**	P			**Pn**	**13 56 32.1**	**+0.1**
JKEN				S			**Sn**	**13 56 38.5**	**-0.2**
JANG	**Nango**	**0.40**	**274**	P			**Pn**	**13 56 33.2**	**+0.1**
JANG				S			**Sn**	**13 56 40.6**	**+0.1**
JTH	**Tanohata**	**0.43**	**197**	P			**Pn**	**13 56 33.4**	**0.0**
JTH				S			**Sn**	**13 56 41.1**	**0.0**
JKZ	**Kuzumaki**	**0.65**	**236**	P			**Pn**	**13 56 36.6**	**+0.6**
JKZ				S			**Sn**	**13 56 46.3**	**+0.6**
JARK	**Aomorirokkasho**	**0.83**	**323**	P			**Pn**	**13 56 38.0**	**-0.3**
JARK				S			**Sn**	**13 56 49.0**	**-0.7**
JTM	**Tenmabayashi**	**0.85**	**301**	P			**Pn**	**13 56 38.5**	**-0.1**
JTM				S			**Sn**	**13 56 50.0**	**-0.2**
JOM	**Ohasama**	**1.04**	**213**	P			**Pn**	**13 56 41.6**	**+0.5**
JOM				S			**Sn**	**13 56 55.2**	**+0.5**
JAH	**Hinai**	**1.08**	**262**	P			**Pn**	**13 56 42.3**	**+0.7**
JAH				S			**Sn**	**13 56 56.6**	**+1.1**
JOT	**Ohata**	**1.27**	**324**	P			**Pn**	**13 56 43.9**	**-0.3**
JOT				S			**Sn**	**13 57 00.2**	**0.0**
ASAJ	**Asahikawa**	**3.79**	**6**	P			**Pn**	**13 57 19.3**	**+0.8**
ASAJ	5.7nm,0.3s,baz=220,slow=9.4,SNR=56			S			**Sn**	**13 58 03.3**	**+1.5**
MJAR	1.3nm,0.3s,baz=53,slow=28,SNR=3.0 **Matsushiro Arr**	**4.84**	**219**	P			**Pn**	**13 57 35.4**	**+2.4**
USRK	0.5nm,0.3s,baz=30,slow=13,SNR=14 **Ussuriysk Ar.**	**8.38**	**301**	P			**Pn**	**13 58 24.9**	**+3.4**
SONM	0.3nm,0.3s,baz=104,slow=16,SNR=6.8 **Songino Array**	**26.48**	**298**	P			**P**	**14 01 54.9**	**0.0**
ZALV	0.2nm,0.3s,baz=101,slow=7.5,SNR=3.0 **Zalesovo Beam**	**40.11**	**310**	P			**P**	**14 03 52.7**	**-0.1**
ZALV	1.5nm,0.6s,baz=93,slow=10.0,SNR=5.8			PcP			**PcP**	**14 05 55.3**	**-1.1**
MKAR	0.4nm,0.5s,baz=87,slow=7.4,SNR=2.5 **Makanchi Array**	**42.85**	**299**	P			**P**	**14 04 15.5**	**+0.1**
MKAR	0.4nm,0.5s,baz=84,slow=11,SNR=12			PcP			**PcP**	**14 06 05.0**	**-0.6**
KURBB	0.1nm,0.3s,baz=64,slow=3.4,SNR=3.3 **Kurchatov Arra**	**44.41**	**305**	P			**P**	**14 04 27.6**	**-0.2**
WRA	1.2nm,0.5s,baz=80,slow=8.6,SNR=7.7 **Warramunga Arr**	**60.41**	**188**	P			**P**	**14 06 25.7**	**-0.9**
FINES	0.1nm,0.4s,baz=6.1,slow=6.9,SNR=4.8 **FINESS Array B**	**66.12**	**332**	P			**P**	**14 07 03.9**	**0.0**
	0.9nm,0.7s,baz=32,slow=13,SNR=3.3								

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*NIED **03** 14:00:00, 24.00N×121.70E, h5km, Mw4.3 Best double couple: M○2.85000×10^15 NP1:φ○s221.00000°, δ14.00000°, λ62.00000°. NP2:φ○s69.00000°, δ78.00000°, λ96.00000°.*
*BJI **03** 14:00:13.8, 23.77N×122.07E, h28km, mb4.1/15, mB4.4/10, ML4.4/3, Ms4.3/14, Ms7 4.2/14*
*TAP **03** 14:00:15.6, 23.98N×121.73E, h7km, ML4.5, B*
*ISCJB **03** 14:00:15.2±0.3, 23.949N±0.010×121.81E±0.01, h1km±2km, mb3.9/11, MS3.5/10, Error ellipse: s-maj=2.3km s-min=1.5km az=27.9*
*JMA **03** 14:00:15.2±0.2, 23.98N×121.72E, h0km, M4.1*
*ASIES **03** 14:00:16.0, 24.03N×121.70E, h12km, MW3.8*
*IDC **03** 14:00:26.6±6.1, 23.88N×121.58E, h102km±59km, mb3.6/11, mb1 3.7/12, mb1mx3.5/44, mbtmp3.9/12, MS3.4/9, Ms1 3.4/9, ms1mx3.1/33, Error ellipse: s-maj=25.0km s-min=13.3km az=76.0*
ISC 03 14:00:16.0±0.9, **23.97N**±0.01×**121.78E**±0.02, **h7**km±6km, **n143**, σ0§**81**/221, **mb3.9**/11, **MS3.5**/10, **41C-1D**, **Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.16**	**272**	⇑*i*P			**Pg**	**14 00 19.1**	**-0.2**
HWA	baz=256			*e*S			**Sg**	**14 00 22.4**	**+0.8**
ENLB	baz=256 **Shoufeng**	**0.18**	**248**	⇑P			**Pg**	**14 00 19.8**	**+0.2**
ENLB	baz=226			S			**Sg**	**14 00 23.1**	**+1.1**
TWD	**Chiawan**	**0.20**	**303**	⇑*i*P			**Pg**	**14 00 19.5**	**-0.6**
TWD	baz=307			*i* S			**Sg**	**14 00 22.7**	**-0.1**
NACB	baz=307 **Ninganchiao**	**0.27**	**320**	⇑P			**Pg**	**14 00 20.6**	**-0.6**
NACB	baz=313			*e*S			**Sg**	**14 00 23.2**	**-1.6**
ESL	baz=313 **Shilin**	**0.35**	**244**	⇑P			**Pg**	**14 00 22.4**	**-0.6**
ESL	baz=246			S			**Sg**	**14 00 27.3**	**-0.3**
WHF	baz=246 **Hehuan Shan**	**0.50**	**290**	⇑*i*P			**Pg**	**14 00 25.1**	**-0.7**
WHF	baz=287			S			**Sg**	**14 00 31.7**	**-0.7**
CHGB	baz=287 **Renai**	**0.56**	**279**	⇑P			**Pg**	**14 00 26.4**	**-0.5**
CHGB	baz=276			*e*S			**Sg**	**14 00 34.7**	**+0.3**
HGSD	baz=276 **Ruisui**	**0.58**	**215**	*e*P			**Pg**	**14 00 28.0**	**+0.8**
NNSB	baz=199 **Datong**	**0.58**	**322**	⇑P			**Pg**	**14 00 27.0**	**-0.3**
NNSB	baz=320			S			**Sg**	**14 00 35.5**	**+0.6**
NNS	baz=320 **Nan Shan**	**0.60**	**322**	⇑*i*P			**Pg**	**14 00 27.2**	**-0.4**
NNS	baz=321			*e*S			**Sg**	**14 00 34.8**	**-0.6**
TWT	baz=321 **Tachien**	**0.62**	**297**	⇑P			**Pg**	**14 00 27.9**	**-0.2**
TWT	baz=295			S			**Sg**	**14 00 35.8**	**-0.3**
VWDT	baz=295 **VWDT**	**0.62**	**250**	*e*P			**Pg**	**14 00 27.8**	**-0.3**
VWDT	baz=253			S			**Sg**	**14 00 35.9**	**-0.3**
	baz=253								

EHY	**Hungye**	**0.62**	**222**	⇑P			**Pg**	**14 00 27.8**	**-0.2**
EHY	baz=205			S			**Sb**	**14 00 37.7**	**-0.6**
TDCB	baz=205 **Techi**	**0.64**	**296**	⇑P			**Pg**	**14 00 27.9**	**-0.4**
TDCB	baz=295			S			**Sg**	**14 00 36.2**	**-0.4**
TWC	baz=295 **Suao**	**0.64**	**6**	P			**Pb**	**14 00 28.9**	**-0.6**
TWC	baz=3.0			*e*S			**Sb**	**14 00 38.4**	**-0.3**
EOS1	baz=3.0 **EOS1**	**0.66**	**29**	*e*P			**Pn**	**14 00 31.2**	**-0.6**
EOS1	baz=53			*e*S			**Sn**	**14 00 43.0**	**+0.6**
ENTT	baz=53 **Nioudou**	**0.69**	**344**	⇑P			**Pg**	**14 00 29.6**	**+0.2**
ENTT	baz=335			S			**Sb**	**14 00 39.8**	**-0.5**
YULB	baz=335 **Yu-li**	**0.73**	**218**	⇑P			**Pg**	**14 00 29.5**	**-0.5**
YULB	baz=213			*e*S			**Sg**	**14 00 39.5**	**0.0**
TWE	baz=213 **Neicheng**	**0.76**	**352**	⇑P			**Pg**	**14 00 30.9**	**+0.3**
TWE	baz=346			S			**Sb**	**14 00 41.7**	**-0.4**
TWF1	baz=346 **Yuli**	**0.76**	**216**	*e*P			**Pg**	**14 00 29.9**	**-0.7**
TWF1	baz=227			*e*S			**Sb**	**14 00 42.7**	**+0.6**
SSLB	baz=227 **Suanglung**	**0.78**	**257**	⇑P			**Pg**	**14 00 30.5**	**-0.5**
SSLB	baz=263			*e*S			**Sg**	**14 00 39.7**	**-1.5**
YHNB	baz=263 **Yeheng**	**0.79**	**332**	⇑P			**Pg**	**14 00 31.3**	**0.0**
YHNB	baz=325			S			**Sb**	**14 00 42.1**	**-1.1**
SLBB	baz=325 **Yuanshan**	**0.79**	**350**	⇑P			**Pb**	**14 00 31.8**	**-0.4**
SLBB	baz=343			*e*S			**Sb**	**14 00 42.8**	**-0.3**
ILA	baz=343 **Ilan**	**0.79**	**358**	P			**Pb**	**14 00 31.9**	**-0.3**
ILA	baz=354			S			**Sb**	**14 00 44.0**	**+0.9**
NSK	baz=354 **Sanguang**	**0.80**	**331**	⇑*i*P			**Pg**	**14 00 31.4**	**-0.1**
NSK	baz=324			S			**Sg**	**14 00 42.1**	**+0.2**
SMLT	baz=324 **Sun Moon Lake**	**0.81**	**264**	⇑*i*P			**Pg**	**14 00 31.3**	**-0.4**
SMLT	baz=271			S			**Sg**	**14 00 41.9**	**-0.3**
NWLT	baz=271 **Wulai**	**0.84**	**343**	⇑P			**Pg**	**14 00 32.0**	**-0.3**
NWLT	baz=331			*e*S			**Sb**	**14 00 44.0**	**-0.6**
TYC	baz=331 **Yuchr**	**0.85**	**266**	⇑*i*P			**Pg**	**14 00 31.7**	**-0.6**
TYC	baz=272			S			**Sg**	**14 00 42.7**	**-0.7**
NTC	baz=272 **Toucheng**	**0.88**	**3**	*e*P			**Pb**	**14 00 33.2**	**-0.5**
YUS	baz=352 **Yu-Shan**	**0.90**	**238**	P			**Pg**	**14 00 33.1**	**-0.3**
YUS	baz=232			*e*S			**Sg**	**14 00 45.5**	**+0.4**
CHKT	baz=232 **Chengkung**	**0.95**	**204**	*e*P			**Pg**	**14 00 33.8**	**-0.4**
CHKT	baz=200			*e*S			**Sb**	**14 00 48.9**	**+1.3**
NSTT	baz=200 **Nanjuang**	**0.97**	**313**	⇑*i*P			**Pg**	**14 00 34.6**	**0.0**
NSTT	baz=311			S			**Sg**	**14 00 47.1**	**-0.2**
LIOB	baz=311 **Emei**	**0.97**	**314**	⇑P			**Pb**	**14 00 34.9**	**-0.3**
LIOB	baz=312			*e*S			**Sg**	**14 00 47.2**	**-0.1**
WJS	baz=312 **Zhushan**	**0.97**	**262**	*e*P			**Pg**	**14 00 34.8**	**+0.1**
WJS	baz=265			*e*S			**Sn**	**14 00 49.8**	**-0.5**
TWQ1	baz=265 **Liyutan**	**0.99**	**292**	⇑P			**Pg**	**14 00 35.3**	**+0.2**
TWQ1	baz=300			*e*S			**Sb**	**14 00 49.0**	**+0.1**
TIPB	baz=300 **Shangxi**	**1.00**	**2**	⇑*i*P			**Pb**	**14 00 35.5**	**-0.2**
TIPB	baz=355			S			**Sb**	**14 00 49.2**	**+0.1**
WLTB	baz=355 **Daxi**	**1.00**	**331**	⇑P			**Pb**	**14 00 35.8**	**+0.1**
WLTB	baz=331			*e*S			**Sb**	**14 00 49.5**	**+0.4**
WNT	baz=331 **Mingjian**	**1.01**	**265**	⇑P			**Pb**	**14 00 35.7**	**-0.1**
WNT	baz=268			*e*S			**Sb**	**14 00 49.9**	**+0.6**
TWA	baz=268 **Mucha**	**1.02**	**350**	⇑P			**Pb**	**14 00 36.0**	**-0.1**
TWA	baz=341			S			**Sb**	**14 00 49.4**	**-0.3**
TCU	baz=341 **Taichung**	**1.03**	**280**	*e*P			**Pn**	**14 00 36.6**	**-0.3**
TCU	baz=274			*e*S			**Sn**	**14 00 51.4**	**-0.1**
NSY	baz=274 **Sanyi**	**1.03**	**296**	⇑*i*P			**Pb**	**14 00 36.4**	**+0.1**
NSY	baz=302			S			**Sb**	**14 00 49.8**	**-0.3**
TATO	baz=302 **Taipei**	**1.04**	**345**	⇑P			**Pb**	**14 00 36.1**	**-0.2**
TATO	baz=335			S			**Sg**	**14 00 49.3**	**-0.1**
ELDTW	baz=335 **Lidau**	**1.05**	**222**	*e*P			**Pg**	**14 00 34.7**	**-1.5**
TWB1	baz=219 **Santiao Chiao**	**1.05**	**10**	*e*P			**Pb**	**14 00 36.5**	**0.0**
TWB1	baz=6.0			*e*S			**Sb**	**14 00 51.1**	**+0.6**
NMLH	baz=6.0 **Miaoli**	**1.07**	**302**	*e*P			**Pb**	**14 00 37.0**	**+0.1**
CHN5	baz=299 **Tsauling**	**1.08**	**250**	⇑*i*P			**Pg**	**14 00 36.7**	**0.0**
CHN5	baz=234			S			**Sb**	**14 00 51.9**	**+0.5**
PTSB	baz=234 **Yuanli**	**1.09**	**296**	P			**Pb**	**14 00 37.4**	**+0.2**
PTSB	baz=303			*e*S			**Sn**	**14 00 52.6**	**-0.6**
SBCB	baz=303 **Hsinchu**	**1.09**	**319**	⇑P			**Pn**	**14 00 37.8**	**-0.1**
SBCB	baz=316			*e*S			**Sn**	**14 00 54.1**	**+0.9**
NWF	baz=316 **Wu-fen Shan**	**1.10**	**360**	*e*P			**Pb**	**14 00 37.3**	**-0.1**
NWF	baz=352			*e*S			**Sn**	**14 00 52.8**	**-0.6**
WFSB	baz=352 **Wu-fen Shan**	**1.10**	**360**	⇑P			**Pn**	**14 00 37.5**	**-0.3**
WFSB	baz=352			S			**Sb**	**14 00 52.1**	**+0.2**
HSN	baz=352 **Hsinchu**	**1.11**	**318**	*e*P			**Pb**	**14 00 37.4**	**-0.2**
HSN	baz=321			*e*S			**Sn**	**14 00 53.0**	**-0.6**
WCHH	baz=321 **Zhanghua**	**1.12**	**276**	P			**Pg**	**14 00 37.6**	**0.0**
WCHH	baz=270			*e*S			**Sb**	**14 00 53.1**	**+0.5**
NCUH	baz=270 **Zhongli**	**1.13**	**331**	*e*P			**Pg**	**14 00 37.7**	**-0.1**
NCU	baz=328 **National Centr**	**1.13**	**332**	*e*P			**Pb**	**14 00 38.0**	**+0.1**
NCU	baz=332			*e*S			**Sn**	**14 00 54.7**	**+0.5**
WGK	baz=332 **Gukeng**	**1.15**	**256**	*e*P			**Pg**	**14 00 38.1**	**0.0**
WGK	baz=250			*e*S			**Sb**	**14 00 53.6**	**+0.2**
WDLH	baz=250 **Douliu**	**1.17**	**256**	*e*P			**Pg**	**14 00 37.4**	**-1.1**
TWS1	baz=251 **Kuangyinshan**	**1.17**	**344**	⇑P			**Pn**	**14 00 39.3**	**+0.4**
	baz=345								

TWS1	baz=345			S			**Sn**	**14 00 55.0**	**-0.1**
YM01	**YM01**	**1.19**	**351**	⇑P			**Pn**	**14 00 40.0**	**+0.8**
YM01	baz=351			*e*S			**Sn**	**14 00 55.1**	**-0.5**
YM10	baz=351 **YM10**	**1.20**	**350**	P			**Pn**	**14 00 39.1**	**-0.2**
YM04	baz=348 **YM04**	**1.20**	**349**	⇑P			**Pb**	**14 00 39.0**	**-0.2**
YM05	baz=347 **YM05**	**1.21**	**351**	⇑P			**Pn**	**14 00 39.5**	**+0.1**
YM05	baz=351			*e*S			**Sn**	**14 00 56.6**	**+0.5**
YM11	baz=351 **YM11**	**1.21**	**351**	⇑P			**Pn**	**14 00 39.4**	**0.0**
YM07	baz=349 **YM07**	**1.21**	**353**	⇑P			**Pn**	**14 00 39.4**	**-0.1**
YM07	baz=355			*e*S			**Sn**	**14 00 55.8**	**-0.4**
YM03	baz=355 **YM03**	**1.22**	**350**	P			**Pn**	**14 00 39.7**	**0.0**
YM03	baz=339			*e*S			**Sn**	**14 00 58.2**	**+1.6**
YM08	baz=339 **YM08**	**1.23**	**352**	*e*P			**Pg**	**14 00 39.3**	**-0.2**
YOJ	baz=350 **Yonaguni jima**	**1.23**	**66**	*e*P			**Pg**	**14 00 38.9**	**-0.7**
YOJ	baz=68 **Yonaguni jima**	**1.23**	**66**	P			**Pg**	**14 00 39.2**	**-0.3**
YOJ				S			**Sn**	**14 00 56.9**	**+0.5**
NTST	**Danshui**	**1.23**	**346**	*e*P			**Pn**	**14 00 40.4**	**+0.8**
STYT	baz=342 **Tauyuan**	**1.24**	**230**	⇓P			**Pg**	**14 00 38.8**	**-0.9**
STYT	baz=211			*e*S			**Sg**	**14 00 55.3**	**-0.5**
TPUB	baz=211 **Ta-pu**	**1.25**	**238**	P			**Pn**	**14 00 39.7**	**-0.2**
TPUB	baz=233			S			**Sb**	**14 00 56.6**	**+0.3**
CHN2	baz=233 **Minshiung**	**1.27**	**250**	*e*P			**Pn**	**14 00 40.3**	**0.0**
CHN2	baz=244			S			**Sn**	**14 00 58.3**	**+0.6**
WTP	baz=244 **Ta-pu**	**1.29**	**236**	⇑P			**Pn**	**14 00 39.9**	**-0.7**
WTP	baz=230			S			**Sn**	**14 00 58.1**	**0.0**
RLNB	baz=230 **Erlin**	**1.30**	**267**	*e*P			**Pn**	**14 00 40.5**	**-0.1**
RLNB	baz=261			*e*S			**Sn**	**14 00 58.8**	**+0.4**
TWY	**Chenhua**	**1.31**	**353**	*e*P			**Pg**	**14 00 41.8**	**+0.6**
TWGBT	baz=350 **Beinan**	**1.32**	**209**	*e*P			**Pn**	**14 00 38.0**	**-2.8**
CHY	baz=193 **Chiayi**	**1.33**	**250**	*e*P			**Pn**	**14 00 41.1**	**+0.1**
CHY	baz=243			*e*S			**Sn**	**14 01 00.2**	**+1.2**
TTN	baz=243 **Taitung**	**1.34**	**206**	*e*P			**Pn**	**14 00 39.9**	**-1.3**
TWK	baz=191 **Hsinying**	**1.38**	**240**	*e*P			**Pn**	**14 00 41.5**	**-0.3**
TWK	baz=232			*e*S			**Sn**	**14 01 00.3**	**+0.1**
WTCT	baz=232 **Ta-ch'eng**	**1.38**	**266**	*e*P			**Pn**	**14 00 40.8**	**-0.9**
WTCT	baz=260			*e*S			**Sg**	**14 01 00.9**	**+0.6**
CHN1	baz=260 **Nanshi**	**1.39**	**236**	*e*P			**Pn**	**14 00 41.6**	**-0.3**
CHN1	baz=231			*e*S			**Sn**	**14 01 00.8**	**+0.2**
SGST	baz=231 **Jiashian**	**1.41**	**231**	*e*P			**Pn**	**14 00 41.9**	**-0.3**
SGST	baz=237			*e*S			**Sg**	**14 01 03.3**	**+1.9**
SLGT	baz=237 **Liugui**	**1.43**	**227**	*e*P			**Pn**	**14 00 42.2**	**-0.1**
WMLT	baz=212 **Mailiao**	**1.44**	**264**	*e*P			**Pn**	**14 00 42.3**	**-0.2**
WLGB	baz=259 **Puzi**	**1.44**	**250**	*e*P			**Pb**	**14 00 43.1**	**-0.2**
WLGB	baz=244			*e*S			**Sg**	**14 01 03.3**	**+0.8**
WSF	**Szhu**	**1.47**	**257**	*e*P			**Pn**	**14 00 42.2**	**-0.7**
WSF	baz=252			*e*S			**Sb**	**14 01 02.7**	**+0.2**
ECL	baz=252 **Taimali**	**1.56**	**209**	*e*P			**Pn**	**14 00 42.7**	**-1.6**
CHN8	baz=194 **Yiju**	**1.57**	**247**	*e*P			**Pn**	**14 00 44.1**	**-0.2**
CHN8	baz=239			*e*S			**Sb**	**14 01 05.8**	**+0.4**
CHN3	baz=239 **Shinhua**	**1.57**	**236**	*e*P			**Pb**	**14 00 45.7**	**+0.2**
SSD	baz=231 **Sandimen**	**1.61**	**221**	*e*P			**Pn**	**14 00 44.7**	**-0.2**
SSD	baz=206			*e*S			**Sb**	**14 01 07.2**	**+0.4**
SCLT	baz=206 **Jiali**	**1.66**	**242**	*e*P			**Pn**	**14 00 45.3**	**-0.3**
PCYT	baz=236 **Pengchaiyu**	**1.67**	**9**	*e*P			**Pb**	**14 00 46.8**	**-0.4**
TWM1	baz=6.0 **Shoushan**	**1.69**	**228**	*e*P			**Pb**	**14 00 47.3**	**-0.2**
MASBT	baz=213 **Mashibuluo**	**1.71**	**218**	*e*P			**Pn**	**14 00 46.3**	**0.0**
MASBT	baz=203			*e*S			**Sb**	**14 01 09.6**	**-0.1**
SGLT	baz=203 **Jiouru**	**1.71**	**224**	*e*P			**Pn**	**14 00 47.2**	**+0.9**
EAST	baz=206 **Anshuo**	**1.80**	**209**	*e*P			**Pn**	**14 00 48.1**	**+0.5**
TAW	baz=196 **Tawu**	**1.80**	**207**	*e*P			**Pn**	**14 00 47.8**	**+0.3**
IRIF	baz=193 **Iriomote-Funau**	**1.82**	**78**	P			**Pn**	**14 00 47.9**	**+0.2**
IRIF				*e*S			**Sn**	**14 01 11.9**	**+0.9**
HATJ	**Hateruma jima**	**1.85**	**87**	P			**Pn**	**14 00 48.1**	**-0.1**
SCZT	**Fangliau**	**1.92**	**214**	*e*P			**Pn**	**14 00 49.5**	**+0.4**
SCZT	baz=196			*e*S			**Sb**	**14 01 14.9**	**-0.5**
JKRS	baz=196 **Kuro-shima**	**2.05**	**82**	P			**Pn**	**14 00 51.3**	**+0.3**
WLCH	**Liuqiu**	**2.06**	**219**	*e*P			**Pb**	**14 00 53.8**	**-0.1**
WDGT	baz=216 **Dungji**	**2.07**	**250**	*e*P			**Pn**	**14 00 50.2**	**-1.0**
PHUB	baz=244 **P'eng-hu**	**2.08**	**258**	*e*P			**Pn**	**14 00 49.8**	**-1.5**
PHUB	baz=250			*e*S			**Sn**	**14 01 16.5**	**-1.0**
TWP	baz=250 **Hsiaoliuchiu**	**2.08**	**219**	*e*P			**Pb**	**14 00 54.0**	**-0.1**
PNG	baz=216 **Penghu**	**2.08**	**259**	*e*P			**Pn**	**14 00 50.0**	**-1.4**
PNG	baz=252			*e*S			**Sn**	**14 01 16.9**	**-0.7**
JIJ	baz=252 **Ishigaki jima**	**2.19**	**79**	P			**Pn**	**14 00 52.5**	**-0.4**
JIJ				*e*S			**Sn**	**14 01 20.3**	**0.0**
TWK1	**Hengchun**	**2.21**	**204**	*e*P			**Pn**	**14 00 52.8**	**-0.3**
TWKBT	baz=192 **Hengchun**	**2.21**	**204**	*e*P			**Pn**	**14 00 52.6**	**-0.5**
VCHM	baz=192 **Qimei**	**2.29**	**251**	*e*P			**Pn**	**14 00 53.7**	**-0.5**
JISG	baz=244 **Ishigakijimahi**	**2.39**	**75**	P			**Pn**	**14 00 55.3**	**-0.3**
JISG				*e*S			**Sn**	**14 01 24.7**	**-0.5**
PTMZ	**Houxiangcun**	**2.65**	**294**	*e*P			**Pn**	**14 00 58.2**	**-1.0**
MATB	baz=287 **Ma-tsu**	**2.74**	**323**	*e*P			**Pn**	**14 01 00.5**	**+0.1**
QZH	baz=315 **Quanzhou**	**3.06**	**289**	Pn			**Pn**	**14 01 04.6**	**-0.3**
QZH				Sn			**Sn**	**14 01 39.8**	**-2.0**
QZH				LR			LR		
KNM	comp=Z,3μm,8.4s **Kinmen**	**3.09**	**279**	*e*P			**Pn**	**14 01 06.1**	**+0.9**
KNMB	baz=269 **Chin-men Tao**	**3.14**	**280**	*e*P			**Pn**	**14 01 05.2**	**-0.7**
LYJJ	baz=270 **Jianjiangzhen**	**3.15**	**325**	*e*P			**Pn**	**14 01 06.4**	**+0.3**
MHZQ	baz=320 **Yeshan**	**3.27**	**311**	*e*P			**Pn**	**14 01 07.3**	**-0.5**
XPSS	baz=291 **Dashiqiu**	**3.28**	**334**	*e*P			**Pn**	**14 01 07.9**	**0.0**
	baz=329								

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AXDP	Jialang	3.59	286	eP	Pn	14 01 11.3	-0.9
	baz=276						
ZPLA	Ao Xicun	3.69	270	eP	Pn	14 01 12.6	-0.9
	baz=262						
ZZJH	Jiuhuzhen	3.82	278	eP	Pn	14 01 14.1	-1.2
	baz=269						
JOW	Kunigami	6.53	63	eP	Pn	14 01 51.6	-1.0
	baz=62						
KSRS	Korea Array	14.44	20	P	P	14 03 48.4	+0.7
	0.4nm,0.3s,baz=202,slow=12,SNR=10.0						
KSRS				LR	LR	14 10 10.0	
	comp=Z,128nm,18.3s,baz=208,slow=40						
XAN	Xi'an	15.06	315	P	P	14 03 56.0	+1.2
XAN				pP	pP	14 04 01.5	+4.8
XAN				S	Sn	14 06 38.6	+2.1
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XAN				LR	LR		
	comp=N,440nm,9.5s						
XAN				LR	LR		
	comp=E,520nm,9.5s						
XAN				LR	LR		
	comp=Z,560nm,9.8s						
CD2	Chengdu	17.42	297	eP	Pn	14 04 19.0	-0.7
CD2				S	Sn	14 07 36.1	+2.2
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,4.6s						
CD2				LR	LR		
	comp=N,740nm,5.2s						
CD2				LR	LR		
	comp=E,770nm,7.1s						
CD2				LR	LR		
	comp=Z,960nm,6.0s						
MJAR	Matsushiro Arr	18.90	45	LR	LR	14 12 58.1	
	comp=Z,63nm,18.5s,baz=235,slow=39						
CN2	Changchun	20.01	8	eP	P	14 04 48.7	-0.6
CN2				eS	S	14 08 29.1	-5.4
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,360nm,13.0s						
CN2				LR	LR		
	comp=E,350nm,13.0s						
CN2				LR	LR		
	comp=Z,350nm,14.0s						
CMAR	Chiang Mai Arr	21.98	260	P	P	14 05 11.9	+1.1
	0.5nm,0.4s,baz=68,slow=7.9,SNR=5.6						
CMAR				LR	LR	14 14 49.6	
	comp=Z,54nm,19.2s,baz=290,slow=40						
GTA	Gaotai	24.12	315	eP	P	14 05 34.2	+1.5
GTA				pP	pwP	14 05 38.1	-0.5
GTA				sP	pP	14 05 40.8	+7.2
GTA				S	S	14 09 52.5	+1.6
GTA				sS	sS	14 09 57.6	+5.3
GTA				pmax	pmax		
	comp=Z,73nm,5.6s						
GTA				LR	LR		
	comp=N,160nm,10.2s						
GTA				LR	LR		
	comp=E,240nm,11.7s						
GTA				LR	LR		
	comp=Z,290nm,11.4s						
KLR	Kul'dur	26.40	15	P	P	14 05 54.9	+1.8
	1.3nm,0.7s,baz=245,slow=4.6,SNR=5.5						
SONM	Songino Array	26.78	337	P	P	14 05 56.4	-0.3
	1.8nm,0.7s,baz=146,slow=10,SNR=5.0						
SONM				LR	LR	14 17 35.1	
	comp=Z,106nm,19.6s,baz=180,slow=38						
LEM	Lembang	33.59	206	LR	LR	14 21 03.4	
	comp=Z,183nm,18.2s,baz=58,slow=37						
WMQ	Urumqi	34.20	314	eP	P	14 07 03.8	+1.5
WMQ				LR	LR		
	comp=E,90nm,17.5s						
WMQ				LR	LR		
	comp=Z,85nm,13.1s						
MKAR	Makanchi Array	38.87	316	P	P	14 07 41.3	-0.8
	1.3nm,0.5s,baz=103,slow=9.4,SNR=15						
MKAR				LR	LR	14 26 57.2	
	comp=Z,22nm,18.9s,baz=354,slow=41						
PETK	Petropavlovsk-	39.74	34	LR	LR	14 27 10.0	
	comp=Z,39nm,18.6s,baz=26,slow=40						
ZALV	Zalesovo Beam	40.72	327	P	P	14 07 55.6	-1.7
	3.1nm,0.7s,baz=120,slow=9.0,SNR=12						
ZALV				LR	LR	14 25 26.3	
	comp=Z,51nm,18.9s,baz=72,slow=37						
KURBB	Kurchatov Arra	42.62	320	P	P	14 08 12.8	-0.2
	1.1nm,0.6s,baz=113,slow=8.6,SNR=4.1						
WRA	Warramunga Arr	45.33	163	P	P	14 08 33.4	-1.5
	1.0nm,0.5s,baz=345,slow=8.8,SNR=13						
ASAR	Alice Springs	48.79	165	P	P	14 09 00.8	-1.2
	0.5nm,0.4s,baz=337,slow=6.8,SNR=20						
STKA	Stephens Creek	58.68	160	P	P	14 10 14.0	-0.2
	1.7nm,0.7s,baz=336,slow=5.8,SNR=4.5						
ILAR	Eielson Array	69.15	27	P	P	14 11 24.4	+1.5
	0.5nm,0.8s,baz=283,slow=6.2,SNR=5.3						
NOA	NORSAR Array B	78.67	332	LR	LR	14 50 16.9	
	comp=Z,41nm,18.6s,baz=255,slow=38						
YKA	Yellowknife Ar	82.95	23	P	P	14 12 40.3	-1.2
	0.7nm,0.6s,baz=311,slow=4.9,SNR=12						

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*IDC **03** 14:02:27.6±2.6, 29°.75S×175°.82W, h0^{km}, mb4.0/3, mb1 4.1/4, mb1mx3.9/26, mbtmp4.0/4, ML3.1/1, MS3.3/7, Ms1 3.3/7, ms1mx3.0/34, Error ellipse: s-maj=52.0km s-min=42.9km az=136.0*

*ISCJB **03** 14:02:32.7±2.1, 29°.99S±0°.09×176°.1W±0°.2, h35^{km}, mb4.0/3, MS3.5/4, Error ellipse: s-maj=23.6km s-min=10.8km az=163.7*

ISC 03 14:02:33.5±2.0**, 29°.9S**±0°.1×**176°.0W**±0°.2**, h35**^{km}**, n11, σ1^{s}37**/8**, mb4.2**/3**, MS3.4**/4**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.78	289	Pn	Pn	14 03 02.5	+0.7
	103nm,0.3s,baz=81,slow=19,SNR=3.8						
RAO				Sn	Sn	14 03 21.8	-1.3
	257nm,0.3s,baz=283,slow=22,SNR=6.0						
URZ	Urewera	10.15	212	Pn	Pn	14 04 55.6	-1.0
	0.2nm,0.3s,baz=276,slow=6.2,SNR=5.6						
URZ				Sn	Sn	14 06 49.5	+0.3
	1.5nm,0.3s,baz=232,slow=23,SNR=15						
URZ				LR	LR	14 09 05.2	
	comp=Z,48nm,21.0s,baz=6.5,slow=38						
RAR	Rarotonga	16.97	63	LR	LR	14 10 54.4	
	comp=Z,72nm,19.5s,baz=264,slow=30						
DZM	Mont Dzumac	17.58	292	LR	LR	14 11 44.2	
	comp=Z,103nm,21.3s,baz=232,slow=32						
PPT	Papeete	27.03	69	LR	LR	14 17 50.9	
	comp=Z,61nm,18.2s,baz=318,slow=34						
STKA	Stephens Creek	36.29	256	P	P	14 09 35.8	+2.1
	2.3nm,0.6s,baz=108,slow=11,SNR=8.2						
STKA				LR	LR	14 23 13.3	
	comp=Z,37nm,18.8s,baz=27,slow=34						
ASAR	Alice Springs	44.88	265	P	P	14 10 44.8	0.0
	0.5nm,0.4s,baz=105,slow=7.6,SNR=14						
WRA	Warramunga Arr	45.82	271	P	P	14 10 51.3	-1.0
	1.8nm,0.6s,baz=108,slow=7.8,SNR=16						
SIJI	Sorong	57.76	290	LR	LR	14 35 55.6	
	comp=Z,50nm,21.7s,baz=57,slow=35						
KSRS	Korea Array	85.07	318	LR	LR	14 46 53.3	
	comp=Z,48nm,19.5s,baz=183,slow=31						
FINES	FINESS Array B	145.20	342	PKPbc	PKPdf	14 22 05.7	-0.9
	3.0nm,1.0s,baz=20,slow=4.4,SNR=7.0						

IDC 03 14:05:34.2±21.0**, 20°.14N**×**145°.31E, h229**^{km}±211^{km}**, mb2.9**/6**, mb1 3.1**/6**, mb1mx2.9**/36**, mbtmp3.5**/6**, Error ellipse: s-maj=37.6km s-min=29.7km az=80.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.26	196	P	P	14 12 57.2	-0.1
	0.1nm,0.4s,baz=14,slow=7.7,SNR=2.4						
ASAR	Alice Springs	44.94	195	P	P	14 13 26.5	-0.2
	0.1nm,0.5s,baz=15,slow=6.5,SNR=3.9						
MKAR	Makanchi Array	57.21	313	P	P	14 14 57.8	+0.3
	0.4nm,0.7s,baz=102,slow=7.1,SNR=3.5						
ILAR	Eielson Array	62.52	27	P	P	14 15 32.4	-0.9
	0.2nm,0.6s,baz=258,slow=5.6,SNR=4.8						
YKA	Yellowknife Ar	76.89	28	P	P	14 17 02.0	+1.2
	0.3nm,0.5s,baz=292,slow=5.4,SNR=6.0						
FINES	FINESS Array B	85.43	335	P	P	14 17 44.9	-0.8
	0.8nm,0.4s,baz=61,slow=5.2,SNR=12						

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*NEIC **03** 14:17:19.2±4.7, 2°.04S×120°.15E, h148^{km}±15^{km}, mb3.8/2, Error ellipse: s-maj=75.0km s-min=16.1km az=119.0*

NEIC Felt [III] at Sorowako.

*ISCJB **03** 14:17:29.7±0.5, 2°.51S±0°.04×121°.55E±0°.04, h10^{km}, Error ellipse: s-maj=6.8km s-min=5.1km az=148.4*

*DJA **03** 14:17:30.7±0.3, 2°S±3°×12°1E±°, h10^{km}, M4.1/8, mb4.4/1, mB5.4/1, MLv3.9/8, Mw(mB)4.9/1*

*IDC **03** 14:17:35.0±1.6, 3°.35S×121°.33E, h0^{km}, mb3.0/3, mb1 3.3/3, mb1mx3.2/30, mbtmp3.1/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/18, Error ellipse: s-maj=374.0km s-min=25.1km az=58.0*

ISC 03 14:17:31.0±1.0**, 2°.53S**±0°.04×**121°.50E**±0°.05**, h10**^{km}**, n18, σ1^{s}50**/20**, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	Tana Toraja	1.75	253	P	Pn	14 17 59.1	-2.4
TTSI				S	Sn	14 18 24.1	+0.3
KDI	Kendari	1.81	142	P	Pn	14 18 02.4	+0.1
KDI				S	Sb	14 18 27.6	+0.6
LUWI	Luwuk	1.95	41	ePn	Pn	14 18 03.4	-0.8
LUWI				eSn	Sg	14 18 35.4	+1.6
SPSI	Sidrap Palu	2.24	230	P	Pn	14 18 08.7	+0.6
SPSI				S	Sn	14 18 36.6	+0.7
PCI	Palu	2.31	314	P	Pn	14 18 09.0	-0.2
PCI				S	Sn	14 18 38.3	+0.6
BNSI	Bone	2.32	217	P	Pn	14 18 10.0	+0.7
BNSI				S	Sn	14 18 39.3	+1.4
BKSI	Bulukumba	3.10	206	P	Pn	14 18 19.9	0.0
BKSI				S	Sn	14 18 57.3	+0.3
SANI	Sanana	4.51	84	P	Pn	14 18 36.7	-2.8
MMRI	Maumere	6.11	173	ePn	Pn	14 18 57.9	-3.6
TNTI	Ternate	6.72	61	ePn	Pn	14 19 10.1	+0.2
FAKI	Fak Fak	10.75	92	ePn	Pn	14 20 07.1	+2.0
JAY	Jayapura	19.19	90	LR	LR	14 30 27.5	
	comp=Z,45nm,20.7s,baz=339,slow=40						
WRAB	Tennant Creek	21.38	145	eP	P	14 22 06.7	-12
	12nm,1.5s						
WRA	Warramunga Arr	21.38	145	P	P	14 22 18.5	-0.4
	1.2nm,1.0s,baz=322,slow=11,SNR=5.5						
WB2	Warramunga Arr	21.38	145	eP	P	14 22 07.5	-11
AS31	Alice Springs	24.20	151	eP	P	14 22 32.4	-16
	3.3nm,1.8s						
ASAR	Alice Springs	24.20	151	P	P	14 22 47.3	-0.8
	0.4nm,0.8s,baz=329,slow=8.6,SNR=10						
MKAR	Makanchi Array	60.00	330	P	P	14 27 47.8	+10
	0.2nm,0.6s,baz=132,slow=7.9,SNR=3.1						

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*MOS **03** 14:32:35.5±1.8, 49°.48N×156°.84E, h17^{km}, mb4.2/1, Error ellipse: s-maj=47.2km s-min=6.4km az=82.2*

KRSC 03 14:32:35.5±1.4**, 49°.48N**×**156°.84E, h17**^{km}±21^{km}**, ML4.1, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.29	339	eP	Pn	14 32 58.6	-0.2
SKR				eS	Sb	14 33 14.6	-1.0
SKR	Severo-Kuril's	1.29	339	ePN	Pn	14 32 58.8	0.0
SKR				eS	Sb	14 33 14.6	-1.0
SKR				pmax	pmax		
	comp=Z,87nm,0.4s						
SKR				smax	smax		
	comp=N,323nm,0.5s						
SKR				smax	smax		
	comp=E,450nm,0.2s						
PAU	Pauzhetka	1.99	360	eP	Pb	14 33 10.5	-0.7
PAU				eS	Sb	14 33 34.5	-1.2
PAU	Pauzhetka	1.99	360	PN	Pb	14 33 10.5	-0.7
PAU				S	Sb	14 33 34.5	-1.2
KDTR	Khodutka, Kamc	2.46	18	eP	Pb	14 33 17.2	-2.1
KDTR				eS	Sb	14 33 47.7	-1.6
KDTR	Khodutka, Kamc	2.46	18	PN	Pb	14 33 17.2	-2.1
KDTR				S	Sb	14 33 47.7	-1.6
MTVR	Mutnovka	3.13	15	eP	Pb	14 33 27.5	-3.2
MTVR				eS	Sb	14 34 05.5	-3.0
MTVR	Mutnovka	3.13	15	PN	Pb	14 33 27.5	-3.2
MTVR				S	Sb	14 34 05.5	-3.0
RUS	Russkaya	3.14	19	eP	Pn	14 33 26.1	+1.9
RUS				eS	Sn	14 34 04.3	+3.0
RUS	Russkaya	3.14	19	PN	Pn	14 33 26.1	+1.9
RUS				S	Sn	14 34 04.3	+3.0
KRMR	Karymshinskiy	3.45	13	eP	Pb	14 33 32.3	-3.8
KRMR				eS	Sb	14 34 13.6	-4.2
KRMR	Karymshinskiy	3.45	13	PN	Pb	14 33 32.3	-3.8
KRMR				S	Sb	14 34 13.6	-4.2
APC	Apacha	3.46	3	eP	Pn	14 33 31.1	+2.6
APC				eS	Sn	14 34 11.7	+2.7
APC	Apacha	3.46	3	PN	Pn	14 33 31.1	+2.6
APC				S	Sn	14 34 11.7	+2.7
PET	Petropavlovsk	3.73	17	eS	Sn	14 34 20.0	+4.3
DALK	Dalny	3.75	18	eP	Pn	14 33 35.9	+3.3
DALK				eS	Sb	14 34 21.5	-5.0
DALK	Dalny	3.75	18	PN	Pn	14 33 35.9	+3.3
DALK				S	Sb	14 34 21.5	-5.0
UGLR	Uglovaya	3.94	18	eP	Pn	14 33 38.3	+3.1
UGLR	Uglovaya	3.94	18	PN	Pn	14 33 38.3	+3.1
AVH	Avacha	3.97	17	eP	Pn	14 33 39.9	+4.2
AVH				eS	Sn	14 34 27.3	+5.4
AVH	Avacha	3.97	17	PN	Pn	14 33 39.9	+4.2
AVH				S	Sn	14 34 27.3	+5.4
KOK	Koryaka	3.98	16	eP	Pn	14 33 39.9	+4.1
KOK	Koryaka	3.98	16	PN	Pn	14 33 39.9	+4.1
SDLR	Sedlovina	4.01	18	eP	Pn	14 33 39.9	+3.6
SDLR	Sedlovina	4.01	18	PN	Pn	14 33 39.9	+3.6
KRX	Arik	4.05	16	eP	Pn	14 33 41.4	+4.6
KRX	Arik	4.05	16	PN	Pn	14 33 41.4	+4.6
SPN	Mys Shipunski	4.14	28	eP	Pn	14 33 40.9	+3.0
SPN				eS	Sb	14 34 31.8	-5.7
SPN	Mys Shipunski	4.14	28	PN	Pn	14 33 40.9	+3.0
SPN				S	Sb	14 34 31.8	-5.7
GNL	Ganaly	4.28	9	eP	Pn	14 33 44.4	+4.5
GNL	Ganaly	4.28	9	PN	Pn	14 33 44.4	+4.5

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*TAP **03** 14:37:38.8, 23°.98N×121°.74E, h7^{km}, ML4.3, C*

*JMA **03** 14:37:38.6±0.4, 23°.98N×121°.71E, h0^{km}, M4.0*

*BJI **03** 14:37:38.0, 23°.89N×121°.85E, h5^{km}, mb3.8/8, ML3.7/3, Ms4.0/4, Ms7 3.9/6*

*ISCJB **03** 14:37:39.8±0.3, 23°.94N±0°.01×121°.79E±0°.02, h17^{km}±3^{km}, mb3.5/10, Error ellipse: s-maj=3.2km s-min=1.8km az=29.5*

*ASIES **03** 14:37:39.9, 24°.02N×121°.66E, h11^{km}, MW3.6*

*IDC **03** 14:37:48.4±6.2, 23°.91N×121°.66E, h88^{km}±61^{km}, mb3.3/9, mb1 3.5/10, mb1mx3.4/43, mbtmp3.6/10, ML3.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/13, Error ellipse: s-maj=26.6km s-min=15.4km az=81.0*

ISC 03 14:37:38.7±1.1**, 23°.96N**±0°.02×**121°.82E**±0°.02**, h4**^{km}±7^{km}**, n132, σ0^{s}83**/192**, mb3.6**/10**, 29C-4D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	Hwalien	0.19	275	⇓P	Pg	14 37 42.4	-0.1
	baz=264						
HWA				S	Sg	14 37 45.5	+0.5
	baz=264						
ENLB	Shoufeng	0.20	254	⇑P	Pg	14 37 43.0	+0.4
	baz=229						
ENLB				S	Sg	14 37 46.7	+1.4
	baz=229						
TWD	Chiawan	0.23	301	⇑iP	Pg	14 37 42.9	-0.3
	baz=306						
TWD				iS	Sg	14 37 46.0	-0.4
	baz=306						
NACB	Ninganchiao	0.29	317	⇑P	Pg	14 37 44.1	-0.3
	baz=313						
NACB				S	Sg	14 37 48.1	-0.1
	baz=313						
ESL	Shilin	0.38	247	⇑iP	Pg	14 37 45.6	-0.4
	baz=247						
ESL				eS	Sg	14 37 50.9	0.0
	baz=247						
ENA	Nanau	0.47	352	⇑iP	Pb	14 37 48.6	-1.0
	baz=1.0						
ENA				S	Sb	14 37 55.4	-1.5
	baz=1.0						
WHF	Hehuan Shan	0.54	290	⇑iP	Pg	14 37 48.4	-0.6
	baz=286						
WHF				S	Sg	14 37 55.3	-0.7
	baz=286						
HGSD	Ruisui	0.59	218	eP	Pg	14 37 50.7	+0.8
	baz=199						
CHGB	Renai	0.59	280	⇑P	Pg	14 37 49.8	-0.4
	baz=275						
CHGB				S	Sg	14 37 57.9	0.0
	baz=275						
NNSB	Datong	0.61	320	⇑P	Pg	14 37 50.4	-0.1
	baz=322						
NNSB				iS	Sg	14 37 58.8	+0.4
	baz=322						
NNS	Nan Shan	0.62	320	iP	Pg	14 37 50.6	-0.2
	baz=323						
NNS				S	Sg	14 37 58.8	0.0
	baz=323						
EHY	Hungye	0.64	225	eP	Pg	14 37 51.0	0.0
	baz=218						
TWC	Suao	0.65	3	eP	Pb	14 37 52.1	-0.4
	baz=3.0						
TWC				eS	Sb	14 38 01.5	-0.5
	baz=3.0						
VWDT	VWDT	0.65	252	⇑P	Pg	14 37 51.0	-0.1
	baz=253						
VWDT				eS	Sg	14 37 58.0	-1.6
	baz=253						
EOS1	EOS1	0.65	26	eP	Pn	14 37 54.7	0.0
	baz=52						
EOS1				eS	Sn	14 38 06.7	+1.4
	baz=52						
TWT	Tachien	0.65	297	⇑iP	Pg	14 37 51.2	0.0
	baz=295						
TWT				eS	Sg	14 38 00.9	+1.1
	baz=295						
TDCB	Techi	0.67	296	⇑P	Pg	14 37 51.3	-0.2
	baz=295						
TDCB				S	Sg	14 37 59.6	-0.6
	baz=295						
ENTT	Nioudou	0.71	341	⇑iP	Pb	14 37 53.0	-0.7
	baz=335						
ENTT				S	Sb	14 38 03.6	-0.3
	baz=335						
YULB	Yu-li	0.74	220	eP	Pg	14 37 52.7	-0.2
	baz=213						
YULB				eS	Sb	14 38 03.9	-0.6
	baz=213						
TWF1	Yuli	0.77	218	eP	Pg	14 37 54.0	+0.6
	baz=203						
TWE	Neicheng	0.77	350	⇑iP	Pb	14 37 54.2	-0.4
	baz=346						
TWE				iS	Sb	14 38 05.2	-0.2
	baz=346						
ILA	Ilan	0.80	356	eP	Pb	14 37 54.8	-0.4
	baz=353						
ILA				eS	Sn	14 38 07.7	-1.5
	baz=353						
SLBB	Yuanshan	0.81	348	⇑P	Pb	14 37 55.1	-0.2
	baz=343						
SLBB				S	Sb	14 38 06.7	+0.1
	baz=343						
SSLB	Suanglung	0.81	258	⇑P	Pg	14 37 53.6	-0.6
	baz=262						
SSLB				S	Sg	14 38 03.8	-0.9
	baz=262						
YHNB	Yeheng	0.81	331	⇑P	Pg	14 37 54.7	+0.4
	baz=333						
YHNB				S	Sg	14 38 05.5	+0.6
	baz=333						
NSK	Sanguang	0.83	330	⇑iP	Pg	14 37 54.8	+0.2
	baz=333						
NSK				S	Sg	14 38 05.8	+0.5
	baz=333						
SMLT	Sun Moon Lake	0.84	265	⇑iP	Pg	14 37 54.6	-0.2
	baz=270						
SMLT				S	Sg	14 38 05.5	-0.3
	baz=270						
NWLT	Wulai	0.86	341	eP	Pg	14 37 55.4	+0.1
	baz=329						
TYC	Yuchr	0.88	267	⇑iP	Pg	14 37 54.9	-0.7
	baz=271						
TYC				S	Sg	14 38 06.3	-0.6
	baz=271						
EGS		0.89	7	eP	Pn	14 37 57.6	-0.3
	baz=11						
NTC	Toucheng	0.89	1	eP	Pb	14 37 56.5	-0.2
	baz=351						
YUS	Yu-Shan	0.92	240	⇓P	Pg	14 37 56.7	+0.3
	baz=232						
YUS				S	Sg	14 38 08.0	-0.4
	baz=232						
CHKT	Chengkung	0.95	206	eP	Pg	14 37 56.6	-0.3
	baz=192						
LIOB	Emei	1.00	313	⇑P	Pb	14 37 58.3	-0.3
	baz=313						
LIOB				S	Sg	14 38 11.2	+0.3
	baz=313						
NSTT	Nanjuang	1.00	312	⇑iP	Pg	14 37 58.1	+0.2
	baz=312						
NSTT				S	Sg	14 38 10.8	-0.1
	baz=312						
WJS	Zhushan	1.00	262	eP	Pb	14 37 58.4	-0.2
	baz=264						
WJS				eS	Sb	14 38 12.6	+0.4
	baz=264						
TIPB	Shuangxi	1.01	1	⇑P	Pb	14 37 58.9	+0.2
	baz=355						
TIPB				S	Sb	14 38 12.6	+0.2
	baz=355						
WLTB	Daxi	1.03	330	P	Pb	14 37 58.9	-0.1
	baz=333						
WLTB				eS	Sb	14 38 13.4	+0.6
	baz=333						
TWQ1	Liyutan	1.03	292	⇓P	Pb	14 37 58.8	-0.2
	baz=282						
TWA	Mucha	1.04	348	P	Pb	14 37 59.2	0.0
	baz=352						
TWA				eS	Sb	14 38 13.3	+0.1
	baz=352						
WNT	Mingjian	1.04	266	⇑P	Pg	14 37 59.0	+0.4
	baz=268						
WNT				eS	Sb	14 38 13.3	+0.1
	baz=268						
TATO	Taipei	1.05	344	eP	Pb	14 37 59.3	-0.1
	baz=336						
TATO				eS	Sg	14 38 12.7	+0.1
	baz=336						
TWB1	Santiao Chiao	1.05	9	eP	Pb	14 37 59.6	+0.1
	baz=2.0						
TCU	Taichung	1.06	280	eP	Pb	14 37 59.7	+0.2
	baz=275						
ELDTW	Lidau	1.06	224	eP	Pg	14 37 57.8	-1.3
	baz=219						
NSY	Sanyi	1.06	295	P	Pb	14 37 59.8	+0.1
	baz=303						
NSY				eS	Sb	14 38 14.4	+0.4
	baz=303						
NMLH	Miaoli	1.10	302	eP	Pb	14 38 00.3	+0.1
	baz=297						
NMLH				eS	Sn	14 38 15.8	-0.6
	baz=297						
CHN5	Tsauling	1.10	251	⇓P	Pb	14 38 00.2	-0.1
	baz=233						
CHN5				S	Sn	14 38 16.1	-0.6
	baz=233						
NWF	Wu-fen Shan	1.11	358	P	Pn	14 38 00.8	-0.2
	baz=352						
NWF				eS	Sn	14 38 16.7	-0.1
	baz=352						
WFSB	Wu-fen Shan	1.11	358	⇑P	Pn	14 38 00.9	-0.1
	baz=353						
WFSB				S	Sn	14 38 15.9	-0.7
	baz=353						
TAP	Taipei	1.11	345	eP	Pn	14 38 00.7	-0.3
	baz=338						
TAP				eS	Sn	14 38 16.1	-0.7
	baz=338						
SBCB	Hsinchu	1.12	318	⇑P	Pn	14 38 00.8	-0.3
	baz=317						
SBCB				eS	Sn	14 38 17.5	+0.4
	baz=317						
PTSB	Yuanli	1.12	296	P	Pn	14 38 01.1	-0.1
	baz=291						
HSN	Hsinchu	1.14	318	eP	Pn	14 38 01.5	+0.2
	baz=320						
HSN				eS	Sn	14 38 17.8	+0.3
	baz=320						

WCHH	Zhanghua	1.16	276	eP	Pg	14 38 00.5	-0.4
	baz=270						
NCUH	Zhongli	1.16	330	eP	Pn	14 38 01.7	+0.1
	baz=329						
NCU	National Centr	1.16	330	eP	Pn	14 38 01.5	-0.2
	baz=332						
NCU				eS	Sn	14 38 18.5	+0.6
	baz=332						
WGK	Gukeng	1.18	257	eP	Pg	14 38 01.3	0.0
	baz=250						
TWS1	Kuangyinshan	1.19	342	⇑P	Pn	14 38 02.5	+0.4
	baz=345						
TWS1				eS	Sn	14 38 19.4	+0.6
	baz=345						
WDLH	Douliu	1.20	257	eP	Pg	14 38 01.7	0.0
	baz=251						
YM01	YM01	1.20	349	⇑eP	Pn	14 38 03.5	+1.2
	baz=350						
YM10	YM10	1.21	349	eP	Pn	14 38 02.4	-0.1
	baz=352						
YM10				eS	Sn	14 38 20.6	+1.2
	baz=352						
YM04	YM04	1.22	348	eP	Pg	14 38 01.8	-0.2
	baz=346						
YM05	YM05	1.22	349	eP	Pb	14 38 02.3	-0.1
	baz=352						
YM05				eS	Sn	14 38 19.8	+0.2
	baz=352						
YM11	YM11	1.22	350	eP	Pg	14 38 01.6	-0.5
	baz=350						
YM07	YM07	1.22	352	eP	Pn	14 38 02.6	0.0
	baz=353						
YM03	YM03	1.24	348	⇑P	Pn	14 38 02.8	0.0
	baz=348						
YM08	YM08	1.24	351	eP	Pb	14 38 02.5	-0.1
	baz=349						
NTST	Danshui	1.24	345	eP	Pn	14 38 03.7	+0.8
	baz=341						
STYT	Tauyuan	1.25	231	eP	Pg	14 38 01.9	-0.9
	baz=213						
TPUB	Ta-pu	1.27	239	⇑P	Pg	14 38 02.6	-0.4
	baz=233						
TPUB				S	Sg	14 38 19.6	0.0
	baz=233						
CHN4	Tsaushan	1.27	242	eP	Pg	14 38 03.3	+0.1
	baz=235						
CHN4				eS	Sn	14 38 21.9	+1.1
	baz=235						
CHN2	Minshiung	1.30	251	eP	Pb	14 38 04.3	+0.6
	baz=245						
WTP	Ta-pu	1.31	237	eP	Pn	14 38 03.8	-0.1
	baz=240						
WTP				S	Sb	14 38 21.5	+0.4
	baz=240						
TWGBT	Beinan	1.32	211	eP	Pn	14 38 01.1	-2.9
	baz=193						
TWG	Pinlang	1.32	211	eP	Pn	14 38 01.7	-2.2
	baz=193						
TWY	Chenhua	1.32	352	eP	Pg	14 38 05.4	+1.3
	baz=349						
RLNB	Erlin	1.33	267	eP	Pn	14 38 03.4	-0.6
	baz=260						
RLNB				eS	Sn	14 38 22.4	+0.2
	baz=260						
CHY	Chiayi	1.36	250	eP	Pb	14 38 04.7	+0.1
	baz=244						
TWK	Hsinying	1.40	241	eP	Pn	14 38 05.0	-0.1
	baz=235						
WTCT	Ta-ch'eng	1.41	266	eP	Pn	14 38 04.2	-0.8
	baz=259						
WTCT				eS	Sn	14 38 25.4	+1.4
	baz=259						
CHN1	Nanshi	1.41	237	eP	Pn	14 38 05.0	-0.2
	baz=232						
SGST	Jiashian	1.43	233	eP	Pn	14 38 05.3	-0.1
	baz=213						
SGST				eS	Sg	14 38 26.6	+2.0
	baz=213						
SLGT	Liugui	1.44	228	eP	Pn	14 38 05.6	0.0
	baz=212						
WLGB	Puzi	1.47	251	eP	Pn	14 38 06.2	+0.2
	baz=243						
WLGB				eS	Sg	14 38 26.6	+0.7
	baz=243						
WSF	Szhu	1.49	258	eP	Pn	14 38 06.3	0.0
	baz=250						
WSF				eS	Sg	14 38 27.8	+1.1
	baz=250						
ECL	Taimali	1.57	210	eP	Pn	14 38 06.8	-0.6
	baz=194						
CHN8	Yiju	1.59	248	eP	Pn	14 38 07.9	+0.3
	baz=241						
CHN3	Shinhua	1.60	237	eP	Pb	14 38 09.0	+0.3
	baz=232						
SSD	Sandimen	1.63	222	eP	Pn	14 38 08.2	+0.1
	baz=207						
SSD				eS	Sb	14 38 30.7	+0.6
	baz=207						
SCLT	Jiali	1.68	243	eP	Pn	14 38 09.3	+0.5
	baz=236						
TWM1	Shoushan	1.71	229	eP	Pb	14 38 10.3	-0.3
	baz=213						
MASBT	Mashibuluo	1.73	219	eP	Pn	14 38 09.8	+0.3
	baz=207						
SGLT	Jiouru	1.73	225	eP	Pb	14 38 11.4	+0.4
	baz=210						
IRIF	Iriomote-Funau	1.79	78	P	Pn	14 38 10.4	+0.1
EAST	Anshuo	1.81	210	eP	Pn	14 38 09.4	-1.2
	baz=194						
SCZT	Fangliau	1.93	215	eP	Pn	14 38 13.2	+1.0
	baz=212						
JKRS	Kuro-shima	2.02	82	P	Pb	14 38 15.3	-0.7
JKRS				eS	Sb	14 38 41.7	+0.1
WDGT	Dungji	2.10	251	eP	Pn	14 38 12.9	-1.6
	baz=244						
PHUB	P'eng-hu	2.10	258	eP	Pn	14 38 14.6	-0.1
	baz=251						
PNG	Penghu	2.11	260	eP	Pn	14 38 12.9	-1.8
	baz=252						
JIJ	Ishigaki jima	2.16	79	P	Pn	14 38 15.8	+0.3
JIJ				eS	Sn	14 38 43.4	+0.7
TWKBT	Hengchun	2.21	205	eP	Pn	14 38 17.2	+1.1
	baz=192						
VCHM	Qimei	2.31	252	eP	Pn	14 38 17.0	-0.6
	baz=244						
JISG	Ishigakijimahi	2.36	74	P	Pn	14 38 17.3	-0.9
JISG				S	Sn	14 38 46.3	-1.3
VWUC	VWUC	2.39	296	eP	Pn	14 38 17.5	-1.1
	baz=289						
PTTC	Pingtan	2.41	310	eP	Pn	14 38 17.8	-1.1
	baz=289						
PTMZ	Houxiangcun	2.68	294	eP	Pn	14 38 22.4	-0.2
	baz=286						
MATB	Ma-tsu	2.76	323	eP	Pn	14 38 23.2	-0.5
	baz=313						
QZH	Quanzhou	3.10	289	Pn	Pn	14 38 29.0	+0.7
QZH				Sn	Sn	14 39 02.6	-3.2
QZH				LR	LR		
	comp=Z,2μm,6.4s						
KNM	Kinmen	3.12	279	eP	Pn	14 38 29.6	+0.9
	baz=269						
KNMB	Chin-men Tao	3.17	280	eP	Pn	14 38 28.1	-1.2
	baz=271						
LYJJ	Jianjiangzhen	3.18	325	eP	Pn	14 38 30.2	+0.7
	baz=319						
XPSS	Dashiqiu	3.30	334	eP	Pn	14 38 31.2	+0.1
	baz=328						
MHZQ	Yeshan	3.31	311	eP	Pn	14 38 30.7	-0.5
	baz=302						
AXDP	Jialang	3.63	286	eP	Pn	14 38 34.7	-0.9
	baz=276						
ZPLA	Ao Xicun	3.72	270	eP	Pn	14 38 36.0	-0.9
	baz=261						
ZZJH	Jiuhuzhen	3.85	278	eP	Pn	14 38 39.6	+0.8
	baz=269						
KSRS	Korea Array	14.43	20	P	P	14 41 10.4	-0.3
	0.3nm,0.3s,baz=200,slow=12,SNR=8.8						
XAN	Xi'an	15.09	315	P	P	14 41 15.4	-2.7
XAN				pP	pwP	14 41 21.6	-1.1
XAN				S	Sn	14 43 59.6	-0.8
XAN				pmax	pmax		
	comp=Z,6.0nm,1.6s						
XAN				LR	LR		
	comp=Z,420nm,9.8s						
CD2	Chengdu	17.45	297	eP	Pn	14 41 43.0	-0.1
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CMAR	Chiang Mai Arr	22.00	260	P	P	14 42 35.7	+1.6
	0.6nm,0.8s,baz=77,slow=7.8,SNR=3.7						
GTA	Gaotai	24.15	315	eP	P	14 43 00.0	+4.0
GTA				pP	pwP	14 43 04.1	+3.6
GTA				sP	sP	14 43 06.9	+10
GTA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
GTA				LR	LR		
	comp=N,120nm,10.8s						
GTA				LR	LR		
	comp=E,170nm,11.4s						
GTA				LR	LR		
	comp=Z,200nm,10.8s						
KLR	Kul'dur	26.41	15	P	P	14 43 17.4	+1.2
	1.3nm,0.7s,baz=229,slow=6.5,SNR=5.4						
SONM	Songino Array	26.80	337	P	P	14 43 18.9	-1.0
	0.7nm,0.8s,baz=145,slow=8.5,SNR=4.3						
SONM				LR	LR	14 54 58.9	
	comp=Z,61nm,18.1s,baz=100,slow=38						
WMQ	Urumqi	34.23	314	eP	P	14 44 27.4	+1.8
WMQ				LR	LR		
	comp=N,84nm,13.9s						
WMQ				LR	LR		
	comp=E,74nm,12.3s						
WMQ				LR	LR		
	comp=Z,75nm,13.1s						
MKAR	Makanchi Array	38.90	316	P	P	14 45 04.2	-1.1
	1.3nm,0.9s,baz=101,slow=10.0,SNR=6.5						
ZALV	Zalesovo Beam	40.74	327	P	P	14 45 19.8	-0.7
	2.5nm,0.7s,baz=108,slow=8.3,SNR=9.4						
WRA	Warramunga Arr	45.31	163	P	P	14 45 56.1	-1.7
	0.7nm,0.8s,baz=346,slow=8.7,SNR=13						
ASAR	Alice Springs	48.78	165	P	P	14 46 25.1	+0.2
	0.3nm,0.3s,baz=340,slow=6.9,SNR=14						
ILAR	Eielson Array	69.15	27	P	P	14 48 46.9	+1.0
	0.2nm,0.6s,baz=284,slow=7.3,SNR=4.7						
YKA	Yellowknife Ar	82.95	23	P	P	14 50 04.0	-0.6
	0.4nm,0.5s,baz=310,slow=5.0,SNR=11						

ISN 03 15:13:23.8±1.4,36°.79N×43°.00E,h0^{km}±4^{km},ML3.1
DDA 03 15:13:29.1,36°.85N×43°.12E,h2^{km}±3^{km},ML3.4
ISK 03 15:13:29.0,36°.92N×43°.21E,h5^{km},ML3.2/7
ISC 03 15:13:27.3±1.2,**36°.69N**±0°.03×**43°.26E**±0°.04,**h5**^{km}±10^{km},
n23,σ1s.42/37,**Iraq**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSL	Mosul	0.31	202	ePg	Pg	15 13 32.8	-0.6
MSL				eSg	Sg	15 13 37.8	+0.4
CUKT	Cukurca	0.62	27	PG	Pg	15 13 38.5	-0.8
CUKT				SG	Sg	15 13 46.6	-0.8
SIRT	Sirnak	1.04	321	PG	Pb	15 13 45.8	-2.1
SIRN	Sırnak	1.05	320	IAML_P			
	comp=Z,4μm,0.1s						
SIRN				iP	Pb	15 13 46.9	-1.1
SIRN				iS	Sb	15 14 00.3	-1.8
YOVA	Hakkari_Yksek	1.22	42	IAML_P			
	comp=Z,3μm,0.2s						
YOVA				iP	Pn	15 13 49.5	-1.7
BASK	Baskale_VAN	1.48	23	IAML_P			
	comp=Z,2μm,0.2s						
BASK				iP	Pn	15 13 55.2	+0.3
BASK				iS	Sb	15 14 14.5	-0.2
IKRK	Kirkuk	1.56	145	ePn	Pn	15 13 56.0	+0.3
IKRK				eSn	Sg	15 14 19.0	+1.7
GEVA	Gevas	1.63	354	IAML_P			
	comp=Z,3μm,0.3s						
GEVA				iP	Pb	15 13 58.2	+0.3
GEVA				iS	Sg	15 14 21.4	+1.8
AKDM	Akdamar-Van	1.65	352	PN	Pn	15 13 56.7	-0.4
SRTM	Siirt_Merkez	1.68	321	IAML_P			
	comp=Z,5μm,0.2s						
SRTM				iP	Pn	15 13 57.5	0.0
SRTM				iS	Sb	15 14 21.5	+1.3
VANB	Van	1.90	3	PN	Pn	15 13 59.7	-0.8
BTMN	Batman	1.99	308	iP	Pn	15 14 02.8	+1.2
BTMN				iS	Sb	15 14 29.4	+0.3
MARD	Mardin	2.08	288	iP	Pn	15 14 02.8	-0.2
MARD				iS	Sn	15 14 29.7	+0.4
ADCV	BITLIS_Adilcev	2.16	349	IAML_P			
	comp=Z,508nm,0.3s						
ADCV				iP	Pb	15 14 07.6	+0.7
SVAN	Silvan-Diyarba	2.19	312	PN	Pn	15 14 06.2	+1.7
SVAN	Silvan-Diyarba	2.19	312	IAML_P			
	comp=Z,2μm,0.1s						
SVAN				eP	Pb	15 14 09.2	+1.8
SVAN				iS	Sb	15 14 35.0	0.0
DYBB	Diyarbakir	2.79	298	PN	Pn	15 14 15.1	+2.5
BNGL	BINGOL	2.81	324	iP	Pb	15 14 17.7	-0.4
BNGL				iS	Sb	15 14 53.9	+1.1
HANI	Diyarbakir_Han	2.85	308	IAML_P			
	comp=Z,1μm,0.3s						
HANI				iP	Pb	15 14 18.6	-0.1
AGRB	Hanur-Agry	2.89	356	PN	Pn	15 14 14.6	+0.5
BHD	Baghdad	3.54	165	ePn	Pn	15 14 23.0	+0.2
BHD				eSn	Sn	15 15 06.0	+1.0
IBDR	Badra	4.19	148	ePn	Pn	15 14 33.0	+1.1
IBDR				eSn	Sn	15 15 23.0	+1.8
RTB	Rutbah	4.38	214	ePn	Pn	15 14 33.0	-1.6
RTB				eSn	Sn	15 15 21.5	-4.6

SJA 03 15:21:13.7±1.0,**29°.41S**×**72°.05W**,**h21**^{km}±17^{km},**ML3.2,**
MW3.7,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	1.25	72	eP	Pb	15 21 37.1	+0.5
LCO				eS	Sn	15 21 55.5	+3.2
AROD	Rodeo	2.36	109	eP	Pb	15 21 54.2	-1.5
AROD				eS	Sb	15 22 24.5	-0.1
ACDV	Cuesta del Vie	2.66	107	eP	Pb	15 21 58.8	-1.8
ACDV				IAML		15 22 39.0	
	comp=Z,66nm,0.5s						
ACCO	Cerro Coronel	2.84	115	eP	Pb	15 22 01.8	-2.2
AGUA	GUANDACOL	3.10	92	eP	Pb	15 22 06.3	-1.9
RTLS	Leoncito	3.36	136	eP	Pb	15 22 09.1	-3.6
RTLS				IAML		15 23 00.7	
	comp=Z,59nm,0.6s						
VCA	Vinchina	3.43	80	eP	Pb	15 22 12.1	-1.8
VCA				IAML		15 23 14.7	
	comp=Z,76nm,0.5s						
AMOG	MOGNA	3.43	117	eP	Pb	15 22 10.6	-3.3
AUSP	Uspallata	3.62	141	eP	Pn	15 22 11.8	+3.0
RTLL	Cerro Villicun	3.63	123	eP	Pb	15 22 14.5	-2.7
ROC1	El Roble	3.66	166	eP	Pn	15 22 07.7	-1.6
RTCV	Cerro Valdivia	3.89	130	eP	Pb	15 22 17.5	-4.1
CFA	Coronel Fontan	3.95	125	eP	Pn	15 22 16.1	+3.0
ASAL	Salagasta	4.20	140	eP	Pn	15 22 20.4	+3.9
ARCO	CERRO ARCO	4.34	143	eP	Pn	15 22 07.3	-11
AAGR	Agrelo	4.58	144	eP	Pb	15 22 38.2	+4.8
ACAN	Cantantal	5.06	126	eP	Pb	15 22 46.4	+4.9

ISK 03 15:34:17.7,40°.58N×41°.22E,h21^{km},ML1.9/3
DDA 03 15:34:19.0,40°.71N×41°.13E,h7^{km}±4^{km},ML2.7
ISC 03 15:34:19.1±1.4,**40°.66N**±0°.05×**41°.15E**±0°.04,**h18**^{km}±12^{km},
n11,σ0s.65/20,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDEM	Demirkent	0.51	63	IAML_P			
	comp=Z,1μm,0.1s						
DDEM				iP	Pb	15 34 29.4	-0.2
DDEM				iS	Sb	15 34 36.6	-0.2
CHOM	Cayeli-Rize	0.53	326	PG	Pb	15 34 30.5	+0.7
CHOM				SG	Sn	15 34 39.8	-0.5
DBAD	Bademkaya	0.54	49	IAML_P			
	comp=Z,2μm,0.1s						
DBAD				iP	Pb	15 34 30.1	-0.1
DAGI	Agillar	0.71	54	IAML_P			
	comp=Z,494nm,0.1s						
DAGI				iP	Pb	15 34 33.1	+0.1
DAGI				iS	Sb	15 34 43.3	+0.7
DBOC	Borcka	0.79	30	IAML_P			
	comp=Z,630nm,0.1s						
DBOC				iP	Pb	15 34 34.3	0.0
DBOC				iS	Sb	15 34 45.3	+0.7
ARTV	Artvin	0.79	48	IAML_P			
	comp=Z,2μm,0.1s						
ARTV				iP	Pn	15 34 35.3	-0.2
ARTV				iS	Sb	15 34 45.4	+0.6
BAYB	BAYBURT	0.79	240	IAML_P			
	comp=Z,1μm,0.1s						
BAYB				iP	Pn	15 34 35.9	+0.3
BAYB				iS	Sn	15 34 46.2	-0.9
BAYT	Aydıntepe-Bayb	0.82	251	PG	Pg	15 34 34.5	-0.5
BAYT				SG	Sn	15 34 46.9	-0.7
HOMI	Horasan	0.84	137	iP	Pn	15 34 35.7	-0.6
HOMI				iS	Sn	15 34 49.8	+1.4
BCA	Borcka	0.86	24	PG	Pn	15 34 35.9	-0.5
KELT	Kelkit	1.54	251	IAML_P			
	comp=Z,304nm,0.1s						
KELT				iP	Pg	15 34 48.7	0.0
KELT				iS	Sg	15 35 09.2	+0.5

IDC 03 16:02:00.1±1.8,33°.51N×137°.62E,h0^{km},mb3.3/2, mb1 3.5/3,mb1mx3.2/34,mbtmp3.3/3,ML3.2/1,Error ellipse: s-maj=143.7km s-min=29.5km az=98.0
ISCJB 03 16:02:08.6±0.7,34°.26N±0°.06×139°.50E±0°.07, h140^{km}±6^{km},mb3.1/2,Error ellipse: s-maj=10.7km s-min=8.2km az=35.6
JMA 03 16:02:09.6±0.2,34°.31N×139°.51E,h135^{km}±2^{km},M2.7
ISC 03 16:02:09.9±1.1,**34°.28N**±0°.06×**139°.48E**±0°.06,**h135**^{km}±8^{km},
n18,σ0s.44/26,**Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSKK	Shikinejimakit	0.23	285	P	Pn	16 02 28.2	-0.2
JTHY	Toshimahigashi	0.29	328	P	Pn	16 02 28.6	0.0
JTHY				eS	Sn	16 02 42.9	0.0
JMKN	Mikurajimanish	0.39	166	P	Pn	16 02 28.8	-0.2
JIM2	Oshima 3	0.44	355	P	Pn	16 02 28.8	-0.5
JIZS	Izushimoda	0.66	312	P	Pn	16 02 30.2	-0.3
JIZS				eS	Sn	16 02 45.6	-0.6
BSO3	Boso 3	1.00	58	P	Pn	16 02 33.2	+0.3
JOD2	Odawara 2	1.04	342	P	Pn	16 02 33.3	-0.3
JOD2				S	Sn	16 02 51.8	+0.1
JHJ2	Mitsune	1.20	166	P	Pn	16 02 35.4	+0.3
BSO1	Boso 1	1.30	73	P	Pn	16 02 35.5	0.0
BSO1				eS	Sn	16 02 55.9	+0.7
SHZ3	Shizuoka 3	1.31	307	P	Pn	16 02 36.3	0.0
SHZ3				eS	Sn	16 02 56.7	+0.2
TK04	Tokai 4	1.33	275	P	Pn	16 02 36.4	+0.1
TK04				eS	Sn	16 02 57.5	+1.0
JYN	Shimob	1.44	328	P	Pn	16 02 37.8	+0.1
JYN				eS	Sn	16 02 59.8	+0.8
TK02	Tokai 2	1.46	258	P	Pn	16 02 37.9	+0.2
JRY	Ryogami san	1.80	345	P	Pn	16 02 42.0	+0.2
MJAR	Matsushiro Arr	2.49	336	Pn	Pn	16 02 49.7	-0.4
	3.1nm,0.3s,baz=187,slow=14,SNR=80						
MAT	Matsushiro	2.49	336	P	Pn	16 02 50.2	+0.1
MAT				S	Sn	16 03 21.8	+0.6
WRA	Warramunga Arr	54.14	186	P	P	16 11 20.4	-0.6
	0.3nm,0.7s,baz=1.2,slow=7.7,SNR=7.3						
ASAR	Alice Springs	57.87	186	P	P	16 11 47.3	-0.2
	0.4nm,1.0s,baz=16,slow=10,SNR=2.9						

GUC 03 16:03:07.0±0.6,**24°.04S**×**67°.59W**,**h222**^{km}±7^{km},**ML3.6,**
6C-4D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.87	319	eP	Pn	16 03 47.8	+1.4
LVC				eS	S	16 04 18.5	+1.5
PB15	IPOC Station P	1.92	295	eP	Pn	16 03 47.9	+1.2
PB15				eS	S	16 04 19.6	+2.3
GO02	Mina Guanaco	2.14	238	⇑iP	Pn	16 03 47.2	-1.6
GO02				iS	S	16 04 19.7	-1.7
PB06	IPOC Station P	2.26	306	eP	Pn	16 03 51.6	+1.7
PB06				iP		16 03 51.7	
PB06				eS	S	16 04 25.6	+2.3
PB06				IAML		16 04 28.8	
	comp=N,185nm,0.4s						
PB14	IPOC Station P	2.63	257	eP	Pn	16 03 53.8	-0.2
PB05	IPOC Station P	2.68	296	⇓iP	Pn	16 03 56.4	+2.0
PB05				iS	S	16 04 33.3	+2.1
PB05				IAML		16 04 36.9	
	comp=N,73nm,0.3s						
PB09	IPOC Station P	2.71	325	⇓eP	Pn	16 03 57.3	+2.5
PB09				iS	S	16 04 35.4	+3.4
PB09				IAML		16 04 38.2	
	comp=N,51nm,0.7s						
PB10	IPOC Station P	2.77	280	⇑eP	Pn	16 03 56.9	+1.7
PB10				iS	S	16 04 34.7	+2.0
PB10				IAML		16 04 40.8	
	comp=N,63nm,0.2s						
PB03	IPOC Station P	2.81	314	⇓iP	Pn	16 03 57.9	+2.0
PB03				iS	S	16 04 36.8	+2.8
PB03				IAML		16 04 38.0	
	comp=E,152nm,0.3s						
PB04	IPOC Station P	2.91	305	⇑iP	Pn	16 03 59.2	+2.3
PB04				iS	S	16 04 38.3	+2.5
PB04				IAML		16 04 40.5	
	comp=E,104nm,0.4s						
PB07	IPOC Station P	3.13	317	eP	Pn	16 04 01.7	+2.2
PB07				eS	S	16 04 43.0	+2.5
PB02	IPOC Station P	3.45	321	⇑iP	Pn	16 04 05.2	+2.0
PB02				iS	S	16 04 49.4	+2.4
PB01	IPOC Station P	3.46	329	⇓iP	Pn	16 04 05.0	+1.7
PB01				eS	S	16 04 49.6	+2.3
PB11	IPOC Station P	4.67	335	⇑iP	Pn	16 04 19.2	+1.1
PB11				eS	S	16 05 15.5	+1.4
PSGC	Pisagua	5.01	331	⇑eP	Pn	16 04 24.2	+2.0

NIED 03 16:07:00,37°.60N×143°.60E,h5^{km},Mw3.4 Best double couple: $M_0$1.60000×10^{14} NP1:ϕ_s357.00000°,δ38.00000°, λ-107.00000°. NP2:ϕ_s198.00000°,δ54.00000°, λ-77.00000°.
JMA 03 16:07:55.6±0.2,**37°.60N**×**143°.61E**,**h51**^{km},**M3.5,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.84	293	P	Pn	16 08 25.7	+1.0
JIKH				eS	Sn	16 08 47.9	+1.1
JIO	Ouri	1.98	296	P	Pn	16 08 27.7	+1.1
JIO				eS	Sn	16 08 51.2	+1.0
JKMT	Kesennumamotoy	2.07	306	P	Pn	16 08 28.6	+0.7
JKMT				eS	Sn	16 08 53.8	+1.3
OFUJ	Ofunato	2.12	315	P	Pn	16 08 29.3	+0.7
JFK	Kawauchi	2.19	265	P	Pn	16 08 30.6	+1.0
JFK				eS	Sn	16 08 56.5	+1.0
JMK	Ichinoseki	2.31	306	P	Pn	16 08 32.3	+1.1
JFT	Otama	2.60	269	eS	Sn	16 09 08.0	+2.4
JOM	Ohasama	2.61	317	P	Pn	16 08 36.4	+1.1
JOM				eS	Sn	16 09 07.0	+1.3
JYK	Kaneyama	2.88	298	P	Pn	16 08 41.1	+2.1
JAG	Ashikaga	3.53	252	P	Pn	16 08 49.4	+1.5
JRY	Ryogami san	4.09	249	P	Pn	16 08 56.9	+1.2
JRY				eS	Sn	16 09 42.0	-0.4

KRSC 03 16:16:16.4±1.0,**49°.33N**×**156°.18E**,**h42**^{km}±14^{km},**ML3.8,**
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.36	358	eP	Pn	16 16 39.7	+0.9
SKR				eS	Sn	16 16 57.4	+1.8
PAU	Pauzhetka	2.18	10	eP	Pn	16 16 52.3	+2.2
PAU				eS	Sn	16 17 19.5	+3.7
KDTR	Khodutka, Kamc	2.76	25	eP	Pn	16 17 01.2	+3.1
KDTR				eS	Sn	16 17 33.7	+3.5
MTVR	Mutnovka	3.40	21	eP	Pn	16 17 10.7	+3.6
MTVR				eS	Sn	16 17 51.3	+5.1
RUS	Russkaya	3.44	24	eP	Pn	16 17 11.5	+4.1
KRMR	Karymshinskiy	3.72	19	eP	Pn	16 17 16.0	+4.8
KRMR				eS	Sn	16 17 57.7	+4.0
DALK	Dalny	4.05	23	eP	Pn	16 17 19.7	+4.0
UGLR	Uglovaya	4.22	22	eP	Pn	16 17 22.9	+4.6
AVH	Avacha	4.26	21	eP	Pn	16 17 23.0	+4.3
KOK	Koryaka	4.26	20	eP	Pn	16 17 22.9	+4.2
SDLR	Sedlovina	4.30	22	eP	Pn	16 17 23.0	+3.6
GNL	Ganaly	4.51	13	eP	Pn	16 17 26.4	+4.2

IDC 03 16:22:16.2±16.0,**22°.63S**×**174°.87W**,**h0**^{km},**mb4.3**/5,
mb1 4.5/5,**mb1mx3.9**/37,**mbtmp4.3**/5,**Error ellipse:**
s-maj=307.5km s-min=138.8km az=81.0,Tonga Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	36.23	267	P	P	16 29 21.8	+0.6
	7.7nm,0.4s,baz=95,slow=11,SNR=32						
STKA	Stephens Creek	39.56	247	P	P	16 29 49.4	+0.2
	0.9nm,0.5s,baz=93,slow=10,SNR=5.1						
ASAR	Alice Springs	46.90	258	P	P	16 30 48.0	-0.8
	1.6nm,0.5s,baz=95,slow=7.3,SNR=70						
WRA	Warramunga Arr	47.22	263	P	P	16 30 50.2	-1.0
	1.6nm,0.3s,baz=102,slow=8.3,SNR=145						
FITZ	Fitzroy Crossi	55.65	263	P	P	16 31 55.0	+0.5
	2.8nm,0.8s,baz=91,slow=6.7,SNR=11						

IDC 03 16:23:26.1±2.6, 34.°22S×56.°03E, h0^{km}, mb3.7/3, mb1 3.9/3, mb1mx3.4/45, mbtmp3.7/3, Error ellipse: s-maj=89.3km s-min=50.3km az=44.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	30.49	34	T	T	17 00 47.7	
	baz=208,slow=76,SNR=10						
H08S2	Diego Garcia H	30.50	34	T	T	17 00 49.3	
	baz=208,slow=76,SNR=8.9						
H08S3	Diego Garcia H	30.51	34	T	T	17 00 51.7	
	baz=208,slow=76,SNR=18						
H08N3	Diego Garcia H	31.00	30	T	T	17 01 18.9	
	baz=203						
H08N1	Diego Carcia H	31.01	30	T	T	17 01 29.2	
	baz=203,slow=74,SNR=8.5						
H08N2	Diego Garcia H	31.02	30	T	T	17 01 50.6	
	baz=203,slow=74,SNR=9.5						
CMAR	Chiang Mai Arr	66.43	45	P	P	16 34 17.6	+0.2
	0.9nm,1.0s,baz=236,slow=6.3,SNR=5.7						
ASAR	Alice Springs	67.48	104	P	P	16 34 24.1	-0.1
	0.5nm,0.9s,baz=239,slow=5.7,SNR=5.2						
WRA	Warramunga Arr	69.65	101	P	P	16 34 37.8	0.0
	0.6nm,0.8s,baz=239,slow=5.5,SNR=5.2						
YKA	Yellowknife Ar	151.09	351	PKPbc	PKPbc	16 43 20.0	-0.4
	0.6nm,0.9s,baz=6.4,slow=2.3,SNR=6.6						

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*CRAAG **03** 16:35:23.9, 35.°57N×0.°85W, Ml3.6*
*MDD **03** 16:35:24.6±0.6, 35.°59N×0.°98W, h5^{km}±7^{km}, mbLg2.8/25, Error ellipse: s-maj=5.9km s-min=4.0km az=167.0, PRXIMO*
*INMG **03** 16:35:24.4±1.5, 35.°50N×1.°01W, h6^{km}±8^{km}, ML2.8, Error ellipse: s-maj=5.2km s-min=4.3km az=145.0*
*IGIL **03** 16:35:24.5, 35.°51N×0.°96W, h1^{km}, ML2.6*
ISC 03 16:35:24.4±1.1, 35.°61N±0.°04×0.°97W±0.°03, h17^{km}±9^{km}, n85, σ1^{s}71/142, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTSS	Djebel Tessala	0.36	156	P	Pg	16 35 31.0	-0.9
OTSS	Djebel Tessala	0.36	156	P	Pg	16 35 31.0	-0.9
USTO	Oran	0.36	70	P	Pg	16 35 31.0	-0.9
USTO	Oran	0.36	70	P	Pg	16 35 31.0	-0.9
OLHC	Oulhaca	0.52	226	P	Pb	16 35 36.6	+1.5
OLHC	Oulhaca	0.52	226	P	Pb	16 35 36.6	+1.5
ODJA	Bouhanifia	0.72	113	P	Pg	16 35 38.5	-0.1
ODJA	Bouhanifia	0.72	113	P	Pg	16 35 38.5	-0.1
OKGL	Djebel Kef Gue	1.38	72	P	Pn	16 35 48.3	-0.7
OKGL	Djebel Kef Gue	1.38	72	P	Pn	16 35 47.9	-1.0
	106nm,0.4s,SNR=7.9						
OKGL				S	Sb	16 36 08.7	+1.5
	709nm,0.3s,SNR=7.9						
OJGS	Djebel Guires	1.41	94	P	Pn	16 35 50.4	+1.0
OJGS	Djebel Guires	1.41	94	P	Pn	16 35 50.4	+1.0
MELI	Melilla	1.64	259	P	Pn	16 35 51.6	-0.9
	160nm,0.4s,SNR=7.9						
MELI				S	Sn	16 36 11.3	-1.8
	55nm,0.2s,SNR=7.9						
MELI	Melilla	1.64	259	*e*P	Pn	16 35 54.0	+1.5
MELI				*e*S	Sg	16 36 17.4	+0.2
EMEL	Melilla	1.65	260	P	Pn	16 35 51.8	-0.9
	93nm,0.1s,SNR=7.9						
EMEL				S	Sn	16 36 13.1	-0.5
	240nm,0.2s,SNR=7.9						
ENIJ	Nijar	1.69	324	P	Pn	16 35 52.3	-0.9
	16nm,0.2s,SNR=7.9						
ENIJ				S	Sn	16 36 13.4	-1.0
	55nm,0.2s,SNR=7.9						
EALB	Alboran	1.71	282	P	Pn	16 35 53.4	-0.1
	25nm,0.0s,SNR=6.5						
EALB				S	Sn	16 36 14.7	-0.3
	109nm,0.3s						
EANR	'Ain N'Sour	1.72	78	P	Pn	16 35 52.7	-0.9
EANR	'Ain N'Sour	1.72	78	P	Pn	16 35 52.7	-0.9
ETRT	Tiaret	1.86	96	P	Pn	16 35 55.8	+0.1
ETRT	Tiaret	1.86	96	P	Pn	16 35 55.8	+0.1
ECHF	Ech Chlef	1.95	73	P	Pg	16 36 07.0	+5.1
ECHA	Ech Chlef	1.97	73	P	Pg	16 36 07.0	+4.7
CART	Cartagena	1.97	359	P	Pn	16 35 55.8	-1.3
CART				S	Sn	16 36 18.6	-2.8
CART	Cartagena	1.97	359	*e*P	Pn	16 35 55.8	-1.3
CART				*e*S	Sn	16 36 18.6	-2.8
EBER	Berja	2.02	310	P	Pn	16 35 57.5	-0.4
	5.4nm,0.2s,SNR=26						
EBER				S	Sn	16 36 23.5	+0.7
	33nm,0.3s,SNR=7.3						
EBNR	Beni Rached	2.14	71	P	Pg	16 36 10.0	+4.5
EMUR	La Murta	2.24	354	P	Pn	16 36 00.2	-0.6
	4.5nm,0.3s,SNR=15						
EMUR				S	Sn	16 36 25.4	-2.7
	12nm,0.2s						
ELGU	Los Guajares,	2.49	301	P	Pn	16 36 03.3	-1.0
	8.7nm,0.2s,SNR=7.9						
ELGU				S	Sn	16 36 33.1	-1.2
	164nm,0.3s,SNR=7.9						
EQUE	Quentar	2.55	309	P	Pn	16 36 06.0	+0.8
	18nm,0.3s,SNR=17						
EQUE				S	Sn	16 36 37.3	+1.4
	7.0nm,0.2s						
EQES	Quesada	2.76	323	P	Pn	16 36 10.0	+1.9
	34nm,0.4s,SNR=71						
EQES				S	Sn	16 36 42.7	+1.5
	8.0nm,0.3s						
SESP	Santiago Espad	2.81	334	P	Pn	16 36 09.9	+1.2
	46nm,0.3s,SNR=7.9						
SESP				S	Sn	16 36 43.2	+0.9
	22nm,0.2s,SNR=7.9						
EGOR	Sierra Gorda,	2.94	301	P	Pn	16 36 08.9	-1.7
	3.3nm,0.2s,SNR=7.9						
EGOR				S	Sn	16 36 47.1	+1.4
	8.7nm,0.3s,SNR=7.9						
EMAL	Malaga-Limoner	3.03	293	*e*P	Pn	16 36 11.0	-0.6
EMAL				*e*S	Sn	16 36 46.3	-1.2
ETOB	Tobarra	3.06	351	P	Pn	16 36 13.4	+1.2
	2.5nm,0.2s,SNR=7.9						
ETOB				S	Sn	16 36 46.0	-2.5
	13nm,0.3s,SNR=7.9						
EBEN2	Beniarda presa	3.12	11	P	Pn	16 36 13.5	+0.5
	2.9nm,0.1s,SNR=4.0						
EBEN2				S	Sn	16 36 46.9	-3.0
	13nm,0.1s,SNR=7.9						
EMIJ	Mijas	3.23	288	P	Pn	16 36 13.0	-1.3
	5.5nm,0.2s,SNR=15						
EMIJ				S	Sn	16 36 49.0	-3.4
	6.0nm,0.2s,SNR=5.5						
EMHD	Djebel Mahouad	3.24	78	P	Pg	16 36 26.3	-0.2
EMHD	Djebel Mahouad	3.24	78	P	Pg	16 36 26.3	-0.2
EJIF	Jimena Fronter	3.74	284	P	Pn	16 36 22.6	+1.2
	4.1nm,0.4s,SNR=7.9						
EJIF				S	Sn	16 37 02.8	-2.3
	4.6nm,0.4s,SNR=7.9						
EADA	Adamuz	3.86	312	P	Pn	16 36 24.5	+1.4
	0.3nm,0.3s,SNR=15						
EADA				S	Sn	16 37 09.2	+1.1
	0.8nm,0.1s,SNR=7.9						
EIBI	Ibiza	3.88	28	P	Pn	16 36 23.3	0.0
	14nm,0.3s,SNR=7.9						
EIBI				S	Sn	16 37 07.2	-1.2
	18nm,0.2s,SNR=7.9						
ECHE	Chera	3.97	0	P	Pn	16 36 26.0	+1.3
	0.2nm,0.1s,SNR=7.9						
ECHE				S	Sn	16 37 11.0	+0.1
	0.5nm,0.2s,SNR=7.9						
IFR	Ifrane	4.02	240	*e*P	Pn	16 36 26.9	+1.5
IFR				*e*S	Sn	16 37 13.8	+1.6
ESPR	Espera	4.14	289	P	Pn	16 36 26.3	-0.7
	1.5nm,0.1s,SNR=7.9						
ESPR				S	Sn	16 37 12.3	-2.8
	1.1nm,0.1s,SNR=7.9						
ECAB	El Cabril	4.33	306	P	Pn	16 36 29.4	-0.3
	5.3nm,0.4s,SNR=9.0						
ECAB				S	Sn	16 37 19.2	-0.6
	0.9nm,0.2s						
ESDC	Sonseca Array	4.70	331	P	Pn	16 36 36.0	+1.4
	1.9nm,0.3s,baz=146,slow=13,SNR=15						
ESDC				S	Sn	16 37 28.2	-0.7
	1.4nm,0.4s,baz=146,slow=28,SNR=4.6						
PAB	San Pablo	4.76	327	P	Pn	16 36 36.4	+0.9
	3.1nm,0.3s,SNR=7.9						
PAB				S	Sn	16 37 27.4	-2.9
	2.3nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	4.76	5	P	Pn	16 36 37.1	+1.5
	3.3nm,0.3s,SNR=18						
EMOS				S	Sn	16 37 28.2	-2.4
	1.6nm,0.3s						
UCM	Universidad Co	5.02	340	*e*P	Pn	16 36 41.2	+2.2
UCM				*e*S	Sb	16 37 48.6	-3.4
EMIN	Mina Concepcio	5.06	297	P	Pn	16 36 38.0	-1.6
	1.6nm,0.3s,SNR=11						
EMIN				S	Sn	16 37 35.1	-2.6
	1.8nm,0.3s						
ETOS	Mallorca	5.12	35	P	Pn	16 36 40.4	0.0
	0.6nm,0.2s,SNR=7.9						
ETOS				S	Sn	16 37 37.3	-1.8
	0.7nm,0.2s,SNR=7.9						
ERTA	Horta de San J	5.43	10	P	Pn	16 36 45.9	+1.2
	1.8nm,0.2s,SNR=7.9						
ERTA				S	Sn	16 37 43.3	-3.7
	1.4nm,0.4s,SNR=7.9						
EGRO	El Granado	5.58	292	P	Pn	16 36 46.2	-0.5
	4.4nm,0.3s,SNR=6.9						
EGRO				S	Sn	16 37 47.4	-3.1
	1.8nm,0.2s						
GUD	Guadarrama	5.62	334	P	Pn	16 36 48.8	+1.5
	1.3nm,0.2s,SNR=8.5						
GUD				S	Sn	16 37 50.6	-1.0
	0.7nm,0.3s						
PVAQ	Vaqueiros	5.72	290	*e*Pn	Pn	16 36 48.9	+0.2
PVAQ				*e*Sn	Sn	16 37 52.1	-1.9
PVAQ				A	A	16 37 56.1	
	6.1nm,0.4s						
PVAQ	Vaqueiros	5.72	290	P	Pn	16 36 48.9	+0.2
PVAQ				S	Sn	16 37 52.1	-1.9
	6.1nm,0.4s						
EBAD	Badajoz	5.76	305	P	Pn	16 36 48.8	-0.3
	3.8nm,0.3s,SNR=11						
EBAD				S	Sn	16 37 51.2	-3.6
	2.3nm,0.2s,SNR=5.1						
PBDV	Barranco-do-Ve	5.84	288	*e*Pn	Pn	16 36 51.3	+0.9
PBDV				*e*Sn	Sn	16 37 56.0	-1.0
PBDV				A	A	16 38 04.2	
	6.3nm,0.5s						
PBDV	Barranco-do-Ve	5.84	288	P	Pn	16 36 51.3	+0.9
PBDV				S	Sn	16 37 56.0	-1.0
	6.3nm,0.5s						
EPOB	Poblet	5.95	15	P	Pn	16 36 52.2	+0.3
	2.8nm,0.3s,SNR=8.4						
EPOB				S	Sn	16 37 55.6	-4.2
	0.8nm,0.3s,SNR=7.9						
EPLA	Plasencia	6.01	319	P	Pn	16 36 53.0	+0.3
	2.0nm,0.2s,SNR=6.5						
EPLA				S	Sn	16 37 58.8	-2.3
	1.0nm,0.2s,SNR=7.9						
PBEJ	Beja	6.04	296	*e*Pn	Pn	16 36 54.1	+1.1
PBEJ				*e*Sn	Sn	16 38 00.6	-1.1
PBEJ				A	A	16 38 00.9	
	10nm,0.4s						
PBEJ	Beja	6.04	296	P	Pn	16 36 54.1	+1.1
PBEJ				S	Sn	16 38 00.6	-1.1
	5.1nm,0.4s						
MESJ	Messejana	6.23	293	*e*P	Pn	16 36 55.8	+0.1
MESJ				*e*S	Sn	16 38 02.5	-4.1
MESJ				AML	AML	16 38 06.8	
	comp=N,6.2nm,0.7s						
MESJ	Messejana	6.23	293	*e*Pn	Pn	16 36 56.0	+0.3
MESJ				*e*Sn	Sn	16 38 04.3	-2.2
MESJ				A	A	16 38 09.2	
	comp=N,4.5nm,0.6s						
MESJ	Messejana	6.23	293	P	Pn	16 36 56.0	+0.3
MESJ				S	Sn	16 38 04.3	-2.2
	comp=N,4.5nm,0.6s						
EVO	Evora	6.34	299	*e*Pn	Pn	16 36 58.7	+1.5
EVO				*e*Sn	Sn	16 38 08.5	-0.7
EVO				A	A	16 38 10.8	
	comp=N,5.9nm,0.6s						
EVO	Evora	6.34	299	P	Pn	16 36 58.7	+1.5
EVO				S	Sn	16 38 08.5	-0.7
	comp=N,5.9nm,0.6s						
PTEO	Sao Teotonio	6.53	289	*e*Pn	Pn	16 37 00.7	+0.9
PTEO				*e*Sn	Sn	16 38 12.6	-1.3
PTEO				A	A	16 38 22.3	
	comp=N,7.2nm,0.7s						
PTEO	Sao Teotonio	6.53	289	P	Pn	16 37 00.7	+0.9
PTEO				S	Sn	16 38 12.6	-1.3
	comp=N,3.6nm,0.7s						
PNCL	Nicolau / Gran	6.55	295	*e*Pn	Pn	16 37 00.7	+0.6
PNCL				*e*Sn	Sn	16 38 11.9	-2.5
PNCL				A	A	16 38 13.6	
	comp=N,4.0nm,0.7s						
PNCL	Nicolau / Gran	6.55	295	P	Pn	16 37 00.7	+0.6
PNCL				S	Sn	16 38 11.9	-2.5
	comp=N,4.0nm,0.7s						
PCBR	Castelo Branco	6.67	311	*e*Pn	Pn	16 37 02.6	+1.0
PCBR				*e*Sn	Sn	16 38 17.3	+0.2
PCBR				A	A	16 38 18.8	
	comp=N,3.0nm,0.3s						
PCBR	Castelo Branco	6.67	311	P	Pn	16 37 02.6	+1.0
PCBR				S	Sn	16 38 17.3	+0.2
	comp=N,1.5nm,0.3s						
CFON	Fontmartina	6.69	22	P	Pn	16 37 01.7	-0.4
	comp=N,2.6nm,0.2s,SNR=7.9						
CFON				S	Sn	16 38 14.6	-3.4
	comp=N,1.0nm,0.3s,SNR=4.0						
IELO	Elcoad	7.23	358	P	Pn	16 37 11.8	+2.5
	comp=N,1.3nm,0.3s,SNR=7.9						
MVO	Moncorvo	7.30	321	*e*Pn	Pn	16 37 12.0	+1.5
MVO	Moncorvo	7.30	321	P	Pn	16 37 11.5	+1.1
	comp=N,2.9nm,0.3s,SNR=7.9						
MVO				S	Sn	16 38 29.3	-3.8
	comp=N,1.7nm,0.2s,SNR=7.9						
PVIS	Viseu	7.46	315	*e*Pn	Pn	16 37 13.5	+0.9
PVIS	Viseu	7.46	315	Pn	Pn	16 37 13.5	+0.9
EALK	Alkurruntz	7.61	357	P	Pn	16 37 16.8	+2.1
	comp=N,1.9nm,0.3s,SNR=7.9						
PBRG	Braganca	7.65	326	*e*Pn	Pn	16 37 16.4	+1.2
PBRG	Braganca	7.65	326	Pn	Pn	16 37 16.4	+1.2
ELOB	Lobios	8.35	321	P	Pn	16 37 25.5	+0.8
	comp=N,0.2nm,0.1s,SNR=7.9						
ELOB				S	Sn	16 38 56.3	-2.4
	comp=N,0.3nm,0.2s,SNR=7.9						

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*ISCJB **03** 16:36:28.8±1.0, 44.°13N±0.°08×148.°1E±0.°1, h101^{km}±7^{km}, mb3.6/5, Error ellipse: s-maj=18.3km s-min=8.5km az=43.2*
*JMA **03** 16:36:31.7±0.3, 43.°98N×147.°99E, h84^{km}, M3.8*
*SKHL **03** 16:36:31.3±0.5, 44.°16N×148.°16E, h60^{km}±2^{km}, mb4.6/7*
*IDC **03** 16:36:34.1±4.1, 45.°19N×147.°62E, h84^{km}±89^{km}, mb3.3/5, mb1 3.4/6, mb1mx3.1/42, mbtmp3.6/6, ML3.2/1, MS2.6/1, Ms1 2.6/1, ms1mx2.2/18, Error ellipse: s-maj=187.9km s-min=29.8km az=170.0*
ISC 03 16:36:27.9±1.6, 44.°03N±0.°09×148.°3E±0.°1, h82^{km}±13^{km}, n28, σ1^{s}71/39, mb3.6/5, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	1.06	262⇑	*i*P	Pn	16 36 49.0	+1.3
SHO				AMB	AMB	16 36 51.0	
	50nm,0.2s						
SHO				AMB	AMB	16 36 51.0	
	110nm,0.2s						
SHO				AMB	AMB	16 36 51.0	
	140nm,0.2s						
SHO				*i* S	Sn	16 37 02.8	+0.3
SHO				A	A	16 37 03.0	
	590nm,0.2s						
SHO				A	A	16 37 03.0	
	480nm,0.2s						
KUR	Kuril'sk	1.24	346⇓	*i*P	Pn	16 36 49.8	0.0
KUR				AMB	AMB	16 36 50.0	
	40nm,0.2s						
KUR				AMB	AMB	16 36 50.0	
	90nm,0.2s						
KUR				AMB	AMB	16 36 50.0	
	170nm,0.2s						
KUR				*i* S	Sn	16 37 03.8	-2.6
KUR				A	A	16 37 04.0	
	350nm,0.2s						
KUR				A	A	16 37 04.0	
	480nm,0.2s						
YUK	Yuzh-Kuril'sk	1.75	271⇑	*i*P	Pn	16 36 57.4	+1.0
YUK				AMB	AMB	16 36 57.7	
	20nm,0.2s						
YUK				AMB	AMB	16 36 57.7	
	40nm,0.2s						
YUK				AMB	AMB	16 36 57.7	
	210nm,0.2s						
YUK				*i* S	Sn	16 37 16.7	-1.3
YUK				A	A	16 37 18.0	
	280nm,0.2s						
YUK				A	A	16 37 18.0	
	370nm,0.2s						
LAGR	Lagunnoye	1.80	272	*e*P	Pn	16 36 58.0	+0.9
LAGR				AMB	AMB	16 37 02.0	
	40nm,0.2s						
LAGR				AMB	AMB	16 37 02.0	
	120nm,0.2s						
LAGR				*i* S	Sn	16 37 18.0	-1.3
LAGR				A	A	16 37 20.0	
	700nm,0.3s						
LAGR				A	A	16 37 20.0	
	280nm,0.3s						
GRPR	Tuman	1.81	270	*i* P	Pn	16 36 58.2	+1.0
GRPR				AMB	AMB	16 36 59.0	
	50nm,0.3s						
GRPR				AMB	AMB	16 36 59.0	
	180nm,0.3s						
GRPR				*i* S	Sn	16 37 18.0	-1.6
GRPR				A	A	16 37 20.0	
	370nm,0.3s						
GRPR				A	A	16 37 20.0	
	330nm,0.3s						
NEM2	Nemuro 2	1.96	251	P	Pn	16 37 00.6	+1.4
NEM2				*e*S	Sn	16 37 22.6	-0.5
GLVR	Golovnino	2.02	263	*i* P	Pn	16 37 01.0	+1.0
GLVR				AMB	AMB	16 37 02.0	
	10.0nm,0.2s						
GLVR				AMB	AMB	16 37 02.0	
	110nm,0.2s						
GLVR				AMB	AMB	16 37 02.0	
	260nm,0.2s						
GLVR				*i* S	Sn	16 37 24.0	-0.5
GLVR				A	A	16 37 28.5	
	520nm,0.3s						
GLVR				A	A	16 37 28.5	
	510nm,0.3s						
JRA	Rausu	2.28	269	P	Pn	16 37 04.8	+1.3
JRA				*e*S	Sn	16 37 30.7	-0.1
JKHN	Kushirohamanak	2.46	248	P	Pn	16 37 07.7	+1.8
JKHN				*e*S	Sn	16 37 34.7	-0.3
JNK	Nakash	2.62	261	P	Pn	16 37 09.3	+1.3
JAK	Akkeshi	2.81	250	P	Pn	16 37 11.9	+1.4
JAK				*e*S	Sn	16 37 42.4	-1.0
JTKR	Abashiri--Toko	3.16	270	P	Pn	16 37 16.3	+1.0
JAR	Ashorobuto	3.35	259	P	Pn	16 37 20.1	+2.1
JAR				*e*S	Sn	16 37 56.8	+0.1
JCH	Churui	3.86	250	P	Pn	16 37 26.2	+1.4
JCH				*e*S	Sn	16 38 07.4	-1.6
JKK2	Kamakawa 2	4.00	270	P	Pn	16 37 28.5	+1.8
ASAJ	Asahikawa	4.10	273	P	Pn	16 37 29.5	+1.4
	1.5nm,0.3s,baz=80,slow=12,SNR=15						
JFR	Furan	4.22	260	P	Pn	16 37 32.0	+2.2
JNBK	Urakawa-nobuka	4.41	248	P	Pn	16 37 33.2	+0.9
YSS	Yuzh-Sakhalins	4.86	309	*e*P	Pn	16 37 40.3	+1.9
YSS				AMB	AMB	16 37 46.1	
	50nm,1.0s						
JKB	Kayabe	5.73	251	P	Pn	16 37 51.5	+1.1
JKB				*e*S	Sn	16 38 50.9	-3.8
JOT	Ohata	5.95	246	P	Pn	16 37 53.9	+0.6
JANG	Nango	6.21	236	P	Pn	16 37 57.6	+0.7
JANG				*e*S	Sn	16 39 01.3	-5.2
JNU	Nakatsue	17.39	237	LR	LR	16 46 57.6	
	comp=Z,22nm,20.0s,baz=301,slow=35						
ILAR	Eielson Array	40.77	36	P	P	16 44 01.2	+0.7
	0.1nm,0.4s,baz=272,slow=8.9,SNR=4.9						
MKAR	Makanchi Array	45.18	298	P	P	16 44 35.0	-1.4
	0.6nm,0.6s,baz=79,slow=7.2,SNR=6.7						
YKA	Yellowknife Ar	55.11	34	P	P	16 45 52.0	+1.0
	0.3nm,0.7s,baz=298,slow=7.1,SNR=4.0						
ARCES	ARCESS Array B	59.26	340	P	P	16 46 17.5	-2.8
	1.8nm,0.7s,baz=47,slow=6.6,SNR=3.6						
FINES	FINESS Array B	64.99	333	P	P	16 46 56.2	-2.4
	0.8nm,0.6s,baz=55,slow=7.2,SNR=3.9						

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*ISCJB **03** 16:44:54.2±0.3, 4.°56S±0.°03×138.°90E±0.°04, h44^{km}, mb4.4/22, Error ellipse: s-maj=5.3km s-min=4.5km az=36.7*
*IDC **03** 16:44:56.0±2.1, 4.°56S×139.°08E, h49^{km}±21^{km}, mb3.8/8, mb1 4.1/13, mb1mx4.0/28, mbtmp4.2/13, ML4.4/5, MS3.2/5, Ms1 3.2/5, ms1mx2.9/24, Error ellipse: s-maj=24.7km s-min=16.1km az=98.0*
*DJA **03** 16:44:57.4±0.3, 4°S±3°×13°9E±°, h54^{km}±13^{km}, M4.8/11, mB5.4/1, mb4.6/11, MLv4.8/7, Mw(mB)4.8/1*
*NEIC **03** 16:44:57.0±0.8, 4.°52S×138.°87E, h55^{km}±8^{km}, mb4.7/20, Error ellipse: s-maj=7.3km s-min=6.5km az=105.0*
ISC 03 16:44:56.0±0.5, 4.°53S±0.°05×138.°92E±0.°05, h44^{km}, n68, σ1^{s}64/68, mb4.4/22, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	2.29	33	P	Pn	16 45 32.6	+1.3
GENI				S	Sn	16 45 59.1	+0.8
JAY	Jayapura	2.67	42	P	Pn	16 45 36.1	-0.6
	10nm,0.3s,baz=325,slow=8.9,SNR=26						
JAY				LR	LR	16 46 59.1	
	comp=Z,442nm,21.9s,slow=47						
JAY	Jayapura	2.67	42	P	Pn	16 45 36.4	-0.3
JAY				S	Sn	16 46 07.4	-0.5
SRPI	Serui, Papua	3.76	314	P	Pn	16 45 53.3	+1.7
MMPI	Merauke	4.18	160	P	Pn	16 45 59.9	+2.6
RKPI	Ransiki, Papua	5.60	302	P	Pn	16 46 18.1	+1.2
	52nm,0.8s,0.3nm						
FAKI	Fak Fak	6.85	283	*e*Pn	Pn	16 46 35.9	+2.0
FAKI				*e*Sn	Sn	16 47 52.4	+1.7
FAKI	Fak Fak	6.85	283	P	Pn	16 46 36.0	+2.0
	30nm,1.2s,0.2nm						
SAUI	Saumlaki	8.32	245	*e*Pn	Pn	16 46 54.5	+0.4
SAUI	Saumlaki	8.32	245	P	Pn	16 46 58.1	+3.9
	175nm,0.7s,2μm						
SIJI	Sorong	8.46	295	P	Pn	16 46 58.5	+2.3
	3.9nm,0.3s,baz=84,slow=9.4,SNR=20						
MANU	Manus Island	8.78	74	*e*Pn	Pn	16 47 03.9	+3.3
PMG	Port Moresby	9.51	121	LR	LR	16 51 09.0	
	comp=Z,94nm,22.0s,baz=347,slow=40						
PMG	Port Moresby	9.51	121	*e*Pn	Pn	16 47 12.8	+2.4
PMG				*e*		16 51 09.0	
COEN	Coen	10.27	156	*e*Pn	Pn	16 47 20.1	-0.9
SANI	Sanana	13.14	280	P	Pn	16 48 00.1	-0.1
	12nm,0.7s						
SOEI	Soe	15.44	250	*e*Pn	Pn	16 48 30.6	-0.5
	81nm,0.9s						
SOEI	Soe	15.44	250	P	Pn	16 48 31.1	0.0
	95nm,0.7s						
WRAB	Tennant Creek	15.95	196	*e*Pn	Pn	16 48 35.0	-2.5
	54nm,0.8s						
WB2	Warramunga Arr	15.96	196	*e*Pn	Pn	16 48 33.1	-4.5
WR1	Warramunga Arr	15.96	196	*e*Pn	Pn	16 48 33.5	-4.2
	58nm,0.6s						
WR1				*e*		16 55 09.2	
WRA	Warramunga Arr	15.96	196	P	Pn	16 48 33.5	-4.2
	0.6nm,0.3s,baz=5.9,slow=13,SNR=33						
WRA				LR	LR	16 55 09.2	
	comp=Z,163nm,21.7s,baz=50,slow=38						
BATI	Baumata	16.14	249	P	Pn	16 48 39.8	-0.3
	2.9nm,0.3s,baz=40,slow=0.2,SNR=9.1						
BATI	Baumata	16.14	249	P	Pn	16 48 40.0	-0.1
	23nm,0.9s						
CTAO	Charters Tower	17.04	156	*e*Pn	P	16 48 53.7	+1.1
	19nm,1.0s						
FITZ	Fitzroy Crossi	18.73	223	P	P	16 49 10.4	-0.8
	0.7nm,0.3s,baz=48,slow=9.9,SNR=21						
FITZ	Fitzroy Crossi	18.73	223	*e*P	P	16 49 10.2	-1.0
	7.4nm,0.8s						
FITZ				*e*Sn	Sn	16 52 22.5	-18
GUMO	Guam	18.94	18	LR	LR	16 56 19.9	
	comp=Z,42nm,19.6s,baz=162,slow=36						
AS01	Alice Springs	19.62	194	*e*P	Pn	16 49 22.2	-0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AS31	Alice Springs	19.63	194	eP	P	16 49 22.1	+0.9
	12nm,0.6s						
ASAR	Alice Springs	19.64	194	P	P	16 49 22.1	+0.9
	3.8nm,0.3s,baz=20,slow=9.1,SNR=497						
ASAR				LR	LR	16 57 22.4	
	comp=Z,140nm,21.9s,baz=44,slow=38						
HNR	Honiara	21.43	104	eP	P	16 49 41.8	+1.2
	37nm,0.9s						
EIDS	Eidsvold	23.79	152	eP	P	16 50 05.6	+0.8
	73nm,1.9s						
MBWA	Marble Bar	24.91	227	eP	P	16 50 15.6	+0.5
	20nm,0.6s						
JAGI	Jajag, Banyuwa	24.91	260	P	P	16 50 34.8	+20
STKA	Stephens Creek	27.32	175	P	P	16 50 35.0	-1.8
	1.2nm,0.7s,baz=344,slow=11,SNR=3.6						
SBUM	Sibu	27.57	284	eP	P	16 50 36.8	-2.5
	9.3nm,1.6s						
BBOO	Buckleboo	28.27	185	eP	P	16 50 48.5	+3.2
	12nm,1.3s						
NWAO	Narrogin (SRO)	34.77	213	eP	P	16 51 42.0	-0.4
	72nm,1.5s						
JNU	Nakatsue	38.21	349	eP	P	16 52 11.8	+0.1
	64nm,1.4s						
MJAR	Matsushiro Arr	40.86	359	P	P	16 52 32.6	-1.2
	2.0nm,0.7s,baz=188,slow=9.2,SNR=8.8						
MAJO	Matsushiro	40.86	359	eP	P	16 52 32.6	-1.2
MJB9	Matsu-Tunnel	40.86	359	eP	P	16 52 34.2	+0.4
	76nm,1.8s						
KSAR	Wonju Array Be	43.00	347	P	P	16 52 51.9	+0.7
KSRS	Korea Array	43.00	347	P	P	16 52 51.9	+0.7
	1.1nm,0.6s,baz=158,slow=8.2,SNR=6.8						
CM01	Chiang Mai Arr	45.51	301	eP	P	16 53 11.4	-0.2
CM31	Chiang Mai Arr	45.54	301	eP	P	16 53 11.6	-0.2
CMAR	Chiang Mai Arr	45.54	301	P	P	16 53 12.4	+0.6
	2.1nm,0.6s,baz=118,slow=6.5,SNR=21						
BJT	Baijiatuau	49.02	337	eP	P	16 53 38.0	-0.6
	13nm,1.2s						
GTA	Gaotai	56.65	324	eP	P	16 54 36.5	+1.4
GTA				pP	pP	16 54 41.5	-6.1
GTA				sP	sP	16 54 45.0	-7.7
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
ULN	Ulaanbaatar	59.19	336	eP	P	16 54 51.9	-0.9
	comp=Z,13nm,1.7s						
SONA0	Songino Array	59.44	335	eP	P	16 54 55.4	+0.9
SONM	Songino Array	59.44	335	P	P	16 54 55.4	+0.9
	comp=Z,0.8nm,0.6s,baz=153,slow=8.0,SNR=8.6						
SONA1	Songino Array	59.45	335	eP	P	16 54 53.8	-0.7
PETK	Petropavlovsk-	59.57	13	eP	P	16 54 53.9	-1.2
MK01	Makanchi Array	71.33	323	eP	P	16 56 10.6	-0.8
MK31	Makanchi Array	71.35	323	eP	P	16 56 10.7	-0.8
MK32	Makanchi Array	71.35	323	eP	P	16 56 11.9	+0.4
MKAR	Makanchi Array	71.35	323	P	P	16 56 11.9	+0.4
	comp=Z,0.9nm,0.5s,baz=107,slow=8.0,SNR=17						
MKAR	Makanchi Array	71.35	323	eP	P	16 56 10.9	-0.5
	comp=Z,28nm,1.5s						
MAKZ	Makanchi	71.55	323	eP	P	16 56 12.4	-0.2
	comp=Z,15nm,1.9s						
ZAA0	Zalesovo Array	73.60	330	eP	P	16 56 24.0	-0.7
	comp=Z,3.2nm,0.8s						
ZALV	Zalesovo Beam	73.60	330	P	P	16 56 24.1	-0.5
	comp=Z,2.3nm,0.6s,baz=116,slow=5.4,SNR=13						
ZALV	Zalesovo Beam	73.60	330	eP	P	16 56 23.4	-1.2
ZAA1	Zalesovo Array	73.61	330	eP	P	16 56 24.1	-0.5
BRVK	Borovoye	80.98	325	eP	P	16 57 05.9	-0.1
	comp=Z,3.5nm,0.8s						
ILAR	Eielson Array	87.39	24	P	P	16 57 35.7	-2.6
	comp=Z,0.8nm,1.0s,baz=252,slow=4.6,SNR=5.1						
CPUP	Villa Florida	145.52	154	PKPbc	PKPab	17 04 30.4	-0.2
	comp=Z,1.2nm,0.6s,baz=213,slow=3.9,SNR=3.4						

*ISCJB **03** 16:49:04.1±0.5, 15°.42S±0°.10×177°.4W±0°.1, h10km, MS3.9/14, Error ellipse: s-maj=19.2km s-min=10.3km az=36.4*

*IDC **03** 16:49:04.4±1.5, 15°.22S×177°.50W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.9/26, mbtmp3.8/6, MS3.8/17, Ms1 3.8/17, ms1mx3.7/26, Error ellipse: s-maj=103.8km s-min=23.4km az=145.0*

*NEIC **03** 16:49:05.9±0.4, 15°.41S×177°.38W, h10km, mb4.7/5, Error ellipse: s-maj=16.9km s-min=8.7km az=126.0*

*GCMT **03** 16:49:07.9±0.4, 15°.32S±0°.02×177°.10W±0°.02, h12km±2km, MW4.8/66, Moment Tensor Solution. s18,c20; s66,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.13±.09; $M_{\theta\theta}$-1.05±.10; $M_{\phi\phi}$0.91±.08; $M_{r\theta}$0.17±.24; $M_{\theta\phi}$1.38±.09; $M_{\phi r}$0.81±.30; Best double couple: $M_0$1.88400×10^{16} NP1:ϕ_s340.00000°,δ79.00000°,λ158.00000°. NP2: ϕ_s75.00000°,δ68.00000°,λ12.00000°. Principal axes: T 1.9790, Plg24.0000°, Azm296.0000°; N -0.1890, Plg65.0000°, Azm135.0000°; P -1.7880, Plg7.0000°, Azm29.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 16:49:05.9±0.7, 15°.4S±0°.2×177°.4W±0°.2, h10km, n38, σ0s.96/23, MS3.9/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	16.71	244	LR	LR	16 58 30.9	
	comp=Z,259nm,18.0s,baz=48,slow=34						
RAR	Rarotonga	17.65	112	LR	LR	16 58 17.6	
	comp=Z,324nm,18.0s,baz=272,slow=31						
OUZ	Omahuta	21.34	201	eP	P	16 53 54.9	+1.7
	90nm,1.7s						
PPT	Papeete	26.71	99	LR	LR	17 02 46.0	
	comp=Z,190nm,19.4s,baz=260,slow=31						
THZ	Tophouse	27.58	196	eP	P	16 54 52.5	-0.7
	86nm,1.7s						
KHZ	Kahutara	28.04	194	eP	P	16 54 56.7	-0.5
	101nm,1.5s						
WHZ	Wether Hill Ro	32.80	199	eP	P	16 55 38.4	-1.0
	81nm,1.6s						
RKT	Rikitea	40.62	108	eLR	LR	17 07 41.2	
	comp=Z,524nm,28.2s						
HLP	Hilina Pali	40.74	33	eP	P	16 56 47.5	+0.2
	724nm,2.0s						
STKA	Stephens Creek	40.75	239	P	P	16 56 47.7	+0.4
	5.2nm,0.9s,baz=27,slow=5.7,SNR=4.8						
STKA	Stephens Creek	40.75	239	eP	P	16 56 47.9	+0.6
	1.9nm,1.0s						
BBOO	Buckleboo	45.53	239	eP	P	16 57 26.4	+0.4
	17nm,1.2s						
WRA	Warramunga Arr	46.13	257	LR	LR	17 16 32.1	
	comp=Z,72nm,18.2s,baz=340,slow=36						
AS01	Alice Springs	46.45	252	eP	P	16 57 31.2	-2.1
AS31	Alice Springs	46.49	252	eP	P	16 57 33.0	-0.7
	1.8nm,0.8s						
ASAR	Alice Springs	46.49	252	P	P	16 57 32.1	-1.6
	2.9nm,0.6s,baz=84,slow=8.7,SNR=7.1						
ASAR				LR	LR	17 15 41.8	
	comp=Z,141nm,18.6s,baz=98,slow=34						
SOEI	Soe	57.12	268	eP	P	16 58 54.2	+0.9
	38nm,1.1s						
MJAR	Matsushiro Arr	66.54	322	LR	LR	17 23 27.4	
	comp=Z,40nm,21.9s,baz=165,slow=31						
MAJO	Matsushiro	66.55	322	eP	P	16 59 56.3	+0.1
	41nm,1.6s						
MJB9	Matsu-Tunnel	66.55	322	eP	P	16 59 56.3	0.0
	44nm,1.6s						
PETK	Petropavlovsk-	71.55	344	LR	LR	17 29 24.9	
	comp=Z,59nm,19.1s,baz=147,slow=34						
KSRS	Korea Array	73.54	317	LR	LR	17 28 56.3	
	comp=Z,53nm,18.3s,baz=113,slow=33						
USRK	Ussuriysk Ar.	75.15	325	LR	LR	17 31 27.7	
	comp=Z,48nm,18.3s,baz=117,slow=34						
NV01	Mina Array Sit	76.92	44	eP	P	17 00 58.1	-0.8
NVAR	Mina Array Bea	76.92	44	P	P	17 00 58.3	-0.7
	0.4nm,0.6s,baz=198,slow=5.7,SNR=2.7						
NVAR				LR	LR	17 26 52.4	
	comp=Z,76nm,19.4s,baz=257,slow=30						
ILAR	Eielson Array	83.24	13	P	P	17 01 32.3	+0.2
	0.6nm,0.7s,baz=214,slow=4.8,SNR=12						
ILB	Eielson Array	83.24	13	eP	P	17 01 32.9	+0.7
TXAR	Lajitas Array	83.80	57	P	P	17 01 36.7	+0.6
	0.3nm,0.6s,baz=292,slow=4.8,SNR=2.8						
TXAR				LR	LR	17 31 59.6	
	comp=Z,53nm,19.0s,baz=0.0,slow=31						
LTX	Lajitas	83.80	57	eP	P	17 01 36.7	+0.6
PSI	Prapat	84.70	274	LR	LR	17 41 44.2	
	comp=Z,34nm,19.6s,baz=92,slow=37						
PDAR	Pinedale Array	84.84	43	LR	LR	17 32 29.5	
	comp=Z,60nm,18.8s,baz=269,slow=31						
MAW	Mawson	86.54	199	LR	LR	17 37 56.1	
	comp=Z,67nm,18.0s,baz=127,slow=34						
CMAR	Chiang Mai Arr	89.01	289	LR	LR	17 37 29.7	
	comp=Z,33nm,20.7s,baz=138,slow=33						
YKA	Yellowknife Ar	91.65	24	P	P	17 02 12.0	-1.0
	0.5nm,1.1s,baz=258,slow=4.9,SNR=3.1						
SONM	Songino Array	92.33	319	LR	LR	17 39 43.5	
	comp=Z,38nm,19.8s,baz=310,slow=33						
ULM	Lac du Bonnet	96.35	40	LR	LR	17 39 41.1	
	comp=Z,122nm,18.5s,baz=36,slow=32						
BR101	Keskin Array S	143.68	318	ePKPdf	PKPdf	17 08 42.5	+0.8
BRTR	Keskin Array B	143.68	318	PKP	PKPdf	17 08 42.5	+0.8
	1.3nm,0.9s,baz=119,slow=4.4,SNR=6.0						

IDC 03 17:10:36.8±6.1, 19°.42S×177°.43E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/27, mbtmp3.4/3, Error ellipse: s-maj=268.3km s-min=35.6km az=146.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	40.49	262	P	P	17 18 17.9	+0.1
	0.2nm,0.4s,baz=97,slow=7.7,SNR=13						
ASAR	Alice Springs	40.59	256	P	P	17 18 18.1	-0.4
	0.3nm,0.5s,baz=84,slow=8.2,SNR=15						
ILAR	Eielson Array	88.28	14	P	P	17 23 29.7	0.0
	0.3nm,0.8s,baz=213,slow=7.6,SNR=3.2						

*GUC **03** 17:25:38.6±0.6, 33°.24S×70°.71W, h82km±2km, ML3.6*

*ISCJB **03** 17:25:39.9±0.7, 33°.26S±0°.04×70°.72W±0°.06, h84km±5km, Error ellipse: s-maj=8.5km s-min=6.3km az=179.1*

*SJA **03** 17:25:39.1±0.9, 33°.28S×70°.70W, h80km±5km, ML2.5, MW3.0*

ISC 03 17:25:40.7±1.4, 33°.27S±0°.04×70°.74W±0°.05, h76km±7km, n25, σ0s.70/34, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PEL	Peldehue	0.13	20	eP	Pn	17 25 51.4	-0.6
PEL				eS	Sn	17 26 00.4	+0.2
PEL	Peldehue	0.13	20	eP	Pn	17 25 51.0	-0.9
PEL				iS	Sn	17 26 00.3	+0.2
PEL				IAML		17 26 01.5	
	comp=N,5μm,0.3s						
CLCH	Cerro Calan	0.21	127	eP	Pn	17 25 52.0	-0.3
CLCH				iS	Sn	17 26 01.2	+0.5
ROC1	El Roble	0.37	321	eP	Pn	17 25 53.5	+0.1
ROC1				eS	Sn	17 26 03.6	+0.9
ROCH	El Roble	0.37	322	eP	Pn	17 25 53.1	-0.3
ROCH				iS	Sn	17 26 03.7	+1.0
ROCH				IAML		17 26 05.2	
	comp=E,4μm,0.3s						
FCH	Farellones	0.38	99	⇓iP	Pn	17 25 53.0	-0.6
FCH				iS	Sn	17 26 02.9	-0.1
FCH				IAML		17 26 04.8	
	comp=E,4μm,0.1s						
LMEL	Las Melosas	0.73	142	eP	Pn	17 25 56.4	-0.3
LMEL				iS	Sn	17 26 09.0	+0.6
LMEL				IAML		17 26 11.4	
	comp=N,2μm,0.1s						
AUSP	Uspallata	1.54	48	eP	Pn	17 26 06.8	0.0
ARCO	CERRO ARCO	1.58	75	eP	Pn	17 26 08.5	+1.4
AAGR	Agrelo	1.61	84	eP	Pn	17 26 07.5	0.0
ASAL	Salagasta	1.74	68	eP	Pn	17 26 09.1	-0.1
RTLS	Leoncito	1.91	40	eP	Pn	17 26 12.1	+0.5
RTLS				IAML		17 26 41.1	
	comp=Z,29nm,0.6s						
GO05	Huala	2.00	209	eP	Pn	17 26 12.3	-0.3
GO05				iS	Sn	17 26 37.8	+1.0
CMCH	Combarbala	2.10	354	eP	Pn	17 26 13.4	-0.5
RTCV	Cerro Valdivia	2.33	54	eP	Pn	17 26 17.1	+0.1
RFA	San Rafael	2.41	129	eP	Pn	17 26 17.5	-0.7
ZON	Zonda	2.45	46	eP	Pn	17 26 19.4	+0.8
ZON				IAML		17 26 55.6	
	comp=Z,14nm,0.3s						
CFA	Coronel Fontan	2.69	53	eP	Pn	17 26 21.3	-0.5
AMOG	MOGNA	3.00	40	eP	Pn	17 26 25.8	-0.3
ACCO	Cerro Coronel	3.03	29	eP	Pn	17 26 26.8	+0.1
GO04	Tololo Observa	3.08	359	eP	Pn	17 26 26.7	-0.8
GO04				iS	Sn	17 27 03.2	-0.1
GO04				IAML		17 27 17.2	
	comp=N,263nm,0.4s						
ACAN	Cantantal	3.15	73	eP	Pn	17 26 27.8	-0.3
AROD	Rodeo	3.27	20	eP	Pn	17 26 30.9	+0.8
AGUA	GUANDACOL	4.23	28	eP	Pn	17 26 42.2	-0.7
APLL	PUNTA DE LOS L	4.59	53	eP	Pn	17 26 45.8	-1.9
APLL				IAML		17 27 39.0	
	comp=Z,6.9nm,0.4s						

*ISCJB **03** 17:29:27.9±1.2, 10°.8S±0°.1×161°.6E±0°.1, h100km, mb3.7/6, Error ellipse: s-maj=22.5km s-min=14.4km az=139.2*

*IDC **03** 17:29:32.1±2.4, 10°.55S×161°.44E, h117km±16km, mb3.5/6, mb1 3.7/7, mb1mx3.4/44, mbtmp3.9/7, Error ellipse: s-maj=26.1km s-min=19.5km az=95.0*

ISC 03 17:29:28.5±1.4, 10°.7S±0°.2×161°.7E±0°.2, h100km, n9, σ1s.59/10, mb3.7/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	2.15	307	P	Pn	17 30 02.8	-0.2
	165nm,0.3s,baz=145,slow=7.2,SNR=100						
HNR				S	Sn	17 30 27.8	-1.6
	208nm,0.3s,baz=204,slow=13,SNR=13						
HNR	Honiara	2.15	307	iP	Pn	17 30 05.5	+2.5
HNR				iS	Sn	17 30 27.0	-2.4
DZM	Mont Dzumac	12.16	159	P	P	17 32 25.6	-1.2
	0.2nm,0.3s,baz=313,slow=19,SNR=4.2						
WRA	Warramunga Arr	27.89	248	P	P	17 35 10.2	+1.0
	0.8nm,0.5s,baz=77,slow=8.9,SNR=17						
ASAR	Alice Springs	29.43	240	P	P	17 35 23.4	+0.5
	0.6nm,0.9s,baz=63,slow=9.9,SNR=10						
FITZ	Fitzroy Crossi	35.63	254	P	P	17 36 17.4	+0.4
	4.4nm,1.1s,baz=90,slow=7.1,SNR=3.5						
SONM	Songino Array	76.10	325	P	P	17 41 05.9	+0.5
	1.0nm,0.6s,baz=143,slow=5.7,SNR=8.8						
ILAR	Eielson Array	84.52	20	P	P	17 41 51.0	+1.0
	0.3nm,0.6s,baz=245,slow=4.9,SNR=3.4						
MKAR	Makanchi Array	90.58	318	P	P	17 42 19.5	-0.1
	0.5nm,0.4s,baz=94,slow=6.5,SNR=12						

IDC 03 17:30:57.3±2.1, 3°.35N×126°.54E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/44, mbtmp3.5/3, MS3.5/2, Ms1 3.5/2, ms1mx2.6/30, Error ellipse: s-maj=176.9km s-min=24.4km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOW	Kunigami	23.41	4	LR	LR	17 46 25.1	
	comp=Z,73nm,18.8s,baz=312,slow=40						
WRA	Warramunga Arr	24.39	162	P	P	17 36 17.8	+0.3
	2.7nm,0.7s,baz=343,slow=10.0,SNR=15						
ASAR	Alice Springs	27.80	165	P	P	17 36 48.3	-0.1
	0.2nm,0.4s,baz=337,slow=7.2,SNR=8.6						
NWAO	Narrogin (SRO)	37.15	193	LR	LR	17 53 45.6	
	comp=Z,89nm,18.3s,baz=353,slow=37						
MKAR	Makanchi Array	57.76	325	P	P	17 40 50.0	-0.2
	0.2nm,0.7s,baz=121,slow=6.6,SNR=2.6						

*ISCJB **03** 17:35:56.8±1.1, 35°.15S±0°.06×179°.4E±0°.1, h200km, mb3.2/2, Error ellipse: s-maj=16.3km s-min=8.2km az=177.0*

*WEL **03** 17:35:58.9±1.1, 35°S±10°×17°9E±1°2, h226km±13km*

*IDC **03** 17:35:58.9±7.2, 35°.10S×179°.09E, h190km±75km, mb3.2/2, mb1 3.3/3, mb1mx3.1/40, mbtmp3.6/3, Error ellipse: s-maj=95.8km s-min=44.0km az=1.0*

ISC 03 17:35:59.0±1.8, 35°.25S±0°.10×179°.2E±0°.1, h200km, n43, σ1s.27/51, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.43	198	P	Pn	17 36 42.4	+0.3
MXZ				S	Sn	17 37 16.9	+1.1
WMGZ	Waiomatatini S	2.65	194	P	Pn	17 36 45.5	+0.9
HAZ	Te Kaha	2.77	205	P	Pn	17 36 46.2	+0.4
HAZ				S	Sn	17 37 24.1	+1.5
PKGZ	Pakihiroa	2.80	199	P	Pn	17 36 47.1	+0.8
PUZ	Puketiti	2.93	195	P	Pn	17 36 47.9	+0.1
RUGZ	Raukumara Rang	2.99	204	P	Pn	17 36 49.1	+0.5
KUZ	Kuaotunu	3.22	241	P	Pn	17 36 51.2	-0.1
CNGZ	Carnagh Statio	3.33	194	P	Pn	17 36 53.5	+0.9
MWZ	Matawai	3.37	204	P	Pn	17 36 53.3	+0.1
MWZ				S	Sn	17 37 36.5	+0.8
TKGZ	Te Karaka	3.38	199	P	Pn	17 36 54.7	+1.6
TKGZ				S	Sn	17 37 36.9	+1.4
OPRZ	Ohinepanea	3.38	219	P	Pn	17 36 53.4	+0.3
URZ	Urewera	3.46	209	P	Pn	17 36 54.8	+0.7
	1.6nm,0.3s,baz=272,slow=4.9,SNR=23						
URZ				S	Sn	17 37 38.2	+0.8
	6.4nm,0.3s,baz=249,slow=20,SNR=13						
URZ	Urewera	3.46	209	P	Pn	17 36 55.1	+1.0
RAGZ	Rawiri	3.56	204	P	Pn	17 36 57.2	+1.8
RIGZ	Rimuhau	3.65	199	P	Pn	17 36 56.8	+0.3
RIGZ				S	Sn	17 37 43.1	+1.5
WIAZ	Waiheke Island	3.67	244	P	Pn	17 36 56.7	0.0
MKAZ	Moumakai	3.79	240	P	Pn	17 36 58.4	+0.3
RTZ	Ruatahuna	3.82	208	P	Pn	17 36 58.4	-0.2
MBAZ	Motutapu North	3.84	245	P	Pn	17 36 58.8	+0.1
SNGZ	Shannon Statio	3.84	203	P	Pn	17 36 58.8	0.0
SNGZ				S	Sn	17 37 47.2	+1.3
ETAZ	East Tamaki Re	3.89	243	P	Pn	17 36 59.6	+0.2
TOZ	Tahuroa Road	3.90	229	P	Pn	17 37 00.9	+1.3
KNZ	Kokohu	3.97	198	P	Pn	17 37 00.4	0.0
RAHZ	Arahi	4.05	205	P	Pn	17 37 01.2	-0.2
MTHZ	Maungataniwha	4.08	207	P	Pn	17 37 01.9	+0.2
ARHZ	Aropaoanui	4.39	203	P	Pn	17 37 05.0	-0.6
BKZ	Black Stump Fm	4.49	209	P	Pn	17 37 06.4	-0.5
BKZ				S	Sn	17 38 00.4	+0.1
KWHZ	Kaweka Forest	4.74	207	P	Pn	17 37 09.4	-0.7
HIZ	Hauiti	4.79	226	P	Pn	17 37 12.4	+1.6
NGZ	Ngauruhoe	4.88	215	P	Pn	17 37 12.6	+0.6
KAHZ	Kahuranaki	4.91	202	P	Pn	17 37 11.9	-0.4
BHHZ	Black Hill Sta	4.93	210	P	Pn	17 37 11.2	-1.4
KRHZ	Kereru	4.95	207	P	Pn	17 37 11.1	-1.7
PXZ	Pawanui	5.13	201	P	Pn	17 37 13.8	-1.3
PNHZ	Pukenui	5.25	207	P	Pn	17 37 14.8	-1.7
PRHZ	Porangahau	5.42	202	P	Pn	17 37 17.2	-1.5
WAZ	Wanganui	5.63	216	P	Pn	17 37 17.1	-4.4
BFZ	Birch Farm	5.92	203	P	Pn	17 37 22.9	-2.2
MRZ	Mangatainoka R	6.13	207	P	Pn	17 37 25.3	-2.6
KIW	Kapiti Island	6.56	210	P	Pn	17 37 30.8	-2.8
ASAR	Alice Springs	40.81	274	P	P	17 43 21.1	-0.1
	0.4nm,0.3s,baz=116,slow=7.2,SNR=21						
WRA	Warramunga Arr	42.25	279	P	P	17 43 32.0	-0.8
	0.4nm,0.4s,baz=119,slow=7.6,SNR=28						
FINES	FINESS Array B	148.74	335	PKPbc	PKPbc	17 55 21.8	0.0
	2.2nm,1.0s,baz=1.9,slow=4.2,SNR=3.4						

*NIED **03** 17:47:00, 37°.60N×143°.70E, h8km, Mw3.9 Best double couple: $M_0$7.94000×10^{14} NP1:ϕ_s35.00000°,δ20.00000°, λ-65.00000°. NP2:ϕ_s189.00000°,δ72.00000°, λ-99.00000°.*

*IDC **03** 17:47:15.5±0.8, 37°.50N×143°.87E, h0km, mb3.9/11, mb1 4.1/16, mb1mx3.9/44, mbtmp4.0/16, ML3.7/5, MS3.1/5, Ms1 3.1/5, ms1mx2.7/38, Error ellipse: s-maj=20.5km s-min=15.4km az=92.0*

*ISCJB **03** 17:47:17.7±0.4, 37°.61N±0°.04×143°.73E±0°.05, h33km, mb4.0/14, MS4.2/1, Error ellipse: s-maj=5.4km s-min=5.4km az=156.0*

*JMA **03** 17:47:18.0±0.2, 37°.61N×143°.66E, h57km, M3.9*

*NEIC **03** 17:47:20.2±0.5, 37°.62N×143°.81E, h35km, mb4.6/4, Error ellipse: s-maj=9.6km s-min=7.7km az=110.0*

ISC 03 17:47:20.1±0.7, 37°.63N±0°.05×143°.74E±0°.07, h35km, n50, σ1s.62/57, mb4.1/14, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.92	292	P	Pn	17 47 48.7	-1.6
JIKH				eS	Sn	17 48 11.0	-2.2
JIO	Ouri	2.06	294	P	Pn	17 47 50.6	-1.6
JIO				eS	Sn	17 48 14.5	-2.1
JKMT	Kesennumamotoy	2.14	304	P	Pn	17 47 51.7	-1.6
JKMT				eS	Sn	17 48 16.3	-2.3
OFUJ	Ofunato	2.18	312	P	Pn	17 47 52.2	-1.7
JOM	Ohasama	2.66	315	P	Pn	17 47 59.3	-1.2
JFT	Otama	2.70	269	P	Pn	17 48 00.1	-1.0
JFT				eS	Sn	17 48 30.5	-2.1
JYK	Kaneyama	2.95	297	P	Pn	17 48 03.9	-0.6
JANG	Nango	3.24	328	P	Pn	17 48 07.9	-0.6
JAG	Ashikaga	3.63	252	P	Pn	17 48 12.2	-1.6
BSO1	Boso 1	3.71	218	P	Pn	17 48 12.6	-1.9
JRY	Ryogami san	4.20	249	P	Pn	17 48 20.1	-1.6
JRY				eS	Sn	17 49 05.1	-4.4
ERM	Erimo	4.41	354	ePn	Pn	17 48 23.4	-1.1
JOD2	Odawara 2	4.43	239	P	Pn	17 48 22.7	-2.1
MJAR	Matsushiro Arr	4.55	258	Pn	Pn	17 48 26.6	+0.2
	9.6nm,0.3s,baz=91,slow=15,SNR=221						
MJAR				LR	LR	17 50 38.8	
	comp=Z,99nm,19.6s,baz=60,slow=44						
MAJO	Matsushiro	4.55	258	ePn	Pn	17 48 27.2	+0.7
MAT	Matsushiro	4.55	258	P	Pn	17 48 26.6	+0.1
MAT				S	Sn	17 49 19.5	+1.3
MJB9	Matsu-Tunnel	4.55	258	ePn	Pn	17 48 27.3	+0.7
JCH	Churui	4.99	357	P	Pn	17 48 30.8	-1.7
JCH				eS	Sn	17 49 24.3	-4.6
JHJ	Hachijo jima 2	5.54	217	Pn	Pn	17 48 38.1	-1.9
	12nm,0.3s,baz=159,slow=24,SNR=9.5						
JHJ				Sn	Sn	17 49 38.6	-3.8
	18nm,0.3s,baz=120,slow=23,SNR=3.0						
INU	Inuyama	5.87	249	ePn	Pn	17 48 44.5	-0.1
ASAJ	Asahikawa	6.54	353	Pn	Pn	17 48 53.3	-0.5
	3.1nm,0.3s,baz=218,slow=15,SNR=30						
USRK	Ussuriysk Ar.	11.04	310	Pn	Pn	17 49 56.9	+1.4
	0.6nm,0.3s,baz=119,slow=14,SNR=8.6						
USRK				LR	LR	17 54 30.3	
	comp=Z,76nm,20.0s,baz=140,slow=39						
KSRS	Korea Array	12.56	274	Pn	Pn	17 50 17.7	+1.6
	0.2nm,0.3s,baz=84,slow=14,SNR=7.2						
KSRS				LR	LR	17 54 23.3	
	comp=Z,64nm,18.6s,baz=81,slow=34						
KSAR	Wonju Array Be	12.59	274	Pn	Pn	17 50 17.7	+1.1
KLR	Kul'dur	14.48	327	Pn	Pn	17 50 41.1	-1.3
	0.2nm,0.3s,baz=128,slow=11,SNR=7.1						
KLR				LR	LR	17 56 23.8	
	comp=Z,40nm,18.6s,baz=95,slow=37						
PETK	Petropavlovsk-	18.27	28	ePn	Pn	17 51 28.0	-2.7
SONA0	Songino Array	29.01	303	eP	P	17 53 17.0	+0.3
SONM	Songino Array	29.01	303	P	P	17 53 17.0	+0.3
	0.5nm,0.4s,baz=99,slow=7.7,SNR=4.6						
ZAA1	Zalesovo Array	42.89	312	eP	P	17 55 18.0	+3.1
ZAA1				ePcP	PcP	17 57 06.4	+1.2
ZALV	Zalesovo Beam	42.89	312	P	P	17 55 18.0	+3.1
	2.5nm,0.5s,baz=102,slow=6.8,SNR=9.0						
ZALV				PcP	PcP	17 57 06.4	+1.2
	0.6nm,0.6s,baz=81,slow=4.5,SNR=3.1						
ZALV	Zalesovo Beam	42.89	312	eP	P	17 55 15.3	+0.4
ZALV				PcP	PcP	17 57 06.4	+1.2
CMAR	Chiang Mai Arr	43.44	257	P	P	17 55 20.9	+1.1
	0.5nm,0.7s,baz=46,slow=7.4,SNR=8.6						
MK32	Makanchi Array	45.37	302	eP	P	17 55 36.1	+1.1
MKAR	Makanchi Array	45.37	302	P	P	17 55 36.1	+1.1
	1.1nm,0.7s,baz=87,slow=9.8,SNR=13						
MKAR	Makanchi Array	45.37	302	eP	P	17 55 36.2	+1.2
	13nm,0.8s						
KURK	Kurchatov	47.02	308	eP	P	17 55 48.5	+0.7
	4.4nm,0.7s						
ILAR	Eielson Array	48.00	33	P	P	17 55 56.4	+1.2
	1.3nm,0.8s,baz=256,slow=5.8,SNR=12						
ILB	Eielson Array	48.00	33	eP	P	17 55 56.4	+1.2
WB2	Warramunga Arr	57.94	190	eP	P	17 57 08.3	-0.7
WR1	Warramunga Arr	57.94	190	eP	P	17 57 08.3	-0.6
	5.4nm,0.9s						
WRA	Warramunga Arr	57.94	190	P	P	17 57 08.3	-0.6
	2.7nm,0.6s,baz=12,slow=7.4,SNR=36						
ABKAR	Akbulak array	58.97	311	eP	P	17 57 16.9	+1.0
AS01	Alice Springs	61.66	190	eP	P	17 57 34.4	-0.1
AS31	Alice Springs	61.66	190	eP	P	17 57 34.4	-0.1
	2.5nm,1.5s						
ASAR	Alice Springs	61.66	190	P	P	17 57 34.4	-0.1
	1.4nm,0.7s,baz=5.9,slow=7.2,SNR=22						
YKA	Yellowknife Ar	62.36	31	P	P	17 57 39.8	+1.0
	0.1nm,0.6s,baz=305,slow=7.5,SNR=4.0						
STKA	Stephens Creek	69.17	182	P	P	17 58 23.2	+0.3
	1.1nm,0.6s,baz=353,slow=8.3,SNR=4.8						
KVAR	Kislovodsk Arr	71.90	312	LR	LR	18 33 52.6	
	comp=Z,124nm,19.7s,baz=93,slow=39						
KBZ	Khabaz	71.91	311	P	P	17 58 42.9	+3.3
	1.5nm,0.9s,baz=38,slow=12,SNR=3.3						
AKASG	Malin Array Be	74.95	323	P	P	17 58 58.1	+0.8
	0.2nm,0.4s,baz=43,slow=6.8,SNR=1.9						

IDC 03 17:53:49.2±28.0**, 22°.26S×173°.19W, h0km, mb4.0**/4, **mb1 4.1**/4, **mb1mx3.7**/30, **mbtmp4.0**/4, **Error ellipse: s-maj=513.3km s-min=154.0km az=77.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	37.81	266	P	P	18 01 08.3	+0.7
	2.9nm,0.4s,baz=99,slow=12,SNR=7.0						
STKA	Stephens Creek	41.14	247	P	P	18 01 34.3	-1.0
	0.5nm,0.4s,baz=98,slow=14,SNR=5.0						
ASAR	Alice Springs	48.51	258	P	P	18 02 33.8	-0.4
	0.6nm,0.6s,baz=97,slow=7.6,SNR=27						
WRA	Warramunga Arr	48.81	262	P	P	18 02 36.8	+0.2
	1.1nm,0.3s,baz=97,slow=8.3,SNR=70						

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*ISCJB **03** 17:53:55.9±0.9, 48°.7N±0°.1×155°.5E±0°.4, h35km, mb3.5/5, Error ellipse: s-maj=39.7km s-min=8.0km az=17.9*
*KRSC **03** 17:53:58.5±1.5, 48°.98N×156°.44E, h3km±30km, ML4.2*
*MOS **03** 17:53:58.5±2.1, 48°.98N×156°.44E, h3km, mb4.3/1, Error ellipse: s-maj=57.6km s-min=6.0km az=80.0*
*SKHL **03** 17:54:00.0±0.1, 48°.81N×155°.69E, h65km±4km*
*IDC **03** 17:54:00.8±4.3, 48°.94N×154°.83E, h83km±41km, mb3.2/5, mb1 3.4/6, mb1mx3.1/35, mbtmp3.5/6, Error ellipse: s-maj=42.3km s-min=24.7km az=118.0*
ISC 03 17:53:56.6±1.3**, 48°.63N**±0°.10×**155°.7E**±0°.2**, h35km, n41, σ1§96**/58**, mb3.4**/5**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.08	8	eP	Pn	17 54 28.3	-0.6
SKR				eS	Sn	17 54 51.1	-2.5
SKR	Severo-Kuril's	2.08	8	eP	Pn	17 54 29.2	+0.3
SKR				eS	Sn	17 54 51.1	-2.5
SKR				A	A	17 54 53.2	
	140nm,0.3s						
SKR				A	A	17 54 53.2	
	260nm,0.3s						
SKR	Severo-Kuril's	2.08	8	ePN	Pn	17 54 29.2	+0.3
SKR				eS	Sn	17 54 51.1	-2.5
SKR				smax	smax		
	comp=N,142nm,0.3s						
SKR				smax	smax		
	comp=E,262nm,0.3s						
PAU	Pauzhetka	2.94	14	eP	Pn	17 54 42.6	+1.8
PAU				eS	Sn	17 55 14.6	-0.2
PAU	Pauzhetka	2.94	14	eP	Pn	17 54 42.6	+1.8
PAU				eS	Sn	17 55 14.6	-0.2
PAU	Pauzhetka	2.94	14	PN	Pn	17 54 42.6	+1.8
PAU				S	Sn	17 55 14.6	-0.2
KDTR	Khodutka, Kamc	3.55	25	eP	Pn	17 54 49.9	+0.8
KDTR				eS	Sn	17 55 27.3	-2.4
KDTR	Khodutka, Kamc	3.55	25	PN	Pn	17 54 49.9	+0.8
KDTR				S	Sn	17 55 27.3	-2.4
MTVR	Mutnovka	4.18	22	eP	Pn	17 54 59.3	+1.3
MTVR				eS	Sn	17 55 43.7	-2.0
MTVR	Mutnovka	4.18	22	PN	Pn	17 54 59.3	+1.3
MTVR				S	Sn	17 55 43.7	-2.0
RUS	Russkaya	4.22	25	eP	Pn	17 54 59.6	+1.2
RUS				eS	Sn	17 55 44.3	-2.2
RUS	Russkaya	4.22	25	eP	Pn	17 54 59.6	+1.2
RUS				eS	Sn	17 55 44.3	-2.2
RUS	Russkaya	4.22	25	PN	Pn	17 54 59.6	+1.2
RUS				S	Sn	17 55 44.3	-2.2
KRMR	Karymshinskiy	4.49	20	eP	Pn	17 55 05.4	+3.3
KRMR				eS	Sn	17 55 54.2	+1.1
KRMR	Karymshinskiy	4.49	20	PN	Pn	17 55 05.4	+3.3
KRMR				S	Sn	17 55 54.2	+1.1
PETK	Petropavlovsk-	4.67	15	P	Pn	17 55 06.8	+2.3
	comp=E,1.1nm,0.3s,baz=182,slow=13,SNR=38						
DALK	Dalny	4.83	23	eP	Pn	17 55 08.4	+1.7
DALK				eS	Sn	17 56 01.0	-0.3
DALK	Dalny	4.83	23	PN	Pn	17 55 08.4	+1.7
DALK				S	Sn	17 56 01.0	-0.3
UGLR	Uglovaya	5.01	22	eP	Pn	17 55 11.6	+2.3
UGLR	Uglovaya	5.01	22	PN	Pn	17 55 11.6	+2.3
AVH	Avacha	5.04	22	eP	Pn	17 55 12.4	+2.7
AVH	Avacha	5.04	22	PN	Pn	17 55 12.4	+2.7
KOK	Koryaka	5.04	21	eP	Pn	17 55 12.7	+3.0
KOK	Koryaka	5.04	21	eP	Pn	17 55 12.7	+3.0
KOK	Koryaka	5.04	21	PN	Pn	17 55 12.7	+3.0
SMAR	Somma	5.05	22	eP	Pn	17 55 11.4	+1.4
SMAR	Somma	5.05	22	PN	Pn	17 55 11.4	+1.4
SDLR	Sedlovina	5.08	23	eP	Pn	17 55 11.6	+1.2
SDLR	Sedlovina	5.08	23	PN	Pn	17 55 11.6	+1.2
KRX	Arik	5.10	21	eP	Pn	17 55 13.9	+3.3
KRX	Arik	5.10	21	PN	Pn	17 55 13.9	+3.3
SPN	Mys Shipunski	5.26	30	eP	Pn	17 55 14.1	+1.4
SPN				eS	Sn	17 56 10.7	-1.3
SPN	Mys Shipunski	5.26	30	eP	Pn	17 55 14.1	+1.4
SPN	Mys Shipunski	5.26	30	PN	Pn	17 55 14.1	+1.4
SPN				S	Sn	17 56 10.7	-1.3
GNL	Ganaly	5.28	15	eP	Pn	17 55 15.0	+2.0
GNL	Ganaly	5.28	15	PN	Pn	17 55 15.0	+2.0
YKA	Yellowknife Ar	48.39	38	P	P	18 02 35.1	+0.5
	comp=E,0.2nm,0.7s,baz=290,slow=6.8,SNR=2.9						
CMAR	Chiang Mai Arr	54.47	257	P	P	18 03 17.4	-3.2
	comp=E,0.7nm,0.7s,baz=40,slow=8.0,SNR=7.0						
FINES	FINESS Array B	63.05	335	P	P	18 04 14.1	-5.6
	comp=E,1.0nm,0.7s,baz=38,slow=7.0,SNR=4.4						
WRA	Warramunga Arr	70.87	201	P	P	18 05 08.5	-1.3
	comp=E,0.2nm,0.6s,baz=16,slow=6.3,SNR=4.2						
ASAR	Alice Springs	74.55	201	P	P	18 05 31.2	-0.4
	comp=E,0.3nm,0.8s,baz=12,slow=4.8,SNR=4.0						

DJA 03 17:54:33.9±0.5**, 8°S**±4°×**10°6E**±°**, h10km, M4.1**/11**, mb4.6**/1**, MLv3.9**/11**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKJI	Sukabumi	0.94	14	P	Pg	17 54 51.1	-0.9
SKJI				S	Sg	17 55 01.4	-2.8
CISI	Cisompet, Garu	1.52	76	P	Pn	17 55 00.2	-1.0
LEM	Lembang	1.68	50	P	Pn	17 55 04.2	+0.7
LEM				S	Sn	17 55 24.9	-0.2
SBJI	Serang	1.80	354	P	Pn	17 55 05.0	0.0
SBJI				S	Sn	17 55 24.5	-3.4
CMJI	Cimerak	2.10	86	P	Pn	17 55 08.0	-1.2
CMJI				S	Sn	17 55 30.4	-5.0
KASI	Kota Agung	3.00	322	P	Pn	17 55 22.3	+0.8
KASI				S	Sn	17 55 58.0	+0.5
KLSI		3.58	334	P	Pn	17 55 27.7	-1.8
KLSI				S	Sn	17 56 12.9	+0.9
LWLI	Liwa	3.66	322	P	Pn	17 55 32.7	+1.9
LWLI				S	Sn	17 56 15.0	+0.9
MDSI	Maura Dua	4.03	328	P	Pn	17 55 34.5	-1.2
UGM	Wanagama	4.15	90	P	Pn	17 55 37.0	-0.5
PCJI	Pacitan	4.81	94	P	Pn	17 55 47.0	+0.6
NGJI	Ngawi	5.12	84	P	Pn	17 55 51.3	+0.7

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*ISCJB **03** 17:54:42.1±0.7, 26°.37N±0°.07×127°.33E±0°.05, h54km±5km, mb3.4/4, Error ellipse: s-maj=12.5km s-min=6.7km az=168.1*
*JMA **03** 17:54:42.9±0.2, 26°.29N×127°.32E, h44km±2km, M3.6*
JMA Felt I J1.
*IDC **03** 17:54:44.5±4.0, 26°.66N×127°.30E, h45km±48km, mb3.3/4, mb1 3.5/5, mb1mx3.2/33, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=49.3km s-min=22.2km az=61.0*
ISC 03 17:54:43.5±0.9**, 26°.41N**±0°.07×**127°.33E**±0°.04**, h46km**±8km**, n13, σ1§17**/21**, mb3.5**/4**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAGN	Aguni-jima	0.19	337	P	Pn	17 54 51.7	+0.4
JAGN				S	Sn	17 54 58.0	+1.1
JJT3	Tamagusuku3	0.49	123	P	Pn	17 54 53.3	-1.1
JJT3				S	Sn	17 55 01.1	-1.0
JKE	Kume jima 2	0.49	260	P	Pn	17 54 53.6	-0.8
JKE				S	Sn	17 55 01.3	-0.8
JNTH	Nagotoyohara	0.63	80	P	Pn	17 54 55.6	-0.6
JNTH				eS	Sn	17 55 04.3	-1.1
JIH	Iheya	0.85	42	P	Pn	17 54 59.2	+0.1
JIH				S	Sn	17 55 09.8	-0.6
JOW	Kunigami	0.95	63	P	Pn	17 55 00.5	0.0
	58nm,0.3s,baz=130,slow=24,SNR=78						
JOW				S	Sn	17 55 13.2	+0.4
	271nm,0.3s,baz=338,slow=28,SNR=40						
JOW	Kunigami	0.95	63	P	Pn	17 55 00.5	0.0
JOW				S	Sn	17 55 13.0	+0.1
JYRO	Yoronjima	1.18	58	P	Pn	17 55 03.3	-0.3
JYRO				eS	Sn	17 55 18.5	0.0
JNU	Nakatsue	7.37	24	P	Pn	17 56 26.8	-1.8
	0.4nm,0.3s,baz=19,slow=10,SNR=7.9						
SONM	Songino Array	26.97	328	P	P	18 00 21.7	+0.8
	0.7nm,0.6s,baz=139,slow=8.5,SNR=3.9						
MKAR	Makanchi Array	40.81	312	P	P	18 02 19.4	-1.1
	0.3nm,0.3s,baz=95,slow=9.4,SNR=10						
WRA	Warramunga Arr	46.58	171	P	P	18 03 10.2	+3.2
	0.2nm,0.6s,baz=350,slow=8.9,SNR=3.0						
FINES	FINESS Array B	72.31	330	P	P	18 06 02.9	-1.2
	0.8nm,0.7s,baz=51,slow=7.6,SNR=5.2						

IDC 03 17:58:33.0±4.1**, 15°.25S×71°.55W, h165km**±38km**, mb3.0**/2**, mb1 3.3**/4**, mb1mx3.1**/23**, mbtmp3.6**/4**, Error ellipse: s-maj=52.2km s-min=35.2km az=156.0, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	3.45	108	P	Pn	17 59 26.8	-0.4
	1.3nm,0.3s,baz=292,slow=5.4,SNR=36						
LPAZ				S	Sn	18 00 09.8	+0.6
	0.5nm,0.3s,baz=43,slow=22,SNR=6.8						
LVC	Limon Verde	7.73	162	P	Pn	18 00 23.1	-0.1
	2.1nm,0.3s,baz=354,slow=10,SNR=45						
TORD	Torodi Ar. Bea	77.76	73	P	P	18 10 12.3	0.0
	0.1nm,0.3s,baz=248,slow=3.2,SNR=2.7						
YKA	Yellowknife Ar	84.50	341	P	P	18 10 47.0	+0.2
	0.1nm,0.5s,baz=133,slow=5.9,SNR=4.9						

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*NIED **03** 18:08:00, 24°.00N×121°.70E, h5km, Mw4.5 Best double couple: M₀5.84000×10¹⁵ NP1:φs223.00000°, δ14.00000°, λ68.00000°. NP2:φs65.00000°, δ77.00000°, λ95.00000°.*
*BJI **03** 18:08:03.3, 23°.85N×121°.96E, h15km, mb4.2/29, mB4.6/17, ML4.5/6, Ms4.4/24, Ms7 4.4/23*
*NEIC **03** 18:08:04.9±1.0, 23°.97N×121°.73E, h9km±5km, mb4.6/13, ML4.5(TAP), Error ellipse: s-maj=9.1km s-min=6.2km az=98.0*
NEIC Recorded [3 TAP] in Hualien and [2 TAP] in Nantou and Yilan.
*JMA **03** 18:08:04.4±0.3, 23°.98N×121°.72E, h0km, M4.4*
*ISCJB **03** 18:08:04.4±0.3, 23°.945N±0°.010×121°.82E±0°.01, h4km±2km, mb4.2/31, MS3.8/10, Error ellipse: s-maj=2.2km s-min=1.4km az=29.9*
*TAP **03** 18:08:05.0, 23°.99N×121°.73E, h7km, ML4.7, C*
*ASIES **03** 18:08:05.3, 24°.00N×121°.72E, h13km, MW4.0*
*IDC **03** 18:08:11.1±5.2, 23°.95N×121°.82E, h61km±49km, mb3.7/15, mb1 3.9/16, mb1mx3.8/35, mbtmp4.0/16, ML3.4/1, MS3.6/9, Ms1 3.7/9, ms1mx3.3/35, Error ellipse: s-maj=19.7km s-min=13.0km az=74.0*
ISC 03 18:08:05.5±0.8**, 23°.95N**±0°.01×**121°.76E**±0°.02**, h11km**±5km**, n204, σ1§37**/288**, mb4.3**/35**, MS3.8**/10**, 46C-8D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HWA	Hwalien	0.14	280	⇑iP	Pg	18 08 08.5	-0.4
	baz=261						
HWA				S	Sg	18 08 11.6	+0.3
	baz=261						
ENLB	Shoufeng	0.15	252	⇑P	Pg	18 08 09.1	+0.1
	baz=225						
ENLB				eS	Sg	18 08 12.7	+1.2
	baz=225						
TWD	Chiawan	0.20	310	⇑iP	Pg	18 08 08.8	-1.0
	baz=306						
TWD				i S	Sg	18 08 11.6	-1.0
	baz=306						
NACB	Ninganchiao	0.27	326	ePg	Pg	18 08 09.3	-1.8
NACB	Ninganchiao	0.27	326	⇑P	Pg	18 08 09.9	-1.1
	baz=313						
NACB				S	Sg	18 08 13.7	-1.1
	baz=313						
ESL	Shilin	0.33	245	⇑iP	Pg	18 08 11.7	-0.4
	baz=244						
ESL				S	Sg	18 08 16.8	+0.2
	baz=244						
ENA	Nanau	0.47	358	i P	Pg	18 08 14.3	-0.5
	baz=352						
ENA				S	Sg	18 08 21.2	0.0
	baz=352						
WHF	Hehuan Shan	0.49	293	⇑iP	Pg	18 08 14.3	-0.9
	baz=286						
WHF				S	Sg	18 08 20.8	-1.0
	baz=286						
CHGB	Renai	0.55	281	⇑P	Pg	18 08 15.8	-0.5
	baz=275						
CHGB				eS	Sg	18 08 23.5	-0.1
	baz=275						
HGSD	Ruisui	0.55	214	⇓P	Pb	18 08 17.0	-0.2
	baz=198						
NNSB	Datong	0.59	324	⇑P	Pg	18 08 16.2	-0.8
	baz=322						
NNSB				S	Sg	18 08 24.3	-0.4
	baz=322						
EHY	Hungye	0.60	222	eP	Pg	18 08 17.0	-0.2
	baz=202						
EHY				eS	Sb	18 08 27.2	+0.8
	baz=202						
NNS	Nan Shan	0.60	324	⇑iP	Pg	18 08 16.5	-0.8
	baz=322						
NNS				S	Sg	18 08 24.9	-0.3
	baz=322						
VWDT	VWDT	0.60	251	⇑P	Pg	18 08 17.2	0.0
	baz=253						
VWDT				eS	Sb	18 08 25.8	-0.6
	baz=253						
TWT	Tachien	0.61	299	⇑iP	Pg	18 08 17.2	-0.3
	baz=294						
TWT				eS	Sg	18 08 25.0	-0.6
	baz=294						
TDCB	Techi	0.63	299	⇑P	Pg	18 08 17.2	-0.5
	baz=295						
TDCB				eS	Sg	18 08 25.5	-0.6
	baz=295						
TWC	Suao	0.66	7	⇑P	Pg	18 08 18.1	-0.3
	baz=3.0						
TWC				S	Sb	18 08 27.8	-0.4
	baz=3.0						
EOS1	EOS1	0.68	29	P	Pb	18 08 20.4	+1.0
	baz=53						
EOS1				eS	Sn	18 08 32.0	+0.4
	baz=53						
YULB	Yu-li	0.70	217	ePg	Pg	18 08 18.8	-0.3
YULB	Yu-li	0.70	217	eP	Pb	18 08 19.1	-0.7
	baz=213						
YULB				eS	Sb	18 08 30.2	+0.8
	baz=213						
ENTT	Nioudou	0.71	345	⇑iP	Pg	18 08 18.9	-0.3
	baz=335						
ENTT				S	Sb	18 08 29.3	-0.3
	baz=335						
TWF1	Yuli	0.73	216	eP	Pg	18 08 19.3	-0.4
	baz=210						
TWF1				eS	Sn	18 08 31.6	-1.3
	baz=210						
SSLB	Suanglung	0.76	258	ePg	Pg	18 08 18.8	-1.3
SSLB	Suanglung	0.76	258	⇑P	Pg	18 08 19.7	-0.5
	baz=263						
SSLB				eS	Sb	18 08 30.3	-0.7
	baz=263						
TWE	Neicheng	0.77	354	P	Pg	18 08 20.0	-0.4
	baz=346						
TWE				S	Sg	18 08 31.0	+0.5
	baz=346						
SMLT	Sun Moon Lake	0.79	265	⇑iP	Pg	18 08 20.6	-0.3
	baz=270						
SMLT				S	Sb	18 08 31.9	-0.1
	baz=270						
YHNB	Yeheng	0.80	334	ePg	Pg	18 08 20.3	-0.6
YHNB	Yeheng	0.80	334	⇑P	Pg	18 08 20.5	-0.5
	baz=325						
YHNB				S	Sg	18 08 31.2	-0.2
	baz=325						
SLBB	Yuanshan	0.81	352	⇑P	Pg	18 08 20.9	-0.2
	baz=343						
SLBB				S	Sg	18 08 32.0	+0.3
	baz=343						
NSK	Sanguang	0.81	333	⇑iP	Pg	18 08 20.6	-0.5
	baz=324						
NSK				i S	Sg	18 08 31.6	-0.2
	baz=324						
ILA	Ilan	0.81	359	⇑P	Pg	18 08 21.2	0.0
	baz=354						
ILA				eS	Sb	18 08 32.6	+0.1
	baz=354						
TYC	Yuchr	0.83	267	⇑iP	Pg	18 08 21.0	-0.5
	baz=271						
TYC				eS	Sg	18 08 32.0	-0.4
	baz=271						
NWLT	Wulai	0.85	344	⇑eP	Pg	18 08 21.4	-0.6
	baz=329						
YUS	Yu-Shan	0.87	238	eP	Pb	18 08 22.5	-0.4
	baz=232						
YUS				eS	Sb	18 08 33.9	-0.9
	baz=232						
NTC	Toucheng	0.90	4	eP	Pg	18 08 22.5	-0.4
	baz=356						
NTC				eS	Sg	18 08 34.8	+0.2
	baz=356						
EGS		0.90	10	⇑P	Pb	18 08 23.3	+0.2
	baz=13						
EGS				eS	Sb	18 08 36.4	+1.2
	baz=13						
CHKT	Chengkung	0.92	203	eP	Pb	18 08 23.2	-0.3
	baz=183						
CHKT				eS	Sn	18 08 38.8	+1.2
	baz=183						
WJS	Zhushan	0.95	262	P	Pn	18 08 24.4	-0.4
	baz=265						
WJS				S	Sn	18 08 38.3	-0.1
	baz=265						
NSTT	Nanjuang	0.97	314	⇑iP	Pg	18 08 23.9	-0.3
	baz=312						
NSTT				S	Sg	18 08 36.7	-0.1
	baz=312						
LIOB	Emei	0.97	316	⇑P	Pg	18 08 24.1	-0.1
	baz=313						
LIOB				S	Sb	18 08 37.2	0.0
	baz=313						
ALS	Alishan	0.98	244	⇑P	Pb	18 08 24.7	0.0
	baz=239						
TWQ1	Liyutan	0.98	294	⇑P	Pb	18 08 24.5	-0.1
	baz=303						
TWQ1				eS	Sn	18 08 39.1	-0.1
	baz=303						
WNT	Mingjian	0.99	266	⇑iP	Pn	18 08 25.1	-0.2
	baz=268						
WNT				S	Sn	18 08 38.8	-0.5
	baz=268						
WLTB	Daxi	1.01	333	⇑P	Pb	18 08 25.0	0.0
	baz=332						
WLTB				S	Sb	18 08 39.2	+1.0
	baz=332						
TCU	Taichung	1.01	281	eP	Pn	18 08 25.9	+0.3
	baz=274						
TCU				eS	Sn	18 08 40.6	+0.8
	baz=274						
ELDTW	Lidau	1.02	222	eP	Pg	18 08 24.0	-1.2
	baz=219						
TWA	Mucha	1.04	351	⇑iP	Pg	18 08 25.1	-0.4
	baz=340						
TWA				S	Sg	18 08 38.7	-0.3
	baz=340						
TATO	Taipei	1.05	346	ePn	Pg	18 08 25.4	-0.4
TATO	Taipei	1.05	346	⇑P	Pg	18 08 25.4	-0.4
	baz=335						
TATO				S	Sg	18 08 38.8	-0.6
	baz=335						
CHN5	Tsauling	1.05	251	⇓iP	Pn	18 08 26.5	+0.2
	baz=234						
CHN5				eS	Sn	18 08 42.3	+1.3
	baz=234						
NMLH	Miaoli	1.06	304	⇑eP	Pn	18 08 26.6	+0.3
	baz=299						
TWB1	Santiao Chiao	1.07	11	⇑P	Pg	18 08 25.8	-0.4
	baz=6.0						
TWB1				eS	Sg	18 08 40.0	-0.2
	baz=6.0						
SBCB	Hsinchu	1.10	320	eP	Pn	18 08 27.0	+0.2
	baz=317						
SBCB				eS	Sn	18 08 42.4	+0.5
	baz=317						
TAP	Taipei	1.11	348	P	Pb	18 08 26.9	+0.2
	baz=349						
TAP				i S	Sb	18 08 41.8	+0.7
	baz=349						
WCHH	Zhanghua	1.11	277	eP	Pn	18 08 27.0	+0.1
	baz=270						
WCHH				eS	Sn	18 08 43.6	+1.4
	baz=270						
HSN	Hsinchu	1.11	320	eP	Pn	18 08 27.1	+0.1
	baz=318						
NWF	Wu-fen Shan	1.11	1	⇑P	Pg	18 08 26.8	-0.2
	baz=352						
NWF				S	Sg	18 08 41.5	0.0
	baz=352						
WFSB	Wu-fen Shan	1.11	1	⇑P	Pg	18 08 26.9	-0.1
	baz=354						
WFSB				S	Sb	18 08 41.6	+0.3
	baz=354						
WGK	Gukeng	1.13	257	⇓eP	Pn	18 08 27.6	+0.3
	baz=251						
WGK				eS	Sn	18 08 44.8	+2.1
	baz=251						
NCUH	Zhongli	1.14	333	eP	Pg	18 08 27.1	-0.4
	baz=329						
NCU	National Centr	1.14	333	⇑P	Pg	18 08 27.2	-0.2
	baz=330						
WDLH	Douliu	1.15	257	eP	Pn	18 08 27.4	-0.1
	baz=251						
TWS1	Kuangyinshan	1.19	345	⇑eP	Pn	18 08 28.5	+0.5
	baz=345						
TWS1				eS	Sn	18 08 45.5	+1.4
	baz=345						
YM01	YM01	1.20	352	⇑eP	Pn	18 08 29.3	+1.0
	baz=353						
YM01				eS	Sn	18 08 46.7	+2.1
	baz=353						
STYT	Tauyuan	1.21	230	⇓P	Pb	18 08 28.0	-0.4
	baz=211						
STYT				eS	Sn	18 08 44.8	0.0
	baz=211						
YM10	YM10	1.21	351	⇑P	Pb	18 08 28.6	+0.1
	baz=352						
YM10				S	Sn	18 08 45.0	+0.2
	baz=352						
YM04	YM04	1.21	350	P	Pb	18 08 28.2	-0.3
	baz=351						
YM04				S	Sn	18 08 45.5	+0.6
	baz=351						
YM05	YM05	1.22	352	⇑P	Pb	18 08 28.6	-0.1
	baz=352						
YM05				eS	Sn	18 08 46.4	+1.3
	baz=352						
YM11	YM11	1.22	352	⇑P	Pb	18 08 28.7	0.0
	baz=335						
YM11				eS	Sb	18 08 45.1	+0.6
	baz=335						
TPUB	Ta-pu	1.22	238	ePn	Pg	18 08 28.5	-0.5
TPUB	Ta-pu	1.22	238	P	Pn	18 08 28.6	+0.1
	baz=233						
TPUB				S	Sn	18 08 45.8	+0.7
	baz=233						
YM07	YM07	1.23	354	⇓P	Pn	18 08 28.9	+0.3
	baz=335						
YM07				S	Sn	18 08 46.1	+0.9
	baz=335						
CHN4	Tsaushan	1.23	241	⇑P	Pg	18 08 28.8	-0.3
	baz=235						
CHN4				eS	Sn	18 08 48.0	+2.9
	baz=235						
YM03	YM03	1.24	351	⇑P	Pn	18 08 28.9	+0.1
	baz=352						
YM03				eS	Sn	18 08 47.4	+1.8
	baz=352						
NTST	Danshui	1.24	347	eP	Pg	18 08 29.2	-0.2
	baz=344						
YM08	YM08	1.24	353	⇑P	Pn	18 08 28.8	0.0
	baz=336						
YM08				eS	Sg	18 08 45.5	0.0
	baz=336						
YOJ	Yonaguni jima	1.25	66	ePn	Pn	18 08 29.2	+0.4
YOJ	Yonaguni jima	1.25	66	eP	Pn	18 08 29.3	+0.4
	baz=68						
YOJ	Yonaguni jima	1.25	66	P	Pg	18 08 29.8	+0.3
YOJ				eS	Sn	18 08 46.7	+1.0
CHN2	Minshiung	1.25	251	eP	Pg	18 08 29.4	-0.2
	baz=244						
CHN2				eS	Sn	18 08 47.9	+2.2
	baz=244						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WTP	Ta-pu	1.27	236	⇓P	Pg	18 08 29.4	-0.4
	baz=231						
WTP				S	Sn	18 08 47.8	+1.7
	baz=231						
RLNB	Erlin	1.28	268	eP	Pg	18 08 29.7	-0.5
	baz=261						
RLNB				eS	Sn	18 08 48.5	+2.0
	baz=261						
TWGBT	Beinan	1.29	209	eP	Pn	18 08 27.4	-2.1
	baz=207						
TWG	Pinlang	1.29	209	ePn	Pn	18 08 27.3	-2.2
TWG	Pinlang	1.29	209	eP	Pn	18 08 27.3	-2.2
	baz=207						
CHY	Chiayi	1.31	250	eP	Pg	18 08 30.3	-0.3
	baz=243						
CHY				eS	Sn	18 08 49.6	+2.5
	baz=243						
TTN	Taitung	1.32	205	eP	Pg	18 08 30.5	-0.3
	baz=215						
TWY	Chenhua	1.33	354	eP	Pn	18 08 29.8	-0.2
	baz=342						
TWY				eS	Sg	18 08 49.7	+1.4
	baz=342						
TWK	Hsinying	1.35	240	eP	Pg	18 08 31.0	-0.5
	baz=232						
TWK				eS	Sg	18 08 50.9	+1.8
	baz=232						
WTCT	Ta-ch'eng	1.36	267	eP	Pn	18 08 29.3	-1.0
	baz=260						
WTCT				eS	Sg	18 08 50.5	+1.3
	baz=260						
CHN1	Nanshi	1.36	236	P	Pg	18 08 31.7	0.0
	baz=229						
CHN1				S	Sg	18 08 50.6	+1.1
	baz=229						
SGST	Jiashian	1.39	232	eP	Pg	18 08 31.7	-0.4
	baz=211						
SGST				eS	Sg	18 08 51.8	+1.7
	baz=211						
SLGT	Liugui	1.40	227	eP	Pn	18 08 30.9	0.0
	baz=212						
WLGB	Puzi	1.42	251	⇓P	Pg	18 08 32.3	-0.5
	baz=244						
WLGB				S	Sg	18 08 51.7	+0.5
	baz=244						
WSF	Szhu	1.44	258	eP	Pn	18 08 31.7	+0.1
	baz=252						
WSF				eS	Sg	18 08 53.3	+1.3
	baz=252						
ECL	Taimali	1.54	209	eP	Pn	18 08 31.8	-1.0
	baz=196						
CHN8	Yiju	1.54	247	eP	Pb	18 08 33.8	-0.3
	baz=239						
CHN8				eS	Sg	18 08 55.4	+0.2
	baz=239						
CHN3	Shinhua	1.55	236	eP	Pg	18 08 35.8	+0.5
	baz=231						
SSD	Sandimen	1.59	221	eP	Pn	18 08 34.0	+0.5
	baz=206						
SSD				eS	Sg	18 08 57.2	+0.6
	baz=206						
SCLT	Jiali	1.63	242	eP	Pn	18 08 34.5	+0.4
	baz=234						
SCLT				eS	Sg	18 08 58.5	+0.5
	baz=234						
TWM1	Shoushan	1.67	228	eP	Pg	18 08 37.5	+0.1
	baz=224						
TAI1	Yung-k'ang	1.68	237	eP	Pg	18 08 37.5	-0.1
	baz=231						
SGLT	Jiouru	1.69	224	eP	Pg	18 08 37.4	-0.6
	baz=206						
MASBT	Mashibuluo	1.69	218	eP	Pn	18 08 35.5	+0.6
	baz=214						
MASBT				eS	Sg	18 09 00.1	+0.2
	baz=214						
PCYT	Pengchaiyu	1.69	10	eP	Pn	18 08 34.8	-0.2
	baz=7.0						
EAST	Anshuo	1.77	208	eP	Pn	18 08 35.2	-0.9
	baz=197						
TAW	Tawu	1.77	207	eP	Pb	18 08 37.1	-0.9
	baz=205						
IRIF	Iriomote-Funau	1.84	78	P	Pn	18 08 37.2	+0.2
IRIF				eS	Sb	18 09 02.3	+0.2
HATJ	Hateruma jima	1.87	86	S	Sb	18 09 03.5	+0.4
SCZT	Fangliau	1.89	214	eP	Pb	18 08 38.8	-1.2
	baz=196						
SCZT				eS	Sb	18 09 03.8	+0.1
	baz=196						
WDGT	Dungji	2.05	251	eP	Pn	18 08 39.3	-0.6
	baz=244						
PHUB	P'eng-hu	2.05	258	eP	Pn	18 08 40.4	+0.5
	baz=250						
PHUB				eS	Sn	18 09 06.4	+0.9
	baz=250						
PNG	Penghu	2.06	260	eP	Pn	18 08 40.5	+0.5
	baz=253						
JKRS	Kuro-shima	2.07	82	P	Pn	18 08 40.7	+0.5
JKRS				eS	Sb	18 09 08.7	-0.2
HEN	Hengchun	2.15	206	eP	Pn	18 08 41.2	-0.1
	baz=192						
TWKBT	Hengchun	2.18	204	eP	Pn	18 08 41.1	-0.6
	baz=195						
TWK1	Hengchun	2.19	204	eP	Pn	18 08 40.6	-1.2
	baz=195						
JIJ	Ishigaki jima	2.21	79	P	Pn	18 08 41.7	-0.5
JIJ				eS	Sn	18 09 09.5	0.0
VCHM	Qimei	2.26	251	eP	Pn	18 08 43.4	+0.6
	baz=245						
VWUC	VWUC	2.35	297	eP	Pn	18 08 43.6	-0.3
	baz=289						
PTTC	Pingtan	2.38	311	eP	Pn	18 08 43.6	-0.8
	baz=309						
PTTC				eS	Sn	18 09 12.9	-0.6
	baz=309						
JISG	Ishigakijimahi	2.41	74	P	Pn	18 08 44.5	-0.4
JISG				S	Sn	18 09 14.3	-0.1
PTMZ	Houxiangcun	2.64	295	eP	Pn	18 08 47.6	-0.4
	baz=288						
MATB	Ma-tsu	2.74	323	eP	Pn	18 08 48.5	-0.9
	baz=318						
JTJ	Tarama	2.77	75	P	Pn	18 08 52.1	+2.3
QZH	Quanzhou	3.05	290	Pn	Pn	18 08 53.5	-0.2
QZH				Sn	Sn	18 09 28.7	-1.5
QZH				LR	LR		
	comp=N,2µm,8.1s						
QZH				LR	LR		
	comp=E,5µm,8.7s						
QZH				LR	LR		
	comp=Z,5µm,8.5s						
KNM	Kinmen	3.07	279	eP	Pn	18 08 55.4	+1.4
	baz=271						
KNMB	Chin-men Tao	3.12	280	eP	Pn	18 08 54.5	-0.1
	baz=272						
LYJJ	Jianjiangzhen	3.16	325	eP	Pn	18 08 54.6	-0.5
	baz=316						
JIRB	Irabujima	3.23	74	eS	Sn	18 09 34.9	+0.3
MHZQ	Yeshan	3.27	311	eP	Pn	18 08 56.3	-0.4
	baz=291						
XPSS	Dashiqiu	3.29	335	eP	Pn	18 08 56.7	-0.2
	baz=329						
JIKM	Ikemajima	3.32	72	eS	Sn	18 09 37.2	+0.3
JMJ	Miyako jima 2	3.33	74	eS	Sn	18 09 38.6	+1.4
AXDP	Jialang	3.58	286	eP	Pn	18 09 00.9	-0.1
	baz=277						
ZPLA	Ao Xicun	3.67	270	⇑eP	Pn	18 09 01.9	-0.3
	baz=262						
ZZJH	Jiuhuzhen	3.81	279	eP	Pn	18 09 03.7	-0.4
	baz=269						
NJ2	Nanjing	8.47	343	eP	Pn	18 10 06.7	-1.4
NJ2				S	Sn	18 11 43.8	+0.2
NJ2				pmax	pmax		
	comp=Z,35nm,0.9s						
NJ2				smax	smax		
	comp=N,170nm,0.7s						
NJ2				smax	smax		
	comp=E,150nm,0.8s						
WHN	Wuhan	9.30	316	⇓P	Pn	18 10 27.5	+8.0
WHN				S	Sn	18 12 14.2	+10
WHN				LR	LR		
	comp=Z,4µm,9.1s						
KSRS	Korea Array	14.46	20	P	P	18 11 34.9	-1.9
	0.8nm,0.3s,baz=205,slow=13,SNR=28						
KSRS				LR	LR	18 17 41.1	
	comp=Z,147nm,20.2s,baz=202,slow=40						
XAN	Xi'an	15.06	315	P	Pn	18 11 38.6	+0.3
XAN				pP	P	18 11 43.2	-0.4
XAN				S	Sn	18 14 21.6	-3.6
XAN				pmax	pmax		
	comp=Z,8.0nm,1.3s						
XAN				LR	LR		
	comp=N,620nm,7.9s						
XAN				LR	LR		
	comp=Z,1µm,9.5s						
CD2	Chengdu	17.41	297	eP	Pn	18 12 08.0	-0.5
CD2				S	Sn	18 15 24.8	+2.5
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,4.6s						
CD2				LR	LR		
	comp=N,1µm,6.4s						
CD2				LR	LR		
	comp=E,1µm,7.6s						
CD2				LR	LR		
	comp=Z,1µm,7.6s						
MJAR	Matsushiro Arr	18.92	45	P	Pn	18 12 28.3	+1.4
	0.1nm,0.3s,baz=210,slow=7.6,SNR=3.9						
MJAR				LR	LR	18 20 57.2	
	comp=Z,104nm,18.5s,baz=240,slow=40						
LZH	Lanzhou	19.63	312	eP	Pn	18 12 36.0	+0.3
LZH				pP	sP	18 12 40.0	+1.1
LZH				sP	pP	18 12 43.4	+5.9
LZH				PP	PnPn	18 12 56.0	+6.8
LZH				pmax	pmax		
	comp=Z,19nm,1.4s						
LZH				pmax	pmax		
	comp=Z,110nm,5.4s						
LZH				LR	LR		
	comp=N,1µm,8.7s						
LZH				LR	LR		
	comp=E,1µm,10.4s						
LZH				LR	LR		
	comp=Z,1µm,10.8s						
CN2	Changchun	20.03	8	eP	Pn	18 12 39.9	-0.2
CN2				eS	S	18 16 20.1	-3.3
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,400nm,11.0s						
CN2				LR	LR		
	comp=E,570nm,11.0s						
CN2				LR	LR		
	comp=Z,470nm,13.0s						
CHAI	Chaiyaphum	20.23	250	P	Pn	18 12 52.3	+10
	4.7nm,1.0s						
PBKT	Sadao Pong	20.83	253	P	Pn	18 13 01.6	+12
SRAK	Srakaew	21.08	246	P	P	18 12 54.4	+4.4
	28nm,0.8s						
LAMP	Lampang	21.31	260	P	P	18 13 01.1	+8.6
	4.0nm,1.0s						
CMMT	Chiang Mai	21.84	261	P	P	18 13 01.1	+2.9
	7.1nm,0.8s,453nm						
CHTO	Chiang Mai	21.84	261	eP	P	18 13 00.4	+2.2
	5.5nm,0.9s						
CHTO	Chiang Mai	21.84	261	P	P	18 13 01.2	+3.0
	34nm,1.6s						
USRK	Ussuriysk Ar.	21.87	20	P	P	18 12 58.0	-0.1
	1.0nm,0.5s,baz=204,slow=7.0,SNR=4.7						
USRK				LR	LR	18 22 18.5	
	comp=Z,116nm,20.1s,baz=186,slow=39						
CM01	Chiang Mai Arr	21.95	260	eP	P	18 12 57.8	-1.5
CMAR	Chiang Mai Arr	21.95	260	P	P	18 13 01.0	+1.6
	1.6nm,0.8s,baz=64,slow=8.2,SNR=11						
CMAR				LR	LR	18 22 39.2	
	comp=Z,78nm,19.4s,baz=68,slow=40						
UMPA	Umpang Tak	22.83	255	P	P	18 13 20.8	+12
GTA	Gaotai	24.12	315	⇑P	P	18 13 21.2	-0.3
GTA				pP	sP	18 13 25.9	-0.4
GTA				sP	pP	18 13 28.4	+3.5
GTA				S	S	18 17 37.0	-2.2
GTA				sS	sS	18 17 46.8	+2.0
GTA				SS	SnSn	18 18 34.6	+14
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,84nm,6.5s						
GTA				LR	LR		
	comp=N,260nm,9.8s						
GTA				LR	LR		
	comp=E,360nm,11.4s						
GTA				LR	LR		
	comp=Z,430nm,12.1s						
KLR	Kul'dur	26.43	15	P	P	18 13 42.5	+0.4
	1.7nm,0.6s,baz=179,slow=8.1,SNR=8.1						
ULN	Ulaanbaatar	26.58	338	eP	P	18 13 43.6	-0.1
	5.2nm,0.8s						
SONM	Songino Array	26.79	337	P	P	18 13 45.2	-0.4
	3.4nm,0.7s,baz=154,slow=9.2,SNR=16						
SONM				LR	LR	18 25 33.0	
	comp=Z,171nm,19.4s,baz=172,slow=39						
SONA1	Songino Array	26.79	337	eP	P	18 13 44.9	-0.7
LSA	Lhasa	27.86	289	eP	P	18 13 54.0	-1.9
	3.7nm,0.6s						
RAMN	Ramite	31.83	283	eP	P	18 14 33.3	+2.6
	16nm,0.9s						
JIRN	Jiri	32.17	284	eP	P	18 14 35.8	+1.9
GUN	Gumba	32.44	285	eP	P	18 14 36.6	+0.4
	44nm,1.4s						
PKI	Pulchoki	32.86	284	eP	P	18 14 41.5	+1.6
KKN	Kakani	32.97	285	eP	P	18 14 40.9	+0.2
DMN	Daman	33.13	284	eP	P	18 14 42.4	+0.2
WMQ	Urumqi	34.20	314	eP	P	18 14 52.4	+1.4
WMQ				LR	LR		
	comp=N,120nm,15.1s						
WMQ				LR	LR		
	comp=E,130nm,15.1s						
WMQ				LR	LR		
	comp=Z,99nm,12.1s						
KOLN	Koldanda	34.46	285	eP	P	18 14 54.2	+0.5
	14nm,0.8s						
PYUN	Piuthan	34.98	285	eP	P	18 14 58.6	+0.4
	23nm,1.0s						
MK01	Makanchi Array	38.85	316	eP	P	18 15 30.4	-0.3
MK31	Makanchi Array	38.87	316	eP	P	18 15 30.9	+0.1
MKAR	Makanchi Array	38.87	316	P	P	18 15 30.7	-0.1
	2.3nm,0.5s,baz=101,slow=11,SNR=16						
MKAR	Makanchi Array	38.87	316	eP	P	18 15 30.9	+0.1
	21nm,0.8s						
MAKZ	Makanchi	39.08	316	eP	P	18 15 32.8	+0.2
	29nm,1.9s						
ZAA0	Zalesovo Array	40.73	327	eP	P	18 15 45.1	-1.0
	4.6nm,0.7s						
ZALV	Zalesovo Beam	40.73	327	P	P	18 15 44.7	-1.4
	5.6nm,0.7s,baz=114,slow=8.2,SNR=17						
ZALV				LR	LR	18 33 37.8	
	comp=Z,67nm,19.5s,baz=266,slow=38						
NRN	Naryn	41.75	306	eP	P	18 15 56.3	+1.2
	5.8nm,0.8s						
COEN	Coen	43.10	149	eP	P	18 16 06.9	+1.0
	12nm,0.8s						
WRA	Warramunga Arr	45.32	163	P	P	18 16 22.1	-1.5
	2.4nm,0.8s,baz=344,slow=8.8,SNR=18						
WB2	Warramunga Arr	45.32	163	eP	P	18 16 23.0	-0.7
	28nm,1.8s						
KK31	Karatay Array	46.03	307	eP	P	18 16 28.2	-1.0
KKAR	Karatay Array	46.03	307	eP	P	18 16 28.2	-1.0
BRVK	Borovoye	48.26	321	eP	P	18 16 47.0	+0.7
	3.7nm,0.9s						
ASAR	Alice Springs	48.78	165	P	P	18 16 50.0	-0.7
	1.2nm,0.8s,baz=347,slow=10,SNR=18						
AS01	Alice Springs	48.79	165	eP	P	18 16 52.1	+1.4
ABKAR	Akbulak array	53.98	314	eP	P	18 17 29.4	0.0
ARU	Arti	55.61	323	eP	P	18 17 40.8	-0.3
	37nm,1.5s						
STKA	Stephens Creek	58.67	160	P	P	18 18 02.5	-0.4
	2.2nm,0.6s,baz=336,slow=7.1,SNR=11						
KLMR	Klimovskoe	65.64	328	eP	P	18 18 46.8	-2.6
KLMR				AMP		18 18 54.8	
	comp=Z,15nm,1.4s						
KBZ	Khabaz	66.03	309	P	P	18 18 52.7	+0.5
	comp=Z,2.5nm,0.9s,baz=126,slow=6.2,SNR=4.6						
MLY	Manley	67.51	27	eP	P	18 19 02.4	+1.0
	comp=Z,5.5nm,0.9s						
MDM	Murphy Dome	68.58	27	eP	P	18 19 07.3	-0.8
	comp=Z,14nm,1.1s						
ILAR	Eielson Array	69.18	27	P	P	18 19 10.2	-1.6
	comp=Z,0.6nm,0.7s,baz=302,slow=8.4,SNR=6.9						
FINES	FINESS Array B	71.91	330	P	P	18 19 28.7	+0.2
	comp=Z,2.4nm,0.9s,baz=50,slow=7.4,SNR=10						
FINES				LR	LR	18 53 50.8	
	comp=Z,95nm,18.5s,baz=50,slow=38						
BR131	Keskin Array S	73.73	307	eP	P	18 19 38.3	-1.6
BRTR	Keskin Array B	73.73	307	P	P	18 19 39.4	-0.6
	comp=Z,1.9nm,1.1s,baz=91,slow=5.3,SNR=6.7						
NOA	NORSAR Array B	78.67	332	P	P	18 20 06.1	-1.4
	comp=Z,0.9nm,0.7s,baz=61,slow=5.4,SNR=3.5						
NOA				LR	LR	18 56 43.8	
	comp=Z,44nm,18.6s,baz=30,slow=37						
VYHS	Vyhne	80.48	319	eP	P	18 20 16.0	-1.6
YKA	Yellowknife Ar	82.98	23	P	P	18 20 29.4	-1.0
	comp=Z,0.6nm,0.5s,baz=315,slow=4.7,SNR=14						
YKB5	Yellowknife Ar	82.98	23	eP	P	18 20 28.6	-1.7
GERES	GERESS Array B	83.36	321	LR	LR	19 01 43.1	
	comp=Z,72nm,18.3s,baz=282,slow=38						
SDV	Santo Domingo	145.19	22	ePKPbc	PKPbc	18 27 42.2	-1.6

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*TEH **03** 18:25:14.8, 30°.61N×50°.16E, h10km, ML4.0*
*ISCJB **03** 18:25:16.0±0.3, 30°.51N±0°.02×50°.18E±0°.03, h25km, mb3.7/11, MS3.3/4, Error ellipse: s-maj=4.8km s-min=2.5km az=146.8*
*THR **03** 18:25:18.5, 30°.71N×50°.20E, h32km, ML3.8*
*IDC **03** 18:25:18.4±4.4, 30°.68N×50°.12E, h28km±28km, mb3.6/11, mb1 3.8/13, mb1mx3.6/43, mbtmp3.8/13, ML3.3/2, MS3.3/4, Ms1 3.3/4, ms1mx2.8/39, Error ellipse: s-maj=33.3km s-min=17.1km az=174.0*
*OMAN **03** 18:25:21.2±1.3, 30°.23N×50°.28E, h8km, ms2.8/1, Error ellipse: s-maj=27.5km s-min=10.5km az=50.0*
*DSN **03** 18:25:22.1±1.7, 30°.14N×50°.25E, h15km, ML4.2/10, Error ellipse: s-maj=25.7km s-min=7.8km az=7.0*
ISC 03 18:25:17.6±0.5**, 30°.59N**±0°.06×**50°.15E**±0°.06**, h25km, n111,** σ1s.**06**/119**, mb3.9**/19**, MS3.2**/4**, 5C-3D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLNJ	Kolanjah	1.31	71	ePg	Pn	18 25 38.9	-1.7
KLNJ				IAMB	IAmb	18 26 05.7	
	comp=Z,0.0nm,0.5s						
ZNGN	Zangian	1.64	21	ePn	Pn	18 25 44.1	-1.1
SHGR	Shooshtar-Gavs	1.91	323	eAML	AML	18 26 36.3	
	comp=E,453nm,0.6s						
SHGR				ePg	Pb	18 25 51.2	-0.5
SHGR				eSg	Sb	18 26 15.4	+0.2
SHGR				eAML	AML	18 26 37.5	
	comp=N,640nm,0.7s						
ROKH	ROKH	1.91	23	ePn	Pn	18 25 49.7	+0.9
ROKH				IAMB	IAmb	18 26 18.3	
	comp=Z,0.0nm,1.3s						
IPIR	Pirpir	2.18	17	ePn	Pn	18 25 53.8	+1.1
IPIR				IAMB	IAmb	18 26 35.1	
	comp=Z,5µm,0.6s						
SHI	Shiraz	2.25	114	ePn	Pn	18 25 55.6	+2.1
SHI				IAMB	IAmb	18 26 41.7	
	comp=Z,25µm,0.8s						
IRAM	Ramesheh	2.26	57	ePn	Pn	18 25 55.2	+1.5
IRAM				IAMB	IAmb	18 26 33.2	
	comp=Z,12µm,0.6s						
IGAR	Gharneh	2.42	41	ePn	Pn	18 25 57.3	+1.4
IGAR				IAMB	IAmb	18 26 43.4	
	comp=Z,5µm,0.8s						
IZEF	Zefreh	2.96	38	ePn	Pn	18 26 04.3	+1.1
IZEF				IAMB	IAmb	18 26 43.9	
	comp=Z,1µm,0.6s						
IKLH	Kolahrood	2.98	24	ePn	Pn	18 26 04.5	+0.9
IKLH				IAMB	IAmb	18 27 07.4	
	comp=Z,2µm,0.5s						
KHMZ	Khomeyn	3.15	357	ePn	Pn	18 26 06.8	+1.0
KHMZ	Khomeyn	3.15	357	ePn	Pn	18 26 06.8	+1.0
IKMR	Kamar-syah	3.29	333	ePn	Pn	18 26 06.8	-0.7
IKMR				IAMB	IAmb	18 27 21.2	
	comp=Z,0.0nm,0.9s						
ISAD	Sadrabad	3.30	65	ePn	Pn	18 26 08.8	+0.8
ISAD				IAMB	IAmb	18 27 16.2	
	comp=Z,5µm,0.8s						
IKFM	Kafar-mosalman	3.52	327	ePn	Pn	18 26 11.4	+0.6
IKFM				IAMB	IAmb	18 27 35.4	
	comp=Z,0.0nm,1.2s						
KRSH	Karshahi	3.77	26	ePn	Pn	18 26 15.4	+1.1
KRSH				IAMB	IAmb	18 27 48.4	
	comp=Z,0.0nm,0.8s						
HSAM	Samen	3.84	340	ePn	Pn	18 26 16.2	+0.7
HSAM				IAMB	IAmb	18 27 33.9	
	comp=Z,0.0nm,1.6s						
ICHK	Chekchek	3.99	64	ePn	Pn	18 26 18.8	+1.3
ICHK				IAMB	IAmb	18 27 13.4	
	comp=N,4µm,0.6s						
ANAR	Anarak	4.00	49	ePn	Pn	18 26 18.4	+1.0
YZKH	Yazd	4.20	64	ePn	Pn	18 26 21.3	+1.2
YZKH	Yazd	4.20	64	ePn	Pn	18 26 21.3	+1.2
IKOM	Komasi	4.22	329	ePn	Pn	18 26 21.4	+0.9
HAGD	Aghdareh	4.31	349	ePn	Pn	18 26 22.9	+1.1
HAGD				IAMB	IAmb	18 27 44.5	
	comp=Z,0.0nm,0.9s						
IGHG	Ghaleghazi	4.81	322	ePn	Pn	18 26 29.3	+0.6
IGHG				IAMB	IAmb	18 28 31.7	
	comp=Z,1µm,0.8s						
IRAZ	Razeghan	4.81	358	ePn	Pn	18 26 28.8	+0.1
IRAZ				IAMB	IAmb	18 28 03.8	
	comp=Z,788nm,0.8s						
HKZM	Kohzaman	4.89	348	ePn	Pn	18 26 29.4	-0.4
HKZM				IAMB	IAmb	18 28 13.7	
	comp=Z,0.0nm,1.9s						
SNGE	Sanandaj	5.08	333	ePn	Pn	18 26 33.2	+0.9
SNGE	Sanandaj	5.08	333	ePn	Pn	18 26 33.2	+0.9
IDMV	Damavand	5.22	17	ePn	Pn	18 26 34.5	+0.1
IDMV				IAMB	IAmb	18 26 53.0	
	comp=Z,542nm,0.5s						
ILAS	Lasjerd	5.33	26	ePn	Pn	18 26 36.2	+0.3
ILAS				IAMB	IAmb	18 28 51.6	
	comp=Z,501nm,0.9s						
KHGB	Koh Gabri	5.46	91	ePn	Pn	18 26 38.7	+1.0
KHGB				IAMB	IAmb	18 28 37.6	
	comp=Z,0.0nm,2.2s						
IFIR	Firoozkooh	5.49	23	ePn	Pn	18 26 38.7	+0.6
IFIR				IAMB	IAmb	18 26 41.0	
	comp=Z,535nm,0.4s						
NGRK	Negar Kerman	5.78	98	ePn	Pn	18 26 44.0	+1.9
NGRK				IAMB	IAmb	18 28 44.9	
	comp=Z,0.0nm,1.8s						
IANJ	Anjilo	5.80	32	ePn	Pn	18 26 42.6	+0.3
IANJ				IAMB	IAmb	18 27 02.5	
	comp=Z,336nm,0.5s						
ISHM	Shahmirzad	5.83	26	ePn	Pn	18 26 43.4	+0.6
ISHM				IAMB	IAmb	18 26 45.7	
	comp=Z,582nm,0.4s						
IALA	Alasht	5.91	21	ePn	Pn	18 26 45.0	+1.1
IALA				IAMB	IAmb	18 26 52.9	
	comp=Z,1µm,0.4s						
IPRN	Peran	5.93	17	ePn	Pn	18 26 45.3	+1.3
IPRN				IAMB	IAmb	18 27 16.9	
	comp=Z,438nm,0.5s						
TPRV	Parvadeh(Tabas	6.07	65	ePn	Pn	18 26 46.3	+0.4
TPRV				IAMB	IAmb	18 29 03.5	
	comp=Z,0.0nm,2.7s						
GENO	Geno	6.15	120	ePn	Pn	18 26 47.0	-0.1
GENO				IAMB	IAmb	18 28 10.7	
	comp=Z,0.0nm,0.5s						
IKIA	Kiasar	6.33	27	ePn	Pn	18 26 50.3	+0.7
TNSJ	Nastanj	6.42	57	ePn	Pn	18 26 51.1	+0.4
TNSJ				IAMB	IAmb	18 29 28.7	
	comp=Z,0.0nm,3.7s						
NIAN	Nian	6.58	116	ePn	Pn	18 26 54.3	+1.5
NIAN				IAMB	IAmb	18 28 12.5	
	comp=Z,0.0nm,0.2s						
TKDS	Koohdasht(Taba	6.64	61	ePn	Pn	18 26 54.2	+0.5
TKDS				IAMB	IAmb	18 29 33.5	
	comp=Z,0.0nm,2.8s						
SHME	Shamm	6.95	129	iP	Pn	18 26 58.4	+0.5
	SNR=7.4						
SHME	Shamm	6.95	129	ePn	Pn	18 26 58.9	+1.0
BANOM	Banah	7.14	129	iP	Pn	18 27 00.2	-0.4
	SNR=36						
BANOM				S	Sn	18 28 19.2	-1.7
BANOM	Banah	7.14	129	P	Pn	18 27 01.2	+0.7
NAZ	Nazwa, Dubai	7.41	138	iP	Pn	18 27 05.3	+1.0
	SNR=19						
NAZ	Nazwa, Dubai	7.41	138	P	Pn	18 27 06.0	+1.8
	SNR=8.7						
NAZ				S	Sn	18 28 29.4	+1.9
NAZ	Nazwa, Dubai	7.41	138	ePn	Pn	18 27 05.4	+1.2
MSFE	Esma-Masafi	7.44	133	iP	Pn	18 27 04.8	+0.1
	SNR=11						
MSFE	Esma-Masafi	7.44	133	ePn	Pn	18 27 05.0	+0.4
ASUD	Al Ashush, Dub	7.50	141	iP	Pn	18 27 07.0	+1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	SNR=17						
FAQ	Al Faqa, Dubai	7.56	139	*i* P	Pn	18 27 07.3	+1.0
	SNR=6.4						
FAQ	Al Faqa, Dubai	7.56	139	P	Pn	18 27 08.3	+2.1
	SNR=5.9						
FAQ				S	Sn	18 28 31.1	-0.1
FAQ	Al Faqa, Dubai	7.56	139	*e*Pn	Pn	18 27 07.2	+1.0
MDH	Madha	7.57	133	*i* P	Pn	18 27 06.6	+0.2
	SNR=6.6						
MDH	Madha	7.57	133	P	Pn	18 27 07.8	+1.5
	SNR=6.5						
MDH				S	Sn	18 28 29.9	-1.5
MDH	Madha	7.57	133	*e*Pn	Pn	18 27 07.0	+0.6
ITEG	Tejag	7.67	70	*e*Pn	Pn	18 27 08.4	+0.4
ITEG				IAMB	IAmb	18 29 37.6	
	comp=Z,518nm,1.2s						
UOSS	Minazif	7.76	135	*i* P	Pn	18 27 09.0	-0.1
	SNR=6.2						
UOSS	Minazif	7.76	135	P	Pn	18 27 09.5	+0.4
	SNR=6.3						
UOSS				S	Sn	18 28 34.0	-2.3
UOSS	Minazif	7.76	135	*e*Pn	Pn	18 27 09.2	+0.1
IKOO	Kooshah	7.78	74	*e*Pn	Pn	18 27 09.9	+0.4
IKOO				IAMB	IAmb	18 29 51.6	
	comp=Z,478nm,1.2s						
HATD	Hatta, Dubai	7.81	136	*i* P	Pn	18 27 10.4	+0.7
	SNR=7.9						
HATD	Hatta, Dubai	7.81	136	P	Pn	18 27 11.5	+1.8
	SNR=7.9						
HATD				S	Sn	18 28 36.7	-0.7
HATD	Hatta, Dubai	7.81	136	*e*Pn	Pn	18 27 11.0	+1.3
ASHO	Ashiyiah	7.87	137	*i* P	Pn	18 27 11.2	+0.6
	SNR=14						
ASHO	Ashiyiah	7.87	137	P	Pn	18 27 11.5	+0.9
	SNR=15						
ASHO				S	Sn	18 28 38.8	-0.2
ASHO	Ashiyiah	7.87	137	*e*Pn	Pn	18 27 11.0	+0.4
RAYN	Ar Rayn	8.17	212	*i* P	Pn	18 27 15.0	+0.4
	SNR=12						
ALNE	Al Ain	8.19	141	*i* P	Pn	18 27 16.5	+1.5
	SNR=9.8						
ALNE	Al Ain	8.19	141	*e*Pn	Pn	18 27 17.0	+2.0
SOHO	SOHO	8.57	137	P	Pn	18 27 20.5	+0.4
	SNR=9.8						
ISFR	Sfrayin	9.17	43	*e*Pn	Pn	18 27 29.7	+1.1
ISFR				IAMB	IAmb	18 27 30.8	
	comp=Z,330nm,0.7s						
HOQ	Hoqain	9.45	136	*e*Pn	Pn	18 27 33.4	+1.2
GEYT	Alibeck	9.85	40	Pn	Pn	18 27 39.0	+1.4
	comp=Z,0.5nm,0.3s,baz=226,slow=12,SNR=15						
SMDO	Samad	10.29	135	P	Pn	18 27 44.8	+1.0
	SNR=9.6						
SMDO				S	Sn	18 29 37.8	-0.6
MHTO	MHTO	11.87	142	P	Pn	18 28 05.7	+0.4
	SNR=14						
MHTO				S	Sn	18 30 12.2	-4.8
BRTR	Keskin Array B	16.27	309	Pn	P	18 29 07.4	-0.1
	comp=Z,0.1nm,0.3s,baz=125,slow=12,SNR=9.3						
IDI	Anoyia	21.69	289	P	P	18 30 06.8	+0.1
	comp=Z,5.4nm,1.0s,baz=76,slow=15,SNR=3.9						
IDI	Anoyia	21.69	289	⇓*i*P	P	18 30 07.2	+0.5
AAK	Ala-Archa	22.86	52	LR	LR	18 39 46.1	
	comp=Z,65nm,20.3s,baz=192,slow=38						
VOIR		24.58	314	⇑*i*P	P	18 30 36.8	+1.1
DOPR	Dopca	24.63	315	⇓*i*P	P	18 30 36.3	+0.2
ARR	Arges	24.81	314	⇑*i*P	P	18 30 37.8	+0.1
AKASG	Malin Array Be	25.45	328	P	P	18 30 42.2	-1.2
	comp=Z,0.6nm,0.5s,baz=132,slow=9.1,SNR=4.4						
BURAR	Bucovina Array	25.59	319	⇑*i*P	P	18 30 52.1	+7.3
GZR	Gura Zlata	25.99	312	⇑*i*P	P	18 30 49.7	+1.2
MDVR	Moldovita	26.43	310	⇓*i*P	P	18 30 52.9	+0.5
DRGR		26.66	315	⇑*i*P	P	18 30 55.0	+0.5
PYUN	Piuthan	28.68	87	*e*P	P	18 31 13.4	+0.5
	comp=Z,23nm,1.1s						
KURBB	Kurchatov Arra	29.12	38	P	P	18 31 16.8	+0.5
	comp=Z,1.5nm,0.8s,baz=240,slow=9.2,SNR=9.9						
KURBB				ScP	ScP	18 38 03.6	0.0
	comp=Z,0.6nm,0.9s,baz=265,slow=2.6,SNR=4.8						
KOLN	Koldanda	29.28	87	*e*P	P	18 31 18.8	+0.6
DANN	Dangsing	29.28	86	*e*P	P	18 31 19.5	+1.1
	comp=Z,26nm,1.0s						
MKAR	Makanchi Array	29.59	48	P	P	18 31 21.0	+0.4
	comp=Z,1.5nm,0.9s,baz=242,slow=7.3,SNR=11						
MKAR				LR	LR	18 44 12.1	
	comp=Z,59nm,19.9s,baz=280,slow=38						
DMN	Daman	30.61	87	*e*P	P	18 31 30.5	+0.4
	comp=Z,16nm,1.0s						
KKN	Kakani	30.72	86	*e*P	P	18 31 31.4	+0.4
	comp=Z,15nm,0.9s						
PKIN	Phulchoki	30.87	87	*e*P	P	18 31 32.5	+0.1
	comp=Z,23nm,1.2s						
PKI	Pulchoki	30.88	87	*e*P	P	18 31 32.9	+0.3
GUN	Gumba	31.21	86	*e*P	P	18 31 36.1	+0.6
	comp=Z,22nm,1.0s						
JIRN	Jiri	31.53	86	*e*P	P	18 31 38.8	+0.4
	comp=Z,18nm,0.8s						
RAMN	Ramite	32.06	87	*e*P	P	18 31 42.9	0.0
	comp=Z,11nm,0.9s						
ZALV	Zalesovo Beam	34.14	37	P	P	18 32 00.3	-0.1
	comp=Z,1.0nm,0.6s,baz=239,slow=10,SNR=5.0						
ZALV				LR	LR	18 46 36.8	
	comp=Z,50nm,18.3s,baz=248,slow=38						
FINES	FINESS Array B	34.68	340	P	P	18 32 03.5	-1.4
	comp=Z,1.1nm,0.7s,baz=156,slow=11,SNR=5.6						
CMAR	Chiang Mai Arr	45.69	94	P	P	18 33 36.8	+0.1
	comp=Z,0.8nm,0.8s,baz=290,slow=8.7,SNR=9.3						
SONM	Songino Array	45.81	51	P	P	18 33 36.8	-0.7
	comp=Z,0.4nm,0.6s,baz=269,slow=7.4,SNR=3.9						
TORD	Torodi Ar. Bea	47.82	260	P	P	18 33 53.9	+0.4
	comp=Z,0.3nm,0.5s,baz=41,slow=7.8,SNR=2.8						
TIXI	Tiksi	57.74	22	LR	LR	19 01 46.7	
	comp=Z,38nm,19.5s,baz=96,slow=38						
ILAR	Eielson Array	84.02	7	P	P	18 37 44.8	-0.9
	comp=Z,0.3nm,0.9s,baz=356,slow=4.2,SNR=4.1						
YKA	Yellowknife Ar	86.44	353	P	P	18 37 57.5	-0.1
	comp=Z,0.4nm,0.6s,baz=9.4,slow=5.4,SNR=12						

IDC 03 18:28:43.7±57.0**, 17°.29S×177°.65E, h0^{km}, mb4.6**/3**, mb1 4.7**/3**, mb1mx3.9**/35**, mbtmp4.6**/3**, Error ellipse: s-maj=1019.0km s-min=130.7km az=76.0, Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	35.67	239	P	P	18 35 44.3	+0.4
	2.4nm,0.3s,baz=88,slow=7.5,SNR=32						
WRA	Warramunga Arr	41.05	259	P	P	18 36 28.9	-0.3
	0.7nm,0.3s,baz=94,slow=8.0,SNR=60						
ASAR	Alice Springs	41.35	254	P	P	18 36 31.3	-0.4
	8.6nm,0.4s,baz=89,slow=7.8,SNR=461						

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*IDC **03** 18:34:21.2±0.6, 16°.89S×172°.98W, h0^{km}, mb4.1/12, mb1 4.4/12, mb1mx4.2/32, mbtmp4.1/12, MS4.1/17, Ms1 4.1/17, ms1mx3.9/35, Error ellipse: s-maj=29.8km s-min=16.9km az=133.0*

*ISCJB **03** 18:34:25.3±0.4, 16°.9S±0°.1×173°.0W±0°.1, h41^{km}, mb4.3/17, MS4.2/15, Error ellipse: s-maj=19.5km s-min=10.0km az=140.8*

*NEIC **03** 18:34:26.3±0.3, 17°.00S×172°.91W, h35^{km}, mb4.7/6, Error ellipse: s-maj=13.0km s-min=9.1km az=152.0*

*GCMT **03** 18:34:28.3±0.3, 17°.28S±0°.04×172°.33W±0°.02, h22$^{km}\pm$1^{km}, MW5.0/64, Moment Tensor Solution. s19,c23; s64,c84; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.09±.23; $M_{\theta\theta}$-0.20±.15; $M_{\phi\phi}$-2.88±.14; $M_{r\theta}$1.08±.23; $M_{\theta\phi}$0.02±.07; $M_{\phi r}$1.05±.19; Best double couple: $M_0$3.32000×10^{16} NP1:ϕ_s16.00000°, δ57.00000°, λ108.00000°. NP2: ϕ_s166.00000°, δ37.00000°, λ65.00000°. Principal axes: T 3.5710, Plg72.0000°, Azm330.0000°; N -0.4950, Plg15.0000°, Azm186.0000°; P -3.0690, Plg10.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 18:34:27.0±0.5**, 17°.0S**±0°.1×**172°.8W**±0°.1**, h41^{km}, n81, σ0^s.93**/69**, mb4.2**/17**, MS4.1**/16**, 14C-5D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	13.03	111	LR	LR	18 41 57.7	
	comp=Z,794nm,18.8s,baz=258,slow=35						
RAR	Rarotonga	13.03	111	*e*Pn	Pn	18 37 27.8	-1.8
DZM	Mont Dzumac	20.16	252	LR	LR	18 45 26.4	
	comp=Z,938nm,19.4s,baz=86,slow=33						
PPT	Papeete	22.21	95	LR	LR	18 46 22.4	
	comp=Z,423nm,18.1s,baz=256,slow=32						
URZ	Urewera	22.94	201	P	P	18 39 27.1	-0.5
	11nm,0.5s,baz=314,slow=2.5,SNR=9.5						
HNR	Honiara	27.52	282	LR	LR	18 49 22.7	
	comp=Z,1µm,20.6s,baz=114,slow=33						
RKT	Rikitea	36.01	106	*e*LR	LR	18 50 28.5	
	comp=Z,549nm,28.0s						
STKA	Stephens Creek	43.73	242	P	P	18 42 28.3	-0.2
	2.1nm,0.9s,baz=84,slow=9.2,SNR=4.2						
STKA				LR	LR	18 59 17.2	
	comp=Z,236nm,18.3s,baz=48,slow=34						
STKA	Stephens Creek	43.73	242	*e*P	P	18 42 27.9	-0.7
	2.1nm,1.3s						
WB2	Warramunga Arr	50.02	258	*e*P	P	18 43 17.1	-0.8
WR1	Warramunga Arr	50.03	258	*e*P	P	18 43 15.3	-2.5
	6.1nm,0.8s						
WRA	Warramunga Arr	50.03	258	P	P	18 43 15.3	-2.5
	1.4nm,0.6s,baz=96,slow=7.0,SNR=41						
WRA				LR	LR	19 04 00.5	
	comp=Z,462nm,18.1s,baz=80,slow=36						
AS01	Alice Springs	50.11	253	*e*P	P	18 43 16.2	-2.3
AS31	Alice Springs	50.15	253	*e*P	P	18 43 17.3	-1.5
	2.6nm,0.9s						
ASAR	Alice Springs	50.15	253	P	P	18 43 17.1	-1.8
	5.4nm,0.7s,baz=88,slow=8.8,SNR=56						
ASAR				LR	LR	19 04 41.9	
	comp=Z,382nm,18.1s,baz=98,slow=36						
GUMO	Guam	51.66	303	LR	LR	19 03 27.6	
	comp=Z,102nm,18.2s,baz=126,slow=34						
SIJI	Sorong	57.27	280	LR	LR	19 07 51.6	
	comp=Z,164nm,20.8s,baz=121,slow=35						
VNDA	Vanda	61.84	186	P	P	18 44 43.0	+1.5
	2.2nm,1.1s,baz=44,slow=9.6,SNR=3.6						
VNDA				LR	LR	19 08 57.7	
	comp=Z,51nm,18.8s,baz=22,slow=34						
QSPA	South Pole Qui	73.05	180	*e*P	P	18 45 54.0	+1.3
	12nm,1.1s						
PETK	Petropavlovsk-	74.32	342	P	P	18 46 01.0	+1.0
	4.5nm,0.8s,baz=134,slow=8.5,SNR=5.1						
PEA1	Petropavlovsk-	74.32	342	*e*P	P	18 46 01.0	+1.0
NV01	Mina Array Sit	75.16	41	*e*P	P	18 46 05.5	0.0
NVAR	Mina Array Bea	75.16	41	P	P	18 46 05.3	-0.2
	1.0nm,0.6s,baz=220,slow=8.4,SNR=6.8						
LTX	Lajitas	81.06	56	*e*P	P	18 46 38.8	+0.5
TX31	Lajitas Ar. Si	81.06	56	*e*P	P	18 46 38.6	+0.4
TXAR	Lajitas Array	81.06	56	P	P	18 46 38.8	+0.5
	2.4nm,1.1s,baz=215,slow=7.7,SNR=5.2						
TXAR				LR	LR	19 14 38.8	
	comp=Z,54nm,21.9s,baz=0.0,slow=30						
MA2	Magadan	81.85	342	LR	LR	19 18 51.4	
	comp=Z,74nm,20.8s,baz=148,slow=33						
SMCO	Snowmass	83.03	46	*e*P	P	18 46 48.2	-0.5
	23nm,2.0s						
FLWY	Flagg Ranch	83.06	40	*e*P	P	18 46 46.9	-1.6
	24nm,1.7s						
PD31	Pinedale Array	83.10	41	*e*P	P	18 46 48.8	0.0
PDAR	Pinedale Array	83.10	41	P	P	18 46 48.0	-0.8
	1.0nm,0.8s,baz=183,slow=2.6,SNR=7.2						
PDAR				LR	LR	19 20 12.1	
	comp=Z,94nm,19.6s,baz=263,slow=33						
PDAR	Pinedale Array	83.10	41	*e*P	P	18 46 47.7	-1.1
ILAR	Eielson Array	83.91	11	P	P	18 46 51.2	-1.0
	1.1nm,0.6s,baz=226,slow=5.9,SNR=23						
ILB	Eielson Array	83.91	11	*e*P	P	18 46 51.2	-1.0
YKA	Yellowknife Ar	91.35	23	P	P	18 47 27.9	-0.2
	0.4nm,0.7s,baz=232,slow=3.9,SNR=4.4						
CM31	Chiang Mai Arr	93.63	288	*e*P	P	18 47 39.9	+0.3
CMAR	Chiang Mai Arr	93.63	288	P	P	18 47 39.9	+0.3
	0.5nm,0.8s,baz=89,slow=1.9,SNR=5.0						
ULM	Lac du Bonnet	94.83	39	LR	LR	19 28 17.4	
	comp=Z,188nm,18.4s,baz=273,slow=34						
SONM	Songino Array	96.40	318	LR	LR	19 25 46.7	
	comp=Z,56nm,21.9s,baz=186,slow=32						
LPAZ	La Paz	98.75	110	LR	LR	19 23 54.1	
	comp=Z,80nm,18.7s,baz=56,slow=30						
ROSC	El Rosal	99.53	88	LR	LR	19 24 59.3	
	comp=Z,98nm,19.9s,baz=109,slow=30						
KMBO	Kilima Mbogo	145.29	242	PKPbc	PKPdf	18 54 02.4	+0.7
	2.3nm,0.7s,baz=127,slow=0.8,SNR=5.7						
KMBO	Kilima Mbogo	145.29	242	*e*PKPbc	PKPdf	18 54 02.3	+0.5
CLL	Collm	145.46	354	*e*PKiKP	PKiKP	18 54 04.0	-0.5
BUR04	Bucovina Ar. S	146.05	338	*e*PKPdf	PKPbc	18 54 02.8	+0.1
BURAR	Bucovina Array	146.05	338	⇑*i*P	PKiKP	18 54 06.1	+0.1
BIZ	Bicaz	146.29	336	⇑*i*P	PKiKP	18 54 05.3	-1.1
TRPA	Tarpa	146.50	341	⇑*i*P	PKPab	18 54 05.1	+0.3
TLCR		146.56	332	⇓*i*P	PKPab	18 54 05.6	+0.5
CFR	Carcaliu	146.87	332	⇑*i*P	PKPab	18 54 06.7	+0.4
VRAC	Vranov	146.88	349	⇓*i*P	PKPab	18 54 06.7	+0.4
VRI	Vrincioaia	146.92	335	⇑*i*P	PKPab	18 54 06.8	+0.2
HARR	Harsova	147.34	332	⇓*i*P	PKPab	18 54 07.8	-0.4
TLB	Topalu	147.37	332	⇑*i*P	PKiKP	18 54 08.4	-0.2
DOPR	Dopca	147.37	336	⇑*i*P	PKPab	18 54 08.3	0.0
KHC	Kasperske Hory	147.54	352	*e*PKP	PKiKP	18 54 09.2	+0.3
KHC				*e*x	x	18 54 25.5	
ISR	Istrita	147.60	334	⇑*i*P	PKPab	18 54 09.2	-0.1
DRGR		147.63	340	⇑*i*P	PKPbc	18 54 07.8	+0.6
BR101	Keskin Array S	147.74	320	*e*PKPbc	PKPbc	18 54 08.6	+0.8
BR131	Keskin Array S	147.74	320	*e*PKPbc	PKiKP	18 54 09.2	-0.6
BRTR	Keskin Array B	147.74	320	PKPbc	PKPbc	18 54 08.6	+0.8
	3.0nm,0.9s,baz=120,slow=3.3,SNR=14						
GERES	GERESS Array B	147.80	352	PKPbc	PKPbc	18 54 07.9	+0.3
	1.0nm,0.7s,baz=343,slow=3.1,SNR=3.9						
VOIR		147.95	336	⇑*i*P	PKPab	18 54 10.2	-0.5
ARR	Arges	148.16	336	⇓*i*P	PKiKP	18 54 10.4	0.0
CONA	Conrad Observa	148.34	349	*i* PKPab	PKiKP	18 54 11.2	+0.5
	8.8nm,1.4s						
MOA	Molln	148.69	351	*i* PKiKP	PKPbc	18 54 09.9	+0.1
	6.6nm,1.4s						
GZR	Gura Zlata	148.82	339	⇑*i*P	PKPab	18 54 13.1	-1.1
BZS	Buzias	149.02	340	⇑*i*P	PKiKP	18 54 11.5	-0.5
ARSA	Arzberg	149.06	349	*i* PKiKP	PKPbc	18 54 11.0	+0.2
	5.1nm,1.1s						
HERR	Herculane	149.40	338	⇓*i*P	PKiKP	18 54 12.4	-0.4
MOTA	Moosalm	149.57	355	*i* PKiKP	PKiKP	18 54 13.4	+0.1
	2.4nm,0.8s						
SQTA	Sankt Quirin	149.69	355	*i* PKPbc	PKPdf	18 54 09.2	+1.4
	6.8nm,1.2s						
SOKA	Soboth	149.70	349	*i* PKiKP	PKiKP	18 54 13.6	+0.1
	5.2nm,1.4s						
MDVR	Moldovita	149.73	339	⇑*i*P	PKiKP	18 54 14.0	+0.4
FETA	Feichten	149.92	355	*i* PKiKP	PKiKP	18 54 14.9	+0.8
	6.6nm,0.9s						
ABTA	Abfaltersbach	150.01	353	*i* PKiKP	PKiKP	18 54 13.8	-0.3
	6.0nm,1.0s						
FUORN	Ofenpass-Fuorn	150.36	356	*e*PKPbc	PKiKP	18 54 14.7	-0.4
DIVS	Divibare	150.90	341	*e*PKPbc	PKiKP	18 54 15.9	-0.2
VTS	Vitosha	151.05	335	⇑*i*P	PKiKP	18 54 17.1	+0.6
TORD	Torodi Ar. Bea	173.47	125	PKPab	PKPab	18 56 03.1	+1.4
	0.6nm,0.8s,baz=281,slow=6.0,SNR=4.6						
TOA1	Torodi Ar. Sit	173.47	125	*e*PKPab	PKPab	18 56 03.1	+1.4

KRSC 03 18:37:59.9±1.4**, 50°.10N×157°.01E, h24$^{km}\pm$26^{km}, ML3.8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.81	316	*i* P	Pb	18 38 14.6	-0.7
SKR				*e*S	Sb	18 38 24.9	-0.9
PAU	Pauzhetka	1.37	355	*e*P	Pb	18 38 25.2	+0.4
PAU				*e*S	Sb	18 38 42.7	+0.9
KDTR	Khodutka, Kamc	1.84	21	*e*P	Pb	18 38 32.1	-0.6
KDTR				*e*S	Sb	18 38 55.4	+0.2
MTVR	Mutnovka	2.49	17	*e*P	Pb	18 38 41.9	-2.1
MTVR				*e*S	Sb	18 39 12.3	-2.0
RUS	Russkaya	2.52	22	*e*P	Pn	18 38 41.6	+2.4
RUS				*e*S	Sn	18 39 11.4	+2.3
KRMR	Karymshinskiy	2.82	14	*e*P	Pb	18 38 46.9	-2.5
KRMR				*e*S	Sb	18 39 21.0	-2.5
APC	Apacha	2.83	2	*e*P	Pn	18 38 46.2	+2.7
PET	Petropavlovsk	3.10	19	*e*S	Sn	18 39 27.4	+3.9
DALK	Dalny	3.13	20	*e*P	Pn	18 38 50.5	+2.9
DALK				*e*S	Sn	18 39 27.5	+3.3
UGLR	Uglovaya	3.31	19	*e*P	Pb	18 38 54.4	-3.5
AVH	Avacha	3.34	18	*e*P	Pn	18 38 54.1	+3.4
KOK	Koryaka	3.35	17	*e*P	Pb	18 38 55.1	-3.5
SMAR	Somma	3.35	19	*e*P	Pn	18 38 54.8	+3.8
SDLR	Sedlovina	3.39	19	*e*P	Pn	18 38 54.1	+2.8
KRX	Arik	3.42	17	*e*P	Pn	18 38 55.3	+3.6
SPN	Mys Shipunski	3.54	31	*e*P	Pn	18 38 55.7	+2.4
SPN				*e*S	Sn	18 39 37.9	+3.6
GNL	Ganaly	3.64	9	*e*P	Pn	18 38 58.2	+3.4

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*TIF **03** 18:39:28.4, 42°.27N×40°.83E, h12$^{km}\pm$1^{km}*

*ISK **03** 18:39:29.3, 42°.25N×40°.84E, h5^{km}, ML3.1/9*

*DDA **03** 18:39:31.9, 42°.05N×40°.89E, h9$^{km}\pm$2^{km}, ML3.2*

ISC 03 18:39:30.2±2.1**, 42°.21N**±0°.08×**40°.88E**±0°.04**, h3$^{km}\pm$12^{km}, n25, σ1^s.21**/35**, Black Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATM	Batumi	0.86	135	P	Pg	18 39 47.2	+0.6
BATM				S	Sn	18 40 07.0	+4.8
BCA	Borcka	0.94	144	PG	Pg	18 39 48.5	+0.2
BCA				SG	Sn	18 40 02.9	-1.5
DBOC	Borcka	1.04	146	*i* P	Pg	18 39 50.3	0.0
DBOC				*i* S	Sn	18 40 06.0	-0.8
CHOM	Cayeli-Rize	1.12	185	PN	Pg	18 39 52.1	+0.5
ARTV	Artvin	1.29	142	IAML_P			
	comp=Z,7µm,0.1s						
ARTV				*i* P	Pn	18 39 54.5	-0.8
DBAD	Bademkaya	1.34	153	*i* P	Pn	18 39 55.3	-0.6
DAGI	Agillar	1.37	145	IAML_P			
	comp=Z,1µm,0.1s						
DAGI				*i* P	Pn	18 39 55.1	-1.3
DAGI				*i* S	Sg	18 40 14.8	+0.5
DDEM	Demirkent	1.47	153	*i* P	Pn	18 39 57.9	+0.2
KTUT	Trabzon	1.48	215	PN	Pn	18 39 57.1	-0.6
MACK	Trabzon	1.52	214	IAML_P			
	comp=Z,5µm,0.1s						
MACK				*i* P	Pn	18 39 58.1	-0.2
EPOS	Posof	1.55	117	*i* P	Pn	18 39 57.7	-1.1
EPOS				*i* S	Sb	18 40 19.5	-0.2
BAYT	Aydıntepe-Bayb	1.90	197	PN	Pn	18 40 03.5	-0.2
BAYB	BAYBURT	2.01	194	*i* P	Pb	18 40 07.5	0.0
ESPY	Espiye-Giresun	2.07	232	PN	Pn	18 40 05.1	-0.8
AKH	Akhalkalaki	2.11	111	P	Pn	18 40 05.8	-0.8
AKH				S	Sb	18 40 34.7	-1.2
BGD	Bogdanovka	2.24	114	P	Pn	18 40 08.0	-0.4
BGD				S	Sb	18 40 38.8	-0.9
KARS	Kars	2.29	133	PN	Pn	18 40 09.9	+0.9
HOMI	Horasan	2.30	160	IAML_P			
	comp=Z,180nm,0.1s						
HOMI				*i* P	Pb	18 40 11.6	-0.8
KOPR	Koprukoy-ERZUR	2.33	161	PN	Pn	18 40 10.3	+0.6
KELT	Kelkit	2.40	211	*i* P	Pn	18 40 11.8	+1.2
KELT				*i* S	Sb	18 40 42.5	-1.6
TRLG	Trialeti	2.50	105	P	Pn	18 40 12.0	+0.1
TRLG				S	Sn	18 40 44.1	+1.2
EAK	Akyaka	2.55	126	IAML_P			
	comp=Z,237nm,0.2s						
EAK				*i* P	Pb	18 40 15.9	-0.8
GUDG	Gudauri	2.68	83	P	Pn	18 40 14.5	+0.1
GUDG				S	Sn	18 40 47.9	+0.4
GNI	Garni	3.57	124	PN	Pn	18 40 27.8	+1.2
SVSK	Karacayir	3.72	233	PN	Pn	18 40 29.3	+0.7

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*NIED **03** 18:56:00, 37°.80N×143°.70E, h5^{km}, Mw4.2 Best double couple: $M_0$2.11000×10^{15} NP1:ϕ_s17.00000°, δ16.00000°, λ-95.00000°. NP2:ϕ_s203.00000°, δ74.00000°, λ-89.00000°.*

*IDC **03** 18:56:23.8±0.7, 37°.63N×143°.88E, h0^{km}, mb4.1/16, mb1 4.2/21, mb1mx4.0/53, mbtmp4.1/21, ML3.4/5, MS3.2/3, Ms1 3.2/3, ms1mx2.7/44, Error ellipse: s-maj=17.6km s-min=14.2km az=133.0*

*NEIC **03** 18:56:25.5±2.3, 37°.67N×143°.84E, h11$^{km}\pm$14^{km}, mb4.5/13, Error ellipse: s-maj=7.2km s-min=4.8km az=135.0*

*JMA **03** 18:56:26.5±0.2, 37°.79N×143°.74E, h55^{km}, M4.1*

*ISCJB **03** 18:56:27.5±0.3, 37°.82N±0°.03×143°.70E±0°.04, h33^{km}, mb4.2/29, Error ellipse: s-maj=4.4km s-min=4.1km az=155.1*

ISC 03 18:56:29.6±0.6**, 37°.83N**±0°.05×**143°.74E**±0°.06**, h35^{km}, n87, σ1^s.84**/104**, mb4.3**/34**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.86	286	P	Pn	18 56 57.0	-1.9
JIKH				*e*S	Sn	18 57 18.8	-2.3
JIO	Ouri	1.99	289	P	Pn	18 56 58.9	-1.7
JIO				*e*S	Sn	18 57 22.2	-2.1
JKMT	Kesennumamotoy	2.04	300	P	Pn	18 56 59.6	-1.7
JKMT				*e*S	Sn	18 57 23.5	-2.0
OFUJ	Ofunato	2.05	308	P	Pn	18 56 59.8	-1.8
OFUJ				*e*S	Sn	18 57 24.7	-1.2
JMK	Ichinoseki	2.28	300	P	Pn	18 57 03.2	-1.4
JMK				*e*S	Sn	18 57 30.4	-1.0
JOM	Ohasama	2.52	311	P	Pn	18 57 06.8	-1.3
JOM				*e*S	Sn	18 57 36.7	-0.9
JFT	Otama	2.72	265	P	Pn	18 57 09.3	-1.4
JFT				*e*S	Sn	18 57 40.5	-1.9
JYK	Kaneyama	2.87	293	P	Pn	18 57 11.9	-0.9
JANG	Nango	3.08	326	P	Pn	18 57 13.5	-2.2
JANG				*e*S	Sn	18 57 49.7	-1.5
JNS	Sasagawa	3.50	271	P	Pn	18 57 20.6	-0.9
BSO1	Boso 1	3.87	216	P	Pn	18 57 22.2	-3.9
BSO1				*e*S	Sn	18 58 05.7	-4.4
JOT	Ohata	4.12	331	P	Pn	18 57 29.5	-0.4
JOT				*e*S	Sn	18 58 15.6	-1.2
ERM	Erimo	4.21	354	*e*Pn	Pn	18 57 29.9	-1.3
JRY	Ryogami san	4.28	246	P	Pn	18 57 30.0	-2.2
JRY				*e*S	Sn	18 58 16.2	-4.6
JOD2	Odawara 2	4.53	237	P	Pn	18 57 32.8	-2.9
JOD2				*e*S	Sn	18 58 22.1	-5.1
JKB	Kayabe	4.56	334	P	Pn	18 57 35.6	-0.4
JKB				*e*S	Sn	18 58 24.6	-3.1
MJAR	Matsushiro Arr	4.60	255	Pn	Pn	18 57 35.5	-1.1
	9.2nm,0.3s,baz=72,slow=15,SNR=160						
MJAR				LR	LR	18 59 34.2	
	comp=Z,209nm,19.0s,baz=90,slow=41						
MAJO	Matsushiro	4.60	256	*e*Pn	Pn	18 57 35.4	-1.2
MAT	Matsushiro	4.60	256	P	Pn	18 57 36.2	-0.4
MAT				S	Sn	18 58 29.5	+0.7
MJB9	Matsu-Tunnel	4.60	256	*e*Pn	Pn	18 57 35.7	-0.9
JCH	Churui	4.79	357	P	Pn	18 57 36.9	-2.3
JCH				*e*S	Sn	18 58 28.6	-4.9
JHJ	Hachijo jima 2	5.70	216	Pn	Pn	18 57 49.5	-2.2
	12nm,0.3s,baz=12,slow=20,SNR=7.0						
NEM2	Nemuro 2	5.74	15	P	Pn	18 57 48.6	-3.6
NEM2				*e*S	Sn	18 58 49.9	-6.9
INU	Inuyama	5.95	247	*e*Pn	Pn	18 57 53.7	-1.4
JHR	Hokuryu	6.11	346	P	Pn	18 57 57.0	-0.3
JHR				*e*S	Sn	18 59 05.1	-0.7
JTKR	Abashiri--Toko	6.14	1	P	Pn	18 57 55.5	-2.2
JTKR				*e*S	Sn	18 59 02.4	-4.3
ASAJ	Asahikawa	6.34	353	*e*Pn	Pn	18 57 59.6	-0.9
USA0B	Ussuriysk Arra	10.92	309	*e*Pn	Pn	18 59 04.8	+1.6
USRK	Ussuriysk Ar.	10.92	309	Pn	Pn	18 59 03.5	+0.3
	0.3nm,0.3s,baz=119,slow=14,SNR=12						
USRK				LR	LR	19 03 06.8	
	comp=Z,106nm,21.2s,baz=110,slow=36						
KSRS	Korea Array	12.54	273	Pn	Pn	18 59 26.6	+1.1
	0.2nm,0.3s,baz=83,slow=14,SNR=11						
KS15	Wonju Array Si	12.58	273	*e*Pn	Pn	18 59 27.4	+1.5
KSAR	Wonju Array Be	12.58	273	Pn	Pn	18 59 26.6	+0.7
KLR	Kul'dur	14.32	327	Pn	Pn	18 59 48.0	-1.6
	0.2nm,0.3s,baz=130,slow=12,SNR=11						
KLR				LR	LR	19 04 54.5	
	comp=Z,95nm,18.6s,baz=125,slow=35						
PETK	Petropavlovsk-	18.10	28	P	P	19 00 39.3	+1.2
	0.1nm,0.3s,baz=204,slow=13,SNR=4.7						
PEA1	Petropavlovsk-	18.10	28	*e*Pn	Pn	19 00 39.3	+1.3
BJT	Baijiatuau	21.53	284	*e*P	P	19 01 14.2	-1.4
	17nm,1.1s						
ULN	Ulaanbaatar	28.47	302	*e*P	P	19 02 22.0	+0.7
	5.1nm,1.0s						
SONA1	Songino Array	28.90	302	*e*P	P	19 02 26.0	+0.8
SONA0	Songino Array	28.90	302	*e*P	P	19 02 26.5	+1.3
SONM	Songino Array	28.90	302	P	P	19 02 26.5	+1.3
	2.0nm,0.6s,baz=100,slow=9.2,SNR=6.4						
ENH	Enshi	29.24	265	*e*P	P	19 02 29.1	+0.9
	16nm,0.9s						
ZAA1	Zalesovo Array	42.76	312	*e*P	P	19 04 23.9	+0.6
ZAA0	Zalesovo Array	42.76	312	*e*P	P	19 04 24.3	+1.0
	5.7nm,0.8s						
ZALV	Zalesovo Beam	42.76	312	P	P	19 04 23.9	+0.6
	1.1nm,0.7s,baz=81,slow=9.2,SNR=5.5						
CMAR	Chiang Mai Arr	43.48	256	P	P	19 04 29.9	+0.3
	1.1nm,0.7s,baz=47,slow=6.1,SNR=10						
MK01	Makanchi Array	45.27	302	*e*P	P	19 04 43.3	-0.3
MK31	Makanchi Array	45.27	302	*e*P	P	19 04 43.9	+0.3
MK32	Makanchi Array	45.27	302	*e*P	P	19 04 43.8	+0.2
MKAR	Makanchi Array	45.27	302	P	P	19 04 43.8	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	2.0nm,0.7s,baz=86,slow=9.1,SNR=18						
MKAR	Makanchi Array	45.27	302	eP	P	19 04 43.9	+0.3
	20nm,0.8s						
MAKZ	Makanchi	45.48	302	eP	P	19 04 46.0	+0.7
	2.9nm,0.8s						
KURK	Kurchatov	46.91	308	eP	P	19 04 56.8	+0.4
	12nm,0.7s						
KURBB	Kurchatov Arra	46.98	308	P	P	19 04 57.0	+0.1
	4.3nm,0.8s,baz=83,slow=8.3,SNR=27						
ILAR	Eielson Array	47.83	33	P	P	19 05 03.1	-0.3
	2.0nm,0.7s,baz=260,slow=5.8,SNR=26						
ILB	Eielson Array	47.83	33	eP	P	19 05 03.1	-0.3
JIRN	Jiri	48.78	276	eP	P	19 05 11.9	+0.2
RAMN	Ramite	48.79	275	eP	P	19 05 12.5	+0.9
	7.2nm,0.5s						
GUN	Gumba	48.91	276	eP	P	19 05 13.1	+0.5
	19nm,0.9s						
KKN	Kakani	49.44	276	eP	P	19 05 17.7	+1.2
	14nm,0.8s						
DANN	Dangsing	50.38	278	eP	P	19 05 24.2	+0.5
	32nm,0.6s						
PYUN	Piuthan	51.10	278	eP	P	19 05 30.4	+1.3
	33nm,0.9s						
BRVK	Borovoye	51.46	312	eP	P	19 05 32.3	+1.1
	1.9nm,0.9s						
AAK	Ala-Archa	51.74	299	eP	P	19 05 34.0	+0.3
	3.4nm,0.9s						
ARSB	Arslanbob	53.25	297	eP	P	19 05 45.2	+0.4
	4.3nm,0.6s						
KK31	Karatay Array	54.33	300	eP	P	19 05 52.2	-0.3
KKAR	Karatay Array	54.33	300	eP	P	19 05 52.1	-0.4
WRAB	Tennant Creek	58.12	190	eP	P	19 06 17.8	-1.9
	8.4nm,0.8s						
WR1	Warramunga Arr	58.14	190	eP	P	19 06 17.6	-2.2
	8.5nm,0.8s						
WRA	Warramunga Arr	58.14	190	P	P	19 06 17.6	-2.2
	6.5nm,0.7s,baz=12,slow=7.3,SNR=65						
ABKAR	Akbulak array	58.84	310	eP	P	19 06 24.8	+0.3
RES	Resolute Bay	61.37	15	P	P	19 06 41.8	+0.5
	1.3nm,0.7s,baz=332,slow=4.0,SNR=5.1						
AS31	Alice Springs	61.86	190	eP	P	19 06 43.5	-1.8
	1.0nm,0.9s						
ASAR	Alice Springs	61.86	190	P	P	19 06 43.4	-1.8
	2.0nm,0.8s,baz=15,slow=7.4,SNR=22						
YKA	Yellowknife Ar	62.19	31	P	P	19 06 47.0	0.0
	0.8nm,0.7s,baz=303,slow=6.8,SNR=15						
YKB5	Yellowknife Ar	62.19	31	eP	P	19 06 47.0	0.0
GEYT	Alibeck	65.06	300	P	P	19 07 08.0	+1.5
	2.5nm,1.0s,baz=51,slow=10,SNR=3.9						
FIA0	FINESS Array S	68.97	333	eP	P	19 07 31.4	+0.7
FINES	FINESS Array B	68.97	333	P	P	19 07 31.4	+0.7
	1.9nm,0.7s,baz=53,slow=10,SNR=6.0						
NV01	Mina Array Sit	73.03	54	eP	P	19 07 56.6	+0.5
NVAR	Mina Array Bea	73.03	54	P	P	19 07 56.6	+0.5
	0.5nm,0.6s,baz=281,slow=5.9,SNR=4.6						
HFS	Hagfors	74.11	337	P	P	19 08 03.5	+1.7
	1.3nm,0.5s,baz=64,slow=6.9,SNR=5.9						
NB2	NORSAR Subarra	74.16	338	P	P	19 08 14.1	+12
	comp=Z,0.6nm,0.5s,baz=30,slow=6.5						
NB200	NORSAR Array S	74.16	338	eP	P	19 08 03.8	+1.6
NOA	NORSAR Array B	74.16	338	P	P	19 08 03.8	+1.6
	comp=Z,0.7nm,0.7s,baz=38,slow=5.7,SNR=2.5						
AKASG	Malin Array Be	74.79	323	P	P	19 08 06.8	+0.9
	comp=Z,0.5nm,0.4s,baz=44,slow=6.3,SNR=4.3						
PD31	Pinedale Array	75.79	47	eP	P	19 08 12.1	-0.1
PDAR	Pinedale Array	75.79	47	P	P	19 08 12.1	-0.1
	comp=Z,0.9nm,0.7s,baz=264,slow=2.3,SNR=8.9						

RSNC 03 19:06:42.6±1.1, 6°.98N×71°.80W, h4km±7km, ML3.1, Mw3.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	1.42	254	eP	Pn	19 07 06.8	-2.6
BARC				eS	Sg	19 07 27.7	-0.7
BARC				i		19 07 29.6	
	comp=Z,729nm,0.6s						
RUSC	La Rusia	1.67	230	eP	Pn	19 07 11.5	-1.5
RUSC				eS	Sn	19 07 34.1	-1.0
RUSC				i		19 07 36.4	
	comp=Z,80nm,0.4s						
BRRC	Barranca, Sant	1.90	274	eP	Pn	19 07 14.8	-1.0
BRRC				eS	Sn	19 07 39.2	-0.9
BRRC				i		19 07 42.0	
	comp=Z,72nm,0.5s						
OCAC	Ocana	1.96	310	eP	Pn	19 07 15.0	-1.7
OCAC				eS	Sn	19 07 40.1	-1.7
OCAC				i		19 07 51.4	
	comp=Z,433nm,0.4s						
SDV	Santo Domingo	2.22	31	eP	Pn	19 07 19.4	-1.0
SDV				eS	Sn	19 07 47.9	-0.5
PTBC	PUERTO BERRIO,	2.67	261	i Pg	Pn	19 07 27.8	+1.4
PTBC				eS	Sn	19 07 58.4	-0.9
PTBC				i		19 08 07.0	
	comp=Z,69nm,0.4s						
ZARC	Zaragoza, Cauc	3.07	280	eP	Pn	19 07 29.6	-2.4
ZARC				eS	Sn	19 08 08.1	-1.1
ZARC				i		19 08 17.6	
	comp=Z,43nm,0.5s						

ISCJB 03 19:30:29.9±0.5, 49°.59S±0°.08×125°.7E±0°.3, h10km, mb4.2/10, MS3.7/7, Error ellipse: s-maj=25.6km s-min=9.4km az=15.5
IDC 03 19:30:30.6±1.0, 49°.58S×125°.89E, h0km, mb4.1/6, mb1 4.3/6, mb1mx4.1/21, mbtmp4.1/6, MS3.7/8, Ms1 3.7/8, ms1mx3.5/21, Error ellipse: s-maj=50.2km s-min=22.9km az=91.0
NEIC 03 19:30:31.7±0.5, 49°.60S×125°.67E, h10km, mb4.3/6, Error ellipse: s-maj=23.0km s-min=9.4km az=100.0
ISC 03 19:30:31.9±0.7, 49°.6S±0°.1×125°.7E±0°.2, h10km, n35, σ0.s74/31, mb4.2/10, MS3.7/7, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	17.00	326	T	T	19 51 53.8	
	baz=152,slow=74,SNR=20						
H01W2	Cape Leeuwin H	17.00	326	T	T	19 51 49.5	
	baz=152,slow=74,SNR=23						
H01W3	Cape Leeuwin H	17.02	326	T	T	19 51 53.2	
	baz=152,slow=74,SNR=22						
NWAO	Narrogin (SRO)	17.84	336	LR	LR	19 40 06.4	
	comp=Z,230nm,21.5s,baz=344,slow=32						
TOO	Toolangi	18.64	57	eP	Pn	19 34 50.9	+1.1
	12nm,1.2s						
STKA	Stephens Creek	21.34	40	P	P	19 35 19.0	0.0
	3.9nm,0.8s,baz=202,slow=12,SNR=9.2						
STKA				LR	LR	19 41 55.0	
	comp=Z,136nm,21.1s,baz=208,slow=32						
STKA	Stephens Creek	21.34	40	eP	P	19 35 18.9	-0.1
	4.4nm,1.5s						
ASAR	Alice Springs	26.69	17	P	P	19 36 10.3	-0.8
	2.5nm,0.6s,baz=193,slow=9.0,SNR=36						
ASAR				PcP	PcP	19 39 33.8	-0.7
	0.4nm,0.8s,baz=196,slow=2.1,SNR=5.3						
ASAR				LR	LR	19 45 38.3	
	comp=Z,119nm,20.4s,baz=199,slow=34						
AS31	Alice Springs	26.69	17	eP	P	19 36 10.5	-0.6
	2.2nm,1.1s						
AS31				ePcP	PcP	19 39 33.9	-0.7
AS01	Alice Springs	26.70	17	eP	P	19 36 10.0	-1.2
WR1	Warramunga Arr	30.40	16	eP	P	19 36 43.1	-1.0
	39nm,2.0s						
WR1				ePcP	PcP	19 39 42.5	-1.3
WRA	Warramunga Arr	30.40	16	P	P	19 36 43.1	-1.0
	1.2nm,0.9s,baz=192,slow=11,SNR=6.7						
WRA				PcP	PcP	19 39 42.5	-1.3
	0.3nm,0.5s,baz=202,slow=2.1,SNR=6.9						
WRA				LR	LR	19 47 53.1	
	comp=Z,179nm,20.6s,baz=160,slow=34						
VNDA	Vanda	31.16	166	P	P	19 36 50.6	+0.3
	2.4nm,0.8s,baz=324,slow=9.2,SNR=10						
VNDA				LR	LR	19 48 48.8	
	comp=Z,279nm,18.2s,baz=336,slow=35						
VNDA	Vanda	31.16	166	eP	P	19 36 49.8	-0.5
VNDA				epP	P	19 36 50.6	+0.3
MAW	Mawson	35.38	216	LR	LR	19 49 03.6	
	comp=Z,108nm,20.6s,baz=86,slow=31						
QSPA	South Pole Qui	40.50	180	PcP	PcP	19 40 13.2	+0.3
	2.7nm,0.8s,baz=319,slow=2.2,SNR=4.4						
QSPA	South Pole Qui	40.50	180	eP	P	19 38 09.9	-0.7
	21nm,1.6s						
QSPA				ePcP	PcP	19 40 13.2	+0.3
VNA2	Neumayer--Watz	55.16	197	P	P	19 40 04.1	+0.2
	baz=154,slow=6.5						
VNA3	Neumayer Olymp	55.32	196	P	P	19 40 05.2	+0.2
VNA1	Neumayer--Stat	55.55	197	P	P	19 40 07.2	+0.5
H08S2	Diego Garcia H	60.91	295	T	T	20 46 41.8	
	baz=136,slow=75,SNR=4.9						
H08S1	Diego Carcia H	60.92	295	T	T	20 46 38.2	
	baz=136						
H08S3	Diego Garcia H	60.93	295	T	T	20 46 43.9	
	baz=136,slow=75,SNR=6.8						
CMAR	Chiang Mai Arr	71.82	333	P	P	19 41 55.5	+0.9
	0.9nm,0.4s,baz=186,slow=5.4,SNR=12						
KSAR	Wonju Array Be	86.71	2	P	P	19 43 16.1	+0.7
KSRS	Korea Array	86.72	2	P	P	19 43 16.1	+0.7
	1.9nm,1.0s,baz=171,slow=8.6,SNR=3.7						
PLCA	Paso Flores	88.89	168	LR	LR	20 22 16.9	
	comp=Z,59nm,18.0s,baz=93,slow=35						
PLCA	Paso Flores	88.89	168	eP	P	19 43 26.3	+0.1
	27nm,1.8s						
SONM	Songino Array	98.50	347	LR	LR	20 28 59.4	
	comp=Z,47nm,20.4s,baz=162,slow=36						
NVAR	Mina Array Bea	133.93	79	PKP	PKPdf	19 49 49.8	+0.8
	1.0nm,0.7s,baz=219,slow=4.3,SNR=5.8						
NV01	Mina Array Sit	133.93	79	ePKPdf	PKPdf	19 49 49.8	+0.8
TXAR	Lajitas Array	137.71	100	PKP	PKPdf	19 49 56.5	+0.4
	0.5nm,0.8s,baz=218,slow=3.0,SNR=3.7						
PDAR	Pinedale Array	141.87	79	PKP	PKPdf	19 50 02.7	-0.7
	0.7nm,0.9s,baz=132,slow=2.2,SNR=3.7						
YKA	Yellowknife Ar	145.31	45	PKPbc	PKPdf	19 50 08.2	-0.2
	8.9nm,0.8s,baz=267,slow=3.5,SNR=134						
YKB5	Yellowknife Ar	145.31	45	ePKPbc	PKPbc	19 50 07.8	-0.5

TEH 03 19:31:55.9, 33°.08N×46°.18E, h10km, ML3.0
ISCJB 03 19:31:56.1±0.7, 33°.07N±0°.06×46°.11E±0°.04, h10km, Error ellipse: s-maj=8.8km s-min=4.9km az=176.8
ISN 03 19:31:59.4±1.7, 33°.08N×46°.04E, h15km, ML3.0
ISC 03 19:31:56.6±1.2, 33°.10N±0°.06×46°.14E±0°.04, h10km, n15, σ1.s12/18, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	Ghaleghazi	1.28	16	ePn	Pn	19 32 20.2	-0.6
IGHG				IAMB	IAmb	19 32 23.9	
	comp=Z,3μm,0.2s						
BHD	Baghdad	1.49	277	ePg	Pb	19 32 24.0	-0.4
	baz=98						
BHD				eSg	Sg	19 32 45.0	+0.5
IKFM	Kafar-mosalman	1.49	73	ePn	Pb	19 32 23.5	-0.8
IKFM				eSg	Sg	19 32 46.2	+1.7
IKFM				IAMB	IAmb	19 32 47.2	
	comp=Z,0.0nm,0.4s						
IVIS	Veis	1.54	22	ePn	Pb	19 32 24.9	-0.5
IVIS				eSg	Sg	19 32 47.0	+0.7
IVIS				IAMB	IAmb	19 32 48.5	
	comp=Z,2μm,0.6s						
IKOM	Komasi	1.57	46	ePn	Pg	19 32 25.4	-1.3
IKOM				IAMB	IAmb	19 32 48.6	
	comp=N,0.0nm,0.4s						
IKMR	Kamar-syah	1.92	77	ePn	Pb	19 32 30.0	-1.7
IKMR				IAMB	IAmb	19 32 58.5	
	comp=Z,0.0nm,0.4s						
ILIN	Lien	1.94	20	ePn	Pb	19 32 32.3	+0.1
ILIN				IAMB	IAmb	19 33 03.4	
	comp=Z,639nm,0.3s						
HSAM	Samen	2.33	61	ePn	Pn	19 32 35.8	+0.5
HSAM				IAMB	IAmb	19 33 21.8	
	comp=N,0.0nm,1.0s						
HAGD	Aghdareh	3.03	55	ePn	Pn	19 32 45.7	+0.9
HKZM	Kohzaman	3.23	44	ePn	Pn	19 32 49.4	+1.8
HKZM				IAMB	IAmb	19 33 30.2	
	comp=Z,0.0nm,0.8s						
IRAZ	Razeghan	3.89	53	ePn	Pn	19 32 58.1	+1.4
IRAZ				IAMB	IAmb	19 33 56.5	
	comp=Z,155nm,0.5s						
IPIR	Pirpir	4.01	95	ePn	Pn	19 32 59.1	+0.6
IKLH	Kolahrood	4.56	86	ePn	Pn	19 33 06.8	+0.9
KLNJ	Kolanjah	5.07	113	ePn	Pn	19 33 14.1	+1.1
IZEF	Zefreh	5.20	91	ePn	Pn	19 33 15.5	+0.8

IDC 03 20:01:14.9±3.0, 42°.92N×105°.07W, h0km, mb2.2/1, mb1 3.2/3, mb1mx3.1/38, mbtmp2.9/3, ML3.3/2, Error ellipse: s-maj=53.6km s-min=10.4km az=157.0
NEIC 03 20:01:18.8±0.7, 43°.70N×105°.20W, h0km, ML2.6, Error ellipse: s-maj=12.3km s-min=7.7km az=143.0, Suspected Mining explosion.
NEIC 70 km [44 miles] SSE of Gillette.
ISC 03 20:01:15.5±1.0, 43°.44N±0°.06×105°.48W±0°.05, h0km, n11, σ2.s32/11, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.25	56	ePn	Pg	20 01 39.0	-0.4
PDAR	Pinedale Array	3.06	259	Pn	Pb	20 02 11.5	+0.5
	2.9nm,0.3s,baz=78,slow=15,SNR=38						
PDAR				Lg	Lg	20 02 57.5	
	5.5nm,0.3s,baz=73,slow=35,SNR=11						
BW06	Boulder Array	3.06	259	ePn	Pg	20 02 12.6	-1.6
RLMT	Red Lodge	3.20	303	ePn	Pb	20 02 11.1	-2.2
LAO	LASA Array	3.29	351	ePn	Pb	20 02 14.2	-0.6
ISCO	Idaho Springs	3.64	182	ePn	Pb	20 02 20.2	-0.7
BOZ	Bozeman (W)	4.90	298	ePn	Pn	20 02 31.2	+0.6
DGMT	Dagmar	5.11	10	ePn	Pn	20 02 32.2	-1.2
ECSD	EROS Data Cent	6.45	84	ePg	Pb	20 03 08.0	-0.6
ULM	Lac du Bonnet	9.47	41	Pn	Pn	20 03 32.1	-0.9
	0.6nm,0.3s,baz=224,slow=15,SNR=4.6						
ULM				Lg	Lg	20 06 12.4	
	baz=136,slow=17,SNR=2.8						
YKA	Yellowknife Ar	19.82	347	P	Pn	20 05 54.6	+5.6
	0.1nm,0.4s,baz=158,slow=8.5,SNR=5.5						

NIED 03 20:10:00, 31°.10N×131°.90E, h17km, Mw4.1 Best double couple: $M_0$1.73000×10^15 NP1:ϕ_s189.00000°, δ33.00000°, λ56.00000°. NP2:ϕ_s48.00000°, δ63.00000°, λ110.00000°.
JMA 03 20:10:04.4±0.1, 31°.07N×131°.80E, h34km±2km, M3.9
JMA Felt I J1.
ISCJB 03 20:10:05.2±1.0, 31°.06N±0°.04×131°.74E±0°.10, h49km±8km, mb3.6/9, MS3.6/3, Error ellipse: s-maj=14.2km s-min=5.2km az=13.4
IDC 03 20:10:08.5±1.9, 31°.09N×131°.41E, h55km±16km, mb3.4/9, mb1 3.6/13, mb1mx3.4/41, mbtmp3.7/13, ML3.1/4, MS3.3/7, Ms1 3.3/7, ms1mx3.0/35, Error ellipse: s-maj=25.3km s-min=9.3km az=99.0
ISC 03 20:10:06.8±0.9, 31°.08N±0°.04×131°.66E±0°.08, h43km±8km, n26, σ1.s12/34, mb3.7/9, MS3.6/3, 6C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	Kushima--Naru	0.56	323	⇓P	Pn	20 10 17.0	-1.4
JNAR				eS	Sn	20 10 26.4	-0.3
JTSR	Tashiro 2	0.64	278	⇑P	Pn	20 10 18.5	-1.1
JTN	Tanegashima 3	0.72	234	⇑P	Pn	20 10 19.8	-0.8
JTN				eS	Sn	20 10 31.6	+1.0
JMTN	Minamitane	0.94	224	P	Pn	20 10 22.8	-0.8
JTZ	Takazaki	0.95	329	⇑P	Pn	20 10 22.7	-1.1
JTZ				eS	Sn	20 10 37.6	+1.4
JSU	Suzuyama	1.12	293	⇑P	Pn	20 10 25.6	-0.4
JSU				eS	Sn	20 10 41.8	+1.5
JTSN	Tsuno	1.17	353	⇑P	Pn	20 10 25.3	-1.4
JTSN				eS	Sn	20 10 40.7	-0.8
JYAK	Yakushimahirau	1.30	230	P	Pn	20 10 28.4	-0.1
JYAK				eS	Sn	20 10 45.8	+1.1
JZO	Okuchi	1.39	320	⇑P	Pn	20 10 29.2	-0.6
JKC	Kuchinoerabu	1.41	244	P	Pn	20 10 29.4	-0.5
JKC				eS	Sn	20 10 48.3	+1.1
JNU	Nakatsue	2.14	342	P	Pn	20 10 39.9	-0.2
	5.6nm,0.3s,baz=192,slow=14,SNR=75						
JNU				S	Sn	20 11 06.7	+1.2
	22nm,0.3s,baz=205,slow=11,SNR=5.6						
JNU				LR	LR	20 11 25.2	
	comp=Z,163nm,21.8s,baz=192,slow=37						
JOW	Kunigami	5.17	216	P	Pn	20 11 21.6	0.0
	3.1nm,0.3s,baz=96,slow=22,SNR=4.3						
JOW				S	Sn	20 12 18.6	-1.4
	2.4nm,0.3s,baz=354,slow=29,SNR=2.3						
KSRS	Korea Array	7.07	335	P	Pn	20 11 50.0	+2.3
	0.1nm,0.3s,baz=151,slow=16,SNR=4.3						
KSRS				LR	LR	20 14 50.1	
	comp=Z,168nm,21.3s,baz=148,slow=40						
USRK	Ussuriysk Ar.	13.10	1	LR	LR	20 18 18.0	
	comp=Z,146nm,18.4s,baz=168,slow=37						
KLR	Kul'dur	18.13	0	P	Pn	20 14 15.5	+0.3
	0.2nm,0.3s,baz=204,slow=6.2,SNR=6.8						
KLR				LR	LR	20 20 55.0	
	comp=Z,105nm,19.1s,baz=178,slow=36						
SONM	Songino Array	25.53	318	P	P	20 15 30.0	-1.4
	2.2nm,0.9s,baz=136,slow=9.3,SNR=16						
CMAR	Chiang Mai Arr	32.13	255	P	P	20 16 29.7	-0.6
	0.9nm,0.6s,baz=55,slow=7.1,SNR=10.0						
TIXI	Tiksi	40.65	359	LR	LR	20 34 41.5	
	comp=Z,60nm,19.7s,baz=186,slow=36						
MKAR	Makanchi Array	40.79	307	P	P	20 17 42.6	-1.2
	0.4nm,0.5s,baz=90,slow=10,SNR=12						
MKAR				LR	LR	20 36 30.6	
	comp=Z,97nm,18.3s,baz=56,slow=39						
PSI	Prapat	41.77	234	LR	LR	20 35 19.7	
	comp=Z,82nm,20.0s,baz=91,slow=36						
WRA	Warramunga Arr	50.79	177	P	P	20 19 03.2	+0.3
	0.8nm,0.8s,baz=350,slow=8.2,SNR=5.1						
WRA				pP	pP	20 19 14.6	-0.5
	1.1nm,0.9s,baz=353,slow=8.8,SNR=5.0						
ASAR	Alice Springs	54.48	177	P	P	20 19 31.6	+1.6
	0.3nm,0.7s,baz=11,slow=12,SNR=4.8						
ILAR	Eielson Array	58.75	30	P	P	20 20 00.5	+0.6
	0.3nm,0.7s,baz=268,slow=7.1,SNR=4.2						
FINES	FINESS Array B	70.14	331	P	P	20 21 13.2	-1.2
	1.9nm,0.9s,baz=72,slow=6.2,SNR=4.8						
YKA	Yellowknife Ar	72.86	26	P	P	20 21 32.1	+1.3
	0.3nm,0.8s,baz=310,slow=5.3,SNR=5.3						
YKA				pP	pP	20 21 44.8	+1.3
	0.4nm,0.8s,baz=304,slow=5.2,SNR=3.8						
BRTR	Keskin Array B	76.43	308	P	P	20 21 52.3	+0.2
	0.8nm,0.8s,baz=78,slow=4.0,SNR=4.5						

IDC 03 20:10:10.0±2.9, 32°.86S×178°.39W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/37, mbtmp3.8/3, ML3.4/1, Error ellipse: s-maj=69.1km s-min=35.8km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.51	213	Pn	Pn	20 11 47.1	0.0
	0.9nm,0.3s,baz=5.5,slow=12,SNR=5.2						
URZ				Sn	Sn	20 13 01.2	-0.9
	3.2nm,0.3s,baz=116,slow=22,SNR=9.7						
ASAR	Alice Springs	42.71	270	P	P	20 18 09.1	+0.1
	0.9nm,0.9s,baz=106,slow=7.6,SNR=9.4						
WRA	Warramunga Arr	43.92	275	P	P	20 18 18.7	-0.1
	0.9nm,0.5s,baz=115,slow=7.9,SNR=26						
FINES	FINESS Array B	147.32	338	PKPbc	PKPbc	20 29 53.8	-0.9
	0.9nm,0.4s,baz=48,slow=2.1,SNR=8.1						

SKHL 03 20:21:20.8±0.4, 43°.23N×146°.57E, h60km±5km, mb4.8/7
JMA 03 20:21:20.7±0.2, 43°.19N×146°.49E, h51km±2km, M3.6
JMA Felt I J1.
MOS 03 20:21:20.2±1.7, 43°.23N×146°.56E, h57km, mb4.2/5, Error ellipse: s-maj=19.6km s-min=11.6km az=105.3
IDC 03 20:21:26.7±6.7, 43°.17N×146°.45E, h100km±32km, mb3.4/9, mb1 3.5/10, mb1mx3.3/49, mbtmp3.7/10, Error ellipse: s-maj=97.5km s-min=20.7km az=171.0
ISC 03 20:21:19.1±1.7, 43°.22N±0°.06×146°.54E±0°.05, h27km±11km, n35, σ1.s06/54, mb4.0/9, 10C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.60	285	P	Pn	20 21 32.9	+1.1
NEM2				eS	Sn	20 21 41.6	+0.9
SHO	Shikotan	0.69	18	⇓iP	Pn	20 21 34.0	+1.0
SHO				AMB	AMB	20 21 36.0	
	140nm,0.3s						
SHO				AMB	AMB	20 21 36.0	
	190nm,0.3s						
SHO				AMB	AMB	20 21 36.0	
	280nm,0.3s						
SHO				i S	Sn	20 21 44.0	+1.3
SHO				A	A	20 21 44.0	
	660nm,0.2s						
SHO				A	A	20 21 44.0	
	2μm,0.2s						
SHO	Shikotan	0.69	18	d iPN	Pn	20 21 34.4	+1.4
SHO				i S	Sn	20 21 44.1	+1.3
SHO				pmax	pmax		
	comp=Z,283nm,0.3s						
SHO				pmax	pmax		
	comp=N,142nm,0.2s						
SHO				pmax	pmax		
	comp=E,185nm,0.2s						
SHO				smax	smax		
	comp=N,660nm,0.2s						
SHO				smax	smax		
	comp=E,2μm,0.2s						
GLVR	Golovnino	0.91	305	⇑iP	Pn	20 21 37.0	+1.0
GLVR				AMB	AMB	20 21 38.0	
	comp=E,270nm,0.2s						
GLVR				AMB	AMB	20 21 38.0	
	comp=E,570nm,0.2s						
GLVR				i S	Sn	20 21 49.0	+0.7
GLVR				A	A	20 21 51.0	
	comp=E,2μm,0.2s						
GLVR				A	A	20 21 51.0	
	comp=E,4μm,0.2s						
GLVR	Golovnino	0.91	305	c iPN	Pn	20 21 37.1	+1.0
GLVR				i S	Sn	20 21 49.4	+1.1
GLVR				pmax	pmax		
	comp=Z,574nm,0.1s						
GLVR				pmax	pmax		
	comp=N,271nm,0.2s						
GLVR				pmax	pmax		
	comp=E,265nm,0.2s						
GLVR				smax	smax		
	comp=N,2μm,0.2s						
GLVR				smax	smax		
	comp=E,4μm,0.2s						
YUK	Yuzh-Kuril'sk	0.96	329	⇑iP	Pn	20 21 37.0	+0.3
YUK				AMB	AMB	20 21 40.0	
	comp=E,170nm,0.3s						
YUK				AMB	AMB	20 21 40.0	
	comp=E,650nm,0.3s						
YUK				i S	Sn	20 21 49.5	+0.1
YUK				A	A	20 21 52.0	
	comp=E,3μm,0.3s						
YUK				A	A	20 21 52.0	
	comp=E,1μm,0.3s						
YUK	Yuzh-Kuril'sk	0.96	329	c iPN	Pn	20 21 37.6	+0.9
YUK				i S	Sn	20 21 50.0	+0.6
YUK				pmax	pmax		
	comp=E,168nm,0.2s						
YUK				pmax	pmax		
	comp=Z,650nm,0.2s						
YUK				pmax	pmax		
	comp=N,172nm,0.3s						
YUK				smax	smax		
	comp=E,1μm,0.2s						
YUK				smax	smax		
	comp=N,3μm,0.3s						
GRPR	Tuman	0.96	324	⇑iP	Pn	20 21 37.0	+0.3
GRPR				AMB	AMB	20 21 39.0	
	comp=N,640nm,0.3s						
GRPR				AMB	AMB	20 21 39.0	
	comp=N,560nm,0.3s						
GRPR				AMB	AMB	20 21 39.0	
	comp=N,970nm,0.3s						
GRPR				i S	Sn	20 21 49.0	-0.5
GRPR				A	A	20 21 50.0	
	comp=N,2μm,0.3s						
GRPR				A	A	20 21 50.0	
	comp=N,3μm,0.3s						
GRPR	Tuman	0.96	324	c iPN	Pn	20 21 37.6	+0.9
GRPR				i S	Sn	20 21 49.7	+0.2
GRPR				pmax	pmax		
	comp=N,641nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,972nm,0.3s						
GRPR				pmax	pmax		
	comp=E,559nm,0.2s						
GRPR				smax	smax		
	comp=N,2μm,0.2s						
GRPR				smax	smax		
	comp=E,3μm,0.3s						
LAGR	Lagunnoye	1.00	327	⇑iP	Pb	20 21 38.0	+0.2
LAGR				AMB	AMB	20 21 40.2	
	comp=E,190nm,0.2s						
LAGR				AMB	AMB	20 21 40.2	
	comp=E,170nm,0.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LAGR				AMB	AMB	20 21 40.2	
	comp=E,900nm,0.2s						
LAGR				*i* S	**Sn**	**20 21 51.0**	**+0.4**
LAGR				A	A	20 21 52.0	
	comp=E,2μm,0.2s						
LAGR				A	A	20 21 52.0	
	comp=E,2μm,0.2s						
LAGR	**Lagunnoye**	**1.00**	**327**	*c i*PN	**Pb**	**20 21 38.3**	**+0.5**
LAGR				*i* S	**Sn**	**20 21 51.2**	**+0.6**
LAGR				pmax	pmax		
	comp=N,185nm,0.1s						
LAGR				pmax	pmax		
	comp=E,165nm,0.1s						
LAGR				pmax	pmax		
	comp=Z,899nm,0.1s						
LAGR				smax	smax		
	comp=N,2μm,0.2s						
LAGR				smax	smax		
	comp=E,2μm,0.2s						
JKHN	**Kushirohamanak**	**1.02**	**263**	P	**Pb**	**20 21 38.7**	**+0.6**
JKHN				*e*S	**Sn**	**20 21 52.3**	**+1.3**
JRA	**Rausu**	**1.26**	**305**	P	**Pb**	**20 21 42.1**	**-0.1**
JRA				*e*S	**Sb**	**20 21 57.9**	**-0.1**
JAK	**Akkeshi**	**1.37**	**261**	P	**Pn**	**20 21 43.1**	**+0.7**
JNK	**Nakash**	**1.38**	**286**	P	**Pn**	**20 21 43.1**	**+0.6**
JNK				*e*S	**Sn**	**20 21 59.8**	**-0.1**
JOB	**Onbets**	**2.01**	**262**	P	**Pn**	**20 21 52.1**	**+0.9**
JOB				*e*S	**Sn**	**20 22 15.6**	**+0.2**
JAR	**Ashorobuto**	**2.03**	**273**	P	**Pn**	**20 21 52.6**	**+1.2**
JAR				*e*S	**Sn**	**20 22 16.5**	**+0.6**
JTKR	**Abashiri--Toko**	**2.06**	**292**	P	**Pb**	**20 21 53.8**	**-1.9**
KUR	**Kuril'sk**	**2.23**	**25**	⇑*i*P	**Pn**	**20 21 55.0**	**+0.8**
KUR				AMB	AMB	20 21 57.0	
	comp=E,40nm,0.2s						
KUR				AMB	AMB	20 21 57.0	
	comp=E,30nm,0.2s						
KUR				AMB	AMB	20 21 57.0	
	comp=E,50nm,0.2s						
KUR				*i* S	**Sn**	**20 22 20.3**	**-0.6**
KUR				A	A	20 22 27.0	
	comp=E,160nm,0.2s						
KUR				A	A	20 22 27.0	
	comp=E,120nm,0.2s						
KUR	**Kuril'sk**	**2.23**	**25**	*c i*PN	**Pb**	**20 21 57.1**	**-1.6**
KUR				*i* S	**Sn**	**20 22 23.6**	**+2.7**
KUR				pmax	pmax		
	comp=E,26nm,0.2s						
KUR				pmax	pmax		
	comp=Z,47nm,0.2s						
KUR				pmax	pmax		
	comp=N,37nm,0.3s						
KUR				smax	smax		
	comp=N,128nm,0.2s						
KUR				smax	smax		
	comp=E,110nm,0.2s						
JCH	**Churui**	**2.41**	**257**	P	**Pn**	**20 21 57.5**	**+0.8**
JMP	**Maruseppu**	**2.44**	**290**	P	**Pn**	**20 21 59.1**	**+1.9**
HRK	**Horoka**	**2.50**	**277**	*e*P	**Pn**	**20 22 00.3**	**+2.3**
JKA	**Kamikawa-asahi**	**3.00**	**289**	*e*P	**Pb**	**20 22 10.9**	**-0.9**
ASAJ	**Asahikawa**	**3.00**	**289**	P	**Pb**	**20 22 10.9**	**-0.9**
	comp=E,4.8nm,0.3s,baz=138,slow=16,SNR=11						
ASAJ				S	**Sb**	**20 22 47.3**	**-0.7**
	comp=E,4.5nm,0.3s,baz=30,slow=30,SNR=9.1						
YSS	**Yuzh-Sakhalins**	**4.60**	**326**	*e*P	**Pn**	**20 22 28.9**	**+2.1**
SONM	**Songino Array**	**28.27**	**293**	P	**P**	**20 27 09.9**	**-0.2**
	comp=E,0.4nm,0.6s,baz=86,slow=7.9,SNR=5.6						
ILAR	**Eielson Array**	**42.18**	**36**	P	**P**	**20 29 09.4**	**+0.4**
	comp=E,0.3nm,0.8s,baz=250,slow=5.7,SNR=4.5						
MKAR	**Makanchi Array**	**44.44**	**298**	P	**P**	**20 29 26.7**	**-0.8**
	comp=E,0.2nm,0.4s,baz=80,slow=8.8,SNR=7.7						
INK	**Inuvik**	**47.09**	**30**	P	**P**	**20 29 48.5**	**+0.4**
	comp=E,0.9nm,0.5s,baz=306,slow=5.2,SNR=6.8						
YKA	**Yellowknife Ar**	**56.49**	**33**	P	**P**	**20 30 58.7**	**+0.4**
	comp=E,0.3nm,0.7s,baz=292,slow=6.5,SNR=4.1						
FINES	**FINESS Array B**	**65.15**	**333**	P	**P**	**20 31 55.7**	**-1.4**
	comp=E,2.1nm,0.8s,baz=33,slow=7.3,SNR=7.5						
KBZ	**Khabaz**	**69.82**	**311**	P	**P**	**20 32 27.6**	**+0.7**
	comp=E,0.9nm,0.6s,baz=86,slow=5.9,SNR=5.1						
NOA	**NORSAR Array B**	**69.94**	**339**	P	**P**	**20 32 26.6**	**-0.8**
	comp=E,0.7nm,0.6s,baz=31,slow=6.6,SNR=4.7						
AKASG	**Malin Array Be**	**71.75**	**323**	P	**P**	**20 32 37.5**	**-1.0**
	comp=E,0.5nm,0.3s,baz=40,slow=6.5,SNR=4.1						

IDC 03 20:26:20.1±2.1**,12°.67N**×**143°.56E,h124**km±26km**,mb3.5**/7**, mb1 3.7**/7**,mb1mx3.4**/48**,mbtmp3.9**/7**,MS2.7**/1**,Ms1 2.9**/1**, ms1mx2.4**/33**,Error ellipse: s-maj=41.8km s-min=15.1km az=92.0,South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.57**	**54**	P	Pn	20 26 48.6	0.0
	176nm,0.3s,baz=229,slow=3.0,SNR=41						
GUMO				S	Sn	20 27 10.3	0.0
	190nm,0.3s,baz=107,slow=21,SNR=27						
GUMO				LR	LR	20 27 33.8	
	comp=Z,125nm,19.9s,baz=232,slow=47						
WRA	**Warramunga Arr**	**33.65**	**196**	P	P	20 32 49.0	-0.3
	4.3nm,0.7s,baz=20,slow=9.7,SNR=49						
ASAR	**Alice Springs**	**37.33**	**195**	P	P	20 33 20.6	-0.1
	1.3nm,0.5s,baz=18,slow=12,SNR=24						
CMAR	**Chiang Mai Arr**	**43.28**	**283**	LR	LR	20 52 20.6	
	comp=Z,9.5nm,19.7s,baz=90,slow=36						
STKA	**Stephens Creek**	**44.33**	**182**	P	P	20 34 18.0	0.0
	1.2nm,0.4s,baz=357,slow=11,SNR=5.8						
SONM	**Songino Array**	**46.76**	**326**	P	P	20 34 37.4	+0.3
	0.5nm,0.6s,baz=145,slow=6.9,SNR=5.3						
MKAR	**Makanchi Array**	**61.27**	**317**	P	P	20 36 22.6	+0.2
	0.3nm,0.6s,baz=86,slow=8.7,SNR=3.4						
ZALV	**Zalesovo Beam**	**61.63**	**325**	PcP	PcP	20 37 04.0	-1.1
	0.7nm,0.5s,baz=123,slow=3.5,SNR=4.4						
YKA	**Yellowknife Ar**	**84.26**	**27**	P	P	20 38 38.4	+0.7
	0.3nm,0.6s,baz=286,slow=4.8,SNR=5.0						
FINES	**FINESS Array B**	**91.45**	**335**	P	P	20 39 10.7	-1.5
	0.8nm,0.4s,baz=62,slow=5.5,SNR=9.7						

*IDC **03** 20:30:35.2±2.9, 32°.83S×178°.42W, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.8/37, mbtmp4.0/3, ML3.6/1, Error ellipse: s-maj=67.7km s-min=35.4km az=117.0*
*WEL **03** 20:30:36.3±1.0, 33°S±7°×17°8W±1°9, h33km, ML4.9/12*
ISC 03 20:30:35.2±1.6**,32°.91S**±0°.08×**177°.7W**±0°.2**,h34**km**,n20,** σ**1ˢ.25**/28**,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.64**	**357**	P	**Pn**	**20 31 28.2**	**-0.9**
GLKZ				S	**Sn**	**20 32 10.2**	**-0.8**
WMGZ	**Waiomatatini S**	**5.83**	**212**	P	**Pn**	**20 32 01.8**	**+2.6**
WMGZ				S	**Sn**	**20 33 05.1**	**+0.3**
PKGZ	**Pakihiroa**	**6.04**	**214**	P	**Pn**	**20 32 03.1**	**+1.0**
PKGZ				S	**Sn**	**20 33 08.6**	**-1.5**
HAZ	**Te Kaha**	**6.08**	**216**	P	**Pn**	**20 32 04.5**	**+1.9**
HAZ				S	**Sn**	**20 33 11.0**	**+0.1**
PUZ	**Puketiti**	**6.11**	**211**	P	**Pn**	**20 32 05.2**	**+2.1**
PUZ				S	**Sn**	**20 33 10.8**	**-0.9**
RUGZ	**Raukumara Rang**	**6.29**	**215**	P	**Pn**	**20 32 05.7**	**+0.1**
RUGZ				S	**Sn**	**20 33 15.4**	**-1.0**
MWZ	**Matawai**	**6.66**	**214**	P	**Pn**	**20 32 10.0**	**-0.6**
MWZ				S	**Sn**	**20 33 24.0**	**-1.2**
URZ	**Urewera**	**6.80**	**217**	Pn	**Pn**	**20 32 12.4**	**-0.1**
	1.3nm,0.3s,baz=268,slow=4.2,SNR=11						
URZ				Sn	**Sn**	**20 33 26.2**	**-2.5**
	5.6nm,0.3s,baz=289,slow=23,SNR=12						
URZ	**Urewera**	**6.80**	**217**	P	**Pn**	**20 32 12.4**	**-0.1**
RAGZ	**Rawiri**	**6.84**	**214**	P	**Pn**	**20 32 14.3**	**+1.1**
SNGZ	**Shannon Statio**	**7.10**	**213**	P	**Pn**	**20 32 17.6**	**+0.9**
MUGZ	**Murupara**	**7.14**	**217**	P	**Pn**	**20 32 16.8**	**-0.4**
MHGZ	**Mahia Peninsul**	**7.17**	**208**	P	**Pn**	**20 32 16.9**	**-0.7**
MTHZ	**Maungataniwha**	**7.39**	**215**	P	**Pn**	**20 32 21.4**	**+0.7**
OUZ	**Omahuta**	**7.58**	**250**	P	**Pn**	**20 32 24.7**	**+1.6**
NMHZ	**Naumai**	**7.61**	**214**	P	**Pn**	**20 32 24.4**	**+0.8**
BKZ	**Black Stump Fm**	**7.81**	**215**	P	**Pn**	**20 32 25.9**	**-0.5**
ASAR	**Alice Springs**	**43.28**	**269**	P	**P**	**20 38 34.1**	**+0.3**
	1.4nm,0.8s,baz=114,slow=7.8,SNR=12						
WRA	**Warramunga Arr**	**44.49**	**275**	P	**P**	**20 38 43.5**	**0.0**
	1.7nm,0.5s,baz=114,slow=7.8,SNR=38						
FINES	**FINESS Array B**	**147.58**	**339**	PKPbc	**PKPab**	**20 50 18.9**	**+1.6**
	2.2nm,0.8s,baz=55,slow=3.8,SNR=9.4						

IDC 03 20:37:31.1±1.4**,2°.82S**×**138°.98E,h0**km**,mb3.1**/2**, mb1 3.5**/3**,mb1mx3.2**/38**,mbtmp3.2**/3**,ML3.5**/1**,MS3.3**/1**, Ms1 3.3**/1**,ms1mx2.4**/14**,Error ellipse: s-maj=30.1km s-min=23.3km az=155.0,Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.75**	**80**	Pn	Pn	20 38 03.0	+0.1
	4.8nm,0.3s,baz=223,slow=11,SNR=22						
JAY				Sn	Sb	20 38 26.5	-0.3
	6.6nm,0.3s,baz=122,slow=16,SNR=5.6						
WRA	**Warramunga Arr**	**17.61**	**195**	P	Pn	20 41 36.6	-1.5
	0.2nm,0.3s,baz=16,slow=13,SNR=9.5						
ASAR	**Alice Springs**	**21.29**	**193**	P	P	20 42 20.3	+0.8
	0.5nm,0.6s,baz=22,slow=9.6,SNR=8.7						
HNR	**Honiara**	**21.85**	**108**	LR	LR	20 50 20.3	
	comp=Z,66nm,18.0s,baz=258,slow=35						
MKAR	**Makanchi Array**	**70.04**	**322**	P	P	20 48 45.0	0.0
	0.1nm,0.4s,baz=117,slow=8.3,SNR=2.2						

IDC 03 20:39:00.7±1.2**,1°.97S**×**127°.27E,h0**km**,mb3.3**/3**, mb1 3.5**/4**,mb1mx3.3**/47**,mbtmp3.3**/4**,ML3.5**/1**,Error ellipse: s-maj=33.7km s-min=22.3km az=57.0, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.14**	**75**	Pn	Pn	20 40 05.0	-0.2
SIJI				Sn	Sn	20 40 53.4	-0.9
	2.5nm,0.3s,baz=231,slow=23,SNR=11						
WRA	**Warramunga Arr**	**19.16**	**159**	P	Pn	20 43 26.4	-0.2
	0.1nm,0.3s,baz=335,slow=12,SNR=7.1						
ASAR	**Alice Springs**	**22.51**	**164**	P	P	20 44 02.6	+0.5
	0.6nm,0.6s,baz=341,slow=10,SNR=6.2						
MKAR	**Makanchi Array**	**62.55**	**327**	P	P	20 49 26.5	0.0
	0.1nm,0.4s,baz=136,slow=6.2,SNR=4.2						
KURBB	**Kurchatov Arra**	**66.83**	**329**	P	P	20 49 53.9	-0.3
	0.4nm,0.6s,baz=126,slow=6.1,SNR=3.5						

*IDC **03** 20:47:48.3±4.1, 2°.93S×139°.13E, h21km±31km, mb3.6/4, mb1 3.9/5, mb1mx3.5/29, mbtmp3.8/5, ML4.1/2, Error ellipse: s-maj=34.1km s-min=20.2km az=123.0*
*ISCJB **03** 20:47:49.4±0.8, 3°.0S±0°.1×139°.0E±0°.1, h46km, mb3.8/3, Error ellipse: s-maj=17.4km s-min=13.7km az=145.0*
ISC 03 20:47:51.0±0.9**,3°.0S**±0°.1×**139°.1E**±0°.1**,h46**km**,n7,**σ**0ˢ.91**/7**, mb3.8**/3**,Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.69**	**74**	Pg	**Pn**	**20 48 17.8**	**-0.3**
	22nm,0.3s,baz=226,slow=11,SNR=88						
JAY				Lg	Lg	20 48 41.0	
	18nm,0.3s,baz=195,slow=11,SNR=5.6						
SIJI	**Sorong**	**8.08**	**285**	Pn	**Pn**	**20 49 45.2**	**-0.6**
	1.4nm,0.3s,baz=71,slow=11,SNR=6.1						
WRA	**Warramunga Arr**	**17.48**	**195**	P	**Pn**	**20 51 50.5**	**-1.1**
	0.9nm,0.3s,baz=17,slow=12,SNR=16						
FITZ	**Fitzroy Crossi**	**19.97**	**220**	P	**P**	**20 52 19.9**	**+0.3**
	1.0nm,0.4s,baz=48,slow=13,SNR=6.0						
ASAR	**Alice Springs**	**21.16**	**193**	P	**P**	**20 52 33.5**	**+1.0**
	3.6nm,0.6s,baz=20,slow=7.9,SNR=43						
MKAR	**Makanchi Array**	**70.23**	**322**	P	**P**	**20 59 00.1**	**+0.8**
	0.3nm,0.4s,baz=117,slow=7.0,SNR=8.2						
ILAR	**Eielson Array**	**85.93**	**24**	P	**P**	**21 00 25.9**	**0.0**
	0.4nm,0.6s,baz=271,slow=4.2,SNR=5.6						

MAN 03 21:00:27.6,17°.42N×**119°.81E,h30**km**,mb4.4,ML3.3, MS3.0,1D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**1.03**	**174**	*e*P	Pn	21 00 44.1	-2.0
BOLP				*e*S	Sb	21 01 00.1	-0.1
APYP	**Conner**	**1.44**	**72**	*e*P	Pn	21 00 51.0	-0.7
APYP				*e*S	Sn	21 01 09.3	-0.2
CVP	**Callao Caves**	**1.94**	**81**	⇓*i*P	Pn	21 00 59.0	+0.4
CVP				*i* S	Sn	21 01 20.7	-1.3
CAUP	**Cauayan**	**1.98**	**103**	*e*P	Pn	21 01 00.6	+1.5
CAUP				*e*S	Sn	21 01 24.2	+1.2
SGCP	**Mt. Cagua**	**2.28**	**69**	*e*P	Pn	21 01 04.5	+1.2
SGCP				*e*S	Sn	21 01 31.8	+1.4

IDC 03 21:04:00.9±8.2**,32°.14S**×**179°.82E,h338**km±93km**,mb2.6**/2**, mb1 2.9**/3**,mb1mx2.8**/31**,mbtmp3.4**/3**,Error ellipse: s-maj=103.9km s-min=45.4km az=2.0,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.49**	**199**	P	Pn	21 05 38.6	+1.7
	0.9nm,0.3s,baz=271,slow=5.4,SNR=23						
URZ				S	S	21 06 53.1	-1.6
	0.8nm,0.3s,baz=66,slow=24,SNR=11						
ASAR	**Alice Springs**	**41.19**	**270**	P	P	21 11 13.7	-0.1
	0.3nm,0.7s,baz=108,slow=7.5,SNR=4.8						
WRA	**Warramunga Arr**	**42.34**	**275**	P	P	21 11 23.0	-0.1
	0.3nm,0.3s,baz=112,slow=7.9,SNR=16						
FINES	**FINESS Array B**	**146.09**	**338**	PKPbc	PKPdf	21 22 59.6	+0.4
	2.7nm,1.1s,baz=54,slow=3.6,SNR=4.8						

*JMA **03** 21:15:48.7±0.1, 30°.40N×138°.98E, h451km, M3.3*
*ISCJB **03** 21:15:49.8±0.6, 30°.41N±0°.07×138°.8E±0°.1, h411km, mb2.8/3, Error ellipse: s-maj=14.9km s-min=7.9km az=159.8*
*IDC **03** 21:15:51.9±2.6, 30°.41N×138°.72E, h429km±38km, mb2.5/3, mb1 2.7/7, mb1mx2.5/58, mbtmp3.5/7, Error ellipse: s-maj=40.3km s-min=21.6km az=74.0*
ISC 03 21:15:50.2±0.9**,30°.46N**±0°.08×**138°.9E**±0°.1**,h411**km**,n14,** σ**2ˢ.14**/15**,mb2.8**/3**,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.75**	**16**	P	**P**	**21 16 54.6**	**+2.5**
JIE	**Ise**	**4.35**	**335**	P	**P**	**21 17 09.1**	**+3.2**
JTNC	**Tanabenakahech**	**4.37**	**321**	P	**P**	**21 17 08.4**	**+2.2**
CBIJ	**Chichi jima**	**4.41**	**139**	P	**P**	**21 17 07.4**	**+0.7**
CBIJ				*e*S	**S**	**21 18 08.5**	**-0.6**
JHU	**Hanno**	**5.38**	**3**	*e*S	**S**	**21 18 24.4**	**-2.5**
JRY	**Ryogami san**	**5.54**	**360**	P	**P**	**21 17 19.7**	**+1.7**
JYT	**Yasato**	**5.85**	**10**	S	**S**	**21 18 32.4**	**-3.4**
MJAR	**Matsushiro Arr**	**6.09**	**355**	P	**P**	**21 17 26.7**	**+2.9**
	0.9nm,0.3s,baz=204,slow=12,SNR=5.5						
KSRS	**Korea Array**	**11.49**	**310**	P	**P**	**21 18 24.5**	**+0.7**
	0.3nm,0.3s,baz=121,slow=9.3,SNR=7.4						
USRK	**Ussuriysk Ar.**	**14.77**	**340**	P	**P**	**21 19 00.1**	**+0.5**
	0.2nm,0.3s,baz=150,slow=12,SNR=6.4						
KLR	**Kul'dur**	**19.52**	**346**	P	**P**	**21 19 50.2**	**+1.0**
	0.1nm,0.3s,baz=157,slow=7.7,SNR=5.0						
SONM	**Songino Array**	**30.32**	**314**	P	**P**	**21 21 25.4**	**-0.5**
	0.2nm,0.6s,baz=121,slow=9.9,SNR=2.9						
CMAR	**Chiang Mai Arr**	**38.12**	**261**	P	**P**	**21 22 31.0**	**-1.2**
	0.4nm,0.6s,baz=55,slow=7.3,SNR=5.7						
WRA	**Warramunga Arr**	**50.31**	**186**	P	**P**	**21 24 06.9**	**-0.3**
	0.4nm,0.9s,baz=1.4,slow=8.0,SNR=7.4						

*ISCJB **03** 21:17:28.0±0.7, 36°.87N±0°.03×71°.30E±0°.08, h33km, mb3.7/4, Error ellipse: s-maj=10.1km s-min=3.9km az=160.1*
*NNC **03** 21:17:41.8±2.9, 37°.89N×71°.45E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=24.1km s-min=15.7km az=170.0*
*IDC **03** 21:17:44.7±7.8, 37°.69N×72°.02E, h166km±50km, mb3.4/4, mb1 3.5/9, mb1mx3.1/52, mbtmp3.9/9, MS2.4/1, Ms1 2.4/1, ms1mx2.1/23, Error ellipse: s-maj=68.6km s-min=26.8km az=9.0*
ISC 03 21:17:29.1±0.9**,36°.95N**±0°.06×**71°.25E**±0°.09**,h35**km**,n42,** σ**2ˢ.55**/41**,mb3.8**/4**,8C-6D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.53**	**29**	⇑P	Pn	21 18 27.1	+5.4
	38nm,0.3s						
SFK				⇓S	**Sn**	**21 19 01.3**	**-0.9**
	61nm,0.3s						
AML	**Almayashu**	**5.50**	**19**	P	**Pn**	**21 18 53.0**	**+4.1**
	SNR=92						
UCH	**Uchtor**	**5.84**	**25**	P	**Pn**	**21 18 57.2**	**+3.7**
	SNR=48						
KZA	**Kyzart**	**5.98**	**30**	P	**Pn**	**21 18 58.0**	**+2.6**
	SNR=10						
EKS2	**Erkin-Say**	**6.02**	**18**	P	**Pn**	**21 18 60.0**	**+4.2**
	SNR=14						
KK31	**Karatay Array**	**6.17**	**355**	P	Pn	21 19 03.6	+6.0
	4.3nm,0.3s,baz=175,slow=13,SNR=114						
KK31				S	**Sn**	**21 20 05.7**	**-1.3**
	44nm,0.3s,baz=171,slow=22,SNR=31						
AAK	**Ala-Archa**	**6.20**	**23**	P	**Pn**	**21 19 02.1**	**+3.9**
	8.3nm,0.3s,baz=160,slow=7.4,SNR=180						
AAK				S	Sn	21 20 03.7	-4.3
	5.2nm,0.3s,baz=324,slow=20,SNR=14						
AAK				LR	LR	21 21 15.2	
	comp=Z,37nm,18.8s,baz=144,slow=40						
AAK	**Ala-Archa**	**6.20**	**23**	P	**Pn**	**21 19 02.2**	**+3.9**
	SNR=33						
AAK	**Ala-Archa**	**6.20**	**23**	⇑P	**Pn**	**21 19 01.9**	**+3.6**
	11nm,0.3s						
AAK				⇓S	Sn	21 20 03.1	-4.9
	15nm,0.5s						
DHRM	**DHARAMSHALA**	**6.27**	**137**	*e*P	Pn	21 19 07.9	+8.6
DHRM				*e*S	**Sn**	**21 20 13.5**	**+3.7**
DHRM				IAML		21 20 18.3	
	comp=N,157nm,0.5s						
DHRM				IAML		21 20 19.2	
	comp=E,349nm,0.5s						
KBK	**Karagaybulak**	**6.37**	**25**	P	**Pn**	**21 19 04.3**	**+3.7**
	SNR=12						
ULHL	**Ulahol**	**6.54**	**35**	P	**Pn**	**21 19 05.1**	**+2.2**
	SNR=21						
CHMS	**Chumysh**	**6.61**	**23**	P	**Pn**	**21 19 07.3**	**+3.6**
	SNR=14						
USP	**Ospenovka**	**6.78**	**21**	P	**Pn**	**21 19 09.1**	**+3.0**
	SNR=20						
TKM2	**Tokmak 2**	**6.83**	**28**	P	**Pn**	**21 19 09.8**	**+2.8**
	SNR=8.2						
TKM2	**Tokmak 2**	**6.83**	**28**	⇑P	**Pn**	**21 19 09.7**	**+2.8**
	comp=E,10.0nm,0.6s						
TKM2				⇓S	Sn	21 20 19.0	-4.5
	comp=E,4.0nm,0.6s						
SMLA	**Simla**	**7.60**	**138**	*e*P	Pn	21 19 25.0	+7.6
SMLA				*e*S	**Sn**	**21 20 43.1**	**+0.8**
SMLA				IAML		21 20 48.6	
	comp=N,73nm,0.2s						
SMLA				IAML		21 20 48.7	
	comp=E,101nm,0.3s						
MDOK	**Medeo**	**7.63**	**34**	⇑P	**Pn**	**21 19 21.3**	**+3.4**
	comp=E,5.0nm,0.6s						
MDOK				⇓S	Sn	21 20 39.2	-3.8
	comp=E,2.8nm,0.6s						
DDI	**Dehra Dun**	**8.71**	**137**	*e*P	Pn	21 19 39.6	+7.0
DDI				*e*S	**Sn**	**21 21 09.9**	**+0.3**
DDI				IAML		21 21 18.4	
	comp=E,80nm,0.5s						
DDI				IAML		21 21 18.7	
	comp=N,58nm,0.6s						
PDGK	**Podgornoye**	**8.96**	**42**	⇑P	Pn	21 19 41.1	+5.1
	comp=N,3.9nm,0.9s						
PDGK				⇑S	**Sn**	**21 21 17.0**	**+1.2**
	comp=N,7.0nm,1.1s						
JOSI	**Joshimath**	**9.40**	**130**	*e*S	**Sn**	**21 21 23.0**	**-3.9**
JOSI				IAML		21 21 28.5	
	comp=E,47nm,0.6s						
JOSI				IAML		21 21 29.2	
	comp=N,56nm,0.7s						
KUDL	**Kundal**	**9.83**	**152**	*e*S	**Sn**	**21 21 37.4**	**+0.4**
MKAR	**Makanchi Array**	**12.81**	**36**	P	**Pn**	**21 20 27.2**	**-1.3**
	comp=N,0.1nm,0.3s,baz=213,slow=13,SNR=9.9						
PYUN	**Piuthan**	**13.26**	**128**	*e*P	**Pn**	**21 20 36.1**	**+1.1**
	comp=N,58nm,0.6s						
DANN	**Dangsing**	**13.58**	**126**	*e*P	**Pn**	**21 20 40.6**	**+1.2**
	comp=N,44nm,0.4s						
KOLN	**Koldanda**	**13.87**	**128**	*e*P	**Pn**	**21 20 44.1**	**+0.7**
	comp=N,9.8nm,0.3s						
KURBB	**Kurchatov Arra**	**14.63**	**19**	P	Pn	21 20 49.7	-3.7
	comp=N,0.0nm,0.3s,baz=207,slow=12,SNR=3.2						
AB31	**Akbulak array**	**14.79**	**330**	⇓P	**P**	**21 21 00.2**	**-0.8**
	comp=N,1.1nm,0.3s,baz=133,slow=14,SNR=106						
AB31				⇑S	**Sn**	**21 23 37.0**	**-1.0**
	comp=N,2.4nm,0.5s,baz=161,slow=32,SNR=6.7						
KKN	**Kakani**	**14.95**	**124**	*e*P	**Pn**	**21 20 57.1**	**-0.9**
	comp=N,23nm,0.5s						
DMN	**Daman**	**14.96**	**125**	*e*P	**Pn**	**21 20 57.5**	**-0.6**
	comp=N,24nm,0.3s						
PKIN	**Phulchoki**	**15.17**	**124**	*e*P	**Pn**	**21 20 59.9**	**-1.0**
	comp=N,20nm,0.4s						
GUN	**Gumba**	**15.28**	**122**	*e*P	**Pn**	**21 21 00.9**	**-1.5**
	comp=N,24nm,0.4s						
JIRN	**Jiri**	**15.65**	**122**	*e*P	**Pn**	**21 21 06.4**	**-0.9**
	comp=N,62nm,0.4s						
BVAR	**Borovoye Array**	**16.08**	**358**	P	**Pn**	**21 21 12.0**	**-0.4**
	comp=N,0.5nm,0.3s,baz=159,slow=9.6,SNR=13						
RAMN	**Ramite**	**16.39**	**123**	*e*P	**Pn**	**21 21 15.4**	**-1.2**
	comp=N,24nm,0.5s						
AKTO	**Aktyubinsk**	**16.49**	**329**	P	**P**	**21 21 23.6**	**+3.6**
	comp=N,0.7nm,0.3s,baz=139,slow=13,SNR=17						
AKTO	**Aktyubinsk**	**16.49**	**329**	⇑P	**P**	**21 21 22.4**	**+2.4**
	comp=N,3.7nm,0.7s						
AKTO				⇓S	**Sn**	**21 24 19.7**	**+0.2**
	comp=N,6.5nm,0.8s						
ZALV	**Zalesovo Beam**	**19.42**	**25**	P	**P**	**21 21 48.4**	**-3.6**
	comp=N,1.1nm,0.3s,baz=214,slow=10.0,SNR=20						
SONM	**Songino Array**	**27.91**	**56**	P	P	21 23 11.9	-4.0
	comp=N,0.4nm,0.6s,baz=244,slow=9.7,SNR=5.1						
FINES	**FINESS Array B**	**37.22**	**326**	P	**P**	**21 24 37.5**	**+0.7**
	comp=N,2.5nm,1.0s,baz=122,slow=10.0,SNR=3.9						
ARCES	**ARCESS Array B**	**40.80**	**337**	P	**P**	**21 25 06.0**	**-0.6**
	comp=N,2.9nm,1.1s,baz=127,slow=8.7,SNR=7.3						
YKA	**Yellowknife Ar**	**80.78**	**3**	P	P	21 29 34.5	-4.0
	comp=N,0.4nm,0.5s,baz=350,slow=5.5,SNR=12						

*ISCJB **03** 21:54:06.8±1.8, 18°.9N±0°.3×39°.4E±0°.2, h10km, mb3.6/6, MS4.5/1, Error ellipse: s-maj=47.4km s-min=22.0km az=157.3*
*IDC **03** 21:54:07.1±2.2, 18°.83N×39°.38E, h0km, mb3.6/6, mb1 3.6/6, mb1mx3.3/50, mbtmp3.6/6, MS2.8/4, Ms1 2.8/4, ms1mx2.5/39, Error ellipse: s-maj=66.5km s-min=25.2km az=155.0*
ISC 03 21:54:08.6±2.1**,18°.8N**±0°.4×**39°.4E**±0°.2**,h10**km**,n11,** σ**0ˢ.19**/6**,mb3.8**/6**,Red Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EIL	**Elat**	**11.51**	**340**	LR	LR	22 01 02.2	
	comp=Z,36nm,21.8s,baz=268,slow=36						
MMAI	**Mount Meron Ar**	**14.56**	**347**	LR	LR	22 02 30.6	
	comp=Z,40nm,18.9s,baz=0.0,slow=35						
WSAR	**Wadi Sarin**	**18.50**	**73**	LR	LR	22 06 43.2	
	comp=Z,33nm,18.9s,baz=276,slow=41						
KMBO	**Kilima Mbogo**	**19.95**	**186**	LR	LR	22 05 47.9	
	comp=Z,48nm,21.3s,baz=80,slow=35						
BRTR	**Keskin Array B**	**21.39**	**348**	P	**P**	**21 58 56.6**	**+0.1**
	0.7nm,0.8s,baz=155,slow=11,SNR=5.4						
TORD	**Torodi Ar. Bea**	**36.60**	**267**	P	**P**	**22 01 15.3**	**0.0**
	1.6nm,0.9s,baz=60,slow=8.5,SNR=10						
KURBB	**Kurchatov Arra**	**44.34**	**35**	P	**P**	**22 02 18.9**	**+0.1**
	0.5nm,0.3s,baz=241,slow=7.9,SNR=5.1						
MKAR	**Makanchi Array**	**44.79**	**42**	P	**P**	**22 02 22.7**	**+0.1**
	0.7nm,0.9s,baz=231,slow=5.6,SNR=5.4						
ZALV	**Zalesovo Beam**	**49.34**	**34**	P	**P**	**22 02 57.6**	**-0.3**
	0.6nm,0.5s,baz=225,slow=10.0,SNR=4.0						
SONM	**Songino Array**	**60.91**	**45**	P	**P**	**22 04 21.8**	**0.0**
	0.3nm,0.5s,baz=270,slow=8.6,SNR=4.1						
DAV	**Davao City (W)**	**84.18**	**85**	LR	LR	22 45 12.0	
	comp=Z,188nm,20.4s,baz=160,slow=36						

*AZER **03** 21:58:30.3±2.7, 35°.95N×44°.92E, h10km, ml3.6/10, Error ellipse: s-maj=27.7km s-min=19.7km az=82.0*
*DDA **03** 21:58:31.7, 36°.57N×45°.38E, h5km±2km, ML3.0*
*ISN **03** 21:58:36.0±0.3, 36°.74N×44°.87E, h0km, ML3.7*
*IDC **03** 21:58:36.1±1.7, 36°.64N×45°.13E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.4/42, mbtmp3.8/5, ML3.9/1, Error ellipse: s-maj=37.4km s-min=23.1km az=63.0*
*ISK **03** 21:58:36.2, 36°.53N×45°.24E, h5km, ML3.8/14*
*TEH **03** 21:58:38.5, 36°.89N×45°.28E, h10km, ML3.7*
*THR **03** 21:58:40.0, 36°.88N×45°.29E, h15km, ML3.6*
ISC 03 21:58:37.7±1.4**,36°.74N**±0°.03×**45°.21E**±0°.02**,h3**km±10km**, n99,**σ**2ˢ.15**/117**,mb3.4**/4**,16C-14D,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOVA	**Hakkari_Yksek**	**1.12**	**319**	IAML_P			
	comp=Z,452nm,0.2s						
YOVA	**Hakkari_Yksek**	**1.12**	**319**	*e*Pg	**Pg**	**21 58 56.9**	**-2.2**
CUKT	**Cukurca**	**1.38**	**292**	PN	**Pn**	**21 59 03.4**	**-0.6**
CUKT				SN	**Sg**	**21 59 25.7**	**+3.8**

CUKT Cukurca 1.38 292 *i* P Pn 21 59 02.4 -1.6
CUKT *i* S Sg 21 59 25.9 +3.9
CUKT Cukurca 1.38 292 *e*Pg Pn 21 59 02.4 -1.6
ISHB Shabestar 1.57 12 IAMB IAmb 21 59 32.9
comp=Z,7µm,0.3s
ISHB *e*Pn Pn 21 59 04.7 -2.1
BASK Baskale_VAN 1.62 324 IAML_P
comp=Z,1µm,0.4s
BASK *i* P Pn 21 59 06.5 -0.9
BASK Baskale_VAN 1.62 324 *e*Pn Pn 21 59 06.2 -1.2
IBST Bostanabad 1.65 54 IAMB IAmb 21 59 32.4
comp=Z,13µm,0.7s
IBST *e*Pn Pn 21 59 05.3 -2.6
ITBZ Tabriz 1.67 26 *e*Sg Sn 21 59 28.3 -1.7
ITBZ *e*Pn Pn 21 59 06.4 -1.6
ITBZ IAMB IAmb 21 59 34.8
comp=Z,5µm,0.6s
MSL Mosul 1.72 259 *e*Pg Pn 21 59 08.3 -0.3
baz=76
MSL *e*Sg Sb 21 59 30.9 -1.1
IMRD Marand 2.01 11 *e*Pn Pn 21 59 12.2 -0.5
IMRD IAMB IAmb 21 59 51.7
comp=Z,5µm,0.6s
IHRS Heris 2.15 42 *e*Pn Pn 21 59 14.9 +0.2
IHRS IAMB IAmb 21 59 49.2
comp=Z,3µm,0.3s
ISRB Sarab 2.24 60 *e*Pn Pn 21 59 16.7 +0.8
ISRB IAMB IAmb 21 59 53.5
comp=Z,6µm,0.6s
ORD Ordubad 2.27 16 ⇓P Pb 21 59 18.5 -0.9
ORD ⇑S Sg 21 59 49.9 -0.7
ORD Ordubad 2.27 16 ⇓P Pb 21 59 18.5 -0.9
ORD ⇑S Sg 21 59 49.9 -0.7
TVAN Van 2.29 322 IAML_P
comp=Z,472nm,0.1s
TVAN *i* P Pn 21 59 11.6 -5.0
TVAN *i* S Sg 21 59 51.0 -0.1
ILIN Lien 2.31 141 *e*Pn Pb 21 59 19.4 -0.8
ILIN IAMB IAmb 22 00 04.2
comp=Z,4µm,0.6s
GEVA Gevas 2.32 313 *i* P Pb 21 59 19.6 -0.6
GEVA Gevas 2.32 313 *e*Pn Pb 21 59 18.8 -1.5
SIRT Sirnak 2.34 290 PN Pn 21 59 18.3 +1.1
SIRT Sirnak 2.34 290 *e*Pn Pn 21 59 18.4 +1.2
VANB Van 2.35 323 PN Pn 21 59 18.7 +1.4
VANB Van 2.35 323 *e*Pn Pn 21 59 18.7 +1.4
SIRN Sırnak 2.36 289 *i* P Pn 21 59 17.2 -0.2
SIRN *i* S Sb 21 59 50.6 +0.2
SIRN Sırnak 2.36 289 *e*Pn Pn 21 59 17.1 -0.3
AKDM Akdamar-Van 2.38 313 PN Pb 21 59 19.8 -1.4
SNGE Sanandaj 2.39 133 *e*AML AML 22 00 04.4
comp=E,276nm,0.7s
SNGE *e*Pn Pb 21 59 21.2 -0.4
SNGE *e*AML AML 22 00 05.0
comp=N,283nm,0.5s
NAX Nakhchivan 2.44 5 P Pb 21 59 22.0 -0.3
SNR=6.2
NAX ⇓S Sg 21 59 57.5 +1.5
NAX Nakhchivan 2.44 5 P Pb 21 59 22.0 -0.3
SNR=6.2
NAX ⇓S Sg 21 59 57.5 +1.5
IVIS Veis 2.58 148 *e*Pn Pb 21 59 22.9 -1.8
IVIS IAMB IAmb 22 00 08.0
comp=Z,3µm,0.8s
VMUR Van-Muradiye 2.59 331 *i* P Pn 21 59 08.4 -12
VMUR *i* S Sn 21 59 12.6 -40
CLDR Caldiran 2.61 337 PN Pb 21 59 23.5 -1.7
CLDR Caldiran 2.61 337 *e*Pn Pb 21 59 23.5 -1.7
MAKU Maku 2.64 351 *e*Pn Pn 21 59 22.6 +1.2
MAKU Maku 2.64 351 *e*Pn Pn 21 59 22.6 +1.2
IGHG Ghaleghazi 2.65 155 *e*Pn Pb 21 59 24.4 -1.6
IGHG IAMB IAmb 22 00 10.2
comp=Z,6µm,0.6s
SBZ Shahbuz 2.67 6 ⇑P Pb 21 59 26.0 -0.2
SBZ ⇑S Sg 22 00 07.4 +4.0
SBZ Shahbuz 2.67 6 ⇑P Pb 21 59 26.0 -0.2
SBZ ⇑S Sg 22 00 07.4 +4.0
ZNJK Zanjan 2.80 90 *e*Pn Pn 21 59 25.3 +1.7
ZNJK Zanjan 2.80 90 *e*Pn Pn 21 59 25.3 +1.7
ADCV BITLIS_Adilcev 2.85 317 IAML_P
comp=Z,79nm,0.3s
ADCV *i* P Pn 21 59 26.3 +2.0
ADCV BITLIS_Adilcev 2.85 317 *e*Pn Pn 21 59 26.1 +1.8
SRTM Siirt_Merkez 2.90 296 *i* P Pb 21 59 29.6 -0.5
SRTM Siirt_Merkez 2.90 296 *e*Pn Pb 21 59 29.3 -0.8
GRMI Germi 2.96 45 *e*Pn Pn 21 59 26.7 +0.9
GRMI Germi 2.96 45 *e*Pn Pn 21 59 26.7 +0.9
HYR Heyderabad 2.99 355 ⇑P Pb 21 59 29.4 -2.2
HYR Heyderabad 2.99 355 ⇑P Pb 21 59 29.4 -2.2
GURO Guroymak-BITLI 3.10 307 PN Pn 21 59 29.9 +2.2
GURO Guroymak-BITLI 3.10 307 *e*Pn Pn 21 59 29.6 +1.9
LRK Lerik 3.13 52 ⇓P Pn 21 59 29.7 +1.6
SNR=5.7
LRK ⇑S Sb 22 00 14.8 +2.1
LRK Lerik 3.13 52 ⇓P Pn 21 59 29.7 +1.6
SNR=5.7
LRK ⇑S Sb 22 00 14.8 +2.1
IKOM Komasi 3.18 143 *e*Pn Pb 21 59 32.1 -2.8
IKOM IAMB IAmb 22 00 32.8
comp=N,0.0nm,0.9s
MLAZ Malazgirt-MUS 3.19 320 PN Pn 21 59 31.6 +2.7
TUTA Tutak 3.26 325 *i* P Pn 21 59 20.4 -10
HKZM Kohzaman 3.29 113 *e*Pn Pb 21 59 33.5 -3.4
HKZM IAMB IAmb 22 00 29.1
comp=Z,0.0nm,0.7s
AGRB Hanur-Agry 3.33 329 PN Pn 21 59 33.7 +2.9
AGRB Hanur-Agry 3.33 329 *e*Pn Pn 21 59 33.6 +2.8
TASB TASBURUN-IGDIR 3.33 347 PN Pn 21 59 33.9 +3.2
TASB TASBURUN-IGDIR 3.33 347 *e*Pn Pn 21 59 33.9 +3.2
BTMN Batman 3.34 291 *i* P Pb 21 59 39.7 +2.0
ASTR Astara 3.38 56 P Pn 21 59 32.7 +1.4
SNR=14
ASTR ⇓S Sb 22 00 23.2 +3.6
ASTR Astara 3.38 56 P Pn 21 59 32.7 +1.4
SNR=14
ASTR ⇓S Sb 22 00 23.2 +3.6
GNI Garni 3.42 354 PN Pn 21 59 35.3 +3.2
GNI Garni 3.42 354 Pg Pb 21 59 41.2 +2.1
comp=Z,1.5nm,0.3s,baz=154,slow=5.3,SNR=13
GNI Lg Lg 22 00 33.2
comp=Z,1.6nm,0.3s,baz=7.8,slow=22,SNR=4.3
GNI Garni 3.42 354 *e*Pn Pn 21 59 35.3 +3.2
LKRN Lenkeran, Azer 3.45 54 P Pn 21 59 33.4 +1.1
SNR=15
LKRN ⇓S Sb 22 00 25.2 +3.5
LKRN Lenkeran, Azer 3.45 54 P Pn 21 59 33.4 +1.1
SNR=15
LKRN ⇓S Sb 22 00 25.2 +3.5
SVAN Silvan-Diyarba 3.49 295 PN Pn 21 59 35.0 +2.1
SVAN Silvan-Diyarba 3.49 295 *e*Pn Pn 21 59 34.8 +1.9
GLBA Clilabad 3.55 44 ⇓P Pn 21 59 35.0 +1.4
SNR=7.5
GLBA ⇑S Sg 22 00 29.9 -1.7
GLBA Clilabad 3.55 44 ⇓P Pn 21 59 35.0 +1.4
SNR=7.5
GLBA ⇑S Sg 22 00 29.9 -1.7
MARD Mardin 3.59 280 *i* P Pn 21 59 35.9 +1.5
HAGD Aghdareh 3.73 120 *e*Pn Pn 21 59 39.7 +3.3
HAGD IAMB IAmb 22 00 51.2
comp=Z,0.0nm,1.3s
HSAM Samen 3.75 131 *e*Pn Pn 21 59 39.7 +3.0
HSAM IAMB IAmb 22 00 48.5
comp=Z,0.0nm,1.7s
IKFM Kafar-mosalman 3.87 145 *e*Pn Pn 21 59 40.4 +2.3
IKFM IAMB IAmb 21 59 41.4
comp=Z,0.0nm,0.2s
MAZI Mazidag 3.87 282 PN Pn 21 59 39.7 +1.4
MAZI Mazidag 3.87 282 *e*Pn Pn 21 59 39.7 +1.4
GANJ Ganja 4.00 12 ⇑P Pb 21 59 45.6 -3.2
SNR=4.6
GANJ ⇑S Sb 22 00 41.2 +3.7
GANJ Ganja 4.00 12 ⇑P Pb 21 59 45.6 -3.2
SNR=4.6
GANJ ⇑S Sb 22 00 41.2 +3.7
GDB GEDABAY 4.00 6 ⇓P Pn 21 59 42.6 +2.5
GDB GEDABAY 4.00 6 ⇓P Pn 21 59 42.6 +2.5
IRAZ Razeghan 4.05 108 *e*Pn Pn 21 59 42.7 +1.9
IRAZ IAMB IAmb 22 00 03.6
comp=Z,547nm,0.5s
IKMR Kamar-syah 4.14 140 *e*Pn Pn 21 59 44.9 +3.1
IKMR IAMB IAmb 22 01 11.7
comp=Z,0.0nm,1.1s
DYBB Diyarbakir 4.21 288 PN Pn 21 59 45.1 +2.2
BNGB Bingl 4.23 303 PN Pn 21 59 45.9 +2.7
BINT Bingol 4.30 301 *e*Pn Pn 21 59 45.9 +1.7
ASAO Ashtian 4.49 118 *e*Pn Pn 21 59 50.9 +4.0
ASAO Ashtian 4.49 118 *e*Pn Pn 21 59 50.9 +4.0
PTK Pertek 5.08 297 PN Pn 21 59 57.8 +2.8
PTK Pertek 5.08 297 *e*Pn Pn 21 59 57.7 +2.8
URFA Urfa 5.15 280 PN Pn 21 59 58.1 +2.3
IPIR Pirpir 6.19 129 *e*Pn Pn 22 00 12.3 +2.0
IPIR IAMB IAmb 22 02 15.1
comp=Z,195nm,0.8s
WSAR Wadi Sarin 17.76 136 P Pn 22 02 44.5 -1.5
comp=Z,0.4nm,0.3s,baz=331,slow=9.2,SNR=6.4
GERES GERESS Array B 25.90 308 P P 22 04 10.3 -0.6
comp=Z,0.2nm,0.3s,baz=105,slow=11,SNR=4.7
MKAR Makanchi Array 29.18 58 P P 22 04 40.6 +0.2
comp=Z,0.3nm,0.8s,baz=269,slow=8.5,SNR=3.6
ARCES ARCESS Array B 34.56 348 P P 22 05 26.3 -0.9
comp=Z,2.0nm,0.9s,baz=156,slow=9.1,SNR=6.0
YKA Yellowknife Ar 79.78 351 P P 22 10 45.6 -1.2
comp=Z,0.4nm,0.8s,baz=15,slow=6.2,SNR=4.9

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*IDC **03** 22:10:03.2±0.7, 39.°45N×73.°89E, h0km, mb4.0/18, mb1 4.1/24, mb1mx4.0/43, mbtmp4.0/24, ML3.8/6, MS3.2/12, Ms1 3.3/12, ms1mx3.0/48, Error ellipse: s-maj=15.1km s-min=11.1km az=149.0*
*BJI **03** 22:10:04.2, 39.°72N×73.°82E, h9km, mb4.2/21, mB4.2/6, ML4.0/4, Ms3.9/5, Ms7 3.7/4*
*SOME **03** 22:10:04.9, 39.°65N×73.°85E, h5km, MS3.4*
*KRNET **03** 22:10:05.6±0.1, 39.°68N×73.°88E, h12km, mb4.3*
*NNC **03** 22:10:06.5±0.7, 39.°70N×73.°79E, h0km, mb4.8, mpv4.5, Error ellipse: s-maj=6.0km s-min=2.7km az=30.0*
*MOS **03** 22:10:09.3±1.4, 39.°71N×73.°76E, h41km, mb4.2/17, Error ellipse: s-maj=7.6km s-min=4.5km az=86.0*
*NEIC **03** 22:10:11.0±0.8, 39.°65N×73.°82E, h48km±6km, mb4.0/12, Error ellipse: s-maj=9.6km s-min=5.7km az=161.0*
ISC 03 22:10:05.4±1.1**, 39.°64N**±0.°03**×73.°84E**±0.°02**, h2**km±7km**, n226,** σ2.s**22**/267**, mb4.1**/36**, MS3.3**/12**, 50C-33D,**
Tajikistan-Xinjiang border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SFK Sufi-Kurgan 0.46 326 ⇓P Pg 22 10 14.0 -0.1
2µm,0.3s
SFK ⇓S Sg 22 10 19.7 -0.4
3µm,0.5s
SFK Sufi-Kurgan 0.46 326 P Pg 22 10 14.0 -0.1
SFK S Sg 22 10 19.7 -0.4
SFK pmax pmax
comp=Z,2µm,0.3s
SFK smax smax
comp=N,3µm,0.5s
SFK Sufi-Kurgan 0.46 326 ⇓*i*P Pg 22 10 14.1 -0.1
baz=19
SFK ⇓*i*S Sg 22 10 20.6 +0.5
baz=19
DRK Karamyk 1.58 265 ⇑*i*P Pn 22 10 35.7 +1.0
baz=64
DRK ⇑*i*S Sb 22 10 57.8 +1.7
baz=64
KSH Kashi 1.65 93 Pn Pn 22 10 30.7 -4.8
KSH Sn Sn 22 10 48.4 -9.0
ARSB Arslanbob 1.81 339 *e*Pn Pn 22 10 38.5 +0.8
ARSB Arslanbob 1.81 339 ⇓*i*P Pn 22 10 38.5 +0.8
baz=38
ARSB ⇓*i*S Sb 22 11 02.7 +0.2
baz=38
ARLS Aral 2.25 9 ⇑*i*P Pn 22 10 45.2 +1.4
baz=9.0
ARLS ⇑*i*S Sn 22 11 13.7 +1.4
baz=9.0
BTK Batken 2.36 281 *e*Pn Pb 22 10 48.6 -0.1
BTK Batken 2.36 281 ⇑*i*P Pn 22 10 47.9 +2.6
baz=80
BTK ⇑*e*S Sb 22 11 18.7 +0.3
baz=80
NRN Naryn 2.44 42 *e*Pn Pn 22 10 47.9 +1.4
NRN Naryn 2.44 42 *e*PN Pn 22 10 47.9 +1.4
NRN Naryn 2.44 42 ⇑*e*P Pn 22 10 47.4 +0.9
baz=42
NRN ⇑*e*S Sn 22 11 18.1 +1.1
baz=42
AML Almayashu 2.50 358 P Pn 22 10 49.4 +2.0
SNR=110
AML Almayashu 2.50 358 ⇓*i*P Pn 22 10 49.1 +1.7
baz=57
AML ⇓*i*S Sb 22 11 20.6 -1.9
baz=57
ARK Arkit 2.59 327 ⇑*i*P Pn 22 10 49.3 +0.9
baz=26
ARK ⇑*i*S Sn 22 11 21.9 +1.4
baz=26
UCH Uchtor 2.64 11 P Pn 22 10 51.5 +2.1
SNR=314
UCH Uchtor 2.64 11 ⇓*e*P Pn 22 10 50.9 +1.5
baz=10.0
UCH ⇓*i*S Sn 22 11 23.8 +1.6
baz=10.0
KZA Kyzart 2.66 23 P Pn 22 10 51.3 +1.6
SNR=86
KZA Kyzart 2.66 23 ⇑*i*P Pn 22 10 51.0 +1.3
baz=23
KZA ⇑*i*S Sn 22 11 24.2 +1.4
baz=23
EKS2 Erkin-Say 3.02 359 P Pn 22 10 57.4 +3.0
SNR=28
EKS2 Erkin-Say 3.02 359 ⇓*i*P Pn 22 10 55.9 +1.5
baz=59
EKS2 ⇓*e*S Sn 22 11 32.6 +1.4
baz=59
AAK Ala-Archa 3.04 9 Pn Pn 22 10 57.3 +2.7
comp=N,21nm,0.3s,baz=178,slow=9.5,SNR=141
AAK Lg Lg 22 11 38.1
comp=N,99nm,0.3s,baz=35,slow=21,SNR=11
AAK Ala-Archa 3.04 9 P Pn 22 10 57.3 +2.7
SNR=172
AAK Ala-Archa 3.04 9 *e*Pn Pn 22 10 57.2 +2.5
AAK Ala-Archa 3.04 9 ⇑Pn Pn 22 10 57.3 +2.7
comp=N,147nm,0.7s
AAK ⇑Lg Lg 22 11 41.4
comp=N,681nm,0.8s
AAK Ala-Archa 3.04 9 ⇑*i*P Pn 22 10 55.9 +1.3
baz=9.0
AAK ⇑*i*S Sn 22 11 32.9 +1.2
baz=9.0
KBK Karagaybulak 3.13 15 P Pn 22 10 58.9 +3.0
SNR=95
KBK Karagaybulak 3.13 15 ⇑*i*P Pn 22 10 57.4 +1.5
baz=15
KBK ⇑*i*S Sn 22 11 35.4 +1.4
baz=15
MRKS Merke 3.14 352 Pg Pb 22 11 01.9 0.0
comp=N,234nm,0.5s
MRKS Lg Lg 22 11 41.4
comp=N,668nm,0.6s
MRKS Merke 3.14 352 *e*P Pb 22 11 01.4 -0.6
comp=N,234nm,0.5s
MRKS *e*S Sb 22 11 41.3 +0.6
comp=N,668nm,0.6s
ULHL Ulahol 3.18 34 P Pn 22 10 58.8 +2.1
SNR=18
ULHL Ulahol 3.18 34 ⇓*e*P Pn 22 10 57.8 +1.2
baz=34
ULHL ⇓*e*S Sn 22 11 36.3 +1.1
baz=34
FRU1 Bishkek 3.23 10 *e*Pn Pn 22 11 00.8 +3.7
FRU1 Bishkek 3.23 10 *e*PN Pn 22 11 00.9 +3.7
FRU1 Bishkek 3.23 10 ⇑*e*P Pn 22 10 58.6 +1.5
baz=10.0
FRU1 ⇑*i*S Sn 22 11 37.5 +1.3
baz=10.0
FRU Bishkek 3.25 10 *i* PN Pb 22 11 02.0 -1.8
FRU *i* S Sb 22 11 45.0 +1.2
FRU pmax pmax
comp=Z,160nm,1.4s
FRU smax smax
comp=N,2µm,1.8s
BOOM Boomskoye usch 3.26 28 ⇑*i*P Pn 22 10 59.9 +2.2
baz=28
BOOM ⇑*i*S Sn 22 11 38.6 +1.3
baz=28
CHMS Chumysh 3.43 11 P Pn 22 11 02.2 +2.4
SNR=53
CHMS Chumysh 3.43 11 ⇓*e*P Pn 22 11 01.5 +1.6
baz=11
CHMS ⇓*e*S Sn 22 11 42.4 +1.3
baz=11
TKM2 Tokmak 2 3.54 21 P Pn 22 11 04.0 +2.5
SNR=44
TKM2 Tokmak 2 3.54 21 ⇑Pn Pn 22 11 03.5 +2.0
comp=N,70nm,0.6s
TKM2 ⇓Lg Lg 22 11 58.8
comp=N,436nm,0.6s
TKM2 Tokmak 2 3.54 21 PN Pn 22 11 03.5 +2.0
TKM2 pmax pmax
comp=Z,70nm,0.6s
TKM2 Tokmak 2 3.54 21 ⇑*i*P Pn 22 11 03.1 +1.6
baz=21
TKM2 ⇑*i*S Sn 22 11 44.8 +0.7
baz=21
KDJ Kajisay 3.55 44 *e*Pn Pn 22 11 05.1 +3.4
KDJ Kajisay 3.55 44 *e*PN Pn 22 11 05.1 +3.4
KDJ Kajisay 3.55 44 ⇑*e*P Pn 22 11 03.3 +1.6
baz=45
KDJ ⇑*i*S Sn 22 11 45.4 +1.0
baz=45
USP Ospenovka 3.66 8 P Pn 22 11 05.4 +2.3
SNR=20
USP Ospenovka 3.66 8 ⇓*e*P Pn 22 11 04.8 +1.7
baz=7.0
USP ⇓*i*S Sn 22 11 47.5 +0.6
baz=7.0
KST Kastek 3.76 24 Pg Pb 22 11 13.6 +1.1
comp=Z,96nm,0.7s
KST Lg Lg 22 12 02.7
comp=Z,354nm,0.6s
KST Kastek 3.76 24 *e*P Pb 22 11 13.7 +1.1
comp=Z,96nm,0.7s
KST *e*S Sb 22 12 02.7 +4.0
comp=Z,354nm,0.6s
DZA Taraz 3.76 331 *e*P Pg 22 11 16.1 -1.4
comp=Z,208nm,0.7s
DZA *e*S Sg 22 12 06.9 +0.7
comp=Z,372nm,0.6s
IUG Iuzhnay 3.82 312 Pg Pb 22 11 16.0 +2.4
IUG Lg Lg 22 12 06.0
IUG Iuzhnay 3.82 312 *e*P Pb 22 11 16.0 +2.4
comp=Z,508nm,0.6s
IUG *e*S Sg 22 12 06.0 -2.2
comp=Z,1µm,0.9s
SGDS Sogindy 3.86 9 Pg Pb 22 11 15.2 +1.0
comp=Z,90nm,0.6s
SGDS Lg Lg 22 12 05.9
comp=Z,561nm,1.1s
DGS Degeres 3.88 21 Pg Pb 22 11 15.7 +1.1
comp=Z,125nm,0.9s
DGS Lg Lg 22 12 05.2
comp=Z,531nm,0.7s
DGS Degeres 3.88 21 *e*P Pb 22 11 15.7 +1.1
comp=Z,125nm,0.9s
DGS *e*S Sb 22 12 05.2 +3.0
comp=Z,531nm,0.7s
MTBS Maitube 4.00 28 *e*P Pb 22 11 16.6 0.0
comp=Z,92nm,0.6s
MTBS *e*S Sb 22 12 09.7 +4.3
comp=Z,356nm,0.8s
TNSS Tian-Shan 4.13 34 *e*P Pb 22 11 20.2 +1.2
comp=Z,89nm,0.5s
TNSS *e*S Sg 22 12 14.6 -3.3
comp=Z,425nm,0.5s
AAA Alma-Ata 4.25 32 *e*P Pb 22 11 23.2 +2.2
comp=Z,131nm,0.6s
AAA *e*S Sg 22 12 18.1 -3.9
comp=Z,1µm,0.8s
MDOK Medeo 4.27 33 ⇓Pn Pn 22 11 14.1 +2.5
comp=Z,104nm,0.6s
MDOK ⇑Lg Lg 22 12 23.1
comp=Z,292nm,0.6s
MDOK Medeo 4.27 33 Pg Pb 22 11 23.5 +2.3
comp=Z,94nm,0.4s
MDOK Lg Lg 22 12 18.8
comp=Z,356nm,0.8s
MDOK Medeo 4.27 33 *e*P Pb 22 11 23.6 +2.3
comp=Z,94nm,0.4s
MDOK *e*S Sg 22 12 18.9 -3.7
comp=Z,356nm,0.8s
KK31 Karatay Array 4.27 325 *e*Pn Pn 22 11 13.3 +1.8
KK31 Karatay Array 4.27 325 Pn Pn 22 11 13.3 +1.8
comp=Z,8.0nm,0.3s,baz=135,slow=13,SNR=305
KK31 ⇑Pg Pb 22 11 22.8 +1.5
comp=Z,47nm,0.6s,baz=143,slow=16,SNR=32
KK31 ⇑Sn Sn 22 12 02.0 0.0
comp=Z,38nm,0.5s,baz=134,slow=26,SNR=4.2
KK31 ⇑Lg Lg 22 12 19.3
comp=Z,121nm,0.6s,baz=34,slow=63,SNR=4.0
KK31 Karatay Array 4.27 325 *e*PN Pn 22 11 13.3 +1.8
KKAR Karatay Array 4.27 325 *e*Pn Pn 22 11 13.3 +1.8
KKAR Karatay Array 4.27 325 *e*PN Pn 22 11 13.3 +1.8
KNDC Almaty 4.28 32 ⇑Pn Pn 22 11 14.9 +3.3
comp=Z,154nm,0.5s
KNDC ⇑Lg Lg 22 12 22.6
comp=Z,1µm,0.7s
KOTS Kotyrbulak 4.36 33 Pg Pb 22 11 25.1 +2.4
comp=Z,104nm,0.5s
KOTS Lg Lg 22 12 21.5
comp=Z,455nm,0.7s
KOTS Kotyrbulak 4.36 33 *e*P Pb 22 11 25.1 +2.4
comp=Z,104nm,0.5s
KOTS *e*S Sg 22 12 21.4 -3.8
comp=Z,455nm,0.7s
PRZ Przheval'sk 4.47 49 *e*Pn Pn 22 11 17.4 +3.2
PRZ Przheval'sk 4.47 49 *e*PN Pn 22 11 17.5 +3.2
PRZ Przheval'sk 4.47 49 ⇑*i*P Pn 22 11 15.9 +1.6
baz=49
PRZ ⇑*i*S Sn 22 12 06.8 -0.2
baz=49
KTBS Karatobe 4.60 27 Pg Pb 22 11 29.2 +2.5
comp=Z,26nm,0.5s
KTBS Lg Lg 22 12 28.6
comp=Z,242nm,0.8s
KTBS Karatobe 4.60 27 *e*P Pb 22 11 29.2 +2.5
comp=Z,26nm,0.5s
KTBS *e*S Sg 22 12 28.6 -4.4
comp=Z,242nm,0.8s
KUU Kurty 4.65 23 Pg Pb 22 11 29.2 +1.6
comp=Z,23nm,0.7s
KUU Lg Lg 22 12 28.7
comp=Z,207nm,0.8s
KUU Kurty 4.65 23 *e*P Pb 22 11 29.2 +1.6
comp=Z,23nm,0.7s
KUU *e*S Sb 22 12 28.7 +4.7
comp=Z,207nm,0.8s
CHKK Chushkaly 4.83 28 Pg Pb 22 11 34.1 +3.4
comp=Z,42nm,0.8s
CHKK Lg Lg 22 12 35.8
comp=Z,401nm,0.8s
CHKK Chushkaly 4.83 28 *e*P Pb 22 11 32.1 +1.4
comp=Z,42nm,0.8s
CHKK *e*S Sg 22 12 35.8 -4.6
comp=Z,401nm,0.8s
SATY Saty 4.85 44 *e*P Pb 22 11 31.4 +0.3
comp=Z,172nm,0.7s
SATY ⇑*i*S Sb 22 12 33.8 +3.8
comp=Z,232nm,1.5s
KURS Kuram 5.04 39 Pg Pb 22 11 37.1 +2.9
comp=Z,56nm,0.9s
KURS Lg Lg 22 12 42.2
comp=Z,109nm,0.8s
KURS Kuram 5.04 39 *e*P Pb 22 11 36.6 +2.4
comp=Z,56nm,0.9s
KURS *e*S Sg 22 12 42.2 -4.9
comp=Z,109nm,0.8s
UZB Uzynbulak 5.24 46 Pg Pb 22 11 40.2 +2.3
comp=Z,61nm,1.0s
UZB Lg Lg 22 12 48.4
comp=Z,87nm,0.6s
UZB Uzynbulak 5.24 46 *e*P Pb 22 11 40.2 +2.3
comp=Z,61nm,1.0s
UZB *e*S Sg 22 12 48.4 -5.3
comp=Z,87nm,0.6s
PDGK Podgornoye 5.62 47 ⇑Pn Pn 22 11 31.2 +1.0
comp=Z,16nm,0.7s
PDGK ⇓Pg Pg 22 11 50.9 -2.2
comp=Z,73nm,0.8s
PDGK ⇑Lg Lg 22 13 06.5
comp=Z,158nm,1.0s
PDGK Podgornoye 5.62 47 PN Pn 22 11 31.1 +1.0
PDGK pmax pmax
comp=Z,16nm,0.7s
PDGK Podgornoye 5.62 47 ⇓*i*P Pn 22 11 31.4 +1.3
baz=47
PDGK ⇓*i*S Sn 22 12 34.0 -1.3
baz=47

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CHCP	Chirah Chowk	5.98	185	P	Pn	22 11 40.0	+5.0
NIL	Nilore	5.99	185	*e*Pn	Pn	22 11 40.1	+5.0
NIL				*e*Sn	Sn	22 12 48.2	+3.8
NIL	Nilore	5.99	185	*e*PN	Pn	22 11 40.1	+5.0
NIL				*e*		22 12 48.2	
CEP	Cherat	6.00	196	P	Pn	22 11 39.8	+4.4
TDK	Taldyqorghan	6.34	31	*e*P	Pb	22 12 00.5	+4.1
	comp=Z,135nm,0.7s						
TDK				*e*S	Sg	22 13 24.3	-4.6
	comp=Z,218nm,0.7s						
KBL	Kabul	6.37	218	*e*Pn	Pn	22 11 44.2	+3.8
KBL	Kabul	6.37	218	*e*PN	Pn	22 11 44.2	+3.8
DJR	Jarkent	6.46	41	*e*P	Pb	22 12 02.7	+4.3
	comp=Z,20nm,0.7s						
DJR				⇓*i*S	Sg	22 13 27.7	-4.9
	comp=Z,47nm,0.9s						
KAPS	Kapalarasan	6.96	34	*e*P	Pb	22 12 14.0	+6.9
	comp=Z,18nm,0.5s						
KAPS				*e*S	Sg	22 13 47.7	-1.2
	comp=Z,62nm,1.1s						
THW	Thamme Wali	7.03	195	P	Pn	22 11 52.7	+3.3
DHRM	DHARAMSHALA	7.63	164	*e*P	Pn	22 12 00.7	+2.8
DHRM				*e*S	Sn	22 13 21.8	-3.2
DHRM				IAML		22 13 38.8	
	comp=E,184nm,0.2s						
DHRM				IAML		22 13 40.5	
	comp=N,136nm,0.4s						
OTUK	Ortayu	8.67	353	⇓Pn	Pn	22 12 13.8	+2.0
	comp=N,6.8nm,0.9s						
OTUK				⇑Lg	Lg	22 14 39.0	
	comp=N,256nm,1.5s						
OTUK	Ortayu	8.67	353	P	Pn	22 12 13.8	+2.0
OTUK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SMLA	Simla	8.91	161	*e*P	Pn	22 12 16.5	+1.4
SMLA				*e*S	Sn	22 13 51.5	-4.6
SMLA				IAML		22 13 58.7	
	comp=E,77nm,0.4s						
SMLA				IAML		22 13 59.2	
	comp=N,77nm,0.4s						
MAKZ	Makanchi	9.31	37	*e*Pn	Pn	22 12 23.2	+2.7
MAKZ	Makanchi	9.31	37	*e*P	Pn	22 12 23.2	+2.7
MK01	Makanchi Array	9.43	38	*e*Pn	Pn	22 12 24.8	+2.5
MK31	Makanchi Array	9.44	38	*e*Pn	Pn	22 12 24.7	+2.3
MK31	Makanchi Array	9.44	38	Pn	Pn	22 12 24.4	+2.0
	comp=N,1.2nm,0.6s,baz=208,slow=14,SNR=14						
MK31				⇑Pg		22 12 59.1	
	comp=N,3.3nm,0.6s,baz=216,slow=14,SNR=8.3						
MK31				⇓Lg	Lg	22 15 07.0	
	comp=N,11nm,0.8s,baz=225,slow=29,SNR=3.5						
MK31	Makanchi Array	9.44	38	*e*P	Pn	22 12 24.7	+2.3
MKAR	Makanchi Array	9.44	38	Pn	Pn	22 12 23.5	+1.1
	comp=N,0.2nm,0.3s,baz=205,slow=13,SNR=12						
MKAR				Lg	Lg	22 15 00.6	
	comp=N,0.5nm,0.3s,baz=234,slow=26,SNR=3.6						
MKAR				LR	LR	22 16 12.2	
	comp=N,82nm,20.5s,baz=230,slow=39						
MKAR	Makanchi Array	9.44	38	*e*Pn	Pn	22 12 24.7	+2.3
MKAR	Makanchi Array	9.44	38	*e*P	Pn	22 12 24.7	+2.3
DDI	Dehra Dun	9.91	158	*e*P	Pn	22 12 30.0	+1.1
DDI				*e*S	Sn	22 14 15.6	-5.2
DDI				IAML		22 14 24.4	
	comp=E,78nm,0.3s						
JOSI	Joshimath	10.20	151	*e*P	Pn	22 12 34.4	+1.4
JOSI				*e*S	Sn	22 14 21.7	-6.3
WMQ	Urumqi	11.17	64	*e*P	Pn	22 12 51.4	+5.4
WMQ				sP		22 12 58.7	
KURBB	Kurchatov Arra	11.47	15	Pn	Pn	22 12 51.2	+1.1
	comp=E,0.3nm,0.3s,baz=205,slow=12,SNR=6.2						
KURBB				Lg	Lg	22 16 01.3	
	comp=E,0.2nm,0.3s,baz=203,slow=29,SNR=13						
KURBB	Kurchatov Arra	11.47	15	⇓Lg	Lg	22 16 12.6	
	comp=E,103nm,1.2s						
KURK	Kurchatov	11.58	15	*e*Pn	Pn	22 12 52.8	+1.2
KURK	Kurchatov	11.58	15	⇑Lg	Lg	22 16 16.3	
	comp=E,106nm,1.2s						
KURK	Kurchatov	11.58	15	*e*P	Pn	22 12 52.8	+1.2
KUDL	Kundal	11.67	168	*e*P	Pn	22 12 53.3	+0.4
KUDL				*e*S	Sn	22 14 55.7	-8.1
GEYT	Alibeck	12.39	267	Pn	Pn	22 13 00.7	-2.0
	comp=E,3.3nm,0.3s,baz=90,slow=10,SNR=40						
GEYT				Sn	Sn	22 15 19.6	-1.8
	comp=E,7.4nm,0.3s,baz=39,slow=19,SNR=6.9						
GEYT				LR	LR	22 18 36.0	
	comp=E,110nm,19.8s,baz=100,slow=41						
GYA0B	ALIBECK ARRAY	12.39	267	*e*Pn	Pn	22 13 01.4	-1.3
GYA0B				*e*Sn	Sn	22 15 18.9	-2.5
GYA0B	ALIBECK ARRAY	12.39	267	⇓Pn	Pn	22 13 00.4	-2.4
	comp=E,7.0nm,0.6s						
GYA0B				⇑Sn	Sn	22 15 19.3	-2.1
	comp=E,23nm,0.6s						
BVA0	Borovoye Array	13.60	351	⇓Pn	Pn	22 13 17.8	-1.4
	comp=E,8.4nm,0.7s,baz=158,slow=11,SNR=8.3						
BVA0				⇑Lg	Lg	22 17 20.1	
	comp=E,22nm,0.9s,baz=163,slow=25,SNR=3.6						
BVA0	Borovoye Array	13.60	351	P	Pn	22 13 17.8	-1.4
BVA0				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BRVK	Borovoye	13.65	351	*e*Pn	Pn	22 13 18.9	-0.9
BRVK	Borovoye	13.65	351	⇑Pn	Pn	22 13 18.1	-1.7
	comp=Z,10nm,0.7s						
BRVK				⇑Lg	Lg	22 17 19.5	
	comp=Z,59nm,1.4s						
BRVK	Borovoye	13.65	351	*e*P	Pn	22 13 18.9	-0.9
PYUN	Piuthan	13.78	144	*e*P	Pn	22 13 18.2	-3.7
	comp=Z,25nm,0.5s						
AB31	Akbulak array	13.80	319	⇑Pn	Pn	22 13 20.1	-1.8
	comp=Z,3.6nm,0.5s,baz=126,slow=14,SNR=131						
AB31				⇓Sn	Sn	22 15 56.1	+0.4
	comp=Z,1.5nm,0.4s,baz=115,slow=24,SNR=6.0						
AB31	Akbulak array	13.80	319	P	Pn	22 13 20.1	-1.8
AB31				S	Sn	22 15 56.9	+1.2
AB31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ABKAR	Akbulak array	13.80	319	*e*Pn	Pn	22 13 20.7	-1.2
ABKAR				*e*Sn	Sn	22 15 49.9	-5.8
DANN	Dangsing	13.93	141	*e*P	Pn	22 13 19.6	-4.5
	comp=Z,14nm,0.4s						
DGZ	Jazzator, Alta	13.94	39	⇓*e*P	Pn	22 13 25.6	+1.7
DMN	Daman	15.21	139	*e*P	Pn	22 13 35.0	-6.5
	comp=Z,7.5nm,0.4s						
GUN	Gumba	15.38	136	*e*P	Pn	22 13 36.7	-7.0
	comp=Z,19nm,0.5s						
PKIN	Phulchoki	15.39	138	*e*P	Pn	22 13 36.9	-6.9
	comp=Z,14nm,0.7s						
AKTO	Aktyubinsk	15.51	319	Pn	Pn	22 13 43.8	-1.3
	comp=Z,0.8nm,0.3s,baz=115,slow=14,SNR=14						
AKTO				Sn	Sn	22 16 29.7	-7.7
	comp=Z,0.2nm,0.3s,baz=329,slow=19,SNR=2.6						
AKTO				LR	LR	22 20 08.1	
	comp=Z,106nm,19.6s,baz=139,slow=39						
AKTO	Aktyubinsk	15.51	319	⇑Pn	Pn	22 13 44.6	-0.5
	comp=Z,11nm,0.8s						
AKTO				⇓Sn	Sn	22 16 37.7	+0.4
	comp=Z,4.7nm,0.8s						
JIRN	Jiri	15.74	136	*e*P	Pn	22 13 40.5	-8.0
	comp=Z,29nm,0.5s						
ZAA0	Zalesovo Array	16.14	24	*e*Pn	Pn	22 13 54.6	+1.4
	comp=Z,3.6nm,0.8s						
ZALV	Zalesovo Beam	16.14	24	Pn	Pn	22 13 53.4	+0.2
	comp=Z,0.4nm,0.3s,baz=213,slow=12,SNR=7.4						
ZALV	Zalesovo Beam	16.14	24	*e*Pn	Pn	22 13 53.5	+0.3
ZALV	Zalesovo Beam	16.14	24	*e*P	Pn	22 13 53.5	+0.3
NVS	Novosibirsk	16.47	19	*e*P	P	22 13 59.9	-0.3
RAMN	Ramite	16.53	136	*e*P	Pn	22 13 52.5	-6.0
	comp=Z,19nm,0.6s						
ARU	Arti	19.59	334	*e*P	P	22 14 35.4	+0.9
	comp=Z,4.3nm,0.7s						
ARU	Arti	19.59	334	P	P	22 14 35.6	+1.1
GTA	Gaotai	20.02	82	⇑P	P	22 14 40.4	+0.8
GTA				pP	sP	22 14 43.8	+3.4
GTA				sP	Pn	22 14 46.6	+5.3
GTA				S	S	22 18 21.4	-4.0
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,68nm,6.4s						
GTA				LR	LR		
	comp=Z,100nm,15.2s						
GTA				LR	LR		
	comp=Z,130nm,15.2s						
GTA				LR	LR		
	comp=Z,150nm,16.2s						
SHL	Shillong	20.63	127	P	P	22 14 48.1	+1.8
WSAR	Wadi Sarin	20.82	223	P	P	22 14 44.9	-3.3
	comp=Z,2.9nm,0.7s,baz=56,slow=7.3,SNR=2.3						
WSAR				LR	LR	22 23 20.7	
	comp=Z,46nm,20.2s,baz=56,slow=38						
UOSS	Minazif	20.84	231	*e*P	P	22 14 48.5	+0.1
	comp=Z,6.1nm,1.1s						
BTLR	Botlikh	20.98	287	⇑*e*P	P	22 14 51.7	+1.8
GROC	Groznyy	21.29	289	*e*P	P	22 14 52.8	-0.3
GROC				*e*		22 15 09.7	
GROC				*e*S	S	22 18 48.9	-1.3
GROC				pmax	pmax		
	comp=Z,14nm,0.8s						
GNI	Garni	22.29	281	P	P	22 15 03.1	-1.0
	comp=Z,1.9nm,0.5s,baz=49,slow=20,SNR=2.0						
GNI	Garni	22.29	281	*e*P	P	22 15 05.1	+1.0
	comp=Z,5.3nm,0.6s						
GNI	Garni	22.29	281	*e*P	P	22 15 05.1	+1.0
GNI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HYB	Hyderabad	22.52	168	*i* P	P	22 15 10.0	+3.5
ZEI	Tsey	22.68	288	*e*P	P	22 15 14.6	+6.3
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRDH	Bariadhala	22.69	133	LR	LR	22 25 30.2	
	comp=Z,73nm,18.8s,baz=10,slow=41						
NCK	Nalchik	22.89	290	⇓*e*P	P	22 15 12.3	+2.0
NCK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ZAK	Zakamensk	23.27	53	*e*P	P	22 15 16.3	+2.0
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KBZ	Khabaz	23.39	290	P	P	22 15 19.0	+3.6
	comp=Z,3.6nm,1.2s,baz=96,slow=8.9,SNR=4.3						
KVAR	Kislovodsk Arr	23.54	291	P	P	22 15 19.4	+2.4
	comp=Z,0.9nm,0.4s,baz=255,slow=20,SNR=2.8						
KIV	Kislovodsk	23.55	291	*e*P	P	22 15 18.6	+1.5
	comp=Z,5.8nm,0.9s						
KIV	Kislovodsk	23.55	291	*e*P	P	22 15 20.0	+3.0
KIV				*e*		22 15 32.3	
KIV				*e*		22 15 46.4	
KIV				*e*PPP	PPP	22 15 55.4	
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,43nm,17.0s						
SONM	Songino Array	24.77	60	P	P	22 15 27.8	-0.7
	comp=Z,1.6nm,0.8s,baz=260,slow=11,SNR=12						
SONM				LR	LR	22 25 51.7	
	comp=Z,109nm,18.4s,baz=324,slow=38						
SONA1	Songino Array	24.77	60	*e*P	P	22 15 27.5	-1.1
ULN	Ulaanbaatar	25.21	60	*e*P	P	22 15 32.3	-0.2
	comp=Z,3.6nm,1.0s						
ULN	Ulaanbaatar	25.21	60	*e*P	P	22 15 32.3	-0.2
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KMI	Kunming	28.23	112	P	P	22 16 02.1	+2.2
KMI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
XAN	Xi'an	28.51	90	P	P	22 16 04.0	+1.8
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
OBN	Obninsk	29.18	314	LR	LR	22 29 06.3	
	comp=Z,18nm,18.9s,baz=176,slow=39						
OBN	Obninsk	29.18	314	*e*P	P	22 16 09.3	+1.5
OBN				*e*PPP	PPP	22 17 10.8	
OBN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,70nm,16.0s						
CMAR	Chiang Mai Arr	30.27	127	LR	LR	22 28 41.3	
	comp=Z,33nm,18.2s,baz=181,slow=37						
BRTR	Keskin Array B	30.76	283	P	P	22 16 22.2	0.0
	comp=Z,1.8nm,0.8s,baz=89,slow=6.8,SNR=8.0						
JOF	Joensuu	34.37	327	P	P	22 16 53.3	-0.1
FIA1	FINESS Array S	36.23	323	*e*P	P	22 17 09.9	+0.5
FINES	FINESS Array B	36.23	323	P	P	22 17 09.2	-0.2
	comp=Z,1.7nm,0.4s,baz=113,slow=9.4,SNR=18						
FINES				LR	LR	22 32 24.7	
	comp=Z,108nm,18.7s,baz=331,slow=37						
DRGR		37.38	298	P	P	22 17 19.9	+0.4
ARCES	ARCESS Array B	39.17	335	P	P	22 17 34.2	+0.1
	comp=Z,2.9nm,0.5s,baz=108,slow=8.8,SNR=15						
FNA	Florina	39.58	289	P	P	22 17 37.6	-0.5
FNA				pmax	pmax		
	comp=Z,7.0nm,1.4s						
MORC	Moravsky Berou	40.40	304	P	P	22 17 44.8	+0.1
MORC				pmax	pmax		
	comp=Z,2.0nm,1.2s						
KLR	Kul'dur	41.52	57	P	P	22 17 52.6	-1.2
	comp=Z,0.6nm,0.5s,baz=254,slow=7.4,SNR=3.9						
KSRS	Korea Array	41.82	75	LR	LR	22 39 19.3	
	comp=Z,23nm,18.6s,baz=175,slow=42						
HFS	Hagfors	42.06	320	P	P	22 17 57.7	-0.5
	comp=Z,2.2nm,0.6s,baz=92,slow=11,SNR=8.3						
GEC2	GERESS Array S	43.03	303	*e*P	P	22 18 06.0	-0.3
	comp=Z,2.7nm,0.9s						
GEC2	GERESS Array S	43.03	303	*e*P	P	22 18 06.0	-0.3
GEC2				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GERES	GERESS Array B	43.03	303	P	P	22 18 06.8	+0.5
	comp=Z,1.2nm,0.6s,baz=65,slow=7.8,SNR=10.0						
GERES				LR	LR	22 36 32.5	
	comp=Z,49nm,19.1s,baz=295,slow=37						
GEA0	GERESS Array S	43.03	303	*e*P	P	22 18 05.5	-0.9
NC405	NORSAR Array S	43.05	321	*e*P	P	22 18 06.5	+0.3
KHC	Kasperske Hory	43.06	303	*e*P	P	22 18 06.8	+0.3
	comp=Z,0.7nm,0.7s						
KHC	Kasperske Hory	43.06	303	*e*P	P	22 18 07.0	+0.5
KHC	Kasperske Hory	43.06	303	*e*P	P	22 18 07.0	+0.5
NC303	NORSAR Array S	43.22	321	*e*P	P	22 18 07.7	+0.1
NB201	NORSAR Array S	43.26	321	*e*P	P	22 18 07.8	-0.1
NB2	NORSAR Subarra	43.29	321	P	P	22 18 06.7	-1.5
	comp=Z,17nm,1.2s,baz=91,slow=8.6						
NOA	NORSAR Array B	43.29	321	P	P	22 18 07.0	-1.2
	comp=Z,1.7nm,0.7s,baz=91,slow=7.7,SNR=6.1						
NOA				LR	LR	22 37 21.4	
	comp=Z,46nm,18.7s,baz=320,slow=38						
FUORN	Ofenpass-Fuorn	45.80	301	*e*P	P	22 18 28.8	+0.1
	comp=Z,3.2nm,1.1s						
SAOF	Saorge	48.40	298	P	P	22 18 49.0	+0.2
SAOF				pmax	pmax		
	comp=Z,8.0nm,1.6s						
MA2	Magadan	50.52	40	⇑*e*P	P	22 19 17.2	+13
MA2				pmax	pmax		
	comp=Z,19nm,1.7s						
DAG	Danmarks Havn	52.37	343	P	P	22 19 17.5	-0.8
BILL	Bilibino	54.80	27	*e*P	P	22 19 38.0	+1.7
BILL				*e*		22 21 41.1	
BILL				*e*PPP	PPP	22 22 52.9	
BILL				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,47nm,15.0s						
ES19	SONSECA Array	57.94	297	*e*P	P	22 19 58.0	-1.2
ESDC	Sonseca Array	58.00	297	P	P	22 19 58.5	-1.0
	comp=Z,0.5nm,0.4s,baz=57,slow=7.3,SNR=11						
TOA0	Torodi Ar. Sit	68.02	269	*e*P	P	22 21 05.2	-1.2
TORD	Torodi Ar. Bea	68.02	269	P	P	22 21 03.9	-2.5
	comp=Z,1.4nm,0.6s,baz=56,slow=5.0,SNR=12						
IM3	Indian Mountai	68.50	19	*e*P	P	22 21 07.8	-0.9
INK	Inuvik	70.44	10	P	P	22 21 19.6	-1.0
	comp=Z,1.2nm,0.6s,baz=336,slow=6.9,SNR=8.6						
INK	Inuvik	70.44	10	*e*P	P	22 21 20.2	-0.3
	comp=Z,1.6nm,0.6s						
INK	Inuvik	70.44	10	*e*P	P	22 21 20.3	-0.3
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
IL1	Eielson Array	71.14	17	*e*P	P	22 21 23.6	-1.4
ILAR	Eielson Array	71.14	17	P	P	22 21 22.8	-2.2
	comp=Z,1.1nm,0.7s,baz=322,slow=4.9,SNR=12						
RSO	Redoubt South	73.21	22	*e*P	P	22 21 38.5	+0.8
HYT	Haines Junctio	76.66	15	*e*P	P	22 21 57.9	+0.4
	comp=Z,7.4nm,1.1s						
DBIC	Dimbokro	77.08	268	P	P	22 21 59.0	-1.3
	comp=Z,4.2nm,1.1s,baz=35,slow=12,SNR=3.7						
DBIC	Dimbokro	77.08	268	*e*P	P	22 21 59.1	-1.3
	comp=Z,2.7nm,0.9s						
DBIC	Dimbokro	77.08	268	*e*P	P	22 21 59.1	-1.3
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YKA	Yellowknife Ar	77.99	4	P	P	22 22 03.0	-1.8
	comp=Z,1.2nm,0.7s,baz=350,slow=5.9,SNR=20						
YKA	Yellowknife Ar	77.99	4	P	P	22 22 03.0	-1.8
YKA	Yellowknife Ar	77.99	4	P	P	22 22 03.0	-1.8
YKB5	Yellowknife Ar	77.99	4	*e*P	P	22 22 04.4	-0.4
WRA	Warramunga Arr	81.82	124	P	P	22 22 23.8	-2.3
	comp=Z,0.6nm,0.7s,baz=328,slow=5.3,SNR=13						
ASAR	Alice Springs	84.28	127	P	P	22 22 36.7	-2.1
	comp=Z,0.5nm,0.7s,baz=313,slow=4.9,SNR=7.3						
AS01	Alice Springs	84.31	127	*e*P	P	22 22 37.3	-1.6
GCMT	Greycliff	94.90	2	*e*P	P	22 23 24.9	-4.3

IDC 03 22:28:04.7±1.7, 1˚79N×127˚34E, h0^{km}, mb3.5/4, mb1 3.7/5, mb1mx3.4/29, mbtmp3.5/5, ML3.3/1, MS3.3/4, Ms1 3.3/4, ms1mx2.7/29, Error ellipse: s-maj=97.2km s-min=23.2km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.83	185	P	P	22 32 36.6	-0.7
	0.1nm,0.3s,baz=34,slow=7.3,SNR=2.2						
WRA	Warramunga Arr	22.66	163	P	P	22 33 09.1	+1.3
	0.6nm,0.4s,baz=344,slow=11,SNR=22						
ASAR	Alice Springs	26.10	166	P	P	22 33 38.7	-1.8
	0.2nm,0.5s,baz=354,slow=7.5,SNR=3.6						
JNU	Nakatsue	31.35	6	LR	LR	22 45 07.0	
	comp=Z,15nm,21.7s,baz=308,slow=33						
JHJ	Hachijo jima 2	33.29	19	LR	LR	22 46 17.8	
	comp=Z,143nm,21.8s,baz=74,slow=33						
STKA	Stephens Creek	36.11	159	P	P	22 35 09.5	+0.9
	0.7nm,0.3s,baz=342,slow=9.6,SNR=3.6						
KLR	Kul'dur	47.41	4	LR	LR	22 57 23.0	
	comp=Z,12nm,20.3s,baz=74,slow=37						
MKAR	Makanchi Array	59.49	326	P	P	22 38 09.8	+0.1
	0.2nm,0.4s,baz=115,slow=7.8,SNR=6.6						
RPZ	Rata Peaks	59.84	145	LR	LR	23 04 20.2	
	comp=Z,76nm,20.0s,baz=34,slow=36						

IDC 03 22:45:48.6±3.0, 24˚83N×142˚29E, h0^{km}, mb3.6/3, mb1 3.7/3, mb1mx3.3/47, mbtmp3.6/3, Error ellipse: s-maj=137.3km s-min=25.6km az=77.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.17	191	P	P	22 54 07.6	+0.2
	6.3nm,0.4s,baz=9.4,slow=8.6,SNR=191						
ASAR	Alice Springs	48.89	190	P	P	22 54 35.7	-0.7
	0.5nm,0.6s,baz=15,slow=14,SNR=5.9						
MKAR	Makanchi Array	52.01	311	P	P	22 55 00.1	+0.2
	0.2nm,0.4s,baz=99,slow=8.9,SNR=7.9						
MKAR				ScP	ScP	23 00 11.5	+0.9
	1.0nm,1.2s,baz=81,slow=4.5,SNR=3.7						
FINES	FINESS Array B	80.02	334	P	P	22 57 59.0	-0.7
	1.2nm,0.8s,baz=58,slow=5.6,SNR=3.5						

*IDC **03** 23:00:12.4±4.6, 30˚12S×178˚92W, h294^{km}±40^{km}, mb3.3/4, mb1 3.5/6, mb1mx3.3/30, mbtmp4.1/6, Error ellipse: s-maj=38.9km s-min=27.7km az=35.0*

*WEL **03** 23:00:21.0±0.7, 31˚S±7˚×17˚9W±1˚7, h275^{km}±12^{km}*

ISC 03 23:00:12.5±0.8, 30˚20S±0˚07×178˚9W±0˚1, h300^{km}, n94, σ1^{s}66/95, mb3.5/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.28	43	P	Pn	23 01 01.8	+7.4
RIZ	Raoul Island	1.28	42	P	Pn	23 01 01.9	+7.5
RAO	Raoul Island	1.29	43	S	S	23 01 26.4	-1.3
	125nm,0.3s,baz=161,slow=14,SNR=5.7						
MXZ	Matakaoa Point	7.69	197	P	Pn	23 02 08.7	+6.5
MXZ				S	S	23 03 32.1	+0.9
WMGZ	Waiomatatini S	7.91	196	P	Pn	23 02 09.5	+4.6
WMGZ				S	S	23 03 36.9	+0.9
HAZ	Te Kaha	8.02	199	P	Pn	23 02 09.7	+3.5
HAZ				S	S	23 03 38.7	+0.3
WCZ	Waipu Caves	8.04	223	P	Pn	23 02 12.8	+6.3
OUZ	Omahuta	8.05	230	P	Pn	23 02 12.4	+5.8
PKGZ	Pakihiroa	8.06	197	P	Pn	23 02 10.7	+3.9
PUZ	Puketiti	8.19	196	P	Pn	23 02 09.4	+1.1
PUZ				S	S	23 03 41.6	-0.7
WIAZ	Waiheke Island	8.24	215	P	Pn	23 02 16.1	+7.2
RUGZ	Raukumara Rang	8.24	199	P	Pn	23 02 12.3	+3.2
TWGZ	Tauwhareparae	8.36	197	P	Pn	23 02 17.2	+6.8
TWGZ				S	S	23 03 46.9	+0.8
MKAZ	Moumakai	8.47	214	P	Pn	23 02 19.1	+7.4
OPRZ	Ohinepanea	8.50	205	P	P	23 02 16.7	+4.7
CNGZ	Carnagh Statio	8.60	195	P	P	23 02 15.9	-2.6
MWZ	Matawai	8.63	199	P	Pn	23 02 15.7	+2.0
MWZ				S	S	23 03 50.3	-1.9
TKGZ	Te Karaka	8.64	197	P	Pn	23 02 14.3	+0.5
URZ	Urewera	8.68	201	P	Pn	23 02 14.9	+0.6
	5.1nm,0.3s,baz=283,slow=3.1,SNR=51						
URZ				S	S	23 03 50.0	-3.3
	5.5nm,0.3s,baz=112,slow=19,SNR=5.7						
URZ	Urewera	8.68	201	P	P	23 02 17.0	-2.4
URZ				S	S	23 03 52.2	-1.2
RAGZ	Rawiri	8.81	199	P	P	23 02 20.7	-0.3
RIGZ	Rimuhau	8.91	197	P	P	23 02 22.9	+0.8
MUGZ	Murupara	8.99	202	P	P	23 02 21.7	-1.2
RTZ	Ruatahuna	9.05	201	P	P	23 02 23.4	-0.2
PRGZ	Paritu Road	9.09	196	P	P	23 02 25.6	+1.6
SNGZ	Shannon Statio	9.10	199	P	P	23 02 24.7	+0.6
PRRZ	Plateau Road	9.14	204	P	P	23 02 25.4	+0.9
ALRZ	Allen Road	9.21	204	P	P	23 02 26.2	+0.9
KNZ	Kokohu	9.23	197	P	P	23 02 24.2	-1.3
RAHZ	Arahi	9.29	200	P	P	23 02 25.8	-0.5
MHGZ	Mahia Peninsul	9.30	195	P	P	23 02 27.3	+1.0
MTHZ	Maungataniwha	9.31	201	P	P	23 02 24.8	-1.6
TLZ	Tolley Road	9.31	208	P	P	23 02 29.1	+2.6
WHHZ	Waihua	9.40	199	P	P	23 02 27.8	+0.4
MRHZ	Matea Rd	9.43	203	P	P	23 02 26.8	-1.0
NMHZ	Naumai	9.54	200	P	P	23 02 30.0	+0.9
ARHZ	Aropaoanui	9.64	199	P	P	23 02 29.4	-0.7
BKZ	Black Stump Fm	9.71	202	P	P	23 02 29.6	-1.3
HIZ	Hauiti	9.75	210	P	P	23 02 33.9	+2.5
MCHZ	McNeill Hill	9.90	200	P	P	23 02 32.5	-0.4
KWHZ	Kaweka Forest	9.96	201	P	P	23 02 33.0	-0.8
CKHZ	Cape Kidnapper	9.99	198	P	P	23 02 34.2	+0.2
TWVZ	Taurewa	9.99	206	P	P	23 02 33.7	-0.4
FWVZ	Far West T-bar	10.11	205	P	P	23 02 35.0	-0.5
BHHZ	Black Hill Sta	10.14	203	P	P	23 02 33.8	-1.8
TRVZ	Turoa	10.15	205	P	P	23 02 35.7	-0.3
KAHZ	Kahuranaki	10.17	199	P	P	23 02 34.5	-1.5
MOVZ	Moawhango	10.17	204	P	P	23 02 34.5	-1.6
KRHZ	Kereru	10.18	201	P	Pn	23 02 33.5	+0.8
PKVZ	Pokaka	10.22	206	P	P	23 02 36.3	-0.3
VRZ	Vera Road	10.31	209	P	P	23 02 39.6	+2.1
VRZ	Vera Road	10.31	209	P	P	23 02 39.8	+2.3
PNHZ	Pukenui	10.48	201	P	Pn	23 02 37.5	+1.1
WPHZ	Waipukurau	10.54	200	P	P	23 02 40.2	0.0
TSZ	Takapari Road	10.69	202	P	Pn	23 02 39.9	+0.9
WAZ	Wanganui	10.76	206	P	P	23 02 42.0	-0.6
DVHZ	Dannevirke	10.84	200	P	P	23 02 42.4	-1.0
PRWZ	Pori Road	11.14	201	P	P	23 02 46.2	-0.6
MRZ	Mangatainoka R	11.36	202	P	Pn	23 02 46.1	-0.9
TIWZ	Tintock	11.37	200	P	P	23 02 48.6	-0.7
CPWZ	Castlepoint	11.40	199	P	P	23 02 49.4	-0.2
HOWZ	Holdsworth Sta	11.59	201	P	Pn	23 02 48.4	-1.5
OGWZ	Otaki Gorge	11.63	203	P	Pn	23 02 50.6	+0.2
TMWZ	Te Maipa	11.67	200	P	Pn	23 02 51.6	+0.7
KIW	Kapiti Island	11.76	204	P	Pn	23 02 51.3	-0.7
MTW	Mount Morrison	11.83	201	P	P	23 02 53.7	-0.7
TRWZ	Traveller	11.99	200	P	P	23 02 56.0	-0.3
PAWZ	Paruwai Farm	12.06	201	P	Pn	23 02 56.0	+0.4
DUWZ	D'Urville Isla	12.07	207	P	Pn	23 02 55.6	-0.2
MSWZ	Moikau Station	12.14	201	P	Pn	23 02 57.0	+0.3
BHW	Baring Head	12.26	203	P	Pn	23 02 57.1	-0.9
PLWZ	Palliser	12.28	201	P	Pn	23 02 58.8	+0.4
TCW	Tory Channel	12.29	205	P	Pn	23 02 58.3	-0.2
TUWZ	Tuamarina	12.61	205	P	Pn	23 03 00.8	-1.4
NNZ	Nelson	12.64	208	P	P	23 03 02.9	-0.5
QRZ	Quartz Range	12.68	211	P	P	23 03 03.4	-0.3
BSWZ	Blackbirch Sta	12.88	205	P	P	23 03 06.1	0.0
THZ	Tophouse	13.29	208	P	Pn	23 03 09.0	-1.6
KHZ	Kahutara	13.61	204	P	P	23 03 11.8	-2.3
DZM	Mont Dzumac	15.43	298	P	P	23 03 34.4	-0.1
	0.3nm,0.3s,baz=54,slow=17,SNR=3.0						
RPZ	Rata Peaks	15.67	208	S	S	23 06 18.8	-7.5
	1.3nm,0.3s,baz=309,slow=24,SNR=7.9						
STKA	Stephens Creek	33.75	257	P	P	23 06 28.4	+1.9
	1.0nm,0.4s,baz=128,slow=12,SNR=3.4						
ASAR	Alice Springs	42.33	267	P	P	23 07 38.0	+0.2
	0.5nm,0.7s,baz=99,slow=8.5,SNR=4.0						
WRA	Warramunga Arr	43.30	272	P	P	23 07 45.0	-0.5
	1.3nm,0.6s,baz=111,slow=7.7,SNR=10						
PETK	Petropavlovsk-	85.43	346	P	P	23 12 17.1	+0.9
	1.5nm,0.7s,baz=143,slow=5.9,SNR=4.3						
MKAR	Makanchi Array	117.04	310	PKP	PKPdf	23 18 21.2	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.2nm,0.6s,baz=107,slow=2.0,SNR=3.8						
KBZ	Khabaz	144.34	304	PKP	PKPdf	23 19 12.5	-0.3
	2.0nm,0.9s,baz=107,slow=4.1,SNR=5.9						
FINES	FINESS Array B	144.69	339	PKP	PKPdf	23 19 12.5	-0.3
	6.4nm,0.4s,baz=50,slow=4.4,SNR=89						
NB2	NORSAR Subarra	148.43	351	PKP	PKPbc	23 19 23.3	+0.2
	comp=Z,1.1nm,0.6s,baz=19,slow=2.6						
NOA	NORSAR Array B	148.43	351	PKPbc	PKPbc	23 19 22.6	-0.5
	comp=Z,1.4nm,0.6s,baz=17,slow=4.2,SNR=5.0						
AKASG	Malin Array Be	150.66	322	PKPbc	PKiKP	23 19 29.1	-0.3
	comp=Z,1.9nm,0.6s,baz=51,slow=2.8,SNR=8.4						
MMAI	Mount Meron Ar	150.71	284	PKPbc	PKiKP	23 19 30.6	+0.5
	comp=Z,1.7nm,0.4s,baz=90,slow=6.7,SNR=14						
BRTR	Keskin Array B	151.81	299	PKPbc	PKPbc	23 19 31.8	-0.2
	comp=Z,0.4nm,0.6s,baz=123,slow=5.3,SNR=4.1						
BRTR				PKPab	PKPab	23 19 42.0	-0.3
	comp=Z,0.3nm,0.6s,baz=77,slow=6.4,SNR=4.1						
TORD	Torodi Ar. Bea	163.02	182	PKPab	PKPab	23 20 31.3	+0.5
	comp=Z,0.3nm,0.6s,baz=184,slow=3.9,SNR=4.5						

*IDC **03** 23:22:02.1±1.2, 35°.39N×27°.81E, h0km, mb3.3/4, mb1 3.3/6, mb1mx3.2/33, mbtmp3.2/6, ML2.9/2, MS2.3/1, Ms1 2.3/1, ms1mx1.9/29, Error ellipse: s-maj=35.3km s-min=18.3km az=161.0*
*ISK **03** 23:22:02.7, 35°.39N×27°.81E, h5km, ML3.1/20*
*ISCJB **03** 23:22:04.9±1.0, 35°.41N±0°.04×27°.88E±0°.03, h5km±7km, mb3.3/4, Error ellipse: s-maj=7.0km s-min=3.5km az=162.1*
*ATH **03** 23:22:05.4, 35°.47N×27°.84E, h19km±2km, ML2.8/7, Error ellipse: s-maj=3.6km s-min=1.6km az=330.0*
*THE **03** 23:22:06.5, 35°.47N×27°.80E, h2km±1km, ML2.7/3, Error ellipse: s-maj=1.9km s-min=0.7km az=333.0*
*DDA **03** 23:22:06.3, 35°.48N×27°.91E, h23km±3km, ML3.5*
ISC 03 23:22:04.2±1.5, **35°.41N**±0°.04×**27°.85E**±0°.03, **h5**km±10km, **n76**, σ1§**41**/87, **mb3.4**/4, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.57	284	PG	Pg	23 22 14.5	-0.8
KARP	Karpathos	0.57	284	P	Pg	23 22 16.2	+0.9
KARP				S	Sb	23 22 25.2	-0.1
KARP				AML	AML	23 22 28.0	
	comp=N,2227µm,0.4s						
KARP				AML	AML	23 22 32.9	
	comp=E,2500µm,0.6s						
KARP	Karpathos	0.57	284	P	Pb	23 22 16.6	-0.2
KARP				S	Sb	23 22 26.1	+0.8
ARG	Arkhangelos	0.84	16	PG	Pg	23 22 20.1	-0.2
ARG	Arkhangelos	0.84	16	P	Pb	23 22 21.1	-0.1
ARG				S	Sg	23 22 30.7	-0.5
ARG				AML	AML	23 22 38.6	
	comp=E,1266µm,0.4s						
ARG				AML	AML	23 22 39.8	
	comp=N,1116µm,0.7s						
ARG	Arkhangelos	0.84	16	P	Pb	23 22 21.9	+0.7
ARG				S	Sb	23 22 33.9	+1.1
DAT	Datca	1.33	351	PN	Pg	23 22 29.8	0.0
DAT				SN	Sn	23 22 49.6	+1.8
DAT	Datca	1.33	351	iP	Pn	23 22 31.0	+1.4
DATC	Datca-Mugla	1.36	354	PN	Pn	23 22 29.9	+0.2
ZKR	Zakros	1.36	258	PN	Pn	23 22 29.1	-0.8
ZKR	Zakros	1.36	258	P	Pn	23 22 30.7	+0.8
ZKR				AML	AML	23 23 00.2	
	comp=N,564µm,0.7s						
ZKR				AML	AML	23 23 00.9	
	comp=E,779µm,0.9s						
ZKR	Zakros	1.36	258	P	Pb	23 22 31.2	+1.0
STIA	Sitia Lasithi	1.45	262	P	Pn	23 22 31.8	+0.8
STIA				S	Sb	23 22 51.2	+0.8
DALY	Dalyan (Mula)	1.55	25	PN	Pn	23 22 32.7	+0.3
FETY	Fethiye	1.58	39	PN	Pn	23 22 33.3	+0.4
FETY	Fethiye	1.58	39	P	Pn	23 22 33.5	+0.6
FETY	Fethiye	1.58	39	iP	Pn	23 22 33.7	+0.8
TURN	Turunc	1.58	23	PN	Pn	23 22 30.9	-2.0
TURN	Turunc	1.58	23	iP	Pn	23 22 31.3	-1.6
KSL	Kastellorizon	1.59	62	P	Pn	23 22 34.1	+1.1
KSL				AML	AML	23 23 20.6	
	comp=N,287µm,0.9s						
KSL				AML	AML	23 23 21.8	
	comp=E,345µm,1.5s						
KSL	Kastellorizon	1.59	62	P	Pn	23 22 34.3	+1.3
KSL				S	Sb	23 22 55.7	+1.1
AKAS	Kas	1.65	60	PN	Pn	23 22 34.2	+0.3
AKAS	Kas	1.65	60	iP	Pn	23 22 35.4	+1.5
AKAS				iS	Sb	23 22 57.5	+1.3
BDRM	Kayabasi	1.69	349	iP	Pg	23 22 36.6	+0.1
BDRM				iS	Sg	23 22 57.5	-0.8
BODT	Bodrum	1.71	345	PN	Pn	23 22 35.1	+0.5
BODT	Bodrum	1.71	345	P	Pn	23 22 35.4	+0.8
NPS	Neapolis	1.83	266	P	Pb	23 22 39.0	+0.8
NPS				AML	AML	23 23 17.1	
	comp=N,728µm,0.9s						
NPS				AML	AML	23 23 20.9	
	comp=E,637µm,0.9s						
MLSB	Milas	1.88	358	PN	Pn	23 22 37.7	+0.7
ANAF	Anafi Island	1.93	300	P	Pn	23 22 38.4	+0.7
ANAF				AML	AML	23 23 11.1	
	comp=E,1162µm,0.6s						
ANAF				AML	AML	23 23 13.3	
	comp=N,1055µm,0.7s						
LAST	Lasithi	1.95	263	P	Pb	23 22 40.4	+0.2
LAST				AML	AML	23 23 16.9	
	comp=N,158µm,0.7s						
LAST				AML	AML	23 23 17.6	
	comp=E,250µm,1.0s						
AMGA	Amorgos Island	2.12	313	P	Pn	23 22 41.1	+0.8
AMGA	Amorgos Island	2.12	313	P	Pn	23 22 41.1	+0.8
ELL	Elmali	2.14	51	PN	Pn	23 22 41.4	+0.7
SANT	Santorini	2.16	297	PN	Pn	23 22 41.2	+0.3
THR8	Santorini-Mono	2.16	298	P	Pn	23 22 42.1	+1.3
THR6	Thira Island,	2.20	296	P	Pn	23 22 43.1	+1.7
THR7	Fira-Santorini	2.21	298	P	Pn	23 22 42.8	+1.3
THR2	Thira island,	2.21	299	P	Pn	23 22 43.2	+1.7
THT2	Imerovigli	2.22	298	P	Pn	23 22 43.6	+2.0
THR3	Thira Island,	2.22	297	P	Pn	23 22 43.2	+1.5
TAVA	DENIZLI_Tavas	2.23	22	iP	Pb	23 22 44.8	-0.2
AYDN	Tasoluk	2.25	1	iP	Pb	23 22 44.6	-0.7
THR5	Thira Island,	2.26	297	P	Pn	23 22 44.0	+1.8
GOLH	Golhisar	2.29	37	iP	Pn	23 22 45.1	+2.4
GOLH				IAML_P			
	comp=Z,1µm,0.5s						
GCAM	G?zelcaml?	2.34	348	PN	Pn	23 22 44.1	+0.8
IDI	Anoyia	2.42	268	PN	Pn	23 22 44.9	+0.5
IDI	Anoyia	2.42	268	Pn	Pn	23 22 46.7	+2.3
	comp=Z,1.4nm,0.3s,baz=88,slow=20,SNR=14						
SMG	Samos	2.44	341	P	Pn	23 22 46.3	+1.7
IOSP	Ios island	2.45	303	P	Pn	23 22 46.3	+1.4
APE	Apeiranthos	2.50	312	PN	Pn	23 22 45.4	-0.1
APE	Apeiranthos	2.50	312	P	Pn	23 22 46.6	+1.1
SIVA	Sivas	2.52	262	P	Pb	23 22 48.8	-1.0
AYDB	Zeytinkoy-Aydi	2.53	1	PN	Pn	23 22 47.1	+1.0
KORT	Korkueli	2.57	51	PN	Pn	23 22 47.8	+1.2
KORT	Korkueli	2.57	51	iP	Pb	23 22 51.0	+0.1
VAM	Vamos	2.98	271	P	Pn	23 22 55.7	+3.6
BLCB	Balcova	3.04	348	PN	Pn	23 22 54.2	+1.3
URLA	Izmir	3.11	342	PN	Pn	23 22 54.9	+1.0
IMMV	Iera Moni Meta	3.16	272	P	Pn	23 22 57.0	+2.5
KULA	Kula-Manisa	3.17	12	PN	Pn	23 22 55.9	+1.1
KHAL	Karahalli	3.24	24	iP	Pn	23 22 57.0	+1.3
KEPZ	Antalya-Kepez	3.39	63	iP	Pn	23 22 59.9	+2.1
KEPZ				IAML_P			
	comp=Z,876nm,0.5s						
SIMA	Simav-Kutahya	3.78	14	PN	Pn	23 23 04.9	+1.7
SHUT	Suhut-Afyon	3.81	34	PN	Pn	23 23 05.5	+1.8
KYTH	Kithira	3.99	284	P	Pn	23 23 09.6	+3.6
VLI	Veliai	4.19	290	P	Pn	23 23 11.3	+2.7
ERMK	Ermenek	4.29	72	iP	Pn	23 23 11.9	+1.7
ERMK				IAML_P			
	comp=Z,1µm,0.5s						
KONT	Konya--Tatoy	4.42	54	PN	Pn	23 23 14.1	+2.1
LADK	Ladik-KONYA	4.57	51	PN	Pn	23 23 16.1	+2.0
KIZT	Kizilcal	4.73	42	PN	Pn	23 23 18.5	+2.2
BRTR	Keskin Array B	6.30	45	Pn	Pn	23 23 38.2	+0.3
	comp=Z,0.1nm,0.3s,baz=212,slow=12,SNR=6.1						
BRTR				Sn	Sn	23 24 51.5	+1.2
	comp=Z,0.1nm,0.3s,baz=219,slow=20,SNR=3.5						
MMAI	Mount Meron Ar	6.70	109	Pn	Pn	23 23 41.6	-1.7
	comp=Z,0.8nm,0.3s,baz=312,slow=12,SNR=8.2						
MMAI				Sn	Sn	23 24 59.9	-0.1
	comp=Z,0.6nm,0.3s,baz=303,slow=28,SNR=3.6						
MMAI				LR	LR	23 27 15.3	
	comp=Z,23nm,18.5s,baz=185,slow=47						
ESDC	Sonseca Array	25.50	289	P	P	23 27 31.4	-2.0
	comp=Z,0.6nm,0.7s,baz=92,slow=12,SNR=5.3						
TORD	Torodi Ar. Bea	32.37	233	P	P	23 28 33.4	-1.4
	comp=Z,0.8nm,1.0s,baz=26,slow=10.0,SNR=6.4						
MKAR	Makanchi Array	41.80	57	P	P	23 29 52.3	-2.4
	comp=Z,0.2nm,0.8s,baz=287,slow=5.9,SNR=2.5						
SONM	Songino Array	57.62	51	P	P	23 31 56.0	+0.8
	comp=Z,0.2nm,0.4s,baz=269,slow=10,SNR=2.9						

SJA 03 23:59:08.1±0.6, **32°.05S**×**69°.24W**, **h114**km±3km, **ML3.2**, **MW3.6**, **Mendoza Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AUSP	Uspallata	0.21	216	iP	Pn	23 59 25.4	+1.0
RTLS	Leoncito	0.26	350	iP	Pn	23 59 25.7	+1.1
RTLS				IAML		23 59 25.8	
	comp=Z,389nm,0.2s						
RTLS				iS	Sn	23 59 38.6	+1.7
RTCV	Cerro Valdivia	0.63	72	iP	Pn	23 59 27.1	+0.7
RTCV				iS	Sn	23 59 40.6	+0.5
ASAL	Salagasta	0.64	147	iP	Pn	23 59 27.4	+1.0
ASAL				iS	Sn	23 59 41.1	+0.8
ARCO	CERRO ARCO	0.83	162	iP	Pn	23 59 29.2	+1.0
ARCO				iS	Sn	23 59 44.4	+1.1
ARCO				IAML		23 59 45.5	
	comp=Z,515nm,0.3s						
RTLL	Cerro Villicun	0.97	42	iP	Pn	23 59 30.1	+0.7
RTLL				iS	Sn	23 59 46.5	+1.0
AAGR	Agrelo	1.09	161	iP	Pn	23 59 31.6	+1.0
AAGR				iS	Sn	23 59 49.1	+1.4
AMOG	MOGNA	1.28	30	iP	Pn	23 59 33.8	+1.1
ACCO	Cerro Coronel	1.47	6	iP	Pn	23 59 36.7	+1.5
ACAN	Cantantal	1.76	98	iP	Pn	23 59 38.9	+0.6
ROC1	El Roble	1.76	238	iP	Pn	23 59 39.5	+1.0
ROC1				iS	Sn	00 00 02.6	+0.9

NNC 04 00:35:04.7±2.9, **36°.77N**×**70°.82E**, **h136**km±66km, **mb2.8**, **mpv3.6**, **1C-6D**, **Error ellipse: s-maj=33.5km s-min=22.6km az=63.0**, **Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.86	32	⇓P	Pn	00 36 02.8	-0.2
	5.9nm,0.3s						
SFK				⇓S	Sn	00 36 49.0	+0.8
	5.1nm,0.2s						
KK31	Karatay Array	6.33	358	P	Pn	00 36 35.9	+0.3
	3.8nm,0.3s,baz=172,slow=11,SNR=48						
KK31				⇑S	Sn	00 37 47.5	+0.9
	1.8nm,0.5s,baz=188,slow=24,SNR=5.4						
AAK	Ala-Archa	6.51	25	⇓P	Pn	00 36 38.2	+0.1
	1.5nm,0.4s						
AAK				⇓S	Sn	00 37 51.1	-0.1
	3.7nm,0.6s						
TKM2	Tokmak 2	7.16	29	⇓P	Pn	00 36 46.6	-0.3
	0.7nm,0.4s						
AB31	Akbulak array	14.77	331	P	Pn	00 38 27.9	+1.2
	0.6nm,0.8s,baz=169,slow=12,SNR=11						
AB31				⇓S	Sn	00 41 09.2	-1.0
	1.7nm,0.9s,baz=153,slow=22,SNR=3.2						

IDC 04 00:40:03.2±20.0, **14°.03N**×**144°.90E**, **h122**km±194km, **mb3.2**/5, **mb1 3.5**/5, **mb1mx3.2**/29, **mbtmp3.6**/5, **Error ellipse: s-maj=47.6km s-min=32.6km az=79.0**, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	35.32	197	P	P	00 46 47.0	+0.1
	0.4nm,0.7s,baz=19,slow=9.4,SNR=6.4						
STKA	Stephens Creek	45.76	184	P	P	00 48 12.0	-0.5
	1.2nm,0.7s,baz=353,slow=17,SNR=2.2						
MKAR	Makanchi Array	61.19	316	P	P	00 50 05.2	0.0
	0.3nm,0.6s,baz=82,slow=8.8,SNR=5.0						
ILAR	Eielson Array	68.16	25	P	P	00 50 49.8	-0.2
	0.3nm,0.9s,baz=248,slow=6.4,SNR=4.8						
NVAR	Mina Array Bea	86.62	51	P	P	00 52 33.9	+0.3
	0.2nm,0.5s,baz=260,slow=5.4,SNR=3.8						
TORD	Torodi Ar. Bea	134.64	305	PKP	PKPdf	00 59 07.7	-0.6
	0.1nm,0.5s,baz=38,slow=2.6,SNR=2.6						

*NIED **04** 00:50:00, 46°.20N×153°.10E, h35km, Mw4.6 Best double couple: Mo1.02000×10^16 NP1:φs34.00000°, δ5.00000°, λ51.00000°. NP2:φs253.00000°, δ86.00000°, λ93.00000°.*
*IDC **04** 00:50:27.8±0.6, 46°.03N×152°.78E, h0km, mb4.2/22, mb1 4.4/29, mb1mx4.3/37, mbtmp4.2/29, ML3.5/6, MS3.7/20, Ms1 3.7/20, ms1mx3.5/34, Error ellipse: s-maj=15.6km s-min=11.8km az=150.0*
*JMA **04** 00:50:28.5±1.0, 46°.19N×153°.06E, h30km, M4.8*
*ISCJB **04** 00:50:29.2±0.9, 45°.88N±0°.04×152°.80E±0°.04, h20km±6km, mb4.6/125, MS3.9/23, Error ellipse: s-maj=7.0km s-min=3.2km az=146.4*
*BJI **04** 00:50:30.0, 46°.12N×153°.03E, h34km, mb4.8/51, mB5.0/35, Ms4.5/21, Ms7 4.2/21*
*SKHL **04** 00:50:31.7±0.7, 45°.77N×153°.01E, h53km±4km, mb5.0/14, Ms4.1/3*
*NEIC **04** 00:50:31.8±1.4, 46°.00N×152°.80E, h24km±9km, mb4.6/46, Error ellipse: s-maj=6.6km s-min=4.0km az=144.0*
*MOS **04** 00:50:33.8±1.3, 45°.97N×152°.66E, h52km, mb4.9/62, Error ellipse: s-maj=7.6km s-min=5.0km az=113.7*
ISC 04 00:50:31.5±0.7, **45°.91N**±0°.06×**152°.78E**±0°.05, **h24**km±4km, **n378**, σ1§**64**/418, **mb4.7**/135, **MS3.9**/23, **47C-31D**, **East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.52	261	⇓iP	Pn	00 51 26.8	+2.2
KUR				AMB	AMB	00 51 28.0	
	100nm,0.5s						
KUR				AMB	AMB	00 51 28.0	
	310nm,0.5s						
KUR				iS	Sn	00 52 07.6	+2.2
KUR				A	A	00 52 20.6	
	410nm,0.5s						
KUR				A	A	00 52 20.6	
	310nm,0.5s						
KUR	Kuril'sk	3.52	261	d iPN	Pn	00 51 27.4	+2.8
KUR				iS	Sn	00 52 09.9	+4.5
KUR				pmax	pmax		
	comp=Z,314nm,0.6s						
KUR				pmax	pmax		
	comp=N,100nm,0.5s						
KUR				pmax	pmax		
	comp=E,95nm,0.3s						
KUR				smax	smax		
	comp=N,408nm,0.5s						
KUR				smax	smax		
	comp=E,309nm,0.5s						
SHO	Shikotan	4.69	246	⇑iP	Pn	00 51 41.0	+0.2
SHO				AMB	AMB	00 51 46.0	
	comp=E,40nm,0.4s						
SHO				AMB	AMB	00 51 46.0	
	comp=E,60nm,0.4s						
SHO				AMB	AMB	00 51 46.0	
	comp=E,140nm,0.4s						
SHO				iS	Sn	00 52 33.0	-1.5
SHO				A	A	00 52 36.0	
	comp=E,120nm,0.5s						
SHO				A	A	00 52 36.0	
	comp=E,190nm,0.5s						
SHO	Shikotan	4.69	246	c iPN	Pn	00 51 40.7	-0.1
SHO				iS	Sn	00 52 33.8	-0.7
SHO				pmax	pmax		
	comp=Z,142nm,0.4s						
SHO				pmax	pmax		
	comp=N,35nm,0.2s						
SHO				pmax	pmax		
	comp=E,60nm,0.3s						
SHO				smax	smax		
	comp=E,192nm,0.4s						
SHO				smax	smax		
	comp=N,116nm,0.5s						
YUK	Yuzh-Kuril'sk	5.25	252	⇓iP	Pn	00 51 50.0	+1.5
YUK				AMB	AMB	00 51 55.0	
	comp=N,130nm,0.5s						
YUK				AMB	AMB	00 51 55.0	
	comp=N,100nm,0.5s						
YUK				AMB	AMB	00 51 55.0	
	comp=N,180nm,0.5s						
YUK				iS	Sn	00 52 49.3	+1.0
YUK				A	A	00 52 57.0	
	comp=N,240nm,0.5s						
YUK				A	A	00 52 57.0	
	comp=N,170nm,0.5s						
YUK	Yuzh-Kuril'sk	5.25	252	d iPN	Pn	00 51 50.0	+1.5
YUK				iS	Sn	00 52 49.9	+1.6
YUK				pmax	pmax		
	comp=N,129nm,0.5s						
YUK				pmax	pmax		
	comp=Z,182nm,0.5s						
YUK				pmax	pmax		
	comp=E,98nm,0.2s						
YUK				smax	smax		
	comp=N,239nm,0.5s						
YUK				smax	smax		
	comp=E,165nm,0.4s						
SKR	Severo-Kuril's	5.27	24	eP	Pn	00 51 49.3	+0.6
SKR				AMB	AMB	00 51 53.5	
	comp=E,210nm,0.6s						
SKR				eS	Sn	00 52 47.9	-0.8
SKR				A	A	00 52 59.0	
	comp=E,290nm,0.7s						
SKR				A	A	00 52 59.0	
	comp=E,220nm,0.7s						
SKR	Severo-Kuril's	5.27	24	ePN	Pn	00 51 48.3	-0.4
SKR				pmax	pmax		
	comp=Z,213nm,0.6s						
SKR				MLR	MLR		
	comp=Z,700nm,18.0s						
NEM2	Nemuro 2	5.63	246	P	Pn	00 51 53.2	-0.4
NEM2				eS	Sn	00 52 58.0	+0.5
JRA	Rausu	5.79	253	P	Pn	00 51 57.8	+2.0
PAU	Pauzhetka	6.17	24	eP	Pn	00 52 02.5	+1.4
PAU				AMB	AMB	00 52 03.5	
	comp=Z,140nm,0.8s						
JNK	Nakash	6.19	251	P	Pn	00 52 02.8	+1.4
JAK	Akkeshi	6.48	246	P	Pn	00 52 05.0	-0.3
JAK				eS	Sn	00 53 15.0	-3.4
JTKR	Abashiri--Toko	6.59	256	P	Pn	00 52 09.0	+2.2
JAR	Ashorobuto	6.94	251	P	Pn	00 52 13.2	+1.5
JAR				eS	Sn	00 53 30.3	+0.4
JMP	Maruseppu	6.95	258	P	Pn	00 52 14.3	+2.5
YSS	Yuzh-Sakhalins	7.01	282	ePn	Pn	00 52 13.6	+1.0
YSS	Yuzh-Sakhalins	7.01	282	⇓eP	Pn	00 52 16.1	+3.5
YSS				AMB	AMB	00 52 18.2	
	comp=Z,20nm,0.8s						
YSS				AMB	AMB	00 52 18.2	
	comp=Z,60nm,0.8s						
YSS				eS	Sn	00 53 31.9	+0.4
YSS				A	A	00 53 37.8	
	comp=Z,20nm,0.7s						
YSS				AMS	AMS	00 55 10.0	
	comp=Z,500nm,16.0s						
YSS				AMS	AMS	00 55 10.0	
	comp=Z,700nm,16.0s						
YSS	Yuzh-Sakhalins	7.01	282	⇓ePN	Pn	00 52 16.6	+4.0
YSS				eS	Sn	00 53 35.9	+4.4
YSS				pmax	pmax		
	comp=Z,60nm,0.8s						
YSS				pmax	pmax		
	comp=N,20nm,0.5s						
YSS				pmax	pmax		
	comp=E,60nm,0.9s						
YSS				smax	smax		
	comp=N,20nm,0.7s						
YSS				smax	smax		
	comp=E,20nm,0.6s						
YSS				MLR	MLR		
	comp=Z,700nm,17.0s						
YSS				MLR	MLR		
	comp=E,500nm,15.0s						
JOB	Onbets	7.08	248	P	Pn	00 52 14.2	+0.7
JOB				eS	Sn	00 53 32.5	-0.6
HRK	Horoka	7.30	254	eP	Pn	00 52 19.1	+2.4
JKK2	Kamakawa 2	7.41	258	P	Pn	00 52 20.6	+2.5
JKA	Kamikawa-asahi	7.44	260	eP	Pn	00 52 19.4	+0.9
ASAJ	Asahikawa	7.44	260	Pn	Pn	00 52 19.4	+1.0
	comp=E,2.6nm,0.3s,baz=78,slow=22,SNR=13						
ASAJ				LR	LR	00 55 22.3	
	comp=E,403nm,19.8s,baz=125,slow=40						
ASAJ	Asahikawa	7.44	260	ePn	Pn	00 52 20.2	+1.8
ASAJ	Asahikawa	7.44	260	P	Pn	00 52 21.4	+2.9
JCH	Churui	7.52	247	P	Pn	00 52 19.5	-0.1
JCH				eS	Sn	00 53 40.6	-3.5
MYR	Moyori	7.73	246	eP	Pn	00 52 22.3	-0.2
MYR				eS	Sn	00 53 46.0	-3.3
JFR	Furan	7.78	253	P	Pn	00 52 24.1	+0.9
PEA0B	Petropavlovsk-	7.89	22	ePn	Pn	00 52 23.8	-0.8
PETK	Petropavlovsk-	7.89	22	Pn	Pn	00 52 23.2	-1.4
	comp=E,1.2nm,0.3s,baz=177,slow=14,SNR=27						
JAB	Ashibetsu	7.90	256	P	Pn	00 52 28.4	+3.6
UGL	Uglegorsk	7.92	297	eP	Pn	00 52 27.1	+2.0
UGL				AMB	AMB	00 52 33.4	
	comp=E,50nm,0.6s						
UGL				AMS	AMS	00 54 49.5	
	comp=E,600nm,17.0s						
UGL				AMS	AMS	00 54 49.5	
	comp=E,900nm,17.0s						
UGL				AMS	AMS	00 54 49.5	
	comp=E,900nm,15.0s						
ERM	Erimo	7.96	244	ePn	Pn	00 52 27.6	+2.0
ERM				eSn	Sn	00 53 51.8	-3.0
ERM	Erimo	7.96	244	⇓eP	Pn	00 52 27.2	+1.6
ERM	Erimo	7.96	244	⇓ePN	Pn	00 52 27.2	+1.6
ERM				pmax	pmax		
	comp=Z,123nm,1.7s						
JNBK	Urakawa-nobuka	8.08	247	P	Pn	00 52 26.6	-0.6
JNBK				eS	Sn	00 53 57.8	0.0
PET	Petropavlovsk	8.08	26	eP	Pn	00 52 28.5	+1.2
PET				AMB	AMB	00 52 37.2	
	comp=Z,30nm,1.0s						
JBT2	Biratori 2	8.10	251	P	Pn	00 52 27.9	+0.4
TYV	Tymovskoe	8.37	310	eP	Pn	00 52 35.0	+3.8
TYV				AMB	AMB	00 52 36.6	
	comp=Z,10.0nm,0.9s						
JNB	Noboribetsu	9.11	252	P	Pn	00 52 42.9	+1.5
JKB	Kayabe	9.38	249	P	Pn	00 52 45.0	-0.1
JKB				eS	Sn	00 54 24.3	-5.5
JYM2	Yakumo 2	9.71	251	P	Pn	00 52 50.1	+0.5
JANG	Nango	9.91	240	P	Pn	00 52 50.3	-2.2
JTM	Tenmabayashi	9.95	243	P	Pn	00 52 51.8	-1.1
JTM				eS	Sn	00 54 37.2	-6.5
OKH	Okha	9.95	324	eP	Pn	00 52 55.4	+2.5
OKH				AMB	AMB	00 52 56.7	
	comp=Z,30nm,0.8s						
OKH				AMS	AMS	00 57 21.0	
	comp=Z,500nm,15.0s						
OFUJ	Ofunato	10.66	234	eS	Sn	00 54 52.4	-8.9
NKL	Nikolayevsk	10.69	317	eP	Pn	00 53 05.0	+2.1
NKL				AMB	AMB	00 53 07.2	
	comp=Z,30nm,0.8s						
NKL				AMS	AMS	00 58 10.0	
	comp=Z,800nm,15.0s						
NKL				AMS	AMS	00 58 10.0	
	comp=Z,1µm,15.0s						
JRG	Rokugo	11.05	238	P	Pn	00 53 06.9	-1.2
JRG				eS	Sn	00 55 05.1	-5.8
JIO	Ouri	11.28	233	P	Pn	00 53 08.6	-2.5
JIO				eS	Sn	00 55 05.8	-11
TEY	Ternei	11.40	271	⇓eP	Pn	00 53 16.9	+4.2
TEY				AMB	AMB	00 53 18.0	
	comp=Z,50nm,0.9s						
TEY	Ternei	11.40	271	⇑ePN	Pn	00 53 19.4	+6.7
TEY				pmax	pmax		
	comp=Z,30nm,0.7s						
GRNR	Gornyy	11.92	300	eP	Pn	00 53 23.0	+3.2
GRNR				AMB	AMB	00 53 25.8	
	comp=Z,10.0nm,0.8s						
GRNR	Gornyy	11.92	300	ePN	Pn	00 53 22.8	+3.0
MA2	Magadan	13.75	356	Pn	Pn	00 53 44.2	-0.6
	comp=Z,1.0nm,0.3s,baz=156,slow=12,SNR=3.5						
MA2				LR	LR	00 59 33.7	
	comp=Z,266nm,18.2s,baz=212,slow=40						
MAJO	Matsushiro	14.39	235	ePn	Pn	00 53 54.7	+1.0
MAJO	Matsushiro	14.39	235	⇓eP	Pn	00 53 51.9	-1.8
MJAR	Matsushiro Arr	14.39	235	Pn	Pn	00 53 52.3	-1.4
	comp=Z,0.1nm,0.3s,baz=32,slow=13,SNR=5.1						
MJAR				LR	LR	00 59 57.6	
	comp=Z,65nm,21.8s,baz=90,slow=39						
MJB9	Matsu-Tunnel	14.39	235	ePn	Pn	00 53 54.7	+1.0
KLR	Kul'dur	14.57	291	Pn	Pn	00 53 56.2	+0.1
	comp=Z,0.1nm,0.3s,baz=101,slow=15,SNR=13						
KLR				LR	LR	01 00 04.4	

comp=Z,344nm,18.4s,baz=100,slow=40
KLR Kul'dur 14.57 291⇑ *e*P **Pn 00 53 58.1 +2.0**
KLR Kul'dur 14.57 291⇑ *e*P **Pn 00 53 58.1 +2.0**
EKMR Ekimchan 14.72 306 *e*P **Pn 00 54 00.5 +2.5**
EKMR AMB AMB 00 54 08.5
comp=Z,20nm,0.9s
USA0B Ussuriysk Arra 14.80 271 *e*Pn **Pn 00 53 60.0 +0.9**
USRK Ussuriysk Ar. 14.80 271 Pn **Pn 00 53 59.5 +0.5**
comp=Z,0.7nm,0.3s,baz=85,slow=11,SNR=13
USRK LR LR 00 59 47.9
comp=Z,218nm,19.1s,baz=50,slow=38
MDJ Mudanjiang 16.37 274 P **P 00 54 22.2 -0.1**
MDJ pmax pmax
comp=Z,34nm,1.0s
MDJ pmax pmax
comp=Z,380nm,4.2s
MDJ Mudanjiang 16.37 274 *e*Pn **P 00 54 21.6 -0.7**
comp=Z,36nm,1.1s
SEY Seymchan 17.07 359 Pn **Pn 00 54 25.9 -2.3**
comp=Z,0.2nm,0.3s,baz=210,slow=13,SNR=2.4
BMKR Bomnak 17.57 309 *e*P **P 00 54 35.0 -0.5**
BMKR AMB AMB 00 54 43.0
comp=Z,20nm,0.8s
ZEA Zeya 18.17 305 *e*P **P 00 54 43.7 +1.6**
ZEA AMB AMB 00 54 50.6
comp=Z,20nm,1.0s
ZEA AMS AMS 01 03 31.0
comp=Z,400nm,14.0s
ZEA AMS AMS 01 03 31.0
comp=Z,300nm,10.0s
ZEA AMS AMS 01 03 31.0
comp=Z,200nm,10.0s
ZEA Zeya 18.17 305 *e*P **P 00 54 49.0 +6.9**
ZEA pmax pmax
comp=Z,17nm,1.0s
ZEA MLR MLR
comp=Z,400nm,14.0s
ZEA MLR MLR
comp=N,300nm,10.0s
ZEA MLR MLR
comp=E,200nm,10.0s
CN2 Changchun 19.46 274 ⇓P **Pn 00 54 57.5 -0.1**
CN2 *e*pP sP 00 55 05.6 +1.9
CN2 *e*S **S 00 58 28.9 -5.8**
CN2 pmax pmax
comp=E,200nm,4.0s
CN2 LR LR
comp=E,400nm,14.0s
CN2 LR LR
comp=E,300nm,14.0s
CN2 LR LR
comp=E,300nm,16.0s
KSRS Korea Array 20.34 254 P **P 00 55 05.8 -0.1**
comp=E,2.7nm,0.6s,baz=55,slow=11,SNR=9.9
KSRS LR LR 01 02 11.8
comp=E,122nm,20.5s,baz=55,slow=34
KS01 Wonju Array Si 20.34 254 *e*P **P 00 55 04.2 -1.8**
KSAR Wonju Array Be 20.37 254 P **P 00 55 05.8 -0.5**
KSAR Wonju Array Be 20.37 254 P **P 00 55 05.8 -0.5**
YAK Yakutsk 20.92 329 *e*P **P 00 55 09.3 -2.7**
YAK *e* 00 55 25.3
YAK *e*S **S 00 58 55.4 -8.3**
YAK *e* 00 59 19.6
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK smax smax
comp=N,173nm,4.2s
YAK smax smax
comp=E,87nm,4.1s
YAK MLR MLR
comp=Z,191nm,18.0s
YAK MLR MLR
comp=E,144nm,21.0s
YAK MLR MLR
comp=N,154nm,20.0s
JNU Nakatsue 21.10 240 P **P 00 55 17.1 +2.9**
comp=N,8.7nm,1.0s,baz=220,slow=11,SNR=3.0
JNU LR LR 01 04 20.6
comp=N,78nm,20.0s,baz=315,slow=39
SNY Shenyang 21.39 270 ⇓P **P 00 55 17.9 +0.7**
SNY pmax pmax
comp=N,19nm,0.7s
BILL Bilibino 23.27 13 *e*P **P 00 55 36.5 -0.4**
comp=N,13nm,1.0s
BILL Bilibino 23.27 13⇓ *i*P **P 00 55 35.5 -1.4**
BILL Bilibino 23.27 13⇓ *i*P **P 00 55 35.5 -1.4**
BILL *i* *SP **pwP 00 55 46.8 -1.3**
BILL *i* 00 55 57.8
BILL *e*PPP PPP 00 56 10.1
BILL *e* 00 56 16.3
BILL *e*S **S 00 59 47.5 +0.1**
BILL pmax pmax
comp=Z,10.0nm,1.0s
BILL MLR MLR
comp=Z,167nm,18.0s
BJI Beijing 27.25 271 P **P 00 56 12.1 -1.5**
BJT Baijiatuau 27.26 271 *e*P **P 00 56 15.0 +1.2**
comp=Z,18nm,0.7s
BJT Baijiatuau 27.26 271 *e*P **P 00 56 15.0 +1.2**
BJT Baijiatuau 27.26 271 *e*P **P 00 56 15.0 +1.2**
BJT pmax pmax
comp=Z,18nm,0.7s
TIXI Tiksi 28.22 344 P **P 00 56 19.1 -2.9**
comp=Z,1.1nm,0.4s,baz=190,slow=21,SNR=3.3
TIXI LR LR 01 08 28.4
comp=Z,146nm,19.9s,baz=112,slow=38
TIXI Tiksi 28.22 344⇑ *e*P **P 00 56 18.2 -3.7**
TIXI pmax pmax
comp=Z,2.0nm,1.3s
NJ2 Nanjing 29.54 254 *e*P **P 00 56 33.3 -0.8**
NJ2 pmax pmax
comp=Z,16nm,0.5s
HHC Hu-ho-hao-te 30.13 275 *e*P **P 00 56 40.7 +1.2**
HHC PP **PnPn 00 57 39.0 +2.1**
HHC S **S 01 01 35.2 -1.7**
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,84nm,6.2s
HHC LR LR
comp=Z,380nm,9.5s
HHC LR LR
comp=Z,390nm,13.8s
HHC LR LR
comp=Z,350nm,12.1s
ULN Ulaanbaatar 30.97 290 *e*P **P 00 56 47.5 +0.7**
ULN Ulaanbaatar 30.97 290⇓ *e*P **P 00 56 45.7 -1.1**
ULN Ulaanbaatar 30.97 290 *de*P **P 00 56 45.7 -1.1**
ULN pmax pmax
comp=Z,5.0nm,1.0s
SONA1 Songino Array 31.40 291 *e*P **P 00 56 50.6 +0.1**
SONM Songino Array 31.41 291 P **P 00 56 49.7 -0.9**
comp=Z,1.2nm,0.7s,baz=79,slow=7.7,SNR=8.6
SONM LR LR 01 10 40.2
comp=Z,172nm,18.5s,baz=14,slow=39
ZAK Zakamensk 32.84 296 *e*P **P 00 57 00.7 -2.4**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
XAN Xi'an 35.22 266 P **P 00 57 24.6 +0.7**
XAN pP sP 00 57 33.6 +1.8
XAN pmax pmax
comp=Z,6.0nm,1.0s
XAN pmax pmax
comp=Z,110nm,4.3s
MDM Murphy Dome 36.78 38 *e*P **P 00 57 36.4 -0.5**
comp=Z,6.6nm,1.1s
ILAR Eielson Array 37.35 38 P **P 00 57 40.8 -0.9**
comp=Z,0.9nm,0.6s,baz=259,slow=7.7,SNR=9.8
ILAR PcP **PcP 01 00 00.4 +0.2**
comp=Z,0.4nm,0.8s,baz=243,slow=4.0,SNR=2.8
LZH Lanzhou 37.69 273 *e*P **P 00 57 47.0 +1.9**
LZH pP pwP 00 57 56.4 -1.3
LZH sP sP 00 58 00.5 +7.5
LZH PP **PnPn 00 59 17.4 +5.1**
LZH pmax pmax
comp=Z,88nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.3s
LZH LR LR
comp=Z,500nm,13.0s
LZH LR LR
comp=Z,310nm,12.6s
LZH LR LR
comp=Z,660nm,14.6s
HVS Khovu-Aksy 38.56 300⇑ *i*P **P 00 57 51.7 -0.5**
HVS Khovu-Aksy 38.56 300⇑ *i*P **P 00 57 51.7 -0.5**
HVS pmax pmax
comp=Z,10.0nm,0.9s
GTA Gaotai 38.88 280 ⇑ P **P 00 57 56.2 +1.1**
GTA pP pwP 00 58 09.0 +2.0
GTA sP sP 00 58 13.7 +10
GTA PcP **PcP 01 00 07.0 +1.4**
GTA S **S 01 03 52.3 +0.5**
GTA ScP **ScP 01 03 53.5 +1.3**
GTA sS sS 01 04 08.0 +6.4
GTA SS **SnSn 01 06 34.5 -8.0**
GTA pmax pmax
comp=Z,8.0nm,1.0s
GTA pmax pmax
comp=Z,100nm,8.6s
GTA LR LR
comp=Z,140nm,15.2s
GTA LR LR
comp=Z,170nm,15.2s
GTA LR LR
comp=Z,150nm,15.2s
CD2 Chengdu 40.59 266 *e*P **P 00 58 09.0 -0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
INK Inuvik 42.49 32 P **P 00 58 23.6 -0.6**
comp=Z,2.2nm,0.6s,baz=289,slow=6.3,SNR=12
INK Inuvik 42.49 32 *e*P **P 00 58 24.2 -0.1**
comp=Z,3.9nm,0.8s
INK Inuvik 42.49 32 *e*P **P 00 58 24.2 -0.1**
INK Inuvik 42.49 32 *e*P **P 00 58 24.2 -0.1**
INK pmax pmax
comp=Z,4.0nm,0.8s
DGZ Jazzator, Alta 42.82 300 *de*P **P 00 58 27.1 -0.3**
DGZ pmax pmax
comp=Z,1.0nm,0.9s
ZAA0 Zalesovo Array 42.92 306 *e*P **P 00 58 25.9 -2.1**
comp=Z,1.4nm,0.8s
ZAA0 *e*PcP **PcP 01 00 18.6 +0.4**
ZALV Zalesovo Beam 42.92 306 P **P 00 58 26.0 -2.0**
comp=Z,0.9nm,0.6s,baz=73,slow=6.6,SNR=6.0
ZALV PcP **PcP 01 00 18.5 +0.2**
comp=Z,3.5nm,1.0s,baz=77,slow=3.2,SNR=8.6
ZALV LR LR 01 17 44.7
comp=Z,267nm,18.0s,baz=70,slow=38
ZALV Zalesovo Beam 42.92 306 *e*P **P 00 58 25.5 -2.5**
ZALV PcP **PcP 01 00 18.5 +0.2**
NVS Novosibirsk 43.53 308 *e*P **P 00 58 30.7 -2.1**
NVS Novosibirsk 43.53 308 *e*P **P 00 58 30.7 -2.1**
KMI Kunming 44.87 260 P **P 00 58 45.5 +1.3**
KMI pmax pmax
comp=Z,10.0nm,0.5s
WMQ Urumqi 45.02 292 P **P 00 58 46.0 +0.9**
WMQ pP pwP 00 58 56.3 -0.8
WMQ sP sP 00 59 00.1 +7.0
WMQ pmax pmax
comp=Z,21nm,0.9s
WMQ pmax pmax
comp=Z,450nm,5.7s
WMQ LR LR
comp=Z,140nm,19.7s
WMQ LR LR
comp=Z,83nm,22.7s
WMQ LR LR
comp=Z,110nm,18.1s
MK31 Makanchi Array 47.13 298 *e*P **P 00 59 00.8 -0.8**
MK31 Makanchi Array 47.13 298 *e*P **P 00 59 00.8 -0.8**
MKAR Makanchi Array 47.13 298 P **P 00 59 00.8 -0.8**
comp=Z,5.3nm,0.8s,baz=68,slow=7.8,SNR=55
MKAR PcP **PcP 01 00 32.9 -0.1**
comp=Z,0.8nm,0.7s,baz=58,slow=3.8,SNR=2.6
MKAR ScP **ScP 01 04 27.0 +1.8**
comp=Z,0.2nm,0.8s,baz=46,slow=4.2,SNR=2.6
MKAR LR LR 01 19 58.3
comp=Z,182nm,19.0s,baz=54,slow=38
MKAR Makanchi Array 47.13 298 *e*P **P 00 59 00.8 -0.8**
comp=Z,40nm,0.8s
MKAR PcP **PcP 01 00 32.9 -0.1**
MKAR ScP **ScP 01 04 27.0 +1.8**
MKAR Makanchi Array 47.13 298 *e*P **P 00 59 00.8 -0.8**
MKAR 01 00 32.9
MKAR pmax pmax
comp=Z,40nm,0.8s
MK01 Makanchi Array 47.13 298 *e*P **P 00 59 00.5 -1.1**
MAKZ Makanchi 47.32 298 *e*P **P 00 59 02.3 -0.7**
comp=Z,6.6nm,1.0s
MAKZ Makanchi 47.32 298 *e*P **P 00 59 02.3 -0.7**
MAKZ pmax pmax
comp=Z,7.0nm,1.0s
KURK Kurchatov 47.65 304 *e*P **P 00 59 03.7 -1.7**
comp=Z,6.1nm,0.8s
KURK PcP **PcP 01 00 35.0 +0.3**
KURK Kurchatov 47.65 304 *e*P **P 00 59 04.6 -0.9**
KURK Kurchatov 47.65 304 P **P 00 59 04.6 -0.9**
KURK 01 00 35.0
KURK pmax pmax
comp=Z,5.0nm,0.8s
KURBB Kurchatov Arra 47.74 304 P **P 00 59 04.6 -1.6**
comp=Z,5.0nm,0.8s,baz=69,slow=8.6,SNR=20
KURBB PcP **PcP 01 00 35.0 0.0**
comp=Z,1.2nm,0.9s,baz=71,slow=3.3,SNR=3.5
BRVK Borovoye 51.26 310 *e*P **P 00 59 32.0 -1.0**
comp=Z,6.0nm,0.7s
BRVK Borovoye 51.26 310 *e*P **P 00 59 32.0 -1.0**
BRVK pmax pmax
comp=Z,6.0nm,0.7s
CMMT Chiang Mai 51.70 257 P **P 00 59 38.6 +1.8**
comp=Z,10nm,0.9s
CHTO Chiang Mai 51.70 257 *e*P **P 00 59 37.8 +1.0**
comp=Z,9.3nm,0.9s
CHTO Chiang Mai 51.70 257 *e*P **P 00 59 37.8 +1.0**
CHTO pmax pmax
comp=Z,9.0nm,0.9s
CHTO Chiang Mai 51.70 257 P **P 00 59 38.7 +1.9**
comp=Z,46nm,0.9s
RES Resolute Bay 51.71 18 *e*P **P 00 59 35.8 -0.3**
comp=Z,3.3nm,0.9s
RES Resolute Bay 51.71 18 *e*P **P 00 59 35.8 -0.3**
RES Resolute Bay 51.71 18 *e*P **P 00 59 35.8 -0.3**
RES pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 51.74 36 P **P 00 59 35.8 -0.6**
comp=Z,0.8nm,0.6s,baz=298,slow=7.1,SNR=14
YKB5 Yellowknife Ar 51.74 36 *e*P **P 00 59 35.0 -1.5**
CMAR Chiang Mai Arr 51.95 257 P **P 00 59 39.5 +0.9**
comp=Z,4.4nm,0.9s,baz=36,slow=7.7,SNR=16
CMAR LR LR 01 23 16.6
comp=Z,52nm,18.3s,baz=40,slow=38
CMAR Chiang Mai Arr 51.95 257⇑ *e*P **P 00 59 40.5 +1.9**
CMAR Chiang Mai Arr 51.95 257 *ce*P **P 00 59 40.5 +1.9**
CMAR pmax pmax
comp=Z,4.0nm,0.7s
OTUK Ortayu 52.42 304 P **P 00 59 41.6 -0.2**
OTUK pmax pmax
comp=Z,4.0nm,0.9s
KDJ Kajisay 52.59 295 *e*P **P 00 59 42.6 -0.7**
comp=Z,8.9nm,0.8s
KDJ Kajisay 52.59 295 *e*P **P 00 59 42.6 -0.7**
KDJ pmax pmax
comp=Z,9.0nm,0.8s
SPA0 Spitsbergen Ar 53.40 350 *e*P **P 00 59 48.6 0.0**
AAK Ala-Archa 54.01 297 *e*P **P 00 59 54.0 +0.3**
comp=Z,6.1nm,0.8s
AAK Ala-Archa 54.01 297⇓ *i*P **P 00 59 53.7 0.0**
AAK Ala-Archa 54.01 297 *di*P **P 00 59 53.7 0.0**
AAK pmax pmax
comp=Z,6.0nm,0.7s
SVE Sverdlovsk 54.30 317 *e*P **P 00 59 54.0 -1.4**
SVE Sverdlovsk 54.30 317 *e*P **P 00 59 54.0 -1.4**
NLWA Neilton Lookou 54.53 56 *e*P **P 00 59 57.6 +0.3**
comp=Z,3.6nm,0.9s
KSH Kashi 54.77 293 P **P 01 00 03.1 +3.9**
KSH pP pwP 01 00 14.3 +2.4
KSH PcP **PcP 01 01 05.6 +4.1**
KSH S **S 01 07 43.6 +5.1**
KSH sS sS 01 07 58.4 +10
KSH pmax pmax
comp=Z,18nm,0.6s
KSH pmax pmax
comp=Z,170nm,5.2s
KSH LR LR
comp=Z,210nm,7.6s
KSH LR LR
comp=Z,97nm,8.5s
KSH LR LR
comp=Z,400nm,9.0s
JIRN Jiri 54.79 275 *e*P **P 01 00 01.2 +1.4**
comp=Z,45nm,0.6s
GUN Gumba 54.85 275 *e*P **P 01 00 01.2 +1.0**
comp=Z,28nm,0.8s
RAMN Ramite 54.94 274 *e*P **P 01 00 01.7 +0.9**
comp=Z,27nm,0.6s
TULEG Thule 55.00 11 *e*P **P 01 00 00.4 +0.2**
comp=Z,5.2nm,0.7s
KKN Kakani 55.34 276 *e*P **P 01 00 05.2 +1.6**
comp=Z,21nm,0.7s
PKIN Phulchoki 55.39 275 *e*P **P 01 00 04.8 +0.7**
comp=Z,13nm,0.8s
ARU Arti 55.48 318 *e*P **P 01 00 02.4 -1.6**
comp=Z,25nm,1.1s
ARU Arti 55.48 318 *c i*P **P 01 00 02.2 -1.8**
ARU 01 02 04.7
ARU S **S 01 07 44.8 -2.5**
ARU SS **SS 01 11 27.6 -3.9**
ARU pmax pmax
comp=Z,10.0nm,1.1s
DMN Daman 55.57 276 *e*P **P 01 00 06.8 +1.4**
comp=Z,39nm,0.9s
ARSB Arslanbob 55.67 296 *e*P **P 01 00 05.8 +0.1**
comp=Z,4.7nm,0.8s
DANN Dangsing 56.05 277 *e*P **P 01 00 10.4 +1.6**
comp=Z,46nm,0.7s
SFK Sufi-Kurgan 56.07 295 P **P 01 00 09.7 +1.0**
SFK pmax pmax
comp=Z,7.0nm,0.9s
KK31 Karatay Array 56.21 299 *e*P **P 01 00 09.2 -0.1**
KK31 Karatay Array 56.21 299 *e*P **P 01 00 09.3 -0.1**
KKAR Karatay Array 56.21 299 *e*P **P 01 00 09.2 -0.1**
KKAR Karatay Array 56.21 299 *e*P **P 01 00 09.3 -0.1**
KOLN Koldanda 56.52 277 *e*P **P 01 00 13.4 +1.3**
comp=Z,43nm,0.9s
PYUN Piuthan 56.74 277 *e*P **P 01 00 14.9 +1.3**
comp=Z,70nm,0.9s
DAG Danmarks Havn 57.48 358 *e*P **P 01 00 17.2 -0.7**
DAG Danmarks Havn 57.48 358 *i*P **P 01 00 17.2 -0.7**
DAG *i* 01 01 21.1
DAG Danmarks Havn 57.48 358 *i*P **P 01 00 17.2 -0.7**
BTK Batken 57.74 296 *e*P **P 01 00 21.1 +0.7**
comp=Z,8.6nm,0.8s
BTK Batken 57.74 296 *e*P **P 01 00 21.1 +0.7**
BTK pmax pmax
comp=Z,9.0nm,0.8s
PRGR Permogore 57.95 327 *e*P **P 01 00 19.9 -1.5**
PRGR pmax pmax
comp=Z,8.0nm,0.8s
ARCES ARCESS Array B 58.58 341 P **P 01 00 24.7 -1.0**
comp=Z,4.5nm,1.0s,baz=25,slow=7.1,SNR=12
ARCES ARCESS Array B 58.58 341 *e*P **P 01 00 25.3 -0.4**
ARCES ARCESS Array B 58.58 341 *e*P **P 01 00 25.3 -0.4**
ARCES ARCESS Array B 58.58 341 *e*P **P 01 00 25.3 -0.4**
ABKAR Akbulak array 58.79 310 *e*P **P 01 00 26.6 -0.8**
NIL Nilore 59.96 289 *e*P **P 01 00 37.4 +1.6**
comp=Z,21nm,0.8s
NIL Nilore 59.96 289 *e*P **P 01 00 37.4 +1.6**
NIL pmax pmax
comp=Z,21nm,0.8s
KLMR Klimovskoe 60.71 329 *e*P **P 01 00 38.6 -1.9**
KLMR pmax pmax
comp=Z,13nm,1.1s
KLMR Klimovskoe 60.71 329 *e*P **P 01 00 38.6 -1.9**
KLMR AMP 01 00 41.1
comp=Z,13nm,1.1s
FFC Flin Flon 61.53 40 *i*P **P 01 00 46.5 +0.3**
FFC Flin Flon 61.53 40 *i*P **P 01 00 46.5 +0.3**
SUMG Summit 61.56 4 *e*P **P 01 00 46.3 -0.3**
comp=Z,27nm,1.1s
SUMG Summit 61.56 4 *i*P **P 01 00 46.6 0.0**
comp=Z,40nm,0.9s
SUMG Summit 61.56 4 *e*P **P 01 00 46.3 -0.3**
SUMG pmax pmax
comp=Z,27nm,1.1s
KBL Kabul 62.17 292 *e*P **P 01 00 50.8 -0.2**
comp=Z,8.9nm,0.8s
KBL Kabul 62.17 292 *e*P **P 01 00 50.8 -0.2**
KBL pmax pmax
comp=Z,9.0nm,0.8s
BOZ Bozeman (W) 62.48 52 *e*P **P 01 00 53.0 +0.1**
BOZ Bozeman (W) 62.48 52 *e*P **P 01 00 53.0 +0.1**
NV01 Mina Array Sit 63.03 62 *e*P **P 01 00 56.9 +0.1**
NVAR Mina Array Bea 63.03 62 P **P 01 00 56.9 +0.1**
comp=Z,1.3nm,0.8s,baz=298,slow=7.2,SNR=7.9
SCO Scoresbysund 63.86 358 *e*P **P 01 01 02.4 +1.0**
comp=Z,5.5nm,0.7s
SCO Scoresbysund 63.86 358 *i*P **P 01 01 02.4 +1.0**
comp=Z,21nm,1.2s
SCO Scoresbysund 63.86 358 *i*P **P 01 01 02.4 +1.0**
SCO pmax pmax
comp=Z,21nm,1.2s
FIA1 FINESS Array S 64.70 335 *e*P **P 01 01 05.9 -1.2**
FINES FINESS Array B 64.71 335 P **P 01 01 05.9 -1.2**
comp=Z,5.5nm,0.9s,baz=36,slow=6.7,SNR=23
FINES FINESS Array B 64.71 335 *i*P **P 01 01 05.3 -1.8**
FINES FINESS Array B 64.71 335 *i*P **P 01 01 05.3 -1.8**
FINES pmax pmax
comp=Z,6.0nm,0.9s
DUG Dugway, Tooele 65.22 57 *e*P **P 01 01 11.5 +0.5**
comp=Z,5.1nm,1.1s
TPNV Topopah Spring 65.23 62 *e*P **P 01 01 11.5 +0.4**
comp=Z,4.7nm,1.1s
TPNV Topopah Spring 65.23 62 *e*P **P 01 01 11.5 +0.4**
TPNV pmax pmax
comp=Z,5.0nm,1.1s
PDAR Pinedale Array 65.43 53 P **P 01 01 11.9 -0.5**
comp=Z,1.0nm,1.0s,baz=274,slow=2.4,SNR=6.4
PDAR Pinedale Array 65.43 53 *e*P **P 01 01 12.1 -0.3**
OBN Obninsk 65.88 326⇑ *e*P **P 01 01 14.7 0.0**
OBN Obninsk 65.88 326⇑ *e*P **P 01 01 14.7 0.0**
OBN *i* *SP **pwP 01 01 26.6 -0.9**
OBN *e* 01 01 39.4
OBN 01 01 45.0
OBN *e*PPP PPP 01 05 13.4
OBN S S 01 10 14.0 +14
OBN pmax pmax
comp=Z,8.0nm,0.6s
OBN MLR MLR
comp=Z,92nm,17.0s
VRH Novokhopyorsk 66.51 320 *e*P **P 01 01 16.8 -2.1**
VRH pmax pmax
comp=Z,20nm,0.8s
LPSR Galich'ya Gora 66.73 323 *e*P **P 01 01 18.8 -1.5**
LPSR pmax pmax
comp=Z,20nm,1.2s
GEYT Alibeck 66.84 301 P **P 01 01 22.0 +0.7**
comp=Z,7.9nm,0.7s,baz=29,slow=3.4,SNR=18
GEYT LR LR 01 32 48.5
comp=Z,73nm,18.3s,baz=45,slow=38
GYA0B ALIBECK ARRAY 66.84 301 *e*P **P 01 01 22.1 +0.8**
comp=Z,9.0nm,0.8s
RSSD Black Hills 67.55 49 *e*P **P 01 01 24.9 -1.0**
comp=Z,0.9nm,0.7s
RSSD Black Hills 67.55 49 *e*P **P 01 01 24.9 -1.0**
RSSD pmax pmax
comp=Z,1.0nm,0.7s
VSR Storozhevoye 67.63 321 *e*P **P 01 01 24.4 -1.6**
VSR pmax pmax
comp=Z,9.0nm,0.6s
WB2 Warramunga Arr 67.64 199 *e*P **P 01 01 26.4 0.0**
WRA Warramunga Arr 67.64 199 P **P 01 01 26.1 -0.3**
comp=Z,1.5nm,0.7s,baz=17,slow=6.7,SNR=16
WRA LR LR 01 34 13.0
comp=Z,29nm,18.1s,baz=230,slow=39
FITZ Fitzroy Crossi 68.29 208 *e*P **P 01 01 31.5 +1.1**
comp=Z,4.8nm,1.0s
PV10 Paradox Valley 68.62 57 *e*P **P 01 01 33.7 +0.9**
PV17 East Wray Mesa 68.73 57 *e*P **P 01 01 33.4 0.0**
comp=Z,5.8nm,1.2s
NC303 NORSAR Array S 68.75 341 *e*P **P 01 01 32.9 0.0**
NC405 NORSAR Array S 68.77 341 *e*P **P 01 01 32.9 -0.2**
PV05 Paradox Valley 68.79 57 *e*P **P 01 01 33.1 -0.7**
PV03 Paradox Valley 68.81 57 *e*P **P 01 01 34.0 0.0**
NC204 NORSAR Array S 68.84 341 *e*P **P 01 01 33.8 +0.2**
NB201 NORSAR Array S 68.93 341 *e*P **P 01 01 33.5 -0.5**
NB2 NORSAR Subarra 68.95 341 P **P 01 01 33.5 -0.8**
comp=Z,2.2nm,0.6s,baz=27,slow=6.5
NB2 NORSAR Subarra 68.95 341 P **P 01 01 33.4 -0.8**
NB2 pmax pmax
comp=Z,2.0nm,0.6s
NOA NORSAR Array B 68.95 341 P **P 01 01 33.7 -0.5**

NOA LR LR 01 35 59.2
comp=Z,2.7nm,0.5s,baz=29,slow=6.6,SNR=15
NORES **NORESS Array B 69.15 341** P **P**
comp=Z,96nm,18.8s,baz=355,slow=40
GOF **Gofitskoye 70.25 315** *eP* **P**
GOF pmax pmax
comp=Z,20nm,0.6s
BTLR **Botlikh 70.33 311**⇓*eP* **P** **01 01 42.9 -0.2**
BTLR pmax pmax
comp=Z,5.0nm,0.7s
NCK **Nalchik 71.10 313**⇑*eP* **P** **01 01 47.7 +0.1**
NCK pmax pmax
comp=Z,11nm,0.8s
KIV **Kislovodsk 71.22 314** *eP* **P** **01 01 49.8 +1.3**
comp=Z,13nm,0.9s
KIV **Kislovodsk 71.22 314**⇓*eP* **P** **01 01 49.5 +1.0**
KIV **Kislovodsk 71.22 314**⇓*eP* **P** **01 01 49.5 +1.0**
KIV *SP **pwP** 01 02 01.0 -0.3
KIV 01 02 12.0
KIV pmax pmax
comp=Z,12nm,0.8s
KIV MLR MLR
comp=Z,103nm,18.0s
KBZ **Khabaz 71.28 314** P **P** **01 01 49.5 +0.8**
comp=Z,12nm,0.8s,baz=60,slow=2.9,SNR=36
KBZ LR LR 01 37 37.6
comp=Z,77nm,18.5s,baz=33,slow=40
AS01 **Alice Springs 71.32 198** *eP* **P** **01 01 49.8 +0.8**
ASAR **Alice Springs 71.33 198** P **P** **01 01 50.0 +0.9**
comp=Z,1.5nm,0.7s,baz=12,slow=6.2,SNR=6.8
ASAR **Alice Springs 71.33 198** *eP* **P** **01 01 50.0 +0.9**
ASAR **Alice Springs 71.33 198** P **P** **01 01 50.0 +0.9**
ZEI **Tsey 71.45 313** *eP* **P** **01 01 49.3 -0.7**
ZEI pmax pmax
comp=Z,6.0nm,0.9s
NEY **Neytrino 71.72 314**⇓*eP* **P** **01 01 52.9 +1.3**
NEY pmax pmax
comp=Z,1.0nm,0.8s
AKASG **Malin Array Be 72.12 326** P **P** **01 01 52.9 -0.8**
comp=Z,9.3nm,0.6s,baz=34,slow=6.3,SNR=27
AKASG LR LR 01 36 29.9
comp=Z,78nm,18.6s,baz=20,slow=38
AKBB **Malin Array Si 72.12 326** *eP* **P** **01 01 53.2 -0.5**
comp=Z,13nm,0.8s
KIEV **Kiev 72.13 326** *eP* **P** **01 01 53.0 -0.7**
comp=Z,13nm,0.8s
KIEV **Kiev 72.13 326** *eP* **P** **01 01 53.0 -0.7**
KIEV pmax pmax
comp=Z,13nm,0.8s
AK11 **Malin Array Si 72.16 326** *eP* **P** **01 01 53.7 -0.1**
GNI **Garni 72.90 310** *eP* **P** **01 01 59.1 +0.4**
comp=Z,10nm,0.9s
GNI **Garni 72.90 310***ceP* **P** **01 02 01.2 +2.5**
GNI pmax pmax
comp=Z,93nm,1.3s
LVV **L'vov 74.80 328** *eP* **P** **01 02 08.9 -0.5**
KWP **Kalwaria Pacla 75.43 329** *eP* **P** **01 02 14.5 +1.4**
KWP **Kalwaria Pacla 75.43 329** *eP* **P** **01 02 14.5 +1.4**
IAS **Iasi 75.59 325**⇑*iP* **P** **01 02 15.0 +1.0**
IAS **Iasi 75.59 325** ⇑P **P** **01 02 15.0 +1.0**
LEOM **Leova 75.89 324**⇑*iP* **P** **01 02 16.1 +0.4**
LEOM **Leova 75.89 324** ⇑P **P** **01 02 16.1 +0.4**
OJC **Ojcow 75.95 331** *eP* **P** **01 02 16.4 +0.4**
OJC **Ojcow 75.95 331** *eP* **P** **01 02 16.2 +0.2**
comp=Z,5.2nm,0.8s
OJC **Ojcow 75.95 331** *eP* **P** **01 02 16.2 +0.2**
OJC **Ojcow 75.95 331** *eP* **P** **01 02 16.2 +0.2**
OJC pmax pmax
comp=Z,5.0nm,0.8s
PRAR **RASCA 75.98 326**⇑*iP* P 01 02 21.8 +5.5
BURAR **Bucovina Array 76.17 326**⇑*iP* **P** **01 02 17.4 0.0**
BURAR **Bucovina Array 76.17 326** ⇑P **P** **01 02 17.4 0.0**
BIZ **Bicaz 76.37 326**⇑*iP* **P** **01 02 18.5 0.0**
NIE **Niedzica 76.46 330** *eP* **P** **01 02 19.7 +0.7**
NIE **Niedzica 76.46 330** *eP* **P** **01 02 19.7 +0.7**
TLCR **76.69 323**⇑*iP* **P** **01 02 20.9 +0.6**
TLCR **76.69 323** ⇑P **P** **01 02 20.9 +0.6**
TRPA **Tarpa 76.75 328**⇑*iP* **P** **01 02 20.9 +0.4**
ARCR **ARCALIA 76.94 327**⇑*iP* **P** **01 02 23.3 +1.6**
LANS **Liptovska Anna 76.97 331** *eP* **P** **01 02 23.5 +1.6**
LANS **Liptovska Anna 76.97 331** *eP* **P** **01 02 23.5 +1.6**
CFR **Carcaliu 76.98 323**⇑*iP* **P** **01 02 21.7 -0.2**
CFR **Carcaliu 76.98 323** ⇑P **P** **01 02 21.7 -0.2**
VRI **Vrincioaia 77.00 325**⇑*iP* P 01 02 33.3 +11
VRI **Vrincioaia 77.00 325** ⇑P P 01 02 33.3 +11
MORC **Moravsky Berou 77.08 332** *eP* **P** **01 02 22.5 0.0**
comp=Z,3.4nm,0.9s
MORC **Moravsky Berou 77.08 332**⇑*iP* **P** **01 02 22.6 +0.1**
MORC **Moravsky Berou 77.08 332** *eP* **P** **01 02 22.5 0.0**
MORC pmax pmax
comp=Z,3.0nm,0.9s
MORC **Moravsky Berou 77.08 332** *eP* **P** **01 02 22.3 -0.2**
CLL **Collm 77.14 335** *eP* **P** **01 02 23.0 +0.2**
comp=Z,5.5nm,0.6s
CLL **Collm 77.14 335**⇓*iP* **P** **01 02 22.6 -0.1**
comp=Z,6.0nm,0.7s
CLL *epP **pP** **01 02 30.0 +1.3**
CLL **Collm 77.14 335**⇓*iP* **P** **01 02 22.6 -0.1**
CLL **Collm 77.14 335**⇓*iP* **P** **01 02 22.6 -0.1**
CLL pmax pmax
comp=Z,3.0nm,0.7s
BRG **Berggiesshubel 77.25 335** *eP* **P** **01 02 22.2 -1.1**
comp=Z,2.6nm,0.8s
BRG **Berggiesshubel 77.25 335** *eP* **P** **01 02 22.2 -1.1**
BRG pmax pmax
comp=Z,3.0nm,0.8s
DOPR **Dopca 77.45 325**⇑*iP* P 01 02 29.5 +4.9
TLB **Topalu 77.50 323**⇑*iP* **P** **01 02 25.0 +0.2**
TLB **Topalu 77.50 323** ⇑P **P** **01 02 25.0 +0.2**
CJR **Cluj-Napoca 77.53 327**⇑*iP* **P** **01 02 25.2 +0.1**
CJR **Cluj-Napoca 77.53 327** ⇑P **P** **01 02 25.2 +0.1**
VYHS **Vyhne 77.75 331** *eP* **P** **01 02 26.6 +0.4**
VYHS pmax pmax
comp=Z,2.0nm,0.8s
VYHS **Vyhne 77.75 331** *eP* **P** **01 02 26.6 +0.4**
VRAC **Vranov 77.79 332**⇓*iP* **P** **01 02 26.5 0.0**
VRAC **Vranov 77.79 332** ⇓P **P** **01 02 26.5 0.0**
VRAC **Vranov 77.79 332** *eP* **P** **01 02 26.9 +0.4**
DRGR **77.80 327**⇓*iP* **P** **01 02 26.6 0.0**
DRGR **77.80 327** ⇓P **P** **01 02 26.6 0.0**
JAVC **Velka Javorina 77.83 332** *eP* **P** **01 02 27.8 +1.1**
GOPC **GO Pecny, Ondr 77.83 334** *eP* **P** **01 02 27.4 +0.7**
GOPC **GO Pecny, Ondr 77.83 334** *eP* **P** **01 02 27.4 +0.7**
PRU **Pruhonice 77.85 334** *eP* **P** **01 02 27.4 +0.7**
PRU **Pruhonice 77.85 334** *eP* **P** **01 02 27.4 +0.7**
VOIR **78.03 325**⇑*iP* **P** **01 02 28.1 +0.2**
VOIR **78.03 325** ⇑P **P** **01 02 28.1 +0.2**
KRUC **Moravsky 78.07 332** *eP* **P** **01 02 28.4 +0.4**
TX31 **Lajitas Ar. Si 78.11 60** *eP* **P** **01 02 28.4 -0.2**
TXAR **Lajitas Array 78.11 60** P **P** **01 02 28.4 -0.2**
comp=Z,2.2nm,0.6s,baz=306,slow=4.2,SNR=11
ARR **Arges 78.25 326**⇑*iP* **P** **01 02 30.2 +1.1**
BR131 **Keskin Array S 78.85 317** *eP* **P** **01 02 33.6 +1.0**
BRTR **Keskin Array B 78.85 317** P **P** **01 02 32.7 +0.1**
comp=Z,2.6nm,0.8s,baz=75,slow=4.3,SNR=15
BRTR LR LR 01 43 24.4
comp=Z,52nm,18.5s,baz=83,slow=40
KHC **Kasperske Hory 78.90 334** *eP* **P** **01 02 32.5 -0.1**
comp=Z,1.9nm,0.7s
KHC **Kasperske Hory 78.90 334** *eP* **P** **01 02 33.3 +0.7**
KHC *ex* x 01 02 46.0
KHC **Kasperske Hory 78.90 334** *eP* **P** **01 02 32.5 -0.1**
KHC **Kasperske Hory 78.90 334** *eP* **P** **01 02 32.5 -0.1**
KHC pmax pmax
comp=Z,2.0nm,0.7s
GZR **Gura Zlata 78.95 327**⇑*iP* **P** **01 02 32.8 -0.2**
GZR **Gura Zlata 78.95 327** ⇑P **P** **01 02 32.8 -0.2**
WET **Wettzell 79.10 334** P **P** **01 02 35.1 +1.4**
WET pmax pmax
comp=Z,6.0nm,1.0s
GEC2 **GERESS Array S 79.11 334** *eP* **P** **01 02 34.3 +0.4**
comp=Z,1.9nm,0.7s
GEC2 **GERESS Array S 79.11 334** *eP* **P** **01 02 34.3 +0.4**
GEC2 pmax pmax
comp=Z,2.0nm,0.7s
GERES **GERESS Array B 79.11 334** P **P** **01 02 33.9 +0.1**
comp=Z,1.8nm,0.7s,baz=43,slow=6.0,SNR=14
GERES LR LR 01 41 22.7
comp=Z,46nm,18.7s,baz=344,slow=39
GEA0 **GERESS Array S 79.12 334** *eP* **P** **01 02 33.4 -0.5**
ANTO **Ankara 79.14 317** *eP* **P** **01 02 34.5 +0.4**
comp=Z,7.4nm,0.8s
ANTO **Ankara 79.14 317** *eP* **P** **01 02 34.5 +0.4**
ANTO pmax pmax
comp=Z,7.0nm,0.8s
BZS **Buzias 79.20 327**⇓*iP* **P** **01 02 34.1 -0.2**
BZS **Buzias 79.20 327** P **P** **01 02 34.6 +0.3**
BZS pmax pmax
comp=Z,5.0nm,0.8s
CONA **Conrad Observa 79.24 332** *i* P **P** **01 02 35.4 +0.9**
comp=Z,4.7nm,0.7s
MEM **Membach 79.66 339** ⇑P **P** **01 02 37.6 +0.9**
comp=Z,6.7nm,0.9s
MOA **Molln 79.82 333** *i* P **P** **01 02 38.9 +1.3**
comp=Z,4.6nm,0.8s
MDVR **Moldovita 79.87 327**⇑*iP* **P** **01 02 37.8 -0.2**
ARSA **Arzberg 79.94 332** *i* P **P** **01 02 38.9 +0.6**
comp=Z,3.7nm,1.1s
DOU **Dourbes 80.47 340** ⇑P **P** **01 02 41.4 +0.4**
BAIF **Baives 80.60 340** *eP* **P** **01 02 41.6 -0.1**
BAIF pmax pmax
comp=Z,23nm,1.7s
SOKA **Soboth 80.60 332** *i* P **P** **01 02 42.0 0.0**
comp=Z,6.6nm,1.0s
DIVS **Divibare 81.10 328** *eP* **P** **01 02 44.3 -0.4**
comp=Z,4.2nm,0.9s
WATA **Walderalm 81.11 334** *i* P **P** **01 02 45.7 +1.0**
comp=Z,9.7nm,1.0s
VTS **Vitosha 81.13 325** *eP* **P** **01 02 44.6 -0.3**
comp=Z,7.7nm,0.8s
VTS **Vitosha 81.13 325**⇑*iP* **P** **01 02 44.9 0.0**
VTS **Vitosha 81.13 325** *eP* **P** **01 02 44.6 -0.3**
VTS pmax pmax
comp=Z,8.0nm,0.8s
BFO **Black Forest 81.14 337** *i* P **P** **01 02 46.2 +1.5**
WTTA **Wattenberg 81.15 334** *i* PcP **P** **01 02 46.6 +1.6**
comp=Z,5.1nm,0.6s
RETA **Reutte 81.21 335** *i* P **P** **01 02 45.6 +0.5**
comp=Z,3.7nm,1.0s
MOTA **Moosalm 81.24 335** *i* P **P** **01 02 46.1 +0.7**
comp=Z,9.3nm,1.0s
SQTA **Sankt Quirin 81.32 335** *i* P **P** **01 02 46.0 +0.1**
comp=Z,7.2nm,1.1s
CDF **Champ du Feu 81.35 338** *eP* **P** **01 02 46.7 +0.8**
CDF pmax pmax
comp=Z,7.0nm,1.0s
ALN **Alexandroupoli 81.36 322** *eP* **P** **01 02 46.0 +0.1**
comp=Z,3.1nm,1.0s
ALN **Alexandroupoli 81.36 322** *eP* **P** **01 02 46.0 +0.1**
ALN pmax pmax
comp=Z,3.0nm,1.0s
PPT **Papeete 81.85 126** LR LR 01 35 50.9
comp=Z,85nm,18.4s,baz=352,slow=33
PPT2 **Papeete2 81.87 126** *e*LR LR 01 28 28.3
comp=Z,72nm,22.8s
HAU **Haudompre 81.97 338** *eP* **P** **01 02 48.7 -0.4**
HAU pmax pmax
comp=Z,8.0nm,1.2s
FUORN **Ofenpass-Fuorn 82.14 335** *eP* **P** **01 02 49.9 -0.4**
comp=Z,4.9nm,1.0s
TUE **Stuetta 82.55 335** *eP* **P** **01 02 55.6 +3.2**
comp=Z,5.4nm,0.9s
CSS **Mathiatis 82.74 314** *eP* **P** **01 02 53.3 -0.1**
comp=Z,4.1nm,0.8s
FLN **La Foliniere 82.87 343** *eP* **P** **01 02 55.0 +1.3**
FLN pmax pmax
comp=Z,29nm,1.4s
LDF **La Druitiere 82.95 342** *eP* **P** **01 02 56.1 +1.9**
LDF pmax pmax
comp=Z,10.0nm,1.0s
LOR **Lormes 83.29 339** *eP* **P** **01 02 56.0 0.0**
LOR pmax pmax
comp=Z,5.0nm,0.8s
GRR **Gorron 83.31 343** *eP* **P** **01 02 56.4 +0.4**
GRR pmax pmax
comp=Z,26nm,1.6s
CABF **La Chapelle 83.32 338** *eP* **P** **01 02 57.5 +1.2**
CABF pmax pmax
comp=Z,53nm,2.1s
SGMF **Saint Gilles 83.78 344** *eP* **P** **01 02 59.3 +0.9**
SGMF pmax pmax
comp=Z,29nm,1.4s
ROSF **Rostrenen 83.84 344** *eP* **P** **01 03 02.2 +3.5**
ROSF pmax pmax
comp=Z,27nm,1.2s
AVF **Avril sur Loir 83.86 339** *eP* **P** **01 02 58.6 -0.2**
AVF pmax pmax
comp=Z,44nm,0.9s
LPL **La Plagne 84.16 337** *eP* **P** **01 03 01.1 +0.4**
LPL pmax pmax
comp=Z,3.0nm,0.8s
LPG **La Plagne 84.17 337** *eP* **P** **01 03 02.3 +1.4**
LPG pmax pmax
comp=Z,13nm,1.4s
TCF **Toulx Ste Croi 84.60 340** *eP* **P** **01 03 05.4 +2.7**
TCF pmax pmax
comp=Z,11nm,1.4s
RAYN **Ar Rayn 84.62 298** *eP* **P** **01 03 03.8 +0.6**
comp=Z,3.3nm,0.8s
RAYN **Ar Rayn 84.62 298** *eP* **P** **01 03 03.8 +0.6**
RAYN pmax pmax
comp=Z,3.0nm,0.8s
MBDF **Montbardon 84.87 336** *eP* **P** **01 03 04.6 +0.3**
MBDF pmax pmax
comp=Z,16nm,1.5s
ORIF **Oris-en-Rattie 84.94 337** *eP* **P** **01 03 05.2 +0.7**
ORIF pmax pmax
comp=Z,6.0nm,0.8s
VIVF **Saint-Julien-l 85.32 338** *eP* **P** **01 03 05.8 -0.6**
VIVF pmax pmax
comp=Z,34nm,2.1s
RJF **Les Rejaudoux 85.69 340** *eP* **P** **01 03 09.3 +1.1**
RJF pmax pmax
comp=Z,4.0nm,0.9s
CAF **Calviac 85.92 340** *eP* **P** **01 03 11.9 +2.6**
CAF pmax pmax
comp=Z,35nm,1.8s
TORD **Torodi Ar. Bea 115.70 328** PKP **PKiKP** **01 09 11.2 -0.9**
comp=Z,0.2nm,0.6s,baz=338,slow=1.6,SNR=3.5
PLCA **Paso Flores 148.35 96** PKPbc **PKPbc** **01 10 15.0 -0.4**
comp=Z,2.1nm,0.8s,baz=290,slow=2.3,SNR=3.4
CPUP **Villa Florida 149.08 61** PKPbc **PKPbc** **01 10 16.7 -0.9**
comp=Z,1.4nm,0.7s,baz=270,slow=1.0,SNR=2.9

ROM 04 01:00:51.5±0.1,**38°522N**±0.007×**14°780E**±0.007,
h21km±1km,**ML2.5/26,Sicily**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLI	**Lipari**	**0.15**	**120**	P	Pb	01 00 56.1	-1.4
LLI				S	Sb	01 00 58.9	-2.9
LLI				AML	AML		
	comp=E,8500μm,0.3s						
LLI				AML	AML		
	comp=N,8505μm,0.7s						
LLI				AML	AML		
	comp=E,8500μm,0.3s						
LLI				AML	AML		
	comp=N,8505μm,0.7s						
LLI				AML	AML		
	comp=E,8500μm,0.3s						
LLI				AML	AML		
	comp=N,8505μm,0.7s						
LLI				AML	AML		
	comp=E,8500μm,0.3s						
LLI				AML	AML		
	comp=N,8505μm,0.7s						
IACL	**Alicudi**	**0.33**	**272**	P	Pb	01 00 59.4	+0.8
IACL				S	Sb	01 01 04.8	+1.2
IACL				AML	AML		
	comp=E,3030μm,0.3s						
IACL				AML	AML		
	comp=N,2530μm,0.9s						
IACL				AML	AML		
	comp=E,3030μm,0.3s						
IACL				AML	AML		
	comp=N,2530μm,0.9s						
IACL				AML	AML		
	comp=E,3030μm,0.3s						
IACL				AML	AML		
	comp=N,2530μm,0.9s						
IACL				AML	AML		
	comp=N,2530μm,0.9s						
IACL				AML	AML		
	comp=E,3030μm,0.3s						
ISTR	**Stromboli Gino**	**0.42**	**51**	P	Pn	01 01 01.2	-1.0
MILZ	**Milazzo**	**0.43**	**125**	P	Pb	01 01 00.5	+0.1
MILZ				S	Sb	01 01 06.5	+0.2
MILZ				AML	AML		
	comp=E,900μm,1.3s						
MILZ				AML	AML		
	comp=N,921μm,0.4s						
MILZ				AML	AML		
	comp=E,899μm,1.3s						
MILZ				AML	AML		
	comp=N,921μm,0.4s						
MILZ				AML	AML		
	comp=E,899μm,1.3s						
MILZ				AML	AML		
	comp=N,921μm,0.4s						
MUCR	**Ucria**	**0.48**	**171**	P	Pb	01 01 00.8	-0.5
MUCR				S	Sb	01 01 08.9	+0.9
MUCR				AML	AML		
	comp=E,1014μm,0.6s						
MUCR				AML	AML		
	comp=N,3195μm,0.4s						
MUCR				AML	AML		
	comp=E,1013μm,0.6s						
MUCR				AML	AML		
	comp=N,3195μm,0.4s						
MUCR				AML	AML		
	comp=E,1013μm,0.6s						
MUCR				AML	AML		
	comp=N,3195μm,0.4s						
MUCR				AML	AML		
	comp=E,1013μm,0.6s						
MSFR	**San Fratello**	**0.51**	**197**	P	Pb	01 01 01.8	0.0
MSFR				S	Sb	01 01 09.3	+0.5
MSFR				AML	AML		
	comp=E,312μm,1.2s						
MSFR				AML	AML		
	comp=N,314μm,0.8s						
MSFR				AML	AML		
	comp=E,313μm,1.2s						
MSFR				AML	AML		
	comp=N,314μm,0.8s						
MSFR				AML	AML		
	comp=E,313μm,1.2s						
MSFR				AML	AML		
	comp=N,314μm,0.8s						
MSFR				AML	AML		
	comp=N,314μm,0.8s						
MSFR				AML	AML		
	comp=E,313μm,1.2s						
NOV	**Novara**	**0.57**	**150**	P	Pb	01 01 02.5	-0.3
NOV				S	Sn	01 01 12.0	-1.2
NOV				AML	AML		
	comp=E,1580μm,0.5s						
NOV				AML	AML		
	comp=N,690μm,0.7s						
NOV				AML	AML		
	comp=E,1580μm,0.5s						
NOV				AML	AML		
	comp=N,690μm,0.7s						
NOV				AML	AML		
	comp=N,690μm,0.7s						
NOV				AML	AML		
	comp=E,1580μm,0.5s						
MPNC	**Port Mandanici**	**0.59**	**130**	P	Pb	01 01 03.0	-0.1
MPNC				S	Sb	01 01 12.0	+0.9
MPNC				AML	AML		
	comp=E,907μm,0.4s						
MPNC				AML	AML		
	comp=N,1190μm,0.2s						
MPNC				AML	AML		
	comp=E,907μm,0.4s						
MPNC				AML	AML		
	comp=N,1190μm,0.2s						
MPNC				AML	AML		
	comp=E,907μm,0.4s						
MPNC				AML	AML		
	comp=N,1190μm,0.2s						
MCSR	**Castroreale**	**0.59**	**141**	P	Pb	01 01 02.8	-0.5
MCSR				S	Sb	01 01 11.6	+0.4
MCSR				AML	AML		
	comp=E,1545μm,0.3s						
MCSR				AML	AML		
	comp=N,2315μm,1.0s						
MCSR				AML	AML		
	comp=E,1545μm,0.3s						
MCSR				AML	AML		
	comp=N,2315μm,1.0s						
MCSR				AML	AML		
	comp=E,1545μm,0.3s						
MCSR				AML	AML		
	comp=N,2315μm,1.0s						
MCSR				AML	AML		
	comp=N,2315μm,1.0s						
MCSR				AML	AML		
	comp=E,1545μm,0.3s						
MNO	**Monte Soro**	**0.59**	**187**	P	Pb	01 01 03.3	0.0
MNO				S	Sb	01 01 12.3	+0.9
MNO				AML	AML		
	comp=E,1037μm,0.5s						
MNO				AML	AML		
	comp=N,1465μm,0.4s						
MNO				AML	AML		
	comp=E,1035μm,0.5s						
MNO				AML	AML		
	comp=N,1465μm,0.4s						
MNO				AML	AML		
	comp=N,1465μm,0.4s						
MNO				AML	AML		
	comp=E,1035μm,0.5s						
MSRU	**Castanea**	**0.63**	**114**	P	Pb	01 01 04.0	+0.2
MSRU				S	Sn	01 01 13.5	-1.0
MSRU				AML	AML		
	comp=E,376μm,1.5s						
MSRU				AML	AML		
	comp=N,434μm,0.7s						
MSRU				AML	AML		
	comp=E,376μm,1.5s						
MSRU				AML	AML		
	comp=N,434μm,0.7s						
MSRU				AML	AML		
	comp=N,434μm,0.7s						
MSRU				AML	AML		
	comp=E,376μm,1.5s						
ATN	**Antennamare**	**0.65**	**124**	P	Pb	01 01 04.2	0.0
ATN				S	Sb	01 01 14.1	+1.1
ATN				AML	AML		
	comp=E,1020μm,0.3s						
ATN				AML	AML		
	comp=N,432μm,0.2s						
ATN				AML	AML		
	comp=E,1021μm,0.3s						
ATN				AML	AML		
	comp=N,432μm,0.2s						
ATN				AML	AML		
	comp=N,432μm,0.2s						
ATN				AML	AML		
	comp=E,1021μm,0.3s						
PLLN	**Pollina**	**0.73**	**224**	P	Pb	01 01 05.5	0.0
PLLN				AML	AML		
	comp=E,652μm,0.4s						
PLLN				AML	AML		
	comp=N,708μm,0.4s						
PLLN				AML	AML		
	comp=E,652μm,0.4s						
PLLN				AML	AML		
	comp=N,708μm,0.4s						
PLLN				AML	AML		
	comp=E,652μm,0.4s						
PLLN				AML	AML		
	comp=N,708μm,0.4s						
PLLN				AML	AML		
	comp=E,652μm,0.4s						
PLLN				AML	AML		
	comp=N,708μm,0.4s						
GIB	**Gibilmanna**	**0.80**	**228**	P	Pb	01 01 06.5	-0.2
GIB				AML	AML		
	comp=E,288μm,0.4s						
GIB				AML	AML		
	comp=N,386μm,0.4s						
GIB				AML	AML		
	comp=E,288μm,0.4s						
GIB				AML	AML		
	comp=N,386μm,0.4s						
GIB				AML	AML		
	comp=N,386μm,0.4s						
GIB				AML	AML		
	comp=E,288μm,0.4s						
GALF	**Gagliano Caste**	**0.83**	**192**	P	Pb	01 01 07.4	+0.2
GALF				AML	AML		
	comp=E,216μm,0.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GALF				AML	AML		
	comp=N,302µm,0.6s						
GALF				AML	AML		
	comp=E,216µm,0.5s						
GALF				AML	AML		
	comp=N,302µm,0.6s						
GALF				AML	AML		
	comp=E,216µm,0.5s						
GALF				AML	AML		
	comp=N,302µm,0.6s						
MSCL	**Scilla**	**0.84**	**110**	P	Pb	01 01 07.2	-0.3
MSCL				AML	AML		
	comp=E,434µm,0.3s						
MSCL				AML	AML		
	comp=N,461µm,0.5s						
MSCL				AML	AML		
	comp=E,434µm,0.3s						
MSCL				AML	AML		
	comp=N,461µm,0.5s						
MSCL				AML	AML		
	comp=E,434µm,0.3s						
MSCL				AML	AML		
	comp=N,461µm,0.5s						
PETRA	**Petralia Sopra**	**0.86**	**218**	P	Pb	01 01 08.0	+0.1
PETRA				AML	AML		
	comp=E,354µm,1.5s						
PETRA				AML	AML		
	comp=N,384µm,0.4s						
PETRA				AML	AML		
	comp=E,354µm,1.5s						
PETRA				AML	AML		
	comp=N,384µm,0.4s						
PETRA				AML	AML		
	comp=N,384µm,0.4s						
PETRA				AML	AML		
	comp=E,354µm,1.5s						
JOPP	**Joppolo**	**0.87**	**84**	P	Pb	01 01 08.1	+0.2
JOPP				AML	AML		
	comp=E,65µm,0.3s						
JOPP				AML	AML		
	comp=N,56µm,0.6s						
JOPP				AML	AML		
	comp=E,65µm,0.3s						
JOPP				AML	AML		
	comp=N,56µm,0.6s						
JOPP				AML	AML		
	comp=E,65µm,0.3s						
JOPP				AML	AML		
	comp=N,56µm,0.6s						
MTTG	**Motta San Giov**	**0.89**	**126**	P	Pb	01 01 08.0	-0.2
MTTG				AML	AML		
	comp=E,139µm,0.6s						
MTTG				AML	AML		
	comp=N,182µm,0.6s						
MTTG				AML	AML		
	comp=E,140µm,0.6s						
MTTG				AML	AML		
	comp=N,182µm,0.6s						
MTTG				AML	AML		
	comp=N,182µm,0.6s						
MTTG				AML	AML		
	comp=E,140µm,0.6s						
HLNI	**Lentini**	**1.17**	**176**	P	Pn	01 01 12.6	0.0
HLNI				AML	AML		
	comp=E,69µm,1.4s						
HLNI				AML	AML		
	comp=N,70µm,1.1s						
HLNI				AML	AML		
	comp=E,69µm,1.4s						
HLNI				AML	AML		
	comp=N,70µm,1.1s						
HLNI				AML	AML		
	comp=E,69µm,1.4s						
HLNI				AML	AML		
	comp=N,70µm,1.1s						
HCRL	**Carlentini**	**1.25**	**171**	P	Pn	01 01 14.1	+0.3
HCRL				AML	AML		
	comp=E,129µm,1.6s						
HCRL				AML	AML		
	comp=N,100µm,1.6s						
HCRL				AML	AML		
	comp=E,129µm,1.6s						
HCRL				AML	AML		
	comp=N,100µm,1.6s						
HCRL				AML	AML		
	comp=N,100µm,1.6s						
HCRL				AML	AML		
	comp=E,129µm,1.6s						
USI	**Ustica**	**1.27**	**279**	P	Pn	01 01 13.3	-0.6
HAGA	**Augusta**	**1.27**	**166**	P	Pb	01 01 14.4	-0.3
SSY	**Sortino**	**1.39**	**170**	P	Pn	01 01 16.0	+0.4
SSY				AML	AML		
	comp=E,128µm,1.1s						
SSY				AML	AML		
	comp=N,264µm,0.5s						
SSY				AML	AML		
	comp=E,128µm,1.1s						
SSY				AML	AML		
	comp=N,264µm,0.5s						
SSY				AML	AML		
	comp=E,128µm,1.1s						
SSY				AML	AML		
	comp=N,264µm,0.5s						
MEU	**Monte Lauro**	**1.42**	**175**	P	Pn	01 01 16.5	+0.3
MEU				AML	AML		
	comp=E,167µm,1.6s						
MEU				AML	AML		
	comp=N,162µm,1.6s						
MEU				AML	AML		
	comp=E,167µm,1.6s						
MEU				AML	AML		
	comp=N,162µm,1.6s						
MEU				AML	AML		
	comp=N,162µm,1.6s						
MEU				AML	AML		
	comp=E,167µm,1.6s						
HMDC	**Modica**	**1.56**	**180**	P	Pb	01 01 19.1	-0.6
T0702	**Acquaformosa (**	**1.57**	**40**	P	Pn	01 01 18.8	+0.6
CUC	**Castrocucco**	**1.68**	**28**	P	Pn	01 01 20.3	+0.7
CUC				AML	AML		
	comp=E,38µm,1.0s						
CUC				AML	AML		
	comp=N,25µm,0.3s						
CUC				AML	AML		
	comp=N,25µm,0.3s						
CUC				AML	AML		
	comp=E,38µm,1.0s						
MGR	**Morigerati**	**1.72**	**20**	P	Pn	01 01 20.6	+0.4
MGR				AML	AML		
	comp=E,27µm,1.0s						
MGR				AML	AML		
	comp=N,33µm,1.4s						
MGR				AML	AML		
	comp=E,27µm,1.0s						
MGR				AML	AML		
	comp=N,33µm,1.4s						
MGR				AML	AML		
	comp=N,33µm,1.4s						
MGR				AML	AML		
	comp=E,27µm,1.0s						
CMPR	**Campora**	**1.84**	**13**	P	Pn	01 01 22.1	+0.2
CMPR				AML	AML		
	comp=E,23µm,1.6s						
CMPR				AML	AML		
	comp=N,21µm,1.6s						
CMPR				AML	AML		
	comp=E,23µm,1.6s						
CMPR				AML	AML		
	comp=N,21µm,1.6s						

GUC 04 01:23:59.0±0.6, 19.94S×71.05W, h35km±2km, ML3.6, 8C-1D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.93**	**69**	*i* P	Pn	01 24 16.1	+0.3
PSGC				*i* S	Sn	01 24 28.6	+0.6
PB11	**IPOC Station P**	**1.32**	**83**	⇓*i*P	Pn	01 24 22.7	+1.6
PB11				*i* S	Sn	01 24 40.1	+2.5
PB11				IAML		01 24 41.2	
	comp=N,3µm,0.2s						
PB12	**IPOC Station P**	**1.48**	**27**	⇑*i*P	Pn	01 24 24.7	+1.4
PB12				*i* S	Sn	01 24 44.2	+2.7
MNMC	**Minye Minye**	**1.59**	**60**	⇑*i*P	Pn	01 24 26.9	+2.0
MNMC				*i* S	Sn	01 24 47.8	+3.5
MNMC				IAML		01 24 55.6	
	comp=N,2µm,0.3s						
PB02	**IPOC Station P**	**1.75**	**142**	⇑*i*P	Pn	01 24 29.1	+2.2
PB02				*e*S	Sn	01 24 50.4	+2.4
GO01	**Chusmiza**	**1.76**	**82**	⇑*i*P	Pn	01 24 29.7	+2.2
GO01				*i* S	Sn	01 24 53.3	+4.3
PB08	**IPOC Station P**	**1.79**	**97**	⇑*i*P	Pn	01 24 29.9	+2.1
PB08				*i* S	Sn	01 24 53.7	+4.2
PB08				IAML		01 24 57.8	
	comp=N,658nm,0.2s						
PB01	**IPOC Station P**	**1.83**	**127**	⇑*i*P	Pn	01 24 30.1	+2.1
PB01				*e*S	Sn	01 24 53.6	+3.5
PB07	**IPOC Station P**	**2.08**	**149**	⇑*i*P	Pn	01 24 33.3	+1.6
PB07				*i* S	Sn	01 24 56.0	-0.5
PB07				IAML		01 25 16.7	
	comp=E,329nm,0.4s						
PB16	**IPOC Station P**	**2.16**	**43**	⇑*e*P	Pn	01 24 35.2	+2.1
PB16				*e*S	Sn	01 25 04.2	+5.3
PB16				IAML		01 25 10.6	
	comp=N,596nm,0.4s						
PB09	**IPOC Station P**	**2.50**	**138**	*e*P	Pn	01 24 40.8	+3.4
PB09				IAML		01 25 26.8	
	comp=E,337nm,0.5s						
PB04	**IPOC Station P**	**2.53**	**161**	*e*P	Pn	01 24 39.9	+2.2
PB04				*i* S	Sn	01 25 24.3	+17
PB04				IAML		01 25 30.2	
	comp=E,222nm,0.5s						

IDC 04 01:34:12.8±1.1, 2.18N×123.85E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/35, mbtmp3.8/6, MS3.2/1, Ms1 3.2/1, ms1mx2.4/37, Error ellipse: s-maj=108.6km s-min=17.8km az=69.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.23**	**175**	P	P	01 38 48.0	-1.7
	5.1nm,0.7s,baz=355,slow=8.2,SNR=22						
WRA	**Warramunga Arr**	**24.28**	**155**	P	P	01 39 32.7	+0.7
	1.5nm,0.5s,baz=338,slow=10,SNR=29						
PSI	**Prapat**	**24.91**	**272**	LR	LR	01 50 46.7	
	comp=Z,55nm,18.1s,baz=91,slow=40						
ASAR	**Alice Springs**	**27.49**	**160**	P	P	01 40 01.8	+0.7
	0.6nm,0.8s,baz=341,slow=9.7,SNR=6.3						
SONM	**Songino Array**	**47.92**	**344**	P	P	01 42 54.5	+1.4
	0.7nm,0.9s,baz=159,slow=9.0,SNR=4.1						
MKAR	**Makanchi Array**	**57.23**	**327**	P	P	01 44 02.2	+0.1
	0.9nm,0.5s,baz=123,slow=8.6,SNR=14						
ZALV	**Zalesovo Beam**	**60.70**	**335**	P	P	01 44 24.1	-1.9
	0.4nm,0.4s,baz=134,slow=8.3,SNR=4.0						

IDC 04 01:37:16.4±8.1, 19.16N×144.89E, h522km±97km, mb2.8/7, mb1 2.9/7, mb1mx2.7/40, mbtmp3.6/7, Error ellipse: s-maj=43.0km s-min=19.3km az=78.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.22**	**195**	P	P	01 44 07.8	0.0
	0.3nm,0.4s,baz=17,slow=8.7,SNR=9.0						
FITZ	**Fitzroy Crossi**	**41.58**	**208**	P	P	01 44 18.1	-0.4
	1.5nm,0.9s,baz=39,slow=6.5,SNR=2.5						
SONM	**Songino Array**	**42.31**	**321**	P	P	01 44 23.5	-0.6
	0.3nm,0.5s,baz=134,slow=6.4,SNR=3.8						
MKAR	**Makanchi Array**	**57.59**	**314**	P	P	01 46 16.9	+0.7
	0.2nm,0.5s,baz=91,slow=8.6,SNR=4.3						
YKA	**Yellowknife Ar**	**77.94**	**28**	P	P	01 48 20.2	+0.1
	0.2nm,0.8s,baz=284,slow=5.0,SNR=3.4						
FINES	**FINESS Array B**	**86.15**	**335**	P	P	01 49 01.3	-0.5
	1.9nm,0.9s,baz=50,slow=3.2,SNR=7.1						
BRTR	**Keskin Array B**	**93.24**	**314**	P	P	01 49 35.1	-0.4
	0.4nm,0.7s,baz=50,slow=7.8,SNR=2.8						

*IDC **04** 01:59:18.4±1.0, 35.48N×96.51W, h0km, mb1 3.7/7, mb1mx3.4/46, mbtmp3.5/7, ML3.3/7, Error ellipse: s-maj=14.5km s-min=10.1km az=136.0*
*ANF **04** 01:59:19.5±0.3, 35.42N×96.54W, h10km±2km, ML4.7/33, Error ellipse: s-maj=1.8km s-min=1.1km az=165.0*
*NEIC **04** 01:59:20.0±0.0, 35.38N×96.52W, h5km, ML3.4(TUL), MW3.5(SLM), After TUL.*
NEIC Felt [III] at Seminole and [II] at Wewoka. Also felt at Bixby, Broken Arrow, Byars, Choctaw, Holdenville, Okemah, Oklahoma City, Paden and Prague.
*TUL **04** 01:59:20.0, 35.38N×96.52W, h5km, ML3.4*
ISC 04 01:59:18.5±1.1, 35.46N±0.02×96.53W±0.02, h1km±8km, n148, σ1.93/263, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK002	**Wilshire Harra**	**0.55**	**280**	*e*Pg	**Pg**	**01 59 30.7**	**+1.6**
OK002				*e*Sg	**Sg**	**01 59 38.3**	**+2.1**
OK005	**Luther M Schoo**	**0.57**	**290**	*e*Pg	**Pg**	**01 59 30.9**	**+1.4**
OK005				*e*Sg	**Sg**	**01 59 38.6**	**+1.7**
OK001	**Jones High Sch**	**0.63**	**280**	*e*Pg	**Pg**	**01 59 31.0**	**+0.5**
TUL1	**Leonard**	**0.75**	**53**	*e*Pg	**Pg**	**01 59 34.3**	**+1.3**
TUL1				*e*Sg	**Sg**	**01 59 44.2**	**+1.5**
TUL1	**Leonard**	**0.75**	**53**	P	**Pg**	**01 59 34.2**	**+1.3**
	baz=231						
TUL1				S	**Sg**	**01 59 44.8**	**+2.1**
	baz=231						
WMOK	**Wichita Mounta**	**1.98**	**249**	*e*Pn	**Pn**	**01 59 53.6**	**+0.4**
WMOK				*e*Sn	**Sn**	**02 00 18.2**	**-0.5**
WMOK				*e*Sb	**Sb**	**02 00 20.3**	**-0.3**
WMOK				*e*Sg	**Sg**	**02 00 21.9**	**-0.1**
WMOK	**Wichita Mounta**	**1.98**	**249**	P	**Pn**	**01 59 53.6**	**+0.4**
	baz=69						
WMOK				Sb	**Sb**	**02 00 20.7**	**+0.2**
	baz=69						
HHAR	**Hobbs**	**2.26**	**68**	*e*Pn	**Pn**	**01 59 57.8**	**+0.8**
HHAR				*e*Sn	**Sn**	**02 00 25.4**	**-0.2**
W39A	**Magazine**	**2.26**	**96**	*e*Pn	**Pn**	**01 59 57.5**	**+0.4**
W39A				*e*Sn	**Sn**	**02 00 25.6**	**0.0**
W39A	**Magazine**	**2.26**	**96**	P	**Pn**	**01 59 57.4**	**+0.4**
	baz=276						
W39A				S	**Sn**	**02 00 26.0**	**+0.5**
	baz=276						
MIAR	**Mount Ida**	**2.59**	**110**	*e*Pn	**Pn**	**02 00 02.2**	**+0.6**
MIAR				*e*Pg	**Pg**	**02 00 07.8**	**-0.3**
MIAR				*e*Sn	**Sn**	**02 00 33.4**	**-0.3**
MIAR				*e*Sg	**Sb**	**02 00 39.9**	**+1.8**
MIAR	**Mount Ida**	**2.59**	**110**	P	**Pn**	**02 00 01.8**	**+0.2**
	baz=291						
MIAR				S	**Sn**	**02 00 33.5**	**-0.2**
	baz=291						
U40A	**Yellville**	**3.12**	**72**	P	**Pn**	**02 00 09.3**	**+0.5**
	baz=254,SNR=123						
U40A				S	**Sn**	**02 00 47.4**	**+0.7**
	baz=254						
X40A	**Basin Creek Fa**	**3.19**	**107**	*e*Pn	**Pn**	**02 00 10.3**	**+0.6**
X40A				*e*Pg	**Pb**	**02 00 16.8**	**+0.9**
X40A				*e*Sn	**Sn**	**02 00 48.0**	**-0.3**
X40A	**Basin Creek Fa**	**3.19**	**107**	P	**Pn**	**02 00 09.8**	**0.0**
	baz=288						
X40A				Sb	**Sb**	**02 00 57.3**	**+2.0**
	baz=288						
X41A	**Kaden, Bauxite**	**3.44**	**105**	P	**Pn**	**02 00 13.4**	**+0.3**
	baz=287						
WHAR	**Wooly Hollow**	**3.47**	**92**	*e*Pn	**Pn**	**02 00 13.8**	**+0.1**
WHAR				*e*Pg	**Pb**	**02 00 20.8**	**0.0**
WHAR				*e*Sn	**Sn**	**02 00 55.8**	**+0.3**
WHAR				*e*Sg	**Sb**	**02 01 07.0**	**+3.5**
UALR	**University of**	**3.50**	**100**	*e*Pn	**Pn**	**02 00 14.6**	**+0.5**
UALR				*e*Pg	**Pb**	**02 00 22.3**	**+1.0**
UALR				*e*Sn	**Sn**	**02 00 54.3**	**-1.8**
UALR				*e*Sg	**Sb**	**02 01 07.7**	**+3.4**
W41B	**Gary Mavity, V**	**3.52**	**93**	*e*Pn	**Pn**	**02 00 14.7**	**+0.4**
W41B				*e*Pg	**Pb**	**02 00 22.4**	**+0.9**
W41B				*e*Sn	**Sn**	**02 00 55.7**	**-0.7**
W41B				*e*Sg	**Sb**	**02 01 08.1**	**+3.4**
W41B	**Gary Mavity, V**	**3.52**	**93**	P	**Pn**	**02 00 14.5**	**+0.2**
	baz=275						
W41B				S	**Sn**	**02 00 57.0**	**+0.5**
	baz=275						
WHTX	**Lake Whitney,**	**3.54**	**193**	*e*Pn	**Pn**	**02 00 14.3**	**-0.3**
WHTX				*e*Pg	**Pb**	**02 00 21.8**	**-0.2**
WHTX				*e*Sn	**Sn**	**02 00 57.1**	**-0.1**
WHTX	**Lake Whitney,**	**3.54**	**193**	P	**Pn**	**02 00 13.8**	**-0.9**
	baz=12						
V41A	**Mountainview**	**3.58**	**83**	P	**Pn**	**02 00 15.5**	**+0.3**
	baz=265,SNR=151						
V41A				S	**Sn**	**02 00 58.2**	**0.0**
	baz=265						
Y41A	**Eaglette Beard**	**3.59**	**115**	P	**Pn**	**02 00 15.3**	**0.0**
	baz=296						
KSU1	**Kansas State U**	**3.64**	**359**	*e*Pn	**Pn**	**02 00 17.0**	**+1.1**
KSU1				*e*Pg	**Pb**	**02 00 25.1**	**+1.5**
KSU1				*e*Sn	**Sn**	**02 01 00.8**	**+1.2**
KSU1				*e*Sg	**Sg**	**02 01 17.8**	**+2.4**
KSU1	**Kansas State U**	**3.64**	**359**	P	**Pn**	**02 00 16.4**	**+0.5**
	baz=179						
KSU1				S	**Sn**	**02 01 00.6**	**+1.1**
	baz=179						
Z41A	**Richland Creek**	**3.79**	**124**	*e*Pn	**Pn**	**02 00 17.5**	**-0.5**
Z41A				*e*Sn	**Sn**	**02 01 02.5**	**-0.7**
Z41A	**Richland Creek**	**3.79**	**124**	P	**Pn**	**02 00 17.5**	**-0.5**
	baz=306						
Z41A				S	**Sn**	**02 01 01.1**	**-2.0**
	baz=306						
ABTX	**Abilene, Hawle**	**3.83**	**223**	*e*Pn	**Pn**	**02 00 18.6**	**-0.1**
ABTX				*e*Pg	**Pb**	**02 00 27.2**	**+0.3**
ABTX				*e*Sn	**Sn**	**02 01 02.7**	**-1.6**
ABTX				*e*Sg	**Sb**	**02 01 15.5**	**+1.7**
ABTX	**Abilene, Hawle**	**3.83**	**223**	P	**Pn**	**02 00 18.1**	**-0.5**
	baz=42						
ABTX				S	**Sn**	**02 01 02.6**	**-1.6**
	baz=42						
U41A	**Viola**	**3.85**	**75**	P	**Pn**	**02 00 19.1**	**+0.3**
	baz=257,SNR=32						
NATX	**Nacogdoches**	**4.00**	**157**	*e*Pn	**Pn**	**02 00 20.0**	**-1.0**
NATX				*e*Pg	**Pb**	**02 00 31.8**	**+2.0**
NATX				*e*Sn	**Sn**	**02 01 05.0**	**-3.6**
NATX				*e*Sg	**Sg**	**02 01 24.4**	**-2.8**
T41A	**Mountain View**	**4.17**	**66**	P	**Pn**	**02 00 23.8**	**+0.6**
	baz=248,SNR=48						
T41A				S	**Sn**	**02 01 12.5**	**-0.1**
	baz=248						
V42A	**Cord**	**4.20**	**84**	P	**Pn**	**02 00 23.6**	**-0.2**
	baz=266,SNR=20						
V42A				S	**Sn**	**02 01 13.3**	**-0.2**
	baz=266						
CCAR	**Cane Creek**	**4.21**	**110**	*e*Pn	**Pn**	**02 00 23.4**	**-0.4**
CCAR				*e*Sn	**Sn**	**02 01 13.0**	**-0.7**
CBKS	**Cedar Bluff**	**4.22**	**324**	*e*Pn	**Pn**	**02 00 25.4**	**+1.5**
CBKS				*e*Pb	**Pb**	**02 00 35.3**	**+1.8**
CBKS				*e*Pg	**Pg**	**02 00 39.6**	**+0.2**
CBKS				*e*Sn	**Sn**	**02 01 16.7**	**+2.8**
CBKS				*e*Sg	**Sg**	**02 01 33.9**	**-0.1**
CBKS	**Cedar Bluff**	**4.22**	**324**	P	**Pn**	**02 00 24.3**	**+0.3**
	baz=142						
Y42A	**Garnett, Star**	**4.23**	**111**	P	**Pn**	**02 00 24.0**	**-0.1**
	baz=293						
AMTX	**Amarillo**	**4.26**	**264**	*e*Pn	**Pn**	**02 00 25.0**	**+0.4**
AMTX				*e*Sn	**Sn**	**02 01 15.0**	**0.0**
AMTX				*e*Sg	**Sg**	**02 01 35.5**	**+0.2**
AMTX	**Amarillo**	**4.26**	**264**	P	**Pn**	**02 00 24.2**	**-0.4**
	baz=81						
Z42A	**Norrel Spur, H**	**4.37**	**119**	P	**Pn**	**02 00 25.7**	**-0.4**
	baz=301						
Z42A				S	**Sn**	**02 01 17.0**	**-0.6**
	baz=301						
U42A	**Revenden**	**4.39**	**77**	P	**Pn**	**02 00 26.0**	**-0.3**
	baz=259,SNR=26						
U42A				S	**Sn**	**02 01 17.8**	**-0.2**
	baz=259						
S41A	**Jillco Farms,**	**4.40**	**60**	P	**Pn**	**02 00 27.9**	**+1.4**
	baz=242						
S41A				S	**Sn**	**02 01 18.4**	**0.0**
	baz=242						
T42A	**Van Buren**	**4.67**	**69**	*e*Pn	**Pn**	**02 00 30.4**	**+0.3**
T42A				*e*Sn	**Sn**	**02 01 24.5**	**-0.4**
T42A				*e*Sg	**Sb**	**02 01 43.2**	**+5.3**
T42A	**Van Buren**	**4.67**	**69**	P	**Pn**	**02 00 30.1**	**0.0**
	baz=251,SNR=21						
T42A				S	**Sn**	**02 01 24.3**	**-0.7**
	baz=251						
X43A	**Marvell**	**4.73**	**100**	*e*Pn	**Pn**	**02 00 31.8**	**+0.8**
X43A				*e*Pg	**Pb**	**02 00 43.6**	**+1.4**
X43A				*e*Sn	**Sn**	**02 01 25.3**	**-1.3**
X43A				*e*Sg	**Sg**	**02 01 46.2**	**-4.3**
435B	**Jarrell**	**4.74**	**191**	*e*Pn	**Pn**	**02 00 32.4**	**+1.2**
435B				*e*Pg	**Pb**	**02 00 43.8**	**+1.3**
435B				*e*Sn	**Sn**	**02 01 24.0**	**-2.9**
435B				*e*Sg	**Sb**	**02 01 43.0**	**+2.9**
HBAR	**Harrisburg**	**4.79**	**87**	*e*Pn	**Pn**	**02 00 32.2**	**+0.3**
HBAR				*e*Sg	**Sb**	**02 01 47.1**	**+5.6**
V43A	**Jonesboro**	**4.89**	**84**	P	**Pn**	**02 00 33.4**	**+0.2**
	baz=267						
V43A				S	**Sn**	**02 01 30.1**	**-0.3**
	baz=267						
CCM	**Cathedral Cave**	**4.97**	**57**	*e*Pn	**Pn**	**02 00 34.4**	**+0.1**
CCM				*e*Sn	**Sn**	**02 01 32.8**	**+0.3**
CCM				*e*Sg	**Sb**	**02 01 52.1**	**+5.4**
CCM	**Cathedral Cave**	**4.97**	**57**	P	**Pn**	**02 00 35.0**	**+0.6**
	baz=240						
R41A	**Rosebud**	**5.01**	**54**	P	**Pn**	**02 00 35.2**	**+0.4**
	baz=237						
R41A				S	**Sn**	**02 01 33.7**	**+0.3**
	baz=237						
U43A	**Rector**	**5.05**	**78**	P	**Pn**	**02 00 35.3**	**-0.1**
	baz=261						
S42A	**Caledonia**	**5.16**	**62**	P	**Pn**	**02 00 36.7**	**-0.2**
	baz=245,SNR=10						
T43A	**Greenville**	**5.30**	**70**	P	**Pn**	**02 00 38.4**	**-0.4**
	baz=254						
GNAR	**Gosnell**	**5.33**	**83**	*e*Pn	**Pn**	**02 00 38.8**	**-0.3**
GNAR				*e*Pg	**Pb**	**02 00 54.6**	**+2.2**
X44A	**Crenshaw**	**5.33**	**98**	P	**Pn**	**02 00 39.3**	**+0.1**
	baz=282						
MSTX	**Muleshoe**	**5.35**	**256**	*e*Pn	**Pn**	**02 00 39.6**	**0.0**
MSTX	**Muleshoe**	**5.35**	**256**	P	**Pn**	**02 00 39.2**	**-0.4**
	baz=72						
MSTX				S	**Sn**	**02 01 41.0**	**-0.9**
	baz=72						
R42A	**Luebbering**	**5.39**	**57**	P	**Pn**	**02 00 40.8**	**+0.7**
	baz=240						
R42A				S	**Sn**	**02 01 43.1**	**+0.3**
	baz=240						
Y44A	**Strider, Charl**	**5.42**	**104**	P	**Pn**	**02 00 40.1**	**-0.3**
	baz=287						
Q41A	**Truxton**	**5.48**	**49**	P	**Pn**	**02 00 42.6**	**+1.2**
	baz=232						
Q41A				S	**Sn**	**02 01 45.0**	**0.0**
	baz=232						
S43A	**Fulton Ridge,**	**5.61**	**66**	P	**Pn**	**02 00 43.0**	**-0.1**
	baz=249,SNR=5.6						
S43A				S	**Sn**	**02 01 47.1**	**-1.1**
	baz=249						
PARMO	**Parma**	**5.62**	**76**	*e*Pn	**Pn**	**02 00 41.8**	**-1.4**
PARMO				*e*Pg	**Pb**	**02 01 00.7**	**+3.2**
PARMO				*e*Sg	**Sg**	**02 02 14.8**	**-4.3**
JCT	**Junction City**	**5.67**	**210**	*e*Pn	**Pn**	**02 00 42.7**	**-1.3**
JCT				*e*Pg	**Pb**	**02 01 00.8**	**+2.5**
JCT				*e*Sn	**Sn**	**02 01 47.2**	**-2.6**
JCT				*e*Sg	**Sb**	**02 02 13.9**	**+7.0**
JCT	**Junction City**	**5.67**	**210**	P	**Pn**	**02 00 42.3**	**-1.7**
	baz=28						
HALT	**Halls**	**5.87**	**83**	*e*Pn	**Pn**	**02 00 46.1**	**-0.6**
U44B	**Burton Farm, H**	**5.89**	**79**	P	**Pn**	**02 00 46.8**	**-0.2**
	baz=263,SNR=7.8						
OXF	**Oxford**	**5.92**	**97**	*e*Pn	**Pn**	**02 00 47.5**	**+0.1**
OXF				*e*Sn	**Sn**	**02 01 54.7**	**-1.2**
OXF				*e*Sg	**Sg**	**02 02 24.7**	**-4.1**
OXF	**Oxford**	**5.92**	**97**	P	**Pn**	**02 00 47.2**	**-0.2**
	baz=281						
GLAT	**Glass**	**5.94**	**80**	*e*Pn	**Pn**	**02 00 48.2**	**+0.6**
GLAT				*e*Sn	**Sn**	**02 01 51.9**	**-4.3**
GLAT				*e*Sg	**Sg**	**02 02 24.9**	**-4.3**
X45A	**UM Field Stati**	**5.95**	**98**	P	**Pn**	**02 00 47.4**	**-0.4**
	baz=282						
R43A	**Red Bud**	**5.99**	**60**	P	**Pn**	**02 00 48.6**	**+0.3**
	baz=244						
W45A	**Hickory Valley**	**6.01**	**91**	P	**Pn**	**02 00 47.9**	**-0.7**
	baz=275,SNR=15						
KSCO	**Kaye Shedlock'**	**6.02**	**308**	*e*Pn	**Pn**	**02 00 50.2**	**+1.4**
KSCO	**Kaye Shedlock'**	**6.02**	**308**	P	**Pn**	**02 00 48.6**	**-0.2**
	baz=125						
Z45A	**Winona**	**6.03**	**108**	*e*Pn	**Pn**	**02 00 49.5**	**+0.8**
P41A	**Barry, Barry**	**6.05**	**44**	P	**Pn**	**02 00 49.6**	**+0.5**
	baz=227						
BGNE	**Belgrade**	**6.08**	**348**	*e*Pn	**Pn**	**02 00 51.5**	**+1.9**
BGNE				*e*Sn	**Sn**	**02 01 58.9**	**-0.8**
BGNE	**Belgrade**	**6.08**	**348**	P	**Pn**	**02 00 50.1**	**+0.6**
	baz=168						
V45A	**Humboldt**	**6.18**	**85**	P	**Pn**	**02 00 49.6**	**-1.3**
	baz=269						
S44A	**Carbondale**	**6.27**	**67**	P	**Pn**	**02 00 52.1**	**0.0**
	baz=251						
UTMT	**University of**	**6.29**	**80**	*e*Pn	**Pn**	**02 00 52.7**	**+0.3**
UTMT				*e*Sg	**Sg**	**02 02 39.3**	**-1.1**

SIUC	Southern Illin	6.30	67	ePn	Pn	02 00 53.1	+0.5
SIUC				eSn	Sn	02 02 02.0	-3.2
SIUC				eSg	Sg	02 02 34.5	-6.4
P42A	Winchester	6.42	48	ePn	Pn	02 00 54.8	+0.6
P42A				eSn	Sn	02 02 05.2	-2.8
P42A				eSg	Sg	02 02 39.7	-4.9
P42A	Winchester	6.42	48	P	Pn	02 00 54.7	+0.6
	baz=232						
O41A	Passleys Farm,	6.45	42	P	Pn	02 00 55.2	+0.6
	baz=225						
Q43A	New Douglas	6.47	55	P	Pn	02 00 55.3	+0.5
	baz=239						
CPRX	Cap Rock	6.54	250	ePn	Pn	02 00 55.8	-0.2
T45A	Paducah	6.56	74	ePn	Pn	02 00 55.9	-0.3
T45A				eSg	Sg	02 02 42.9	-6.4
T45A	Paducah	6.56	74	P	Pn	02 00 56.1	0.0
	baz=258						
T25A	Trinidad	6.58	287	ePn	Pn	02 00 58.4	+1.8
T25A				eSg	Sg	02 02 44.9	-5.0
X46A	Booneville	6.58	96	P	Pn	02 00 56.6	+0.1
	baz=280						
N40A	Mertquake, Sal	6.67	34	P	Pn	02 00 58.0	+0.4
	baz=217						
W46A	Michie	6.68	90	P	Pn	02 00 56.8	-0.9
	baz=275						
U46A	Springville	6.84	80	P	Pn	02 00 59.3	-0.6
	baz=264						
V46A	Holladay	6.86	85	P	Pn	02 00 59.6	-0.6
	baz=269						
N41A	Harden Midland	6.89	39	ePn	Pn	02 01 01.0	+0.3
N41A				eSn	Sn	02 02 17.2	-2.5
N41A				eSg	Sg	02 02 53.6	-6.2
Q44A	Meyer Farm, Va	6.92	58	P	Pn	02 01 01.6	+0.7
	baz=242						
PLAL	Pickwick Lake	6.94	91	ePn	Pn	02 01 00.4	-0.9
PLAL				ePg	Pb	02 01 23.6	+3.7
SCIA	State Center	6.94	21	ePn	Pn	02 01 02.8	+1.5
SCIA				ePg	Pg	02 01 29.5	-2.0
SCIA				eSn	Sn	02 02 21.9	+0.9
SCIA				eSg	Sg	02 02 57.4	-4.0
SCIA	State Center	6.94	21	P	Pn	02 01 02.3	+1.0
	baz=203						
OGNE	Ogallala	6.98	323	ePn	Pn	02 01 03.7	+1.7
OGNE				ePg	Pg	02 01 29.5	-2.8
OGNE				eSg	Sg	02 02 59.7	-3.1
OGNE	Ogallala	6.98	323	P	Pn	02 01 03.3	+1.2
	baz=140						
WVT	Waverly	7.10	82	ePn	Pn	02 01 03.1	-0.4
WVT				ePg	Pb	02 01 26.8	+4.1
WVT				eSn	Sn	02 02 22.0	-2.9
WVT	Waverly	7.10	82	P	Pn	02 01 02.6	-0.9
	baz=267						
X47A	Russelville	7.18	95	P	Pn	02 01 04.0	-0.6
	baz=280						
W47A	Westpoint	7.31	89	P	Pn	02 01 05.3	-1.1
	baz=274						
U47A	Clarksville	7.56	80	P	Pn	02 01 09.4	-0.5
	baz=265						
SDCO	Great Sand Dun	7.57	290	ePn	Pn	02 01 11.4	+1.2
SDCO				eSn	Sn	02 02 38.1	+1.3
SDCO				eSg	Sg	02 03 15.1	-6.5
SDCO	Great Sand Dun	7.57	290	P	Pn	02 01 10.7	+0.5
	baz=105						
HDIL	Hopedale	7.65	46	eSg	Sg	02 03 20.1	-4.0
Q24A	Divide	7.71	300	ePn	Pn	02 01 13.7	+1.4
L40A	Anamosa	7.79	31	ePn	Pn	02 01 12.5	-0.5
L40A				eSn	Sn	02 02 38.5	-3.3
L40A				eSg	Sg	02 03 25.2	-3.4
X48A	Hartselle	7.85	95	ePn	Pn	02 01 12.8	-1.1
P45A	Graceland, Par	8.08	57	ePn	Pn	02 01 18.6	+1.6
P45A				eSn	Sn	02 02 46.9	-2.0
ANMO	Albuquerque	8.14	269	Pn	Pn	02 01 16.4	-1.7
	0.1nm,0.3s,baz=80,slow=16,SNR=3.5						
ANMO				Pg	Pb	02 01 46.9	+6.5
	0.8nm,0.3s,baz=84,slow=19,SNR=13						
ANMO				Sn	Sn	02 02 54.4	+3.6
	0.4nm,0.3s,baz=134,slow=11,SNR=1.8						
ANMO				Lg	Lg	02 03 34.2	
	2.0nm,0.3s,baz=4.8,slow=18,SNR=3.8						
ANMO	Albuquerque	8.14	269	ePn	Pn	02 01 19.0	+1.0
	4.1nm,0.6s						
ANMO				ePg	Pb	02 01 48.4	+8.0
ANMO				Sn	Sn	02 02 54.4	+3.6
ANMO				eLg	Lg	02 03 35.4	
ECSD	EROS Data Cent	8.27	360	ePn	Pn	02 01 19.9	+0.3
ECSD				ePg	Pg	02 01 56.3	-0.5
ECSD				eSn	Sn	02 02 51.4	-2.2
ECSD				eSg	Sg	02 03 39.0	-4.9
ECSD	EROS Data Cent	8.27	360	P	Pn	02 01 19.6	+0.1
	baz=180						
MNTX	Cornudas Mount	8.28	246	ePn	Pn	02 01 19.7	-0.1
MNTX				eSn	Sn	02 02 50.4	-3.6
MNTX	Cornudas Mount	8.28	246	P	Pn	02 01 19.1	-0.7
	baz=61						
ISCO	Idaho Springs	8.41	304	ePn	Pn	02 01 23.3	+1.5
ISCO				eSg	Sg	02 03 44.6	-3.9
ISCO	Idaho Springs	8.41	304	P	Pn	02 01 21.9	+0.1
	baz=118						
Y49A	Blount Mountai	8.49	98	ePn	Pn	02 01 23.3	+0.7
TXAR	Lajitas Array	8.58	227	Pn	Pn	02 01 23.0	-1.0
	0.3nm,0.3s,baz=49,slow=11,SNR=8.6						
TXAR				Pg	Pg	02 01 55.2	-7.6
	1.1nm,0.3s,baz=41,slow=14,SNR=10						
TXAR				Sn	Sn	02 02 56.1	-5.4
	0.7nm,0.3s,baz=45,slow=22,SNR=2.6						
TXAR				Lg	Lg	02 03 46.7	
	3.6nm,0.3s,baz=48,slow=26,SNR=8.7						
TX31	Lajitas Ar. Si	8.58	227	ePn	Pn	02 01 23.6	-0.4
K41A	Shullsburg	8.63	32	P	Pn	02 01 25.2	+0.7
	baz=216						
SWET	Sewanee	8.67	89	ePn	Pn	02 01 25.0	-0.1
LAZ	Ladron	8.77	266	ePn	Pn	02 01 25.6	-1.1
JFWS	Jewell Farm	8.90	31	ePn	Pn	02 01 28.3	+0.1
JFWS				eSn	Sn	02 03 08.6	-0.5
JFWS				eLg	Lg	02 03 57.2	
SFIN	Lafayette	8.93	54	ePn	Pn	02 01 29.1	+0.5
SFIN	Lafayette	8.93	54	P	Pn	02 01 28.3	-0.3
	baz=239						
P47A	Martinsville	9.10	61	P	Pn	02 01 30.7	-0.2
	baz=247,SNR=7.2						
J40A	Soldiers Grove	9.10	28	P	Pn	02 01 30.7	-0.3
	baz=211						
N23A	Red Feather La	9.18	309	ePn	Pn	02 01 33.1	+0.7
N23A	Red Feather La	9.18	309	P	Pn	02 01 33.2	+0.8
	baz=124						
I39A	Houston	9.23	23	ePn	Pn	02 01 31.6	-1.1
I39A	Houston	9.23	23	P	Pn	02 01 31.6	-1.1
	baz=206						
CPCT	Cooper Cave	9.80	87	ePn	Pn	02 01 41.0	+0.4
V51A	Loudon	9.92	84	ePn	Pn	02 01 42.1	-0.1
V51A	Loudon	9.92	84	P	Pn	02 01 41.7	-0.6
	baz=271						
RSSD	Black Hills	10.40	329	ePn	Pn	02 01 49.8	+0.9
RSSD				eLg	Lg	02 04 48.2	
TKL	Tuckaleechee C	10.40	85	Pn	Pn	02 01 46.6	-2.2
	0.3nm,0.3s,baz=275,slow=11,SNR=6.0						
TKL				Lg	Lg	02 04 43.1	
	1.6nm,0.3s,baz=5.0,slow=21,SNR=4.2						
PDAR	Pinedale Array	12.47	310	Pn	Pn	02 02 18.2	+0.9
	0.1nm,0.3s,baz=127,slow=15,SNR=4.2						
PDAR				Pg		02 03 05.6	
	0.1nm,0.3s,baz=125,slow=14,SNR=3.0						
PDAR				Lg	Lg	02 05 53.0	
	0.3nm,0.3s,baz=116,slow=35,SNR=4.8						
ULM	Lac du Bonnet	14.79	2	Pn	Pn	02 02 44.2	-4.5
	0.3nm,0.3s,baz=184,slow=15,SNR=6.3						
ULM				Sn	Sn	02 05 19.4	-14
	0.2nm,0.3s,baz=83,slow=22,SNR=3.5						
ULM				Lg	Lg	02 07 00.2	
	0.4nm,0.3s,baz=88,slow=10,SNR=2.9						
NVAR	Mina Array Bea	17.65	286	P	Pn	02 03 27.5	+1.6
	0.0nm,0.3s,baz=95,slow=10.0,SNR=2.9						
CMIG	Matias Romero	18.35	175	P	P	02 03 35.2	+0.7
	0.3nm,0.3s,baz=0.0,slow=12,SNR=4.0						

*IDC **04** 02:03:11.4±2.3, 55.˚69S×28.˚15W, h0km, mb4.3/3, mb1 4.4/3, mb1mx3.9/27, mbtmp4.3/3, MS3.3/1, Ms1 3.2/1, ms1mx2.8/21, Error ellipse: s-maj=81.2km s-min=36.7km az=5.0*

*ISCJB **04** 02:03:17.9±0.9, 55.˚1S±0.˚2×28.˚2W±0.˚5, h35km, mb4.3/3, MS3.3/1, Error ellipse: s-maj=41.3km s-min=12.5km az=152.9*

ISC 04 02:03:19.1±0.9**, 55˚1S**±0˚2×**28˚2W**±0˚3**, h35km, n13, σ1^{s}30/9, mb4.4/3, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	17.92	158	P	P	02 07 24.5	-0.9
VNA3	Neumayer Olymp	18.11	161	P	P	02 07 28.0	+0.4
VNA2	Neumayer--Watz	18.32	158	P	Pn	02 07 31.1	+1.1
	baz=315,slow=13						
CPUP	Villa Florida	35.74	312	P	P	02 10 15.1	+0.8
	1.6nm,0.5s,baz=151,slow=7.6,SNR=7.4						
MAW	Mawson	41.28	144	LR	LR	02 26 42.5	
	comp=Z,40nm,18.6s,baz=276,slow=35						
H10S2	ASCENSION HYDR	47.22	18	T	T	03 03 48.5	
	baz=190,slow=74,SNR=6.9						
H10S3	ASCENSION HYDR	47.22	18	T	T	03 03 48.7	
	baz=190,slow=74,SNR=6.9						
H10S1	ASCENSION HYDR	47.24	18	T	T	03 03 49.8	
	baz=190,slow=74,SNR=7.7						
LPAZ	La Paz	49.35	306	P	P	02 12 06.0	+0.4
	2.5nm,0.6s,baz=153,slow=5.8,SNR=9.7						
TORD	Torodi Ar. Bea	72.47	31	P	P	02 14 42.8	+1.0
	2.3nm,0.6s,baz=202,slow=6.4,SNR=32						
FINES	FINESS Array B	123.77	28	PKP	PKPdf	02 22 10.3	-1.2
	5.4nm,1.2s,baz=267,slow=2.8,SNR=4.7						
YKA	Yellowknife Ar	135.06	319	PKP	PKPdf	02 22 31.5	-1.5
	0.2nm,0.8s,baz=119,slow=2.4,SNR=4.4						
ILAR	Eielson Array	149.04	313	PKPbc	PKPbc	02 23 00.3	-1.5
	0.8nm,0.6s,baz=126,slow=1.8,SNR=14						

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*BJI **04** 03:00:39.7, 8.˚09S×129.˚19E, h150km, mb4.7/39, mB4.9/19*

*ISCJB **04** 03:00:45.6±0.5, 7.˚44S±0.˚03×128.˚85E±0.˚03, h155km±5km, mb4.5/45, Error ellipse: s-maj=5.4km s-min=4.6km az=2.4*

*NEIC **04** 03:00:46.5±0.6, 7.˚40S×128.˚84E, h147km±5km, mb4.6/20, Error ellipse: s-maj=6.3km s-min=4.9km az=62.0*

*IDC **04** 03:00:46.7±1.5, 7.˚35S×128.˚79E, h141km±13km, mb4.0/18, mb1 4.1/21, mb1mx4.0/40, mbtmp4.5/21, Error ellipse: s-maj=12.6km s-min=8.5km az=94.0*

*DJA **04** 03:00:49.1±0.3, 8˚S±4˚×12˚9E±˚, h121km±6km, M4.5/7, mb4.5/7, mB4.8/2, MLv4.6/2, Mw(mB)4.0/2*

ISC 04 03:00:46.5±0.7**, 7˚46S**±0˚04×**128˚83E**±0˚04**, h149km**±6km**, n120, σ1^{s}72/148, mb4.6/50, 1C-1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.50	102	ePn	Pn	03 01 29.1	+1.6
SAUI				eSn	Sn	03 01 56.5	-2.8
SAUI	Saumlaki	2.50	102	P	Pn	03 01 29.9	+2.3
SAUI				S	Sn	03 02 01.2	+2.0
SOEI	Soe	5.06	243	ePn	Pn	03 02 01.8	+1.0
SOEI				eSn	Sn	03 02 57.4	-1.4
SOEI	Soe	5.06	243	P	Pn	03 02 01.5	+0.7
SOEI				S	Sn	03 02 57.6	-1.1
FAKI	Fak Fak	5.65	37	ePn	Pn	03 02 07.6	-0.9
FAKI				eSn	Sn	03 03 06.6	-6.0
FAKI	Fak Fak	5.65	37	P	Pn	03 02 13.2	+4.7
BATI	Baumata	5.79	241	P	Pn	03 02 12.5	+2.1
	251nm,0.3s,baz=102,slow=2.3,SNR=144						
BATI				S	Sn	03 03 16.0	-0.1
	161nm,0.3s,baz=179,slow=15,SNR=15						
BATI	Baumata	5.79	241	P	Pn	03 02 10.3	-0.2
BATI				S	Sn	03 03 15.2	-0.9
SANI	Sanana	6.07	332	P	Pn	03 02 16.7	+2.5
MMRI	Maumere	6.63	259	ePn	Pn	03 02 21.9	+0.2
MMRI	Maumere	6.63	259	P	Pn	03 02 22.6	+0.9
SIJI	Sorong	6.98	20	P	Pn	03 02 26.5	+0.2
	3.2nm,0.3s,baz=41,slow=22,SNR=35						
SIJI				S	Sn	03 03 42.5	-2.1
	3.5nm,0.3s,baz=276,slow=22,SNR=4.8						
EDFI	Ende, Flores	7.19	259	P	Pn	03 02 31.6	+2.5
	26nm,0.6s,600nm0.2nm						
RKPI	Ransiki, Papua	7.95	42	P	Pn	03 02 43.1	+3.8
BKSI	Bulukumba	8.91	283	P	Pn	03 02 56.4	+4.3
	24nm,1.0s,0.1nm						
FITZ	Fitzroy Crossi	11.03	196	P	Pn	03 03 19.0	-1.1
	2.4nm,0.3s,baz=29,slow=11,SNR=102						
FITZ				S	Sn	03 05 13.1	-8.9
	9.7nm,0.3s,baz=246,slow=22,SNR=7.8						
PLAI	Plampang	11.03	262	P	Pn	03 03 23.5	+3.3
WRAB	Tennant Creek	13.51	157	ePn	Pn	03 03 50.4	-1.9
WRAB				eSn	Sn	03 06 11.7	-10
WRA	Warramunga Arr	13.51	157	P	Pn	03 03 50.3	-2.0
	7.8nm,0.3s,baz=331,slow=13,SNR=159						
WRA				S	Sn	03 06 13.0	-9.0
	9.4nm,0.3s,baz=337,slow=23,SNR=9.2						
WB2	Warramunga Arr	13.52	157	ePn	Pn	03 03 48.9	-3.5
WB2				eSn	Sn	03 06 09.6	-13
COEN	Coen	15.50	116	ePn	Pn	03 04 17.4	+0.1
	26nm,0.6s						
MBWA	Marble Bar	16.22	212	ePn	Pn	03 04 26.8	+0.8
	48nm,1.8s						
MBWA				eS	S	03 07 21.5	-4.9
AS31	Alice Springs	16.84	164	eP	Pn	03 04 34.7	+1.2
	7.4nm,0.6s						
ASAR	Alice Springs	16.84	164	P	P	03 04 33.5	+0.4
	3.7nm,0.3s,baz=336,slow=9.6,SNR=207						
ASAR				S	S	03 07 32.9	-8.1
	1.8nm,0.3s,baz=316,slow=18,SNR=6.9						
AS01	Alice Springs	16.85	164	eP	P	03 04 33.0	-0.2
UGM	Wanagama	18.15	267	eP	P	03 04 47.9	+0.3
	137nm,1.4s						
PMG	Port Moresby	18.23	97	P	Pn	03 04 50.6	+0.4
	1.2nm,0.3s,baz=285,slow=7.1,SNR=11						
PMG				S	S	03 08 07.7	-1.8
	1.0nm,0.3s,baz=212,slow=16,SNR=2.0						
PMG	Port Moresby	18.23	97	eP	Pn	03 04 50.0	-0.2
	34nm,0.8s						
PMG				S	S	03 08 07.8	-1.8
CTA	Charters Tower	21.04	128	P	P	03 05 20.7	+1.9
	4.1nm,0.7s,baz=315,slow=14,SNR=2.8						
CTAO	Charters Tower	21.04	128	eP	P	03 05 20.9	+2.1
FORT	Forrest	23.21	182	eP	P	03 05 41.6	+1.4
	24nm,0.7s						
MORW	Morawa	24.65	208	eP	P	03 05 54.1	+0.7
	21nm,0.6s						
BBOO	Buckleboo	26.11	166	eP	P	03 06 07.7	+1.2
	61nm,1.8s						
STKA	Stephens Creek	27.05	156	P	P	03 06 16.8	+1.8
	2.7nm,0.7s,baz=328,slow=11,SNR=6.2						
STKA				PcP	PcP	03 09 33.7	+1.2
	2.0nm,0.4s,baz=313,slow=8.5,SNR=3.4						
NWAO	Narrogin (SRO)	27.54	201	P	P	03 06 21.0	+1.7
	4.7nm,0.3s,baz=286,slow=8.0,SNR=11						
KULM	Kulim	30.84	293	eP	P	03 06 46.7	-2.1
	14nm,1.1s						
ARMA	Armidale	31.28	140	eP	P	03 06 52.8	+0.2
	49nm,1.9s						
PSI	Prapat	31.53	288	P	P	03 06 54.7	-0.3
	4.6nm,0.4s,baz=180,slow=7.6,SNR=5.5						
NACB	Ninganchiao	32.22	348	eP	P	03 06 59.4	-1.3
	80nm,1.4s						
TOO	Toolangi	33.58	156	eP	P	03 07 12.5	0.0
	22nm,1.5s						
CBIJ	Chichi jima	36.70	20	eP	P	03 07 36.4	-2.8
	172nm,1.0s						
CMAR	Chiang Mai Arr	39.15	311	P	P	03 08 00.3	+0.4
	1.2nm,0.4s,baz=145,slow=7.3,SNR=7.7						
CMAR				PcP	PcP	03 10 08.7	+2.1
	0.9nm,0.4s,baz=147,slow=1.8,SNR=3.1						
NJ2	Nanjing	40.42	347	eP	P	03 08 08.7	-1.5
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
KMI	Kunming	41.16	323	P	P	03 08 18.7	+2.1
KMI				pmax	pmax		
	comp=Z,16nm,0.6s						
MJAR	Matsushiro Arr	44.64	11	P	P	03 08 42.8	-1.4
	4.3nm,0.9s,baz=193,slow=10.0,SNR=7.8						
MAT	Matsushiro	44.64	11	P	P	03 08 42.9	-1.3
KSAR	Wonju Array Be	44.67	359	P	P	03 08 44.7	+0.3
KSAR				PcP	PcP	03 10 25.6	+1.2
KSRS	Korea Array	44.68	359	P	P	03 08 44.7	+0.2
	1.4nm,0.5s,baz=178,slow=9.6,SNR=6.9						
KSRS				PcP	PcP	03 10 25.6	+1.2
	1.3nm,0.7s,baz=179,slow=3.6,SNR=3.7						
CD2	Chengdu	45.08	329	eP	P	03 08 48.4	+0.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN	Xi'an	45.38	337	P	P	03 08 49.2	-0.9
XAN				pmax	pmax		
	comp=Z,12nm,0.7s						
XAN				pmax	pmax		
	comp=Z,140nm,5.2s						
SHL	Shillong	48.66	314	eP	P	03 09 16.0	+0.1
	8.4nm,0.8s						
LZH	Lanzhou	49.27	333	eP	P	03 09 21.4	+1.0
LZH				pP	pP	03 09 54.2	-0.1
LZH				sP	sP	03 10 09.7	-1.1
LZH				pmax	pmax		
	comp=Z,24nm,1.1s						
HHC	Hu-ho-hao-te	50.63	343	eP	P	03 09 33.2	+2.8
HHC				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,180nm,5.7s						
CN2	Changchun	51.11	357	eP	P	03 09 36.3	+2.5
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	Ussuriysk Ar.	51.49	3	P	P	03 09 36.7	+0.1
	2.8nm,0.7s,baz=194,slow=7.4,SNR=6.3						
LSA	Lhasa	51.73	317	eP	P	03 09 39.7	+0.4
	7.8nm,0.7s						
RAMN	Ramite	53.32	312	eP	P	03 09 50.9	+0.1
	24nm,0.6s						
GTA	Gaotai	53.82	332	⇑P	P	03 09 54.4	+0.3
GTA				pP	pP	03 10 29.8	+1.3
GTA				sP	sP	03 10 44.5	-0.5
GTA				PcP	PcP	03 10 57.3	-0.6
GTA				ScP	ScP	03 14 41.3	-0.7
GTA				S	S	03 17 16.7	-0.8
GTA				sS	sS	03 18 16.7	-0.5
GTA				SS	SS	03 21 00.8	-0.1
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,80nm,7.1s						
GTA				LR	LR		
	comp=N,89nm,19.4s						
GTA				LR	LR		
	comp=E,130nm,20.3s						
GTA				LR	LR		
	comp=Z,130nm,18.1s						
JIRN	Jiri	54.02	312	eP	P	03 09 55.9	-0.1
	12nm,0.4s						
GUN	Gumba	54.39	312	eP	P	03 09 58.4	-0.3
	17nm,0.6s						
KKN	Kakani	54.76	312	eP	P	03 10 00.9	-0.3
DMN	Daman	54.79	311	eP	P	03 10 01.2	-0.3
KOLN	Koldanda	56.01	311	eP	P	03 10 09.8	-0.3
	19nm,0.8s						
KLR	Kul'dur	56.50	2	P	P	03 10 13.1	+0.2
	2.6nm,1.0s,baz=260,slow=3.6,SNR=4.2						
KLR				PcP	PcP	03 11 08.7	+0.8
	0.9nm,0.5s,baz=320,slow=3.2,SNR=4.2						
PYUN	Piuthan	56.64	311	eP	P	03 10 14.5	-0.1
	28nm,0.8s						
ULN	Ulaanbaatar	58.35	343	eP	P	03 10 26.2	+0.1
	1.3nm,0.4s						
SONM	Songino Array	58.51	342	P	P	03 10 28.1	+0.9
	0.7nm,0.5s,baz=160,slow=5.7,SNR=4.4						
SONM				PcP	PcP	03 11 17.0	+1.0
	0.4nm,0.5s,baz=162,slow=2.7,SNR=2.0						
SONA1	Songino Array	58.52	342	eP	P	03 10 27.5	+0.2
CASY	Casey	60.08	188	eP	P	03 10 36.6	-0.9
WMQ	Urumqi	63.15	328	eP	P	03 10 59.4	+0.8
WMQ				pmax	pmax		
	comp=Z,21nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,200nm,5.1s						
WMQ				LR	LR		
	comp=N,370nm,27.5s						
WMQ				LR	LR		
	comp=E,240nm,29.3s						
WMQ				LR	LR		
	comp=Z,250nm,22.1s						
PETK	Petropavlovsk-	65.12	19	P	P	03 11 12.1	+0.9
	6.1nm,0.6s,baz=175,slow=5.7,SNR=13						
PETK				PcP	PcP	03 11 43.1	+0.5
	1.7nm,0.6s,baz=183,slow=6.4,SNR=2.8						
PETK	Petropavlovsk-	65.12	19	eP	P	03 11 10.9	-0.2
PETK				PcP	PcP	03 11 43.1	+0.5
KSH	Kashi	67.58	318	P	P	03 11 27.4	+0.2
KSH				pP	pP	03 12 06.2	+3.1
KSH				PP	PP	03 13 57.5	-0.8
KSH				S	S	03 20 05.6	-6.7
KSH				pmax	pmax		
	comp=Z,13nm,0.8s						
KSH				pmax	pmax		
	comp=Z,310nm,5.9s						
KSH				LR	LR		
	comp=N,75nm,5.2s						
KSH				LR	LR		
	comp=E,150nm,9.1s						
KSH				LR	LR		
	comp=Z,300nm,6.5s						
MK01	Makanchi Array	67.96	327	eP	P	03 11 29.6	+0.3
MK31	Makanchi Array	67.98	327	eP	P	03 11 29.8	+0.4
MKAR	Makanchi Array	67.98	327	P	P	03 11 30.1	+0.6
	8.1nm,0.5s,baz=118,slow=8.1,SNR=239						
MAKZ	Makanchi	68.15	327	eP	P	03 11 30.9	+0.4
	4.7nm,0.6s						
TKM2	Tokmak 2	69.60	321	P	P	03 11 40.9	+1.0
	SNR=6.1						
UCH	Uchtor	69.92	320	P	P	03 11 43.5	+1.5
	SNR=5.3						
AAK	Ala-Archa	70.15	320	P	P	03 11 44.6	+1.5
	SNR=5.4						
AAK	Ala-Archa	70.15	320	eP	P	03 11 43.5	+0.4
	3.5nm,0.6s						
AML	Almayashu	70.40	320	P	P	03 11 46.1	+1.2
	SNR=10						
USP	Ospenovka	70.47	321	P	P	03 11 45.6	+0.8
	SNR=7.4						
EKS2	Erkin-Say	70.61	320	P	P	03 11 47.2	+1.3
	SNR=6.8						
ZAA0	Zalesovo Array	71.48	334	eP	P	03 11 50.2	-0.4
	4.6nm,0.6s						
ZALV	Zalesovo Beam	71.48	334	P	P	03 11 50.2	-0.5
	5.0nm,0.6s,baz=132,slow=5.7,SNR=19						
ZALV	Zalesovo Beam	71.48	334	eP	P	03 11 49.1	-1.6
VNDA	Vanda	72.14	173	P	P	03 11 55.9	+1.6
	1.1nm,0.3s,baz=323,slow=6.4,SNR=25						
VNDA	Vanda	72.14	173	eP	P	03 11 55.0	+0.7
	16nm,1.9s						
KURBB	Kurchatov Arra	72.30	329	P	P	03 11 56.5	+0.9
	5.8nm,0.5s,baz=130,slow=5.0,SNR=44						
KURK	Kurchatov	72.31	329	eP	P	03 11 55.4	-0.3
SEY	Seymchan	72.47	11	P	P	03 11 57.4	+1.1
	5.6nm,0.6s,baz=185,slow=3.1,SNR=10						
KK31	Karatay Array	72.92	319	eP	P	03 11 59.9	+0.4
KKAR	Karatay Array	72.92	319	eP	P	03 11 59.9	+0.4
MAW	Mawson	74.11	201	P	P	03 12 08.6	+2.6
	6.0nm,0.5s,baz=84,slow=7.2,SNR=8.2						
BRVK	Borovoye	77.91	328	eP	P	03 12 27.3	-0.4
	4.3nm,1.0s						
ABKAR	Akbulak array	82.15	322	eP	P	03 12 50.1	-0.4
SYO	Syowa Base	82.82	201	⇓eP	P	03 12 55.0	+1.3
ARU	Arti	85.48	328	eP	P	03 13 06.1	-1.2
RAYN	Ar Rayn	86.87	294	eP	P	03 13 14.4	-0.5
	2.9nm,0.6s						
GNI	Garni	90.26	310	eP	P	03 13 30.0	-0.7
ILAR	Eielson Array	94.25	25	P	P	03 13 47.1	-1.3
	0.5nm,0.7s,baz=254,slow=4.3,SNR=8.4						
BRTR	Keskin Array B	98.70	309	P	P	03 14 09.1	-0.2
	0.5nm,0.9s,baz=65,slow=12,SNR=3.0						
ARCES	ARCESS Array B	101.60	340	P	Pdif	03 14 23.0	+1.7
	1.4nm,0.8s,baz=81,slow=5.8,SNR=4.8						
ARCES				PKKPbc	PKKPbc	03 30 28.7	-2.5
	2.1nm,0.9s,baz=264,slow=3.6,SNR=6.4						
YKA	Yellowknife Ar	108.67	26	PKiKP	PKiKP	03 18 57.4	+0.1
	0.1nm,0.3s,baz=289,slow=1.7,SNR=7.0						
YKA				PKKPbc	PKKPbc	03 30 07.2	-2.2
	0.2nm,0.5s,baz=109,slow=3.0,SNR=3.8						
GERES	GERESS Array B	112.02	320	PKiKP	PKiKP	03 19 04.2	-0.1
	0.7nm,0.5s,baz=64,slow=3.1,SNR=6.7						
PDAR	Pinedale Array	118.03	45	PKP	PKPdf	03 19 17.0	+0.8
	0.4nm,0.7s,baz=318,slow=2.0,SNR=4.2						
KEST	Kesra	118.17	307	PKP	PKPdf	03 19 17.2	+0.7
	6.8nm,1.2s,baz=226,slow=13,SNR=3.7						
ULM	Lac du Bonnet	123.46	33	PKP	PKPdf	03 19 26.5	+0.5
	0.6nm,0.3s,baz=315,slow=1.4,SNR=2.8						
TXAR	Lajitas Array	126.16	59	PKP	PKPdf	03 19 33.2	+1.2
	0.2nm,0.4s,baz=134,slow=3.9,SNR=3.5						
ESDC	Sonseca Array	127.01	315	PKP	PKPdf	03 19 34.8	+1.5
	0.1nm,0.4s,baz=141,slow=38,SNR=2.7						
TORD	Torodi Ar. Bea	127.76	281	PKP	PKPdf	03 19 35.2	-0.1
	0.9nm,0.8s,baz=64,slow=3.4,SNR=6.7						
PLCA	Paso Flores	128.84	161	PKP	PKPdf	03 19 36.5	-0.3
	1.1nm,0.6s,baz=354,slow=3.0,SNR=4.9						
SCHQ	Schefferville	131.12	12	PKP	PKPdf	03 19 39.9	-0.6
	3.3nm,0.8s,baz=201,slow=13,SNR=7.1						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DBIC	**Dimbokro**	**134.05**	**272**	PKP	**PKPdf**	**03 19 48.9**	**+1.7**
	0.7nm,0.4s,baz=54,slow=1.2,SNR=5.3						
LVC	**Limon Verde**	**145.44**	**150**	*e*PKPbc	**PKPdf**	**03 20 08.3**	**+0.2**
CPUP	**Villa Florida**	**145.89**	**170**	PKPbc	**PKPab**	**03 20 10.6**	**+0.8**
	4.0nm,0.5s,baz=187,slow=2.3,SNR=15						
JTS	**JuntasAbangare**	**146.51**	**83**	*e*PKPbc	**PKPdf**	**03 20 10.7**	**+0.9**
NNA	**Nana**	**147.99**	**127**	*e*PKPbc	**PKPbc**	**03 20 15.1**	**-0.3**
LPAZ	**La Paz**	**151.04**	**145**	PKPbc	**PKPbc**	**03 20 25.4**	**+1.8**
	2.6nm,0.4s,baz=24,slow=4.1,SNR=18						
LPAZ				PKPab	**PKPab**	**03 20 32.7**	**+1.2**
	2.9nm,0.7s,baz=235,slow=4.8,SNR=7.5						

MAN 04 03:12:06.2, 9°.96N×123°.39E, h32km, mb3.6, ML2.3, MS1.8, 1C, Negros

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.53**	**120**	*e*P	Pn	03 12 17.8	+0.3
SNPH	**Sibulan**	**0.63**	**194**	⇑*i*P	Pn	03 12 19.8	+0.9
SNPH				*i* S	Sn	03 12 28.1	+0.2
GUIM	**Jordan**	**1.03**	**310**	*e*P	Pn	03 12 24.3	-0.1
GUIM				*e*S	Sn	03 12 37.6	-0.2

*ISCJB **04** 03:14:38.5±0.3, 24°.00N±0°.02×122°.38E±0°.01, h18km±4km, Error ellipse: s-maj=3.1km s-min=2.0km az=154.3*
*JMA **04** 03:14:38.1±0.2, 23°.98N×122°.39E, h11km, M3.3*
*TAP **04** 03:14:38.9, 24°.03N×122°.30E, h15km, ML3.6, D*
ISC 04 03:14:37.7±1.0, **24°.00N**±0°.02×**122°.37E**±0°.02, **h11**km±8km, **n73**, σ**0s.59**/126, **2C-1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.59**	**338**	⇓*i*P	**Pg**	**03 14 50.1**	**+0.8**
	baz=342						
EOS1				*e*S	**Sb**	**03 14 58.2**	**-0.2**
	baz=342						
JYNG	**Yonagunijimaku**	**0.69**	**49**	P	**Pg**	**03 14 51.4**	**+0.2**
JYNG				S	**Sg**	**03 14 59.9**	**-0.4**
HWA	**Hwalien**	**0.70**	**269**	*e*P	**Pb**	**03 14 52.7**	**+0.8**
	baz=265						
ENLB	**Shoufeng**	**0.71**	**263**	*e*P	**Pg**	**03 14 51.7**	**+0.2**
	baz=259						
ENLB				*e*S	**Sb**	**03 15 02.0**	**+0.2**
	baz=259						
TWD	**Chiawan**	**0.71**	**277**	*e*P	**Pb**	**03 14 52.3**	**+0.2**
	baz=274						
TWD				*e*S	**Sb**	**03 15 01.5**	**-0.4**
	baz=274						
ENA	**Nanau**	**0.72**	**307**	*i* P	**Pg**	**03 14 51.8**	**+0.2**
	baz=308						
ENA				*e*S	**Sg**	**03 15 01.5**	**+0.4**
	baz=308						
NACB	**Ninganchiao**	**0.73**	**284**	*i* P	**Pb**	**03 14 52.9**	**+0.4**
	baz=282						
NACB				*e*S	**Sg**	**03 15 01.4**	**0.0**
	baz=282						
YOJ	**Yonaguni jima**	**0.75**	**52**	P	**Pg**	**03 14 52.0**	**-0.2**
	baz=55						
YOJ	**Yonaguni jima**	**0.75**	**52**	P	**Pg**	**03 14 52.4**	**+0.2**
YOJ				S	**Sg**	**03 15 01.2**	**-0.8**
TWC	**Suao**	**0.77**	**322**	*i* P	**Pg**	**03 14 52.5**	**-0.2**
	baz=325						
TWC				*e*S	**Sg**	**03 15 02.1**	**-0.7**
	baz=325						
ESL	**Shilin**	**0.88**	**258**	*e*P	**Pg**	**03 14 54.4**	**-0.3**
	baz=254						
ESL				*e*S	**Sg**	**03 15 06.4**	**+0.3**
	baz=254						
EGS		**0.93**	**335**	*e*P	**Pg**	**03 14 55.5**	**-0.2**
	baz=338						
ILA	**Ilan**	**0.95**	**324**	*e*P	**Pb**	**03 14 56.1**	**-0.1**
	baz=325						
ILA				*e*S	**Sb**	**03 15 09.1**	**+0.2**
	baz=325						
TWE	**Neicheng**	**0.96**	**319**	*e*P	**Pb**	**03 14 56.4**	**-0.1**
	baz=320						
TWE				*e*S	**Sg**	**03 15 08.2**	**-0.7**
	baz=320						
ENTT	**Nioudou**	**0.97**	**311**	*i* P	**Pb**	**03 14 56.7**	**0.0**
	baz=312						
ENTT				*e*S	**Sg**	**03 15 08.7**	**-0.6**
	baz=312						
NTC	**Toucheng**	**0.98**	**330**	*e*P	**Pb**	**03 14 56.6**	**-0.2**
	baz=332						
NTC				*e*S	**Sg**	**03 15 10.2**	**+0.6**
	baz=332						
NNSB	**Datong**	**1.00**	**296**	⇑*i*P	**Pg**	**03 14 57.4**	**+0.4**
	baz=295						
NNSB				*e*S	**Sg**	**03 15 09.8**	**-0.2**
	baz=295						
HGSD	**Ruisui**	**1.00**	**240**	*e*P	**Pb**	**03 14 57.1**	**0.0**
	baz=236						
HGSD				*e*S	**Sb**	**03 15 10.3**	**0.0**
	baz=236						
SLBB	**Yuanshan**	**1.01**	**319**	*e*P	**Pb**	**03 14 57.5**	**+0.3**
	baz=319						
SLBB				*e*S	**Sg**	**03 15 10.6**	**+0.2**
	baz=319						
NNS	**Nan Shan**	**1.01**	**296**	*e*P	**Pg**	**03 14 57.6**	**+0.3**
	baz=295						
NNS				*e*S	**Sg**	**03 15 10.1**	**-0.4**
	baz=295						
WHF	**Hehuan Shan**	**1.02**	**279**	*e*P	**Pg**	**03 14 57.5**	**+0.1**
	baz=276						
WHF				*e*S	**Sg**	**03 15 10.6**	**-0.3**
	baz=276						
TWB1	**Santiao Chiao**	**1.06**	**341**	*e*P	**Pb**	**03 14 58.3**	**+0.1**
	baz=344						
TWB1				*e*S	**Sg**	**03 15 12.4**	**+0.3**
	baz=344						
EHY	**Hungye**	**1.08**	**243**	*e*P	**Pb**	**03 14 58.4**	**0.0**
	baz=239						
EHY				*e*S	**Sb**	**03 15 12.2**	**-0.2**
	baz=239						
CHGB	**Renai**	**1.09**	**274**	⇑*i*P	**Pb**	**03 14 58.6**	**-0.2**
	baz=271						
CHGB				*e*S	**Sb**	**03 15 12.4**	**-0.8**
	baz=271						
NWLT	**Wulai**	**1.11**	**315**	*e*P	**Pn**	**03 14 59.5**	**+0.2**
	baz=315						
TWT	**Tachien**	**1.12**	**283**	*e*P	**Pn**	**03 14 59.8**	**+0.3**
	baz=281						
YHNB	**Yeheng**	**1.13**	**307**	P	**Pg**	**03 14 59.9**	**+0.4**
	baz=307						
YHNB				*e*S	**Sb**	**03 15 13.3**	**-0.7**
	baz=307						
TDCB	**Techi**	**1.14**	**283**	*e*P	**Pb**	**03 14 59.4**	**-0.1**
	baz=282						
TDCB				*e*S	**Sg**	**03 15 14.4**	**0.0**
	baz=282						
NSK	**Sanguang**	**1.14**	**306**	*e*P	**Pg**	**03 15 00.2**	**+0.4**
	baz=306						
NSK				*e*S	**Sb**	**03 15 13.8**	**-0.7**
	baz=306						
VWDT	**VWDT**	**1.15**	**258**	*e*P	**Pb**	**03 14 59.3**	**-0.3**
	baz=255						
VWDT				*e*S	**Sb**	**03 15 14.2**	**-0.3**
	baz=255						
YULB	**Yu-li**	**1.15**	**239**	*e*P	**Pb**	**03 14 58.9**	**-0.8**
	baz=235						
TWF1	**Yuli**	**1.17**	**237**	*e*P	**Pb**	**03 14 59.4**	**-0.6**
	baz=233						
TWF1				*e*S	**Sb**	**03 15 15.1**	**-0.1**
	baz=233						
NWF	**Wu-fen Shan**	**1.20**	**333**	*e*P	**Pn**	**03 15 00.7**	**+0.3**
	baz=335						
NWF				*e*S	**Sb**	**03 15 16.2**	**+0.2**
	baz=335						
WFSB	**Wu-fen Shan**	**1.20**	**333**	*e*P	**Pn**	**03 15 00.7**	**+0.3**
	baz=335						
WFSB				*e*S	**Sb**	**03 15 15.8**	**-0.1**
	baz=335						
TWA	**Mucha**	**1.21**	**324**	*e*P	**Pb**	**03 15 01.2**	**+0.5**
	baz=325						
TWA				*e*S	**Sb**	**03 15 16.4**	**0.0**
	baz=325						
TATO	**Taipei**	**1.26**	**321**	*e*P	**Pg**	**03 15 02.7**	**+0.7**
	baz=322						
TATO				*e*S	**Sb**	**03 15 17.5**	**-0.3**
	baz=322						
IRIF	**Iriomote-Funau**	**1.29**	**75**	P	**Pn**	**03 15 01.7**	**+0.1**
IRIF				*e*S	**Sb**	**03 15 19.2**	**+0.7**
TAP	**Taipei**	**1.30**	**323**	*e*S	**Sb**	**03 15 17.8**	**-1.1**
	baz=324						
SSLB	**Suanglung**	**1.31**	**261**	*e*P	**Pn**	**03 15 01.4**	**-0.6**
	baz=259						
SSLB				*e*S	**Sn**	**03 15 19.6**	**+0.1**
	baz=259						
HATJ	**Hateruma jima**	**1.31**	**87**	P	**Pn**	**03 15 02.4**	**+0.4**
HATJ				*e*S	**Sb**	**03 15 18.8**	**-0.4**
SMLT	**Sun Moon Lake**	**1.35**	**265**	P	**Pn**	**03 15 02.3**	**-0.3**
	baz=263						
SMLT				*e*S	**Sb**	**03 15 19.3**	**-1.1**
	baz=263						
YM01	**YM01**	**1.36**	**328**	*e*P	**Pn**	**03 15 02.9**	**+0.3**
	baz=329						
YM01				*e*S	**Sb**	**03 15 20.0**	**-0.6**
	baz=329						
YM07	**YM07**	**1.36**	**330**	*e*P	**Pn**	**03 15 02.8**	**+0.2**
	baz=331						
YM07				*e*S	**Sb**	**03 15 19.8**	**-0.8**
	baz=331						
YM10	**YM10**	**1.37**	**328**	*e*P	**Pn**	**03 15 03.2**	**+0.4**
	baz=328						
YM10				*e*S	**Sb**	**03 15 20.5**	**-0.4**
	baz=328						
YM11	**YM11**	**1.37**	**328**	*e*P	**Pn**	**03 15 03.1**	**+0.3**
	baz=329						
YM11				*e*S	**Sb**	**03 15 20.5**	**-0.5**
	baz=329						
YM05	**YM05**	**1.37**	**328**	*e*P	**Pn**	**03 15 03.3**	**+0.4**
	baz=329						
YM05				*e*S	**Sn**	**03 15 21.2**	**+0.1**
	baz=329						
YM04	**YM04**	**1.38**	**327**	*e*P	**Pn**	**03 15 03.4**	**+0.5**
	baz=328						
YUS	**Yu-Shan**	**1.39**	**249**	*e*P	**Pn**	**03 15 03.3**	**-0.2**
	baz=246						
YUS				*e*S	**Sb**	**03 15 20.6**	**-1.4**
	baz=246						
NSTT	**Nanjuang**	**1.40**	**297**	*e*P	**Pb**	**03 15 04.0**	**+0.2**
	baz=296						
NSTT				*e*S	**Sn**	**03 15 21.5**	**-0.1**
	baz=296						
TWS1	**Kuangyinshan**	**1.40**	**322**	*e*P	**Pn**	**03 15 03.3**	**+0.1**
	baz=323						
TWS1				*e*S	**Sn**	**03 15 21.4**	**-0.2**
	baz=323						
NCU	**National Centr**	**1.45**	**312**	*e*S	**Sn**	**03 15 21.3**	**-1.5**
	baz=312						
TWY	**Chenhua**	**1.45**	**331**	*e*P	**Pn**	**03 15 04.3**	**+0.4**
	baz=332						
TWY				*e*S	**Sn**	**03 15 22.4**	**-0.5**
	baz=332						
ELDTW	**Lidau**	**1.48**	**237**	*e*P	**Pn**	**03 15 04.7**	**+0.3**
	baz=234						
ALS	**Alishan**	**1.51**	**252**	*e*P	**Pn**	**03 15 05.4**	**+0.4**
	baz=249						
ALS				*e*S	**Sn**	**03 15 24.8**	**0.0**
	baz=249						
WJS	**Zhushan**	**1.51**	**264**	*e*S	**Sb**	**03 15 24.9**	**-0.1**
	baz=261						
JKRS	**Kuro-shima**	**1.52**	**81**	P	**Pn**	**03 15 05.3**	**+0.5**
JKRS				*e*S	**Sn**	**03 15 25.2**	**+0.7**
NMLH	**Miaoli**	**1.54**	**291**	*e*S	**Sb**	**03 15 25.4**	**-0.4**
	baz=290						
CHN5	**Tsauling**	**1.60**	**256**	*e*S	**Sn**	**03 15 26.2**	**-0.5**
	baz=253						
JIJ	**Ishigaki jima**	**1.66**	**77**	P	**Pn**	**03 15 06.7**	**0.0**
JIJ				S	**Sn**	**03 15 27.0**	**-1.0**
TWGBT	**Beinan**	**1.67**	**226**	*e*P	**Pn**	**03 15 05.9**	**-1.0**
	baz=223						
TWG	**Pinlang**	**1.67**	**226**	*e*P	**Pn**	**03 15 05.8**	**-1.1**
	baz=223						
TPUB	**Ta-pu**	**1.74**	**247**	*e*P	**Pn**	**03 15 08.7**	**+0.9**
	baz=244						
TPUB				*e*S	**Sn**	**03 15 30.0**	**-0.1**
	baz=244						
JISG	**Ishigakijimahi**	**1.87**	**71**	P	**Pn**	**03 15 09.7**	**+0.1**
JISG				*e*S	**Sn**	**03 15 31.8**	**-1.3**
SLGT	**Liugui**	**1.87**	**238**	*e*S	**Sn**	**03 15 33.8**	**+0.6**
	baz=235						
CHN1	**Nanshi**	**1.87**	**245**	*e*P	**Pn**	**03 15 11.1**	**+1.4**
	baz=242						
TWK	**Hsinying**	**1.87**	**248**	*e*P	**Pn**	**03 15 10.9**	**+1.2**
	baz=245						
TWK				*e*S	**Sn**	**03 15 33.2**	**-0.1**
	baz=245						
SGST	**Jiashian**	**1.88**	**241**	*e*P	**Pn**	**03 15 10.9**	**+1.2**
	baz=239						
SGST				*e*S	**Sn**	**03 15 33.7**	**+0.3**
	baz=239						
ECL	**Taimali**	**1.91**	**223**	*e*P	**Pn**	**03 15 11.1**	**+1.0**
	baz=220						
MASBT	**Mashibuluo**	**2.11**	**230**	*e*P	**Pb**	**03 15 14.9**	**-1.1**
	baz=227						
EAST	**Anshuo**	**2.13**	**221**	*e*P	**Pn**	**03 15 14.7**	**+1.4**
	baz=219						
JTJ	**Tarama**	**2.22**	**73**	P	**Pn**	**03 15 14.8**	**+0.3**
JTJ				*e*S	**Sn**	**03 15 42.1**	**+0.2**
SCZT	**Fangliau**	**2.28**	**225**	*e*P	**Pn**	**03 15 16.4**	**+1.1**
	baz=223						
SCZT				*e*S	**Sn**	**03 15 45.2**	**+1.8**
	baz=223						
JIRB	**Irabujima**	**2.69**	**71**	P	**Pn**	**03 15 22.0**	**+1.1**
JIRB				S	**Sn**	**03 15 53.4**	**0.0**

*ISCJB **04** 03:22:42.1±0.7, 5°.92S±0°.06×147°.3E±0°.1, h77km, mb4.0/10, Error ellipse: s-maj=17.6km s-min=7.8km az=4.1*
*NEIC **04** 03:22:43.9±1.3, 5°.94S×147°.34E, h80km±11km, mb4.3/7, Error ellipse: s-maj=12.4km s-min=8.8km az=111.0*
*IDC **04** 03:22:46.0±2.3, 6°.03S×147°.33E, h94km±21km, mb4.0/5, mb1 4.3/7, mb1mx3.7/42, mbtmp4.4/7, MS3.0/2, Ms1 3.0/2, ms1mx2.7/26, Error ellipse: s-maj=32.7km s-min=14.7km az=110.0*
ISC 04 03:22:43.8±0.8, **5°.95S**±0°.07×**147°.3E**±0°.1, **h77**km, **n27**, σ**0s.87**/30, **mb3.9**/10, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.44**	**182**	P	**Pn**	**03 23 36.0**	**+0.9**
	27nm,0.3s,baz=40,slow=5.8,SNR=30						
PMG				S	**Sn**	**03 24 15.8**	**+1.1**
	18nm,0.3s,baz=347,slow=10,SNR=8.8						
PMG	**Port Moresby**	**3.44**	**182**	*e*Pn	**Pn**	**03 23 35.6**	**+0.5**
PMG				*e*Sn	**Sn**	**03 24 13.3**	**-1.4**
PMG				*e*Sn	Sn	03 24 15.8	+1.1
COEN	**Coen**	**8.93**	**207**	*e*Pn	**Pn**	**03 24 51.0**	**+0.9**
COEN				*e*Sn	**Sn**	**03 26 27.0**	**-2.0**
HNR	**Honiara**	**13.02**	**106**	LR	LR	03 29 40.2	
	comp=Z,43nm,18.0s,baz=332,slow=32						
WRAB	**Tennant Creek**	**18.74**	**221**	*e*P	**P**	**03 26 56.1**	**-0.5**
	22nm,0.6s						
WB2	**Warramunga Arr**	**18.75**	**221**	*e*P	**P**	**03 26 56.1**	**-0.6**
WR1	**Warramunga Arr**	**18.75**	**221**	*e*P	**P**	**03 26 57.3**	**+0.5**
	22nm,0.6s						
WRA	**Warramunga Arr**	**18.75**	**221**	P	**P**	**03 26 57.3**	**+0.5**
	2.4nm,0.3s,baz=43,slow=12,SNR=80						
AS01	**Alice Springs**	**21.79**	**215**	*e*P	**P**	**03 27 29.7**	**+0.1**
AS31	**Alice Springs**	**21.82**	**215**	*e*P	**P**	**03 27 30.5**	**+0.6**
	6.5nm,0.3s						
ASAR	**Alice Springs**	**21.82**	**215**	P	**P**	**03 27 30.6**	**+0.7**
	10nm,0.5s,baz=54,slow=9.0,SNR=99						
ASAR				S	**S**	**03 31 25.7**	**-1.4**
	1.2nm,0.9s,baz=33,slow=20,SNR=5.5						
FITZ	**Fitzroy Crossi**	**24.33**	**238**	P	**P**	**03 27 55.6**	**+1.1**
	22nm,0.6s,baz=65,slow=7.9,SNR=34						
FITZ				LR	LR	03 39 01.0	
	comp=Z,66nm,21.6s,baz=324,slow=40						
FITZ	**Fitzroy Crossi**	**24.33**	**238**	*e*P	**P**	**03 27 55.1**	**+0.6**
	20nm,0.6s						
STKA	**Stephens Creek**	**26.34**	**191**	P	**P**	**03 28 13.4**	**+0.8**
	2.9nm,0.6s,baz=348,slow=8.9,SNR=8.2						
STKA	**Stephens Creek**	**26.34**	**191**	*e*P	**P**	**03 28 12.7**	**+0.1**
	4.4nm,1.7s						
NWAO	**Narrogin (SRO)**	**38.75**	**222**	*e*P	**P**	**03 30 00.9**	**0.0**
URZ	**Urewera**	**42.03**	**144**	*e*P	**P**	**03 30 27.1**	**-0.7**
	32nm,1.2s						
HIA	**Hailar**	**60.00**	**340**	*e*P	**P**	**03 32 42.0**	**-0.3**
ULN	**Ulaanbaatar**	**64.20**	**331**	*e*P	**P**	**03 33 10.5**	**-0.1**
	0.6nm,0.4s						
VNDA	**Vanda**	**71.95**	**177**	P	**P**	**03 33 58.9**	**+0.4**
	1.6nm,0.8s,baz=310,slow=7.0,SNR=7.9						
MK32	**Makanchi Array**	**77.64**	**320**	*e*P	**P**	**03 34 32.6**	**+0.6**
MKAR	**Makanchi Array**	**77.64**	**320**	P	**P**	**03 34 32.6**	**+0.6**
	0.2nm,0.8s,baz=102,slow=6.6,SNR=2.3						
AAK	**Ala-Archa**	**81.50**	**315**	*e*P	**P**	**03 34 52.1**	**-1.1**
	0.7nm,0.5s						
ILAR	**Eielson Array**	**85.33**	**23**	P	**P**	**03 35 11.2**	**-0.9**
	0.7nm,0.7s,baz=256,slow=4.5,SNR=8.2						
ILB	**Eielson Array**	**85.33**	**23**	*e*P	**P**	**03 35 11.2**	**-0.9**
TORD	**Torodi Ar. Bea**	**145.35**	**284**	PKPbc	**PKPbc**	**03 42 14.3**	**+0.5**
	0.5nm,1.0s,baz=122,slow=1.9,SNR=3.9						
TOA1	**Torodi Ar. Sit**	**145.35**	**284**	*e*PKPdf	**PKPbc**	**03 42 14.3**	**+0.4**

*ISCJB **04** 03:27:24.9±0.6, 18°.99N±0°.08×145°.4E±0°.1, h214km, mb3.8/18, Error ellipse: s-maj=19.9km s-min=11.0km az=10.6*
*IDC **04** 03:27:29.1±2.3, 18°.98N×145°.37E, h242km±21km, mb3.6/18, mb1 3.7/19, mb1mx3.5/51, mbtmp4.1/19, Error ellipse: s-maj=18.5km s-min=9.5km az=98.0*
ISC 04 03:27:25.8±0.7, **18°.9N**±0°.1×**145°.5E**±0°.2, **h214**km, **n22**, σ**1s.26**/25, **mb3.8**/18, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**18.68**	**341**	P	**P**	**03 31 28.7**	**+0.7**
	0.3nm,0.3s,baz=169,slow=9.1,SNR=5.3						
ASAJ	**Asahikawa**	**25.22**	**355**	P	**P**	**03 32 34.2**	**+2.2**
	10nm,0.8s,baz=282,slow=20,SNR=3.4						
KLR	**Kul'dur**	**32.19**	**343**	P	**P**	**03 33 33.5**	**-0.1**
	0.7nm,0.3s,baz=172,slow=8.7,SNR=5.5						
BATI	**Baumata**	**36.09**	**218**	P	**P**	**03 34 07.3**	**-0.2**
	9.7nm,0.4s,baz=50,slow=7.9,SNR=3.4						
WRA	**Warramunga Arr**	**40.16**	**196**	P	**P**	**03 34 42.2**	**+0.8**
	3.0nm,0.7s,baz=18,slow=9.0,SNR=44						
WRA				PcP	**PcP**	**03 36 40.4**	**-0.9**
	0.6nm,1.0s,baz=9.8,slow=3.3,SNR=3.5						
WRA				ScP	**ScP**	**03 40 07.2**	**-2.8**
	0.3nm,0.6s,baz=348,slow=3.8,SNR=2.7						
FITZ	**Fitzroy Crossi**	**41.66**	**209**	P	**P**	**03 34 54.2**	**+0.6**
	1.7nm,0.3s,baz=20,slow=6.3,SNR=30						
SRAK	**Srakaew**	**41.89**	**270**	P	**P**	**03 34 57.6**	**+2.0**
SONM	**Songino Array**	**42.85**	**321**	P	**P**	**03 35 02.7**	**-0.4**
	0.6nm,0.5s,baz=138,slow=10,SNR=5.6						
SONM				ScP	**ScP**	**03 40 18.4**	**-2.2**
	0.5nm,0.9s,baz=130,slow=2.3,SNR=2.4						
ASAR	**Alice Springs**	**43.83**	**195**	P	**P**	**03 35 11.7**	**+0.7**
	0.9nm,0.6s,baz=16,slow=7.6,SNR=13						
ZALV	**Zalesovo Beam**	**57.72**	**322**	P	**P**	**03 36 53.0**	**-1.1**
	0.7nm,0.4s,baz=114,slow=7.3,SNR=4.2						
MKAR	**Makanchi Array**	**58.17**	**314**	P	**P**	**03 36 57.6**	**+0.2**
	1.2nm,0.6s,baz=88,slow=8.9,SNR=16						
KURBB	**Kurchatov Arra**	**61.02**	**318**	P	**P**	**03 37 16.4**	**-0.4**
	1.3nm,0.4s,baz=96,slow=7.4,SNR=11						
ILAR	**Eielson Array**	**63.51**	**26**	P	**P**	**03 37 32.8**	**-0.2**
	0.6nm,0.5s,baz=254,slow=5.9,SNR=10						
INK	**Inuvik**	**69.22**	**23**	P	**P**	**03 38 09.6**	**+0.5**
	0.7nm,0.4s,baz=269,slow=5.5,SNR=10						
YKA	**Yellowknife Ar**	**77.86**	**28**	P	**P**	**03 39 00.0**	**+0.5**
	1.0nm,0.5s,baz=288,slow=5.4,SNR=16						
ARCES	**ARCESS Array B**	**82.21**	**342**	P	**P**	**03 39 22.3**	**-0.4**
	3.6nm,0.9s,baz=85,slow=8.3,SNR=12						
NVAR	**Mina Array Bea**	**83.13**	**52**	P	**P**	**03 39 29.9**	**+1.6**
	1.7nm,0.6s,baz=264,slow=5.8,SNR=16						
FINES	**FINESS Array B**	**86.59**	**335**	P	**P**	**03 39 42.6**	**-2.1**
	1.6nm,0.4s,baz=65,slow=4.8,SNR=35						
PDAR	**Pinedale Array**	**87.78**	**45**	P	**P**	**03 39 51.5**	**+0.3**
	0.3nm,0.7s,baz=214,slow=0.9,SNR=3.7						
NOA	**NORSAR Array B**	**92.29**	**340**	P	**P**	**03 40 11.3**	**-0.2**
	0.7nm,0.8s,baz=57,slow=7.4,SNR=2.4						
TORD	**Torodi Ar. Bea**	**132.17**	**309**	PKP	**PKPdf**	**03 46 14.1**	**-1.0**
	0.1nm,0.5s,baz=2.8,slow=3.6,SNR=3.6						
LPAZ	**La Paz**	**147.85**	**91**	PKPbc	**PKPbc**	**03 46 46.8**	**-0.4**
	0.4nm,0.5s,baz=304,slow=3.6,SNR=3.1						

*NIED **04** 03:29:00, 24°.00N×122°.30E, h35km, Mw4.9 Best double couple: M0 2.34000×10^16 NP1:φs310.00000°, δ18.00000°, λ160.00000°. NP2:φs58.00000°, δ84.00000°, λ73.00000°.*
*IDC **04** 03:29:53.5±0.5, 24°.13N×122°.42E, h0km, mb4.4/26, mb1 4.5/29, mb1mx4.4/52, mbtmp4.4/29, ML3.5/3, MS4.1/23, Ms1 4.1/23, ms1mx3.9/34, Error ellipse: s-maj=14.6km s-min=12.6km az=80.0*
*GCMT **04** 03:29:55.5±0.5, 23°.73N±0°.04×122°.35E±0°.04, h45km±1km, MW4.8/51, Moment Tensor Solution. s37,c46; s51,c72; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.94±.19; Mθθ-2.06±.12; Mφφ0.12±.14; Mrθ0.94±.11; Mθφ-0.68±.12; Mφr0.65±.13; Best double couple: M0 2.39400×10^16 NP1:φs64.00000°, δ59.00000°, λ79.00000°. NP2: φs265.00000°, δ32.00000°, λ108.00000°. Principal axes: T 2.2660, Plg73.0000°, Azm306.0000°; N 0.2550, Plg10.0000°, Azm70.0000°; P -2.5210, Plg14.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **04** 03:29:56.5±1.0, 24°.06N×122°.40E, h21km±7km, mb4.6/33, ML5.1(TAP) Error ellipse: s-maj=4.2km s-min=3.9km az=101.0*
NEIC Felt at Taipei and Yungho. Recorded [2 TAP] in Yilan and [1 TAP] in Changhua, Hualien, Nantou, Taitung and Yunlin. Recorded [1 JMA] on Yonaguni-jima, Ryukyu Islands.
*BJI **04** 03:29:56.3, 24°.03N×122°.37E, h12km, mb4.5/51, mB4.8/26, ML4.6/8, Ms4.5/54, Ms7 4.5/52*
*JMA **04** 03:29:57.3±0.2, 23°.97N×122°.34E, h23km±4km, M5.0*
JMA Felt I J1.
*TAP **04** 03:29:57.7, 24°.01N×122°.36E, h24km, ML4.9, D*
*MOS **04** 03:29:57.0±0.9, 24°.15N×122°.39E, h33km, mb4.9/44, Error ellipse: s-maj=8.9km s-min=5.4km az=118.7*
*ASIES **04** 03:29:57.6, 24°.04N×122°.39E, h28km, MW4.3*
*ISCJB **04** 03:29:58.2±0.2, 23°.99N±0°.01×122°.39E±0°.01, h46km±1km, mb4.6/91, MS4.1/28, Error ellipse: s-maj=2.2km s-min=1.7km az=146.3*
ISC 04 03:29:57.6±0.6, **23°.97N**±0°.02×**122°.40E**±0°.01, **h28**km±3km, **n383**, σ**1s.56**/504, **mb4.7**/95, **MS4.2**/28, **66C-14D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.62**	**337**	⇓P	**Pn**	**03 30 09.4**	**-1.3**
	baz=330						
EOS1				*e*S	**Sn**	**03 30 18.4**	**-1.3**
	baz=330						
JYNG	**Yonagunijimaku**	**0.69**	**46**	P	**Pn**	**03 30 11.1**	**-0.5**
JYNG				S	**Sn**	**03 30 20.4**	**-1.0**
HWA	**Hwalien**	**0.72**	**271**	⇓*e*P	**Pb**	**03 30 11.2**	**-0.4**
	baz=253						
HWA				*e*S	**Sb**	**03 30 20.6**	**-0.7**
	baz=253						
ENLB	**Shoufeng**	**0.73**	**265**	⇑P	**Pb**	**03 30 11.4**	**-0.4**
	baz=250						
ENLB				S	**Sb**	**03 30 21.3**	**-0.1**
	baz=250						
TWD	**Chiawan**	**0.74**	**279**	⇑*i*P	**Pb**	**03 30 10.9**	**-1.0**
	baz=275						
TWD				S	**Sb**	**03 30 20.7**	**-1.0**
	baz=275						
YOJ	**Yonaguni jima**	**0.74**	**49**	*e*Pn	**Pn**	**03 30 12.0**	**-0.3**
YOJ				*e*Sn	**Sn**	**03 30 22.7**	**+0.1**
YOJ	**Yonaguni jima**	**0.74**	**49**	P	**Pn**	**03 30 12.0**	**-0.3**
	baz=63						
YOJ				*e*S	**Sn**	**03 30 21.0**	**-1.6**
	baz=63						
YOJ	**Yonaguni jima**	**0.74**	**49**	*e*P	**Pn**	**03 30 12.0**	**-0.3**
YOJ				*e*		03 30 22.7	
YOJ	**Yonaguni jima**	**0.74**	**49**	P	**Pn**	**03 30 12.0**	**-0.3**
YOJ				S	**Sn**	**03 30 21.9**	**-0.8**
ENA	**Nanau**	**0.75**	**307**	⇓P	**Pb**	**03 30 11.0**	**-1.1**
	baz=314						
ENA				*e*S	**Sn**	**03 30 20.9**	**-2.0**
	baz=314						
NACB	**Ninganchiao**	**0.76**	**285**	*e*Pg	**Pb**	**03 30 10.6**	**-1.7**
NACB				*e*Sn	**Sb**	**03 30 21.0**	**-1.3**
NACB	**Ninganchiao**	**0.76**	**285**	⇑P	**Pb**	**03 30 11.3**	**-1.0**
	baz=268						
TWC	**Suao**	**0.81**	**322**	⇓*i*P	**Pb**	**03 30 11.7**	**-1.4**
	baz=321						
TWC				*e*S	**Sb**	**03 30 21.2**	**-2.5**
	baz=321						
ESL	**Shilin**	**0.90**	**260**	*e*P	**Pb**	**03 30 13.1**	**-1.5**
	baz=247						
EGS		**0.97**	**334**	*e*P	**Pn**	**03 30 15.1**	**-0.2**
	baz=324						
EGS				*e*S	**Sn**	**03 30 26.2**	**-2.0**
	baz=324						
ILA	**Ilan**	**0.99**	**323**	P	**Pn**	**03 30 15.5**	**-0.2**
	baz=322						

ILA			eS	Sn	03 30 29.0	+0.3
	baz=322					
ENTT	Nioudou	1.01 311	⇑P	Pb	03 30 15.7	-0.8
	baz=309					
ENTT			S	Sn	03 30 28.3	-1.0
	baz=309					
HGSD	Ruisui	1.01 242	⇑P	Pn	03 30 14.9	-1.0
	baz=239					
HGSD			eS	Sb	03 30 26.8	-2.6
	baz=239					
NTC	Toucheng	1.02 330	eP	Pb	03 30 15.9	-0.8
	baz=328					
NTC			eS	Sn	03 30 29.0	-0.5
	baz=328					
NNSB	Datong	1.03 296	⇑P	Pb	03 30 15.9	-1.0
	baz=281					
NNSB			S	Sn	03 30 29.1	-0.8
	baz=281					
SLBB	Yuanshan	1.04 318	P	Pb	03 30 16.6	-0.5
	baz=325					
SLBB			eS	Sn	03 30 31.0	+0.8
	baz=325					
NNS	Nan Shan	1.04 297	⇑iP	Pb	03 30 16.1	-1.1
	baz=282					
NNS			iS	Sn	03 30 29.9	-0.4
	baz=282					
WHF	Hehuan Shan	1.05 280	⇑iP	Pn	03 30 15.9	-1.0
	baz=265					
WHF			S	Sb	03 30 29.0	-1.9
	baz=265					
EHY	Hungye	1.09 245	⇑eP	Pn	03 30 16.1	-1.0
	baz=242					
EHY			eS	Sn	03 30 28.9	-2.4
	baz=242					
TWB1	Santiao Chiao	1.10 340	P	Pb	03 30 17.1	-0.9
	baz=326					
TWB1			eS	Sn	03 30 33.0	+1.6
	baz=326					
CHGB	Renai	1.12 275	⇑P	Pn	03 30 17.2	-0.5
	baz=261					
CHGB			S	Sb	03 30 30.8	-2.1
	baz=261					
TIPB	Shuangxi	1.12 333	⇑P	Pb	03 30 17.6	-0.8
	baz=331					
TIPB			S	Sn	03 30 31.4	-0.7
	baz=331					
NWLT	Wulai	1.14 315	eP	Pb	03 30 18.3	-0.5
	baz=313					
TWT	Tachien	1.15 284	⇑P	Pb	03 30 18.3	-0.7
	baz=271					
TWT			S	Sb	03 30 32.7	-0.9
	baz=271					
YULB	Yu-li	1.16 240	ePn	Pn	03 30 17.2	-0.9
YULB			eSn	Sn	03 30 30.9	-2.2
YULB	Yu-li	1.16 240	⇑P	Pn	03 30 17.4	-0.7
	baz=254					
YULB			eS	Sn	03 30 31.9	-1.1
	baz=254					
YHNB	Yeheng	1.16 307	ePn	Pb	03 30 17.9	-1.2
YHNB			eSn	Sn	03 30 29.9	-3.3
YHNB			eSn	Sb	03 30 35.0	+1.1
YHNB	Yeheng	1.16 307	⇑P	Pb	03 30 18.0	-1.2
	baz=304					
YHNB			eS	Sb	03 30 34.6	+0.7
	baz=304					
TDCB	Techi	1.17 284	⇑P	Pb	03 30 18.1	-1.1
	baz=271					
TDCB			S	Sn	03 30 32.6	-0.7
	baz=271					
VWDT	VWDT	1.17 260	⇑P	Pn	03 30 17.8	-0.3
	baz=257					
VWDT			eS	Sn	03 30 31.6	-1.6
	baz=257					
NSK	Sanguang	1.18 307	⇑iP	Pb	03 30 18.2	-1.3
	baz=304					
NSK			eS	Sb	03 30 33.6	-0.8
	baz=304					
TWF1	Yuli	1.18 239	⇑iP	Pn	03 30 17.9	-0.5
	baz=236					
TWF1			eS	Sn	03 30 32.3	-1.3
	baz=236					
NWF	Wu-fen Shan	1.23 333	⇑P	Pb	03 30 19.1	-1.2
	baz=332					
NWF			S	Sb	03 30 35.7	-0.1
	baz=332					
WFSB	Wu-fen Shan	1.23 333	⇑P	Pb	03 30 19.1	-1.2
	baz=331					
WFSB			S	Sb	03 30 35.6	-0.1
	baz=331					
TWA	Mucha	1.25 324	eP	Pb	03 30 19.5	-1.0
	baz=321					
TWA			eS	Sb	03 30 35.6	-0.6
	baz=321					
IRIF	Iriomote-Funau	1.27 73	P	Pb	03 30 20.6	-0.3
IRIF			eS	Sb	03 30 38.8	+1.9
CHKT	Chengkung	1.28 228	eP	Pn	03 30 18.7	-1.1
	baz=225					
HATJ	Hateruma jima	1.29 86	P	Pb	03 30 21.3	0.0
HATJ			eS	Sb	03 30 38.8	+1.4
TATO	Taipei	1.30 321	ePn	Pb	03 30 20.2	-1.2
TATO			eSn	Sn	03 30 34.3	-2.0
TATO	Taipei	1.30 321	⇑P	Pb	03 30 20.6	-0.8
	baz=318					
TATO			S	Sb	03 30 37.9	+0.2
	baz=318					
SSLB	Suanglung	1.33 262	ePn	Pn	03 30 19.2	-1.3
SSLB			eSn	Sn	03 30 36.8	-0.5
SSLB	Suanglung	1.33 262	⇑P	Pn	03 30 20.1	-0.3
	baz=260					
SSLB			eS	Sn	03 30 35.2	-2.1
	baz=260					
WLTB	Daxi	1.36 310	⇑P	Pb	03 30 21.8	-0.7
	baz=295					
WLTB			eS	Sb	03 30 39.7	+0.2
	baz=295					
SMLT	Sun Moon Lake	1.37 267	⇑P	Pn	03 30 21.0	0.0
	baz=254					
SMLT			eS	Sn	03 30 38.1	-0.3
	baz=254					
YM01	YM01	1.39 327	eP	Pb	03 30 22.3	-0.7
	baz=340					
YM01			eS	Sb	03 30 40.9	+0.5
	baz=340					
YM07	YM07	1.39 330	eP	Pn	03 30 20.7	-0.6
	baz=328					
YM10	YM10	1.40 327	eP	Pb	03 30 21.3	-1.9
	baz=341					
YM11	YM11	1.41 328	eP	Pb	03 30 21.3	-2.0
	baz=325					
YM11			eS	Sb	03 30 41.7	+0.9
	baz=325					
YM05	YM05	1.41 328	eP	Pb	03 30 21.4	-2.0
	baz=325					
YM05			eS	Sb	03 30 39.9	-1.0
	baz=325					
YUS	Yu-Shan	1.41 250	eP	Pn	03 30 21.7	-0.2
	baz=248					
YUS			eS	Sn	03 30 38.1	-1.7
	baz=248					
YM04	YM04	1.41 327	⇑eP	Pb	03 30 21.4	-2.0
	baz=339					
YM04			eS	Sb	03 30 39.4	-1.6
	baz=339					
YM08	YM08	1.42 329	⇑P	Pb	03 30 21.4	-2.1
	baz=326					
YM08			S	Sb	03 30 39.7	-1.4
	baz=326					
NSTT	Nanjuang	1.43 298	⇑iP	Pb	03 30 22.7	-0.9
	baz=283					
NSTT			S	Sb	03 30 40.7	-0.8
	baz=283					
YM03	YM03	1.43 327	⇑eP	Pb	03 30 21.5	-2.2
	baz=325					
TWS1	Kuangyinshan	1.43 322	eP	Pb	03 30 22.2	-1.5
	baz=331					
TWS1			eS	Sb	03 30 41.6	0.0
	baz=331					
NTST	Danshui	1.47 324	eP	Pb	03 30 23.1	-1.2
	baz=340					
NCU	National Centr	1.48 312	eP	Pb	03 30 23.1	-1.5
	baz=309					
NCU			S	Sb	03 30 43.1	+0.1
	baz=309					
NCUH	Zhongli	1.48 312	eP	Pb	03 30 23.2	-1.4
	baz=310					
ELDTW	Lidau	1.49 239	eP	Pn	03 30 22.2	-0.5
	baz=237					
ELDTW			eS	Sn	03 30 39.7	-1.5
	baz=237					
TWY	Chenhua	1.49 331	⇑eP	Pb	03 30 24.2	-0.4
	baz=328					
TWY			eS	Sb	03 30 42.4	-0.7
	baz=328					
JKRS	Kuro-shima	1.50 80	P	Pb	03 30 24.2	-0.6
SBCB	Hsinchu	1.52 303	eP	Pb	03 30 23.5	-1.8
	baz=301					
TWQ1	Liyutan	1.53 284	eP	Pb	03 30 24.4	-0.9
	baz=281					
TWQ1			eS	Sb	03 30 42.9	-1.4
	baz=281					
WJS	Zhushan	1.54 265	eP	Pb	03 30 25.1	-0.3
	baz=262					
WJS			eS	Sb	03 30 45.5	+1.0
	baz=262					
HSN	Hsinchu	1.54 303	eP	Pb	03 30 23.9	-1.7
	baz=301					
HSN			eS	Sb	03 30 43.5	-1.1
	baz=301					
NSY	Sanyi	1.56 287	eP	Pb	03 30 25.1	-0.8
	baz=284					
NSY			eS	Sb	03 30 44.8	-0.3
	baz=284					
NMLH	Miaoli	1.57 291	eP	Pb	03 30 24.9	-1.1
	baz=288					
NMLH			eS	Sb	03 30 45.4	-0.1
	baz=288					
TCU	Taichung	1.58 277	eP	Pb	03 30 25.4	-0.8
	baz=274					
TCU			eS	Sb	03 30 46.2	+0.4
	baz=274					
PTSB	Yuanli	1.61 287	eP	Pb	03 30 25.1	-1.7
	baz=285					
JIJ	Ishigaki jima	1.64 76	P	Pb	03 30 25.6	-1.6
JIJ			S	Sb	03 30 46.6	-0.9
TWGBT	Beinan	1.67 227	eP	Pn	03 30 24.4	-0.7
	baz=237					
TTN	Taitung	1.67 224	eP	Pb	03 30 26.9	-0.8
	baz=222					
TWG	Pinlang	1.67 227	ePn	Pn	03 30 24.1	-1.0
TWG			eSn	Sn	03 30 44.6	-1.0
TWG	Pinlang	1.67 227	eP	Pn	03 30 24.4	-0.7
	baz=237					
PCYT	Pengchaiyu	1.68 350	eP	Pb	03 30 25.1	-2.7
	baz=348					
WCHH	Zhanghua	1.68 274	P	Pb	03 30 26.8	-1.2
	baz=271					
WCHH			eS	Sb	03 30 48.7	0.0
	baz=271					
WGK	Gukeng	1.70 261	eP	Pb	03 30 26.9	-1.4
	baz=258					
WGK			eS	Sb	03 30 49.1	-0.2
	baz=258					
STYT	Tauyuan	1.71 242	eP	Pn	03 30 26.2	+0.6
	baz=230					
STYT			eS	Sn	03 30 46.6	0.0
	baz=230					
WDLH	Douliu	1.73 261	eP	Pb	03 30 27.0	-1.6
	baz=259					
TPUB	Ta-pu	1.75 248	ePn	Pn	03 30 26.5	+0.3
TPUB			eSn	Sn	03 30 46.2	-1.4
TPUB	Ta-pu	1.75 248	⇑P	Pn	03 30 27.3	+1.0
	baz=246					
TPUB			S	Sn	03 30 48.5	+0.9
	baz=246					
CHN4	Tsaushan	1.77 250	P	Pb	03 30 28.0	-1.3
	baz=248					
CHN4			S	Sb	03 30 50.6	-0.5
	baz=248					
WTP	Ta-pu	1.79 247	eP	Pn	03 30 28.1	+1.3
	baz=245					
WTP			eS	Sn	03 30 50.0	+1.4
	baz=245					
CHN2	Minshiung	1.81 256	eP	Pb	03 30 28.6	-1.6
	baz=254					
CHN2			eS	Sb	03 30 52.4	-0.1
	baz=254					
JISG	Ishigakijimahi	1.85 70	P	Pn	03 30 28.3	+0.8
JISG			eS	Sn	03 30 49.9	-0.1
RLNB	Erlin	1.87 268	P	Pb	03 30 29.3	-1.7
	baz=266					
RLNB			S	Sb	03 30 53.1	-0.8
	baz=266					
CHY	Chiayi	1.87 256	eP	Pb	03 30 29.6	-1.5
	baz=254					
CHY			eS	Sb	03 30 53.4	-0.6
	baz=254					
SLGT	Liugui	1.88 239	eP	Pb	03 30 29.7	-1.6
	baz=229					
SLGT			eS	Sb	03 30 53.0	-1.4
	baz=229					
CHN1	Nanshi	1.89 246	eP	Pb	03 30 29.6	-1.8
	baz=244					
CHN1			eS	Sb	03 30 53.1	-1.4
	baz=244					
SGST	Jiashian	1.89 242	P	Pb	03 30 29.8	-1.6
	baz=232					
SGST			eS	Sb	03 30 53.4	-1.2
	baz=232					
TWK	Hsinying	1.89 249	⇓P	Pb	03 30 29.8	-1.7
	baz=247					
TWK			S	Sb	03 30 53.3	-1.3
	baz=247					
ECL	Taimali	1.91 224	eP	Pn	03 30 25.7	-2.6
	baz=233					
WTCT	Ta-ch'eng	1.94 267	P	Pb	03 30 30.5	-1.8
	baz=278					
WTCT			S	Sb	03 30 54.6	-1.4
	baz=278					
WLGB	Puzi	1.98 256	eP	Pb	03 30 31.3	-1.8
	baz=255					
WMLT	Mailiao	2.00 266	eP	Pb	03 30 31.2	-2.0
	baz=278					
WMLT			eS	Sb	03 30 57.3	-0.5
	baz=278					
WSF	Szhu	2.02 261	eP	Pn	03 30 31.2	+1.4
	baz=259					
WSF			eS	Sb	03 30 57.2	-1.2
	baz=259					
SSD	Sandimen	2.03 233	eP	Pb	03 30 32.0	-1.8
	baz=223					
LAY	Lan-yu	2.08 202	eP	Pn	03 30 30.2	-0.5
	baz=211					
LAY			eS	Sn	03 30 52.8	-2.8
	baz=211					
CHN8	Yiju	2.10 253	eP	Pn	03 30 31.7	+0.8
	baz=251					
CHN8			S	Sn	03 30 58.2	+2.1
	baz=251					
MASBT	Mashibuluo	2.11 230	eP	Pn	03 30 32.0	+0.9
	baz=224					
MASBT			eS	Sn	03 30 57.1	+0.6
	baz=224					
TAW	Tawu	2.12 221	eP	Pn	03 30 31.2	0.0
	baz=230					
EAST	Anshuo	2.13 222	eP	Pn	03 30 31.1	-0.3
	baz=221					
TWM1	Shoushan	2.14 238	eP	Pb	03 30 34.6	-1.2
	baz=236					
SGLT	Jiouru	2.15 235	eP	Pb	03 30 34.7	-1.1
	baz=234					
SCLT	Jiali	2.17 249	eP	Pn	03 30 31.6	-0.3
	baz=247					
SCLT			eS	Sb	03 31 01.2	-1.5
	baz=247					
JTJ	Tarama	2.21 72	P	Pn	03 30 33.7	+1.3
JTJ			eS	Sb	03 31 00.8	-3.0
SCZT	Fangliau	2.28 226	eP	Pb	03 30 36.1	-2.1
	baz=219					
SCZT			eS	Sn	03 31 03.5	+2.8
	baz=219					
WLCH	Liuqiu	2.46 229	eP	Pb	03 30 40.9	-0.3
	baz=244					
TWP	Hsiaoliuchiu	2.48 230	eP	Pb	03 30 40.5	-1.0
	baz=244					
TSEB	Hengchuen, Pin	2.48 214	eP	Pn	03 30 35.5	-0.8
	baz=216					
TSEB			eS	Sn	03 31 06.2	+0.6
	baz=216					
HEN	Hengchun	2.48 218	eP	Pn	03 30 38.8	+2.6
	baz=218					
TWKBT	Hengchun	2.49 216	eP	Pn	03 30 36.8	+0.4
	baz=217					
TWKBT			eS	Sn	03 31 05.7	-0.3
	baz=217					
TWK1	Hengchun	2.50 216	eP	Pn	03 30 36.9	+0.5
	baz=217					
TWK1			eS	Sn	03 31 05.3	-0.6
	baz=217					
WDGT	Dungji	2.61 255	eP	Pn	03 30 38.0	+0.1
	baz=242					
WDGT			eS	Sn	03 31 07.4	-1.3
	baz=242					
PHUB	P'eng-hu	2.63 261	P	Pn	03 30 38.9	+0.7
	baz=258					
PHUB			eS	Sn	03 31 08.8	-0.4
	baz=258					
PNG	Penghu	2.63 262	⇑eP	Pn	03 30 38.3	-0.1
	baz=260					
PNG			eS	Sn	03 31 09.4	0.0
	baz=260					
JIRB	Irabujima	2.67 71	P	Pn	03 30 41.0	+2.2
JIRB			eS	Sn	03 31 11.5	+1.2
JIKM	Ikemajima	2.77 69	P	Pb	03 30 42.8	-3.6
JIKM			eS	Sn	03 31 14.3	+1.7
JMJ	Miyako jima 2	2.77 72	eP	Pb	03 30 43.0	-3.5
	baz=76					
JMJ			eS	Sn	03 31 14.9	+2.1
	baz=76					
JMJ	Miyako jima 2	2.77 72	P	Pb	03 30 43.0	-3.5
VCHM	Qimei	2.83 255	eP	Pn	03 30 42.7	+1.8
	baz=254					
JOGS	Gusukube	2.85 73	P	Pb	03 30 44.1	-3.8
JOGS			eS	Sb	03 31 18.1	-4.3
VWUC	VWUC	2.87 291	eP	Pn	03 30 41.0	-0.5
	baz=289					
MATB	Ma-tsu	3.11 315	eP	Pn	03 30 43.7	-1.2
	baz=312					
PTMZ	Houxiangcun	3.17 290	⇑eP	Pn	03 30 45.5	-0.2
	baz=288					
LYJJ	Jianjiangzhen	3.50 318	eP	Pn	03 30 49.4	-0.9
	baz=314					
XPSS	Dashiqiu	3.56 326	eP	Pn	03 30 50.8	-0.2
	baz=333					
QZH	Quanzhou	3.60 286	⇑iPn	Pn	03 30 51.2	-0.4
QZH			Sn	Sn	03 31 30.0	-3.2
QZH			LR	LR		
	comp=N,5μm,12.3s					
QZH			LR	LR		
	comp=E,4μm,11.9s					
QZH			LR	LR		
	comp=Z,6μm,14.5s					
KNM	Kinmen	3.65 278	⇑eP	Pn	03 30 53.5	+1.2
	baz=276					
KNMB	Chin-men Tao	3.69 278	P	Pn	03 30 52.6	-0.3
	baz=277					
MHZQ	Yeshan	3.72 305	⇑eP	Pn	03 30 52.4	-0.8
	baz=303					
AXDP	Jialang	4.14 284	⇑eP	Pn	03 30 58.7	-0.3
	baz=282					
ZPLA	Ao Xicun	4.25 270	⇑eP	Pn	03 31 00.5	-0.1
	baz=267					
ZPLA			eS	Sn	03 31 46.3	-3.0
	baz=267					
ZZJH	Jiuhuzhen	4.38 277	⇑eP	Pn	03 31 02.3	0.0
	baz=273					
ZZJH			eS	Sn	03 31 49.6	-2.8
	baz=273					
JOW	Kunigami	6.03 61	Pn	Pn	03 31 21.6	-3.4
	3.8nm,0.3s,baz=156,slow=12,SNR=4.4					
JOW			Sn	Sn	03 32 33.7	+0.6
	2.5nm,0.3s,baz=229,slow=14,SNR=1.9					
JOW	Kunigami	6.03 61	ePn	Pn	03 31 25.8	+0.7
JOW			Sn	Sn	03 32 33.7	+0.6
JOW	Kunigami	6.03 61	eP	Pn	03 31 24.7	-0.3
	baz=65					
SSE	Sheshan	7.18 352	Pn	Pn	03 31 41.5	+0.8
SSE			Sn	Sn	03 32 59.0	-2.3
SSE			smax	smax		
	comp=N,29nm,1.5s					
SSE			smax	smax		
	comp=E,110nm,1.3s					
SSE			LR	LR		
	comp=N,630nm,12.7s					
SSE			LR	LR		
	comp=E,910nm,13.6s					
NJ2	Nanjing	8.63 340	eP	Pn	03 32 01.4	+0.6
NJ2			S	Sn	03 33 37.6	+0.4
NJ2			pmax	pmax		
	comp=Z,32nm,0.6s					
NJ2			smax	smax		
	comp=N,170nm,1.2s					
NJ2			smax	smax		
	comp=E,240nm,1.6s					
NJ2			LR	LR		
	comp=E,2μm,11.1s					
NJ2			LR	LR		
	comp=Z,5μm,11.9s					
WHN	Wuhan	9.70 314	⇑P	Pn	03 32 22.6	+7.3
WHN			S	Sn	03 34 04.5	+1.2
WHN			LR	LR		
	comp=N,3μm,4.8s					
WHN			LR	LR		
	comp=E,1μm,5.2s					
WHN			LR	LR		
	comp=Z,6μm,13.9s					
JNU	Nakatsue	11.77 37	Pn	Pn	03 32 42.9	-0.8
	0.2nm,0.3s,baz=192,slow=14,SNR=3.1					
JNU			LR	LR	03 37 35.3	
	comp=Z,656nm,19.6s,baz=192,slow=40					
QIZ	Qiongzhong	12.68 250	P	Pn	03 32 55.3	-0.9
QIZ			S	Sn	03 35 14.6	-1.8
QIZ			LR	LR		
	comp=N,750nm,10.8s					
QIZ			LR	LR		
	comp=E,460nm,9.2s					
QIZ			LR	LR		
	comp=Z,460nm,4.4s					
KS15	Wonju Array Si	14.23 18	ePn	Pn	03 33 17.6	+0.4
KSAR	Wonju Array Be	14.23 18	Pn	Pn	03 33 19.7	+2.4
KSAR	Wonju Array Be	14.23 18	P	Pn	03 33 19.7	+2.4
KSRS	Korea Array	14.25 18	Pn	Pn	03 33 19.7	+2.2
	0.6nm,0.3s,baz=203,slow=13,SNR=12					
KSRS			LR	LR	03 39 28.8	
	comp=Z,745nm,18.4s,baz=197,slow=41					
KS01	Wonju Array Si	14.26 18	ePn	Pn	03 33 17.4	-0.3
GYA	Guiyang	14.45 283	P	Pn	03 33 21.7	+1.1
GYA			pP	P	03 33 28.8	+1.8
GYA			PP	PnPn	03 33 38.0	+9.5
GYA			S	Sn	03 35 58.0	-2.0
GYA			sS	S	03 36 17.2	-2.0
GYA			pmax	pmax		
	comp=Z,20nm,0.7s					
GYA			pmax	pmax		
	comp=Z,120nm,5.3s					
GYA			LR	LR		
	comp=N,480nm,16.8s					
GYA			LR	LR		
	comp=E,490nm,18.9s					
GYA			LR	LR		
	comp=Z,450nm,17.1s					
XAN	Xi'an	15.46 313	P	P	03 33 39.2	+1.1
XAN			S	Sn	03 36 24.5	+0.1
XAN			pmax	pmax		
	comp=Z,33nm,0.9s					
XAN			pmax	pmax		
	comp=Z,110nm,3.5s					
XAN			LR	LR		
	comp=N,640nm,10.0s					
XAN			LR	LR		
	comp=E,1μm,13.8s					
XAN			LR	LR		
	comp=Z,1μm,15.7s					
BJT	Baijiatuau	16.84 343	ePn	Pn	03 33 49.2	-2.1
	8.2nm,0.6s					
BJT	Baijiatuau	16.84 343	eP	Pn	03 33 49.3	-2.1
BJT			pmax	pmax		
	comp=Z,8.0nm,0.6s					
BJI	Beijing	16.86 343	P	P	03 33 53.4	-0.1
BJI			LR	LR		
	comp=Z,1μm,12.8s					
BJI			LR	LR		
	comp=Z,460nm,22.1s					
DAV	Davao City (W)	17.08 169	LR	LR	03 40 20.9	
	comp=Z,569nm,19.4s,baz=307,slow=36					
CD2	Chengdu	17.92 297	P	P	03 34 05.4	+0.1
CD2			pP	sP	03 34 13.7	-2.7
CD2			sP	pP	03 34 17.6	+4.8
CD2			S	Sn	03 37 24.5	+0.5
CD2			pmax	pmax		
	comp=Z,50nm,0.8s					
CD2			LR	LR		
	comp=Z,1μm,7.4s					

CD2 LR LR
comp=Z,2µm,10.9s
CD2 LR LR
comp=Z,2µm,11.9s
KMI Kunming 17.92 278 P **P** **03 34 06.1 +0.5**
KMI pP sP 03 34 13.5 -3.1
KMI sP pP 03 34 17.8 +4.7
KMI pmax pmax
comp=Z,5.0nm,0.5s
KMI LR LR
comp=Z,1µm,11.4s
KMI LR LR
comp=Z,2µm,14.3s
MAJO Matsushiro 18.50 44⇑ *e*P **Pn** **03 34 12.0 0.0**
MAJO pmax pmax
comp=Z,12nm,1.4s
MJAR Matsushiro Arr 18.50 44 P **P** **03 34 10.5 -1.2**
comp=Z,0.2nm,0.3s,baz=228,slow=8.7,SNR=4.1
MJAR LR LR 03 42 48.6
comp=Z,129nm,19.3s,baz=230,slow=42
HHC Hu-ho-hao-te 19.12 334 *e*P **Pn** **03 34 20.6 +1.0**
HHC PP **PnPn** **03 34 37.5 +4.9**
HHC S **Sn** **03 37 48.7 -4.4**
HHC pmax pmax
comp=Z,24nm,0.8s
HHC LR LR
comp=Z,2µm,10.4s
HHC LR LR
comp=Z,770nm,13.8s
HHC LR LR
comp=Z,2µm,10.4s
BTO Baotou 19.57 331 *e*P **Pn** **03 34 26.6 +1.6**
MSHR Mys Shultsa 19.93 19⇓ *e*P **P** **03 34 26.9 -0.3**
CN2 Changchun 19.94 6 *e*P **Pn** **03 34 31.6 +2.5**
CN2 *e*pP sP 03 34 39.6 +1.2
CN2 *e*S **S** **03 38 09.7 -0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,2µm,15.0s
CN2 LR LR
comp=Z,2µm,15.0s
LZH Lanzhou 20.05 311 *e*P Pn 03 34 31.1 +0.4
LZH pP sP 03 34 39.8 -0.1
LZH sP pP 03 34 42.8 +6.4
LZH PP **PnPn** **03 34 49.4 +4.0**
LZH S Sn 03 38 20.3 +4.6
LZH pmax pmax
comp=Z,38nm,1.2s
LZH pmax pmax
comp=Z,260nm,4.3s
LZH LR LR
comp=Z,2µm,10.8s
LZH LR LR
comp=Z,2µm,13.6s
LZH LR LR
comp=Z,3µm,13.6s
CHAI Chaiyaphum 20.78 251 P Pn 03 34 41.7 +2.5
comp=Z,6.1nm,0.7s,comp=Z,178nm
PBKT Sadao Pong 21.39 254 P **P** **03 34 48.2 +5.0**
comp=Z,19nm,1.3s
MDJ Mudanjiang 21.42 14 P **P** **03 34 49.1 +5.8**
MDJ pmax pmax
comp=Z,8.0nm,1.0s
MDJ pmax pmax
comp=Z,290nm,5.0s
USRK Ussuriysk Ar. 21.65 19 P **P** **03 34 44.6 -1.2**
comp=Z,5.1nm,0.7s,baz=199,slow=11,SNR=12
USRK LR LR 03 43 50.3
comp=Z,441nm,18.8s,baz=188,slow=39
LAMP Lampang 21.89 260 P **P** **03 34 52.7 +4.1**
comp=Z,7.6nm,1.0s
SUKH Sukhothai 22.23 257 P **P** **03 34 56.2 +3.9**
comp=Z,4.3nm,1.0s
CMMT Chiang Mai 22.42 261 P **P** **03 34 57.9 +3.6**
comp=Z,14nm,1.3s
CHTO Chiang Mai 22.42 261 *e*P **P** **03 34 54.4 0.0**
comp=Z,29nm,1.4s
CHTO Chiang Mai 22.42 261 *e*P **P** **03 34 54.4 0.0**
CHTO pmax pmax
comp=Z,29nm,1.4s
CHTO Chiang Mai 22.42 261 P **P** **03 34 58.2 +3.9**
comp=Z,62nm,0.5s
CM01 Chiang Mai Arr 22.53 260 *e*P **P** **03 34 56.1 +0.6**
CMAR Chiang Mai Arr 22.53 260 P **P** **03 34 55.4 -0.1**
comp=Z,2.0nm,0.7s,baz=58,slow=9.4,SNR=12
CMAR LR LR 03 44 55.2
comp=Z,296nm,19.0s,baz=72,slow=40
SBUM Sibu 23.55 206 *e*P **P** **03 35 05.4 -0.5**
comp=Z,4.7nm,0.8s
GTA Gaotai 24.52 314 ⇑P **P** **03 35 14.7 -0.3**
GTA pP sP 03 35 23.9 -2.6
GTA sP pP 03 35 27.3 +4.2
GTA PcP **PcP** **03 38 54.0 +1.1**
GTA S **S** **03 39 33.4 -0.6**
GTA sS sS 03 39 46.9 -0.4
GTA SS **SnSn** **03 40 31.6 +12**
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA pmax pmax
comp=Z,160nm,7.8s
GTA LR LR
comp=Z,290nm,18.1s
GTA LR LR
comp=Z,760nm,16.2s
GTA LR LR
comp=Z,1µm,16.2s
ASAJ Asahikawa 26.02 35 P **P** **03 35 26.5 -1.8**
comp=Z,8.2nm,0.7s,baz=130,slow=33,SNR=2.9
KLR Kul'dur 26.26 14 P **P** **03 35 29.2 -1.2**
comp=Z,1.0nm,0.5s,baz=199,slow=13,SNR=5.4
KLR Kul'dur 26.26 14⇑ *e*P **P** **03 35 29.4 -1.0**
ULN Ulaanbaatar 26.79 337 *e*P **P** **03 35 34.4 -1.0**
comp=Z,24nm,1.1s
ULN Ulaanbaatar 26.79 337*c i*P **P** **03 35 34.6 -0.8**
ULN pmax pmax
comp=Z,27nm,1.3s
SONM Songino Array 27.00 336 P **P** **03 35 36.7 -0.6**
comp=Z,30nm,0.8s,baz=148,slow=9.7,SNR=167
SONM PcP **PcP** **03 39 00.1 +1.7**
comp=Z,0.6nm,0.8s,baz=153,slow=4.2,SNR=3.8
SONM LR LR 03 47 28.8
comp=Z,1µm,18.1s,baz=171,slow=39
SONA1 Songino Array 27.01 336 *e*P **P** **03 35 36.5 -0.9**
YSS Yuzh-Sakhalins 28.14 30 *e*P **P** **03 35 45.3 -2.0**
YSS MLR MLR
comp=N,600nm,17.0s
YSS MLR MLR
comp=Z,800nm,17.0s
LSA Lhasa 28.41 288 *e*P **P** **03 35 49.8 -0.7**
comp=Z,5.7nm,0.4s
LSA Lhasa 28.41 288 *e*P **P** **03 35 49.8 -0.7**
LSA pmax pmax
comp=Z,6.0nm,0.4s
ZAK Zakamensk 30.27 335 *e*P **P** **03 36 03.6 -2.7**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
JAY Jayapura 31.79 143 LR LR 03 47 11.7
comp=Z,262nm,19.1s,slow=32
MOY Mondy 32.17 335 *e*P **P** **03 36 22.2 -0.8**
MOY pmax pmax
comp=Z,17nm,1.8s
WMQ Urumqi 34.60 313 P **P** **03 36 45.2 +0.9**
WMQ pP sP 03 36 53.0 -2.9
WMQ sP pP 03 36 58.4 +5.9
WMQ pmax pmax
comp=Z,20nm,1.7s
WMQ LR LR
comp=Z,990nm,12.1s
WMQ LR LR
comp=Z,1µm,15.3s
WMQ LR LR
comp=Z,750nm,14.5s
HVS Khovu-Aksy 34.99 328⇑ *e*P **P** **03 36 47.4 -0.2**
HVS pmax pmax
comp=Z,10.0nm,0.9s
DGZ Jazzator, Alta 37.44 322*d i*P **P** **03 37 08.4 -0.2**
DGZ pmax pmax
comp=Z,2.0nm,0.9s
MK01 Makanchi Array 39.25 316 *e*P **P** **03 37 23.3 -0.4**
MK31 Makanchi Array 39.26 316 *e*P **P** **03 37 23.7 -0.2**
MK31 Makanchi Array 39.26 316 *e*P **P** **03 37 23.7 -0.2**
MKAR Makanchi Array 39.26 316 P **P** **03 37 23.8 -0.1**
comp=Z,13nm,0.7s,baz=104,slow=10,SNR=96
MKAR PcP **PcP** **03 39 32.3 -0.1**
comp=Z,1.0nm,0.6s,baz=82,slow=4.2,SNR=3.7
MKAR LR LR 03 55 06.6
comp=Z,553nm,18.3s,baz=100,slow=39
PETK Petropavlovsk- 39.43 33 LR LR 03 54 31.6
comp=Z,170nm,19.2s,baz=223,slow=38
MAKZ Makanchi 39.47 316 *e*P **P** **03 37 25.4 -0.1**
comp=Z,17nm,0.7s
MAKZ Makanchi 39.47 316 *e*P **P** **03 37 25.4 -0.1**
MAKZ pmax pmax
comp=Z,17nm,0.7s
ZAA0 Zalesovo Array 41.03 327 *e*P **P** **03 37 37.1 -1.2**
comp=Z,25nm,0.8s
ZALV Zalesovo Beam 41.03 327 P **P** **03 37 36.9 -1.4**
comp=Z,23nm,0.7s,baz=113,slow=7.7,SNR=106
ZALV PcP **PcP** **03 39 36.7 -1.2**
comp=Z,0.7nm,0.5s,baz=116,slow=5.3,SNR=3.2
ZALV LR LR 03 56 44.8
comp=Z,142nm,19.7s,baz=72,slow=39
ZALV Zalesovo Beam 41.03 327 *e*P **P** **03 37 36.5 -1.7**
ZALV PcP **PcP** **03 39 36.7 -1.2**
ZALV Zalesovo Beam 41.03 327 *e*P **P** **03 37 36.6 -1.7**
ZALV 03 39 36.7
FITZ Fitzroy Crossi 41.93 175 P **P** **03 37 46.8 +0.7**
comp=Z,1.5nm,0.8s,baz=356,slow=16,SNR=3.2
KSH Kashi 41.94 303 P **P** **03 37 49.1 +2.9**
KSH pP sP 03 37 58.1 +0.2
KSH PcP **PcP** **03 39 45.9 +4.5**
KSH PcS **PcS** **03 43 37.0 +3.9**
KSH S **S** **03 44 05.0 +1.8**
KSH sS sS 03 44 22.0 +5.1
KSH pmax pmax
comp=Z,18nm,0.8s
KSH LR LR
comp=Z,250nm,7.6s
KSH LR LR
comp=Z,220nm,5.4s
KSH LR LR
comp=Z,360nm,8.3s
NRN Naryn 42.21 306 *e*P **P** **03 37 49.1 +0.5**
comp=Z,21nm,0.8s
NRN Naryn 42.21 306 *e*P **P** **03 37 49.1 +0.5**
NRN pmax pmax
comp=Z,21nm,0.8s
NVS Novosibirsk 42.28 327 *e*P **P** **03 37 47.5 -1.1**
NVS pmax pmax
comp=N,5.0nm,0.8s
NVS pmax pmax
comp=E,6.0nm,0.8s
NVS pmax pmax
comp=Z,9.0nm,0.8s
TKM2 Tokmak 2 42.77 308 P **P** **03 37 54.4 +1.4**
SNR=19
COEN Coen 42.82 150 *e*P **P** **03 37 54.8 +1.4**
comp=Z,12nm,0.8s
KZA Kyzart 42.87 307 P **P** **03 37 55.8 +1.7**
SNR=6.2
KURK Kurchatov 42.97 320 *e*P **P** **03 37 53.7 -0.5**
KURK PcP **PcP** **03 39 43.9 -0.4**
KURK Kurchatov 42.97 320*c e*P **P** **03 37 53.3 -0.9**
KURK pmax pmax
comp=Z,25nm,1.3s
KURBB Kurchatov Arra 42.98 320 P **P** **03 37 53.5 -0.9**
comp=Z,7.4nm,0.9s,baz=113,slow=7.6,SNR=27
KURBB PcP **PcP** **03 39 43.9 -0.5**
comp=Z,0.9nm,0.6s,baz=110,slow=3.2,SNR=4.2
KBK Karagaybulak 43.19 307 P **P** **03 37 58.0 +1.7**
SNR=13
CHMS Chumysh 43.39 308 P **P** **03 37 58.8 +1.0**
SNR=8.3
UCH Uchtor 43.43 307 P **P** **03 38 00.8 +2.1**
SNR=22
FRU Bishkek 43.46 308 *e*P P 03 38 12.0 +14
AAK Ala-Archa 43.52 307 P **P** **03 38 00.4 +1.4**
SNR=7.4
AAK Ala-Archa 43.52 307 *e*P **P** **03 37 59.3 +0.3**
comp=Z,4.4nm,0.6s
AAK Ala-Archa 43.52 307*c i*P **P** **03 37 59.8 +0.8**
AAK pmax pmax
comp=Z,6.0nm,0.7s
USP Ospenovka 43.62 308 P **P** **03 38 00.7 +1.0**
SNR=6.1
NIL Nilore 43.78 294 *e*P **P** **03 37 59.5 -1.6**
comp=Z,8.5nm,0.9s
NIL Nilore 43.78 294 *e*P **P** **03 37 59.5 -1.6**
NIL pmax pmax
comp=Z,9.0nm,0.9s
AML Almayashu 44.02 306 P **P** **03 38 04.6 +1.3**
SNR=16
EKS2 Erkin-Say 44.04 307 P **P** **03 38 04.2 +1.0**
SNR=6.4
WRAB Tennant Creek 45.17 164 *e*P **P** **03 38 12.9 +0.8**
comp=Z,5.7nm,0.7s
WRAB Tennant Creek 45.17 164*d i*P **P** **03 38 13.1 +1.0**
WRAB pmax pmax
comp=Z,9.0nm,0.9s
WRA Warramunga Arr 45.17 164 P **P** **03 38 13.2 +1.0**
comp=Z,8.2nm,0.8s,baz=346,slow=8.6,SNR=52
WRA PcP **PcP** **03 39 51.5 -0.8**
comp=Z,0.8nm,0.9s,baz=325,slow=3.1,SNR=2.7
WRA Warramunga Arr 45.17 164 *i* P **P** **03 38 13.1 +0.9**
WRA pmax pmax
comp=Z,8.0nm,0.8s
WB2 Warramunga Arr 45.18 164 *e*P **P** **03 38 12.2 -0.1**
KK31 Karatay Array 46.48 307 *e*P **P** **03 38 21.9 -0.5**
KK31 Karatay Array 46.48 307 *e*P **P** **03 38 21.9 -0.5**
KKAR Karatay Array 46.48 307 *e*P **P** **03 38 22.2 -0.2**
KKAR Karatay Array 46.48 307 *e*P **P** **03 38 22.2 -0.2**
TIXI Tiksi 47.85 3⇓ *e*P **P** **03 38 30.2 -2.3**
TIXI pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 48.61 321 *e*P **P** **03 38 38.4 -0.4**
BRVK Borovoye 48.61 321*c i*P **P** **03 38 38.1 -0.6**
BRVK pmax pmax
comp=Z,11nm,0.8s
AS31 Alice Springs 48.65 166 *e*P **P** **03 38 40.4 +1.0**
comp=Z,1.2nm,0.6s
ASAR Alice Springs 48.66 166 P **P** **03 38 41.2 +1.9**
comp=Z,4.2nm,0.8s,baz=342,slow=6.6,SNR=32
AS01 Alice Springs 48.66 166 *e*P **P** **03 38 38.9 -0.6**
ABKAR Akbulak array 54.38 314 *e*P **P** **03 39 22.2 +0.3**
SVE Sverdlovsk 54.87 324 *e*P **P** **03 39 25.2 -0.2**
GEYT Alibeck 55.86 301 P **P** **03 39 33.3 +0.3**
comp=Z,23nm,0.4s,baz=58,slow=5.4,SNR=4.1
GEYT LR LR 04 08 31.5
comp=Z,216nm,18.7s,baz=95,slow=42
GYA0B ALIBECK ARRAY 55.86 301 *e*P **P** **03 39 33.8 +0.8**
comp=Z,16nm,1.1s
ARU Arti 55.94 323 *e*P **P** **03 39 32.2 -0.9**
ARU Arti 55.94 323*c i*P **P** **03 39 31.9 -1.2**
ARU 03 40 27.9
ARU 03 41 36.8
ARU S **S** **03 47 18.3 -0.9**
ARU SS **SS** **03 51 04.3 -0.7**
ARU pmax pmax
comp=Z,10.0nm,0.7s
STKA Stephens Creek 58.49 161 P **P** **03 39 52.9 +1.6**
comp=Z,2.6nm,0.7s,baz=13,slow=6.0,SNR=4.7
DZM Mont Dzumac 62.68 133 *e*LR LR 03 59 03.4
comp=Z,557nm,24.7s
PRGR Permogore 62.94 329 *e*P **P** **03 40 19.3 -2.0**
PRGR pmax pmax
comp=Z,12nm,0.6s
GNI Garni 65.83 305 *e*P **P** **03 40 41.1 +0.2**
GNI Garni 65.83 305*d i*P **P** **03 40 42.3 +1.4**
GNI pmax pmax
comp=Z,83nm,1.3s
KLMR Klimovskoe 65.93 328 *e*P **P** **03 40 38.4 -2.5**
KLMR pmax pmax
comp=Z,13nm,1.2s
KLMR Klimovskoe 65.93 328 *e*P **P** **03 40 38.4 -2.5**
KLMR AMP 03 40 41.6
comp=Z,13nm,1.2s
ZEI Tsey 65.94 308 *e*P **P** **03 40 40.8 -0.8**
ZEI pmax pmax
comp=Z,12nm,0.7s
VRH Novokhopyorsk 65.97 317 *e*P **P** **03 40 40.2 -1.1**
VRH pmax pmax
comp=Z,10.0nm,0.7s
NCK Nalchik 66.02 309⇓ *i*P **P** **03 40 42.0 +0.1**
NCK pmax pmax
comp=Z,7.0nm,1.2s
GOF Gofitskoye 66.12 310 *e*P **P** **03 40 43.1 +0.7**
GOF pmax pmax
comp=Z,30nm,1.4s
KBZ Khabaz 66.47 309 P **P** **03 40 44.7 0.0**
comp=Z,8.0nm,0.9s,baz=104,slow=5.2,SNR=17
KBZ LR LR 04 13 25.0
comp=Z,158nm,20.2s,baz=62,slow=39
KIV Kislovodsk 66.58 309 *e*P **P** **03 40 45.5 -0.1**
KIV Kislovodsk 66.58 309*c i*P **P** **03 40 45.9 +0.4**
KIV *e**PP **sP** **03 40 54.8 -2.7**
KIV *e**SP **pP** **03 40 59.7 +5.5**
KIV *e* 03 41 09.8
KIV *e* 03 43 14.5
KIV pmax pmax
comp=Z,24nm,1.3s
KIV MLR MLR
comp=Z,140nm,17.0s
NEY Neytrino 66.69 308⇑ *e*P **P** **03 40 47.3 +0.9**
NEY pmax pmax
comp=Z,2.0nm,0.9s
KDAK Kodiak Island 67.44 35 P **P** **03 40 49.4 -1.1**
comp=Z,5.8nm,0.7s,baz=266,slow=13,SNR=2.3
LPSR Galich'ya Gora 67.44 319 *e*P **P** **03 40 49.5 -1.2**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 67.55 317 *e*P **P** **03 40 50.3 -1.1**
VSR pmax pmax
comp=Z,7.0nm,0.5s
RND Reindeer 68.30 29 *e*P **P** **03 40 56.0 0.0**
comp=Z,5.8nm,0.8s
RND Reindeer 68.30 29 *e*P **P** **03 40 56.0 0.0**
RND pmax pmax
comp=Z,6.0nm,0.8s
OBN Obninsk 68.35 322⇑ *e*P **P** **03 40 56.3 0.0**
OBN *PP **sP** **03 41 07.0 -1.3**
OBN *SP pP 03 41 12.0 +6.9
OBN 03 41 21.0
OBN *e* 03 50 44.6
OBN pmax pmax
comp=Z,7.0nm,1.2s
OBN MLR MLR
comp=Z,184nm,17.0s
COLA College 68.47 27 *e*P **P** **03 40 56.1 -0.8**
comp=Z,1.8nm,0.6s
COLA College 68.47 27 *e*P **P** **03 40 56.1 -0.8**
COLA pmax pmax
comp=Z,2.0nm,0.6s
ILAR Eielson Array 68.89 27 P **P** **03 40 58.9 -0.7**
comp=Z,0.4nm,0.6s,baz=282,slow=5.9,SNR=7.8
ILAR LR LR 04 16 42.2
comp=Z,38nm,18.2s,baz=292,slow=41
RAYN Ar Rayn 69.47 287 *e*P **P** **03 41 03.3 -0.6**
comp=Z,5.5nm,0.8s
RAYN Ar Rayn 69.47 287 *e*P **P** **03 41 03.3 -0.6**
RAYN pmax pmax
comp=Z,6.0nm,0.8s
ANN Anapa 70.07 311 *e*P **P** **03 41 05.8 -1.4**
ANN pmax pmax
comp=Z,72nm,1.0s
ARCES ARCESS Array B 70.15 338 P **P** **03 41 06.7 -0.6**
comp=Z,2.7nm,0.8s,baz=64,slow=5.5,SNR=6.7
ARCES LR LR 04 17 04.8
comp=Z,5.8nm,18.8s,baz=139,slow=40
FIA1 FINESS Array S 72.18 330 *e*P **P** **03 41 18.9 -0.8**
FINES FINESS Array B 72.19 330 P **P** **03 41 18.9 -0.8**
comp=Z,2.8nm,0.6s,baz=60,slow=6.8,SNR=15
FINES LR LR 04 16 18.7
comp=Z,536nm,19.0s,baz=70,slow=39
FINES FINESS Array B 72.19 330 *i* P **P** **03 41 19.5 -0.2**
FINES pmax pmax
comp=Z,3.0nm,0.6s
DAWY Dawson 72.22 27 *e*P **P** **03 41 19.4 -0.5**
comp=Z,3.4nm,0.9s
INK Inuvik 73.00 22 P **P** **03 41 23.4 -1.1**
comp=Z,2.1nm,0.7s,baz=301,slow=5.3,SNR=16
INK Inuvik 73.00 22 *e*P **P** **03 41 23.7 -0.7**
comp=Z,2.3nm,0.6s
INK Inuvik 73.00 22 *e*P **P** **03 41 23.7 -0.7**
INK pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 73.76 319 P **P** **03 41 28.4 -0.9**
comp=Z,4.4nm,0.7s,baz=60,slow=6.2,SNR=12
AKASG LR LR 04 17 47.6
comp=Z,72nm,18.7s,baz=80,slow=39
AKASG Malin Array Be 73.76 319 *i* P **P** **03 41 28.1 -1.2**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
KIEV Kiev 73.78 319 *e*P **P** **03 41 27.5 -1.8**
comp=Z,3.3nm,0.8s
KIEV Kiev 73.78 319*d i*P **P** **03 41 28.3 -1.0**
KIEV pmax pmax
comp=Z,5.0nm,0.9s
NACGM Naroch 73.85 323 *e* P **P** **03 41 29.0 -0.7**
BR131 Keskin Array S 74.19 307 *e*P **P** **03 41 31.9 -0.2**
BRTR Keskin Array B 74.19 307 P **P** **03 41 32.1 -0.1**
comp=Z,11nm,0.8s,baz=102,slow=6.0,SNR=76
BRTR LR LR 04 20 36.2
comp=Z,38nm,18.0s,baz=85,slow=41
ANTO Ankara 74.76 307 *e*P **P** **03 41 34.9 -0.5**
comp=Z,23nm,0.8s
ANTO Ankara 74.76 307⇑ *i*P **P** **03 41 35.7 +0.3**
ANTO Ankara 74.76 307 *e*P **P** **03 41 34.9 -0.5**
ANTO pmax pmax
comp=Z,23nm,0.8s
BR231 Keskin MP Arra 74.78 307 *e*P **P** **03 41 35.2 -0.4**
CSS Mathiatis 75.95 302 *e*P **P** **03 41 42.1 -0.2**
comp=Z,23nm,0.8s
CFR Carcaliu 76.26 313⇑ *i*P **P** **03 41 43.3 -0.5**
CFR Carcaliu 76.26 313 P **P** **03 41 43.3 -0.5**
VRI Vrincioaia 76.94 314⇓ *i*P **P** **03 41 48.5 +0.8**
VRI Vrincioaia 76.94 314 P **P** **03 41 48.5 +0.8**
BIZ Bicaz 76.96 316⇑ *i*P **P** **03 41 48.2 +0.4**
BUR08 Bucovina Ar. S 77.28 317 *e*P **P** **03 41 48.7 -1.0**
BURAR Bucovina Array 77.28 317⇑ *i*P **P** **03 41 49.5 -0.2**
BURAR Bucovina Array 77.28 317 P **P** **03 41 49.4 -0.2**
BUR04 Bucovina Ar. S 77.28 317 *e*P **P** **03 41 48.5 -1.1**
MLR Muntele Rosu 77.59 314⇑ *i*P **P** **03 41 52.5 +1.0**
MLR Muntele Rosu 77.59 314 P **P** **03 41 52.4 +1.0**
DOPR Dopca 77.78 315⇑ *i*P **P** **03 41 52.7 +0.3**
VOIR 78.20 314⇑ *i*P **P** **03 41 54.2 -0.6**
VOIR 78.20 314 P **P** **03 41 54.1 -0.7**
ARR Arges 78.50 315⇑ *i*P **P** **03 41 56.6 +0.2**
HUMR Humele 78.59 314⇑ *i*P **P** **03 41 56.5 -0.3**
NC405 NORSAR Array S 78.68 332 *e*P **P** **03 41 56.0 -1.0**
RES Resolute Bay 78.69 9 *e*P **P** **03 41 55.5 -1.3**
comp=Z,1.3nm,0.6s
RES Resolute Bay 78.69 9 *e*P **P** **03 41 55.5 -1.3**
RES pmax pmax
comp=Z,1.0nm,0.6s
TRPA Tarpa 78.75 318⇑ *i*P **P** **03 41 57.2 -0.4**
NB2 NORSAR Subarra 78.93 332 P **P** **03 41 57.3 -1.1**
comp=Z,1.6nm,0.6s,baz=56,slow=5.6
NOA NORSAR Array B 78.93 332 P **P** **03 41 57.2 -1.3**
comp=Z,1.8nm,0.6s,baz=56,slow=5.6,SNR=11
NOA LR LR 04 20 41.4
comp=Z,367nm,18.3s,baz=65,slow=39
DRGR 79.17 316⇑ *i*P **P** **03 42 00.2 +0.1**
ALN Alexandroupoli 79.23 310 *e*P **P** **03 41 59.8 -0.6**
comp=Z,6.8nm,1.3s
ALN Alexandroupoli 79.23 310 *e*P **P** **03 41 59.8 -0.6**
ALN pmax pmax
comp=Z,7.0nm,1.3s
DEV Deva 79.41 316⇑ *i*P **P** **03 42 01.6 +0.2**
DEV Deva 79.41 316 P **P** **03 42 01.5 +0.2**
OJC Ojcow 79.55 320 *e*P **P** **03 42 03.2 +0.3**
OJC Ojcow 79.55 320 *e*P **P** **03 42 01.7 -0.3**
comp=Z,22nm,1.4s
OJC Ojcow 79.55 320 *e*P **P** **03 42 01.7 -0.3**
OJC pmax pmax
comp=Z,22nm,1.4s
NIE Niedzica 79.58 320 *e*P **P** **03 42 02.8 +0.6**
NIE Niedzica 79.58 320 *e*P **P** **03 42 02.8 +0.6**
DIB Dawson Inlet, 79.68 36 *e*P **P** **03 42 01.5 -1.1**
GZR Gura Zlata 79.69 315⇑ *i*P **P** **03 42 02.6 -0.4**
GZR Gura Zlata 79.69 315 P **P** **03 42 02.5 -0.4**
BZS Buzias 80.34 316⇓ *i*P **P** **03 42 05.0 -1.4**
BZS Buzias 80.34 316 P **P** **03 42 05.0 -1.4**
VTS Vitosha 80.53 312 *e*P **P** **03 42 07.2 -0.5**
comp=Z,6.9nm,0.9s
VTS Vitosha 80.53 312⇑ *i*P **P** **03 42 07.7 +0.1**
VTS Vitosha 80.53 312 *e*P **P** **03 42 07.2 -0.5**
VTS pmax pmax
comp=Z,7.0nm,0.9s
MDVR Moldovita 80.63 315⇑ *i*P **P** **03 42 07.3 -0.7**
VYHS Vyhne 80.85 319 *e*P **P** **03 42 09.3 +0.2**
VYHS pmax pmax
comp=Z,6.0nm,1.3s
VYHS Vyhne 80.85 319 *e*P **P** **03 42 09.3 +0.2**
KSP Ksiaz 81.28 322 P **P** **03 42 15.1 +3.8**

YKA	Yellowknife Ar	82.73	23	P	P	03 42 18.0	-0.7
	comp=Z,1.0nm,0.6s,baz=311,slow=5.0,SNR=26						
YKA				LR	LR	04 23 08.2	
	comp=Z,5.7nm,18.5s,baz=28,slow=39						
YKA	Yellowknife Ar	82.73	23	P	P	03 42 18.0	-0.7
YKB5	Yellowknife Ar	82.73	23	eP	P	03 42 16.5	-2.1
CONA	Conrad Observa	82.88	319	i PcP	P	03 42 21.0	+1.1
	comp=Z,7.4nm,1.4s						
CLL	Collm	82.89	323	eP	P	03 42 19.0	-0.7
CLL				Lm	MLR	04 23 00.0	
	comp=Z,300nm,18.1s						
CLL	Collm	82.89	323	eP	P	03 42 19.0	-0.7
CLL				MLR	MLR		
	comp=Z,300nm,18.1s						
KHC	Kasperske Hory	83.64	321	eP	P	03 42 23.7	0.0
KHC	Kasperske Hory	83.64	321	eP	P	03 42 23.7	0.0
ITM	Ithomi	83.67	308	eP	P	03 42 22.0	-2.1
	comp=Z,14nm,0.8s						
GEC2	GERESS Array S	83.71	321	eP	P	03 42 23.5	-0.6
	comp=Z,5.2nm,1.0s						
GEC2	GERESS Array S	83.71	321	eP	P	03 42 23.5	-0.6
GEC2				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GERES	GERESS Array B	83.71	321	P	P	03 42 23.9	-0.2
	comp=Z,2.2nm,0.8s,baz=64,slow=6.1,SNR=14						
GERES				LR	LR	04 23 17.1	
	comp=Z,158nm,18.4s,baz=78,slow=38						
GEA0	GERESS Array S	83.71	321	eP	P	03 42 23.5	-0.7
MOA	Molln	83.86	320	i PcP	P	03 42 25.7	+0.9
	comp=Z,15nm,1.9s						
SOKA	Soboth	83.97	319	i P	P	03 42 25.5	0.0
	comp=Z,3.3nm,0.7s						
OBKA	Obir	84.34	319	i P	P	03 42 27.3	-0.1
	comp=Z,4.3nm,0.9s						
ABTA	Abfaltersbach	85.45	320	i P	P	03 42 31.8	-1.1
	comp=Z,3.1nm,0.8s						
WATA	Walderalm	85.70	320	i PcP	P	03 42 34.1	-0.2
	comp=Z,4.4nm,1.1s						
WTTA	Wattenberg	85.70	320	i P	P	03 42 33.5	-0.8
	comp=Z,5.0nm,0.8s						
SQTA	Sankt Quirin	85.97	320	i PcP	P	03 42 35.2	-0.4
	comp=Z,3.1nm,0.8s						
KMBO	Kilima Mbogo	86.01	267	P	P	03 42 38.2	+1.7
	comp=Z,1.9nm,0.8s,baz=55,slow=12,SNR=3.6						
KMBO				LR	LR	04 21 48.3	
	comp=Z,35nm,19.0s,baz=90,slow=36						
KMBO	Kilima Mbogo	86.01	267	eP	P	03 42 36.2	-0.3
	comp=Z,2.3nm,0.7s						
B08A	Colville Reser	89.31	36	eP	P	03 42 51.4	-0.1
	comp=Z,8.7nm,0.8s						
D08A	Wollman Farm,	90.31	37	eP	P	03 42 56.5	+0.4
	comp=Z,7.8nm,0.8s						
NEW	Newport	90.54	35	eP	P	03 42 57.0	-0.3
	comp=Z,9.0nm,1.0s						
NEW	Newport	90.54	35	eP	P	03 42 57.0	-0.3
NEW				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BMO	Blue Mountains	92.54	38	eP	P	03 43 06.6	0.0
	comp=Z,1.0nm,0.6s						
BMO	Blue Mountains	92.54	38	eP	P	03 43 06.6	0.0
BMO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MOD	Modoc Plateau	92.54	42	eP	P	03 43 06.5	-0.3
	comp=Z,1.7nm,0.5s						
FFC	Flin Flon	92.88	24	eP	P	03 43 07.1	-0.7
	comp=Z,2.2nm,0.6s						
FFC	Flin Flon	92.88	24	i P	P	03 43 08.4	+0.5
PPT	Papeete	95.23	107	LR	LR	04 18 56.2	
	comp=Z,69nm,19.6s,baz=268,slow=31						
PPT2	Papeete2	95.24	107	eLR	LR	04 14 04.3	
	comp=Z,133nm,23.0s						
NV01	Mina Array Sit	95.83	44	eP	P	03 43 21.5	-0.5
NVAR	Mina Array Bea	95.83	44	P	P	03 43 22.6	+0.5
	comp=Z,0.9nm,0.7s,baz=292,slow=4.7,SNR=7.6						
PDAR	Pinedale Array	98.15	36	LR	LR	04 31 37.4	
	comp=Z,18nm,18.6s,baz=336,slow=38						
ESDC	Sonseca Array	99.30	321	LR	LR	04 33 32.3	
	comp=Z,118nm,18.4s,baz=150,slow=38						
SDV	Santo Domingo	144.95	23	ePKPdf	PKPab	03 49 31.4	-1.2
OTAV	Otavalo	148.56	43	ePKPbc	PKPbc	03 49 42.5	-0.9
OTAV	Otavalo	148.56	43	ePKP2	PKPbc	03 49 42.5	-0.9

IDC 04 03:37:44.1±30.0,17°.38S×177°.48W,h197km±246km, mb3.8/3,mb1 4.0/3,mb1mx3.3/26,mbtmp4.3/3,Error ellipse: s-maj=147.3km s-min=81.4km az=105.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.65	241	P	P	03 44 58.6	+1.6
	2.1nm,0.5s,baz=91,slow=11,SNR=7.9						
WRA	Warramunga Arr	45.59	259	P	P	03 45 44.0	-1.0
	0.5nm,0.3s,baz=95,slow=7.9,SNR=24						
WRA				PcP	PcP	03 47 17.9	-2.2
	0.3nm,0.7s,baz=92,slow=3.9,SNR=2.9						
ASAR	Alice Springs	45.78	254	P	P	03 45 46.3	-0.1
	5.6nm,0.4s,baz=88,slow=8.1,SNR=73						
ASAR				PcP	PcP	03 47 18.8	-1.9
	0.5nm,0.4s,baz=99,slow=4.1,SNR=4.9						
BRTR	Keskin Array B	145.03	316	PKPbc	PKPbc	03 56 57.7	-0.4
	0.4nm,0.5s,baz=109,slow=4.6,SNR=4.4						
GERES	GERESS Array B	147.32	346	PKPbc	PKPbc	03 57 05.4	+0.9
	0.2nm,0.4s,baz=28,slow=3.2,SNR=4.0						

*IDC **04** 04:06:29.1±0.8,8°.42S×128°.41E,h0km,mb4.1/6, mb1 4.3/10,mb1mx4.0/43,mbtmp4.1/10,ML4.3/4,Error ellipse: s-maj=31.0km s-min=17.8km az=74.0*
*ISCJB **04** 04:06:31.0±0.4,8°.59S±0°.04×128°.48E±0°.05,h33km, mb4.2/9,Error ellipse: s-maj=6.8km s-min=5.4km az=162.3*
*NEIC **04** 04:06:33.4±0.8,8°.57S×128°.45E,h36km±9km,mb4.1/3, Error ellipse: s-maj=8.8km s-min=7.0km az=52.0*
ISC 04 04:06:33.4±0.6,8°.61S±0°.06×128°.52E±0°.07,h35km,n32, σ1s.49/41,mb4.2/9,Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	4.35	254	ePn	Pn	04 07 36.5	-0.7
SOEI				eSn	Sn	04 08 25.5	-1.3
BATI	Baumata	5.05	251	Pn	Pn	04 07 45.1	-1.6
	4.5nm,0.3s,baz=135,slow=5.7,SNR=2.8						
BATI				Sn	Sn	04 08 46.5	+2.6
	10nm,0.3s,baz=289,slow=23,SNR=6.7						
FAKI	Fak Fak	6.76	34	ePn	Pn	04 08 11.5	+1.2
FITZ	Fitzroy Crossi	9.84	196	Pn	Pn	04 08 53.5	+1.0
	1.8nm,0.3s,baz=32,slow=11,SNR=69						
FITZ				Sn	Sn	04 10 41.0	-0.9
	2.4nm,0.3s,baz=85,slow=21,SNR=9.1						
WRAB	Tennant Creek	12.60	154	ePn	Pn	04 09 30.8	+0.6
WRAB				eSn	Sn	04 11 47.1	-2.3
WRA	Warramunga Arr	12.60	154	Pn	Pn	04 09 30.9	+0.6
	2.7nm,0.3s,baz=330,slow=13,SNR=130						
WRA				Sn	Sn	04 11 46.3	-3.2
	2.1nm,0.3s,baz=334,slow=23,SNR=6.1						
WR1	Warramunga Arr	12.60	154	ePn	Pn	04 09 30.9	+0.6
WR1				eSn	Sn	04 11 46.3	-3.2
WB2	Warramunga Arr	12.61	154	ePn	Pn	04 09 29.9	-0.5
MBWA	Marble Bar	15.09	213	ePn	Pn	04 10 04.0	-0.1
AS31	Alice Springs	15.84	162	ePn	Pn	04 10 14.2	+0.3
	5.2nm,0.4s						
ASAR	Alice Springs	15.84	162	Pn	Pn	04 10 14.8	+0.8
	1.0nm,0.3s,baz=337,slow=10,SNR=45						
ASAR				Sn	Sn	04 13 08.6	+0.1
	0.6nm,0.3s,baz=322,slow=16,SNR=5.9						
AS01	Alice Springs	15.85	161	ePn	Pn	04 10 15.5	+1.4
CTAO	Charters Tower	20.60	126	eP	P	04 11 10.5	+0.8
STKA	Stephens Creek	26.15	154	P	P	04 12 08.3	+3.8
	1.6nm,0.4s,baz=335,slow=10,SNR=11						
JOW	Kunigami	35.23	360	eP	P	04 13 22.0	-2.6
	65nm,1.1s						
SONA0	Songino Array	59.51	343	eP	P	04 16 34.2	+1.0
SONA0				ePcP	PcP	04 17 21.8	+1.3
SONM	Songino Array	59.51	343	P	P	04 16 34.2	+1.0
	0.4nm,0.7s,baz=193,slow=5.9,SNR=4.1						
SONM				PcP	PcP	04 17 21.8	+1.3
	0.2nm,0.5s,baz=163,slow=5.0,SNR=2.9						
MK01	Makanchi Array	68.75	328	eP	P	04 17 32.7	-1.1
MK31	Makanchi Array	68.78	328	eP	P	04 17 33.0	-1.0
MK32	Makanchi Array	68.78	328	eP	P	04 17 33.6	-0.3
MKAR	Makanchi Array	68.78	328	P	P	04 17 33.6	-0.3
	1.6nm,0.5s,baz=124,slow=7.8,SNR=38						
AAK	Ala-Archa	70.83	321	eP	P	04 17 45.9	-1.0
	0.7nm,0.4s						
ZALV	Zalesovo Beam	72.38	335	P	P	04 17 54.6	-1.1
	1.5nm,0.6s,baz=131,slow=5.5,SNR=6.9						
ZALV	Zalesovo Beam	72.38	335	eP	P	04 17 54.0	-1.7
ZAA1	Zalesovo Array	72.38	335	eP	P	04 17 54.6	-1.2
KURBB	Kurchatov Arra	73.12	329	P	P	04 17 59.9	-0.3
	3.2nm,0.5s,baz=132,slow=5.1,SNR=36						
KURK	Kurchatov	73.13	329	eP	P	04 17 59.7	-0.5
RAYN	Ar Rayn	87.05	294	eP	P	04 19 15.5	-0.6
	1.0nm,0.5s						
ILAR	Eielson Array	95.42	25	P	P	04 19 53.0	-1.0
	0.5nm,1.0s,baz=246,slow=5.1,SNR=4.1						
ILB	Eielson Array	95.42	25	eP	P	04 19 53.0	-1.0
TORD	Torodi Ar. Bea	127.66	280	PKP	PKPdf	04 25 36.8	+0.8
	0.5nm,1.0s,baz=40,slow=1.9,SNR=4.2						
TOA1	Torodi Ar. Sit	127.66	280	ePKPdf	PKPdf	04 25 36.8	+0.8

*IDC **04** 04:12:39.5±0.9,1°.34N×122°.18E,h0km,mb3.8/7, mb1 4.0/8,mb1mx3.8/41,mbtmp3.8/8,ML4.1/1,MS3.4/1, Ms1 3.4/1,ms1mx2.5/43,Error ellipse: s-maj=114.0km s-min=15.9km az=68.0*
*DJA **04** 04:12:41.7±1.7,2°N±5°×12°2E±°,h24km±18km,M4.3/6, mb4.4/2,mB4.8/1,MLv4.3/6,Mw(mB)4.1/1*
*ISCJB **04** 04:12:42.5±0.7,1°.46N±0°.07×122°.18E±0°.07,h33km, mb3.7/7,MS3.4/1,Error ellipse: s-maj=10.4km s-min=10.1km az=26.1*
ISC 04 04:12:44.6±0.9,1°.52N±0°.09×122°.14E±0°.08,h35km,n17, σ1s.77/18,mb3.9/7,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	2.62	166	P	Pn	04 13 25.5	+1.0
LUWI				S	Sn	04 13 59.3	+4.2
PCI	Palu	3.33	224	P	Pn	04 13 33.5	-0.8
SGKI	Sangatta, Kali	4.97	246	P	Pn	04 13 55.4	-1.4
TTSI	Tana Toraja	5.10	207	P	Pn	04 13 57.9	-0.6
SANI	Sanana	5.23	133	P	Pn	04 13 59.1	-1.3
	18nm,0.7s,0.1nm						
TNTI	Ternate	5.28	98	P	Pn	04 14 00.5	-0.5
KDI	Kendari	5.46	175	P	Pn	04 14 04.6	+1.0
SPSI	Sidrap Palu	5.94	204	P	Pn	04 14 10.3	+0.1
BNSI	Bone	6.22	199	P	Pn	04 14 14.0	0.0
FITZ	Fitzroy Crossi	19.80	170	P	P	04 17 10.2	-1.9
	0.5nm,0.3s,baz=0.1,slow=10,SNR=12						
WRA	Warramunga Arr	24.46	151	P	P	04 17 58.5	-1.9
	2.3nm,0.6s,baz=330,slow=10,SNR=15						
ASAR	Alice Springs	27.53	156	P	P	04 18 27.9	-0.2
	0.6nm,0.7s,baz=345,slow=14,SNR=4.8						
STKA	Stephens Creek	38.00	153	P	P	04 19 57.0	-2.4
	3.2nm,0.8s,baz=322,slow=7.0,SNR=6.0						
STKA				LR	LR	04 37 35.8	
	comp=Z,54nm,18.1s,baz=202,slow=40						
SONM	Songino Array	48.11	346	P	P	04 21 23.2	+2.1
	1.0nm,0.8s,baz=157,slow=9.1,SNR=8.2						
MKAR	Makanchi Array	56.88	328	P	P	04 22 28.0	+2.0
	0.2nm,0.5s,baz=129,slow=7.1,SNR=3.7						
ZALV	Zalesovo Beam	60.58	336	P	P	04 22 51.9	+0.3
	0.6nm,0.6s,baz=155,slow=10,SNR=2.4						
VNDA	Vanda	81.86	172	P	P	04 24 58.7	-1.1
	0.7nm,0.6s,baz=342,slow=6.1,SNR=4.5						

KRSC 04 04:23:08.5±2.7,55°.19N×164°.51E,h64km±21km,ML3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	1.40	317	eP	Pn	04 23 32.5	+0.6
KBTR				eS	Sn	04 23 51.4	+2.0
MKZ	Mys Kozlova	1.73	249	eP	Pn	04 23 38.2	+1.9
MKZ				eS	Sn	04 24 00.9	+3.5
SMKR	Semkarok	2.21	310	eP	Pn	04 23 44.4	+1.5
SRKR	Sorokina	2.38	309	eP	Pn	04 23 47.6	+2.3
TUMR	Tumrok	2.50	274	eP	Pn	04 23 50.2	+3.3
SRDR	Sredinnyy	2.93	295	eP	Pn	04 23 56.7	+4.0
SPN	Mys Shipunski	3.37	233	eS	Sn	04 24 39.9	+2.5
NLC	Nalytchevo	3.65	238	eS	Sn	04 24 47.0	+2.8
SDLR	Sedlovina	3.82	242	eP	Pn	04 24 08.2	+3.3
SDLR				eS	Sn	04 24 53.4	+4.9
SMAR	Somma	3.87	242	eP	Pn	04 24 08.7	+3.0
UGLR	Uglovaya	3.88	242	eP	Pn	04 24 09.5	+3.7
AVH	Avacha	3.90	243	eP	Pn	04 24 09.4	+3.5
AVH				eS	Sn	04 24 55.4	+4.9
KOK	Koryaka	3.94	243	eP	Pn	04 24 09.7	+3.2
GNL	Ganaly	4.12	251	eP	Pn	04 24 12.8	+3.8
KRMR	Karymshinskiy	4.45	240	eS	Sn	04 25 06.8	+3.1
RUS	Russkaya	4.50	235	eS	Sn	04 25 06.7	+1.6
MTVR	Mutnovka	4.63	237	eS	Sn	04 25 10.9	+2.5
KDTR	Khodutka, Kamc	5.12	231	eS	Sn	04 25 20.8	+0.5

*ISCJB **04** 04:25:44.6±0.2,47°.37N±0°.01×10°.89E±0°.02,h12km±2km, Error ellipse: s-maj=2.4km s-min=2.0km az=0.6*
*VIE **04** 04:25:45.8±0.1,47°.28N×10°.91E,h12km,mb1.5/11, ml2.3/15,Error ellipse: s-maj=1.3km s-min=1.0km az=5.0 13 km WSW of Telfs - felt 3-4 ems98 Mieminger Plateau / Tyrol*
*ROM **04** 04:25:46.1±0.2,47°.30N±0°.01×10°.910E±0°.008, h14km±3km,ML1.8/6*
*PRU **04** 04:25:46.8±0.0,47°.33N×10°.93E,h5km*
*BGR **04** 04:25:47.2±0.3,47°.31N×10°.89E,h10km,ML2.3/10,Error ellipse: s-maj=4.4km s-min=2.2km az=162.0*
BGR Felt IV EMS.
*LDG **04** 04:25:47.5±0.2,47°.31N×10°.88E,h2km,Ml2.5/7,Error ellipse: s-maj=3.4km s-min=1.6km az=154.0*
ISC 04 04:25:45.9±0.8,47°.31N±0°.02×10°.90E±0°.01,h16km±5km, n54,σ0s.93/102,Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOTA	Moosalm	0.15	74	i Pg	Pg	04 25 49.6	-0.4
	12nm,0.1s,SNR=132						
MOTA				eSg	Sg	04 25 52.6	-0.1
	46nm,0.1s						
RETA	Reutte	0.20	334	i Pg	Pg	04 25 50.4	-0.3
	43nm,0.1s,SNR=148						
RETA				eSg	Sg	04 25 54.2	+0.2
	101nm,0.1s						
RETA				eSg	Sg	04 25 54.3	+0.3
	132nm,0.1s						
SQTA	Sankt Quirin	0.23	111	i Pg	Pg	04 25 51.1	-0.1
	33nm,0.1s,SNR=128						
SQTA				eSg	Sg	04 25 54.5	-0.3
	65nm,0.1s						
SQTA				i Sg	Sg	04 25 54.5	-0.2
	101nm,0.1s						
FETA	Feichten	0.30	202	i Pg	Pg	04 25 52.0	-0.4
	8.0nm,0.2s,SNR=59						
FETA				eSg	Sg	04 25 56.2	-0.7
	23nm,0.1s						
FETA				eSg	Sg	04 25 56.2	-0.7
	13nm,0.1s						
WTTA	Wattenberg	0.51	94	ePg	Pg	04 25 55.9	-0.2
	SNR=3.5						
WTTA				eSg	Sb	04 26 03.3	-0.6
	SNR=6.4						
WTTA	Wattenberg	0.51	94	ePg	Pg	04 25 55.9	-0.2
	2.9nm,0.1s,SNR=6.2						
WTTA				Sg	Sb	04 26 03.3	-0.6
	14nm,0.2s,SNR=14						
WTTA	Wattenberg	0.51	94	P	Pg	04 25 55.8	-0.2
WTTA				S	Sb	04 26 03.2	-0.6
WTTA				AML	AML		
	comp=E,71µm,0.3s						
WTTA				AML	AML		
	comp=N,61µm,1.0s						
WTTA				AML	AML		
	comp=N,61µm,1.0s						
WTTA				AML	AML		
	comp=E,71µm,0.3s						
ROSI	Rosskopf	0.52	137	P	Pg	04 25 56.0	-0.2
ROSI				S	Sg	04 26 02.7	-0.5
ROSI				AML	AML		
	comp=E,207µm,0.4s						
ROSI				AML	AML		
	comp=N,232µm,0.3s						
ROSI				AML	AML		
	comp=N,232µm,0.3s						
ROSI				AML	AML		
	comp=E,207µm,0.4s						
ABSI	Aberstueckl	0.65	153	P	Pg	04 25 58.5	-0.1
ABSI				S	Sg	04 26 07.1	-0.1
ABSI				AML	AML		
	comp=E,129µm,0.4s						
ABSI				AML	AML		
	comp=N,164µm,0.3s						
ABSI				AML	AML		
	comp=E,129µm,0.4s						
ABSI				AML	AML		
	comp=N,164µm,0.3s						
UBR	Ueberruh	0.65	305	ePg	Pb	04 25 59.4	+0.4
	SNR=20						
UBR				eSg	Sb	04 26 09.0	+1.1
	SNR=8.6						
DAVA	Damuels	0.69	269	ePg	Pg	04 25 59.5	+0.1
	SNR=14						
DAVA				eSg	Sb	04 26 10.3	+1.2
	SNR=9.7						
DAVA	Damuels	0.69	269	ePg	Pg	04 25 59.4	-0.1
	comp=N,4.9nm,0.2s,SNR=14						
DAVA				eSg	Sb	04 26 10.2	+1.1
	comp=N,34nm,0.3s						
MOSI	Grossmontoni	0.73	199	P	Pg	04 25 59.8	-0.3
MOSI				S	Sg	04 26 10.2	+0.4
MOSI				AML	AML		
	comp=E,93µm,0.3s						
MOSI				AML	AML		
	comp=N,164µm,0.5s						
MOSI				AML	AML		
	comp=E,93µm,0.3s						
MOSI				AML	AML		
	comp=N,164µm,0.5s						
FUORN	Ofenpass-Fuorn	0.81	212	P	Pg	04 26 01.2	-0.6
FUORN				S	Sg	04 26 12.2	-0.3
APPI	Appiano	0.86	164	P	Pg	04 26 02.5	-0.1
APPI				AML	AML		
	comp=E,58µm,1.4s						
APPI				AML	AML		
	comp=N,51µm,1.5s						
APPI				AML	AML		
	comp=E,58µm,1.4s						
APPI				AML	AML		
	comp=N,51µm,1.5s						
DAVOX	Davos/Dischmat	0.87	233	P	Pg	04 26 02.1	-0.8
DAVOX				S	Sg	04 26 14.6	+0.3
DAVOX				AML	AML		
	comp=E,53µm,0.3s						
DAVOX				AML	AML		
	comp=N,85µm,0.4s						
DAVOX				AML	AML		
	comp=E,53µm,0.3s						
DAVOX				AML	AML		
	comp=N,85µm,0.4s						
RISI	Rein	0.88	113	P	Pg	04 26 02.6	-0.5
RISI				S	Sg	04 26 14.6	-0.2
FUR	Furstenfeldbru	0.90	17	ePg	Pn	04 26 04.2	+0.2
	SNR=2.0						
FUR				eSg	Sn	04 26 16.5	-0.2
	SNR=6.1						
BRMO	Bormio	0.90	204	P	Pg	04 26 02.9	-0.5
BRMO				S	Sg	04 26 14.7	-0.6
KOSI	Kohlern	0.91	158	P	Pg	04 26 03.3	-0.2
ABTA	Abfaltersbach	1.24	116	ePg	Pn	04 26 09.3	+0.6
	comp=N,1.7nm,0.2s,SNR=9.4						
ABTA				eSg	Sb	04 26 25.1	+0.3
	comp=N,5.0nm,0.2s,SNR=5.4						
WILA	Wila	1.35	275	ePn	Pg	04 26 12.1	+0.1
	SNR=4.8						
WILA				eSg	Sg	04 26 30.5	+0.8
	SNR=8.1						
KBA	Koelnbreinsper	1.69	97	ePg	Pg	04 26 18.4	+0.1
	comp=N,10nm,0.3s						
SLE	Schleitheim	1.69	287	ePn	Pn	04 26 15.6	+0.7
	SNR=1.2						
SLE				ePg	Pg	04 26 18.6	+0.2
	SNR=5.8						
SLE				eSg	Sg	04 26 39.9	-0.5
	SNR=7.0						
SULZ	Cheisacher	1.90	278	eSg	Sg	04 26 47.0	-0.2
	SNR=3.5						
MYKA	Terra Mystica	2.00	109	Pg	Pg	04 26 23.6	-0.6
	comp=N,0.7nm,0.2s						
MYKA				eSg	Sg	04 26 50.5	+0.3
	comp=N,1.5nm,0.2s						
BFO	Black Forest	2.01	302	ePn	Pn	04 26 21.3	+2.0
	SNR=2.0						
BFO				ePg	Pg	04 26 24.6	+0.1
	SNR=6.8						
BFO				eSn	Sn	04 26 43.6	-0.5
BFO				eSg	Sg	04 26 50.3	-0.3
	SNR=5.4						
BALST	Balsthal	2.18	272	ePn	Pb	04 26 24.2	-0.8
	SNR=1.1						
BALST				ePg	Pg	04 26 27.0	-0.7
	SNR=3.9						
BALST				eSn	Sn	04 26 47.7	-0.5
BALST				eSg	Sg	04 26 54.9	-1.0
	SNR=3.6						
MOA	Molln	2.35	75	eSg	Sg	04 27 01.1	-0.2
	SNR=5.6						
MOA	Molln	2.35	75	eSg	Sg	04 27 01.2	-0.1
	comp=N,3.4nm,0.2s						
GRF	Grafenberg Arr	2.40	5	ePg	Pg	04 26 31.8	-0.1
	SNR=2.3						
GRF				eSg	Sg	04 27 02.8	-0.2
	SNR=2.2						
GEC2	GERESS Array S	2.43	50	ePg	Pg	04 26 33.6	+1.1
	SNR=2.5						
GEC2				eSn	Sn	04 26 56.1	+1.5
GEC2				eSg	Sg	04 27 02.8	-1.3
	SNR=2.5						
KHC	Kasperske Hory	2.56	43	ePN	Pb	04 26 32.2	+0.7
KHC				ePG	Pg	04 26 35.5	+0.5
KHC				eSG	Sg	04 27 06.0	-2.2
	comp=N,4.5nm,0.3s						
CDF	Champ du Feu	2.68	296	ePn	Pn	04 26 30.0	+1.5
CDF	Champ du Feu	2.68	296	ePg	Pg	04 26 37.1	-0.1
CDF				eSg	Sg	04 27 10.7	-1.2
	comp=N,2.7nm,0.2s						
HINF	Hinteralfeld	2.78	282	ePn	Pn	04 26 31.6	+1.7
HINF	Hinteralfeld	2.78	282	ePg	Pg	04 26 39.4	+0.1
HINF				eSg	Sg	04 27 13.9	-1.5
	comp=N,3.7nm,0.2s						
NKC	Novy Kostel	3.11	19	eSG	Sg	04 27 25.1	-0.5
WERN	Wernitzgruen	3.14	18	eSn	Sn	04 27 11.7	-0.3
WERN				eSg	Sg	04 27 26.6	-0.2
	SNR=1.7						
HAU	Haudompre	3.15	285	ePn	Pn	04 26 36.6	+1.6
HAU	Haudompre	3.15	285	ePg	Pg	04 26 45.6	-0.7
HAU				eSn	Sn	04 27 12.1	-0.2
HAU				eSg	Sg	04 27 25.8	-1.3
	comp=N,6.5nm,0.3s						
GUNZ	Gunzen	3.21	17	eSn	Sn	04 27 12.9	-0.6
GUNZ				eSg	Sg	04 27 27.5	-1.3
	SNR=1.9						
TANN	Tannenbergstha	3.28	18	eSn	Sn	04 27 14.7	-0.7
TANN				eSg	Sg	04 27 29.8	-1.4
	SNR=2.1						
TNS	Taunus Mts	3.34	332	ePn	Pn	04 26 39.3	+1.7
	SNR=1.4						
CABF	La Chapelle	3.36	260	ePn	Pn	04 26 39.5	+1.6
CABF	La Chapelle	3.36	260	ePg	Pg	04 26 49.8	-0.6
CABF				eSn	Sn	04 27 17.2	-0.4
CABF				eSg	Sg	04 27 31.8	-2.1
	comp=N,0.4nm,0.2s						
PRU	Pruhonice	3.61	41	eSG	Sg	04 27 40.2	-1.7
PAGF	Fort de Pagny	3.69	292	eSg	Sg	04 27 42.5	-2.0
	comp=N,2.5nm,0.2s						
SFTF	Sexfontaines	4.05	285	ePn	Pn	04 26 48.4	+1.1
SFTF	Sexfontaines	4.05	285	ePg	Pg	04 27 01.4	-2.1
SFTF				eSn	Sn	04 27 33.7	-0.7
	comp=N,2.3nm,0.2s						
KRUC	Moravsky	4.08	62	eSN	Sn	04 27 34.9	-0.1
KRUC				eSG	Sg	04 27 54.9	-1.9
MEZF	Maizieres J'vi	4.11	289	ePn	Pn	04 26 48.4	+0.4
MEZF	Maizieres J'vi	4.11	289	ePg	Pg	04 27 03.2	-1.4
MEZF				eSn	Sn	04 27 35.0	-0.8
	comp=N,1.2nm,0.3s						
VRAC	Vranov	4.30	60	eSN	Sn	04 27 40.5	0.0
VRAC				eSG	Sg	04 28 01.4	-2.5

*ISCJB **04** 04:38:41.9±5.0,12°S±1°×1°5W±°,h10km,mb3.6/4, MS3.3/1,Error ellipse: s-maj=270.5km s-min=18.2km az=44.9*
*IDC **04** 04:38:42.9±7.8,12°.01S×15°.06W,h0km,mb3.8/4, mb1 3.9/4,mb1mx3.6/24,mbtmp3.8/4,MS3.3/1,Ms1 3.2/1,*

ms1mx2.8/27, Error ellipse: s-maj=455.1km s-min=29.2km az=136.0

ISC 04 04:38:44.2±6.0**,12°S**±2°×**1°5W**±°**,h10**km**,n14,**σ**0ˢ36**/6**,**
mb3.7/4**,Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**3.11**	**7**	T	T	04 43 09.1	
	baz=185,slow=74,SNR=126						
H10S3	**ASCENSION HYDR**	**3.11**	**6**	T	T	04 42 59.6	
	baz=185,slow=74,SNR=122						
H10S1	**ASCENSION HYDR**	**3.12**	**7**	T	T	04 43 02.0	
	baz=185,slow=74,SNR=71						
H10N1	**ASCENSION HYDR**	**4.22**	**7**	T	T	04 44 29.3	
	baz=180,slow=74,SNR=15						
H10N3	**ASCENSION HYDR**	**4.23**	**7**	T	T	04 44 25.2	
	baz=180,slow=74,SNR=49						
H10N2	**ASCENSION HYDR**	**4.24**	**7**	T	T	04 44 39.0	
	baz=180,slow=74,SNR=27						
LIC	**Lamto**	**20.71**	**29**	*e*P	Pn	04 43 28.5	+1.3
	13nm,0.9s						
KIC	**Kosan Boka**	**20.96**	**30**	*e*P	**P**	**04 43 27.2**	**-0.5**
	13nm,1.0s						
TIC	**Toumodi**	**21.08**	**29**	*e*P	**P**	**04 43 29.3**	**+0.4**
DBIC	**Dimbokro**	**21.18**	**29**	P	**P**	**04 43 29.8**	**-0.2**
	3.5nm,1.0s,baz=212,slow=9.7,SNR=3.6						
TORD	**Torodi Ar. Bea**	**30.04**	**34**	P	**P**	**04 44 53.7**	**0.0**
	0.4nm,0.6s,baz=212,slow=8.5,SNR=5.6						
BOSA	**Boshof**	**40.97**	**120**	LR	LR	04 59 21.6	
	comp=Z,41nm,19.4s,baz=218,slow=30						
CPUP	**Villa Florida**	**42.20**	**244**	P	**P**	**04 46 37.6**	**0.0**
	0.9nm,0.6s,baz=72,slow=6.4,SNR=3.0						
FINES	**FINESS Array B**	**80.09**	**19**	P	**P**	**04 50 54.0**	**+0.1**
	1.1nm,0.8s,baz=255,slow=4.2,SNR=3.6						

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*NIED **04** 04:42:00, 35°.70N×140°.80E, h47km, Mw4.7 Best double couple: M₀1.28000×10¹⁶ NP1:φs150.00000°, δ23.00000°, λ47.00000°. NP2:φs16.00000°, δ74.00000°, λ106.00000°.*

*BJI **04** 04:42:46.3, 35°.59N×140°.56E, h40km, mb4.6/46, mB4.9/27, Ms4.4/18, Ms7 4.1/18*

*MOS **04** 04:42:46.4±0.9, 35°.70N×140°.68E, h41km, mb4.9/52, Error ellipse: s-maj=8.7km s-min=5.0km az=111.0*

*IDC **04** 04:42:47.5±4.2, 35°.71N×140°.57E, h33km±32km, mb4.2/25, mb1 4.4/28, mb1mx4.4/35, mbtmp4.4/28, ML4.2/3, MS3.7/27, Ms1 3.7/27, ms1mx3.5/49, Error ellipse: s-maj=15.6km s-min=12.1km az=103.0*

*NEIC **04** 04:42:47.8±0.5, 35°.66N×140°.62E, h40km±4km, mb4.6/52, Error ellipse: s-maj=4.2km s-min=3.8km az=150.0*

NEIC Felt at Asahi, Chiba, Inashiki, Narita, Tokyo and Tsuchiura. Recorded [3 JMA] in Chiba and Ibaraki.

*ISCJB **04** 04:42:48.0±0.3, 35°.69N±0°.03×140°.64E±0°.04, h54km±2km, mb4.5/109, MS3.8/28, Error ellipse: s-maj=5.1km s-min=4.7km az=138.3*

*JMA **04** 04:42:48.2±0.1, 35°.75N×140°.69E, h50km±1km, M4.5 Broadband fault plane solution: P waves. NP1: φs5.00000°, δ75.00000°, λ90.00000°. NP2:φs185.00000°, δ15.00000°, λ90.00000°. Principal axes: T Plg60.0000°, Azm275.0000°; N Plg0.0000°, Azm5.0000°; P Plg30.0000°, Azm95.0000°;*

JMA Felt II J1.

ISC 04 04:42:48.3±0.5**, 35°.69N**±0°.04×**140°.74E**±0°.05**, h45**km±3km**,**
h45km**:pP-P, n263,** σ**1ˢ32**/278**, mb4.6**/112**, MS3.8**/28**,**
15C-12D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.10**	**83**	⇑P	**Pn**	**04 42 56.2**	**+0.7**
CHOJ				S	**Sn**	**04 43 01.7**	**+1.1**
JSMT	**Sammumatsuo**	**0.24**	**258**	P	**Pn**	**04 42 57.1**	**+0.7**
JSMT				S	**Sn**	**04 43 03.8**	**+1.7**
JIHU	**Itakohorinouch**	**0.32**	**328**	P	**Pn**	**04 42 57.5**	**+0.3**
JIHU				S	**Sn**	**04 43 04.7**	**+1.2**
JCN	**Nagara**	**0.52**	**238**	⇓P	**Pn**	**04 43 00.5**	**+1.0**
JYT	**Yasato**	**0.69**	**321**	P	**Pn**	**04 43 01.0**	**-0.8**
BSO4	**Boso 4**	**0.77**	**205**	P	**Pn**	**04 43 03.6**	**+0.9**
BSO3	**Boso 3**	**0.91**	**192**	P	**Pn**	**04 43 05.5**	**+1.1**
JHO	**Hitachi**	**0.93**	**352**	⇓P	**Pn**	**04 43 04.6**	**-0.4**
BSO1	**Boso 1**	**1.05**	**169**	P	**Pn**	**04 43 07.4**	**+1.2**
JAG	**Ashikaga**	**1.27**	**305**	P	**Pn**	**04 43 08.8**	**-0.9**
MJAR	**Matsushiro Arr**	**2.22**	**293**	Pn	**Pn**	**04 43 22.2**	**-0.4**
	65nm,0.3s,baz=139,slow=3.2,SNR=443						
MJAR				LR	LR	04 44 22.9	
	comp=Z,3µm,19.8s,baz=110,slow=46						
MAJO	**Matsushiro**	**2.22**	**293**	*e*Pn	**Pn**	**04 43 22.1**	**-0.6**
MAJO	**Matsushiro**	**2.22**	**293**	*c i*P	**Pn**	**04 43 23.2**	**+0.6**
JHJ2	**Mitsune**	**2.68**	**197**	*e*Pn	**Pn**	**04 43 28.3**	**-0.7**
JHJ	**Hachijo jima 2**	**2.69**	**197**	Pn	**Pn**	**04 43 28.9**	**-0.1**
	80nm,0.3s,baz=322,slow=23,SNR=24						
JHJ				Sn	**Sn**	**04 43 58.6**	**-1.6**
	230nm,0.3s,baz=58,slow=22,SNR=9.4						
INU	**Inuyama**	**3.06**	**265**	*e*Pn	**Pn**	**04 43 34.3**	**+0.2**
ERM	**Erimo**	**6.59**	**16**	*e*Pn	**Pn**	**04 44 22.1**	**-0.5**
ERM				*e*Sn	**Sn**	**04 45 34.3**	**-2.0**
ERM	**Erimo**	**6.59**	**16**	*d i*P	**Pn**	**04 44 21.8**	**-0.8**
ASAJ	**Asahikawa**	**8.54**	**9**	Pn	**Pn**	**04 44 46.8**	**-2.4**
	5.0nm,0.3s,baz=224,slow=12,SNR=10						
ASAJ				LR	LR	04 48 45.3	
	comp=Z,243nm,20.9s,baz=104,slow=42						
ASAJ	**Asahikawa**	**8.54**	**9**	*e*Pn	**Pn**	**04 44 47.4**	**-1.8**
JNU	**Nakatsue**	**8.54**	**255**	Pn	**Pn**	**04 44 53.3**	**+3.9**
	0.5nm,0.3s,baz=59,slow=14,SNR=4.7						
JNU				LR	LR	04 48 28.4	
	comp=Z,2µm,18.9s,baz=116,slow=40						
CBIJ	**Chichi jima**	**8.66**	**171**	*e*Pn	**Pn**	**04 44 49.0**	**-2.0**
YUK	**Yuzh-Kuril'sk**	**9.21**	**24**	P	**Pn**	**04 44 57.7**	**-0.8**
YUK				pmax	pmax		
	comp=E,37nm,0.6s						
YUK				pmax	pmax		
	comp=Z,84nm,0.6s						
YUK				pmax	pmax		
	comp=N,52nm,0.2s						
SHO	**Shikotan**	**9.41**	**28**	*e*P	**Pn**	**04 44 58.4**	**-2.8**
SHO				pmax	pmax		
	comp=N,15nm,0.8s						
SHO				pmax	pmax		
	comp=Z,24nm,0.8s						
SHO				pmax	pmax		
	comp=E,22nm,0.3s						
TEY	**Ternei**	**9.85**	**343**	⇑*e*P	**Pn**	**04 45 08.1**	**+0.9**
TEY				pmax	pmax		
	comp=Z,20nm,1.0s						
KSRS	**Korea Array**	**10.46**	**283**	Pn	**Pn**	**04 45 18.7**	**+3.1**
	comp=Z,0.3nm,0.3s,baz=102,slow=13,SNR=17						
KSRS				LR	LR	04 49 21.0	
	comp=Z,600nm,20.1s,baz=98,slow=38						
KSAR	**Wonju Array Be**	**10.49**	**283**	Pn	**Pn**	**04 45 18.7**	**+2.7**
KSAR	**Wonju Array Be**	**10.49**	**283**	P	**Pn**	**04 45 18.7**	**+2.7**
USRK	**Ussuriysk Ar.**	**10.82**	**324**	Pn	**Pn**	**04 45 22.6**	**+2.0**
	comp=Z,0.5nm,0.3s,baz=131,slow=12,SNR=10						
USRK				LR	LR	04 49 13.4	
	comp=Z,485nm,19.5s,baz=125,slow=36						
YSS	**Yuzh-Sakhalins**	**11.35**	**7**	*e*P	**Pn**	**04 45 24.3**	**-3.5**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS				MLR	MLR		
	comp=Z,400nm,11.0s						
MDJ	**Mudanjiang**	**12.32**	**320**	P	**P**	**04 45 48.9**	**-3.3**
MDJ				pP	Pn	04 45 56.1	+15
MDJ				sP		04 46 02.5	
MDJ				pmax	pmax		
	comp=Z,19nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,220nm,4.1s						
MDJ	**Mudanjiang**	**12.32**	**320**	*e*Pn	**Pn**	**04 45 40.2**	**-0.8**
CN2	**Changchun**	**14.27**	**309**	*e*P	**Pn**	**04 46 09.9**	**+2.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KLR	**Kul'dur**	**15.05**	**337**	Pn	**Pn**	**04 46 15.1**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=134,slow=9.7,SNR=5.8						
KLR	**Kul'dur**	**15.05**	**337**	⇑*e*P	**Pn**	**04 46 18.6**	**+0.7**
TYV	**Tymovskoe**	**15.23**	**5**	*e*P	**Pn**	**04 46 20.4**	**+0.3**
TYV				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TYV				pmax	pmax		
	comp=Z,300nm,4.1s						
NJ2	**Nanjing**	**18.53**	**265**	*e*P	**P**	**04 47 00.6**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
TIA	**Tai'an**	**19.12**	**278**	P	**P**	**04 47 05.9**	**-1.6**
TIA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BJT	**Baijiatuau**	**19.86**	**290**	*e*P	**P**	**04 47 13.4**	**-2.0**
	comp=Z,8.7nm,0.8s						
BJT	**Baijiatuau**	**19.86**	**290**	*e*P	**P**	**04 47 13.4**	**-2.0**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ZEA	**Zeya**	**20.37**	**337**	*e*P	**P**	**04 47 17.8**	**-3.1**
ZEA				pmax	pmax		
	comp=Z,29nm,1.0s						
PETK	**Petropavlovsk-**	**21.12**	**29**	P	**P**	**04 47 29.9**	**+0.9**
	comp=Z,10nm,0.9s,baz=224,slow=8.1,SNR=6.5						
PETK				LR	LR	04 56 28.3	
	comp=Z,39nm,18.8s,baz=220,slow=39						
PETK	**Petropavlovsk-**	**21.12**	**29**	P	**P**	**04 47 30.0**	**+0.9**
HHC	**Hu-ho-hao-te**	**23.42**	**291**	*e*P	**P**	**04 47 54.7**	**+1.3**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,160nm,6.0s						
MA2	**Magadan**	**24.78**	**12**	P	**P**	**04 48 05.8**	**+0.3**
	comp=Z,18nm,0.6s,baz=201,slow=8.8,SNR=9.8						
MA2	**Magadan**	**24.78**	**12**	*de*P	**P**	**04 48 07.4**	**+1.8**
MA2				pmax	pmax		
	comp=Z,42nm,2.5s						
XAN	**Xi'an**	**26.10**	**276**	P	**P**	**04 48 16.2**	**-1.7**
XAN				pP	pP	04 48 26.9	-2.9
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,71nm,5.4s						
ENH	**Enshi**	**26.70**	**267**	*e*P	**P**	**04 48 22.1**	**-1.3**
	comp=Z,32nm,0.8s						
YAK	**Yakutsk**	**27.27**	**349**	*e*P	**P**	**04 48 27.2**	**-0.8**
YAK				*e**PP	**pP**	**04 48 37.3**	**-2.6**
YAK				*e*		04 51 41.8	
YAK				*e*S	**S**	**04 53 06.1**	**+2.2**
YAK				*e**SS	**sS**	**04 53 23.7**	**-0.3**
YAK				*e*SS	**SnSn**	**04 54 19.6**	**+4.5**
YAK				*e*		04 59 15.1	
YAK				pmax	pmax		
	comp=N,20nm,1.0s						
YAK				pmax	pmax		
	comp=Z,27nm,1.0s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.3s						
YAK				smax	smax		
	comp=N,234nm,4.0s						
YAK				smax	smax		
	comp=E,192nm,4.4s						
YAK				MLR	MLR		
	comp=Z,181nm,22.0s						
YAK				MLR	MLR		
	comp=N,233nm,19.0s						
YAK				MLR	MLR		
	comp=E,61nm,17.0s						
ULN	**Ulaanbaatar**	**27.69**	**307**	*e*P	**P**	**04 48 32.5**	**+0.3**
	comp=E,9.0nm,0.9s						
ULN	**Ulaanbaatar**	**27.69**	**307**	*e*P	**P**	**04 48 32.5**	**+0.3**
ULN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SONA1	**Songino Array**	**28.11**	**306**	*e*P	**P**	**04 48 35.2**	**-0.7**
SONM	**Songino Array**	**28.11**	**306**	P	**P**	**04 48 35.4**	**-0.5**
	comp=Z,5.4nm,0.8s,baz=104,slow=8.7,SNR=28						
SONM				LR	LR	05 00 05.4	
	comp=Z,179nm,19.7s,baz=155,slow=37						
SEY	**Seymchan**	**28.21**	**11**	P	**P**	**04 48 37.6**	**+1.2**
	comp=Z,2.8nm,0.5s,baz=165,slow=5.7,SNR=3.9						
SEY	**Seymchan**	**28.21**	**11**	⇑*e*P	**P**	**04 48 37.8**	**+1.4**
BOD	**Bodaibo**	**28.39**	**330**	*e*P	**P**	**04 48 37.3**	**-0.8**
BOD				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LZH	**Lanzhou**	**29.78**	**282**	*e*P	**P**	**04 48 51.0**	**+0.1**
LZH				pP	pP	04 49 02.0	-0.9
LZH				sP	sP	04 49 08.5	+0.2
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
ZAK	**Zakamensk**	**30.70**	**310**	*e*P	**P**	**04 48 56.5**	**-2.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.6s						
CD2	**Chengdu**	**31.15**	**272**	*e*P	**P**	**04 49 02.0**	**-0.9**
CD2				S	**S**	**04 54 05.1**	**-0.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
CD2				LR	LR		
	comp=Z,1µm,17.9s						
CD2				LR	LR		
	comp=Z,730nm,14.7s						
GTA	**Gaotai**	**32.46**	**289**	*e*P	**P**	**04 49 13.6**	**-0.9**
GTA				pP	pP	04 49 22.8	-3.7
GTA				sP	sP	04 49 27.3	-4.5
GTA				PcP	**PcP**	**04 52 01.7**	**+1.0**
GTA				S	**S**	**04 54 25.4**	**-0.8**
GTA				sS	sS	04 54 40.6	-5.7
GTA				ScP	**ScP**	**04 55 37.6**	**-3.2**
GTA				PcS	**PcS**	**04 55 40.1**	**-5.8**
GTA				SS	**SnSn**	**04 56 20.3**	**-1.9**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,93nm,8.3s						
GTA				LR	LR		
	comp=Z,140nm,18.7s						
GTA				LR	LR		
	comp=Z,190nm,20.0s						
GTA				LR	LR		
	comp=Z,190nm,20.3s						
KMI	**Kunming**	**34.24**	**263**	P	**P**	**04 49 31.7**	**+1.5**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
BILL	**Bilibino**	**35.47**	**16**	⇓*i*P	**P**	**04 49 40.2**	**+0.2**
BILL				*e**PP	**pP**	**04 49 51.1**	**-1.0**
BILL				*e**SP	**sP**	**04 49 58.8**	**+1.4**
BILL				*e*		04 50 54.3	
BILL				*e*PPP	PPP	04 51 20.8	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,163nm,22.0s						
TIXI	**Tiksi**	**36.56**	**354**	P	**P**	**04 49 48.8**	**-0.5**
	comp=Z,3.4nm,0.8s,baz=142,slow=7.0,SNR=7.6						
TIXI	**Tiksi**	**36.56**	**354**	⇓*e*P	**P**	**04 49 49.3**	**0.0**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.7s						
PBKT	**Sadao Pong**	**40.12**	**252**	*e*P	**P**	**04 50 19.3**	**-0.5**
	comp=Z,7.1nm,1.0s						
PBKT	**Sadao Pong**	**40.12**	**252**	P	P	04 50 24.9	+5.0
	comp=Z,12nm,1.3s						
CMAR	**Chiang Mai Arr**	**40.64**	**256**	P	**P**	**04 50 23.4**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=56,slow=7.6,SNR=4.1						
CMAR				LR	LR	05 08 52.3	
	comp=Z,136nm,18.4s,baz=69,slow=39						
CMAR	**Chiang Mai Arr**	**40.64**	**256**	*ce*P	**P**	**04 50 27.2**	**+3.0**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
DGZ	**Jazzator, Alta**	**40.75**	**307**	*c i*P	**P**	**04 50 25.6**	**+0.7**
DGZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WMQ	**Urumqi**	**40.98**	**298**	P	**P**	**04 50 28.5**	**+1.8**
WMQ				sP	sP	04 50 44.5	+0.2
WMQ				pmax	pmax		
	comp=Z,31nm,1.7s						
WMQ				pmax	pmax		
	comp=Z,310nm,4.9s						
WMQ				LR	LR		
	comp=Z,290nm,22.5s						
WMQ				LR	LR		
	comp=Z,220nm,20.7s						
WMQ				LR	LR		
	comp=Z,200nm,24.5s						
LSA	**Lhasa**	**41.80**	**276**	*e*P	**P**	**04 50 34.4**	**+0.3**
	comp=Z,12nm,1.1s						
LSA	**Lhasa**	**41.80**	**276**	*e*P	**P**	**04 50 34.4**	**+0.3**
LSA				pmax	pmax		
	comp=Z,12nm,1.1s						
ZAA0	**Zalesovo Array**	**42.43**	**313**	*e*P	**P**	**04 50 37.7**	**-0.6**
	comp=Z,13nm,1.0s						
ZALV	**Zalesovo Beam**	**42.43**	**313**	P	**P**	**04 50 38.4**	**0.0**
	comp=Z,9.0nm,0.8s,baz=90,slow=6.3,SNR=28						
ZALV				PcP	**PcP**	**04 52 31.0**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=72,slow=4.7,SNR=3.2						
ZALV				LR	LR	05 08 05.8	
	comp=Z,68nm,18.9s,baz=70,slow=36						
ZALV	**Zalesovo Beam**	**42.43**	**313**	*e*P	**P**	**04 50 37.8**	**-0.6**
ZALV				PcP	**PcP**	**04 52 31.0**	**+0.3**
ANM	**Nome**	**43.02**	**31**	*e*P	**P**	**04 50 44.7**	**+1.6**
	comp=Z,1.8nm,0.6s						
ANM	**Nome**	**43.02**	**31**	*e*P	**P**	**04 50 44.7**	**+1.6**
ANM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NVS	**Novosibirsk**	**43.38**	**315**	*e*P	**P**	**04 50 46.1**	**0.0**
NVS				pmax	pmax		
	comp=Z,11nm,1.0s						
NVS				pmax	pmax		
	comp=N,4.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.9s						
MK01	**Makanchi Array**	**44.38**	**303**	*e*P	**P**	**04 50 53.5**	**-0.7**
MK31	**Makanchi Array**	**44.38**	**303**	*e*P	**P**	**04 50 53.4**	**-0.9**
MK31	**Makanchi Array**	**44.38**	**303**	*e*P	**P**	**04 50 53.4**	**-0.9**
MKAR	**Makanchi Array**	**44.38**	**303**	P	**P**	**04 50 54.2**	**-0.1**
	comp=E,5.9nm,0.7s,baz=89,slow=9.7,SNR=56						
MKAR				LR	LR	05 09 59.6	
	comp=E,124nm,19.7s,baz=84,slow=37						
MAKZ	**Makanchi**	**44.59**	**303**	*e*P	**P**	**04 50 55.4**	**-0.6**
	comp=E,12nm,1.1s						
MAKZ	**Makanchi**	**44.59**	**303**	*e*P	**P**	**04 50 55.4**	**-0.6**
MAKZ				pmax	pmax		
	comp=Z,12nm,1.1s						
RDOG	**Red Dog Mine**	**44.95**	**26**	*e*P	**P**	**04 50 59.9**	**+1.5**
	comp=Z,5.7nm,0.8s						
KURK	**Kurchatov**	**46.34**	**309**	*e*P	**P**	**04 51 09.3**	**-0.4**
KURK	**Kurchatov**	**46.34**	**309**	*c i*P	**P**	**04 51 09.1**	**-0.6**
KURK				pmax	pmax		
	comp=Z,39nm,1.0s						
RAMN	**Ramite**	**46.57**	**275**	*e*P	**P**	**04 51 11.5**	**-0.6**
	comp=Z,42nm,0.9s						
JIRN	**Jiri**	**46.61**	**276**	*e*P	**P**	**04 51 13.0**	**+0.5**
GUN	**Gumba**	**46.76**	**277**	*e*P	**P**	**04 51 13.4**	**-0.3**
PDGK	**Podgornoye**	**46.93**	**299**	P	**P**	**04 51 14.2**	**-0.4**
PDGK				pmax	pmax		
	comp=Z,16nm,0.9s						
PKIN	**Phulchoki**	**47.28**	**276**	*e*P	**P**	**04 51 16.8**	**-0.9**
DANN	**Dangsing**	**48.29**	**278**	*e*P	**P**	**04 51 25.4**	**-0.1**
	comp=Z,61nm,0.8s						
KDAK	**Kodiak Island**	**48.46**	**41**	LR	LR	05 13 59.1	
	comp=Z,27nm,19.1s,baz=251,slow=39						
KOLN	**Koldanda**	**48.66**	**278**	*e*P	**P**	**04 51 27.7**	**-0.5**
PYUN	**Piuthan**	**49.01**	**278**	*e*P	**P**	**04 51 30.9**	**-0.1**
	comp=Z,68nm,1.0s						
MLY	**Manley**	**49.27**	**31**	*e*P	**P**	**04 51 33.5**	**+1.2**
	comp=Z,4.5nm,0.8s						
NRN	**Naryn**	**49.90**	**297**	*e*P	**P**	**04 51 37.9**	**+0.2**
	comp=Z,3.7nm,0.8s						
NRN	**Naryn**	**49.90**	**297**	*e*P	**P**	**04 51 37.9**	**+0.2**
NRN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MDM	**Murphy Dome**	**50.34**	**32**	*e*P	**P**	**04 51 41.6**	**+1.2**
	comp=Z,13nm,0.8s						
KSH	**Kashi**	**50.47**	**295**	P	P	04 51 47.0	+5.2
KSH				pmax	pmax		
	comp=Z,270nm,6.4s						
COLA	**College**	**50.50**	**32**	*e*P	**P**	**04 51 42.0**	**+0.6**
	comp=Z,4.7nm,0.8s						
COLA	**College**	**50.50**	**32**	*e*P	**P**	**04 51 42.0**	**+0.6**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FRU	**Bishkek**	**50.52**	**299**	*e*P	**P**	**04 51 45.0**	**+3.0**
AAK	**Ala-Archa**	**50.66**	**299**	LR	LR	05 14 29.2	
	comp=Z,184nm,18.7s,baz=68,slow=38						
AAK	**Ala-Archa**	**50.66**	**299**	*e*P	**P**	**04 51 42.5**	**-0.7**
	comp=Z,5.4nm,0.9s						
AAK	**Ala-Archa**	**50.66**	**299**	⇑*e*P	**P**	**04 51 43.1**	**-0.1**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
OTUK	**Ortayu**	**50.78**	**307**	P	**P**	**04 51 43.6**	**-0.3**
OTUK				pmax	pmax		
	comp=Z,19nm,1.1s						
HDA	**Harding Lake**	**50.91**	**32**	*e*P	**P**	**04 51 45.8**	**+1.3**
	comp=Z,11nm,1.1s						
ILAR	**Eielson Array**	**50.92**	**32**	P	**P**	**04 51 45.8**	**+1.2**
	comp=Z,4.5nm,0.8s,baz=268,slow=6.0,SNR=48						
ILB	**Eielson Array**	**50.92**	**32**	*e*P	**P**	**04 51 45.3**	**+0.6**
IL1	**Eielson Array**	**50.92**	**32**	*e*P	**P**	**04 51 44.8**	**+0.1**
BVAR	**Borovoye Array**	**51.08**	**313**	LR	LR	05 14 26.3	
	comp=Z,58nm,18.6s,baz=96,slow=37						
BRVK	**Borovoye**	**51.14**	**313**	*e*P	**P**	**04 51 46.5**	**+0.1**
BRVK	**Borovoye**	**51.14**	**313**	*c i*P	**P**	**04 51 46.2**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,12nm,0.9s						
SFK	**Sufi-Kurgan**	**52.13**	**296**	P	**P**	**04 51 54.2**	**-0.1**
SFK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SCRK	**Sand Creek**	**52.23**	**33**	*e*P	**P**	**04 51 55.7**	**+1.1**
	comp=Z,6.3nm,0.8s						
KK31	**Karatay Array**	**53.33**	**301**	*e*P	**P**	**04 52 02.6**	**-0.3**
KK31	**Karatay Array**	**53.33**	**301**	*e*P	**P**	**04 52 02.6**	**-0.3**
KKAR	**Karatay Array**	**53.33**	**301**	*e*P	**P**	**04 52 02.6**	**-0.3**
KKAR	**Karatay Array**	**53.33**	**301**	*e*P	**P**	**04 52 02.6**	**-0.3**
NIL	**Nilore**	**54.53**	**289**	*e*P	**P**	**04 52 11.5**	**-0.3**
	comp=Z,5.4nm,0.8s						
NIL	**Nilore**	**54.53**	**289**	*e*P	**P**	**04 52 11.5**	**-0.3**
NIL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
WRAB	**Tennant Creek**	**55.65**	**187**	*e*P	**P**	**04 52 18.8**	**-1.0**
	comp=Z,4.3nm,0.5s						
WRAB	**Tennant Creek**	**55.65**	**187**	⇓*e*P	**P**	**04 52 19.0**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.1s						
WB2	**Warramunga Arr**	**55.66**	**187**	*e*P	**P**	**04 52 18.6**	**-1.2**
WRA	**Warramunga Arr**	**55.66**	**187**	P	**P**	**04 52 19.8**	**-0.2**
	comp=Z,2.0nm,0.4s,baz=2.5,slow=7.5,SNR=45						
SVE	**Sverdlovsk**	**55.80**	**319**	⇓*e*P	**P**	**04 52 20.9**	**+0.4**
SVE				pmax	pmax		
	comp=Z,23nm,1.0s						
INK	**Inuvik**	**55.83**	**27**	LR	LR	05 15 56.6	
	comp=Z,58nm,20.4s,baz=41,slow=36						
INK	**Inuvik**	**55.83**	**27**	*e*P	**P**	**04 52 21.2**	**+0.7**
	comp=Z,3.3nm,0.8s						
INK	**Inuvik**	**55.83**	**27**	*e*P	**P**	**04 52 21.3**	**+0.7**
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARU	**Arti**	**57.01**	**319**	*e*P	**P**	**04 52 28.2**	**-0.9**
ARU	**Arti**	**57.01**	**319**	*c i*P	**P**	**04 52 29.1**	**-0.1**
ARU						04 54 34.4	
ARU				S	**S**	**05 00 22.6**	**+2.5**
ARU				SS	**SS**	**05 04 10.0**	**+1.4**
ARU				pmax	pmax		
	comp=Z,33nm,1.0s						
ABKAR	**Akbulak array**	**58.39**	**311**	*e*P	**P**	**04 52 38.0**	**-1.0**
AS01	**Alice Springs**	**59.38**	**187**	*e*P	**P**	**04 52 45.7**	**-0.4**
ASAR	**Alice Springs**	**59.39**	**187**	P	**P**	**04 52 46.5**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=19,slow=10.0,SNR=9.7						
PRGR	**Permogore**	**61.60**	**327**	*e*P	**P**	**04 53 00.1**	**-0.6**
PRGR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
DZM	**Mont Dzumac**	**62.40**	**153**	*e*LR	LR	05 11 36.6	
	comp=Z,138nm,25.5s						
GEYT	**Alibeck**	**64.01**	**299**	LR	LR	05 22 59.2	
	comp=Z,71nm,19.0s,baz=50,slow=38						
RES	**Resolute Bay**	**64.03**	**14**	LR	LR	05 23 23.9	
	comp=Z,38nm,21.5s,baz=288,slow=38						
RES	**Resolute Bay**	**64.03**	**14**	*e*P	**P**	**04 53 16.7**	**-0.1**
	comp=Z,8.0nm,1.1s						
RES	**Resolute Bay**	**64.03**	**14**	*e*P	**P**	**04 53 16.7**	**-0.1**
RES				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KLMR	**Klimovskoe**	**64.60**	**328**	*e*P	**P**	**04 53 19.3**	**-1.4**
KLMR				pmax	pmax		
	comp=Z,13nm,1.5s						
KLMR	**Klimovskoe**	**64.60**	**328**	*e*P	**P**	**04 53 19.4**	**-1.3**
KLMR				AMP		04 53 31.1	
	comp=Z,13nm,1.6s						
ARCES	**ARCESS Array B**	**65.06**	**339**	P	**P**	**04 53 24.2**	**+0.6**
	comp=Z,5.7nm,0.9s,baz=60,slow=13,SNR=5.3						
YKA	**Yellowknife Ar**	**65.24**	**30**	P	**P**	**04 53 25.5**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=301,slow=6.7,SNR=24						
YKB5	**Yellowknife Ar**	**65.24**	**30**	*e*P	**P**	**04 53 24.6**	**-0.2**
TULEG	**Thule**	**66.50**	**7**	*e*P	**P**	**04 53 32.0**	**-0.6**
	comp=Z,8.0nm,1.0s						
DAG	**Danmarks Havn**	**67.06**	**355**	P	**P**	**04 53 36.3**	**0.0**
DAG				pmax	pmax		
	comp=Z,13nm,1.6s						
STKA	**Stephens Creek**	**67.22**	**179**	P	**P**	**04 53 38.6**	**+0.9**
	comp=Z,2.6nm,0.8s,baz=338,slow=7.4,SNR=4.7						
STKA				LR	LR	05 24 00.8	
	comp=Z,44nm,18.6s,baz=19,slow=37						
VRH	**Novokhopyorsk**	**68.21**	**318**	*e*P	**P**	**04 53 42.4**	**-1.5**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
OBN	**Obninsk**	**68.84**	**323**	LR	LR	05 27 00.6	
	comp=Z,23nm,18.3s,baz=36,slow=39						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
OBN	Obninsk	68.84	323	⇓iP	P	04 53 47.9	+0.1
OBN				e*PP	pP	04 54 00.2	-0.6
OBN				*SP	sP	04 54 08.0	+2.1
OBN				eS	S	05 02 47.7	-0.5
OBN				pmax	pmax		
	comp=Z,32nm,2.5s						
OBN				MLR	MLR		
	comp=Z,102nm,15.0s						
LPSR	Galich'ya Gora	68.98	320	eP	P	04 53 47.9	-0.8
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VSR	Storozhevoye	69.58	319	eP	P	04 53 51.8	-0.6
VSR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
FIA1	FINESS Array S	69.75	332	eP	P	04 53 52.6	-0.6
FINES	FINESS Array B	69.75	332	P	P	04 53 53.2	-0.1
	comp=Z,7.5nm,0.9s,baz=52,slow=7.3,SNR=13						
FINES				LR	LR	05 25 52.2	
	comp=Z,63nm,18.1s,baz=34,slow=37						
GOF	Gofitskoye	70.58	312	eP	P	04 53 58.7	0.0
GOF				pmax	pmax		
	comp=Z,20nm,1.1s						
NCK	Nalchik	71.05	310	⇓eP	P	04 54 01.8	+0.2
NCK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ZEI	Tsey	71.23	309	eP	P	04 54 01.7	-1.2
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KBZ	Khabaz	71.36	311	P	P	04 54 03.5	+0.1
	comp=Z,7.6nm,0.9s,baz=43,slow=3.2,SNR=15						
KBZ				LR	LR	05 27 06.4	
	comp=Z,61nm,19.8s,baz=64,slow=37						
KIV	Kislovodsk	71.37	311	eP	P	04 54 03.3	-0.3
	comp=Z,25nm,1.0s						
KIV	Kislovodsk	71.37	311	d iP	P	04 54 04.7	+1.1
KIV				e*PP	pP	04 54 14.4	-2.3
KIV				e		04 54 22.3	
KIV				e		04 56 40.8	
KIV				S	S	05 03 27.0	+8.6
KIV				pmax	pmax		
	comp=Z,25nm,1.0s						
KIV				MLR	MLR		
	comp=Z,59nm,17.0s						
NEW	Newport	71.47	44	LR	LR	05 21 25.0	
	comp=Z,36nm,19.4s,baz=286,slow=32						
NEY	Neytrino	71.72	310	⇑eP	P	04 54 06.2	+0.3
NEY				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GNI	Garni	72.07	307	eP	P	04 54 08.1	+0.1
	comp=Z,8.4nm,1.0s						
GNI	Garni	72.07	307	⇑eP	P	04 54 09.3	+1.3
GNI				pmax	pmax		
	comp=Z,77nm,1.3s						
BMO	Blue Mountains	73.24	47	eP	P	04 54 15.8	+1.0
	comp=Z,1.5nm,0.9s						
BMO	Blue Mountains	73.24	47	eP	P	04 54 15.8	+1.0
BMO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BEKR	Beckworth	74.10	52	eP	P	04 54 20.5	+0.4
	comp=Z,3.4nm,0.9s						
AKASG	Malin Array Be	75.02	322	P	P	04 54 24.6	-0.3
	comp=Z,5.9nm,0.7s,baz=46,slow=6.2,SNR=13						
AKASG				LR	LR	05 30 21.2	
	comp=Z,146nm,18.6s,baz=50,slow=38						
AKBB	Malin Array Si	75.02	322	eP	P	04 54 23.8	-1.1
	comp=Z,9.9nm,0.9s						
AKBB	Malin Array Si	75.02	322	eP	P	04 54 23.8	-1.1
AKBB				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KIEV	Kiev	75.04	322	eP	P	04 54 24.3	-0.6
	comp=Z,4.8nm,0.6s						
KIEV	Kiev	75.04	322	⇑iP	P	04 54 24.5	-0.5
KIEV				pmax	pmax		
	comp=Z,11nm,1.0s						
AK11	Malin Array Si	75.07	322	eP	P	04 54 24.0	-1.1
FFC	Flin Flon	75.13	32	eP	P	04 54 26.0	+0.6
	comp=Z,5.4nm,0.9s						
FFC	Flin Flon	75.13	32	iP	P	04 54 27.0	+1.6
NC204	NORSAR Array S	75.17	337	eP	P	04 54 25.0	-0.6
NB201	NORSAR Array S	75.18	337	eP	P	04 54 25.2	-0.5
NB2	NORSAR Subarra	75.21	337	P	P	04 54 25.7	-0.2
	comp=Z,2.3nm,0.6s,baz=41,slow=5.9						
NB2	NORSAR Subarra	75.21	337	P	P	04 54 25.6	-0.3
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	NORSAR Array B	75.21	337	P	P	04 54 25.9	0.0
	comp=Z,6.4nm,0.9s,baz=40,slow=5.8,SNR=11						
NOA				LR	LR	05 30 11.7	
	comp=Z,64nm,20.1s,baz=55,slow=38						
HRY	Holter Researc	75.31	43	eP	P	04 54 26.6	-0.2
FCC	Fort Churchill	75.44	26	eP	P	04 54 27.6	+0.5
	comp=Z,6.4nm,0.9s						
FCC	Fort Churchill	75.44	26	eP	P	04 54 27.6	+0.5
FCC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
LRM	Limekiln Ridge	75.49	44	eP	P	04 54 30.0	+2.0
EGMT	Eagleton	75.64	41	eP	P	04 54 29.6	+1.0
	comp=Z,4.6nm,0.9s						
DLMT	Dillon	75.68	44	eP	P	04 54 29.1	+0.1
	comp=Z,4.6nm,0.9s						
KVN	Kaiserville	76.01	52	eP	P	04 54 31.3	+0.3
	comp=Z,3.2nm,1.0s						
BOZ	Bozeman (W)	76.08	44	eP	P	04 54 31.2	-0.1
	comp=Z,3.6nm,0.9s						
BOZ	Bozeman (W)	76.08	44	eP	P	04 54 31.2	-0.1
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NV01	Mina Array Sit	76.23	53	eP	P	04 54 32.7	+0.4
NVAR	Mina Array Bea	76.23	53	P	P	04 54 34.0	+1.7
	comp=Z,2.1nm,0.8s,baz=284,slow=5.6,SNR=14						
ELK	Elko	76.83	49	eP	P	04 54 36.1	+0.4
ELK	Elko	76.83	49	eP	P	04 54 36.2	+0.4
H17A	Grant Village	77.41	44	eP	P	04 54 39.7	+0.8
	comp=Z,6.8nm,1.0s						
IMW	Indian Meadow	77.51	45	eP	P	04 54 42.3	+2.8
	comp=Z,3.0nm,0.9s						
HVU	Hansel Valley	77.72	47	eP	P	04 54 41.6	+1.0
	comp=Z,3.3nm,1.0s						
HVU	Hansel Valley	77.72	47	eP	P	04 54 41.6	+1.0
HVU				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LAO	LASA Array	78.35	40	eP	P	04 54 44.9	+1.1
	comp=Z,11nm,1.0s						
PD31	Pinedale Array	79.00	45	eP	P	04 54 48.0	+0.3
PDAR	Pinedale Array	79.00	45	P	P	04 54 48.5	+0.7
	comp=Z,1.2nm,0.6s,baz=258,slow=2.1,SNR=15						
PDAR	Pinedale Array	79.00	45	eP	P	04 54 48.0	+0.3
BUR08	Bucovina Ar. S	79.01	322	eP	P	04 54 47.5	0.0
BUR04	Bucovina Ar. S	79.02	322	eP	P	04 54 47.3	-0.3
NLU	North Lily Min	79.24	48	eP	P	04 54 50.8	+1.7
	comp=Z,2.7nm,1.0s						
BR131	Keskin Array S	79.33	311	eP	P	04 54 49.3	-0.2
BRTR	Keskin Array B	79.33	311	P	P	04 54 49.5	0.0
	comp=Z,3.4nm,0.9s,baz=109,slow=4.2,SNR=14						
BRTR				LR	LR	05 34 07.2	
	comp=Z,21nm,18.5s,baz=70,slow=39						
OJC	Ojcow	79.85	326	eP	P	04 54 52.1	+0.2
	comp=Z,5.4nm,0.8s						
OJC	Ojcow	79.85	326	eP	P	04 54 52.1	+0.2
OJC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
RAYN	Ar Rayn	80.66	292	eP	P	04 54 56.9	+0.1
	comp=Z,8.2nm,0.9s						
RAYN	Ar Rayn	80.66	292	eP	P	04 54 56.9	+0.1
RAYN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ULM	Lac du Bonnet	80.92	33	P	P	04 54 57.7	+0.1
	comp=Z,2.0nm,0.8s,baz=294,slow=3.2,SNR=4.1						
MORC	Moravsky Berou	81.18	327	P	P	04 54 59.8	+0.7
VYHS	Vyhne	81.52	325	eP	P	04 55 01.6	+0.7
VYHS	Vyhne	81.52	325	eP	P	04 55 01.6	+0.7
GLA	Glamis	81.67	55	eP	P	04 55 02.5	+0.6
	comp=Z,8.3nm,0.8s						
GLA	Glamis	81.67	55	eP	P	04 55 02.6	+0.6
GLA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BRG	Berggiesshubel	81.93	329	eP	P	04 55 03.1	+0.1
	comp=Z,7.1nm,1.1s						
BRG	Berggiesshubel	81.93	329	eP	P	04 55 03.1	+0.1
BRG				pmax	pmax		
	comp=Z,17nm,1.1s						
CLL	Collm	81.98	330	eP	P	04 55 02.7	-0.6
	comp=Z,9.1nm,1.0s						
CLL	Collm	81.98	330	iP	P	04 55 02.5	-0.8
	comp=Z,9.0nm,1.0s						
CLL				ipP	pP	04 55 16.8	+0.2
CLL	Collm	81.98	330	eP	P	04 55 02.7	-0.6
CLL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
PV10	Paradox Valley	82.07	48	eP	P	04 55 04.7	+0.3
PV14	Lion Creek, Pa	82.08	48	eP	P	04 55 05.2	+0.8
	comp=Z,6.0nm,1.1s						
KRUC	Moravsky	82.22	327	P	P	04 55 04.0	-0.5
KRUC				pmax	pmax		
	comp=Z,6.0nm,2.1s						
GOPC	GO Pecny, Ondr	82.29	328	eP	P	04 55 06.0	+1.1
GOPC	GO Pecny, Ondr	82.29	328	eP	P	04 55 06.0	+1.1
TREC	Trest	82.45	327	P	P	04 55 06.3	+0.5
TREC				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KHC	Kasperske Hory	83.40	328	eP	P	04 55 11.4	+0.7
	comp=Z,2.2nm,1.1s						
KHC				epP	pP	04 55 25.2	+1.1
KHC	Kasperske Hory	83.40	328	eP	P	04 55 11.3	+0.6
KHC				epP	pP	04 55 24.5	+0.4
KHC	Kasperske Hory	83.40	328	eP	P	04 55 11.3	+0.6
KHC				e		04 55 24.5	
VTS	Vitosha	83.47	319	eP	P	04 55 11.4	+0.1
	comp=Z,7.1nm,1.1s						
VTS	Vitosha	83.47	319	eP	P	04 55 11.4	+0.1
VTS				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GEC2	GERESS Array S	83.56	328	eP	P	04 55 11.7	+0.1
	comp=Z,4.7nm,1.0s						
GEC2	GERESS Array S	83.56	328	eP	P	04 55 11.7	+0.1
GEC2				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GERES	GERESS Array B	83.56	328	P	P	04 55 11.6	-0.1
	comp=Z,1.7nm,0.8s,baz=32,slow=6.3,SNR=9.8						
GERES				LR	LR	05 36 49.6	
	comp=Z,53nm,20.4s,baz=12,slow=39						
GEA0	GERESS Array S	83.57	328	eP	P	04 55 11.3	-0.3
GRFO	Grafenberg	83.96	330	eP	P	04 55 13.4	-0.1
GRFO	Grafenberg	83.96	330	eP	P	04 55 13.4	-0.1
PPT	Papeete	84.53	116	LR	LR	05 23 24.3	
	comp=Z,65nm,21.6s,baz=283,slow=29						
PPT2	Papeete2	84.54	116	eLR	LR	05 22 02.9	
	comp=Z,133nm,24.8s						
MEM	Membach	85.26	333	⇑P	P	04 55 19.1	-0.9
ECSD	EROS Data Cent	85.31	38	eP	P	04 55 20.3	-0.2
	comp=Z,4.4nm,0.8s						
T25A	Trinidad	85.65	47	eP	P	04 55 23.1	+0.5
	comp=Z,4.2nm,0.8s						
ANMO	Albuquerque	85.87	49	eP	P	04 55 25.2	+1.5
	comp=Z,2.2nm,1.0s						
ANMO	Albuquerque	85.87	49	⇓iP	P	04 55 25.7	+2.0
ANMO				pmax	pmax		
	comp=Z,13nm,3.1s						
BFO	Black Forest	86.20	330	eP	P	04 55 23.9	-0.9
BFO	Black Forest	86.20	330	iP	P	04 55 25.1	+0.3
TAOE	Nuku Hiva Isla	86.38	103	eLR	LR	05 22 58.2	
	comp=Z,184nm,27.9s						
FUORN	Ofenpass-Fuorn	86.75	328	eP	P	04 55 28.3	+0.5
	comp=Z,4.4nm,0.9s						
ECH	Echery	86.76	331	eP	P	04 55 27.8	+0.2
	comp=Z,3.7nm,0.9s						
ECH	Echery	86.76	331	eP	P	04 55 27.8	+0.2
ECH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SCHQ	Schefferville	86.77	16	P	P	04 55 29.1	+1.6
	comp=Z,6.5nm,0.8s,baz=233,slow=20,SNR=3.5						
KSU1	Kansas State U	88.68	41	eP	P	04 55 38.3	+1.4
	comp=Z,6.7nm,0.8s						
TXAR	Lajitas Array	91.37	52	P	P	04 55 51.3	+1.6
	comp=Z,1.0nm,0.7s,baz=298,slow=2.7,SNR=7.5						
TXAR				LR	LR	05 35 09.7	
	comp=Z,26nm,18.8s,baz=0.0,slow=34						
TORD	Torodi Ar. Bea	117.88	314	PKP	PKPdf	05 01 28.8	-1.6
	comp=Z,0.4nm,0.9s,baz=14,slow=2.8,SNR=2.6						
QSPA	South Pole Qui	125.44	180	ePKPdf	PKPdf	05 01 43.4	0.0
SDV	Santo Domingo	126.70	40	ePKPdf	PKPdf	05 01 47.5	-0.1
LPAZ	La Paz	147.83	61	PKPbc	PKPbc	05 02 30.5	+0.9
	comp=Z,3.8nm,0.9s,baz=333,slow=2.2,SNR=13						
LPAZ	La Paz	147.83	61	ePKPbc	PKiKP	05 02 30.8	-0.7
LPAZ	La Paz	147.83	61	ePKP2	PKiKP	05 02 30.8	-0.7

PRU 04 04:42:52.7±0.0**, 50.24N×19.30E, h0**km**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.32	93	ePg	Pg	04 42 58.5	-0.4
OJC				eSg	Sg	04 43 03.2	+0.2
OKC	Ostrava-Krasne	0.85	242	eSG	Sg	04 43 20.8	+1.0
LANS	Liptovska Anna	1.10	174	ePG	Pg	04 43 12.9	-0.8
LANS				eSG	Sg	04 43 27.4	-0.5
MORC	Moravsky Berou	1.23	248	ePG	Pg	04 43 15.5	-0.7
MORC				eSG	Sg	04 43 31.6	-0.4
VYHS	Vyhne	1.77	190	ePN	Pn	04 43 22.7	-1.9
VYHS				eSN	Sn	04 43 46.6	-1.3
VYHS				eLG	Lg	04 43 48.1	
KHC	Kasperske Hory	3.88	256	eSG	Sg	04 44 56.0	-1.2

*ISCJB **04** 04:57:04.3±0.8, 36.45N±0.04×70.3E±0.1, h204km, mb3.1/3, Error ellipse: s-maj=12.2km s-min=5.7km az=170.0*
*IDC **04** 04:57:06.0±8.1, 36.32N×70.72E, h218km±57km, mb3.0/4, mb1 3.2/8, mb1mx2.9/64, mbtmp3.7/8, Error ellipse: s-maj=95.0km s-min=31.1km az=66.0*
*NNC **04** 04:57:09.7±1.2, 36.88N×70.28E, h223km±13km, mb3.0, mpv4.1, Error ellipse: s-maj=12.6km s-min=11.5km az=17.0*
ISC 04 04:57:05.3±1.0**, 36.51N**±0.08×**70.3E**±0.1**, h204**km**, n40, σ1s33**/43**, mb3.4**/3**, 3C-7D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	4.29	34	⇓P	Pn	04 58 12.5	+1.5
	30nm,0.5s						
SFK				⇓S	S	04 59 03.7	+1.4
	82nm,0.6s						
SFK	Sufi-Kurgan	4.29	34	Lg	Lg	04 59 04.1	
	37nm,0.6s						
AML	Almayashu	6.19	24	P	Pn	04 58 36.0	+0.7
	SNR=83						
UCH	Uchtor	6.56	28	P	Pn	04 58 41.2	+1.0
	SNR=44						
KK31	Karatay Array	6.59	1	⇓P	Pn	04 58 40.1	0.0
	1.3nm,0.3s,baz=191,slow=14,SNR=35						
KK31				S	S	04 59 51.6	-3.6
	1.3nm,0.2s,baz=188,slow=17,SNR=4.5						
MRKS	Merke	6.61	19	Lg	Lg	04 59 53.7	
	25nm,0.6s						
EKS2	Erkin-Say	6.69	22	P	Pn	04 58 42.7	+1.2
	SNR=19						
KZA	Kyzart	6.74	33	P	Pn	04 58 43.2	+0.8
	SNR=64						
AAK	Ala-Archa	6.91	26	P	Pn	04 58 45.7	+1.3
	3.9nm,0.3s,baz=165,slow=3.4,SNR=41						
AAK				S	S	05 00 01.5	-1.5
	1.1nm,0.3s,baz=336,slow=20,SNR=4.8						
AAK	Ala-Archa	6.91	26	P	Pn	04 58 45.6	+1.2
	SNR=17						
AAK	Ala-Archa	6.91	26	⇓P	Pn	04 58 45.2	+0.8
	12nm,0.7s						
AAK				⇑S	S	05 00 01.5	-1.5
	29nm,1.1s						
KBK	Karagaybulak	7.09	29	P	Pn	04 58 48.2	+1.4
	SNR=13						
CHMS	Chumysh	7.32	26	P	Pn	04 58 50.6	+1.1
	SNR=11						
ULHL	Ulahol	7.33	37	P	Pn	04 58 51.4	+1.5
	SNR=16						
USP	Ospenovka	7.47	24	P	Pn	04 58 52.3	+0.8
	SNR=15						
TKM2	Tokmak 2	7.58	31	P	Pn	04 58 54.7	+1.6
	SNR=16						
TKM2	Tokmak 2	7.58	31	⇑P	Pn	04 58 53.8	+0.8
	20nm,0.8s						
TKM2				⇓S	S	05 00 17.4	-1.4
	5.5nm,0.9s						
SGDS	Sogindy	7.68	24	P	Pn	04 58 54.6	+0.3
KST	Kastek	7.83	32	Lg	Lg	05 00 20.2	
	5.5nm,0.8s						
IZV	Izvestkoviy	8.11	35	P	Pn	04 59 01.4	+1.5
MDOK	Medeo	8.41	36	P	Pn	04 59 04.4	+0.6
	24nm,1.1s						
PDGK	Podgornoye	9.78	43	⇓P	Pn	04 59 22.2	+0.6
	4.8nm,0.7s						
KAPS	Kapalarasan	11.10	35	P	Pn	04 59 39.9	+1.4
MAKZ	Makanchi	13.46	37	⇑P	P	05 00 09.0	-1.7
	4.9nm,0.5s						
PYUN	Piuthan	13.58	125	eP	Pn	05 00 09.7	-0.4
	11nm,0.4s						
MK31	Makanchi Array	13.60	37	P	Pn	05 00 10.1	+0.2
	3.5nm,0.9s,baz=216,slow=13,SNR=16						
MKAR	Makanchi Array	13.60	37	P	Pn	05 00 10.2	+0.2
	0.3nm,0.3s,baz=228,slow=13,SNR=16						
DANN	Dangsing	13.94	122	eP	Pn	05 00 14.9	+0.3
	6.1nm,0.3s						
KOLN	Koldanda	14.20	124	eP	Pn	05 00 17.9	+0.1
	2.9nm,0.3s						
AB31	Akbulak array	14.83	332	⇓P	Pn	05 00 26.0	+1.0
	0.3nm,0.4s,baz=146,slow=12,SNR=28						
KURBB	Kurchatov Arra	15.29	20	P	Pn	05 00 30.0	-0.6
	0.1nm,0.3s,baz=209,slow=10,SNR=4.9						
KKN	Kakani	15.33	120	eP	Pn	05 00 31.9	+0.3
	20nm,0.5s						
GUN	Gumba	15.68	119	eP	P	05 00 35.8	0.0
	12nm,0.4s						
JIRN	Jiri	16.05	119	eP	P	05 00 39.8	-0.1
	22nm,0.4s						
BVAR	Borovoye Array	16.52	0	P	Pn	05 00 46.8	+1.4
	0.3nm,0.3s,baz=165,slow=12,SNR=6.6						
RAMN	Ramite	16.77	120	eP	P	05 00 47.1	-0.6
	12nm,0.5s						
ZALV	Zalesovo Beam	20.13	25	P	P	05 01 24.1	+0.6
	0.8nm,0.3s,baz=207,slow=10,SNR=5.3						
INK	Inuvik	73.98	9	P	P	05 08 18.3	+0.6
	0.5nm,0.6s,baz=0.0,slow=5.1,SNR=3.8						
YKA	Yellowknife Ar	81.26	2	P	P	05 08 57.8	-0.3
	0.2nm,0.5s,baz=348,slow=6.0,SNR=6.3						
YKA				pP	pP	05 09 50.7	+3.3
	0.5nm,0.7s,baz=351,slow=5.8,SNR=10.0						
WRA	Warramunga Arr	82.44	121	P	P	05 09 02.3	-2.6
	0.2nm,0.5s,baz=327,slow=4.6,SNR=2.7						

*THE **04** 04:59:18.9, 36.18N×22.74E, h2km±1km, ML3.2/10, Error ellipse: s-maj=1.7km s-min=0.5km az=268.0*
*ATH **04** 04:59:18.5, 36.20N×22.78E, h15km±3km, ML3.3/13, Error ellipse: s-maj=3.2km s-min=0.7km az=49.0*
*IDC **04** 04:59:19.6±5.2, 35.23N×22.41E, h83km±28km, mb3.6/3, mb1 3.5/8, mb1mx3.1/58, mbtmp3.6/8, MS2.8/4, Ms1 2.8/4, ms1mx2.4/38, Error ellipse: s-maj=93.3km s-min=24.3km az=20.0*
*DDA **04** 05:00:01.0, 37.66N×26.71E, h8km±5km, MD3.3*
ISC 04 04:59:18.8±1.0**, 36.19N**±0.03×**22.77E**±0.03**, h14**km±7km**, n49, σ1s35**/69**, mb3.8**/3**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	Kithira	0.24	72	P	Pg	04 59 24.0	0.0
KYTH				S	Sg	04 59 26.8	-0.8
KYTH				AML	AML	04 59 27.6	
	comp=N,16509μm,0.2s						
KYTH				AML	AML	04 59 27.9	
	comp=E,21182μm,0.3s						
KYTH	Kithira	0.24	72	P	Pg	04 59 23.9	-0.1
KYTH				S	Sg	04 59 27.1	-0.4
ANKY	Antikythira Is	0.54	127	P	Pg	04 59 29.5	0.0
ANKY				S	Sg	04 59 36.4	-0.2
ANKY				AML	AML	04 59 39.0	
	comp=E,7676μm,0.4s						
ANKY				AML	AML	04 59 39.0	
	comp=N,5168μm,0.3s						
ANKY	Antikythira Is	0.54	127	P	Pg	04 59 29.5	0.0
ANKY				S	Sg	04 59 36.8	+0.2
VLI	Veliai	0.55	15	P	Pg	04 59 29.2	-0.3
VLI				S	Sg	04 59 37.0	+0.2
VLI				AML	AML	04 59 40.2	
	comp=N,3659μm,0.5s						
VLI				AML	AML	04 59 41.9	
	comp=E,4793μm,0.4s						
VLI	Veliai	0.55	15	P	Pg	04 59 29.3	-0.3
VLI				S	Sg	04 59 37.6	+0.8
DYR	Agios Nikonas	0.67	329	P	Pg	04 59 31.7	-0.3
DYR				S	Sg	04 59 40.3	-0.5
DYR				AML	AML	04 59 45.0	
	comp=E,3218μm,0.4s						
DYR				AML	AML	04 59 46.4	
	comp=N,1972μm,0.4s						
DYR	Agios Nikonas	0.67	329	P	Pg	04 59 31.6	-0.3
DYR				S	Sg	04 59 40.8	0.0
MES2	Methoni	1.06	307	P	Pb	04 59 38.8	-0.2
MES2				S	Sn	04 59 53.5	-0.4
PYL	PYLOS	1.08	311	P	Pb	04 59 39.3	-0.1
PYL				S	Sg	04 59 54.1	+0.1
PYL				AML	AML	04 59 57.3	
	comp=E,3815μm,0.4s						
PYL				AML	AML	05 00 03.3	
	comp=N,2672μm,0.5s						
PYL	PYLOS	1.08	311	P	Pb	04 59 38.7	-0.7
PYL				S	Sg	04 59 53.9	0.0
ITM	Ithomi	1.20	326	P	Pb	04 59 41.3	0.0
ITM				S	Sb	04 59 56.8	+0.1
ITM				AML	AML	05 00 04.2	
	comp=N,2204μm,0.4s						
ITM				AML	AML	05 00 05.4	
	comp=E,2789μm,0.4s						
ITM	Ithomi	1.20	326	P	Pg	04 59 41.6	-0.3
ITM				S	Sn	04 59 58.1	+0.8
VLX	Vlachokerasia	1.22	345	P	Pn	04 59 41.7	+0.1
VLX				S	Sg	04 59 58.8	+0.6
VLX				AML	AML	05 00 10.5	
	comp=N,4144μm,0.7s						
VLX				AML	AML	05 00 11.5	
	comp=E,3074μm,0.5s						
VLX	Vlachokerasia	1.22	345	P	Pn	04 59 41.5	-0.1
VLX				S	Sg	05 00 00.1	+1.9
IMMV	Iera Moni Meta	1.23	126	P	Pn	04 59 41.7	+0.1
IMMV				S	Sg	04 59 59.2	+0.7
IMMV				AML	AML	05 00 09.4	
	comp=E,1686μm,1.0s						
IMMV				AML	AML	05 00 14.2	
	comp=N,1715μm,0.5s						
IMMV	Iera Moni Meta	1.23	126	P	Pn	04 59 41.7	+0.1
IMMV				S	Sg	05 00 00.0	+1.6
MES3	Kyparissia	1.38	321	P	Pb	04 59 44.5	+0.1
TRIP	Tripoli	1.39	344	P	Pb	04 59 44.5	-0.1
TRIP				S	Sg	05 00 03.4	-0.4
TRIP				AML	AML	05 00 10.7	
	comp=N,1525μm,0.6s						
TRIP				AML	AML	05 00 17.2	
	comp=E,1546μm,0.6s						
TRIP	Tripoli	1.39	344	P	Pb	04 59 44.6	-0.1
VAM	Vamos	1.40	123	P	Pb	04 59 44.4	-0.4
VAM				S	Sg	05 00 03.7	-0.3
VAM				AML	AML	05 00 11.9	
	comp=E,2077μm,0.5s						
VAM				AML	AML	05 00 12.9	
	comp=N,1767μm,0.6s						
VAM	Vamos	1.40	123	P	Pb	04 59 45.0	+0.2
VAM				S	Sg	05 00 04.2	+0.2
MHLO	Agia Marina, M	1.41	69	P	Pn	04 59 44.3	+0.2
MHLO				S	Sg	05 00 04.3	0.0
MHLO				AML	AML	05 00 06.4	
	comp=N,4372μm,0.4s						
MHLO				AML	AML	05 00 14.5	
	comp=E,4410μm,0.7s						
MHLO	Agia Marina, M	1.41	69	P	Pn	04 59 44.4	+0.3
MHLO				S	Sg	05 00 05.6	+1.3
MHLA	Plaka, Milos I	1.44	67	P	Pn	04 59 45.0	+0.4
MHLA				S	Sg	05 00 05.6	+0.2
MHLA				AML	AML	05 00 10.1	
	comp=N,1929μm,0.7s						
MHLA				AML	AML	05 00 12.4	
	comp=E,2305μm,1.1s						
AMT	Artemida-Makis	1.59	328	P	Pb	04 59 48.1	+0.2
AMT				AML	AML	05 00 18.5	
	comp=E,3988μm,0.6s						
AMT				AML	AML	05 00 19.6	
	comp=N,4612μm,0.6s						
VLY	Voula,Athens	1.85	26	P	Pn	04 59 50.6	+0.4
IDI	Anoyia	1.95	117	P	Pn	04 59 52.0	+0.4
	comp=N,5.7nm,0.3s,baz=226,slow=6.1,SNR=45						
IDI				LR	LR	05 00 57.0	
	comp=N,105nm,20.5s,baz=253,slow=48						
VILL	Villia	2.02	12	P	Pn	04 59 53.5	+1.0
SIVA	Sivas	2.04	125	P	Pb	04 59 55.5	-0.1
ATAL	Atalanti	2.51	5	P	Pn	05 00 00.7	+1.5
URLA	Izmir	3.74	54	iP	Pn	05 00 15.1	-1.2
URLA				iS	Sn	05 00 56.8	-3.4
TURN	Turunc	4.75	80	IAML_P			

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,143nm,0.1s						
TURN				i P	Pn	05 00 30.5	+0.5
FETY	Fethiye	5.11	83	IAML_P			
	comp=Z,213nm,0.1s						
VAY	Valandovo	5.13	358	i P	Pn	05 00 37.6	+2.5
BALY	Balya	5.22	46	i P	Pn	05 00 34.0	-2.6
STIP	Stip	5.51	355	i P	Pn	05 00 44.4	+3.8
AKAS	Kas	5.53	88	i P	Pn	05 00 43.8	+2.9
GOLH	Golhisar	5.56	77	i P	Pn	05 00 44.9	+3.7
DURS	Dursunbey	5.65	51	i P	Pn	05 00 45.2	+2.7
BRTR	Keskin Array B	9.28	64	P	Pn	05 01 40.6	+8.2
	comp=Z,0.1nm,0.3s,baz=249,slow=14,SNR=4.9						
GERES	GERESS Array B	14.29	335	P	P	05 02 46.7	-1.3
	comp=Z,0.1nm,0.3s,baz=142,slow=11,SNR=2.5						
GERES				LR	LR	05 09 13.4	
	comp=Z,42nm,19.6s,baz=274,slow=40						
DAVOX	Davos/Dischmat	14.31	322	P	P	05 02 45.1	-3.2
	comp=Z,0.1nm,0.3s,baz=353,slow=17,SNR=2.3						
KBZ	Khabaz	17.15	58	P	P	05 03 23.2	+3.7
	comp=Z,0.1nm,0.3s,baz=244,slow=11,SNR=4.6						
GNI	Garni	17.72	70	LR	LR	05 12 25.8	
	comp=Z,16nm,19.0s,baz=304,slow=43						
HFS	Hagfors	24.66	349	P	P	05 04 40.6	+1.7
	comp=Z,3.9nm,0.9s,baz=160,slow=8.9,SNR=5.9						
EKA	Eskdalemuir Ar	26.08	325	P	P	05 04 51.1	-0.7
	comp=Z,1.8nm,0.8s,baz=126,slow=6.6,SNR=3.2						
TORD	Torodi Ar. Bea	29.75	225	LR	LR	05 17 30.7	
	comp=Z,70nm,18.6s,baz=265,slow=38						
MKAR	Makanchi Array	44.84	57	P	P	05 07 31.0	-1.5
	comp=Z,0.4nm,0.4s,baz=288,slow=6.3,SNR=6.4						

IDC 04 05:00:40.3±2.6, 6°.54S×130°.01E, h125km±37km, mb3.0/1, mb1 3.2/5, mb1mx3.0/44, mbtmp3.6/5, Error ellipse: s-maj=73.7km s-min=16.5km az=92.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.77	13	P	Pn	05 02 05.5	+1.7
	1.8nm,0.3s,baz=127,slow=15,SNR=7.6						
SIJI				S	Sn	05 03 08.5	-0.3
	1.5nm,0.3s,baz=53,slow=20,SNR=3.0						
FITZ	Fitzroy Crossi	12.25	200	P	Pn	05 03 29.5	-1.2
	0.3nm,0.3s,baz=29,slow=9.7,SNR=14						
WRA	Warramunga Arr	13.97	163	P	Pn	05 03 51.5	-1.5
	0.3nm,0.3s,baz=349,slow=11,SNR=10.0						
WRA				S	Sn	05 06 17.9	-9.4
	0.4nm,0.3s,baz=338,slow=25,SNR=8.3						
ASAR	Alice Springs	17.43	168	P	Pn	05 04 37.2	+1.4
	0.2nm,0.3s,baz=354,slow=10,SNR=6.9						
MKAR	Makanchi Array	67.85	327	P	P	05 11 25.0	-0.1
	0.1nm,0.4s,baz=118,slow=7.1,SNR=3.5						

ISCJB 04 05:28:11.8±0.4, 8°.97S±0°.05×119°.02E±0°.03, h102km, mb3.8/3, Error ellipse: s-maj=7.0km s-min=4.4km az=13.1
DJA 04 05:28:13.4±0.3, 9°S±3°×11°9E±°, h89km±6km, M4.1/7, mb3.9/1, MLv4.2/7
IDC 04 05:28:14.5±3.5, 9°.09S×119°.00E, h114km±29km, mb3.4/4, mb1 3.6/7, mb1mx3.3/42, mbtmp3.9/7, Error ellipse: s-maj=72.4km s-min=13.6km az=55.0
ISC 04 05:28:12.9±0.8, 8°.99S±0°.06×119°.03E±0°.04, h102km, n22, σ1s11/28, mb3.8/3, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	1.25	277	P	Pn	05 28 35.6	-0.7
PLAI				S	Sn	05 28 54.4	+0.4
WSI	Waingapu	1.42	119	P	Pn	05 28 38.2	-0.1
WSI				S	Sn	05 28 56.8	-0.8
BASI	Baing, Sumba	1.96	129	P	Pn	05 28 46.3	+1.3
EDFI	Ende, Flores	2.64	85	P	Pn	05 28 54.1	+0.1
BSSI	Bau Bau, Buton	3.17	27	P	Pn	05 29 00.6	-0.5
MMRI	Maumere	3.19	84	P	Pn	05 29 01.4	+0.1
DNP	Denpasar	3.79	274	P	Pn	05 29 09.3	0.0
BKSI	Bulukumba	3.80	17	P	Pn	05 29 09.3	-0.2
BKSI				S	Sn	05 29 52.8	-0.4
IGBI	Denpasar	3.84	272	P	Pn	05 29 10.5	+0.4
IGBI				S	Sn	05 29 55.0	+0.7
SRBI	Singaraja	3.88	283	P	Pn	05 29 10.1	-0.5
BNSI	Bone	4.68	13	P	Pn	05 29 21.3	-0.1
BATI	Baumata	4.72	105	P	Pn	05 29 23.8	+1.7
	12nm,0.3s,baz=286,slow=1.8,SNR=8.7						
BATI				S	Sn	05 30 12.7	-3.1
	20nm,0.3s,baz=14,slow=4.2,SNR=5.1						
BATI	Baumata	4.72	105	P	Pn	05 29 23.3	+1.3
JAGI	Jajag, Banyuwa	4.85	276	P	Pn	05 29 22.8	-0.9
SOEI	Soe	5.22	99	P	Pn	05 29 30.5	+1.7
	28nm,1.6s,0.3nm						
GMJI	Gumukmas	5.57	277	P	Pn	05 29 32.5	-0.9
FITZ	Fitzroy Crossi	11.10	145	P	Pn	05 30 47.3	-1.3
	0.3nm,0.3s,baz=338,slow=13,SNR=12						
FITZ				S	Sn	05 32 42.4	-8.4
	baz=171,slow=18						
WRA	Warramunga Arr	18.38	128	P	P	05 32 20.8	+0.9
	0.3nm,0.3s,baz=303,slow=12,SNR=24						
WRA				S	S	05 35 33.5	-11
	0.3nm,0.3s,baz=303,slow=24,SNR=8.5						
ASAR	Alice Springs	20.39	137	P	P	05 32 43.5	+1.7
	2.7nm,0.7s,baz=330,slow=14,SNR=28						
ASAR				S	S	05 36 23.9	-0.8
	1.0nm,0.8s,baz=318,slow=24,SNR=5.2						
STKA	Stephens Creek	30.94	141	P	P	05 34 20.1	-0.2
	1.2nm,0.4s,baz=325,slow=14,SNR=8.5						
SONM	Songino Array	57.67	350	P	P	05 37 54.1	+1.3
	0.5nm,0.7s,baz=174,slow=7.5,SNR=4.5						
MKAR	Makanchi Array	64.46	333	P	P	05 38 38.6	0.0
	0.7nm,0.6s,baz=146,slow=8.0,SNR=6.4						

NNC 04 05:35:24.7±2.1, 54°.27N×86°.43E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=20.1km s-min=13.4km az=10.0, Suspected Mining explosion.
KRAR 04 05:35:26.2±0.2, 54°.02N×86°.47E, M2.4, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)
IDC 04 05:35:26.8±2.5, 54°.11N×86°.45E, h0km, mb1 3.4/2, mb1mx3.1/38, mbtmp3.4/2, ML3.0/2, Error ellipse: s-maj=20.1km s-min=12.6km az=57.0
ISC 04 05:35:26.8±4.5, 54°.2N±0°.2×86°.3E±0°.2, h0km, n8, σ0s81/9, 3C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.90	252	i		05 42 30.0	
	baz=82,slow=334,SNR=1.5						
ZAA0	Zalesovo Array	0.90	252	⇓P	Pg	05 35 43.8	-0.3
	1.9nm,0.3s						
ZAA0				⇓S	Sb	05 35 58.1	+0.2
	15nm,0.9s						
ZALV	Zalesovo Beam	0.90	252	Pg	Pg	05 35 44.2	+0.1
	2.1nm,0.3s,baz=77,slow=16,SNR=16						
ZALV				Lg	Lg	05 35 59.2	
	3.1nm,0.3s,baz=80,slow=28,SNR=17						
KURK	Kurchatov	5.86	236	⇓Pn	Pn	05 36 55.1	+0.3
	0.9nm,0.5s						
KURK				⇓Lg	Lg	05 38 33.9	
	6.8nm,0.9s						
KURBB	Kurchatov Arra	5.96	236	Pn	Pn	05 36 57.4	+1.2
	0.2nm,0.3s,baz=54,slow=14,SNR=7.2						
KURBB				Lg	Lg	05 38 38.1	
	0.1nm,0.3s,baz=57,slow=34,SNR=4.5						
KURBB	Kurchatov Arra	5.96	236	⇑Pn	Pn	05 36 54.7	-1.5
	2.3nm,0.4s						
MK31	Makanchi Array	7.87	200	Pn	Pn	05 37 22.6	+0.2
	0.6nm,0.6s,baz=27,slow=14,SNR=19						
MK31				⇑Sn	Sn	05 38 52.1	-0.2
	0.7nm,0.7s,baz=150,slow=6.7,SNR=4.9						
MK31				⇑Lg	Lg	05 39 36.4	
	3.5nm,1.1s,baz=137,slow=50,SNR=5.7						
MKAR	Makanchi Array	7.87	200	Pn	Pn	05 37 22.5	0.0
	0.4nm,0.3s,baz=24,slow=14,SNR=15						
MKAR				Lg	Lg	05 39 33.2	
	0.0nm,0.3s,baz=25,slow=29,SNR=7.1						

TRN 04 06:17:56.6, 17°.45N×60°.66W, h65km, MD3.7
ISC 04 06:17:57.0±2.8, 17°.43N±0°.08×60°.6W±0°.1, h24km±15km, n41, σ0s93/53, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	Willy Bob	1.12	282	eP	Pn	06 18 17.1	-0.1
ANWB	Willy Bob	1.12	282	e	Pb	06 18 24.8	+7.1
ANWB				eS	Sn	06 18 32.8	+1.0
DEG	La Desirade	1.18	200	eP	Pb	06 18 18.6	-0.2
BPA	Boggy Peak	1.23	252	eP	Pb	06 18 19.7	+0.2
BPA	Boggy Peak	1.23	252	e	Pb	06 18 27.9	+8.3
BPA				eS	Sb	06 18 36.6	+1.6
ABD	La Joyeuse, An	1.25	221	eP	Pn	06 18 18.5	-0.4
MAGL	Barre de l'ile	1.60	203	eP	Pn	06 18 24.0	+0.2
MGG	Marie-Galante	1.64	204	eP	Pn	06 18 24.9	+0.6
MGG				eS	Sb	06 18 46.2	-0.6
CBE	Ff, Capester	1.64	215	eP	Pn	06 18 25.2	+0.8
MLYT	Lee's Yard	1.65	245	eP	Pb	06 18 26.0	-0.6
MLYT				eS	Sb	06 18 46.2	-0.8
TDBA	Terre de Bas,	1.84	211	eP	Pn	06 18 28.2	+1.1
TBG	Guadaloupe-3	1.84	212	eP	Pn	06 18 28.3	+1.2
TBG				eS	Sn	06 18 49.8	+0.1
NEV	Hard Times	1.87	261	eP	Pn	06 18 27.6	+0.1
NEV				eS	Sn	06 18 50.5	+0.1
MDPV	Dominica, Penn	1.94	203	eP	Pn	06 18 28.6	0.0
DWS	Wesley	1.96	199	eP	Pn	06 18 29.6	+0.8
DWS				eS	Sn	06 18 53.6	+1.0
MDPO	Dominica; Chan	2.00	203	eP	Pn	06 18 30.4	+1.0
MDPO				eS	Sn	06 18 54.2	+0.6
BBL	Barber's Block	2.06	203	eP	Pn	06 18 31.1	+1.0
BBL				eS	Sn	06 18 55.8	+0.8
DLPL	La Plaine	2.17	196	eP	Pn	06 18 32.7	+1.1
DLPL				eS	Sn	06 18 58.4	+0.7
SEUS	St. Eustatius	2.24	272	eP	Pn	06 18 33.8	+1.2
SEUS				eS	Sn	06 18 58.6	-0.9
SABA	Saba	2.49	275	eP	Pn	06 18 36.4	+0.3
SABA	Saba	2.49	275	e	Pb	06 18 52.3	+11
SABA				eS	Sn	06 19 04.1	-1.7
BAMF	Morne Balai	2.65	191	eP	Pn	06 18 38.7	+0.4
PCM	Pelee Case Pet	2.66	192	eP	Pn	06 18 38.8	+0.4
GBMF	Grand Be	2.67	191	eP	Pn	06 18 38.9	+0.4
PML	Morne Lenard	2.69	191	eP	Pn	06 18 38.9	+0.2
FDF	Fort de France	2.73	190	eP	Pn	06 18 39.6	+0.3
FDF				eS	Sn	06 19 09.4	-2.3
LPMF	Morne Lapointe	2.86	186	eP	Pn	06 18 41.6	+0.5
ZAM	Aeronautique	2.87	188	eP	Pn	06 18 41.7	+0.5
MVM	Montagne Vaucl	2.87	185	eP	Pn	06 18 42.2	+0.9
TRMF	Trois Ilets	2.91	188	eP	Pn	06 18 42.1	+0.4
BIM	Bigot	2.93	188	eP	Pn	06 18 42.7	+0.6
SLW	Petit Monier	3.40	185	eP	Pn	06 18 49.6	+1.0
SLW				eS	Sn	06 19 27.8	-0.5
SLB	Belfond	3.60	186	eP	Pn	06 18 52.4	+0.9
SLB				eS	Sn	06 19 32.8	-0.5
SVCV	St. Vincent, C	4.16	187	eP	Pn	06 18 59.8	+0.8
SVCV	St. Vincent, C	4.16	187	eS	Sn	06 19 45.5	-1.5
SVB	Belmont	4.18	188	eP	Pn	06 18 59.8	+0.5
SVB	Belmont	4.18	188	eS	Sn	06 19 46.4	-1.0
RUSC	La Rusia	16.72	228	eP	P	06 21 53.4	+0.9
ZARC	Zaragoza, Cauc	17.03	236	eP	Pn	06 21 53.6	-0.1
PTBC	PUERTO BERRIO,	17.30	233	eP	Pn	06 21 54.8	-2.4
CHIC	Chingaza	18.07	227	eP	P	06 22 08.4	+1.1

IDC 04 06:27:28.9±1.8, 17°.12S×177°.30W, h386km±18km, mb3.8/18, mb1 4.0/19, mb1mx3.9/25, mbtmp4.5/19, Error ellipse: s-maj=14.5km s-min=9.9km az=138.0
ISCJB 04 06:27:29.2±0.2, 17°.17S±0°.05×177°.33W±0°.04, h400km, mb4.3/88, Error ellipse: s-maj=6.6km s-min=4.6km az=148.5
NEIC 04 06:27:30.6±0.9, 17°.16S×177°.26W, h403km±9km, mb4.4/68, Error ellipse: s-maj=6.5km s-min=4.6km az=146.0
ISC 04 06:27:30.4±0.3, 17°.19S±0°.08×177°.21W±0°.06, h400km, n132, σ1s16/142, mb4.3/87, 5C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	7.17	106	ePn	Pn	06 29 15.4	-0.6
NIUE				eS	S	06 30 43.0	+0.6
FUNA	Funafuti	9.30	337	eP	P	06 29 39.9	-0.4
DZM	Mont Dzumac	16.14	250	P	P	06 30 54.5	-0.9
	1.0nm,0.3s,baz=82,slow=20,SNR=9.5						
DZM	Mont Dzumac	16.14	250	eP	P	06 30 55.9	+0.4
	25nm,1.0s						
OUZ	Omahuta	19.74	203	eP	P	06 31 35.2	+2.8
	9.9nm,0.7s						
URZ	Urewera	21.57	192	P	P	06 31 47.7	-1.4
	4.9nm,0.3s,baz=296,slow=2.7,SNR=17						
URZ	Urewera	21.57	192	eP	P	06 31 47.7	-1.4
	24nm,1.1s						
BKZ	Black Stump Fm	22.57	193	eP	P	06 31 56.5	-1.8
	19nm,1.4s						
HNR	Honiara	23.51	286	P	P	06 32 08.8	+1.8
	280nm,0.8s,baz=118,slow=2.1,SNR=7.0						
HNR	Honiara	23.51	286	eP	P	06 32 09.2	+2.2
	281nm,0.8s						
LHI	Lord Howe Isla	25.82	232	eP	P	06 32 26.1	-1.3
	189nm,1.3s						
THZ	Tophouse	25.92	197	eP	P	06 32 29.4	+1.2
	45nm,1.5s						
KHZ	Kahutara	26.36	196	eP	P	06 32 30.4	-1.5
	11nm,1.1s						
LTZ	Lake Taylor	27.04	197	eP	P	06 32 39.2	+1.1
	21nm,1.3s						
FOZ	Fox Glacier	28.47	200	eP	P	06 32 50.9	+0.3
	62nm,1.3s						
WKZ	Wanaka	29.89	200	eP	P	06 33 02.2	-0.9
EIDS	Eidsvold	30.59	249	eP	P	06 33 09.1	-0.3
	17nm,0.7s						
MLZ	Mavora Lakes	30.66	200	eP	P	06 33 10.4	+0.6
	9.3nm,0.8s						
WHZ	Wether Hill Ro	31.18	200	eP	P	06 33 14.5	+0.2
	20nm,1.2s						
ARMA	Armidale	31.29	239	eP	P	06 33 16.4	+0.8
	21nm,0.6s						
CTAO	Charters Tower	34.70	259	eP	P	06 33 43.9	-0.9
	25nm,1.2s						
CAN	Canberra	35.05	232	eP	P	06 33 48.2	+0.6
	7.1nm,0.7s						
PMG	Port Moresby	35.48	278	eP	P	06 33 52.9	+1.5
	32nm,0.9s						
MANU	Manus Island	37.92	290	eP	P	06 34 13.9	+2.2
	50nm,0.8s						
COEN	Coen	38.25	269	eP	P	06 34 14.6	+0.1
	13nm,0.6s						
TOO	Toolangi	38.51	231	eP	P	06 34 17.0	+0.7
	19nm,0.9s						
STKA	Stephens Creek	39.98	241	P	P	06 34 28.9	+0.6
	18nm,0.5s,baz=92,slow=10,SNR=63						
STKA	Stephens Creek	39.98	241	eP	P	06 34 29.0	+0.6
	8.1nm,1.0s						
BBOO	Buckleboo	44.75	241	eP	P	06 35 06.2	-0.1
	28nm,1.0s						
WRAB	Tennant Creek	45.88	259	eP	P	06 35 13.5	-1.7
	7.1nm,1.1s						
WR1	Warramunga Arr	45.89	259	eP	P	06 35 13.6	-1.7
	5.2nm,0.6s						
WR1				epP	pwP	06 36 38.2	+1.2
WR1				ePcP	PcP	06 36 43.5	-1.4
WR1				eScP	ScP	06 40 00.8	+1.7
WRA	Warramunga Arr	45.89	259	P	P	06 35 13.6	-1.7
	3.5nm,0.5s,baz=96,slow=7.2,SNR=99						
WRA				pP	pwP	06 36 38.2	+1.2
	2.2nm,1.0s,baz=90,slow=8.2,SNR=4.8						
WRA				PcP	PcP	06 36 43.5	-1.4
	1.8nm,0.7s,baz=89,slow=3.6,SNR=6.3						
WRA				ScP	ScP	06 40 00.8	+1.7
	2.4nm,0.8s,baz=87,slow=4.3,SNR=12						
ASAR	Alice Springs	46.09	254	P	P	06 35 16.1	-0.8
	28nm,0.4s,baz=89,slow=8.0,SNR=777						
ASAR				pP	pwP	06 36 37.5	-0.8
	2.7nm,0.9s,baz=88,slow=7.9,SNR=2.4						
ASAR				PcP	PcP	06 36 45.0	-0.5
	2.7nm,0.7s,baz=95,slow=4.6,SNR=8.5						
ASAR				ScP	ScP	06 40 01.6	+1.7
	1.4nm,0.7s,baz=98,slow=4.6,SNR=8.4						
ASAR				S	S	06 41 29.9	-2.1
	1.0nm,0.9s,baz=84,slow=15,SNR=7.1						
FORT	Forrest	51.35	244	eP	P	06 35 55.1	-1.1
	20nm,0.8s						
FORT				ePcP	PcP	06 37 04.2	-0.4
FITZ	Fitzroy Crossi	54.28	260	eP	P	06 36 16.7	-0.8
	3.6nm,0.9s						
SOEI	Soe	57.22	269	eP	P	06 36 38.8	+0.4
	44nm,0.8s						
MBWA	Marble Bar	59.36	255	eP	P	06 36 51.4	-1.3
	5.2nm,0.8s						
VNDA	Vanda	61.26	185	P	P	06 37 04.7	+0.3
	1.7nm,1.0s,baz=348,slow=8.0,SNR=4.6						
GIRL	Giralia	64.20	253	eP	P	06 37 24.6	+0.1
	214nm,1.4s						
INU	Inuyama	67.92	321	eP	P	06 37 47.9	+0.2
	32nm,1.5s						
MJAR	Matsushiro Arr	68.03	322	P	P	06 37 46.7	-1.5
	5.9nm,0.8s,baz=165,slow=6.1,SNR=17						
MAJO	Matsushiro	68.03	322	eP	P	06 37 47.1	-1.2
	8.7nm,0.6s						
MAT	Matsushiro	68.03	322	P	P	06 37 46.7	-1.6
MJB9	Matsu-Tunnel	68.03	322	eP	P	06 37 47.2	-1.1
	8.8nm,0.6s						
JNU	Nakatsue	70.42	315	eP	P	06 38 03.1	+0.2
	24nm,1.2s						
UGM	Wanagama	70.82	267	eP	P	06 38 04.8	-0.9
	208nm,1.5s						
SSLB	Suanglung	72.81	302	eP	P	06 38 16.1	-1.1
	29nm,1.1s						
TPUB	Ta-pu	72.85	302	eP	P	06 38 15.8	-1.6
	83nm,1.4s						
QSPA	South Pole Qui	72.86	180	eP	P	06 38 17.9	+1.0
	1.8nm,0.9s						
PEA0B	Petropavlovsk-	73.29	345	eP	P	06 38 18.6	-0.6
	23nm,1.1s						
PETK	Petropavlovsk-	73.29	345	P	P	06 38 18.2	-1.0
	4.3nm,0.7s,baz=114,slow=8.5,SNR=10						
PEA1	Petropavlovsk-	73.29	345	eP	P	06 38 18.2	-1.0
CISI	Cisompet, Garu	73.50	267	eP	P	06 38 19.6	-1.8
	44nm,1.0s						
KSRS	Korea Array	74.94	318	P	P	06 38 29.1	+0.1
	3.3nm,0.7s,baz=133,slow=6.4,SNR=13						
KSAR	Wonju Array Be	74.96	318	P	P	06 38 29.1	0.0
KS01	Wonju Array Si	74.97	318	eP	P	06 38 28.9	-0.3
KMRM	Mail Ridge	75.73	39	eP	P	06 38 34.1	+0.6
	22nm,1.3s						
SLBS	Sierra La Lagu	77.21	60	eP	P	06 38 42.8	+0.7
	23nm,1.4s						
YBH	Yreka Blue Hor	77.25	39	P	P	06 38 41.6	-0.3
	2.4nm,0.8s,baz=162,slow=2.3,SNR=5.6						
YBH	Yreka Blue Hor	77.25	39	eP	P	06 38 42.4	+0.5
	2.8nm,0.8s						
BEKR	Beckworth	77.60	41	eP	P	06 38 43.9	-0.1
	1.8nm,0.8s						
YERR	Yerington	77.81	43	eP	P	06 38 45.0	-0.3
	3.6nm,0.7s						
NVAR	Mina Array Bea	78.12	43	P	P	06 38 46.9	0.0
	2.9nm,0.7s,baz=226,slow=9.3,SNR=26						
Y12C	Blythe	78.28	49	eP	P	06 38 48.0	+0.3
	5.8nm,0.8s						
KVN	Kaiserville	78.59	43	eP	P	06 38 49.0	-0.4
	3.1nm,0.7s						
TPNV	Topopah Spring	78.70	46	eP	P	06 38 49.9	-0.1
	3.2nm,0.8s						
MOD	Modoc Plateau	78.80	40	eP	P	06 38 50.4	0.0
	9.1nm,1.4s						
PINE	Pine Mountain	79.52	38	eP	P	06 38 54.4	+0.1
	8.4nm,1.0s						
R11A	Troy Canyon, C	79.88	45	eP	P	06 38 56.1	-0.2
	1.3nm,0.8s						
TUC	Tucson	80.36	52	eP	P	06 38 59.9	+1.1
	8.8nm,1.0s						
CCUT	Cedar City	80.99	46	eP	P	06 39 02.9	+0.7
	5.2nm,1.4s						
319A	Douglas	81.08	53	eP	P	06 39 03.7	+1.0
	13nm,0.9s						
ELK	Elko	81.35	43	eP	P	06 39 03.6	-0.4
	1.9nm,1.0s						
MTPU	Mount Pierson	82.04	46	eP	P	06 39 08.6	+0.8
	5.0nm,1.2s						
MSU	Marysvale	82.28	46	eP	P	06 39 10.0	+1.2
B08A	Colville Reser	83.10	35	eP	P	06 39 11.8	-0.8
	5.1nm,1.3s						
RND	Reindeer	83.32	12	eP	P	06 39 13.6	+0.2
	10nm,1.4s						
HLID	Hailey	83.34	41	eP	P	06 39 14.2	+0.1
	3.7nm,0.8s						
HVU	Hansel Valley	83.48	43	eP	P	06 39 14.6	-0.2
	3.0nm,0.7s						
TCUT	Toone Canyon	84.05	44	eP	P	06 39 18.0	+0.2
	13nm,1.0s						
MNTX	Cornudas Mount	84.23	54	eP	P	06 39 19.1	+0.5
	3.5nm,0.8s						
PV09	Paradox Valley	84.38	47	eP	P	06 39 19.8	+0.3
PV12	Saucer Basin,	84.53	47	eP	P	06 39 20.6	+0.4
	4.2nm,0.9s						
LTX	Lajitas	84.64	57	eP	P	06 39 21.9	+1.0
TXAR	Lajitas Array	84.64	57	P	P	06 39 21.9	+1.0
	5.0nm,0.8s,baz=219,slow=6.8,SNR=35						
ANMO	Albuquerque	84.76	51	P	P	06 39 20.9	-0.4
	2.0nm,1.1s,baz=225,slow=4.5,SNR=4.9						
ILAR	Eielson Array	84.94	13	P	P	06 39 19.8	-1.5
	0.5nm,0.4s,baz=223,slow=5.4,SNR=22						
MSO	Missoula	85.31	38	eP	P	06 39 23.7	0.0
	2.2nm,1.1s						
DLMT	Dillon	85.38	40	eP	P	06 39 24.9	+0.8
	7.4nm,1.4s						
S22A	4UR Ranch, Cre	85.68	48	eP	P	06 39 26.3	+0.4
	2.3nm,0.8s						
GSI	Gunungsitoli	85.81	273	eP	P	06 39 26.4	-0.4
	20nm,0.6s						
PD31	Pinedale Array	86.05	43	eP	P	06 39 26.8	-0.7
PDAR	Pinedale Array	86.05	43	P	P	06 39 26.8	-0.7
	0.5nm,0.6s,baz=203,slow=3.6,SNR=8.3						
PDAR				pP	pP	06 40 58.1	-0.2
	0.3nm,0.8s,baz=273,slow=3.5,SNR=2.4						
SMCO	Snowmass	86.19	47	eP	P	06 39 28.5	0.0
	5.0nm,1.4s						
SDCO	Great Sand Dun	86.63	49	eP	P	06 39 30.6	+0.1
	3.0nm,1.4s						
XAN	Xi'an	86.74	307	P	P	06 39 31.4	+0.6
XAN				pmax	pmax		
	comp=Z,11nm,0.9s						
XAN				pmax	pmax		
	comp=Z,84nm,4.1s						
HHC	Hu-ho-hao-te	87.59	314	eP	P	06 39 36.1	+1.4
HHC				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,140nm,6.0s						
KMI	Kunming	88.53	297	P	P	06 39 40.3	+0.7
KMI				pmax	pmax		
	comp=Z,14nm,0.5s						
CMAR	Chiang Mai Arr	89.73	289	P	P	06 39 45.5	+0.4
	comp=Z,3.9nm,0.8s,baz=104,slow=3.0,SNR=16						
CCIG	Comitan	90.17	73	eP	P	06 39 48.9	+1.6
	comp=Z,23nm,1.5s						
PLCA	Paso Flores	90.99	133	P	P	06 39 51.6	+0.9
	comp=Z,2.5nm,0.8s,baz=261,slow=3.4,SNR=9.7						
YKA	Yellowknife Ar	93.21	24	P	P	06 39 58.5	-1.6
	comp=Z,0.5nm,0.7s,baz=243,slow=4.5,SNR=9.7						
YKB5	Yellowknife Ar	93.21	24	eP	P	06 39 58.3	-1.8
SONA0	Songino Array	93.76	319	eP	P	06 40 02.1	-1.1
SONM	Songino Array	93.76	319	P	P	06 40 02.1	-1.1
	comp=Z,0.4nm,0.5s,baz=134,slow=4.2,SNR=3.6						
ECSD	EROS Data Cent	95.11	46	eP	P	06 40 09.2	0.0
	comp=Z,6.9nm,1.3s						
GTA	Gaotai	95.46	309	eP	P	06 40 11.0	-0.1
GTA				pP	pwP	06 41 47.4	+0.9
GTA				sP	sP	06 42 28.2	+4.4
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
L42A	Oliver, Polo	99.51	49	ePdif	Pdif	06 40 28.6	-0.4
	comp=Z,14nm,1.1s						
KSH	Kashi	113.58	306	PKP	PKiKP	06 45 24.6	+2.3
KSH				PP	PP	06 46 28.8	+7.3
OJC	Ojcow	144.32	341	ePKPbc	PKPbc	06 46 18.2	-0.7
BUR08	Bucovina Ar. S	144.49	334	ePKPbc	PKPbc	06 46 19.3	-0.3
BUR04	Bucovina Ar. S	144.50	334	ePKPbc	PKPbc	06 46 19.0	-0.7
TLCR		144.60	328	⇑iP	PKPbc	06 46 19.7	-0.2
CLL	Collm	145.00	349	i PKPdf	PKPdf	06 46 20.3	-0.4
BR101	Keskin Array S	145.07	316	ePKPdf	PKPdf	06 46 21.4	0.0
BR131	Keskin Array S	145.07	316	ePKPdf	PKPdf	06 46 21.2	-0.2
BRTR	Keskin Array B	145.07	316	PKP	PKPdf	06 46 21.4	0.0
	comp=Z,4.4nm,0.7s,baz=104,slow=2.8,SNR=19						
LANS	Liptovska Anna	145.36	341	ePKP	PKPbc	06 46 22.1	-0.1
TLB	Topalu	145.41	328	⇑iP	PKPbc	06 46 22.4	0.0
DOPR	Dopca	145.69	332	⇑iP	PKPbc	06 46 23.6	+0.3
VYHS	Vyhne	146.14	341	ePKP	PKPbc	06 46 25.0	+0.5
DRGR		146.19	335	⇑iP	PKPbc	06 46 24.2	-0.6
VOIR		146.25	331	⇑iP	PKPbc	06 46 25.2	+0.2
GEC2	GERESS Array S	147.20	347	ePKPbc	PKPbc	06 46 27.4	-0.1
GERES	GERESS Array B	147.20	347	PKPbc	PKPbc	06 46 26.8	-0.7
	comp=Z,0.4nm,0.5s,baz=57,slow=3.6,SNR=4.1						
GEA0	GERESS Array S	147.21	347	ePKPbc	PKPbc	06 46 26.9	-0.6
DAVOX	Davos/Dischmat	149.91	350	PKPbc	PKPbc	06 46 34.5	0.0
	comp=Z,1.0nm,0.4s,baz=280,slow=7.6,SNR=3.7						
FUORN	Ofenpass-Fuorn	150.01	350	ePKPbc	PKPbc	06 46 35.1	+0.3
FNA	Florina	151.54	329	ePKPbc	PKPbc	06 46 37.1	-1.1
AGG	Agios Georgios	152.37	326	ePKPbc	PKPbc	06 46 38.8	-1.4
TORD	Torodi Ar. Bea	175.84	165	PKPab	PKPab	06 48 35.0	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,0.4nm,0.7s,baz=184,slow=2.8,SNR=3.3						
TOA1	**Torodi Ar. Sit**	**175.85**	**165**	*e*PKPab	**PKPab**	**06 48 35.0**	**-0.2**

MAN 04 06:40:59.8, 13°.82N×122°.76E, h11km, mb4.1, ML2.9, MS2.6, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**0.31**	**285**	⇑*i*P	Pg	06 41 05.9	-0.2
GQP				*i* S	Sb	06 41 11.5	-1.0
AUQP	**San Andres**	**0.50**	**189**	*e*P	Pb	06 41 10.8	+0.1
AUQP				*e*S	Sn	06 41 21.3	-0.3
BOAC	**Boac**	**0.96**	**248**	*e*P	Pg	06 41 18.1	-0.2
BOAC				*e*S	Sn	06 41 33.2	+0.3
POLP	**Polilio Island**	**1.20**	**319**	*e*P	Pn	06 41 21.8	-0.7
POLP				*e*S	Sn	06 41 38.9	+0.1
PVCP	**Virac**	**1.38**	**99**	*e*P	Pn	06 41 24.9	0.0
PVCP				*e*S	Sb	06 41 43.0	-0.2
OTRP	**Odiongan**	**1.62**	**206**	*e*P	Pb	06 41 29.9	+0.2
OTRP				*e*S	Sn	06 41 48.1	-1.2
SJMP	**San Jose**	**2.09**	**230**	*e*P	Pb	06 41 37.0	-0.8
SJMP				*e*S	Sb	06 42 05.3	+1.5

IDC 04 06:50:23.6±2.6**, 53°.61N×86°.92E, h0km, mb1 2.6**/2**, mb1mx2.5**/41**, mbtmp2.6**/2**, ML2.2**/2**, Error ellipse: s-maj=23.4km s-min=13.1km az=74.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**286**	*i*		06 59 11.9	
	baz=101,slow=345,SNR=6.2						
ZALV	**Zalesovo Beam**	**1.29**	**286**	Pg	Pg	06 50 47.4	-0.9
	0.8nm,0.3s,baz=106,slow=17,SNR=9.8						
ZALV				Lg	Lg	06 51 06.3	
	1.6nm,0.3s,baz=106,slow=28,SNR=12						
KURBB	**Kurchatov Arra**	**5.97**	**243**	Pn	Pn	06 51 52.3	-0.8
	0.0nm,0.3s,baz=59,slow=14,SNR=3.1						
KURBB				Lg	Lg	06 53 31.7	
	0.0nm,0.3s,baz=63,slow=33,SNR=4.1						
MKAR	**Makanchi Array**	**7.44**	**205**	Pn	Pn	06 52 15.6	+2.2
	0.1nm,0.3s,baz=27,slow=14,SNR=6.9						
MKAR				Sn	Sn	06 53 38.2	-0.2
	0.1nm,0.3s,baz=16,slow=28,SNR=4.8						
MKAR				Lg	Lg	06 54 18.4	
	0.0nm,0.3s,baz=33,slow=27,SNR=4.7						

IDC 04 07:04:21.4±3.2**, 53°.58N×87°.55E, h0km, mb1 2.6**/2**, mb1mx2.6**/50**, mbtmp2.6**/2**, ML2.3**/2**, Error ellipse: s-maj=30.0km s-min=16.0km az=57.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.66**	**284**	*i*		07 15 03.8	
	baz=103,slow=346,SNR=2.4						
ZALV	**Zalesovo Beam**	**1.66**	**284**	Pg	Pn	07 04 51.9	+0.2
	0.6nm,0.3s,baz=106,slow=16,SNR=6.9						
ZALV				Lg	Lg	07 05 13.8	
	0.9nm,0.3s,baz=99,slow=29,SNR=9.7						
KURBB	**Kurchatov Arra**	**6.29**	**246**	Pn	Pn	07 05 55.6	+0.3
	0.1nm,0.3s,baz=46,slow=6.6,SNR=2.8						
MKAR	**Makanchi Array**	**7.58**	**208**	Pn	Pn	07 06 14.3	+1.3
	0.1nm,0.3s,baz=28,slow=14,SNR=7.0						

*JMA **04** 07:13:16.9±0.1, 23°.91N×122°.31E, h38km±4km, M2.8*
*ISCJB **04** 07:13:17.6±0.2, 23°.96N±0°.02×122°.36E±0°.01, h33km±17km, Error ellipse: s-maj=2.9km s-min=2.1km az=160.0*
*TAP **04** 07:13:17.5, 23°.97N×122°.34E, h42km, ML3.5, D*
ISC 04 07:13:16.3±1.1**, 23°.93N**±0°.02×**122°.34E**±0°.02**, h33km**±4km**, n90, σ0s.97**/171**, 6D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.64**	**342**	*e*P	**Pn**	**07 13 29.9**	**+0.9**
	baz=334						
EOS1				*e*S	**Sn**	**07 13 39.0**	**+1.0**
	baz=334						
HWA	**Hwalien**	**0.68**	**274**	P	**Pn**	**07 13 30.5**	**+1.0**
	baz=263						
HWA				*e*S	**Sn**	**07 13 41.0**	**+2.1**
	baz=263						
ENLB	**Shoufeng**	**0.68**	**268**	*e*P	**Pn**	**07 13 30.7**	**+1.1**
	baz=259						
ENLB				*e*S	**Sn**	**07 13 40.3**	**+1.3**
	baz=259						
TWD	**Chiawan**	**0.70**	**282**	⇓P	**Pb**	**07 13 30.4**	**+0.3**
	baz=280						
TWD				S	**Sb**	**07 13 39.9**	**+0.3**
	baz=280						
NACB	**Ninganchiao**	**0.72**	**289**	⇓*e*P	**Pb**	**07 13 30.8**	**+0.2**
	baz=277						
NACB				*e*S	**Sn**	**07 13 40.6**	**+0.5**
	baz=277						
ENA	**Nanau**	**0.74**	**312**	P	**Pb**	**07 13 31.4**	**+0.6**
	baz=318						
ENA				S	**Sn**	**07 13 41.8**	**+1.3**
	baz=318						
JYNG	**Yonagunijimaku**	**0.75**	**47**	P	**Pb**	**07 13 32.0**	**+1.0**
JYNG				*e*S	**Sn**	**07 13 42.3**	**+1.4**
YOJ	**Yonaguni jima**	**0.81**	**49**	*e*P	**Pb**	**07 13 32.7**	**+0.8**
	baz=59						
YOJ				*e*S	**Sn**	**07 13 43.4**	**+1.3**
	baz=59						
YOJ	**Yonaguni jima**	**0.81**	**49**	P	**Pb**	**07 13 32.6**	**+0.8**
YOJ				*e*S	**Sn**	**07 13 43.3**	**+1.2**
TWC	**Suao**	**0.81**	**326**	⇓P	**Pb**	**07 13 32.0**	**+0.1**
	baz=325						
TWC				S	**Sn**	**07 13 42.0**	**-0.2**
	baz=325						
ESL	**Shilin**	**0.84**	**262**	⇓*e*P	**Pn**	**07 13 32.2**	**+0.4**
	baz=254						
ESL				*e*S	**Sn**	**07 13 43.4**	**+0.3**
	baz=254						
HGSD	**Ruisui**	**0.95**	**243**	*e*P	**Pb**	**07 13 34.1**	**-0.2**
	baz=241						
HGSD				*e*S	**Sn**	**07 13 46.1**	**+0.4**
	baz=241						
TWE	**Neicheng**	**1.00**	**322**	⇓P	**Pb**	**07 13 35.4**	**+0.3**
	baz=321						
TWE				S	**Sb**	**07 13 48.1**	**+0.2**
	baz=321						
ENTT	**Nioudou**	**1.00**	**315**	P	**Pb**	**07 13 35.2**	**+0.1**
	baz=304						
ENTT				*e*S	**Sn**	**07 13 47.6**	**+0.7**
	baz=304						
NNSB	**Datong**	**1.01**	**300**	P	**Pb**	**07 13 35.4**	**+0.1**
	baz=290						
NNSB				*e*S	**Sb**	**07 13 48.9**	**+0.5**
	baz=290						
WHF	**Hehuan Shan**	**1.01**	**282**	P	**Pn**	**07 13 35.2**	**+0.7**
	baz=280						
WHF				S	**Sn**	**07 13 48.3**	**+0.6**
	baz=280						
NNS	**Nan Shan**	**1.02**	**300**	P	**Pb**	**07 13 35.5**	**0.0**
	baz=291						
NNS				*e*S	**Sb**	**07 13 49.0**	**+0.3**
	baz=291						
SLBB	**Yuanshan**	**1.04**	**322**	*e*P	**Pb**	**07 13 36.3**	**+0.4**
	baz=320						
SLBB				*e*S	**Sb**	**07 13 50.0**	**+0.8**
	baz=320						
CHGB	**Renai**	**1.08**	**277**	⇓*e*P	**Pb**	**07 13 36.4**	**-0.2**
	baz=275						
CHGB				*e*S	**Sn**	**07 13 50.1**	**+1.0**
	baz=275						
YULB	**Yu-li**	**1.10**	**241**	*e*P	**Pb**	**07 13 36.5**	**-0.4**
	baz=253						
YULB				*e*S	**Sn**	**07 13 50.3**	**+0.9**
	baz=253						
TWT	**Tachien**	**1.11**	**287**	P	**Pb**	**07 13 37.6**	**+0.4**
	baz=276						
TWT				*e*S	**Sb**	**07 13 51.6**	**+0.2**
	baz=276						
VWDT	**VWDT**	**1.11**	**261**	*e*P	**Pb**	**07 13 37.0**	**-0.1**
	baz=259						
VWDT				*e*S	**Sb**	**07 13 51.1**	**-0.2**
	baz=259						
TWB1	**Santiao Chiao**	**1.12**	**343**	*e*P	**Pn**	**07 13 36.5**	**+0.9**
	baz=342						
TWB1				*e*S	**Sn**	**07 13 50.1**	**+0.2**
	baz=342						
TWF1	**Yuli**	**1.12**	**239**	P	**Pb**	**07 13 37.0**	**-0.2**
	baz=230						
TWF1				*e*S	**Sn**	**07 13 50.7**	**+0.8**
	baz=230						
TDCB	**Techi**	**1.13**	**287**	*e*P	**Pb**	**07 13 37.0**	**-0.4**
	baz=276						
TDCB				*e*S	**Sn**	**07 13 51.3**	**+1.0**
	baz=276						
TIPB	**Shuangxi**	**1.14**	**336**	*e*P	**Pb**	**07 13 37.1**	**-0.3**
	baz=334						
TIPB				*e*S	**Sn**	**07 13 51.2**	**+0.8**
	baz=334						
YHNB	**Yeheng**	**1.15**	**310**	P	**Pb**	**07 13 37.4**	**-0.3**
	baz=308						
YHNB				*e*S	**Sn**	**07 13 51.5**	**+0.8**
	baz=308						
NSK	**Sanguang**	**1.16**	**310**	P	**Pb**	**07 13 37.7**	**-0.3**
	baz=308						
NSK				S	**Sn**	**07 13 52.2**	**+1.1**
	baz=308						
CHKT	**Chengkung**	**1.22**	**227**	*e*S	**Sn**	**07 13 51.8**	**-0.6**
	baz=219						
NWF	**Wu-fen Shan**	**1.24**	**336**	P	**Pn**	**07 13 38.6**	**+1.1**
	baz=347						
NWF				*e*S	**Sn**	**07 13 53.2**	**+0.2**
	baz=347						
WFSB	**Wu-fen Shan**	**1.24**	**336**	*e*P	**Pb**	**07 13 38.6**	**-0.7**
	baz=347						
WFSB				*e*S	**Sn**	**07 13 53.5**	**+0.5**
	baz=347						
TWA	**Mucha**	**1.25**	**327**	P	**Pb**	**07 13 39.4**	**+0.1**
	baz=325						
TWA				*e*S	**Sb**	**07 13 55.2**	**0.0**
	baz=325						
SSLB	**Suanglung**	**1.28**	**264**	P	**Pb**	**07 13 39.6**	**-0.3**
	baz=262						
SSLB				*e*S	**Sn**	**07 13 54.6**	**+0.6**
	baz=262						
TATO	**Taipei**	**1.30**	**323**	*e*P	**Pb**	**07 13 39.9**	**-0.2**
	baz=322						
TATO				*e*S	**Sb**	**07 13 55.8**	**-0.6**
	baz=322						
SMLT	**Sun Moon Lake**	**1.32**	**268**	P	**Pb**	**07 13 40.2**	**-0.4**
	baz=267						
SMLT				*e*S	**Sb**	**07 13 56.6**	**-0.7**
	baz=267						
IRIF	**Iriomote-Funau**	**1.33**	**72**	P	**Pb**	**07 13 40.0**	**-0.7**
IRIF				S	**Sb**	**07 13 56.7**	**-0.7**
HATJ	**Hateruma jima**	**1.34**	**84**	P	**Pb**	**07 13 40.3**	**-0.6**
HATJ				*e*S	**Sb**	**07 13 56.9**	**-0.9**
YUS	**Yu-Shan**	**1.35**	**251**	P	**Pn**	**07 13 40.4**	**+1.2**
	baz=250						
YUS				S	**Sn**	**07 13 57.0**	**+0.7**
	baz=250						
WLTB	**Daxi**	**1.35**	**313**	*e*P	**Pb**	**07 13 41.0**	**0.0**
	baz=311						
WLTB				*e*S	**Sb**	**07 13 58.1**	**+0.1**
	baz=311						
TYC	**Yuchr**	**1.36**	**269**	P	**Pb**	**07 13 40.8**	**-0.4**
	baz=268						
YM01	**YM01**	**1.40**	**330**	*e*P	**Pb**	**07 13 41.7**	**-0.2**
	baz=342						
YM01				*e*S	**Sb**	**07 13 58.6**	**-0.8**
	baz=342						
YM07	**YM07**	**1.40**	**332**	*e*P	**Pn**	**07 13 41.0**	**+1.4**
	baz=343						
YM07				*e*S	**Sn**	**07 13 57.4**	**+0.5**
	baz=343						
LIOB	**Emei**	**1.40**	**301**	*e*P	**Pb**	**07 13 41.7**	**-0.2**
	baz=291						
LIOB				*e*S	**Sb**	**07 13 59.4**	**-0.2**
	baz=291						
NSTT	**Nanjuang**	**1.41**	**300**	*e*P	**Pb**	**07 13 42.1**	**+0.1**
	baz=290						
NSTT				*e*S	**Sb**	**07 13 59.1**	**-0.5**
	baz=290						
YM10	**YM10**	**1.41**	**330**	P	**Pn**	**07 13 41.0**	**+1.3**
	baz=342						
YM10				*e*S	**Sn**	**07 13 58.5**	**+1.3**
	baz=342						
YM11	**YM11**	**1.41**	**330**	*e*P	**Pn**	**07 13 40.8**	**+1.0**
	baz=342						
YM11				*e*S	**Sn**	**07 13 57.8**	**+0.5**
	baz=342						
YM05	**YM05**	**1.41**	**330**	*e*P	**Pn**	**07 13 41.0**	**+1.2**
	baz=342						
YM05				*e*S	**Sb**	**07 13 59.1**	**-0.8**
	baz=342						
YM04	**YM04**	**1.42**	**329**	P	**Pn**	**07 13 41.1**	**+1.3**
	baz=341						
YM04				*e*S	**Sn**	**07 13 57.9**	**+0.5**
	baz=341						
YM08	**YM08**	**1.42**	**331**	*e*P	**Pn**	**07 13 40.7**	**+0.8**
	baz=343						
YM08				*e*S	**Sn**	**07 13 57.8**	**+0.3**
	baz=343						
TWS1	**Kuangyinshan**	**1.44**	**324**	P	**Pb**	**07 13 42.0**	**-0.5**
	baz=323						
TWS1				*e*S	**Sb**	**07 14 00.4**	**0.0**
	baz=323						
WJS	**Zhushan**	**1.48**	**266**	*e*P	**Pb**	**07 13 44.3**	**+1.1**
	baz=265						
TWQ1	**Liyutan**	**1.49**	**286**	*e*P	**Pb**	**07 13 43.5**	**0.0**
	baz=285						
TWQ1				*e*S	**Sb**	**07 14 02.7**	**+0.6**
	baz=285						
WNT	**Mingjian**	**1.52**	**268**	*e*P	**Pb**	**07 13 44.3**	**+0.4**
	baz=267						
WNT				*e*S	**Sb**	**07 14 03.3**	**+0.5**
	baz=267						
NSY	**Sanyi**	**1.52**	**289**	*e*P	**Pb**	**07 13 43.8**	**-0.1**
	baz=288						
NSY				*e*S	**Sb**	**07 14 02.1**	**-0.8**
	baz=288						
NMLH	**Miaoli**	**1.54**	**293**	*e*P	**Pb**	**07 13 44.3**	**+0.1**
	baz=292						
NMLH				*e*S	**Sb**	**07 14 04.3**	**+0.9**
	baz=292						
TCU	**Taichung**	**1.54**	**278**	*e*S	**Sb**	**07 14 04.2**	**+0.8**
	baz=277						
JKRS	**Kuro-shima**	**1.55**	**78**	P	**Pb**	**07 13 43.4**	**-1.0**
JKRS				S	**Sb**	**07 14 03.4**	**-0.3**
CHN5	**Tsauling**	**1.56**	**258**	*e*P	**Pb**	**07 13 44.6**	**-0.1**
	baz=250						
CHN5				*e*S	**Sb**	**07 14 04.2**	**+0.1**
	baz=250						
TWGBT	**Beinan**	**1.61**	**226**	*e*P	**Pn**	**07 13 43.8**	**+1.5**
	baz=238						
TWGBT				*e*S	**Sn**	**07 14 02.5**	**+0.6**
	baz=238						
TWG	**Pinlang**	**1.61**	**227**	*e*P	**Pn**	**07 13 44.1**	**+1.7**
	baz=238						
TWG				*e*S	**Sn**	**07 14 02.4**	**+0.3**
	baz=238						
WCHH	**Zhanghua**	**1.64**	**275**	*e*P	**Pb**	**07 13 46.4**	**+0.5**
	baz=287						
WCHH				*e*S	**Sb**	**07 14 07.2**	**+1.0**
	baz=287						
STYT	**Tauyuan**	**1.65**	**243**	*e*P	**Pb**	**07 13 45.6**	**-0.4**
	baz=235						
STYT				*e*S	**Sn**	**07 14 04.9**	**+1.9**
	baz=235						
WDLH	**Douliu**	**1.67**	**262**	*e*S	**Sb**	**07 14 09.5**	**+2.3**
	baz=261						
TPUB	**Ta-pu**	**1.69**	**248**	*e*P	**Pb**	**07 13 46.5**	**-0.4**
	baz=248						
TPUB				*e*S	**Sb**	**07 14 07.5**	**-0.3**
	baz=248						
JIJ	**Ishigaki jima**	**1.70**	**75**	P	**Pn**	**07 13 44.8**	**+1.2**
JIJ				S	**Sn**	**07 14 04.7**	**+0.5**
CHN4	**Tsaushan**	**1.71**	**250**	*e*P	**Pb**	**07 13 47.0**	**0.0**
	baz=250						
CHN4				*e*S	**Sb**	**07 14 08.8**	**+0.7**
	baz=250						
WTP	**Ta-pu**	**1.73**	**247**	*e*S	**Sb**	**07 14 08.1**	**-0.8**
	baz=246						
RLNB	**Erlin**	**1.82**	**269**	*e*P	**Pb**	**07 13 48.3**	**-0.6**
	baz=280						
RLNB				*e*S	**Sb**	**07 14 11.1**	**-0.2**
	baz=280						
CHN1	**Nanshi**	**1.82**	**246**	*e*P	**Pb**	**07 13 48.7**	**-0.4**
	baz=246						
CHN1				*e*S	**Sb**	**07 14 11.4**	**-0.2**
	baz=246						
SGST	**Jiashian**	**1.82**	**243**	*e*P	**Pb**	**07 13 49.1**	**+0.1**
	baz=233						
SGST				*e*S	**Sb**	**07 14 11.9**	**+0.4**
	baz=233						
TWK	**Hsinying**	**1.83**	**249**	*e*P	**Pb**	**07 13 48.9**	**-0.3**
	baz=248						
TWK				*e*S	**Sb**	**07 14 11.2**	**-0.4**
	baz=248						
WTCT	**Ta-ch'eng**	**1.89**	**268**	*e*S	**Sb**	**07 14 12.3**	**-1.1**
	baz=282						
JISG	**Ishigakijimahi**	**1.91**	**70**	P	**Pn**	**07 13 47.5**	**+1.0**
JISG				S	**Sn**	**07 14 09.6**	**+0.2**
WSF	**Szhu**	**1.96**	**262**	*e*S	**Sb**	**07 14 15.0**	**-0.6**
	baz=261						
SSD	**Sandimen**	**1.97**	**233**	*e*P	**Pn**	**07 13 49.4**	**+2.1**
	baz=230						
SSD				*e*S	**Sb**	**07 14 14.1**	**-1.5**
	baz=230						
LAY	**Lan-yu**	**2.02**	**201**	*e*P	**Pn**	**07 13 49.0**	**+0.9**
	baz=202						
LAY				*e*S	**Sn**	**07 14 11.4**	**-0.9**
	baz=202						
MASBT	**Mashibuluo**	**2.05**	**230**	*e*P	**Pb**	**07 13 50.9**	**-2.0**
	baz=228						
MASBT				*e*S	**Sn**	**07 14 15.6**	**+2.7**
	baz=228						
SCZT	**Fangliau**	**2.22**	**226**	*e*P	**Pb**	**07 13 55.2**	**-0.6**
	baz=222						
SCZT				*e*S	**Sb**	**07 14 20.8**	**-2.1**
	baz=222						
JTJ	**Tarama**	**2.27**	**71**	P	**Pn**	**07 13 52.8**	**+1.4**
JTJ				S	**Sn**	**07 14 19.0**	**+0.8**
PHUB	**P'eng-hu**	**2.57**	**261**	*e*P	**Pn**	**07 13 57.7**	**+2.0**
	baz=275						
PHUB				*e*S	**Sn**	**07 14 27.4**	**+1.6**
	baz=275						
PNG	**Penghu**	**2.58**	**262**	*e*P	**Pn**	**07 13 57.6**	**+1.9**
	baz=263						
PNG				*e*S	**Sn**	**07 14 28.1**	**+2.1**
	baz=263						
PTTC	**Pingtan**	**2.81**	**304**	*e*P	**Pn**	**07 13 59.2**	**+0.3**
	baz=313						
PTTC				*e*S	**Sn**	**07 14 30.2**	**-1.5**
	baz=313						
VWUC	**VWUC**	**2.84**	**292**	*e*P	**Pn**	**07 14 00.1**	**+0.9**
	baz=292						
VWUC				*e*S	**Sn**	**07 14 30.5**	**-1.8**
	baz=292						
MATB	**Ma-tsu**	**3.10**	**316**	*e*S	**Sn**	**07 14 36.7**	**-2.1**
	baz=315						
PTMZ	**Houxiangcun**	**3.14**	**291**	*e*P	**Pn**	**07 14 04.1**	**+0.7**
	baz=291						
PTMZ				*e*S	**Sn**	**07 14 37.9**	**-1.7**
	baz=291						
LYJJ	**Jianjiangzhen**	**3.50**	**319**	*e*P	**Pn**	**07 14 08.9**	**+0.5**
	baz=317						
LYJJ				*e*S	**Sn**	**07 14 46.9**	**-1.8**
	baz=317						
XPSS	**Dashiqiu**	**3.56**	**327**	*e*P	**Pn**	**07 14 10.0**	**+0.8**
	baz=316						
XPSS				*e*S	**Sn**	**07 14 47.6**	**-2.5**
	baz=316						
KNMB	**Chin-men Tao**	**3.65**	**279**	*e*P	**Pn**	**07 14 11.4**	**+0.9**
	baz=279						
KNMB				*e*S	**Sn**	**07 14 50.4**	**-2.0**
	baz=279						
MHZQ	**Yeshan**	**3.70**	**306**	*e*P	**Pn**	**07 14 11.1**	**-0.1**
	baz=306						
MHZQ				*e*S	**Sn**	**07 14 51.8**	**-1.8**
	baz=306						
AXDP	**Jialang**	**4.10**	**284**	*e*P	**Pn**	**07 14 17.6**	**+1.0**
	baz=284						
AXDP				*e*S	**Sn**	**07 15 01.5**	**-2.0**
	baz=284						

MEX 04 07:14:10.2±0.6**, 16°.62N×95°.06W, h88km**±7km**, MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.49**	**19**	*e*P	Pn	07 14 23.5	-1.2
CMIG				*e*S	Sn	07 14 33.8	-1.8
HUIG	**Huatulco**	**1.32**	**230**	*e*P	Pn	07 14 31.9	-1.7
HUIG				*e*S	Sn	07 14 50.0	-1.3
VHO	**Vista Hermosa**	**1.67**	**286**	*e*P	Pn	07 14 37.7	-0.5
VHO				*e*S	Sn	07 14 58.0	-1.4

*MOS **04** 07:23:34.3±2.0, 49°.17N×156°.75E, h16km, mb4.6/1, Error ellipse: s-maj=45.7km s-min=5.4km az=80.6*
KRSC 04 07:23:34.3±1.6**, 49°.17N×156°.75E, h16km**±27km**, ML4.4, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.57**	**345**	*e*P	Pn	07 24 00.0	-1.4
SKR				*e*S	Sn	07 24 20.3	-1.1
SKR	**Severo-Kuril's**	**1.57**	**345**	*e*PN	Pn	07 24 00.2	-1.2
SKR				*e*S	Sn	07 24 19.2	-2.2
SKR				pmax	pmax		
	comp=Z,132nm,0.5s						
SKR				smax	smax		
	comp=E,985nm,0.2s						
SKR				smax	smax		
	comp=N,530nm,0.2s						
PAU	**Pauzhetka**	**2.30**	**1**	*e*P	Pn	07 24 12.5	+1.0
PAU				*e*S	Sn	07 24 41.1	+1.7
PAU	**Pauzhetka**	**2.30**	**1**	PN	Pn	07 24 12.5	+1.0
PAU				S	Sn	07 24 41.1	+1.7
KDTR	**Khodutka, Kamc**	**2.77**	**17**	*e*P	Pb	07 24 20.7	-2.7
KDTR				*e*S	Sb	07 24 55.4	-1.6
KDTR	**Khodutka, Kamc**	**2.77**	**17**	PN	Pb	07 24 20.7	-2.7
KDTR				S	Sb	07 24 55.4	-1.6
MTVR	**Mutnovka**	**3.44**	**15**	*e*P	Pb	07 24 31.2	-3.6
MTVR				*e*S	Sb	07 25 13.1	-3.2
MTVR	**Mutnovka**	**3.44**	**15**	PN	Pb	07 24 31.2	-3.6
MTVR				S	Sb	07 25 13.1	-3.2
RUS	**Russkaya**	**3.45**	**18**	*e*P	Pn	07 24 30.2	+2.9
RUS				*e*S	Sn	07 25 11.8	+4.0
RUS	**Russkaya**	**3.45**	**18**	PN	Pn	07 24 30.2	+2.9
RUS				S	Sn	07 25 11.8	+4.0
KRMR	**Karymshinskiy**	**3.76**	**13**	*e*P	Pn	07 24 35.9	+4.3
KRMR				*e*S	Sb	07 25 20.7	-4.9
KRMR	**Karymshinskiy**	**3.76**	**13**	PN	Pn	07 24 35.9	+4.3
KRMR				S	Sb	07 25 20.7	-4.9
APC	**Apacha**	**3.77**	**4**	*e*P	Pn	07 24 34.3	+2.7
APC	**Apacha**	**3.77**	**4**	PN	Pn	07 24 34.3	+2.7
PET	**Petropavlovsk**	**4.04**	**17**	*e*P	Pn	07 24 39.4	+4.0
PET				*e*S	Sn	07 25 27.1	+4.8
PET	**Petropavlovsk**	**4.04**	**17**	*e*PN	Pn	07 24 39.6	+4.2
PET				*e*S	Sb	07 25 29.3	-4.2
PET				smax	smax		
	comp=E,92nm,0.5s						
PET				smax	smax		
	comp=N,73nm,0.4s						
UGLR	**Uglovaya**	**4.25**	**17**	*e*P	Pn	07 24 43.0	+4.7
UGLR	**Uglovaya**	**4.25**	**17**	PN	Pn	07 24 43.0	+4.7
AVH	**Avacha**	**4.28**	**16**	*e*P	Pn	07 24 43.5	+4.7
AVH				*e*S	Sn	07 25 33.4	+4.9
AVH	**Avacha**	**4.28**	**16**	PN	Pn	07 24 43.5	+4.7
AVH				S	Sn	07 25 33.4	+4.9
KOK	**Koryaka**	**4.29**	**15**	*e*P	Pn	07 24 44.0	+5.0
KOK	**Koryaka**	**4.29**	**15**	PN	Pn	07 24 44.0	+5.0
NLC	**Nalytchevo**	**4.32**	**21**	*e*P	Pn	07 24 42.7	+3.4
NLC				*e*S	Sn	07 25 32.8	+3.5
NLC	**Nalytchevo**	**4.32**	**21**	PN	Pn	07 24 42.7	+3.4
NLC				S	Sn	07 25 32.8	+3.5
SDLR	**Sedlovina**	**4.32**	**17**	*e*P	Pn	07 24 43.2	+3.8
SDLR	**Sedlovina**	**4.32**	**17**	PN	Pn	07 24 43.2	+3.8
KRX	**Arik**	**4.36**	**15**	*e*P	Pn	07 24 44.1	+4.2
KRX	**Arik**	**4.36**	**15**	PN	Pn	07 24 44.1	+4.2
SPN	**Mys Shipunski**	**4.43**	**26**	*e*P	Pn	07 24 45.2	+4.4
SPN				*e*S	Sn	07 25 36.9	+4.8
SPN	**Mys Shipunski**	**4.43**	**26**	PN	Pn	07 24 45.2	+4.4
SPN				S	Sn	07 25 36.9	+4.8
GNL	**Ganaly**	**4.59**	**9**	*e*P	Pn	07 24 46.6	+3.5
GNL	**Ganaly**	**4.59**	**9**	PN	Pn	07 24 46.6	+3.5
MKZ	**Mys Kozlova**	**6.21**	**28**	*e*P	Pn	07 25 09.1	+4.0
MKZ	**Mys Kozlova**	**6.21**	**28**	PN	Pn	07 25 09.1	+4.0
TUMR	**Tumrok**	**6.46**	**18**	*e*P	Pn	07 25 14.3	+5.5
TUMR	**Tumrok**	**6.46**	**18**	PN	Pn	07 25 14.3	+5.5
KBTR	**Krutoberegovo**	**7.95**	**25**	*e*P	Pn	07 25 33.3	+4.3
KBTR	**Krutoberegovo**	**7.95**	**25**	PN	Pn	07 25 33.3	+4.3

*IDC **04** 07:32:25.6±0.5, 15°.11S×173°.90W, h0km, mb4.5/20, mb1 4.7/21, mb1mx4.5/42, mbtmp4.5/21, ML3.8/1, MS3.7/12,*

Ms1 3.7/12, ms1mx3.4/31, Error ellipse: s-maj=20.5km s-min=12.9km az=141.0

*BJI **04** 07:32:33.9, 15.°09S×173.°25W, h85km, mb4.9/17, mB5.3/7*

*ISCJB **04** 07:32:34.3±0.2, 15.°19S±0.°04×174.°09W±0.°05, h73km, mb4.7/83, Error ellipse: s-maj=8.1km s-min=4.6km az=39.0*

*NEIC **04** 07:32:37.0±1.1, 15.°18S×174.°06W, h85km±9km, mb4.7/65, Error ellipse: s-maj=7.6km s-min=4.2km az=130.0*

*GCMT **04** 07:32:45.0±0.3, 15.°11S±0.°02×173.°80W±0.°02, h126km±3km, MW5.0/73, Moment Tensor Solution. s33,c35; s73,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.16±.19; $M_{\theta\theta}$1.84±.23; $M_{\phi\phi}$-2.00±.20; $M_{r\theta}$3.30±.14; $M_{\theta\phi}$-0.15±.24; $M_{\phi r}$-2.28±.12; Best double couple: $M_0$4.40800×10^{16} NP1:ϕ_s311.00000°, δ90.00000°, λ-65.00000°. NP2:ϕ_s41.00000°, δ25.00000°, λ-180.00000°. Principal axes: T 4.7670, Plg40.0000°, Azm18.0000°; N -0.7200, Plg25.0000°, Azm131.0000°; P -4.0490, Plg40.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 07:32:35.6±0.3**, 15.°20S**±0.°06×**173.°91W**±0.°07**, h73km, n187, σ1^{s}17**/174**, mb4.8**/83**, 1C-1D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.41**	**136**	*e*Pn	**Pn**	**07 33 55.9**	**+2.1**
NIUE				*e*Sn	**Sn**	**07 34 52.0**	**-2.7**
KNTN	**Kanton**	**12.54**	**10**	*e*Pn	**Pn**	**07 35 32.0**	**+0.9**
RAR	**Rarotonga**	**14.69**	**116**	LR	LR	07 41 08.5	
	comp=Z,78nm,18.5s,baz=274,slow=36						
DZM	**Mont Dzumac**	**19.82**	**247**	P	**P**	**07 36 60.0**	**-0.6**
	0.3nm,0.3s,baz=73,slow=18,SNR=2.9						
DZM				LR	LR	07 42 50.6	
	comp=Z,196nm,18.4s,baz=52,slow=32						
DZM	**Mont Dzumac**	**19.82**	**247**	*e*P	**Pn**	**07 37 07.5**	**+4.7**
	175nm,1.2s						
DZM				*e*LR	LR	07 41 47.5	
	comp=Z,742nm,32.2s						
DZM	**Mont Dzumac**	**19.82**	**247**	*e*P	**Pn**	**07 37 03.4**	**+0.6**
	69nm,1.0s						
OUZ	**Omahuta**	**22.87**	**207**	*e*P	**P**	**07 37 36.6**	**+3.6**
	43nm,1.4s						
MXZ	**Matakaoa Point**	**23.32**	**196**	*e*P	**P**	**07 37 40.3**	**+3.0**
	144nm,1.4s						
PAE	**Paea**	**23.46**	**99**	*e*T	T	08 01 24.4	
	2.0nm,0.3s						
PPT	**Papeete**	**23.46**	**99**	LR	LR	07 45 07.9	
	comp=Z,81nm,18.3s,baz=266,slow=32						
PPT2	**Papeete2**	**23.46**	**99**	*e*LR	LR	07 43 09.1	
	comp=Z,495nm,34.0s						
TVO	**Taravao**	**23.77**	**100**	*e*T	T	08 01 39.2	
	0.8nm,0.3s						
URZ	**Urewera**	**24.30**	**197**	P	**P**	**07 37 45.3**	**-0.9**
	5.4nm,0.3s,baz=334,slow=5.3,SNR=12						
URZ	**Urewera**	**24.30**	**197**	*e*P	**P**	**07 37 45.8**	**-0.4**
	48nm,1.5s						
TBI	**Tubuai**	**24.43**	**113**	*e*LR	LR	07 43 44.5	
	comp=Z,321nm,33.5s						
TBI	**Tubuai**	**24.43**	**113**	*e*T	T	08 02 22.7	
	4.7nm,0.2s						
BKZ	**Black Stump Fm**	**25.32**	**198**	*e*P	**P**	**07 37 55.2**	**-0.3**
	29nm,1.4s						
HNR	**Honiara**	**26.17**	**280**	LR	LR	07 47 28.1	
	comp=Z,92nm,19.2s,baz=105,slow=34						
BFZ	**Birch Farm**	**26.79**	**197**	*e*P	**P**	**07 38 10.4**	**+1.6**
	65nm,1.5s						
SNZO	**South Karori**	**27.82**	**199**	*e*P	**P**	**07 38 19.1**	**+1.1**
	114nm,1.4s						
THZ	**Tophouse**	**28.82**	**201**	*e*P	**P**	**07 38 27.2**	**+0.3**
	21nm,1.3s						
KHZ	**Kahutara**	**29.19**	**199**	*e*P	**P**	**07 38 29.6**	**-0.5**
	13nm,1.1s						
LTZ	**Lake Taylor**	**29.94**	**201**	*e*P	**P**	**07 38 38.2**	**+1.4**
	23nm,1.2s						
FOZ	**Fox Glacier**	**31.47**	**203**	*e*P	**P**	**07 38 49.7**	**-0.5**
	29nm,1.1s						
WKZ	**Wanaka**	**32.88**	**203**	*e*P	**P**	**07 39 01.1**	**-1.5**
	53nm,1.3s						
TAOE	**Nuku Hiva Isla**	**33.59**	**83**	*e*LR	LR	07 47 48.3	
	comp=Z,369nm,31.5s						
TAOE	**Nuku Hiva Isla**	**33.59**	**83**	*e*T	T	08 14 08.9	
	31nm,0.3s						
MLZ	**Mavora Lakes**	**33.67**	**203**	*e*P	**P**	**07 39 09.1**	**-0.5**
	24nm,1.2s						
DCZ	**Deep Cove**	**34.13**	**204**	*e*P	**P**	**07 39 13.8**	**+0.5**
	20nm,1.2s						
WHZ	**Wether Hill Ro**	**34.18**	**203**	*e*P	**P**	**07 39 13.8**	**-0.1**
	40nm,1.2s						
EIDS	**Eidsvold**	**34.27**	**247**	*e*P	**P**	**07 39 13.8**	**-1.2**
	23nm,1.5s						
ARMA	**Armidale**	**35.03**	**238**	P	**P**	**07 39 21.3**	**-0.2**
	baz=38,SNR=4.9						
ARMA	**Armidale**	**35.03**	**238**	*e*P	**P**	**07 39 21.4**	**-0.2**
	15nm,1.3s						
MGCD	**Mangrove Creek**	**36.37**	**234**	P	**P**	**07 39 33.0**	**+0.1**
	baz=39,SNR=4.5						
RKT	**Rikitea**	**37.52**	**108**	*e*LR	LR	07 49 53.0	
	comp=Z,186nm,31.2s						
RKT	**Rikitea**	**37.52**	**108**	*e*T	T	08 18 52.0	
	4.0nm,0.3s						
CTA	**Charters Tower**	**38.21**	**257**	P	**P**	**07 39 47.4**	**-1.2**
	4.9nm,0.5s,baz=77,slow=8.8,SNR=12						
CTAO	**Charters Tower**	**38.21**	**257**	*e*P	**P**	**07 39 48.0**	**-0.7**
	13nm,1.0s						
PMG	**Port Moresby**	**38.43**	**274**	P	**P**	**07 39 50.4**	**-0.1**
	14nm,0.8s,baz=106,slow=1.8,SNR=5.3						
CNB	**Canberra Magne**	**38.48**	**232**	P	**P**	**07 39 50.5**	**-0.3**
	baz=41,SNR=7.9						
CAN	**Canberra**	**38.76**	**232**	*e*P	**P**	**07 39 52.2**	**-0.9**
	19nm,1.0s						
MTSU	**Mount Surprise**	**40.07**	**260**	P	**P**	**07 40 03.5**	**-0.7**
	baz=43,SNR=21						
CMSA	**Cobar Meteorol**	**40.23**	**239**	P	**P**	**07 40 04.3**	**-1.0**
	baz=43,SNR=19						
QLP	**Quilpie**	**40.54**	**247**	P	**P**	**07 40 06.7**	**-1.2**
	baz=44,SNR=13						
COEN	**Coen**	**41.51**	**266**	P	**P**	**07 40 16.7**	**+0.7**
	baz=44,SNR=10.0						
COEN	**Coen**	**41.51**	**266**	*e*P	**P**	**07 40 16.7**	**+0.7**
	14nm,0.8s						
TOO	**Toolangi**	**42.21**	**230**	P	**P**	**07 40 21.0**	**-0.6**
	baz=45,SNR=13						
TOO	**Toolangi**	**42.21**	**230**	*e*P	**P**	**07 40 20.9**	**-0.6**
	24nm,0.9s						
STKA	**Stephens Creek**	**43.71**	**240**	P	**P**	**07 40 33.3**	**-0.4**
	2.5nm,0.3s,baz=97,slow=11,SNR=14						
STKA				LR	LR	07 55 22.6	
	comp=Z,64nm,21.9s,baz=43,slow=32						
STKA	**Stephens Creek**	**43.71**	**240**	P	**P**	**07 40 33.3**	**-0.4**
	baz=47,SNR=8.8						
STKA	**Stephens Creek**	**43.71**	**240**	*e*P	**P**	**07 40 33.2**	**-0.4**
	1.4nm,0.8s						
QIS	**Mount Isa**	**44.45**	**256**	P	**P**	**07 40 38.7**	**-1.1**
	baz=47,SNR=5.9						
HTT	**Hallett**	**46.23**	**238**	P	**P**	**07 40 53.1**	**-0.7**
	baz=49,SNR=11						
BBOO	**Buckleboo**	**48.49**	**240**	P	**P**	**07 41 10.3**	**-1.0**
	baz=51,SNR=18						
BBOO	**Buckleboo**	**48.49**	**240**	*e*P	**P**	**07 41 10.3**	**-1.0**
	22nm,1.3s						
WC3	**Warramunga Arr**	**49.38**	**257**	*e*P	**P**	**07 41 17.1**	**-1.1**
	34nm,0.6s						
WB2	**Warramunga Arr**	**49.40**	**257**	*e*P	**P**	**07 41 17.0**	**-1.4**
	34nm,0.6s						
WRAB	**Tennant Creek**	**49.40**	**257**	*e*P	**P**	**07 41 17.2**	**-1.2**
	28nm,0.7s						
WR1	**Warramunga Arr**	**49.41**	**257**	*e*P	**P**	**07 41 16.7**	**-1.8**
	42nm,0.6s						
WRA	**Warramunga Arr**	**49.41**	**257**	P	**P**	**07 41 16.7**	**-1.8**
	22nm,0.6s,baz=91,slow=7.6,SNR=378						
WRA				LR	LR	07 59 25.6	
	comp=Z,150nm,21.8s,baz=100,slow=33						
AS01	**Alice Springs**	**49.66**	**252**	*e*P	**P**	**07 41 19.4**	**-1.0**
AS31	**Alice Springs**	**49.70**	**252**	*e*P	**P**	**07 41 19.4**	**-1.3**
	48nm,0.7s						
ASAR	**Alice Springs**	**49.71**	**252**	P	**P**	**07 41 18.8**	**-1.9**
	157nm,0.5s,baz=90,slow=7.6,SNR=1715						
ASAR				LR	LR	08 00 31.8	
	comp=Z,92nm,21.9s,baz=106,slow=34						
KDU	**Kakadu**	**52.00**	**266**	P	**P**	**07 41 37.2**	**-0.7**
	baz=55,SNR=6.4						
WRKA	**Warakurna**	**54.80**	**250**	P	**P**	**07 41 56.4**	**-2.0**
	baz=58,SNR=125						
FORT	**Forrest**	**55.07**	**243**	*e*P	**P**	**07 41 58.9**	**-1.3**
	52nm,0.6s						
SIJI	**Sorong**	**55.94**	**279**	P	**P**	**07 42 06.9**	**+0.1**
	24nm,0.5s,baz=28,slow=9.9,SNR=10						
FITZ	**Fitzroy Crossi**	**57.77**	**258**	P	**P**	**07 42 18.7**	**-1.0**
	3.4nm,0.5s,baz=94,slow=2.7,SNR=30						
FITZ	**Fitzroy Crossi**	**57.77**	**258**	P	**P**	**07 42 15.4**	**-4.2**
	baz=61,SNR=19						
FITZ	**Fitzroy Crossi**	**57.77**	**258**	*e*P	**P**	**07 42 18.5**	**-1.1**
	6.7nm,1.1s						
SOEI	**Soe**	**60.45**	**267**	*e*P	**P**	**07 42 39.2**	**+0.8**
	45nm,0.8s						
MBWA	**Marble Bar**	**62.95**	**254**	*e*P	**P**	**07 42 53.3**	**-1.7**
	11nm,0.7s						
VNDA	**Vanda**	**63.52**	**186**	P	**P**	**07 42 59.6**	**+1.8**
	7.0nm,0.9s,baz=17,slow=5.8,SNR=14						
VNDA	**Vanda**	**63.52**	**186**	*e*P	**P**	**07 42 59.6**	**+1.8**
	15nm,1.2s						
GIRL	**Giralia**	**67.82**	**251**	*e*P	**P**	**07 43 26.8**	**+0.3**
	163nm,1.3s						
SDPT	**Sand Point**	**71.19**	**8**	*e*P	**P**	**07 43 46.0**	**-0.4**
	71nm,1.1s						
JNU	**Nakatsue**	**71.31**	**313**	P	**P**	**07 43 46.5**	**-1.2**
	6.2nm,0.6s,baz=235,slow=3.3,SNR=6.5						
JNU	**Nakatsue**	**71.31**	**313**	*e*P	**P**	**07 43 47.1**	**-0.6**
	28nm,1.5s						
PETK	**Petropavlovsk-**	**72.30**	**342**	P	**P**	**07 43 53.0**	**0.0**
	2.9nm,0.7s,baz=161,slow=9.4,SNR=3.6						
PETK				LR	LR	08 08 23.1	
	comp=Z,22nm,21.4s,baz=146,slow=30						
PEA1	**Petropavlovsk-**	**72.30**	**342**	*e*P	**P**	**07 43 53.0**	**-0.1**
CMB	**Columbia Colle**	**72.94**	**42**	*e*P	**P**	**07 43 57.7**	**+0.4**
	8.3nm,1.4s						
YBH	**Yreka Blue Hor**	**73.74**	**37**	*e*P	**P**	**07 44 03.4**	**+1.4**
	12nm,1.4s						
BEKR	**Beckworth**	**74.03**	**40**	*e*P	**P**	**07 44 04.7**	**+0.8**
	3.6nm,1.0s						
UGM	**Wanagama**	**74.10**	**266**	*e*P	**P**	**07 44 04.2**	**-0.5**
	76nm,1.2s						
NVAR	**Mina Array Bea**	**74.51**	**42**	P	**P**	**07 44 07.3**	**+0.6**
	3.0nm,0.8s,baz=228,slow=8.9,SNR=16						
NVAR				LR	LR	08 09 13.5	
	comp=Z,84nm,20.2s,baz=204,slow=30						
QSPA	**South Pole Qui**	**74.84**	**180**	*e*P	**P**	**07 44 09.2**	**+1.1**
	32nm,0.8s						
KVN	**Kaiserville**	**74.99**	**42**	*e*P	**P**	**07 44 10.1**	**+0.7**
	8.7nm,1.3s						
TPNV	**Topopah Spring**	**75.06**	**44**	*e*P	**P**	**07 44 11.3**	**+1.4**
	5.4nm,1.1s						
MOD	**Modoc Plateau**	**75.27**	**38**	*e*P	**P**	**07 44 11.7**	**+0.7**
	6.3nm,1.1s						
PINE	**Pine Mountain**	**76.03**	**37**	*e*P	**P**	**07 44 16.8**	**+1.5**
	7.4nm,1.1s						
TUC	**Tucson**	**76.65**	**51**	*e*P	**P**	**07 44 19.7**	**+0.8**
	5.5nm,1.2s						
U15A	**North Rim**	**77.52**	**47**	*e*P	**P**	**07 44 24.3**	**+0.3**
	11nm,1.4s						
PKCU	**Pink Cliffs**	**78.01**	**46**	*e*P	**P**	**07 44 27.4**	**+0.7**
	8.0nm,1.0s						
MTPU	**Mount Pierson**	**78.39**	**45**	*e*P	**P**	**07 44 30.4**	**+1.6**
	5.8nm,1.3s						
SUA	**Susitna One**	**78.60**	**11**	*e*P	**P**	**07 44 29.3**	**+0.2**
	15nm,1.4s						
EYAK	**Cordova Ski Ar**	**78.81**	**14**	*e*P	**P**	**07 44 31.2**	**+1.1**
	51nm,1.5s						
KNK	**Knik Glacier**	**79.00**	**12**	*e*P	**P**	**07 44 31.5**	**+0.3**
	11nm,1.1s						
GHO	**Glory Hole Cre**	**79.23**	**12**	*e*P	**P**	**07 44 32.5**	**0.0**
	12nm,1.1s						
BMRM	**Bremner River**	**79.45**	**14**	*e*P	**P**	**07 44 34.0**	**+0.3**
	16nm,1.1s						
SCM	**Sheep Creek Mo**	**79.61**	**12**	*e*P	**P**	**07 44 34.7**	**+0.1**
	9.7nm,1.1s						
NJ2	**Nanjing**	**79.66**	**307**	*e*P	**P**	**07 44 35.0**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
B08A	**Colville Reser**	**79.69**	**34**	*e*P	**P**	**07 44 35.1**	**-0.2**
	8.2nm,1.4s						
ANM	**Nome**	**79.79**	**4**	*e*P	**P**	**07 44 36.3**	**+0.9**
	3.0nm,1.2s						
KLR	**Kul'dur**	**80.09**	**327**	P	**P**	**07 44 36.8**	**-0.6**
	0.7nm,0.6s,baz=74,slow=7.5,SNR=3.6						
CN2	**Changchun**	**80.62**	**320**	*e*P	**P**	**07 44 44.1**	**+3.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LTX	**Lajitas**	**80.91**	**56**	*e*P	**P**	**07 44 42.7**	**+0.3**
TXAR	**Lajitas Array**	**80.91**	**56**	P	**P**	**07 44 42.7**	**+0.3**
	1.2nm,1.0s,baz=235,slow=4.4,SNR=7.1						
TXAR				LR	LR	08 12 43.6	
	comp=Z,52nm,21.7s,baz=0.0,slow=30						
PV01	**Paradox Valley**	**80.94**	**47**	*e*P	**P**	**07 44 43.5**	**+1.0**
ANMO	**Albuquerque**	**81.05**	**50**	*e*P	**P**	**07 44 44.2**	**+1.0**
	3.5nm,1.5s						
WRH	**Wood River Hil**	**81.85**	**11**	*e*P	**P**	**07 44 46.8**	**+0.3**
	7.1nm,0.9s						
MLY	**Manley**	**81.91**	**10**	*e*P	**P**	**07 44 46.9**	**+0.2**
	1.2nm,0.7s						
S22A	**4UR Ranch, Cre**	**82.00**	**48**	*e*P	**P**	**07 44 49.2**	**+1.1**
	4.6nm,1.1s						
MDM	**Murphy Dome**	**82.27**	**11**	*e*P	**P**	**07 44 49.4**	**+0.7**
	9.1nm,1.2s						
IL1	**Eielson Array**	**82.35**	**11**	*e*P	**P**	**07 44 48.2**	**-0.8**
ILAR	**Eielson Array**	**82.35**	**11**	P	**P**	**07 44 47.5**	**-1.6**
	2.9nm,1.1s,baz=233,slow=5.3,SNR=17						
ILAR				LR	LR	08 14 37.5	
	comp=Z,48nm,19.1s,baz=143,slow=31						
ILB	**Eielson Array**	**82.35**	**11**	*e*P	**P**	**07 44 48.6**	**-0.5**
PDAR	**Pinedale Array**	**82.45**	**42**	P	**P**	**07 44 49.6**	**-0.7**
	1.4nm,0.8s,baz=218,slow=3.2,SNR=12						
PDAR	**Pinedale Array**	**82.45**	**42**	*e*P	**P**	**07 44 50.2**	**-0.1**
SMCO	**Snowmass**	**82.53**	**46**	*e*P	**P**	**07 44 51.9**	**+0.8**
	5.0nm,1.2s						
DAWY	**Dawson**	**83.35**	**15**	*e*P	**P**	**07 44 53.3**	**-1.0**
	7.2nm,1.1s						
MAW	**Mawson**	**87.82**	**199**	P	**P**	**07 45 16.4**	**-0.1**
	9.2nm,0.7s,baz=144,slow=7.7,SNR=8.3						
MAW	**Mawson**	**87.82**	**199**	*e*P	**P**	**07 45 17.0**	**+0.5**
	7.7nm,1.4s						
INK	**Inuvik**	**88.20**	**14**	P	**P**	**07 45 18.1**	**+0.1**
	1.8nm,1.0s,baz=184,slow=4.1,SNR=3.9						
INK	**Inuvik**	**88.20**	**14**	*e*P	**P**	**07 45 18.1**	**+0.1**
	3.1nm,1.2s						
HHC	**Hu-ho-hao-te**	**88.53**	**313**	*e*P	**P**	**07 45 21.8**	**+1.3**
HHC				pmax	pmax		
	comp=Z,22nm,0.8s						
HHC				pmax	pmax		
	comp=Z,74nm,5.9s						
YKA	**Yellowknife Ar**	**90.11**	**24**	P	**P**	**07 45 26.9**	**-0.3**
	0.6nm,0.7s,baz=240,slow=4.7,SNR=12						
YKB5	**Yellowknife Ar**	**90.11**	**24**	*e*P	**P**	**07 45 27.1**	**0.0**
KMI	**Kunming**	**90.50**	**296**	P	**P**	**07 45 29.8**	**-0.4**
KMI				pmax	pmax		
	comp=Z,20nm,0.5s						
CMAR	**Chiang Mai Arr**	**92.09**	**288**	P	**P**	**07 45 39.0**	**+1.6**
	1.8nm,0.7s,baz=92,slow=2.8,SNR=7.2						
LZH	**Lanzhou**	**92.72**	**307**	*e*P	**P**	**07 45 38.8**	**-1.3**
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
VNA3	**Neumayer Olymp**	**93.09**	**175**	P	**P**	**07 45 41.4**	**+0.3**
VNA2	**Neumayer--Watz**	**93.58**	**176**	P	**P**	**07 45 44.3**	**+1.0**
	baz=194,slow=4.1						
ULM	**Lac du Bonnet**	**94.09**	**39**	LR	LR	08 22 14.3	
	comp=Z,111nm,19.9s,baz=236,slow=32						
SONA0	**Songino Array**	**94.37**	**318**	*e*P	**P**	**07 45 48.7**	**+1.3**
SONM	**Songino Array**	**94.37**	**318**	P	**P**	**07 45 48.7**	**+1.3**
	0.3nm,0.6s,baz=118,slow=5.8,SNR=2.9						
MK32	**Makanchi Array**	**110.34**	**315**	*e*PKiKP	**PKiKP**	**07 50 57.4**	**-2.0**
MKAR	**Makanchi Array**	**110.34**	**315**	PKiKP	**PKiKP**	**07 50 57.4**	**-2.1**
	0.5nm,0.7s,baz=115,slow=0.9,SNR=5.8						
KSH	**Kashi**	**114.96**	**307**	PKP	PKPdf	07 51 07.3	-1.3
KSH				PP	**PP**	**07 52 11.8**	**+3.1**
KSH				AMB	AMB		
	comp=Z,170nm,6.7s						
ARA0	**ARCESS Array S**	**124.35**	**352**	*e*PKPdf	**PKPdf**	**07 51 23.9**	**-1.7**
ARCES	**ARCESS Array B**	**124.35**	**352**	PKP	**PKPdf**	**07 51 23.9**	**-1.7**
	3.4nm,0.9s,baz=354,slow=2.4,SNR=10						
CLL	**Collm**	**143.56**	**353**	*e*PKiKP	**PKiKP**	**07 52 05.0**	**-0.3**
TSUM	**Tsumeb**	**143.99**	**199**	*e*PKPdf	PKPbc	07 52 02.3	+0.5
BUR04	**Bucovina Ar. S**	**144.00**	**338**	*e*PKPdf	PKPbc	07 52 01.1	+0.1
MORC	**Moravsky Berou**	**144.28**	**347**	*e*PKP	**PKPab**	**07 52 01.3**	**0.0**
LANS	**Liptovska Anna**	**144.42**	**345**	*e*PKP	PKPbc	07 52 02.8	+0.7
JAVC	**Velka Javorina**	**145.12**	**347**	*e*PKP	**PKPdf**	**07 52 05.3**	**+0.5**
KMBO	**Kilima Mbogo**	**145.18**	**245**	PKPbc	**PKPab**	**07 52 06.0**	**0.0**
	4.8nm,0.8s,baz=46,slow=8.2,SNR=6.0						
KMBO	**Kilima Mbogo**	**145.18**	**245**	*e*PKPbc	**PKPbc**	**07 52 04.1**	**-1.7**
DOU	**Dourbes**	**145.18**	**2**	⇓PKP	**PKPbc**	**07 52 03.5**	**-1.0**
VYHS	**Vyhne**	**145.18**	**345**	*e*PKP	**PKPbc**	**07 52 04.3**	**-0.2**
KRUC	**Moravsky**	**145.19**	**348**	*e*PKP	**PKPbc**	**07 52 04.2**	**-0.3**
MLR	**Muntele Rosu**	**145.49**	**335**	PKPbc	**PKPdf**	**07 52 04.9**	**-0.7**
	5.2nm,0.5s,baz=175,slow=4.5,SNR=6.2						
MLR	**Muntele Rosu**	**145.49**	**335**	*e*PKPdf	**PKPab**	**07 52 06.3**	**+0.2**
WLF	**Walferdange**	**145.63**	**360**	*e*PKPdf	**PKPbc**	**07 52 06.0**	**+0.1**
WLF	**Walferdange**	**145.63**	**360**	⇑PKP	**PKPdf**	**07 52 05.5**	**0.0**
MODS	**Modra-Piesok**	**145.66**	**347**	*e*PKP	**PKPdf**	**07 52 05.8**	**+0.1**
BR101	**Keskin Array S**	**145.70**	**321**	*e*PKPdf	**PKPdf**	**07 52 06.2**	**0.0**
BR131	**Keskin Array S**	**145.70**	**321**	*e*PKPdf	**PKPbc**	**07 52 06.8**	**+0.2**
BRTR	**Keskin Array B**	**145.70**	**321**	PKPbc	**PKPdf**	**07 52 06.2**	**0.0**
	2.7nm,0.7s,baz=100,slow=2.5,SNR=15						
GEC2	**GERESS Array S**	**145.87**	**351**	*e*PKPdf	**PKPdf**	**07 52 06.3**	**+0.2**
GERES	**GERESS Array B**	**145.87**	**351**	PKPbc	**PKPdf**	**07 52 06.3**	**+0.2**
	2.3nm,0.7s,baz=28,slow=3.2,SNR=16						
GEA0	**GERESS Array S**	**145.88**	**351**	*e*PKPdf	**PKPdf**	**07 52 06.3**	**+0.2**
CONA	**Conrad Observa**	**146.38**	**348**	*i* PKPab	**PKPbc**	**07 52 08.0**	**-0.4**
BFO	**Black Forest**	**146.92**	**357**	*e*PKPdf	**PKPbc**	**07 52 09.0**	**-0.8**
SOKA	**Soboth**	**147.74**	**348**	*e*PKPbc	**PKPbc**	**07 52 11.1**	**-1.1**
	5.2nm,0.9s						
MYKA	**Terra Mystica**	**148.04**	**350**	*e*PKPbc	**PKPbc**	**07 52 11.6**	**-1.4**
	3.8nm,0.7s						
MMAI	**Mount Meron Ar**	**148.06**	**309**	PKPbc	**PKPbc**	**07 52 11.9**	**-1.6**
	3.9nm,0.7s,baz=57,slow=5.3,SNR=4.1						
DAVOX	**Davos/Dischmat**	**148.36**	**355**	PKPbc	**PKPbc**	**07 52 13.8**	**-0.2**
	4.5nm,0.5s,baz=332,slow=2.6,SNR=13						
FUORN	**Ofenpass-Fuorn**	**148.49**	**354**	*e*PKPbc	**PKPbc**	**07 52 13.9**	**-0.5**
FUORN	**Ofenpass-Fuorn**	**148.49**	**354**	*e*PKPbc	**PKPbc**	**07 52 13.9**	**-0.5**
SENIN	**Lac Senin/Sane**	**148.92**	**358**	*e*PKPbc	**PKPbc**	**07 52 16.0**	**+0.6**
EIL	**Elat**	**149.80**	**303**	PKPbc	**PKPbc**	**07 52 16.7**	**-1.1**
	4.9nm,1.0s,baz=0.0,slow=7.1,SNR=3.6						
SSB	**Saint Sauveur**	**149.99**	**2**	*e*PKPbc	**PKPbc**	**07 52 17.8**	**-0.1**
PCAB	**Cabril**	**150.90**	**22**	*e*PKPbc	**PKPbc**	**07 52 20.4**	**+0.2**
PBRG	**Braganca**	**151.26**	**20**	*e*PKPbc	**PKPbc**	**07 52 20.9**	**-0.1**
POLO	**Lamas de Olo**	**151.28**	**22**	*e*PKPbc	**PKPbc**	**07 52 21.2**	**0.0**
PVRL	**Vila Real**	**151.39**	**22**	*e*PKPbc	**PKiKP**	**07 52 21.8**	**0.0**
MVO	**Moncorvo**	**151.74**	**21**	*e*PKPbc	**PKPbc**	**07 52 22.3**	**+0.1**
PVIS	**Viseu**	**151.82**	**23**	*e*PKPbc	**PKPbc**	**07 52 22.3**	**0.0**
MTE	**Manteigas**	**152.22**	**23**	*e*PKPbc	**PKPbc**	**07 52 23.3**	**0.0**
MTE	**Manteigas**	**152.22**	**23**	*e*PKPbc	**PKiKP**	**07 52 23.6**	**+0.1**
PTOM	**Tomar**	**152.56**	**25**	*e*PKPbc	**PKPbc**	**07 52 24.0**	**0.0**
ES19	**SONSECA Array**	**154.07**	**18**	*e*PKPbc	**PKPbc**	**07 52 27.4**	**0.0**
ESDC	**Sonseca Array**	**154.08**	**18**	PKPbc	**PKPbc**	**07 52 25.6**	**-1.8**
	1.0nm,0.5s,baz=335,slow=2.9,SNR=8.5						
PAB	**San Pablo**	**154.08**	**19**	*e*PKPbc	**PKiKP**	**07 52 27.7**	**+0.2**
TOA1	**Torodi Ar. Sit**	**175.27**	**115**	*e*PKPdf	**PKPdf**	**07 52 36.6**	**-1.5**
TOA1				*e*PKPab	**PKPab**	**07 54 13.6**	**-1.2**
TORD	**Torodi Ar. Bea**	**175.27**	**115**	PKP	**PKPdf**	**07 52 36.6**	**-1.5**
	0.3nm,0.7s,baz=336,slow=3.2,SNR=2.3						
TORD				PKPab	**PKPab**	**07 54 13.6**	**-1.1**
	0.4nm,0.8s,baz=270,slow=5.8,SNR=2.3						

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*MOS **04** 07:50:04.0±1.3, 37.°77N×14.°69E, h15km, mb4.5/19, Error ellipse: s-maj=6.1km s-min=3.4km az=62.2*

*BJI **04** 07:50:05.7, 38.°52N×14.°74E, h9km, mb4.7/17, mB5.0/8, Ms4.6/1, Ms7 4.3/1*

*PDG **04** 07:50:06.6±1.5, 37.°85N×14.°82E, h9km±2km, ML4.4/10, Error ellipse: s-maj=1.6km s-min=1.7km az=0.0*

*ROM **04** 07:50:06.1±0.1, 37.°879N±0.°004×14.°720E±0.°005, h15km, ML4.3/57*

*NEIC **04** 07:50:06.0±0.0, 37.°87N×14.°72E, h10km, mb4.6/17, ML4.3(ROM), After ROM.*

NEIC Felt [IV] at Bronte and Randazzo; [III] at Patti and Siracusa; [II] at Catania, Messina, Palermo and Reggio di Calabria. Felt in much of Sicily and in southern Calabria.

*LDG **04** 07:50:06.2±0.2, 37.°82N×14.°82E, h9km, Ml3.5/8, Error ellipse: s-maj=4.5km s-min=3.8km az=19.0*

*MED_RC **04** 07:50:06.0±0.5, 37.°79N×14.°79E, h16km±1km, MW4.4/16, Moment Tensor Solution. Mantle waves: s16,c22; Duration: 1^{s}0 Moment tensor: Scale 10^{15}Nm; M_{rr}-3.79±.61; $M_{\theta\theta}$3.87±.38; $M_{\phi\phi}$-0.07±.35; $M_{r\theta}$-2.26±.68; $M_{\theta\phi}$-1.11±.19; $M_{\phi r}$-0.28±1.04; Best double couple: $M_0$4.59000×10^{15} NP1:ϕ_s94.00000°, δ60.00000°, λ-102.00000°. NP2:ϕ_s297.00000°, δ32.00000°, λ-70.00000°. Principal axes: T 4.7000, Plg14.0000°, Azm192.0000°; N -0.2100, Plg10.0000°, Azm100.0000°; P -4.4800, Plg72.0000°, Azm335.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*IDC **04** 07:50:07.5±1.2, 37.°85N×14.°72E, h29km±11km, mb3.9/13, mb1 3.9/24, mb1mx3.8/62, mbtmp4.0/24, ML4.0/11, MS3.3/13, Ms1 3.4/13, ms1mx3.1/52 Error ellipse: s-maj=13.5km s-min=11.2km az=120.0*

*JSO **04** 07:50:07.0±0.4, 38°N±5°×1°5E±°, h10km, M4.5/7, mb4.7/4, Mjma4.4/7, MLv4.4/7*

*TIR **04** 07:50:46.4, 37.°81N×14.°80E, h7km, Md4.5/5*

ISC 04 07:50:05.7±0.5**, 37.°86N**±0.°02×**14.°75E**±0.°02**, h11km**±3km**, n408, σ1^{s}95**/418**, mb4.4**/47**, MS3.3**/13**, 23C-12D, Sicily**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MNO	**Monte Soro**	**0.08**	**331**	P	**Pg**	**07 50 08.4**	**-0.1**
MNO	**Monte Soro**	**0.08**	**331**	*i* P	**Pg**	**07 50 08.8**	**+0.3**
MNO				S	**Sg**	**07 50 11.0**	**+0.5**
MNO				AML	AML		
MNO				AML	AML		
MNO				AML	AML		
MNO				AML	AML		
MNO				AML	AML		
MNO				AML	AML		
MNO				AML	AML		
MNO				AML	AML		
GALF	**Gagliano Caste**	**0.21**	**224**	*i* P	**Pg**	**07 50 10.6**	**+0.4**
GALF				S	**Sg**	**07 50 15.3**	**+2.1**
GALF				AML	AML		
GALF				AML	AML		
GALF				AML	AML		
GALF				AML	AML		
GALF				AML	AML		
GALF				AML	AML		
GALF				AML	AML		
GALF				AML	AML		
MUCR	**Ucria**	**0.21**	**29**	P	**Pg**	**07 50 11.0**	**+0.8**
MUCR				S	**Sg**	**07 50 14.8**	**+1.5**
MUCR				AML	AML		
MUCR				AML	AML		
MUCR				AML	AML		
MUCR				AML	AML		
MUCR				AML	AML		
MUCR				AML	AML		
MUCR				AML	AML		
MUCR				AML	AML		
MSFR	**San Fratello**	**0.21**	**325**	P	**Pg**	**07 50 10.5**	**+0.2**
MSFR				S	**Sg**	**07 50 14.2**	**+0.8**
MSFR				AML	AML		
	comp=E,50950μm,1.5s						
MSFR				AML	AML		
	comp=N,42100μm,1.6s						
MSFR				AML	AML		
	comp=E,50950μm,1.5s						
MSFR				AML	AML		
	comp=N,42100μm,1.6s						
MSFR				AML	AML		
	comp=E,50950μm,1.5s						
MSFR				AML	AML		
	comp=N,42100μm,1.6s						
MSFR				AML	AML		
	comp=N,42100μm,1.6s						
MSFR				AML	AML		
	comp=E,50950μm,1.5s						
ESLN	**Serra La Nave**	**0.25**	**132**	P	**Pb**	**07 50 12.5**	**+0.2**
ESLN				AML	AML		
ESLN				AML	AML		
ESLN				AML	AML		
ESLN				AML	AML		
ESLN				AML	AML		
ESLN				AML	AML		
ESLN				AML	AML		
ESLN				AML	AML		
ECNV	**Catenanuova**	**0.27**	**186**	P	**Pb**	**07 50 12.8**	**+0.2**
ECNV				AML	AML		
ECNV				AML	AML		
ECNV				AML	AML		
ECNV				AML	AML		
ECNV				AML	AML		
ECNV				AML	AML		
CAGR	**Agira**	**0.31**	**219**	P	**Pb**	**07 50 12.9**	**-0.4**
CAGR				AML	AML		
CAGR				AML	AML		
CAGR				AML	AML		
CAGR				AML	AML		

CAGR AML AML
CAGR AML AML
NOV Novara 0.35 62 *i* P **Pg 07 50 13.5 +0.7**
NOV S **Sb 07 50 19.7 +0.1**
MCSR Castroreale 0.45 63 P **Pg 07 50 14.9 +0.4**
MCSR AML AML
MCSR AML AML
MCSR AML AML
MCSR AML AML
MCSR AML AML
MCSR AML AML
MCSR AML AML
MCSR AML AML
VAE Valguarnera 0.46 215 Pg **Pb 07 50 17.3 +1.4**
comp=E,138nm,0.3s,baz=66,slow=1.9,SNR=156
VAE LR LR 07 50 33.2
comp=E,2μm,18.4s,baz=320,slow=54
PLLN Pollina 0.49 286 P **Pg 07 50 15.5 +0.1**
PLLN AML AML
comp=E,75100μm,1.6s
PLLN AML AML
PLLN AML AML
comp=E,75100μm,1.6s
PLLN AML AML
PLLN AML AML
PLLN AML AML
comp=E,75100μm,1.6s
PETRA Petralia Sopra 0.50 267 P **Pg 07 50 15.3 -0.2**
PETRA AML AML
comp=E,29250μm,0.7s
PETRA AML AML
comp=N,35350μm,0.8s
PETRA AML AML
comp=E,29250μm,0.7s
PETRA AML AML
comp=N,35350μm,0.8s
PETRA AML AML
comp=E,29250μm,0.7s
PETRA AML AML
comp=N,35350μm,0.8s
PETRA AML AML
comp=N,35350μm,0.8s
PETRA AML AML
comp=E,29250μm,0.7s
HLNI Lentini 0.52 169 P **Pb 07 50 16.7 -0.2**
HLNI AML AML
comp=E,39750μm,0.5s
HLNI AML AML
comp=N,26900μm,0.6s
HLNI AML AML
comp=E,39750μm,0.5s
HLNI AML AML
comp=N,26900μm,0.6s
HLNI AML AML
comp=N,26900μm,0.6s
HLNI AML AML
comp=E,39750μm,0.5s
MPNC Port Mandanici 0.56 59 P **Pg 07 50 17.1 +0.5**
MPNC AML AML
comp=E,83900μm,0.6s
MPNC AML AML
comp=N,93750μm,0.5s
MPNC AML AML
comp=E,83900μm,0.6s
MPNC AML AML
comp=N,93700μm,0.5s
MPNC AML AML
comp=E,83900μm,0.6s
MPNC AML AML
comp=N,93700μm,0.5s
MILZ Milazzo 0.56 43 P **Pg 07 50 17.2 +0.5**
MILZ S **Sb 07 50 25.2 -0.4**
MILZ AML AML
comp=E,56600μm,0.8s
MILZ AML AML
comp=N,52400μm,1.2s
MILZ AML AML
comp=E,56600μm,0.8s
MILZ AML AML
comp=N,52400μm,1.2s
MILZ AML AML
comp=N,52400μm,1.2s
MILZ AML AML
comp=E,56600μm,0.8s
GIB Gibilmanna 0.58 283 P **Pg 07 50 16.7 -0.3**
GIB Gibilmanna 0.58 283 P **Pg 07 50 16.8 -0.3**
GIB AML AML
comp=E,44000μm,1.0s
GIB AML AML
comp=N,45250μm,0.8s
GIB AML AML
comp=E,44000μm,1.0s
GIB AML AML
comp=N,45250μm,0.8s
GIB AML AML
comp=E,44000μm,1.0s
GIB AML AML
comp=N,45250μm,0.8s
GIB AML AML
comp=N,45250μm,0.8s
GIB AML AML
comp=E,44000μm,1.0s
LLI Lipari 0.60 15 *e*P **Pb 07 50 18.2 -0.2**
LLI AML AML
comp=E,69650μm,0.6s
LLI AML AML
comp=N,95700μm,0.6s
LLI AML AML
comp=E,69650μm,0.6s
LLI AML AML
comp=N,95700μm,0.6s
LLI AML AML
comp=E,69650μm,0.6s
LLI AML AML
comp=N,95700μm,0.6s
HCRL Carlentini 0.62 158 P **Pb 07 50 18.5 -0.1**
HCRL AML AML
comp=E,22050μm,1.2s
HCRL AML AML
comp=N,24900μm,0.4s
HCRL AML AML
comp=E,22050μm,1.2s
HCRL AML AML
comp=N,24900μm,0.4s
HCRL AML AML
comp=N,24900μm,0.4s
HCRL AML AML
comp=E,22050μm,1.2s
ATN Antennamare 0.64 62 P **Pg 07 50 18.6 +0.4**
ATN Antennamare 0.64 62 P **Pg 07 50 18.6 +0.4**
ATN AML AML
comp=E,46450μm,1.0s
ATN AML AML
comp=N,31050μm,0.5s
ATN AML AML
comp=E,46450μm,1.0s
ATN AML AML
comp=N,31050μm,0.5s
ATN AML AML
comp=N,31050μm,0.5s
ATN AML AML
comp=E,46450μm,1.0s
HAGA Augusta 0.66 150 *i* P **Pb 07 50 19.2 -0.1**
HAGA AML AML
comp=E,32750μm,0.6s
HAGA AML AML
comp=N,27100μm,0.7s
HAGA AML AML
comp=E,32750μm,0.6s
HAGA AML AML
comp=N,27100μm,0.7s
HAGA AML AML
comp=N,27100μm,0.7s
HAGA AML AML
comp=E,32750μm,0.6s
AGST Augusta-Monte 0.71 147 P **Pg 07 50 20.1 +0.5**
AGST AML AML
comp=E,37750μm,0.6s
AGST AML AML
comp=N,36850μm,0.5s
AGST AML AML
comp=E,37800μm,0.6s
AGST AML AML
comp=N,36850μm,0.5s
AGST AML AML
comp=E,37800μm,0.6s
AGST AML AML
comp=N,36850μm,0.5s
IFIL Filicudi I Eol 0.72 349 P **Pb 07 50 20.0 -0.2**
IFIL AML AML
IFIL AML AML
comp=N,73100μm,0.6s
IFIL AML AML
IFIL AML AML
comp=N,73100μm,0.6s
IFIL AML AML
comp=N,73100μm,0.6s
IFIL AML AML
MSRU Castanea 0.72 56 P **Pg 07 50 20.1 +0.4**
MSRU AML AML
comp=E,45900μm,0.6s
MSRU AML AML
comp=N,37800μm,0.6s
MSRU AML AML
comp=N,37800μm,0.6s
MSRU AML AML
comp=E,45900μm,0.6s
IACL Alicudi 0.74 336 P **Pg 07 50 19.9 -0.1**
IACL AML AML
comp=E,27500μm,1.0s
IACL AML AML
comp=N,29850μm,0.9s
IACL AML AML
comp=E,27500μm,1.0s
IACL AML AML
comp=N,29850μm,0.9s
IACL AML AML
comp=E,27500μm,1.0s
IACL AML AML
comp=N,29850μm,0.9s
SSY Sortino 0.75 160 P **Pg 07 50 20.8 +0.5**
SSY AML AML
comp=E,57950μm,0.3s
SSY AML AML
SSY AML AML
comp=E,57950μm,0.3s
SSY AML AML
MTTG Motta San Giov 0.76 79 P **Pb 07 50 21.1 +0.1**
MTTG AML AML
comp=E,22850μm,0.6s
MTTG AML AML
comp=N,30300μm,0.6s
MTTG AML AML
comp=E,22850μm,0.6s
MTTG AML AML
comp=N,30300μm,0.6s
MTTG AML AML
comp=E,22850μm,0.6s
MTTG AML AML
comp=N,30300μm,0.6s
MEU Monte Lauro 0.77 169 P **Pg 07 50 20.5 -0.1**
MEU AML AML
comp=E,33000μm,0.3s
MEU AML AML
comp=N,39550μm,0.4s
MEU AML AML
comp=E,33000μm,0.3s
MEU AML AML
comp=N,39550μm,0.4s
MEU AML AML
comp=E,33000μm,0.3s
MEU AML AML
comp=N,39550μm,0.4s
ALJA Alia 0.79 262 P **Pg 07 50 21.3 +0.3**
ALJA AML AML
comp=E,13300μm,0.6s
ALJA AML AML
comp=N,12900μm,0.8s
ALJA AML AML
comp=E,13300μm,0.6s
ALJA AML AML
comp=N,12900μm,0.8s
ALJA AML AML
comp=N,12900μm,0.8s
ALJA AML AML
comp=E,13300μm,0.6s
HMDC Modica 0.90 178 P **Pg 07 50 22.9 -0.2**
HMDC AML AML
comp=E,57750μm,0.5s
HMDC AML AML
comp=N,36950μm,0.4s
HMDC AML AML
comp=E,57750μm,0.5s
HMDC AML AML
comp=N,36950μm,0.4s
HMDC AML AML
comp=E,57750μm,0.5s
HMDC AML AML
comp=N,36950μm,0.4s
MSCL Scilla 0.91 65 P **Pg 07 50 23.2 0.0**
MSCL AML AML
comp=E,40750μm,0.6s
MSCL AML AML
comp=N,31100μm,0.6s
MSCL AML AML
comp=N,31100μm,0.6s
MSCL AML AML
comp=E,40750μm,0.6s
GMB Gambarie 0.91 70 P **Pg 07 50 23.3 0.0**
GMB Gambarie 0.91 70 P **Pg 07 50 23.4 +0.2**
GMB AML AML
comp=E,54900μm,1.1s
GMB AML AML
comp=N,75250μm,0.6s
GMB AML AML
comp=N,75250μm,0.6s
GMB AML AML
comp=E,54900μm,1.1s
HAVL Avola 0.95 161 P **Pg 07 50 23.9 -0.1**
HAVL AML AML
comp=E,33350μm,0.6s
HAVL AML AML
comp=N,34050μm,0.3s
HAVL AML AML
comp=E,33350μm,0.6s
HAVL AML AML
comp=N,34050μm,0.3s
HAVL AML AML
comp=E,33350μm,0.6s
HAVL AML AML
comp=N,34050μm,0.3s
SOLUN Solunto 0.98 284 P **Pg 07 50 23.8 -0.9**
SOLUN AML AML
comp=E,3270μm,1.3s
SOLUN AML AML
comp=N,3595μm,1.2s
SOLUN AML AML
comp=E,3270μm,1.3s
SOLUN AML AML
comp=N,3595μm,1.2s
SOLUN AML AML
comp=E,3270μm,1.3s
SOLUN AML AML
comp=N,3595μm,1.2s
ISTR Stromboli Gino 0.99 21 P **Pb 07 50 24.6 -0.3**
ISTR AML AML
comp=E,11050μm,0.7s
ISTR AML AML
comp=N,13350μm,0.5s
ISTR AML AML
comp=E,11050μm,0.7s
ISTR AML AML
comp=N,13350μm,0.5s
CEL Celeste 0.99 66 *e*Pg **Pg 07 50 24.4 -0.4**
CEL *e*Sn **Sn 07 50 43.7 +4.0**
CEL Celeste 0.99 66 P **Pg 07 50 24.6 -0.2**
CEL AML AML
comp=E,13050μm,0.6s
CEL AML AML
comp=N,12050μm,1.2s
CEL AML AML
comp=E,15600μm,0.6s
CEL AML AML
comp=N,14850μm,1.2s
CEL AML AML
comp=E,13050μm,0.6s
CEL AML AML
comp=E,15600μm,0.6s
CEL AML AML
comp=N,14850μm,1.2s
CEL AML AML
comp=N,12050μm,1.2s
MPAZ Palizzi 1.00 84 P **Pb 07 50 25.2 +0.1**
MPAZ AML AML
comp=E,14450μm,0.4s
MPAZ AML AML
comp=N,25650μm,0.8s
MPAZ AML AML
comp=E,14450μm,0.4s
MPAZ AML AML
comp=N,25650μm,0.8s
FAVR Favara 1.04 236 AML AML
comp=E,11270μm,1.0s
FAVR AML AML
comp=N,15800μm,0.9s
FAVR AML AML
comp=E,11270μm,1.0s
FAVR AML AML
comp=N,15800μm,0.9s
SOI Samo 1.06 78 P **Pb 07 50 25.8 -0.2**
SOI AML AML
comp=E,11600μm,0.5s
SOI AML AML
comp=N,13900μm,0.7s
SOI AML AML
comp=E,11600μm,0.5s
SOI AML AML
comp=N,13900μm,0.7s
MPG Monte Pellegri 1.14 286 P **Pb 07 50 26.1 -1.3**
MPG AML AML
comp=E,3005μm,1.5s
MPG AML AML
comp=N,2660μm,1.3s
MPG AML AML
comp=E,3005μm,1.5s
MPG AML AML
comp=N,2660μm,1.3s
CORL Corleone 1.14 272 P **Pb 07 50 27.4 -0.1**
CORL AML AML
comp=E,14500μm,0.8s
CORL AML AML
comp=N,14200μm,0.7s
CORL AML AML
comp=E,14500μm,0.8s
CORL AML AML
comp=N,14200μm,0.7s
JOPP Joppolo 1.17 50 *e*P **Pb 07 50 26.9 -1.0**
JOPP AML AML
comp=E,7675μm,0.9s
JOPP AML AML
comp=N,8675μm,0.5s
JOPP AML AML
comp=N,8675μm,0.5s
JOPP AML AML
comp=E,7675μm,0.9s
CLTB Caltabellotta 1.25 257 *e*Pn **Pg 07 50 30.9 +1.3**
PLAC Placanica 1.46 66 P **Pb 07 50 32.6 -0.3**
PLAC AML AML
comp=E,8945μm,0.7s
PLAC AML AML
comp=N,10460μm,0.5s
PLAC AML AML
comp=E,8945μm,0.7s
PLAC AML AML
comp=N,10460μm,0.5s
USI Ustica 1.50 305 AML AML
comp=N,9490μm,0.9s
USI AML AML
comp=E,8570μm,0.7s
USI AML AML
comp=E,8570μm,0.7s
USI AML AML
comp=N,9490μm,0.9s
GRI Girifalco 1.63 53 P **Pn 07 50 34.3 -0.1**
GRI Girifalco 1.63 53 P **Pn 07 50 34.4 -0.1**
GRI AML AML
comp=E,7915μm,0.6s
GRI AML AML
comp=N,8015μm,0.5s
GRI AML AML
comp=N,8015μm,0.5s
GRI AML AML
comp=E,7915μm,0.6s
CAR1 CAROLEI 1.80 39 AML AML
comp=N,9385μm,0.6s
CAR1 AML AML
comp=E,8490μm,1.1s
CAR1 AML AML
comp=N,9385μm,0.6s
CAR1 AML AML
comp=E,10265μm,0.6s
CAR1 AML AML
comp=N,9930μm,0.6s
CAR1 AML AML
comp=N,9930μm,0.6s
CAR1 AML AML
comp=E,8490μm,1.1s
CAR1 AML AML
comp=E,10265μm,0.6s
SERS Sersale 1.93 52 AML AML
comp=E,2390μm,1.5s
SERS AML AML
comp=N,2690μm,1.6s
SERS AML AML
comp=E,2885μm,1.6s
SERS AML AML
comp=N,2205μm,0.4s
SERS AML AML
comp=N,2205μm,0.4s
SERS AML AML
comp=E,2885μm,1.6s
SERS AML AML
comp=E,2390μm,1.5s
SERS AML AML
comp=N,2690μm,1.6s
WDD Wied Dalam 2.03 185 *e*Pn **Pn 07 50 40.5 +0.7**
WDD *e*Sn **Sg 07 51 13.0 +2.1**
WDD Wied Dalam 2.03 185 P **Pn 07 50 40.2 +0.4**
WDD AML AML
comp=E,3845μm,1.1s
WDD AML AML
comp=N,4375μm,0.6s
WDD AML AML
comp=E,3845μm,1.1s
WDD AML AML
comp=N,4375μm,0.6s
TIP Timpagrande 2.06 50 *e*Pn **Pn 07 50 40.6 +0.4**
TIP Timpagrande 2.06 50 ⇑*i*P **Pn 07 50 40.9 +0.6**
TIP Timpagrande 2.06 50 P **Pn 07 50 40.7 +0.4**
TIP Timpagrande 2.06 50 P **Pn 07 50 40.9 +0.6**
TIP AML AML
comp=E,2645μm,1.0s
TIP AML AML
comp=N,1735μm,1.3s
TIP AML AML
comp=E,3075μm,1.0s
TIP AML AML
comp=N,2185μm,1.3s
TIP AML AML
comp=E,3075μm,1.0s
TIP AML AML
comp=E,2645μm,1.0s
TIP AML AML
comp=N,2185μm,1.3s
TIP AML AML
comp=N,1735μm,1.3s
CELI Celico 2.07 41 P **Pn 07 50 40.2 -0.4**
CELI AML AML
comp=E,3095μm,0.6s
CELI AML AML
comp=N,3150μm,0.6s
CELI AML AML
comp=E,7500μm,0.6s
CELI AML AML
comp=N,7595μm,0.6s
CELI AML AML
comp=N,7595μm,0.6s
CELI AML AML
comp=N,3150μm,0.6s
CELI AML AML
comp=E,3095μm,0.6s
CELI AML AML
comp=E,7500μm,0.6s
MMN Mormanno 2.25 25 P **Pn 07 50 42.1 -0.8**
MMN AML AML
comp=E,778μm,0.4s
MMN AML AML
comp=N,1360μm,0.5s
MMN AML AML
comp=E,778μm,0.4s
MMN AML AML
comp=N,1360μm,0.5s

BULG	**Bulgheria - Ca**	**2.27**	**12**	AML	AML		
	comp=E,963µm,0.4s						
BULG				AML	AML		
	comp=E,963µm,0.4s						
BULG				AML	AML		
	comp=N,1835µm,0.4s						
BULG				AML	AML		
	comp=E,991µm,0.4s						
BULG				AML	AML		
	comp=N,1875µm,0.4s						
BULG				AML	AML		
	comp=E,991µm,0.4s						
BULG				AML	AML		
	comp=N,1835µm,0.4s						
BULG				AML	AML		
	comp=N,1875µm,0.4s						
CUC	**Castrocucco**	**2.29**	**21**	*e*Pn	**Pn**	**07 50 43.0**	**-0.4**
MGR	**Morigerati**	**2.36**	**15**	AML	AML		
	comp=E,1085µm,0.5s						
MGR				AML	AML		
	comp=E,1175µm,0.5s						
MGR				AML	AML		
	comp=N,1050µm,0.8s						
MGR				AML	AML		
	comp=N,1186µm,0.9s						
MGR				AML	AML		
	comp=E,1085µm,0.5s						
MGR				AML	AML		
	comp=N,1050µm,0.8s						
MGR				AML	AML		
	comp=N,1186µm,0.9s						
MGR				AML	AML		
	comp=E,1175µm,0.5s						
SALB	**San Lorenzo Be**	**2.37**	**31**	AML	AML		
	comp=E,2940µm,1.1s						
SALB				AML	AML		
	comp=N,2185µm,0.7s						
SALB				AML	AML		
	comp=E,2875µm,1.1s						
SALB				AML	AML		
	comp=N,2230µm,0.7s						
SALB				AML	AML		
	comp=N,2230µm,0.7s						
SALB				AML	AML		
	comp=E,2875µm,1.1s						
SALB				AML	AML		
	comp=N,2185µm,0.7s						
SALB				AML	AML		
	comp=E,2940µm,1.1s						
PTMD	**Pantelleria Cu**	**2.44**	**245**	AML	AML		
	comp=E,1026µm,0.6s						
PTMD				AML	AML		
	comp=E,1026µm,0.6s						
PTMD				AML	AML		
	comp=N,2430µm,0.7s						
PTMD				AML	AML		
	comp=N,2430µm,0.7s						
SIRI	**Monte Sirino -**	**2.48**	**20**	AML	AML		
	comp=E,1655µm,1.6s						
SIRI				AML	AML		
	comp=E,1655µm,1.6s						
SIRI				AML	AML		
	comp=N,1640µm,0.8s						
SIRI				AML	AML		
	comp=E,1680µm,1.6s						
SIRI				AML	AML		
	comp=N,1650µm,0.8s						
SIRI				AML	AML		
	comp=N,1650µm,0.8s						
SIRI				AML	AML		
	comp=E,1680µm,1.6s						
SIRI				AML	AML		
	comp=N,1640µm,0.8s						
CMPR	**Campora**	**2.49**	**10**	AML	AML		
	comp=E,764µm,0.5s						
CMPR				AML	AML		
	comp=N,704µm,1.4s						
CMPR				AML	AML		
	comp=N,704µm,1.4s						
CMPR				AML	AML		
	comp=E,764µm,0.5s						
SCHR	**S. Chirico Rap**	**2.56**	**24**	AML	AML		
	comp=N,1260µm,0.8s						
SCHR				AML	AML		
	comp=E,1325µm,0.7s						
SCHR				AML	AML		
	comp=N,1260µm,0.8s						
SCHR				AML	AML		
	comp=E,1325µm,0.7s						
ORI	**Oriolo Calabro**	**2.57**	**31**	P	**Pn**	**07 50 49.5**	**+2.2**
MCEL	**Monticello**	**2.59**	**18**	AML	AML		
	comp=E,1350µm,0.7s						
MCEL				AML	AML		
	comp=E,1335µm,0.6s						
MCEL				AML	AML		
	comp=N,1545µm,1.1s						
MCEL				AML	AML		
	comp=E,1350µm,0.7s						
MCEL				AML	AML		
	comp=N,1555µm,1.0s						
MCEL				AML	AML		
	comp=E,1335µm,0.6s						
MCEL				AML	AML		
	comp=N,1555µm,1.0s						
MCEL				AML	AML		
	comp=N,1545µm,1.1s						
SLCN	**Sala Consilina**	**2.62**	**15**	AML	AML		
	comp=N,1385µm,1.2s						
SLCN				AML	AML		
	comp=E,1925µm,0.6s						
SLCN				AML	AML		
	comp=N,1360µm,0.5s						
SLCN				AML	AML		
	comp=E,2040µm,0.6s						
SLCN				AML	AML		
	comp=N,1360µm,0.5s						
SLCN				AML	AML		
	comp=N,1385µm,1.2s						
SLCN				AML	AML		
	comp=E,1925µm,0.6s						
SLCN				AML	AML		
	comp=E,2040µm,0.6s						
CDRU	**Civita di Ruta**	**2.66**	**9**	AML	AML		
	comp=N,302µm,0.8s						
CDRU				AML	AML		
	comp=E,510µm,1.1s						
CDRU				AML	AML		
	comp=E,510µm,1.1s						
CDRU				AML	AML		
	comp=N,302µm,0.8s						
SNAL	**S. Angelo Dei**	**3.08**	**7**	AML	AML		
	comp=E,766µm,0.9s						
SNAL				AML	AML		
	comp=E,766µm,0.9s						
SNAL				AML	AML		
	comp=N,1063µm,1.3s						
SNAL				AML	AML		
	comp=N,1063µm,1.3s						
TAR1	**Taranto**	**3.31**	**36**	*e*Pn	**Pn**	**07 50 58.3**	**+0.8**
SG1	**Sgolgore (BA)**	**3.33**	**26**	*e*Pn	**Pn**	**07 50 58.1**	**+0.3**
MASS	**Massafra**	**3.34**	**33**	*e*Pn	**Pn**	**07 50 58.6**	**+0.8**
AMUR	**Altamura**	**3.37**	**25**	AML	AML		
	comp=N,718µm,0.4s						
AMUR				AML	AML		
	comp=E,644µm,0.8s						
AMUR				AML	AML		
	comp=N,718µm,0.4s						
AMUR				AML	AML		
	comp=E,644µm,0.8s						
NOCI	**Noci**	**3.43**	**31**	AML	AML		
	comp=N,882µm,1.2s						
NOCI				AML	AML		
	comp=E,872µm,1.1s						
NOCI				AML	AML		
	comp=N,882µm,1.2s						
NOCI				AML	AML		
	comp=E,872µm,1.1s						
NOCI	**Noci**	**3.43**	**31**	*i* PN	**Pn**	**07 50 59.8**	**+0.7**
NOCI				*i* SN	**Sn**	**07 51 42.4**	**+2.5**
CGL1	**Ceglie Messapi**	**3.50**	**36**	*e*Pn	**Pn**	**07 51 00.8**	**+0.7**
FASA	**Fasano**	**3.58**	**34**	*e*Pn	**Pn**	**07 51 02.3**	**+1.2**
BAI	**Bari**	**3.64**	**26**	*e*Pn	**Pn**	**07 51 03.5**	**+1.6**
SCTE	**Santa Cesarea**	**3.65**	**52**	AML	AML		
	comp=E,386µm,0.5s						
SCTE				AML	AML		
	comp=N,320µm,0.7s						
SCTE				AML	AML		
	comp=N,320µm,0.7s						
SCTE				AML	AML		
	comp=E,386µm,0.5s						
KEK	**Kerkira**	**4.36**	**63**	P	**Pn**	**07 51 12.3**	**+0.4**
KEK	**Kerkira**	**4.36**	**63**	P	**Pn**	**07 51 12.3**	**+0.4**
MTCE	**Montecelio**	**4.43**	**340**	AML	AML		
	comp=E,73µm,0.8s						
MTCE				AML	AML		
	comp=N,72µm,0.4s						
MTCE				AML	AML		
	comp=E,73µm,0.8s						
MTCE				AML	AML		
	comp=N,72µm,0.4s						
VSL	**Villasalto**	**4.51**	**293**	AML	AML		
	comp=N,172µm,1.4s						
VSL				AML	AML		
	comp=E,135µm,0.6s						
VSL				AML	AML		
	comp=N,172µm,1.4s						
VSL				AML	AML		
	comp=E,135µm,0.6s						
TAMR	**Tamra**	**4.56**	**261**	*e*Pn	**Pn**	**07 51 15.7**	**+1.1**
TAMR	**Tamra**	**4.56**	**261**	AML	AML		
	comp=E,277µm,0.4s						
TAMR				AML	AML		
	comp=N,279µm,0.7s						
TAMR				AML	AML		
	comp=N,279µm,0.7s						
TAMR				AML	AML		
	comp=E,277µm,0.4s						
AQU	**L'Aquila**	**4.61**	**348**	*e*Pn	**Pn**	**07 51 16.7**	**+1.4**
AQU	**L'Aquila**	**4.61**	**348**	P	**Pn**	**07 51 16.7**	**+1.4**
VLS	**Valsamata**	**4.63**	**84**	P	**Pn**	**07 51 14.7**	**-0.9**
VLS	**Valsamata**	**4.63**	**84**	P	**Pn**	**07 51 14.7**	**-0.9**
VLS	**Valsamata**	**4.63**	**84**	P	**Pn**	**07 51 14.7**	**-0.9**
IGT	**Igoumenitsa**	**4.68**	**67**	P	**Pn**	**07 51 16.0**	**-0.3**
IGT	**Igoumenitsa**	**4.68**	**67**	P	**Pn**	**07 51 16.0**	**-0.3**
IGT	**Igoumenitsa**	**4.68**	**67**	P	**Pn**	**07 51 16.0**	**-0.3**
IGT	**Igoumenitsa**	**4.68**	**67**	*i* PN	**Pn**	**07 51 16.2**	**-0.1**
IGT				*i* SN	**Sn**	**07 52 05.7**	**-4.9**
EVGI	**Lefkada island**	**4.71**	**79**	P	**Pn**	**07 51 16.5**	**-0.3**
LKD2	**Lefkada island**	**4.74**	**77**	P	**Pn**	**07 51 17.0**	**-0.1**
LKD2	**Lefkada island**	**4.74**	**77**	P	**Pn**	**07 51 17.0**	**-0.1**
KEST	**Kesra**	**4.83**	**246**	Pn	**Pn**	**07 51 19.6**	**+1.2**
	comp=E,5.8nm,0.3s,baz=22,slow=9.9,SNR=33						
KEST				Sn	**Sn**	**07 52 17.1**	**+2.8**
	comp=E,1.2nm,0.3s,baz=0.0,slow=20,SNR=3.2						
KEST	**Kesra**	**4.83**	**246**	*e*Pn	**Pn**	**07 51 20.4**	**+2.0**
KEST				Sn	**Sn**	**07 52 17.1**	**+2.8**
TIR	**Tirane**	**5.27**	**47**	*e*Pn	**Pn**	**07 51 24.6**	**+0.3**
TIR				*e*Sn	**Sn**	**07 52 26.9**	**+1.9**
TIR	**Tirane**	**5.27**	**47**	*e*P	**Pn**	**07 51 24.7**	**+0.3**
TIR				*e*		07 52 27.0	
ULC	**Ulcinj**	**5.36**	**39**	⇑*i*Pn	**Pn**	**07 51 27.2**	**+1.5**
ULC				*e*Sn	**Sn**	**07 52 27.9**	**+0.5**
ULC	**Ulcinj**	**5.36**	**39**	P	**Pn**	**07 51 29.7**	**+4.0**
HCY	**Herceg Novi**	**5.41**	**31**	⇑*i*Pn	**Pn**	**07 51 26.2**	**-0.1**
HCY				*e*Sn	**Sn**	**07 52 30.9**	**+2.4**
HCY	**Herceg Novi**	**5.41**	**31**	P	**Pn**	**07 51 27.4**	**+1.1**
HCY	**Herceg Novi**	**5.41**	**31**	*e*Pn	**Pn**	**07 51 26.4**	**+0.1**
MEV	**Metsovon**	**5.42**	**67**	P	**Pn**	**07 51 27.3**	**+0.8**
MEV	**Metsovon**	**5.42**	**67**	P	**Pn**	**07 51 27.3**	**+0.8**
BUM	**Brajici-Budva**	**5.46**	**34**	⇑*i*Pn	**Pn**	**07 51 23.4**	**-3.6**
BUM				*e*Sn	**Sn**	**07 52 32.6**	**+2.8**
DRME	**Dracevica, Mon**	**5.50**	**37**	⇑*i*Pn	**Pn**	**07 51 28.1**	**+0.5**
DRME				*e*Sn	**Sn**	**07 52 33.9**	**+3.1**
DRME	**Dracevica, Mon**	**5.50**	**37**	*e*Pn	**Pn**	**07 51 27.6**	**0.0**
DRO	**Drossia**	**5.51**	**87**	P	**Pn**	**07 51 29.1**	**+1.4**
NEST	**Nestorio**	**5.52**	**61**	P	**Pn**	**07 51 30.0**	**+2.0**
AMT	**Artemida-Makis**	**5.53**	**91**	P	**Pn**	**07 51 28.1**	**+0.1**
TREB	**Trebinje**	**5.58**	**28**	*e*Pn	**Pn**	**07 51 29.4**	**+0.8**
EVR	**Evrytania**	**5.65**	**77**	P	**Pn**	**07 51 32.1**	**+2.4**
EVR	**Evrytania**	**5.65**	**77**	P	**Pn**	**07 51 32.1**	**+2.4**
PYL	**PYLOS**	**5.66**	**98**	P	**Pn**	**07 51 28.6**	**-1.1**
PYL	**PYLOS**	**5.66**	**98**	P	**Pn**	**07 51 28.6**	**-1.1**
CEME	**Cevo**	**5.67**	**33**	⇑*i*Pn	**Pn**	**07 51 29.6**	**-0.3**
CEME				*e*Sn	**Sn**	**07 52 37.9**	**+3.0**
EFP	**Efpalio**	**5.67**	**82**	P	**Pn**	**07 51 31.7**	**+1.8**
OHR	**Ohrid**	**5.70**	**53**	*i* Pn	**Pn**	**07 51 34.8**	**+4.4**
PDG	**Podgorica**	**5.72**	**36**	⇓*i*P	**Pn**	**07 51 30.8**	**+0.2**
PDG	**Podgorica**	**5.72**	**36**	*e*Pn	**Pn**	**07 51 30.8**	**+0.2**
TTG	**Podgorica**	**5.72**	**36**	⇓*i*Pn	**Pn**	**07 51 33.6**	**+3.0**
TTG				*e*Sn	**Sn**	**07 52 38.6**	**+2.4**
TTG	**Podgorica**	**5.72**	**36**	*e*Pn	**Pn**	**07 51 30.9**	**+0.4**
TTG				*e*Sn	**Sn**	**07 52 39.3**	**+3.1**
TTG	**Podgorica**	**5.72**	**36**	*e*P	**Pn**	**07 51 31.0**	**+0.4**
TTG				*e*		07 52 39.3	
ITM	**Ithomi**	**5.75**	**95**	*e*Pn	**Pn**	**07 51 30.8**	**-0.2**
ITM				*e*Sn	**Sn**	**07 52 36.3**	**-0.6**
ITM	**Ithomi**	**5.75**	**95**	P	**Pn**	**07 51 30.8**	**-0.2**
PUK	**Puka**	**5.75**	**42**	*i* PN	**Pn**	**07 51 33.5**	**+2.4**
BRY	**Bratogost**	**5.81**	**29**	⇑*i*Pn	**Pn**	**07 51 33.4**	**+1.5**
BRY				*e*Sn	**Sn**	**07 52 40.5**	**+1.9**
BRY	**Bratogost**	**5.81**	**29**	*e*Pn	**Pn**	**07 51 32.1**	**+0.2**
KLV	**Kalavryta, Ach**	**5.86**	**86**	P	**Pn**	**07 51 32.3**	**-0.2**
KLV	**Kalavryta, Ach**	**5.86**	**86**	P	**Pn**	**07 51 32.3**	**-0.2**
NKME	**Niksic**	**5.86**	**32**	⇓*i*Pn	**Pn**	**07 51 34.7**	**+2.2**
NKME				*e*Sn	**Sn**	**07 52 41.4**	**+1.7**
FNA	**Florina**	**5.91**	**58**	*e*Pn	**Pn**	**07 51 34.2**	**+0.9**
FNA				*e*Sn	**Sn**	**07 52 44.2**	**+3.2**
FNA	**Florina**	**5.91**	**58**	P	**Pn**	**07 51 34.2**	**+0.9**
FNA	**Florina**	**5.91**	**58**	*e*P	**Pn**	**07 51 34.2**	**+0.9**
FNA				*e*		07 52 44.2	
FNA	**Florina**	**5.91**	**58**	*i* PN	**Pn**	**07 51 34.5**	**+1.3**
FNA				*i* SN	**Sn**	**07 52 36.3**	**-4.7**
MAKR	**Makrakomi, Fth**	**5.91**	**77**	P	**Pn**	**07 51 35.1**	**+1.9**
MAKR	**Makrakomi, Fth**	**5.91**	**77**	P	**Pn**	**07 51 35.1**	**+1.9**
NKY	**Niksic**	**5.92**	**32**	⇑*i*Pn	**Pn**	**07 51 35.6**	**+2.2**
NKY				*e*Sn	**Sn**	**07 52 42.9**	**+1.7**
THL	**Klokotos Trika**	**5.93**	**71**	P	**Pn**	**07 51 34.7**	**+1.2**
BIA	**Bitola**	**5.99**	**56**	*i* Pn	**Pn**	**07 51 35.1**	**+0.8**
AGG	**Agios Georgios**	**6.07**	**77**	*e*Pn	**Pn**	**07 51 36.6**	**+1.2**
AGG				*e*Sn	**Sn**	**07 52 45.1**	**+0.3**
AGG	**Agios Georgios**	**6.07**	**77**	P	**Pn**	**07 51 36.4**	**+1.0**
AGG	**Agios Georgios**	**6.07**	**77**	*e*P	**Pn**	**07 51 36.6**	**+1.2**
AGG				*e*		07 52 45.1	
BCI	**Bajram Curri**	**6.07**	**41**	*i* PN	**Pn**	**07 51 38.9**	**+3.4**
VLX	**Vlachokerasia**	**6.08**	**92**	P	**Pn**	**07 51 36.7**	**+1.1**
VLX	**Vlachokerasia**	**6.08**	**92**	P	**Pn**	**07 51 36.7**	**+1.1**
KRUS	**Krusevo**	**6.12**	**53**	*i* Pn	**Pn**	**07 51 36.7**	**+0.5**
DYR	**Agios Nikonas**	**6.15**	**98**	P	**Pn**	**07 51 37.1**	**+0.6**
KOME	**Kolasin**	**6.17**	**35**	⇑*i*Pn	**Pn**	**07 51 37.6**	**+0.7**
KOME				*e*Sn	**Sn**	**07 52 49.7**	**+2.2**
PVY	**Plav**	**6.19**	**39**	⇑*i*Pn	**Pn**	**07 51 38.6**	**+1.5**
PVY				*e*Sn	**Sn**	**07 52 50.1**	**+2.3**
UPM	**Unac-Piva**	**6.21**	**29**	⇑*i*Pn	**Pn**	**07 51 39.4**	**+2.0**
UPM				*e*Sn	**Sn**	**07 52 50.8**	**+2.4**
UPM	**Unac-Piva**	**6.21**	**29**	*e*Pn	**Pn**	**07 51 38.6**	**+1.2**
IVA	**Berane**	**6.36**	**37**	⇑*i*Pn	**Pn**	**07 51 41.3**	**+1.8**
IVA				*e*Sn	**Sn**	**07 52 53.8**	**+1.6**
PGF	**Pioggiola**	**6.42**	**319**	*e*Pn	**Pn**	**07 51 41.0**	**+0.7**
PGF				*e*Sn	**Sn**	**07 52 50.2**	**-3.4**
	comp=E,14nm,0.6s						
SFI	**Santa Sofia**	**6.42**	**341**	P	Pn	07 51 46.3	+6.0
LIT	**Litokhoron**	**6.43**	**67**	*e*Pn	**Pn**	**07 51 41.1**	**+0.7**
LIT				*e*Sn	**Sn**	**07 52 57.2**	**+3.4**
LIT	**Litokhoron**	**6.43**	**67**	P	**Pn**	**07 51 40.9**	**+0.5**
LIT	**Litokhoron**	**6.43**	**67**	*e*P	**Pn**	**07 51 41.1**	**+0.7**
LIT				*e*		07 52 57.2	
PLE	**Pljevlja**	**6.51**	**31**	⇓*i*Pn	**Pn**	**07 51 43.9**	**+2.4**
PLE				*e*Sn	**Sn**	**07 52 57.4**	**+1.7**
LKR	**Lokris**	**6.54**	**81**	P	**Pn**	**07 51 40.6**	**-1.3**
LKR	**Lokris**	**6.54**	**81**	P	**Pn**	**07 51 40.6**	**-1.3**
ATAL	**Atalanti**	**6.56**	**80**	P	**Pn**	**07 51 42.5**	**+0.3**
ATAL	**Atalanti**	**6.56**	**80**	P	**Pn**	**07 51 42.5**	**+0.3**
VLI	**Veliai**	**6.63**	**97**	P	**Pn**	**07 51 43.7**	**+0.6**
VLI	**Veliai**	**6.63**	**97**	P	**Pn**	**07 51 43.7**	**+0.6**
GRG	**Griva**	**6.69**	**60**	P	**Pn**	**07 51 45.5**	**+1.6**
GRG				pmax	pmax		
	comp=Z,49nm,0.7s						
VILL	**Villia**	**6.77**	**85**	P	**Pn**	**07 51 45.6**	**+0.5**
XOR	**Xorichti**	**6.78**	**75**	P	**Pn**	**07 51 43.7**	**-1.5**
STIP	**Stip**	**6.89**	**54**	*i* Pn	**Pn**	**07 51 50.3**	**+3.7**
BBLS	**Lazići**	**6.96**	**29**	*e*Pn	**Pn**	**07 51 47.4**	**-0.3**
VAY	**Valandovo**	**6.96**	**58**	*i* Pn	**Pn**	**07 51 47.8**	**+0.3**
HAPS	**Han Pijesak,Bl**	**6.99**	**26**	*e*Pn	**Pn**	**07 51 49.0**	**+1.0**
KNT	**Kendrikon**	**7.11**	**60**	P	**Pn**	**07 51 54.4**	**+4.7**
KNT				pmax	pmax		
	comp=Z,26nm,0.8s						
BLY	**Banja Luka**	**7.12**	**14**	*e*Pn	**Pn**	**07 51 52.2**	**+2.4**
BLY	**Banja Luka**	**7.12**	**14**	⇑*i*P	**Pn**	**07 51 53.4**	**+3.6**
BLY	**Banja Luka**	**7.12**	**14**	*e*Pn	**Pn**	**07 51 52.1**	**+2.3**
VLY	**Voula,Athens**	**7.16**	**87**	P	**Pn**	**07 51 49.9**	**-0.4**
VLY	**Voula,Athens**	**7.16**	**87**	P	**Pn**	**07 51 49.9**	**-0.4**
PTL	**Penteli**	**7.21**	**86**	P	**Pn**	**07 51 51.0**	**0.0**
PTL	**Penteli**	**7.21**	**86**	P	**Pn**	**07 51 51.0**	**0.0**
EREA	**Eretria**	**7.26**	**83**	P	**Pn**	**07 51 52.3**	**+0.5**
SOH	**Sokhos**	**7.30**	**63**	P	**Pn**	**07 51 56.9**	**+4.6**
SOH				pmax	pmax		
	comp=Z,25nm,0.7s						
DIVS	**Divibare**	**7.39**	**31**	*e*Pn	**Pn**	**07 51 54.5**	**+1.0**
DIVS	**Divibare**	**7.39**	**31**	*e*Pn	**Pn**	**07 51 53.5**	**0.0**
SRS	**Serrai**	**7.58**	**62**	P	**Pn**	**07 51 59.7**	**+3.7**
SRS				pmax	pmax		
	comp=Z,25nm,0.7s						
CEY	**Cerknica**	**7.88**	**358**	*e*Pn	**Pn**	**07 52 01.5**	**+1.3**
TRI	**Trieste**	**7.88**	**355**	*e*Pn	**Pn**	**07 52 02.7**	**+2.5**
TRI	**Trieste**	**7.88**	**355**	P	**Pn**	**07 52 04.3**	**+4.2**
CRES	**Cresnjev**	**7.98**	**4**	*e*Pn	**Pn**	**07 52 05.6**	**+4.1**
VTS	**Vitosha**	**8.01**	**51**	*e*Pn	**Pn**	**07 52 02.1**	**-0.1**
VTS				*e*Sn	**Sn**	**07 53 33.2**	**+0.3**
VTS	**Vitosha**	**8.01**	**51**	⇑*i*P	**Pn**	**07 52 04.1**	**+1.9**
VTS	**Vitosha**	**8.01**	**51**	P	**Pn**	**07 52 03.3**	**+1.1**
VTS	**Vitosha**	**8.01**	**51**	⇑P	**Pn**	**07 52 04.1**	**+1.9**
SBF	**Sospel**	**8.16**	**320**	*e*Pn	**Pn**	**07 52 03.3**	**-0.8**
SBF				*e*Sn	**Sn**	**07 53 31.5**	**-4.8**
	comp=Z,7.3nm,0.6s						
LJU	**Ljubljana**	**8.18**	**359**	*e*Pn	**Pn**	**07 52 04.5**	**+0.2**
FRGS	**Fruska Gora**	**8.22**	**26**	*e*Pn	**Pn**	**07 52 08.2**	**+3.3**
LMR	**La Mourre**	**8.31**	**314**	*e*Pn	**Pn**	**07 52 05.2**	**-0.9**
LMR				*e*Sn	**Sn**	**07 53 35.0**	**-5.0**
	comp=Z,5.4nm,0.6s						
CTI	**Castel Tesino**	**8.50**	**345**	P	**Pn**	**07 52 12.2**	**+3.4**
IDI	**Anoyia**	**8.55**	**104**	Pn	**Pn**	**07 52 08.4**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=303,slow=17,SNR=6.5						
IDI				Sn	**Sn**	**07 53 42.1**	**-4.0**
	comp=Z,11nm,0.3s,baz=128,slow=22,SNR=14						
IDI	**Anoyia**	**8.55**	**104**	*e*Pn	**Pn**	**07 52 09.1**	**-0.4**
IDI				*e*Sn	**Sn**	**07 53 42.3**	**-3.8**
OBKA	**Obir**	**8.64**	**359**	*e*Pn	**Pn**	**07 52 13.1**	**+2.4**
	comp=Z,8.1nm,0.6s						
MDVR	**Moldovita**	**8.67**	**35**	⇑*i*P	**Pn**	**07 52 12.1**	**+1.0**
PLD	**Plovdiv**	**8.74**	**58**	P	Pn	07 52 17.1	+5.1
SOKA	**Soboth**	**8.81**	**1**	*e*Pn	**Pn**	**07 52 16.3**	**+3.2**
	comp=Z,3.7nm,0.5s						
MORH	**Mrgy, Hungar**	**8.84**	**18**	*e*Pn	**Pn**	**07 52 17.1**	**+3.8**
MORH				Sn	**Sn**	**07 53 57.1**	**+4.3**
MORH	**Mrgy, Hungar**	**8.84**	**18**	*e*Pn	**Pn**	**07 52 10.2**	**-3.1**
HERR	**Herculane**	**9.08**	**37**	⇑*i*P	**Pn**	**07 52 17.9**	**+1.3**
MBDF	**Montbardon**	**9.11**	**321**	*e*Pn	**Pn**	**07 52 18.1**	**+0.9**
MBDF				*e*Sn	**Sn**	**07 53 54.4**	**-5.4**
	comp=Z,7.7nm,0.8s						
SMRF	**Simiane la Rot**	**9.24**	**314**	*e*Pn	**Pn**	**07 52 18.8**	**-0.1**
SMRF				*e*Sn	**Sn**	**07 53 57.2**	**-5.7**
	comp=Z,2.3nm,0.2s						
ALN	**Alexandroupoli**	**9.26**	**67**	*e*Pn	**Pn**	**07 52 18.6**	**-0.5**
ALN	**Alexandroupoli**	**9.26**	**67**	*e*P	**Pn**	**07 52 18.6**	**-0.5**
BNI	**Bardonecchia**	**9.39**	**322**	*e*Pn	**Pn**	**07 52 19.7**	**-1.4**
BNI	**Bardonecchia**	**9.39**	**322**	*e*P	**Pn**	**07 52 19.7**	**-1.4**
DAVOX	**Davos/Dischmat**	**9.61**	**340**	Pn	**Pn**	**07 52 24.9**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=169,slow=16,SNR=2.0						
DAVOX				LR	LR	07 56 05.1	
	comp=Z,172nm,19.9s,baz=253,slow=37						
FETA	**Feichten**	**9.62**	**343**	*i* Pn	Pn	07 52 29.6	+5.4
GZR	**Gura Zlata**	**9.63**	**36**	⇓*i*P	**Pn**	**07 52 26.0**	**+1.8**
GZR	**Gura Zlata**	**9.63**	**36**	⇓P	**Pn**	**07 52 26.0**	**+1.8**
LPG	**La Plagne**	**9.69**	**324**	*e*Pn	**Pn**	**07 52 24.6**	**-0.7**
LPG				*e*Sn	**Sn**	**07 54 08.4**	**-5.8**
	comp=Z,3.0nm,0.5s						
ORIF	**Oris-en-Rattie**	**9.70**	**319**	*e*Pn	**Pn**	**07 52 26.4**	**+1.2**
ORIF				*e*Sn	**Sn**	**07 54 08.5**	**-5.6**
	comp=Z,2.1nm,0.4s						
LPL	**La Plagne**	**9.71**	**324**	*e*Pn	**Pn**	**07 52 25.3**	**-0.2**
LPL				*e*Sn	**Sn**	**07 54 09.6**	**-5.1**
	comp=Z,1.4nm,0.4s						
MOTA	**Moosalm**	**9.85**	**345**	*i* Pn	Pn	07 52 32.7	+5.3
MOA	**Molln**	**9.99**	**358**	*i* Pn	**Pn**	**07 52 31.1**	**+2.0**
CONA	**Conrad Observa**	**10.10**	**4**	*i* Pn	**Pn**	**07 52 34.1**	**+3.4**
HUMR	**Humele**	**10.19**	**46**	⇑*i*P	**Pn**	**07 52 32.3**	**+0.5**
KARP	**Karpathos**	**10.23**	**99**	*e*Pn	**Pn**	**07 52 35.0**	**+2.4**
KARP				*e*Sn	**Sn**	**07 54 22.7**	**-4.6**
VIVF	**Saint-Julien-l**	**10.30**	**316**	*e*Pn	**Pn**	**07 52 32.7**	**-0.7**
LASF	**Ste Croix**	**10.31**	**310**	*e*Pn	**Pn**	**07 52 32.9**	**-0.6**
FUR	**Furstenfeldbru**	**10.61**	**347**	*e*L	L	07 57 12.4	
	comp=Z,233nm,18.1s						
VOIR		**10.80**	**42**	P	**Pn**	**07 52 43.0**	**+2.7**
VOIR				pmax	pmax		
	comp=Z,31nm,1.0s						
CABF	**La Chapelle**	**10.84**	**327**	*e*Pn	**Pn**	**07 52 40.4**	**-0.4**
GEA0	**GERESS Array S**	**11.00**	**356**	*e*Pn	**Pn**	**07 52 44.8**	**+1.8**
GEC2	**GERESS Array S**	**11.01**	**356**	*e*Pn	**Pn**	**07 52 45.4**	**+2.3**
GEC2	**GERESS Array S**	**11.01**	**356**	*e*L	L	07 57 23.2	
	comp=Z,203nm,19.5s						
GEC2	**GERESS Array S**	**11.01**	**356**	*e*P	**Pn**	**07 52 45.4**	**+2.3**
GERES	**GERESS Array B**	**11.01**	**356**	Pn	**Pn**	**07 52 42.9**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=173,slow=12,SNR=8.5						
GERES				LR	LR	07 57 33.8	
	comp=Z,192nm,19.3s,baz=178,slow=40						
VYHS	**Vyhne**	**11.04**	**14**	*e*P	**Pn**	**07 52 47.1**	**+3.6**
VYHS	**Vyhne**	**11.04**	**14**	*e*PN	**Pn**	**07 52 47.1**	**+3.6**
KHC	**Kasperske Hory**	**11.30**	**356**	*e*Pn	**Pn**	**07 52 48.4**	**+1.4**
KHC	**Kasperske Hory**	**11.30**	**356**	*e*P	**Pn**	**07 52 49.8**	**+2.8**
KHC				*e*x	x	07 53 01.5	
KHC				AMS	AMS	07 57 40.0	
	comp=Z,600nm,9.7s						
KHC	**Kasperske Hory**	**11.30**	**356**	*e*P	**Pn**	**07 52 49.8**	**+2.8**
KHC				MLR	MLR		
	comp=Z,600nm,9.7s						
MLR	**Muntele Rosu**	**11.32**	**44**	Pn	**Pn**	**07 52 49.2**	**+1.8**
	comp=Z,0.8nm,0.3s,baz=176,slow=13,SNR=3.9						
MLR	**Muntele Rosu**	**11.32**	**44**	*e*Pn	**Pn**	**07 52 46.5**	**-0.9**
WET	**Wettzell**	**11.36**	**354**	*e*L	L	07 57 35.4	
	comp=Z,230nm,18.5s						
WET	**Wettzell**	**11.36**	**354**	P	**Pn**	**07 52 52.2**	**+4.3**
WET				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TREC	**Trest**	**11.44**	**2**	AMS	AMS	07 58 00.0	
	comp=Z,900nm,9.5s						
BFO	**Black Forest**	**11.46**	**338**	*e*L	L	07 56 33.7	
	comp=Z,87nm,19.8s						
BFO	**Black Forest**	**11.46**	**338**	*i* P	**Pn**	**07 52 48.0**	**-1.3**
HINF	**Hinteralfeld**	**11.51**	**332**	*e*Pn	**Pn**	**07 52 49.6**	**-0.3**
VRAC	**Vranov**	**11.52**	**6**	LR	LR	07 57 23.5	
	comp=Z,101nm,21.4s,baz=225,slow=38						
ECH	**Echery**	**11.74**	**334**	P	**Pn**	**07 52 57.3**	**+4.3**
CAF	**Calviac**	**11.85**	**311**	*e*Pn	**Pn**	**07 52 53.5**	**-1.1**
HAU	**Haudompre**	**11.85**	**331**	*e*Pn	**Pn**	**07 52 54.0**	**-0.6**
CDF	**Champ du Feu**	**11.87**	**335**	*e*Pn	**Pn**	**07 52 55.6**	**+0.7**
VRI	**Vrincioaia**	**11.98**	**44**	⇓*i*P	**Pn**	**07 52 58.1**	**+1.7**
VRI	**Vrincioaia**	**11.98**	**44**	⇓P	**Pn**	**07 52 58.1**	**+1.7**
TLB	**Topalu**	**12.05**	**52**	⇑*i*P	**Pn**	**07 53 01.4**	**+4.1**
TLB	**Topalu**	**12.05**	**52**	⇑P	**Pn**	**07 53 01.4**	**+4.1**
GOPC	**GO Pecny, Ondr**	**12.05**	**0**	AMS	AMS	07 58 10.0	
	comp=Z,800nm,14.2s						
MORC	**Moravsky Berou**	**12.08**	**9**	*e*Pn	**Pn**	**07 52 58.4**	**+0.7**
GRA1	**Grafenberg Arr**	**12.10**	**349**	*e*Pn	**Pn**	**07 52 58.2**	**+0.2**
GRF	**Grafenberg Arr**	**12.10**	**349**	*e*Pn	**Pn**	**07 53 00.3**	**+2.4**
GRF				*e*L	L	07 59 03.3	
	comp=Z,77nm,18.4s						
GRF	**Grafenberg Arr**	**12.10**	**349**	*e*P	**Pn**	**07 52 58.2**	**+0.2**
PRU	**Pruhonice**	**12.13**	**359**	AMS	AMS	07 58 10.0	
	comp=Z,800nm,13.6s						
OKC	**Ostrava-Krasne**	**12.22**	**10**	AMS	AMS	07 58 40.0	
	comp=Z,600nm,8.8s						
RJF	**Les Rejaudoux**	**12.38**	**311**	*e*Pn	**Pn**	**07 53 01.1**	**-0.7**
CFR	**Carcaliu**	**12.41**	**50**	⇓*i*P	**Pn**	**07 53 03.4**	**+1.3**
CFR	**Carcaliu**	**12.41**	**50**	⇓P	**Pn**	**07 53 03.4**	**+1.3**
BUR04	**Bucovina Ar. S**	**12.41**	**35**	*e*Pn	**Pn**	**07 53 06.0**	**+3.7**
BURAR	**Bucovina Array**	**12.41**	**35**	⇑*i*P	**Pn**	**07 53 04.5**	**+2.2**
BURAR	**Bucovina Array**	**12.41**	**35**	⇑P	**Pn**	**07 53 04.5**	**+2.2**
BUR08	**Bucovina Ar. S**	**12.42**	**35**	*e*Pn	**Pn**	**07 53 05.0**	**+2.5**
PAGF	**Fort de Pagny**	**12.54**	**331**	*e*Pn	**Pn**	**07 53 03.8**	**-0.2**
LFF	**La Frestale**	**12.66**	**308**	*e*Pn	**Pn**	**07 53 04.7**	**-1.0**
UPC	**Upice**	**12.68**	**4**	AMS	AMS	07 58 40.0	
	comp=Z,500nm,11.7s						
MOX	**Moxa**	**12.97**	**351**	*e*L	L	07 58 34.5	
	comp=Z,120nm,21.6s						
MOX	**Moxa**	**12.97**	**351**	P	**Pn**	**07 53 14.4**	**+4.5**
MOX				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TNS	**Taunus Mts**	**13.15**	**342**	*e*L	L	07 57 52.7	
	comp=Z,107nm,20.7s						
CLL	**Collm**	**13.50**	**355**	*e*PP	**P**	**07 53 24.0**	**-2.4**
CLL				*e*sPP		07 53 29.0	
	comp=Z,27nm,1.6s						

CLL i 07 53 34.2
CLL eS Sn 07 55 54.0 +7.0
CLL Collm 13.50 355 eP P 07 53 29.0 +2.6
CLL pmax pmax
comp=Z,9.0nm,1.6s
ESDC Sonseca Array 14.71 283 Pn Pn 07 53 33.6 -0.1
comp=Z,0.2nm,0.3s,baz=88,slow=14,SNR=2.9
BRTR Keskin Array B 14.85 77 i P P 07 53 39.0 -2.6
BRTR pmax pmax
comp=Z,1.0nm,0.5s
AK11 Malin Array Si 16.42 34 ePn P 07 53 59.8 +1.1
KIEV Kiev 16.45 34 ePn P 07 53 59.6 +0.6
comp=Z,5.0nm,0.9s
KIEV Kiev 16.45 34 i P Pn 07 53 57.3 +1.0
KIEV pmax pmax
comp=Z,3.0nm,1.0s
AKASG Malin Array Be 16.46 34 Pn Pn 07 53 54.4 -2.0
comp=Z,0.7nm,0.3s,baz=230,slow=9.4,SNR=4.4
AKBB Malin Array Si 16.46 34 ePn Pn 07 53 56.6 +0.1
AKBB eP pP 07 54 01.2 -1.3
AKBB Malin Array Si 16.46 34 eP Pn 07 53 56.6 +0.1
MDT Midelt 16.57 258 Pn Pn 07 53 59.1 +1.0
comp=Z,0.1nm,0.3s,baz=83,slow=17,SNR=2.6
PBRG Braganca 16.96 290 eP P 07 54 08.3 +3.4
MVO Moncorvo 17.12 288 eP P 07 54 10.6 +4.0
comp=Z,29nm,1.7s
SUW Suwalki 17.16 17 ePn Pn 07 54 04.7 -0.6
comp=Z,45nm,1.1s
SUW Suwalki 17.16 17 eP Pn 07 54 04.7 -0.6
SUW pmax pmax
comp=Z,45nm,1.1s
MTE Manteigas 17.47 285 eP P 07 54 13.5 +2.9
MMAI Mount Meron Ar 17.51 100 P Pn 07 54 08.7 -1.1
comp=Z,0.6nm,0.3s,baz=278,slow=13,SNR=2.6
PVRL Vila Real 17.64 288 eP P 07 54 15.3 +2.9
comp=Z,31nm,1.2s
POLO Lamas de Olo 17.71 288 eP P 07 54 16.2 +3.0
comp=Z,14nm,1.3s
PGAV Gavieira, Arco 18.11 290 eP P 07 54 22.9 +5.3
MESJ Messejana 18.13 277 eP Pn 07 54 15.1 -2.4
EIL Elat 18.66 110 P P 07 54 23.3 -0.3
comp=Z,0.4nm,0.3s,baz=306,slow=18,SNR=4.9
AQBJ Aqaba 18.70 110 P Pn 07 54 25.1 +0.7
comp=Z,40nm,0.6s
ASF Jabal al Asfar 18.99 101 P P 07 54 27.0 -0.4
comp=Z,0.3nm,0.3s,baz=196,slow=6.5,SNR=2.4
ASF S **Sn 07 57 52.4 -8.4**
comp=Z,0.5nm,0.3s,baz=342,slow=21,SNR=5.7
ASF Jabal al Asfar 18.99 101 P P 07 54 24.6 -2.8
DOMR Dombai 21.08 67 i P P 07 54 50.8 +0.7
EKA Eskdalemuir Ar 21.26 331 P P 07 54 52.2 +0.4
comp=Z,4.2nm,0.8s,baz=141,slow=12,SNR=8.5
ESK Eskdalemuir 21.27 331 eP P 07 54 52.8 +1.0
comp=Z,14nm,1.0s
ESK Eskdalemuir 21.27 331 eP P 07 54 52.8 +1.0
ESK pmax pmax
comp=Z,14nm,1.0s
VSR Storozhevoye 21.81 44 eP P 07 54 57.5 -0.2
VSR pmax pmax
comp=Z,9.0nm,0.4s
SHA1 Shidzhatmaz 21.87 66 i P P 07 54 59.1 +0.4
NEY Neytrino 21.87 67 i P P 07 54 59.6 +0.9
NEY pmax pmax
comp=Z,2.0nm,0.9s
KIV Kislovodsk 21.92 65⇑eP P 07 54 58.7 -0.3
KIV i *SP **sP 07 55 04.1 0.0**
KIV PPP PPP 07 55 30.0
KIV SS Sn 07 59 28.0 +17
KIV SSS SSS 07 59 50.0
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,50nm,17.0s
KBZ Khabaz 22.05 66 P P 07 55 00.3 +0.1
comp=Z,3.0nm,0.8s,baz=257,slow=9.4,SNR=5.2
VSU Vasula 22.05 17 i P P 07 54 58.4 -1.7
VSU pmax pmax
comp=Z,15nm,1.0s
PYA1 Pyatigorsk 22.22 65 i P P 07 55 02.5 +0.3
HFS Hagfors 22.30 359 P P 07 55 02.6 -0.3
comp=Z,16nm,0.8s,baz=172,slow=11,SNR=18
LPSR Galich'ya Gora 22.37 41 eP P 07 55 04.0 +0.3
LPSR pmax pmax
comp=Z,9.0nm,0.6s
NCK Nalchik 22.53 66 i P P 07 55 04.7 -0.8
NCK pmax pmax
comp=Z,3.0nm,1.1s
ZEI Tsey 22.71 68 eP P 07 55 12.2 +4.6
ZEI pmax pmax
comp=Z,13nm,1.0s
OBN Obninsk 22.72 34⇓eP P 07 55 07.5 +0.1
OBN *PP **pP 07 55 10.0 -0.8**
OBN *SP **sP 07 55 11.0 -1.4**
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,72nm,15.0s
NC602 NORSAR Array S 22.99 356 eP P 07 55 09.6 -0.5
NORES NORESS Array B 22.99 356 P P 07 55 13.2 +3.1
NORES pmax pmax
comp=Z,12nm,1.1s
VRH Novokhopyorsk 23.24 46 eP P 07 55 12.4 -0.4
VRH pmax pmax
comp=Z,10.0nm,0.4s
NB2 NORSAR Subarra 23.31 356 P P 07 55 12.7 -0.8
comp=Z,17nm,1.2s,baz=171,slow=10
NB200 NORSAR Array S 23.31 356 eP P 07 55 12.4 -1.1
NOA NORSAR Array B 23.31 356 P P 07 55 12.4 -1.1
comp=Z,2.3nm,0.7s,baz=169,slow=10,SNR=9.0
NOA LR LR 08 05 39.4
comp=Z,150nm,18.0s,baz=180,slow=40
NB201 NORSAR Array S 23.31 356 eP P 07 55 14.2 +0.7
NBO00 NORSAR Array S 23.33 355 eP P 07 55 13.3 -0.3
NC405 NORSAR Array S 23.35 356 eP P 07 55 13.1 -0.8
GNI Garni 23.37 75 P P 07 55 15.1 +0.6
comp=Z,3.1nm,0.5s,baz=36,slow=19,SNR=3.3
GNI Garni 23.37 75 i P P 07 55 14.8 +0.4
GNI pmax pmax
comp=Z,26nm,0.8s
NC303 NORSAR Array S 23.48 356 eP P 07 55 15.3 +0.2
NC204 NORSAR Array S 23.57 355 eP P 07 55 16.0 -0.1
MOS Moscow 23.59 33 eP P 07 55 32.1 +16
FIA0 FINESS Array S 24.65 13 eP P 07 55 24.8 -1.2
FIA0 FINESS Array S 24.65 13 eP P 07 55 24.8 -1.2
FINES FINESS Array B 24.65 13 P P 07 55 24.8 -1.2
comp=Z,6.2nm,0.5s,baz=187,slow=8.6,SNR=35
FINES LR LR 08 05 59.8
comp=Z,94nm,19.0s,baz=214,slow=39
FIA1 FINESS Array S 24.65 13 eP P 07 55 25.4 -0.6
comp=Z,16nm,1.0s
TOA1 Torodi Ar. Sit 27.22 209 eP P 07 55 49.2 -0.4
TOA1 ePcP **PcP 07 59 06.6 -3.1**
TORD Torodi Ar. Bea 27.22 209 P P 07 55 49.2 -0.5
comp=Z,1.4nm,1.0s,baz=20,slow=8.6,SNR=6.2
TORD PcP **PcP 07 59 06.6 -3.1**
comp=Z,0.6nm,1.1s,baz=66,slow=3.6,SNR=2.8
TORD LR LR 08 06 33.9
comp=Z,62nm,19.0s,baz=295,slow=36
RAYN Ar Rayn 29.91 110 eP P 07 56 13.1 -0.5
comp=Z,3.3nm,1.3s
RAYN Ar Rayn 29.91 110 eP P 07 56 13.1 -0.5
RAYN pmax pmax
comp=Z,3.0nm,1.3s
APA Apatity 31.55 14⇓iP P 07 56 37.5 +10
APA pmax pmax
comp=Z,8.0nm,1.2s
APA MLR MLR
comp=Z,1μm,12.0s
ARA0 ARCESS Array S 32.26 7 eP P 07 56 32.9 -1.0
ARCES ARCESS Array B 32.26 7 P P 07 56 32.9 -1.0
comp=Z,2.5nm,0.7s,baz=185,slow=12,SNR=9.6
ARCES ARCESS Array B 32.26 7 eP P 07 56 35.4 +1.5
GEYT Alibeck 34.00 76 P P 07 56 49.9 +0.4
comp=Z,35nm,0.6s,baz=297,slow=14,SNR=3.7
ABKAR Akbulak array 34.19 56 eP P 07 56 50.9 -0.1
ARU Arti 34.37 43 eP P 07 56 52.4 +0.1
comp=Z,8.7nm,1.5s
ARU Arti 34.37 43 i P P 07 56 51.7 -0.7
ARU pmax pmax
comp=Z,3.0nm,0.3s
JMIC Jan Mayen 35.34 347 P P 07 56 59.1 -1.5
baz=164,slow=5.7
DBIC Dimbokro 35.79 215 P P 07 57 04.5 -0.5
comp=Z,2.8nm,1.0s,baz=351,slow=9.8,SNR=3.7
DBIC LR LR 08 14 33.4

comp=Z,66nm,19.6s,baz=10.0,slow=41
UOSS Minazif 37.36 98 eP P 07 57 19.5 +1.1
comp=Z,4.7nm,0.8s
SPITS Spitsbergen Ar 40.43 1 LR LR 08 17 02.5
comp=Z,33nm,19.2s,baz=50,slow=40
BRVK Borovoye 40.74 50 eP P 07 57 45.9 -0.5
comp=Z,5.2nm,0.7s
BRVK Borovoye 40.74 50 i P P 07 57 46.4 0.0
BRVK pmax pmax
comp=Z,4.0nm,0.6s
BVAR Borovoye Array 40.81 50 LR LR 08 16 03.8
comp=Z,41nm,18.3s,baz=322,slow=38
NRS Narsarsuaq 43.49 322 eP P 07 58 07.5 -1.2
comp=Z,9.0nm,0.8s
NRS Narsarsuaq 43.49 322 eP P 07 58 07.5 -1.2
NRS pmax pmax
comp=Z,9.0nm,0.8s
KURK Kurchatov 46.10 52 i P P 07 58 28.4 -1.3
KURK pmax pmax
comp=Z,3.0nm,0.8s
ILULI Ilulissat 46.65 333 eP P 07 58 36.6 +2.9
comp=Z,51nm,1.4s
ILULI Ilulissat 46.65 333 eP P 07 58 36.6 +2.9
ILULI pmax pmax
comp=Z,51nm,1.4s
KSH Kashi 47.00 68 P P 07 58 37.7 +0.7
KSH pmax pmax
comp=Z,9.0nm,1.1s
KSH pmax pmax
comp=Z,270nm,6.2s
NVS Novosibirsk 48.21 46 eP P 07 58 46.9 +0.9
MAKZ Makanchi 49.11 57 eP P 07 58 53.1 -0.1
comp=Z,2.1nm,0.8s
MAKZ Makanchi 49.11 57 eP P 07 58 53.1 -0.1
MAKZ pmax pmax
comp=Z,2.0nm,0.8s
ZAA0 Zalesovo Array 49.28 47 eP P 07 58 52.2 -2.0
comp=Z,21nm,1.4s
ZALV Zalesovo Beam 49.28 47 LR LR 08 22 21.4
comp=Z,8.0nm,18.4s,baz=248,slow=39
MK31 Makanchi Array 49.32 57 eP P 07 58 54.6 -0.1
MK31 Makanchi Array 49.32 57 eP P 07 58 54.6 -0.1
MK32 Makanchi Array 49.32 57 eP P 07 58 54.7 -0.1
MKAR Makanchi Array 49.32 57 P P 07 58 54.7 -0.1
comp=Z,3.8nm,0.6s,baz=275,slow=7.8,SNR=24
MKAR LR LR 08 22 34.2
comp=Z,34nm,18.1s,baz=270,slow=40
MKAR Makanchi Array 49.32 57 eP P 07 58 54.6 -0.1
comp=Z,28nm,0.5s
MKAR Makanchi Array 49.32 57 eP P 07 58 54.6 -0.1
MKAR pmax pmax
comp=Z,28nm,0.5s
MK01 Makanchi Array 49.34 57 eP P 07 58 54.7 -0.1
DGZ Jazzator, Alta 51.85 52 i P P 07 59 14.2 +0.3
DGZ pmax pmax
comp=Z,1.0nm,0.9s
WMQ Urumqi 53.87 59 eP P 07 59 32.2 +3.4
WMQ pmax pmax
comp=Z,12nm,0.7s
GTA Gaotai 63.95 59 eP P 08 00 42.2 +3.2
GTA pP sP 08 00 50.7 +6.3
SONA0 Songino Array 64.13 48 eP P 08 00 37.3 -2.8
SONA1 Songino Array 64.13 48 eP P 08 00 40.4 +0.2
SONM Songino Array 64.13 48 P P 08 00 37.3 -2.8
comp=Z,0.6nm,0.7s,baz=282,slow=7.1,SNR=4.5
BOSA Boshof 66.86 170 LR LR 08 30 15.2
comp=Z,55nm,18.4s,baz=194,slow=36
LZH Lanzhou 68.38 61 eP P 08 01 09.6 +2.0
LZH pP sP 08 01 14.3 +1.3
LZH sP pP 08 01 18.1 +6.6
LZH pmax pmax
comp=Z,14nm,0.9s
HHC Hu-ho-hao-te 70.92 53 eP P 08 01 22.7 -0.4
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,94nm,5.1s
YKA Yellowknife Ar 72.04 338 P P 08 01 28.5 -0.8
comp=Z,0.3nm,0.7s,baz=37,slow=5.3,SNR=4.0
YKB5 Yellowknife Ar 72.04 338 eP P 08 01 28.6 -0.8
KMI Kunming 73.55 71 P P 08 01 41.3 +2.1
KMI pmax pmax
comp=Z,17nm,0.5s
PAULI Pauline 74.16 302 eP P 08 01 43.4 +1.1
comp=Z,21nm,1.2s
FYU Fort Yukon 74.77 352 eP P 08 01 46.9 +1.6
W50A Signal Mountai 76.26 304 eP P 08 01 55.4 +0.9
comp=Z,5.8nm,1.0s
DHY Denali Highway 78.39 352 eP P 08 02 05.8 -0.3
comp=Z,14nm,1.4s
GNAR Gosnell 78.83 307 eP P 08 02 10.6 +1.8
comp=Z,23nm,0.6s
USRK Ussuriysk Ar. 80.56 40 P P 08 02 17.0 -1.0
comp=Z,1.4nm,0.7s,baz=208,slow=3.7,SNR=4.2
NJ2 Nanjing 80.86 57 eP P 08 02 22.1 +2.3
NJ2 pmax pmax
comp=Z,14nm,0.5s
KSRS Korea Array 82.98 47 LR LR 08 45 27.8
comp=Z,15nm,18.3s,baz=15,slow=40
WR1 Warramunga Arr 125.10 89 ePKPdf PKPdf 08 09 04.3 -2.2
WRA Warramunga Arr 125.10 89 PKP PKPdf 08 09 04.4 -2.2
comp=Z,0.3nm,0.7s,baz=302,slow=3.2,SNR=3.8
ASAR Alice Springs 126.69 93 PKP PKPdf 08 09 08.8 -0.8
comp=Z,0.5nm,0.8s,baz=321,slow=2.1,SNR=6.4
AS01 Alice Springs 126.73 93 ePKPdf PKiKP 08 09 09.9 -0.1
STKA Stephens Creek 136.47 99 PKP PKPdf 08 09 26.4 -1.3
comp=Z,0.5nm,0.3s,baz=52,slow=16,SNR=3.5
STKA Stephens Creek 136.47 99 ePKPdf PKPdf 08 09 27.2 -0.5

KRSC 04 07:50:53.6±1.6**, 50°.29N**×**156°.63E, h75**km±23km**, ML3.6,**
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.51**	**321**	eP	Pn	07 51 08.1	+1.1
SKR				eS	Sn	07 51 18.4	+1.6
PAU	**Pauzhetka**	**1.19**	**6**	eP	Pn	07 51 15.7	+1.0
PAU				eS	Sn	07 51 32.2	+1.7
KDTR	**Khodutka, Kamc**	**1.78**	**30**	eP	Pn	07 51 23.7	+1.3
KDTR				eS	Sn	07 51 45.3	+1.1
MTVR	**Mutnovka**	**2.41**	**23**	eP	Pn	07 51 33.5	+2.6
MTVR				eS	Sn	07 52 03.2	+3.7
RUS	**Russkaya**	**2.46**	**28**	eP	Pn	07 51 33.8	+2.4
RUS				eS	Sn	07 52 03.7	+3.3
KRMR	**Karymshinskiy**	**2.72**	**20**	eP	Pn	07 51 36.8	+1.9
KRMR				eS	Sn	07 52 09.7	+3.0
UGLR	**Uglovaya**	**3.23**	**24**	eP	Pn	07 51 44.9	+2.8
AVH	**Avacha**	**3.26**	**23**	eP	Pn	07 51 46.5	+4.1
KOK	**Koryaka**	**3.26**	**22**	eP	Pn	07 51 44.6	+2.2
SMAR	**Somma**	**3.27**	**24**	eP	Pn	07 51 46.8	+4.1
SDLR	**Sedlovina**	**3.31**	**24**	eP	Pn	07 51 45.0	+1.9
NLC	**Nalytchevo**	**3.35**	**29**	eS	Sn	07 52 24.3	+2.2
GNL	**Ganaly**	**3.51**	**13**	eP	Pn	07 51 46.6	+0.7
SPN	**Mys Shipunski**	**3.52**	**36**	eP	Pn	07 51 48.2	+2.3
SPN				eS	Sn	07 52 29.2	+2.9

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*VAO **04** 07:55:56.6±1.6, 11°.24N×70°.19W, h10km, mb4.8*
*ISCJB **04** 07:55:58.5±0.2, 10°.83N±0°.02×69°.37W±0°.02, h10km, mb4.5/128, MS3.7/15, Error ellipse: s-maj=3.3km s-min=2.5km az=145.3*
*IDC **04** 07:55:58.6±0.4, 10°.81N×69°.54W, h0km, mb4.4/26, mb1 4.6/32, mb1mx4.5/48, mbtmp4.4/32, ML3.4/4, MS3.7/18, Ms1 3.7/18, ms1mx3.5/42, Error ellipse: s-maj=12.1km s-min=9.2km az=94.0*
*CAR **04** 07:56:00.7±0.0, 10°.87N×69°.62W, h5km*
*NEIC **04** 07:56:01.8±0.5, 10°.77N×69°.37W, h21km±3km, mb4.7/107, MW4.7(CAR), Error ellipse: s-maj=4.3km s-min=3.5km az=112.0*
NEIC Felt at Valencia.
ISC 04 07:56:01.1±0.7**, 10°.90N**±0°.04×**69°.51W**±0°.05**, h14**km±4km**, h15**km**:pP-P, n305,** σ**1s.94**/329**, mb4.6**/128**, MS3.7**/15**, 4C,**
Venezuela

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SDV Santo Domingo 2.29 209 Pn **Pn 07 56 37.7 -0.8**
132nm,0.3s,baz=59,slow=8.9,SNR=253
SDV Lg Lg 07 57 08.2
167nm,0.3s,baz=245,slow=20,SNR=10
SDV Santo Domingo 2.29 209 eP Pn 07 56 37.2 -1.3
SDV eS **Sn 07 57 06.7 0.0**
SDV Santo Domingo 2.29 209 eP Pn 07 56 37.2 -1.3
SDV eS **Sn 07 57 06.7 0.0**
CODC Agustn Codazz 3.99 256 eP Pn 07 57 00.1 -1.8
CODC Agustn Codazz 3.99 256 eP Pn 07 57 00.1 -1.8
OCAC Ocana 4.60 235 eP Pn 07 57 08.9 -1.4
OCAC Ocana 4.60 235 eP Pn 07 57 08.9 -1.4
SMRC Santa Marta, M 4.64 274 eP Pn 07 57 09.1 -1.7
SMRC Santa Marta, M 4.64 274 eP Pn 07 57 09.1 -1.7
PCRV Puerto La Cruz 4.84 98 Pn Pn 07 57 15.7 +2.1
62nm,0.3s,baz=283,slow=4.1,SNR=81
PCRV Sn **Sn 07 58 13.7 +4.1**
14nm,0.3s,baz=292,slow=22,SNR=4.2
BRRC Barranca, Sant 5.61 228⇑iP Pn 07 57 23.4 -0.8
BRRC i 07 59 09.7
comp=N,248nm,0.6s
BRRC Barranca, Sant 5.61 228⇑iP Pn 07 57 23.4 -0.8
BRRC i 07 59 09.7
comp=N,248nm,0.6s
BARC Barichara 5.61 221 eP Pn 07 57 23.9 -0.5
BARC i 07 57 25.1
comp=Z,375nm,0.6s
BARC Barichara 5.61 221 eP Pn 07 57 23.9 -0.5
BARC i 07 57 25.1
comp=Z,375nm,0.6s
ZARC Zaragoza, Cauc 6.28 238 eP Pn 07 57 31.7 -1.6
ZARC Zaragoza, Cauc 6.28 238 eP Pn 07 57 31.7 -1.6
MOTC Monteria, Cord 6.42 251 eP Pn 07 57 33.3 -2.0
MOTC Monteria, Cord 6.42 251 eP Pn 07 57 33.3 -2.0
PTBC PUERTO BERRIO, 6.54 229⇑iP Pn 07 57 34.2 -2.6
PTBC PUERTO BERRIO, 6.54 229⇑iP Pn 07 57 34.2 -2.6
UREC San Jos de Ur 6.72 243 eP Pn 07 57 39.4 0.0
UREC San Jos de Ur 6.72 243 eP Pn 07 57 39.4 0.0
CRPR Cabo Rojo, PR 7.44 18 ePn Pn 07 57 49.1 -0.1
BANI BANI 7.49 354 ePn Pn 07 57 52.7 +2.6
BANI eSn **Sn 07 59 12.6 -2.4**
CHIC Chingaza 7.50 214 eP Pn 07 57 49.0 -1.6
CHIC Chingaza 7.50 214 eP Pn 07 57 49.0 -1.6
ICMP Isla Caja de M 7.52 22 ePn Pn 07 57 50.3 0.0
MPR Mayaguez 7.62 17 ePn Pn 07 57 52.1 +0.3
MPR eSn **Sn 07 59 18.0 0.0**
OBIP Obispado Ponce 7.64 21 ePn Pn 07 57 51.8 -0.2
OBIP eSn **Sn 07 59 10.8 -7.6**
ROSC El Rosal 7.68 219 Pn Pn 07 57 52.6 -0.3
comp=Z,6.8nm,0.3s,baz=59,slow=9.9,SNR=41
ROSC Sn **Sn 07 59 19.6 -0.4**
baz=37,slow=20,SNR=2.0
ROSC LR LR 08 01 33.2
comp=Z,543nm,19.4s,baz=15,slow=44
ROSC El Rosal 7.68 219 eP Pn 07 57 52.8 -0.1
ROSC El Rosal 7.68 219 eP Pn 07 57 52.8 -0.1
AGP Aguadilla 7.81 17 ePn Pn 07 57 56.9 +2.6
AGP eSn **Sn 07 59 24.9 +2.4**
SJG San Juan 7.87 24 Pn Pn 07 57 54.8 -0.3
comp=Z,10.0nm,0.3s,baz=212,slow=19,SNR=13
SJG Sn **Sn 07 59 15.6 -8.5**
comp=Z,22nm,0.3s,baz=14,slow=17,SNR=8.1
SJG LR LR 08 01 23.0
comp=Z,277nm,20.0s,baz=224,slow=41
SJG San Juan 7.87 24 ePn Pn 07 57 54.6 -0.6
SJG eSn **Sn 07 59 16.4 -7.7**
SJG San Juan 7.87 24 eP Pn 07 57 54.7 -0.5
SJG San Juan 7.87 24 eP Pn 07 57 54.7 -0.5
TPP Pointe-a-Pierr 7.94 93 eP Pn 07 58 02.5 +6.4
TRN Trinidad (W) 7.97 91 eP Pn 07 58 00.2 +3.7
HUMP Col San Antoni 8.02 26 ePn Pn 07 57 55.3 -1.9
HUMP eSn **Sn 07 59 19.7 -8.1**
EMPR Esperanza - Ma 8.06 21 ePn Pn 07 57 59.4 +1.6
EMPR eSn **Sn 07 59 23.4 -5.4**
MTP Monte Pirata 8.11 28 ePn Pn 07 57 57.3 -1.2
MTP eSn **Sn 07 59 22.1 -8.0**
CBYP Canovanas 8.13 25 ePn Pn 07 57 58.0 -0.8
CBYP eSn **Sn 07 59 22.2 -8.5**
LGNH Logne 8.14 339 ePn Pn 07 58 03.3 +4.5
CDVI St. Croix 8.21 33 ePn Pn 07 58 00.1 +0.2
CDVI eSn **Sn 07 59 32.1 -0.4**
SDDR Presa de Saban 8.22 348 ePn Pn 07 58 03.2 +3.2
SDDR eSn **Sn 07 59 29.3 -3.4**
TBH Brigand Hill 8.30 92 eP Pn 07 58 04.9 +3.8
FCV Fort Charlotte 8.39 74 eP Pn 07 58 02.5 +0.2
SVB Belmont 8.41 73 ePn Pn 07 58 01.6 -1.1
SVB eSn **Sn 07 59 35.5 -1.9**
SVB Belmont 8.41 73 eP Pn 07 58 02.1 -0.5
SVB Belmont 8.41 73 eS Sn 07 59 37.2 -0.3
CUPR Culebra, Puert 8.42 29 ePn Pn 07 58 02.4 -0.4
CUPR eSn **Sn 07 59 29.8 -7.9**
SVV Soufriere Volc 8.46 73 eP Pn 07 58 03.9 +0.6
SSV Crater Summit 8.48 73 eP Pn 07 58 04.4 +0.7
SVCV St. Vincent, C 8.51 73 eP Pn 07 58 03.0 -1.0
SVCV St. Vincent, C 8.51 73 eS Sn 07 59 37.3 -2.6
SFAN Fancy Village 8.52 72 eP Pn 07 57 56.8 -7.3
TPR Prospect 8.57 87 eP Pn 07 58 00.2 -4.7
STVI Saint Thomas 8.62 30 ePn Pn 07 58 05.1 -0.3
STVI eSn **Sn 07 59 39.9 -2.6**
BOT Bacolet 8.63 87 eP Pn 07 57 59.1 -6.5
SLB Belfond 8.77 70 eP Pn 07 58 07.3 -0.2
TOSP Speyside 8.81 87 eP Pn 07 58 01.3 -6.9
SLW Petit Monier 8.92 69 eP Pn 07 58 09.4 -0.3
PLMC San Jos del P 8.97 229 eP Pn 07 58 09.0 -1.4
PLMC San Jos del P 8.97 229 eP Pn 07 58 09.0 -1.4
PCM Pelee Case Pet 8.98 63 eP Pn 07 58 09.5 -0.9
BIM Bigot 8.98 66 eP Pn 07 58 09.6 -0.8
PML Morne Lenard 8.99 64 eP Pn 07 58 09.8 -0.7
FDF Fort de France 9.00 64 ePn Pn 07 58 08.9 -1.8
FDF eSn **Sn 07 59 48.3 -3.6**
FDF Fort de France 9.00 64 eP Pn 07 58 09.1 -1.6
TRMF Trois Ilets 9.01 65 eP Pn 07 58 09.7 -1.1
GBMF Grand Be 9.01 64 eP Pn 07 58 09.8 -1.1
SABA Saba 9.03 42 eSn Sn 07 59 50.3 -2.3
SABA Saba 9.03 42 eP Pn 07 58 08.3 -2.7
BAMF Morne Balai 9.03 64 eP Pn 07 58 10.2 -1.0
ZAM Aeronautique 9.04 65 eP Pn 07 58 09.8 -1.4
BBL Barber's Block 9.07 59 eP Pn 07 58 09.9 -1.9
TBG Guadaloupe-3 9.10 56 eP Pn 07 58 09.8 -2.2
LPMF Morne Lapointe 9.10 65 eP Pn 07 58 11.1 -0.9
MDPO Dominica; Chan 9.12 58 eP Pn 07 58 11.1 -1.2
MVM Montagne Vaucl 9.15 66 eP Pn 07 58 11.7 -1.1
MDPV Dominica, Penn 9.16 58 eP Pn 07 58 15.3 +2.3
DLPL La Plaine 9.17 60 eP Pn 07 58 15.0 +1.9
ABVI Anegada Island 9.25 32 ePn Pn 07 58 16.0 +1.9
MGG Marie-Galante 9.40 57 eP Pn 07 58 13.8 -2.3
YOTC Yotoco, Valle 9.65 225 eP Pn 07 58 18.2 -1.5
YOTC Yotoco, Valle 9.65 225 eP Pn 07 58 18.2 -1.5
BCIP Isla Barro Col 10.32 261 ePn Pn 07 58 27.2 -1.5
GTBY Guantanamo Bay 10.47 330 ePn Pn 07 58 31.9 +1.1
MTDJ Mount Denham 10.65 314 ePn Pn 07 58 32.2 -1.1
GRTK Grand Turk 10.67 352 ePn Pn 07 58 35.5 +2.0
POPC Popayan, Colom 10.94 221 eP Pn 07 58 34.3 -3.2
POPC Popayan, Colom 10.94 221 eP Pn 07 58 34.3 -3.2
OTAV Otavalo 13.83 221 ePn Pn 07 59 15.7 -1.5
PTGA Pitinga 14.95 140 Pn Pn 07 59 30.2 -2.0
comp=Z,0.3nm,0.3s,baz=326,slow=12,SNR=4.1
PTGA Lg Lg 08 03 40.3
comp=Z,1.8nm,0.3s,baz=66,slow=19,SNR=4.5
PTGA LR LR 08 05 10.5
comp=Z,595nm,18.2s,baz=330,slow=37
PTGA Pitinga 14.95 140 ePn Pn 07 59 33.1 +1.0
PTGA Lg Lg 08 03 40.3
JTS JuntasAbangare 15.20 269 Pn Pn 07 59 33.7 -1.8
comp=Z,0.1nm,0.3s,baz=227,slow=19,SNR=2.1
JTS Sn Sn 08 02 12.2 -11
comp=Z,0.3nm,0.3s,baz=234,slow=17,SNR=2.2
JTS JuntasAbangare 15.20 269 eP P 07 59 39.7 -0.7
comp=Z,9.9nm,0.9s
JTS Sn Sn 08 02 12.2 -11
TEIG Tepich 20.30 299 eP Pn 08 00 38.5 -0.2
comp=Z,63nm,1.5s
APG El Apazote 20.82 284 LR LR 08 09 32.5
comp=Z,158nm,20.7s,baz=101,slow=39
PAYG Puerto Ayora 23.64 242 eP P 08 01 12.2 0.0
comp=Z,58nm,1.3s
NNA Nana 23.88 198 P P 08 01 12.9 -1.5
comp=Z,22nm,0.6s,baz=3.5,slow=7.4,SNR=15
NNA LR LR 08 11 48.4
comp=Z,227nm,20.1s,baz=62,slow=40
NNA Nana 23.88 198 eP P 08 01 12.6 -1.9
comp=Z,29nm,0.8s
CMIG Matias Romero 25.36 287 LR LR 08 13 46.7
comp=Z,174nm,18.4s,baz=122,slow=42
152A Waverly Hall 25.80 329 eP P 08 01 33.9 +2.1
comp=Z,11nm,0.9s
GOGA Godfrey 25.81 332 eP P 08 01 33.7 +1.9
comp=Z,9.9nm,1.1s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BG3	Lake Jocassee	26.92	335	eP	P	08 01 44.6	+2.7
	comp=Z,11nm,1.1s						
LPAZ	La Paz	27.05	177	P	P	08 01 43.7	-0.2
	comp=Z,4.3nm,0.5s,baz=16,slow=4.7,SNR=25						
LPAZ				Lg	Lg	08 10 09.2	
	comp=Z,4.6nm,1.0s,baz=11,slow=23,SNR=3.8						
LPAZ				LR	LR	08 12 32.5	
	comp=Z,189nm,18.6s,baz=341,slow=37						
LPAZ	La Paz	27.05	177	eP	P	08 01 45.2	+1.3
	comp=Z,4.8nm,0.6s						
LPAZ				Lg	Lg	08 10 09.2	
LPAZ	La Paz	27.05	177	eP	P	08 01 43.5	-0.3
TKL	Tuckaleechee C	27.84	335	P	P	08 01 51.3	+1.1
	comp=Z,3.9nm,0.9s,baz=342,slow=19,SNR=3.6						
TKL				LR	LR	08 13 04.6	
	comp=Z,176nm,18.8s,baz=182,slow=37						
TKL	Tuckaleechee C	27.84	335	eP	P	08 01 52.0	+1.8
	comp=Z,5.6nm,1.0s						
SWET	Sewanee	28.45	331	eP	P	08 01 58.4	+2.8
	comp=Z,9.3nm,1.2s						
SMTB	Santa Maria do	29.34	131	eP	P	08 02 05.7	+1.9
MNMC	Minye Minye	29.84	180	eP	P	08 02 05.4	-2.9
	comp=Z,14nm,0.7s						
GO01	Chusmiza	30.38	179	eP	P	08 02 11.2	-2.2
	comp=Z,21nm,0.6s						
ODNJ	Ogdensburg	30.40	352	eP	P	08 02 12.6	-0.1
	comp=Z,15nm,1.1s						
PB11	IPOC Station P	30.47	180	eP	P	08 02 11.1	-2.7
	comp=Z,18nm,0.8s						
PB01	IPOC Station P	31.74	180	eP	P	08 02 22.5	-2.4
	comp=Z,13nm,0.9s						
WHAR	Wooly Hollow	31.91	323	eP	P	08 02 28.0	+1.7
	comp=Z,14nm,1.2s						
MIAR	Mount Ida	32.19	321	eP	P	08 02 29.0	+0.3
	comp=Z,14nm,1.4s						
T42A	Van Buren	32.48	327	eP	P	08 02 31.9	+0.6
	comp=Z,4.3nm,0.6s						
W39A	Magazine	32.74	321	eP	P	08 02 34.6	+1.1
	comp=Z,12nm,0.8s						
833A	Chaparral WMA,	32.92	306	eP	P	08 02 35.6	+0.4
	comp=Z,18nm,0.8s						
LVC	Limon Verde	33.31	179	eP	P	08 02 37.0	-1.9
	comp=Z,9.1nm,0.7s						
LVC	Limon Verde	33.31	179	eP	P	08 02 37.4	-1.5
BDFB	Brasilia	33.89	141	P	P	08 02 44.9	+1.1
	comp=Z,5.4nm,0.8s,baz=7.5,slow=7.8,SNR=5.1						
BDFB				Lg	Lg	08 13 49.7	
	comp=Z,12nm,1.2s,baz=61,slow=19,SNR=3.1						
BDFB				LR	LR	08 17 34.4	
	comp=Z,273nm,20.2s,baz=332,slow=38						
AQDB	Aquidauana	34.01	156	eP	P	08 02 44.8	+0.2
TUL1	Leonard	34.45	321	eP	P	08 02 48.2	-0.2
	comp=Z,25nm,1.5s						
SADO	Sadowa	34.75	348	LR	LR	08 16 41.1	
	comp=Z,88nm,20.1s,baz=147,slow=36						
ABTX	Abilene, Hawle	35.15	313	eP	P	08 02 54.9	+0.3
	comp=Z,8.0nm,0.8s						
IPMB	Ipameri, GO	35.58	144	eP	P	08 02 58.9	+0.5
L42A	Oliver, Polo	35.66	334	eP	P	08 03 00.3	+1.5
	comp=Z,25nm,1.3s						
WMOK	Wichita Mounta	35.69	316	eP	P	08 02 58.8	-0.4
	comp=Z,4.6nm,0.6s						
GO02	Mina Guanaco	35.84	180	eP	P	08 02 58.4	-2.5
	comp=Z,12nm,0.6s						
LTX	Lajitas	36.75	305	eP	P	08 03 08.9	+0.5
LTX				ePcP	PcP	08 05 31.1	+0.4
TXAR	Lajitas Array	36.75	305	P	P	08 03 08.9	+0.5
	comp=Z,3.1nm,0.8s,baz=122,slow=8.8,SNR=20						
TXAR				PcP	PcP	08 05 31.1	+0.4
	comp=Z,0.7nm,0.6s,baz=121,slow=6.7,SNR=5.2						
TRCB	Terra Rica	37.35	154	eP	P	08 03 16.1	+2.7
AMTX	Amarillo	37.77	314	eP	P	08 03 16.9	0.0
	comp=Z,6.7nm,0.8s						
MSTX	Muleshoe	38.09	312	eP	P	08 03 19.5	-0.2
	comp=Z,7.7nm,1.2s						
CBKS	Cedar Bluff	38.72	321	eP	P	08 03 25.4	+0.5
	comp=Z,12nm,0.6s						
CPUP	Villa Florida	38.86	162	P	P	08 03 24.0	-2.0
	comp=Z,4.5nm,0.9s,baz=354,slow=9.8,SNR=6.3						
CPUP				LR	LR	08 19 57.6	
	comp=Z,232nm,21.5s,baz=350,slow=37						
MNTX	Cornudas Mount	39.05	308	eP	P	08 03 28.1	+0.5
	comp=Z,4.3nm,0.8s						
FRTB	Fartura	39.23	150	eP	P	08 03 30.5	+1.3
LCO	Las Campanas	39.69	182	eP	P	08 03 31.6	-1.7
BSCB	Bom Sucesso	39.95	142	eP	P	08 03 38.2	+2.9
SJMB	Sao Joao De Ma	40.57	136	eP	P	08 03 42.5	+2.1
ANMO	Albuquerque	41.24	311	eP	P	08 03 47.7	+1.7
	comp=Z,3.4nm,1.3s						
LENM	Lemitar	41.29	310	eP	P	08 03 48.4	+2.0
EYMN	Ely	41.29	338	eP	P	08 03 46.0	0.0
	comp=Z,18nm,1.0s						
SDCO	Great Sand Dun	41.89	316	eP	P	08 03 52.0	+0.5
	comp=Z,5.6nm,1.3s						
319A	Douglas	42.01	305	eP	P	08 03 53.7	+1.4
	comp=Z,6.2nm,0.7s						
S22A	4UR Ranch, Cre	42.80	315	eP	P	08 04 00.5	+1.6
	comp=Z,4.8nm,1.4s						
ISCO	Idaho Springs	43.02	318	eP	P	08 04 02.1	+1.5
	comp=Z,1.9nm,0.9s						
AGMN	Agassiz Nation	43.32	334	eP	P	08 04 03.0	+0.5
	comp=Z,10nm,0.7s						
SMCO	Snowmass	43.60	317	eP	P	08 04 06.7	+1.2
	comp=Z,4.2nm,0.7s						
ROC1	El Roble	43.65	182	eP	P	08 04 03.6	-2.1
	comp=Z,12nm,0.5s						
SCHQ	Schefferville	43.87	2	P	P	08 04 08.1	+1.2
	comp=Z,4.2nm,0.4s,baz=192,slow=6.9,SNR=32						
SCHQ	Schefferville	43.87	2	eP	P	08 04 08.6	+1.7
	comp=Z,13nm,1.0s						
PV01	Paradox Valley	44.20	315	eP	P	08 04 11.9	+1.8
PV02	Paradox Valley	44.35	315	eP	P	08 04 13.0	+1.7
	comp=Z,13nm,0.8s						
PV13	Radium Mtn., P	44.39	314	eP	P	08 04 13.5	+1.9
	comp=Z,13nm,0.8s						
PV12	Saucer Basin,	44.45	315	eP	P	08 04 13.6	+1.5
	comp=Z,14nm,0.9s						
PV03	Paradox Valley	44.45	315	eP	P	08 04 13.6	+1.6
PV11	David Mesa, Pa	44.49	315	eP	P	08 04 13.4	+1.0
	comp=Z,7.6nm,0.9s						
PV09	Paradox Valley	44.76	315	eP	P	08 04 14.8	+0.2
X16A	Lo Mia Camp, P	44.78	308	eP	P	08 04 16.9	+2.1
	comp=Z,1.9nm,0.6s						
ULM	Lac du Bonnet	44.85	336	P	P	08 04 14.1	-0.7
	comp=Z,4.2nm,0.6s,baz=136,slow=8.3,SNR=11						
ULM	Lac du Bonnet	44.85	336	eP	P	08 04 14.4	-0.4
	comp=Z,6.9nm,0.9s						
WUAZ	Wupatki	45.14	310	eP	P	08 04 19.1	+1.5
	comp=Z,6.9nm,1.0s						
P17A	Butcher Ranch,	46.32	315	eP	P	08 04 28.5	+1.7
	comp=Z,11nm,0.9s						
MTPU	Mount Pierson	46.73	313	eP	P	08 04 32.0	+1.7
	comp=Z,3.9nm,0.9s						
KNB	Kanab	46.79	311	eP	P	08 04 32.3	+1.7
	comp=Z,3.7nm,0.8s						
BW06	Boulder Array	47.10	320	eP	P	08 04 33.3	+0.3
	comp=Z,4.5nm,1.1s						
PD31	Pinedale Array	47.10	320	eP	P	08 04 33.2	+0.3
PD31				ePcP	PcP	08 06 05.0	+0.2
PDAR	Pinedale Array	47.10	320	P	P	08 04 33.0	+0.1
	comp=Z,0.7nm,0.4s,baz=125,slow=11,SNR=16						
PDAR				PcP	PcP	08 06 04.7	-0.1
	comp=Z,1.3nm,0.6s,baz=115,slow=4.1,SNR=5.8						
PDAR				LR	LR	08 26 18.2	
	comp=Z,73nm,18.0s,baz=154,slow=39						
MPU	Maple Canyon	47.17	315	eP	P	08 04 34.6	+1.1
	comp=Z,4.3nm,0.9s						
NLU	North Lily Min	47.45	315	eP	P	08 04 37.2	+1.5
	comp=Z,6.6nm,1.1s						
TCUT	Toone Canyon	47.51	317	eP	P	08 04 37.4	+1.2
	comp=Z,7.8nm,0.6s						
RLMT	Red Lodge	48.15	323	eP	P	08 04 41.8	+0.7
	comp=Z,4.1nm,0.8s						
LOHW	Long Hollow	48.18	320	eP	P	08 04 41.9	+0.6
	comp=Z,4.7nm,0.8s						
SNOW	Snow King Moun	48.20	320	eP	P	08 04 42.8	+1.3
	comp=Z,8.7nm,0.6s						
REDW	Red Top Meadow	48.22	320	eP	P	08 04 42.4	+0.8
	comp=Z,12nm,1.0s						
MOOW	Moose Ponds	48.34	320	eP	P	08 04 43.4	+0.9
	comp=Z,5.0nm,1.0s						
TPAW	Teton Pass	48.34	320	eP	P	08 04 43.6	+1.0
	comp=Z,8.4nm,0.6s						
FLWY	Flagg Ranch	48.48	321	eP	P	08 04 46.0	+2.3
	comp=Z,4.3nm,0.8s						
BGU	Big Grassy Mou	48.53	316	eP	P	08 04 46.0	+2.1
	comp=Z,3.2nm,0.9s						
IMW	Indian Meadow	48.53	320	eP	P	08 04 45.8	+1.7
	comp=Z,3.2nm,0.7s						
HVU	Hansel Valley	48.73	317	eP	P	08 04 46.2	+0.7
	comp=Z,5.5nm,1.1s						
TPNV	Topopah Spring	49.33	310	eP	P	08 04 52.1	+1.9
	comp=Z,3.3nm,0.8s						
BOZ	Bozeman (W)	49.81	322	eP	P	08 04 55.3	+1.5
	comp=Z,2.9nm,0.9s						
MCMT	McKenzie Canyo	50.19	321	eP	P	08 04 58.0	+1.3
HLID	Hailey	50.60	318	eP	P	08 05 01.3	+1.5
	comp=Z,3.6nm,1.1s						
FFC	Flin Flon	50.67	336	eP	P	08 04 59.8	-0.1
	comp=Z,5.6nm,0.8s						
NV11	Mina Array Sit	51.25	311	eP	P	08 05 05.9	+1.2
	comp=Z,0.2nm,0.8s						
FCC	Fort Churchill	51.26	344	eP	P	08 05 03.8	-0.3
	comp=Z,12nm,1.5s						
NV01	Mina Array Sit	51.36	311	eP	P	08 05 07.7	+2.1
NV01				ePcP	PcP	08 06 19.1	-1.2
NVAR	Mina Array Bea	51.36	311	P	P	08 05 06.8	+1.2
	comp=Z,2.5nm,0.7s,baz=121,slow=6.7,SNR=15						
NVAR				PcP	PcP	08 06 19.5	-0.8
	comp=Z,1.0nm,0.6s,baz=135,slow=4.3,SNR=3.7						
NVAR				LR	LR	08 30 16.5	
	comp=Z,35nm,18.6s,baz=121,slow=40						
PLCA	Paso Flores	51.38	181	P	P	08 05 03.3	-2.1
	comp=Z,5.9nm,0.8s,baz=24,slow=8.8,SNR=18						
PLCA	Paso Flores	51.38	181	eP	P	08 05 03.2	-2.2
	comp=Z,8.2nm,0.9s						
PLCA	Paso Flores	51.38	181	eP	P	08 05 03.5	-2.0
KVN	Kaiserville	51.41	312	eP	P	08 05 07.4	+1.4
	comp=Z,3.2nm,0.8s						
YERR	Yerington	52.23	311	eP	P	08 05 12.7	+0.6
	comp=Z,9.2nm,1.2s						
FRB	Frobisher Bay	52.77	1	P	P	08 05 16.1	+0.7
	comp=Z,3.3nm,0.4s,baz=180,slow=6.6,SNR=17						
G08A	Pilot Rock	54.28	319	eP	P	08 05 27.6	+0.6
	comp=Z,3.7nm,0.6s						
NEW	Newport	54.40	323	P	P	08 05 27.9	+0.3
	comp=Z,1.5nm,0.7s,baz=124,slow=5.2,SNR=4.8						
NEW				LR	LR	08 31 43.0	
	comp=Z,124nm,18.1s,baz=132,slow=39						
YKA	Yellowknife Ar	60.77	338	P	P	08 06 11.9	-0.3
	comp=Z,5.6nm,0.7s,baz=120,slow=6.9,SNR=46						
YKB5	Yellowknife Ar	60.77	338	eP	P	08 06 12.1	-0.2
YKW3	Yellowknife Ar	60.82	338	eP	P	08 06 12.1	-0.4
	comp=Z,6.2nm,0.8s						
TIC	Toumodi	63.78	88	eP	P	08 06 33.5	+0.2
LIC	Lamto	63.84	88	eP	P	08 06 34.0	+0.4
	comp=Z,21nm,0.5s						
DBIC	Dimbokro	63.94	88	P	P	08 06 34.9	+0.6
	comp=Z,6.2nm,0.5s,baz=268,slow=6.6,SNR=22						
DBIC	Dimbokro	63.94	88	eP	P	08 06 34.6	+0.3
	comp=Z,8.4nm,0.5s						
DBIC	Dimbokro	63.94	88	eP	P	08 06 34.9	+0.6
KIC	Kosan Boka	64.10	88	eP	P	08 06 35.8	+0.4
	comp=Z,22nm,0.5s						
ESDC	Sonseca Array	64.32	51	P	P	08 06 35.6	-0.9
	comp=Z,0.5nm,0.4s,baz=254,slow=4.8,SNR=5.7						
SUMG	Summit	64.36	10	eP	P	08 06 37.6	+1.1
	comp=Z,14nm,1.1s						
SUMG	Summit	64.36	10	iP	P	08 06 37.7	+1.1
RES	Resolute Bay	65.36	353	eP	P	08 06 42.8	+0.2
	comp=Z,3.0nm,0.8s						
DLBC	Dease Lake	65.54	330	P	P	08 06 45.0	+1.0
	comp=Z,3.6nm,0.5s,baz=100,slow=4.9,SNR=8.0						
DLBC	Dease Lake	65.54	330	eP	P	08 06 46.3	+2.2
	comp=Z,5.1nm,0.8s						
TOA1	Torodi Ar. Sit	69.46	80	eP	P	08 07 08.4	-1.2
TOA0	Torodi Ar. Sit	69.47	80	eP	P	08 07 09.9	+0.3
	comp=Z,4.7nm,0.6s						
TORD	Torodi Ar. Bea	69.47	80	P	P	08 07 08.4	-1.2
	comp=Z,2.9nm,0.4s,baz=279,slow=6.5,SNR=34						
INK	Inuvik	70.46	339	P	P	08 07 14.3	-0.4
	comp=Z,1.1nm,0.5s,baz=58,slow=2.5,SNR=11						
INK	Inuvik	70.46	339	eP	P	08 07 15.0	+0.3
	comp=Z,7.2nm,1.3s						
DAG	Danmarks Havn	71.00	11	iP	P	08 07 19.4	+1.5
	comp=Z,4.1nm,0.9s						
EPYK	Eagle Plains	71.02	337	eP	P	08 07 19.1	+0.9
	comp=Z,5.7nm,0.7s						
DAWY	Dawson	71.50	334	eP	P	08 07 21.4	+0.1
	comp=Z,2.4nm,0.8s						
SCRK	Sand Creek	73.47	334	eP	P	08 07 34.1	+1.0
	comp=Z,3.7nm,0.8s						
EYAK	Cordova Ski Ar	73.81	330	eP	P	08 07 36.6	+1.7
	comp=Z,54nm,1.3s						
PRP	Porcupine Dome	74.35	335	eP	P	08 07 39.3	+1.1
	comp=Z,5.9nm,0.7s						
FYU	Fort Yukon	74.39	336	eP	P	08 07 40.3	+2.1
	comp=Z,4.6nm,1.2s						
SCM	Sheep Creek Mo	74.71	331	eP	P	08 07 41.5	+1.2
	comp=Z,52nm,1.5s						
IL1	Eielson Array	74.83	334	eP	P	08 07 40.6	-0.2
ILAR	Eielson Array	74.83	334	P	P	08 07 40.5	-0.4
	comp=Z,2.2nm,0.8s,baz=102,slow=5.0,SNR=21						
ILAR				LR	LR	08 44 16.5	
	comp=Z,70nm,18.0s,baz=112,slow=39						
ILB	Eielson Array	74.83	334	eP	P	08 07 40.6	-0.2
SML	Sawmill	75.18	331	eP	P	08 07 43.9	+1.0
	comp=Z,11nm,1.0s						
KNK	Knik Glacier	75.21	331	eP	P	08 07 45.0	+1.9
	comp=Z,38nm,1.4s						
MDM	Murphy Dome	75.42	334	eP	P	08 07 46.1	+1.8
	comp=Z,3.6nm,0.9s						
GHO	Glory Hole Cre	75.46	331	eP	P	08 07 45.8	+1.2
	comp=Z,17nm,0.9s						
FETA	Feichten	75.46	44	iP	P	08 07 46.6	+1.6
PMR	Palmer	75.55	331	eP	P	08 07 46.3	+1.4
	comp=Z,6.5nm,0.9s						
RND	Reindeer	75.55	333	eP	P	08 07 46.5	+1.4
	comp=Z,5.5nm,1.0s						
SEW	Seward	75.61	329	eP	P	08 07 47.1	+1.8
	comp=Z,77nm,1.4s						
MOTA	Moosalm	75.72	44	iP	P	08 07 47.4	+0.9
	comp=Z,1.8nm,0.6s						
NB200	NORSAR Array S	76.04	30	eP	P	08 07 50.1	+2.2
NOA	NORSAR Array B	76.04	30	P	P	08 07 50.1	+2.2
	comp=Z,0.6nm,0.6s,baz=269,slow=5.8,SNR=3.2						
NOA				LR	LR	08 35 13.1	
	comp=Z,17nm,21.6s,baz=340,slow=31						
TRF	Thorofare Moun	76.20	333	eP	P	08 07 51.7	+2.8
	comp=Z,7.4nm,0.8s						
SUA	Susitna One	76.31	331	eP	P	08 07 50.5	+1.0
	comp=Z,16nm,0.8s						
BRLK	Bradley Lake	76.32	329	eP	P	08 07 50.2	+0.7
	comp=Z,13nm,0.8s						
MLY	Manley	76.49	334	eP	P	08 07 50.7	+0.3
	comp=Z,1.3nm,0.7s						
BPAW	Bear Paw Mtn.	76.54	333	eP	P	08 07 50.3	-0.4
	comp=Z,7.0nm,0.8s						
ABTA	Abfaltersbach	76.69	44	iP	P	08 07 53.4	+1.5
	comp=Z,3.5nm,0.6s						
CLL	Collm	76.90	40	eP	P	08 07 52.0	-0.9
SPU	Mount Spurr	76.93	330	eP	P	08 07 53.9	+0.9
CAST	Castle Rocks	77.00	333	eP	P	08 07 53.0	-0.3
	comp=Z,3.7nm,0.8s						
PPLA	Purkeypile	77.04	332	eP	P	08 07 54.2	+0.6
	comp=Z,12nm,0.9s						
KDAK	Kodiak Island	77.17	327	P	P	08 07 54.6	+0.3
	comp=Z,11nm,1.0s,baz=40,slow=1.9,SNR=5.5						
KDAK	Kodiak Island	77.17	327	eP	P	08 07 54.7	+0.4
	comp=Z,47nm,1.3s						
RSO	Redoubt South	77.27	330	eP	P	08 07 56.5	+1.5
GEC2	GERESS Array S	77.42	42	eP	P	08 07 56.3	+0.3
	comp=Z,3.3nm,0.8s						
GERES	GERESS Array B	77.42	42	P	P	08 07 56.6	+0.6
	comp=Z,2.2nm,0.6s,baz=272,slow=4.2,SNR=15						
GEA0	GERESS Array S	77.42	42	eP	P	08 07 56.8	+0.8
MOA	Molln	77.84	43	iP	P	08 07 57.9	-0.4
	comp=Z,3.4nm,0.6s						
SPA0	Spitsbergen Ar	78.56	12	eP	P	08 08 03.1	+1.4
SVW2	Sparrevohn	78.64	330	eP	P	08 08 02.6	+0.2
	comp=Z,16nm,1.0s						
CONA	Conrad Observa	78.91	43	P	P	08 08 05.9	+1.6
	comp=Z,3.1nm,1.1s						
ARA0	ARCESS Array S	81.62	21	eP	P	08 08 18.9	+0.6
ARCES	ARCESS Array B	81.62	21	P	P	08 08 18.9	+0.6
	comp=Z,5.3nm,0.9s,baz=267,slow=4.9,SNR=6.5						
ANM	Nome	82.75	334	eP	P	08 08 27.3	+3.0
	comp=Z,2.3nm,0.7s						
FIA0	FINESS Array S	83.17	29	eP	P	08 08 27.5	+0.9
FIA1	FINESS Array S	83.17	29	eP	P	08 08 27.8	+1.2
FINES	FINESS Array B	83.17	29	P	P	08 08 27.5	+0.9
	comp=Z,1.8nm,0.7s,baz=225,slow=1.0,SNR=9.6						
FINES				LR	LR	08 40 09.9	
	comp=Z,32nm,19.5s,baz=308,slow=32						
UNV	Unalaska Valle	85.39	324	eP	P	08 08 40.3	+2.3
	comp=Z,30nm,1.1s						
IDI	Anoyia	87.34	55	eP	P	08 08 49.6	+1.5
	comp=Z,13nm,1.0s						
BR101	Keskin Array S	93.02	49	eP	P	08 09 15.8	+1.1
BRTR	Keskin Array B	93.02	49	P	P	08 09 15.8	+1.1
	comp=Z,0.9nm,0.8s,baz=315,slow=4.0,SNR=4.5						
BRTR				LR	LR	08 47 05.3	
	comp=Z,17nm,18.9s,baz=286,slow=33						
MK01	Makanchi Array	117.30	21	ePKPdf	PKPdf	08 14 45.3	-1.1
MLZ	Mavora Lakes	120.27	224	ePKPdf	PKPdf	08 14 51.8	-0.2
KSH	Kashi	120.46	31	PKP	PKPdf	08 14 49.4	-3.4
SONA1	Songino Array	121.40	3	ePKPdf	PKPdf	08 14 53.9	-0.4
SONA0	Songino Array	121.41	3	ePKPdf	PKPdf	08 14 53.7	-0.7
SONM	Songino Array	121.41	3	PKP	PKPdf	08 14 53.7	-0.7
	comp=Z,0.5nm,0.6s,baz=321,slow=3.3,SNR=4.9						
USRK	Ussuriysk Ar.	121.79	342	PKP	PKPdf	08 14 54.6	-0.4
	comp=Z,0.8nm,0.5s,baz=202,slow=3.1,SNR=5.1						
GTA	Gaotai	128.97	11	ePKP	PKPdf	08 15 09.2	+0.1
GTA				sPKP		08 15 18.3	
KS01	Wonju Array Si	129.18	342	ePKPdf	PKPdf	08 15 08.1	-1.2
KSRS	Korea Array	129.20	342	PKP	PKPdf	08 15 09.0	-0.4
	comp=Z,1.4nm,0.7s,baz=33,slow=1.7,SNR=7.4						
KS15	Wonju Array Si	129.22	342	ePKPdf	PKPdf	08 15 08.4	-1.0
KSAR	Wonju Array Be	129.22	342	PKP	PKPdf	08 15 09.0	-0.4
CTAO	Charters Tower	144.42	251	ePKPdf	PKPab	08 15 36.0	0.0
STKA	Stephens Creek	144.51	229	PKP	PKPab	08 15 35.4	-0.6
	comp=Z,3.4nm,0.9s,baz=126,slow=4.2,SNR=3.1						
STKA	Stephens Creek	144.51	229	ePKPdf	PKPbc	08 15 36.4	+0.1
PALK	Pallekele	145.28	60	PKPbc	PKPdf	08 15 40.9	+1.3
	comp=Z,9.5nm,0.8s,baz=297,slow=6.0,SNR=4.7						
BBOO	Buckleboo	147.94	223	ePKPbc	PKPbc	08 15 45.8	-0.7
COEN	Coen	147.96	261	ePKPbc	PKPbc	08 15 46.9	-0.2
CMAR	Chiang Mai Arr	148.68	21	PKPbc	PKPbc	08 15 48.6	-0.2
	comp=Z,2.9nm,0.4s,baz=324,slow=3.8,SNR=13						
AS01	Alice Springs	154.31	237	ePKPdf	PKPdf	08 15 53.1	-0.5
AS01				ePKPbc	sPKPdf	08 16 00.9	+0.4
AS31	Alice Springs	154.34	237	ePKPdf	PKPdf	08 15 53.0	-0.7
AS31				ePKPbc	sPKPdf	08 16 00.9	+0.4
ASAR	Alice Springs	154.34	237	PKP	PKPdf	08 15 53.1	-0.5
	comp=Z,1.2nm,0.5s,baz=103,slow=1.3,SNR=8.3						
ASAR				PKPbc	sPKPdf	08 16 00.6	0.0
	comp=Z,1.4nm,0.6s,baz=112,slow=2.5,SNR=15						
FORT	Forrest	154.37	217	ePKPbc	PKPbc	08 15 59.9	-1.7
WC3	Warramunga Arr	155.31	246	epPKPdf	pPKPdf	08 16 03.1	+3.0
WB2	Warramunga Arr	155.33	246	ePKPdf	PKPdf	08 15 54.2	-0.8
WB2				ePKPdf	pPKPdf	08 15 54.5	-5.7
WB2				ePKPbc	sPKPdf	08 16 03.2	+1.3
WR1	Warramunga Arr	155.34	246	epPKPdf	pPKPdf	08 16 02.8	+2.6
WR1				ePKPab	PKPab	08 16 19.7	-0.6
WRA	Warramunga Arr	155.34	246	PKP	PKPdf	08 15 54.5	-0.5
	comp=Z,0.8nm,0.8s,baz=88,slow=0.9,SNR=8.3						
WRA				PKPbc	sPKPdf	08 16 02.8	+0.9
	comp=Z,0.8nm,0.4s,baz=104,slow=2.8,SNR=36						
WRA				PKPab	PKPab	08 16 19.7	-0.6
	comp=Z,2.9nm,0.7s,baz=98,slow=4.3,SNR=16						

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*ISCJB **04** 08:31:00.5±0.3, 2.°87S±0.°03×128.°13E±0.°03, h38km, Error ellipse: s-maj=4.3km s-min=3.8km az=179.6*

*DJA **04** 08:31:00.9±1.0, 3°S±2°×128°E±°, h14km±8km, M4.5/8, mb4.7/4, mB5.5/2, MLv4.4/8, Mw(mB)5.0/2*

*NEIC **04** 08:31:02.3±0.8, 2.°87S×128.°23E, h41km±10km, mb4.3/13, Error ellipse: s-maj=8.9km s-min=6.0km az=73.0*

*IDC **04** 08:31:04.3±3.1, 2.°98S×128.°28E, h61km±30km, mb3.8/4, mb1 4.2/7, mb1mx3.7/41, mbtmp4.2/7, ML4.5/3, MS3.2/5, Ms1 3.2/5, ms1mx2.8/43, Error ellipse: s-maj=27.1km s-min=10.0km az=85.0*

ISC 04 08:31:02.2±0.5**, 2.°84S**±0.°04×**128.°20E**±0.°04**, h38km, n50, σ2.s08/61, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NLAI	Namlea	1.17	250	P	Pn	08 31 21.2	-0.8
NLAI				S	Sn	08 31 39.2	+2.5
SANI	Sanana	2.34	289	P	Pn	08 31 35.6	-2.6
SANI				S	Sn	08 32 01.7	-4.1
BNDI	Bandanaira	2.39	135	P	Pn	08 31 42.0	+3.2
BNDI				S	Sn	08 32 14.6	+7.8
SWI	Sorong	3.63	57	P	Pn	08 31 57.4	+1.4
SWI				S	Sn	08 32 41.5	+3.9
SIJI	Sorong	3.64	58	P	Pn	08 31 57.2	+1.2
	71nm,0.3s,baz=234,slow=9.6,SNR=83						
SIJI				S	Sn	08 32 41.1	+3.4
	25nm,0.3s,baz=61,slow=21,SNR=10						
TNTI	Ternate	3.68	347	ePn	Pn	08 31 57.3	+0.6
TNTI	Ternate	3.68	347	P	Pn	08 31 55.7	-0.9
FAKI	Fak Fak	4.04	91	ePn	Pn	08 32 02.9	+1.3
FAKI				eSn	Sn	08 32 49.9	+2.1
FAKI	Fak Fak	4.04	91	P	Pn	08 32 02.8	+1.2
FAKI				S	Sn	08 32 49.3	+1.5
KDI	Kendari	5.68	259	P	Pn	08 32 24.2	+0.1
	16nm,0.6s,1µm0.2nm						
LUWI	Luwuk	5.71	288	ePn	Pn	08 32 23.6	-0.9
LUWI	Luwuk	5.71	288	P	Pn	08 32 23.4	-1.1
SAUI	Saumlaki	5.97	149	P	Pn	08 32 31.8	+3.7
RKPI	Ransiki, Papua	6.12	78	P	Pn	08 32 32.0	+1.9
	98nm,0.7s,14µm0.9nm						
RKPI				S	Sn	08 33 40.9	+2.0
	98nm,0.7s,14µm0.9nm						
SOEI	Soe	7.90	209	ePn	Pn	08 32 54.7	-0.1
BNSI	Bone	8.22	259	P	Pn	08 32 59.5	+0.4
SPSI	Sidrap Palu	8.49	262	P	Pn	08 33 03.6	+0.9
SPSI				S	Sn	08 34 41.4	+4.1
BATI	Baumata	8.60	211	LR	LR	08 36 43.4	
	comp=Z,153nm,19.6s,baz=34,slow=40						
EDFI	Ende, Flores	8.74	228	P	Pn	08 33 11.2	+5.0
FITZ	Fitzroy Crossi	15.37	189	P	Pn	08 34 37.3	+0.8
	1.0nm,0.3s,baz=20,slow=9.5,SNR=29						
FITZ				LR	LR	08 41 11.5	
	comp=Z,127nm,18.9s,baz=40,slow=40						
FITZ	Fitzroy Crossi	15.37	189	ePn	P	08 34 38.9	-1.8
	5.8nm,0.8s						
WRAB	Tennant Creek	18.02	161	eP	Pn	08 35 08.7	-1.1
	9.3nm,0.5s						
WR1	Warramunga Arr	18.03	161	eP	Pn	08 35 08.8	-1.1
	13nm,0.9s						
WR1				eSn	Sn	08 38 27.8	-2.4
WRA	Warramunga Arr	18.03	161	P	Pn	08 35 08.8	-1.1
	1.4nm,0.3s,baz=341,slow=12,SNR=59						
WRA				S	Sn	08 38 27.8	-2.4
	0.2nm,0.3s,baz=333,slow=22,SNR=5.4						
WB2	Warramunga Arr	18.03	161	eP	Pn	08 35 08.8	-1.2
	11nm,0.5s						
WB2				eS	Sn	08 38 31.6	+1.4
UGM	Wanagama	18.30	253	eP	Pn	08 35 14.6	+1.2
	53nm,1.1s						
COEN	Coen	18.46	128	eP	P	08 35 14.3	-0.6
	9.7nm,0.9s						
MANU	Manus Island	19.17	88	eP	P	08 35 20.7	-2.0
	17nm,0.9s						
PMG	Port Moresby	19.94	110	LR	LR	08 45 29.5	
	comp=Z,81nm,21.3s,baz=308,slow=44						
MBWA	Marble Bar	19.99	204	eP	P	08 35 30.5	-1.1
	7.4nm,0.9s						
LEM	Lembang	20.88	258	LR	LR	08 45 22.7	
	comp=Z,105nm,18.6s,baz=200,slow=41						
AS31	Alice Springs	21.43	166	eP	P	08 35 46.6	-0.5
AS31				epP	P	08 35 47.0	-0.1
AS31				eS	S	08 39 40.0	-3.0
ASAR	Alice Springs	21.43	166	P	P	08 35 46.5	-0.6
	20nm,0.7s,baz=347,slow=12,SNR=186						
ASAR				S	S	08 39 39.1	-3.9
	1.8nm,0.6s,baz=346,slow=22,SNR=9.1						
AS01	Alice Springs	21.44	165	eP	P	08 35 46.8	-0.5
AS01				eS	S	08 39 42.3	-1.0
SARN	Sarigan	26.05	41	eP	P	08 36 32.6	+0.3
	91nm,1.0s						
FORT	Forrest	27.79	180	eP	P	08 36 47.0	-0.7
	28nm,1.0s						
JOW	Kunigami	29.50	0	eP	P	08 37 02.6	-0.4
	59nm,1.0s						
BBOO	Buckleboo	30.71	167	eP	P	08 37 12.6	-1.1
	8.3nm,1.0s						
STKA	Stephens Creek	31.52	158	P	P	08 37 19.2	-1.6
	1.4nm,0.5s,baz=331,slow=13,SNR=2.7						
KMI	Kunming	37.18	320	P	P	08 38 11.7	+1.5
KMI				pmax	pmax		
	comp=Z,12nm,0.5s						
TOO	Toolangi	38.04	157	eP	P	08 38 18.1	+1.0
	comp=Z,6.7nm,1.0s						
KSRS	Korea Array	40.09	360	LR	LR	08 53 59.8	
	comp=Z,17nm,21.8s,baz=50,slow=34						
HHC	Hu-ho-hao-te	46.06	342	eP	P	08 39 22.7	+0.2

HHC					pmax	pmax		
	comp=Z,13nm,0.6s							
HHC					pmax	pmax		
	comp=Z,220nm,5.8s							
GTA	**Gaotai**	**49.49**	**331**	*eP*	**P**	**P**	08 39 49.8	**+0.7**
GTA					pP	pP	08 39 53.3	-6.5
GTA					sP	pwP	08 39 56.5	-3.3
GTA					pmax	pmax		
	comp=Z,2.0nm,1.0s							
SONA0	**Songino Array**	**53.95**	**342**	*eP*	**P**	**P**	**08 40 22.0**	**-0.4**
SONM	**Songino Array**	**53.95**	**342**	P	**P**	**P**	**08 40 22.0**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=163,slow=10,SNR=3.5							
WMQ	**Urumqi**	**58.95**	**327**	*eP*	**P**	**P**	**08 40 58.7**	**+0.8**
MK32	**Makanchi Array**	**63.78**	**327**	*eP*	**P**	**P**	**08 41 31.4**	**+0.9**
MKAR	**Makanchi Array**	**63.78**	**327**	P	**P**	**P**	**08 41 31.4**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=121,slow=8.5,SNR=5.2							
CPUP	**Villa Florida**	**150.51**	**170**	PKPbc	**PKPbc**		**08 50 50.9**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=148,slow=3.6,SNR=4.5							

MEX 04 08:31:59.1±0.6, 17°.15N×100°.26W, h14km±2km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.10**	**183**	*i* P	Pg	08 32 01.2	-1.0
CAIG				*i* S	Sg	08 32 04.0	-0.3
ACP2	**Acapulco**	**0.45**	**127**	*eP*	Pg	08 32 06.8	-1.2
ACP2				*eS*	Sg	08 32 13.4	-0.7
MEIG	**Mezcala**	**0.99**	**38**	*eP*	Pb	08 32 14.6	-3.5
MEIG				*eS*	Sb	08 32 26.9	-4.1
ARIG	**Puente Sto Nin**	**1.13**	**356**	*i* P	Pb	08 32 16.7	-3.8
ARIG				*i* S	Sb	08 32 30.8	-4.3
ZIIG	**Zihuatanejo**	**1.24**	**292**	*eP*	Pn	08 32 18.1	-3.8
ZIIG				*eS*	Sb	08 32 33.6	-4.5
PLIG	**Platanillo**	**1.44**	**30**	*eP*	Pn	08 32 21.8	-3.0
PLIG				*eS*	Sn	08 32 39.2	-4.4
TLIG	**Tlapa**	**1.67**	**75**	*i* P	Pn	08 32 24.3	-3.8
TLIG				*eS*	Sn	08 32 45.1	-4.3
YAIG	**Yautepec**	**2.05**	**33**	*eP*	Pn	08 32 30.1	-3.2
YAIG				*i* S	Sn	08 32 54.2	-4.6
MMIG	**Aquila**	**3.15**	**292**	*eP*	Pn	08 32 40.9	-7.5

IDC 04 08:39:56.7±3.2, 8°.40S×121°.88E, h208km±12km, mb3.8/1, mb1 3.2/5, mb1mx3.0/37, mbtmp3.7/5, MS3.0/1, Ms1 3.0/1, ms1mx2.4/33, Error ellipse: s-maj=87.8km s-min=29.3km az=48.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**2.52**	**136**	P	Pn	08 40 40.9	-0.5
	18nm,0.3s,baz=90,slow=4.1,SNR=10						
BATI				S	S	08 41 16.9	+1.1
	14nm,0.3s,baz=285,slow=20,SNR=4.1						
FITZ	**Fitzroy Crossi**	**10.31**	**160**	P	Pn	08 42 18.7	-1.2
	0.2nm,0.3s,baz=342,slow=10,SNR=5.2						
WRA	**Warramunga Arr**	**16.65**	**135**	P	P	08 43 36.7	-0.7
	0.2nm,0.3s,baz=309,slow=12,SNR=9.1						
WRA				S	S	08 46 41.5	+0.6
	0.1nm,0.3s,baz=311,slow=22,SNR=3.1						
ASAR	**Alice Springs**	**19.06**	**144**	P	P	08 44 04.0	+0.5
	0.2nm,0.3s,baz=322,slow=9.1,SNR=12						
ASAR				S	S	08 47 29.4	+0.7
	0.0nm,0.3s,baz=330,slow=24,SNR=3.3						
STKA	**Stephens Creek**	**29.70**	**145**	P	P	08 45 43.3	0.0
	1.3nm,0.3s,baz=335,slow=14,SNR=3.2						
JOW	**Kunigami**	**35.56**	**10**	LR	LR	09 02 59.6	
	comp=Z,21nm,19.2s,baz=300,slow=39						

IDC 04 08:41:10.5±4.8, 29°.05N×142°.14E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.4/36, mbtmp3.6/5, ML3.4/2, Error ellipse: s-maj=175.8km s-min=26.3km az=75.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**4.53**	**334**	Pn	Pn	08 42 19.2	-1.1
	3.6nm,0.3s,baz=118,slow=17,SNR=4.0						
MJAR	**Matsushiro Arr**	**8.17**	**337**	Pn	Pn	08 43 09.7	-0.7
	0.6nm,0.3s,baz=159,slow=10,SNR=9.1						
SONM	**Songino Array**	**33.30**	**314**	P	P	08 47 50.3	+0.3
	0.4nm,0.7s,baz=115,slow=9.7,SNR=2.9						
MKAR	**Makanchi Array**	**49.22**	**308**	P	P	08 50 00.7	+0.1
	0.2nm,0.4s,baz=64,slow=9.6,SNR=6.4						
WRA	**Warramunga Arr**	**49.28**	**190**	P	P	08 50 00.9	-0.3
	0.5nm,0.7s,baz=11,slow=7.9,SNR=4.5						

*IDC **04** 08:46:11.7±1.5, 11°.83N×144°.09E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/48, mbtmp3.5/4, Error ellipse: s-maj=256.1km s-min=19.8km az=110.0*
*ISCJB **04** 08:46:14.2±1.2, 11°.8N±0°.2×143°.7E±0°.3, h26km, mb3.5/4, Error ellipse: s-maj=46.0km s-min=16.5km az=20.0*
ISC 04 08:46:15.8±1.3, 11°.9N±0°.2×143°.7E±0°.3, h26km, n6, σ0s94/6, mb3.5/4, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.05**	**33**	Pn	Pn	08 46 43.8	-4.9
	23nm,0.3s,baz=54,slow=1.3,SNR=5.5						
GUMO				Sn	**Sb**	**08 47 17.8**	**+0.2**
	18nm,0.3s,baz=17,slow=19,SNR=4.4						
HNR	**Honiara**	**26.59**	**142**	P	**P**	**08 51 52.0**	**-0.2**
WRA	**Warramunga Arr**	**32.92**	**196**	P	**P**	**08 52 48.6**	**+0.3**
	1.5nm,0.8s,baz=20,slow=9.8,SNR=8.4						
ASAR	**Alice Springs**	**36.59**	**195**	P	**P**	**08 53 19.9**	**-0.1**
	0.3nm,0.6s,baz=16,slow=11,SNR=6.9						
ILAR	**Eielson Array**	**70.60**	**25**	P	**P**	**08 57 27.4**	**-1.2**
	0.5nm,0.9s,baz=251,slow=5.6,SNR=3.8						
YKA	**Yellowknife Ar**	**84.90**	**27**	P	**P**	**08 58 49.3**	**+1.0**
	0.1nm,0.6s,baz=289,slow=4.4,SNR=2.7						

MEX 04 08:52:24.2±0.8, 17°.83N×100°.20W, h56km±6km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.47**	**342**	*eP*	Pn	08 52 34.1	-1.5
ARIG				*i* S	Sn	08 52 42.4	-1.5
MEIG	**Mezcala**	**0.56**	**80**	*eP*	Pn	08 52 34.9	-1.7
MEIG				*eS*	Sn	08 52 43.5	-2.0
CAIG	**El Cayaco**	**0.78**	**185**	*i* P	Pn	08 52 37.5	-1.7
CAIG				*eS*	Sn	08 52 48.6	-1.5
PLIG	**Platanillo**	**0.87**	**49**	*i* P	Pn	08 52 38.8	-1.6
PLIG				*eS*	Sn	08 52 50.2	-2.2
ACP2	**Acapulco**	**0.99**	**163**	*eP*	Pn	08 52 40.0	-2.0
ACP2				*eS*	Sn	08 52 53.3	-1.8
ZIIG	**Zihuatanejo**	**1.23**	**260**	*eP*	Pn	08 52 43.5	-1.7
ZIIG				*eS*	Sn	08 52 58.7	-2.1
YAIG	**Yautepec**	**1.49**	**46**	*eP*	Pn	08 52 46.8	-1.9
YAIG				*i* S	Sn	08 53 05.5	-1.7
TLIG	**Tlapa**	**1.57**	**99**	*eP*	Pn	08 52 49.0	-0.9
TLIG				*eS*	Sn	08 53 06.9	-2.5
MMIG	**Aquila**	**3.03**	**279**	*eP*	Pn	08 53 08.3	-1.4
MMIG				*i* S	Sn	08 53 42.9	-2.0

SJA 04 08:52:53.2±0.6, 29°.04S×68°.78W, h121km±6km, ML2.9, MW3.8, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VCA	**Vinchina**	**0.59**	**60**	*i* P	Pn	08 53 13.0	+0.9
VCA				*i* S	Sn	08 53 26.9	+0.7
VCA				IAML		08 53 27.1	
	comp=Z,222nm,0.3s						
ACDV	**Cuesta del Vie**	**1.17**	**194**	*i* P	Pn	08 53 18.3	+1.1
AROD	**Rodeo**	**1.28**	**208**	*i* P	Pn	08 53 19.8	+1.2
AROD				*i* S	Sn	08 53 39.2	+1.5
ACCO	**Cerro Coronel**	**1.57**	**189**	*i* P	Pn	08 53 23.1	+1.3
ACCO				*i* S	Sn	08 53 45.9	+2.3
ACLC	**CERRO LA CRUZ**	**1.65**	**104**	*i* P	Pn	08 53 23.5	+1.0
ACLC				*i* S	Sn	08 53 45.9	+0.9
AMOG	**MOGNA**	**1.91**	**173**	*i* P	Pn	08 53 26.4	+0.7

JMA 04 08:53:00.5±0.1, 38°.34N×144°.52E, h40km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.35**	**289**	P	Pn	08 53 38.0	+1.4
OFUJ				*eS*	Sn	08 54 06.3	+2.1
JIKH	**Ishinomakikobu**	**2.40**	**270**	P	Pn	08 53 38.8	+1.5
JIKH				*eS*	Sn	08 54 07.0	+1.5
JKMT	**Kesennumamotoy**	**2.43**	**282**	P	Pn	08 53 39.3	+1.6
JKMT				*eS*	Sn	08 54 08.1	+1.9
MIYJ	**Miyakonagasawa**	**2.44**	**301**	P	Pn	08 53 39.1	+1.3
MIYJ				*eS*	Sn	08 54 07.6	+1.2
JMK	**Ichinoseki**	**2.66**	**284**	P	Pn	08 53 42.5	+1.7
JMK				*eS*	Sn	08 54 13.9	+2.2
JOM	**Ohasama**	**2.76**	**295**	P	Pn	08 53 44.1	+1.9
JOM				*eS*	Sn	08 54 16.5	+2.2
JANG	**Nango**	**3.09**	**312**	P	Pn	08 53 48.1	+1.3
JFT	**Otama**	**3.41**	**257**	P	Pn	08 53 53.6	+2.5
JFT				*eS*	Sn	08 54 33.0	+2.7
JOT	**Ohata**	**4.05**	**320**	P	Pn	08 54 02.5	+2.6
JOT				*eS*	Sn	08 54 45.4	-0.6
JCH	**Churui**	**4.36**	**349**	P	Pn	08 54 03.6	-0.6
JCH				*eS*	Sn	08 54 50.9	-2.8
JKB	**Kayabe**	**4.44**	**324**	*eS*	Sn	08 54 54.7	-0.9
BSO1	**Boso 1**	**4.66**	**219**	P	Pn	08 54 07.8	0.0
JRY	**Ryogami san**	**5.05**	**244**	P	Pn	08 54 15.1	+1.4
JRY				*eS*	Sn	08 55 10.6	-0.2
NEM2	**Nemuro 2**	**5.11**	**10**	P	Pn	08 54 11.0	-3.4
NEM2				*eS*	Sn	08 55 04.8	-7.2
JOD2	**Odawara 2**	**5.33**	**236**	P	Pn	08 54 19.6	+2.0
JOD2				*eS*	Sn	08 55 16.1	-1.6
JTKR	**Abashiri--Toko**	**5.64**	**356**	P	Pn	08 54 20.8	-1.0
JTKR				*eS*	Sn	08 55 20.4	-4.9
JHR	**Hokuryu**	**5.80**	**340**	*eS*	Sn	08 55 29.7	+0.6

*IDC **04** 09:00:07.1±3.1, 47°.90N×33°.49E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.1/41, mbtmp3.2/4, ML2.8/1, Error ellipse: s-maj=58.6km s-min=22.8km az=24.0*
*ISCJB **04** 09:00:08.7±0.9, 47°.69N±0°.07×33°.3E±0°.1, h33km, mb3.3/3, Error ellipse: s-maj=13.9km s-min=6.9km az=43.5*
ISC 04 09:00:10.2±1.3, 47°.67N±0°.08×33°.4E±0°.1, h35km, n16, σ1s53/15, mb3.4/3, 4C-2D, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MILM	**Milestii Mici**	**3.23**	**258**	*i* P	**Pn**	**09 00 59.3**	**+1.0**
MILM	**Milestii Mici**	**3.23**	**258**	S	**Sn**	**09 01 38.6**	**+3.1**
AKASG	**Malin Array Be**	**4.10**	**319**	Pn	**Pn**	**09 01 08.8**	**-1.4**
	0.7nm,0.3s,baz=129,slow=13,SNR=3.1						
AKASG				Lg	Lg	09 02 11.9	
	3.2nm,0.3s,baz=135,slow=30,SNR=5.4						
CFR	**Carcaliu**	**4.43**	**238**	*i* P	**Pn**	**09 01 14.4**	**-0.4**
CFR	**Carcaliu**	**4.43**	**238**	S	**Sn**	**09 02 05.4**	**+0.4**
TIRR	**Tirgusor**	**4.74**	**229**	*i* P	**Pn**	**09 01 19.1**	**0.0**
TIRR	**Tirgusor**	**4.74**	**229**	S	**Sn**	**09 02 11.9**	**-0.9**
TLB	**Topalu**	**4.85**	**232**	*i* P	**Pn**	**09 01 19.0**	**-1.6**
TLB	**Topalu**	**4.85**	**232**	S	**Sn**	**09 02 13.8**	**-1.7**
VRI	**Vrincioaia**	**4.94**	**251**	*i* P	**Pn**	**09 01 20.5**	**-1.4**
BURAR	**Bucovina Array**	**5.55**	**272**	*i* P	**Pn**	**09 01 29.9**	**-0.4**
BURAR	**Bucovina Array**	**5.55**	**272**	S	**Sn**	**09 02 31.0**	**-1.8**
I43RU	**DUBNA INFRASON**	**9.36**	**13**	*i*		10 04 00.0	
	baz=191,slow=322,SNR=1.0						
ARCES	**ARCESS Array B**	**22.27**	**353**	P	**P**	**09 05 03.2**	**-0.6**
	2.4nm,0.9s,baz=172,slow=11,SNR=4.6						
BVAR	**Borovoye Array**	**24.00**	**63**	P	**P**	**09 05 21.2**	**-0.1**
	0.2nm,0.4s,baz=272,slow=11,SNR=2.2						
YKA	**Yellowknife Ar**	**67.26**	**345**	P	**P**	**09 11 02.3**	**+1.8**
	0.2nm,0.6s,baz=21,slow=6.5,SNR=4.2						

ROM 04 09:01:04.9±0.1, 37°.879N±0°.005×14°.728E±0°.009, h12km±1km, ML2.0/15, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNO	**Monte Soro**	**0.06**	**334**	P	Pg	09 01 07.4	-0.2
MNO				S	Sg	09 01 09.8	+0.1
MNO				AML	AML		
	comp=E,3850μm,0.3s						
MNO				AML	AML		
	comp=N,7210μm,0.3s						
MNO				AML	AML		
	comp=E,3850μm,0.3s						
MNO				AML	AML		
	comp=N,7210μm,0.3s						
MNO				AML	AML		
	comp=E,3850μm,0.3s						
MNO				AML	AML		
	comp=N,7210μm,0.3s						
MSFR	**San Fratello**	**0.19**	**325**	P	Pg	09 01 09.2	0.0
MSFR				S	Sg	09 01 13.1	+0.9
MSFR				AML	AML		
	comp=E,224μm,0.6s						
MSFR				AML	AML		
	comp=N,322μm,0.8s						
MSFR				AML	AML		
	comp=E,225μm,0.6s						
MSFR				AML	AML		
	comp=N,322μm,0.8s						
MSFR				AML	AML		
	comp=N,322μm,0.8s						
MSFR				AML	AML		
	comp=E,225μm,0.6s						
MUCR	**Ucria**	**0.20**	**35**	P	Pg	09 01 09.6	+0.2
MUCR				S	Sg	09 01 13.8	+1.3
MUCR				AML	AML		
	comp=E,704μm,1.4s						
MUCR				AML	AML		
	comp=N,1074μm,0.4s						
MUCR				AML	AML		
	comp=E,704μm,1.4s						
MUCR				AML	AML		
	comp=N,1074μm,0.4s						
MUCR				AML	AML		
	comp=E,704μm,1.4s						
MUCR				AML	AML		
	comp=N,1074μm,0.4s						
GALF	**Gagliano Caste**	**0.21**	**217**	P	Pg	09 01 09.3	-0.2
GALF				S	Sg	09 01 13.8	+1.1
GALF				AML	AML		
	comp=E,1520μm,1.6s						
GALF				AML	AML		
	comp=N,1135μm,0.3s						
GALF				AML	AML		
	comp=E,1520μm,1.6s						
GALF				AML	AML		
	comp=N,1135μm,0.3s						
GALF				AML	AML		
	comp=N,1135μm,0.3s						
GALF				AML	AML		
	comp=E,1520μm,1.6s						
ECNV	**Catenanuova**	**0.28**	**183**	P	Pb	09 01 11.6	-0.4
ECNV				AML	AML		
	comp=E,506μm,1.5s						
ECNV				AML	AML		
	comp=N,585μm,0.8s						
ECNV				AML	AML		
	comp=E,506μm,1.5s						
ECNV				AML	AML		
	comp=N,585μm,0.8s						
NOV	**Novara**	**0.36**	**65**	P	Pg	09 01 12.1	-0.1
NOV				S	Sb	09 01 18.3	-0.5
NOV				AML	AML		
	comp=E,396μm,0.7s						
NOV				AML	AML		
	comp=N,232μm,0.6s						
NOV				AML	AML		
	comp=N,232μm,0.6s						
NOV				AML	AML		
	comp=E,396μm,0.7s						
MCSR	**Castroreale**	**0.45**	**66**	P	Pg	09 01 13.5	-0.4
MCSR				AML	AML		
	comp=E,523μm,0.3s						
MCSR				AML	AML		
	comp=N,522μm,0.3s						
MCSR				AML	AML		
	comp=E,523μm,0.3s						
MCSR				AML	AML		
	comp=N,522μm,0.3s						
MCSR				AML	AML		
	comp=N,522μm,0.3s						
MCSR				AML	AML		
	comp=E,523μm,0.3s						
PETRA	**Petralia Sopra**	**0.49**	**265**	P	Pb	09 01 15.2	-0.4
PETRA				AML	AML		
	comp=E,146μm,1.5s						
PETRA				AML	AML		
	comp=N,168μm,0.4s						
PETRA				AML	AML		
	comp=E,146μm,1.5s						
PETRA				AML	AML		
	comp=N,168μm,0.4s						
HLNI	**Lentini**	**0.54**	**168**	P	Pg	09 01 15.7	+0.1
HLNI				AML	AML		
	comp=E,104μm,1.4s						
HLNI				AML	AML		
	comp=N,96μm,0.7s						
HLNI				AML	AML		
	comp=N,96μm,0.7s						
HLNI				AML	AML		
	comp=E,104μm,1.4s						
IACL	**Alicudi**	**0.72**	**336**	P	Pb	09 01 19.1	-0.2
IACL				AML	AML		
	comp=E,184μm,0.3s						
IACL				AML	AML		
	comp=N,179μm,0.3s						
IACL				AML	AML		
	comp=E,184μm,0.3s						
IACL				AML	AML		
	comp=N,179μm,0.3s						
SSY	**Sortino**	**0.77**	**159**	P	Pg	09 01 19.6	-0.4
SSY				AML	AML		
	comp=E,132μm,0.9s						
SSY				AML	AML		
	comp=N,428μm,0.3s						
SSY				AML	AML		
	comp=N,428μm,0.3s						
SSY				AML	AML		
	comp=E,132μm,0.9s						
ALJA	**Alia**	**0.78**	**261**	AML	AML		
	comp=N,64μm,0.7s						
ALJA				AML	AML		
	comp=E,75μm,0.9s						
ALJA				AML	AML		
	comp=N,64μm,0.7s						
ALJA				AML	AML		
	comp=E,75μm,0.9s						
MEU	**Monte Lauro**	**0.79**	**168**	P	Pg	09 01 19.5	-0.8
MEU				AML	AML		
	comp=E,154μm,1.3s						
MEU				AML	AML		
	comp=N,222μm,1.6s						
MEU				AML	AML		
	comp=N,222μm,1.6s						
MEU				AML	AML		
	comp=E,154μm,1.3s						
HMDC	**Modica**	**0.92**	**177**	P	Pg	09 01 22.5	-0.2
HAVL	**Avola**	**0.97**	**161**	P	Pg	09 01 23.0	-0.6

ROM 04 09:02:00.9±0.1, 37°.892N±0°.005×14°.714E±0°.008, h14km±1km, ML1.9/10, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNO	**Monte Soro**	**0.04**	**339**	P	Pg	09 02 03.4	-0.3
MNO				S	Sg	09 02 05.7	0.0
MNO				AML	AML		
	comp=E,1935μm,0.4s						
MNO				AML	AML		
	comp=N,3515μm,0.3s						
MNO				AML	AML		
	comp=E,1935μm,0.4s						
MNO				AML	AML		
	comp=N,3520μm,0.3s						
MNO				AML	AML		
	comp=N,3520μm,0.3s						
MNO				AML	AML		
	comp=E,1935μm,0.4s						
MSFR	**San Fratello**	**0.17**	**325**	P	Pg	09 02 05.2	+0.2
MSFR				S	Sb	09 02 08.9	-0.4
MSFR				AML	AML		
	comp=E,129μm,0.6s						
MSFR				AML	AML		
	comp=N,198μm,0.9s						
MSFR				AML	AML		
	comp=E,129μm,0.6s						
MSFR				AML	AML		
	comp=N,198μm,0.9s						
MSFR				AML	AML		
	comp=N,198μm,0.9s						
MSFR				AML	AML		
	comp=E,129μm,0.6s						
MUCR	**Ucria**	**0.20**	**40**	P	Pg	09 02 05.5	+0.1
MUCR				S	Sb	09 02 09.7	-0.4
MUCR				AML	AML		
	comp=E,468μm,1.4s						
MUCR				AML	AML		
	comp=N,564μm,1.1s						
MUCR				AML	AML		
	comp=E,468μm,1.4s						
MUCR				AML	AML		
	comp=N,564μm,1.1s						
MUCR				AML	AML		
	comp=N,564μm,1.1s						
MUCR				AML	AML		
	comp=E,468μm,1.4s						
GALF	**Gagliano Caste**	**0.22**	**213**	P	Pg	09 02 05.3	-0.4
GALF				S	Sg	09 02 09.7	+0.7
GALF				AML	AML		
	comp=E,818μm,0.4s						
GALF				AML	AML		
	comp=N,586μm,0.3s						
GALF				AML	AML		
	comp=E,818μm,0.4s						
GALF				AML	AML		
	comp=N,586μm,0.3s						
GALF				AML	AML		
	comp=N,586μm,0.3s						
GALF				AML	AML		
	comp=E,818μm,0.4s						
ECNV	**Catenanuova**	**0.30**	**180**	P	Pb	09 02 07.7	-0.3
ECNV				AML	AML		
	comp=E,276μm,1.5s						
ECNV				AML	AML		
	comp=N,346μm,0.5s						
ECNV				AML	AML		
	comp=E,276μm,1.5s						
ECNV				AML	AML		
	comp=N,346μm,0.5s						
ECNV				AML	AML		
	comp=E,276μm,1.5s						
ECNV				AML	AML		
	comp=N,346μm,0.5s						
NOV	**Novara**	**0.36**	**68**	P	Pg	09 02 08.3	+0.1
NOV				AML	AML		
	comp=E,194μm,0.6s						
NOV				AML	AML		
	comp=N,122μm,0.6s						
NOV				AML	AML		
	comp=E,194μm,0.6s						
NOV				AML	AML		
	comp=N,122μm,0.6s						
NOV				AML	AML		
	comp=N,122μm,0.6s						
NOV				AML	AML		
	comp=E,194μm,0.6s						
MCSR	**Castroreale**	**0.46**	**68**	P	Pg	09 02 09.4	-0.5
MCSR				AML	AML		
	comp=E,298μm,0.3s						
MCSR				AML	AML		
	comp=N,307μm,0.3s						
MCSR				AML	AML		
	comp=E,298μm,0.3s						
MCSR				AML	AML		
	comp=N,307μm,0.3s						
MSRU	**Castanea**	**0.73**	**59**	P	Pg	09 02 14.7	-0.4
SSY	**Sortino**	**0.79**	**159**	P	Pg	09 02 15.8	-0.5
SSY				AML	AML		
	comp=E,96μm,1.6s						
SSY				AML	AML		
	comp=N,256μm,0.9s						
SSY				AML	AML		
	comp=E,96μm,1.6s						
SSY				AML	AML		
	comp=N,256μm,0.9s						
MEU	**Monte Lauro**	**0.81**	**168**	P	Pg	09 02 16.1	-0.5
MEU				S	Sg	09 02 26.8	-0.3
HMDC	**Modica**	**0.93**	**177**	P	Pb	09 02 18.7	-0.2

PGC 04 09:05:07.1±0.6, 52.73N×132.24W, h22km, ML3.5/12, 64km southwest of Sandspit, Bc Haida Gwaii Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HG1B	Mitchell Dam	0.21	19	P	Pb	09 05 12.3	-0.5
HG1B				S	Sb	09 05 15.9	-0.8
BNB	Barry Inlet	0.34	117	P	Pb	09 05 14.2	-0.3
BNB				S	Sb	09 05 19.5	+0.1
MOBC	Moresby Island	0.45	22	P	Pb	09 05 16.1	-0.2
MOBC				S	Sb	09 05 22.7	+0.2
DIB	Dawson Inlet,	0.49	343	P	Pb	09 05 16.7	-0.3
DIB				S	Sb	09 05 23.4	-0.4
HG3B	Hotspring	0.51	107	P	Pb	09 05 16.8	-0.5
HG3B				S	Sb	09 05 23.7	-0.6
HG4B	Hotspring	0.78	124	P	Pb	09 05 21.3	-0.5
HG4B				S	Sb	09 05 31.9	-0.1
MASB	Masset	1.29	6	P	Pb	09 05 30.4	-0.2
NDB	Naden	1.29	341	P	Pn	09 05 29.8	-0.1
NDB				S	Sn	09 05 46.6	+0.1
RUBB	Prince Rupert	1.99	36	Pn	Pn	09 05 39.9	+0.6
RUBB				Sg	Sb	09 06 07.7	+0.8
BBB	Bella Bella	2.59	101	Pn	Pn	09 05 47.1	-0.4
BBB				Sn	Sn	09 06 17.6	-0.7
BBB				Sg	Sb	09 06 24.9	+0.9
PHC	Port Hardy	3.62	122	Pn	Pn	09 06 01.7	0.0
PHC				Sn	Sn	09 06 41.1	-2.5
PACB	Port Alice, BC	3.75	126	Sn	Sn	09 06 45.8	-1.1
TLCB	Telegraph Cove	4.02	121	Sn	Sn	09 06 52.6	-0.9
WOSB	Woss	4.38	124	Pn	Pn	09 06 12.5	+0.1
WOSB				Sn	Sn	09 07 00.9	-1.8
NCRB	Newcastle Ridg	4.51	119	Sn	Sn	09 07 03.9	-2.0
CBB	Campbell River	5.08	119	Sn	Sn	09 07 15.1	-4.7

IDC 04 09:08:10.6±2.2, 7.45S×128.63E, h0km, mb3.3/1, mb1 3.4/4, mb1mx3.3/36, mbtmp3.3/4, ML3.2/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/15, Error ellipse: s-maj=82.4km s-min=26.6km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.98	195	Pn	Pn	09 10 50.7	+1.6
	0.1nm,0.3s,baz=23,slow=9.3,SNR=9.6						
FITZ				Sn	Sn	09 12 52.6	0.0
	0.2nm,0.3s,baz=122,slow=19,SNR=3.9						
WRA	Warramunga Arr	13.60	157	Pn	Pn	09 11 24.2	-0.7
	0.1nm,0.3s,baz=328,slow=14,SNR=9.4						
WRA				Sn	Sn	09 13 49.4	-7.4
	0.2nm,0.3s,baz=337,slow=22,SNR=5.3						
ASAR	Alice Springs	16.90	163	Pn	Pn	09 12 08.2	-0.5
	0.1nm,0.3s,baz=336,slow=9.5,SNR=8.3						
ASAR				Sn	Sn	09 15 13.2	-4.1
	0.1nm,0.3s,baz=316,slow=21,SNR=4.4						
USRK	Ussuriysk Ar.	51.50	3	LR	LR	09 37 37.3	
	comp=Z,21nm,20.1s,baz=103,slow=34						
MKAR	Makanchi Array	67.86	328	P	P	09 19 10.8	-0.1
	0.1nm,0.4s,baz=122,slow=7.3,SNR=4.5						

UCR 04 09:12:53.6±2.2, 11.37N×85.63W, h174km±8km, MD3.9, ML2.4, 2D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	Concepcion	0.20	2	eP	Pn	09 13 17.4	+0.6
CONN				IAML		09 13 30.9	
	comp=Z,38nm,0.6s						
BUAI	Buenos Aires	0.57	149	i P	Pn	09 13 19.0	+0.9
BUAI				i S	Sn	09 13 38.2	+1.2
GB1A	Borinquen Arri	0.59	157	i P	Pn	09 13 19.6	+1.3
BUEV	Buena Vista	0.61	159	i P	Pn	09 13 18.9	+0.5
BUEV				i S	Sn	09 13 38.2	+0.7
GBS3	Finca Las Img	0.61	163	i P	Pn	09 13 18.8	+0.4
GBS3				i S	Sn	09 13 38.0	+0.6
LAPC	Finca la Perla	0.63	162	i P	Pn	09 13 18.4	0.0
LIM1	Limonal	0.76	151	i P	Pn	09 13 20.0	+0.8
MGAN	Managua	0.98	322	eP	Pn	09 13 20.7	+0.1
MGAN				IAML		09 13 43.5	
	comp=E,19nm,0.9s						
XAVN	Gruta Xavier	1.03	319	eP	Pn	09 13 21.0	0.0
BOAB	BOACO BROADBAN	1.08	358	eP	Pn	09 13 21.6	+0.3
BOAB				eS	Sn	09 13 42.9	+0.1
COPN	Copaltepe	1.24	311	eP	Pn	09 13 22.2	-0.5
JTS	JuntasAbangare	1.26	148	eP	Pn	09 13 23.5	+0.5
JTS				eP	Pn	09 13 23.5	+0.5
JTS				i S	Sn	09 13 44.2	-1.4
ARE1	Arenal 1	1.27	135	eP	Pn	09 13 24.8	+1.7
CASO	Castillo	1.28	136	i P	Pn	09 13 24.2	+1.0
MOMN	Momotombo	1.36	319	eP	Pn	09 13 23.5	-0.4
MOMN				IAML		09 13 49.4	
	comp=Z,24nm,0.4s						
CNGN	Cerro Negro	1.54	317	eP	Pn	09 13 25.5	0.0
CNGN				IAML		09 13 57.1	
	comp=N,50nm,0.3s						
ESPN	Las Esperanzas	1.54	58	eP	Pn	09 13 26.4	+0.9
ESPN				eS	Sn	09 13 51.9	+1.8
ESPN				IAML		09 13 53.0	
	comp=E,15nm,1.2s						
MATN	Matagalpa	1.58	350	eP	Pn	09 13 26.0	0.0
MATN				IAML		09 13 52.0	
	comp=N,82nm,0.9s						
ESTN	Estel	1.87	337	eP	Pn	09 13 29.0	0.0
HDC	Heredia	2.02	132	⇓eP	Pn	09 13 32.1	+1.5
HDC				eS	Sn	09 14 00.1	+0.8
LCR2	La Lucha 2	2.27	135	eP	Pn	09 13 34.9	+1.3
DRK0	Durika	3.15	131	eP	Pn	09 13 45.2	+1.2
DRK0				i S	Sn	09 14 23.5	+0.3
PTJ1	Puerto Jimnez	3.63	141	eP	Pn	09 13 51.3	+1.4
BRU2	Volcan	3.86	131	⇓eP	Pn	09 13 54.7	+1.7
BRU2				eS	Sn	09 14 39.6	+0.2
AZU	Azuero	6.37	123	eP	Pn	09 14 28.0	+2.6

AZER 04 09:17:59.9±0.1, 40.43N×51.83E, h23km, ml3.3/15, Error ellipse: s-maj=3.0km s-min=2.1km az=232.0

ISC 04 09:17:56.6±2.1, 40.45N±0.07×52.25E±0.07, h31km±17km, n18, σ2s.35/36, 17C-13D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALIB	Äli-Bayra	2.53	260	⇓Pg	Pn	09 18 38.1	+2.6
ALIB				Sg	Sb	09 19 12.0	0.0
ATGJ	Altiaghaj	2.55	280	⇓Pg	Pb	09 18 39.8	-2.0
ATGJ				Sg	Sn	09 19 09.3	+3.3
PQL	Pirkuli	2.80	278	Pn	Pn	09 18 41.3	+1.9
PQL				Sn	Sn	09 19 14.6	+2.4
QUBA	Quba, Azerbaij	2.99	289	⇑Pn	Pn	09 18 43.7	+1.9
QUBA				⇓Sn	Sn	09 19 17.4	+0.8
LKRN	Lenkeran, Azer	3.19	238	⇑Pn	Pn	09 18 46.6	+2.0
	SNR=4.0						
LKRN				⇑Sn	Sn	09 19 21.1	-0.5
QSAR	Qusar	3.20	291	⇑Pn	Pn	09 18 47.0	+2.3
QSAR				⇑Sn	Sn	09 19 22.3	+0.5
XNQ	Khinaliq	3.20	284	⇑P	Pn	09 18 47.1	+2.1
	SNR=7.8						
XNQ				⇑S	Sn	09 19 20.7	-1.4
GLBA	Clilabad	3.20	249	⇓Pn	Pn	09 18 46.8	+2.0
GLBA				⇑Sn	Sn	09 19 21.7	-0.2
ASTR	Astara	3.27	236	⇓Pn	Pn	09 18 47.3	+1.6
	SNR=8.4						
ASTR				⇑Sn	Sn	09 19 22.4	-1.1
LRK	Lerik	3.52	240	⇓Pn	Pn	09 18 50.6	+1.3
	SNR=9.4						
LRK				⇑Sn	Sn	09 19 27.6	-2.2
BRDA	Brd	3.88	269	Pn	Pn	09 18 56.7	+2.6
BRDA				Sn	Sn	09 19 37.3	-1.1
GANJ	Ganja	4.52	274	⇓Pn	Pn	09 19 03.4	+0.5
GANJ				⇑Sn	Sn	09 19 51.4	-3.0
GDB	GEDABAY	4.95	275	⇓Pn	Pn	09 19 10.9	+1.9
GDB				⇑Sn	Sn	09 20 01.2	-4.1
ORD	Ordubad	5.06	255	⇓Pn	Pn	09 19 12.2	+1.9
ORD				⇓Sn	Sn	09 20 05.8	-1.9
SBZ	Shahbuz	5.25	261	⇓Pn	Pn	09 19 15.8	+2.8
SBZ				⇑Sn	Sn	09 20 12.0	-0.6
QZX	Qazax, Azerbai	5.26	279	⇑Pn	Pn	09 19 16.9	+3.9
QZX				⇓Sn	Sn	09 20 10.0	-2.6
AB31	Akbulak array	10.36	29	⇑Pn	Pn	09 20 24.8	+1.9
	0.9nm,0.8s,baz=214,slow=14,SNR=8.7						
AB31				⇓Sn	Sn	09 22 16.1	-1.7
	4.0nm,0.6s,baz=221,slow=24,SNR=6.6						
AKTO	Aktyubinsk	10.77	20	⇑Pn	Pn	09 20 30.2	+1.6
	1.6nm,0.6s						
AKTO				⇑Sn	Sn	09 22 22.9	-5.1
	12nm,0.7s						

SOME 04 09:28:05.8, 43.73N×69.65E

NNC 04 09:28:08.4±1.1, 43.65N×69.79E, h0km, mb3.5, mpv3.1, 2C-2D, Error ellipse: s-maj=6.9km s-min=5.4km az=99.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	0.76	136	P	Pg	09 28 22.4	-0.6
	2.7nm,0.6s,baz=321,slow=16,SNR=62						
KK31				S	Sg	09 28 34.0	+1.1
	23nm,0.7s,baz=306,slow=29,SNR=87						
IUG	Iuzhnay	1.52	173	P	Pn	09 28 36.3	-0.5
	15nm,0.5s						
IUG				S	Sn	09 28 58.4	+1.1
	29nm,0.7s						
MRKS	Merke	2.67	109	Pg	Pb	09 28 56.5	-0.7
	3.4nm,0.3s						
MRKS				Lg	Lg	09 29 33.1	
	6.7nm,0.5s						
BTLS	Baital	3.36	64	Pg	Pg	09 29 11.4	-1.3
	5.9nm,0.6s						
BTLS				Lg	Lg	09 29 59.1	
	1.9nm,0.6s						
SGDS	Sogindy	3.53	92	Pg	Pb	09 29 12.2	+0.5
	4.0nm,0.4s						
SGDS				Lg	Lg	09 30 00.4	
	2.8nm,0.7s						
AAK	Ala-Archa	3.59	105	⇑Pg	Pb	09 29 14.9	+2.0
	2.8nm,0.7s						
AAK				⇑Lg	Lg	09 30 02.9	
	4.8nm,0.8s						
TKM2	Tokmak 2	4.30	98	⇓Pg	Pb	09 29 26.9	+1.9
	2.1nm,0.7s						
TKM2				⇓Lg	Lg	09 30 25.2	
	3.3nm,0.6s						
DGS	Degeres	4.38	93	Pg	Pb	09 29 29.0	+2.7
	2.2nm,0.4s						
DGS				Lg	Lg	09 30 28.9	
	6.7nm,0.6s						
KST	Kastek	4.55	96	Pg	Pb	09 29 32.2	+3.1
	3.4nm,0.5s						
KST				Lg	Lg	09 30 34.4	
	4.7nm,0.6s						
SFK	Sufi-Kurgan	4.58	141	Pg	Pg	09 29 33.3	-2.8
	0.5nm,0.2s						
SFK				Lg	Lg	09 30 36.6	
	1.1nm,0.4s						
KUU	Kurty	4.75	85	Pg	Pb	09 29 34.6	+2.1
	1.0nm,0.2s						
KUU				Lg	Lg	09 30 38.9	
	4.8nm,0.7s						
KTBS	Karatobe	5.00	87	Pg	Pb	09 29 39.9	+3.0
	2.0nm,0.7s						
KTBS				Lg	Lg	09 30 47.7	
	7.3nm,0.6s						

IDC 04 09:30:24.5±2.1, 13.13N×119.82E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/40, mbtmp3.2/3, MS3.2/1, Ms1 3.2/1, ms1mx2.4/24, Error ellipse: s-maj=422.7km s-min=24.9km az=71.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	1.46	48	Lg	Lg	09 31 09.6	
	79nm,0.3s,baz=263,slow=23,SNR=6.0						
JAY	Jayapura	25.91	125	LR	LR	09 49 09.5	
	comp=Z,43nm,18.1s,baz=295,slow=43						
WRA	Warramunga Arr	35.84	156	P	P	09 37 25.2	-0.9
	0.5nm,1.1s,baz=334,slow=9.9,SNR=2.8						
SONM	Songino Array	36.37	345	P	P	09 37 30.4	-0.1
	0.2nm,0.4s,baz=161,slow=11,SNR=3.7						
ASAR	Alice Springs	39.08	159	P	P	09 37 54.4	+0.8
	0.2nm,0.5s,baz=337,slow=7.5,SNR=4.9						

SJA 04 09:34:01.6±0.3, 30.43S×68.96W, h112km±3km, ML2.9, MW3.6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACCO	Cerro Coronel	0.18	210	i P	Pn	09 34 18.6	+0.9
ACCO				i S	Sn	09 34 31.4	+1.7
ACDV	Cuesta del Vie	0.29	332	i P	Pn	09 34 18.7	+0.9
AROD	Rodeo	0.52	300	i P	Pn	09 34 20.3	+1.1
AROD				i S	Sn	09 34 34.2	+1.8
SJA	San Juan	1.15	163	i P	Pn	09 34 25.5	+0.9
SJA				IAML		09 34 53.8	
	comp=Z,142nm,0.1s						

DJA 04 09:44:29.4±2.0, 1°N±6°×9°7E±1°0, h11km±12km, M3.5/6, MLv3.5/6

IDC 04 09:44:31.5±1.6, 0.79N×96.80E, h0km, mb3.5/7, mb1 3.6/9, mb1mx3.5/48, mbtmp3.5/9, ML4.5/1, Error ellipse: s-maj=49.1km s-min=19.5km az=56.0

ISCJB 04 09:44:33.5±0.6, 0.81N±0.05×96.94E±0.06, h25km, mb3.7/10, Error ellipse: s-maj=8.9km s-min=6.1km az=144.9

NEIC 04 09:44:37.5±0.6, 0.87N×96.93E, h35km, mb4.2/5, Error ellipse: s-maj=13.4km s-min=8.1km az=59.0

ISC 04 09:44:34.8±1.0, 0.78N±0.06×96.90E±0.08, h25km, n39, σ1s.40/35, mb3.8/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.85	53	ePg	Pb	09 44 51.0	0.0
GSI				eSg	Sb	09 44 57.5	-4.5
GSI	Gunungsitoli	0.85	53	P	Pb	09 44 50.8	-0.2
PBSI	Pulau Batu	1.61	121	P	Pn	09 45 00.2	-1.5
SNSI	Sinabang, Aceh	1.71	341	P	Pn	09 45 00.4	-2.7
SNSI				S	Sn	09 45 24.2	-0.1
TPTI		2.48	7	P	Pn	09 45 12.5	-1.1
MNSI	Mandailing Nat	2.68	90	P	Pn	09 45 16.1	-0.3
PSI	Prapat	2.85	45	Pn	Pn	09 45 17.6	-1.2
	1.3nm,0.3s,baz=180,slow=12,SNR=5.1						
PSI	Prapat	2.85	45	ePn	Pn	09 45 19.1	+0.3
KCSI	Kotacane, Aceh	2.86	18	P	Pn	09 45 18.0	-0.9
SISI	Saibi	3.03	134	P	Pn	09 45 18.2	-3.0
IPM	Ipoh	5.52	48	ePn	Pn	09 45 55.7	+0.1
KULM	Kulim	5.84	40	ePn	Pn	09 46 00.3	+0.4
UGM	Wanagama	16.10	123	ePn	P	09 48 24.4	+1.6
	55nm,1.1s						
CM31	Chiang Mai Arr	17.68	6	ePn	P	09 48 40.3	0.0
CMAR	Chiang Mai Arr	17.68	6	P	P	09 48 40.2	-0.1
	0.6nm,0.3s,baz=203,slow=11,SNR=4.3						
H08S2	Diego Garcia H	25.74	251	T	T	10 16 47.0	
	baz=72,slow=75,SNR=88						
H08S3	Diego Garcia H	25.74	251	T	T	10 16 46.0	
	baz=72,slow=75,SNR=128						
H08S1	Diego Carcia H	25.76	251	T	T	10 16 45.9	
	baz=72,slow=75,SNR=85						
H01W3	Cape Leeuwin H	38.98	157	T	T	10 33 16.0	
	baz=334,slow=76,SNR=5.8						
H01W2	Cape Leeuwin H	38.99	157	T	T	10 33 21.7	
	baz=334,slow=76,SNR=23						
H01W1	Cape Leeuwin H	38.99	157	T	T	10 33 19.2	
	baz=334,slow=76,SNR=21						
WR1	Warramunga Arr	42.07	121	eP	P	09 52 25.1	+0.1
	1.9nm,0.9s						
WRA	Warramunga Arr	42.07	121	P	P	09 52 25.1	+0.1
	0.4nm,0.9s,baz=303,slow=9.2,SNR=3.4						
WRAB	Tennant Creek	42.08	121	eP	P	09 52 26.2	+1.2
	3.3nm,1.0s						
WB2	Warramunga Arr	42.08	121	eP	P	09 52 25.5	+0.4
	3.4nm,1.0s						
ASAR	Alice Springs	43.39	127	P	P	09 52 37.9	+2.2
	0.3nm,0.9s,baz=296,slow=8.0,SNR=6.5						
MK01	Makanchi Array	47.55	346	eP	P	09 53 09.6	+1.3
MK31	Makanchi Array	47.57	346	eP	P	09 53 10.0	+1.5
MK32	Makanchi Array	47.57	346	eP	P	09 53 08.9	+0.5
MKAR	Makanchi Array	47.57	346	P	P	09 53 08.9	+0.5
	0.7nm,0.8s,baz=161,slow=8.4,SNR=6.0						
MKAR	Makanchi Array	47.57	346	eP	P	09 53 10.0	+1.5
	7.0nm,0.6s						
SONA0	Songino Array	47.59	9	eP	P	09 53 09.7	+1.0
SONM	Songino Array	47.59	9	P	P	09 53 09.7	+1.0
	0.2nm,0.5s,baz=198,slow=9.4,SNR=3.0						
KURBB	Kurchatov Arra	52.05	345	P	P	09 53 42.5	+0.1
	0.2nm,0.3s,baz=154,slow=6.7,SNR=2.8						
KURK	Kurchatov	52.12	345	eP	P	09 53 42.5	-0.4
ZALV	Zalesovo Beam	53.92	351	P	P	09 53 56.2	+0.1
	0.8nm,0.4s,baz=190,slow=5.3,SNR=3.7						
ZALV	Zalesovo Beam	53.92	351	eP	P	09 53 57.3	+1.2
ZAA1	Zalesovo Array	53.93	351	eP	P	09 53 56.2	0.0
BVAR	Borovoye Array	56.55	341	P	P	09 54 14.8	-0.3
	0.4nm,0.4s,baz=114,slow=7.0,SNR=3.2						

IDC 04 09:48:55.5±1.4, 1.59S×127.22E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/42, mbtmp3.3/3, ML3.6/2, Error ellipse: s-maj=34.0km s-min=24.5km az=59.0

ISCJB 04 09:48:58.3±0.6, 1.39S±0.06×127.35E±0.05, h25km, mb3.3/2, Error ellipse: s-maj=8.7km s-min=6.7km az=156.5

DJA 04 09:48:59.0±2.1, 1°S±4°×12°7E±°, h17km±19km, M4.1/5, mb4.6/2, mB5.0/1, MLv3.9/5, Mw(mB)4.3/1

ISC 04 09:48:58.2±0.9, 1.41S±0.05×127.37E±0.05, h25km, n12, σ1s.81/15, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	Sanana	1.52	245	P	Pb	09 49 24.7	-1.1
SANI				S	Sb	09 49 44.0	-0.7
NLAI	Namlea	1.84	188	P	Pb	09 49 29.4	-1.9
NLAI				S	Sb	09 49 52.6	-1.3
TNTI	Ternate	2.16	360	P	Pb	09 49 34.6	-2.2
SWI	Sorong	3.92	82	P	Pn	09 49 59.1	+2.1
SIJI	Sorong	3.93	82	Pn	Pn	09 49 59.3	+2.3
	6.2nm,0.3s,baz=256,slow=23,SNR=29						
SIJI				Sn	Sb	09 50 51.7	-2.4
	5.0nm,0.3s,baz=355,slow=22,SNR=6.6						
BNDI	Bandanaira	4.00	141	P	Pn	09 49 59.9	+1.9
LUWI	Luwuk	4.61	274	P	Pn	09 50 07.2	+0.8
FAKI	Fak Fak	5.10	107	P	Pn	09 50 15.3	+2.2
	22nm,0.8s,0.1nm						
KDI	Kendari	5.38	242	P	Pn	09 50 17.3	+0.3
WRA	Warramunga Arr	19.64	160	P	P	09 53 24.4	-1.0
	0.2nm,0.3s,baz=340,slow=11,SNR=13						
ASAR	Alice Springs	23.02	165	P	P	09 54 01.4	-0.2
	0.6nm,0.5s,baz=344,slow=11,SNR=10						
MKAR	Makanchi Array	62.14	327	P	P	09 59 18.9	+1.5
	0.2nm,0.6s,baz=126,slow=7.4,SNR=2.6						

IDC 04 09:51:34.0±8.6, 28.00S×178.68W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.6/29, mbtmp3.7/3, Error ellipse: s-maj=213.9km s-min=26.2km az=38.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.42	152	Pn	Pn	09 52 01.1	0.0
	206nm,0.3s,baz=148,slow=8.8,SNR=8.3						
RAO				Sn	Sg	09 52 10.4	-9.2
	424nm,0.3s,baz=34,slow=17,SNR=8.0						
STKA	Stephens Creek	34.51	254	P	P	09 58 23.4	-0.8
	0.6nm,0.3s,baz=101,slow=16,SNR=3.7						
ASAR	Alice Springs	42.70	265	P	P	09 59 33.0	0.0
	0.2nm,0.4s,baz=107,slow=8.2,SNR=5.3						
WRA	Warramunga Arr	43.46	270	P	P	09 59 39.5	+0.2
	0.7nm,0.6s,baz=109,slow=7.8,SNR=7.0						

IDC 04 09:52:12.3±4.8, 28.54S×179.05W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/28, mbtmp3.8/3, Error ellipse: s-maj=182.8km s-min=22.7km az=21.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.22	126	Pn	Pn	09 52 36.7	0.0
	342nm,0.3s,baz=116,slow=12,SNR=6.4						
RAO				Sn	Sg	09 52 45.7	-6.0
	793nm,0.3s,baz=3.1,slow=22,SNR=7.9						
STKA	Stephens Creek	34.05	254	P	P	09 58 58.6	+0.2
	1.2nm,0.4s,baz=116,slow=12,SNR=4.1						
ASAR	Alice Springs	42.32	265	P	P	10 00 07.5	-0.8
	0.2nm,0.3s,baz=100,slow=7.6,SNR=6.4						
WRA	Warramunga Arr	43.13	271	P	P	10 00 15.1	+0.2
	1.0nm,0.6s,baz=108,slow=8.2,SNR=8.3						

IDC 04 10:10:46.8±0.5, 29.36S×176.35W, h0km, mb4.6/18, mb1 4.7/19, mb1mx4.6/37, mbtmp4.5/19, ML3.6/1, MS4.0/24, Ms1 4.0/24, ms1mx3.9/28, Error ellipse: s-maj=18.0km s-min=16.8km az=149.0

WEL 04 10:10:46.7±1.1, 30°S±5°×17°6W±°, h33km, ML5.6/2

ISCJB 04 10:10:47.8±0.2, 29.85S±0.03×176.28W±0.05, h21km, mb4.8/82, MS4.1/23, Error ellipse: s-maj=6.2km s-min=2.6km az=27.3

NEIC 04 10:10:51.2±0.2, 29.81S×176.34W, h35km, mb4.8/69, Error ellipse: s-maj=6.6km s-min=3.5km az=129.0

GCMT 04 10:10:52.2±0.3, 29.50S±0.03×175.91W±0.02, h15km±1km, MW5.0/86, Moment Tensor Solution. s26,c30; s86,c108; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.14±.20; $M_{\theta\theta}$0.07±.14; $M_{\phi\phi}$3.06±.13; $M_{r\theta}$-1.24±.36; $M_{\theta\phi}$0.47±.08; $M_{\phi r}$-1.31±.24; Best double couple: $M_0$3.61100×10^{16} NP1:ϕ_s24.00000°, δ60.00000°, λ-74.00000°. NP2: ϕ_s175.00000°, δ34.00000°, λ-115.00000°. Principal axes: T 3.4810, Plg13.0000°, Azm103.0000°; N 0.2550, Plg14.0000°, Azm196.0000°; P -3.7410, Plg71.0000°, Azm331.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

MOS 04 10:10:53.7±0.9, 29.38S×176.43W, h56km, mb4.9/16 Error ellipse: s-maj=13.8km s-min=11.9km az=173.3

BJI 04 10:10:53.1, 29.75S×176.13W, h58km, mb5.2/12, Ms5.1/1, Ms7 4.9/1

ISC 04 10:10:49.5±0.3, 29.65S±0.05×176.28W±0.05, h21km, n333, σ1s.80/337, mb4.8/82, MS4.2/23, 6C-2D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.48	285	P	Pb	10 11 16.8	+0.5
GLKZ				S	Sb	10 11 38.1	+3.5
RAO	Raoul Island	1.48	285	Pn	Pb	10 11 16.9	+0.5
	516nm,0.3s,baz=113,slow=6.1,SNR=17						
RAO				Sn	Sn	10 11 29.9	-3.7
	2μm,0.3s,baz=102,slow=18,SNR=28						
RAO	Raoul Island	1.48	285	ePn	Pb	10 11 16.8	+0.5
RAO				eSn	Sn	10 11 30.4	-3.2
RAO	Raoul Island	1.48	285	eP	Pb	10 11 16.8	+0.5
RAO				e		10 11 30.4	
RIZ	Raoul Island	1.49	285	P	Pb	10 11 17.7	+1.2
MXZ	Matakaoa Point	9.09	208	ePn	Pn	10 12 58.3	-1.1
MXZ	Matakaoa Point	9.09	208	P	Pn	10 12 58.2	-1.2
WMGZ	Waiomatatini S	9.27	207	P	Pn	10 13 00.7	-1.2
WMGZ				S	Sn	10 14 47.3	+1.9
PKGZ	Pakihiroa	9.46	208	P	Pn	10 13 02.3	-2.3
PKGZ				S	Sn	10 14 50.0	-0.4
HAZ	Te Kaha	9.47	210	P	Pn	10 13 02.2	-2.4
HAZ				S	Sn	10 14 52.3	+1.7
PUZ	Puketiti	9.55	207	P	Pn	10 13 03.0	-2.7
PUZ				S	Sn	10 14 51.9	-0.5
RUGZ	Raukumara Rang	9.70	210	P	Pn	10 13 06.7	-1.1
TWGZ	Tauwhareparae	9.75	208	P	Pn	10 13 05.5	-3.0
CNGZ	Carnagh Statio	9.93	206	P	Pn	10 13 09.4	-1.4
TKGZ	Te Karaka	10.03	207	P	Pn	10 13 10.4	-1.8
TKGZ				S	Sn	10 15 04.4	+0.3
MWZ	Matawai	10.07	209	P	Pn	10 13 09.5	-3.4
WCZ	Waipu Caves	10.07	229	P	Pn	10 13 17.3	+4.4
OPRZ	Ohinepanea	10.11	214	P	Pn	10 13 14.6	+1.2
URZ	Urewera	10.19	211	Pn	Pn	10 13 11.3	-3.2
	1.7nm,0.3s,baz=266,slow=4.3,SNR=13						
URZ				Sn	Sn	10 15 05.7	-2.4
	14nm,0.3s,baz=234,slow=24,SNR=21						
URZ				LR	LR	10 17 20.5	
	comp=Z,718nm,19.6s,baz=28,slow=38						
URZ	Urewera	10.19	211	ePn	Pn	10 13 11.1	-3.3
URZ				eSn	Sn	10 15 07.4	-0.6
URZ	Urewera	10.19	211	P	Pn	10 13 11.6	-2.9
URZ				S	Sn	10 15 06.2	-1.8
OUZ	Omahuta	10.20	234	ePn	Pn	10 13 16.5	+2.0
OUZ	Omahuta	10.20	234	P	Pn	10 13 19.9	+5.4
RIGZ	Rimuhau	10.29	207	P	Pn	10 13 12.3	-3.6
MKAZ	Moumakai	10.31	222	P	Pn	10 13 18.1	+1.9
PRGZ	Paritu Road	10.43	206	P	Pn	10 13 14.8	-3.0

MUGZ Murupara 10.52 211 P **Pn** 10 13 15.8 -3.2
SNGZ Shannon Statio 10.53 208 P **Pn** 10 13 17.7 -1.4
MHGZ Mahia Peninsul 10.62 205 P **Pn** 10 13 16.3 -4.1
RAHZ Arahi 10.74 209 P **Pn** 10 13 20.7 -1.4
MTHZ Maungataniwha 10.80 210 P **Pn** 10 13 21.4 -1.4
NMHZ Naumai 11.02 209 P **Pn** 10 13 24.4 -1.5
BKZ Black Stump Fm 11.21 210 *e*Pn **Pn** 10 13 24.9 -3.5
BKZ *e*Sn **Sn** 10 15 34.5 +1.3
BKZ Black Stump Fm 11.21 210 P **Pn** 10 13 25.6 -2.9
HIZ Hauiti 11.49 217 *e*Pn **Pn** 10 13 32.0 -0.3
HIZ Hauiti 11.49 217 P **Pn** 10 13 33.7 +1.4
KAHZ Kahuranaki 11.58 207 P **Pn** 10 13 28.8 -4.7
BHHZ Black Hill Sta 11.66 211 P **Pn** 10 13 33.2 -1.5
BHHZ Black Hill Sta 11.66 211 P **Pn** 10 13 33.2 -1.5
PXZ Pawanui 11.78 207 P **Pn** 10 13 34.7 -1.6
VRZ Vera Road 12.00 216 P Pn 10 13 49.3 +10
NIUE Niue 12.01 30 P Pn 10 13 31.7 -7.8
baz=12,SNR=3.3
BFZ Birch Farm 12.58 207 *e*Pn Pn 10 13 41.4 -5.9
BFZ Birch Farm 12.58 207 P **Pn** 10 13 43.1 -4.2
PRWZ Pori Road 12.59 208 P **Pn** 10 13 46.5 -0.8
MRZ Mangatainoka R 12.84 209 P Pn 10 13 45.2 -5.5
HOWZ Holdsworth Sta 13.06 209 P **Pn** 10 13 50.5 -3.3
OGWZ Otaki Gorge 13.14 210 P **Pn** 10 13 52.4 -2.5
MTW Mount Morrison 13.29 208 P **Pn** 10 13 54.5 -2.3
KIW Kapiti Island 13.29 210 P **Pn** 10 13 52.9 -4.0
TRWZ Traveller 13.41 207 P **P** 10 14 05.4 -2.5
CAW Cannon Point 13.43 209 P **Pn** 10 14 00.6 +1.9
MSWZ Moikau Station 13.61 208 P **Pn** 10 14 01.4 +0.2
DUWZ D'Urville Isla 13.70 213 P **Pn** 10 14 03.6 +1.2
SNZO South Karori 13.75 210 *e*Pn **Pn** 10 14 00.5 -2.6
BHW Baring Head 13.76 209 P **Pn** 10 14 01.4 -1.8
TCW Tory Channel 13.86 211 P **Pn** 10 14 03.7 -0.8
TUWZ Tuamarina 14.18 211 P **Pn** 10 14 05.5 -3.5
NNZ Nelson 14.28 213 P **Pn** 10 14 06.8 -3.6
CMWZ Cape Campbell 14.32 210 P **P** 10 14 21.2 +3.3
QRZ Quartz Range 14.40 216 P **Pn** 10 14 11.3 -0.8
BSWZ Blackbirch Sta 14.44 211 P **P** 10 14 22.4 +3.2
THZ Tophouse 14.93 213 *e*Pn **Pn** 10 14 17.6 -1.6
15nm,0.6s
THZ *e*Sn **Sn** 10 16 57.0 -6.9
THZ Tophouse 14.93 213 P **Pn** 10 14 17.0 -2.3
THZ Tophouse 14.93 213 P **Pn** 10 14 17.0 -2.3
KHZ Kahutara 15.15 210 *e*Pn **Pn** 10 14 18.6 -3.6
48nm,1.2s
KHZ *e*Sn **Sn** 10 17 01.3 -8.0
KHZ Kahutara 15.15 210 P **Pn** 10 14 17.5 -4.6
KHZ Kahutara 15.15 210 P **Pn** 10 14 17.5 -4.6
LTZ Lake Taylor 16.01 212 *e*Pn **Pn** 10 14 31.7 -1.7
13nm,0.8s
LTZ Lake Taylor 16.01 212 P **Pn** 10 14 31.6 -1.8
AMCZ Amberley 16.15 210 P **Pn** 10 14 34.1 -1.1
INZ Inchbonnie 16.36 214 P **Pn** 10 14 38.1 +0.4
OXZ Oxford 16.55 211 *e*Pn **Pn** 10 14 36.8 -3.3
69nm,0.5s
OXZ *e*Sn Sn 10 17 29.9 -13
OXZ Oxford 16.55 211 P **Pn** 10 14 37.2 -2.9
MQZ McQueen's Vall 16.58 209 *e*Pn **Pn** 10 14 37.3 -3.2
10nm,0.8s
MQZ McQueen's Vall 16.58 209 P **Pn** 10 14 36.0 -4.5
WVZ Waitaha Valley 16.97 214 P **Pn** 10 14 45.3 -0.1
RAR Rarotonga 17.10 64 Pn **Pn** 10 14 43.5 -3.8
1.6nm,0.3s,baz=218,slow=4.3,SNR=6.4
RAR LR LR 10 20 52.0
comp=Z,334nm,18.4s,baz=250,slow=36
DZM Mont Dzumac 17.27 292 P **Pn** 10 14 48.6 -0.9
0.2nm,0.3s,baz=122,slow=19,SNR=8.3
DZM LR LR 10 20 10.8
comp=Z,1µm,19.7s,baz=96,slow=33
DZM Mont Dzumac 17.27 292 *e*P **P** 10 14 53.7 +2.8
120nm,1.4s
DZM *e*LR LR 10 19 04.4
comp=Z,3µm,26.7s
DZM Mont Dzumac 17.27 292 *e*Pn **Pn** 10 14 48.9 -0.6
30nm,1.0s
RPZ Rata Peaks 17.30 212 P **Pn** 10 14 48.0 -1.6
2.5nm,0.3s,baz=83,slow=0.3,SNR=12
RPZ LR LR 10 23 08.0
comp=Z,403nm,18.1s,baz=32,slow=42
RPZ Rata Peaks 17.30 212 *e*Pn **Pn** 10 14 48.3 -1.4
26nm,0.7s
RPZ Rata Peaks 17.30 212 P **Pn** 10 14 47.9 -1.7
FOZ Fox Glacier 17.76 215 *e*Pn **Pn** 10 14 54.3 -1.0
26nm,0.6s
FOZ Fox Glacier 17.76 215 P **Pn** 10 14 55.5 +0.2
LBZ Lake Benmore 18.21 212 *e*P **Pn** 10 14 59.3 -1.6
9.5nm,0.8s
LBZ Lake Benmore 18.21 212 P **Pn** 10 14 59.4 -1.6
ODZ Otahua Downs 18.51 210 *e*P **P** 10 15 03.5 -0.9
42nm,0.7s
WKZ Wanaka 19.10 214 *e*P **P** 10 15 09.3 -1.5
18nm,0.9s
MLZ Mavora Lakes 19.93 214 *e*P **P** 10 15 16.9 -3.0
12nm,0.6s
WHZ Wether Hill Ro 20.39 213 *e*P **P** 10 15 25.6 +0.7
19nm,0.5s
DCZ Deep Cove 20.47 215 *e*P **P** 10 15 25.0 -0.7
TBI Tubuai 24.78 82 *e*LQ LQ 10 20 45.0
620nm,32.0s
TBI *e*LR LR 10 21 59.3
comp=Z,2µm,28.5s,baz=241
PAE Paea 27.14 70 *e*T T 10 43 42.6
1.4nm,0.3s
PPT2 Papeete2 27.18 70 *e*LQ LQ 10 21 43.7
681nm,25.2s
PPT2 *e*LR LR 10 23 04.5
comp=Z,1µm,28.0s,baz=238
PPT Papeete 27.19 70 LR LR 10 26 46.3
comp=Z,175nm,18.2s,baz=245,slow=35
ARMA Armidale 27.75 260 *e*P **P** 10 16 34.8 -2.1
4.9nm,0.6s
EIDS Eidsvold 29.20 270 P **P** 10 16 50.6 +0.9
baz=29,SNR=4.5
EIDS Eidsvold 29.20 270 *e*P **P** 10 16 46.8 -2.9
12nm,0.8s
CAN Canberra 29.73 250 *e*P **P** 10 16 50.5 -3.8
1.9nm,0.7s
CAN Canberra 29.73 250 *e*P **P** 10 16 50.5 -3.8
CAN pmax pmax
comp=Z,2.0nm,0.7s
HNR Honiara 29.99 307 P **P** 10 16 53.2 -3.4
comp=Z,124nm,0.5s,baz=227,slow=7.0,SNR=10.0
HNR Honiara 29.99 307 *e*P **P** 10 16 53.4 -3.3
comp=Z,117nm,0.6s
HNR Honiara 29.99 307 *e*P **P** 10 16 53.4 -3.3
YNG Young 30.22 252 P **P** 10 17 00.7 +2.0
baz=30,SNR=6.0
RMQ Roma 30.94 267 P **P** 10 17 06.1 +1.1
baz=31,SNR=16
TOO Toolangi 32.63 246 P **P** 10 17 22.1 +2.3
baz=33,SNR=8.8
TOO Toolangi 32.63 246 *e*P **P** 10 17 18.2 -1.6
comp=Z,4.6nm,0.8s
TOO Toolangi 32.63 246 *e*P **P** 10 17 18.2 -1.6
TOO pmax pmax
comp=Z,5.0nm,0.8s
CMSA Cobar Meteorol 32.68 257 P **P** 10 17 22.4 +2.1
baz=33,SNR=36
QLP Quilpie 34.85 265 P **P** 10 17 39.6 +0.4
baz=35,SNR=5.9
CTAO Charters Tower 35.17 277 *e*P **P** 10 17 42.9 +0.8
comp=Z,22nm,0.6s
CTAO Charters Tower 35.17 277 *e*P **P** 10 17 42.9 +0.8
CTAO pmax pmax
comp=Z,22nm,0.6s
STKA Stephens Creek 36.10 256 P **P** 10 17 50.4 +0.4
comp=Z,22nm,0.6s,baz=100,slow=10,SNR=96
STKA LR LR 10 31 55.4
comp=Z,532nm,18.3s,baz=73,slow=35
STKA Stephens Creek 36.10 256 P **P** 10 17 51.3 +1.3
baz=36,SNR=46
STKA Stephens Creek 36.10 256 *e*P **P** 10 17 51.7 +1.7
comp=Z,4.9nm,0.6s
STKA Stephens Creek 36.10 256 *e*P **P** 10 17 51.7 +1.7
STKA pmax pmax
comp=Z,5.0nm,0.6s
RKT Rikitea 37.42 90 *e*LR LR 10 27 46.1
comp=Z,1µm,30.0s
MTSU Mount Surprise 37.64 279 P **P** 10 18 04.4 +1.2
baz=38,SNR=14
HTT Hallett 38.15 253 P **P** 10 18 08.3 +0.9
baz=38,SNR=23
TAOE Nuku Hiva Isla 39.64 66 *e*LR LR 10 28 47.8
comp=Z,675nm,27.9s
COEN Coen 40.52 284 P **P** 10 18 27.5 +0.2
baz=41,SNR=7.0
COEN Coen 40.52 284 *e*P **P** 10 18 26.5 -0.8
comp=Z,13nm,0.8s
BBOO Buckleboo 40.61 253 P **P** 10 18 28.4 +0.6
baz=41,SNR=15
BBOO Buckleboo 40.61 253 *e*P **P** 10 18 28.1 +0.2
comp=Z,26nm,0.8s
AS01 Alice Springs 44.61 265 *e*P **P** 10 19 00.3 -0.2
AS31 Alice Springs 44.65 265 *e*P **P** 10 19 00.4 -0.4
comp=Z,2.6nm,0.6s
ASAR Alice Springs 44.65 265 P **P** 10 19 00.2 -0.6
comp=Z,5.5nm,0.6s,baz=101,slow=6.6,SNR=92
ASAR PcP **PP** 10 20 45.5 +0.4
comp=Z,3.3nm,0.6s,baz=119,slow=3.8,SNR=7.2
ASAR ScP **ScP** 10 24 36.1 +1.6
comp=Z,0.6nm,0.7s,baz=115,slow=4.2,SNR=4.5
ASAR LR LR 10 37 25.7
comp=Z,725nm,18.1s,baz=114,slow=36
WRAB Tennant Creek 45.56 271 *e*P **P** 10 19 07.5 -0.7
comp=Z,25nm,0.7s
WRAB Tennant Creek 45.56 271 *i* P **P** 10 19 07.2 -0.9
WRAB pmax pmax
comp=Z,21nm,0.6s
WR1 Warramunga Arr 45.57 271 *e*P **P** 10 19 08.3 +0.1
comp=Z,32nm,0.6s
WR1 *e*S **S** 10 25 44.9 -4.7
WRA Warramunga Arr 45.57 271 P **P** 10 19 08.3 +0.1
comp=Z,24nm,0.6s,baz=109,slow=8.0,SNR=109
WRA S **S** 10 25 44.9 -4.7
comp=Z,0.4nm,0.6s,baz=109,slow=14,SNR=4.9
WRA LR LR 10 37 04.8
comp=Z,255nm,18.1s,baz=130,slow=35
FORT Forrest 47.68 254 *e*P **P** 10 19 23.5 -1.1
comp=Z,24nm,0.7s
VNDA Vanda 48.99 186 P **P** 10 19 37.8 +3.7
comp=Z,2.5nm,0.8s,baz=14,slow=5.7,SNR=10
VNDA LR LR 10 36 09.1
comp=Z,35nm,21.1s,baz=354,slow=31
VNDA Vanda 48.99 186 *e*P **P** 10 19 38.5 +4.5
VNDA Vanda 48.99 186 *e*P **P** 10 19 38.5 +4.5
KNRA Kununurra 52.15 273 P **P** 10 20 00.3 +1.6
baz=52,SNR=4.3
FITZ Fitzroy Crossi 53.86 268 *e*P **P** 10 20 11.0 -0.3
comp=Z,16nm,0.7s
KLBR Kellerberrin 56.00 250 P **P** 10 20 26.2 -0.5
baz=56,SNR=7.5
CASY Casey 56.50 208 *e*P **P** 10 20 31.5 +1.9
comp=Z,20nm,0.8s
MEEK Meekatharra 56.81 256 P **P** 10 20 33.6 +1.1
baz=57,SNR=3.5
BLDU Ballidu 57.15 251 P **P** 10 20 34.8 0.0
baz=57,SNR=5.3
MBWA Marble Bar 57.79 262 *e*P **P** 10 20 38.6 -0.9
comp=Z,11nm,0.8s
MORW Morawa 58.17 252 *e*P **P** 10 20 42.4 +0.3
comp=Z,28nm,1.1s
RPN Rapa Nui 58.20 105 LR LR 10 42 01.8
comp=Z,53nm,18.5s,baz=209,slow=32
QSPA South Pole Qui 60.46 180 P **P** 10 21 00.2 +2.8
comp=Z,13nm,0.9s,baz=39,slow=1.3,SNR=64
QSPA LR LR 10 43 57.4
comp=Z,119nm,18.4s,baz=40,slow=33
QSPA South Pole Qui 60.46 180 *e*P **P** 10 21 00.3 +2.8
comp=Z,16nm,1.0s
UGM Wanagama 71.54 271 *e*P **P** 10 22 11.0 +1.6
comp=Z,29nm,0.9s
PMSA Palmer Station 72.33 155 LR LR 10 47 25.5
comp=Z,121nm,20.7s,baz=203,slow=30
MAW Mawson 73.53 200 LR LR 10 56 07.4
comp=Z,67nm,18.9s,baz=100,slow=37
KSM Kuching 76.36 280 *e*P **P** 10 22 38.6 +1.1
comp=Z,12nm,0.9s
JOW Kunigami 77.28 311 *e*P **P** 10 22 44.0 +1.6
comp=Z,66nm,1.0s
SYO Syowa Base 78.17 192[1] *e*P **P** 10 22 47.0 +0.2
SYO Syowa Base 78.17 192[1] *e*PcP **PcP** 10 22 56.6 +0.3
MJAR Matsushiro Arr 78.49 324 P **P** 10 22 47.8 -1.1
comp=Z,3.3nm,0.7s,baz=163,slow=5.8,SNR=13
MJAR LR LR 10 54 43.7
comp=Z,20nm,19.6s,baz=160,slow=34
MAJO Matsushiro 78.49 324 *e*P **P** 10 22 47.8 -1.1
MAJO Matsushiro 78.49 324 *e*P **P** 10 22 47.8 -1.1
VNA3 Neumayer Olymp 78.94 176 P **P** 10 22 51.8 +0.7
VNA2 Neumayer--Watz 79.40 176 P **P** 10 22 54.7 +1.2
TWG Pinlang 79.67 304 *e*P **P** 10 22 54.7 -1.0
comp=Z,56nm,0.6s
YULB Yu-li 79.86 304 *e*P **P** 10 22 56.0 -0.7
comp=Z,20nm,1.1s
JNU Nakatsue 80.00 317 *e*P **P** 10 22 58.5 +1.1
comp=Z,13nm,1.0s
TPUB Ta-pu 80.29 304 *e*P **P** 10 22 58.3 -0.8
comp=Z,36nm,1.1s
SSLB Suanglung 80.36 304 *e*P **P** 10 22 58.5 -0.9
comp=Z,18nm,0.8s
ADK Adak 81.18 360 *e*P **P** 10 23 02.8 -0.3
comp=Z,22nm,0.9s
ADK Adak 81.18 360 *e*P **P** 10 23 02.8 -0.3
ADK pmax pmax
comp=Z,22nm,0.9s
PLCA Paso Flores 81.92 132 LR LR 10 50 41.0
comp=Z,96nm,19.3s,baz=324,slow=29
PLCA Paso Flores 81.92 132 *e*P **P** 10 23 08.6 +0.9
comp=Z,0.4nm,0.6s
PLCA Paso Flores 81.92 132 *e*P **P** 10 23 08.6 +0.9
NIKH Nikolski High 82.53 5 *e*P **P** 10 23 10.3 +0.2
comp=Z,0.1nm,1.0s
YSS Yuzh-Sakhalins 84.74 333 *e*P P 10 23 26.8 +5.2
YSS pmax pmax
comp=Z,10.0nm,0.7s
YSS MLR MLR
comp=Z,200nm,15.0s
KSRS Korea Array 84.76 319 P **P** 10 23 22.2 +0.3
comp=Z,4.3nm,0.7s,baz=133,slow=5.6,SNR=20
KSRS LR LR 11 00 03.4
comp=Z,32nm,18.6s,baz=118,slow=35
KSAR Wonju Array Be 84.77 319 P **P** 10 23 22.2 +0.2
KSAR Wonju Array Be 84.77 319 P **P** 10 23 22.3 +0.2
KS01 Wonju Array Si 84.79 319 *e*P **P** 10 23 22.2 0.0
CMB Columbia Colle 85.21 41 *e*P **P** 10 23 24.9 +0.6
comp=Z,2.1nm,0.9s
CMB Columbia Colle 85.21 41 P **P** 10 23 25.3 +0.9
PEA0B Petropavlovsk- 85.47 345 *e*P **P** 10 23 25.3 +0.1
comp=Z,8.3nm,0.8s
PETK Petropavlovsk- 85.47 345 P **P** 10 23 25.1 -0.2
comp=Z,3.4nm,0.7s,baz=98,slow=9.1,SNR=6.0
PETK Petropavlovsk- 85.47 345 *e*P **P** 10 23 24.9 -0.3
PETK Petropavlovsk- 85.47 345 *e*P **P** 10 23 24.9 -0.3
PEA1 Petropavlovsk- 85.48 345 *e*P **P** 10 23 25.1 -0.2
BEKR Beckworth 86.49 40 *e*P **P** 10 23 30.1 -0.7
comp=Z,1.2nm,0.7s
YERR Yerington 86.52 41 *e*P **P** 10 23 31.4 +0.4
comp=Z,2.2nm,0.8s
YBH Yreka Blue Hor 86.53 37 P **P** 10 23 31.5 +0.7
comp=Z,1.3nm,0.8s,baz=101,slow=5.2,SNR=4.7
YBH Yreka Blue Hor 86.53 37 *e*P **P** 10 23 29.4 -1.5
comp=Z,4.9nm,1.1s
YBH Yreka Blue Hor 86.53 37 *e*P **P** 10 23 29.4 -1.5
YBH pmax pmax
comp=Z,5.0nm,1.1s
NV01 Mina Array Sit 86.68 42 *e*P **P** 10 23 32.2 +0.3
NVAR Mina Array Bea 86.68 42 P **P** 10 23 31.8 -0.1
comp=Z,2.3nm,0.7s,baz=219,slow=7.9,SNR=20
NVAR LR LR 10 57 10.4
comp=Z,178nm,18.2s,baz=224,slow=32
NV11 Mina Array Sit 86.77 42 *e*P **P** 10 23 32.0 -0.2
PSI Prapat 86.85 275 *e*P **P** 10 23 30.8 -2.4
comp=Z,10nm,0.9s
PSI Prapat 86.85 275 *e*P **P** 10 23 30.8 -2.4
PSI pmax pmax
comp=Z,10.0nm,0.9s
NJ2 Nanjing 86.90 310 *e*P **P** 10 23 33.2 +0.4
NJ2 pmax pmax
comp=Z,14nm,0.5s
TPNV Topopah Spring 86.92 44 *e*P **P** 10 23 33.6 +0.6
comp=Z,2.6nm,0.7s
TPNV Topopah Spring 86.92 44 *e*P **P** 10 23 33.6 +0.6
TPNV pmax pmax
comp=Z,3.0nm,0.7s
HUMO Hull Mountain 87.03 36 *e*P **P** 10 23 34.0 +0.9
comp=Z,7.8nm,1.1s
KVN Kaiserville 87.22 41 *e*P **P** 10 23 34.4 0.0
comp=Z,2.3nm,0.7s
KVN Kaiserville 87.22 41 *e*P **P** 10 23 34.4 0.0
KVN pmax pmax
comp=Z,2.0nm,0.7s
GSI Gunungsitoli 87.28 273 *e*P **P** 10 23 36.9 +1.7
comp=Z,25nm,0.6s
USA0B Ussuriysk Arra 87.37 326 *e*P **P** 10 23 35.5 +0.8
comp=Z,5.5nm,0.9s
USRK Ussuriysk Ar. 87.37 326 P **P** 10 23 35.6 +0.9
comp=Z,4.3nm,0.7s,baz=135,slow=3.5,SNR=13
USRK LR LR 10 59 01.5
comp=Z,32nm,18.4s,baz=122,slow=33
TUC Tucson 87.48 50 P **P** 10 23 36.5 +0.8
TUC pmax pmax
comp=Z,9.0nm,3.0s
MOD Modoc Plateau 87.93 38 *e*P **P** 10 23 37.7 0.0
comp=Z,1.2nm,0.6s
X16A Lo Mia Camp, P 88.34 48 *e*P **P** 10 23 40.9 +1.1
comp=Z,3.3nm,0.8s
OHAK Old Harbor 88.69 12 *e*P **P** 10 23 41.5 +0.9
comp=Z,19nm,0.9s
H04A Detroit Lake 88.90 35 *e*P **P** 10 23 43.0 +1.0
comp=Z,12nm,1.1s
PINE Pine Mountain 88.91 37 *e*P **P** 10 23 42.5 +0.2
comp=Z,5.4nm,1.0s
U15A North Rim 89.03 46 *e*P **P** 10 23 44.4 +1.1
comp=Z,4.3nm,0.8s
KNB Kanab 89.07 46 *e*P **P** 10 23 43.6 +0.3
comp=Z,5.9nm,1.1s
KNB Kanab 89.07 46 *e*P **P** 10 23 43.6 +0.3
KNB pmax pmax
comp=Z,6.0nm,1.1s
ELK Elko 89.99 42 P **P** 10 23 48.0 +0.5
comp=Z,0.4nm,0.6s,baz=258,slow=7.0,SNR=4.0
ELK Elko 89.99 42 P **P** 10 23 48.0 +0.5
G06A Carlson Farm, 90.07 36 *e*P **P** 10 23 48.0 +0.5
MTPU Mount Pierson 90.10 45 *e*P **P** 10 23 50.1 +1.8
comp=Z,2.5nm,0.7s
MSU Marysvale 90.40 45 *e*P **P** 10 23 50.9 +1.4
CN2 Changchun 90.46 322 *e*P **P** 10 23 50.7 +1.4
CN2 pmax pmax
comp=Z,10.0nm,0.6s
LON Longmire 90.55 34 *e*P **P** 10 23 50.7 +0.9
LON Longmire 90.55 34 *e*P **P** 10 23 50.7 +0.9
LTX Lajitas 90.73 56 *e*P **P** 10 23 51.1 +0.1
LTX Lajitas 90.73 56 *e*P **P** 10 23 51.2 +0.1
TXAR Lajitas Array 90.73 56 P **P** 10 23 51.1 0.0
comp=Z,1.2nm,0.9s,baz=206,slow=5.4,SNR=7.5
TXAR LR LR 10 58 09.9
comp=Z,81nm,19.0s,baz=0.0,slow=31
MNTX Cornudas Mount 90.83 54 *e*P **P** 10 23 51.1 -0.3
comp=Z,1.7nm,0.8s
G08A Pilot Rock 90.97 36 *e*P **P** 10 23 52.5 +0.7
comp=Z,4.4nm,1.0s
KLR Kul'dur 91.15 329 *i* P **P** 10 23 52.5 +0.1
E07A Sunnyside 91.38 35 *e*P **P** 10 23 54.5 +0.9
comp=Z,6.2nm,0.8s
HAWA Hanford 91.42 35 *e*P **P** 10 23 54.7 +0.9
comp=Z,6.3nm,1.1s
TMUT Trail Mountain 91.48 45 *e*P **P** 10 23 54.7 +0.1
comp=Z,2.9nm,0.8s
BMO Blue Mountains 91.54 38 *e*P **P** 10 23 55.9 +1.4
comp=Z,1.2nm,1.1s
BMO Blue Mountains 91.54 38 *e*P **P** 10 23 55.9 +1.4
BMO pmax pmax
comp=Z,1.0nm,1.1s
ANMO Albuquerque 91.95 50 *e*P **P** 10 23 57.2 +0.5
comp=Z,1.6nm,0.9s
ANMO Albuquerque 91.95 50*c**e*P **P** 10 23 55.8 -0.9
ANMO pmax pmax
comp=Z,9.0nm,2.5s
HVU Hansel Valley 92.08 42 *e*P **P** 10 23 57.3 +0.2
comp=Z,1.6nm,0.7s
HVU Hansel Valley 92.08 42 *e*P **P** 10 23 57.3 +0.2
HVU pmax pmax
comp=Z,2.0nm,0.7s
D08A Wollman Farm, 92.19 35 *e*P **P** 10 23 58.2 +0.9
comp=Z,5.8nm,0.8s
F10A Beach Ranch, E 92.32 37 *e*P **P** 10 23 57.7 -0.4
comp=Z,5.5nm,0.8s
PV01 Paradox Valley 92.42 47 *e*P **P** 10 23 58.8 -0.1
comp=Z,2.6nm,0.8s
B08A Colville Reser 92.87 34 *e*P **P** 10 23 59.8 -0.7
comp=Z,2.2nm,0.8s
CMAR Chiang Mai Arr 94.57 289 P **P** 10 24 09.9 +1.0
comp=Z,1.4nm,0.5s,baz=130,slow=3.2,SNR=6.3
CMAR LR LR 11 08 37.2
comp=Z,39nm,19.0s,baz=168,slow=37
PDAR Pinedale Array 94.57 43 P **P** 10 24 08.1 -0.6
comp=Z,0.5nm,0.8s,baz=192,slow=4.1,SNR=3.9
PDAR PKKPbc **PKKPdf** 10 41 08.4 +0.2
comp=Z,0.5nm,0.7s,baz=22,slow=4.8,SNR=5.3
PDAR LR LR 11 04 19.8
comp=Z,97nm,18.3s,baz=246,slow=34
CHTO Chiang Mai 94.74 289 P **P** 10 24 11.3 +1.6
CHTO pmax pmax
comp=Z,9.0nm,2.0s
KMI Kunming 94.82 296 P **P** 10 24 09.8 -0.5
KMI pmax pmax
comp=Z,11nm,0.6s
SEY Seymchan 95.60 346 P **P** 10 24 11.7 -0.8
comp=Z,1.5nm,0.6s,baz=139,slow=1.4,SNR=6.6
COLA College 96.79 12 P **P** 10 24 17.3 -0.6
COLA pmax pmax
comp=Z,7.0nm,0.8s
HHC Hu-ho-hao-te 96.80 313 *e*P **P** 10 24 19.8 +1.1
IL1 Eielson Array 96.87 12 *e*P **P** 10 24 18.4 +0.1
ILAR Eielson Array 96.87 12 P **P** 10 24 17.9 -0.5
comp=Z,1.4nm,0.7s,baz=216,slow=6.1,SNR=12
ILAR LR LR 11 10 03.7
comp=Z,40nm,18.2s,baz=162,slow=37
CD2 Chengdu 96.96 302 *e*P **P** 10 24 20.0 +0.4
LPAZ La Paz 97.08 113 P Pdif 10 24 22.6 +1.2
comp=Z,1.1nm,0.7s,baz=186,slow=2.7,SNR=5.8
LPAZ LR LR 10 59 47.4
comp=Z,77nm,19.9s,baz=354,slow=30
BILL Bilibino 98.26 353[1] *e*P Pdif 10 24 25.8 +1.3
BILL *SP pwP 10 24 41.0 +0.6
BILL pmax pmax
comp=Z,2.0nm,0.9s
BILL MLR MLR
comp=Z,71nm,19.0s
CPUP Villa Florida 99.27 127 LR LR 11 01 37.5
comp=Z,102nm,21.3s,baz=256,slow=31
LZH Lanzhou 99.48 306 *e*P **Pdif** 10 24 32.9 +1.9
LZH pP pwP 10 24 47.4 +0.3
LZH sP sP 10 24 53.6 +17
YKA Yellowknife Ar 104.13 25 PKiKP **PKiKP** 10 29 07.1 -0.5
comp=Z,0.1nm,0.4s,baz=257,slow=1.5,SNR=4.6
YKA PKKPbc **PKKPbc** 10 40 40.4 -0.7
comp=Z,0.6nm,0.6s,baz=39,slow=2.9,SNR=12
WMQ Urumqi 113.94 308 *e*PKP **PKiKP** 10 29 26.2 -0.5
DGZ Jazzator, Alta 115.86 314 *i* PKiKP **PKPdf** 10 29 28.5 -1.9
MK01 Makanchi Array 118.42 310 *e*PKPdf **PKPdf** 10 29 34.8 -0.4
MK31 Makanchi Array 118.43 310 *e*PKPdf **PKPdf** 10 29 35.0 -0.3
MK32 Makanchi Array 118.43 310 *e*PKPdf **PKPdf** 10 29 34.6 -0.6
MKAR Makanchi Array 118.43 310 PKP **PKPdf** 10 29 34.6 -0.6
comp=Z,1.0nm,0.7s,baz=67,slow=1.6,SNR=11
MKAR Makanchi Array 118.43 310 *e*PKPdf **PKPdf** 10 29 34.9 -0.4
ZALV Zalesovo Beam 118.46 318 PKP **PKPdf** 10 29 33.9 -1.1
comp=Z,0.9nm,0.7s,baz=102,slow=2.1,SNR=5.1
ZALV Zalesovo Beam 118.46 318 *e*PKPdf **PKPdf** 10 29 34.7 -0.3
ZALV Zalesovo Beam 118.46 318 *e*PKIKP **PKPdf** 10 29 34.7 -0.3
ZAA1 Zalesovo Array 118.46 318 *e*PKPdf **PKPdf** 10 29 33.9 -1.2
MAKZ Makanchi 118.64 310 *e*PKPdf **PKPdf** 10 29 35.0 -0.6
MAKZ Makanchi 118.64 310 *e*PKIKP **PKPdf** 10 29 35.0 -0.6
KSH Kashi 121.14 301 PKP **PKiKP** 10 29 43.8 +2.9
KURK Kurchatov 121.61 314 *e*PKPdf **PKPdf** 10 29 40.9 -0.2
KURK Kurchatov 121.61 314*c* *i*PKIKP **PKPdf** 10 29 40.3 -0.8
KURK pmax pmax
comp=Z,6.0nm,1.7s
PKME Peaks-Kenny Pk 121.88 53 *e*PKPdf **PKiKP** 10 29 42.1 +0.1
PQI Presque Isle 123.01 51 *e*PKPdf **PKPdf** 10 29 43.6 -0.3
KK31 Karatay Array 125.90 304 *e*PKPdf **PKPdf** 10 29 49.5 -0.2
KK31 Karatay Array 125.90 304 *e*PKIKP **PKPdf** 10 29 49.5 -0.2
KKAR Karatay Array 125.90 304 *e*PKPdf **PKPdf** 10 29 49.9 +0.2
KKAR Karatay Array 125.90 304 *e*PKIKP **PKPdf** 10 29 49.9 +0.2
BRVK Borovoye 126.97 316 *i* PKIKP **PKPdf** 10 29 51.3 -0.1
ARA0 ARCESS Array S 138.16 349 *e*PKPdf **PKPdf** 10 30 10.9 -1.1
ARCES ARCESS Array B 138.16 349 PKP **PKPdf** 10 30 10.9 -1.1
comp=Z,4.6nm,0.8s,baz=15,slow=5.0,SNR=5.7
KLMR Klimovskoe 140.79 333 *e*PKIKP **PKPdf** 10 30 15.1 -1.9
KLMR pmax pmax
comp=Z,5.0nm,0.9s
KLMR Klimovskoe 140.79 333 *e*PKPdf **PKPdf** 10 30 15.2 -1.8
KLMR AMP 10 30 19.7
comp=Z,5.0nm,0.9s
VRH Novokhopyorsk 144.50 318 *e*PKIKP **PKPab** 10 30 22.1 -0.1
VRH pmax pmax
comp=Z,10.0nm,0.7s
FIA1 FINESS Array S 144.93 341 *e*PKPdf **PKPab** 10 30 23.0 -0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FIA0	**FINESS Array S**	**144.93**	**341**	*e*PKPdf	**PKPab**	**10 30 22.9**	**-0.6**
FIA0	**FINESS Array S**	**144.93**	**341**	*e*PKIKP	**PKPab**	**10 30 22.9**	**-0.6**
FINES	**FINESS Array B**	**144.93**	**341**	PKP	**PKPab**	**10 30 22.9**	**-0.6**
	comp=Z,9.3nm,0.6s,baz=71,slow=2.7,SNR=41						
GNI	**Garni**	**145.03**	**299***c*	*i*PKIKP	**PKPdf**	**10 30 25.6**	**+0.2**
GNI				pmax	pmax		
	comp=Z,100nm,1.3s						
ZEI	**Tsey**	**145.35**	**303**	*i* PKIKP	**PKPbc**	**10 30 25.2**	**-0.6**
ZEI				pmax	pmax		
	comp=Z,13nm,0.6s						
OBN	**Obninsk**	**145.38**	**327**	*e*PKPbc	**PKPbc**	**10 30 24.8**	**-0.4**
OBN	**Obninsk**	**145.38**	**327**	⇓*e*PKIKP	**PKPbc**	**10 30 24.7**	**-0.4**
OBN				SS	SS	10 52 28.0	-7.5
OBN				pmax	pmax		
	comp=Z,45nm,0.7s						
NCK	**Nalchik**	**145.46**	**305**	*i* PKIKP	**PKPdf**	**10 30 25.4**	**-0.4**
LPSR	**Galich'ya Gora**	**145.47**	**322**	*e*PKIKP	**PKPdf**	**10 30 24.4**	**-1.1**
LPSR				pmax	pmax		
	comp=Z,50nm,0.9s						
GOF	**Gofitskoye**	**145.53**	**307**	*e*PKIKP	**PKPab**	**10 30 26.6**	**+0.3**
GOF				pmax	pmax		
	comp=Z,30nm,0.7s						
PYA1	**Pyatigorsk**	**145.71**	**306**	*i* PKIKP	**PKPab**	**10 30 27.4**	**+0.4**
KBZ	**Khabaz**	**145.91**	**305**	PKPbc	**PKPab**	**10 30 27.9**	**+0.2**
	comp=Z,3.4nm,0.7s,baz=139,slow=4.1,SNR=11						
VSR	**Storozhevoye**	**145.96**	**319**	*e*PKIKP	**PKPdf**	**10 30 25.6**	**-0.8**
VSR				pmax	pmax		
	comp=Z,50nm,0.9s						
KIV	**Kislovodsk**	**146.02**	**306**	⇑*i*PKP2	**PKiKP**	**10 30 30.9**	**-0.1**
KIV				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,43nm,16.0s						
NEY	**Neytrino**	**146.13**	**304**	*i* PKP2	**PKPab**	**10 30 29.9**	**+1.1**
SIRT	**Sirnak**	**146.98**	**294**	*e*PKPbc	**PKPab**	**10 30 31.6**	**-0.7**
NC303	**NORSAR Array S**	**148.01**	**353**	*e*PKPbc	**PKPbc**	**10 30 32.5**	**-0.2**
NB201	**NORSAR Array S**	**148.19**	**353**	*e*PKPbc	**PKPbc**	**10 30 33.1**	**0.0**
NB2	**NORSAR Subarra**	**148.21**	**353**	PKP	**PKPbc**	**10 30 32.8**	**-0.4**
	comp=Z,16nm,1.4s,baz=10,slow=3.2						
NB200	**NORSAR Array S**	**148.21**	**353**	*e*PKPbc	**PKPbc**	**10 30 32.6**	**-0.7**
NOA	**NORSAR Array B**	**148.21**	**353**	PKPbc	**PKPbc**	**10 30 32.6**	**-0.7**
	comp=Z,5.2nm,0.7s,baz=12,slow=4.4,SNR=20						
NBO00	**NORSAR Array S**	**148.26**	**353**	*e*PKPbc	**PKPbc**	**10 30 33.5**	**+0.2**
NC602	**NORSAR Array S**	**148.47**	**353**	*e*PKPbc	**PKPbc**	**10 30 33.7**	**-0.2**
KONO	**Kongsberg**	**149.74**	**354**	*e*PKPbc	**PKPbc**	**10 30 37.2**	**+0.1**
KONO	**Kongsberg**	**149.74**	**354**	*e*PKP2	**PKPbc**	**10 30 37.2**	**+0.1**
AKASG	**Malin Array Be**	**151.58**	**325**	PKPbc	**PKPbc**	**10 30 41.4**	**-0.3**
	comp=Z,12nm,0.6s,baz=46,slow=2.9,SNR=48						
AKBB	**Malin Array Si**	**151.58**	**325**	*e*PKPbc	**PKPbc**	**10 30 41.3**	**-0.4**
KIEV	**Kiev**	**151.59**	**325**	*e*PKPbc	**PKPbc**	**10 30 41.2**	**-0.5**
KIEV	**Kiev**	**151.59**	**325**	*e*PKIKP	**PKPbc**	**10 30 41.2**	**-0.5**
AK11	**Malin Array Si**	**151.62**	**325**	*e*PKPbc	**PKPbc**	**10 30 41.7**	**-0.1**
BR101	**Keskin Array S**	**153.53**	**300**	*e*PKPbc	**PKPbc**	**10 30 46.6**	**0.0**
BR101				*e*PKPab	**PKPab**	**10 31 00.2**	**+1.1**
BR131	**Keskin Array S**	**153.53**	**300**	*e*PKPbc	**PKPbc**	**10 30 46.5**	**-0.1**
BRTR	**Keskin Array B**	**153.53**	**300**	PKPbc	**PKPbc**	**10 30 46.6**	**0.0**
	comp=Z,1.3nm,0.7s,baz=118,slow=3.5,SNR=6.7						
BRTR				PKPab	**PKPab**	**10 31 00.2**	**+1.1**
	comp=Z,1.7nm,0.6s,baz=122,slow=4.3,SNR=8.2						
BUR08	**Bucovina Ar. S**	**155.55**	**323**	*e*PKPab	**PKPab**	**10 31 07.8**	**+0.4**
BUR04	**Bucovina Ar. S**	**155.56**	**323**	*e*PKPab	**PKPab**	**10 31 08.6**	**+1.2**
DPC	**Dobruska-Polom**	**157.24**	**339**	*e*PKPAB	**PKPab**	**10 31 14.9**	**+0.5**
DPC	**Dobruska-Polom**	**157.24**	**339**	*e*PKP2	**PKPab**	**10 31 14.9**	**+0.5**
CLL	**Collm**	**157.28**	**345**	*e*PKPab	**PKPab**	**10 31 14.0**	**-0.4**
CLL	**Collm**	**157.28**	**345**	*e*PKP2	**PKPab**	**10 31 14.0**	**-0.4**
VYHS	**Vyhne**	**157.90**	**333**	*e*PKP2	**PKPab**	**10 31 21.8**	**+4.5**
VYHS	**Vyhne**	**157.90**	**333**	*e*PKP	**PKPab**	**10 31 21.8**	**+4.5**
KHC	**Kasperske Hory**	**159.14**	**342**	*e*PKPab	**PKPab**	**10 31 23.6**	**+1.0**
KHC	**Kasperske Hory**	**159.14**	**342**	*e*PKPAB	**PKPab**	**10 31 23.1**	**+0.5**
KHC	**Kasperske Hory**	**159.14**	**342**	*e*PKP2	**PKPab**	**10 31 23.1**	**+0.5**
GERES	**GERESS Array B**	**159.36**	**341**	PKPab	**PKPab**	**10 31 23.0**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=33,slow=5.1,SNR=3.9						
GEA0	**GERESS Array S**	**159.37**	**341**	*e*PKPab	**PKPab**	**10 31 24.0**	**+0.2**
FUORN	**Ofenpass-Fuorn**	**162.30**	**345**	*e*PKPab	**PKPab**	**10 31 37.1**	**+0.3**
TOA0	**Torodi Ar. Sit**	**163.47**	**173**	*e*PKPdf	**PKPdf**	**10 30 52.2**	**+0.8**
TOA0				*e*PKPab	**PKPab**	**10 31 43.1**	**+0.8**
TORD	**Torodi Ar. Bea**	**163.47**	**173**	PKPab	**PKPab**	**10 31 42.6**	**+0.3**
	comp=Z,3.2nm,0.6s,baz=179,slow=5.2,SNR=20						
TOA1	**Torodi Ar. Sit**	**163.48**	**173**	*e*PKPab	**PKPab**	**10 31 42.6**	**+0.3**
ESDC	**Sonseca Array**	**168.17**	**30**	PKPab	**PKPab**	**10 32 01.5**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=307,slow=3.1,SNR=3.8						

IDC 04 10:14:15.3±7.4**, 5°.64S×149°.83E, h80**km±58km**, mb3.6**/3**, mb1 3.9**/4**, mb1mx3.5**/32**, mbtmp4.1**/4**, ML2.6**/1**, Error ellipse: s-maj=62.9km s-min=31.5km az=78.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.59**	**215**	P	Pn	10 15 23.7	+1.5
	21nm,0.3s,baz=40,slow=10.0,SNR=51						
PMG				S	Sn	10 16 14.2	0.0
	38nm,0.3s,baz=332,slow=19,SNR=13						
WRA	**Warramunga Arr**	**20.72**	**225**	P	P	10 18 50.2	+0.9
	1.4nm,0.3s,baz=51,slow=11,SNR=42						
VNDA	**Vanda**	**72.12**	**177**	P	P	10 25 30.4	-0.2
	1.2nm,0.5s,baz=345,slow=7.3,SNR=11						
ZALV	**Zalesovo Beam**	**80.23**	**327**	P	P	10 26 16.4	-0.6
	0.2nm,0.4s,baz=97,slow=4.6,SNR=2.2						
TORD	**Torodi Ar. Bea**	**147.72**	**286**	PKPbc	PKPbc	10 33 51.7	-0.1
	0.2nm,0.4s,baz=108,slow=3.1,SNR=3.3						

*ISCJB **04** 10:18:13.9±0.6, 39°.47N±0°.02×25°.72E±0°.04, h8km±4km, Error ellipse: s-maj=5.6km s-min=3.5km az=156.6*
*DDA **04** 10:18:13.4, 39°.41N×25°.80E, h7km±5km, ML2.7*
*ISK **04** 10:18:13.1, 39°.45N×25°.73E, h8km, ML2.2/11*
*ATH **04** 10:18:14.4, 39°.45N×25°.68E, h16km±5km, ML2.0/4, Error ellipse: s-maj=5.7km s-min=0.9km az=123.0*
ISC 04 10:18:13.7±1.1**, 39°.45N**±0°.02×**25°.72E**±0°.03**, h10**km±9km**, n28,** σ0s.50/39**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.26**	**156**	PG	**Pg**	**10 18 18.9**	**0.0**
SIGR				SG	**Sg**	**10 18 22.8**	**+0.4**
SIGR	**SIGRI**	**0.26**	**156**	P	**Pb**	**10 18 20.3**	**-0.1**
SIGR				S	**Sb**	**10 18 24.3**	**-0.6**
SIGR				AML	AML	10 18 25.2	
	comp=E,1006μm,0.3s						
SIGR				AML	AML	10 18 25.3	
	comp=N,1382μm,0.3s						
BOZC	**Bozcaada**	**0.47**	**33**	PG	**Pb**	**10 18 23.2**	**-0.9**
BOZC				SG	**Sg**	**10 18 29.5**	**+0.3**
BOZC	**Bozcaada**	**0.47**	**33**	*i* P	**Pg**	**10 18 23.1**	**+0.1**
PRK	**Paraskevi**	**0.47**	**115**	P	**Pb**	**10 18 24.6**	**+0.5**
PRK				S	**Sb**	**10 18 31.6**	**+0.5**
PRK				AML	AML	10 18 32.6	
	comp=E,496μm,0.3s						
PRK				AML	AML	10 18 33.6	
	comp=N,535μm,0.5s						
EZN	**Ezine**	**0.60**	**51**	PG	**Pg**	**10 18 25.0**	**-0.4**
LIA	**Limnos Island**	**0.61**	**318**	P	**Pb**	**10 18 26.6**	**+0.2**
LIA				S	**Sb**	**10 18 35.0**	**-0.1**
LIA				AML	AML	10 18 38.4	
	comp=N,155μm,0.3s						
LIA				AML	AML	10 18 41.6	
	comp=E,133μm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.70**	**65**	IAML_P			
	comp=Z,854nm,0.2s						
BAYC				*i* P	**Pb**	**10 18 27.7**	**-0.4**
BAYC				*i* S	**Sg**	**10 18 36.6**	**0.0**
GADA	**Gvkgeada**	**0.76**	**10**	PG	**Pg**	**10 18 27.9**	**-0.4**
AYVA	**Ayvalik**	**0.77**	**100**	*i* P	**Pn**	**10 18 30.6**	**+0.1**
AYVA				*i* S	**Sb**	**10 18 39.6**	**+0.1**
DKL	**Dikili**	**0.99**	**112**	PG	**Pg**	**10 18 32.3**	**-0.5**
SMTH	**Samothraki Isl**	**1.03**	**352**	P	**Pb**	**10 18 33.5**	**-0.2**
SMTH				S	**Sb**	**10 18 47.9**	**+0.6**
CHOS	**Chios island**	**1.09**	**166**	PN	**Pg**	**10 18 34.3**	**-0.4**
CHOS	**Chios island**	**1.09**	**166**	P	**Pn**	**10 18 35.4**	**+0.3**
CHOS				S	**Sn**	**10 18 50.4**	**+0.2**
CHOS				AML	AML	10 18 54.3	
	comp=E,363μm,0.4s						
CHOS				AML	AML	10 18 55.4	
	comp=N,171μm,0.2s						
GELI	**Tayfur-Gelibol**	**1.11**	**31**	PN	**Pg**	**10 18 34.6**	**-0.5**
LPK	**Lapseki**	**1.22**	**41**	PN	**Pn**	**10 18 36.7**	**-0.1**
URLA	**Izmir**	**1.28**	**148**	PN	**Pg**	**10 18 37.9**	**-0.4**
URLA	**Izmir**	**1.28**	**148**	*i* P	**Pn**	**10 18 36.1**	**-1.6**
URLA				*i* S	**Sn**	**10 18 55.2**	**+0.3**
ENEZ	**Enez**	**1.33**	**14**	PN	**Pb**	**10 18 38.4**	**-0.3**
ERIK	**Erikli-Kesan**	**1.37**	**26**	PN	**Pb**	**10 18 39.0**	**-0.3**
ALN	**Alexandroupoli**	**1.47**	**10**	PN	**Pn**	**10 18 40.5**	**+0.3**
ALN	**Alexandroupoli**	**1.47**	**10**	P	**Pg**	**10 18 41.4**	**-0.6**
BALY	**Balya**	**1.50**	**78**	*i* P	**Pg**	**10 18 41.6**	**-0.8**
KRBG	**Karabiga-Canak**	**1.54**	**52**	PN	**Pn**	**10 18 41.4**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.55**	**92**	IAML_P			
	comp=Z,331nm,0.1s						
STEP				*i* P	**Pg**	**10 18 43.8**	**+0.4**
STEP				*i* S	**Sg**	**10 19 04.4**	**+0.8**
OUR	**Ouranopolis**	**1.60**	**304**	PN	**Pn**	**10 18 42.4**	**+0.4**
MRMT	**Marmara Adasi**	**1.85**	**51**	PN	**Pn**	**10 18 45.5**	**0.0**
KCTX	**Karacabey (Bur**	**2.19**	**67**	PN	**Pn**	**10 18 50.8**	**+0.7**

IDC 04 10:22:01.0±41.0**, 27°.79S×179°.67W, h0**km**, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.6**/27**, mbtmp3.6**/3**, Error ellipse: s-maj=741.3km s-min=154.9km az=92.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.73**	**253**	P	P	10 28 43.4	-0.8
	1.1nm,0.7s,baz=103,slow=8.5,SNR=2.9						
ASAR	**Alice Springs**	**41.84**	**265**	P	P	10 29 53.0	+0.1
	0.2nm,0.4s,baz=105,slow=7.8,SNR=9.1						
WRA	**Warramunga Arr**	**42.58**	**270**	P	P	10 29 59.1	+0.1
	0.3nm,0.4s,baz=108,slow=8.0,SNR=8.5						

TRN 04 10:22:09.1, 15°.09N×61°.08W, h147km**, MD3.5, 3D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BAMF	**Morne Balai**	**0.28**	**194**	⇓*e*P	Pn	10 22 30.7	+1.3
CXM	**Morne La Croix**	**0.29**	**197**	*e*P	Pn	10 22 30.9	+1.4
DLPL	**La Plaine**	**0.29**	**326**	*e*P	Pn	10 22 30.4	+1.1
DLPL				*e*S	Sn	10 22 46.7	+2.0
PCM	**Pelee Case Pet**	**0.30**	**205**	*e*P	Pn	10 22 30.6	+1.3
GBMF	**Grand Be**	**0.30**	**196**	*e*P	Pn	10 22 30.7	+1.3
PML	**Morne Lenard**	**0.32**	**198**	*e*P	Pn	10 22 31.5	+2.0
FDF	**Fort de France**	**0.36**	**191**	*e*P	Pn	10 22 31.2	+1.6
FDF				*e*S	Sn	10 22 46.5	+1.4
ILAM	**Ilet Lapin Mar**	**0.37**	**147**	⇓*e*P	Pn	10 22 30.7	+1.1
ZAM	**Aeronautique**	**0.52**	**174**	*e*P	Pn	10 22 31.2	+1.0
LPMF	**Morne Lapointe**	**0.52**	**168**	⇓*e*P	Pn	10 22 31.1	+0.8
DWS	**Wesley**	**0.53**	**335**	*e*P	Pn	10 22 30.9	+0.7
DWS				*e*S	Sn	10 22 46.7	+0.3
TRMF	**Trois Ilets**	**0.55**	**177**	*e*P	Pn	10 22 31.8	+1.3
MVM	**Montagne Vaucl**	**0.56**	**161**	*e*P	Pn	10 22 31.5	+0.9
BIM	**Bigot**	**0.57**	**179**	*e*P	Pn	10 22 32.6	+2.0
BBL	**Barber's Block**	**0.57**	**319**	*e*P	Pn	10 22 31.7	+1.2
BBL				*e*S	Sn	10 22 47.3	+0.3
MDPO	**Dominica; Chan**	**0.60**	**324**	*e*P	Pn	10 22 32.0	+1.3
MDPO				*e*S	Sn	10 22 48.6	+1.5
MDPV	**Dominica, Penn**	**0.63**	**328**	*e*P	Pn	10 22 31.2	+0.3
MDPV				*e*S	Sn	10 22 49.4	+1.9
MGG	**Marie-Galante**	**0.85**	**345**	*e*P	Pn	10 22 33.3	+0.9
MGG				*e*S	Sn	10 22 50.3	0.0
MAGL	**Barre de l'ile**	**0.88**	**347**	*e*P	Pn	10 22 33.4	+0.8
TDBA	**Terre de Bas,**	**0.93**	**325**	*e*P	Pn	10 22 33.8	+0.8
TBG	**Guadaloupe-3**	**0.93**	**324**	*e*P	Pn	10 22 33.7	+0.7
TBG				*e*S	Sn	10 22 52.8	+1.5
SLW	**Petit Monier**	**1.07**	**173**	*e*P	Pn	10 22 35.2	+0.9
SLW				*e*S	Sn	10 22 53.7	+0.2
DEG	**La Desirade**	**1.22**	**1**	*e*P	Pn	10 22 36.7	+1.0
SLPA	**Patience**	**1.24**	**173**	*e*P	Pn	10 22 37.4	+1.6
SLPA				*e*S	Sn	10 22 56.7	+0.5
SLB	**Belfond**	**1.26**	**178**	*e*P	Pn	10 22 37.3	+1.2
SLB				*e*S	Sn	10 22 57.9	+1.3
SLDE	**Delcer**	**1.28**	**179**	*e*S	Sn	10 22 57.2	+0.2
ABD	**La Joyeuse, An**	**1.43**	**344**	*e*P	Pn	10 22 38.4	+0.7
SFAN	**Fancy Village**	**1.70**	**183**	*e*P	Pn	10 22 41.0	+0.4
SFAN				*e*S	Sn	10 23 05.0	+0.2
SVCV	**St. Vincent, C**	**1.81**	**182**	*e*P	Pn	10 22 43.0	+1.1
SVB	**Belmont**	**1.81**	**185**	*e*P	Pn	10 22 43.2	+1.2
FCV	**Fort Charlotte**	**1.93**	**185**	*e*P	Pn	10 22 44.4	+1.2
BPA	**Boggy Peak**	**2.08**	**339**	*e*P	Pn	10 22 46.3	+1.2
BPA				*e*S	Sn	10 23 12.6	-0.2
BBGH	**Gun Hill**	**2.43**	**142**	*e*P	Pn	10 22 50.2	+0.9
BBGH				*e*S	Sn	10 23 20.9	+0.6
NEV	**Hard Times**	**2.49**	**325**	*e*P	Pn	10 22 51.2	+1.3
NEV				*e*S	Sn	10 23 21.9	+0.4
ANWB	**Willy Bob**	**2.65**	**345**	*e*P	Pn	10 22 53.5	+1.6
ANWB				*e*S	Sn	10 23 25.7	+0.6

*ISCJB **04** 10:33:02.7±1.1, 30°.7S±0°.1×179°.9E±0°.2, h400km, mb3.5/4, Error ellipse: s-maj=22.6km s-min=13.8km az=10.7*
*IDC **04** 10:33:03.5±1.4, 30°.57S×179°.99W, h406km±18km, mb3.2/4, mb1 3.5/6, mb1mx3.2/26, mbtmp4.2/6, Error ellipse: s-maj=31.2km s-min=20.8km az=40.0*
ISC 04 10:33:03.4±1.1**, 30°.8S**±0°.1×**180°.0E**±0°.2**, h400**km**, n7,** σ1s.38/8**, mb3.5**/4**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.37**	**51**	P	**Pn**	**10 34 01.6**	**-0.2**
	77nm,0.3s,baz=163,slow=19,SNR=3.8						
URZ	**Urewera**	**7.85**	**197**	P	**P**	**10 34 58.4**	**+1.4**
	6.9nm,0.3s,baz=276,slow=4.5,SNR=54						
URZ				S	**S**	**10 36 27.1**	**-2.1**
	2.3nm,0.3s,baz=228,slow=22,SNR=10						
STKA	**Stephens Creek**	**32.69**	**258**	P	**P**	**10 39 01.2**	**+0.8**
	0.5nm,0.3s,baz=106,slow=10,SNR=7.5						
ASAR	**Alice Springs**	**41.34**	**268**	P	**P**	**10 40 12.1**	**-0.4**
	0.9nm,0.6s,baz=106,slow=7.3,SNR=27						
WRA	**Warramunga Arr**	**42.36**	**274**	P	**P**	**10 40 20.2**	**-0.4**
	2.3nm,0.4s,baz=111,slow=8.0,SNR=79						
QSPA	**South Pole Qui**	**59.36**	**180**	P	**P**	**10 42 25.6**	**+0.6**
	1.8nm,0.7s,baz=38,slow=0.2,SNR=13						
FINES	**FINESS Array B**	**144.85**	**338**	PKP	**PKPdf**	**10 51 51.4**	**-1.3**
	1.0nm,0.4s,baz=48,slow=3.9,SNR=9.5						

MEX 04 10:50:40.8±0.6**, 15°.71N×96°.99W, h12**km±17km**, MD3.5, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.29**	**302**	*i* S	Sb	10 51 17.1	-4.6
TLIG	**Tlapa**	**2.39**	**321**	*i* P	Pn	10 51 17.5	-2.4
TLIG				*e*S	Sn	10 51 44.9	-4.2
CMIG	**Matias Romero**	**2.44**	**55**	*i* P	Pn	10 51 17.0	-3.5
CMIG				*i* S	Sn	10 51 45.8	-4.6

*SOME **04** 10:56:55.7, 51°.57N×81°.87E, h0km*
*IDC **04** 10:57:01.8±1.3, 51°.33N×81°.90E, h0km, mb1 2.3/2, mb1mx2.3/33, mbtmp2.3/2, ML2.0/2, Error ellipse: s-maj=14.7km s-min=11.2km az=138.0*
*NNC **04** 10:57:02.4±1.9, 51°.37N×81°.80E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=18.4km s-min=6.1km az=22.0, Suspected Mining explosion.*
ISC 04 10:56:53.7±1.1**, 51°.48N**±0°.05×**82°.20E**±0°.05**, h0**km**, n11,** σ2s.37/18**, 6C-6D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SEM	**Semipalatinsk**	**1.63**	**230**	⇓*i*P	**Pn**	**10 57 24.5**	**+0.6**
	12nm,0.4s						
SEM				⇑*i*S	**Sg**	**10 57 47.0**	**+0.9**
	43nm,0.3s						
KURK	**Kurchatov**	**2.38**	**253**	⇑Pg	**Pg**	**10 57 40.8**	**+1.5**
	2.0nm,0.3s						
KURK				⇑Lg	Lg	10 58 10.1	
	18nm,0.6s						
KURBB	**Kurchatov Arra**	**2.47**	**251**	Pg	**Pg**	**10 57 42.4**	**+1.4**
	0.3nm,0.3s,baz=72,slow=18,SNR=7.5						
KURBB				Lg	Lg	10 58 12.5	
	0.5nm,0.3s,baz=73,slow=32,SNR=10.0						
KURBB	**Kurchatov Arra**	**2.47**	**251**	⇑Pg	**Pg**	**10 57 42.2**	**+1.3**
	2.8nm,0.3s						
KURBB				⇓Lg	Lg	10 58 12.5	
	27nm,0.7s						
I46RU	**ZALESOVO INFRA**	**2.94**	**32**	*i*		11 14 40.0	
	baz=213,slow=335,SNR=3.2						
ZALV	**Zalesovo Beam**	**2.94**	**32**	Pn	**Pg**	**10 57 51.5**	**+1.4**
	0.3nm,0.3s,baz=219,slow=14,SNR=4.5						
ZALV				Pg	Pb	10 57 59.8	+13
	0.8nm,0.3s,baz=217,slow=16,SNR=10.0						
ZALV				Sn	**Sg**	**10 58 28.0**	**-0.2**
	0.5nm,0.3s,baz=213,slow=23,SNR=5.5						
ZALV				Lg	Lg	10 58 43.5	
	0.8nm,0.3s,baz=215,slow=26,SNR=5.6						
ZSN	**Zaisan**	**4.39**	**156**	*e*P	**Pg**	**10 58 18.4**	**+0.5**
	1.4nm,0.3s						
ZSN				*e*S	**Sg**	**10 59 19.5**	**+4.8**
	3.4nm,0.6s						
MAKZ	**Makanchi**	**4.68**	**182**	⇓Pn	**Pb**	**10 58 13.6**	**-3.0**
	1.3nm,0.8s						
MAKZ				⇓Pg	**Pg**	**10 58 25.4**	**+2.0**
	2.3nm,1.4s						
MAKZ				⇓Lg	Lg	10 59 28.3	
	5.2nm,1.1s						
MK31	**Makanchi Array**	**4.69**	**179**	⇑Pn	**Pb**	**10 58 13.6**	**-3.2**
	0.3nm,0.5s,baz=7.5,slow=11,SNR=12						
MK31				⇓Pg	**Pg**	**10 58 24.5**	**+0.9**
	0.5nm,0.5s,baz=4.4,slow=12,SNR=4.0						
MK31				⇑Lg	Lg	10 59 27.2	
	3.0nm,0.5s,baz=9.7,slow=26,SNR=4.4						
MKAR	**Makanchi Array**	**4.69**	**179**	Pn	**Pb**	**10 58 12.6**	**-4.2**
	0.2nm,0.3s,baz=353,slow=10,SNR=12						
MKAR				Pg	**Pg**	**10 58 24.2**	**+0.6**
	0.3nm,0.3s,baz=352,slow=16,SNR=13						
MKAR				Sn	**Sn**	**10 59 00.4**	**-0.4**
	0.3nm,0.3s,baz=2.8,slow=27,SNR=4.9						
MKAR				Lg	Lg	10 59 27.9	
	0.8nm,0.3s,baz=13,slow=27,SNR=10						
KAPS	**Kapalarasan**	**6.48**	**198**	*e*P	**Pg**	**10 58 56.5**	**-1.4**
	0.8nm,0.5s						
KAPS				*e*S	**Sg**	**11 00 24.5**	**+2.8**
	2.8nm,0.4s						

*IDC **04** 11:03:58.5±2.2, 0°.62N×123°.17E, h0km, mb2.9/3, mb1 3.1/3, mb1mx3.1/24, mbtmp3.0/3, Error ellipse: s-maj=424.1km s-min=27.3km az=62.0*
*ISCJB **04** 11:03:59.6±0.6, 1°.49S±0°.04×119°.55E±0°.06, h10km, mb2.9/3, Error ellipse: s-maj=9.0km s-min=6.0km az=1.0*
*DJA **04** 11:04:00.3±0.3, 1°S±2°×12°0E±°, h10km, M3.5/6, MLv3.5/6*
ISC 04 11:04:00.2±1.0**, 1°.50S**±0°.05×**119°.57E**±0°.07**, h10**km**, n10,** σ1s.00/12**, mb2.8**/3**, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCI	**Palu**	**0.64**	**24**	P	**Pg**	**11 04 12.6**	**-0.1**
PCI				S	**Sb**	**11 04 22.5**	**-0.1**
TTSI	**Tana Toraja**	**1.56**	**171**	P	**Pn**	**11 04 27.8**	**-0.2**
TTSI				S	**Sb**	**11 04 49.2**	**+0.2**
SGKI	**Sangatta, Kali**	**2.19**	**296**	P	**Pn**	**11 04 36.4**	**-0.3**
SPSI	**Sidrap Palu**	**2.46**	**175**	P	**Pn**	**11 04 40.4**	**0.0**
SMKI	**Samarinda**	**2.58**	**294**	P	**Pn**	**11 04 42.5**	**+0.4**
BKB	**Balikpapan**	**2.69**	**275**	P	**Pn**	**11 04 43.6**	**+0.1**
LUWI	**Luwuk**	**3.23**	**82**	P	**Pn**	**11 04 51.3**	**+0.3**
WRA	**Warramunga Arr**	**23.34**	**143**	P	**P**	**11 09 06.9**	**-2.0**
	0.2nm,0.7s,baz=320,slow=11,SNR=3.4						
ASAR	**Alice Springs**	**26.05**	**149**	P	**P**	**11 09 36.2**	**+2.1**
	0.1nm,0.7s,baz=347,slow=14,SNR=3.0						
MKAR	**Makanchi Array**	**58.15**	**331**	P	**P**	**11 13 54.3**	**0.0**
	0.3nm,0.6s,baz=126,slow=6.2,SNR=3.6						

*DDA **04** 11:34:14.4, 36°.40N×26°.87E, h13km±1km, ML3.1*
*HLW **04** 11:34:16.2, 36°.69N×27°.26E, h33km±28km, Ml4.1*
*ISCJB **04** 11:34:17.9±0.2, 36°.45N±0°.02×27°.10E±0°.02, h128km±3km, mb3.5/4, Error ellipse: s-maj=3.9km s-min=3.0km az=156.7*
*IDC **04** 11:34:18.8±0.9, 36°.30N×27°.13E, h121km±12km, mb3.3/4, mb1 3.3/9, mb1mx3.1/39, mbtmp3.6/9, Error ellipse: s-maj=18.8km s-min=8.9km az=164.0*
*ISK **04** 11:34:18.5, 36°.59N×26°.89E, h14km, ML2.9/15*
*ATH **04** 11:34:19.5, 36°.52N×27°.03E, h108km±6km, ML3.4/7, Error ellipse: s-maj=6.2km s-min=1.6km az=126.0*
*THE **04** 11:34:21.4, 36°.54N×27°.01E, h123km±3km, ML3.4/8, Error ellipse: s-maj=3.8km s-min=0.9km az=84.0*
*GII **04** 11:34:23.4±0.0, 36°.13N×27°.50E, h30km, MD3.1/1*
ISC 04 11:34:18.5±0.7**, 36°.45N**±0°.04×**27°.16E**±0°.04**, h117**km±7km**, n112,** σ1s.82/146**, mb3.5**/4**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAT	**Datca**	**0.44**	**51**	*i* P	**Pn**	**11 34 37.9**	**+2.0**
BODT	**Bodrum**	**0.62**	**11**	P	**Pn**	**11 34 37.6**	**+0.6**
BODT				S	**Sn**	**11 34 50.5**	**-0.5**
BDRM	**Kayabasi**	**0.66**	**21**	*i* P	**Pn**	**11 34 38.1**	**+0.8**
ARG	**Arkhangelos**	**0.82**	**106**	PG	**Pn**	**11 34 39.1**	**+0.5**
ARG				SG	**Sn**	**11 34 54.8**	**+1.1**
ARG	**Arkhangelos**	**0.82**	**106**	P	**Pn**	**11 34 40.9**	**+2.4**
ARG				S	**Sn**	**11 34 55.9**	**+2.2**
ARG				AML	AML	11 34 59.2	
	comp=E,3203μm,0.3s						
ARG				AML	AML	11 34 59.4	
	comp=N,1569μm,0.3s						
ARG	**Arkhangelos**	**0.82**	**106**	P	**Pn**	**11 34 41.0**	**+2.4**
ARG				S	**Sn**	**11 34 56.8**	**+3.1**
KARP	**Karpathos**	**0.90**	**180**	PG	**Pn**	**11 34 39.9**	**+0.5**
KARP	**Karpathos**	**0.90**	**180**	P	**Pn**	**11 34 41.3**	**+1.8**
KARP				S	**Sn**	**11 34 56.2**	**+1.0**
KARP				AML	AML	11 35 01.4	
	comp=E,3521μm,0.3s						
KARP				AML	AML	11 35 01.4	
	comp=N,3772μm,0.2s						
KARP	**Karpathos**	**0.90**	**180**	P	**Pn**	**11 34 41.3**	**+1.8**
KARP				S	**Sn**	**11 34 56.2**	**+1.0**
MLSB	**Milas**	**0.98**	**30**	PG	**Pn**	**11 34 38.3**	**-1.8**
AMGA	**Amorgos Island**	**1.08**	**291**	P	**Pn**	**11 34 41.3**	**+0.1**
ANAF	**Anafi Island**	**1.12**	**266**	P	**Pn**	**11 34 42.1**	**+0.6**
TURN	**Turunc**	**1.24**	**70**	PN	Pn	11 34 40.1	-2.7
TURN				SN	Sn	11 34 55.9	-5.3
TURN	**Turunc**	**1.24**	**70**	*i* P	**Pn**	**11 34 41.6**	**-1.2**
GCAM	**G?zelcaml?**	**1.25**	**3**	PN	**Pn**	**11 34 41.3**	**-1.6**
DALY	**Dalyan (Mula)**	**1.26**	**73**	PN	**Pn**	**11 34 44.6**	**+1.6**
DALY				SN	**Sn**	**11 35 04.5**	**+2.9**
DALY	**Dalyan (Mula)**	**1.26**	**73**	*i* P	**Pn**	**11 34 46.0**	**+3.0**
SMG	**Samos**	**1.28**	**349**	P	**Pn**	**11 34 42.9**	**-0.4**
SMG	**Samos**	**1.28**	**349**	P	**Pn**	**11 34 43.1**	**-0.2**
AYDN	**Tasoluk**	**1.34**	**25**	*i* P	**Pn**	**11 34 45.4**	**+1.4**
APE	**Apeiranthos**	**1.44**	**296**	PN	Pn	11 34 41.7	-3.5
APE	**Apeiranthos**	**1.44**	**296**	P	**Pn**	**11 34 44.8**	**-0.4**
STIA	**Sitia Lasithi**	**1.52**	**215**	P	**Pn**	**11 34 47.7**	**+1.7**
IOSP	**Ios island**	**1.53**	**281**	P	**Pn**	**11 34 46.5**	**+0.4**
ZKR	**Zakros**	**1.54**	**210**	PN	**Pn**	**11 34 47.1**	**+0.9**
ZKR	**Zakros**	**1.54**	**210**	P	**Pn**	**11 34 48.6**	**+2.4**
ZKR				S	**Sn**	**11 35 09.3**	**+2.1**
ZKR				AML	AML	11 35 10.2	
	comp=N,440μm,0.3s						
ZKR				AML	AML	11 35 11.1	
	comp=E,1150μm,0.4s						
ZKR	**Zakros**	**1.54**	**210**	P	**Pn**	**11 34 48.5**	**+2.3**
ZKR				S	**Sn**	**11 35 09.5**	**+2.2**
FETY	**Fethiye**	**1.56**	**83**	PN	**Pn**	**11 34 48.9**	**+2.4**
FETY	**Fethiye**	**1.56**	**83**	*i* P	**Pn**	**11 34 49.0**	**+2.4**
FETY				*i* S	**Sn**	**11 35 09.8**	**+1.9**
AYDB	**Zeytinkoy-Aydi**	**1.60**	**21**	PN	**Pn**	**11 34 46.8**	**-0.3**
NPS	**Neapolis**	**1.73**	**227**	P	**Pn**	**11 34 49.7**	**+1.2**
NPS				S	**Sn**	**11 35 11.0**	**-0.3**
NPS				AML	AML	11 35 13.5	
	comp=N,1708μm,0.3s						
NPS				AML	AML	11 35 13.7	
	comp=E,2237μm,0.2s						
TAVA	**DENIZLI_Tavas**	**1.73**	**54**	IAML_P			
	comp=Z,1μm,0.2s						
TAVA				*i* P	**Pn**	**11 34 50.0**	**+1.4**
TAVA				*i* S	**Sn**	**11 35 12.2**	**+0.6**
LAST	**Lasithi**	**1.88**	**227**	P	**Pn**	**11 34 51.5**	**+1.1**
LAST				S	**Sn**	**11 35 14.3**	**-0.4**
LAST				AML	AML	11 35 15.6	
	comp=N,622μm,0.3s						
LAST				AML	AML	11 35 16.4	
	comp=E,696μm,0.5s						
LAST	**Lasithi**	**1.88**	**227**	P	**Pn**	**11 34 51.4**	**+1.1**
LAST				S	**Sn**	**11 35 14.9**	**+0.2**
BLCB	**Balcova**	**1.93**	**357**	PN	**Pn**	**11 34 50.4**	**-0.6**
URLA	**Izmir**	**1.96**	**347**	PN	**Pn**	**11 34 49.5**	**-1.8**
URLA	**Izmir**	**1.96**	**347**	IAML_P			
	comp=Z,2μm,0.4s						
URLA				*i* P	**Pn**	**11 34 50.9**	**-0.4**
KSL	**Kastellorizon**	**1.98**	**98**	P	**Pn**	**11 34 53.9**	**+2.3**
KSL	**Kastellorizon**	**1.98**	**98**	P	**Pn**	**11 34 54.2**	**+2.6**
AKAS	**Kas**	**1.99**	**96**	PN	**Pn**	**11 34 54.3**	**+2.5**
AKAS	**Kas**	**1.99**	**96**	*i* P	**Pn**	**11 34 54.3**	**+2.5**
GOLH	**Golhisar**	**2.08**	**67**	*i* P	**Pn**	**11 34 55.6**	**+2.6**
CHOS	**Chios island**	**2.12**	**336**	PN	**Pn**	**11 34 51.5**	**-1.9**
IDI	**Anoyia**	**2.17**	**238**	PN	**Pn**	**11 34 54.0**	**-0.1**

IDI	**Anoyia**	**2.17**	**238**	P	**Pn**	**11 34 55.1**	**+0.9**
	comp=Z,13nm,0.3s,baz=39,slow=5.5,SNR=141						
IDI				S	**Sn**	**11 35 20.0**	**-1.3**
	comp=Z,50nm,0.3s,baz=117,slow=23,SNR=30						
IDI	**Anoyia**	**2.17**	**238**	P	**Pn**	**11 34 54.1**	**-0.1**
ELL	**Elmali**	**2.23**	**82**	PN	**Pn**	**11 34 58.8**	**+3.9**
MANT	**Manisa**	**2.32**	**28**	*i* P	**Pn**	**11 34 56.8**	**+0.6**
KULA	**Kula-Manisa**	**2.38**	**30**	PN	**Pn**	**11 34 57.3**	**+0.5**
SIVA	**Sivas**	**2.38**	**234**	P	**Pn**	**11 34 58.0**	**+1.3**
SIVA				S	**Sn**	**11 35 25.7**	**-0.3**
SIVA				AML	AML	11 35 29.9	
	comp=E,1285μm,0.4s						
SIVA				AML	AML	11 35 34.3	
	comp=N,1042μm,0.3s						
SIVA	**Sivas**	**2.38**	**234**	P	**Pn**	**11 34 58.5**	**+1.8**
SIVA				S	**Sn**	**11 35 25.7**	**-0.3**
VAM	**Vamos**	**2.62**	**247**	P	**Pn**	**11 35 00.9**	**+1.2**
VAM				S	**Sn**	**11 35 30.2**	**-1.1**
VAM				AML	AML	11 35 36.9	
	comp=N,816μm,0.3s						
VAM				AML	AML	11 35 37.7	
	comp=E,570μm,0.2s						
DKL	**Dikili**	**2.62**	**356**	PN	**Pn**	**11 34 59.8**	**0.0**
KORT	**Korkueli**	**2.62**	**77**	PN	**Pn**	**11 35 03.1**	**+3.2**
KORT	**Korkueli**	**2.62**	**77**	*i* P	**Pn**	**11 35 01.4**	**+1.5**
BRDR	**BURDUR-Merkez**	**2.63**	**61**	*i* P	**Pn**	**11 35 02.7**	**+2.6**
KHAL	**Karahalli**	**2.67**	**43**	*i* P	**Pn**	**11 35 02.7**	**+2.2**
IMMV	**Iera Moni Meta**	**2.76**	**250**	P	**Pn**	**11 35 03.2**	**+1.6**
IMMV				S	**Sn**	**11 35 33.2**	**-1.5**
ANTB	**Antalya**	**2.85**	**80**	PN	**Pn**	**11 35 07.1**	**+4.4**
DEMI	**Demirci**	**2.87**	**25**	*i* P	**Pn**	**11 35 03.8**	**+0.8**
SIGR	**SIGRI**	**2.94**	**340**	P	**Pn**	**11 35 03.7**	**-0.2**
STEP	**BALIKESIR_Sava**	**2.96**	**8**	*i* P	**Pn**	**11 35 04.4**	**+0.3**
KZIL	**AFYON_Kizioren**	**2.98**	**52**	IAML_P			
	comp=Z,221nm,0.2s						
KZIL				*i* P	**Pn**	**11 35 06.9**	**+2.3**
ANKY	**Antikythira Is**	**3.17**	**261**	P	**Pn**	**11 35 07.3**	**+0.3**
ANKY				S	**Sn**	**11 35 43.2**	**-1.2**
BAYC	**CANAKKALE_Bayr**	**3.32**	**352**	*i* P	**Pn**	**11 35 09.1**	**+0.1**
KYTH	**Kithira**	**3.32**	**268**	P	**Pn**	**11 35 09.8**	**+0.8**
KEPZ	**Antalya-Kepez**	**3.60**	**82**	*i* P	**Pn**	**11 35 15.9**	**+3.2**
PYL	**PYLOS**	**4.37**	**277**	P	**Pn**	**11 35 22.8**	**-0.2**
PYL				S	**Sn**	**11 36 10.1**	**-3.0**
LEF	**Lefka**	**4.85**	**104**	*i* P	**Pn**	**11 35 29.4**	**0.0**
GULN	**MERSIN_Gulnar**	**5.17**	**91**	*i* P	**Pn**	**11 35 35.6**	**+2.0**
SLUM	**Salum**	**5.20**	**199**	P	**Pn**	**11 35 35.3**	**+1.1**
	baz=199						
CSS	**Mathiatis**	**5.24**	**105**	Pn	**Pn**	**11 35 35.4**	**+0.7**
CSS				Sn	**Sn**	**11 36 30.5**	**-3.5**
BRTR	**Keskin Array B**	**6.07**	**55**	P	**Pn**	**11 35 48.2**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=223,slow=14,SNR=18						
BRTR				S	**Sn**	**11 36 57.1**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=220,slow=25,SNR=5.2						
HNAT	**Natroun**	**7.39**	**156**	P	**Pn**	**11 36 05.4**	**+1.6**
	baz=157						
HNAT				S	**Sn**	**11 37 24.5**	**-1.7**
	baz=157						
HNTI	**Hanita**	**7.40**	**115**	Pn	**Pn**	**11 36 04.2**	**+0.3**
HNTI				Sn	**Sn**	**11 37 24.1**	**-2.3**
OFRI	**`Ofer**	**7.50**	**118**	Pn	**Pn**	**11 36 05.3**	**0.0**
OFRI				Sn	**Sn**	**11 37 26.1**	**-2.8**
KOT	**Kottamia**	**7.59**	**148**	P	**Pn**	**11 36 07.5**	**+1.0**
	baz=149						
KOT				S	**Sn**	**11 37 28.2**	**-2.8**
	baz=149						
MMA0B	**Mount Meron ar**	**7.60**	**114**	Pn	**Pn**	**11 36 07.1**	**+0.4**
MMA0B				Sn	**Sn**	**11 37 29.0**	**-2.3**
MMAI	**Mount Meron Ar**	**7.60**	**114**	P	**Pn**	**11 36 06.6**	**-0.1**
	comp=Z,8.5nm,0.3s,baz=303,slow=13,SNR=19						
MMAI				S	**Sn**	**11 37 29.6**	**-1.8**
	comp=Z,6.5nm,0.3s,baz=309,slow=24,SNR=6.6						
HHAG	**Hagoal**	**7.69**	**146**	P	**Pn**	**11 36 08.7**	**+0.9**
	baz=147						
HHAG				S	**Sn**	**11 37 30.9**	**-2.5**
	baz=147						
KSDI	**Kefar Szold**	**7.71**	**112**	Pn	**Pn**	**11 36 08.5**	**+0.4**
KSDI				Sn	**Sn**	**11 37 31.3**	**-2.5**
NATI	**Neve Ativ**	**7.74**	**112**	Pn	**Pn**	**11 36 08.8**	**+0.4**
NATI				Sn	**Sn**	**11 37 31.8**	**-2.6**
HSAF	**As Saff**	**7.75**	**150**	P	**Pn**	**11 36 09.9**	**+1.3**
	baz=151						
SLTI	**Sal'it**	**7.75**	**121**	Sn	**Sn**	**11 37 32.4**	**-2.5**
GLL	**Jalalah**	**7.85**	**150**	P	**Pn**	**11 36 11.1**	**+1.1**
	baz=151						
MMLI	**Mount Malkishu**	**7.91**	**118**	Pn	**Pn**	**11 36 11.3**	**+0.4**
MMLI				Sn	**Sn**	**11 37 35.9**	**-2.9**
KSHT	**Keshet**	**7.92**	**113**	Pn	**Pn**	**11 36 12.5**	**+1.5**
HMDT	**Nahal Hemdat**	**8.09**	**119**	Pn	**Pn**	**11 36 13.4**	**+0.2**
AMAZ	**Amatzia**	**8.10**	**125**	Sn	**Sn**	**11 37 39.4**	**-3.8**
SUZ	**Suez**	**8.13**	**143**	P	**Pn**	**11 36 15.2**	**+1.4**
	baz=144						
KZIT	**Kziot**	**8.18**	**130**	Pn	**Pn**	**11 36 15.8**	**+1.3**
KZIT				Sn	**Sn**	**11 37 41.4**	**-3.9**
DSI	**Dead Sea**	**8.38**	**123**	Sn	**Sn**	**11 37 47.4**	**-2.7**
ZAF	**Zafarana**	**8.46**	**146**	P	**Pn**	**11 36 19.1**	**+0.8**
	baz=147						
MZDA	**Masada**	**8.53**	**125**	Sn	**Sn**	**11 37 50.7**	**-3.0**
ZNM	**Zenema**	**8.54**	**144**	P	**Pn**	**11 36 20.0**	**+0.7**
	baz=145						
HNKL	**Nakhl**	**8.66**	**137**	P	**Pn**	**11 36 21.9**	**+1.0**
	baz=138						
GHAJ	**Ghor Haditha**	**8.67**	**124**	Pn	**Pn**	**11 36 21.6**	**+0.5**
ZFRI	**Zfri**	**8.91**	**129**	Sn	**Sn**	**11 37 59.6**	**-3.3**
KRMI	**Paran Flat**	**8.94**	**133**	Sn	**Sn**	**11 38 00.1**	**-3.7**
PRNI	**Paran**	**8.94**	**131**	Pn	**Pn**	**11 36 25.3**	**+0.5**
HRFI	**Mount Harif**	**9.19**	**132**	Pn	**Pn**	**11 36 28.6**	**+0.5**
MBRI	**Mt Berech**	**9.29**	**133**	Pn	**Pn**	**11 36 29.9**	**+0.4**
MBRI				Sn	**Sn**	**11 38 09.0**	**-3.3**
EIL	**Elat**	**9.40**	**134**	P	**Pn**	**11 36 31.6**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=312,slow=2.5,SNR=6.9						
EIL				S	**Sn**	**11 38 11.5**	**-3.5**
	comp=Z,2.4nm,0.3s,baz=143,slow=6.5,SNR=13						
EIL	**Elat**	**9.40**	**134**	Pn	**Pn**	**11 36 31.2**	**+0.2**
GRB	**Gharib**	**9.44**	**148**	P	**Pn**	**11 36 32.6**	**+1.1**
	baz=149						
HKAT	**Jabal Katrina**	**9.79**	**142**	P	**Pn**	**11 36 37.4**	**+1.1**
	baz=143						
KBZ	**Khabaz**	**14.06**	**54**	P	**P**	**11 37 37.2**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=254,slow=6.7,SNR=5.5						
AKASG	**Malin Array Be**	**14.32**	**5**	P	**P**	**11 37 38.1**	**-1.2**
	comp=Z,1.1nm,0.3s,baz=198,slow=12,SNR=4.4						
ESDC	**Sonseca Array**	**24.65**	**287**	P	**P**	**11 39 27.0**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=84,slow=9.4,SNR=4.5						
TORD	**Torodi Ar. Bea**	**32.56**	**231**	P	**P**	**11 40 38.5**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=35,slow=8.8,SNR=8.5						
MKAR	**Makanchi Array**	**41.71**	**58**	P	**P**	**11 41 56.2**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=271,slow=7.6,SNR=20						
ZALV	**Zalesovo Beam**	**42.94**	**47**	P	**P**	**11 42 06.0**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=268,slow=9.1,SNR=3.1						

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*IDC **04** 11:49:37.7±2.4, 10.°66S×113.°98E, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.4/37, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=111.0km s-min=23.6km az=46.0*
*ISCJB **04** 11:49:40.7±1.0, 10.°81S±0.°06×113.°8E±0.°1, h33km, mb3.4/3, Error ellipse: s-maj=14.5km s-min=8.6km az=169.0*
*DJA **04** 11:49:44.2±0.8, 10°S±6°×11°4E±°, h10km, M3.8/7, MLv3.8/7*
ISC 04 11:49:41.0±1.2**, 10.°88S**±0.°09×**113.°8E**±0.°1**, h35**km**, n10, σ1.s34**/13**, mb3.3**/3**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.42**	**8**	P	**Pn**	**11 50 18.4**	**+0.3**
JAGI				S	**Sn**	**11 50 45.3**	**-1.2**
IGBI	**Denpasar**	**2.44**	**33**	P	**Pn**	**11 50 19.8**	**+1.4**
DNP	**Denpasar**	**2.59**	**33**	P	**Pn**	**11 50 21.6**	**+1.1**
GMJI	**Gumukmas**	**2.61**	**352**	P	**Pn**	**11 50 21.3**	**+0.6**
GMJI				S	**Sn**	**11 50 49.7**	**-1.5**
SRBI	**Singaraja**	**3.11**	**27**	P	**Pn**	**11 50 28.3**	**+0.7**
SRBI				S	**Sn**	**11 51 02.3**	**-1.2**
PWJI	**Pagerwojo**	**3.45**	**325**	P	**Pn**	**11 50 32.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**13.53**	**123**	Pn	**Pn**	**11 52 48.4**	**-2.2**
	0.2nm,0.3s,baz=302,slow=9.7,SNR=10.0						
FITZ				Sn	Sn	11 55 07.9	-12
	0.1nm,0.3s,baz=322,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	**21.74**	**117**	P	**P**	**11 54 30.9**	**+1.3**
	1.7nm,0.5s,baz=292,slow=12,SNR=26						
ASAR	**Alice Springs**	**23.00**	**126**	P	**P**	**11 54 43.5**	**+0.6**
	0.6nm,0.6s,baz=300,slow=8.9,SNR=12						
MKAR	**Makanchi Array**	**63.95**	**336**	P	**P**	**12 00 12.0**	**+1.4**
	0.1nm,0.3s,baz=152,slow=6.5,SNR=2.8						

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*NSSP **04** 11:49:49.0, 38.°42N×46.°85E, h12km, Ms3.2*
*AZER **04** 11:49:49.7±0.2, 38.°41N×46.°86E, h10km±1km, ml3.0/15, Error ellipse: s-maj=7.5km s-min=1.8km az=17.0*
*TEH **04** 11:49:50.8, 38.°42N×46.°87E, h9km, ML3.1*
*THR **04** 11:49:51.1, 38.°45N×46.°84E, h14km, ML2.8*
ISC 04 11:49:50.4±0.9**, 38.°35N**±0.°03×**46.°84E**±0.°02**, h16**km±7km**, n29, σ1.s37**/50**, 18C-10D, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHRS	**Heris**	**0.16**	**100**	*e*Pg	**Pg**	**11 49 54.8**	**0.0**
IHRS				*e*Sg	**Sg**	**11 49 57.9**	**+0.2**
IHRS				IAMB	IAmb	11 49 58.2	
	comp=Z,68μm,0.3s						
ITBZ	**Tabriz**	**0.56**	**259**	*e*Sg	**Sn**	**11 50 11.6**	**-1.3**
ITBZ				*e*Pg	**Pb**	**11 50 02.3**	**+0.4**
ITBZ				IAMB	IAmb	11 50 13.1	
	comp=Z,8μm,0.2s						
IBST	**Bostanabad**	**0.65**	**176**	IAMB	IAmb	11 50 04.2	
	comp=Z,11μm,0.1s						
IBST				*e*Pg	**Pb**	**11 50 03.4**	**-0.1**
ISRB	**Sarab**	**0.83**	**128**	*e*Sg	**Sn**	**11 50 19.9**	**+0.1**
ISRB				*e*Pg	**Pg**	**11 50 07.0**	**+0.3**
ISRB				IAMB	IAmb	11 50 22.2	
	comp=Z,11μm,0.2s						
ORD	**Ordubad**	**0.88**	**312**	⇑P	**Pb**	**11 50 06.4**	**-1.0**
ORD				⇑S	**Sb**	**11 50 19.0**	**0.0**
GRMI	**Germi**	**0.95**	**61**	*e*AML	AML	11 50 22.1	
	comp=E,299nm,0.2s						
GRMI				*e*Pg	**Pb**	**11 50 08.0**	**-0.5**
GRMI				*e*Sg	**Sb**	**11 50 20.5**	**-0.4**
GRMI				*e*AML	AML	11 50 25.6	
	comp=N,305nm,0.4s						
IMRD	**Marand**	**0.96**	**293**	IAMB	IAmb	11 50 25.5	
	comp=Z,17μm,0.4s						
IMRD				*e*Pg	**Pb**	**11 50 08.6**	**-0.3**
ISHB	**Shabestar**	**0.96**	**267**	*e*Sg	**Sn**	**11 50 24.4**	**+1.3**
ISHB				*e*Pg	**Pn**	**11 50 09.7**	**+0.1**
ISHB				IAMB	IAmb	11 50 25.4	
	comp=Z,15μm,0.4s						
LRK	**Lerik**	**1.21**	**75**	⇓P	**Pb**	**11 50 13.3**	**+0.2**
	SNR=5.2						
LRK				⇑S	**Sg**	**11 50 31.1**	**+1.3**
NAX	**Nakhchivan**	**1.34**	**309**	P	**Pb**	**11 50 15.3**	**+0.1**
	SNR=7.9						
NAX				⇓S	**Sg**	**11 50 33.4**	**-0.3**
SBZ	**Shahbuz**	**1.45**	**317**	⇑P	**Pb**	**11 50 17.4**	**+0.2**
SBZ				⇑S	**Sg**	**11 50 37.4**	**+0.1**
GLBA	**Clilabad**	**1.51**	**53**	P	**Pg**	**11 50 19.2**	**-0.2**
	SNR=15						
GLBA				⇑S	**Sg**	**11 50 40.7**	**+1.6**
ASTR	**Astara**	**1.55**	**81**	⇑P	**Pg**	**11 50 19.5**	**-0.7**
	SNR=17						
ASTR				⇓S	**Sg**	**11 50 41.7**	**+1.4**
LKRN	**Lenkeran, Azer**	**1.56**	**76**	⇑P	**Pb**	**11 50 19.5**	**+0.5**
	SNR=14						
LKRN				⇑S	**Sg**	**11 50 42.8**	**+1.9**
BRDA	**Brd**	**1.93**	**8**	⇓S	**Sg**	**11 50 52.6**	**0.0**
MAKU	**Maku**	**1.96**	**302**	*e*Pn	**Pb**	**11 50 25.4**	**-0.5**
MAKU	**Maku**	**1.96**	**302**	*e*Pn	**Pb**	**11 50 25.4**	**-0.5**
MAKU				*e*Sg	**Sb**	**11 50 51.4**	**+1.2**
HYR	**Heyderabad**	**2.07**	**312**	⇓P	**Pb**	**11 50 28.3**	**+0.6**
HYR				⇓S	**Sg**	**11 50 56.8**	**-0.1**
ZNJK	**Zanjan**	**2.23**	**138**	*e*Pn	**Pb**	**11 50 30.8**	**+0.3**
ZNJK	**Zanjan**	**2.23**	**138**	*e*Pn	**Pb**	**11 50 30.8**	**+0.3**
GANJ	**Ganja**	**2.33**	**350**	⇑P	**Pb**	**11 50 31.3**	**-0.8**
	SNR=13						
GANJ				⇓S	**Sb**	**11 51 00.6**	**-0.1**
GNI	**Garni**	**2.43**	**319**	⇑*i*P	**Pb**	**11 50 35.1**	**+1.2**
GNI				⇑*i*S	**Sg**	**11 51 08.0**	**-0.5**
GDB	**GEDABAY**	**2.52**	**341**	P	**Pb**	**11 50 34.3**	**-1.0**
	SNR=23						
GDB				⇓S	**Sb**	**11 51 07.3**	**+1.2**
IML	**Ismayilli**	**2.66**	**23**	⇓P	**Pb**	**11 50 35.5**	**-2.1**
IML				⇑S	**Sb**	**11 51 10.1**	**+0.1**
SEKA	**Sheki**	**2.87**	**5**	⇑P	**Pb**	**11 50 38.4**	**-2.9**
SEKA				⇑S	**Sb**	**11 51 15.3**	**-1.0**
QZX	**Qazax, Azerbai**	**2.94**	**338**	⇑P	**Pb**	**11 50 39.4**	**-3.0**
	SNR=5.1						
QZX				⇓S	**Sb**	**11 51 17.2**	**-0.9**
XNQ	**Khinaliq**	**3.00**	**19**	⇑P	**Pn**	**11 50 40.0**	**+2.6**
	SNR=9.4						
XNQ				⇑S	**Sb**	**11 51 18.1**	**-1.9**
HKZM	**Kohzaman**	**3.39**	**150**	*e*Pn	**Pb**	**11 50 46.8**	**-3.6**
IRAZ	**Razeghan**	**3.84**	**139**	*e*Pn	**Pb**	**11 50 54.0**	**-4.0**
IRAZ				IAMB	IAmb	11 51 59.3	
	comp=Z,267nm,0.5s						

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*ISCJB **04** 12:07:33.6±1.1, 40.°89N±0.°05×39.°8E±0.°1, h17km±12km, Error ellipse: s-maj=13.7km s-min=8.0km az=8.0*
*DDA **04** 12:07:33.9, 40.°82N×39.°84E, h7km±2km, ML2.8*
*ISK **04** 12:07:33.3, 40.°86N×39.°87E, h14km, ML1.9/3*
ISC 04 12:07:33.6±1.0**, 40.°86N**±0.°06×**39.°84E**±0.°06**, h15**km±10km**, n8, σ0.s46**/12**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACK	**Trabzon**	**0.10**	**328**	*i* P	**Pg**	**12 07 36.2**	**-0.7**
KTUT	**Trabzon**	**0.14**	**337**	PG	**Pg**	**12 07 37.4**	**+0.1**
KTUT				SG	**Sg**	**12 07 40.3**	**+0.5**
BAYT	**Aydıntepe-Bayb**	**0.52**	**154**	PG	**Pg**	**12 07 43.7**	**-0.2**
BAYT				SG	**Sb**	**12 07 51.3**	**-0.6**
BAYB	**BAYBURT**	**0.68**	**152**	IAML_P			
	comp=Z,1μm,0.1s						
BAYB				*i* P	**Pb**	**12 07 47.9**	**+0.6**
BAYB				*i* S	**Sb**	**12 07 56.7**	**+0.2**
CHOM	**Cayeli-Rize**	**0.74**	**71**	PG	**Pg**	**12 07 47.6**	**-0.4**
KELT	**Kelkit**	**0.84**	**212**	IAML_P			
	comp=Z,683nm,0.1s						
KELT				*i* P	**Pb**	**12 07 50.1**	**+0.1**
KELT				*i* S	**Sb**	**12 08 01.0**	**0.0**
KOPT	**Kop Dagi**	**0.98**	**149**	*e*P	**Pb**	**12 07 52.7**	**+0.2**
BCA	**Borcka**	**1.47**	**66**	PN	**Pn**	**12 07 59.4**	**-0.1**

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*ISCJB **04** 12:42:47.5±0.7, 22.°30N±0.°03×143.°51E±0.°04, h123km±6km, mb4.6/109, Error ellipse: s-maj=5.9km s-min=4.3km az=1.8*
*BJI **04** 12:42:48.7, 22.°28N×143.°59E, h141km, mb4.5/41, mB5.0/26*
*IDC **04** 12:42:50.0±0.7, 22.°26N×143.°36E, h133km±5km, mb4.0/22, mb1 4.2/24, mb1mx4.0/37, mbtmp4.4/24, MS3.2/5, Ms1 3.2/5, ms1mx2.9/41, Error ellipse: s-maj=13.9km s-min=9.1km az=85.0*
*MOS **04** 12:42:51.0±1.1, 22.°34N×143.°29E, h152km, mb4.4/32, Error ellipse: s-maj=13.4km s-min=6.3km az=103.9*
*NEIC **04** 12:42:51.2±0.7, 22.°32N×143.°46E, h140km±6km, mb4.6/73, Error ellipse: s-maj=4.8km s-min=3.2km az=95.0*
*JMA **04** 12:42:52.9±0.1, 22.°62N×143.°48E, h157km±2km, M5.1*
ISC 04 12:42:51.2±0.5**, 22.°37N**±0.°04×**143.°49E**±0.°06**, h142**km±4km**, h142**km**:pP-P, n253, σ1.s42**/292**, mb4.5**/118**, 6C-3D, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**4.40**	**344**	P	**Pn**	**12 43 56.2**	**-0.4**
JHHJ				S	**Sn**	**12 44 45.1**	**-2.3**
CBIJ	**Chichi jima**	**4.85**	**346**	*e*Pn	**Pn**	**12 44 01.8**	**-0.7**
CBIJ				*e*Sn	**Sn**	**12 44 56.5**	**-1.6**
CBIJ	**Chichi jima**	**4.85**	**346**	P	**Pn**	**12 44 01.8**	**-0.7**
CBIJ				S	**Sn**	**12 44 55.5**	**-2.5**
JCJ	**Chichijima**	**4.85**	**346**	P	Pn	12 43 55.0	-7.5
	84nm,0.3s,baz=102,slow=22,SNR=48						
JCJ				S	Sn	12 44 48.3	-10
	153nm,0.3s,baz=130,slow=23,SNR=18						
GUMO	**Guam**	**8.84**	**171**	P	**Pn**	**12 44 58.2**	**+2.3**
	5.7nm,0.3s,baz=354,slow=6.5,SNR=6.3						
BSO3	**Boso 3**	**12.66**	**349**	P	**Pn**	**12 45 44.2**	**-1.8**
BSO4	**Boso 4**	**12.87**	**348**	P	**Pn**	**12 45 48.4**	**-0.5**
BSO4				*e*S	**Sn**	**12 48 07.5**	**-3.5**
JTNC	**Tanabenakahech**	**13.35**	**330**	P	**Pn**	**12 45 55.2**	**0.0**
JOD2	**Odawara 2**	**13.41**	**344**	P	**Pn**	**12 45 54.4**	**-1.5**
JKN2	**Miekihoku**	**13.42**	**333**	P	**Pn**	**12 45 55.7**	**-0.3**
JHU	**Hanno**	**13.92**	**346**	P	**Pn**	**12 46 00.0**	**-2.4**
JAO	**Obara**	**13.95**	**338**	P	**Pn**	**12 46 01.6**	**-1.3**
INU	**Inuyama**	**14.11**	**338**	*e*Pn	**Pn**	**12 46 03.9**	**-0.9**
JRY	**Ryogami san**	**14.17**	**345**	P	**Pn**	**12 46 03.7**	**-1.9**
JHO	**Hitachi**	**14.41**	**351**	P	**Pn**	**12 46 07.7**	**-0.9**
JAG	**Ashikaga**	**14.44**	**347**	P	**Pn**	**12 46 06.0**	**-2.9**
MJAR	**Matsushiro Arr**	**14.85**	**343**	P	**Pn**	**12 46 12.2**	**-1.9**
	1.2nm,0.3s,baz=158,slow=10,SNR=8.5						
MJAR				S	Sn	12 48 45.5	-13
	0.3nm,0.3s,baz=141,slow=15,SNR=3.0						
MJAR				LR	LR	12 52 24.6	
	comp=Z,36nm,19.0s,baz=135,slow=39						
MAJO	**Matsushiro**	**14.85**	**343**	*e*Pn	**Pn**	**12 46 13.0**	**-1.1**
MAJO				*e*Sn	Sn	12 48 45.5	-13
MAJO	**Matsushiro**	**14.85**	**343**	*e*P	**Pn**	**12 46 13.0**	**-1.1**
MAJO				*e*		12 48 45.5	
MAT	**Matsushiro**	**14.85**	**343**	P	**Pn**	**12 46 12.6**	**-1.5**
MJB9	**Matsu-Tunnel**	**14.85**	**343**	*e*Pn	**Pn**	**12 46 14.1**	**0.0**
JNU	**Nakatsue**	**15.46**	**317**	P	**Pn**	**12 46 21.7**	**0.0**
	0.2nm,0.3s,baz=196,slow=8.2,SNR=3.3						
JNU	**Nakatsue**	**15.46**	**317**	*e*Pn	**Pn**	**12 46 22.1**	**+0.4**
	27nm,1.1s						
JHS	**Saijyo**	**15.51**	**326**	P	**P**	**12 46 25.0**	**+1.3**
ERM	**Erimo**	**19.59**	**359**	*e*P	**Pn**	**12 47 10.4**	**-0.6**
	20nm,0.8s						
ERM	**Erimo**	**19.59**	**359**	*e*P	**Pn**	**12 47 10.4**	**-0.6**
ERM				pmax	pmax		
	comp=Z,20nm,0.8s						
KSRS	**Korea Array**	**20.16**	**322**	P	**P**	**12 47 14.0**	**-0.4**
	comp=Z,9.2nm,0.6s,baz=144,slow=9.8,SNR=37						
KSRS				ScP	**ScP**	**12 54 45.0**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=96,slow=2.4,SNR=6.6						
KSRS				LR	LR	12 54 47.4	
	comp=Z,69nm,18.1s,baz=114,slow=36						
KS15	**Wonju Array Si**	**20.17**	**322**	*e*P	**P**	**12 47 15.3**	**+0.8**
KS01	**Wonju Array Si**	**20.19**	**322**	*e*P	**P**	**12 47 14.3**	**-0.5**
YHNB	**Yeheng**	**20.41**	**281**	*e*P	**P**	**12 47 18.1**	**+0.8**
	comp=Z,34nm,0.9s						
YULB	**Yu-li**	**20.48**	**277**	*e*P	**P**	**12 47 18.9**	**+0.9**
SSLB	**Suanglung**	**20.78**	**278**	*e*P	Pn	12 47 23.1	-2.3
TPUB	**Ta-pu**	**21.09**	**277**	*e*P	**P**	**12 47 25.5**	**+0.9**
ASAJ	**Asahikawa**	**21.70**	**358**	P	**P**	**12 47 30.9**	**+0.1**
	comp=Z,19nm,1.2s,baz=217,slow=12,SNR=5.6						
ASAJ	**Asahikawa**	**21.70**	**358**	*e*P	**P**	**12 47 31.1**	**+0.3**
VLA	**Vladivostok**	**22.83**	**338**	*i* P	**P**	**12 47 42.6**	**+0.6**
USA0B	**Ussuriysk Arra**	**23.75**	**339**	*e*P	**P**	**12 47 54.2**	**+3.7**
	comp=Z,14nm,1.0s						
USRK	**Ussuriysk Ar.**	**23.75**	**339**	P	**P**	**12 47 50.6**	**+0.2**
	comp=Z,10nm,0.8s,baz=152,slow=12,SNR=17						
NJ2	**Nanjing**	**23.89**	**299**	*e*P	**P**	**12 47 52.1**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
BAKI	**Biak**	**24.51**	**198**	P	**P**	**12 47 56.2**	**-1.4**
YSS	**Yuzh-Sakhalins**	**24.53**	**359**	*e*P	P	12 48 05.5	+8.0
YSS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
JAY	**Jayapura**	**24.89**	**187**	P	**P**	**12 48 01.2**	**+0.1**
GENI	**Genyem**	**25.03**	**188**	P	**P**	**12 48 01.2**	**-1.1**
CN2	**Changchun**	**26.07**	**329**	*e*P	**P**	**12 48 13.2**	**+1.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KLR	**Kul'dur**	**28.37**	**344**	P	**P**	**12 48 32.8**	**+0.9**
	comp=Z,12nm,0.6s,baz=161,slow=6.7,SNR=72						
KLR	**Kul'dur**	**28.37**	**344**	*i* P	**P**	**12 48 31.3**	**-0.7**
PMG	**Port Moresby**	**31.79**	**173**	LR	LR	13 01 24.2	
	comp=Z,52nm,18.6s,baz=332,slow=35						
PMG	**Port Moresby**	**31.79**	**173**	*e*P	**P**	**12 49 02.3**	**-0.1**
	comp=Z,15nm,0.9s						
PMG	**Port Moresby**	**31.79**	**173**	*e*P	**P**	**12 49 02.3**	**-0.1**
PMG				pmax	pmax		
	comp=Z,15nm,0.9s						
XAN	**Xi'an**	**32.46**	**299**	P	**P**	**12 49 09.8**	**+1.6**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,94nm,5.2s						
PETK	**Petropavlovsk-**	**32.55**	**16**	LR	LR	13 02 20.3	
	comp=Z,32nm,19.3s,baz=207,slow=36						
HHC	**Hu-ho-hao-te**	**32.59**	**312**	*e*P	**P**	**12 49 12.0**	**+2.6**
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,160nm,5.0s						
ZEA	**Zeya**	**33.66**	**343**	*e*P	**P**	**12 49 18.8**	**+0.5**
ZEA				pmax	pmax		
	comp=Z,17nm,1.0s						
COEN	**Coen**	**36.11**	**181**	*e*P	**P**	**12 49 39.7**	**0.0**
	comp=Z,11nm,0.7s						
SBUM	**Sibu**	**36.25**	**241**	*e*P	**P**	**12 49 41.7**	**+0.7**
	comp=Z,7.4nm,0.9s						
CD2	**Chengdu**	**36.37**	**292**	*e*P	**P**	**12 49 42.0**	**+0.1**
LZH	**Lanzhou**	**36.94**	**301**	*e*P	**P**	**12 49 48.6**	**+1.7**
LZH				pP	pP	12 50 19.0	+1.2
LZH				sP	sP	12 50 35.9	+2.0
LZH				pmax	pmax		
	comp=Z,22nm,1.0s						
SOEI	**Soe**	**37.08**	**213**	*e*P	**P**	**12 49 47.6**	**-0.5**
	comp=Z,19nm,1.1s						
KMI	**Kunming**	**37.31**	**282**	P	**P**	**12 49 49.4**	**-0.7**
KMI				pmax	pmax		
	comp=Z,14nm,0.7s						
MA2	**Magadan**	**37.53**	**6**	*e*P	**P**	**12 49 51.1**	**-0.1**
	comp=Z,3.0nm,0.8s						
MA2	**Magadan**	**37.53**	**6**	*e*P	**P**	**12 49 51.1**	**-0.1**
MA2				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ULN	**Ulaanbaatar**	**38.63**	**320**	*e*P	**P**	**12 50 00.8**	**0.0**
	comp=Z,5.6nm,0.8s						
ULN	**Ulaanbaatar**	**38.63**	**320**	*ce*P	**P**	**12 50 00.5**	**-0.4**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SONA0	**Songino Array**	**39.01**	**320**	*e*P	**P**	**12 50 03.8**	**-0.1**
SONA0				*e*ScP	**ScP**	**12 55 45.1**	**-1.4**
SONM	**Songino Array**	**39.01**	**320**	P	**P**	**12 50 03.8**	**-0.1**
	comp=Z,3.2nm,0.6s,baz=135,slow=8.2,SNR=28						
SONM				ScP	**ScP**	**12 55 45.1**	**-1.4**
	comp=Z,1.0nm,0.9s,baz=135,slow=2.2,SNR=4.8						
SONM				LR	LR	13 05 38.2	
	comp=Z,39nm,20.1s,baz=345,slow=35						
SONA1	**Songino Array**	**39.01**	**320**	*e*P	**P**	**12 50 04.0**	**0.0**
PLAI	**Plampang**	**39.96**	**222**	P	**P**	**12 50 08.3**	**-3.8**
GTA	**Gaotai**	**40.72**	**305**	*e*P	**P**	**12 50 18.4**	**+0.2**
GTA				pP	pP	12 50 50.0	+0.4
GTA				sP	sP	12 51 06.2	+0.6
GTA				PcP	**PcP**	**12 52 19.4**	**+2.4**
GTA				ScP	**ScP**	**12 55 52.8**	**-0.6**
GTA				S	**S**	**12 56 19.0**	**+0.8**
GTA				sS	sS	12 57 12.8	+0.1
GTA				SS	**SS**	**12 59 20.9**	**-3.5**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,68nm,7.9s						
GTA				LR	LR		
	comp=Z,100nm,14.9s						
GTA				LR	LR		
	comp=Z,91nm,14.6s						
GTA				LR	LR		
	comp=Z,140nm,15.2s						
YAK	**Yakutsk**	**40.75**	**350**	*e*P	**P**	**12 50 16.3**	**-1.7**
YAK				*e*		12 51 51.6	
YAK				*e*		12 52 18.8	
YAK				*e*S	**S**	**12 56 12.9**	**-4.8**
YAK				*e*SS	**SS**	**12 59 15.4**	**-8.7**
YAK				*e*		13 00 08.8	
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,143nm,4.6s						
YAK				pmax	pmax		
	comp=N,99nm,3.8s						
YAK				pmax	pmax		
	comp=E,65nm,4.6s						
YAK				smax	smax		
	comp=N,127nm,5.9s						
CMAR	**Chiang Mai Arr**	**41.82**	**273**	P	**P**	**12 50 26.8**	**-0.6**
	comp=N,0.4nm,0.3s,baz=54,slow=9.1,SNR=4.3						
CMAR				ScP	**ScP**	**12 55 57.8**	**-0.2**
	comp=N,1.7nm,0.9s,baz=125,slow=1.4,SNR=11						
ZAK	**Zakamensk**	**41.99**	**322**	*e*P	**P**	**12 50 28.2**	**-0.2**
ZAK				*e*		12 51 02.7	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
CTAO	**Charters Tower**	**42.29**	**176**	*e*P	**P**	**12 50 30.2**	**-0.8**
	comp=Z,14nm,1.1s						
CTAO	**Charters Tower**	**42.29**	**176**	*e*P	**P**	**12 50 30.2**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,14nm,1.1s						

ADK Adak 42.47 36 eP P 12 50 33.7 +1.6
comp=Z,14nm,0.8s
ADK Adak 42.47 36 eP P 12 50 33.7 +1.6
ADK pmax pmax
comp=Z,14nm,0.8s
WRAB Tennant Creek 42.99 193 eP P 12 50 35.8 -0.8
comp=Z,27nm,0.4s
WRAB Tennant Creek 42.99 193 i P P 12 50 35.5 -1.1
WB2 Warramunga Arr 43.00 193 eP P 12 50 35.9 -0.8
comp=Z,41nm,0.3s
WB2 ePP PcP 12 52 25.3 +0.7
WR1 Warramunga Arr 43.00 193 eP P 12 50 35.4 -1.3
comp=Z,35nm,0.3s
WR1 ePP PcP 12 52 24.5 0.0
WR1 eScP ScP 12 56 02.5 0.0
WRA Warramunga Arr 43.00 193 P P 12 50 35.4 -1.3
comp=Z,10nm,0.3s,baz=17,slow=9.4,SNR=355
WRA PcP PcP 12 52 24.5 0.0
comp=Z,6.2nm,0.8s,baz=3.2,slow=3.3,SNR=10.0
WRA ScP ScP 12 56 02.5 0.0
comp=Z,5.9nm,0.9s,baz=8.8,slow=4.1,SNR=23
WRA Warramunga Arr 43.00 193 i P P 12 50 35.4 -1.3
WRA pmax pmax
comp=Z,17nm,0.3s
FITZ Fitzroy Crossi 43.85 205 eP P 12 50 42.5 -1.0
FITZ ePcP PP 12 52 28.4 -0.3
UGM Wanagama 44.15 231 eP P 12 50 46.4 +0.3
comp=Z,9.9nm,0.4s
KULM Kulim 44.73 254 eP P 12 50 51.5 +0.8
comp=Z,9.1nm,0.9s
IPM Ipoh 44.76 253 eP P 12 50 52.0 +1.0
comp=Z,11nm,1.0s
AS01 Alice Springs 46.69 192 eP P 12 51 05.2 -0.8
AS01 ePcP PcP 12 52 38.0 +0.7
AS31 Alice Springs 46.70 192 eP P 12 51 04.9 -1.1
comp=Z,2.9nm,0.6s
ASAR Alice Springs 46.70 192 P P 12 51 04.3 -1.7
comp=Z,4.1nm,0.3s,baz=12,slow=6.3,SNR=152
ASAR PcP PcP 12 52 37.6 +0.3
comp=Z,4.0nm,0.9s,baz=5.1,slow=3.4,SNR=13
ASAR ScP ScP 12 56 17.8 0.0
comp=Z,3.3nm,0.9s,baz=7.7,slow=3.5,SNR=17
ASAR S S 12 57 40.9 -4.2
comp=Z,0.5nm,0.8s,baz=19,slow=21,SNR=4.3
PSI Prapat 47.39 252 eP P 12 51 12.2 +0.5
comp=Z,8.4nm,0.9s
PSI Prapat 47.39 252 eP P 12 51 12.2 +0.5
PSI pmax pmax
comp=Z,8.0nm,0.9s
BILL Bilibino 47.80 11 eP P 12 51 15.4 +1.4
comp=Z,1.4nm,1.0s
BILL Bilibino 47.80 11⇑eP P 12 51 14.8 +0.8
BILL i *SP pP 12 51 51.2 +5.0
BILL i 12 52 42.0
BILL eSS SS 13 01 27.0 -2.6
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,86nm,17.0s
EIDS Eidsvold 48.03 171 eP P 12 51 15.2 -1.0
MBWA Marble Bar 49.09 210 eP P 12 51 23.2 -1.1
comp=Z,13nm,1.1s
GSI Gunungsitoli 49.28 251 eP P 12 51 26.1 0.0
comp=Z,18nm,0.5s
AKUT Akutan 49.40 37 eP P 12 51 26.7 +0.3
comp=Z,55nm,1.0s
TIXI Tiksi 50.01 354ceP P 12 51 31.9 +1.2
TIXI pmax pmax
comp=Z,2.0nm,0.9s
WMQ Urumqi 50.38 309 eP P 12 51 36.1 +2.1
WMQ pmax pmax
comp=Z,21nm,1.1s
DGZ Jazzator, Alta 51.44 316⇑iP P 12 51 42.8 +0.8
DGZ pmax pmax
comp=Z,9.0nm,1.2s
RAMN Ramite 51.55 287 eP P 12 51 43.1 -0.1
comp=Z,9.2nm,0.4s
JIRN Jiri 51.81 288 eP P 12 51 45.7 +0.4
comp=Z,52nm,0.7s
GUN Gumba 52.05 289 eP P 12 51 47.2 +0.1
comp=Z,16nm,0.4s
PKI Pulchoki 52.51 288 eP P 12 51 49.4 -1.1
comp=Z,11nm,0.5s
PKIN Phulchoki 52.52 288 eP P 12 51 49.9 -0.6
comp=Z,10.0nm,0.4s
KKN Kakani 52.59 289 eP P 12 51 50.9 0.0
comp=Z,6.5nm,0.3s
SDPT Sand Point 52.70 37 eP P 12 51 51.7 +0.7
comp=Z,28nm,1.0s
DMN Daman 52.77 288 eP P 12 51 51.6 -0.7
comp=Z,9.2nm,0.5s
DANN Dangsing 53.84 289 eP P 12 52 00.5 +0.3
comp=Z,149nm,0.7s
ZAA0 Zalesovo Array 53.86 321 eP P 12 51 59.2 -0.3
ZALV Zalesovo Beam 53.86 321 P P 12 51 58.9 -0.6
comp=Z,4.0nm,0.6s,baz=109,slow=7.9,SNR=23
ZALV PcP PcP 12 53 03.7 +0.4
comp=Z,1.0nm,0.4s,baz=85,slow=4.9,SNR=3.1
ZALV ScP ScP 12 56 46.1 -2.0
comp=Z,0.4nm,0.4s,baz=108,slow=4.7,SNR=3.5
ZAA1 Zalesovo Array 53.86 321 eP P 12 51 58.9 -0.6
ZAA1 ePcP PcP 12 53 03.7 +0.4
ZAA1 eScP ScP 12 56 46.1 -2.0
STKA Stephens Creek 53.97 182 P P 12 51 58.6 -1.9
comp=Z,4.2nm,0.4s,baz=6.1,slow=7.1,SNR=29
STKA Stephens Creek 53.97 182 eP P 12 51 59.2 -1.3
comp=Z,1.1nm,0.6s
STKA Stephens Creek 53.97 182 eP P 12 51 59.2 -1.3
STKA pmax pmax
comp=Z,1.0nm,0.6s
CHGN Chignik 54.06 36 eP P 12 52 01.2 +0.4
comp=Z,36nm,1.2s
KOLN Koldanda 54.07 289 eP P 12 52 01.8 +0.1
comp=Z,25nm,0.8s
MK01 Makanchi Array 54.45 312 eP P 12 52 04.3 +0.3
MK01 ePcP PcP 12 53 06.3 +0.5
MK31 Makanchi Array 54.45 312 eP P 12 52 04.1 +0.1
MK31 ePcP PcP 12 53 06.7 +0.9
MK31 Makanchi Array 54.45 312 eP P 12 52 04.1 +0.1
MK31 e 12 53 06.7
MK32 Makanchi Array 54.45 312 eP P 12 52 04.1 +0.1
MK32 ePcP PcP 12 53 06.2 +0.4
MK32 eScP ScP 12 56 50.1 -0.8
MKAR Makanchi Array 54.45 312 P P 12 52 04.1 +0.1
comp=Z,1.6nm,0.5s,baz=88,slow=8.8,SNR=30
MKAR pP pP 12 52 34.6 -2.3
comp=Z,0.7nm,0.5s,baz=88,slow=9.3,SNR=2.5
MKAR PcP PcP 12 53 06.2 +0.4
comp=Z,0.8nm,0.3s,baz=76,slow=4.8,SNR=8.9
MKAR ScP ScP 12 56 50.1 -0.8
comp=Z,2.2nm,1.0s,baz=84,slow=6.3,SNR=7.9
MKAR Makanchi Array 54.45 312 eP P 12 52 03.9 -0.1
comp=Z,27nm,1.1s
MKAR ePcP PcP 12 53 06.6 +0.8
PYUN Piuthan 54.55 289 eP P 12 52 05.1 -0.1
comp=Z,28nm,0.6s
MAKZ Makanchi 54.67 312 eP P 12 52 05.8 +0.3
comp=Z,8.6nm,1.1s
MAKZ Makanchi 54.67 312 eP P 12 52 05.8 +0.3
MAKZ pmax pmax
comp=Z,9.0nm,1.1s
FORT Forrest 54.89 196 eP P 12 52 07.6 +0.5
comp=Z,58nm,0.6s
NVS Novosibirsk 54.95 322 eP P 12 52 05.7 -1.6
BBOO Buckleboo 55.33 188 eP P 12 52 10.2 -0.1
comp=Z,11nm,1.0s
SVW2 Sparrevohn 56.68 31 eP P 12 52 21.3 +1.7
NPOC North of Pu‘u 57.10 81 eP P 12 52 22.3 -1.0
comp=Z,226nm,0.6s
KURK Kurchatov 57.18 317 eP P 12 52 22.9 -0.4
comp=Z,12nm,1.1s
KURK Kurchatov 57.18 317ceP P 12 52 21.7 -1.6
KURK pmax pmax
comp=Z,5.0nm,0.9s
KDAK Kodiak Island 57.48 35 P P 12 52 26.0 +0.7
comp=Z,15nm,1.1s,baz=74,slow=0.8,SNR=7.9
KDAK Kodiak Island 57.48 35 eP P 12 52 26.2 +1.0
comp=Z,10.0nm,0.9s
KDAK Kodiak Island 57.48 35 i P P 12 52 27.4 +2.2
MORW Morawa 57.58 209 eP P 12 52 25.5 -0.8
comp=Z,8.2nm,0.8s
CAN Canberra 57.62 175 eP P 12 52 26.5 0.0
comp=Z,3.7nm,0.9s
CAN Canberra 57.62 175 eP P 12 52 26.5 0.0
CAN pmax pmax
comp=Z,4.0nm,0.9s

PPLA Purkeypile 58.66 29 eP P 12 52 34.8 +1.3
comp=Z,4.4nm,1.0s
BRLK Bradley Lake 58.68 33 eP P 12 52 33.8 +0.1
comp=Z,15nm,1.2s
IM3 Indian Mountai 58.75 25 eP P 12 52 35.5 +1.5
CAST Castle Rocks 58.82 28 eP P 12 52 36.3 +1.8
comp=Z,4.7nm,1.2s
SUA Susitna One 59.04 31 eP P 12 52 36.6 +0.4
comp=Z,6.9nm,1.2s
KSH Kashi 59.09 304 P P 12 52 40.9 +3.9
KSH PcP PcP 12 53 24.0 -0.2
KSH S S 13 00 35.6 +2.4
KSH sS sS 13 01 31.8 +0.8
KSH pmax pmax
comp=Z,14nm,1.0s
KSH pmax pmax
comp=Z,170nm,6.2s
KSH LR LR
comp=Z,160nm,7.1s
KSH LR LR
comp=Z,150nm,10.9s
KSH LR LR
comp=Z,400nm,11.0s
BPAW Bear Paw Mtn. 59.44 28 eP P 12 52 39.6 +0.8
comp=Z,3.3nm,1.0s
RC01 Rabbit Creek A 59.46 31 eP P 12 52 39.6 +0.7
comp=Z,4.9nm,0.9s
TRF Thorofare Moun 59.61 28 eP P 12 52 40.9 +0.7
comp=Z,4.4nm,1.0s
TOO Toolangi 59.65 178 eP P 12 52 40.4 -0.1
comp=Z,5.8nm,0.8s
TOO Toolangi 59.65 178 eP P 12 52 40.4 -0.1
TOO pmax pmax
comp=Z,6.0nm,0.8s
MLY Manley 59.74 27 eP P 12 52 42.4 +1.5
comp=Z,2.7nm,0.9s
PMR Palmer 59.82 31 eP P 12 52 41.5 +0.1
comp=Z,5.4nm,1.1s
PMR Palmer 59.82 31 eP P 12 52 41.5 +0.1
PMR pmax pmax
comp=Z,5.0nm,1.1s
GHO Glory Hole Cre 59.95 31 eP P 12 52 43.0 +0.7
comp=Z,1.2nm,0.6s
AAK Ala-Archa 59.99 307 eP P 12 52 43.8 +0.7
comp=Z,3.3nm,1.1s
AAK Ala-Archa 59.99 307ceP P 12 52 42.9 -0.2
AAK pmax pmax
comp=Z,1.0nm,0.4s
KNK Knik Glacier 60.12 31 eP P 12 52 44.2 +0.7
comp=Z,6.7nm,0.9s
SML Sawmill 60.23 31 eP P 12 52 45.3 +1.1
SML Sawmill 60.23 31 eP P 12 52 45.3 +1.1
MDM Murphy Dome 60.77 27 eP P 12 52 49.3 +1.4
comp=Z,0.5nm,0.4s
DHY Denali Highway 60.85 29 eP P 12 52 49.1 +0.5
SFK Sufi-Kurgan 60.95 304 P P 12 52 49.9 +0.2
SFK pmax pmax
comp=Z,4.0nm,0.9s
OTUK Ortayu 61.23 314 P P 12 52 51.3 +0.1
OTUK pmax pmax
comp=Z,6.0nm,2.6s
IL1 Eielson Array 61.31 27 eP P 12 52 51.3 -0.1
ILAR Eielson Array 61.31 27 P P 12 52 50.8 -0.6
comp=Z,1.1nm,0.7s,baz=258,slow=5.3,SNR=18
ILAR pP pP 12 53 23.9 -1.2
comp=Z,1.0nm,0.7s,baz=252,slow=5.9,SNR=4.0
ILB Eielson Array 61.31 27 eP P 12 52 51.3 -0.1
KLU Klutina 61.34 31 eP P 12 52 53.1 +1.4
comp=Z,7.8nm,1.2s
FYU Fort Yukon 62.24 25 eP P 12 52 59.7 +2.1
BRVK Borovoye 62.41 319 eP P 12 52 59.3 +0.3
comp=Z,9.9nm,0.9s
BRVK Borovoye 62.41 319deP P 12 52 58.7 -0.3
BRVK pmax pmax
comp=Z,13nm,1.0s
SCRK Sand Creek 62.47 28 eP P 12 53 00.2 +0.9
comp=Z,3.4nm,1.0s
DAWY Dawson 64.49 28 eP P 12 53 14.1 +1.6
KBL Kabul 65.26 299 eP P 12 53 19.7 +1.4
comp=Z,12nm,0.9s
KBL Kabul 65.26 299 eP P 12 53 19.7 +1.4
KBL pmax pmax
comp=Z,12nm,0.9s
EPYK Eagle Plains 65.64 26 eP P 12 53 21.2 +1.3
comp=Z,4.6nm,1.0s
WHY Whitehorse 66.69 32 eP P 12 53 28.8 +2.1
INK Inuvik 66.84 24 P P 12 53 28.1 +0.6
comp=Z,1.9nm,0.9s,baz=291,slow=4.2,SNR=7.7
INK Inuvik 66.84 24 eP P 12 53 28.0 +0.6
comp=Z,2.7nm,1.0s
INK Inuvik 66.84 24 eP P 12 53 28.0 +0.6
INK pmax pmax
comp=Z,3.0nm,1.0s
URZ Urewera 68.07 152 eP P 12 53 35.2 -0.4
comp=Z,19nm,1.1s
BKZ Black Stump Fm 68.57 153 eP P 12 53 38.4 -0.2
comp=Z,5.8nm,0.4s
ARU Arti 68.89 324 eP P 12 53 39.7 -0.8
comp=Z,7.3nm,1.1s
ARU Arti 68.89 324d iP P 12 53 40.6 +0.1
ARU 12 56 13.0
ARU S S 13 02 37.6 +4.4
ARU SS SS 13 07 06.0 +5.3
ARU pmax pmax
comp=Z,7.0nm,1.1s
ABKAR Akbulak array 69.27 316 eP P 12 53 42.5 -0.4
THZ Tophouse 69.38 157 eP P 12 53 44.3 +0.6
comp=Z,8.3nm,0.8s
SNZO South Karori 69.67 155 eP P 12 53 44.1 -1.2
comp=Z,37nm,1.1s
BFZ Birch Farm 69.74 154 eP P 12 53 45.5 -0.3
comp=Z,30nm,1.1s
KHZ Kahutara 70.19 157 eP P 12 53 47.0 -1.4
comp=Z,17nm,1.0s
RAR Rarotonga 70.27 124 eP P 12 53 47.3 -2.1
comp=Z,25nm,1.1s
RAR Rarotonga 70.27 124 eP P 12 53 47.3 -2.1
RAR pmax pmax
comp=Z,25nm,1.1s
OXZ Oxford 70.45 158 eP P 12 53 49.0 -1.0
comp=Z,11nm,0.7s
RPZ Rata Peaks 70.47 159 eP P 12 53 49.2 -1.0
comp=Z,19nm,1.0s
LBZ Lake Benmore 70.78 160 eP P 12 53 52.5 +0.4
comp=Z,2.2nm,0.5s
DCZ Deep Cove 70.87 163 eP P 12 53 52.2 -0.3
comp=Z,5.8nm,1.1s
ODZ Otahua Downs 71.52 160 eP P 12 53 56.0 -0.5
YKA Yellowknife Ar 75.72 28 P P 12 54 21.3 +0.4
comp=Z,1.2nm,0.5s,baz=292,slow=5.9,SNR=22
YKA pP pP 12 54 53.5 -2.3
comp=Z,1.2nm,0.7s,baz=294,slow=5.7,SNR=3.7
YKB5 Yellowknife Ar 75.72 28 eP P 12 54 21.3 +0.4
RES Resolute Bay 76.35 13 eP P 12 54 25.3 +1.1
comp=Z,3.0nm,1.0s
RES Resolute Bay 76.35 13 eP P 12 54 25.3 +1.1
RES pmax pmax
comp=Z,3.0nm,1.0s
ARA0 ARCESS Array S 78.37 342 eP P 12 54 35.3 -0.3
ARCES ARCESS Array B 78.37 342 P P 12 54 35.3 -0.3
comp=Z,7.1nm,0.9s,baz=74,slow=8.2,SNR=11
ARCES ARCESS Array B 78.37 342 eP P 12 54 35.6 0.0
ARCES ARCESS Array B 78.37 342 eP P 12 54 35.6 0.0
MSF Maaselka 79.17 338 P P 12 54 39.9 -0.1
SGF Sodankyl 79.21 340 P P 12 54 40.3 +0.1
JOF Joensuu 79.83 334 P P 12 54 42.9 -0.7
OUL Oulu 80.72 338 P P 12 54 47.2 -1.1
BMO Blue Mountains 80.75 45 eP P 12 54 50.7 +1.6
comp=Z,1.5nm,0.9s
BMO Blue Mountains 80.75 45 eP P 12 54 50.7 +1.6
BMO pmax pmax
comp=Z,2.0nm,0.9s
ZEI Tsey 81.80 313 eP P 12 54 53.3 -1.5
ZEI pmax pmax
comp=Z,3.0nm,0.4s
KBZ Khabaz 82.11 314 P P 12 54 57.0 +1.0
comp=Z,11nm,0.9s,baz=154,slow=2.7,SNR=15
KIV Kislovodsk 82.16 314⇓eP P 12 54 57.7 +1.2
KIV *SP pP 12 55 37.0 +5.0
KIV SSS SSS 13 13 46.0
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,46nm,16.0s
NVAR Mina Array Bea 82.50 52 P P 12 54 59.8 +1.2
comp=Z,2.2nm,1.0s,baz=272,slow=5.0,SNR=6.9

NVAR pP pP 12 55 33.5 -0.5
comp=Z,1.2nm,0.6s,baz=282,slow=5.7,SNR=2.2
FIA0 FINESS Array S 82.70 335 eP P 12 54 57.5 -1.3
FIA0 FINESS Array S 82.70 335 eP P 12 54 57.5 -1.3
FINES FINESS Array B 82.70 335 P P 12 54 57.5 -1.3
comp=Z,1.9nm,0.4s,baz=58,slow=4.8,SNR=32
FFC Flin Flon 85.10 32 eP P 12 55 12.1 +0.9
comp=Z,3.0nm,0.8s
FFC Flin Flon 85.10 32 eP P 12 55 12.1 +0.9
FFC pmax pmax
comp=Z,3.0nm,0.8s
REDW Red Top Meadow 85.60 45 eP P 12 55 15.0 +0.8
comp=Z,1.2nm,1.0s
DUG Dugway, Tooele 85.67 48 eP P 12 55 16.2 +1.7
comp=Z,3.2nm,0.8s
DUG Dugway, Tooele 85.67 48 eP P 12 55 16.2 +1.7
DUG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 87.12 325 P P 12 55 20.1 -1.0
comp=Z,0.5nm,0.4s,baz=48,slow=5.2,SNR=3.7
KIEV Kiev 87.14 325 i P P 12 55 22.7 +1.5
KIEV pmax pmax
comp=Z,1.0nm,0.9s
RAYN Ar Rayn 88.16 295 eP P 12 55 26.3 -0.4
comp=Z,4.9nm,1.1s
RAYN Ar Rayn 88.16 295 eP P 12 55 26.3 -0.4
RAYN pmax pmax
comp=Z,5.0nm,1.1s
PV17 East Wray Mesa 89.20 49 eP P 12 55 31.5 0.0
comp=Z,5.0nm,0.8s
BR101 Keskin Array S 90.09 314 eP P 12 55 35.0 -0.5
BRTR Keskin Array B 90.09 313 P P 12 55 35.0 -0.5
comp=Z,1.1nm,0.8s,baz=116,slow=5.7,SNR=5.3
BRTR pP pP 12 56 07.9 -3.7
comp=Z,1.1nm,0.9s,baz=220,slow=1.0,SNR=3.0
LTX Lajitas 97.43 54 eP Pdif 12 56 10.9 +1.5
LTX Lajitas 97.43 54 eP Pdif 12 56 10.9 +1.5
TXAR Lajitas Array 97.43 54 P Pdif 12 56 10.9 +1.5
comp=Z,0.2nm,0.7s,baz=266,slow=2.5,SNR=3.3
TOA1 Torodi Ar. Sit 128.54 310 ePKPdf PKPdf 13 01 42.0 -0.3
TOA0 Torodi Ar. Sit 128.54 310 ePKPdf PKPdf 13 01 42.3 0.0
TORD Torodi Ar. Bea 128.54 310 PKP PKPdf 13 01 42.0 -0.3
comp=Z,0.4nm,0.4s,baz=47,slow=1.3,SNR=10
TORD SKPbc SKiKP 13 04 49.9 -16
comp=Z,1.2nm,0.8s,baz=31,slow=3.4,SNR=7.8
DBIC Dimbokro 137.65 309 PKP PKPdf 13 02 00.5 +1.1
comp=Z,1.2nm,0.5s,baz=56,slow=3.6,SNR=3.0
PLCA Paso Flores 145.98 130 PKPbc PKPab 13 02 15.0 -0.3
comp=Z,8.2nm,0.6s,baz=268,slow=4.2,SNR=28
EFI East Falkland 146.32 156 ePKPdf PKPbc 13 02 15.1 0.0
EFI East Falkland 146.32 156 ePKP2 PKPbc 13 02 15.1 0.0
ROC1 El Roble 147.79 117 ePKPbc PKPbc 13 02 20.4 +0.2
PEL Peldehue 148.04 117 ePKPbc PKPbc 13 02 19.8 -0.8
PEL Peldehue 148.04 117 ePKP2 PKPbc 13 02 19.8 -0.8
HOPE Hope Point 148.14 180 ePKPbc PKPbc 13 02 20.4 +0.5
GO04 Tololo Observa 148.37 111 ePKPbc PKPbc 13 02 21.6 -0.1
LCO Las Campanas 148.56 109 ePKPbc PKPbc 13 02 22.9 +0.6
LCO Las Campanas 148.56 109 ePKP2 PKPbc 13 02 22.9 +0.6
PTGA Pitinga 148.63 50 ePKPbc PKPbc 13 02 22.8 +0.2
MNMC Minye Minye 148.93 90 ePKPbc PKPbc 13 02 24.1 +0.6
PB11 IPOC Station P 148.99 91 ePKPbc PKPbc 13 02 24.1 +0.6
GO01 Chusmiza 149.40 91 ePKPbc PKPbc 13 02 25.6 +0.7
LPAZ La Paz 149.59 84 PKPbc PKPbc 13 02 26.2 +0.6
comp=Z,2.3nm,0.5s,baz=326,slow=2.6,SNR=14
LPAZ PKPab PKPab 13 02 31.4 +0.3
comp=Z,2.3nm,0.5s,baz=20,slow=3.0,SNR=8.6
LPAZ La Paz 149.59 84 ePKPbc PKPbc 13 02 26.3 +0.7
LPAZ La Paz 149.59 84 ePKP2 PKPbc 13 02 26.3 +0.7
TRQA Tornquist 153.12 131 ePKPbc PKPbc 13 02 33.2 +0.8
TRQA Tornquist 153.12 131 ePKIKP PKPbc 13 02 33.2 +0.8

*ISCJB **04** 12:54:45.2±0.7, 13.°1N±0.°1×143.°62E±0.°09, h138km, mb3.6/11, Error ellipse: s-maj=15.0km s-min=12.5km az=162.3*
*IDC **04** 12:54:47.3±1.0, 13.°16N×143.°83E, h147km±9km, mb3.5/11, mb1 3.7/11, mb1mx3.5/31, mbtmp3.9/11, Error ellipse: s-maj=24.6km s-min=13.9km az=96.0*
ISC 04 12:54:46.6±0.9**, 13.°2N**±0.°1**×143.°7E**±0.°1**, h138km, n12, σ1.s05**/13**, mb3.6**/11**, South of Mariana Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GUMO Guam 1.23 70 P Pn 12 55 13.9 +1.4
25nm,0.3s,baz=216,slow=5.4,SNR=54
GUMO S Sn 12 55 32.1 -0.1
169nm,0.3s,baz=163,slow=20,SNR=11
JNU Nakatsue 23.05 332 P P 12 59 40.5 +0.5
8.9nm,0.8s,baz=171,slow=3.0,SNR=8.2
MJAR Matsushiro Arr 23.80 349 P P 12 59 46.1 -0.6
1.4nm,0.9s,baz=163,slow=9.7,SNR=2.6
KSRS Korea Array 27.99 333 P P 13 00 25.2 +0.9
0.9nm,0.5s,baz=139,slow=8.1,SNR=7.1
WRA Warramunga Arr 34.15 196 P P 13 01 17.9 -0.7
3.0nm,0.7s,baz=18,slow=9.5,SNR=35
ASAR Alice Springs 37.83 195 P P 13 01 50.3 +0.4
0.8nm,0.7s,baz=14,slow=11,SNR=14
MKAR Makanchi Array 61.00 316 P P 13 04 46.1 +0.7
0.3nm,0.5s,baz=110,slow=8.3,SNR=3.7
ZALV Zalesovo Beam 61.30 325 P P 13 04 47.7 +0.4
0.4nm,0.5s,baz=99,slow=8.9,SNR=2.3
ILAR Eielson Array 69.45 25 P P 13 05 37.4 -2.2
0.3nm,0.6s,baz=248,slow=6.6,SNR=8.0
YKA Yellowknife Ar 83.77 27 P P 13 06 59.8 -0.3
0.4nm,0.4s,baz=285,slow=5.1,SNR=6.6
NVAR Mina Array Bea 88.09 51 P P 13 07 22.9 +0.8
1.6nm,0.7s,baz=268,slow=5.1,SNR=10
PDAR Pinedale Array 93.09 45 P P 13 07 44.5 -0.8
0.2nm,0.5s,baz=310,slow=0.7,SNR=2.2

*ISCJB **04** 13:13:40.4±2.4, 16.°31S±0.°03×173.°42W±0.°04, h8km±15km, mb5.0/169, MS4.8/41, Error ellipse: s-maj=7.0km s-min=3.7km az=43.5*
*BJI **04** 13:13:40.9, 16.°09S×173.°24W, h8km, mb5.2/31, mB5.5/26, Ms5.1/16, Ms7 4.8/17*
*IDC **04** 13:13:40.1±0.4, 16.°45S×173.°29W, h0km, mb4.7/24, mb1 4.9/24, mb1mx4.7/44, mbtmp4.7/24, MS4.6/32, Ms1 4.6/32, ms1mx4.6/35, Error ellipse: s-maj=17.7km s-min=10.5km az=125.0*
*WEL **04** 13:13:41.0, 16.°44S×173.°38W, h10km*
*MOS **04** 13:13:45.7±1.5, 16.°16S×173.°55W, h33km, mb5.2/39, Error ellipse: s-maj=9.2km s-min=8.1km az=53.6*
*NEIC **04** 13:13:45.7±0.1, 16.°45S×173.°43W, h35km, mb5.1/123, Error ellipse: s-maj=6.1km s-min=2.8km az=132.0*
*GCMT **04** 13:13:49.7±0.1, 16.°35S±0.°01×172.°95W±0.°01, h40km, MW5.3/125, Moment Tensor Solution. s97,c163; s125,c218; Duration: 1.s2 Moment tensor: Scale 10^{17} Nm; M_{rr}0.77±.03; $M_{\theta\theta}$0.43±.02; $M_{\phi\phi}$-1.20±.02; $M_{r\theta}$0.55±.02; $M_{\theta\phi}$0.07±.02; $M_{\phi r}$0.64±.02; Best double couple: $M_0$1.34900×10^{17} NP1:ϕ_s27.00000°, δ68.00000°, λ122.00000°. NP2:ϕ_s147.00000°, δ38.00000°, λ36.00000°. Principal axes: T 1.3050, Plg55.0000°, Azm337.0000°; N 0.0920, Plg30.0000°, Azm193.0000°; P -1.3920, Plg17.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 04 13:13:44.0±0.5**, 16.°41S**±0.°05**×173.°04W**±0.°05**, h28km**±2km**, h28km:pP-P, n590, σ1.s70**/583**, mb5.0**/169**, MS4.8**/42**, 45C-15D, Tonga Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NIUE Niue 3.98 132 P Pn 13 14 44.0 +0.7
baz=4.1,SNR=522
NIUE Niue 3.98 132 ePn Pn 13 14 44.0 +0.7
RAR Rarotonga 13.44 113 Pn Pn 13 16 50.7 -2.3
8.1nm,0.3s,baz=252,slow=11,SNR=8.8
RAR Sn Sn 13 19 16.8 -4.7
3.9nm,0.3s,baz=331,slow=19,SNR=3.2
RAR LR LR 13 20 56.6
comp=Z,4µm,21.6s,baz=294,slow=32
RAR Rarotonga 13.44 113 eP Pn 13 16 50.9 -2.1
RAO Raoul Island 13.55 198 LR LR 13 20 18.7
comp=Z,758nm,20.1s,baz=20,slow=30
KNTN Kanton 13.61 6 ePn Pn 13 16 51.6 -3.7
KNTN eSn Sn 13 19 18.3 -7.4
DZM Mont Dzumac 20.16 251 LR LR 13 24 49.8
comp=Z,3µm,21.4s,baz=85,slow=34
DZM Mont Dzumac 20.16 251 eP Pn 13 18 21.6 +3.1
307nm,0.9s

DZM eS Sn 13 22 05.0 +0.1
892nm,21.7s
DZM eLQ LQ 13 22 17.3
3µm,23.1s
DZM eLR LR 13 23 10.7
comp=Z,6µm,25.1s
DZM Mont Dzumac 20.16 251 eP Pn 13 18 18.1 -0.4
163nm,1.0s
OUZ Omahuta 22.22 210 P **P** **13 18 37.7 -0.7**
GRZ Great Barrier 22.26 205 P **P** **13 18 39.2 +0.4**
PAE Paea 22.47 97 eT T 13 41 41.7
8.0nm,0.3s
WCZ Waipu Caves 22.47 208 P **P** **13 18 41.2 +0.1**
PPT Papeete 22.47 96 LR LR 13 25 04.5
comp=Z,2µm,21.1s,baz=255,slow=30
PPT2 Papeete2 22.47 96 eS **S** **13 22 40.6 -6.0**
1µm,25.5s
PPT2 eLQ LQ 13 23 09.6
3µm,26.2s
PPT2 eLR LR 13 24 01.5
comp=Z,5µm,25.0s,baz=261
PPT2 Papeete2 22.47 96 eT T 13 41 50.8
12nm,0.3s
KUZ Kuaotunu 22.58 204 P **P** **13 18 43.6 +1.3**
WMGZ Waiomatatini S 22.62 198 P **P** **13 18 46.3 +3.6**
TIAR Tiarei 22.69 96 eT T 13 42 09.4
5.4nm,0.2s
HAZ Te Kaha 22.76 199 P **P** **13 18 45.1 +1.0**
HAZ S **S** **13 22 48.2 -3.0**
TVO Taravao 22.78 97 eT T 13 42 16.1
6.3nm,0.3s
PKGZ Pakihiroa 22.79 198 P **P** **13 18 47.7 +3.2**
WIAZ Waiheke Island 22.86 205 P **P** **13 18 46.9 +1.8**
PUZ Puketiti 22.90 198 P **P** **13 18 48.8 +3.1**
MBAZ Motutapu North 22.93 206 P **P** **13 18 47.0 +1.0**
RUGZ Raukumara Rang 22.98 199 P **P** **13 18 47.0 +0.4**
HBAZ Herne Bay Bore 23.07 206 P **P** **13 18 49.6 +2.2**
ETAZ East Tamaki Re 23.08 205 P **P** **13 18 48.7 +1.2**
TWGZ Tauwhareparae 23.08 198 P **P** **13 18 49.6 +2.0**
EPAZ Eden Park BICE 23.09 206 P **P** **13 18 50.6 +3.1**
MKAZ Moumakai 23.11 205 P **P** **13 18 48.3 +0.5**
WTAZ Waiatarua 23.20 206 P **P** **13 18 48.4 -0.4**
TBI Tubuai 23.21 111 eS **S** **13 22 55.4 -3.8**
1µm,25.5s
TBI eLQ LQ 13 23 26.2
5µm,29.8s
TBI eLR LR 13 24 24.6
comp=Z,7µm,27.2s,baz=284
TBI Tubuai 23.21 111 eT T 13 42 51.3
28nm,0.3s
KBAZ Karaka Road Bo 23.21 205 P **P** **13 18 49.4 +0.6**
CNGZ Carnagh Statio 23.30 198 P **P** **13 18 52.2 +2.5**
TKGZ Te Karaka 23.36 198 P **P** **13 18 51.9 +1.6**
MWZ Matawai 23.37 199 P **P** **13 18 52.2 +1.8**
URZ Urewera 23.43 200 P **P** **13 18 49.9 -1.0**
18nm,0.6s,baz=17,slow=2.6,SNR=13
URZ S **S** **13 23 03.8 +1.3**
6.3nm,0.8s,baz=85,slow=22,SNR=2.8
URZ Urewera 23.43 200 eP **P** **13 18 50.0 -1.0**
97nm,1.3s
URZ S **S** **13 23 03.8 +1.3**
URZ Urewera 23.43 200 P **P** **13 18 49.8 -1.1**
TOZ Tahuroa Road 23.52 203 P **P** **13 18 52.9 +1.0**
RIGZ Rimuhau 23.64 198 P **P** **13 18 54.8 +1.8**
SNGZ Shannon Statio 23.84 199 P **P** **13 18 56.5 +1.6**
RAHZ Arahi 24.04 199 P **P** **13 18 58.5 +1.7**
TLZ Tolley Road 24.04 202 P **P** **13 18 57.9 +1.1**
HIZ Hauiti 24.45 203 eP **P** **13 19 01.1 +0.6**
488nm,1.9s
BKZ Black Stump Fm 24.46 200 eP **P** **13 19 00.2 -0.4**
70nm,1.7s
BFZ Birch Farm 25.91 199 eP **P** **13 19 13.1 -0.6**
35nm,0.8s
SNZO South Karori 26.98 201 eP **P** **13 19 22.3 -1.0**
33nm,0.9s
HNR Honiara 27.20 281 LR LR 13 28 33.2
comp=Z,6µm,20.9s,baz=116,slow=33
THZ Tophouse 28.02 203 eP **P** **13 19 30.8 -1.9**
26nm,0.6s
KHZ Kahutara 28.36 201 eP **P** **13 19 34.5 -1.2**
28nm,0.7s
LTZ Lake Taylor 29.13 203 eP **P** **13 19 41.0 -1.6**
37nm,0.6s
OXZ Oxford 29.69 202 eP **P** **13 19 46.4 -1.1**
38nm,0.7s
MQZ McQueen's Vall 29.80 201 eP **P** **13 19 47.5 -1.0**
136nm,1.8s
RPZ Rata Peaks 30.39 203 P **P** **13 19 51.8 -1.9**
4.8nm,0.5s,baz=51,slow=6.5,SNR=4.4
RPZ Rata Peaks 30.39 203 eP **P** **13 19 53.5 -0.3**
30nm,0.7s
FOZ Fox Glacier 30.72 205 eP **P** **13 19 55.2 -1.4**
38nm,1.2s
LBZ Lake Benmore 31.29 203 eP **P** **13 20 00.6 -1.1**
130nm,1.9s
ODZ Otahua Downs 31.68 202 eP **P** **13 20 05.6 +0.6**
142nm,1.9s
WKZ Wanaka 32.12 204 eP **P** **13 20 07.5 -1.5**
309nm,2.0s
MLZ Mavora Lakes 32.92 205 eP **P** **13 20 15.1 -0.9**
137nm,1.8s
TAOE Nuku Hiva Isla 32.93 81 eS **S** **13 25 30.3 -2.8**
502nm,27.3s
TAOE eLR LR 13 28 48.5
comp=Z,3µm,26.5s
TAOE Nuku Hiva Isla 32.93 81 eT T 13 54 52.4
104nm,0.3s
DCZ Deep Cove 33.39 206 eP **P** **13 20 17.6 -2.4**
67nm,1.5s
WHZ Wether Hill Ro 33.42 204 eP **P** **13 20 17.8 -2.5**
178nm,1.9s
EIDS Eidsvold 34.60 249 P **P** **13 20 29.3 -1.5**
baz=35,SNR=3.2
EIDS Eidsvold 34.60 249 eP **P** **13 20 28.6 -2.3**
43nm,1.6s
ARMA Armidale 35.13 240 P **P** **13 20 33.6 -1.9**
baz=35,SNR=15
ARMA Armidale 35.13 240 eP **P** **13 20 33.7 -1.9**
19nm,0.6s
RKT Rikitea 36.37 107 eS **S** **13 26 26.6 +0.8**
431nm,30.5s
RKT eLQ LQ 13 28 57.6
532nm,31.2s
RKT eLR LR 13 30 29.5
comp=Z,2µm,26.8s,baz=276
RKT Rikitea 36.37 107 eT T 13 59 15.9
16nm,0.3s
RMQ Roma 36.82 248 P **P** **13 20 49.0 -0.9**
baz=37,SNR=5.7
CNB Canberra Magne 38.42 233 P **P** **13 21 02.0 -1.5**
baz=38,SNR=8.0
CAN Canberra 38.70 234 eP **P** **13 21 03.8 -2.0**
14nm,1.0s
CAN Canberra 38.70 234 eP **P** **13 21 03.8 -2.0**
CAN pmax pmax
comp=Z,14nm,1.0s
CTA Charters Tower 38.77 258 P **P** **13 21 04.2 -2.2**
comp=Z,9.2nm,0.7s,baz=88,slow=12,SNR=6.8
CTAO Charters Tower 38.77 258 eP **P** **13 21 04.2 -2.2**
comp=Z,41nm,1.5s
CTAO Charters Tower 38.77 258 eP **P** **13 21 04.3 -2.2**
CTAO pmax pmax
comp=Z,41nm,1.5s
PMG Port Moresby 39.36 275 P **P** **13 21 09.9 -1.5**
comp=Z,37nm,0.8s,baz=83,slow=7.7,SNR=11
PMG Port Moresby 39.36 275 eP **P** **13 21 10.3 -1.1**
comp=Z,40nm,0.9s
CMSA Cobar Meteorol 40.35 240 P **P** **13 21 17.2 -2.2**
baz=40,SNR=32
MTSU Mount Surprise 40.69 261 P **P** **13 21 20.2 -2.3**
baz=41,SNR=4.2
QLP Quilpie 40.86 248 P **P** **13 21 21.1 -2.7**
baz=41,SNR=15
TOO Toolangi 42.11 232 P **P** **13 21 32.2 -1.7**
baz=42,SNR=9.1
TOO Toolangi 42.11 232 eP **P** **13 21 32.2 -1.7**
comp=Z,14nm,0.9s
TOO Toolangi 42.11 232 eP **P** **13 21 32.2 -1.7**
TOO pmax pmax
comp=Z,14nm,0.9s
COEN Coen 42.27 267 P **P** **13 21 34.8 -0.7**
baz=42,SNR=9.5
COEN Coen 42.27 267 eP P 13 21 30.5 -5.0
comp=Z,16nm,0.9s
STKA Stephens Creek 43.84 241 P **P** **13 21 46.4 -1.6**
comp=Z,26nm,0.8s,baz=86,slow=9.5,SNR=43
STKA LR LR 13 39 41.7
comp=Z,1µm,18.1s,baz=71,slow=36
STKA Stephens Creek 43.84 241 P **P** **13 21 46.4 -1.6**
baz=44,SNR=20
STKA Stephens Creek 43.84 241 eP **P** **13 21 46.6 -1.3**
comp=Z,5.0nm,0.8s
STKA Stephens Creek 43.84 241 eP **P** **13 21 46.7 -1.3**
STKA pmax pmax
comp=Z,5.0nm,0.8s
ARPS Mount Arapiles 44.67 234 P **P** **13 21 52.8 -1.8**
baz=45,SNR=7.4
HTT Hallett 46.32 239 P **P** **13 22 06.4 -1.4**
baz=46,SNR=6.2
JAY Jayapura 47.52 282 P **P** **13 22 16.5 -0.9**
comp=Z,22nm,0.8s,baz=159,slow=8.4,SNR=3.9
BBOO Buckleboo 48.61 241 P **P** **13 22 24.6 -0.9**
baz=49,SNR=12
BBOO Buckleboo 48.61 241 eP **P** **13 22 23.9 -1.6**
comp=Z,28nm,0.9s
WB2 Warramunga Arr 49.95 258 eP **P** **13 22 33.0 -2.9**
WRAB Tennant Creek 49.95 258 eP **P** **13 22 33.4 -2.5**
comp=Z,9.3nm,0.8s
WRAB Tennant Creek 49.95 258 ceP **P** **13 22 33.1 -2.8**
WRAB pmax pmax
comp=Z,13nm,1.3s
WRA Warramunga Arr 49.96 258 P **P** **13 22 33.0 -3.0**
comp=Z,4.7nm,0.5s,baz=92,slow=6.7,SNR=110
WRA PcP **PcP** **13 23 56.1 +0.1**
comp=Z,8.1nm,0.8s,baz=87,slow=4.0,SNR=7.9
WRA LR LR 13 43 23.7
comp=Z,964nm,18.1s,baz=95,slow=36
AS01 Alice Springs 50.09 253 eP **P** **13 22 34.3 -2.7**
AS31 Alice Springs 50.13 253 eP **P** **13 22 34.9 -2.5**
ASAR Alice Springs 50.13 253 P **P** **13 22 34.8 -2.5**
comp=Z,52nm,0.8s,baz=89,slow=8.3,SNR=639
ASAR ScP **ScP** **13 27 52.3 +1.6**
comp=Z,1.0nm,0.9s,baz=81,slow=5.7,SNR=3.8
ASAR S **S** **13 29 44.6 -3.0**
comp=Z,1.2nm,1.0s,baz=88,slow=16,SNR=4.6
ASAR LR LR 13 43 06.7
comp=Z,855nm,18.3s,baz=97,slow=35
KDU Kakadu 52.74 266 P **P** **13 22 55.7 -1.2**
baz=53,SNR=10
WRKA Warakurna 55.18 251 P **P** **13 23 12.6 -2.1**
baz=55,SNR=108
FORT Forrest 55.28 244 P **P** **13 23 12.8 -2.4**
baz=55,SNR=8.4
FORT Forrest 55.28 244 eP **P** **13 23 12.1 -3.1**
FAKI Fak Fak 55.39 278 eP **P** **13 23 11.7 -4.5**
comp=Z,34nm,1.2s
KNRA Kununurra 55.76 262 P **P** **13 23 18.5 -0.4**
baz=56,SNR=3.9
FITZ Fitzroy Crossi 58.34 259 LR LR 13 47 53.6
comp=Z,1µm,18.8s,baz=98,slow=35
FITZ Fitzroy Crossi 58.34 259 P **P** **13 23 36.4 -0.7**
baz=58,SNR=8.5
FITZ Fitzroy Crossi 58.34 259 eP **P** **13 23 36.6 -0.6**
comp=Z,7.8nm,1.2s
SOEI Soe 61.23 268 eP **P** **13 23 57.2 0.0**
BATI Baumata 61.71 267 LR LR 13 49 23.7
comp=Z,449nm,21.4s,baz=127,slow=35
VNDA Vanda 62.42 186 P **P** **13 24 05.7 +1.7**
comp=Z,1.6nm,0.8s,baz=40,slow=7.0,SNR=5.5
VNDA LR LR 13 43 55.6
comp=Z,170nm,21.5s,baz=18,slow=29
MBWA Marble Bar 63.42 254 eP **P** **13 24 09.8 -1.8**
comp=Z,17nm,0.9s
MEEK Meekatharra 63.76 248 P **P** **13 24 12.0 -1.9**
baz=64,SNR=4.8
MNI Manado 63.79 280 P **P** **13 24 13.5 -0.7**
MNI pmax pmax
comp=Z,74nm,0.9s
KLBR Kellerberrin 64.08 242 P **P** **13 24 14.3 -1.6**
baz=64,SNR=9.2
BLDU Balliduu 65.05 243 P **P** **13 24 20.6 -1.6**
baz=65,SNR=7.4
MUN Mundaring 65.36 242 P **P** **13 24 23.4 -0.8**
baz=65,SNR=5.2
PCI Palu 67.82 276 P **P** **13 24 40.4 +0.2**
PCI pmax pmax
comp=Z,63nm,0.9s
MJAR Matsushiro Arr 69.92 320 P **P** **13 24 52.3 -0.5**
comp=Z,3.2nm,0.9s,baz=169,slow=4.8,SNR=8.2
MJAR LR LR 13 49 51.2
comp=Z,529nm,21.9s,baz=125,slow=31
MAJO Matsushiro 69.93 320 *i* P **P** **13 24 53.4 +0.6**
MAJO pmax pmax
comp=Z,7.0nm,0.9s
MAT Matsushiro 69.93 320 P **P** **13 24 51.5 -1.3**
MAT S **S** **13 34 07.0 +5.8**
SMMC Simmler 71.92 43 P **P** **13 25 05.9 +0.9**
baz=234
ASAJ Asahikawa 72.57 328 eP **P** **13 25 09.7 +1.1**
comp=Z,50nm,0.8s
ARVC Arvin 72.58 44 P **P** **13 25 09.9 +1.0**
baz=235
KMRM Mail Ridge 72.64 37 eP **P** **13 25 12.4 +3.1**
comp=Z,42nm,0.8s
JNU Nakatsue 72.73 313 eP **P** **13 25 10.6 +0.8**
comp=Z,17nm,0.9s
VES Vestal, Richgr 72.83 43 P **P** **13 25 12.0 +1.7**
baz=234
MURC Murrieta 72.83 46 P **P** **13 25 11.6 +1.2**
baz=236
MONP2 Monument Peak 72.99 47 P **P** **13 25 12.2 +0.6**
baz=237
EDW2 Edwards Air Fo 73.01 45 P **P** **13 25 12.9 +1.4**
baz=236,SNR=5.5
IKP In-Ko-Pah, Jac 73.08 48 P **P** **13 25 13.4 +1.4**
baz=237
ISA Isabella, Lake 73.13 44 P **P** **13 25 13.8 +1.6**
baz=235,SNR=7.0
O02D Mt. Diablo Mer 73.15 38 P **P** **13 25 14.0 +1.7**
baz=231
CMB Columbia Colle 73.29 41 eP **P** **13 25 15.4 +2.3**
comp=Z,13nm,1.0s
CMB Columbia Colle 73.29 41 eP **P** **13 25 15.4 +2.3**
CMB pmax pmax
comp=Z,13nm,1.0s
PET Petropavlovsk 73.33 343 eP **P** **13 25 13.9 +1.0**
PET pmax pmax
comp=Z,100nm,16.1s
PFO Pinyon Flats O 73.35 47 P **P** **13 25 15.4 +1.8**
baz=237
ORV Oroville 73.53 39 eP **P** **13 25 16.5 +2.1**
ORV ePcP **pwP** **13 25 27.0 +0.6**
ORV Oroville 73.53 39 eP **P** **13 25 16.5 +2.1**
ORV *e* 13 25 27.0
WDC Whiskeytown Da 73.55 38 eP **P** **13 25 17.2 +2.7**
comp=Z,73nm,1.9s
WDC Whiskeytown Da 73.55 38 eP **P** **13 25 17.2 +2.7**
WDC pmax pmax
comp=Z,73nm,1.9s
LRMC Laurel Mtn Rad 73.56 44 P **P** **13 25 16.1 +1.3**
baz=236,SNR=5.9
QSPA South Pole Qui 73.64 180 eP **P** **13 25 15.8 +0.9**
comp=Z,48nm,0.8s
PEA0B Petropavlovsk- 73.69 342 eP **P** **13 25 16.2 +1.2**
comp=Z,33nm,0.8s
PETK Petropavlovsk- 73.69 342 P **P** **13 25 15.3 +0.3**
comp=Z,44nm,0.8s,baz=138,slow=9.2,SNR=36
PETK LR LR 13 51 10.4
comp=Z,129nm,21.8s,baz=158,slow=31
PETK Petropavlovsk- 73.69 342 eP **P** **13 25 15.8 +0.8**
PETK Petropavlovsk- 73.69 342 eP **P** **13 25 15.8 +0.8**
N02D Trinity Center 73.71 37 P **P** **13 25 17.5 +2.0**
baz=230
O03E Paynes Creek 73.81 38 P **P** **13 25 17.6 +1.4**
baz=231
CWC Cottonwood Cre 73.84 43 P **P** **13 25 18.6 +2.1**
baz=235
BELC Belle Mtn. Jos 73.89 47 P **P** **13 25 18.7 +1.9**
baz=237
M02C Callahan 73.89 37 P **P** **13 25 18.8 +2.2**
baz=230
MPMC Manual Prospec 74.01 44 P **P** **13 25 19.0 +1.5**
baz=236,SNR=14
GSC Goldstone, Bar 74.05 45 eP **P** **13 25 19.8 +2.2**
comp=Z,12nm,1.0s
GSC Goldstone, Bar 74.05 45 eP **P** **13 25 19.8 +2.2**
GSC pmax pmax
comp=Z,12nm,1.0s
GSC Goldstone, Bar 74.05 45 P **P** **13 25 19.3 +1.7**
baz=236
BC3 Big Chuckawall 74.08 47 P **P** **13 25 19.7 +1.8**
baz=238
TIN Tinemaha, Big 74.09 43 P **P** **13 25 19.8 +1.9**
baz=235
HEC Hector,Ludlow 74.11 46 P **P** **13 25 19.8 +1.8**
baz=237
WAKR Walker 74.17 41 eP **P** **13 25 20.6 +2.2**
comp=Z,12nm,0.9s
YBH Yreka Blue Hor 74.19 37 P **P** **13 25 20.5 +2.2**
comp=Z,5.4nm,0.8s,baz=161,slow=0.8,SNR=12
YBH Yreka Blue Hor 74.19 37 eP **P** **13 25 21.2 +2.9**
comp=Z,22nm,0.9s
YBH Yreka Blue Hor 74.19 37 eP **P** **13 25 21.2 +2.9**
YBH pmax pmax
comp=Z,22nm,0.9s
GLA Glamis 74.20 48 P **P** **13 25 20.5 +1.9**
baz=238
K02D Willamette Mer 74.27 36 P **P** **13 25 20.9 +2.1**
baz=229
BEKR Beckworth 74.42 39 eP **P** **13 25 21.8 +1.9**
comp=Z,15nm,1.0s
J01E Myrtle Point 74.43 35 P **P** **13 25 22.1 +2.5**
baz=229
YSS Yuzh-Sakhalins 74.52 330 ⇑eP **P** **13 25 19.4 -0.6**
YSS *e* 13 25 25.7
YSS pmax pmax
comp=Z,40nm,0.7s
YSS pmax pmax
comp=N,10.0nm,0.6s
YSS pmax pmax
comp=E,10.0nm,0.8s
YSS pmax pmax
comp=Z,200nm,3.3s
YSS MLR MLR
comp=Z,600nm,16.0s
GMRC Granite Mounta 74.55 46 P **P** **13 25 22.1 +1.4**
baz=237
IRM Iron Mountain 74.57 47 P **P** **13 25 22.3 +1.7**
baz=238
YERR Yerington 74.58 41 eP **P** **13 25 23.0 +2.2**
comp=Z,14nm,0.9s
GRAC Grapevine Rang 74.62 43 P **P** **13 25 22.9 +2.0**
baz=235
FURC Furnace Creek, 74.66 44 P **P** **13 25 23.0 +1.9**
baz=236
TUQ Turquoise Moun 74.72 45 P **P** **13 25 23.3 +1.6**
baz=237,SNR=5.0
M04C Macdoel 74.72 37 P **P** **13 25 23.4 +1.9**
baz=231
L04D Klamath Falls 74.73 37 P **P** **13 25 23.4 +1.9**
baz=231
Y12C Blythe 74.79 47 P **P** **13 25 23.8 +1.9**
baz=238
RYN Ryan 74.82 41 eP **P** **13 25 24.4 +2.3**
RYN ePcP **PcP** **13 25 35.2 -0.9**
NV01 Mina Array Sit 74.84 42 eP **P** **13 25 24.2 +1.8**
NVAR Mina Array Bea 74.84 42 P **P** **13 25 24.3 +1.9**
comp=Z,7.6nm,0.9s,baz=227,slow=10,SNR=32
NVAR LR LR 13 51 03.3
comp=Z,393nm,21.1s,baz=233,slow=30
NV11 Mina Array Sit 74.94 42 eP **P** **13 25 25.2 +2.3**
comp=Z,1.7nm,1.1s
214A Organ Pipe Nat 75.09 50 P **P** **13 25 25.3 +1.6**
baz=240
NEE2 Needles Airpor 75.26 46 P **P** **13 25 26.9 +2.3**
baz=238
K04D Chiloquin, OR 75.31 37 P **P** **13 25 26.8 +1.9**
baz=231
KVN Kaiserville 75.33 41 eP **P** **13 25 27.1 +1.9**
comp=Z,14nm,1.0s
KVN Kaiserville 75.33 41 eP **P** **13 25 27.1 +1.9**
KVN pmax pmax
comp=Z,14nm,1.0s
TPNV Topopah Spring 75.34 44 eP **P** **13 25 27.2 +2.0**
comp=Z,23nm,1.3s
TPNV Topopah Spring 75.34 44 P **P** **13 25 26.8 +1.6**
baz=236,SNR=6.0
PDMCI Parker Dam,Lak 75.35 47 P **P** **13 25 27.5 +2.4**
baz=238
J04D Umpqua Nationa 75.50 36 P **P** **13 25 28.1 +2.1**
baz=230
I04A Tendick Farm, 75.68 35 P **P** **13 25 28.3 +1.5**
baz=230
MOD Modoc Plateau 75.70 38 eP **P** **13 25 29.1 +2.0**
comp=Z,14nm,0.9s
SHPR Sheep Range 75.82 45 eP **P** **13 25 30.5 +2.5**
comp=Z,16nm,1.2s
KDAK Kodiak Island 75.83 11 P **P** **13 25 27.1 -0.2**
comp=Z,10nm,0.9s,baz=128,slow=2.3,SNR=4.2
H04D Lebanon 75.97 35 P **P** **13 25 30.5 +2.1**
baz=230
J05D Fort Rock, OR 76.02 36 P **P** **13 25 30.8 +1.9**
baz=231
H04A Detroit Lake 76.38 35 eP **P** **13 25 32.7 +1.9**
comp=Z,26nm,0.9s
PINE Pine Mountain 76.50 36 eP **P** **13 25 34.4 +2.7**
comp=Z,33nm,0.8s
R11A Troy Canyon, C 76.55 43 eP **P** **13 25 34.2 +2.1**
comp=Z,17nm,1.4s
R11A Troy Canyon, C 76.55 43 P **P** **13 25 33.5 +1.4**
baz=236,SNR=7.3
I05D Terrebonne, OR 76.62 35 P **P** **13 25 34.0 +1.8**
baz=231
TUC Tucson 76.76 50 eP **P** **13 25 35.8 +2.5**
comp=Z,8.0nm,1.0s
TUC Tucson 76.76 50 eP **P** **13 25 35.8 +2.5**
TUC pmax pmax
comp=Z,8.0nm,1.0s
TUC Tucson 76.76 50 P **P** **13 25 35.0 +1.8**
baz=241
WVOR Wild Horse Val 77.00 38 eP **P** **13 25 36.4 +1.9**
comp=Z,22nm,1.1s
WVOR Wild Horse Val 77.00 38 eP **P** **13 25 36.4 +1.9**
WVOR pmax pmax
comp=Z,22nm,1.1s
KSRS Korea Array 77.11 316 P **P** **13 25 35.6 +0.6**
comp=Z,2.2nm,0.8s,baz=131,slow=6.1,SNR=9.4
KSRS LR LR 13 56 52.7
comp=Z,261nm,18.8s,baz=119,slow=34
KSAR Wonju Array Be 77.13 316 P **P** **13 25 35.6 +0.5**
KSAR Wonju Array Be 77.13 316 P **P** **13 25 35.6 +0.5**
KS01 Wonju Array Si 77.14 316 eP **P** **13 25 35.3 +0.1**
X16A Lo Mia Camp, P 77.32 48 eP **P** **13 25 39.0 +2.5**
E04D Cinebar 77.39 33 P **P** **13 25 38.4 +2.0**
baz=230
LCMT Little Creek M 77.39 45 eP **P** **13 25 39.3 +2.5**
TYV Tymovskoe 77.40 333 eP **P** **13 25 36.7 +0.4**
TYV eS **S** **13 35 28.4 +3.5**
TYV pmax pmax
comp=Z,100nm,4.1s
TYV pmax pmax
comp=Z,27nm,0.9s
TYV smax smax
comp=N,700nm,9.4s
319A Douglas 77.44 52 eP **P** **13 25 39.9 +2.8**
CCUT Cedar City 77.60 45 eP **P** **13 25 40.8 +2.8**
comp=N,19nm,1.4s
J08A Circle Bar Ran 77.65 37 eP **P** **13 25 40.2 +2.1**
comp=N,19nm,1.1s
KNB Kanab 77.68 45 eP **P** **13 25 41.2 +2.7**
comp=N,60nm,1.7s
KNB Kanab 77.68 45 eP **P** **13 25 41.2 +2.7**
KNB pmax pmax
comp=Z,60nm,1.7s
U15A North Rim 77.74 46 eP **P** **13 25 41.5 +2.6**
PSUT Pine Spring 77.79 44 eP **P** **13 25 41.4 +2.3**
comp=Z,11nm,0.8s
SZCU Shurtz Canyon 77.81 45 eP **P** **13 25 42.1 +2.8**
comp=Z,24nm,1.5s
VLA Vladivostok 77.81 322 *i* P **P** **13 25 38.6 -0.2**
VLA pmax pmax
comp=Z,9.0nm,0.9s
LEM Lembang 77.91 266 P **P** **13 25 39.9 -0.4**
LEM pmax pmax
comp=Z,41nm,0.9s
WUAZ Wupatki 77.92 47 P **P** **13 25 41.7 +1.9**
baz=240
ELK Elko 78.11 41 P **P** **13 25 42.2 +1.4**
comp=Z,4.4nm,1.0s,baz=248,slow=6.0,SNR=16
ELK Elko 78.11 41 eP **P** **13 25 42.6 +1.8**
comp=Z,8.0nm,1.1s
ELK Elko 78.11 41 eP **P** **13 25 42.6 +1.8**
ELK pmax pmax
comp=Z,8.0nm,1.1s
PKCU Pink Cliffs 78.25 45 eP **P** **13 25 45.0 +3.1**
comp=Z,77nm,1.6s
USRK Ussuriysk Ar. 78.39 323 P **P** **13 25 42.6 +0.6**
comp=Z,6.3nm,0.9s,baz=134,slow=3.4,SNR=14
USRK LR LR 13 53 53.6
comp=Z,502nm,21.8s,baz=122,slow=31
G08A Pilot Rock 78.54 36 eP **P** **13 25 44.6 +1.6**

MTPU **Mount Pierson** 78.65 45 *e*P P 13 25 47.0 +3.0
comp=Z,43nm,1.6s
A04D **Lummi Island** 78.73 31 P P 13 25 46.1 +2.4
baz=229
E07A **Sunnyside** 78.83 34 *e*P P 13 25 46.6 +2.1
comp=Z,15nm,0.9s
MSU **Marysvale** 78.90 44 *e*P P 13 25 48.0 +2.7
MSU **Marysvale** 78.90 44 *e*P P 13 25 48.0 +2.7
HAWA **Hanford** 78.90 35 *e*P P 13 25 46.6 +1.8
comp=Z,19nm,1.2s
121A **Cookes Peak, D** 79.10 51 P P 13 25 48.0 +1.6
baz=243
BMO **Blue Mountains** 79.22 37 *e*P P 13 25 48.4 +1.7
comp=Z,33nm,1.8s
BMO **Blue Mountains** 79.22 37 *e*P P 13 25 48.4 +1.7
BMO pmax pmax
comp=Z,33nm,1.8s
E08A **Dider Farm, El** 79.22 35 *e*P P 13 25 48.6 +2.1
comp=Z,53nm,1.7s
MFID **Camas Ranch** 79.25 39 *e*P P 13 25 48.9 +1.9
MFID *e*PcP **sP** 13 25 58.3 +0.3
DUG **Dugway, Tooele** 79.36 43 *e*P P 13 25 49.6 +2.0
comp=Z,9.1nm,1.0s
DUG **Dugway, Tooele** 79.36 43 *e*P P 13 25 49.6 +2.0
DUG pmax pmax
comp=Z,9.0nm,1.0s
DUG **Dugway, Tooele** 79.36 43 P P 13 25 48.9 +1.2
baz=238,SNR=9.5
SUA **Susitna One** 79.62 11 *e*P P 13 25 49.2 +0.7
comp=Z,17nm,0.8s
D08A **Wollman Farm,** 79.64 34 *e*P P 13 25 50.9 +2.0
comp=Z,16nm,1.0s
Q16A **Castle Valley** 79.78 44 *e*P P 13 25 53.0 +3.0
comp=Z,50nm,2.0s
NKL **Nikolayevsk** 79.89 334 *e*P P 13 25 49.0 -1.0
NKL pmax pmax
comp=Z,27nm,0.9s
F10A **Beach Ranch, E** 79.92 36 *e*P P 13 25 52.0 +1.5
comp=Z,15nm,0.9s
GAMB **Gambell** 79.93 1 *e*P P 13 25 51.8 +1.9
comp=Z,10.0nm,0.9s
TMUT **Trail Mountain** 79.95 44 *e*P P 13 25 54.0 +2.9
comp=Z,16nm,1.0s
MDJ **Mudanjiang** 80.03 322 P P 13 25 52.1 +1.1
MDJ pmax pmax
comp=Z,11nm,1.0s
MDJ pmax pmax
comp=Z,190nm,5.0s
MPU **Maple Canyon** 80.04 43 *e*P P 13 25 53.8 +2.4
comp=Z,8.4nm,1.3s
GRNR **Gornyy** 80.18 330 *e*P P 13 25 53.1 +1.4
HLID **Hailey** 80.18 39 *e*P P 13 25 54.0 +1.9
comp=Z,10nm,1.0s
HLID **Hailey** 80.18 39 P P 13 25 53.6 +1.5
baz=236
B08A **Colville Reser** 80.23 33 *e*P P 13 25 53.2 +1.2
comp=Z,8.8nm,0.9s
HVU **Hansel Valley** 80.23 41 *e*P P 13 25 54.4 +2.0
comp=Z,9.1nm,0.9s
HVU **Hansel Valley** 80.23 41 *e*P P 13 25 54.4 +2.0
HVU pmax pmax
comp=Z,9.0nm,0.9s
GHO **Glory Hole Cre** 80.24 11 *e*P P 13 25 52.7 +0.9
DIV **Divide** 80.29 13 *e*P P 13 25 53.1 +1.0
comp=Z,22nm,0.8s
P17A **Butcher Ranch,** 80.35 44 *e*P P 13 25 55.8 +2.7
comp=Z,21nm,1.3s
C09A **Chrisman Ranch** 80.44 34 *e*P P 13 25 54.9 +1.7
comp=Z,67nm,2.0s
MNTX **Cornudas Mount** 80.55 53 *e*P P 13 25 56.5 +2.3
comp=Z,28nm,1.8s
MNTX **Cornudas Mount** 80.55 53 P P 13 25 55.7 +1.6
baz=244
SCM **Sheep Creek Mo** 80.60 12 *e*P P 13 25 55.1 +1.3
comp=Z,29nm,1.0s
SCM **Sheep Creek Mo** 80.60 12 *e*P P 13 25 55.1 +1.3
SCM pmax pmax
comp=Z,29nm,1.0s
TCUT **Toone Canyon** 80.75 42 *e*P P 13 25 57.6 +2.3
comp=Z,31nm,1.1s
TXAR **Lajitas Array** 80.89 56 LR LR 13 53 48.6
comp=Z,305nm,21.8s,baz=0.0,slow=30
PV09 **Paradox Valley** 80.95 46 *e*P P 13 25 58.9 +2.4
PV19 **Morning Glory** 80.97 46 *e*P P 13 25 59.3 +2.8
comp=Z,11nm,0.9s
PV17 **East Wray Mesa** 80.97 46 *e*P P 13 25 58.6 +2.2
comp=Z,13nm,1.1s
PV14 **Lion Creek, Pa** 80.97 46 *e*P P 13 25 58.7 +2.2
comp=Z,12nm,1.0s
PV20 **West Nyswonger** 80.99 46 *e*P P 13 25 58.8 +2.2
comp=Z,20nm,1.4s
PV13 **Radium Mtn., P** 81.00 46 *e*P P 13 25 58.9 +2.2
comp=Z,44nm,1.8s
PV16 **Nyswonger Mesa** 81.01 46 *e*P P 13 25 59.5 +2.8
comp=Z,24nm,1.5s
PV23 **Carpenter Ridg** 81.02 46 *e*P P 13 25 59.2 +2.4
comp=Z,15nm,0.9s
PV03 **Paradox Valley** 81.03 46 *e*P P 13 25 58.9 +2.1
PV03 *e*PcP **sP** 13 26 07.9 -0.1
PV11 **David Mesa, Pa** 81.04 46 *e*P P 13 25 59.1 +2.3
comp=Z,47nm,1.6s
NJ2 **Nanjing** 81.04 307 *e*P P 13 25 55.8 -0.9
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
PV02 **Paradox Valley** 81.08 46 *e*P P 13 26 00.0 +2.9
comp=Z,20nm,1.5s
PV12 **Saucer Basin,** 81.09 46 *e*P P 13 25 59.5 +2.3
comp=Z,65nm,1.6s
PV21 **Cone Mtn., Par** 81.09 46 *e*P P 13 25 59.7 +2.5
comp=Z,51nm,1.7s
PV01 **Paradox Valley** 81.17 46 *e*P P 13 25 59.3 +1.8
ANMO **Albuquerque** 81.18 50 P P 13 25 59.8 +2.2
comp=Z,2.6nm,0.8s,baz=215,slow=4.7,SNR=7.6
ANMO **Albuquerque** 81.18 50 *e*P P 13 26 00.0 +2.4
comp=Z,7.1nm,0.9s
ANMO **Albuquerque** 81.18 50 *ce*P P 13 25 59.4 +1.7
ANMO pmax pmax
comp=Z,11nm,2.5s
ANMO **Albuquerque** 81.18 50 P P 13 25 59.4 +1.7
baz=243
MA2 **Magadan** 81.22 342 LR LR 13 58 10.0
comp=Z,247nm,20.2s,baz=126,slow=33
MA2 **Magadan** 81.22 342 *ce*P P 13 25 57.4 +0.4
MA2 pmax pmax
comp=Z,83nm,2.5s
CAST **Castle Rocks** 81.23 9 *e*P P 13 25 56.4 -0.6
comp=Z,6.1nm,0.8s
NEW **Newport** 81.34 34 P P 13 25 59.8 +1.8
comp=Z,0.9nm,0.4s,baz=232,slow=4.8,SNR=3.6
KLR **Kul'dur** 81.54 327 LR LR 13 56 52.2
comp=Z,294nm,21.9s,baz=150,slow=32
KLR **Kul'dur** 81.54 327 *i* P P 13 25 58.7 -0.3
TRF **Thorofare Moun** 81.55 10 *e*P P 13 25 59.3 +0.4
comp=Z,18nm,0.8s
DHY **Denali Highway** 81.73 11 *e*P P 13 26 00.5 +0.7
MCMT **McKenzie Canyo** 81.82 39 *e*P P 13 26 03.0 +2.2
MCK **McKinley** 82.04 11 *e*P P 13 26 01.5 +0.2
MCK **McKinley** 82.04 11 *e*P P 13 26 01.5 +0.2
HYT **Haines Junctio** 82.07 17 *e*P P 13 26 03.5 +1.8
CN2 **Changchun** 82.07 320 ⇑P P 13 26 02.6 +0.7
CN2 *es*P pP 13 26 09.0 -1.1
CN2 *e*S S 13 36 05.5 -9.2
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,400nm,19.0s
S22A **4UR Ranch, Cre** 82.20 47 *e*P P 13 26 05.4 +2.3
comp=Z,84nm,2.0s
S22A **4UR Ranch, Cre** 82.20 47 P P 13 26 04.6 +1.6
baz=243
DLMT **Dillon** 82.26 38 *e*P P 13 26 05.1 +2.1
comp=Z,14nm,1.1s
REDW **Red Top Meadow** 82.27 41 *e*P P 13 26 05.2 +2.0
comp=Z,19nm,1.3s
TPAW **Teton Pass** 82.27 40 *e*P P 13 26 05.4 +2.1
comp=Z,38nm,1.8s
MSO **Missoula** 82.28 36 *e*P P 13 26 03.8 +0.7
comp=Z,32nm,1.6s
MSO **Missoula** 82.28 36 P P 13 26 04.1 +1.1
baz=236

O20A **White River Ci** 82.35 44 *e*P P 13 26 06.3 +2.6
O20A **White River Ci** 82.35 44 P P 13 26 05.0 +1.3
baz=241
SNOW **Snow King Moun** 82.38 41 *e*P P 13 26 06.1 +2.3
comp=Z,15nm,1.0s
IMW **Indian Meadow** 82.49 40 *e*P P 13 26 06.3 +1.9
comp=Z,10nm,1.0s
MOOW **Moose Ponds** 82.53 40 *e*P P 13 26 06.1 +1.5
comp=Z,44nm,2.0s
LOHW **Long Hollow** 82.55 40 *e*P P 13 26 06.7 +2.0
comp=Z,15nm,1.4s
LRM **Limekiln Ridge** 82.59 38 *e*P P 13 26 06.7 +1.8
QLMT **Earthquake Lak** 82.67 39 *e*P P 13 26 08.0 +2.7
FLWY **Flagg Ranch** 82.73 40 *e*P P 13 26 08.1 +2.5
comp=Z,18nm,1.0s
SMCO **Snowmass** 82.76 46 *e*P P 13 26 08.3 +2.2
comp=Z,15nm,1.0s
YHB **Horse Butte** 82.78 39 *e*P P 13 26 08.5 +2.7
comp=Z,17nm,1.0s
BW06 **Boulder Array** 82.78 42 *e*P P 13 26 07.4 +1.5
comp=Z,13nm,1.0s
BW06 **Boulder Array** 82.78 42 P P 13 26 06.5 +0.6
baz=240,SNR=5.6
PD31 **Pinedale Array** 82.78 42 *e*P P 13 26 07.2 +1.3
PDAR **Pinedale Array** 82.78 42 P P 13 26 07.3 +1.3
comp=Z,5.5nm,0.8s,baz=213,slow=3.4,SNR=49
PDAR LR LR 13 57 15.4
comp=Z,244nm,18.7s,baz=250,slow=32
PDAR **Pinedale Array** 82.78 42 *e*P P 13 26 06.9 +1.0
RIDG **Independ'e Rid** 82.83 12 *e*P P 13 26 06.4 +1.0
YFT **Old Faithful** 82.84 40 *e*P P 13 26 09.7 +3.5
comp=Z,7.7nm,1.0s
WRH **Wood River Hil** 82.87 11 *e*P P 13 26 06.1 +0.6
comp=Z,24nm,1.0s
YMR **Madison River** 82.87 39 *e*P P 13 26 09.1 +2.8
comp=Z,22nm,1.0s
DOT **Dot Lake** 82.91 13 *e*P P 13 26 06.8 +1.0
MLY **Manley** 82.95 9 *e*P P 13 26 06.3 +0.3
comp=Z,10nm,0.8s
BOZ **Bozeman (W)** 82.96 38 *e*P P 13 26 08.2 +1.6
comp=Z,13nm,1.1s
BOZ **Bozeman (W)** 82.96 38 P P 13 26 07.3 +0.6
baz=238,SNR=6.5
H17A **Grant Village** 82.97 40 *e*P P 13 26 10.1 +3.2
comp=Z,8.6nm,0.8s
H17A **Grant Village** 82.97 40 P P 13 26 08.6 +1.7
baz=239,SNR=6.5
HDA **Harding Lake** 83.02 11 *e*P P 13 26 07.1 +0.8
comp=Z,17nm,0.9s
HDA **Harding Lake** 83.02 11 P P 13 26 06.7 +0.3
baz=206,SNR=11
YNR **Norris Junctio** 83.07 40 *e*P P 13 26 11.9 +4.5
comp=Z,19nm,1.3s
SDCO **Great Sand Dun** 83.13 48 *e*P P 13 26 09.9 +2.0
comp=Z,16nm,1.6s
SDCO **Great Sand Dun** 83.13 48 P P 13 26 08.8 +0.8
baz=243
SCRK **Sand Creek** 83.21 12 *e*P P 13 26 08.3 +0.8
TCOL **CIGO, UAF Yank** 83.28 11 P P 13 26 07.1 -0.6
baz=205,SNR=14
COLA **College** 83.28 11 *e*P P 13 26 08.1 +0.5
comp=Z,32nm,0.9s
COLA **College** 83.28 11 *e*P P 13 26 08.1 +0.5
COLA pmax pmax
comp=Z,32nm,0.9s
MDM **Murphy Dome** 83.29 10 *e*P P 13 26 08.3 +0.5
IL1 **Eielson Array** 83.36 11 *e*P P 13 26 08.2 +0.1
ILAR **Eielson Array** 83.36 11 P P 13 26 08.2 +0.1
comp=Z,3.8nm,0.8s,baz=229,slow=6.3,SNR=46
ILAR LR LR 13 55 09.4
comp=Z,249nm,21.9s,baz=213,slow=30
ILB **Eielson Array** 83.36 11 *e*P P 13 26 08.6 +0.5
IM3 **Indian Mountai** 83.42 8 *e*P P 13 26 08.7 +0.4
HRY **Holter Researc** 83.43 37 *e*P P 13 26 10.8 +1.8
MSTX **Muleshoe** 83.50 52 P P 13 26 11.0 +1.3
baz=246
SEY **Seymchan** 83.57 345 *ce*P P 13 26 08.9 -0.3
POKR **Poker Flat Res** 83.58 11 P P 13 26 08.9 -0.3
baz=205,SNR=14
QIZ **Qiongzhong** 83.60 292 P P 13 26 08.5 -1.8
QIZ S S 13 36 31.8 +0.6
QIZ LR LR
comp=Z,610nm,16.4s
T25A **Trinidad** 83.64 48 P P 13 26 11.9 +1.4
baz=244
RWWY **Rawlins** 83.78 43 *e*P P 13 26 12.7 +1.6
comp=Z,39nm,1.5s
CMIG **Matias Romero** 83.89 70 LR LR 13 54 49.9
comp=Z,491nm,19.9s,baz=230,slow=29
Q24A **Divide** 83.92 47 P P 13 26 13.9 +1.9
baz=244
ISCO **Idaho Springs** 83.98 46 P P 13 26 13.4 +1.2
baz=243
RLMT **Red Lodge** 84.14 40 *e*P P 13 26 15.0 +2.1
RLMT **Red Lodge** 84.14 40 P P 13 26 14.0 +1.2
baz=240,SNR=6.1
N23A **Red Feather La** 84.25 45 *e*P P 13 26 16.1 +2.5
N23A **Red Feather La** 84.25 45 P P 13 26 14.8 +1.2
baz=243
RDOG **Red Dog Mine** 84.55 4 *e*P P 13 26 15.8 +1.7
K22A **Casper** 84.68 43 P P 13 26 16.8 +1.2
baz=242
AMTX **Amarillo** 84.70 51 *e*P P 13 26 17.4 +1.7
comp=Z,12nm,0.8s
AMTX **Amarillo** 84.70 51 P P 13 26 16.9 +1.1
baz=246
COLD **Coldfoot** 85.08 9 *e*P P 13 26 19.6 +2.9
EGMT **Eagleton** 85.32 37 P P 13 26 19.5 +0.9
baz=240
ABTX **Abilene, Hawle** 85.36 54 *e*P P 13 26 20.9 +1.8
ABTX **Abilene, Hawle** 85.36 54 P P 13 26 19.8 +0.8
baz=247
BILL **Bilibino** 85.55 352 *ce*P P 13 26 19.6 +0.5
BILL S S 13 36 45.0 -3.6
BILL pmax pmax
comp=Z,29nm,1.3s
BILL MLR MLR
comp=Z,180nm,17.0s
BJI **Beijing** 86.41 313 P P 13 26 24.1 +0.1
ZEA **Zeya** 86.46 329 *e*P P 13 26 23.8 -0.1
ZEA pmax pmax
comp=Z,12nm,1.0s
ZEA MLR MLR
comp=Z,400nm,16.0s
MAW **Mawson** 86.95 199 LR LR 14 01 51.0
comp=Z,547nm,21.5s,baz=118,slow=33
RSSD **Black Hills** 86.97 42 *e*P P 13 26 27.7 +0.8
comp=Z,38nm,1.9s
RSSD **Black Hills** 86.97 42 *e*P P 13 26 27.7 +0.8
RSSD pmax pmax
comp=Z,38nm,1.9s
RSSD **Black Hills** 86.97 42 P P 13 26 27.7 +0.8
baz=244
APG **El Apazote** 87.27 74 LR LR 13 57 32.0
comp=Z,305nm,18.9s,baz=266,slow=30
CBKS **Cedar Bluff** 87.69 48 P P 13 26 31.3 +0.9
baz=247
PLCA **Paso Flores** 88.58 132 P P 13 26 39.1 +4.4
comp=Z,1.7nm,0.8s,baz=302,slow=5.3,SNR=4.5
PLCA LR LR 13 57 15.8
comp=Z,617nm,21.9s,baz=271,slow=30
DGMT **Dagmar** 88.80 38 P P 13 26 36.6 +1.3
baz=244
GYA **Guiyang** 88.82 298 P P 13 26 36.7 +0.7
GYA PP PP 13 30 07.4 +1.8
GYA SKS SKSac 13 37 03.8 -0.3
GYA S ScS 13 37 26.3 -1.2
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,6.8s
PSI **Prapat** 88.90 273 *e*P P 13 26 35.7 -1.0
PSI **Prapat** 88.90 273 *e*P P 13 26 35.7 -1.0
INK **Inuvik** 89.16 14 *e*P P 13 26 37.2 +0.7
INK **Inuvik** 89.16 14 *e*P P 13 26 37.2 +0.7
XAN **Xi'an** 89.50 306 P P 13 26 40.4 +1.4
XAN pmax pmax
comp=Z,10.0nm,1.1s
XAN pmax pmax
comp=Z,140nm,6.0s
GSI **Gunungsitoli** 89.77 271 *e*P P 13 26 41.7 +1.0
HHC **Hu-ho-hao-te** 89.96 313 *e*P P 13 26 40.9 -0.2
HHC PP PP 13 30 16.0 +1.6
HHC S S 13 37 30.7 -1.5
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,140nm,6.1s
HHC LR LR
comp=Z,190nm,6.9s
HHC LR LR
comp=Z,200nm,10.4s
HHC LR LR
comp=Z,350nm,10.4s
YAK **Yakutsk** 90.17 337 *e*P P 13 26 39.8 -1.5
YAK *e**PP **sP** 13 26 51.7 -0.8
YAK *e*S **SKSac** 13 37 08.5 -1.6
YAK *e**SS **SKKSac** 13 37 27.4 +3.7
YAK *e*SSS SSS 13 47 10.3
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK smax smax
comp=N,87nm,3.5s
YAK smax smax
comp=E,68nm,3.2s
MIAR **Mount Ida** 90.78 54 P P 13 26 46.0 +1.2
baz=251
YKA **Yellowknife Ar** 90.88 23 P P 13 26 45.2 +0.6
comp=E,2.0nm,0.9s,baz=236,slow=4.2,SNR=21
JTS **JuntasAbangare** 91.05 80 LR LR 13 57 54.2
comp=E,267nm,20.5s,baz=328,slow=29
JTS **JuntasAbangare** 91.05 80 *i* P P 13 26 50.1 +3.5
JTS pmax pmax
comp=Z,8.0nm,1.3s
UTTA **Uttaradit** 91.58 288 P P 13 26 51.2 +2.2
comp=Z,3.0nm,0.9s
SYO **Syowa Base** 91.69 191⇑ *e*P P 13 26 48.8 +0.3
SYO **Syowa Base** 91.69 191⇑ *e*sP P 13 26 53.4 +4.9
KMI **Kunming** 91.77 296 P P 13 26 49.3 -0.7
KMI pmax pmax
comp=Z,9.0nm,0.5s
KMI LR LR
comp=Z,170nm,4.6s
KMI LR LR
comp=Z,260nm,5.5s
KMI LR LR
comp=Z,390nm,19.6s
VNA3 **Neumayer Olymp** 91.83 175 P P 13 26 50.8 +1.6
VNA2 **Neumayer--Watz** 92.33 175 P P 13 26 53.3 +1.9
baz=194,slow=4.4
CD2 **Chengdu** 92.62 301 *e*P P 13 26 52.5 -1.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
LAMP **Lampang** 92.64 288 P P 13 26 55.9 +2.0
comp=Z,6.6nm,0.8s
V42A **Cord** 92.88 54 P P 13 26 55.6 +1.0
baz=252
T41A **Mountain View** 92.97 52 P P 13 26 56.2 +1.2
baz=252
CMAR **Chiang Mai Arr** 93.25 288 P P 13 26 57.9 +1.1
comp=Z,4.7nm,0.8s,baz=90,slow=2.6,SNR=25
CMAR LR LR 14 03 58.7
comp=Z,284nm,21.9s,baz=109,slow=32
CMMT **Chiang Mai** 93.35 289 P P 13 26 58.3 +1.2
comp=Z,11nm,0.8s
CHTO **Chiang Mai** 93.35 289 *e*P P 13 26 58.0 +0.9
CHTO **Chiang Mai** 93.35 289 *e*P P 13 26 58.0 +0.9
CHTO **Chiang Mai** 93.35 289 P P 13 26 58.4 +1.3
comp=Z,48nm,0.9s
CHTO **Chiang Mai** 93.35 289 P P 13 26 58.4 +1.3
comp=Z,48nm,0.9s
LZH **Lanzhou** 94.09 306 *e*P P 13 27 04.0 +3.6
LZH pP pP 13 27 07.1 -1.6
LZH sP sP 13 27 09.9 -1.7
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,120nm,4.8s
LZH LR LR
comp=Z,450nm,13.6s
LZH LR LR
comp=Z,380nm,12.6s
LZH LR LR
comp=Z,430nm,14.5s
ULM **Lac du Bonnet** 94.49 39 LR LR 14 03 06.7
comp=Z,350nm,19.8s,baz=256,slow=31
BOD **Bodaibo** 94.97 329 *e*P P 13 27 02.4 -1.2
BOD pmax pmax
comp=Z,5.0nm,0.9s
ULN **Ulaanbaatar** 95.41 318 *ce*P P 13 27 05.0 -1.1
ULN pmax pmax
comp=Z,3.0nm,0.8s
SONM **Songino Array** 95.82 318 P P 13 27 07.1 -0.9
comp=Z,1.6nm,0.8s,baz=118,slow=4.4,SNR=9.6
SONM LR LR 14 05 08.2
comp=Z,205nm,21.8s,baz=119,slow=32
TIXI **Tiksi** 96.06 344 *ce*P P 13 27 08.4 +0.1
TIXI pmax pmax
comp=Z,5.0nm,1.0s
GTA **Gaotai** 98.07 309 *e*P Pdif 13 27 18.9 +0.5
GTA pP pP 13 27 23.6 -3.1
GTA sP sP 13 27 26.2 -3.4
GTA SKS **SKSac** 13 37 54.0 -0.5
GTA S **ScS** 13 38 44.3 +0.3
GTA sS pS 13 38 51.2 -3.4
GTA pmax pmax
comp=Z,2.0nm,1.0s
GTA pmax pmax
comp=Z,97nm,7.1s
GTA LR LR
comp=Z,130nm,19.7s
GTA LR LR
comp=Z,310nm,21.6s
GTA LR LR
comp=Z,520nm,21.9s
TKL **Tuckaleechee C** 98.80 55 LR LR 14 05 33.1
comp=Z,244nm,20.5s,baz=220,slow=31
LPAZ **La Paz** 99.15 110 LR LR 14 02 29.0
comp=Z,360nm,21.5s,baz=254,slow=30
ROSC **El Rosal** 99.70 88 LR LR 14 03 23.4
comp=Z,168nm,22.0s,baz=264,slow=30
MKAR **Makanchi Array** 111.77 314 PKiKP **PKiKP** 13 32 15.9 -0.3
comp=Z,0.9nm,0.7s,baz=71,slow=2.3,SNR=9.2
MKAR **Makanchi Array** 111.77 314 PKiKP **PKiKP** 13 32 16.0 -0.3
KURK **Kurchatov** 114.12 319 *i* PKiKP **PKiKP** 13 32 20.0 -0.6
KSH **Kashi** 116.34 306 PKP **PKiKP** 13 32 27.1 +1.7
KSH PP **PP** 13 33 38.1 +6.2
KSH SKS **SKSdf** 13 39 36.0 +0.1
KSH AMB AMB
comp=Z,250nm,4.8s
KSH LR LR
comp=Z,210nm,8.9s
KSH LR LR
comp=Z,190nm,8.9s
KSH LR LR
comp=Z,400nm,11.0s
AAK **Ala-Archa** 117.39 310 *c* *i*PKiKP **PKiKP** 13 32 28.3 +0.9
AAK pmax pmax
comp=Z,5.0nm,2.5s
BRVK **Borovoye** 118.94 322 *c* *i*PKiKP **PKiKP** 13 32 30.6 +0.7
BRVK pmax pmax
comp=Z,12nm,2.5s
ARU **Arti** 124.37 328 *i* PKiKP **PKiKP** 13 32 40.9 +0.5
ARU 13 34 27.4
ARU 13 39 52.4
ARCES **ARCESS Array B** 125.65 352 PKP **PKiKP** 13 32 42.9 +0.2
comp=Z,2.5nm,0.7s,baz=338,slow=2.6,SNR=6.7
GEYT **Alibeck** 130.38 306 PKhKP PKPpre 13 32 41.4
comp=Z,1.3nm,0.8s,baz=131,slow=5.9,SNR=3.2
GEYT PKP **PKPdf** 13 32 52.5 +0.2
comp=Z,16nm,0.7s,baz=180,slow=4.3,SNR=4.2
BOSA **Boshof** 131.87 202 PKhKP PKPpre 13 32 40.2
comp=Z,3.2nm,0.7s,baz=147,slow=18,SNR=5.5
FINES **FINESS Array B** 132.99 348 PKP **PKiKP** 13 32 57.6 +0.1
comp=Z,3.1nm,0.9s,baz=75,slow=2.2,SNR=4.3
NB2 **NORSAR Subarra** 135.32 357 PKP PKiKP 13 33 17.2 +15
comp=Z,1.2nm,0.8s,baz=8.0,slow=2.5
KIV **Kislovodsk** 139.19 320 ‖ *e*PKiKP **PKPdf** 13 33 06.7 -1.9
KIV *e* 13 36 01.7
KIV pmax pmax
comp=Z,4.0nm,0.6s
AKASG **Malin Array Be** 141.39 337 PKhKP PKPpre 13 33 06.6
comp=Z,2.8nm,0.8s,baz=39,slow=3.9,SNR=6.2
BSEG **Bad Segeberg** 142.46 357 *e*L L 14 25 19.3
comp=Z,156nm,20.7s
LVV **L'vov** 143.91 341 *e*PKiKP PKPab 13 33 14.2 +0.3

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KWP	Kalwaria Pacla	144.48	342	ePKP	PKPdf	13 33 17.1	-0.7
KWP	Kalwaria Pacla	144.48	342	ePKIKP	PKPdf	13 33 17.1	-0.7
OJC	Ojcow	144.71	346	ePKP	PKPbc	13 33 17.6	+0.5
OJC	Ojcow	144.71	346	ePKIKP	PKPbc	13 33 17.6	+0.6
KSP	Ksiaz	144.84	350	ePKP	PKPdf	13 33 18.2	-0.1
KSP	Ksiaz	144.84	350	ePKIKP	PKPdf	13 33 18.2	-0.1
CLL	Collm	144.85	353	⇓iPKPdf	PKPbc	13 33 17.8	+0.4
	comp=Z,17nm,0.9s						
CLL				epPKPdf	pPKPdf	13 33 28.0	+1.2
CLL				esPKPdf	sPKPdf	13 33 32.0	+2.3
CLL	Collm	144.85	353	⇓iPKIKP	PKPbc	13 33 17.8	+0.4
CLL				e		13 33 28.0	
CLL				e		13 33 32.0	
CLL				pmax	pmax		
	comp=Z,27nm,0.9s						
BRG	Berggiesshubel	145.16	352	ePKPbc	PKPdf	13 33 19.0	+0.1
	baz=8.0,slow=3.0						
FBE	Freiberg	145.19	353	ePKPbc	PKPdf	13 33 19.2	+0.3
	baz=8.0,slow=3.0						
UPC	Upice	145.21	350	ePKP	PKPdf	13 33 19.9	+0.9
UPC	Upice	145.21	350	ePKIKP	PKPdf	13 33 19.9	+0.9
DPC	Dobruska-Polom	145.31	349	ePKP	PKPdf	13 33 20.4	+1.2
DPC				epPKP	sPKPdf	13 33 33.9	+3.3
DPC	Dobruska-Polom	145.31	349	ePKIKP	PKPdf	13 33 20.4	+1.2
DPC				e		13 33 33.9	
NIE	Niedzica	145.33	345	ePKP	PKPdf	13 33 20.2	+0.9
NIE	Niedzica	145.33	345	ePKIKP	PKPdf	13 33 20.2	+0.9
KMBO	Kilima Mbogo	145.40	243	PKPbc	PKPab	13 33 21.8	+1.0
	comp=Z,15nm,0.9s,baz=59,slow=4.3,SNR=25						
PVCC	Panska Ves	145.41	351	ePKP	PKPab	13 33 20.3	+0.9
PVCC	Panska Ves	145.41	351	ePKIKP	PKPab	13 33 20.3	+0.9
BURAR	Bucovina Array	145.42	338	⇑iP	PKPab	13 33 20.9	+1.2
BURAR	Bucovina Array	145.42	338	⇑PKIKP	PKPab	13 33 20.9	+1.2
OKC	Ostrava-Krasne	145.44	347	ePKP	PKPab	13 33 20.6	+1.0
OKC	Ostrava-Krasne	145.44	347	ePKIKP	PKPab	13 33 20.6	+1.0
KRLC	Kraliky	145.49	349	ePKP	PKPab	13 33 20.9	+1.1
KRLC				epPKP	sPKPab	13 33 34.4	+3.4
KRLC	Kraliky	145.49	349	ePKIKP	PKPab	13 33 20.9	+1.1
KRLC				e		13 33 34.4	
UZH	Uzhgorod	145.50	342	⇓iPKIKP	PKPab	13 33 20.6	+0.8
MORC	Moravsky Berou	145.62	348	⇓iP	PKPab	13 33 21.3	+1.0
MORC	Moravsky Berou	145.62	348	⇓PKIKP	PKPab	13 33 21.3	+1.0
MORC	Moravsky Berou	145.62	348	ePKP	PKPab	13 33 20.8	+0.5
MOX	Moxa	145.64	355	ePKPbc	PKPab	13 33 20.7	+0.4
	baz=8.0,slow=3.0						
MOX				eL	L	14 31 55.1	
	comp=Z,252nm,18.9s						
BIZ	Bicaz	145.66	337	⇑iP	PKPab	13 33 21.4	+0.9
PLN	Plauen	145.75	354	ePKPbc	PKPab	13 33 21.1	+0.4
	baz=8.0,slow=3.0						
LANS	Liptovska Anna	145.78	345	ePKIKP	PKPab	13 33 21.8	+0.9
LANS	Liptovska Anna	145.78	345	ePKP	PKPab	13 33 21.8	+0.9
TANN	Tannenbergstha	145.79	354	ePKPbc	PKPab	13 33 21.4	+0.4
	baz=8.0,slow=3.0						
GUNZ	Gunzen	145.85	354	ePKPbc	PKPab	13 33 21.7	+0.6
	baz=8.0,slow=3.0						
TRPA	Tarpa	145.87	341	⇓iP	PKPab	13 33 21.7	+0.5
MEM	Membach	145.87	1	⇓PKP	PKPab	13 33 21.7	+0.6
PRA	Prague	145.88	351	ePKP	PKPab	13 33 22.5	+1.3
PRA	Prague	145.88	351	ePKP2	PKPab	13 33 22.5	+1.3
WERN	Wernitzgruen	145.92	354	ePKPbc	PKPab	13 33 22.0	+0.6
	baz=8.0,slow=3.0						
TLCR		145.94	332	⇑iP	PKPab	13 33 22.4	+0.9
TLCR		145.94	332	⇑PKIKP	PKPab	13 33 22.4	+0.9
PRU	Pruhonice	145.94	351	ePKP	PKPab	13 33 22.1	+0.7
PRU				epPKP	sPKPab	13 33 33.1	+0.4
PRU				AMS	AMS	14 37 00.0	
	comp=Z,500nm,19.9s						
PRU	Pruhonice	145.94	351	ePKP2	PKPab	13 33 22.1	+0.7
PRU				MLR	MLR		
	comp=Z,500nm,19.9s						
NKC	Novy Kostel	145.97	354	ePKP	PKPab	13 33 22.2	+0.6
NKC	Novy Kostel	145.97	354	ePKP2	PKPab	13 33 22.2	+0.6
GOPC	GO Pecny, Ondr	145.98	351	ePKP	PKPab	13 33 22.0	+0.4
GOPC				epPKP	sPKPab	13 33 35.9	+3.0
GOPC	GO Pecny, Ondr	145.98	351	ePKP2	PKPab	13 33 22.0	+0.4
CFR	Carcaliu	146.25	333	⇑iP	PKPab	13 33 22.9	+0.2
CFR	Carcaliu	146.25	333	⇑PKP2	PKPab	13 33 22.9	+0.2
TNS	Taunus Mts	146.25	358	eL	L	14 41 13.7	
	comp=Z,195nm,20.8s						
VRAC	Vranov	146.26	349	⇑iP	PKPab	13 33 23.1	+0.4
VRAC	Vranov	146.26	349	⇑PKP2	PKPab	13 33 23.1	+0.4
VRAC	Vranov	146.26	349	ePKP	PKPab	13 33 22.9	+0.2
VRI	Vrincioaia	146.30	335	⇑iP	PKPab	13 33 22.8	-0.2
VRI	Vrincioaia	146.30	335	⇑PKP2	PKPab	13 33 22.8	-0.2
DOU	Dourbes	146.34	3	⇑PKP	PKPab	13 33 23.0	0.0
PLOR	Plostina	146.34	335	⇑iP	PKPab	13 33 23.1	-0.1
PLOR	Plostina	146.34	335	⇑PKP2	PKPab	13 33 23.1	-0.1
ROTZ	Rotzenmuhle	146.45	354	ePKPbc	PKPab	13 33 23.6	+0.2
	baz=8.0,slow=3.0						
JAVC	Velka Javorina	146.47	347	ePKP	PKPab	13 33 24.4	+0.8
KRUC	Moravsky	146.53	349	ePKP	PKPab	13 33 23.4	-0.3
VYHS	Vyhne	146.55	346	ePKP2	PKPab	13 33 23.8	0.0
VYHS	Vyhne	146.55	346	ePKP	PKPab	13 33 23.8	0.0
KOLL	Kolacno	146.57	346	ePKP2	PKPab	13 33 24.3	+0.4
KOLL	Kolacno	146.57	346	ePKP	PKPab	13 33 24.3	+0.4
GRF	Grafenberg Arr	146.62	355	ePKPbc	PKiKP	13 33 25.0	-0.9
	baz=8.0,slow=3.0						
GRF				eL	L	14 42 37.8	
	comp=Z,191nm,21.4s						
HARR	Harsova	146.72	332	⇓iP	PKPab	13 33 24.7	+0.1
HARR	Harsova	146.72	332	⇓PKP2	PKPab	13 33 24.7	+0.1
DOPR	Dopca	146.75	336	⇑iP	PKPab	13 33 25.1	+0.4
TLB	Topalu	146.75	332	⇑iP	PKPab	13 33 24.6	-0.1
TLB	Topalu	146.75	332	⇑PKP2	PKPab	13 33 24.7	0.0
PSZ	Piszkesteto	146.82	344	⇑iP	PKPab	13 33 25.3	+0.3
PSZ	Piszkesteto	146.82	344	⇑PKP2	PKPab	13 33 25.3	+0.3
WLF	Walferdange	146.82	1	⇓PKP	PKPab	13 33 24.3	-0.5
SMOL	Smolenice	146.85	347	ePKP2	PKPab	13 33 25.3	+0.3
SMOL	Smolenice	146.85	347	ePKP	PKPab	13 33 25.3	+0.3
KHC	Kasperske Hory	146.92	352	ePKP	PKPab	13 33 24.7	-0.6
KHC				ex	x	13 33 30.0	
KHC				epPKP	sPKPab	13 33 38.9	+2.4
KHC				AMS	AMS	14 37 30.0	
	comp=Z,400nm,21.9s						
KHC	Kasperske Hory	146.92	352	ePKP2	PKPab	13 33 24.7	-0.6
KHC				MLR	MLR		
	comp=Z,400nm,21.9s						
ISR	Istrita	146.98	334	⇓iP	PKPab	13 33 25.4	-0.3
ISR	Istrita	146.98	334	⇓PKP2	PKPab	13 33 25.4	-0.3
WET	Wettzell	146.99	353	eL	L	14 37 08.3	
	comp=Z,240nm,21.4s						
DRGR		147.00	340	⇑iP	PKPbc	13 33 24.8	+0.5
DRGR		147.00	340	⇑PKP2	PKPbc	13 33 24.8	+0.5
MODS	Modra-Piesok	147.01	347	ePKP2	PKPab	13 33 25.0	-0.6
MODS	Modra-Piesok	147.01	347	ePKP	PKPab	13 33 25.0	-0.6
MANR	Mangalia	147.09	331	⇓iP	PKPab	13 33 25.4	-0.6
BRTR	Keskin Array B	147.15	320	PKPbc	PKPbc	13 33 25.6	+0.5
	comp=Z,33nm,0.8s,baz=119,slow=2.0,SNR=116						
GEC2	GERESS Array S	147.18	352	ePKPbc	PKPab	13 33 25.6	-0.8
	baz=8.0,slow=3.0						
GEC2				eL	L	14 38 06.0	
	comp=Z,269nm,21.3s						
GERES	GERESS Array B	147.18	352	PKPbc	PKPbc	13 33 25.5	+0.7
	comp=Z,10nm,0.9s,baz=29,slow=3.0,SNR=52						
VOIR		147.32	336	⇑iP	PKPab	13 33 26.5	-0.5
VOIR		147.32	336	⇑PKP2	PKPab	13 33 26.5	-0.5
ARR	Arges	147.54	336	⇑iP	PKPab	13 33 27.4	-0.5
CONA	Conrad Observa	147.72	349	iPKPab	PKiKP	13 33 27.5	-0.7
	comp=Z,19nm,0.8s,SNR=13						
LOT	Lotru	147.79	338	⇓iP	PKPbc	13 33 27.0	+0.4
SIRR	Siria	147.80	341	⇑iP	PKiKP	13 33 27.6	-0.8
MOA	Molln	148.07	351	iPKiKP	PKiKP	13 33 28.1	-0.8
	comp=Z,9.9nm,0.9s,SNR=6.1						
PRD	Provadia	148.12	331	eP	PKiKP	13 33 28.4	-0.7
FUR	Furstenfeldbru	148.13	355	ePKPbc	PKiKP	13 33 28.5	-0.6
	baz=8.0,slow=3.0						
FUR				eL	L	14 43 57.2	
	comp=Z,242nm,20.8s						
BFO	Black Forest	148.14	358	ePKPbc	PKiKP	13 33 28.2	-0.8
	baz=8.0,slow=3.0						
BFO				eL	L	14 38 21.1	
	comp=Z,176nm,20.8s						
BFO	Black Forest	148.14	358	iPKP2	PKiKP	13 33 28.5	-0.5
GZR	Gura Zlata	148.20	339	⇑iP	PKPbc	13 33 28.3	+0.7
GZR	Gura Zlata	148.20	339	⇑PKIKP	PKPbc	13 33 28.3	+0.7
RJOB	Jochberg	148.39	352	ePKPbc	PKiKP	13 33 29.0	-0.6
	baz=8.0,slow=3.0						
ARSA	Arzberg	148.44	349	iPKiKP	PKPbc	13 33 28.9	+0.8
	comp=Z,7.9nm,0.9s,SNR=5.4						
MORH	Mrgy, Hungar	148.72	344	eP	PKPbc	13 33 28.8	0.0
HERR	Herculane	148.77	339	⇑iP	PKPbc	13 33 29.5	+0.5
RETA	Reutte	148.85	355	iPKiKP	PKPbc	13 33 29.9	+0.7
	comp=Z,9.6nm,1.1s						
WATA	Walderalm	148.92	354	iPKiKP	PKPbc	13 33 30.0	+0.6
	comp=Z,4.8nm,0.6s						
MOTA	Moosalm	148.96	355	iPKiKP	PKiKP	13 33 30.4	-0.5
	comp=Z,9.1nm,0.9s,SNR=11						
KBA	Koelnbreinsper	148.96	352	iPKiKP	PKiKP	13 33 30.6	-0.4
	comp=Z,12nm,0.7s						
WTTA	Wattenberg	148.99	354	iPKiKP	PKiKP	13 33 30.9	-0.1
	comp=Z,13nm,1.0s						
SQTA	Sankt Quirin	149.07	354	iPKiKP	PKiKP	13 33 31.0	-0.1
	comp=Z,10nm,0.9s						
SOKA	Soboth	149.08	349	iPKPbc	PKPbc	13 33 30.1	+0.3
	comp=Z,9.1nm,0.9s,SNR=5.9						
MDVR	Moldovita	149.10	339	⇑iP	PKPbc	13 33 29.9	0.0
PERS	Pernice	149.10	349	iPKPdf	PKPbc	13 33 30.2	+0.4
PERS				iPKPbc	sPKPab	13 33 44.0	-1.3
DAVA	Damuels	149.11	356	iPKiKP	PKiKP	13 33 31.4	+0.1
	comp=Z,14nm,0.8s,SNR=6.6						
FETA	Feichten	149.31	355	iPKiKP	PKiKP	13 33 31.6	-0.1
	comp=Z,14nm,1.0s,SNR=6.5						
OBKA	Obir	149.32	350	iPKPbc	PKPbc	13 33 30.4	-0.1
	comp=Z,6.7nm,1.0s						
MYKA	Terra Mystica	149.35	351	iPKPbc	PKPbc	13 33 30.5	+0.1
	comp=Z,4.4nm,0.5s						
FRGS	Fruska Gora	149.37	342	eP	PKiKP	13 33 31.1	-0.6
ABTA	Abfaltersbach	149.40	352	iPKPbc	PKPbc	13 33 30.9	+0.3
	comp=Z,16nm,0.9s,SNR=11						
CRES	Cresnjev	149.82	348	eP	PKPbc	13 33 31.5	-0.1
VISS	Visnje	149.96	349	iPKPdf	PKiKP	13 33 32.6	-0.2
VISS				iPKPbc	pPKPab	13 33 46.3	+0.6
JAVS	Javornik	150.00	350	iPKPdf	PKPbc	13 33 32.5	+0.4
JAVS				iPKPbc	pPKPab	13 33 46.3	+0.2
BOJS	Bojanci	150.17	348	iPKPdf	PKiKP	13 33 33.3	0.0
BOJS				ePKPbc	pPKPab	13 33 47.4	+0.8
DIVS	Divibare	150.27	341	⇑iP	PKiKP	13 33 33.5	-0.1
VTS	Vitosha	150.43	335	⇑iP	PKPbc	13 33 31.7	-1.6
VTS	Vitosha	150.43	335	⇑PKHKP	PKPpre	13 33 31.7	
VTS	Vitosha	150.43	335	eP	PKiKP	13 33 34.1	0.0
BLY	Banja Luka	150.46	345	eP	PKPdf	13 33 30.1	+2.3
HAPS	Han Pijesak,Bl	150.59	342	eP	PKPbc	13 33 33.2	-0.4
BBLS	Lazići	150.66	341	eP	PKiKP	13 33 34.4	0.0
MMB	Musomiste	151.04	333	eP	PKPbc	13 33 34.9	+0.2
KKB	Krupnik	151.08	335	eP	PKiKP	13 33 35.3	0.0
STIP	Stip	151.59	336	iP	PKPbc	13 33 36.1	+0.2
SKO	Skopje	151.64	337	iP	PKiKP	13 33 37.0	+0.6
VAY	Valandovo	151.75	335	iP	PKiKP	13 33 36.6	0.0
KRUS	Krusevo	152.23	336	iP	PKiKP	13 33 37.9	+0.1
DRME	Dracevica, Mon	152.24	340	eP	PKPab	13 33 45.1	-2.0
BIA	Bitola	152.50	336	iP	PKiKP	13 33 38.5	+0.2
OHR	Ohrid	152.63	337	iP	PKPbc	13 33 36.8	-1.5
ESDC	Sonseca Array	154.94	20	PKPab	PKPab	13 33 58.9	+0.3
	comp=Z,1.1nm,0.8s,baz=318,slow=2.5,SNR=4.2						
KEST	Kesra	160.63	354	PKPab	PKPab	13 34 21.7	-1.6
	comp=Z,5.0nm,0.9s,baz=297,slow=7.8,SNR=4.2						
TORD	Torodi Ar. Bea	173.97	122	PKP	PKPdf	13 33 51.9	-0.1
	comp=Z,0.8nm,1.0s,baz=316,slow=4.0,SNR=2.3						
TORD				PKPab	PKPab	13 35 23.2	+0.4
	comp=Z,1.6nm,0.9s,baz=266,slow=3.9,SNR=5.1						

ISCJB ***04*** *13:16:18.3±0.4, 50°.24N±0°.03×18°.79E±0°.03, h0^{km}, Error ellipse: s-maj=4.4km s-min=2.5km az=5.9*

PRU ***04*** *13:16:19.8±0.0, 50°.22N×18°.82E, h0^{km}*

VIE ***04*** *13:16:22.7±1.2, 49°.78N×18°.89E, h0^{km}, mb2.2/2, ml2.6/4, Error ellipse: s-maj=8.7km s-min=6.5km az=25.0 46 km E of Ostrava Suspected Mining induced.*

ISC 04 13:16:19.2±0.8**, 50°.20N**±0°.04×**18°.84E**±0°.02**, h0^{km}, n20,** σ**1^{s}00**/36**, Poland**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CHZP	Chorzow	0.14	45	ePg	Pg	13 16 21.7	-0.1
CHZP				eSg	Sg	13 16 23.0	-0.5
OKC	Ostrava-Krasne	0.57	232	ePG	Pb	13 16 31.9	-0.2
OKC				eSG	Sg	13 16 38.1	+0.5
OJC	Ojcow	0.61	87	ePg	Pg	13 16 30.7	-0.2
OJC				eSg	Sg	13 16 38.8	-0.1
MORC	Moravsky Berou	0.94	244	ePG	Pb	13 16 38.0	-0.3
MORC				eSG	Sb	13 16 51.4	0.0
LANS	Liptovska Anna	1.12	159	ePG	Pb	13 16 41.7	+0.2
LANS				eSG	Sb	13 16 57.0	+0.4
NIE	Niedzica	1.22	129	ePg	Pn	13 16 43.5	0.0
NIE				eSg	Sn	13 17 02.0	+1.2
KRLC	Kraliky	1.33	266	eSG	Sg	13 17 01.9	-0.1
	comp=Z,11nm,0.6s						
DPC	Dobruska-Polom	1.62	276	ePG	Pn	13 16 49.2	+0.1
DPC				eSG	Sb	13 17 11.6	+0.5
	comp=Z,25nm,0.5s						
VYHS	Vyhne	1.70	180	ePN	Pn	13 16 50.2	+0.1
VYHS				eSN	Sn	13 17 12.1	-0.5
VYHS				eLG	Lg	13 17 18.3	
VRAC	Vranov	1.71	240	ePN	Pb	13 16 51.5	+0.1
VRAC				eSG	Sg	13 17 14.3	+0.3
KSP	Ksiaz	1.75	293	ePn	Pn	13 16 49.3	-1.6
KSP				ePg	Pb	13 16 52.8	+0.6
KSP				eSg	Sg	13 17 15.8	+0.4
UPC	Upice	1.84	281	eSG	Sg	13 17 19.3	+1.0
KRUC	Moravsky	1.96	235	ePN	Pn	13 16 53.5	-0.1
KRUC				eSG	Sb	13 17 21.3	+0.8
GOPC	GO Pecny, Ondr	2.63	265	eSG	Sb	13 17 41.6	+1.6
PRU	Pruhonice	2.78	267	eSG	Sb	13 17 46.1	+1.9
	comp=Z,5.8nm,0.3s						
CONA	Conrad Observa	3.00	222	Pn	Pn	13 17 08.5	+0.5
	0.7nm,0.2s						
CONA				eSn	Sn	13 17 41.9	-2.8
	1.6nm,0.2s						
BRG	Berggiesshubel	3.20	284	PG	Pg	13 17 21.5	+1.0
BRG				SG	Sg	13 18 01.6	-0.3
	4.6nm,0.5s						
KHC	Kasperske Hory	3.58	255	ePN	Pn	13 17 15.0	-1.0
KHC				ex	x	13 17 22.5	
KHC				eSG	Sg	13 18 12.7	-1.5
	comp=Z,9.3nm,0.5s						
MOA	Molln	3.82	234	ePn	Pn	13 17 20.0	+0.8
	0.5nm,0.2s						
MOA				Sg	Sg	13 18 19.8	-2.0
	7.2nm,0.5s						
CLL	Collm	3.87	289	eSg	Sg	13 18 22.0	-1.5
	comp=Z,6.0nm,0.6s						

NIED ***04*** *13:52:00, 36°.90N×141°.30E, h71^{km}, Mw4.4 Best double couple: $M_0$4.59000×10^{15} NP1:ϕ_s78.00000°, δ31.00000°, λ-47.00000°. NP2:ϕ_s211.00000°, δ68.00000°, λ-112.00000°.*

BJI ***04*** *13:52:56.0, 37°.02N×141°.39E, h66^{km}, mb4.8/50, mB5.0/30, Ms4.4/13, Ms7 4.2/13*

ISCJB ***04*** *13:52:58.3±0.4, 36°.92N±0°.03×141°.34E±0°.04, h78^{km}±2^{km}, mb4.5/66, Error ellipse: s-maj=6.1km s-min=3.9km az=136.0*

JMA ***04*** *13:52:59.2±0.1, 36°.90N×141°.29E, h75^{km}±1^{km}, M4.4 Broadband fault plane solution: P waves. NP1: ϕ_s201.00000°, δ69.00000°, λ-112.00000°. NP2: ϕ_s69.00000°, δ30.00000°, λ-46.00000°. Principal axes: T Plg21.0000°, Azm307.0000°; N Plg20.0000°, Azm209.0000°; P Plg60.0000°, Azm79.0000°;*

JMA Felt III J1.

NEIC ***04*** *13:52:60.0±0.6, 36°.94N×141°.26E, h76^{km}±5^{km}, mb4.6/17 Error ellipse: s-maj=6.9km s-min=5.4km az=135.0*

NEIC Felt at Fukushima, Ibaraki, Iwaki, Kasama, Koriyama, Mito, Sendai, Shirakawa, Tsuchiura and Utsunomiya. Recorded [3 JMA] in Fukushima.

MOS ***04*** *13:53:00.5±0.9, 37°.34N×141°.10E, h77^{km}, mb4.8/27, Error ellipse: s-maj=7.8km s-min=5.3km az=100.1*

IDC ***04*** *13:53:00.1±0.4, 36°.91N×141°.28E, h79^{km}±3^{km}, mb4.0/24, mb1 4.2/29, mb1mx4.1/52, mbtmp4.4/29, Error ellipse: s-maj=10.4km s-min=7.4km az=159.0*

ISC 04 13:52:59.2±0.4**, 36°.92N**±0°.04×**141°.41E**±0°.05**, h75^{km}**±3^{km}**, h75^{km}:pP-P, n179,** σ**1^{s}74**/222**, mb4.5**/73**, 15C-7D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.53	291	⇓P	Pn	13 53 12.1	-0.7
ONAJ				S	Sn	13 53 21.2	-1.6
JFK	Kawauchi	0.62	316	⇓P	Pn	13 53 13.2	-0.5
JFK				S	Sn	13 53 23.0	-1.5
JFFD	Fukushimafurud	0.70	285	⇓P	Pn	13 53 13.9	-0.7
JFFD				S	Sn	13 53 24.0	-1.9
JHO	Hitachi	0.74	246	⇓P	Pn	13 53 14.0	-1.0
JHO				S	Sn	13 53 24.6	-2.0
JFT	Otama	1.05	305	⇑P	Pn	13 53 18.5	-0.1
JFT				eS	Sn	13 53 32.6	-0.5
JMM	Marumori	1.07	333	⇑P	Pn	13 53 18.6	-0.2
JMM				eS	Sn	13 53 32.7	-0.8
JFY	Yanaizu	1.45	290	⇑P	Pn	13 53 23.2	-0.5
JFY				S	Sn	13 53 41.0	-1.2
JIO	Ouri	1.54	358	⇑P	Pn	13 53 24.7	-0.1
JIO				S	Sn	13 53 43.3	-0.8
JOU	Okura	1.56	338	⇑P	Pn	13 53 24.9	-0.3
JAG	Ashikaga	1.65	253	⇓P	Pn	13 53 25.7	-0.6
JAG				eS	Sn	13 53 45.2	-1.6
JYS	Shirataka	1.69	321	⇑P	Pn	13 53 26.7	-0.1
JYS				eS	Sn	13 53 47.9	+0.2
JKT	Katashina	1.74	266	⇓P	Pn	13 53 27.5	-0.1
JNS	Sasagawa	1.90	299	P	Pn	13 53 28.5	-1.1
JHK	Hiroka	1.94	281	⇑P	Pn	13 53 29.8	-0.4
JHK				eS	Sn	13 53 52.4	-1.4
MJAR	Matsushiro Arr	2.60	263	P	Pn	13 53 37.9	-1.1
	82nm,0.3s,baz=190,slow=15,SNR=1194						
MJAR				S	Sn	13 54 09.7	0.0
	164nm,0.3s,baz=100,slow=16,SNR=26						
MAJO	Matsushiro	2.60	263	ePn	Pn	13 53 39.5	+0.4
MAJO				eSn	Sn	13 54 09.6	-0.1
MAJO	Matsushiro	2.60	263	iP	Pn	13 53 39.3	+0.2
MAT	Matsushiro	2.60	263	P	Pn	13 53 39.4	+0.3
MAT				S	Sn	13 54 09.2	-0.5
MJB9	Matsu-Tunnel	2.60	263	ePn	Pn	13 53 39.6	+0.4
MJB9				eSn	Sn	13 54 09.6	-0.2
INU	Inuyama	3.89	248	ePn	Pn	13 53 57.2	+0.7
JHJ2	Mitsune	4.01	199	ePn	Pn	13 53 57.2	-1.1
JHJ2				eSn	Sn	13 54 40.6	-3.5
JHJ	Hachijo jima 2	4.02	200	P	Pn	13 53 57.4	-1.0
	126nm,0.3s,baz=74,slow=20,SNR=20						
JHJ				S	Sn	13 54 40.3	-3.8
	349nm,0.3s,baz=74,slow=23,SNR=21						
ERM	Erimo	5.27	14	ePn	Pn	13 54 14.0	-1.3
ERM				eSn	Sn	13 55 11.5	-3.2
ERM	Erimo	5.27	14	ceP	Pn	13 54 13.6	-1.7
ERM				pmax	pmax		
	comp=Z,126nm,1.0s						
ASAJ	Asahikawa	7.25	7	P	Pn	13 54 40.6	-1.8
	comp=Z,3.5nm,0.3s,baz=191,slow=9.7,SNR=6.0						
ASAJ				S	Sn	13 55 54.6	-8.5
	comp=Z,2.6nm,0.3s,baz=252,slow=20,SNR=1.8						
ASAJ	Asahikawa	7.25	7	ePn	Pn	13 54 40.2	-2.1
ASAJ				eSn	Sn	13 56 04.9	+1.8
YUK	Yuzh-Kuril'sk	7.88	24	eP	Pn	13 54 51.6	+0.7
YUK				eS	Sn	13 56 12.2	-6.2
YUK				pmax	pmax		
	comp=Z,137nm,0.6s						
YUK				pmax	pmax		
	comp=E,28nm,0.2s						
YUK				pmax	pmax		
	comp=N,38nm,0.4s						
SHO	Shikotan	8.08	29	eP	Pn	13 54 52.8	-0.9
SHO				eS	Sn	13 56 14.6	-8.9
SHO				pmax	pmax		
	comp=Z,13nm,0.5s						
SHO				pmax	pmax		
	comp=N,10.0nm,0.4s						
TEY	Ternei	8.89	337	⇑eP	Pn	13 55 05.4	+0.7
TEY				pmax	pmax		
	comp=N,150nm,0.5s						
TEY				pmax	pmax		
	comp=Z,130nm,0.5s						
JNU	Nakatsue	9.43	249	P	Pn	13 55 12.3	0.0
	comp=Z,0.8nm,0.3s,baz=63,slow=4.6,SNR=13						
JNU	Nakatsue	9.43	249	ePn	Pn	13 55 11.9	-0.3
KUR	Kuril'sk	9.63	28	P	Pn	13 55 08.9	-5.9
KUR				eS	Sn	13 56 54.7	-6.6
KUR				smax	smax		
	comp=N,78nm,0.6s						
KUR				smax	smax		
	comp=E,124nm,0.6s						
CBIJ	Chichi jima	9.81	176	ePn	Pn	13 55 13.5	-4.0
JCJ	Chichijima	9.81	176	P	Pn	13 55 08.3	-9.2
	comp=E,19nm,0.3s,baz=96,slow=22,SNR=7.2						
JCJ				S	Sn	13 56 47.2	-19
	comp=E,13nm,0.3s,baz=246,slow=20,SNR=3.8						
YSS	Yuzh-Sakhalins	10.08	5	eP	Pn	13 55 18.4	-2.6
YSS				pmax	pmax		
	comp=Z,30nm,1.1s						
USA0B	Ussuriysk Arra	10.21	318	ePn	Pn	13 55 23.3	+0.5
USRK	Ussuriysk Ar.	10.21	318	P	Pn	13 55 22.8	+0.1
	comp=Z,2.5nm,0.3s,baz=121,slow=12,SNR=49						
KSRS	Korea Array	10.78	277	P	Pn	13 55 32.0	+1.5
	comp=Z,0.7nm,0.3s,baz=88,slow=14,SNR=57						
KS01	Wonju Array Si	10.80	277	ePn	Pn	13 55 29.2	-1.6
KS15	Wonju Array Si	10.81	277	ePn	Pn	13 55 30.7	-0.3
KSAR	Wonju Array Be	10.81	277	P	Pn	13 55 32.0	+1.0
KSAR	Wonju Array Be	10.81	277	P	Pn	13 55 32.0	+1.0
MDJ	Mudanjiang	11.80	314	P	Pn	13 55 45.5	+1.0
MDJ				sP		13 56 03.1	
MDJ				pmax	pmax		
	comp=Z,13nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,380nm,4.4s						
CN2	Changchun	13.97	304	eP	Pn	13 56 11.6	-1.9
CN2				epP	P	13 56 19.2	0.0
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
TYV	Tymovskoe	13.97	3	eP	Pn	13 56 11.3	-2.2
TYV				eS	Sn	13 58 42.6	-4.3
TYV				pmax	pmax		
	comp=Z,20nm,0.8s						
TYV				pmax	pmax		
	comp=Z,200nm,3.6s						
TYV				smax	smax		
	comp=N,400nm,3.6s						
KLR	Kul'dur	14.17	333	P	Pn	13 56 12.2	-3.9
	comp=N,0.7nm,0.3s,baz=150,slow=11,SNR=21						
KLR	Kul'dur	14.17	333	iP	Pn	13 56 13.5	-2.6
GRNR	Gornyy	14.30	347	eP	Pn	13 56 14.0	-3.9
NKL	Nikolayevsk	16.24	358	eP	Pn	13 56 38.0	-4.5
NJ2	Nanjing	19.20	262	eP	P	13 57 16.3	-0.8
NJ2				pmax	pmax		
	comp=N,16nm,0.6s						
ZEA	Zeya	19.48	334	eP	P	13 57 17.0	-2.9
ZEA				pmax	pmax		
	comp=N,29nm,0.4s						
ZEA				pmax	pmax		
	comp=Z,29nm,0.6s						
BJI	Beijing	19.98	287	P	Pn	13 57 26.6	-1.2
BJI				pmax	pmax		
	comp=Z,12nm,0.6s						
MA2	Magadan	23.47	12	P	P	13 58 03.5	+1.6
	comp=Z,6.3nm,0.7s,baz=186,slow=13,SNR=4.3						
MA2	Magadan	23.47	12	iP	P	13 58 02.3	+0.4
HHC	Hu-ho-hao-te	23.51	289	eP	P	13 58 02.1	-0.5
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,100nm,6.2s						
YAK	Yakutsk	26.18	347	eP	P	13 58 25.1	-1.3
YAK				e*PP	pP	13 58 46.8	+3.0
YAK				e		13 59 06.6	
YAK				eS	S	14 02 45.8	-6.8
YAK				e		14 09 17.5	
YAK				pmax	pmax		
	comp=Z,40nm,0.9s						
YAK				pmax	pmax		
	comp=N,21nm,1.1s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.4s						
YAK				pmax	pmax		
	comp=Z,65nm,3.3s						
YAK				pmax	pmax		
	comp=E,65nm,2.8s						
YAK				smax	smax		
	comp=N,164nm,5.3s						
YAK				smax	smax		
	comp=E,177nm,4.4s						
XAN	Xi'an	26.55	274	P	P	13 58 28.8	-1.2
XAN				pmax	pmax		
	comp=E,5.0nm,0.7s						
XAN				pmax	pmax		
	comp=E,79nm,3.5s						
SEY	Seymchan	26.91	11	P	P	13 58 34.8	+1.9
	comp=E,2.4nm,0.7s,baz=184,slow=8.7,SNR=5.7						
SEY	Seymchan	26.91	11	iP	P	13 58 33.9	+1.0
ENH	Enshi	27.32	265	eP	P	13 58 35.5	-1.5
	comp=E,24nm,0.6s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULN	**Ulaanbaatar**	**27.42**	**304**	*e*P	**P**	**13 58 37.5**	**-0.4**
	comp=E,12nm,0.8s						
ULN	**Ulaanbaatar**	**27.42**	**304**	*ce*P	**P**	**13 58 36.5**	**-1.4**
ULN				pmax	pmax		
	comp=Z,21nm,1.3s						
BOD	**Bodaibo**	**27.63**	**328**	*e*P	**P**	**13 58 38.6**	**-0.8**
BOD				pmax	pmax		
	comp=Z,15nm,1.4s						
SONM	**Songino Array**	**27.85**	**304**	P	**P**	**13 58 40.8**	**-0.9**
	comp=Z,20nm,0.8s,baz=106,slow=7.8,SNR=125						
LZH	**Lanzhou**	**30.09**	**280**	*e*P	**P**	**13 59 01.4**	**-0.3**
LZH				pP	pP	13 59 15.6	-3.8
LZH				sP	sP	13 59 22.1	-6.0
LZH				pmax	pmax		
	comp=Z,37nm,1.2s						
LZH				pmax	pmax		
	comp=Z,120nm,4.2s						
LZH				LR	LR		
	comp=Z,480nm,9.8s						
LZH				LR	LR		
	comp=Z,490nm,10.8s						
LZH				LR	LR		
	comp=Z,540nm,11.4s						
ZAK	**Zakamensk**	**30.34**	**309**	*e*P	**P**	**13 59 02.8**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CD2	**Chengdu**	**31.67**	**270**	*e*P	**P**	**13 59 15.0**	**-0.6**
CD2				S	**S**	**14 04 19.8**	**+0.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,4.8s						
CD2				LR	LR		
	comp=Z,770nm,12.4s						
CD2				LR	LR		
	comp=Z,430nm,15.4s						
MOY	**Mondy**	**32.01**	**310**	*e*P	**P**	**13 59 17.8**	**-0.6**
MOY				pmax	pmax		
	comp=Z,11nm,2.1s						
GTA	**Gaotai**	**32.60**	**287**	⇑P	**P**	**13 59 23.1**	**-0.6**
GTA				pP	pP	13 59 34.2	-7.2
GTA				S	**S**	**14 04 35.8**	**+1.8**
GTA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,81nm,5.6s						
GTA				LR	LR		
	comp=Z,120nm,17.5s						
GTA				LR	LR		
	comp=Z,140nm,17.1s						
GTA				LR	LR		
	comp=Z,170nm,17.1s						
KMI	**Kunming**	**34.94**	**261**	P	**P**	**13 59 44.7**	**+0.4**
KMI				pP	pP	14 00 00.6	-1.5
KMI				sP	sP	14 00 10.3	-0.5
KMI				pmax	pmax		
	comp=Z,22nm,0.5s						
TIXI	**Tiksi**	**35.41**	**353**	P	**P**	**13 59 46.7**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=144,slow=5.2,SNR=10						
TIXI	**Tiksi**	**35.41**	**353**	*ce*P	**P**	**13 59 47.2**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
DGZ	**Jazzator, Alta**	**40.46**	**306**	*i* P	**P**	**14 00 30.9**	**+0.5**
DGZ				pmax	pmax		
	comp=Z,16nm,0.6s						
WMQ	**Urumqi**	**40.89**	**297**	P	**P**	**14 00 35.8**	**+1.8**
WMQ				sP	sP	14 00 56.9	-3.9
WMQ				pmax	pmax		
	comp=Z,49nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,190nm,3.7s						
WMQ				LR	LR		
	comp=Z,220nm,21.5s						
WMQ				LR	LR		
	comp=Z,200nm,23.7s						
WMQ				LR	LR		
	comp=Z,290nm,22.5s						
CHTO	**Chiang Mai**	**41.26**	**256**	P	**P**	**14 00 37.2**	**0.0**
CMAR	**Chiang Mai Arr**	**41.47**	**255**	P	**P**	**14 00 39.0**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=46,slow=5.8,SNR=10.0						
CMAR	**Chiang Mai Arr**	**41.47**	**255**	*ce*P	**P**	**14 00 39.5**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAA0	**Zalesovo Array**	**41.99**	**312**	*e*P	**P**	**14 00 42.4**	**-0.3**
	comp=Z,14nm,0.7s						
ZALV	**Zalesovo Beam**	**41.99**	**312**	P	**P**	**14 00 42.5**	**-0.2**
	comp=Z,18nm,0.7s,baz=94,slow=6.5,SNR=68						
ZALV	**Zalesovo Beam**	**41.99**	**312**	*e*P	**P**	**14 00 42.7**	**0.0**
ZALV	**Zalesovo Beam**	**41.99**	**312**	*e*P	**P**	**14 00 42.7**	**0.0**
LSA	**Lhasa**	**42.22**	**275**	P	**P**	**14 00 45.7**	**+0.3**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
NVS	**Novosibirsk**	**42.92**	**314**	*e*P	**P**	**14 00 49.7**	**-0.5**
MK01	**Makanchi Array**	**44.18**	**302**	*e*P	**P**	**14 00 59.5**	**-1.0**
MK31	**Makanchi Array**	**44.18**	**302**	*e*P	**P**	**14 00 60.0**	**-0.5**
MK31	**Makanchi Array**	**44.18**	**302**	*e*P	**P**	**14 01 00.0**	**-0.5**
MKAR	**Makanchi Array**	**44.18**	**302**	P	**P**	**14 00 60.0**	**-0.6**
	comp=Z,7.1nm,0.8s,baz=88,slow=9.7,SNR=65						
MKAR				pP	**pP**	**14 01 19.3**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=76,slow=12,SNR=3.7						
MKAR	**Makanchi Array**	**44.18**	**302**	*e*P	**P**	**14 00 60.0**	**-0.6**
	comp=Z,54nm,0.8s						
MKAR				pP	**pP**	**14 01 19.3**	**+0.3**
MKAR	**Makanchi Array**	**44.18**	**302**	*e*P	**P**	**14 01 00.0**	**-0.6**
MKAR				*PP	**pP**	**14 01 19.3**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,54nm,0.8s						
MAKZ	**Makanchi**	**44.39**	**302**	*e*P	**P**	**14 01 01.6**	**-0.6**
	comp=Z,8.7nm,0.9s						
MAKZ	**Makanchi**	**44.39**	**302**	*e*P	**P**	**14 01 01.6**	**-0.6**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KURK	**Kurchatov**	**46.00**	**308**	*e*P	**P**	**14 01 13.9**	**-0.9**
	comp=Z,19nm,0.7s						
KURK	**Kurchatov**	**46.00**	**308**	*ce*P	**P**	**14 01 13.4**	**-1.4**
KURK				pmax	pmax		
	comp=Z,27nm,1.0s						
PDGK	**Podgornoye**	**46.83**	**298**	P	**P**	**14 01 21.1**	**-0.5**
PDGK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
JIRN	**Jiri**	**47.03**	**275**	*e*P	**P**	**14 01 23.6**	**0.0**
	comp=Z,22nm,0.4s						
GUN	**Gumba**	**47.17**	**276**	*e*P	**P**	**14 01 24.4**	**-0.3**
	comp=Z,19nm,0.5s						
KDAK	**Kodiak Island**	**47.19**	**42**	*i* P	**P**	**14 01 25.2**	**+1.2**
PKI	**Pulchoki**	**47.69**	**276**	*e*P	**P**	**14 01 28.1**	**-0.6**
	comp=Z,9.6nm,0.5s						
KKN	**Kakani**	**47.70**	**276**	*e*P	**P**	**14 01 28.3**	**-0.3**
	comp=Z,20nm,0.7s						
PKIN	**Phulchoki**	**47.70**	**276**	*e*P	**P**	**14 01 28.0**	**-0.7**
	comp=Z,7.5nm,0.5s						
DANN	**Dangsing**	**48.66**	**277**	*e*P	**P**	**14 01 36.2**	**0.0**
	comp=Z,63nm,0.8s						
KOLN	**Koldanda**	**49.04**	**277**	*e*P	**P**	**14 01 38.5**	**-0.5**
PYUN	**Piuthan**	**49.38**	**277**	*e*P	**P**	**14 01 41.3**	**-0.3**
	comp=Z,18nm,0.5s						
IL1	**Eielson Array**	**49.59**	**32**	*e*P	**P**	**14 01 43.2**	**+0.8**
ILAR	**Eielson Array**	**49.59**	**32**	P	**P**	**14 01 43.8**	**+1.3**
	comp=Z,2.9nm,0.7s,baz=266,slow=5.9,SNR=36						
ILB	**Eielson Array**	**49.59**	**32**	*e*P	**P**	**14 01 43.7**	**+1.3**
FRU	**Bishkek**	**50.40**	**299**	*e*P	**P**	**14 01 50.0**	**+1.1**
KSH	**Kashi**	**50.45**	**294**	P	**P**	**14 01 53.2**	**+3.8**
KSH				pP	pP	14 02 10.3	+2.1
KSH				PP	**PP**	**14 03 49.6**	**+4.1**
KSH				PcS	**PcS**	**14 07 08.1**	**+4.0**
KSH				S	**S**	**14 09 00.6**	**+3.0**
KSH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,420nm,5.9s						
KSH				LR	LR		
	comp=Z,250nm,10.0s						
KSH				LR	LR		
	comp=Z,150nm,7.1s						
KSH				LR	LR		
	comp=Z,210nm,10.8s						
OTUK	**Ortayu**	**50.49**	**306**	P	**P**	**14 01 49.2**	**-0.3**
OTUK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AAK	**Ala-Archa**	**50.54**	**298**	*e*P	**P**	**14 01 49.8**	**-0.4**
	comp=Z,2.8nm,0.6s						
AAK	**Ala-Archa**	**50.54**	**298**	*i* P	**P**	**14 01 49.5**	**-0.6**
AAK				pmax	pmax		
	comp=Z,12nm,2.4s						
BRVK	**Borovoye**	**50.71**	**312**	*e*P	**P**	**14 01 50.8**	**-0.2**
	comp=Z,5.2nm,0.8s						
BRVK	**Borovoye**	**50.71**	**312**	*i* P	**P**	**14 01 49.8**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SFK	**Sufi-Kurgan**	**52.08**	**296**	P	**P**	**14 02 01.8**	**0.0**
SFK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SVE	**Sverdlovsk**	**55.23**	**319**	*e*P	**P**	**14 02 24.5**	**+0.3**
ARU	**Arti**	**56.45**	**319**	*d i*P	**P**	**14 02 32.1**	**-0.8**
ARU				*PP	**pP**	**14 02 50.9**	**-1.1**
ARU						14 04 34.7	
ARU				S	**S**	**14 10 18.7**	**+0.7**
ARU				SS	**SS**	**14 14 04.7**	**-0.8**
ARU				pmax	pmax		
	comp=Z,17nm,1.9s						
FITZ	**Fitzroy Crossi**	**56.71**	**198**	P	**P**	**14 02 35.3**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=9.1,slow=7.2,SNR=7.9						
FITZ				pP	**pP**	**14 02 54.9**	**+1.0**
	comp=Z,1.9nm,0.6s,baz=16,slow=10,SNR=2.7						
WB2	**Warramunga Arr**	**56.94**	**188**	*e*P	**P**	**14 02 35.5**	**-1.2**
WRA	**Warramunga Arr**	**56.94**	**188**	P	**P**	**14 02 36.1**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=5.5,slow=7.3,SNR=80						
WRA				pP	**pP**	**14 02 56.5**	**+0.9**
	comp=Z,3.3nm,0.5s,baz=6.1,slow=7.4,SNR=11						
KBL	**Kabul**	**57.46**	**291**	P	**P**	**14 02 40.6**	**0.0**
KBL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ABKAR	**Akbulak array**	**58.01**	**310**	*e*P	**P**	**14 02 43.2**	**-0.9**
ASAR	**Alice Springs**	**60.67**	**188**	P	**P**	**14 03 02.4**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=8.7,slow=9.3,SNR=13						
ASAR				pP	**pP**	**14 03 23.2**	**+1.6**
	comp=Z,2.3nm,0.7s,baz=1.1,slow=6.4,SNR=12						
KLMR	**Klimovskoe**	**63.85**	**328**	*e*P	**P**	**14 03 21.8**	**-1.6**
KLMR				pmax	pmax		
	comp=Z,13nm,1.5s						
KLMR	**Klimovskoe**	**63.85**	**328**	*e*P	**P**	**14 03 21.9**	**-1.5**
KLMR				AMP		14 03 32.4	
	comp=Z,13nm,1.6s						
GEYT	**Alibeck**	**63.89**	**299**	P	**P**	**14 03 23.8**	**-0.3**
	comp=Z,43nm,0.8s,baz=35,slow=3.5,SNR=3.0						
YKA	**Yellowknife Ar**	**63.91**	**30**	P	**P**	**14 03 24.7**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=304,slow=6.7,SNR=16						
YKA				pP	**pP**	**14 03 44.8**	**+1.7**
	comp=Z,0.9nm,0.7s,baz=303,slow=6.8,SNR=6.3						
ARCES	**ARCESS Array B**	**64.11**	**339**	P	**P**	**14 03 25.1**	**+0.2**
	comp=Z,4.8nm,0.9s,baz=44,slow=7.1,SNR=8.0						
JOF	**Joensuu**	**66.07**	**332**	P	**P**	**14 03 37.1**	**-0.6**
FINES	**FINESS Array B**	**68.92**	**332**	P	**P**	**14 03 55.5**	**-0.1**
	comp=Z,3.1nm,0.6s,baz=54,slow=9.7,SNR=8.5						
FINES				pP	**pP**	**14 04 14.5**	**-0.9**
	comp=Z,3.3nm,0.8s,baz=64,slow=4.4,SNR=2.9						
KBZ	**Khabaz**	**70.98**	**311**	P	**P**	**14 04 08.1**	**-0.5**
	comp=Z,3.8nm,0.8s,baz=298,slow=2.1,SNR=7.8						
BMO	**Blue Mountains**	**72.01**	**47**	*e*P	**P**	**14 04 16.9**	**+1.9**
BMO	**Blue Mountains**	**72.01**	**47**	*e*P	**P**	**14 04 16.9**	**+1.9**
BEKR	**Beckworth**	**72.93**	**53**	*e*P	**P**	**14 04 22.0**	**+1.3**
	comp=Z,5.8nm,0.9s						
FFC	**Flin Flon**	**73.80**	**33**	*i* P	**P**	**14 04 27.0**	**+1.7**
NB2	**NORSAR Subarra**	**74.29**	**337**	P	**P**	**14 04 28.1**	**0.0**
	comp=Z,7.7nm,1.0s,baz=40,slow=5.9						
NOA	**NORSAR Array B**	**74.29**	**337**	P	**P**	**14 04 27.1**	**-1.0**
	comp=Z,2.1nm,0.8s,baz=39,slow=5.8,SNR=7.5						
AKASG	**Malin Array Be**	**74.39**	**322**	P	**P**	**14 04 28.3**	**-0.5**
	comp=Z,2.3nm,0.4s,baz=46,slow=6.1,SNR=9.4						
AKASG				pP	**pP**	**14 04 48.0**	**-0.7**
	comp=Z,1.5nm,0.4s,baz=47,slow=5.9,SNR=3.2						
DLMT	**Dillon**	**74.43**	**45**	*e*P	**P**	**14 04 31.2**	**+1.9**
	comp=Z,8.4nm,0.6s						
BOZ	**Bozeman (W)**	**74.83**	**44**	*e*P	**P**	**14 04 33.3**	**+1.7**
	comp=Z,7.0nm,0.8s						
BOZ	**Bozeman (W)**	**74.83**	**44**	*e*P	**P**	**14 04 33.3**	**+1.7**
BOZ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KVN	**Kaiserville**	**74.83**	**52**	*e*P	**P**	**14 04 34.0**	**+2.2**
	comp=Z,6.5nm,0.8s						
KVN	**Kaiserville**	**74.83**	**52**	*e*P	**P**	**14 04 34.0**	**+2.2**
KVN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NV01	**Mina Array Sit**	**75.06**	**53**	*e*P	**P**	**14 04 34.9**	**+1.8**
NVAR	**Mina Array Bea**	**75.06**	**53**	P	**P**	**14 04 35.2**	**+2.1**
	comp=Z,4.2nm,0.7s,baz=294,slow=5.5,SNR=38						
NVAR				pP	**pP**	**14 04 57.0**	**+4.0**
	comp=Z,1.0nm,0.7s,baz=300,slow=6.7,SNR=3.2						
RLMT	**Red Lodge**	**76.43**	**43**	*e*P	**P**	**14 04 42.4**	**+1.6**
	comp=Z,3.8nm,0.7s						
TPNV	**Topopah Spring**	**77.25**	**53**	*e*P	**P**	**14 04 47.5**	**+2.0**
	comp=Z,5.0nm,0.7s						
TPNV	**Topopah Spring**	**77.25**	**53**	*e*P	**P**	**14 04 47.5**	**+2.0**
TPNV				pmax	pmax		
	comp=Z,5.0nm,0.7s						
DUG	**Dugway, Tooele**	**77.43**	**49**	P	**P**	**14 04 48.5**	**+2.0**
DUG				pmax	pmax		
	comp=Z,11nm,0.8s						
BW06	**Boulder Array**	**77.75**	**45**	*e*P	**P**	**14 04 49.6**	**+1.3**
	comp=Z,3.2nm,0.6s						
PD31	**Pinedale Array**	**77.75**	**45**	*e*P	**P**	**14 04 49.6**	**+1.3**
PDAR	**Pinedale Array**	**77.75**	**45**	P	**P**	**14 04 49.8**	**+1.5**
	comp=Z,2.8nm,0.6s,baz=270,slow=2.1,SNR=37						
PDAR	**Pinedale Array**	**77.75**	**45**	*e*P	**P**	**14 04 49.1**	**+0.8**
BUR04	**Bucovina Ar. S**	**78.40**	**322**	*e*P	**P**	**14 04 51.8**	**+0.1**
BRTR	**Keskin Array B**	**78.93**	**312**	P	**P**	**14 04 54.5**	**-0.2**
	comp=Z,2.0nm,1.1s,baz=70,slow=7.2,SNR=4.5						
ULM	**Lac du Bonnet**	**79.60**	**33**	P	**P**	**14 04 58.6**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=297,slow=9.0,SNR=3.3						
RSSD	**Black Hills**	**79.92**	**42**	*e*P	**P**	**14 05 01.4**	**+1.2**
	comp=Z,7.4nm,1.3s						
RSSD	**Black Hills**	**79.92**	**42**	*e*P	**P**	**14 05 01.4**	**+1.2**
RSSD				pmax	pmax		
	comp=Z,7.0nm,1.3s						
DRGR		**80.21**	**322**	P	**P**	**14 05 01.3**	**-0.2**
DRGR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MORC	**Moravsky Berou**	**80.46**	**327**	P	**P**	**14 05 02.7**	**0.0**
MORC				pmax	pmax		
	comp=Z,4.0nm,2.3s						
VYHS	**Vyhne**	**80.82**	**325**	*e*P	**P**	**14 05 05.6**	**+1.0**
VYHS				pmax	pmax		
	comp=Z,5.0nm,1.5s						
VYHS	**Vyhne**	**80.82**	**325**	*e*P	**P**	**14 05 05.6**	**+1.0**
PV10	**Paradox Valley**	**80.85**	**49**	*e*P	**P**	**14 05 07.8**	**+2.5**
CLL	**Collm**	**81.20**	**330**	*e*P	**P**	**14 05 07.0**	**+0.5**
CLL	**Collm**	**81.20**	**330**	*e*P	**P**	**14 05 07.0**	**+0.5**
ISCO	**Idaho Springs**	**81.93**	**46**	P	**P**	**14 05 13.5**	**+2.4**
KHC	**Kasperske Hory**	**82.64**	**328**	*e*P	**P**	**14 05 13.5**	**-0.7**
KHC	**Kasperske Hory**	**82.64**	**328**	*e*P	**P**	**14 05 13.5**	**-0.7**
GERES	**GERESS Array B**	**82.81**	**328**	P	**P**	**14 05 15.2**	**0.0**
	comp=Z,1.1nm,0.7s,baz=46,slow=6.5,SNR=6.7						
GERES				pP	**pP**	**14 05 35.0**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=38,slow=6.8,SNR=4.8						
T25A	**Trinidad**	**84.42**	**47**	*e*P	**P**	**14 05 24.3**	**+0.5**
	comp=Z,9.3nm,0.9s						
ANMO	**Albuquerque**	**84.66**	**50**	P	**P**	**14 05 27.0**	**+2.0**
	comp=Z,2.9nm,0.9s,baz=223,slow=1.3,SNR=8.1						
ANMO	**Albuquerque**	**84.66**	**50**	*ce*P	**P**	**14 05 28.2**	**+3.1**
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.3s						
LIT	**Litokhoron**	**85.04**	**318**	P	**P**	**14 05 25.7**	**-0.9**
LIT				pmax	pmax		
	comp=Z,9.0nm,1.6s						
TXAR	**Lajitas Array**	**90.19**	**52**	P	**P**	**14 05 53.1**	**+1.4**
	comp=Z,1.8nm,0.7s,baz=302,slow=2.9,SNR=20						
TXAR				pP	**pP**	**14 06 14.6**	**+2.6**
	comp=Z,0.6nm,0.7s,baz=290,slow=3.4,SNR=3.0						
LPAZ	**La Paz**	**146.75**	**60**	PKPbc	**PKPbc**	**14 12 34.5**	**+0.6**
	comp=Z,5.3nm,0.6s,baz=326,slow=2.7,SNR=26						
LPAZ				pPKPbc	pPKPab	14 12 57.2	+1.4
	comp=Z,1.6nm,0.5s,baz=72,slow=3.3,SNR=3.0						
LPAZ	**La Paz**	**146.75**	**60**	*e*PKP2	**PKPbc**	**14 12 34.6**	**+0.8**
MNMC	**Minye Minye**	**147.59**	**65**	*e*PKPbc	**PKiKP**	**14 12 37.2**	**-0.5**
PB11	**IPOC Station P**	**147.95**	**66**	*e*PKPbc	**PKiKP**	**14 12 37.7**	**-0.5**
LCO	**Las Campanas**	**152.02**	**83**	*e*PKPbc	**PKiKP**	**14 12 47.2**	**+0.6**
LCO	**Las Campanas**	**152.02**	**83**	*e*PKIKP	**PKiKP**	**14 12 47.2**	**+0.6**

JMA 04 13:53:16.3±0.4**, 40°.36N**×**143°.04E, h12**^{km}±4^{km}**, M3.5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.99**	**245**	P	Pb	13 53 35.2	-0.3
JKEN	**Kujiedanarisaw**	**1.03**	**262**	P	Pb	13 53 35.3	-0.7
JANG	**Nango**	**1.17**	**271**	P	Pb	13 53 37.4	-1.0
MIYJ	**Miyakonagasawa**	**1.22**	**231**	P	Pn	13 53 38.5	-0.7
JTM	**Tenmabayashi**	**1.56**	**286**	P	Pn	13 53 44.1	+0.2
JTM				*e*S	Sn	13 54 04.1	+0.1
JOM	**Ohasama**	**1.61**	**237**	P	Pn	13 53 43.9	-0.6
JEM	**Erimo**	**1.66**	**3**	P	Pb	13 53 46.2	-0.5
JEM				*e*S	Sb	13 54 07.0	-0.6
JOT	**Ohata**	**1.82**	**305**	P	Pn	13 53 47.7	+0.2
JAH	**Hinai**	**1.85**	**265**	*e*S	Sn	13 54 11.4	+0.3
JNBK	**Urakawa-nobuka**	**1.93**	**354**	P	Pn	13 53 50.1	+1.2
JKB	**Kayabe**	**2.15**	**316**	P	Pn	13 53 52.4	+0.4
JKB				*e*S	Sn	13 54 19.3	+0.7

*IDC **04** 13:56:59.1±3.0, 13°.67N×92°.07W, h0km, mb3.3/4, mb1 3.7/7, mb1mx3.5/39, mbtmp3.3/7, ML3.5/3, Error ellipse: s-maj=52.6km s-min=26.4km az=178.0*

ISC 04 13:57:03.3±2.2**, 13°.6N**±0°.2×**92°.10W**±0°.08**, h37**^{km}**, n8,** σ1^s**02**/10**, mb3.4**/4**, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APG	**El Apazote**	**2.11**	**48**	Pn	**Pn**	**13 57 35.3**	**-1.1**
	16nm,0.3s,baz=219,slow=17,SNR=83						
APG				Sn	**Sn**	**13 58 02.1**	**+0.6**
	35nm,0.3s,baz=297,slow=14,SNR=21						
CMIG	**Matias Romero**	**4.39**	**323**	Pn	**Pn**	**13 58 06.3**	**-1.1**
	1.2nm,0.3s,baz=162,slow=13,SNR=13						
CMIG				Sn	**Sn**	**13 58 57.3**	**-0.1**
	3.0nm,0.3s,baz=119,slow=21,SNR=5.5						
TXAR	**Lajitas Array**	**18.98**	**327**	P	**Pn**	**14 01 23.6**	**+0.9**
	0.1nm,0.3s,baz=155,slow=12,SNR=5.1						
ANMO	**Albuquerque**	**24.90**	**331**	P	**P**	**14 02 24.3**	**+1.3**
	0.6nm,0.5s,baz=151,slow=12,SNR=2.1						
PDAR	**Pinedale Array**	**32.74**	**336**	P	**P**	**14 03 34.1**	**+1.2**
	0.1nm,0.3s,baz=134,slow=6.4,SNR=1.8						
NVAR	**Mina Array Bea**	**33.92**	**322**	P	**P**	**14 03 43.0**	**-0.2**
	0.3nm,0.7s,baz=142,slow=8.9,SNR=2.5						
YKA	**Yellowknife Ar**	**51.39**	**347**	P	**P**	**14 06 03.4**	**-0.8**
	0.3nm,0.6s,baz=146,slow=7.6,SNR=5.8						
CMAR	**Chiang Mai Arr**	**146.34**	**341**	PKPbc	**PKPab**	**14 16 42.0**	**+0.2**
	0.4nm,0.7s,baz=329,slow=2.9,SNR=4.4						

*IDC **04** 14:00:47.8±1.9, 21°.45S×178°.80W, h569km±21km, mb3.6/21, mb1 3.8/21, mb1mx3.6/43, mbtmp4.6/21, Error ellipse: s-maj=15.8km s-min=9.6km az=157.0*

*ISCJB **04** 14:00:48.7±0.5, 21°.71S±0°.08×178°.80W±0°.10, h602km, mb4.1/21, Error ellipse: s-maj=12.2km s-min=9.3km az=26.5*

ISC 04 14:00:50.0±0.5**, 21°.7S**±0°.1×**178°.8W**±0°.1**, h602**^{km}**, n47,** σ1^s**15**/52**, mb4.1**/21**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.92**	**191**	P	**P**	**14 04 12.3**	**-3.1**
	4.0nm,0.3s,baz=292,slow=2.8,SNR=31						
URZ				S	**S**	**14 06 59.7**	**-2.9**
	0.2nm,0.3s,baz=351,slow=19,SNR=4.6						
RPZ	**Rata Peaks**	**23.57**	**199**	P	**P**	**14 05 15.2**	**0.0**
	5.6nm,0.4s,baz=292,slow=3.2,SNR=5.9						
CTA	**Charters Tower**	**32.69**	**266**	P	**P**	**14 06 34.1**	**-0.5**
	3.1nm,0.4s,baz=87,slow=10,SNR=12						
PMG	**Port Moresby**	**34.94**	**285**	P	**P**	**14 06 52.2**	**-1.2**
	21nm,0.8s,baz=82,slow=1.2,SNR=10						
STKA	**Stephens Creek**	**36.66**	**245**	P	**P**	**14 07 08.0**	**+0.6**
	1.5nm,0.4s,baz=68,slow=8.5,SNR=7.5						
ASAR	**Alice Springs**	**43.58**	**258**	P	**P**	**14 08 02.4**	**-0.1**
	14nm,0.8s,baz=96,slow=8.1,SNR=170						
ASAR				PcP	**PcP**	**14 09 37.8**	**+1.4**
	2.2nm,0.7s,baz=100,slow=4.0,SNR=11						
ASAR				S	**S**	**14 13 51.9**	**+2.4**
	1.9nm,0.9s,baz=95,slow=16,SNR=13						
WRA	**Warramunga Arr**	**43.75**	**263**	P	**P**	**14 08 03.0**	**-0.9**
	3.2nm,0.3s,baz=94,slow=7.7,SNR=428						
WRA				S	**S**	**14 13 52.1**	**+0.1**
	0.8nm,0.7s,baz=98,slow=14,SNR=6.9						
JAY	**Jayapura**	**43.76**	**290**	P	**P**	**14 08 03.1**	**-0.9**
	24nm,0.8s,baz=158,slow=4.4,SNR=4.5						
FITZ	**Fitzroy Crossi**	**52.18**	**263**	P	**P**	**14 09 06.7**	**+0.2**
	2.0nm,0.3s,baz=86,slow=4.7,SNR=35						
SIJI	**Sorong**	**52.87**	**286**	P	**P**	**14 09 10.6**	**-0.8**
	17nm,0.6s,baz=304,slow=6.7,SNR=5.7						
VNDA	**Vanda**	**56.70**	**185**	P	**P**	**14 09 39.2**	**+2.2**
	1.1nm,0.7s,baz=27,slow=6.5,SNR=8.0						
PETK	**Petropavlovsk-**	**77.21**	**346**	P	**P**	**14 11 42.0**	**-0.8**
	4.7nm,0.7s,baz=126,slow=7.5,SNR=9.1						
USRK	**Ussuriysk Ar.**	**79.53**	**326**	P	**P**	**14 11 55.9**	**+0.6**
	4.1nm,0.8s,baz=128,slow=4.6,SNR=9.2						
NVAR	**Mina Array Bea**	**82.35**	**44**	P	**P**	**14 12 10.3**	**+0.1**
	2.6nm,0.7s,baz=224,slow=8.9,SNR=18						
KLR	**Kul'dur**	**83.17**	**330**	P	**P**	**14 12 14.6**	**+0.8**
	2.5nm,0.8s,baz=2.0,slow=1.5,SNR=8.5						
PSI	**Prapat**	**83.89**	**275**	P	**P**	**14 12 18.2**	**-0.2**
	4.7nm,0.7s,baz=185,slow=0.4,SNR=5.2						
SEY	**Seymchan**	**87.34**	**347**	P	**P**	**14 12 33.1**	**-0.3**
	3.8nm,0.7s,baz=144,slow=6.3,SNR=13						
TXAR	**Lajitas Array**	**88.27**	**58**	P	**P**	**14 12 39.6**	**+0.9**
	1.7nm,0.8s,baz=214,slow=5.9,SNR=15						
ANMO	**Albuquerque**	**88.68**	**52**	P	**P**	**14 12 41.0**	**+0.3**
	0.3nm,0.3s,baz=214,slow=3.9,SNR=4.0						
ILAR	**Eielson Array**	**89.60**	**13**	P	**P**	**14 12 42.6**	**-1.4**
	1.1nm,0.7s,baz=220,slow=5.1,SNR=17						
CMAR	**Chiang Mai Arr**	**89.84**	**290**	P	**P**	**14 12 48.3**	**+2.2**
	2.7nm,0.8s,baz=131,slow=3.3,SNR=19						
PDAR	**Pinedale Array**	**90.29**	**44**	P	**P**	**14 12 47.6**	**-0.4**
	1.5nm,0.7s,baz=222,slow=3.1,SNR=17						
ZALV	**Zalesovo Beam**	**110.95**	**321**	PKiKP	**PKiKP**	**14 18 15.5**	**+0.1**
	0.6nm,0.5s,baz=165,slow=3.8,SNR=3.4						
MKAR	**Makanchi Array**	**111.47**	**313**	PKiKP	**PKiKP**	**14 18 17.3**	**+0.6**
	0.4nm,0.6s,baz=91,slow=2.8,SNR=4.3						
AKTO	**Aktyubinsk**	**127.45**	**318**	PKP	**PKPdf**	**14 18 47.6**	**+0.4**
	3.6nm,1.3s,baz=51,slow=2.8,SNR=4.4						
GEYT	**Alibeck**	**128.80**	**302**	PKP	**PKPdf**	**14 18 51.4**	**+1.1**
	1.7nm,0.7s,baz=103,slow=5.2,SNR=3.5						
ARCES	**ARCESS Array B**	**129.93**	**349**	PKP	**PKPdf**	**14 18 51.1**	**-0.2**
	2.6nm,0.6s,baz=17,slow=1.8,SNR=12						
FINES	**FINESS Array B**	**136.68**	**343**	PKP	**PKPdf**	**14 19 02.9**	**-1.3**
	0.4nm,0.4s,baz=64,slow=6.3,SNR=5.0						
HFS	**Hagfors**	**140.56**	**350**	PKhKP	PKPpre	14 19 05.2	
	1.9nm,0.4s,baz=64,slow=3.4,SNR=10						
AKASG	**Malin Array Be**	**143.67**	**330**	PKP	PKPab	14 19 15.8	-0.5
	12nm,0.6s,baz=43,slow=4.4,SNR=49						
EKA	**Eskdalemuir Ar**	**146.21**	**5**	PKPbc	**PKPbc**	**14 19 23.7**	**0.0**
	4.5nm,0.7s,baz=338,slow=3.0,SNR=8.5						
BRTR	**Keskin Array B**	**147.07**	**311**	PKPbc	**PKPbc**	**14 19 26.8**	**+0.1**
	2.9nm,0.7s,baz=138,slow=5.0,SNR=17						
EIL	**Elat**	**148.67**	**292**	PKPbc	**PKPbc**	**14 19 31.7**	**+0.9**
	3.7nm,0.7s,baz=337,slow=10.0,SNR=5.3						
MLR	**Muntele Rosu**	**148.79**	**325**	PKPbc	**PKPbc**	**14 19 30.7**	**-0.1**
	3.9nm,0.7s,baz=128,slow=4.4,SNR=5.3						
CLL	**Collm**	**149.02**	**346**	*i* PKPbc	**PKPbc**	**14 19 31.3**	**+0.4**
	comp=Z,11nm,1.0s						
CLL				*i* PKPab	**PKPab**	**14 19 36.5**	**-1.1**
	comp=Z,5.0nm,0.7s						
MORC	**Moravsky Berou**	**149.12**	**339**	*e*PKP	**PKPbc**	**14 19 32.2**	**+0.9**
MORC				*e*		14 19 38.5	
VRAC	**Vranov**	**149.83**	**340**	*e*PKP	**PKPbc**	**14 19 33.5**	**+0.5**
VRAC				*e*		14 19 41.7	
JAVC	**Velka Javorina**	**149.86**	**338**	*e*PKP	**PKPbc**	**14 19 35.1**	**+2.0**
JAVC				*e*		14 19 42.8	
KRUC	**Moravsky**	**150.11**	**340**	*e*PKP	**PKPbc**	**14 19 34.3**	**+0.7**
KRUC				*e*		14 19 42.5	
GERES	**GERESS Array B**	**151.11**	**343**	PKPbc	**PKPbc**	**14 19 36.5**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=8.5,slow=2.7,SNR=16						
CONA	**Conrad Observa**	**151.28**	**339**	*i* PKPbc	**PKPbc**	**14 19 37.3**	**+0.8**
	comp=Z,6.8nm,0.8s						
MOA	**Molln**	**151.85**	**341**	*i* PKPbc	**PKPbc**	**14 19 36.9**	**-0.7**
	comp=Z,2.4nm,0.9s						
ARSA	**Arzberg**	**151.98**	**339**	*i* PKPbc	**PKPbc**	**14 19 39.3**	**+1.4**
	comp=Z,0.9nm,0.5s						
ABTA	**Abfaltersbach**	**153.35**	**343**	*i* PKPbc	**PKPbc**	**14 19 40.9**	**-0.1**
	comp=Z,2.7nm,0.9s						
DAVOX	**Davos/Dischmat**	**153.98**	**346**	PKPbc	**PKPbc**	**14 19 42.5**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=315,slow=6.0,SNR=4.7						
DAVOX				PKPab	**PKPab**	**14 19 58.4**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=351,slow=6.8,SNR=7.0						
MDT	**Midelt**	**167.74**	**24**	PKP	**PKPdf**	**14 19 49.6**	**+1.1**
	comp=Z,2.5nm,0.3s,baz=296,slow=12,SNR=20						
MDT				PKPab	**PKPab**	**14 20 57.6**	**-1.8**
	comp=Z,6.5nm,0.6s,baz=354,slow=22,SNR=6.9						
TORD	**Torodi Ar. Bea**	**171.52**	**183**	PKP	**PKPdf**	**14 19 51.5**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=0.0,slow=3.0,SNR=3.6						

BEO 04 14:02:23.1±1.5**, 43°.54N**×**18°.65E, h0**^{km}**, ML1.3**/3**, Mining explosion., Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJES	**Sjenica**	**1.00**	**105**	*e*Pg	Pg	14 02 40.9	-1.4
SJES				*e*Sg	Sg	14 02 54.5	-0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
IVAS	**Ivanjica**	**1.09**	**87**	*e*Pg	Pg	14 02 43.0	-1.0
IVAS				*e*Sg	Sg	14 02 58.4	+0.2
DIVS	**Divibare**	**1.12**	**59**	*e*Pg	Pg	14 02 43.2	-1.4
DIVS				*e*Sg	Sg	14 02 58.4	-0.7

*SOME **04** 14:03:16.5, 41.°18N×83.°77E, h5km*
*NNC **04** 14:03:19.6±6.2, 41.°12N×83.°70E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=43.6km s-min=29.5km az=146.0*
ISC 04 14:03:24.3±3.9**, 41.°6N**±0.°2×**83.°5E**±0.°1**, h10**km**, n6,** σ1s**29**/8**, 4C-1D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**3.46**	**302**	⇑Pg	**Pg**	**14 04 29.6**	**-1.0**
	3.9nm,0.9s						
PDGK				⇑Lg	Lg	14 05 20.5	
	18nm,0.6s						
UZB	**Uzynbulak**	**3.69**	**297**	*e*P	**Pb**	**14 04 30.7**	**+1.0**
	1.0nm,0.4s						
UZB				*e*S	**Sg**	**14 05 23.8**	**+1.0**
	8.1nm,0.6s						
SATY	**Saty**	**4.08**	**293**	*e*P	**Pb**	**14 04 36.5**	**+0.3**
	3.5nm,0.3s						
SATY				*e*S	**Sg**	**14 05 34.4**	**-0.8**
	12nm,0.5s						
KAPS	**Kapalarasan**	**4.79**	**322**	*e*P	**Pb**	**14 04 50.1**	**+1.7**
	1.5nm,0.4s						
KAPS				*e*S	**Sg**	**14 05 57.7**	**-0.4**
	3.3nm,0.6s						
MK31	**Makanchi Array**	**5.29**	**351**	⇓Pg	**Pg**	**14 05 04.4**	**-1.1**
	0.5nm,0.5s,baz=167,slow=16,SNR=4.2						
MK31				⇑Lg	Lg	14 06 22.0	
	1.9nm,0.5s,baz=161,slow=27,SNR=6.8						
MAKZ	**Makanchi**	**5.35**	**348**	⇑Lg	Lg	14 06 26.0	
	2.8nm,0.9s						

*ISCJB **04** 14:08:40.4±1.5, 38.°51N±0.°05×142.°1E±0.°1, h33km±5km, mb3.4/2, Error ellipse: s-maj=14.2km s-min=6.9km az=14.8*
*JMA **04** 14:08:40.4±0.1, 38.°52N×142.°11E, h39km±1km, M3.3*
JMA Felt I J1.
*IDC **04** 14:08:43.8±3.1, 37.°13N×142.°33E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.3/50, mbtmp3.4/3, ML2.9/1, Error ellipse: s-maj=73.5km s-min=36.3km az=52.0*
ISC 04 14:08:39.4±2.3**, 38.°52N**±0.°05×**142.°2E**±0.°1**, h29**km±12km**, n13,** σ1s**11**/22**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.58**	**249**	P	**Pn**	**14 08 51.6**	**-0.1**
JIKH				*i* S	**Sb**	**14 08 59.2**	**+0.2**
JKMT	**Kesennumamotoy**	**0.61**	**299**	P	**Pn**	**14 08 52.1**	**0.0**
JKMT				S	**Sb**	**14 09 00.1**	**+0.2**
JIO	**Ouri**	**0.64**	**265**	P	**Pn**	**14 08 52.4**	**-0.1**
JIO				S	**Sb**	**14 09 00.5**	**-0.1**
OFUJ	**Ofunato**	**0.68**	**326**	P	**Pn**	**14 08 53.3**	**+0.2**
OFUJ				S	**Sb**	**14 09 02.1**	**+0.3**
JMK	**Ichinoseki**	**0.85**	**301**	P	**Pb**	**14 08 55.6**	**0.0**
JOM	**Ohasama**	**1.17**	**325**	P	**Pb**	**14 09 00.5**	**-0.5**
JOM				S	**Sn**	**14 09 14.7**	**-0.1**
JOU	**Okura**	**1.18**	**263**	P	**Pb**	**14 09 00.3**	**-0.9**
JOU				S	**Sn**	**14 09 15.1**	**-0.1**
JMM	**Marumori**	**1.26**	**239**	P	**Pn**	**14 09 00.8**	**-0.2**
JMM				S	**Sn**	**14 09 15.4**	**-1.5**
JYK	**Kaneyama**	**1.46**	**286**	P	**Pn**	**14 09 04.5**	**+0.7**
JYK				*e*S	**Sn**	**14 09 22.8**	**+0.8**
MAT	**Matsushiro**	**3.71**	**239**	P	**Pn**	**14 09 38.1**	**+3.4**
MAT				*e*S	**Sn**	**14 10 17.7**	**+0.2**
MJAR	**Matsushiro Arr**	**3.71**	**239**	Pn	**Pn**	**14 09 37.1**	**+2.4**
	1.3nm,0.3s,baz=56,slow=9.5,SNR=27						
MJAR				Sn	**Sb**	**14 10 28.1**	**-0.6**
	0.3nm,0.3s,baz=68,slow=20,SNR=1.9						
MKAR	**Makanchi Array**	**43.85**	**301**	P	P	14 16 58.3	+15
	0.3nm,0.7s,baz=97,slow=9.9,SNR=4.5						
WRA	**Warramunga Arr**	**58.61**	**189**	P	**P**	**14 18 33.1**	**-0.6**
	0.4nm,0.6s,baz=6.7,slow=7.0,SNR=8.7						

*IDC **04** 14:09:53.0±1.3, 37.°08N×29.°79E, h0km, mb3.5/2, mb1 3.6/7, mb1mx3.3/43, mbtmp3.5/7, ML3.4/5, Error ellipse: s-maj=26.1km s-min=18.6km az=147.0*
*ISK **04** 14:09:52.9, 37.°12N×29.°68E, h5km, ML3.5/16*
*DDA **04** 14:09:53.6, 37.°11N×29.°72E, h12km±2km, ML3.4*
*GII **04** 14:09:54.9±0.0, 36.°90N×29.°71E, h3km±1km, MD3.4/1*
ISC 04 14:09:54.1±1.1**, 37.°10N**±0.°02×**29.°74E**±0.°02**, h9**km±8km**, n66,** σ1s**03**/88**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.20**	**314**	*i* P	**Pg**	**14 09 58.0**	**-0.3**
ELL	**Elmali**	**0.37**	**159**	PG	**Pg**	**14 10 01.6**	**+0.1**
ELL				SG	**Sb**	**14 10 08.9**	**0.0**
KORT	**Korkueli**	**0.49**	**101**	PG	**Pg**	**14 10 04.1**	**+0.3**
KORT	**Korkueli**	**0.49**	**101**	*i* P	**Pb**	**14 10 04.9**	**-0.2**
KORT				*i* S	**Sb**	**14 10 13.8**	**+1.3**
BRDR	**BURDUR-Merkez**	**0.65**	**23**	*i* P	**Pg**	**14 10 06.9**	**+0.2**
FETY	**Fethiye**	**0.70**	**229**	PG	**Pg**	**14 10 06.8**	**-0.8**
FETY				SG	**Sb**	**14 10 17.9**	**-0.4**
FETY	**Fethiye**	**0.70**	**229**	IAML_P			
	comp=Z,21μm,0.2s						
FETY				*i* P	**Pg**	**14 10 06.9**	**-0.8**
FETY				*i* S	**Sb**	**14 10 18.6**	**+0.3**
ANTB	**Antalya**	**0.76**	**105**	PG	**Pn**	**14 10 10.5**	**-0.5**
TAVA	**DENIZLI_Tavas**	**0.76**	**299**	IAML_P			
	comp=Z,10μm,0.4s						
TAVA				*i* P	**Pg**	**14 10 08.1**	**-0.7**
BCK	**Bucak**	**0.77**	**61**	PG	**Pg**	**14 10 08.7**	**-0.2**
KEMT	**Kemer-ANTALYA**	**0.82**	**127**	PG	**Pn**	**14 10 11.1**	**-0.7**
DENT	**Denizli**	**0.87**	**319**	PG	**Pg**	**14 10 09.7**	**-1.1**
AKAS	**Kas**	**0.87**	**187**	PG	**Pg**	**14 10 11.1**	**+0.2**
AKAS	**Kas**	**0.87**	**187**	IAML_P			
	comp=Z,6μm,0.2s						
AKAS				*i* P	**Pb**	**14 10 11.8**	**+0.3**
DALY	**Dalyan (Mula)**	**0.92**	**253**	PG	**Pg**	**14 10 10.7**	**-1.0**
DALY	**Dalyan (Mula)**	**0.92**	**253**	IAML_P			
	comp=Z,10μm,0.3s						
DALY				*i* P	**Pg**	**14 10 11.3**	**-0.5**
DALY				*i* S	**Sb**	**14 10 24.3**	**-0.2**
TURN	**Turunc**	**0.94**	**257**	PN	**Pn**	**14 10 16.4**	**+2.9**
TURN	**Turunc**	**0.94**	**257**	IAML_P			
	comp=Z,4μm,0.2s						
TURN				*i* P	**Pn**	**14 10 16.6**	**+3.1**
KZIL	**AFYON_Kizioren**	**1.20**	**15**	IAML_P			
	comp=Z,4μm,0.3s						
KZIL				*i* P	**Pb**	**14 10 16.5**	**-0.6**
BAGO	**Egridir - ISPA**	**1.22**	**43**	IAML_P			
	comp=Z,11μm,0.3s						
BAGO				*i* P	**Pg**	**14 10 17.5**	**-0.1**
KHL	**Karahalli**	**1.24**	**352**	PN	**Pn**	**14 10 17.3**	**-0.4**
ARG	**Arkhangelos**	**1.57**	**236**	PN	**Pb**	**14 10 22.6**	**-0.7**
MLSB	**Milas**	**1.58**	**278**	PN	**Pn**	**14 10 22.6**	**+0.2**
AYDN	**Tasoluk**	**1.59**	**291**	IAML_P			
	comp=Z,9μm,0.3s						
AYDN				*i* P	**Pb**	**14 10 23.6**	**-0.1**
AYDN				*i* S	**Sg**	**14 10 45.0**	**-0.2**
SHUT	**Suhut-Afyon**	**1.59**	**24**	PN	**Pb**	**14 10 23.2**	**-0.5**
KULA	**Kula-Manisa**	**1.66**	**329**	PN	**Pn**	**14 10 23.4**	**0.0**
MANT	**Manisa**	**1.68**	**326**	IAML_P			
	comp=Z,4μm,0.3s						
MANT				*i* P	**Pb**	**14 10 24.4**	**-1.0**
MANT				*i* S	**Sn**	**14 10 44.9**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.70**	**301**	PN	**Pn**	**14 10 24.2**	**+0.1**
DATC	**Datca-Mugla**	**1.70**	**259**	PN	**Pb**	**14 10 24.8**	**-0.8**
DAT	**Datca**	**1.77**	**259**	PN	**Pb**	**14 10 25.9**	**-1.0**
DAT	**Datca**	**1.77**	**259**	IAML_P			
	comp=Z,2μm,0.2s						
DAT				*i* P	**Pb**	**14 10 27.0**	**+0.1**
DAT				*i* S	**Sg**	**14 10 52.7**	**+1.6**
BDRM	**Kayabasi**	**1.84**	**270**	*i* P	**Pb**	**14 10 28.0**	**+0.1**
BOLV	**Bolvadin**	**1.88**	**30**	*i* P	**Pb**	**14 10 28.0**	**-0.7**
GEDZ	**Gediz**	**1.96**	**352**	PN	**Pb**	**14 10 28.6**	**-1.5**
SHAP	**Saphane-Kutahy**	**1.97**	**348**	PN	**Pn**	**14 10 28.1**	**+0.3**
GDZ	**Gediz**	**2.00**	**354**	*i* P	**Pn**	**14 10 28.6**	**+0.3**
DEMI	**Demirci**	**2.10**	**338**	IAML_P			
	comp=Z,2μm,0.2s						
DEMI				*i* P	**Pn**	**14 10 30.2**	**+0.5**
KONT	**Konya--Tatoy**	**2.25**	**67**	PN	**Pb**	**14 10 33.5**	**-1.4**
LADK	**Ladik-KONYA**	**2.35**	**61**	PN	**Pn**	**14 10 34.7**	**+1.6**
KIZT	**Kizilcal**	**2.45**	**43**	PN	**Pn**	**14 10 35.8**	**+1.3**
DGB	**zmir**	**2.46**	**294**	IAML_P			
	comp=Z,771nm,0.2s						
DGB				*i* P	**Pn**	**14 10 34.6**	**+0.2**
CSS	**Mathiatis**	**3.60**	**125**	Pn	**Pn**	**14 10 50.5**	**+0.3**
BRTR	**Keskin Array B**	**4.03**	**48**	Pn	**Pn**	**14 10 56.3**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=225,slow=15,SNR=16						
BRTR				Sn	**Sn**	**14 11 45.2**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=222,slow=24,SNR=5.6						
IDI	**Anoyia**	**4.32**	**247**	Pn	**Pn**	**14 11 01.3**	**+1.2**
	comp=Z,2.2nm,0.3s,baz=15,slow=5.2,SNR=15						
IDI				Sn	**Sn**	**14 11 50.5**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=307,slow=20,SNR=2.6						
HNTI	**Hanita**	**5.99**	**130**	Pn	**Pn**	**14 11 22.6**	**-0.3**
HNTI				Sn	**Sn**	**14 12 31.1**	**-0.5**
MMA0B	**Mount Meron ar**	**6.17**	**130**	Pn	**Pn**	**14 11 25.6**	**0.0**
MMA0B				Sn	**Sn**	**14 12 36.7**	**+0.4**
MMAI	**Mount Meron Ar**	**6.17**	**130**	Pn	**Pn**	**14 11 26.9**	**+1.4**
	comp=Z,4.3nm,0.3s,baz=312,slow=12,SNR=10						
MMAI				Sn	**Sn**	**14 12 39.0**	**+2.6**
	comp=Z,3.2nm,0.3s,baz=295,slow=28,SNR=4.6						
KSDI	**Kefar Szold**	**6.22**	**127**	Pn	**Pn**	**14 11 27.4**	**+1.3**
KSDI				Sn	**Sn**	**14 12 37.4**	**+0.1**
NATI	**Neve Ativ**	**6.22**	**126**	Pn	**Pn**	**14 11 27.5**	**+1.4**
NATI				Sn	**Sn**	**14 12 37.8**	**+0.4**
KSHT	**Keshet**	**6.45**	**128**	Pn	**Pn**	**14 11 29.7**	**+0.3**
MMLI	**Mount Malkishu**	**6.59**	**133**	Pn	**Pn**	**14 11 32.1**	**+0.9**
MMLI				Sn	**Sn**	**14 12 46.5**	**0.0**
HMDT	**Nahal Hemdat**	**6.78**	**134**	Pn	**Pn**	**14 11 34.1**	**+0.2**
HMDT				Sn	**Sn**	**14 12 52.0**	**+0.8**
DSI	**Dead Sea**	**7.22**	**138**	Pn	**Pn**	**14 11 40.4**	**+0.6**
KZIT	**Kziot**	**7.28**	**147**	Pn	**Pn**	**14 11 40.3**	**-0.4**
KZIT				Sn	**Sn**	**14 13 03.3**	**-0.2**
MZDA	**Masada**	**7.41**	**139**	Pn	**Pn**	**14 11 42.4**	**-0.1**
GHAJ	**Ghor Haditha**	**7.53**	**138**	Pn	**Pn**	**14 11 43.2**	**-0.8**
ASF	**Jabal al Asfar**	**7.67**	**128**	Sn	**Sn**	**14 13 16.4**	**+3.2**
	comp=Z,0.3nm,0.3s,baz=90,slow=12,SNR=2.2						
PRNI	**Paran**	**8.03**	**145**	Pn	**Pn**	**14 11 51.0**	**0.0**
PRNI				Sn	**Sn**	**14 13 20.7**	**-1.2**
KRMI	**Paran Flat**	**8.11**	**148**	Pn	**Pn**	**14 11 52.2**	**+0.2**
HRFI	**Mount Harif**	**8.31**	**146**	Pn	**Pn**	**14 11 55.1**	**+0.2**
HRFI				Sn	**Sn**	**14 13 26.9**	**-2.0**
MBRI	**Mt Berech**	**8.47**	**148**	Sn	**Sn**	**14 13 32.8**	**0.0**
EIL	**Elat**	**8.59**	**148**	Pn	**Pn**	**14 11 59.0**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=3.5,slow=4.8,SNR=8.8						
EIL				Sn	**Sn**	**14 13 33.8**	**-1.9**
	comp=Z,0.9nm,0.3s,baz=109,slow=12,SNR=6.3						
EIL	**Elat**	**8.59**	**148**	Pn	**Pn**	**14 11 58.8**	**+0.1**
EIL				Sn	**Sn**	**14 13 34.1**	**-1.6**
GERES	**GERESS Array B**	**16.56**	**320**	Pn	**P**	**14 13 50.7**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=132,slow=11,SNR=6.6						
TORD	**Torodi Ar. Bea**	**34.60**	**234**	P	**P**	**14 16 42.2**	**-1.4**
	comp=Z,0.9nm,1.0s,baz=41,slow=8.3,SNR=4.8						
MKAR	**Makanchi Array**	**39.61**	**59**	P	**P**	**14 17 25.8**	**0.0**
	comp=Z,0.3nm,0.6s,baz=294,slow=3.9,SNR=4.3						

*SOME **04** 14:34:15.5, 39.°43N×74.°93E, h0km*
*KRNET **04** 14:34:25.7±0.1, 39.°58N×74.°74E, mb3.4*
*NNC **04** 14:34:26.1±0.8, 39.°62N×74.°76E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=7.1km s-min=2.4km az=163.0*
ISC 04 14:34:26.6±1.4**, 39.°77N**±0.°06×**74.°81E**±0.°03**, h10**km**, n44,** σ1s**70**/64**, 24C-18D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.03**	**284**	⇑P	**Pg**	**14 34 45.7**	**-0.8**
	10nm,0.3s						
SFK				⇑S	**Sb**	**14 35 00.5**	**+0.1**
	119nm,0.5s						
SFK	**Sufi-Kurgan**	**1.03**	**284**	Pg	**Pg**	**14 34 45.8**	**-0.8**
	15nm,0.1s						
SFK				Lg	Lg	14 35 01.5	
	92nm,0.5s						
SFK	**Sufi-Kurgan**	**1.03**	**284**	⇓*i*P	**Pg**	**14 34 45.7**	**-0.8**
	baz=95						
SFK				⇓*i*S	**Sg**	**14 34 59.8**	**-0.2**
	baz=95						
NRN	**Naryn**	**1.90**	**28**	⇑*i*P	**Pg**	**14 35 03.0**	**0.0**
	baz=27						
NRN				⇑*i*S	**Sg**	**14 35 30.5**	**+2.9**
	baz=27						
ARSB	**Arslanbob**	**2.09**	**319**	⇑*e*P	**Pg**	**14 35 05.2**	**-1.5**
	baz=23						
ARSB				⇑*i*S	**Sg**	**14 35 33.7**	**0.0**
	baz=23						
ARLS	**Aral**	**2.12**	**350**	⇑*i*P	**Pg**	**14 35 06.3**	**-1.1**
	baz=52						
ARLS				⇑*i*S	**Sg**	**14 35 36.5**	**+1.6**
	baz=52						
KZA	**Kyzart**	**2.33**	**8**	⇓*i*P	**Pg**	**14 35 10.0**	**-1.4**
	baz=9.0						
KZA				⇓*i*S	**Sg**	**14 35 41.8**	**+0.2**
	baz=9.0						
UCH	**Uchtor**	**2.47**	**355**	P	**Pg**	**14 35 12.1**	**-1.8**
	SNR=12						
UCH	**Uchtor**	**2.47**	**355**	⇑*i*P	**Pb**	**14 35 11.8**	**+0.4**
	baz=56						
UCH				⇑*i*S	**Sg**	**14 35 45.0**	**-1.0**
	baz=56						
AML	**Almayashu**	**2.51**	**341**	P	**Pb**	**14 35 12.0**	**-0.1**
	SNR=33						
AML	**Almayashu**	**2.51**	**341**	⇑*e*P	**Pb**	**14 35 11.9**	**-0.1**
	baz=43						
AML				⇑*i*S	**Sg**	**14 35 45.3**	**-1.9**
	baz=43						
ULHL	**Ulahol**	**2.70**	**23**	⇓*i*P	**Pb**	**14 35 14.6**	**-0.6**
	baz=23						
ULHL				⇓*i*S	**Sg**	**14 35 51.0**	**-2.5**
	baz=23						
AAK	**Ala-Archa**	**2.88**	**355**	P	**Pb**	**14 35 18.0**	**-0.2**
	SNR=15						
AAK	**Ala-Archa**	**2.88**	**355**	⇑Pn	**Pb**	**14 35 16.4**	**-1.8**
	15nm,0.6s						
AAK				⇓Lg	Lg	14 36 03.7	
	23nm,0.8s						
AAK	**Ala-Archa**	**2.88**	**355**	⇓*i*P	**Pb**	**14 35 17.1**	**-1.1**
	baz=57						
AAK				⇓*i*S	**Sb**	**14 35 54.2**	**+0.7**
	baz=57						
KBK	**Karagaybulak**	**2.89**	**2**	P	**Pb**	**14 35 17.8**	**-0.5**
	SNR=10						
KBK	**Karagaybulak**	**2.89**	**2**	⇓*i*P	**Pb**	**14 35 17.4**	**-1.0**
	baz=3.0						
KBK				⇓*i*S	**Sb**	**14 35 55.0**	**+1.2**
	baz=3.0						
ARK	**Arkit**	**2.96**	**314**	⇑*i*P	**Pb**	**14 35 16.4**	**-3.2**
	baz=17						
ARK				⇑*i*S	**Sb**	**14 35 54.5**	**-1.4**
	baz=17						
KDJ	**Kajisay**	**2.97**	**37**	⇑*i*P	**Pb**	**14 35 18.3**	**-1.4**
	baz=35						
KDJ				⇑*i*S	**Sb**	**14 35 56.6**	**+0.5**
	baz=35						
EKS2	**Erkin-Say**	**2.99**	**345**	⇑*i*P	**Pb**	**14 35 18.5**	**-1.6**
	baz=47						
EKS2				⇑*i*S	**Sb**	**14 35 57.2**	**+0.4**
	baz=47						
BTK	**Batken**	**3.08**	**277**	⇓*e*P	**Pn**	**14 35 17.3**	**+1.8**
	baz=80						
BTK				⇓*i*S	**Sn**	**14 35 54.5**	**+2.1**
	baz=80						
MRKS	**Merke**	**3.21**	**339**	Pg	**Pg**	**14 35 27.4**	**-0.7**
	13nm,0.5s						
MRKS				Lg	Lg	14 36 12.4	
	13nm,0.6s						
MRKS	**Merke**	**3.21**	**339**	*e*P	**Pb**	**14 35 21.7**	**-2.0**
	5.4nm,0.5s						
MRKS				*e*S	**Sg**	**14 36 07.1**	**-2.5**
	10nm,0.5s						
TKM2	**Tokmak 2**	**3.21**	**10**	P	**Pb**	**14 35 22.1**	**-1.7**
	SNR=24						
TKM2	**Tokmak 2**	**3.21**	**10**	⇑Pn	**Pb**	**14 35 21.5**	**-2.4**
	7.8nm,0.3s						
TKM2				⇑Lg	Lg	14 36 12.3	
	24nm,0.8s						
TKM2	**Tokmak 2**	**3.21**	**10**	⇓*e*P	**Pb**	**14 35 21.9**	**-1.9**
	baz=11						
TKM2				⇓*i*S	**Sb**	**14 36 02.6**	**-0.4**
	baz=11						
CHMS	**Chumysh**	**3.23**	**359**	P	**Pb**	**14 35 22.5**	**-1.6**
	SNR=8.5						
KST	**Kastek**	**3.39**	**15**	Pg	**Pg**	**14 35 29.2**	**-2.3**
	8.6nm,0.6s						
KST				Lg	Lg	14 36 15.8	
	18nm,0.7s						
KST	**Kastek**	**3.39**	**15**	*e*P	**Pb**	**14 35 24.6**	**-2.2**
	9.2nm,0.3s						
KST				*e*S	**Sb**	**14 36 09.8**	**+1.7**
	14nm,0.8s						
USP	**Ospenovka**	**3.50**	**356**	P	**Pg**	**14 35 34.0**	**+0.2**
	SNR=7.5						
DGS	**Degeres**	**3.55**	**11**	Pg	**Pg**	**14 35 33.6**	**-1.0**
	17nm,0.6s						
DGS				Lg	Lg	14 36 23.4	
	18nm,0.7s						
MTBS	**Maitube**	**3.57**	**19**	Pg	**Pg**	**14 35 34.3**	**-0.8**
	7.6nm,0.5s						
MTBS				Lg	Lg	14 36 24.8	
	18nm,0.6s						
TNSS	**Tian-Shan**	**3.64**	**26**	Pg	**Pg**	**14 35 35.3**	**-1.1**
	6.5nm,0.3s						
TNSS				Lg	Lg	14 36 26.6	
	11nm,0.7s						
SGDS	**Sogindy**	**3.68**	**358**	Pg	**Pg**	**14 35 36.5**	**-0.7**
	11nm,0.6s						
SGDS				Lg	Lg	14 36 27.8	
	9.5nm,0.7s						
MDOK	**Medeo**	**3.79**	**26**	⇓Pg	**Pg**	**14 35 38.4**	**-0.8**
	5.3nm,0.6s						
MDOK				Lg	Lg	14 36 30.5	
MDOK	**Medeo**	**3.79**	**26**	Pg	**Pg**	**14 35 37.0**	**-2.2**
	2.8nm,0.4s						
MDOK				Lg	Lg	14 36 29.7	
	12nm,0.6s						
KOTS	**Kotyrbulak**	**3.87**	**26**	Pg	**Pg**	**14 35 39.4**	**-1.4**
	5.7nm,0.6s						
KOTS				Lg	Lg	14 36 33.5	
	47nm,0.6s						
KTBS	**Karatobe**	**4.18**	**19**	Pg	**Pg**	**14 35 45.2**	**-1.6**
	4.7nm,0.5s						
KTBS				Lg	Lg	14 36 43.9	
	14nm,0.5s						
KUU	**Kurty**	**4.28**	**15**	Pg	**Pg**	**14 35 46.3**	**-2.2**
	5.0nm,0.5s						
KUU				Lg	Lg	14 36 45.5	
	28nm,0.8s						
IUG	**Iuzhnay**	**4.33**	**305**	Pg	**Pg**	**14 35 47.8**	**-1.7**
	13nm,0.6s						
IUG				Lg	Lg	14 36 47.9	
	30nm,0.7s						
CHKK	**Chushkaly**	**4.40**	**21**	Pg	**Pg**	**14 35 48.9**	**-1.9**
	3.9nm,0.6s						
CHKK				Lg	Lg	14 36 49.9	
	12nm,0.8s						
KK31	**Karatay Array**	**4.64**	**317**	Pn	**Pn**	**14 35 40.0**	**+3.2**
	0.5nm,0.3s,baz=0.0,slow=0.1,SNR=11						
KK31				⇑Pg	**Pg**	**14 35 52.5**	**-3.0**
	1.3nm,0.5s,baz=134,slow=15,SNR=5.0						
KK31				⇓Sn	**Sn**	**14 36 33.7**	**+3.0**
	1.8nm,0.5s,baz=132,slow=28,SNR=3.5						
KK31				⇑Lg	Lg	14 36 56.2	
	5.1nm,0.6s,baz=131,slow=27,SNR=4.7						
PDGK	**Podgornoye**	**5.00**	**43**	Pg	**Pg**	**14 35 58.2**	**-4.2**
	1.6nm,0.8s						
PDGK				Lg	Lg	14 37 05.8	
	4.1nm,0.9s						
PDGK	**Podgornoye**	**5.00**	**43**	⇓Pg	**Pg**	**14 36 01.4**	**-1.0**
	2.9nm,0.7s						
PDGK				⇑Lg	Lg	14 37 07.6	
	10nm,0.8s						

IDC 04 14:39:17.3±3.9**, 49.°97S**×**110.°66E, h0**km**, mb3.7**/2**, mb1 4.0**/2**, mb1mx3.7**/25**, mbtmp3.7**/2**, MS3.6**/7**, Ms1 3.6**/7**, ms1mx3.4**/17**, Error ellipse: s-maj=163.7km s-min=50.0km az=113.0, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.28**	**11**	T	T	14 58 13.6	
	baz=199,slow=74,SNR=22						
H01W1	**Cape Leeuwin H**	**15.29**	**11**	T	T	14 58 09.0	
	baz=199,slow=74,SNR=21						
H01W3	**Cape Leeuwin H**	**15.29**	**11**	T	T	14 58 12.7	
	baz=199,slow=74,SNR=22						
STKA	**Stephens Creek**	**29.25**	**64**	LR	LR	14 54 30.0	
	comp=Z,68nm,20.3s,baz=207,slow=31						
ASAR	**Alice Springs**	**31.92**	**43**	P	P	14 45 45.3	+0.8
	0.8nm,0.8s,baz=214,slow=8.0,SNR=7.8						
ASAR				LR	LR	14 57 40.2	
	comp=Z,110nm,19.7s,baz=230,slow=34						
VNDA	**Vanda**	**33.55**	**162**	LR	LR	14 59 35.5	
	comp=Z,144nm,18.8s,baz=292,slow=36						
WRA	**Warramunga Arr**	**35.39**	**41**	P	P	14 46 14.0	-0.7
	0.8nm,0.7s,baz=207,slow=9.8,SNR=6.2						
WRA				LR	LR	14 59 23.7	
	comp=Z,157nm,19.2s,baz=230,slow=34						
DZM	**Mont Dzumac**	**51.53**	**78**	LR	LR	15 05 42.4	
	comp=Z,38nm,21.1s,baz=29,slow=31						
CMAR	**Chiang Mai Arr**	**68.91**	**348**	LR	LR	15 17 29.5	
	comp=Z,18nm,19.2s,baz=215,slow=33						
SONM	**Songino Array**	**97.50**	**357**	LR	LR	15 37 27.9	
	comp=Z,31nm,19.2s,baz=354,slow=36						
NVAR	**Mina Array Bea**	**143.67**	**89**	PKP	PKPdf	14 58 53.1	-0.8
	0.5nm,0.8s,baz=220,slow=9.1,SNR=3.6						
TXAR	**Lajitas Array**	**146.91**	**116**	PKPbc	PKPbc	14 59 00.6	-0.9
	0.5nm,0.8s,baz=205,slow=3.7,SNR=5.4						

*AZER **04** 15:03:43.2±0.0, 38.°32N×46.°62E, h11km, ml3.2/21, Error ellipse: s-maj=4.0km s-min=1.0km az=42.0*
*NSSP **04** 15:03:44.1, 38.°43N×46.°72E, h9km, Ms3.3*
*THR **04** 15:03:45.6, 38.°43N×46.°75E, h14km, ML3.1*
*TEH **04** 15:03:45.6, 38.°43N×46.°78E, h10km, ML3.2*
ISC 04 15:03:45.9±1.1**, 38.°43N**±0.°03×**46.°76E**±0.°02**, h7**km±10km**, n36,** σ1s**38**/63**, 21C-20D, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHRS	**Heris**	**0.25**	**117**	*e*Pg	**Pg**	**15 03 50.7**	**-0.2**
IHRS				*e*Sg	**Sg**	**15 03 54.7**	**+0.4**
IHRS				IAMB	IAmb	15 03 55.7	
	comp=Z,94μm,0.2s						
ITBZ	**Tabriz**	**0.52**	**248**	*e*Pg	**Pg**	**15 03 56.0**	**0.0**
ITBZ				*e*Sg	**Sb**	**15 04 03.9**	**-1.5**
ITBZ				IAMB	IAmb	15 04 04.0	
	comp=Z,37μm,0.2s						
IBST	**Bostanabad**	**0.74**	**172**	*e*Pg	**Pg**	**15 03 58.6**	**-1.5**
IBST				IAMB	IAmb	15 03 58.8	
	comp=Z,13μm,0.1s						
ORD	**Ordubad**	**0.78**	**310**	⇑P	**Pg**	**15 04 00.5**	**-0.3**
ORD				⇓S	**Sg**	**15 04 11.3**	**+0.4**
IMRD	**Marand**	**0.87**	**289**	IAMB	IAmb	15 04 03.8	
	comp=Z,22μm,0.2s						
IMRD				*e*Pg	**Pg**	**15 04 02.2**	**-0.5**
ISHB	**Shabestar**	**0.91**	**261**	*e*Sg	**Sb**	**15 04 16.9**	**+0.3**
ISHB				*e*Pg	**Pg**	**15 04 03.2**	**-0.2**
ISHB				IAMB	IAmb	15 04 17.9	
	comp=Z,15μm,0.4s						
ISRB	**Sarab**	**0.94**	**130**	IAMB	IAmb	15 04 18.4	
	comp=Z,14μm,0.2s						
ISRB				*e*Pg	**Pg**	**15 04 02.8**	**-1.1**
GRMI	**Germi**	**0.96**	**67**	*e*AML	AML	15 04 18.4	
	comp=E,516nm,0.3s						
GRMI				*e*Pg	**Pg**	**15 04 03.8**	**-0.6**
GRMI				*e*Sg	**Sg**	**15 04 17.3**	**+0.4**
NAX	**Nakhchivan**	**1.23**	**307**	⇑P	**Pb**	**15 04 09.2**	**-0.4**
	SNR=9.8						
NAX				⇑S	**Sn**	**15 04 26.7**	**+0.1**
LRK	**Lerik**	**1.26**	**80**	⇑P	**Pn**	**15 04 09.4**	**-0.7**
	SNR=132						
LRK				⇓S	**Sg**	**15 04 26.9**	**+0.5**
SBZ	**Shahbuz**	**1.34**	**316**	⇓P	**Pb**	**15 04 11.2**	**-0.3**
SBZ				⇑S	**Sg**	**15 04 30.8**	**+1.7**
GLBA	**Clilabad**	**1.51**	**57**	⇑P	**Pg**	**15 04 14.7**	**-0.1**
	SNR=37						
GLBA				⇑S	**Sg**	**15 04 37.0**	**+2.6**
ASTR	**Astara**	**1.60**	**85**	P	**Pb**	**15 04 15.6**	**-0.2**
	SNR=34						
ASTR				⇑S	**Sg**	**15 04 38.6**	**+1.3**
LKRN	**Lenkeran, Azer**	**1.61**	**80**	P	**Pb**	**15 04 15.6**	**-0.3**
	SNR=55						
LKRN				⇑S	**Sg**	**15 04 39.2**	**+1.7**
BRDA	**Brd**	**1.85**	**10**	⇑P	**Pn**	**15 04 18.9**	**+0.8**
	SNR=3.5						
BRDA				⇑S	**Sg**	**15 04 46.8**	**+1.3**
MAKU	**Maku**	**1.86**	**300**	*e*Pn	**Pb**	**15 04 19.2**	**-1.2**
MAKU	**Maku**	**1.86**	**300**	*e*Pn	**Pb**	**15 04 19.2**	**-1.2**
MAKU				*e*Sg	**Sb**	**15 04 44.5**	**+0.5**
HYR	**Heyderabad**	**1.96**	**311**	⇓P	**Pn**	**15 04 20.3**	**+0.6**
HYR				⇓S	**Sg**	**15 04 48.8**	**-0.2**
ZRD	**Zardab**	**1.98**	**21**	⇓P	**Pb**	**15 04 21.4**	**-0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	SNR=4.1						
ZRD				⇓S	Sg	15 04 50.8	+1.4
GANJ	Ganja	2.23	351	P	Pb	15 04 25.8	-0.8
	SNR=13						
GANJ				⇓S	Sb	15 04 54.8	+0.2
ALIB	Äli-Bayra	2.32	48	⇓P	Pb	15 04 27.1	-0.9
	SNR=3.6						
ALIB				⇓S	Sb	15 04 57.9	+1.0
GNI	Garni	2.32	318	⇑iP	Pb	15 04 28.5	+0.3
GNI				⇑iS	Sg	15 05 00.8	+0.3
ZNJK	Zanjan	2.33	138	ePn	Pn	15 04 25.8	+0.8
ZNJK	Zanjan	2.33	138	ePn	Pn	15 04 25.8	+0.8
GDB	GEDABAY	2.41	342	⇑P	Pn	15 04 27.6	+1.5
	SNR=32						
GDB				⇑S	Sg	15 05 01.5	-1.9
QBL	Gabala	2.64	18	⇑P	Pn	15 04 30.9	+1.8
	SNR=4.9						
QBL				⇑S	Sb	15 05 06.5	+0.2
GBS	Qobustan	2.69	38	⇓P	Pn	15 04 31.1	+1.4
	SNR=4.9						
GBS				⇓S	Sb	15 05 08.9	+1.1
SEKA	Sheki	2.79	7	⇓P	Pb	15 04 33.9	-2.3
	SNR=4.4						
SEKA				⇑S	Sb	15 05 09.5	-1.2
QZX	Qazax, Azerbai	2.83	338	⇑P	Pn	15 04 33.0	+1.4
	SNR=3.9						
QZX				⇓S	Sb	15 05 08.6	-3.2
XNQ	Khinaliq	2.93	21	⇓P	Pb	15 04 35.8	-2.9
	SNR=9.2						
XNQ				⇑S	Sb	15 05 12.2	-2.7
SIZA	Siyzn	3.11	31	⇓P	Pb	15 04 38.5	-3.1
	SNR=8.7						
SIZA				⇓S	Sb	15 05 18.9	-1.0
ZKTA	Zakatala	3.20	358	⇓P	Pn	15 04 38.4	+1.7
ZKTA				⇓S	Sb	15 05 20.1	-2.3
QSAR	Qusar	3.29	20	⇓P	Pn	15 04 40.5	+2.6
	SNR=6.4						
QSAR				⇑S	Sb	15 05 24.5	-0.3
HKZM	Kohzaman	3.50	150	ePn	Pn	15 04 42.5	+1.4
TRLG	Trialeti	3.71	327	P	Pb	15 04 53.4	+1.4
IRAZ	Razeghan	3.95	139	ePn	Pn	15 04 48.6	+1.4
IRAZ				IAMB	IAmb	15 05 03.6	
	comp=Z,272nm,0.4s						

*IDC **04** 15:48:34.6±7.3, 19°.74S×175°.12W, h116km±69km, mb3.7/9, mb1 4.0/10, mb1mx3.7/33, mbtmp4.1/10, Error ellipse: s-maj=32.5km s-min=17.2km az=157.0*
*ISCJB **04** 15:48:36.5±0.5, 20°.00S±0°.06×175°.00W±0°.09, h150km, mb3.9/10, Error ellipse: s-maj=12.9km s-min=7.3km az=18.4*
*WEL **04** 15:48:50.8±1.1, 21°S±13°×17°4W±3°3, h199km±10km*
ISC 04 15:48:37.0±0.7, **20°.14S**±0°.08×**174°.9W**±0°.1, **h150**km, **n57**, σ**1s79**/57, **mb3.9**/10, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	Raoul Island	9.47	196	P	Pn	15 50 49.0	-0.9
GLKZ	Green Lake	9.48	196	P	Pn	15 50 50.9	+0.8
GLKZ				S	Sn	15 52 34.9	-0.3
RAR	Rarotonga	14.21	97	P	P	15 51 53.6	-0.8
	2.0nm,0.3s,baz=210,slow=14,SNR=2.3						
RAR				S	Sn	15 54 16.6	-12
	1.3nm,0.3s,baz=350,slow=17,SNR=2.8						
DZM	Mont Dzumac	17.51	260	P	Pn	15 52 35.6	+3.5
	0.4nm,0.3s,baz=58,slow=19,SNR=4.1						
OUZ	Omahuta	18.12	212	P	Pn	15 52 39.9	+0.7
MXZ	Matakaoa Point	18.34	197	P	Pn	15 52 44.5	+2.9
WCZ	Waipu Caves	18.35	209	P	Pn	15 52 43.7	+1.8
KUZ	Kuaotunu	18.46	204	P	Pn	15 52 44.6	+1.5
WMGZ	Waiomatatini S	18.55	197	P	Pn	15 52 45.0	+0.9
HAZ	Te Kaha	18.67	198	P	P	15 52 42.5	-1.0
HAZ				S	S	15 55 59.8	-8.3
ABAZ	Army Bay	18.70	207	P	Pn	15 52 47.5	+1.6
PKGZ	Pakihiroa	18.70	198	P	P	15 52 43.8	-0.1
WIAZ	Waiheke Island	18.74	206	P	Pn	15 52 47.8	+1.5
MBAZ	Motutapu North	18.81	206	P	Pn	15 52 48.1	+0.9
PUZ	Puketiti	18.83	197	P	P	15 52 47.2	+2.0
PUZ				S	S	15 56 02.1	-9.2
RUGZ	Raukumara Rang	18.89	198	P	Pn	15 52 49.5	+1.2
RVAZ	Riverhead Bore	18.95	207	P	Pn	15 52 50.5	+1.7
HBAZ	Herne Bay Bore	18.95	206	P	Pn	15 52 50.7	+1.8
ETAZ	East Tamaki Re	18.96	206	P	Pn	15 52 50.3	+1.3
EPAZ	Eden Park BICE	18.97	206	P	Pn	15 52 51.3	+2.3
MKAZ	Moumakai	18.99	205	P	Pn	15 52 50.5	+1.1
TWGZ	Tauwhareparae	19.00	197	P	Pn	15 52 50.4	+0.9
WTAZ	Waiatarua	19.09	207	P	Pn	15 52 51.2	+0.8
KBAZ	Karaka Road Bo	19.09	206	P	Pn	15 52 52.6	+2.0
OPRZ	Ohinepanea	19.14	201	P	Pn	15 52 52.1	+1.1
CNGZ	Carnagh Statio	19.23	197	P	Pn	15 52 52.3	+0.3
MWZ	Matawai	19.28	198	P	P	15 52 52.4	+2.3
MWZ				S	S	15 56 14.1	-6.3
TKGZ	Te Karaka	19.28	197	P	P	15 52 51.5	+1.4
URZ	Urewera	19.34	199	P	P	15 52 51.0	+0.4
	17nm,0.3s,baz=292,slow=2.9,SNR=114						
URZ				S	S	15 56 14.3	-7.1
	0.9nm,0.3s,baz=354,slow=18,SNR=4.9						
URZ	Urewera	19.34	199	P	P	15 52 51.1	+0.4
KARZ	Kaharoa	19.40	201	P	Pn	15 52 55.0	+0.8
OMRZ	Omania	19.43	201	P	Pn	15 52 55.6	+1.0
RIGZ	Rimuhau	19.56	197	P	Pn	15 52 56.3	+0.4
HLRZ	Highlands Stat	19.57	201	P	Pn	15 52 57.2	+1.1
RRRZ	Republican Roa	19.60	200	P	Pn	15 52 57.2	+0.7
MUGZ	Murupara	19.64	200	P	P	15 52 54.4	+0.4
PRGZ	Paritu Road	19.73	197	P	Pn	15 52 58.7	+0.7
PRGZ				P	P	15 52 59.0	+4.1
GRRZ	Galatos Road	19.74	201	P	Pn	15 52 58.1	-0.1
SNGZ	Shannon Statio	19.75	198	P	P	15 52 57.1	+1.9
SNGZ				S	S	15 56 20.7	-8.9
MHGZ	Mahia Peninsul	19.93	197	P	Pn	15 53 00.4	0.0
RAHZ	Arahi	19.95	199	P	P	15 52 59.3	+2.0
RAHZ				S	S	15 56 30.6	-2.9
WHHZ	Waihua	20.05	198	P	P	15 53 00.8	+2.4
MRHZ	Matea Rd	20.08	200	P	P	15 52 59.7	+0.9
ARHZ	Aropaoanui	20.29	198	P	P	15 53 02.3	+1.3
MCHZ	McNeill Hill	20.55	199	P	P	15 53 05.5	+1.8
KAHZ	Kahuranaki	20.82	198	P	P	15 53 09.1	+2.4
RPZ	Rata Peaks	26.27	203	P	P	15 54 02.2	+3.9
	24nm,0.5s,baz=340,slow=3.0,SNR=22						
CTA	Charters Tower	36.41	263	P	P	15 55 27.2	-0.1
	3.0nm,0.7s,baz=87,slow=11,SNR=6.1						
STKA	Stephens Creek	40.56	244	P	P	15 56 02.4	+0.6
	2.4nm,1.0s,baz=90,slow=14,SNR=3.1						
ASAR	Alice Springs	47.42	256	P	P	15 56 56.4	-0.3
	1.3nm,0.6s,baz=97,slow=8.2,SNR=23						
WRA	Warramunga Arr	47.52	261	P	P	15 56 56.5	-1.0
	0.4nm,0.3s,baz=96,slow=7.6,SNR=53						
MJAR	Matsushiro Arr	71.69	322	P	P	15 59 41.9	-0.7
	1.6nm,0.6s,baz=165,slow=6.0,SNR=12						
PETK	Petropavlovsk-	76.71	343	P	P	16 00 10.8	-0.5
	3.4nm,0.8s,baz=73,slow=11,SNR=5.6						
NVAR	Mina Array Bea	78.80	42	P	P	16 00 24.3	+0.9
	0.2nm,0.4s,baz=224,slow=8.7,SNR=3.1						
TXAR	Lajitas Array	84.43	56	P	P	16 00 53.9	+0.8
	0.8nm,1.0s,baz=215,slow=8.5,SNR=4.6						
ILAR	Eielson Array	87.35	12	P	P	16 01 04.8	-1.6
	6.6nm,1.4s,baz=216,slow=4.7,SNR=9.3						
ARCES	ARCESS Array B	129.06	351	PKP	PKiKP	16 07 26.9	-0.2
	2.4nm,0.9s,baz=13,slow=1.6,SNR=6.1						

THR 04 16:10:08.2, 36°.68N×49°.84E, h14km, ML2.5, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZNJK	Zanjan	0.93	270	eAML	AML	16 10 38.9	
	comp=N,132nm,0.2s						
ZNJK				ePg	Pg	16 10 26.0	-0.3
ZNJK				eSg	Sg	16 10 38.5	0.0
THKV	Tehran--Karaj	1.13	132	ePg	Pb	16 10 29.5	-0.2
CHTH	Charan	1.29	126	ePg	Pn	16 10 32.2	+0.1
ASAO	Ashtian	2.13	176	ePn	Pb	16 10 45.6	-1.2
ASAO				eSg	Sg	16 11 15.5	-1.3

UCR 04 16:13:10.5±2.6, **9°.33N×82°.66W, h21**km±8km, **MD3.8, 1C-2D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	Volcan	0.54	184	eP	Pb	16 13 20.7	-0.6
BRU2				eS	Sb	16 13 28.8	0.0
DRK0	Durika	0.58	263	⇓iP	Pb	16 13 20.7	-1.6
DRK0				eS	Sb	16 13 28.7	-1.6
EDBA	Buenos Aires	0.63	255	eP	Pb	16 13 22.4	-0.6
PTJ1	Puerto Jimnez	1.02	219	eP	Pb	16 13 28.7	-0.7
PTJ1				eS	Sn	16 13 43.6	+0.5
EDDO	Dominical	1.20	266	eP	Pn	16 13 32.0	+0.1
EDDO				eS	Sn	16 13 48.1	+0.6
URSC	Urasca	1.21	294	eP	Pn	16 13 31.4	-1.0
LCR2	La Lucha 2	1.39	287	eP	Pn	16 13 34.4	-0.4
LCR2				eS	Sn	16 13 52.8	+0.2
HDC	Heredia	1.58	295	⇑eP	Pn	16 13 38.3	+0.8
HDC				eS	Sb	16 13 59.2	+0.4
JTS	JuntasAbangare	2.46	293	eP	Pn	16 13 50.8	+1.5
JTS				eS	Sn	16 14 21.2	+2.5
ZANG	Zanguenga, Cho	2.78	98	eP	Pn	16 13 53.0	-0.8
ZANG				i S	Sn	16 14 26.7	-0.1
BCIP	Isla Barro Col	2.79	93	⇓eP	Pn	16 13 54.3	+0.4
BCIP				eS	Sn	16 14 26.4	-0.5
AZU	Azuero	2.81	123	eP	Pn	16 13 55.3	+1.1
AZU				eS	Sn	16 14 28.6	+1.2
FRIJ	El Hiral	2.89	92	eP	Pn	16 13 55.7	+0.3
FRIJ				i S	Sn	16 14 28.8	-0.8

IDC 04 16:14:06.3±7.5, **30°.67S×178°.72W, h0**km, **mb3.1**/2, **mb1 3.4**/2, **mb1mx3.3**/24, **mbtmp3.1**/2, **Error ellipse: s-maj=313.4km s-min=58.5km az=156.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.47	268	P	P	16 22 03.2	-0.1
	0.2nm,0.7s,baz=108,slow=7.6,SNR=3.0						
WRA	Warramunga Arr	43.49	273	P	P	16 22 11.4	-0.2
	0.1nm,0.3s,baz=111,slow=8.0,SNR=6.8						
FINES	FINESS Array B	145.18	339	PKPbc	PKPbc	16 33 43.9	-0.8
	0.5nm,0.5s,baz=71,slow=4.7,SNR=5.6						

IDC 04 16:21:28.7±13.0, **5°.36S×68°.48E, h0**km, **mb3.6**/4, **mb1 3.8**/4, **mb1mx3.4**/43, **mbtmp3.6**/4, **MS3.2**/1, **Ms1 3.2**/1, **ms1mx2.5**/37, **Error ellipse: s-maj=434.9km s-min=31.0km az=64.0, Chagos Archipelago region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	2.69	111	Pn	Pn	16 22 03.0	-10
H08N2				T	T	16 24 47.9	
	baz=290,slow=74,SNR=298						
H08N3	Diego Garcia H	2.69	112	Pn	Pn	16 22 03.1	-10
H08N3				T	T	16 24 47.5	
	baz=290,slow=74,SNR=270						
H08N1	Diego Carcia H	2.71	111	Pn	Pn	16 22 03.3	-10
H08N1				T	T	16 24 49.4	
	baz=290,slow=74,SNR=301						
H08S1	Diego Carcia H	4.58	120	Pn	Pn	16 22 36.9	-2.1
	baz=35,slow=76,SNR=6.2						
H08S1				T	T	16 27 20.5	
	baz=295,slow=75						
H08S3	Diego Garcia H	4.58	120	Pn	Pn	16 22 36.8	-2.3
	baz=35,slow=76,SNR=16						
H08S3				T	T	16 27 20.0	
	baz=295,slow=75						
H08S2	Diego Garcia H	4.59	120	Pn	Pn	16 22 37.1	-2.1
	baz=35,slow=76,SNR=11						
H08S2				T	T	16 27 19.6	
	baz=295						
PALK	Pallekele	17.50	44	LR	LR	16 31 00.6	
	comp=Z,68nm,18.5s,baz=116,slow=33						
MKAR	Makanchi Array	53.35	12	P	P	16 30 50.1	+0.2
	0.2nm,0.6s,baz=201,slow=7.4,SNR=3.7						
ZALV	Zalesovo Beam	60.66	11	P	P	16 31 41.3	-0.2
	0.8nm,0.6s,baz=211,slow=8.1,SNR=3.5						
ASAR	Alice Springs	65.38	113	P	P	16 32 13.6	0.0
	0.4nm,0.7s,baz=281,slow=6.1,SNR=5.7						
WRA	Warramunga Arr	65.51	109	P	P	16 32 14.5	0.0
	1.0nm,0.9s,baz=283,slow=6.1,SNR=6.6						

IDC 04 16:24:28.1±1.9, **2°.04N×122°.93E, h0**km, **mb3.2**/3, **mb1 3.4**/3, **mb1mx3.2**/35, **mbtmp3.2**/3, **Error ellipse: s-maj=221.5km s-min=29.1km az=62.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.55	153	P	P	16 29 49.4	-0.3
	0.4nm,0.8s,baz=329,slow=10,SNR=7.3						
ASAR	Alice Springs	27.69	158	P	P	16 30 18.5	+0.4
	0.2nm,0.6s,baz=345,slow=14,SNR=4.5						
MKAR	Makanchi Array	56.86	328	P	P	16 34 14.5	-0.1
	0.2nm,0.5s,baz=138,slow=8.8,SNR=2.7						

TRN 04 16:32:56.6, 16°.63N×60°.62W, h52km, MD3.5, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABD	La Joyeuse, An	0.85	259	eP	Pn	16 33 13.9	+1.5
MAGL	Barre de l'ile	0.93	223	eP	Pn	16 33 15.2	+1.7
MGG	Marie-Galante	0.98	223	eP	Pn	16 33 16.3	+2.2
MGG				eS	Sn	16 33 30.2	+3.2
CBE	Ff, Capester	1.10	240	eP	Pn	16 33 17.8	+2.0
DWS	Wesley	1.25	212	eP	Pn	16 33 19.8	+2.0
DWS				eS	Sn	16 33 35.7	+2.2
TDBA	Terre de Bas,	1.25	232	eP	Pn	16 33 21.3	+3.5
BPA	Boggy Peak	1.25	289	eP	Pn	16 33 19.6	+1.7
BPA				eS	Sn	16 33 35.5	+1.8
TBG	Guadaloupe-3	1.25	232	eP	Pn	16 33 20.2	+2.3
TBG				eS	Sn	16 33 35.5	+1.8
MDPV	Dominica, Penn	1.26	218	eP	Pn	16 33 19.0	+1.0
MDPV				eS	Sn	16 33 36.0	+2.1
MDPO	Dominica; Chan	1.32	217	eP	Pn	16 33 20.2	+1.5
MDPO				eS	Sn	16 33 37.3	+2.1
BBL	Barber's Block	1.37	217	eP	Pn	16 33 21.3	+1.8
BBL				eS	Sn	16 33 38.7	+2.1
DLPL	La Plaine	1.43	205	eP	Pn	16 33 20.8	+0.6
DLPL				eS	Sn	16 33 40.0	+2.1
MDN	Morne-Daniel	1.50	210	eP	Pn	16 33 21.8	+0.6
MDN				eS	Sn	16 33 41.9	+2.2
MLYT	Lee's Yard	1.51	274	eP	Pn	16 33 23.6	+2.3
MLYT				eS	Sn	16 33 42.1	+2.2
ANWB	Willy Bob	1.52	313	eP	Pn	16 33 22.4	+0.9
ANWB				eS	Sn	16 33 42.4	+2.3
DBCT	Belle View Cho	1.52	207	eP	Pn	16 33 22.1	+0.6
DBCT				eS	Sn	16 33 42.8	+2.5
NEV	Hard Times	1.94	285	eP	Pn	16 33 29.1	+2.0
NEV				eS	Sn	16 33 53.0	+2.7
FDF	Fort de France	1.96	195	eP	Pn	16 33 29.2	+1.7
FDF				eS	Sn	16 33 52.8	+1.9
SMRT	St. Maarten	2.74	301	eP	Pn	16 33 39.6	+1.5
SMRT				eS	Sn	16 34 10.8	+0.8

*IDC **04** 16:33:28.1±1.5, 25°.53N×96°.53E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/54, mbtmp3.3/5, ML3.5/1, Error ellipse: s-maj=65.3km s-min=19.7km az=72.0*
*ISCJB **04** 16:33:29.9±0.9, 25°.4N±0°.1×96°.6E±0°.1, h25km, mb3.4/4, Error ellipse: s-maj=21.0km s-min=13.8km az=146.3*
ISC 04 16:33:31.8±1.0, **25°.6N**±0°.1×**96°.6E**±0°.2, **h25**km, **n6**, σ**1s56**/7, **mb3.5**/4, **Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	4.24	271	eP	Pn	16 34 35.0	0.0
CMAR	Chiang Mai Arr	7.41	162	Pn	Pn	16 35 16.1	-2.4
	0.2nm,0.3s,baz=333,slow=12,SNR=3.5						
CMAR				Pg	Pb	16 35 41.5	+1.7
	0.1nm,0.3s,baz=339,slow=17,SNR=8.2						
CMAR				Lg	Lg	16 37 11.7	
	0.1nm,0.3s,baz=319,slow=29,SNR=3.2						
SONM	Songino Array	23.54	17	P	P	16 38 39.8	-0.4
	0.3nm,0.5s,baz=218,slow=8.4,SNR=4.0						
MKAR	Makanchi Array	24.04	335	P	P	16 38 45.2	+0.3
	1.6nm,0.7s,baz=146,slow=9.6,SNR=20						
WRA	Warramunga Arr	58.25	137	P	P	16 43 25.3	+0.8
	0.2nm,0.7s,baz=322,slow=7.7,SNR=4.0						
ASAR	Alice Springs	60.85	140	P	P	16 43 42.5	+0.2
	0.4nm,0.8s,baz=324,slow=7.5,SNR=4.5						

IDC 04 16:36:30.6±1.7, **1°.74N×124°.78E, h0**km, **mb3.5**/3, **mb1 3.7**/4, **mb1mx3.4**/44, **mbtmp3.5**/4, **ML3.7**/1, **Error ellipse: s-maj=138.4km s-min=21.8km az=67.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.73	178	P	P	16 41 01.5	-0.5
	0.2nm,0.3s,baz=356,slow=9.1,SNR=8.4						
WRA	Warramunga Arr	23.50	157	P	P	16 41 42.5	+0.2
	0.7nm,0.3s,baz=337,slow=10.0,SNR=30						
ASAR	Alice Springs	26.77	161	P	P	16 42 11.8	-0.5
	0.3nm,0.9s,baz=338,slow=7.0,SNR=7.3						
MKAR	Makanchi Array	58.10	327	P	P	16 46 26.2	+0.3
	0.3nm,0.3s,baz=129,slow=7.8,SNR=14						

*ISCJB **04** 16:40:41.5±1.8, 29°.96S±0°.06×72°.21W±0°.09, h15km±12km, Error ellipse: s-maj=13.8km s-min=8.8km az=19.9*
*GUC **04** 16:40:43.9±0.6, 29°.83S×71°.90W, h60km±4km, ML3.7*
*SJA **04** 16:40:43.2±0.5, 29°.97S×72°.22W, h37km±10km, ML3.4, MW3.7*
ISC 04 16:40:42.3±2.4, **29°.83S**±0°.05×**72°.3W**±0°.1, **h26**km±17km, **n17**, σ**1s92**/25, **1C-1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	La Serena	0.89	95	eP	Pn	16 40 57.3	-1.8
LSCH				i S	Sb	16 41 07.2	-3.3
GO04	Tololo Observa	1.32	105	eP	Pn	16 41 04.3	-1.0
GO04				eS	Sn	16 41 19.4	-2.8
GO04				IAML		16 41 25.4	
	comp=E,5μm,0.5s						
LCO	Las Campanas	1.59	60	eP	Pb	16 41 11.5	+0.4
LCO				eS	Sb	16 41 32.9	+2.0
LCO	Las Campanas	1.59	60	⇑eP	Pn	16 41 08.3	-0.7
LCO				i S	Sn	16 41 27.1	-1.8
CMCH	Combarbala	1.73	141	⇓eP	Pn	16 41 11.1	+0.3
CMCH				eS	Sn	16 41 31.1	-0.9
CMCH				IAML		16 41 35.7	
	comp=E,3μm,0.5s						
AROD	Rodeo	2.45	99	eP	Pn	16 41 23.2	+2.3
AROD				eS	Sn	16 41 52.1	+2.0
ACDV	Cuesta del Vie	2.75	98	eP	Pn	16 41 26.5	+1.6
GO03	Copiap	2.85	39	eP	Pn	16 41 26.2	0.0
GO03				eS	Sn	16 41 58.0	-1.8
GO03				IAML		16 42 20.7	
	comp=N,150nm,0.4s						
RTLS	Leoncito	3.22	128	eP	Pn	16 41 33.1	+1.6
RTLS				IAML		16 42 24.9	
	comp=Z,103nm,0.5s						
AGUA	GUANDACOL	3.30	85	eP	Pn	16 41 34.8	+2.3
ROCH	El Roble	3.31	161	eP	Pn	16 41 33.1	+0.5
ROCH				eS	Sn	16 42 10.0	-1.3
ROC1	El Roble	3.31	162	eP	Pn	16 41 33.3	+0.5
AMOG	MOGNA	3.44	110	eP	Pn	16 41 36.1	+1.8
RTLL	Cerro Villicun	3.59	116	eP	Pn	16 41 38.3	+1.9
VCA	Vinchina	3.71	74	eP	Pn	16 41 41.2	+3.1
RTCV	Cerro Valdivia	3.79	123	eP	Pn	16 41 40.5	+1.4
ARCO	CERRO ARCO	4.14	137	eP	Pn	16 41 45.6	+1.6
ARCO				IAML		16 41 58.8	
	comp=Z,52nm,0.5s						

*DDA **04** 16:58:21.6, 39°.08N×29°.13E, h7km±4km, ML2.5*
*ISCJB **04** 16:58:22.7±0.6, 39°.07N±0°.05×29°.14E±0°.06, h9km±5km, Error ellipse: s-maj=9.3km s-min=5.9km az=144.8*
*ISK **04** 16:58:22.1, 39°.10N×29°.16E, h5km, ML1.8/7*
ISC 04 16:58:22.4±1.0, **39°.09N**±0°.03×**29°.15E**±0°.04, **h10**km±7km, **n17**, σ**0s66**/20, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAP	Saphane-Kutahy	0.09	140	PG	Pg	16 58 24.7	-0.3
SIMA	Simav-Kutahya	0.13	267	PG	Pg	16 58 26.4	+0.9
SIMA				SG	Sg	16 58 28.0	+0.2
SMAA	Simav-Kutahya	0.13	274	PG	Pg	16 58 24.8	-0.7
GDZ	Gediz	0.26	90	i P	Pb	16 58 28.1	-1.1
DEMI	Demirci	0.34	262	IAML_P			
	comp=Z,1μm,0.1s						
DEMI				i P	Pg	16 58 29.1	-0.1
KULA	Kula-Manisa	0.69	214	PG	Pb	16 58 36.2	-0.3
DURS	Dursunbey	0.73	314	IAML_P			
	comp=Z,393nm,0.1s						
DURS				i P	Pg	16 58 35.5	-0.9
MANT	Manisa	0.76	218	IAML_P			
	comp=Z,444nm,0.1s						
MANT				i P	Pb	16 58 37.1	-0.7
MANT				i S	Sg	16 58 46.9	0.0
KHAL	Karahalli	0.77	159	IAML_P			
	comp=Z,169nm,0.1s						
KHAL				i P	Pn	16 58 40.3	+1.0
CAVI	Cavuskoy	1.23	26	PN	Pn	16 58 45.6	-0.1
BORA	Eskisehir	1.28	52	PN	Pg	16 58 46.7	-0.3
BORA	Eskisehir	1.28	52	IAML_P			
	comp=Z,1μm,0.2s						
BORA				i P	Pg	16 58 47.1	+0.1
BORA				i S	Sn	16 59 04.7	+1.0
KCTX	Karacabey (Bur	1.32	333	PN	Pg	16 58 47.6	-0.2
YLV	Yalova	1.48	7	PN	Pb	16 58 49.9	-0.2
ARMT	Armutlu	1.49	352	PN	Pb	16 58 49.9	-0.2
AYDB	Zeytinkoy-Aydi	1.51	221	PN	Pg	16 58 50.6	-0.7
GULT	Gulveren	1.70	38	PN	Pb	16 58 53.5	-0.3

MAN 04 17:08:55.8, 17°.45N×119°.95E, h58km, mb4.7, ML3.6, MS3.5, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	Bolinao	1.06	182	eP	Pn	17 09 16.1	+1.6
BOLP				eS	Sn	17 09 30.0	+1.6
APYP	Conner	1.30	71	eP	Pn	17 09 17.5	-0.2
APYP				eS	Sn	17 09 32.1	-2.1
SMPP	San Manuel, Pa	1.47	151	eP	Pn	17 09 18.6	-1.4
SMPP				eS	Sn	17 09 35.1	-3.0
SCZP	Santa Cruz	1.66	181	eP	Pn	17 09 24.1	+1.5
SCZP				eS	Sn	17 09 43.9	+1.1
CVP	Callao Caves	1.80	82	⇑iP	Pn	17 09 23.8	-0.7
CVP				eS	Sn	17 09 46.5	+0.1
CAUP	Cauayan	1.86	105	eP	Pn	17 09 26.5	+1.2
SGCP	Mt. Cagua	2.15	68	eP	Pn	17 09 31.2	+2.0
SGCP				eS	Sn	17 09 56.7	+1.9
PCPH	Palayan	2.17	149	⇓eP	Pn	17 09 29.6	0.0
BALP	Baler	2.30	137	eP	Pn	17 09 31.0	-0.4
PALP	Palanan	2.40	99	eP	Pn	17 09 33.4	+0.8
PALP				eS	Sn	17 10 02.5	+1.7
POLP	Polilio Island	3.31	144	eP	Pn	17 09 47.1	+2.0

*IDC **04** 17:18:42.5±1.2, 10°.08S×121°.47E, h0km, mb3.6/4, mb1 3.8/7, mb1mx3.6/39, mbtmp3.7/7, ML3.5/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/37, Error ellipse: s-maj=40.6km s-min=17.9km az=47.0*
*DJA **04** 17:18:50.8±0.8, 10°S±3°×12°2E±°, h11km±6km, M3.6/3, MLv3.6/3*
ISC 04 17:18:52.0±1.0, **9°.97S**±0°.06×**121°.74E**±0°.04, **h73**km±11km, **n19**, σ**1s48**/21, **mb3.5**/4, **Savu Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	Baing, Sumba	1.17	258	P	Pn	17 19 11.7	-1.2
BASI				S	Sn	17 19 29.5	+1.0
EDFI	Ende, Flores	1.22	358	P	Pn	17 19 12.0	-1.5
EDFI				S	Sn	17 19 29.9	+0.3
MMRI	Maumere	1.41	20	P	Pn	17 19 14.9	-1.1
MMRI				S	Sn	17 19 34.9	+0.9
WSI	Waingapu	1.46	282	P	Pn	17 19 17.4	+0.9
BATI	Baumata	1.91	97	Pn	Pn	17 19 21.0	-1.6
	17nm,0.3s,baz=337,slow=2.0,SNR=24						
BATI				Sn	Sn	17 19 47.5	+1.7
	37nm,0.3s,baz=184,slow=14,SNR=8.7						
BATI				LR	LR	17 20 40.1	
	comp=Z,258nm,21.3s,baz=306,slow=54						
BATI	Baumata	1.91	97	P	Pn	17 19 23.5	+1.0
BATI				S	Sn	17 19 48.6	+2.9
SOEI	Soe	2.50	85	P	Pn	17 19 31.3	+0.7
BSSI	Bau Bau, Buton	4.00	342	P	Pn	17 19 51.0	0.0
PLAI	Plampang	4.08	286	P	Pn	17 19 53.3	+1.3
BBSI	Bau Bau	4.53	10	P	Pn	17 19 59.1	+0.9
BKSI	Bulukumba	4.89	341	P	Pn	17 20 04.3	+1.2
BNSI	Bone	5.77	344	P	Pn	17 20 26.2	+11
FITZ	Fitzroy Crossi	8.92	155	Pn	Pn	17 20 52.5	-5.7
	0.2nm,0.3s,baz=340,slow=11,SNR=16						

FITZ				Sn	Sn	17 22 25.9	-11
	1.9nm,0.3s,baz=231,slow=11,SNR=11						
WRA	**Warramunga Arr**	**15.69**	**131**	Pn	Pn	17 22 22.1	-6.7
	0.2nm,0.3s,baz=305,slow=14,SNR=22						
WRA				Sn	Sn	17 25 01.7	-20
	0.6nm,0.3s,baz=303,slow=23,SNR=12						
ASAR	**Alice Springs**	**17.90**	**141**	P	**P**	**17 22 53.0**	**-2.9**
	0.2nm,0.3s,baz=319,slow=12,SNR=23						
ASAR				S	Sn	17 25 58.0	-17
	0.3nm,0.3s,baz=308,slow=21,SNR=9.2						
STKA	**Stephens Creek**	**28.52**	**143**	P	**P**	**17 24 40.9**	**+0.1**
	1.7nm,0.6s,baz=311,slow=11,SNR=5.3						
SONM	**Songino Array**	**59.14**	**348**	P	**P**	**17 28 44.5**	**-0.7**
	0.2nm,0.5s,baz=152,slow=6.5,SNR=2.1						
MKAR	**Makanchi Array**	**66.57**	**332**	P	**P**	**17 29 35.7**	**+1.2**
	0.2nm,0.5s,baz=136,slow=7.8,SNR=4.4						
ZALV	**Zalesovo Beam**	**70.93**	**338**	P	**P**	**17 30 01.0**	**-0.3**
	0.4nm,0.6s,baz=126,slow=7.4,SNR=2.4						

*ISCJB **04** 17:28:10.1±1.2, 11°.4S±0°.1×165°.6E±0°.1, h10km, mb4.7/21, Error ellipse: s-maj=22.7km s-min=6.9km az=44.1*
*NEIC **04** 17:28:20.9±1.4, 12°.10S×165°.22E, h35km, mb4.9/16, Error ellipse: s-maj=31.7km s-min=8.9km az=222.0*
*IDC **04** 17:28:24.5±2.7, 12°.18S×164°.22E, h0km, mb4.0/6, mb1 4.1/8, mb1mx3.8/37, mbtmp4.0/8, ML4.1/2, MS3.3/3, Ms1 3.3/3, ms1mx2.8/33, Error ellipse: s-maj=53.1km s-min=26.8km az=70.0*
ISC 04 17:28:15.2±2.0**, 11°.3S**±0°.2×**165°.7E**±0°.2**, h35**km**, n36, σ1s.21**/34**, mb5.0**/21**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.92**	**288**	Pn	**Pn**	**17 29 41.7**	**+1.2**
	12nm,0.3s,baz=93,slow=3.3,SNR=8.1						
HNR				Sn	**Sn**	**17 30 46.1**	**-1.1**
	1.7nm,0.3s,baz=225,slow=14,SNR=2.2						
HNR				LR	LR	17 32 04.8	
	comp=Z,259nm,18.1s,baz=108,slow=44						
HNR	**Honiara**	**5.92**	**288**	eP	**Pn**	**17 29 40.0**	**-0.5**
HNR	**Honiara**	**5.92**	**288**	ePn	**Pn**	**17 29 42.3**	**+1.8**
HNR				eSn	**Sn**	**17 30 46.1**	**-1.1**
MARNC	**Mare, Loyalty**	**10.39**	**168**	ePn	**Pn**	**17 30 43.0**	**+1.3**
DZM	**Mont Dzumac**	**10.75**	**176**	Pn	**Pn**	**17 30 49.1**	**+2.3**
	1.1nm,0.3s,baz=304,slow=23,SNR=7.2						
DZM				Sn	**Sn**	**17 32 45.5**	**-0.6**
	0.1nm,0.3s,baz=240,slow=20,SNR=1.9						
DZM				LR	LR	17 34 02.0	
	comp=Z,131nm,19.3s,baz=63,slow=34						
DZM	**Mont Dzumac**	**10.75**	**176**	ePn	**Pn**	**17 30 48.5**	**+1.6**
DZM				Sn	**Sn**	**17 32 45.5**	**-0.6**
ONTNC	**Ouen Toro**	**10.98**	**176**	ePn	Pn	17 30 44.7	-5.3
PINNC	**Pines Island,**	**11.39**	**172**	ePn	**Pn**	**17 30 57.2**	**+1.7**
PMG	**Port Moresby**	**18.30**	**274**	ePn	**Pn**	**17 32 28.0**	**+1.5**
	52nm,1.8s						
URZ	**Urewera**	**28.75**	**161**	LR	LR	17 43 47.9	
	comp=Z,87nm,20.0s,baz=22,slow=32						
BKZ	**Black Stump Fm**	**29.39**	**163**	eP	**P**	**17 34 13.3**	**-2.0**
	42nm,1.5s						
STKA	**Stephens Creek**	**30.21**	**224**	P	**P**	**17 34 23.9**	**+1.2**
	2.8nm,0.8s,baz=34,slow=11,SNR=4.0						
STKA	**Stephens Creek**	**30.21**	**224**	eP	**P**	**17 34 22.3**	**-0.3**
	3.7nm,1.6s						
BFZ	**Birch Farm**	**30.73**	**164**	eP	**P**	**17 34 27.1**	**+0.1**
	37nm,1.2s						
THZ	**Tophouse**	**31.02**	**169**	eP	**P**	**17 34 29.3**	**-0.3**
	50nm,1.8s						
WB2	**Warramunga Arr**	**31.32**	**250**	eP	**P**	**17 34 32.1**	**-0.4**
WRAB	**Tennant Creek**	**31.32**	**250**	eP	**P**	**17 34 30.0**	**-2.5**
	25nm,1.9s						
WR1	**Warramunga Arr**	**31.33**	**250**	eP	**P**	**17 34 32.7**	**+0.1**
	8.9nm,1.4s						
WRA	**Warramunga Arr**	**31.33**	**250**	P	**P**	**17 34 32.7**	**+0.1**
	2.4nm,0.8s,baz=82,slow=9.2,SNR=17						
KHZ	**Kahutara**	**31.76**	**169**	eP	**P**	**17 34 34.4**	**-1.7**
	20nm,1.1s						
TOO	**Toolangi**	**31.83**	**211**	eP	**P**	**17 34 35.3**	**-1.5**
	34nm,1.5s						
LTZ	**Lake Taylor**	**31.90**	**171**	eP	**P**	**17 34 36.2**	**-1.2**
	31nm,1.3s						
FOZ	**Fox Glacier**	**32.33**	**174**	eP	**P**	**17 34 41.0**	**0.0**
	86nm,2.0s						
AS31	**Alice Springs**	**32.61**	**244**	eP	**P**	**17 34 43.2**	**-0.7**
ASAR	**Alice Springs**	**32.62**	**244**	P	**P**	**17 34 43.4**	**-0.5**
	1.3nm,0.8s,baz=65,slow=10,SNR=12						
RPZ	**Rata Peaks**	**32.64**	**173**	eP	**P**	**17 34 43.8**	**-0.1**
	69nm,1.8s						
MQZ	**McQueen's Vall**	**32.86**	**171**	eP	**P**	**17 34 45.4**	**-0.3**
	41nm,1.2s						
LBZ	**Lake Benmore**	**33.21**	**174**	eP	**P**	**17 34 48.1**	**-0.7**
	24nm,1.2s						
MLZ	**Mavora Lakes**	**34.03**	**177**	eP	**P**	**17 34 54.4**	**-1.6**
	71nm,1.5s						
FITZ	**Fitzroy Crossi**	**39.24**	**255**	P	**P**	**17 35 40.7**	**0.0**
	2.2nm,0.7s,baz=81,slow=6.7,SNR=9.7						
FITZ	**Fitzroy Crossi**	**39.24**	**255**	eP	**P**	**17 35 41.0**	**+0.3**
	25nm,1.8s						
CASY	**Casey**	**66.13**	**201**	eP	**P**	**17 38 58.4**	**-0.3**
	36nm,1.8s						
PSI	**Prapat**	**67.83**	**278**	eP	P	17 39 15.1	+4.5
	9.5nm,1.2s						
CMAR	**Chiang Mai Arr**	**72.14**	**294**	P	P	17 39 44.8	+7.9
	0.4nm,0.9s,baz=108,slow=5.9,SNR=3.2						
MK32	**Makanchi Array**	**93.64**	**317**	eP	P	17 41 42.6	+15
MKAR	**Makanchi Array**	**93.64**	**317**	P	P	17 41 42.7	+15
	0.2nm,0.6s,baz=102,slow=4.0,SNR=2.7						

*IDC **04** 17:37:30.7±1.6, 10°.78N×59°.75W, h0km, mb3.4/3, mb1 4.0/6, mb1mx3.6/32, mbtmp3.8/6, ML4.0/2, Error ellipse: s-maj=43.3km s-min=26.9km az=52.0*
*TRN **04** 17:37:34.8, 10°.78N×59°.73W, h57km, MD3.6*
*NEIC **04** 17:37:34.4±0.0, 10°.77N×59°.71W, h56km, MD4.0(TRN), After TRN.*
ISC 04 17:37:33.6±1.5**, 10°.75N**±0°.04×**59°.71W**±0°.05**, h30**km±12km**, n91, σ1s.45**/114**, mb3.5**/3**, 1C, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TOSP	**Speyside**	**0.98**	**304**	i P	**Pn**	**17 37 51.8**	**+0.5**
TOSP				eS	**Sn**	**17 38 04.5**	**+0.3**
TOSP	**Speyside**	**0.98**	**304**	⇑iP	**Pn**	**17 37 51.8**	**+0.5**
TOSP				eS	**Sn**	**17 38 04.5**	**+0.3**
BOT	**Bacolet**	**1.07**	**293**	ePn	**Pb**	**17 37 53.4**	**-0.3**
BOT	**Bacolet**	**1.07**	**293**	eP	**Pb**	**17 37 53.4**	**-0.3**
BOT				eS	**Sn**	**17 38 07.0**	**+0.4**
TPR	**Prospect**	**1.14**	**292**	ePn	**Pb**	**17 37 54.4**	**-0.3**
TPR	**Prospect**	**1.14**	**292**	eP	**Pb**	**17 37 54.4**	**-0.3**
TPR				eS	**Sn**	**17 38 08.4**	**+0.3**
TBH	**Brigand Hill**	**1.36**	**259**	ePn	**Pn**	**17 37 57.8**	**+1.2**
TBH	**Brigand Hill**	**1.36**	**259**	eP	**Pn**	**17 37 57.8**	**+1.2**
TBH				eS	**Sb**	**17 38 15.2**	**-0.4**
TRN	**Trinidad (W)**	**1.67**	**267**	ePn	**Pn**	**17 38 01.8**	**+0.9**
TRN	**Trinidad (W)**	**1.67**	**267**	eP	**Pn**	**17 38 01.8**	**+0.9**
TPP	**Pointe-a-Pierr**	**1.77**	**256**	ePn	**Pn**	**17 38 02.8**	**+0.6**
TPP				eSn	**Sn**	**17 38 24.1**	**+0.4**
TPP	**Pointe-a-Pierr**	**1.77**	**256**	eP	**Pn**	**17 38 02.8**	**+0.6**
TPP				eS	**Sn**	**17 38 24.1**	**+0.4**
GRGR	**Grenville**	**2.35**	**306**	ePn	**Pn**	**17 38 10.4**	**+0.1**
GRGR				eSn	**Sn**	**17 38 37.8**	**-0.4**
GRGR	**Grenville**	**2.35**	**306**	eP	**Pn**	**17 38 10.4**	**+0.1**
GRGR				eS	**Sn**	**17 38 37.8**	**-0.4**
BBSP	**Saint Philip**	**2.35**	**6**	ePn	**Pn**	**17 38 10.9**	**+0.7**
BBSP				eSn	**Sn**	**17 38 38.5**	**+0.4**
BBSP	**Saint Philip**	**2.35**	**6**	eP	**Pn**	**17 38 10.9**	**+0.7**
BBSP				eS	**Sn**	**17 38 38.5**	**+0.4**
BBGH	**Gun Hill**	**2.38**	**3**	ePn	**Pn**	**17 38 10.1**	**-0.6**
BBGH				eSn	**Sn**	**17 38 38.1**	**-0.8**
BBGH	**Gun Hill**	**2.38**	**3**	eP	**Pn**	**17 38 10.9**	**+0.3**
BBGH				eS	**Sn**	**17 38 38.1**	**-0.8**
GRHS	**Sauteurs**	**2.40**	**308**	ePn	**Pn**	**17 38 11.0**	**+0.2**
GRHS	**Sauteurs**	**2.40**	**308**	eP	**Pn**	**17 38 11.0**	**+0.2**
GRSS	**Sisters**	**2.42**	**310**	eP	**Pn**	**17 38 11.6**	**+0.5**
GRSS	**Sisters**	**2.42**	**310**	eP	**Pn**	**17 38 11.6**	**+0.5**
FCV	**Fort Charlotte**	**2.83**	**328**	ePn	**Pn**	**17 38 17.9**	**+1.1**
FCV				eSn	**Sn**	**17 38 48.0**	**-1.9**
FCV	**Fort Charlotte**	**2.83**	**328**	eP	**Pn**	**17 38 17.9**	**+1.1**
FCV				eS	**Sn**	**17 38 48.0**	**-1.9**
SVCV	**St. Vincent, C**	**2.87**	**331**	eP	**Pn**	**17 38 17.4**	**0.0**
SVCV				eS	**Sn**	**17 38 50.4**	**-0.7**
SVB	**Belmont**	**2.93**	**329**	ePn	**Pn**	**17 38 18.2**	**0.0**
SVB	**Belmont**	**2.93**	**329**	eP	**Pn**	**17 38 18.2**	**0.0**
SVB				eS	**Sn**	**17 38 50.5**	**-1.8**
SSV	**Crater Summit**	**2.94**	**331**	ePn	**Pn**	**17 38 19.2**	**+0.7**
SSV				eSn	**Sn**	**17 38 52.4**	**-0.5**
SSV	**Crater Summit**	**2.94**	**331**	eP	**Pn**	**17 38 19.2**	**+0.7**
SSV				eS	**Sn**	**17 38 52.4**	**-0.5**
SVV	**Soufriere Volc**	**2.95**	**330**	ePn	**Pn**	**17 38 19.5**	**+1.0**
SVV				eSn	**Sn**	**17 38 52.3**	**-0.5**
SVV	**Soufriere Volc**	**2.95**	**330**	eP	**Pn**	**17 38 19.5**	**+1.0**
SVV				eS	**Sn**	**17 38 52.3**	**-0.5**
SFAN	**Fancy Village**	**2.98**	**331**	ePn	**Pn**	**17 38 19.4**	**+0.5**
SFAN	**Fancy Village**	**2.98**	**331**	eP	**Pn**	**17 38 19.4**	**+0.5**
SFAN				eS	**Sn**	**17 38 53.2**	**-0.6**
SLPA	**Patience**	**3.30**	**339**	ePn	**Pn**	**17 38 23.7**	**+0.3**
SLPA	**Patience**	**3.30**	**339**	eP	**Pn**	**17 38 23.7**	**+0.3**
SLDE	**Delcer**	**3.31**	**337**	ePn	**Pn**	**17 38 24.3**	**+0.9**
SLDE	**Delcer**	**3.31**	**337**	eP	**Pn**	**17 38 24.3**	**+0.9**
SLDE				eS	**Sn**	**17 39 00.9**	**-0.9**
SLB	**Belfond**	**3.32**	**337**	ePn	**Pn**	**17 38 24.3**	**+0.6**
SLB				eSn	**Sn**	**17 39 00.3**	**-2.0**
SLB	**Belfond**	**3.32**	**337**	eP	**Pn**	**17 38 24.3**	**+0.6**
SLB				eS	**Sn**	**17 39 00.3**	**-2.0**
SLW	**Petit Monier**	**3.46**	**340**	ePn	**Pn**	**17 38 26.1**	**+0.5**
SLW				eSn	**Sn**	**17 39 03.8**	**-1.9**
SLW	**Petit Monier**	**3.46**	**340**	eP	**Pn**	**17 38 26.1**	**+0.5**
SLW				eS	**Sn**	**17 39 03.8**	**-1.9**
H05S1	**Guadeloupe/Mar**	**3.81**	**343**	Pn	**Pn**	**17 38 30.3**	**-0.1**
H05S1				Sn	**Sn**	**17 39 09.7**	**-4.5**
MVM	**Montagne Vaucl**	**3.95**	**343**	eP	**Pn**	**17 38 33.6**	**+1.3**
BIM	**Bigot**	**3.97**	**341**	eP	**Pn**	**17 38 33.6**	**+1.0**
TRMF	**Trois Ilets**	**3.98**	**341**	eP	**Pn**	**17 38 33.6**	**+0.9**
ZAM	**Aeronautique**	**4.01**	**341**	eP	**Pn**	**17 38 34.1**	**+1.0**
FDF	**Fort de France**	**4.20**	**341**	ePn	**Pn**	**17 38 36.4**	**+0.7**
FDF				eSn	**Sn**	**17 39 21.2**	**-2.6**
FDF	**Fort de France**	**4.20**	**341**	eP	**Pn**	**17 38 37.0**	**+1.3**
FDF				eS	**Sn**	**17 39 21.3**	**-2.6**
GBMF	**Grand Be**	**4.26**	**341**	eP	**Pn**	**17 38 38.3**	**+1.7**
BAMF	**Morne Balai**	**4.28**	**341**	eP	**Pn**	**17 38 38.4**	**+1.5**
PCM	**Pelee Case Pet**	**4.30**	**340**	eP	**Pn**	**17 38 38.9**	**+1.8**
DBCT	**Belle View Cho**	**4.77**	**341**	ePn	**Pn**	**17 38 44.6**	**+1.0**
DBCT	**Belle View Cho**	**4.77**	**341**	eP	**Pn**	**17 38 44.6**	**+1.0**
DLPL	**La Plaine**	**4.79**	**342**	ePn	**Pn**	**17 38 44.2**	**+0.3**
DLPL	**La Plaine**	**4.79**	**342**	eP	**Pn**	**17 38 44.2**	**+0.3**
MDN	**Morne-Daniel**	**4.83**	**340**	ePn	**Pn**	**17 38 45.8**	**+1.5**
MDN	**Morne-Daniel**	**4.83**	**340**	eP	**Pn**	**17 38 45.8**	**+1.5**
PCRV	**Puerto La Cruz**	**4.88**	**264**	Pn	**Pn**	**17 38 44.1**	**-1.0**
	2.1nm,0.3s,baz=175,slow=12,SNR=16						
PCRV				Sn	**Sn**	**17 39 35.5**	**-5.2**
	3.0nm,0.3s,baz=135,slow=1.4,SNR=4.3						
DWS	**Wesley**	**5.04**	**342**	ePn	**Pn**	**17 38 47.0**	**-0.1**
DWS	**Wesley**	**5.04**	**342**	eP	**Pn**	**17 38 47.0**	**-0.1**
BBL	**Barber's Block**	**5.05**	**340**	ePn	**Pn**	**17 38 47.6**	**+0.3**
BBL	**Barber's Block**	**5.05**	**340**	eP	**Pn**	**17 38 47.6**	**+0.3**
BBL	**Barber's Block**	**5.05**	**340**	eS	**Sn**	**17 39 42.2**	**-2.5**
MDPO	**Dominica; Chan**	**5.09**	**341**	eS	**Sn**	**17 39 42.8**	**-2.9**
MDPV	**Dominica, Penn**	**5.13**	**341**	eS	**Sn**	**17 39 43.9**	**-2.8**
MGG	**Marie-Galante**	**5.37**	**343**	ePn	**Pn**	**17 38 52.3**	**+0.6**
MGG				eSn	**Sn**	**17 39 49.9**	**-2.7**
MGG	**Marie-Galante**	**5.37**	**343**	eP	**Pn**	**17 38 52.3**	**+0.6**
MGG	**Marie-Galante**	**5.37**	**343**	eS	**Sn**	**17 39 49.9**	**-2.7**
TBG	**Guadaloupe-3**	**5.41**	**340**	eP	**Pn**	**17 38 53.2**	**+0.9**
TBG	**Guadaloupe-3**	**5.41**	**340**	eS	**Sn**	**17 39 50.3**	**-3.3**
MLYT	**Lee's Yard**	**6.41**	**338**	eS	**Sn**	**17 40 14.5**	**-3.7**
MDP	**Montagnes des**	**8.97**	**128**	Pn	**Pn**	**17 39 42.0**	**+0.8**
	baz=0.0,slow=11						
MDP				Sn	Sn	17 41 14.0	-7.4
	baz=0.0,slow=1.7						
MTP	**Monte Pirata**	**9.24**	**323**	ePn	**Pn**	**17 39 44.9**	**0.0**
CUPR	**Culebra, Puert**	**9.25**	**325**	ePn	**Pn**	**17 39 46.0**	**+1.0**
CBYP	**Canovanas**	**9.55**	**322**	ePn	Pn	17 39 42.4	-6.9
SDV	**Santo Domingo**	**10.93**	**261**	Sn	Sn	17 41 53.5	-16
	0.4nm,0.3s,baz=27,slow=14,SNR=2.1						
SDV	**Santo Domingo**	**10.93**	**261**	ePn	Pn	17 40 01.1	-7.2
PTGA	**Pitinga**	**11.41**	**181**	Pn	**Pn**	**17 40 15.7**	**+1.1**
	2.9nm,0.3s,baz=360,slow=16,SNR=29						
PTGA				Sn	**Sn**	**17 42 17.6**	**-3.6**
	2.9nm,0.3s,baz=131,slow=17,SNR=9.7						
PTGA	**Pitinga**	**11.41**	**181**	ePn	**Pn**	**17 40 14.7**	**0.0**
PTGA				eSn	**Sn**	**17 42 17.1**	**-4.2**
ROSC	**El Rosal**	**15.62**	**249**	ePn	Pn	17 41 02.4	-10
V52A	**Sevierville**	**33.06**	**323**	epP	pP	17 44 22.2	+7.1
TXAR	**Lajitas Array**	**44.93**	**301**	P	**P**	**17 45 47.2**	**+1.1**
	0.1nm,0.5s,baz=118,slow=9.3,SNR=5.8						
H10N3	**ASCENSION HYDR**	**48.63**	**110**	T	T	18 38 37.2	
	baz=291,slow=74,SNR=15						
H10N2	**ASCENSION HYDR**	**48.64**	**110**	T	T	18 38 37.2	
	baz=291,slow=74,SNR=24						
H10N1	**ASCENSION HYDR**	**48.66**	**110**	T	T	18 38 40.9	
	baz=291,slow=74,SNR=21						
H10S3	**ASCENSION HYDR**	**48.91**	**112**	T	T	18 38 51.2	
	baz=292,slow=74,SNR=14						
H10S1	**ASCENSION HYDR**	**48.91**	**112**	T	T	18 38 52.3	
	baz=292,slow=74,SNR=9.5						
H10S2	**ASCENSION HYDR**	**48.92**	**112**	T	T	18 38 54.4	
	baz=292,slow=74,SNR=8.4						
PD31	**Pinedale Array**	**53.70**	**316**	eP	**P**	**17 46 54.7**	**+1.5**
PDAR	**Pinedale Array**	**53.70**	**316**	P	**P**	**17 46 54.7**	**+1.5**
	0.2nm,0.4s,baz=114,slow=8.1,SNR=5.0						
YKA	**Yellowknife Ar**	**64.75**	**335**	P	**P**	**17 48 10.2**	**+1.2**
	0.3nm,0.6s,baz=112,slow=7.4,SNR=4.9						

*MOS **04** 17:59:12.8±1.0, 1°.38N×127°.15E, h132km, mb4.5/18, Error ellipse: s-maj=10.9km s-min=6.9km az=131.4*
*BJI **04** 17:59:12.0, 1°.07N×126°.99E, h132km, mb4.6/36, mB4.9/23*
*NEIC **04** 17:59:13.8±0.5, 1°.38N×127°.16E, h129km±4km, mb5.0/59, Error ellipse: s-maj=4.8km s-min=3.0km az=55.0*
*DJA **04** 17:59:14.8±0.3, 1°N±3°×12°7E±°, h122km±3km, M4.9/20, mb4.9/20, mB5.2/7, MLv5.1/11, Mw(mB)4.6/7*
*ISCJB **04** 17:59:14.2±0.2, 1°.37N±0°.02×127°.18E±0°.03, h150km, mb4.7/95, Error ellipse: s-maj=4.1km s-min=2.7km az=159.0*
*IDC **04** 17:59:14.3±1.0, 1°.40N×127°.25E, h133km±9km, mb3.9/20, mb1 4.0/24, mb1mx3.9/57, mbtmp4.4/24, Error ellipse: s-maj=14.1km s-min=6.6km az=62.0*
ISC 04 17:59:16.1±0.3**, 1°.39N**±0°.04×**127°.18E**±0°.05**, h150**km**, n215, σ1s.83**/244**, mb4.7**/104**, 7C-5D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.64**	**163**	ePn	**Pn**	**17 59 34.4**	**-3.8**
TNTI	**Ternate**	**0.64**	**163**	P	**Pn**	**17 59 34.1**	**-4.1**
MNI	**Manado**	**2.34**	**271**	P	**Pn**	**17 59 51.8**	**-3.5**
SANI	**Sanana**	**3.61**	**199**	P	**Pn**	**18 00 07.9**	**-3.5**
SANI				S	**Sn**	**18 00 46.7**	**-7.5**
NLAI	**Namlea**	**4.59**	**181**	P	**Pn**	**18 00 22.2**	**-2.0**
SWI	**Sorong**	**4.65**	**119**	P	**Pn**	**18 00 24.3**	**-0.7**
SIJI	**Sorong**	**4.66**	**119**	P	**Pn**	**18 00 24.1**	**-1.0**
	7.6nm,0.3s,baz=332,slow=21,SNR=47						
SIJI				S	**Sn**	**18 01 14.5**	**-4.3**
	baz=143,slow=20,SNR=3.9						
LUWI	**Luwuk**	**5.02**	**241**	ePn	**Pn**	**18 00 26.1**	**-3.8**
LUWI				eSn	**Sn**	**18 01 25.1**	**-2.3**
LUWI	**Luwuk**	**5.02**	**241**	P	**Pn**	**18 00 27.2**	**-2.6**
GSPH	**General Santos**	**5.17**	**335**	⇓iP	**Pn**	**18 00 27.9**	**-4.1**
GSPH				i S	**Sn**	**18 01 24.1**	**-7.1**
MATI	**Mati**	**5.60**	**351**	eP	**Pn**	**18 00 34.6**	**-2.9**
MATI				eS	**Sn**	**18 01 39.5**	**-1.7**
SKMP	**Bagumbayan, Su**	**5.74**	**333**	eP	**Pn**	**18 00 35.5**	**-3.9**
SKMP				eS	**Sn**	**18 01 36.8**	**-7.7**
DAV	**Davao City (W)**	**5.87**	**344**	P	**Pn**	**18 00 38.7**	**-2.4**
	74nm,0.3s,baz=262,slow=10,SNR=6.3						
DAV				S	**Sn**	**18 01 47.5**	**-0.1**
	baz=287,slow=20,SNR=3.7						
DAV	**Davao City (W)**	**5.87**	**344**	ePn	**Pn**	**18 00 36.4**	**-4.7**
DAV				S	**Sn**	**18 01 47.5**	**-0.1**
DMPH	**Davao City--Mi**	**5.90**	**344**	⇓iP	**Pn**	**18 00 43.4**	**+1.9**
DMPH				i S	**Sn**	**18 01 50.4**	**+2.0**
FAKI	**Fak Fak**	**6.63**	**130**	ePn	**Pn**	**18 00 50.8**	**-0.5**
BUKP	**Musuan**	**6.79**	**342**	eP	**Pn**	**18 00 50.1**	**-3.3**
BUKP				eS	**Sn**	**18 02 06.3**	**-3.4**
BIPH	**Bislig**	**6.80**	**353**	⇑iP	**Pn**	**18 00 51.0**	**-2.6**
BIPH				i S	**Sn**	**18 02 02.1**	**-7.9**
KDI	**Kendari**	**6.99**	**221**	P	**Pn**	**18 00 54.4**	**-1.7**
	94nm,0.5s,3μm0.7nm						
RKPI	**Ransiki, Papua**	**7.57**	**112**	P	Pn	18 01 18.5	+15
PCI	**Palu**	**7.69**	**253**	P	**Pn**	**18 01 03.8**	**-1.6**
PCI				pmax	pmax		
	comp=Z,226nm,0.9s						
PCI	**Palu**	**7.69**	**253**	P	**Pn**	**18 01 03.7**	**-1.6**
	comp=Z,226nm,0.9s,comp=Z,2μmcomp=Z,0.8nm						
BUTP	**Butuan**	**7.69**	**348**	eP	**Pn**	**18 01 02.8**	**-2.6**
IPIL	**Ipil**	**7.84**	**324**	eP	**Pn**	**18 01 04.4**	**-3.1**
TTSI	**Tana Toraja**	**8.57**	**239**	P	**Pn**	**18 01 15.0**	**-2.2**
	comp=Z,424nm,0.7s,comp=Z,3μmcomp=Z,1.3nm						
MSLP	**Maasin**	**8.99**	**345**	eP	**Pn**	**18 01 20.4**	**-2.4**
BNSI	**Bone**	**9.11**	**231**	P	**Pn**	**18 01 23.8**	**-0.5**
	comp=Z,232nm,0.7s,comp=Z,2μm						
SPSI	**Sidrap Palu**	**9.11**	**234**	P	**Pn**	**18 01 23.9**	**-0.5**
	comp=Z,303nm,0.5s,comp=Z,3μm						
BKSI	**Bulukumba**	**9.70**	**227**	P	**Pn**	**18 01 32.6**	**+0.4**
	comp=Z,87nm,0.6s,comp=Z,957nm						
OCLP	**Ormoc**	**9.94**	**345**	eP	**Pn**	**18 01 32.5**	**-2.8**
SAUI	**Saumlaki**	**10.17**	**156**	ePn	**Pn**	**18 01 36.5**	**-2.0**
MMRI	**Maumere**	**11.11**	**206**	ePn	**Pn**	**18 01 46.8**	**-4.0**
SOEI	**Soe**	**11.44**	**195**	ePn	**Pn**	**18 01 57.4**	**+2.1**
SOEI	**Soe**	**11.44**	**195**	P	P	18 02 08.5	+5.5
EDFI	**Ende, Flores**	**11.46**	**208**	P	P	18 02 09.6	+6.5
KKM	**Kota Kinabalu**	**11.88**	**293**	ePn	**Pn**	**18 01 58.3**	**-2.6**
BATI	**Baumata**	**12.04**	**197**	P	**Pn**	**18 02 03.9**	**+0.9**
	comp=Z,5.2nm,0.3s,baz=85,slow=1.3,SNR=11						
BATI	**Baumata**	**12.04**	**197**	P	**P**	**18 02 10.3**	**+0.8**
JAY	**Jayapura**	**14.07**	**106**	P	**P**	**18 02 32.7**	**+0.5**
	comp=Z,2.9nm,0.3s,baz=126,slow=12,SNR=7.2						
SBUM	**Sibu**	**14.99**	**274**	ePn	**Pn**	**18 02 39.0**	**-1.5**
STKI	**Sintang**	**15.75**	**265**	P	**P**	**18 02 51.6**	**+0.8**
	comp=Z,41nm,1.3s						
JAGI	**Jajag, Banyuwa**	**16.26**	**233**	ePn	**P**	**18 02 57.1**	**+0.7**
	comp=Z,103nm,1.6s						
KSM	**Kuching**	**16.86**	**271**	eP	**Pn**	**18 03 02.8**	**-0.7**
	comp=Z,41nm,1.1s						
PWJI	**Pagerwojo**	**17.95**	**238**	P	**Pn**	**18 03 18.5**	**+2.0**
	comp=Z,89nm,0.8s						
PCJI	**Pacitan**	**18.58**	**239**	P	**Pn**	**18 03 26.8**	**+3.0**
SMRI	**Semarang**	**18.68**	**243**	eP	**P**	**18 03 20.3**	**-2.7**
	comp=Z,407nm,1.5s						
UGM	**Wanagama**	**19.00**	**241**	eP	**P**	**18 03 25.4**	**-1.1**
	comp=Z,645nm,1.8s						
FITZ	**Fitzroy Crossi**	**19.42**	**184**	P	**P**	**18 03 30.1**	**-0.8**
	comp=Z,4.2nm,0.3s,baz=15,slow=9.6,SNR=156						
LEM	**Lembang**	**21.16**	**247**	P	**P**	**18 03 49.4**	**-0.4**
	comp=Z,20nm,0.6s,baz=73,slow=8.1,SNR=5.2						
CISI	**Cisompet, Garu**	**21.26**	**245**	eP	**P**	**18 03 50.5**	**-0.3**
	comp=Z,46nm,0.9s						
COEN	**Coen**	**21.99**	**134**	eP	**P**	**18 03 57.4**	**-1.0**
	comp=Z,11nm,0.9s						
WRAB	**Tennant Creek**	**22.32**	**162**	eP	**P**	**18 04 01.1**	**-0.5**
	comp=Z,125nm,0.6s						
WRAB	**Tennant Creek**	**22.32**	**162**	ceP	**P**	**18 04 00.8**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,31nm,0.7s						
WR1	**Warramunga Arr**	**22.33**	**162**	eP	**P**	**18 04 01.0**	**-0.7**
	comp=Z,141nm,0.5s						
WR1				ePcP	**PcP**	**18 07 51.8**	**0.0**
WR1				eS	**S**	**18 07 59.6**	**+3.3**
WR1				eScP	**ScP**	**18 11 17.2**	**+1.7**
WRA	**Warramunga Arr**	**22.33**	**162**	P	**P**	**18 04 01.0**	**-0.7**
	comp=Z,46nm,0.4s,baz=340,slow=11,SNR=607						
WRA				PcP	**PcP**	**18 07 51.8**	**0.0**
	comp=Z,0.9nm,0.5s,baz=327,slow=2.4,SNR=2.7						
WRA				S	**S**	**18 07 59.6**	**+3.3**
	comp=Z,1.5nm,0.6s,baz=346,slow=17,SNR=4.3						
WRA				ScP	**ScP**	**18 11 17.2**	**+1.7**
	comp=Z,1.8nm,0.8s,baz=344,slow=3.2,SNR=12						
WRA	**Warramunga Arr**	**22.33**	**162**	i P	**P**	**18 03 58.4**	**-3.3**
WRA				pmax	pmax		
	comp=Z,41nm,0.4s						
WB2	**Warramunga Arr**	**22.33**	**162**	eP	**P**	**18 03 59.6**	**-2.1**
PMG	**Port Moresby**	**22.61**	**119**	P	**P**	**18 04 02.2**	**-2.2**
	comp=Z,5.9nm,0.7s,baz=290,slow=12,SNR=3.5						
PMG	**Port Moresby**	**22.61**	**119**	eP	**P**	**18 04 03.2**	**-1.2**
	comp=Z,13nm,1.0s						
PMG	**Port Moresby**	**22.61**	**119**	eP	**P**	**18 04 03.2**	**-1.2**
PMG				pmax	pmax		
	comp=Z,13nm,1.0s						
YULB	**Yu-li**	**22.61**	**346**	eP	**P**	**18 04 04.2**	**-0.1**
	comp=Z,84nm,1.8s						
TPUB	**Ta-pu**	**22.69**	**344**	eP	**P**	**18 04 04.3**	**-0.8**
	comp=Z,33nm,1.0s						
SSLB	**Suanglung**	**23.07**	**345**	eP	**P**	**18 04 07.0**	**-1.7**
	comp=Z,64nm,1.6s						
MYKOM	**Kota Tinggi**	**23.32**	**271**	eP	**P**	**18 04 10.9**	**-0.2**
	comp=Z,20nm,1.0s						
MBWA	**Marble Bar**	**23.56**	**198**	eP	**P**	**18 04 12.5**	**-0.6**
	comp=Z,59nm,1.7s						
MDSI	**Maura Dua**	**23.71**	**256**	P	**P**	**18 04 16.3**	**+1.7**
	comp=Z,22nm,1.0s						
YHNB	**Yeheng**	**23.82**	**347**	eP	**P**	**18 04 16.2**	**+0.7**
	comp=Z,203nm,1.7s						
QIZ	**Qiongzhong**	**24.41**	**317**	eP	**P**	**18 04 20.5**	**-0.4**
	comp=Z,197nm,1.8s						
XMIS	**Christmas Isla**	**24.45**	**241**	eP	**P**	**18 04 20.1**	**-1.2**
	comp=Z,69nm,0.9s						
MASI	**Maura Aman, Be**	**25.33**	**260**	P	P	18 04 36.4	+7.1
RABL	**Rabaul**	**25.58**	**103**	eP	**P**	**18 04 30.6**	**-0.9**
AS31	**Alice Springs**	**25.75**	**166**	eP	**P**	**18 04 32.6**	**-0.3**
	comp=Z,7.7nm,0.5s						
ASAR	**Alice Springs**	**25.75**	**166**	P	**P**	**18 04 32.5**	**-0.4**
	comp=Z,9.9nm,0.6s,baz=344,slow=7.7,SNR=322						
ASAR				S	S	18 09 01.3	+10
	comp=Z,1.6nm,0.8s,baz=350,slow=21,SNR=4.1						
ASAR				ScP	**ScP**	**18 11 27.0**	**+2.2**
	comp=Z,1.2nm,0.6s,baz=344,slow=2.8,SNR=9.8						
AS01	**Alice Springs**	**25.76**	**166**	eP	**P**	**18 04 32.2**	**-0.9**
IPM	**Ipoh**	**26.30**	**277**	eP	**P**	**18 04 37.6**	**-0.5**
	comp=Z,53nm,1.8s						
KULM	**Kulim**	**26.76**	**279**	eP	**P**	**18 04 41.5**	**-0.7**
	comp=Z,38nm,1.6s						
GIRL	**Giralia**	**27.01**	**207**	eP	**P**	**18 04 44.8**	**+0.6**
	comp=Z,319nm,1.4s						
SRAK	**Srakaew**	**27.84**	**298**	P	**P**	**18 04 49.4**	**-2.4**
	comp=Z,60nm,0.7s						
PSI	**Prapat**	**28.27**	**273**	P	**P**	**18 04 55.3**	**-0.4**
	comp=Z,10.0nm,0.6s,baz=0.7,slow=2.1,SNR=12						
PSI	**Prapat**	**28.27**	**273**	eP	**P**	**18 04 54.1**	**-1.6**
	comp=Z,13nm,0.8s						
PSI	**Prapat**	**28.27**	**273**	eP	**P**	**18 04 54.1**	**-1.6**
PSI				pmax	pmax		
	comp=Z,13nm,0.8s						
CTA	**Charters Tower**	**28.38**	**140**	P	**P**	**18 04 56.3**	**-0.2**
	comp=Z,8.0nm,0.9s,baz=4.7,slow=6.2,SNR=4.1						
CHAI	**Chaiyaphum**	**28.72**	**302**	P	**P**	**18 04 59.4**	**-0.1**
	comp=Z,6.7nm,0.6s						
CBIJ	**Chichi jima**	**29.34**	**28**	eP	**P**	**18 05 06.3**	**+1.4**
	comp=Z,144nm,0.9s						
GSI	**Gunungsitoli**	**29.59**	**270**	eP	**P**	**18 05 06.3**	**-1.1**
	comp=Z,14nm,0.7s						
PBKT	**Sadao Pong**	**29.89**	**302**	eP	**P**	**18 05 09.9**	**0.0**
	comp=Z,4.3nm,0.9s						
SRDT	**SRDT**	**30.57**	**296**	P	**P**	**18 05 17.2**	**+1.3**
	comp=Z,15nm,0.8s						
UTHA	**Uthaitani**	**30.77**	**299**	P	**P**	**18 05 17.9**	**+0.3**
	comp=Z,5.0nm,0.7s						
UTTA	**Uttaradit**	**30.80**	**303**	P	**P**	**18 05 18.7**	**+0.8**
	comp=Z,3.1nm,0.8s						
NANT	**Nan**	**31.20**	**305**	P	**P**	**18 05 22.6**	**+1.2**
	comp=Z,5.2nm,0.7s						
NJ2	**Nanjing**	**31.50**	**346**	eP	**P**	**18 05 24.1**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GYA	**Guiyang**	**31.79**	**323**	eP	**P**	**18 05 27.5**	**+0.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
FORT	**Forrest**	**32.00**	**179**	eP	**P**	**18 05 27.4**	**-0.8**
	comp=Z,31nm,0.8s						
MORW	**Morawa**	**32.10**	**199**	eP	**P**	**18 05 29.2**	**0.0**
	comp=Z,52nm,1.4s						
CM01	**Chiang Mai Arr**	**32.45**	**303**	eP	**P**	**18 05 32.0**	**-0.4**
CM31	**Chiang Mai Arr**	**32.48**	**303**	eP	**P**	**18 05 32.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**32.48**	**303**	P	**P**	**18 05 33.2**	**+0.6**
	comp=Z,2.3nm,1.0s,baz=131,slow=7.7,SNR=13						
CMAR				ScP	**ScP**	**18 11 47.9**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=184,slow=3.0,SNR=4.5						
CMMT	**Chiang Mai**	**32.65**	**304**	P	**P**	**18 05 34.5**	**+0.4**
	comp=Z,6.7nm,1.0s						
CHTO	**Chiang Mai**	**32.65**	**304**	eP	**P**	**18 05 33.8**	**-0.3**
	comp=Z,4.9nm,0.8s						
CHTO	**Chiang Mai**	**32.65**	**304**	eP	**P**	**18 05 33.8**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CHTO	**Chiang Mai**	**32.65**	**304**	P	**P**	**18 05 34.6**	**+0.5**
	comp=Z,29nm,1.0s						
ENH	**Enshi**	**33.28**	**331**	eP	**P**	**18 05 40.0**	**+0.6**
	comp=Z,7.7nm,0.9s						
KMI	**Kunming**	**33.37**	**317**	P	**P**	**18 05 41.2**	**+0.7**
KMI				pmax	pmax		
	comp=Z,22nm,0.5s						
BBOO	**Buckleboo**	**35.03**	**167**	eP	**P**	**18 05 54.1**	**-0.4**
	comp=Z,39nm,1.4s						
EIDS	**Eidsvold**	**35.25**	**141**	eP	**P**	**18 05 56.4**	**-0.1**

comp=Z,20nm,0.9s
NWAO Narrogin (SRO) 35.40 195 P P 18 05 57.5 -0.1
comp=Z,9.1nm,0.5s,baz=245,slow=7.1,SNR=12
NWAO Narrogin (SRO) 35.40 195 eP P 18 05 57.5 -0.1
comp=Z,191nm,2.0s
NWAO Narrogin (SRO) 35.40 195 eP P 18 05 57.5 -0.1
NWAO pmax pmax
comp=Z,191nm,2.0s
STKA Stephens Creek 35.79 159 P P 18 06 01.1 +0.1
comp=Z,15nm,0.5s,baz=334,slow=9.2,SNR=56
STKA Stephens Creek 35.79 159 eP P 18 06 01.0 0.0
comp=Z,4.2nm,0.8s
STKA ePP PP 18 07 23.4 -2.2
STKA Stephens Creek 35.79 159 eP P 18 06 01.0 0.0
STKA e 18 07 23.4
STKA pmax pmax
comp=Z,4.0nm,0.8s
KSAR Wonju Array Be 35.89 1 P P 18 06 02.2 +0.5
KSAR Wonju Array Be 35.89 1 P P 18 06 02.2 +0.5
KSRS Korea Array 35.90 1 P P 18 06 02.2 +0.4
comp=Z,0.5nm,0.5s,baz=180,slow=9.6,SNR=5.1
XAN Xi'an 36.70 334 P P 18 06 09.2 +0.4
XAN pmax pmax
comp=Z,10.0nm,0.8s
XAN pmax pmax
comp=Z,90nm,4.1s
CD2 Chengdu 36.80 325 eP P 18 06 11.0 +1.3
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.8s
ARMA Armidale 39.28 146 eP P 18 06 31.4 +0.9
comp=Z,36nm,0.6s
LZH Lanzhou 40.74 331 eP P 18 06 45.2 +2.6
LZH pP pP 18 07 13.6 -1.3
LZH sP sP 18 07 27.9 -3.7
LZH pmax pmax
comp=Z,15nm,1.0s
KWAJ Kwajalein Atol 40.91 78 eP P 18 06 45.4 +1.3
comp=Z,867nm,1.6s
KWAJ Kwajalein Atol 40.91 78 eP P 18 06 45.4 +1.3
SHL Shillong 41.65 308 eP P 18 06 49.3 -0.8
comp=Z,12nm,0.7s
SHL Shillong 41.65 308 eP P 18 06 49.3 -0.8
SHL pmax pmax
comp=Z,12nm,0.7s
HHC Hu-ho-hao-te 41.75 342 eP P 18 06 53.5 +2.8
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,840nm,7.0s
CAN Canberra 41.83 153 eP P 18 06 51.9 +0.6
comp=Z,36nm,1.2s
CAN Canberra 41.83 153 eP P 18 06 51.9 +0.6
CAN pmax pmax
comp=Z,36nm,1.2s
CN2 Changchun 42.26 358 eP P 18 06 57.4 +2.8
CN2 pmax pmax
comp=Z,10.0nm,0.5s
LSA Lhasa 44.33 313 eP P 18 07 10.7 -1.3
comp=Z,5.5nm,0.9s
LSA Lhasa 44.33 313 eP P 18 07 10.7 -1.3
LSA pmax pmax
comp=Z,5.0nm,0.9s
GTA Gaotai 45.33 330 ⇓P P 18 07 20.3 +0.9
GTA pP pP 18 07 48.5 -3.8
GTA sP sP 18 08 04.1 -4.8
GTA PcP PcP 18 08 59.0 +2.5
GTA ScP ScP 18 12 37.9 +2.6
GTA S S 18 13 53.4 +4.5
GTA sS sS 18 14 43.3 -3.0
GTA SS SS 18 17 12.5 -2.1
GTA pmax pmax
comp=Z,3.0nm,0.8s
GTA pmax pmax
comp=Z,94nm,5.9s
GTA LR LR
comp=Z,70nm,12.4s
GTA LR LR
comp=Z,80nm,15.6s
GTA LR LR
comp=Z,72nm,14.6s
MARNC Mare, Loyalty 45.93 122 eP P 18 07 24.0 -0.2
comp=Z,359nm,1.3s
RAMN Ramite 46.48 307 eP P 18 07 29.5 +0.8
comp=Z,20nm,0.7s
PALK Pallekele 46.68 279 eP P 18 07 30.1 -0.2
comp=Z,125nm,1.9s
PALK Pallekele 46.68 279 eP P 18 07 30.1 -0.2
PALK pmax pmax
comp=Z,125nm,1.9s
JIRN Jiri 47.12 307 eP P 18 07 34.3 +0.4
comp=Z,24nm,0.7s
GUN Gumba 47.48 308 eP P 18 07 37.1 +0.5
comp=Z,27nm,0.6s
PKI Pulchoki 47.70 307 eP P 18 07 38.3 0.0
comp=Z,6.8nm,0.7s
PKIN Phulchoki 47.72 307 eP P 18 07 38.4 +0.1
KLR Kul'dur 47.83 4 P P 18 07 38.3 -0.1
comp=Z,0.5nm,0.5s,baz=174,slow=8.6,SNR=4.5
KKN Kakani 47.90 307 eP P 18 07 39.9 +0.2
comp=Z,7.3nm,0.6s
DMN Daman 47.96 307 eP P 18 07 40.5 +0.3
comp=Z,17nm,0.9s
KOLN Koldanda 49.24 306 eP P 18 07 50.7 +0.8
comp=Z,37nm,0.9s
DANN Dangsing 49.36 307 eP P 18 07 51.3 +0.4
comp=Z,29nm,0.8s
ULN Ulaanbaatar 49.47 342 ceP P 18 07 51.1 -0.2
ULN pmax pmax
comp=Z,2.0nm,0.9s
SONA0 Songino Array 49.65 342 eP P 18 07 52.9 +0.4
SONA0 eScP ScP 18 12 54.4 +1.1
SONM Songino Array 49.65 342 P P 18 07 52.9 +0.4
comp=Z,2.1nm,0.8s,baz=158,slow=8.0,SNR=12
SONM ScP ScP 18 12 54.4 +1.1
comp=Z,0.3nm,0.7s,baz=171,slow=4.2,SNR=3.0
SONA1 Songino Array 49.66 342 eP P 18 07 52.9 +0.2
PYUN Piuthan 49.87 306 eP P 18 07 55.4 +0.7
comp=Z,44nm,0.9s
HYB Hyderabad 50.36 292 i P P 18 07 59.0 +0.7
WMQ Urumqi 54.90 326 eP P 18 08 32.8 +1.5
WMQ pP pP 18 09 01.6 -3.7
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,220nm,4.1s
OUZ Omahuta 56.60 135 eP P 18 08 42.9 -0.6
comp=Z,56nm,1.5s
HVS Khovu-Aksy 57.04 336 i P P 18 08 47.4 +1.0
HVS pmax pmax
comp=Z,12nm,1.0s
PETK Petropavlovsk- 57.43 21 eP P 18 08 48.5 -0.5
PETK Petropavlovsk- 57.43 21 eP P 18 08 48.5 -0.5
FOZ Fox Glacier 58.77 145 eP P 18 09 00.2 +1.7
comp=Z,40nm,1.3s
DGZ Jazzator, Alta 58.84 331 i P P 18 08 59.1 0.0
DGZ pmax pmax
comp=Z,1.0nm,1.0s
LBZ Lake Benmore 59.51 145 eP P 18 09 03.9 +0.3
comp=Z,115nm,1.9s
THZ Tophouse 59.59 142 eP P 18 09 03.9 -0.3
comp=Z,50nm,1.5s
RPZ Rata Peaks 59.60 144 eP P 18 09 03.6 -0.7
comp=Z,47nm,1.5s
MK01 Makanchi Array 59.71 326 eP P 18 09 05.2 +0.3
NIL Nilore 59.72 309 eP P 18 09 06.0 +0.7
comp=Z,5.2nm,0.4s
NIL Nilore 59.72 309 P P 18 09 06.0 +0.7
MK31 Makanchi Array 59.73 326 eP P 18 09 05.3 +0.3
MK31 Makanchi Array 59.73 326 eP P 18 09 05.4 +0.3
MK32 Makanchi Array 59.73 326 eP P 18 09 05.7 +0.6
MK32 eScP ScP 18 13 37.9 +0.6
MKAR Makanchi Array 59.73 326 P P 18 09 05.7 +0.6
comp=Z,3.0nm,0.4s,baz=120,slow=7.8,SNR=81
MKAR ScP ScP 18 13 37.9 +0.6
comp=Z,0.5nm,0.7s,baz=119,slow=4.9,SNR=4.6
MKAR Makanchi Array 59.73 326 eP P 18 09 05.4 +0.3
comp=Z,23nm,0.8s
MKAR ScP ScP 18 13 37.9 +0.6
MKAR Makanchi Array 59.73 326 ceP P 18 09 05.6 +0.5
MKAR pmax pmax
comp=Z,3.0nm,0.4s
MAKZ Makanchi 59.91 326 eP P 18 09 06.8 +0.4
comp=Z,4.0nm,0.8s
MAKZ Makanchi 59.91 326 eP P 18 09 06.8 +0.4
MAKZ pmax pmax
comp=Z,4.0nm,0.8s
KSH Kashi 60.02 316 P P 18 09 08.5 +1.2
KSH pP pP 18 09 41.4 -0.6
KSH PP PP 18 11 25.3 +3.8
KSH S S 18 17 06.2 -2.2
KSH pmax pmax
comp=Z,6.0nm,0.7s
KSH pmax pmax
comp=Z,260nm,7.4s
KSH LR LR
comp=Z,130nm,6.0s
KSH LR LR
comp=Z,220nm,7.3s
KSH LR LR
comp=Z,180nm,9.1s
KHZ Kahutara 60.35 142 eP P 18 09 08.9 -0.3
comp=Z,94nm,1.9s
SNZO South Karori 60.48 140 eP P 18 09 09.2 -1.0
comp=Z,39nm,1.0s
URZ Urewera 60.54 136 P P 18 09 10.7 0.0
comp=Z,4.2nm,0.6s,baz=56,slow=7.1,SNR=5.0
URZ Urewera 60.54 136 eP P 18 09 09.6 -1.1
comp=Z,97nm,2.0s
BKZ Black Stump Fm 60.56 137 eP P 18 09 10.1 -0.7
comp=Z,53nm,1.6s
NRN Naryn 60.85 318 eP P 18 09 13.5 +0.3
comp=Z,4.3nm,1.1s
NRN Naryn 60.85 318 eP P 18 09 13.5 +0.3
NRN pmax pmax
comp=Z,4.0nm,1.1s
BFZ Birch Farm 61.15 139 eP P 18 09 14.4 -0.4
comp=Z,52nm,1.3s
AAK Ala-Archa 62.39 319 P P 18 09 22.2 -1.0
comp=Z,0.9nm,0.5s,baz=112,slow=8.6,SNR=4.3
AAK Ala-Archa 62.39 319 ceP P 18 09 25.2 +1.9
AAK pmax pmax
comp=Z,4.0nm,1.7s
ARSB Arslanbob 62.85 317 eP P 18 09 27.1 +0.7
comp=Z,16nm,1.6s
ZAA0 Zalesovo Array 62.87 333 eP P 18 09 26.7 +0.7
comp=Z,10nm,1.8s
ZALV Zalesovo Beam 62.87 333 P P 18 09 25.3 -0.7
comp=Z,0.7nm,0.5s,baz=113,slow=4.7,SNR=4.7
ZALV Zalesovo Beam 62.87 333 eP P 18 09 26.1 +0.2
ZALV Zalesovo Beam 62.87 333 i P P 18 09 28.6 +2.6
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZAA1 Zalesovo Array 62.87 333 eP P 18 09 25.3 -0.7
KBL Kabul 63.31 308 eP P 18 09 29.9 +0.4
comp=Z,7.8nm,0.5s
KBL Kabul 63.31 308 eP P 18 09 29.9 +0.4
KBL pmax pmax
comp=Z,8.0nm,0.5s
BTK Batken 63.87 315 eP P 18 09 33.0 0.0
comp=Z,14nm,1.8s
BTK Batken 63.87 315 eP P 18 09 33.0 0.0
BTK pmax pmax
comp=Z,14nm,1.8s
KURBB Kurchatov Arra 63.95 328 P P 18 09 33.4 +0.2
comp=Z,3.1nm,0.5s,baz=127,slow=6.1,SNR=19
KURK Kurchatov 63.95 328 eP P 18 09 33.1 -0.1
comp=Z,8.2nm,1.0s
KURK Kurchatov 63.95 328 ceP P 18 09 33.2 +0.1
KURK pmax pmax
comp=Z,4.0nm,0.5s
NVS Novosibirsk 64.15 334 eP P 18 09 30.4 -4.0
KK31 Karatay Array 65.25 318 eP P 18 09 42.1 +0.3
KK31 Karatay Array 65.25 318 eP P 18 09 42.1 +0.3
KKAR Karatay Array 65.25 318 eP P 18 09 42.2 +0.4
KKAR Karatay Array 65.25 318 eP P 18 09 42.2 +0.4
BVAR Borovoye Array 69.52 327 P P 18 10 08.7 +0.2
comp=Z,1.7nm,0.6s,baz=141,slow=9.6,SNR=8.7
BRVK Borovoye 69.59 327 eP P 18 10 08.3 -0.6
comp=Z,3.7nm,1.0s
BRVK Borovoye 69.59 327 ceP P 18 10 09.5 +0.7
BRVK pmax pmax
comp=Z,10.0nm,2.5s
GEYT Alibeck 72.71 309 P P 18 10 28.8 +0.8
comp=Z,15nm,0.3s,baz=159,slow=4.6,SNR=5.3
ABKAR Akbulak array 74.24 321 eP P 18 10 36.3 -0.3
AKTO Aktyubinsk 75.77 322 P P 18 10 45.7 +0.3
comp=Z,2.2nm,0.7s,baz=114,slow=7.0,SNR=11
ARU Arti 77.15 328 d iP P 18 10 52.0 -1.0
ARU 18 13 43.6
ARU S S 18 20 31.6 +1.9
ARU SS SS 18 25 27.2 -3.3
ARU pmax pmax
comp=Z,5.0nm,1.0s
VNDA Vanda 81.06 173 P P 18 11 14.1 +0.2
comp=Z,1.9nm,0.5s,baz=315,slow=7.0,SNR=12
VNDA Vanda 81.06 173 eP P 18 11 13.7 -0.2
VNDA Vanda 81.06 173 eP P 18 11 13.7 -0.2
RAYN Ar Rayn 81.81 293 P P 18 11 19.5 +0.5
ILAR Eielson Array 87.02 25 P P 18 11 43.1 -1.2
comp=Z,0.2nm,0.6s,baz=267,slow=4.1,SNR=3.5
SYO Syowa Base 90.41 201 ⇓eP P 18 12 01.0 +0.9
LTX Lajitas 122.65 54 ePKPdf PKiKP 18 17 55.0 -0.1
LTX Lajitas 122.65 54 ePKIKP PKiKP 18 17 55.0 -0.1
TXAR Lajitas Array 122.65 54 PKP PKiKP 18 17 55.0 -0.1
comp=Z,0.2nm,0.6s,baz=212,slow=3.1,SNR=2.6
TXAR Lajitas Array 122.65 54 PKIKP PKiKP 18 17 55.0 -0.1

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*ISCJB **04** 18:01:42.3±0.3, 67.°06N±0.°02×20.°84E±0.°07, h0km, Error ellipse: s-maj=3.9km s-min=2.7km az=175.1*
*UPP **04** 18:01:42.5±0.1, 67.°08N×20.°92E, h0km, ML2.2, Explosion*
*HEL **04** 18:01:42.8, 67.°10N×20.°87E, h0km, ML2.2, Explosion*
*IDC **04** 18:01:43.8±0.8, 67.°10N×21.°58E, h0km, mb1 3.2/5, mb1mx3.0/61, mbtmp3.2/5, ML2.1/4, Error ellipse: s-maj=14.5km s-min=6.6km az=106.0*
*BER **04** 18:01:45.0±2.6, 66.°92N×21.°04E, h0km, ML1.6, Suspected explosion*
ISC 04 18:01:42.1±0.7, **67.°08N**±0.°02×**20.°95E**±0.°03, **h0**km, **n61**, σ**1.°36**/80, **Sweden**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MASU Masugnsbyn 0.56 47 P Pg 18 01 53.3 +0.6
MASU Masugnsbyn 0.56 47 P Pg 18 01 53.3 +0.6
MASU Masugnsbyn 0.56 47 i P Pg 18 01 53.3 +0.6
ERTU Ertsjaerv 0.72 137 P Pg 18 01 56.0 +0.2
ERTU S Sb 18 02 07.8 -0.1
ERTU Ertsjaerv 0.72 137 P Pg 18 01 56.0 +0.2
ERTU S Sb 18 02 07.8 -0.1
ERTU Ertsjaerv 0.72 137 eP Pg 18 01 55.9 +0.2
ERTU eS Sb 18 02 07.9 +0.1
KUA Kurravaara 0.91 345 P Pg 18 01 59.5 0.0
KUA Kurravaara 0.91 345 P Pg 18 01 59.5 0.0
KUA Kurravaara 0.91 345 eP Pg 18 01 59.5 0.0
RATU Laukkuluspa 0.91 326 P Pg 18 01 59.2 -0.3
RATU Laukkuluspa 0.91 326 P Pg 18 01 59.2 -0.3
RATU Laukkuluspa 0.91 326 eP Pg 18 01 59.2 -0.3
HARU Harads 0.92 179 P Pg 18 01 59.6 -0.1
HARU Harads 0.92 179 P Pg 18 01 59.6 -0.1
HARU Harads 0.92 179 eP Pg 18 01 59.6 -0.1
SALU Saltoluokta 1.00 289 P Pg 18 02 01.2 +0.1
SALU Saltoluokta 1.00 289 P Pg 18 02 01.2 +0.1
SALU Saltoluokta 1.00 289 eP Pg 18 02 01.2 +0.1
LANU Lannavaara 1.05 22 P Pg 18 02 02.0 -0.2
LANU Lannavaara 1.05 22 P Pg 18 02 02.0 -0.2
LANU Lannavaara 1.05 22 eP Pg 18 02 01.6 -0.6
LANU eSN Sn 18 02 19.9 +0.5
KALU Kalix 1.56 141 P Pn 18 02 11.2 +0.2
KALU Kalix 1.56 141 P Pn 18 02 11.2 +0.2
KALU Kalix 1.56 141 eP Pn 18 02 11.1 +0.2
KALU eSN Sg 18 02 34.1 +2.0
SJUU Sjulsmark 1.60 170 P Pn 18 02 11.9 +0.3
SJUU Sjulsmark 1.60 170 P Pn 18 02 11.9 +0.3
SJUU Sjulsmark 1.60 170 eP Pn 18 02 11.9 +0.3
TOF Tornio 1.68 125 eP Pb 18 02 13.3 -0.5
TOF MSG 18 02 34.1
comp=Z,32nm,0.2s
TOF eSN Sg 18 02 37.4 +1.4
HEF Hetta 1.69 36 eP Pb 18 02 13.7 -0.2
HEF eS Sg 18 02 38.1 +2.0
HEF Hetta 1.69 36 eP Pn 18 02 12.8 0.0
baz=218
HEF MSG 18 02 33.3
comp=Z,18nm,0.2s
HEF eSN Sg 18 02 37.3 +1.1
KIF Kilpisjarvi 1.93 358 eP Pb 18 02 17.7 -0.4
KIF eS Sg 18 02 45.3 +1.2
KIF Kilpisjarvi 1.93 358 eP Pb 18 02 17.7 -0.4
KIF MSG 18 02 40.9
comp=Z,19nm,0.2s
KIF eSG Sg 18 02 46.0 +1.9
RNF Rovaniemi 2.06 101 eP Pb 18 02 19.1 -1.1
RNF eSG Sg 18 02 48.0 -0.1
KTK1 Kautokeino 2.12 23 eP Pb 18 02 21.1 -0.3
KTK1 eS Sg 18 02 49.8 -0.3
KTK1 IAML 18 02 55.1
comp=Z,7.7nm,0.1s
SGF Sodankyl 2.20 78 eP Pb 18 02 21.3 -1.3
SGF eSG Sg 18 02 52.2 -0.3
STEI Steigen 2.36 294 eP Pn 18 02 22.7 +0.8
STEI IAML 18 03 00.1
comp=Z,5.2nm,0.4s
BURU Burvik 2.51 176 P Pn 18 02 25.6 +1.5
BURU Burvik 2.51 176 P Pn 18 02 25.6 +1.5
BURU Burvik 2.51 176 eP Pn 18 02 25.6 +1.5
baz=356
TRO Tromso 2.67 345 eP Pb 18 02 29.8 -0.8
TRO IAML 18 03 09.7
comp=Z,6.3nm,0.3s
MOR8 Moi Rana 2.75 254 eP Pn 18 02 27.8 +0.4
OUL Oulu 2.84 133 ePB Pb 18 02 32.0 -1.6
baz=320
OUL eSG Sg 18 03 11.6 -1.6
ARCES ARCESS Array B 2.99 32 Pn Pn 18 02 31.3 +0.6
comp=Z,0.5nm,0.3s,baz=211,slow=14,SNR=51
ARCES Lg Lg 18 03 10.5
comp=Z,1.1nm,0.3s,baz=212,slow=23,SNR=11
ARE0 ARCESS Array S 2.99 32 eP Pn 18 02 32.2 +1.5
ARE0 eS Sb 18 03 10.4 -2.7
LOF Lofoten 3.03 294 eP Pn 18 02 32.0 +0.9
OUF Merijarvi 3.14 148 eP Pn 18 02 34.8 +2.1
baz=333
OUF MSG 18 03 15.8
comp=Z,3.1nm,0.2s
KONS Konsvik 3.16 263 eP Pn 18 02 35.2 +2.3
UMAU Umeaa 3.21 182 eP Pn 18 02 34.9 +1.2
STOK Stokkvaagen 3.24 260 eP Pn 18 02 36.3 +2.3
VRF Varrio 3.41 75 eP Pn 18 02 38.7 +2.4
VRF eSG Sg 18 03 29.0 -2.4
MSF Maaselka 3.45 106 eP Pn 18 02 38.8 +1.9
KEV Kevo 3.50 37 eP Pn 18 02 40.1 +2.5
KEV Kevo 3.50 37 eP Pn 18 02 39.4 +1.9
baz=224
HAMF Hammerfest 3.71 14 eP Pb 18 02 44.5 -3.9
KU6 Riekki 3.73 102 eP Pn 18 02 42.8 +2.0
baz=287
VAF Ylistaro 4.12 169 eP Pn 18 02 47.8 +1.7
baz=347
HEMU Hemsoen 4.59 197 eP Pn 18 02 54.8 +2.2
FINES FINESS Array B 6.08 156 Pn Pn 18 03 15.1 +2.0
comp=Z,0.1nm,0.3s,baz=345,slow=14,SNR=12
FINES Sn Sn 18 04 23.5 +0.3
comp=Z,0.3nm,0.3s,baz=344,slow=22,SNR=7.8
FINES Lg Lg 18 04 51.6
comp=Z,0.1nm,0.3s,baz=346,slow=26,SNR=2.6
NOA NORSAR Array B 7.41 220 Pn Pn 18 03 33.4 +2.1
comp=Z,0.0nm,0.3s,baz=34,slow=12,SNR=3.4
NOA Sn Sn 18 04 51.6 -4.4
comp=Z,0.0nm,0.3s,baz=84,slow=17,SNR=2.5
NOA Lg Lg 18 05 35.7
comp=Z,0.0nm,0.3s,baz=329,slow=21,SNR=2.9
HFS Hagfors 7.68 208 Pn Pn 18 03 35.7 +0.7
comp=Z,0.1nm,0.3s,baz=26,slow=13,SNR=7.6
HFS Sn Sn 18 05 01.8 -0.8
comp=Z,0.1nm,0.3s,baz=22,slow=28,SNR=3.0
HFS Lg Lg 18 05 38.5
comp=Z,0.1nm,0.3s,baz=41,slow=29,SNR=2.6
SPITS Spitsbergen Ar 11.23 355 Pn Pn 18 04 24.3 +0.7
baz=158,slow=16,SNR=2.2

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*ISCJB **04** 18:06:19.6±0.5, 20.°12S±0.°07×178.°24W±0.°10, h569km, mb4.2/24, Error ellipse: s-maj=12.2km s-min=9.6km az=14.5*
*IDC **04** 18:06:20.6±2.0, 20.°12S×178.°12W, h574km±21km, mb3.7/21, mb1 3.8/23, mb1mx3.7/42, mbtmp4.6/23, Error ellipse: s-maj=15.9km s-min=11.5km az=105.0*
ISC 04 18:06:20.3±0.6, **20.°1S**±0.°1×**178.°17W**±0.°10, **h569**km, **n54**, σ**1.°09**/61, **mb4.3**/24, **1C-1D**, **Fiji Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DZM Mont Dzumac 14.50 259 P P 18 09 26.7 +2.1
1.2nm,0.3s,baz=86,slow=15,SNR=11
URZ Urewera 18.58 192 P P 18 10 01.8 -0.6
1.8nm,0.3s,baz=290,slow=1.7,SNR=8.5
URZ S S 18 12 59.6 -3.2
0.4nm,0.3s,baz=52,slow=22,SNR=6.7
CTA Charters Tower 33.38 264 P P 18 12 13.3 +0.7
27nm,0.5s,baz=92,slow=10,SNR=48
PMG Port Moresby 35.09 282 P P 18 12 27.3 +0.4
29nm,0.8s,baz=88,slow=5.5,SNR=11
STKA Stephens Creek 37.83 244 P P 18 12 50.5 +1.2
10.0nm,0.9s,baz=94,slow=11,SNR=12
JAY Jayapura 43.76 288 P P 18 13 36.8 +0.3
29nm,0.7s,baz=123,slow=6.3,SNR=8.1
ASAR Alice Springs 44.46 256 P P 18 13 42.1 +0.2
31nm,0.8s,baz=92,slow=7.9,SNR=298
ASAR PcP PcP 18 15 12.9 0.0
2.5nm,0.8s,baz=100,slow=4.5,SNR=6.3
ASAR ScP ScP 18 18 12.2 +1.0
0.9nm,0.8s,baz=104,slow=3.9,SNR=5.4
ASAR S S 18 19 33.6 -2.7
1.9nm,0.8s,baz=96,slow=15,SNR=12
WRA Warramunga Arr 44.51 262 P P 18 13 41.6 -0.6
14nm,0.7s,baz=97,slow=8.6,SNR=147
WRA PcP PcP 18 15 12.5 -0.6
1.8nm,0.8s,baz=89,slow=3.9,SNR=5.0
WRA ScP ScP 18 18 12.5 +1.0
0.6nm,0.9s,baz=66,slow=4.7,SNR=3.5
WRA S S 18 19 34.2 -2.7
1.5nm,0.9s,baz=91,slow=12,SNR=7.2
SIJI Sorong 52.98 285 P P 18 14 44.7 -0.3
26nm,0.8s,baz=64,slow=8.2,SNR=15
BATI Baumata 56.76 271 P P 18 15 11.8 +0.4
11nm,0.7s,baz=218,slow=7.6,SNR=4.2
VNDA Vanda 58.32 185 P P 18 15 22.1 +1.3
0.9nm,0.8s,baz=350,slow=6.4,SNR=4.5
MJAR Matsushiro Arr 69.77 324 P P 18 16 33.1 -0.9
3.0nm,0.7s,baz=164,slow=6.5,SNR=14
LEM Lembang 72.89 269 P P 18 16 52.2 -0.7
25nm,0.7s,baz=156,slow=23,SNR=5.2
PETK Petropavlovsk- 75.82 345 P P 18 17 07.7 -0.6
4.9nm,0.8s,baz=145,slow=8.3,SNR=4.1
KSRS Korea Array 76.47 319 P P 18 17 12.6 +0.4
1.0nm,0.7s,baz=138,slow=5.7,SNR=4.1
USRK Ussuriysk Ar. 78.53 326 P P 18 17 23.4 +0.3
4.8nm,0.8s,baz=122,slow=3.8,SNR=14
NVAR Mina Array Bea 80.83 43 P P 18 17 36.6 +0.9
1.2nm,0.8s,baz=230,slow=9.4,SNR=5.4
KLR Kul'dur 82.08 329 P P 18 17 41.8 +0.2
1.9nm,0.8s,baz=135,slow=3.9,SNR=6.5
SEY Seymchan 85.93 347 P P 18 17 59.5 -0.6
7.3nm,1.0s,baz=181,slow=3.1,SNR=8.4
TXAR Lajitas Array 86.96 57 P P 18 18 06.9 +0.9
0.3nm,0.7s,baz=202,slow=6.5,SNR=3.5
ILAR Eielson Array 87.94 13 P P 18 18 08.1 -1.5
2.1nm,0.9s,baz=232,slow=5.3,SNR=12
UTHA Uthaitani 88.33 287 P P 18 18 14.5 +2.0
3.6nm,0.9s,0.0nm
VNA3 Neumayer Olymp 88.58 176 P P 18 18 12.8 +0.1
PDAR Pinedale Array 88.76 43 P P 18 18 14.5 +0.2
0.3nm,0.7s,baz=264,slow=2.7,SNR=2.6
VNA2 Neumayer--Watz 89.02 177 P P 18 18 15.2 +0.5
baz=202,slow=4.0
LAMP Lampang 89.24 290 P P 18 18 18.7 +2.0
4.6nm,0.9s,0.0nm
CMAR Chiang Mai Arr 89.82 290 P P 18 18 20.7 +1.3
4.7nm,0.9s,baz=122,slow=2.8,SNR=24
CMMT Chiang Mai 89.95 290 P P 18 18 20.9 +0.9
CHTO Chiang Mai 89.95 290 P P 18 18 20.9 +0.9
40nm,0.9s
MKAR Makanchi Array 110.79 314 PKiKP PKiKP 18 23 47.5 -1.5
0.5nm,0.6s,baz=188,slow=0.5,SNR=7.0
AKASG Malin Array Be 142.57 331 PKhKP PKPpre 18 24 44.3
6.5nm,0.8s,baz=45,slow=4.7,SNR=20
BRTR Keskin Array B 146.44 313 PKPbc PKPbc 18 24 57.5 -1.0
3.1nm,0.8s,baz=127,slow=3.9,SNR=16
CLL Collm 147.61 347 ⇓iPKPbc PKPbc 18 25 00.6 -0.4
comp=Z,15nm,1.0s
CLL ⇑iPKPab PKPab 18 25 04.5 -0.8
comp=Z,14nm,1.3s
UPC Upice 147.62 343 ePKP PKPbc 18 25 01.0 -0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPC				ex	x	18 25 05.3	
DPC	**Dobruska-Polom**	**147.67**	**343**	ePKP	**PKPbc**	**18 25 01.2**	**-0.1**
DPC				ex	x	18 25 05.9	
BRG	**Berggiesshubel**	**147.81**	**346**	i PKP	**PKPbc**	**18 25 00.8**	**-0.7**
	comp=Z,7.8nm,0.9s						
MORC	**Moravsky Berou**	**147.82**	**341**	ePKP	**PKPbc**	**18 25 01.1**	**-0.6**
PRU	**Pruhonice**	**148.48**	**344**	ePKP	**PKPbc**	**18 25 02.9**	**-0.4**
PRU				ex	x	18 25 08.8	
GOPC	**GO Pecny, Ondr**	**148.49**	**344**	ePKP	**PKPbc**	**18 25 02.6**	**-0.7**
VRAC	**Vranov**	**148.53**	**341**	ePKP	**PKPbc**	**18 25 02.8**	**-0.6**
JAVC	**Velka Javorina**	**148.59**	**340**	ePKP	**PKPbc**	**18 25 04.2**	**+0.6**
KRUC	**Moravsky**	**148.81**	**341**	ePKP	**PKPbc**	**18 25 03.5**	**-0.6**
KHC	**Kasperske Hory**	**149.52**	**345**	ePKP	**PKPbc**	**18 25 05.4**	**-0.5**
KHC				ex	x	18 25 13.1	
GERES	**GERESS Array B**	**149.75**	**344**	PKPbc	**PKPbc**	**18 25 06.2**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=48,slow=2.0,SNR=15						
CONA	**Conrad Observa**	**149.98**	**341**	i PKPbc	**PKPbc**	**18 25 07.1**	**0.0**
	comp=Z,8.9nm,1.4s						
MOA	**Molln**	**150.51**	**343**	i PKPbc	**PKPbc**	**18 25 07.7**	**-0.5**
	comp=Z,2.5nm,0.9s						
SOKA	**Soboth**	**151.35**	**341**	i PKPdf	**PKPbc**	**18 25 09.2**	**-1.0**
	comp=Z,4.7nm,1.5s						
OBKA	**Obir**	**151.65**	**341**	i PKPbc	**PKPbc**	**18 25 11.3**	**+0.4**
	comp=Z,2.7nm,0.8s						
WATA	**Walderalm**	**151.67**	**346**	i PKPbc	**PKPbc**	**18 25 10.1**	**-0.9**
	comp=Z,2.6nm,0.6s						
MOTA	**Moosalm**	**151.77**	**347**	i PKPbc	**PKPbc**	**18 25 10.4**	**-0.8**
	comp=Z,2.9nm,0.9s						
MYKA	**Terra Mystica**	**151.80**	**343**	ePKPdf	**PKPbc**	**18 25 09.9**	**-1.4**
	comp=Z,1.4nm,0.5s						
SQTA	**Sankt Quirin**	**151.86**	**346**	i PKPbc	**PKPbc**	**18 25 10.8**	**-0.7**
	comp=Z,4.5nm,1.0s						
ABTA	**Abfaltersbach**	**152.00**	**344**	i PKPbc	**PKPbc**	**18 25 10.5**	**-1.1**
	comp=Z,2.9nm,0.6s						
DAVA	**Damuels**	**152.07**	**348**	i PKPbc	**PKPbc**	**18 25 11.4**	**-0.5**
	comp=Z,4.1nm,0.9s						

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*ISCJB **04** 18:09:10.8±0.3, 41°.39N±0°.03×140°.86E±0°.06, h119km±3km, mb3.5/9, Error ellipse: s-maj=7.5km s-min=5.0km az=6.1*

*IDC **04** 18:09:11.9±1.6, 41°.46N×140°.85E, h112km±13km, mb3.2/9, mb1 3.3/12, mb1mx3.2/50, mbtmp3.5/12, MS2.6/1, Ms1 2.6/1, ms1mx2.2/15, Error ellipse: s-maj=19.8km s-min=12.7km az=134.0*

*JMA **04** 18:09:11.9±0.1, 41°.38N×140°.91E, h111km±1km, M2.8*

ISC 04 18:09:11.7±0.7**, 41°.38N**±0°.04×**140°.86E**±0°.05**, h113**km±5km**, n31, σ0s.74**/43**, mb3.5**/9**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.14**	**91**	P	**Pn**	**18 09 27.3**	**0.0**
JOT				eS	**Sn**	**18 09 38.9**	**-0.2**
JSR	**Shiriuchi**	**0.36**	**294**	P	**Pn**	**18 09 28.1**	**0.0**
JSR				eS	**Sn**	**18 09 40.0**	**-0.4**
JAHD	**Aomorihigashid**	**0.38**	**108**	P	**Pn**	**18 09 28.0**	**-0.2**
JAHD				eS	**Sn**	**18 09 40.4**	**-0.1**
JKB	**Kayabe**	**0.52**	**14**	P	**Pn**	**18 09 29.1**	**+0.1**
JKB				eS	**Sn**	**18 09 42.1**	**+0.1**
JARK	**Aomorirokkasho**	**0.54**	**134**	P	**Pn**	**18 09 28.8**	**-0.3**
JTM	**Tenmabayashi**	**0.62**	**165**	P	**Pn**	**18 09 29.8**	**+0.1**
JTM				eS	**Sn**	**18 09 43.1**	**-0.1**
JYM2	**Yakumo 2**	**0.82**	**334**	P	**Pn**	**18 09 31.8**	**+0.4**
JIW	**Iwasaki**	**1.02**	**219**	P	**Pn**	**18 09 33.9**	**+0.5**
JNB	**Noboribetsu**	**1.09**	**7**	P	**Pn**	**18 09 34.1**	**0.0**
JANG	**Nango**	**1.12**	**154**	P	**Pn**	**18 09 34.1**	**-0.4**
JAH	**Hinai**	**1.21**	**188**	P	**Pn**	**18 09 36.1**	**+0.8**
JAH				eS	**Sn**	**18 09 54.5**	**+1.3**
JOSM	**Okushiri--Mats**	**1.25**	**304**	P	**Pn**	**18 09 35.5**	**-0.3**
JOSM				eS	**Sn**	**18 09 53.8**	**-0.2**
JSH	**Shimam**	**1.40**	**335**	P	**Pn**	**18 09 37.8**	**+0.3**
JSH				eS	**Sn**	**18 09 57.3**	**+0.3**
JIAM	**Iburiatsuma**	**1.47**	**32**	P	**Pn**	**18 09 39.0**	**+0.7**
JIAM				eS	**Sn**	**18 09 59.7**	**+1.2**
JEW	**Eniwo**	**1.52**	**17**	P	**Pn**	**18 09 39.6**	**+0.7**
JEW				eS	**Sn**	**18 10 01.1**	**+1.5**
JNBK	**Urakawa-nobuka**	**1.68**	**57**	P	**Pn**	**18 09 40.6**	**-0.2**
JNBK				eS	**Sn**	**18 10 03.3**	**+0.4**
JOM	**Ohasama**	**1.94**	**170**	P	**Pn**	**18 09 44.2**	**+0.1**
JOM				eS	**Sn**	**18 10 08.4**	**-0.3**
ASAJ	**Asahikawa**	**3.02**	**25**	P	**Pn**	**18 09 58.1**	**+0.2**
	1.5nm,0.3s,baz=157,slow=15,SNR=50						
ASAJ				S	**Sn**	**18 10 31.9**	**-1.7**
	2.4nm,0.3s,baz=108,slow=20,SNR=6.5						
MJAR	**Matsushiro Arr**	**5.26**	**204**	P	**Pn**	**18 10 30.3**	**+2.2**
	1.2nm,0.3s,baz=17,slow=14,SNR=30						
USRK	**Ussuriysk Ar.**	**7.11**	**296**	P	**Pn**	**18 10 54.3**	**+1.4**
	0.1nm,0.3s,baz=99,slow=18,SNR=3.2						
PETK	**Petropavlovsk-**	**16.33**	**38**	LR	LR	18 19 32.6	
	comp=Z,21nm,18.6s,baz=153,slow=38						
ZALV	**Zalesovo Beam**	**38.77**	**308**	P	**P**	**18 16 23.5**	**-1.3**
	0.2nm,0.3s,baz=79,slow=7.5,SNR=2.6						
MKAR	**Makanchi Array**	**41.57**	**298**	P	**P**	**18 16 48.4**	**+0.3**
	0.2nm,0.6s,baz=79,slow=7.6,SNR=2.8						
ILAR	**Eielson Array**	**46.10**	**35**	P	**P**	**18 17 24.6**	**+0.5**
	0.6nm,0.7s,baz=276,slow=6.3,SNR=8.6						
BVAR	**Borovoye Array**	**47.40**	**309**	P	**P**	**18 17 33.8**	**-0.5**
	0.3nm,0.3s,baz=65,slow=7.5,SNR=4.8						
INK	**Inuvik**	**50.75**	**29**	P	**P**	**18 17 59.8**	**+0.3**
	baz=307,slow=5.1						
AKTO	**Aktyubinsk**	**55.51**	**310**	P	**P**	**18 18 34.5**	**-0.2**
	0.3nm,0.4s,baz=87,slow=17,SNR=2.7						
YKA	**Yellowknife Ar**	**60.29**	**31**	P	**P**	**18 19 07.9**	**0.0**
	0.2nm,0.5s,baz=296,slow=6.5,SNR=2.7						
WRA	**Warramunga Arr**	**61.31**	**187**	P	**P**	**18 19 14.6**	**-0.6**
	0.3nm,0.5s,baz=6.9,slow=7.2,SNR=4.8						
FINES	**FINESS Array B**	**64.78**	**331**	P	**P**	**18 19 37.3**	**-0.4**
	1.4nm,0.9s,baz=54,slow=14,SNR=3.5						
PDAR	**Pinedale Array**	**74.94**	**46**	P	**P**	**18 20 41.0**	**+0.4**
	0.3nm,0.4s,baz=256,slow=1.0,SNR=6.6						

IDC 04 18:44:00.3±4.8**, 27°.70S**×**176°.75W, h0**km**, mb3.5**/2**, mb1 3.7**/2**, mb1mx3.5**/35**, mbtmp3.5**/2**, Error ellipse: s-maj=223.9km s-min=52.1km az=156.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.42**	**264**	P	P	18 52 12.5	-0.7
	0.5nm,0.8s,baz=104,slow=7.4,SNR=10						
WRA	**Warramunga Arr**	**45.17**	**269**	P	P	18 52 19.6	+0.5
	0.5nm,0.7s,baz=108,slow=8.0,SNR=8.6						
FINES	**FINESS Array B**	**142.96**	**342**	PKP	PKPdf	19 03 33.4	-2.0
	2.9nm,1.0s,baz=352,slow=5.6,SNR=3.8						
NOA	**NORSAR Array B**	**146.23**	**353**	PKPbc	PKPbc	19 03 41.6	-0.5
	0.4nm,0.7s,baz=12,slow=4.3,SNR=3.0						

IDC 04 18:59:41.4±2.2**, 5°.13S**×**145°.39E, h0**km**, mb3.2**/3**, mb1 3.3**/5**, mb1mx3.2**/32**, mbtmp3.2**/5**, ML2.5**/2**, MS2.6**/1**, Ms1 2.6**/1**, ms1mx2.4**/9**, Error ellipse: s-maj=53.7km s-min=28.7km az=88.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.60**	**158**	Pn	Pn	19 00 51.6	-0.7
	2.5nm,0.3s,baz=298,slow=11,SNR=9.8						
PMG				Sn	Sn	19 01 44.2	-2.3
	2.0nm,0.3s,baz=159,slow=19,SNR=8.2						
PMG				LR	LR	19 03 11.9	
	comp=Z,74nm,19.4s,baz=92,slow=46						
WRA	**Warramunga Arr**	**18.23**	**215**	P	P	19 03 56.7	+0.2
	0.0nm,0.3s,baz=39,slow=12,SNR=1.3						
ASAR	**Alice Springs**	**21.50**	**210**	P	P	19 04 33.0	+0.9
	0.2nm,0.8s,baz=35,slow=10,SNR=1.2						
FITZ	**Fitzroy Crossi**	**23.21**	**235**	P	P	19 04 49.0	-1.2
	2.9nm,1.0s,baz=68,slow=11,SNR=2.2						
MKAR	**Makanchi Array**	**75.81**	**321**	P	P	19 11 29.7	+0.2
	0.2nm,0.7s,baz=107,slow=9.3,SNR=2.4						

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*ISCJB **04** 19:00:25.0±0.5, 1°.73N±0°.05×99°.45E±0°.07, h174km±5km, mb3.6/6, Error ellipse: s-maj=13.2km s-min=5.3km az=146.1*

*IDC **04** 19:00:26.1±1.6, 1°.68N×99°.32E, h173km±6km, mb3.4/6, mb1 3.5/6, mb1mx3.2/40, mbtmp3.9/6, Error ellipse: s-maj=74.3km s-min=14.5km az=56.0*

*DJA **04** 19:00:27.1±0.5, 2°N±2°×9°9E±°, h159km±5km, M3.4/9, MLv3.4/9*

ISC 04 19:00:25.9±0.8**, 1°.73N**±0°.06×**99°.46E**±0°.08**, h170**km±7km**, n15, σ0s.78**/25**, mb3.8**/6**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.94**	**173**	P	**Pn**	**19 00 53.5**	**+1.3**
MNSI				S	**Sn**	**19 01 11.3**	**-1.2**
PSI	**Prapat**	**1.19**	**333**	P	**Pn**	**19 00 54.5**	**+0.1**
	6.0nm,0.3s,baz=360,slow=11,SNR=19						
PSI				S	**Sn**	**19 01 15.3**	**-1.1**
	1.6nm,0.3s,baz=180,slow=20,SNR=6.4						
GSI	**Gunungsitoli**	**1.93**	**257**	P	**Pn**	**19 01 02.9**	**+1.3**
GSI				S	**Sn**	**19 01 28.1**	**-1.0**
PPI	**Padang Panjang**	**2.37**	**157**	P	**Pn**	**19 01 07.5**	**+1.0**
PPI				S	**Sn**	**19 01 38.1**	**+0.1**
KCSI	**Kotacane, Aceh**	**2.45**	**317**	P	**Pn**	**19 01 07.5**	**0.0**
KCSI				S	**Sn**	**19 01 39.7**	**-0.2**
TPTI		**2.74**	**304**	P	**Pn**	**19 01 11.5**	**+0.6**
TPTI				S	**Sn**	**19 01 45.5**	**-0.4**
PDSI	**Padang**	**2.81**	**159**	P	**Pn**	**19 01 11.9**	**+0.1**
PDSI				S	**Sn**	**19 01 47.4**	**-0.2**
SISI	**Saibi**	**3.06**	**187**	P	**Pn**	**19 01 13.5**	**-1.4**
SISI				S	**Sn**	**19 01 52.7**	**-0.3**
SNSI	**Sinabang, Aceh**	**3.20**	**282**	P	**Pn**	**19 01 17.6**	**+0.9**
SNSI				S	**Sn**	**19 01 56.0**	**-0.1**
WRA	**Warramunga Arr**	**40.42**	**124**	P	**P**	**19 07 48.7**	**+0.8**
	0.9nm,0.3s,baz=308,slow=9.2,SNR=30						
ASAR	**Alice Springs**	**41.94**	**129**	P	**P**	**19 08 00.2**	**0.0**
	0.2nm,0.9s,baz=300,slow=7.4,SNR=7.4						
SONM	**Songino Array**	**46.32**	**6**	P	**P**	**19 08 34.8**	**+0.1**
	0.5nm,0.5s,baz=192,slow=9.1,SNR=6.6						
SONM				PcP	**PcP**	**19 10 06.9**	**-0.2**
	0.2nm,0.5s,baz=174,slow=2.6,SNR=2.9						
MKAR	**Makanchi Array**	**47.32**	**344**	P	**P**	**19 08 42.7**	**+0.3**
	1.8nm,0.3s,baz=159,slow=8.3,SNR=69						
ZALV	**Zalesovo Beam**	**53.43**	**349**	P	**P**	**19 09 28.1**	**0.0**
	1.3nm,0.7s,baz=176,slow=9.1,SNR=6.6						
FINES	**FINESS Array B**	**80.58**	**332**	P	**P**	**19 12 18.5**	**-0.7**
	1.6nm,1.0s,baz=105,slow=8.8,SNR=2.8						

IDC 04 19:00:34.9±2.1**, 21°.54N**×**94°.86E, h112**km±24km**, mb3.2**/4**, mb1 3.3**/6**, mb1mx3.0**/45**, mbtmp3.6**/6**, Error ellipse: s-maj=44.8km s-min=16.5km az=54.0, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**3.19**	**291**	P	Pn	19 01 22.8	-0.7
	33nm,0.3s,baz=102,slow=7.3,SNR=8.4						
BRDH				S	Sn	19 01 54.9	-6.1
	34nm,0.3s,baz=270,slow=18,SNR=2.0						
CHTO	**Chiang Mai**	**4.70**	**125**	P	Pn	19 01 52.5	+8.8
CMMT	**Chiang Mai**	**4.70**	**125**	P	Pn	19 01 52.4	+8.6
	7.2nm,0.9s						
SHL	**Shillong**	**4.85**	**326**	ePN	Pn	19 01 47.0	+1.1
SHL				eSN	Sn	19 02 37.0	-4.1
CMAR	**Chiang Mai Arr**	**4.91**	**128**	P	Pn	19 01 47.3	+0.7
	0.3nm,0.3s,baz=305,slow=13,SNR=39						
CMAR				S	Sn	19 02 48.2	+5.8
	baz=308,slow=18,SNR=2.6						
MKAR	**Makanchi Array**	**27.18**	**341**	P	P	19 06 07.9	0.0
	0.3nm,0.6s,baz=142,slow=9.4,SNR=5.6						
ZALV	**Zalesovo Beam**	**33.25**	**349**	P	P	19 07 01.6	+0.5
	0.5nm,0.3s,baz=168,slow=8.8,SNR=4.6						
WRA	**Warramunga Arr**	**56.48**	**134**	P	P	19 10 04.8	-0.7
	0.1nm,0.4s,baz=319,slow=7.6,SNR=3.4						
ASAR	**Alice Springs**	**58.85**	**138**	P	P	19 10 22.2	+0.2
	0.7nm,1.1s,baz=327,slow=6.8,SNR=3.0						

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*IDC **04** 19:08:24.9±1.0, 39°.80N×29°.63W, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.5/36, mbtmp3.8/6, MS3.6/4, Ms1 3.6/4, ms1mx3.0/36, Error ellipse: s-maj=35.5km s-min=15.8km az=168.0*

*ISCJB **04** 19:08:25.2±0.6, 39°.74N±0°.06×29°.51W±0°.09, h14km, mb3.7/6, MS3.6/4, Error ellipse: s-maj=12.8km s-min=5.5km az=140.1*

*SVSA **04** 19:08:27.6±0.4, 40°.06N×29°.04W, h10km, MD3.6, ML3.3, Error ellipse: s-maj=16.5km s-min=3.5km az=81.0*

ISC 04 19:08:26.7±0.8**, 39°.58N**±0°.09×**29°.58W**±0°.08**, h14**km**, n18, σ1s.64**/16**, mb3.7**/6**, MS3.4**/4**, 1C, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.17**	**144**	eP	**Pn**	**19 08 49.3**	**+0.7**
PCED				A	A	19 09 08.1	
	175nm,0.6s						
H07N1	**FLORES T-PHASE**	**1.19**	**276**	Pn	**Pn**	**19 08 48.3**	**-0.6**
CALA	**Caldeira**	**1.21**	**145**	eP	**Pg**	**19 08 50.1**	**+0.2**
CALA				eS	**Sn**	**19 09 06.6**	**+1.2**
H07S1	**FLORES T-PHASE**	**1.27**	**262**	Pn	**Pn**	**19 08 50.8**	**+0.8**
ROSA	**Rosais**	**1.35**	**129**	⇑eP	**Pn**	**19 08 49.4**	**-1.7**
PCAN	**Candelaria**	**1.40**	**142**	eS	**Sg**	**19 09 10.5**	**-1.3**
PCAN				A	A	19 09 14.2	
	335nm,0.4s						
PICO	**Pico**	**1.40**	**140**	eP	**Pn**	**19 08 51.7**	**-0.2**
PICO				eS	**Sg**	**19 09 09.9**	**-2.0**
PICO				A	A	19 09 13.2	
	157nm,0.2s						
ESDC	**Sonseca Array**	**19.72**	**81**	P	**Pn**	**19 13 01.1**	**+3.8**
	0.5nm,0.3s,baz=284,slow=13,SNR=8.7						
MDT	**Midelt**	**21.22**	**101**	LR	LR	19 19 36.3	
	comp=Z,95nm,18.0s,baz=302,slow=32						
DAVOX	**Davos/Dischmat**	**29.42**	**63**	LR	LR	19 24 48.0	
	comp=Z,68nm,18.8s,slow=34						
TORD	**Torodi Ar. Bea**	**38.11**	**125**	P	**P**	**19 15 46.7**	**+1.5**
	1.0nm,0.9s,baz=315,slow=9.4,SNR=6.0						
AKASG	**Malin Array Be**	**41.91**	**55**	P	**P**	**19 16 14.4**	**-2.0**
	0.5nm,0.6s,baz=273,slow=8.3,SNR=3.1						
ULM	**Lac du Bonnet**	**46.68**	**306**	LR	LR	19 35 49.3	
	comp=Z,61nm,18.4s,baz=92,slow=35						
PDAR	**Pinedale Array**	**58.10**	**301**	P	**P**	**19 18 18.8**	**-1.0**
	1.6nm,0.9s,baz=61,slow=9.2,SNR=7.5						
TXAR	**Lajitas Array**	**60.37**	**285**	P	**P**	**19 18 34.6**	**-1.0**
	0.6nm,0.8s,baz=54,slow=6.4,SNR=5.0						
ZALV	**Zalesovo Beam**	**71.15**	**35**	P	**P**	**19 19 45.3**	**+0.7**
	0.6nm,0.6s,baz=328,slow=5.1,SNR=2.6						
MKAR	**Makanchi Array**	**74.74**	**41**	P	**P**	**19 20 06.3**	**+0.3**
	0.7nm,0.8s,baz=318,slow=5.2,SNR=7.0						
RPN	**Rapa Nui**	**99.51**	**243**	LR	LR	20 03 06.6	
	comp=Z,87nm,19.7s,baz=233,slow=33						

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*NNC **04** 19:15:27.1±1.4, 40°.48N×73°.97E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=30.6km s-min=4.7km az=118.0*

*KRNET **04** 19:15:33.1±0.1, 40°.83N×73°.88E, h26km, mb2.3*

ISC 04 19:15:27.2±1.5**, 40°.55N**±0°.04×**73°.82E**±0°.06**, h20**km±6km**, n18, σ1s.30**/29**, 17C-9D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.59**	**204**	⇑P	**Pb**	**19 15 38.9**	**0.0**
	3.0nm,0.2s						
SFK				⇓S	**Sb**	**19 15 46.5**	**-0.4**
	8.8nm,0.3s						
SFK	**Sufi-Kurgan**	**0.59**	**204**	Pg	**Pb**	**19 15 39.1**	**+0.1**
	13nm,0.1s						
SFK				Lg	Lg	19 15 46.6	
	12nm,0.1s						
ARLS	**Aral**	**1.36**	**16**	⇑iP	**Pg**	**19 15 53.2**	**-0.5**
	baz=18						
ARLS				⇑iS	**Sn**	**19 16 07.2**	**-1.8**
	baz=18						
AML	**Almayashu**	**1.58**	**357**	⇓iP	**Pg**	**19 15 57.6**	**-0.3**
	baz=54						
AML				⇓iS	**Sb**	**19 16 15.6**	**-0.3**
	baz=54						
UCH	**Uchtor**	**1.76**	**17**	⇑iP	**Pg**	**19 16 00.6**	**-0.5**
	baz=18						
UCH				⇑iS	**Sb**	**19 16 21.0**	**+0.1**
	baz=18						
KZA	**Kyzart**	**1.87**	**35**	⇓eP	**Pg**	**19 16 03.0**	**-0.3**
	baz=39						
KZA				⇓iS	**Sb**	**19 16 25.0**	**+0.9**
	baz=39						
NRN	**Naryn**	**1.87**	**61**	⇑iP	**Pg**	**19 16 03.8**	**+0.5**
	baz=69						
NRN				⇑iS	**Sg**	**19 16 26.5**	**-1.2**
	baz=69						
EKS2	**Erkin-Say**	**2.11**	**359**	⇑iP	**Pb**	**19 16 05.6**	**+0.7**
	baz=58						
EKS2				⇑iS	**Sb**	**19 16 29.1**	**-1.7**
	baz=58						
AAK	**Ala-Archa**	**2.15**	**13**	⇓Lg	Lg	19 16 33.2	
	3.4nm,0.7s						
AAK	**Ala-Archa**	**2.15**	**13**	⇓eP	**Pb**	**19 16 06.2**	**+0.6**
	baz=14						
AAK				⇓iS	**Sb**	**19 16 30.0**	**-1.9**
	baz=14						
MRKS	**Merke**	**2.24**	**349**	Pg	**Pg**	**19 16 11.9**	**+1.7**
	4.8nm,0.4s						
MRKS				Lg	Lg	19 16 41.8	
	5.0nm,0.9s						
KBK	**Karagaybulak**	**2.27**	**22**	⇑iP	**Pb**	**19 16 07.9**	**+0.2**
	baz=23						
KBK				⇑iS	**Sb**	**19 16 33.3**	**-2.1**
	baz=23						
ULHL	**Ulahol**	**2.49**	**46**	⇑iP	**Pb**	**19 16 12.2**	**+0.8**
	baz=51						
ULHL				⇑iS	**Sb**	**19 16 40.3**	**-1.4**
	baz=51						
TKM2	**Tokmak 2**	**2.72**	**29**	Pg	**Pb**	**19 16 16.0**	**+0.7**
TKM2				⇓Lg	Lg	19 16 52.8	
	3.8nm,0.8s						
TKM2	**Tokmak 2**	**2.72**	**29**	⇑iP	**Pb**	**19 16 14.5**	**-0.8**
	baz=31						
TKM2				⇑iS	**Sn**	**19 16 44.8**	**+2.4**
	baz=31						
USP	**Ospenovka**	**2.76**	**10**	⇑eP	**Pb**	**19 16 14.7**	**-1.3**
	baz=10.0						
USP				⇑iS	**Sn**	**19 16 45.0**	**+1.7**
	baz=10.0						
DGS	**Degeres**	**3.06**	**28**	Pg	**Pb**	**19 16 22.9**	**+1.8**
	1.6nm,0.9s						
KUU	**Kurty**	**3.83**	**28**	Pg	**Pb**	**19 16 36.1**	**+1.9**
	1.0nm,0.4s						
KUU				Lg	Lg	19 17 22.2	
	3.2nm,0.4s						

MEX 04 19:18:29.0±0.4**, 16°.81N**×**94°.25W, h153**km±5km**, MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.67**	**295**	i P	Pn	19 18 50.1	-1.5
CMIG				i S	Sn	19 19 06.8	-2.1
TUIG	**Tuzandepetl**	**1.23**	**352**	i P	Pn	19 18 55.5	-0.7
TUIG				eS	Sn	19 19 15.3	-1.7
HUIG	**Huatulco**	**2.06**	**240**	eP	Pn	19 19 03.8	-1.2
HUIG				eS	Sn	19 19 31.1	-1.6
VHO	**Vista Hermosa**	**2.39**	**277**	i P	Pn	19 19 08.2	-0.9
VHO				i S	Sn	19 19 38.3	-1.7

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*IDC **04** 19:36:33.5±0.7, 58°.64S×24°.91W, h0km, mb4.2/7, mb1 4.2/7, mb1mx4.0/31, mbtmp4.1/7, MS3.4/1, Ms1 3.4/1, ms1mx2.9/23, Error ellipse: s-maj=28.8km s-min=20.8km az=99.0*

*ISCJB **04** 19:36:35.0±0.6, 58°.74S±0°.08×25°.1W±0°.2, h28km, mb4.4/9, Error ellipse: s-maj=17.9km s-min=9.3km az=152.5*

*NEIC **04** 19:36:38.7±2.5, 58°.63S×25°.16W, h35km±21km, mb4.8/2, Error ellipse: s-maj=17.9km s-min=14.7km az=107.0*

ISC 04 19:36:37.4±0.6**, 58°.7S**±0°.1×**25°.1W**±0°.1**, h28**km**, n33, σ1s.10**/25**, mb4.3**/9**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.72**	**300**	ePn	**Pn**	**19 38 27.3**	**-0.4**
VNA1	**Neumayer--Stat**	**13.89**	**156**	P	**Pn**	**19 39 50.9**	**-1.1**
VNA3	**Neumayer Olymp**	**14.09**	**159**	P	**Pn**	**19 39 53.0**	**-1.7**
VNA2	**Neumayer--Watz**	**14.28**	**156**	P	**Pn**	**19 39 55.8**	**-1.6**
	baz=314,slow=15						
PMSA	**Palmer Station**	**19.16**	**235**	LR	LR	19 46 24.3	
	comp=Z,104nm,18.3s,baz=110,slow=31						
USHA	**Ushuaia**	**23.75**	**260**	P	**P**	**19 41 48.5**	**+1.6**
	3.9nm,0.8s,baz=144,slow=14,SNR=3.0						
TRQA	**Tornquist**	**31.45**	**295**	eP	**P**	**19 42 54.4**	**-1.8**
	40nm,2.0s						
QSPA	**South Pole Qui**	**31.52**	**180**	P	**P**	**19 42 57.1**	**+0.3**
	2.8nm,0.6s,baz=210,slow=3.2,SNR=6.9						
VNDA	**Vanda**	**43.95**	**182**	P	**P**	**19 44 43.0**	**+1.9**
	2.9nm,0.8s,baz=192,slow=5.0,SNR=9.1						
VNDA	**Vanda**	**43.95**	**182**	eP	**P**	**19 44 42.2**	**+1.1**
H10S2	**ASCENSION HYDR**	**50.29**	**13**	T	T	20 39 53.4	
	baz=188,slow=75,SNR=20						
H10S3	**ASCENSION HYDR**	**50.29**	**13**	T	T	20 39 53.6	
	baz=188,slow=75,SNR=23						
H10S1	**ASCENSION HYDR**	**50.30**	**13**	T	T	20 39 54.7	
	baz=188,slow=75,SNR=21						
H10N1	**ASCENSION HYDR**	**51.41**	**13**	T	T	20 41 17.8	
	baz=181,slow=72,SNR=5.0						
H10N3	**ASCENSION HYDR**	**51.41**	**13**	T	T	20 41 17.2	
	baz=181,slow=72,SNR=14						
H10N2	**ASCENSION HYDR**	**51.42**	**13**	T	T	20 41 18.9	
	baz=181,slow=72,SNR=12						
LPAZ	**La Paz**	**52.84**	**305**	P	**P**	**19 45 50.9**	**-0.1**
	1.4nm,0.7s,baz=188,slow=6.4,SNR=6.5						
LPAZ	**La Paz**	**52.84**	**305**	eP	**P**	**19 45 50.1**	**-0.9**
MCQ	**Macquarie Isla**	**67.09**	**183**	eP	P	19 47 35.0	+7.4
	379nm,1.6s						
DBIC	**Dimbokro**	**67.18**	**22**	P	**P**	**19 47 29.0**	**+0.5**
	1.0nm,0.6s,baz=172,slow=7.3,SNR=2.5						
DBIC	**Dimbokro**	**67.18**	**22**	eP	**P**	**19 47 29.2**	**+0.6**
	9.1nm,1.4s						
TOA0	**Torodi Ar. Sit**	**74.87**	**27**	eP	**P**	**19 48 15.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**74.87**	**27**	P	**P**	**19 48 14.9**	**-0.2**
	2.2nm,0.7s,baz=193,slow=5.8,SNR=20						
TOA1	**Torodi Ar. Sit**	**74.88**	**27**	eP	**P**	**19 48 14.9**	**-0.3**
ASAR	**Alice Springs**	**96.09**	**161**	P	**P**	**19 50 01.9**	**-0.4**
	0.6nm,0.8s,baz=183,slow=4.3,SNR=6.0						
CMAR	**Chiang Mai Arr**	**123.06**	**110**	PKP	**PKPdf**	**19 55 30.8**	**-0.1**
	0.2nm,0.3s,baz=239,slow=4.3,SNR=5.2						
CMB	**Columbia Colle**	**124.16**	**288**	ePdif	**Pdif**	**19 52 09.0**	**+2.3**
YKA	**Yellowknife Ar**	**138.90**	**315**	PKP	**PKPdf**	**19 56 00.1**	**+0.8**
	0.8nm,0.6s,baz=130,slow=2.5,SNR=16						
YKB5	**Yellowknife Ar**	**138.90**	**315**	ePKPdf	**PKPdf**	**19 55 59.1**	**-0.2**
SONA0	**Songino Array**	**149.68**	**89**	ePKPbc	**PKPbc**	**19 56 23.9**	**+0.5**
SONM	**Songino Array**	**149.68**	**89**	PKPbc	**PKPbc**	**19 56 23.9**	**+0.5**
	1.9nm,0.7s,baz=221,slow=3.0,SNR=12						
SONA1	**Songino Array**	**149.69**	**89**	ePKPbc	**PKPbc**	**19 56 23.6**	**+0.2**
ILAR	**Eielson Array**	**152.70**	**307**	PKPbc	**PKiKP**	**19 56 30.5**	**+0.6**
	4.2nm,0.8s,baz=150,slow=2.7,SNR=41						

NNC 04 19:45:11.7±4.2**, 37°.04N**×**70°.75E, h0**km**, mb3.5, mpv3.2, 2C-3D, Error ellipse: s-maj=34.1km s-min=32.6km az=55.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.67**	**35**	⇑P	Pn	19 46 09.9	0.0
	0.9nm,0.3s						
SFK				⇓S	Sn	19 46 55.9	+1.9
	1.6nm,0.4s						
KK31	**Karatay Array**	**6.06**	**358**	P	Pn	19 46 44.0	+1.4
	1.1nm,0.3s,baz=185,slow=15,SNR=18						
KK31				⇑S	Sn	19 47 53.3	+0.7
	0.3nm,0.3s						
AAK	**Ala-Archa**	**6.29**	**26**	⇓P	Pn	19 46 44.4	-1.4
	3.4nm,1.1s						
AAK				⇓S	Sn	19 47 59.5	+1.1
	2.1nm,1.0s						

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*IDC **04** 19:46:24.5±1.4, 1°.44S×77°.59W, h181km±12km, mb3.9/22, mb1 4.1/27, mb1mx4.0/34, mbtmp4.4/27, MS3.4/2, Ms1 3.4/2, ms1mx2.7/30, Error ellipse: s-maj=14.4km s-min=9.3km az=60.0*

*ISCJB **04** 19:46:25.1±0.5, 1°.50S±0°.03×77°.58W±0°.05, h199km±4km, mb4.5/91, Error ellipse: s-maj=8.7km s-min=4.5km az=159.9*

*NEIC **04** 19:46:25.9±0.2, 1°.48S×77°.53W, mb4.7/82, Error ellipse: s-maj=7.1km s-min=3.3km az=70.0*

ISC 04 19:46:24.7±0.7**, 1°.55S**±0°.05×**77°.71W**±0°.07**, h184**km±5km**, n216, σ1s.33**/230**, mb4.7**/96**, Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**1.92**	**337**	ePn	**Pn**	**19 47 01.8**	**0.0**
GCUF	**Volcan Galeras**	**2.78**	**8**	eP	**Pn**	**19 47 14.2**	**+2.7**
GCUF	**Volcan Galeras**	**2.78**	**8**	eP	**Pn**	**19 47 14.2**	**+2.7**
CRUC	**La Cruz**	**3.19**	**14**	eP	**Pn**	**19 47 17.0**	**+0.8**
CRUC	**La Cruz**	**3.19**	**14**	eP	**Pn**	**19 47 17.0**	**+0.8**
PTLC	**Puerto Leguiza**	**3.38**	**60**	eP	**Pn**	**19 47 16.3**	**-1.9**
PTLC	**Puerto Leguiza**	**3.38**	**60**	eP	**Pn**	**19 47 16.3**	**-1.9**
TUMC	**Tumaco**	**3.50**	**343**	eP	**Pn**	**19 47 19.7**	**0.0**
TUMC	**Tumaco**	**3.50**	**343**	eP	**Pn**	**19 47 19.7**	**0.0**
FLOC	**Florencia**	**3.73**	**34**	eP	**Pn**	**19 47 22.9**	**+0.3**
FLOC	**Florencia**	**3.73**	**34**	eP	**Pn**	**19 47 22.9**	**+0.3**
SOTA	**Rioblanco**	**3.82**	**17**	eP	**Pn**	**19 47 25.4**	**+1.2**
SOTA	**Rioblanco**	**3.82**	**17**	eP	**Pn**	**19 47 25.4**	**+1.2**

POPC	Popayan, Colom	4.19	14	eP	Pn	19 47 29.0	+0.4
POPC	Popayan, Colom	4.19	14	eP	Pn	19 47 29.0	+0.4
GRGC	Isla de Gorgon	4.54	354	eP	Pn	19 47 30.7	-2.2
GRGC	Isla de Gorgon	4.54	354	eP	Pn	19 47 30.7	-2.2
MARP	Paez Belalcaza	4.70	22	eP	Pn	19 47 36.2	+1.0
MARP	Paez Belalcaza	4.70	22	eP	Pn	19 47 36.2	+1.0
BETC	Betania	4.78	28	eP	Pn	19 47 37.7	+1.8
BETC	Betania	4.78	28	eP	Pn	19 47 37.7	+1.8
MALC	Bahia Malaga	5.54	4	eP	Pn	19 47 44.2	-1.5
MALC	Bahia Malaga	5.54	4	eP	Pn	19 47 44.2	-1.5
YOTC	Yotoco, Valle	5.66	14	eP	Pn	19 47 45.2	-2.3
YOTC	Yotoco, Valle	5.66	14	eP	Pn	19 47 45.2	-2.3
ANIL	Santa Ana	6.43	21	eP	Pn	19 47 55.5	-2.2
ANIL	Santa Ana	6.43	21	eP	Pn	19 47 55.5	-2.2
TOLC	Tolima	6.54	21	eP	Pn	19 47 58.7	-0.5
TOLC	Tolima	6.54	21	eP	Pn	19 47 58.7	-0.5
RREF	El Recreo	6.83	20	eP	Pn	19 48 03.5	+0.3
RREF	El Recreo	6.83	20	eP	Pn	19 48 03.5	+0.3
VILC	Villavicencio,	6.91	36	eP	Pn	19 48 04.3	+0.5
VILC	Villavicencio,	6.91	36	eP	Pn	19 48 04.3	+0.5
ROSC	El Rosal	7.19	28	P	Pn	19 48 07.5	-0.3
	1.9nm,0.3s,baz=221,slow=20,SNR=2.2						
ROSC	El Rosal	7.19	28	ePn	Pn	19 48 06.6	-1.2
CHIC	Chingaza	7.31	33	eP	Pn	19 48 09.8	+0.4
CHIC	Chingaza	7.31	33	eP	Pn	19 48 09.8	+0.4
NORC	Norcasia	7.61	22	eP	Pn	19 48 11.7	-1.3
NORC	Norcasia	7.61	22	eP	Pn	19 48 11.7	-1.3
HELC	Santa Helena	7.99	16	eP	Pn	19 48 16.5	-1.7
HELC	Santa Helena	7.99	16	eP	Pn	19 48 16.5	-1.7
PTBC	PUERTO BERRIO,	8.67	22	eP	Pn	19 48 23.4	-3.4
PTBC	PUERTO BERRIO,	8.67	22	eP	Pn	19 48 23.4	-3.4
RUSC	La Rusia	8.72	32	eP	Pn	19 48 29.0	+1.1
RUSC	La Rusia	8.72	32	eP	Pn	19 48 29.0	+1.1
BARC	Barichara	9.26	29	eP	Pn	19 48 36.5	+1.6
BARC	Barichara	9.26	29	eP	Pn	19 48 36.5	+1.6
ZARC	Zaragoza, Cauc	9.42	18	eP	Pn	19 48 34.6	-2.1
ZARC	Zaragoza, Cauc	9.42	18	eP	Pn	19 48 34.6	-2.1
BRRC	Barranca, Sant	9.48	25	eP	Pn	19 48 38.0	+0.6
BRRC	Barranca, Sant	9.48	25	eP	Pn	19 48 38.0	+0.6
UREC	San Jos de Ur	9.49	13	eP	Pn	19 48 38.2	+0.6
UREC	San Jos de Ur	9.49	13	eP	Pn	19 48 38.2	+0.6
NNA	Nana	10.41	175	P	Pn	19 48 46.5	-3.1
	3.7nm,0.3s,baz=336,slow=13,SNR=6.0						
NNA				S	Sn	19 50 33.5	-12
	6.0nm,0.3s,baz=270,slow=20,SNR=5.1						
BCIP	Isla Barro Col	10.85	349	ePn	Pn	19 48 53.5	-1.8
BCIP	Isla Barro Col	10.85	349	eP	P	19 48 59.5	-3.1
BCIP	Isla Barro Col	10.85	349	eP	P	19 48 59.5	-3.1
SDV	Santo Domingo	12.54	34	P	Pn	19 49 17.1	-0.1
	6.1nm,0.3s,baz=235,slow=9.2,SNR=38						
SDV	Santo Domingo	12.54	34	ePn	Pn	19 49 16.6	-0.6
SDV	Santo Domingo	12.54	34	eP	Pn	19 49 17.2	+0.1
SDV	Santo Domingo	12.54	34	eP	Pn	19 49 17.2	+0.1
JTS	JuntasAbangare	13.79	329	P	Pn	19 49 34.1	+1.4
	baz=154,slow=4.5,SNR=3.5						
JTS	JuntasAbangare	13.79	329	ePn	P	19 49 34.5	-0.8
ESPN	Las Esperanzas	15.14	335	ePn	P	19 49 51.9	+1.7
	40nm,1.3s						
LPAZ	La Paz	17.43	148	P	Pn	19 50 17.2	-0.3
	1.5nm,0.3s,baz=322,slow=9.9,SNR=30						
LPAZ	La Paz	17.43	148	eP	Pn	19 50 17.2	-0.3
	13nm,0.9s						
PCRV	Puerto La Cruz	17.47	48	P	Pn	19 50 18.6	+1.1
	4.9nm,0.3s,baz=335,slow=4.7,SNR=14						
PTGA	Pitinga	17.76	88	P	P	19 50 18.5	-0.6
	1.3nm,0.3s,baz=260,slow=12,SNR=16						
PTGA	Pitinga	17.76	88	eP	P	19 50 17.8	-1.4
	21nm,1.1s						
MNMC	Minye Minye	19.20	156	eP	P	19 50 35.7	+0.7
	75nm,1.0s						
MTDJ	Mount Denham	19.65	1	eP	Pn	19 50 41.7	-1.6
	72nm,0.6s						
PB11	IPOC Station P	19.74	157	eP	P	19 50 41.9	+1.2
	34nm,0.7s						
GO01	Chusmiza	19.85	156	eP	P	19 50 43.6	+1.5
	32nm,0.5s						
GRGR	Grenville	20.96	49	eP	P	19 50 51.4	-2.1
	342nm,1.4s						
PB01	IPOC Station P	20.97	158	eP	P	19 50 55.5	+1.8
	11nm,0.9s						
GTBY	Guantanamo Bay	21.49	7	eP	P	19 51 00.2	+1.1
	59nm,1.2s						
CRPR	Cabo Rojo, PR	22.06	28	eP	P	19 51 09.9	+5.0
SJG	San Juan	22.61	30	P	P	19 51 08.5	-1.4
	4.9nm,0.4s,baz=186,slow=19,SNR=3.2						
SJG				LR	LR	20 01 56.0	
	comp=Z,54nm,19.2s,baz=129,slow=42						
LVC	Limon Verde	22.62	158	P	P	19 51 11.3	+0.9
	9.2nm,0.5s,baz=332,slow=5.5,SNR=15						
PB10	IPOC Station P	22.91	163	eP	P	19 51 13.9	+1.2
	46nm,1.1s						
GRTK	Grand Turk	23.80	15	eP	P	19 51 21.0	+0.2
	159nm,1.2s						
TEIG	Tepich	23.99	335	eP	P	19 51 24.5	+2.0
	73nm,1.5s						
CMIG	Matias Romero	25.10	318	P	P	19 51 33.4	+0.8
	1.1nm,0.4s,baz=134,slow=3.4,SNR=4.1						
MDP	Montagnes des	25.90	75	P	P	19 51 39.0	-1.0
	9.7nm,0.4s,baz=180,slow=4.9						
LCO	Las Campanas	28.12	167	eP	P	19 52 00.9	+1.1
	30nm,1.6s						
GO04	Tololo Observa	29.22	168	eP	P	19 52 10.5	+1.0
	16nm,0.9s						
CPUP	Villa Florida	31.49	143	P	P	19 52 28.2	-1.1
	2.0nm,0.6s,baz=328,slow=7.1,SNR=5.9						
CPUP	Villa Florida	31.49	143	eP	P	19 52 28.1	-1.1
	3.9nm,0.9s						
555A	McAlpin	31.89	351	eP	P	19 52 33.5	+0.8
	115nm,1.4s						
ROC1	El Roble	31.89	169	eP	P	19 52 33.5	+0.5
	34nm,0.7s						
PEL	Peldehue	32.12	169	eP	P	19 52 34.9	+0.2
	20nm,0.8s						
BDFB	Brasilia	32.46	117	P	P	19 52 38.0	0.0
	2.2nm,0.4s,baz=291,slow=9.8,SNR=3.6						
LNIG	Linares	33.70	323	eP	P	19 52 49.8	+1.3
	48nm,1.9s						
GO05	Huala	33.73	171	eP	P	19 52 48.8	+0.2
	14nm,0.6s						
CSU	Charleston Sou	34.42	356	eP	P	19 52 55.9	+1.3
GOGA	Godfrey	35.19	352	eP	P	19 53 02.3	+1.1
	22nm,1.6s						
HODGE	Hodges	35.84	354	eP	P	19 53 07.8	+1.1
	7.4nm,0.6s						
Y49A	Blount Mountai	36.16	348	eP	P	19 53 09.8	+0.3
	43nm,1.9s						
KMSC	Kings Mountain	36.66	355	eP	P	19 53 14.6	+1.0
	16nm,1.0s						
BG3	Lake Jocassee	36.68	353	eP	P	19 53 15.1	+1.3
	12nm,0.6s						
V53A	Saluda	37.33	353	eP	P	19 53 20.6	+1.2
	16nm,0.4s						
CPCT	Cooper Cave	37.35	351	eP	P	19 53 19.9	+0.4
	10nm,0.7s						
SWET	Sewanee	37.37	349	eP	P	19 53 19.8	+0.1
	4.9nm,0.8s						
TKL	Tuckaleechee C	37.44	352	eP	P	19 53 20.9	+0.6
	13nm,0.6s						
V52A	Sevierville	37.60	352	eP	P	19 53 22.0	+0.5
	14nm,0.8s						
V51A	Loudon	37.67	351	eP	P	19 53 23.0	+0.8
	16nm,0.6s						
V48A	Smith Brothers	38.06	348	eP	P	19 53 25.4	0.0
	18nm,0.6s						
GO06	Curarrehue	38.28	172	eP	P	19 53 27.8	+0.4
	46nm,1.8s						
TZTN	Tazewell	38.28	352	eP	P	19 53 27.8	+0.5
	64nm,0.7s						
WVT	Waverly	38.65	347	eP	P	19 53 29.6	-0.8
	4.5nm,0.6s						
W41B	Gary Mavity, V	38.98	341	eP	P	19 53 33.2	+0.2
	15nm,1.6s						
TRQA	Tornquist	39.10	160	eP	P	19 53 34.8	+0.6
	11nm,1.0s						
WHAR	Wooly Hollow	39.10	341	eP	P	19 53 34.0	-0.1
	17nm,1.4s						
T49A	Edmonton	39.14	350	eP	P	19 53 34.2	-0.1
	9.5nm,0.7s						
LTX	Lajitas	39.49	323	eP	P	19 53 38.4	+0.8
LTX				ePcP	PcP	19 55 42.8	+1.2
TXAR	Lajitas Array	39.49	323	P	P	19 53 38.4	+0.8
	0.7nm,0.6s,baz=151,slow=8.0,SNR=7.2						
TXAR				PcP	PcP	19 55 42.8	+1.2
	1.0nm,0.8s,baz=148,slow=6.0,SNR=6.6						
TXAR				ScP	ScP	19 59 13.0	+0.1
	0.5nm,0.8s,baz=148,slow=7.4,SNR=3.5						
TX31	Lajitas Ar. Si	39.49	323	eP	P	19 53 39.5	+2.0
PLCA	Paso Flores	39.54	171	P	P	19 53 38.6	+0.8
	8.5nm,0.7s,baz=5.2,slow=9.3,SNR=17						
PLCA				PcP	PcP	19 55 42.1	+0.6
	1.4nm,0.8s,baz=258,slow=14,SNR=3.5						
PLCA	Paso Flores	39.54	171	eP	P	19 53 38.2	+0.5
	11nm,0.8s						
PLCA				ePcP	PcP	19 55 42.1	+0.6
T42A	Van Buren	40.34	343	eP	P	19 53 43.1	-1.2
	8.0nm,0.8s						
HHAR	Hobbs	40.56	340	eP	P	19 53 46.4	+0.3
	4.6nm,0.5s						
P53A	Whipple	40.97	356	eP	P	19 53 50.6	+1.1
	15nm,0.6s						
CCM	Cathedral Cave	41.34	344	eP	P	19 53 51.7	-0.7
	29nm,1.7s						
MVL	Millersville	41.37	2	eP	P	19 53 53.5	+0.9
	62nm,1.4s						
O56A	Blue Knob Stat	41.62	359	eP	P	19 53 56.0	+1.3
	13nm,0.8s						
O52A	Adamsville	41.63	355	eP	P	19 53 55.0	+0.2
	57nm,1.6s						
RCBR	Riachuelo	41.93	97	eP	P	19 53 57.7	0.0
	20nm,0.8s						
N54A	Moraine State	42.36	357	eP	P	19 54 01.8	+1.1
	18nm,0.6s						
P42A	Winchester	42.54	346	eP	P	19 54 01.5	-0.6
	48nm,1.8s						
M54A	Oil Creek Stat	42.89	358	eP	P	19 54 06.1	+1.1
	21nm,0.6s						
HDIL	Hopedale	43.22	347	eP	P	19 54 06.5	-1.0
	26nm,0.6s						
BINY	Binghamton	43.57	2	eP	P	19 54 12.1	+1.7
	69nm,1.4s						
319A	Douglas	44.39	320	eP	P	19 54 19.9	+2.7
	14nm,1.3s						
BNM	Barren Site	44.71	325	eP	P	19 54 21.3	+1.5
CBKS	Cedar Bluff	44.99	336	eP	P	19 54 23.3	+1.6
	8.1nm,0.5s						
L40A	Anamosa	45.10	346	eP	P	19 54 21.5	-1.0
	34nm,1.5s						
ANMO	Albuquerque	45.19	326	eP	P	19 54 25.7	+2.1
	5.0nm,0.8s						
NCB	Newcomb	45.42	4	eP	P	19 54 26.2	+1.2
	44nm,1.6s						
TUC	Tucson	45.97	320	eP	P	19 54 31.4	+1.8
	2.8nm,0.6s						
LONY	Lake Ozonia	46.05	3	eP	P	19 54 30.4	+0.5
	70nm,1.8s						
SADO	Sadowa	46.13	359	LR	LR	20 15 10.6	
	comp=Z,64nm,21.0s,baz=51,slow=38						
SADO	Sadowa	46.13	359	eP	P	19 54 30.6	0.0
	37nm,1.1s						
SADO				e		20 15 10.6	
I42A	Draeger Farm,	46.34	349	eP	P	19 54 32.0	-0.2
	75nm,1.6s						
PLVO	Plevna	46.39	1	eP	P	19 54 33.0	+0.4
	63nm,1.5s						
SDCO	Great Sand Dun	46.79	330	eP	P	19 54 38.4	+2.2
	5.5nm,1.3s						
PKME	Peaks-Kenny Pk	47.21	8	eP	P	19 54 39.3	+0.5
	121nm,2.0s						
G43A	Wallace	47.44	350	eP	P	19 54 40.1	-0.6
	87nm,1.6s						
G42A	Mountain	47.55	350	eP	P	19 54 40.7	-0.9
	57nm,1.4s						
F41A	Three Lakes	48.15	349	eP	P	19 54 45.9	-0.3
	23nm,1.2s						
ECSD	EROS Data Cent	48.16	342	eP	P	19 54 45.8	-0.4
	17nm,1.9s						
E43A	Lone Tree Farm	48.42	351	eP	P	19 54 47.0	-1.1
	43nm,1.3s						
COWI	Conover	48.51	349	eP	P	19 54 49.1	+0.2
	48nm,1.6s						
PV02	Paradox Valley	48.83	327	eP	P	19 54 54.2	+2.4
	6.9nm,1.0s						
PV13	Radium Mtn., P	48.84	327	eP	P	19 54 53.6	+1.8
	6.6nm,0.9s						
BATG	Bathurst New B	49.68	10	eP	P	19 54 58.0	+0.2
	106nm,1.9s						
PD31	Pinedale Array	52.61	331	eP	P	19 55 20.0	0.0
PDAR	Pinedale Array	52.61	331	P	P	19 55 19.4	-0.5
	0.3nm,0.6s,baz=126,slow=5.9,SNR=3.9						
PDAR				PcP	PcP	19 56 27.2	-0.3
	0.5nm,0.5s,baz=120,slow=6.5,SNR=3.7						
ULM	Lac du Bonnet	53.90	346	P	P	19 55 27.9	-1.0
	1.7nm,0.3s,baz=169,slow=8.5,SNR=5.1						
NV01	Mina Array Sit	54.58	321	eP	P	19 55 33.5	-0.8
NV01				epP	pP	19 56 17.7	+0.2
NV01				ePcP	PcP	19 56 35.6	+0.5
NVAR	Mina Array Bea	54.58	321	P	P	19 55 32.7	-1.6
	1.1nm,0.6s,baz=133,slow=6.0,SNR=5.7						
NVAR				pP	pP	19 56 17.5	0.0
	0.9nm,0.8s,baz=135,slow=7.5,SNR=2.7						
NVAR				PcP	PcP	19 56 35.8	+0.7
	1.1nm,0.7s,baz=137,slow=3.7,SNR=4.2						
SCHQ	Schefferville	56.90	7	P	P	19 55 49.1	-1.1
	4.6nm,0.7s,baz=217,slow=9.2,SNR=7.3						
SCHQ	Schefferville	56.90	7	eP	P	19 55 49.5	-0.8
	52nm,1.6s						
YKA	Yellowknife Ar	69.67	343	P	P	19 57 12.7	-1.2
	0.9nm,0.5s,baz=140,slow=6.1,SNR=9.4						
YKB5	Yellowknife Ar	69.67	343	eP	P	19 57 13.5	-0.4
DBIC	Dimbokro	73.17	83	P	P	19 57 35.6	-0.2
	4.8nm,0.3s,baz=257,slow=3.8,SNR=46						
DBIC	Dimbokro	73.17	83	eP	P	19 57 35.0	-0.9
	11nm,0.9s						
SUMG	Summit	78.02	11	eP	P	19 58 03.2	+0.5
	102nm,1.7s						
SUMG	Summit	78.02	11	i P	P	19 58 03.5	+0.7
	52nm,0.6s						
ESDC	Sonseca Array	78.53	49	P	P	19 58 05.4	-0.4
	0.3nm,0.4s,baz=271,slow=4.4,SNR=2.7						
ESDC				pP	pP	19 58 50.1	-0.7
	1.8nm,0.9s,baz=263,slow=6.4,SNR=6.2						
TOA1	Torodi Ar. Sit	80.04	76	eP	P	19 58 12.1	-2.4
TOA0	Torodi Ar. Sit	80.04	76	eP	P	19 58 11.6	-2.8
TORD	Torodi Ar. Bea	80.04	76	P	P	19 58 12.1	-2.4
	2.8nm,0.3s,baz=283,slow=6.3,SNR=74						
VNA3	Neumayer Olymp	81.59	162	P	P	19 58 22.0	+0.5
VNA2	Neumayer--Watz	82.18	162	P	P	19 58 24.9	+0.3
	baz=296,slow=6.2						
IL1	Eielson Array	82.64	336	eP	P	19 58 27.4	+0.3
ILAR	Eielson Array	82.64	336	P	P	19 58 27.6	+0.5
	1.7nm,0.9s,baz=120,slow=4.0,SNR=10						
ILB	Eielson Array	82.64	336	eP	P	19 58 27.3	+0.2
BPAW	Bear Paw Mtn.	84.13	335	eP	P	19 58 35.5	+0.7
	8.4nm,1.0s						
DAG	Danmarks Havn	84.71	11	i P	P	19 58 37.1	-0.2
	4.9nm,0.6s						
KEST	Kesra	88.50	54	P	P	19 58 56.7	0.0
	4.3nm,0.7s,baz=297,slow=3.5,SNR=6.3						
KEST	Kesra	88.50	54	eP	P	19 58 56.5	-0.2
	43nm,1.8s						
QSPA	South Pole Qui	88.52	180	eP	P	19 58 57.2	+1.1
	17nm,1.0s						
DAVA	Damuels	89.49	43	i PcP	P	19 59 02.0	+0.8
	3.2nm,0.7s						
FETA	Feichten	90.06	43	ePcP	P	19 59 04.4	+0.6
	2.8nm,0.7s						
MOTA	Moosalm	90.32	43	i PcP	P	19 59 05.6	+0.6
	4.3nm,1.0s						
SQTA	Sankt Quirin	90.39	43	ePcP	P	19 59 06.0	+0.6
	5.0nm,0.6s						
NB200	NORSAR Array S	90.82	29	eP	P	19 59 06.3	-0.6
NOA	NORSAR Array B	90.82	29	P	P	19 59 06.3	-0.6
	0.7nm,0.7s,baz=271,slow=4.4,SNR=2.9						
MYKA	Terra Mystica	92.05	44	ePcP	P	19 59 13.6	+0.6
	3.0nm,1.1s						
GEC2	GERESS Array S	92.09	41	eP	P	19 59 11.9	-1.2
	12nm,1.9s						
GERES	GERESS Array B	92.09	41	P	P	19 59 12.7	-0.4
	0.5nm,0.6s,baz=303,slow=5.6,SNR=2.2						
VNDA	Vanda	94.82	191	P	P	19 59 26.5	+1.5
	1.5nm,0.8s,baz=114,slow=5.4,SNR=5.3						
VNDA	Vanda	94.82	191	eP	P	19 59 26.0	+1.1
ARA0	ARCESS Array S	96.06	20	eP	P	19 59 30.3	-0.5
ARCES	ARCESS Array B	96.06	20	P	P	19 59 30.3	-0.5
	3.8nm,0.8s,baz=278,slow=3.6,SNR=8.4						
FIA0	FINESS Array S	97.93	28	eP	P	19 59 38.6	-0.7
FINES	FINESS Array B	97.93	28	P	P	19 59 38.6	-0.7
	2.4nm,0.9s,baz=284,slow=5.6,SNR=3.8						
ZAA1	Zalesovo Array	125.82	13	ePKPdf	PKPdf	20 05 04.6	+0.2
ZALV	Zalesovo Beam	125.82	13	PKP	PKPdf	20 05 04.6	+0.2
	0.7nm,0.5s,baz=308,slow=1.9,SNR=4.9						
STKA	Stephens Creek	130.09	225	PKP	PKPdf	20 05 13.5	+0.2
	1.9nm,0.7s,baz=343,slow=10,SNR=3.9						
MK32	Makanchi Array	131.67	18	ePKPdf	PKPdf	20 05 16.1	+0.2
MK32				eSKPbc	SKPab	20 08 25.1	+0.1
MKAR	Makanchi Array	131.67	18	PKP	PKPdf	20 05 16.1	+0.2
	0.3nm,0.4s,baz=299,slow=2.5,SNR=15						
MKAR				SKPbc	SKPab	20 08 25.1	0.0
	0.4nm,0.7s,baz=343,slow=4.2,SNR=4.4						
MJAR	Matsushiro Arr	131.90	321	PKP	PKPdf	20 05 17.0	+0.4
	0.7nm,0.6s,baz=75,slow=1.5,SNR=4.0						
MAJO	Matsushiro	131.90	321	ePKPdf	PKPdf	20 05 17.0	+0.4
SONA0	Songino Array	133.76	356	ePKPdf	PKPdf	20 05 19.6	-0.3
SONA0				eSKPbc	SKPbc	20 08 31.3	-0.3
SONM	Songino Array	133.76	356	PKP	PKPdf	20 05 19.6	-0.3
	0.4nm,0.6s,baz=333,slow=1.7,SNR=4.0						
SONM				SKPbc	SKPbc	20 08 31.3	-0.3
	0.8nm,0.8s,baz=294,slow=3.2,SNR=5.6						
KSH	Kashi	135.25	29	PKP	PKiKP	20 05 25.4	+0.9
KSH				sPKP		20 06 25.4	
KSH				PP	PP	20 08 06.3	+6.3
KSH				PKS	PKSdf	20 09 01.3	+1.9
KSH				AMB	AMB		
	comp=Z,510nm,5.2s						
KSRS	Korea Array	137.18	330	PKP	PKPdf	20 05 25.2	-1.2
	comp=Z,1.0nm,0.7s,baz=5.4,slow=2.7,SNR=3.8						
KSAR	Wonju Array Be	137.21	330	PKP	PKPdf	20 05 25.2	-1.3
AS31	Alice Springs	140.34	229	ePKPpre	PKPpre	20 05 25.6	
ASAR	Alice Springs	140.34	229	PKhKP	PKPpre	20 05 24.2	
	comp=Z,0.9nm,0.4s,baz=129,slow=3.7,SNR=31						
ASAR				SKPbc	SKPbc	20 08 50.0	-1.6
	comp=Z,0.2nm,0.7s,baz=104,slow=2.7,SNR=4.2						
WB2	Warramunga Arr	141.99	234	ePKPpre	PKPpre	20 05 30.4	
WR1	Warramunga Arr	142.00	234	ePKPpre	PKPpre	20 05 30.7	
WR1				eSKPbc	SKPbc	20 08 53.4	-2.6
WRA	Warramunga Arr	142.00	234	PKhKP	PKPpre	20 05 30.7	
	comp=Z,1.5nm,0.3s,baz=117,slow=3.0,SNR=45						
WRA				SKPbc	SKPbc	20 08 53.4	-2.6
	comp=Z,0.3nm,0.6s,baz=113,slow=2.5,SNR=3.4						
GTA	Gaotai	142.25	3	ePKP	PKPdf	20 05 36.7	+1.0
GTA				pPKP	pPKPdf	20 06 31.2	+7.0
GTA				sPKP		20 06 54.7	
CMAR	Chiang Mai Arr	162.88	11	PKPab	PKPab	20 06 55.3	-0.3
	comp=Z,1.1nm,0.6s,baz=328,slow=5.4,SNR=9.2						

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*ISCJB **04** 19:59:23.2±0.4, 43°.83N±0°.04×105°.28W±0°.06, h0km, mb3.9/3, Error ellipse: s-maj=6.6km s-min=5.7km az=162.1*
*IDC **04** 19:59:25.5±1.1, 43°.98N×105°.71W, h0km, mb3.8/3, mb1 3.7/9, mb1mx3.5/42, mbtmp3.5/9, ML3.7/6, Error ellipse: s-maj=21.4km s-min=10.5km az=146.0*
*NEIC **04** 19:59:25.1±0.3, 43°.84N×105°.28W, h0km, ML3.3, Error ellipse: s-maj=5.6km s-min=4.8km az=156.0, Suspected Mining explosion.*
NEIC 54 km [33 miles] SSE of Gillette.
ISC 04 19:59:24.5±0.8**, 43°.79N**±0°.07×**105°.28W**±0°.07**, h0km, n30, σ1s.13**/27**, mb3.9**/3**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.95	69	ePg	Pg	19 59 43.1	+0.3
RLMT	Red Lodge	3.15	296	ePn	Pn	20 00 16.1	+0.5
BW06	Boulder Array	3.29	253	ePn	Pn	20 00 17.9	+0.4
PDAR	Pinedale Array	3.29	253	Pn	Pn	20 00 18.2	+0.7
	11nm,0.3s,baz=71,slow=14,SNR=172						
PDAR				Lg	Lg	20 01 00.5	
	15nm,0.3s,baz=75,slow=22,SNR=5.9						
OGNE	Ogallala	3.72	139	ePn	Pn	20 00 23.7	+0.4
LKWY	Lake	3.77	284	ePn	Pn	20 00 25.3	+1.2
ISCO	Idaho Springs	4.00	184	ePn	Pn	20 00 27.9	+0.6
AHID	Auburn Hatcher	4.37	258	ePn	Pn	20 00 26.1	-6.3
DGMT	Dagmar	4.74	9	ePn	Pn	20 00 39.1	+1.9
BOZ	Bozeman (W)	4.88	294	ePn	Pn	20 00 38.5	-0.7
EGMT	Eagleton	5.26	325	ePn	Pn	20 00 44.3	-0.1
SDCO	Great Sand Dun	6.04	182	ePn	Pn	20 00 56.2	+0.8
	3.8nm,0.7s						
ECSD	EROS Data Cent	6.27	88	ePn	Pn	20 00 58.1	-0.2
	8.0nm,0.6s						
CBKS	Cedar Bluff	6.49	138	ePn	Pn	20 01 03.6	+2.3
	23nm,0.5s						
HLID	Hailey	6.63	271	ePn	Pn	20 01 05.2	+1.8
	2.1nm,0.5s						
DUG	Dugway, Tooele	6.67	240	ePn	Pn	20 01 03.5	-0.3
	7.1nm,0.9s						
MVCO	Mesa Verde	7.02	202	ePn	Pn	20 01 11.2	+2.5
	8.7nm,0.7s						
AGMN	Agassiz Nation	7.95	52	ePn	Pn	20 01 21.9	+0.7
	8.7nm,0.5s						
ELK	Elko	7.99	251	Pn	Pn	20 01 23.2	+1.1
	0.5nm,0.3s,baz=62,slow=9.3,SNR=7.8						
ELK				Lg	Lg	20 03 28.9	
	0.1nm,0.3s,baz=69,slow=5.5,SNR=3.6						
I10CA	LAC DU BONNET	9.00	41	i		20 53 10.0	
	baz=222,slow=330,SNR=2.0						
NEW	Newport	9.37	303	Lg	Lg	20 04 06.0	
	0.3nm,0.3s,baz=356,slow=14,SNR=2.2						
WUAZ	Wupatki	9.50	212	ePn	Pn	20 01 42.6	-0.2
	7.8nm,0.4s						
FFC	Flin Flon	11.15	10	ePn	Pn	20 02 03.9	-1.2
	3.8nm,0.7s						
NVAR	Mina Array Bea	11.19	246	Pn	Pn	20 02 07.2	+1.3
	0.3nm,0.3s,baz=50,slow=11,SNR=7.6						
YBH	Yreka Blue Hor	12.98	267	Pn	Pn	20 02 30.3	+0.1
	0.1nm,0.3s,baz=61,slow=6.4,SNR=3.7						
TXAR	Lajitas Array	14.49	174	Pn	P	20 02 56.5	-1.4
	0.1nm,0.3s,baz=360,slow=9.9,SNR=3.7						
TXAR				Lg	Lg	20 07 01.1	
	0.0nm,0.3s,baz=2.2,slow=26,SNR=2.4						
YKA	Yellowknife Ar	19.51	347	P	P	20 03 52.1	-1.0
	0.1nm,0.3s,baz=165,slow=11,SNR=5.7						
ZALV	Zalesovo Beam	82.25	354	P	P	20 11 47.0	-0.4
	0.6nm,0.5s,baz=3.8,slow=4.3,SNR=3.1						
SONM	Songino Array	84.59	339	P	P	20 11 59.6	-0.1
	0.3nm,0.6s,baz=3.8,slow=2.9,SNR=2.7						
MKAR	Makanchi Array	89.55	355	P	P	20 12 23.0	-0.7
	0.6nm,0.7s,baz=17,slow=4.6,SNR=6.1						

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*NORS **04** 20:17:20.3±0.0, 42°.51N×45°.29E, h10km, MPVA4.2*
*MOS **04** 20:17:21.7±1.3, 42°.73N×45°.43E, h13km, mb3.9/1, Error ellipse: s-maj=7.4km s-min=5.0km az=26.8*
*TIF **04** 20:17:21.9, 42°.71N×45°.28E, h9km±3km*
*DRS **04** 20:17:22.1±0.0, 42°.71N×45°.45E, h15km, ML3.0/3*
ISC 04 20:17:20.8±1.1**, 42°.68N**±0°.02×**45°.43E**±0°.01**, h3**km±9km**, n67, σ0s.99**/117**, 14C-5D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMGR	Komgaron	0.56	313	⇑iPG	Pb	20 17 32.8	-0.5
KMGR				eS	Sn	20 17 43.8	-1.8
KMGR	Komgaron	0.56	313	i Pg	Pb	20 17 32.8	-0.5
KMGR				eSg	Sn	20 17 43.8	-1.8
BTLR	Botlikh	0.59	91	⇑iPG	Pg	20 17 32.3	+0.2
BTLR				i		20 17 40.5	
BTLR				pmax	pmax		
	comp=Z,328nm,0.5s						
BTLR				smax	smax		
	comp=N,1µm,0.8s						
BTLR	Botlikh	0.59	91	⇑iPg	Pg	20 17 32.4	+0.2
	comp=N,328nm,0.5s						
BTLR				ePg	Pb	20 17 32.6	-1.2
BTLR				⇓iSg	Sg	20 17 40.6	+0.9
	comp=N,1µm,0.8s						
BTLR				eSg	Sg	20 17 40.6	+0.9
GROC	Groznyy	0.59	27	ePG	Pb	20 17 32.9	-0.9
GROC				e		20 17 42.0	
GROC				pmax	pmax		
	comp=Z,248nm,0.4s						
GROC				smax	smax		
	comp=E,467nm,0.3s						
GROC				smax	smax		
	comp=N,447nm,0.4s						
GROC				smax	smax		
	comp=E,599nm,0.4s						
VLKR	Vladikavkaz	0.66	304	ePG	Pb	20 17 34.8	-0.3
VLKR				eS	Sb	20 17 44.3	-0.4
VLKR	Vladikavkaz	0.66	304	ePg	Pb	20 17 34.8	-0.3
VLKR				eSg	Sb	20 17 44.3	-0.4
GUDG	Gudauri	0.73	253	P	Pg	20 17 35.3	+0.4
GUDG				S	Sg	20 17 44.2	-0.2
LACR	Lac	0.84	280	⇑iPG	Pg	20 17 36.8	-0.2
LACR				eS	Sg	20 17 47.6	-0.4
LACR	Lac	0.84	280	i Pg	Pg	20 17 36.8	-0.2
LACR				eSg	Sg	20 17 47.6	-0.4
BTKR	Batakoyurt	0.95	317	ePG	Pn	20 17 40.5	-0.6

BTKR				eS	Sn	20 17 54.7	-0.5
BTKR	Batakoyurt	0.95	317	ePg	Pn	20 17 40.5	-0.6
BTKR				eSg	Sn	20 17 54.7	-0.5
XNZR	Khunzakh	0.95	98	⇑ePG	Pg	20 17 39.1	0.0
XNZR				e		20 17 52.3	
XNZR	Khunzakh	0.95	98	ePg	Pg	20 17 39.3	+0.2
XNZR				eSg	Sb	20 17 52.3	-0.9
DLMR	Dylym	0.97	66	i PG	Pg	20 17 39.0	-0.3
DLMR				i S	Sb	20 17 53.0	-0.4
DLMR				pmax	pmax		
	comp=Z,107nm,0.2s						
DLMR	Dylym	0.97	66	i Pg	Pg	20 17 39.0	-0.3
DLMR				i Sg	Sb	20 17 53.0	-0.4
UNCR	Uncukul	1.01	88	⇓iPG	Pg	20 17 40.2	0.0
UNCR				i S	Sg	20 17 53.5	+0.3
UNCR				pmax	pmax		
	comp=Z,422nm,0.1s						
UNCR	Uncukul	1.01	88	i Pg	Pg	20 17 40.2	0.0
UNCR				i Sg	Sg	20 17 53.5	+0.3
SEAG	Tbilisi Sea	1.03	207	P	Pn	20 17 42.2	0.0
TBLG	Delisi	1.08	209	P	Pn	20 17 42.4	-0.5
TBLG				S	Sn	20 17 58.3	-0.1
TBLG	Delisi	1.08	209	ePG	Pn	20 17 42.4	-0.5
TBLG				eS	Sn	20 17 58.3	-0.1
DBC	Dubki	1.09	71	⇑iPG	Pg	20 17 41.2	-0.4
DBC				eS	Sg	20 17 55.6	-0.1
DBC				pmax	pmax		
	comp=Z,78nm,0.1s						
DBC	Dubki	1.09	71	i Pg	Pg	20 17 41.2	-0.4
DBC				eSg	Sg	20 17 55.6	-0.1
KRNR	Karanay	1.10	82	⇓iPG	Pg	20 17 42.0	+0.1
KRNR				i S	Sb	20 17 56.5	-0.9
KRNR				pmax	pmax		
	comp=Z,155nm,0.2s						
KRNR	Karanay	1.10	82	i Pg	Pg	20 17 42.0	+0.1
KRNR				i Sg	Sb	20 17 56.5	-0.9
ZEI	Tsey	1.13	276	ePG	Pg	20 17 41.5	-1.0
ZEI				pmax	pmax		
	comp=Z,105nm,0.1s						
ZEI	Tsey	1.13	276	ePg	Pg	20 17 41.4	-1.1
ZEI				eSg	Sg	20 17 55.5	-1.6
ARKR	Arakani	1.16	93	ePG	Pb	20 17 43.0	-0.6
ARKR				i S	Sn	20 17 59.0	-1.4
ARKR				pmax	pmax		
	comp=Z,116nm,0.1s						
ARKR	Arakani	1.16	93	ePg	Pb	20 17 43.0	-0.6
ARKR				i Sg	Sn	20 17 59.0	-1.4
TRKR	Terskaya	1.16	334	i PG	Pn	20 17 43.7	-0.3
TRKR				pmax	pmax		
	comp=Z,252nm,0.2s						
TRKR	Terskaya	1.16	334	i Pg	Pn	20 17 43.8	-0.3
TRKR				eSg	Sn	20 18 01.0	+0.7
GNBR	Gunib	1.17	104	⇓iPG	Pb	20 17 43.3	-0.5
GNBR				i S	Sb	20 17 58.1	-1.3
GNBR				pmax	pmax		
	comp=Z,95nm,0.1s						
GNBR	Gunib	1.17	104	i Pg	Pb	20 17 43.3	-0.5
GNBR				i Sg	Sb	20 17 58.1	-1.3
STDR	Stavd-Durt	1.21	305	⇓iPG	Pg	20 17 45.0	+0.9
STDR				eS	Sn	20 18 02.6	+0.9
STDR	Stavd-Durt	1.21	305	i Pg	Pg	20 17 45.0	+0.9
STDR				eSg	Sn	20 18 02.6	+0.9
BUJR	Buynaksk	1.25	83	ePG	Pb	20 17 44.5	-0.5
BUJR				i S	Sn	20 18 02.0	-0.6
BUJR				pmax	pmax		
	comp=Z,81nm,0.2s						
BUJR	Buynaksk	1.25	83	ePg	Pb	20 17 44.5	-0.5
BUJR				i Sg	Sn	20 18 02.0	-0.6
KMKR	Kumukh	1.35	113	ePG	Pn	20 17 46.0	-0.9
KMKR				eS	Sg	20 18 05.0	+0.7
KMKR				pmax	pmax		
	comp=Z,55nm,0.4s						
KMKR	Kumukh	1.35	113	ePg	Pn	20 17 46.0	-0.9
KMKR				eSg	Sg	20 18 05.0	+0.7
PRTR	Priterechnaya	1.36	322	i PG	Pg	20 17 46.8	0.0
PRTR				pmax	pmax		
	comp=Z,100nm,0.1s						
PRTR	Priterechnaya	1.36	322	i Pg	Pg	20 17 46.9	0.0
PRTR				eSg	Sg	20 18 07.4	+2.9
DIGR	Digorskoe uzhe	1.38	280	ePG	Pn	20 17 46.0	-1.1
DIGR				pmax	pmax		
	comp=Z,109nm,0.1s						
DIGR	Digorskoe uzhe	1.38	280	ePg	Pn	20 17 46.1	-1.1
DIGR				eSg	Sb	20 18 03.3	-2.1
TRLG	Trialeti	1.51	221	P	Pb	20 17 49.5	-0.1
TRLG				S	Sg	20 18 09.8	+0.5
MAK	Makhachkala	1.55	79	ePG	Pn	20 17 48.7	-0.7
MAK				e		20 18 12.4	
MAK				pmax	pmax		
	comp=Z,83nm,0.3s						
MAK				smax	smax		
	comp=N,972nm,0.4s						
MAK				smax	smax		
	comp=N,1μm,0.4s						
NCK	Nalchik	1.57	302	i PG	Pb	20 17 49.8	-0.7
SGKR	Sergokala	1.66	97	PN	Pb	20 17 52.0	-0.1
SGKR				eS	Sg	20 18 17.0	+2.8
SGKR	Sergokala	1.66	97	ePg	Pb	20 17 52.0	-0.1
SGKR				eSg	Sg	20 18 17.0	+2.8
URKR	Urkarakh	1.71	107	⇑ePN	Pb	20 17 53.1	+0.1
URKR				e		20 18 15.7	
AKH	Akhalkalaki	1.92	229	P	Pb	20 17 55.8	-0.8
AKH				S	Sg	20 18 21.6	-0.9
AKH	Akhalkalaki	1.92	229	ePN	Pb	20 17 55.8	-0.8
BGD	Bogdanovka	1.96	225	P	Pb	20 17 56.8	-0.6
BGD				S	Sb	20 18 22.3	-0.1
NEY	Neytrino	2.06	287	i PN	Pn	20 17 57.0	+0.4
AKT	Akhty	2.09	124	⇑ePN	Pb	20 17 59.0	-0.5
AKT				e		20 18 28.4	
AKT				pmax	pmax		
	comp=Z,41nm,0.6s						
AKT				smax	smax		
	comp=N,79nm,0.4s						
AKT	Akhty	2.09	124	⇑ePg	Pb	20 17 59.1	-0.5
	comp=N,41nm,0.6s						
AKT				ePg	Pg	20 18 00.4	-0.6
AKT				eSg	Sg	20 18 28.4	+0.4
AKT				⇑eSg	Sg	20 18 28.5	+0.4
	comp=N,79nm,0.4s						
PYA1	Pyatigorsk	2.19	310	i PN	Pn	20 17 57.1	-1.1
DRN	Derbent	2.25	106	⇑ePN	Pg	20 18 02.9	-0.9
DRN				e		20 18 34.5	
DRN				pmax	pmax		
	comp=Z,30nm,0.9s						
DRN				smax	smax		
	comp=N,65nm,1.7s						
DRN	Derbent	2.25	106	⇑ePg	Pg	20 18 03.0	-0.9
	comp=N,30nm,0.9s						
DRN				⇑eSg	Sg	20 18 34.5	+1.5
	comp=N,65nm,1.7s						
SHA1	Shidzhatmaz	2.28	298	i PN	Pn	20 17 59.2	-0.5
EPOS	Posof	2.33	241	i P	Pb	20 18 03.5	0.0
EPOS				i S	Sg	20 18 35.3	-0.3
KIV	Kislovodsk	2.37	303	⇑ePN	Pb	20 18 04.3	0.0
KIV				e		20 18 06.7	
KIV				e		20 18 33.7	
KIV				e		20 18 38.4	
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GNI	Garni	2.58	192	i PN	Pb	20 18 06.8	-1.1
GOF	Gofitskoye	2.94	325	ePN	Pn	20 18 06.3	-2.1
GOF				eS	Sn	20 18 44.7	+0.5
GOF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GOF				smax	smax		
	comp=E,30nm,0.9s						
DAGI	Agillar	3.07	240	i P	Pb	20 18 14.0	-2.2
DAGI				i S	Sb	20 18 56.0	+1.9
DBAD	Bademkaya	3.25	240	i P	Pn	20 18 15.1	+2.3
DBAD				i S	Sb	20 19 00.8	+1.7
BRVK	Borovoye	19.54	49	i P	Pn	20 21 52.0	+1.4
KURK	Kurchatov	23.98	59	i P	P	20 22 38.7	+2.3
KURK				pmax	pmax		
	comp=Z,6.0nm,2.1s						

*BJI **04** 20:24:31.2, 5°.65S×146°.69E, h31km, mb4.7/45, mB5.1/31, Ms4.7/9, Ms7 4.3/9*

*MOS **04** 20:24:36.9±0.9, 5°.42S×146°.21E, h55km, mb5.0/25, Error ellipse: s-maj=8.0km s-min=5.9km az=109.7*

*ISCJB **04** 20:24:37.8±0.7, 5°.42S±0°.02×146°.14E±0°.02, h60km±6km, mb4.9/164, Error ellipse: s-maj=4.1km s-min=3.4km az=142.3*

*NEIC **04** 20:24:39.9±0.4, 5°.44S×146°.13E, h67km±4km, mb5.0/114, Error ellipse: s-maj=3.6km s-min=3.1km az=77.0*

*IDC **04** 20:24:39.9±1.6, 5°.46S×146°.11E, h65km±14km, mb4.4/24, mb1 4.5/29, mb1mx4.4/48, mbtmp4.7/29, MS3.8/28, Ms1 3.8/28, ms1mx3.8/40, Error ellipse: s-maj=13.5km s-min=8.8km az=76.0*

*DJA **04** 20:24:42.9±0.7, 6°S±5°×14°6E±°, h75km±4km, M5.2/34, mb5.3/34, mB5.5/13, MLv5.5/3, Mw(mB)5.0/13*

*GCMT **04** 20:24:42.9±0.3, 5°.63S±0°.02×146°.11E±0°.02, h25km, MW5.2/82, Moment Tensor Solution. s26,c26; s82,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.21±.18; $M_{\theta\theta}$0.08±.11; $M_{\phi\phi}$0.13±.13; $M_{r\theta}$-4.42±.33; $M_{\theta\phi}$0.45±.08; $M_{\phi r}$5.59±.36; Best double couple: $M_0$7.12800×10^{16} NP1:ϕ_s322.00000°, δ90.00000°, λ91.00000°. NP2: ϕ_s64.00000°, δ1.00000°, λ12.00000°. Principal axes: T 6.8580, Plg45.0000°, Azm233.0000°; N 0.5390, Plg1.0000°, Azm142.0000°; P -7.3970, Plg45.0000°, Azm51.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 20:24:39.9±0.7**, 5°.50S**±0°.04×**146°.12E**±0°.04**, h65**km±6km**, n367, σ1°.36**/375**, mb4.9**/172**, 8C, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	3.65	20	ePn	Pn	20 25 32.6	-1.5
PMG	Port Moresby	4.02	165	P	Pn	20 25 39.2	+0.2
	32nm,0.3s,baz=335,slow=5.1,SNR=54						
PMG				S	Sn	20 26 24.8	0.0
	41nm,0.3s,baz=299,slow=19,SNR=3.9						
PMG				LR	LR	20 27 31.6	
	comp=Z,3μm,21.1s,baz=16,slow=42						
PMG	Port Moresby	4.02	165	ePn	Pn	20 25 38.7	-0.3
PMG				eSn	Sn	20 26 24.8	0.0
PMG	Port Moresby	4.02	165	eP	Pn	20 25 38.7	-0.3
PMG				e		20 26 24.8	
JAY	Jayapura	6.16	299	P	Pn	20 26 11.1	+2.7
	5.3nm,0.3s,baz=4.0,slow=6.9,SNR=13						
JAY				S	Sn	20 27 16.0	-1.5
	3.3nm,0.3s,baz=304,slow=15,SNR=2.0						
JAY				LR	LR	20 29 10.7	
	comp=Z,2μm,19.5s,baz=46,slow=44						
JAY	Jayapura	6.16	299	P	Pn	20 26 13.1	+4.7
	2μm,0.9s,16μm6.2nm						
RABL	Rabaul	6.16	78	ePn	Pn	20 26 07.1	-1.3
GENI	Genyem	6.60	296	P	Pn	20 26 18.9	+4.5
	244nm,0.7s,4μm2.4nm						
COEN	Coen	8.89	199	P	Pn	20 26 47.4	+1.7
	baz=8.8,SNR=79						
COEN	Coen	8.89	199	ePn	Pn	20 26 46.9	+1.2
COEN				eSn	Sn	20 28 22.7	-1.7
SRPI	Serui, Papua	10.49	290	P	Pn	20 27 07.4	-0.3
	174nm,0.6s,2μm						
RKPI	Ransiki, Papua	12.56	288	P	Pn	20 27 36.8	+0.9
	259nm,0.7s,2μm						
MTSU	Mount Surprise	12.68	188	P	Pn	20 27 40.3	+2.7
	baz=13,SNR=5.6						
FAKI	Fak Fak	14.06	280	ePn	Pn	20 27 56.1	0.0
FAKI	Fak Fak	14.06	280	P	Pn	20 27 55.9	-0.3
	164nm,1.0s,2μm						
HNR	Honiara	14.26	107	P	Pn	20 27 59.4	+0.8
	2.8nm,0.3s,baz=232,slow=5.7,SNR=8.7						
HNR				S	Sn	20 30 36.5	+1.0
	1.8nm,0.3s,baz=270,slow=4.0,SNR=1.7						
HNR				LR	LR	20 32 54.3	
	comp=Z,295nm,20.6s,baz=283,slow=35						
HNR	Honiara	14.26	107	ePn	Pn	20 27 58.6	0.0
HNR	Honiara	14.26	107	eP	Pn	20 27 58.7	0.0
CTA	Charters Tower	14.50	179	P	Pn	20 28 03.8	+2.0
	0.5nm,0.3s,baz=357,slow=13,SNR=5.9						
CTA				LR	LR	20 33 58.9	
	comp=Z,965nm,19.8s,baz=18,slow=38						
CTAO	Charters Tower	14.50	179	ePn	Pn	20 28 01.7	-0.1
CTAO	Charters Tower	14.50	179	eP	Pn	20 28 01.7	-0.1
SAUI	Saumlaki	14.92	260	ePn	Pn	20 28 04.2	-3.0
KDU	Kakadu	15.24	241	P	Pn	20 28 11.8	+0.4
	baz=15,SNR=86						
SIJI	Sorong	15.52	287	P	Pn	20 28 14.7	-0.3
	3.5nm,0.3s,baz=115,slow=8.8,SNR=30						
SWI	Sorong	15.53	287	P	Pn	20 28 16.4	+1.3
SWI				pmax	pmax		
	comp=Z,435nm,0.8s						
SWI	Sorong	15.53	287	P	Pn	20 28 15.5	+0.4
	comp=Z,438nm,0.7s,comp=Z,3μm						
BNDI	Bandanaira	16.18	273	P	P	20 28 25.3	-0.1
	comp=Z,350nm,1.1s						
QIS	Mount Isa	16.25	202	P	P	20 28 25.9	-0.3
	baz=16,SNR=8.6						
PATS	Pohnpei	17.27	45	ePn	Pn	20 28 36.6	-0.3
	comp=Z,388nm,1.5s						
WRAB	Tennant Creek	18.35	218	eP	P	20 28 48.2	-1.2
	comp=Z,25nm,0.6s						
WRAB	Tennant Creek	18.35	218	ceP	P	20 28 49.0	-0.4
WRAB				pmax	pmax		
	comp=Z,34nm,1.0s						
WB2	Warramunga Arr	18.36	218	eP	P	20 28 48.5	-1.0
WR1	Warramunga Arr	18.37	218	eP	P	20 28 49.0	-0.5
	comp=Z,54nm,1.3s						
WR1				eSn	Sn	20 32 07.5	-7.5
WR1				ePcP	PcP	20 33 19.0	+0.4
WR1				eScP	ScP	20 36 49.6	+0.9
WR1				eScS	ScS	20 40 32.0	+2.1
WRA	Warramunga Arr	18.37	218	P	P	20 28 49.0	-0.5
	comp=Z,3.7nm,0.3s,baz=35,slow=11,SNR=101						
WRA				S	Sn	20 32 07.5	-7.5
	baz=38,slow=23,SNR=2.7						
WRA				PcP	PcP	20 33 19.0	+0.3
	comp=Z,0.3nm,0.3s,baz=25,slow=1.9,SNR=4.8						
WRA				ScP	ScP	20 36 47.7	-1.0
	baz=41,slow=2.5,SNR=2.3						
WRA				LR	LR	20 36 49.6	
	comp=Z,761nm,18.1s,baz=45,slow=40						
WRA				ScS	ScS	20 40 32.0	+2.1
	comp=Z,0.0nm,0.3s,baz=20,slow=2.7,SNR=2.7						
WRA	Warramunga Arr	18.37	218	i P	P	20 28 49.7	+0.1
WRA				pmax	pmax		
	comp=Z,13nm,0.6s						
GUMO	Guam	19.00	356	LR	LR	20 36 14.6	
	comp=Z,265nm,18.2s,baz=166,slow=37						
GUMO	Guam	19.00	356	eP	P	20 28 54.9	-1.6
	comp=Z,253nm,1.3s						
GUMO				e		20 36 14.6	
GUMO	Guam	19.00	356	eP	P	20 28 54.9	-1.6
GUMO				pmax	pmax		
	comp=Z,253nm,1.3s						
NLAI	Namlea	19.09	276	P	Pn	20 29 01.4	+2.4
	comp=Z,215nm,1.0s						
TNTI	Ternate	19.73	288	eP	P	20 29 03.7	-0.9
	comp=Z,44nm,0.9s						
KNRA	Kununurra	19.81	238	P	P	20 29 05.1	-0.3
	baz=20,SNR=16						
EIDS	Eidsvold	20.32	167	P	Pn	20 29 12.8	-0.6
	baz=20,SNR=4.5						
EIDS	Eidsvold	20.32	167	eP	P	20 29 11.8	+0.9
	comp=Z,18nm,1.0s						
SANI	Sanana	20.37	279	P	P	20 29 10.8	-0.7
	comp=Z,148nm,1.0s,comp=Z,1μm						
RMQ	Roma	21.02	173	P	P	20 29 19.7	+1.4
	baz=21,SNR=13						
QLP	Quilpie	21.04	185	P	P	20 29 20.2	+1.6
	baz=21,SNR=10						
AS01	Alice Springs	21.53	212	eP	P	20 29 23.7	-0.2
AS31	Alice Springs	21.55	212	eP	P	20 29 24.4	+0.3
	comp=Z,4.6nm,0.9s						
ASAR	Alice Springs	21.55	212	P	P	20 29 24.1	0.0
	comp=Z,9.0nm,0.9s,baz=40,slow=8.3,SNR=87						
ASAR				S	S	20 33 16.4	-3.3
	comp=Z,1.5nm,0.8s,baz=30,slow=20,SNR=3.1						
ASAR				PcP	PcP	20 33 23.7	-0.7
	comp=Z,0.7nm,0.5s,baz=85,slow=1.7,SNR=4.5						
ASAR				ScP	ScP	20 36 55.4	-0.7
	comp=Z,1.9nm,1.0s,baz=32,slow=2.5,SNR=2.8						
ASAR				LR	LR	20 38 22.8	
	comp=Z,1μm,19.8s,baz=42,slow=38						
ASAR				ScS	ScS	20 40 39.3	-1.2
	comp=Z,1.2nm,0.9s,baz=22,slow=4.9,SNR=6.2						
SOEI	Soe	22.06	258	eP	P	20 29 29.9	+0.1
	comp=Z,116nm,0.9s						
SOEI	Soe	22.06	258	P	P	20 29 31.1	+1.4
	comp=Z,200nm,1.0s,comp=Z,2μm						
MNI	Manado	22.34	287	P	P	20 29 32.8	+0.1
MNI				pmax	pmax		
	comp=Z,291nm,0.7s						
BATI	Baumata	22.72	257	P	P	20 29 37.2	+0.5
	comp=Z,203nm,0.6s,baz=141,slow=0.9,SNR=69						
BATI	Baumata	22.72	257	P	P	20 29 37.9	+1.1
	comp=Z,178nm,0.9s,comp=Z,1μm						
KDI	Kendari	23.47	273	P	P	20 29 47.6	+3.6
	comp=Z,39nm,1.1s,comp=Z,1μm						
FITZ	Fitzroy Crossi	23.60	236	P	P	20 29 43.9	-1.3
	comp=Z,55nm,0.7s,baz=54,slow=9.5,SNR=87						
FITZ				LR	LR	20 40 02.0	
	comp=Z,681nm,21.2s,baz=68,slow=39						
FITZ	Fitzroy Crossi	23.60	236	P	P	20 29 44.1	-1.1
	baz=24,SNR=106						
FITZ	Fitzroy Crossi	23.60	236	eP	P	20 29 44.1	-1.1
	comp=Z,57nm,0.8s						
LUWI	Luwuk	23.72	280	eP	P	20 29 47.0	+0.8
	comp=Z,465nm,1.0s						
LUWI	Luwuk	23.72	280	P	P	20 29 46.9	+0.6
MMRI	Maumere	23.90	261	eP	P	20 29 47.6	-0.3
	comp=Z,102nm,0.8s						
MMRI	Maumere	23.90	261	P	P	20 29 48.6	+0.7
DAV	Davao City (W)	24.00	301	LR	LR	20 39 13.1	
	comp=Z,59nm,21.0s,baz=123,slow=36						
EDFI	Ende, Flores	24.45	261	P	P	20 29 53.7	+0.7
ARMA	Armidale	25.32	169	P	P	20 30 02.7	+1.9
	baz=25,SNR=6.5						
ARMA	Armidale	25.32	169	eP	P	20 30 01.4	+0.5
	comp=Z,19nm,1.2s						
DZM	Mont Dzumac	25.65	132	P	P	20 30 05.0	+1.1
	comp=Z,22nm,0.7s,baz=261,slow=12,SNR=12						
DZM	Mont Dzumac	25.65	132	eP	P	20 30 05.0	+1.1
	comp=Z,97nm,1.1s						
DZM				eS	S	20 34 30.7	+2.8
	comp=Z,121nm,26.8s						
DZM				eLQ	LQ	20 35 28.0	
	comp=Z,8μm,34.6s						
DZM				eLR	LR	20 36 34.9	
	comp=Z,909nm,24.1s						
DZM	Mont Dzumac	25.65	132	eP	P	20 30 04.5	+0.6
	comp=Z,62nm,1.3s						
BASI	Baing, Sumba	25.72	258	P	P	20 30 05.7	+1.2
ONTNC	Ouen Toro	25.80	132	eP	P	20 30 05.3	+0.2
	comp=Z,55nm,1.2s						
WRKA	Warakurna	25.88	220	P	P	20 30 05.8	0.0
	baz=26,SNR=35						
BKSI	Bulukumba	25.88	269	P	P	20 30 08.6	+2.7
CMSA	Cobar Meteorol	25.91	181	P	P	20 30 07.3	+1.4
	baz=26,SNR=11						
WSI	Waingapu	25.92	259	P	P	20 30 09.1	+2.8
	comp=Z,861nm,1.2s,comp=Z,8μm						
BNSI	Bone	25.94	271	P	P	20 30 07.4	+1.0
SPSI	Sidrap Palu	26.30	272	P	P	20 30 10.9	+1.2
TTSI	Tana Toraja	26.34	274	P	P	20 30 11.4	+1.3
MARNC	Mare, Loyalty	26.52	129	eP	P	20 30 10.9	-0.7
	comp=Z,228nm,1.2s						
STKA	Stephens Creek	26.58	189	P	P	20 30 13.2	+1.1
	comp=Z,11nm,0.9s,baz=359,slow=8.1,SNR=24						
STKA				LR	LR	20 42 39.2	
	comp=Z,398nm,20.1s,baz=13,slow=41						
STKA	Stephens Creek	26.58	189	P	P	20 30 12.8	+0.8
	baz=27,SNR=18						
STKA	Stephens Creek	26.58	189	eP	P	20 30 11.9	-0.1
	comp=Z,3.3nm,0.9s						
STKA	Stephens Creek	26.58	189	eP	P	20 30 11.9	-0.1
STKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PCI	Palu	26.63	279	P	P	20 30 15.2	+2.5
PCI				pmax	pmax		
	comp=Z,112nm,1.0s						
PCI	Palu	26.63	279	P	P	20 30 14.3	+1.6
	comp=Z,112nm,1.0s,comp=Z,1μm						
HTT	Hallett	28.59	193	P	P	20 30 31.0	+1.0
	baz=29,SNR=9.2						
YNG	Young	28.73	176	P	P	20 30 32.7	+1.5
	baz=29,SNR=5.1						
BBOO	Buckleboo	28.75	198	P	P	20 30 32.2	+0.8
	baz=29,SNR=6.5						
BBOO	Buckleboo	28.75	198	eP	P	20 30 31.9	+0.5
	comp=Z,33nm,1.5s						
CAN	Canberra	29.80	175	eP	P	20 30 41.2	+0.5
	comp=Z,12nm,1.1s						
CAN	Canberra	29.80	175	eP	P	20 30 41.2	+0.5
CAN				pmax	pmax		
	comp=Z,12nm,1.1s						
MBWA	Marble Bar	29.94	236	eP	P	20 30 41.8	-0.3
	comp=Z,13nm,1.0s						
FORT	Forrest	30.34	212	P	P	20 30 46.2	+0.6
	baz=30,SNR=12						
FORT	Forrest	30.34	212	eP	P	20 30 46.1	+0.6
	comp=Z,23nm,0.7s						
KDM	Kudat	31.72	293	P	P	20 30 59.6	+1.7
JAGI	Jajag, Banyuwa	31.86	263	eP	P	20 30 56.9	-2.2
	comp=Z,89nm,1.5s						
TOO	Toolangi	31.93	181	P	P	20 31 01.8	+2.3
	baz=32,SNR=4.5						
TOO	Toolangi	31.93	181	eP	P	20 31 00.6	+1.1
	comp=Z,20nm,1.0s						
TOO	Toolangi	31.93	181	eP	P	20 31 00.6	+1.1
TOO				pmax	pmax		
	comp=Z,20nm,1.0s						
KKM	Kota Kinabalu	31.98	291	eP	P	20 31 00.3	+0.1
	comp=Z,43nm,1.3s						
FUNA	Funafuti	32.96	97	eP	P	20 31 09.3	+0.5
	comp=Z,37nm,0.9s						
MEEK	Meekatharra	33.62	228	P	P	20 31 15.4	+1.0
	baz=34,SNR=34						
SBUM	Sibu	34.77	282	eP	P	20 31 24.8	+0.3
	comp=Z,18nm,1.1s						
SBUM	Sibu	34.77	282	P	P	20 31 25.7	+1.2
STKI	Sintang	35.02	278	P	P	20 31 28.1	+1.4
	comp=Z,55nm,1.4s						
GIRL	Giralia	35.18	238	P	P	20 31 30.6	+2.7
	baz=35,SNR=3.7						
GIRL	Giralia	35.18	238	eP	P	20 31 28.8	+0.9
	comp=Z,280nm,1.4s						
UGM	Wanagama	35.42	264	eP	P	20 31 30.5	+0.3
	comp=Z,301nm,1.4s						
KSM	Kuching	36.43	280	eP	P	20 31 39.4	+0.6
	comp=Z,50nm,1.1s						
KSM	Kuching	36.43	280	P	P	20 31 40.1	+1.3
JOW	Kunigami	36.49	333	LR	LR	20 43 55.8	
	comp=Z,96nm,21.6s,baz=316,slow=32						
MORW	Morawa	36.86	227	P	P	20 31 43.2	+1.0
	baz=37,SNR=8.5						
MORW	Morawa	36.86	227	eP	P	20 31 43.0	+0.8
	comp=Z,68nm,1.5s						
KLBR	Kellerberrin	37.14	222	P	P	20 31 45.0	+0.4
	baz=37,SNR=36						
BLDU	Ballidu	37.26	224	P	P	20 31 46.6	+1.0
	baz=37,SNR=21						
YULB	Yu-li	37.58	321	eP	P	20 31 49.4	+1.0
	comp=Z,31nm,1.2s						
TPUB	Ta-pu	37.94	320	eP	P	20 31 51.6	+0.2
	comp=Z,78nm,1.4s						
NACB	Ninganchiao	37.96	322	eP	P	20 31 51.4	-0.2
	comp=Z,75nm,1.4s						
SSLB	Suanglung	38.08	321	eP	P	20 31 52.9	+0.3
	comp=Z,40nm,1.3s						
CISI	Cisompet, Garu	38.10	265	eP	P	20 31 52.0	-0.9
	comp=Z,101nm,0.6s						
CISI	Cisompet, Garu	38.10	265	P	P	20 31 58.4	+5.4
LEM	Lembang	38.29	266	P	P	20 31 55.2	+0.5
	comp=Z,36nm,0.5s,baz=38,slow=19,SNR=7.3						
LEM	Lembang	38.29	266	P	P	20 31 55.8	+1.1
LEM				pmax	pmax		
	comp=Z,31nm,0.9s						
NWAO	Narrogin (SRO)	38.32	221	P	P	20 31 54.6	+0.1
	comp=Z,9.4nm,0.5s,baz=225,slow=8.6,SNR=10						
NWAO				LR	LR	20 47 00.5	
	comp=Z,517nm,21.4s,baz=312,slow=35						
MUN	Mundaring	38.42	223	P	P	20 31 56.6	+1.2
	baz=38,SNR=5.8						
YHNB	Yeheng	38.46	322	eP	P	20 31 55.6	-0.2
	comp=Z,62nm,1.2s						
TATO	Taipei	38.62	323	eP	P	20 31 55.9	-1.1
	comp=Z,350nm,1.4s						
OUZ	Omahuta	38.95	143	eP	P	20 32 02.9	+3.2
	comp=Z,43nm,1.3s						
RKGY	Rocky Gully	39.56	219	P	P	20 32 07.0	+2.2
	baz=40,SNR=4.9						
PPBI	Pangkal Pinang	40.02	273	P	P	20 32 10.4	+1.4
	comp=Z,51nm,0.9s						
XMIS	Christmas Isla	40.35	260	eP	P	20 32 12.8	+1.1
	comp=Z,54nm,0.9s						
JNU	Nakatsue	41.04	340	P	P	20 32 17.3	+0.2

comp=Z,17nm,1.1s,baz=118,slow=5.6,SNR=4.9
JNU LR LR 20 48 08.0
comp=Z,113nm,20.8s,baz=128,slow=34
JNU Nakatsue 41.04 340 *e*P **P 20 32 16.7 -0.4**
comp=Z,19nm,1.1s
JNU *e* 20 48 08.0
KASI Kota Agung 41.42 268 P **P 20 32 20.9 +0.4**
comp=Z,76nm,1.0s
MDSI Maura Dua 41.79 269 P **P 20 32 23.5 0.0**
comp=Z,44nm,1.3s
HIZ Hauiti 41.95 146 *e*P **P 20 32 24.1 -0.3**
comp=Z,96nm,1.4s
MJAR Matsushiro Arr 42.47 351 P **P 20 32 28.1 -0.6**
comp=Z,9.4nm,1.1s,baz=179,slow=8.7,SNR=11
MJAR LR LR 20 48 43.7
comp=Z,54nm,21.8s,baz=165,slow=34
MAJO Matsushiro 42.47 351 *e*P **P 20 32 28.6 -0.1**
comp=Z,18nm,1.2s
MAJO *e* 20 48 43.7
MAJO Matsushiro 42.47 351 *e*P **P 20 32 28.6 -0.1**
MAJO pmax pmax
comp=Z,18nm,1.2s
MAT Matsushiro 42.47 351 P **P 20 32 26.1 -2.6**
MAT *e*S **S 20 38 44.0 -2.1**
MJB9 Matsu-Tunnel 42.48 351 *e*P **P 20 32 28.5 -0.2**
comp=Z,17nm,1.2s
JMBI JAMBI 42.56 274 P **P 20 32 32.7 +3.0**
comp=Z,191nm,0.9s
MYKOM Kota Tinggi 42.83 279 *e*P **P 20 32 33.0 +1.0**
comp=Z,20nm,1.0s
MYKOM Kota Tinggi 42.83 279 P **P 20 32 32.6 +0.6**
MNAI Manna 43.01 270 *e*P **P 20 32 32.5 -0.9**
comp=Z,179nm,1.2s
URZ Urewera 43.07 144 P **P 20 32 35.6 +2.0**
comp=Z,9.7nm,0.6s,baz=238,slow=3.4,SNR=9.3
URZ Urewera 43.07 144 *e*P **P 20 32 35.3 +1.7**
comp=Z,52nm,1.5s
FOZ Fox Glacier 43.26 155 *e*P **P 20 32 34.9 -0.1**
comp=Z,24nm,1.3s
THZ Tophouse 43.28 151 *e*P **P 20 32 36.3 +1.0**
comp=Z,30nm,1.4s
BKZ Black Stump Fm 43.32 145 *e*P **P 20 32 36.5 +0.9**
comp=Z,37nm,1.2s
LTZ Lake Taylor 43.76 152 *e*P **P 20 32 40.3 +1.2**
comp=Z,3.7nm,0.6s
DCZ Deep Cove 43.82 159 *e*P **P 20 32 41.1 +1.6**
comp=Z,62nm,1.4s
SNZO South Karori 43.85 149 *e*P **P 20 32 40.8 +1.0**
comp=Z,118nm,1.5s
RPZ Rata Peaks 43.94 154 P **P 20 32 40.6 +0.1**
comp=Z,11nm,0.8s,baz=294,slow=6.2,SNR=4.8
OXZ Oxford 44.07 153 *e*P **P 20 32 42.1 +0.6**
comp=Z,36nm,1.5s
KHZ Kahutara 44.09 151 *e*P **P 20 32 41.1 -0.5**
comp=Z,8.8nm,0.8s
MLZ Mavora Lakes 44.10 158 *e*P **P 20 32 44.2 +2.5**
comp=Z,18nm,1.2s
LBZ Lake Benmore 44.11 155 *e*P **P 20 32 42.8 +1.0**
BFZ Birch Farm 44.23 147 *e*P **P 20 32 44.3 +1.5**
comp=Z,60nm,1.4s
WHZ Wether Hill Ro 44.48 158 *e*P **P 20 32 46.6 +1.8**
comp=Z,24nm,1.0s
MQZ McQueen's Vall 44.65 153 *e*P **P 20 32 48.6 +2.5**
comp=Z,48nm,1.4s
KRJI Kerinci 44.67 273 P **P 20 32 47.4 +0.5**
comp=Z,105nm,0.8s
SDSI Sungai Dareh 44.83 274 P **P 20 32 48.4 +0.3**
comp=Z,64nm,0.8s,comp=Z,3µm
NIUE Niue 44.87 111 *e*P **P 20 32 49.4 +1.1**
comp=Z,388nm,1.4s
FRIM Kepong 45.28 280 P **P 20 32 52.4 +0.8**
BKNI Bangkinang 45.38 276 *e*P **P 20 32 52.0 -0.4**
comp=Z,69nm,0.9s
NJ2 Nanjing 45.48 327 *e*P **P 20 32 52.8 -0.1**
NJ2 pmax pmax
comp=Z,15nm,0.8s
PDSI Padang 45.80 274 P **P 20 32 55.0 -0.7**
comp=Z,25nm,0.5s
KSRS Korea Array 45.98 340 P **P 20 32 56.9 +0.2**
comp=Z,8.6nm,0.9s,baz=157,slow=9.1,SNR=23
KSRS LR LR 20 49 04.2
comp=Z,170nm,21.7s,baz=166,slow=32
KS15 Wonju Array Si 45.98 340 *e*P **P 20 32 56.8 +0.1**
KS15 *e* 20 49 04.2
KSAR Wonju Array Be 45.98 340 P **P 20 32 56.9 +0.2**
KSAR Wonju Array Be 45.98 340 P **P 20 32 56.9 +0.2**
KS01 Wonju Array Si 46.01 340 *e*P **P 20 32 56.9 0.0**
IPM Ipoh 46.11 282 *e*P **P 20 32 58.7 +0.5**
comp=Z,24nm,1.0s
IPM Ipoh 46.11 282 P **P 20 32 59.0 +0.8**
KULM Kulim 46.65 283 *e*P **P 20 33 02.2 -0.1**
comp=Z,27nm,1.3s
KULM Kulim 46.65 283 P **P 20 33 02.8 +0.4**
PSI Prapat 47.85 279 *e*P **P 20 33 11.2 -0.7**
comp=Z,36nm,1.2s
PSI Prapat 47.85 279 *e*P **P 20 33 11.2 -0.7**
PSI pmax pmax
comp=Z,36nm,1.2s
GSI Gunungsitoli 48.95 277 *e*P **P 20 33 19.4 -0.8**
comp=Z,27nm,0.6s
GSI Gunungsitoli 48.95 277 P **P 20 33 19.9 -0.3**
comp=Z,39nm,0.6s
KCSI Kotacane, Aceh 49.11 279 P **P 20 33 20.8 -0.7**
comp=Z,40nm,1.3s
MCQ Macquarie Isla 49.95 170 *e*P **P 20 33 26.6 -0.5**
comp=Z,134nm,1.3s
MCQ Macquarie Isla 49.95 170 *e*P **P 20 33 26.6 -0.5**
MCQ pmax pmax
comp=Z,134nm,1.3s
ENH Enshi 49.96 318 *e*P **P 20 33 26.2 -1.4**
comp=Z,18nm,1.4s
NANT Nan 50.84 300 P **P 20 33 35.6 +1.1**
comp=Z,3.1nm,0.8s
USA0B Ussuriysk Arra 51.08 347 *e*P **P 20 33 34.8 -1.0**
comp=Z,15nm,1.2s
USRK Ussuriysk Ar. 51.08 347 P **P 20 33 36.1 +0.3**
comp=Z,5.2nm,0.8s,baz=168,slow=8.7,SNR=10
KMI Kunming 52.00 308 P **P 20 33 45.1 +1.8**
KMI pmax pmax
comp=Z,12nm,0.5s
MDJ Mudanjiang 52.05 345 P **P 20 33 44.5 +1.5**
MDJ sP pP 20 33 59.6 +0.1
MDJ pmax pmax
comp=Z,13nm,1.2s
MDJ pmax pmax
comp=Z,50nm,3.6s
MDJ Mudanjiang 52.05 345 *e*P **P 20 33 42.5 -0.5**
comp=Z,17nm,1.3s
CM01 Chiang Mai Arr 52.21 298 *e*P **P 20 33 45.0 +0.3**
CM31 Chiang Mai Arr 52.24 298 *e*P **P 20 33 45.9 +1.0**
CMAR Chiang Mai Arr 52.24 298 P **P 20 33 45.8 +0.8**
comp=Z,3.3nm,0.7s,baz=123,slow=6.1,SNR=24
CMAR LR LR 20 54 00.8
comp=Z,48nm,22.0s,baz=112,slow=34
CMMT Chiang Mai 52.37 299 P **P 20 33 47.1 +1.2**
comp=Z,6.2nm,1.0s
CHTO Chiang Mai 52.38 299 *e*P **P 20 33 46.5 +0.6**
comp=Z,8nm,1.0s
CHTO Chiang Mai 52.38 299 *e*P **P 20 33 46.5 +0.6**
CHTO pmax pmax
comp=Z,6.0nm,1.0s
CHTO Chiang Mai 52.38 299 P **P 20 33 47.2 +1.3**
comp=Z,28nm,1.0s
CN2 Changchun 52.50 341 *e*P P 20 33 39.0 -7.4
XAN Xi'an 52.74 321 P **P 20 33 47.9 -0.5**
XAN pmax pmax
comp=Z,8.0nm,1.1s
XAN pmax pmax
comp=Z,200nm,3.5s
BJT Baijiatuau 53.03 331 *e*P **P 20 33 49.2 -1.1**
BJT Baijiatuau 53.03 331 *e*P **P 20 33 49.2 -1.1**
RAR Rarotonga 54.64 112 *e*P **P 20 34 02.4 0.0**
comp=Z,50nm,1.2s
RAR Rarotonga 54.64 112 *e*P **P 20 34 02.4 0.0**
RAR pmax pmax
comp=Z,50nm,1.2s
KLR Kul'dur 55.93 349 P **P 20 34 11.1 -0.1**
comp=Z,6.7nm,1.0s,baz=156,slow=7.2,SNR=12
KLR LR LR 20 56 47.8
comp=Z,34nm,20.8s,baz=156,slow=34
KLR Kul'dur 55.93 349 *i* P **P 20 34 10.9 -0.3**
HHC Hu-ho-hao-te 55.95 329 *e*P **P 20 34 14.6 +2.9**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,50nm,5.4s
LZH Lanzhou 57.26 320 *e*P **P 20 34 22.8 +1.6**
LZH pP pP 20 34 32.8 -5.1
LZH sP sP 20 34 41.0 -4.1
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.8s
HIA Hailar 59.19 340 *e*P **P 20 34 34.2 0.0**
comp=Z,20nm,1.2s
PETK Petropavlovsk- 59.20 8 P **P 20 34 34.4 +0.2**
comp=Z,9.4nm,1.0s,baz=174,slow=6.5,SNR=5.9
PETK LR LR 20 55 53.0
comp=Z,158nm,21.7s,baz=190,slow=32
PETK Petropavlovsk- 59.20 8 *e*P **P 20 34 35.4 +1.2**
PEA1 Petropavlovsk- 59.21 8 *e*P **P 20 34 34.4 +0.2**
PEA1 *e*PKKPdf **PKKPdf 20 55 53.0 +3.3**
PET Petropavlovsk 59.26 9 *e*P **P 20 34 33.8 -0.7**
comp=Z,150nm,1.5s
PET Petropavlovsk 59.26 9 *e*P **P 20 34 33.8 -0.7**
PET pmax pmax
comp=Z,150nm,1.5s
HON Honolulu 60.91 62 *e*P **P 20 34 45.1 -1.3**
comp=Z,174nm,0.8s
HON Honolulu 60.91 62 *e*P **P 20 34 45.2 -1.3**
HON pmax pmax
comp=Z,174nm,0.8s
SHL Shillong 61.01 303 *e*P **P 20 34 46.9 -0.4**
comp=Z,7.6nm,0.9s
SHL Shillong 61.01 303 *e*P **P 20 34 46.9 -0.4**
SHL pmax pmax
comp=Z,8.0nm,0.9s
ZEA Zeya 61.12 347 *e*P **P 20 34 47.2 0.0**
ZEA pmax pmax
comp=Z,36nm,1.2s
GTA Gaotai 61.80 321 ⇑P **P 20 34 52.7 +0.4**
GTA pP pP 20 35 03.4 -5.8
GTA sP sP 20 35 07.3 -9.1
GTA S **S 20 43 14.1 +3.2**
GTA sS pS 20 43 30.4 -0.8
GTA SS **SS 20 47 19.3 +5.3**
GTA pmax pmax
comp=Z,3.0nm,1.1s
GTA pmax pmax
comp=Z,61nm,6.7s
GTA LR LR
comp=Z,82nm,19.4s
GTA LR LR
comp=Z,78nm,19.7s
GTA LR LR
comp=Z,100nm,19.0s
ULN Ulaanbaatar 63.25 332 *e*P **P 20 35 02.0 +0.1**
comp=Z,8.5nm,1.3s
ULN Ulaanbaatar 63.25 332*ce*P **P 20 35 01.6 -0.3**
ULN pmax pmax
comp=Z,10.0nm,1.7s
SONA0 Songino Array 63.54 331 *e*P **P 20 35 02.4 -1.4**
SONA0 *e* 21 03 08.1
SONM Songino Array 63.54 331 P **P 20 35 02.4 -1.4**
comp=Z,3.4nm,0.9s,baz=156,slow=5.3,SNR=17
SONM LR LR 21 03 08.1
comp=Z,69nm,19.8s,baz=142,slow=36
SONA1 Songino Array 63.55 331 *e*P **P 20 35 03.8 0.0**
PPT Papeete 63.88 107 LR LR 20 58 10.5
comp=Z,62nm,21.3s,baz=274,slow=32
PPT Papeete 63.88 107 *e*P **P 20 35 05.8 -0.6**
PPT *e* 20 58 10.5
PPT Papeete 63.88 107 *e*P **P 20 35 05.8 -0.6**
PPT2 Papeete2 63.88 107 *e*LR LR 20 54 15.1
comp=Z,200nm,28.8s
CASY Casey 65.51 195 *e*P **P 20 35 16.6 +0.5**
comp=Z,16nm,1.0s
RAMN Ramite 65.93 303 *e*P **P 20 35 20.1 +0.2**
comp=Z,12nm,0.6s
JIRN Jiri 66.52 303 *e*P **P 20 35 23.9 +0.2**
comp=Z,17nm,0.6s
ZAK Zakamensk 66.78 332 *e*P **P 20 35 24.5 -0.2**
ZAK pmax pmax
comp=Z,8.0nm,1.2s
GUN Gumba 66.86 303 *e*P **P 20 35 26.1 +0.2**
comp=Z,14nm,0.4s
PKI Pulchoki 67.14 303 *e*P **P 20 35 27.5 -0.1**
comp=Z,11nm,0.9s
PKIN Phulchoki 67.15 303 *e*P **P 20 35 27.3 -0.4**
KKN Kakani 67.32 303 *e*P **P 20 35 28.8 +0.1**
comp=Z,18nm,0.8s
DMN Daman 67.40 303 *e*P **P 20 35 29.0 -0.2**
comp=Z,28nm,0.8s
BOD Bodaibo 68.23 342 *e*P **P 20 35 31.8 -1.7**
BOD pmax pmax
comp=Z,6.0nm,1.2s
SEY Seymchan 68.41 3 P **P 20 35 34.4 -0.1**
comp=Z,3.9nm,1.0s,baz=178,slow=3.3,SNR=4.3
SEY Seymchan 68.41 3*ce*P **P 20 35 34.2 -0.3**
KOLN Koldanda 68.72 302 *e*P **P 20 35 37.5 +0.1**
comp=Z,20nm,0.8s
DANN Dangsing 68.77 303 *e*P **P 20 35 37.5 -0.3**
comp=Z,11nm,0.5s
PYUN Piuthan 69.33 303 *e*P **P 20 35 40.9 -0.4**
comp=Z,22nm,0.6s
HYB Hyderabad 70.46 291 *i* P **P 20 35 47.0 -1.1**
WMQ Urumqi 71.84 320 *e*P **P 20 35 56.8 +0.8**
WMQ sP pP 20 36 11.2 -2.1
WMQ pmax pmax
comp=Z,17nm,1.7s
WMQ pmax pmax
comp=Z,130nm,5.5s
WMQ LR LR
comp=Z,120nm,17.3s
WMQ LR LR
comp=Z,81nm,19.1s
WMQ LR LR
comp=Z,81nm,20.7s
VNDA Vanda 72.46 176 P **P 20 35 59.0 0.0**
comp=Z,4.3nm,0.9s,baz=342,slow=6.0,SNR=14
VNDA LR LR 21 07 57.1
comp=Z,74nm,18.2s,baz=344,slow=36
VNDA Vanda 72.46 176 *e*P **P 20 35 59.5 +0.4**
VNDA Vanda 72.46 176 *e*P **P 20 35 59.5 +0.4**
FALS False Pass 73.22 28 *e*P **P 20 36 03.3 -0.5**
comp=Z,228nm,1.2s
DGZ Jazzator, Alta 74.72 325 *i* P **P 20 36 12.6 -0.3**
DGZ pmax pmax
comp=Z,1.0nm,0.4s
BILL Bilibino 74.73 8⇓*e*P **P 20 36 13.0 +0.6**
BILL *PP **PcP 20 36 21.0 -5.3**
BILL pmax pmax
comp=Z,3.0nm,1.1s
BILL MLR MLR
comp=Z,67nm,20.0s
MK01 Makanchi Array 76.54 321 *e*P **P 20 36 22.8 -0.5**
MK31 Makanchi Array 76.56 321 *e*P **P 20 36 22.7 -0.6**
MK31 Makanchi Array 76.56 321 *e*P **P 20 36 22.7 -0.6**
MK32 Makanchi Array 76.56 321 *e*P **P 20 36 23.2 -0.1**
MK32 *e* 21 11 18.4
MKAR Makanchi Array 76.56 321 P **P 20 36 23.2 -0.1**
comp=Z,1.4nm,0.6s,baz=98,slow=8.2,SNR=30
MKAR LR LR 21 11 18.4
comp=Z,25nm,19.7s,baz=114,slow=37
MKAR Makanchi Array 76.56 321 *e*P **P 20 36 23.0 -0.3**
comp=Z,15nm,1.0s
MKAR Makanchi Array 76.56 321 *e*P **P 20 36 23.0 -0.3**
MKAR pmax pmax
comp=Z,15nm,1.0s
PAF Port-aux-Franc 76.67 221 *e*P **P 20 36 25.0 +1.1**
comp=Z,168nm,1.5s
PAF Port-aux-Franc 76.67 221 *e*P **P 20 36 25.0 +1.1**
PAF pmax pmax
comp=Z,168nm,1.5s
MAKZ Makanchi 76.76 321 *e*P **P 20 36 24.1 -0.3**
comp=Z,2.6nm,0.7s
MAKZ Makanchi 76.76 321 *e*P **P 20 36 24.2 -0.3**
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
PDGK Podgornoye 77.11 317 P **P 20 36 26.5 -0.2**
PDGK pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 77.83 354 P **P 20 36 28.8 -1.1**
comp=Z,2.2nm,0.8s,baz=146,slow=2.4,SNR=8.8
TIXI Tiksi 77.83 354*ce*P **P 20 36 29.1 -0.8**
TIXI pmax pmax
comp=Z,4.0nm,1.3s
ZAA0 Zalesovo Array 78.12 328 *e*P **P 20 36 31.1 -0.7**
comp=Z,2.7nm,0.8s
ZALV Zalesovo Beam 78.12 328 P **P 20 36 30.9 -1.0**
comp=Z,0.5nm,0.4s,baz=114,slow=3.7,SNR=5.1
ZALV LR LR 21 11 21.0
comp=Z,35nm,21.8s,baz=70,slow=36
ZALV Zalesovo Beam 78.12 328 *e*P **P 20 36 31.1 -0.8**
ZALV Zalesovo Beam 78.12 328 *e*P **P 20 36 31.1 -0.8**
ZAA1 Zalesovo Array 78.13 328 *e*P **P 20 36 30.9 -1.0**
ZAA1 *e* 21 11 21.0
KSH Kashi 78.39 312 P **P 20 36 36.5 +2.6**
KSH sP pP 20 36 49.6 -1.9
KSH pmax pmax
comp=Z,10.0nm,0.8s
KSH pmax pmax
comp=Z,170nm,5.9s
NIL Nilore 78.92 306 *e*P **P 20 36 37.1 +0.3**
comp=Z,7.7nm,0.6s
NIL Nilore 78.92 306 *e*P **P 20 36 37.1 +0.3**
NIL pmax pmax
comp=Z,8.0nm,0.6s
KDAK Kodiak Island 79.88 29 LR LR 21 04 37.4
comp=Z,127nm,21.3s,baz=270,slow=30
KDAK Kodiak Island 79.88 29 *e*P **P 20 36 40.2 -1.2**
KDAK *e*PcP **P 20 36 40.4 -1.0**
KDAK Kodiak Island 79.88 29 *e*P **P 20 36 40.2 -1.2**
SVW2 Sparrevohn 80.16 25 *e*P **P 20 36 42.6 -0.3**
comp=Z,7.0nm,1.0s
KURK Kurchatov 80.29 323 *e*P **P 20 36 43.3 -0.5**
comp=Z,3.2nm,1.0s
KURK Kurchatov 80.29 323 *e*P **P 20 36 43.3 -0.5**
KURK pmax pmax
comp=Z,3.0nm,1.0s
SFK Sufi-Kurgan 80.36 312 P **P 20 36 44.8 +0.1**
SFK pmax pmax
comp=Z,4.0nm,0.9s
AAK Ala-Archa 80.37 315 *e*P **P 20 36 44.9 +0.2**
comp=Z,2.7nm,1.0s
AAK Ala-Archa 80.37 315*ce*P **P 20 36 45.0 +0.4**
AAK pmax pmax
comp=Z,7.0nm,2.5s
ARSB Arslanbob 81.09 313 *e*P **P 20 36 48.6 +0.1**
comp=Z,11nm,1.5s
RDOG Red Dog Mine 81.53 17 *e*P **P 20 36 50.5 +0.4**
comp=Z,18nm,0.9s
MAW Mawson 82.37 203 LR LR 21 12 33.4
comp=Z,78nm,18.5s,baz=97,slow=35
MAW Mawson 82.37 203 *e*P **P 20 36 55.0 +0.5**
comp=Z,1.9nm,0.9s
SEW Seward 82.37 27 *e*P **P 20 36 52.8 -1.7**
comp=Z,54nm,1.3s
SUA Susitna One 82.39 26 *e*P **P 20 36 53.9 -0.9**
comp=Z,4.8nm,0.7s
PPLA Purkeypile 82.44 24 *e*P **P 20 36 55.5 +0.4**
comp=Z,14nm,1.5s
KBL Kabul 82.53 306 *e*P **P 20 36 54.4 -1.9**
comp=Z,7.2nm,1.5s
KBL Kabul 82.53 306 *e*P **P 20 36 54.4 -1.9**
KBL pmax pmax
comp=Z,7.0nm,1.5s
RC01 Rabbit Creek A 82.66 26 *e*P **P 20 36 54.5 -1.6**
comp=Z,25nm,1.3s
CAST Castle Rocks 82.73 24 *e*P **P 20 36 55.7 -0.8**
comp=Z,4.1nm,0.9s
GHO Glory Hole Cre 83.31 26 *e*P **P 20 36 59.3 -0.2**
comp=Z,25nm,1.4s
KK31 Karatay Array 83.31 314 *e*P **P 20 36 58.9 -1.0**
KK31 Karatay Array 83.31 314 *e*P **P 20 36 58.9 -1.0**
KKAR Karatay Array 83.31 314 *e*P **P 20 36 59.1 -0.8**
KKAR Karatay Array 83.31 314 *e*P **P 20 36 59.1 -0.8**
IM3 Indian Mountai 83.34 21 *e*P **P 20 36 59.4 -0.1**
KNK Knik Glacier 83.36 26 *e*P **P 20 36 59.9 +0.1**
comp=Z,30nm,1.4s
OTUK Ortayu 83.39 320 P **P 20 37 00.2 0.0**
OTUK pmax pmax
comp=Z,3.0nm,1.0s
BPAW Bear Paw Mtn. 83.47 23 *e*P **P 20 36 59.7 -0.6**
comp=Z,8.3nm,1.2s
SML Sawmill 83.58 26 *e*P **P 20 37 01.0 +0.1**
comp=Z,17nm,1.0s
SML Sawmill 83.58 26 *e*P **P 20 37 01.0 +0.1**
SML pmax pmax
comp=Z,17nm,1.0s
MLY Manley 83.99 22 *e*P **P 20 37 02.3 -0.6**
comp=Z,12nm,1.0s
RND Reindeer 84.02 24 *e*P **P 20 37 02.3 -0.9**
comp=Z,15nm,0.9s
RND Reindeer 84.02 24 *e*P **P 20 37 02.3 -0.9**
RND pmax pmax
comp=Z,15nm,0.9s
MCK McKinley 84.13 24 *e*P **P 20 37 03.5 -0.1**
comp=Z,26nm,1.1s
MCK McKinley 84.13 24 *e*P **P 20 37 03.5 -0.1**
MCK pmax pmax
comp=Z,26nm,1.1s
EYAK Cordova Ski Ar 84.24 27 *e*P **P 20 37 03.8 -0.3**
comp=Z,49nm,1.3s
DIV Divide 84.44 27 *e*P **P 20 37 05.1 -0.2**
comp=Z,29nm,1.2s
QSPA South Pole Qui 84.46 180 *e*P **P 20 37 05.5 0.0**
comp=Z,11nm,1.1s
DHY Denali Highway 84.50 25 *e*P **P 20 37 05.7 0.0**
comp=Z,9.4nm,0.9s
KLU Klutina 84.51 27 *e*P **P 20 37 05.9 +0.2**
comp=Z,19nm,1.1s
WRH Wood River Hil 84.78 23 *e*P **P 20 37 05.5 -1.4**
comp=Z,13nm,1.0s
MDM Murphy Dome 84.92 23 *e*P **P 20 37 07.4 -0.2**
comp=Z,10.0nm,1.3s
COLA College 85.03 23 *e*P **P 20 37 06.7 -1.4**
comp=Z,15nm,0.8s
COLA College 85.03 23 *e*P **P 20 37 06.7 -1.4**
COLA pmax pmax
comp=Z,15nm,0.8s
COLD Coldfoot 85.17 20 *e*P **P 20 37 09.8 +1.0**
comp=Z,6.3nm,1.2s
HDA Harding Lake 85.20 24 *e*P **P 20 37 07.9 -1.1**
comp=Z,6.3nm,0.9s
PAX Paxson 85.26 25 *e*P **P 20 37 08.3 -1.1**
comp=Z,5.0nm,1.1s
ILAR Eielson Array 85.37 23 P **P 20 37 08.1 -1.7**
comp=Z,10.0nm,0.8s,baz=253,slow=4.7,SNR=60
ILB Eielson Array 85.37 23 *e*P **P 20 37 07.6 -2.2**
IL1 Eielson Array 85.37 23 *e*P **P 20 37 07.3 -2.5**
RIDG Independ'e Rid 85.81 25 *e*P **P 20 37 10.7 -1.3**
comp=Z,18nm,1.1s
BRVK Borovoye 85.92 324 *e*P **P 20 37 11.8 -1.0**
comp=Z,1.9nm,0.9s
BRVK Borovoye 85.92 324 *i* P **P 20 37 12.8 0.0**
BRVK pmax pmax
comp=Z,1.0nm,0.7s
DOT Dot Lake 86.10 25 *e*P **P 20 37 13.1 -0.4**
comp=Z,12nm,1.0s
PRP Porcupine Dome 86.19 23 *e*P **P 20 37 11.4 -2.6**
comp=Z,1.9nm,0.9s
SCRK Sand Creek 86.25 25 *e*P **P 20 37 13.0 -1.3**
comp=Z,4.0nm,1.0s
FYU Fort Yukon 86.69 22 *e*P **P 20 37 14.6 -1.7**
comp=Z,11nm,1.2s
HYT Haines Junctio 88.17 28 *e*P **P 20 37 23.9 +0.2**
comp=Z,5.7nm,0.8s
DAWY Dawson 88.19 25 *e*P **P 20 37 23.3 -0.4**
comp=Z,12nm,1.0s
EPYK Eagle Plains 89.89 23 *e*P **P 20 37 31.5 0.0**
comp=Z,7.7nm,0.9s
SYO Syowa Base 90.76 200⇑*e*P **P 20 37 35.6 +0.1**
INK Inuvik 91.52 22 P **P 20 37 38.6 -0.3**
comp=Z,5.1nm,1.1s,baz=242,slow=6.5,SNR=6.6
INK Inuvik 91.52 22 *e*P **P 20 37 38.6 -0.3**
comp=Z,8.5nm,1.3s
INK Inuvik 91.52 22 *e*P **P 20 37 38.7 -0.3**
INK pmax pmax
comp=Z,9.0nm,1.3s
GEYT Alibeck 91.77 308 LR LR 21 25 02.6
comp=Z,30nm,18.2s,baz=50,slow=40
NVAR Mina Array Bea 97.76 52 LR LR 21 14 41.7
comp=Z,111nm,20.8s,baz=274,slow=31
YKA Yellowknife Ar 99.14 28 P **Pdif 20 38 12.6 -1.3**
comp=Z,0.6nm,0.8s,baz=282,slow=4.5,SNR=7.5
YKA PKKPbc **PKKPbc 20 54 39.2 -2.3**
comp=Z,0.5nm,0.9s,baz=79,slow=2.5,SNR=4.5
YKA LR LR 21 19 23.9
comp=Z,6.6nm,20.2s,baz=302,slow=33
ARA0 ARCESS Array S 105.51 342 *e*PKKPbc PKKPbc 20 54 20.0 -3.0
ARCES ARCESS Array B 105.51 342 PKKPbc PKKPbc 20 54 20.0 -3.0
comp=Z,5.8nm,1.0s,baz=226,slow=2.4,SNR=4.1
TXAR Lajitas Array 110.29 61 PKKPbc PKKPbc 20 54 08.2 +1.4
comp=Z,0.2nm,0.5s,baz=109,slow=4.4,SNR=5.6
TXAR PKKPab **PKKPab 20 54 17.9 +0.7**
comp=Z,0.4nm,0.8s,baz=98,slow=6.5,SNR=3.5
CLL Collm 120.08 328 *e*PKPdf **PKiKP 20 43 24.0 +0.6**
CLL Collm 120.08 328 *e*PKIKP **PKiKP 20 43 24.0 +0.6**
061Z Ochoppi 130.75 60 *e*PKPpre PKPpre 20 43 36.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**139.79**	**123**	PKhKP	PKPpre	20 43 54.8	
	comp=Z,0.9nm,0.6s,baz=285,slow=3.6,SNR=4.1						
LPAZ	**La Paz**	**139.79**	**123**	*e*PKPpre	PKPpre	20 43 54.4	
LPAZ	**La Paz**	**139.79**	**123**	*e*PKHKP	PKPpre	20 43 54.4	
CPUP	**Villa Florida**	**141.04**	**145**	PKhKP	PKPpre	20 43 55.5	
	comp=Z,0.7nm,0.4s,baz=135,slow=7.1,SNR=2.3						
CPUP				PKP	**PKPdf**	**20 44 00.9**	**-2.7**
	comp=Z,1.5nm,0.6s,baz=243,slow=4.8,SNR=3.7						
CPUP	**Villa Florida**	**141.04**	**145**	*e*PKPpre	PKPpre	20 43 54.6	
CPUP				*e*PKPdf	**PKPdf**	**20 44 00.6**	**-3.0**
CPUP	**Villa Florida**	**141.04**	**145**	*e*PKHKP	PKPpre	20 43 54.7	
CPUP				*e*		20 44 00.6	
SDV	**Santo Domingo**	**143.40**	**83**	*e*PKPpre	PKPpre	20 44 05.3	
TOA0	**Torodi Ar. Sit**	**144.12**	**285**	*e*PKPdf	**PKPab**	**20 44 06.6**	**-0.5**
TORD	**Torodi Ar. Bea**	**144.12**	**285**	PKhKP	PKPpre	20 44 05.0	
	comp=Z,2.6nm,1.0s,baz=58,slow=3.2,SNR=20						
TORD				SKPbc	**SKPbc**	**20 47 40.7**	**-2.1**
	comp=Z,1.2nm,0.8s,baz=79,slow=3.1,SNR=5.1						
TOA1	**Torodi Ar. Sit**	**144.12**	**285**	*e*PKPdf	**PKPab**	**20 44 05.0**	**-2.0**
TOA1				*e*SKPbc	**SKPbc**	**20 47 40.7**	**-2.2**
HUMP	**Col San Antoni**	**146.36**	**65**	*e*PKPdf	**PKPdf**	**20 44 13.5**	**+0.4**
KIC	**Kosan Boka**	**151.00**	**273**	*e*PKIKP	**PKiKP**	**20 44 27.2**	**0.0**
	comp=Z,16nm,0.8s						
DBIC	**Dimbokro**	**151.12**	**274**	PKPbc	**PKPbc**	**20 44 26.0**	**-0.9**
	comp=Z,5.2nm,0.8s,baz=120,slow=2.5,SNR=12						
DBIC				PKPab	**PKPab**	**20 44 35.5**	**+0.8**
	comp=Z,4.2nm,0.7s,baz=59,slow=6.4,SNR=6.0						
DBIC	**Dimbokro**	**151.12**	**274**	*e*PKPbc	**PKiKP**	**20 44 27.3**	**-0.1**
DBIC				*e*PKPab	**PKPab**	**20 44 35.7**	**+1.0**
DBIC	**Dimbokro**	**151.12**	**274**	*e*PKIKP	**PKiKP**	**20 44 27.3**	**-0.1**
TIC	**Toumodi**	**151.28**	**274**	*e*PKIKP	**PKiKP**	**20 44 27.8**	**0.0**
LIC	**Lamto**	**151.29**	**273**	*e*PKIKP	**PKPbc**	**20 44 27.3**	**0.0**
	comp=Z,26nm,0.8s						
PTGA	**Pitinga**	**153.23**	**103**	*e*pPKPdf	pPKPdf	20 44 42.4	-0.7
BDFB	**Brasilia**	**154.76**	**147**	PKPbc	**PKiKP**	**20 44 35.2**	**+0.2**
	comp=Z,2.4nm,0.4s,baz=142,slow=4.9,SNR=4.3						
BDFB				PKPab	**PKPab**	**20 44 50.2**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=244,slow=6.2,SNR=4.7						

KRSC 04 20:28:29.6±1.2**, 52°.59N×160°.54E, h24**km±13km**, ML3.9, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.60**	**329**	*i* P	Pb	20 28 41.6	+0.2
SPN				*e*S	Sb	20 28 50.0	+0.5
NLC	**Nalytchevo**	**0.93**	**309**	*e*P	Pb	20 28 46.7	-0.3
NLC				*e*S	Sn	20 28 59.7	+0.1
UGLR	**Uglovaya**	**1.21**	**302**	*e*P	Pb	20 28 51.8	0.0
SDLR	**Sedlovina**	**1.22**	**305**	*e*P	Pb	20 28 51.6	-0.4
PET	**Petropavlovsk**	**1.23**	**292**	*e*P	Pb	20 28 51.9	-0.1
PET				*e*S	Sb	20 29 07.9	+0.5
RUS	**Russkaya**	**1.25**	**264**	*e*P	Pb	20 28 52.7	+0.3
RUS				*e*S	Sb	20 29 09.6	+1.6
SMAR	**Somma**	**1.25**	**303**	*e*P	Pn	20 28 51.2	-0.5
AVH	**Avacha**	**1.28**	**303**	*e*P	Pb	20 28 53.1	0.0
AVH				*e*S	Sb	20 29 10.3	+1.1
KOK	**Koryaka**	**1.35**	**302**	*e*P	Pb	20 28 53.7	-0.5
KRX	**Arik**	**1.38**	**305**	*e*P	Pn	20 28 53.8	+0.4
MTVR	**Mutnovka**	**1.44**	**267**	*e*P	Pb	20 28 55.5	-0.3
MTVR				*e*S	Sb	20 29 14.3	+0.5
KRMR	**Karymshinskiy**	**1.49**	**280**	*e*P	Pn	20 28 55.5	+0.8
KRMR				*e*S	Sb	20 29 14.3	-0.6
GRL	**Gorelyy**	**1.51**	**270**	*e*P	Pn	20 28 55.8	+0.7
KII	**Karymskiy**	**1.59**	**336**	*e*P	Pn	20 28 57.2	+0.9
KII				*e*S	Sn	20 29 16.7	+0.6
KDTR	**Khodutka, Kamc**	**1.70**	**244**	*e*P	Pn	20 28 58.4	+0.7
KDTR				*e*S	Sn	20 29 18.9	+0.2
GNL	**Ganaly**	**1.92**	**306**	*e*P	Pb	20 29 02.8	-1.1
GNL				*e*S	Sb	20 29 27.1	-0.3
APC	**Apacha**	**2.08**	**281**	*e*P	Pb	20 29 05.6	-1.0
APC				*e*S	Sb	20 29 31.4	-0.6
KZV	**Kizimen**	**2.54**	**357**	*e*P	Pn	20 29 11.3	+2.0
KZV				*e*S	Sb	20 29 42.5	-2.7
PAU	**Pauzhetka**	**2.56**	**245**	*e*P	Pb	20 29 13.8	-1.0
TUMR	**Tumrok**	**2.71**	**355**	*e*P	Pn	20 29 13.8	+2.1
ESO	**Esso**	**3.51**	**343**	*e*P	Pn	20 29 25.8	+3.2
SRDR	**Sredinnyy**	**3.77**	**353**	*e*P	Pn	20 29 29.5	+3.3
KBTR	**Krutoberegovo**	**3.87**	**19**	*e*P	Pb	20 29 33.4	-3.5
KBTR				*e*S	Sb	20 30 17.8	-5.4
BDR	**Baidarnaya**	**4.01**	**5**	*e*P	Pn	20 29 34.3	+4.8
SRKR	**Sorokina**	**4.09**	**5**	*e*P	Pn	20 29 34.6	+4.0

MAN 04 20:28:42.6, 6°.48N×126°.09E, h160km**, mb4.0, ML2.8, MS2.4, 1C, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.49**	**19**	*e*P	Pn	20 29 05.7	+0.6
MATI				*e*S	Sn	20 29 24.6	+2.2
GSPH	**General Santos**	**1.20**	**251**	⇑*i*P	Pn	20 29 08.4	-1.8
GSPH				*i* S	Sn	20 29 27.4	-4.0
SKMP	**Bagumbayan, Su**	**1.54**	**272**	*e*P	Pn	20 29 14.2	+0.9
SKMP				*e*S	Sn	20 29 38.0	+1.0
BUKP	**Musuan**	**1.73**	**324**	*e*P	Pn	20 29 24.4	+9.0
BUKP				*e*S	Sn	20 29 49.9	+9.2

*ISCJB **04** 20:35:06.4±0.6, 50°.42N±0°.06×178°.98E±0°.05, h35km, mb4.0/23, MS3.2/1, Error ellipse: s-maj=8.0km s-min=4.6km az=174.1*
*NEIC **04** 20:35:09.7±0.0, 50°.64N×179°.03E, h16km, mb4.3/25, ML3.8(AEIC), After AEIC.*
*IDC **04** 20:35:14.2±1.5, 51°.11N×178°.95E, h70km±8km, mb3.3/9, mb1 3.7/10, mb1mx3.3/80, mbtmp3.7/10, MS3.3/1, Ms1 3.3/1, ms1mx2.4/27, Error ellipse: s-maj=46.9km s-min=15.0km az=3.0*
ISC 04 20:35:08.8±0.8**, 50°.58N**±0°.09×**178°.91E**±0°.04**, h35**km**, n69, σ1°.79**/81**, mb4.2**/22**, Rat Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.84**	**17**	*e*Sn	**Sn**	**20 35 35.1**	**0.0**
CESW	**Semis' Southwe**	**1.39**	**17**	P	**Pn**	**20 35 33.0**	**+1.4**
LSSA	**Little Sitkin**	**1.40**	**350**	P	**Pn**	**20 35 32.8**	**+1.1**
LSPA	**Little Sitkin**	**1.40**	**351**	*e*Pn	**Pn**	**20 35 33.1**	**+1.4**
LSNW	**Little Sitkin**	**1.42**	**350**	P	**Pn**	**20 35 33.1**	**+1.1**
CERAA	**Semis' Rag'd T**	**1.42**	**20**	P	**Pn**	**20 35 33.5**	**+1.5**
CEAP	**Semis' Anvil P**	**1.48**	**16**	P	**Pn**	**20 35 34.7**	**+1.7**
CEAP				S	**Sn**	**20 35 53.0**	**+1.9**
GALAA	**Gareloi Lava P**	**1.88**	**50**	*e*Pn	**Pn**	**20 35 40.0**	**+1.6**
GAEA	**Gareloi East**	**1.90**	**50**	*e*Pn	**Pn**	**20 35 40.1**	**+1.4**
TASE	**Tanaga Southea**	**2.29**	**56**	*e*Pn	**Pn**	**20 35 45.8**	**+1.7**
TAFP	**Tanaga Falls P**	**2.36**	**55**	*e*Sn	**Sn**	**20 36 14.0**	**+1.4**
TAPA	**Tanaga Point A**	**2.40**	**58**	*e*Pn	**Pn**	**20 35 47.3**	**+1.6**
KIKV	**Kanaga Island**	**2.79**	**61**	*e*Pn	**Pn**	**20 35 52.3**	**+1.5**
KIWB	**Kanaga Island**	**2.79**	**61**	*e*Pn	**Pn**	**20 35 52.0**	**+1.2**
KIWB				*e*Sn	**Sn**	**20 36 23.1**	**-0.1**
KIRH	**Kanaga Island**	**2.84**	**61**	*e*Pn	**Pn**	**20 35 53.1**	**+1.5**
ADK	**Adak**	**3.06**	**63**	*e*Pn	**Pn**	**20 35 55.8**	**+1.2**
ADK				*e*Sn	**Sn**	**20 36 29.3**	**-0.6**
ADAG	**Mount Adagdak**	**3.15**	**62**	*e*Pn	**Pn**	**20 35 57.6**	**+1.8**
GSSP	**Great Sitkin S**	**3.43**	**62**	P	**Pn**	**20 36 01.2**	**+1.5**
GSMY	**Great Sitkin M**	**3.48**	**63**	*e*Pn	**Pn**	**20 36 01.8**	**+1.4**
GSTR	**Great Sitkin T**	**3.50**	**62**	*e*Pn	**Pn**	**20 36 02.0**	**+1.4**
GSTR				*e*Sn	**Sn**	**20 36 39.8**	**-1.1**
SMY	**Shemya**	**3.69**	**308**	*e*Pn	**Pn**	**20 36 04.8**	**+1.6**
SMY				*e*Sn	**Sn**	**20 36 44.8**	**-0.6**
ATKA	**Atka Island**	**4.61**	**67**	*e*Pn	**Pn**	**20 36 17.3**	**+1.4**
ATKA				*e*Sn	**Sn**	**20 37 05.6**	**-2.6**
KOFP	**Korovin Flat P**	**4.69**	**66**	*e*Pn	**Pn**	**20 36 18.9**	**+1.8**
NIKH	**Nikolski High**	**7.96**	**68**	*e*Pn	**Pn**	**20 37 04.0**	**+2.2**
NIKH				*e*Sn	**Sn**	**20 38 28.9**	**-1.7**
UNV	**Unalaska Valle**	**9.53**	**64**	*e*Pn	**Pn**	**20 37 24.4**	**+1.0**
UNV				*e*Sn	**Sn**	**20 39 06.0**	**-3.1**
SDPT	**Sand Point**	**13.29**	**61**	*e*Pn	**Pn**	**20 38 12.4**	**-2.3**
PEA0B	**Petropavlovsk-**	**13.35**	**289**	*e*Pn	**Pn**	**20 38 17.2**	**+1.6**
PETK	**Petropavlovsk-**	**13.35**	**289**	P	**Pn**	**20 38 18.3**	**+2.8**
	1.7nm,0.3s,baz=102,slow=18,SNR=48						
PETK				S	**Sn**	**20 40 35.7**	**-6.8**
	0.2nm,0.3s,baz=113,slow=19,SNR=3.0						
PETK	**Petropavlovsk-**	**13.35**	**289**	*e*Pn	**Pn**	**20 38 17.4**	**+1.9**
PETK				*e*Sn	**Sn**	**20 40 38.9**	**-3.6**
CHGN	**Chignik**	**14.64**	**58**	*e*Pn	**Pn**	**20 38 31.2**	**-1.8**
ANM	**Nome**	**16.28**	**25**	*e*Pn	**Pn**	**20 38 55.9**	**+1.5**
	3.2nm,1.2s						
OHAK	**Old Harbor**	**17.59**	**57**	*e*Pn	**Pn**	**20 39 07.6**	**-3.2**
	142nm,1.8s						
SVW2	**Sparrevohn**	**17.65**	**44**	*e*Pn	**P**	**20 39 12.7**	**+0.4**
KDAK	**Kodiak Island**	**18.07**	**56**	P	**Pn**	**20 39 13.6**	**-3.1**
	0.6nm,0.3s,baz=211,slow=2.9,SNR=41						
KDAK				S	Sn	20 42 19.9	-17
	0.2nm,0.3s,baz=260,slow=17,SNR=2.3						
KDAK	**Kodiak Island**	**18.07**	**56**	*e*Pn	**Pn**	**20 39 14.1**	**-2.6**
	110nm,1.8s						
RSO	**Redoubt South**	**18.70**	**47**	*e*P	**P**	**20 39 24.2**	**+0.2**
SEY	**Seymchan**	**18.91**	**321**	P	**Pn**	**20 39 28.9**	**+2.0**
	0.2nm,0.3s,baz=120,slow=12,SNR=8.2						
BRLK	**Bradley Lake**	**19.38**	**50**	*e*P	**P**	**20 39 30.4**	**-0.9**
	32nm,1.5s						
PPLA	**Purkeypile**	**19.87**	**41**	*e*P	**P**	**20 39 36.6**	**-0.1**
	22nm,1.4s						
SUA	**Susitna One**	**19.95**	**45**	*e*P	**P**	**20 39 36.3**	**-1.3**
	30nm,2.0s						
CAST	**Castle Rocks**	**20.14**	**39**	*e*P	**P**	**20 39 40.3**	**+0.8**
	26nm,1.8s						
RC01	**Rabbit Creek A**	**20.30**	**47**	*e*P	**P**	**20 39 42.4**	**+1.2**
	31nm,1.4s						
BPAW	**Bear Paw Mtn.**	**20.87**	**38**	*e*P	**P**	**20 39 47.9**	**+0.4**
	5.0nm,1.0s						
GHO	**Glory Hole Cre**	**20.88**	**45**	*e*P	**P**	**20 39 46.4**	**-1.2**
	37nm,1.6s						
TRF	**Thorofare Moun**	**20.88**	**40**	*e*P	**P**	**20 39 47.6**	**-0.1**
	30nm,1.8s						
KNK	**Knik Glacier**	**20.98**	**46**	*e*P	**P**	**20 39 46.9**	**-1.8**
	65nm,1.9s						
SML	**Sawmill**	**21.15**	**45**	*e*P	**P**	**20 39 48.3**	**-2.3**
	60nm,1.8s						
MLY	**Manley**	**21.39**	**36**	*e*P	**P**	**20 39 52.6**	**-0.5**
	8.7nm,1.4s						
SCM	**Sheep Creek Mo**	**21.62**	**46**	*e*P	**P**	**20 39 53.5**	**-2.0**
	25nm,1.4s						
DHY	**Denali Highway**	**21.97**	**42**	*e*P	**P**	**20 39 58.1**	**-1.3**
	31nm,1.8s						
WRH	**Wood River Hil**	**22.18**	**39**	*e*P	**P**	**20 39 59.5**	**-1.9**
	14nm,1.6s						
KLU	**Klutina**	**22.18**	**47**	*e*P	**P**	**20 40 00.7**	**-0.9**
	20nm,1.5s						
MDM	**Murphy Dome**	**22.32**	**37**	*e*P	**P**	**20 40 01.6**	**-1.3**
	20nm,1.9s						
ILAR	**Eielson Array**	**22.77**	**38**	P	**P**	**20 40 04.9**	**-2.9**
	0.4nm,0.8s,baz=229,slow=7.3,SNR=5.5						
RIDG	**Independ'e Rid**	**23.26**	**42**	*e*P	**P**	**20 40 11.3**	**-1.5**
	15nm,1.4s						
DOT	**Dot Lake**	**23.57**	**42**	*e*P	**P**	**20 40 15.0**	**-0.8**
	8.0nm,1.3s						
PRP	**Porcupine Dome**	**23.59**	**37**	*e*P	**P**	**20 40 16.2**	**+0.2**
	19nm,2.0s						
SCRK	**Sand Creek**	**23.70**	**41**	*e*P	**P**	**20 40 15.4**	**-1.6**
	17nm,1.9s						
FYU	**Fort Yukon**	**24.11**	**35**	*e*P	**P**	**20 40 19.7**	**-1.1**
	46nm,2.0s						
DAWY	**Dawson**	**25.68**	**42**	*e*P	**P**	**20 40 34.4**	**-0.7**
	11nm,1.6s						
KLR	**Kul'dur**	**30.01**	**286**	P	**P**	**20 41 15.4**	**+1.5**
	1.5nm,0.6s,baz=65,slow=8.9,SNR=7.8						
USRK	**Ussuriysk Ar.**	**31.96**	**277**	LR	LR	20 54 31.0	
	comp=Z,55nm,21.8s,baz=156,slow=36						
YKA	**Yellowknife Ar**	**36.83**	**45**	P	**P**	**20 42 13.0**	**+0.1**
	1.3nm,0.8s,baz=281,slow=8.1,SNR=7.2						
YKA				pP	**pwP**	**20 42 28.2**	**0.0**
	1.0nm,0.7s,baz=281,slow=8.2,SNR=6.9						
NEW	**Newport**	**40.52**	**68**	P	**P**	**20 42 43.3**	**-0.9**
	2.1nm,0.6s,baz=297,slow=11,SNR=3.9						
NVAR	**Mina Array Bea**	**45.10**	**80**	P	**P**	**20 43 22.1**	**+0.5**
	0.4nm,0.7s,baz=266,slow=6.1,SNR=2.8						
NVAR				pP	**pwP**	**20 43 40.0**	**+2.4**
	0.6nm,0.7s,baz=290,slow=7.2,SNR=4.0						
PDAR	**Pinedale Array**	**47.94**	**70**	P	**P**	**20 43 44.7**	**+0.9**
	1.4nm,0.6s,baz=304,slow=3.1,SNR=9.5						
PDAR				pP	**pwP**	**20 44 01.9**	**+1.8**
	5.1nm,0.7s,baz=298,slow=3.6,SNR=16						
MKAR	**Makanchi Array**	**59.38**	**308**	P	**P**	**20 45 06.6**	**-0.7**
	0.3nm,0.8s,baz=57,slow=5.3,SNR=2.6						
TXAR	**Lajitas Array**	**60.22**	**79**	P	**P**	**20 45 13.6**	**+0.3**
	0.3nm,0.6s,baz=288,slow=5.1,SNR=4.1						
BVAR	**Borovoye Array**	**60.55**	**319**	P	**P**	**20 45 14.0**	**-1.1**
	0.4nm,0.6s,baz=46,slow=8.3,SNR=3.4						

IDC 04 20:36:46.7±52.0**, 18°.99S×179°.83W, h0**km**, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.6**/45**, mbtmp3.8**/3**, Error ellipse: s-maj=937.2km s-min=153.0km az=80.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.93**	**242**	P	P	20 43 57.8	+0.3
	0.7nm,0.4s,baz=70,slow=10.0,SNR=3.2						
WRA	**Warramunga Arr**	**43.12**	**261**	P	P	20 44 48.9	-0.3
	0.3nm,0.3s,baz=97,slow=7.5,SNR=20						
ASAR	**Alice Springs**	**43.21**	**255**	P	P	20 44 49.6	-0.2
	1.3nm,0.6s,baz=93,slow=7.9,SNR=27						

*NIED **04** 20:38:00, 24°.30N×122°.40E, h71km, Mw4.2 Best double couple: M0 1.95000×10^15 NP1:φs26.00000°, δ25.00000°, λ147.00000°. NP2:φs147.00000°, δ77.00000°, λ69.00000°.*
*BJI **04** 20:38:49.8, 24°.39N×122°.22E, h9km, mb4.2/9, mB4.2/1, ML3.8/5*
*ISCJB **04** 20:38:50.9±0.1, 24°.41N±0°.01×122°.43E±0°.01, h79km±1km, mb4.5/73, Error ellipse: s-maj=2.3km s-min=1.7km az=155.8*
*MOS **04** 20:38:50.4±0.8, 24°.46N×122°.56E, h77km, mb4.7/21, Error ellipse: s-maj=10.4km s-min=7.0km az=114.4*
*TAP **04** 20:38:51.7, 24°.35N×122°.43E, h71km, ML5.0, C*
*JMA **04** 20:38:51.6±0.1, 24°.29N×122°.39E, h65km±2km, M3.9*
*NEIC **04** 20:38:51.3±0.3, 24°.42N×122°.47E, h70km±3km, mb4.6/45, ML5.0(TAP), Error ellipse: s-maj=4.9km s-min=3.7km az=145.0*
NEIC Recorded [2 TAP] in Hualien and Yilan; [1 TAP] in Changhua, Nantou, Taitung and Yunlin.
*IDC **04** 20:38:54.0±2.6, 24°.50N×122°.53E, h92km±23km, mb3.8/25, mb1 3.9/28, mb1mx3.8/72, mbtmp4.1/28, MS3.7/1, Ms1 3.7/1, ms1mx2.7/35, Error ellipse: s-maj=14.8km s-min=12.1km az=61.0*
ISC 04 20:38:51.3±0.5**, 24°.36N**±0°.02×**122°.43E**±0°.02**, h71**km±4km**, n292, σ1°.26**/431**, mb4.4**/73**, 29C-47D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.33**	**304**	⇑P	**Pn**	**20 39 03.7**	**+0.9**
	baz=312						
EOS1				S	**Sn**	**20 39 12.3**	**+1.0**
	baz=312						
JYNG	**Yonagunijimaku**	**0.47**	**79**	P	**Pn**	**20 39 04.5**	**+0.5**
JYNG				*e*S	**Sn**	**20 39 13.4**	**+0.1**
YOJ	**Yonaguni jima**	**0.54**	**79**	*e*Pn	**Pn**	**20 39 05.0**	**+0.5**
YOJ				*e*Sn	**Sn**	**20 39 14.0**	**-0.3**
YOJ	**Yonaguni jima**	**0.54**	**79**	⇓*i*P	**Pn**	**20 39 05.1**	**+0.5**
	baz=72						
YOJ				*i* S	**Sn**	**20 39 14.4**	**+0.1**
	baz=72						
YOJ	**Yonaguni jima**	**0.54**	**79**	*e*P	**Pn**	**20 39 05.1**	**+0.5**
YOJ				*e*		20 39 14.0	
YOJ	**Yonaguni jima**	**0.54**	**79**	P	**Pn**	**20 39 05.1**	**+0.5**
YOJ				S	**Sn**	**20 39 14.4**	**+0.1**
ENA	**Nanau**	**0.63**	**276**	⇑P	**Pn**	**20 39 05.8**	**+0.1**
	baz=276						
ENA				S	**Sn**	**20 39 16.6**	**+0.5**
	baz=276						
EGS		**0.66**	**317**	*e*P	**Pn**	**20 39 05.8**	**-0.1**
	baz=310						
NTC	**Toucheng**	**0.73**	**312**	P	**Pn**	**20 39 07.3**	**+0.6**
	baz=320						
NTC				S	**Sn**	**20 39 17.9**	**-0.2**
	baz=320						
ILA	**Ilan**	**0.74**	**303**	*e*P	**Pn**	**20 39 07.4**	**+0.7**
	baz=310						
ILA				S	**Sn**	**20 39 18.4**	**+0.2**
	baz=310						
TWB1	**Santiao Chiao**	**0.76**	**328**	P	**Pn**	**20 39 07.4**	**+0.4**
	baz=319						
TWB1				S	**Sn**	**20 39 17.8**	**-0.8**
	baz=319						
NACB	**Ninganchiao**	**0.79**	**256**	*e*Pn	**Pn**	**20 39 07.3**	**0.0**
NACB				*e*Sn	**Sn**	**20 39 16.1**	**-3.1**
NACB	**Ninganchiao**	**0.79**	**256**	⇑P	**Pn**	**20 39 07.2**	**0.0**
	baz=250						
NACB				S	**Sn**	**20 39 18.3**	**-0.9**
	baz=250						
TWD	**Chiawan**	**0.81**	**250**	⇑*i*P	**Pn**	**20 39 07.6**	**0.0**
	baz=250						
TWD				S	**Sn**	**20 39 18.7**	**-1.0**
	baz=250						
SLBB	**Yuanshan**	**0.82**	**298**	⇓*e*P	**Pn**	**20 39 08.7**	**+0.9**
	baz=306						
SLBB				*e*S	**Sn**	**20 39 20.8**	**+0.8**
	baz=306						
ENTT	**Nioudou**	**0.84**	**289**	⇓*i*P	**Pn**	**20 39 08.9**	**+1.0**
	baz=283						
ENTT				S	**Sn**	**20 39 20.8**	**+0.6**
	baz=283						
HWA	**Hwalien**	**0.85**	**243**	⇑P	**Pn**	**20 39 08.3**	**+0.3**
	baz=243						
HWA				*e*S	**Sn**	**20 39 20.5**	**+0.1**
	baz=243						
ENLB	**Shoufeng**	**0.89**	**239**	⇑P	**Pn**	**20 39 08.8**	**+0.3**
	baz=234						
ENLB				*e*S	**Sn**	**20 39 21.2**	**0.0**
	baz=234						
NWF	**Wu-fen Shan**	**0.92**	**320**	⇓*i*P	**Pn**	**20 39 09.5**	**+0.5**
	baz=313						
NWF				S	**Sn**	**20 39 21.8**	**-0.3**
	baz=313						
WFSB	**Wu-fen Shan**	**0.92**	**320**	⇓P	**Pn**	**20 39 09.5**	**+0.6**
	baz=313						
WFSB				S	**Sn**	**20 39 21.6**	**-0.3**
	baz=313						
NWLT	**Wulai**	**0.94**	**296**	*e*P	**Pn**	**20 39 10.4**	**+1.2**
	baz=301						
NWLT				S	**Sn**	**20 39 23.0**	**+0.5**
	baz=301						
NNSB	**Datong**	**0.96**	**274**	⇓P	**Pn**	**20 39 10.1**	**+0.5**
	baz=274						
NNSB				S	**Sn**	**20 39 22.6**	**-0.4**
	baz=274						
NNS	**Nan Shan**	**0.97**	**275**	⇓*i*P	**Pn**	**20 39 10.1**	**+0.5**
	baz=275						
NNS				*e*S	**Sn**	**20 39 22.9**	**-0.3**
	baz=275						
TWA	**Mucha**	**0.99**	**309**	⇓*i*P	**Pn**	**20 39 10.3**	**+0.6**
	baz=316						
TWA				S	**Sn**	**20 39 23.1**	**-0.3**
	baz=316						
YHNB	**Yeheng**	**1.01**	**288**	*e*Pn	**Pn**	**20 39 11.0**	**+0.9**
YHNB				*e*Sn	**Sn**	**20 39 24.6**	**+0.5**
YHNB	**Yeheng**	**1.01**	**288**	⇓*i*P	**Pn**	**20 39 11.1**	**+0.9**
	baz=288						
YHNB				S	**Sn**	**20 39 24.0**	**-0.1**
	baz=288						
NSK	**Sanguang**	**1.03**	**288**	⇓*i*P	**Pn**	**20 39 11.2**	**+0.9**
	baz=288						
NSK				S	**Sn**	**20 39 24.6**	**+0.2**
	baz=288						
TATO	**Taipei**	**1.05**	**306**	*e*Pn	**Pn**	**20 39 10.9**	**+0.4**
TATO				*e*Sn	**Sn**	**20 39 25.3**	**+0.4**
TATO	**Taipei**	**1.05**	**306**	⇓P	**Pn**	**20 39 11.1**	**+0.5**
	baz=315						
TATO				S	**Sn**	**20 39 24.5**	**-0.4**
	baz=315						
ESL	**Shilin**	**1.06**	**239**	⇑*i*P	**Pn**	**20 39 10.5**	**-0.2**
	baz=239						
ESL				*e*S	**Sn**	**20 39 24.3**	**-0.9**
	baz=239						
WHF	**Hehuan Shan**	**1.09**	**259**	⇑P	**Pn**	**20 39 11.7**	**+0.3**
	baz=250						
WHF				S	**Sn**	**20 39 25.9**	**-0.4**
	baz=250						
YM07	**YM07**	**1.09**	**318**	⇓P	**Pn**	**20 39 11.4**	**+0.2**
	baz=309						
YM07				S	**Sn**	**20 39 25.1**	**-0.8**
	baz=309						
YM01	**YM01**	**1.11**	**315**	⇓P	**Pn**	**20 39 12.6**	**+1.3**
	baz=315						
YM01				*e*S	**Sn**	**20 39 26.1**	**-0.1**
	baz=315						
YM11	**YM11**	**1.12**	**316**	⇓P	**Pn**	**20 39 11.7**	**+0.2**
	baz=315						
YM11				*e*S	**Sn**	**20 39 25.4**	**-1.0**
	baz=315						
YM10	**YM10**	**1.12**	**315**	⇓P	**Pn**	**20 39 11.7**	**+0.2**
	baz=315						
YM10				S	**Sn**	**20 39 25.8**	**-0.7**
	baz=315						
YM05	**YM05**	**1.12**	**315**	⇓P	**Pn**	**20 39 11.7**	**+0.2**
	baz=315						
YM05				*e*S	**Sn**	**20 39 25.1**	**-1.4**
	baz=315						
YM08	**YM08**	**1.12**	**317**	*e*P	**Pn**	**20 39 11.4**	**0.0**
	baz=308						
YM08				*e*S	**Sn**	**20 39 25.1**	**-1.4**
	baz=308						
YM04	**YM04**	**1.13**	**314**	⇓P	**Pn**	**20 39 11.8**	**+0.2**
	baz=314						
YM04				S	**Sn**	**20 39 25.9**	**-0.9**
	baz=314						
TWT	**Tachien**	**1.15**	**265**	⇓*i*P	**Pn**	**20 39 13.3**	**+1.4**
	baz=259						
TWT				S	**Sn**	**20 39 27.9**	**+0.5**
	baz=259						
TDCB	**Techi**	**1.17**	**265**	⇓P	**Pn**	**20 39 13.3**	**+1.2**
	baz=259						
TDCB				S	**Sn**	**20 39 27.6**	**-0.2**
	baz=259						
TWS1	**Kuangyinshan**	**1.18**	**309**	⇓*i*P	**Pn**	**20 39 12.8**	**+0.6**
	baz=316						
TWS1				*e*S	**Sn**	**20 39 27.7**	**0.0**
	baz=316						
WLTB	**Daxi**	**1.18**	**295**	⇓P	**Pn**	**20 39 13.6**	**+1.4**
	baz=285						
WLTB				*e*S	**Sn**	**20 39 28.6**	**+0.9**
	baz=285						
IRIF	**Iriomote-Funau**	**1.18**	**91**	P	**Pn**	**20 39 12.7**	**+0.5**
IRIF				*e*S	**Sn**	**20 39 28.6**	**+0.8**
TWY	**Chenhua**	**1.18**	**320**	*e*P	**Pn**	**20 39 12.9**	**+0.7**
	baz=320						
CHGB	**Renai**	**1.19**	**256**	⇑P	**Pn**	**20 39 13.1**	**+0.6**
	baz=248						
CHGB				*e*S	**Sn**	**20 39 27.6**	**-0.7**
	baz=248						
HGSD	**Ruisui**	**1.27**	**227**	⇑P	**Pn**	**20 39 13.2**	**-0.1**
	baz=223						
HGSD				*e*S	**Sn**	**20 39 28.4**	**-1.4**
	baz=223						
NCU	**National Centr**	**1.28**	**298**	⇓P	**Pn**	**20 39 14.7**	**+1.1**
	baz=298						
NCU				S	**Sn**	**20 39 31.6**	**+1.4**
	baz=298						
NCUH	**Zhongli**	**1.28**	**298**	⇓*e*P	**Pn**	**20 39 14.3**	**+0.8**
	baz=298						
NCUH				*e*S	**Sn**	**20 39 30.9**	**+0.7**
	baz=298						
HATJ	**Hateruma jima**	**1.29**	**103**	P	**Pn**	**20 39 14.6**	**+1.0**
HATJ				*e*S	**Sn**	**20 39 31.6**	**+1.4**
PCYT	**Pengchaiyu**	**1.30**	**345**	*e*P	**Pn**	**20 39 14.5**	**+0.7**
	baz=340						
LIOB	**Emei**	**1.32**	**283**	⇓P	**Pn**	**20 39 15.4**	**+1.4**
	baz=294						
LIOB				*e*S	**Sn**	**20 39 32.0**	**+1.0**
	baz=294						
EHY	**Hungye**	**1.33**	**230**	*e*P	**Pn**	**20 39 13.8**	**-0.3**
	baz=238						
VWDT	**VWDT**	**1.33**	**243**	⇑P	**Pn**	**20 39 14.8**	**+0.8**
	baz=236						
VWDT				*e*S	**Sn**	**20 39 30.0**	**-1.1**
	baz=236						
NSTT	**Nanjuang**	**1.33**	**282**	⇓*i*P	**Pn**	**20 39 15.3**	**+1.2**
	baz=293						
NSTT				*e*S	**Sn**	**20 39 31.4**	**+0.2**
	baz=293						
SBCB	**Hsinchu**	**1.39**	**288**	P	**Pn**	**20 39 16.0**	**+1.2**
	baz=288						
SBCB				*e*S	**Sn**	**20 39 33.5**	**+1.0**
	baz=288						
HSN	**Hsinchu**	**1.40**	**288**	⇓P	**Pn**	**20 39 15.8**	**+0.7**
	baz=290						
HSN				*e*S	**Sn**	**20 39 31.8**	**-1.1**
	baz=290						
YULB	**Yu-li**	**1.42**	**227**	*e*Pn	**Pn**	**20 39 15.1**	**-0.2**
YULB				*e*Sn	**Sn**	**20 39 28.9**	**-4.5**
YULB	**Yu-li**	**1.42**	**227**	⇑P	**Pn**	**20 39 15.1**	**-0.2**
	baz=237						
JKRS	**Kuro-shima**	**1.44**	**95**	P	**Pn**	**20 39 16.6**	**+1.0**
JKRS				S	**Sn**	**20 39 35.4**	**+1.6**
SSLB	**Suanglung**	**1.47**	**247**	*e*Pn	**Pn**	**20 39 16.6**	**+0.7**
SSLB				*e*Sn	**Sn**	**20 39 34.2**	**-0.3**
SSLB	**Suanglung**	**1.47**	**247**	⇓P	**Pn**	**20 39 16.6**	**+0.7**
	baz=247						
SSLB				S	**Sn**	**20 39 34.0**	**-0.6**
	baz=247						

SMLT	Sun Moon Lake	1.48	251	⇓iP	Pn	20 39 17.1	+1.0
	baz=247						
SMLT				eS	Sn	20 39 34.5	-0.4
	baz=247						
NMLH	Miaoli	1.51	277	P	Pn	20 39 18.1	+1.6
	baz=277						
NMLH				eS	Sn	20 39 36.9	+1.6
	baz=277						
TYC	Yuchr	1.51	253	⇓iP	Pn	20 39 17.6	+1.1
	baz=247						
TYC				S	Sn	20 39 35.0	-0.4
	baz=247						
TWQ1	Liyutan	1.51	270	⇓P	Pn	20 39 17.9	+1.4
	baz=269						
TWQ1				S	Sn	20 39 37.1	+1.5
	baz=269						
NSY	Sanyi	1.53	272	P	Pn	20 39 18.4	+1.7
	baz=272						
NSY				eS	Sn	20 39 36.0	+0.2
	baz=272						
JIJ	Ishigaki jima	1.56	90	P	Pn	20 39 17.5	+0.4
JIJ				S	Sn	20 39 36.4	-0.2
PTSB	Yuanli	1.58	273	⇑P	Pn	20 39 18.7	+1.4
	baz=285						
PTSB				S	Sn	20 39 37.6	+0.6
	baz=285						
CHKT	Chengkung	1.59	218	P	Pn	20 39 16.9	-0.7
	baz=212						
CHKT				eS	Sn	20 39 34.9	-2.5
	baz=212						
YUS	Yu-Shan	1.61	238	⇑iP	Pn	20 39 19.2	+0.9
	baz=237						
YUS				eS	Sn	20 39 37.3	-1.3
	baz=237						
TCU	Taichung	1.62	263	⇓eP	Pn	20 39 19.5	+1.6
	baz=274						
TCU				eS	Sn	20 39 39.3	+1.3
	baz=274						
WJS	Zhushan	1.65	251	⇓P	Pn	20 39 20.5	+2.1
	baz=248						
WJS				S	Sn	20 39 41.1	+2.4
	baz=248						
WNT	Mingjian	1.67	254	⇓iP	Pn	20 39 20.6	+2.0
	baz=253						
WNT				S	Sn	20 39 41.5	+2.3
	baz=253						
JISG	Ishigakijimahi	1.73	82	P	Pn	20 39 19.9	+0.6
JISG				S	Sn	20 39 40.6	+0.1
WCHH	Zhanghua	1.73	261	P	Pn	20 39 20.9	+1.5
	baz=270						
WCHH				eS	Sn	20 39 41.2	+0.5
	baz=270						
ELDTW	Lidau	1.75	228	⇑iP	Pn	20 39 19.7	0.0
	baz=227						
ELDTW				eS	Sn	20 39 39.7	-1.5
	baz=227						
CHN5	Tsauling	1.78	245	⇓P	Pn	20 39 21.7	+1.6
	baz=237						
CHN5				S	Sn	20 39 44.0	+2.1
	baz=237						
WGK	Gukeng	1.84	249	⇓iP	Pn	20 39 22.8	+2.0
	baz=248						
WGK				eS	Sn	20 39 45.7	+2.4
	baz=248						
WDLH	Douliu	1.86	249	⇑P	Pn	20 39 23.4	+2.3
	baz=249						
WDLH				eS	Sn	20 39 46.6	+2.9
	baz=249						
STYT	Tauyuan	1.95	232	⇑iP	Pn	20 39 23.8	+1.4
	baz=227						
STYT				S	Sn	20 39 46.4	+0.5
	baz=227						
RLNB	Erlin	1.95	256	P	Pn	20 39 23.7	+1.4
	baz=256						
RLNB				eS	Sn	20 39 47.6	+1.6
	baz=256						
TPUB	Ta-pu	1.96	238	ePn	Pn	20 39 24.2	+1.7
TPUB				eSn	Sn	20 39 46.1	-0.2
TPUB	Ta-pu	1.96	238	⇓P	Pn	20 39 24.1	+1.6
	baz=237						
TPUB				S	Sn	20 39 47.2	+0.9
	baz=237						
CHN4	Tsaushan	1.96	239	⇑P	Pn	20 39 24.6	+2.0
	baz=239						
CHN4				S	Sn	20 39 48.2	+1.9
	baz=239						
CHN2	Minshiung	1.97	246	P	Pn	20 39 24.9	+2.2
	baz=238						
CHN2				eS	Sn	20 39 49.7	+3.2
	baz=238						
TWGBT	Beinan	1.98	219	⇑P	Pn	20 39 22.2	-0.5
	baz=224						
TWGBT				eS	Sn	20 39 44.1	-2.5
	baz=224						
TWG	Pinlang	1.98	219	ePn	Pn	20 39 22.2	-0.6
TWG				eSn	Sn	20 39 44.1	-2.5
TWG	Pinlang	1.98	219	⇑iP	Pn	20 39 22.2	-0.6
	baz=224						
TWG				eS	Sn	20 39 44.6	-2.1
	baz=224						
TTN	Taitung	1.99	217	eP	Pn	20 39 23.1	+0.2
	baz=211						
TTN				eS	Sn	20 39 47.0	+0.1
	baz=211						
WTCT	Ta-ch'eng	2.03	256	P	Pn	20 39 24.3	+0.9
	baz=256						
WTCT				eS	Sn	20 39 48.2	+0.4
	baz=256						
CHY	Chiayi	2.03	245	eP	Pn	20 39 25.8	+2.4
	baz=245						
CHY				eS	Sn	20 39 50.2	+2.4
	baz=245						
JTJ	Tarama	2.08	82	P	Pn	20 39 25.3	+1.2
JTJ				eS	Sn	20 39 50.3	+1.1
TWK	Hsinying	2.09	239	⇓P	Pn	20 39 25.8	+1.5
	baz=238						
TWK				eS	Sn	20 39 51.0	+1.7
	baz=238						
WMLT	Mailiao	2.10	255	eP	Pn	20 39 25.2	+0.9
	baz=254						
WMLT				eS	Sn	20 39 50.8	+1.4
	baz=254						
CHN1	Nanshi	2.10	236	⇓P	Pn	20 39 26.1	+1.7
	baz=236						
CHN1				eS	Sn	20 39 50.9	+1.2
	baz=236						
SGST	Jiashian	2.12	233	⇓P	Pn	20 39 26.7	+2.0
	baz=233						
SGST				eS	Sn	20 39 51.5	+1.4
	baz=233						
SLGT	Liugui	2.13	231	⇑P	Pn	20 39 26.8	+2.0
	baz=237						
SLGT				eS	Sn	20 39 51.7	+1.4
	baz=237						
WLGB	Puzi	2.14	246	⇓eP	Pn	20 39 26.4	+1.5
	baz=245						
WLGB				S	Sn	20 39 53.0	+2.5
	baz=245						
WSF	Szhu	2.15	251	P	Pn	20 39 26.2	+1.2
	baz=261						
WSF				S	Sn	20 39 52.5	+1.9
	baz=261						
ECL	Taimali	2.22	218	⇑P	Pn	20 39 25.4	-0.6
	baz=222						
ECL				eS	Sn	20 39 49.9	-2.6
	baz=222						
CHN8	Yiju	2.27	244	⇑P	Pn	20 39 28.4	+1.7
	baz=243						
CHN8				eS	Sn	20 39 55.6	+1.9
	baz=243						
CHN3	Shinhua	2.29	236	eP	Pn	20 39 29.3	+2.4
	baz=247						
CHN3				eS	Sn	20 39 58.4	+4.3
	baz=247						
SSD	Sandimen	2.31	226	P	Pn	20 39 29.0	+1.8
	baz=225						
SSD				S	Sn	20 39 55.4	+0.8
	baz=225						
SCLT	Jiali	2.37	240	P	Pn	20 39 29.0	+1.1
	baz=240						
SCLT				S	Sn	20 39 58.5	+2.5
	baz=240						
TWM1	Shoushan	2.40	231	eP	Pn	20 39 31.1	+2.7
	baz=230						
MASBT	Mashibuluo	2.40	224	eP	Pn	20 39 29.6	+1.1
	baz=223						
MASBT				eS	Sn	20 39 57.5	+0.7
	baz=223						

SGLT	Jiouru	2.42	228	eP	Pn	20 39 31.0	+2.4
	baz=227						
TAW	Tawu	2.45	216	eP	Pn	20 39 30.1	+1.1
	baz=215						
EAST	Anshuo	2.45	217	⇑P	Pn	20 39 28.9	-0.2
	baz=216						
EAST				eS	Sn	20 39 56.0	-2.2
	baz=216						
LAY	Lan-yu	2.45	200	⇑P	Pn	20 39 28.2	-1.0
	baz=198						
LAY				eS	Sn	20 39 54.8	-3.3
	baz=198						
JIRB	Irabujima	2.54	79	P	Pn	20 39 31.5	+1.3
JIRB				eS	Sn	20 40 01.8	+1.7
SCZT	Fangliau	2.59	220	eP	Pn	20 39 32.2	+1.2
	baz=218						
SCZT				eS	Sn	20 40 03.2	+1.7
	baz=218						
JIKM	Ikemajima	2.62	77	P	Pn	20 39 33.0	+1.6
JIKM				S	Sn	20 40 03.5	+1.3
JMJ	Miyako jima 2	2.64	80	eP	Pn	20 39 32.8	+1.1
	baz=80						
JMJ				eS	Sn	20 40 02.7	0.0
	baz=80						
JMJ	Miyako jima 2	2.64	80	P	Pn	20 39 33.1	+1.4
JMJ				eS	Sn	20 40 04.5	+1.8
PTTC	Pingtan	2.67	296	⇓eP	Pn	20 39 31.9	-0.1
	baz=296						
JOGS	Gusukube	2.74	81	P	Pn	20 39 34.5	+1.5
JOGS				eS	Sn	20 40 06.7	+1.7
PNG	Penghu	2.75	254	⇑P	Pn	20 39 33.3	+0.2
	baz=253						
PNG				eS	Sn	20 40 03.7	-1.6
	baz=253						
PHUB	P'eng-hu	2.75	253	P	Pn	20 39 33.3	+0.1
	baz=252						
PHUB				S	Sn	20 40 04.7	-0.7
	baz=252						
WLCH	Liuqiu	2.75	224	eP	Pn	20 39 35.8	+2.6
	baz=223						
TWP	Hsiaoliuchiu	2.77	224	eP	Pn	20 39 35.4	+2.0
	baz=223						
WDGT	Dungji	2.77	247	eP	Pn	20 39 34.2	+0.9
	baz=246						
WDGT				eS	Sn	20 40 05.3	-0.4
	baz=246						
VWUC	VWUC	2.79	284	eP	Pn	20 39 33.8	+0.1
	baz=284						
HEN	Hengchun	2.82	214	eP	Pn	20 39 35.1	+1.0
	baz=208						
TWKBT	Hengchun	2.84	212	eP	Pn	20 39 34.9	+0.5
	baz=211						
TWKBT				eS	Sn	20 40 06.7	-0.7
	baz=211						
TWK1	Hengchun	2.84	212	P	Pn	20 39 34.9	+0.6
	baz=211						
TWK1				eS	Sn	20 40 05.8	-1.7
	baz=211						
MATB	Ma-tsu	2.87	309	⇓eP	Pn	20 39 35.0	+0.2
	baz=299						
VCHM	Qimei	2.98	248	eP	Pn	20 39 36.1	-0.2
	baz=247						
VCHM				eS	Sn	20 40 10.5	-0.5
	baz=247						
PTMZ	Houxiangcun	3.09	283	⇓P	Pn	20 39 37.9	+0.1
	baz=284						
LYJJ	Jianjiangzhen	3.25	313	eP	Pn	20 39 40.3	+0.3
	baz=302						
LYJJ				eS	Sn	20 40 16.7	-0.8
	baz=302						
XPSS	Dashiqiu	3.26	322	⇓eP	Pn	20 39 39.9	-0.2
	baz=320						
MHZQ	Yeshan	3.53	300	eP	Pn	20 39 43.9	+0.1
	baz=299						
MHZQ				eS	Sn	20 40 22.9	-1.6
	baz=299						
QZH	Quanzhou	3.54	280	⇓iPn	Pn	20 39 43.9	0.0
QZH				Sn	Sn	20 40 21.0	-3.6
QZH				smax	smax		
	comp=N,260nm,0.4s						
QZH				smax	smax		
	comp=E,190nm,0.3s						
KNM	Kinmen	3.65	272	eP	Pn	20 39 46.9	+1.5
	baz=282						
KNMB	Chin-men Tao	3.69	272	eP	Pn	20 39 45.6	-0.3
	baz=283						
AXDP	Jialang	4.10	278	⇓eP	Pn	20 39 51.7	+0.2
	baz=279						
ZPLA	Ao Xicun	4.30	265	⇓eP	Pn	20 39 54.3	0.0
	baz=256						
ZPLA				eS	Sn	20 40 39.8	-3.4
	baz=256						
ZZJH	Jiuhuzhen	4.38	272	eP	Pn	20 39 55.5	+0.2
	baz=281						
JOW	Kunigami	5.82	64	P	Pn	20 40 14.8	-0.2
	36nm,0.3s,baz=184,slow=10,SNR=117						
JOW				S	Sn	20 41 15.9	-4.5
	5.2nm,0.3s,baz=128,slow=19,SNR=2.5						
JOW	Kunigami	5.82	64	eP	Pn	20 40 14.8	-0.2
	baz=67						
JNU	Nakatsue	11.44	38	P	Pn	20 41 34.1	+2.2
	0.4nm,0.3s,baz=280,slow=2.6,SNR=5.7						
JNU	Nakatsue	11.44	38	ePn	Pn	20 41 30.8	-1.1
KS15	Wonju Array Si	13.85	18	ePn	Pn	20 42 03.0	-1.3
KSAR	Wonju Array Be	13.85	18	P	P	20 42 07.2	-3.1
KSAR	Wonju Array Be	13.85	18	P	P	20 42 07.2	-3.1
KSRS	Korea Array	13.87	19	P	Pn	20 42 07.2	+2.7
	0.7nm,0.3s,baz=195,slow=12,SNR=22						
KS01	Wonju Array Si	13.88	18	ePn	Pn	20 42 02.4	-2.4
GYA	Guiyang	14.40	282	P	Pn	20 42 13.9	+2.1
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XAN	Xi'an	15.22	312	P	P	20 42 28.9	+3.2
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
INU	Inuyama	16.71	46	ePn	P	20 42 41.9	-0.2
	17nm,1.2s						
JHJ2	Mitsune	17.54	56	ePn	Pn	20 42 48.4	-2.7
	739nm,1.5s						
MAJO	Matsushiro	18.20	45	eP	P	20 42 57.5	-1.0
MAJO				ePn	Pn	20 42 58.9	-0.2
MAJO	Matsushiro	18.20	45	eP	P	20 42 57.5	-1.0
MJB9	Matsu-Tunnel	18.20	44	eP	Pn	20 42 58.9	-0.2
	39nm,1.6s						
MJAR	Matsushiro Arr	18.20	45	P	P	20 42 57.5	-1.0
	0.2nm,0.3s,baz=239,slow=10,SNR=3.5						
USA0B	Ussuriysk Arra	21.27	19	eP	P	20 43 32.0	+0.3
	9.7nm,0.7s						
USRK	Ussuriysk Ar.	21.27	19	P	P	20 43 31.7	-0.1
	8.7nm,0.7s,baz=203,slow=10.0,SNR=20						
CHTO	Chiang Mai	22.52	260	eP	P	20 43 43.9	-1.5
	22nm,1.9s						
CHTO	Chiang Mai	22.52	260	eP	P	20 43 43.9	-1.5
CHTO				pmax	pmax		
	comp=Z,22nm,1.9s						
CM01	Chiang Mai Arr	22.63	259	eP	P	20 43 45.7	-0.9
CM31	Chiang Mai Arr	22.63	259	eP	P	20 43 45.5	-1.0
CMAR	Chiang Mai Arr	22.63	259	P	P	20 43 48.5	+2.0
	comp=Z,1.0nm,0.8s,baz=61,slow=7.8,SNR=8.1						
CMAR				pP	sP	20 44 08.4	-1.9
	comp=Z,0.9nm,0.9s,baz=65,slow=8.2,SNR=3.2						
SBUM	Sibu	23.92	206	eP	P	20 43 59.2	+0.4
	comp=Z,7.9nm,1.2s						
TNTI	Ternate	23.93	168	P	P	20 44 02.5	+3.5
GTA	Gaotai	24.28	314	eP	P	20 44 02.8	+0.8
GTA				pP	pP	20 44 16.7	-2.0
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ERM	Erimo	24.61	39	eP	P	20 44 02.4	-2.4
	comp=Z,108nm,1.4s						
ERM	Erimo	24.61	39	eP	P	20 44 02.4	-2.4
ERM				pmax	pmax		
	comp=Z,109nm,1.4s						
SMKI	Samarinda	25.18	192	P	P	20 44 10.7	+0.4
SGKI	Sangatta, Kali	25.18	191	P	P	20 44 10.2	-0.1
PCI	Palu	25.25	186	P	P	20 44 12.6	+1.7
	comp=Z,16nm,1.2s						
LUWI	Luwuk	25.26	179	P	P	20 44 12.2	+1.2
ASAJ	Asahikawa	25.69	35	P	P	20 44 13.5	-1.1
	comp=Z,4.0nm,0.4s,baz=250,slow=14,SNR=14						
ASAJ	Asahikawa	25.69	35	eP	P	20 44 13.1	-1.5
	comp=Z,170nm,2.0s						
KLR	Kul'dur	25.88	14	P	P	20 44 15.6	-0.7
	comp=Z,1.2nm,0.5s,baz=244,slow=8.8,SNR=5.6						
KLR	Kul'dur	25.88	14	iP	P	20 44 15.4	-0.9
ULN	Ulaanbaatar	26.44	336	eP	P	20 44 21.4	-0.2
	comp=Z,4.7nm,0.6s						

ULN	Ulaanbaatar	26.44	336	eP	P	20 44 21.4	-0.2
ULN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
SONA0	Songino Array	26.66	335	eP	P	20 44 23.7	+0.1
SONM	Songino Array	26.66	335	P	P	20 44 23.7	+0.1
	comp=Z,9.2nm,0.7s,baz=150,slow=9.7,SNR=74						
SONM				pP	pP	20 44 43.4	+3.2
	comp=Z,1.4nm,0.6s,baz=162,slow=10,SNR=2.6						
SONM				PcP	PcP	20 47 46.1	+0.4
	comp=Z,0.4nm,0.5s,baz=165,slow=5.1,SNR=4.1						
SONA1	Songino Array	26.67	336	eP	P	20 44 22.9	-0.7
WMQ	Urumqi	34.36	313	eP	P	20 45 39.7	+8.2
DGZ	Jazzator, Alta	37.15	322	iP	P	20 45 55.6	+0.2
MK01	Makanchi Array	38.99	315	eP	P	20 46 11.3	+0.5
MK01				ePcP	PcP	20 48 19.8	0.0
MK31	Makanchi Array	39.01	315	eP	P	20 46 11.4	+0.5
MK31	Makanchi Array	39.01	315	eP	P	20 46 11.4	+0.5
MK32	Makanchi Array	39.01	315	eP	P	20 46 11.4	+0.6
MK32				ePcP	PcP	20 48 19.6	-0.2
MKAR	Makanchi Array	39.01	315	P	P	20 46 11.4	+0.5
	comp=Z,2.1nm,0.4s,baz=99,slow=9.6,SNR=78						
MKAR				PcP	PcP	20 48 19.6	-0.2
	comp=Z,1.3nm,0.7s,baz=92,slow=6.4,SNR=8.1						
MKAR	Makanchi Array	39.01	315	eP	P	20 46 11.4	+0.5
	comp=Z,23nm,0.6s						
MKAR				PcP	PcP	20 48 19.6	-0.2
MKAR	Makanchi Array	39.01	315	ceP	P	20 46 11.3	+0.4
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MAKZ	Makanchi	39.21	315	eP	P	20 46 13.3	+0.7
	comp=Z,6.0nm,1.0s						
MAKZ				ePcP	PcP	20 48 20.3	-0.2
MAKZ	Makanchi	39.21	315	eP	P	20 46 13.3	+0.7
MAKZ				e		20 48 20.3	
MAKZ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
PDGK	Podgornoye	39.86	309	P	P	20 46 19.1	+1.0
PDGK				pmax	pmax		
	comp=Z,12nm,0.8s						
ZAA0	Zalesovo Array	40.72	326	eP	P	20 46 24.3	-0.6
	comp=Z,3.8nm,0.8s						
ZAA0				ePcP	PcP	20 48 23.9	-1.2
ZALV	Zalesovo Beam	40.72	326	P	P	20 46 24.0	-0.9
	comp=Z,2.4nm,0.5s,baz=120,slow=8.6,SNR=16						
ZALV				PcP	PcP	20 48 24.3	-0.8
	comp=Z,1.4nm,0.4s,baz=124,slow=4.2,SNR=7.9						
ZAA1	Zalesovo Array	40.72	326	eP	P	20 46 24.0	-0.9
ZAA1				ePcP	PcP	20 48 24.3	-0.8
NRN	Naryn	42.01	306	eP	P	20 46 35.5	-0.6
	comp=Z,5.0nm,0.8s						
NRN				ePcP	PcP	20 48 30.5	+0.5
NRN	Naryn	42.01	306	eP	P	20 46 35.5	-0.6
NRN				e		20 48 30.5	
NRN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KURK	Kurchatov	42.69	320	eP	P	20 46 40.5	-0.5
KURK				ePcP	PcP	20 48 31.1	-0.5
KURK	Kurchatov	42.69	320	ceP	P	20 46 41.5	+0.5
KURK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KURBB	Kurchatov Arra	42.71	319	P	P	20 46 40.5	-0.7
	comp=Z,1.3nm,0.6s,baz=110,slow=7.9,SNR=9.3						
KURBB				PcP	PcP	20 48 31.1	-0.6
	comp=Z,1.0nm,0.5s,baz=114,slow=3.9,SNR=6.1						
COEN	Coen	43.14	150	eP	P	20 46 43.8	-1.2
	comp=Z,15nm,1.1s						
AAK	Ala-Archa	43.31	307	P	P	20 46 47.1	+0.7
	comp=Z,1.3nm,0.6s,baz=153,slow=5.6,SNR=5.5						
AAK				PcP	PcP	20 48 34.5	+0.3
	comp=Z,0.6nm,0.6s,baz=138,slow=6.5,SNR=3.7						
AAK	Ala-Archa	43.31	307	eP	P	20 46 46.7	+0.4
	comp=Z,12nm,1.9s						
AAK				ePP	PcP	20 48 34.5	+0.3
AAK	Ala-Archa	43.31	307	iP	P	20 46 47.7	+1.3
AAK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PALK	Pallekele	43.38	254	LR	LR	21 06 39.6	
	comp=Z,91nm,20.1s,baz=117,slow=38						
SFK	Sufi-Kurgan	43.71	303	P	P	20 46 51.5	+1.8
SFK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ARSB	Arslanbob	44.24	305	eP	P	20 46 55.4	+1.5
	comp=Z,8.5nm,1.4s						
WRAB	Tennant Creek	45.53	164	eP	P	20 47 04.1	0.0
	comp=Z,12nm,1.4s						
WRAB	Tennant Creek	45.53	164	eP	P	20 47 04.1	0.0
WRAB				pmax	pmax		
	comp=Z,12nm,1.4s						
WR1	Warramunga Arr	45.54	164	eP	P	20 47 05.0	+0.8
	comp=Z,3.4nm,0.6s						
WR1				ePcP	PcP	20 48 42.0	+0.2
WRA	Warramunga Arr	45.54	164	P	P	20 47 05.0	+0.8
	comp=Z,1.6nm,0.5s,baz=347,slow=8.7,SNR=24						
WRA				PcP	PcP	20 48 42.0	+0.2
	comp=Z,0.8nm,0.7s,baz=344,slow=3.7,SNR=5.3						
WB2	Warramunga Arr	45.54	164	eP	P	20 47 04.7	+0.5
	comp=Z,13nm,1.4s						
BTK	Batken	45.77	303	eP	P	20 47 07.5	+1.6
	comp=Z,9.3nm,1.7s						
BTK	Batken	45.77	303	eP	P	20 47 07.5	+1.6
BTK				pmax	pmax		
	comp=Z,9.0nm,1.7s						
OTUK	Ortayu	45.88	314	P	P	20 47 07.5	+0.9
OTUK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TIXI	Tiksi	47.46	3	P	P	20 47 17.6	-0.9
	comp=Z,2.5nm,0.6s,baz=181,slow=4.6,SNR=12						
TIXI	Tiksi	47.46	3	eP	P	20 47 17.1	-1.3
	comp=Z,2.7nm,0.8s						
TIXI	Tiksi	47.46	3	ceP	P	20 47 16.9	-1.6
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.7s						
SMY	Shemya	47.96	40	eP	P	20 47 21.3	-1.4
	comp=Z,387nm,1.4s						
SMY	Shemya	47.96	40	eP	P	20 47 21.3	-1.4
BVAR	Borovoye Array	48.26	320	P	P	20 47 25.0	-0.1
	comp=Z,1.1nm,0.6s,baz=100,slow=9.2,SNR=13						
BVAR				PcP	PcP	20 48 50.8	-0.2
	comp=Z,1.6nm,0.7s,baz=126,slow=3.8,SNR=8.3						
BRVK	Borovoye	48.33	320	eP	P	20 47 26.1	+0.6
	comp=Z,4.4nm,0.9s						
BRVK	Borovoye	48.33	320	iP	P	20 47 25.8	+0.2
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AS31	Alice Springs	49.02	166	eP	P	20 47 32.7	+1.5
	comp=Z,1.2nm,0.4s						
ASAR	Alice Springs	49.02	166	P	P	20 47 32.6	+1.4
	comp=Z,1.3nm,0.5s,baz=340,slow=6.8,SNR=38						
ASAR				PcP	PcP	20 48 54.5	+0.4
	comp=Z,1.0nm,0.8s,baz=346,slow=3.3,SNR=4.7						
AS01	Alice Springs	49.03	166	eP	P	20 47 32.6	+1.3
AS01				ePcP	PcP	20 48 54.4	+0.2
ABKAR	Akbulak array	54.13	314	eP	P	20 48 09.2	+0.2
ABKAR				ePcP	PcP	20 49 12.3	-0.6
AKTO	Aktyubinsk	55.44	316	P	P	20 48 19.3	+0.8
	comp=Z,0.9nm,0.5s,baz=112,slow=5.4,SNR=3.9						
ARU	Arti	55.65	323	eP	P	20 48 19.2	-0.7
	comp=Z,16nm,1.8s						
ARU	Arti	55.65	323	eP	P	20 48 19.2	-0.7
ARU				pmax	pmax		
	comp=Z,17nm,1.8s						
GEYT	Alibeck	55.69	300	P	P	20 48 22.7	+2.2
	comp=Z,13nm,0.3s,baz=99,slow=9.1,SNR=6.2						
GYA0B	ALIBECK ARRAY	55.69	300	eP	P	20 48 21.5	+0.9
	comp=Z,3.8nm,0.9s						
EIDS	Eidsvold	56.69	149	eP	P	20 48 28.7	+1.1
	comp=Z,64nm,2.0s						
SPIA	Saint Paul Isl	57.62	37	eP	P	20 48 30.5	-3.3
	comp=Z,383nm,1.4s						
IM3	Indian Mountai	65.51	27	eP	P	20 49 27.3	+0.5
LVZ	Lovozero	66.85	336	eP	P	20 49 35.9	+0.5
	comp=Z,108nm,1.7s						
LVZ	Lovozero	66.85	336	eP	P	20 49 35.9	+0.5
LVZ				pmax	pmax		
	comp=Z,108nm,1.7s						
MLY	Manley	66.87	27	eP	P	20 49 36.1	+0.6
	comp=Z,20nm,2.0s						
BPAW	Bear Paw Mtn.	66.89	28	eP	P	20 49 36.3	+0.6
	comp=Z,25nm,1.9s						
KDAK	Kodiak Island	67.10	35	eP	P	20 49 36.6	-0.5
	comp=Z,197nm,1.8s						
KDAK	Kodiak Island	67.10	35	eP	P	20 49 36.6	-0.5
MCK	McKinley	67.85	29	eP	P	20 49 41.4	-0.4
	comp=Z,23nm,1.6s						
MCK	McKinley	67.85	29	eP	P	20 49 41.4	-0.4
MCK				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,23nm,1.6s						
MDM	**Murphy Dome**	**67.93**	**27**	*e*P	**P**	**20 49 43.1**	**+0.8**
	comp=Z,28nm,2.0s						
ILAR	**Eielson Array**	**68.53**	**27**	P	**P**	**20 49 45.2**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=272,slow=4.5,SNR=5.7						
ILB	**Eielson Array**	**68.53**	**27**	*e*P	**P**	**20 49 46.2**	**+0.2**
IL1	**Eielson Array**	**68.53**	**27**	*e*P	**P**	**20 49 44.6**	**-1.4**
PRP	**Porcupine Dome**	**68.94**	**27**	*e*P	**P**	**20 49 49.0**	**+0.3**
	comp=Z,13nm,1.6s						
SCM	**Sheep Creek Mo**	**68.94**	**31**	*e*P	**P**	**20 49 48.6**	**-0.1**
	comp=Z,56nm,1.6s						
SCM	**Sheep Creek Mo**	**68.94**	**31**	*e*P	**P**	**20 49 48.6**	**-0.1**
SCM				pmax	pmax		
	comp=Z,56nm,1.6s						
JOF	**Joensuu**	**69.11**	**331**	P	**P**	**20 49 49.0**	**-0.6**
JOF				pmax	pmax		
	comp=Z,13nm,2.9s						
KEV	**Kevo**	**69.23**	**338**	*e*P	**P**	**20 49 49.6**	**-0.6**
	comp=Z,246nm,2.0s						
KEV	**Kevo**	**69.23**	**338**	*e*P	**P**	**20 49 49.6**	**-0.6**
KEV				pmax	pmax		
	comp=Z,246nm,2.0s						
RAYN	**Ar Rayn**	**69.38**	**287**	*e*P	**P**	**20 49 52.6**	**+0.5**
	comp=Z,4.7nm,1.4s						
RAYN	**Ar Rayn**	**69.38**	**287**	*e*P	**P**	**20 49 52.6**	**+0.5**
RAYN				pmax	pmax		
	comp=Z,5.0nm,1.4s						
SPA0	**Spitsbergen Ar**	**69.55**	**348**	*e*P	**P**	**20 49 51.8**	**-0.3**
RIDG	**Independ'e Rid**	**69.63**	**28**	*e*P	**P**	**20 49 52.7**	**-0.2**
	comp=Z,40nm,2.0s						
KLU	**Klutina**	**69.67**	**31**	*e*P	**P**	**20 49 53.4**	**+0.2**
	comp=Z,43nm,1.6s						
ARA0	**ARCESS Array S**	**69.80**	**338**	*e*P	**P**	**20 49 53.5**	**-0.2**
ARCES	**ARCESS Array B**	**69.80**	**338**	P	**P**	**20 49 53.5**	**-0.2**
	comp=Z,3.2nm,0.9s,baz=58,slow=6.3,SNR=9.9						
HARP	**HAARP**	**69.81**	**30**	*e*P	**P**	**20 49 55.0**	**+1.1**
	comp=Z,110nm,1.8s						
SCRK	**Sand Creek**	**69.94**	**28**	*e*P	**P**	**20 49 53.8**	**-1.1**
	comp=Z,7.1nm,1.4s						
DAWY	**Dawson**	**71.86**	**27**	*e*P	**P**	**20 50 06.4**	**0.0**
	comp=Z,12nm,1.7s						
FIA1	**FINESS Array S**	**71.86**	**330**	*e*P	**P**	**20 50 06.0**	**-0.4**
FIA0	**FINESS Array S**	**71.86**	**330**	*e*P	**P**	**20 50 06.0**	**-0.4**
FIA0	**FINESS Array S**	**71.86**	**330**	*e*P	**P**	**20 50 06.0**	**-0.4**
FINES	**FINESS Array B**	**71.86**	**330**	P	**P**	**20 50 06.0**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=52,slow=4.9,SNR=15						
FINES	**FINESS Array B**	**71.86**	**330**	P	**P**	**20 50 06.0**	**-0.4**
FINES	**FINESS Array B**	**71.86**	**330**	*i* P	**P**	**20 50 07.3**	**+0.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**72.63**	**22**	P	**P**	**20 50 10.7**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=298,slow=7.6,SNR=4.9						
INK	**Inuvik**	**72.63**	**22**	*e*P	**P**	**20 50 10.9**	**+0.1**
	comp=Z,7.9nm,1.5s						
INK	**Inuvik**	**72.63**	**22**	*e*P	**P**	**20 50 10.9**	**+0.1**
INK				pmax	pmax		
	comp=Z,8.0nm,1.5s						
PCA	**Pinnacle**	**72.73**	**31**	*e*P	**P**	**20 50 12.2**	**+0.6**
	comp=Z,112nm,1.6s						
AKASG	**Malin Array Be**	**73.49**	**319**	P	**P**	**20 50 15.4**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=69,slow=6.4,SNR=2.8						
AKBB	**Malin Array Si**	**73.49**	**319**	*e*P	**P**	**20 50 15.1**	**-1.1**
	comp=Z,17nm,1.6s						
AKBB	**Malin Array Si**	**73.49**	**319**	*e*P	**P**	**20 50 15.1**	**-1.1**
AKBB				pmax	pmax		
	comp=Z,17nm,1.6s						
BR101	**Keskin Array S**	**73.98**	**307**	*e*P	**P**	**20 50 20.0**	**+0.5**
BRTR	**Keskin Array B**	**73.98**	**307**	P	**P**	**20 50 20.0**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=112,slow=6.2,SNR=8.3						
HFS	**Hagfors**	**77.96**	**331**	P	**P**	**20 50 41.1**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=72,slow=4.8,SNR=6.6						
NB2	**NORSAR Subarra**	**78.60**	**332**	P	**P**	**20 50 44.5**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=53,slow=5.9						
NB200	**NORSAR Array S**	**78.60**	**332**	*e*P	**P**	**20 50 43.7**	**-1.5**
NOA	**NORSAR Array B**	**78.60**	**332**	P	**P**	**20 50 43.7**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=73,slow=6.4,SNR=4.5						
YKA	**Yellowknife Ar**	**82.36**	**23**	P	**P**	**20 51 05.3**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=311,slow=5.0,SNR=19						
YKB5	**Yellowknife Ar**	**82.36**	**23**	*e*P	**P**	**20 51 04.0**	**-1.1**
GEC2	**GERESS Array S**	**83.42**	**321**	*e*P	**P**	**20 51 10.0**	**-1.1**
	comp=Z,6.3nm,1.4s						
GEC2	**GERESS Array S**	**83.42**	**321**	*e*P	**P**	**20 51 10.0**	**-1.1**
GEC2				pmax	pmax		
	comp=Z,6.0nm,1.4s						
GERES	**GERESS Array B**	**83.42**	**321**	P	**P**	**20 51 10.5**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=54,slow=8.7,SNR=2.7						
B08A	**Colville Reser**	**88.97**	**36**	*e*P	**P**	**20 51 38.6**	**+0.3**
	comp=Z,26nm,0.8s						
WALA	**Waterton Lakes**	**91.34**	**33**	*e*P	**P**	**20 51 49.8**	**+0.4**
	comp=Z,8.0nm,0.6s						
FFC	**Flin Flon**	**92.51**	**24**	*i* P	**P**	**20 51 55.3**	**+0.8**
NV01	**Mina Array Sit**	**95.52**	**44**	*e*P	**P**	**20 52 08.6**	**-0.4**
NVAR	**Mina Array Bea**	**95.52**	**44**	P	**P**	**20 52 08.5**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=294,slow=5.8,SNR=5.8						

*DJA **04** 20:41:32.4±0.8, 7°S±5°×10°4E±°, h11km±8km, M3.3/2, MLv3.3/2*
*NEIC **04** 20:41:35.5±0.7, 6°.44S×104°.39E, h45km±6km, mb4.8/15, Error ellipse: s-maj=10.8km s-min=5.1km az=46.0*
*ISCJB **04** 20:41:36.2±0.7, 6°.57S±0°.05×104°.31E±0°.05, h76km±5km, Error ellipse: s-maj=11.3km s-min=4.9km az=42.1*
*IDC **04** 20:41:37.1±5.2, 6°.52S×104°.35E, h62km±42km, mb3.6/11, mb1 3.8/13, mb1mx3.5/57, mbtmp4.0/13, ML4.1/2, Error ellipse: s-maj=45.3km s-min=16.0km az=54.0*
ISC 04 20:41:36.4±1.0**, 6°.74S**±0°.05×**104°.27E**±0°.05**, h66**km±10km**, n69,** σ1§**95**/72**, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.23**	**10**	P	**Pn**	**20 41 55.4**	**-2.4**
BLSI	**Bandar Lampung**	**1.67**	**35**	P	**Pn**	**20 42 02.8**	**-0.8**
LWLI	**Liwa**	**1.73**	**353**	P	**Pn**	**20 42 02.4**	**-2.1**
LWLI				S	**Sn**	**20 42 25.1**	**-0.6**
SBJI	**Serang**	**1.94**	**72**	P	**Pn**	**20 42 07.6**	**+0.3**
SBJI				S	**Sn**	**20 42 34.3**	**+3.6**
KLI	**Kotabumi**	**1.96**	**17**	P	**Pn**	**20 42 06.5**	**-0.9**
KLI				S	**Sn**	**20 42 32.8**	**+1.8**
KLSI		**2.09**	**13**	P	**Pn**	**20 42 07.9**	**-1.4**
MDSI	**Maura Dua**	**2.25**	**358**	P	**Pn**	**20 42 09.7**	**-1.7**
MDSI				S	**Sn**	**20 42 38.2**	**+0.2**
SKJI	**Sukabumi**	**2.28**	**97**	P	**Pn**	**20 42 12.0**	**+0.2**
CBJI	**Citeko**	**2.58**	**83**	P	**Pn**	**20 42 17.2**	**+1.3**
MNAI	**Manna**	**2.71**	**331**	*e*Pn	**Pn**	**20 42 16.7**	**-1.0**
MNAI	**Manna**	**2.71**	**331**	P	**Pn**	**20 42 15.0**	**-2.7**
MNAI				S	**Sn**	**20 42 47.9**	**-1.4**
LEM	**Lembang**	**3.32**	**92**	P	**Pn**	**20 42 25.8**	**-0.3**
	6.8nm,0.3s,baz=174,slow=17,SNR=5.9						
LEM				S	**Sn**	**20 43 04.6**	**+0.1**
	7.6nm,0.3s,baz=26,slow=21,SNR=4.8						
CISI	**Cisompet, Garu**	**3.60**	**103**	*e*Pn	**Pn**	**20 42 27.7**	**-2.2**
CISI	**Cisompet, Garu**	**3.60**	**103**	P	**Pn**	**20 42 30.0**	**+0.1**
XMIS	**Christmas Isla**	**3.96**	**160**	*e*Pn	Pn	20 42 30.8	-3.9
XMIS				*e*Sn	**Sn**	**20 43 13.8**	**-6.1**
MASI	**Maura Aman, Be**	**4.11**	**330**	P	**Pn**	**20 42 34.7**	**-2.2**
CMJI	**Cimerak**	**4.27**	**104**	P	**Pn**	**20 42 39.8**	**+0.9**
KRJI	**Kerinci**	**5.41**	**329**	P	**Pn**	**20 42 51.6**	**-3.0**
UGM	**Wanagama**	**6.31**	**101**	*e*Pn	**Pn**	**20 43 07.2**	**+0.3**
UGM				*e*Sn	**Sn**	**20 44 12.9**	**-4.7**
COCO	**West Island**	**9.12**	**233**	*e*Pn	**Pn**	**20 43 49.3**	**+4.0**
JAGI	**Jajag, Banyuwa**	**9.94**	**101**	*e*Pn	**Pn**	**20 43 53.9**	**-2.7**
JAGI				*e*Sn	**Sn**	**20 45 39.9**	**-6.8**
GSI	**Gunungsitoli**	**10.42**	**320**	*e*Pn	Pn	20 43 57.7	-5.5
PSI	**Prapat**	**10.88**	**330**	*e*Pn	Pn	20 44 02.0	-7.6
BATI	**Baumata**	**19.48**	**102**	P	**P**	**20 45 59.1**	**+0.8**
	1.7nm,0.3s,baz=306,slow=14,SNR=4.6						
BATI				S	**S**	**20 49 33.4**	**-1.8**
	1.1nm,0.3s,baz=73,slow=20,SNR=3.6						
SOEI	**Soe**	**20.01**	**100**	*e*P	**P**	**20 46 04.3**	**+0.2**
	46nm,1.4s						
MBWA	**Marble Bar**	**20.71**	**135**	*e*P	Pn	20 46 18.3	+3.8
	65nm,1.8s						
FITZ	**Fitzroy Crossi**	**23.69**	**120**	P	**P**	**20 46 43.0**	**+0.6**
	3.2nm,0.7s,baz=286,slow=7.4,SNR=8.3						
FITZ	**Fitzroy Crossi**	**23.69**	**120**	*e*P	**P**	**20 46 44.2**	**+1.8**
	5.7nm,1.1s						
CMAR	**Chiang Mai Arr**	**25.59**	**348**	P	**P**	**20 46 57.2**	**-2.4**
	0.9nm,0.9s,baz=178,slow=9.7,SNR=6.4						
H08S2	**Diego Garcia H**	**31.54**	**266**	T	T	21 21 44.3	
	baz=89,slow=76,SNR=16						
H08S3	**Diego Garcia H**	**31.55**	**266**	T	T	21 21 42.0	
	baz=89,slow=76,SNR=17						
H08S1	**Diego Carcia H**	**31.56**	**266**	T	T	21 21 42.3	
	baz=89,slow=76,SNR=5.7						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WR1	**Warramunga Arr**	**31.98**	**117**	*e*P	**P**	**20 47 57.4**	**+0.8**
	22nm,1.8s						
WRA	**Warramunga Arr**	**31.98**	**117**	P	**P**	**20 47 57.4**	**+0.8**
	0.6nm,0.7s,baz=299,slow=10,SNR=3.1						
WRAB	**Tennant Creek**	**31.99**	**117**	*e*P	**P**	**20 47 58.5**	**+1.8**
	21nm,1.7s						
WB2	**Warramunga Arr**	**32.00**	**117**	*e*P	**P**	**20 47 57.4**	**+0.6**
WC3	**Warramunga Arr**	**32.02**	**117**	*e*P	**P**	**20 47 57.9**	**+0.9**
	16nm,1.8s						
STKA	**Stephens Creek**	**42.84**	**131**	P	**P**	**20 49 30.6**	**+2.3**
	1.9nm,0.5s,baz=286,slow=7.4,SNR=5.3						
STKA	**Stephens Creek**	**42.84**	**131**	*e*P	**P**	**20 49 29.8**	**+1.6**
	1.9nm,1.2s						
MAJO	**Matsushiro**	**53.53**	**34**	*e*P	**P**	**20 50 48.8**	**-1.8**
	32nm,1.5s						
MJB9	**Matsu-Tunnel**	**53.53**	**34**	*e*P	**P**	**20 50 49.2**	**-1.4**
	31nm,1.5s						
SONA0	**Songino Array**	**54.38**	**2**	*e*P	**P**	**20 50 55.4**	**-1.3**
SONM	**Songino Array**	**54.38**	**2**	P	**P**	**20 50 55.4**	**-1.3**
	0.4nm,0.6s,baz=184,slow=7.9,SNR=4.2						
SONA1	**Songino Array**	**54.39**	**2**	*e*P	**P**	**20 50 56.3**	**-0.4**
USA0B	**Ussuriysk Arra**	**56.54**	**24**	*e*P	**P**	**20 51 11.8**	**-0.3**
	22nm,1.5s						
USRK	**Ussuriysk Ar.**	**56.54**	**24**	P	**P**	**20 51 11.8**	**-0.3**
	2.1nm,0.6s,baz=201,slow=6.5,SNR=8.7						
MK01	**Makanchi Array**	**56.75**	**342**	*e*P	**P**	**20 51 13.9**	**+0.4**
MK31	**Makanchi Array**	**56.77**	**342**	*e*P	**P**	**20 51 14.1**	**+0.4**
MK32	**Makanchi Array**	**56.77**	**342**	*e*P	**P**	**20 51 14.0**	**+0.3**
MKAR	**Makanchi Array**	**56.77**	**342**	P	**P**	**20 51 14.0**	**+0.3**
	1.6nm,0.6s,baz=149,slow=8.9,SNR=20						
MKAR	**Makanchi Array**	**56.77**	**342**	*e*P	**P**	**20 51 13.7**	**0.0**
	10nm,0.8s						
KLR	**Kul'dur**	**60.69**	**20**	P	**P**	**20 51 40.0**	**-0.8**
	0.4nm,0.4s,baz=342,slow=20,SNR=3.6						
ASAJ	**Asahikawa**	**61.30**	**31**	*e*P	**P**	**20 51 44.4**	**-0.7**
	190nm,2.0s						
KURBB	**Kurchatov Arra**	**61.32**	**342**	P	**P**	**20 51 45.1**	**+0.1**
	0.7nm,0.6s,baz=154,slow=6.2,SNR=5.0						
KURK	**Kurchatov**	**61.37**	**342**	*e*P	**P**	**20 51 45.1**	**-0.3**
ZAA0	**Zalesovo Array**	**62.65**	**347**	*e*P	**P**	**20 51 53.9**	**0.0**
	2.8nm,0.6s						
ZALV	**Zalesovo Beam**	**62.65**	**347**	P	**P**	**20 51 53.8**	**-0.1**
	2.0nm,0.3s,baz=158,slow=5.8,SNR=20						
ZAA1	**Zalesovo Array**	**62.65**	**347**	*e*P	**P**	**20 51 53.8**	**-0.1**
BVAR	**Borovoye Array**	**66.11**	**338**	P	**P**	**20 52 16.9**	**+0.4**
	0.6nm,0.5s,baz=139,slow=9.6,SNR=9.8						
BRVK	**Borovoye**	**66.17**	**338**	*e*P	**P**	**20 52 17.2**	**+0.3**
	5.7nm,1.6s						
PYZ	**Puysegur Point**	**66.20**	**138**	*e*P	**P**	**20 52 19.7**	**+2.4**
	376nm,2.0s						
DCZ	**Deep Cove**	**66.33**	**137**	*e*P	**P**	**20 52 19.9**	**+1.7**
	153nm,2.0s						
MLZ	**Mavora Lakes**	**66.96**	**137**	*e*P	**P**	**20 52 24.9**	**+2.6**
	140nm,1.8s						
ABKAR	**Akbulak array**	**67.83**	**330**	*e*P	**P**	**20 52 28.3**	**+0.8**
THZ	**Tophouse**	**69.63**	**132**	*e*P	**P**	**20 52 40.0**	**+0.9**
	38nm,1.5s						
CRLZ	**Canterbury Las**	**69.73**	**134**	*e*P	**P**	**20 52 40.5**	**+1.0**
	122nm,1.6s						
MQZ	**McQueen's Vall**	**69.78**	**134**	*e*P	**P**	**20 52 41.7**	**+1.9**
	66nm,1.5s						
BKZ	**Black Stump Fm**	**71.99**	**129**	*e*P	**P**	**20 52 56.1**	**+2.6**
	46nm,1.5s						
TXAR	**Lajitas Array**	**145.38**	**46**	PKPbc	**PKPbc**	**21 01 06.8**	**-0.9**
	0.2nm,0.5s,baz=262,slow=2.7,SNR=6.9						

*ISCJB **04** 20:41:47.9±0.8, 30°.30S±0°.06×175°.9W±0°.1, h100km, mb4.4/9, Error ellipse: s-maj=13.7km s-min=7.8km az=13.8*
*NEIC **04** 20:41:47.6±1.3, 30°.25S×175°.96W, h69km±11km, mb4.8/13, Error ellipse: s-maj=14.3km s-min=10.9km az=100.0*
*IDC **04** 20:41:50.7±3.4, 30°.42S×176°.26W, h85km±24km, mb4.0/5, mb1 4.1/6, mb1mx3.7/38, mbtmp4.3/6, MS3.4/1, Ms1 3.4/1, ms1mx2.8/27, Error ellipse: s-maj=33.7km s-min=29.9km az=89.0*
ISC 04 20:41:50.2±1.0**, 30°.35S**±0°.08×**176°.0W**±0°.1**, h100**km**, n37,** σ**2**§**18**/39**, mb4.3**/9**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.98**	**303**	P	**Pn**	**20 42 20.4**	**-2.1**
	299nm,0.3s,baz=103,slow=21,SNR=3.6						
RAO	**Raoul Island**	**1.98**	**303**	*e*Pn	**Pn**	**20 42 20.8**	**-1.7**
URZ	**Urewera**	**9.72**	**214**	P	**Pn**	**20 44 06.4**	**-0.5**
	0.5nm,0.3s,baz=18,slow=13,SNR=3.1						
URZ				S	**Sn**	**20 45 58.3**	**+4.1**
	6.1nm,0.3s,baz=153,slow=23,SNR=14						
URZ	**Urewera**	**9.72**	**214**	*e*Pn	**Pn**	**20 44 06.0**	**-0.9**
URZ				S	**Sn**	**20 45 58.3**	**+4.1**
OUZ	**Omahuta**	**9.99**	**238**	*e*Pn	Pn	20 44 14.3	+3.5
BKZ	**Black Stump Fm**	**10.73**	**213**	*e*Pn	**Pn**	**20 44 18.7**	**-2.1**
HIZ	**Hauiti**	**11.09**	**220**	*e*Pn	**Pn**	**20 44 24.6**	**-0.9**
BFZ	**Birch Farm**	**12.07**	**209**	*e*Pn	**Pn**	**20 44 36.7**	**-2.1**
SNZO	**South Karori**	**13.26**	**212**	*e*Pn	**Pn**	**20 44 54.8**	**+0.4**
THZ	**Tophouse**	**14.47**	**215**	*e*Pn	**P**	**20 45 11.8**	**-2.2**
THZ				*e*Sn	**Sn**	**20 47 45.6**	**-4.0**
KHZ	**Kahutara**	**14.67**	**212**	*e*Pn	**Pn**	**20 45 12.5**	**-0.1**
OXZ	**Oxford**	**16.07**	**213**	*e*Pn	**Pn**	**20 45 29.2**	**-1.0**
	61nm,1.6s						
RPZ	**Rata Peaks**	**16.84**	**214**	P	**P**	**20 45 41.7**	**+1.6**
	0.4nm,0.3s,baz=360,slow=19,SNR=1.9						
RPZ				S	**Sn**	**20 48 39.8**	**-6.7**
	0.5nm,0.3s,baz=61,slow=10,SNR=2.6						
RAR	**Rarotonga**	**17.22**	**62**	*e*Pn	**P**	**20 45 41.9**	**-2.6**
	194nm,1.8s						
DZM	**Mont Dzumac**	**17.75**	**294**	LR	LR	20 51 22.5	
	comp=Z,121nm,18.0s,baz=90,slow=32						
DZM	**Mont Dzumac**	**17.75**	**294**	*e*P	**P**	**20 45 48.3**	**-2.1**
	98nm,1.8s						
ODZ	**Otahua Downs**	**18.03**	**212**	*e*P	**Pn**	**20 45 54.0**	**-0.1**
	106nm,1.8s						
MLZ	**Mavora Lakes**	**19.48**	**215**	*e*P	**Pn**	**20 46 11.0**	**-0.3**
	210nm,2.0s						
WHZ	**Wether Hill Ro**	**19.94**	**214**	*e*P	**Pn**	**20 46 16.8**	**+0.2**
	111nm,1.7s						
EIDS	**Eidsvold**	**29.44**	**272**	*e*P	**P**	**20 47 47.1**	**+2.6**
	60nm,1.9s						
CTA	**Charters Tower**	**35.48**	**278**	P	**P**	**20 48 36.6**	**-0.7**
	7.6nm,0.7s,baz=98,slow=13,SNR=7.1						
CTAO	**Charters Tower**	**35.48**	**278**	*e*P	**P**	**20 48 38.0**	**+0.7**
	8.4nm,0.8s						
STKA	**Stephens Creek**	**36.15**	**256**	P	**P**	**20 48 43.0**	**0.0**
	3.5nm,0.5s,baz=102,slow=9.9,SNR=11						
STKA	**Stephens Creek**	**36.15**	**256**	*e*P	**P**	**20 48 45.2**	**+2.2**
	1.0nm,0.6s						
BBOO	**Buckleboo**	**40.62**	**254**	*e*P	**P**	**20 49 22.9**	**+2.5**
	60nm,1.6s						
AS01	**Alice Springs**	**44.78**	**266**	*e*P	**P**	**20 49 54.0**	**-0.1**
AS31	**Alice Springs**	**44.82**	**266**	*e*P	**P**	**20 49 55.0**	**+0.6**
	3.8nm,1.8s						
ASAR	**Alice Springs**	**44.82**	**266**	P	**P**	**20 49 55.0**	**+0.5**
	0.8nm,0.4s,baz=106,slow=8.4,SNR=17						
WB2	**Warramunga Arr**	**45.79**	**271**	*e*P	**P**	**20 50 02.0**	**-0.1**
WRAB	**Tennant Creek**	**45.80**	**271**	*e*P	**P**	**20 50 02.0**	**-0.2**
	3.7nm,0.9s						
WRA	**Warramunga Arr**	**45.80**	**271**	P	**P**	**20 50 01.4**	**-0.9**
	2.3nm,0.5s,baz=108,slow=8.0,SNR=6.9						
FITZ	**Fitzroy Crossi**	**54.07**	**269**	P	**P**	**20 51 05.7**	**+0.9**
	1.3nm,0.6s,baz=122,slow=7.6,SNR=4.9						
FITZ	**Fitzroy Crossi**	**54.07**	**269**	*e*P	**P**	**20 51 06.1**	**+1.3**
	32nm,1.9s						
FINES	**FINESS Array B**	**145.66**	**341**	PKPbc	**PKPab**	**21 01 17.8**	**+0.7**
	2.1nm,0.7s,baz=54,slow=2.7,SNR=16						
AKASG	**Malin Array Be**	**152.28**	**324**	PKPbc	**PKiKP**	**21 01 35.9**	**+1.7**
	1.0nm,0.5s,baz=43,slow=2.4,SNR=5.5						
BRTR	**Keskin Array B**	**154.07**	**299**	PKPab	**PKPab**	**21 01 55.7**	**+3.3**
	0.4nm,0.7s,baz=48,slow=3.0,SNR=2.5						
TORD	**Torodi Ar. Bea**	**162.75**	**172**	PKPab	**PKPab**	**21 02 30.8**	**+0.7**
	0.6nm,1.1s,baz=238,slow=1.4,SNR=2.7						

*IDC **04** 20:44:05.8±0.9, 16°.25S×173°.39W, h0km, mb4.0/8, mb1 4.2/9, mb1mx3.9/38, mbtmp4.0/9, ML3.7/1, Error ellipse: s-maj=46.8km s-min=17.8km az=141.0*
*ISCJB **04** 20:44:07.7±0.4, 16°.37S±0°.07×173°.21W±0°.05, h32km, mb4.8/38, Error ellipse: s-maj=9.5km s-min=7.4km az=173.9*
*NEIC **04** 20:44:07.2±0.3, 16°.37S×173°.20W, h15km, mb5.0/33, Error ellipse: s-maj=7.5km s-min=6.0km az=171.0*
ISC 04 20:44:09.6±0.5**, 16°.49S**±0°.10×**173°.13W**±0°.07**, h32**km**, n52,** σ**1**§**20**/56**, mb4.9**/38**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.99**	**131**	*e*Pn	**Pn**	**20 45 09.3**	**+0.7**
NIUE				*e*Sn	**Sn**	**20 45 50.6**	**-3.6**
RAR	**Rarotonga**	**13.48**	**112**	*e*Pn	**Pn**	**20 47 19.3**	**+0.5**
MARNC	**Mare, Loyalty**	**18.49**	**252**	*e*P	**P**	**20 48 22.6**	**-0.6**
	101nm,0.9s						
DZM	**Mont Dzumac**	**20.06**	**251**	P	**P**	**20 48 40.1**	**-0.3**
	0.2nm,0.3s,baz=73,slow=19,SNR=2.2						
DZM	**Mont Dzumac**	**20.06**	**251**	*e*P	**P**	**20 48 40.9**	**+0.4**
	156nm,2.0s						
OUZ	**Omahuta**	**22.11**	**210**	*e*P	**P**	**20 49 03.7**	**+1.4**
	113nm,1.9s						
MXZ	**Matakaoa Point**	**22.31**	**198**	*e*P	**P**	**20 49 04.9**	**+0.5**
	222nm,1.6s						
PPT	**Papeete**	**22.54**	**96**	*e*P	**P**	**20 49 06.6**	**-0.5**
PPTF	**Pamatai, Papee**	**22.55**	**96**	*e*P	**P**	**20 49 06.7**	**-0.7**
	203nm,1.7s						
URZ	**Urewera**	**23.32**	**200**	P	**P**	**20 49 17.3**	**+2.3**
	3.1nm,0.3s,baz=304,slow=3.6,SNR=3.2						
URZ	**Urewera**	**23.32**	**200**	*e*P	**P**	**20 49 15.9**	**+1.0**
	82nm,1.9s						
HIZ	**Hauiti**	**24.34**	**203**	*e*P	**P**	**20 49 25.7**	**+1.1**
	154nm,1.5s						
BKZ	**Black Stump Fm**	**24.35**	**200**	*e*P	**P**	**20 49 26.3**	**+1.6**
	59nm,1.7s						
BFZ	**Birch Farm**	**25.80**	**199**	*e*P	**P**	**20 49 39.6**	**+1.8**
	93nm,1.9s						
THZ	**Tophouse**	**27.91**	**203**	*e*P	**P**	**20 49 59.0**	**+2.2**
	26nm,1.4s						
KHZ	**Kahutara**	**28.25**	**201**	*e*P	**P**	**20 50 01.2**	**+1.4**
	19nm,1.2s						
LTZ	**Lake Taylor**	**29.02**	**202**	*e*P	**P**	**20 50 08.7**	**+2.0**
	48nm,1.7s						
MQZ	**McQueen's Vall**	**29.69**	**201**	*e*P	**P**	**20 50 12.1**	**-0.5**
	25nm,1.2s						
RPZ	**Rata Peaks**	**30.28**	**203**	*e*P	**P**	**20 50 18.3**	**+0.5**
	54nm,1.8s						
FOZ	**Fox Glacier**	**30.61**	**205**	*e*P	**P**	**20 50 21.4**	**+0.8**
	48nm,1.6s						
MLZ	**Mavora Lakes**	**32.81**	**205**	*e*P	**P**	**20 50 37.8**	**-2.2**
	81nm,1.7s						
EIDS	**Eidsvold**	**34.49**	**249**	*e*P	**P**	**20 50 53.4**	**-1.6**
	6.3nm,0.9s						
ARMA	**Armidale**	**35.02**	**240**	*e*P	**P**	**20 50 59.6**	**+0.1**
	59nm,2.0s						
CTA	**Charters Tower**	**38.67**	**258**	P	**P**	**20 51 29.9**	**-0.7**
	4.4nm,0.8s,baz=69,slow=8.6,SNR=3.0						
CTAO	**Charters Tower**	**38.67**	**258**	*e*P	**P**	**20 51 29.1**	**-1.6**
	45nm,1.6s						
TOO	**Toolangi**	**41.99**	**232**	*e*P	**P**	**20 51 58.4**	**+0.4**
	33nm,1.7s						
COEN	**Coen**	**42.18**	**267**	*e*P	**P**	**20 51 59.1**	**-0.7**
	27nm,1.5s						
STKA	**Stephens Creek**	**43.73**	**241**	P	**P**	**20 52 11.9**	**-0.2**
	2.9nm,0.5s,baz=88,slow=12,SNR=5.3						
STKA	**Stephens Creek**	**43.73**	**241**	*e*P	**P**	**20 52 11.6**	**-0.5**
	1.9nm,1.1s						
MIDW	**Midway**	**44.63**	**355**	*e*P	**P**	**20 52 17.9**	**-1.2**
	77nm,0.8s						
BBOO	**Buckleboo**	**48.50**	**241**	*e*P	**P**	**20 52 49.5**	**-0.2**
	58nm,1.5s						
WC3	**Warramunga Arr**	**49.83**	**258**	*e*P	**P**	**20 52 59.0**	**-1.1**
	10nm,1.5s						
WB2	**Warramunga Arr**	**49.85**	**258**	*e*P	**P**	**20 52 59.1**	**-1.0**
WRAB	**Tennant Creek**	**49.85**	**258**	*e*P	**P**	**20 52 59.3**	**-0.9**
	10nm,1.5s						
WR1	**Warramunga Arr**	**49.86**	**258**	*e*P	**P**	**20 52 59.2**	**-1.0**
	5.8nm,1.3s						
WR1				*e*PcP	**PcP**	**20 54 20.5**	**-0.1**
WRA	**Warramunga Arr**	**49.86**	**258**	P	**P**	**20 52 59.2**	**-1.0**
	0.7nm,0.4s,baz=93,slow=6.7,SNR=17						
WRA				PcP	**PcP**	**20 54 20.5**	**-0.1**
	0.9nm,1.1s,baz=84,slow=4.5,SNR=2.8						
AS01	**Alice Springs**	**49.99**	**253**	*e*P	**P**	**20 53 00.3**	**-0.9**
AS31	**Alice Springs**	**50.03**	**253**	*e*P	**P**	**20 53 01.0**	**-0.6**
	1.8nm,0.7s						
ASAR	**Alice Springs**	**50.03**	**253**	P	**P**	**20 53 00.8**	**-0.7**
	4.3nm,0.5s,baz=89,slow=8.1,SNR=69						
ASAR				PcP	**PcP**	**20 54 22.3**	**+1.1**
	0.3nm,0.5s,baz=94,slow=5.6,SNR=2.8						
GUMO	**Guam**	**51.15**	**303**	*e*P	**P**	**20 53 08.2**	**-1.7**
	291nm,1.3s						
FORT	**Forrest**	**55.17**	**244**	*e*P	**P**	**20 53 38.7**	**-0.7**
	14nm,0.8s						
FITZ	**Fitzroy Crossi**	**58.25**	**259**	*e*P	**P**	**20 54 02.1**	**+0.6**
	8.2nm,1.3s						
SOEI	**Soe**	**61.15**	**268**	*e*P	**P**	**20 54 23.4**	**+1.7**
	14nm,0.8s						
MBWA	**Marble Bar**	**63.31**	**254**	*e*P	**P**	**20 54 35.8**	**-0.2**
	35nm,1.4s						
CASY	**Casey**	**69.53**	**205**	*e*P	**P**	**20 55 16.4**	**+1.5**
	38nm,1.9s						
NVAR	**Mina Array Bea**	**74.96**	**42**	P	**P**	**20 55 49.9**	**+1.8**
	0.2nm,0.4s,baz=216,slow=7.5,SNR=2.3						
PDAR	**Pinedale Array**	**82.90**	**42**	P	**P**	**20 56 31.7**	**+0.2**
	0.2nm,0.7s,baz=200,slow=2.4,SNR=2.4						
ILAR	**Eielson Array**	**83.46**	**11**	P	**P**	**20 56 34.1**	**+0.6**
	0.3nm,0.5s,baz=219,slow=5.4,SNR=6.3						
V48A	**Smith Brothers**	**96.53**	**55**	*e*P	**P**	**20 57 36.8**	**+0.5**
	14nm,0.8s						
CLL	**Collm**	**144.92**	**353**	*e*PKPdf	**PKPdf**	**21 03 44.0**	**+0.6**
BR101	**Keskin Array S**	**147.16**	**320**	*e*PKPbc	**PKPbc**	**21 03 50.2**	**+0.2**
BRTR	**Keskin Array B**	**147.16**	**320**	PKPbc	**PKPbc**	**21 03 50.3**	**+0.2**
	1.8nm,0.8s,baz=123,slow=2.3,SNR=9.6						

IDC 04 20:55:10.1±11.0**, 13°.66S**×**65°.76E, h0**km**, mb3.7**/5**, mb1 3.8**/5**, mb1mx3.5**/38**, mbtmp3.7**/5**, MS3.3**/3**, Ms1 3.4**/3**, ms1mx2.9**/32**, Error ellipse: s-maj=380.0km s-min=32.8km az=61.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**8.90**	**49**	T	T	21 05 12.0	
	baz=226,slow=75,SNR=255						
H08N3	**Diego Garcia H**	**8.91**	**36**	T	T	21 05 12.2	
	baz=211,slow=75,SNR=2208						
H08S2	**Diego Garcia H**	**8.91**	**49**	T	T	21 05 13.9	
	baz=226,slow=75,SNR=436						
H08S3	**Diego Garcia H**	**8.92**	**48**	T	T	21 05 16.0	
	baz=226,slow=75,SNR=547						
H08N1	**Diego Carcia H**	**8.92**	**36**	T	T	21 05 13.3	
	baz=211,slow=75,SNR=1818						
H08N2	**Diego Garcia H**	**8.93**	**36**	T	T	21 05 13.8	
	baz=211,slow=75,SNR=1963						
OPO	**Ambohidratompo**	**18.49**	**252**	LR	LR	21 04 48.7	
	comp=Z,227nm,20.4s,baz=9.5,slow=31						
CMAR	**Chiang Mai Arr**	**45.70**	**47**	LR	LR	21 23 02.4	
	comp=Z,19nm,18.1s,baz=190,slow=37						
MKAR	**Makanchi Array**	**61.98**	**13**	P	P	21 05 31.4	-0.5
	0.5nm,0.9s,baz=193,slow=5.8,SNR=4.0						
ASAR	**Alice Springs**	**64.82**	**110**	P	P	21 05 50.8	-0.6
	0.4nm,0.9s,baz=278,slow=5.1,SNR=4.2						
WRA	**Warramunga Arr**	**65.58**	**106**	P	P	21 05 56.8	+0.5
	1.0nm,0.9s,baz=273,slow=5.6,SNR=5.2						
ZALV	**Zalesovo Beam**	**69.28**	**12**	P	P	21 06 19.2	+0.3
	1.2nm,0.7s,baz=210,slow=4.6,SNR=5.3						
SONM	**Songino Array**	**71.12**	**28**	P	P	21 06 30.8	+0.3
	0.7nm,0.8s,baz=221,slow=6.0,SNR=5.9						
KSRS	**Korea Array**	**77.34**	**46**	LR	LR	21 43 34.0	
	comp=Z,12nm,18.2s,baz=200,slow=38						

*ISCJB **04** 20:58:14.5±0.3, 37°.22N±0°.03×54°.42E±0°.03, h10km, Error ellipse: s-maj=4.6km s-min=3.0km az=31.5*
*THR **04** 20:58:14.8, 37°.06N×54°.44E, h18km, ML3.2*
*TEH **04** 20:58:15.3, 37°.09N×54°.47E, h15km, ML3.5*
*AZER **04** 20:58:20.8±1.5, 36°.82N×53°.80E, h19km±27km, ml3.8/5, Error ellipse: s-maj=27.4km s-min=17.8km az=124.0*
ISC 04 20:58:15.3±0.8**, 37°.10N**±0°.05×**54°.42E**±0°.04**, h10**km**, n46,** σ**1**§**60**/57**, 7C-6D, Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**1.44**	**67**	*e*Pg	**Pn**	**20 58 41.4**	**-0.1**
MRVT	**Maraveh tapeh**	**1.44**	**67**	*e*AML	AML	20 59 03.0	
	comp=N,339nm,0.2s						
MRVT	**Maraveh tapeh**	**1.44**	**67**	*e*Pg	**Pn**	**20 58 41.4**	**-0.1**
MRVT				*e*Sg	**Sg**	**20 59 00.9**	**-0.8**
ISHM	**Shahmirzad**	**1.58**	**215**	*e*Pn	**Pb**	**20 58 45.4**	**+0.6**
ISHM				IAMB	IAmb	20 59 13.3	
	comp=Z,10μm,0.4s						
IALA	**Alasht**	**1.65**	**232**	*e*Pn	**Pb**	**20 58 46.4**	**+0.5**
IALA				IAMB	IAmb	20 59 12.8	
	comp=Z,37μm,0.3s						
IANJ	**Anjilo**	**1.68**	**194**	*e*Pn	**Pb**	**20 58 46.6**	**+0.1**
IANJ				IAMB	IAmb	20 59 12.2	
	comp=Z,5μm,0.2s						

SHRO	Shahrood	1.70	130	ePn	Pn	20 58 45.0	-0.1
SHRO	Shahrood	1.70	130	ePn	Pn	20 58 45.0	-0.1
SHRO				eSg	Sb	20 59 07.0	-1.1
IPRN	Peran	1.88	243	ePn	Pn	20 58 48.6	+1.0
IPRN				IAMB	IAmb	20 59 18.9	
	comp=Z,17μm,0.2s						
IFIR	Firoozkooh	1.98	223	ePn	Pb	20 58 51.1	-0.5
IFIR				IAMB	IAmb	20 59 22.1	
	comp=Z,9μm,0.3s						
ILAS	Lasjerd	2.08	215	ePn	Pb	20 58 52.5	-0.8
ILAS				IAMB	IAmb	20 59 29.0	
	comp=Z,3μm,0.4s						
BJRD	Bojnurd	2.45	75	ePn	Pn	20 58 55.8	+0.3
BJRD	Bojnurd	2.45	75	ePn	Pn	20 58 55.8	+0.3
IDMV	Damavand	2.46	232	ePn	Pb	20 58 58.8	-0.9
IDMV				IAMB	IAmb	20 59 38.3	
	comp=Z,3μm,0.4s						
SBZV	Sabzevar	2.66	105	ePn	Pn	20 58 58.8	+0.4
SBZV				IAMB	IAmb	20 59 06.3	
	comp=Z,0.0nm,0.3s						
ISFR	Sfrayin	2.87	90	ePn	Pn	20 59 03.0	+1.7
ISFR				IAMB	IAmb	20 59 54.7	
	comp=Z,1μm,0.4s						
IKRD	Kardeh	3.30	94	ePn	Pg	20 59 19.8	+1.3
IKRD				IAMB	IAmb	21 00 39.6	
	comp=N,192nm,0.4s						
IEMG	Emamgholi	3.39	83	IAMB	IAmb	20 59 23.2	
	comp=Z,356nm,0.3s						
IEMG				ePn	Pn	20 59 09.6	+1.1
TNSJ	Nastanj	3.61	150	ePn	Pn	20 59 11.9	+0.6
TNSJ				IAMB	IAmb	21 00 08.8	
	comp=Z,0.0nm,0.7s						
KRSH	Karshahi	3.64	211	ePn	Pn	20 59 13.2	+1.4
KRSH				IAMB	IAmb	21 00 23.9	
	comp=Z,0.0nm,0.4s						
GHVR	GHOM	3.65	225	eAML	AML	21 00 14.9	
	comp=E,47nm,0.5s						
GHVR				eAML	AML	21 00 18.7	
	comp=N,38nm,0.5s						
ANAR	Anarak	3.95	188	ePn	Pn	20 59 16.5	+0.5
IRAZ	Razeghan	4.00	246	ePn	Pn	20 59 20.2	+3.3
IRAZ				IAMB	IAmb	21 00 34.1	
	comp=Z,372nm,0.4s						
TABS	Tabas	4.09	147	ePn	Pn	20 59 18.2	+0.2
TABS	Tabas	4.09	147	ePn	Pn	20 59 18.2	+0.2
TKDS	Koohdasht(Taba	4.12	147	ePn	Pn	20 59 18.7	+0.2
TKDS				IAMB	IAmb	21 00 32.8	
	comp=Z,0.0nm,1.0s						
IKLH	Kolahrood	4.43	212	ePn	Pn	20 59 24.0	+1.2
IKLH				IAMB	IAmb	21 00 48.9	
	comp=Z,269nm,0.6s						
IZEF	Zefreh	4.54	203	ePn	Pn	20 59 24.7	+0.5
IZEF				IAMB	IAmb	21 00 52.1	
	comp=Z,166nm,0.4s						
IMYA	Miami	4.63	98	ePn	Pn	20 59 27.3	+1.9
IMYA				IAMB	IAmb	20 59 35.2	
	comp=Z,103nm,0.2s						
ASTR	Astara	4.69	290	P	Pn	20 59 26.0	0.0
	SNR=6.9						
ASTR				⇑S	Sn	21 00 16.0	-4.5
LKRN	Lenkeran, Azer	4.74	291	P	Pn	20 59 26.8	0.0
	SNR=8.6						
LKRN				⇓S	Sn	21 00 17.3	-4.4
LRK	Lerik	5.05	290	P	Pn	20 59 31.1	0.0
	SNR=16						
LRK				⇓S	Sn	21 00 24.9	-4.8
GLBA	Clilabad	5.21	296	P	Pn	20 59 32.9	-0.3
	SNR=9.6						
GLBA				⇑S	Sn	21 00 30.8	-2.4
ISAD	Sadrabad	5.21	187	ePn	Pn	20 59 34.3	+0.7
ISAD				IAMB	IAmb	20 59 36.2	
	comp=Z,194nm,0.2s						
ISRB	Sarab	5.42	280	ePn	Pn	20 59 37.4	+1.1
ISRB				IAMB	IAmb	20 59 38.7	
	comp=Z,396nm,0.2s						
GBS	Qobustan	5.48	310	P	Pn	20 59 39.8	+2.8
	SNR=4.7						
GBS				⇓S	Sn	21 00 41.1	+1.0
ITEG	Tejag	5.50	138	ePn	Pn	20 59 38.1	+0.7
ITEG				IAMB	IAmb	20 59 44.7	
	comp=Z,812nm,0.3s						
IRAM	Ramesheh	5.54	198	ePn	Pn	20 59 40.2	+2.1
IRAM				IAMB	IAmb	21 00 09.5	
	comp=N,59nm,0.4s						
PQL	Pirkuli	5.84	311	P	Pn	20 59 43.7	+1.6
	SNR=7.2						
PQL				⇓S	Sn	21 00 50.4	+1.2
IHRS	Heris	5.97	284	ePn	Pn	20 59 45.1	+1.2
IHRS				IAMB	IAmb	20 59 45.8	
	comp=Z,265nm,0.2s						
XNQ	Khinaliq	6.35	312	⇑P	Pn	20 59 50.5	+1.4
	SNR=9.3						
XNQ				⇑S	Sn	21 01 01.5	-0.3
QBL	Gabala	6.40	309	⇑P	Pn	20 59 50.7	+1.1
	SNR=4.4						
QBL				⇑S	Sn	21 01 01.4	-1.4
SEKA	Sheki	6.95	308	P	Pn	20 59 58.0	+0.8
	SNR=5.0						
SEKA				⇑S	Sn	21 01 14.7	-1.6
IMRD	Marand	7.08	286	ePn	Pn	21 00 01.3	+2.3
IMRD				IAMB	IAmb	21 00 12.7	
	comp=Z,126nm,0.3s						
ZKTA	Zakatala	7.55	309	P	Pn	21 00 06.8	+1.5
	SNR=6.9						
ZKTA				⇓S	Sn	21 01 31.1	+0.2
GDB	GEDABAY	7.66	301	P	Pn	21 00 07.1	+0.1
	SNR=17						
GDB				⇓S	Sn	21 01 32.5	-1.4

IDC 04 21:06:08.9±6.4**, 17°.92S**×**178°.46W, h580**km±72km**, mb3.3**/6**, mb1 3.5**/6**, mb1mx3.0**/37**, mbtmp4.2**/6**, Error ellipse: s-maj=52.9km s-min=24.4km az=136.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.58	241	P	P	21 12 44.0	+0.8
	3.5nm,0.6s,baz=82,slow=7.1,SNR=10						
WRA	Warramunga Arr	44.59	260	P	P	21 13 29.8	-0.9
	0.9nm,0.5s,baz=92,slow=6.9,SNR=44						
WRA				PcP	PcP	21 15 01.6	+0.7
	0.5nm,0.9s,baz=94,slow=3.4,SNR=3.0						
ASAR	Alice Springs	44.74	254	P	P	21 13 31.6	-0.2
	12nm,0.5s,baz=88,slow=8.2,SNR=265						
ASAR				PcP	PcP	21 15 01.0	-0.5
	0.3nm,0.5s,baz=105,slow=4.5,SNR=3.3						
NVAR	Mina Array Bea	79.46	44	P	P	21 17 16.3	0.0
	0.4nm,0.7s,baz=225,slow=6.2,SNR=3.0						
MAW	Mawson	83.83	200	P	P	21 17 37.0	-0.7
	3.9nm,0.3s,baz=91,slow=15,SNR=12						
ILAR	Eielson Array	85.91	13	P	P	21 17 47.6	0.0
	0.2nm,0.4s,baz=217,slow=5.1,SNR=6.0						

*ISCJB **04** 21:12:20.4±0.6, 45°.12N±0°.05×106°.88W±0°.06, h0km, Error ellipse: s-maj=7.3km s-min=5.5km az=149.9*
*IDC **04** 21:12:20.0±1.3, 44°.79N×106°.65W, h0km, mb1 3.5/2, mb1mx3.2/37, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=63.2km s-min=9.1km az=138.0*
*NEIC **04** 21:12:20.8±0.8, 45°.12N×106°.85W, h0km, MN2.8, Error ellipse: s-maj=14.1km s-min=9.4km az=146.0, Suspected Mining explosion.*
NEIC 37 km [23 miles] NNE of Sheridan.
ISC 04 21:12:18.4±0.9**, 44°.95N**±0°.05×**106°.86W**±0°.03**, h0**km**, n10, σ1s.06**/16**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RLMT	Red Lodge	1.71	276	ePn	Pb	21 12 50.6	-0.2
RLMT				eS	Sg	21 13 13.7	+0.3
LAO	LASA Array	1.79	14	ePn	Pn	21 12 50.4	-0.2
LAO				eS	Sn	21 13 12.9	-1.2
RSSD	Black Hills	2.19	111	ePn	Pb	21 12 59.0	+0.1
RSSD				eS	Sg	21 13 29.0	+0.5
LKWY	Lake	2.55	262	ePn	Pb	21 13 04.8	-0.3
LKWY				eS	Sn	21 13 30.8	-2.3
BW06	Boulder Array	2.93	223	ePn	Pn	21 13 06.9	+0.5
BW06				eS	Sb	21 13 48.9	+0.8
PDAR	Pinedale Array	2.93	223	Pn	Pb	21 13 10.8	-0.9
	1.9nm,0.3s,baz=50,slow=17,SNR=29						
PDAR				Lg	Lg	21 13 51.1	
	3.5nm,0.3s,baz=51,slow=29,SNR=22						
BOZ	Bozeman (W)	3.43	282	ePn	Pb	21 13 20.4	+0.4
BOZ				eS	Sb	21 14 04.4	+2.1
DGMT	Dagmar	3.97	27	ePn	Pn	21 13 21.4	+0.9
DGMT				eS	Sb	21 14 17.4	-0.2
I10CA	LAC DU BONNET	9.01	50	i		22 04 30.0	
	baz=235,slow=337,SNR=0.9						
ULM	Lac du Bonnet	9.12	51	Pn	Pn	21 14 31.0	-0.1
	0.3nm,0.3s,baz=236,slow=14,SNR=4.5						
ULM				Lg	Lg	21 16 59.2	
	0.1nm,0.3s,baz=193,slow=15,SNR=3.8						

*ISCJB **04** 21:20:12.6±0.9, 5°.88S±0°.07×131°.17E±0°.09, h100km, mb3.5/1, Error ellipse: s-maj=13.0km s-min=9.6km az=180.0*
*IDC **04** 21:20:13.2±2.7, 5°.84S×131°.30E, h81km±28km, mb3.4/1, mb1 3.7/5, mb1mx3.4/27, mbtmp3.9/5, Error ellipse: s-maj=49.2km s-min=21.6km az=90.0*
ISC 04 21:20:12.1±1.0**, 5°.86S**±0°.06×**131°.4E**±0°.1**, h100**km**, n6, σ3s.82**/10**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	4.96	359	P	Pn	21 21 25.1	+0.8
	5.3nm,0.3s,baz=218,slow=18,SNR=31						
SIJI				S	Sn	21 22 14.5	-6.0
	5.7nm,0.3s,baz=254,slow=24,SNR=10						
BATI	Baumata	8.76	240	P	Pn	21 22 17.4	+1.4
	1.6nm,0.3s,baz=101,slow=19,SNR=2.1						
BATI				S	Sn	21 23 50.6	-2.5
	1.1nm,0.3s,baz=102,slow=17,SNR=2.0						
FITZ	Fitzroy Crossi	13.38	204	P	Pn	21 23 17.9	-0.2
	0.7nm,0.3s,baz=26,slow=12,SNR=37						
FITZ				S	Sn	21 25 36.8	-8.7
	0.7nm,0.3s,baz=300,slow=22,SNR=7.0						
WRA	Warramunga Arr	14.29	169	P	Pn	21 23 32.1	+2.2
	0.5nm,0.3s,baz=351,slow=14,SNR=26						
WRA				S	Sn	21 26 04.3	-3.2
	0.7nm,0.3s,baz=354,slow=23,SNR=8.8						
ASAR	Alice Springs	17.87	172	P	Pn	21 24 17.5	+3.1
	0.5nm,0.3s,baz=353,slow=11,SNR=23						
ASAR				S	Sn	21 27 28.9	-5.0
	0.1nm,0.3s,baz=352,slow=26,SNR=4.2						
MKAR	Makanchi Array	68.03	326	P	P	21 31 03.7	+2.9
	0.4nm,0.5s,baz=125,slow=7.5,SNR=10						

*ISCJB **04** 22:10:37.4±0.4, 13°.09S±0°.08×66°.72E±0°.07, h10km, mb4.1/25, MS4.0/16, Error ellipse: s-maj=12.2km s-min=9.9km az=165.8*
*IDC **04** 22:10:37.6±0.8, 13°.05S×66°.64E, h0km, mb4.0/14, mb1 4.1/14, mb1mx4.0/52, mbtmp4.0/14, MS3.9/17, Ms1 3.9/17, ms1mx3.6/43, Error ellipse: s-maj=24.5km s-min=20.0km az=16.0*
*NEIC **04** 22:10:39.1±0.4, 13°.14S×66°.70E, h10km, mb4.2/10, Error ellipse: s-maj=11.1km s-min=9.1km az=166.0*
ISC 04 22:10:39.4±0.6**, 13°.1S**±0°.1×**66°.74E**±0°.10**, h10**km**, n66, σ1s.18**/46**, mb4.2**/25**, MS3.9**/16**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	7.84	47	T	T	22 20 36.6	
	baz=226,slow=75,SNR=787						
H08S2	Diego Garcia H	7.86	47	T	T	22 20 37.6	
	baz=226,slow=75,SNR=1597						
H08S3	Diego Garcia H	7.86	47	T	T	22 20 37.9	
	baz=226,slow=75,SNR=2268						
H08N3	Diego Garcia H	7.94	32	T	T	22 20 38.2	
	baz=211,slow=75						
H08N1	Diego Carcia H	7.95	32	T	T	22 20 35.8	
	baz=211,slow=75						
H08N2	Diego Garcia H	7.96	32	T	T	22 20 40.1	
	baz=211,slow=75						
DGAR	Diego Garcia	7.99	45	ePn	Pn	22 12 37.9	+2.2
OPO	Ambohidratompo	19.56	251	LR	LR	22 21 02.0	
	comp=Z,702nm,20.6s,baz=88,slow=32						
ABPO	Ambohimpanom	19.63	250	eP	Pn	22 15 13.1	+3.2
	0.3nm,0.3s						
KMBO	Kilima Mbogo	31.54	290	LR	LR	22 27 32.0	
	comp=Z,212nm,20.2s,baz=100,slow=32						
KMBO	Kilima Mbogo	31.54	290	eP	P	22 17 04.2	+1.7
	2.6nm,1.1s						
LSZ	Lusaka	37.40	262	eP	P	22 17 54.1	+0.9
	5.7nm,1.0s						
LBTB	Lobatse	40.49	247	P	P	22 18 18.5	-0.4
	8.9nm,1.1s,baz=103,slow=9.2,SNR=4.0						
LBTB				LR	LR	22 33 26.4	
	comp=Z,594nm,18.0s,baz=63,slow=34						
LEM	Lembang	40.70	85	LR	LR	22 32 55.9	
	comp=Z,182nm,18.8s,baz=214,slow=33						
BOSA	Boshof	41.48	242	LR	LR	22 33 10.6	
	comp=Z,332nm,19.1s,baz=41,slow=33						
BRDH	Bariadhala	43.15	35	LR	LR	22 35 49.3	
	comp=Z,487nm,19.8s,baz=222,slow=35						
CMAR	Chiang Mai Arr	44.65	46	P	P	22 18 52.7	+0.1
	0.9nm,0.3s,baz=240,slow=8.7,SNR=6.7						
CMAR				LR	LR	22 35 22.7	
	comp=Z,230nm,20.6s,baz=218,slow=33						
KBL	Kabul	47.45	3	eP	P	22 19 15.9	+1.2
	2.9nm,0.9s						
H01W3	Cape Leeuwin H	47.89	125	T	T	23 10 28.9	
	baz=285,slow=75,SNR=18						
H01W2	Cape Leeuwin H	47.89	125	T	T	23 10 32.6	
	baz=285,slow=75,SNR=21						
H01W1	Cape Leeuwin H	47.90	125	T	T	23 10 30.5	
	baz=285,slow=75,SNR=18						
GEYT	Alibeck	51.42	351	P	P	22 19 43.8	-1.0
	1.5nm,0.8s,baz=186,slow=10,SNR=3.9						
GEYT				LR	LR	22 38 35.4	
	comp=Z,48nm,20.6s,baz=215,slow=33						
MAW	Mawson	54.49	182	LR	LR	22 38 01.9	
	comp=Z,106nm,19.9s,baz=330,slow=30						
BATI	Baumata	55.73	93	LR	LR	22 39 26.5	
	comp=Z,92nm,20.5s,baz=268,slow=31						
AAK	Ala-Archa	55.94	7	eP	P	22 20 18.8	+0.9
	2.1nm,1.0s						
BRTR	Keskin Array B	60.94	331	P	P	22 20 52.9	0.0
	0.7nm,0.9s,baz=329,slow=4.6,SNR=5.1						
BR101	Keskin Array S	60.94	331	eP	P	22 20 52.9	0.0
MAKZ	Makanchi	61.21	12	eP	P	22 20 54.5	+0.1
	2.2nm,1.1s						
MK01	Makanchi Array	61.24	12	eP	P	22 20 54.2	-0.4
MK31	Makanchi Array	61.26	12	eP	P	22 20 54.6	-0.2
MK32	Makanchi Array	61.26	12	eP	P	22 20 52.4	-2.4
MKAR	Makanchi Array	61.26	12	P	P	22 20 52.4	-2.4
	2.3nm,1.1s,baz=216,slow=6.7,SNR=10						
ABKAR	Akbulak array	62.40	355	eP	P	22 21 02.4	0.0
ASAR	Alice Springs	64.11	110	P	P	22 21 14.3	-0.1
	1.6nm,1.0s,baz=264,slow=6.2,SNR=9.1						
AS01	Alice Springs	64.15	110	eP	P	22 21 13.2	-1.5
KURBB	Kurchatov Arra	64.31	8	P	P	22 21 13.2	-1.8
	1.3nm,0.9s,baz=202,slow=7.2,SNR=8.6						
KURK	Kurchatov	64.41	8	P	P	22 21 13.2	-2.5
WR1	Warramunga Arr	64.80	106	eP	P	22 21 19.5	+0.5
	5.7nm,1.1s						
WRA	Warramunga Arr	64.80	106	P	P	22 21 19.5	+0.5
	4.3nm,1.1s,baz=273,slow=5.9,SNR=13						
WB2	Warramunga Arr	64.81	106	eP	P	22 21 18.7	-0.4
ZAA0	Zalesovo Array	68.57	11	eP	P	22 21 42.2	+0.1
	3.8nm,0.9s						
ZALV	Zalesovo Beam	68.57	11	P	P	22 21 42.0	-0.2
	2.1nm,0.8s,baz=212,slow=5.6,SNR=12						
ZALV				LR	LR	22 51 26.1	
	comp=Z,57nm,18.6s,baz=252,slow=36						
ZAA1	Zalesovo Array	68.57	11	eP	P	22 21 42.0	-0.2
TORD	Torodi Ar. Bea	69.55	290	P	P	22 21 47.7	-1.4
	0.6nm,1.0s,baz=92,slow=6.1,SNR=4.7						
TORD				LR	LR	22 49 04.8	
	comp=Z,68nm,21.5s,baz=175,slow=33						
TOA1	Torodi Ar. Sit	69.55	290	eP	P	22 21 47.7	-1.5
SONA0	Songino Array	70.21	27	eP	P	22 21 53.7	+1.0
SONM	Songino Array	70.21	27	P	P	22 21 53.7	+1.0
	1.9nm,0.9s,baz=215,slow=7.1,SNR=12						
SONA1	Songino Array	70.22	27	eP	P	22 21 53.1	+0.3
ULN	Ulaanbaatar	70.53	28	eP	P	22 21 55.2	+0.6
	1.0nm,1.0s						
AKASG	Malin Array Be	71.50	336	P	P	22 21 58.6	-1.6
	0.2nm,0.3s,baz=131,slow=4.9,SNR=6.9						
JOW	Kunigami	71.73	56	LR	LR	22 53 12.2	
	comp=Z,103nm,19.4s,baz=358,slow=36						
DBIC	Dimbokro	73.77	281	LR	LR	22 51 43.0	
	comp=Z,56nm,21.7s,baz=114,slow=34						
DBIC	Dimbokro	73.77	281	eP	P	22 22 13.7	-0.8
	1.8nm,1.1s						
KS15	Wonju Array Si	76.26	46	eP	P	22 22 27.8	-0.7
KSAR	Wonju Array Be	76.26	46	P	P	22 22 29.1	+0.6
KSRS	Korea Array	76.29	46	P	P	22 22 29.1	+0.4
	5.5nm,1.2s,baz=261,slow=5.7,SNR=4.3						
KSRS				LR	LR	22 57 44.8	
	comp=Z,97nm,18.1s,baz=239,slow=37						
QSPA	South Pole Qui	76.94	180	eP	P	22 22 32.0	-0.1
	2.0nm,1.0s						
USRK	Ussuriysk Ar.	82.15	41	LR	LR	22 59 33.5	
	comp=Z,40nm,21.5s,baz=261,slow=36						
MJAR	Matsushiro Arr	83.36	50	LR	LR	23 00 56.9	
	comp=Z,22nm,19.1s,baz=260,slow=36						
ES19	SONSECA Array	83.94	313	eP	P	22 23 09.9	-0.1
ESDC	Sonseca Array	83.97	313	P	P	22 23 09.4	-0.8
	0.5nm,0.7s,baz=110,slow=4.6,SNR=5.6						
TIXI	Tiksi	94.00	16	P	P	22 23 57.2	0.0
	0.7nm,0.6s,baz=243,slow=10.0,SNR=2.7						
ILAR	Eielson Array	123.47	17	PKP	PKPdf	22 29 35.5	-1.1
	0.3nm,0.9s,baz=321,slow=2.6,SNR=3.2						
YKA	Yellowknife Ar	130.70	1	PKP	PKPdf	22 29 49.9	-0.6
	0.2nm,0.6s,baz=343,slow=2.0,SNR=5.2						
YKB5	Yellowknife Ar	130.70	1	ePKPdf	PKPdf	22 29 49.9	-0.5
PDAR	Pinedale Array	150.29	354	PKPbc	PKPbc	22 30 31.6	0.0
	2.2nm,0.8s,baz=129,slow=2.1,SNR=3.7						

*NIED **04** 22:14:00, 37°.40N×141°.90E, h32km, Mw3.4 Best double couple: M0 1.32000×10^14 NP1:φs322.00000°, δ50.00000°, λ158.00000°. NP2:φs67.00000°, δ74.00000°, λ42.00000°.*
JMA 04 22:14:59.7±0.2**, 37°.40N**×**141°.89E, h37**km±3km**, M3.7, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFK	Kawauchi	0.81	268	P	Pn	22 15 14.8	+0.2
JFK				S	Sn	22 15 24.8	-0.7
ONAJ	Iwakimizuishiy	0.92	251	P	Pn	22 15 16.2	+0.1
ONAJ				S	Sn	22 15 27.5	-0.7
JIKH	Ishinomakikobu	0.97	340	P	Pn	22 15 16.9	+0.2
JIKH				S	Sn	22 15 28.7	-0.6
JMM	Marumori	0.99	298	P	Pn	22 15 17.5	+0.5
JMM				eS	Sn	22 15 29.8	+0.1
JIO	Ouri	1.14	338	P	Pn	22 15 19.6	+0.6
JIO				S	Sn	22 15 33.0	-0.3
JFT	Otama	1.24	276	P	Pn	22 15 21.9	+1.4
JFT				S	Sn	22 15 37.3	+1.3
JOU	Okura	1.37	315	P	Pn	22 15 23.6	+1.4
JOU				eS	Sn	22 15 40.8	+1.7
JMK	Ichinoseki	1.64	341	P	Pn	22 15 27.3	+1.4
JMK				eS	Sn	22 15 47.0	+1.3
JYS	Shirataka	1.66	300	P	Pn	22 15 28.2	+1.9
JYS				S	Sn	22 15 49.8	+3.5
JFY	Yanaizu	1.74	271	P	Pn	22 15 29.1	+1.7
JFY				eS	Sn	22 15 51.0	+2.7
JYK	Kaneyama	1.94	322	P	Pn	22 15 31.8	+1.8
JYK				eS	Sn	22 15 55.8	+2.7

*MOS **04** 22:23:54.3±1.1, 55°.29N×109°.21E, h11km, mb4.2/14, Error ellipse: s-maj=9.0km s-min=5.9km az=75.7*
*BYKL **04** 22:23:56.1±0.2, 55°.25N×109°.18E*
*IDC **04** 22:23:57.3±0.6, 55°.24N×109°.24E, h20km±4km, mb3.7/16, mb1 3.9/22, mb1mx3.8/57, mbtmp3.8/22, ML3.3/6, MS3.2/7, Ms1 3.2/7, ms1mx3.0/40, Error ellipse: s-maj=13.7km s-min=12.1km az=166.0*
ISC 04 22:23:56.7±0.6**, 55°.26N**±0°.02×**109°.25E**±0°.02**, h16**km±4km**, n96, σ2s.31**/161**, mb3.9**/21**, MS3.3**/3**, 10C-15D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIZ	Nizh Angarsk	0.55	18	Pmax		22 24 09.5	
	1μm,0.3s						
NIZ				eSg	Sb	22 24 14.6	-0.8
NIZ				Smax		22 24 16.6	
	8μm,0.5s						
NIZ	Nizh Angarsk	0.55	18	⇑iPG	Pb	22 24 07.1	-0.8
NIZ				e		22 24 14.7	
NIZ				pmax	pmax		
	comp=Z,1μm,0.3s						
NIZ				smax	smax		
	comp=N,2μm,0.3s						
YLYR	Ulyunkhan	1.16	108	⇓iPg	Pn	22 24 17.6	-0.7
	comp=N,998nm,0.6s						
YLYR				⇑iPg	Pn	22 24 17.6	-0.7
	comp=N,3μm,0.6s						
YLYR				⇑iPg	Pn	22 24 17.6	-0.7
	comp=N,3μm,0.6s						
YLYR				Pmax		22 24 18.0	
	comp=N,3μm,0.6s						
YLYR				eSg	Sb	22 24 33.0	-0.2
YLYR				eSb	Sg	22 24 36.0	+1.7
YLYR				max		22 24 37.2	
	comp=N,15μm,0.5s						
YLYR	Ulyunkhan	1.16	108	⇑iPG	Pn	22 24 17.6	-0.7
YLYR				e		22 24 32.4	
YLYR				pmax	pmax		
	comp=Z,3μm,0.4s						
YLYR				smax	smax		
	comp=N,7μm,0.4s						
KMO	Kumora	1.27	60	⇑iPg	Pn	22 24 19.8	0.0
	comp=N,56nm,0.3s						
KMO				⇑iPg	Pn	22 24 19.8	0.0
	comp=N,149nm,0.3s						
KMO				⇑iPg	Pn	22 24 19.8	0.0
	comp=N,1μm,0.3s						
KMO				ePb	Pg	22 24 21.7	+0.4
KMO				max		22 24 22.1	
	comp=N,3μm,0.4s						
KMO				eSg	Sb	22 24 37.6	+1.2
KMO				eSb	Sg	22 24 40.5	+2.6
KMO				max		22 24 46.3	
	comp=N,7μm,0.4s						
KMO	Kumora	1.27	60	⇑iPG	Pn	22 24 19.8	0.0
KMO				e		22 24 36.9	
KMO				pmax	pmax		
	comp=Z,3μm,0.4s						
KMO				smax	smax		
	comp=N,7μm,0.6s						
YOA	Uoyan	1.65	57	⇑iPg	Pb	22 24 26.6	-0.1
YOA				Pmax		22 24 28.3	
	comp=N,5μm,0.5s						
YOA				e		22 24 33.8	
YOA				eSg	Sb	22 24 49.2	+1.9
YOA				e		22 24 52.9	
YOA				max		22 24 56.8	
	comp=N,37μm,1.1s						
YOA	Uoyan	1.65	57	⇑iPN	Pb	22 24 27.0	+0.3
YOA				e		22 24 50.7	
YOA				pmax	pmax		
	comp=Z,5μm,0.5s						
YOA				smax	smax		
	comp=N,33μm,0.7s						
SYVR	Suvo	1.66	164	⇓iPg	Pn	22 24 26.0	+0.9
SYVR				Pmax		22 24 26.8	
	comp=N,2μm,0.5s						
SYVR				i Sg	Sg	22 24 48.9	-1.2
SYVR				Smax		22 24 51.2	
	comp=N,10μm,0.7s						
SYVR	Suvo	1.66	164	⇓iPN	Pn	22 24 26.0	+0.9
SYVR				e		22 24 48.4	
SYVR				pmax	pmax		
	comp=Z,2μm,0.6s						
SYVR				smax	smax		
	comp=N,11μm,0.5s						
OGRR	Ongureny	1.88	212	⇓iPg	Pb	22 24 29.6	-1.1
OGRR				Pmax		22 24 39.5	
	comp=N,762nm,0.5s						
OGRR				i Sg	Sb	22 24 55.4	+1.5
OGRR				Smax		22 24 55.9	
	comp=N,3μm,0.5s						
OGRR	Ongureny	1.88	212	⇓iPN	Pb	22 24 29.5	-1.1
OGRR				e		22 24 30.8	
OGRR				e		22 24 55.3	
OGRR				pmax	pmax		
	comp=Z,735nm,0.6s						
OGRR				smax	smax		
	comp=E,3μm,0.6s						
MXMB	Maximikha	2.02	189	i Pn	Pn	22 24 30.3	+0.3
MXMB				⇓ePg	Pb	22 24 32.6	-0.4
MXMB				e		22 24 36.2	
MXMB				i Sg	Sb	22 24 59.4	+1.6
SVKR	Severomuysk	2.59	69	i Pn	Pn	22 24 39.8	+1.9
SVKR				e		22 24 43.7	
SVKR				max		22 24 51.0	
	comp=E,844nm,0.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SVKR				e		22 25 13.4	
SVKR				eSg	Sb	22 25 16.8	+2.6
SVKR				e		22 25 18.4	
SVKR				max		22 25 21.0	
	comp=E,10µm,0.3s						
SVKR	Severomuysk	2.59	69	ePN	Pn	22 24 39.7	+1.9
SVKR				e		22 25 16.6	
SVKR				pmax	pmax		
	comp=Z,870nm,0.6s						
SVKR				smax	smax		
	comp=N,10µm,0.4s						
KELR	Kotokel	2.59	196	ePn	Pn	22 24 38.2	+0.3
KELR				ePg	Pb	22 24 43.5	+0.7
KELR				eSg	Sb	22 25 16.1	+1.7
ZRHB	Zarechye	2.98	205	ePn	Pn	22 24 43.9	+0.7
ZRHB				ePg	Pb	22 24 49.6	+0.3
ZRHB				e		22 24 54.9	
ZRHB				eSg	Sg	22 25 28.9	-3.4
TRG	Tyrgan	3.03	216	ePn	Pn	22 24 44.6	+0.6
TRG				⇓ePg	Pb	22 24 50.2	0.0
TRG				Pmax		22 24 52.8	
	comp=N,141nm,0.4s						
TRG				eSg	Sb	22 25 29.1	+2.1
TRG				Smax		22 25 36.9	
	comp=N,2µm,0.5s						
TRG	Tyrgan	3.03	216	ePN	Pn	22 24 44.7	+0.7
TRG				e		22 24 50.5	
TRG				eS	Sn	22 25 20.6	+0.7
TRG				e		22 25 28.9	
TRG				pmax	pmax		
	comp=Z,141nm,0.3s						
TRG				smax	smax		
	comp=E,2µm,0.5s						
TRTB	Turuntaevo	3.18	198	i Pn	Pn	22 24 46.5	+0.5
TRTB				e		22 24 54.5	
TRTB				e		22 25 17.4	
TRTB				eSg	Sb	22 25 33.4	+2.1
UUDB	Ulan-Yde	3.52	196	ePn	Pn	22 24 51.2	+0.5
UUDB				ePg	Pb	22 24 58.8	+0.2
UUDB				Pmax		22 25 07.8	
	comp=E,219nm,0.6s						
UUDB				e		22 25 25.0	
UUDB				eSg	Sb	22 25 44.5	+3.3
UUDB				Smax		22 25 56.5	
	comp=E,825nm,0.9s						
STDB	Stepnoy Dvoret	3.54	210	ePn	Pn	22 24 52.2	+1.3
STDB				e		22 24 57.7	
STDB				ePg	Pb	22 25 00.7	+1.9
STDB				eSg	Sg	22 25 45.8	-4.4
STDB				e		22 25 50.6	
KAB	Kabansk	3.56	207	ePn	Pn	22 24 51.2	-0.1
KAB				Pg	Pb	22 25 00.1	+0.8
KAB				Pmax		22 25 29.0	
	comp=E,289nm,0.8s						
KAB				e		22 25 34.7	
KAB				eSg	Sb	22 25 45.6	+3.3
KAB				Smax		22 25 58.9	
	comp=E,4µm,0.7s						
KAB	Kabansk	3.56	207	ePN	Pg	22 25 04.5	-0.4
BOD	Bodaibo	3.68	44	⇓iPn	Pn	22 24 53.9	+1.1
	comp=E,37nm,0.7s						
BOD				⇓iPn	Pn	22 24 53.9	+1.1
	comp=E,37nm,0.7s						
BOD				⇓iPn	Pn	22 24 53.9	+1.1
	comp=E,61nm,0.7s						
BOD				ePg	Pb	22 25 01.7	+0.5
BOD				Pmax		22 25 08.8	
	comp=E,209nm,0.5s						
BOD				eSn	Sn	22 25 35.5	-0.2
BOD				eSg	Sb	22 25 50.0	+4.5
BOD				Smax		22 25 59.0	
	comp=E,1µm,0.9s						
NLYR	Nelyaty	3.84	69	i Pn	Pn	22 24 56.2	+1.2
NLYR				⇓ePg	Pb	22 25 04.5	+0.5
NLYR				Pmax		22 25 16.0	
	comp=E,278nm,0.6s						
NLYR				eSn	Sn	22 25 38.1	-1.7
NLYR				eSg	Sb	22 25 54.6	+4.4
NLYR				Smax		22 26 04.9	
	comp=E,2µm,1.0s						
HRMR	Khuramsha	3.89	202	i Pn	Pn	22 24 56.3	+0.6
HRMR				⇓ePg	Pb	22 25 05.0	+0.2
HRMR				Pmax		22 25 17.2	
	comp=E,386nm,0.5s						
HRMR				e		22 25 40.3	
HRMR				eSg	Sb	22 25 55.8	+4.3
HRMR				Smax		22 26 03.8	
	comp=E,2µm,0.7s						
BGT	Bolshoye Golou	3.95	217	i Pn	Pn	22 24 56.9	+0.4
BGT				⇓ePg	Pb	22 25 06.0	+0.2
BGT				e		22 25 14.0	
BGT				max		22 25 15.2	
	comp=E,187nm,0.9s						
BGT				eSg	Sb	22 25 56.7	+3.4
BGT				Smax		22 26 06.1	
	comp=E,964nm,1.0s						
CIT	Chita	4.13	140	ePn	Pn	22 25 01.4	+2.3
CIT				ePg	Pb	22 25 10.5	+1.6
CIT				e		22 25 16.3	
CIT				max		22 25 21.3	
	comp=E,264nm,1.0s						
CIT				e		22 25 41.6	
CIT				eSg	Sb	22 26 03.8	+5.2
CIT				Smax		22 26 09.3	
	comp=E,2µm,0.8s						
CIT	Chita	4.13	140	ePN	Pn	22 24 59.1	0.0
CIT				e		22 25 09.3	
CIT				eS	Sn	22 25 46.7	-0.3
CIT				e		22 26 02.9	
CIT				pmax	pmax		
	comp=Z,307nm,1.3s						
CIT				smax	smax		
	comp=N,2µm,0.8s						
IRK	Irkutsk	4.22	226	ePg	Pb	22 25 11.8	+1.3
IRK				e		22 25 13.1	
IRK				max		22 25 26.0	
	comp=N,266nm,0.3s						
IRK				eSn	Sn	22 25 46.1	-3.2
IRK				eSg	Sb	22 26 06.2	+5.0
IRK				Smax		22 26 10.0	
	comp=N,2µm,0.5s						
IRK	Irkutsk	4.22	226	ePN	Pn	22 25 00.5	+0.2
IRK				e		22 25 13.7	
IRK				e		22 26 06.2	
IRK				pmax	pmax		
	comp=Z,206nm,0.5s						
IRK				smax	smax		
	comp=N,2µm,1.0s						
LSTR	Listvyanka	4.30	220	i Pn	Pn	22 25 01.0	-0.3
LSTR				ePg	Pb	22 25 10.7	-1.1
LSTR				Pmax		22 25 28.3	
	comp=N,75nm,0.8s						
LSTR				e		22 25 53.0	
LSTR				eSg	Sb	22 26 06.9	+3.6
LSTR				Smax		22 26 15.1	
	comp=N,844nm,1.2s						
TLY	Talaya	4.90	225	ePn	Pn	22 25 09.7	0.0
TLY				ePg	Pb	22 25 23.2	+1.1
TLY				Pmax		22 25 33.3	
	comp=N,182nm,0.6s						
TLY				e		22 26 01.1	
TLY				eSg	Sb	22 26 26.1	+5.3
TLY				Smax		22 26 33.2	
	comp=N,869nm,1.0s						
TLY	Talaya	4.90	225	ePN	Pn	22 25 09.6	-0.1
TLY				eS	Sn	22 26 06.7	+0.7
TLY				eS	Sg	22 26 29.5	-4.5
TLY				smax	smax		
	comp=N,822nm,0.8s						
ARS	Arshan	5.26	233	ePn	Pn	22 25 14.4	-0.2
ARS				e		22 25 22.0	
ARS				ePg	Pb	22 25 30.4	+2.2
ARS				Pmax		22 25 40.0	
	comp=N,405nm,0.6s						
ARS				e		22 25 43.0	
ARS				eSn	Sn	22 26 12.5	-2.4
ARS				eSg	Sg	22 26 38.4	-7.1
ARS				Smax		22 26 42.9	
	comp=N,4µm,0.7s						
ARS	Arshan	5.26	233	ePN	Pn	22 25 14.6	0.0
ARS				e		22 25 32.9	
ARS				e		22 26 38.7	
ARS				pmax	pmax		
	comp=Z,406nm,0.6s						
ARS				smax	smax		
	comp=E,4µm,0.8s						
CRS	Chara	5.31	68	ePn	Pn	22 25 16.8	+1.5
CRS				ePg	Pb	22 25 33.0	+3.9
CRS				e		22 25 40.5	
CRS				max		22 25 43.1	
	comp=E,270nm,0.7s						
CRS				eSg	Sg	22 26 41.3	-5.8
CRS				Smax		22 26 56.8	
	comp=E,708nm,1.1s						
CRS	Chara	5.31	68	ePN	Pb	22 25 33.5	+4.4
CRS				e		22 26 41.2	
CRS				pmax	pmax		
	comp=Z,160nm,1.1s						
CRS				smax	smax		
	comp=E,552nm,1.1s						
KPC	Khapcheranga	5.88	160	i Pn	Pn	22 25 22.7	-0.4
KPC				e		22 25 37.5	
KPC				⇓ePg	Pb	22 25 42.4	+3.6
KPC				Pmax		22 25 45.9	
	comp=E,55nm,0.6s						
KPC				eSn	Sn	22 26 27.1	-3.1
KPC				eSg	Sg	22 26 58.1	-7.2
KPC				e		22 27 04.2	
KPC				max		22 27 07.6	
	comp=E,911nm,1.3s						
KPC	Khapcheranga	5.88	160	ePN	Pn	22 25 22.7	-0.4
KPC				e		22 25 41.3	
KPC				eS	Sn	22 26 27.2	-3.0
KPC				e		22 26 57.0	
KPC				pmax	pmax		
	comp=Z,55nm,0.6s						
KPC				smax	smax		
	comp=E,910nm,1.2s						
ZAK	Zakamensk	6.08	219	ePn	Pn	22 25 26.3	+0.5
ZAK				e		22 25 42.8	
ZAK				e		22 25 54.7	
ZAK				max		22 26 00.1	
	comp=E,44nm,0.8s						
ZAK				eSg	Sb	22 27 02.0	+7.4
ZAK				e		22 27 04.6	
ZAK				max		22 27 09.6	
	comp=E,872nm,1.2s						
ZAK	Zakamensk	6.08	219	ePN	Pn	22 25 26.4	+0.6
ZAK				e		22 25 46.7	
ZAK				e		22 27 02.6	
ZAK				pmax	pmax		
	comp=Z,42nm,0.7s						
ZAK				smax	smax		
	comp=E,876nm,1.2s						
MOY	Mondy	6.10	237	i	Pn	22 25 20.5	-5.7
MOY				e		22 25 43.8	
MOY				max		22 25 48.5	
	comp=E,84nm,1.1s						
MOY				eSg	Sb	22 27 03.6	+8.3
MOY				Smax		22 27 07.9	
	comp=E,2.0nm,1.3s						
MOY	Mondy	6.10	237	ePN	Pn	22 25 27.9	+1.7
MOY				e		22 25 46.4	
MOY				eS	Sn	22 26 35.6	-0.1
MOY				e		22 27 05.5	
MOY				pmax	pmax		
	comp=Z,85nm,0.9s						
MOY				smax	smax		
	comp=E,768nm,1.2s						
ORL	Orlik	6.21	248	i Pn	Pn	22 25 29.5	+1.8
ORL				max		22 25 44.3	
	comp=E,76nm,1.0s						
ORL				e		22 25 52.4	
ORL				e		22 26 37.5	
ORL				eSg	Sb	22 27 06.5	+8.1
ORL				e		22 27 11.2	
ORL				max		22 27 12.3	
	comp=E,1µm,1.4s						
ORL				e		22 27 19.4	
ORL	Orlik	6.21	248	ePN	Pn	22 25 29.5	+1.8
ORL				e		22 25 49.0	
ORL				e		22 27 10.4	
ORL				pmax	pmax		
	comp=Z,77nm,1.0s						
ORL				smax	smax		
	comp=N,1µm,1.1s						
TUP	Tupik	6.24	93	i Pn	Pn	22 25 28.0	0.0
TUP				⇓ePg	Pb	22 25 48.5	+3.6
TUP				Pmax		22 26 00.2	
	comp=N,101nm,0.9s						
TUP				eSg	Sg	22 27 10.5	-6.3
TUP				e		22 27 17.4	
TUP				max		22 27 20.2	
	comp=N,1µm,0.9s						
TUP	Tupik	6.24	93	ePN	Pn	22 25 28.0	0.0
TUP				e		22 25 47.5	
TUP				eS	Sn	22 26 38.7	-0.2
TUP				e		22 27 09.3	
TUP				pmax	pmax		
	comp=Z,101nm,0.6s						
TUP				smax	smax		
	comp=N,1µm,0.9s						
ULN	Ulaanbaatar	7.53	191	i PN	Pn	22 25 46.6	+0.8
SONM	Songino Array	7.64	195	Pn	Pn	22 25 48.5	+1.1
	comp=N,1.1nm,0.3s,baz=6.4,slow=14,SNR=36						
SONM				Lg	Lg	22 27 57.7	
	comp=N,4.0nm,0.3s,baz=3.1,slow=30,SNR=5.2						
TNDR	Tynda	8.85	84	e		22 28 28.3	
TNDR				eSg	Sn	22 28 32.6	+50
TNDR				e		22 28 38.9	
IENR	Iengra	8.86	77	ePn	Pn	22 26 04.3	+0.4
IENR				e		22 26 13.1	
IENR				e		22 26 39.3	
IENR				e		22 27 55.5	
IENR				eSg	Sn	22 28 31.7	+48
ERNS	Erzin	9.89	245	e	Pn	22 26 18.2	+0.1
ERNS				e		22 26 48.2	
ERNS				e		22 27 37.4	
ERNS				eSg	Sn	22 29 00.7	+52
ZEA	Zeya	10.58	91	eP	Pn	22 26 27.8	+0.4
ZEA				pmax	pmax		
	comp=Z,15nm,0.7s						
ZEA				MLR	MLR		
	comp=Z,700nm,10.0s						
ZEA				MLR	MLR		
	comp=E,600nm,7.0s						
YAK	Yakutsk	12.58	49	eP	Pn	22 26 47.7	-7.0
YAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YAK				MLR	MLR		
	comp=Z,129nm,18.0s						
YAK				MLR	MLR		
	comp=N,119nm,19.0s						
YAK				MLR	MLR		
	comp=E,136nm,24.0s						
ZALV	Zalesovo Beam	14.20	275	Pn	Pn	22 27 17.2	+0.3
	comp=E,0.2nm,0.3s,baz=79,slow=10,SNR=12						
ZALV				Lg	Lg	22 31 21.4	
	comp=E,0.2nm,0.3s,baz=98,slow=26,SNR=3.4						
ZALV				LR	LR	22 33 05.3	
	comp=E,149nm,19.0s,baz=72,slow=39						
ZALV	Zalesovo Beam	14.20	275	i P	Pn	22 27 17.2	+0.3
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
DGZ	Jazzator, Alta	14.38	256	i P	Pn	22 27 22.2	+2.7
NVS	Novosibirsk	14.89	279	eP	Pn	22 27 26.2	0.0
NVS				e		22 30 10.8	
KLR	Kul'dur	15.01	104	Pn	Pn	22 27 29.1	+1.2
	comp=Z,0.1nm,0.3s,baz=309,slow=15,SNR=3.5						
KLR				Lg	Lg	22 31 49.1	
	comp=Z,0.7nm,0.3s,baz=238,slow=14,SNR=7.7						
KLR				LR	LR	22 34 04.9	
	comp=Z,64nm,19.0s,baz=284,slow=40						
KLR	Kul'dur	15.01	104	i P	Pn	22 27 28.4	+0.5
GTA	Gaotai	17.07	206	eP	P	22 28 04.1	+7.8
GTA				pP	sP	22 28 09.3	+6.1
GTA				sP	pP	22 28 12.6	+12
GTA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,80nm,6.4s						
GTA				LR	LR		
	comp=N,110nm,17.5s						
GTA				LR	LR		
	comp=E,100nm,16.2s						
GTA				LR	LR		
	comp=Z,230nm,16.2s						
USRK	Ussuriysk Ar.	18.31	118	P	P	22 28 10.3	+0.6
	comp=Z,0.1nm,0.3s,baz=315,slow=14,SNR=2.7						
TIXI	Tiksi	18.47	20	P	P	22 28 07.8	-3.5
	comp=Z,1.9nm,0.3s,baz=215,slow=5.0,SNR=18						
TIXI				LR	LR	22 34 37.2	
	comp=Z,22nm,20.1s,baz=302,slow=35						
MKAR	Makanchi Array	18.86	255	P	Pn	22 28 16.1	-0.3
	comp=Z,0.5nm,0.3s,baz=73,slow=11,SNR=26						
MKAR				LR	LR	22 35 48.8	
	comp=Z,128nm,21.1s,baz=35,slow=38						
KURK	Kurchatov	18.90	269	i P	P	22 28 16.3	+0.1
KURK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KURBB	Kurchatov Arra	19.00	269	P	Pn	22 28 18.2	+0.2
	comp=Z,0.3nm,0.3s,baz=66,slow=12,SNR=17						
BVAR	Borovoye Array	22.68	281	P	P	22 28 55.9	-1.1
	comp=Z,12nm,0.7s,baz=49,slow=10.0,SNR=21						
BVAR				LR	LR	22 38 30.5	
	comp=Z,139nm,18.5s,baz=104,slow=38						
BRVK	Borovoye	22.72	281	i P	P	22 28 58.1	+0.6
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SEY	Seymchan	23.04	53	P	P	22 28 59.5	-1.2
	comp=Z,2.2nm,0.5s,baz=17,slow=20,SNR=3.1						
ASAJ	Asahikawa	24.04	104	LR	LR	22 39 02.9	
	comp=Z,97nm,19.6s,baz=158,slow=38						
AAK	Ala-Archa	25.79	255	P	P	22 29 27.4	+0.6
	comp=Z,1.2nm,0.7s,baz=97,slow=3.9,SNR=5.3						
AAK	Ala-Archa	25.79	255	i P	P	22 29 26.7	-0.1
AAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SVE	Sverdlovsk	26.75	294	eP	P	22 29 42.7	+7.6
SVE				pmax	pmax		
	comp=Z,12nm,0.6s						
ARU	Arti	27.96	294	P	P	22 29 54.7	+8.7
ARU						22 30 42.6	
ARU				SS	SS	22 36 10.2	-17
PETK	Petropavlovsk-	27.98	74	P	P	22 29 46.2	-0.1
	comp=Z,4.4nm,1.0s,baz=286,slow=7.0,SNR=3.6						
ARCES	ARCESS Array B	37.86	325	P	P	22 31 11.9	-0.2
	comp=Z,1.4nm,0.6s,baz=67,slow=9.3,SNR=8.9						
VRH	Novokhopyorsk	39.20	293	eP	P	22 31 23.8	+0.3
VRH				pmax	pmax		
	comp=Z,3.0nm,0.6s						
LPSR	Galich'ya Gora	39.89	296	eP	P	22 31 28.2	-1.0
LPSR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
VSR	Storozhevoye	40.53	294	eP	P	22 31 34.0	-0.6
VSR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
FINES	FINESS Array B	41.26	314	P	P	22 31 40.3	-0.2
	comp=Z,0.6nm,0.4s,baz=62,slow=8.1,SNR=9.0						
AKASG	Malin Array Be	45.91	299	P	P	22 32 17.9	-0.1
	comp=Z,0.8nm,0.4s,baz=47,slow=8.9,SNR=8.5						
AKASG	Malin Array Be	45.91	299	i P	P	22 32 17.8	-0.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ILAR	Eielson Array	47.00	35	P	P	22 32 27.7	+1.3
	comp=Z,2.2nm,0.7s,baz=302,slow=8.4,SNR=29						
ILAR				pP	pP	22 32 33.9	+2.2
	comp=Z,2.6nm,0.7s,baz=298,slow=7.8,SNR=13						
NB2	NORSAR Subarra	47.37	319	P	P	22 32 29.2	-0.2
	comp=Z,0.5nm,0.6s,baz=51,slow=7.9						
NOA	NORSAR Array B	47.37	319	P	P	22 32 29.1	-0.3
	comp=Z,0.6nm,0.7s,baz=52,slow=7.9,SNR=4.1						
NOA				LR	LR	22 52 16.4	
	comp=Z,8.8nm,20.9s,baz=240,slow=36						
BRTR	Keskin Array B	50.83	286	P	P	22 32 56.4	+0.1
	comp=Z,0.3nm,0.5s,baz=81,slow=8.9,SNR=2.4						
VYHS	Vyhne	52.45	303	eP	P	22 33 07.0	-1.1
VYHS	Vyhne	52.45	303	eP	P	22 33 07.0	-1.1
GERES	GERESS Array B	54.62	306	P	P	22 33 24.2	0.0
	comp=Z,0.4nm,0.5s,baz=44,slow=7.1,SNR=2.3						
YKA	Yellowknife Ar	57.69	22	P	P	22 33 45.2	-0.5
	comp=Z,0.9nm,0.7s,baz=332,slow=7.3,SNR=12						
YKA				pP	pP	22 33 51.3	+0.3
	comp=Z,0.7nm,0.6s,baz=332,slow=7.1,SNR=8.2						
PDAR	Pinedale Array	76.93	28	P	P	22 35 48.0	-0.2
	comp=Z,0.4nm,0.6s,baz=31,slow=3.3,SNR=5.4						
WRA	Warramunga Arr	77.89	156	P	P	22 35 53.0	-0.3
	comp=Z,2.0nm,0.8s,baz=350,slow=6.1,SNR=14						
WRA				pP	pP	22 35 59.7	+0.8
	comp=Z,1.6nm,0.7s,baz=348,slow=6.1,SNR=7.2						
NVAR	Mina Array Bea	78.22	36	P	P	22 35 56.7	+1.2
	comp=Z,0.5nm,0.6s,baz=318,slow=4.6,SNR=4.8						
NVAR				pP	pP	22 36 01.9	+0.9
	comp=Z,0.8nm,0.7s,baz=313,slow=5.2,SNR=4.3						
ASAR	Alice Springs	81.39	157	P	P	22 36 12.1	-0.2
	comp=Z,0.9nm,0.7s,baz=352,slow=5.1,SNR=8.3						

*ISCJB **04** 22:26:13.8±0.9, 13.°2S±0.°2×66.°8E±0.°1, h10km, mb3.7/8, Error ellipse: s-maj=27.2km s-min=20.6km az=1.0*
*IDC **04** 22:26:14.2±0.9, 13.°21S×66.°74E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/53, mbtmp3.7/8, Error ellipse: s-maj=30.1km s-min=23.0km az=2.0*
ISC 04 22:26:15.8±1.1**, 13.°2S**±0.°3×**66.°7E**±0.°2**, h10**km**, n18, σ0.s44**/9**, mb3.8**/8**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	7.91	46	T	T	22 36 11.7	
	baz=226,slow=75,SNR=76						
H08S2	Diego Garcia H	7.93	46	T	T	22 36 15.3	
	baz=226,slow=75,SNR=102						
H08S3	Diego Garcia H	7.93	46	T	T	22 36 16.5	
	baz=226,slow=75,SNR=137						
H08N3	Diego Garcia H	8.02	32	T	T	22 36 16.2	
	baz=210						
H08N1	Diego Carcia H	8.04	32	T	T	22 36 17.3	
	baz=210						
H08N2	Diego Garcia H	8.04	32	T	T	22 36 17.9	
	baz=210						
LSZ	Lusaka	37.38	262	P	P	22 33 29.3	0.0
	2.0nm,0.9s,baz=149,slow=5.9,SNR=3.2						
H01W3	Cape Leeuwin H	47.83	125	T	T	23 26 04.3	
	baz=285,slow=75,SNR=5.4						
H01W2	Cape Leeuwin H	47.84	125	T	T	23 25 55.9	
	baz=285,slow=75,SNR=4.8						
H01W1	Cape Leeuwin H	47.85	125	T	T	23 26 05.5	
	baz=285,slow=75,SNR=5.0						
MKAR	Makanchi Array	61.35	12	P	P	22 36 31.3	-0.5
	0.4nm,0.8s,baz=214,slow=7.0,SNR=2.5						
ASAR	Alice Springs	64.08	110	P	P	22 36 50.9	+0.3
	0.4nm,0.7s,baz=277,slow=5.8,SNR=5.5						
KURBB	Kurchatov Arra	64.41	8	P	P	22 36 51.9	-0.1
	0.4nm,0.7s,baz=207,slow=7.4,SNR=2.7						
WRA	Warramunga Arr	64.78	106	P	P	22 36 54.6	-0.5
	0.9nm,0.8s,baz=274,slow=5.8,SNR=5.3						
ZALV	Zalesovo Beam	68.67	11	P	P	22 37 18.8	-0.3
	1.0nm,0.6s,baz=208,slow=5.6,SNR=4.6						
TORD	Torodi Ar. Bea	69.58	290	P	P	22 37 25.6	-0.1
	0.6nm,0.9s,baz=123,slow=5.3,SNR=2.9						
SONM	Songino Array	70.30	27	P	P	22 37 30.1	+0.5
	0.5nm,0.7s,baz=232,slow=7.1,SNR=3.2						
PDAR	Pinedale Array	150.39	354	PKPbc	PKPbc	22 46 08.4	+0.3
	1.1nm,0.8s,baz=63,slow=1.9,SNR=8.4						

*ISCJB **04** 22:28:55.1±0.6, 13.°2S±0.°1×66.°9E±0.°1, h10km, mb3.9/14, MS3.7/7, Error ellipse: s-maj=17.1km s-min=14.2km az=158.1*
*IDC **04** 22:28:55.4±0.8, 13.°21S×66.°83E, h0km, mb3.9/13, mb1 4.0/13, mb1mx3.8/51, mbtmp3.9/13, MS3.7/8, Ms1 3.7/8, ms1mx3.3/37, Error ellipse: s-maj=23.5km s-min=20.5km az=61.0*
*NEIC **04** 22:28:56.9±0.4, 13.°23S×66.°84E, h10km, mb4.2/1, Error ellipse: s-maj=11.9km s-min=10.3km az=73.0*
ISC 04 22:28:57.5±0.7**, 13.°2S**±0.°1×**66.°9E**±0.°2**, h10**km**, n45, σ1.s28**/30**, mb4.0**/14**, MS3.7**/7**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	7.80	46	T	T	22 38 50.9	
	baz=226,slow=75,SNR=57						
H08S2	Diego Garcia H	7.81	46	T	T	22 38 54.4	
	baz=226,slow=75,SNR=82						
H08S3	Diego Garcia H	7.82	46	T	T	22 38 57.7	
	baz=226,slow=75,SNR=87						
H08N3	Diego Garcia H	7.93	31	T	T	22 38 57.0	
	baz=210,slow=75,SNR=434						
H08N1	Diego Carcia H	7.94	31	T	T	22 39 00.1	
	baz=210,slow=75,SNR=309						
H08N2	Diego Garcia H	7.95	31	T	T	22 38 59.6	
	baz=210,slow=75,SNR=185						
OPO	Ambohidratompo	19.66	252	LR	LR	22 39 10.4	

	comp=Z,331nm,20.5s,baz=14,slow=31						
PALK	Pallekele	24.54	35	LR	LR	22 41 55.1	
	comp=Z,267nm,19.9s,baz=298,slow=32						
KMBO	Kilima Mbogo	31.67	290	LR	LR	22 45 41.0	
	comp=Z,93nm,19.6s,baz=94,slow=32						
LSZ	Lusaka	37.51	262	P	P	22 36 12.6	+0.5
	1.5nm,0.6s,baz=112,slow=10,SNR=3.8						
BOSA	Boshof	41.55	242	LR	LR	22 51 09.4	
	comp=Z,133nm,18.4s,baz=79,slow=32						
CMAR	Chiang Mai Arr	44.61	46	P	P	22 37 11.0	+0.7
	0.8nm,0.3s,baz=230,slow=7.0,SNR=3.8						
CMAR				LR	LR	22 52 46.4	
	comp=Z,96nm,20.9s,baz=204,slow=32						
KBL	Kabul	47.51	2	eP	P	22 37 33.5	+0.2
	2.5nm,1.0s						
H01W3	Cape Leeuwin H	47.75	125	T	T	23 28 42.9	
	baz=285,slow=75,SNR=6.5						
H01W2	Cape Leeuwin H	47.75	125	T	T	23 28 50.6	
	baz=285,slow=75,SNR=7.1						
H01W1	Cape Leeuwin H	47.77	125	T	T	23 28 50.5	
	baz=285,slow=75,SNR=6.9						
MAW	Mawson	54.43	182	P	P	22 38 23.5	-1.1
	5.6nm,0.7s,baz=55,slow=8.3,SNR=4.7						
AAK	Ala-Archa	55.99	7	LR	LR	23 00 46.7	
	comp=Z,33nm,18.6s,baz=146,slow=34						
BR101	Keskin Array S	61.05	331	eP	P	22 39 11.6	-0.1
BRTR	Keskin Array B	61.05	331	P	P	22 39 11.6	-0.1
	1.4nm,1.1s,baz=157,slow=7.9,SNR=4.7						
MK01	Makanchi Array	61.27	12	eP	P	22 39 12.3	-0.7
MK31	Makanchi Array	61.30	12	eP	P	22 39 12.3	-0.8
MK32	Makanchi Array	61.30	12	eP	P	22 39 12.7	-0.5
MKAR	Makanchi Array	61.30	12	P	P	22 39 12.7	-0.5
	1.2nm,0.9s,baz=203,slow=9.1,SNR=7.4						
ABKAR	Akbulak array	62.47	355	eP	P	22 39 20.7	-0.2
ASAR	Alice Springs	63.97	110	P	P	22 39 31.4	-0.2
	0.6nm,0.7s,baz=266,slow=5.6,SNR=6.1						
KURBB	Kurchatov Arra	64.36	8	P	P	22 39 33.1	-0.2
	0.9nm,0.8s,baz=206,slow=7.1,SNR=6.0						
KURK	Kurchatov	64.46	8	P	P	22 39 33.1	-0.9
WRA	Warramunga Arr	64.67	106	P	P	22 39 35.4	-0.8
	0.9nm,0.7s,baz=271,slow=5.9,SNR=6.0						
WR1	Warramunga Arr	64.67	106	eP	P	22 39 35.4	-0.8
BVAR	Borovoye Array	66.02	2	P	P	22 39 43.4	-0.8
	0.9nm,0.9s,baz=187,slow=6.0,SNR=4.8						
ZALV	Zalesovo Beam	68.61	11	P	P	22 40 00.1	-0.3
	1.8nm,0.8s,baz=206,slow=6.8,SNR=8.5						
ZAA1	Zalesovo Array	68.61	11	eP	P	22 40 00.1	-0.4
SONA0	Songino Array	70.21	27	eP	P	22 40 11.3	+0.5
SONM	Songino Array	70.21	27	P	P	22 40 11.3	+0.5
	1.1nm,0.9s,baz=226,slow=6.3,SNR=5.9						
SONM				LR	LR	23 07 53.7	
	comp=Z,53nm,20.1s,baz=319,slow=33						
SONA1	Songino Array	70.23	27	eP	P	22 40 11.5	+0.6
AKASG	Malin Array Be	71.61	336	P	P	22 40 16.6	-2.4
	0.4nm,0.4s,baz=134,slow=5.3,SNR=3.3						
DBIC	Dimbokro	73.90	281	LR	LR	23 10 01.1	
	comp=Z,38nm,21.1s,baz=108,slow=33						
ESDC	Sonseca Array	84.10	313	P	P	22 41 28.9	0.0
	0.1nm,0.3s,baz=99,slow=4.0,SNR=3.5						
ECSD	EROS Data Cent	146.41	338	ePKPdf	PKPdf	22 48 38.0	+0.2
RSSD	Black Hills	148.20	348	ePKPbc	PKPdf	22 48 43.3	+2.3
T42A	Van Buren	149.14	324	ePKPbc	PKPdf	22 48 45.0	+2.6
PD31	Pinedale Array	150.37	355	ePKPbc	PKPdf	22 48 48.6	+4.1
PDAR	Pinedale Array	150.37	355	PKPbc	PKPbc	22 48 49.6	-0.1
	1.4nm,0.8s,baz=68,slow=2.2,SNR=10						
NVAR	Mina Array Bea	154.45	9	PKPbc	PKPbc	22 48 57.5	-1.6
	0.4nm,0.7s,baz=224,slow=5.0,SNR=3.3						

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*NIED **04** 22:34:00, 37.°80N×143.°70E, h11km, Mw3.8 Best double couple: M0 6.12000×10^{14} NP1:φs334.00000°, δ76.00000°, λ166.00000°. NP2:φs67.00000°, δ76.00000°, λ14.00000°.*
*IDC **04** 22:34:06.8±0.8, 37.°63N×143.°98E, h0km, mb3.7/7, mb1 4.0/12, mb1mx3.8/40, mbtmp3.9/12, ML4.5/3, MS2.5/3, Ms1 2.5/3, ms1mx2.4/45, Error ellipse: s-maj=27.3km s-min=16.0km az=116.0*
*ISCJB **04** 22:34:09.2±0.5, 37.°72N±0.°03×143.°78E±0.°04, h33km, mb3.8/7, MS2.5/1, Error ellipse: s-maj=5.0km s-min=4.3km az=25.8*
*JMA **04** 22:34:10.3±0.2, 37.°78N×143.°72E, h50km, M4.0*
ISC 04 22:34:11.7±0.8**, 37.°76N**±0.°04×**143.°75E**±0.°07**, h35km, n32, σ1.84**/52**, mb3.9**/7**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.89	288	P	Pn	22 34 40.6	-0.8
JIKH				S	Sn	22 35 02.6	-1.4
JIO	Ouri	2.02	291	P	Pn	22 34 42.5	-0.8
JIO				S	Sn	22 35 06.1	-1.2
JKMT	Kesennumamotoy	2.08	301	P	Pn	22 34 43.2	-0.9
JKMT				eS	Sn	22 35 07.3	-1.4
OFUJ	Ofunato	2.10	310	P	Pn	22 34 43.4	-1.0
OFUJ				eS	Sn	22 35 08.3	-1.0
JMK	Ichinoseki	2.32	302	P	Pn	22 34 46.8	-0.6
JMK				S	Sn	22 35 14.2	-0.5
JOM	Ohasama	2.58	312	P	Pn	22 34 50.4	-0.5
JOM				S	Sn	22 35 20.4	-0.6
JFT	Otama	2.72	266	P	Pn	22 34 53.1	+0.1
JFT				S	Sn	22 35 24.5	-0.2
JYK	Kaneyama	2.91	294	P	Pn	22 34 55.7	+0.2
JYK				eS	Sn	22 35 29.9	+0.7
JANG	Nango	3.14	327	P	Pn	22 34 58.5	-0.2
JANG				eS	Sn	22 35 33.4	-1.5
JAG	Ashikaga	3.69	250	P	Pn	22 35 05.7	-0.5
JAG				eS	Sn	22 35 48.3	-0.1
BSO1	Boso 1	3.83	217	P	Pn	22 35 06.1	-1.5
BSO1				S	Sn	22 35 50.0	-1.1
JOT	Ohata	4.18	331	P	Pn	22 35 13.7	+0.8
JOT				eS	Sn	22 35 57.8	-2.7
JRY	Ryogami san	4.26	247	P	Pn	22 35 13.5	-0.6
JRY				eS	Sn	22 35 59.7	-2.9
JOD2	Odawara 2	4.51	238	P	Pn	22 35 16.4	-1.1
JOD2				eS	Sn	22 36 05.6	-3.1
MJAR	Matsushiro Arr	4.59	256	Pn	Pn	22 35 19.9	+1.2
	9.5nm,0.3s,baz=91,slow=15,SNR=130						
MJAR				Sn	Sn	22 36 13.0	+2.2
	2.5nm,0.3s,baz=54,slow=25,SNR=5.4						
MAT	Matsushiro	4.59	256	P	Pn	22 35 19.9	+1.2
MAT				S	Sn	22 36 11.8	+1.0
JKB	Kayabe	4.62	334	P	Pn	22 35 19.5	+0.5
JKB				S	Sn	22 36 08.4	-3.1
JCH	Churui	4.86	357	P	Pn	22 35 20.6	-1.7
JCH				eS	Sn	22 36 12.9	-4.4
JHJ2	Mitsune	5.64	216	P	Pn	22 35 30.6	-2.5
JHJ2				eS	Sn	22 36 32.0	-4.6
JHJ	Hachijo jima 2	5.65	216	Pn	Pn	22 35 29.8	-3.4
	19nm,0.3s,baz=143,slow=21,SNR=19						
JHJ				Sn	Sn	22 36 32.6	-4.2
	12nm,0.3s,baz=90,slow=20,SNR=3.2						
JHJ				LR	LR	22 37 18.5	
	comp=Z,23nm,20.6s,baz=72,slow=34						
ASAJ	Asahikawa	6.41	353	Pn	Pn	22 35 43.4	-0.2
	22nm,0.3s,baz=198,slow=10,SNR=179						
ASAJ				Sn	Sn	22 36 53.9	-1.6
	baz=49,slow=19,SNR=2.5						
KSRS	Korea Array	12.56	273	Pn	Pn	22 37 10.6	+2.7
	0.1nm,0.3s,baz=93,slow=14,SNR=4.6						
KLR	Kul'dur	14.38	327	Pn	Pn	22 37 31.4	-1.2
	0.1nm,0.3s,baz=144,slow=16,SNR=3.9						
KLR				LR	LR	22 42 59.9	
	comp=Z,28nm,18.5s,baz=143,slow=36						
PETK	Petropavlovsk-	18.15	28	P	P	22 38 19.3	-1.5
	0.1nm,0.3s,baz=209,slow=12,SNR=2.6						
MA2	Magadan	22.29	9	LR	LR	22 49 06.8	
	comp=Z,19nm,19.5s,baz=102,slow=40						
MKAR	Makanchi Array	45.31	302	P	P	22 42 27.9	+1.8
	0.3nm,0.6s,baz=82,slow=11,SNR=4.0						
ILAR	Eielson Array	47.88	33	P	P	22 42 46.9	+1.0
	0.9nm,0.6s,baz=258,slow=6.4,SNR=12						
INK	Inuvik	52.89	28	P	P	22 43 23.6	0.0
	0.4nm,0.4s,baz=314,slow=6.8,SNR=6.0						
WRA	Warramunga Arr	58.07	190	P	P	22 44 01.1	-0.3
	1.9nm,0.7s,baz=10,slow=7.3,SNR=17						
ASAR	Alice Springs	61.80	190	P	P	22 44 26.9	-0.2
	1.1nm,1.2s,baz=8.1,slow=6.6,SNR=5.5						
YKA	Yellowknife Ar	62.24	31	P	P	22 44 30.0	+0.5
	0.2nm,0.6s,baz=303,slow=6.6,SNR=3.4						
FINES	FINESS Array B	69.03	333	P	P	22 45 15.3	+2.0
	1.7nm,0.9s,baz=30,slow=6.7,SNR=2.7						

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*IDC **04** 22:43:51.7±1.6, 46.°28N×153.°30E, h0km, mb3.6/8, mb1 3.8/11, mb1mx3.6/44, mbtmp3.6/11, ML3.1/3, Error ellipse: s-maj=44.2km s-min=19.5km az=167.0*
*ISCJB **04** 22:43:53.7±1.0, 46.°4N±0.°2×153.°2E±0.°2, h24km, mb3.7/8, Error ellipse: s-maj=27.5km s-min=11.1km az=146.6*
ISC 04 22:43:55.5±1.1**, 46.°3N**±0.°2×**153.°3E**±0.°1**, h24km, n11, σ0.67**/11**, mb3.7**/8**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	7.41	21	Pn	Pn	22 45 42.4	+0.4
	0.3nm,0.3s,baz=172,slow=13,SNR=5.9						
ASAJ	Asahikawa	7.87	258	Pn	Pn	22 45 48.9	+0.5
	0.5nm,0.3s,baz=99,slow=13,SNR=6.5						
MJAR	Matsushiro Arr	14.91	235	Pn	Pn	22 47 24.9	+0.3
	0.1nm,0.3s,baz=49,slow=9.9,SNR=2.8						
ILAR	Eielson Array	36.84	38	P	P	22 51 00.8	-0.5
	0.2nm,0.5s,baz=259,slow=7.9,SNR=5.0						
MKAR	Makanchi Array	47.28	298	P	P	22 52 26.2	-0.5
	0.4nm,0.6s,baz=65,slow=9.5,SNR=2.3						
KURBB	Kurchatov Arra	47.83	304	P	P	22 52 29.5	-1.4
	0.7nm,0.7s,baz=68,slow=8.1,SNR=2.9						
YKA	Yellowknife Ar	51.22	37	P	P	22 52 56.8	+0.3
	0.3nm,0.6s,baz=296,slow=7.4,SNR=4.5						
NVAR	Mina Array Bea	62.53	62	P	P	22 54 17.6	+0.2
	0.5nm,0.7s,baz=277,slow=4.2,SNR=4.5						
FINES	FINESS Array B	64.53	335	P	P	22 54 30.5	+0.6
	2.5nm,0.9s,baz=39,slow=7.4,SNR=8.9						
AKASG	Malin Array Be	72.02	326	P	P	22 55 16.9	-0.1
	0.5nm,0.4s,baz=35,slow=6.1,SNR=3.3						
TXAR	Lajitas Array	77.61	61	P	P	22 55 49.5	-0.3
	0.6nm,0.7s,baz=310,slow=5.0,SNR=5.9						

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*IDC **04** 22:46:52.4±1.1, 55.°19N×109.°32E, h0km, mb3.6/3, mb1 3.6/8, mb1mx3.4/42, mbtmp3.5/8, ML2.9/4, Error ellipse: s-maj=23.6km s-min=19.5km az=137.0*
*MOS **04** 22:46:53.0±0.8, 55.°25N×109.°24E, h13km, mb4.0/4, Error ellipse: s-maj=12.6km s-min=6.4km az=72.1*
*BYKL **04** 22:46:53.8±0.2, 55.°24N×109.°20E*
ISC 04 22:46:54.2±1.0**, 55.°22N**±0.°02×**109.°40E**±0.°02**, h13km**±8km**, n58, σ2.27**/125**, mb3.7**/3**, 8C-5D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	Nizh Angarsk	0.57	8	⇑iPg	Pg	22 47 04.6	-0.7
NIZ				Pmax		22 47 07.4	
	196nm,0.3s						
NIZ				e		22 47 12.6	
NIZ				eSg	Sg	22 47 12.8	0.0
NIZ				Smax		22 47 14.0	
	1μm,0.3s						
NIZ	Nizh Angarsk	0.57	8	⇑iPG	Pg	22 47 04.6	-0.7
NIZ				e		22 47 12.3	
NIZ				pmax	pmax		
	comp=Z,257nm,0.3s						
NIZ				smax	smax		
	comp=N,1μm,0.3s						
YLYR	Ulyunkhan	1.07	108	⇓iPg	Pg	22 47 15.0	+0.2
	comp=N,143nm,0.8s						
YLYR				⇑iPg	Pg	22 47 15.0	+0.2
	comp=N,393nm,0.8s						
YLYR				⇑iPg	Pg	22 47 15.0	+0.2
	comp=N,501nm,0.8s						
YLYR				Pmax		22 47 15.5	
	comp=N,536nm,0.7s						
YLYR				eSg	Sn	22 47 30.6	+0.8
YLYR				Smax		22 47 34.1	
	comp=N,5μm,0.4s						
YLYR	Ulyunkhan	1.07	108	⇑iPG	Pg	22 47 15.1	+0.2
YLYR				e		22 47 28.1	
YLYR				pmax	pmax		
	comp=Z,530nm,0.3s						
YLYR				smax	smax		
	comp=N,5μm,0.4s						
KMO	Kumora	1.23	56	⇑iPg	Pn	22 47 17.2	+0.1
KMO				ePb	Pg	22 47 19.1	+1.3
KMO				e		22 47 25.6	
KMO				max		22 47 25.9	
	comp=N,470nm,0.3s						
KMO				eSg	Sg	22 47 34.1	+0.4
KMO				Smax		22 47 38.7	
	comp=N,1μm,0.8s						
KMO	Kumora	1.23	56	⇑iPG	Pn	22 47 17.2	+0.1
KMO				e		22 47 34.7	
KMO				pmax	pmax		
	comp=Z,398nm,0.4s						
KMO				smax	smax		
	comp=N,1μm,0.8s						
SYVR	Suvo	1.60	167	⇓iPg	Pb	22 47 23.5	-0.2
SYVR				i Pb	Pg	22 47 24.3	-0.6
SYVR				max		22 47 24.8	
	comp=N,412nm,0.5s						
SYVR				i Sg	Sg	22 47 46.5	+0.8
SYVR				Smax		22 47 48.5	
	comp=N,3μm,0.7s						
SYVR	Suvo	1.60	167	ePN	Pb	22 47 23.5	-0.2
YOA	Uoyan	1.61	54	⇓iPg	Pb	22 47 24.5	+0.7
YOA				Pmax		22 47 25.8	
	comp=N,745nm,0.5s						
YOA				e		22 47 32.0	
YOA				eSg	Sg	22 47 47.4	+1.5
YOA				e		22 47 50.0	
YOA				max		22 47 54.3	
	comp=N,7μm,1.1s						
YOA	Uoyan	1.61	54	⇓iPN	Pb	22 47 24.5	+0.7
OGRR	Ongureny	1.90	214	ePg	Pn	22 47 27.0	+0.7
OGRR				Pmax		22 47 37.0	
	comp=N,200nm,0.5s						
OGRR				eSg	Sb	22 47 52.3	0.0
OGRR				Smax		22 47 56.0	
	comp=N,773nm,0.2s						
OGRR	Ongureny	1.90	214	ePN	Pn	22 47 27.0	+0.7
OGRR				e		22 47 28.3	
OGRR				e		22 47 52.9	
OGRR				pmax	pmax		
	comp=Z,201nm,0.5s						
OGRR				smax	smax		
	comp=E,772nm,0.5s						
MXMB	Maximikha	2.00	191	i Pn	Pn	22 47 28.3	+0.6
MXMB				ePg	Pb	22 47 30.4	0.0
MXMB				i Sg	Sg	22 47 56.8	-1.5
SVKR	Severomuysk	2.52	67	ePn	Pn	22 47 37.2	+2.2
SVKR				ePg	Pg	22 47 42.0	-0.6
SVKR				Pmax		22 47 48.8	
	comp=E,142nm,0.5s						
SVKR				eSn	Sb	22 48 10.4	0.0
SVKR				eSg	Sg	22 48 15.8	+0.5
SVKR				Smax		22 48 18.0	
	comp=E,1μm,0.8s						
KELR	Kotokel	2.58	198	ePn	Pn	22 47 35.2	-0.5
KELR				ePg	Pb	22 47 39.5	-0.9
KELR				eSg	Sb	22 48 13.4	+1.4
ZRHB	Zarechye	2.98	207	ePn	Pn	22 47 40.1	-1.1
ZRHB				ePg	Pb	22 47 47.2	0.0
ZRHB				e		22 47 52.6	
ZRHB				eSg	Sb	22 48 26.4	+2.9
TRG	Tyrgan	3.05	217	i Pn	Pn	22 47 42.1	-0.1
TRG				⇓ePg	Pb	22 47 47.1	-1.3
TRG				ePgPg	PnPn	22 47 49.2	-0.1
TRG				max		22 47 50.2	
	comp=E,41nm,0.3s						
TRG				eSn	Sn	22 48 16.4	-2.2
TRG				eSg	Sb	22 48 26.4	+0.9
TRG				Smax		22 48 30.1	
	comp=E,409nm,0.4s						
TRG	Tyrgan	3.05	217	ePN	Pn	22 47 42.3	+0.1
TRG				e		22 47 48.0	
TRG				eS	Sn	22 48 18.1	-0.5
TRG				e		22 48 26.4	
TRG				pmax	pmax		
	comp=Z,37nm,0.2s						
TRG				smax	smax		
	comp=N,410nm,0.4s						
TRTB	Turuntaevo	3.17	200	ePn	Pn	22 47 44.2	+0.3
TRTB				ePg	Pb	22 47 51.2	+0.8
UUDB	Ulan-Yde	3.51	198	ePn	Pn	22 47 48.6	+0.1
UUDB				ePg	Pb	22 47 56.3	+0.1
UUDB				Pmax		22 48 09.2	
	comp=N,54nm,0.5s						
UUDB				e		22 48 22.1	
UUDB				eSg	Sb	22 48 42.4	+3.6
UUDB				Smax		22 48 54.6	
	comp=N,223nm,0.7s						
STDB	Stepnoy Dvoret	3.54	212	ePn	Pn	22 47 49.1	+0.1
STDB				ePg	Pb	22 47 56.9	+0.1
STDB				eSg	Sb	22 48 42.6	+2.9
KAB	Kabansk	3.57	208	ePn	Pn	22 47 51.6	+2.3
KAB				ePg	Pb	22 47 58.8	+1.6
KAB				Pmax		22 48 10.6	
	comp=N,93nm,0.6s						
KAB				Sg	Sb	22 48 44.5	+4.1
KAB				Smax		22 48 50.0	
	comp=N,767nm,0.6s						
BOD	Bodaibo	3.65	42	ePn	Pn	22 47 50.4	0.0
BOD				ePg	Pb	22 47 59.3	+0.8
BOD				Pmax		22 48 07.6	
	comp=N,55nm,1.0s						
BOD				eSn	Sn	22 48 32.7	-0.6
BOD				eSg	Sg	22 48 47.4	-3.9
BOD				Smax		22 48 56.6	
	comp=N,244nm,1.0s						
BOD	Bodaibo	3.65	42	ePN	Pn	22 47 50.9	+0.5
BOD				e		22 47 58.9	
BOD				e		22 48 46.9	
BOD				pmax	pmax		
	comp=Z,55nm,0.9s						
BOD				smax	smax		
	comp=E,245nm,0.9s						
NLYR	Nelyaty	3.78	68	i Pn	Pn	22 47 53.9	+1.7
NLYR				⇑ePg	Pb	22 48 02.8	+2.1
NLYR				Pmax		22 48 13.4	
	comp=E,68nm,1.5s						
NLYR				eSn	Sn	22 48 35.5	-1.0
NLYR				eSg	Sg	22 48 53.4	-2.0
NLYR				Smax		22 49 02.3	
	comp=E,361nm,1.0s						
HRMR	Khuramsha	3.88	203	ePn	Pn	22 47 53.8	+0.2
HRMR				ePg	Pb	22 48 03.2	+0.7
HRMR				Pmax		22 48 16.4	
	comp=E,74nm,0.4s						
HRMR				eSg	Sb	22 48 53.4	+4.0
HRMR				e		22 48 56.4	
HRMR				max		22 48 57.5	
	comp=E,610nm,0.5s						
BGT	Bolshoye Golou	3.97	218	ePn	Pn	22 47 54.3	-0.5
BGT				ePg	Pb	22 48 03.7	-0.3
BGT				Pmax		22 48 12.4	
	comp=E,35nm,0.6s						
BGT				eSg	Sb	22 48 54.5	+2.7
BGT				Smax		22 49 03.5	
	comp=E,203nm,0.7s						
CIT	Chita	4.05	141	e	Pn	22 47 48.2	-7.7
CIT				max		22 48 07.8	
	comp=E,76nm,0.1s						
CIT				eSg	Sg	22 49 01.7	-2.3
CIT				e		22 49 08.9	
CIT				max		22 49 09.6	
	comp=E,433nm,0.4s						
CIT	Chita	4.05	141	ePN	Pn	22 47 58.3	+2.4
CIT				e		22 48 07.8	
CIT				eS	Sn	22 48 43.5	+0.3
CIT				e		22 48 57.8	
CIT				pmax	pmax		
	comp=Z,88nm,0.5s						
CIT				smax	smax		
	comp=E,435nm,0.6s						
IRK	Irkutsk	4.26	228	eSn	Sn	22 48 44.1	-4.2
IRK				eSg	Sb	22 49 03.5	+3.3
IRK				Smax		22 49 07.4	
	comp=E,569nm,0.5s						
IRK	Irkutsk	4.26	228	ePN	Pn	22 47 58.0	-0.8
IRK				e		22 48 11.7	
IRK				e		22 49 05.1	
IRK				pmax	pmax		
	comp=Z,125nm,0.1s						
IRK				smax	smax		
	comp=N,574nm,0.4s						
LSTR	Listvyanka	4.32	221	ePn	Pn	22 47 59.0	-0.6
LSTR				e		22 48 02.4	
LSTR				e		22 48 07.3	
LSTR				max		22 48 11.5	
	comp=N,18nm,0.4s						
LSTR				eSn	Sn	22 48 45.3	-4.5
LSTR				eSg	Sb	22 49 04.7	+2.7
LSTR				Smax		22 49 08.5	
	comp=N,209nm,0.5s						
TLY	Talaya	4.94	226	ePn	Pn	22 48 07.7	-0.4
TLY				e		22 48 15.3	
TLY				ePg	Pb	22 48 21.0	+0.5
TLY				Pmax		22 48 30.7	
	comp=N,37nm,0.7s						
TLY				eSn	Sn	22 48 59.8	-5.2
TLY				eSg	Sb	22 49 23.7	+4.0
TLY				Smax		22 49 26.3	
	comp=N,193nm,0.8s						
TLY	Talaya	4.94	226	ePN	Pn	22 48 08.5	+0.4
CRS	Chara	5.25	68	ePn	Pn	22 48 14.2	+1.8
CRS				e		22 48 30.5	
CRS				max		22 48 40.6	
	comp=N,52nm,0.8s						
CRS				e		22 49 18.5	
CRS				eSg	Sg	22 49 37.9	-4.7
CRS				Smax		22 49 55.2	
	comp=N,137nm,1.0s						
CRS	Chara	5.25	68	ePN	Pg	22 48 30.9	-3.8
CRS				e		22 49 36.9	
CRS				pmax	pmax		
	comp=Z,40nm,1.0s						
CRS				smax	smax		
	comp=E,112nm,1.1s						
ARS	Arshan	5.31	234	ePn	Pn	22 48 11.9	-1.3
ARS				e		22 48 22.1	
ARS				ePg	Pb	22 48 27.3	+0.5
ARS				Pmax		22 48 37.9	
	comp=E,81nm,0.6s						
ARS				eSn	Sn	22 49 11.0	-3.2
ARS				eSg	Sb	22 49 35.9	+5.5
ARS				Smax		22 49 40.8	
	comp=E,1μm,0.8s						
ARS	Arshan	5.31	234	ePN	Pn	22 48 12.0	-1.3
ARS				e		22 48 30.1	
ARS				e		22 49 36.0	
ARS				pmax	pmax		
	comp=Z,81nm,0.6s						
ARS				smax	smax		
	comp=E,1μm,0.8s						
KPC	Khapcheranga	5.81	161	ePn	Pn	22 48 20.4	+0.2
KPC				e		22 48 28.5	
KPC				ePg	Pb	22 48 38.7	+3.2
KPC				Pmax		22 48 50.2	
	comp=E,14nm,0.6s						
KPC				eSn	Sn	22 49 24.3	-2.5
KPC				eSg	Sg	22 49 55.1	-5.6
KPC				e		22 50 02.5	
KPC				max		22 50 03.5	
	comp=E,209nm,1.2s						
KPC	Khapcheranga	5.81	161	ePN	Pn	22 48 20.8	+0.6
KPC				e		22 48 38.6	
KPC				eS	Sn	22 49 24.6	-2.2
KPC				e		22 49 54.3	
KPC				pmax	pmax		
	comp=Z,15nm,0.5s						
KPC				smax	smax		
	comp=E,208nm,1.2s						
ZAK	Zakamensk	6.10	220	ePn	Pn	22 48 23.8	-0.3
ZAK				e		22 48 31.1	
ZAK				ePg	Pb	22 48 42.6	+2.3
ZAK				Pmax		22 48 58.6	
	comp=E,11nm,0.6s						
ZAK				eSn	Sn	22 49 31.3	-2.5
ZAK				eSg	Sb	22 50 01.2	+8.0
ZAK				Smax		22 50 07.1	
	comp=E,1μm,0.0s						
ZAK				e		22 50 10.5	
ZAK	Zakamensk	6.10	220	ePN	Pn	22 48 24.2	+0.1
ZAK				e		22 48 44.2	
ZAK				e		22 49 59.5	
ZAK				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ZAK				smax	smax		
	comp=E,235nm,1.2s						
MOY	Mondy	6.15	238	ePn	Pn	22 48 25.9	+1.0
MOY				e		22 48 32.3	
MOY				max		22 48 37.4	
	comp=E,16nm,0.8s						
MOY				e		22 49 33.2	
MOY				eSg	Sb	22 50 01.5	+6.7
MOY				Smax		22 50 05.4	
	comp=E,190nm,1.2s						

MOY e 22 50 10.1
MOY Mondy 6.15 238 ePN **Pn 22 48 25.8 +0.9**
MOY e 22 48 44.0
MOY eS **Sn 22 49 33.3 -1.8**
MOY e 22 50 00.9
MOY pmax pmax
comp=Z,18nm,0.6s
MOY smax smax
comp=E,190nm,1.3s
TUP Tupik 6.16 93 ePn **Pn 22 48 25.6 +0.8**
TUP e 22 48 35.2
TUP ePg **Pb 22 48 45.1 +3.9**
TUP e 22 48 50.6
TUP max 22 48 57.7
comp=E,23nm,1.0s
TUP e 22 49 51.7
TUP eSg **Sg 22 50 07.4 -4.2**
TUP Smax 22 50 17.1
comp=E,259nm,1.2s
TUP Tupik 6.16 93 ePN **Pn 22 48 25.6 +0.8**
TUP e 22 48 45.2
TUP eS **Sn 22 49 36.1 +1.0**
TUP e 22 50 06.7
TUP pmax pmax
comp=Z,23nm,0.8s
TUP smax smax
comp=N,260nm,1.2s
ORL Orlik 6.27 249 *i* Pn **Pn 22 48 27.0 +0.5**
ORL max 22 48 41.8
comp=N,16nm,1.1s
ORL e 22 48 48.2
ORL eSn **Sn 22 49 34.3 -3.8**
ORL eSg **Sb 22 50 05.1 +6.9**
ORL Smax 22 50 10.4
comp=N,259nm,1.4s
ORL e 22 50 17.0
ORL Orlik 6.27 249 ePN **Pn 22 48 27.1 +0.5**
ORL e 22 48 46.8
ORL eS **Sn 22 49 34.9 -3.2**
ORL e 22 50 07.8
ORL pmax pmax
comp=Z,16nm,0.7s
ORL smax smax
comp=N,260nm,1.4s
SONM Songino Array 7.62 195 Pn **Pn 22 48 46.2 +1.1**
comp=N,0.2nm,0.3s,baz=7.5,slow=14,SNR=8.1
SONM Lg Lg 22 50 52.7
comp=N,2.0nm,0.3s,baz=12,slow=29,SNR=7.1
ZALV Zalesovo Beam 14.29 275 Pn **Pn 22 50 15.3 -0.8**
comp=N,0.1nm,0.3s,baz=84,slow=15,SNR=2.6
ZALV Lg Lg 22 54 23.3
comp=N,0.1nm,0.3s,baz=94,slow=28,SNR=4.2
TIXI Tiksi 18.48 19 P **P 22 51 09.0 -0.5**
baz=249,slow=13,SNR=4.2
TIXI Tiksi 18.48 19 P **P 22 51 09.0 -0.5**
MKAR Makanchi Array 18.93 255 P **P 22 51 13.8 -0.9**
comp=N,0.1nm,0.3s,baz=71,slow=11,SNR=8.7
KURK Kurchatov 18.98 269 P **P 22 51 15.1 -0.1**
KURBB Kurchatov Arra 19.08 269 P **P 22 51 15.1 -1.2**
comp=N,0.0nm,0.3s,baz=65,slow=11,SNR=2.1
BVAR Borovoye Array 22.77 281 P **P 22 51 56.5 +0.4**
comp=N,2.0nm,0.6s,baz=83,slow=12,SNR=5.6
ILAR Eielson Array 46.98 35 P **P 22 55 25.2 +0.8**
comp=N,0.4nm,0.7s,baz=302,slow=8.8,SNR=6.2
WRA Warramunga Arr 77.82 156 P **P 22 58 50.8 -0.3**
comp=N,0.5nm,0.7s,baz=350,slow=5.8,SNR=2.4

MEX 04 22:57:45.7±0.3, 16°98N×95°30W, h224km±7km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.41**	**74**	*i* P	Pn	22 58 14.0	-1.4
CMIG				eS	S	22 58 35.7	-2.8
TUIG	**Tuzandepetl**	**1.34**	**38**	*i* P	Pn	22 58 18.3	-2.1
TUIG				eS	S	22 58 45.0	-2.4
VHO	**Vista Hermosa**	**1.38**	**274**	*i* P	Pn	22 58 19.8	-1.1
VHO				*i* S	S	22 58 45.7	-2.4
HUIG	**Huatulco**	**1.43**	**213**	*i* P	Pn	22 58 19.6	-1.5
HUIG				eS	S	22 58 46.1	-2.5

*SOME **04** 23:04:15.6, 39°.00N×73°.18E, h0km*
*KRNET **04** 23:04:23.0±0.1, 39°.10N×72°.52E, h15km, mb3.9*
*IDC **04** 23:04:23.1±0.8, 39°.01N×72°.46E, h0km, mb3.5/12, mb1 3.7/18, mb1mx3.6/46, mbtmp3.6/18, ML3.5/7, Error ellipse: s-maj=14.8km s-min=12.3km az=133.0*
*NNC **04** 23:04:25.4±1.8, 39°.14N×72°.66E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=17.6km s-min=9.7km az=163.0*
ISC 04 23:04:23.2±1.4, 39°06N±0°04×72°43E±0°03, h4km±9km, n90, σ2§47/112, mb3.5/12, 46C-19D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
DRK	**Karamyk**	**0.65**	**311**	⇑*i* P	**Pg**	**23 04 36.2**	**+0.5**
DRK	baz=5.0			⇑*i* S	**Sg**	**23 04 45.9**	**+1.7**
SFK	**Sufi-Kurgan**	**1.26**	**41**	⇑P	**Pn**	**23 04 45.7**	**-2.3**
SFK	17nm,0.2s			⇑S	**Sb**	**23 05 01.9**	**-2.6**
SFK	**Sufi-Kurgan**	**1.26**	**41**	Pg	**Pn**	**23 04 45.7**	**-2.3**
SFK	56nm,0.1s			Lg	Lg	23 05 02.8	
SFK	**Sufi-Kurgan**	**1.26**	**41**	⇑P	**Pn**	**23 04 45.7**	**-2.3**
SFK	216nm,0.2s			⇑S	**Sb**	**23 05 01.9**	**-2.6**
SFK	**Sufi-Kurgan**	**1.26**	**41**	⇑*i* P	**Pn**	**23 04 45.6**	**-2.3**
SFK	165nm,0.3s baz=39			⇑*i* S	**Sb**	**23 05 02.4**	**-2.1**
BTK	**Batken**	**1.60**	**309**	⇑*e* P	**Pb**	**23 04 53.6**	**+0.2**
BTK	baz=7.0			⇑*i* S	**Sg**	**23 05 15.6**	**+0.9**
ARSB	**Arslanbob**	**2.30**	**10**	⇑*i* P	**Pb**	**23 05 04.1**	**-1.4**
ARSB	baz=9.0			⇑*i* S	**Sb**	**23 05 33.3**	**-1.1**
ARK	**Arkit**	**2.76**	**353**	⇑*e* P	**Pn**	**23 05 09.4**	**+1.0**
ARK	baz=51			⇑*i* S	**Sn**	**23 05 43.1**	**+0.8**
ARLS	**Aral**	**3.15**	**27**	⇑*i* P	**Pn**	**23 05 15.1**	**+1.3**
ARLS	baz=26			⇑*i* S	**Sn**	**23 05 53.1**	**+1.2**
AML	**Almayashu**	**3.22**	**17**	P	**Pb**	**23 05 18.9**	**-2.3**
AML	SNR=361 **Almayashu**	**3.22**	**17**	⇓*i* P	**Pn**	**23 05 16.8**	**+1.9**
AML	baz=16			⇓*i* S	**Sn**	**23 05 55.3**	**+1.4**
UCH	**Uchtor**	**3.54**	**26**	P	**Pb**	**23 05 23.3**	**-3.4**
UCH	SNR=41 **Uchtor**	**3.54**	**26**	⇑*i* P	**Pn**	**23 05 20.9**	**+1.5**
UCH	baz=25			⇑*i* S	**Sn**	**23 06 03.0**	**+1.0**
IUG	**luzhnay**	**3.59**	**330**	Pg	**Pb**	**23 05 24.5**	**-2.8**
IUG	143nm,0.4s			Lg	Lg	23 06 09.5	
NRN	**Naryn**	**3.62**	**48**	⇑*e* P	**Pn**	**23 05 21.1**	**+0.7**
NRN	baz=48			⇑*i* S	**Sn**	**23 06 02.9**	**-0.8**
KZA	**Kyzart**	**3.70**	**34**	P	**Pb**	**23 05 25.3**	**-4.1**
KZA	SNR=16 **Kyzart**	**3.70**	**34**	⇑*i* P	**Pn**	**23 05 23.0**	**+1.4**
KZA	baz=34			⇑*i* S	**Sn**	**23 06 06.6**	**+0.7**
MRKS	**Merke**	**3.73**	**9**	Pg	**Pb**	**23 05 26.0**	**-3.8**
MRKS	45nm,0.4s			Lg	Lg	23 06 12.5	
MRKS	**Merke**	**3.73**	**9**	*e* P	**Pb**	**23 05 25.7**	**-4.1**
MRKS	44nm,0.4s			*e* S	**Sb**	**23 06 14.2**	**-1.3**
EKS2	42nm,0.5s **Erkin-Say**	**3.74**	**15**	P	**Pb**	**23 05 26.4**	**-3.6**
	SNR=30						
EKS2	**Erkin-Say**	**3.74**	**15**	⇓*e* P	**Pn**	**23 05 23.8**	**+1.9**
EKS2	baz=15			⇓*i* S	**Sn**	**23 06 07.9**	**+1.4**
AAK	**Ala-Archa**	**3.90**	**23**	Pn	**Pb**	**23 05 28.3**	**-4.4**
AAK	16nm,0.3s,baz=184,slow=7.6,SNR=275			Sn	**Sb**	**23 06 16.2**	**-4.2**
AAK	4.3nm,0.3s,baz=100,slow=21,SNR=17 **Ala-Archa**	**3.90**	**23**	P	**Pb**	**23 05 28.3**	**-4.4**
AAK	SNR=70 **Ala-Archa**	**3.90**	**23**	⇓Pn	**Pn**	**23 05 27.1**	**+3.0**
AAK	28nm,0.4s			⇑Lg	Lg	23 06 23.1	
AAK	191nm,1.1s **Ala-Archa**	**3.90**	**23**	⇓Pn	**Pn**	**23 05 27.1**	**+3.0**
AAK	28nm,0.4s			⇑Lg	Lg	23 06 23.1	
AAK	191nm,1.1s **Ala-Archa**	**3.90**	**23**	⇑*i* P	**Pn**	**23 05 25.9**	**+1.8**
AAK	baz=22			⇑*i* S	**Sn**	**23 06 11.0**	**+0.5**
DZA	baz=22 **Taraz**	**3.92**	**348**	Pg	**Pb**	**23 05 29.4**	**-3.6**
DZA	392nm,0.3s			Lg	Lg	23 06 18.9	
KBK	126nm,0.5s **Karagaybulak**	**4.07**	**27**	P	**Pb**	**23 05 31.6**	**-4.0**
FRU1	SNR=11 **Bishkek**	**4.10**	**23**	⇓*i* P	**Pn**	**23 05 28.1**	**+1.3**
FRU1	baz=23			⇓*i* S	**Sn**	**23 06 15.1**	**-0.2**
KK31	baz=23 **Karatay Array**	**4.30**	**341**	⇓Pn	**Pn**	**23 05 33.0**	**+3.6**
KK31	23nm,0.4s,baz=149,slow=11,SNR=293			⇓Sn	**Sn**	**23 06 23.2**	**+3.2**
KK31	26nm,0.6s,baz=148,slow=23,SNR=6.0 **Karatay Array**	**4.30**	**341**	⇓Pn	**Pn**	**23 05 33.0**	**+3.6**
KK31	23nm,0.4s,baz=149,slow=11,SNR=293			⇓Sn	**Sn**	**23 06 23.2**	**+3.2**
ULHL	26nm,0.6s,baz=148,slow=23,SNR=6.0 **Ulahol**	**4.31**	**41**	P	**Pn**	**23 05 33.6**	**+3.9**
CHMS	SNR=11 **Chumysh**	**4.31**	**23**	P	**Pn**	**23 05 33.7**	**+4.1**
USP	SNR=48 **Ospenovka**	**4.49**	**20**	P	**Pn**	**23 05 36.2**	**+4.2**
TKM2	SNR=42 **Tokmak 2**	**4.54**	**31**	P	Pn	23 05 37.3	+4.3
TKM2	SNR=9.4 **Tokmak 2**	**4.54**	**31**	⇑Pn	**Pn**	**23 05 31.7**	**-1.2**
TKM2	4.8nm,0.5s			⇑Pg	**Pb**	**23 05 43.2**	**-0.5**
TKM2	11nm,0.5s			⇑Lg	Lg	23 06 44.5	
TKM2	62nm,1.2s **Tokmak 2**	**4.54**	**31**	⇑Pn	**Pn**	**23 05 31.7**	**-1.2**
TKM2	4.8nm,0.5s			⇑Pg	**Pb**	**23 05 43.2**	**-0.5**
TKM2	11nm,0.5s			⇑Lg	Lg	23 06 44.5	
SGDS	62nm,1.2s **Sogindy**	**4.69**	**20**	Pg	**Pb**	**23 05 47.7**	**+1.6**
SGDS	23nm,0.5s			Lg	Lg	23 06 50.0	
KST	48nm,1.2s **Kastek**	**4.79**	**33**	Pg	**Pb**	**23 05 46.6**	**-1.3**
KST	13nm,0.7s			Lg	Lg	23 06 48.0	
KST	45nm,0.8s **Kastek**	**4.79**	**33**	*e* P	**Pn**	**23 05 40.4**	**+4.0**
KST	18nm,0.6s			*e* S	**Sb**	**23 06 39.2**	**-6.8**
DGS	23nm,0.6s **Degeres**	**4.88**	**30**	Pg	**Pb**	**23 05 51.7**	**+2.3**
DGS	16nm,0.6s			Lg	Lg	23 06 56.7	
CEP	52nm,0.8s **Cherat**	**5.24**	**185**	P	Pb	23 05 50.3	-5.2
CEP				S	**Sg**	**23 07 07.0**	**-4.5**
TNSS	**Tian-Shan**	**5.24**	**39**	Pg	**Pb**	**23 05 58.4**	**+2.7**
TNSS	11nm,0.6s			Lg	Lg	23 07 08.2	
TNSS	35nm,0.6s **Tian-Shan**	**5.24**	**39**	*e* P	Pn	23 05 47.2	+4.5
TNSS	7.1nm,0.7s			*e* S	**Sb**	**23 06 52.8**	**-6.3**
MDOK	35nm,0.7s **Medeo**	**5.38**	**39**	Pg	**Pb**	**23 06 00.3**	**+2.4**
MDOK	13nm,0.6s			Lg	Lg	23 07 11.8	
KNDC	30nm,0.6s **Almaty**	**5.38**	**38**	⇑Pg	**Pb**	**23 05 59.2**	**+1.4**
KNDC	20nm,0.6s			⇑Lg	Lg	23 07 08.5	
KNDC	128nm,0.8s **Almaty**	**5.38**	**38**	⇑Pg	**Pb**	**23 05 59.2**	**+1.4**
KNDC	20nm,0.6s			⇑Lg	Lg	23 07 08.5	
CHCP	128nm,0.8s **Chirah Chowk**	**5.43**	**173**	P	Pb	23 05 52.2	-6.4
KOTS	**Kotyrbulak**	**5.47**	**39**	Pg	**Pb**	**23 06 02.2**	**+2.9**
KOTS	8.1nm,0.5s			Lg	Lg	23 07 14.9	
KTBS	44nm,0.8s **Karatobe**	**5.64**	**33**	Pg	**Pb**	**23 06 05.8**	**+3.5**
KTBS	10nm,0.6s			Lg	Lg	23 07 20.3	
KUU	23nm,0.6s **Kurty**	**5.65**	**30**	Pg	**Pb**	**23 06 05.4**	**+2.9**
KUU	7.7nm,0.7s			Lg	Lg	23 07 20.1	
CHKK	28nm,0.7s **Chushkaly**	**5.89**	**34**	Pg	Pg	23 06 11.2	-4.9
CHKK	4.4nm,0.4s			Lg	Lg	23 07 30.8	
SATY	18nm,0.6s **Saty**	**6.03**	**47**	Pg	**Pb**	**23 06 12.1**	**+3.1**
SATY	14nm,0.7s			Lg	Lg	23 07 32.8	
KURS	13nm,0.6s **Kuram**	**6.19**	**42**	Pg	**Pb**	**23 06 14.1**	**+2.5**
KURS	5.4nm,0.7s			Lg	Lg	23 07 35.4	
THW	10nm,1.2s **Thamme Wali**	**6.27**	**185**	P	Pn	23 06 02.2	+5.6
PDGK	**Podgornoye**	**6.82**	**49**	⇓Pn	**Pn**	**23 06 04.8**	**+0.6**
PDGK	2.7nm,0.7s			⇓Pg	**Pb**	**23 06 26.5**	**+4.1**
PDGK	6.6nm,0.8s			⇓Lg	Lg	23 07 55.3	
PDGK	23nm,0.9s **Podgornoye**	**6.82**	**49**	⇓Pn	**Pn**	**23 06 04.8**	**+0.6**
PDGK	2.7nm,0.7s			⇓Pg	**Pb**	**23 06 26.5**	**+4.1**
PDGK	6.6nm,0.8s			⇓Lg	Lg	23 07 55.3	
OTUK	23nm,0.9s **Ortayu**	**9.19**	**360**	⇑Pn	**Pn**	**23 06 35.4**	**-1.1**
OTUK	1.0nm,0.4s **Ortayu**	**9.19**	**360**	⇑Pn	**Pn**	**23 06 35.4**	**-1.1**
MAKZ	1.0nm,0.4s **Makanchi**	**10.43**	**39**	⇑Pn	**Pn**	**23 06 51.7**	**-1.9**
MAKZ	2.6nm,1.1s **Makanchi**	**10.43**	**39**	⇑Pn	**Pn**	**23 06 51.7**	**-1.9**
MK31	2.6nm,1.1s **Makanchi Array**	**10.58**	**40**	Pn	**Pn**	**23 06 55.4**	**-0.2**
MK31	1.3nm,0.8s,baz=225,slow=14,SNR=6.5 **Makanchi Array**	**10.58**	**40**	Pn	**Pn**	**23 06 55.4**	**-0.2**
MKAR	1.3nm,0.8s,baz=225,slow=14,SNR=6.5 **Makanchi Array**	**10.58**	**40**	Pn	**Pn**	**23 06 58.4**	**+2.8**
MKAR	0.1nm,0.3s,baz=227,slow=16,SNR=9.8			Lg	Lg	23 10 00.8	
GEYT	0.1nm,0.3s,baz=234,slow=32,SNR=3.5 **Alibeck**	**11.28**	**269**	Pn	**Pn**	**23 07 04.4**	**-0.8**
GEYT	1.2nm,0.3s,baz=81,slow=8.6,SNR=15			Sn	**Sn**	**23 09 09.2**	**-2.5**
GYA0B	0.3nm,0.3s,baz=39,slow=19,SNR=3.3 **ALIBECK ARRAY**	**11.28**	**269**	⇑Pn	**Pn**	**23 07 05.6**	**+0.3**
GYA0B	3.6nm,0.7s **ALIBECK ARRAY**	**11.28**	**269**	⇑Pn	**Pn**	**23 07 05.6**	**+0.3**
GYA0B	3.6nm,0.7s			⇓Sn	Sn	23 09 21.2	+9.5
KURBB	8.8nm,0.8s **Kurchatov Arra**	**12.34**	**18**	Pn	**Pn**	**23 07 19.4**	**-0.2**
KURBB	0.1nm,0.3s,baz=214,slow=12,SNR=5.1			Lg	Lg	23 10 52.8	
AB31	0.0nm,0.3s,baz=346,slow=27,SNR=4.9 **Akbulak array**	**13.56**	**323**	⇑Pn	**Pn**	**23 07 36.9**	**+0.6**
	1.6nm,0.5s						
AB31	**Akbulak array**	**13.56**	**323**	⇑Pn	**Pn**	**23 07 36.9**	**+0.6**
	1.6nm,0.5s						
BVA0	**Borovoye Array**	**14.04**	**355**	Pn	**Pn**	**23 07 44.3**	**+1.5**
	3.0nm,0.9s,baz=198,slow=36,SNR=12						
BVA0	**Borovoye Array**	**14.04**	**355**	Pn	**Pn**	**23 07 44.3**	**+1.5**
	3.0nm,0.9s,baz=198,slow=36,SNR=12						
BVAR	**Borovoye Array**	**14.04**	**355**	Pn	**Pn**	**23 07 42.5**	**-0.4**
	0.3nm,0.3s,baz=159,slow=11,SNR=11						
BVAR				Lg	Lg	23 11 50.3	
	0.1nm,0.3s,baz=181,slow=18,SNR=2.5						
AKTO	**Aktyubinsk**	**15.28**	**323**	Pn	**Pn**	**23 07 59.9**	**+0.3**
	0.2nm,0.3s,baz=112,slow=16,SNR=3.7						
AKTO				Sn	**Sn**	**23 10 44.4**	**-4.8**
	0.2nm,0.3s,baz=174,slow=18,SNR=4.9						
AKTO	**Aktyubinsk**	**15.28**	**323**	⇑Pn	**Pn**	**23 08 01.1**	**+1.5**
	5.1nm,0.6s						
AKTO	**Aktyubinsk**	**15.28**	**323**	⇑Pn	**Pn**	**23 08 01.1**	**+1.5**
	5.1nm,0.6s						
ZALV	**Zalesovo Beam**	**17.12**	**26**	P	**P**	**23 08 23.8**	**-1.3**
	0.5nm,0.3s,baz=224,slow=10,SNR=9.1						
SONM	**Songino Array**	**26.00**	**59**	P	**P**	**23 09 58.9**	**+1.7**
	0.3nm,0.6s,baz=267,slow=9.7,SNR=5.0						
BRTR	**Keskin Array B**	**29.84**	**284**	P	**P**	**23 10 32.3**	**+0.7**
	0.3nm,0.7s,baz=87,slow=11,SNR=2.4						
FINES	**FINESS Array B**	**36.05**	**324**	P	**P**	**23 11 26.2**	**+0.8**
	0.5nm,0.4s,baz=103,slow=8.2,SNR=6.2						
ARCES	**ARCESS Array B**	**39.25**	**336**	P	**P**	**23 11 53.3**	**+0.9**
	1.2nm,0.5s,baz=106,slow=8.9,SNR=9.8						
NB2	**NORSAR Subarra**	**43.06**	**321**	P	**P**	**23 12 23.9**	**0.0**
	comp=Z,0.3nm,0.5s,baz=92,slow=8.6						
NOA	**NORSAR Array B**	**43.06**	**321**	P	**P**	**23 12 24.2**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=92,slow=8.2,SNR=3.9						
ESDC	**Sonseca Array**	**57.29**	**297**	P	**P**	**23 14 13.1**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=60,slow=7.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**66.92**	**268**	P	**P**	**23 15 16.6**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=59,slow=5.3,SNR=4.2						
INK	**Inuvik**	**71.20**	**10**	P	**P**	**23 15 43.5**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=348,slow=5.1,SNR=6.7						
ILAR	**Eielson Array**	**72.01**	**17**	P	**P**	**23 15 47.0**	**-0.7**
	comp=Z,0.2nm,0.9s,baz=328,slow=3.2,SNR=4.0						
YKA	**Yellowknife Ar**	**78.64**	**3**	P	**P**	**23 16 26.0**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=350,slow=5.9,SNR=14						
WRA	**Warramunga Arr**	**82.41**	**123**	P	**P**	**23 16 47.2**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=323,slow=5.4,SNR=3.4						
ASAR	**Alice Springs**	**84.81**	**126**	P	**P**	**23 17 00.7**	**+1.6**
	comp=Z,0.1nm,0.6s,baz=290,slow=5.1,SNR=3.4						

*BJI **04** 23:16:25.4, 20°.90S×169°.50E, h72km, mb5.0/47, mB5.2/30, Ms5.2/10, Ms7 4.9/7*
*ISCJB **04** 23:16:25.5±0.9, 20°.86S±0°.03×169°.55E±0°.03, h65km±8km, mb5.1/104, Error ellipse: s-maj=5.8km s-min=4.8km az=173.8*
*IDC **04** 23:16:27.3±0.6, 20°.91S×169°.51E, h71km±4km, mb4.6/23, mb1 4.7/25, mb1mx4.6/41, mbtmp4.9/25, MS4.2/29, Ms1 4.2/29, ms1mx4.1/33, Error ellipse: s-maj=11.8km s-min=8.4km az=151.0*
*MOS **04** 23:16:27.6±0.9, 20°.87S×169°.56E, h86km, mb5.1/26, Error ellipse: s-maj=10.1km s-min=8.6km az=45.0*
*NEIC **04** 23:16:28.0±0.9, 20°.85S×169°.57E, h79km±8km, mb5.1/64, Error ellipse: s-maj=5.1km s-min=4.4km az=50.0*
NEIC Felt at Noumea, New Caledonia.
*GCMT **04** 23:16:28.0±0.2, 20°.86S±0°.01×169°.38E±0°.01, h70km±1km, MW5.3/107, Moment Tensor Solution. s88,c140; s107,c188; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.13±.02; $M_{\theta\theta}$0.78±.02; $M_{\phi\phi}$-0.91±.02; $M_{r\theta}$0.48±.01; $M_{\theta\phi}$0.51±.02; $M_{r\phi}$0.05±.02; Best double couple: $M_0$1.10500×10^{17} NP1:ϕ_s122.00000°, δ76.00000°, λ21.00000°. NP2:ϕ_s27.00000°, δ69.00000°, λ165.00000°. Principal axes: T 1.1510, Plg25.0000°, Azm345.0000°; N -0.0930, Plg64.0000°, Azm155.0000°; P -1.0580, Plg4.0000°, Azm253.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 04 23:16:27.4±0.5, 20°87S±0°05×169°58E±0°05, h74km±3km, h76km:pP-P, n430, σ1§12/421, mb5.1/103, 26C-6D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.15**	**247**	P	**Pn**	**23 17 13.9**	**-1.0**
	324nm,0.3s,baz=107,slow=7.8,SNR=2331						
DZM				S	**Sn**	**23 17 48.9**	**-2.5**
	2μm,0.3s,baz=348,slow=21,SNR=23						
DZM				LR	LR	23 18 21.5	
	comp=Z,4μm,21.1s,baz=58,slow=37						
DZM	**Mont Dzumac**	**3.15**	**247**	*e* Pn	**Pn**	**23 17 13.3**	**-1.6**
	1μm,0.2s						
DZM				*e* Sn	**Sn**	**23 17 48.6**	**-2.8**
	6μm,0.3s						
DZM				*e* LR	LR	23 17 51.9	
	comp=Z,8μm,27.1s						
DZM	**Mont Dzumac**	**3.15**	**247**	*e* Pn	**Pn**	**23 17 13.4**	**-1.4**
DZM				*e* Sn	**Sn**	**23 17 49.1**	**-2.3**
NFK	**Norfolk Island**	**8.27**	**190**	P	**Pn**	**23 18 24.0**	**-0.7**
	baz=8.4,SNR=77						
HNR	**Honiara**	**14.68**	**319**	P	**Pn**	**23 19 52.0**	**+0.8**
	17nm,0.3s,baz=207,slow=2.3,SNR=6.2						
HNR	**Honiara**	**14.68**	**319**	*e* P	**P**	**23 19 55.0**	**-0.5**
HNR	**Honiara**	**14.68**	**319**	*e* Pn	**Pn**	**23 19 51.6**	**+0.4**
HNR	**Honiara**	**14.68**	**319**	P	**Pn**	**23 19 52.0**	**+0.8**
HNR				pmax	pmax		
	comp=Z,17nm,0.3s						
OUZ	**Omahuta**	**14.73**	**167**	*e* Pn	**Pn**	**23 19 51.4**	**-0.3**
FUNA	**Funafuti**	**15.39**	**39**	*e* Pn	**Pn**	**23 20 00.5**	**+0.1**
	comp=Z,232nm,1.5s						
EIDS	**Eidsvold**	**17.59**	**252**	P	**P**	**23 20 28.6**	**+0.9**
	baz=18,SNR=12						
EIDS	**Eidsvold**	**17.59**	**252**	*e* Pn	**P**	**23 20 29.4**	**+1.6**
	comp=Z,462nm,1.8s						
HIZ	**Hauiti**	**18.16**	**167**	*e* P	**P**	**23 20 33.8**	**-0.2**
	comp=Z,126nm,1.4s						
URZ	**Urewera**	**18.51**	**161**	P	**Pn**	**23 20 38.7**	**0.0**
	comp=Z,2.0nm,0.3s,baz=337,slow=4.3,SNR=11						
URZ				LR	LR	23 26 24.4	
	comp=Z,1μm,19.2s,baz=342,slow=32						
URZ	**Urewera**	**18.51**	**161**	*e* P	**Pn**	**23 20 39.3**	**+0.6**
	comp=Z,186nm,1.5s						
ARMA	**Armidale**	**18.75**	**236**	P	**Pn**	**23 20 43.4**	**+1.7**
	baz=19,SNR=15						
ARMA	**Armidale**	**18.75**	**236**	*e* P	**Pn**	**23 20 42.5**	**+0.7**
	comp=Z,106nm,0.5s						
BKZ	**Black Stump Fm**	**19.18**	**163**	*e* P	**P**	**23 20 45.5**	**+0.3**
	comp=Z,56nm,1.0s						
RMQ	**Roma**	**19.86**	**250**	P	**Pn**	**23 20 55.5**	**+0.7**
	baz=20,SNR=40						
MGCD	**Mangrove Creek**	**20.49**	**229**	P	Pn	23 21 01.4	-0.8
	baz=21,SNR=8.5						
BFZ	**Birch Farm**	**20.55**	**165**	*e* P	**P**	**23 21 00.4**	**+0.5**
	comp=Z,92nm,0.9s						
SNZO	**South Karori**	**20.84**	**169**	*e* P	**P**	**23 21 04.0**	**+1.1**
	comp=Z,224nm,1.6s						
THZ	**Tophouse**	**21.02**	**173**	*e* P	**P**	**23 21 06.8**	**+1.8**
	comp=Z,42nm,0.8s						
KHZ	**Kahutara**	**21.74**	**172**	*e* P	**P**	**23 21 13.7**	**+1.2**
	comp=Z,138nm,1.6s						
CTA	**Charters Tower**	**21.86**	**268**	P	**P**	**23 21 14.9**	**+0.7**
	comp=Z,22nm,1.0s,baz=88,slow=11,SNR=11						
CTA				LR	LR	23 28 56.9	
	comp=Z,1μm,22.0s,baz=90,slow=34						
CTAO	**Charters Tower**	**21.86**	**268**	*e* P	**P**	**23 21 14.6**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,98nm,1.5s						
LTZ	**Lake Taylor**	**21.96**	**175**	*e* P	**P**	**23 21 16.0**	**+0.9**
OXZ	**Oxford**	**22.48**	**175**	*e* P	**P**	**23 21 21.3**	**+0.7**
	comp=Z,187nm,2.0s						
FOZ	**Fox Glacier**	**22.60**	**180**	*e* P	**P**	**23 21 22.1**	**+0.3**
	comp=Z,125nm,1.6s						
CRLZ	**Canterbury Las**	**22.78**	**174**	*e* P	**P**	**23 21 23.5**	**-0.2**
	comp=Z,302nm,2.0s						
RPZ	**Rata Peaks**	**22.81**	**177**	P	**P**	**23 21 24.6**	**+0.5**
	comp=Z,7.4nm,0.8s,baz=241,slow=1.7,SNR=3.7						
RPZ				LR	LR	23 29 07.4	
	comp=Z,1μm,21.1s,baz=350,slow=33						
RPZ	**Rata Peaks**	**22.81**	**177**	*e* P	**P**	**23 21 23.6**	**-0.5**
	comp=Z,131nm,1.5s						
CNB	**Canberra Magne**	**22.85**	**227**	P	**P**	**23 21 26.1**	**+1.5**
	baz=23,SNR=18						
MQZ	**McQueen's Vall**	**22.91**	**174**	*e* P	**P**	**23 21 26.4**	**+1.4**
	comp=Z,80nm,1.6s						

YNG **Young** 22.99 230 P **P** 23 21 27.5 +1.5
baz=23,SNR=11
CAN **Canberra** 23.10 227 eP **P** 23 21 27.8 +0.7
comp=Z,160nm,1.5s
CAN **Canberra** 23.10 227 eP **P** 23 21 27.8 +0.7
CAN pmax pmax
comp=Z,160nm,1.5s
QLP **Quilpie** 23.87 251 P **P** 23 21 34.7 +0.6
baz=24,SNR=127
CMSA **Cobar Meteorol** 23.87 239 P **P** 23 21 34.8 +0.7
baz=24,SNR=36
MTSU **Mount Surprise** 23.96 272 P **P** 23 21 36.7 +1.7
baz=24,SNR=17
PMG **Port Moresby** 24.42 294 P **P** 23 21 40.1 +0.9
comp=Z,113nm,0.8s,baz=112,slow=5.6,SNR=45
PMG LR LR 23 30 20.1
comp=Z,596nm,18.6s,baz=108,slow=34
PMG **Port Moresby** 24.42 294 eP **P** 23 21 39.5 +0.3
comp=Z,122nm,0.8s
COEN **Coen** 26.09 281 P **P** 23 21 56.3 +1.9
baz=26,SNR=5.1
COEN **Coen** 26.09 281 eP **P** 23 21 54.7 +0.3
comp=Z,40nm,1.1s
TOO **Toolangi** 26.69 226 P **P** 23 22 00.9 +1.2
baz=27,SNR=5.4
TOO **Toolangi** 26.69 226 eP **P** 23 22 00.3 +0.6
comp=Z,38nm,1.3s
TOO **Toolangi** 26.69 226 eP **P** 23 22 00.3 +0.6
TOO pmax pmax
comp=Z,38nm,1.3s
STKA **Stephens Creek** 27.28 241 P **P** 23 22 05.7 +0.6
comp=Z,11nm,0.8s,baz=89,slow=11,SNR=16
STKA LR LR 23 32 28.5
comp=Z,762nm,18.4s,baz=64,slow=35
STKA **Stephens Creek** 27.28 241 P **P** 23 22 06.0 +1.0
baz=28,SNR=12
STKA **Stephens Creek** 27.28 241 eP **P** 23 22 05.3 +0.3
comp=Z,22nm,1.8s
MOO **Moorlands** 28.57 216 P **P** 23 22 17.8 +1.4
baz=29,SNR=4.0
RAR **Rarotonga** 28.59 96 LR LR 23 31 40.0
comp=Z,165nm,20.2s,baz=286,slow=32
HTT **Hallett** 29.89 239 P **P** 23 22 28.7 +0.5
baz=30,SNR=5.3
BBOO **Buckleboo** 32.05 241 P **P** 23 22 47.8 +0.6
baz=32,SNR=5.0
BBOO **Buckleboo** 32.05 241 eP **P** 23 22 47.3 +0.1
comp=Z,92nm,1.4s
WB2 **Warramunga Arr** 32.99 265 eP **P** 23 22 54.9 -0.7
WB2 eS **S** 23 28 08.3 -0.5
WRAB **Tennant Creek** 32.99 265 eP **P** 23 22 54.6 -1.0
comp=Z,20nm,1.0s
WRAB eS **S** 23 28 07.8 -1.0
WRAB **Tennant Creek** 32.99 265 ceP **P** 23 22 53.7 -1.9
WRAB pmax pmax
comp=Z,35nm,1.7s
WRA **Warramunga Arr** 33.00 265 P **P** 23 22 54.8 -0.8
comp=Z,14nm,1.0s,baz=102,slow=7.8,SNR=49
WRA S **S** 23 28 07.8 -1.2
comp=Z,6.5nm,1.2s,baz=92,slow=15,SNR=10
WRA ScP **ScP** 23 29 17.6 +1.6
comp=Z,2.0nm,1.0s,baz=86,slow=3.8,SNR=20
WRA LR LR 23 36 17.5
comp=Z,810nm,18.8s,baz=105,slow=36
AS01 **Alice Springs** 33.03 258 eP **P** 23 22 55.0 -0.9
AS31 **Alice Springs** 33.08 258 eP **P** 23 22 56.2 -0.2
comp=Z,20nm,1.0s
ASAR **Alice Springs** 33.08 258 P **P** 23 22 56.1 -0.2
comp=Z,31nm,0.7s,baz=94,slow=9.1,SNR=306
ASAR S **S** 23 28 09.9 -0.2
comp=Z,2.6nm,0.9s,baz=87,slow=18,SNR=9.0
ASAR ScP **ScP** 23 29 17.6 +1.4
comp=Z,1.4nm,0.9s,baz=94,slow=3.2,SNR=4.4
ASAR LR LR 23 36 07.7
comp=Z,584nm,20.5s,baz=94,slow=36
JAY **Jaypura** 33.53 299 LR LR 23 35 37.3
comp=Z,262nm,21.9s,slow=34
GENI **Genyem** 33.93 298 P **P** 23 23 04.8 +1.1
KDU **Kakadu** 36.37 277 P **P** 23 23 25.2 +0.4
baz=37,SNR=6.1
TBI **Tubuai** 37.94 102 eLR LR 23 34 02.8
comp=Z,471nm,28.5s
WRKA **Warakurna** 38.13 256 P **P** 23 23 39.7 +0.1
baz=38,SNR=31
FORT **Forrest** 38.47 247 P **P** 23 23 42.3 0.0
baz=39,SNR=10
FORT **Forrest** 38.47 247 eP **P** 23 23 42.0 -0.4
comp=Z,33nm,0.9s
PPT2 **Papeete2** 38.63 92 eS S 23 29 49.5 +14
comp=Z,95nm,25.0s
PPT2 eLQ LQ 23 32 48.7
comp=Z,1μm,31.8s
PPT2 eLR LR 23 34 22.8
comp=Z,996nm,29.0s
PPT **Papeete** 38.64 92 LR LR 23 35 43.4
comp=Z,463nm,20.9s,baz=252,slow=30
KNRA **Kununurra** 39.02 271 P **P** 23 23 47.5 +0.3
baz=39,SNR=3.4
FAKI **Fak Fak** 40.48 291 eP **P** 23 23 59.2 -0.1
comp=Z,62nm,0.8s
FAKI **Fak Fak** 40.48 291 P **P** 23 24 01.3 +2.0
FITZ **Fitzroy Crossi** 41.42 266 P **P** 23 24 07.6 +0.7
baz=110,slow=11
FITZ LR LR 23 40 34.2
comp=Z,698nm,20.9s,baz=99,slow=35
FITZ **Fitzroy Crossi** 41.42 266 P **P** 23 24 07.6 +0.7
baz=42,SNR=37
FITZ **Fitzroy Crossi** 41.42 266 eP **P** 23 24 07.2 +0.3
SIJI **Sorong** 42.35 293 LR LR 23 43 13.6
comp=Z,198nm,18.6s,baz=152,slow=38
SWI **Sorong** 42.36 293 P **P** 23 24 14.3 -0.3
SWI pmax pmax
comp=Z,66nm,0.8s
NLAI **Namlea** 44.88 287 P **P** 23 24 36.6 +1.7
comp=Z,46nm,1.4s
BATI **Baumata** 45.34 276 P **P** 23 24 40.1 +1.5
comp=Z,17nm,0.7s,baz=100,slow=0.7,SNR=5.4
MBWA **Marble Bar** 46.37 260 eP **P** 23 24 46.1 -0.5
comp=Z,53nm,1.0s
SANI **Sanana** 46.41 288 P **P** 23 24 47.9 +1.0
comp=Z,96nm,1.0s,comp=Z,984nm
MEEK **Meekatharra** 46.75 253 P **P** 23 24 49.5 -0.1
baz=47,SNR=38
KLBR **Kellerberrin** 47.32 246 P **P** 23 24 53.5 -0.4
baz=48,SNR=16
NWAO **Narrogin (SRO)** 47.77 244 P **P** 23 24 57.4 0.0
comp=Z,12nm,0.4s,baz=324,slow=7.4,SNR=14
NWAO LR LR 23 43 42.6
comp=Z,706nm,22.0s,baz=332,slow=34
NWAO **Narrogin (SRO)** 47.77 244 P **P** 23 24 57.4 0.0
baz=48,SNR=9.8
BLDU **Balidu** 48.23 247 P **P** 23 25 00.6 -0.3
baz=48,SNR=9.9
MORW **Morawa** 48.87 249 P **P** 23 25 05.8 -0.1
baz=49,SNR=5.2
MORW **Morawa** 48.87 249 eP **P** 23 25 04.7 -1.2
comp=Z,54nm,1.2s
LUWI **Luwuk** 49.73 287 eP **P** 23 25 13.0 +0.5
comp=Z,91nm,1.1s
TAOE **Nuku Hiva Isla** 49.85 84 eLR LR 23 39 39.6
comp=Z,744nm,28.6s
PCI **Palu** 52.42 286 P **P** 23 25 34.6 +1.8
PCI pmax pmax
comp=Z,81nm,1.1s
PCI **Palu** 52.42 286 P **P** 23 25 35.8 +3.0
comp=Z,81nm,1.1s,comp=Z,1μm
MLOA **Mauna Loa Obse** 52.69 43 eP **P** 23 25 34.6 -0.5
comp=Z,434nm,1.6s
VNDA **Vanda** 56.82 182 P **P** 23 26 03.4 -0.3
comp=Z,4.1nm,1.1s,baz=346,slow=5.6,SNR=7.4
VNDA pP **pP** 23 26 22.4 +0.5
comp=Z,7.0nm,0.8s,baz=3.5,slow=7.4,SNR=6.8
VNDA LR LR 23 47 26.2
comp=Z,198nm,19.1s,baz=14,slow=33
VNDA **Vanda** 56.82 182 eP **P** 23 26 03.4 -0.3
comp=Z,9.4nm,1.0s
VNDA pP **pP** 23 26 22.4 +0.5
VNDA **Vanda** 56.82 182 eP **P** 23 26 03.4 -0.3
VNDA *PP **pP** 23 26 22.4 +0.5
VNDA pmax pmax
comp=Z,9.0nm,1.0s
SBA **Scott Base** 57.04 181 eP **P** 23 26 06.1 +0.9
comp=Z,40nm,0.9s
SBA **Scott Base** 57.04 181 eP **P** 23 26 06.1 +0.9
SBA pmax pmax
comp=Z,40nm,0.9s
CASY **Casey** 58.77 204 eP **P** 23 26 16.5 -0.9
comp=Z,14nm,1.0s

KKM **Kota Kinabalu** 58.80 291 eP **P** 23 26 18.2 -0.4
comp=Z,52nm,1.2s
KKM **Kota Kinabalu** 58.80 291 P **P** 23 26 19.8 +1.2
SBUM **Sibu** 60.73 285 P **P** 23 26 31.2 -0.6
JHJ2 **Mitsune** 60.74 331 eP **P** 23 26 31.1 -0.3
comp=Z,1μm,1.7s
LEM **Lembang** 61.42 274 P **P** 23 26 37.3 +0.7
LEM pmax pmax
comp=Z,26nm,1.2s
KSM **Kuching** 62.05 283 P **P** 23 26 41.6 +0.9
INU **Inuyama** 63.88 331 eP **P** 23 26 53.0 +0.7
comp=Z,69nm,1.3s
MJAR **Matsushiro Arr** 64.34 332 P **P** 23 26 55.0 -0.3
comp=Z,24nm,0.8s,baz=173,slow=7.5,SNR=54
MJAR LR LR 23 55 34.7
comp=Z,31nm,19.0s,baz=170,slow=36
MAJO **Matsushiro** 64.34 332 eP **P** 23 26 55.7 +0.3
comp=Z,30nm,0.6s
MAJO **Matsushiro** 64.34 332 iP **P** 23 26 54.9 -0.4
MAJO pmax pmax
comp=Z,55nm,1.2s
MAT **Matsushiro** 64.34 332 P **P** 23 26 54.9 -0.4
MJB9 **Matsu-Tunnel** 64.34 332 eP **P** 23 26 55.7 +0.3
comp=Z,37nm,0.9s
JNU **Nakatsue** 65.17 325 P **P** 23 27 01.2 +0.3
comp=Z,30nm,0.7s,baz=94,slow=1.2,SNR=27
JNU **Nakatsue** 65.17 325 eP **P** 23 26 60.0 -0.9
comp=Z,37nm,0.8s
KGM **Kluang** 68.66 281 P **P** 23 27 23.4 0.0
RGRI **Rengat** 68.66 278 P P 23 27 35.9 +12
QSPA **South Pole Qui** 69.19 180 P **P** 23 27 26.0 0.0
comp=Z,23nm,1.1s,baz=5.5,slow=2.9,SNR=24
QSPA pP **pP** 23 27 45.1 +0.3
comp=Z,35nm,0.8s,baz=44,slow=1.4,SNR=16
QSPA **South Pole Qui** 69.19 180 eP **P** 23 27 25.7 -0.3
comp=Z,153nm,0.9s
QSPA pP **pP** 23 27 45.1 +0.3
ASAJ **Asahikawa** 69.23 340 P **P** 23 27 27.2 +1.0
comp=Z,7.0nm,0.4s,baz=181,slow=3.6,SNR=15
ASAJ **Asahikawa** 69.23 340 eP **P** 23 27 26.7 +0.4
comp=Z,87nm,1.5s
KSRS **Korea Array** 70.03 326 P **P** 23 27 31.9 +0.6
comp=Z,7.7nm,1.0s,baz=143,slow=6.5,SNR=19
KSRS LR LR 23 55 40.5
comp=Z,54nm,20.6s,baz=134,slow=34
KSAR **Wonju Array Be** 70.04 326 P **P** 23 27 31.9 +0.5
KSAR **Wonju Array Be** 70.04 326 P **P** 23 27 31.9 +0.5
KS01 **Wonju Array Si** 70.06 326 eP **P** 23 27 31.3 -0.1
KTGM **Kuala Trenggan** 70.15 284 P **P** 23 27 32.0 -0.6
NJ2 **Nanjing** 71.60 316 eP **P** 23 27 41.7 +0.8
NJ2 pmax pmax
comp=Z,28nm,0.7s
YSS **Yuzh-Sakhalins** 71.72 341 eP **P** 23 27 43.1 +1.8
YSS pmax pmax
comp=Z,20nm,0.9s
IPM **Ipoh** 71.73 282 eP **P** 23 27 42.0 -0.2
comp=Z,19nm,0.9s
USA0B **Ussuriysk Arra** 73.33 333 eP **P** 23 27 51.4 +0.4
comp=Z,53nm,1.1s
USRK **Ussuriysk Ar.** 73.33 333 P **P** 23 27 52.0 +1.1
comp=Z,22nm,0.8s,baz=153,slow=4.6,SNR=30
USRK LR LR 23 58 58.6
comp=Z,40nm,19.5s,baz=127,slow=35
PET **Petropavlovsk** 74.19 353 eP **P** 23 27 57.4 +1.6
PET eS **S** 23 37 25.1 +2.0
PETK **Petropavlovsk-** 74.39 353 P **P** 23 27 57.5 +0.5
comp=Z,5.1nm,0.8s,baz=150,slow=5.0,SNR=5.8
PETK LR LR 23 54 26.9
comp=Z,228nm,21.9s,baz=160,slow=31
SKNT **Sakolnakorn** 74.51 295 P **P** 23 27 59.8 +1.3
MDJ **Mudanjiang** 74.70 332 P **P** 23 27 59.7 +0.7
MDJ sP sP 23 28 27.4 +1.2
MDJ pmax pmax
comp=Z,41nm,0.9s
MDJ pmax pmax
comp=Z,110nm,4.6s
MDJ **Mudanjiang** 74.70 332 eP **P** 23 27 59.7 +0.7
comp=Z,33nm,0.9s
NONG **Nongkai** 75.72 296 P **P** 23 28 07.3 +1.9
PBKT **Sadao Pong** 76.89 294 eP **P** 23 28 14.0 +2.0
PBKT **Sadao Pong** 76.89 294 P **P** 23 28 14.0 +2.0
comp=Z,12nm,1.4s
GYA **Guiyang** 77.01 305 P **P** 23 28 15.0 +2.3
GYA pP pwP 23 28 35.4 +0.7
GYA sP sP 23 28 43.8 +4.0
GYA PP **PP** 23 31 11.2 +4.0
GYA S **S** 23 37 57.0 +1.3
GYA SKS **SKSac** 23 38 16.9 -2.1
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.8s
MAW **Mawson** 77.05 202 LR LR 23 57 49.3
comp=Z,264nm,21.1s,baz=105,slow=32
KLR **Kul'dur** 77.48 336 P **P** 23 28 15.6 +1.0
comp=Z,14nm,0.8s,baz=134,slow=3.6,SNR=51
KLR **Kul'dur** 77.48 336 c iP **P** 23 28 15.1 +0.5
SRDT **SRDT** 77.53 291 P **P** 23 28 18.2 +2.6
comp=Z,27nm,1.4s,comp=Z,1μm
UTHA **Uthaitani** 77.77 292 P **P** 23 28 19.4 +2.4
comp=Z,4.0nm,1.5s,comp=Z,56nm
UTTA **Uttaradit** 77.77 294 P **P** 23 28 19.0 +2.0
comp=Z,4.3nm,1.0s
NKL **Nikolayevsk** 77.85 343 eP **P** 23 28 17.2 +0.6
NANT **Nan** 78.12 295 P **P** 23 28 20.7 +1.8
comp=Z,6.4nm,0.8s
BJT **Baijiatuao** 78.39 321 eP **P** 23 28 21.1 +1.2
comp=Z,16nm,0.9s
BJT **Baijiatuau** 78.39 321 eP **P** 23 28 21.1 +1.2
BJT pmax pmax
comp=Z,16nm,0.9s
BJI **Beijing** 78.40 321 P **P** 23 28 20.6 +0.7
BJI pmax pmax
comp=Z,14nm,0.9s
SUKH **Sukhothai** 78.44 294 P **P** 23 28 23.0 +2.3
comp=Z,6.3nm,0.8s
UMPA **Umpang Tak** 78.55 292 P **P** 23 28 23.5 +2.2
comp=Z,5.9nm,0.9s,comp=Z,313nm
LAMP **Lampang** 78.90 295 P **P** 23 28 25.3 +2.1
comp=Z,13nm,0.8s,comp=Z,117nm
TIY **Taiyuan** 79.24 317 eP **P** 23 28 26.7 +1.9
TIY pmax pmax
comp=Z,13nm,0.6s
TIY LR LR
comp=Z,180nm,6.6s
KMI **Kunming** 79.40 302 P **P** 23 28 28.0 +1.9
KMI pP pwP 23 28 48.7 +0.6
KMI sP sP 23 28 55.1 +1.8
KMI pmax pmax
comp=Z,36nm,1.5s
KMI pmax pmax
comp=Z,140nm,3.1s
CM01 **Chiang Mai Arr** 79.43 294 eP **P** 23 28 27.2 +1.1
XAN **Xi'an** 79.44 313 P **P** 23 28 26.3 +0.4
XAN pmax pmax
comp=Z,18nm,1.2s
XAN pmax pmax
comp=Z,220nm,4.3s
CMAR **Chiang Mai Arr** 79.46 294 P **P** 23 28 27.4 +1.1
comp=Z,9.5nm,0.8s,baz=134,slow=4.2,SNR=14
CMAR pP **pP** 23 28 44.4 -0.9
comp=Z,2.6nm,0.6s,baz=134,slow=4.2,SNR=3.0
CMAR LR LR 00 06 34.5
comp=Z,20nm,18.5s,baz=142,slow=38
CMAR **Chiang Mai Arr** 79.46 294 ceP **P** 23 28 28.0 +1.7
CMAR pmax pmax
comp=Z,10.0nm,0.8s
CMMT **Chiang Mai** 79.61 295 P **P** 23 28 28.5 +1.4
CHTO **Chiang Mai** 79.62 295 eP **P** 23 28 28.5 +1.4
comp=Z,17nm,0.8s
CHTO ePP **pP** 23 28 46.1 0.0
CHTO **Chiang Mai** 79.62 295 eP **P** 23 28 28.5 +1.4
CHTO e*PP **pP** 23 28 46.1 0.0
CHTO pmax pmax
comp=Z,17nm,0.8s
CHTO **Chiang Mai** 79.62 295 P **P** 23 28 28.6 +1.4
comp=Z,130nm,1.4s
CD2 **Chengdu** 81.48 308 eP **P** 23 28 38.0 +1.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
HHC **Hu-ho-hao-te** 81.66 319 eP **P** 23 28 39.7 +2.0
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,140nm,5.9s
ZEA **Zeya** 82.77 336 eP **P** 23 28 43.5 +0.5
ZEA pmax pmax
comp=N,50nm,1.2s
ZEA pmax pmax
comp=Z,60nm,1.2s
SYO **Syowa Base** 83.46 196 ⇑eP **P** 23 28 47.3 +0.8
SYO **Syowa Base** 83.46 196 ⇓pP pP 23 29 05.4 -0.5
LZH **Lanzhou** 84.05 312 eP **P** 23 28 51.9 +1.6
LZH pP pwP 23 29 12.4 -0.2
LZH sP sP 23 29 20.6 +3.1
LZH PP **PP** 23 32 04.9 -0.5
LZH S **S** 23 39 06.9 -2.1
LZH pmax pmax
comp=Z,45nm,1.3s
LZH pmax pmax
comp=Z,100nm,4.3s
LZH LR LR
comp=Z,330nm,12.4s
LZH LR LR
comp=Z,220nm,13.6s
LZH LR LR
comp=Z,380nm,14.9s
SEY **Seymchan** 84.62 352 P **P** 23 28 51.9 -0.4
comp=Z,3.1nm,0.8s,baz=127,slow=5.6,SNR=5.1
PMSA **Palmer Station** 85.28 160 LR LR 00 00 07.7
comp=Z,149nm,18.6s,baz=230,slow=31
GAMB **Gambell** 85.63 8 eP **P** 23 28 57.8 +0.5
comp=Z,7.9nm,0.9s
O02D **Mt. Diablo Mer** 87.42 45 P **P** 23 29 08.0 +1.2
baz=240
N02D **Trinity Center** 87.87 45 P **P** 23 29 09.8 +0.9
baz=240
M02C **Callahan** 87.98 44 P **P** 23 29 10.8 +1.4
baz=240
CMB **Columbia Colle** 88.01 48 eP **P** 23 29 09.9 +0.4
comp=Z,5.0nm,0.8s
CMB **Columbia Colle** 88.01 48 eP **P** 23 29 09.9 +0.4
CMB pmax pmax
comp=Z,5.0nm,0.8s
AFDM **Forest Hills D** 88.04 47 eP **P** 23 29 10.4 +0.7
comp=Z,10nm,1.1s
VNA3 **Neumayer Olymp** 88.13 180 P **P** 23 29 08.6 -1.0
J01E **Myrtle Point** 88.19 42 P **P** 23 29 11.7 +1.5
baz=239
EDW2 **Edwards Air Fo** 88.25 52 P **P** 23 29 11.9 +1.1
baz=243
ISA **Isabella, Lake** 88.26 51 eP **P** 23 29 11.5 +0.7
comp=Z,5.2nm,0.8s
ISA **Isabella, Lake** 88.26 51 P **P** 23 29 11.5 +0.7
ISA pmax pmax
comp=Z,5.0nm,0.9s
ISA **Isabella, Lake** 88.26 51 P **P** 23 29 11.4 +0.6
baz=243
ULN **Ulaanbaatar** 88.36 323 eP **P** 23 29 10.4 -0.7
comp=Z,65nm,1.6s
ULN epP **pP** 23 29 31.4 +0.6
ULN **Ulaanbaatar** 88.36 323 ceP **P** 23 29 09.6 -1.5
ULN pmax pmax
comp=Z,47nm,1.7s
SHL **Shillong** 88.39 298 eP **P** 23 29 12.5 +0.7
comp=Z,23nm,1.3s
SHL **Shillong** 88.39 298 eP **P** 23 29 12.5 +0.7
SHL pmax pmax
comp=Z,23nm,1.3s
VNA2 **Neumayer--Watz** 88.43 181 P **P** 23 29 10.3 -0.7
baz=175,slow=5.0
GTA **Gaotai** 88.47 313 ⇑P **P** 23 29 12.4 +0.6
GTA pP pwP 23 29 33.8 -0.6
GTA sP sP 23 29 43.2 +4.1
GTA SKS **SKSac** 23 39 31.2 -3.3
GTA S **S** 23 39 50.0 -1.8
GTA sS sS 23 40 23.6 -1.3
GTA SS **SS** 23 45 45.2 +1.0
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA pmax pmax
comp=Z,150nm,7.5s
GTA LR LR
comp=Z,110nm,15.6s
GTA LR LR
comp=Z,110nm,17.8s
MONP2 **Monument Peak** 88.54 54 P **P** 23 29 13.1 +0.7
baz=244
BILL **Bilibino** 88.68 359 ceP **P** 23 29 11.4 -0.5
BILL e 23 29 31.7
BILL SS SS 23 45 45.0 -0.8
BILL pmax pmax
comp=Z,15nm,1.7s
BILL MLR MLR
comp=Z,52nm,16.0s
SONM **Songino Array** 88.71 323 P **P** 23 29 13.0 +0.2
comp=Z,7.2nm,0.8s,baz=144,slow=4.3,SNR=47
SONM pP **pP** 23 29 32.1 -0.3
comp=Z,2.4nm,0.8s,baz=142,slow=5.9,SNR=3.7
SONM LR LR 00 10 26.4
comp=Z,67nm,18.5s,baz=86,slow=36
SONA1 **Songino Array** 88.71 323 eP **P** 23 29 12.3 -0.4
L04D **Klamath Falls** 88.75 44 P **P** 23 29 13.9 +0.9
baz=240
LRMC **Laurel Mtn Rad** 88.75 51 P **P** 23 29 14.1 +0.9
baz=243
OMMB **Old Mammoth Mi** 88.78 49 eP **P** 23 29 13.5 -0.1
comp=Z,18nm,1.7s
WAKR **Walker** 88.89 48 eP **P** 23 29 15.1 +1.2
comp=Z,26nm,1.7s
CWC **Cottonwood Cre** 88.90 50 P **P** 23 29 14.7 +0.8
baz=243
MPMC **Manual Prospec** 89.15 51 P **P** 23 29 15.9 +0.7
baz=243
DAC **Darwin (Calif)** 89.17 51 eP **P** 23 29 14.3 -1.0
DAC **Darwin (Calif)** 89.17 51 eP **P** 23 29 14.3 -1.0
CAST **Castle Rocks** 89.22 16 eP **P** 23 29 12.8 -1.8
comp=Z,22nm,1.8s
BELC **Belle Mtn. Jos** 89.34 53 P **P** 23 29 16.8 +0.7
baz=244
I04A **Tendick Farm,** 89.47 42 P **P** 23 29 16.7 +0.4
baz=240
BC3 **Big Chuckawall** 89.60 54 P **P** 23 29 18.6 +1.4
baz=244
H04D **Lebanon** 89.63 41 P **P** 23 29 18.4 +1.5
baz=240
NV01 **Mina Array Sit** 89.64 48 eP **P** 23 29 17.9 +0.4
NVAR **Mina Array Bea** 89.64 48 P **P** 23 29 17.5 +0.1
comp=Z,4.6nm,0.7s,baz=227,slow=8.6,SNR=29
NVAR LR LR 00 01 04.2
comp=Z,155nm,20.9s,baz=242,slow=30
NV11 **Mina Array Sit** 89.75 48 eP **P** 23 29 17.8 -0.1
comp=Z,0.4nm,0.8s
GLA **Glamis** 89.82 54 eP **P** 23 29 18.1 -0.1
comp=Z,8.6nm,0.7s
GLA **Glamis** 89.82 54 eP **P** 23 29 18.1 -0.1
GLA pmax pmax
comp=Z,9.0nm,0.7s
GLA **Glamis** 89.82 54 P **P** 23 29 19.4 +1.2
baz=245
USHA **Ushuaia** 89.87 151 LR LR 00 00 59.0
comp=Z,115nm,18.8s,baz=218,slow=30
GMRC **Granite Mounta** 89.94 53 P **P** 23 29 19.6 +0.8
baz=244
J05D **Fort Rock, OR** 89.96 43 P **P** 23 29 19.8 +1.0
baz=241
TUQ **Turquoise Moun** 90.02 52 P **P** 23 29 19.6 +0.4
baz=244
IRM **Iron Mountain** 90.05 53 P **P** 23 29 20.4 +1.2
baz=245
KVN **Kaiserville** 90.06 48 eP **P** 23 29 20.1 +0.7
comp=Z,6.0nm,0.7s
KVN **Kaiserville** 90.06 48 eP **P** 23 29 20.1 +0.7
KVN pmax pmax
comp=Z,6.0nm,0.7s
Y12C **Blythe** 90.35 54 P **P** 23 29 21.8 +1.2
baz=245
PINE **Pine Mountain** 90.39 43 eP **P** 23 29 21.4 +0.6
comp=Z,7.7nm,0.8s
TPNV **Topopah Spring** 90.44 50 eP **P** 23 29 21.5 +0.4
comp=Z,7.3nm,0.8s
TPNV **Topopah Spring** 90.44 50 eP **P** 23 29 21.5 +0.4
TPNV pmax pmax
comp=Z,7.0nm,0.8s
TPNV **Topopah Spring** 90.44 50 P **P** 23 29 21.8 +0.7
baz=244
LDFC **Landfair** 90.47 53 eP **P** 23 29 22.7 +1.4
comp=Z,16nm,1.0s
113A **Mohawk Valley,** 90.51 55 eP **P** 23 29 22.6 +1.3
comp=Z,16nm,1.5s
PDMCI **Parker Dam,Lak** 90.87 54 P **P** 23 29 24.1 +1.1

	baz=245						
214A	Organ Pipe Nat	90.92	56	P	P	23 29 24.7	+1.4
	baz=246						
BOD	Bodaibo	90.93	334	eP	P	23 29 21.7	-1.0
BOD				pmax	pmax		
	comp=Z,23nm,1.5s						
SHPR	Sheep Range	91.04	51	eP	P	23 29 24.3	+0.4
	comp=Z,16nm,2.0s						
W13A	Hualapai Mount	91.39	53	eP	P	23 29 26.7	+1.0
	comp=Z,25nm,1.9s						
R11A	Troy Canyon, C	91.52	49	eP	P	23 29 26.0	-0.1
	comp=Z,3.9nm,1.1s						
R11A	Troy Canyon, C	91.52	49	P	P	23 29 26.1	0.0
	baz=244						
IL1	Eielson Array	91.69	17	eP	P	23 29 25.0	-1.1
ILAR	Eielson Array	91.69	17	P	P	23 29 24.1	-1.9
	comp=Z,1.2nm,0.7s,baz=235,slow=4.7,SNR=23						
ILAR				LR	LR	00 02 34.3	
	comp=Z,117nm,21.9s,baz=221,slow=30						
ILB	Eielson Array	91.69	17	eP	P	23 29 24.8	-1.2
ZAK	Zakamensk	91.80	324	eP	P	23 29 26.2	-0.8
ZAK				pmax	pmax		
	comp=Z,17nm,1.3s						
G08A	Pilot Rock	92.35	42	eP	P	23 29 30.2	+0.5
	comp=Z,12nm,1.8s						
WUAZ	Wupatki	93.44	53	eP	P	23 29 34.1	-0.9
	comp=Z,12nm,0.9s						
PV01	Paradox Valley	96.51	52	eP	P	23 29 46.8	-2.3
PLCA	Paso Flores	97.11	138	LR	LR	00 03 32.1	
	comp=Z,87nm,20.3s,baz=254,slow=29						
TXAR	Lajitas Array	97.26	62	P	Pdif	23 29 53.1	+0.5
	comp=Z,0.2nm,0.6s,baz=231,slow=5.4,SNR=4.4						
TXAR				LR	LR	00 04 37.6	
	comp=Z,90nm,21.8s,baz=0.0,slow=30						
PDAR	Pinedale Array	97.49	47	LR	LR	00 06 04.5	
	comp=Z,57nm,20.5s,baz=254,slow=30						
INK	Inuvik	97.99	18	P	P	23 29 53.2	-1.5
	comp=Z,1.4nm,1.0s,baz=217,slow=5.1,SNR=4.0						
WMQ	Urumqi	98.56	314	eP	Pdif	23 29 59.3	+1.3
WMQ				pP	pwP	23 30 20.5	+0.3
WMQ				pmax	pmax		
	comp=Z,16nm,1.9s						
YKA	Yellowknife Ar	101.97	27	P	Pdif	23 30 12.9	+0.3
	comp=Z,0.2nm,0.4s,baz=254,slow=4.5,SNR=4.3						
MKAR	Makanchi Array	103.12	315	Pdiff	Pdif	23 30 20.6	+2.4
	comp=Z,0.4nm,0.5s,baz=86,slow=6.2,SNR=9.9						
MKAR				PP	PP	23 34 32.3	-1.8
	comp=Z,0.7nm,0.9s,baz=98,slow=7.7,SNR=4.5						
ZALV	Zalesovo Beam	103.60	323	Pdiff	Pdif	23 30 19.5	-0.6
	comp=Z,0.7nm,0.7s,baz=108,slow=4.8,SNR=3.8						
ZALV				PP	PP	23 34 32.8	-4.6
	comp=Z,0.3nm,0.5s,baz=106,slow=9.6,SNR=2.6						
KURK	Kurchatov	106.46	318	PP	PP	23 34 53.0	-5.7
KURBB	Kurchatov Arra	106.49	318	PP	PP	23 34 53.0	-6.0
	comp=Z,1.1nm,0.9s,baz=101,slow=6.3,SNR=4.1						
BVAR	Borovoye Array	111.87	320	PKiKP	PKiKP	23 34 52.4	-1.2
	comp=Z,0.8nm,0.7s,baz=118,slow=2.2,SNR=6.2						
BVAR				PP	PP	23 35 35.1	-2.8
	comp=Z,0.3nm,0.6s,baz=197,slow=4.6,SNR=3.7						
ARU	Arti	118.74	324	ePKPdf	PKPdf	23 35 05.8	-0.9
ARU	Arti	118.74	324	i PKIKP	PKPdf	23 35 05.0	-1.7
ARU						23 42 14.3	
AKTO	Aktyubinsk	119.48	317	PKP	PKPdf	23 35 08.0	-0.3
	comp=Z,1.1nm,0.7s,baz=319,slow=1.8,SNR=4.8						
PRGR	Permogore	124.10	331	ePKIKP	PKPdf	23 35 15.2	-1.6
PRGR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ARCES	ARCESS Array B	126.72	345	PKP	PKPdf	23 35 20.9	-0.8
	comp=Z,6.4nm,0.6s,baz=87,slow=3.6,SNR=39						
KLMR	Klimovskoe	127.12	332	ePKIKP	PKPdf	23 35 20.1	-2.5
KLMR				pmax	pmax		
	comp=Z,13nm,1.2s						
KLMR	Klimovskoe	127.12	332	ePKPdf	PKPdf	23 35 20.2	-2.4
KLMR				AMP		23 35 23.7	
	comp=Z,13nm,1.2s						
OBN	Obninsk	131.02	326	⇓iPKIKP	PKiKP	23 35 31.0	-0.1
OBN				i		23 35 52.2	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,91nm,18.0s						
FINES	FINESS Array B	132.21	337	PKP	PKPdf	23 35 30.6	-1.6
	comp=Z,2.3nm,0.7s,baz=180,slow=1.9,SNR=4.5						
FINES				SKPbc	SKPbc	23 38 51.2	-1.1
	comp=Z,23nm,1.0s,baz=79,slow=4.1,SNR=23						
FINES	FINESS Array B	132.21	337c	iPKIKP	PKPdf	23 35 32.5	+0.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	136.99	323	PKP	PKPdf	23 35 39.5	-2.1
	comp=Z,1.3nm,0.6s,baz=54,slow=2.1,SNR=6.8						
AKASG				SKPbc	SKPbc	23 39 08.2	+0.2
	comp=Z,10nm,1.1s,baz=54,slow=2.9,SNR=34						
AKASG	Malin Array Be	136.99	323c	iPKIKP	PKPdf	23 35 41.5	-0.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AK11	Malin Array Si	137.03	323	ePKPdf	PKPdf	23 35 41.2	-0.4
NB2	NORSAR Subarra	137.09	345	PKPdf	PKPdf	23 35 41.4	-0.1
	comp=Z,2.0nm,0.8s,baz=31,slow=1.9						
NOA	NORSAR Array B	137.09	345	PKP	PKPdf	23 35 42.0	+0.5
	comp=Z,1.6nm,0.9s,baz=31,slow=1.9,SNR=5.1						
NOA				SKPbc	SKPbc	23 39 07.4	-0.7
	comp=Z,7.6nm,1.1s,baz=17,slow=4.3,SNR=6.4						
BRTR	Keskin Array B	138.05	307	PKP	PKPdf	23 35 42.9	-1.2
	comp=Z,0.9nm,0.9s,baz=134,slow=7.1,SNR=4.4						
BRTR	Keskin Array B	138.05	307c	iPKIKP	PKiKP	23 35 46.4	+0.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PLOR	Plostina	140.79	318	⇑PKIKP	PKPdf	23 35 48.6	-0.2
BURAR	Bucovina Array	140.81	321	⇓PKIKP	PKPdf	23 35 48.8	0.0
BUR04	Bucovina Ar. S	140.81	321	ePKPdf	PKPdf	23 35 49.6	+0.8
DRGR		142.69	322	⇑PKIKP	PKPdf	23 35 48.1	-4.1
LANS	Liptovska Anna	143.08	327	ePKIKP	PKPbc	23 35 50.7	+0.9
LANS	Liptovska Anna	143.08	327	ePKP	PKPbc	23 35 50.7	+0.9
GZR	Gura Zlata	143.39	320	⇓PKHKP	PKPbc	23 35 50.4	-0.4
BSEG	Bad Segeberg	143.39	339	eL	L	00 39 07.3	
	comp=Z,172nm,21.6s						
PSZ	Piszkesteto	143.62	325	ePKPpre	PKPab	23 35 51.1	+0.6
PSZ	Piszkesteto	143.62	325	ePKPdf	PKPbc	23 35 51.1	-0.3
PSZ				eP	SKPbc	23 39 26.1	+0.1
PSZ	Piszkesteto	143.62	325	⇑PKIKP	PKPbc	23 35 51.3	-0.1
MORC	Moravsky Berou	143.62	329	ePKPpre	PKPab	23 35 50.8	+0.4
MORC	Moravsky Berou	143.62	329	⇑PKIKP	PKPbc	23 35 50.9	-0.4
MORC	Moravsky Berou	143.62	329	ePKP	PKPab	23 35 50.8	+0.4
MORC				e		23 39 26.4	
KRLC	Kraliky	143.78	330	ePKP	PKPbc	23 35 51.7	0.0
KRLC	Kraliky	143.78	330	ePKIKP	PKPbc	23 35 51.7	0.0
DPC	Dobruska-Polom	143.80	331	ePKP	PKPbc	23 35 52.1	+0.3
DPC	Dobruska-Polom	143.80	331	ePKIKP	PKPbc	23 35 52.1	+0.3
VYHS	Vyhne	143.82	327	ePKIKP	PKPbc	23 35 52.7	+0.8
VYHS	Vyhne	143.82	327	ePKP	PKPbc	23 35 52.7	+0.8
UPC	Upice	143.83	331	ePKP	PKPbc	23 35 51.7	-0.1
UPC	Upice	143.83	331	ePKIKP	PKPbc	23 35 51.7	-0.1
BZS	Buzias	143.97	321	⇑PKIKP	PKPbc	23 35 52.2	-0.2
JAVC	Velka Javorina	144.17	328	ePKP	PKPdf	23 35 54.1	-0.6
JAVC				e		23 39 28.8	
BUD	Budapest	144.35	325	ePKPdf	PKPab	23 35 53.1	-0.1
VRAC	Vranov	144.40	329	⇑PKIKP	PKPbc	23 35 53.6	0.0
VRAC	Vranov	144.40	329	ePKP	PKPbc	23 35 53.5	-0.1
VRAC				e		23 39 28.2	
PVCC	Panska Ves	144.45	332	ePKP	PKPbc	23 35 53.9	+0.2
PVCC	Panska Ves	144.45	332	ePKIKP	PKPbc	23 35 53.9	+0.2
BRG	Berggiesshubel	144.47	333	i PKP	PKPab	23 35 53.5	0.0
	comp=Z,37nm,0.8s						
BRG				epPKP	pPKPdf	23 36 12.5	-3.0
	comp=Z,9.4nm,0.9s						
BRG				i SKP		23 39 28.1	
	comp=Z,44nm,1.5s						
BRG	Berggiesshubel	144.47	333	ePKPbc	PKPbc	23 35 53.7	0.0
	baz=39,slow=2.9						
BRG	Berggiesshubel	144.47	333	i PKIKP	PKPab	23 35 53.5	0.0
BRG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
VTS	Vitosha	144.47	315	ePKPdf	PKPbc	23 35 54.3	+0.1
VTS	Vitosha	144.47	315	⇑PKIKP	PKPab	23 35 53.9	-0.1
ESY	Stoneypath	144.52	352	eP	PKPab	23 35 53.3	-0.2
CLL	Collm	144.52	335	ePKPdf	PKPab	23 35 52.9	-0.8
CLL	Collm	144.52	335	ePKPbc	PKPab	23 35 53.6	-0.1
	baz=39,slow=2.9						
CLL	Collm	144.52	335	⇑iPKPdf	PKPab	23 35 53.5	-0.1
	comp=Z,34nm,0.7s						
CLL				e		23 36 12.0	
CLL				epPKiKP	pPKiKP	23 36 20.0	+0.8
CLL				i SKPbc	SKPbc	23 39 27.5	-0.3
	comp=Z,19nm,1.2s						
CLL	Collm	144.52	335	⇑iPKIKP	PKPab	23 35 53.5	-0.1
CLL				pmax	pmax		
	comp=Z,14nm,0.7s						
KRUC	Moravsky	144.66	329	ePKP	PKPab	23 35 54.3	0.0
KRUC				e		23 39 28.6	
NRDL	Niedersach Rie	144.66	338	ePKPbc	PKPab	23 35 54.1	+0.1
	baz=39,slow=2.9						
FBE	Freiberg	144.67	334	ePKPbc	PKPbc	23 35 54.6	+0.2
	baz=39,slow=2.9						
MODS	Modra-Piesok	144.69	328	ePKIKP	PKPab	23 35 54.4	0.0
MODS	Modra-Piesok	144.69	328	ePKP	PKPab	23 35 54.4	0.0
RETH	Rethem/Aller,	144.71	339	ePKPbc	PKPab	23 35 54.3	0.0
	baz=39,slow=2.9						
ASSE	Asse, Remlinge	144.76	337	ePKPbc	PKPbc	23 35 54.5	0.0
	baz=39,slow=2.9						
GOPC	GO Pecny, Ondr	144.81	331	ePKP	PKPbc	23 35 55.1	+0.2
GOPC				epPKP	pPKPdf	23 36 13.3	-2.9
GOPC	GO Pecny, Ondr	144.81	331	ePKIKP	PKPbc	23 35 55.1	+0.2
PGBU	Gleniffferbraes	144.83	354	eP	PKPab	23 35 53.9	-0.7
PRU	Pruhonice	144.86	332	ePKP	PKPbc	23 35 55.0	0.0
PRU				epPKP	sPKPdf	23 36 20.3	-3.5
PRU	Pruhonice	144.86	332	ePKIKP	PKPbc	23 35 55.0	0.0
PRU				e		23 36 20.3	
TREC	Trest	144.93	330	ePKP	PKPbc	23 35 55.6	+0.3
TREC	Trest	144.93	330	ePKIKP	PKPbc	23 35 55.6	+0.3
NEUB	Neuenburg	145.08	335	ePKPbc	PKPab	23 35 55.9	+0.1
	baz=39,slow=2.9						
CLZ	Clausthal	145.10	337	ePKPbc	PKPab	23 35 56.0	+0.1
	baz=39,slow=2.9						
SANT	Santorini	145.15	304	ePKPbc	PKPbc	23 35 55.4	-1.0
ESK	Eskdalemuir	145.18	353	ePKPbc	PKPbc	23 35 55.5	-0.3
ESK	Eskdalemuir	145.18	353	eP	PKPbc	23 35 54.8	-1.1
ESK	Eskdalemuir	145.18	353	ePKIKP	PKPbc	23 35 55.5	-0.3
TIH	Tihany	145.32	325	⇑ePKPdf	PKPbc	23 35 56.0	-0.5
BHH	Howats Hill	145.40	353	eP	PKPdf	23 35 56.1	-0.4
TANN	Tannenbergstha	145.43	334	ePKPbc	PKPab	23 35 57.1	-0.1
	baz=39,slow=2.9						
GTTG	Gvttingen	145.49	337	ePKPbc	PKPab	23 35 57.3	0.0
	baz=39,slow=2.9						
EDMD	Edmundbyers	145.49	351	eP	PKPdf	23 35 56.1	-0.5
PLN	Plauen	145.50	334	ePKPbc	PKPbc	23 35 57.1	+0.1
	baz=39,slow=2.9						
SOP	Sopron	145.51	327	⇑ePKPdf	PKPdf	23 35 57.0	+0.1
SOP				⇓eP	SKPbc	23 39 30.0	-0.2
GUNZ	Gunzen	145.52	334	ePKPbc	PKPab	23 35 57.5	0.0
	baz=39,slow=2.9						
WERN	Wernitzgruen	145.56	334	ePKPbc	PKPab	23 35 57.7	+0.1
	baz=39,slow=2.9						
NKC	Novy Kostel	145.57	334	ePKP	PKPab	23 35 57.6	0.0
NKC				ex	x	23 36 29.0	
NKC	Novy Kostel	145.57	334	ePKP2	PKPab	23 35 57.6	0.0
MOX	Moxa	145.59	335	ePKPbc	PKPbc	23 35 57.3	0.0
	baz=39,slow=2.9						
MOX				eL	L	00 35 59.1	
	comp=Z,139nm,21.0s						
IBBN	Ibbenburen	145.60	340	ePKPbc	PKPbc	23 35 57.3	0.0
	baz=39,slow=2.9						
CLGH	Cloghs, Cushen	145.69	356	eP	PKPdf	23 35 57.0	0.0
CONA	Conrad Observa	145.69	328	ePKPab	PKPdf	23 35 57.6	+0.2
	comp=Z,79nm,1.7s,SNR=31						
GDLE	Glaisdale, N Y	145.72	350	eP	PKPdf	23 35 57.1	0.0
DIVS	Divibare	145.76	320	ePKPdf	PKPdf	23 35 57.1	-0.5
GAL1	Galloway	145.78	354	eP	PKPdf	23 35 57.2	0.0
KESW	Keswick, Cumbr	145.88	352	eP	PKPdf	23 35 57.6	+0.3
MANZ	Manzenberg	145.90	334	ePKPbc	PKPbc	23 35 58.5	+0.1
	baz=39,slow=2.9						
KHC	Kasperske Hory	145.92	332	ePKPdf	PKPdf	23 35 56.7	-1.0
KHC	Kasperske Hory	145.92	332	ePKP	PKPbc	23 35 58.4	0.0
KHC				epPKP	pPKPdf	23 36 17.2	-0.9
KHC				ex	x	23 36 29.9	
KHC				eSKP		23 39 30.5	
KHC	Kasperske Hory	145.92	332	ePKP2	PKPbc	23 35 58.4	0.0
ROTZ	Rotzenmuhle	146.03	333	ePKPbc	PKPbc	23 35 58.9	+0.1
	baz=39,slow=2.9						
GEC2	GERESS Array S	146.07	331	ePKPdf	PKPdf	23 35 57.9	-0.1
GEC2	GERESS Array S	146.07	331	ePKPbc	PKPbc	23 35 58.9	-0.1
	baz=39,slow=2.9						
GEC2				eL	L	00 38 29.8	
	comp=Z,192nm,21.4s						
GEC2	GERESS Array S	146.07	331	ePKP2	PKPdf	23 35 57.9	-0.1
GERES	GERESS Array B	146.07	331	PKPbc	PKPdf	23 35 57.9	-0.1
	comp=Z,15nm,0.8s,baz=46,slow=3.9,SNR=34						
GERES				SKPbc	SKPbc	23 39 31.8	+0.2
	comp=Z,2.6nm,0.8s,baz=48,slow=2.0,SNR=6.5						
GEA0	GERESS Array S	146.07	331	ePKPdf	PKPdf	23 35 57.5	-0.5
WET	Wettzell	146.22	332	ePKPbc	PKPbc	23 35 59.5	+0.2
	baz=39,slow=2.9						
WET				eL	L	00 39 49.0	
	comp=Z,106nm,19.4s						
HPK	Haverah Park	146.29	351	eP	PKPbc	23 35 58.9	-0.4
ARSA	Arzberg	146.32	327	ePKPab	PKPab	23 36 00.4	-0.1
	comp=Z,7.2nm,1.1s						
IOMK	Kirk Michael	146.37	354	eP	PKPdf	23 35 58.8	+0.7
GRF	Grafenberg Arr	146.49	334	eL	L	00 42 24.1	
	comp=Z,117nm,19.9s						
GRFO	Grafenberg	146.50	334	ePKPdf	PKPbc	23 36 00.6	+0.5
FNA	Florina	146.51	314	ePKPdf	PKPbc	23 36 00.6	+0.1
FNA	Florina	146.51	314	ePKP2	PKPbc	23 36 00.6	+0.1
MOA	Molln	146.52	329	ePKPab	PKPab	23 36 01.0	-0.3
	comp=Z,23nm,1.1s						
LBWR	Ladybower, Pea	146.84	350	eP	PKPbc	23 36 00.3	-0.6
PERS	Pernice	146.94	327	ePKPbc	PKPbc	23 36 01.0	-0.5
PERS				e		23 39 33.7	
SOKA	Soboth	146.96	327	ePKPbc	PKPbc	23 36 00.6	-1.0
	comp=Z,22nm,1.5s,SNR=8.4						
BLY	Banja Luka	147.03	323	ePKPdf	PKPdf	23 36 00.7	+1.1
TTG	Podgorica	147.10	318	ePKPdf	PKPbc	23 36 01.9	-0.1
TNS	Taunus Mts	147.13	337	ePKPbc	PKPbc	23 36 01.8	-0.1
	baz=39,slow=2.9						
TNS				eL	L	00 36 41.0	
	comp=Z,169nm,20.9s						
WLF1	Llynfaes	147.31	353	eP	PKPbc	23 36 01.4	-0.8
OBKA	Obir	147.31	327	ePKPbc	PKPdf	23 36 01.0	+0.9
	comp=Z,5.6nm,0.9s						
YRC	Rhoscolyn	147.37	353	eP	PKPdf	23 36 00.6	+0.7
CWF	Charnwood Fore	147.42	350	eP	PKPbc	23 36 01.8	-0.7
HGN	Heimansgroeve	147.51	341	ePKP	PKPbc	23 36 02.9	+0.1
FOEL	Foel Wylfa	147.56	352	eP	PKPbc	23 36 01.7	-1.3
MEM	Membach	147.62	340	⇑PKP	PKPbc	23 36 02.7	-0.5
MEM				⇑pPKP	pPKPdf	23 36 21.2	+0.3
BOJS	Bojanci	147.62	325	i PKPdf	PKPdf	23 36 00.5	-0.1
BOJS				i PKPbc	PKPbc	23 36 03.5	+0.1
BOJS				i		23 39 36.0	
VISS	Visnje	147.64	326	i PKPdf	PKPdf	23 36 00.4	-0.2
VISS				i PKPbc	PKPbc	23 36 03.3	-0.1
VISS				e		23 39 35.5	
FUR	Furstenfeldbru	147.65	332	eL	L	00 39 57.2	
	comp=Z,126nm,19.0s						
MYKA	Terra Mystica	147.68	328	ePKPbc	PKPbc	23 36 02.6	-1.0
	comp=Z,7.2nm,0.4s,SNR=9.0						
HLM1	Long Mynd	147.87	351	eP	PKPbc	23 36 03.2	-0.7
UCC	Uccle	147.95	342	⇑PKP	PKPbc	23 36 03.6	-0.4
JAVS	Javornik	147.98	327	i PKPbc	PKPbc	23 36 03.9	-0.6
JAVS				e		23 39 35.9	
STU	Stuttgart	148.03	335	ePKPdf	PKPbc	23 36 04.1	-0.2
STU				ePKPbc	PKiKP	23 36 05.6	-0.6
ABTA	Abfaltersbach	148.15	329	i PKPbc	PKPbc	23 36 03.7	-1.1
	comp=Z,17nm,0.9s,SNR=6.7						
WATA	Walderalm	148.15	331	i PKPbc	PKPbc	23 36 04.0	-0.9
	comp=Z,5.9nm,0.5s,SNR=10						
WTTA	Wattenberg	148.17	331	i PKPbc	PKPbc	23 36 04.6	-0.5
	comp=Z,28nm,1.4s						
SNF	Seneffe	148.23	342	⇑PKP	PKPbc	23 36 04.5	-0.3
TRI	Trieste	148.26	327	ePKPdf	PKPdf	23 36 01.7	+0.1
TRI	Trieste	148.26	327	ePKIKP	PKPdf	23 36 01.7	+0.1
MOTA	Moosalm	148.35	332	i PKPbc	PKPbc	23 36 05.0	-0.4
	comp=Z,26nm,0.9s,SNR=13						
WLF	Walferdange	148.39	339	ePKPbc	PKPbc	23 36 05.6	+0.4
WLF	Walferdange	148.39	339	⇓PKP	PKPbc	23 36 05.5	+0.3
RETA	Reutte	148.39	332	i PKPbc	PKPbc	23 36 05.0	-0.4
	comp=Z,16nm,1.0s						
SQTA	Sankt Quirin	148.40	331	i PKPbc	PKPbc	23 36 05.0	-0.5
	comp=Z,26nm,0.8s,SNR=12						
MCH1	Michaelchurch	148.40	351	eP	PKPbc	23 36 04.4	-0.8
DOU	Dourbes	148.50	341	⇑PKP	PKPbc	23 36 05.3	-0.2
MONM	Monmouth	148.52	351	eP	PKPbc	23 36 04.7	-0.8
UBR	Ueberruh	148.53	333	ePKPbc	PKPbc	23 36 05.4	-0.4
	baz=39,slow=2.9						
SWN1	Swindon	148.68	350	eP	PKPbc	23 36 05.6	-0.3
BFO	Black Forest	148.73	336	ePKPbc	PKPbc	23 36 05.3	-0.9
BFO	Black Forest	148.73	336	ePKPbc	PKPbc	23 36 05.8	-0.4
	baz=39,slow=2.9						
BFO				eL	L	00 31 27.5	
	comp=Z,136nm,22.0s						
BFO	Black Forest	148.73	336	i PKP2	PKPbc	23 36 05.9	-0.4
FETA	Feichten	148.76	332	i PKPbc	PKPbc	23 36 06.3	-0.2
	comp=Z,22nm,0.9s,SNR=10						
WOL	Wolverton	148.77	349	eP	PKPbc	23 36 05.0	-1.2
DAVA	Damuels	148.93	333	i PKPbc	PKPbc	23 36 06.4	-0.6
	comp=Z,38nm,1.1s,SNR=13						
ECH	Echery	149.27	337	ePKPbc	PKPbc	23 36 07.2	-0.4
ECH	Echery	149.27	337	ePKP2	PKPbc	23 36 07.2	-0.4
FUORN	Ofenpass-Fuorn	149.28	332	ePKPbc	PKPbc	23 36 08.0	+0.1
TUE	Stuetta	149.79	332	ePKPbc	PKPbc	23 36 08.8	-0.3
AQU	L'Aquila	150.68	322	ePKPbc	PKPbc	23 36 11.0	-0.2
AQU	L'Aquila	150.68	322	ePKIKP	PKPbc	23 36 11.0	-0.2
SENIN	Lac Senin/Sane	150.74	334	ePKPbc	PKPbc	23 36 11.2	-0.2
BNI	Bardonecchia	152.06	334	ePKPbc	PKPbc	23 36 14.4	+0.1
BNI	Bardonecchia	152.06	334	ePKIKP	PKPbc	23 36 14.5	+0.1
SSB	Saint Sauveur	152.71	337	ePKPab	PKPab	23 36 26.9	+0.3
ES19	SONSECA Array	160.42	345	ePKPab	PKPab	23 36 59.5	-0.4
ESDC	Sonseca Array	160.46	345	PKPab	PKPab	23 36 59.5	-0.5
	comp=Z,0.5nm,0.5s,baz=11,slow=4.5,SNR=9.6						
LIC	Lamto	164.53	201	ePKP2	PKPab	23 37 35.7	+17
	comp=Z,26nm,0.9s						
KIC	Kosan Boka	164.56	202	ePKP2	PKPab	23 37 36.0	+17
	comp=Z,14nm,0.9s						
TIC	Toumodi	164.92	201	ePKP2	PKPab	23 37 37.4	+17
TAM	Tamanrasset	165.07	280	ePKPab	PKPab	23 37 22.4	+1.2
TAM	Tamanrasset	165.07	280	ePKP2	PKPab	23 37 22.4	+1.2
TOA0	Torodi Ar. Sit	166.10	238	ePKPdf	PKPdf	23 36 25.1	+0.3
TORD	Torodi Ar. Bea	166.10	238	PKP	PKPdf	23 36 22.7	-2.1
	comp=Z,0.5nm,0.9s,baz=250,slow=3.0,SNR=4.1						
TORD				PKPab	PKPab	23 37 24.3	-1.3
	comp=Z,0.3nm,0.6s,baz=110,slow=2.4,SNR=5.1						

IDC ***04*** *23:28:06.9±3.3, 36°.41S×177°.92E, h165km±23km, mb3.7/4, mb1 3.9/4, mb1mx3.5/36, mbtmp4.2/4, Error ellipse: s-maj=47.0km s-min=20.5km az=43.0*

ISCJB ***04*** *23:28:10.3±0.7, 37°.16S±0°.04×177°.42E±0°.07, h210km±4km, mb3.7/4, Error ellipse: s-maj=10.1km s-min=5.6km az=147.1*

WEL ***04*** *23:28:11.5, 37°S±5°×17°7E±°, h189km±5km*

ISC 04 23:28:11.4±0.8, **37°.19S**±0°.06×**177°.35E**±0°.06, **h205**km±5km, **n134**, σ**1.28**/143, **mb3.8**/4, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HAZ	Te Kaha	0.66	148	P	Pn	23 28 38.3	-1.3
HAZ				S	Sn	23 28 58.3	-3.4
WHRZ	Whale Island	0.72	204	P	Pn	23 28 40.1	+0.1
RUGZ	Raukumara Rang	0.81	161	P	Pn	23 28 39.4	-1.3
MXZ	Matakaoa Point	0.85	116	P	Pn	23 28 39.1	-1.5
MXZ				S	Sn	23 29 00.1	-3.3
OPRZ	Ohinepanea	0.90	224	P	Pn	23 28 40.7	-0.3
PKGZ	Pakihiroa	0.91	140	P	Pn	23 28 40.5	-0.6
PKGZ				S	Sn	23 29 02.0	-2.3
MARZ	Manawahe	0.95	214	P	Pn	23 28 41.5	+0.2
TGRZ	Tauranga	1.01	238	P	Pn	23 28 41.7	+0.1
EDRZ	Edgecumbe	1.03	208	P	Pn	23 28 42.4	+0.6
WMGZ	Waiomatatini S	1.05	127	P	Pn	23 28 41.2	-0.7
WMGZ				S	Sn	23 29 04.6	-1.2
URZ	Urewera	1.08	190	P	Pn	23 28 42.1	0.0
	163nm,0.3s,baz=280,slow=5.5,SNR=1372						
URZ				S	Sn	23 29 05.0	-1.2
	162nm,0.3s,baz=199,slow=23,SNR=36						
URZ	Urewera	1.08	190	P	Pn	23 28 42.3	+0.2
URZ				S	Sn	23 29 05.2	-1.0
TWGZ	Tauwhareparae	1.10	153	P	Pn	23 28 42.9	+0.5
TWGZ				S	Sn	23 29 06.3	-0.3
PUZ	Puketiti	1.14	141	P	Pn	23 28 42.3	-0.3
PUZ				S	Sn	23 29 05.5	-1.5
MWZ	Matawai	1.15	173	P	Pn	23 28 42.9	+0.3
MWZ				S	Sn	23 29 06.5	-0.8
OMRZ	Omania	1.20	220	P	Pn	23 28 43.8	+0.7
KARZ	Kaharoa	1.20	226	P	Pn	23 28 43.8	+0.7
TARZ	Mount Tarawera	1.23	212	P	Pn	23 28 44.6	+1.2
KMRZ	Kaimai	1.29	239	P	Pn	23 28 44.5	+0.7
RAGZ	Rawiri	1.30	178	P	Pn	23 28 44.6	+0.7
TKGZ	Te Karaka	1.31	162	P	Pn	23 28 44.4	+0.6
HLRZ	Highlands Stat	1.32	216	P	Pn	23 28 45.2	+1.2
RRRZ	Republican Roa	1.32	210	P	Pn	23 28 44.9	+0.9
UTU	Utuhina	1.34	223	P	Pn	23 28 45.6	+1.5
MUGZ	Murupara	1.36	199	P	Pn	23 28 44.9	+0.6
KUZ	Kuaotunu	1.38	288	P	Pn	23 28 42.6	-1.8
HSRZ	Hossack Road	1.42	218	P	Pn	23 28 46.5	+1.7
RTZ	Ruatahuna	1.45	191	P	Pn	23 28 45.5	+0.4
CNGZ	Carnagh Statio	1.46	152	P	Pn	23 28 46.0	+0.9
HRRZ	Handcock Road	1.46	215	P	Pn	23 28 46.6	+1.4
PRRZ	Plateau Road	1.51	210	P	Pn	23 28 46.6	+1.1
GRRZ	Galatos Road	1.51	220	P	Pn	23 28 47.2	+1.6
RIGZ	Rimuhau	1.54	168	P	Pn	23 28 46.8	+0.9
TOZ	Tahuroa Road	1.56	249	P	Pn	23 28 46.9	+0.9
ALRZ	Allen Road	1.58	210	P	Pn	23 28 47.5	+1.3
SNGZ	Shannon Statio	1.58	180	P	Pn	23 28 47.1	+0.9
WPRZ	Whakapapatarin	1.62	215	P	Pn	23 28 48.2	+1.6
MTHZ	Maungataniwha	1.70	193	P	Pn	23 28 48.0	+0.7
RAHZ	Arahi	1.73	187	P	Pn	23 28 48.9	+1.3
MKAZ	Moumakai	1.75	272	P	Pn	23 28 47.7	0.0
KUTZ	Kaahu Road	1.77	223	P	Pn	23 28 49.8	+1.9
PRGZ	Paritu Road	1.78	166	P	Pn	23 28 48.8	+0.8
GRZ	Great Barrier	1.79	301	P	Pn	23 28 46.0	-2.1
MRHZ	Matea Rd	1.79	204	P	Pn	23 28 49.2	+0.9
WIAZ	Waiheke Island	1.81	282	P	Pn	23 28 47.8	-0.6
TLZ	Tolley Road	1.83	231	P	Pn	23 28 50.3	+1.8
KNZ	Kokohu	1.84	172	P	Pn	23 28 49.5	+0.9
WHHZ	Waihua	1.88	183	P	Pn	23 28 50.3	+1.3
NMHZ	Naumai	1.95	192	P	Pn	23 28 51.3	+1.5
ETAZ	East Tamaki Re	1.95	276	P	Pn	23 28 49.9	+0.2
KBAZ	Karaka Road Bo	1.97	272	P	Pn	23 28 50.6	+0.8
WATZ	Wairara	1.98	220	P	Pn	23 28 51.8	+1.8
MBAZ	Motutapu North	2.00	281	P	Pn	23 28 50.0	-0.2
MHGZ	Mahia Peninsul	2.00	167	P	Pn	23 28 51.4	+1.2
BKZ	Black Stump Fm	2.08	199	P	Pn	23 28 51.9	+0.8
RATZ	Rangitukua	2.08	216	P	Pn	23 28 52.7	+1.6
ARHZ	Aropaoanui	2.08	187	P	Pn	23 28 52.5	+1.4
ABAZ	Army Bay	2.10	286	P	Pn	23 28 50.8	-0.4
EPAZ	Eden Park BICE	2.11	278	P	Pn	23 28 51.6	+0.3
HBAZ	Herne Bay Bore	2.12	279	P	Pn	23 28 51.7	+0.3
RITZ	Rihia Road	2.13	213	P	Pn	23 28 53.6	+2.0
AWAZ	Awhitu Peninsu	2.16	273	P	Pn	23 28 52.3	+0.4
KATZ	Kakaramea	2.20	216	P	Pn	23 28 54.4	+2.0
WTAZ	Waiatarua	2.23	276	P	Pn	23 28 53.0	+0.4
RVAZ	Riverhead Bore	2.25	280	P	Pn	23 28 52.8	-0.1
MCHZ	McNeill Hill	2.30	193	P	Pn	23 28 54.8	+1.4
KWHZ	Kaweka Forest	2.34	198	P	Pn	23 28 55.0	+1.1
WTVZ	West Tongariro	2.37	215	P	Pn	23 28 55.4	+1.3
HIZ	Hauiti	2.37	235	P	Pn	23 28 56.5	+2.4
NGZ	Ngauruhoe	2.41	214	P	Pn	23 28 56.5	+1.8
TUVZ	Tukino	2.46	212	P	Pn	23 28 56.5	+1.3
CKHZ	Cape Kidnapper	2.47	185	P	Pn	23 28 56.5	+1.3
FWVZ	Far West T-bar	2.50	214	P	Pn	23 28 57.1	+1.4
BHHZ	Black Hill Sta	2.50	203	P	Pn	23 28 56.5	+0.9
MOVZ	Moawhango	2.54	209	P	Pn	23 28 56.7	+0.6
KRHZ	Kereru	2.56	197	P	Pn	23 28 57.1	+0.9
KAHZ	Kahuranaki	2.62	188	P	Pn	23 28 58.2	+1.3
MTVZ	Mangateitei	2.64	213	P	Pn	23 28 58.4	+1.3
WCZ	Waipu Caves	2.72	297	P	Pn	23 28 56.4	-1.6
PXZ	Pawanui	2.86	187	P	Pn	23 29 00.3	+0.8
PNHZ	Pukenui	2.86	198	P	Pn	23 29 00.4	+0.7
WPHZ	Waipukurau	2.95	194	P	Pn	23 29 01.4	+0.7
TSZ	Takapari Road	3.06	200	P	Pn	23 29 02.4	+0.5
PRHZ	Porangahau	3.12	190	P	Pn	23 29 03.5	+0.9
WAZ	Wanganui	3.16	215	P	Pn	23 29 04.3	+1.3
DVHZ	Dannevirke	3.23	196	P	Pn	23 29 04.4	+0.4
PKE	Pukeiti	3.31	232	P	Pn	23 29 07.9	+2.9
ANWZ	Angora Road	3.33	192	P	Pn	23 29 06.0	+0.9
KHEZ	Kahui Hut	3.36	230	P	Pn	23 29 08.5	+3.0
POWZ	Post Office Ro	3.42	201	P	Pn	23 29 06.8	+0.6
PRWZ	Pori Road	3.52	197	P	Pn	23 29 08.1	+0.7
BFZ	Birch Farm	3.59	193	P	Pn	23 29 08.5	+0.4
OUZ	Omahuta	3.62	302	P	Pn	23 29 06.9	-1.7
MRZ	Mangatainoka R	3.73	201	P	Pn	23 29 09.9	0.0
TIWZ	Tintock	3.75	197	P	Pn	23 29 10.7	+0.4
CPWZ	Castlepoint	3.82	193	P	Pn	23 29 12.1	+1.2
HOWZ	Holdsworth Sta	3.96	201	P	Pn	23 29 12.6	-0.2
OGWZ	Otaki Gorge	4.00	204	P	Pn	23 29 13.3	+0.1
TMWZ	Te Maipa	4.07	196	P	Pn	23 29 14.2	+0.1
KIW	Kapiti Island	4.12	207	P	Pn	23 29 14.3	-0.5
MTW	Mount Morrison	4.21	199	P	Pn	23 29 15.5	-0.4
CAW	Cannon Point	4.29	204	P	Pn	23 29 16.4	-0.5
TRWZ	Traveller	4.39	197	P	Pn	23 29 18.2	+0.1
PAWZ	Paruwai Farm	4.44	199	P	Pn	23 29 18.4	-0.3
DUWZ	D'Urville Isla	4.48	215	P	Pn	23 29 18.8	-0.5

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSWZ	Moikau Station	4.52	200	P	Pn	23 29 19.1	-0.6
BHW	Baring Head	4.63	204	P	Pn	23 29 20.4	-0.7
PLWZ	Palliser	4.66	200	P	Pn	23 29 20.8	-0.7
TCW	Tory Channel	4.67	210	P	Pn	23 29 20.6	-1.0
TUWZ	Tuamarina	4.99	211	P	Pn	23 29 24.7	-0.9
NNZ	Nelson	5.06	216	P	Pn	23 29 26.0	-0.6
QRZ	Quartz Range	5.22	224	P	Pn	23 29 27.5	-1.0
BSWZ	Blackbirch Sta	5.25	210	P	Pn	23 29 28.7	-0.3
THZ	Tophouse	5.71	216	P	Pn	23 29 34.3	-0.7
KHZ	Kahutara	5.98	208	P	Pn	23 29 37.4	-0.9
LTZ	Lake Taylor	6.80	213	P	Pn	23 29 48.4	-0.6
INZ	Inchbonnie	7.14	218	P	Pn	23 29 53.3	-0.1
OXZ	Oxford	7.35	212	P	Pn	23 29 54.1	-1.9
MQZ	McQueen's Vall	7.42	207	P	Pn	23 29 54.8	-2.2
AKCZ	Akaroa Harbour	7.48	205	P	Pn	23 29 56.6	-1.1
RPZ	Rata Peaks	8.09	214	P	Pn	23 30 04.5	-1.1
	0.8nm,0.3s,baz=225,slow=3.4,SNR=8.7						
RPZ				S	Sn	23 31 32.2	-4.6
	3.6nm,0.3s,baz=71,slow=18,SNR=14						
RPZ	Rata Peaks	8.09	214	P	Pn	23 30 04.9	-0.7
ODZ	Otahua Downs	9.33	211	P	Pn	23 30 20.9	-0.8
JCZ	Jackson Bay	9.46	221	P	Pn	23 30 22.0	-1.5
TUZ	Tuapeka	10.48	211	P	Pn	23 30 37.4	+0.8
ASAR	Alice Springs	39.48	277	P	P	23 35 24.4	+2.3
	2.7nm,0.5s,baz=121,slow=8.2,SNR=59						
WRA	Warramunga Arr	41.11	283	P	P	23 35 37.1	+1.7
	1.9nm,0.6s,baz=121,slow=7.6,SNR=22						
FITZ	Fitzroy Crossi	48.96	278	P	P	23 36 39.0	+1.9
	1.8nm,0.7s,baz=87,slow=4.4,SNR=6.1						
QSPA	South Pole Qui	52.93	180	P	P	23 37 12.4	+6.2
	1.8nm,0.6s,baz=330,slow=2.6,SNR=10						
KURBB	Kurchatov Arra	122.82	311	PKP	PKPdf	23 46 41.1	-1.2
	0.2nm,0.5s,baz=106,slow=2.3,SNR=3.3						
ARCES	ARCESS Array B	144.20	344	PKP	PKPdf	23 47 19.9	-1.7
	4.1nm,0.9s,baz=336,slow=2.7,SNR=4.2						
FINES	FINESS Array B	149.81	333	PKPbc	PKPbc	23 47 35.6	-0.4
	1.5nm,0.5s,baz=52,slow=3.9,SNR=16						
BRTR	Keskin Array B	151.59	286	PKPbc	PKPbc	23 47 41.4	+0.2
	0.6nm,0.8s,baz=81,slow=7.6,SNR=4.1						
TORD	Torodi Ar. Bea	155.74	190	PKPab	PKPab	23 48 10.1	+1.7
	0.6nm,0.6s,baz=185,slow=1.9,SNR=11						

*ISCJB **04** 23:44:33.6±0.6, 8°.77S±0°.07×75°.08W±0°.09, h100km, mb3.7/8, Error ellipse: s-maj=13.4km s-min=8.6km az=21.8*
*IDC **04** 23:44:34.8±2.8, 8°.67S×75°.07W, h90km±31km, mb3.5/8, mb1 3.7/12, mb1mx3.6/35, mbtmp3.9/12, Error ellipse: s-maj=33.6km s-min=17.3km az=29.0*
ISC 04 23:44:35.3±0.7**, 8°.78S**±0°.08×**75°.1W**±0°.1**, h100**km**, n12, σ1.26**/13**, mb3.7**/8**, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	Nana	3.64	209	P	Pn	23 45 31.4	+1.7
	11nm,0.3s,baz=49,slow=6.0,SNR=20						
NNA				S	Sn	23 46 10.1	-1.7
	152nm,0.3s,baz=227,slow=11,SNR=11						
LPAZ	La Paz	10.07	138	P	Pn	23 46 56.6	-1.0
	0.2nm,0.3s,baz=324,slow=10.0,SNR=3.9						
PTGA	Pitinga	17.02	63	P	Pn	23 48 25.8	-1.5
	1.1nm,0.3s,baz=240,slow=17,SNR=9.7						
SDV	Santo Domingo	18.10	14	P	P	23 48 40.1	+0.5
	1.0nm,0.3s,baz=167,slow=17,SNR=8.5						
BDFB	Brasilia	27.28	107	P	P	23 50 10.7	0.0
	0.8nm,0.4s,baz=233,slow=12,SNR=2.8						
TXAR	Lajitas Array	46.86	325	P	P	23 52 55.7	0.0
	0.3nm,0.5s,baz=150,slow=9.3,SNR=7.9						
PDAR	Pinedale Array	60.18	331	P	P	23 54 33.3	+0.3
	0.4nm,0.6s,baz=146,slow=9.8,SNR=3.0						
ULM	Lac du Bonnet	61.52	345	P	P	23 54 41.0	-0.6
	2.3nm,0.7s,baz=142,slow=5.0,SNR=4.8						
DBIC	Dimbokro	71.64	80	P	P	23 55 48.6	+1.8
	1.2nm,0.4s,baz=248,slow=4.6,SNR=7.5						
YKA	Yellowknife Ar	77.32	342	P	P	23 56 18.1	-0.5
	1.0nm,0.8s,baz=140,slow=6.3,SNR=15						
TORD	Torodi Ar. Bea	79.26	75	P	P	23 56 31.4	+1.1
	0.7nm,0.6s,baz=268,slow=4.2,SNR=14						
ILAR	Eielson Array	90.28	336	P	P	23 57 23.4	-1.2
	0.1nm,0.4s,baz=110,slow=4.5,SNR=6.5						

*IDC **04** 23:55:22.6±1.6, 31°.41S×177°.61W, h0km, mb4.3/4, mb1 4.4/5, mb1mx4.1/28, mbtmp4.3/5, ML3.3/1, Error ellipse: s-maj=50.0km s-min=27.8km az=139.0*
ISC 04 23:55:26.3±1.7**, 31°.4S**±0°.1×**177°.6W**±0°.3**, h26**km**, n10, σ0.96**/11**, mb4.4**/4**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	8.10	211	Pn	Pn	23 57 20.9	-1.3
	0.4nm,0.3s,baz=127,slow=20,SNR=2.3						
URZ				Sn	Sn	23 58 53.9	+1.0
	2.0nm,0.3s,baz=167,slow=21,SNR=7.0						
CTA	Charters Tower	34.32	280	P	P	00 02 09.5	-1.4
	6.1nm,0.8s,baz=106,slow=13,SNR=4.0						
STKA	Stephens Creek	34.61	258	P	P	00 02 14.8	+1.5
	0.7nm,0.4s,baz=95,slow=9.9,SNR=3.7						
ASAR	Alice Springs	43.42	268	P	P	00 03 27.2	+0.2
	5.0nm,1.0s,baz=104,slow=7.3,SNR=24						
WRA	Warramunga Arr	44.50	273	P	P	00 03 35.8	0.0
	5.8nm,0.8s,baz=112,slow=8.0,SNR=48						
FINES	FINESS Array B	146.22	340	PKPbc	PKPbc	00 15 04.0	+0.4
	4.3nm,0.6s,baz=45,slow=4.3,SNR=45						
NB2	NORSAR Subarra	149.80	351	PKP	PKPbc	00 15 13.6	+0.3
	comp=Z,2.0nm,0.7s,baz=15,slow=4.1						
NOA	NORSAR Array B	149.80	351	PKPbc	PKPbc	00 15 13.3	0.0
	comp=Z,0.9nm,0.9s,baz=12,slow=4.5,SNR=2.9						
AKASG	Malin Array Be	152.32	322	PKPbc	PKPbc	00 15 19.5	+0.1
	comp=Z,0.4nm,0.4s,baz=54,slow=2.3,SNR=6.2						
BRTR	Keskin Array B	153.38	297	PKPbc	PKiKP	00 15 22.8	+0.3
	comp=Z,0.4nm,0.5s,baz=146,slow=5.4,SNR=5.4						

*ISCJB **05** 00:11:19.1±1.2, 13°.2N±0°.1×92°.06W±0°.08, h37km, mb3.5/4, Error ellipse: s-maj=17.4km s-min=11.4km az=170.4*
*IDC **05** 00:11:20.9±6.8, 13°.23N×92°.01W, h33km±52km, mb3.3/4, mb1 3.8/8, mb1mx3.5/34, mbtmp3.7/8, ML3.5/4, MS2.9/1, Ms1 2.9/1, ms1mx2.4/19, Error ellipse: s-maj=44.5km s-min=24.0km az=29.0*
ISC 05 00:11:21.8±1.5**, 13°.4N**±0°.2×**92°.09W**±0°.08**, h37**km**, n8, σ1.35**/10**, mb3.6**/4**, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APG	El Apazote	2.28	44	Pn	Pn	00 11 57.5	+0.3
	22nm,0.3s,baz=219,slow=17,SNR=19						
APG				Sn	Sn	00 12 23.6	-0.5
	38nm,0.3s,baz=125,slow=22,SNR=25						
CMIG	Matias Romero	4.59	324	Pn	Pn	00 12 28.9	+0.1
	1.5nm,0.3s,baz=148,slow=11,SNR=8.4						
CMIG				Sn	Sn	00 13 18.5	-2.4
	3.1nm,0.3s,baz=148,slow=19,SNR=3.8						
CMIG				LR	LR	00 14 27.2	
	comp=Z,114nm,19.1s,baz=154,slow=39						
TXAR	Lajitas Array	19.19	328	P	Pn	00 15 43.7	0.0
	0.0nm,0.3s,baz=161,slow=8.0,SNR=8.6						
ROSC	El Rosal	19.46	114	P	P	00 15 44.1	-1.9
	2.9nm,0.3s,baz=287,slow=6.9,SNR=6.2						
ANMO	Albuquerque	25.12	331	P	P	00 16 44.2	+0.6
	0.7nm,0.5s,baz=159,slow=18,SNR=3.8						
NVAR	Mina Array Bea	34.12	322	P	P	00 18 05.0	+1.5
	0.7nm,0.7s,baz=142,slow=8.8,SNR=4.4						
YKA	Yellowknife Ar	51.64	347	P	P	00 20 24.8	+0.3
	0.5nm,0.7s,baz=147,slow=7.5,SNR=7.2						
ILAR	Eielson Array	63.40	337	P	P	00 21 47.4	0.0
	0.4nm,0.9s,baz=136,slow=8.4,SNR=4.4						

*ISCJB **05** 00:22:26.9±0.8, 33°.08S±0°.09×138°.6E±0°.1, h10km, Error ellipse: s-maj=17.8km s-min=6.3km az=135.5*
*AUST **05** 00:22:30.9±0.3, 33°.22S×138°.60E, h15km±2km, Error ellipse: s-maj=4.1km s-min=1.9km az=23.0*
*IDC **05** 00:22:35.6±4.8, 32°.48S×138°.57E, h0km, mb1 3.4/4, mb1mx3.3/23, mbtmp3.2/4, ML3.3/4, Error ellipse: s-maj=70.5km s-min=24.0km az=21.0*
ISC 05 00:22:28.9±0.9**, 33°.06S**±0°.06×**138°.60E**±0°.06**, h10**km**, n12, σ2.15**/16**, Near coast of South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HTT	Hallett	0.46	144	P	Pg	00 22 37.8	-0.2
	baz=0.3,SNR=1000						
HTT				S	Sg	00 22 43.2	-0.9
	baz=0.3						
BBOO	Buckleboo	2.15	276	P	Pn	00 23 07.0	+2.2
	baz=2.2						
STKA	Stephens Creek	2.79	66	Pn	Pb	00 23 19.3	+0.4
	3.3nm,0.3s,baz=250,slow=14,SNR=41						
STKA				Sn	Sb	00 23 53.5	+0.4
	12nm,0.3s,baz=267,slow=13,SNR=6.3						
STKA	Stephens Creek	2.79	66	P	Pb	00 23 18.8	-0.1
	baz=2.9,SNR=26						
ARPS	Mount Arapiles	4.56	145	P	Pn	00 23 37.0	-1.0
	baz=4.4,SNR=19						
CMSA	Cobar Meteorol	6.19	78	P	Pn	00 24 03.0	+2.6
	baz=6.2						
TOO	Toolangi	7.21	131	P	Pn	00 24 14.2	-0.2
	baz=7.1,SNR=6.3						
CAN	Canberra	8.91	108	P	Pn	00 24 37.7	0.0
	baz=8.8						
FORT	Forrest	9.24	281	P	Pn	00 24 43.2	+0.9
	baz=9.3						
ASAR	Alice Springs	10.22	335	Pn	Pn	00 24 57.1	+1.3
	0.3nm,0.3s,baz=159,slow=12,SNR=12						
ASAR				Sn	Sn	00 26 47.9	-2.6
	0.4nm,0.3s,baz=158,slow=22,SNR=7.4						
WRA	Warramunga Arr	13.60	343	Pn	Pn	00 25 40.8	-1.2
	0.1nm,0.3s,baz=162,slow=13,SNR=8.0						
WRA				Sn	Sn	00 28 08.0	-5.2
	0.1nm,0.3s,baz=163,slow=24,SNR=3.7						
FITZ	Fitzroy Crossi	18.91	319	P	Pn	00 26 53.2	+2.9
	0.1nm,0.3s,baz=150,slow=12,SNR=3.7						

*ISCJB **05** 00:39:09.0±0.3, 32°.36N±0°.02×115°.32W±0°.02, h20km±2km, Error ellipse: s-maj=3.5km s-min=2.5km az=10.4*
*ANF **05** 00:39:09.6±0.3, 32°.43N×115°.33W, h23km±2km, ML3.6/20, Error ellipse: s-maj=2.9km s-min=1.4km az=1.0*
*SCEDC **05** 00:39:09.4, 32°.34N×115°.32W, h10km*
*PAS **05** 00:39:09.4±0.0, 32°.34N×115°.32W, h10km*
*NEIC **05** 00:39:10.1±0.0, 32°.35N×115°.33W, h5km, MD3.8(MEX), ML3.6(PAS), ML3.6(ECX), After ECX.*
NEIC Felt at Mexicali. Also felt at Calexico, California.
*MEX **05** 00:39:10.7±0.3, 32°.43N×115°.30W, h14km±1km, MD3.9*
*ECX **05** 00:39:10.1±0.7, 32°.35N×115°.33W, h5km, MD3.4, ML3.6, Fault plane solution: NP1:φs0.00000°, δ90.00000°, λ0.00000°.*
ISC 05 00:39:08.5±0.8**, 32°.35N**±0°.02×**115°.36W**±0°.02**, h14**km±5km**, n95, σ1.76**/117**, 4C-7D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.08	34	⇑eP	Pg	00 39 10.8	-0.7
CPBX				eS	Sg	00 39 13.3	-0.2
CPBX				⇓e		00 39 14.1	
CPBX				IAML		00 39 14.1	
	comp=N,89μm,0.1s						
MBIG	Mexicali	0.15	67	iP	Pb	00 39 13.0	0.0
MBIG				eS	Sg	00 39 15.0	+0.2
MBIG	Mexicali	0.15	67	iP	Pb	00 39 13.0	0.0
MBIG				eS	Sg	00 39 15.0	+0.2
WESC	Westside Schoo	0.52	322	eP	Pb	00 39 20.1	+0.8
YUH	Yuha Desert	0.56	302	⇓iP	Pb	00 39 20.4	+0.3
COK	Cook Ranch	0.59	328	eP	Pb	00 39 21.1	+0.6
RMX	La Rumorosa	0.66	293	eP	Pg	00 39 21.2	-0.2
RMX				⇓eP	Pb	00 39 21.6	-0.2
SWSC	Sam W. Stewart	0.70	328	P	Pb	00 39 22.5	0.0
	baz=146,SNR=224						
SWSC				Sn	Sb	00 39 33.2	+1.2
	baz=146						
SWSC	Sam W. Stewart	0.70	328	eP	Pb	00 39 22.5	0.0
IKP	In-Ko-Pah, Jac	0.70	295	P	Pb	00 39 23.0	+0.4
	baz=115,SNR=628						
IKP				S	Sb	00 39 32.6	+0.5
	baz=115						
IKP	In-Ko-Pah, Jac	0.70	295	⇓eP	Pb	00 39 23.0	+0.4
YMD	Yuma Desert	0.72	73	⇑iP	Pg	00 39 22.4	-0.1
CRR	Carrizo Plain	0.74	316	⇓iP	Pb	00 39 23.6	+0.5
GLA	Glamis	0.83	32	ePg	Pg	00 39 24.2	-0.4
GLA				eSn	Sg	00 39 33.8	-1.8
GLA	Glamis	0.83	32	P	Pg	00 39 24.3	-0.4
	baz=210,SNR=171						
GLA				S	Sg	00 39 34.5	-1.1
	baz=210						
GLA	Glamis	0.83	32	⇑eP	Pg	00 39 24.2	-0.4
ECBX	El Chinero	0.91	163	⇓eP	Pb	00 39 25.8	-0.3
ECBX				eS	Sg	00 39 38.5	+0.3
MONP2	Monument Peak	1.05	301	P	Pb	00 39 28.5	0.0
	baz=121,SNR=750						
MONP2				S	Sn	00 39 42.9	-0.5
	baz=121						
MONP2	Monument Peak	1.05	301	eP	Pb	00 39 28.6	0.0
CBX	Cerro Bola	1.11	268	⇓eP	Pg	00 39 30.1	+0.2
CBX				eS	Sn	00 39 45.0	+0.2
CBX				IAML		00 39 50.8	
	comp=N,3μm,0.5s						
CBX				⇑e		00 39 50.8	
ZAX	El Zacaton	1.14	223	eP	Pg	00 39 30.3	-0.3
BAR	Barrett	1.16	287	ePg	Pg	00 39 30.7	-0.2
BAR				eSn	Sb	00 39 45.1	-0.1
BAR	Barrett	1.16	287	eP	Pn	00 39 30.4	+0.1
ECNX	Esteban Cantu	1.26	237	eP	Pb	00 39 32.1	0.0
BC3	Big Chuckawall	1.30	356	P	Pn	00 39 31.5	-0.9
	baz=175,SNR=108						
BC3				S	Sb	00 39 47.5	-2.0
	baz=175						
SPIG	San Pedro Mart	1.30	184	eP	Pn	00 39 32.3	-0.2
SPIG				eS	Sb	00 39 49.4	-0.3
SPIG	San Pedro Mart	1.30	184	eP	Pn	00 39 32.3	-0.2
SPIG				eS	Sb	00 39 49.4	-0.3
SPX	San Pedro Mart	1.30	184	eP	Pn	00 39 31.3	-1.3
PBX	Punta Banda	1.31	243	eP	Pb	00 39 32.8	-0.1
EML	El Monte Cty P	1.37	294	eP	Pb	00 39 33.9	0.0
113A	Mohawk Valley,	1.41	72	ePn	Pn	00 39 32.9	-0.7
XPFO	Pion Flat	1.56	324	ePn	Pn	00 39 35.3	-0.6
XPFO				eSn	Sn	00 39 54.4	-1.6
PFO	Pinyon Flats O	1.56	324	ePn	Pn	00 39 35.3	-0.6
PFO				eSn	Sn	00 39 54.3	-1.7
PFO	Pinyon Flats O	1.56	324	P	Pn	00 39 35.3	-0.6
	baz=143,SNR=128						
PFO				S	Sn	00 39 54.9	-1.1
	baz=143						
Y12C	Blythe	1.56	26	ePn	Pb	00 39 37.8	+0.6
109C	Camp Elliot, M	1.57	290	P	Pn	00 39 36.2	+0.3
	baz=110,SNR=37						
109C				Sb	Sg	00 39 58.2	-0.8
	baz=110						
CPE	Camp Elliot	1.57	290	ePn	Pn	00 39 36.4	+0.5
CPE				eSn	Sb	00 39 56.5	-0.5
BELC	Belle Mtn. Jos	1.73	342	P	Pn	00 39 37.5	-0.7
	baz=161,SNR=54						
IRM	Iron Mountain	1.81	6	P	Pn	00 39 38.9	-0.4
	baz=185,SNR=42						
IRM				Sb	Sb	00 40 03.4	-0.6
	baz=185						
MURC	Murrieta	1.98	309	P	Pn	00 39 41.4	-0.2
	baz=128,SNR=53						
MURC				Sb	Sb	00 40 10.2	+1.2
	baz=128						
214A	Organ Pipe Nat	2.19	100	iP	Pn	00 39 43.2	-1.4
214A				iS	Sn	00 40 08.4	-3.1
214A	Organ Pipe Nat	2.19	100	P	Pn	00 39 43.2	-1.4
	baz=281,SNR=9.4						
214A				Sb	Sb	00 40 17.0	+1.9
	baz=281						
GMRC	Granite Mounta	2.44	354	P	Pn	00 39 47.7	-0.3
	baz=173,SNR=14						
LDFC	Landfair	2.73	4	ePn	Pn	00 39 53.3	+1.4
SCI2	San Clemente I	2.76	284	Sb	Sb	00 40 33.8	+2.5
	baz=102						
CIS	Catalina Islan	2.78	293	Pb	Pb	00 39 58.2	+0.3
	baz=112						
CIS				Sb	Sb	00 40 33.3	+1.5
	baz=112						
FMP	Fort Macarthur	2.82	300	Sb	Sb	00 40 34.7	+1.8
	baz=118						
MWC	Mount Wilson	2.93	310	ePn	Pn	00 39 55.4	+0.6
PASC	Pasadena Art C	2.98	308	ePn	Pn	00 39 57.3	+1.9
W13A	Hualapai Mount	3.00	24	ePn	Pn	00 39 58.1	+2.3
TUQ	Turquoise Moun	3.11	351	Pb	Pb	00 40 02.6	-1.1
	baz=171						
GSC	Goldstone, Bar	3.18	338	ePn	Pn	00 39 58.2	+0.1
EDW2	Edwards Air Fo	3.35	320	Pb	Pb	00 40 07.8	+0.2
	baz=138						
OSI	Osito Audit: C	3.61	310	ePn	Pn	00 40 04.7	+0.7
OSI				eSn	Sn	00 40 41.6	-4.7
OSI	Osito Audit: C	3.61	310	Sb	Sb	00 40 58.6	+2.9
	baz=128						
X16A	Lo Mia Camp, P	3.87	57	ePn	Pn	00 40 08.7	+1.0
TUC	Tucson	3.87	89	ePn	Pn	00 40 11.9	+4.3
SHPR	Sheep Range	4.15	2	ePn	Pn	00 40 14.0	+2.5
ISA	Isabella, Lake	4.20	323	ePn	Pn	00 40 14.4	+2.3
DAC	Darwin (Calif)	4.33	335	ePn	Pn	00 40 13.1	-1.0
WUAZ	Wupatki	4.58	45	ePn	Pn	00 40 19.9	+2.5
WUAZ	Wupatki	4.58	45	P	Pn	00 40 19.1	+1.7
	baz=227,SNR=15						
U15A	North Rim	4.79	31	ePn	Pn	00 40 22.7	+2.2
LCMT	Little Creek M	4.96	20	ePn	Pn	00 40 24.0	+1.3
KNB	Kanab	5.10	23	ePn	Pn	00 40 27.3	+2.6
319A	Douglas	5.26	99	ePn	Pn	00 40 28.9	+2.2
W18A	Petrified Fore	5.44	58	ePn	Pn	00 40 31.8	+2.5
W18A	Petrified Fore	5.44	58	P	Pn	00 40 30.8	+1.5
	baz=241,SNR=10.0						
CCUT	Cedar City	5.44	17	ePn	Pn	00 40 35.5	+6.1
SZCU	Shurtz Canyon	5.55	19	ePn	Pn	00 40 35.6	+4.7
R11A	Troy Canyon, C	5.99	358	ePn	Pn	00 40 37.8	+1.0
MTPU	Mount Pierson	6.24	24	ePn	Pn	00 40 44.1	+3.6
121A	Cookes Peak, D	6.40	86	P	Pn	00 40 42.6	0.0
	baz=270,SNR=8.4						
LAZ	Ladron	7.17	71	ePn	Pn	00 40 54.6	+1.5
LENM	Lemitar	7.25	73	ePn	Pn	00 40 55.7	+1.5
MVCO	Mesa Verde	7.44	47	ePn	Pn	00 40 59.8	+3.1
MVCO	Mesa Verde	7.44	47	P	Pn	00 40 59.3	+2.5
	baz=231,SNR=8.9						
BNM	Barren Site	7.53	74	ePn	Pn	00 40 59.7	+1.6
PV05	Paradox Valley	7.67	40	ePn	Pn	00 41 03.6	+3.6
TMUT	Trail Mountain	7.71	25	ePn	Pn	00 40 57.4	-3.1
ANMO	Albuquerque	7.86	68	ePn	Pn	00 41 05.2	+2.7
PV13	Radium Mtn., P	7.88	41	ePn	Pn	00 41 06.9	+4.1
PV17	East Wray Mesa	7.89	40	ePn	Pn	00 41 09.0	+6.0
PV14	Lion Creek, Pa	7.93	39	ePn	Pn	00 41 07.6	+4.1
PV20	West Nyswonger	7.93	39	ePn	Pn	00 41 06.5	+2.9
PV03	Paradox Valley	7.94	40	ePn	Pn	00 41 05.3	+1.8
PV16	Nyswonger Mesa	7.94	40	ePn	Pn	00 41 08.9	+5.3
PV11	David Mesa, Pa	7.95	40	ePn	Pn	00 41 05.6	+1.8
PV09	Paradox Valley	7.96	38	ePn	Pn	00 41 03.4	-0.6
PV23	Carpenter Ridg	7.99	39	ePn	Pn	00 41 03.6	-0.8
PV04	Paradox Valley	8.01	39	ePn	Pn	00 41 10.7	+6.2
PV12	Saucer Basin,	8.01	40	ePn	Pn	00 41 08.4	+3.8
PV21	Cone Mtn., Par	8.09	38	ePn	Pn	00 41 10.5	+4.8
MNTX	Cornudas Mount	8.49	92	ePn	Pn	00 41 11.8	+0.7
S22A	4UR Ranch, Cre	8.82	50	ePn	Pn	00 41 18.1	+2.3

*NIED **05** 00:50:00, 34°.00N×135°.30E, h5km, Mw3.7 Best double couple: M₀4.62000×10¹⁴ NP1:φs332.00000°, δ53.00000°, λ33.00000°. NP2:φs220.00000°, δ65.00000°, λ138.00000°.*
*ISCJB **05** 00:50:24.7±0.4, 34°.01N±0°.03×135°.30E±0°.03, h24km±3km, mb3.6/11, Error ellipse: s-maj=5.7km s-min=4.6km az=3.9*
*JMA **05** 00:50:25.4, 34°.05N×135°.29E, h6km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs35.00000°, δ58.00000°, λ128.00000°. NP2: φs159.00000°, δ48.00000°, λ45.00000°. Principal axes: T Plg58.0000°, Azm0.0000°; N Plg31.0000°, Azm193.0000°; P Plg6.0000°, Azm99.0000°;*
JMA Felt III J1.
*IDC **05** 00:50:26.4±2.4, 34°.06N×135°.38E, h23km±15km, mb3.6/11, mb1 3.7/16, mb1mx3.6/36, mbtmp3.7/16, ML3.4/5, MS2.8/1, Ms1 2.8/1, ms1mx2.1/37 Error ellipse: s-maj=16.2km s-min=11.8km az=159.0*
ISC 05 00:50:25.5±0.8**, 34°.03N**±0°.03×**135°.31E**±0°.03**, h16**km±5km**, n24, σ1.10**/37**, mb3.6**/11**, 2C-4D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWM	Minabe	0.18	167	⇑P	Pg	00 50 29.6	-0.4
JWM				S	Sg	00 50 32.4	-0.7
JWY	Kouya	0.30	52	⇓P	Pg	00 50 31.4	-0.6
JWY				S	Sg	00 50 35.7	-0.7
JTNC	Tanabenakahech	0.33	130	P	Pg	00 50 32.5	+0.1
JTNC				S	Sg	00 50 37.1	0.0
JAJ2	Tsuna	0.52	318	⇓P	Pg	00 50 35.3	-0.6
JAJ2				S	Sg	00 50 42.3	-0.6
JHE	Heguri	0.70	27	⇑P	Pg	00 50 38.7	-0.4
JHE				S	Sb	00 50 48.3	-0.3
JAI	Aioi	0.75	252	⇓P	Pg	00 50 39.7	-0.4
JAI				S	Sg	00 50 49.2	-0.8
JKN2	Miekihoku	0.83	75	⇓P	Pg	00 50 41.0	-0.6
JKN2				S	Sg	00 50 52.0	-0.6
MAT	Matsushiro	3.45	43	P	Pn	00 51 19.7	+1.1
MAT				eS	Sb	00 52 05.0	-2.9
MJAR	Matsushiro Arr	3.45	43	Pn	Pn	00 51 19.9	+1.3
	2.7nm,0.3s,baz=249,slow=14,SNR=31						
MJAR				Pg	Pb	00 51 28.8	+2.6
	5.8nm,0.3s,baz=224,slow=16,SNR=29						
MJAR				Lg	Lg	00 52 13.1	
	6.3nm,0.3s,baz=219,slow=31,SNR=13						
JNU	Nakatsue	3.81	257	Pn	Pn	00 51 24.8	+1.3
	2.6nm,0.3s,baz=40,slow=5.2,SNR=15						
JNU				Pg	Pg	00 51 37.3	-1.1
	9.4nm,0.3s,baz=56,slow=8.2,SNR=28						
JNU				Lg	Lg	00 52 28.8	
	5.2nm,0.3s,baz=202,slow=7.8,SNR=8.9						
JHJ	Hachijo jima 2	3.85	102	Pn	Pn	00 51 23.8	-0.1
	17nm,0.3s,baz=276,slow=18,SNR=4.0						
JHJ				Sn	Sn	00 52 08.7	-0.2
	15nm,0.3s,baz=246,slow=18,SNR=1.9						
KSRS	Korea Array	6.91	302	Pn	Pn	00 52 07.9	+1.9
	0.5nm,0.3s,baz=124,slow=15,SNR=7.7						
KSRS				Sn	Sn	00 53 24.2	0.0
	0.7nm,0.3s,baz=120,slow=23,SNR=13						
KLR	Kul'dur	15.41	351	Pn	Pn	00 54 03.9	+1.7
	0.1nm,0.3s,baz=143,slow=13,SNR=6.2						
KLR				LR	LR	00 59 21.9	
	comp=Z,37nm,21.0s,baz=140,slow=35						
SONM	Songino Array	25.65	311	P	P	00 55 55.4	+0.9
	2.1nm,0.7s,baz=122,slow=8.8,SNR=17						
ZALV	Zalesovo Beam	40.39	315	P	P	00 58 01.2	-1.2
	0.3nm,0.4s,baz=108,slow=3.3,SNR=2.9						
ZALV				PcP	PcP	01 00 04.3	-1.0
	0.3nm,0.5s,baz=90,slow=1.9,SNR=2.3						
MKAR	Makanchi Array	41.58	304	P	P	00 58 13.1	+0.7
	0.4nm,0.5s,baz=85,slow=12,SNR=14						
WRA	Warramunga Arr	53.68	181	P	P	00 59 46.4	-0.1
	2.6nm,0.9s,baz=356,slow=7.7,SNR=16						
ILAR	Eielson Array	54.66	31	P	P	00 59 52.0	-1.2
	0.5nm,1.0s,baz=280,slow=7.2,SNR=3.4						
ASAR	Alice Springs	57.39	182	P	P	01 00 13.2	0.0
	0.6nm,0.8s,baz=12,slow=12,SNR=6.5						
YKA	Yellowknife Ar	68.84	28	P	P	01 01 27.4	-1.3
	0.1nm,0.5s,baz=296,slow=5.2,SNR=4.0						
KBZ	Khabaz	69.00	309	P	P	01 01 29.5	-0.5
	1.1nm,0.7s,baz=346,slow=0.8,SNR=4.2						
FINES	FINESS Array B	69.08	331	P	P	01 01 29.9	-0.3
	1.6nm,0.9s,baz=72,slow=8.8,SNR=2.6						
BRTR	Keskin Array B	76.99	309	P	P	01 02 18.1	+0.4
	1.0nm,0.9s,baz=108,slow=4.0,SNR=4.5						
NVAR	Mina Array Bea	80.75	50	P	P	01 02 39.0	+0.5
	0.2nm,0.5s,baz=270,slow=0.9,SNR=2.9						

DJA 05 01:31:00.7±0.3**, 3°N**±3°×**9°8E**±°**, h14**km±3km**, M3.6**/4**, MLv3.6**/4**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KCSI	Kotacane, Aceh	0.21	316	P	Pb	01 31 06.7	+0.3
KCSI				S	Sb	01 31 10.9	+0.7
TSI	Tuntungan	0.66	79	P	Pb	01 31 13.9	0.0
TSI				S	Sb	01 31 23.3	+0.3
TPTI		0.75	262	P	Pb	01 31 15.8	+0.3
SNSI	Sinabang, Aceh	1.86	239	P	Pn	01 31 32.2	+0.1
SNSI				S	Sn	01 31 55.6	+0.2
GSI	Gunungsitoli	2.08	190	P	Pn	01 31 35.0	-0.2
LHMI	Lhok Sumawe	2.09	332	P	Pn	01 31 35.6	+0.3
MNSI	Mandailing Nat	3.05	147	P	Pn	01 31 48.3	-0.2
BSI	Banda Aceh	3.36	309	P	Pn	01 31 52.8	-0.1

*DDA **05** 01:38:02.6, 42°.34N×41°.11E, h7km±3km, ML3.1*
*TIF **05** 01:38:03.2, 42°.19N×40°.77E, h26km±4km*
ISC 05 01:38:05.1±3.6**, 42°.2N**±0°.1×**40°.9E**±0°.2**, h10**km**, n7, σ0.96**/11**, Black Sea**

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

BATM	**Batumi**	**0.81**	**134**	P	**Pg**	**01 38 20.9**	**+0.2**
DBOC	**Borcka**	**0.99**	**146**	iP	**Pg**	**01 38 24.6**	**+0.4**
ARTV	**Artvin**	**1.24**	**142**	IAML_P			
	comp=Z,3μm,0.1s						
ARTV				iP	**Pn**	**01 38 27.1**	**-1.5**
ARTV				iS	**Sb**	**01 38 45.7**	**+0.9**
DBAD	**Bademkaya**	**1.29**	**153**	IAML_P			
	comp=Z,1μm,0.1s						
DBAD				iP	**Pn**	**01 38 29.4**	**+0.2**
DAGI	**Agillar**	**1.32**	**145**	IAML_P			
	comp=Z,310nm,0.1s						
DAGI				iP	**Pn**	**01 38 29.4**	**-0.3**
DAGI				iS	**Sb**	**01 38 47.5**	**+0.4**
EPOS	**Posof**	**1.50**	**116**	iP	**Pn**	**01 38 30.6**	**-1.6**
EPOS				iS	**Sn**	**01 38 51.3**	**-0.7**
GUDG	**Gudauri**	**2.65**	**82**	P	**Pn**	**01 38 48.1**	**0.0**
GUDG				S	**Sn**	**01 39 21.3**	**+0.8**

IDC 05 01:41:44.5±1.7**,6°.73S**×**129°.96E,h0**km**,mb3.5**/1**, mb1 3.8**/5**,mb1mx3.5**/33**,mbtmp3.6**/5**,ML3.6**/4**,MS2.9**/2**, Ms1 3.0**/2**,ms1mx2.5**/24**,Error ellipse: s-maj=70.0km s-min=24.4km az=86.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.96**	**13**	Pn	Pn	01 43 15.6	+1.5
	1.0nm,0.3s,baz=218,slow=19,SNR=4.1						
SIJI				Sn	Sn	01 44 16.9	-6.3
	1.3nm,0.3s,baz=73,slow=19,SNR=3.9						
FITZ	**Fitzroy Crossi**	**12.06**	**200**	Pn	Pn	01 44 39.9	+2.1
	0.8nm,0.3s,baz=17,slow=8.2,SNR=45						
FITZ				Sn	Sn	01 46 48.4	-4.7
	0.3nm,0.3s,baz=202,slow=16,SNR=5.9						
WRA	**Warramunga Arr**	**13.80**	**162**	Pn	Pn	01 45 00.4	-1.3
	0.2nm,0.3s,baz=340,slow=14,SNR=15						
WRA				Sn	Sn	01 47 23.4	-13
	0.6nm,0.3s,baz=342,slow=22,SNR=10						
ASAR	**Alice Springs**	**17.26**	**168**	P	Pn	01 45 46.9	-0.3
	0.2nm,0.3s,baz=351,slow=9.9,SNR=8.3						
ASAR				S	Sn	01 48 47.9	-12
	0.1nm,0.3s,baz=348,slow=25,SNR=4.5						
CMAR	**Chiang Mai Arr**	**39.53**	**310**	LR	LR	02 07 10.6	
	comp=Z,11nm,18.2s,baz=200,slow=39						
JNU	**Nakatsue**	**39.64**	**1**	LR	LR	02 05 31.3	
	comp=Z,21nm,18.8s,baz=254,slow=36						
MKAR	**Makanchi Array**	**67.98**	**327**	P	P	01 52 45.1	-0.4
	0.2nm,0.3s,baz=120,slow=7.2,SNR=9.2						

IDC 05 01:56:13.4±5.0**,6°.17S**×**129°.90E,h248**km±74km**,mb2.6**/1**, mb1 2.8**/4**,mb1mx2.6**/38**,mbtmp3.4**/4**,MS2.6**/1**,Ms1 2.6**/1**, ms1mx2.4**/3**,Error ellipse: s-maj=148.6km s-min=17.9km az=80.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.44**	**15**	P	Pn	01 57 36.1	+1.5
	1.6nm,0.3s,baz=237,slow=17,SNR=13						
SIJI				S	S	01 58 38.5	-0.9
	1.6nm,0.3s,baz=53,slow=20,SNR=4.8						
DAV	**Davao City (W)**	**13.84**	**342**	LR	LR	02 04 30.2	
	comp=Z,25nm,19.9s,baz=348,slow=36						
WRA	**Warramunga Arr**	**14.36**	**163**	P	Pn	01 59 25.9	-0.1
	0.1nm,0.3s,baz=344,slow=13,SNR=4.2						
WRA				S	S	02 01 57.0	-8.0
	0.2nm,0.3s,baz=106,slow=6.8,SNR=5.5						
ASAR	**Alice Springs**	**17.82**	**168**	P	P	02 00 04.2	-0.1
	0.2nm,0.3s,baz=343,slow=10,SNR=13						
MKAR	**Makanchi Array**	**67.48**	**327**	P	P	02 06 42.7	0.0
	0.1nm,0.4s,baz=142,slow=7.3,SNR=3.8						

*ISCJB **05** 02:32:53.9±1.1, 42°.72N±0°.07×145°.74E±0°.06, h46km±20km, Error ellipse: s-maj=12.3km s-min=6.1km az=154.4*
*JMA **05** 02:32:54.0±0.1, 42°.71N×145°.71E, h45km±2km, M3.0*
*SKHL **05** 02:32:54.2±0.6, 42°.72N×145°.71E, h71km±4km, mb4.6/6*
ISC 05 02:32:54.3±2.1**,42°.7N**±0°.1×**145°.74E**±0°.06**,h32**km±11km**, n14,**σ**0.54**/26**,1C-2D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.56**	**311**	P	**Pb**	**02 33 05.6**	**-0.2**
JKHN				eS	**Sb**	**02 33 13.9**	**+0.3**
NEM2	**Nemuro 2**	**0.64**	**0**	P	**Pb**	**02 33 07.0**	**-0.2**
NEM2				eS	**Sb**	**02 33 16.6**	**+0.6**
JAK	**Akkeshi**	**0.81**	**290**	eS	**Sb**	**02 33 20.0**	**-0.7**
GLVR	**Golovnino**	**1.03**	**351**	iP	**Pn**	**02 33 12.0**	**-0.5**
GLVR				AMB	AMB	02 33 13.0	
	80nm,0.1s						
GLVR				AMB	AMB	02 33 13.0	
	100nm,0.1s						
GLVR				iS	**Sn**	**02 33 26.0**	**+0.2**
GLVR				A	A	02 33 32.0	
	900nm,0.2s						
GLVR				A	A	02 33 32.0	
	150nm,0.2s						
JNK	**Nakash**	**1.14**	**320**	P	**Pn**	**02 33 13.5**	**-0.6**
JNK				eS	**Sn**	**02 33 27.6**	**-1.0**
GRPR	**Tuman**	**1.27**	**1**	iP	**Pn**	**02 33 16.1**	**+0.2**
GRPR				AMB	AMB	02 33 16.4	
	60nm,0.4s						
GRPR				AMB	AMB	02 33 16.4	
	240nm,0.4s						
GRPR				iS	**Sn**	**02 33 32.0**	**+0.2**
GRPR				A	A	02 33 32.0	
	720nm,0.4s						
GRPR				A	A	02 33 32.0	
	260nm,0.4s						
JRA	**Rausu**	**1.30**	**340**	P	**Pn**	**02 33 16.3**	**+0.1**
JRA				eS	**Sn**	**02 33 32.8**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**1.32**	**4**	⇑iP	**Pn**	**02 33 16.5**	**0.0**
YUK				AMB	AMB	02 33 17.0	
	50nm,0.2s						
YUK				AMB	AMB	02 33 17.0	
	170nm,0.2s						
YUK				iS	**Sn**	**02 33 33.0**	**+0.1**
YUK				A	A	02 33 35.0	
	480nm,0.2s						
YUK				A	A	02 33 35.0	
	560nm,0.2s						
LAGR	**Lagunnoye**	**1.33**	**2**	iP	**Pn**	**02 33 17.0**	**+0.3**
LAGR				AMB	AMB	02 33 17.6	
	80nm,0.2s						
LAGR				AMB	AMB	02 33 17.6	
	110nm,0.2s						
LAGR				AMB	AMB	02 33 17.6	
	180nm,0.2s						
LAGR				iS	**Sn**	**02 33 34.1**	**+0.8**
LAGR				A	A	02 33 36.1	
	810nm,0.2s						
LAGR				A	A	02 33 36.1	
	280nm,0.2s						
SHO	**Shikotan**	**1.40**	**34**	⇓iP	**Pn**	**02 33 17.0**	**-0.6**
SHO				AMB	AMB	02 33 20.0	
	30nm,0.2s						
SHO				iS	**Sn**	**02 33 34.5**	**-0.4**
SHO				A	A	02 33 40.0	
	280nm,0.2s						
SHO				A	A	02 33 40.0	
	260nm,0.2s						
JAR	**Ashorobuto**	**1.55**	**292**	P	**Pn**	**02 33 19.4**	**-0.3**
JAR				eS	**Sn**	**02 33 38.2**	**-0.6**
JCH	**Churui**	**1.75**	**267**	P	**Pn**	**02 33 23.4**	**+0.9**
JTKR	**Abashiri--Toko**	**1.83**	**314**	P	**Pn**	**02 33 24.0**	**+0.5**
JTKR				eS	**Sn**	**02 33 46.2**	**+0.7**
KUR	**Kuril'sk**	**2.94**	**31**	⇓eP	**Pn**	**02 33 39.3**	**+0.5**
KUR				AMB	AMB	02 33 46.3	
	210nm,1.0s						
KUR				eS	**Sn**	**02 34 12.8**	**-0.3**
KUR				A	A	02 34 18.1	
	220nm,0.8s						
KUR				A	A	02 34 18.1	
	120nm,0.8s						

*IDC **05** 02:36:27.4±1.2, 41°.30S×175°.33E, h49km±8km, mb3.7/2, mb1 3.8/4, mb1mx3.6/29, mbtmp3.7/4, Error ellipse: s-maj=31.3km s-min=11.3km az=127.0*
*ISCJB **05** 02:36:29.8±0.3, 41°.13S±0°.03×174°.90E±0°.04, h94km±5km, mb3.9/2, Error ellipse: s-maj=6.0km s-min=3.1km az=37.0*
*WEL **05** 02:36:32.5, 41°.0S±1°.0×17°5E±°, h56km±1km, ML4.3/35*
ISC 05 02:36:29.8±0.8**,41°.09S**±0°.04×**174°.85E**±0°.04**,h76**km±5km**, n121,**σ**1.74**/127**,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAW	**Cannon Point**	**0.17**	**97**	P	**Pn**	**02 36 42.3**	**+1.3**
KIW	**Kapiti Island**	**0.23**	**12**	P	**Pn**	**02 36 41.9**	**+0.5**
KIW				S	**Sn**	**02 36 48.5**	**-1.4**
BHW	**Baring Head**	**0.32**	**177**	P	**Pn**	**02 36 43.5**	**+1.6**
OGWZ	**Otaki Gorge**	**0.36**	**42**	P	**Pn**	**02 36 43.2**	**+1.0**
MSWZ	**Moikau Station**	**0.45**	**138**	P	**Pn**	**02 36 45.1**	**+2.3**
TCW	**Tory Channel**	**0.45**	**254**	P	**Pn**	**02 36 43.6**	**+0.8**
MTW	**Mount Morrison**	**0.50**	**98**	P	**Pn**	**02 36 45.3**	**+2.1**
PAWZ	**Paruwai Farm**	**0.53**	**124**	P	**Pn**	**02 36 46.0**	**+2.4**
HOWZ	**Holdsworth Sta**	**0.54**	**70**	P	**Pn**	**02 36 45.3**	**+1.7**
PLWZ	**Palliser**	**0.57**	**148**	P	**Pn**	**02 36 46.5**	**+2.5**
MRZ	**Mangatainoka R**	**0.70**	**53**	P	**Pn**	**02 36 46.6**	**+1.4**
TRWZ	**Traveller**	**0.71**	**116**	P	**Pn**	**02 36 48.0**	**+2.7**
DUWZ	**D'Urville Isla**	**0.76**	**292**	P	**Pn**	**02 36 46.4**	**+0.5**
TUWZ	**Tuamarina**	**0.76**	**243**	P	**Pn**	**02 36 47.1**	**+1.2**
TMWZ	**Te Maipa**	**0.79**	**92**	P	**Pn**	**02 36 48.6**	**+2.4**
CMWZ	**Cape Campbell**	**0.82**	**216**	P	**Pn**	**02 36 49.3**	**+2.7**
TIWZ	**Tintock**	**0.84**	**69**	P	**Pn**	**02 36 48.8**	**+1.9**
OHWZ	**Ohakea**	**0.95**	**22**	P	**Pn**	**02 36 49.9**	**+1.9**
BSWZ	**Blackbirch Sta**	**0.96**	**229**	P	**Pn**	**02 36 50.1**	**+1.8**
POWZ	**Post Office Ro**	**0.98**	**46**	P	**Pn**	**02 36 49.8**	**+1.3**
PRWZ	**Pori Road**	**1.00**	**58**	P	**Pn**	**02 36 50.6**	**+1.9**
CPWZ	**Castlepoint**	**1.04**	**81**	P	**Pn**	**02 36 51.9**	**+2.8**
NNZ	**Nelson**	**1.12**	**263**	P	**Pn**	**02 36 51.3**	**+1.2**
BFZ	**Birch Farm**	**1.14**	**70**	P	**Pn**	**02 36 52.1**	**+1.8**
DVHZ	**Dannevirke**	**1.27**	**52**	P	**Pn**	**02 36 53.3**	**+1.2**
TSZ	**Takapari Road**	**1.33**	**40**	P	**Pn**	**02 36 54.1**	**+1.3**
WAZ	**Wanganui**	**1.33**	**5**	P	**Pn**	**02 36 55.0**	**+2.1**
ANWZ	**Angora Road**	**1.39**	**64**	P	**Pn**	**02 36 55.1**	**+1.6**
PNHZ	**Pukenui**	**1.56**	**42**	P	**Pn**	**02 36 56.9**	**+1.1**
WPHZ	**Waipukurau**	**1.58**	**50**	P	**Pn**	**02 36 57.8**	**+1.7**
PRHZ	**Porangahau**	**1.59**	**60**	P	**Pn**	**02 36 57.4**	**+1.3**
KHZ	**Kahutara**	**1.65**	**216**	P	**Pn**	**02 36 59.2**	**+2.2**
LREZ	**Lake Rotokare**	**1.66**	**348**	P	**Pn**	**02 36 59.2**	**+2.1**
MTVZ	**Mangateitei**	**1.77**	**16**	P	**Pn**	**02 37 00.2**	**+1.6**
QRZ	**Quartz Range**	**1.78**	**278**	P	**Pn**	**02 36 59.5**	**+0.9**
MOVZ	**Moawhango**	**1.81**	**23**	P	**Pn**	**02 37 00.5**	**+1.2**
PREZ	**Palmer Road**	**1.82**	**343**	P	**Pn**	**02 37 01.7**	**+2.4**
NMEZ	**Namu Road**	**1.83**	**336**	P	**Pn**	**02 37 01.2**	**+1.9**
PKVZ	**Pokaka**	**1.83**	**12**	P	**Pn**	**02 37 01.4**	**+1.8**
BHHZ	**Black Hill Sta**	**1.85**	**31**	P	**Pn**	**02 37 01.1**	**+1.4**
KRHZ	**Kereru**	**1.85**	**39**	P	**Pn**	**02 37 00.7**	**+1.0**
PXZ	**Pawanui**	**1.86**	**56**	P	**Pn**	**02 37 00.8**	**+1.0**
TRVZ	**Turoa**	**1.86**	**17**	P	**Pn**	**02 37 01.8**	**+1.8**
WHVZ	**Whangaehu Hut**	**1.89**	**18**	P	**Pn**	**02 37 02.2**	**+1.9**
DRZ	**Dome Shelter**	**1.89**	**17**	P	**Pn**	**02 37 03.0**	**+2.5**
KHEZ	**Kahui Hut**	**1.90**	**340**	P	**Pn**	**02 37 02.3**	**+2.0**
FWVZ	**Far West T-bar**	**1.91**	**17**	P	**Pn**	**02 37 02.6**	**+1.9**
TUVZ	**Tukino**	**1.92**	**19**	P	**Pn**	**02 37 02.5**	**+1.8**
COVZ	**Chateau Observ**	**1.96**	**16**	P	**Pn**	**02 37 03.2**	**+2.0**
DREZ	**Durham Road**	**1.96**	**345**	P	**Pn**	**02 37 03.5**	**+2.4**
VRZ	**Vera Road**	**1.96**	**358**	P	**Pn**	**02 37 03.4**	**+2.3**
NBEZ	**Newall Road No**	**1.97**	**337**	P	**Pn**	**02 37 02.9**	**+1.8**
NGZ	**Ngauruhoe**	**1.99**	**17**	P	**Pn**	**02 37 03.7**	**+2.0**
PKE	**Pukeiti**	**2.00**	**340**	P	**Pn**	**02 37 03.5**	**+1.8**
KAHZ	**Kahuranaki**	**2.02**	**51**	P	**Pn**	**02 37 03.0**	**+1.1**
MHEZ	**Mangahewa**	**2.05**	**348**	P	**Pn**	**02 37 05.2**	**+2.9**
WTVZ	**West Tongariro**	**2.05**	**16**	P	**Pn**	**02 37 04.4**	**+1.9**
KWHZ	**Kaweka Forest**	**2.05**	**36**	P	**Pn**	**02 37 03.2**	**+0.8**
TWVZ	**Taurewa**	**2.06**	**13**	P	**Pn**	**02 37 04.1**	**+1.5**
KRVZ	**Karewarewa**	**2.08**	**17**	P	**Pn**	**02 37 04.8**	**+1.9**
MCHZ	**McNeill Hill**	**2.17**	**41**	P	**Pn**	**02 37 05.0**	**+1.2**
KATZ	**Kakaramea**	**2.21**	**17**	P	**Pn**	**02 37 06.3**	**+1.7**
BKZ	**Black Stump Fm**	**2.30**	**34**	P	**Pn**	**02 37 06.3**	**+0.7**
RATZ	**Rangitukua**	**2.33**	**18**	P	**Pn**	**02 37 09.0**	**+2.9**
DSZ	**Denniston Nort**	**2.38**	**253**	P	**Pn**	**02 37 08.1**	**+1.3**
ARHZ	**Aropaoanui**	**2.45**	**43**	P	**Pn**	**02 37 08.5**	**+0.8**
WATZ	**Wairara**	**2.47**	**16**	P	**Pn**	**02 37 09.4**	**+1.4**
NMHZ	**Naumai**	**2.49**	**38**	P	**Pn**	**02 37 09.5**	**+1.2**
MRHZ	**Matea Rd**	**2.55**	**29**	P	**Pn**	**02 37 09.4**	**+0.3**
LTZ	**Lake Taylor**	**2.56**	**228**	P	**Pn**	**02 37 10.7**	**+1.5**
HIZ	**Hauiti**	**2.57**	**0**	P	**Pn**	**02 37 11.9**	**+2.5**
HIZ				P		02 37 12.1	
AMCZ	**Amberley**	**2.65**	**217**	P	**Pn**	**02 37 11.7**	**+1.3**
MTHZ	**Maungataniwha**	**2.71**	**35**	P	**Pn**	**02 37 11.9**	**+0.7**
WHHZ	**Waihua**	**2.72**	**43**	P	**Pn**	**02 37 12.0**	**+0.7**
RAHZ	**Arahi**	**2.77**	**39**	P	**Pn**	**02 37 12.9**	**+0.9**
ALRZ	**Allen Road**	**2.77**	**25**	P	**Pn**	**02 37 12.3**	**+0.3**
TLZ	**Tolley Road**	**2.81**	**11**	P	**Pn**	**02 37 13.7**	**+1.2**
CRLZ	**Canterbury Las**	**2.98**	**213**	P	**Pn**	**02 37 15.8**	**+0.9**
KNZ	**Kokohu**	**2.99**	**47**	P	**Pn**	**02 37 14.9**	**-0.1**
SNGZ	**Shannon Statio**	**3.00**	**41**	P	**Pn**	**02 37 15.3**	**+0.2**
INZ	**Inchbonnie**	**3.02**	**236**	P	**Pn**	**02 37 16.5**	**+1.1**
MHGZ	**Mahia Peninsul**	**3.04**	**52**	P	**Pn**	**02 37 16.0**	**+0.4**
OXZ	**Oxford**	**3.06**	**222**	P	**Pn**	**02 37 16.3**	**+0.4**
MQZ	**McQueen's Vall**	**3.08**	**211**	P	**Pn**	**02 37 16.6**	**+0.4**
AKCZ	**Akaroa Harbour**	**3.13**	**207**	P	**Pn**	**02 37 18.1**	**+1.2**
PRGZ	**Paritu Road**	**3.18**	**48**	P	**Pn**	**02 37 17.8**	**+0.2**
RIGZ	**Rimuhau**	**3.27**	**44**	P	**Pn**	**02 37 18.7**	**-0.1**
URZ	**Urewera**	**3.32**	**32**	P	**Pn**	**02 37 18.4**	**-1.0**
	4.1nm,0.3s,baz=227,slow=19,SNR=14						
URZ				S	**Sn**	**02 37 55.4**	**-2.3**
	15nm,0.3s,baz=88,slow=20,SNR=14						
URZ	**Urewera**	**3.32**	**32**	P	**Pn**	**02 37 18.9**	**-0.6**
TOZ	**Tahuroa Road**	**3.39**	**9**	P	**Pn**	**02 37 22.2**	**+1.8**
MWZ	**Matawai**	**3.44**	**38**	P	**Pn**	**02 37 20.8**	**-0.3**
WVZ	**Waitaha Valley**	**3.65**	**236**	P	**Pn**	**02 37 25.6**	**+1.7**
TWGZ	**Tauwhareparae**	**3.78**	**41**	P	**Pn**	**02 37 26.5**	**+0.7**
RUGZ	**Raukumara Rang**	**3.81**	**36**	P	**Pn**	**02 37 25.8**	**-0.4**
RPZ	**Rata Peaks**	**3.85**	**226**	P	**Pn**	**02 37 26.8**	**+0.2**
	0.8nm,0.3s,baz=53,slow=5.1,SNR=10.0						
RPZ				S	**Sn**	**02 38 08.8**	**-1.8**
	9.2nm,0.3s,baz=150,slow=22,SNR=22						
RPZ	**Rata Peaks**	**3.85**	**226**	P	**Pn**	**02 37 27.9**	**+1.3**
MKAZ	**Moumakai**	**3.98**	**4**	P	**Pn**	**02 37 30.2**	**+1.7**
KBAZ	**Karaka Road Bo**	**3.99**	**0**	P	**Pn**	**02 37 31.1**	**+2.6**
AWAZ	**Awhitu Peninsu**	**4.02**	**358**	P	**Pn**	**02 37 31.1**	**+2.1**
PKGZ	**Pakihiroa**	**4.05**	**39**	P	**Pn**	**02 37 29.2**	**-0.3**
ETAZ	**East Tamaki Re**	**4.13**	**1**	P	**Pn**	**02 37 32.9**	**+2.4**
WTAZ	**Waiatarua**	**4.15**	**357**	P	**Pn**	**02 37 33.4**	**+2.5**
EPAZ	**Eden Park BICE**	**4.21**	**359**	P	**Pn**	**02 37 33.9**	**+2.4**
WMGZ	**Waiomatatini S**	**4.27**	**41**	P	**Pn**	**02 37 31.7**	**-0.7**
WIAZ	**Waiheke Island**	**4.29**	**3**	P	**Pn**	**02 37 34.9**	**+2.2**
MBAZ	**Motutapu North**	**4.31**	**1**	P	**Pn**	**02 37 35.3**	**+2.4**
RVAZ	**Riverhead Bore**	**4.32**	**357**	P	**Pn**	**02 37 35.1**	**+2.0**
KUZ	**Kuaotunu**	**4.39**	**9**	P	**Pn**	**02 37 36.2**	**+2.2**
FOZ	**Fox Glacier**	**4.46**	**235**	P	**Pn**	**02 37 36.5**	**+1.6**
ABAZ	**Army Bay**	**4.48**	**360**	P	**Pn**	**02 37 37.4**	**+2.1**
ODZ	**Otahua Downs**	**5.01**	**216**	P	**Pn**	**02 37 42.7**	**+0.3**
WCZ	**Waipu Caves**	**5.16**	**355**	P	**Pn**	**02 37 46.3**	**+1.8**
JCZ	**Jackson Bay**	**5.38**	**234**	P	**Pn**	**02 37 48.6**	**+1.0**
OUZ	**Omahuta**	**5.94**	**350**	P	**Pn**	**02 37 57.3**	**+2.1**
TUZ	**Tuapeka**	**6.17**	**216**	P	**Pn**	**02 37 59.7**	**+1.5**
CTZ	**Chatham Island**	**6.85**	**116**	P	**Pn**	**02 38 10.3**	**+2.8**
ASAR	**Alice Springs**	**38.30**	**284**	P	**P**	**02 43 45.3**	**+2.3**
	0.7nm,0.4s,baz=123,slow=6.7,SNR=26						
ASAR				pP	**pP**	**02 44 01.1**	**-0.3**
	0.5nm,0.5s,baz=129,slow=7.1,SNR=4.0						
WRA	**Warramunga Arr**	**40.30**	**289**	P	**P**	**02 44 02.1**	**+2.4**
	0.8nm,0.4s,baz=126,slow=8.3,SNR=23						
WRA				pP	**pP**	**02 44 17.8**	**-0.4**
	0.5nm,0.6s,baz=126,slow=8.5,SNR=3.9						
ARCES	**ARCESS Array B**	**147.31**	**341**	PKPbc	**PKPab**	**02 56 05.7**	**+0.3**
	3.4nm,0.9s,baz=64,slow=2.4,SNR=8.7						
BRTR	**Keskin Array B**	**150.59**	**280**	PKPbc	**PKPab**	**02 56 15.1**	**-4.8**
	0.4nm,0.5s,baz=118,slow=3.4,SNR=4.9						
TORD	**Torodi Ar. Bea**	**151.53**	**194**	PKPbc	**PKPbc**	**02 56 16.0**	**+0.5**
	0.7nm,1.0s,baz=169,slow=1.5,SNR=2.4						
TORD				pPKPbc	**pPKPdf**	**02 56 28.8**	**-2.1**
	0.6nm,0.7s,baz=163,slow=4.3,SNR=3.7						

RSNC 05 02:40:41.9±1.2**,6°.82N**×**73°.08W,h150**km±5km**,ML3.0, Mw3.5,1C-1D,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**204**	iP	Pn	02 41 02.4	-0.2
BARC				eS	Sn	02 41 18.0	-0.3
BARC				i		02 41 20.3	
	comp=Z,218nm,0.3s						
BRRC	**Barranca, Sant**	**0.69**	**294**	⇑iP	Pn	02 41 04.3	0.0
BRRC				eS	Sn	02 41 21.3	0.0
BRRC				i		02 41 22.1	
	comp=N,309nm,0.3s						
RUSC	**La Rusia**	**0.93**	**180**	⇓iP	Pn	02 41 06.2	-0.4
RUSC				eS	Sn	02 41 24.6	-0.9
RUSC				i		02 41 26.8	
	comp=N,97nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.40**	**258**	eP	Pn	02 41 09.0	-1.3
PTBC				eS	Sn	02 41 31.0	-1.1
PTBC				i		02 41 36.0	
	comp=N,296nm,0.3s						
OCAC	**Ocana**	**1.43**	**350**	eP	Pn	02 41 10.5	-0.3
OCAC				eS	Sn	02 41 32.9	-0.1
OCAC				i		02 41 42.4	
	comp=N,208nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.88**	**291**	eP	Pn	02 41 14.9	-0.8
ZARC				eS	Sn	02 41 41.9	+0.3
ZARC				i		02 41 46.6	
	comp=N,131nm,0.3s						
CTAB	**Cerro Tablazo,**	**2.12**	**212**	eP	Pn	02 41 19.8	+0.9
CHIC	**Chingaza**	**2.27**	**197**	eP	Pn	02 41 20.3	-0.4
CHIC				eS	Sn	02 41 49.6	-0.9
CHIC				i		02 41 52.3	
	comp=N,76nm,0.3s						
CVER	**Cruz Verde, Cu**	**2.49**	**203**	eP	Pn	02 41 25.4	+2.0
HELC	**Santa Helena**	**2.51**	**256**	eP	Pn	02 41 23.6	+0.1
HELC				eS	Sn	02 41 54.9	-0.6
HELC				i		02 42 04.1	
	comp=N,36nm,0.2s						
UREC	**San Jos de Ur**	**2.60**	**291**	eP	Pn	02 41 22.9	-1.4
VILC	**Villavicencio,**	**2.76**	**193**	eP	Pn	02 41 25.9	-0.6
VILC				eS	Sn	02 42 00.9	+0.1
RREF	**El Recreo**	**2.96**	**230**	eP	Pn	02 41 29.7	+0.4
RREF				eS	Sn	02 42 06.2	+0.3
CODC	**Agustn Codazz**	**3.11**	**353**	eP	Pn	02 41 30.1	-0.6
CODC				eS	Sn	02 42 06.7	-1.9
CODC				i		02 42 13.4	
	comp=N,19nm,0.4s						
DBBC	**Dabeiba**	**3.11**	**274**	eP	Pn	02 41 30.0	-0.8
DBBC				i		02 42 19.6	
	comp=Z,20nm,0.4s						
TOLC	**Tolima**	**3.15**	**225**	eP	Pn	02 41 32.0	+0.5
TOLC				i		02 42 13.5	
	comp=Z,16nm,0.7s						
SDV	**Santo Domingo**	**3.17**	**50**	eP	Pn	02 41 31.7	0.0
SDV				eS	Sn	02 42 09.5	-0.7
ANIL	**Santa Ana**	**3.27**	**225**	eP	Pn	02 41 33.6	+0.6
ANIL				eS	Sn	02 42 11.8	-0.8
ANIL				i		02 42 25.9	
	comp=N,71nm,0.3s						
SJCC	**San Jacinto, C**	**3.69**	**326**	eP	Pn	02 41 36.5	-1.7
SJCC				i		02 42 21.3	
	comp=N,18nm,0.4s						
SMRC	**Santa Marta, M**	**4.46**	**345**	eP	Pn	02 41 47.6	-0.5

IDC 05 03:24:05.9±3.8**,13°.29N**×**87°.18W,h0**km**,mb3.1**/2**, mb1 3.6**/2**,mb1mx3.3**/22**,mbtmp3.1**/2**,Error ellipse: s-maj=121.1km s-min=70.7km az=59.0,Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**22.11**	**319**	P	P	03 29 03.3	+0.2
	0.4nm,0.5s,baz=138,slow=10,SNR=10						
YKA	**Yellowknife Ar**	**52.88**	**344**	P	P	03 33 23.0	-0.3
	0.2nm,0.6s,baz=146,slow=6.9,SNR=3.9						
WRA	**Warramunga Arr**	**139.75**	**255**	PKP	PKPdf	03 43 36.0	-0.7
	0.3nm,0.5s,baz=88,slow=2.3,SNR=7.8						
ASAR	**Alice Springs**	**139.82**	**249**	PKP	PKPdf	03 43 36.9	+0.1
	0.3nm,0.8s,baz=141,slow=1.8,SNR=2.8						

*ISCJB **05** 03:24:04.3±0.5, 6°.03N±0°.06×94°.65E±0°.07, h100km, mb3.9/11, Error ellipse: s-maj=12.5km s-min=4.9km az=141.3*
*DJA **05** 03:24:06.0±0.8, 6°N±6°×9°4E±°, h86km±9km, M4.6/8, mB5.6/3, mb4.6/6, MLv4.6/8, Mw(mB)5.2/3*
*IDC **05** 03:24:06.5±7.0, 6°.27N×94°.95E, h100km±65km, mb3.6/8, mb1 3.8/9, mb1mx3.4/46, mbtmp4.0/9, ML3.9/1, Error ellipse: s-maj=40.5km s-min=15.6km az=43.0*
*NEIC **05** 03:24:07.2±0.7, 6°.16N×94°.91E, h109km±7km, mb4.1/2, Error ellipse: s-maj=13.0km s-min=6.8km az=219.0*
NEIC Felt [II] at Banda Aceh, Indonesia.
ISC 05 03:24:06.5±0.6**,6°.01N**±0°.07×**94°.75E**±0°.07**,h100**km**,n42,** σ**1.73**/45**,mb4.1**/11**,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**0.74**	**133**	P	**Pn**	**03 24 25.8**	**+1.5**
BSI				S	**Sn**	**03 24 39.3**	**+1.6**
LHMI	**Lhok Sumawe**	**2.32**	**109**	ePn	**Pn**	**03 24 43.7**	**+0.5**
LHMI	**Lhok Sumawe**	**2.32**	**109**	P	**Pn**	**03 24 44.4**	**+1.2**
LHMI				S	**Sn**	**03 25 17.4**	**+6.0**
TPTI		**3.65**	**138**	P	**Pn**	**03 25 01.8**	**+0.9**
TPTI				S	**Sn**	**03 25 44.2**	**+1.1**
KCSI	**Kotacane, Aceh**	**3.89**	**129**	P	**Pn**	**03 25 05.6**	**+1.3**
KCSI				S	**Sn**	**03 25 51.7**	**+2.7**
SNSI	**Sinabang, Aceh**	**3.90**	**156**	P	Pn	03 25 00.2	-4.2
SNSI				S	**Sn**	**03 25 46.5**	**-2.8**
PKDT	**Phuket**	**4.02**	**62**	P	**Pn**	**03 25 06.0**	**0.0**
	53nm,0.8s,1μm0.3nm						
TSI	**Tuntungan**	**4.54**	**123**	P	**Pn**	**03 25 14.7**	**+1.7**
KRAB	**Krabi**	**4.93**	**63**	P	**Pn**	**03 25 18.0**	**-0.3**
	114nm,0.7s,1μm						
PSI	**Prapat**	**5.24**	**127**	ePn	**Pn**	**03 25 24.2**	**+1.6**
GSI	**Gunungsitoli**	**5.45**	**149**	ePn	**Pn**	**03 25 25.7**	**+0.2**
GSI				eSn	**Sn**	**03 26 24.1**	**-2.8**
GSI	**Gunungsitoli**	**5.45**	**149**	P	**Pn**	**03 25 25.0**	**-0.4**
	42nm,1.3s,0.3nm						
IPM	**Ipoh**	**6.43**	**103**	ePn	**Pn**	**03 25 38.3**	**-0.4**
IPM				eSn	**Sn**	**03 26 47.5**	**-3.2**
MNSI	**Mandailing Nat**	**7.07**	**137**	P	**Pn**	**03 25 47.7**	**+0.3**
SISI	**Saibi**	**8.47**	**149**	P	**Pn**	**03 26 06.2**	**-0.3**
	21nm,0.9s						
PPI	**Padang Panjang**	**8.54**	**139**	P	**Pn**	**03 26 07.0**	**-0.4**
	42nm,0.9s,37μm						
PDSI	**Padang**	**8.93**	**140**	P	**Pn**	**03 26 11.4**	**-1.3**
PALK	**Pallekele**	**14.01**	**276**	P	**Pn**	**03 27 23.8**	**+3.1**
	0.5nm,0.3s,baz=135,slow=1.4,SNR=3.4						
PALK				S	Sn	03 29 45.0	-10
	1.9nm,0.3s,baz=116,slow=13,SNR=14						
PALK	**Pallekele**	**14.01**	**276**	ePn	**Pn**	**03 27 23.3**	**+2.6**
PALK				eSn	Sn	03 29 45.0	-10
H08S3	**Diego Garcia H**	**26.02**	**239**	T	T	03 55 30.6	
	baz=61,SNR=68						
H08S2	**Diego Garcia H**	**26.02**	**239**	T	T	03 56 48.5	
	baz=61,slow=74,SNR=64						
H08S1	**Diego Carcia H**	**26.03**	**239**	T	T	03 56 44.0	
	baz=61,slow=74,SNR=23						
FITZ	**Fitzroy Crossi**	**38.77**	**129**	eP	**P**	**03 31 21.0**	**-0.5**
	6.4nm,0.8s						
AAK	**Ala-Archa**	**40.65**	**337**	eP	**P**	**03 31 35.4**	**-1.6**
	1.6nm,0.4s						
MK01	**Makanchi Array**	**42.01**	**347**	eP	**P**	**03 31 48.4**	**+0.5**
SONA0	**Songino Array**	**42.85**	**12**	eP	**P**	**03 31 52.7**	**-2.1**
SONM	**Songino Array**	**42.85**	**12**	P	**P**	**03 31 52.7**	**-2.1**
	0.4nm,0.8s,baz=200,slow=6.0,SNR=3.8						
WRA	**Warramunga Arr**	**46.70**	**125**	P	**P**	**03 32 25.0**	**-0.7**
	0.6nm,0.2s,baz=305,slow=9.6,SNR=21						
WRAB	**Tennant Creek**	**46.70**	**125**	eP	**P**	**03 32 25.7**	**0.0**
	1.4nm,0.4s						
WB2	**Warramunga Arr**	**46.71**	**125**	eP	**P**	**03 32 25.0**	**-0.7**
ASAR	**Alice Springs**	**48.27**	**129**	P	**P**	**03 32 38.0**	**+0.2**
	2.5nm,0.8s,baz=299,slow=7.4,SNR=25						
AS01	**Alice Springs**	**48.30**	**129**	eP	**P**	**03 32 37.6**	**-0.4**
ABKAR	**Akbulak array**	**52.15**	**332**	eP	**P**	**03 33 06.6**	**-0.1**
STKA	**Stephens Creek**	**58.39**	**133**	P	**P**	**03 33 52.2**	**+0.4**
	2.0nm,0.2s,baz=292,slow=9.3,SNR=4.0						
BR101	**Keskin Array S**	**64.11**	**311**	eP	**P**	**03 34 29.3**	**-1.1**
BRTR	**Keskin Array B**	**64.11**	**311**	P	**P**	**03 34 29.3**	**-1.1**
	0.5nm,0.8s,baz=117,slow=7.1,SNR=3.1						
FIA0	**FINESS Array S**	**74.64**	**332**	eP	**P**	**03 35 33.7**	**-0.9**
FINES	**FINESS Array B**	**74.64**	**332**	P	**P**	**03 35 33.7**	**-0.9**
	2.8nm,0.9s,baz=93,slow=3.7,SNR=10						
ARA0	**ARCESS Array S**	**77.22**	**340**	eP	**P**	**03 35 48.8**	**-0.4**
ARCES	**ARCESS Array B**	**77.22**	**340**	P	**P**	**03 35 48.8**	**-0.4**
	2.9nm,1.0s,baz=90,slow=5.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**91.61**	**283**	P	**P**	**03 37 04.5**	**+1.4**
	0.1nm,0.5s,baz=99,slow=7.4,SNR=2.4						
TOA1	**Torodi Ar. Sit**	**91.62**	**283**	eP	**P**	**03 37 04.5**	**+1.4**

*IDC **05** 03:45:12.0±2.6, 24°.49S×179°.56E, h487km±28km, mb3.6/10, mb1 3.8/11, mb1mx3.5/26, mbtmp4.4/11, Error ellipse: s-maj=23.3km s-min=20.7km az=160.0*
*ISCJB **05** 03:45:12.8±0.8, 24°.70S±0°.08×179°.5E±0°.2, h507km, mb3.9/9, Error ellipse: s-maj=18.9km s-min=11.2km az=0.8*

ISC 05 03:45:13.6±0.9, 24.8S±0.1×179.5E±0.1, h507km, n13, σ1.57/16, mb4.1/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	13.58	188	P	P	03 48 08.8	+0.2
	3.6nm,0.3s,baz=40,slow=2.2,SNR=20						
URZ				S	S	03 50 30.6	-2.3
	1.1nm,0.3s,baz=94,slow=21,SNR=7.8						
RPZ	Rata Peaks	20.09	198	P	P	03 49 15.0	+2.5
	6.1nm,0.6s,baz=201,slow=1.3,SNR=4.1						
STKA	Stephens Creek	33.93	249	P	P	03 51 15.6	+1.5
	4.2nm,0.4s,baz=97,slow=11,SNR=16						
PMG	Port Moresby	34.32	291	P	P	03 51 17.5	-0.1
	19nm,0.7s,baz=114,slow=2.0,SNR=5.6						
ASAR	Alice Springs	41.40	262	P	P	03 52 16.4	+0.9
	2.9nm,0.5s,baz=93,slow=7.5,SNR=35						
WRA	Warramunga Arr	41.85	267	P	P	03 52 19.3	+0.3
	6.6nm,0.4s,baz=100,slow=6.9,SNR=66						
WRA				ScP	ScP	03 57 07.4	+2.2
	1.4nm,0.7s,baz=100,slow=3.7,SNR=12						
WRA				S	S	03 57 57.4	-2.7
	0.7nm,0.9s,baz=103,slow=15,SNR=3.2						
MJAR	Matsushiro Arr	72.34	326	P	P	03 55 46.6	-1.0
	2.0nm,0.7s,baz=169,slow=6.3,SNR=8.9						
KSRS	Korea Array	78.60	321	P	P	03 56 20.6	-1.8
	1.1nm,0.6s,baz=121,slow=5.4,SNR=4.7						
NVAR	Mina Array Bea	85.74	44	P	P	03 56 58.5	-0.5
	0.3nm,0.6s,baz=231,slow=7.1,SNR=3.7						
CMAR	Chiang Mai Arr	89.36	291	P	P	03 57 17.0	+0.8
	1.5nm,0.3s,baz=134,slow=3.9,SNR=4.1						
TXAR	Lajitas Array	91.33	58	P	P	03 57 25.2	+0.1
	0.6nm,0.7s,baz=209,slow=6.4,SNR=7.1						
HFS	Hagfors	143.31	348	PKP	PKPab	04 03 46.4	-0.8
	2.5nm,0.3s,baz=60,slow=3.8,SNR=41						
BRTR	Keskin Array B	147.70	306	PKPbc	PKPbc	04 04 00.6	-0.6
	0.8nm,0.6s,baz=324,slow=33,SNR=4.8						
BRTR				PKPab	PKPab	04 04 05.5	+0.2
	1.9nm,0.7s,baz=115,slow=2.5,SNR=11						

*ISCJB **05** 03:46:21.6±0.6, 15.36S±0.07×72.22W±0.10, h10km, mb3.6/8, Error ellipse: s-maj=14.8km s-min=7.6km az=151.3*

*IDC **05** 03:46:21.9±0.8, 15.34S×72.13W, h0km, mb3.7/8, mb1 3.9/12, mb1mx3.8/33, mbtmp3.7/12, ML3.3/4, MS3.2/2, Ms1 3.2/2, ms1mx2.8/31, Error ellipse: s-maj=26.0km s-min=16.2km az=54.0*

ISC 05 03:46:23.2±0.7, 15.33S±0.09×72.2W±0.1, h10km, n15, σ1.03/15, mb3.7/8, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	4.02	104	Pn	Pn	03 47 25.9	+0.5
	0.9nm,0.3s,baz=280,slow=9.9,SNR=24						
NNA	Nana	5.62	306	Pn	Pn	03 47 47.0	+0.2
	0.7nm,0.3s,baz=200,slow=3.5,SNR=1.8						
NNA				LR	LR	03 50 05.7	
	comp=Z,114nm,21.2s,baz=144,slow=40						
LVC	Limon Verde	7.88	157	Pn	Pn	03 48 17.7	-0.5
	1.3nm,0.3s,baz=310,slow=8.3,SNR=7.9						
LVC				Sn	Sn	03 49 48.8	+1.3
	0.2nm,0.3s,baz=0.0,slow=20,SNR=2.2						
CPUP	Villa Florida	17.66	131	LR	LR	03 58 29.0	
	comp=Z,142nm,19.9s,baz=296,slow=41						
PTGA	Pitinga	18.87	41	P	Pn	03 50 43.9	-0.4
	0.2nm,0.3s,baz=214,slow=9.3,SNR=4.8						
BDFB	Brasilia	23.29	94	P	P	03 51 32.4	+0.8
	2.7nm,0.9s,baz=66,slow=11,SNR=3.5						
SDV	Santo Domingo	24.11	4	P	P	03 51 39.2	-0.3
	5.0nm,0.9s,baz=144,slow=3.5,SNR=5.6						
PLCA	Paso Flores	25.35	177	P	P	03 51 50.3	-0.1
	0.9nm,0.7s,baz=321,slow=13,SNR=2.4						
TXAR	Lajitas Array	53.81	326	P	P	03 55 47.9	+1.5
	0.6nm,0.8s,baz=152,slow=8.9,SNR=6.1						
PDAR	Pinedale Array	67.24	331	P	P	03 57 18.3	+0.2
	0.3nm,0.7s,baz=112,slow=7.1,SNR=2.7						
NVAR	Mina Array Bea	68.74	323	P	P	03 57 28.3	+0.7
	0.9nm,0.9s,baz=81,slow=29,SNR=4.0						
TORD	Torodi Ar. Bea	78.37	73	P	P	03 58 23.0	-1.4
	0.5nm,0.8s,baz=239,slow=5.5,SNR=4.0						
YKA	Yellowknife Ar	84.38	342	P	P	03 58 55.7	+0.4
	1.0nm,0.8s,baz=137,slow=5.4,SNR=16						
WRA	Warramunga Arr	136.31	217	PKP	PKiKP	04 05 46.0	-1.7
	0.6nm,1.0s,baz=147,slow=1.7,SNR=2.8						
SONM	Songino Array	147.57	2	PKPbc	PKPab	04 06 08.7	-1.3
	1.0nm,0.7s,baz=334,slow=1.9,SNR=7.9						

*NNC **05** 03:48:34.4±3.7, 39.29N×76.33E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=28.3km s-min=13.8km az=157.0*

*IDC **05** 03:48:37.4±6.3, 40.76N×73.12E, h0km, mb3.4/1, mb1 3.3/3, mb1mx3.1/31, mbtmp3.1/3, ML2.3/2, Error ellipse: s-maj=193.9km s-min=36.0km az=148.0*

ISC 05 03:48:32.4±2.4, 39.1N±0.2×76.25E±0.09, h10km, n10, σ1.92/9, 7C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	2.32	295	⇑Pg	Pb	03 49 14.9	+0.3
	14nm,0.5s						
SFK				⇓Lg	Lg	03 49 48.1	
	42nm,0.3s						
AAK	Ala-Archa	3.80	340	⇓Pn	Pn	03 49 33.2	+2.1
	5.3nm,0.6s						
AAK				⇑Pg	Pg	03 49 44.0	-1.2
	13nm,0.6s						
AAK				⇑Lg	Lg	03 50 29.7	
	19nm,0.6s						
TKM2	Tokmak 2	3.88	353	⇓Pg	Pb	03 49 39.0	-1.9
	6.8nm,0.6s						
TKM2				⇑Lg	Lg	03 50 30.8	
	13nm,0.5s						
MDOK	Medeo	4.13	8	Pg	Pb	03 49 45.0	-0.2
	6.4nm,0.5s						
MDOK				⇑Lg	Lg	03 50 37.5	
	51nm,1.0s						
PDGK	Podgornoye	4.90	29	⇓Pg	Pb	03 50 00.2	+1.9
	4.6nm,0.5s						
PDGK				⇓Lg	Lg	03 51 01.2	
	16nm,0.7s						
KK31	Karatay Array	5.92	315	⇑Sn	Sn	03 51 10.2	+2.3
	1.0nm,0.5s,baz=221,slow=34						
KK31				⇑Lg	Lg	03 51 39.7	
	1.9nm,0.6s,baz=145,slow=26						
MK31	Makanchi Array	8.89	28	Lg	Lg	03 53 07.2	
	baz=215,slow=22						
MKAR	Makanchi Array	8.89	28	Pn	Pn	03 50 49.2	+8.3
	0.0nm,0.3s,baz=218,slow=13,SNR=2.2						
MKAR				Lg	Lg	03 53 20.2	
	0.1nm,0.3s,baz=217,slow=24,SNR=3.1						
ZALV	Zalesovo Beam	15.98	19	Pn	Pn	03 52 16.7	-0.5
	0.1nm,0.3s,baz=222,slow=11,SNR=2.4						
YKA	Yellowknife Ar	78.40	5	P	P	04 00 30.8	-1.9
	0.2nm,0.5s,baz=348,slow=5.6,SNR=4.6						

*IDC **05** 04:00:41.8±0.4, 13.15S×66.80E, h0km, mb4.5/34, mb1 4.5/35, mb1mx4.5/54, mbtmp4.5/35, ML4.3/1, MS4.5/14, Ms1 4.5/14, ms1mx4.1/44, Error ellipse: s-maj=14.1km s-min=11.8km az=169.0*

*MOS **05** 04:00:42.5±1.1, 13.08S×66.81E, h10km, mb5.2/47, Error ellipse: s-maj=8.4km s-min=5.3km az=100.9*

*ISCJB **05** 04:00:42.3±0.2, 13.20S±0.04×66.77E±0.03, h10km, mb4.9/159, MS4.7/21, Error ellipse: s-maj=5.6km s-min=4.4km az=1.7*

*BJI **05** 04:00:42.8, 13.10S×66.80E, h5km, mb4.9/55, mB5.3/30, Ms5.3/14, Ms7 5.0/18*

*GCMT **05** 04:00:43.7±0.2, 13.22S±0.02×66.62E±0.01, h12km, MW5.1/88, Moment Tensor Solution. s31,c36; s88,c126; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.46±.14; $M_{\theta\theta}$1.43±.14; $M_{\phi\phi}$-4.90±.11; $M_{r\theta}$0.86±.53; $M_{\theta\phi}$1.03±.10; $M_{\phi r}$-2.99±.34; Best double couple: $M_0$5.28600×10^{16} NP1:ϕ_s165.00000°,δ63.00000°,λ83.00000°. NP2: ϕ_s0.00000°,δ28.00000°,λ104.00000°. Principal axes: T 4.5060, Plg71.0000°, Azm59.0000°; N 1.5510, Plg6.0000°, Azm168.0000°; P -6.0660, Plg18.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **05** 04:00:44.7±0.6, 13.14S×66.80E, h12km±3km, mb5.2/56 Error ellipse: s-maj=6.1km s-min=5.3km az=182.0*

ISC 05 04:00:45.9±0.6, 13.16S±0.06×66.68E±0.06, h18km±2km, h19km:pP-P, n589, σ1.64/578, mb5.1/167, MS4.6/21, 20C-13D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	7.91	47	T	T	04 10 44.9	
	baz=226,slow=75,SNR=1061						
H08S2	Diego Garcia H	7.92	47	T	T	04 10 40.9	
	baz=226,slow=75,SNR=1337						
H08S3	Diego Garcia H	7.93	47	T	T	04 10 43.7	
	baz=226,slow=75,SNR=1668						
H08N3	Diego Garcia H	7.99	33	T	T	04 10 44.4	
	baz=210,slow=75						
H08N1	Diego Carcia H	8.01	33	T	T	04 10 46.0	
	baz=210,slow=75						
H08N2	Diego Garcia H	8.02	33	T	T	04 10 45.8	
	baz=210,slow=75						
OPO	Ambohidratompo	19.50	251	P	P	04 05 13.3	+0.9
	0.8nm,0.3s,baz=42,slow=11,SNR=3.6						
OPO				LR	LR	04 10 56.7	
	comp=Z,3μm,20.9s,baz=74,slow=31						
ABPO	Ambohimpanom	19.57	250	eP	P	04 05 15.2	+2.0
	113nm,1.9s						
ABPO	Ambohimpanom	19.57	250	eP	P	04 05 15.2	+2.0
ABPO				pmax	pmax		
	comp=Z,113nm,1.9s						
MNCI	Minicoy	22.22	17	eP	P	04 05 42.6	+1.0
	comp=Z,980nm,1.9s						
PALK	Pallekele	24.62	35	P	P	04 06 03.6	-1.9
	comp=Z,30nm,1.1s,baz=116,slow=4.3,SNR=2.2						
PALK				LR	LR	04 13 30.9	
	comp=Z,2μm,21.0s,baz=296,slow=31						
PALK	Pallekele	24.62	35	eP	P	04 06 04.4	-1.1
	comp=Z,23nm,0.9s						
PALK	Pallekele	24.62	35	eP	P	04 06 04.4	-1.1
PALK				pmax	pmax		
	comp=Z,23nm,0.9s						
KMBO	Kilima Mbogo	31.49	290	P	P	04 07 06.7	-0.6
	comp=Z,5.6nm,1.0s,baz=72,slow=7.8,SNR=8.6						
KMBO				LR	LR	04 17 27.4	
	comp=Z,902nm,20.8s,baz=98,slow=32						
KMBO	Kilima Mbogo	31.49	290	eP	P	04 07 08.0	+0.7
	comp=Z,32nm,1.6s						
KMBO	Kilima Mbogo	31.49	290	i P	P	04 07 08.4	+1.1
	SNR=6.9						
KMBO	Kilima Mbogo	31.49	290	eP	P	04 07 07.4	+0.1
KMBO	Kilima Mbogo	31.49	290	P	P	04 07 08.6	+1.3
	SNR=6.7						
HYB	Hyderabad	32.56	21	i P	P	04 07 17.0	+0.7
GSI	Gunungsitoli	33.85	67	eP	P	04 07 28.4	+0.8
	comp=Z,64nm,1.2s						
ATD	Arta Tunnel	34.07	315	P	P	04 07 31.9	+2.3
	comp=Z,7.3nm,0.7s,baz=102,slow=8.9,SNR=4.7						
ATD	Arta Tunnel	34.07	315	eP	P	04 07 31.2	+1.7
	comp=Z,26nm,1.1s						
MHTO	MHTO	34.99	346	P	P	04 07 37.1	-0.3
	SNR=8.6						
WSAR	Wadi Sarin	37.02	348	P	P	04 07 53.5	-1.3
	comp=Z,4.5nm,0.8s,baz=181,slow=10,SNR=7.6						
WSAR	Wadi Sarin	37.02	348	P	P	04 07 55.0	+0.3
	SNR=5.8						
LSZ	Lusaka	37.34	262	eP	P	04 07 57.7	0.0
	comp=Z,35nm,1.1s						
LSZ	Lusaka	37.34	262	eP	P	04 07 57.7	0.0
LSZ				pmax	pmax		
	comp=Z,35nm,1.1s						
ASHO	Ashiyiah	39.01	345	i P	P	04 08 11.2	-0.4
	SNR=6.9						
ASHO	Ashiyiah	39.01	345	P	P	04 08 11.7	+0.1
	SNR=6.9						
HATD	Hatta, Dubai	39.13	345	i P	P	04 08 12.4	-0.1
	SNR=5.6						
UOSS	Minazif	39.22	345	P	P	04 08 13.4	+0.1
NAZ	Nazwa, Dubai	39.41	344	P	P	04 08 14.9	+0.1
LBTB	Lobatse	40.42	247	P	P	04 08 22.6	-0.9
	comp=Z,21nm,0.9s,baz=82,slow=8.4,SNR=17						
LBTB	Lobatse	40.42	247	eP	P	04 08 23.1	-0.4
	comp=Z,40nm,1.0s						
LBTB	Lobatse	40.42	247	eP	P	04 08 23.1	-0.4
LBTB				pmax	pmax		
	comp=Z,40nm,1.0s						
PPBI	Pangkal Pinang	40.54	78	P	P	04 08 26.1	+1.6
LEM	Lembang	40.77	85	P	P	04 08 24.2	-2.4
	comp=Z,18nm,0.3s,baz=309,slow=14,SNR=4.6						
LEM				LR	LR	04 22 21.3	
	comp=Z,714nm,20.7s,baz=222,slow=32						
BOSA	Boshof	41.41	242	P	P	04 08 30.9	-0.8
	comp=Z,24nm,1.1s,baz=76,slow=8.2,SNR=12						
BOSA				LR	LR	04 23 06.5	
	comp=Z,856nm,19.5s,baz=72,slow=32						
BOSA	Boshof	41.41	242	eP	P	04 08 31.2	-0.4
	comp=Z,33nm,1.1s						
BOSA	Boshof	41.41	242	eP	P	04 08 31.2	-0.4
BOSA				pmax	pmax		
	comp=Z,33nm,1.1s						
RAYN	Ar Rayn	41.93	330	eP	P	04 08 35.9	+0.2
	comp=Z,15nm,1.5s						
RAYN	Ar Rayn	41.93	330	i P	P	04 08 35.1	-0.6
	SNR=7.0						
RAYN	Ar Rayn	41.93	330	eP	P	04 08 35.9	+0.2
RAYN				pmax	pmax		
	comp=Z,15nm,1.5s						
UTHA	Uthaitani	43.19	50	P	P	04 08 47.1	+1.1
	comp=Z,3.5nm,1.4s						
KOLN	Koldanda	43.87	22	eP	P	04 08 51.0	-0.6
	comp=Z,197nm,1.6s						
PYUN	Piuthan	43.95	21	eP	P	04 08 51.8	-0.5
	comp=Z,146nm,1.1s						
DMN	Daman	44.29	24	eP	P	04 08 55.0	-0.1
RAMN	Ramite	44.32	26	eP	P	04 08 55.1	-0.2
	comp=Z,112nm,1.0s						
PKI	Pulchoki	44.38	24	eP	P	04 08 55.8	0.0
PKIN	Phulchoki	44.38	24	eP	P	04 08 55.7	-0.1
	comp=Z,150nm,1.7s						
DANN	Dangsing	44.45	22	eP	P	04 08 56.0	-0.4
	comp=Z,115nm,1.2s						
KKN	Kakani	44.52	24	eP	P	04 08 56.3	-0.6
	comp=Z,64nm,0.9s						
SUKH	Sukhothai	44.56	48	P	P	04 08 58.2	+1.2
	comp=Z,4.7nm,1.3s						
ODAN	Odare	44.58	27	eP	P	04 08 57.7	+0.3
CM01	Chiang Mai Arr	44.70	46	eP	P	04 08 57.2	-1.0
CM31	Chiang Mai Arr	44.71	46	P	P	04 08 59.3	+1.0
	SNR=5.7						
CMAR	Chiang Mai Arr	44.71	46	P	P	04 08 57.5	-0.8
	comp=Z,4.7nm,0.9s,baz=238,slow=8.6,SNR=21						
CMAR				PP	PP	04 10 46.2	+3.2
	comp=Z,1.1nm,0.3s,baz=226,slow=7.4,SNR=4.9						
CMAR	Chiang Mai Arr	44.71	46	i P	P	04 08 58.4	+0.1
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
JIRN	Jiri	44.77	25	eP	P	04 08 58.6	-0.4
	comp=Z,85nm,1.1s						
GUN	Gumba	44.87	24	eP	P	04 08 59.3	-0.5
	comp=Z,154nm,1.1s						
CHTO	Chiang Mai	44.95	46	eP	P	04 08 58.7	-1.5
	comp=Z,78nm,2.0s						
CHTO	Chiang Mai	44.95	46	eP	P	04 08 58.7	-1.5
CHTO				pmax	pmax		
	comp=Z,78nm,2.0s						
CHTO	Chiang Mai	44.95	46	P	P	04 09 01.1	+0.9
	SNR=6.8						
CHTO	Chiang Mai	44.95	46	P	P	04 09 01.7	+1.5
	comp=Z,29nm,1.0s						
CMMT	Chiang Mai	44.96	46	P	P	04 09 01.6	+1.4
	comp=Z,6.5nm,1.0s,comp=Z,618nm						
PBKT	Sadao Pong	44.96	50	P	P	04 09 00.9	+0.7
	comp=Z,12nm,0.9s,comp=Z,2μm						
CHAI	Chaiyaphum	45.31	51	P	P	04 09 04.1	+1.0
	comp=Z,5.8nm,1.5s,comp=Z,162nm						
UTTA	Uttaradit	45.40	48	P	P	04 09 04.5	+0.8
	comp=Z,6.2nm,1.2s,comp=Z,81nm						
SHL	Shillong	45.66	33	eP	P	04 09 05.9	0.0
	comp=Z,74nm,1.1s						
SHL	Shillong	45.66	33	eP	P	04 09 05.9	0.0
SHL				pmax	pmax		
	comp=Z,74nm,1.1s						
SUR	Sutherland	46.01	238	P	P	04 09 08.2	-0.6
	comp=Z,17nm,1.0s,baz=198,slow=10.0,SNR=3.7						
SUR	Sutherland	46.01	238	eP	P	04 09 08.6	-0.1
	comp=Z,26nm,1.0s						
NIL	Nilore	46.97	8	eP	P	04 09 14.6	-1.3
NIL	Nilore	46.97	8	eP	P	04 09 14.6	-1.3
TSUM	Tsumeb	47.41	256	eP	P	04 09 19.6	-0.2
	comp=Z,7.5nm,1.0s						
KBL	Kabul	47.49	3	eP	P	04 09 19.9	-0.2
	comp=Z,61nm,1.7s						
KBL	Kabul	47.49	3	eP	P	04 09 19.9	-0.2
KBL				pmax	pmax		
	comp=Z,61nm,1.7s						
H01W3	Cape Leeuwin H	47.92	125	T	T	05 00 32.4	
	baz=285,slow=75,SNR=34						
H01W2	Cape Leeuwin H	47.92	125	T	T	05 00 32.4	
	baz=285,slow=75,SNR=38						
H01W1	Cape Leeuwin H	47.94	125	T	T	05 00 33.6	
	baz=285,slow=75,SNR=34						
LSA	Lhasa	48.71	29	eP	P	04 09 30.3	+0.3
	comp=Z,44nm,1.3s						
LSA	Lhasa	48.71	29	P	P	04 09 29.7	-0.2
LSA	Lhasa	48.71	29	eP	P	04 09 30.3	+0.3
LSA				pmax	pmax		
	comp=Z,44nm,1.3s						
GEYT	Alibeck	51.45	351	P	P	04 09 49.0	-1.1
	comp=Z,3.6nm,0.7s,baz=163,slow=5.4,SNR=6.8						
GYA0B	ALIBECK ARRAY	51.45	351	eP	P	04 09 50.2	+0.1
	comp=Z,22nm,1.4s						
KMI	Kunming	51.81	43	P	P	04 09 55.7	+2.4
KMI				pmax	pmax		
	comp=Z,19nm,0.6s						
KMI				pmax	pmax		
	comp=Z,130nm,4.2s						
KMI				LR	LR		
	comp=Z,2μm,9.7s						
KMI				LR	LR		
	comp=Z,2μm,9.4s						
KMI				LR	LR		
	comp=Z,1μm,12.3s						
SGKI	Sangatta, Kali	51.98	80	P	P	04 09 53.9	-0.6
KKM	Kota Kinabalu	52.77	72	eP	P	04 09 59.0	-1.5
	comp=Z,51nm,1.6s						
KSH	Kashi	53.11	9	P	P	04 09 57.5	-5.1
KSH				sP	pP	04 10 03.6	-3.7
KSH				PP	PP	04 12 00.1	-2.6
KSH				S	S	04 17 20.4	-12
KSH				pmax	pmax		
	comp=Z,33nm,1.0s						
KSH				LR	LR		
	comp=Z,380nm,9.1s						
KSH				LR	LR		
	comp=Z,680nm,8.0s						
KSH				LR	LR		
	comp=Z,500nm,11.7s						
QIZ	Qiongzhong	53.22	54	eP	P	04 10 01.8	-1.8
SFK	Sufi-Kurgan	53.28	7	P	P	04 10 03.5	-0.4
SFK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
EDFI	Ende, Flores	54.11	91	P	P	04 10 10.5	+0.1
MAW	Mawson	54.45	182	LR	LR	04 29 02.8	
	comp=Z,164nm,18.1s,baz=0.5,slow=31						
NRN	Naryn	54.99	9	eP	P	04 10 16.2	-0.3
	comp=Z,41nm,1.9s						
NRN	Naryn	54.99	9	eP	P	04 10 16.2	-0.3
NRN				pmax	pmax		
	comp=Z,41nm,1.9s						
GYA	Guiyang	55.33	44	eP	P	04 10 21.0	+2.0
GYA				PP	PP	04 12 27.8	+4.8
GYA				S	S	04 18 04.2	+1.5
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.8s						
BATI	Baumata	55.79	93	P	P	04 10 22.1	-0.3
AAK	Ala-Archa	55.98	7	P	P	04 10 21.3	-2.1
	comp=Z,4.4nm,1.1s,baz=208,slow=11,SNR=6.7						
AAK	Ala-Archa	55.98	7	eP	P	04 10 21.1	-2.3
	comp=Z,41nm,1.9s						
AAK	Ala-Archa	55.98	7	i P	P	04 10 21.8	-1.6
	SNR=5.3						
AAK	Ala-Archa	55.98	7	eP	P	04 10 21.1	-2.3
AAK				pmax	pmax		
	comp=Z,41nm,1.9s						
AAK	Ala-Archa	55.98	7	P	P	04 10 22.8	-0.6
	SNR=6.7						
KK31	Karatay Array	56.09	3	eP	P	04 10 24.4	+0.4
KK31	Karatay Array	56.09	3	eP	P	04 10 24.4	+0.4
KKAR	Karatay Array	56.09	3	eP	P	04 10 24.4	+0.4
KKAR	Karatay Array	56.09	3	eP	P	04 10 24.4	+0.4
FRU	Bishkek	56.19	7	eP	P	04 10 23.0	-1.7
FRU				e		04 10 26.0	
SOEI	Soe	56.45	93	eP	P	04 10 27.1	-0.1
	comp=Z,217nm,1.9s						
SOEI	Soe	56.45	93	P	P	04 10 28.7	+1.4
CD2	Chengdu	56.48	38	⇓P	P	04 10 26.5	-0.5
CD2				pmax	pmax		
	comp=Z,60nm,0.8s						
CD2				pmax	pmax		
	comp=Z,240nm,5.2s						
FITZ	Fitzroy Crossi	56.80	103	LR	LR	04 30 53.0	
	comp=Z,914nm,21.5s,baz=283,slow=32						
FITZ	Fitzroy Crossi	56.80	103	P	P	04 10 29.2	-0.3
	baz=57,SNR=3.8						
FITZ	Fitzroy Crossi	56.80	103	eP	P	04 10 27.7	-1.9
	comp=Z,50nm,1.9s						
GNI	Garni	56.82	340	eP	P	04 10 29.6	+0.1
GNI	Garni	56.82	340	i P	P	04 10 29.5	+0.1
	SNR=8.7						
GNI	Garni	56.82	340	i P	P	04 10 29.8	+0.4
GNI				pmax	pmax		
	comp=Z,135nm,1.2s						
PDGK	Podgornoye	57.42	11	P	P	04 10 33.0	-0.6
PDGK				pmax	pmax		
	comp=Z,11nm,1.9s						
TBLG	Delisi	58.24	341	eP	P	04 10 39.4	+0.1
	comp=Z,32nm,1.6s						
TBLG	Delisi	58.24	341	eP	P	04 10 39.4	+0.1
TBLG				pmax	pmax		
	comp=Z,32nm,1.6s						
AKH	Akhalkalaki	58.37	340	eP	P	04 10 40.5	+0.2
	comp=Z,32nm,1.5s						
AKH	Akhalkalaki	58.37	340	⇑iP	P	04 10 39.9	-0.4
AKH	Akhalkalaki	58.37	340	eP	P	04 10 40.5	+0.2
AKH				pmax	pmax		
	comp=Z,32nm,1.5s						
SYO	Syowa Base	58.43	191	⇑ipP	pP	04 10 46.0	+1.0
MAK	Makhachkala	58.54	344	eP	P	04 10 35.0	-6.2
MAK				eS	S	04 18 39.9	-4.2
MAK				pmax	pmax		
	comp=Z,93nm,1.1s						
MAK				MLR	MLR		
	comp=Z,252nm,17.0s						
WRKA	Warakurna	58.99	111	P	P	04 10 45.7	+0.8
	baz=59,SNR=4.7						
ZEI	Tsey	59.46	341	eP	P	04 10 46.8	-1.1
ZEI				pmax	pmax		
	comp=Z,17nm,1.5s						
SANI	Sanana	59.68	85	P	P	04 10 47.8	-2.0
SANI				pP	pP	04 10 53.1	-1.5
ENH	Enshi	59.69	43	eP	P	04 10 48.6	-0.9
	comp=Z,38nm,1.3s						
WMQ	Urumqi	59.86	17	P	P	04 10 50.9	+0.4
WMQ				sP	sP	04 10 57.4	+0.2
WMQ				ScP	ScP	04 15 36.9	-0.2
WMQ				S	S	04 18 57.7	-3.7
WMQ				SS	SS	04 22 56.2	-2.0
WMQ				pmax	pmax		
	comp=Z,76nm,2.3s						
WMQ				pmax	pmax		
	comp=Z,710nm,3.6s						
WMQ				LR	LR		
	comp=Z,3μm,17.9s						
NCK	Nalchik	60.20	341	i P	P	04 10 53.7	+1.0
NCK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LZH	Lanzhou	60.26	34	eP	P	04 10 54.0	+0.5
LZH				pP	pP	04 10 57.8	-0.5
LZH				sP	sP	04 11 00.6	+0.5
LZH				PP	PP	04 13 11.8	+5.1
LZH				S	S	04 19 01.0	-6.0
LZH				sS	pS	04 19 11.3	-1.9
LZH				SS	SS	04 23 07.3	+2.4
LZH				pmax	pmax		
	comp=Z,25nm,1.2s						
LZH				pmax	pmax		
	comp=Z,180nm,4.7s						
LZH				LR	LR		
	comp=Z,410nm,11.9s						
LZH				LR	LR		
	comp=Z,410nm,13.0s						
LZH				LR	LR		
	comp=Z,600nm,15.2s						
NEY	Neytrino	60.26	340	i P	P	04 10 54.0	+0.6
NEY				pmax	pmax		

comp=Z,11nm,1.8s
CASY Casey 60.60 161 *e*P P **04 10 54.9 -0.3**
comp=Z,26nm,1.4s
KBZ Khabaz 60.63 340 P P **04 10 55.4 -0.2**
comp=Z,2.8nm,0.9s,baz=55,slow=8,2,SNR=5.1
GTA Gaotai 60.73 29 ⇑P P **04 10 55.3 -1.3**
GTA pP pP 04 10 59.6 -1.9
GTA sP sP 04 11 02.4 -0.9
GTA S S **04 19 10.7 -2.2**
GTA sS pS 04 19 19.9 +0.9
GTA SS SS **04 23 12.4 +0.2**
GTA pmax pmax
comp=Z,17nm,1.2s
GTA pmax pmax
comp=Z,150nm,7.1s
GTA LR LR
comp=Z,580nm,18.1s
GTA LR LR
comp=Z,520nm,21.3s
GTA LR LR
comp=Z,810nm,18.7s
KIV Kislovodsk 60.90 340 *e*P P **04 10 57.1 -0.5**
KIV pmax pmax
comp=Z,5.0nm,0.3s
BR131 Keskin Array S 60.93 331 *e*P P **04 10 58.5 +0.5**
BR131 Keskin Array S 60.93 331 P P **04 10 57.2 -0.8**
SNR=6.8
BRTR Keskin Array B 60.93 331 P P **04 10 57.6 -0.4**
comp=Z,3.2nm,1.1s,baz=132,slow=3.7,SNR=11
MK01 Makanchi Array 61.28 12 *e*P P 04 10 57.6 -2.4
MK31 Makanchi Array 61.30 12 *e*P P 04 10 58.1 -2.1
MK31 Makanchi Array 61.30 12 *e*P P 04 10 58.1 -2.1
MKAR Makanchi Array 61.30 12 P P 04 10 57.6 -2.6
comp=Z,7.5nm,1.1s,baz=208,slow=7.5,SNR=27
OTUK Ortayu 61.33 4 P P **04 11 00.3 -0.1**
OTUK pmax pmax
comp=Z,15nm,2.3s
XAN Xi'an 61.79 39 P P **04 11 02.3 -1.5**
XAN pmax pmax
comp=Z,15nm,1.2s
XAN pmax pmax
comp=Z,330nm,3.8s
ABKAR Akbulak array 62.42 355 *e*P P 04 11 06.0 -1.6
KDU Kakadu 63.96 98 P P **04 11 18.4 -0.2**
baz=64,SNR=3.8
ASAR Alice Springs 64.15 110 P P **04 11 18.1 -1.7**
comp=Z,2.7nm,0.8s,baz=277,slow=7.2,SNR=12
AS31 Alice Springs 64.16 110 *e*P P **04 11 18.8 -1.0**
comp=Z,3.3nm,1.4s
AS01 Alice Springs 64.20 110 *e*P P **04 11 18.2 -1.9**
KURBB Kurchatov Arra 64.35 8 P P 04 11 18.5 -1.9
comp=Z,4.3nm,1.1s,baz=202,slow=7.0,SNR=22
KURK Kurchatov 64.45 8 *e*P P 04 11 19.6 -1.5
KURK Kurchatov 64.45 8*c i*P P **04 11 19.8 -1.2**
KURK pmax pmax
comp=Z,40nm,2.0s
WRA Warramunga Arr 64.85 106 P P 04 11 21.8 -2.6
comp=Z,5.7nm,0.9s,baz=272,slow=5.9,SNR=25
WB2 Warramunga Arr 64.86 106 *e*P P **04 11 23.6 -0.9**
comp=Z,21nm,1.1s
WRAB Tennant Creek 64.86 106 *e*P P **04 11 23.1 -1.4**
comp=Z,26nm,1.2s
WRAB Tennant Creek 64.86 106 *e*P P **04 11 23.1 -1.4**
WRAB pmax pmax
comp=Z,26nm,1.2s
DGZ Jazzator, Alta 65.20 15*d i*P P **04 11 26.1 -0.1**
DGZ pmax pmax
comp=Z,10.0nm,1.6s
ALN Alexandroupoli 65.61 327 *e*P P **04 11 28.9 +0.1**
comp=Z,28nm,1.9s
ALN Alexandroupoli 65.61 327 *e*P P **04 11 28.9 +0.1**
ALN pmax pmax
comp=Z,28nm,1.9s
BRVK Borovoye 66.02 2 *e*P P 04 11 29.4 -1.7
comp=Z,17nm,1.4s
BRVK Borovoye 66.02 2 *i*P P **04 11 29.9 -1.3**
BRVK pmax pmax
comp=Z,23nm,2.1s
BRVK Borovoye 66.02 2 P P **04 11 30.6 -0.6**
SNR=7.0
BTO Baotou 66.88 35 *e*P P 04 11 33.1 -4.0
NJ2 Nanjing 67.19 47 *e*P P **04 11 38.7 -0.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
VRH Novokhopyorsk 67.68 343 *e*P P 04 11 40.3 -1.4
VRH pmax pmax
comp=Z,30nm,1.7s
CFR Carcaliu 67.73 332 P P **04 11 43.8 +1.6**
CFR pmax pmax
comp=Z,14nm,1.8s
HHC Hu-ho-hao-te 67.90 35 *e*P P **04 11 44.3 +0.7**
HHC sP sP 04 11 50.2 -0.1
HHC S S **04 20 40.4 -1.2**
HHC pmax pmax
comp=Z,31nm,1.4s
HHC pmax pmax
comp=Z,270nm,4.9s
HHC LR LR
comp=Z,260nm,11.2s
HHC LR LR
comp=Z,330nm,9.5s
HHC LR LR
comp=Z,250nm,10.4s
FNA Florina 68.09 324 *e*P P **04 11 44.3 -0.4**
comp=Z,47nm,2.0s
FNA Florina 68.09 324 *e*P P **04 11 44.3 -0.4**
FNA pmax pmax
comp=Z,47nm,2.0s
VTS Vitosha 68.31 327 *e*P P **04 11 45.7 -0.5**
comp=Z,25nm,1.6s
VTS Vitosha 68.31 327 ⇓*i*P P **04 11 45.2 -1.0**
VTS Vitosha 68.31 327 ⇓P P **04 11 45.2 -1.0**
VSR Storozhevoye 68.44 342 *e*P P 04 11 44.3 -2.2
VSR pmax pmax
comp=Z,30nm,1.4s
ZAA0 Zalesovo Array 68.61 11 *e*P P 04 11 45.6 -2.0
comp=Z,59nm,1.6s
ZALV Zalesovo Beam 68.61 11 P P 04 11 45.5 -2.0
comp=Z,5.5nm,0.7s,baz=212,slow=5.3,SNR=23
ZALV Zalesovo Beam 68.61 11 *e*P P 04 11 45.0 -2.5
ZALV Zalesovo Beam 68.61 11 *e*P P 04 11 45.1 -2.5
KIS Kishinev 68.81 333 *e*P P 04 11 47.5 -1.4
comp=Z,130nm,2.0s
KIS Kishinev 68.81 333 *e*P P 04 11 47.5 -1.4
KIS pmax pmax
comp=Z,130nm,2.0s
VRI Vrincioaia 68.90 331 ⇑*i*P P **04 11 49.5 -0.1**
VRI Vrincioaia 68.90 331 ⇑P P **04 11 49.5 -0.1**
PLOR Plostina 68.92 331 ⇓*i*P P **04 11 49.2 -0.6**
PLOR Plostina 68.92 331 ⇓P P **04 11 49.2 -0.6**
MLR Muntele Rosu 68.99 331 *e*P P **04 11 50.0 -0.3**
comp=Z,57nm,1.7s
MLR Muntele Rosu 68.99 331 ⇑*i*P P **04 11 50.9 +0.6**
MLR Muntele Rosu 68.99 331 ⇑P P **04 11 50.9 +0.6**
TIR Tirane 69.32 324 *e*P P **04 11 52.5 +0.2**
comp=Z,48nm,1.2s
VOIR 69.39 330 ⇑*i*P P **04 11 52.7 0.0**
VOIR 69.39 330 ⇑P P **04 11 52.7 0.0**
TOA0 Torodi Ar. Sit 69.50 290 *e*P P **04 11 53.2 -0.7**
comp=Z,33nm,1.8s
TOA0 Torodi Ar. Sit 69.50 290 P P **04 11 54.3 +0.4**
SNR=5.6
TORD Torodi Ar. Bea 69.50 290 P P **04 11 53.3 -0.6**
comp=Z,2.0nm,1.1s,baz=160,slow=4.7,SNR=9.7
TORD LR LR 04 41 02.6
comp=Z,171nm,18.1s,baz=15,slow=35
ARR Arges 69.54 330 ⇑*i*P P **04 11 52.6 -1.0**
ARU Arti 69.66 355 *e*P P 04 11 52.5 -1.5
comp=Z,47nm,1.7s
ARU Arti 69.66 355*d i*P P 04 11 52.4 -1.6
ARU 04 14 25.2
ARU S S **04 21 03.0 +1.6**
ARU SS SS **04 25 26.3 -3.8**
ARU pmax pmax
comp=Z,22nm,1.7s
LPSR Galich'ya Gora 69.72 342 *e*P P **04 11 53.8 -0.7**
LPSR pmax pmax
comp=Z,10.0nm,1.2s
SVE Sverdlovsk 69.90 356 ⇑*e*P P **04 11 55.0 -0.5**
SVE pmax pmax
comp=Z,31nm,1.9s
BJT Baijiatuan 70.06 38 *e*P P **04 11 56.0 -0.9**
comp=Z,46nm,1.6s
BJT Baijiatuau 70.06 38 *e*P P **04 11 56.0 -0.9**
BJT pmax pmax
comp=Z,46nm,1.6s
BJI Beijing 70.08 38 P P **04 11 57.0 0.0**
BJI pmax pmax
comp=Z,11nm,1.9s
SONM Songino Array 70.27 27 P P **04 11 57.0 -1.1**
comp=Z,4.3nm,1.0s,baz=220,slow=6.5,SNR=23
SONA1 Songino Array 70.28 27 *e*P P **04 11 57.0 -1.2**
TTG Podgorica 70.37 325 *e*P P **04 11 58.4 -0.3**
comp=Z,102nm,2.0s
STKA Stephens Creek 70.46 119 P P **04 11 57.9 -1.7**
comp=Z,3.4nm,0.9s,baz=301,slow=5.9,SNR=4.4
GZR Gura Zlata 70.48 329 ⇑*i*P P **04 11 59.9 +0.5**
GZR Gura Zlata 70.48 329 ⇑P P **04 11 59.9 +0.5**
ULN Ulaanbaatar 70.58 28 *e*P P 04 11 58.2 -1.9
comp=Z,54nm,2.0s
ULN Ulaanbaatar 70.58 28 *i*P P **04 11 59.4 -0.7**
ULN pmax pmax
comp=Z,8.0nm,1.7s
ULN Ulaanbaatar 70.58 28 P P **04 12 00.1 0.0**
SNR=11
BURAR Bucovina Array 70.89 332 ⇑*i*P P **04 12 01.5 -0.4**
BURAR Bucovina Array 70.89 332 ⇑P P **04 12 01.6 -0.4**
BUR04 Bucovina Ar. S 70.89 332 *e*P P **04 12 02.4 +0.4**
BUR08 Bucovina Ar. S 70.92 332 *e*P P **04 12 02.8 +0.7**
ZAK Zakamensk 70.92 24 *e*P P 04 12 00.4 -1.6
ZAK pmax pmax
comp=Z,7.0nm,2.0s
DIVS Divibare 71.06 326 *e*P P **04 12 03.7 +0.7**
comp=Z,31nm,1.6s
BZS Buzias 71.23 328 ⇑*i*P P **04 12 04.4 +0.5**
BZS Buzias 71.23 328 ⇑P P **04 12 04.4 +0.5**
DRGR 71.49 330 ⇓*i*P P **04 12 05.0 -0.6**
DRGR 71.49 330 ⇓P P **04 12 05.0 -0.6**
AKASG Malin Array Be 71.51 336 P P **04 12 04.4 -1.0**
comp=Z,1.0nm,0.5s,baz=130,slow=4.9,SNR=17
AKBB Malin Array Si 71.51 336 *e*P P **04 12 05.3 0.0**
comp=Z,24nm,1.6s
AKBB Malin Array Si 71.51 336 *e*P P **04 12 05.4 0.0**
AKBB pmax pmax
comp=Z,24nm,1.6s
KIEV Kiev 71.51 336 *e*P P **04 12 05.2 -0.2**
comp=Z,23nm,1.6s
KIEV Kiev 71.51 336 *i*P P **04 12 05.4 0.0**
KIEV pmax pmax
comp=Z,7.0nm,1.7s
AK11 Malin Array Si 71.51 336 *e*P P **04 12 04.8 -0.7**
HORU Horodok 71.53 333 P P **04 12 05.4 -0.2**
VNA2 Neumayer--Watz 72.45 199 P P **04 12 10.3 -0.6**
TRPA Tarpa 72.52 331 ⇑*i*P P **04 12 12.9 +1.4**
OBN Obninsk 72.60 342 *e*P P **04 12 11.9 +0.1**
OBN pmax pmax
comp=Z,13nm,1.4s
VNA1 Neumayer--Stat 72.69 200 P P 04 12 09.4 -2.8
IRK Irkutsk 72.77 23 *e*P P **04 12 12.6 -0.4**
IRK pmax pmax
comp=Z,68nm,2.4s
MOS Moscow 72.84 343 *e*P P 04 12 09.2 -4.1
MOS *e* 04 12 26.6
MOS pmax pmax
comp=Z,94nm,1.8s
UZH Uzhgorod 72.99 331 *e*P P **04 12 16.6 +2.3**
UZH *e* 04 12 33.4
BLY Banja Luka 73.01 325 *e*P P **04 12 15.2 +0.7**
comp=Z,31nm,1.7s
LVV L'vov 73.03 333 *e*P P **04 12 14.1 -0.5**
QLP Quilpie 73.23 114 P P **04 12 16.1 -0.3**
baz=73,SNR=8.8
VNA3 Neumayer Olymp 73.24 199 P P **04 12 14.7 -0.9**
KIC Kosan Boko 73.52 281 *e*PKP2 P **04 12 18.1 -0.2**
comp=Z,117nm,1.8s
PSZ Piszkesteto 73.66 329 *e*P P **04 12 18.2 -0.2**
comp=Z,18nm,1.6s
PSZ Piszkesteto 73.66 329 *e*P P **04 12 18.2 -0.2**
PSZ pmax pmax
comp=Z,18nm,1.6s
DBIC Dimbokro 73.71 281 P P **04 12 19.1 -0.3**
comp=Z,4.4nm,0.9s,baz=78,slow=9.0,SNR=6.1
DBIC LR LR 04 44 47.6
comp=Z,204nm,18.0s,baz=99,slow=36
DBIC Dimbokro 73.71 281 *e*P P **04 12 19.3 -0.1**
comp=Z,44nm,1.8s
DBIC Dimbokro 73.71 281 *e*P P **04 12 19.3 -0.1**
DBIC pmax pmax
comp=Z,44nm,1.8s
AQU L'Aquila 73.74 322 *e*P P **04 12 18.9 -0.1**
comp=Z,31nm,1.4s
AQU L'Aquila 73.74 322 *e*P P **04 12 18.9 -0.1**
AQU pmax pmax
comp=Z,31nm,1.4s
LIC Lamto 73.76 281 *e*PKP2 P **04 12 19.4 -0.3**
comp=Z,85nm,1.9s
TIC Toumodi 73.86 281 *e*PKP2 P **04 12 19.0 -1.3**
SRO Srobarova 74.39 328 *e*P P **04 12 24.0 +1.4**
SRO Srobarova 74.39 328 *e*P P **04 12 24.0 +1.4**
VYHS Vyhne 74.57 329 *e*P P **04 12 24.0 +0.3**
VYHS pmax pmax
comp=Z,23nm,1.8s
VYHS Vyhne 74.57 329 *e*P P **04 12 24.0 +0.3**
LANS Liptovska Anna 74.70 330 *e*P P **04 12 25.4 +1.0**
LANS Liptovska Anna 74.70 330 *e*P P **04 12 25.4 +1.0**
SOKA Soboth 75.39 326 *i*P P **04 12 29.5 +1.0**
comp=Z,14nm,1.6s,SNR=8.8
ARSA Arzberg 75.48 327 *e*P P **04 12 29.8 +0.8**
comp=Z,17nm,1.6s,SNR=7.8
OBKA Obir 75.55 326 *e*P P **04 12 30.2 +0.7**
comp=Z,14nm,1.9s
CONA Conrad Observa 75.73 327 *e*P P **04 12 31.1 +0.7**
comp=Z,26nm,1.8s,SNR=12
CTAO Charters Tower 75.95 108 *e*P P **04 12 31.5 -0.8**
CTAO Charters Tower 75.95 108 *e*P P **04 12 31.5 -0.8**
MORC Moravsky Berou 76.06 330 *e*P P **04 12 33.0 +0.8**
comp=Z,43nm,1.8s
MORC Moravsky Berou 76.06 330 P P **04 12 33.0 +0.8**
MORC Moravsky Berou 76.06 330 *e*P P **04 12 32.8 +0.6**
MYKA Terra Mystica 76.13 325 *e*P P **04 12 33.6 +0.8**
comp=Z,13nm,1.3s,SNR=6.7
KRUC Moravsky 76.17 329 *e*P P **04 12 33.1 +0.3**
VRAC Vranov 76.22 329 *e*P P **04 12 34.0 +0.8**
KSAR Wonju Array Be 76.32 46 P P **04 12 32.5 -1.4**
KSAR Wonju Array Be 76.32 46 *e*P P **04 12 32.5 -1.4**
KS01 Wonju Array Si 76.34 46 *e*P P 04 12 32.1 -2.0
KSRS Korea Array 76.35 46 P P **04 12 32.5 -1.6**
comp=Z,2.8nm,0.8s,baz=239,slow=5.6,SNR=9.0
KSRS LR LR 04 47 30.2
comp=Z,293nm,18.5s,baz=225,slow=37
SUW Suwalki 76.44 335 *e*P P **04 12 34.5 +0.4**
comp=Z,116nm,1.8s
SUW Suwalki 76.44 335 *e*P P **04 12 34.6 +0.4**
SUW pmax pmax
comp=Z,116nm,1.8s
MOA Molln 76.52 327 *e*P P **04 12 35.7 +0.8**
comp=Z,25nm,1.6s
ABTA Abfaltersbach 76.82 325 *e*P P **04 12 37.5 +0.8**
comp=Z,29nm,2.0s,SNR=10
KLMR Klimovskoe 76.88 347 *e*P P 04 12 33.5 -3.0
KLMR pmax pmax
comp=Z,51nm,1.5s
KLMR Klimovskoe 76.88 347 *e*P P 04 12 33.5 -3.0
KLMR AMP 04 12 40.2
comp=Z,51nm,1.5s
QSPA South Pole Qui 76.91 180 *e*P P **04 12 35.2 -1.8**
KSP Ksiaz 77.36 330 *e*P P **04 12 40.6 +1.1**
KSP Ksiaz 77.36 330 *e*P P **04 12 40.6 +1.1**
GEA0 GERESS Array S 77.42 327 *e*P P **04 12 40.2 +0.2**
GEC2 GERESS Array S 77.43 327 *e*P P **04 12 39.6 -0.4**
comp=Z,18nm,1.6s
GEC2 GERESS Array S 77.43 327 *e*P P **04 12 40.1 +0.1**
comp=Z,42nm,2.1s,baz=126,slow=5.3
GEC2 GERESS Array S 77.43 327 *e*P P **04 12 39.7 -0.4**
GEC2 pmax pmax
comp=Z,18nm,1.6s
GERES GERESS Array B 77.43 327 P P **04 12 39.4 -0.6**
comp=Z,0.2nm,0.3s,baz=99,slow=3.2,SNR=2.8
WTTA Wattenberg 77.61 325 *e*P P **04 12 41.6 +0.4**
comp=Z,16nm,1.3s
KHC Kasperske Hory 77.66 327 *e*P P **04 12 41.0 -0.3**
comp=Z,9.4nm,1.7s
KHC Kasperske Hory 77.66 327 *e*P P **04 12 42.4 +1.1**
KHC Kasperske Hory 77.66 327 *e*P P **04 12 42.4 +1.1**
WATA Walderalm 77.69 325 *e*P P **04 12 42.8 +1.2**
comp=Z,8.6nm,1.2s
SQTA Sankt Quirin 77.82 325 *e*P P **04 12 43.4 +1.0**
comp=Z,18nm,1.7s
CN2 Changchun 77.90 39 *e*P P **04 12 41.9 -0.8**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
MOTA Moosalm 77.95 325 *e*P P **04 12 44.4 +1.3**
comp=Z,4.1nm,1.0s
FETA Feichten 77.98 325 *e*P P **04 12 44.4 +1.1**
comp=Z,7.1nm,1.1s
FUORN Ofenpass-Fuorn 78.02 324 *e*P P **04 12 43.8 +0.2**
comp=Z,44nm,1.9s
WET Wettzell 78.04 327 *e*P P **04 12 43.8 +0.4**
comp=Z,47nm,2.1s,baz=126,slow=5.3
RETA Reutte 78.22 325 *e*P P **04 12 44.7 +0.2**
comp=Z,16nm,2.0s
FUR Furstenfeldbru 78.33 326 *e*P P **04 12 45.7 +0.7**
comp=Z,259nm,2.2s,baz=126,slow=5.3
VNDA Vanda 78.37 167 P P **04 12 43.2 -1.6**
comp=Z,1.2nm,0.9s,baz=270,slow=6.1,SNR=2.2
BRG Berggiesshubel 78.54 329 *e*P P **04 12 47.6 +1.6**
comp=Z,68nm,1.9s
BRG Berggiesshubel 78.54 329 *e*P P **04 12 47.5 +1.4**
comp=Z,68nm,1.9s,baz=126,slow=5.3
BRG Berggiesshubel 78.54 329 *e*P P **04 12 47.6 +1.6**
BRG pmax pmax
comp=Z,44nm,1.9s
DAVA Damuels 78.61 324 *e*P P **04 12 46.6 -0.2**
comp=Z,19nm,2.2s
UBR Ueberruh 78.70 325 *e*P P **04 12 48.0 +0.9**
baz=126,slow=5.3
PMG Port Moresby 78.72 97 P P **04 12 47.2 -0.7**
comp=Z,3.5nm,0.4s,baz=248,slow=19,SNR=3.7
ROTZ Rotzenmuhle 78.76 327 *e*P P **04 12 47.8 +0.5**
comp=Z,93nm,2.4s,baz=126,slow=5.3
FBE Freiberg 78.86 329 *e*P P **04 12 49.4 +1.6**
comp=Z,102nm,2.2s,baz=126,slow=5.3
WERN Wernitzgruen 78.98 328 *e*P P **04 12 50.1 +1.6**
comp=Z,51nm,1.8s,baz=126,slow=5.3
TANN Tannenbergstha 79.01 328 *e*P P **04 12 49.9 +1.2**
comp=Z,84nm,2.0s,baz=126,slow=5.3
GUNZ Gunzen 79.05 328 *e*P P **04 12 50.2 +1.3**
comp=Z,52nm,1.9s,baz=126,slow=5.3
PLN Plauen 79.21 328 *e*P P **04 12 50.7 +0.9**
comp=Z,58nm,2.2s,baz=126,slow=5.3
GRF Grafenberg Arr 79.24 327 *e*P P **04 12 50.7 +0.7**
comp=Z,97nm,1.9s,baz=126,slow=5.3
GRFO Grafenberg 79.24 327 *e*P P 04 12 47.2 -2.7
comp=Z,72nm,1.8s
GRFO Grafenberg 79.24 327 *e*P P 04 12 47.2 -2.7
GRFO pmax pmax
comp=Z,72nm,1.8s
CLL Collm 79.27 329 *e*P P **04 12 50.5 +0.5**
comp=Z,41nm,1.8s
CLL Collm 79.27 329 *e*P P **04 12 50.8 +0.7**
comp=Z,44nm,1.8s,baz=126,slow=5.3
CLL Collm 79.27 329 ⇓*i*P P **04 12 50.6 +0.5**
comp=Z,44nm,1.8s
CLL Collm 79.27 329 ⇓*i*P P **04 12 50.6 +0.5**
CLL pmax pmax
comp=Z,34nm,1.8s
MOX Moxa 79.58 328 *e*P P **04 12 53.0 +1.2**
comp=Z,53nm,2.0s,baz=126,slow=5.3
SENIN Lac Senin/Sane 79.60 323 *e*P P 04 12 50.7 -1.6
comp=Z,32nm,1.8s
STU Stuttgart 79.81 325 *e*P P **04 12 53.7 +0.6**
comp=Z,64nm,1.9s,baz=126,slow=5.3
BFO Black Forest 80.06 325 *e*P P **04 12 54.8 +0.3**
comp=Z,42nm,1.9s
BFO Black Forest 80.06 325 *e*P P **04 12 55.0 +0.5**
comp=Z,68nm,2.2s,baz=126,slow=5.3
BFO Black Forest 80.06 325 *e*P P **04 12 54.8 +0.3**
BFO pmax pmax
comp=Z,42nm,1.9s
UBBA Unterbreizbach 80.52 327 *e*P P **04 12 58.1 +1.4**
comp=Z,76nm,2.3s,baz=126,slow=5.3
BOD Bodaibo 80.66 24 *e*P P **04 12 56.7 -0.7**
BOD pmax pmax
comp=Z,19nm,1.9s
MDJ Mudanjiang 80.89 40 P P **04 12 59.6 +0.7**
MDJ pmax pmax
comp=Z,23nm,2.2s
MDJ pmax pmax
comp=Z,270nm,3.3s
CLZ Clausthal 80.92 328 *e*P P **04 13 00.0 +1.0**
comp=Z,105nm,2.3s,baz=126,slow=5.3
GTTG Gvttingen 80.95 328 *e*P P **04 13 00.8 +1.6**
comp=Z,125nm,1.9s,baz=126,slow=5.3
FINES FINESS Array B 80.97 342 P P **04 12 59.2 +0.3**
comp=Z,2.0nm,0.8s,baz=115,slow=9.6,SNR=3.1
NRDL Niedersach Rie 81.42 329 *e*P P **04 13 02.9 +1.4**
baz=126,slow=5.3
MDT Midelt 81.88 306 LR LR 04 49 24.5
comp=Z,366nm,20.7s,baz=123,slow=36
RETH Rethem/Aller, 81.94 329 *e*P P **04 13 03.6 -0.6**
baz=126,slow=5.3
USRK Ussuriysk Ar. 82.21 41 P P 04 13 03.1 -2.9
comp=Z,2.5nm,0.8s,baz=246,slow=5.0,SNR=5.6
USRK LR LR 04 47 59.5
comp=Z,117nm,21.5s,baz=211,slow=35
MEM Membach 82.55 326 ⇓P P **04 13 07.8 +0.2**
DOU Dourbes 83.07 325 ⇑P P 04 13 08.0 -2.2
comp=Z,17nm,2.2s
MAT Matsushiro 83.43 50 P P **04 13 11.4 -1.1**
MJAR Matsushiro Arr 83.43 50 P P **04 13 11.6 -0.9**
comp=Z,1.8nm,0.7s,baz=245,slow=6.2,SNR=8.0
MJAR LR LR 04 52 34.9
comp=Z,109nm,18.1s,baz=210,slow=37
ES19 SONSECA Array 83.91 313 *e*P P **04 13 15.4 +0.4**
ESDC Sonseca Array 83.95 313 P P **04 13 14.2 -0.9**
comp=Z,3.4nm,1.0s,baz=32,slow=4.6,SNR=18
ESLA Sonseca Array 83.95 313 *e*P P **04 13 15.7 +0.6**
comp=Z,17nm,1.4s
APA Apatity 84.05 348 ⇓*i*P P 04 13 09.3 -5.6
APA pmax pmax
comp=Z,6.0nm,1.1s
APA MLR MLR
comp=Z,800nm,16.0s
PAB San Pablo 84.17 313 *e*P P **04 13 16.6 +0.2**
comp=Z,38nm,1.9s
KLR Kul'dur 84.36 37 P P 04 13 14.2 -2.8
comp=Z,1.2nm,0.7s,baz=266,slow=5.5,SNR=5.6
KLR LR LR 04 53 33.8
comp=Z,210nm,18.5s,baz=208,slow=38
HFS Hagfors 84.39 336 P P **04 13 16.4 -0.4**
comp=Z,3.7nm,1.0s,baz=139,slow=9.6,SNR=3.0
NOA NORSAR Array B 85.92 336 P P **04 13 23.6 -0.9**
comp=Z,0.9nm,0.8s,baz=116,slow=5.2,SNR=2.8
HNR Honiara 91.03 100 *e*P P **04 13 50.2 +0.3**
HNR Honiara 91.03 100 *e*P P **04 13 50.2 +0.3**
TIXI Tiksi 94.05 16 P P **04 14 01.1 -1.4**
comp=Z,2.3nm,0.3s,baz=265,slow=5.2,SNR=7.6
TIXI Tiksi 94.05 16 *e*P P **04 14 01.3 -1.2**
TIXI Tiksi 94.05 16 *i*P P **04 14 01.1 -1.4**
TIXI pmax pmax
comp=Z,4.0nm,1.4s
BILL Bilibino 105.70 23 *i*P Pdif **04 14 55.3 +0.4**
BILL pmax pmax
comp=Z,1.0nm,1.1s
LPAZ La Paz 126.60 238 PKP PKPdf **04 19 48.5 -1.4**
comp=Z,1.5nm,0.8s,baz=17,slow=3.4,SNR=6.0
LPAZ La Paz 126.60 238 *e*PKPdf **PKPdf 04 19 49.6 -0.2**
LPAZ La Paz 126.60 238 *e*PKIKP **PKPdf 04 19 49.6 -0.2**
YKB5 Yellowknife Ar 130.73 1 *e*PKPpre PKPpre 04 19 47.0
YKB5 *e*PKPdf **PKPdf 04 19 56.5 +0.9**
FFC Flin Flon 137.58 350 *i*PKIKP **PKPdf 04 20 09.3 +0.7**
OTAV Otavalo 143.14 252 *e*PKPdf PKPab 04 20 17.6 +1.6
OTAV *e*PKPdf PKPbc 04 20 18.5 +1.1
OTAV *e*PKIKP PKPab 04 20 17.6 +1.6
OTAV *e* 04 20 18.5
DGMT Dagmar 143.99 350 *e*PKPdf **PKPab 04 20 20.0 +2.2**
PAULI Pauline 144.27 313 *e*PKPdf **PKPab 04 20 21.0 +1.8**
S50A Richmond 144.50 319 P **PKPab 04 20 18.9 -1.1**
baz=54
V53A Saluda 144.55 315 *e*PKPdf **PKPab 04 20 20.3 0.0**
V53A Saluda 144.55 315 P **PKPab 04 20 20.3 0.0**
baz=58
B08A Colville Reser 144.55 7 *e*PKPdf **PKPab 04 20 20.9 +1.0**
Q48A North Vernon 144.58 321 P **PKPab 04 20 19.3 -0.9**
baz=51
TZTN Tazewell 144.58 316 *e*PKPdf **PKPab 04 20 20.4 +0.1**
TZTN Tazewell 144.58 316 P **PKPab 04 20 19.9 -0.5**
baz=56
R49A Shelbyville 144.62 320 P **PKPab 04 20 19.8 -0.5**
baz=52
NEW Newport 144.86 4 PKP **PKPab 04 20 21.4 +0.4**
comp=Z,3.6nm,1.1s,baz=357,slow=2.1,SNR=11
NEW Newport 144.86 4 *e*PKPdf **PKPab 04 20 21.7 +0.7**
NEW Newport 144.86 4 *e*PKIKP **PKPab 04 20 21.7 +0.7**
HODGE Hodges 144.88 312 *e*PKPdf **PKPab 04 20 21.1 -0.4**
BLO Bloomington 144.90 322 *e*PKPbc **PKPab 04 20 22.0 +0.6**
BLO Bloomington 144.90 322 *e*PKIKP **PKPab 04 20 22.0 +0.6**

BG3	Lake Jocassee	144.98	314	ePKPbc	PKPbc	04 20 22.5	+0.7
V52A	Sevierville	145.00	315	ePKPbc	PKPbc	04 20 22.0	+0.1
S49A	Springfield	145.00	320	P	PKPbc	04 20 20.4	-1.4
	baz=53						
W53A	Cullowhee	145.05	314	P	PKPbc	04 20 20.5	-1.7
	baz=58,SNR=6.7						
T50A	Nancy	145.17	318	P	PKPbc	04 20 20.0	-2.3
	baz=54,SNR=8.7						
C09A	Chrisman Ranch	145.22	6	ePKPbc	PKPbc	04 20 22.0	-0.1
TKL	Tuckaleechee C	145.22	315	PKPbc	PKPbc	04 20 21.0	-1.6
	comp=Z,3.6nm,0.9s,baz=99,slow=6.4,SNR=6.5						
TKL	Tuckaleechee C	145.22	315	ePKPbc	PKPbc	04 20 22.4	-0.2
TKL	Tuckaleechee C	145.22	315	ePKIKP	PKPbc	04 20 22.4	-0.2
D05A	Enumclaw	145.31	10	ePKPbc	PKPbc	04 20 23.4	+1.0
WCI	Wyandotte Cave	145.36	321	ePKPbc	PKPbc	04 20 22.6	-0.3
WCI	Wyandotte Cave	145.36	321	ePKIKP	PKPbc	04 20 22.6	-0.3
Y54A	Tignall	145.37	312	P	PKPbc	04 20 21.1	-2.0
	baz=61,SNR=9.0						
P45A	Graceland, Par	145.38	324	ePKPdf	PKPbc	04 20 23.3	+0.4
P45A	Graceland, Par	145.38	324	P	PKPbc	04 20 21.1	-1.8
	baz=48,SNR=6.2						
X53A	Estanollee	145.49	313	P	PKPdf	04 20 23.7	+0.3
	baz=59						
U50A	Jamestown	145.52	317	P	PKPdf	04 20 23.0	-0.4
	baz=55,SNR=8.0						
HDIL	Hopedale	145.52	327	ePKPbc	PKPdf	04 20 23.8	+0.5
HDIL	Hopedale	145.52	327	P	PKPdf	04 20 23.4	+0.2
	baz=44						
V51A	Loudon	145.53	316	ePKPdf	PKPdf	04 20 23.3	-0.2
V51A	Loudon	145.53	316	P	PKPdf	04 20 21.3	-2.1
	baz=56						
S48A	Wiedeman Farm,	145.56	320	P	PKPdf	04 20 23.2	-0.3
	baz=52,SNR=5.9						
T49A	Edmonton	145.57	319	ePKPdf	PKPdf	04 20 23.2	-0.3
T49A	Edmonton	145.57	319	P	PKPdf	04 20 23.0	-0.5
	baz=53,SNR=5.4						
M41A	Milan	145.57	329	P	PKPdf	04 20 23.1	-0.3
	baz=42						
W52A	Murphy	145.62	315	ePKPdf	PKPdf	04 20 24.2	+0.6
N42A	Yates City	145.71	328	P	PKPdf	04 20 23.6	0.0
	baz=43						
O43A	Sugar Creek Fa	145.72	326	P	PKPdf	04 20 24.2	+0.5
	baz=44						
LON	Longmire	145.76	10	ePKPdf	PKPdf	04 20 23.6	0.0
LON	Longmire	145.76	10	ePKIKP	PKPdf	04 20 23.6	0.0
Z54A	Sparta	145.78	311	P	PKPdf	04 20 24.2	+0.3
	baz=61						
E04D	Cinebar	145.81	11	P	PKPdf	04 20 23.5	-0.1
	baz=344						
CPCT	Cooper Cave	145.84	316	ePKPdf	PKPdf	04 20 24.4	+0.4
X52A	Dahlonega	145.86	314	P	PKPdf	04 20 24.7	+0.6
	baz=58,SNR=7.7						
D08A	Wollman Farm,	145.88	7	ePKPdf	PKPdf	04 20 24.9	+1.2
Y53A	Monroe	146.02	312	P	PKPdf	04 20 25.1	+0.7
	baz=60						
M40A	Post Highland	146.03	330	P	PKPdf	04 20 24.9	+0.8
	baz=40						
Q45A	Warren Harvey,	146.04	324	P	PKPdf	04 20 24.6	+0.4
	baz=48,SNR=7.5						
LAO	LASA Array	146.04	351	ePKPbc	PKPdf	04 20 25.6	+1.5
LAO	LASA Array	146.04	351	P	PKPdf	04 20 25.3	+1.2
	baz=12,SNR=12						
U49A	Red Boiling Sp	146.08	318	P	PKPdf	04 20 24.9	+0.6
	baz=54,SNR=5.1						
R46A	Gibon Southern	146.11	322	P	PKPdf	04 20 25.2	+0.8
	baz=49						
OLIL	Olney	146.11	323	ePKPdf	PKPdf	04 20 26.7	+2.3
V50A	Pikevile	146.11	316	P	PKPdf	04 20 24.4	-0.1
	baz=55,SNR=11						
T48A	Bowling Green	146.11	320	P	PKPdf	04 20 25.4	+0.9
	baz=52						
S47A	Hartford	146.12	321	P	PKPdf	04 20 25.2	+0.8
	baz=51						
GOGA	Godfrey	146.16	312	ePKPbc	PKPdf	04 20 25.9	+1.3
GOGA	Godfrey	146.16	312	ePKP2	PKPdf	04 20 25.9	+1.3
E07A	Sunnyside	146.25	8	ePKPdf	PKPdf	04 20 26.3	+1.9
ECSD	EROS Data Cent	146.31	338	ePKPbc	PKPdf	04 20 24.2	-0.3
ECSD	EROS Data Cent	146.31	338	P	PKPdf	04 20 23.5	-1.1
	baz=30						
Y52A	Lilburn	146.36	313	ePKPdf	PKPdf	04 20 27.3	+2.3
Y52A	Lilburn	146.36	313	P	PKPdf	04 20 24.4	-0.5
	baz=59						
E08A	Dider Farm, El	146.42	7	ePKPdf	PKPdf	04 20 26.8	+2.2
MSO	Missoula	146.43	1	ePKPdf	PKPdf	04 20 25.9	+1.0
MSO	Missoula	146.43	1	P	PKPdf	04 20 25.0	+0.2
	baz=359						
HAWA	Hanford	146.46	8	ePKPbc	PKPdf	04 20 26.5	+1.7
E09A	Wood Farm, Sta	146.50	6	ePKPbc	PKPdf	04 20 26.6	+1.8
R45A	Skylar, Fairfi	146.51	323	P	PKPdf	04 20 24.5	-0.5
	baz=48						
HRY	Holter Researc	146.53	358	ePKPdf	PKPdf	04 20 26.0	+1.0
V49A	McMinnville	146.59	317	P	PKPdf	04 20 25.3	0.0
	baz=54						
SWET	Sewanee	146.93	316	ePKPbc	PKPdf	04 20 28.1	+2.2
Z52A	Williamson	146.96	312	P	PKPdf	04 20 25.7	-0.3
	baz=59						
Y51A	Rockmart	147.05	314	P	PKPdf	04 20 26.6	+0.4
	baz=58,SNR=7.1						
U47A	Clarksville	147.09	319	P	PKPdf	04 20 25.9	-0.2
	baz=52						
W49A	Belvidere	147.21	316	P	PKPdf	04 20 26.7	+0.4
	baz=55,SNR=6.8						
V48A	Smith Brothers	147.21	318	ePKPbc	PKPdf	04 20 27.7	+1.4
V48A	Smith Brothers	147.21	318	P	PKPdf	04 20 26.2	-0.1
	baz=53,SNR=5.7						
GCMT	Greycliff	147.32	355	ePKPbc	PKPdf	04 20 29.6	+3.2
152A	Waverly Hall	147.44	311	ePKPbc	PKPdf	04 20 30.4	+3.6
SIUC	Southern Illin	147.45	323	ePKPbc	PKPdf	04 20 29.9	+3.3
S44A	Carbondale	147.48	323	P	PKPdf	04 20 28.6	+1.9
	baz=47						
Y50A	Piedmont	147.53	314	P	PKPdf	04 20 28.0	+1.1
	baz=57						
X49A	Woodville	147.59	316	P	PKPdf	04 20 28.1	+1.1
	baz=55,SNR=7.9						
V47A	Nunnelly	147.61	319	P	PKPdf	04 20 27.2	+0.2
	baz=52,SNR=6.2						
G08A	Pilot Rock	147.62	7	ePKPbc	PKPdf	04 20 31.1	+4.2
WVT	Waverly	147.62	319	ePKPbc	PKPdf	04 20 28.6	+1.6
WVT	Waverly	147.62	319	ePKP2	PKPdf	04 20 28.6	+1.6
WVT	Waverly	147.62	319	P	PKPdf	04 20 26.4	-0.6
	baz=51						
BOZ	Bozeman (W)	147.63	358	ePKPbc	PKPdf	04 20 29.4	+2.5
BOZ	Bozeman (W)	147.63	358	ePKP2	PKPdf	04 20 29.4	+2.5
BOZ	Bozeman (W)	147.63	358	P	PKPdf	04 20 28.0	+1.1
	baz=2.9						
W48A	Pulaski	147.64	317	P	PKPdf	04 20 27.4	+0.3
	baz=54						
252A	Lumpkin	147.78	310	P	PKPdf	04 20 28.5	+1.2
	baz=61						
DLMT	Dillon	147.90	359	ePKPbc	PKPdf	04 20 31.1	+3.7
RLMT	Red Lodge	147.96	355	ePKPbc	PKPdf	04 20 31.2	+3.7
RLMT	Red Lodge	147.96	355	P	PKPdf	04 20 29.6	+2.1
	baz=7.2						
W47A	Westpoint	148.01	318	P	PKPdf	04 20 27.7	+0.1
	baz=53,SNR=7.1						
Y49A	Blount Mountai	148.02	315	ePKPbc	PKPdf	04 20 30.2	+2.5
Y49A	Blount Mountai	148.02	315	P	PKPdf	04 20 28.6	+0.9
	baz=56						
X48A	Hartselle	148.12	316	ePKPbc	PKPdf	04 20 31.1	+3.2
X48A	Hartselle	148.12	316	P	PKPdf	04 20 28.0	+0.2
	baz=54						
RSSD	Black Hills	148.13	347	ePKPbc	PKPdf	04 20 29.7	+1.8
RSSD	Black Hills	148.13	347	ePKP2	PKPdf	04 20 29.7	+1.8
RSSD	Black Hills	148.13	347	P	PKPdf	04 20 29.2	+1.3
	baz=17						
352A	Blakely	148.17	310	P	PKPdf	04 20 28.4	+0.4
	baz=61						
BMO	Blue Mountains	148.23	5	ePKPbc	PKPdf	04 20 30.5	+2.6
BMO	Blue Mountains	148.23	5	ePKP2	PKPdf	04 20 30.5	+2.6
R41A	Rosebud	148.26	326	P	PKPdf	04 20 28.2	+0.3
	baz=44						
S42A	Caledonia	148.31	325	P	PKPdf	04 20 29.1	+1.0
	baz=45,SNR=6.4						
CCM	Cathedral Cave	148.36	326	ePKPbc	PKPdf	04 20 30.0	+1.9
CCM	Cathedral Cave	148.36	326	ePKP2	PKPdf	04 20 30.0	+1.9
QLMT	Earthquake Lak	148.39	357	ePKPbc	PKPdf	04 20 33.0	+4.7
150A	Eclectic	148.41	312	P	PKPdf	04 20 30.2	+1.8
	baz=58						
MCMT	McKenzie Canyo	148.43	359	ePKPbc	PKPdf	04 20 31.3	+2.9
YNR	Norris Junctio	148.47	356	ePKPbc	PKPbc	04 20 33.5	+1.5
PLAL	Pickwick Lake	148.49	318	ePKPbc	PKPdf	04 20 31.4	+2.9
YMR	Madison River	148.53	357	ePKPbc	PKPdf	04 20 33.1	+4.6
LKWY	Lake	148.60	356	ePKPbc	PKPdf	04 20 31.6	+2.9
LKWY	Lake	148.60	356	ePKP2	PKPdf	04 20 31.6	+2.9
X47A	Russelville	148.62	317	P	PKPdf	04 20 29.0	+0.3
	baz=53						
YFT	Old Faithful	148.74	357	ePKPbc	PKPbc	04 20 35.9	+3.2
PINE	Pine Mountain	148.78	11	ePKPbc	PKPdf	04 20 33.3	+4.4
H17A	Grant Village	148.78	356	P	PKPdf	04 20 30.8	+1.8
	baz=4.9,SNR=6.9						
LRAL	Lakeview Retre	148.88	314	ePKPbc	PKPdf	04 20 32.1	+3.0
LRAL	Lakeview Retre	148.88	314	P	PKPdf	04 20 30.7	+1.5
	baz=56						
250A	Grady	148.92	312	ePKPbc	PKPdf	04 20 34.0	+4.8
S41A	Jillco Farms,	148.98	325	P	PKPdf	04 20 31.0	+1.8
	baz=44						
T42A	Van Buren	149.00	324	P	PKPdf	04 20 31.5	+2.3
	baz=45,SNR=15						
IMW	Indian Meadow	149.30	357	ePKPbc	PKPbc	04 20 35.5	+1.3
MOOW	Moose Ponds	149.44	356	ePKPdf	PKPdf	04 20 29.4	-0.6
MOOW				ePKPbc	sPKPdf	04 20 36.4	-0.8
HUMO	Hull Mountain	149.49	14	ePKPdf	PKPdf	04 20 28.4	-1.4
HUMO				ePKPbc	sPKPdf	04 20 36.1	-1.0
Z47A	Carrollton	149.53	315	P	PKPdf	04 20 32.7	+2.5
	baz=55						
LOHW	Long Hollow	149.56	356	ePKPdf	PKPdf	04 20 26.2	-4.0
LOHW				ePKPbc	pPKPdf	04 20 35.1	-0.4
J08A	Circle Bar Ran	149.58	7	ePKPbc	PKPdf	04 20 35.3	+5.2
OXF	Oxford	149.64	319	ePKPbc	PKPdf	04 20 33.8	+3.5
OXF	Oxford	149.64	319	ePKP2	PKPdf	04 20 33.8	+3.5
Y46A	Houston	149.66	317	P	PKPdf	04 20 32.8	+2.4
	baz=53						
HLID	Hailey	149.69	2	ePKPdf	PKPdf	04 20 29.3	-1.1
HLID				ePKPbc	sPKPdf	04 20 36.1	-1.5
HLID	Hailey	149.69	2	P	PKPdf	04 20 32.1	+1.8
	baz=358,SNR=5.3						
SNOW	Snow King Moun	149.72	356	ePKPbc	PKPdf	04 20 35.5	+5.0
REDW	Red Top Meadow	149.83	356	ePKPbc	PKPdf	04 20 34.2	+3.6
147A	Livingston	149.97	314	ePKPbc	PKPdf	04 20 35.7	+4.8
147A	Livingston	149.97	314	P	PKPdf	04 20 35.0	+4.1
	baz=55						
V42A	Cord	150.02	323	P	PKPdf	04 20 34.5	+3.7
	baz=46						
K22A	Casper	150.03	350	ePKPdf	PKPdf	04 20 29.5	-1.4
K22A				ePKPbc	pPKPdf	04 20 36.4	+0.1
K22A	Casper	150.03	350	P	PKPdf	04 20 34.9	+4.0
	baz=13						
Y45A	Yeager Farm, C	150.13	318	P	PKPdf	04 20 34.1	+3.0
	baz=52						
Z46A	Louisville	150.13	316	P	PKPdf	04 20 36.7	+5.6
	baz=54						
KSU1	Kansas State U	150.22	333	ePKPbc	PKPdf	04 20 34.4	+3.2
BW06	Boulder Array	150.32	354	ePKPbc	PKPdf	04 20 35.6	+4.2
BW06	Boulder Array	150.32	354	P	PKPdf	04 20 34.9	+3.4
	baz=7.2						
PD31	Pinedale Array	150.32	354	ePKPbc	PKPdf	04 20 35.9	+4.5
PDAR	Pinedale Array	150.32	354	PKPbc	PKPdf	04 20 35.5	+4.1
	comp=Z,1.3nm,0.6s,baz=75,slow=2.0,SNR=14						
PDAR	Pinedale Array	150.32	354	ePKPdf	PKPdf	04 20 30.5	-1.0
PDAR				ePKPbc	PKPdf	04 20 35.5	+4.1
YBH	Yreka Blue Hor	150.38	14	PKPbc	PKPdf	04 20 35.1	+3.7
	comp=Z,1.5nm,1.0s,baz=0.0,slow=7.1,SNR=2.8						
WVOR	Wild Horse Val	150.47	8	ePKPbc	PKPdf	04 20 34.7	+3.1
WVOR	Wild Horse Val	150.47	8	ePKIKP	PKPdf	04 20 34.7	+3.1
U40A	Yellville	150.48	325	P	PKPdf	04 20 34.9	+3.3
	baz=43,SNR=6.1						
V41A	Mountainview	150.48	323	P	PKPdf	04 20 35.1	+3.5
	baz=45,SNR=6.4						
Z45A	Winona	150.53	317	ePKPbc	PKPbc	04 20 38.0	+0.9
RWWY	Rawlins	151.08	351	ePKPbc	PKPdf	04 20 37.3	+4.6
N02D	Trinity Center	151.10	15	P	PKPdf	04 20 34.3	+1.8
	baz=341,SNR=5.4						
HHAR	Hobbs	151.13	326	ePKPbc	PKPdf	04 20 37.8	+5.2
PHWY	Pilot Hill	151.13	348	ePKPbc	PKPdf	04 20 38.4	+5.6
UALR	University of	151.29	322	ePKPbc	PKPdf	04 20 38.7	+5.8
HVU	Hansel Valley	151.48	359	ePKPbc	PKPbc	04 20 41.2	+1.9
HVU	Hansel Valley	151.48	359	ePKIKP	PKPbc	04 20 41.2	+1.9
CCAR	Cane Creek	151.52	320	ePKPbc	PKPbc	04 20 40.0	+0.6
N23A	Red Feather La	151.62	348	ePKPbc	PKPbc	04 20 40.3	+0.5
N23A	Red Feather La	151.62	348	P	PKPdf	04 20 35.5	+2.0
	baz=15						
CBKS	Cedar Bluff	151.75	337	ePKPbc	PKPdf	04 20 38.4	+4.8
X40A	Basin Creek Fa	151.78	322	ePKPbc	PKPbc	04 20 40.7	+0.7
TCUT	Toone Canyon	152.09	357	ePKPbc	PKPbc	04 20 42.6	+1.8
MIAR	Mount Ida	152.18	323	ePKPdf	PKPdf	04 20 33.5	-0.7
MIAR				ePKPbc	sPKPdf	04 20 40.2	-1.2
MIAR	Mount Ida	152.18	323	ePKIKP	PKPdf	04 20 33.5	-0.7
MIAR				e		04 20 40.2	
MIAR	Mount Ida	152.18	323	P	PKPdf	04 20 37.6	+3.4
	baz=44						
BGU	Big Grassy Mou	152.34	360	ePKPbc	PKPbc	04 20 41.8	+0.5
TUL1	Leonard	152.39	328	ePKPbc	PKPdf	04 20 41.1	+6.6
ELK	Elko	152.47	3	PKPbc	PKPdf	04 20 41.0	+6.2
	comp=Z,2.4nm,1.1s,baz=350,slow=0.6,SNR=6.8						
ELK	Elko	152.47	3	ePKPbc	PKPbc	04 20 42.0	+0.3
ELK				ePKPab	PKPab	04 20 51.9	+0.1
KSCO	Kaye Shedlock'	152.56	342	ePKPbc	PKPbc	04 20 42.0	+0.2
KSCO				ePKPab	PKPab	04 20 53.4	+1.3
JLU	Jordanelle	152.61	357	ePKPbc	PKPbc	04 20 42.8	+0.8
JLU				ePKPab	PKPab	04 20 52.6	+0.2
BEKR	Beckworth	152.68	12	ePKPbc	PKPbc	04 20 42.4	+0.3
BEKR				ePKPab	PKPab	04 20 53.8	+1.1
ORV	Oroville	152.73	14	ePKPbc	PKPbc	04 20 42.9	+0.9
ORV				ePKPab	PKPab	04 20 54.1	+1.5
ORV	Oroville	152.73	14	ePKIKP	PKPbc	04 20 42.9	+0.9
O20A	White River Ci	152.76	351	ePKPbc	PKPdf	04 20 41.9	+6.7
DUG	Dugway, Tooele	153.06	359	ePKPdf	PKPdf	04 20 35.8	+0.2
DUG	Dugway, Tooele	153.06	359	ePKIKP	PKPdf	04 20 35.8	+0.2
NLU	North Lily Min	153.28	358	ePKPbc	PKPbc	04 20 44.3	+0.8
AFDM	Forest Hills D	153.43	13	ePKPbc	PKPbc	04 20 43.6	0.0
AFDM				ePKPab	PKPab	04 20 57.9	+2.2
SMCO	Snowmass	153.48	349	ePKPbc	PKPbc	04 20 43.8	-0.4
SMCO				ePKPab	PKPab	04 20 55.6	-0.7
KVN	Kaiserville	153.86	8	ePKPbc	PKPbc	04 20 45.6	+0.8
KVN				ePKPab	PKPab	04 20 59.5	+1.9
KVN	Kaiserville	153.86	8	ePKIKP	PKPbc	04 20 45.6	+0.8
RYN	Ryan	154.22	9	epPKPdf	pPKPdf	04 20 41.7	-1.0
Q16A	Castle Valley	154.27	356	ePKPab	PKPab	04 21 00.3	+0.9
PV21	Cone Mtn., Par	154.41	352	ePKPdf	PKPdf	04 20 37.4	-0.2
PV21				ePKPab	PKPab	04 21 02.1	+2.1
NV01	Mina Array Sit	154.44	9	ePKPdf	PKPdf	04 20 37.3	-0.4
NVAR	Mina Array Bea	154.44	9	PKP	PKPdf	04 20 36.9	-0.8
	comp=Z,0.2nm,0.4s,baz=303,slow=3.0,SNR=4.2						
NVAR				PKPbc	sPKPdf	04 20 45.1	+0.3
	comp=Z,0.3nm,0.6s,baz=318,slow=2.4,SNR=4.5						
NV11	Mina Array Sit	154.46	9	ePKPbc	PKPbc	04 20 47.4	+1.4
NV11				ePKPab	PKPab	04 21 01.5	+1.4
SDCO	Great Sand Dun	154.54	345	ePKPbc	PKPbc	04 20 47.5	+1.2
SDCO				ePKPab	PKPab	04 21 02.3	+1.6
PV14	Lion Creek, Pa	154.60	352	ePKPbc	PKPbc	04 20 48.1	+1.7
PV14				ePKPab	PKPab	04 21 01.7	+0.9
PV12	Saucer Basin,	154.62	352	ePKPbc	PKPbc	04 20 48.1	+1.7
PV12				ePKPab	PKPab	04 21 02.8	+1.8
PV16	Nyswonger Mesa	154.64	352	ePKPbc	PKPbc	04 20 47.5	+1.0
PV16				ePKPab	PKPab	04 21 02.5	+1.4
PV17	East Wray Mesa	154.68	352	ePKPbc	PKPbc	04 20 47.2	+0.7
PV17				ePKPab	PKPab	04 21 02.7	+1.5
PSUT	Pine Spring	154.72	1	epPKPdf	pPKPdf	04 20 42.3	-1.1
MSU	Marysvale	154.73	358	ePKPbc	PKPbc	04 20 48.6	+1.9
MSU				ePKPab	PKPab	04 21 03.2	+1.8
MSU	Marysvale	154.73	358	ePKIKP	PKPbc	04 20 48.6	+1.9
WMOK	Wichita Mounta	154.80	331	ePKPbc	PKPbc	04 20 46.3	-0.3
WMOK				ePKPab	PKPab	04 21 01.4	-0.2
WMOK	Wichita Mounta	154.80	331	ePKIKP	PKPbc	04 20 46.3	-0.3
R11A	Troy Canyon, C	154.83	4	ePKPdf	PKPdf	04 20 38.3	+0.1
R11A				ePKPbc	PKPbc	04 20 48.9	+2.1
R11A				ePKPab	PKPab	04 21 02.4	+0.6
S22A	4UR Ranch, Cre	154.84	348	ePKPab	PKPab	04 21 03.2	+1.3
MTPU	Mount Pierson	155.20	358	ePKPdf	PKPdf	04 20 39.6	+0.7
MTPU				ePKPab	PKPab	04 21 04.0	+0.5
LCMT	Little Creek M	156.25	360	ePKPdf	PKPdf	04 20 41.3	+1.3
LCMT				ePKPab	PKPab	04 21 08.0	+0.2
ANMO	Albuquerque	157.43	345	PKP	PKPdf	04 20 40.0	-1.8
	comp=Z,0.2nm,0.3s,baz=131,slow=0.3,SNR=5.5						
ANMO				PKPab	PKPab	04 21 11.2	-1.8
	comp=Z,0.3nm,0.3s,baz=84,slow=1.9,SNR=7.5						
ANMO	Albuquerque	157.43	345	ePKPdf	PKPdf	04 20 42.6	+0.9
ANMO				ePKPab	PKPab	04 21 14.3	+1.2
ANMO	Albuquerque	157.43	345	ePKIKP	PKPdf	04 20 42.6	+0.9
WUAZ	Wupatki	157.67	356	ePKPab	PKPab	04 21 14.5	+0.6
LAZ	Ladron	158.12	346	ePKPdf	PKPdf	04 20 42.9	+0.3
LAZ				ePKPab	PKPab	04 21 17.2	+1.2
BNM	Barren Site	158.23	345	ePKPab	PKPab	04 21 17.7	+1.1
LENM	Lemitar	158.30	346	ePKPab	PKPab	04 21 18.4	+1.6
PFO	Pinyon Flats O	159.44	7	PKPab	PKPab	04 21 20.6	-1.0
	comp=Z,1.0nm,0.4s,baz=335,slow=1.6,SNR=3.6						
MNTX	Cornudas Mount	160.15	340	ePKPdf	PKPdf	04 20 45.3	+0.5
MNTX				ePKPab	PKPab	04 21 25.6	+0.9
TX31	Lajitas Ar. Si	161.57	332	ePKPdf	PKPdf	04 20 46.8	+0.3
TX31				ePKPab	PKPab	04 21 31.3	+0.2
TXAR	Lajitas Array	161.57	332	PKP	PKPdf	04 20 45.8	-0.8
	comp=Z,0.5nm,0.8s,baz=96,slow=5.0,SNR=5.0						
TXAR				PKPab	PKPab	04 21 30.1	-1.0
	comp=Z,0.8nm,0.9s,baz=111,slow=2.8,SNR=5.6						

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*IDC **05** 04:07:11.4±2.9, 14°.10N×93°.27W, h0^{km}, mb3.8/4, mb1 4.0/7, mb1mx3.6/49, mbtmp3.7/7, ML3.3/3, MS3.3/3, Ms1 3.3/3, ms1mx2.9/35, Error ellipse: s-maj=58.5km s-min=25.4km az=16.0*

*MEX **05** 04:07:17.2±0.9, 14°.21N×93°.20W, h23^{km}±149^{km}, MD4.0*

*NEIC **05** 04:07:17.5±0.0, 14°.25N×93°.21W, h23^{km}, mb4.0/3, MD4.1(MEX), After MEX.*

ISC 05 04:07:17.3±1.4**, 14°.2N**±0°.1×**93°.20W**±0°.06**, h37**^{km}**, n22,** σ**1s.82**/27**, mb3.8**/4**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.14	52	*i* P	Pn	04 07 34.8	-1.9
THIG				*i* S	Sn	04 07 48.0	-3.2
THIG		1.14	52	*i* P	Pn	04 07 34.8	-1.9
THIG				*i* S	Sn	04 07 48.0	-3.2
CCIG	Comitan	2.30	26	ePn	Pn	04 07 53.1	+0.3
CCIG				eSn	Sn	04 08 24.2	+4.1
CCIG	Comitan	2.30	26	eP	Pn	04 07 52.6	-0.3
CCIG				eS	Sn	04 08 19.1	-1.0
APG	El Apazote	2.77	73	Pn	Pn	04 07 58.8	-0.5
	6.7nm,0.3s,baz=328,slow=10.0,SNR=28						
APG				Sn	Sn	04 08 35.7	+4.2
	7.1nm,0.3s,baz=262,slow=11,SNR=4.5						
APG				LR	LR	04 08 54.2	
	comp=Z,79nm,18.5s,baz=125,slow=36						
CMIG	Matias Romero	3.29	331	Pn	Pn	04 08 04.9	-1.4
	3.2nm,0.3s,baz=155,slow=14,SNR=24						
CMIG				Sn	Sn	04 08 45.7	+1.4
	8.8nm,0.3s,baz=32,slow=18,SNR=6.4						
CMIG	Matias Romero	3.29	331	eP	Pn	04 08 04.7	-1.6
CMIG				eS	Sn	04 08 42.8	-1.4
TEIG	Tepich	7.61	37	ePn	Pn	04 09 05.0	-0.7
TX31	Lajitas Ar. Si	17.90	329	ePn	P	04 11 25.1	+1.3
TXAR	Lajitas Array	17.90	329	P	Pn	04 11 23.2	-0.3
	0.0nm,0.3s,baz=143,slow=12,SNR=2.5						
MIAR	Mount Ida	20.25	359	eP	P	04 11 50.6	+1.2
	6.0nm,0.9s						
MNTX	Cornudas Mount	20.68	329	eP	P	04 11 55.4	+1.3
	23nm,1.9s						
TKL	Tuckaleechee C	22.98	20	LR	LR	04 20 50.2	
	comp=Z,52nm,20.6s,baz=251,slow=35						
PD31	Pinedale Array	31.76	337	eP	P	04 13 38.7	+0.5
PDAR	Pinedale Array	31.76	337	P	P	04 13 38.7	+0.5
	0.8nm,1.1s,baz=120,slow=8.4,SNR=3.6						
NV01	Mina Array Sit	32.78	322	eP	P	04 13 47.8	+0.6
NVAR	Mina Array Bea	32.78	322	P	P	04 13 47.8	+0.6
	0.6nm,0.7s,baz=145,slow=8.6,SNR=6.2						
YKA	Yellowknife Ar	50.56	347	P	P	04 16 11.5	-0.3
	1.8nm,0.7s,baz=153,slow=7.4,SNR=22						
INK	Inuvik	59.91	344	P	P	04 17 19.1	0.0
	1.4nm,0.8s,baz=133,slow=6.7,SNR=6.8						
INK	Inuvik	59.91	344	eP	P	04 17 18.4	-0.8
	0.7nm,0.6s						
PETK	Petropavlovsk-	89.81	325	LR	LR	05 03 10.0	
	comp=Z,128nm,18.1s,baz=240,slow=37						
CMAR	Chiang Mai Arr	145.40	339	PKPbc	PKPbc	04 26 51.2	-1.0
	0.7nm,0.3s,baz=352,slow=5.7,SNR=2.9						

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*NIED **05** 04:11:00, 28°.80N×128°.60E, h5^{km}, Mw5.1 Best double couple: $M_0$4.76000×10^{16} NP1:ϕ_s107.00000°, δ32.00000°, λ-42.00000°. NP2:ϕ_s234.00000°, δ70.00000°, λ-115.00000°.*

*ISCJB **05** 04:11:48.9±0.4, 28°.76N±0°.01×128°.60E±0°.02, h18^{km}±3^{km}, mb5.2/305, MS4.7/112, Error ellipse: s-maj=2.7km s-min=2.1km az=35.1*

*JMA **05** 04:11:48.6±0.2, 28°.77N×128°.61E, h15^{km}±4^{km}, M5.1*

JMA Felt II J1.

*GCMT **05** 04:11:49.4±0.2, 28°.72N±0°.01×128°.51E±0°.02, h12^{km}, MW5.2/101, Moment Tensor Solution. s53,c81; s101,c161; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.15±.12; $M_{\theta\theta}$5.57±.11; $M_{\phi\phi}$-0.42±.12; $M_{r\theta}$3.39±.32; $M_{\theta\phi}$2.08±.11; $M_{\phi r}$2.99±.41; Best double couple: $M_0$7.30500×10^{16} NP1:ϕ_s237.00000°, δ65.00000°, λ-106.00000°. NP2:ϕ_s91.00000°, δ29.00000°, λ-59.00000°. Principal axes: T 7.6000, Plg18.0000°, Azm339.0000°; N -0.5960, Plg14.0000°, Azm244.0000°; P -7.0090, Plg66.0000°, Azm118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MOS **05** 04:11:51.3±1.0, 28°.81N×128°.62E, h43^{km}, mb5.4/76, MS4.6/32 Error ellipse: s-maj=7.0km s-min=4.5km az=100.2*

*NEIC **05** 04:11:53.4±0.3, 28°.75N×128°.58E, h42^{km}±2^{km}, mb5.4/204, MS4.8/54, Error ellipse: s-maj=2.7km s-min=1.8km az=124.0*

NEIC Recorded [2 JMA] on Amami-oshima.

*BJI **05** 04:11:53.4, 28°.75N×128°.50E, h40^{km}, mb5.0/68, mB5.3/57, ML5.3/1, Ms5.1/84, Ms7 4.9/79*

*IDC **05** 04:11:54.5±1.7, 28°.84N×128°.64E, h54^{km}±15^{km}, mb4.4/45, mb1 4.5/51, mb1mx4.5/63, mbtmp4.7/51, ML3.9/6, MS4.5/31, Ms1 4.5/31, ms1mx4.4/43, Error ellipse: s-maj=10.5km s-min=7.7km az=82.0*

ISC 05 04:11:51.7±0.6**, 28°.76N**±0°.02×**128°.65E**±0°.03**, h29**^{km}±4^{km}**, n716,** σ**1s.60**/731**, mb5.4**/321**, MS4.8**/112**, 22C-10D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	Takarajima	0.62	51	⇑P	Pb	04 12 01.1	-3.0
JTAJ				eS	Sb	04 12 09.3	-3.3
JAMN	Amaminishikomi	0.69	138	⇑P	Pb	04 12 02.4	-2.8
JAMN				eS	Sb	04 12 12.2	-2.2
JAM	Amami Oshima	0.91	112	⇑P	Pb	04 12 06.1	-2.8
JAM				eS	Sb	04 12 18.5	-2.1
JTK	Tokunoshima	1.00	165	⇑P	Pb	04 12 07.6	-2.9
JTK				eS	Sb	04 12 20.7	-2.7
JZK	Kikaishima	1.24	111	⇑P	Pn	04 12 13.2	0.0
JZK				eS	Sb	04 12 31.1	+0.9
JOKE	Okinoerabujima	1.39	183	P	Pn	04 12 13.6	-1.7
JOKE				eS	Sn	04 12 32.1	-0.6
JNN	Nakanoshima	1.52	44	⇑P	Pn	04 12 15.3	-1.7
JYRO	Yoronjima	1.74	186	P	Pn	04 12 18.5	-1.5
JYRO				eS	Sn	04 12 39.7	-1.5
JIH	Iheya	1.82	200	⇓P	Pn	04 12 19.9	-1.2
JOW	Kunigami	1.95	190	P	Pn	04 12 22.1	-0.8
	151nm,0.3s,baz=77,slow=17,SNR=75						
JOW				S	Sn	04 12 46.7	+0.3
	435nm,0.3s,baz=279,slow=28,SNR=7.8						
JOW				LR	LR	04 13 14.4	
	comp=Z,11μm,21.6s,baz=352,slow=40						
JOW	Kunigami	1.95	190	ePn	Pn	04 12 21.5	-1.4
JOW				S	Sn	04 12 46.7	+0.3
JOW	Kunigami	1.95	190	⇓P	Pn	04 12 21.5	-1.4
JOW				eS	Sn	04 12 46.2	-0.2
JKC	Kuchinoerabu	2.17	38	⇑P	Pn	04 12 24.7	-1.2
JYAK	Yakushimahirau	2.19	47	⇑P	Pn	04 12 24.9	-1.3
JNTH	Nagotoyohara	2.30	194	P	Pn	04 12 26.6	-1.1
JNTH				eS	Sn	04 12 56.0	+0.9
JAGN	Aguni-jima	2.50	210	P	Pn	04 12 29.5	-0.9
JTN	Tanegashima 3	2.77	46	⇑P	Pn	04 12 33.7	-0.5
JKE	Kume jima 2	2.94	215	P	Pn	04 12 35.9	-0.6
JMZ	Minamidaito 2	3.71	141	P	Pn	04 12 46.2	-1.0
JMZ				eS	Sn	04 13 29.6	-0.4
JHHC	Hyugahichiya	4.48	34	P	Pn	04 12 59.7	+2.0
JNU	Nakatsue	4.75	23	P	Pn	04 13 02.6	+1.2
	8.5nm,0.3s,baz=200,slow=6.3,SNR=113						
JNU				LR	LR	04 15 05.2	
	comp=Z,8μm,18.9s,baz=212,slow=41						
JNU	Nakatsue	4.75	23	ePn	Pn	04 13 03.6	+2.2
JUS	Usuki	5.05	31	P	Pn	04 13 08.0	+2.4
YOJ	Yonaguni jima	6.62	231	ePn	Pn	04 13 28.0	+0.9
YOJ	Yonaguni jima	6.62	231	eP	Pn	04 13 28.0	+0.9
TATO	Taipei	7.42	241	ePn	Pn	04 13 39.2	+1.1
TJN	Taejon	7.67	352	ceP	Pn	04 13 42.6	+1.0
YHNB	Yeheng	7.68	240	ePn	Pn	04 13 43.7	+2.0
NACB	Ninganchiao	7.80	236	ePn	Pn	04 13 43.8	+0.5
SSLB	Suanglung	8.50	236	ePn	Pn	04 13 53.0	0.0

YULB Yu-li 8.50 233 *e*Pn **Pn** **04 13 51.9 -1.1**
KS15 Wonju Array Si 8.68 356 *e*Pn **Pn** **04 13 57.5 +2.0**
KSAR Wonju Array Be 8.68 356 P **Pn** **04 13 55.8 +0.4**
KSAR S **Sn** **04 15 30.8 -1.5**
KSAR Wonju Array Be 8.68 356 P **Pn** **04 13 55.8 +0.4**
KSAR S **Sn** **04 15 30.8 -1.5**
KSRS Korea Array 8.69 356 P **Pn** **04 13 55.8 +0.3**
0.6nm,0.3s,baz=177,slow=14,SNR=39
KSRS S **Sn** **04 15 30.8 -1.8**
0.3nm,0.3s,baz=185,slow=29,SNR=2.7
KSRS LR LR 04 17 24.5
comp=Z,5μm,20.2s,baz=170,slow=38
KS01 Wonju Array Si 8.72 356 *e*Pn **Pn** **04 13 56.8 +0.9**
TPUB Ta-pu 9.03 235 *e*Pn **Pn** **04 14 00.6 +0.3**
TWG Pinlang 9.03 231 *e*Pn **Pn** **04 14 00.0 -0.2**
NJ2 Nanjing 9.08 294 *e*P **Pn** **04 14 00.8 0.0**
NJ2 pmax pmax
comp=Z,22nm,0.6s
NJ2 LR LR
comp=N,14μm,13.0s
NJ2 LR LR
comp=Z,4μm,11.4s
INU Inuyama 9.67 45 *e*Pn **Pn** **04 14 09.7 +0.7**
QZH Quanzhou 9.75 249 ⇓P Pn 04 14 15.2 +5.1
QZH S **Sn** **04 16 04.2 +5.5**
QZH LR LR
comp=N,6μm,12.6s
QZH LR LR
comp=E,2μm,8.5s
QZH LR LR
comp=Z,4μm,9.0s
JHJ Hachijo jima 2 10.50 63 P **Pn** **04 14 22.6 +2.3**
2.2nm,0.3s,baz=252,slow=19,SNR=2.0
JHJ LR LR 04 18 44.6
comp=Z,1μm,18.1s,baz=160,slow=39
MAJO Matsushiro 11.18 44 *e*Pn **Pn** **04 14 30.8 +1.2**
MAJO Matsushiro 11.18 44 *e*P **Pn** **04 14 30.8 +1.2**
MAT Matsushiro 11.18 44 P **Pn** **04 14 31.0 +1.4**
MAT *e*S **Sn** **04 16 40.4 +6.8**
MJAR Matsushiro Arr 11.18 44 P **Pn** **04 14 31.5 +1.9**
0.5nm,0.3s,baz=240,slow=15,SNR=9.0
MJAR LR LR 04 19 27.3
comp=Z,2μm,19.1s,baz=225,slow=41
MJB9 Matsu-Tunnel 11.18 44 *e*Pn **Pn** **04 14 30.6 +1.0**
DL2 Dalian 11.68 332 P **Pn** **04 14 36.9 +0.5**
DL2 *e*S **Sn** **04 16 45.7 -0.1**
DL2 pmax pmax
comp=Z,32nm,1.2s
DL2 pmax pmax
comp=Z,470nm,7.0s
DL2 LR LR
comp=N,4μm,12.2s
DL2 LR LR
comp=E,4μm,12.0s
DL2 LR LR
comp=Z,5μm,15.6s
CBIJ Chichi jima 12.08 95 P **Pn** **04 14 44.5 +2.6**
JCJ Chichijima 12.08 95 P **Pn** **04 14 44.5 +2.6**
5.8nm,0.3s,baz=287,slow=19,SNR=2.4
TIA Tai'an 12.24 310 P **Pn** **04 14 45.6 +1.5**
TIA LR LR
comp=N,2μm,15.6s
TIA LR LR
comp=E,3μm,15.2s
TIA LR LR
comp=Z,3μm,13.3s
WHN Wuhan 12.57 282 ⇑P **P** **04 15 00.1 +0.2**
WHN S Sn 04 17 21.4 +14
WHN LR LR
comp=N,30μm,16.9s
WHN LR LR
comp=E,5μm,5.1s
WHN LR LR
comp=Z,7μm,8.6s
SNY Shenyang 13.68 344 ⇓P **Pn** **04 15 06.4 +2.7**
SNY pmax pmax
comp=Z,32nm,2.5s
SNY pmax pmax
comp=Z,680nm,6.0s
SNY LR LR
comp=Z,5μm,9.2s
SNY LR LR
comp=Z,9μm,13.9s
MSHR Mys Shultsa 13.94 8 *i*P **Pn** **04 15 08.4 +1.1**
GZH Guangzhou 14.88 251 P **Pn** **04 15 17.2 -3.0**
GZH S **Sn** **04 18 04.6 +0.4**
GZH LR LR
comp=Z,3μm,10.1s
BJT Baijiatuau 15.23 321 *e*Pn **Pn** **04 15 25.4 +0.7**
comp=Z,154nm,1.1s
BJT Baijiatuau 15.23 321 *e*P **Pn** **04 15 25.4 +0.7**
BJT pmax pmax
comp=Z,154nm,1.1s
CN2 Changchun 15.23 351 *e*P **P** **04 15 27.8 -1.6**
CN2 *e*sP sP 04 15 40.0 -0.4
CN2 *e*S **Sn** **04 18 15.6 +3.1**
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,8μm,10.0s
CN2 LR LR
comp=Z,5μm,10.0s
CN2 LR LR
comp=Z,8μm,11.0s
BJI Beijing 15.24 321 ⇓*i*P **Pn** **04 15 26.1 +1.3**
BJI LR LR
comp=Z,3μm,20.1s
BJI LR LR
comp=Z,2μm,24.2s
BJI LR LR
comp=Z,2μm,31.4s
USA0B Ussuriysk Arra 15.64 9 *e*Pn **Pn** **04 15 31.3 +1.3**
comp=Z,78nm,1.1s
USRK Ussuriysk Ar. 15.64 9 P **P** **04 15 32.7 -1.3**
comp=Z,0.2nm,0.3s,baz=204,slow=15,SNR=15
USRK S **S** **04 18 34.1 -2.9**
comp=Z,0.1nm,0.3s,baz=176,slow=23,SNR=2.1
USRK LR LR 04 20 51.7
comp=Z,2μm,21.4s,baz=180,slow=34
MDJ Mudanjiang 15.85 2 P **P** **04 15 38.6 +2.4**
MDJ pP sP 04 15 47.0 -0.2
MDJ sP pP 04 15 52.5 +8.9
MDJ S **S** **04 18 36.4 -4.8**
MDJ PcP **PcP** **04 20 37.2 +6.7**
MDJ pmax pmax
comp=Z,250nm,1.4s
MDJ pmax pmax
comp=Z,2μm,5.7s
MDJ LR LR
comp=Z,2μm,16.9s
MDJ LR LR
comp=Z,4μm,12.3s
MDJ LR LR
comp=Z,4μm,13.3s
MDJ Mudanjiang 15.85 2 *e*Pn **Pn** **04 15 33.9 +1.2**
comp=Z,555nm,1.5s
TIY Taiyuan 16.23 308 *e*P **P** **04 15 43.1 +2.5**
TIY S **Sn** **04 18 39.7 +2.8**
TIY pmax pmax
comp=Z,570nm,7.2s
TIY LR LR
comp=Z,4μm,11.0s
TIY LR LR
comp=Z,5μm,12.6s
TGY Tagaytay City 16.25 208 P **P** **04 15 40.5 -0.4**
comp=Z,50nm,0.3s,baz=116,slow=1.9,SNR=11
ENH Enshi 16.75 280 *e*Pn **Pn** **04 15 44.4 0.0**
comp=Z,71nm,0.9s
TEY Ternei 17.43 19⇑ *e*P **P** **04 15 56.5 +2.8**
TEY pmax pmax
comp=N,20nm,1.8s
TEY pmax pmax
comp=Z,10.0nm,1.4s
TEY MLR MLR
comp=N,2μm,16.0s
TEY MLR MLR
comp=Z,2μm,16.0s
XAN Xi'an 17.64 292 P **P** **04 15 57.0 +0.8**
XAN pP sP 04 16 05.2 -2.0
XAN sP pP 04 16 10.2 +6.6
XAN PP **PnPn** **04 16 15.7 +10**
XAN S **S** **04 19 15.8 -2.3**
XAN pmax pmax
comp=Z,32nm,1.0s
XAN pmax pmax
comp=Z,720nm,3.8s
XAN LR LR
comp=Z,4μm,11.1s
XAN LR LR
comp=Z,3μm,11.7s
XAN LR LR
comp=Z,2μm,12.7s
ERM Erimo 17.71 38 *e*Pn **P** **04 15 56.6 -0.2**
comp=Z,98nm,0.9s
ERM Erimo 17.71 38 *i* P **P** **04 15 56.9 +0.1**
OCLP Ormoc 18.02 193 *e*P **P** **04 16 04.7 +4.2**
HHC Hu-ho-hao-te 18.47 315 *e*P **Pn** **04 16 07.8 +2.2**
HHC pP sP 04 16 16.0 -0.4
HHC S **Sn** **04 19 29.5 -1.6**
HHC sS sS 04 19 43.9 -2.6
HHC SS **SnSn** **04 19 53.7 +8.7**
HHC pmax pmax
comp=Z,41nm,1.1s
HHC pmax pmax
comp=Z,860nm,4.4s
HHC LR LR
comp=Z,2μm,11.2s
HHC LR LR
comp=Z,3μm,10.7s
HHC LR LR
comp=Z,2μm,11.8s
MSLP Maasin 18.87 192 *e*P **Pn** **04 16 10.4 -0.1**
GUIM Jordan 18.91 199 *e*P **P** **04 16 10.3 +0.1**
ASAJ Asahikawa 18.95 32 P **P** **04 16 09.3 -1.2**
comp=Z,0.6nm,0.3s,baz=212,slow=17,SNR=5.3
ASAJ LR LR 04 23 12.8
comp=Z,1μm,18.2s,baz=240,slow=36
BTO Baotou 19.31 313 *e*P **Pn** **04 16 15.6 -0.1**
BTO S **Sn** **04 19 43.5 -7.9**
GYA Guiyang 19.62 269⇑ *i*P **Pn** **04 16 19.2 -0.4**
GYA pP sP 04 16 30.0 +0.9
GYA PP **PnPn** **04 16 39.8 +6.4**
GYA S **S** **04 19 56.2 -1.9**
GYA sS sS 04 20 07.3 -2.8
GYA SS **SnSn** **04 20 20.5 +7.0**
GYA pmax pmax
comp=Z,70nm,0.9s
GYA pmax pmax
comp=Z,560nm,7.8s
GYA LR LR
comp=Z,4μm,12.8s
GYA LR LR
comp=Z,2μm,12.7s
GYA LR LR
comp=Z,2μm,12.4s
QIZ Qiongzhong 19.71 245 P **Pn** **04 16 20.5 -0.1**
QIZ S **Sn** **04 20 01.5 +0.1**
QIZ pmax pmax
comp=Z,12nm,0.2s
QIZ LR LR
comp=Z,2μm,12.0s
QIZ LR LR
comp=Z,800nm,6.9s
QIZ LR LR
comp=Z,2μm,10.1s
BUTP Butuan 19.89 189 *e*P **P** **04 16 20.6 -0.4**
KLR Kul'dur 20.58 6 P **P** **04 16 28.4 +0.2**
comp=Z,26nm,0.9s,baz=199,slow=8.1,SNR=66
KLR LR LR 04 23 58.0
comp=Z,880nm,20.3s,baz=188,slow=35
KLR Kul'dur 20.58 6⇑ *i*P **P** **04 16 28.5 +0.3**
DCPH Dipolog City 20.68 195⇑ *e*P Pn 04 16 31.7 -0.2
BUKP Musuan 21.04 190 *e*P **P** **04 16 32.2 -1.3**
YSS Yuzh-Sakhalins 21.25 27 PFAKE 04 16 50.0 +15
YSS LR LR
comp=Z,798nm,19.0s
YSS Yuzh-Sakhalins 21.25 27⇑ *e*P **P** **04 16 38.9 +3.5**
YSS *e* 04 17 03.0
YSS *e*S **S** **04 20 28.5 -1.5**
YSS *e*SS **SnSn** **04 20 48.0 -5.0**
YSS pmax pmax
comp=N,20nm,1.0s
YSS pmax pmax
comp=Z,50nm,1.0s
YSS MLR MLR
comp=Z,1μm,16.0s
YSS MLR MLR
comp=E,2μm,14.0s
GUMO Guam 21.32 132 P **P** **04 16 37.9 +1.4**
comp=E,52nm,0.6s,baz=158,slow=12,SNR=1.7
GUMO LR LR 04 23 20.0
comp=E,2μm,19.8s,baz=314,slow=32
GUMO Guam 21.32 132 *e*P **P** **04 16 37.6 +1.2**
PAGZ Pagadian 21.39 194 *e*P **P** **04 16 37.1 -0.1**
HIA Hailar 21.59 344 *e*P **P** **04 16 40.0 +0.9**
comp=E,52nm,1.2s
HIA LR LR
comp=Z,2μm,19.0s
HIA Hailar 21.59 344 *e*P **P** **04 16 40.0 +0.9**
HIA pmax pmax
comp=Z,52nm,1.2s
HIA MLR MLR
comp=Z,2μm,19.0s
CD2 Chengdu 21.69 282 P **P** **04 16 40.2 -0.2**
CD2 pP sP 04 16 50.3 -1.2
CD2 sP pP 04 16 55.6 +7.7
CD2 S **S** **04 20 38.1 -1.1**
CD2 sS Sn 04 20 55.0 +6.1
CD2 pmax pmax
comp=Z,220nm,0.9s
CD2 pmax pmax
comp=Z,520nm,4.8s
CD2 LR LR
comp=Z,10μm,13.9s
CD2 LR LR
comp=Z,7μm,13.9s
CD2 LR LR
comp=Z,4μm,13.9s
DAV Davao City (W) 21.77 188 LR LR 04 27 27.9
comp=Z,781nm,18.2s,baz=5.5,slow=43
LZH Lanzhou 22.14 296 *e*P **P** **04 16 45.9 +0.5**
LZH pP sP 04 16 54.5 -1.9
LZH sP pP 04 16 57.9 +5.0
LZH PP **PnPn** **04 17 13.0 +5.1**
LZH sS Sn 04 21 00.4 +0.6
LZH pmax pmax
comp=Z,37nm,1.2s
LZH pmax pmax
comp=Z,120nm,4.3s
LZH LR LR
comp=Z,2μm,11.2s
LZH LR LR
comp=Z,3μm,11.7s
LZH LR LR
comp=Z,3μm,13.8s
BATP Bataraza 22.33 209 *e*P **P** **04 16 48.2 +0.9**
KMI Kunming 23.37 267 P **P** **04 16 58.1 -0.2**
KMI pP sP 04 17 09.4 -0.1
KMI sP pP 04 17 14.0 +8.0
KMI PP **PnPn** **04 17 33.6 +8.8**
KMI S **S** **04 21 04.8 -4.8**
KMI sS sS 04 21 20.8 -2.1
KMI pmax pmax
comp=Z,98nm,1.2s
KMI pmax pmax
comp=Z,700nm,5.2s
KMI LR LR
comp=Z,3μm,10.8s
KMI LR LR
comp=Z,1μm,9.3s
KMI LR LR
comp=Z,1μm,10.4s
KDM Kudat 24.43 209 P **P** **04 17 10.3 +2.2**
TYV Tymovskoe 24.48 22 *e*P **P** **04 17 12.4 +4.2**
TYV pmax pmax
comp=Z,500nm,5.4s
TYV pmax pmax
comp=Z,28nm,1.3s
TYV MLR MLR
comp=Z,1μm,14.0s
ZEA Zeya 24.98 358 *e*P **P** **04 17 10.1 -2.6**
ZEA pmax pmax
comp=N,400nm,2.0s
ZEA pmax pmax
comp=N,210nm,1.8s
ZEA pmax pmax
comp=E,64nm,1.8s
ZEA pmax pmax
comp=Z,320nm,1.8s
ZEA MLR MLR
comp=Z,2μm,11.0s
ZEA MLR MLR
comp=E,1μm,8.0s
ZEA MLR MLR
comp=N,2μm,10.0s
ULN Ulaanbaatar 25.37 325 *e*P **P** **04 17 16.9 +0.3**
comp=N,147nm,1.4s
ULN LR LR
comp=Z,1μm,19.0s
ULN Ulaanbaatar 25.37 325 *ce*P **P** **04 17 17.4 +0.9**
ULN pmax pmax
comp=Z,42nm,1.3s
KKM Kota Kinabalu 25.48 210 *e*P **P** **04 17 18.4 +0.7**
comp=Z,71nm,1.4s
SKNT Sakolnakorn 25.52 248 P **P** **04 17 21.0 +3.0**
comp=Z,16nm,2.6s
SONM Songino Array 25.69 324 P **P** **04 17 20.0 +0.6**
comp=Z,15nm,0.8s,baz=133,slow=8.3,SNR=37
SONM LR LR 04 28 23.8
comp=Z,2μm,19.1s,baz=137,slow=39
SONM Songino Array 25.69 324 P **P** **04 17 20.0 +0.6**
SONA1 Songino Array 25.69 324 *e*P **P** **04 17 18.8 -0.6**
CIT Chita 25.82 338 *e*P **P** **04 17 23.2 +2.7**
CIT *e* 04 17 43.6
CIT *e* 04 18 04.6
CIT pmax pmax
comp=Z,146nm,1.5s
NKL Nikolayevsk 25.93 17 *e*P **P** **04 17 23.5 +2.2**
NKL pmax pmax
comp=Z,25nm,1.0s
NKL MLR MLR
comp=N,2μm,13.0s
NKL MLR MLR
comp=Z,4μm,13.0s
GTA Gaotai 26.04 302 *e*P **P** **04 17 22.6 -0.1**
GTA pP sP 04 17 34.0 -0.1
GTA sP pP 04 17 39.4 +8.7
GTA PcP **PcP** **04 20 50.8 +0.6**
GTA S **S** **04 21 50.0 -2.0**
GTA sS sS 04 22 07.1 +1.8
GTA SS **SnSn** **04 22 57.6 +7.0**
GTA pmax pmax
comp=Z,49nm,1.1s
GTA pmax pmax
comp=Z,490nm,8.3s
GTA LR LR
comp=Z,7μm,14.3s
GTA LR LR
comp=Z,3μm,14.6s
GTA LR LR
comp=Z,4μm,14.3s
TSM Tawau 26.40 205 P **P** **04 17 26.7 +0.8**
CHAI Chaiyaphum 27.71 248 P **P** **04 17 38.6 +0.9**
comp=Z,6.1nm,1.3s,comp=Z,188nm
PAYA Payao 27.84 257 P P 04 17 46.2 +7.3
UTTA Uttaradit 27.98 253 P **P** **04 17 43.2 +3.1**
comp=Z,2.5nm,1.1s
LAMP Lampang 28.40 255 P **P** **04 17 46.5 +2.6**
comp=Z,5.7nm,0.9s
SRAK Srakaew 28.70 245 P **P** **04 17 44.1 -2.5**
comp=Z,56nm,1.1s
CMMT Chiang Mai 28.86 257 P **P** **04 17 48.8 +0.8**
comp=Z,19nm,1.0s
CHTO Chiang Mai 28.86 257 *e*P **P** **04 17 47.5 -0.5**
comp=Z,17nm,0.9s
CHTO LR LR
comp=Z,691nm,19.0s
CHTO Chiang Mai 28.86 257 *e*P **P** **04 17 47.5 -0.5**
CHTO pmax pmax
comp=Z,17nm,0.9s
CHTO MLR MLR
comp=Z,691nm,19.0s
CHTO Chiang Mai 28.86 257 P **P** **04 17 48.9 +0.9**
comp=Z,88nm,1.0s
ZAK Zakamensk 28.89 325 *e*P **P** **04 17 47.6 -0.4**
ZAK pmax pmax
comp=Z,14nm,1.4s
CMAR Chiang Mai Arr 29.02 256 P **P** **04 17 49.6 +0.3**
comp=Z,2.1nm,0.4s,baz=53,slow=8.2,SNR=8.7
CMAR PcP **PcP** **04 20 56.8 -0.7**
comp=Z,2.3nm,0.4s,baz=34,slow=1.6,SNR=11
CMAR Chiang Mai Arr 29.02 256 *i* P **P** **04 17 49.9 +0.5**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CM01 Chiang Mai Arr 29.02 256 *e*P **P** **04 17 49.6 +0.2**
CM01 *e*PcP **PcP** **04 20 58.1 +0.6**
SIJI Sorong 29.57 175 P **P** **04 17 54.1 -0.1**
comp=Z,2.5nm,0.3s,baz=282,slow=13,SNR=3.4
SIJI LR LR 04 29 08.1
comp=Z,953nm,20.4s,baz=23,slow=35
IRK Irkutsk 29.64 329 *e*P **P** **04 17 54.7 +0.2**
IRK pmax pmax
comp=Z,130nm,2.2s
UTHA Uthaitani 29.98 250 P P 04 18 05.5 +7.6
PCI Palu 30.68 197 P **P** **04 18 04.7 +0.6**
comp=Z,80nm,1.2s
SANI Sanana 30.74 185 P **P** **04 18 03.7 -0.9**
BOD Bodaibo 30.80 345 *e*P **P** **04 18 05.1 +0.4**
BOD pmax pmax
comp=Z,17nm,1.7s
MOY Mondy 30.82 326 *e*P **P** **04 18 05.4 +0.3**
MOY pmax pmax
comp=Z,66nm,1.7s
SMKI Samarinda 31.04 203 P **P** **04 18 05.1 -2.1**
PHET Kaeng Krachan 31.26 246 P **P** **04 18 11.4 +2.2**
comp=Z,8.4nm,1.1s
KSM Kuching 32.29 216 *e*P **P** **04 18 18.9 +0.6**
comp=Z,73nm,1.0s
KSM Kuching 32.29 216 P **P** **04 18 19.6 +1.4**
PETK Petropavlovsk- 32.37 33 P **P** **04 18 17.6 -1.0**
comp=Z,5.1nm,1.0s,baz=226,slow=9.9,SNR=2.6
PETK LR LR 04 30 50.6
comp=Z,763nm,21.4s,baz=216,slow=35
LSA Lhasa 32.65 281 *e*P **P** **04 18 22.1 +0.2**
comp=Z,16nm,0.8s
LSA LR LR
comp=Z,722nm,22.0s
LSA Lhasa 32.65 281 *e*P **P** **04 18 22.1 +0.2**
LSA pmax pmax
comp=Z,16nm,0.8s
LSA MLR MLR
comp=Z,722nm,22.0s
PET Petropavlovsk 32.78 34 PFAKE 04 18 30.0 +7.9
PET LR LR
comp=Z,1μm,19.0s
PET Petropavlovsk 32.78 34 *e*P **P** **04 18 22.7 +0.6**
PET *e*S **S** **04 23 37.2 +0.1**
PET MLR MLR
comp=Z,1μm,16.0s
SHL Shillong 32.79 273 *e*P **P** **04 18 22.4 -0.4**
comp=Z,54nm,1.0s
SHL Shillong 32.79 273 *e*P **P** **04 18 22.4 -0.4**
SHL pmax pmax
comp=Z,54nm,1.0s
SHL Shillong 32.79 273 *e*P **P** **04 18 22.2 -0.6**
SHL IAmb IAmb 04 18 22.7
comp=Z,40nm,1.0s
KDI Kendari 33.04 191 P **P** **04 18 26.1 +1.3**
comp=Z,84nm,1.4s,comp=Z,2μm
YAK Yakutsk 33.28 1 *e*P **P** **04 18 28.9 +2.5**
YAK *e**PP sP 04 18 43.6 +5.6
YAK *e*PPP PPP 04 19 45.3
YAK *e*S **S** **04 23 48.1 +3.4**
YAK *e**SS sS 04 24 04.5 +6.4
YAK *e*SS **SnSn** **04 25 51.6 +5.4**
YAK *e*SSS SSS 04 26 08.0
YAK pmax pmax
comp=Z,19nm,1.1s
YAK pmax pmax
comp=N,22nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK smax smax
comp=E,68nm,2.9s
YAK smax smax
comp=N,93nm,3.7s
YAK MLR MLR
comp=Z,1μm,12.0s
YAK MLR MLR
comp=N,963nm,11.0s
KTGM Kuala Trenggan 33.58 231 P **P** **04 18 30.7 +1.2**
BRDH Bariadhala 33.80 268 P **P** **04 18 31.1 -0.3**
comp=N,40nm,0.3s,baz=78,slow=10,SNR=4.1
KBKI Kotabaru 34.06 203 P **P** **04 18 32.7 -0.9**
comp=N,48nm,1.2s
MA2 Magadan 34.31 20 P **P** **04 18 34.8 -0.6**
comp=N,8.8nm,0.8s,baz=200,slow=9.9,SNR=3.9

MA2 Magadan 34.31 20 P P 04 18 34.8 -0.6
MA2 LR LR
comp=Z,726nm,22.0s
MA2 Magadan 34.31 20 P P 04 18 34.8 -0.6
MA2 MLR MLR
comp=Z,726nm,22.0s
TRTT Trang 34.31 238 P P 04 18 37.4 +1.5
comp=Z,19nm,1.4s
KRAB Krabi 34.44 239 P P 04 18 38.5 +1.5
comp=Z,57nm,1.3s
KULM Kulim 35.33 234 *e*P P 04 18 44.8 0.0
comp=Z,90nm,1.5s
KULM Kulim 35.33 234 P P 04 18 45.8 +1.0
IPM Ipoh 35.64 233 *e*P P 04 18 47.5 +0.1
comp=Z,37nm,0.9s
IPM Ipoh 35.64 233 P P 04 18 47.9 +0.5
MYKOM Kota Tinggi 35.76 226 *e*P P 04 18 48.9 +0.5
comp=Z,64nm,1.1s
MYKOM Kota Tinggi 35.76 226 P P 04 18 49.5 +1.2
WMQ Urumqi 35.88 306 P P 04 18 50.3 +1.0
WMQ pP sP 04 19 00.6 -0.2
WMQ S S 04 24 20.2 -5.3
WMQ ScP ScP 04 25 03.7 +3.4
WMQ SS SnSn 04 26 45.9 -4.0
WMQ pmax pmax
comp=Z,120nm,1.5s
WMQ LR LR
comp=Z,6µm,19.3s
WMQ LR LR
comp=Z,4µm,13.9s
WMQ LR LR
comp=Z,3µm,16.9s
KGM Kluang 35.92 227 P P 04 18 51.0 +1.3
FRIM Kepong 36.12 230 P P 04 18 52.3 +0.8
ODAN Odare 36.42 277 *e*P P 04 18 54.1 -0.2
comp=Z,135nm,0.8s
RAMN Ramite 37.09 277 *e*P P 04 18 59.5 -0.5
JIRN Jiri 37.29 279 *e*P P 04 19 01.3 -0.6
comp=Z,173nm,1.6s
SEY Seymchan 37.50 18 P P 04 19 02.0 -0.7
comp=Z,5.8nm,0.8s,baz=278,slow=3.3,SNR=13
GUN Gumba 37.51 279 *e*P P 04 19 03.5 -0.2
comp=Z,460nm,1.8s
DGZ Jazzator, Alta 37.55 315 *i* P P 04 19 03.0 -0.5
DGZ pmax pmax
comp=Z,2.0nm,0.9s
PPBI Pangkal Pinang 37.57 219 P P 04 19 06.7 +2.9
comp=Z,12nm,0.9s
MMRI Maumere 37.69 190 *e*P P 04 19 04.6 -0.2
comp=Z,94nm,1.0s
MMRI Maumere 37.69 190 P P 04 19 05.2 +0.5
comp=Z,96nm,1.1s
EDFI Ende, Flores 37.89 191 P P 04 19 05.1 -1.5
comp=Z,41nm,1.3s
PKIN Phulchoki 38.00 279 *e*P P 04 19 07.0 -0.7
comp=Z,116nm,1.1s
KKN Kakani 38.05 279 *e*P P 04 19 07.7 -0.4
comp=Z,181nm,1.1s
LHMI Lhok Sumawe 38.07 238 *e*P P 04 19 06.8 -1.3
comp=Z,111nm,0.9s
DMN Daman 38.24 279 *e*P P 04 19 09.6 -0.2
comp=Z,186nm,1.2s
PSI Prapat 38.30 233 *e*P P 04 19 10.3 +0.2
comp=Z,20nm,0.9s
PSI Prapat 38.30 233 *e*P P 04 19 10.3 +0.2
PSI pmax pmax
comp=Z,20nm,0.9s
BOK Bokaro 38.52 273 *e*P P 04 19 11.9 +0.1
BOK IAmb IAmb 04 19 12.8
comp=Z,41nm,0.9s
SOEI Soe 38.52 187 *e*P P 04 19 09.9 -2.0
comp=Z,97nm,1.1s
SOEI Soe 38.52 187 P P 04 19 10.4 -1.5
comp=Z,92nm,1.1s
BKNI Bangkinang 38.68 228 *e*P P 04 19 13.2 0.0
comp=Z,146nm,0.9s
BKNI Bangkinang 38.68 228 P P 04 19 14.8 +1.7
comp=Z,182nm,1.0s
PLAI Plampang 38.81 197 P P 04 19 14.1 -0.1
comp=Z,263nm,1.2s,comp=Z,2µm
BATI Baumata 39.03 188 P P 04 19 14.3 -1.9
comp=Z,137nm,0.8s,baz=288,slow=0.6,SNR=29
BATI Baumata 39.03 188 P P 04 19 14.2 -1.9
comp=Z,82nm,0.9s,comp=Z,610nm
DANN Dangsing 39.26 281 *e*P P 04 19 18.3 0.0
comp=Z,213nm,1.3s
MNSI Mandailing Nat 39.29 230 P P 04 19 18.4 +0.1
comp=Z,55nm,1.0s
KOLN Koldanda 39.51 280 *e*P P 04 19 20.1 -0.2
comp=Z,136nm,1.3s
NGJI Ngawi 39.56 207 P P 04 19 23.9 +3.4
comp=Z,69nm,2.5s
PYUN Piuthan 39.97 280 *e*P P 04 19 24.1 -0.1
comp=Z,199nm,1.2s
PDSI Padang 39.99 227 P P 04 19 26.7 +2.6
comp=Z,15nm,0.5s
PWJI Pagerwojo 40.02 207 P P 04 19 25.0 +0.7
comp=Z,90nm,1.0s
MKAR Makanchi Array 40.17 310 P P 04 19 25.0 -0.4
comp=Z,5.8nm,0.8s,baz=96,slow=11,SNR=47
MKAR PcP PcP 04 21 28.3 -1.0
comp=Z,3.7nm,0.9s,baz=96,slow=5.8,SNR=4.7
MKAR Makanchi Array 40.17 310 *i* P P 04 19 25.5 +0.1
MKAR pmax pmax
comp=Z,6.0nm,0.8s
WOJI Wonogiri, Jawa 40.20 208 P P 04 19 27.2 +1.4
comp=Z,87nm,1.5s
GSI Gunungsitoli 40.30 233 *e*P P 04 19 26.7 -0.1
comp=Z,65nm,1.2s
GSI Gunungsitoli 40.30 233 P P 04 19 29.0 +2.3
comp=Z,44nm,1.0s
MAKZ Makanchi 40.39 310 *e*P P 04 19 27.0 -0.1
comp=Z,72nm,1.5s
MAKZ Makanchi 40.39 310 *e*P P 04 19 27.0 -0.1
MAKZ pmax pmax
comp=Z,72nm,1.5s
ZAA0 Zalesovo Array 40.50 321 *e*P P 04 19 27.5 -0.4
comp=Z,36nm,1.1s
ZALV Zalesovo Beam 40.50 321 P P 04 19 27.4 -0.5
comp=Z,20nm,1.0s,baz=109,slow=7.6,SNR=45
ZALV PcP PcP 04 21 28.8 -1.2
comp=Z,6.2nm,1.0s,baz=108,slow=3.4,SNR=4.3
KLI Kotabumi 40.52 218 P P 04 19 29.8 +1.4
comp=Z,91nm,1.0s
MDSI Maura Dua 40.58 219 P P 04 19 30.0 +1.0
comp=Z,73nm,1.0s
MASI Maura Aman, Be 40.61 223 P P 04 19 31.1 +1.8
comp=Z,267nm,0.9s,comp=Z,5µm
LEM Lembang 40.78 213 P P 04 19 32.3 +1.5
comp=Z,119nm,0.8s,baz=46,slow=4.0,SNR=14
CBJI Citeko 40.80 214 P P 04 19 33.9 +3.1
SBJI Serang 40.91 216 P P 04 19 33.5 +1.9
comp=Z,307nm,1.1s
KASI Kota Agung 41.26 218 P P 04 19 36.5 +1.9
comp=Z,60nm,1.1s
CISI Cisompet, Garu 41.32 212 P P 04 19 44.4 +9.3
NVS Novosibirsk 41.67 322⇓*i*P P 04 19 38.3 +0.8
NVS *i* 04 21 22.7
NVS *e*S S 04 25 55.9 +3.6
NVS pmax pmax
comp=Z,33nm,1.4s
NVS smax smax
comp=N,11nm,1.9s
NVS smax smax
comp=E,13nm,1.9s
SHLS Shalkode 41.74 304 *e*P P 04 19 33.9 -4.6
SHLS pmax pmax
comp=Z,178nm,1.6s
SHLS MLR MLR
comp=Z,417nm,15.0s
SHLS Shalkode 41.74 304 *e*P P 04 19 34.0 -4.6
comp=Z,178nm,1.6s
SHLS *e*LRM MLR 04 38 34.7
comp=Z,417nm,14.8s
PMG Port Moresby 41.94 152 P P 04 19 40.4 +0.3
comp=Z,31nm,0.9s,baz=355,slow=7.7,SNR=9.8
PMG Port Moresby 41.94 152 *e*P P 04 19 40.4 +0.3
comp=Z,43nm,0.9s
PMG LR LR
comp=Z,1µm,20.0s
PMG Port Moresby 41.94 152 *e*P P 04 19 40.4 +0.3
PMG pmax pmax
comp=Z,43nm,0.9s
PMG MLR MLR
comp=Z,1µm,20.0s
UZB Uzynbulak 42.07 304*de*P P 04 19 38.9 -2.2
UZB pmax pmax
comp=Z,151nm,1.8s
UZB MLR MLR
comp=Z,326nm,15.0s
UZB Uzynbulak 42.07 304⇓*e*P P 04 19 39.0 -2.2
comp=Z,151nm,1.8s
UZB *e*LRM MLR 04 38 60.0
comp=Z,326nm,14.9s
SEM Semipalatinsk 42.20 315 *e*P P 04 19 39.3 -2.9
SEM pmax pmax
comp=Z,266nm,1.1s
SEM MLR MLR
comp=Z,1µm,16.0s
SEM Semipalatinsk 42.20 315 *e*P P 04 19 39.4 -2.9
comp=Z,266nm,1.1s
SEM *e*LRM MLR 04 38 27.5
comp=Z,1µm,16.3s
KPKS Kokpek 42.33 304 *e*P P 04 19 40.5 -2.7
KPKS pmax pmax
comp=Z,234nm,1.5s
KPKS MLR MLR
comp=Z,608nm,12.0s
KPKS Kokpek 42.33 304 *e*P P 04 19 40.5 -2.7
comp=Z,234nm,1.5s
KPKS *e*LRM MLR 04 37 45.6
comp=Z,608nm,12.4s
ZHN Zhinishke 42.50 304 *e*P P 04 19 42.3 -2.3
ZHN pmax pmax
comp=Z,88nm,1.5s
ZHN MLR MLR
comp=Z,302nm,12.0s
ZHN Zhinishke 42.50 304 *e*P P 04 19 42.3 -2.3
comp=Z,88nm,1.5s
ZHN *e*LRM MLR 04 39 27.9
comp=Z,302nm,12.3s
TIXI Tiksi 42.94 0 P P 04 19 46.0 -1.6
comp=Z,2.1nm,0.6s,baz=168,slow=5.6,SNR=5.5
TIXI LR LR 04 38 05.3
comp=Z,1µm,19.3s,baz=220,slow=37
TIXI Tiksi 42.94 0*ce*P P 04 19 49.9 +2.3
TIXI pmax pmax
comp=Z,26nm,2.5s
KURK Kurchatov 43.28 315 *e*P P 04 19 50.3 -0.4
KURK PcP PcP 04 21 37.7 -1.6
KURK LR LR
comp=Z,3µm,20.0s
KURK Kurchatov 43.28 315 *e*P P 04 19 50.3 -0.4
KURK 04 21 37.7
KURK MLR MLR
comp=Z,3µm,20.0s
KURBB Kurchatov Arra 43.32 315 P P 04 19 50.5 -0.4
comp=Z,17nm,0.9s,baz=102,slow=8.5,SNR=51
KURBB PcP PcP 04 21 37.7 -1.7
comp=Z,4.9nm,1.0s,baz=101,slow=4.1,SNR=5.7
MDOK Medeo 43.51 304 *e*P P 04 19 50.2 -2.7
MDOK pmax pmax
comp=Z,75nm,1.9s
MDOK MLR MLR
comp=Z,587nm,16.0s
MDOK Medeo 43.51 304 *e*P P 04 19 50.2 -2.7
comp=Z,75nm,1.9s
MDOK *e*LRM MLR 04 39 59.8
comp=Z,587nm,16.3s
DDI Dehra Dun 43.75 285 *e*P P 04 19 54.9 +0.1
DDI IAmb IAmb 04 19 55.8
comp=Z,72nm,1.1s
KUU Kurty 44.05 305 *e*P P 04 19 55.4 -1.6
KUU pmax pmax
comp=Z,136nm,1.6s
KUU MLR MLR
comp=Z,276nm,14.0s
KUU Kurty 44.05 305 *e*P P 04 19 55.4 -1.6
comp=Z,136nm,1.6s
KUU *e*LRM MLR 04 39 53.4
comp=Z,276nm,13.8s
NRN Naryn 44.27 301 *e*P P 04 19 59.2 0.0
comp=Z,60nm,1.6s
NRN Naryn 44.27 301 *e*P P 04 19 59.2 0.0
NRN pmax pmax
comp=Z,60nm,1.6s
KSH Kashi 44.35 298 P P 04 20 02.1 +2.5
KSH sP sP 04 20 18.7 +7.4
KSH PcS PcS 04 25 38.6 +1.9
KSH S S 04 26 31.3 -1.0
KSH sS sS 04 26 53.5 +7.6
KSH pmax pmax
comp=Z,48nm,1.3s
KSH pmax pmax
comp=Z,640nm,5.4s
KSH LR LR
comp=Z,580nm,6.0s
KSH LR LR
comp=Z,680nm,8.0s
KSH LR LR
comp=Z,530nm,9.6s
SMLA Simla 44.35 286 *e*P P 04 19 58.5 -1.0
SMLA IAmb IAmb 04 20 00.2
comp=Z,182nm,1.8s
TKM2 Tokmak 2 44.57 303 P P 04 20 02.2 +0.8
SNR=20
COEN Coen 44.73 160 *e*P P 04 20 02.6 0.0
comp=Z,28nm,1.1s
KZA Kyzart 44.83 302 P P 04 20 04.9 +1.1
SNR=7.3
DHRM DHARAMSHALA 44.88 288 *e*P P 04 20 02.8 -1.2
XMIS Christmas Isla 44.90 213 *e*P P 04 20 02.5 -1.5
comp=Z,398nm,1.9s
KBK Karagaybulak 45.05 303 P P 04 20 06.3 +1.1
SNR=6.8
BILL Bilibino 45.16 19 PFAKE 04 20 20.0 +14
BILL LR LR
comp=Z,883nm,20.0s
BILL Bilibino 45.16 19 *e*P P 04 20 05.0 -0.5
BILL *e* 04 21 44.1
BILL *e* 04 21 48.8
BILL *e*PPP PPP 04 22 31.9
BILL pmax pmax
comp=Z,83nm,2.5s
BILL MLR MLR
comp=Z,837nm,19.0s
CHMS Chumysh 45.19 303 P P 04 20 07.0 +0.8
SNR=9.0
FRU Bishkek 45.29 303 *e*P P 04 20 08.0 +1.1
FRU pmax pmax
comp=Z,80nm,2.0s
NGP Nagpur 45.34 272 *e*P P 04 20 06.7 -0.9
NGP IAmb IAmb 04 20 11.8
comp=Z,23µm,12.1s
UCH Uchtor 45.37 302 P P 04 20 08.9 +0.8
SNR=18
USP Ospenovka 45.37 304 P P 04 20 07.8 +0.2
SNR=7.4
AAK Ala-Archa 45.38 303 P P 04 20 07.1 -0.8
comp=Z,4.6nm,0.9s,baz=38,slow=1.9,SNR=7.9
AAK Ala-Archa 45.38 303 P P 04 20 08.6 +0.7
SNR=5.5
AAK Ala-Archa 45.38 303 *e*P P 04 20 07.8 -0.1
comp=Z,62nm,1.9s
AAK LR LR
comp=Z,1µm,20.0s
AAK Ala-Archa 45.38 303*ce*P P 04 20 07.7 -0.1
AAK pmax pmax
comp=Z,24nm,1.7s
AML Almayashu 45.98 302 P P 04 20 14.2 +1.3
SNR=6.8
BHPL Bhopal 46.09 275 *e*P P 04 20 12.5 -1.0
BHPL IAmb IAmb 04 20 14.0
comp=Z,31nm,0.1s
FITZ Fitzroy Crossi 46.67 184 P P 04 20 18.2 +0.3
comp=Z,38nm,0.9s,baz=8.5,slow=7.9,SNR=55
FITZ Fitzroy Crossi 46.67 184 *e*P P 04 20 17.7 -0.2
comp=Z,56nm,1.0s
BRZS Berezniki 46.95 313 *e*P P 04 20 18.2 -1.6
BRZS pmax pmax
comp=Z,227nm,1.2s
BRZS MLR MLR
comp=Z,289nm,10.0s
BRZS Berezniki 46.95 313 *e*P P 04 20 18.2 -1.6
comp=Z,227nm,1.2s
BRZS *e*LRM MLR 04 40 55.8
comp=Z,289nm,9.8s
HYB Hyderabad 47.15 268 *i* P P 04 20 22.0 +0.1
HYB Hyderabad 47.15 268 *e*P P 04 20 21.5 -0.4
NIL Nilore 47.17 291 *e*P P 04 20 21.6 -0.2
NIL LR LR
comp=Z,416nm,21.0s
NIL Nilore 47.17 291 *e*P P 04 20 21.6 -0.2
NIL MLR MLR
comp=Z,416nm,21.0s
MDRS Chennai 47.51 261 *e*P P 04 20 24.2 -0.4
MDRS IAmb IAmb 04 20 25.5
comp=Z,13nm,0.3s
KKAR Karatay Array 48.29 304 *e*P P 04 20 30.4 0.0
KKAR Karatay Array 48.29 304 *e*P P 04 20 30.4 0.0
LATR Latur 48.51 270 *e*P P 04 20 31.1 -1.3
BVAR Borovoye Array 48.67 317 LR LR 04 42 45.9
comp=Z,2µm,19.7s,baz=98,slow=38
IUG Iuzhnay 48.70 302 *e*P P 04 20 29.0 -4.7
IUG pmax pmax
comp=Z,37nm,1.5s
IUG MLR MLR
comp=Z,268nm,15.0s
IUG Iuzhnay 48.70 302 *e*P P 04 20 29.0 -4.7
comp=Z,37nm,1.5s
IUG *e*LRM MLR 04 43 07.7
comp=Z,268nm,14.8s
WRAB Tennant Creek 48.72 173 *e*P P 04 20 33.7 -0.1
comp=Z,49nm,0.9s
WRAB LR LR
comp=Z,385nm,19.0s
WRAB Tennant Creek 48.72 173*ce*P P 04 20 32.6 -1.2
WRAB pmax pmax
comp=Z,72nm,1.3s
WRA Warramunga Arr 48.73 173 P P 04 20 33.6 -0.3
comp=Z,33nm,0.9s,baz=350,slow=8.3,SNR=86
WRA PcP PcP 04 21 58.7 0.0
comp=Z,1.3nm,0.8s,baz=350,slow=4.1,SNR=2.7
WRA LR LR 04 39 50.8
comp=Z,306nm,21.7s,baz=280,slow=34
WRA Warramunga Arr 48.73 173 *i* P P 04 20 33.5 -0.3
WRA pmax pmax
comp=Z,35nm,0.9s
WB2 Warramunga Arr 48.73 173 *e*P P 04 20 32.6 -1.2
BRVK Borovoye 48.73 317 *e*P P 04 20 33.6 0.0
comp=Z,53nm,0.9s
BRVK LR LR
comp=Z,1µm,20.0s
BRVK Borovoye 48.73 317 *i* P P 04 20 33.3 -0.3
BRVK pmax pmax
comp=Z,57nm,0.9s
PALK Pallekele 49.94 254 LR LR 04 46 08.1
comp=Z,166nm,18.0s,baz=138,slow=41
MBWA Marble Bar 50.37 191 *e*P P 04 20 46.3 -0.1
KBL Kabul 50.45 293 *e*P P 04 20 47.1 -0.1
comp=Z,50nm,1.4s
KBL Kabul 50.45 293 *e*P P 04 20 47.1 -0.1
KBL pmax pmax
comp=Z,50nm,1.4s
POO Poona 50.85 271 *e*P P 04 20 49.0 -1.3
POO IAmb IAmb 04 20 50.4
comp=Z,17nm,0.5s
POO Poona 50.85 271 *e*P P 04 20 48.0 -2.2
GAMB Gambell 51.25 29 *e*P P 04 20 54.1 +1.7
comp=Z,102nm,1.9s
CTA Charters Tower 51.45 159 P P 04 20 54.6 +0.1
comp=Z,17nm,0.9s,baz=342,slow=10,SNR=9.7
CTAO Charters Tower 51.45 159 *e*P P 04 20 55.3 +0.8
CTAO LR LR
comp=Z,1µm,19.0s
CTAO Charters Tower 51.45 159 *e*P P 04 20 55.3 +0.8
CTAO MLR MLR
comp=Z,1µm,19.0s
GOA Goa 52.07 268 *e*P P 04 21 00.1 +0.8
GOA IAmb IAmb 04 21 00.6
comp=Z,217nm,0.1s
AS31 Alice Springs 52.37 174 *e*P P 04 21 01.8 +0.5
comp=Z,4.8nm,1.1s
ASAR Alice Springs 52.37 174 P P 04 21 01.4 +0.1
comp=Z,9.7nm,0.9s,baz=353,slow=9.3,SNR=35
ASAR PcP PcP 04 22 11.7 -0.4
comp=Z,1.5nm,0.7s,baz=348,slow=4.4,SNR=2.0
AS01 Alice Springs 52.37 174 *e*P P 04 21 01.3 0.0
TRD Trivandrum 52.51 258 *e*P P 04 21 01.9 -0.7
BHJ Bhuj 52.86 279 *e*P P 04 21 04.1 -1.0
ANM Nome 54.12 29 *e*P P 04 21 13.8 0.0
comp=Z,56nm,1.5s
ANM Nome 54.12 29 *e*P P 04 21 13.8 0.0
ANM pmax pmax
comp=Z,56nm,1.5s
SVE Sverdlovsk 54.51 321⇓*e*P P 04 21 16.4 -0.3
SVE pmax pmax
comp=Z,45nm,1.5s
SVE MLR MLR
comp=Z,1µm,15.0s
ABKAR Akbulak array 55.22 312 *e*P P 04 21 21.4 -0.6
RDOG Red Dog Mine 55.61 25 *e*P P 04 21 25.5 +1.0
comp=Z,40nm,1.5s
ARU Arti 55.66 321 *e*P P 04 21 23.9 -1.1
comp=Z,40nm,1.2s
ARU LR LR
comp=Z,770nm,21.0s
ARU Arti 55.66 321*d i*P P 04 21 23.6 -1.4
ARU 04 22 22.9
ARU 04 23 27.8
ARU S S 04 29 09.3 +0.1
ARU SS SS 04 32 51.9 -2.3
ARU pmax pmax
comp=Z,21nm,1.0s
ARU MLR MLR
comp=Z,1µm,16.0s
EIDS Eidsvold 57.98 156 *e*P P 04 21 42.1 +0.3
comp=Z,25nm,1.1s
GEYT Alibeck 58.38 299 P P 04 21 45.7 +1.0
comp=Z,15nm,0.6s,baz=64,slow=3.4,SNR=11
GYA0B ALIBECK ARRAY 58.38 299 *e*P P 04 21 44.8 +0.1
comp=Z,16nm,0.9s
SVW2 Sparrevohn 58.45 34 *e*P P 04 21 44.8 +0.1
comp=Z,38nm,1.4s
MORW Morawa 58.75 193 *e*P P 04 21 46.6 -0.5
comp=Z,66nm,1.3s
IM3 Indian Mountai 59.08 28 *e*P P 04 21 49.1 +0.1
FORT Forrest 59.21 181 *e*P P 04 21 50.0 -0.2
comp=Z,91nm,1.4s
RSO Redoubt South 59.88 34 *e*P P 04 21 55.7 +0.8
PPLA Purkeypile 59.93 31 *e*P P 04 21 56.6 +1.5
comp=Z,105nm,1.4s
CAST Castle Rocks 59.93 31 *e*P P 04 21 55.5 +0.6
comp=Z,43nm,1.2s
OHAK Old Harbor 59.97 38 *e*P P 04 21 55.7 +0.4
comp=Z,204nm,1.8s
SPU Mount Spurr 60.15 33 *e*P P 04 21 56.5 0.0
KDAK Kodiak Island 60.28 37 P P 04 21 56.9 -0.4
comp=Z,43nm,1.1s,baz=360,slow=4.9,SNR=5.6
KDAK Kodiak Island 60.28 37 *e*P P 04 21 57.5 +0.1
comp=Z,144nm,1.4s
KDAK LR LR
comp=Z,182nm,21.0s
KDAK Kodiak Island 60.28 37 *i* P P 04 21 57.4 +0.1
SKT Skwentna 60.32 32 *e*P P 04 21 58.0 +0.4
BPAW Bear Paw Mtn. 60.36 30 *e*P P 04 21 58.3 +0.4
comp=Z,38nm,1.4s
MLY Manley 60.38 29 *e*P P 04 21 59.0 +1.0
comp=Z,40nm,1.5s
COLD Coldfoot 60.43 26 *e*P P 04 22 00.0 +1.7
comp=Z,34nm,1.7s
SUA Susitna One 60.75 33 *e*P P 04 22 00.8 +0.2
comp=Z,42nm,0.8s
BRLK Bradley Lake 60.89 35 *e*P P 04 22 02.6 +1.1
comp=Z,31nm,0.9s
FUNA Funafuti 61.22 119 PFAKE 04 22 20.0 +16
FUNA LR LR
comp=Z,4µm,19.0s
RC01 Rabbit Creek A 61.28 33 *e*P P 04 22 05.3 +1.2
comp=Z,48nm,1.2s
MCK McKinley 61.30 30 *e*P P 04 22 04.4 +0.1
comp=Z,35nm,1.0s
MCK McKinley 61.30 30 *e*P P 04 22 04.4 +0.1
MCK pmax pmax
comp=Z,35nm,1.0s
RND Reindeer 61.38 31 *e*P P 04 22 04.8 -0.1
comp=Z,94nm,1.4s
MDM Murphy Dome 61.45 29 *e*P P 04 22 05.7 +0.5
comp=Z,108nm,1.4s
PMR Palmer 61.49 33 *e*P P 04 22 04.5 -1.0
comp=Z,80nm,1.5s
PMR Palmer 61.49 33 *e*P P 04 22 04.5 -1.0
PMR pmax pmax
comp=Z,80nm,1.5s
STKA Stephens Creek 61.55 167 P P 04 22 06.3 +0.2
comp=Z,10.0nm,1.0s,baz=1.6,slow=7.7,SNR=12
STKA Stephens Creek 61.55 167 *e*P P 04 22 05.9 -0.3
comp=Z,4.7nm,1.2s
SEW Seward 61.56 34 *e*P P 04 22 05.9 -0.1
comp=Z,71nm,1.0s

GHO **Glory Hole Cre** 61.57 32 *e*P P 04 22 06.7 +0.5
comp=Z,25nm,1.0s
WRH **Wood River Hil** 61.57 29 *e*P P 04 22 07.0 +0.9
comp=Z,60nm,1.5s
TCOL **CIGO, UAF Yank** 61.62 29 P P 04 22 07.1 +0.8
baz=278
COLA **College** 61.62 29 *e*P P 04 22 06.4 +0.1
comp=Z,142nm,1.9s
COLA LR LR
comp=Z,320nm,19.0s
COLA **College** 61.62 29 *e*P P 04 22 06.4 +0.1
COLA pmax pmax
comp=Z,142nm,1.9s
COLA MLR MLR
comp=Z,320nm,19.0s
BBOO **Buckleboo** 61.63 173 *e*P P 04 22 06.6 -0.2
comp=Z,26nm,1.1s
POKR **Poker Plat Res** 61.77 29 P P 04 22 07.9 +0.5
baz=278
SML **Sawmill** 61.84 32 *e*P P 04 22 08.1 +0.2
comp=Z,47nm,1.2s
SML **Sawmill** 61.84 32 P P 04 22 08.1 +0.2
SML pmax pmax
comp=Z,47nm,1.1s
PRGR **Permogore** 61.87 327 *e*P P 04 22 06.7 -1.4
PRGR pmax pmax
comp=Z,14nm,1.1s
IL1 **Eielson Array** 62.05 29 *e*P P 04 22 10.2 +0.9
ILAR **Eielson Array** 62.05 29 P P 04 22 08.0 -1.2
comp=Z,3.5nm,0.9s,baz=270,slow=4.8,SNR=21
ILAR PKP2bc 04 51 25.4
comp=Z,1.1nm,1.1s,baz=85,slow=1.2,SNR=5.2
ILAR LR LR 04 51 31.6
comp=Z,227nm,18.1s,baz=294,slow=38
ILB **Eielson Array** 62.05 29 *e*P P 04 22 08.5 -0.8
HDA **Harding Lake** 62.07 29 *e*P P 04 22 08.9 -0.6
comp=Z,28nm,0.9s
HDA **Harding Lake** 62.07 29 P P 04 22 08.4 -1.0
baz=279
DHY **Denali Highway** 62.09 31 *e*P P 04 22 09.6 -0.1
comp=Z,19nm,1.2s
NWAO **Narrogin (SRO)** 62.30 191 LR LR 04 48 27.2
comp=Z,154nm,20.4s,baz=262,slow=35
NWAO **Narrogin (SRO)** 62.30 191 *e*P P 04 22 11.0 -0.2
NWAO **Narrogin (SRO)** 62.30 191 *e*P P 04 22 11.0 -0.2
DZM **Mont Dzumac** 62.30 140 P P 04 22 11.9 +0.3
comp=Z,27nm,1.1s,baz=287,slow=7.5,SNR=3.1
DZM **Mont Dzumac** 62.30 140 *e*S S 04 30 39.4 +3.2
comp=Z,386nm,26.9s
DZM **Mont Dzumac** 62.30 140 *e*LR LR 04 40 47.8
comp=Z,901nm,22.7s
SCM **Sheep Creek Mo** 62.31 32 *e*P P 04 22 11.5 +0.4
comp=Z,56nm,1.2s
SCM **Sheep Creek Mo** 62.31 32 *e*P P 04 22 11.5 +0.4
SCM pmax pmax
comp=Z,56nm,1.2s
WSAR **Wadi Sarin** 62.37 283 LR LR 04 51 27.4
comp=Z,91nm,18.4s,baz=110,slow=38
FYU **Fort Yukon** 62.45 27 *e*P P 04 22 13.3 +1.4
comp=Z,105nm,1.4s
ARMA **Armidale** 62.80 158 *e*P P 04 22 15.6 +0.9
comp=Z,53nm,1.4s
PAX **Paxson** 62.96 31 *e*P P 04 22 16.4 +0.9
comp=Z,106nm,2.0s
PAX **Paxson** 62.96 31 *e*P P 04 22 16.4 +0.9
PAX pmax pmax
comp=Z,106nm,2.0s
KLU **Klutina** 63.03 32 *e*P P 04 22 15.8 -0.2
comp=Z,37nm,1.3s
RIDG **Independ'e Rid** 63.10 30 *e*P P 04 22 16.8 +0.5
comp=Z,119nm,1.7s
DIV **Divide** 63.17 33 *e*P P 04 22 17.5 +0.7
comp=Z,33nm,1.0s
HARP **HAARP** 63.21 31 *e*P P 04 22 17.9 +0.9
comp=Z,130nm,1.6s
SCRK **Sand Creek** 63.42 30 *e*P P 04 22 18.1 -0.5
comp=Z,68nm,1.4s
DOT **Dot Lake** 63.45 30 *e*P P 04 22 18.3 -0.4
comp=Z,71nm,1.6s
RAGM **Ragged Mountai** 63.85 34 *e*P P 04 22 21.3 0.0
comp=Z,108nm,1.2s
MAK **Makhachkala** 64.90 307 *e*P P 04 22 25.9 -2.5
MAK *e*S S 04 31 05.4 -2.6
MAK *e*SS SS 04 35 17.7 -1.8
MAK pmax pmax
comp=Z,102nm,1.1s
KLMR **Klimovskoe** 64.92 327 *e*P P 04 22 26.1 -2.2
KLMR *e* 04 24 49.7
KLMR pmax pmax
comp=Z,19nm,1.5s
KLMR **Klimovskoe** 64.92 327 *e*P P 04 22 26.1 -2.2
KLMR AMP 04 22 32.7
comp=Z,19nm,1.4s
KLMR *e*PP PP 04 24 49.7 -1.2
LVZ **Lovozero** 65.17 335 PFAKE 04 22 40.0 +10
LVZ LR LR
comp=Z,468nm,19.0s
DAWY **Dawson** 65.37 29 *e*P P 04 22 31.7 +0.4
comp=Z,26nm,1.3s
APA **Apatity** 65.72 335⇑ *i*P P 04 22 36.1 +2.7
APA pmax pmax
comp=Z,8.0nm,1.0s
EPYK **Eagle Plains** 65.83 26 P P 04 22 34.0 -0.1
baz=286
VRH **Novokhopyorsk** 66.32 317 *e*P P 04 22 36.8 -0.7
VRH pmax pmax
comp=Z,6.0nm,0.7s
VRH MLR MLR
comp=Z,980nm,22.0s
INK **Inuvik** 66.43 24 P P 04 22 37.6 -0.2
comp=Z,20nm,1.2s,baz=292,slow=8.1,SNR=9.7
INK **Inuvik** 66.43 24 *e*P P 04 22 37.9 0.0
comp=Z,44nm,1.4s
INK **Inuvik** 66.43 24 *e*P P 04 22 37.9 0.0
INK pmax pmax
comp=Z,44nm,1.4s
SPITS **Spitsbergen Ar** 66.44 348 P P 04 22 38.1 +0.3
comp=Z,16nm,1.2s,baz=62,slow=15,SNR=2.7
KBS **Kingsbay** 66.84 349 PFAKE 04 22 50.0 +10
KBS LR LR
comp=Z,756nm,19.0s
HYT **Haines Junctio** 67.14 32 *e*P P 04 22 43.4 +0.7
comp=Z,91nm,1.9s
KEV **Kevo** 67.23 338 PFAKE 04 23 00.0 +17
KEV LR LR
comp=Z,1μm,22.0s
ZEI **Tsey** 67.48 307 *e*P P 04 22 43.2 -2.1
ZEI pmax pmax
comp=Z,10.0nm,1.0s
LPSR **Galich'ya Gora** 67.55 319 *e*P P 04 22 44.3 -1.0
LPSR pmax pmax
comp=Z,7.0nm,0.9s
GNI **Garni** 67.74 305 *e*P P 04 22 47.1 +0.2
GNI LR LR
comp=Z,519nm,19.0s
ARCES **ARCESS Array B** 67.80 338 LR LR 04 56 39.3
comp=Z,26nm,18.4s,baz=82,slow=40
TOO **Toolangi** 67.84 166 *e*P P 04 22 47.6 +0.4
comp=Z,30nm,1.1s
TOO **Toolangi** 67.84 166 P P 04 22 48.8 +1.6
TOO pmax pmax
comp=Z,30nm,1.1s
VSR **Storozhevoye** 67.85 317 *e*P P 04 22 45.8 -1.4
VSR pmax pmax
comp=Z,5.0nm,0.4s
VSR MLR MLR
comp=Z,2μm,24.0s
KBZ **Khabaz** 67.86 309 P P 04 22 45.8 -1.6
comp=Z,8.5nm,0.9s,baz=95,slow=1.8,SNR=13
KBZ LR LR 04 55 17.7
comp=Z,529nm,19.4s,baz=64,slow=38
KIV **Kislovodsk** 67.94 309 *e*P P 04 22 47.4 -0.6
comp=Z,47nm,1.4s
KIV LR LR
comp=Z,594nm,19.0s
KIV **Kislovodsk** 67.94 309 *e*P P 04 22 46.9 -1.1
KIV *e* 04 23 12.1
KIV *e* 04 25 16.7
KIV *e*PPP PPP 04 26 54.9
KIV pmax pmax
comp=Z,26nm,1.3s
KIV MLR MLR
comp=Z,522nm,19.0s
OBN **Obninsk** 68.07 322 PFAKE 04 23 00.0 +11
OBN LR LR
comp=Z,791nm,19.0s
OBN **Obninsk** 68.07 322 *e*P P 04 22 48.4 -0.1
OBN *e* 04 23 11.5
OBN *e* 04 25 27.5
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,1μm,18.0s
AKH **Akhalkalaki** 68.22 306 *e*P P 04 22 50.8 +0.9
comp=Z,14nm,1.2s
AKH **Akhalkalaki** 68.22 306 *e*P P 04 22 50.8 +0.9
AKH pmax pmax
comp=Z,14nm,1.2s
WHY **Whitehorse** 68.42 32 *e*P P 04 22 51.4 +0.7
comp=Z,148nm,1.9s
SKAG **Skagway** 68.62 33 *e*P P 04 22 52.4 +0.5
comp=Z,72nm,1.6s
JIS **Juneau Island** 69.50 34 *e*P P 04 22 58.4 +1.0
comp=Z,68nm,1.4s
FINES **FINESS Array B** 70.86 330 P P 04 23 04.1 -1.5
comp=Z,3.0nm,0.8s,baz=82,slow=5.7,SNR=12
FINES LR LR 04 58 02.9
comp=Z,997nm,18.2s,baz=69,slow=39
FINES **FINESS Array B** 70.86 330 *i*P P 04 23 04.0 -1.6
FINES pmax pmax
comp=Z,3.0nm,0.8s
ANN **Anapa** 71.17 311 *e*P P 04 23 04.0 -3.8
ANN *e**PP pP 04 23 14.6 -1.9
ANN *e*S S 04 32 17.7 -5.1
ANN pmax pmax
comp=Z,149nm,1.0s
ANN MLR MLR
comp=N,841nm,20.0s
ANN MLR MLR
comp=E,99nm,20.0s
ANN MLR MLR
comp=Z,952nm,20.0s
DLBC **Dease Lake** 71.55 33 *e*P P 04 23 10.7 +0.7
comp=Z,41nm,1.5s
RES **Resolute Bay** 73.00 11 P P 04 23 17.6 -0.6
comp=Z,111nm,0.8s,baz=310,slow=5.7,SNR=24
RES **Resolute Bay** 73.00 11 *e*P P 04 23 18.5 +0.3
comp=Z,99nm,1.9s
RES **Resolute Bay** 73.00 11 *e*P P 04 23 18.5 +0.3
RES pmax pmax
comp=Z,99nm,1.9s
RAYN **Ar Rayn** 73.38 288 *e*P P 04 23 20.7 -0.7
comp=Z,9.5nm,1.3s
RAYN LR LR
comp=Z,317nm,19.0s
RAYN **Ar Rayn** 73.38 288 *e*P P 04 23 20.7 -0.7
RAYN pmax pmax
comp=Z,10.0nm,1.3s
RAYN MLR MLR
comp=Z,317nm,19.0s
AKASG **Malin Array Be** 73.86 319 P P 04 23 22.3 -1.5
comp=Z,0.4nm,0.3s,baz=53,slow=6.3,SNR=5.6
AKASG **Malin Array Be** 73.86 319 *i*P P 04 23 24.3 +0.6
KIEV **Kiev** 73.88 319 *e*P P 04 23 23.4 -0.4
comp=Z,2.3nm,0.7s
KIEV LR LR
comp=Z,689nm,21.0s
KIEV **Kiev** 73.88 319 *e*P P 04 23 23.4 -0.4
KIEV pmax pmax
comp=Z,2.0nm,0.7s
KIEV MLR MLR
comp=Z,689nm,21.0s
TULEG **Thule** 74.39 4 *e*P P 04 23 27.4 +1.1
comp=Z,25nm,1.2s
BR131 **Keskin Array S** 75.79 308 *e*P P 04 23 34.2 -1.1
BRTR **Keskin Array B** 75.79 308 P P 04 23 33.9 -1.4
comp=Z,2.0nm,0.8s,baz=102,slow=4.4,SNR=10
BRTR LR LR 05 02 11.3
comp=Z,286nm,18.1s,baz=41,slow=40
YKW3 **Yellowknife Ar** 76.04 25 *e*P P 04 23 36.5 +0.4
comp=Z,53nm,1.3s
YKA **Yellowknife Ar** 76.08 25 P P 04 23 36.2 -0.1
comp=Z,8.4nm,0.9s,baz=296,slow=5.9,SNR=58
YKA LR LR 05 01 59.2
comp=Z,17nm,18.1s,baz=322,slow=40
YKB5 **Yellowknife Ar** 76.08 25 *e*P P 04 23 35.7 -0.7
ANTO **Ankara** 76.31 308 PFAKE 04 23 50.0 +12
ANTO LR LR
comp=Z,306nm,20.0s
NC405 **NORSAR Array S** 76.98 334 *e*P P 04 23 40.0 -1.5
NB2 **NORSAR Subarra** 77.22 334 P P 04 23 40.8 -2.1
comp=Z,2.7nm,0.8s,baz=52,slow=5.6
NOA **NORSAR Array B** 77.22 334 P P 04 23 40.7 -2.1
comp=Z,5.1nm,0.9s,baz=50,slow=5.5,SNR=17
NOA LR LR 05 00 36.2
comp=Z,379nm,20.3s,baz=55,slow=38
BUR08 **Bucovina Ar. S** 77.61 318 *e*P P 04 23 46.0 +0.6
BUR04 **Bucovina Ar. S** 77.62 318 *e*P P 04 23 44.9 -0.5
OJC **Ojcow** 79.37 322 *e*P P 04 23 54.4 -0.5
comp=Z,14nm,1.2s
OJC **Ojcow** 79.37 322 *e*P P 04 23 54.4 -0.5
OJC pmax pmax
comp=Z,14nm,1.2s
D03D **Eldon** 80.47 41 P P 04 24 01.4 +0.5
baz=302
OKC **Ostrava-Krasne** 80.47 322 AMS AMS 05 04 40.0
comp=Z,900nm,16.2s
VYHS **Vyhne** 80.83 321 *e*P P 04 24 02.1 -0.8
VYHS pmax pmax
comp=Z,9.0nm,1.7s
VYHS **Vyhne** 80.83 321 *e*P P 04 24 02.1 -0.8
VYHS *e*PCP PcP 04 24 05.8 -3.6
B06A **Marblemount** 80.84 39 *e*P P 04 24 04.1 +1.2
comp=Z,44nm,1.4s
DPC **Dobruska-Polom** 81.15 323 AMS AMS 05 03 30.0
comp=Z,900nm,18.5s
UPC **Upice** 81.23 323 AMS AMS 05 02 50.0
comp=Z,1μm,14.9s
D05A **Enumclaw** 81.28 41 *e*P P 04 24 06.0 +0.8
comp=Z,56nm,1.4s
VTS **Vitosha** 81.37 314 *e*P P 04 24 05.8 -0.2
comp=Z,9.5nm,1.4s
VTS **Vitosha** 81.37 314 *e*P P 04 24 05.8 -0.2
VTS pmax pmax
comp=Z,10.0nm,1.4s
LON **Longmire** 81.63 41 *e*P P 04 24 07.7 +0.5
comp=Z,21nm,1.6s
LON **Longmire** 81.63 41 *e*P P 04 24 07.7 +0.5
LON pmax pmax
comp=Z,21nm,1.6s
RPZ **Rata Peaks** 81.92 150 P P 04 24 08.0 -0.4
comp=Z,17nm,0.9s,baz=354,slow=12,SNR=5.7
PVCC **Panska Ves** 81.96 324 AMS AMS 05 04 40.0
comp=Z,1μm,19.9s
BSEG **Bad Segeberg** 81.98 328 *e*L L 05 02 07.8
comp=Z,375nm,21.3s
LTY **Lirty** 82.00 40 *e*P P 04 24 09.8 +0.6
comp=Z,43nm,1.6s
B08A **Colville Reser** 82.12 39 *e*P P 04 24 10.4 +0.7
comp=Z,50nm,1.4s
GOPC **GO Pecny, Ondr** 82.21 323 AMS AMS 05 03 50.0
comp=Z,800nm,18.4s
PRU **Pruhonice** 82.30 324 AMS AMS 05 03 30.0
comp=Z,900nm,13.1s
CLL **Collm** 82.30 325 *e*P P 04 24 11.0 +0.5
CLL *i*PP PP 04 27 23.9 +5.2
comp=Z,27nm,1.8s
CLL LmH 04 58 00.0
comp=N,1μm,18.4s
CLL LmH 04 58 00.0
comp=E,900nm,20.3s
CLL **Collm** 82.30 325 *e*P P 04 24 11.0 +0.5
CLL *i* 04 27 23.9
CLL pmax pmax
comp=Z,44nm,1.8s
J01E **Myrtle Point** 82.30 45 P P 04 24 11.8 +1.1
baz=302
PRA **Prague** 82.30 324 AMS AMS 05 03 30.0
comp=Z,900nm,16.5s
I03D **Drain, OR** 82.37 44 P P 04 24 11.5 +0.4
baz=303
H04A **Detroit Lake** 82.54 43 *e*P P 04 24 12.6 +0.6
comp=Z,69nm,1.6s
K02D **Willamette Mer** 82.72 45 P P 04 24 13.9 +0.9
baz=303
G05D **Wamic, OR** 82.75 42 P P 04 24 13.4 +0.3
baz=304
E07A **Sunnyside** 82.85 40 *e*P P 04 24 14.1 +0.5
comp=Z,52nm,1.3s
I04A **Tendick Farm,** 82.89 44 P P 04 24 14.0 +0.1
baz=303
C09A **Chrisman Ranch** 83.02 39 *e*P P 04 24 15.2 +0.8
comp=Z,31nm,1.3s
D08A **Wollman Farm,** 83.09 40 *e*P P 04 24 15.6 +0.8
comp=Z,47nm,1.6s
HAWA **Hanford** 83.13 40 *e*P P 04 24 14.3 -0.7
comp=Z,51nm,1.4s
G06A **Carlson Farm,** 83.15 42 *e*P P 04 24 16.2 +1.1
comp=Z,63nm,1.5s
F07A **Phinny Hill Vi** 83.19 41 *e*P P 04 24 15.8 +0.6
comp=Z,46nm,1.4s
HUMO **Hull Mountain** 83.20 45 *e*P P 04 24 16.6 +1.2
comp=Z,28nm,1.4s
NKC **Novy Kostel** 83.23 325 AMS AMS 05 05 30.0
comp=Z,2μm,18.1s
I05D **Terrebonne, OR** 83.23 43 P P 04 24 16.0 +0.4
baz=304
KHC **Kasperske Hory** 83.31 323 AMS AMS 05 03 50.0
comp=Z,1μm,18.4s
E08A **Dider Farm, El** 83.34 40 *e*P P 04 24 16.3 +0.3
comp=Z,57nm,1.5s
NEW **Newport** 83.37 38 P P 04 24 15.6 -0.6
comp=Z,8.8nm,0.9s,baz=301,slow=4.0,SNR=15
NEW **Newport** 83.37 38 *e*P P 04 24 16.6 +0.3
comp=Z,36nm,1.4s
NEW **Newport** 83.37 38 *e*P P 04 24 16.6 +0.3
NEW pmax pmax
comp=Z,36nm,1.4s
NEW **Newport** 83.37 38 P P 04 24 16.9 +0.7
baz=306
MOX **Moxa** 83.40 325 *e*L L 05 05 35.3
comp=Z,629nm,18.1s
GEC2 **GERESS Array S** 83.42 323 *e*L L 05 04 55.2
comp=Z,800nm,18.3s
GERES **GERESS Array B** 83.42 323 P P 04 24 15.9 -0.6
comp=Z,0.6nm,0.7s,baz=43,slow=7.3,SNR=2.1
GERES LR LR 05 05 05.3
comp=Z,735nm,18.5s,baz=61,slow=38
WET **Wettzell** 83.67 323 *e*L L 05 04 31.9
comp=Z,702nm,18.3s
PINE **Pine Mountain** 83.78 43 *e*P P 04 24 18.9 +0.2
comp=Z,69nm,1.4s
L04D **Klamath Falls** 83.82 45 P P 04 24 19.1 +0.3
baz=304
YBH **Yreka Blue Hor** 83.83 46 P P 04 24 17.6 -1.2
comp=Z,7.6nm,1.2s,baz=273,slow=4.3,SNR=4.9
YBH **Yreka Blue Hor** 83.83 46 *e*P P 04 24 19.5 +0.7
comp=Z,41nm,1.6s
YBH **Yreka Blue Hor** 83.83 46 *e*P P 04 24 19.5 +0.7
YBH pmax pmax
comp=Z,41nm,1.6s
E09A **Wood Farm, Sta** 83.84 40 *e*P P 04 24 19.0 +0.4
comp=Z,55nm,1.4s
J05D **Fort Rock, OR** 83.89 44 P P 04 24 19.8 +0.7
baz=304
M02C **Callahan** 83.93 46 P P 04 24 20.1 +0.8
baz=303
GRF **Grafenberg Arr** 84.19 325 *e*P P 04 24 24.2 +3.9
comp=Z,41nm,1.7s,baz=61,slow=5.1
GRF *e*L L 05 06 00.0
comp=Z,756nm,18.2s
M04C **Macdoel** 84.35 45 P P 04 24 22.6 +1.1
baz=304
SFJD **Kangerlussuaq** 84.55 360 P P 04 24 20.5 -1.2
comp=Z,20nm,1.1s,baz=18,slow=3.4,SNR=2.9
WDC **Whiskeytown Da** 84.57 46 *e*P P 04 24 23.2 +0.8
comp=Z,41nm,1.5s
WDC **Whiskeytown Da** 84.57 46 *e*P P 04 24 23.2 +0.8
WDC pmax pmax
comp=Z,41nm,1.5s
WALA **Waterton Lakes** 84.58 36 *e*P P 04 24 22.6 +0.1
comp=Z,32nm,1.3s
O02D **Mt. Diablo Mer** 84.64 47 P P 04 24 23.9 +1.0
baz=303
F10A **Beach Ranch, E** 84.67 40 *e*P P 04 24 23.4 +0.4
comp=Z,23nm,1.4s
O03E **Paynes Creek** 85.20 46 P P 04 24 26.3 +0.5
baz=304
MOD **Modoc Plateau** 85.23 44 *e*P P 04 24 26.5 +0.5
comp=Z,54nm,1.6s
TNS **Taunus Mts** 85.23 326 *e*L L 05 06 13.8
comp=Z,721nm,18.6s
BMO **Blue Mountains** 85.30 41 *e*P P 04 24 26.4 +0.3
comp=Z,31nm,1.3s
BMO **Blue Mountains** 85.30 41 *e*P P 04 24 26.4 +0.3
BMO pmax pmax
comp=Z,31nm,1.3s
J08A **Circle Bar Ran** 85.50 42 *e*P P 04 24 27.8 +0.6
comp=Z,54nm,1.4s
ORV **Oroville** 85.81 47 *e*P P 04 24 28.7 0.0
comp=Z,59nm,1.5s
ORV **Oroville** 85.81 47 P P 04 24 28.6 0.0
ORV pmax pmax
comp=Z,59nm,1.5s
FCC **Fort Churchill** 85.85 21 *e*P P 04 24 27.7 -0.7
comp=Z,82nm,1.5s
FCC **Fort Churchill** 85.85 21 *e*P P 04 24 27.7 -0.7
FCC pmax pmax
comp=Z,83nm,1.5s
WVOR **Wild Horse Val** 85.94 43 *e*P P 04 24 29.7 +0.3
comp=Z,40nm,1.5s
WVOR **Wild Horse Val** 85.94 43 *e*P P 04 24 29.7 +0.3
WVOR pmax pmax
comp=Z,40nm,1.5s
MSO **Missoula** 85.96 38 *e*P P 04 24 29.1 -0.3
comp=Z,38nm,1.4s
MSO **Missoula** 85.96 38 P P 04 24 29.9 +0.5
baz=309
FFC **Flin Flon** 86.17 27 *e*P P 04 24 29.9 -0.2
comp=Z,94nm,1.4s
FFC **Flin Flon** 86.17 27 *i*P P 04 24 30.1 0.0
AFDM **Forest Hills D** 86.49 47 *e*P P 04 24 31.8 -0.2
comp=Z,59nm,1.6s
BFO **Black Forest** 86.52 325 PFAKE 04 24 40.0 +8.0
BFO LR LR
comp=Z,26nm,19.0s
BFO **Black Forest** 86.52 325 *e*L L 05 07 36.2
comp=Z,744nm,18.6s
FUORN **Ofenpass-Fuorn** 86.62 323 *e*P P 04 24 32.3 -0.5
comp=Z,9.9nm,1.0s
FRB **Frobisher Bay** 86.81 8 P P 04 24 31.8 -1.3
comp=Z,15nm,0.8s,baz=342,slow=6.1,SNR=18
RUBR **Rubicon Trail** 86.95 47 *e*P P 04 24 34.7 +0.1
comp=Z,40nm,1.2s
RUBR *e*pP sP 04 24 47.1 +0.3
MFID **Camas Ranch** 87.01 41 *e*P P 04 24 34.6 0.0
comp=Z,58nm,1.4s
HRY **Holter Researc** 87.15 37 *e*P P 04 24 35.5 +0.2
EGMT **Eagleton** 87.36 35 *e*P P 04 24 36.4 +0.1
EGMT **Eagleton** 87.36 35 P P 04 24 36.2 0.0
baz=312,SNR=8.2
CMB **Columbia Colle** 87.38 48 *e*P P 04 24 37.2 +0.8
comp=Z,32nm,1.3s
LRM **Limekiln Ridge** 87.39 38 *e*P P 04 24 37.7 +1.1
SAO **San Andreas Ge** 87.41 49 *e*P P 04 24 36.1 -0.5
comp=Z,30nm,1.5s
SAO **San Andreas Ge** 87.41 49 *e*P P 04 24 36.1 -0.5
SAO pmax pmax
comp=Z,30nm,1.5s
YERR **Yerington** 87.57 46 *e*P P 04 24 38.1 +0.6
comp=Z,51nm,1.4s
DLMT **Dillon** 87.61 38 *e*P P 04 24 37.7 +0.1
comp=Z,86nm,1.5s
WAKR **Walker** 87.72 47 *e*P P 04 24 39.0 +0.7
comp=Z,31nm,1.5s
HLID **Hailey** 87.73 40 *e*P P 04 24 38.7 +0.5
comp=Z,50nm,1.5s
HLID **Hailey** 87.73 40 P P 04 24 39.1 +0.9
baz=309
MCMT **McKenzie Canyo** 87.81 39 *e*P P 04 24 38.3 -0.4
BMN **Battle Mountai** 87.98 44 *e*P P 04 24 40.2 +0.9
BMN **Battle Mountai** 87.98 44 *e*P P 04 24 40.3 +0.9
BOZ **Bozeman (W)** 87.98 38 *e*P P 04 24 39.1 -0.2
comp=Z,54nm,1.5s
BOZ LR LR
comp=Z,367nm,21.0s
BOZ **Bozeman (W)** 87.98 38 *e*P P 04 24 39.1 -0.2
BOZ pmax pmax
comp=Z,54nm,1.5s
BOZ MLR MLR
comp=Z,367nm,21.0s
BOZ **Bozeman (W)** 87.98 38 P P 04 24 39.1 -0.2
baz=310,SNR=23
RYN **Ryan** 88.23 46 *e*P P 04 24 40.8 +0.1
comp=Z,40nm,1.6s
KVN **Kaiserville** 88.25 46 *e*P P 04 24 41.5 +0.8
comp=Z,35nm,1.4s
KVN **Kaiserville** 88.25 46 *e*P P 04 24 41.6 +0.8
KVN pmax pmax
comp=Z,35nm,1.4s
NV01 **Mina Array Sit** 88.49 46 *e*P P 04 24 42.3 +0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NVAR	Mina Array Bea	88.49	46	P	P	04 24 41.8	-0.2
	comp=Z,2.7nm,0.9s,baz=283,slow=4.6,SNR=11						
OMMB	Old Mammoth Mi	88.52	47	eP	P	04 24 42.9	+0.6
	comp=Z,24nm,1.6s						
NV11	Mina Array Sit	88.58	46	eP	P	04 24 42.6	+0.3
	comp=Z,3.3nm,1.8s						
QLMT	Earthquake Lak	88.58	38	eP	P	04 24 42.9	+0.6
YHB	Horse Butte	88.76	38	eP	P	04 24 43.1	0.0
	comp=Z,65nm,1.6s						
PAGB	Antelope Grade	88.79	49	eP	P	04 24 43.9	+0.8
	comp=Z,75nm,1.6s						
GCMT	Greycliff	88.89	37	eP	P	04 24 43.9	+0.3
YMR	Madison River	88.94	38	eP	P	04 24 44.6	+0.6
	comp=Z,61nm,1.6s						
ELK	Elko	88.99	43	P	P	04 24 44.7	+0.4
	comp=Z,1.8nm,0.9s,baz=299,slow=6.2,SNR=6.3						
ELK	Elko	88.99	43	eP	P	04 24 44.9	+0.6
	comp=Z,24nm,1.5s						
ELK	Elko	88.99	43	eP	P	04 24 44.9	+0.6
ELK				pmax	pmax		
	comp=Z,24nm,1.5s						
YNR	Norris Junctio	89.06	38	eP	P	04 24 45.3	+0.8
	comp=Z,47nm,1.5s						
YFT	Old Faithful	89.15	38	eP	P	04 24 45.8	+0.8
	comp=Z,57nm,1.4s						
YPP	Pitchstone Pla	89.29	38	eP	P	04 24 45.7	0.0
	comp=Z,73nm,1.8s						
LKWY	Lake	89.31	38	PFAKE		04 25 00.0	+14
LKWY				LR	LR		
	comp=Z,300nm,22.0s						
H17A	Grant Village	89.33	38	eP	P	04 24 46.6	+0.7
	comp=Z,98nm,1.5s						
H17A	Grant Village	89.33	38	P	P	04 24 47.6	+1.7
	baz=311,SNR=23						
IMW	Indian Meadow	89.46	39	eP	P	04 24 46.9	+0.4
	comp=Z,38nm,1.4s						
FLWY	Flagg Ranch	89.47	38	eP	P	04 24 46.9	+0.5
	comp=Z,63nm,1.4s						
RLMT	Red Lodge	89.55	37	eP	P	04 24 47.3	+0.5
	comp=Z,61nm,1.4s						
RLMT	Red Lodge	89.55	37	P	P	04 24 47.6	+0.8
	baz=312,SNR=17						
PKM	Mcpherson Peak	89.56	50	P	P	04 24 48.4	+1.3
	baz=305						
MOOW	Moose Ponds	89.66	39	eP	P	04 24 48.1	+0.8
	comp=Z,32nm,1.5s						
TPAW	Teton Pass	89.72	39	eP	P	04 24 47.9	+0.2
	comp=Z,28nm,1.4s						
DGMT	Dagmar	89.75	32	eP	P	04 24 47.8	+0.4
	comp=Z,79nm,1.3s						
DGMT	Dagmar	89.75	32	P	P	04 24 47.5	+0.1
	baz=316						
HVU	Hansel Valley	89.79	41	eP	P	04 24 48.6	+0.7
	comp=Z,39nm,1.6s						
HVU	Hansel Valley	89.79	41	eP	P	04 24 48.6	+0.7
HVU				pmax	pmax		
	comp=Z,39nm,1.6s						
CWC	Cottonwood Cre	89.81	48	P	P	04 24 48.4	+0.3
	baz=306						
LOHW	Long Hollow	89.83	39	eP	P	04 24 48.6	+0.4
	comp=Z,28nm,1.5s						
SNOW	Snow King Moun	89.84	39	eP	P	04 24 49.1	+0.9
	comp=Z,9.6nm,1.0s						
REDW	Red Top Meadow	89.86	39	eP	P	04 24 49.2	+0.9
	comp=Z,30nm,1.4s						
ISA	Isabella, Lake	90.00	49	eP	P	04 24 49.1	+0.2
	comp=Z,8.4nm,1.4s						
ISA	Isabella, Lake	90.00	49	eP	P	04 24 49.1	+0.2
ISA				pmax	pmax		
	comp=Z,8.0nm,1.4s						
LAO	LASA Array	90.03	34	eP	P	04 24 49.2	+0.3
	comp=Z,72nm,1.4s						
LAO	LASA Array	90.03	34	P	P	04 24 49.2	+0.3
	baz=314						
BGU	Big Grassy Mou	90.19	42	eP	P	04 24 50.0	+0.2
DAC	Darwin (Calif)	90.22	48	eP	P	04 24 50.3	+0.2
	comp=Z,19nm,1.5s						
DAC	Darwin (Calif)	90.22	48	eP	P	04 24 50.3	+0.2
DAC				pmax	pmax		
	comp=Z,19nm,1.5s						
R11A	Troy Canyon, C	90.25	45	eP	P	04 24 50.4	+0.2
	comp=Z,24nm,1.6s						
R11A	Troy Canyon, C	90.25	45	P	P	04 24 50.5	+0.4
	baz=308						
LRMC	Laurel Mtn Rad	90.63	48	P	P	04 24 52.8	+0.9
	baz=307						
TPNV	Topopah Spring	90.68	47	eP	P	04 24 52.3	+0.1
	comp=Z,33nm,1.5s						
TPNV	Topopah Spring	90.68	47	eP	P	04 24 52.3	+0.1
TPNV				pmax	pmax		
	comp=Z,33nm,1.5s						
TPNV	Topopah Spring	90.68	47	P	P	04 24 52.9	+0.8
	baz=308						
DUG	Dugway, Tooele	90.78	42	eP	P	04 24 53.0	+0.5
	comp=Z,39nm,1.4s						
DUG	Dugway, Tooele	90.78	42	eP	P	04 24 53.0	+0.5
DUG				pmax	pmax		
	comp=Z,39nm,1.4s						
DUG	Dugway, Tooele	90.78	42	P	P	04 24 53.2	+0.7
	baz=310						
BW06	Boulder Array	90.96	39	eP	P	04 24 53.9	+0.4
	comp=Z,20nm,1.2s						
BW06				LR	LR		
	comp=Z,138nm,21.0s						
BW06	Boulder Array	90.96	39	P	P	04 24 53.7	+0.2
	baz=312,SNR=6.3						
PD31	Pinedale Array	90.96	39	eP	P	04 24 53.2	-0.3
PDAR	Pinedale Array	90.96	39	P	P	04 24 52.2	-1.3
	comp=Z,7.9nm,1.0s,baz=261,slow=1.1,SNR=12						
PDAR	Pinedale Array	90.96	39	eP	P	04 24 53.4	-0.1
TCUT	Toone Canyon	91.00	41	eP	P	04 24 53.8	0.0
	comp=Z,119nm,1.7s						
CTU	Camp Tracy	91.08	41	eP	P	04 24 54.4	+0.5
	comp=Z,23nm,1.4s						
PSUT	Pine Spring	91.20	44	eP	P	04 24 54.8	+0.2
	comp=Z,8.8nm,1.0s						
GSC	Goldstone, Bar	91.31	48	eP	P	04 24 54.5	-0.5
	comp=Z,56nm,1.6s						
GSC	Goldstone, Bar	91.31	48	eP	P	04 24 54.5	-0.5
GSC				pmax	pmax		
	comp=Z,56nm,1.6s						
GSC	Goldstone, Bar	91.31	48	P	P	04 24 55.8	+0.7
	baz=307						
JLU	Jordanelle	91.31	41	eP	P	04 24 56.2	+1.0
	comp=Z,18nm,1.3s						
PPT	Papeete	91.36	109	LR	LR	04 57 44.5	
	comp=Z,109nm,21.2s,baz=276,slow=30						
NLU	North Lily Min	91.37	42	eP	P	04 24 55.8	+0.4
	comp=Z,12nm,1.0s						
PPT2	Papeete2	91.37	109	eLR	LR	04 54 06.9	
	comp=Z,233nm,23.0s						
MPU	Maple Canyon	91.59	42	eP	P	04 24 56.6	+0.2
	comp=Z,40nm,1.5s						
SHPR	Sheep Range	91.64	46	eP	P	04 24 57.0	+0.4
	comp=Z,22nm,1.5s						
KMBO	Kilima Mbogo	91.77	270	P	P	04 24 57.0	-0.6
	comp=Z,0.6nm,0.4s,baz=52,slow=12,SNR=3.1						
KMBO				LR	LR	05 08 57.2	
	comp=Z,112nm,18.2s,baz=82,slow=37						
KMBO	Kilima Mbogo	91.77	270	i P	P	04 24 54.0	-3.6
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TUQ	Turquoise Moun	91.81	48	P	P	04 24 58.1	+0.7
	baz=308						
HEC	Hector,Ludlow	91.91	48	P	P	04 24 58.6	+0.8
	baz=307						
ULM	Lac du Bonnet	92.00	27	P	P	04 24 57.4	-0.4
	comp=Z,12nm,0.8s,baz=325,slow=4.1,SNR=20						
ULM				LR	LR	05 10 04.2	
	comp=Z,113nm,18.2s,baz=358,slow=38						
ULM	Lac du Bonnet	92.00	27	eP	P	04 24 57.6	-0.2
	comp=Z,15nm,0.9s						
ULM	Lac du Bonnet	92.00	27	eP	P	04 24 57.6	-0.2
ULM				pmax	pmax		
	comp=Z,15nm,0.9s						
MURC	Murrieta	92.07	50	P	P	04 24 59.1	+0.6
	baz=307						
CCUT	Cedar City	92.12	45	eP	P	04 24 58.9	0.0
	comp=Z,20nm,1.7s						
MSU	Marysvale	92.23	43	eP	P	04 25 00.4	+1.0
MSU	Marysvale	92.23	43	eP	P	04 25 00.4	+1.0
MDND	Maddock	92.29	30	eP	P	04 25 00.1	+0.9
	comp=Z,124nm,1.8s						
TMUT	Trail Mountain	92.30	42	eP	P	04 24 59.9	+0.1
	comp=Z,32nm,1.9s						
GMRC	Granite Mounta	92.37	48	P	P	04 25 00.6	+0.6
	baz=308						
P17A	Butcher Ranch,	92.46	42	eP	P	04 25 01.0	+0.6
	comp=Z,60nm,1.4s						
MTPU	Mount Pierson	92.53	44	eP	P	04 25 00.8	-0.2
	comp=Z,35nm,1.6s						
LCMT	Little Creek M	92.53	45	eP	P	04 25 01.1	+0.4
	comp=Z,34nm,1.6s						
LDFC	Landfair	92.55	47	eP	P	04 25 01.4	+0.6
	comp=Z,63nm,1.5s						
PFO	Pinyon Flats O	92.56	49	P	P	04 25 01.4	+0.5
	comp=Z,9.3nm,1.0s,baz=286,slow=4.4,SNR=7.4						
PFO	Pinyon Flats O	92.56	49	eP	P	04 25 01.1	+0.2
	comp=Z,42nm,1.5s						
PFO	Pinyon Flats O	92.56	49	P	P	04 25 01.2	+0.3
	baz=307						
CPE	Camp Elliot	92.56	50	eP	P	04 25 01.4	+0.7
	comp=Z,46nm,1.6s						
XPFO	Pion Flat	92.56	49	eP	P	04 25 01.2	+0.3
	comp=Z,41nm,1.4s						
TPFO	Pinon Flats	92.56	49	P	P	04 25 01.1	+0.2
	baz=307						
Q16A	Castle Valley	92.57	42	eP	P	04 25 01.3	+0.3
	comp=Z,40nm,1.4s						
BELC	Belle Mtn. Jos	92.63	49	P	P	04 25 01.5	+0.3
	baz=308						
K22A	Casper	92.68	37	eP	P	04 25 01.6	+0.2
	comp=Z,29nm,1.4s						
K22A	Casper	92.68	37	P	P	04 25 00.5	-0.8
	baz=314						
KNB	Kanab	92.79	45	eP	P	04 25 02.2	+0.3
	comp=Z,56nm,1.6s						
KNB	Kanab	92.79	45	eP	P	04 25 02.2	+0.3
KNB				pmax	pmax		
	comp=Z,56nm,1.6s						
RSSD	Black Hills	92.94	35	eP	P	04 25 02.4	-0.1
	comp=Z,40nm,1.4s						
RSSD	Black Hills	92.94	35	eP	P	04 25 02.4	-0.1
RSSD				pmax	pmax		
	comp=Z,40nm,1.4s						
RSSD	Black Hills	92.94	35	P	P	04 25 02.3	-0.3
	baz=316						
RWWY	Rawlins	92.97	38	eP	P	04 25 02.9	+0.1
	comp=Z,26nm,1.5s						
BAR	Barrett	92.97	50	eP	P	04 25 03.2	+0.6
	comp=Z,13nm,1.0s						
MONP2	Monument Peak	93.02	50	P	P	04 25 03.4	+0.3
	baz=307						
IRM	Iron Mountain	93.09	48	P	P	04 25 03.8	+0.6
	baz=308						
BC3	Big Chuckawall	93.20	49	P	P	04 25 04.5	+0.6
	baz=308						
W13A	Hualapai Mount	93.33	47	eP	P	04 25 04.4	-0.1
	comp=Z,14nm,1.3s						
IKP	In-Ko-Pah, Jac	93.37	50	P	P	04 25 05.4	+0.8
	baz=308						
SWSC	Sam W. Stewart	93.40	49	P	P	04 25 05.0	+0.4
	baz=308						
O20A	White River Ci	93.46	40	eP	P	04 25 04.8	-0.2
	comp=Z,42nm,1.6s						
O20A	White River Ci	93.46	40	P	P	04 25 05.0	0.0
	baz=313						
U15A	North Rim	93.49	45	eP	P	04 25 05.5	+0.1
	comp=Z,35nm,1.4s						
PDMCI	Parker Dam,Lak	93.66	48	P	P	04 25 06.6	+0.9
	baz=309						
Y12C	Blythe	93.75	48	eP	P	04 25 06.0	-0.2
	comp=Z,31nm,1.3s						
Y12C	Blythe	93.75	48	P	P	04 25 06.9	+0.7
	baz=308						
GLA	Glamis	93.98	49	eP	P	04 25 07.7	+0.4
	comp=Z,41nm,1.3s						
GLA	Glamis	93.98	49	eP	P	04 25 07.7	+0.4
GLA				pmax	pmax		
	comp=Z,41nm,1.3s						
GLA	Glamis	93.98	49	P	P	04 25 07.9	+0.6
	baz=308						
PV09	Paradox Valley	94.05	42	eP	P	04 25 07.8	0.0
KEST	Kesra	94.09	315	LR	LR	05 10 58.7	
	comp=Z,129nm,18.4s,baz=288,slow=38						
PV21	Cone Mtn., Par	94.09	42	eP	P	04 25 08.4	+0.4
	comp=Z,49nm,1.6s						
PV23	Carpenter Ridg	94.15	42	eP	P	04 25 08.6	+0.3
	comp=Z,52nm,1.5s						
PV10	Paradox Valley	94.18	42	eP	P	04 25 07.7	-0.8
PHWY	Pilot Hill	94.19	38	eP	P	04 25 09.1	+0.6
	comp=Z,16nm,1.4s						
PV14	Lion Creek, Pa	94.19	42	eP	P	04 25 08.5	0.0
	comp=Z,63nm,1.6s						
N23A	Red Feather La	94.21	38	eP	P	04 25 08.9	+0.4
	comp=Z,30nm,1.4s						
PV20	West Nyswonger	94.25	42	eP	P	04 25 08.6	-0.1
	comp=Z,53nm,1.6s						
PV19	Morning Glory	94.26	42	eP	P	04 25 08.5	-0.3
	comp=Z,38nm,1.6s						
TBI	Tubuai	94.29	114	eLR	LR	04 55 28.7	
	comp=Z,196nm,24.0s						
PV17	East Wray Mesa	94.29	42	eP	P	04 25 09.1	+0.2
	comp=Z,36nm,1.4s						
PV16	Nyswonger Mesa	94.30	42	eP	P	04 25 09.0	+0.1
	comp=Z,20nm,1.3s						
PV05	Paradox Valley	94.34	42	eP	P	04 25 10.6	+1.5
PV12	Saucer Basin,	94.36	42	eP	P	04 25 08.8	-0.4
	comp=Z,17nm,1.1s						
PV03	Paradox Valley	94.37	42	eP	P	04 25 09.2	-0.1
PV13	Radium Mtn., P	94.45	42	eP	P	04 25 10.0	+0.4
	comp=Z,42nm,1.6s						
PV02	Paradox Valley	94.47	42	eP	P	04 25 09.6	-0.1
	comp=Z,19nm,1.3s						
PV01	Paradox Valley	94.62	42	eP	P	04 25 10.5	0.0
WUAZ	Wupatki	94.65	45	eP	P	04 25 10.3	-0.2
	comp=Z,17nm,1.4s						
SMCO	Snowmass	94.83	40	eP	P	04 25 11.1	-0.5
	comp=Z,26nm,1.7s						
ISCO	Idaho Springs	95.16	39	eP	P	04 25 12.1	-0.8
	comp=Z,16nm,1.8s						
ISCO				LR	LR		
	comp=Z,233nm,20.0s						
ISCO	Idaho Springs	95.16	39	eP	P	04 25 12.1	-0.8
ISCO				pmax	pmax		
	comp=Z,16nm,1.8s						
ISCO				MLR	MLR		
	comp=Z,233nm,20.0s						
TAOE	Nuku Hiva Isla	95.24	97	eLR	LR	04 55 55.4	
	comp=Z,262nm,25.9s						
SCHQ	Schefferville	95.69	9	LR	LR	05 09 29.9	
	comp=Z,238nm,21.9s,baz=324,slow=36						
OGNE	Ogallala	96.25	36	PFAKE		04 25 30.0	+12
OGNE				LR	LR		
	comp=Z,221nm,19.0s						
MBAR	Mbarara	97.23	273	PFAKE		04 25 30.0	+7.3
MBAR				LR	LR		
	comp=Z,580nm,21.0s						
COWI	Conover	97.99	26	PFAKE		04 25 40.0	+15
COWI				LR	LR		
	comp=Z,324nm,21.0s						
ANMO	Albuquerque	98.03	43	PFAKE		04 25 40.0	+14
ANMO				LR	LR		
	comp=Z,121nm,21.0s						
ESDC	Sonseca Array	98.89	325	P	P	04 25 29.0	-0.4
	comp=Z,0.5nm,0.8s,baz=28,slow=3.0,SNR=4.2						
ESDC				PP	PP	04 29 29.6	-0.9
	comp=Z,0.3nm,0.7s,baz=45,slow=7.1,SNR=4.9						
ESDC				LR	LR	05 14 12.0	
	comp=Z,323nm,19.6s,baz=25,slow=38						
PAB	San Pablo	99.18	325	PFAKE		04 25 40.0	+9.2
PAB				LR	LR		
	comp=Z,534nm,20.0s						
MNTX	Cornudas Mount	100.91	45	PFAKE		04 25 50.0	+11
MNTX				LR	LR		
	comp=Z,317nm,19.0s						
HDIL	Hopedale	102.56	29	PFAKE		04 26 00.0	+14
HDIL				LR	LR		
	comp=Z,170nm,21.0s						
WMOK	Wichita Mounta	102.57	38	PFAKE		04 26 00.0	+14
WMOK				LR	LR		
	comp=Z,149nm,19.0s						
TXAR	Lajitas Array	103.61	45	Pdiff	Pdif	04 25 51.6	+0.9
	comp=Z,0.4nm,0.8s,baz=322,slow=2.8,SNR=2.7						
TXAR				PP	PP	04 30 12.6	+6.2
	comp=Z,0.8nm,1.0s,baz=325,slow=7.7,SNR=3.8						
TXAR				PKKPbc	PKKPbc	04 41 42.9	+0.3
	comp=Z,0.3nm,0.8s,baz=114,slow=4.2,SNR=3.5						
LONY	Lake Ozonia	103.95	17	PFAKE		04 26 00.0	+8.1
LONY				LR	LR		
	comp=Z,341nm,19.0s						
PKME	Peaks-Kenny Pk	104.54	13	PFAKE		04 26 10.0	+16
PKME				LR	LR		
	comp=Z,309nm,20.0s						
ACSO	Alum Creek Sta	105.33	25	PFAKE		04 30 20.0	+8.1
ACSO				LR	LR		
	comp=Z,461nm,19.0s						
NATX	Nacogdoches	107.07	38	PFAKE		04 30 30.0	+15
NATX				LR	LR		
	comp=Z,374nm,21.0s						
BLA	Blacksburg	108.93	24	PFAKE		04 30 30.0	+11
BLA				LR	LR		
	comp=Z,238nm,20.0s						
CBN	Corbin Frederi	109.07	21	PFAKE		04 30 30.0	+11
CBN				LR	LR		
	comp=Z,184nm,19.0s						
GOGA	Godfrey	111.08	28	PFAKE		04 30 30.0	+7.2
GOGA				LR	LR		
	comp=Z,245nm,21.0s						
NHSC	New Hope	112.67	26	PFAKE		04 30 40.0	+14
NHSC				LR	LR		
	comp=Z,255nm,19.0s						
TORD	Torodi Ar. Bea	113.96	302	PKiKP	PKiKP	04 30 26.4	-2.3
	comp=Z,1.6nm,1.0s,baz=55,slow=1.7,SNR=7.7						
TORD				PP	PP	04 31 21.0	-1.2
	comp=Z,2.1nm,1.1s,baz=64,slow=4.0,SNR=6.1						
TORD				PKKPbc	PKKPbc	04 41 08.2	-1.2
	comp=Z,0.6nm,0.8s,baz=234,slow=3.5,SNR=4.4						
SYO	Syowa Base	116.19	204⇑	ePdiff	Pdif	04 26 45.3	-0.1
TSUM	Tsumeb	117.05	262	PFAKE		04 30 50.0	+15
TSUM				LR	LR		
	comp=Z,287nm,20.0s						
QSPA	South Pole Qui	118.53	180	ePKPdf	PKPdf	04 30 35.9	-0.1
DBIC	Dimbokro	123.04	301	PKP	PKPdf	04 30 44.1	-2.1
	comp=Z,3.1nm,0.8s,baz=161,slow=2.0,SNR=5.1						
SDDR	Presa de Saban	128.78	24	PFAKE		04 31 10.0	+12
SDDR				LR	LR		
	comp=Z,360nm,21.0s						
JTS	JuntasAbangare	129.40	45	PFAKE		04 31 10.0	+11
JTS				LR	LR		
	comp=Z,322nm,22.0s						
SJG	San Juan	131.26	19	PFAKE		04 31 10.0	+7.3
SJG				LR	LR		
	comp=Z,168nm,20.0s						
SDV	Santo Domingo	138.20	29	ePKPdf	PKPdf	04 31 15.1	-0.1
SDV				LR	LR		
	comp=Z,312nm,20.0s						
ROSC	El Rosal	139.94	37	PKP	PKPdf	04 31 16.6	-2.0
	comp=Z,2.4nm,0.3s,baz=19,slow=12,SNR=3.0						
OTAV	Otavalo	141.22	47	ePKPdf	PKPdf	04 31 20.7	-0.3
OTAV				ePKPdf	PKPdf	04 31 20.9	-0.1
OTAV				LR	LR		
	comp=Z,325nm,21.0s						
OTAV	Otavalo	141.22	47	ePKIKP	PKPdf	04 31 20.7	-0.3
OTAV				MLR	MLR		
	comp=Z,325nm,21.0s						
NNA	Nana	150.95	60	ePKPbc	PKPbc	04 31 42.0	-0.6
NNA	Nana	150.95	60	ePKIKP	PKPbc	04 31 42.0	-0.6
LPAZ	La Paz	160.17	55	PKP	PKPdf	04 31 49.4	-0.4
	comp=Z,3.8nm,1.1s,baz=23,slow=3.8,SNR=9.1						
LPAZ				PKPab	PKPab	04 32 29.6	-0.4
	comp=Z,7.5nm,1.1s,baz=340,slow=5.5,SNR=6.1						
LPAZ	La Paz	160.17	55	ePKPdf	PKPdf	04 31 50.0	+0.2
LPAZ				ePKPab	PKPab	04 32 30.0	0.0
PLCA	Paso Flores	160.26	132	PKPab	PKPab	04 32 27.8	-1.3
	comp=Z,4.3nm,1.1s,baz=289,slow=3.5,SNR=5.4						
PLCA	Paso Flores	160.26	132	ePKPdf	PKPdf	04 31 48.3	-0.3
PLCA				ePKPab	PKPab	04 32 29.4	+0.3
PLCA	Paso Flores	160.26	132	ePKIKP	PKPdf	04 31 48.3	-0.3
PLCA				e		04 32 29.4	
PB11	IPOC Station P	161.07	66	ePKPdf	PKPdf	04 31 49.9	-0.3
PB11				ePKPab	PKPab	04 32 33.0	-0.3
TRQA	Tornquist	167.17	139	ePKPdf	PKPdf	04 31 54.8	-0.1
TRQA				LR	LR		
	comp=Z,165nm,20.0s						
TRQA	Tornquist	167.17	139	ePKIKP	PKPdf	04 31 54.8	-0.1
TRQA				MLR	MLR		
	comp=Z,165nm,20.0s						
CPUP	Villa Florida	174.16	67	PKP	PKPdf	04 31 58.9	-0.2
	comp=Z,2.6nm,1.0s,baz=270,slow=1.0,SNR=2.9						

JMA 05 04:13:20.3±0.2**, 28°.79N×128°.62E, h10km, M3.7, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	Takarajima	0.63	55	P	Pg	04 13 32.4	0.0
JTAJ				eS	Sg	04 13 40.8	+0.1
JAMN	Amaminishikomi	0.73	138	P	Pg	04 13 34.3	-0.1
JAMN				eS	Sg	04 13 43.9	-0.1
JAM	Amami Oshima	0.94	113	P	Pg	04 13 38.0	-0.5
JAM				eS	Sg	04 13 50.0	-0.8
JTK	Tokunoshima	1.04	164	P	Pg	04 13 39.6	-0.7
JTK				eS	Sg	04 13 53.8	-0.1
JZK	Kikaishima	1.28	111	P	Pg	04 13 44.9	0.0
JZK				eS	Sg	04 14 03.7	+2.2
JOKE	Okinoerabujima	1.42	182	P	Pn	04 13 45.7	-0.5
JOKE				eS	Sn	04 14 03.5	-1.5
JYRO	Yoronjima	1.77	185	eS	Sn	04 14 12.0	-1.4

*IDC **05** 04:14:04.4±0.8, 53°.70N×163°.71W, h0km, mb4.1/26, mb1 4.2/28, mb1mx4.1/61, mbtmp4.1/28, ML3.7/2, MS3.6/9, Ms1 3.6/9, ms1mx3.2/48, Error ellipse: s-maj=23.0km s-min=12.1km az=169.0*

*ISCJB **05** 04:14:05.5±1.0, 53°.52N±0°.05×163°.46W±0°.03, h22km±6km, mb4.4/52, MS3.5/8, Error ellipse: s-maj=7.9km s-min=3.1km az=167.4*

*MOS **05** 04:14:05.9±0.8, 53°.70N×163°.60W, h21km, mb4.8/16, Error ellipse: s-maj=14.9km s-min=7.5km az=70.7*

*NEIC **05** 04:14:06.5±0.0, 53°.45N×163°.55W, h20km, mb4.4/18, ML3.9(AEIC), After AEIC.*

ISC 05 04:14:07.5±0.6**, 53°.57N**±0°.08×**163°.56W**±0°.04**, h21**km±4km**, n193, σ1s.04**/196**, mb4.5**/63**, MS3.5**/8**, 7C-1D, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	West Dahl East	1.09	327	P	Pb	04 14 27.7	+0.1
WESP	Westdahl Peak	1.15	324	P	Pb	04 14 28.7	0.0
WESP				S	Sb	04 14 44.8	+1.7
WECS	Westdahl Cape	1.20	324	P	Pb	04 14 29.5	0.0
WEBT	Westdahl Beart	1.24	326	P	Pb	04 14 30.0	-0.1
SSBA	Shishaldin	1.25	345	P	Pb	04 14 30.1	-0.2
SSBA				S	Sb	04 14 47.9	+1.9
SSLN	Shishaldin Nor	1.27	349	P	Pb	04 14 31.2	+0.6
FALS	False Pass	1.29	4	P	Pb	04 14 30.8	-0.2
AKSA	Akutan Strait	1.38	295	P	Pn	04 14 31.2	-0.3
AKSA				S	Sb	04 14 49.3	-0.5
AKUT	Akutan	1.43	294	P	Pn	04 14 32.0	-0.1
AKUT				S	Sb	04 14 50.7	-0.3
AHB	Akutan Harbor	1.44	293	P	Pn	04 14 32.1	-0.2
ZRO	Akutan Zero	1.52	291	P	Pn	04 14 33.2	-0.3
AKLV	Akutan Long Va	1.54	294	P	Pn	04 14 33.3	-0.3
AKMO	Akutan Morgan	1.54	291	P	Pn	04 14 33.5	-0.2
AKMO				S	Sb	04 14 54.1	-0.2
AKGG	Akutan Green G	1.57	295	P	Pn	04 14 34.1	0.0
AKRB	Akutan Reef Bi	1.59	292	P	Pn	04 14 34.1	-0.2
UNV	Unalaska Valle	1.77	280	P	Pn	04 14 35.9	-0.8
UNV				S	Sn	04 14 56.4	-2.2
MTBL	Makushin Table	1.89	283	P	Pn	04 14 38.2	-0.3
MREP	Makushin Rep't	1.91	278	P	Pn	04 14 38.2	-0.6
MSW	Makushin Switc	1.94	281	P	Pn	04 14 38.6	-0.6
MCIR	Makushin Cirqu	2.01	282	P	Pn	04 14 40.0	-0.2
SDPT	Sand Point	2.53	44	P	Pn	04 14 48.0	+0.7
SDPT				S	Sn	04 15 17.8	+0.4
OKER	Okmok East Rim	2.68	269	P	Pn	04 14 49.3	-0.1
OKSP	Okmok Steeple	2.85	265	P	Pn	04 14 50.9	-0.8
NIKH	Nikolski High	3.23	261	P	Pn	04 14 56.1	-0.8
VNSS	Veniaminof 8	3.56	40	P	Pn	04 15 03.1	+1.5
CHGN	Chignik	4.04	45	P	Pn	04 15 08.9	+0.9
ATKA	Atka Island	6.58	262	P	Pn	04 15 42.6	-0.3
OHAK	Old Harbor	6.90	54	ePn	Pn	04 15 46.6	-0.6
KDAK	Kodiak Island	7.50	51	Pn	Pn	04 15 53.9	-1.6
	2.3nm,0.3s,baz=190,slow=5.1,SNR=22						
KDAK				Sn	Sn	04 17 13.1	-6.7
	0.7nm,0.3s,baz=62,slow=17,SNR=1.4						
KDAK	Kodiak Island	7.50	51	i P	Pn	04 15 55.0	-0.5
ADK	Adak	8.14	263	ePn	Pn	04 16 05.3	+1.0
ADK	Adak	8.14	263	eP	Pn	04 16 05.3	+1.0
KIWB	Kanaga Island	8.43	264	ePn	Pn	04 16 08.4	+0.2
SVW2	Sparrevohn	8.69	27	ePn	Pn	04 16 13.2	+1.5
RSO	Redoubt South	9.07	36	ePn	Pn	04 16 18.1	+0.9
SPU	Mount Spurr	9.82	35	ePn	Pn	04 16 28.4	+1.0
SEW	Seward	10.12	44	ePn	Pn	04 16 31.3	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SUA	Susitna One	10.47	36	ePn	Pn	04 16 36.2	-0.1
RC01	Rabbit Creek A	10.59	39	ePn	Pn	04 16 37.2	-0.6
GAMB	Gambell	11.06	341	ePn	Pn	04 16 45.2	+1.0
ANM	Nome	11.07	356	ePn	Pn	04 16 45.8	+1.5
ANM	Nome	11.07	356	eP	Pn	04 16 45.8	+1.5
PPLA	Purkeypile	11.09	28	ePn	Pn	04 16 46.4	+1.7
PMR	Palmer	11.14	38	ePn	Pn	04 16 46.1	+0.8
PMR	Palmer	11.14	38	eP	Pn	04 16 46.1	+0.8
GHO	Glory Hole Cre	11.33	38	ePn	Pn	04 16 46.5	-1.4
CAST	Castle Rocks	11.53	27	ePn	Pn	04 16 51.7	+1.0
SML	Sawmill	11.57	38	ePn	Pn	04 16 51.2	0.0
SML	Sawmill	11.57	38	eP	Pn	04 16 51.2	0.0
EYAK	Cordova Ski Ar	11.92	47	ePn	Pn	04 16 55.0	-1.0
SCM	Sheep Creek Mo	11.96	40	ePn	Pn	04 16 55.5	-1.1
SCM	Sheep Creek Mo	11.96	40	eP	Pn	04 16 55.5	-1.1
TRF	Thorofare Moun	12.06	30	ePn	Pn	04 16 58.7	+0.6
DIV	Divide	12.20	45	ePn	Pn	04 16 59.6	-0.2
KLU	Klutina	12.33	43	ePn	Pn	04 17 00.2	-1.4
BPAW	Bear Paw Mtn.	12.37	27	ePn	Pn	04 17 03.4	+1.2
RND	Reindeer	12.47	32	ePn	Pn	04 17 03.2	-0.3
RND	Reindeer	12.47	32	eP	Pn	04 17 03.2	-0.3
MCK	McKinley	12.68	31	ePn	Pn	04 17 06.9	+0.6
MCK	McKinley	12.68	31	eP	Pn	04 17 06.9	+0.6
DHY	Denali Highway	12.73	35	ePn	Pn	04 17 06.2	-1.0
HARP	HAARP	13.13	40	ePn	Pn	04 17 11.8	-0.7
MLY	Manley	13.19	24	ePn	Pn	04 17 13.8	+0.5
PAX	Paxson	13.34	38	ePn	Pn	04 17 14.8	-0.6
PAX	Paxson	13.34	38	eP	Pn	04 17 14.8	-0.6
IM3	Indian Mountai	13.37	18	ePn	Pn	04 17 15.1	-0.6
MDM	Murphy Dome	13.79	28	ePn	Pn	04 17 21.5	0.0
RIDG	Independ'e Rid	14.03	36	ePn	Pn	04 17 24.6	-0.2
IL1	Eielson Array	14.05	30	ePn	Pn	04 17 25.0	0.0
ILAR	Eielson Array	14.05	30	Pn	Pn	04 17 21.6	-3.4
	0.2nm,0.3s,baz=219,slow=13,SNR=14						
ILB	Eielson Array	14.05	30	ePn	Pn	04 17 24.7	-0.3
SCRK	Sand Creek	14.48	36	ePn	Pn	04 17 30.4	-0.6
RDOG	Red Dog Mine	14.54	1	ePn	Pn	04 17 31.6	-0.1
COLD	Coldfoot	15.15	20	ePn	Pn	04 17 40.4	+0.6
	9.6nm,1.0s						
HYT	Haines Junctio	15.79	52	ePn	Pn	04 17 49.5	+1.1
	13nm,0.9s						
DAWY	Dawson	16.22	40	ePn	Pn	04 17 54.6	+0.7
	10nm,0.8s						
SKAG	Skagway	16.57	58	ePn	Pn	04 17 58.5	+0.3
	14nm,1.0s						
WHY	Whitehorse	17.01	54	ePn	P	04 18 04.9	-0.7
	18nm,0.9s						
DLBC	Dease Lake	19.24	62	LR	LR	04 24 54.8	
	comp=Z,115nm,20.7s,baz=308,slow=34						
BILL	Bilibino	20.33	327	⇑eP	Pn	04 18 43.0	-1.0
INK	Inuvik	20.43	32	P	P	04 18 41.2	-1.6
	5.1nm,1.0s,baz=225,slow=17,SNR=14						
INK				LR	LR	04 27 00.7	
	comp=Z,211nm,20.0s,baz=256,slow=38						
INK	Inuvik	20.43	32	eP	P	04 18 42.3	-0.6
	7.6nm,0.8s						
INK	Inuvik	20.43	32	eP	P	04 18 42.3	-0.6
INK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BBB	Bella Bella	21.31	79	LR	LR	04 24 36.2	
	comp=Z,103nm,18.9s,baz=297,slow=30						
PETK	Petropavlovsk-	22.95	285	P	P	04 19 08.3	-1.7
	comp=Z,2.8nm,0.4s,baz=88,slow=12,SNR=14						
YKA	Yellowknife Ar	26.78	51	P	P	04 19 46.3	+0.9
	comp=Z,1.6nm,0.7s,baz=268,slow=7.8,SNR=32						
YKA				PcP	PcP	04 23 07.9	+0.2
	comp=Z,0.3nm,0.6s,baz=281,slow=1.9,SNR=4.2						
HAWA	Hanford	28.82	86	eP	P	04 20 05.3	+1.4
	comp=Z,42nm,1.4s						
NEW	Newport	29.33	81	LR	LR	04 29 39.4	
	comp=Z,106nm,19.6s,baz=307,slow=32						
WDC	Whiskeytown Da	30.36	99	eP	P	04 20 19.6	+2.0
	comp=Z,32nm,1.8s						
WDC	Whiskeytown Da	30.36	99	eP	P	04 20 19.6	+2.0
WDC				pmax	pmax		
	comp=Z,32nm,1.8s						
F10A	Beach Ranch, E	30.41	85	eP	P	04 20 20.9	+2.8
	comp=Z,41nm,1.8s						
MOD	Modoc Plateau	30.87	94	eP	P	04 20 23.0	+0.7
	comp=Z,70nm,1.9s						
TIXI	Tiksi	33.55	328	P	P	04 20 44.2	-0.9
	comp=Z,2.3nm,0.3s,baz=99,slow=14,SNR=6.3						
RES	Resolute Bay	33.75	26	P	P	04 20 46.7	-0.2
	comp=Z,0.9nm,0.5s,baz=271,slow=10,SNR=5.2						
RES	Resolute Bay	33.75	26	eP	P	04 20 46.5	-0.4
	comp=Z,1.6nm,0.8s						
RES	Resolute Bay	33.75	26	eP	P	04 20 46.5	-0.4
RES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KVN	Kaiserville	33.97	97	eP	P	04 20 55.3	+5.8
	comp=Z,21nm,1.8s						
KVN	Kaiserville	33.97	97	eP	P	04 20 55.3	+5.9
KVN				pmax	pmax		
	comp=Z,21nm,1.8s						
NVAR	Mina Array Bea	34.25	98	LR	LR	04 32 16.6	
	comp=Z,57nm,21.9s,baz=292,slow=32						
ELK	Elko	34.59	92	P	P	04 20 55.4	+0.5
	comp=Z,1.4nm,0.7s,baz=292,slow=11,SNR=4.2						
ELK				LR	LR	04 32 30.2	
	comp=Z,103nm,20.9s,baz=319,slow=32						
ASAJ	Asahikawa	35.88	277	LR	LR	04 34 56.0	
	comp=Z,105nm,21.5s,baz=348,slow=35						
FCC	Fort Churchill	37.44	53	eP	P	04 21 19.3	+0.6
	comp=Z,6.4nm,1.0s						
FCC	Fort Churchill	37.44	53	eP	P	04 21 19.3	+0.6
FCC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
PFO	Pinyon Flats O	38.64	102	LR	LR	04 34 46.6	
	comp=Z,120nm,19.0s,baz=275,slow=32						
ULM	Lac du Bonnet	40.47	66	P	P	04 21 44.2	+0.1
	comp=Z,1.4nm,0.6s,baz=288,slow=8.7,SNR=2.9						
VLA	Vladivostok	42.75	283	⇑eP	P	04 22 04.1	+1.2
VLA				pmax	pmax		
	comp=Z,18nm,0.3s						
MJAR	Matsushiro Arr	43.22	271	P	P	04 22 06.3	-0.5
	comp=Z,0.8nm,0.6s,baz=37,slow=7.2,SNR=3.8						
MAJO	Matsushiro	43.22	271	eP	P	04 22 07.0	+0.1
	comp=Z,14nm,0.9s						
MAJO	Matsushiro	43.22	271	eP	P	04 22 07.0	+0.1
MAJO				pmax	pmax		
	comp=Z,14nm,0.9s						
FRB	Frobisher Bay	45.91	38	P	P	04 22 28.0	0.0
	comp=Z,12nm,1.0s,baz=306,slow=7.8,SNR=14						
FRB	Frobisher Bay	45.91	38	P	P	04 22 28.0	0.0
DAG	Danmarks Havn	48.03	10	i P	P	04 22 43.8	-0.5
	comp=Z,7.8nm,1.0s						
DAG				i		04 23 55.5	
DAG	Danmarks Havn	48.03	10	i P	P	04 22 43.8	-0.5
DAG				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SUMG	Summit	48.54	19	i P	P	04 22 49.3	+0.5
SUMG				i		04 23 03.7	
SUMG	Summit	48.54	19	i P	P	04 22 49.3	+0.5
KSRS	Korea Array	48.71	280	P	P	04 22 49.8	-0.3
	comp=Z,1.4nm,0.9s,baz=64,slow=6.5,SNR=3.4						
KSAR	Wonju Array Be	48.74	280	P	P	04 22 49.8	-0.5
KSAR	Wonju Array Be	48.74	280	P	P	04 22 49.8	-0.5
TXAR	Lajitas Array	49.27	95	P	P	04 22 55.2	+0.5
	comp=Z,0.9nm,0.7s,baz=296,slow=5.1,SNR=11						
TXAR				LR	LR	04 42 31.9	
	comp=Z,71nm,18.3s,baz=0.0,slow=35						
HDIL	Hopedale	49.98	73	eP	P	04 22 58.3	-1.5
SCHQ	Schefferville	52.10	47	P	P	04 23 15.4	-0.1
	comp=Z,4.7nm,1.0s,baz=310,slow=7.9,SNR=2.7						
ULN	Ulaanbaatar	53.29	303	eP	P	04 23 23.9	-0.7
	comp=Z,2.6nm,0.5s						
ULN	Ulaanbaatar	53.29	303	⇓eP	P	04 23 24.7	+0.1
ULN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SONM	Songino Array	53.64	303	P	P	04 23 26.5	-0.7
	comp=Z,2.1nm,0.6s,baz=43,slow=7.7,SNR=12						
SONM				PcP	PcP	04 24 33.3	0.0
	comp=Z,0.6nm,0.8s,baz=38,slow=3.0,SNR=2.2						
BJI	Beijing	53.72	290	P	P	04 23 26.2	-1.4
HHC	Hu-ho-hao-te	55.71	294	eP	P	04 23 42.0	-0.2
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,1µm,3.8s						
ARCES	ARCESS Array B	57.02	356	P	P	04 23 49.8	-1.2
	comp=Z,1.6nm,0.7s,baz=2.0,slow=6.4,SNR=5.7						
NJ2	Nanjing	57.80	281	eP	P	04 23 58.7	+1.7
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ZALV	Zalesovo Beam	58.83	320	P	P	04 24 02.7	-1.2
	comp=Z,0.9nm,0.5s,baz=33,slow=5.6,SNR=4.7						
ZALV				PcP	PcP	04 24 53.4	+0.2
	comp=Z,0.8nm,0.5s,baz=35,slow=5.5,SNR=2.5						
DGZ	Jazzator, Alta	61.03	315	⇑eP	P	04 24 19.8	+0.5
DGZ				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GTA	Gaotai	62.98	300	eP	P	04 24 30.7	-1.8
GTA				pP	pP	04 24 35.4	-3.8
GTA				sP	sP	04 24 37.8	-4.0
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
LZH	Lanzhou	63.33	295	eP	P	04 24 35.6	+0.7
LZH				pP	pP	04 24 40.3	-1.3
LZH				sP	sP	04 24 43.3	-0.9
LZH				pmax	pmax		
	comp=Z,26nm,1.0s						
KURK	Kurchatov	63.72	321	eP	P	04 24 36.4	-0.6
KURK	Kurchatov	63.72	321	⇑eP	P	04 24 37.7	+0.7
KURK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KURBB	Kurchatov Arra	63.83	321	P	P	04 24 37.1	-0.7
	comp=Z,1.5nm,0.4s,baz=36,slow=6.9,SNR=9.0						
SVE	Sverdlovsk	64.19	335	eP	P	04 24 39.8	-0.2
SVE				pmax	pmax		
	comp=Z,13nm,1.2s						
BRVK	Borovoye	64.68	327	eP	P	04 24 42.7	-0.6
	comp=Z,7.0nm,1.1s						
BRVK	Borovoye	64.68	327	⇑eP	P	04 24 43.2	-0.1
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ARU	Arti	65.06	336	eP	P	04 24 45.0	-0.7
ARU	Arti	65.06	336	P	P	04 24 46.0	+0.3
ARU						04 27 06.2	
ARU				S	S	04 33 26.2	-0.2
ARU				SS	SS	04 37 38.5	+1.0
FINES	FINESS Array B	65.08	355	P	P	04 24 45.0	-0.7
	comp=Z,4.9nm,0.8s,baz=11,slow=8.9,SNR=6.3						
FINES	FINESS Array B	65.08	355	i P	P	04 24 45.5	-0.2
FINES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MK31	Makanchi Array	65.44	316	eP	P	04 24 47.6	-0.8
MK31	Makanchi Array	65.44	316	eP	P	04 24 47.6	-0.8
MKAR	Makanchi Array	65.44	316	P	P	04 24 47.5	-1.0
	comp=Z,0.7nm,0.5s,baz=42,slow=7.2,SNR=11						
MK01	Makanchi Array	65.46	316	eP	P	04 24 47.7	-0.8
WMQ	Urumqi	65.47	311	eP	P	04 24 51.0	+2.3
NB2	NORSAR Subarra	65.66	3	P	P	04 24 49.2	-0.4
	comp=Z,1.0nm,0.7s,baz=357,slow=6.2						
NOA	NORSAR Array B	65.66	3	P	P	04 24 49.5	-0.1
	comp=Z,3.8nm,1.0s,baz=357,slow=6.6,SNR=5.6						
OBN	Obninsk	70.41	348	eP	P	04 25 20.0	+0.6
OBN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ABKAR	Akbulak array	71.16	332	eP	P	04 25 23.9	-0.2
AAK	Ala-Archa	72.01	319	eP	P	04 25 28.9	-0.7
	comp=Z,2.8nm,0.7s						
AAK	Ala-Archa	72.01	319	⇑eP	P	04 25 29.8	+0.2
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KK31	Karatay Array	73.13	322	eP	P	04 25 36.5	+0.5
KK31	Karatay Array	73.13	322	eP	P	04 25 36.5	+0.5
KKAR	Karatay Array	73.13	322	eP	P	04 25 35.9	-0.1
KKAR	Karatay Array	73.13	322	eP	P	04 25 35.9	-0.1
KSH	Kashi	74.05	316	P	P	04 25 44.4	+2.8
KSH				pP	sP	04 25 53.6	+2.6
KSH				PP	PP	04 28 33.9	+7.5
KSH				pmax	pmax		
	comp=Z,14nm,1.2s						
KSH				pmax	pmax		
	comp=Z,320nm,5.2s						
CLL	Collm	75.45	2	eP	P	04 25 50.0	+0.6
CLL	Collm	75.45	2	eP	P	04 25 50.0	+0.6
AKASG	Malin Array Be	75.54	352	P	P	04 25 49.1	-0.8
	comp=Z,2.1nm,0.5s,baz=13,slow=5.9,SNR=6.3						
KIEV	Kiev	75.55	352	eP	P	04 25 49.0	-0.9
	comp=Z,2.6nm,0.5s						
KIEV	Kiev	75.55	352	⇑eP	P	04 25 49.9	0.0
KIEV				pmax	pmax		
	comp=Z,12nm,2.0s						
GERES	GERESS Array B	77.93	2	P	P	04 26 04.0	+0.4
	comp=Z,0.7nm,0.6s,baz=359,slow=3.9,SNR=2.9						
GERES	GERESS Array B	77.93	2	P	P	04 26 04.0	+0.4
GERES	GERESS Array B	77.93	2	P	P	04 26 04.0	+0.4
CONA	Conrad Observa	78.87	0	i pP	P	04 26 10.5	+1.7
	comp=Z,4.4nm,1.2s						
GUN	Gumba	79.14	302	eP	P	04 26 10.9	0.0
	comp=Z,17nm,0.7s						
JIRN	Jiri	79.19	302	eP	P	04 26 11.4	+0.2
	comp=Z,32nm,0.5s						
MOTA	Moosalm	79.36	4	i P	P	04 26 12.8	+1.2
	comp=Z,5.9nm,1.0s						
WTTA	Wattenberg	79.46	3	i pP	P	04 26 13.7	+1.6
	comp=Z,6.8nm,1.0s						
SQTA	Sankt Quirin	79.48	4	i pP	P	04 26 13.8	+1.7
	comp=Z,5.5nm,0.9s						
RAMN	Ramite	79.56	301	eP	P	04 26 12.8	-0.3
	comp=Z,9.7nm,0.6s						
PKIN	Phulchoki	79.66	303	eP	P	04 26 13.5	-0.1
FETA	Feichten	79.67	4	i pP	P	04 26 14.8	+1.6
	comp=Z,6.6nm,1.0s						
CMAR	Chiang Mai Arr	79.70	287	P	P	04 26 13.2	-0.4
	comp=Z,1.3nm,0.3s,baz=15,slow=5.5,SNR=5.3						
CMAR	Chiang Mai Arr	79.70	287	i P	P	04 26 16.0	+2.4
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
DANN	Dangsing	79.83	304	eP	P	04 26 14.7	+0.1
	comp=Z,37nm,0.6s						
ABTA	Abfaltersbach	80.00	3	i P	P	04 26 16.2	+1.3
	comp=Z,6.0nm,1.3s						
SOKA	Soboth	80.12	1	i P	P	04 26 15.9	+0.3
KIV	Kislovodsk	80.28	341	eP	P	04 26 16.8	+0.3
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
OBKA	Obir	80.28	1	i pP	P	04 26 17.9	+1.4
	comp=Z,7.2nm,0.8s						
KOLN	Koldanda	80.39	304	eP	P	04 26 17.4	-0.1
	comp=Z,36nm,1.3s						
PYUN	Piuthan	80.42	305	eP	P	04 26 17.5	-0.1
	comp=Z,19nm,0.7s						
KBZ	Khabaz	80.45	341	P	P	04 26 16.0	-1.3
	comp=Z,2.4nm,0.9s,baz=315,slow=4.3,SNR=2.2						
ZEI	Tsey	81.16	340	eP	P	04 26 11.6	-10
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GEYT	Alibeck	82.00	328	P	P	04 26 25.7	0.0
	comp=Z,3.1nm,0.7s,baz=22,slow=8.0,SNR=3.8						
GNI	Garni	83.51	339	eP	P	04 26 33.3	-0.4
GNI	Garni	83.51	339	eP	P	04 26 33.3	-0.4
ESDC	Sonseca Array	85.47	16	P	P	04 26 44.0	+0.5
	comp=Z,0.2nm,0.5s,baz=337,slow=4.9,SNR=4.7						
BR131	Keskin Array S	85.89	347	eP	P	04 26 46.2	+0.6
BRTR	Keskin Array B	85.89	347	P	P	04 26 46.3	+0.6
	comp=Z,2.1nm,0.8s,baz=356,slow=2.5,SNR=6.6						
WRA	Warramunga Arr	90.55	236	P	P	04 27 08.2	+0.4
	comp=Z,0.4nm,1.0s,baz=34,slow=5.9,SNR=2.7						

IDC 05 04:15:03.3±2.1, 5°.87S×151°.11E, h0km, mb3.4/4, mb1 3.8/4, mb1mx3.5/38, mbtmp3.5/4, Error ellipse: s-maj=91.5km s-min=29.1km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.48	228	P	P	04 19 53.9	+0.2
	0.7nm,0.5s,baz=54,slow=11,SNR=6.1						
ASAR	Alice Springs	24.23	221	P	P	04 20 22.3	+0.1
	1.2nm,0.5s,baz=58,slow=8.6,SNR=13						
MKAR	Makanchi Array	80.03	319	P	P	04 27 14.2	-0.6
	0.2nm,0.6s,baz=104,slow=6.1,SNR=2.6						
ILAR	Eielson Array	83.78	22	P	P	04 27 35.1	+0.9
	0.3nm,0.8s,baz=230,slow=5.5,SNR=2.2						
TORD	Torodi Ar. Bea	149.01	286	PKPbc	PKPbc	04 34 53.5	-0.9
	0.3nm,0.6s,baz=64,slow=3.4,SNR=6.2						

*MOS **05** 04:32:44.7±1.0, 36°.40N×71°.45E, h119km, mb4.8/67, Error ellipse: s-maj=5.2km s-min=3.5km az=113.2*

*GCMT **05** 04:32:44.3±0.4, 36°.13N±0°.03×71°.08E±0°.04, h98km±4km, MW4.9/64, Moment Tensor Solution. s15,c16; s64,c85; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.95±.11; $M_{\theta\theta}$-1.31±.17; $M_{\phi\phi}$-0.63±.15; $M_{r\theta}$-1.00±.09; $M_{\theta\phi}$-2.28±.13; $M_{\phi r}$0.03±.09; Best double couple: $M_0$2.91700×10^{16} NP1:ϕ_s255.00000°, δ60.00000°, λ126.00000°. NP2: ϕ_s20.00000°, δ46.00000°, λ45.00000°. Principal axes: T 2.4530, Plg58.0000°, Azm217.0000°; N 0.9340, Plg30.0000°, Azm55.0000°; P -3.3810, Plg8.0000°, Azm320.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*ISCJB **05** 04:32:44.2±0.3, 36°.39N±0°.02×71°.45E±0°.02, h115km±3km, mb4.7/163 Error ellipse: s-maj=3.2km s-min=2.9km az=10.7*

*BJI **05** 04:32:45.9, 36°.48N×71°.51E, h113km, mb4.7/41, mB5.2/22*

*NEIC **05** 04:32:45.3±0.4, 36°.41N×71°.38E, h113km±3km, mb4.8/60, Error ellipse: s-maj=3.5km s-min=3.1km az=185.0*

NEIC Felt at Topi, Pakistan.

*IDC **05** 04:32:46.2±0.4, 36°.35N×71°.37E, h120km±3km, mb4.3/39, mb1 4.4/44, mb1mx4.3/56, mbtmp4.7/44, Error ellipse: s-maj=8.6km s-min=7.1km az=14.0*

*NNC **05** 04:32:47.3±3.2, 36°.69N×70°.84E, h137km±47km, mb4.6, mpv5.3, Error ellipse: s-maj=34.2km s-min=18.3km az=157.0*

ISC 05 04:32:45.1±0.3, 36°.35N±0°.03×71°.31E±0°.03, h115km±3km, h115km:pP-P, n427, σ2s.03/483, mb4.7/164, 49C-15D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.57	169	P	Pn	04 33 27.3	+1.5
KBL	Kabul	2.58	226	ePn	Pn	04 33 27.1	+1.1
KBL	Kabul	2.58	226	ePN	Pn	04 33 27.1	+1.1
CHCP	Chirah Chowk	3.13	149	P	Pn	04 33 34.5	+1.5
NIL	Nilore	3.13	149	ePn	Pn	04 33 34.6	+1.6
NIL				eSn	Sn	04 34 08.4	-1.6
NIL	Nilore	3.13	149	ePN	Pn	04 33 34.6	+1.6
THW	Thamme Wali	3.56	174	P	Pn	04 33 39.9	+1.1
SFK	Sufi-Kurgan	4.05	25	⇑P	Pn	04 33 46.6	+1.2
	208nm,0.4s						
SFK				⇓S	Sn	04 34 33.5	+1.4
	327nm,0.4s						
SFK	Sufi-Kurgan	4.05	25	PN	Pn	04 33 46.6	+1.2
SFK				S	Sn	04 34 33.5	+1.4
SFK				pmax	pmax		
	comp=Z,208nm,0.4s						
SFK				smax	smax		
	comp=N,327nm,0.4s						
KSH	Kashi	4.86	48	P	Pn	04 33 50.4	-5.8
KSH				sP		04 34 20.0	
KSH				S	Sn	04 34 38.5	-13
KSH				pmax	pmax		
	comp=N,690nm,0.6s						
KSH				LR	LR		
	comp=N,530nm,9.6s						
DHRM	DHARAMSHALA	5.81	133	eP	Pn	04 34 09.2	0.0
DHRM				eS	Sn	04 35 12.8	-2.0
DHRM				IAML		04 35 34.4	
	comp=E,900nm,0.4s						
DHRM				IAML		04 35 35.3	
AML	Almayashu	6.06	17	P	Pn	04 34 12.0	-0.7
	SNR=1167						
NRN	Naryn	6.26	34	ePn	Pn	04 34 14.0	-1.3
NRN				eSn	Sn	04 35 23.8	-1.8
NRN	Naryn	6.26	34	ePN	Pn	04 34 14.0	-1.3
NRN				e		04 35 23.8	
UCH	Uchtor	6.38	22	P	Pn	04 34 16.2	-0.7
	SNR=220						
KZA	Kyzart	6.49	27	P	Pn	04 34 17.3	-1.1
	SNR=58						
EKS2	Erkin-Say	6.59	16	P	Pn	04 34 18.9	-0.6
	SNR=264						
AAK	Ala-Archa	6.75	20	P	Pn	04 34 21.3	-0.4
	comp=E,82nm,0.3s,baz=165,slow=5.9,SNR=700						
AAK				S	Sn	04 35 33.6	-3.5
	comp=E,60nm,0.3s,baz=313,slow=21,SNR=11						
AAK	Ala-Archa	6.75	20	P	Pn	04 34 21.4	-0.4
	SNR=278						
AAK	Ala-Archa	6.75	20	ePn	Pn	04 34 21.3	-0.4
AAK				eSn	Sn	04 35 32.9	-4.2
AAK	Ala-Archa	6.75	20	⇓P	Pn	04 34 21.1	-0.6
	comp=E,105nm,0.4s						
AAK				⇑S	Sn	04 35 34.7	-2.4
	comp=E,462nm,0.8s						
AAK	Ala-Archa	6.75	20	i P	Pn	04 34 21.4	-0.4
	SNR=322						
AAK	Ala-Archa	6.75	20	d i PN	Pn	04 34 21.2	-0.4
AAK				pmax	pmax		
	comp=Z,87nm,0.4s						
AAK	Ala-Archa	6.75	20	P	Pn	04 34 21.3	-0.4
	SNR=29						
AAK				S	Sn	04 35 33.6	-3.5
KK31	Karatay Array	6.77	355	ePn	Pn	04 34 20.4	-1.5
KK31	Karatay Array	6.77	355	⇑P	Pn	04 34 20.6	-1.4
	comp=Z,330nm,0.3s,baz=180,slow=13						
KK31				⇓S	Sn	04 35 31.4	-6.2
	comp=Z,258nm,0.5s,baz=186,slow=22						
KK31	Karatay Array	6.77	355	ePN	Pn	04 34 20.4	-1.5
KKAR	Karatay Array	6.77	355	ePn	Pn	04 34 20.4	-1.5
KKAR				eSn	Sn	04 35 31.1	-6.4
KKAR	Karatay Array	6.77	355	ePN	Pn	04 34 20.4	-1.5
KBK	Karagaybulak	6.90	23	P	Pn	04 34 23.4	-0.4
	SNR=40						
FRU1	Bishkek	6.94	21	ePn	Pn	04 34 24.3	0.0
FRU1	Bishkek	6.94	21	ePN	Pn	04 34 24.3	0.0
FRU	Bishkek	6.96	21	⇓ePN	Pn	04 34 24.0	-0.5
FRU				pmax	pmax		
	comp=Z,300nm,1.8s						
ULHL	Ulahol	7.02	32	P	Pn	04 34 25.8	+0.3
	SNR=14						
SMLA	Simla	7.14	135	eP	Pn	04 34 25.7	-1.2
SMLA				eS	Sn	04 35 43.8	-2.6
SMLA				IAML		04 35 49.1	
	comp=N,2µm,0.1s						
SMLA				IAML		04 35 49.6	
	comp=E,794nm,0.7s						
CHMS	Chumysh	7.15	21	P	Pn	04 34 26.3	-0.8
	SNR=114						
USP	Ospenovka	7.33	19	P	Pn	04 34 28.2	-1.3
	SNR=308						
TKM2	Tokmak 2	7.35	25	P	Pn	04 34 29.2	-0.8
	SNR=158						
TKM2	Tokmak 2	7.35	25	⇓P	Pn	04 34 29.5	-0.4
	comp=E,82nm,0.5s						
TKM2				⇑S	Sn	04 35 49.6	-2.3
	comp=E,63nm,0.7s						
TKM2	Tokmak 2	7.35	25	PN	Pn	04 34 29.5	-0.4
TKM2				pmax	pmax		
	comp=Z,82nm,0.4s						
KDJ	Kajisay	7.35	36	ePn	Pn	04 34 28.5	-1.4
KDJ	Kajisay	7.35	36	ePN	Pn	04 34 28.5	-1.4
AAA	Alma-Ata	8.10	30	ePN	Pn	04 34 43.1	+3.2
AAA				eS	Sn	04 36 13.0	+3.3
AAA				pmax	pmax		
	comp=Z,200nm,0.9s						
AAA				smax	smax		
	comp=E,1µm,5.7s						
MDOK	Medeo	8.11	31	⇑P	Pn	04 34 40.3	+0.1
	comp=E,29nm,0.7s						
MDOK				S	Sn	04 36 15.6	+5.3
	comp=E,59nm,1.2s						
DDI	Dehra Dun	8.24	135	eP	Pn	04 34 40.4	-1.6
DDI				eS	Sn	04 36 06.9	-6.6
DDI				IAML		04 36 20.1	
	comp=N,602nm,0.2s						
DDI				IAML		04 36 21.1	
	comp=E,640nm,0.3s						
NDI	New Delhi	9.13	145	eP	Pn	04 34 53.0	-0.9
NDI				eS	Sn	04 36 27.0	-7.8
PDGK	Podgornoye	9.39	40	⇑P	Pn	04 34 57.3	-0.1
	comp=E,46nm,0.9s						
PDGK	Podgornoye	9.39	40	P	Pn	04 34 57.3	-0.1
PDGK				pmax	pmax		
	comp=Z,46nm,0.9s						
GEYT	Alibeck	10.65	282	P	Pn	04 35 10.7	-3.7
	comp=Z,26nm,0.3s,baz=120,slow=12,SNR=26						
GEYT				S	Sn	04 37 05.3	-6.3
	comp=Z,52nm,0.3s,baz=108,slow=14,SNR=13						
GYA0B	ALIBECK ARRAY	10.65	282	⇑P	Pn	04 35 10.8	-3.6
	comp=Z,70nm,0.4s						
GYA0B				⇑S	Sn	04 37 03.9	-7.7
	comp=Z,287nm,0.5s						
OTUK	Ortayu	11.91	3	⇓P	Pn	04 35 27.8	-3.4
	comp=Z,45nm,0.8s						
OTUK	Ortayu	11.91	3	P	Pn	04 35 27.8	-3.4
OTUK				pmax	pmax		
	comp=Z,45nm,0.8s						
BHJ	Bhuj	13.13	187	eP	Pn	04 35 42.4	-4.8

BHJ IAmb IAmb 04 35 46.5
comp=Z,133nm,0.5s
MK01 Makanchi Array 13.26 35 *e*Pn **Pn 04 35 47.5 -1.2**
MK31 Makanchi Array 13.27 35 *e*Pn **Pn 04 35 48.2 -0.7**
MK31 Makanchi Array 13.27 35 ⇑P **Pn 04 35 47.6 -1.3**
comp=Z,17nm,0.7s,baz=235,slow=17,SNR=232
MK31 Makanchi Array 13.27 35 *e*P **Pn 04 35 48.2 -0.7**
MKAR Makanchi Array 13.27 35 P **Pn 04 35 48.0 -1.0**
comp=Z,0.5nm,0.3s,baz=199,slow=2.6,SNR=55
MKAR Makanchi Array 13.27 35 *e*Pn **Pn 04 35 48.2 -0.7**
MKAR Makanchi Array 13.27 35 P **Pn 04 35 48.0 -1.0**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
BHPL Bhopal 14.10 156 *e*P **Pn 04 35 57.6 -2.1**
BHPL IAmb IAmb 04 35 58.3
comp=Z,64nm,1.1s
WMQ Urumqi 14.58 54 *e*P **Pn 04 36 05.0 -0.9**
WMQ sP P 04 36 34.2 +25
WMQ S **Sn 04 38 42.8 -4.0**
JBP Jabalpur 15.13 148 *ex* **Sn 04 38 52.3 -7.9**
KURBB Kurchatov Arra 15.19 18 P **Pn 04 36 09.4 -4.0**
comp=Z,0.6nm,0.3s,baz=208,slow=9.0,SNR=20
KURBB S **S 04 39 06.2 -3.8**
baz=203,slow=14,SNR=3.0
KURBB Kurchatov Arra 15.19 18 ⇑P **Pn 04 36 10.1 -3.3**
comp=Z,39nm,0.8s
KURK Kurchatov 15.30 18 *e*Pn **Pn 04 36 13.7 -1.0**
comp=Z,35nm,0.8s
KURK S **Sn 04 39 06.2 +2.4**
KURK Kurchatov 15.30 18 *ce*P **Pn 04 36 13.6 -1.0**
KURK pmax pmax
comp=Z,5.0nm,0.9s
KURK Kurchatov 15.30 18 P **P 04 36 16.0 -0.9**
SNR=10
AB31 Akbulak array 15.34 331 P **Pn 04 36 12.3 -2.9**
comp=Z,49nm,0.5s,baz=137,slow=12,SNR=633
AB31 Akbulak array 15.34 331 P **Pn 04 36 12.3 -2.9**
AB31 pmax pmax
comp=Z,49nm,0.4s
ABKAR Akbulak array 15.34 331 *e*Pn **Pn 04 36 11.9 -3.3**
BANOM Banah 16.50 235 *i* P **P 04 36 32.7 +2.2**
SNR=12
BANOM *i* P **Pn 04 36 32.9 +3.0**
SNR=9.1
SHME Shamm 16.53 236 P **P 04 36 32.5 +1.8**
NGP Nagpur 16.59 154 IAmb IAmb 04 36 30.7
comp=Z,47nm,1.3s
NGP *e*P **Pn 04 36 31.4 +0.5**
BVA0 Borovoye Array 16.69 358 ⇑P **Pn 04 36 28.0 -3.9**
comp=Z,23nm,0.6s,baz=224,slow=44,SNR=5.2
BVA0 Borovoye Array 16.69 358 P **Pn 04 36 28.0 -3.9**
BVA0 pmax pmax
comp=Z,23nm,0.6s
BVAR Borovoye Array 16.69 358 P **Pn 04 36 29.1 -2.7**
comp=Z,4.7nm,0.3s,baz=166,slow=12,SNR=62
BVAR S **Sn 04 39 29.1 -8.1**
comp=Z,2.4nm,0.3s,baz=170,slow=20,SNR=6.0
BRVK Borovoye 16.72 358 *e*Pn **Pn 04 36 30.0 -2.3**
comp=Z,41nm,0.8s
BRVK *e*Sn Sn 04 39 25.7 -12
BRVK Borovoye 16.72 358 *d i*P **Pn 04 36 29.5 -2.8**
BRVK pmax pmax
comp=Z,58nm,1.0s
BRVK Borovoye 16.72 358 P **Pn 04 36 29.7 -2.6**
SNR=18
MSFE Esma-Masafi 16.98 234 P **Pn 04 36 38.6 +2.9**
AKTO Aktyubinsk 17.03 330 P **P 04 36 35.4 -0.7**
comp=Z,6.2nm,0.3s,baz=137,slow=13,SNR=83
AKTO S Sn 04 39 32.5 -13
comp=Z,1.4nm,0.3s,baz=20,slow=18,SNR=1.8
AKTO Aktyubinsk 17.03 330 ⇓P **P 04 36 34.8 -1.4**
comp=Z,132nm,0.6s
WSAR Wadi Sarin 17.06 223 P **Pn 04 36 38.1 +1.4**
comp=Z,1.2nm,0.3s,baz=55,slow=9.6,SNR=12
WSAR Wadi Sarin 17.06 223 P **Pn 04 36 38.3 +1.6**
UOSS Minazif 17.24 233 *e*P **Pn 04 36 39.8 +0.9**
comp=Z,85nm,1.7s
UOSS Minazif 17.24 233 P **Pn 04 36 39.7 +0.9**
UOSS Minazif 17.24 233 P **Pn 04 36 39.6 +0.8**
ASHO Ashiyiah 17.52 233 *i* P **Pn 04 36 43.8 +1.6**
SNR=9.8
ASHO Ashiyiah 17.52 233 P **Pn 04 36 43.9 +1.6**
JLN Jalan Bani Buh 17.52 219 P **Pn 04 36 44.1 +1.8**
SNR=5.7
JLN S **S 04 39 49.1 -9.0**
BOK Bokaro 17.74 131 IAmb IAmb 04 36 45.4
comp=Z,43nm,0.7s
BOK *e*P **Pn 04 36 46.2 +1.3**
DGZ Jazzator, Alta 17.75 36 ⇑*i*P **P 04 36 43.3 -0.9**
DGZ pmax pmax
comp=Z,13nm,0.6s
POO Poona 17.89 172 *e*P **P 04 36 46.0 +0.1**
LSA Lhasa 17.90 106 *e*P **P 04 36 46.5 +0.2**
comp=Z,103nm,1.0s
LSA Lhasa 17.90 106 *i* P **P 04 36 46.6 +0.3**
SNR=24
LSA Lhasa 17.90 106 *e*P **P 04 36 46.5 +0.2**
LSA pmax pmax
comp=Z,103nm,1.0s
ASUD Al Ashush, Dub 18.03 234 P **Pn 04 36 50.1 +1.7**
MHTO MHTO 19.24 221 P **Pn 04 37 03.5 +0.9**
SNR=12
HYB Hyderabad 19.92 159 *i* P **Pn 04 37 10.0 -0.6**
HYB *e*S **S 04 40 45.0 -0.9**
HYB Hyderabad 19.92 159 *e*P **P 04 37 09.7 +1.7**
HYB IAmb IAmb 04 37 12.5
comp=Z,42nm,0.7s
ZALV Zalesovo Beam 19.95 24 P **P 04 37 07.4 -0.5**
comp=Z,9.9nm,0.3s,baz=225,slow=9.9,SNR=155
ZALV S **S 04 40 40.6 -5.3**
baz=216,slow=14,SNR=3.0
ZALV Zalesovo Beam 19.95 24 *i* P **P 04 37 07.3 -0.6**
ZALV pmax pmax
comp=Z,53nm,0.5s
NVS Novosibirsk 20.24 20 ⇓*i*P **P 04 37 11.0 +0.1**
NVS *i* *PP **pP 04 37 36.0 +2.5**
NVS *i* 04 37 47.8
NVS *i* S **S 04 40 46.8 -4.7**
NVS *e*SS Sn 04 41 17.5 +15
NVS pmax pmax
comp=Z,33nm,0.9s
NVS pmax pmax
comp=N,31nm,0.9s
NVS pmax pmax
comp=E,6.0nm,0.8s
NVS smax smax
comp=N,15nm,1.5s
NVS smax smax
comp=E,18nm,1.3s
BWNR Bhubaneshwar 20.42 138 *ex* **P 04 37 08.1 -5.1**
SHL Shillong 20.62 116 *e*P **P 04 37 15.3 -0.3**
comp=E,74nm,1.0s
SHL Shillong 20.62 116 *e*P **P 04 37 15.3 -0.3**
SHL pmax pmax
comp=Z,74nm,1.0s
SHL Shillong 20.62 116 *e*P **P 04 37 16.0 +0.4**
GOA Goa 20.89 173 *e*P **P 04 37 18.3 0.0**
GOA IAmb IAmb 04 37 24.2
comp=Z,28nm,0.5s
GNI Garni 21.18 288 P **P 04 37 24.3 +2.9**
comp=Z,48nm,0.8s,baz=349,slow=0.6,SNR=28
GNI Garni 21.18 288 *e*P **P 04 37 24.1 +2.7**
comp=Z,130nm,1.0s
GNI Garni 21.18 288 *i* P **P 04 37 24.8 +3.3**
SNR=27
GNI Garni 21.18 288 *ce*P **P 04 37 25.0 +3.6**
GNI Garni 21.18 288 P **P 04 37 24.7 +3.3**
SNR=19
TBLG Delisi 21.28 293 *e*P **P 04 37 23.0 +0.6**
comp=Z,72nm,0.6s
TBLG Delisi 21.28 293 *e*P **P 04 37 23.0 +0.6**
TBLG pmax pmax
comp=Z,72nm,0.6s
SVE Sverdlovsk 21.71 344 ⇓*e*P **P 04 37 27.0 +0.3**
SVE *e*S **S 04 41 19.9 +0.1**
SVE pmax pmax
comp=Z,84nm,1.5s
ARU Arti 21.86 341 *e*P **P 04 37 28.2 0.0**
comp=Z,274nm,1.5s
ARU Arti 21.86 341 *c i*P **P 04 37 28.8 +0.6**
ARU 04 37 58.1
ARU S **S 04 41 23.3 +0.8**
ARU SS **SnSn 04 42 08.6 +9.4**
ARU pmax pmax
comp=Z,217nm,1.6s

ZEI Tsey 22.03 295 *e*P **P 04 37 31.9 +1.5**
ZEI pmax pmax
comp=Z,19nm,0.6s
AKH Akhalkalaki 22.19 292 *e*P **P 04 37 33.8 +1.7**
comp=Z,40nm,0.9s
AKH Akhalkalaki 22.19 292 ⇑*i*P **P 04 37 35.8 +3.7**
AKH Akhalkalaki 22.19 292 *e*P **P 04 37 33.8 +1.7**
AKH pmax pmax
comp=Z,40nm,0.9s
BRDH Bariadhala 22.27 122 P **P 04 37 34.9 +2.0**
comp=Z,59nm,0.3s,baz=80,slow=15,SNR=4.2
NCK Nalchik 22.35 297 ⇓*e*P **P 04 37 34.9 +1.3**
NCK pmax pmax
comp=Z,62nm,0.8s
GTA Gaotai 22.67 74 ⇑P **P 04 37 38.2 +1.3**
GTA pP pP 04 38 02.0 +1.9
GTA sP sP 04 38 15.0 +0.1
GTA S **S 04 41 37.2 +0.6**
GTA pmax pmax
comp=Z,33nm,0.9s
GTA pmax pmax
comp=Z,270nm,7.3s
GTA LR LR
comp=Z,220nm,13.3s
GTA LR LR
comp=Z,260nm,13.0s
GTA LR LR
comp=Z,200nm,13.0s
KBZ Khabaz 22.89 298 P **P 04 37 39.7 +0.9**
comp=Z,5.5nm,0.6s,baz=120,slow=7.1,SNR=21
KBZ S S 04 41 51.7 +12
comp=Z,3.2nm,0.8s,baz=273,slow=21,SNR=1.7
NEY Neytrino 22.95 296 ⇑*i*P **P 04 37 43.7 +4.1**
NEY pmax pmax
comp=Z,30nm,2.2s
GOF Gofitskoye 23.03 301 *e*P **P 04 37 41.6 +1.4**
GOF pmax pmax
comp=Z,160nm,1.7s
KVAR Kislovodsk Arr 23.07 298 P **P 04 37 42.7 +2.0**
comp=Z,5.7nm,0.7s,baz=72,slow=20,SNR=6.2
KVAR S S 04 41 56.5 +14
comp=Z,8.4nm,0.7s,baz=195,slow=16,SNR=2.9
KIV Kislovodsk 23.08 298 *ce*P **P 04 37 41.7 +0.9**
comp=Z,76nm,1.0s
KIV Kislovodsk 23.08 298 *ce*P **P 04 37 41.4 +0.6**
KIV *e**PP **pP 04 38 05.0 +1.4**
KIV *e* 04 38 18.7
KIV *e* 04 41 24.0
KIV pmax pmax
comp=Z,11nm,0.5s
DMTO DMTO 23.53 222 P **P 04 37 46.5 +1.5**
ABTO Aybut 24.74 225 P **P 04 37 56.9 +0.9**
RAYN Ar Rayn 25.67 247 *e*P **P 04 38 04.0 -0.3**
comp=Z,18nm,1.0s
RAYN Ar Rayn 25.67 247 P **P 04 38 05.4 +1.0**
RAYN Ar Rayn 25.67 247 *e*P **P 04 38 04.1 -0.3**
RAYN pmax pmax
comp=Z,18nm,1.0s
VRH Novokhopyorsk 25.79 314 *e*P **P 04 38 06.3 +1.1**
VRH pmax pmax
comp=Z,20nm,1.1s
MOY Mondy 26.04 45 *e*P **P 04 38 09.3 +1.7**
LZH Lanzhou 26.19 81 *e*P **P 04 38 14.1 +4.9**
LZH pP pP 04 38 39.2 +4.0
LZH sP sP 04 38 49.7 +0.7
LZH pmax pmax
comp=Z,24nm,1.0s
ZAK Zakamensk 26.90 49 *e*P **P 04 38 15.4 +0.1**
ZAK *e* 04 39 00.5
ZAK pmax pmax
comp=Z,3.0nm,1.4s
ANN Anapa 26.92 299 *e*P **P 04 38 15.4 0.0**
ANN *e**PP **pP 04 38 39.4 -1.8**
ANN *e*S **S 04 42 43.3 -0.5**
ANN pmax pmax
comp=Z,212nm,1.1s
VSR Storozhevoye 27.29 313 *e*P **P 04 38 19.3 +0.7**
VSR pmax pmax
comp=Z,30nm,1.1s
CD2 Chengdu 27.48 92 *e*P **P 04 38 20.0 -0.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,4.8s
LPSR Galich'ya Gora 27.93 316 *e*P **P 04 38 25.6 +1.3**
LPSR pmax pmax
comp=Z,20nm,0.6s
SONM Songino Array 28.22 55 P **P 04 38 28.3 +1.2**
comp=Z,2.7nm,0.5s,baz=262,slow=9.9,SNR=16
SONM pP **pP 04 38 54.8 +1.3**
comp=Z,3.0nm,0.9s,baz=261,slow=8.8,SNR=3.3
ULN Ulaanbaatar 28.66 55 *e*P **P 04 38 30.6 -0.4**
comp=Z,3.0nm,0.7s
ULN Ulaanbaatar 28.66 55 *i* P **P 04 38 29.6 -1.5**
ULN pmax pmax
comp=Z,3.0nm,0.9s
KMI Kunming 29.12 104 P **P 04 38 37.4 +1.9**
KMI pmax pmax
comp=Z,12nm,0.5s
KMI pmax pmax
comp=Z,340nm,7.4s
MMAI Mount Meron Ar 29.61 274 P **P 04 38 40.0 +0.4**
comp=Z,3.1nm,0.8s,baz=78,slow=13,SNR=3.3
MMAI PcP **PcP 04 41 41.8 +0.4**
comp=Z,1.1nm,0.4s,baz=67,slow=3.7,SNR=8.8
BR131 Keskin Array S 29.71 288 P **P 04 38 42.4 +1.9**
BRTR Keskin Array B 29.71 288 P **P 04 38 42.2 +1.7**
comp=Z,2.2nm,0.6s,baz=102,slow=9.8,SNR=18
BRTR PcP **PcP 04 41 40.6 -1.1**
comp=Z,0.9nm,0.5s,baz=110,slow=1.9,SNR=8.6
CHTO Chiang Mai 29.93 118 *e*P **P 04 38 42.2 -0.2**
comp=Z,4.6nm,0.6s
CHTO Chiang Mai 29.93 118 *e*P **P 04 38 42.2 -0.2**
CHTO pmax pmax
comp=Z,5.0nm,0.6s
MOS Moscow 29.93 321 *e*P **P 04 38 42.1 +0.1**
MOS *e* 04 39 24.3
MOS *e* 04 39 49.2
MOS *e*S **S 04 43 31.0 +0.1**
MOS pmax pmax
comp=Z,48nm,1.1s
PRGR Permogore 30.01 336 *e*P **P 04 38 43.0 +0.4**
PRGR pmax pmax
comp=Z,16nm,0.7s
CMAR Chiang Mai Arr 30.17 119 P **P 04 38 45.2 +0.7**
comp=Z,1.8nm,0.5s,baz=305,slow=9.3,SNR=9.3
CMAR Chiang Mai Arr 30.17 119 *ce*P **P 04 38 47.0 +2.5**
CMAR pmax pmax
comp=Z,2.0nm,0.5s
OBN Obninsk 30.21 319 P **P 04 38 45.6 +1.1**
comp=Z,8.0nm,0.4s,baz=128,slow=8.9,SNR=7.9
OBN Obninsk 30.21 319 *e*P **P 04 38 44.3 -0.2**
OBN *e**PP **pP 04 39 13.4 +3.0**
OBN *e* 04 39 50.2
OBN pmax pmax
comp=Z,78nm,1.4s
XAN Xi'an 30.70 83 P **P 04 38 49.1 0.0**
XAN pP pP 04 39 14.8 -0.7
XAN sP sP 04 39 27.7 -1.6
XAN pmax pmax
comp=Z,6.0nm,1.2s
HHC Hu-ho-hao-te 31.58 69 *e*P **P 04 38 57.3 +0.4**
HHC S **S 04 43 55.8 -1.5**
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,390nm,5.5s
HHC LR LR
comp=Z,220nm,11.1s
HHC LR LR
comp=Z,220nm,9.5s
HHC LR LR
comp=Z,240nm,11.9s
KLMR Klimovskoe 31.73 331 *e*P **P 04 38 57.2 -0.6**
KLMR pmax pmax
comp=Z,24nm,0.9s
KLMR Klimovskoe 31.73 331 *e*P **P 04 38 57.2 -0.6**
KLMR AMP 04 39 00.1
comp=Z,24nm,0.8s
ENH Enshi 32.33 90 *e*P **P 04 39 03.8 +0.4**
comp=Z,15nm,0.8s
UTHA Uthaitani 32.49 122 P P 04 39 09.9 +5.0
comp=Z,4.4nm,0.9s
UTHA Uthaitani 32.49 122 P P 04 39 09.9 +5.0
comp=Z,4.4nm,0.9s,comp=Z,0.0nm

AKASG Malin Array Be 33.23 309 P **P 04 39 11.8 +0.8**
comp=Z,6.4nm,0.5s,baz=82,slow=7.5,SNR=54
KIEV Kiev 33.24 309 *e*P **P 04 39 11.8 +0.7**
comp=Z,15nm,0.6s
KIEV Kiev 33.24 309 *i* P **P 04 39 11.8 +0.7**
SNR=16
KIEV Kiev 33.24 309 *i* P **P 04 39 12.5 +1.4**
KIEV pmax pmax
comp=Z,48nm,1.6s
CFR Carcaliu 33.53 299 ⇑*i*P **P 04 39 17.4 +3.8**
CFR Carcaliu 33.53 299 P **P 04 39 17.3 +3.7**
CHAI Chaiyaphum 34.03 119 P **P 04 39 21.9 +3.6**
CHAI Chaiyaphum 34.03 119 P **P 04 39 21.9 +3.6**
VRI Vrincioaia 34.52 300 ⇑*i*P **P 04 39 25.8 +3.6**
VRI Vrincioaia 34.52 300 ⇑P **P 04 39 25.8 +3.6**
PLOR Plostina 34.57 300 ⇑*i*P **P 04 39 25.7 +3.0**
PLOR Plostina 34.57 300 ⇑P **P 04 39 25.7 +3.0**
BIZ Bicaz 34.96 302 ⇑*i*P **P 04 39 28.0 +2.0**
MLR Muntele Rosu 35.07 299 *e*P **P 04 39 27.9 +0.8**
comp=Z,50nm,1.5s
MLR Muntele Rosu 35.07 299 ⇑*i*P **P 04 39 30.6 +3.5**
MLR Muntele Rosu 35.07 299 ⇑P **P 04 39 30.6 +3.5**
BJI Beijing 35.17 70 P **P 04 39 30.0 +2.1**
BJI pmax pmax
comp=Z,10.0nm,0.7s
BOD Bodaibo 35.31 39 *e*P **P 04 39 28.7 -0.1**
BOD pmax pmax
comp=Z,15nm,1.6s
DOPR Dopca 35.45 300 ⇑*i*P **P 04 39 33.4 +3.1**
NACGM Naroch 35.49 316 *e* **P 04 39 30.0 -0.4**
BURAR Bucovina Array 35.57 303 ⇑*i*P **P 04 39 33.5 +2.1**
KSV Kosov 35.70 304 P P 04 39 44.4 +12
VOIR 35.70 299 ⇑*i*P **P 04 39 34.5 +2.0**
VOIR 35.70 299 P **P 04 39 34.5 +2.0**
JOF Joensuu 36.12 330 P **P 04 39 37.7 +2.0**
JOF pmax pmax
comp=Z,37nm,0.5s
ARCR ARCALIA 36.16 302 ⇑*i*P **P 04 39 39.4 +3.2**
LVV L'vov 36.45 307 *e*P **P 04 39 40.4 +1.7**
VSU Vasula 36.46 322 *ce*P **P 04 39 41.6 +3.0**
VSU pmax pmax
comp=Z,77nm,1.7s
MORS Morshin 36.50 306 P **P 04 39 41.4 +2.3**
LOT Lotru 36.60 299 ⇑*i*P **P 04 39 42.5 +2.3**
DRGR 37.28 302 ⇑*i*P **P 04 39 48.1 +2.2**
DRGR 37.28 302 ⇑P **P 04 39 48.1 +2.2**
KWP Kalwaria Pacla 37.30 306 *e*P **P 04 39 46.9 +1.0**
KWP Kalwaria Pacla 37.30 306 *e*P **P 04 39 46.9 +1.0**
GZR Gura Zlata 37.30 299 ⇑*i*P **P 04 39 47.2 +1.1**
GZR Gura Zlata 37.30 299 P **P 04 39 47.2 +1.1**
TRPA Tarpa 37.38 304 ⇑*i*P **P 04 39 50.0 +3.4**
SUW Suwalki 37.40 314 *e*P **P 04 39 44.8 -1.8**
SUW Suwalki 37.40 314 *e*P **P 04 39 44.8 -1.8**
LVZ Lovozero 37.69 338 *e*P **P 04 39 49.2 +0.2**
comp=Z,38nm,1.4s
LVZ Lovozero 37.69 338 *e*P **P 04 39 49.2 +0.2**
LVZ pmax pmax
comp=Z,38nm,1.4s
FINES FINESS Array B 37.75 326 P **P 04 39 50.0 +0.6**
comp=Z,8.9nm,0.4s,baz=117,slow=9.0,SNR=128
FINES FINESS Array B 37.75 326 *i* P **P 04 39 50.7 +1.2**
FINES pmax pmax
comp=Z,9.0nm,0.4s
APA Apatity 37.87 337 ⇓*i*P **P 04 39 49.3 -1.1**
APA pmax pmax
comp=Z,5.0nm,1.1s
APA MLR MLR
comp=Z,1μm,14.0s
SIRR Siria 38.03 301 ⇑*i*P **P 04 39 54.6 +2.5**
MDVR Moldovita 38.10 298 ⇑*i*P **P 04 39 54.6 +1.9**
BZS Buzias 38.10 300 ⇑*i*P **P 04 39 54.2 +1.5**
BZS Buzias 38.10 300 ⇑P **P 04 39 54.2 +1.5**
SUF Sumiainen 38.18 328 P **P 04 39 55.5 +2.4**
SUF pmax pmax
comp=Z,36nm,0.9s
MSF Maaselka 38.43 334 P **P 04 39 57.1 +1.9**
MSF pmax pmax
comp=Z,27nm,2.0s
NIE Niedzica 38.86 306 *e*P **P 04 40 00.2 +1.2**
NIE Niedzica 38.86 306 *e*P **P 04 40 00.3 +1.2**
PSZ Piszkesteto 39.16 304 *e*P **P 04 40 01.9 +0.4**
comp=Z,17nm,1.3s
PSZ Piszkesteto 39.16 304 *e*P P 04 40 14.0 +12
PSZ Piszkesteto 39.16 304 *e*P **P 04 40 02.0 +0.4**
PSZ pmax pmax
comp=Z,17nm,1.3s
OJC Ojcow 39.19 307 *e*P **P 04 40 02.8 +1.1**
OJC Ojcow 39.19 307 *e*P **P 04 40 02.8 +1.1**
OUL Oulu 39.23 332 P **P 04 40 03.9 +2.1**
OUL pmax pmax
comp=Z,38nm,3.0s
NJ2 Nanjing 39.25 82 *e*P **P 04 40 03.0 +0.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
DIVS Divibare 39.40 298 *e*P **P 04 40 02.8 -0.8**
comp=Z,12nm,1.2s
VYHS Vyhne 39.85 305 *e*P **P 04 40 09.8 +2.6**
VYHS *e* 04 41 46.4
VYHS Vyhne 39.85 305 *e*P **P 04 40 09.8 +2.6**
VYHS *e*PP **PnPn 04 41 46.4 +1.2**
MORC Moravsky Berou 40.65 307 *e*P **P 04 40 14.6 +0.7**
comp=Z,5.3nm,0.7s
MORC Moravsky Berou 40.65 307 ⇑*i*P **P 04 40 15.6 +1.7**
MORC Moravsky Berou 40.65 307 ⇑P **P 04 40 15.6 +1.7**
MORC Moravsky Berou 40.65 307 *e*P **P 04 40 15.6 +1.7**
GKP Gorka Klasztor 40.86 312 *e*P **P 04 40 17.3 +1.9**
GKP Gorka Klasztor 40.86 312 *e*P **P 04 40 17.3 +1.9**
VRAC Vranov 41.29 306 ⇑*i*P **P 04 40 21.7 +2.7**
VRAC Vranov 41.29 306 ⇑P **P 04 40 21.7 +2.7**
VRAC Vranov 41.29 306 *e*P **P 04 40 21.7 +2.7**
ARCES ARCESS Array B 41.38 338 P **P 04 40 20.3 +0.8**
comp=Z,12nm,0.5s,baz=117,slow=9.1,SNR=136
ARE0 ARCESS Array S 41.38 338 *e*P **P 04 40 21.1 +1.6**
DPC Dobruska-Polom 41.42 308 *e*P **P 04 40 21.9 +1.8**
DPC Dobruska-Polom 41.42 308 *e*P **P 04 40 21.9 +1.8**
KSP Ksiaz 41.42 308 *e*P **P 04 40 22.2 +2.1**
KSP Ksiaz 41.42 308 *e*P **P 04 40 22.2 +2.1**
KRUC Moravsky 41.43 306 P **P 04 40 24.0 +3.8**
KRUC pmax pmax
comp=Z,8.0nm,2.0s
KRUC Moravsky 41.43 306 *e*P **P 04 40 22.9 +2.7**
UPC Upice 41.61 308 *e*P **P 04 40 23.4 +1.7**
UPC Upice 41.61 308 *e*P **P 04 40 23.4 +1.7**
KTK1 Kautokeino 41.85 336 *e*P **P 04 40 24.3 +0.9**
CONA Conrad Observa 41.87 304 *e*P **P 04 40 26.0 +2.1**
comp=Z,5.6nm,0.8s
ARSA Arzberg 42.16 303 *e*P **P 04 40 28.4 +2.2**
comp=Z,4.7nm,1.1s
BSD Bornholm Skovb 42.29 315 *i* P **P 04 40 31.1 +4.0**
BSD Bornholm Skovb 42.29 315 *e*P **P 04 40 31.1 +4.0**
HAMF Hammerfest 42.46 339 *e*P **P 04 40 29.9 +1.7**
SOKA Soboth 42.56 302 *e*P **P 04 40 31.6 +2.1**
comp=Z,5.5nm,0.6s
PRU Pruhonice 42.58 307 *e*P **P 04 40 30.6 +1.1**
PRU Pruhonice 42.58 307 *e*P **P 04 40 30.6 +1.1**
OBKA Obir 42.91 302 *e*P **P 04 40 34.4 +2.1**
comp=Z,3.1nm,1.0s
BRG Berggiesshubel 42.91 308 *i* P **P 04 40 33.2 +1.0**
comp=Z,10nm,0.8s
comp=N,685nm,11.3s
comp=E,985nm,17.0s
comp=Z,1μm,16.8s
BRG Berggiesshubel 42.91 308 *i* P **P 04 40 33.2 +1.0**
BRG pmax pmax
comp=Z,68nm,0.8s
BRG MLR MLR
comp=N,10μm,11.3s
BRG MLR MLR
comp=E,685nm,17.0s
BRG MLR MLR
comp=Z,985nm,16.8s
CUC Castrocucco 43.19 292 *e*P **P 04 40 35.8 +1.2**
comp=Z,15nm,0.8s
GERES GERESS Array B 43.22 305 P **P 04 40 35.1 +0.3**
comp=Z,0.5nm,0.5s,baz=81,slow=8.2,SNR=4.9
GERES PP **PcP 04 42 26.9 +4.9**
comp=Z,1.0nm,0.6s,baz=89,slow=8.9,SNR=3.6
KHC Kasperske Hory 43.27 306 *e*P **P 04 40 35.9 +0.7**
comp=Z,9.7nm,2.0s
KHC Kasperske Hory 43.27 306 *e*P **P 04 40 37.6 +2.4**
KHC Kasperske Hory 43.27 306 *e*P **P 04 40 37.6 +2.4**
HFS Hagfors 43.34 322 P **P 04 40 36.1 +0.6**
comp=Z,20nm,0.6s,baz=95,slow=12,SNR=84
HFS PP **PcP 04 42 21.3 -0.7**

comp=Z,3.5nm,0.5s,baz=98,slow=11,SNR=2.3
CLL Collm 43.48 309 *e*P **P 04 40 37.8 +1.1**
comp=Z,17nm,1.6s
CLL Collm 43.48 309 *e*P **P 04 40 38.0 +1.3**
CLL *e*PP **PP 04 42 21.0 +1.2**
CLL *e* 04 42 28.0
CLL Collm 43.48 309 *e*P **P 04 40 38.0 +1.3**
CLL *e* 04 42 21.0
TRO Tromso 43.51 336 *e*P **P 04 40 37.8 +1.2**
NKC Novy Kostel 43.91 308 P P 04 40 45.5 +5.3
NKC pmax pmax
comp=Z,3.0nm,1.6s
MNSI Mandailing Nat 44.02 137 P **P 04 40 45.4 +4.0**
MOR8 Moi Rana 44.07 331 *e*P **P 04 40 41.5 +0.3**
STEI Steigen 44.22 333 *e*P **P 04 40 43.4 +1.1**
ABTA Abfaltersbach 44.27 303 *i* P **P 04 40 44.8 +1.6**
comp=Z,4.7nm,1.5s
NC602 NORSAR Array S 44.46 323 *e*P **P 04 40 44.9 +0.5**
NORES NORESS Array B 44.46 323 P **P 04 40 44.7 +0.3**
NORES pmax pmax
comp=Z,2.0nm,0.3s
NB2 NORSAR Subarra 44.65 323 P **P 04 40 46.3 +0.3**
comp=Z,22nm,0.8s,baz=95,slow=7.9
NB2 NORSAR Subarra 44.65 323 P **P 04 40 46.3 +0.3**
baz=95,slow=7.9
NOA NORSAR Array B 44.65 323 P **P 04 40 46.1 +0.2**
comp=Z,8.7nm,0.6s,baz=96,slow=7.8,SNR=72
NOA pP **pP 04 41 15.5 +2.4**
comp=Z,4.0nm,0.7s,baz=96,slow=7.8,SNR=2.5
NOA PP **PP 04 42 32.0 -0.2**
comp=Z,1.1nm,0.5s,baz=103,slow=9.9,SNR=3.8
KONS Konsvik 44.66 331 *e*P **P 04 40 47.0 +1.1**
KSAR Wonju Array Be 44.67 71 P **P 04 40 47.0 +0.6**
KSRS Korea Array 44.70 71 P **P 04 40 47.0 +0.4**
comp=Z,4.1nm,0.6s,baz=279,slow=6.8,SNR=13
GRFO Grafenberg 44.75 307 *e*P **P 04 40 47.3 +0.4**
comp=Z,5.6nm,0.5s
GRFO Grafenberg 44.75 307 *e*P **P 04 40 47.3 +0.4**
GRFO pmax pmax
comp=Z,6.0nm,0.5s
LOF Lofoten 44.89 333 *e*P **P 04 40 48.2 +0.5**
KLR Kul'dur 45.03 54 *i* P **P 04 40 49.4 +0.3**
SQTA Sankt Quirin 45.08 303 *i* P **P 04 40 50.4 +0.7**
comp=Z,3.3nm,0.5s
MOTA Moosalm 45.13 304 *i* P **P 04 40 50.6 +0.5**
comp=Z,1.4nm,0.5s
RETA Reutte 45.34 304 *i* P **P 04 40 52.5 +0.8**
comp=Z,3.7nm,1.3s
KONO Kongsberg 45.36 321 *e*P **P 04 40 52.1 +0.6**
comp=Z,95nm,1.8s
KONO Kongsberg 45.36 321 *e*P **P 04 40 52.1 +0.6**
KONO pmax pmax
comp=Z,95nm,1.8s
KONO Kongsberg 45.36 321 *e*P **P 04 40 52.4 +0.9**
FETA Feichten 45.43 303 *i* P **P 04 40 53.2 +0.7**
comp=Z,1.5nm,0.5s
FUORN Ofenpass-Fuorn 45.82 303 *e*P **P 04 40 56.7 +1.0**
comp=Z,24nm,1.8s
TIXI Tiksi 45.82 22 P **P 04 40 54.9 0.0**
comp=Z,9.3nm,0.3s,baz=284,slow=4.9,SNR=17
TIXI pP **pP 04 41 22.7 -0.2**
comp=Z,4.2nm,0.4s,baz=276,slow=5.4,SNR=2.0
TIXI Tiksi 45.82 22*ce*P **P 04 40 55.5 +0.5**
TIXI pmax pmax
comp=Z,19nm,1.7s
DAVA Damuels 45.96 304 *i* P **P 04 40 57.8 +1.1**
comp=Z,6.4nm,0.4s
USRK Ussuriysk Ar. 46.03 61 P **P 04 40 57.1 +0.1**
comp=Z,1.5nm,0.6s,baz=306,slow=10.0,SNR=4.6
DAVOX Davos/Dischmat 46.05 303 P **P 04 40 57.5 +0.1**
comp=Z,2.7nm,0.5s
DAVOX pP **pP 04 41 25.6 +0.4**
DAVOX PcP **PcP 04 42 31.6 -0.3**
CDF Champ du Feu 47.50 306 P **P 04 41 12.6 +4.0**
CDF pmax pmax
comp=Z,7.0nm,1.0s
SPA0 Spitsbergen Ar 47.70 347 *e*P **P 04 41 11.7 +2.1**
SPITS Spitsbergen Ar 47.70 347 *e*P **P 04 41 11.0 +1.4**
comp=Z,9.4nm,0.6s,baz=102,slow=15,SNR=25
SPITS PcP **PcP 04 42 37.2 +0.2**
comp=Z,30nm,1.2s,baz=142,slow=4.9,SNR=3.5
SENIN Lac Senin/Sane 47.88 303 *e*P **P 04 41 12.0 +0.3**
comp=Z,11nm,1.1s
HINF Hinteralfeld 47.89 305 *e*P **P 04 41 12.7 +1.2**
HINF pmax pmax
comp=Z,4.0nm,0.8s
WLF Walferdange 48.01 308 *e*P **P 04 41 13.8 +1.4**
comp=Z,50nm,0.9s
WLF Walferdange 48.01 308 *e*P **P 04 41 13.8 +1.4**
WLF pmax pmax
comp=Z,51nm,0.9s
WLF Walferdange 48.01 308 ||P **P 04 41 15.8 +3.5**
HAU Haudompre 48.18 305 *e*P **P 04 41 15.0 +1.2**
HAU pmax pmax
comp=Z,24nm,1.5s
JNU Nakatsue 48.39 75 P **P 04 41 17.1 +1.5**
comp=Z,12nm,0.6s,baz=255,slow=4.5,SNR=13
JNU Nakatsue 48.39 75 *e*P **P 04 41 16.0 +0.5**
comp=Z,46nm,1.5s
LPG La Plagne 48.44 302 *e*P **P 04 41 17.6 +1.5**
LPG pmax pmax
comp=Z,5.0nm,0.8s
LPL La Plagne 48.45 302 *e*P **P 04 41 17.4 +1.4**
LPL pmax pmax
comp=Z,9.0nm,1.0s
BNI Bardonecchia 48.59 301 *e*P **P 04 41 18.1 +1.1**
comp=Z,12nm,1.2s
BNI Bardonecchia 48.59 301 *e*P **P 04 41 18.1 +1.1**
BNI pmax pmax
comp=Z,12nm,1.2s
MBDF Montbardon 48.60 301 *e*P **P 04 41 18.3 +1.1**
MBDF pmax pmax
comp=Z,4.0nm,0.7s
CABF La Chapelle 48.64 304 *e*P **P 04 41 18.8 +1.4**
CABF pmax pmax
comp=Z,8.0nm,0.9s
KBS Kingsbay 48.81 347 *e*P **P 04 41 18.9 +0.8**
comp=Z,24nm,0.6s
KBS Kingsbay 48.81 347*ce*P **P 04 41 17.0 -1.1**
KBS pmax pmax
comp=Z,279nm,1.7s
JOW Kunigami 48.84 84 P **P 04 41 19.3 +0.3**
comp=Z,9.4nm,0.3s,baz=243,slow=6.8,SNR=4.0
KMBO Kilima Mbogo 48.91 228 P **P 04 41 21.9 +1.9**
comp=Z,2.6nm,0.5s,baz=42,slow=13,SNR=5.4
KMBO Kilima Mbogo 48.91 228 *e*P **P 04 41 21.3 +1.4**
comp=Z,2.4nm,0.6s
KMBO Kilima Mbogo 48.91 228*ce*P **P 04 41 23.2 +3.3**
KMBO pmax pmax
comp=Z,3.0nm,0.5s
DOU Dourbes 48.93 308 ||P **P 04 41 22.9 +3.6**
BAIF Baives 49.18 308 *e*P **P 04 41 23.3 +2.0**
BAIF pmax pmax
comp=Z,9.0nm,0.9s
KEST Kesra 49.32 289 P **P 04 41 23.0 +0.4**
comp=Z,3.4nm,0.8s,baz=36,slow=14,SNR=4.5
TGY Tagaytay City 49.44 103 P **P 04 41 23.7 -0.1**
comp=Z,164nm,0.3s,baz=112,slow=13,SNR=3.2
LOR Lormes 49.98 305 *e*P **P 04 41 29.2 +1.7**
LOR pmax pmax
comp=Z,13nm,1.4s
VIVF Saint-Julien-l 50.02 302 *e*P **P 04 41 29.2 +1.4**
VIVF pmax pmax
comp=Z,3.0nm,0.7s
NKL Nikolayevsk 50.03 47 *e*P **P 04 41 28.0 +0.3**
NKL pmax pmax
comp=Z,18nm,0.7s
SMF Signal de Mont 50.14 304 *e*P **P 04 41 29.4 +0.7**
SMF pmax pmax
comp=Z,58nm,1.8s
SSF Saint Saulge 50.27 305 *e*P **P 04 41 30.3 +0.7**
SSF pmax pmax
comp=Z,17nm,1.4s
AVF Avril sur Loir 50.43 304 *e*P **P 04 41 31.5 +0.7**
AVF pmax pmax
comp=Z,8.0nm,1.0s
TCF Toulx Ste Croi 51.32 304 *e*P **P 04 41 38.6 +1.0**
TCF pmax pmax
comp=Z,13nm,1.3s
CAF Calviac 51.79 302 *e*P **P 04 41 42.1 +1.1**
CAF pmax pmax
comp=Z,30nm,2.1s
MTLF Montolieu 52.13 300 *e*P **P 04 41 44.3 +0.7**
MTLF pmax pmax
comp=Z,84nm,2.4s
LDF La Druitiere 52.27 307 *e*P **P 04 41 45.3 +0.8**
LDF pmax pmax
comp=Z,24nm,1.5s
FLN La Foliniere 52.45 308 *e*P **P 04 41 47.3 +1.5**
FLN pmax pmax
comp=Z,8.0nm,0.9s
MBAR Mbarara 52.62 235 P **P 04 41 48.8 +1.1**
comp=Z,5.5nm,0.3s,baz=350,slow=14,SNR=5.9
LFF La Frestale 52.69 303 *e*P **P 04 41 50.5 +2.9**
LFF pmax pmax
comp=Z,3.0nm,0.4s
MAJO Matsushiro 52.78 68 *e*P **P 04 41 48.0 -0.5**
comp=Z,22nm,1.1s
MAJO Matsushiro 52.78 68 *e*P **P 04 41 48.0 -0.5**
MAJO pmax pmax
comp=Z,22nm,1.1s
MAT Matsushiro 52.78 68 P **P 04 41 48.5 0.0**
MJAR Matsushiro Arr 52.78 68 P **P 04 41 49.0 +0.6**
comp=Z,6.5nm,0.9s,baz=287,slow=10,SNR=19
GRR Gorron 52.79 307 *e*P **P 04 41 49.8 +1.5**
GRR pmax pmax
comp=Z,27nm,1.5s
MFF Saint Martin d 52.81 305 *e*P **P 04 41 49.3 +0.8**
MFF pmax pmax
comp=Z,24nm,1.7s
EPF Esparros 53.54 300 *e*P **P 04 41 55.6 +1.6**
EPF pmax pmax
comp=Z,37nm,2.1s
SGMF Saint Gilles 53.92 307 *e*P **P 04 41 58.2 +1.6**
SGMF pmax pmax
comp=Z,101nm,2.4s
ETSF Etsaut 54.20 301 *e*P **P 04 41 59.0 +0.1**
ETSF pmax pmax
comp=Z,5.0nm,0.6s
QUIF Quistinic 54.41 307 *e*P **P 04 42 01.1 +1.0**
QUIF pmax pmax
comp=Z,24nm,1.2s
DAG Danmarks Havn 54.94 344 *i* P **P 04 42 04.9 +1.3**
comp=Z,24nm,0.7s
DAG Danmarks Havn 54.94 344 *i* P **P 04 42 04.9 +1.3**
DAG pmax pmax
comp=Z,16nm,0.7s
ESDC Sonseca Array 57.75 298 P **P 04 42 24.6 +0.5**
comp=Z,0.9nm,0.4s,baz=56,slow=7.1,SNR=24
ESDC pP **pP 04 42 54.5 +1.6**
comp=Z,3.0nm,0.8s,baz=62,slow=7.2,SNR=5.3
PAB San Pablo 58.07 298 *e*P **P 04 42 26.9 +0.5**
comp=Z,2.8nm,0.9s
PAB San Pablo 58.07 298 *e*P **P 04 42 26.9 +0.5**
PAB pmax pmax
comp=Z,3.0nm,0.9s
BILL Bilibino 58.63 26 *e*P **P 04 42 29.7 0.0**
BILL *e**PP **pP 04 43 01.5 +2.8**
BILL *e* 04 43 15.8
BILL *e* 04 44 41.3
BILL *e*PPP PPP 04 46 01.6
BILL pmax pmax
comp=Z,13nm,1.7s
OPO Ambohidratompo 59.19 207 P **P 04 42 35.4 +1.0**
comp=Z,7.2nm,0.7s,baz=68,slow=10,SNR=6.5
ABPO Ambohimpanom 59.59 207 *e*P **P 04 42 37.7 +0.6**
comp=Z,11nm,0.7s
ABPO Ambohimpanom 59.59 207 *e*P **P 04 42 37.7 +0.6**
ABPO pmax pmax
comp=Z,11nm,0.7s
SUMG Summit 61.28 341 *e*P **P 04 42 48.8 +0.6**
comp=Z,25nm,0.8s
SUMG Summit 61.28 341 *i* P **P 04 42 50.4 +2.1**
comp=Z,61nm,0.7s
SUMG Summit 61.28 341 *i* P **P 04 42 50.4 +2.1**
SUMG pmax pmax
comp=Z,61nm,0.7s
TULEG Thule 64.63 350 *e*P **P 04 43 10.7 +0.9**
comp=Z,53nm,1.5s
LSZ Lusaka 65.53 226 P **P 04 43 17.3 +0.7**
comp=Z,9.4nm,0.6s,baz=37,slow=6.6,SNR=20
LSZ Lusaka 65.53 226 *e*P **P 04 43 17.1 +0.6**
comp=Z,10nm,0.6s
TOA0 Torodi Ar. Sit 65.96 269 P **P 04 43 17.9 -1.5**
TORD Torodi Ar. Bea 65.96 269 P **P 04 43 16.0 -3.4**
comp=Z,3.7nm,0.4s,baz=44,slow=6.3,SNR=79
TORD sP **sP 04 44 00.9 -0.4**
comp=Z,4.4nm,0.9s,baz=46,slow=6.2,SNR=2.1
SOEI Soe 67.67 122 *e*P **P 04 43 29.9 -0.4**
comp=Z,52nm,1.1s
RES Resolute Bay 68.87 356 *e*P **P 04 43 37.4 +0.7**
comp=Z,3.6nm,0.4s
RES Resolute Bay 68.87 356 *e*P **P 04 43 37.4 +0.7**
RES pmax pmax
comp=Z,4.0nm,0.4s
ANM Nome 70.08 23 *e*P **P 04 43 44.8 +0.5**
comp=Z,5.7nm,0.9s
ANM Nome 70.08 23 *e*P **P 04 43 44.8 +0.5**
ANM pmax pmax
comp=Z,6.0nm,0.9s
COLD Coldfoot 72.05 16 *e*P **P 04 43 56.2 +0.1**
comp=Z,4.0nm,0.9s
MLY Manley 73.75 17 *e*P **P 04 44 06.3 -0.1**
comp=Z,4.9nm,1.0s
INK Inuvik 74.01 9 P **P 04 44 08.4 +0.7**
comp=Z,4.9nm,0.4s,baz=338,slow=6.2,SNR=86
INK Inuvik 74.01 9 *e*P **P 04 44 08.2 +0.5**
comp=Z,23nm,1.3s
MDM Murphy Dome 74.39 16 *e*P **P 04 44 10.2 +0.1**
comp=Z,10nm,1.1s
BPAW Bear Paw Mtn. 74.46 18 *e*P **P 04 44 10.6 +0.1**
comp=Z,32nm,1.9s
COLA College 74.55 16 *e*P **P 04 44 11.0 +0.1**
comp=Z,5.8nm,0.8s
COLA College 74.55 16 *e*P **P 04 44 11.0 +0.1**
COLA pmax pmax
comp=Z,6.0nm,0.8s
FITZ Fitzroy Crossi 74.60 127 *e*P **P 04 44 12.2 +0.4**
comp=Z,19nm,1.3s
CAST Castle Rocks 74.75 19 *e*P **P 04 44 11.9 -0.1**
comp=Z,17nm,1.0s
ILAR Eielson Array 74.86 16 P **P 04 44 12.2 -0.4**
comp=Z,2.0nm,0.8s,baz=299,slow=4.5,SNR=24
DBIC Dimbokro 74.94 267 P **P 04 44 12.3 -1.6**
comp=Z,1.9nm,0.5s,baz=17,slow=7.1,SNR=12
TSUM Tsumeb 75.02 232 P **P 04 44 14.9 +0.5**
comp=Z,4.3nm,0.5s,baz=7.3,slow=7.0,SNR=16
TSUM Tsumeb 75.02 232 *e*P **P 04 44 14.7 +0.3**
comp=Z,4.8nm,0.5s
KIC Kosan Boka 75.02 267 *e*P **P 04 44 13.1 -1.4**
comp=Z,4.8nm,0.4s
TIC Toumodi 75.08 267 *e*P **P 04 44 13.7 -1.1**
MCK McKinley 75.27 17 *e*P **P 04 44 15.3 +0.2**
comp=Z,30nm,1.8s
MCK McKinley 75.27 17 *e*P **P 04 44 15.3 +0.2**
MCK pmax pmax
comp=Z,30nm,1.8s
LIC Lamto 75.33 267 *e*P **P 04 44 14.7 -1.5**
comp=Z,41nm,1.7s
RND Reindeer 75.56 17 *e*P **P 04 44 16.7 -0.2**
comp=Z,18nm,1.4s
RND Reindeer 75.56 17 *e*P **P 04 44 16.7 -0.2**
RND pmax pmax
comp=Z,18nm,1.4s
SCRK Sand Creek 76.18 15 *e*P **P 04 44 20.7 +0.3**
comp=Z,15nm,1.5s
RIDG Independ'e Rid 76.20 16 *e*P **P 04 44 20.6 +0.2**
comp=Z,47nm,2.0s
DHY Denali Highway 76.20 17 *e*P **P 04 44 20.7 +0.1**
comp=Z,6.1nm,0.6s
DOT Dot Lake 76.45 15 *e*P **P 04 44 20.9 -0.9**
comp=Z,25nm,1.3s
DAWY Dawson 77.01 13 *e*P **P 04 44 24.7 -0.3**
comp=Z,30nm,1.6s
HARP HAARP 77.30 16 *e*P **P 04 44 26.4 -0.2**
comp=Z,35nm,1.0s
BOSA Boshof 77.79 220 P **P 04 44 30.3 +0.5**
comp=Z,14nm,0.8s,baz=29,slow=7.0,SNR=22
KDAK Kodiak Island 79.24 22 *i* P **P 04 44 37.5 +0.2**
NWAO Narrogin (SRO) 81.20 142 P **P 04 44 47.5 -0.6**
comp=Z,4.7nm,0.7s,baz=340,slow=4.2,SNR=2.6
YKA Yellowknife Ar 81.38 3 P **P 04 44 48.8 +0.2**
comp=Z,4.8nm,0.5s,baz=349,slow=5.4,SNR=122
YKA pP **pP 04 45 18.6 -0.9**
comp=Z,1.4nm,0.6s,baz=348,slow=5.3,SNR=2.0
YKA PKKPbc **PKKPbc 05 03 19.8 -2.3**
comp=Z,0.2nm,0.6s,baz=163,slow=1.9,SNR=4.4
WRA Warramunga Arr 81.70 122 P **P 04 44 50.0 -1.0**
comp=Z,2.1nm,0.5s,baz=322,slow=5.0,SNR=40
WRA pP **pP 04 45 21.5 +0.1**
comp=Z,5.5nm,0.9s,baz=324,slow=5.4,SNR=8.0
WRA sP **sP 04 45 34.0 0.0**
comp=Z,2.5nm,0.6s,baz=324,slow=5.2,SNR=3.2
WRA PKKPbc **PKKPbc 05 03 21.9 0.0**
comp=Z,0.2nm,0.5s,baz=126,slow=2.1,SNR=7.1
WRA Warramunga Arr 81.70 122 *i* P **P 04 44 50.5 -0.5**
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRAB Tennant Creek 81.70 122 *e*P **P 04 44 50.4 -0.6**
comp=Z,2.3nm,0.5s
WRAB Tennant Creek 81.70 122 *e*P **P 04 44 50.4 -0.6**
WRAB pmax pmax
comp=Z,2.0nm,0.5s
SCHQ Schefferville 82.33 337 P **P 04 44 54.7 +0.8**
comp=Z,3.9nm,0.5s,baz=20,slow=5.7,SNR=13
ASAR Alice Springs 83.97 125 P **P 04 45 01.9 -0.7**
comp=Z,2.3nm,0.5s,baz=310,slow=4.9,SNR=37
ASAR pP **pP 04 45 33.6 +0.2**
comp=Z,5.8nm,1.0s,baz=320,slow=5.3,SNR=7.7
ASAR sP **sP 04 45 45.7 -0.2**
comp=Z,3.0nm,0.8s,baz=317,slow=5.2,SNR=4.0
PMG Port Moresby 84.33 106 *e*P **P 04 45 04.2 -0.4**
comp=Z,6.7nm,0.8s
PMG Port Moresby 84.33 106 *e*P **P 04 45 04.2 -0.4**
PMG pmax pmax
comp=Z,7.0nm,0.8s
FFC Flin Flon 89.11 356 *e*P **P 04 45 26.9 -0.3**
FFC Flin Flon 89.11 356 *i* P **P 04 45 28.4 +1.2**
CTAO Charters Tower 90.25 115 *e*P **P 04 45 32.6 -0.5**
CTAO Charters Tower 90.25 115 *e*P **P 04 45 32.6 -0.5**
ULM Lac du Bonnet 93.03 352 P **P 04 45 45.2 -0.3**
comp=Z,3.0nm,0.7s,baz=3.1,slow=3.5,SNR=6.4
PDAR Pinedale Array 101.25 1 PKiKP **PKiKP 04 50 46.6 -0.5**
comp=Z,0.3nm,0.6s,baz=57,slow=3.3,SNR=4.6
TXAR Lajitas Array 114.49 355 PKP **PKiKP 04 51 11.7 -0.3**
comp=Z,0.2nm,0.5s,baz=43,slow=5.7,SNR=7.0
TXAR PKKPab **PKKPab 05 01 59.2 -1.5**
comp=Z,0.1nm,0.6s,baz=184,slow=5.2,SNR=3.6
CPUP Villa Florida 135.46 268 PKP **PKPdf 04 51 50.4 -1.3**
comp=Z,1.5nm,0.5s,baz=194,slow=0.9,SNR=6.4
TRQA Tornquist 143.06 253 *e*PKPdf **PKPdf 04 52 05.6 +0.3**
TRQA Tornquist 143.06 253 *e*PKiKP **PKPdf 04 52 05.6 +0.3**
LCO Las Campanas 147.35 272 *e*PKPbc **PKPbc 04 52 15.7 -0.2**
LCO Las Campanas 147.35 272 *e*PKP2 **PKPbc 04 52 15.7 -0.2**
GO04 Tololo Observa 147.87 270 *e*PKPdf **PKPbc 04 52 16.1 -1.1**
PLCA Paso Flores 150.01 250 PKPbc **PKPbc 04 52 22.4 +0.4**
comp=Z,6.8nm,0.9s,baz=126,slow=2.2,SNR=11
GO05 Huala 150.22 262 *e*PKPbc **PKPbc 04 52 22.0 -0.7**
GO06 Curarrehue 150.61 252 *e*PKPbc **PKPbc 04 52 23.2 -0.4**

PRU 05 04:36:41.9±0.0, 49.82N×18.61E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.30**	**274**	*e*PG	Pg	04 36 47.8	+0.2
OKC				*e*SG	Sg	04 36 52.2	+0.7
	comp=Z,5.3nm,0.4s						
MORC	**Moravsky Berou**	**0.69**	**267**	*e*PG	Pg	04 36 55.6	+0.4
MORC				*e*SG	Sg	04 37 04.0	-0.1
KRLC	**Kraliky**	**1.21**	**283**	*e*SG	Sg	04 37 20.5	-0.2
	comp=Z,0.9nm,0.3s						
VRAC	**Vranov**	**1.41**	**249**	*e*PG	Pn	04 37 08.2	-0.6
VRAC				*e*SG	Sg	04 37 27.0	-0.1
DPC	**Dobruska-Polom**	**1.57**	**291**	*e*SG	Sn	04 37 31.0	-1.0
KRUC	**Moravsky**	**1.63**	**243**	*e*PG	Pn	04 37 11.7	-0.2
KRUC				*e*SG	Sn	04 37 33.4	-0.2
UPC	**Upice**	**1.81**	**293**	*e*SG	Sb	04 37 39.4	+0.4

IDC 05 04:39:37.5±3.2, 12.84S×66.92E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/49, mbtmp3.8/5, MS3.2/1, Ms1 3.4/1, ms1mx2.9/36, Error ellipse: s-maj=109.8km s-min=32.5km az=58.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**7.52**	**47**	T	T	04 49 30.7	
	baz=226,slow=75,SNR=151						
H08S2	**Diego Garcia H**	**7.53**	**47**	T	T	04 49 31.7	
	baz=226,slow=75,SNR=341						
H08S3	**Diego Garcia H**	**7.54**	**47**	T	T	04 49 32.1	
	baz=226,slow=75,SNR=345						
H08N3	**Diego Garcia H**	**7.60**	**32**	T	T	04 49 37.6	
	baz=211,slow=75,SNR=1872						
H08N1	**Diego Garcia H**	**7.62**	**32**	T	T	04 49 38.2	
	baz=211,slow=75,SNR=2838						
H08N2	**Diego Garcia H**	**7.62**	**32**	T	T	04 49 39.0	
	baz=211,slow=75,SNR=2853						
CMAR	**Chiang Mai Arr**	**44.33**	**46**	LR	LR	05 04 11.7	
	comp=Z,32nm,21.0s,baz=145,slow=33						
H01W3	**Cape Leeuwin H**	**47.91**	**126**	T	T	05 39 25.6	
	baz=285,slow=75,SNR=4.8						
H01W2	**Cape Leeuwin H**	**47.91**	**126**	T	T	05 39 29.9	
	baz=285,slow=75,SNR=4.7						
H01W1	**Cape Leeuwin H**	**47.92**	**126**	T	T	05 39 26.7	
	baz=285,slow=75,SNR=4.7						
MKAR	**Makanchi Array**	**60.94**	**12**	P	P	04 49 53.5	+1.2
	2.3nm,1.2s,baz=188,slow=5.8,SNR=4.7						
ASAR	**Alice Springs**	**64.04**	**110**	P	P	04 50 13.9	+0.2
	1.3nm,1.0s,baz=258,slow=5.7,SNR=4.6						
WRA	**Warramunga Arr**	**64.71**	**106**	P	P	04 50 17.9	-0.2
	1.2nm,1.0s,baz=277,slow=5.8,SNR=5.4						
ZALV	**Zalesovo Beam**	**68.26**	**11**	P	P	04 50 38.7	-1.2
	0.6nm,0.6s,baz=190,slow=4.0,SNR=2.8						
SONM	**Songino Array**	**69.88**	**27**	P	P	04 50 50.0	-0.3
	0.3nm,0.7s,baz=211,slow=8.1,SNR=2.0						
PDAR	**Pinedale Array**	**150.03**	**355**	PKPbc	PKPbc	04 59 30.3	-0.4
	0.6nm,0.8s,baz=33,slow=3.5,SNR=4.9						

*ISCJB **05** 04:50:55.3±1.6, 28.82N±0.04×128.57E±0.09, h16km±14km, mb3.3/5, Error ellipse: s-maj=13.5km s-min=6.4km az=17.3*
*JMA **05** 04:50:55.1±0.3, 28.79N×128.57E, h12km±5km, M3.3*
*IDC **05** 04:51:01.9±1.9, 28.61N×128.69E, h72km±22km, mb3.0/5, mb1 3.3/6, mb1mx3.1/31, mbtmp3.3/6, Error ellipse: s-maj=34.9km s-min=17.0km az=97.0*
ISC 05 04:50:56.6±1.6, 28.76N±0.05×128.66E±0.07, h23km±12km, **n16**, σ1**s29**/21, **mb3.3**/5, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTAJ	**Takarajima**	**0.62**	**51**	P	**Pb**	**04 51 07.8**	**-1.0**
JTAJ				S	**Sb**	**04 51 16.5**	**-0.6**
JAMN	**Amaminishikomi**	**0.69**	**138**	P	**Pb**	**04 51 09.8**	**-0.2**
JAMN				*e*S	**Sn**	**04 51 19.9**	**-1.0**
JAM	**Amami Oshima**	**0.90**	**112**	P	**Pn**	**04 51 13.3**	**-0.6**
JAM				S	**Sn**	**04 51 25.5**	**-0.8**
JTK	**Tokunoshima**	**1.00**	**165**	P	**Pn**	**04 51 14.4**	**-1.0**
JTK				*e*S	**Sn**	**04 51 29.2**	**+0.4**
JZK	**Kikaishima**	**1.24**	**111**	P	**Pb**	**04 51 19.9**	**+0.5**
JZK				*e*S	**Sb**	**04 51 38.2**	**+3.3**
JOKE	**Okinoerabujima**	**1.40**	**183**	P	**Pn**	**04 51 20.8**	**+0.1**
JYRO	**Yoronjima**	**1.74**	**186**	P	**Pn**	**04 51 25.8**	**+0.4**
JIH	**Iheya**	**1.82**	**200**	P	**Pn**	**04 51 27.0**	**+0.4**
JOW	**Kunigami**	**1.95**	**190**	P	**Pn**	**04 51 29.1**	**+0.7**
	16nm,0.3s,baz=18,slow=13,SNR=34						
JOW				S	**Sb**	**04 51 54.0**	**-1.4**
	14nm,0.3s,baz=202,slow=26,SNR=6.1						
JOW	**Kunigami**	**1.95**	**190**	P	**Pn**	**04 51 28.6**	**+0.2**
JNU	**Nakatsue**	**4.75**	**23**	P	Pn	04 52 12.6	+5.7
	0.6nm,0.3s,baz=191,slow=16,SNR=3.0						
SONM	**Songino Array**	**25.69**	**324**	P	**P**	**04 56 26.9**	**+1.9**
	0.4nm,0.6s,baz=134,slow=10,SNR=3.7						
MKAR	**Makanchi Array**	**40.18**	**310**	P	**P**	**04 58 31.5**	**+0.4**
	0.2nm,0.7s,baz=99,slow=8.9,SNR=3.1						
WRA	**Warramunga Arr**	**48.73**	**173**	P	**P**	**04 59 37.3**	**-2.3**
	0.7nm,1.1s,baz=351,slow=8.2,SNR=3.4						
ILAR	**Eielson Array**	**62.04**	**29**	P	**P**	**05 01 15.8**	**+0.8**
	0.2nm,0.8s,baz=287,slow=9.3,SNR=4.2						
YKA	**Yellowknife Ar**	**76.08**	**25**	P	**P**	**05 02 42.2**	**+0.2**
	0.3nm,0.7s,baz=298,slow=4.9,SNR=4.7						

*NIED **05** 05:01:00.44°.50N×149°.10E, h47km, Mw4.1 Best double couple: M0 1.79000×10^15 NP1:ϕ=158.00000°, δ=20.00000°, λ=6.00000°. NP2:ϕ=62.00000°, δ=88.00000°, λ=110.00000°.*
*ISCJB **05** 05:01:09.3±0.8, 44°.41N±0°.05×149°.13E±0°.07, h62km±7km, mb3.8/18, Error ellipse: s-maj=9.6km s-min=6.5km az=44.1*
*SKHL **05** 05:01:09.9±0.6, 44°.40N×149°.17E, h69km±5km, mb5.2/9*
*MOS **05** 05:01:09.9±1.1, 44°.47N×149°.08E, h67km, mb4.1/8, Error ellipse: s-maj=10.9km s-min=8.6km az=51.1*
*IDC **05** 05:01:12.8±2.7, 44°.55N×149°.05E, h71km±24km, mb3.4/14,*

mb1 3.6/18, mb1mx3.5/39, mbtmp3.7/18, MS2.9/3, Ms1 2.9/3, ms1mx2.6/27, Error ellipse: s-maj=20.6km s-min=14.9km az=147.0

ISC 05 05:01:09.9±0.9**, 44.°34N**±0.°06×**149.°18E**±0.°07**, h52**km±7km**, n77,** σ**1.s45**/96**, mb3.7**/18**, 8C-6D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.29**	**314**	*i* P	**Pn**	**05 01 30.6**	**-1.0**
KUR				AMB	AMB	05 01 32.0	
	230nm,0.2s						
KUR				AMB	AMB	05 01 32.0	
	470nm,0.2s						
KUR				AMB	AMB	05 01 32.0	
	710nm,0.2s						
KUR				*i* S	**Sn**	**05 01 46.0**	**-1.8**
KUR				A	A	05 01 48.0	
	2μm,0.2s						
KUR				A	A	05 01 48.0	
	1μm,0.2s						
KUR	**Kuril'sk**	**1.29**	**314**	*d i*PN	**Pn**	**05 01 30.3**	**-1.3**
KUR				*i* S	**Sn**	**05 01 46.4**	**-1.4**
KUR				pmax	pmax		
	comp=Z,708nm,0.1s						
KUR				pmax	pmax		
	comp=N,225nm,0.2s						
KUR				pmax	pmax		
	comp=E,465nm,0.3s						
KUR				smax	smax		
	comp=N,2μm,0.2s						
KUR				smax	smax		
	comp=E,1μm,0.2s						
SHO	**Shikotan**	**1.75**	**255**	*i* P	**Pn**	**05 01 37.7**	**-0.2**
SHO				AMB	AMB	05 01 39.0	
	comp=E,10.0nm,0.2s						
SHO				AMB	AMB	05 01 39.0	
	comp=E,30nm,0.2s						
SHO				AMB	AMB	05 01 39.0	
	comp=E,630nm,0.2s						
SHO				*i* S	**Sn**	**05 01 59.0**	**0.0**
SHO				A	A	05 02 04.0	
	comp=E,580nm,0.2s						
SHO				A	A	05 02 04.0	
	comp=E,560nm,0.2s						
SHO	**Shikotan**	**1.75**	**255**	*d i*PN	**Pn**	**05 01 37.4**	**-0.5**
SHO				*i* S	**Sn**	**05 01 59.4**	**+0.4**
SHO				pmax	pmax		
	comp=E,29nm,0.2s						
SHO				pmax	pmax		
	comp=Z,63nm,0.2s						
SHO				pmax	pmax		
	comp=N,8.0nm,0.1s						
SHO				smax	smax		
	comp=N,575nm,0.2s						
SHO				smax	smax		
	comp=E,557nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.41**	**264**	⇓*i*P	**Pn**	**05 01 47.0**	**+0.3**
YUK				AMB	AMB	05 01 50.0	
	comp=E,40nm,0.2s						
YUK				AMB	AMB	05 01 50.0	
	comp=E,500nm,0.2s						
YUK				*i* S	**Sn**	**05 02 15.0**	**0.0**
YUK				A	A	05 02 23.0	
	comp=E,460nm,0.2s						
YUK				A	A	05 02 23.0	
	comp=E,350nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.41**	**264**	*d i*PN	**Pn**	**05 01 47.5**	**+0.8**
YUK				*i* S	**Sn**	**05 02 15.7**	**+0.7**
YUK				pmax	pmax		
	comp=Z,500nm,0.2s						
YUK				pmax	pmax		
	comp=N,44nm,0.1s						
YUK				smax	smax		
	comp=E,348nm,0.7s						
YUK				smax	smax		
	comp=N,459nm,0.2s						
LAGR	**Lagunnoye**	**2.46**	**265**	*e*P	**Pn**	**05 01 48.0**	**+0.6**
LAGR				AMB	AMB	05 01 49.0	
	comp=N,100nm,0.3s						
LAGR				AMB	AMB	05 01 49.0	
	comp=N,80nm,0.3s						
LAGR				AMB	AMB	05 01 49.0	
	comp=N,320nm,0.3s						
LAGR				*e*S	**Sn**	**05 02 16.0**	**-0.2**
LAGR				A	A	05 02 27.0	
	comp=N,580nm,0.4s						
LAGR				A	A	05 02 27.0	
	comp=N,270nm,0.4s						
LAGR	**Lagunnoye**	**2.46**	**265**	*e*PN	**Pn**	**05 01 48.8**	**+1.4**
LAGR				S	**Sn**	**05 02 16.9**	**+0.7**
LAGR				pmax	pmax		
	comp=Z,324nm,0.4s						
LAGR				pmax	pmax		
	comp=N,103nm,0.3s						
LAGR				pmax	pmax		
	comp=E,79nm,0.3s						
LAGR				smax	smax		
	comp=N,576nm,0.3s						
LAGR				smax	smax		
	comp=E,265nm,0.4s						
GRPR	**Tuman**	**2.48**	**263**	*e*P	**Pn**	**05 01 48.0**	**+0.3**
GRPR				AMB	AMB	05 01 53.0	
	comp=E,130nm,0.2s						
GRPR				AMB	AMB	05 01 53.0	
	comp=E,250nm,0.2s						
GRPR				*e*S	**Sn**	**05 02 18.0**	**+1.3**
GRPR				A	A	05 02 24.0	
	comp=E,330nm,0.3s						
GRPR				A	A	05 02 24.0	
	comp=E,400nm,0.3s						
GRPR	**Tuman**	**2.48**	**263**	PN	**Pn**	**05 01 48.5**	**+0.8**
GRPR				*e*S	**Sn**	**05 02 18.7**	**+2.0**
GRPR				pmax	pmax		
	comp=N,133nm,0.2s						
GRPR				pmax	pmax		
	comp=Z,252nm,0.2s						
GRPR				smax	smax		
	comp=E,402nm,0.3s						
GRPR				smax	smax		
	comp=N,334nm,0.2s						
NEM2	**Nemuro 2**	**2.67**	**250**	P	**Pn**	**05 01 49.8**	**-0.5**
NEM2				*e*S	**Sn**	**05 02 20.0**	**-1.4**
GLVR	**Golovnino**	**2.71**	**259**	*e*P	**Pn**	**05 01 52.0**	**+1.1**
GLVR				AMB	AMB	05 01 53.0	
	comp=N,120nm,0.1s						
GLVR				*e*S	**Sn**	**05 02 25.2**	**+2.9**
GLVR				A	A	05 02 30.0	
	comp=N,250nm,0.2s						
GLVR				A	A	05 02 30.0	
	comp=N,480nm,0.2s						
GLVR	**Golovnino**	**2.71**	**259**	PN	**Pn**	**05 01 52.5**	**+1.6**
GLVR				*e*S	**Sn**	**05 02 25.2**	**+2.9**
GLVR				pmax	pmax		
	comp=Z,115nm,0.1s						
GLVR				smax	smax		
	comp=N,254nm,0.2s						
GLVR				smax	smax		
	comp=E,482nm,0.2s						
JRA	**Rausu**	**2.95**	**264**	P	**Pn**	**05 01 55.4**	**+1.2**
JRA				*e*S	**Sn**	**05 02 29.0**	**+0.7**
JNK	**Nakash**	**3.31**	**258**	P	**Pn**	**05 01 59.5**	**+0.4**
JNK				*e*S	**Sn**	**05 02 38.4**	**+1.3**
JAK	**Akkeshi**	**3.52**	**249**	P	**Pn**	**05 02 01.6**	**-0.4**
JAR	**Ashorobuto**	**4.05**	**257**	P	**Pn**	**05 02 10.8**	**+1.5**
JOB	**Onbets**	**4.14**	**252**	P	**Pn**	**05 02 11.1**	**+0.6**
HRK	**Horoka**	**4.46**	**261**	*e*P	**Pn**	**05 02 17.4**	**+2.5**
JCH	**Churui**	**4.57**	**250**	P	**Pn**	**05 02 17.2**	**+0.8**
JCH				*e*S	**Sn**	**05 03 07.7**	**-0.5**
JKA	**Kamikawa-asahi**	**4.73**	**270**	*e*P	**Pn**	**05 02 21.4**	**+2.7**
ASAJ	**Asahikawa**	**4.74**	**270**	P	**Pn**	**05 02 21.4**	**+2.7**
	comp=E,1.1nm,0.3s,baz=72,slow=12,SNR=5.0						
ASAJ				S	Sn	05 03 21.8	+10
	baz=198,slow=33,SNR=1.3						
ASAJ				LR	LR	05 04 14.8	
	comp=E,120nm,21.3s,baz=134,slow=39						
MYR	**Moyori**	**4.76**	**247**	*e*P	**Pn**	**05 02 19.8**	**+0.8**
MYR				*e*S	**Sn**	**05 03 12.3**	**-0.6**
ERM	**Erimo**	**4.98**	**244**	*e*P	**Pn**	**05 02 23.5**	**+1.5**
ERM	**Erimo**	**4.98**	**244**	*ce*PN	**Pn**	**05 02 23.5**	**+1.5**
JNBK	**Urakawa-nobuka**	**5.12**	**249**	P	**Pn**	**05 02 23.7**	**-0.3**
JBT2	**Biratori 2**	**5.19**	**255**	P	**Pn**	**05 02 25.9**	**+1.0**
YSS	**Yuzh-Sakhalins**	**5.21**	**302**	*e*P	**Pn**	**05 02 26.0**	**+0.8**
YSS				AMB	AMB	05 02 27.0	
	comp=E,10.0nm,0.8s						
YSS				*e*S	**Sn**	**05 03 22.0**	**-1.9**
YSS				A	A	05 03 27.0	
	comp=E,30nm,0.8s						
YSS				A	A	05 03 27.0	
	comp=E,40nm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.21**	**302**	*e*PN	**Pn**	**05 02 26.3**	**+1.1**
YSS				*e*S	**Sn**	**05 03 24.6**	**+0.7**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS				smax	smax		
	comp=N,30nm,0.8s						
YSS				smax	smax		
	comp=E,40nm,0.8s						
JNB	**Noboribetsu**	**6.22**	**255**	P	**Pn**	**05 02 39.5**	**+0.5**
JNB				*e*S	**Sn**	**05 03 48.0**	**-0.7**
JKB	**Kayabe**	**6.44**	**251**	P	**Pn**	**05 02 42.0**	**-0.1**
JKB				*e*S	**Sn**	**05 03 50.4**	**-3.9**
JYM2	**Yakumo 2**	**6.81**	**254**	P	**Pn**	**05 02 48.0**	**+0.9**
JTM	**Tenmabayashi**	**6.96**	**242**	*e*S	**Sn**	**05 04 01.4**	**-5.5**
TYV	**Tymovskoe**	**7.88**	**328**	*e*P	**Pn**	**05 03 01.2**	**-0.5**
TYV				AMB	AMB	05 03 02.1	
	comp=E,50nm,0.7s						
SKR	**Severo-Kuril's**	**7.89**	**34**	*e*P	**Pn**	**05 03 02.1**	**+0.2**
SKR				AMB	AMB	05 03 05.3	
	comp=E,260nm,1.0s						
SKR	**Severo-Kuril's**	**7.89**	**34**	⇑*i*PN	**Pn**	**05 03 03.2**	**+1.3**
JRG	**Rokugo**	**8.06**	**235**	*e*S	**Sn**	**05 04 29.4**	**-4.6**
TEY	**Ternei**	**8.99**	**279**	*e*P	**Pn**	**05 03 18.5**	**+1.6**
TEY				AMB	AMB	05 03 19.2	
	comp=E,30nm,1.0s						
PETK	**Petropavlovsk-**	**10.42**	**30**	P	**Pn**	**05 03 36.3**	**-0.2**
	comp=E,0.4nm,0.3s,baz=220,slow=17,SNR=7.8						
MAJO	**Matsushiro**	**11.41**	**231**	⇑*e*P	**Pn**	**05 03 50.9**	**+0.7**
MAJO	**Matsushiro**	**11.41**	**231**	⇑*e*PN	**Pn**	**05 03 50.9**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,7.0nm,1.3s						
USRK	**Ussuriysk Ar.**	**12.33**	**275**	P	**Pn**	**05 04 04.0**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=101,slow=13,SNR=2.9						
KLR	**Kul'dur**	**12.90**	**298**	LR	LR	05 08 45.8	
	comp=Z,68nm,19.7s,baz=130,slow=36						
EKMR	**Ekimchan**	**13.80**	**315**	*e*P	**Pn**	**05 04 21.2**	**-1.4**
KSRS	**Korea Array**	**17.45**	**254**	LR	LR	05 12 02.4	
	comp=Z,28nm,18.9s,baz=190,slow=37						
SEY	**Seymchan**	**18.73**	**5**	P	**Pn**	**05 05 23.2**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=167,slow=6.7,SNR=4.2						
SEY	**Seymchan**	**18.73**	**5**	⇑*e*P	**Pn**	**05 05 24.4**	**-0.4**
SEY	**Seymchan**	**18.73**	**5**	⇑*e*P	**Pn**	**05 05 24.4**	**-0.4**
GTA	**Gaotai**	**36.64**	**280**	*e*P	P	05 08 05.2	-6.1
GTA				pP	pP	05 08 08.3	-17
GTA				sP	sP	05 08 11.5	-19
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ILAR	**Eielson Array**	**40.15**	**37**	P	**P**	**05 08 39.9**	**-0.4**
	comp=Z,1.2nm,0.9s,baz=261,slow=7.4,SNR=7.2						
INK	**Inuvik**	**45.16**	**31**	P	**P**	**05 09 20.6**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=237,slow=5.2,SNR=6.7						
MKAR	**Makanchi Array**	**45.61**	**298**	P	**P**	**05 09 24.3**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=76,slow=8.2,SNR=5.0						
MKAR	**Makanchi Array**	**45.61**	**298**	*e*P	**P**	**05 09 25.0**	**+0.2**
MKAR	**Makanchi Array**	**45.61**	**298**	*e*P	**P**	**05 09 25.0**	**+0.2**
KURK	**Kurchatov**	**46.41**	**304**	⇑*e*P	**P**	**05 09 29.7**	**-1.3**
KURK	**Kurchatov**	**46.41**	**304**	⇑*e*P	**P**	**05 09 29.7**	**-1.3**
KURK				pmax	pmax		
	comp=Z,9.0nm,2.9s						
KURBB	**Kurchatov Arra**	**46.50**	**304**	P	**P**	**05 09 30.9**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=72,slow=8.6,SNR=3.5						
AAK	**Ala-Archa**	**52.42**	**296**	⇓*e*P	**P**	**05 10 15.3**	**-1.8**
AAK	**Ala-Archa**	**52.42**	**296**	*de*P	**P**	**05 10 15.3**	**-1.8**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
YKA	**Yellowknife Ar**	**54.50**	**35**	P	**P**	**05 10 32.3**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=298,slow=7.2,SNR=9.0						
FINES	**FINESS Array B**	**65.01**	**334**	P	**P**	**05 11 43.3**	**-0.7**
	comp=Z,2.7nm,1.0s,baz=43,slow=6.3,SNR=3.4						
WRA	**Warramunga Arr**	**65.39**	**195**	P	**P**	**05 11 48.1**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=15,slow=7.1,SNR=5.7						
WRA	**Warramunga Arr**	**65.39**	**195**	*i* P	**P**	**05 11 48.0**	**+1.1**
WRA	**Warramunga Arr**	**65.39**	**195**	*i* P	**P**	**05 11 48.0**	**+1.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**66.03**	**59**	P	**P**	**05 11 52.0**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=295,slow=6.9,SNR=3.5						
PDAR	**Pinedale Array**	**68.41**	**51**	P	**P**	**05 12 06.0**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=339,slow=2.3,SNR=2.8						
ASAR	**Alice Springs**	**69.10**	**195**	P	**P**	**05 12 12.7**	**+2.3**
	comp=Z,0.5nm,0.7s,baz=16,slow=5.3,SNR=4.8						
NB2	**NORSAR Subarra**	**69.57**	**340**	P	**P**	**05 12 13.1**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**69.57**	**340**	P	**P**	**05 12 12.4**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=29,slow=6.5,SNR=5.4						
AKASG	**Malin Array Be**	**71.96**	**325**	P	**P**	**05 12 26.0**	**-1.6**
	comp=Z,1.0nm,0.5s,baz=36,slow=6.1,SNR=6.3						
AKASG	**Malin Array Be**	**71.96**	**325**	P	**P**	**05 12 26.0**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CLL	**Collm**	**77.46**	**334**	*e*P	**P**	**05 13 00.0**	**+0.7**
CLL	**Collm**	**77.46**	**334**	*e*P	**P**	**05 13 00.0**	**+0.7**
CLL				*e**SP	**sP**	**05 13 20.0**	**0.0**
CLL				pmax	pmax		
	comp=Z,27nm,1.2s						
GERES	**GERESS Array B**	**79.35**	**332**	P	**P**	**05 13 10.1**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=38,slow=5.0,SNR=3.6						
TXAR	**Lajitas Array**	**81.10**	**58**	P	**P**	**05 13 20.9**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=299,slow=4.1,SNR=12						
TXAR	**Lajitas Array**	**81.10**	**58**	*e*P	**P**	**05 13 21.0**	**+1.2**
TXAR	**Lajitas Array**	**81.10**	**58**	P	**P**	**05 13 21.0**	**+1.2**

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*ISCJB **05** 05:06:12.0±0.2, 31.°64N±0.°03×104.°30E±0.°04, h9km, mb4.2/43, MS3.7/1, Error ellipse: s-maj=5.4km s-min=3.9km az=9.5*

*IDC **05** 05:06:12.2±0.6, 31.°65N×104.°22E, h0km, mb3.9/19, mb1 4.0/21, mb1mx4.0/49, mbtmp3.9/21, ML3.3/1, MS3.8/1, Ms1 3.8/1, ms1mx2.7/41, Error ellipse: s-maj=20.3km s-min=13.4km az=47.0*

*NEIC **05** 05:06:14.0±0.2, 31.°65N×104.°25E, h10km, mb4.4/25, Error ellipse: s-maj=5.4km s-min=4.1km az=58.0*

*BJI **05** 05:06:15.0, 31.°66N×104.°10E, h23km, mb4.2/6, ML4.0/18, Ms3.7/6, Ms7 3.4/5*

ISC 05 05:06:13.9±0.4**, 31.°67N**±0.°03×**104.°31E**±0.°05**, h9**km**, n81,** σ**1.s49**/92**, mb4.2**/43**, 1C, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.89**	**212**	⇑*i*Pg	**Pg**	**05 06 30.4**	**-0.6**
CD2				Sg	**Sg**	**05 06 41.0**	**-1.6**
CD2				smax	smax		
	comp=N,3μm,0.5s						
CD2				smax	smax		
	comp=E,4μm,0.5s						
LZH	**Lanzhou**	**4.42**	**355**	*e*Pn	**Pn**	**05 07 25.0**	**+3.7**
LZH				Pg	**Pg**	**05 07 38.3**	**-0.3**
LZH				Sn	**Sb**	**05 08 20.6**	**-4.7**
LZH				Sg	**Sg**	**05 08 35.2**	**-0.7**
LZH				smax	smax		
	comp=N,300nm,1.0s						
LZH				smax	smax		
	comp=E,240nm,1.1s						
LZH				LR	LR		
	comp=N,130nm,5.5s						
LZH				LR	LR		
	comp=E,150nm,5.4s						
LZH				LR	LR		
	comp=Z,190nm,7.5s						
XAN	**Xi'an**	**4.55**	**57**	Pg	**Pb**	**05 07 36.2**	**+2.4**
XAN				Sn	**Sn**	**05 08 17.9**	**+2.0**
XAN				Sg	**Sg**	**05 08 38.9**	**-1.0**
XAN				smax	smax		
	comp=N,380nm,0.6s						
XAN				smax	smax		
	comp=E,470nm,0.8s						
ENH	**Enshi**	**4.66**	**106**	*e*Pn	**Pn**	**05 07 28.7**	**+4.2**
GYA	**Guiyang**	**5.59**	**158**	Pn	**Pn**	**05 07 41.6**	**+4.3**
GYA				Sn	**Sn**	**05 08 41.6**	**-0.1**
GYA				Sg	**Sg**	**05 09 07.8**	**-5.5**
GYA				smax	smax		
	comp=N,240nm,0.9s						
GYA				smax	smax		
	comp=E,270nm,0.6s						
KMI	**Kunming**	**6.67**	**192**	Pn	**Pn**	**05 07 53.8**	**+1.6**
KMI				Sn	**Sn**	**05 09 08.5**	**0.0**
KMI				smax	smax		
	comp=N,79nm,0.9s						
KMI				smax	smax		
	comp=E,84nm,0.9s						
KMI				LR	LR		
	comp=N,220nm,4.4s						
KMI				LR	LR		
	comp=E,230nm,4.8s						
KMI				LR	LR		
	comp=Z,180nm,5.8s						
WHN	**Wuhan**	**8.69**	**95**	P	**Pn**	**05 08 19.2**	**-0.5**
WHN				S	**Sn**	**05 09 55.6**	**-2.1**
BTO	**Baotou**	**10.04**	**26**	*e*P	Pn	05 08 24.6	-14
BTO				S	**Sn**	**05 10 25.2**	**-5.9**
BTO				LR	LR		
	comp=N,26μm,0.8s						
BTO				LR	LR		
	comp=E,26μm,0.6s						
NANT	**Nan**	**13.22**	**195**	P	**P**	**05 09 30.6**	**-1.3**
	comp=E,2.5nm,0.6s						
CMMT	**Chiang Mai**	**13.69**	**202**	P	**P**	**05 09 39.2**	**+2.1**
	comp=E,9.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**14.02**	**201**	Pn	**Pn**	**05 09 32.4**	**-0.3**
	baz=10.0,slow=12,SNR=5.3						
SONA0	**Songino Array**	**16.22**	**5**	*e*Pn	**Pn**	**05 10 02.7**	**+0.7**
SONM	**Songino Array**	**16.22**	**5**	Pn	**Pn**	**05 10 02.7**	**+0.7**
	comp=E,0.1nm,0.3s,baz=186,slow=12,SNR=5.1						
WMQ	**Urumqi**	**17.84**	**318**	*e*P	**Pn**	**05 10 22.3**	**0.0**
KSAR	**Wonju Array Be**	**20.23**	**67**	P	**P**	**05 10 50.2**	**+0.9**
KSRS	**Korea Array**	**20.27**	**67**	P	**P**	**05 10 50.2**	**+0.6**
	comp=E,2.7nm,0.7s,baz=258,slow=10,SNR=7.9						
MK01	**Makanchi Array**	**22.65**	**318**	*e*PcP	**PcP**	**05 15 07.7**	**-0.1**
MK32	**Makanchi Array**	**22.67**	**318**	*e*P	**P**	**05 11 15.6**	**+0.1**
MKAR	**Makanchi Array**	**22.67**	**318**	P	**P**	**05 11 15.5**	**+0.1**
	comp=E,2.8nm,0.9s,baz=122,slow=12,SNR=16						
MKAR	**Makanchi Array**	**22.67**	**318**	*e*P	**P**	**05 11 15.6**	**+0.1**
	comp=E,25nm,1.1s						
MAKZ	**Makanchi**	**22.86**	**318**	*e*P	**P**	**05 11 17.8**	**+0.4**
	comp=E,5.3nm,1.1s						
NRN	**Naryn**	**24.64**	**301**	*e*P	**P**	**05 11 36.2**	**+1.1**
	comp=E,7.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**25.03**	**52**	P	**P**	**05 11 38.2**	**0.0**
	comp=E,1.3nm,0.7s,baz=260,slow=8.6,SNR=3.3						
AAK	**Ala-Archa**	**26.03**	**303**	P	**P**	**05 11 46.8**	**-0.7**
	comp=E,1.4nm,0.3s,baz=167,slow=14,SNR=2.0						
ZAA0	**Zalesovo Array**	**26.29**	**334**	*e*P	**P**	**05 11 49.8**	**+0.3**
	comp=E,4.7nm,0.9s						
ZALV	**Zalesovo Beam**	**26.29**	**334**	P	**P**	**05 11 49.8**	**+0.3**
	comp=E,3.4nm,0.7s,baz=137,slow=9.0,SNR=16						
ZALV	**Zalesovo Beam**	**26.29**	**334**	*e*P	**P**	**05 11 49.4**	**-0.1**
ZAA1	**Zalesovo Array**	**26.29**	**334**	*e*P	**P**	**05 11 49.8**	**+0.3**
KURBB	**Kurchatov Arra**	**26.89**	**322**	P	**P**	**05 11 55.0**	**0.0**
	comp=E,1.7nm,0.9s,baz=132,slow=9.4,SNR=12						
KURBB				PcP	**PcP**	**05 15 16.0**	**-1.0**
	comp=E,0.3nm,0.6s,baz=113,slow=2.2,SNR=6.6						
KURK	**Kurchatov**	**26.90**	**322**	*e*P	**P**	**05 11 55.8**	**+0.7**
	comp=E,3.1nm,1.1s						
KURK				*e*PcP	**PcP**	**05 15 16.0**	**-1.1**
KLR	**Kul'dur**	**27.05**	**42**	P	**P**	**05 11 57.4**	**+1.0**
	comp=E,1.3nm,0.9s,baz=220,slow=20,SNR=3.6						
KKAR	**Karatay Array**	**28.99**	**303**	*e*P	**P**	**05 12 14.3**	**+0.4**
JHJ	**Hachijo jima 2**	**29.91**	**78**	LR	LR	05 24 53.0	
	comp=E,164nm,20.1s,baz=248,slow=37						
BVAR	**Borovoye Array**	**32.46**	**321**	PcP	**PcP**	**05 15 30.3**	**-0.9**
	comp=E,0.6nm,0.6s,baz=132,slow=2.1,SNR=4.6						
ABKAR	**Akbulak array**	**37.43**	**311**	*e*P	**P**	**05 13 27.0**	**-0.2**
ARU	**Arti**	**40.09**	**322**	*e*P	**P**	**05 13 49.9**	**+0.4**
	comp=E,4.1nm,0.6s						
COCO	**West Island**	**44.20**	**191**	*e*P	**P**	**05 14 23.5**	**+0.3**
	comp=E,83nm,0.6s						
KARS	**Kars**	**49.36**	**298**	*e*P	**P**	**05 15 04.4**	**+0.5**
	comp=E,28nm,1.0s						
FITZ	**Fitzroy Crossi**	**53.55**	**155**	*e*P	**P**	**05 15 34.7**	**-0.4**
	comp=E,3.8nm,1.1s						
BR101	**Keskin Array S**	**56.61**	**299**	*e*P	**P**	**05 15 56.4**	**-1.0**
BRTR	**Keskin Array B**	**56.61**	**299**	P	**P**	**05 15 56.4**	**-1.0**
	comp=E,1.0nm,0.9s,baz=72,slow=5.3,SNR=5.2						
ARA0	**ARCESS Array S**	**56.81**	**336**	*e*P	**P**	**05 15 58.4**	**+0.2**
ARCES	**ARCESS Array B**	**56.81**	**336**	P	**P**	**05 15 58.4**	**+0.2**
	comp=E,2.9nm,0.9s,baz=88,slow=7.7,SNR=3.2						
AKASG	**Malin Array Be**	**57.12**	**313**	P	**P**	**05 15 59.6**	**-1.0**
	comp=E,1.3nm,0.5s,baz=67,slow=7.1,SNR=3.3						
FIA1	**FINESS Array S**	**57.19**	**326**	*e*P	**P**	**05 16 00.7**	**-0.2**
FIA0	**FINESS Array S**	**57.19**	**326**	*e*P	**P**	**05 16 00.2**	**-0.7**
FINES	**FINESS Array B**	**57.19**	**326**	P	**P**	**05 16 00.2**	**-0.7**
	comp=E,2.1nm,0.8s,baz=91,slow=5.6,SNR=4.1						
COEN	**Coen**	**58.72**	**135**	*e*P	**P**	**05 16 13.2**	**+1.0**
	comp=E,14nm,1.1s						
WRAB	**Tennant Creek**	**58.85**	**147**	*e*P	**P**	**05 16 13.6**	**+0.6**
WR1	**Warramunga Arr**	**58.85**	**147**	*e*P	**P**	**05 16 12.8**	**-0.2**
	comp=E,5.6nm,0.8s						
WRA	**Warramunga Arr**	**58.85**	**147**	P	**P**	**05 16 12.8**	**-0.2**
	comp=E,2.0nm,0.7s,baz=339,slow=7.7,SNR=21						
KWP	**Kalwaria Pacla**	**61.45**	**313**	*e*P	**P**	**05 16 31.1**	**+0.5**
	comp=E,69nm,0.8s						
ASAR	**Alice Springs**	**61.89**	**149**	P	**P**	**05 16 34.1**	**+0.4**
	comp=E,0.9nm,0.7s,baz=336,slow=6.4,SNR=6.4						
NB2	**NORSAR Subarra**	**64.28**	**327**	P	**P**	**05 16 48.0**	**-1.2**
	comp=Z,3.6nm,1.0s,baz=75,slow=5.9						
NB200	**NORSAR Array S**	**64.28**	**327**	*e*P	**P**	**05 16 47.7**	**-1.5**
NOA	**NORSAR Array B**	**64.28**	**327**	P	**P**	**05 16 47.7**	**-1.5**
	comp=Z,1.2nm,0.8s,baz=77,slow=6.0,SNR=4.2						
MORC	**Moravsky Berou**	**64.59**	**314**	*e*P	**P**	**05 16 52.1**	**+0.6**
	comp=Z,3.3nm,0.8s						
GERES	**GERESS Array B**	**67.28**	**314**	P	**P**	**05 17 08.8**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=96,slow=5.4,SNR=4.6						
GEA0	**GERESS Array S**	**67.28**	**314**	*e*P	**P**	**05 17 09.2**	**+0.3**
MLY	**Manley**	**67.69**	**26**	*e*P	**P**	**05 17 11.9**	**+0.8**
	comp=Z,1.4nm,1.0s						
CAST	**Castle Rocks**	**67.89**	**28**	*e*P	**P**	**05 17 13.2**	**+0.8**
	comp=Z,2.1nm,0.9s						
BPAW	**Bear Paw Mtn.**	**68.02**	**27**	*e*P	**P**	**05 17 13.8**	**+0.6**
	comp=Z,3.5nm,1.2s						
PPLA	**Purkeypile**	**68.08**	**29**	*e*P	**P**	**05 17 14.6**	**+0.8**
	comp=Z,6.0nm,1.2s						
RND	**Reindeer**	**69.18**	**27**	*e*P	**P**	**05 17 20.1**	**-0.5**
	comp=Z,1.4nm,0.8s						
ILAR	**Eielson Array**	**69.25**	**26**	P	**P**	**05 17 20.2**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=289,slow=4.5,SNR=6.3						
SUA	**Susitna One**	**69.35**	**30**	*e*P	**P**	**05 17 22.2**	**+0.6**
	comp=Z,4.7nm,1.0s						
DHY	**Denali Highway**	**69.93**	**27**	*e*P	**P**	**05 17 25.9**	**+0.6**
	comp=Z,2.2nm,1.0s						
BRLK	**Bradley Lake**	**70.10**	**31**	*e*P	**P**	**05 17 26.4**	**+0.2**
	comp=Z,7.1nm,1.0s						
RIDG	**Independ'e Rid**	**70.55**	**26**	*e*P	**P**	**05 17 28.6**	**-0.3**
	comp=Z,5.0nm,1.1s						
SCRK	**Sand Creek**	**70.74**	**26**	*e*P	**P**	**05 17 30.0**	**-0.2**
	comp=Z,6.9nm,1.2s						
INK	**Inuvik**	**71.56**	**19**	*e*P	**P**	**05 17 34.7**	**-0.2**
	comp=Z,3.7nm,1.1s						
EPYK	**Eagle Plains**	**71.84**	**22**	*e*P	**P**	**05 17 36.9**	**+0.2**
	comp=Z,0.3nm,0.3s						
STKA	**Stephens Creek**	**72.39**	**147**	P	**P**	**05 17 40.4**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=324,slow=8.7,SNR=2.5						
STKA	**Stephens Creek**	**72.39**	**147**	*e*P	**P**	**05 17 40.5**	**+0.3**
	comp=Z,1.1nm,1.1s						
ARMA	**Armidale**	**76.35**	**139**	*e*P	**P**	**05 18 04.2**	**+0.7**
	comp=Z,1.3nm,1.0s						
YKA	**Yellowknife Ar**	**81.10**	**17**	P	**P**	**05 18 29.3**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=327,slow=5.0,SNR=9.3						
YKB5	**Yellowknife Ar**	**81.10**	**17**	*e*P	**P**	**05 18 29.6**	**+0.5**
ESDC	**Sonseca Array**	**82.76**	**312**	P	**P**	**05 18 37.6**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=40,slow=6.3,SNR=2.9						
QSPA	**South Pole Qui**	**121.44**	**180**	*e*PKPdf	**PKPdf**	**05 25 05.6**	**-1.3**
PTGA	**Pitinga**	**145.82**	**331**	PKPbc	**PKPdf**	**05 25 52.7**	**-1.0**
	comp=Z,1.4nm,0.5s,baz=342,slow=19,SNR=3.6						
GO01	**Chusmiza**	**166.69**	**332**	*e*PKPdf	**PKPdf**	**05 26 21.6**	**+0.6**

KRSC 05 05:09:09.5±2.0**, 55.°85N**×**164.°49E, h49**km±26km**, ML3.9, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.00**	**291**	*e*P	Pn	05 09 26.4	-0.8
KBTR				*e*S	Sn	05 09 39.4	-0.9
SMKR	**Semkarok**	**1.84**	**295**	*e*P	Pn	05 09 40.2	+1.5
SMKR				*e*S	Sn	05 10 02.3	+1.5
BDR	**Baidarnaya**	**1.97**	**293**	*e*P	Pn	05 09 42.2	+1.7
BDR				*e*S	Sn	05 10 04.9	+0.9
SRKR	**Sorokina**	**2.02**	**295**	*e*P	Pn	05 09 42.5	+1.3
ZLN	**Zelenaya**	**2.08**	**276**	*e*P	Pn	05 09 45.0	+3.0
ZLN				*e*S	Sn	05 10 10.5	+3.7
CIRR	**Tsirk**	**2.12**	**279**	*e*P	Pn	05 09 45.5	+2.9
BZGR	**Bezymyannyi-Gr**	**2.14**	**274**	*e*P	Pn	05 09 45.6	+2.8
BZGR				*e*S	Sn	05 10 12.0	+3.8
LGNR	**Loginova**	**2.15**	**278**	*e*P	Pn	05 09 46.1	+3.0
KLY	**Klyuchi**	**2.20**	**284**	*e*P	Pn	05 09 44.4	+0.9
KLY				*e*S	Sn	05 10 10.0	+0.5
KRSR	**Krestovskiy**	**2.23**	**281**	*e*P	Pn	05 09 46.6	+2.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BZWR	Bezymyannyi-We	2.25	274	eP	Pn	05 09 47.2	+2.8
KPT	Kopyto	2.41	274	eP	Pn	05 09 48.4	+1.9
TUMD	Tumrok D	2.42	256	eP	Pn	05 09 50.6	+4.1
TUMD				eS	Sn	05 10 19.3	+4.4
KZV	Kizimen	2.50	255	eP	Pn	05 09 51.3	+3.5
KZV				eS	Sn	05 10 21.7	+4.5
TUMR	Tumrok	2.53	259	eP	Pn	05 09 52.6	+4.4
TUMR				eS	Sn	05 10 23.2	+5.3
KOZ	Kozyrevsk	2.61	276	eP	Pn	05 09 52.1	+3.0
SRDR	Sredinnyy	2.72	282	eP	Pn	05 09 55.2	+4.5
ESO	Esso	3.26	274	eP	Pn	05 10 02.5	+4.4
KII	Karymskiy	3.43	240	eP	Pn	05 10 04.9	+4.4
KII				eS	Sn	05 10 44.6	+4.7
SPN	Mys Shipunski	3.80	225	eP	Pn	05 10 08.4	+3.0
SPN				eS	Sn	05 10 50.1	+1.3
NLC	Nalytchevo	4.03	230	eP	Pn	05 10 12.4	+3.8
NLC				eS	Sn	05 10 58.2	+3.8
SDLR	Sedlovina	4.16	234	eP	Pn	05 10 14.8	+4.3
SDLR				eS	Sn	05 11 01.9	+4.0
SMAR	Somma	4.21	234	eP	Pn	05 10 15.6	+4.3
KRX	Arik	4.22	236	eP	Pn	05 10 14.7	+3.4
UGLR	Uglovaya	4.23	234	eP	Pn	05 10 15.8	+4.3
AVH	Avacha	4.24	235	eP	Pn	05 10 15.3	+3.8
KOK	Koryaka	4.26	235	eP	Pn	05 10 15.7	+3.8
GNL	Ganaly	4.37	243	eP	Pn	05 10 17.3	+4.0
PET	Petropavlovsk	4.43	233	eP	Pn	05 10 17.0	+2.9
KRMR	Karymshinskiy	4.80	234	eP	Pn	05 10 24.1	+5.0
KRMR				eS	Sn	05 11 18.6	+5.2
RUS	Russkaya	4.91	228	eP	Pn	05 10 24.5	+3.9
RUS				eS	Sn	05 11 19.1	+3.0
MTVR	Mutnovka	5.01	230	eP	Pn	05 10 26.6	+4.4
MTVR				eS	Sn	05 11 22.1	+3.2
KDTR	Khodutka, Kamc	5.55	226	eP	Pn	05 10 33.5	+4.0

IDC 05 05:26:54.2±2.5, 54.°08N×86.°41E, h0km, mb1 3.0/2, mb1mx2.9/35, mbtmp3.0/2, ML2.6/2, 2C-3D, Error ellipse: s-maj=19.0km s-min=12.2km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.95	263	i		05 32 35.0	
	baz=83,slow=349,SNR=8.5						
ZALV	Zalesovo Beam	0.95	263	Pg	Pg	05 27 10.8	-1.5
	1.0nm,0.3s,baz=77,slow=17,SNR=8.3						
ZALV				Lg	Lg	05 27 25.8	
	1.5nm,0.3s,baz=78,slow=36,SNR=12						
KURBB	Kurchatov Arra	5.94	238	Pn	Pn	05 28 24.5	+1.2
	0.1nm,0.3s,baz=55,slow=14,SNR=13						
KURBB				Sn	Sn	05 29 32.4	+0.4
	baz=53,slow=13,SNR=2.7						
KURBB				Lg	Lg	05 30 03.6	
	0.0nm,0.3s,baz=44,slow=24,SNR=5.2						
KURBB	Kurchatov Arra	5.94	238	⇓Pn	Pn	05 28 24.0	+0.7
	2.7nm,0.8s						
KURBB				⇑Sn	Sn	05 29 27.6	-4.4
	2.8nm,0.5s						
KURBB				⇓Lg	Lg	05 30 01.5	
	2.8nm,0.7s						
MK31	Makanchi Array	7.75	201	Pn	Pn	05 28 49.5	+1.3
	0.6nm,0.8s,baz=25,slow=13,SNR=12						
MK31				⇓Sn	Sn	05 30 15.3	-1.4
	0.4nm,0.6s,baz=25,slow=27						
MK31				⇑Lg	Lg	05 30 59.5	
	3.6nm,1.2s,baz=22,slow=33,SNR=4.1						
MKAR	Makanchi Array	7.75	201	Pn	Pn	05 28 49.3	+1.1
	0.1nm,0.3s,baz=22,slow=13,SNR=7.8						
MKAR				Sn	Sn	05 30 14.7	-1.9
	0.0nm,0.3s,baz=15,slow=12,SNR=2.8						
MKAR				Lg	Lg	05 30 59.9	
	baz=17,slow=25,SNR=5.0						

IDC 05 05:32:17.4±2.5, 54.°13N×86.°32E, h0km, mb1 2.7/2, mb1mx2.6/35, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=19.3km s-min=12.2km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.91	259	i		05 37 55.0	
	baz=78,slow=344,SNR=10						
ZALV	Zalesovo Beam	0.91	259	Pg	Pg	05 32 33.5	-1.3
	0.7nm,0.3s,baz=73,slow=17,SNR=9.1						
ZALV				Lg	Lg	05 32 47.8	
	1.5nm,0.3s,baz=81,slow=31,SNR=21						
KURBB	Kurchatov Arra	5.92	237	Pn	Pn	05 33 47.2	+0.9
	0.0nm,0.3s,baz=54,slow=14,SNR=7.6						
KURBB				Lg	Lg	05 35 25.8	
	0.0nm,0.3s,baz=56,slow=31,SNR=4.6						
MKAR	Makanchi Array	7.78	201	Pn	Pn	05 34 13.0	+1.1
	0.1nm,0.3s,baz=25,slow=14,SNR=5.8						
MKAR				Lg	Lg	05 36 25.4	
	0.0nm,0.3s,baz=23,slow=29,SNR=6.8						

*SJA **05** 05:37:56.6±0.6, 32.°52S×71.°28W, h5km±7km, ML3.1, MW3.8*
*GUC **05** 05:37:58.9±0.6, 32.°65S×71.°15W, h49km±2km, ML3.3*
ISC 05 05:37:54.3±2.0, 32.°69S±0.°04×71.°56W±0.°07, h1km±12km, n17, σ1.°33/26, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ROC1	El Roble	0.54	122	i P	Pb	05 38 08.1	+1.4
ROC1				i S	Sb	05 38 15.9	+0.8
ROCH	El Roble	0.54	121⇑	iP	Pb	05 38 08.2	+1.5
ROCH				i S	Sb	05 38 15.5	+0.4
ROCH				IAML		05 38 16.0	
	comp=N,8μm,0.3s						
PEL	Peldehue	0.86	122⇑	iP	Pg	05 38 11.5	+0.7
PEL				i S	Sg	05 38 21.5	-0.5
PEL				IAML		05 38 23.0	
	comp=E,2μm,0.4s						
CLCH	Cerro Calan	1.11	129⇑	iP	Pg	05 38 15.8	+0.2
CLCH				i S	Sg	05 38 28.5	-1.4
CLCH				IAML		05 38 33.8	
	comp=E,1μm,0.2s						
FCH	Farellones	1.24	121⇓	iP	Pg	05 38 17.1	-1.0
FCH				i S	Sg	05 38 31.9	-2.3
FCH				IAML		05 38 35.1	
	comp=E,768nm,0.2s						
CMCH	Combarbala	1.59	18	eP	Pn	05 38 23.3	-0.3
CMCH				eS	Sn	05 38 42.9	-2.0
LMEL	Las Melosas	1.62	136	eP	Pn	05 38 23.7	-0.5
LMEL				eS	Sn	05 38 42.3	-3.4
LMEL				IAML		05 38 47.9	
	comp=E,1μm,0.1s						
AUSP	Uspallata	1.90	76	i P	Pn	05 38 28.2	+0.1
RTLS	Leoncito	2.12	66	i P	Pn	05 38 31.7	+0.5
RTLS				i S	Sn	05 38 57.9	-0.3
RTLS				IAML		05 38 58.6	
	comp=Z,263nm,0.4s						
ARCO	CERRO ARCO	2.22	95	i P	Pn	05 38 33.8	+1.4
ARCO				IAML		05 39 08.8	
	comp=Z,110nm,0.3s						
ASAL	Salagasta	2.30	88	i P	Pn	05 38 34.9	+1.4
GO05	Huala	2.33	187⇑	iP	Pn	05 38 34.1	+0.3
GO05				eS	Sn	05 39 03.1	0.0
GO05				IAML		05 39 15.2	
	comp=N,174nm,0.2s						
AAGR	Agrelo	2.33	100	i P	Pn	05 38 35.7	+1.8
RTCV	Cerro Valdivia	2.69	73	i P	Pn	05 38 39.7	+0.9
RTLL	Cerro Villicun	2.96	63	i P	Pn	05 38 42.8	+0.4
AMOG	MOGNA	3.15	57	i P	Pn	05 38 45.3	+0.3
LCO	Las Campanas	3.75	12⇑	eP	Pn	05 38 54.2	+0.7

IDC 05 05:42:28.2±8.5, 16.°36S×173.°28W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/34, mbtmp3.6/3, Error ellipse: s-maj=383.6km s-min=39.3km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.74	258	P	P	05 51 22.7	-0.1
	0.8nm,1.2s,baz=94,slow=7.1,SNR=5.0						
ASAR	Alice Springs	49.93	253	P	P	05 51 24.3	+0.1
	0.8nm,0.5s,baz=88,slow=8.2,SNR=9.7						
ILAR	Eielson Array	83.36	11	P	P	05 54 57.4	+0.6
	0.3nm,0.9s,baz=216,slow=5.6,SNR=1.7						
BRTR	Keskin Array B	146.97	320	PKPbc	PKPdf	06 02 11.6	+0.2
	0.7nm,0.7s,baz=64,slow=3.4,SNR=1.2						

IDC 05 05:49:17.6±3.6, 24.°55N×143.°27E, h220km±24km, mb3.0/4, mb1 3.1/6, mb1mx2.9/42, mbtmp3.6/6, Error ellipse: s-maj=187.3km s-min=18.9km az=72.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	2.72	339	P	Pn	05 50 06.8	+1.8
	13nm,0.3s,baz=108,slow=22,SNR=2.2						
JCJ				S	S	05 50 42.2	0.0
	29nm,0.3s,baz=28,slow=23,SNR=4.8						
KSRS	Korea Array	18.37	318	P	Pn	05 53 17.7	-1.0
	0.1nm,0.3s,baz=135,slow=12,SNR=4.3						
WRA	Warramunga Arr	45.07	192	P	P	05 57 11.6	-0.2
	1.5nm,0.7s,baz=12,slow=8.7,SNR=13						
ASAR	Alice Springs	48.78	191	P	P	05 57 40.4	-0.1
	0.4nm,0.8s,baz=17,slow=12,SNR=3.3						
MKAR	Makanchi Array	52.86	311	P	P	05 58 11.0	+0.3
	0.3nm,0.6s,baz=102,slow=6.8,SNR=2.9						
KURBB	Kurchatov Arra	55.52	316	P	P	05 58 28.5	-1.3
	0.5nm,0.6s,baz=94,slow=7.7,SNR=3.5						

*THR **05** 05:58:10.9, 24.°14N×62.°21E, h17km, ML4.0*
*IDC **05** 05:58:18.5±0.9, 24.°35N×61.°89E, h0km, mb4.1/22, mb1 4.3/23, mb1mx4.1/49, mbtmp4.1/23, ML3.9/1, MS3.5/14, Ms1 3.6/14, ms1mx3.3/36, Error ellipse: s-maj=21.5km s-min=14.3km az=14.0*
*TEH **05** 05:58:18.6, 24.°66N×61.°88E, h10km, ML4.1*
*ISCJB **05** 05:58:20.1±0.2, 24.°67N±0.°03×61.°86E±0.°02, h10km, mb4.5/103, MS3.6/19, Error ellipse: s-maj=4.5km s-min=2.6km az=167.3*
*NEIC **05** 05:58:20.5±0.4, 24.°42N×61.°94E, h10km, mb4.6/32, Error ellipse: s-maj=7.8km s-min=4.5km az=173.0*
*BJI **05** 05:58:20.0, 24.°55N×62.°03E, h7km, mb4.5/23, mB4.9/18, Ms4.2/6, Ms7 3.9/6*
*MOS **05** 05:58:20.6±1.0, 24.°53N×61.°91E, h21km, mb4.8/53, Error ellipse: s-maj=7.4km s-min=4.6km az=112.9*
*OMAN **05** 05:58:26.5±0.4, 24.°54N×61.°72E, h35km±13km, Error ellipse: s-maj=17.0km s-min=2.6km az=247.0*
*DSN **05** 05:58:28.7±1.7, 25.°02N×61.°46E, h15km, ML4.0/9, Error ellipse: s-maj=42.6km s-min=14.6km az=171.0*
ISC 05 05:58:21.0±0.4, 24.°57N±0.°05×61.°95E±0.°04, h10km, n290, σ1.°57/278, mb4.6/110, MS3.5/19, 15C-11D, Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHBR	Chabahar	1.68	308	ePg	Pn	05 58 49.7	-0.7
CHBR	Chabahar	1.68	308	ePg	Pn	05 58 49.7	-0.7
WSAR	Wadi Sarin	3.32	247	P	Pn	05 59 12.7	-0.3
	SNR=7.2						
JLN	Jalan Bani Buh	3.36	225	P	Pn	05 59 13.7	+0.1
	SNR=18						
JLN				S	Sn	05 59 51.5	-2.0
WBK	Wadi Bani Khal	3.36	235	P	Pn	05 59 13.8	+0.2
	SNR=7.7						
WBK				S	Sn	05 59 50.0	-3.7
SMDO	Samad	3.88	248	P	Pn	05 59 21.5	+0.7
	SNR=19						
SMDO				S	Sn	06 00 03.0	-3.6
JMDO	Jabal Madar	4.16	239	P	Pn	05 59 25.8	+1.2
	SNR=33						
BSY	Bisya	4.72	248	P	Pn	05 59 33.9	+1.5
	SNR=16						
BSY				S	Sn	06 00 25.5	-1.8
UOSS	Minazif	5.24	275	ePn	Pn	05 59 38.3	-1.1
UOSS				eSn	Sn	06 00 34.2	-5.8
UOSS	Minazif	5.24	275	i P	Pn	05 59 38.3	-1.1
	SNR=14						
UOSS	Minazif	5.24	275	P	Pn	05 59 38.4	-1.1
UOSS	Minazif	5.24	275	ePn	Pn	05 59 38.6	-0.8
BANOM	Banah	5.29	286	i P	Pn	05 59 39.7	-0.5
	SNR=56						
BANOM	Banah	5.29	286	P	Pn	05 59 39.7	-0.5
	SNR=56						
HATD	Hatta, Dubai	5.30	274	i P	Pn	05 59 39.7	-0.6
	SNR=13						
HATD	Hatta, Dubai	5.30	274	P	Pn	05 59 39.9	-0.4
MSFE	Esma-Masafi	5.32	280	i P	Pn	05 59 39.5	-1.0
	SNR=16						
ASHO	Ashiyiah	5.37	272	i P	Pn	05 59 41.3	+0.1
	SNR=28						
ASHO				S	Sn	06 00 39.6	-3.5
ASHO	Ashiyiah	5.37	272	P	Pn	05 59 40.9	-0.3
	SNR=27						
SHME	Shamm	5.46	287	i P	Pn	05 59 42.7	+0.2
	SNR=69						
NIAN	Nian	5.48	304	ePn	Pn	05 59 42.2	-0.5
NIAN				IAMB	IAmb	05 59 45.2	
	comp=Z,0.0nm,0.2s						
ALNE	Al Ain	5.68	266	i P	Pn	05 59 47.5	+1.9
	SNR=6.2						
NAZ	Nazwa, Dubai	5.73	275	i P	Pn	05 59 47.9	+1.7
	SNR=13						
FAQ	Al Faqa, Dubai	5.79	273	i P	Pn	05 59 48.8	+1.8
	SNR=8.3						
FAQ	Al Faqa, Dubai	5.79	273	P	Pn	05 59 49.1	+2.1
	SNR=8.4						
GENO	Geno	5.92	300	ePn	Pn	05 59 49.1	+0.2
GENO				IAMB	IAmb	05 59 50.5	
	comp=E,0.0nm,0.1s						
ASUD	Al Ashush, Dub	6.03	272	P	Pn	05 59 51.6	+1.4
DQM	DQM	6.17	222	P	Pn	05 59 53.4	+1.2
DQM				S	Sn	06 00 59.7	-3.2
CHMN	Cheshme madani	6.57	324	ePn	Pn	05 59 56.3	-1.7
NGRK	Negar Kerman	6.87	318	ePn	Pn	06 00 01.6	-0.5
KRBR	Kerman	7.10	321	ePn	Pn	06 00 03.3	-1.9
KRBR	Kerman	7.10	321	eAML	AML	06 01 45.3	
	comp=N,17nm,0.7s						
KRBR	Kerman	7.10	321	ePn	Pn	06 00 03.3	-1.9
KRBR				eS	Sn	06 01 25.4	-0.8
BHJ	Bhuj	7.17	99	eP	Pn	06 00 09.7	+3.8
BHJ				eS	Sn	06 01 20.1	-7.3
BHJ				IAML		06 01 27.2	
	comp=E,104nm,0.6s						
BHJ				IAML		06 01 29.0	
	comp=N,108nm,0.1s						
JASL	Jaisalmer	8.40	72	eS	Sn	06 01 42.7	-15
ITEG	Tejag	8.76	342	ePn	Pn	06 00 25.6	-2.3
ITEG				ePn	Pn	06 00 25.8	-2.1
ITEG				IAMB	IAmb	06 00 49.7	
	comp=E,128nm,0.4s						
SHRT	Shahrakht	9.16	351	ePn	Pn	06 00 31.3	-2.0
SHRT	Shahrakht	9.16	351	ePn	Pn	06 00 31.3	-2.0
TPRV	Parvadeh(Tabas	9.61	332	ePn	Pn	06 00 37.5	-2.0
TPRV				IAMB	IAmb	06 00 38.6	
	comp=Z,0.0nm,0.9s						
TKDS	Koohdasht(Taba	9.95	336	ePn	Pn	06 00 42.2	-2.0
TKDS				IAMB	IAmb	06 00 46.3	
	comp=Z,0.0nm,1.4s						
TABS	Tabas	9.98	336	ePn	Pn	06 00 43.1	-1.5
TABS	Tabas	9.98	336	ePn	Pn	06 00 43.1	-1.5
TNSJ	Nastanj	10.45	335	ePn	Pn	06 00 48.4	-2.7
IRAM	Ramesheh	11.10	313	ePn	Pn	06 00 57.9	-2.1
IRAM				IAMB	IAmb	06 01 00.5	
	comp=Z,148nm,0.2s						
KBL	Kabul	11.69	30	ePn	Pn	06 01 09.3	+1.3
KBL	Kabul	11.69	30	eP	Pn	06 01 09.4	+1.3
KBL	Kabul	11.69	30	ePn	Pn	06 01 09.4	+1.3
THW	Thamme Wali	11.87	44	P	Pn	06 01 08.3	-2.0
SHRO	Shahrood	12.48	337	ePn	Pn	06 01 17.5	-1.3
SHRO	Shahrood	12.48	337	eP	Pn	06 01 17.5	-1.3
KHET	Khetri	12.90	71	eP	Pn	06 01 22.9	-1.6
KHET				eS	Sn	06 03 27.6	-21
KHET				IAML		06 03 44.1	
	comp=N,8.7nm,0.3s						
KHET				IAML		06 03 44.7	
	comp=E,9.3nm,1.1s						
GEYT	Alibeck	13.71	347	Pn	Pn	06 01 38.4	+2.8
	comp=E,0.6nm,0.3s,baz=171,slow=10,SNR=2.8						
GEYT				LR	LR	06 07 06.5	
	comp=E,116nm,21.6s,baz=160,slow=38						
KHMZ	Khomeyn	13.89	314	ePn	Pn	06 01 37.2	-1.0
KHMZ	Khomeyn	13.89	314	eP	Pn	06 01 37.2	-1.0
SONA	Sohna	14.04	72	eS	Sn	06 03 54.0	-22
DHRM	DHARAMSHALA	14.75	56	eP	Pn	06 01 49.0	-1.0
DHRM				eS	Sn	06 04 20.5	-13
SMLA	Simla	14.95	61	eP	Pn	06 01 51.5	-0.9
SMLA				eS	Sn	06 04 25.6	-13
RAYN	Ar Rayn	15.07	269	ePn	Pn	06 01 51.5	-2.5
	comp=E,3.4nm,0.7s						
RAYN	Ar Rayn	15.07	269	eP	Pn	06 01 51.6	-2.5
RAYN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
RAYN	Ar Rayn	15.07	269	ePn	Pn	06 01 51.9	-2.2
NGP	Nagpur	16.12	99	eP	P	06 02 13.3	+2.2
JOSI	Joshimath	16.70	65	eP	Pn	06 02 14.7	-0.7
JOSI				eS	Sn	06 05 10.5	-11
BTK	Batken	17.15	24	ePn	Pn	06 02 20.3	-0.5
	comp=Z,12nm,0.9s						
BTK	Batken	17.15	24	eP	Pn	06 02 20.3	-0.5
BTK				pmax	pmax		
	comp=Z,12nm,0.9s						
SFK	Sufi-Kurgan	18.20	29	P	P	06 02 34.5	+0.2
SFK				pmax	pmax		
	comp=Z,13nm,1.0s						
KSH	Kashi	19.02	35	P	P	06 02 38.9	-4.3
KSH				sP	pwP	06 02 48.1	+0.4
KSH				PP	PnPn	06 02 53.3	-3.1
KSH				S	Sn	06 05 59.2	-18
KSH				pmax	pmax		
	comp=Z,54nm,1.0s						
KSH				pmax	pmax		
	comp=Z,410nm,6.0s						
KSH				LR	LR		
	comp=Z,280nm,6.7s						
KSH				LR	LR		
	comp=Z,510nm,10.2s						
KSH				LR	LR		
	comp=Z,370nm,9.1s						
ARSB	Arslanbob	19.07	26	eP	P	06 02 43.3	-0.4
	comp=Z,10nm,0.8s						
PYUN	Piuthan	19.18	75	eP	Pn	06 02 47.6	+1.7
	comp=Z,32nm,0.9s						
KOLN	Koldanda	19.68	76	eP	Pn	06 02 52.8	+0.8
	comp=Z,25nm,0.8s						
KK31	Karatay Array	19.78	19	eP	P	06 02 51.6	+0.2
KK31	Karatay Array	19.78	19	eP	P	06 02 51.6	+0.2
KKAR	Karatay Array	19.78	19	eP	P	06 02 51.6	+0.2
KKAR	Karatay Array	19.78	19	eP	P	06 02 51.6	+0.2
DANN	Dangsing	19.88	74	eP	Pn	06 02 54.9	+0.5
	comp=Z,56nm,0.8s						
AML	Almayashu	20.04	26	P	P	06 02 54.6	+0.1
	SNR=10						
UCH	Uchtor	20.45	28	P	Pn	06 03 01.2	0.0
	SNR=5.6						
NRN	Naryn	20.48	31	eP	P	06 02 59.9	+0.5
	comp=Z,6.0nm,0.8s						
NRN	Naryn	20.48	31	eP	P	06 02 59.9	+0.5
NRN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
EKS2	Erkin-Say	20.52	26	P	Pn	06 03 00.8	-0.8
	SNR=16						
KZA	Kyzart	20.65	29	P	Pn	06 03 02.6	-0.9
	SNR=11						
AAK	Ala-Archa	20.78	27	P	Pn	06 03 03.6	-1.2
	comp=Z,5.5nm,0.7s,baz=198,slow=8.1,SNR=15						
AAK				LR	LR	06 13 01.4	
	comp=Z,147nm,19.4s,baz=196,slow=42						
AAK	Ala-Archa	20.78	27⇓	iP	Pn	06 03 03.9	-0.9
AAK				pmax	pmax		
	comp=Z,25nm,1.7s						
FRU1	Bishkek	20.98	27	eP	Pn	06 03 05.9	-1.2
FRU1	Bishkek	20.98	27	eP	Pn	06 03 05.9	-1.1
KBK	Karagaybulak	20.99	28	P	Pn	06 03 06.0	-1.2
	SNR=13						
DMN	Daman	21.01	77	eP	P	06 03 07.4	+2.3
	comp=Z,48nm,1.0s						
CHMS	Chumysh	21.19	27	P	P	06 03 07.4	+0.8
	SNR=7.5						
GNI	Garni	21.22	321	LR	LR	06 13 14.5	
	comp=Z,67nm,20.4s,baz=132,slow=42						
GNI	Garni	21.22	321	eP	P	06 03 10.1	+3.0
	comp=Z,22nm,0.8s						
GNI	Garni	21.22	321⇓	eP	P	06 03 09.1	+2.0
GNI				pmax	pmax		
	comp=Z,229nm,1.3s						
ULHL	Ulahol	21.23	30	P	P	06 03 09.2	+1.9
	SNR=9.2						
PKIN	Phulchoki	21.26	77	eP	P	06 03 10.9	+3.1
	comp=Z,17nm,0.7s						
PKI	Pulchoki	21.27	77	eP	P	06 03 10.8	+2.8
	comp=Z,15nm,0.6s						
USP	Ospenovka	21.31	26	P	P	06 03 08.1	+0.2
	SNR=14						
TKM2	Tokmak 2	21.48	28	P	P	06 03 10.5	+0.5
	SNR=6.1						
GUN	Gumba	21.71	76	eP	P	06 03 14.7	+2.0
	comp=Z,125nm,1.0s						
JIRN	Jiri	21.97	77	eP	P	06 03 17.7	+2.2
	comp=Z,85nm,0.9s						
ATD	Arta Tunnel	22.28	238	LR	LR	06 12 54.8	
	comp=Z,69nm,18.9s,baz=48,slow=40						
TBLG	Delisi	22.30	324	eP	P	06 03 19.8	+1.2
	comp=Z,21nm,1.1s						
TBLG	Delisi	22.30	324	eP	P	06 03 19.8	+1.2
TBLG				pmax	pmax		
	comp=Z,21nm,1.1s						
RAMN	Ramite	22.32	79	eP	P	06 03 20.7	+1.6
	comp=Z,28nm,0.8s						
KARS	Kars	22.49	320	eP	P	06 03 21.2	+0.4
	comp=Z,76nm,1.2s						
KARS	Kars	22.49	320	eP	P	06 03 21.2	+0.4
KARS				pmax	pmax		
	comp=Z,76nm,1.2s						
ODAN	Odare	23.02	79	eP	P	06 03 28.1	+1.5
	comp=Z,33nm,0.8s						
PDGK	Podgornoye	23.61	33	P	P	06 03 36.4	+4.1
PDGK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
NCK	Nalchik	24.15	326⇓	eP	P	06 03 39.7	+2.5
NCK				pmax	pmax		
	comp=Z,31nm,0.8s						
NEY	Neytrino	24.43	324⇑	eP	P	06 03 43.3	+3.3
NEY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KBZ	Khabaz	24.67	325	P	P	06 03 44.0	+2.1
	comp=Z,18nm,0.8s,baz=137,slow=8.7,SNR=32						
ABKAR	Akbulak array	24.69	357	eP	P	06 03 42.3	+0.2
MMAI	Mount Meron Ar	24.69	296	LR	LR	06 16 13.4	
	comp=Z,101nm,21.5s,baz=110,slow=44						
PALK	Pallekele	24.86	131	LR	LR	06 12 19.6	
	comp=Z,54nm,20.0s,baz=296,slow=34						
KVAR	Kislovodsk Arr	24.93	326	P	P	06 03 44.6	+0.1
	comp=Z,8.4nm,0.7s,baz=264,slow=21,SNR=2.8						
KIV	Kislovodsk	24.94	326	eP	P	06 03 46.7	+2.2
KIV				e		06 04 19.7	
KIV				ePPP	PPP	06 04 26.5	
KIV				i		06 07 20.1	
KIV				pmax	pmax		
	comp=Z,55nm,1.0s						
KIV				MLR	MLR		
	comp=Z,29nm,14.0s						
MAKZ	Makanchi	27.36	31	eP	P	06 04 07.5	+1.2
	comp=Z,6.0nm,1.3s						
MAKZ	Makanchi	27.36	31	eP	P	06 04 07.5	+1.2
MAKZ				pmax	pmax		
	comp=Z,6.0nm,1.3s						
MK01	Makanchi Array	27.48	31	eP	P	06 04 08.3	+0.9
MK31	Makanchi Array	27.50	31	eP	P	06 04 08.6	+1.1
MK31	Makanchi Array	27.50	31	eP	P	06 04 08.6	+1.1
MK32	Makanchi Array	27.50	31	eP	P	06 04 08.5	+1.0
MKAR	Makanchi Array	27.50	31	P	P	06 04 08.5	+1.0
	comp=Z,3.7nm,0.9s,baz=218,slow=9.2,SNR=15						
MKAR				LR	LR	06 17 34.1	
	comp=Z,117nm,19.9s,baz=215,slow=42						
MKAR	Makanchi Array	27.50	31	eP	P	06 04 08.5	+1.0
	comp=Z,22nm,0.8s						
MKAR	Makanchi Array	27.50	31	eP	P	06 04 08.5	+1.0
MKAR				pmax	pmax		
	comp=Z,22nm,0.8s						
BR101	Keskin Array S	28.19	309	eP	P	06 04 14.6	+0.7
BR131	Keskin Array S	28.19	309	eP	P	06 04 14.7	+0.7
BRTR	Keskin Array B	28.19	309	P	P	06 04 14.6	+0.7
	comp=Z,2.0nm,0.8s,baz=132,slow=10,SNR=9.5						
WMQ	Urumqi	28.48	41	eP	P	06 04 18.3	+1.9
WMQ				LR	LR		
	comp=Z,300nm,21.7s						
WMQ				LR	LR		
	comp=Z,350nm,20.9s						
WMQ				LR	LR		
	comp=Z,310nm,17.3s						
BR231	Keskin MP Arra	28.84	309	eP	P	06 04 21.2	+1.5
KURBB	Kurchatov Arra	29.00	22	P	P	06 04 21.6	+0.8
	comp=Z,3.9nm,0.9s,baz=219,slow=8.7,SNR=25						
KURK	Kurchatov	29.11	22	eP	P	06 04 21.6	-0.2

KURK Kurchatov 29.11 22⇑eP P 06 04 22.6 +0.8
KURK pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 29.14 10 i P P 06 04 22.7 +0.7
BRVK pmax pmax
comp=Z,7.0nm,1.2s
VRH Novokhopyorsk 30.81 335 eP P 06 04 36.7 -0.1
VRH pmax pmax
comp=Z,10.0nm,1.1s
VSR Storozhevoye 31.85 333 eP P 06 04 46.0 0.0
VSR pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 31.92 356⇑iP P 06 04 46.8 +0.2
ARU pmax pmax
comp=Z,5.0nm,0.6s
H08N2 Diego Garcia H 31.95 163 T T 06 38 09.1
baz=344,slow=75,SNR=453
H08N3 Diego Garcia H 31.97 163 T T 06 38 10.4
baz=344,slow=75,SNR=385
H08N1 Diego Carcia H 31.97 163 T T 06 38 11.9
baz=344,slow=75,SNR=350
DGZ Jazzator, Alta 31.98 32⇓eP P 06 04 49.1 +1.7
DGZ pmax pmax
comp=Z,1.0nm,0.8s
LPSR Galich'ya Gora 32.99 334 eP P 06 04 55.7 -0.2
LPSR pmax pmax
comp=Z,30nm,1.1s
IDI Anoyia 33.68 297 eP P 06 05 04.8 +2.5
comp=Z,16nm,1.1s
ZAA0 Zalesovo Array 33.96 24 eP P 06 05 04.5 +0.1
comp=Z,4.3nm,0.8s
ZALV Zalesovo Beam 33.96 24 P P 06 05 04.9 +0.5
comp=Z,3.7nm,0.6s,baz=226,slow=10,SNR=22
ZALV Zalesovo Beam 33.96 24 eP P 06 05 04.5 +0.1
ZALV Zalesovo Beam 33.96 24 eP P 06 05 04.5 +0.1
ZAA1 Zalesovo Array 33.96 24 eP P 06 05 04.9 +0.5
CM31 Chiang Mai Arr 34.87 93 eP P 06 05 13.2 +0.5
CMAR Chiang Mai Arr 34.87 93 P P 06 05 13.2 +0.5
comp=Z,0.5nm,0.3s,baz=282,slow=10.0,SNR=2.4
CMAR LR LR 06 23 35.1
comp=Z,74nm,18.8s,baz=301,slow=43
KMBO Kilima Mbogo 35.02 227 LR LR 06 19 10.4
comp=Z,54nm,18.4s,baz=87,slow=36
GTA Gaotai 35.08 56 eP P 06 05 16.8 +2.3
GTA pP pwP 06 05 21.5 +4.4
GTA sP sP 06 05 24.0 +5.8
GTA S S 06 10 47.5 +0.4
GTA sS sS 06 10 56.4 +5.1
GTA SS SnSn 06 13 01.7 -1.3
GTA pmax pmax
comp=Z,2.0nm,1.0s
GTA pmax pmax
comp=Z,88nm,6.5s
GTA LR LR
comp=Z,200nm,17.5s
GTA LR LR
comp=Z,130nm,15.6s
GTA LR LR
comp=Z,150nm,16.2s
MLR Muntele Rosu 35.71 315 eP P 06 05 20.8 +1.0
comp=Z,8.1nm,1.2s
MLR Muntele Rosu 35.71 315⇑iP P 06 05 21.0 +1.2
MLR Muntele Rosu 35.71 315 ⇑P P 06 05 21.0 +1.2
OBN Obninsk 35.80 335 eP P 06 05 19.5 -0.7
OBN e 06 05 27.5
OBN e 06 06 41.4
OBN ePPP PPP 06 06 56.6
OBN e 06 07 44.8
OBN pmax pmax
comp=Z,33nm,1.3s
OBN MLR MLR
comp=Z,66nm,17.0s
SRS Serrai 35.87 307 P P 06 05 23.1 +1.9
SRS pmax pmax
comp=Z,14nm,1.1s
MOS Moscow 35.88 337 eP P 06 05 20.2 -0.7
VOIR 36.27 314⇓iP P 06 05 22.9 -1.6
VOIR 36.27 314 ⇓P P 06 05 22.9 -1.6
AKASG Malin Array Be 36.27 324 P P 06 05 25.3 +0.9
comp=Z,2.9nm,0.7s,baz=121,slow=7.7,SNR=11
AKASG Malin Array Be 36.27 324 i P P 06 05 24.2 -0.2
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 36.27 324 eP P 06 05 24.9 +0.5
comp=Z,7.0nm,0.8s
AKBB Malin Array Si 36.27 324 eP P 06 05 24.9 +0.5
AKBB pmax pmax
comp=Z,7.0nm,0.8s
KIEV Kiev 36.28 324 eP P 06 05 24.9 +0.5
comp=Z,6.5nm,0.8s
KIEV Kiev 36.28 324⇑eP P 06 05 24.3 -0.1
KIEV pmax pmax
comp=Z,13nm,1.4s
AK11 Malin Array Si 36.29 324 eP P 06 05 25.1 +0.6
ARR Arges 36.51 314⇑iP P 06 05 27.4 +0.8
VTS Vitosha 36.56 309 eP P 06 05 27.3 +0.1
comp=Z,6.6nm,0.9s
VTS Vitosha 36.56 309⇑iP P 06 05 28.6 +1.4
VTS Vitosha 36.56 309 ⇑P P 06 05 28.6 +1.4
KMI Kunming 36.91 80 P P 06 05 31.6 +1.1
KMI pmax pmax
comp=Z,8.0nm,0.5s
KMI pmax pmax
comp=Z,170nm,4.2s
BUR04 Bucovina Ar. S 37.05 318 eP P 06 05 31.4 +0.2
LOT Lotru 37.11 314⇑iP P 06 05 29.9 -1.9
CD2 Chengdu 37.37 71 eP P 06 05 34.0 -0.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
FNA Florina 37.42 306 eP P 06 05 35.7 +1.3
comp=Z,15nm,1.0s
FNA Florina 37.42 306 eP P 06 05 35.7 +1.3
FNA pmax pmax
comp=Z,15nm,1.0s
MDVR Moldovita 38.26 312⇑iP P 06 05 42.3 +0.9
DRGR 38.28 315⇑iP P 06 05 42.0 +0.4
DRGR 38.28 315 ⇑P P 06 05 42.0 +0.4
BZS Buzias 38.59 313⇑iP P 06 05 44.6 +0.5
BZS Buzias 38.59 313 ⇑P P 06 05 44.6 +0.5
PRGR Permogore 38.69 348 eP P 06 05 43.5 -1.2
PRGR pmax pmax
comp=Z,8.0nm,0.6s
KLMR Klimovskoe 39.41 343 eP P 06 05 49.5 -1.3
KLMR pmax pmax
comp=Z,15nm,0.8s
KLMR Klimovskoe 39.41 343 eP P 06 05 49.5 -1.3
KLMR AMP 06 05 51.1
comp=Z,15nm,0.8s
VYHS Vyhne 41.33 316 eP P 06 06 07.1 +0.2
VYHS Vyhne 41.33 316 eP P 06 06 07.1 +0.2
CUC Castrocucco 41.46 303 eP P 06 06 09.9 +1.8
comp=Z,12nm,1.0s
SONA0 Songino Array 41.96 45 eP P 06 06 13.3 +1.0
SONM Songino Array 41.96 45 P P 06 06 13.3 +1.0
comp=Z,3.4nm,0.8s,baz=244,slow=8.0,SNR=22
SONM LR LR 06 27 25.5
comp=Z,182nm,18.2s,baz=177,slow=41
SONA1 Songino Array 41.97 45 eP P 06 06 14.2 +1.9
ULN Ulaanbaatar 42.40 45 eP P 06 06 17.5 +1.7
comp=Z,2.7nm,0.9s
ULN Ulaanbaatar 42.40 45 eP P 06 06 17.5 +1.7
ULN pmax pmax
comp=Z,3.0nm,0.9s
SOKA Soboth 43.27 313 eP P 06 06 22.8 -0.1
comp=Z,3.5nm,0.9s
TRI Trieste 43.92 311 eP P 06 06 27.6 -0.3
comp=Z,12nm,0.9s
TRI Trieste 43.92 311 eP P 06 06 27.6 -0.3
TRI pmax pmax
comp=Z,12nm,0.9s
FIA1 FINESS Array S 44.18 336 eP P 06 06 30.4 +0.6
FIA0 FINESS Array S 44.18 336 eP P 06 06 29.4 -0.4
FIA0 FINESS Array S 44.18 336 eP P 06 06 29.4 -0.4
FINES FINESS Array B 44.18 336 P P 06 06 29.4 -0.4
comp=Z,2.9nm,0.8s,baz=152,slow=8.4,SNR=4.5
FINES FINESS Array B 44.18 336 i P P 06 06 30.1 +0.3
FINES pmax pmax
comp=Z,3.0nm,0.8s
HHC Hu-ho-hao-te 44.19 56 eP P 06 06 29.5 -0.9
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,140nm,3.7s
GEA0 GERESS Array S 44.69 315 eP P 06 06 34.6 +0.4
GEC2 GERESS Array S 44.69 316 eP P 06 06 34.2 0.0
comp=Z,7.4nm,1.0s
GEC2 GERESS Array S 44.69 316 eP P 06 06 34.2 0.0
GEC2 pmax pmax
comp=Z,7.0nm,1.0s
GERES GERESS Array B 44.69 316 P P 06 06 33.8 -0.4
comp=Z,2.8nm,0.8s,baz=103,slow=6.0,SNR=14
KHC Kasperske Hory 44.84 316 eP P 06 06 35.7 +0.4
comp=Z,2.2nm,0.9s
KHC Kasperske Hory 44.84 316 eP P 06 06 35.0 -0.3
KHC Kasperske Hory 44.84 316 eP P 06 06 35.7 +0.4
KHC pmax pmax
comp=Z,2.0nm,0.9s
ABTA Abfaltersbach 44.98 312 i P P 06 06 36.7 +0.2
comp=Z,9.8nm,0.8s,SNR=7.1
BRG Berggiesshubel 45.10 318 eP P 06 06 37.6 +0.3
comp=Z,2.7nm,1.0s
BRG Berggiesshubel 45.10 318 eP P 06 06 37.6 +0.3
BRG pmax pmax
comp=Z,3.0nm,1.0s
WET Wettzell 45.29 316 eL L 06 26 16.3
comp=Z,64nm,21.0s
WTTA Wattenberg 45.67 313 i P P 06 06 42.2 +0.1
comp=Z,12nm,0.9s
CLL Collm 45.80 319 eP P 06 06 44.0 +1.2
comp=Z,15nm,1.0s
CLL Collm 45.80 319⇓iP P 06 06 44.2 +1.4
comp=Z,17nm,1.0s
CLL Collm 45.80 319⇓iP P 06 06 44.2 +1.4
CLL pmax pmax
comp=Z,6.0nm,1.0s
SQTA Sankt Quirin 45.95 313 eP P 06 06 44.1 -0.1
comp=Z,8.2nm,0.8s
MOTA Moosalm 46.04 313 eP P 06 06 45.1 0.0
comp=Z,8.4nm,0.8s,SNR=6.3
FETA Feichten 46.23 312 eP P 06 06 46.6 +0.1
comp=Z,14nm,0.9s,SNR=6.3
RETA Reutte 46.30 313 eP P 06 06 46.5 -0.4
comp=Z,7.5nm,0.7s
GRA2 Grafenberg Arr 46.38 316 eP P 06 06 48.3 +0.9
comp=Z,7.7nm,0.8s,baz=113,slow=8.3
MOX Moxa 46.46 317 eL L 06 28 43.9
comp=Z,94nm,18.6s
APA Apatity 46.47 345⇓iP P 06 06 37.0 -11
APA pmax pmax
comp=Z,5.0nm,0.9s
APA MLR MLR
comp=Z,1μm,17.0s
GRA1 Grafenberg Arr 46.47 316 eP P 06 06 49.1 +0.9
comp=Z,15nm,1.0s
GRF Grafenberg Arr 46.47 316 eL L 06 27 42.8
comp=Z,67nm,20.0s
GRF Grafenberg Arr 46.47 316 eP P 06 06 49.1 +0.9
GRF pmax pmax
comp=Z,15nm,1.0s
GRFO Grafenberg 46.47 316 eP P 06 06 49.0 +0.8
comp=Z,14nm,1.0s
GRFO Grafenberg 46.47 316 eP P 06 06 49.0 +0.8
GRFO pmax pmax
comp=Z,14nm,1.0s
DAVA Damuels 46.85 313 eP P 06 06 51.2 -0.2
comp=Z,25nm,0.8s,SNR=8.7
SBF Sospel 48.10 308 eP P 06 06 59.0 -2.1
SBF pmax pmax
comp=Z,12nm,0.8s
SENIN Lac Senin/Sane 48.46 311 eP P 06 07 03.5 -0.5
comp=Z,3.7nm,0.8s
LPG La Plagne 48.74 310 eP P 06 07 05.4 -0.9
LPG pmax pmax
comp=Z,8.0nm,1.0s
BNI Bardonecchia 48.75 309 eP P 06 07 05.3 -0.8
comp=Z,6.7nm,0.9s
BNI Bardonecchia 48.75 309 eP P 06 07 05.3 -0.8
BNI pmax pmax
comp=Z,7.0nm,0.9s
LPL La Plagne 48.76 310 eP P 06 07 05.4 -0.9
LPL pmax pmax
comp=Z,14nm,1.4s
CDF Champ du Feu 48.77 314 eP P 06 07 05.1 -1.0
CDF pmax pmax
comp=Z,2.0nm,0.7s
ECH Echery 48.81 313 eP P 06 07 06.0 -0.4
comp=Z,10nm,1.1s
ECH Echery 48.81 313 eP P 06 07 06.0 -0.4
ECH pmax pmax
comp=Z,10.0nm,1.1s
HINF Hinteralfeld 48.96 313 eP P 06 07 07.1 -0.5
HINF pmax pmax
comp=Z,4.0nm,0.8s
HAU Haudompre 49.32 313 eP P 06 07 09.4 -0.9
HAU pmax pmax
comp=Z,16nm,1.6s
CABF La Chapelle 49.33 311 eP P 06 07 10.3 -0.2
CABF pmax pmax
comp=Z,15nm,1.0s
BOD Bodaibo 49.53 34 eP P 06 07 11.9 +0.2
BOD pmax pmax
comp=Z,6.0nm,1.7s
ARA0 ARCESS Array S 49.86 344 eP P 06 07 13.6 -0.4
ARCES ARCESS Array B 49.86 344 P P 06 07 13.6 -0.4
comp=Z,2.5nm,0.8s,baz=124,slow=8.1,SNR=3.7
NB2 NORSAR Subarra 50.08 331 P P 06 07 14.9 -1.0
comp=Z,2.1nm,0.8s,baz=112,slow=7.9
NB200 NORSAR Array S 50.08 331 eP P 06 07 15.2 -0.7
NOA NORSAR Array B 50.08 331 P P 06 07 15.2 -0.7
comp=Z,2.2nm,0.9s,baz=110,slow=7.6,SNR=6.1
NJ2 Nanjing 50.16 68 eP P 06 07 17.0 +0.1
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NBO00 NORSAR Array S 50.27 330 eP P 06 07 16.9 -0.5
GIVF Givet 50.61 316 eP P 06 07 20.8 +0.8
GIVF pmax pmax
comp=Z,8.0nm,0.8s
SMF Signal de Mont 50.87 311 eP P 06 07 21.5 -0.6
SMF pmax pmax
comp=Z,13nm,1.0s
LOR Lormes 50.91 312 eP P 06 07 21.6 -0.8
LOR pmax pmax
comp=Z,19nm,1.8s
SSF Saint Saulge 51.13 312 eP P 06 07 23.5 -0.5
SSF pmax pmax
comp=Z,7.0nm,0.9s
AVF Avril sur Loir 51.22 311 eP P 06 07 23.8 -0.8
AVF pmax pmax
comp=Z,5.0nm,1.0s
MTLF Montolieu 51.86 307 eP P 06 07 29.6 +0.1
MTLF pmax pmax
comp=Z,5.0nm,0.8s
TCF Toulx Ste Croi 51.97 310 eP P 06 07 29.9 -0.4
TCF pmax pmax
comp=Z,6.0nm,1.0s
CAF Calviac 52.01 309 eP P 06 07 30.6 -0.1
CAF pmax pmax
comp=Z,9.0nm,1.2s
RJF Les Rejaudoux 52.41 309 eP P 06 07 33.6 0.0
RJF pmax pmax
comp=Z,10.0nm,0.9s
LFF La Frestale 52.95 309 eP P 06 07 37.6 0.0
LFF pmax pmax
comp=Z,9.0nm,0.9s
MFF Saint Martin d 53.61 311 eP P 06 07 41.7 -0.7
MFF pmax pmax
comp=Z,15nm,1.3s
LDF La Druitiere 53.68 313 eP P 06 07 42.0 -0.9
LDF pmax pmax
comp=Z,51nm,2.0s
ETSF Etsaut 53.89 306 eP P 06 07 46.4 +1.7
ETSF pmax pmax
comp=Z,18nm,1.2s
SJPF Ste Jean 54.38 306 eP P 06 07 48.2 +0.1
SJPF pmax pmax
comp=Z,12nm,1.1s
ES19 SONSECA Array 56.60 303 eP P 06 08 04.5 +0.3
ESDC Sonseca Array 56.65 302 P P 06 08 03.7 -0.9
comp=Z,0.7nm,0.8s,baz=63,slow=7.8,SNR=5.1
KSRS Korea Array 56.94 60 LR LR 06 36 49.8
comp=Z,66nm,18.5s,baz=270,slow=40
TOA0 Torodi Ar. Sit 57.76 270 eP P 06 08 12.9 +0.2
comp=Z,4.0nm,0.8s
TORD Torodi Ar. Bea 57.76 270 P P 06 08 11.4 -1.3
comp=Z,2.5nm,0.8s,baz=59,slow=6.5,SNR=18
TORD LR LR 06 35 26.2
comp=Z,76nm,19.1s,baz=300,slow=39
TOA1 Torodi Ar. Sit 57.76 270 eP P 06 08 11.4 -1.3
KLR Kul'dur 58.77 46 P P 06 08 19.2 -0.1
comp=Z,2.6nm,0.8s,baz=282,slow=9.4,SNR=9.7
KLR Kul'dur 58.77 46⇓iP P 06 08 20.3 +1.0
DAG Danmarks Havn 64.11 345 i P P 06 08 55.0 +0.1
comp=Z,5.5nm,0.8s
DAG Danmarks Havn 64.11 345 i P P 06 08 55.0 +0.1
DAG pmax pmax
comp=Z,4.0nm,0.8s
DBIC Dimbokro 66.18 266 LR LR 06 42 10.7
comp=Z,43nm,18.9s,baz=52,slow=40
SEY Seymchan 68.62 29 P P 06 09 25.1 +1.1
comp=Z,0.3nm,0.3s,baz=267,slow=4.4,SNR=5.5
SEY Seymchan 68.62 29⇓eP P 06 09 25.4 +1.4
SUMG Summit 69.83 342 i P P 06 09 32.2 +0.3
comp=Z,38nm,1.2s
SUMG Summit 69.83 342 i P P 06 09 32.2 +0.3
SUMG pmax pmax
comp=Z,38nm,1.2s
BILL Bilibino 72.63 22 eP P 06 09 47.3 -1.1
BILL e 06 10 04.3
BILL e 06 12 32.6
BILL ePPP PPP 06 14 09.0
BILL pmax pmax
comp=Z,6.0nm,1.5s
BILL MLR MLR
comp=Z,96nm,16.0s
PETK Petropavlovsk- 74.04 39 LR LR 06 47 59.6
comp=Z,98nm,19.3s,baz=284,slow=40
WR1 Warramunga Arr 83.17 115 eP P 06 10 47.1 -0.7
comp=Z,4.4nm,1.0s
WRA Warramunga Arr 83.17 115 P P 06 10 47.1 -0.7
comp=Z,0.3nm,0.7s,baz=306,slow=4.5,SNR=4.0
ASAR Alice Springs 84.63 119 P P 06 10 53.3 -1.9
comp=Z,0.4nm,0.9s,baz=300,slow=5.5,SNR=2.9
IM3 Indian Mountai 85.72 14 eP P 06 11 00.1 +0.2
MLY Manley 87.18 13 eP P 06 11 08.9 +1.7
comp=Z,6.0nm,1.2s
BPAW Bear Paw Mtn. 87.94 14 eP P 06 11 12.1 +1.3
comp=Z,9.2nm,1.3s
ILAR Eielson Array 88.18 12 P P 06 11 11.5 -0.5
comp=Z,0.2nm,0.8s,baz=316,slow=5.5,SNR=3.0
ILB Eielson Array 88.18 12 eP P 06 11 11.5 -0.5
SUA Susitna One 90.30 15 eP P 06 11 23.1 +1.0
comp=Z,9.9nm,1.0s
YKA Yellowknife Ar 93.19 358 P P 06 11 35.8 +0.5
comp=Z,0.7nm,0.9s,baz=350,slow=4.9,SNR=10.0
YKB5 Yellowknife Ar 93.19 358 eP P 06 11 35.9 +0.5
LTZ Lake Taylor 120.84 126 ePKPdf PKPdf 06 17 11.7 -1.9

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*SJA **05** 05:59:15.4±0.7, 30.65S×71.28W, h24km±7km, ML3.7, MW4.1*
*GUC **05** 05:59:17.5±0.7, 30.63S×71.03W, h68km±3km, ML3.6*
*ISCJB **05** 05:59:18.2±0.9, 30.65S±0.03×71.31W±0.09, h67km±9km, Error ellipse: s-maj=12.4km s-min=4.9km az=7.8*
ISC 05 05:59:19.3±1.5, **30.65S**±0.03×**71.29W**±0.08, **h57**km±14km, **n16**, σ**0.82**/26, **3C-3D**, **Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CMCH Combarbala 0.58 155⇑iP Pn 05 59 31.8 -0.3
CMCH i S Sn 05 59 41.8 +0.4
GO04 Tololo Observa 0.63 42⇓iP Pn 05 59 31.9 -1.0
GO04 i S Sn 05 59 42.1 -0.6
LSCH La Serena 0.74 3⇓iP Pn 05 59 34.1 +0.3
LSCH i S Sn 05 59 45.8 +1.4
LSCH IAML 05 59 46.9
comp=N,2μm,0.3s
AROD Rodeo 1.64 74 i P Pn 05 59 45.4 -0.7
LCO Las Campanas 1.71 18 i P Pn 05 59 46.2 -0.8
LCO ⇑iS Sn 06 00 08.7 +0.8
LCO Las Campanas 1.71 18⇓iP Pn 05 59 45.9 -1.1
LCO i S Sn 06 00 07.7 -0.2
LCO IAML 06 00 09.8
comp=E,618nm,0.2s
ACCO Cerro Coronel 1.92 89 i P Pn 05 59 49.4 -0.5
ACDV Cuesta del Vie 1.93 76 i P Pn 05 59 49.3 -0.7
RTLS Leoncito 2.06 124 i P Pn 05 59 51.7 -0.1
RTLS i S Sn 06 00 18.2 +1.8
RTLS IAML 06 00 24.0
comp=Z,207nm,0.2s
ROCH El Roble 2.33 174⇑iP Pn 05 59 55.0 -0.4
ROCH i S Sn 06 00 23.5 +0.4
ROCH IAML 06 00 34.0
comp=N,611nm,0.5s
ROC1 El Roble 2.33 174 i P Pn 05 59 55.0 -0.6
RTLL Cerro Villicun 2.51 106 i P Pn 05 59 56.7 -1.0
PEL Peldehue 2.54 169 eP Pn 05 59 57.6 -0.5
PEL i S Sn 06 00 28.2 +0.2
PEL IAML 06 00 35.1
comp=N,356nm,0.2s
RTCV Cerro Valdivia 2.65 118 i P Pn 05 59 58.9 -0.7
CLCH Cerro Calan 2.81 167 eP Pn 06 00 01.7 -0.3
CLCH eS Sn 06 00 34.8 +0.1
CLCH IAML 06 00 42.4
comp=E,410nm,0.4s
VCA Vinchina 3.29 55 i P Pn 06 00 08.9 +0.4
VCA i S Sn 06 00 47.6 +1.1
VCA IAML 06 00 56.7
comp=Z,491nm,0.3s

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*ISCJB **05** 06:05:22.6±0.4, 18.48N±0.04×101.93W±0.03, h74km±5km, mb3.7/10, Error ellipse: s-maj=6.9km s-min=3.7km az=17.9*
*MEX **05** 06:05:24.9±0.3, 18.47N×101.93W, h69km±4km, MD4.1*
*NEIC **05** 06:05:24.9±0.0, 18.48N×101.92W, h69km, mb4.0/2, MD4.1(MEX), After MEX.*
*IDC **05** 06:05:29.1±3.4, 18.77N×101.60W, h105km±26km, mb3.5/9, mb1 3.7/12, mb1mx3.5/38, mbtmp3.8/12, MS3.0/2, Ms1 3.0/2, ms1mx2.6/25, Error ellipse: s-maj=46.3km s-min=20.3km az=37.0*
ISC 05 06:05:23.5±0.8, **18.44N**±0.05×**101.93W**±0.03, **h70**km±9km, **n49**, σ**1.38**/67, **mb3.7**/10, **Guerrero**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ZIIG Zihuatanejo 0.94 152 eP Pn 06 05 41.5 +0.2
ZIIG i S Sn 06 05 54.6 +0.1
ZIIG Zihuatanejo 0.94 152 eP Pn 06 05 41.5 +0.2
ZIIG i S Sn 06 05 54.6 +0.1
MMIG Aquila 1.35 264 eP Pn 06 05 46.6 +0.1
MMIG eS Sn 06 06 04.0 +0.2
MMIG Aquila 1.35 264 eP Pn 06 05 46.6 +0.1
MMIG eS Sn 06 06 04.0 +0.2
ARIG Puente Sto Nin 1.51 96 eP Pn 06 05 48.5 -0.2
ARIG Puente Sto Nin 1.51 96 eP Pn 06 05 48.5 -0.2
ARIG i S Sn 06 06 07.5 -0.2
CAIG El Cayaco 2.11 131 eP Pn 06 05 55.4 -1.3
CAIG El Cayaco 2.11 131 eP Pn 06 05 57.2 +0.5
CAIG i S Sn 06 06 21.9 0.0
MEIG Mezcala 2.26 103 eP Pn 06 05 58.9 +0.2
MEIG Mezcala 2.26 103 eP Pn 06 05 58.9 +0.2
MEIG i S Sn 06 06 25.4 -0.2
TOVM TOLUCA 2.29 68 eP Pn 06 05 59.3 -0.2
PLIG Platanillo 2.31 91 eP Pn 06 05 59.4 0.0
PLIG Platanillo 2.31 91 eP Pn 06 05 59.4 0.0
PLIG i S Sn 06 06 25.8 -1.1
IGIG Irapuato, Guan 2.37 14 eP Pn 06 05 59.4 -1.0
IGIG Irapuato, Guan 2.37 14 eP Pn 06 05 59.4 -1.0
IGIG eS Sn 06 06 27.2 -1.3
YAIG Yautepec 2.75 81 eP Pn 06 06 06.0 +0.5
YAIG Yautepec 2.75 81 eP Pn 06 06 06.0 +0.5
YAIG i S Sn 06 06 37.3 -0.4
UNM Universidad Na 2.75 71 eP Pn 06 06 09.3 +3.6
UNM Universidad Na 2.75 71 i P Pn 06 06 06.5 +0.9
UNM i S Sn 06 06 38.0 +0.1
CJM Chamela 3.12 290 eP Pn 06 06 10.7 +0.2
CJM Chamela 3.12 290 eP Pn 06 06 10.7 +0.2
CJM i S Sn 06 06 45.7 -1.0
PPM Popocatepetl 3.19 78 eP Pn 06 06 15.4 +3.5
PPM Popocatepetl 3.19 78 i S Sn 06 06 48.4 -0.6
TLIG Tlapa 3.32 105 eP Pn 06 06 14.8 +1.5
TLIG Tlapa 3.32 105 eP Pn 06 06 13.8 +0.6
TLIG i S Sn 06 06 51.7 +0.1
ANIG Ahuacatlan 3.56 317 i P Pn 06 06 13.0 -3.5
ANIG Ahuacatlan 3.56 317 i P Pn 06 06 16.4 -0.2
ANIG i S Sn 06 06 56.0 -1.5
PNIG Pinotepa 4.17 119 eP Pn 06 06 25.9 +1.2
PNIG Pinotepa 4.17 119 eP Pn 06 06 25.9 +1.2
PNIG eS Sn 06 07 12.3 +0.1
TPIG Tehuac#an 4.34 90 eP Pn 06 06 28.8 +1.6
TPIG Tehuac#an 4.34 90 eP Pn 06 06 28.1 +0.9
TPIG eS Sn 06 07 16.3 -0.4

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VHO	Vista Hermosa	5.14	105	eP	Pn	06 06 40.5	+2.3
VHO	Vista Hermosa	5.14	105	eP	Pn	06 06 39.5	+1.4
VHO				eS	Sn	06 07 36.5	+0.2
CMIG	Matias Romero	6.85	100	P	Pn	06 07 03.1	+1.7
	2.5nm,0.3s,baz=267,slow=13,SNR=67						
CMIG				S	Sn	06 08 13.0	-4.9
	1.4nm,0.3s,baz=277,slow=8.1,SNR=1.9						
TXAR	Lajitas Array	10.96	352	P	Pn	06 07 59.8	+2.3
	0.2nm,0.3s,baz=174,slow=14,SNR=8.1						
TXAR				LR	LR	06 12 36.6	
	comp=Z,74nm,21.7s,baz=0.0,slow=40						
APG	El Apazote	11.51	106	P	Pn	06 08 07.9	+2.7
	0.2nm,0.3s,baz=328,slow=19,SNR=2.7						
JCT	Junction City	12.14	9	ePn	Pn	06 08 18.4	+4.8
	5.8nm,1.0s						
LRAL	Lakeview Retre	19.77	40	eP	P	06 09 47.0	-1.0
	3.1nm,0.4s						
TKL	Tuckaleechee C	23.50	40	P	P	06 10 25.9	-1.3
	1.0nm,0.3s,baz=190,slow=11,SNR=3.6						
NVAR	Mina Array Bea	24.50	328	P	P	06 10 38.2	+1.7
	2.2nm,0.6s,baz=151,slow=9.3,SNR=21						
ELK	Elko	25.00	336	LR	LR	06 22 30.6	
	comp=Z,38nm,19.5s,baz=149,slow=41						
PDAR	Pinedale Array	25.10	347	P	P	06 10 42.1	+0.2
	0.7nm,0.6s,baz=161,slow=10,SNR=7.9						
ECSD	EROS Data Cent	25.61	9	eP	P	06 10 44.9	-1.4
	6.8nm,1.1s						
YKA	Yellowknife Ar	44.89	352	P	P	06 13 29.4	-1.4
	0.7nm,0.8s,baz=161,slow=7.7,SNR=11						
YKA				PcP	PcP	06 15 12.1	+0.9
	0.4nm,1.1s,baz=157,slow=3.5,SNR=3.6						
ILAR	Eielson Array	55.11	338	P	P	06 14 48.5	+0.3
	0.7nm,0.9s,baz=161,slow=4.8,SNR=10						
ILAR				PcP	PcP	06 15 49.7	+1.0
	0.3nm,0.6s,baz=151,slow=2.7,SNR=6.0						
PETK	Petropavlovsk-	81.50	323	P	P	06 17 34.4	+1.2
	4.8nm,1.0s,baz=94,slow=8.6,SNR=4.7						
TIXI	Tiksi	83.79	346	P	P	06 17 44.4	-0.4
	0.6nm,0.2s,baz=232,slow=0.3,SNR=7.0						
ESDC	Sonseca Array	84.35	50	P	P	06 17 47.6	-0.8
	0.3nm,0.5s,baz=298,slow=4.8,SNR=3.3						
ARCES	ARCESS Array B	84.75	16	P	P	06 17 49.3	-0.4
	2.3nm,0.9s,baz=312,slow=5.7,SNR=4.1						

IDC 05 06:09:20.8±2.0**, 4°.72S×153°.59E, h0**km**, mb3.5**/3**, mb1 3.7**/4**, mb1mx3.5**/37**, mbtmp3.6**/4**, ML2.0**/1**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx2.6**/17**, Error ellipse: s-maj=83.6km s-min=33.4km az=120.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.90	234	Pn	Pn	06 11 18.3	+1.3
	1.3nm,0.3s,baz=230,slow=22,SNR=2.0						
PMG				Sn	Sn	06 12 42.6	-4.5
	0.3nm,0.3s,baz=124,slow=19,SNR=2.2						
GUMO	Guam	20.14	335	LR	LR	06 20 49.3	
	comp=Z,67nm,21.3s,baz=100,slow=34						
WRA	Warramunga Arr	24.09	229	P	P	06 14 39.0	+0.6
	0.7nm,0.5s,baz=54,slow=9.9,SNR=22						
WRA				PcP	PcP	06 18 18.0	-2.0
	0.3nm,0.8s,baz=45,slow=2.0,SNR=2.4						
ASAR	Alice Springs	26.74	223	P	P	06 15 01.4	-1.0
	0.3nm,0.6s,baz=58,slow=9.4,SNR=4.7						
ASAR				PcP	PcP	06 18 27.1	+1.1
	0.1nm,0.6s,baz=60,slow=2.2,SNR=2.9						
MKAR	Makanchi Array	80.78	319	P	P	06 21 36.5	+0.1
	0.3nm,0.6s,baz=99,slow=6.4,SNR=3.0						
TORD	Torodi Ar. Bea	151.02	289	PKPbc	PKPbc	06 29 16.6	-0.4
	0.2nm,0.4s,baz=105,slow=3.0,SNR=4.2						

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*IDC **05** 06:12:46.9±0.9, 46°.26N×99°.71E, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.6/37, mbtmp3.7/7, ML3.3/2, Error ellipse: s-maj=24.3km s-min=16.8km az=6.0*

ISC 05 06:12:48.7±1.0**, 46°.3N**±0°.2×**99°.89E**±0°.09**, h10**km**, n11,** σ1s.72/10**, mb3.8**/6**, Mongolia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	Songino Array	4.69	69	Pn	Pn	06 14 02.1	+2.5
	2.9nm,0.3s,baz=250,slow=14,SNR=42						
SONM				Pg	Pg	06 14 15.7	-2.8
	18nm,0.3s,baz=251,slow=17,SNR=37						
SONM				Lg	Lg	06 15 17.1	
	88nm,0.3s,baz=249,slow=34,SNR=22						
MKAR	Makanchi Array	12.12	279	Pn	Pn	06 15 40.6	-0.8
	0.1nm,0.3s,baz=98,slow=17,SNR=4.6						
MKAR				Lg	Lg	06 19 04.8	
	0.2nm,0.3s,baz=73,slow=22,SNR=7.1						
ZALV	Zalesovo Beam	12.29	314	Lg	Lg	06 19 13.1	
	0.1nm,0.3s,baz=114,slow=25,SNR=3.4						
KURBB	Kurchatov Arra	14.78	295	Lg	Lg	06 20 31.9	
	0.0nm,0.3s,baz=103,slow=32,SNR=4.7						
FINES	FINESS Array B	43.51	318	P	P	06 20 51.5	-0.3
	3.9nm,1.1s,baz=64,slow=9.4,SNR=2.6						
NB2	NORSAR Subarra	50.38	321	P	P	06 21 45.8	+0.2
	comp=Z,0.5nm,0.5s,baz=63,slow=7.9						
NOA	NORSAR Array B	50.38	321	P	P	06 21 44.0	-1.6
	comp=Z,0.6nm,0.5s,baz=63,slow=7.6,SNR=4.3						
YKA	Yellowknife Ar	68.07	16	P	P	06 23 49.2	+1.3
	comp=Z,0.1nm,0.6s,baz=343,slow=5.8,SNR=3.8						
WRA	Warramunga Arr	72.96	146	P	P	06 24 18.5	+0.2
	comp=Z,0.5nm,0.5s,baz=345,slow=6.8,SNR=8.7						
ASAR	Alice Springs	76.19	148	P	P	06 24 36.2	-0.7
	comp=Z,0.4nm,0.5s,baz=343,slow=6.8,SNR=8.2						
NVAR	Mina Array Bea	88.93	29	P	P	06 25 44.6	+1.0
	comp=Z,0.4nm,0.7s,baz=317,slow=3.8,SNR=3.3						

IDC 05 06:20:56.8±7.2**, 9°.27S×103°.50E, h0**km**, mb3.2**/2**, mb1 3.4**/2**, mb1mx3.2**/27**, mbtmp3.2**/2**, Error ellipse: s-maj=328.2km s-min=33.2km az=45.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W3	Cape Leeuwin H	27.30	161	T	T	06 53 55.8	
	baz=333						
H01W2	Cape Leeuwin H	27.31	161	T	T	06 53 58.0	
	baz=333						
H01W1	Cape Leeuwin H	27.31	161	T	T	06 53 59.2	
	baz=333						
WRA	Warramunga Arr	31.62	113	P	P	06 27 21.8	0.0
	0.4nm,0.7s,baz=282,slow=11,SNR=3.5						
MKAR	Makanchi Array	58.93	343	P	P	06 30 57.8	0.0
	0.1nm,0.6s,baz=142,slow=6.2,SNR=2.1						
TXAR	Lajitas Array	147.66	48	PKPbc	PKPbc	06 40 43.3	-0.8
	0.4nm,0.7s,baz=204,slow=2.0,SNR=6.0						

IDC 05 06:28:06.7±3.5**, 31°.24N×87°.78E, h0**km**, mb3.0**/2**, mb1 3.3**/3**, mb1mx3.1**/30**, mbtmp3.1**/3**, ML3.1**/1**, MS3.1**/1**, Ms1 3.0**/1**, ms1mx2.5**/13**, Error ellipse: s-maj=100.9km s-min=34.4km az=84.0, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	16.10	346	Pn	Pn	06 31 52.0	-2.4
	0.1nm,0.3s,baz=162,slow=12,SNR=4.2						
SONM	Songino Array	21.84	35	P	P	06 33 00.8	0.0
	0.2nm,0.6s,baz=224,slow=12,SNR=2.4						
KBZ	Khabaz	37.30	302	LR	LR	06 53 29.7	
	comp=Z,30nm,21.0s,baz=149,slow=41						
WRA	Warramunga Arr	67.72	132	P	P	06 39 06.2	0.0
	0.2nm,0.7s,baz=323,slow=6.2,SNR=2.7						

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*ISK **05** 06:43:25.5, 38°.13N×29°.63E, h5km, ML2.3/4*
*ISCJB **05** 06:43:27.5±0.7, 38°.20N±0°.05×29°.62E±0°.06, h2km±10km, Error ellipse: s-maj=9.2km s-min=6.6km az=37.7*
*DDA **05** 06:43:27.1, 38°.21N×29°.66E, h7km±3km, ML2.5*
ISC 05 06:43:27.5±1.3**, 38°.16N**±0°.04×**29°.65E**±0°.03**, h5**km±14km**, n17,** σ0s.50/21**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KHL	Karahalli	0.19	329	PG	Pg	06 43 30.7	-0.6
KHAL	Karahalli	0.24	330	IAML_P			
	comp=Z,4μm,0.2s						
KHAL				iP	Pg	06 43 32.5	+0.2
KZIL	AFYON_Kizioren	0.40	76	IAML_P			
	comp=Z,3μm,0.1s						
KZIL				iP	Pg	06 43 35.8	+0.5
BRDR	BURDUR-Merkez	0.57	144	IAML_P			
	comp=Z,3μm,0.2s						
BRDR				iP	Pb	06 43 39.5	-0.4
BRDR				iS	Sb	06 43 49.0	+0.7
ISP	Isparta	0.77	116	PG	Pg	06 43 41.4	-0.8
SHUT	Suhut-Afyon	0.81	61	PG	Pg	06 43 43.0	-0.1
SHUT				SG	Sb	06 43 55.5	0.0
KULA	Kula-Manisa	0.85	295	PG	Pg	06 43 43.4	-0.4
TAVA	DENIZLI_Tavas	0.90	220	IAML_P			
	comp=Z,371nm,0.2s						
TAVA				iP	Pb	06 43 46.0	+0.4
BAGO	Egridir - ISPA	0.92	100	IAML_P			
	comp=Z,685nm,0.3s						
BAGO				iP	Pb	06 43 45.7	-0.3
MANT	Manisa	0.92	291	iP	Pg	06 43 45.3	+0.2
MANT				iS	Sb	06 43 58.0	-0.7
GOLH	Golhisar	0.92	184	IAML_P			
	comp=Z,302nm,0.2s						
GOLH				iP	Pb	06 43 46.2	+0.2
SHAP	Saphane-Kutahy	0.93	339	PG	Pg	06 43 44.9	-0.3
SIMA	Simav-Kutahya	1.06	331	PN	Pg	06 43 47.2	-0.6
DEMI	Demirci	1.14	321	iP	Pn	06 43 50.7	+0.5
AYDB	Zeytinkoy-Aydi	1.40	262	PN	Pn	06 43 53.3	-0.5
AYDB				SN	Sg	06 44 13.0	+0.5
AYDN	Tasoluk	1.48	251	IAML_P			
	comp=Z,165nm,0.1s						
AYDN				iP	Pb	06 43 55.6	+0.1
DURS	Dursunbey	1.71	328	IAML_P			
	comp=Z,274nm,0.1s						
DURS				iP	Pn	06 43 58.4	+0.4

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*IDC **05** 06:51:02.9±1.4, 41°.09N×48°.90E, h0km, mb3.5/3, mb1 3.6/7, mb1mx3.3/53, mbtmp3.5/7, ML3.3/3, MS3.2/2, Ms1 3.3/2, ms1mx2.4/43, Error ellipse: s-maj=24.2km s-min=11.1km az=163.0*
*MOS **05** 06:51:03.1±1.2, 41°.06N×49°.00E, h12km, mb4.1/1, Error ellipse: s-maj=9.8km s-min=6.0km az=134.4*
*AZER **05** 06:51:05.4±0.1, 41°.17N×48°.68E, h9km, ml3.3/25, Error ellipse: s-maj=0.9km s-min=0.5km az=232.0*
*DRS **05** 06:51:05.7±0.0, 41°.16N×49°.06E, h19km, ML3.5/3*
*ISCJB **05** 06:51:06.0±0.4, 41°.25N±0°.02×48°.76E±0°.03, h9km±2km, mb3.4/3, MS3.4/1, Error ellipse: s-maj=4.2km s-min=2.6km az=153.5*
*NNC **05** 06:51:13.2±4.9, 41°.52N×49°.82E, h0km, mb3.6, Error ellipse: s-maj=53.2km s-min=35.1km az=95.0*
ISC 05 06:51:04.0±1.1**, 41°.11N**±0°.02×**48°.91E**±0°.03**, h12**km±8km**, n74,** σ2s.13/108**, mb3.3**/3**, 30C-31D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIZA	Siyzn	0.03	194	P	Pg	06 51 11.8	+5.6
	SNR=1121						
SIZA				⇑S	Sg	06 51 16.4	+8.6
ATGJ	Altiaghaj	0.25	175	P	Pg	06 51 14.3	+5.1
	SNR=1300						
ATGJ				⇓S	Sg	06 51 20.5	+7.8
PQL	Pirkuli	0.40	217	P	Pn	06 51 15.0	-0.7
	SNR=106						
PQL				⇓S	Sb	06 51 21.9	+2.7
QUBA	Quba, Azerbaij	0.40	308	P	Pb	06 51 13.3	+0.3
	SNR=377						
QUBA				⇓S	Sg	06 51 18.6	+1.3
GBS	Qobustan	0.57	177	⇓P	Pn	06 51 20.9	+2.8
	SNR=9.5						
GBS				⇓S	Sn	06 51 32.6	+5.2
XNQ	Khinaliq	0.58	277	P	Pg	06 51 15.1	-0.3
	SNR=3615						
XNQ				⇑S	Sg	06 51 22.0	-1.2
IML	Ismayilli	0.63	241	⇓P	Pb	06 51 17.3	+0.3
	SNR=29						
IML				⇓S	Sb	06 51 26.4	+0.5
QSAR	Qusar	0.64	310	P	Pg	06 51 16.7	+0.4
	SNR=700						
QSAR				⇑S	Sg	06 51 24.5	-0.2
KSMR	Kasumkent	0.77	310	ePG	Pg	06 51 19.0	+0.1
KSMR				eS	Sg	06 51 30.0	+1.0
KSMR				pmax	pmax		
	comp=Z,1μm,0.4s						
KSMR	Kasumkent	0.77	310	ePg	Pg	06 51 19.0	+0.1
KSMR				eSg	Sg	06 51 30.0	+1.0
QBL	Gabala	0.83	259	⇑P	Pg	06 51 19.4	-0.6
	SNR=50						
QBL				⇑S	Sg	06 51 30.0	-0.7
KDMR	Kurdemir	0.91	217	⇓P	Pn	06 51 24.2	+1.6
	SNR=4.1						
KDMR				⇓S	Sn	06 51 39.5	+3.8
GOBA	Gobu	0.94	138	⇓P	Pn	06 51 29.1	+6.0
	SNR=8.5						
GOBA				⇑S	Sn	06 51 48.5	+12
AKT	Akhty	0.96	293	⇑ePG	Pg	06 51 21.3	-1.3
AKT				pmax	pmax		
	comp=Z,602nm,0.2s						
AKT	Akhty	0.96	293	⇑ePg	Pg	06 51 21.3	-1.3
	comp=Z,602nm,0.2s						
AKT				⇓eSg	Sg	06 51 31.4	-3.8
	comp=Z,4μm,0.4s						
DRN	Derbent	1.02	335	⇓ePG	Pb	06 51 23.7	+0.1
DRN				e		06 51 35.3	
DRN				pmax	pmax		
	comp=Z,432nm,0.6s						
DRN				smax	smax		
	comp=N,896nm,0.6s						
DRN	Derbent	1.02	335	⇓ePg	Pb	06 51 23.1	-0.5
	comp=N,432nm,0.6s						
DRN				⇑eSg	Sg	06 51 36.4	-0.5
	comp=N,896nm,0.6s						
ALIB	Äli-Bayra	1.15	176	⇑P	Pn	06 51 30.9	+5.0
	SNR=7.0						
ALIB				⇑S	Sn	06 51 48.0	+6.5
ZRD	Zardab	1.25	229	⇓P	Pg	06 51 28.7	+0.8
	SNR=7.4						
ZRD				⇑S	Sn	06 51 47.4	+3.5
SEKA	Sheki	1.30	275	PG	Pn	06 51 27.1	-0.8
SEKA	Sheki	1.30	275	⇑P	Pn	06 51 27.2	-0.8
	SNR=68						
SEKA				⇑S	Sb	06 51 42.8	-2.2
MNGR	Mingechevir, A	1.42	257	PG	Pn	06 51 29.4	-0.2
MNGR	Mingechevir, A	1.42	257	⇓P	Pb	06 51 30.3	-0.1
	SNR=4.0						
MNGR				⇓S	Sb	06 51 49.8	+1.3
URKR	Urkarakh	1.43	318	⇑ePG	Pn	06 51 29.7	-0.1
URKR	Urkarakh	1.43	318	ePg	Pn	06 51 29.8	-0.1
URKR				eSg	Sn	06 51 47.1	-1.5
BRDA	Brd	1.56	238	⇓Pn	Pg	06 51 33.4	-0.5
	SNR=9.5						
KMKR	Kumukh	1.70	308	PN	Pn	06 51 35.0	+1.3
KMKR				pmax	pmax		
	comp=Z,83nm,0.5s						
KMKR	Kumukh	1.70	308	ePg	Pn	06 51 35.0	+1.3
KMKR				eSg	Sn	06 51 56.0	+0.5
ZKTA	Zakatala	1.80	288	PN	Pn	06 51 35.3	+0.4
ZKTA	Zakatala	1.80	288	⇑Pn	Pb	06 51 37.1	+0.2
	SNR=11						
ZKTA				⇓Sn	Sn	06 51 58.8	+1.1
GLBA	Clilabad	1.90	192	⇑Pn	Pg	06 51 39.2	-1.2
	SNR=7.4						
GLBA				⇓Sn	Sg	06 52 06.3	+1.1
GANJ	Ganja	2.02	258	PN	Pn	06 51 37.1	-0.7
GANJ	Ganja	2.02	258	⇓Pn	Pn	06 51 38.9	+1.1
	SNR=58						
GANJ				⇓Sn	Sn	06 52 02.9	0.0
MAK	Makhachkala	2.13	331	ePN	Pg	06 51 46.6	+1.8
MAK				e		06 52 10.4	
MAK				pmax	pmax		
	comp=Z,154nm,0.4s						
MAK				smax	smax		
	comp=N,400nm,0.4s						
MAK				smax	smax		
	comp=N,473nm,0.6s						
BUJR	Buynaksk	2.18	323	ePN	Pn	06 51 42.0	+1.9
BUJR				eS	Sb	06 52 11.5	+1.1
BUJR	Buynaksk	2.18	323	ePg	Pn	06 51 42.0	+1.9
BUJR				eSg	Sb	06 52 11.5	+1.1
XNZR	Khunzakh	2.18	312	⇑ePN	Pb	06 51 44.9	+1.4
XNZR				e		06 52 12.2	
XNZR	Khunzakh	2.18	312	ePg	Pb	06 51 42.8	-0.8
XNZR				eSg	Sn	06 52 09.2	+1.9
UNCR	Uncukul	2.25	316	ePN	Pb	06 51 43.5	-1.1
UNCR				eS	Sb	06 52 13.5	+1.0
UNCR	Uncukul	2.25	316	ePn	Pb	06 51 43.5	-1.1
UNCR				eSn	Sb	06 52 13.5	+1.0
KRNR	Karanay	2.28	320	iPN	Pb	06 51 44.0	-1.1
KRNR				eS	Sb	06 52 13.5	+0.3
KRNR	Karanay	2.28	320	iPn	Pb	06 51 44.0	-1.1
KRNR				eSn	Sb	06 52 13.5	+0.3
LKRN	Lenkeran, Azer	2.40	182	⇑Pn	Pg	06 51 47.5	-2.3
LKRN				⇑Sn	Sg	06 52 19.8	-1.1
GDB	GEDABAY	2.42	262	⇑Pn	Pn	06 51 42.8	-0.7
	SNR=105						
GDB				⇑Sn	Sn	06 52 13.8	+0.6
DBC	Dubki	2.46	322	⇓iPN	Pn	06 51 46.4	+2.4
DBC				eS	Sn	06 52 17.1	+3.1
DBC				pmax	pmax		
	comp=Z,57nm,0.4s						
DBC	Dubki	2.46	322	iPn	Pn	06 51 46.4	+2.4
DBC				eSn	Sn	06 52 17.1	+3.1
LRK	Lerik	2.50	190	⇑Pn	Pg	06 51 49.9	-2.0
	SNR=24						
LRK				⇑Sn	Sg	06 52 22.2	-2.1
BTLR	Botlikh	2.54	309	⇓ePN	Pb	06 51 49.3	-0.2
BTLR	Botlikh	2.54	309	⇓ePn	Pb	06 51 51.2	+1.7
	comp=Z,68nm,0.5s						
BTLR				⇑eSn	Sb	06 52 23.4	+2.7
	comp=Z,93nm,0.7s						
ASTR	Astara	2.54	182	⇑Pn	Pg	06 51 52.1	-0.6
QZX	Qazax, Azerbai	2.67	270	⇓Pn	Pn	06 51 47.1	+0.2
	SNR=20						
QZX				⇓Sn	Sn	06 52 21.1	+1.9
SBZ	Shahbuz	3.08	237	⇑Pn	Pn	06 51 53.8	+1.2
GNI	Garni	3.31	255	Pn	Pb	06 52 00.3	-2.5
	comp=Z,3.7nm,0.3s,baz=77,slow=19,SNR=9.6						
GNI				Lg	Lg	06 52 48.3	
	comp=Z,2.2nm,0.3s,baz=90,slow=20,SNR=2.7						
GUDG	Gudauri	3.58	294	P	Pb	06 52 08.3	+1.0
VLKR	Vladikavkaz	3.70	303	⇓ePN	Pn	06 52 02.8	+1.8
LACR	Lac	3.84	298	⇑ePN	Pb	06 52 13.6	+1.8
DIGR	Digorskoe uzhe	4.36	296	⇑ePN	Pn	06 52 10.7	+0.5
KBZ	Khabaz	5.16	302	Pn	Pn	06 52 23.8	+2.8
	comp=Z,0.2nm,0.3s,baz=117,slow=6.8,SNR=3.8						
KBZ				Sn	Sn	06 53 24.9	+4.4
	comp=Z,0.4nm,0.3s,baz=74,slow=19,SNR=2.0						
KVAR	Kislovodsk Arr	5.40	304	Sn	Sn	06 53 32.4	+5.8
	baz=110,slow=12,SNR=3.5						
AB31	Akbulak array	11.26	40	⇓Pn	Pn	06 53 45.3	+0.6
	comp=Z,0.2nm,0.3s,baz=224,slow=13						
AB31				⇓Sn	Sn	06 55 45.8	-4.6
	comp=Z,1.0nm,0.5s,baz=226,slow=24						
AB31	Akbulak array	11.26	40	P	Pn	06 53 45.3	+0.6
AB31				S	Sn	06 55 45.8	-4.6
AB31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AB31				smax	smax		
	comp=N,1.0nm,0.5s						
AKTO	Aktyubinsk	11.28	31	Pn	Pn	06 53 45.6	+0.7
	comp=N,0.5nm,0.3s,baz=210,slow=9.5,SNR=7.1						
AKTO				Sn	Sn	06 55 43.5	-7.4
	comp=N,0.2nm,0.3s,baz=21,slow=19,SNR=2.2						
AKTO	Aktyubinsk	11.28	31	⇑Pn	Pn	06 53 45.5	+0.6
	comp=N,2.7nm,1.0s						
AKTO				⇓Sn	Sn	06 55 45.3	-5.6
	comp=N,4.8nm,0.9s						
KK31	Karatay Array	16.15	76	⇓P	P	06 54 52.1	-2.0
	comp=N,0.5nm,0.4s,baz=258,slow=14,SNR=11						
KK31	Karatay Array	16.15	76	P	P	06 54 52.5	-1.5
KK31				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MLR	Muntele Rosu	17.26	292	LR	LR	07 04 36.6	
	comp=Z,49nm,18.0s,baz=335,slow=47						
BVAR	Borovoye Array	18.79	43	P	Pn	06 55 24.2	+0.7
	comp=Z,0.2nm,0.3s,baz=248,slow=11,SNR=5.7						
KURBB	Kurchatov Arra	22.58	55	P	P	06 56 06.0	+1.9
	comp=Z,0.3nm,0.3s,baz=259,slow=9.3,SNR=2.6						
KURK	Kurchatov	22.66	55	P	P	06 56 06.0	+1.1
MKAR	Makanchi Array	24.57	65	P	P	06 56 23.2	-0.5
	comp=Z,0.3nm,0.5s,baz=266,slow=7.9,SNR=8.6						
MKAR	Makanchi Array	24.57	65	eP	P	06 56 26.1	+2.4
FINES	FINESS Array B	24.63	333	P	P	06 56 23.0	-1.0
	comp=Z,5.4nm,1.1s,baz=137,slow=9.6,SNR=10						
FINES	FINESS Array B	24.63	333	eP	P	06 56 22.8	-1.2
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ILAR	Eielson Array	73.73	7	LR	LR	07 38 30.4	
	comp=Z,20nm,20.1s,baz=27,slow=39						

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*NNC **05** 06:57:05.5±12.0, 53°.88N×86°.87E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=93.5km s-min=79.5km az=21.0, Suspected Mining explosion.*
IDC 05 06:57:07.9±2.3**, 54°.07N×86°.28E, h0**km**, mb1 3.0**/2**, mb1mx2.9**/60**, mbtmp3.0**/2**, ML2.7**/2**, 2C-5D, Error ellipse: s-maj=18.1km s-min=11.4km az=59.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.87	263	i		07 02 45.6	
	baz=85,slow=349,SNR=12						
ZALV	Zalesovo Beam	0.87	263	Pg	Pg	06 57 24.1	-0.6
	1.2nm,0.3s,baz=78,slow=16,SNR=14						
ZALV				Lg	Lg	06 57 37.0	
	2.5nm,0.3s,baz=78,slow=28,SNR=23						
KURK	Kurchatov	5.77	237	⇑Pn	Pn	06 58 34.0	-0.7
	3.7nm,1.1s						
KURK				⇓Lg	Lg	07 00 15.0	
	10.0nm,1.2s						
KURBB	Kurchatov Arra	5.87	237	Pn	Pn	06 58 37.5	+1.4
	0.1nm,0.3s,baz=55,slow=14,SNR=5.7						
KURBB				Lg	Lg	07 00 12.8	
	0.1nm,0.3s,baz=48,slow=29,SNR=2.4						
KURBB	Kurchatov Arra	5.87	237	⇓Pn	Pn	06 58 36.3	+0.2
	1.4nm,0.5s						
KURBB				⇑Sn	Sn	06 59 45.3	+1.2
	1.9nm,0.6s						
KURBB				⇓Lg	Lg	07 00 15.3	
	4.8nm,0.8s						
MK31	Makanchi Array	7.72	201	Pn	Pn	06 59 03.0	+1.5
	0.3nm,0.5s,baz=27,slow=12,SNR=13						
MK31				⇓Sn	Sn	07 00 29.8	+0.3
	0.7nm,0.8s						
MK31				⇓Lg	Lg	07 01 09.2	
	3.5nm,1.3s,baz=28,slow=29						
MKAR	Makanchi Array	7.72	201	Pn	Pn	06 59 02.2	+0.8
	0.2nm,0.3s,baz=24,slow=13,SNR=12						
MKAR				Lg	Lg	07 01 11.9	
	0.0nm,0.3s,baz=20,slow=25,SNR=7.6						

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*ISCJB **05** 06:58:01.6±1.4, 28°.81N±0°.04×128°.52E±0°.05, h10km±9km, mb3.3/8, MS3.0/3, Error ellipse: s-maj=7.6km s-min=5.8km az=152.5*
*JMA **05** 06:58:02.8±0.2, 28°.78N×128°.57E, h14km±3km, M3.4*
*IDC **05** 06:58:02.0±0.8, 28°.69N×128°.20E, h0km, mb3.4/8, mb1 3.6/9, mb1mx3.5/48, mbtmp3.4/9, ML2.7/1, MS3.1/6, Ms1 3.1/6, ms1mx2.9/27, Error ellipse: s-maj=29.5km s-min=16.0km az=78.0*
ISC 05 06:58:01.0±1.8**, 28°.76N**±0°.04×**128°.50E**±0°.06**, h2**km±12km**, n24,** σ0s.89/25**, mb3.4**/8**, MS3.1**/3**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTAJ	Takarajima	0.73	57	P	Pb	06 58 15.6	-0.7
JTAJ				S	Sg	06 58 24.3	-0.1
JAMN	Amaminishikomi	0.79	131	P	Pb	06 58 17.3	0.0
JAMN				eS	Sg	06 58 27.2	+1.0
JAM	Amami Oshima	1.03	110	P	Pb	06 58 21.0	-0.5
JAM				S	Sg	06 58 33.4	-0.7
JTK	Tokunoshima	1.05	158	P	Pn	06 58 22.1	-0.6
JTK				S	Sn	06 58 36.4	-1.5
JZK	Kikaishima	1.37	109	P	Pg	06 58 27.5	+0.3
JZK				S	Sg	06 58 45.8	+0.9
JOKE	Okinoerabujima	1.40	178	P	Pg	06 58 27.9	+0.2
JYRO	Yoronjima	1.73	182	P	Pb	06 58 33.1	-0.4
JYRO				eS	Sb	06 58 55.6	0.0
JIH	Iheya	1.78	196	P	Pb	06 58 34.2	-0.2
JOW	Kunigami	1.93	186	Pn	Pb	06 58 35.9	-1.0
	20nm,0.3s,baz=76,slow=24,SNR=47						
JOW	Kunigami	1.93	186	P	Pb	06 58 35.9	-1.0
JYAK	Yakushimahirau	2.29	49	P	Pn	06 58 39.3	-0.4
JNU	Nakatsue	4.80	25	Pn	Pn	06 59 18.2	+3.9
	0.3nm,0.3s,baz=170,slow=6.1,SNR=2.9						
JNU				LR	LR	07 01 18.5	
	comp=Z,183nm,18.5s,baz=287,slow=40						
KSRS	Korea Array	8.68	357	LR	LR	07 03 38.8	
	comp=Z,110nm,20.7s,baz=174,slow=39						
MJAR	Matsushiro Arr	11.27	44	LR	LR	07 05 43.1	
	comp=Z,60nm,21.5s,baz=210,slow=40						
KLR	Kul'dur	20.59	6	P	P	07 02 39.6	-1.5
	1.8nm,0.8s,baz=164,slow=18,SNR=2.1						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KLR				LR	LR	07 11 13.1	
	comp=Z,40nm,18.2s,baz=181,slow=38						
SONM	**Songino Array**	**25.61**	**324**	P	**P**	**07 03 31.9**	**+0.2**
	0.2nm,0.4s,baz=123,slow=7.2,SNR=1.9						
CMAR	**Chiang Mai Arr**	**28.89**	**256**	LR	LR	07 16 28.5	
	comp=Z,49nm,18.3s,baz=118,slow=39						
MKAR	**Makanchi Array**	**40.07**	**310**	P	**P**	**07 05 37.1**	**-0.6**
	0.4nm,0.8s,baz=94,slow=10,SNR=3.8						
MKAR				LR	LR	07 23 33.7	
	comp=Z,30nm,18.2s,baz=90,slow=38						
KURBB	**Kurchatov Arra**	**43.22**	**315**	P	**P**	**07 06 04.1**	**+0.7**
	0.1nm,0.3s,baz=96,slow=8.5,SNR=2.5						
BVAR	**Borovoye Array**	**48.58**	**317**	P	**P**	**07 06 46.7**	**+1.0**
	0.6nm,0.6s,baz=94,slow=8.9,SNR=4.4						
WRA	**Warramunga Arr**	**48.75**	**173**	P	**P**	**07 06 47.1**	**-0.2**
	0.5nm,0.7s,baz=354,slow=8.7,SNR=4.3						
ASAR	**Alice Springs**	**52.38**	**174**	P	**P**	**07 07 16.4**	**+1.6**
	0.5nm,0.9s,baz=8.5,slow=13,SNR=3.3						
ILAR	**Eielson Array**	**62.11**	**29**	P	P	07 08 26.9	+3.9
	0.2nm,0.7s,baz=287,slow=7.4,SNR=3.8						
YKA	**Yellowknife Ar**	**76.14**	**25**	P	**P**	**07 09 51.3**	**+1.2**
	0.2nm,0.7s,baz=306,slow=6.2,SNR=4.0						

*IDC **05** 07:04:01.4±0.8, 31°.11N×86°.26E, h0km, mb3.6/9, mb1 3.8/10, mb1mx3.5/42, mbtmp3.6/10, ML3.0/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/43, Error ellipse: s-maj=28.6km s-min=19.0km az=71.0*

*ISCJB **05** 07:04:03.8±0.8, 31°.2N±0°.1×86°.3E±0°.2, h26km, mb3.6/8, MS3.5/2, Error ellipse: s-maj=24.3km s-min=14.4km az=165.2*

ISC 05 07:04:05.6±0.9**, 31°.2N**±0°.1×**86°.3E**±0°.2**, h26km, n13, σ0s.90**/11**, mb3.7**/8**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.88**	**350**	Pn	**Pn**	**07 07 47.6**	**+0.3**
	0.1nm,0.3s,baz=174,slow=12,SNR=4.6						
KURBB	**Kurchatov Arra**	**20.26**	**346**	P	**P**	**07 08 38.9**	**+0.1**
	2.6nm,0.7s,baz=161,slow=11,SNR=10						
SONM	**Songino Array**	**22.61**	**37**	P	**P**	**07 09 03.8**	**-0.6**
	1.7nm,0.8s,baz=223,slow=12,SNR=7.9						
ZALV	**Zalesovo Beam**	**22.76**	**358**	P	**P**	**07 09 07.3**	**+1.5**
	1.1nm,0.8s,baz=218,slow=9.2,SNR=5.0						
PALK	**Pallekele**	**24.37**	**194**	LR	LR	07 19 27.2	
	comp=Z,20nm,18.8s,baz=121,slow=38						
BVAR	**Borovoye Array**	**24.70**	**337**	P	**P**	**07 09 25.2**	**+0.8**
	0.7nm,0.7s,baz=144,slow=13,SNR=4.7						
NOA	**NORSAR Array B**	**56.12**	**325**	P	**P**	**07 13 41.0**	**-1.5**
	0.8nm,0.9s,baz=86,slow=7.1,SNR=3.3						
DAVOX	**Davos/Dischmat**	**59.16**	**309**	LR	LR	07 42 24.8	
	comp=Z,292nm,19.7s,slow=39						
WRA	**Warramunga Arr**	**68.63**	**131**	P	**P**	**07 15 06.5**	**-0.2**
	0.3nm,0.6s,baz=324,slow=6.4,SNR=7.3						
ASAR	**Alice Springs**	**71.09**	**134**	P	**P**	**07 15 22.1**	**+0.3**
	0.7nm,0.7s,baz=317,slow=6.5,SNR=6.0						
TORD	**Torodi Ar. Bea**	**78.77**	**279**	P	**P**	**07 16 06.8**	**+0.4**
	0.8nm,0.9s,baz=70,slow=5.4,SNR=5.0						
BOSA	**Boshof**	**83.16**	**231**	P	**P**	**07 16 29.6**	**-0.1**
	1.9nm,0.8s,baz=59,slow=5.9,SNR=3.4						
CPUP	**Villa Florida**	**147.85**	**269**	PKPbc	**PKPdf**	**07 23 46.3**	**+0.6**
	2.1nm,0.9s,baz=68,slow=6.0,SNR=3.8						

*NNC **05** 07:12:42.2±3.9, 53°.83N×86°.58E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=34.4km s-min=25.5km az=174.0, Suspected Mining explosion.*

IDC 05 07:12:42.4±2.2**, 53°.97N×86°.29E, h0km, mb1 3.1**/2**, mb1mx3.0**/53**, mbtmp3.1**/2**, ML2.9**/2**, 5C-3D, Error ellipse: s-maj=18.1km s-min=11.4km az=62.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.87**	**269**	*i*		07 18 28.9	
	baz=87,slow=352,SNR=4.2						
ZALV	**Zalesovo Beam**	**0.87**	**269**	Pg	Pg	07 12 58.4	-0.6
	1.4nm,0.3s,baz=88,slow=17,SNR=19						
ZALV				Lg	Lg	07 13 11.0	
	2.8nm,0.3s,baz=89,slow=32,SNR=7.5						
KURK	**Kurchatov**	**5.72**	**238**	⇓Pn	Pn	07 14 07.8	-0.7
	3.5nm,1.3s						
KURK				⇑Sn	Sn	07 15 17.7	+3.0
	0.6nm,0.6s						
KURK				⇑Lg	Lg	07 15 48.0	
	5.6nm,1.1s						
KURBB	**Kurchatov Arra**	**5.82**	**238**	Pn	Pn	07 14 11.1	+1.2
	0.1nm,0.3s,baz=56,slow=14,SNR=8.1						
KURBB				Lg	Lg	07 15 47.6	
	0.0nm,0.3s,baz=53,slow=35,SNR=3.3						
KURBB	**Kurchatov Arra**	**5.82**	**238**	⇑Pn	Pn	07 14 10.8	+0.9
	0.9nm,0.3s						
KURBB				⇓Sn	Sn	07 15 20.5	+3.3
	1.5nm,0.7s						
KURBB				⇑Lg	Lg	07 15 49.7	
	2.6nm,0.8s						
MK31	**Makanchi Array**	**7.62**	**201**	Pn	Pn	07 14 35.8	+1.1
	0.1nm,0.2s,baz=23,slow=13,SNR=32						
MK31				⇓Sn	Sn	07 15 58.9	-2.9
	0.3nm,0.6s,baz=25,slow=13,SNR=10						
MK31				⇑Lg	Lg	07 16 43.4	
	1.6nm,1.0s						
MKAR	**Makanchi Array**	**7.62**	**201**	Pn	Pn	07 14 35.7	+1.0
	0.4nm,0.3s,baz=23,slow=13,SNR=25						
MKAR				Lg	Lg	07 16 42.3	
	baz=26,slow=31,SNR=3.4						

IDC 05 07:14:08.7±2.5**, 54°.01N×86°.36E, h0km, mb1 3.2**/2**, mb1mx2.9**/54**, mbtmp3.2**/2**, ML2.6**/2**, Error ellipse: s-maj=21.2km s-min=13.2km az=55.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.91**	**267**	*i*		07 19 55.8	
	baz=86,slow=353						
ZALV	**Zalesovo Beam**	**0.91**	**267**	Pg	Pg	07 14 25.9	-0.2
	0.7nm,0.3s,baz=85,slow=17,SNR=4.3						
ZALV				Lg	Lg	07 14 39.7	
	0.8nm,0.3s,baz=90,slow=35,SNR=4.9						
KURBB	**Kurchatov Arra**	**5.88**	**238**	Pn	Pn	07 15 36.0	-1.0
	0.1nm,0.3s,baz=54,slow=13,SNR=2.9						
MKAR	**Makanchi Array**	**7.68**	**201**	Pn	Pn	07 16 04.0	+2.3
	0.2nm,0.3s,baz=24,slow=14,SNR=8.1						

IDC 05 07:26:17.4±2.4**, 54°.24N×86°.05E, h0km, mb1 3.4**/2**, mb1mx3.0**/46**, mbtmp3.4**/2**, ML3.2**/2**, 1C-1D, Error ellipse: s-maj=18.0km s-min=10.7km az=56.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.78**	**249**	*i*		07 31 09.0	
	baz=70,slow=340,SNR=8.2						
ZALV	**Zalesovo Beam**	**0.78**	**249**	Pg	Pg	07 26 31.4	-0.9
	2.4nm,0.3s,baz=64,slow=17,SNR=27						
ZALV				Lg	Lg	07 26 44.0	
	6.1nm,0.3s,baz=68,slow=30,SNR=22						
KURBB	**Kurchatov Arra**	**5.85**	**235**	Pn	Pn	07 27 45.5	+0.2
	0.3nm,0.3s,baz=52,slow=13,SNR=4.7						
KURBB				Lg	Lg	07 29 22.8	
	0.0nm,0.3s,baz=50,slow=33,SNR=2.4						
MK31	**Makanchi Array**	**7.82**	**199**	Pn	Pn	07 28 13.9	+1.6
	0.1nm,0.2s,baz=27,slow=14,SNR=58						
MK31				⇑Sn	Sn	07 29 42.2	+0.6
	0.1nm,0.3s						
MK31				⇓Lg	Lg	07 30 23.7	
	0.6nm,0.7s,baz=27,slow=27						
MKAR	**Makanchi Array**	**7.82**	**199**	Pn	Pn	07 28 13.8	+1.4
	0.7nm,0.3s,baz=20,slow=11,SNR=50						
MKAR				Lg	Lg	07 30 25.6	
	0.0nm,0.3s,baz=16,slow=28,SNR=4.3						

IDC 05 07:51:38.7±3.1**, 54°.47N×86°.54E, h0km, mb1 2.8**/2**, mb1mx2.7**/49**, mbtmp2.8**/2**, ML2.5**/2**, Error ellipse: s-maj=24.6km s-min=16.2km az=47.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.14**	**243**	*i*		07 58 37.1	
	baz=62,slow=339,SNR=12						
ZALV	**Zalesovo Beam**	**1.14**	**243**	Pg	Pg	07 51 59.1	-1.4
	0.7nm,0.3s,baz=60,slow=16,SNR=8.4						
ZALV				Lg	Lg	07 52 16.9	
	3.4nm,0.3s,baz=60,slow=27,SNR=28						
KURBB	**Kurchatov Arra**	**6.22**	**235**	Pn	Pn	07 53 12.5	+0.8
	0.1nm,0.3s,baz=50,slow=14,SNR=3.7						
KURBB				Lg	Lg	07 54 55.4	
	0.1nm,0.3s,baz=54,slow=34,SNR=3.1						
MKAR	**Makanchi Array**	**8.14**	**201**	Pn	Pn	07 53 39.1	+1.0
	0.1nm,0.3s,baz=23,slow=14,SNR=5.7						
MKAR				Lg	Lg	07 55 55.5	
	0.0nm,0.3s,baz=21,slow=22,SNR=3.2						

IDC 05 07:55:50.5±2.6**, 53°.74N×86°.82E, h0km, mb1 3.0**/2**, mb1mx2.9**/53**, mbtmp3.0**/2**, ML2.5**/2**, Error ellipse: s-maj=25.4km s-min=13.7km az=63.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.20**	**281**	*i*		08 03 53.5	
	baz=96,slow=332						
ZALV	**Zalesovo Beam**	**1.20**	**281**	Pg	Pg	07 56 13.2	-0.3
	0.7nm,0.3s,baz=97,slow=16,SNR=15						
ZALV				Lg	Lg	07 56 28.8	
	1.2nm,0.3s,baz=102,slow=27,SNR=10						
KURBB	**Kurchatov Arra**	**5.98**	**242**	Pn	Pn	07 57 21.9	+1.8
	0.1nm,0.3s,baz=58,slow=13,SNR=3.2						
MKAR	**Makanchi Array**	**7.54**	**204**	Pn	Pn	07 57 42.3	+0.7
	0.1nm,0.3s,baz=22,slow=13,SNR=15						
MKAR				Lg	Lg	07 59 45.9	
	0.0nm,0.3s,baz=18,slow=30,SNR=2.0						

IDC 05 08:02:02.6±6.1**, 55°.15S×146°.43W, h0km, mb4.1**/2**, mb1 4.3**/2**, mb1mx3.8**/31**, mbtmp4.1**/2**, MS3.8**/5**, Ms1 3.8**/5**, ms1mx3.5**/21**, Error ellipse: s-maj=871.9km s-min=101.9km az=168.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNDA	**Vanda**	**28.77**	**201**	LR	LR	08 16 14.5	
	comp=Z,124nm,19.4s,baz=120,slow=30						
TBI	**Tubuai**	**31.84**	**355**	*e*LR	LR	08 16 54.6	
	comp=Z,310nm,27.8s,baz=170						
TBI	**Tubuai**	**31.84**	**355**	*e*T	T	08 42 43.8	
	64nm,0.3s						
RKT	**Rikitea**	**33.10**	**20**	*e*T	T	08 43 41.7	
	11nm,0.3s						
TVO	**Taravao**	**37.36**	**356**	*e*T	T	08 49 36.3	
	2.8nm,0.3s						
PAE	**Paea**	**37.49**	**355**	*e*T	T	08 49 46.9	
	2.7nm,0.3s						
PPT2	**Papeete2**	**37.56**	**355**	*e*LR	LR	08 19 44.9	
	comp=Z,233nm,24.8s,baz=172						
PPT2	**Papeete2**	**37.56**	**355**	*e*T	T	08 49 52.3	
	4.3nm,0.3s						
TIAR	**Tiarei**	**37.58**	**355**	*e*T	T	08 49 53.2	
	6.5nm,0.3s						
VAH	**Vaihoa**	**39.84**	**358**	*e*T	T	08 52 38.5	
	61nm,0.2s						
PLCA	**Paso Flores**	**50.31**	**107**	LR	LR	08 26 02.4	
	comp=Z,88nm,21.9s,baz=224,slow=29						
STKA	**Stephens Creek**	**54.45**	**264**	LR	LR	08 30 06.8	
	comp=Z,155nm,19.9s,baz=197,slow=31						
ASAR	**Alice Springs**	**65.09**	**264**	P	P	08 12 45.1	+0.1
	1.8nm,0.9s,baz=140,slow=6.1,SNR=6.8						
H01W1	**Cape Leeuwin H**	**67.11**	**242**	T	T	09 27 34.2	
	baz=143,slow=76,SNR=3.4						
H01W2	**Cape Leeuwin H**	**67.11**	**242**	T	T	09 27 37.9	
	baz=143,slow=76,SNR=2.7						
H01W3	**Cape Leeuwin H**	**67.12**	**242**	T	T	09 27 36.7	
	baz=143,slow=76,SNR=2.2						
WRA	**Warramunga Arr**	**67.76**	**267**	P	P	08 13 01.9	-0.2
	2.3nm,1.2s,baz=144,slow=5.5,SNR=4.0						
CPUP	**Villa Florida**	**68.33**	**105**	LR	LR	08 38 05.6	
	comp=Z,81nm,18.1s,baz=112,slow=32						
LPAZ	**La Paz**	**70.12**	**90**	LR	LR	08 36 27.7	
	comp=Z,44nm,21.6s,baz=194,slow=30						
H10S3	**ASCENSION HYDR**	**104.55**	**130**	T	T	10 11 50.5	
	baz=207,slow=75,SNR=11						
H10S2	**ASCENSION HYDR**	**104.55**	**130**	T	T	10 11 55.4	
	baz=207,slow=75,SNR=12						
H10S1	**ASCENSION HYDR**	**104.56**	**130**	T	T	10 11 58.1	
	baz=207,slow=75,SNR=9.9						
H10N3	**ASCENSION HYDR**	**105.61**	**130**	T	T	10 13 13.8	
	baz=206,slow=75,SNR=18						
H10N1	**ASCENSION HYDR**	**105.61**	**130**	T	T	10 13 12.2	
	baz=206,slow=75,SNR=16						
H10N2	**ASCENSION HYDR**	**105.63**	**130**	T	T	10 13 16.0	
	baz=206,slow=75,SNR=16						
MKAR	**Makanchi Array**	**148.78**	**275**	PKPbc	PKPbc	08 21 50.6	-0.5
	1.6nm,0.9s,baz=139,slow=1.9,SNR=10						

*MOS **05** 08:27:13.7±0.8, 15°.06S×67°.04E, h10km, mb4.7/31, Error ellipse: s-maj=13.3km s-min=7.7km az=106.2*

*IDC **05** 08:27:13.5±0.6, 15°.08S×67°.06E, h0km, mb4.2/21, mb1 4.3/22, mb1mx4.1/47, mbtmp4.2/22, ML3.5/1, MS3.7/9, Ms1 3.7/9, ms1mx3.5/56, Error ellipse: s-maj=19.4km s-min=16.7km az=28.0*

*ISCJB **05** 08:27:14.7±0.3, 15°.06S±0°.07×67°.04E±0°.06, h16km, mb4.5/65, MS3.7/8, Error ellipse: s-maj=10.9km s-min=7.7km az=23.0*

*NEIC **05** 08:27:15.3±0.2, 15°.08S×67°.02E, h10km, mb4.7/27, Error ellipse: s-maj=7.5km s-min=6.0km az=207.0*

ISC 05 08:27:16.4±0.4**, 15°.14S**±0°.09×**67°.0E**±0°.1**, h16km, n193, σ0s.75**/180**, mb4.5**/65**, MS3.6**/8**, 3C-4D, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**9.15**	**36**	T	T	08 38 49.8	
	baz=216,slow=75,SNR=1136						
H08S2	**Diego Garcia H**	**9.17**	**36**	T	T	08 38 57.5	
	baz=216,slow=75,SNR=1741						
H08S3	**Diego Garcia H**	**9.18**	**36**	T	T	08 38 51.3	
	baz=216,slow=75,SNR=1354						
H08N3	**Diego Garcia H**	**9.56**	**24**	T	T	08 39 17.0	
	baz=204,slow=75,SNR=4421						
H08N1	**Diego Carcia H**	**9.57**	**25**	T	T	08 39 17.9	
	baz=204,slow=75,SNR=1786						
H08N2	**Diego Garcia H**	**9.58**	**24**	T	T	08 39 18.6	
	baz=204,slow=75,SNR=4546						
OPO	**Ambohidratompo**	**19.30**	**257**	P	**P**	**08 31 41.6**	**+0.6**
	0.2nm,0.3s,baz=82,slow=14,SNR=4.0						
OPO				LR	LR	08 37 43.9	
	comp=Z,440nm,19.9s,baz=30,slow=33						
PALK	**Pallekele**	**26.06**	**32**	LR	LR	08 40 41.3	
	comp=Z,295nm,21.1s,baz=297,slow=31						
KMBO	**Kilima Mbogo**	**32.53**	**293**	LR	LR	08 44 00.6	
	comp=Z,99nm,19.9s,baz=89,slow=31						
LSZ	**Lusaka**	**37.45**	**265**	P	**P**	**08 34 30.6**	**+1.1**
	1.1nm,0.3s,baz=119,slow=6.3,SNR=5.0						
WSAR	**Wadi Sarin**	**39.02**	**348**	LR	LR	08 47 40.5	
	comp=Z,84nm,18.7s,baz=176,slow=32						
LEM	**Lembang**	**40.63**	**83**	LR	LR	08 49 20.0	
	comp=Z,133nm,20.6s,baz=218,slow=33						
BOSA	**Boshof**	**40.82**	**244**	LR	LR	08 48 30.6	
	comp=Z,241nm,19.5s,baz=63,slow=31						
CM01	**Chiang Mai Arr**	**45.84**	**44**	*e*P	**P**	**08 35 39.2**	**+1.2**
CMAR	**Chiang Mai Arr**	**45.85**	**44**	P	**P**	**08 35 39.1**	**+1.0**
	1.4nm,0.6s,baz=233,slow=8.5,SNR=12						
H01W3	**Cape Leeuwin H**	**46.51**	**124**	T	T	09 25 30.0	
	baz=283,slow=75,SNR=41						
H01W2	**Cape Leeuwin H**	**46.52**	**124**	T	T	09 25 37.6	
	baz=283,slow=75,SNR=52						
H01W1	**Cape Leeuwin H**	**46.53**	**124**	T	T	09 25 38.8	
	baz=283,slow=75,SNR=53						
SHL	**Shillong**	**47.14**	**31**	*e*P	**P**	**08 35 49.4**	**+1.0**
	21nm,0.3s						
SHL	**Shillong**	**47.14**	**31**	*e*P	**P**	**08 35 49.4**	**+1.0**
SHL				pmax	pmax		
	comp=Z,21nm,0.3s						
NWAO	**Narrogin (SRO)**	**48.68**	**121**	*e*P	**P**	**08 35 60.0**	**-0.1**
	comp=Z,12nm,1.1s						
NWAO	**Narrogin (SRO)**	**48.68**	**121**	*e*P	**P**	**08 36 00.0**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,12nm,1.1s						
MAW	**Mawson**	**52.50**	**182**	*e*P	**P**	**08 36 29.3**	**+1.0**
	comp=Z,2.5nm,1.1s						
MAW	**Mawson**	**52.50**	**182**	*e*P	**P**	**08 36 29.3**	**+1.0**
MAW				pmax	pmax		
	comp=Z,3.0nm,1.1s						
EIL	**Elat**	**54.24**	**325**	LR	LR	08 56 54.4	
	comp=Z,56nm,19.6s,baz=84,slow=33						
FITZ	**Fitzroy Crossi**	**56.04**	**102**	*e*P	**P**	**08 36 56.4**	**+1.5**
	comp=Z,2.5nm,1.1s						
MMAI	**Mount Meron Ar**	**56.62**	**328**	LR	LR	08 57 29.8	
	comp=Z,58nm,20.8s,baz=175,slow=32						
GNI	**Garni**	**58.78**	**340**	LR	LR	09 00 06.1	
	comp=Z,31nm,21.8s,baz=167,slow=34						
GNI	**Garni**	**58.78**	**340**	⇓*e*P	**P**	**08 37 14.6**	**+0.6**
AKH	**Akhalkalaki**	**60.33**	**340**	*e*P	**P**	**08 37 25.4**	**+0.7**
	comp=Z,4.7nm,0.8s						
AKH	**Akhalkalaki**	**60.33**	**340**	*e*P	**P**	**08 37 25.4**	**+0.7**
AKH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ENH	**Enshi**	**60.90**	**42**	*e*P	**P**	**08 37 28.6**	**0.0**
	comp=Z,8.3nm,0.5s						
KBZ	**Khabaz**	**62.60**	**340**	P	**P**	**08 37 39.9**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=201,slow=6.9,SNR=4.2						
BR101	**Keskin Array S**	**62.83**	**332**	*e*P	**P**	**08 37 41.5**	**-0.1**
BRTR	**Keskin Array B**	**62.83**	**332**	P	**P**	**08 37 41.5**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=156,slow=10,SNR=6.7						
KIV	**Kislovodsk**	**62.87**	**340**	*e*P	**P**	**08 37 41.1**	**-0.6**
KIV				*e*		08 38 24.2	
KIV				*e*		08 39 58.4	
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MK32	**Makanchi Array**	**63.15**	**12**	*e*P	**P**	**08 37 42.3**	**-1.1**
MKAR	**Makanchi Array**	**63.15**	**12**	P	**P**	**08 37 42.3**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=210,slow=9.0,SNR=9.7						
MKAR	**Makanchi Array**	**63.15**	**12**	*e*P	**P**	**08 37 42.6**	**-0.8**
	comp=Z,12nm,1.1s						
MKAR	**Makanchi Array**	**63.15**	**12**	*e*P	**P**	**08 37 42.6**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,12nm,1.1s						
ASAR	**Alice Springs**	**63.16**	**109**	P	**P**	**08 37 43.7**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=268,slow=5.5,SNR=21						
WRA	**Warramunga Arr**	**63.99**	**105**	P	**P**	**08 37 49.5**	**0.0**
	comp=Z,2.1nm,0.8s,baz=270,slow=5.9,SNR=21						
WR1	**Warramunga Arr**	**63.99**	**105**	*e*P	**P**	**08 37 49.5**	**0.0**
	comp=Z,3.5nm,0.8s						
WB2	**Warramunga Arr**	**64.00**	**105**	*e*P	**P**	**08 37 49.9**	**+0.3**
	comp=Z,3.7nm,0.8s						
WRAB	**Tennant Creek**	**64.00**	**105**	*e*P	**P**	**08 37 49.9**	**+0.3**
	comp=Z,4.1nm,0.8s						
WRAB	**Tennant Creek**	**64.00**	**105**	⇓*e*P	**P**	**08 37 49.5**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,10.0nm,1.7s						
ABKAR	**Akbulak array**	**64.41**	**355**	*e*P	**P**	**08 37 50.9**	**-0.7**
AKTO	**Aktyubinsk**	**65.77**	**354**	P	**P**	**08 37 59.7**	**-0.7**
	comp=Z,2.3nm,1.0s,baz=186,slow=6.6,SNR=4.9						
KURBB	**Kurchatov Arra**	**66.25**	**8**	P	**P**	**08 38 02.6**	**-0.9**
	comp=Z,1.8nm,0.9s,baz=206,slow=6.6,SNR=7.8						
KURK	**Kurchatov**	**66.35**	**8**	*e*P	**P**	**08 38 02.6**	**-1.5**
KURK	**Kurchatov**	**66.35**	**8**	⇓*e*P	**P**	**08 38 03.1**	**-1.0**
KURK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
DGZ	**Jazzator, Alta**	**67.02**	**14**	⇑*e*P	**P**	**08 38 08.9**	**+0.3**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ITM	**Ithomi**	**67.16**	**322**	*e*P	**P**	**08 38 08.9**	**-0.7**
	comp=Z,6.7nm,0.7s						
BVAR	**Borovoye Array**	**67.94**	**2**	P	**P**	**08 38 13.5**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=164,slow=7.7,SNR=13						
BRVK	**Borovoye**	**67.97**	**2**	*e*P	**P**	**08 38 13.9**	**-0.4**
	comp=Z,3.7nm,0.9s						
BRVK	**Borovoye**	**67.97**	**2**	⇑*e*P	**P**	**08 38 14.0**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AGG	**Agios Georgios**	**68.16**	**324**	*e*P	**P**	**08 38 15.0**	**-1.0**
	comp=Z,9.2nm,0.7s						
AGG	**Agios Georgios**	**68.16**	**324**	*e*P	**P**	**08 38 15.0**	**-1.0**
AGG				pmax	pmax		
	comp=Z,9.0nm,0.7s						
LIT	**Litokhoron**	**68.81**	**325**	*e*P	**P**	**08 38 18.7**	**-1.3**
	comp=Z,12nm,0.8s						
LIT	**Litokhoron**	**68.81**	**325**	*e*P	**P**	**08 38 18.7**	**-1.3**
LIT				pmax	pmax		
	comp=Z,12nm,0.8s						
TIRR	**Tirgusor**	**68.95**	**331**	*e*P	**P**	**08 38 20.5**	**-0.2**
	comp=Z,6.0nm,1.1s						
TIRR	**Tirgusor**	**68.95**	**331**	*e*P	**P**	**08 38 20.5**	**-0.2**
TIRR				pmax	pmax		
	comp=Z,6.0nm,1.1s						
FNA	**Florina**	**69.90**	**325**	*e*P	**P**	**08 38 26.4**	**-0.3**
	comp=Z,6.8nm,0.8s						
FNA	**Florina**	**69.90**	**325**	*e*P	**P**	**08 38 26.4**	**-0.3**
FNA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ZALV	**Zalesovo Beam**	**70.47**	**11**	P	**P**	**08 38 28.8**	**-1.1**
	comp=Z,2.1nm,0.8s,baz=228,slow=3.8,SNR=9.4						
ZAA1	**Zalesovo Array**	**70.47**	**11**	*e*P	**P**	**08 38 28.8**	**-1.1**
ARU	**Arti**	**71.64**	**355**	P	**P**	**08 38 36.5**	**-0.4**
ARU						08 41 10.8	
ARU				S	**S**	**08 47 58.1**	**+2.4**
ARU				SS	**SS**	**08 52 32.4**	**+0.7**
SONA0	**Songino Array**	**71.86**	**27**	*e*P	**P**	**08 38 38.6**	**0.0**
SONM	**Songino Array**	**71.86**	**27**	P	**P**	**08 38 38.6**	**0.0**
	comp=Z,1.6nm,0.8s,baz=221,slow=6.8,SNR=12						
SONM	**Songino Array**	**71.86**	**27**	*e*P	**P**	**08 38 38.9**	**+0.3**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ULN	**Ulaanbaatar**	**72.17**	**27**	⇑*e*P	**P**	**08 38 40.8**	**+0.3**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.7s						
DIVS	**Divibare**	**72.89**	**327**	*e*P	**P**	**08 38 45.1**	**+0.3**
	comp=Z,7.7nm,0.9s						
AKASG	**Malin Array Be**	**73.44**	**336**	P	**P**	**08 38 46.8**	**-1.0**
	comp=Z,5.3nm,0.7s,baz=138,slow=5.2,SNR=22						
AKASG	**Malin Array Be**	**73.44**	**336**	*e*P	**P**	**08 38 46.7**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KIEV	**Kiev**	**73.45**	**336**	*e*P	**P**	**08 38 46.8**	**-1.0**
	comp=Z,8.0nm,0.8s						
KIEV	**Kiev**	**73.45**	**336**	⇓*e*P	**P**	**08 38 46.8**	**-1.0**
KIEV				pmax	pmax		
	comp=Z,9.0nm,0.8s						
OBN	**Obninsk**	**74.58**	**342**	*e*P	**P**	**08 38 54.1**	**-0.2**
OBN				pmax	pmax		
	comp=Z,25nm,1.7s						
QSPA	**South Pole Qui**	**74.95**	**180**	P	**P**	**08 38 56.4**	**-0.2**
	comp=Z,2.6nm,0.9s,baz=281,slow=2.9,SNR=6.7						
QSPA	**South Pole Qui**	**74.95**	**180**	*e*P	**P**	**08 38 56.4**	**-0.2**
	comp=Z,6.3nm,1.1s						
VYHS	**Vyhne**	**76.44**	**329**	*e*P	**P**	**08 39 05.2**	**0.0**
VYHS				pmax	pmax		
	comp=Z,14nm,2.2s						
VYHS	**Vyhne**	**76.44**	**329**	*e*P	**P**	**08 39 05.2**	**0.0**
LANS	**Liptovska Anna**	**76.58**	**330**	*e*P	**P**	**08 39 06.3**	**+0.3**
LANS	**Liptovska Anna**	**76.58**	**330**	*e*P	**P**	**08 39 06.2**	**+0.3**
MODS	**Modra-Piesok**	**77.14**	**329**	*e*P	**P**	**08 39 07.9**	**-1.2**
MODS				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MODS	**Modra-Piesok**	**77.14**	**329**	*e*P	**P**	**08 39 07.9**	**-1.2**
SOKA	**Soboth**	**77.22**	**326**	*i* P	**P**	**08 39 09.6**	**-0.1**
	comp=Z,4.5nm,1.1s						
ARSA	**Arzberg**	**77.32**	**327**	*i* P	**P**	**08 39 10.3**	**+0.1**
	comp=Z,9.1nm,0.7s						
KSAR	**Wonju Array Be**	**77.45**	**45**	P	**P**	**08 39 11.0**	**-0.1**
KSAR	**Wonju Array Be**	**77.45**	**45**	P	**P**	**08 39 11.0**	**-0.1**
KSRS	**Korea Array**	**77.48**	**45**	P	**P**	**08 39 11.0**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=245,slow=5.4,SNR=4.5						
KSRS	**Korea Array**	**77.48**	**45**	*e*P	**P**	**08 39 12.6**	**+1.4**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CONA	**Conrad Observa**	**77.57**	**328**	*i* P	**P**	**08 39 11.6**	**-0.1**
	comp=Z,6.6nm,0.7s						
MORC	**Moravsky Berou**	**77.93**	**330**	*e*P	**P**	**08 39 13.4**	**-0.2**
	comp=Z,3.8nm,0.7s						
MORC	**Moravsky Berou**	**77.93**	**330**	*e*P	**P**	**08 39 13.4**	**-0.2**
MORC				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MORC	**Moravsky Berou**	**77.93**	**330**	*e*P	**P**	**08 39 13.4**	**-0.2**
KRUC	**Moravsky**	**78.03**	**329**	*e*P	**P**	**08 39 13.9**	**-0.2**
MOA	**Molln**	**78.36**	**327**	*i* P	**P**	**08 39 16.0**	**0.0**
	comp=Z,6.2nm,0.6s						
ABTA	**Abfaltersbach**	**78.64**	**325**	*i* P	**P**	**08 39 17.4**	**-0.3**
	comp=Z,9.1nm,0.8s						
KLMR	**Klimovskoe**	**78.87**	**347**	*e*P	**P**	**08 39 16.9**	**-1.5**
KLMR				pmax	pmax		
	comp=Z,26nm,1.5s						
KLMR	**Klimovskoe**	**78.87**	**347**	*e*P	**P**	**08 39 16.9**	**-1.5**
KLMR				AMP		08 39 19.3	
	comp=Z,26nm,1.5s						
DPC	**Dobruska-Polom**	**78.90**	**330**	*e*P	**P**	**08 39 18.9**	**0.0**
DPC	**Dobruska-Polom**	**78.90**	**330**	*e*P	**P**	**08 39 18.9**	**0.0**
GEC2	**GERESS Array S**	**79.27**	**327**	*e*P	**P**	**08 39 19.9**	**-1.1**
GEC2	**GERESS Array S**	**79.27**	**327**	*e*P	**P**	**08 39 20.0**	**-1.1**
GERES	**GERESS Array B**	**79.27**	**327**	P	**P**	**08 39 20.0**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=146,slow=6.0,SNR=5.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GERES	GERESS Array B	79.27	327	eP	P	08 39 20.6	-0.5
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GOPC	GO Pecny, Ondr	79.38	329	eP	P	08 39 21.5	0.0
GOPC	GO Pecny, Ondr	79.38	329	eP	P	08 39 21.5	0.0
KHC	Kasperske Hory	79.51	328	eP	P	08 39 21.7	-0.6
KHC	Kasperske Hory	79.51	328	eP	P	08 39 21.7	-0.6
PRU	Pruhonice	79.55	329	eP	P	08 39 21.9	-0.5
PRU	Pruhonice	79.55	329	eP	P	08 39 21.9	-0.5
SQTA	Sankt Quirin	79.64	325	iP	P	08 39 22.2	-0.9
	comp=Z,5.7nm,0.7s						
MOTA	Moosalm	79.77	325	iP	P	08 39 22.9	-0.9
	comp=Z,4.6nm,0.9s						
FETA	Feichten	79.79	325	iP	P	08 39 23.5	-0.5
	comp=Z,4.3nm,0.8s						
FUORN	Ofenpass-Fuorn	79.82	324	eP	P	08 39 24.2	0.0
	comp=Z,3.4nm,0.8s						
RETA	Reutte	80.04	325	iP	P	08 39 24.8	-0.5
	comp=Z,3.8nm,0.8s						
DAVA	Damuels	80.41	325	iP	P	08 39 26.9	-0.5
	comp=Z,6.6nm,0.8s						
BNI	Bardonecchia	81.05	321	eP	P	08 39 30.4	-0.4
	comp=Z,2.7nm,0.8s						
BNI	Bardonecchia	81.05	321	eP	P	08 39 30.4	-0.4
BNI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GRA1	Grafenberg Arr	81.08	327	eP	P	08 39 30.8	+0.1
	comp=Z,4.2nm,0.7s						
GRF	Grafenberg Arr	81.08	327	eP	P	08 39 30.8	+0.1
GRF				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GRFO	Grafenberg	81.08	327	eP	P	08 39 30.9	+0.3
	comp=Z,4.1nm,0.8s						
GRFO	Grafenberg	81.08	327	eP	P	08 39 30.9	+0.3
GRFO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CLL	Collm	81.14	329	eP	P	08 39 30.0	-0.9
	comp=Z,6.0nm,1.0s						
CLL	Collm	81.14	329	eP	P	08 39 30.0	-0.9
CLL				pmax	pmax		
	comp=Z,17nm,1.0s						
SENIN	Lac Senin/Sane	81.38	323	eP	P	08 39 32.5	-0.1
	comp=Z,7.4nm,1.0s						
SSB	Saint Sauveur	82.46	321	eP	P	08 39 38.8	+0.6
	comp=Z,2.3nm,0.9s						
SSB	Saint Sauveur	82.46	321	eP	P	08 39 38.8	+0.6
SSB				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FIA0	FINESS Array S	82.94	341	eP	P	08 39 40.3	+0.1
FIA0	FINESS Array S	82.94	341	eP	P	08 39 40.3	+0.1
FINES	FINESS Array B	82.94	341	P	P	08 39 40.3	+0.2
	comp=Z,2.0nm,0.8s,baz=104,slow=5.9,SNR=5.3						
FINES	FINESS Array B	82.94	341	eP	P	08 39 41.1	+1.0
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
USRK	Ussuriysk Ar.	83.47	41	P	P	08 39 42.2	-1.1
	comp=Z,1.1nm,0.5s,baz=239,slow=10.0,SNR=3.7						
MAJO	Matsushiro	84.42	50	eP	P	08 39 48.6	+0.2
MAJO	Matsushiro	84.42	50	eP	P	08 39 48.6	+0.2
MAT	Matsushiro	84.42	50	P	P	08 39 48.2	-0.2
MJAR	Matsushiro Arr	84.42	50	P	P	08 39 48.6	+0.2
	comp=Z,3.2nm,0.7s,baz=242,slow=6.1,SNR=15						
MJA0	Matsu Arr-Jizo	84.45	50	eP	P	08 39 48.6	0.0
MJA0				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ESDC	Sonseca Array	85.55	313	P	P	08 39 54.0	0.0
	comp=Z,3.6nm,0.7s,baz=107,slow=4.2,SNR=23						
KLR	Kul'dur	85.73	36	P	P	08 39 53.7	-0.9
	comp=Z,0.9nm,0.6s,baz=216,slow=2.5,SNR=3.8						
PAB	San Pablo	85.77	313	eP	P	08 39 55.6	+0.5
	comp=Z,5.4nm,0.8s						
PAB	San Pablo	85.77	313	eP	P	08 39 55.6	+0.5
PAB				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ARCES	ARCESS Array B	89.35	347	eP	P	08 40 12.6	+1.0
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
IM3	Indian Mountai	122.41	18	ePKPdf	PKPdf	08 46 10.3	-0.1
MLY	Manley	123.98	18	ePKPdf	PKPdf	08 46 13.3	-0.2
INK	Inuvik	125.24	9	ePKPdf	PKPdf	08 46 14.7	-1.0
IL1	Eielson Array	125.30	17	ePKPdf	PKPdf	08 46 14.8	-1.1
ILAR	Eielson Array	125.30	17	PKP	PKPdf	08 46 14.3	-1.7
	comp=Z,0.7nm,0.8s,baz=284,slow=2.6,SNR=7.5						
EPYK	Eagle Plains	126.42	12	ePKPdf	PKPdf	08 46 18.0	-0.2
YKA	Yellowknife Ar	132.69	1	PKP	PKPdf	08 46 29.8	-0.3
	comp=Z,0.3nm,0.6s,baz=346,slow=2.0,SNR=9.2						
YKB5	Yellowknife Ar	132.69	1	ePKPdf	PKPdf	08 46 30.4	+0.4
G40A	Rib Lake	144.35	332	ePKPdf	PKPab	08 46 49.9	-0.1
I42A	Draeger Farm,	144.77	329	ePKPdf	PKPab	08 46 51.2	-0.4
JFWS	Jewell Farm	146.15	329	ePKPdf	PKPdf	08 46 55.4	+0.3
JFWS	Jewell Farm	146.15	329	ePKP2	PKPdf	08 46 55.4	+0.3
V53A	Saluda	146.16	313	ePKPdf	PKPdf	08 46 55.9	+0.5
TZTN	Tazewell	146.23	315	ePKPdf	PKPbc	08 46 56.5	0.0
HODGE	Hodges	146.44	310	ePKPdf	PKPdf	08 46 56.4	+0.6
V52A	Sevierville	146.62	314	ePKPdf	PKPdf	08 46 56.6	+0.5
EGMT	Eagleton	147.10	356	ePKPbc	PKPbc	08 46 58.0	-0.7
P45A	Graceland, Par	147.16	323	ePKPbc	PKPbc	08 46 58.6	-0.4
CPCT	Cooper Cave	147.47	314	ePKPbc	PKPbc	08 46 59.4	-0.7
Y52A	Lilburn	147.93	311	ePKPbc	PKPbc	08 47 01.8	+0.4
ECSD	EROS Data Cent	148.26	337	ePKPdf	PKPdf	08 46 58.7	+0.1
ECSD				ePKPbc	PKPbc	08 47 01.3	-0.7
MSO	Missoula	148.39	1	ePKPdf	PKPdf	08 46 59.3	+0.4
F10A	Beach Ranch, E	149.05	6	ePKPbc	PKPbc	08 47 04.2	+0.2
WVT	Waverly	149.33	318	ePKPbc	PKPbc	08 47 03.9	-1.0
WVT	Waverly	149.33	318	ePKP2	PKPbc	08 47 03.9	-1.0
Y49A	Blount Mountai	149.63	313	ePKPbc	PKPbc	08 47 05.3	-0.4
RLMT	Red Lodge	149.95	355	ePKPbc	PKPbc	08 47 07.3	+0.9
RSSD	Black Hills	150.13	347	ePKPbc	PKPbc	08 47 06.6	-0.3
RSSD	Black Hills	150.13	347	ePKIKP	PKPbc	08 47 06.6	-0.3
MCMT	McKenzie Canyo	150.40	360	ePKPbc	PKPbc	08 47 08.1	+0.5
LRAL	Lakeview Retre	150.47	312	ePKPbc	PKPbc	08 47 06.2	-1.6
LRAL				ePKPab	PKPab	08 47 14.0	-0.3
LKWY	Lake	150.59	356	ePKPbc	PKPbc	08 47 07.3	-0.7
LKWY	Lake	150.59	356	ePKIKP	PKPbc	08 47 07.4	-0.7
T42A	Van Buren	150.79	322	ePKPbc	PKPbc	08 47 07.9	-0.5
HUMO	Hull Mountain	151.31	15	ePKPbc	PKPbc	08 47 10.4	+0.9
J08A	Circle Bar Ran	151.48	8	ePKPbc	PKPbc	08 47 09.9	-0.1
LOHW	Long Hollow	151.55	356	ePKPbc	PKPbc	08 47 10.5	+0.2
HLID	Hailey	151.64	2	ePKPbc	PKPbc	08 47 10.8	+0.3
TPAW	Teton Pass	151.69	357	ePKPbc	PKPbc	08 47 11.1	+0.4
SNOW	Snow King Moun	151.71	357	ePKPbc	PKPbc	08 47 11.8	+1.1
REDW	Red Top Meadow	151.81	357	ePKPbc	PKPbc	08 47 11.0	+0.1
K22A	Casper	152.03	350	ePKPbc	PKPbc	08 47 11.6	+0.3
KSU1	Kansas State U	152.13	332	ePKPbc	PKPbc	08 47 10.2	-1.3
BW06	Boulder Array	152.31	355	ePKPbc	PKPbc	08 47 11.5	-0.6
PDAR	Pinedale Array	152.31	355	PKPbc	PKPbc	08 47 11.3	-0.8
	comp=Z,2.0nm,0.6s,baz=64,slow=1.9,SNR=26						
WVOR	Wild Horse Val	152.36	9	ePKPbc	PKPbc	08 47 12.7	+0.7
MIAR	Mount Ida	153.95	321	ePKPab	PKPab	08 47 29.2	+0.4
CMB	Columbia Colle	156.26	15	ePKPdf	PKPdf	08 47 08.3	-2.4
CMB	Columbia Colle	156.26	15	ePKIKP	PKPdf	08 47 08.3	-2.4

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*IDC **05** 08:40:44.1±0.9, 31°.42N×86°.64E, h0km, mb3.5/9, mb1 3.6/9, mb1mx3.4/51, mbtmp3.5/9, MS3.2/1, Ms1 3.2/1, ms1mx2.5/44, Error ellipse: s-maj=36.0km s-min=19.9km az=54.0*

*ISCJB **05** 08:40:47.4±0.9, 31°.5N±0°.2×86°.6E±0°.2, h33km, mb3.4/8, MS3.1/1, Error ellipse: s-maj=28.7km s-min=17.6km az=145.6*

ISC 05 08:40:49.4±1.1**, 31°.5N**±0°.2×**86°.7E**±0°.2**, h35km, n9, σ1s.02**/9**, mb3.5**/8**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	20.05	345	P	P	08 45 18.4	-0.9
	2.2nm,0.9s,baz=161,slow=9.6,SNR=7.5						
SONM	Songino Array	22.18	37	P	P	08 45 43.0	+0.4
	0.2nm,0.4s,baz=221,slow=6.3,SNR=6.1						
BVAR	Borovoye Array	24.55	336	P	P	08 46 07.0	+1.3
	0.4nm,0.4s,baz=155,slow=11,SNR=4.7						
BVAR				LR	LR	08 56 02.2	
	comp=Z,58nm,19.8s,baz=196,slow=37						
FINES	FINESS Array B	48.90	326	P	P	08 49 32.6	+1.1
	1.1nm,0.9s,baz=123,slow=7.0,SNR=5.4						
NOA	NORSAR Array B	56.05	325	P	P	08 50 25.0	+0.4
	0.7nm,0.9s,baz=86,slow=7.1,SNR=2.8						
WRA	Warramunga Arr	68.59	132	P	P	08 51 49.1	+0.1
	0.2nm,0.8s,baz=326,slow=6.6,SNR=3.2						
ASAR	Alice Springs	71.07	135	P	P	08 52 04.6	+0.4
	0.5nm,0.9s,baz=346,slow=12,SNR=5.5						
TORD	Torodi Ar. Bea	79.03	279	P	P	08 52 49.7	-0.7
	0.7nm,1.0s,baz=47,slow=3.2,SNR=5.6						
YKA	Yellowknife Ar	84.79	10	P	P	08 53 18.5	-1.2
	0.2nm,0.8s,baz=335,slow=4.7,SNR=4.2						

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*ANF **05** 08:45:47.4±0.3, 37°.17N×117°.43W, h13km±2km, ML2.6/12, Error ellipse: s-maj=2.9km s-min=2.1km az=141.0*

*REN **05** 08:45:47.6, 37°.19N×117°.42W, h10km, ML2.8*

*NEIC **05** 08:45:47.6±0.0, 37°.19N×117°.42W, h10km, ML2.8(REN), After REN.*

ISC 05 08:45:47.2±1.1**, 37°.19N**±0°.02×**117°.42W**±0°.02**, h4km**±11km**, n46, σ1s.05**/91**, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRAC	Grapevine Rang	0.20	167	P	Pg	08 45 51.9	+0.9
	baz=343,SNR=244						
TIN	Tinemaha, Big	0.66	258	P	Pg	08 46 00.5	+0.7
	baz=80						
FURC	Furnace Creek,	0.85	148	P	Pg	08 46 03.6	+0.2
	baz=327,SNR=76						
FURC				S	Sg	08 46 15.1	+0.6
	baz=327						
CWC	Cottonwood Cre	0.92	215	P	Pg	08 46 04.7	0.0
	baz=36						
CWC				S	Sg	08 46 16.9	+0.3
	baz=36						
DAC	Darwin (Calif)	0.92	189	ePg	Pg	08 46 04.7	-0.2
DAC				eSg	Sg	08 46 16.8	+0.1
TPNV	Topopah Spring	0.97	104	ePg	Pg	08 46 05.9	+0.1
TPNV				eSn	Sn	08 46 22.2	+0.2
TPNV	Topopah Spring	0.97	104	P	Pg	08 46 05.8	+0.1
	baz=283,SNR=130						
MPMC	Manual Prospec	1.13	183	P	Pg	08 46 08.3	-0.5
	baz=2.5,SNR=81						
MPMC				S	Sg	08 46 23.3	-0.2
	baz=2.5						
OMMB	Old Mammoth Mi	1.33	289	ePn	Pn	08 46 12.2	-0.7
OMMB				eSg	Sb	08 46 30.1	-0.2
NV11	Mina Array Sit	1.37	335	ePn	Pn	08 46 12.7	-0.6
NV11				eSg	Sg	08 46 32.9	+1.7
SHOC	Shoshone, Teco	1.58	144	Sb	Sb	08 46 37.3	-0.2
	baz=324						
RYN	Ryan	1.68	329	ePn	Pb	08 46 18.8	0.0
RYN				eSn	Sg	08 46 42.2	+1.1
LRMC	Laurel Mtn Rad	1.72	187	P	Pn	08 46 17.3	-0.7
	baz=6.9,SNR=36						
LRMC				Sb	Sg	08 46 42.3	-0.1
	baz=6.9						
ISA	Isabella, Lake	1.74	209	ePn	Pn	08 46 18.0	-0.4
ISA				eSn	Sg	08 46 43.0	-0.2
ISA	Isabella, Lake	1.74	209	Pb	Pn	08 46 18.1	-0.3
	baz=29,SNR=28						
R11A	Troy Canyon, C	1.86	51	ePn	Pn	08 46 20.0	0.0
R11A				ePg	Pb	08 46 21.7	-0.2
R11A				eSn	Sg	08 46 47.1	+0.2
R11A	Troy Canyon, C	1.86	51	Pb	Pb	08 46 21.6	-0.3
	baz=231,SNR=28						
R11A				Sb	Sg	08 46 46.6	-0.3
	baz=231						
VES	Vestal, Richgr	1.90	225	S	Sg	08 46 48.1	0.0
	baz=45						
KVN	Kaiserville	1.93	344	ePn	Pn	08 46 20.6	-0.5
KVN				ePg	Pb	08 46 23.8	+0.6
KVN				eSn	Sg	08 46 49.8	+0.5
SHPR	Sheep Range	1.94	110	ePn	Pn	08 46 21.0	-0.1
SHPR				eSn	Sg	08 46 50.1	+0.7
GSC	Goldstone, Bar	1.95	165	ePn	Pn	08 46 20.6	-0.6
GSC				eSn	Sg	08 46 49.9	+0.2
WAKR	Walker	2.06	310	ePn	Pn	08 46 22.9	0.0
WAKR				ePg	Pb	08 46 26.2	+0.8
WAKR				eSn	Sg	08 46 55.3	+1.8
TUQ	Turquoise Moun	2.13	145	Pb	Pb	08 46 25.9	-0.5
	baz=325						
TUQ				S	Sn	08 46 50.9	+0.2
	baz=325						
YERR	Yerington	2.30	322	ePn	Pn	08 46 25.9	-0.2
YERR				ePg	Pb	08 46 30.4	+1.0
YERR				eSn	Sg	08 47 02.2	+1.2
ARVC	Arvin	2.35	209	Pg	Pg	08 46 31.8	-0.5
	baz=29,SNR=6.8						
CMB	Columbia Colle	2.50	291	ePn	Pn	08 46 28.4	-0.3
CMB				ePg	Pb	08 46 32.8	+0.1
PAGB	Antelope Grade	2.70	238	ePn	Pb	08 46 35.7	-0.5
PAGB				eSn	Sg	08 47 12.9	-1.1
LDFC	Landfair	2.82	138	ePn	Pb	08 46 38.2	+0.1
LDFC				eSn	Sb	08 47 15.1	+2.0
RUBR	Rubicon Trail	2.85	312	ePn	Pg	08 46 40.5	-1.2
PSUT	Pine Spring	3.13	64	ePg	Pg	08 46 45.6	-1.5
PSUT				eSg	Sg	08 47 26.1	-1.5
SAO	San Andreas Ge	3.25	264	ePg	Pg	08 46 48.0	-1.5
CCUT	Cedar City	3.25	82	ePn	Pn	08 46 37.6	-1.7
CCUT				ePg	Pg	08 46 49.0	-0.6
CCUT				eSg	Sg	08 47 32.1	+0.4
AFDM	Forest Hills D	3.31	303	ePg	Pb	08 46 47.8	+1.4
AFDM				eSg	Sg	08 47 33.0	-0.3
LCMT	Little Creek M	3.35	92	ePn	Pn	08 46 39.9	-0.6
LCMT				ePg	Pb	08 46 49.2	+2.0
LCMT				eSg	Sg	08 47 34.4	-0.3
SZCU	Shurtz Canyon	3.48	82	ePn	Pn	08 46 40.6	-1.7
SZCU				ePg	Pg	08 46 52.2	-1.6
SZCU				eSg	Sg	08 47 38.8	-0.1
BEKR	Beckworth	3.53	320	ePn	Pn	08 46 41.5	-1.5
BEKR				ePg	Pg	08 46 54.9	+0.1
W13A	Hualapai Mount	3.54	125	ePg	Pb	08 46 52.1	+1.5
W13A				eSg	Sg	08 47 39.9	-1.0
PFO	Pinyon Flats O	3.66	167	ePn	Pn	08 46 44.6	0.0
PFO				eSg	Sg	08 47 43.0	-1.6
XPFO	Pion Flat	3.66	167	ePn	Pn	08 46 44.4	-0.3
XPFO				eSg	Sg	08 47 42.9	-1.7
KNB	Kanab	3.68	91	ePn	Pn	08 46 47.7	+2.6
KNB				ePg	Pb	08 46 55.1	+2.1
KNB				eSg	Sg	08 47 44.4	-1.1
ELK	Elko	3.94	25	ePn	Pn	08 46 49.8	+1.2
ELK				ePg	Pg	08 47 01.6	-1.0
ELK				eSg	Sg	08 47 50.9	-2.8
PKCU	Pink Cliffs	4.08	85	ePn	Pn	08 46 51.5	+0.8
PKCU				ePg	Pg	08 47 03.9	-1.5
TCRU	Three Creeks R	4.18	69	ePg	Pg	08 47 05.4	-1.9
U15A	North Rim	4.19	99	ePg	Pb	08 47 03.6	+2.0
MTPU	Mount Pierson	4.25	77	ePn	Pn	08 46 53.0	0.0
MTPU				ePg	Pg	08 47 07.7	-0.9
MSU	Marysvale	4.36	71	ePn	Pn	08 46 55.2	+0.8
MSU				ePg	Pg	08 47 08.8	-1.9
MSU				eSg	Sg	08 48 08.0	+0.9

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*DDA **05** 08:52:45.8, 37°.02N×29°.03E, h10km±4km, ML3.6*

*ISK **05** 08:52:45.0, 37°.03N×29°.05E, h5km, ML3.6/29*

*ISCJB **05** 08:52:46.1±0.5, 37°.01N±0°.02×29°.04E±0°.02, h3km±4km, mb3.5/5, Error ellipse: s-maj=3.4km s-min=2.6km az=163.1*

*THE **05** 08:52:47.6, 36°.94N×29°.08E, h4km±3km, ML3.3/4, Error ellipse: s-maj=3.4km s-min=1.2km az=155.0*

*IDC **05** 08:52:49.7±3.0, 36°.92N×29°.11E, h37km±32km, mb3.6/5, mb1 3.8/9, mb1mx3.5/44, mbtmp3.8/9, ML3.9/4, MS2.9/2, Ms1 2.9/2, ms1mx2.4/48, Error ellipse: s-maj=25.0km s-min=15.5km az=148.0*

ISC 05 08:52:46.3±1.1**, 37°.01N**±0°.02×**29°.08E**±0°.02**, h7km**±8km**, n83, σ1s.09**/100**, mb3.6**/5**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	Fethiye	0.38	179	PG	Pg	08 52 53.1	-0.6
FETY	Fethiye	0.38	179	P	Pg	08 52 53.0	-0.6
FETY				S	Sb	08 52 59.6	-1.8
FETY	Fethiye	0.38	179	iP	Pg	08 52 53.3	-0.4
FETY				iS	Sg	08 52 59.4	+0.8
DALY	Dalyan (Mula)	0.39	240	PG	Pg	08 52 53.8	-0.1
DALY	Dalyan (Mula)	0.39	240	iP	Pg	08 52 53.5	-0.4
TURN	Turunc	0.40	250	PG	Pn	08 52 59.2	+0.6
TURN	Turunc	0.40	250	iP	Pn	08 52 59.4	+0.8
GOLH	Golhisar	0.45	60	IAML_P			
	comp=Z,83µm,0.3s						
GOLH				iP	Pb	08 52 55.6	-1.1
GOLH				iS	Sb	08 53 02.8	-0.8
TAVA	DENIZLI_Tavas	0.47	344	IAML_P			
	comp=Z,41µm,0.2s						
TAVA				iP	Pg	08 52 55.1	-0.4
TAVA				iS	Sg	08 53 02.0	+0.4
ELL	Elmali	0.72	111	PG	Pb	08 52 59.8	-1.4
ELL				SG	Sb	08 53 11.7	+0.3
DENT	Denizli	0.74	357	PG	Pg	08 52 59.5	-1.1
AKAS	Kas	0.89	151	PG	Pb	08 53 03.7	-0.4
AKAS	Kas	0.89	151	IAML_P			
	comp=Z,17µm,0.2s						
AKAS				iP	Pb	08 53 03.8	-0.3
AKAS				iS	Sn	08 53 20.5	+2.0
KSL	Kastellorizon	0.95	154	P	Pb	08 53 04.5	-0.7
KSL				S	Sb	08 53 17.7	-0.3
KORT	Korkueli	1.02	90	PG	Pn	08 53 06.7	-0.5
KORT	Korkueli	1.02	90	IAML_P			
	comp=Z,8µm,0.2s						
KORT				iP	Pn	08 53 07.0	-0.2
KORT				iS	Sn	08 53 23.3	+1.4
BRDR	BURDUR-Merkez	1.04	49	IAML_P			
	comp=Z,5µm,0.3s						
BRDR				iP	Pn	08 53 07.4	0.0
MLSB	Milas	1.08	286	PG	Pg	08 53 06.3	-0.7
ARG	Arkhangelos	1.10	224	PN	Pg	08 53 06.6	-0.9
ARG	Arkhangelos	1.10	224	P	Pg	08 53 07.3	-0.2
ARG				S	Sb	08 53 22.4	+0.1
AYDN	Tasoluk	1.15	305	iP	Pg	08 53 08.3	-0.2
DATC	Datca-Mugla	1.16	258	PN	Pg	08 53 08.9	+0.3
DAT	Datca	1.23	257	PN	Pg	08 53 09.3	-0.7
DAT	Datca	1.23	257	iP	Pg	08 53 09.1	-0.9
KEMT	Kemer-ANTALYA	1.26	108	PN	Pn	08 53 11.1	+0.8
ANTB	Antalya	1.27	95	PN	Pn	08 53 11.1	+0.6
BCK	Bucak	1.29	69	PN	Pn	08 53 10.8	0.0
BDRM	Kayabasi	1.31	273	iP	Pb	08 53 11.7	+0.4
BDRM				iS	Sg	08 53 28.7	+0.4
AYDB	Zeytinkoy-Aydi	1.33	315	PN	Pn	08 53 11.1	-0.3
ISP	Isparta	1.41	54	PN	Pn	08 53 11.9	-0.6
ISP	Isparta	1.41	54	P	Pg	08 53 13.1	-0.2
ISP				S	Sn	08 53 32.9	+1.5
BODT	Bodrum	1.41	273	PN	Pn	08 53 12.8	+0.3
BODT	Bodrum	1.41	273	P	Pn	08 53 12.5	0.0
BODT				S	Sb	08 53 32.0	+0.7
KZIL	AFYON_Kizioren	1.50	34	iP	Pb	08 53 14.4	-0.3
KZIL				iS	Sg	08 53 36.5	+1.8
MANT	Manisa	1.53	345	iP	Pn	08 53 14.7	+0.3
KULA	Kula-Manisa	1.54	348	PN	Pn	08 53 13.6	-0.7
NISR	Nisiros	1.61	256	P	Pb	08 53 16.3	-0.1
NISR				S	Sn	08 53 35.8	-0.5
GCAM	G?zelcaml?	1.62	296	PN	Pn	08 53 15.1	-0.2
GCAM	G?zelcaml?	1.62	296	iP	Pn	08 53 16.4	+1.0
BAGO	Egridir - ISPA	1.68	54	iP	Pg	08 53 19.7	+1.2
SMG	Samos	1.92	292	P	Pn	08 53 18.7	-0.7
SMG				S	Sn	08 53 44.0	+0.2
SHUT	Suhut-Afyon	1.93	37	PN	Pn	08 53 19.4	-0.4
SHAP	Saphane-Kutahy	2.01	3	PN	Pn	08 53 21.1	+0.3
DGB	zmir	2.03	301	iP	Pn	08 53 21.5	+0.5
GEDZ	Gediz	2.05	7	PN	Pn	08 53 21.7	+0.4
DEMI	Demirci	2.05	352	iP	Pn	08 53 21.2	-0.1
SIMA	Simav-Kutahya	2.07	358	PN	Pn	08 53 22.4	+0.8
AKHS	Akhisar	2.11	332	iP	Pn	08 53 21.8	-0.3
BLCB	Balcova	2.12	311	PN	Pn	08 53 22.1	-0.1
KARP	Karpathos	2.13	227	PN	Pn	08 53 23.4	+1.0
KARP	Karpathos	2.13	227	P	Pn	08 53 23.6	+1.2
KARP				S	Sn	08 53 48.8	-0.3
BOLV	Bolvadin	2.26	40	IAML_P			
	comp=Z,2µm,0.4s						
BOLV				iP	Pn	08 53 25.3	+1.0
DOGA	KONYA_Doganhis	2.33	61	iP	Pb	08 53 27.6	-1.2
URLA	Izmir	2.38	305	PN	Pn	08 53 26.1	+0.2
URLA	Izmir	2.38	305	iP	Pn	08 53 26.7	+0.9
STEP	BALIKESIR_Sava	2.59	336	IAML_P			
	comp=Z,799nm,0.2s						
STEP				iP	Pn	08 53 29.0	+0.2
DURS	Dursunbey	2.63	350	iP	Pn	08 53 29.2	0.0
KMER	Konya-Meram	2.73	73	IAML_P			
	comp=Z,296nm,0.3s						
KMER				iP	Pb	08 53 34.6	-1.0
HDMB	Hadim	2.73	90	PN	Pn	08 53 32.1	+1.3
CHOS	Chios island	2.76	301	PN	Pn	08 53 31.6	+0.5
KONT	Konya--Tatoy	2.77	69	PN	Pn	08 53 32.5	+1.3
KONT	Konya--Tatoy	2.77	69	iP	Pb	08 53 34.6	-1.7
APE	Apeiranthos	2.84	272	PN	Pn	08 53 32.2	+0.1
LADK	Ladik-KONYA	2.87	65	PN	Pn	08 53 33.9	+1.3
KIZT	Kizilcal	2.90	49	PN	Pn	08 53 34.4	+1.4
ZKR	Zakros	2.99	232	PN	Pn	08 53 35.6	+1.4
TEKE	Tekeli-Mersin	3.36	104	PN	Pn	08 53 41.5	+2.2
BERE	Bereket-Mersin	3.40	100	PN	Pn	08 53 42.4	+2.5
CHBY	Cihanbeyli	3.40	61	PN	Pn	08 53 41.5	+1.5
TEVE	Tevekalti-Mers	3.56	98	PN	Pn	08 53 44.3	+2.3
LEF	Lefka	3.62	120	PN	Pn	08 53 43.7	+0.9
IDI	Anoyia	3.80	244	Pn	Pn	08 53 47.1	+1.8
	comp=Z,2.8nm,0.3s,baz=56,slow=14,SNR=18						
IDI				Sn	Sn	08 54 33.0	+2.6
	comp=Z,3.1nm,0.3s,baz=328,slow=13,SNR=4.2						
BRTR	Keskin Array B	4.49	52	Pn	Pn	08 53 56.4	+1.4
	comp=Z,2.1nm,0.3s,baz=238,slow=17,SNR=53						
BRTR				Sn	Sn	08 54 49.6	+2.0
	comp=Z,1.4nm,0.3s,baz=236,slow=20,SNR=12						
MMAI	Mount Meron Ar	6.54	126	Pn	Pn	08 54 22.6	-0.5
	comp=Z,11nm,0.3s,baz=315,slow=12,SNR=45						
MMAI				Sn	Sn	08 55 34.2	-3.9
	comp=Z,5.3nm,0.3s,baz=306,slow=30,SNR=6.4						
MLR	Muntele Rosu	8.79	345	LR	LR	08 58 48.6	
	comp=Z,79nm,19.6s,baz=234,slow=40						
EIL	Elat	8.82	144	Pn	Pn	08 54 53.5	-0.7
	comp=Z,1.8nm,0.3s,baz=335,slow=3.1,SNR=10						
VRAC	Vranov	15.27	328	LR	LR	09 04 12.2	
	comp=Z,37nm,18.2s,baz=49,slow=44						
GERES	GERESS Array B	16.29	321	Pn	P	08 56 40.7	+2.0
	comp=Z,0.2nm,0.3s,baz=119,slow=8.0,SNR=5.1						
FINES	FINESS Array B	24.53	357	P	P	08 58 07.2	+0.9
	comp=Z,3.0nm,1.0s,baz=198,slow=3.6,SNR=3.3						
AKTO	Aktyubinsk	24.66	48	P	P	08 58 07.2	-0.4
	comp=Z,0.5nm,0.3s,baz=265,slow=11,SNR=3.1						
ESDC	Sonseca Array	25.97	286	P	P	08 58 18.6	-1.0
	comp=Z,0.1nm,0.3s,baz=82,slow=10,SNR=6.3						
TORD	Torodi Ar. Bea	34.12	233	P	P	08 59 30.4	-1.5
	comp=Z,1.7nm,0.7s,baz=38,slow=8.9,SNR=14						
MKAR	Makanchi Array	40.11	59	P	P	09 00 22.0	-0.5
	comp=Z,0.5nm,0.8s,baz=280,slow=7.3,SNR=5.5						

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*AEIC **05** 08:58:15.0±0.0, 55°.23N×134°.86W, h9km*

*BJI **05** 08:58:15.3, 55°.25N×134°.80W, h5km, mb6.0/59, mB7.1/66, Ms7.9/58, Ms7 7.9/41*

*MOS **05** 08:58:16.2±1.2, 55°.31N×134°.77W, h10km, mb6.7/115, MS7.9/110, Error ellipse: s-maj=7.5km s-min=3.4km az=103.9 Broadband fault plane solution: P waves. M0 2.70000×10^20 NP1:φs71.00000°, δ86.00000°, λ11.00000°. NP2:φs340.00000°, δ79.00000°, λ176.00000°. Principal axes: T Plg10.0000°, Azm296.0000°; N Plg78.0000°, Azm90.0000°; P Plg5.0000°, Azm205.0000°;*

*PGC **05** 08:58:17.9±0.4, 55°.18N×135°.00W, h10km, ML7.1/8, Mw7.5, 209km south of Sitka, Ak Southeastern Alaska*

*IDC **05** 08:58:18.2±0.4, 55°.41N×134°.66W, h0km, mb5.2/36, mb1 5.3/43, mb1mx5.3/50, mbtmp5.2/43, ML4.2/6, MS7.6/48, Ms1 7.6/48, ms1mx7.5/53, Error ellipse: s-maj=10.3km s-min=8.2km az=35.0*

*ISCJB **05** 08:58:19.3±0.1, 55°.31N±0°.01×134°.42W±0°.02, h16km, mb6.3/620, MS7.7/691, Error ellipse: s-maj=2.1km s-min=1.1km az=138.6*

*NEIC **05** 08:58:19.3±0.1, 55°.39N×134°.65W, h10km, mb6.4/300, ME7.5, MS7.7/300, MW7.5, MW7.5, ML6.8(AEIC), ML7.1(OTT), Error ellipse: s-maj=3.1km s-min=1.5km az=224.0 Broadband fault plane solution: P waves. NP1:φs61.00000°, δ85.00000°, λ10.00000°. NP2: φs330.00000°, δ80.00000°, λ175.00000°. Principal axes: T Plg11.0000°, Azm286.0000°; N Plg0.0000°, Azm0.0000°; P Plg4.0000°, Azm195.0000°; Energy computed from BB mechanism.*

NEIC Felt [V] at Craig, Hydaburg and Klawock; [IV] at Gustavus, Hoonah, Juneau, Ketchikan, Metlakatla, Petersburg, Sitka, Skagway and Wrangell; [III] at Douglas, Haines and Thorne Bay. Felt [III] at Nechako, Kitimat, Prince Rupert, Skeena and Terrace; [II] at Smithers, Vancouver and Vanderhoof, British Columbia. Felt [III] at Whitehorse, Yukon. Felt widely in southeastern Alaska and southern British Columbia and as far as Haines Junction, Yukon and Seattle, Washington. A tsunami was recorded with wave heights [in cm above sea level] of 14 at Port Alexander, 7 at Sitka, 2 at Elfin Cove and 2 at Craig, Alaska.

*NEIC **05** 08:58:19.0±0.0, 55°.89N×134°.91W, h11km, Moment*

Tensor Solution. s106 Moment tensor: Scale 10^{20}Nm; M_{rr}0.04; $M_{\theta\theta}$-1.56; $M_{\phi\phi}$1.52; $M_{r\theta}$0.93; $M_{\theta\phi}$1.26; $M_{\phi r}$0.41; Best double couple: $M_0$2.20000×10^{20} NP1:ϕ_s65.00000°, δ90.00000°,λ27.00000°. NP2:ϕ_s335.00000°,δ63.00000°, λ180.00000°. Principal axes: T 2.2100, Plg19.0000°, Azm293.0000°; N 0.0500, Plg62.0000°, Azm65.0000°; P -2.2500, Plg18.0000°, Azm196.0000°;

*GCMT **05** 08:58:31.3±0.1, 55.°69N×134.°97W, h14km, MW7.5/146, Moment Tensor Solution. s143,c386; s146,c759; Duration: 14.s2 Moment tensor: Scale 10^{20}Nm; M_{rr}0.01±.01; $M_{\theta\theta}$-1.70±.01; $M_{\phi\phi}$1.69±.01; $M_{r\theta}$1.09±.07; $M_{\theta\phi}$1.29±.01; $M_{\phi r}$0.60±.06; Best double couple: $M_0$2.46600×10^{20} NP1:ϕ_s64.00000°,δ89.00000°, λ30.00000°. NP2:ϕ_s333.00000°,δ60.00000°,λ179.00000°. Principal axes: T 2.4840, Plg21.0000°, Azm293.0000°; N -0.0400, Plg60.0000°, Azm65.0000°; P -2.4470, Plg20.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **05** 08:58:43.2±0.0, 55.°68N×135.°09W, h10km, Moment Tensor Solution. s164 Moment tensor: Scale 10^{20}Nm; M_{rr}0.02; $M_{\theta\theta}$-1.75; $M_{\phi\phi}$1.73; $M_{r\theta}$1.07; $M_{\theta\phi}$1.26; $M_{\phi r}$1.04; Best double couple: $M_0$2.60000×10^{20} NP1:ϕ_s330.00000°, δ57.00000°,λ174.00000°. NP2:ϕ_s63.00000°,δ85.00000°, λ33.00000°. Principal axes: T 2.7900, Plg26.0000°, Azm292.0000°; N -0.4000, Plg57.0000°, Azm71.0000°; P -2.4000, Plg19.0000°, Azm192.0000°;*

ISC 05 08:58:19.2±0.4**, 55.°24N**±0.°02×**134.°80W**±0.°02**, h3**km±1km**, h6**km**:pP-P, n2717,** σ2.s**53**/2816**, mb6.5**/644**, MS7.8**/738**, 110C-56D, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	Craig	0.99	76	ePg	Pg	08 58 34.0	-4.0
NDB	Naden	1.68	139	P	Pn	08 58 44.8	-4.7
NDB				S	Sn	08 59 08.8	-2.7
NDB	Naden	1.68	139	Pn	Pn	08 58 46.3	-3.2
NDB				Sg	Sn	08 59 10.7	-0.8
WRAK	Wrangell Islan	1.82	48	ePn	Pn	08 58 47.1	-4.3
SIT	Sitka	1.85	351	ePn	Pn	08 58 46.6	-5.2
SIT	Sitka	1.85	351	eP	Pn	08 58 46.6	-5.1
MASB	Masset	2.02	126	ePg	Pn	08 58 53.6	-0.5
MASB				eSn	Sn	08 59 18.0	-1.9
MASB				eSg	Sg	08 59 23.7	-0.5
MASB	Masset	2.02	126	Pn	Pn	08 58 50.3	-3.8
MASB				Pg	Pn	08 58 53.6	-0.5
MASB				Sg	Sg	08 59 23.7	-0.5
DIB	Dawson Inlet,	2.45	145	ePn	Pn	08 58 55.5	-4.5
DIB				eSn	Sn	08 59 27.8	-2.6
DIB	Dawson Inlet,	2.45	145	Pn	Pn	08 58 55.6	-4.4
DIB				Sn	Sn	08 59 27.2	-3.2
DIB				Sg	Sb	08 59 35.8	+1.4
H02S1	DAWSON INLET T	2.45	145	Pn	Pn	08 58 55.9	-4.1
MOBC	Moresby Island	2.67	140	Pn	Pn	08 58 59.2	-3.9
MOBC				Sg	Sb	08 59 41.1	+0.3
RUBB	Prince Rupert	2.79	107	Pn	Pn	08 59 00.3	-4.3
RUBB				Sg	Sb	08 59 46.2	+2.1
HG1B	Mitchell Dam	2.79	145	Pn	Pn	08 59 00.8	-3.8
HG1B				Sn	Sn	08 59 36.0	-2.8
HG1B				Sg	Sb	08 59 45.6	+1.5
JIS	Juneau Island	3.06	4	ePn	Pn	08 59 04.0	-4.3
JIS				eSn	Sn	08 59 41.2	-4.2
BNB	Barry Inlet	3.22	145	ePn	Pn	08 59 05.3	-5.3
BNB				eSg	Sb	08 59 59.4	+2.9
BNB	Barry Inlet	3.22	145	Pn	Pn	08 59 06.6	-4.0
BNB				Sg	Sb	08 59 59.4	+2.9
HG3B	Hotspring	3.32	142	Pn	Pn	08 59 07.2	-4.8
HG3B				Sn	Sn	08 59 50.3	-1.6
HG3B				Sg	Sb	09 00 00.5	+1.1
BESE	Bessie Mountai	3.35	360	ePn	Pn	08 59 08.0	-4.5
BESE				eSn	Sb	08 59 56.6	-3.8
BESE	Bessie Mountai	3.35	360	Pn	Pn	08 59 09.2	-3.3
BESE				Sn	Sn	08 59 50.3	-2.5
BESE				Sg	Sb	08 59 57.2	-3.3
DLBC	Dease Lake	4.14	37	Pn	Pn	08 59 20.0	-3.4
	23nm,0.3s,baz=215,slow=11,SNR=222						
DLBC	Dease Lake	4.14	37	ePn	Pn	08 59 20.3	-3.0
DLBC	Dease Lake	4.14	37	Pn	Pn	08 59 20.2	-3.2
DLBC				Sg	Sg	09 00 29.1	-3.0
SKAG	Skagway	4.25	356	ePn	Pn	08 59 21.2	-3.4
PLBC	Pleasant Camp	4.32	349	ePn	Pn	08 59 22.3	-3.3
PLBC				eSg	Sb	09 00 29.0	+0.9
PLBC	Pleasant Camp	4.32	349	Pn	Pn	08 59 23.3	-2.4
PLBC				Sg	Sb	09 00 29.0	+0.9
BBB	Bella Bella	5.01	125	Pn	Pn	08 59 30.6	-4.5
	43nm,0.3s,baz=312,slow=8.9,SNR=181						
BBB	Bella Bella	5.01	125	ePn	Pn	08 59 30.4	-4.7
BBB				S	Sn	09 00 30.4	-3.0
BBB				eSn	Sb	09 00 32.4	-16
BBB	Bella Bella	5.01	125	Pn	Pn	08 59 31.2	-3.9
BBB				Pg	Pb	08 59 36.6	-11
BBB				Sn	Sn	09 00 31.2	-2.3
BBB				Sg	Sg	09 00 55.8	-4.2
YKU2	Yakutat	5.03	330	ePn	Pn	08 59 33.7	-1.8
WHY	Whitehorse	5.44	360	ePn	Pn	08 59 36.9	-4.3
WHY	Whitehorse	5.44	360	Pn	Pn	08 59 38.3	-2.9
WHY				Sg	Sb	09 01 02.9	+2.4
BCBC	Bella Coola	5.56	118	Pn	Pn	08 59 40.4	-2.3
YUK7	Dusty Glacier	5.60	343	ePn	Pn	08 59 40.8	-2.7
YUK7				eSn	Sn	09 00 44.7	-3.7
YUK7	Dusty Glacier	5.60	343	Pn	Pn	08 59 41.7	-1.8
YUK7				Sn	Sn	09 00 44.7	-3.7
PCA	Pinnacle	5.69	331	ePn	Pn	08 59 42.4	-2.2
PCA				eSn	Sn	09 00 47.6	-2.7
PCA	Pinnacle	5.69	331	Pn	Pn	08 59 42.6	-1.9
PCA				Sn	Sn	09 00 43.0	-7.2
HYT	Haines Junctio	5.79	347	ePn	Pn	08 59 42.7	-3.2
HYT	Haines Junctio	5.79	347	Pn	Pn	08 59 44.1	-1.8
SAMH	Samovar Hills	5.86	329	P	Pn	08 59 44.5	-2.4
YUK6	Outpost Mounta	6.03	343	ePn	Pn	08 59 46.6	-2.7
YUK6	Outpost Mounta	6.03	343	Pn	Pn	08 59 47.3	-2.1
FSB	Fort Saint Jam	6.10	93	P	Pn	08 59 47.2	-2.9
FSB	Fort Saint Jam	6.10	93	Pn	Pn	08 59 47.1	-3.0
FSB				Sg	Sg	09 01 29.7	-5.1
YUK5	Granite Creek	6.13	346	ePn	Pn	08 59 48.4	-2.3
YUK5	Granite Creek	6.13	346	Pn	Pn	08 59 48.9	-1.8
RKAV	Rock Avalanche	6.17	328	P	Pn	08 59 48.7	-2.5
MESA	MESA	6.26	325	P	Pn	08 59 49.5	-3.0
PHC	Port Hardy	6.35	133	ePn	Pn	08 59 49.0	-4.6
PHC				eSn	Sn	09 01 03.9	-2.6
PHC	Port Hardy	6.35	133	Pn	Pn	08 59 49.0	-4.6
PHC				Pg	Pb	08 59 54.0	-16
PHC				Sn	Sn	09 01 03.9	-2.6
YUK4	Talbot Arm	6.45	343	ePn	Pn	08 59 54.1	-1.1
YUK4	Talbot Arm	6.45	343	Pn	Pn	08 59 54.7	-0.4
PACB	Port Alice, BC	6.53	134	Pn	Pn	08 59 52.2	-3.8
PACB				Sn	Sn	09 01 07.3	-3.7
KULT	Kultieth River	6.57	323	P	Pn	08 59 53.4	-3.3
TLCB	Telegraph Cove	6.73	131	Pn	Pn	08 59 56.0	-2.7
TLCB				Sn	Sn	09 01 12.2	-3.6
SUCK	Suckling Hills	6.83	319	P	Pn	08 59 57.3	-2.9
KHIT	Khitrov Hills	6.90	323	P	Pn	08 59 57.9	-3.2
NICHA	Nichawak Mount	7.01	319	P	Pn	08 59 59.3	-3.3
BERG	Berg Lake	7.02	321	ePn	Pn	08 59 59.8	-3.0
EDB	Eliza Dome	7.12	136	ePn	Pn	09 00 01.1	-3.0
EDB				eSn	Sn	09 01 23.2	-2.3
EDB	Eliza Dome	7.12	136	Pn	Pn	09 00 01.1	-3.0
EDB				Pg	Pb	09 00 05.5	-18
EDB				Sn	Sn	09 01 23.2	-2.3
WOSB	Woss	7.13	132	Pn	Pn	09 00 00.9	-3.4
WOSB				Pg	Pb	09 00 04.9	-19
WOSB				Sn	Sn	09 01 20.3	-5.5
NCRB	Newcastle Ridg	7.17	129	Pn	Pn	09 00 01.1	-3.9
NCRB				Pg	Pb	09 00 06.0	-18
NCRB				Sn	Sn	09 01 26.1	-0.9
HMT	Hamilton	7.19	319	ePn	Pn	09 00 00.8	-4.3
HMT				eSn	Sn	09 01 20.1	-7.0
BMBC	Bull Mountain	7.22	78	Pn	Pn	09 00 03.2	-2.3
BMBC				Pg	Pb	09 00 08.8	-16
RAGM	Ragged Mountai	7.38	318	ePn	Pn	09 00 03.9	-3.7
FNBB	Fort Nelson	7.40	56	Pn	Pn	09 00 07.0	-1.0
FNBB				Pg	Pb	09 00 11.0	-17
FNBB				Sg	Sg	09 02 12.4	-4.0
MID	Middleton Isla	7.52	309	ePn	Pn	09 00 04.5	-5.1
MID	Middleton Isla	7.52	309	eP	Pn	09 00 04.5	-5.1
GDR	Gold River	7.64	132	ePn	Pn	09 00 09.0	-2.2
GDR				eSn	Sn	09 01 38.2	-0.1
GDR	Gold River	7.64	132	Pn	Pn	09 00 09.0	-2.2
GDR				Sn	Sn	09 01 38.2	-0.1
SGAM	Sherman Glacie	7.65	318	ePn	Pn	09 00 08.5	-2.9
ETB	Estevan Point	7.75	136	ePn	Pn	09 00 11.0	-1.7
ETB	Estevan Point	7.75	136	Pn	Pn	09 00 11.0	-1.7
ETB				Pg	Pb	09 00 15.7	-18
CBB	Campbell River	7.75	128	Pn	Pn	09 00 11.7	-1.1
CBB				Pg	Pb	09 00 15.7	-18
CBB				Sn	Sn	09 01 37.6	-3.4
EYAK	Cordova Ski Ar	7.89	317	ePn	Pn	09 00 10.1	-4.6
MWAB	Mount Washingt	7.99	130	Sn	Sn	09 01 46.1	-0.9
TOFB	Tofino	8.18	134	Pn	Pn	09 00 16.1	-2.5
DIV	Divide	8.27	320	ePn	Pn	09 00 17.8	-2.2
DIV	Divide	8.27	320	Pn	Pn	09 00 17.2	-2.7
DIV				Sn	Sn	09 01 45.8	-8.0
TXB	Texada	8.41	127	Pn	Pn	09 00 20.5	-1.3
TXB				Pg	Pb	09 00 25.1	-20
B012	Ucluelet	8.51	134	Pn	Pn	09 00 21.1	-2.1
KLU	Klutina	8.56	322	ePn	Pn	09 00 22.0	-2.0
B927	Port Alberni	8.59	130	Pn	Pn	09 00 23.1	-1.1
BCA3	Beaver Creek A	8.63	338	ePn	Pn	09 00 22.1	-2.7
SHB	Sechelt	8.74	126	Pn	Pn	09 00 24.9	-1.6
B928	Bamfield	8.75	133	Pn	Pn	09 00 25.6	-0.8
GHNB	Nanoose	8.78	128	Pn	Pn	09 00 26.3	-0.5
GHNB				Pg	Pg	09 00 33.5	-34
NLLB	Nanaimo Lost L	8.95	128	Pn	Pn	09 00 28.4	-0.8
NLLB				Pg	Pg	09 00 33.2	-37
NLLB				Sn	Sn	09 02 07.9	-2.5
HARP	HAARP	8.97	328	ePn	Pn	09 00 28.6	-0.9
HARP	HAARP	8.97	328	Pn	Pn	09 00 29.1	-0.3
DAWY	Dawson	9.15	347	ePn	Pn	09 00 29.2	-2.9
DAWY	Dawson	9.15	347	Pn	Pn	09 00 30.2	-1.8
DAWY				Sg	Sn	09 03 03.6	+48
B926	Mesachie Lake	9.19	130	Pn	Pn	09 00 33.5	+1.1
B926				Sn	Sn	09 02 17.7	+1.4
SEW	Seward	9.23	308	ePn	Pn	09 00 29.8	-3.2
PFB	Port Renfrew	9.24	132	Pn	Pn	09 00 32.7	-0.6
PFB				Pg		09 00 39.6	
PFB				Sn	Sn	09 02 17.5	-0.2
SCM	Sheep Creek Mo	9.30	320	ePn	Pn	09 00 31.0	-3.0
SCM	Sheep Creek Mo	9.30	320	eP	Pn	09 00 31.0	-3.0
BPCB	Bare Point	9.30	128	Pn	Pn	09 00 33.7	-0.3
BPCB				Sn	Sn	09 02 24.3	+5.3
GOBB	Galiano Island	9.37	128	Pn	Pn	09 00 34.7	-0.2
KNK	Knik Glacier	9.47	316	ePn	Pn	09 00 32.6	-3.7
LZB	Mount Lazard	9.48	130	Pn	Pn	09 00 36.8	+0.3
PAX	Paxson	9.49	329	ePn	Pn	09 00 35.6	-1.0
PAX	Paxson	9.49	329	Pn	Pn	09 00 37.0	+0.4
PAX	Paxson	9.49	329	eP	Pn	09 00 35.6	-1.0
B010	North Saanich	9.61	129	Pn	Pn	09 00 39.1	+0.8
PGC	Sidney	9.61	129	ePn	Pn	09 00 40.3	+2.0
PGC	Sidney	9.61	129	Pn	Pn	09 00 39.0	+0.7
B009	North Saanich	9.62	129	Pn	Pn	09 00 39.2	+0.9
B011	North Saanich	9.62	129	Pn	Pn	09 00 39.1	+0.8
PA12	PA12 Sannich	9.62	129	Pn	Pn	09 00 39.4	+1.1
PA12				Sn	Sn	09 02 28.9	+2.1
SNB	Saturna Island	9.65	127	Pn	Pn	09 00 40.3	+1.5
SNB				Sn	Sn	09 02 39.8	+12
SNB				Sg		09 03 16.4	
DOT	Dot Lake	9.65	335	ePn	Pn	09 00 30.6	-8.2
DOT	Dot Lake	9.65	335	Pn	Pn	09 00 38.2	-0.7
DOT				Sn	Sn	09 03 26.3	+59
SML	Sawmill	9.65	319	ePn	Pn	09 00 35.6	-3.3
SML	Sawmill	9.65	319	eP	Pn	09 00 35.6	-3.3
OFR	Olym-F Res Ctr	9.76	134	Pn	Pn	09 00 40.8	+0.6
BRLK	Bradley Lake	9.77	304	ePn	Pn	09 00 35.6	-4.8
RC01	Rabbit Creek A	9.82	313	ePn	Pn	09 00 37.1	-4.0
PMR	Palmer	9.84	316	ePn	Pn	09 00 38.0	-3.3
PMR	Palmer	9.84	316	eP	Pn	09 00 38.0	-3.3
VGZ	Gonzales	9.85	129	Pn	Pn	09 00 42.5	+1.0
VGZ				Sn	Sn	09 03 20.9	+48
GHO	Glory Hole Cre	9.86	317	ePn	Pn	09 00 38.7	-3.0
MCW	Mount Constitu	9.87	127	Pn	Pn	09 00 43.2	+1.3
MCW				Sn	Sn	09 03 28.9	+56
A04D	Lummi Island	9.90	126	P	Pn	09 00 39.1	-3.1
	baz=317,SNR=53						
A04D				S	Sn	09 02 34.5	+0.7
	baz=317						
SCRK	Sand Creek	9.91	336	ePn	Pn	09 00 40.8	-1.7
RIDG	Independ'e Rid	9.93	333	ePn	Pn	09 00 41.9	-0.7
VDB	Vedder Mountai	9.97	123	Pn	Pn	09 00 43.8	+0.6
HOM	Homer	10.09	303	ePn	Pn	09 00 40.7	-4.1
KDAK	Kodiak Island	10.15	292	Pn	Pn	09 00 40.7	-4.9
	38nm,0.3s,baz=57,slow=8.2,SNR=162						
KDAK				Sn	Sn	09 02 33.8	-6.0
	36nm,0.3s,baz=278,slow=22,SNR=5.3						
KDAK	Kodiak Island	10.15	292	ePn	Pn	09 00 41.2	-4.4
KDAK				Sn	Sn	09 02 33.9	-6.0
KDAK	Kodiak Island	10.15	292	eP	Pn	09 00 41.2	-4.4
KDAK						09 02 33.9	
DHY	Denali Highway	10.15	326	ePn	Pn	09 00 44.1	-1.7
MBW	Mount Baker	10.24	124	Pn	Pn	09 00 48.2	+1.2
HILA	High Level	10.27	64	Pn	Pn	09 00 43.8	-3.5
BLN	Blyn Mountain	10.31	130	Pn	Pn	09 00 48.4	+0.5
NLWA	Neilton Lookou	10.40	134	ePn	Pn	09 00 52.1	+2.9
SUA	Susitna One	10.43	313	ePn	Pn	09 00 45.9	-3.7
OHAK	Old Harbor	10.48	289	ePn	Pn	09 00 45.3	-4.8
B05A	Bryant	10.51	126	P	Pn	09 00 49.3	-1.4
	baz=317,SNR=135						
HDW	Hoodsport	10.54	131	Pn	Pn	09 00 51.2	+0.1
B06A	Marblemount	10.62	124	ePn	Pn	09 00 51.7	-0.4
B06A	Marblemount	10.62	124	Pn	Pn	09 00 53.0	+0.9
D03D	Eldon	10.62	132	P	Pn	09 00 49.9	-2.2
	baz=322,SNR=90						
JCW	Jim Creek	10.64	126	Pn	Pn	09 00 53.7	+1.3
RPW	Rockport	10.65	124	Pn	Pn	09 00 54.7	+2.1
WISH	Wishkah	10.66	135	Pn	Pn	09 00 52.9	+0.2
SMW	South Mountain	10.68	133	Pn	Pn	09 00 52.7	-0.3
GNW	Green Mountain	10.71	131	Pn	Pn	09 00 53.8	+0.5
SLEB	Sale Mountain	10.79	105	P	Pn	09 00 53.2	-1.4
SPU	Mount Spurr	10.86	310	ePn	Pn	09 00 49.3	-6.0
RND	Reindeer	10.87	325	ePn	Pn	09 00 53.5	-1.9
RND	Reindeer	10.87	325	eP	Pn	09 00 53.6	-1.9
RSO	Redoubt South	10.89	306	ePn	Pn	09 00 51.3	-4.6
RDEA	Red Earth Cree	11.02	75	P	Pn	09 00 55.5	-2.0
PNT	Penticton	11.02	116	P	Pn	09 00 57.7	+0.1
HDA	Harding Lake	11.02	331	ePn	Pn	09 00 56.0	-1.6
HDA	Harding Lake	11.02	331	P	Pn	09 00 56.9	-0.7
	baz=140,SNR=1000						
D04E	Lakebay	11.03	132	P	Pn	09 00 58.2	+0.5
	baz=322,SNR=74						
CPW	Capitol Peak	11.04	134	P	Pn	09 00 57.0	-0.9
MCK	McKinley	11.12	326	ePn	Pn	09 00 57.3	-1.5
MCK	McKinley	11.12	326	eP	Pn	09 00 57.3	-1.5
EPYK	Eagle Plains	11.21	356	ePn	Pn	09 00 57.4	-2.7
EPYK	Eagle Plains	11.21	356	P	Pn	09 00 58.5	-1.6
	baz=174,SNR=619						
ILAR	Eielson Array	11.29	333	Pn	Pn	09 00 58.3	-2.9
	29nm,0.3s,baz=153,slow=7.1,SNR=715						
ILAR				LR	LR	09 05 34.8	
	comp=Z,5323μm,18.1s,baz=146,slow=39						
ILB	Eielson Array	11.29	333	ePn	Pn	09 00 58.3	-2.9
C06D	Leavenworth	11.32	125	P	Pn	09 01 01.1	-0.5
	baz=316,SNR=69						
D05A	Enumclaw	11.36	130	ePn	Pn	09 01 03.1	+0.9
D05A	Enumclaw	11.36	130	P	Pn	09 01 03.5	+1.3
TRF	Thorofare Moun	11.38	323	ePn	Pn	09 01 00.4	-2.2
WRH	Wood River Hil	11.39	330	ePn	Pn	09 01 00.5	-2.0
PRP	Porcupine Dome	11.57	337	ePn	Pn	09 01 05.0	-0.2
BWN	Browne	11.59	327	ePn	Pn	09 01 04.1	-1.2
E04D	Cinebar	11.61	133	P	Pn	09 01 05.5	-0.1
	baz=324,SNR=132						
COLA	College	11.63	331	ePn	Pn	09 01 04.0	-1.8
COLA	College	11.63	331	eP	Pn	09 01 04.0	-1.8
COLA	College	11.63	331	eP	Pn	09 01 03.6	-2.2
TCOL	CIGO, UAF Yank	11.63	331	P	Pn	09 01 04.9	-1.0
	baz=139,SNR=714						
I53US	FAIRBANKS INFR	11.63	331	Pn	Pn	09 01 06.8	+0.9
	baz=152,slow=21,SNR=1.1						
I53US				i		10 07 40.0	
	baz=131,slow=301,SNR=4.3						
FMW	Mount Fremont	11.70	130	P	Pn	09 01 07.8	+0.7
POKR	Poker Plat Res	11.71	333	P	Pn	09 01 05.6	-1.3
	baz=141,SNR=1000						
PPLA	Purkeypile	11.76	318	ePn	Pn	09 01 05.8	-1.9
B08A	Colville Reser	11.78	119	ePn	Pn	09 01 07.9	-0.1
B08A	Colville Reser	11.78	119	P	Pn	09 01 08.6	+0.6
LON	Longmire	11.78	131	ePn	Pn	09 01 07.8	-0.2
LON	Longmire	11.78	131	P	Pn	09 01 08.6	+0.6
LON	Longmire	11.78	131	eP	Pn	09 01 07.8	-0.2
MDM	Murphy Dome	11.80	331	ePn	Pn	09 01 06.8	-1.4
F04D	Rainier, OR	11.81	136	P	Pn	09 01 08.6	+0.2
	baz=326,SNR=71						
LTY	Liberty	11.90	126	ePn	Pn	09 01 09.6	-0.1
LTY	Liberty	11.90	126	P	Pn	09 01 10.8	+1.0
CAST	Castle Rocks	12.01	320	ePn	Pn	09 01 07.9	-3.1
BPAW	Bear Paw Mtn.	12.04	324	ePn	Pn	09 01 09.3	-2.2
ATHA	Athabasca	12.35	84	P	Pn	09 01 15.7	0.0
SVW2	Sparrevohn	12.41	307	ePn	Pn	09 01 12.6	-3.9
FYU	Fort Yukon	12.42	340	ePn	Pn	09 01 15.2	-1.4
G03D	McMinnville, O	12.44	139	P	Pn	09 01 17.2	+0.2
	baz=329,SNR=65						
MLY	Manley	12.59	328	ePn	Pn	09 01 17.4	-1.5
F05D	White Salmon	12.61	132	P	Pn	09 01 19.1	-0.2
	baz=324,SNR=129						
C09A	Chrisman Ranch	12.68	119	ePn	Pn	09 01 20.0	-0.3
C09A	Chrisman Ranch	12.68	119	P	Pn	09 01 22.4	+2.1
YKA	Yellowknife Ar	12.69	47	Pn	Pn	09 01 16.1	-4.2
	0.6nm,0.3s,baz=248,slow=12,SNR=71						
YKA				LR	LR	09 06 52.5	
	comp=Z,485μm,19.4s,baz=136,slow=41						
YKB5	Yellowknife Ar	12.69	47	ePn	Pn	09 01 16.1	-4.2
YKW3	Yellowknife Ar	12.71	47	P	Pn	09 01 18.7	-1.9
YKW1	Yellowknife Ar	12.73	47	P	Pn	09 01 18.8	-2.0
E07A	Sunnyside	12.80	127	ePn	Pn	09 01 21.5	-0.4
D08A	Wollman Farm,	12.88	123	ePn	Pn	09 01 22.2	-0.8
COR	Corvallis	12.96	141	ePn	Pn	09 01 25.2	+1.1
COR	Corvallis	12.96	141	eP	Pn	09 01 25.2	+1.1
I56US	NEWPORT INFRAS	12.96	115	i		10 01 00.0	
	baz=325,slow=306,SNR=9.1						
NEW	Newport	12.96	115	Pn	Pn	09 01 23.8	-0.3
	0.8nm,0.3s,baz=318,slow=12,SNR=42						
NEW				LR	LR	09 06 32.0	
	comp=Z,452μm,18.9s,baz=185,slow=38						
NEW	Newport	12.96	115	ePn	Pn	09 01 23.0	-1.2
NEW	Newport	12.96	115	P	Pn	09 01 24.1	-0.1
NEW	Newport	12.96	115	P	Pn	09 01 24.4	+0.2
	baz=310,SNR=244						
HAWA	Hanford	13.07	126	ePn	Pn	09 01 24.4	-1.1
PRDA	Priddis	13.07	101	P	Pn	09 01 25.2	-0.5
INK	Inuvik	13.13	2	Pn	Pn	09 01 22.6	-3.8
	1.1nm,0.3s,baz=174,slow=14,SNR=130						
INK				LR	LR	09 06 44.1	
	comp=Z,1495μm,20.5s,baz=186,slow=39						
INK	Inuvik	13.13	2	P	Pn	09 01 25.2	-1.1
FSMA	Fort Smith	13.17	59	P	Pn	09 01 27.1	+0.3
G05D	Wamic, OR	13.19	134	P	Pn	09 01 27.0	-0.2
	baz=325,SNR=105						
I02D	Swisshome	13.19	143	P	Pn	09 01 28.3	+1.2
	baz=332,SNR=18						
E08A	Dider Farm, El	13.22	125	ePn	Pn	09 01 26.9	-0.7
H04D	Lebanon	13.22	139	P	Pn	09 01 28.5	+0.8
	baz=329,SNR=40						
F07A	Phinny Hill Vi	13.27	129	ePn	Pn	09 01 28.2	-0.1
H04A	Detroit Lake	13.30	137	ePn	Pn	09 01 28.6	-0.2
G06A	Carlson Farm,	13.48	132	ePn	Pn	09 01 31.9	+0.7
E09A	Wood Farm, Sta	13.64	123	ePn	Pn	09 01 32.0	-1.3
I03D	Drain, OR	13.72	143	P	Pn	09 01 35.3	+0.9
	baz=332,SNR=88						
I05D	Terrebonne, OR	13.92	136	P	Pn	09 01 36.4	-0.8
	baz=327,SNR=105						
I04A	Tendick Farm,	13.97	140	P	Pn	09 01 38.1	+0.2
	baz=330,SNR=89						
J01E	Myrtle Point	13.99	145	P	Pn	09 01 39.1	+0.9
	baz=334,SNR=31						
COLD	Coldfoot	14.07	335	ePn	Pn	09 01 37.7	-1.4
COLD	Coldfoot	14.07	335	P	Pn	09 01 39.3	+0.2
KEBM	Edson Butte	14.12	147	ePn	Pn	09 01 42.2	+2.2
IM3	Indian Mountai	14.16	327	ePn	Pn	09 01 37.6	-2.7
G08A	Pilot Rock	14.17	128	ePn	Pn	09 01 39.2	-1.4
WALA	Waterton Lakes	14.21	107	ePn	Pn	09 01 39.2	-2.0
WALA	Waterton Lakes	14.21	107	P	Pn	09 01 41.3	+0.1
BSMT	Bassoo Peak	14.45	112	P	Pn	09 01 44.3	-0.3
F10A	Beach Ranch, E	14.47	123	ePn	Pn	09 01 43.7	-1.1
K02D	Willamette Mer	14.50	145	P	Pn	09 01 45.1	-0.1
	baz=334,SNR=115						
PINE	Pine Mountain	14.53	136	ePn	Pn	09 01 45.5	-0.3
J04D	Umpqua Nationa	14.56	140	P	Pn	09 01 46.7	+0.6
	baz=331,SNR=190						
SDPT	Sand Point	14.60	281	ePn	Pn	09 01 42.1	-4.4
HUMO	Hull Mountain	14.81	144	ePn	Pn	09 01 50.3	+0.9
J05D	Fort Rock, OR	14.85	138	P	Pn	09 01 49.7	-0.3
	baz=329,SNR=157						
I07A	Izee	14.88	132	ePn	Pn	09 01 51.3	+0.9
FBMT	Ferry Basin	14.92	113	P	Pn	09 01 50.3	-0.6
L02E	Cave Junction	15.00	146	P	Pn	09 01 51.5	-0.5
	baz=335						
SWMT	Swartz Lake	15.07	112	P	Pn	09 01 53.0	0.0
K04D	Chiloquin, OR	15.22	141	P	Pn	09 01 55.0	0.0
	baz=331,SNR=140						
BMO	Blue Mountains	15.26	126	ePn	Pn	09 01 53.7	-1.8
	4μm,1.8s						
BMO	Blue Mountains	15.26	126	eP	Pn	09 01 53.7	-1.8
BMO				pmax	pmax		
	comp=Z,4μm,1.8s						
L04D	Klamath Falls	15.38	143	P	Pn	09 01 56.8	-0.3
	baz=333,SNR=63						
L04D				S	S	09 04 58.3	-6.2
	baz=333						
MSO	Missoula	15.54	114	ePn	Pn	09 01 55.8	-3.4
	comp=Z,3μm,1.4s						
MSO	Missoula	15.54	114	P	Pn	09 01 57.8	-1.4
	baz=311,SNR=86						
KUKN	Kugluktuk,NWT	15.62	28	P	Pn	09 01 57.9	-2.2
YBH	Yreka Blue Hor	15.68	145	Pn	Pn	09 02 02.4	+1.5
	comp=Z,0.7nm,0.3s,baz=351,slow=10,SNR=27						
YBH				LR	LR	09 07 18.2	
	comp=Z,1724μm,21.1s,baz=330,slow=34						
YBH	Yreka Blue Hor	15.68	145	ePn	Pn	09 02 01.1	+0.2
	comp=Z,5μm,1.8s						
YBH	Yreka Blue Hor	15.68	145	eP	Pn	09 02 01.1	+0.2
YBH				pmax	pmax		
	comp=Z,5μm,1.8s						
J08A	Circle Bar Ran	15.91	132	ePn	Pn	09 02 02.8	-1.2
	comp=Z,3μm,1.4s						
M04C	Macdoel	15.93	142	P	Pn	09 02 04.5	+0.3
	baz=333,SNR=101						
M02C	Callahan	15.93	145	P	P	09 02 06.3	-1.7
	baz=335,SNR=58						
BPMT	Black Pine Rid	16.05	114	P	Pn	09 02 06.3	+0.4
JCC	Jacoby Creek,	16.09	149	ePn	Pn	09 02 06.6	+0.4
	comp=Z,3μm,1.5s						
KHMM	Horse Mountain	16.13	148	ePn	Pn	09 02 08.1	+1.2
	comp=Z,3μm,1.5s						
LYMT	Lyon Mountain	16.32	111	P	Pn	09 02 10.3	+0.9
FALS	False Pass	16.36	280	ePn	Pn	09 02 08.2	-1.3
	comp=Z,17μm,1.8s						
N02D	Trinity Center	16.36	146	P	Pn	09 02 10.5	+0.7
	baz=335,SNR=74						
MOD	Modoc Plateau	16.39	139	ePn	Pn	09 02 10.5	+0.4
	comp=Z,2μm,1.2s						
ELMT	Elliston	16.50	113	P	Pn	09 02 11.1	-0.5
WVOR	Wild Horse Val	16.60	134	ePn	Pn	09 02 11.8	-1.0
	comp=Z,2μm,1.4s						
WVOR	Wild Horse Val	16.60	134	eP	Pn	09 02 11.8	-1.0
WVOR				pmax	pmax		
	comp=Z,2μm,1.4s						
HRY	Holter Researc	16.73	111	ePn	Pn	09 02 12.0	-2.5
KMRM	Mail Ridge	16.74	149	ePn	P	09 02 15.9	-1.0
	comp=Z,5μm,1.4s						
WDC	Whiskeytown Da	16.77	146	ePn	Pn	09 02 15.3	+0.5
	comp=Z,5μm,1.6s						
WDC	Whiskeytown Da	16.77	146	eP	Pn	09 02 15.3	+0.5
WDC				pmax	pmax		
	comp=Z,5μm,1.6s						
HBMT	Mount Humbug	16.92	115	P	Pn	09 02 17.3	+0.3
LRM	Limekiln Ridge	16.98	114	ePn	Pn	09 02 15.4	-2.3
LRM	Limekiln Ridge	16.98	114	P	Pn	09 02 17.5	-0.3
MFID	Camas Ranch	17.04	126	ePn	Pn	09 02 17.5	-0.9
	comp=Z,6μm,1.8s						
O02D	Mt. Diablo Mer	17.06	147	P	Pn	09 02 18.7	+0.1
	baz=337,SNR=109						
EGMT	Eagleton	17.08	105	ePn	Pn	09 02 14.9	-3.9
	comp=Z,20μm,1.9s						
EGMT	Eagleton	17.08	105	P	Pn	09 02 15.8	-3.0
	baz=305,SNR=124						
DLMT	Dillon	17.21	116	ePn	Pn	09 02 18.8	-1.8
	comp=Z,4μm,1.5s						
O03E	Paynes Creek	17.27	145	P	Pn	09 02 20.9	-0.3
	baz=335,SNR=48						
KCPM	Cahto Peak	17.27	150	eP	P	09 02 24.2	+1.4
	comp=Z,3μm,1.6s						
MCMT	McKenzie Canyo	17.45	118	ePn	Pn	09 02 21.7	-2.0
BOZ	Bozeman (W)	17.56	114	ePn	Pn	09 02 23.0	-1.9
	comp=Z,1μm,1.3s						
BOZ	Bozeman (W)	17.56	114	eP	Pn	09 02 23.0	-1.9

BOZ pmax pmax
comp=Z,1µm,1.3s
BOZ Bozeman (W) 17.56 114 P **Pn 09 02 23.5 -1.3**
baz=312,SNR=135
HLID Hailey 17.60 123 *e*Pn **Pn 09 02 24.7 -0.7**
comp=Z,2µm,1.1s
HLID Hailey 17.60 123 P **Pn 09 02 25.2 -0.2**
baz=319,SNR=430
ANM Nome 17.77 314 *e*Pn **Pn 09 02 26.2 -1.0**
comp=Z,13µm,1.5s
ANM Nome 17.77 314 *e*P **Pn 09 02 26.2 -1.0**
MOMT Monida 17.85 117 P **P 09 02 29.5 +0.2**
AKUT Akutan 17.87 279 *e*Pn **Pn 09 02 28.0 -0.4**
comp=Z,18µm,1.8s
ORV Oroville 18.04 145 *e*Pn **Pn 09 02 28.7 -2.0**
comp=Z,3µm,1.8s
ORV Oroville 18.04 145 *e*P **Pn 09 02 28.7 -2.0**
ORV pmax pmax
comp=Z,3µm,1.8s
HOPS Hopland Field 18.06 149 *e*Pn **P 09 02 32.2 +0.8**
comp=Z,5µm,1.6s
TPMT Tepee Creek 18.13 116 P **P 09 02 33.0 +0.5**
BEKR Beckworth 18.14 142 *e*Pn **P 09 02 32.9 +0.3**
comp=Z,3µm,1.6s
QLMT Earthquake Lak 18.18 115 *e*Pn **Pn 09 02 31.8 -0.8**
QLMT Earthquake Lak 18.18 115 P **P 09 02 33.4 +0.4**
RDOG Red Dog Mine 18.29 326 *e*Pn **Pn 09 02 32.2 -1.3**
comp=Z,13µm,1.5s
GDXM Geysers 18.31 149 *e*Pn **P 09 02 34.5 +0.2**
comp=Z,3µm,2.0s
YHB Horse Butte 18.36 115 *e*P **Pn 09 02 33.7 -1.1**
comp=Z,1µm,1.1s
UNV Unalaska Valle 18.36 279 *e*P **Pn 09 02 34.1 -0.5**
comp=Z,7µm,1.4s
GCMT Greycliff 18.47 110 *e*P **P 09 02 35.0 -1.1**
YMR Madison River 18.53 115 *e*P **P 09 02 35.8 -1.1**
comp=Z,7µm,1.5s
YNR Norris Junctio 18.65 114 *e*P **P 09 02 37.4 -0.8**
comp=Z,4µm,1.9s
YFT Old Faithful 18.75 115 *e*P **P 09 02 39.4 +0.1**
comp=Z,5µm,1.7s
FFC Flin Flon 18.75 78 *e*P **P 09 02 35.4 -3.6**
comp=Z,6µm,1.8s
FFC Flin Flon 18.75 78 *ce*P **P 09 02 36.8 -2.2**
AFDM Forest Hills D 18.76 145 *e*P **P 09 02 39.2 0.0**
comp=Z,4µm,1.9s
YPP Pitchstone Pla 18.89 116 *e*P **P 09 02 40.8 -0.1**
comp=Z,2µm,1.5s
LKWY Lake 18.90 114 *e*P **P 09 02 41.0 +0.1**
comp=Z,2µm,1.4s
LKWY Lake 18.90 114 *e*P **P 09 02 41.0 +0.1**
LKWY pmax pmax
comp=Z,2µm,1.4s
MCCM Marconi Confer 18.90 150 *e*P **Pn 09 02 42.5 +1.3**
comp=Z,5µm,1.8s
H17A Grant Village 18.92 115 *e*P **Pn 09 02 41.8 +0.1**
comp=Z,7µm,1.8s
H17A Grant Village 18.92 115 P **Pn 09 02 41.6 -0.1**
baz=314,SNR=160
RUBR Rubicon Trail 18.94 143 *e*P **P 09 02 41.4 0.0**
comp=Z,3µm,1.5s
FLWY Flagg Ranch 19.07 116 *e*P **P 09 02 42.7 -0.1**
comp=Z,7µm,1.6s
IMW Indian Meadow 19.08 117 *e*P **P 09 02 42.6 -0.3**
comp=Z,3µm,1.4s
RLMT Red Lodge 19.12 111 *e*P **P 09 02 41.9 -1.4**
comp=Z,4µm,1.4s
RLMT Red Lodge 19.12 111 P **P 09 02 42.9 -0.4**
baz=312,SNR=167
MOOW Moose Ponds 19.29 117 *e*P **P 09 02 44.9 -0.2**
comp=Z,3µm,1.4s
YERR Yerington 19.33 141 *e*P **P 09 02 46.1 +0.5**
comp=Z,2µm,1.5s
TPAW Teton Pass 19.36 117 *e*P **P 09 02 45.8 -0.3**
comp=Z,4µm,1.4s
ELK Elko 19.43 130 P **P 09 02 47.0 +0.2**
comp=Z,0.3nm,0.3s,baz=321,slow=11,SNR=51
ELK S **S 09 06 35.6 +8.5**
comp=Z,0.2nm,0.3s,baz=255,slow=2.0,SNR=1.5
ELK LR LR 09 10 26.4
comp=Z,1156µm,20.0s,baz=327,slow=37
ELK Elko 19.43 130 *e*P **P 09 02 46.4 -0.4**
comp=Z,768nm,1.2s
ELK S **S 09 06 35.6 +8.5**
ELK Elko 19.43 130 *e*P **P 09 02 46.4 -0.4**
ELK pmax pmax
comp=Z,769nm,1.2s
LOHW Long Hollow 19.45 117 *e*P **P 09 02 46.6 -0.4**
comp=Z,5µm,1.6s
SNOW Snow King Moun 19.48 117 *e*P **P 09 02 47.2 -0.2**
comp=Z,3µm,1.4s
REDW Red Top Meadow 19.51 118 *e*P **P 09 02 47.3 -0.3**
comp=Z,7µm,1.9s
WAKR Walker 19.68 142 *e*P **P 09 02 49.9 +0.4**
comp=Z,6µm,1.9s
KVN Kaiserville 19.69 138 *e*P **Pn 09 02 52.2 +1.3**
comp=Z,2µm,1.2s
KVN Kaiserville 19.69 138 P **P 09 02 49.9 +0.4**
KVN pmax pmax
comp=Z,2µm,1.1s
HVU Hansel Valley 19.74 124 *e*P **P 09 02 49.7 -0.3**
comp=Z,3µm,1.6s
HVU Hansel Valley 19.74 124 *e*P **P 09 02 49.7 -0.3**
HVU pmax pmax
comp=Z,3µm,1.6s
CMB Columbia Colle 19.78 144 *e*P **Pn 09 02 52.4 +0.6**
comp=Z,2µm,1.8s
CMB Columbia Colle 19.78 144 *e*P **Pn 09 02 52.4 +0.6**
CMB pmax pmax
comp=Z,2µm,1.8s
LAO LASA Array 19.81 104 *e*P **P 09 02 49.1 -1.5**
comp=Z,9µm,1.7s
LAO LASA Array 19.81 104 P **P 09 02 49.7 -1.0**
baz=307,SNR=37
AHID Auburn Hatcher 19.82 119 *e*P **P 09 02 50.6 -0.3**
comp=Z,12µm,2.0s
RYN Ryan 19.90 140 *e*P **P 09 02 50.1 -1.8**
comp=Z,1µm,1.2s
DGMT Dagmar 19.96 97 *e*P **P 09 02 50.5 -1.8**
DGMT Dagmar 19.96 97 P **P 09 02 51.9 -0.4**
baz=302,SNR=86
NIKH Nikolski High 19.98 278 *e*P **P 09 02 52.4 0.0**
comp=Z,35µm,1.9s
NIKH LR LR
comp=Z,2111µm,18.0s
NV01 Mina Array Sit 20.16 140 *e*P **P 09 02 54.8 +0.1**
NVAR Mina Array Bea 20.16 140 P **P 09 02 54.8 +0.1**
comp=Z,93nm,1.1s,baz=316,slow=9.4,SNR=60
NVAR LR LR 09 10 54.8
comp=Z,1152µm,18.8s,baz=334,slow=37
SPUT South Promonto 20.26 124 *e*P **P 09 02 55.1 -0.6**
comp=Z,4µm,1.8s
SPUT LR LR
comp=Z,1030µm,19.0s
BGU Big Grassy Mou 20.29 126 *e*P **P 09 02 53.7 -2.3**
comp=Z,3µm,2.0s
BGU LR LR
comp=Z,549µm,21.0s
GAMB Gambell 20.30 310 *e*P **P 09 02 55.4 -0.4**
comp=Z,14µm,1.6s
GAMB LR LR
comp=Z,6979µm,19.0s
BW06 Boulder Array 20.59 117 *e*P **P 09 02 58.5 -0.9**
comp=Z,1µm,1.1s
BW06 LR LR
comp=Z,1420µm,18.0s
BW06 Boulder Array 20.59 117 P **P 09 02 59.0 -0.4**
baz=317,SNR=132
PD31 Pinedale Array 20.59 117 *e*P **P 09 02 58.8 -0.6**
PDAR Pinedale Array 20.59 117 P **P 09 02 58.8 -0.6**
comp=Z,38nm,0.9s,baz=316,slow=6.2,SNR=112
SAO San Andreas Ge 20.61 148 *e*P Pn 09 03 01.2 -0.3
comp=Z,3µm,1.9s
SAO LR LR
comp=Z,676µm,18.0s
SAO San Andreas Ge 20.61 148 *e*P Pn 09 03 01.2 -0.3
SAO pmax pmax
comp=Z,3µm,1.9s
SAO MLR MLR
comp=Z,676µm,18.0s
OMMB Old Mammoth Mi 20.63 142 *e*P **P 09 03 00.5 +0.6**
comp=Z,2µm,1.7s
OMMB LR LR
comp=Z,1192µm,22.0s
MLAC Mammoth, Mammo 20.68 142 P **P 09 03 01.2 +0.9**
baz=334,SNR=44
TCUT Toone Canyon 20.90 123 *e*P **P 09 03 02.2 -0.6**
comp=Z,2µm,0.9s
TCUT LR LR
comp=Z,2454µm,22.0s
DUG Dugway, Tooele 20.97 127 *e*P **P 09 03 02.3 -1.0**
comp=Z,2µm,1.4s
DUG LR LR
comp=Z,469µm,18.0s
DUG Dugway, Tooele 20.97 127 *e*P **P 09 03 02.3 -1.0**
DUG pmax pmax
comp=Z,2µm,1.4s
DUG MLR MLR
comp=Z,469µm,18.0s
DUG Dugway, Tooele 20.97 127 P **P 09 03 02.4 -1.0**
baz=324,SNR=98
CTU Camp Tracy 21.07 124 *e*P **P 09 03 03.3 -1.2**
comp=Z,890nm,1.2s
CTU LR LR
comp=Z,946µm,19.0s
JLU Jordanelle 21.28 124 *e*P **P 09 03 06.0 -0.8**
comp=Z,3µm,1.8s
JLU LR LR
comp=Z,1070µm,22.0s
R11A Troy Canyon, C 21.29 135 *e*P **P 09 03 05.9 -1.0**
comp=Z,2µm,1.5s
R11A LR LR
comp=Z,957µm,18.0s
R11A Troy Canyon, C 21.29 135 P **P 09 03 05.7 -1.2**
baz=329,SNR=150
TIN Tinemaha, Big 21.41 141 P **P 09 03 08.8 +0.7**
baz=334,SNR=60
NLU North Lily Min 21.50 126 *e*P **P 09 03 08.0 -1.1**
comp=Z,813nm,1.0s
NLU LR LR
comp=Z,699µm,19.0s
MPU Maple Canyon 21.66 125 *e*P **P 09 03 09.8 -1.0**
comp=Z,798nm,1.3s
MPU LR LR
comp=Z,978µm,22.0s
GRAC Grapevine Rang 21.77 140 P **P 09 03 12.1 +0.2**
baz=333,SNR=13
PSUT Pine Spring 21.86 131 *e*P **P 09 03 12.1 -0.9**
comp=Z,2µm,1.2s
PSUT LR LR
comp=Z,898µm,20.0s
PAGB Antelope Grade 21.93 147 *e*P **P 09 03 15.7 +2.1**
comp=Z,3µm,1.5s
PAGB LR LR
comp=Z,503µm,21.0s
CWC Cottonwood Cre 22.01 142 P **P 09 03 14.9 +0.4**
baz=334
FCC Fort Churchill 22.20 64 *e*P **P 09 03 14.4 -1.9**
comp=Z,6µm,1.9s
FCC LR LR
comp=Z,1572µm,21.0s
FCC Fort Churchill 22.20 64 P **P 09 03 14.9 -1.4**
FCC Fort Churchill 22.20 64 *e*P **P 09 03 14.4 -1.9**
FCC pmax pmax
comp=Z,6µm,1.9s
FCC MLR MLR
comp=Z,1572µm,21.0s
VES Vestal, Richgr 22.20 144 P **P 09 03 15.9 -0.6**
baz=336,SNR=34
TPNV Topopah Spring 22.24 138 *e*P **P 09 03 16.5 -0.5**
comp=Z,5µm,1.5s
TPNV LR LR
comp=Z,1437µm,19.0s
TPNV Topopah Spring 22.24 138 *e*P **P 09 03 16.5 -0.5**
TPNV pmax pmax
comp=Z,5µm,1.5s
TPNV MLR MLR
comp=Z,1437µm,19.0s
TPNV Topopah Spring 22.24 138 P **P 09 03 16.7 -0.3**
baz=332,SNR=64
K22A Casper 22.25 113 *e*P **P 09 03 14.6 -2.6**
comp=Z,2µm,1.3s
K22A LR LR
comp=Z,1475µm,18.0s
K22A Casper 22.25 113 P **P 09 03 15.3 -1.9**
baz=315,SNR=60
DAC Darwin (Calif) 22.33 141 *e*P **P 09 03 17.7 -0.3**
comp=Z,4µm,1.8s
DAC LR LR
comp=Z,1404µm,20.0s
DAC Darwin (Calif) 22.33 141 *e*P **P 09 03 17.7 -0.3**
DAC pmax pmax
comp=Z,4µm,1.8s
DAC MLR MLR
comp=Z,1404µm,20.0s
SMMC Simmler 22.39 147 P **P 09 03 19.4 +0.9**
baz=338,SNR=62
TCRU Three Creeks R 22.42 129 *e*P **P 09 03 18.7 -0.3**
comp=Z,1µm,1.1s
TCRU LR LR
comp=Z,822µm,18.0s
FURC Furnace Creek, 22.43 139 P **P 09 03 18.2 -0.7**
baz=333,SNR=21
TMUT Trail Mountain 22.43 126 *e*P **P 09 03 18.7 -0.6**
comp=Z,2µm,1.4s
TMUT LR LR
comp=Z,497µm,21.0s
P17A Butcher Ranch, 22.51 124 *e*P **P 09 03 18.7 -1.2**
comp=Z,2µm,1.6s
P17A LR LR
comp=Z,848µm,18.0s
MPMC Manual Prospec 22.56 141 P **P 09 03 21.1 +0.6**
baz=334,SNR=45
ISA Isabella, Lake 22.57 143 *e*P **P 09 03 20.4 0.0**
comp=Z,4µm,1.8s
ISA LR LR
comp=Z,439µm,21.0s
ISA Isabella, Lake 22.57 143 *e*P **P 09 03 20.5 0.0**
ISA pmax pmax
comp=Z,4µm,1.8s
ISA MLR MLR
comp=Z,439µm,21.0s
ISA Isabella, Lake 22.57 143 P **P 09 03 20.5 0.0**
baz=336,SNR=49
RWWY Rawlins 22.58 115 *e*P **P 09 03 18.1 -2.6**
comp=Z,6µm,1.8s
RWWY LR LR
comp=Z,892µm,21.0s
RSSD Black Hills 22.61 107 *e*P **P 09 03 18.6 -2.4**
comp=Z,4µm,1.5s
RSSD LR LR
comp=Z,1440µm,20.0s
RSSD Black Hills 22.61 107 *e*P **P 09 03 18.6 -2.4**
RSSD pmax pmax
comp=Z,4µm,1.5s
RSSD MLR MLR
comp=Z,1440µm,20.0s
RSSD Black Hills 22.61 107 P **P 09 03 19.3 -1.8**
baz=311
MSU Marysvale 22.62 128 *e*P **P 09 03 20.4 -0.8**
MSU Marysvale 22.62 128 *e*P **P 09 03 20.4 -0.8**
Q16A Castle Valley 22.75 126 *e*P **P 09 03 19.6 -3.0**
comp=Z,7µm,1.9s
Q16A LR LR
comp=Z,456µm,18.0s
PKM Mcpherson Peak 22.84 147 P **P 09 03 24.5 +1.0**
baz=338,SNR=71
CCUT Cedar City 22.89 132 *e*P **P 09 03 21.8 -2.3**
comp=Z,1µm,1.5s
CCUT LR LR
comp=Z,617µm,18.0s
MDND Maddock 22.91 94 *e*P **P 09 03 22.1 -1.9**
comp=Z,5µm,1.4s
MDND LR LR
comp=Z,3374µm,19.0s
MDND Maddock 22.91 94 P **P 09 03 22.2 -1.7**
baz=302,SNR=16
ARVC Arvin 22.94 145 P **P 09 03 24.0 -0.3**
baz=337,SNR=14
SZCU Shurtz Canyon 22.98 131 *e*P **P 09 03 22.6 -2.3**
comp=Z,5µm,2.0s
SZCU LR LR
comp=Z,722µm,21.0s
MTPU Mount Pierson 23.00 129 *e*P **P 09 03 24.9 -0.5**
comp=Z,2µm,1.6s
MTPU LR LR
comp=Z,787µm,19.0s
LRMC Laurel Mtn Rad 23.01 142 P **P 09 03 25.6 +0.4**
baz=335,SNR=88
SHPR Sheep Range 23.05 136 *e*P **P 09 03 23.8 -1.8**
comp=Z,2µm,1.5s
SHPR LR LR
comp=Z,1060µm,19.0s
SHOC Shoshone, Teco 23.15 139 P **P 09 03 26.4 -0.1**
baz=333,SNR=37
O20A White River Ci 23.21 120 *e*P **P 09 03 24.2 -3.1**
comp=Z,2µm,1.3s
O20A LR LR
comp=Z,1386µm,20.0s
O20A White River Ci 23.21 120 P **P 09 03 26.1 -1.2**
baz=320,SNR=48
SBC Santa Barbara 23.28 147 P **P 09 03 28.9 +1.1**
baz=338,SNR=16
ATKA Atka Island 23.29 279 *e*P **P 09 03 25.5 -2.3**
comp=Z,3µm,1.0s
ATKA LR LR
comp=Z,2948µm,22.0s
LCMT Little Creek M 23.40 132 *e*P **P 09 03 29.0 -0.2**
comp=Z,3µm,1.7s
LCMT LR LR
comp=Z,759µm,19.0s
PKCU Pink Cliffs 23.44 130 *e*P **P 09 03 29.2 -0.6**
comp=Z,4µm,1.7s
PKCU LR LR
comp=Z,832µm,21.0s
OSI Osito Audit: C 23.44 145 *e*P **P 09 03 29.4 -0.1**
comp=Z,3µm,1.8s
OSI LR LR
comp=Z,564µm,18.0s
OSI Osito Audit: C 23.44 145 P **P 09 03 30.2 +0.7**
baz=337,SNR=9.1
EDW2 Edwards Air Fo 23.44 143 P **P 09 03 28.7 -0.8**
baz=336,SNR=40
GSC Goldstone, Bar 23.48 141 *e*P **P 09 03 29.7 -0.3**
comp=Z,3µm,1.5s
GSC LR LR
comp=Z,1061µm,18.0s
GSC Goldstone, Bar 23.48 141 *e*P **P 09 03 29.7 -0.3**
GSC pmax pmax
comp=Z,3µm,1.5s
GSC MLR MLR
comp=Z,1061µm,18.0s
GSC Goldstone, Bar 23.48 141 P **P 09 03 30.3 +0.3**
baz=334,SNR=130
KNB Kanab 23.58 132 *e*P **P 09 03 30.2 -0.8**
comp=Z,1µm,1.3s
KNB LR LR
comp=Z,675µm,21.0s
KNB Kanab 23.58 132 *e*P **P 09 03 30.2 -0.8**
KNB pmax pmax
comp=Z,1µm,1.3s
KNB MLR MLR
comp=Z,675µm,21.0s
TUQ Turquoise Moun 23.69 139 P **P 09 03 32.0 -0.1**
baz=333,SNR=358
PHWY Pilot Hill 23.77 114 *e*P **P 09 03 30.8 -2.3**
comp=Z,3µm,1.8s
PHWY LR LR
comp=Z,1428µm,20.0s
I10CA LAC DU BONNET 23.79 86 *i* 11 15 10.0
baz=297,slow=316,SNR=11
BLG Laguna Peak, P 23.80 146 P **P 09 03 33.3 +0.4**
baz=338,SNR=26
RRX Edison Barstow 23.80 141 P **P 09 03 33.6 +0.6**
baz=335,SNR=21
N23A Red Feather La 23.81 115 *e*P **P 09 03 31.5 -1.9**
comp=Z,4µm,1.8s
N23A LR LR
comp=Z,1223µm,22.0s
N23A Red Feather La 23.81 115 P **P 09 03 32.1 -1.3**
baz=317,SNR=130
ULM Lac du Bonnet 23.86 86 P **P 09 03 31.0 -2.4**
comp=Z,83nm,1.1s,baz=300,slow=10.0,SNR=58
ULM S **S 09 07 53.1 +3.2**
comp=Z,78nm,1.1s,baz=296,slow=13,SNR=1.8
ULM LR LR 09 13 21.0
comp=Z,2438µm,19.6s,baz=302,slow=38
ULM Lac du Bonnet 23.86 86 P **P 09 03 31.4 -2.0**
DECC Green Verdugo 23.90 145 P **P 09 03 34.3 +0.3**
baz=337,SNR=8.3
MWC Mount Wilson 24.02 144 *e*P **P 09 03 35.0 -0.2**
comp=Z,5µm,1.8s
MWC LR LR
comp=Z,499µm,18.0s
MWC Mount Wilson 24.02 144 *e*P **P 09 03 35.1 -0.2**
MWC pmax pmax
comp=Z,5µm,1.8s
MWC MLR MLR
comp=Z,499µm,18.0s
PASC Pasadena Art C 24.02 144 *e*P **P 09 03 34.5 -0.6**
comp=Z,3µm,1.9s
PASC LR LR
comp=Z,521µm,18.0s
PV09 Paradox Valley 24.04 123 *e*P **P 09 03 34.2 -1.4**
PV21 Cone Mtn., Par 24.07 123 *e*P **P 09 03 33.6 -2.2**
comp=Z,878nm,0.9s
PV21 LR LR
comp=Z,1296µm,21.0s
HEC Hector,Ludlow 24.08 140 P **P 09 03 35.5 -0.2**
baz=334,SNR=104
PV23 Carpenter Ridg 24.14 123 *e*P **P 09 03 34.8 -1.7**
comp=Z,4µm,1.5s
PV23 LR LR
comp=Z,1824µm,22.0s
BFSC Mount Baldy Ra 24.14 143 P **P 09 03 36.8 +0.4**
baz=336,SNR=85
PV10 Paradox Valley 24.18 123 *e*P **P 09 03 36.2 -0.7**
PV14 Lion Creek, Pa 24.19 123 *e*P **P 09 03 34.0 -2.9**
comp=Z,2µm,1.3s
PV14 LR LR
comp=Z,1693µm,22.0s
PV20 West Nyswonger 24.25 123 *e*P **P 09 03 36.1 -1.3**
comp=Z,2µm,1.4s
PV20 LR LR
comp=Z,1102µm,22.0s
PV19 Morning Glory 24.26 124 *e*P **P 09 03 35.7 -1.9**
comp=Z,3µm,1.5s
PV19 LR LR
comp=Z,1160µm,22.0s
PV16 Nyswonger Mesa 24.29 123 *e*P **P 09 03 34.9 -2.9**
comp=Z,1µm,1.1s
PV16 LR LR
comp=Z,1172µm,19.0s
PV17 East Wray Mesa 24.30 124 *e*P **P 09 03 34.4 -3.5**
comp=Z,7µm,1.9s
PV17 LR LR
comp=Z,1362µm,20.0s
U15A North Rim 24.30 131 *e*P **P 09 03 36.8 -1.2**
comp=Z,4µm,1.9s
U15A LR LR
comp=Z,845µm,19.0s
LDFC Landfair 24.32 138 *e*P **P 09 03 37.0 -0.9**
comp=Z,7µm,1.9s
LDFC LR LR
comp=Z,1151µm,20.0s
PV11 David Mesa, Pa 24.32 123 *e*P **P 09 03 36.4 -1.7**
comp=Z,6µm,1.8s
PV11 LR LR
comp=Z,1346µm,19.0s
PV12 Saucer Basin, 24.34 123 *e*P **P 09 03 36.7 -1.6**
comp=Z,2µm,1.4s
PV12 LR LR
comp=Z,1325µm,20.0s
GMRC Granite Mounta 24.37 139 P **P 09 03 38.5 0.0**
baz=333,SNR=207
PV03 Paradox Valley 24.37 123 *e*P **P 09 03 36.8 -1.7**
BBRC Big Bear Solar 24.38 142 P **P 09 03 38.3 -0.4**
baz=335,SNR=43
GSTR Great Sitkin T 24.39 280 *e*P **P 09 03 36.5 -1.9**
PV05 Paradox Valley 24.39 124 *e*P **P 09 03 36.9 -1.9**
FMP Fort Macarthur 24.41 145 P **P 09 03 38.3 -0.3**
baz=337,SNR=9.9
SNCC San Nicolas Is 24.45 148 *e*P **P 09 03 41.4 +2.4**
comp=Z,6µm,2.0s
SNCC LR LR
comp=Z,400µm,18.0s
SNCC San Nicolas Is 24.45 148 P **P 09 03 39.6 +0.6**
baz=339,SNR=25
PV13 Radium Mtn., P 24.46 123 *e*P **P 09 03 37.5 -1.9**
comp=Z,3µm,1.5s
PV13 LR LR
comp=Z,1046µm,20.0s
PV02 Paradox Valley 24.46 123 *e*P **P 09 03 37.2 -2.2**
comp=Z,2µm,1.4s
SMCO Snowmass 24.57 119 *e*P **P 09 03 37.7 -2.9**
comp=Z,3µm,2.0s
SMCO LR LR
comp=Z,1324µm,20.0s
PV01 Paradox Valley 24.60 123 *e*P **P 09 03 38.1 -2.5**
CIS Catalina Islan 24.66 146 P **P 09 03 40.3 -0.6**
baz=338,SNR=41
W13A Hualapai Mount 24.78 136 *e*P **P 09 03 41.8 -0.4**
comp=Z,704nm,1.1s

W13A LR LR
comp=Z,965µm,20.0s
NEE2 Needles Airpor 24.78 137 P **P 09 03 41.9 -0.1**
baz=332
ISCO Idaho Springs 24.79 116 *e*P **P 09 03 40.5 -1.9**
ISCO LR LR
comp=Z,1783µm,21.0s
ISCO Idaho Springs 24.79 116 *e*P **P 09 03 40.5 -1.9**
ISCO MLR MLR
comp=Z,1783µm,21.0s
ISCO Idaho Springs 24.79 116 P **P 09 03 41.6 -0.8**
baz=319,SNR=42
AGMN Agassiz Nation 24.81 90 *e*P **P 09 03 39.8 -2.4**
comp=Z,1µm,1.3s
AGMN LR LR
comp=Z,3051µm,19.0s
AGMN Agassiz Nation 24.81 90 P **P 09 03 40.0 -2.2**
baz=301,SNR=88
ADK Adak 24.83 280 *e*P **P 09 03 41.0 -1.3**
comp=Z,2µm,1.4s
ADK LR LR
comp=Z,2491µm,19.0s
ADK Adak 24.83 280 *e*P **P 09 03 41.0 -1.3**
ADK pmax pmax
comp=Z,2µm,1.4s
ADK MLR MLR
comp=Z,2491µm,19.0s
MURC Murrieta 24.88 143 P **P 09 03 42.1 -0.9**
baz=336,SNR=60
RES Resolute Bay 24.91 24 P **P 09 03 42.3 -0.5**
comp=Z,165nm,0.8s,baz=244,slow=10,SNR=180
RES S **S 09 08 12.6 +6.4**
comp=Z,82nm,0.9s,baz=150,slow=10,SNR=1.8
RES LR LR 09 13 23.8
comp=Z,2424µm,21.3s,baz=216,slow=37
RES Resolute Bay 24.91 24 *e*P **P 09 03 41.7 -1.1**
comp=Z,6µm,1.6s
RES S **S 09 08 12.6 +6.4**
RES Resolute Bay 24.91 24 P **P 09 03 42.6 -0.2**
RES Resolute Bay 24.91 24 P **P 09 03 41.9 -0.9**
RES pmax pmax
comp=Z,2µm,1.4s
BELC Belle Mtn. Jos 24.94 141 P **P 09 03 43.7 +0.1**
baz=334,SNR=79
SCI2 San Clemente I 25.00 146 P **P 09 03 43.2 -0.8**
baz=338,SNR=48
KIWB Kanaga Island 25.10 280 *e*P **P 09 03 43.2 -1.5**
IRM Iron Mountain 25.12 139 P **P 09 03 44.7 -0.4**
baz=334,SNR=68
PFO Pinyon Flats O 25.13 142 P **P 09 03 45.4 0.0**
comp=Z,78nm,1.1s,baz=342,slow=8.9,SNR=18
PFO S **S 09 08 19.3 +8.6**
comp=Z,12nm,1.1s,baz=98,slow=4.3,SNR=2.5
PFO LR LR 09 13 46.8
comp=Z,1426µm,19.4s,baz=330,slow=37
PFO Pinyon Flats O 25.13 142 *e*P **P 09 03 45.1 -0.2**
comp=Z,551nm,1.1s
PFO S **S 09 08 19.3 +8.6**
PFO Pinyon Flats O 25.13 142 *e*P **P 09 03 45.1 -0.2**
PFO pmax pmax
comp=Z,551nm,1.1s
PFO Pinyon Flats O 25.13 142 P **P 09 03 45.7 +0.4**
baz=335,SNR=105
XPFO Pion Flat 25.13 142 *e*P **P 09 03 45.4 +0.1**
comp=Z,590nm,1.1s
XPFO LR LR
comp=Z,1435µm,18.0s
SUSD Miller 25.23 100 P **P 09 03 44.2 -1.8**
baz=309,SNR=33
MVCO Mesa Verde 25.37 124 *e*P **P 09 03 45.9 -1.7**
comp=Z,2µm,1.5s
MVCO LR LR
comp=Z,655µm,21.0s
MVCO Mesa Verde 25.37 124 P **P 09 03 46.2 -1.5**
baz=324,SNR=50
PDMCI Parker Dam,Lak 25.37 137 P **P 09 03 47.0 -0.4**
baz=332,SNR=23
BC3 Big Chuckawall 25.45 140 P **P 09 03 47.5 -0.8**
baz=334,SNR=129
WUAZ Wupatki 25.47 131 *e*P **P 09 03 47.0 -1.4**
comp=Z,1µm,1.2s
WUAZ LR LR
comp=Z,673µm,20.0s
WUAZ Wupatki 25.47 131 P **P 09 03 47.4 -1.0**
baz=328,SNR=34
109C Camp Elliot, M 25.56 144 P **P 09 03 49.1 0.0**
baz=337,SNR=26
CPE Camp Elliot 25.56 144 *e*P **P 09 03 48.8 -0.2**
comp=Z,2µm,1.5s
CPE LR LR
comp=Z,583µm,18.0s
Q24A Divide 25.65 117 *e*P **P 09 03 49.2 -1.1**
comp=Z,1µm,1.4s
Q24A LR LR
comp=Z,1719µm,22.0s
Q24A Divide 25.65 117 P **P 09 03 49.3 -0.9**
baz=320,SNR=23
Y12C Blythe 25.71 138 *e*P **P 09 03 50.2 -0.3**
comp=Z,3µm,1.7s
Y12C LR LR
comp=Z,1056µm,19.0s
Y12C Blythe 25.71 138 P **P 09 03 50.4 0.0**
baz=333,SNR=36
S22A 4UR Ranch, Cre 25.75 121 *e*P **P 09 03 52.8 +1.6**
comp=Z,891nm,1.4s
S22A LR LR
comp=Z,1457µm,21.0s
S22A 4UR Ranch, Cre 25.75 121 P **P 09 03 49.6 -1.5**
baz=322,SNR=41
MONP2 Monument Peak 25.79 142 P **P 09 03 50.9 -0.5**
baz=336,SNR=56
OGNE Ogallala 25.85 110 *e*P **P 09 03 51.4 -0.3**
comp=Z,4µm,1.4s
OGNE LR LR
comp=Z,1612µm,22.0s
OGNE Ogallala 25.85 110 P **P 09 03 50.0 -1.8**
baz=315,SNR=33
BAR Barrett 25.90 143 *e*P **P 09 03 54.7 +2.5**
comp=Z,952nm,1.4s
BAR LR LR
comp=Z,736µm,19.0s
SWSC Sam W. Stewart 25.96 141 P **P 09 03 52.1 -0.6**
baz=335,SNR=30
IKP In-Ko-Pah, Jac 26.12 142 P **P 09 03 54.5 +0.2**
baz=336,SNR=91
SOLO Sioux Lookout 26.13 84 P **P 09 03 52.8 -1.3**
GLA Glamis 26.22 140 *e*P **P 09 03 53.5 -1.7**
comp=Z,2µm,1.6s
GLA LR LR
comp=Z,931µm,19.0s
GLA Glamis 26.22 140 *e*P **P 09 03 53.5 -1.7**
GLA pmax pmax
comp=Z,2µm,1.6s
GLA MLR MLR
comp=Z,931µm,19.0s
GLA Glamis 26.22 140 P **P 09 03 53.9 -1.3**
baz=334,SNR=50
X16A Lo Mia Camp, P 26.37 132 *e*P **P 09 03 54.7 -2.0**
comp=Z,1µm,1.5s
X16A LR LR
comp=Z,475µm,20.0s
SDCO Great Sand Dun 26.41 119 *e*P **P 09 03 56.2 -0.9**
comp=Z,603nm,1.7s
SDCO LR LR
comp=Z,1587µm,21.0s
SDCO Great Sand Dun 26.41 119 P **P 09 03 55.8 -1.3**
baz=321,SNR=25
W18A Petrified Fore 26.52 129 *e*P **P 09 03 57.1 -0.9**
comp=Z,686nm,1.2s
W18A LR LR
comp=Z,666µm,20.0s
W18A Petrified Fore 26.52 129 P **P 09 03 55.8 -2.3**
baz=328,SNR=11
113A Mohawk Valley, 26.88 138 *e*P **P 09 04 00.5 -0.5**
comp=Z,2µm,1.9s
113A LR LR
comp=Z,782µm,20.0s
KSCO Kaye Shedlock' 26.92 114 *e*P **P 09 03 59.8 -1.8**
comp=Z,1µm,1.4s
KSCO LR LR
comp=Z,910µm,20.0s
KSCO Kaye Shedlock' 26.92 114 P **P 09 03 59.4 -2.1**
baz=318,SNR=19
ATKO Atikokan Iron 26.98 86 P **P 09 04 00.3 -1.6**
ECSD EROS Data Cent 27.00 99 *e*P **P 09 03 59.2 -2.8**
comp=Z,2µm,1.8s
ECSD LR LR
comp=Z,3147µm,21.0s

ECSD EROS Data Cent 27.00 99 P **P 09 04 00.4 -1.6**
baz=309,SNR=65
T25A Trinidad 27.42 119 *e*P **P 09 04 08.3 +2.1**
comp=Z,848nm,1.8s
T25A LR LR
comp=Z,1511µm,21.0s
T25A Trinidad 27.42 119 P **P 09 04 05.5 -0.7**
baz=322,SNR=8.0
EYMN Ely 27.50 87 *e*P **P 09 04 04.1 -2.4**
comp=Z,1µm,1.5s
EYMN LR LR
comp=Z,2468µm,22.0s
EYMN Ely 27.50 87 P **P 09 04 06.1 -0.3**
baz=302,SNR=39
BGNE Belgrade 27.65 105 *e*P **P 09 04 05.4 -2.5**
comp=Z,3µm,1.8s
BGNE LR LR
comp=Z,1697µm,18.0s
BGNE Belgrade 27.65 105 P **P 09 04 05.2 -2.7**
baz=313,SNR=27
214A Organ Pipe Nat 27.97 137 P **P 09 04 10.4 -0.4**
baz=333,SNR=48
F37A Hinrichs Farm, 28.07 92 P **P 09 04 09.4 -2.3**
baz=306,SNR=9.8
ANMO Albuquerque 28.17 124 P **P 09 04 11.5 -1.3**
comp=Z,2.8nm,0.8s,baz=320,slow=8.1,SNR=12
ANMO S S 09 09 08.1 +9.2
comp=Z,19nm,1.1s,baz=71,slow=15,SNR=1.8
ANMO LR LR 09 16 45.8
comp=Z,262µm,19.1s,baz=320,slow=39
ANMO Albuquerque 28.17 124 *e*P **P 09 04 14.1 +1.3**
comp=Z,340nm,1.4s
ANMO S S 09 09 08.1 +9.2
ANMO Albuquerque 28.17 124‖ *e*P **P 09 04 12.2 -0.6**
ANMO pmax pmax
comp=Z,105nm,2.2s
ANMO MLR MLR
comp=Z,441µm,15.0s
ANMO Albuquerque 28.17 124 P **P 09 04 11.1 -1.7**
baz=325
E38A The Farm, Brul 28.19 90 *e*P **P 09 04 10.1 -2.6**
comp=Z,1µm,1.5s
E38A LR LR
comp=Z,3306µm,18.0s
E38A The Farm, Brul 28.19 90 P **P 09 04 10.7 -2.0**
baz=304,SNR=12
SPMN Marine on St. 28.26 93 *e*P **P 09 04 09.7 -3.7**
comp=Z,1µm,1.6s
SPMN LR LR
comp=Z,3507µm,18.0s
SPMN Marine on St. 28.26 93 P **P 09 04 10.5 -2.8**
baz=306,SNR=6.3
LAZ Ladron 28.30 126 *e*P **P 09 04 13.1 -0.8**
TBO Thunder Bay 28.32 84 P **P 09 04 13.3 -0.6**
F38A Pierce - Schro 28.37 91 P **P 09 04 11.7 -2.6**
baz=305,SNR=54
TUC Tucson 28.47 134 *e*P **P 09 04 16.4 +1.1**
comp=Z,3µm,2.0s
TUC LR LR
comp=Z,386µm,19.0s
TUC Tucson 28.47 134 P **P 09 04 15.7 +0.3**
TUC pmax pmax
comp=Z,521nm,1.9s
TUC Tucson 28.47 134 P **P 09 04 14.6 -0.8**
baz=331
LENM Lemitar 28.57 126 *e*P **P 09 04 15.2 -1.2**
CBKS Cedar Bluff 28.60 110 *e*P **P 09 04 14.6 -1.9**
comp=Z,2µm,1.8s
CBKS LR LR
comp=Z,1043µm,22.0s
CBKS Cedar Bluff 28.60 110 *e*P **P 09 04 14.6 -1.9**
CBKS pmax pmax
comp=Z,2µm,1.8s
CBKS MLR MLR
comp=Z,1043µm,22.0s
CBKS Cedar Bluff 28.60 110 P **P 09 04 14.1 -2.4**
baz=317,SNR=58
LPM Los Pinos Moun 28.61 125 *e*P **P 09 04 15.8 -0.9**
Y22D IRIS PASSCAL I 28.67 126 PFAKE 09 04 30.0 +13
Y22D LR LR
comp=Z,759µm,18.0s
Y22D IRIS PASSCAL I 28.67 126 P **P 09 04 16.3 -0.9**
baz=327
BNM Barren Site 28.74 125 *e*P **P 09 04 16.7 -1.2**
C40A Isle Royale Na 28.85 85 PFAKE 09 04 30.0 +11
C40A LR LR
comp=Z,3973µm,19.0s
C40A Isle Royale Na 28.85 85 P **P 09 04 15.9 -2.6**
baz=302
E39A Mellen 28.89 89 P **P 09 04 15.9 -3.0**
baz=305,SNR=14
H38A Maiden Rock 28.89 94 P **P 09 04 16.3 -2.6**
baz=307,SNR=12
F39A Loretta 28.94 90 P **P 09 04 16.8 -2.6**
baz=305
G39A Holcombe 29.16 92 P **P 09 04 19.0 -2.3**
baz=306,SNR=14
GTO Geraldton 29.16 81 P **P 09 04 20.5 -0.8**
E40A Wakefield 29.23 89 P **P 09 04 19.6 -2.3**
baz=304
F40A Park Falls 29.40 90 P **P 09 04 21.4 -2.0**
baz=305,SNR=9.7
H39A Augusta 29.46 93 P **P 09 04 21.4 -2.6**
baz=307,SNR=12
BILL Bilibino 29.46 319 PFAKE 09 04 30.0 +6.3
BILL LR LR
comp=Z,3332µm,19.0s
BILL Bilibino 29.46 319 *ce*P **P 09 04 22.9 -0.8**
BILL *e*PPP PPP 09 05 22.8
BILL *e* 09 07 31.8
BILL *e*S **S 09 09 15.9 -2.3**
BILL *e*SS **SnSn 09 10 41.9 -2.5**
BILL pmax pmax
comp=Z,373nm,2.5s
BILL MLR MLR
comp=Z,1646µm,15.0s
VIMO Victor Mine 29.54 73 P **P 09 04 23.0 -1.6**
121A Cookes Peak, D 29.57 129 P **P 09 04 21.6 -3.7**
baz=329,SNR=36
SMY Shemya 29.61 287 *e*P **P 09 04 22.4 -2.7**
comp=Z,2µm,1.6s
SMY LR LR
comp=Z,1982µm,22.0s
SMY Shemya 29.61 287 *e*P **P 09 04 22.4 -2.7**
SMY pmax pmax
comp=Z,2µm,1.6s
SMY MLR MLR
comp=Z,1982µm,22.0s
D41A Chassel 29.65 86 *e*P **P 09 04 22.5 -3.1**
comp=Z,1µm,1.1s
D41A LR LR
comp=Z,1816µm,20.0s
D41A Chassel 29.65 86 P **P 09 04 23.0 -2.7**
baz=304,SNR=11
G40A Rib Lake 29.73 91 *e*P **P 09 04 24.1 -2.2**
comp=Z,1µm,1.8s
G40A LR LR
comp=Z,3128µm,19.0s
G40A Rib Lake 29.73 91 P **P 09 04 23.7 -2.6**
baz=306,SNR=6.4
E41A Kenton 29.75 88 P **P 09 04 24.2 -2.3**
baz=304,SNR=6.6
I39A Houston 29.82 94 *e*P **P 09 04 24.7 -2.4**
comp=Z,350nm,0.9s
I39A LR LR
comp=Z,2640µm,18.0s
I39A Houston 29.82 94 P **P 09 04 23.9 -3.2**
baz=308,SNR=7.9
COWI Conover 29.86 89 *e*P **P 09 04 28.2 +0.7**
comp=Z,747nm,1.6s
COWI LR LR
comp=Z,2698µm,19.0s
319A Douglas 29.91 132 *e*P **P 09 04 26.8 -1.4**
comp=Z,4µm,1.8s
319A LR LR
comp=Z,444µm,19.0s
H40A Chili 30.00 92 P **P 09 04 26.2 -2.6**
baz=307,SNR=14
J39A Decorah 30.04 95 P **P 09 04 26.5 -2.6**
baz=309,SNR=9.8
F41A Three Lakes 30.08 89 *e*P **P 09 04 30.9 +1.4**
comp=Z,532nm,1.5s
F41A LR LR
comp=Z,2282µm,19.0s
F41A Three Lakes 30.08 89 P **P 09 04 27.7 -1.8**
baz=306
SCIA State Center 30.09 99 *e*P **P 09 04 28.9 -0.6**
comp=Z,429nm,1.3s
SCIA LR LR
comp=Z,2968µm,20.0s
SCIA State Center 30.09 99 P **P 09 04 27.0 -2.5**
baz=311
KSU1 Kansas State U 30.10 106 *e*P **P 09 04 28.2 -1.5**
comp=Z,658nm,1.4s
KSU1 LR LR
comp=Z,1812µm,20.0s
KSU1 Kansas State U 30.10 106 P **P 09 04 28.2 -1.5**
baz=316,SNR=39
I40A Norwalk 30.31 93 P **P 09 04 29.5 -2.0**
baz=308,SNR=8.1
K39A Oelwein 30.33 96 P **P 09 04 29.8 -1.9**
baz=310,SNR=9.1
G41A Antigo 30.34 90 P **P 09 04 29.8 -2.0**
baz=306,SNR=8.4
E42A Champion 30.37 87 P **P 09 04 30.7 -1.4**
baz=305,SNR=9.2
H41A Junction City 30.43 91 *e*P **P 09 04 33.2 +0.7**
comp=Z,380nm,1.3s
H41A LR LR
comp=Z,3512µm,19.0s
H41A Junction City 30.43 91 P **P 09 04 30.9 -1.6**
baz=307,SNR=8.5
J40A Soldiers Grove 30.55 94 P **P 09 04 32.3 -1.4**
baz=309,SNR=9.5
AMTX Amarillo 30.56 118 *e*P **P 09 04 32.8 -1.1**
comp=Z,2µm,1.5s
AMTX LR LR
comp=Z,1604µm,22.0s
AMTX Amarillo 30.56 118 P **P 09 04 31.9 -2.0**
baz=322
F42A Maple Grove Fa 30.63 88 P **P 09 04 32.6 -1.7**
baz=306
L39A Vinton 30.64 97 P **P 09 04 32.5 -1.9**
baz=311,SNR=8.2
I41A Arkdale 30.64 92 *e*P **P 09 04 34.4 0.0**
comp=Z,1µm,1.6s
I41A LR LR
comp=Z,3587µm,19.0s
I41A Arkdale 30.64 92 P **P 09 04 32.1 -2.3**
baz=308,SNR=7.4
MSTX Muleshoe 30.74 120 *e*P **P 09 04 32.1 -3.5**
comp=Z,1µm,1.6s
MSTX LR LR
comp=Z,1128µm,21.0s
MSTX Muleshoe 30.74 120 P **P 09 04 33.6 -2.0**
baz=324,SNR=15
K40A Colesburg 30.76 96 P **P 09 04 32.9 -2.6**
baz=310,SNR=12
G42A Mountain 30.76 89 *e*P **P 09 04 36.3 +0.9**
comp=Z,697nm,1.4s
G42A LR LR
comp=Z,2544µm,19.0s
G42A Mountain 30.76 89 P **P 09 04 32.8 -2.7**
baz=306,SNR=9.2
U32A Winter Ranch, 30.80 113 PFAKE 09 04 50.0 +14
U32A LR LR
comp=Z,1049µm,19.0s
E43A Lone Tree Farm 30.93 86 *e*P **P 09 04 37.0 +0.1**
comp=Z,2µm,2.0s
E43A LR LR
comp=Z,1887µm,18.0s
E43A Lone Tree Farm 30.93 86 P **P 09 04 33.1 -3.9**
baz=305,SNR=8.2
M39A Webster 30.96 98 P **P 09 04 35.0 -2.2**
baz=312,SNR=10
J41A Loganville 30.98 94 P **P 09 04 34.5 -3.0**
baz=309,SNR=11
L40A Anamosa 31.12 97 *e*P **P 09 04 36.3 -2.3**
comp=Z,442nm,1.1s
L40A LR LR
comp=Z,2649µm,19.0s
L40A Anamosa 31.12 97 P **P 09 04 36.1 -2.6**
baz=311,SNR=11
JFWS Jewell Farm 31.13 94 *e*P **P 09 04 35.8 -3.0**
comp=Z,444nm,1.1s
JFWS LR LR
comp=Z,2913µm,18.0s
JFWS Jewell Farm 31.13 94 *e*P **P 09 04 35.8 -3.0**
JFWS pmax pmax
comp=Z,444nm,1.1s
JFWS MLR MLR
comp=Z,2913µm,18.0s
JFWS Jewell Farm 31.13 94 P **P 09 04 36.1 -2.6**
baz=309,SNR=7.1
H42A Shiocton 31.13 91 *e*P **P 09 04 37.3 -1.4**
comp=Z,536nm,1.3s
H42A LR LR
comp=Z,2980µm,18.0s
H42A Shiocton 31.13 91 P **P 09 04 35.1 -3.6**
baz=307,SNR=7.7
F43A Flat Rock, Esc 31.14 87 P **P 09 04 35.2 -3.5**
baz=306,SNR=9.4
G43A Wallace 31.18 89 *e*P **P 09 04 39.0 -0.1**
comp=Z,550nm,1.3s
G43A LR LR
comp=Z,2796µm,20.0s
G43A Wallace 31.18 89 P **P 09 04 36.8 -2.3**
baz=306
I42A Draeger Farm, 31.29 92 *e*P **P 09 04 39.5 -0.7**
comp=Z,836nm,1.4s
I42A LR LR
comp=Z,3234µm,19.0s
I42A Draeger Farm, 31.29 92 P **P 09 04 37.2 -2.9**
baz=308,SNR=8.2
K41A Shullsburg 31.29 95 P **P 09 04 37.6 -2.6**
baz=310,SNR=7.8
HSIG 31.30 137 *e*P **P 09 04 40.1 -0.3**
comp=Z,2µm,1.8s
HSIG LR LR
comp=Z,673µm,18.0s
MNTX Cornudas Mount 31.36 126 *e*P **P 09 04 40.2 -0.7**
comp=Z,1µm,1.8s
MNTX LR LR
comp=Z,675µm,20.0s
MNTX Cornudas Mount 31.36 126 P **P 09 04 38.8 -2.0**
baz=328,SNR=98
M40A Post Highland 31.38 98 P **P 09 04 38.1 -2.8**
baz=312,SNR=9.7
E44A Grand Marais A 31.40 85 *e*P **P 09 04 41.5 +0.3**
comp=Z,2µm,1.6s
E44A LR LR
comp=Z,2137µm,20.0s
E44A Grand Marais A 31.40 85 P **P 09 04 38.7 -2.4**
baz=304
GDL2 Guadalupe Moun 31.42 125 *e*P **P 09 04 40.5 -1.0**
F44A Big Bay de Noc 31.48 87 P **P 09 04 39.4 -2.4**
baz=305,SNR=8.5
J42A Columbus 31.52 93 P **P 09 04 39.3 -2.9**
baz=309,SNR=7.8
L41A Preston 31.52 96 P **P 09 04 39.3 -2.9**
baz=310,SNR=7.7
H43A Windswept, Lux 31.59 90 *e*P **P 09 04 43.7 +0.9**
comp=Z,561nm,1.4s
H43A LR LR
comp=Z,2453µm,18.0s
H43A Windswept, Lux 31.59 90 P **P 09 04 40.5 -2.3**
baz=307
TULEG Thule 31.62 24 *e*P **P 09 04 41.7 -1.0**
comp=Z,1µm,1.3s
TULEG LR LR
comp=Z,5471µm,19.0s
N40A Mertquake, Sal 31.68 99 P **P 09 04 41.7 -1.9**
baz=312
K42A Prairie Point, 31.73 94 P **P 09 04 41.4 -2.6**
baz=310
I43A Langenfeld Bro 31.73 91 P **P 09 04 41.7 -2.3**
baz=308,SNR=10.0
KAPO Kapuskasing 31.82 78 P **P 09 04 43.9 -0.9**
CLRN Clyde River 31.83 36 P **P 09 04 43.0 -1.6**
J43A Natural Harves 31.89 92 P **P 09 04 43.4 -2.0**
baz=309,SNR=8.5
M41A Milan 31.95 97 P **P 09 04 43.7 -2.3**
baz=311,SNR=10
E45A Wooded Hills, 31.98 85 P **P 09 04 44.1 -2.1**
baz=305
L42A Oliver, Polo 32.04 95 *e*P **P 09 04 45.5 -1.2**
comp=Z,730nm,1.3s
L42A LR LR
comp=Z,2607µm,20.0s
L42A Oliver, Polo 32.04 95 P **P 09 04 45.1 -1.6**
baz=310,SNR=14
WMOK Wichita Mounta 32.17 115 *e*P **P 09 04 46.3 -1.7**
comp=Z,1µm,1.5s
WMOK LR LR
comp=Z,802µm,21.0s

WMOK **Wichita Mounta** 32.17 115 eP P 09 04 46.3 -1.7
WMOK pmax pmax
comp=Z,1µm,1.5s
WMOK MLR MLR
comp=Z,802µm,21.0s
WMOK Wichita Mounta 32.17 115 P P 09 04 45.7 -2.3
baz=321,SNR=145
F45A CMU Biological 32.17 86 P P 09 04 46.1 -1.7
baz=306,SNR=8.7
N41A Harden Midland 32.21 98 eP P 09 04 47.5 -0.8
comp=Z,610nm,1.0s
N41A LR LR
comp=Z,2803µm,20.0s
N41A Harden Midland 32.21 98 P P 09 04 45.4 -2.8
baz=312,SNR=10
D46A Sault St. Mari 32.33 83 P P 09 04 46.8 -2.4
baz=304
M42A Sheffield 32.34 96 P P 09 04 46.3 -3.2
baz=311
SRIG Santa Rosalia 32.34 140 eP P 09 04 51.0 +1.4
comp=Z,1µm,1.4s
SRIG LR LR
comp=Z,515µm,20.0s
K43A Burlington 32.36 93 eP P 09 04 48.7 -0.8
comp=Z,845nm,1.4s
K43A LR LR
comp=Z,3207µm,19.0s
K43A Burlington 32.36 93 P P 09 04 46.2 -3.3
baz=310
L43A Garden Prairie 32.45 94 P P 09 04 46.8 -3.6
baz=310,SNR=7.4
G45A Suttons Bay 32.46 87 P P 09 04 48.7 -1.7
baz=307
E46A Sault Ste Mari 32.47 84 P P 09 04 48.4 -2.1
baz=305
H45A Beulah 32.49 88 P P 09 04 47.3 -3.4
baz=307
F46A Macinaw City C 32.55 86 P P 09 04 48.8 -2.4
baz=306,SNR=11
O41A Passleys Farm, 32.60 99 P P 09 04 49.1 -2.6
baz=313,SNR=31
N42A Yates City 32.60 97 P P 09 04 48.1 -3.6
baz=312,SNR=8.3
I45A Fountain 32.73 89 P P 09 04 50.4 -2.4
baz=308
D47A Chapleau 32.76 83 P P 09 04 50.9 -2.2
baz=304
P41A Barry, Barry 32.79 100 P P 09 04 50.5 -2.8
baz=313,SNR=46
M43A Waltham Townsh 32.81 95 P P 09 04 51.5 -2.0
baz=311
TUL1 Leonard 32.86 110 eP P 09 04 51.9 -2.1
comp=Z,311nm,0.9s
TUL1 LR LR
comp=Z,1090µm,21.0s
TUL1 Leonard 32.86 110 P P 09 04 51.6 -2.4
baz=319,SNR=51
L44A Lake County Fo 32.93 94 P P 09 04 52.5 -2.0
baz=310
O42A Bath 32.99 98 P P 09 04 53.5 -1.6
baz=313,SNR=12
E47A Iron Bridge 33.00 84 P P 09 04 53.0 -2.2
baz=305
J45A Montague 33.01 90 P P 09 04 52.9 -2.4
baz=309
N43A Stutzman Famil 33.02 96 P P 09 04 54.8 -0.5
baz=312
H46A Fife Lake 33.02 88 P P 09 04 53.9 -1.4
baz=307,SNR=18
GLMI Grayling 33.19 87 eP P 09 04 57.7 +0.9
comp=Z,968nm,1.1s
GLMI Grayling 33.19 87 P P 09 04 56.3 -0.5
baz=307,SNR=11
Q41A Truxton 33.19 101 P P 09 04 54.6 -2.2
baz=314,SNR=62
FRB Frobisher Bay 33.20 48 P P 09 04 55.7 -1.0
FRB pmax pmax
comp=Z,500nm,1.2s
HDIL Hopedale 33.20 97 eP P 09 04 55.4 -1.6
comp=Z,673nm,1.1s
HDIL LR LR
comp=Z,2033µm,20.0s
HDIL Hopedale 33.20 97 P P 09 04 54.6 -2.3
baz=312,SNR=9.7
I46A Reed City 33.24 89 P P 09 04 55.2 -2.1
baz=308,SNR=8.3
P42A Winchester 33.26 99 eP P 09 04 54.6 -2.8
comp=Z,1µm,1.9s
P42A LR LR
comp=Z,2987µm,18.0s
P42A Winchester 33.26 99 P P 09 04 55.8 -1.7
baz=313,SNR=25
M44A Midewin, Midew 33.37 95 eP P 09 04 57.6 -0.7
comp=Z,767nm,1.3s
M44A LR LR
comp=Z,2104µm,21.0s
M44A Midewin, Midew 33.37 95 P P 09 04 55.1 -3.3
baz=311,SNR=12
O43A Sugar Creek Fa 33.37 97 P P 09 04 56.1 -2.3
baz=312
ABTX Abilene, Hawle 33.38 118 eP P 09 04 56.2 -2.4
comp=Z,1µm,1.8s
ABTX LR LR
comp=Z,1844µm,21.0s
ABTX Abilene, Hawle 33.38 118 P P 09 04 57.0 -1.7
baz=324,SNR=21
D48A Paudash Townsh 33.43 81 P P 09 04 56.4 -2.5
baz=304,SNR=11
J46A Howard City 33.49 90 P P 09 04 57.6 -1.8
baz=309,SNR=9.3
H47A Mio 33.56 87 P P 09 04 58.1 -1.9
baz=307,SNR=9.1
R41A Rosebud 33.57 102 P P 09 04 57.3 -2.8
baz=315,SNR=108
HHAR Hobbs 33.59 107 eP P 09 04 57.9 -2.5
comp=Z,1µm,1.6s
HHAR LR LR
comp=Z,1466µm,22.0s
Q42A Golden Eagle 33.61 100 P P 09 04 58.3 -2.2
baz=314,SNR=94
E48A Lockeyer 33.62 83 P P 09 04 58.3 -2.2
baz=305,SNR=15
P43A Skaggs, Pawnee 33.69 98 P P 09 04 58.6 -2.6
baz=313,SNR=11
N44A Piper City 33.70 96 P P 09 04 59.6 -1.7
baz=312,SNR=8.8
I47A Gladwin 33.73 88 P P 09 05 00.3 -1.2
baz=308,SNR=10
F48A Evansville 33.74 84 P P 09 04 60.0 -1.6
baz=306
CCM Cathedral Cave 33.81 102 eP P 09 04 59.0 -3.3
comp=Z,3µm,1.8s
CCM LR LR
comp=Z,1328µm,21.0s
CCM Cathedral Cave 33.81 102 eP P 09 04 59.0 -3.3
CCM pmax pmax
comp=Z,3µm,1.8s
CCM MLR MLR
comp=Z,1328µm,21.0s
CCM Cathedral Cave 33.81 102 P P 09 04 58.6 -3.7
baz=315
M45A Boilermakers S 33.82 94 P P 09 04 60.0 -2.4
baz=311
K46A Dorr 33.83 91 P P 09 04 59.1 -3.3
baz=309,SNR=7.2
S41A Jillco Farms, 33.86 103 P P 09 05 00.2 -2.5
baz=316,SNR=106
KILO Kirkland Lake 33.88 78 P P 09 05 02.6 -0.2
R42A Luebbering 33.91 101 P P 09 05 00.5 -2.6
baz=315,SNR=32
O44A Mansfield 33.94 97 P P 09 05 00.8 -2.6
baz=312,SNR=10
L46A Eue Claire 33.96 92 P P 09 05 00.5 -3.0
baz=310,SNR=6.3
SLM Saint Louis 33.97 100 eP P 09 05 02.5 -1.1
comp=Z,511nm,1.3s
SLM LR LR
comp=Z,2840µm,19.0s
SLM Saint Louis 33.97 100 eP P 09 05 02.5 -1.1
SLM pmax pmax
comp=Z,511nm,1.3s
SLM MLR MLR
comp=Z,2840µm,19.0s
H48A Harrisville 34.00 86 P P 09 05 02.0 -1.9
baz=307
N45A Kentland 34.02 95 P P 09 05 01.7 -2.3
baz=312,SNR=6.0
J47A Sunmer 34.03 89 P P 09 05 02.3 -1.8
baz=309
Q43A New Douglas 34.06 100 P P 09 05 02.2 -2.3
baz=314,SNR=64
I48A Sherman Twp 34.09 87 P P 09 05 01.9 -2.8
baz=308
F49A Sandfield 34.10 84 P P 09 05 02.6 -2.2
baz=306,SNR=8.3
U40A Yellville 34.14 106 P P 09 05 02.6 -2.5
baz=317,SNR=101
LTX Lajitas 34.14 126 eP P 09 05 04.8 -0.5
LTX Lajitas 34.14 126 eP P 09 05 04.8 -0.5
TX31 Lajitas Ar. Si 34.14 126 eP P 09 05 03.4 -2.0
TXAR Lajitas Array 34.14 126 P P 09 05 04.8 -0.5
comp=Z,5.3nm,0.7s,baz=329,slow=6.6,SNR=56
TXAR LR LR 09 20 26.6
comp=Z,446µm,18.2s,baz=0.0,slow=39
T41A Mountain View 34.24 104 P P 09 05 03.5 -2.5
baz=316,SNR=51
S42A Caledonia 34.27 102 P P 09 05 03.3 -2.9
baz=315,SNR=58
K47A Vermontville 34.29 90 P P 09 05 03.9 -2.4
baz=309,SNR=7.0
O45A Potomac 34.30 96 P P 09 05 04.1 -2.3
baz=312,SNR=10
M46A Old House Fiel 34.32 93 eP P 09 05 06.8 +0.1
comp=Z,1µm,1.5s
M46A LR LR
comp=Z,3402µm,19.0s
M46A Old House Fiel 34.32 93 P P 09 05 04.6 -2.1
baz=311,SNR=9.8
FVM French Village 34.32 101 PFAKE
FVM LR LR 09 05 20.0 +13
comp=Z,2120µm,18.0s
R43A Red Bud 34.40 101 P P 09 05 04.5 -2.9
baz=315,SNR=62
N46A Monticello 34.44 94 P P 09 05 05.9 -1.8
baz=312,SNR=9.3
E50A Wahnapitae 34.46 82 P P 09 05 05.7 -2.2
baz=305
Q44A Meyer Farm, Va 34.48 99 eP P 09 05 04.8 -3.3
comp=Z,418nm,1.4s
Q44A LR LR
comp=Z,2739µm,20.0s
Q44A Meyer Farm, Va 34.48 99 P P 09 05 05.1 -2.9
baz=314
W39A Magazine 34.48 108 eP P 09 05 05.8 -2.3
comp=Z,1µm,1.5s
W39A LR LR
comp=Z,1385µm,18.0s
W39A Magazine 34.48 108 P P 09 05 05.7 -2.4
baz=319,SNR=58
SFIN Lafayette 34.57 95 eP P 09 05 07.7 -1.2
comp=Z,909nm,1.6s
SFIN LR LR
comp=Z,2567µm,18.0s
SFIN Lafayette 34.57 95 P P 09 05 05.8 -3.0
baz=312,SNR=9.0
J48A Bridge Port 34.59 88 P P 09 05 10.5 +1.5
baz=309
L47A Sherwood 34.61 91 P P 09 05 06.1 -3.1
baz=310,SNR=11
T42A Van Buren 34.62 103 eP P 09 05 05.3 -4.0
comp=Z,248nm,1.1s
T42A LR LR
comp=Z,250µm,21.0s
T42A Van Buren 34.62 103 P P 09 05 06.5 -2.8
baz=316,SNR=62
KULLO Kullorsuaq 34.64 27 i P P 09 05 07.3 -1.7
KULLO Kullorsuaq 34.64 27 i P P 09 05 07.3 -1.7
U41A Viola 34.66 105 P P 09 05 06.6 -3.1
baz=317,SNR=46
K48A Perry 34.71 89 P P 09 05 07.2 -2.8
baz=309,SNR=9.7
I49A Point Hope 34.74 87 P P 09 05 07.5 -2.8
baz=308
M47A Cromwell 34.77 93 P P 09 05 07.8 -2.7
baz=311,SNR=7.4
P45A Graceland, Par 34.77 97 eP P 09 05 09.2 -1.4
comp=Z,1µm,1.4s
P45A LR LR
comp=Z,2627µm,19.0s
P45A Graceland, Par 34.77 97 P P 09 05 08.0 -2.6
baz=313,SNR=47
S43A Fulton Ridge, 34.81 102 P P 09 05 07.8 -3.2
baz=316,SNR=120
D51A Lot 18 Range I 34.86 80 P P 09 05 09.0 -2.2
baz=305,SNR=14
J49A Marlette 34.92 88 P P 09 05 08.7 -3.1
baz=309,SNR=8.8
V41A Mountainview 34.94 106 P P 09 05 09.0 -3.1
baz=318,SNR=172
Q45A Warren Harvey, 34.97 98 P P 09 05 09.3 -3.0
baz=314,SNR=43
WHTX Lake Whitney, 35.00 116 eP P 09 05 10.9 -1.7
comp=Z,2µm,1.6s
WHTX LR LR
comp=Z,724µm,19.0s
WHTX Lake Whitney, 35.00 116 P P 09 05 10.4 -2.3
baz=323,SNR=27
P46A Rosedale 35.02 96 P P 09 05 08.9 -3.8
baz=313,SNR=8.3
U42A Revenden 35.03 104 P P 09 05 09.2 -3.7
baz=317,SNR=72
T43A Greenville 35.04 102 P P 09 05 09.0 -3.9
baz=316,SNR=116
JCT Junction City 35.04 120 eP P 09 05 11.3 -1.7
comp=Z,978nm,1.8s
JCT LR LR
comp=Z,739µm,22.0s
JCT Junction City 35.04 120 P P 09 05 10.8 -2.2
baz=326,SNR=14
N47A Urbana 35.04 93 P P 09 05 09.5 -3.4
baz=311,SNR=10
L48A N Adams 35.07 91 P P 09 05 10.1 -3.1
baz=310,SNR=22
MIAR Mount Ida 35.08 109 eP P 09 05 10.2 -3.0
comp=Z,363nm,0.9s
MIAR LR LR
comp=Z,1147µm,21.0s
MIAR Mount Ida 35.08 109 eP P 09 05 10.3 -3.0
MIAR pmax pmax
comp=Z,363nm,0.9s
MIAR MLR MLR
comp=Z,1147µm,21.0s
MIAR Mount Ida 35.08 109 P P 09 05 10.3 -3.0
baz=319,SNR=126
K49A Clarkson 35.10 89 P P 09 05 09.1 -4.3
baz=309,SNR=7.7
E51A G1948 Merrick 35.11 81 P P 09 05 10.2 -3.2
baz=305,SNR=8.9
OLIL Olney 35.11 98 eP P 09 05 11.0 -2.5
comp=Z,3µm,1.8s
OLIL LR LR
comp=Z,2522µm,19.0s
S44A Carbondale 35.18 101 P P 09 05 11.0 -3.2
baz=315,SNR=48
SIUC Southern Illin 35.19 101 eP P 09 05 11.5 -2.7
comp=Z,2µm,2.0s
SIUC LR LR
comp=Z,2716µm,19.0s
O47A Sheridan 35.19 95 P P 09 05 11.2 -3.0
baz=312,SNR=7.2
M48A Edgerton 35.21 92 eP P 09 05 12.1 -2.2
comp=Z,2µm,1.9s
M48A LR LR
comp=Z,2491µm,19.0s
M48A Edgerton 35.21 92 P P 09 05 11.0 -3.3
baz=311
F51A Arnstein 35.22 82 P P 09 05 11.2 -3.2
baz=306
WHAR Wooly Hollow 35.23 107 eP P 09 05 10.8 -3.7
comp=Z,405nm,1.3s
WHAR LR LR
comp=Z,2056µm,18.0s
AAM Ann Arbor 35.29 90 eP P 09 05 16.1 +1.1
comp=Z,2µm,1.8s
AAM LR LR
comp=Z,2285µm,18.0s
AAM Ann Arbor 35.29 90 eP P 09 05 16.1 +1.1
AAM pmax pmax
comp=Z,2µm,1.8s
AAM MLR MLR
comp=Z,2285µm,18.0s
AAM Ann Arbor 35.29 90 P P 09 05 12.0 -3.0
baz=310
HPIG 35.31 131 eP P 09 05 15.8 +0.2
comp=Z,1µm,1.8s
HPIG LR LR
comp=Z,691µm,18.0s
R45A Skylar, Fairfi 35.31 99 P P 09 05 12.1 -3.2
baz=314,SNR=39
Q46A CEJHS Indians, 35.34 97 P P 09 05 12.5 -2.9
baz=314
W41B Gary Mavity, V 35.34 107 eP P 09 05 13.7 -1.8
comp=Z,303nm,1.4s
W41B LR LR
comp=Z,2061µm,18.0s
W41B Gary Mavity, V 35.34 107 P P 09 05 12.7 -2.8
baz=318,SNR=28
V42A Cord 35.35 105 P P 09 05 12.8 -2.8
baz=318,SNR=25
L49A Milan 35.35 90 P P 09 05 11.8 -3.8
baz=310,SNR=14
T44A Benton 35.42 102 P P 09 05 13.1 -3.1
baz=316,SNR=33
N48A Decatur 35.44 93 P P 09 05 13.2 -3.1
baz=311,SNR=12
D52A ZEK Kipawa Sen 35.46 79 P P 09 05 14.2 -2.3
baz=305
U43A Rector 35.48 103 P P 09 05 13.6 -3.1
baz=317,SNR=27
X40A Basin Creek Fa 35.53 108 eP P 09 05 16.8 -0.4
comp=Z,522nm,1.7s
X40A LR LR
comp=Z,1343µm,18.0s
X40A Basin Creek Fa 35.53 108 P P 09 05 14.4 -2.7
baz=319,SNR=24
S45A Carrier Mills 35.58 100 P P 09 05 14.0 -3.5
baz=315,SNR=8.0
K50A Casco 35.58 88 P P 09 05 14.4 -3.1
baz=309,SNR=14
UALR University of 35.58 107 eP P 09 05 15.1 -2.5
comp=Z,591nm,1.4s
UALR LR LR
comp=Z,1984µm,18.0s
F52A Sundridge 35.63 82 P P 09 05 15.7 -2.2
baz=306,SNR=12
PARMO Parma 35.64 102 eP P 09 05 15.3 -2.7
comp=Z,662nm,1.0s
PARMO LR LR
comp=Z,1456µm,20.0s
M49A Liberty Center 35.64 91 P P 09 05 14.6 -3.4
baz=311,SNR=11
P47A Martinsville 35.64 96 P P 09 05 15.4 -2.7
baz=313,SNR=32
W42A Bald Knob 35.66 106 P P 09 05 15.5 -2.8
baz=318
X41A Kaden, Bauxite 35.70 108 P P 09 05 14.8 -3.8
baz=319,SNR=29
BLO Bloomington 35.71 96 eP P 09 05 16.2 -2.5
comp=Z,2µm,1.9s
BLO LR LR
comp=Z,2338µm,20.0s
BLO Bloomington 35.71 96 eP P 09 05 16.2 -2.5
BLO pmax pmax
comp=Z,2µm,1.9s
BLO MLR MLR
comp=Z,2338µm,20.0s
E52A Mattawa 35.72 81 P P 09 05 16.1 -2.6
baz=306,SNR=16
O48A Farmland 35.76 94 P P 09 05 15.2 -3.9
baz=312,SNR=22
U44A Portageville 35.79 103 P P 09 05 16.1 -3.2
baz=316,SNR=9.0
R46A Gibon Southern 35.81 98 P P 09 05 16.6 -2.9
baz=314,SNR=11
V43A Jonesboro 35.83 104 P P 09 05 16.6 -3.1
baz=317,SNR=13
PVMO Portageville 35.84 103 eP P 09 05 17.0 -2.8
comp=Z,4µm,1.7s
PVMO LR LR
comp=Z,1351µm,21.0s
I51A Listowel 35.86 86 P P 09 05 17.7 -2.2
baz=308,SNR=7.7
N49A Columbus Grove 35.88 92 eP P 09 05 18.3 -1.8
comp=Z,1µm,1.6s
N49A LR LR
comp=Z,2485µm,18.0s
N49A Columbus Grove 35.88 92 P P 09 05 16.7 -3.4
baz=311,SNR=8.8
USIN University of 35.89 99 eP P 09 05 17.4 -2.8
comp=Z,2µm,1.5s
USIN LR LR
comp=Z,2822µm,18.0s
435B Jarrell 35.90 117 eP P 09 05 18.7 -1.7
comp=Z,713nm,1.1s
435B LR LR
comp=Z,1940µm,22.0s
435B Jarrell 35.90 117 P P 09 05 19.0 -1.4
baz=324,SNR=52
Q47A Bedord North L 35.92 96 P P 09 05 17.8 -2.7
baz=314,SNR=64
HBAR Harrisburg 35.94 105 eP P 09 05 19.7 -0.9
comp=Z,322nm,1.2s
HBAR LR LR
comp=Z,1534µm,20.0s
L50A Kingsville 35.94 89 P P 09 05 17.8 -2.8
baz=310,SNR=12
GNAR Gosnell 35.99 103 eP P 09 05 20.6 -0.5
comp=Z,638nm,1.4s
GNAR LR LR
comp=Z,858µm,22.0s
H52A Wyevale 35.99 84 P P 09 05 18.5 -2.5
baz=307
T45A Paducah 36.00 101 eP P 09 05 20.2 -0.9
comp=Z,741nm,1.1s
T45A LR LR
comp=Z,2091µm,20.0s
T45A Paducah 36.00 101 P P 09 05 18.3 -2.9
baz=316
S46A Don Dixon Farm 36.06 99 P P 09 05 18.4 -3.2
baz=315,SNR=30
U44B Burton Farm, H 36.09 102 P P 09 05 18.7 -3.2
baz=317,SNR=59
Y41A Eaglette Beard 36.11 109 P P 09 05 19.7 -2.4
baz=320,SNR=103
P48A Milroy 36.14 95 P P 09 05 17.6 -4.7
baz=313,SNR=39
X42A Stuttgart 36.14 107 P P 09 05 18.6 -3.8
baz=319
V44A Blytheville 36.16 104 P P 09 05 19.4 -3.1
baz=317
GLAT Glass 36.18 102 eP P 09 05 20.2 -2.5
comp=Z,4µm,2.0s
GLAT LR LR
comp=Z,1099µm,21.0s
I52A Shelburne 36.18 85 P P 09 05 19.2 -3.5
baz=308
M50A Fremont 36.22 90 eP P 09 05 23.2 +0.2
comp=Z,556nm,1.3s
M50A LR LR
comp=Z,2505µm,19.0s
M50A Fremont 36.22 90 P P 09 05 19.9 -3.1
baz=311,SNR=6.3
E53A Dumoine, Ponti 36.23 80 P P 09 05 20.8 -2.3
baz=306
W43A Forest City 36.25 105 P P 09 05 20.2 -3.1
baz=318
K51A Iona Station 36.25 87 P P 09 05 20.8 -2.5
baz=309,SNR=8.6
SEY Seymchan 36.26 312 LR LR 09 21 05.8
comp=Z,1638µm,18.7s,baz=61,slow=38
SEY Seymchan 36.26 312 ceP P 09 05 22.7 -0.4
O49A Covington 36.27 93 eP P 09 05 21.5 -2.0
comp=Z,760nm,1.7s
O49A LR LR
comp=Z,3043µm,19.0s
O49A Covington 36.27 93 P P 09 05 20.4 -3.1
baz=312,SNR=9.3
R47A Wooly Knot Far 36.31 97 P P 09 05 20.8 -2.9
baz=314,SNR=70
Q48A North Vernon 36.33 96 P P 09 05 21.2 -2.7
baz=314,SNR=22
SADO Sadowa 36.34 83 eP P 09 05 25.0 +1.0
comp=Z,978nm,1.4s
SADO LR LR
comp=Z,1511µm,19.0s
UTMT University of 36.36 102 eP P 09 05 21.7 -2.6
comp=Z,1µm,1.0s
HALT Halls 36.41 103 eP P 09 05 21.5 -3.2
comp=Z,3µm,1.6s
HALT LR LR
comp=Z,912µm,22.0s
T46A Princeton 36.41 100 P P 09 05 22.1 -2.6
baz=316,SNR=39
U45A Rockin P Farm, 36.42 102 P P 09 05 22.2 -2.6

baz=316,SNR=38
G53A Haliburton 36.43 82 P P 09 05 22.4 -2.3
baz=307,SNR=17
E54A Lac Daplat, Po 36.46 79 P P 09 05 22.4 -2.6
baz=306
Z41A Richland Creek 36.48 109 eP P 09 05 23.8 -1.5
comp=Z,1µm,1.8s
Z41A LR LR
comp=Z,878µm,19.0s
Z41A Richland Creek 36.48 109 P P 09 05 22.8 -2.4
baz=320,SNR=20
WCI Wyandotte Cave 36.49 97 eP P 09 05 21.4 -3.9
comp=Z,2µm,1.8s
WCI LR LR
comp=Z,2516µm,19.0s
WCI Wyandotte Cave 36.49 97 eP P 09 05 21.4 -3.9
WCI pmax pmax
comp=Z,2µm,1.8s
WCI MLR MLR
comp=Z,2516µm,19.0s
WCI Wyandotte Cave 36.49 97 P P 09 05 21.6 -3.7
baz=314
P49A Miami Univ. Ec 36.49 94 P P 09 05 22.7 -2.7
baz=313,SNR=9.1
SLBS Sierra La Lagu 36.49 140 eP P 09 05 28.9 +3.3
comp=Z,2µm,1.9s
SLBS LR LR
comp=Z,375µm,19.0s
J52A Paris 36.52 86 P P 09 05 22.7 -2.9
baz=309,SNR=7.3
CCAR Cane Creek 36.54 108 eP P 09 05 25.5 -0.2
comp=Z,2µm,1.7s
CCAR LR LR
comp=Z,1655µm,18.0s
N50A Nevada 36.57 91 P P 09 05 23.2 -2.8
baz=311,SNR=9.4
X43A Marvell 36.58 106 eP P 09 05 23.1 -3.0
comp=Z,2µm,1.8s
X43A LR LR
comp=Z,1140µm,22.0s
X43A Marvell 36.58 106 P P 09 05 23.0 -3.0
baz=319,SNR=13
Y42A Garnett, Star 36.59 108 P P 09 05 23.4 -2.8
baz=320,SNR=16
S47A Hartford 36.60 99 P P 09 05 23.0 -3.2
baz=315,SNR=19
R48A Northridge Ran 36.61 97 P P 09 05 23.3 -3.0
baz=314,SNR=16
NATX Nacogdoches 36.64 113 eP P 09 05 25.0 -1.7
comp=Z,864nm,1.4s
NATX LR LR
comp=Z,1154µm,18.0s
NATX Nacogdoches 36.64 113 P P 09 05 24.3 -2.4
baz=322,SNR=23
MET Memphis--Engin 36.65 104 eP P 09 05 23.4 -3.4
comp=Z,1µm,1.4s
MET LR LR
comp=Z,1175µm,20.0s
K52A Tillsonburg 36.67 87 P P 09 05 24.0 -2.8
baz=309,SNR=9.9
W44A Shelby Farms P 36.71 104 P P 09 05 24.4 -2.8
baz=318
O50A Cable 36.71 92 P P 09 05 23.9 -3.4
baz=312,SNR=15
U46A Springville 36.74 101 P P 09 05 24.0 -3.5
baz=316,SNR=27
V45A Humboldt 36.74 103 P P 09 05 24.1 -3.4
baz=317,SNR=12
Q49A Aurora 36.75 95 P P 09 05 23.7 -3.9
baz=313,SNR=10
M51A Elyria 36.76 90 P P 09 05 24.4 -3.1
baz=311,SNR=12
T47A Sharon Grove 36.89 99 eP P 09 05 28.7 -0.1
comp=Z,155nm,1.1s
T47A LR LR
comp=Z,1987µm,20.0s
T47A Sharon Grove 36.89 99 P P 09 05 25.6 -3.2
baz=316,SNR=5.5
N51A Ashland 36.92 90 eP P 09 05 27.8 -1.2
comp=Z,2µm,1.6s
N51A LR LR
comp=Z,2805µm,19.0s
N51A Ashland 36.92 90 P P 09 05 25.6 -3.4
baz=311,SNR=10
Z42A Norrel Spur, H 36.93 108 P P 09 05 26.4 -2.7
baz=320
P50A Jamestown 36.97 93 P P 09 05 25.2 -4.2
baz=313,SNR=26
X44A Crenshaw 36.99 105 P P 09 05 25.8 -3.8
baz=318
Y43A Makayla and Ka 37.00 107 P P 09 05 26.6 -3.1
baz=319,SNR=22
833A Chaparral WMA, 37.02 122 eP P 09 05 30.5 +0.6
comp=Z,1µm,1.4s
833A LR LR
comp=Z,627µm,19.0s
833A Chaparral WMA, 37.02 122 P P 09 05 27.7 -2.1
baz=327,SNR=28
S48A Wiedeman Farm, 37.02 98 P P 09 05 26.9 -3.0
baz=315,SNR=11
ACSO Alum Creek Sta 37.02 92 eP P 09 05 29.3 -0.5
comp=Z,1µm,1.7s
ACSO LR LR
comp=Z,2210µm,19.0s
ACSO Alum Creek Sta 37.02 92 P P 09 05 25.4 -4.4
baz=312,SNR=10
W45A Hickory Valley 37.04 104 P P 09 05 26.5 -3.5
baz=318,SNR=30
R49A Shelbyville 37.08 96 P P 09 05 27.7 -2.7
baz=314,SNR=9.6
WVT Waverly 37.10 101 eP P 09 05 26.4 -4.1
comp=Z,1µm,2.0s
WVT LR LR
comp=Z,2140µm,19.0s
WVT Waverly 37.10 101 eP P 09 05 26.5 -4.1
WVT pmax pmax
comp=Z,1µm,2.0s
WVT MLR MLR
comp=Z,2140µm,19.0s
WVT Waverly 37.10 101 P P 09 05 27.3 -3.2
baz=316
V46A Holladay 37.17 102 P P 09 05 27.6 -3.6
baz=317,SNR=39
U47A Clarksville 37.18 100 P P 09 05 28.6 -2.6
baz=316,SNR=52
T48A Bowling Green 37.21 99 P P 09 05 28.5 -2.9
baz=315,SNR=74
EFO Effingham 37.28 85 P P 09 05 30.9 -1.0
F55A Otter Lake 37.29 80 P P 09 05 28.8 -3.3
baz=307,SNR=8.4
O51A Pataska 37.29 92 P P 09 05 28.7 -3.5
baz=312,SNR=8.9
PLVO Plevna 37.35 81 eP P 09 05 32.8 +0.2
comp=Z,1µm,1.5s
PLVO LR LR
comp=Z,1013µm,19.0s
Z43A Armstrong Fami 37.36 108 P P 09 05 29.7 -3.1
baz=320,SNR=7.3
Y44A Strider, Charl 37.36 106 P P 09 05 30.0 -2.8
baz=319,SNR=43
S49A Springfield 37.37 97 P P 09 05 29.5 -3.3
baz=314,SNR=30
Q50A Georgetown 37.38 94 P P 09 05 30.2 -2.7
baz=313,SNR=8.1
OXF Oxford 37.39 105 eP P 09 05 30.0 -3.1
comp=Z,2µm,1.5s
OXF LR LR
comp=Z,1319µm,20.0s
OXF Oxford 37.39 105 eP P 09 05 30.0 -3.1
OXF pmax pmax
comp=Z,2µm,1.5s
OXF MLR MLR
comp=Z,1319µm,20.0s
OXF Oxford 37.39 105 P P 09 05 30.0 -3.1
baz=318,SNR=65
G55A Calabogie 37.43 81 P P 09 05 30.3 -2.9
baz=307,SNR=25
X45A UM Field Stati 37.47 105 P P 09 05 30.9 -2.8
baz=318,SNR=29
P51A Williamsport 37.48 93 eP P 09 05 31.4 -2.3
comp=Z,284nm,1.3s
P51A LR LR
comp=Z,2408µm,18.0s
P51A Williamsport 37.48 93 P P 09 05 30.4 -3.3
baz=313,SNR=7.7
V47A Nunnelly 37.49 101 P P 09 05 31.3 -2.6
baz=317,SNR=41
ERPA Erie 37.51 87 eP P 09 05 34.2 +0.2
comp=Z,2µm,1.8s
ERPA LR LR
comp=Z,1239µm,19.0s
ERPA Erie 37.51 87 P P 09 05 31.1 -2.9
baz=310
I55A Frankford 37.51 83 P P 09 05 32.0 -1.9
baz=308
W46A Michie 37.51 103 P P 09 05 31.1 -2.9
baz=318,SNR=12
SCHQ Schefferville 37.54 62 P P 09 05 32.9 -1.2
comp=Z,80nm,0.9s,baz=306,slow=13,SNR=15
SCHQ LR LR 09 20 30.1
comp=Z,1154µm,21.3s,baz=304,slow=36
J54A Appleton 37.55 85 P P 09 05 31.7 -2.5
baz=309,SNR=11
U48A Cassie Pea, Po 37.55 99 P P 09 05 31.5 -2.9
baz=316,SNR=58
R50A Paris 37.57 95 P P 09 05 30.8 -3.7
baz=314,SNR=36
H55A Tweed 37.59 82 P P 09 05 32.7 -1.9
baz=308,SNR=12
Q51A Peebles 37.62 94 eP P 09 05 32.2 -2.7
comp=Z,435nm,1.4s
Q51A LR LR
comp=Z,2666µm,19.0s
Q51A Peebles 37.62 94 P P 09 05 32.5 -2.5
baz=313,SNR=8.7
VABQ Val Des Bois 37.66 79 P P 09 05 34.1 -1.2
T49A Edmonton 37.70 98 eP P 09 05 32.8 -2.9
comp=Z,876nm,1.8s
T49A LR LR
comp=Z,2154µm,19.0s
T49A Edmonton 37.70 98 P P 09 05 32.3 -3.4
baz=315,SNR=29
ALLY Alegheny Colle 37.72 88 eP P 09 05 36.5 +0.7
comp=Z,2µm,1.4s
ALLY LR LR
comp=Z,2327µm,18.0s
PET Petropavlovsk 37.73 295 PFAKE 09 05 50.0 +14
PET LR LR
comp=Z,955µm,19.0s
PET Petropavlovsk 37.73 295 *i* P P 09 05 35.6 0.0
PET *e* 09 07 05.8
PET eS S 09 11 27.0 +0.7
PET eSS SnSn 09 14 06.2 +1.2
PET pmax pmax
comp=Z,77µm,13.2s
PET pmax pmax
comp=Z,121µm,20.8s
PET pmax pmax
comp=Z,2µm,1.4s
PET smax smax
comp=N,181µm,11.6s
PET smax smax
comp=N,242µm,15.7s
PET smax smax
comp=E,268µm,16.5s
PET smax smax
comp=E,427µm,20.0s
PET MLR MLR
comp=Z,1068µm,20.0s
OPA Opana 37.74 217 PFAKE 09 05 50.0 +14
OPA LR LR
comp=Z,684µm,21.0s
O52A Adamsville 37.75 91 eP P 09 05 33.0 -3.1
comp=Z,2µm,1.6s
O52A LR LR
comp=Z,2569µm,18.0s
O52A Adamsville 37.75 91 P P 09 05 32.6 -3.5
baz=312,SNR=14
PLAL Pickwick Lake 37.79 103 eP P 09 05 32.8 -3.6
comp=Z,2µm,1.9s
PLAL LR LR
comp=Z,1056µm,20.0s
Y45A Yeager Farm, C 37.80 105 P P 09 05 33.7 -2.8
baz=319,SNR=27
X46A Booneville 37.82 104 P P 09 05 33.8 -2.8
baz=318,SNR=12
W47A Westpoint 37.86 102 P P 09 05 33.5 -3.6
baz=317,SNR=37
N53A Lisbon 37.87 89 P P 09 05 34.2 -2.8
baz=311,SNR=37
P52A Corning 37.91 92 P P 09 05 33.9 -3.5
baz=312
OTT Ottawa 37.91 80 P P 09 05 36.4 -0.9
S50A Richmond 37.94 96 P P 09 05 34.7 -3.1
baz=314,SNR=15
V48A Smith Brothers 37.94 101 eP P 09 05 37.6 -0.1
comp=Z,462nm,1.6s
V48A LR LR
comp=Z,2425µm,19.0s
V48A Smith Brothers 37.94 101 P P 09 05 34.8 -2.9
baz=317,SNR=27
KHLH Kahului Airpor 37.95 214 eP P 09 05 39.8 +1.9
comp=Z,693nm,1.4s
KHLH LR LR
comp=Z,926µm,19.0s
U49A Red Boiling Sp 37.98 99 P P 09 05 35.0 -3.0
baz=316,SNR=31
R51A Hillsboro 37.98 95 P P 09 05 34.9 -3.1
baz=314,SNR=15
KIP Kipapa 37.99 217 eP P 09 05 39.6 +1.5
comp=Z,479nm,1.2s
KIP LR LR
comp=Z,1126µm,21.0s
ILULI Ilulissat 37.99 35 eP P 09 05 39.8 +2.1
comp=Z,427nm,1.2s
ILULI LR LR
comp=Z,2379µm,22.0s
J55A Hilton 38.02 84 P P 09 05 36.0 -2.3
baz=309,SNR=6.8
O53A New Philadelph 38.02 90 P P 09 05 34.9 -3.4
baz=312,SNR=51
HLK Haleakala 38.02 214 eP P 09 05 41.3 +2.5
comp=Z,605nm,1.3s
HLK LR LR
comp=Z,840µm,19.0s
HON Honolulu 38.07 217 eP P 09 05 41.1 +2.2
comp=Z,609nm,1.1s
HON LR LR
comp=Z,1164µm,21.0s
HON Honolulu 38.07 217 eP P 09 05 41.1 +2.2
HON pmax pmax
comp=Z,609nm,1.1s
HON MLR MLR
comp=Z,1164µm,21.0s
M54A Oil Creek Stat 38.08 88 eP P 09 05 38.4 -0.5
comp=Z,3µm,2.0s
M54A LR LR
comp=Z,1173µm,20.0s
M54A Oil Creek Stat 38.08 88 P P 09 05 36.0 -2.9
baz=311,SNR=16
H56A Elgin 38.09 81 P P 09 05 36.8 -2.0
baz=308,SNR=7.6
Z45A Winona 38.09 106 eP P 09 05 37.7 -1.2
comp=Z,892nm,1.4s
Z45A LR LR
comp=Z,1083µm,22.0s
Z45A Winona 38.09 106 P P 09 05 36.1 -2.8
baz=319,SNR=23
T50A Nancy 38.16 97 P P 09 05 36.8 -2.7
baz=315,SNR=58
Y46A Houston 38.17 105 P P 09 05 36.1 -3.5
baz=319,SNR=36
PEA1 Petropavlovsk- 38.17 296 eP P 09 05 39.0 -0.5
PETK Petropavlovsk- 38.17 296 P P 09 05 39.0 -0.5
comp=Z,46nm,0.9s,baz=78,slow=10,SNR=40
K55A Perry 38.22 85 P P 09 05 36.4 -3.6
baz=310,SNR=9.3
144A Alexander Plac 38.25 108 P P 09 05 37.2 -3.0
baz=320,SNR=6.6
X47A Russelville 38.25 103 P P 09 05 37.7 -2.6
baz=318,SNR=16
N54A Moraine State 38.25 88 eP P 09 05 39.5 -0.8
comp=Z,1µm,1.5s
N54A LR LR
comp=Z,2248µm,18.0s
N54A Moraine State 38.25 88 P P 09 05 37.8 -2.5
baz=311,SNR=14
Q52A Bidwell 38.28 93 P P 09 05 37.5 -3.1
baz=313,SNR=9.0
MMNY Mt. Morris Dam 38.31 85 eP P 09 05 40.3 -0.4
comp=Z,1µm,1.5s
W48A Pulaski 38.32 101 P P 09 05 36.9 -3.9
baz=317,SNR=41
MA2 Magadan 38.39 308 LR LR 09 21 44.2
comp=Z,483µm,18.4s,baz=88,slow=37
MA2 Magadan 38.39 308 *e* eP P 09 05 40.7 -0.5
MA2 pmax pmax
comp=Z,428nm,2.5s
MA2 MLR MLR
comp=Z,1225µm,19.0s
KVTX Kingsville 38.40 121 eP P 09 05 48.4 +6.9
comp=Z,1µm,1.6s
KVTX LR LR
comp=Z,680µm,18.0s
P53A Whipple 38.43 91 eP P 09 05 36.8 -5.0
comp=Z,570nm,1.0s
P53A LR LR
comp=Z,2394µm,19.0s
P53A Whipple 38.43 91 P P 09 05 38.7 -3.1
baz=313,SNR=11
S51A Beattyville 38.43 95 eP P 09 05 39.9 -1.9
comp=Z,216nm,1.3s
S51A LR LR
comp=Z,2133µm,18.0s
S51A Beattyville 38.43 95 P P 09 05 38.4 -3.4
baz=314,SNR=9.3
V49A McMinnville 38.44 100 P P 09 05 38.7 -3.2
baz=316,SNR=63
R52A Catlettsburg 38.49 94 P P 09 05 38.2 -4.1
baz=314,SNR=6.1
VBMS Vicksburg 38.51 108 eP P 09 05 37.8 -4.7
comp=Z,3µm,1.8s
VBMS LR LR
comp=Z,875µm,21.0s
VBMS Vicksburg 38.51 108 P P 09 05 40.0 -2.4
baz=320,SNR=24
145A Houston Renfro 38.54 107 P P 09 05 39.6 -3.1
baz=320,SNR=9.4
O54A Avella 38.55 90 P P 09 05 40.2 -2.5
baz=312,SNR=42
244A Avery, Jackson 38.55 108 P P 09 05 41.0 -1.8
baz=321,SNR=62
U50A Jamestown 38.58 98 P P 09 05 40.4 -2.7
baz=316,SNR=80
Z46A Louisville 38.64 105 P P 09 05 40.8 -2.8
baz=319
S52A Salyersville 38.70 95 P P 09 05 40.3 -3.8
baz=314,SNR=7.0
T51A Gray 38.70 97 P P 09 05 41.0 -3.1
baz=315,SNR=40
W49A Belvidere 38.71 101 P P 09 05 40.3 -3.8
baz=317,SNR=28
Y47A UCPARC, Winfie 38.71 104 P P 09 05 40.6 -3.5
baz=318,SNR=36
POHA Pohakuloa 38.74 212 eP P 09 05 45.8 +1.0
comp=Z,994nm,1.5s
POHA LR LR
comp=Z,700µm,21.0s
X48A Hartselle 38.76 102 eP P 09 05 42.2 -2.4
comp=Z,2µm,1.9s
X48A LR LR
comp=Z,1096µm,20.0s
X48A Hartselle 38.76 102 P P 09 05 41.7 -2.9
baz=318,SNR=64
MNQ Manicouagan 38.78 69 P P 09 05 43.7 -0.9
DPQ Saint Jean 38.79 76 P P 09 05 43.7 -1.0
SWET Sewanee 38.82 100 eP P 09 05 42.8 -2.4
comp=Z,762nm,1.7s
SWET LR LR
comp=Z,2385µm,20.0s
HMH Humu'ula Sheep 38.87 212 eP P 09 05 50.5 +4.5
comp=Z,821nm,1.2s
HMH LR LR
comp=Z,701µm,21.0s
DAQ Lac Daran 38.89 73 P P 09 05 44.3 -1.3
HUH Hualalai 38.90 213 eP P 09 05 44.3 -1.9
comp=Z,1µm,1.3s
HUH LR LR
comp=Z,826µm,20.0s
MLH Mauna Loa 38.94 212 eP P 09 05 49.3 +2.8
comp=Z,543nm,1.1s
MLH LR LR
comp=Z,637µm,20.0s
N55A Marion Center 38.95 88 P P 09 05 42.7 -3.5
baz=311,SNR=22
NPOC North of Pu'u 38.95 211 eP P 09 05 48.2 +1.8
comp=Z,330nm,1.0s
NPOC LR LR
comp=Z,774µm,20.0s
JCUZ Jacuzzi 38.96 211 eP P 09 05 48.8 +2.4
comp=Z,1µm,1.7s
JCUZ LR LR
comp=Z,809µm,21.0s
MLOA Mauna Loa Obse 38.96 212 eP P 09 05 48.4 +1.5
comp=Z,896nm,1.1s
MLOA LR LR
comp=Z,699µm,20.0s
V50A Pikeville 38.97 99 P P 09 05 43.4 -3.0
baz=316,SNR=8.3
STCH Steam Cracks 38.97 211 eP P 09 05 49.2 +2.7
comp=Z,448nm,1.3s
STCH LR LR
comp=Z,782µm,21.0s
SBLHI Steaming Bluff 38.97 212 eP P 09 05 48.2 +1.6
comp=Z,2µm,1.8s
SBLHI LR LR
comp=Z,773µm,21.0s
HATHI Halema'uma'u T 38.97 212 PFAKE 09 06 00.0 +13
HATHI LR LR
comp=Z,797µm,21.0s
UWB Uwekahuna B 38.98 212 PFAKE 09 06 00.0 +13
UWB LR LR
comp=Z,747µm,21.0s
BYL Byron's Ledge 38.98 212 PFAKE 09 06 00.0 +13
BYL LR LR
comp=Z,759µm,21.0s
UWE Uwekahuna 38.98 212 PFAKE 09 06 00.0 +13
UWE LR LR
comp=Z,728µm,22.0s
OBL Observatory Le 38.98 212 PFAKE 09 06 00.0 +13
OBL LR LR
comp=Z,658µm,20.0s
NPH North Pit 38.99 212 PFAKE 09 06 00.0 +13
NPH LR LR
comp=Z,663µm,21.0s
146A Union 38.99 106 eP P 09 05 45.3 -1.2
comp=Z,471nm,1.3s
146A LR LR
comp=Z,1510µm,18.0s
146A Union 38.99 106 P P 09 05 44.4 -2.2
baz=320,SNR=10
245A Little AP, Sta 38.99 108 P P 09 05 44.4 -2.1
baz=320,SNR=11
KKO Keanakako`i 39.00 212 PFAKE 09 06 00.0 +13
KKO LR LR
comp=Z,698µm,21.0s
WRMHI West Rim 39.00 212 eP P 09 05 48.1 +1.3
comp=Z,411nm,0.9s
WRMHI LR LR
comp=Z,602µm,20.0s
RIM Rim 39.00 212 eP P 09 05 48.6 +1.7
comp=Z,498nm,1.1s
RIM LR LR
comp=Z,681µm,21.0s
KHLU Kahalu`u 39.01 213 eP P 09 05 49.0 +2.2
comp=Z,1µm,1.5s
KHLU LR LR
comp=Z,631µm,21.0s
PUH Pauahi 39.01 212 eP P 09 05 47.2 +0.4
comp=Z,550nm,1.3s
PUH LR LR
comp=Z,814µm,21.0s
SDHHI Sand Hill 39.01 212 eP P 09 05 50.3 +3.4
comp=Z,2µm,2.0s
SDHHI LR LR
comp=Z,610µm,20.0s
MWH Moku'aweowe 39.02 212 eP P 09 05 47.3 -0.1
comp=Z,864nm,1.3s
MWH LR LR
comp=Z,713µm,20.0s
LONY Lake Ozonia 39.02 80 eP P 09 05 44.1 -2.5
comp=Z,1µm,1.7s
LONY LR LR
comp=Z,1316µm,18.0s
LONY Lake Ozonia 39.02 80 P P 09 05 44.3 -2.4
baz=308
MNTQ Montreal, Queb 39.02 78 P P 09 05 45.3 -1.4
SFJD Kangerlussuaq 39.05 38 eP P 09 05 47.1 +0.5
comp=Z,865nm,1.3s
SFJD LR LR
comp=Z,2875µm,19.0s
SFJD Kangerlussuaq 39.05 38 *i* P P 09 05 48.4 +1.7
SFJD Kangerlussuaq 39.05 38 eP P 09 05 47.1 +0.5
SFJD pmax pmax

comp=Z,865nm,1.3s
SFJD MLR MLR

comp=Z,2875µm,19.0s
SFJD Kangerlussuaq 39.05 38 *e*P **P 09 05 48.3 +1.7**
U51A La Follette 39.08 97 P **P 09 05 44.5 -2.7**
baz=316,SNR=10
AIN Ainahou 39.08 212 *e*P **P 09 05 48.3 +0.8**
comp=Z,1µm,1.3s
AIN LR LR

comp=Z,653µm,20.0s
Y48A Jasper 39.08 103 P **P 09 05 44.4 -2.9**
baz=318,SNR=40
HLP Hilina Pali 39.11 212 *e*P **P 09 05 48.7 +1.0**
comp=Z,1µm,1.4s
HLP LR LR

comp=Z,956µm,20.0s
X49A Woodville 39.11 101 P **P 09 05 44.3 -3.3**
baz=318,SNR=67
Z47A Carrollton 39.11 105 P **P 09 05 45.0 -2.5**
baz=319,SNR=11
O55A Ligonier 39.14 89 P **P 09 05 45.2 -2.6**
baz=312,SNR=19
T52A Hallie 39.15 96 P **P 09 05 44.5 -3.3**
baz=315,SNR=48
BECQ Becancour 39.15 76 P **P 09 05 46.5 -1.2**
W50A Signal Mountai 39.19 100 *e*P **P 09 05 44.6 -3.6**
comp=Z,1µm,1.8s
W50A LR LR

comp=Z,2621µm,19.0s
W50A Signal Mountai 39.19 100 P **P 09 05 45.2 -3.0**
baz=317,SNR=50
MCWV Mont Chateau 39.20 90 *e*P **P 09 05 45.7 -2.5**
comp=Z,493nm,1.3s
MCWV LR LR

comp=Z,1318µm,19.0s
MCWV Mont Chateau 39.20 90 P P 09 05 43.4 -4.8
baz=312,SNR=49
TZTN Tazewell 39.22 97 *e*P **P 09 05 48.4 -0.1**
comp=Z,548nm,1.5s
TZTN LR LR

comp=Z,1937µm,18.0s
TZTN Tazewell 39.22 97 P **P 09 05 44.8 -3.7**
baz=315,SNR=16
KHU Kahuku 39.25 212 *e*P **P 09 05 50.0 +1.0**
comp=Z,3µm,1.8s
KHU LR LR

comp=Z,626µm,20.0s
Z48A Northport 39.27 104 P **P 09 05 45.9 -2.9**
baz=319,SNR=39
V51A Loudon 39.30 98 *e*P **P 09 05 46.2 -2.8**
comp=Z,944nm,1.7s
V51A LR LR

comp=Z,2199µm,22.0s
V51A Loudon 39.30 98 P **P 09 05 46.1 -3.0**
baz=316,SNR=13
P55A Reedsville 39.31 90 P **P 09 05 45.0 -4.2**
baz=313,SNR=40
147A Livingston 39.40 105 *e*P **P 09 05 47.0 -2.9**
comp=Z,2µm,1.8s
147A LR LR

comp=Z,1214µm,21.0s
147A Livingston 39.40 105 P **P 09 05 46.5 -3.4**
baz=320,SNR=44
246A Jackson Lee, B 39.42 107 P **P 09 05 47.7 -2.5**
baz=320
U52A Thorn Hill 39.44 97 P **P 09 05 46.8 -3.4**
baz=316,SNR=11
CPCT Cooper Cave 39.45 99 *e*P **P 09 05 47.4 -3.0**
comp=Z,676nm,1.7s
CPCT LR LR

comp=Z,2506µm,20.0s
Q55A Buckhannon 39.51 91 P **P 09 05 48.0 -2.9**
baz=313,SNR=41
O56A Blue Knob Stat 39.52 88 *e*P **P 09 05 49.6 -1.4**
comp=Z,650nm,1.5s
O56A LR LR

comp=Z,792µm,20.0s
O56A Blue Knob Stat 39.52 88 P **P 09 05 47.1 -3.9**
baz=312,SNR=11
W51A Cleveland 39.53 99 P **P 09 05 48.0 -2.9**
baz=317,SNR=39
X50B Fort Payne 39.53 101 P **P 09 05 48.1 -3.0**
baz=318,SNR=34
Y49A Blount Mountai 39.55 102 *e*P **P 09 05 51.9 +0.7**
comp=Z,3µm,2.0s
Y49A LR LR

comp=Z,1187µm,21.0s
Y49A Blount Mountai 39.55 102 P **P 09 05 48.3 -3.0**
baz=318,SNR=59
NCB Newcomb 39.62 80 *e*P **P 09 05 50.0 -1.8**
comp=Z,868nm,1.4s
NCB LR LR

comp=Z,984µm,19.0s
SSPA Standing Stone 39.67 87 *e*P **P 09 05 49.8 -2.3**
comp=Z,1µm,1.5s
SSPA LR LR

comp=Z,1361µm,18.0s
SSPA Standing Stone 39.67 87 P **P 09 05 49.3 -2.9**
baz=312
247A Quitman 39.68 106 P **P 09 05 49.8 -2.5**
baz=320,SNR=7.8
V52A Sevierville 39.70 97 *e*P P 09 05 47.8 -4.7
comp=Z,987nm,1.4s
V52A LR LR

comp=Z,3402µm,19.0s
V52A Sevierville 39.70 97 P **P 09 05 49.4 -3.0**
baz=316,SNR=59
346A Big Creek Wild 39.72 108 *e*P **P 09 05 50.9 -1.7**
comp=Z,2µm,1.5s
346A LR LR

comp=Z,1112µm,18.0s
346A Big Creek Wild 39.72 108 P **P 09 05 50.2 -2.4**
baz=321,SNR=8.7
TKL Tuckaleechee C 39.73 98 *e*P **P 09 05 48.5 -4.2**
comp=Z,1µm,1.9s
TKL Tuckaleechee C 39.73 98 *e*P **P 09 05 48.5 -4.2**
TKL pmax pmax

comp=Z,1µm,1.9s
BINY Binghamton 39.74 84 *e*P **P 09 05 51.2 -1.5**
comp=Z,2µm,1.7s
BINY LR LR

comp=Z,1615µm,20.0s
BINY Binghamton 39.74 84 P **P 09 05 49.8 -3.0**
baz=310,SNR=17
544A White Castle 39.79 111 P **P 09 05 51.2 -2.1**
baz=322
148A Greensboro 39.80 105 P **P 09 05 50.1 -3.2**
baz=319,SNR=6.7
LRAL Lakeview Retre 39.83 104 *e*P **P 09 05 50.9 -2.7**
comp=Z,372nm,1.1s
LRAL LR LR

comp=Z,1182µm,20.0s
LRAL Lakeview Retre 39.83 104 P **P 09 05 50.0 -3.5**
baz=319,SNR=33
CNQ Baie Comeau 39.84 70 P **P 09 05 51.9 -1.5**
A16 Riviere Ouelle 39.85 73 P **P 09 05 51.6 -1.9**
LNIG Linares 39.87 125 *e*P **P 09 05 51.8 -2.2**
comp=Z,1µm,1.6s
LNIG LR LR

comp=Z,292µm,20.0s
MOQ Mont Orford 39.90 77 *e*P **P 09 05 51.4 -2.7**
MOQ Mont Orford 39.90 77 P **P 09 05 52.5 -1.6**
X51A Calhoun 39.90 100 *e*P **P 09 05 51.4 -2.8**
comp=Z,1µm,1.1s
X51A LR LR

comp=Z,2386µm,20.0s
X51A Calhoun 39.90 100 P **P 09 05 51.1 -3.0**
baz=317,SNR=96
Y50A Piedmont 39.90 102 P **P 09 05 51.2 -3.0**
baz=318,SNR=43
U53A Fall Branch 39.91 96 P **P 09 05 50.5 -3.7**
baz=316,SNR=11
Z49A Columbiana 39.97 103 P **P 09 05 51.5 -3.2**
baz=319,SNR=31
W52A Murphy 40.05 99 *e*P **P 09 05 52.0 -3.4**
comp=Z,1µm,1.9s
W52A LR LR

comp=Z,2196µm,20.0s
W52A Murphy 40.05 99 P **P 09 05 52.3 -3.1**
baz=317,SNR=12
SMQ Clarke City 40.05 68 P **P 09 05 54.0 -1.2**
248A Dixon Mills 40.13 105 P **P 09 05 52.8 -3.2**
baz=320,SNR=26
VT1 Waterbury 40.22 79 *e*P **P 09 05 58.9 +2.2**
comp=Z,366nm,1.2s
V53A Saluda 40.26 97 *e*P **P 09 05 53.9 -3.3**
comp=Z,853nm,1.5s
V53A LR LR

comp=Z,2881µm,20.0s
V53A Saluda 40.26 97 P **P 09 05 54.4 -2.8**
baz=316,SNR=35
149A Jones 40.27 104 P **P 09 05 54.0 -3.2**
baz=319,SNR=101
Y51A Rockmart 40.27 101 P **P 09 05 54.6 -2.7**
baz=318,SNR=9.8
KSPA Keystone Colle 40.28 84 *e*P P 09 05 51.9 -5.3
comp=Z,2µm,1.9s
KSPA LR LR

comp=Z,2272µm,18.0s
ACCN Adirondack Com 40.30 81 *e*P **P 09 05 57.0 -0.3**
comp=Z,347nm,1.2s
ACCN LR LR

comp=Z,1241µm,22.0s
ZAIG Zacatecas 40.30 130 *e*P **P 09 05 57.5 -0.3**
comp=Z,1µm,1.8s
ZAIG LR LR

comp=Z,851µm,20.0s
SKR Severo-Kuril's 40.31 293 *e*P P 09 05 47.2 -10
SKR pmax pmax

comp=Z,49µm,15.1s
SKR pmax pmax

comp=Z,65µm,13.3s
SKR pmax pmax

comp=Z,2µm,1.3s
SKR MLR MLR

comp=Z,798µm,19.0s
SKR MLR MLR

comp=Z,739µm,16.0s
SUMG Summit 40.31 28 *e*P **P 09 05 56.6 -0.9**
comp=Z,6µm,1.8s
SUMG LR LR

comp=Z,4097µm,18.0s
SUMG Summit 40.31 28 *i* P **P 09 05 57.3 -0.3**
SUMG Summit 40.31 28 *i* P **P 09 05 57.3 -0.3**
X52A Dahlonega 40.42 99 P **P 09 05 56.1 -2.4**
baz=317,SNR=11
W53A Cullowhee 40.42 98 P **P 09 05 56.1 -2.5**
baz=317,SNR=39
BLA Blacksburg 40.54 93 *e*P **P 09 05 55.9 -3.6**
comp=Z,835nm,1.1s
BLA LR LR

comp=Z,2050µm,19.0s
BLA Blacksburg 40.54 93 *e*P **P 09 05 55.9 -3.6**
BLA pmax pmax

comp=Z,835nm,1.1s
BLA MLR MLR

comp=Z,2050µm,19.0s
BLA Blacksburg 40.54 93 P **P 09 05 56.6 -2.9**
baz=315,SNR=48
348A Jackson 40.56 106 *e*P **P 09 05 56.9 -2.7**
comp=Z,4µm,1.9s
348A LR LR

comp=Z,1754µm,18.0s
348A Jackson 40.56 106 P **P 09 05 56.5 -3.1**
baz=320,SNR=9.3
249A Camden 40.56 105 P **P 09 05 57.1 -2.5**
baz=320,SNR=82
GSQ Grosses Roches 40.59 70 P **P 09 05 58.2 -1.4**
PAGS Pennsylvania G 40.61 87 *e*P **P 09 06 00.0 +0.1**
comp=Z,765nm,1.5s
PAGS LR LR

comp=Z,1330µm,19.0s
Z51A Franklin 40.64 102 P **P 09 05 57.3 -3.0**
baz=318,SNR=10
BG3 Lake Jocassee 40.68 98 *e*P **P 09 05 57.7 -2.9**
comp=Z,312nm,1.4s
150A Eclectic 40.70 103 P **P 09 05 56.8 -3.9**
baz=319,SNR=42
N59A State Game Lan 40.70 85 *e*P **P 09 05 59.6 -1.1**
comp=Z,1µm,1.9s
N59A LR LR

comp=Z,2430µm,18.0s
N59A State Game Lan 40.70 85 P **P 09 05 58.6 -2.1**
baz=312,SNR=11
TRY Troy 40.72 82 *e*P **P 09 06 00.5 -0.3**
comp=Z,1µm,1.7s
MIDW Midway 40.73 246 PFAKE 09 06 10.0 +9.0
MIDW LR LR

comp=Z,346µm,19.0s
LBNH Lisbon 40.75 79 *e*P **P 09 06 00.9 -0.1**
comp=Z,419nm,1.4s
LBNH LR LR

comp=Z,1416µm,18.0s
LBNH Lisbon 40.75 79 *e*P **P 09 06 00.9 -0.1**
LBNH pmax pmax

comp=Z,419nm,1.4s
LBNH MLR MLR

comp=Z,1416µm,18.0s
LBNH Lisbon 40.75 79 P **P 09 05 57.7 -3.4**
baz=309
TIXI Tiksi 40.76 331 LR LR 09 26 39.3
comp=Z,2171µm,18.0s,baz=50,slow=42
TIXI Tiksi 40.76 331 *c*eP **P 09 05 59.7 -1.1**
TIXI pmax pmax

comp=Z,222nm,2.5s
TIXI MLR MLR

comp=Z,2131µm,17.0s
X53A Estanollee 40.83 99 P **P 09 05 58.5 -3.3**
baz=317,SNR=8.9
Y52A Lilburn 40.86 100 *e*P **P 09 06 00.3 -1.8**
comp=Z,986nm,1.5s
Y52A LR LR

comp=Z,2403µm,20.0s
Y52A Lilburn 40.86 100 P **P 09 05 58.1 -4.0**
baz=318,SNR=34
HNH Hanover 40.88 79 *e*P **P 09 06 01.8 -0.3**
comp=Z,590nm,1.5s
448A Bay Minette 40.95 107 P **P 09 05 59.0 -3.8**
baz=321
MVL Millersville 40.97 87 *e*P **P 09 06 02.6 -0.3**
comp=Z,465nm,1.5s
MVL LR LR

comp=Z,2806µm,18.0s
349A Repton 40.99 106 P **P 09 06 00.3 -2.8**
baz=320,SNR=27
250A Grady 41.03 104 *e*P **P 09 06 00.6 -2.9**
comp=Z,1µm,1.4s
250A LR LR

comp=Z,1203µm,19.0s
250A Grady 41.03 104 P **P 09 06 00.3 -3.2**
baz=320,SNR=37
SDMD Soldier's Deli 41.09 88 *e*P **P 09 06 03.8 -0.1**
comp=Z,250nm,1.8s
SDMD LR LR

comp=Z,867µm,18.0s
LUPA Lehigh Univers 41.13 85 *e*P **P 09 06 05.1 +0.9**
comp=Z,146nm,1.8s
LUPA LR LR

comp=Z,115µm,19.0s
Y53A Monroe 41.14 100 P **P 09 06 01.4 -2.9**
baz=318,SNR=45
151A Opelika 41.14 103 P **P 09 06 01.5 -2.9**
baz=319,SNR=9.9
Z52A Williamson 41.16 101 P **P 09 06 01.9 -2.6**
baz=318,SNR=36
BRAL Brewton 41.21 106 *e*P **P 09 06 03.1 -1.8**
comp=Z,2µm,1.5s
BRAL LR LR

comp=Z,1224µm,20.0s
BRAL Brewton 41.21 106 P **P 09 06 02.1 -2.8**
baz=320,SNR=11
ODNJ Ogdensburg 41.25 84 *e*P **P 09 06 04.9 -0.3**
comp=Z,1µm,1.8s
ODNJ LR LR

comp=Z,2031µm,18.0s
152A Waverly Hall 41.38 102 *e*P **P 09 06 03.3 -3.0**
comp=Z,255nm,1.1s
152A LR LR

comp=Z,1650µm,21.0s
152A Waverly Hall 41.38 102 P **P 09 06 03.5 -2.9**
baz=319,SNR=36
FFD Franklin Falls 41.38 79 *e*P **P 09 06 08.0 +1.7**
comp=Z,598nm,1.5s
350A Dozier 41.41 105 P **P 09 06 02.8 -3.8**
baz=320,SNR=10
PQI Presque Isle 41.42 73 *e*P **P 09 06 07.2 +0.7**
comp=Z,2µm,1.8s
251A Midway 41.42 103 P **P 09 06 03.1 -3.6**
baz=319,SNR=19
449A Pace 41.43 106 P **P 09 06 03.1 -3.7**
baz=321
PAULI Pauline 41.44 97 *e*P **P 09 06 07.2 +0.3**
comp=Z,274nm,1.4s
PAULI LR LR

comp=Z,2911µm,18.0s
R58B Mineral 41.48 90 *e*P **P 09 06 04.7 -2.4**
comp=Z,938nm,1.8s
R58B LR LR

comp=Z,2298µm,18.0s
R58B Mineral 41.48 90 P **P 09 06 03.4 -3.7**
baz=314,SNR=18
KMSC Kings Mountain 41.48 96 *e*P **P 09 06 03.7 -3.5**
comp=Z,726nm,1.8s
KMSC LR LR

comp=Z,2615µm,19.0s
KMSC Kings Mountain 41.48 96 P **P 09 06 04.5 -2.7**
baz=316,SNR=9.9
GOGA Godfrey 41.53 100 *e*P **P 09 06 04.5 -3.1**
comp=Z,612nm,1.5s
GOGA LR LR

comp=Z,2388µm,19.0s
GOGA Godfrey 41.53 100 *e*P **P 09 06 04.5 -3.1**
GOGA pmax pmax

comp=Z,612nm,1.5s
GOGA MLR MLR

comp=Z,2388µm,19.0s
GOGA Godfrey 41.53 100 P **P 09 06 04.6 -3.0**
baz=318,SNR=32
BRNJ Basking Ridge 41.54 85 PFAKE 09 06 20.0 +12
BRNJ LR LR

comp=Z,1818µm,20.0s
Z53A Monticello 41.57 100 P **P 09 06 04.6 -3.3**
baz=318,SNR=31
PKME Peaks-Kenny Pk 41.58 76 *e*P P 09 06 02.1 -5.7
comp=Z,1µm,1.7s
PKME LR LR

comp=Z,1291µm,19.0s
PKME Peaks-Kenny Pk 41.58 76 P **P 09 06 04.5 -3.4**
baz=308
CBN Corbin Frederi 41.60 90 *e*P **P 09 06 07.4 -0.7**
comp=Z,335nm,1.4s
CBN LR LR

comp=Z,2416µm,18.0s
CBN Corbin Frederi 41.60 90 P **P 09 06 05.3 -2.8**
baz=314
HODGE Hodges 41.62 98 *e*P **P 09 06 04.5 -3.8**
comp=Z,832nm,1.7s
HODGE LR LR

comp=Z,2886µm,19.0s
Y54A Tignall 41.64 99 P **P 09 06 05.5 -3.0**
baz=318,SNR=60
PAL Palisades 41.70 84 *e*P **P 09 06 07.8 -1.1**
comp=Z,812nm,1.7s
PAL LR LR

comp=Z,1420µm,18.0s
PAL Palisades 41.70 84 *e*P **P 09 06 07.8 -1.1**
PAL pmax pmax

comp=Z,812nm,1.7s
PAL MLR MLR

comp=Z,1420µm,18.0s
PAL Palisades 41.70 84 P **P 09 06 06.0 -2.9**
baz=312
450A Crestview 41.75 106 P **P 09 06 06.5 -2.8**
baz=320
QUA2 Belchertown 41.75 81 *e*P **P 09 06 08.9 -0.4**
comp=Z,1µm,1.9s
CPNY Central Park 41.81 84 *e*P **P 09 06 09.6 -0.2**
comp=Z,918nm,1.8s
CPNY LR LR

comp=Z,1626µm,20.0s
WVL Waterville 41.81 77 *e*P **P 09 06 07.6 -2.1**
comp=Z,901nm,1.8s
252A Lumpkin 41.87 103 P **P 09 06 07.2 -3.2**
baz=319,SNR=31
153A Fort Valley 41.89 101 P **P 09 06 06.7 -3.8**
baz=319,SNR=9.1
351A Pinckard 41.93 104 P **P 09 06 07.5 -3.4**
baz=320,SNR=12
Z54A Sparta 42.01 100 P **P 09 06 08.9 -2.6**
baz=318,SNR=33
YLE Yale 42.05 83 *e*P **P 09 06 12.8 +1.1**
comp=Z,1µm,1.4s
YLE LR LR

comp=Z,1372µm,18.0s
HRV Adam Dziewonsk 42.05 80 *e*P **P 09 06 12.8 +1.1**
comp=Z,1µm,1.9s
HRV LR LR

comp=Z,941µm,19.0s
HRV Adam Dziewonsk 42.05 80 P **P 09 06 09.4 -2.3**
baz=310
NATG Natashquan Que 42.06 66 P **P 09 06 10.9 -0.8**
BATG Bathurst New B 42.12 71 *e*P **P 09 06 11.4 -0.9**
comp=Z,2µm,1.8s
BATG LR LR

comp=Z,1586µm,18.0s
BATG Bathurst New B 42.12 71 P **P 09 06 10.5 -1.8**
JSC Jenkinsville 42.15 97 *e*P **P 09 06 11.5 -1.1**
comp=Z,482nm,1.6s
JSC LR LR

comp=Z,2456µm,19.0s
JSC Jenkinsville 42.15 97 *e*P **P 09 06 11.5 -1.1**
JSC pmax pmax

comp=Z,482nm,1.6s
JSC MLR MLR

comp=Z,2456µm,19.0s
352A Blakely 42.15 103 *e*P **P 09 06 09.5 -3.2**
comp=Z,499nm,1.1s
352A LR LR

comp=Z,1068µm,18.0s
352A Blakely 42.15 103 P **P 09 06 09.8 -2.8**
baz=320,SNR=9.3
253A Americus 42.16 102 *e*P **P 09 06 13.4 +0.7**
comp=Z,2µm,1.8s
253A LR LR

comp=Z,1755µm,22.0s
253A Americus 42.16 102 P **P 09 06 09.9 -2.9**
baz=319,SNR=32
WES Weston 42.27 80 *e*P **P 09 06 12.4 -1.0**
comp=Z,562nm,1.4s
WES Weston 42.27 80 *e*P **P 09 06 12.5 -1.0**
WES pmax pmax

comp=Z,562nm,1.4s
DAG Danmarks Havn 42.31 18 *i* P **P 09 06 12.4 -1.0**
DAG Danmarks Havn 42.31 18 *i* P **P 09 06 12.4 -1.0**
154A Montrose 42.33 100 PFAKE 09 06 20.0 +5.9
154A LR LR

comp=Z,2299µm,20.0s
154A Montrose 42.33 100 P **P 09 06 10.6 -3.5**
baz=318,SNR=12
BCX Boston College 42.38 80 *e*P **P 09 06 13.9 -0.6**
comp=Z,458nm,1.1s
Z55A Blythe 42.42 99 P **P 09 06 11.9 -2.9**
baz=318,SNR=11
BRYW Bryant College 42.45 81 *e*P **P 09 06 14.5 -0.5**
comp=Z,226nm,1.2s
452A Marianna 42.49 104 P **P 09 06 12.3 -3.1**
baz=320
353A Camilla 42.65 103 P **P 09 06 14.5 -2.2**
baz=320,SNR=13
155A Kite 42.68 100 P **P 09 06 13.4 -3.5**
baz=318,SNR=15
254A Abbeville 42.72 101 P **P 09 06 13.5 -3.8**
baz=319,SNR=28
IVI Ivigtut 42.82 45 *e*P **P 09 06 19.0 +1.3**
comp=Z,190nm,1.1s
TIGA Tifton 42.93 102 *e*P **P 09 06 17.5 -1.5**
comp=Z,802nm,1.6s
TIGA LR LR

comp=Z,1569µm,18.0s
TIGA Tifton 42.93 102 P **P 09 06 15.1 -3.9**
baz=319,SNR=6.8
EMMW East Machias 42.94 75 *e*P **P 09 06 18.1 -0.9**
comp=Z,2µm,1.9s
453A Whigham 42.97 103 *e*P **P 09 06 18.4 -0.9**
comp=Z,732nm,1.8s
453A LR LR

comp=Z,1017µm,18.0s
453A Whigham 42.97 103 P **P 09 06 16.5 -2.8**
baz=320
552A Lynn Haven 42.98 105 P **P 09 06 15.2 -4.1**
baz=321
GGN Saint George 43.02 74 *e*P **P 09 06 21.4 +1.8**
comp=Z,2µm,1.9s
GGN LR LR

comp=Z,1147µm,20.0s
M65A Busby, Falmout 43.18 81 P **P 09 06 16.6 -4.3**
baz=311
255A Hazlehurst 43.19 100 PFAKE 09 06 30.0 +8.9
255A LR LR

comp=Z,1943µm,19.0s
255A Hazlehurst 43.19 100 P P 09 06 16.1 -5.0
baz=319
156A Sylvania 43.20 99 P **P 09 06 18.3 -2.9**
baz=318,SNR=11

CNNC **Cliffs of the** 43.38 93 *e*P P 09 06 22.9 +0.3
comp=Z,278nm,1.0s
CNNC LR LR
comp=Z,942µm,19.0s
CNNC Cliffs of the 43.38 93 P P 09 06 19.5 -3.1
baz=316,SNR=8.6
553A Crawfordville 43.41 104 P P 09 06 19.5 -3.4
baz=320,SNR=6.6
355A Pearson 43.42 101 P P 09 06 19.0 -3.9
baz=319
454A Quitman 43.46 103 P P 09 06 19.2 -4.0
baz=320
256A Glennville 43.48 100 P P 09 06 18.5 -5.0
baz=319
ELNB Elgin, New Bru 43.49 72 P P 09 06 21.7 -1.6
NHSC New Hope 43.62 97 *e*P P 09 06 24.7 +0.2
comp=Z,826nm,1.1s
NHSC LR LR
comp=Z,3508µm,20.0s
NHSC New Hope 43.62 97 P P 09 06 20.4 -4.1
baz=318,SNR=12
RGRS Roger Stewart 43.76 97 *e*P P 09 06 22.9 -2.7
comp=Z,2µm,0.9s
CSU Charleston Sou 43.77 97 *e*P P 09 06 24.9 -0.8
455A Stateville 43.77 102 P P 09 06 23.0 -2.8
baz=320
356A Blackshear 43.84 101 P P 09 06 23.2 -3.2
baz=319,SNR=9.0
554A Perry 43.91 103 P P 09 06 24.7 -2.2
baz=320
NRS Narsarsuaq 43.95 44 *e*P P 09 06 26.3 -0.6
comp=Z,475nm,1.2s
NRS LR LR
comp=Z,4190µm,18.0s
NRS Narsarsuaq 43.95 44 *i* P P 09 06 30.2 +3.3
comp=Z,5324µm,16.0s
NRS Narsarsuaq 43.95 44 *e*P P 09 06 26.3 -0.6
NRS pmax pmax
comp=Z,475nm,1.2s
NRS MLR MLR
comp=Z,4190µm,18.0s
257A Skidaway Islan 43.97 99 *e*P P 09 06 26.8 -0.6
comp=Z,1µm,1.6s
257A LR LR
comp=Z,2052µm,20.0s
257A Skidaway Islan 43.97 99 P P 09 06 24.8 -2.6
baz=319
357A Townsend 44.13 100 P P 09 06 26.0 -2.6
baz=319
ANGG Ammassalik, Gr 44.27 36 *e*P P 09 06 27.1 -2.3
comp=Z,3µm,2.0s
ANGG LR LR
comp=Z,1710µm,19.0s
555A McAlpin 44.28 103 *e*P P 09 06 30.0 +0.2
comp=Z,795nm,1.9s
555A LR LR
comp=Z,1277µm,21.0s
555A McAlpin 44.28 103 P P 09 06 27.6 -2.2
baz=320
456A Hilliard 44.35 101 *e*P P 09 06 29.9 -0.5
comp=Z,940nm,1.8s
456A LR LR
comp=Z,1939µm,19.0s
456A Hilliard 44.35 101 P P 09 06 27.3 -3.2
baz=320
655A Horseshoe Beac 44.58 103 P P 09 06 29.5 -2.8
baz=321
KBS Kingsbay 44.63 9 *e*P P 09 06 31.9 -0.3
comp=Z,1µm,1.1s
KBS LR LR
comp=Z,1766µm,20.0s
KBS Kingsbay 44.63 9 *e*P P 09 06 31.9 -0.3
KBS pmax pmax
comp=Z,1µm,1.1s
KBS MLR MLR
comp=Z,1766µm,20.0s
KBS Kingsbay 44.63 9 *e*P P 09 06 33.1 +0.9
KBS IVmB_BB 09 06 45.2
comp=Z,20µm,2.1s
KBS *e*PP PP 09 08 25.2 +9.4
KBS *e*S S 09 13 20.4 +12
KBS *i* 09 16 36.3
KBS IVMs_BB IVMs_BB 09 26 29.9
comp=Z,598µm,18.2s
556A Lake Butler 44.68 102 P P 09 06 29.2 -3.9
baz=320
457A Yulee 44.69 101 P P 09 06 29.3 -3.9
baz=320
557A Orange Park 45.05 102 P P 09 06 32.3 -3.7
baz=320
656A Willston 45.09 103 *e*P P 09 06 38.3 +1.9
comp=Z,441nm,1.3s
656A LR LR
comp=Z,1300µm,19.0s
656A Willston 45.09 103 P P 09 06 33.3 -3.1
baz=321
HAL Halifax 45.11 73 *e*P P 09 06 36.1 -0.3
comp=Z,834nm,1.8s
HAL LR LR
comp=Z,1642µm,21.0s
HAL Halifax 45.11 73 P P 09 06 34.4 -2.0
HAL Halifax 45.11 73 *e*P P 09 06 36.1 -0.3
HAL pmax pmax
comp=Z,834nm,1.8s
HAL MLR MLR
comp=Z,1642µm,21.0s
657A Interlachen 45.30 102 P P 09 06 34.5 -3.5
baz=320
DRLN Deer Lake 45.43 64 *e*P P 09 06 38.4 -0.5
comp=Z,3µm,1.6s
757A Oxford 45.68 103 P P 09 06 38.0 -3.1
baz=321
SPA0 Spitsbergen Ar 45.69 8 *e*P P 09 06 48.2 +7.6
SPA0 *e*S **S** 09 13 29.8 +6.1
SPA0 *i* 09 17 14.5
LVIG Laguna Verde 45.74 125 *e*P P 09 06 41.9 +0.3
comp=Z,328nm,1.6s
LVIG LR LR
comp=Z,236µm,20.0s
GBN Guysborough 45.75 70 *e*P P 09 06 42.6 +1.2
comp=Z,984nm,1.5s
GBN LR LR
comp=Z,1854µm,19.0s
GBN Guysborough 45.75 70 P P 09 06 39.8 -1.6
658A Bunnell 45.77 102 *e*P P 09 06 41.8 +0.1
comp=Z,1µm,1.5s
658A LR LR
comp=Z,1766µm,20.0s
658A Bunnell 45.77 102 P P 09 06 38.2 -3.5
baz=320
SCO Scoresbysund 45.79 26 *e*P P 09 06 43.7 +2.3
comp=Z,498nm,1.3s
SCO LR LR
comp=Z,4018µm,18.0s
SCO Scoresbysund 45.79 26 *i* P P 09 06 41.3 -0.1
comp=Z,3875µm,17.0s
SCO Scoresbysund 45.79 26 *i* P P 09 06 41.3 -0.1
SCO MLR MLR
comp=Z,3900µm,17.0s
YAK Yakutsk 45.82 319 *c i*P P 09 06 42.6 +0.9
YAK *e* 09 08 35.1
YAK *e*S **S** 09 13 23.3 -2.5
YAK pmax pmax
comp=Z,1µm,0.9s
YAK pmax pmax
comp=N,459nm,1.3s
YAK pmax pmax
comp=E,611nm,1.3s
YAK pmax pmax
comp=Z,6µm,2.7s
YAK pmax pmax
comp=N,3µm,2.3s
YAK pmax pmax
comp=E,5µm,2.0s
YAK smax smax
comp=E,121µm,10.1s
YAK smax smax
comp=N,30µm,8.0s
YAK MLR MLR
comp=Z,322µm,18.0s
YAK MLR MLR
comp=N,295µm,17.0s
YAK MLR MLR
comp=E,235µm,15.0s
857A Zephyrhills 46.11 104 P P 09 06 41.3 -3.2
baz=321
957A Wimauma 46.57 104 *e*P P 09 06 47.6 -0.5
comp=E,758nm,1.4s
957A LR LR
comp=Z,1127µm,21.0s
957A Wimauma 46.57 104 P P 09 06 44.9 -3.1
baz=322
NKL Nikolayevsk 46.58 304 *i* P P 09 06 48.0 +0.1
NKL *e* 09 13 33.5
NKL pmax pmax
comp=N,3µm,2.0s
NKL pmax pmax
comp=E,2µm,2.0s
NKL pmax pmax
comp=Z,7µm,2.0s
NKL pmax pmax
comp=Z,52µm,14.0s
858A St. Cloud 46.64 103 P P 09 06 46.1 -2.5
baz=321
TLIG Tlapa 46.64 129 *e*P P 09 06 49.2 +0.3
comp=Z,741nm,1.8s
TLIG LR LR
comp=Z,444µm,19.0s
DWPF Disney Wildern 46.68 103 PFAKE 09 07 00.0 +11
DWPF LR LR
comp=Z,1210µm,18.0s
DWPF Disney Wildern 46.68 103 P P 09 06 46.7 -2.2
baz=321
DWPF Disney Wildern 46.68 103 *e*P P 09 06 51.4 +2.5
HSPB Hornsund (broa 46.70 9 *e*P P 09 06 49.5 +1.0
HSPB *e*S S 09 13 48.8 +11
HSPB Hornsund (broa 46.70 9 *e*P P 09 06 54.9 +6.4
HSPB *e*S **S** 09 13 36.5 -1.7
HSPB *i* 09 17 21.2
JOHN Johnston Islan 46.72 229 PFAKE 09 07 00.0 +11
JOHN LR LR
comp=Z,476µm,20.0s
958A Wauchula 46.90 104 P P 09 06 48.8 -1.8
baz=322
859A Kempfer Cattle 47.02 103 P P 09 06 49.0 -2.5
baz=321
TYV Tymovskoe 47.06 301 *e*P P 09 06 51.4 -0.3
TYV *e*S **S** 09 13 44.9 +1.0
TYV pmax pmax
comp=Z,32µm,9.6s
TYV pmax pmax
comp=Z,569nm,1.8s
TYV smax smax
comp=E,34nm,2.9s
TYV smax smax
comp=E,382µm,11.8s
058A Arcadia 47.29 104 P P 09 06 50.6 -3.0
baz=322,SNR=7.8
959A Okeechobee 47.44 103 P P 09 06 53.0 -1.9
baz=321
059A Moore Haven 47.73 104 *e*P P 09 06 57.1 +0.1
comp=E,456nm,1.1s
059A LR LR
comp=Z,978µm,19.0s
059A Moore Haven 47.73 104 P P 09 06 54.9 -2.2
baz=322
HOPEN Hopen 47.89 6 *e*P P 09 07 04.4 +6.7
HOPEN *e*S **S** 09 13 59.9 +4.9
HOPEN *e* 09 17 39.4
MYIG Mrida 47.96 117 *e*P P 09 06 56.8 -2.1
comp=Z,1µm,1.6s
MYIG LR LR
comp=Z,222µm,21.0s
KUR Kuril'sk 48.03 292 *c i*P P 09 07 02.2 +3.0
KUR *i* 09 08 52.0
KUR *i* PPP PPP 09 09 43.6
KUR *i* S **S** 09 14 04.6 +6.9
KUR *i* SSS SSS 09 18 42.3
KUR pmax pmax
comp=Z,2µm,2.5s
KUR pmax pmax
comp=E,638nm,2.3s
059Z Ave Maria 48.05 105 P P 09 06 57.8 -1.8
baz=322
060A Indiantown 48.11 103 *e*P P 09 07 00.7 +0.7
comp=E,630nm,1.0s
060A LR LR
comp=Z,1489µm,19.0s
060A Indiantown 48.11 103 P P 09 06 57.6 -2.5
baz=322
JMIC Jan Mayen 48.45 21 *e*P P 09 07 11.6 +9.4
JMIC *e* 09 09 07.4
JMIC *i* 09 14 20.6
JMIC *e* 09 18 00.7
060Z West Palm Beac 48.49 104 P P 09 06 59.9 -3.1
baz=322
061Z Ochoppi 48.72 104 PFAKE 09 07 20.0 +15
061Z LR LR
comp=Z,825µm,22.0s
061Z Ochoppi 48.72 104 P P 09 07 01.7 -3.1
baz=322
TEIG Tepich 49.32 116 *e*P P 09 07 09.7 +0.2
comp=Z,466nm,1.1s
TEIG LR LR
comp=Z,297µm,22.0s
BJO Bjornoya 49.37 9 *e*P P 09 07 09.8 +0.6
BJO IVmB_BB 09 07 19.4
comp=Z,11µm,3.0s
BJO *e*S S 09 14 26.5 +11
BJO *e* 09 17 57.4
BJO *i* 09 22 16.9
BJO IVMs_BB IVMs_BB 09 31 15.4
comp=Z,452µm,13.5s
062Z Marathon 49.53 105 P P 09 07 08.9 -2.1
baz=323
YSS Yuzh-Sakhalins 49.55 297 PFAKE 09 07 20.0 +9.1
YSS LR LR
comp=Z,2216µm,21.0s
YSS Yuzh-Sakhalins 49.55 297 *c e*P P 09 07 10.6 -0.3
YSS *e* 09 08 32.9
YSS *e* 09 09 00.0
YSS *e*S **S** 09 14 13.2 -6.0
YSS *e* 09 16 54.0
YSS *e*SS **SS** 09 17 46.0 -4.5
YSS pmax pmax
comp=Z,790nm,1.3s
YSS pmax pmax
comp=N,270nm,1.1s
YSS pmax pmax
comp=E,600nm,0.4s
YSS pmax pmax
comp=Z,33µm,9.0s
YSS pmax pmax
comp=N,16µm,12.0s
YSS pmax pmax
comp=E,18µm,8.0s
YSS MLR MLR
comp=E,391µm,16.0s
YSS MLR MLR
comp=Z,562µm,16.0s
YSS MLR MLR
comp=N,422µm,17.0s
YUK Yuzh-Kuril'sk 49.89 292 *c i*P P 09 07 01.2 -12
YUK *i* PPP PPP 09 10 06.9
YUK *i* S **S** 09 14 26.8 +2.8
YUK pmax pmax
comp=N,546nm,1.3s
YUK pmax pmax
comp=Z,2µm,1.3s
YUK pmax pmax
comp=E,178nm,1.0s
YUK pmax pmax
comp=Z,6µm,3.2s
BORG Borgarnes 50.02 31 *e*P P 09 07 13.1 -1.1
comp=Z,2µm,1.7s
BORG LR LR
comp=Z,1328µm,20.0s
BORG Borgarnes 50.02 31 *e*P P 09 07 13.1 -1.1
BORG pmax pmax
comp=Z,2µm,1.7s
BORG MLR MLR
comp=Z,1328µm,20.0s
CCIG Comitan 50.73 123 *e*P P 09 07 21.3 +0.9
comp=Z,899nm,1.7s
CCIG LR LR
comp=Z,430µm,19.0s
ASAJ Asahikawa 51.56 294 S S 09 14 49.0 +1.9
comp=Z,17nm,1.2s,baz=269,slow=33,SNR=1.7
ASAJ LR LR 09 29 20.4
comp=Z,794µm,19.6s,baz=57,slow=36
ASAJ Asahikawa 51.56 294 *e*P P 09 07 25.6 -0.5
comp=Z,4µm,2.0s
ASAJ S S 09 14 49.0 +1.9

ZEA Zeya 52.24 312 *e*P P 09 07 29.8 -1.3
ZEA *e* 09 07 29.8
ZEA *e* 09 09 34.0
ZEA *e*PPP PPP 09 10 32.0
ZEA *e*S **S** 09 14 54.0 -2.3
ZEA *i* SS **SS** 09 18 33.0 0.0
ZEA pmax pmax
comp=E,760nm,2.5s
ZEA pmax pmax
comp=Z,2µm,2.0s
ZEA pmax pmax
comp=Z,64µm,15.0s
ZEA pmax pmax
comp=E,30µm,16.0s
ZEA pmax pmax
comp=N,31µm,17.0s
ZEA pmax pmax
comp=Z,63µm,13.0s
ZEA pmax pmax
comp=E,33µm,17.0s
ZEA pmax pmax
comp=N,33µm,16.0s
ERM Erimo 52.72 292 *e*P P 09 07 34.2 -0.6
comp=N,2µm,1.4s
ERM LR LR
comp=Z,1452µm,22.0s
ERM Erimo 52.72 292 *c e*P P 09 07 34.5 -0.3
ERM pmax pmax
comp=Z,158nm,0.8s
ERM MLR MLR
comp=Z,763µm,17.0s
BBSR BB Station 53.01 85 *e*P P 09 07 38.9 +1.9
comp=Z,1µm,1.8s
KLR Kul'dur 53.39 305 S S 09 15 13.5 +1.5
comp=Z,3.2nm,0.8s,baz=34,slow=4.8,SNR=2.0
KLR LR LR 09 31 04.8
comp=Z,1289µm,19.3s,baz=38,slow=37
KLR Kul'dur 53.39 305 *c e*P P 09 07 39.0 -0.6
HAMF Hammerfest 53.48 9 *e*P P 09 07 39.5 -0.5
HAMF IVmB_BB 09 07 51.6
comp=Z,17µm,2.8s
HAMF *e* 09 09 50.8
HAMF *e*S **S** 09 15 09.6 -3.2
HAMF *i* 09 18 55.5
HAMF IVMs_BB IVMs_BB 09 32 00.4
comp=Z,293µm,19.8s
WBCY West Bay, Gran 53.65 110 *e*P P 09 07 42.1 +0.3
comp=Z,2µm,1.5s
FSCY Frank Sound, G 53.82 110 *e*P P 09 07 42.2 -0.9
comp=Z,3µm,1.7s
TRO Tromso 53.98 11 *e*P P 09 07 51.4 +7.8
TRO IVmB_BB 09 07 59.9
comp=Z,16µm,3.2s
TRO *e*PP **PP** 09 09 42.8 -1.6
TRO *e*S **S** 09 15 23.6 +4.0
TRO IVMs_BB IVMs_BB 09 25 24.4
comp=Z,375µm,35.7s
TEY Ternei 53.99 299 ⇑ *e*P P 09 07 49.2 +5.2
TEY *e*S **S** 09 15 23.5 +3.3
TEY smax smax
comp=N,213µm,23.2s
TEY smax smax
comp=E,259µm,18.9s
TEY MLR MLR
comp=N,872µm,19.0s
TEY MLR MLR
comp=E,660µm,19.0s
BOD Bodaibo 54.44 322 ⇑ *i*P P 09 07 45.4 -1.7
BOD pmax pmax
comp=Z,1µm,1.6s
KEV Kevo 54.62 8 *e*P P 09 07 47.3 -1.0
comp=Z,516nm,1.0s
KEV LR LR
comp=Z,945µm,18.0s
KEV Kevo 54.62 8 P P 09 07 47.0 -1.3
ARA0 ARCESS Array S 54.71 8 *e*P P 09 07 47.0 -2.0
ARCES ARCESS Array B 54.71 8 P P 09 07 47.0 -2.0
comp=Z,73nm,0.7s,baz=351,slow=4.2,SNR=19
ARCES LR LR 09 31 48.4
comp=Z,43µm,21.3s,baz=346,slow=37
ARCES ARCESS Array B 54.71 8 P P 09 07 47.0 -2.0
ARE0 ARCESS Array S 54.71 8 *e*P P 09 07 47.1 -2.0
ARE0 IVmB_BB 09 08 00.8
comp=Z,624nm,2.9s
ARE0 *e* 09 09 51.5
ARE0 *e*S **S** 09 15 30.9 +1.5
ARE0 *i* 09 19 32.3
ARE0 IVMs_BB IVMs_BB 09 31 45.4
comp=Z,15µm,18.0s
LOF Lofoten 54.74 14 *e*P P 09 07 52.6 +3.5
LOF *e* 09 09 50.5
LOF *e*S **S** 09 15 29.4 -0.4
LOF *e* 09 19 25.9
LOF IVMs_BB IVMs_BB 09 31 39.4
comp=Z,975µm,16.6s
KTK1 Kautokeino 55.02 9 *e*P P 09 07 51.7 +0.4
KTK1 IVmB_BB 09 08 07.0
comp=Z,11µm,2.1s
KTK1 *e* 09 09 50.7
KTK1 *e*S S 09 15 21.6 -12
KTK1 IVMs_BB IVMs_BB 09 33 45.0
comp=Z,349µm,21.4s
TGUH Tegucigalpa,Un 55.03 119 PFAKE 09 08 00.0 +8.1
TGUH LR LR
comp=Z,299µm,20.0s
STEI Steigen 55.16 13 *e*P P 09 07 51.5 -0.7
STEI IVmB_BB 09 08 04.5
comp=Z,15µm,1.8s
STEI *e* 09 09 56.4
STEI *e*S **S** 09 15 34.3 -1.0
STEI *e*SS **SS** 09 19 22.2 +4.0
STEI IVMs_BB IVMs_BB 09 31 57.0
comp=Z,879µm,19.5s
XMAS Kiritimati 56.13 208 *e*P P 09 08 02.6 +2.9
comp=Z,383nm,1.1s
XMAS LR LR
comp=Z,417µm,20.0s
KONS Konsvik 56.20 15 *e*P P 09 08 03.6 +3.9
KONS IVmB_BB 09 08 20.0
comp=Z,11µm,2.9s
KONS *e*S **S** 09 15 47.7 -1.6
KONS *i* 09 19 46.9
KONS IVMs_BB IVMs_BB 09 32 01.3
comp=Z,651µm,18.2s
ESTN Estel 56.30 119 *e*P P 09 07 58.3 -2.8
comp=Z,2µm,2.0s
ESTN LR LR
comp=Z,286µm,20.0s
STOK Stokkvaagen 56.34 15 *e*S **S** 09 15 46.2 -5.0
WAKE Wake Island 56.54 255 PFAKE 09 08 10.0 +7.3
WAKE LR LR
comp=Z,373µm,20.0s
GTBY Guantanamo Bay 56.65 104 *e*P P 09 08 04.0 +0.4
comp=Z,264nm,1.1s
GTBY LR LR
comp=Z,832µm,21.0s
MTDJ Mount Denham 56.69 107 *e*P P 09 08 04.5 +0.6
comp=Z,673nm,1.1s
MTDJ LR LR
comp=Z,526µm,20.0s
MTDJ Mount Denham 56.69 107 *e*P P 09 08 04.2 +0.3
MTDJ Mount Denham 56.69 107 *e*P P 09 08 04.2 +0.3
MOR8 Moi Rana 56.70 14 *e*P P 09 08 06.6 +3.3
MOR8 IVmB_BB 09 08 18.8
comp=Z,9µm,4.0s
MOR8 *e*S S 09 16 07.2 +11
MOR8 *i* 09 19 25.5
MOR8 IVMs_BB IVMs_BB 09 32 26.2
comp=Z,777µm,19.3s
USRK Ussuriysk Ar. 56.88 301 P P 09 08 04.0 -0.9
comp=Z,28nm,0.9s,baz=42,slow=6.1,SNR=30
USRK S S 09 16 00.5 +1.6
comp=Z,2.3nm,0.9s,baz=198,slow=12,SNR=2.1
USRK LR LR 09 33 52.1
comp=Z,931µm,19.6s,baz=34,slow=38
LVZ Lovozero 56.93 5 *e*P P 09 08 04.7 -0.3
comp=Z,660nm,1.3s
LVZ LR LR
comp=Z,1121µm,19.0s
LVZ Lovozero 56.93 5 ⇓ *e*P P 09 08 05.2 +0.2
APA Apatity 57.20 5 ⇓ *i*P P 09 08 05.3 -1.5
APA *i* 09 09 04.0
APA *i* 09 10 13.0
APA *i* PPP PPP 09 11 37.0
APA *i* S **S** 09 15 55.0 -7.5

APA *i* PS **PnS** **09 16 12.0 +0.4**
APA *i* SS **SS** **09 19 50.0 -0.4**
APA pmax pmax
comp=Z,140nm,0.9s
APA MLR MLR
comp=Z,1435µm,16.0s
BOAB BOACO BROADBAY 57.20 119 PFAKE 09 08 20.0 +13
BOAB LR LR
comp=Z,127µm,21.0s
GRTK Grand Turk 57.63 99 *e*P **P** **09 08 12.8 +2.4**
comp=Z,2µm,1.8s
GRTK LR LR
comp=Z,942µm,21.0s
VLA Vladivostok 57.72 300*c i*P **P** **09 08 11.9 +1.1**
VLA pmax pmax
comp=Z,316nm,2.7s
MDJ Mudanjiang 57.74 303 P **P** **09 08 09.9 -1.1**
MDJ pP pwP 09 08 12.8 -0.8
MDJ sP sP 09 08 14.2 +2.6
MDJ PcP **PcP** **09 09 01.9 -1.8**
MDJ PP **PP** **09 10 18.3 -0.2**
MDJ ScP **ScP** **09 13 02.4 -1.9**
MDJ PcS **PcS** **09 13 03.7 -1.2**
MDJ S **S** **09 16 11.1 +0.9**
MDJ sS sS 09 16 18.2 +7.2
MDJ ScS **ScS** **09 17 59.3 -1.7**
MDJ Mudanjiang 57.74 303 *e*P **P** **09 08 11.0 0.0**
comp=Z,589nm,1.4s
MDJ LR LR
comp=Z,2188µm,20.0s
NSS Namsos 57.86 16 *e*P **P** **09 08 10.8 -0.7**
NSS IVmB_BB 09 08 24.1
comp=Z,10µm,2.1s
NSS *e*S **S** **09 16 16.7 +5.4**
NSS *i* 09 20 07.0
NSS IVMs_BB IVMs_BB 09 33 40.9
comp=Z,560µm,16.6s
ESPN Las Esperanzas 58.11 117 *e*P **P** **09 08 10.8 -3.0**
comp=Z,846nm,1.8s
ESPN LR LR
comp=Z,230µm,19.0s
MSHR Mys Shultsa 58.48 300*c i*P **P** **09 08 17.0 +0.8**
HIA Hailar 58.71 312 *e*P **P** **09 08 16.6 -1.2**
comp=Z,2µm,1.7s
HIA LR LR
comp=Z,2067µm,19.0s
HIA Hailar 58.71 312 *e*P **P** **09 08 16.6 -1.2**
HIA pmax pmax
comp=Z,2µm,1.7s
HIA MLR MLR
comp=Z,2067µm,19.0s
TBLU Trondheim 58.77 18 *e*P **P** **09 08 20.6 +2.7**
TBLU IVmB_BB 09 08 37.2
comp=Z,8µm,2.7s
TBLU *e*S **S** **09 16 23.1 -0.1**
TBLU *i* 09 20 02.1
TBLU IVMs_BB IVMs_BB 09 33 48.1
comp=Z,605µm,15.6s
CIT Chita 59.08 318 *e*P **P** **09 08 20.2 -0.1**
CIT *e* 09 09 04.3
CIT *e* 09 12 02.9
CIT *e*S **S** **09 16 28.5 +0.9**
CIT *e* 09 20 19.4
CIT pmax pmax
comp=Z,4µm,3.0s
AKN Aaknes 59.16 20 *e*P **P** **09 08 21.2 +0.5**
AKN IVmB_BB 09 08 35.1
comp=Z,15µm,2.8s
AKN *i* 09 12 07.5
AKN *e*S **S** **09 16 32.1 +3.8**
AKN *e*SS **SS** **09 20 25.3 +4.0**
AKN IVMs_BB IVMs_BB 09 33 38.2
comp=Z,428µm,23.5s
LGNH Logne 59.19 102 *e*P **P** **09 08 18.2 -3.2**
LRW Lerwick 59.21 25 *e*P **P** **09 08 23.1 +2.1**
LRW IAMs_20 IAMs_20 09 32 27.7
comp=Z,1631µm,21.0s
MAJO Matsushiro 59.33 291 *e*P **P** **09 08 20.9 -1.2**
comp=Z,980nm,1.4s
MAJO *e*S **S** **09 16 34.8 +3.7**
MAJO LR LR
comp=Z,995µm,21.0s
MAJO Matsushiro 59.33 291*ce*P **P** **09 08 20.7 -1.5**
MAJO pmax pmax
comp=Z,2µm,2.9s
MAJO MLR MLR
comp=Z,299µm,18.0s
MAJO Matsushiro 59.33 291 *e*P **P** **09 08 21.4 -0.8**
MAT Matsushiro 59.33 291 P **P** **09 08 20.9 -1.3**
MAT S **S** **09 16 25.0 -6.2**
MJAR Matsushiro Arr 59.33 291 P **P** **09 08 21.3 -0.9**
comp=Z,25nm,0.7s,baz=46,slow=4.7,SNR=48
MJAR S **S** **09 16 34.8 +3.7**
comp=Z,1.4nm,0.9s,baz=258,slow=2.9,SNR=2.8
MJAR LR LR 09 31 46.0
comp=Z,974µm,21.7s,baz=55,slow=34
MJAR PKP2ab 09 38 11.8
comp=Z,5.5nm,1.2s,baz=226,slow=4.5,SNR=5.8
JTS JuntasAbangare 59.41 119 *e*P **P** **09 08 24.0 +1.1**
comp=Z,60nm,1.2s
JTS LR LR
comp=Z,304µm,18.0s
JTS JuntasAbangare 59.41 119*c i*P **P** **09 08 26.7 +3.8**
JTS pmax pmax
comp=Z,61nm,1.3s
JTS MLR MLR
comp=Z,267µm,16.0s
SDDR Presa de Saban 59.55 101 *e*P **P** **09 08 25.9 +2.0**
comp=Z,234nm,0.9s
SDDR LR LR
comp=Z,707µm,22.0s
SDDR Presa de Saban 59.55 101 *e*P P 09 08 29.0 +5.1
DOMB Dombas 59.67 19 *e*P **P** **09 08 22.6 -1.6**
DOMB *e*S **S** **09 16 32.4 -2.6**
RRH Rhenigidale 59.70 29 *e*P **P** **09 08 25.9 +1.5**
SUE Sulen 59.73 21 *e*P **P** **09 08 28.1 +3.6**
SUE IVmB_BB 09 08 37.4
comp=Z,10µm,3.2s
SUE *e* 09 10 27.3
SUE *e*S **S** **09 16 38.8 +3.3**
SUE *i* 09 20 19.3
SUE IVMs_BB IVMs_BB 09 35 17.7
comp=Z,278µm,15.2s
HYA Hoyanger 59.92 21 *e*P **P** **09 08 30.1 +4.2**
HYA IVmB_BB 09 08 38.9
comp=Z,7µm,2.7s
HYA *i* 09 16 09.5
HYA IVMs_BB IVMs_BB 09 36 36.3
comp=Z,219µm,18.0s
BIGH Upper Bighouse 59.96 27 *e*P **P** **09 08 28.2 +2.1**
BIGH IAMs_20 IAMs_20 09 32 40.2
comp=Z,2450µm,18.6s
HDC Heredia 60.07 118 *e*P **P** **09 08 27.5 -0.2**
comp=Z,95nm,1.0s
HDC LR LR
comp=Z,285µm,21.0s
MLA1 Latheron 60.26 27 *e*P **P** **09 08 30.8 +2.6**
CN2 Changchun 60.32 305 *e*P **P** **09 08 26.9 -2.0**
CN2 *es*P pwP 09 08 33.9 +2.3
CN2 *e*PP **PP** **09 10 41.2 -0.2**
CN2 *e*S **S** **09 16 37.3 -6.4**
CN2 *e*SS **SS** **09 20 34.8 -5.6**
CN2 pmax pmax
comp=Z,50nm,1.1s
CN2 LR LR
comp=Z,739µm,24.0s
CN2 LR LR
comp=Z,199µm,24.0s
CN2 LR LR
comp=Z,456µm,25.0s
BER Bergen 60.46 21 *e*P **P** **09 08 27.6 -1.9**
BER IVmB_BB 09 08 44.9
comp=Z,8µm,1.9s
BER *e* 09 12 24.9
BER *e*S S 09 16 56.0 +11
BER *e* 09 19 58.3
BER *i* 09 20 43.7
BER IVmBBB 09 35 36.3
comp=Z,358µm,15.9s
KPL Plockton 60.49 29 *e*P **P** **09 08 31.7 +1.9**
KPL *e* 09 16 45.9
KPL IAMs_20 IAMs_20 09 34 21.4
comp=Z,1472µm,17.7s
NC204 NORSAR Array S 60.69 18 *e*P **P** **09 08 28.5 -2.7**
SDD Santo Domingo 60.74 100 *e*P **P** **09 08 30.1 -1.9**
comp=Z,406nm,1.0s
SDD LR LR
comp=Z,1072µm,20.0s
INU Inuyama 60.86 291 *e*P **P** **09 08 30.8 -1.9**
comp=Z,1µm,2.0s
INU LR LR
comp=Z,678µm,22.0s
NB2 NORSAR Subarra 60.99 18 P **P** **09 08 31.8 -1.5**
comp=Z,2µm,1.7s,baz=341,slow=7.4
NB2 NORSAR Subarra 60.99 18 P **P** **09 08 31.8 -1.5**
baz=341,slow=7.4
NB200 NORSAR Array S 60.99 18 *e*P **P** **09 08 31.7 -1.5**
NB200 *e*S **S** **09 16 54.6 +2.7**
NOA NORSAR Array B 60.99 18 P **P** **09 08 31.7 -1.5**
comp=Z,33nm,1.0s,baz=340,slow=6.8,SNR=58
NOA S **S** **09 16 54.6 +2.7**
comp=Z,1.7nm,0.9s,baz=223,slow=20,SNR=2.5
NOA LR LR 09 35 31.2
comp=Z,1169µm,19.4s,baz=340,slow=37
NOA PKP2bc 09 37 59.7
comp=Z,5.6nm,1.0s,baz=158,slow=2.2,SNR=7.2
JHJ2 Mitsune 61.03 287 *e*P **P** **09 08 35.5 +1.6**
comp=Z,3µm,1.9s
JHJ2 LR LR
comp=Z,505µm,22.0s
JHJ Hachijo jima 2 61.04 287 S **S** **09 16 56.1 +2.9**
comp=Z,41nm,0.6s,baz=71,slow=21,SNR=1.9
ODD1 Odda 61.16 21 *e*P **P** **09 08 37.9 +3.5**
ODD1 IVmB_BB 09 08 50.3
comp=Z,9µm,2.0s
ODD1 *e* 09 11 04.2
ODD1 *e*S S 09 17 04.2 +10
ODD1 *i* 09 19 53.0
ODD1 IVMs_BB IVMs_BB 09 37 27.2
comp=Z,396µm,16.8s
NC602 NORSAR Array S 61.34 18 *e*P **P** **09 08 38.9 +3.3**
NC602 IVmB_BB 09 08 55.5
comp=Z,43µm,2.1s
NC602 *e*S **S** **09 17 02.4 +6.2**
NC602 *i* 09 21 05.6
NC602 IVMs_BB IVMs_BB 09 32 55.5
comp=Z,1596µm,24.1s
LAWE Loch Awe, Argy 61.49 29 *e*P **P** **09 08 38.8 +2.2**
LAWE *e* 09 17 02.8
LAWE IAMs_20 IAMs_20 09 32 11.4
comp=Z,1582µm,21.1s
KMY Karmoy 61.51 22 *e*P P 09 08 44.2 +7.5
KMY *e*S **S** **09 16 58.7 +0.3**
KMY *i* 09 20 59.8
KMY IVmBBB 09 35 59.2
comp=Z,325µm,17.4s
BLS5 Blasjo 61.57 21 *e*P **P** **09 08 41.7 +4.5**
BLS5 IVmB_BB 09 08 58.1
comp=Z,6µm,2.5s
BLS5 *e*S **S** **09 17 06.2 +6.9**
BLS5 *i* 09 21 10.0
BLS5 IVMs_BB IVMs_BB 09 35 04.7
comp=Z,291µm,17.1s
DRUM Mains of Drumt 61.71 27 *e*P **P** **09 08 41.1 +3.0**
INVG Invergeldie, C 61.72 29 *e*P **P** **09 08 40.3 +2.1**
INVG *e* 09 17 06.3
INVG IAMs_20 IAMs_20 09 34 17.8
comp=Z,1633µm,21.9s
EDU Dundee 61.89 28 *e*P **P** **09 08 41.8 +2.5**
IDGL Inch Island, C 61.90 31 *i*P **P** **09 08 41.5 +2.1**
IDGL *e*PPP PPP 09 12 39.6
IDGL *e*S **S** **09 17 04.4 +0.9**
OSL Oslo 61.93 19 *e*P **P** **09 08 42.0 +2.5**
OSL IVmB_BB 09 08 53.0
comp=Z,9µm,2.5s
OSL *e*S **S** **09 17 07.9 +4.2**
OSL *i* 09 21 06.9
OSL IVMs_BB IVMs_BB 09 38 04.1
comp=Z,233µm,14.5s
KONO Kongsberg 61.99 20 *e*P **P** **09 08 38.9 -1.1**
comp=Z,1µm,1.6s
KONO LR LR
comp=Z,1053µm,20.0s
KONO Kongsberg 61.99 20 *e*P **P** **09 08 38.9 -1.1**
KONO pmax pmax
comp=Z,1µm,1.6s
KONO MLR MLR
comp=Z,1053µm,20.0s
KONO Kongsberg 61.99 20 *e*P **P** **09 08 39.7 -0.3**
KONO IVmB_BB 09 08 55.6
comp=Z,9µm,1.8s
KONO *e*S **S** **09 17 06.6 +2.1**
KONO *i* 09 21 13.2
KONO IVMs_BB IVMs_BB 09 34 57.1
comp=Z,344µm,15.9s
PGBU Glenifferbraes 62.13 29 *e*P **P** **09 08 43.9 +3.0**
PGBU IAMs_20 IAMs_20 09 34 07.1
comp=Z,1555µm,20.3s
IRK Irkutsk 62.26 323 *e*P **P** **09 08 40.5 -1.4**
IRK pmax pmax
comp=Z,4µm,3.4s
HFS Hagfors 62.28 17 P **P** **09 08 39.8 -2.0**
comp=Z,13nm,0.9s,baz=24,slow=1.8,SNR=21
CLGH Cloghs, Cushen 62.30 30 *e*P **P** **09 08 43.6 +1.5**
CLGH *e* 09 17 05.5
CLGH IAMs_20 IAMs_20 09 34 36.4
comp=Z,1177µm,19.0s
AGP Aguadilla 62.35 98 PFAKE 09 08 50.0 +7.0
AGP LR LR
comp=Z,586µm,22.0s
EDI Edinburgh 62.39 28 *e*P **P** **09 08 44.3 +1.6**
EDI *e* 09 16 56.6
EDI IAMs_20 IAMs_20 09 34 58.8
comp=Z,1892µm,20.8s
MPR Mayaguez 62.51 98 *e*P **P** **09 08 42.9 -1.1**
comp=Z,1µm,2.0s
MPR LR LR
comp=Z,569µm,22.0s
EMPR Esperanza - Ma 62.65 97 PFAKE 09 09 00.0 +15
EMPR LR LR
comp=Z,554µm,18.0s
FIA0 FINESS Array S 62.69 10 *e*P **P** **09 08 43.3 -1.3**
FIA0 FINESS Array S 62.69 10 *e*P **P** **09 08 43.3 -1.3**
FINES FINESS Array B 62.69 10 P **P** **09 08 43.3 -1.3**
comp=Z,52nm,0.9s,baz=18,slow=9.7,SNR=31
FINES LR LR 09 36 35.2
comp=Z,1147µm,21.8s,baz=352,slow=37
FINES PKP2bc 09 37 55.1
comp=Z,15nm,1.1s,baz=46,slow=5.5,SNR=6.6
FINES PKP2ab 09 38 02.6
comp=Z,14nm,0.9s,baz=106,slow=6.2,SNR=11
CRPR Cabo Rojo, PR 62.69 98 PFAKE 09 09 00.0 +15
CRPR LR LR
comp=Z,777µm,21.0s
SNY Shenyang 62.72 305 ⇑P **P** **09 08 44.0 -1.1**
SNY pmax pmax
comp=Z,59µm,12.0s
SNY LR LR
comp=Z,940µm,18.6s
SNY LR LR
comp=Z,1592µm,23.7s
SNART Snartemo 62.72 21 *e*P **P** **09 08 48.4 +3.5**
SNART IVmB_BB 09 09 00.3
comp=Z,5µm,2.2s
SNART *e* 09 11 03.9
SNART *e* 09 17 03.4
SNART IVMs_BB IVMs_BB 09 38 14.1
comp=Z,165µm,19.9s
IGLA Glengowla, Co 62.75 33 *e*P **P** **09 08 46.4 +1.3**
IGLA *e*PPP PPP 09 12 46.2
IGLA *e*S **S** **09 17 13.4 -0.8**
GAL1 Galloway 62.90 30 *e*P **P** **09 08 48.0 +2.0**
GAL1 *e* 09 17 14.4
GAL1 IAMs_20 IAMs_20 09 35 17.8
comp=Z,689µm,16.8s
EKA Eskdalemuir Ar 62.92 29 P **P** **09 08 44.7 -1.5**
comp=Z,6.7nm,0.7s,baz=312,slow=5.0,SNR=13
ESK Eskdalemuir 62.92 29 *e*P **P** **09 08 45.2 -1.0**
comp=Z,1µm,1.4s
ESK LR LR
comp=Z,2097µm,21.0s
ESK Eskdalemuir 62.92 29 *e*P **P** **09 08 48.2 +1.9**
ESK *e* 09 17 19.4
ESK IAMs_20 IAMs_20 09 34 42.2
comp=Z,2201µm,22.0s
ESK Eskdalemuir 62.92 29 *e*P **P** **09 08 45.3 -1.0**
ESK pmax pmax
comp=Z,1µm,1.4s
ESK MLR MLR
comp=Z,2097µm,21.0s
OBIP Obispado Ponce 62.95 97 *e*P **P** **09 08 49.2 +2.3**
comp=Z,468nm,1.3s
OBIP LR LR
comp=Z,390µm,19.0s
BCIP Isla Barro Col 62.97 115 *e*P **P** **09 08 49.0 +1.9**
comp=Z,436nm,1.4s
BCIP LR LR
comp=Z,278µm,19.0s
BCIP Isla Barro Col 62.97 115 *e*P **P** **09 08 51.6 +4.6**
BCIP Isla Barro Col 62.97 115 *e*P **P** **09 08 51.6 +4.6**
HOMB Homborsund 63.05 21 *e*P P 09 08 53.3 +6.3
HOMB IVmB_BB 09 09 03.2
comp=Z,8µm,2.3s
HOMB *e* 09 11 16.8
HOMB *e*S S 09 17 27.6 +10
HOMB *i* 09 21 43.7
HOMB IVMs_BB IVMs_BB 09 38 17.2
comp=Z,291µm,14.5s
GMM Mts of Mourne 63.08 31 *e*P **P** **09 08 48.8 +1.5**
BHH Howats Hill 63.12 29 *e*P **P** **09 08 49.4 +1.9**
ICMP Isla Caja de M 63.12 97 *e*P **P** **09 08 46.8 -1.2**
comp=Z,832nm,1.6s
ICMP LR LR
comp=Z,356µm,21.0s
SJG San Juan 63.15 97 *e*P **P** **09 08 50.4 +2.2**
comp=Z,364nm,1.5s
SJG LR LR
comp=Z,456µm,20.0s
SJG San Juan 63.15 97 *e*P **P** **09 08 50.4 +2.2**
SJG pmax pmax
comp=Z,365nm,1.5s
SJG MLR MLR
comp=Z,456µm,20.0s
CBYP Canovanas 63.19 97 *e*P **P** **09 08 51.1 +2.5**
comp=Z,474nm,1.8s
CBYP LR LR
comp=Z,494µm,20.0s
PNME Penonome 63.29 116 *e*P **P** **09 08 52.1 +2.9**
PNME Penonome 63.29 116 *e*P **P** **09 08 52.1 +2.9**
HUMP Col San Antoni 63.30 97 *e*P **P** **09 08 49.2 0.0**
comp=Z,447nm,1.7s
HUMP LR LR
comp=Z,568µm,20.0s
IOMK Kirk Michael 63.47 30 *e*P **P** **09 08 52.8 +2.9**
IOMK *e* 09 17 24.8
IOMK IAMs_20 IAMs_20 09 35 32.6
comp=Z,1256µm,18.7s
PRGR Permogore 63.47 360 *e*P **P** **09 08 48.5 -1.2**
PRGR pmax pmax
comp=Z,858nm,1.1s
CUPR Culebra, Puert 63.49 96 *e*P **P** **09 08 53.3 +2.8**
comp=Z,276nm,1.6s
CUPR LR LR
comp=Z,530µm,19.0s
MTP Monte Pirata 63.51 96 *e*P **P** **09 08 50.8 +0.2**
comp=Z,388nm,1.7s
MTP LR LR
comp=Z,464µm,20.0s
WIM Isle of Man 63.53 30 *e*P **P** **09 08 53.0 +2.7**
KESW Keswick, Cumbr 63.59 29 *e*P **P** **09 08 53.4 +2.7**
KESW *e* 09 17 25.6
KESW IAMs_20 IAMs_20 09 33 25.1
comp=Z,1669µm,22.0s
STVI Saint Thomas 63.64 96 *e*P **P** **09 08 49.9 -1.6**
comp=Z,250nm,1.5s
STVI LR LR
comp=Z,453µm,20.0s
EDMD Edmundbyers 63.69 28 *e*P **P** **09 08 53.7 +2.3**
EDMD *e* 09 17 27.6
EDMD IAMs_20 IAMs_20 09 35 26.1
comp=Z,2474µm,21.5s
ABVI Anegada Island 63.70 95 PFAKE 09 09 00.0 +8.2
ABVI LR LR
comp=Z,669µm,20.0s
VAL Valentia 63.73 35 *i*P **P** **09 08 52.4 +0.8**
VAL *e*S **S** **09 17 24.1 -2.4**
MOY Mondy 63.85 325 *e*P **P** **09 08 51.3 -1.3**
MOY pmax pmax
comp=Z,3µm,2.8s
AZU Azuero 63.91 116 *e*P P 09 08 58.9 +5.7
AZU Azuero 63.91 116 *e*P P 09 08 58.9 +5.7
KSRS Korea Array 63.98 299 P **P** **09 08 53.1 -0.4**
comp=Z,28nm,0.8s,baz=44,slow=5.7,SNR=42
KSRS S **S** **09 17 29.8 -0.3**
comp=Z,1.4nm,0.8s,baz=242,slow=31,SNR=2.4
KSRS PKP2bc 09 37 52.1
comp=Z,2.3nm,1.0s,baz=41,slow=3.9,SNR=4.0
KSRS LR LR 09 38 23.8
comp=Z,480µm,19.0s,baz=42,slow=38
TAOE Nuku Hiva Isla 64.01 186 *e*P P 09 08 59.5 +5.6
comp=Z,1µm,1.4s
TAOE *e*S **S** **09 17 34.6 +3.8**
comp=Z,67µm,23.5s
TAOE *e*LQ LQ 09 25 11.8
comp=Z,191µm,25.4s
TAOE *e*LR LR 09 28 04.2
comp=Z,808µm,28.1s,baz=12
TAOE Nuku Hiva Isla 64.01 186 *e*T T 10 18 26.8
comp=Z,2µm,0.2s
TAOE Nuku Hiva Isla 64.01 186 *e*P **P** **09 08 55.1 +1.2**
comp=Z,794nm,1.4s
TAOE LR LR
comp=Z,284µm,21.0s
KS15 Wonju Array Si 64.01 299 *e*P **P** **09 08 53.1 -0.6**
KS15 *e*S **S** **09 17 29.8 -0.6**
KS15 ⇑*e* 09 37 52.1
KS15 *e* 09 38 23.8
KSAR Wonju Array Be 64.01 299 P **P** **09 08 53.1 -0.6**
KSAR S **S** **09 17 29.8 -0.6**
KSAR ⇑*e* 09 37 52.1
KSAR Wonju Array Be 64.01 299 P **P** **09 08 53.1 -0.6**
KSAR S **S** **09 17 29.8 -0.6**
ZAK Zakamensk 64.16 323 *e*P **P** **09 08 53.7 -1.0**
ZAK *e* 09 12 55.7
ZAK pmax pmax
comp=Z,259nm,1.7s
KLMR Klimovskoe 64.17 3 *e*P **P** **09 08 51.1 -3.3**
KLMR pmax pmax
comp=Z,709nm,1.3s
KLMR Klimovskoe 64.17 3 *e*P **P** **09 08 51.2 -3.2**
KLMR AMP 09 09 09.4
comp=Z,709nm,1.3s
WPS Cemaes, Angles 64.24 30 *e*P **P** **09 08 57.7 +2.8**
WPS IAMs_20 IAMs_20 09 37 49.0
comp=Z,863µm,20.0s
SMRC Santa Marta, M 64.29 108 *e*P **P** **09 08 57.4 +1.6**
SMRC Santa Marta, M 64.29 108 *e*P **P** **09 08 57.4 +1.6**
CBIJ Chichi jima 64.31 281 *e*P **P** **09 08 56.7 +0.9**
comp=Z,2µm,1.4s
JCJ Chichijima 64.31 281 LR LR 09 33 09.3
comp=Z,233µm,22.0s,baz=55,slow=32
YRC Rhoscolyn 64.35 31 *e*P **P** **09 08 58.3 +2.7**
GDLE Glaisdale, N Y 64.36 28 *e*P **P** **09 08 58.1 +2.4**
GDLE *e* 09 17 28.1
GDLE IAMs_20 IAMs_20 09 37 09.9
comp=Z,2505µm,18.3s
WLF1 Llynfaes 64.36 30 *e*P **P** **09 08 58.0 +2.3**
WLF1 IAMs_20 IAMs_20 09 34 58.4
comp=Z,1867µm,17.9s
UPD2 Meteti 64.45 113 *e*P **P** **09 08 57.4 +0.6**
UPD2 Meteti 64.45 113 *e*P **P** **09 08 57.4 +0.6**
IWEX Carrickbyrne, 64.45 32 *i*P **P** **09 08 55.8 -0.6**
IWEX *e*PPP PPP 09 13 08.2
IWEX *e*S **S** **09 17 34.1 -1.4**
WPM1 Penmaenmawr 64.53 30 *e*P **P** **09 08 59.6 +2.6**
HPK Haverah Park 64.56 29 *e*P **P** **09 08 59.2 +2.1**
HPK IAMs_20 IAMs_20 09 35 40.8
comp=Z,2154µm,21.1s
KWAJ Kwajalein Atol 64.65 247 *e*P **P** **09 08 57.8 -0.4**
comp=Z,2µm,1.8s
KWAJ Kwajalein Atol 64.65 247 *e*P **P** **09 08 57.8 -0.4**
KWAJ pmax pmax
comp=Z,2µm,1.8s
PUL Pulkovo 64.73 8⇓ *e*P **P** **09 08 57.8 -0.3**
PUL pmax pmax
comp=Z,49nm,0.7s
PUL MLR MLR
comp=Z,1069µm,22.0s
MUD Monsted U'grnd 64.88 21 *i*P **P** **09 08 59.4 +0.4**
comp=Z,611nm,1.1s
comp=Z,1036µm,18.0s
MUD Monsted U'grnd 64.88 21 *i*P **P** **09 08 59.4 +0.4**
MUD pmax pmax
comp=Z,610nm,1.1s
MUD MLR MLR

comp=Z,1000µm,18.0s
ULN Ulaanbaatar 64.91 319 *e*P **P** **09 08 58.3 -1.4**
comp=Z,1µm,1.8s
ULN LR LR
comp=Z,2213µm,18.0s
ULN Ulaanbaatar 64.91 319*c e*P **P** **09 08 58.8 -0.9**
ULN pmax pmax
comp=Z,151nm,2.8s
ULN MLR MLR
comp=Z,2098µm,18.0s
SMRT St. Maarten 64.95 94 *e*P **P** **09 09 01.2 +1.1**
comp=Z,541nm,1.9s
SMRT LR LR
comp=Z,661µm,20.0s
SMRT St. Maarten 64.95 94 *e*P **P** **09 08 58.9 -1.2**
LBWR Ladybower, Pea 65.02 29 *e*P **P** **09 09 02.2 +2.1**
LBWR IAMs_20 IAMs_20 09 35 43.0
comp=Z,1738µm,20.3s
FOEL Foel Wylfa 65.06 30 *e*P **P** **09 09 02.7 +2.4**
FOEL *e* 09 17 53.1
FOEL IAMs_20 IAMs_20 09 39 42.0
comp=Z,758µm,14.1s
TJN Taejon 65.10 298*c i*P **P** **09 09 00.1 -0.7**
STNC Stoke 65.16 29 *e*P **P** **09 09 03.2 +2.2**
STNC IAMs_20 IAMs_20 09 36 13.4
comp=Z,1466µm,19.8s
SONA0 Songino Array 65.18 319 *e*P **P** **09 09 00.2 -1.2**
SONM Songino Array 65.18 319 P **P** **09 09 00.2 -1.2**
SONM PKPPKP **P'P'df** **09 37 44.7 -6.3**
comp=Z,16nm,1.1s,baz=35,slow=3.3,SNR=42
comp=Z,2.8nm,0.8s,baz=192,slow=2.3,SNR=7.3
SONM LR LR 09 40 07.5
comp=Z,1386µm,19.5s,baz=22,slow=38
SABA Saba 65.20 95 PFAKE 09 09 10.0 +8.3
SABA LR LR
comp=Z,577µm,20.0s
SABA Saba 65.20 95 *e*P P 09 08 55.0 -6.8
KNTN Kanton 65.29 221 *e*P **P** **09 09 02.8 +0.6**
comp=Z,980nm,1.8s
KNTN LR LR
comp=Z,364µm,20.0s
LMK Market Rasen 65.36 28 *e*P **P** **09 09 04.6 +2.4**
LMK IAMs_20 IAMs_20 09 37 20.7
comp=Z,2269µm,18.7s
RSBS Rosebush, Pemb 65.43 31 *e*P **P** **09 09 05.4 +2.6**
RSBS IAMs_20 IAMs_20 09 34 50.0
comp=Z,700µm,19.6s
SEUS St. Eustatius 65.45 95 PFAKE 09 09 10.0 +6.7
SEUS LR LR
comp=Z,558µm,22.0s
SEUS St. Eustatius 65.45 95 *e*P P 09 09 08.9 +5.6
HLM1 Long Mynd 65.48 30 *e*P **P** **09 09 04.9 +1.8**
HLM1 *e* 09 17 36.4
HLM1 IAMs_20 IAMs_20 09 35 34.8
comp=Z,322µm,19.0s
MOTC Monteria, Cord 65.50 111 *e*P **P** **09 09 04.2 +0.5**
MOTC Monteria, Cord 65.50 111 *e*P **P** **09 09 04.2 +0.5**
H07S1 FLORES T-PHASE 65.57 56 *e*LQ LQ 09 24 58.4
H07S1 *e*LR LR 09 29 59.8
VSU Vasula 65.69 11⇓ *e*P **P** **09 09 04.5 +0.2**
VSU pmax pmax
comp=Z,308nm,1.3s
VSU MLR MLR
comp=Z,4405µm,18.0s
CWF Charnwood Fore 65.73 29 *e*P **P** **09 09 07.1 +2.5**
CWF *e* 09 17 46.2
CWF IAMs_20 IAMs_20 09 36 40.1
comp=Z,1791µm,18.9s
CODC Agustn Codazz 65.73 108 *e*P **P** **09 09 04.2 -1.0**
CODC Agustn Codazz 65.73 108 *e*P **P** **09 09 04.2 -1.0**
JNU Nakatsue 65.82 293 P **P** **09 09 04.6 -1.1**
comp=Z,29nm,0.9s,baz=47,slow=6.3,SNR=10
JNU S **S** **09 17 58.2 +5.2**
comp=Z,7.9nm,1.1s,baz=258,slow=19,SNR=1.6
JNU Nakatsue 65.82 293 *e*P **P** **09 09 04.4 -1.3**
comp=Z,827nm,1.2s
JNU LR LR
comp=Z,934µm,21.0s
KNGR Kungurtug, Tuv 65.88 326*c i*P **P** **09 09 06.6 +0.7**
MCH1 Michaelchurch 65.91 30 *e*P **P** **09 09 08.0 +2.1**
MCH1 IAMs_20 IAMs_20 09 36 56.8
comp=Z,1133µm,23.4s
DL2 Dalian 65.93 304⇑ *i*P **P** **09 09 05.2 -1.0**
DL2 pP **pwP** **09 09 13.4 +4.5**
DL2 PP **PP** **09 11 33.5 +2.8**
DL2 S **S** **09 17 51.9 -2.1**
DL2 SS **SS** **09 22 05.2 -2.8**
DL2 pmax pmax
comp=Z,620nm,2.2s
DL2 pmax pmax
comp=Z,35µm,7.1s
DL2 LR LR
comp=Z,421µm,23.1s
DL2 LR LR
comp=Z,1317µm,20.1s
NVS Novosibirsk 65.94 337⇓ *i*P **P** **09 09 06.5 +0.5**
NVS *i* 09 11 25.9
NVS *i* S **S** **09 17 54.5 +0.9**
NVS pmax pmax
comp=N,944nm,2.4s
NVS pmax pmax
comp=Z,2µm,2.4s
NVS pmax pmax
comp=E,1µm,2.6s
NVS pmax pmax
comp=Z,747nm,2.4s
NVS pmax pmax
comp=N,518nm,2.2s
NVS pmax pmax
comp=E,332nm,2.0s
NVS smax smax
comp=N,222nm,2.4s
NVS smax smax
comp=E,142nm,2.6s
NEV Hard Times 65.97 94 *e*P **P** **09 09 09.1 +2.4**
ANWB Willy Bob 66.00 93 PFAKE 09 09 20.0 +13
ANWB LR LR
comp=Z,575nm,20.0s
ANWB Willy Bob 66.00 93 *e*P **P** **09 09 09.6 +2.7**
MONM Monmouth 66.10 30 *e*P **P** **09 09 09.0 +2.0**
MONM IAMs_20 IAMs_20 09 35 49.8
comp=Z,1079µm,19.3s
COP Copenhagen 66.25 20 *i* P **P** **09 09 11.1 +3.2**
comp=Z,386nm,1.1s
comp=Z,437µm,19.0s
COP Copenhagen 66.25 20 *i* P **P** **09 09 11.1 +3.2**
COP pmax pmax
comp=Z,390nm,1.1s
COP MLR MLR
comp=Z,440µm,19.0s
WACR West Acre 66.27 28 *e*P **P** **09 09 09.7 +1.6**
WACR IAMs_20 IAMs_20 09 37 59.3
comp=Z,2183µm,19.1s
OLDB Oldbury-Upon-S 66.34 30 *e*P **P** **09 09 11.3 +2.7**
OLDB IAMs_20 IAMs_20 09 38 48.0
comp=Z,1039µm,15.8s
STRD Stroud 66.34 30 *e*P **P** **09 09 10.8 +2.1**
STRD IAMs_20 IAMs_20 09 36 10.7
comp=Z,914µm,18.6s
HTL Hartland 66.36 32 *e*P **P** **09 09 11.5 +2.8**
HTL IAMs_20 IAMs_20 09 36 12.8
comp=Z,1660µm,20.1s
ZAA1 Zalesovo Array 66.40 336 *e*P **P** **09 09 07.0 -1.9**
ZALV Zalesovo Beam 66.40 336 P **P** **09 09 07.0 -1.9**
comp=Z,68nm,0.8s,baz=17,slow=6.1,SNR=51
ZALV PKPPKP P'P'df 09 37 40.0 -10
comp=Z,2.0nm,0.8s,baz=207,slow=3.0,SNR=4.5
ZALV LR LR 09 42 03.4
comp=Z,1059µm,19.0s,baz=6.0,slow=40
UREC San Jos de Ur 66.43 112 *e*P **P** **09 09 08.8 -0.8**
UREC San Jos de Ur 66.43 112 *e*P **P** **09 09 08.8 -0.8**
PAYG Puerto Ayora 66.49 130 *e*P **P** **09 09 11.3 +1.2**
comp=Z,366nm,1.3s
PAYG LR LR
comp=Z,148µm,22.0s
PAYG Puerto Ayora 66.49 130 *e*P **P** **09 09 14.6 +4.5**
PAYG Puerto Ayora 66.49 130 *e*P **P** **09 09 14.6 +4.5**
MLYT Lee's Yard 66.52 94 *e*P P 09 09 15.6 +5.3
HVS Khovu-Aksy 66.58 329⇓ *e*P **P** **09 09 09.5 -0.8**
HVS MLR MLR
comp=Z,3356µm,17.0s
SWN1 Swindon 66.68 30 *e*P **P** **09 09 12.9 +2.1**
SWN1 IAMs_20 IAMs_20 09 36 21.4
comp=Z,963µm,19.2s
CCA1 Carnmenellis 66.84 33 *e*P **P** **09 09 13.7 +1.9**

ZARC Zaragoza, Cauc 67.00 111 *e*P **P** **09 09 12.6 -0.7**
ZARC Zaragoza, Cauc 67.00 111 *e*P **P** **09 09 12.6 -0.7**
WOL Wolverton 67.03 30 *e*P **P** **09 09 15.1 +2.1**
WOL IAMs_20 IAMs_20 09 36 33.6
comp=Z,1216µm,19.5s
ABD La Joyeuse, An 67.12 94 *e*P **P** **09 09 12.9 -1.1**
OCAC Ocana 67.21 109 *e*P **P** **09 09 18.0 +3.1**
OCAC Ocana 67.21 109 *e*P **P** **09 09 18.0 +3.1**
BSD Bornholm Skovb 67.25 18 *i* P **P** **09 09 13.8 -0.5**
comp=Z,348nm,1.0s
comp=Z,927µm,17.0s
BSD Bornholm Skovb 67.25 18 *i* P **P** **09 09 13.8 -0.5**
BSD pmax pmax
comp=Z,350nm,1.0s
BSD MLR MLR
comp=Z,930µm,17.0s
CBE Ff, Capester 67.37 94 *e*P **P** **09 09 15.2 -0.5**
BSEG Bad Segeberg 67.47 21 *e*P **P** **09 09 15.3 -0.4**
comp=Z,3µm,2.0s,baz=342,slow=6.1
BSEG *e*L L 09 37 45.9
comp=Z,1003µm,21.7s
ROSA Rosais 67.48 54 *e*LQ LQ 09 25 23.0
ROSA *e*LR LR 09 29 40.6
ROSA Rosais 67.48 54 PFAKE 09 09 30.0 +14
ROSA LR LR
comp=Z,904µm,19.0s
TDBA Terre de Bas, 67.53 95 *e*P **P** **09 09 15.9 -0.8**
BJI Beijing 67.55 308 P **P** **09 09 15.9 -0.6**
BJI S **S** **09 18 19.8 +6.3**
BJI pmax pmax
comp=Z,20nm,2.7s
BJI pmax pmax
comp=Z,7µm,11.8s
BJT Baijiatuau 67.57 308 *e*P **P** **09 09 15.2 -1.4**
comp=Z,1µm,1.9s
BJT LR LR
comp=Z,2380µm,19.0s
BJT Baijiatuau 67.57 308 *e*P **P** **09 09 15.3 -1.4**
BJT pmax pmax
comp=Z,1µm,1.9s
BJT MLR MLR
comp=Z,2380µm,19.0s
SVE Sverdlovsk 67.59 351*c e*P **P** **09 09 15.4 -1.1**
SVE *e* 09 11 41.2
SVE *e*PPP PPP 09 13 18.2
SVE *e*S **S** **09 18 11.5 -2.1**
SVE *e*SS **SS** **09 22 38.2 +5.3**
SVE pmax pmax
comp=Z,847nm,1.7s
SVE pmax pmax
comp=Z,24µm,16.8s
MAGL Barre de l'ile 67.66 94 *e*P **P** **09 09 16.3 -1.1**
HELC Santa Helena 67.74 113 *e*P **P** **09 09 16.4 -2.0**
HELC Santa Helena 67.74 113 *e*P **P** **09 09 16.4 -2.0**
MDPC Dominica; Chan 67.86 95 *e*P **P** **09 09 21.7 +3.0**
HMNX Herstmonceux 67.86 29 *e*P **P** **09 09 20.5 +2.3**
HMNX IAMs_20 IAMs_20 09 37 55.1
comp=Z,2073µm,20.8s
BBL Barber's Block 67.89 95 *e*P P 09 09 24.2 +5.3
BRRC Barranca, Sant 67.94 110 *e*P P 09 09 12.8 -6.5
BRRC Barranca, Sant 67.94 110 *e*P P 09 09 12.8 -6.5
DWS Wesley 67.94 94 *e*P **P** **09 09 22.3 +3.0**
PTBC PUERTO BERRIO, 68.02 111 *e*P **P** **09 09 15.7 -4.1**
PTBC PUERTO BERRIO, 68.02 111 *e*P **P** **09 09 15.7 -4.1**
MDN Morne-Daniel 68.10 95 *e*P P 09 09 27.0 +6.8
SDV Santo Domingo 68.14 107 *e*P **P** **09 09 18.3 -2.4**
comp=Z,865nm,1.9s
SDV LR LR
comp=Z,388µm,20.0s
SDV Santo Domingo 68.14 107 *e*P **P** **09 09 23.3 +2.6**
SDV Santo Domingo 68.14 107 *e*P **P** **09 09 23.3 +2.6**
ARU Arti 68.16 352 *e*P **P** **09 09 16.7 -3.4**
comp=Z,720nm,1.2s
ARU LR LR
comp=Z,498µm,19.0s
ARU Arti 68.16 352 P **P** **09 09 18.4 -1.7**
ARU 09 11 48.5
ARU PPP PPP 09 13 28.5
ARU *e*S **S** **09 18 20.7 +0.3**
ARU SS **SS** **09 22 43.0 +1.3**
ARU SSS SSS 09 25 35.9
DBCT Belle View Cho 68.16 95 *e*P P 09 09 33.9 +13
DLPL La Plaine 68.17 95 *e*P P 09 09 32.8 +12
TARA Tarawa 68.31 238 *e*P **P** **09 09 21.6 +0.1**
comp=Z,1µm,1.6s
TARA LR LR
comp=Z,368µm,19.0s
RETH Rethem/Aller, 68.38 23 *e*P **P** **09 09 21.3 -0.2**
comp=Z,1µm,1.5s,baz=342,slow=6.1
IBBN Ibbenburen 68.42 24 *e*P **P** **09 09 21.7 -0.1**
comp=Z,2µm,1.7s,baz=342,slow=6.1
PLMC San Jos del P 68.43 114 *e*P **P** **09 09 26.3 +3.9**
PLMC San Jos del P 68.43 114 *e*P **P** **09 09 26.3 +3.9**
KLNR Kaliningrad 68.62 15⇓ *e*P **P** **09 09 22.9 0.0**
KLNR pmax pmax
comp=Z,666nm,1.2s
CXM Morne La Croix 68.63 95 *e*P **P** **09 09 22.5 -1.3**
MALC Bahia Malaga 68.64 115 *e*P **P** **09 09 20.3 -3.3**
MALC *e*P **pwP** **09 09 25.6 -0.7**
MALC Bahia Malaga 68.64 115 *e*P **P** **09 09 20.3 -3.3**
MALC *e*P **pwP** **09 09 25.6 -0.7**
JSA Saint Aubin 68.65 31 *e*P **P** **09 09 26.3 +3.1**
JSA IAMs_20 IAMs_20 09 37 54.4
comp=Z,1228µm,23.4s
BARC Barichara 68.66 110 *e*P **P** **09 09 20.3 -3.7**
BARC Barichara 68.66 110 *e*P **P** **09 09 20.3 -3.7**
FDF Fort de France 68.70 95 *e*P **P** **09 09 23.4 -0.6**
comp=Z,1µm,2.0s
FDF LR LR
comp=Z,603µm,21.0s
FDF Fort de France 68.70 95 *e*P **P** **09 09 23.5 -0.6**
FDF Fort de France 68.70 95 *e*P **P** **09 09 24.1 0.0**
FDF Fort de France 68.70 95 *e*P **P** **09 09 23.5 -0.6**
FDF pmax pmax
comp=Z,1µm,2.0s
FDF MLR MLR
comp=Z,603µm,21.0s
NRDL Niedersach Rie 68.77 22 *e*P **P** **09 09 23.4 -0.4**
comp=Z,860nm,1.3s,baz=342,slow=6.1
ILAM Ilet Lapin Mar 68.83 95 *e*P **P** **09 09 24.0 -0.8**
HHC Hu-ho-hao-te 68.91 312 *e*P **P** **09 09 24.7 -0.5**
HHC pP pwP 09 09 28.9 +1.1
HHC sP sP 09 09 32.8 +7.0
HHC PcP **PcP** **09 09 49.7 +0.1**
HHC ScP 09 13 49.8
HHC S **S** **09 18 28.3 -1.7**
HHC SS **SS** **09 22 53.6 -0.6**
HHC pmax pmax
comp=Z,400nm,1.3s
HHC pmax pmax
comp=Z,21µm,5.4s
RREF El Recreo 68.92 113 *e*P **P** **09 09 27.9 +1.7**
RREF El Recreo 68.92 113 *e*P **P** **09 09 27.9 +1.7**
BIM Bigot 68.92 95 *e*P **P** **09 09 24.6 -0.9**
UCC Uccle 68.99 26 PFAKE 09 09 40.0 +15
UCC LR LR
comp=Z,1964µm,18.0s
UCC Uccle 68.99 26 ⇑P **P** **09 09 25.8 +0.5**
comp=Z,266nm,2.0s
UCC ⇓PP PP 09 12 05.7 +8.8
MVM Montagne Vaucl 68.99 95 *e*P **P** **09 09 25.4 -0.5**
BUG Bochum--Univer 69.11 24 *e*P **P** **09 09 25.4 -0.6**
comp=Z,1µm,1.6s,baz=342,slow=6.1
YOTC Yotoco, Valle 69.17 115 *e*P **P** **09 09 27.9 +0.7**
YOTC Yotoco, Valle 69.17 115 *e*P **P** **09 09 27.9 +0.7**
NACGM Naroch 69.19 11 *e*P **P** **09 09 24.0 -2.5**
NACGM *e*P **P** **09 09 24.0 -2.5**
NACGM *e*PcP **PcP** **09 09 58.0 +7.7**
NACGM *e*PP PP 09 12 07.0 +8.5
NACGM *e*PPP PPP 09 13 48.0
NACGM *e*S **S** **09 18 24.0 -8.6**
NACGM *e*SS **SS** **09 22 58.0 +0.5**
NACGM *e*SSS SSS 09 26 12.0
NACGM *e*LQ LQ 09 31 26.0
NACGM *e*LR LR 09 36 53.0
NACGM Naroch 69.19 11 *e* **P'P'bc** **09 37 40.0 -4.9**
TOLC Tolima 69.20 113 *e*P **P** **09 09 30.1 +2.6**
TOLC Tolima 69.20 113 *e*P **P** **09 09 30.1 +2.6**
MOS Moscow 69.21 5 *e*P **P** **09 09 24.7 -1.9**
MOS *e* 09 09 50.3
MOS *i* 09 11 58.3
MOS *i*PPP PPP 09 13 44.2
MOS *i*S **S** **09 18 32.0 -0.9**

MOS *i*SS **SS** **09 23 01.7 +3.9**
MOS pmax pmax
comp=Z,480nm,1.5s
MOS pmax pmax
comp=E,38nm,1.1s
MOS pmax pmax
comp=N,230nm,1.2s
MOS pmax pmax
comp=Z,25µm,10.0s
MOS smax smax
comp=E,133µm,16.0s
MOS smax smax
comp=N,116µm,13.0s
MOS MLR MLR
comp=N,376µm,17.0s
MOS MLR MLR
comp=Z,535µm,17.0s
MOS MLR MLR
comp=E,175µm,14.0s
ASSE Asse, Remlinge 69.23 22 *e*P **P** **09 09 26.4 -0.4**
comp=E,1µm,1.4s,baz=342,slow=6.1
ANIL Santa Ana 69.24 113 *e*P **P** **09 09 26.8 -0.9**
ANIL Santa Ana 69.24 113 *e*P **P** **09 09 26.8 -0.9**
SNF Seneffe 69.24 27⇑P **P** **09 09 26.2 -0.7**
comp=Z,344nm,1.8s
RUSC La Rusia 69.29 111 *e*P **P** **09 09 27.1 -1.2**
RUSC La Rusia 69.29 111 *e*P **P** **09 09 27.1 -1.2**
BEBN Eben Emael 69.33 26⇑P **P** **09 09 27.1 -0.3**
BEBN ⇓PP PP 09 12 08.7 +8.9
CTAU Tausa, Cundina 69.36 112 *e*P **P** **09 09 31.4 +2.7**
CTAU Tausa, Cundina 69.36 112 *e*P **P** **09 09 31.4 +2.7**
PSET Sete Cidades 69.37 53 *e*LQ LQ 09 26 04.1
PSET *e*LR LR 09 30 24.4
HGN Heimansgroeve 69.42 25 *e*P **P** **09 09 27.4 -0.6**
HGN *e*PP PP 09 12 08.4 +7.7
HGN *e*S S 09 18 47.0 +12
HGN *e*SS **SS** **09 23 08.3 +7.0**
HGN *e*SSS SSS 09 27 00.7
GKP Gorka Klasztor 69.42 18 *e*P **P** **09 09 31.2 +3.2**
GKP *e*PP **PP** **09 12 07.9 +7.3**
GKP *e*S **S** **09 18 39.0 +3.6**
GKP *e*SS **SS** **09 23 11.6 +10**
GKP LMZ LR 09 35 38.7
comp=Z,1244µm,30.3s
GKP Gorka Klasztor 69.42 18 *e*P **P** **09 09 31.2 +3.2**
GKP *e* 09 12 07.9
GKP *e*S **S** **09 18 39.0 +3.6**
CTAB Cerro Tablazo, 69.43 112 *e*P **P** **09 09 31.4 +2.3**
CTAB Cerro Tablazo, 69.43 112 *e*P **P** **09 09 31.4 +2.3**
CLZ Clausthal 69.44 22 *e*P **P** **09 09 27.9 -0.3**
comp=Z,2µm,1.4s,baz=342,slow=6.1
SLDE Delcer 69.50 95 *e*P P 09 09 44.8 +16
CMLA Cha da Macela 69.51 53 *e*P **P** **09 09 28.0 -0.9**
comp=Z,857nm,1.5s
CMLA LR LR
comp=Z,1030µm,20.0s
ROSC El Rosal 69.52 112 P **P** **09 09 27.9 -1.7**
comp=Z,21nm,1.0s,baz=29,slow=3.1,SNR=6.8
ROSC LR LR 09 41 12.0
comp=Z,92µm,21.8s,baz=9.5,slow=37
ROSC El Rosal 69.52 112 *e*P **P** **09 09 33.2 +3.6**
ROSC El Rosal 69.52 112 *e*P **P** **09 09 33.2 +3.6**
RUE Ruedersdorf 69.54 20 *e*P **P** **09 09 28.2 -0.5**
comp=Z,2µm,1.7s,baz=342,slow=6.1
MEM Membach 69.58 25 P **P** **09 09 30.3 +1.3**
MEM Membach 69.58 25⇑P **P** **09 09 28.7 -0.3**
comp=Z,446nm,1.8s
SUW Suwalki 69.62 14 *e*P **P** **09 09 27.5 -1.7**
SUW *e*S **S** **09 18 40.4 +2.7**
SUW *e*SS **SS** **09 23 12.1 +7.9**
SUW LMZ LR 09 39 29.1
comp=Z,1175µm,22.4s
SUW Suwalki 69.62 14 *e*P **P** **09 09 27.4 -1.8**
comp=Z,752nm,1.0s
SUW LR LR
comp=Z,1147µm,21.0s
SUW Suwalki 69.62 14 *e*P **P** **09 09 27.5 -1.7**
SUW *e*S **S** **09 18 40.4 +2.7**
SUW *e*SS **SS** **09 23 12.1 +7.9**
GTTG Gyttingen 69.63 23 *e*P **P** **09 09 29.2 -0.1**
comp=Z,2µm,1.3s,baz=342,slow=6.1
GTTG *e*S **S** **09 18 46.1 +8.1**
DGZ Jazzator, Alta 69.63 332*c e*P **P** **09 09 28.5 -1.1**
DGZ MLR MLR
comp=Z,852µm,16.0s
DOU Dourbes 69.70 27⇑P **P** **09 09 28.3 -1.4**
comp=Z,328nm,1.9s
MICGM Minsk 69.70 11⇑ *e*P **P** **09 09 30.0 +0.3**
MICGM PM 09 09 36.0
comp=Z,1.4nm,1.0s
MICGM PM 09 09 37.0
comp=N,0.9nm,1.0s
MICGM PM 09 09 38.0
comp=Z,44nm,11.0s
MICGM PM 09 09 39.0
comp=N,13nm,10.0s
MICGM PM 09 09 42.0
comp=Z,83nm,14.0s
MICGM *e*PcP **PcP** **09 09 49.0 -3.5**
MICGM *e*PP PP 09 11 00.0 -63
MICGM *e*PPP PPP 09 13 48.0
MICGM *e*PsP 09 15 32.0
MICGM *e*S **S** **09 18 40.0 +1.3**
MICGM SM 09 18 52.0
comp=N,109nm,18.0s
MICGM SM 09 18 52.0
comp=E,159nm,18.0s
MICGM SM 09 18 54.0
comp=N,227nm,14.0s
MICGM SM 09 18 54.0
comp=E,82nm,26.0s
MICGM *e*SS **SS** **09 23 10.0 +4.5**
MICGM *e*SSS SSS 09 26 08.0
MICGM *e*LR LR 09 31 30.0
MICGM LRM MLR 09 40 30.0
comp=Z,1µm,18.0s
MICGM Minsk 69.70 11 *e* **P'P'bc** **09 37 42.0 -1.2**
MNK Minsk 69.70 11⇑ *e*P **P** **09 09 30.0 +0.3**
MNK *e* 09 09 49.0
MNK *e* 09 13 48.0
MNK *e*S **S** **09 18 40.0 +1.3**
MNK *e* 09 23 10.0
MNK *e* 09 26 08.0
MNK pmax pmax
comp=Z,1µm,1.0s
MNK pmax pmax
comp=Z,44µm,11.0s
MNK pmax pmax
comp=N,13µm,10.0s
MNK pmax pmax
comp=Z,83µm,14.0s
MNK smax smax
comp=E,159µm,18.0s
MNK smax smax
comp=N,227µm,14.0s
BTO Baotou 69.76 313 *e*P **P** **09 09 27.1 -3.4**
BTO S **S** **09 18 39.8 -0.3**
SFAN Fancy Village 69.78 96 *e*P P 09 09 25.9 -4.8
OBN Obninsk 69.78 5 PKPPKP **P'P'bc** **09 37 35.7 -7.2**
comp=N,3.9nm,0.4s,baz=205,slow=5.7,SNR=9.7
OBN LR LR 09 41 25.7
comp=N,137µm,19.8s,baz=7.0,slow=37
OBN Obninsk 69.78 5 *e*P **P** **09 09 28.1 -2.1**
comp=N,590nm,1.0s
OBN P'P' 09 37 35.7
OBN Obninsk 69.78 5*d e*P **P** **09 09 28.6 -1.6**
OBN *e* 09 09 50.7
OBN *e* 09 12 03.6
OBN *e*PPP PPP 09 13 43.9
OBN *e*S **S** **09 18 37.7 -1.9**
OBN *e*SS **SS** **09 23 06.0 -0.6**
OBN pmax pmax
comp=Z,271nm,1.7s
OBN pmax pmax
comp=Z,26µm,10.4s
OBN MLR MLR
comp=Z,703µm,16.0s
SSV Crater Summit 69.81 96 *e*P P 09 09 37.7 +6.7
SVB Belmont 69.82 96 *e*P P 09 09 36.1 +5.2
SVCV St. Vincent, C 69.88 96 *e*P P 09 09 42.1 +11
AHRW Bad Neuenahr-A 69.90 25 *e*P **P** **09 09 30.8 -0.1**
comp=Z,866nm,1.6s,baz=342,slow=6.1
FCV Fort Charlotte 69.92 96 *e*P P 09 09 44.1 +13
CHIC Chingaza 70.01 112 *e*P **P** **09 09 30.7 -1.9**

CHIC Chingaza 70.01 112 *e*P **P** **09 09 30.7 -1.9**
BRVK Borovoye 70.10 344 *e*P **P** **09 09 30.1 -2.1**
comp=Z,2µm,1.8s
BRVK LR LR
comp=Z,897µm,21.0s
BRVK Borovoye 70.10 344 *ce*P **P** **09 09 30.5 -1.7**
BRVK pmax pmax
comp=Z,283nm,0.9s
BRVK MLR MLR
comp=Z,929µm,21.0s
BRVK Borovoye 70.10 344 P **P** **09 09 30.9 -1.2**
SNR=329
TIA Tai'an 70.22 305 P **P** **09 09 32.2 -1.0**
TIA pmax pmax
comp=Z,22µm,12.8s
TIA LR LR
comp=Z,202µm,18.1s
TIA LR LR
comp=Z,363µm,17.7s
TIA LR LR
comp=Z,502µm,23.5s
POPC Popayan, Colom 70.23 116 *e*P **P** **09 09 31.7 -2.1**
POPC Popayan, Colom 70.23 116 *e*P **P** **09 09 31.7 -2.1**
UBBA Unterbreizbach 70.32 23 *e*P **P** **09 09 33.0 -0.5**
comp=Z,2µm,2.1s,baz=342,slow=6.1
NEUB Neuenburg 70.34 22 *e*P **P** **09 09 33.0 -0.7**
comp=Z,2µm,1.5s,baz=342,slow=6.1
MARP Paez Belalcaza 70.34 115 *e*P **P** **09 09 38.5 +4.0**
MARP Paez Belalcaza 70.34 115 *e*P **P** **09 09 38.5 +4.0**
GRSS Sisters 70.40 97 *e*P P 09 09 45.9 +11
SARN Sarigan 70.43 271 PFAKE 09 09 50.0 +15
SARN LR LR
comp=Z,243µm,20.0s
GRHS Sauteurs 70.45 97 *e*P P 09 09 46.1 +11
WLF Walferdange 70.49 26 *e*P **P** **09 09 32.4 -2.2**
comp=Z,5µm,1.8s
WLF LR LR
comp=Z,7138µm,18.0s
WLF Walferdange 70.49 26 *e*P **P** **09 09 34.7 +0.1**
comp=Z,3µm,1.8s,baz=342,slow=6.1
WLF Walferdange 70.49 26 *e*P **P** **09 09 32.4 -2.2**
WLF pmax pmax
comp=Z,5µm,1.8s
WLF MLR MLR
comp=Z,7138µm,18.0s
WLF Walferdange 70.49 26 ⇑P **P** **09 09 35.9 +1.3**
comp=Z,365nm,2.0s
CLL Collm 70.50 21 *e*P **P** **09 09 33.2 -1.4**
comp=Z,453nm,1.3s
CLL LR LR
comp=Z,1194µm,22.0s
CLL Collm 70.50 21 *e*P **P** **09 09 33.8 -0.9**
comp=Z,2µm,2.1s,baz=342,slow=6.1
CLL Collm 70.50 21 *e*P **P** **09 09 34.0 -0.6**
CLL *e* 09 09 39.0
comp=Z,131nm,1.3s
CLL *e*Pmax 09 09 42.0
CLL *i* 09 09 44.3
comp=Z,1µm,2.4s
CLL *i* 09 09 51.3
comp=Z,2µm,2.1s
CLL *e*PPmax 09 12 17.0
CLL *e*PPP PPP 09 13 56.0
CLL *e*S **S** **09 18 52.0 +3.9**
CLL *e*Smax 09 19 57.0
comp=N,504µm,44.1s
CLL *e*Smax 09 19 57.0
comp=E,200µm,45.6s
CLL *e*SS SS 09 23 30.0 +12
CLL *e*SSSS 09 27 36.0
CLL *e*PKPPKPd **P'P'df** **09 37 35.0 -7.5**
CLL *e* 09 37 41.0
CLL *e* 09 37 48.0
CLL Lm MLR 09 39 00.0
comp=N,102µm,21.1s
CLL Lm MLR 09 39 00.0
comp=E,53µm,19.8s
CLL Lm MLR 09 39 00.0
comp=Z,116µm,21.7s
CLL Lmax 09 43 00.0
CLL LmH(360 11 37 00.0
comp=N,13µm,19.9s
CLL LmH(360 11 37 00.0
comp=E,16µm,19.7s
CLL Lm(360 11 40 00.0
comp=N,12µm,21.3s
CLL Lm(360 11 40 00.0
comp=E,7µm,19.9s
CLL Lm(360 11 40 00.0
comp=Z,28µm,19.5s
CLL LmV(W) 12 50 00.0
comp=Z,8µm,21.9s
CLL Collm 70.50 21 *e*P **P** **09 09 34.0 -0.6**
CLL *e* 09 09 39.0
CLL *e*S **S** **09 18 52.0 +3.9**
CLL MLR MLR
comp=Z,1159µm,21.7s
GRGR Grenville 70.51 97 PFAKE 09 09 50.0 +15
GRGR LR LR
comp=Z,422µm,20.0s
TNS Taunus Mts 70.52 24 *e*P **P** **09 09 34.6 -0.3**
comp=Z,1µm,1.9s,baz=342,slow=6.1
TNS *e*L L 09 40 26.3
comp=Z,1052µm,21.3s
SOTA Rioblanco 70.61 116 *e*P **P** **09 09 40.8 +4.4**
SOTA Rioblanco 70.61 116 *e*P **P** **09 09 40.8 +4.4**
BETC Betania 70.75 114 *e*P **P** **09 09 37.0 +0.3**
BETC Betania 70.75 114 *e*P **P** **09 09 37.0 +0.3**
ANA2 Anatahan 70.76 271 PFAKE 09 09 50.0 +13
ANA2 LR LR
comp=Z,175µm,20.0s
KURK Kurchatov 70.80 338 *e*P **P** **09 09 34.1 -2.4**
comp=Z,839nm,1.4s
KURK P'P'ab **P'P'ab** **09 37 37.4 -1.5**
KURK LR LR
comp=Z,973µm,19.0s
KURK Kurchatov 70.80 338 *ce*P **P** **09 09 34.6 -1.9**
KURK pmax pmax
comp=Z,237nm,1.7s
KURK MLR MLR
comp=Z,867µm,19.0s
KURK Kurchatov 70.80 338 P **P** **09 09 35.1 -1.4**
SNR=337
MOX Moxa 70.83 22 *e*P **P** **09 09 35.7 -1.0**
comp=Z,811nm,1.6s,baz=342,slow=6.1
MOX *e*L L 09 40 01.0
comp=Z,701µm,22.0s
PMOR Pomariorio Ree 70.84 193 *e*P P 09 09 42.3 +5.4
comp=Z,586nm,1.4s
PMOR Pomariorio Ree 70.84 193 *e*T T 10 26 57.0
comp=Z,2µm,0.3s
BBGH Gun Hill 70.89 94 PFAKE 09 09 50.0 +12
BBGH LR LR
comp=Z,729µm,20.0s
BBGH Gun Hill 70.89 94 *e*P **P** **09 09 36.1 -1.4**
KURBB Kurchatov Arra 70.91 338 PKP2ab **P'P'ab** **09 37 37.4 -1.1**
comp=Z,4.3nm,1.1s,baz=214,slow=3.9,SNR=11
CRUC La Cruz 70.92 116 *e*P **P** **09 09 35.2 -2.9**
CRUC La Cruz 70.92 116 *e*P **P** **09 09 35.2 -2.9**
FBE Freiberg 70.94 21 *e*P **P** **09 09 36.9 -0.4**
comp=Z,2µm,1.8s,baz=342,slow=6.1
CLF Chambon-Foret 70.97 29 *e*P **P** **09 09 37.3 -0.3**
comp=Z,2µm,1.7s
CLF LR LR
comp=Z,1919µm,21.0s
CMBC Cumbal 71.00 118 *e*P **P** **09 09 39.7 +1.0**
CMBC Cumbal 71.00 118 *e*P **P** **09 09 39.7 +1.0**
GCUF Volcan Galeras 71.00 117 *e*P **P** **09 09 42.2 +3.4**
GCUF Volcan Galeras 71.00 117 *e*P **P** **09 09 42.2 +3.4**
VAH Vaihoa 71.03 193 *e*P P 09 09 43.5 +5.4
comp=Z,370nm,1.2s
VAH Vaihoa 71.03 193 *e*T T 10 27 11.2
comp=Z,225nm,0.3s
BRG Berggiesshubel 71.10 20 *i* P **P** **09 09 37.5 -0.8**
comp=Z,1µm,1.9s
BRG *i* 09 09 55.3
comp=Z,1µm,1.6s
BRG PP **PP** **09 12 16.0 +0.9**
BRG S **S** **09 18 58.0 +2.9**
BRG SS **SS** **09 23 31.0 +3.9**
BRG *e*PKPPKP P'P'df 09 37 33.0 -8.4
comp=Z,84nm,1.6s
comp=N,812µm,19.2s
comp=E,429µm,17.8s
comp=Z,842µm,22.5s
BRG Berggiesshubel 71.10 20 *e*P **P** **09 09 37.5 -0.8**
comp=Z,1µm,1.6s,baz=342,slow=6.1
BRG Berggiesshubel 71.10 20 *i* P **P** **09 09 37.5 -0.8**
BRG *i* 09 09 55.3
BRG 09 12 16.0
BRG S **S** **09 18 58.0 +2.9**
BRG SS **SS** **09 23 31.0 +3.9**
BRG MLR MLR
comp=N,84µm,19.2s
BRG MLR MLR
comp=E,812µm,17.8s
BRG MLR MLR
comp=Z,429µm,22.5s
PLN Plauen 71.10 22 *e*P **P** **09 09 37.4 -1.0**
comp=Z,521nm,1.5s,baz=342,slow=6.1
TIY Taiyuan 71.12 309 *e*P **P** **09 09 40.0 +1.2**
TIY PP **PP** **09 12 21.7 +5.9**
TIY S **S** **09 18 53.0 -3.0**
TIY ScS **SKSac** **09 19 39.9 -2.4**
TIY pmax pmax
comp=Z,410nm,1.5s
TIY pmax pmax
comp=Z,13µm,6.0s
TIY LR LR
comp=Z,477µm,14.0s
TIY LR LR
comp=Z,693µm,21.4s
TANN Tannenbergstha 71.23 21 *e*P **P** **09 09 38.4 -0.8**
comp=Z,1µm,1.6s,baz=342,slow=6.1
GUNZ Gunzen 71.25 22 *e*P **P** **09 09 38.4 -0.9**
comp=Z,989nm,1.9s,baz=342,slow=6.1
OTAV Otavalo 71.29 118 *e*P **P** **09 09 39.3 -1.2**
comp=Z,729nm,1.6s
OTAV LR LR
comp=Z,162µm,19.0s
OTAV Otavalo 71.29 118 *e*P **P** **09 09 41.1 +0.7**
OTAV Otavalo 71.29 118 *e*P **P** **09 09 39.3 -1.2**
OTAV pmax pmax
comp=Z,729nm,1.6s
OTAV MLR MLR
comp=Z,162µm,19.0s
OTAV Otavalo 71.29 118 *e*P **P** **09 09 41.1 +0.7**
OTAV Otavalo 71.29 118 *e*P **P** **09 09 40.4 -0.1**
PATS Pohnpei 71.33 255 *e*P **P** **09 09 41.8 +1.6**
comp=Z,1µm,1.5s
PATS LR LR
comp=Z,313µm,20.0s
WERN Wernitzgruen 71.33 22 *e*P **P** **09 09 39.0 -0.8**
comp=Z,819nm,1.6s,baz=342,slow=6.1
BEL Belsk 71.39 16 *e*P **P** **09 09 40.6 +0.6**
BEL *e*PP PP 09 12 27.7 +10
BEL *e*S **S** **09 19 04.0 +5.6**
BEL *e*SS **SS** **09 23 37.4 +6.0**
BEL LMZ LR 09 39 15.6
comp=Z,1040µm,24.2s
BEL Belsk 71.39 16 *e*P **P** **09 09 40.6 +0.6**
BEL *e*S **S** **09 19 04.0 +5.6**
BEL *e*SS **SS** **09 23 37.4 +6.0**
NKC Novy Kostel 71.40 22 *e*PP PP 09 12 27.7 +10
NKC *e*S **S** **09 19 05.2 +6.5**
NKC AMS AMS 09 44 20.0
comp=Z,745µm,17.9s
PVCC Panska Ves 71.55 20 *e*P **P** **09 09 41.3 +0.3**
PVCC *e*pP **pwP** **09 09 45.8 +2.1**
PVCC AMS AMS 09 43 10.0
comp=Z,683µm,15.5s
PVCC Panska Ves 71.55 20 *e*P **P** **09 09 41.3 +0.3**
PVCC *e* 09 09 45.8
PVCC MLR MLR
comp=Z,683µm,15.5s
MANZ Manzenberg 71.56 22 *e*P **P** **09 09 40.4 -0.8**
comp=Z,8µm,1.8s,baz=342,slow=6.1
FLOC Florencia 71.57 115 *e*P **P** **09 09 40.4 -1.3**
FLOC Florencia 71.57 115 *e*P **P** **09 09 40.4 -1.3**
KSP Ksiaz 71.58 19 *e*P **P** **09 09 40.8 -0.4**
KSP *e*S **S** **09 19 06.5 +5.8**
KSP *e*SS **SS** **09 23 37.6 +3.2**
KSP LMZ LR 09 35 25.7
comp=Z,462µm,31.8s
KSP Ksiaz 71.58 19 *e*P **P** **09 09 40.8 -0.4**
KSP *e*S **S** **09 19 06.5 +5.8**
KSP *e*SS **SS** **09 23 37.6 +3.2**
GRA1 Grafenberg Arr 71.65 22 *e*P **P** **09 09 44.1 +2.4**
comp=Z,725nm,1.3s
GRA1 LR LR
comp=Z,969µm,19.0s
GRF Grafenberg Arr 71.65 22 *e*P **P** **09 09 41.2 -0.5**
comp=Z,734nm,1.2s,baz=342,slow=6.1
GRF *e*L L 09 42 32.7
comp=Z,943µm,19.3s
GRF Grafenberg Arr 71.65 22 P **P** **09 09 43.1 +1.4**
GRFO Grafenberg 71.65 22 *e*P **P** **09 09 41.0 -0.7**
comp=Z,797nm,1.4s
GRFO LR LR
comp=Z,904µm,19.0s
GRFO Grafenberg 71.65 22 *e*P **P** **09 09 41.0 -0.7**
GRFO pmax pmax
comp=Z,797nm,1.4s
GRFO MLR MLR
comp=Z,904µm,19.0s
ROTZ Rotzenmuhle 71.79 22 *e*P **P** **09 09 41.9 -0.7**
comp=Z,796nm,1.7s,baz=342,slow=6.1
TOSP Speyside 71.83 96 *e*P **P** **09 09 47.4 +4.2**
UPC Upice 71.85 19 *e*P **P** **09 09 42.7 -0.2**
UPC *e*pP **pwP** **09 09 47.5 +2.0**
UPC *e*PP PP 09 12 30.1 +8.6
UPC AMS AMS 09 43 30.0
comp=Z,898µm,18.0s
UPC Upice 71.85 19 *e*P **P** **09 09 42.7 -0.2**
UPC *e* 09 09 47.5
UPC *e* 09 12 30.1
UPC MLR MLR
comp=Z,898µm,18.0s
PRA Prague 71.96 20 *e*P P 09 09 48.4 +4.9
PRA *ex* x 09 12 32.4
PRA *e*S **S** **09 19 05.4 +0.3**
PRA AMS AMS 09 44 10.0
comp=Z,842µm,17.0s
PRA Prague 71.96 20 *e*P P 09 09 48.4 +4.9
PRA *e*S **S** **09 19 05.4 +0.3**
PRA MLR MLR
comp=Z,842µm,17.0s
STU Stuttgart 72.05 24 *e*P **P** **09 09 47.0 +2.8**
comp=Z,441nm,1.4s
STU LR LR
comp=Z,1564µm,18.0s
STU Stuttgart 72.05 24 *e*P **P** **09 09 43.6 -0.5**
comp=Z,483nm,1.5s,baz=342,slow=6.1
DPC Dobruska-Polom 72.06 19 *e*P **P** **09 09 43.5 -0.7**
DPC *e*pP **pwP** **09 09 48.7 +1.9**
DPC *ex* x 09 12 32.5
DPC *e*S **S** **09 19 07.8 +1.5**
DPC AMS AMS 09 43 20.0
comp=Z,783µm,17.0s
DPC Dobruska-Polom 72.06 19 *e*P **P** **09 09 43.5 -0.7**
DPC *e* 09 12 32.5
DPC *e*S **S** **09 19 07.8 +1.5**
DPC MLR MLR
comp=Z,783µm,17.0s
PRU Pruhonice 72.06 20 *e*P **P** **09 09 44.2 +0.1**
PRU *e*pP **pwP** **09 09 48.1 +1.3**
PRU *ex* x 09 12 32.8
PRU *e*S **S** **09 19 08.6 +2.3**
PRU AMS AMS 09 44 10.0
comp=Z,853µm,16.9s
PRU Pruhonice 72.06 20 *e*P **P** **09 09 44.2 +0.1**
PRU *e* 09 09 48.1
PRU *e*S **S** **09 19 08.6 +2.3**
PRU MLR MLR
comp=Z,853µm,16.9s
ECH Echery 72.08 26 *e*P **P** **09 09 43.5 -0.8**
comp=Z,657nm,1.5s
ECH LR LR
comp=Z,1502µm,18.0s
ECH Echery 72.08 26 *e*P **P** **09 09 43.5 -0.8**
ECH pmax pmax
comp=Z,657nm,1.5s
ECH MLR MLR
comp=Z,1502µm,18.0s
TPP Pointe-a-Pierr 72.10 98 *e*P **P** **09 09 42.6 -2.2**
JOW Kunigami 72.16 291 P **P** **09 09 45.7 +0.6**
comp=Z,83nm,0.8s,baz=343,slow=4.8,SNR=9.2
JOW S **S** **09 19 09.4 +1.3**
comp=Z,37nm,1.0s,baz=197,slow=15,SNR=2.7
JOW Kunigami 72.16 291 *e*P **P** **09 09 42.8 -2.3**
comp=Z,833nm,1.2s
JOW S **S** **09 19 09.4 +1.3**
JOW LR LR
comp=Z,344µm,21.0s
GOPC GO Pecny, Ondr 72.18 20 *e*P **P** **09 09 43.6 -1.3**
GOPC *e*pP **pwP** **09 09 49.3 +1.8**
GOPC *ex* x 09 12 33.3
GOPC *e*S **S** **09 19 08.9 +1.2**
GOPC AMS AMS 09 44 30.0
comp=Z,754µm,17.4s
GOPC GO Pecny, Ondr 72.18 20 *e*P **P** **09 09 43.6 -1.3**
GOPC *e* 09 12 33.3
GOPC *e*S **S** **09 19 08.9 +1.2**
GOPC MLR MLR
comp=Z,754µm,17.4s
BFO Black Forest 72.26 25 *e*P **P** **09 09 44.8 -0.6**
comp=Z,797nm,1.5s
BFO LR LR
comp=Z,1061µm,18.0s
BFO Black Forest 72.26 25 *e*P **P** **09 09 44.9 -0.4**
comp=Z,978nm,1.6s,baz=342,slow=6.1
BFO *e*L L 09 40 51.5
comp=Z,812µm,21.8s
BFO Black Forest 72.26 25 *i* P **P** **09 09 45.0 -0.4**
GRC1 Grafenberg Arr 72.37 23 P **P** **09 09 45.9 -0.1**
ZSN Zaisan 72.38 333 *e*P **P** **09 09 44.2 -1.9**
ZSN *e*S **S** **09 19 12.0 +2.0**
ZSN pmax pmax
comp=Z,2µm,1.0s
ZSN MLR MLR
comp=Z,253µm,27.0s
ZSN Zaisan 72.38 333 *e*P **P** **09 09 44.3 -1.9**
comp=Z,2µm,1.0s
ZSN ⇑*e*S **S** **09 19 12.1 +2.0**
comp=Z,15µm,10.4s
ZSN LRM MLR 09 44 23.6
comp=Z,253µm,28.3s
KRLC Kraliky 72.41 19 *e*P **P** **09 09 44.1 -2.2**
KRLC *ex* x 09 09 51.0
KRLC *ex* x 09 12 35.2
KRLC *e*S **S** **09 19 09.4 -0.9**
KRLC AMS AMS 09 43 40.0
comp=Z,227µm,17.4s
KRLC Kraliky 72.41 19 *e*P **P** **09 09 44.1 -2.2**
KRLC *e* 09 12 35.2
KRLC *e*S **S** **09 19 09.4 -0.9**
KRLC MLR MLR
comp=Z,227µm,17.4s
LPSR Galich'ya Gora 72.41 4 *e*P **P** **09 09 44.3 -1.8**
LPSR *e*S **S** **09 19 09.4 -0.7**
LPSR pmax pmax
comp=Z,50nm,0.9s
LPSR smax smax
comp=E,2µm,4.2s
LPSR MLR MLR
comp=Z,491µm,16.0s
SSE Sheshan 72.41 299 P **P** **09 09 46.0 -0.5**
SSE S **S** **09 19 09.2 -1.5**
SSE pmax pmax
comp=Z,360nm,1.9s
SSE pmax pmax
comp=Z,7µm,9.0s
MOF Molkenrain 72.41 26 P **P** **09 09 46.1 -0.3**
KIZ Kirchzarten 72.51 25 P **P** **09 09 46.5 -0.4**
WET Wettzell 72.52 22 *e*P **P** **09 09 46.3 -0.6**
comp=Z,870nm,1.6s,baz=342,slow=6.1
WET *e*L L 09 45 20.6
comp=Z,762µm,18.2s
RAC Raciborz 72.65 18 *e*P **P** **09 09 47.8 +0.2**
RAC *e*S **S** **09 19 09.7 -3.3**
RAC MLR MLR
comp=Z,660µm,19.6s
KHC Kasperske Hory 72.68 21 *e*P **P** **09 09 46.5 -1.4**
comp=Z,498nm,1.5s
KHC LR LR
comp=Z,382µm,21.0s
KHC Kasperske Hory 72.68 21 *e*P **P** **09 09 47.5 -0.4**
KHC *ex* x 09 09 52.7
KHC *ex* x 09 12 40.5
KHC *e*S **S** **09 19 13.2 -0.3**
KHC AMS AMS 09 43 50.0
comp=Z,992µm,16.8s
KHC Kasperske Hory 72.68 21 *e*P **P** **09 09 47.5 -0.4**
KHC *e*S **S** **09 19 13.2 -0.3**
KHC MLR MLR
comp=Z,992µm,16.8s
NJ2 Nanjing 72.78 301 *e*P **P** **09 09 47.0 -1.7**
NJ2 pP **pwP** **09 09 52.1 +0.7**
NJ2 PP **PP** **09 12 32.5 +2.5**
NJ2 S **S** **09 19 18.2 +3.2**
NJ2 SKS **SKSac** **09 19 48.3 -6.4**
NJ2 SS **SS** **09 23 52.5 -1.3**
NJ2 pmax pmax
comp=Z,70nm,0.9s
NJ2 pmax pmax
comp=Z,12µm,7.0s
NJ2 LR LR
comp=Z,874µm,21.1s
OJC Ojcow 72.79 17 *e*P **P** **09 09 47.6 -0.9**
OJC *e*PP **PP** **09 12 34.7 +5.1**
OJC *e*S **SKiKP** **09 19 19.0 -3.5**
OJC *e*SS **SS** **09 24 01.6 +8.6**
OJC LMZ LR 09 37 51.4
comp=Z,1167µm,30.3s
OJC Ojcow 72.79 17 *e*P **P** **09 09 48.0 -0.5**
comp=Z,740nm,1.4s
OJC Ojcow 72.79 17 *e*P **P** **09 09 47.6 -0.9**
OJC *e* 09 12 34.7
OJC *e*S **SKiKP** **09 19 19.0 -3.5**
OJC *e*SS **SS** **09 24 01.6 +8.6**
SLE Schleitheim 72.83 25 P **P** **09 09 48.5 -0.3**
MORC Moravsky Berou 72.83 18 *e*P **P** **09 09 47.6 -1.1**
comp=Z,783nm,1.7s
MORC LR LR
comp=Z,624µm,18.0s
MORC Moravsky Berou 72.83 18 ‖*i*P **P** **09 09 48.8 0.0**
MORC Moravsky Berou 72.83 18 *e*P **P** **09 09 47.7 -1.1**
MORC pmax pmax
comp=Z,783nm,1.7s
MORC MLR MLR
comp=Z,624µm,18.0s
MORC Moravsky Berou 72.83 18 *e*P **P** **09 09 47.9 -0.9**
MORC *e*PP **PP** **09 12 35.0 +5.0**
MORC *e*S **S** **09 19 15.4 +0.2**
OKC Ostrava-Krasne 72.88 18 *e*P **P** **09 09 48.5 -0.5**
OKC *e*pP **pwP** **09 09 53.5 +1.8**
OKC *ex* x 09 12 40.8
OKC *e*S **SKiKP** **09 19 19.4 -3.2**
OKC AMS AMS 09 45 10.0
comp=Z,675µm,16.7s
OKC Ostrava-Krasne 72.88 18 *e*P **P** **09 09 48.5 -0.5**
OKC *e* 09 09 53.5
OKC *e*S **SKiKP** **09 19 19.4 -3.2**
OKC MLR MLR
comp=Z,675µm,16.7s
TREC Trest 72.91 20 *e*pP **pP** **09 09 53.8 +4.1**
TREC *ex* x 09 12 41.1
TREC *e*S **S** **09 19 17.9 +1.9**
TREC AMS AMS 09 42 30.0
comp=Z,1016µm,18.8s
TREC Trest 72.91 20 *e*P **pP** **09 09 53.8 +4.1**
TREC *e*S **S** **09 19 17.9 +1.9**
TREC MLR MLR
comp=Z,1016µm,18.8s
GEC2 GERESS Array S 72.98 21 *e*P **P** **09 09 49.3 -0.5**
comp=Z,806nm,1.5s,baz=342,slow=6.1
GEC2 *e*L L 09 41 26.1
comp=Z,944µm,22.0s
GERES GERESS Array B 72.98 21 P **P** **09 09 48.6 -1.1**
comp=Z,34nm,1.0s,baz=351,slow=4.2,SNR=34
GERES PKPPKP P'P'df 09 37 26.9 -11
comp=Z,0.7nm,0.8s,baz=318,slow=1.8,SNR=4.0
GERES LR LR 09 41 37.4
comp=Z,882µm,22.0s,baz=352,slow=36
PGAV Gavieira, Arco 73.03 39 *e*P **P** **09 09 51.7 +1.5**
comp=Z,928nm,1.8s
PGAV *e*S **SKiKP** **09 19 21.8 -1.4**
PGAV *e*SS **SS** **09 24 01.0 +3.7**
PGAV *e*LQ LQ 09 27 49.9
PGAV *e*LR LR 09 34 09.0
comp=Z,1159µm,18.0s
FUR Furstenfeldbru 73.10 23 *e*P **P** **09 09 50.1 -0.3**
comp=Z,2µm,1.7s,baz=342,slow=6.1
FUR *e*L L 09 44 14.6
comp=Z,808µm,18.5s

VRAC Vranov 73.11 19⇓ *i*P **P** 09 09 50.4 0.0
VRAC Vranov 73.11 19 *e*P **P** 09 09 49.5 -0.9
VRAC *e*PP **PP** 09 12 37.7 +5.4
VRAC *e*S **SKiKP** 09 19 21.2 -1.8
PTLC Puerto Leguiza 73.21 115 *e*P P 09 09 56.8 +5.3
PTLC Puerto Leguiza 73.21 115 *e*P P 09 09 56.8 +5.3
UBR Ueberruh 73.29 24 *e*P **P** 09 09 51.3 -0.3
comp=Z,2µm,1.8s,baz=342,slow=6.1
KRUC Moravsky 73.31 19 *e*P **P** 09 09 50.3 -1.2
KRUC *e*PP **PP** 09 12 38.9 +4.9
KRUC *e*S **SKiKP** 09 19 25.1 +1.8
PCAB Cabril 73.34 39 *e*P **P** 09 09 56.2 +4.2
comp=Z,754nm,1.7s
PCAB *e*S **SKiKP** 09 19 27.1 +3.5
VORR Voronezh 73.34 4 *e*P **P** 09 09 49.0 -2.7
VORR pmax pmax
comp=Z,650nm,1.5s
GUMO Guam 73.45 270 LR LR 09 35 13.2
comp=Z,221µm,21.4s,baz=48,slow=30
GUMO Guam 73.45 270 *e*P P 09 09 57.7 +4.9
comp=Z,1µm,1.6s
TIAR Tiarei 73.55 194 *e*P P 09 09 58.6 +5.4
comp=Z,91nm,1.2s
TIAR Tiarei 73.55 194 *e*T T 10 30 11.7
comp=Z,206nm,0.2s
PPT Papeete 73.59 195 LR LR 09 34 12.6
comp=Z,226µm,21.5s,baz=16,slow=29
AKASG Malin Array Be 73.59 11 P **P** 09 09 50.7 -2.5
comp=Z,46nm,0.9s,baz=353,slow=5.8,SNR=38
AKASG S **S** 09 19 22.7 -1.0
comp=Z,0.5nm,0.4s,baz=326,slow=37,SNR=3.4
AKASG PKPPKP P'P'df 09 37 26.2 -11
comp=Z,2.4nm,0.9s,baz=188,slow=2.5,SNR=5.0
AKASG LR LR 09 42 59.2
comp=Z,1833µm,20.9s,baz=320,slow=36
AKASG Malin Array Be 73.59 11 *i* P **P** 09 09 51.0 -2.2
AKASG pmax pmax
comp=Z,46nm,0.9s
AKBB Malin Array Si 73.59 11 *e*P **P** 09 09 50.7 -2.5
AKBB Malin Array Si 73.59 11 *e*P **P** 09 09 50.7 -2.5
KIEV Kiev 73.60 11 *e*P **P** 09 09 50.7 -2.5
comp=Z,517nm,1.0s
KIEV LR LR
comp=Z,2070µm,20.0s
KIEV Kiev 73.60 11 *i* P **P** 09 09 51.4 -1.8
SNR=71
KIEV Kiev 73.60 11 *de*P **P** 09 09 51.0 -2.2
KIEV pmax pmax
comp=Z,112nm,1.2s
KIEV MLR MLR
comp=Z,2072µm,20.0s
DAVA Damuels 73.61 24 *ep*P **P** 09 09 53.6 0.0
comp=Z,661nm,1.8s,SNR=16
PPTF Pamatai, Papee 73.61 195 PFAKE
PPTF LR LR 09 10 10.0 +16
comp=Z,242µm,21.0s
PPT2 Papeete2 73.61 195 *e*P P 09 09 59.2 +5.6
comp=Z,481nm,1.4s
PPT2 *e*S **S** 09 19 28.3 +3.7
comp=Z,808µm,31.5s
PPT2 Papeete2 73.61 195 *e*LR LR 09 32 27.8
comp=Z,653µm,24.2s,baz=3.8
PPT2 Papeete2 73.61 195 *e*T T 10 30 25.4
comp=Z,232nm,0.2s
RETA Reutte 73.62 24 *ep*P **P** 09 09 53.2 -0.3
comp=Z,262nm,1.6s,SNR=23
PTO Porto 73.64 39 *e*P P 09 09 59.5 +5.9
comp=Z,944nm,1.8s
MK32 Makanchi Array 73.64 334 *e*P **P** 09 09 51.5 -2.1
MKAR Makanchi Array 73.64 334 P **P** 09 09 51.5 -2.1
comp=Z,48nm,0.7s,baz=38,slow=5.4,SNR=136
MKAR PKPPKP P'P'df 09 37 27.2 -10
comp=Z,1.8nm,1.1s,baz=222,slow=1.6,SNR=5.5
MKAR LR LR 09 48 02.2
comp=Z,456µm,18.3s,baz=9.0,slow=41
MKAR Makanchi Array 73.64 334 *e*P **P** 09 09 51.3 -2.3
comp=Z,2µm,0.9s
MKAR P'P' 09 37 27.2
MKAR Makanchi Array 73.64 334 *i* P **P** 09 09 51.5 -2.1
MKAR pmax pmax
comp=Z,49nm,0.7s
NIE Niedzica 73.65 17 *e*P **P** 09 09 57.2 +3.6
NIE *e*S **S** 09 19 29.1 +4.6
NIE *e*SS **SS** 09 24 09.7 +3.4
NIE LMZ LR 09 39 41.5
comp=Z,725µm,26.7s
NIE Niedzica 73.65 17 *e*P **P** 09 09 57.2 +3.6
NIE *e*S **S** 09 19 29.1 +4.6
NIE *e*SS **SS** 09 24 09.6 +3.4
PAE Paea 73.69 195 *e*P P 09 09 59.5 +5.5
comp=Z,46nm,1.1s
PAE Paea 73.69 195 *e*T T 10 30 32.5
comp=Z,68nm,0.2s
MAKZ Makanchi 73.70 335 *e*P **P** 09 09 51.4 -2.6
comp=Z,1µm,1.1s
MAKZ LR LR
comp=Z,714µm,21.0s
MAKZ Makanchi 73.70 335 *e*P **P** 09 09 51.4 -2.6
MAKZ pmax pmax
comp=Z,1µm,1.1s
MAKZ MLR MLR
comp=Z,714µm,21.0s
PBRG Braganca 73.72 38 *e*P **P** 09 09 55.0 +0.8
comp=Z,731nm,1.8s
PBRG *e*S **S** 09 19 29.4 +3.9
PBRG *e*SS **SS** 09 24 15.1 +7.4
POLO Lamas de Olo 73.72 39 *e*P **P** 09 09 57.0 +2.7
comp=Z,464nm,1.7s
POLO Lamas de Olo 73.72 39 *e*PP PP 09 12 45.3 +7.4
POLO *e*S **S** 09 19 29.5 +3.8
POLO *e*SS **SS** 09 24 05.6 -2.3
JAVC Velka Javorina 73.74 19 *e*P **P** 09 09 54.5 +0.3
TVO Taravao 73.76 194 *e*P P 09 10 00.0 +5.5
comp=Z,89nm,1.2s
TVO Taravao 73.76 194 *e*T T 10 30 39.3
comp=Z,88nm,0.3s
LANS Liptovska Anna 73.77 17 *e*P **P** 09 09 54.6 +0.3
LANS *e* 09 09 58.6
LANS Liptovska Anna 73.77 17 *e*P **P** 09 09 54.6 +0.3
LANS *es*P **pwP** 09 09 58.6 +1.6
VSR Storozhevoye 73.80 4 *e*P **P** 09 09 52.3 -2.1
VSR *e* 09 12 33.9
VSR *e*PPP PPP 09 14 31.3
VSR *e*S **SKiKP** 09 19 20.8 -3.2
VSR *e*SS **SS** 09 24 06.7 -1.5
VSR *e*SSS SSS 09 27 15.2
VSR pmax pmax
comp=Z,90nm,1.5s
VSR smax smax
comp=N,42µm,8.8s
VSR MLR MLR
comp=Z,171µm,18.0s
KWP Kalwaria Pacla 73.82 15 *e*P **P** 09 09 57.9 +3.3
KWP *e*S **S** 09 19 29.1 +2.8
KWP *e*SS **SS** 09 24 08.6 -0.1
KWP LMZ LR 09 40 48.5
comp=Z,1374µm,24.1s
KWP Kalwaria Pacla 73.82 15 *e*P **P** 09 09 53.6 -1.0
comp=Z,7µm,1.5s
KWP LR LR
comp=Z,7151µm,20.0s
KWP Kalwaria Pacla 73.82 15 *e*P **P** 09 09 53.6 -1.0
KWP pmax pmax
comp=Z,7µm,1.5s
KWP MLR MLR
comp=Z,7151µm,20.0s
LVV L'vov 73.83 14 *e*P **P** 09 09 55.2 +0.6
LVV *e*S **S** 09 19 27.3 +0.9
LVV *e*SS **SS** 09 24 11.1 +2.3
LVV MLR MLR
comp=N,350µm,20.0s
LVV MLR MLR
comp=E,545µm,20.0s
LVV MLR MLR
comp=Z,900µm,20.0s
MOTA Moosalm 73.83 23 *ep*P **P** 09 09 54.6 -0.3
comp=Z,3µm,2.5s,SNR=8.4
PVRL Vila Real 73.84 39 *e*P **P** 09 09 56.1 +1.2
comp=Z,1µm,1.8s
PVRL *e*S S 09 19 37.0 +10
RJOB Jochberg 73.84 22 *e*P **P** 09 09 54.0 -0.8
comp=Z,356nm,1.1s,baz=342,slow=6.1
SENIN Lac Senin/Sane 73.84 26 *e*P **P** 09 09 54.4 -0.6
comp=Z,1µm,1.8s
SENIN LR LR
comp=Z,2304µm,21.0s

VRH Novokhopyorsk 73.89 2 *e*P **P** 09 09 52.9 -2.0
VRH *e*S **SKiKP** 09 19 20.7 -3.4
VRH *e*SS **SS** 09 24 11.4 +1.8
VRH *e*SSS SSS 09 27 20.0
VRH pmax pmax
comp=Z,110nm,1.6s
VRH smax smax
comp=E,33µm,8.2s
VRH MLR MLR
comp=Z,1109µm,25.0s
WATA Walderalm 73.95 23 *ep*P **P** 09 09 55.5 -0.1
comp=Z,459nm,1.3s,SNR=29
WATA *i* P'P'df P'P'df 09 37 27.1 -9.3
comp=Z,8.2nm,1.4s
SQTA Sankt Quirin 73.98 23 *ep*P **P** 09 09 55.0 -0.7
comp=Z,464nm,1.6s,SNR=24
SQTA *e*P'P'df P'P'df 09 37 28.1 -8.2
comp=Z,12nm,1.4s
SMOL Smolenice 74.02 19 P **P** 09 09 57.5 +1.7
SMOL Smolenice 74.02 19 *es*P **sP** 09 09 59.7 +3.3
SMOL *e*S **S** 09 19 32.8 +4.1
WTTA Wattenberg 74.03 23 *ep*P **P** 09 09 56.1 +0.1
comp=Z,666nm,1.7s,SNR=20
MOA Molln 74.04 21 *e*P **P** 09 09 57.4 +1.4
comp=Z,410nm,1.5s
FETA Feichten 74.05 24 *ep*P **P** 09 09 55.3 -0.9
comp=Z,410nm,1.6s,SNR=27
SSB Saint Sauveur 74.12 29 *e*P **P** 09 09 55.4 -1.0
comp=Z,798nm,1.9s
SSB LR LR
comp=Z,1601µm,19.0s
MODS Modra-Piesok 74.13 19 *e*P **P** 09 09 55.5 -0.9
MODS pmax pmax
comp=Z,2µm,1.6s
MODS Modra-Piesok 74.13 19 *e*P **P** 09 09 55.5 -0.9
MODS *e*PP **PP** 09 12 38.3 -2.7
MODS *e*S **S** 09 19 31.0 +1.1
MODS *e*SS **SS** 09 24 12.8 -0.7
MODS *e*L L 09 35 47.3
KOLL Kolacno 74.14 18 *e*P **P** 09 09 56.8 +0.4
KOLL *e* 09 10 01.1
KOLL Kolacno 74.14 18 *e*P **P** 09 09 56.8 +0.4
KOLL *es*P **pwP** 09 10 01.1 +2.0
AKTO Aktyubinsk 74.16 352 P **P** 09 09 54.7 -1.8
comp=Z,79nm,0.8s,baz=357,slow=4.7,SNR=31
FUNA Funafuti 74.17 228 PFAKE
FUNA LR LR 09 10 10.0 +13
comp=Z,212µm,19.0s
MVO Moncorvo 74.18 38 *e*P **P** 09 09 59.3 +2.4
comp=Z,862nm,1.6s
MVO Moncorvo 74.18 38 *e*PP PP 09 12 46.9 +5.1
MVO *e*S **S** 09 19 32.7 +1.9
MVO *e*SS **SS** 09 24 21.3 +6.5
MVO *e*LQ LQ 09 28 17.8
MVO *e*LR LR 09 34 35.4
comp=Z,892µm,20.0s
TUE Stuetta 74.24 25 *e*P **P** 09 09 57.1 -0.3
comp=Z,1µm,1.8s
TUE LR LR
comp=Z,1344µm,22.0s
PVIS Viseu 74.27 39 *e*P **P** 09 09 59.8 +2.4
comp=Z,891nm,1.7s
PVIS *e*S **S** 09 19 38.1 +6.4
CONA Conrad Observa 74.29 20 *ep*P **P** 09 09 57.2 -0.2
comp=Z,733nm,1.5s,SNR=29
VYHS Vyhne 74.30 18 *e*P **P** 09 09 56.8 -0.6
VYHS *e* 09 12 39.7
VYHS *e*S **S** 09 19 35.4 +3.7
VYHS pmax pmax
comp=Z,801nm,2.1s
VYHS Vyhne 74.30 18 *e*P **P** 09 09 56.8 -0.6
VYHS *es*P **pwP** 09 10 03.3 +3.2
VYHS *e*PP **PP** 09 12 39.7 -2.7
VYHS *e*S **S** 09 19 35.4 +3.7
VYHS *e*SS **SS** 09 24 25.7 +10
VYHS *e*L L 09 37 36.2
FUORN Ofenpass-Fuorn 74.32 24 *e*P **P** 09 09 55.7 -2.2
comp=Z,777nm,1.4s
FUORN LR LR
comp=Z,1259µm,19.0s
COI Coimbra 74.52 40 P **P** 09 10 01.7 +2.9
COI pmax pmax
comp=Z,2µm,1.9s
KBA Koelnbreinsper 74.58 22 *e*P **P** 09 10 01.2 +1.9
comp=Z,740nm,1.5s
PCAS Casmilo, Conde 74.63 40 *e*P **P** 09 10 01.3 +1.9
comp=Z,2µm,1.8s
PCAS Casmilo, Conde 74.63 40 *e*PP PP 09 12 49.7 +4.2
PCAS *e*S **S** 09 19 37.5 +1.8
PCAS *e*SS **SS** 09 24 21.5 0.0
SOP Sopron 74.66 20 *e*P **P** 09 10 03.0 +3.5
SOP *e*PP **PP** 09 12 47.1 +1.6
SOP *e*S **S** 09 19 36.0 +0.3
SOP *e*SS **SS** 09 24 27.1 +5.6
SOP Sopron 74.66 20 P **P** 09 10 02.7 +3.2
MTE Manteigas 74.67 39 *e*P **P** 09 10 01.6 +1.8
comp=Z,950nm,1.8s
MTE Manteigas 74.67 39 *e*PP PP 09 12 52.0 +6.1
MTE *e*S **S** 09 19 40.3 +4.0
MTE *e*SS **SS** 09 24 25.9 +3.7
MTE *e*LQ LQ 09 28 20.3
MTE *e*LR LR 09 35 26.1
comp=Z,1363µm,18.0s
MTE Manteigas 74.67 39 *e*P **P** 09 09 58.2 -1.5
comp=Z,2µm,1.8s
MTE LR LR
comp=Z,1383µm,20.0s
ABTA Abfaltersbach 74.72 23 *ep*P **P** 09 09 59.4 -0.5
comp=Z,282nm,2.0s,SNR=24
ABTA *e*P'P'df P'P'df 09 37 24.5 -10
comp=Z,6.4nm,1.1s
UZH Uzhgorod 74.73 16 *e*P **P** 09 10 01.0 +1.1
UZH *i* 09 10 06.8
UZH *i* 09 10 12.5
UZH *e* 09 12 52.0
UZH *e* 09 14 35.7
UZH *e*S **S** 09 19 35.5 -1.0
UZH *e* 09 24 21.4
UZH MLR MLR
comp=N,96µm,16.0s
UZH MLR MLR
comp=E,104µm,16.0s
UZH MLR MLR
comp=Z,211µm,16.0s
HORU Horodok 74.74 13 P **P** 09 10 00.5 +0.6
GTA Gaotai 74.85 319 ⇑P **P** 09 09 59.7 -1.2
GTA *p*P pwP 09 10 04.5 +0.9
GTA *s*P sP 09 10 06.8 +5.2
GTA PP **PP** 09 12 48.2 +0.6
GTA S **S** 09 19 34.6 -3.9
GTA *s*S *p*S 09 19 42.1 +2.8
GTA SKS **SKSac** 09 20 01.4 -9.0
GTA SS **SS** 09 24 24.4 -0.7
GTA pmax pmax
comp=Z,23µm,11.6s
GTA LR LR
comp=Z,709µm,20.9s
SRO Srobarova 74.86 18 *e*P P 09 10 05.5 +4.9
SRO Srobarova 74.86 18 *es*P sP 09 10 05.5 +4.2
ARSA Arzberg 74.87 20 *ep*P **P** 09 10 00.8 0.0
comp=Z,607nm,1.6s,SNR=31
ARSA *e*P'P'df P'P'df 09 37 23.7 -11
comp=Z,6.0nm,1.1s
BNI Bardonecchia 74.90 27 *e*P **P** 09 10 01.1 0.0
comp=Z,636nm,1.6s
BNI LR LR
comp=Z,1899µm,19.0s
WMQ Urumqi 74.94 330 P **P** 09 10 01.0 -0.3
WMQ *p*P pwP 09 10 07.1 +3.2
WMQ PcP **PcP** 09 10 16.3 +1.2
WMQ S **S** 09 19 42.2 +3.0
WMQ *s*S *p*S 09 19 51.9 +12
WMQ pmax pmax
comp=Z,1µm,1.5s
WMQ pmax pmax
comp=Z,68µm,7.7s
WMQ LR LR
comp=Z,410µm,20.9s
WMQ LR LR
comp=Z,204µm,21.9s
PSZ Piszkesteto 75.04 17 *e*P **P** 09 10 00.7 -1.1
comp=Z,2µm,1.8s
PSZ LR LR
comp=Z,977µm,18.0s

PSZ Piszkesteto 75.04 17⇑ *i*P **P** 09 10 01.9 +0.1
PSZ Piszkesteto 75.04 17 *e*P **P** 09 10 00.7 -1.1
PSZ pmax pmax
comp=Z,2µm,1.8s
PSZ MLR MLR
comp=Z,977µm,18.0s
PSZ Piszkesteto 75.04 17 *e*P **P** 09 10 05.1 +3.3
PSZ *e*PP **PP** 09 12 48.0 -0.7
PSZ *e*S **S** 09 19 36.0 -4.1
PSZ ⇑*e*SS **SS** 09 24 29.1 +1.7
PTOM Tomar 75.04 40 *e*P **P** 09 10 03.4 +1.6
comp=Z,777nm,1.9s
MYKA Terra Mystica 75.07 22 *ep*P **P** 09 10 00.9 -1.0
comp=Z,296nm,1.6s
ABKAR Akbulak array 75.15 350 *e*P **P** 09 09 59.9 -2.4
PCBR Castelo Branco 75.19 39 *e*P **P** 09 10 02.5 -0.2
comp=Z,568nm,1.7s
PCBR Castelo Branco 75.19 39 *e*PP PP 09 12 52.6 +2.4
TRPA Tarpa 75.26 15⇑ *i*P **P** 09 10 03.1 +0.2
TRPA Tarpa 75.26 15 *e*P **P** 09 10 01.1 -1.8
TRPA *e*PP **PP** 09 12 52.1 +1.6
TRPA *e*S **S** 09 19 40.1 -2.3
TRPA *e*SS **SS** 09 24 32.0 +1.5
PMAFR Mafra 75.30 41 *e*P **P** 09 10 06.1 +2.8
comp=Z,1µm,1.9s
PMAFR *e*S **S** 09 19 44.0 +0.8
PMAFR *e*SS **SS** 09 24 29.3 -2.4
BUD Budapest 75.31 18 *e*P P 09 10 08.1 +4.9
BUD Budapest 75.31 18 P **P** 09 10 05.2 +2.0
SOKA Soboth 75.32 21 *ep*P **P** 09 10 02.7 -0.7
comp=Z,721nm,1.8s,SNR=37
OBKA Obir 75.38 21 *e*P **P** 09 10 01.6 -2.2
comp=Z,731nm,1.9s,SNR=35
ALMR Almeirim 75.39 40 *e*P **P** 09 10 06.4 +2.6
ALMR *e*S **S** 09 19 45.7 +1.5
ALMR *e*SS **SS** 09 24 36.5 +3.5
ALMR AMS AMS 09 39 49.0
comp=Z,1844µm,17.5s
ALMR Almeirim 75.39 40 *e*P **P** 09 10 06.4 +2.6
ALMR *e*S **S** 09 19 45.7 +1.5
ALMR *e*SS **SS** 09 24 36.5 +3.5
ALMR A A 09 39 49.0
comp=Z,1844µm,17.5s
ALMR Almeirim 75.39 40 *e*P **P** 09 10 06.4 +2.6
ALMR *e*S **S** 09 19 45.6 +1.5
ALMR *e*SS **SS** 09 24 36.4 +3.5
KSV Kosov 75.44 14 P **P** 09 10 04.3 +0.3
PMST Lisbon--Monsan 75.53 41 *e*P **P** 09 10 09.0 +4.4
comp=Z,989nm,1.6s
PMST *e*S **S** 09 19 46.2 +0.5
LIS Lisbon 75.56 41 *e*P **P** 09 10 07.2 +2.4
LIS *e*S **S** 09 19 47.2 +1.2
LIS AMS AMS 09 39 50.9
comp=Z,1628µm,19.9s
LIS Lisbon 75.56 41 *e*P **P** 09 10 07.1 +2.4
LIS *e*S **S** 09 19 47.2 +1.2
PMRV Marv??o 75.58 39 *e*P P 09 10 09.9 +4.9
comp=Z,528nm,1.8s
PMRV *e*S **S** 09 19 48.1 +1.8
PMRV *e*SS SS 09 25 10.3 +34
PMRV *e*LQ LQ 09 28 43.2
PMRV *e*LR LR 09 35 43.8
comp=Z,893µm,18.0s
TIH Tihany 75.66 19 *e*S **S** 09 19 49.1 +2.1
TIH *e*P **P** 09 10 05.1 -0.2
TIH *e*PP **PP** 09 12 53.1 -0.9
TIH *e*SS **SS** 09 24 39.1 +2.4
XAN Xi'an 75.75 310 P **P** 09 10 04.3 -1.8
XAN *p*P pwP 09 10 08.9 +0.2
XAN *s*P sP 09 10 11.4 +4.7
XAN SKS **SKSac** 09 20 14.5 -2.6
XAN pmax pmax
comp=Z,23µm,9.8s
XAN LR LR
comp=Z,663µm,16.8s
KOGS Kog 75.78 20 *e*P **P** 09 10 05.3 -0.7
KOGS *e* 09 11 23.1
LJU Ljubljana 75.82 21 *e*P **P** 09 10 05.2 -1.0
LJU *e* 09 11 23.4
LJU *e* 09 13 01.2
LJU *e* 09 15 00.5
LJU *e*S **S** 09 19 48.9 +0.2
LJU *e*SS **SS** 09 24 47.4 +8.2
LJU Ljubljana 75.82 21 *e*P **P** 09 10 05.2 -1.0
BMR Baia Mare 75.85 15⇑ *i*P **P** 09 10 06.7 +0.4
BEHE Becsehely 75.86 20 *e*P **P** 09 10 09.1 +2.6
BEHE *e*PP **PP** 09 13 03.1 +7.3
BEHE *e*S **S** 09 19 49.0 -0.2
BEHE *e*SS **SS** 09 24 42.1 +2.3
BEHE Becsehely 75.86 20 *e*P **P** 09 10 08.7 +2.3
LTVH Ltavrtes, Hu 75.89 16 *e*P **P** 09 10 10.1 +3.6
LTVH ⇑*e*PP PP 09 13 05.1 +9.2
LTVH ⇓*e*S S 09 20 03.0 +14
LTVH *e*SS SS 09 24 52.0 +12
TRI Trieste 75.97 22 *e*P **P** 09 10 06.8 -0.2
comp=Z,810nm,1.9s
TRI LR LR
comp=Z,816µm,19.0s
TRI Trieste 75.97 22 *e*P **P** 09 10 06.8 -0.2
TRI pmax pmax
comp=Z,810nm,1.9s
TRI MLR MLR
comp=Z,816µm,19.0s
PESTR Estremoz 76.00 40 *e*P **P** 09 10 10.9 +3.5
comp=Z,635nm,1.8s
PESTR Estremoz 76.00 40 *e*P **P** 09 10 06.8 -0.6
comp=Z,924nm,2.0s
PESTR LR LR
comp=Z,884µm,20.0s
CEY Cerknica 76.09 22 *e*P **P** 09 10 06.6 -1.2
BUR08 Bucovina Ar. S 76.12 14 *e*P **P** 09 10 06.2 -1.8
EVO Evora 76.14 40 *e*P **P** 09 10 11.7 +3.5
comp=Z,1µm,1.7s
EVO *e*S **S** 09 19 56.4 +3.9
EVO Evora 76.14 40 *e*P **P** 09 10 12.5 +4.3
EVO *i* S S 09 20 02.1 +10
BURAR Bucovina Array 76.15 14⇑ *i*P **P** 09 10 08.3 +0.1
LZH Lanzhou 76.16 315 *e*P **P** 09 10 07.4 -1.1
LZH *p*P pwP 09 10 14.6 +3.4
LZH *s*P PcP 09 10 17.7 -2.9
LZH S **S** 09 19 53.0 -0.1
LZH SS **SS** 09 24 45.5 +0.3
LZH pmax pmax
comp=Z,410nm,1.2s
LZH pmax pmax
comp=Z,31µm,7.0s
WHN Wuhan 76.20 304⇑ *i*P **P** 09 10 07.1 -1.5
WHN *p*P **PcP** 09 10 16.4 -4.2
WHN PP **PP** 09 13 03.4 +4.4
WHN S **S** 09 19 57.3 +4.0
WHN SS **SS** 09 24 46.9 +1.2
WHN LR LR
comp=Z,793µm,20.7s
CRES Cresnjev 76.22 21 *e*P **P** 09 10 09.3 +0.8
TDK Taldyqorghan 76.25 336 *e*P **P** 09 10 07.1 -1.6
TDK *i* S **S** 09 19 51.8 -1.7
TDK MLR MLR
comp=Z,1328µm,22.0s
TDK Taldyqorghan 76.25 336 *e*P **P** 09 10 07.2 -1.6
comp=Z,13µm,1.6s
TDK ⇓*i*S **S** 09 19 51.9 -1.7
comp=Z,67µm,6.4s
TDK LRM MLR 09 47 05.1
comp=Z,1328µm,21.9s
UCM Universidad Co 76.25 36 *i* P P 09 10 14.2 +5.3
UCM *i* S S 09 20 04.0 +10
PNCL Nicolau / Gran 76.32 41 *e*P **P** 09 10 08.6 -0.6
comp=Z,984nm,1.7s
PNCL *e*S **S** 09 19 57.4 +3.0
PNCL *e*SS SS 09 24 58.4 +11
MORH Mrgy, Hungar 76.46 19 *e*P **P** 09 10 12.0 +2.2
MORH *e*S **S** 09 19 55.0 -0.7
MORH *e*SS **SS** 09 24 51.0 +2.2
MORH Mrgy, Hungar 76.46 19 *e*P **P** 09 10 08.1 -1.7
PRAR RASCA 76.53 13⇓ *i*P **P** 09 10 07.6 -2.6
ARCR ARCALIA 76.55 14⇑ *i*P **P** 09 10 09.9 -0.4
PAB San Pablo 76.56 37 *e*P **P** 09 10 09.4 -1.2
comp=Z,1µm,1.8s
PAB LR LR
comp=Z,841µm,18.0s
PAB San Pablo 76.56 37 *e*P **P** 09 10 09.4 -1.2
PAB pmax pmax
comp=Z,1µm,1.8s

PAB MLR MLR
comp=Z,841µm,18.0s
ESDC Sonseca Array 76.58 37 P **P 09 10 09.4 -1.3**
comp=Z,22nm,1.0s,baz=329,slow=5.1,SNR=27
ESDC S **S 09 20 00.4 +3.0**
comp=Z,0.1nm,0.3s,baz=328,slow=6.7,SNR=2.8
ESDC PKPPKP P'P'df 09 37 21.8 -9.1
comp=Z,2.2nm,0.9s,baz=186,slow=2.4,SNR=7.2
ESDC LR LR 09 41 44.0
comp=Z,442µm,20.9s,baz=345,slow=34
DRGR 76.59 16⇓*i*P **P 09 10 09.4 -1.3**
DRGR 76.59 16 P **P 09 10 09.7 -1.0**
PBEJ Beja 76.64 40 *e*P **P 09 10 12.2 +1.2**
comp=Z,634nm,1.7s
PBEJ *e*S **S 09 20 06.4 +8.4**
VLC Villacollemand 76.67 25 *e*P **P 09 10 11.1 0.0**
comp=Z,260nm,1.1s
VLC LR LR
comp=Z,1556µm,20.0s
MESJ Messejana 76.67 41 *e*P **P 09 10 13.7 +2.5**
MESJ *e*S **S 09 19 59.9 +1.6**
MESJ AMS AMS 09 40 47.0
comp=Z,1762µm,24.4s
MESJ Messejana 76.67 41 *e*P **P 09 10 13.9 +2.7**
comp=Z,602nm,1.9s
MESJ *e*S **S 09 20 02.8 +4.4**
MESJ Messejana 76.67 41 *e*P **P 09 10 13.6 +2.5**
MESJ *e*S **S 09 19 59.9 +1.6**
PTEO Sao Teotonio 76.74 41 *e*P **P 09 10 16.2 +4.6**
comp=Z,892nm,1.9s
PTEO *e*S S 09 20 10.0 +11
CJR Cluj-Napoca 76.80 15⇑*i*P **P 09 10 11.6 -0.2**
YOJ Yonaguni jima 76.86 294 PFAKE 09 10 20.0 +7.6
YOJ LR LR
comp=Z,400µm,22.0s
IAS Iasi 76.87 12⇑*i*P **P 09 10 12.6 +0.5**
BIZ Bicaz 76.93 13⇓*i*P **P 09 10 12.0 -0.5**
SIRR Siria 76.93 17⇑*i*P **P 09 10 13.3 +0.8**
MORF Marmelete 76.98 41 *e*P **P 09 10 15.2 +2.1**
MORF *e*S **S 09 20 03.3 +1.4**
MORF AMS AMS 09 40 42.8
comp=Z,908µm,24.8s
MORF Marmelete 76.98 41 *e*P **P 09 10 15.5 +2.5**
comp=Z,1µm,1.7s
MORF *e*S **S 09 20 08.0 +6.1**
MORF *e*SS SS 09 25 14.7 +17
MORF Marmelete 76.98 41 *e*P **P 09 10 15.1 +2.1**
MORF *e*S **S 09 20 03.2 +1.4**
PFVI Vila Bisbo 77.07 42 *e*P **P 09 10 17.1 +3.7**
comp=Z,1µm,1.7s
PFVI *e*S **S 09 20 07.1 +4.4**
PFVI *e*SS SS 09 25 09.9 +11
PFVI Vila Bisbo 77.07 42 *e*P **P 09 10 11.4 -2.0**
comp=Z,3µm,1.9s
PFVI LR LR
comp=Z,1002µm,22.0s
BTLS Baital 77.15 339 *e*P **P 09 10 11.6 -2.1**
BTLS *i*S **S 09 20 02.7 -0.6**
BTLS pmax pmax
comp=Z,3µm,1.0s
BTLS MLR MLR
comp=Z,172µm,20.0s
BTLS Baital 77.15 339 *e*P **P 09 10 11.7 -2.1**
comp=Z,3µm,1.0s
BTLS ⇑*i*S **S 09 20 02.8 -0.6**
comp=Z,5µm,8.4s
BTLS LRM MLR 09 47 08.8
comp=Z,172µm,20.1s
KIS Kishinev 77.21 11 *e*P **P 09 10 11.0 -3.0**
comp=Z,960nm,2.2s
KIS Kishinev 77.21 11 *i* PcP **PcP 09 10 22.0 -2.7**
KIS Kishinev 77.21 11 *e*PP PP 09 13 08.0 +1.1
comp=Z,40µm,16.0s
KIS *e*S **S 09 19 55.0 -8.8**
comp=Z,34µm,18.0s
KIS Kishinev 77.21 11 *e*P **P 09 10 11.0 -3.0**
KIS *e* 09 10 12.0
KIS *i* 09 10 16.0
KIS *i* 09 10 22.0
KIS *e* 09 13 08.0
KIS *e*S **S 09 19 55.0 -8.8**
KIS pmax pmax
comp=Z,40µm,16.0s
KIS smax smax
comp=N,34µm,16.0s
TATO Taipei 77.23 295 PFAKE 09 10 30.0 +16
TATO LR LR
comp=Z,510µm,22.0s
PVAQ Vaqueiros 77.25 41 *e*P **P 09 10 16.9 +2.5**
comp=Z,1µm,1.7s
PVAQ *e*S **S 09 20 07.4 +2.8**
PVAQ *e*SS **SS 09 25 03.0 +1.8**
PVAQ *e*LQ LQ 09 29 53.8
PVAQ *e*LR LR 09 35 57.1
comp=Z,1770µm,22.0s
PBDV Barranco-do-Ve 77.31 41 *e*P **P 09 10 16.4 +1.6**
comp=Z,943nm,1.7s
PBDV *e*S **S 09 20 07.4 +2.0**
PBDV *e*SS SS 09 25 19.8 +18
PMOZ Porto Moniz, M 77.37 50 *e*P P 09 10 21.4 +6.1
comp=Z,541nm,1.7s
PMOZ *e*S **S 09 20 11.0 +4.7**
PMOZ *e*SS **SS 09 25 12.0 +8.5**
PMOZ *e*LQ LQ 09 28 31.9
PMOZ *e*LR LR 09 34 57.6
comp=Z,613µm,20.0s
MDB Medias 77.47 15⇓*i*P **P 09 10 16.2 +0.6**
DEV Deva 77.50 16⇑*i*P **P 09 10 16.9 +1.2**
PMPS Porto Santo 77.54 49 *e*P P 09 10 22.0 +5.9
comp=Z,835nm,1.4s
PMPS *e*S S 09 20 18.8 +11
YHNB Yeheng 77.54 295 *e*P **P 09 10 14.4 -1.9**
comp=Z,172nm,1.1s
YHNB LR LR
comp=Z,418µm,20.0s
BZS Buzias 77.56 17⇓*i*P **P 09 10 16.0 0.0**
PMAR Madeira 77.57 50 *e*P P 09 10 22.0 +5.4
comp=Z,1µm,1.5s
BLY Banja Luka 77.60 20 *e*P **P 09 10 18.6 +2.3**
comp=Z,361nm,1.5s
BLY LR LR
comp=Z,609µm,19.0s
BLY Banja Luka 77.60 20⇓*i*P **P 09 10 17.1 +0.8**
BLY Banja Luka 77.60 20 *e*P **P 09 10 19.1 +2.8**
KPKS Kokpek 77.64 336 *e*P **P 09 10 16.2 -0.4**
KPKS *i*S **S 09 20 09.7 +0.8**
KPKS pmax pmax
comp=Z,4µm,1.2s
KPKS MLR MLR
comp=Z,1076µm,23.0s
KPKS Kokpek 77.64 336 *e*P **P 09 10 16.3 -0.4**
comp=Z,4µm,1.2s
KPKS ⇑*i*S **S 09 20 09.8 +0.8**
comp=Z,51µm,11.9s
KPKS LRM MLR 09 47 36.6
comp=Z,1076µm,23.2s
FUL Funchal 77.65 50 *e*P P 09 10 21.9 +5.2
comp=Z,716nm,1.8s
LEOM Leova 77.66 12⇓*i*P **P 09 10 16.7 +0.2**
FRGS Fruska Gora 77.69 18 *e*P **P 09 10 16.8 0.0**
BANR Banloc 77.71 17⇑*i*P **P 09 10 18.1 +1.3**
KUU Kurty 77.77 338*c i*P **P 09 10 15.7 -1.5**
KUU *e*S **S 09 20 06.0 -4.1**
KUU pmax pmax
comp=Z,1µm,1.2s
KUU Kurty 77.77 338⇑*i*P **P 09 10 15.8 -1.5**
comp=Z,1µm,1.2s
KUU *e*S **S 09 20 06.0 -4.1**
KUU LRM MLR 09 49 33.0
comp=Z,506µm,24.6s
DOPR Dopca 77.79 14⇑*i*P **P 09 10 17.9 +0.6**
NACB Ninganchiao 77.83 295 *e*P **P 09 10 15.9 -2.0**
comp=Z,501nm,1.1s
NACB LR LR
comp=Z,409µm,21.0s
UZB Uzunbulak 77.86 335 *i* P **P 09 10 16.5 -1.4**
UZB *e*S **S 09 20 09.9 -1.5**
UZB pmax pmax
comp=Z,2µm,1.5s
UZB MLR MLR
comp=Z,590µm,23.0s
UZB Uzynbulak 77.86 335 *i* P **P 09 10 16.5 -1.4**
comp=Z,2µm,1.6s
UZB *e*S **S 09 20 09.9 -1.5**
comp=Z,28µm,7.3s
UZB LRM MLR 09 47 40.5
comp=Z,590µm,23.1s
GZR Gura Zlata 77.96 16⇓*i*P **P 09 10 18.1 -0.3**
ZHN Zhinishke 77.98 336*ce*P **P 09 10 15.7 -2.8**
ZHN *e*S **S 09 20 13.5 +0.8**
ZHN MLR MLR
comp=Z,725µm,25.0s
ZHN Zhinishke 77.98 336⇑*e*P **P 09 10 15.8 -2.8**
comp=Z,4µm,7.8s
ZHN *e*S **S 09 20 13.5 +0.8**
comp=Z,2µm,6.8s
ZHN LRM MLR 09 47 50.1
comp=Z,725µm,24.7s
RKT Rikitea 78.03 180 *e*P P 09 10 23.9 +5.2
comp=Z,525nm,1.4s
RKT *e*S **S 09 20 17.1 +4.1**
comp=Z,71µm,31.5s
RKT *e*SS **SS 09 25 19.8 +4.8**
comp=Z,50µm,33.5s
RKT *e*LR LR 09 34 34.9
comp=Z,318µm,30.0s,baz=0.5
RKT Rikitea 78.03 180 *e*T T 10 35 56.7
comp=Z,117nm,0.2s
LOT Lotru 78.06 15⇑*i*P **P 09 10 18.1 -0.9**
VRI Vrincioaia 78.07 13⇓*i*P **P 09 10 19.1 +0.2**
PLOR Plostina 78.07 13⇑*i*P **P 09 10 18.4 -0.5**
ODBI Odobesti 78.21 13⇑*i*P **P 09 10 20.5 +0.9**
VOIR 78.26 14⇓*i*P **P 09 10 19.9 -0.1**
ARR Arges 78.27 15⇑*i*P **P 09 10 19.3 -0.8**
PETR Petresti 78.27 13⇑*i*P **P 09 10 20.6 +0.6**
AAA Alma-Ata 78.29 337*c i*P **P 09 10 19.9 -0.3**
AAA *i*S **S 09 20 18.0 +2.1**
AAA pmax pmax
comp=Z,2µm,1.1s
AAA MLR MLR
comp=Z,189µm,18.0s
AAA Alma-Ata 78.29 337⇑*i*P **P 09 10 19.9 -0.3**
comp=Z,2µm,1.1s
AAA ⇑*i*S **S 09 20 18.1 +2.1**
AAA LRM MLR 09 49 11.9
comp=Z,189µm,17.6s
MLR Muntele Rosu 78.33 14 *e*P **P 09 10 19.7 -0.8**
comp=Z,1µm,2.0s
MLR LR LR
comp=Z,2393µm,22.0s
MLR Muntele Rosu 78.33 14⇑*i*P **P 09 10 20.7 +0.2**
MLR Muntele Rosu 78.33 14 *e*P **P 09 10 19.7 -0.8**
MLR pmax pmax
comp=Z,1µm,2.0s
MLR MLR MLR
comp=Z,2393µm,22.0s
MDVR Moldovita 78.39 17⇑*i*P **P 09 10 20.1 -0.6**
HERR Herculane 78.41 16⇑*i*P **P 09 10 20.8 +0.1**
MTUR Matau 78.47 14⇑*i*P **P 09 10 20.7 -0.5**
SSLB Suanglung 78.48 295 *e*P **P 09 10 21.4 -0.1**
comp=Z,305nm,1.2s
HAPS Han Pijesak,Bl 78.57 19 *e*P **P 09 10 24.7 +2.9**
GRER 78.58 13⇑*i*P **P 09 10 22.6 +0.9**
GIUM Giurgiulesti 78.63 12⇓*i*P **P 09 10 22.8 +0.9**
YULB Yu-li 78.63 295 *e*P **P 09 10 20.7 -1.6**
comp=Z,333nm,1.4s
YULB LR LR
comp=Z,376µm,20.0s
SFS San Fernando 78.64 40 PFAKE 09 10 30.0 +7.9
SFS LR LR
comp=Z,1174µm,21.0s
SFS San Fernando 78.64 40 *e*P P 09 10 34.6 +12
SFS *i* S S 09 20 29.3 +10
ENH Enshi 78.69 307 *e*P **P 09 10 20.8 -1.7**
comp=Z,2µm,1.4s
ENH LR LR
comp=Z,768µm,19.0s
SRE Strehaia 78.74 16⇑*i*P **P 09 10 23.8 +1.2**
QZH Quanzhou 78.75 298⇑*i*P **P 09 10 23.0 +0.1**
QZH S **S 09 20 21.6 +0.5**
QZH pmax pmax
comp=Z,420nm,2.3s
QZH pmax pmax
comp=Z,22µm,11.1s
QZH LR LR
comp=Z,322µm,17.5s
QZH LR LR
comp=Z,478µm,15.2s
DIVS Divibare 78.75 18 *e*P **P 09 10 21.9 -0.9**
comp=Z,371nm,1.3s
DIVS LR LR
comp=Z,612µm,19.0s
DIVS Divibare 78.75 18 *e*P **P 09 10 20.5 -2.3**
USP Ospenovka 78.76 339 P **P 09 10 21.7 -1.1**
SNR=21
ISR Istrita 78.78 13⇑*i*P **P 09 10 22.4 -0.5**
SECR 78.80 14⇓*i*P **P 09 10 23.3 +0.4**
GOLR 78.83 15⇑*i*P **P 09 10 23.6 +0.5**
TKM2 Tokmak 2 78.86 338 P **P 09 10 22.3 -1.2**
SNR=38
BBLS Lazići 78.87 19 *e*P **P 09 10 21.0 -2.4**
CFR Carcaliu 78.92 12⇑*i*P **P 09 10 22.4 -1.1**
CHMS Chumysh 78.96 338 P **P 09 10 23.2 -0.7**
SNR=25
TLCR 78.99 12⇑*i*P **P 09 10 22.8 -1.1**
MAHO Mahon 79.00 31 *i* P P 09 10 29.1 +5.0
MAHO *i* S **S 09 20 24.2 +0.8**
EMAL Malaga-Limoner 79.02 39 *i* P **P 09 10 28.9 +4.7**
EMAL *i* S **S 09 20 30.3 +6.7**
PGOR Pogoanele 79.04 13⇑*i*P **P 09 10 24.9 +0.7**
TPUB Ta-pu 79.05 295 *e*P **P 09 10 24.4 -0.3**
comp=Z,801nm,1.6s
TPUB LR LR
comp=Z,405µm,21.0s
RAR Rarotonga 79.07 204 *e*P **P 09 10 23.6 -0.8**
comp=Z,926nm,2.0s
RAR LR LR
comp=Z,254µm,20.0s
RAR Rarotonga 79.07 204 *e*P **P 09 10 23.6 -0.8**
RAR pmax pmax
comp=Z,926nm,2.0s
RAR MLR MLR
comp=Z,254µm,20.0s
PUNG Punghina 79.08 16⇓*i*P **P 09 10 24.1 -0.3**
AQU L'Aquila 79.09 23 *e*P **P 09 10 24.5 -0.1**
comp=Z,2µm,2.0s
AQU LR LR
comp=Z,1291µm,18.0s
AQU L'Aquila 79.09 23 *e*P **P 09 10 27.7 +3.1**
HUMR Humele 79.14 15⇓*i*P **P 09 10 25.5 +0.7**
FRU Bishkek 79.15 338 *e*P **P 09 10 25.0 +0.1**
FRU *i* 09 10 31.0
FRU *i* 09 13 27.0
FRU1 Bishkek 79.17 338 *e*P **P 09 10 25.5 +0.4**
comp=Z,711nm,1.0s
FRU1 LR LR
comp=Z,1128µm,19.0s
TWG Pinlang 79.22 294 *e*P **P 09 10 25.1 -0.4**
comp=Z,589nm,1.1s
TWG LR LR
comp=Z,1320µm,20.0s
KBK Karagaybulak 79.25 338 P **P 09 10 25.0 -0.6**
SNR=29
KDJ Kajisay 79.26 336 *e*P **P 09 10 26.8 +1.0**
comp=Z,576nm,1.2s
TBI Tubuai 79.27 194 *e*S **S 09 20 30.2 +4.0**
comp=Z,394µm,38.5s
TBI Tubuai 79.27 194 *e*LR LR 09 35 11.9
comp=Z,585µm,29.2s,baz=3.8
TBI Tubuai 79.27 194 *e*T T 10 37 30.8
comp=Z,287nm,0.3s
ULHL Ulahol 79.36 337 P **P 09 10 25.5 -0.8**
SNR=22
AAK Ala-Archa 79.36 338 LR LR 09 50 22.5
comp=Z,1024µm,19.1s,baz=1.5,slow=39
AAK Ala-Archa 79.36 338 P **P 09 10 25.1 -1.1**
SNR=33
AAK Ala-Archa 79.36 338 *e*P **P 09 10 24.1 -2.1**
comp=Z,530nm,1.1s
AAK Ala-Archa 79.36 338 *i* P **P 09 10 26.5 +0.2**
SNR=48
AAK Ala-Archa 79.36 338*de*P **P 09 10 25.5 -0.8**
AAK pmax pmax
comp=Z,67nm,1.0s
AAK MLR MLR
comp=Z,1014µm,18.0s
AAK Ala-Archa 79.36 338 pP **P 09 10 26.5 +0.2**
SNR=149
HARR Harsova 79.38 12⇓*i*P **P 09 10 27.0 +0.9**
PLE Pljevlja 79.39 19⇑*i*P **P 09 10 25.3 -1.0**
UPM Unac-Piva 79.42 19⇑*i*P **P 09 10 25.8 -0.8**
UPM Unac-Piva 79.42 19 *e*P **P 09 10 26.8 +0.2**
CEU Ceuta 79.45 40 *i* P P 09 10 31.6 +5.0
CEU *i* S **S 09 20 36.8 +8.6**
LEHL Lehliu 79.45 13⇑*i*P **P 09 10 26.3 -0.1**
CART Cartagena 79.46 36 *e*P **P 09 10 22.5 -4.1**
comp=Z,2µm,2.0s
CART LR LR
comp=Z,716µm,18.0s
CART Cartagena 79.46 36 *i* P **P 09 10 30.7 +4.1**
CART *i* S **S 09 20 34.9 +6.6**
EKS2 Erkin-Say 79.49 339 P **P 09 10 26.0 -0.9**
SNR=32
TLB Topalu 79.49 12⇑*i*P **P 09 10 26.7 0.0**
VLAD Vladila 79.57 15⇑*i*P **P 09 10 27.8 +0.7**
BRY Bratogost 79.64 20⇓*i*P **P 09 10 26.2 -1.5**
BRY Bratogost 79.64 20 *e*P **P 09 10 24.8 -2.9**
TIRR Tirgusor 79.66 12 *e*P **P 09 10 26.3 -1.3**
comp=Z,845nm,1.9s
TIRR LR LR
comp=Z,593µm,21.0s
TIRR Tirgusor 79.66 12⇑*i*P **P 09 10 27.1 -0.5**
KKAR Karatay Array 79.70 341 *e*P **P 09 10 25.9 -2.0**
KKAR Karatay Array 79.70 341 *e*P **P 09 10 25.9 -2.0**
KZA Kyzart 79.74 338 P **P 09 10 27.5 -1.1**
SNR=16
CVDA Cernavoda 79.74 12⇓*i*P **P 09 10 29.7 +1.7**
RASA Rasa 79.75 13⇑*i*P **P 09 10 28.5 +0.4**
SIM Simferopol' 79.75 8 *d*P **P 09 10 27.8 -0.3**
SIM *i* 09 10 32.1
SIM *i* S **S 09 20 31.9 +0.7**
SIM *e*SSS SSS 09 29 01.0
SIM MLR MLR
comp=Z,1056µm,20.9s
UCH Uchtor 79.75 338 P **P 09 10 32.2 +3.5**
SNR=13
TREB Trebinje 79.78 20 *e*P **P 09 10 31.8 +3.5**
NKY Niksic 79.81 19⇓*i*P **P 09 10 27.7 -0.9**
NIUE Niue 79.82 214 PFAKE 09 10 40.0 +11
NIUE LR LR
comp=Z,303µm,20.0s
NKME Niksic 79.85 19⇓*i*P **P 09 10 28.6 -0.1**
KOME Kolasin 79.87 19⇓*i*P **P 09 10 28.5 -0.4**
IVA Berane 79.92 19⇓*i*P **P 09 10 28.8 -0.4**
MFTR Murfatlar 79.94 12⇑*i*P **P 09 10 28.7 -0.4**
AML Almayashu 80.02 339 P **P 09 10 29.4 -0.8**
SNR=29
ZIMR 80.05 14⇓*i*P **P 09 10 31.1 +1.4**
CEME Cevo 80.05 19⇓*i*P **P 09 10 29.2 -0.7**
EFOR EFORIE 80.06 12⇑*i*P **P 09 10 31.3 +1.5**
GOF Gofitskoye 80.06 2 *e*P **P 09 10 28.6 -1.2**
GOF *e*S **S 09 20 39.7 +5.2**
GOF pmax pmax
comp=Z,180nm,1.1s
GOF smax smax
comp=E,130nm,1.7s
HCY Herceg Novi 80.07 20⇓*i*P **P 09 10 29.8 -0.1**
HCY Herceg Novi 80.07 20 *e*P **P 09 10 31.6 +1.7**
PTCN Pitcairn Islan 80.08 176 PFAKE 09 10 40.0 +10
PTCN LR LR
comp=Z,189µm,22.0s
ANN Anapa 80.12 6*d i*P **P 09 10 27.1 -3.0**
ANN *i* *PP **pP 09 10 30.1 -0.5**
ANN *i* 09 10 33.5
ANN *i* S **S 09 20 30.9 -4.2**
ANN *i* SS **SS 09 25 45.1 +1.4**
ANN pmax pmax
comp=Z,92nm,1.1s
ANN pmax pmax
comp=N,92nm,1.1s
ANN pmax pmax
comp=E,29nm,1.0s
ANN MLR MLR
comp=N,802µm,21.0s
ANN MLR MLR
comp=Z,1027µm,21.0s
ANN MLR MLR
comp=E,83µm,21.0s
NRN Naryn 80.19 337 *e*P **P 09 10 29.9 -1.0**
comp=E,453nm,1.3s
NRN LR LR
comp=Z,1122µm,18.0s
NRN Naryn 80.19 337 *e*P **P 09 10 30.0 -1.0**
NRN pmax pmax
comp=Z,453nm,1.3s
NRN MLR MLR
comp=Z,1122µm,18.0s
PVY Plav 80.20 19⇓*i*P **P 09 10 30.9 +0.1**
PDG Podgorica 80.23 19⇑*i*P **P 09 10 30.6 -0.1**
PDG Podgorica 80.23 19 *e*P **P 09 10 29.9 -0.8**
TTG Podgorica 80.23 19⇓*i*P **P 09 10 30.1 -0.6**
TTG Podgorica 80.23 19 *e*P **P 09 10 28.3 -2.4**
comp=Z,993nm,1.7s
TTG LR LR
comp=Z,645µm,19.0s
TTG Podgorica 80.23 19 *e*P **P 09 10 28.3 -2.4**
TTG pmax pmax
comp=Z,993nm,1.7s
TTG MLR MLR
comp=Z,645µm,19.0s
BUM Brajici-Budva 80.29 19⇓*i*P **P 09 10 30.5 -0.7**
JBG Jabagly 80.35 341 *e*P **P 09 10 29.6 -2.0**
JBG *e*S **S 09 20 40.4 +2.5**
JBG pmax pmax
comp=Z,4µm,1.5s
JBG MLR MLR
comp=Z,381µm,21.0s
PSN Preselentsi 80.40 12 *e*P **P 09 10 36.0 +4.4**
BCI Bajram Curri 80.44 19 *i* P **P 09 10 36.7 +4.7**
DRME Dracevica, Mon 80.45 19⇓*i*P **P 09 10 32.0 0.0**
DRME Dracevica, Mon 80.45 19 *e*P **P 09 10 33.0 +1.0**
PVL Pavlikeni 80.48 15 *e*P P 09 10 37.0 +5.0
SZH Strazhica 80.51 14 *e*P **P 09 10 35.0 +2.7**
RTC Rabat Centre 80.59 42 PFAKE 09 10 40.0 +7.2
RTC LR LR
comp=Z,1409µm,20.0s
CHM Chimkent 80.62 342 *e*P **P 09 10 35.9 +3.0**
CHM *i* S **S 09 20 40.9 +0.4**
CHM pmax pmax
comp=Z,4µm,1.3s
CHM MLR MLR
comp=Z,86µm,11.0s
CHM Chimkent 80.62 342 *e*P **P 09 10 36.0 +3.0**
comp=Z,4µm,1.3s
CHM ⇑*i*S **S 09 20 41.0 +0.4**
comp=Z,44µm,23.5s
CHM LRM MLR 09 50 05.8
comp=Z,86µm,10.9s
CD2 Chengdu 80.67 312 ⇑P **P 09 10 32.2 -1.2**
CD2 pP pwP 09 10 35.5 -0.5
CD2 sP sP 09 10 36.8 +2.8
CD2 PP **PP 09 13 34.8 -1.6**
CD2 S **S 09 20 38.8 -2.6**
CD2 sS pS 09 20 44.5 +2.5
CD2 SKS **SKSac 09 20 49.1 -3.4**
CD2 SS **SS 09 25 51.2 -1.7**
CD2 pmax pmax
comp=Z,350nm,1.2s
CD2 pmax pmax
comp=Z,40µm,7.6s
ULC Ulcinj 80.68 19⇑*i*P **P 09 10 33.0 -0.2**
BBP Basco 80.70 292 *e*P **P 09 10 34.9 +1.3**
IUG Iuzhnay 80.71 342 *e*P **P 09 10 36.6 +3.1**
IUG *e*S **S 09 20 48.4 +6.8**
IUG pmax pmax
comp=Z,6µm,1.6s
IUG MLR MLR
comp=Z,316µm,19.0s
IUG Iuzhnay 80.71 342 *e*P **P 09 10 36.6 +3.1**
comp=Z,6µm,1.6s
IUG *e*S **S 09 20 48.5 +6.8**
comp=Z,9µm,9.0s
IUG LRM MLR 09 49 23.7
comp=Z,316µm,18.9s
PUK Puka 80.72 19 *i* P **P 09 10 38.2 +4.7**
VTS Vitosha 80.76 16 *e*P **P 09 10 32.0 -1.8**
comp=Z,425nm,1.4s
VTS LR LR
comp=Z,868µm,19.0s
VTS Vitosha 80.76 16⇑*i*P **P 09 10 32.9 -0.9**
VTS Vitosha 80.76 16 P **P 09 10 33.5 -0.3**
VTS Vitosha 80.76 16 *e*P **P 09 10 32.0 -1.8**
VTS pmax pmax
comp=Z,425nm,1.4s
VTS MLR MLR

comp=Z,868μm,19.0s
VTS Vitosha 80.76 16 *e*P **P 09 10 36.0 +2.2**
MELI Melilla 80.86 38 *i* P **P 09 10 37.0 +2.8**
MELI *i* S **S 09 20 47.8 +4.6**
ARSB Arslanbob 80.94 339 *e*P **P 09 10 34.3 -0.5**
comp=Z,468nm,1.1s
ARSB LR LR
comp=Z,1124μm,21.0s
AVE Averroes 80.99 42 *i* P **P 09 10 38.7 +3.8**
AVE *i* S **S 09 20 47.7 +3.1**
BAI Bari 81.03 21 *e*P P 09 10 40.4 +5.4
SKO Skopje 81.07 18 P **P 09 10 34.9 -0.4**
SKO Skopje 81.07 18 *i* P **P 09 10 35.2 0.0**
KVAR Kislovodsk Arr 81.16 2 LR LR 09 49 15.8
comp=Z,228μm,20.8s,baz=268,slow=38
KIV Kislovodsk 81.16 2 *e*P **P 09 10 34.0 -1.8**
comp=Z,606nm,1.1s
KIV LR LR
comp=Z,677μm,18.0s
KIV Kislovodsk 81.16 2*d* *i*P **P 09 10 34.7 -1.1**
KIV *e* 09 10 41.5
KIV *e* 09 13 34.5
KIV *e*PPP PPP 09 15 28.9
KIV *e*S **S 09 20 44.1 -2.1**
KIV *e*SS **SS 09 25 58.5 -1.0**
KIV *e*SSS SSS 09 29 25.3
KIV pmax pmax
comp=Z,15μm,9.3s
KIV pmax pmax
comp=Z,473nm,0.9s
KIV MLR MLR
comp=Z,630μm,17.0s
PHP Peshkopia 81.17 19 P **P 09 10 38.4 +2.5**
PHP Peshkopia 81.17 19 *i* P **P 09 10 35.6 -0.3**
SG1 Sgolgore (BA) 81.25 22 *e*P **P 09 10 40.7 +4.4**
USTO Oran 81.29 36 P P 09 10 50.0 +13
JMB Yambol 81.39 14 *e*P P 09 10 42.0 +5.1
KBZ Khabaz 81.39 2 P **P 09 10 35.6 -1.3**
comp=Z,84nm,0.9s,baz=314,slow=3.2,SNR=27
KBZ LR LR 09 49 28.9
comp=Z,472μm,19.9s,baz=356,slow=38
TIR Tirane 81.39 19 *e*P **P 09 10 34.9 -2.1**
comp=Z,446nm,1.4s
TIR LR LR
comp=Z,1072μm,20.0s
TIR Tirane 81.39 19 *e*P **P 09 10 34.9 -2.1**
TIR pmax pmax
comp=Z,446nm,1.4s
TIR MLR MLR
comp=Z,1072μm,20.0s
TIR Tirane 81.39 19 *i* P P 09 10 48.0 +11
FASA Fasano 81.41 21 *e*P P 09 10 42.9 +5.8
OKGL Djebel Kef Gue 81.41 35 P P 09 10 51.0 +14
OLHC Oulhaca 81.43 37 P P 09 10 49.0 +12
SOC Sochi 81.44 4*d* *i*P **P 09 10 35.3 -1.9**
SOC *e* 09 13 43.1
SOC *e*PPP PPP 09 15 34.2
SOC *e*S **S 09 20 47.4 -1.6**
SOC *e*SS **SS 09 25 58.9 -4.6**
SOC *e*SSS SSS 09 29 30.6
SOC pmax pmax
comp=Z,404nm,1.1s
SOC pmax pmax
comp=Z,4μm,2.9s
SOC MLR MLR
comp=Z,311μm,18.0s
KKB Krupnik 81.45 17 *e*P **P 09 10 42.0 +4.7**
STIP Stip 81.47 17 *i* P **P 09 10 35.9 -1.5**
EBNR Beni Rached 81.47 34 P **P 09 10 41.6 +4.0**
PLD Plovdiv 81.47 15 *e*P **P 09 10 40.0 +2.6**
ABA Alger-Bouzarea 81.48 33 P **P 09 10 40.0 +2.5**
MASS Massafra 81.55 21 *e*P **P 09 10 41.5 +3.7**
ECHA Ech Chlef 81.55 35 P P 09 10 48.3 +10
MACI Morro de la Ar 81.58 52 *e*P **P 09 10 37.2 -1.2**
comp=Z,298nm,1.1s
CGL1 Ceglie Messapi 81.59 21 *e*P **P 09 10 40.8 +2.7**
OTSS Djebel Tessala 81.62 36 P P 09 10 48.0 +10
KRUS Krusevo 81.62 18 *i* P **P 09 10 37.1 -1.2**
NCK Nalchik 81.63 1⇑*e*P **P 09 10 38.0 -0.3**
NCK pmax pmax
comp=Z,57nm,1.1s
NCK MLR MLR
comp=Z,577μm,19.0s
EANR 'Ain N'Sour 81.64 35 P **P 09 10 37.9 -0.6**
IFR Ifrane 81.66 41 *i* P **P 09 10 43.0 +4.2**
IFR *i* S **S 09 20 56.1 +4.1**
TAR1 Taranto 81.68 21 *e*P **P 09 10 42.7 +4.2**
ODJA Bouhanifia 81.79 36 P P 09 10 45.0 +5.7
OHR Ohrid 81.79 18 *i* P **P 09 10 39.4 +0.2**
MMB Musomiste 81.83 16 *e*P **P 09 10 43.0 +3.7**
NEY Neytrino 81.87 2*c* *i*P **P 09 10 40.1 +0.4**
NEY MLR MLR
comp=Z,563μm,17.0s
CUC Castrocucco 81.88 22 *e*P **P 09 10 37.4 -2.2**
comp=Z,251nm,1.3s
CUC LR LR
comp=Z,1171μm,18.0s
RZN Rozhen 81.88 15 *e*P **P 09 10 44.0 +4.2**
VAY Valandovo 81.90 17 P **P 09 10 39.1 -0.5**
VAY Valandovo 81.90 17 *i* P **P 09 10 39.2 -0.5**
VAY Valandovo 81.90 17 P **P 09 10 40.6 +1.0**
BIA Bitola 81.98 18 *e*P **P 09 10 44.1 +4.0**
PTGA Pitinga 81.98 103 *e*P **P 09 10 38.7 -1.7**
comp=Z,1μm,1.9s
PTGA LR LR
comp=Z,330μm,21.0s
EMHD Djebel Mahouad 82.01 33 P **P 09 10 41.7 +1.2**
KSH Kashi 82.02 336 P **P 09 10 41.9 +1.4**
KSH pP PcP 09 10 46.3 +0.3
KSH sP pwP 09 10 49.1 +5.9
KSH PP **PP 09 13 54.6 +7.3**
KSH S **S 09 20 54.2 -1.2**
KSH SS **SS 09 26 15.9 +3.2**
KSH pmax pmax
comp=Z,44nm,1.2s
KSH pmax pmax
comp=Z,13μm,6.8s
KSH LR LR
comp=Z,159μm,17.4s
KSH LR LR
comp=Z,154μm,12.6s
KSH LR LR
comp=Z,407μm,18.2s
KDZ Kurdzhali 82.02 15 *e*P P 09 10 48.0 +7.7
KNT Kendrikon 82.11 17 P **P 09 10 39.9 -0.9**
MAK Makhachkala 82.16 358 *e*P **P 09 10 37.8 -3.1**
MAK *e*S **S 09 20 54.9 -1.4**
MAK pmax pmax
comp=Z,3μm,1.7s
MAK pmax pmax
comp=Z,1μm,1.4s
MAK smax smax
comp=E,32μm,9.6s
MAK smax smax
comp=N,52μm,14.3s
ADJB Djebel Djouab 82.20 33 P P 09 10 46.9 +5.4
FNA Florina 82.21 18 *e*P **P 09 10 38.5 -2.9**
comp=N,553nm,1.2s
FNA LR LR
comp=Z,1191μm,20.0s
FNA Florina 82.21 18 P **P 09 10 39.5 -1.9**
FNA Florina 82.21 18 *e*P **P 09 10 38.5 -2.9**
FNA pmax pmax
comp=Z,553nm,1.2s
FNA MLR MLR
comp=Z,1191μm,20.0s
FNA Florina 82.21 18 *i* P **P 09 10 45.0 +3.6**
ETRT Tiaret 82.22 35 P **P 09 10 42.9 +1.3**
GRG Griva 82.22 17 P **P 09 10 41.2 -0.2**
SRS Serrai 82.26 16 P **P 09 10 40.1 -1.5**
SRS Serrai 82.26 16 P **P 09 10 41.7 +0.1**
ZEI Tsey 82.34 1 *e*P **P 09 10 41.8 -0.4**
ZEI *e*S **S 09 21 00.0 +1.3**
ZEI pmax pmax
comp=Z,3μm,7.3s
ZEI pmax pmax
comp=Z,267nm,1.4s
ZEI pmax pmax
comp=E,171nm,1.5s
ZEI pmax pmax
comp=N,516nm,2.0s
ZEI MLR MLR
comp=Z,270μm,16.0s
ZEI MLR MLR
comp=N,256μm,17.0s
ZEI MLR MLR
comp=E,262μm,16.0s
SCTE Santa Cesarea 82.36 20 *i* P P 09 10 53.0 +11
TPE Tepelena 82.44 19 *i* P P 09 10 48.1 +5.6
AKET Djebel Ketaf 82.44 33 P P 09 10 51.9 +9.1
SGCP Mt. Cagua 82.46 291 *e*P **P 09 10 45.4 +2.5**
MDT Midelt 82.48 40 P **P 09 10 41.7 -1.3**
comp=E,14nm,0.8s,baz=332,slow=5.6,SNR=12
SOH Sokhos 82.51 17 P **P 09 10 40.5 -2.5**
RDO Rodhopi 82.53 15 P **P 09 10 41.8 -1.2**
DFRA Djebel Bou Aff 82.58 31 P P 09 10 54.5 +11
BTK Batken 82.59 340 *e*P **P 09 10 42.1 -1.3**
comp=E,985nm,1.3s
BTK Batken 82.59 340 *e*P **P 09 10 42.1 -1.3**
BTK pmax pmax
comp=Z,985nm,1.3s
NNA Nana 82.64 123 *e*P **P 09 10 42.6 -1.2**
comp=Z,357nm,1.3s
NNA LR LR
comp=Z,101μm,19.0s
NNA Nana 82.64 123 *e*P **P 09 10 42.6 -1.2**
NNA pmax pmax
comp=Z,357nm,1.3s
NNA MLR MLR
comp=Z,101μm,19.0s
THE Thessaloniki 82.64 17 P **P 09 10 46.2 +2.7**
CAEH 'Ain El Ouahch 82.64 30 P P 09 10 54.5 +11
HORT Hortiatis 82.69 17 P **P 09 10 43.6 -0.3**
ATAF Djebel Tarf 82.72 32 P P 09 10 50.0 +5.8
PENT Pentalofos 82.74 18 P **P 09 10 44.0 -0.2**
KZN Kozani 82.75 18 P **P 09 10 43.2 -1.0**
SET Setif 82.76 31 P P 09 10 51.0 +6.6
SRN Sarande 82.84 19 P **P 09 10 47.2 +2.6**
SRN Sarande 82.84 19 *i* P P 09 10 51.2 +6.7
ALN Alexandroupoli 82.85 15 *e*P **P 09 10 43.2 -1.4**
comp=Z,643nm,1.7s
ALN LR LR
comp=Z,665μm,19.0s
ALN Alexandroupoli 82.85 15 P **P 09 10 44.2 -0.4**
ALN Alexandroupoli 82.85 15 *e*P **P 09 10 43.2 -1.4**
ALN pmax pmax
comp=Z,643nm,1.7s
ALN MLR MLR
comp=Z,665μm,19.0s
TIP Timpagrande 82.86 22 *e*P **P 09 10 44.5 -0.3**
comp=Z,974nm,1.7s
TIP LR LR
comp=Z,880μm,21.0s
TIP Timpagrande 82.86 22⇑*i*P **P 09 10 47.3 +2.5**
TIP Timpagrande 82.86 22 P **P 09 10 42.8 -2.0**
GZH Guangzhou 82.92 301 P **P 09 10 43.0 -2.2**
GZH PP **PP 09 13 52.2 -2.9**
GZH S **S 09 21 03.7 -1.0**
GZH SS **SS 09 26 28.1 +1.3**
THAS Thassos island 82.94 16 P **P 09 10 45.0 -0.1**
CMAH Djebel Manchou 82.95 30 P P 09 10 56.5 +11
CKFL Kef-Lekhel 82.96 30 P P 09 10 56.3 +11
KEK Kerkira 82.96 19 P **P 09 10 48.4 +3.2**
CKHR Kef el Ahmar 82.96 31 P P 09 10 55.1 +10
PLG Polygyros 82.97 17 P **P 09 10 44.3 -1.0**
CASM Ain Smara 83.03 31 P P 09 10 56.6 +11
TAMR Tamra 83.03 28 PFAKE 09 10 50.0 +4.4
TAMR LR LR
comp=Z,3μm,19.0s
LIT Litokhoron 83.07 17 *e*P **P 09 10 44.9 -1.0**
comp=Z,1μm,1.6s
LIT LR LR
comp=Z,639μm,20.0s
LIT Litokhoron 83.07 17 P **P 09 10 45.2 -0.6**
LIT Litokhoron 83.07 17 *e*P **P 09 10 44.9 -1.0**
LIT pmax pmax
comp=Z,1μm,1.6s
LIT MLR MLR
comp=Z,639μm,20.0s
OUR Ouranopolis 83.09 16 P **P 09 10 49.5 +3.6**
HKC Hong Kong Obse 83.17 299⇑P **P 09 10 50.0 +3.5**
CTEI Djebel Teioual 83.18 31 P P 09 10 57.7 +11
SMTH Samothraki Isl 83.20 15 P **P 09 10 47.8 +1.3**
APYP Conner 83.20 291 *e*P **P 09 10 45.1 -1.6**
JAN Janina 83.21 19 P **P 09 10 49.8 +3.2**
GYA Guiyang 83.23 308⇑*i*P **P 09 10 45.7 -1.3**
GYA S **S 09 21 09.9 +1.9**
GYA SS **SS 09 26 30.0 -1.4**
GYA pmax pmax
comp=Z,530nm,2.4s
GYA pmax pmax
comp=Z,23μm,13.0s
GYA LR LR
comp=Z,731μm,22.0s
IGT Igoumenitsa 83.24 19 P **P 09 10 46.0 -0.7**
IGT Igoumenitsa 83.24 19 P **P 09 10 50.2 +3.5**
ABSA Djebel Ababsia 83.30 30 P P 09 10 58.3 +11
TBLG Delisi 83.41 0 *e*P **P 09 10 45.9 -1.7**
comp=Z,755nm,1.3s
TBLG Delisi 83.41 0 *e*P **P 09 10 45.9 -1.7**
TBLG pmax pmax
comp=Z,755nm,1.3s
PAIG Paliouri 83.44 16 P **P 09 10 48.6 +0.9**
THL Klokotos Trika 83.51 18 P **P 09 10 46.9 -1.2**
GADA Gvkgeada 83.52 15 P **P 09 10 45.3 -2.8**
CEL Celeste 83.56 23 *e*P **P 09 10 46.5 -1.9**
comp=Z,142nm,1.3s
CEL LR LR
comp=Z,409μm,18.0s
CLTB Caltabellotta 83.58 25 *e*P **P 09 10 47.2 -1.4**
comp=Z,808nm,1.7s
CLTB LR LR
comp=Z,1318μm,20.0s
ILGA Ilgaz 83.58 9 *e*P **P 09 10 46.8 -1.9**
comp=Z,562nm,1.3s
MCO Taipa Grande 83.63 300 P P 09 10 55.0 +6.1
CAUP Cauayan 83.65 290 *e*P P 09 10 54.4 +5.3
ABRA Dolores 83.66 292 *e*P **P 09 10 51.3 +2.2**
LIA Limnos Island 83.70 15 P **P 09 10 52.0 +3.0**
AKH Akhalkalaki 83.72 1 *e*P **P 09 10 48.4 -1.0**
comp=Z,558nm,1.6s
AKH LR LR
comp=Z,619μm,19.0s
AKH Akhalkalaki 83.72 1⇑*i*P **P 09 10 50.7 +1.4**
AKH Akhalkalaki 83.72 1 *e*P **P 09 10 48.4 -1.0**
AKH pmax pmax
comp=Z,558nm,1.6s
AKH MLR MLR
comp=Z,619μm,19.0s
BTAS Taskesti 83.80 11 *i* P **P 09 10 52.7 +3.1**
FYTO Fytoko, Volos 83.82 17 P **P 09 10 53.3 +3.6**
RABL Rabaul 83.85 254 *e*P **P 09 10 50.8 +0.7**
comp=Z,1μm,1.9s
XOR Xorichti 83.91 17 P **P 09 10 49.9 -0.3**
EZN Ezine 83.94 15 P **P 09 10 49.1 -1.2**
NEO Neokhori 83.97 17 P **P 09 10 52.9 +2.4**
LKD2 Lefkada island 84.02 19 P **P 09 10 53.5 +2.8**
LKD2 Lefkada island 84.02 19 *i* P **P 09 10 53.3 +2.6**
CMDR Camlidere-ANKA 84.02 10 *i* P **P 09 10 52.0 +1.2**
MAKR Makrakomi, Fth 84.07 18 P **P 09 10 50.3 -0.7**
HNR Honiara 84.08 244 P **P 09 10 53.4 +2.2**
comp=Z,16nm,0.4s,baz=217,slow=7.9,SNR=8.7
HNR LR LR 09 38 37.7
comp=Z,122μm,21.3s,baz=28,slow=29
HNR Honiara 84.08 244 *e*P **P 09 10 55.0 +3.8**
HNR Honiara 84.08 244 *e*P **P 09 10 53.0 +1.8**
comp=Z,539nm,1.2s
AGG Agios Georgios 84.09 18 *e*P **P 09 10 50.6 -0.5**
comp=Z,2μm,2.0s
AGG LR LR
comp=Z,931μm,18.0s
AGG Agios Georgios 84.09 18 P **P 09 10 49.8 -1.3**
AGG Agios Georgios 84.09 18 *e*P **P 09 10 50.6 -0.5**
AGG pmax pmax
comp=Z,2μm,2.0s
AGG MLR MLR
comp=Z,931μm,18.0s
EVR Evrytania 84.11 18 P **P 09 10 50.9 -0.4**
SKIA Skiathos 84.15 17 P **P 09 10 53.8 +2.4**
EVGI Lefkada island 84.18 19 P **P 09 10 52.3 +0.8**
AOS Alonnisos 84.21 17 P **P 09 10 47.9 -3.8**
KEST Kesra 84.33 29 P **P 09 10 50.7 -1.7**
comp=Z,19nm,0.9s,baz=250,slow=7.7,SNR=3.7
KEST S **S 09 21 19.8 +1.0**
comp=Z,10.0nm,1.2s,baz=226,slow=13,SNR=1.5
KEST LR LR 09 48 41.1
comp=Z,855μm,20.4s,baz=298,slow=36
PVO Paravola 84.35 18 P **P 09 10 52.0 -0.4**
SMIA Simia 84.39 17 P **P 09 10 55.1 +2.5**
AXAR Agios Charalam 84.40 18 P **P 09 10 54.6 +1.9**
SIGR SIGRI 84.48 15 P **P 09 10 52.1 -0.9**
COAL Corum-Alaca 84.48 8 *i* P **P 09 10 55.7 +2.5**
KARS Kars 84.49 2 *e*P **P 09 10 52.7 -0.6**
comp=Z,9μm,2.0s
KARS Kars 84.49 2 *e*P **P 09 10 52.7 -0.6**
KARS pmax pmax
comp=Z,9μm,2.0s
PRK Paraskevi 84.50 15 P **P 09 10 53.4 +0.3**
ATAL Atalanti 84.53 17 P **P 09 10 51.7 -1.6**
LKR Lokris 84.57 17 P **P 09 10 50.4 -3.1**
EFP Efpalio 84.60 18 P **P 09 10 51.5 -2.1**
VLS Valsamata 84.60 19 P **P 09 10 54.8 +1.1**
MRKA Markates 84.62 17 P **P 09 10 52.4 -1.4**
ANTO Ankara 84.67 10 *e*P **P 09 10 53.2 -0.9**
comp=Z,684nm,1.3s
ANTO LR LR
comp=Z,742μm,20.0s
ANTO Ankara 84.67 10 *e*P **P 09 10 53.2 -0.9**
ANTO pmax pmax
comp=Z,684nm,1.3s
ANTO MLR MLR
comp=Z,742μm,20.0s
KALE Kalithea 84.67 18 P **P 09 10 56.1 +2.0**
TRIZ Trizonia 84.69 18 P **P 09 10 56.5 +2.4**
MANU Manus Island 84.74 259 PFAKE 09 11 10.0 +15
MANU LR LR
comp=Z,440μm,22.0s
LAKA Lakka 84.79 18 P **P 09 10 56.3 +1.6**
RLS Riolos of Patr 84.88 19 P **P 09 10 58.2 +3.2**
RPN Rapa Nui 84.89 157 *e*P **P 09 10 53.9 -1.0**
comp=Z,1μm,1.8s
RPN LR LR
comp=Z,68μm,19.0s
RPN Rapa Nui 84.89 157 *e*P **P 09 10 53.9 -1.0**
RPN pmax pmax
comp=Z,1μm,1.8s
RPN MLR MLR
comp=Z,68μm,19.0s
BR101 Keskin Array S 84.89 9 *e*P **P 09 10 53.6 -1.7**
BRTR Keskin Array B 84.89 9 P **P 09 10 53.6 -1.7**
comp=Z,14nm,0.9s,baz=351,slow=1.9,SNR=30
BRTR PKPPKP **P'P'df 09 37 10.2 -6.2**
comp=Z,3.1nm,0.9s,baz=177,slow=4.9,SNR=10
BRTR LR LR 09 51 43.9
comp=Z,432μm,20.7s,baz=339,slow=38
SMPP San Manuel, Pa 84.92 291 *e*P **P 09 10 55.5 -0.1**
EREA Eretria 84.95 17 P **P 09 10 56.3 +0.8**
AUSIV SIVRIHISAR 84.97 11 *i* P **P 09 10 59.0 +3.4**
GNI Garni 84.98 0 LR LR 09 58 12.8
comp=Z,251μm,18.1s,baz=4.5,slow=42
GNI Garni 84.98 0 *e*P **P 09 10 54.5 -1.3**
comp=Z,2μm,1.7s
GNI Garni 84.98 0 *i* P **P 09 10 54.9 -0.9**
SNR=19
GNI Garni 84.98 0*de*P **P 09 10 55.5 -0.3**
GNI pmax pmax
comp=Z,672nm,1.9s
GNI MLR MLR
comp=Z,2600μm,18.0s
GNI Garni 84.98 0 PcP **P 09 10 56.5 +0.7**
SNR=50
KLV Kalavryta, Ach 85.02 18 P **P 09 10 55.0 -0.8**
DRO Drossia 85.03 18 P **P 09 10 55.5 -0.3**
CUZAR Zara_SIVAS 85.03 6 *i* P **P 09 11 00.2 +4.2**
CDAG Cicekdag 85.06 8 *i* P **P 09 10 57.3 +1.2**
VILL Villia 85.10 17 P **P 09 10 55.2 -1.0**
BOLP Bolinao 85.14 292 *e*P P 09 11 04.9 +8.3
PVCP Virac 85.14 287 *e*P **P 09 11 00.1 +3.4**
LOUT Loutraki 85.21 17 P **P 09 10 55.0 -1.8**
PTL Penteli 85.30 17 P **P 09 10 56.8 -0.4**
CHOS Chios island 85.32 15 P **P 09 10 55.5 -1.8**
ATH Athens Observa 85.35 17 P **P 09 10 59.5 +2.1**
ATHU Athens Univers 85.37 17 P **P 09 10 56.4 -1.1**
CUSAR Sarkisla-SIVAS 85.41 7 *i* P **P 09 11 01.8 +3.9**
POLP Polilio Island 85.41 289 *e*P **P 09 11 00.9 +2.9**
AMT Artemida-Makis 85.43 19 P **P 09 10 58.1 +0.2**
VLY Voula,Athens 85.48 17 P **P 09 10 56.9 -1.2**
TRIP Tripoli 85.54 18 P **P 09 10 58.1 -0.4**
WDD Wied Dalam 85.56 25 PFAKE 09 11 10.0 +12
WDD LR LR
comp=Z,1073μm,20.0s
MANT Manisa 85.56 13 *e*P **P 09 10 57.9 -0.9**
comp=Z,4μm,1.8s
MANT LR LR
comp=Z,2606μm,19.0s
CUALT Altinyayla-SIV 85.58 7 *i* P **P 09 11 03.0 +4.2**
CUKAN kangal_SIVAS 85.59 6 *i* P **P 09 11 02.5 +3.7**
SCZP Santa Cruz 85.64 291 *e*P **P 09 11 03.3 +4.2**
VLX Vlachokerasia 85.71 18 P **P 09 10 58.7 -0.7**
DID Didima 85.73 17 P **P 09 10 57.7 -1.7**
ITM Ithomi 85.81 18 *e*P **P 09 10 58.8 -1.0**
comp=Z,499nm,1.2s
ITM LR LR
comp=Z,423μm,20.0s
ITM Ithomi 85.81 18 P **P 09 10 56.6 -3.2**
PYL PYLOS 86.06 19 P **P 09 10 56.8 -4.2**
SMG Samos 86.10 15 P **P 09 10 59.9 -1.3**
KMI Kunming 86.13 310 P **P 09 11 02.3 +0.5**
KMI pP PcP 09 11 04.6 +0.2
KMI sP pwP 09 11 08.8 +4.3
KMI S **S 09 21 33.0 -4.3**
KMI sS ScS 09 21 42.4 -3.8
KMI SS **SS 09 27 10.4 -4.0**
KMI pmax pmax
comp=Z,250nm,1.8s
KMI pmax pmax
comp=Z,16μm,10.6s
KMI LR LR
comp=Z,781μm,23.7s
CUGUR Gurin_SVAS 86.16 6 *i* P P 09 11 09.7 +8.0
AUQP San Andres 86.17 288 *e*P P 09 11 07.4 +5.6
SERI Serifos 86.27 16 P **P 09 11 03.8 +1.7**
DYR Agios Nikonas 86.30 18 P **P 09 11 01.1 -1.1**
VLI Veliai 86.44 18 P **P 09 11 01.2 -1.7**
ISP Isparta 86.46 12 *e*P **P 09 11 01.1 -2.0**
comp=Z,1μm,1.4s
ISP LR LR
comp=Z,668μm,21.0s
ISP Isparta 86.46 12‖*i*P **P 09 11 04.2 +1.1**
ISP Isparta 86.46 12 P **P 09 11 01.6 -1.5**
ISP Isparta 86.46 12 *e*P **P 09 11 01.1 -2.0**
ISP pmax pmax
comp=Z,1μm,1.4s
ISP MLR MLR
comp=Z,668μm,21.0s
TGY Tagaytay City 86.47 290 P **P 09 11 03.4 +0.1**
comp=Z,103nm,0.3s,baz=13,slow=3.2,SNR=4.9
TGY S **S 09 21 32.1 -8.3**
comp=Z,124nm,0.3s,baz=0.2,slow=18,SNR=2.4
TGY LR LR 09 47 18.2
comp=Z,84μm,21.9s,baz=30,slow=34
BOAC Boac 86.51 288 *e*P **P 09 11 07.2 +3.7**
APE Apeiranthos 86.53 16 P **P 09 11 02.4 -0.9**
APE Apeiranthos 86.53 16*ce*P **P 09 11 04.5 +1.2**
APE pmax pmax
comp=Z,109nm,1.8s
APE MLR MLR
comp=Z,529μm,20.0s
GEYT Alibeck 86.55 350 P **P 09 11 01.9 -1.5**
comp=Z,26nm,0.8s,baz=290,slow=5.5,SNR=14
GEYT S S 09 21 30.8 -10
comp=Z,1.1nm,0.3s,baz=311,slow=31,SNR=3.2
GEYT LR LR 09 54 42.3
comp=Z,465μm,20.2s,baz=340,slow=39
PLP Palo 86.68 285⇑*e*P P 09 11 09.3 +5.0
LSA Lhasa 86.70 321 P **P 09 11 09.3 +4.5**
LSA PP PKiKP 09 15 43.8 -27
LSA Lhasa 86.70 321 S S 09 21 55.7 +13
LSA Lhasa 86.70 321 *e*P **P 09 11 04.5 -0.3**
comp=Z,568nm,1.5s
LSA LR LR
comp=Z,1150μm,19.0s
LSA Lhasa 86.70 321 P **P 09 11 08.9 +4.0**
LSA Lhasa 86.70 321 *e*P **P 09 11 04.5 -0.3**
LSA pmax pmax
comp=Z,568nm,1.5s
LSA MLR MLR
comp=Z,1150μm,19.0s
MHLO Agia Marina, M 86.72 17 P **P 09 11 04.8 +0.6**
AMGA Amorgos Island 86.82 15 P P 09 10 59.9 -4.8
IOSP Ios island 86.83 16 P **P 09 11 06.5 +1.7**
KTHR Kythira 86.90 18 P **P 09 11 04.2 -0.9**

KYTH **Kithira** 86.91 18 P **P** 09 11 04.8 -0.4
OCLP **Ormoc** 86.97 285 *e*P **P** 09 11 08.9 +3.1
SAP3 **Santorini-Thir** 87.12 16 P P 09 11 14.1 +7.9
THT2 **Imerovigli** 87.13 16 P **P** 09 11 08.7 +2.4
SANT **Santorini** 87.20 16 *e*P **P** 09 11 05.7 -1.0
comp=Z,2μm,1.8s
SANT LR LR
comp=Z,668μm,22.0s
SANT **Santorini** 87.20 16 *i*P **P** 09 11 10.5 +3.9
SANT **Santorini** 87.20 16 P **P** 09 11 08.2 +1.6
THR6 **Thira Island,** 87.21 16 P **P** 09 11 11.3 +4.7
NISR **Nisiros** 87.22 14 P **P** 09 11 08.0 +1.4
ANAF **Anafi Island** 87.26 16 P **P** 09 11 07.8 +0.9
OTRP **Odiongan** 87.32 288 *e*P **P** 09 11 11.4 +4.0
ANKY **Antikythira Is** 87.34 18 P P 09 11 02.3 -4.9
RCP **Roxas** 87.58 287 *e*P **P** 09 11 12.3 +3.7
MSLP **Maasin** 87.59 284 *e*P P 09 11 14.0 +5.3
SJMP **San Jose** 87.73 289 *e*P **P** 09 11 13.3 +4.0
ARG **Arkhangelos** 87.74 14 P **P** 09 11 10.5 +1.3
IMMV **Iera Moni Meta** 87.85 17 P **P** 09 11 08.0 -1.7
VAM **Vamos** 87.94 17 P **P** 09 11 09.3 -0.8
KSL **Kastellorizon** 88.00 13 P **P** 09 11 09.2 -1.2
QIZ **Qiongzhong** 88.07 301 P **P** 09 11 14.7 +3.7
QIZ PP **PP** 09 14 35.1 -1.9
QIZ **Qiongzhong** 88.07 301 S **S** 09 21 49.5 -6.1
QIZ **Qiongzhong** 88.07 301 SS SS 09 27 27.4 -15
QIZ pmax pmax
comp=Z,27nm,1.6s
QIZ pmax pmax
comp=Z,13μm,10.6s
QIZ LR LR
comp=N,140μm,18.1s
QIZ LR LR
comp=E,544μm,22.6s
QIZ LR LR
comp=Z,491μm,42.6s
QIZ **Qiongzhong** 88.07 301 *e*P **P** 09 11 11.9 +0.9
comp=Z,1μm,2.0s
QIZ LR LR
comp=Z,599μm,22.0s
BUTP **Butuan** 88.12 283 *e*P **P** 09 11 13.9 +2.7
IDI **Anoyia** 88.17 17 *e*P **P** 09 11 09.7 -1.6
comp=Z,1μm,1.9s
IDI LR LR
comp=Z,269μm,19.0s
IDI **Anoyia** 88.17 17 *i*P **P** 09 11 15.9 +4.6
NIL **Nilore** 88.26 337 *e*P **P** 09 11 10.8 -1.0
comp=Z,584nm,1.2s
NIL LR LR
comp=Z,1042μm,20.0s
KARP **Karpathos** 88.27 15 *e*P **P** 09 11 10.5 -1.2
comp=Z,715nm,1.7s
KARP LR LR
comp=Z,800μm,18.0s
KARP **Karpathos** 88.27 15 P **P** 09 11 10.9 -0.8
KBL **Kabul** 88.27 340 *e*P **P** 09 11 09.6 -2.4
KBL **Kabul** 88.27 340 *e*P **P** 09 11 09.6 -2.4
NPS **Neapolis** 88.31 16 P **P** 09 11 13.4 +1.5
TMBK **Timbaki Herakl** 88.36 17 P **P** 09 11 15.1 +3.0
LAST **Lasithi** 88.39 16 P **P** 09 11 11.5 -0.9
SIVA **Sivas** 88.42 17 P **P** 09 11 14.9 +2.5
GUIM **Jordan** 88.44 286 *e*P **P** 09 11 13.0 +0.3
GVD **Gavdhos** 88.47 17 P **P** 09 11 14.7 +2.0
ZKR **Zakros** 88.55 15 P **P** 09 11 13.7 +0.7
BUSP **Coron** 88.61 289 *e*P P 09 11 20.9 +7.4
DHRM **DHARAMSHALA** 88.87 334 *e*P **P** 09 11 12.4 -2.5
JAY **Jayapura** 88.90 264 P **P** 09 11 14.9 -0.1
comp=Z,36nm,1.1s,baz=40,slow=12,SNR=2.6
JAY LR LR 09 44 19.0
comp=Z,467μm,20.0s,baz=28,slow=31
JAY **Jayapura** 88.90 264 P P 09 11 25.6 +11
CUYO **Cuyo Island** 89.11 288 *e*P P 09 11 21.7 +5.7
GENI **Genyem** 89.27 264 P **P** 09 11 20.7 +4.1
ALFC **Alefka** 89.32 10 P **P** 09 11 18.8 +2.1
BUKP **Musuan** 89.33 283 *e*P **P** 09 11 21.4 +4.4
MAMC **Mammari** 89.37 10 P **P** 09 11 20.4 +3.5
MATI **Mati** 89.42 281 *e*P P 09 11 09.9 -7.5
AKMC **Akamas** 89.42 11 P **P** 09 11 19.8 +2.6
PPCY **Paphos** 89.56 11 P **P** 09 11 17.3 -0.5
CSS **Mathiatis** 89.59 10 *e*P **P** 09 11 17.1 -0.9
comp=Z,670nm,1.3s
CSS LR LR
comp=Z,362μm,20.0s
CSS **Mathiatis** 89.59 10 P **P** 09 11 20.6 +2.7
CSS **Mathiatis** 89.59 10 P **P** 09 11 19.3 +1.4
comp=Z,98nm,1.6s
ENPP **El Nido** 89.69 289 *e*P **P** 09 11 21.2 +2.6
DAV **Davao City (W)** 89.70 282 *e*P **P** 09 11 17.8 -0.9
comp=Z,262nm,0.5s
DAV LR LR
comp=Z,279μm,20.0s
DAV **Davao City (W)** 89.70 282 *e*P **P** 09 11 18.8 +0.1
DAV **Davao City (W)** 89.70 282 PcP **PcP** 09 11 20.0 0.0
SNR=9.1
SMLA **Simla** 89.72 333 *e*P **P** 09 11 16.1 -2.4
SZAC **Souni** 89.75 10 P **P** 09 11 18.7 0.0
GUN **Gumba** 90.16 325 *e*P **P** 09 11 19.5 -1.6
comp=Z,3μm,1.8s
SHL **Shillong** 90.18 319 *e*P **P** 09 11 20.5 -0.5
comp=Z,302nm,1.3s
SHL LR LR
comp=Z,823μm,20.0s
SHL **Shillong** 90.18 319 *e*P **P** 09 11 20.5 -0.5
SHL pmax pmax
comp=Z,302nm,1.3s
SHL MLR MLR
comp=Z,823μm,20.0s
SHL **Shillong** 90.18 319 *e*P **P** 09 11 18.7 -2.4
DDI **Dehra Dun** 90.25 332 *e*P **P** 09 11 19.4 -1.7
DDI IAMs_20 IAMs_20 09 45 24.2
comp=Z,208μm,26.1s
JIRN **Jiri** 90.28 324 *e*P **P** 09 11 20.3 -1.5
comp=Z,6μm,1.7s
PAGZ **Pagadian** 90.29 284 *e*P **P** 09 11 19.9 -1.6
DANN **Dangsing** 90.43 327 *e*P **P** 09 11 20.8 -1.5
comp=Z,3μm,1.7s
KKN **Kakani** 90.47 325 *e*P **P** 09 11 20.8 -1.6
comp=Z,3μm,1.8s
LPAZ **La Paz** 90.61 118 P **P** 09 11 21.9 -1.6
comp=Z,11nm,0.7s,baz=332,slow=5.0,SNR=16
LPAZ LR LR 09 57 54.6
comp=Z,200μm,18.6s,baz=340,slow=40
ODAN **Odare** 90.62 323 *e*P **P** 09 11 21.3 -1.8
comp=Z,4μm,2.2s
PKIN **Phulchoki** 90.62 325 *e*P **P** 09 11 21.3 -1.9
comp=Z,2μm,1.9s
PKI **Pulchoki** 90.63 325 *e*P **P** 09 11 21.4 -1.9
comp=Z,3μm,2.0s
DMN **Daman** 90.69 325 *e*P **P** 09 11 21.3 -2.2
comp=Z,3μm,1.9s
SKMP **Bagumbayan, Su** 90.73 282 *e*P **P** 09 11 23.6 +0.1
IPIL **Ipil** 90.79 285 *e*P **P** 09 11 24.6 +0.9
RAMN **Ramite** 90.80 324 *e*P **P** 09 11 22.2 -1.8
comp=Z,2μm,2.0s
PYUN **Piuthan** 90.91 327 *e*P **P** 09 11 22.5 -1.9
comp=Z,1μm,1.3s
PMG **Port Moresby** 90.92 255 P **P** 09 11 26.0 +1.8
comp=Z,16nm,0.9s,baz=62,slow=6.3,SNR=4.3
PMG LR LR 09 45 12.8
comp=Z,208μm,21.5s,baz=37,slow=31
PMG **Port Moresby** 90.92 255 *e*P **P** 09 11 25.6 +1.4
comp=Z,103nm,0.9s
PMG **Port Moresby** 90.92 255 *e*P **P** 09 11 25.6 +1.4
PMG pmax pmax
comp=Z,103nm,0.9s
KOLN **Koldanda** 91.02 327 *e*P **P** 09 11 23.1 -1.9
comp=Z,2μm,1.6s
PB12 **IPOC Station P** 91.49 121 *e*P **P** 09 11 28.5 +1.6
KSDI **Kefar Szold** 91.55 8 P **P** 09 11 30.2 +3.1
PB16 **IPOC Station P** 91.66 120 *e*P **P** 09 11 29.9 +1.6
DZM **Mont Dzumac** 91.76 233 LR LR 09 44 17.0
comp=Z,189μm,21.9s,baz=29,slow=30
DZM **Mont Dzumac** 91.76 233 *e*P **P** 09 11 32.6 +4.6
comp=Z,426nm,1.4s
DZM **Mont Dzumac** 91.76 233 *e*PP PP 09 15 09.3 +2.2
comp=Z,10μm,25.2s
DZM *e*S **S** 09 22 32.7 +3.2
comp=Z,174μm,29.8s
DZM *e*SS **SS** 09 28 41.4 +3.9
comp=Z,296μm,30.8s
DZM *e*LQ LQ 09 36 19.4
comp=Z,503μm,34.6s
DZM *e*LR LR 09 40 46.9
comp=Z,408μm,22.6s,baz=38
DZM **Mont Dzumac** 91.76 233 *e*P **P** 09 11 27.1 -0.9
comp=Z,263nm,1.3s
RAO **Raoul Island** 91.90 217 PFAKE 09 11 40.0 +12
RAO LR LR
comp=Z,163μm,21.0s
NDI **New Delhi** 92.03 332 *e*P **P** 09 11 28.0 -1.3
MMLI **Mount Malkishu** 92.28 8 P **P** 09 11 33.4 +2.9
MNMC **Minye Minye** 92.29 121 *e*P **P** 09 11 29.7 -1.1
comp=Z,265nm,1.3s
MNMC LR LR
comp=Z,122μm,21.0s
MNMC **Minye Minye** 92.29 121 *e*P **P** 09 11 33.4 +2.6
PSGC **Pisagua** 92.43 121 *e*P **P** 09 11 35.1 +3.9
BATP **Bataraza** 92.56 289 *e*P **P** 09 11 31.9 -0.1
SKNT **Sakolnakorn** 92.65 305 P **P** 09 11 36.4 +4.0
ASF **Jabal al Asfar** 92.66 7 P **P** 09 11 35.6 +3.3
PB11 **IPOC Station P** 92.79 121 *e*P **P** 09 11 31.6 -1.4
comp=Z,266nm,1.1s
PB11 LR LR
comp=Z,110μm,21.0s
PB11 **IPOC Station P** 92.79 121 *e*P **P** 09 11 37.5 +4.5
GO01 **Chusmiza** 92.94 121 *e*P **P** 09 11 31.0 -3.0
comp=Z,120nm,1.3s
GO01 LR LR
comp=Z,139μm,20.0s
GO01 **Chusmiza** 92.94 121 *e*P **P** 09 11 37.1 +3.0
AMAZ **Amatzia** 93.13 9 P P 09 11 41.5 +7.1
WALJ **Wala** 93.18 8 P P 09 11 44.5 +10
CHTO **Chiang Mai** 93.33 310 *e*P **P** 09 11 34.7 -0.8
comp=Z,1μm,2.0s
CHTO LR LR
comp=Z,593μm,19.0s
CHTO **Chiang Mai** 93.33 310 *e*P **P** 09 11 34.7 -0.8
CHTO pmax pmax
comp=Z,1μm,2.0s
CHTO MLR MLR
comp=Z,593μm,19.0s
CHTO **Chiang Mai** 93.33 310 PcP **P** 09 11 34.1 -1.4
SNR=66
CHTO **Chiang Mai** 93.33 310 *e*P **P** 09 11 34.1 -1.4
PB08 **IPOC Station P** 93.36 121 *e*P **P** 09 11 39.2 +3.4
GHAJ **Ghor Haditha** 93.42 8 P **P** 09 11 37.4 +1.7
comp=Z,92nm,2.5s
LISJ **El Lisan** 93.47 8 P P 09 11 44.3 +8.4
CM31 **Chiang Mai Arr** 93.65 310 PcP **P** 09 11 36.3 -0.7
SNR=92
CMAR **Chiang Mai Arr** 93.65 310 P **P** 09 11 35.6 -1.4
comp=Z,5.4nm,0.7s,baz=3.4,slow=4.8,SNR=25
CMAR LR LR 09 56 55.2
comp=Z,523μm,20.5s,baz=27,slow=38
CMAR **Chiang Mai Arr** 93.65 310 *i*P **P** 09 11 38.7 +1.7
CMAR pmax pmax
comp=Z,28nm,0.9s
KZIT **Kziot** 93.71 9 P **P** 09 11 37.7 +0.6
TNTI **Ternate** 93.85 277 *e*P **P** 09 11 36.3 -1.6
comp=Z,244nm,1.8s
TNTI LR LR
comp=Z,189μm,22.0s
BOK **Bokaro** 93.96 323 IAmb IAmb 09 11 33.2
BOK *e*P **P** 09 11 36.6 -1.7
PB01 **IPOC Station P** 93.97 122 *e*P **P** 09 11 36.4 -1.9
comp=Z,155nm,1.1s
PB01 LR LR
comp=Z,109μm,22.0s
PB01 **IPOC Station P** 93.97 122 *e*P **P** 09 11 41.1 +2.8
JDRJ **Daraweish** 94.00 8 P P 09 11 43.9 +5.3
PB02 **IPOC Station P** 94.00 122 *e*P **P** 09 11 39.5 +1.1
FAKI **Fak Fak** 94.07 271 *e*P **P** 09 11 38.4 -0.5
comp=Z,478nm,2.0s
FAKI LR LR
comp=Z,354μm,22.0s
FAKI **Fak Fak** 94.07 271 P **P** 09 11 40.8 +1.9
comp=Z,109nm,2.0s,comp=Z,9μmcomp=Z,55μm
SUKH **Sukhothai** 94.20 309 P **P** 09 11 43.6 +4.1
PB07 **IPOC Station P** 94.35 122 *e*P **P** 09 11 44.6 +4.5
HRFI **Mount Harif** 94.63 9 P **P** 09 11 42.7 +1.4
PB03 **IPOC Station P** 94.69 122 *e*P **P** 09 11 43.2 +1.6
PB09 **IPOC Station P** 94.72 122 *e*P P 09 11 46.9 +5.0
PB04 **IPOC Station P** 94.74 123 *e*P **P** 09 11 41.9 0.0
comp=Z,486nm,1.9s
PB04 LR LR
comp=Z,112μm,20.0s
PB04 **IPOC Station P** 94.74 123 *e*P **P** 09 11 46.7 +4.8
AQBJ **Aqaba** 94.94 9 P **P** 09 11 40.3 -2.4
EIL **Elat** 94.98 9 P **P** 09 11 44.2 +1.3
PB05 **IPOC Station P** 95.16 123 *e*P **P** 09 11 45.6 +1.9
TAM **Tamanrasset** 95.23 36 *e*P **P** 09 11 40.9 -3.4
comp=Z,99nm,1.8s
TAM LR LR
comp=Z,695μm,22.0s
TAM **Tamanrasset** 95.23 36 *e*P **P** 09 11 40.9 -3.4
TAM pmax pmax
comp=Z,99nm,1.8s
TAM MLR MLR
comp=Z,695μm,22.0s
PB06 **IPOC Station P** 95.33 123 *e*P **P** 09 11 48.1 +3.5
PB10 **IPOC Station P** 95.55 124 *e*P **P** 09 11 44.5 -0.9
comp=Z,89nm,1.1s
PB10 LR LR
comp=Z,108μm,20.0s
PB10 **IPOC Station P** 95.55 124 *e*P **P** 09 11 45.9 +0.6
LVC **Limon Verde** 95.57 122 *e*P **P** 09 11 43.5 -2.5
comp=Z,149nm,1.4s
LVC LR LR
comp=Z,132μm,22.0s
LVC **Limon Verde** 95.57 122 *e*P **P** 09 11 43.5 -2.5
LVC pmax pmax
comp=Z,149nm,1.4s
LVC MLR MLR
comp=Z,132μm,22.0s
LVC **Limon Verde** 95.57 122 *e*P **P** 09 11 47.1 +1.1
SMTB **Santa Maria do** 95.62 97 *e*P **P** 09 11 47.4 +1.5
KKM **Kota Kinabalu** 95.72 289 *e*P **P** 09 11 43.4 -3.2
comp=Z,388nm,1.6s
KKM LR LR
comp=Z,334μm,22.0s
KKM **Kota Kinabalu** 95.72 289 P **P** 09 11 50.0 +3.4
PB15 **IPOC Station P** 95.81 123 *e*P **P** 09 11 47.7 +0.9
UTHA **Uthaitani** 95.97 308 P **P** 09 11 51.4 +3.8
SRAK **Srakaew** 96.13 305 P **P** 09 11 49.5 +1.1
TSM **Tawau** 96.27 287 P **P** 09 11 52.9 +4.0
JBP **Jabalpur** 96.45 328 *e*P **P** 09 11 48.8 -0.9
JBP *e*x x 09 15 51.7
PB14 **IPOC Station P** 96.57 124 *e*P **P** 09 11 53.0 +2.6
SALV **Santo Antonio** 96.84 108 *e*P **P** 09 11 53.1 +1.8
COEN **Coen** 96.85 256 *e*P **P** 09 11 50.8 -0.7
comp=Z,82nm,1.4s
COEN LR LR
comp=Z,327μm,22.0s
BHPL **Bhopal** 97.13 330 *e*P **P** 09 11 49.3 -3.5
BWNR **Bhubaneshwar** 97.21 322 *e*x P 09 11 46.6 -6.6
NLAI **Namlea** 97.27 275 P Pdif 09 11 58.1 +4.5
GO02 **Mina Guanaco** 97.41 124 *e*P **P** 09 11 51.4 -2.8
comp=Z,147nm,1.3s
GO02 LR LR
comp=Z,149μm,22.0s
GO02 **Mina Guanaco** 97.41 124 *e*P Pdif 09 11 57.9 +3.7
LUWI **Luwuk** 97.94 280 *e*P **P** 09 11 55.4 -1.1
comp=Z,363nm,1.4s
LUWI LR LR
comp=Z,143μm,22.0s
SHME **Shamm** 98.50 350 *i*P Pdif 09 12 01.6 +2.6
SNR=7.8
BANOM **Banah** 98.61 350 *i*P Pdif 09 12 01.6 +2.1
SNR=9.5
BANOM **Banah** 98.61 350 pP P 09 12 11.7 +12
SNR=6.5
NGP **Nagpur** 98.63 328 *e*P **P** 09 11 58.4 -1.2
NGP *e*x x 09 22 43.0
SAUI **Saumlaki** 98.72 269 *e*P **P** 09 11 59.7 -0.3
comp=Z,284nm,0.8s
SAUI LR LR
comp=Z,236μm,21.0s
BHJ **Bhuj** 99.08 337 *e*P **Pdif** 09 11 59.3 -2.2
KOWA **Kowa** 99.12 48 PFAKE 09 12 10.0 +8.2
KOWA LR LR
comp=Z,1055μm,20.0s
GO03 **Copiap** 99.17 126 *e*P **Pdif** 09 12 01.5 -0.2
comp=Z,177nm,1.9s
GO03 LR LR
comp=Z,102μm,22.0s
GO03 **Copiap** 99.17 126 *e*P **Pdif** 09 12 02.9 +1.2
MSFE **Esma-Masafi** 99.19 350 *i*P **Pdif** 09 12 05.1 +3.0
SNR=8.8
NAZ **Nazwa, Dubai** 99.60 350 *i*P **Pdif** 09 12 06.8 +2.9
SNR=11
NAZ **Nazwa, Dubai** 99.60 350 pPdiff **Pdif** 09 12 15.0 +11
SNR=10
HATD **Hatta, Dubai** 99.72 350 *i*P **Pdif** 09 12 07.0 +2.6
SNR=9.3
HATD **Hatta, Dubai** 99.72 350 pPdiff **Pdif** 09 12 16.0 +12
SNR=8.3
RCBR **Riachuelo** 99.84 86 *e*Pdif **Pdif** 09 12 03.7 -1.3
comp=Z,49nm,1.4s
RCBR LR LR
comp=Z,468μm,21.0s
RCBR **Riachuelo** 99.84 86 *e*P **Pdif** 09 12 03.7 -1.3
RCBR pmax pmax
comp=Z,49nm,1.4s
RCBR MLR MLR
comp=Z,468μm,21.0s
FAQ **Al Faqa, Dubai** 99.85 350 *i*P **Pdif** 09 12 07.0 +2.0
SNR=12
FAQ **Al Faqa, Dubai** 99.85 350 pPdiff **Pdif** 09 12 05.1 +0.1
SNR=10
ASHO **Ashiyiah** 99.86 350 *i*P **Pdif** 09 12 08.1 +3.0
SNR=13
ASHO **Ashiyiah** 99.86 350 pPdiff **Pdif** 09 12 12.7 +7.6
SNR=12
ASUD **Al Ashush, Dub** 99.99 351 *i*P **Pdif** 09 12 08.7 +3.1
SNR=7.4
ASUD **Al Ashush, Dub** 99.99 351 pPdiff **Pdif** 09 12 07.3 +1.7
SNR=7.3
LCO **Las Campanas** 100.16 127 *e*Pdif **Pdif** 09 12 04.2 -2.1
LCO LR LR
comp=Z,79μm,21.0s
LCO **Las Campanas** 100.16 127 *e*P **Pdif** 09 12 04.2 -2.1
LCO MLR MLR
comp=Z,79μm,21.0s
CTAO **Charters Tower** 100.17 250 *e*Pdif **Pdif** 09 12 08.3 +2.0
CTAO **Charters Tower** 100.17 250 *e*P **Pdif** 09 12 08.3 +2.0
OUZ **Omahuta** 100.33 221 PFAKE 09 12 20.0 +13
OUZ LR LR
comp=Z,227μm,18.0s
SOHO **SOHO** 100.36 349 pPdiff **Pdif** 09 12 07.7 +0.5
SNR=8.5
ALNE **Al Ain** 100.52 350 *i*P **Pdif** 09 12 11.2 +3.2
SNR=10
MXZ **Matakaoa Point** 100.75 216 PFAKE 09 12 20.0 +12
MXZ LR LR
comp=Z,182μm,21.0s
BIDO **Bidbid** 100.79 348 pPdiff **Pdif** 09 12 11.5 +2.4
SNR=13
SBUM **Sibu** 100.87 291 *e*Pdif **Pdif** 09 12 04.7 -4.9
SBUM LR LR
comp=Z,96μm,20.0s
SBUM **Sibu** 100.87 291 P **Pdif** 09 12 18.0 +8.4
WSAR **Wadi Sarin** 101.00 347 P **Pdif** 09 12 10.9 +0.7
comp=Z,7.0nm,0.9s,baz=88,slow=3.0,SNR=6.7
WSAR **Wadi Sarin** 101.00 347 pPdiff **Pdif** 09 12 11.7 +1.5
SNR=17
GO04 **Tololo Observa** 101.10 128 *e*Pdif **Pdif** 09 12 10.9 +0.5
GO04 LR LR
comp=Z,84μm,22.0s
GO04 **Tololo Observa** 101.10 128 *e*P **Pdif** 09 12 10.7 +0.2
RAYN **Ar Rayn** 101.56 360 *e*Pdif **Pdif** 09 12 12.2 -0.4
RAYN LR LR
comp=Z,374μm,22.0s
RAYN **Ar Rayn** 101.56 360 *i*P **Pdif** 09 12 13.1 +0.5
SNR=27
RAYN **Ar Rayn** 101.56 360 *e*P **Pdif** 09 12 12.3 -0.4
RAYN MLR MLR
comp=Z,374μm,22.0s
MZR **Muzera** 101.76 352 *i*P **Pdif** 09 12 14.7 +1.2
SNR=6.8
MZR **Muzera** 101.76 352 pPdiff **Pdif** 09 12 24.3 +11
SNR=7.4
URZ **Urewera** 101.79 217 PFAKE 09 12 20.0 +7.1
URZ LR LR
comp=Z,194μm,20.0s
JLN **Jalan Bani Buh** 101.98 347 pPdiff **Pdif** 09 12 16.3 +1.9
SNR=15
HYB **Hyderabad** 102.29 328 *i*P **Pdif** 09 12 14.0 -2.0
HYB *e*PP **PP** 09 16 28.0 +0.7
HYB *e*SKS 09 22 51.0
HYB LR LR
comp=Z,165nm,27.0s
HYB **Hyderabad** 102.29 328 *e*P **Pdif** 09 12 14.9 -1.1
HYB IAMs_20 IAMs_20 09 54 42.6
comp=Z,245μm,30.8s
PBA **Port Blair** 102.37 312 PFAKE 09 12 30.0 +14
PBA LR LR
comp=Z,616μm,22.0s
PBA **Port Blair** 102.37 312 *e*P Pdif 09 12 14.2 -2.0
PBA IAMs_20 IAMs_20 09 49 57.8
comp=Z,231μm,34.8s
BOM **Bombay** 102.51 333 *e*P **Pdif** 09 12 15.8 -1.1
BOM *e*x x 09 16 32.7
POO **Poona** 102.59 332 *e*P **Pdif** 09 12 15.4 -1.9
TOC7 **Torodi Ar. Sit** 102.66 43 PFAKE 09 12 30.0 +12
TOC7 LR LR
comp=Z,714μm,21.0s
TOC1 **Torodi Ar. Sit** 102.66 43 PFAKE 09 12 30.0 +12
TOC1 LR LR
comp=Z,810μm,21.0s
TOB5 **Torodi Ar. Sit** 102.67 43 PFAKE 09 12 30.0 +12
TOB5 LR LR
comp=Z,739μm,21.0s
TOA1 **Torodi Ar. Sit** 102.67 43 *e*Pdif **Pdif** 09 12 21.2 +3.6
TOA1 *e*PKiKP **PKiKP** 09 16 40.1 +1.6
TOB2 **Torodi Ar. Sit** 102.68 43 PFAKE 09 12 30.0 +12
TOB2 LR LR
comp=Z,703μm,21.0s
TOA0 **Torodi Ar. Sit** 102.68 43 PFAKE 09 12 30.0 +12
TOA0 LR LR
comp=Z,684μm,20.0s
TORD **Torodi Ar. Bea** 102.68 43 Pdiff **Pdif** 09 12 21.2 +3.6
comp=Z,5.8nm,1.3s,baz=72,slow=4.8,SNR=10
TORD PKiKP **PKiKP** 09 16 40.1 +1.6
comp=Z,14nm,1.1s,baz=343,slow=3.6,SNR=5.6
TORD PKKP **PKKPdf** 09 28 21.4 +1.0
comp=Z,5.2nm,0.9s,baz=150,slow=2.7,SNR=8.3
TOC2 **Torodi Ar. Sit** 102.68 43 PFAKE 09 12 30.0 +12
TOC2 LR LR
comp=Z,705μm,21.0s
TOA2 **Torodi Ar. Sit** 102.68 43 PFAKE 09 12 30.0 +12
TOA2 LR LR
comp=Z,697μm,21.0s
TOA3 **Torodi Ar. Sit** 102.68 43 PFAKE 09 12 30.0 +12
TOA3 LR LR
comp=Z,712μm,22.0s
TOB4 **Torodi Ar. Sit** 102.68 43 PFAKE 09 12 30.0 +12
TOB4 LR LR
comp=Z,717μm,21.0s
TOC5 **Torodi Ar. Sit** 102.69 43 PFAKE 09 12 30.0 +12
TOC5 LR LR
comp=Z,828μm,21.0s
TOB3 **Torodi Ar. Sit** 102.69 43 PFAKE 09 12 30.0 +12
TOB3 LR LR
comp=Z,701μm,21.0s
TOC3 **Torodi Ar. Sit** 102.70 43 PFAKE 09 12 30.0 +12
TOC3 LR LR
comp=Z,711μm,21.0s
TOC4 **Torodi Ar. Sit** 102.70 43 PFAKE 09 12 30.0 +12
TOC4 LR LR
comp=Z,729μm,21.0s
KSM **Kuching** 102.71 292 *e*Pdif **Pdif** 09 12 18.7 +0.9
KSM LR LR
comp=Z,141μm,20.0s
HIZ **Hauiti** 102.80 218 PFAKE 09 12 30.0 +13
HIZ LR LR
comp=Z,195μm,20.0s
BKZ **Black Stump Fm** 102.81 217 PFAKE 09 12 30.0 +12
BKZ LR LR
comp=Z,250μm,21.0s
KTGM **Kuala Trenggan** 103.13 300 P **Pdif** 09 12 13.6 -6.1
LHI **Lord Howe Isla** 103.21 233 PFAKE 09 12 30.0 +11
LHI LR LR
comp=Z,132μm,20.0s
MHTO **MHTO** 103.31 348 pPdiff **Pdif** 09 12 22.6 +2.3
SNR=19
ROCH **El Roble** 103.38 129 *e*P **Pdif** 09 12 26.4 +5.9
PEL **Peldehue** 103.67 129 *e*Pdif **Pdif** 09 12 24.2 +2.6
PEL LR LR
comp=Z,68μm,21.0s
PEL **Peldehue** 103.67 129 *e*P **Pdif** 09 12 24.2 +2.6
PEL MLR MLR
comp=Z,68μm,21.0s
PEL **Peldehue** 103.67 129 *e*P **Pdif** 09 12 23.1 +1.6
FCH **Farellones** 104.00 129 *e*P **Pdif** 09 12 29.1 +5.7
SOEI **Soe** 104.19 273 PFAKE 09 12 40.0 +16
SOEI LR LR

comp=Z,227μm,22.0s
BFZ Birch Farm 104.25 216 PFAKE 09 12 40.0 +16
BFZ LR LR
comp=Z,227μm,20.0s
KULM Kulim 104.38 302 *e*Pdif **Pdif 09 12 26.8 +1.5**
KULM LR LR
comp=Z,338μm,19.0s
DQM DQM 104.40 348 pPdiff **Pdif 09 12 27.1 +1.8**
SNR=5.7
MMRI Maumere 104.44 276 PFAKE 09 12 40.0 +15
MMRI LR LR
comp=Z,134μm,22.0s
LMEL Las Melosas 104.47 129 *e*P **Pdif 09 12 30.6 +5.3**
CPUP Villa Florida 104.48 115 Pdiff **Pdif 09 12 26.2 +0.9**
comp=Z,2.5nm,0.9s,baz=65,slow=20,SNR=2.3
CPUP PKKP **PKKPdf 09 28 20.9 +1.8**
comp=Z,4.4nm,1.0s,baz=98,slow=1.2,SNR=4.2
GO05 Huala 104.70 131 *e*Pdif **Pdif 09 12 27.6 +1.5**
GO05 LR LR
comp=Z,88μm,22.0s
IPM Ipoh 104.90 301 PFAKE 09 12 40.0 +12
IPM LR LR
comp=Z,505μm,20.0s
SNZO South Karori 105.34 217 PFAKE 09 16 50.0 +7.6
SNZO LR LR
comp=Z,219μm,21.0s
GOA Goa 105.50 331 *e*P **Pdif 09 12 28.1 -2.1**
GOA IAMs_20 IAMs_20 09 55 45.1
comp=Z,184μm,24.1s
TIC Toumodi 105.66 52 *e*P **PKKPdf 09 28 16.6 +1.4**
DBIC Dimbokro 105.71 52 PKKP **PKKPdf 09 28 16.2 +1.1**
comp=Z,9.9nm,1.0s,baz=140,slow=1.3,SNR=5.7
MYKOM Kota Tinggi 105.81 297 PFAKE 09 16 50.0 +5.7
MYKOM LR LR
comp=Z,322μm,20.0s
MDRS Chennai 105.83 324 *e*P **Pdif 09 12 28.9 -2.7**
LIC Lamto 106.02 53 *e*P **PKKPdf 09 28 18.1 +3.6**
comp=Z,80nm,1.5s
KIC Kosan Boka 106.03 52 *e*P **PKKPdf 09 28 15.8 +1.3**
comp=Z,88nm,1.4s
LHMI Lhok Sumawe 106.20 305 PFAKE 09 17 00.0 +15
LHMI LR LR
comp=Z,339μm,21.0s
THZ Tophouse 106.37 218 PFAKE 09 17 00.0 +16
THZ LR LR
comp=Z,247μm,21.0s
WB0 Warramunga Arr 106.45 259 PFAKE 09 17 00.0 +15
WB0 LR LR
comp=Z,317μm,22.0s
WB9 Warramunga Arr 106.47 259 PFAKE 09 17 00.0 +15
WB9 LR LR
comp=Z,568μm,21.0s
WB8 Warramunga Arr 106.49 259 PFAKE 09 17 00.0 +15
WB8 LR LR
comp=Z,266μm,20.0s
WR0 Warramunga Arr 106.52 259 PFAKE 09 17 00.0 +15
WR0 LR LR
comp=Z,260μm,21.0s
WB5 Warramunga Arr 106.55 259 PFAKE 09 17 00.0 +15
WB5 LR LR
comp=Z,256μm,20.0s
WR7 Warramunga Arr 106.55 259 PFAKE 09 17 00.0 +15
WR7 LR LR
comp=Z,240μm,21.0s
WR6 Warramunga Arr 106.56 259 PFAKE 09 17 00.0 +15
WR6 LR LR
comp=Z,243μm,21.0s
WR5 Warramunga Arr 106.58 259 PFAKE 09 17 00.0 +15
WR5 LR LR
comp=Z,249μm,21.0s
WB4 Warramunga Arr 106.58 259 PFAKE 09 17 00.0 +15
WB4 LR LR
comp=Z,290μm,22.0s
WR4 Warramunga Arr 106.59 259 PFAKE 09 17 00.0 +15
WR4 LR LR
comp=Z,248μm,21.0s
WC2 Warramunga Arr 106.59 259 PFAKE 09 17 00.0 +15
WC2 LR LR
comp=Z,290μm,21.0s
WB3 Warramunga Arr 106.59 259 PFAKE 09 17 00.0 +15
WB3 LR LR
comp=Z,264μm,21.0s
WR3 Warramunga Arr 106.60 259 PFAKE 09 17 00.0 +15
WR3 LR LR
comp=Z,259μm,21.0s
WC1 Warramunga Arr 106.61 259 PFAKE 09 17 00.0 +15
WC1 LR LR
comp=Z,201μm,20.0s
WRAB Tennant Creek 106.61 259 PFAKE 09 17 00.0 +15
WRAB LR LR
comp=Z,297μm,21.0s
WR2 Warramunga Arr 106.61 259 PFAKE 09 17 00.0 +15
WR2 LR LR
comp=Z,237μm,20.0s
WB2 Warramunga Arr 106.61 259 PFAKE 09 17 00.0 +14
WB2 LR LR
comp=Z,299μm,20.0s
WC3 Warramunga Arr 106.61 259 PFAKE 09 17 00.0 +14
WC3 LR LR
comp=Z,268μm,21.0s
WR1 Warramunga Arr 106.62 259 *e*Pdif **Pdif 09 12 37.6 +2.7**
WR1 *e*PKiKP **PKiKP 09 16 44.9 -0.6**
WR1 LR LR
comp=Z,261μm,20.0s
WRA Warramunga Arr 106.62 259 Pdiff **Pdif 09 12 37.6 +2.7**
comp=Z,1.8nm,0.9s,baz=38,slow=5.1,SNR=9.2
WRA PKiKP **PKiKP 09 16 44.9 -0.6**
comp=Z,2.9nm,0.7s,baz=23,slow=1.9,SNR=14
WC4 Warramunga Arr 106.64 259 PFAKE 09 17 00.0 +14
WC4 LR LR
comp=Z,264μm,21.0s
KHZ Kahutara 106.72 217 PFAKE 09 17 00.0 +15
KHZ LR LR
comp=Z,288μm,22.0s
PSI Prapat 107.38 302 *e*Pdif **Pdif 09 12 39.2 +0.5**
PSI LR LR
comp=Z,311μm,21.0s
PSI Prapat 107.38 302 *e*P **Pdif 09 12 39.2 +0.5**
PSI MLR MLR
comp=Z,311μm,21.0s
LTZ Lake Taylor 107.49 218 PFAKE 09 17 00.0 +14
LTZ LR LR
comp=Z,230μm,19.0s
SPB Sao Paulo 107.58 106 PFAKE 09 17 00.0 +13
SPB LR LR
comp=Z,415μm,19.0s
OXZ Oxford 108.05 218 PFAKE 09 17 00.0 +13
OXZ LR LR
comp=Z,218μm,19.0s
CRLZ Canterbury Las 108.06 217 PFAKE 09 17 00.0 +13
CRLZ LR LR
comp=Z,226μm,21.0s
MQZ McQueen's Vall 108.17 217 PFAKE 09 17 00.0 +12
MQZ LR LR
comp=Z,234μm,20.0s
BKNI Bangkinang 108.48 299 PFAKE 09 17 00.0 +11
BKNI LR LR
comp=Z,441μm,20.0s
RPZ Rata Peaks 108.73 218 PFAKE 09 17 00.0 +11
RPZ LR LR
comp=Z,183μm,20.0s
GO06 Curarrehue 108.76 133 PFAKE 09 17 00.0 +11
GO06 LR LR
comp=Z,89μm,19.0s
JAGI Jajag, Banyuwa 108.87 283 PFAKE 09 17 00.0 +10
JAGI LR LR
comp=Z,117μm,22.0s
FOZ Fox Glacier 109.02 219 PFAKE 09 17 00.0 +11
FOZ LR LR
comp=Z,146μm,21.0s
GSI Gunungsitoli 109.33 303 PFAKE 09 17 00.0 +9.2
GSI LR LR
comp=Z,564μm,20.0s
LBZ Lake Benmore 109.63 219 PFAKE 09 17 00.0 +10
LBZ LR LR
comp=Z,111μm,20.0s
SMRI Semarang 109.76 287 PFAKE 09 17 00.0 +8.4
SMRI LR LR
comp=Z,108μm,22.0s
AS31 Alice Springs 109.82 257 *e*Pdif **Pdif 09 12 54.5 +5.3**
AS31 *e*PKiKP **PKiKP 09 16 51.7 +0.3**
AS31 *e*PKKPab **PKKPab 09 28 02.7 -1.7**
AS31 LR LR
comp=Z,4μm,21.0s
ASAR Alice Springs 109.82 257 Pdiff **Pdif 09 12 54.5 +5.3**
comp=Z,1.1nm,1.0s,baz=37,slow=5.5,SNR=5.6
ASAR PKiKP **PKiKP 09 16 51.7 +0.3**
comp=Z,1.6nm,0.6s,baz=55,slow=2.9,SNR=9.3
ASAR PKKPab **PKKPab 09 28 02.7 -1.7**
comp=Z,2.9nm,0.8s,baz=202,slow=3.1,SNR=8.8
ASAR PKKP **PKKPdf 09 28 09.8 +0.7**
comp=Z,3.3nm,0.8s,baz=204,slow=2.3,SNR=8.3
ODZ Otahua Downs 110.04 218 PFAKE 09 17 00.0 +8.9
ODZ LR LR
comp=Z,161μm,19.0s
UGM Wanagama 110.42 286 PFAKE 09 17 00.0 +7.1
UGM LR LR
comp=Z,96μm,20.0s
WKZ Wanaka 110.43 219 PFAKE 09 17 00.0 +8.1
WKZ LR LR
comp=Z,136μm,19.0s
DAMY Dhamar 110.46 1 PFAKE 09 17 00.0 +6.7
DAMY LR LR
comp=Z,247μm,22.0s
LPA La Plata 111.10 121 *ce*PDIFF **Pdif 09 13 04.0 +10**
LPA PP **PP 09 17 31.0 -1.9**
LPA PKIKS 09 20 29.0
comp=Z,132μm,20.0s
LPA La Plata 111.10 121 SKS **SKSac 09 23 34.0 0.0**
LPA SKIKS **SKSdf 09 24 03.0 -3.0**
TRD Trivandrum 111.18 326 *e*P **PKiKP 09 16 52.3 -2.0**
MLZ Mavora Lakes 111.22 219 PFAKE 09 17 00.0 +6.6
MLZ LR LR
comp=Z,103μm,20.0s
MNAI Manna 111.51 295 PFAKE 09 17 00.0 +15
MNAI LR LR
comp=Z,228μm,19.0s
CISI Cisompet, Garu 111.61 289 PFAKE 09 17 00.0 +15
CISI LR LR
comp=Z,124μm,19.0s
DCZ Deep Cove 111.66 220 PFAKE 09 17 00.0 +16
DCZ LR LR
comp=Z,129μm,19.0s
TRQA Tornquist 111.69 126 PFAKE 09 17 00.0 +15
TRQA LR LR
comp=Z,274μm,21.0s
WHZ Wether Hill Ro 111.73 219 PFAKE 09 17 00.0 +16
WHZ LR LR
comp=Z,104μm,21.0s
PYZ Puysegur Point 112.43 220 PFAKE 09 17 00.0 +14
PYZ LR LR
comp=Z,129μm,19.0s
MNCI Minicoy 112.58 330 PFAKE 09 17 00.0 +13
MNCI LR LR
comp=Z,482μm,19.0s
MNCY Minicoy 112.60 330 *e*P **PKiKP 09 16 55.2 -1.8**
ATD Arta Tunnel 113.46 3 PFAKE 09 17 00.0 +11
ATD LR LR
comp=Z,121μm,21.0s
ATD Arta Tunnel 113.46 3 *e*P PP 09 17 58.6 +10
ATD *i* S **PKKPbc 09 27 42.5 +1.9**
ATD Arta Tunnel 113.46 3 *e*P PP 09 17 56.6 +7.8
ATD *i* S **PKKPbc 09 27 42.5 +1.9**
ASCN Ascension 113.57 69 PFAKE 09 17 10.0 +11
ASCN LR LR
comp=Z,339μm,20.0s
DESE Dese 113.73 6 *e*P **Pdif 09 13 14.7 +7.4**
DESE Dese 113.73 6 *e*P **Pdif 09 13 14.7 +7.4**
DESE *i* S **SKSdf 09 24 15.7 +2.8**
TOO Toolangi 114.61 239 PFAKE 09 17 10.0 +10
TOO LR LR
comp=Z,146μm,21.0s
XMIS Christmas Isla 115.21 289 PFAKE 09 17 10.0 +8.1
XMIS LR LR
comp=Z,67μm,22.0s
ANKE Ethiopia-Afar 115.25 6 *i* P **Pdif 09 13 22.5 +8.4**
ANKE *i* S **SKSdf 09 24 05.5 -11**
ANKE Ethiopia-Afar 115.25 6 *i* P **Pdif 09 13 22.5 +8.4**
ANKE *i* S **SKSdf 09 24 09.5 -6.5**
AAE Adis Abeba 115.75 7 *e*P **Pdif 09 13 24.6 +8.4**
AAE Adis Abeba 115.75 7 *e*P **PP 09 18 08.6 +3.4**
AAE *i* S **PKKPdf 09 27 54.4 -2.2**
AAE Adis Abeba 115.75 7 *e*P **PP 09 18 10.6 +5.4**
AAE *i* S **PKKPdf 09 27 54.4 -2.2**
AAE Adis Abeba 115.75 7 *e*P **Pdif 09 13 24.6 +8.4**
AAE *e*S **SKSdf 09 24 14.2 -2.6**
BBOO Buckleboo 115.77 249 *e*PKPdf **PKPdf 09 17 01.2 -1.3**
BBOO LR LR
comp=Z,189μm,21.0s
FURI Furi 115.87 7 PFAKE 09 17 00.0 +6.3
FURI LR LR
comp=Z,246μm,18.0s
FURI Furi 115.87 7 *e*P **PP 09 18 07.1 +1.0**
FURI *i* S **PKKPdf 09 27 50.4 -6.0**
MBWA Marble Bar 115.90 270 PFAKE 09 17 10.0 +7.0
MBWA LR LR
comp=Z,153μm,22.0s
TAU Tasmania Unive 117.89 234 PFAKE 09 17 20.0 +14
TAU LR LR
comp=Z,145μm,19.0s
GO09 Cerro Castillo 118.13 141 PFAKE 09 17 20.0 +14
GO09 LR LR
comp=Z,103μm,22.0s
DILA Dilla 118.28 8 *i* P PP 09 18 45.8 +23
DILA *e*S **PKKPab 09 27 34.4 +3.1**
FORT Forrest 118.60 257 *e*PKPdf **PKiKP 09 17 10.6 +2.6**
FORT LR LR
comp=Z,248μm,20.0s
GO10 Punta Arenas 120.12 141 PFAKE 09 17 20.0 +10
GO10 LR LR
comp=Z,94μm,19.0s
GIRL Giralia 120.21 273 PFAKE 09 17 20.0 +8.6
GIRL LR LR
comp=Z,144μm,22.0s
COCO West Island 121.30 296 PFAKE 09 17 20.0 +6.3
COCO LR LR
comp=Z,169μm,21.0s
MCQ Macquarie Isla 122.09 219 PFAKE 09 17 20.0 +6.0
MCQ LR LR
comp=Z,96μm,20.0s
EFI East Falkland 124.03 133 PFAKE 09 17 30.0 +12
EFI LR LR
comp=Z,352μm,22.0s
MORW Morawa 124.11 267 PFAKE 09 17 30.0 +11
MORW LR LR
comp=Z,275μm,22.0s
MBAR Mbarara 124.28 18 *e*PKPdf **PKiKP 09 17 23.9 +3.9**
MBAR LR LR
comp=Z,314μm,21.0s
SHEL Horse Pasture 124.83 66 PFAKE 09 17 30.0 +9.3
SHEL LR LR
comp=Z,224μm,21.0s
KMBO Kilima Mbogo 125.68 10 *e*PKPdf **PKiKP 09 17 26.6 +3.7**
KMBO LR LR
comp=Z,211μm,20.0s
KMBO Kilima Mbogo 125.68 10 *i* P **PKiKP 09 17 27.1 +4.2**
SNR=10
KMBO Kilima Mbogo 125.68 10 *e*P **PP 09 19 13.8 +0.6**
KMBO *i* S **PKKSdf 09 31 13.8 -0.3**
NAI Nairobi 125.78 10 PFAKE 09 17 30.0 +7.0
NAI LR LR
comp=Z,275μm,19.0s
NWAO Narrogin (SRO) 126.30 263 *e*PKPdf **PKPdf 09 17 21.9 -0.7**
NWAO LR LR
comp=Z,235μm,21.0s
NWAO Narrogin (SRO) 126.30 263 *e*PKIKP **PKPdf 09 17 22.0 -0.7**
NWAO MLR MLR
comp=Z,235μm,21.0s
DGAR Diego Garcia 127.59 325 PFAKE 09 17 40.0 +14
DGAR LR LR
comp=Z,328μm,20.0s
PMSA Palmer Station 131.28 147 PFAKE 09 17 40.0 +8.0
PMSA LR LR
comp=Z,76μm,20.0s
PMSA Palmer Station 131.28 147 *e*P **PKiKP 09 17 33.3 +1.3**
HOPE Hope Point 135.44 124 PFAKE 09 17 50.0 +9.2
HOPE LR LR
comp=Z,255μm,20.0s
SBA Scott Base 137.53 196 *e*PKPdf **PKiKP 09 17 44.8 +0.3**
SBA LR LR
comp=Z,196μm,22.0s
ITZ Itezhi-Tezhi 137.90 28 *i* P **PKPdf 09 17 46.1 +0.9**
ITZ ⇑*i* 09 20 05.0
LSZ Lusaka 138.01 25 PKP **PKPdf 09 17 43.4 -2.0**
comp=Z,5.0nm,0.8s,baz=10,slow=3.8,SNR=6.6
LSZ Lusaka 138.01 25 *e*PKPdf **PKPdf 09 17 41.7 -3.7**
LSZ LR LR
comp=Z,589μm,22.0s
LSZ Lusaka 138.01 25 *e*PKIKP **PKPdf 09 17 41.7 -3.7**
LSZ MLR MLR
comp=Z,589μm,22.0s
VNDA Vanda 138.09 197 *e*PKPdf **PKPdf 09 17 43.6 0.0**
VNDA Vanda 138.09 197 *e*PKIKP **PKPdf 09 17 43.6 0.0**
TSUM Tsumeb 138.39 41 PKP **PKPdf 09 17 43.8 -2.2**
comp=Z,11nm,0.8s,baz=49,slow=1.9,SNR=8.7
TSUM Tsumeb 138.39 41 *e*PKPdf **PKPdf 09 17 44.1 -1.9**
TSUM LR LR
comp=Z,447μm,21.0s
OPO Ambohidratompo 143.37 357 PKP **PKPdf 09 17 55.8 +0.7**
comp=Z,3.3nm,0.6s,baz=116,slow=1.2,SNR=5.4
ABPO Ambohimpanom 143.81 357 *e*PKPdf **PKPdf 09 17 55.9 +0.1**
ABPO LR LR
comp=Z,296μm,21.0s
ABPO Ambohimpanom 143.81 357 *e*PKIKP **PKPdf 09 17 55.9 +0.1**
ABPO MLR MLR
comp=Z,296μm,21.0s
MRIV Mauritius Mete 143.90 340 PFAKE 09 18 10.0 +11
MRIV LR LR
comp=Z,59μm,20.0s
QSPA South Pole Qui 145.04 180 PKPbc **PKPbc 09 17 54.9 -0.9**
comp=Z,35nm,0.9s,baz=82,slow=1.1,SNR=66
QSPA South Pole Qui 145.04 180 *e*PKPbc **PKPbc 09 17 54.2 -1.6**
QSPA LR LR
comp=Z,171μm,18.0s
RER Riviere de l'E 145.06 343 *e*PKPbc **PKPbc 09 17 55.4 -1.8**
RER LR LR
comp=Z,218μm,22.0s
LBTB Lobatse 146.54 34 PKPbc **PKPdf 09 18 00.7 +0.4**
comp=Z,79nm,1.0s,baz=323,slow=2.2,SNR=28
LBTB Lobatse 146.54 34 *e*PKPdf **PKPdf 09 17 59.2 -1.1**
LBTB Lobatse 146.54 34 *e*PKP2 **PKPdf 09 17 59.2 -1.1**
CASY Casey 147.81 224 *e*PKPdf **PKPdf 09 18 01.6 +0.7**
CASY LR LR
comp=Z,109μm,21.0s
BOSA Boshof 149.76 37 PKPbc **PKiKP 09 18 10.8 -0.4**
comp=Z,32nm,1.0s,baz=11,slow=3.2,SNR=14
BOSA Boshof 149.76 37 *e*pPKPdf **pPKPdf 09 18 07.9 +1.9**
BOSA *e*PKPbc **PKiKP 09 18 10.8 -0.4**
BOSA Boshof 149.76 37 *e*PKP2 pPKPdf 09 18 07.9 +1.9
SUR Sutherland 151.44 47 PKPbc **PKiKP 09 18 16.6 +1.9**
comp=Z,17nm,0.6s,baz=264,slow=4.0,SNR=5.3
SUR Sutherland 151.44 47 *e*PKPbc **PKPbc 09 18 12.6 -1.5**
SUR *e*PKPab **PKiKP 09 18 17.6 +2.9**
SUR LR LR
comp=Z,361μm,22.0s
VNA3 Neumayer Olymp 151.91 146 PKP **PKPab 09 18 18.9 -4.3**
VNA1 Neumayer--Stat 152.44 145 PKP **PKPab 09 18 21.0 -4.4**
VNA2 Neumayer--Watz 152.69 145 PKP **PKPab 09 18 21.5 -5.0**
NVL N'lazarevskaya 158.74 150 *c i* PKIKP **PKPdf 09 18 20.5 +4.0**
NVL *e* 09 22 29.1
NVL *e*PPP PPP 09 26 14.8
MAW Mawson 165.07 207 PKP **PKPdf 09 18 26.2 +3.1**
comp=Z,10nm,1.0s,baz=81,slow=2.8,SNR=3.7
MAW PKPab **sPKPab 09 19 24.2 +3.5**
comp=Z,22nm,0.9s,baz=330,slow=1.9,SNR=5.1
SYO Syowa Base 165.94 172⇑ *e*P **PKPab 09 19 21.4 -2.5**
SYO Syowa Base 165.94 172⇑ *e*P **PKPab 09 19 26.8 +2.9**
SYO Syowa Base 165.94 172⇑ *i*P PKPab 09 19 32.4 +8.5

*NEIC **05** 09:12:06.9±0.0, 55.65°N×135.65°W, h12km, ML4.7(AEIC), After AEIC.*
NEIC Felt at Ketchikan and Sitka.
*ISCJB **05** 09:12:09.8±0.5, 55.85°N±0.04°×135.44°W±0.09, h10km, mb4.4/12, Error ellipse: s-maj=8.1km s-min=4.5km az=141.8*
*IDC **05** 09:12:10.7±0.8, 55.84°N×135.37°W, h0km, mb4.5/9, mb1 4.7/14, mb1mx4.3/49, mbtmp4.5/14, ML4.3/5, Error ellipse: s-maj=19.2km s-min=10.2km az=45.0*

ISC 05 09:12:12.6±0.6, 55.93°N±0.05×135.20°W±0.06, h10km, n35, σ1§50/37, mb4.5/12, Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRAG	**Craig**	**1.27**	**111**	P	**Pn**	**09 12 34.7**	**-1.6**
CRAG				S	**Sn**	**09 12 52.7**	**-0.6**
WRAK	**Wrangell Islan**	**1.67**	**72**	P	**Pn**	**09 12 40.7**	**-1.1**
WRAK				S	**Sg**	**09 13 05.5**	**-0.8**
NDB	**Naden**	**2.37**	**146**	P	Pn	09 12 45.0	-6.6
JIS	**Juneau Island**	**2.39**	**10**	P	**Pn**	**09 12 50.3**	**-1.5**
JIS				S	**Sb**	**09 13 24.1**	**-1.2**
BESE	**Bessie Mountai**	**2.66**	**4**	P	**Pn**	**09 12 55.2**	**-0.4**
BESE				S	**Sb**	**09 13 32.5**	**-0.6**
H02S1	**DAWSON INLET T**	**3.16**	**149**	Pn	**Pn**	**09 13 00.8**	**-1.6**
H02S1				Sn	**Sn**	**09 13 39.0**	**-1.1**
SKAG	**Skagway**	**3.54**	**359**	P	**Pn**	**09 13 07.1**	**-0.5**
PLBC	**Pleasant Camp**	**3.59**	**350**	P	**Pn**	**09 13 07.1**	**-1.2**
DLBC	**Dease Lake**	**3.77**	**46**	Pn	**Pn**	**09 13 10.9**	**0.0**
	14nm,0.3s,baz=224,slow=14,SNR=4.3						
DLBC				Lg	Lg	09 14 10.9	
	124nm,0.3s,baz=241,slow=5.0,SNR=8.8						
DLBC	**Dease Lake**	**3.77**	**46**	P	**Pn**	**09 13 10.6**	**-0.2**
WHY	**Whitehorse**	**4.75**	**2**	P	**Pn**	**09 13 23.7**	**-0.6**
PCA	**Pinnacle**	**4.96**	**329**	P	**Pn**	**09 13 25.6**	**-1.7**
BBB	**Bella Bella**	**5.61**	**129**	Pn	**Pn**	**09 13 35.3**	**-0.7**
	24nm,0.3s,baz=297,slow=7.8,SNR=11						
BBB				Sn	**Sn**	**09 14 39.3**	**-1.2**
	12nm,0.3s,baz=96,slow=17,SNR=9.3						
BBB				Lg	Lg	09 15 10.1	
	17nm,0.3s,baz=212,slow=14,SNR=4.9						
KDAK	**Kodiak Island**	**9.70**	**288**	Pn	**Pn**	**09 14 28.0**	**-4.1**
	8.1nm,0.3s,baz=109,slow=5.6,SNR=8.6						
ILAR	**Eielson Array**	**10.57**	**332**	Pn	**Pn**	**09 14 42.6**	**-1.3**
	1.0nm,0.3s,baz=155,slow=13,SNR=10						
YKA	**Yellowknife Ar**	**12.39**	**50**	Pn	**Pn**	**09 15 08.6**	**-0.2**
	1.0nm,0.3s,baz=240,slow=12,SNR=14						
NVAR	**Mina Array Bea**	**20.84**	**140**	P	Pn	09 16 57.3	+0.3
	9.0nm,0.9s,baz=314,slow=9.4,SNR=7.5						
PDAR	**Pinedale Array**	**21.12**	**118**	P	**P**	**09 17 00.8**	**+3.2**
	14nm,1.0s,baz=316,slow=2.3,SNR=6.5						
TXAR	**Lajitas Array**	**34.74**	**127**	P	**P**	**09 19 05.3**	**+2.4**
	4.9nm,0.9s,baz=297,slow=5.6,SNR=5.4						
BLA	**Blacksburg**	**40.81**	**94**	*e*P	P	09 19 47.5	-6.5
	27μm,3.1s						
PKME	**Peaks-Kenny Pk**	**41.63**	**76**	*e*P	**P**	**09 19 57.0**	**-3.6**
	23μm,2.5s						
GOGA	**Godfrey**	**41.88**	**100**	*e*P	P	09 19 54.5	-8.3
	10μm,3.0s						
ARCES	**ARCESS Array B**	**54.06**	**8**	P	**P**	**09 21 36.3**	**-0.2**
	5.0nm,0.7s,baz=46,slow=5.2,SNR=7.7						
NB2	**NORSAR Subarra**	**60.40**	**18**	P	**P**	**09 22 21.8**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=340,slow=6.9						
NOA	**NORSAR Array B**	**60.40**	**18**	P	**P**	**09 22 22.3**	**+0.8**
	comp=Z,5.6nm,0.9s,baz=339,slow=7.0,SNR=7.2						
FINES	**FINESS Array B**	**62.04**	**10**	P	**P**	**09 22 32.9**	**+0.3**
	comp=Z,3.5nm,0.7s,baz=319,slow=7.6,SNR=7.2						
SONM	**Songino Array**	**64.50**	**319**	P	**P**	**09 22 51.5**	**+2.2**
	comp=Z,3.0nm,1.0s,baz=49,slow=9.7,SNR=4.4						
ZALV	**Zalesovo Beam**	**65.67**	**335**	P	**P**	**09 22 56.4**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=5.4,slow=6.3,SNR=5.9						
GERES	**GERESS Array B**	**72.41**	**21**	P	**P**	**09 23 39.7**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=350,slow=4.1,SNR=5.8						
MKAR	**Makanchi Array**	**72.91**	**334**	P	**P**	**09 23 41.0**	**-0.7**
	comp=Z,6.8nm,0.7s,baz=32,slow=6.8,SNR=23						
AKASG	**Malin Array Be**	**72.95**	**10**	P	**P**	**09 23 41.7**	**0.0**
	comp=Z,3.2nm,0.7s,baz=352,slow=5.7,SNR=11						
ESDC	**Sonseca Array**	**76.15**	**37**	P	**P**	**09 24 01.8**	**+1.2**
	comp=Z,3.6nm,0.7s,baz=329,slow=5.6,SNR=16						
CMAR	**Chiang Mai Arr**	**93.02**	**310**	P	**P**	**09 25 27.3**	**+0.9**
	comp=Z,0.9nm,0.4s,baz=4.3,slow=3.6,SNR=4.2						
LBTB	**Lobatse**	**146.08**	**32**	PKPbc	**PKPbc**	**09 31 52.6**	**0.0**
	comp=Z,10nm,0.9s,baz=315,slow=3.3,SNR=10						
BOSA	**Boshof**	**149.33**	**35**	PKPbc	**PKPbc**	**09 32 01.0**	**-0.4**
	comp=Z,5.7nm,0.8s,baz=339,slow=3.7,SNR=8.0						

IDC 05 09:13:50.5±1.4, 55.23°N×134.81°W, h0km, mb4.0/2, mb1 4.3/4, mb1mx3.7/49, mbtmp4.2/4, ML4.3/2, Error ellipse: s-maj=79.2km s-min=19.5km az=56.0, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H02S1	**DAWSON INLET T**	**2.45**	**145**	Pn	Pn	09 14 32.6	+1.0
H02S1				Sn	Sn	09 15 02.6	+0.3
BBB	**Bella Bella**	**5.01**	**125**	Sn	Sn	09 16 05.7	+0.3
	9.5nm,0.3s,baz=82,slow=12,SNR=6.6						
KDAK	**Kodiak Island**	**10.15**	**292**	Pn	Pn	09 16 15.4	-1.8
	5.8nm,0.3s,baz=91,slow=8.3,SNR=5.3						
ILAR	**Eielson Array**	**11.29**	**333**	Pn	Pn	09 16 33.0	+0.1
	0.8nm,0.3s,baz=155,slow=13,SNR=5.7						
ZALV	**Zalesovo Beam**	**66.40**	**336**	P	P	09 24 40.3	-0.4
	1.2nm,0.7s,baz=26,slow=6.9,SNR=2.8						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	73.64	334	P	P	09 25 25.1	-0.2
	1.1nm,0.7s,baz=39,slow=6.1,SNR=4.9						

NEIC 05 09:17:58.2±0.0,55°.95N×135°.05W,h10km,ML4.0(AEIC), After AEIC.,Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIT	Sitka	1.12	352	P	Pb	09 18 18.7	-1.0
SIT				S	Sg	09 18 34.8	+0.4
CRAG	Craig	1.19	113	P	Pb	09 18 20.3	-0.5
CRAG				S	Sg	09 18 36.3	-0.1
WRAK	Wrangell Islan	1.58	71	P	Pn	09 18 26.3	0.0
WRAK				S	Sb	09 18 48.3	+0.7
JIS	Juneau Island	2.37	9	P	Pb	09 18 39.3	-1.5
JIS				S	Sn	09 19 07.5	+1.5
BESE	Bessie Mountai	2.64	2	P	Pn	09 18 42.4	+1.5
SKAG	Skagway	3.53	358	P	Pn	09 18 54.5	+1.5
PLBC	Pleasant Camp	3.59	349	P	Pn	09 18 55.7	+1.8
DLBC	Dease Lake	3.70	45	P	Pn	09 18 56.4	+0.9
WHY	Whitehorse	4.73	1	P	Pn	09 19 10.7	+1.1
PCA	Pinnacle	5.00	329	P	Pn	09 19 13.7	+0.5
SAMH	Samovar Hills	5.18	326	P	Pn	09 19 16.3	+0.5
YUK6	Outpost Mounta	5.31	342	P	Pn	09 19 18.6	+1.0
RKAV	Rock Avalanche	5.50	325	P	Pn	09 19 20.9	+0.8

KRSC 05 09:21:34.6±1.1,50°.34N×156°.70E,h117km±11km,ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.51	312	eP	Pn	09 21 53.2	+1.0
PAU	Pauzhetka	1.13	3	eP	Pn	09 21 57.8	+0.2
KDTR	Khodutka, Kamc	1.70	30	eP	Pn	09 22 05.9	+1.7
KDTR				eS	Sn	09 22 28.6	+1.8
MTVR	Mutnovka	2.33	23	eP	Pn	09 22 13.0	+0.8
MTVR				eS	Sn	09 22 43.1	+2.0
RUS	Russkaya	2.38	28	eP	Pn	09 22 14.8	+2.2
RUS				eS	Sn	09 22 43.2	+1.3
KRMR	Karymshinskiy	2.64	19	eS	Sn	09 22 49.9	+1.9
UGLR	Uglovaya	3.16	24	eP	Pn	09 22 25.4	+2.5
AVH	Avacha	3.19	23	eP	Pn	09 22 25.8	+2.5
KOK	Koryaka	3.19	21	eP	Pn	09 22 24.6	+1.3
SDLR	Sedlovina	3.23	24	eP	Pn	09 22 25.3	+1.4
SPN	Mys Shipunski	3.44	36	eS	Sn	09 23 08.4	+1.6

BJI 05 09:27:19.2,55°.78N×135°.15W,h6km,mb5.0/18,mB5.1/1
ISCJB 05 09:27:20.3±0.2,55°.71N±0°.03×135°.18W±0°.05,h10km, mb4.7/39,Error ellipse: s-maj=4.5km s-min=2.9km az=40.1
NEIC 05 09:27:20.4±0.0,55°.60N×135°.20W,h20km,mb4.7/7, ML4.7(AEIC),After AEIC.
IDC 05 09:27:20.5±0.5,55°.63N×135°.03W,h0km,mb4.5/20, mb1 4.6/25,mb1mx4.5/56,mbtmp4.5/25,ML4.0/4,Error ellipse: s-maj=11.6km s-min=9.0km az=35.0
MOS 05 09:27:21.9±1.4,55°.90N×135°.16W,h12km,mb4.9/17, Error ellipse: s-maj=17.2km s-min=5.7km az=105.4
ISC 05 09:27:21.6±0.4,55°.59N±0°.04×135°.13W±0°.05,h10km, n174,σ1s.64/175,mb4.7/39,4C-6D,Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRAG	Craig	1.15	95	P	Pb	09 27 41.4	-2.1
CRAG				S	Sb	09 27 56.3	-2.1
SIT	Sitka	1.47	356	ePn	Pn	09 27 45.4	-2.8
SIT	Sitka	1.47	356	eP	Pn	09 27 45.4	-2.8
WRAK	Wrangell Islan	1.77	61	P	Pn	09 27 50.2	-2.0
WRAK				S	Sn	09 28 14.7	-0.1
NDB	Naden	2.07	141	P	Pn	09 27 54.8	-1.7
MASB	Masset	2.39	130	P	Pn	09 27 59.1	-1.7
JIS	Juneau Island	2.72	8	P	Pn	09 28 03.2	-2.1
JIS				S	Sn	09 28 35.0	-3.2
DIB	Dawson Inlet,	2.85	146	ePn	Pn	09 28 06.1	-1.1
H02S1	DAWSON INLET T	2.85	146	Pn	Pn	09 28 05.8	-1.3
H02S1				Sn	Sn	09 28 39.9	-1.6
BESE	Bessie Mountai	3.00	3	P	Pn	09 28 07.1	-2.2
BESE				S	Sn	09 28 42.5	-2.7
BNB	Barry Inlet	3.62	145	P	Pn	09 28 15.3	-2.4
SKAG	Skagway	3.88	358	P	Pn	09 28 20.2	-1.0
SKAG				S	Sn	09 29 04.3	-2.5
PLBC	Pleasant Camp	3.93	351	P	Pn	09 28 20.6	-1.4
DLBC	Dease Lake	3.99	42	Pn	Pn	09 28 21.6	-1.2
	5.7nm,0.3s,baz=229,slow=9.5,SNR=9.8						
DLBC				Sn	Sn	09 29 07.7	-1.8
	46nm,0.3s,baz=346,slow=25,SNR=10						
DLBC	Dease Lake	3.99	42	P	Pn	09 28 21.5	-1.3
YKU2	Yakutat	4.63	330	ePn	Pn	09 28 31.1	-0.4
WHY	Whitehorse	5.08	1	P	Pn	09 28 36.7	-1.2
YUK7	Dusty Glacier	5.20	343	P	Pn	09 28 38.4	-1.2
PCA	Pinnacle	5.28	331	P	Pn	09 28 39.2	-1.3
BBB	Bella Bella	5.37	127	Pn	Pn	09 28 40.5	-1.3
	7.7nm,0.3s,baz=290,slow=7.7,SNR=17						
BBB				Sn	Sn	09 29 41.9	-1.7
	30nm,0.3s,baz=115,slow=18,SNR=13						
BBB	Bella Bella	5.37	127	P	Pn	09 28 40.1	-1.6
HYT	Haines Junctio	5.39	348	P	Pn	09 28 41.5	-0.6
SAMH	Samovar Hills	5.46	329	P	Pn	09 28 42.8	-0.2
YUK6	Outpost Mounta	5.63	344	P	Pn	09 28 44.3	-1.2
YUK5	Granite Creek	5.74	347	P	Pn	09 28 46.5	-0.4
RKAV	Rock Avalanche	5.76	328	P	Pn	09 28 46.4	-0.9
MESA	MESA	5.86	324	P	Pn	09 28 47.5	-1.1
YUK4	Talbot Arm	6.05	344	P	Pn	09 28 51.8	+0.5
SNH	Sunshine Point	6.17	321	P	Pn	09 28 50.9	-1.8
KULT	Kultieth River	6.17	322	P	Pn	09 28 51.0	-1.8
FSB	Fort Saint Jam	6.31	96	P	Pn	09 28 54.7	0.0
KHIT	Khitrov Hills	6.50	322	P	Pn	09 28 55.1	-2.1
NICHA	Nichawak Mount	6.62	318	P	Pn	09 28 56.6	-2.2
BERG	Berg Lake	6.62	320	P	Pn	09 28 56.7	-2.2
RAGM	Ragged Mountai	6.99	317	ePn	Pn	09 29 01.9	-2.1
MID	Middleton Isla	7.16	307	P	Pn	09 29 02.4	-3.8
MID	Middleton Isla	7.16	307	P	Pn	09 29 02.4	-3.8
EYAK	Cordova Ski Ar	7.50	316	ePn	Pn	09 29 09.7	-1.3
DIV	Divide	7.88	319	P	Pn	09 29 15.4	-0.7
KLU	Klutina	8.17	321	ePn	Pn	09 29 19.2	-1.0
BCA3	Beaver Creek A	8.22	338	P	Pn	09 29 19.7	-1.2
HARP	HAARP	8.56	327	ePn	Pn	09 29 26.9	+1.3
PWL	Port Wells	8.73	313	P	Pn	09 29 24.9	-2.9
DAWY	Dawson	8.76	348	P	Pn	09 29 27.7	-0.5
SEW	Seward	8.87	306	P	Pn	09 29 25.4	-4.2
SCM	Sheep Creek Mo	8.90	320	P	Pn	09 29 29.4	-0.8
SCM	Sheep Creek Mo	8.90	320	P	Pn	09 29 29.4	-0.8
KNK	Knik Glacier	9.08	315	P	Pn	09 29 31.4	-1.3
PAX	Paxson	9.08	329	ePn	Pn	09 29 33.2	+0.5
PAX	Paxson	9.08	329	eP	Pn	09 29 33.2	+0.5
DOT	Dot Lake	9.25	334	ePn	Pn	09 29 34.6	-0.3
SML	Sawmill	9.26	318	ePn	Pn	09 29 33.7	-1.5
SML	Sawmill	9.26	318	eP	Pn	09 29 33.7	-1.5
BRLK	Bradley Lake	9.41	303	ePn	Pn	09 29 34.5	-2.7
RC01	Rabbit Creek A	9.44	312	ePn	Pn	09 29 35.2	-2.3
PMR	Palmer	9.45	315	ePn	Pn	09 29 36.2	-1.4
PMR	Palmer	9.45	315	eP	Pn	09 29 36.2	-1.4
GHO	Glory Hole Cre	9.47	316	ePn	Pn	09 29 36.9	-1.1
SCRK	Sand Creek	9.51	336	ePn	Pn	09 29 37.8	-0.8
RIDG	Independ'e Rid	9.52	333	ePn	Pn	09 29 38.8	+0.2
HOM	Homer	9.74	301	ePn	Pn	09 29 39.5	-2.1
DHY	Denali Highway	9.75	325	ePn	Pn	09 29 42.3	+0.4
KDAK	Kodiak Island	9.85	290	Pn	Pn	09 29 40.5	-2.5
	17nm,0.3s,baz=82,slow=8.4,SNR=110						
KDAK	Kodiak Island	9.85	290	ePn	Pn	09 29 40.2	-2.9
KDAK	Kodiak Island	9.85	290	eP	Pn	09 29 40.2	-2.9
SUA	Susitna One	10.05	312	ePn	Pn	09 29 44.8	-1.2
OHAK	Old Harbor	10.19	287	ePn	Pn	09 29 44.2	-3.6
RND	Reindeer	10.47	324	ePn	Pn	09 29 52.3	+0.7
RND	Reindeer	10.47	324	eP	Pn	09 29 52.3	+0.7
SPU	Mount Spurr	10.48	309	ePn	Pn	09 29 50.3	-1.6
RSO	Redoubt South	10.53	305	ePn	Pn	09 29 51.1	-1.5
HDA	Harding Lake	10.62	331	ePn	Pn	09 29 53.5	-0.1
MCK	McKinley	10.71	325	ePn	Pn	09 29 56.8	+1.8
ILAR	Eielson Array	10.88	332	Pn	Pn	09 29 56.2	-1.1
	4.3nm,0.3s,baz=146,slow=12,SNR=252						
TRF	Thorofare Moun	10.98	322	ePn	Pn	09 29 59.8	+1.0
WRH	Wood River Hil	10.99	329	ePn	Pn	09 29 59.0	+0.4
COLA	College	11.22	331	ePn	Pn	09 30 01.5	-0.4
COLA	College	11.22	331	eP	Pn	09 30 01.5	-0.4
PPLA	Purkeypile	11.36	317	ePn	Pn	09 30 05.6	+1.6
MDM	Murphy Dome	11.39	331	ePn	Pn	09 30 04.5	+0.2
CAST	Castle Rocks	11.61	319	ePn	Pn	09 30 06.3	-1.0
BPAW	Bear Paw Mtn.	11.64	323	ePn	Pn	09 30 07.7	+0.1
MLY	Manley	12.18	327	ePn	Pn	09 30 15.1	+0.1
YKA	Yellowknife Ar	12.58	48	Pn	Pn	09 30 19.0	-1.4
	0.3nm,0.3s,baz=250,slow=13,SNR=19						
COLD	Coldfoot	13.66	335	ePn	Pn	09 30 36.5	+1.4
HUMO	Hull Mountain	15.21	144	ePn	P	09 31 00.4	-1.0
YBH	Yreka Blue Hor	16.08	144	Pn	P	09 31 12.2	+1.1
	0.1nm,0.3s,baz=355,slow=2.8,SNR=6.6						
YBH	Yreka Blue Hor	16.08	144	ePn	P	09 31 14.8	+3.7
YBH	Yreka Blue Hor	16.08	144	eP	P	09 31 14.8	+3.7
RDOG	Red Dog Mine	17.88	325	ePn	P	09 31 31.3	+0.6
	64nm,0.9s						
GAMB	Gambell	19.93	309	eP	Pn	09 31 55.1	+0.2
	17nm,0.7s						
WAKR	Walker	20.08	142	eP	Pn	09 32 01.0	+4.0
	55nm,1.7s						
KVN	Kaiserville	20.08	138	eP	Pn	09 31 59.8	+2.7
KVN	Kaiserville	20.08	138	eP	Pn	09 31 59.8	+2.7
NVAR	Mina Array Bea	20.55	140	P	Pn	09 32 02.4	-0.2
	8.1nm,1.0s,baz=320,slow=10.0,SNR=14						
PDAR	Pinedale Array	20.92	117	P	Pn	09 32 07.2	+0.2
	4.5nm,0.8s,baz=307,slow=5.2,SNR=5.3						
TPNV	Topopah Spring	22.63	138	eP	P	09 32 26.2	+3.6
DAC	Darwin (Calif)	22.73	141	eP	P	09 32 23.0	-0.8
	57nm,1.4s						
DAC	Darwin (Calif)	22.73	141	eP	P	09 32 23.0	-0.8
DAC				pmax	pmax		
	comp=Z,57nm,1.4s						
GSC	Goldstone, Bar	23.88	141	eP	P	09 32 38.1	+2.8
	comp=Z,16nm,1.2s						
GSC	Goldstone, Bar	23.88	141	eP	P	09 32 38.1	+2.8
GSC				pmax	pmax		
	comp=Z,16nm,1.2s						
RES	Resolute Bay	24.65	24	P	P	09 32 43.3	+1.4
	comp=Z,11nm,0.8s,baz=242,slow=11,SNR=4.1						
BILL	Bilibino	29.07	319	eP	P	09 33 21.2	-0.4
TXAR	Lajitas Array	34.51	126	P	P	09 34 11.5	+1.6
	comp=Z,4.2nm,1.0s,baz=30,slow=8.6,SNR=4.1						
SEY	Seymchan	35.88	312⇓	eP	P	09 34 22.8	+1.5
PET	Petropavlovsk	37.40	294⇓	eP	P	09 34 37.2	+2.9
PET				pmax	pmax		
	comp=Z,71nm,1.2s						
SCHQ	Schefferville	37.54	62	P	P	09 34 36.2	+0.7
	comp=Z,5.2nm,1.0s,baz=238,slow=8.1,SNR=3.2						
PETK	Petropavlovsk-	37.85	295	P	P	09 34 39.8	+1.6
	comp=Z,13nm,0.9s,baz=72,slow=12,SNR=12						
MA2	Magadan	38.02	307⇓	eP	P	09 34 40.9	+1.4
MA2				pmax	pmax		
	comp=Z,46nm,1.7s						
SUMG	Summit	40.08	28	iP	P	09 34 58.4	+1.4
SUMG	Summit	40.08	28	iP	P	09 34 58.4	+1.4
TIXI	Tiksi	40.35	331	P	P	09 34 59.2	+0.4
	comp=Z,3.3nm,0.8s,baz=70,slow=7.1,SNR=5.9						
TIXI	Tiksi	40.35	331⇑	eP	P	09 34 59.4	+0.6
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
DAG	Danmarks Havn	42.02	18	iP	P	09 35 12.4	-0.1
DAG	Danmarks Havn	42.02	18	iP	P	09 35 12.4	-0.1
ERM	Erimo	52.41	291⇑	eP	P	09 36 36.3	+2.5
ERM				pmax	pmax		
	comp=Z,65nm,1.7s						
KLR	Kul'dur	53.03	305⇓	eP	P	09 36 39.7	+1.4
BOD	Bodaibo	54.04	322	eP	P	09 36 45.0	-0.6
BOD				pmax	pmax		
	comp=Z,19nm,1.5s						
ARCES	ARCESS Array B	54.38	8	eP	P	09 36 49.1	+1.1
ARCES				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ARCES	ARCESS Array B	54.38	8	P3KP	P	09 36 49.1	+1.1
	comp=Z,7.8nm,1.1s,baz=4.6,slow=6.1,SNR=4.3						
USRK	Ussuriysk Ar.	56.53	301	P	P	09 37 05.0	+1.2
	comp=Z,2.6nm,0.9s,baz=20,slow=4.7,SNR=5.3						
MJA0	Matsu Arr-Jizo	59.00	290	eP	P	09 37 22.5	+1.2
MJA0				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MAJO	Matsushiro	59.02	290⇓	iP	P	09 37 22.5	+1.1
MAJO				pmax	pmax		
	comp=Z,18nm,1.1s						
MAT	Matsushiro	59.02	290	P	P	09 37 22.2	+0.8
MJAR	Matsushiro Arr	59.02	290	P	P	09 37 22.0	+0.6
	comp=Z,3.0nm,0.7s,baz=42,slow=5.8,SNR=14						
NB2	NORSAR Subarra	60.71	18	P	P	09 37 32.7	0.0
	comp=Z,2.3nm,0.7s,baz=340,slow=6.9						
NOA	NORSAR Array B	60.71	18	P	P	09 37 32.9	+0.2
	comp=Z,4.1nm,0.8s,baz=340,slow=6.8,SNR=13						
NOA	NORSAR Array B	60.71	18	eP	P	09 37 32.4	-0.3
NOA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	FINESS Array B	62.37	10	P	P	09 37 43.6	-0.2
	comp=Z,4.5nm,0.9s,baz=344,slow=9.3,SNR=6.3						
FINES	FINESS Array B	62.37	10	eP	P	09 37 43.0	-0.8
FINES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PRGR	Permogore	63.11	360	eP	P	09 37 47.0	-1.7
PRGR				pmax	pmax		
	comp=Z,42nm,1.0s						
MOY	Mondy	63.45	325	eP	P	09 37 46.5	-4.8
ZAK	Zakamensk	63.76	323	eP	P	09 37 40.2	-13
ZAK				pmax	pmax		
	comp=Z,24nm,2.3s						
KLMR	Klimovskoe	63.82	3	eP	P	09 37 51.9	-1.5
KLMR				pmax	pmax		
	comp=Z,60nm,1.4s						
KLMR	Klimovskoe	63.82	3	eP	P	09 37 51.9	-1.5
KLMR				AMP		09 38 04.5	
	comp=Z,60nm,1.4s						
NVS	Novosibirsk	65.54	337⇑	iP	P	09 37 47.9	-17
NVS				pmax	pmax		
	comp=Z,105nm,2.0s						
NVS				pmax	pmax		
	comp=N,28nm,0.0s						
ZALV	Zalesovo Beam	65.99	335	P	P	09 38 07.7	0.0
	comp=N,4.4nm,0.7s,baz=18,slow=6.2,SNR=9.1						
HHC	Hu-ho-hao-te	68.53	312	eP	P	09 38 20.6	-3.5
HGN	Heimansgroeve	69.17	25	eL	L	09 39 02.4	
	comp=N,1595μm,19.5s						
OBN	Obninsk	69.44	5	eP	P	09 38 26.7	-2.7
OBN				e		09 38 53.0	
OBN				e		09 41 01.9	
OBN				pmax	pmax		
	comp=Z,15nm,1.0s						
KURK	Kurchatov	70.40	338	P	P	09 38 36.0	+0.6
KURK	Kurchatov	70.40	338	P	P	09 38 36.0	+0.6
KURBB	Kurchatov Arra	70.51	338	P	P	09 38 36.0	0.0
	comp=Z,8.9nm,0.8s,baz=22,slow=5.8,SNR=32						
NJ2	Nanjing	72.44	301	eP	P	09 38 48.8	+0.9
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
GERES	GERESS Array B	72.71	21	P	P	09 38 50.0	+0.6
	comp=Z,1.7nm,1.0s,baz=350,slow=5.0,SNR=3.9						
MKAR	Makanchi Array	73.23	334	P	P	09 38 52.2	-0.3
	comp=Z,6.9nm,0.8s,baz=24,slow=5.4,SNR=28						
MKAR	Makanchi Array	73.23	334	eP	P	09 38 52.6	+0.1
	comp=Z,38nm,0.8s						
AKASG	Malin Array Be	73.27	10	P	P	09 38 52.0	-0.6
	comp=Z,3.1nm,0.7s,baz=353,slow=5.7,SNR=12						
KIEV	Kiev	73.28	10⇓	eP	P	09 38 51.1	-1.5
KIEV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MAKZ	Makanchi	73.30	334	eP	P	09 38 53.2	+0.3
	comp=Z,12nm,0.9s						
MAKZ	Makanchi	73.30	334	eP	P	09 38 53.2	+0.3
MAKZ				pmax	pmax		
	comp=Z,12nm,0.9s						
GTA	Gaotai	74.45	319	eP	P	09 39 00.2	+0.3
GTA				pP	sP	09 39 03.8	-0.3
GTA				sP	pP	09 39 06.8	+3.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
WMQ	Urumqi	74.53	329	eP	P	09 39 01.5	+1.3
ABKAR	Akbulak array	74.76	350	eP	P	09 39 01.4	0.0
ESDC	Sonseca Array	76.40	37	P	P	09 39 11.6	+0.6
	comp=Z,2.3nm,0.7s,baz=320,slow=6.3,SNR=12						
USP	Ospenovka	78.36	338	P	P	09 39 22.8	+0.9
	SNR=5.6						
TKM2	Tokmak 2	78.45	337	P	P	09 39 23.3	+0.6
	SNR=8.6						
CHMS	Chumysh	78.56	338	P	P	09 39 23.7	+0.7
	SNR=5.2						
KBK	Karagaybulak	78.84	338	P	P	09 39 25.3	+0.6
	SNR=5.6						
AAK	Ala-Archa	78.96	338	P	P	09 39 26.2	+0.9
	comp=Z,6.2nm,0.9s,baz=0.0,slow=1.0,SNR=11						
AAK	Ala-Archa	78.96	338⇑	eP	P	09 39 26.0	+0.6
AAK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
EKS2	Erkin-Say	79.09	339	P	P	09 39 27.0	+1.0
	SNR=5.9						
AML	Almayashu	79.61	339	P	P	09 39 30.2	+0.9
	SNR=8.2						
KIV	Kislovodsk	80.81	2	iP	P	09 39 34.5	-0.7
KIV				i		09 39 42.8	
KIV				i		09 42 39.1	
KIV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KBZ	Khabaz	81.03	1	P	P	09 39 37.1	+0.8
	comp=Z,4.6nm,0.8s,baz=327,slow=4.8,SNR=7.9						
KSH	Kashi	81.62	336	P	P	09 39 43.1	+3.4
KSH				sP	PcP	09 39 48.9	+3.3
KSH				PP	PP	09 42 48.5	+3.1
KSH				S	S	09 49 54.7	+2.9
KSH				pmax	pmax		
	comp=Z,21nm,0.8s						
BRTR	Keskin Array B	84.57	9	P	P	09 39 55.1	+0.1
	comp=Z,3.8nm,1.0s,baz=357,slow=3.5,SNR=5.7						
GEYT	Alibeck	86.16	350	P	P	09 40 03.4	+0.6
	comp=Z,1.9nm,0.5s,baz=312,slow=6.9,SNR=4.5						
CMAR	Chiang Mai Arr	93.27	310	P	P	09 40 36.6	0.0
	comp=Z,1.0nm,0.3s,baz=6.9,slow=4.9,SNR=11						
CMAR	Chiang Mai Arr	93.27	310	eP	P	09 40 37.1	+0.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KMBO	Kilima Mbogo	125.35	9	ePKIKP	PKiKP	09 46 24.1	+0.6
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
QSPA	South Pole Qui	145.40	180	PKPbc	PKPab	09 46 58.6	+0.2
	comp=Z,14nm,0.8s,baz=90,slow=1.4,SNR=28						
BOSA	Boshof	149.58	36	PKPbc	PKiKP	09 47 11.0	-1.1
	comp=Z,5.5nm,0.9s,baz=333,slow=2.1,SNR=5.1						
BOSA	Boshof	149.58	36	PKP2	PKiKP	09 47 11.0	-1.1

ISCJB 05 09:28:30.4±0.6,6°.73S±0°.05×130°.13E±0°.08,h146km, mb4.0/7,Error ellipse: s-maj=11.5km s-min=7.0km az=7.4
IDC 05 09:28:32.8±2.2,6°.68S×130°.09E,h150km±21km,mb3.9/7, mb1 3.9/11,mb1mx3.7/41,mbtmp4.4/11,Error ellipse: s-maj=37.9km s-min=18.7km az=108.0
ISC 05 09:28:30.9±0.7,6°.83S±0°.06×130°.2E±0°.1,h146km,n12, σ2s.79/16,mb3.9/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	6.00	10	P	Pn	09 29 58.3	+0.6
	7.7nm,0.3s,baz=222,slow=23,SNR=42						
SIJI				S	Sn	09 31 00.5	-5.1
	45nm,0.3s,baz=129,slow=23,SNR=27						
BATI	Baumata	7.33	242	P	Pn	09 30 16.8	+1.4
	11nm,0.3s,baz=33,slow=3.4,SNR=8.2						
BATI				S	Sn	09 31 35.7	-1.6
	18nm,0.3s,baz=249,slow=21,SNR=4.1						
FITZ	Fitzroy Crossi	12.07	201	P	Pn	09 31 19.5	+1.1
	1.7nm,0.3s,baz=34,slow=10.0,SNR=45						
FITZ				S	Sn	09 33 26.3	-5.4
	0.7nm,0.3s,baz=118,slow=11,SNR=5.4						
WRA	Warramunga Arr	13.63	163	P	Pn	09 31 40.3	+1.9
	0.5nm,0.3s,baz=336,slow=14,SNR=30						
WRA				S	Sn	09 34 05.9	-3.5
	1.0nm,0.3s,baz=340,slow=22,SNR=8.4						
ASAR	Alice Springs	17.11	169	P	Pn	09 32 26.0	+4.5
	0.4nm,0.3s,baz=343,slow=9.3,SNR=33						
ASAR				S	S	09 35 28.3	-3.6
	0.1nm,0.3s,baz=353,slow=25,SNR=3.9						
MJAR	Matsushiro Arr	43.78	9	P	P	09 36 21.7	-0.5
	1.4nm,0.8s,baz=195,slow=11,SNR=6.8						
USRK	Ussuriysk Ar.	50.81	2	P	P	09 37 16.7	+0.4
	1.2nm,0.5s,baz=191,slow=6.5,SNR=7.7						
SONM	Songino Array	58.35	341	P	P	09 38 12.1	+1.2
	2.9nm,1.0s,baz=152,slow=7.0,SNR=2.8						
MKAR	Makanchi Array	68.21	327	P	P	09 39 16.1	+0.4
	5.9nm,0.5s,baz=115,slow=8.4,SNR=36						
ZALV	Zalesovo Beam	71.53	334	P	P	09 39 35.5	-0.3
	0.6nm,0.3s,baz=32,slow=23,SNR=4.1						
KURBB	Kurchatov Arra	72.49	328	P	P	09 39 41.6	0.0
	1.9nm,0.8s,baz=129,slow=5.2,SNR=12						
TIXI	Tiksi	78.32	360	P	P	09 40 15.0	+0.6
	2.4nm,0.4s,baz=176,slow=4.6,SNR=8.0						

ISCJB 05 09:32:06.6±0.2,55°.11N±0°.03×134°.85W±0°.05,h10km, mb4.8/2,Error ellipse: s-maj=4.9km s-min=2.5km az=42.0
NEIC 05 09:32:06.1±0.0,55°.12N×134°.85W,h1km,mb4.5/13, ML4.6(AEIC),After AEIC.
NEIC Felt at Prince Rupert, British Columbia and at Whitehorse, Yukon.
IDC 05 09:32:08.2±1.0,55°.01N×134°.67W,h0km,mb4.1/4, mb1 4.4/9,mb1mx4.1/50,mbtmp4.2/9,ML4.0/5,Error ellipse: s-maj=21.0km s-min=11.8km az=44.0
ISC 05 09:32:08.2±0.5,55°.11N±0°.05×134°.74W±0°.05,h10km, n106,σ1s.43/101,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRAG	Craig	0.99	68	P	Pg	09 32 26.1	-1.1
CRAG				S	Sg	09 32 39.0	-1.1
NDB	Naden	1.56	137	P	Pb	09 32 36.1	-1.1
WRAK	Wrangell Islan	1.88	45	P	Pn	09 32 39.8	-0.6
WRAK				S	Sb	09 33 05.1	-1.0
MASB	Masset	1.92	124	P	Pn	09 32 40.4	-0.5
SIT	Sitka	1.98	351	P	Pn	09 32 39.8	-1.9
SIT				S	Sg	09 33 09.1	-2.6
H02S1	DAWSON INLET T	2.33	144	Pn	Pn	09 32 46.5	0.0
BNB	Barry Inlet	3.10	144	P	Pn	09 32 56.2	-0.9
JIS	Juneau Island	3.18	3	P	Pn	09 32 57.6	-0.5
JIS				S	Sn	09 33 35.6	-0.5
BESE	Bessie Mountai	3.48	359	P	Pn	09 33 02.2	-0.1
DLBC	Dease Lake	4.22	36	Pn	Pn	09 33 13.7	+1.1
	2.7nm,0.3s,baz=210,slow=8.9,SNR=3.6						
SKAG	Skagway	4.37	356	P	Pn	09 33 15.4	+0.8
PLBC	Pleasant Camp	4.45	349	P	Pn	09 33 16.1	+0.6
BBB	Bella Bella	4.91	124	Pn	Pn	09 33 21.6	-0.4
	2.0nm,0.3s,baz=299,slow=6.7,SNR=9.5						
BBB				Sn	Sn	09 34 16.7	-2.1
	13nm,0.3s,baz=115,slow=13,SNR=6.3						
WHY	Whitehorse	5.56	359	P	Pn	09 33 31.4	+0.3
YUK7	Dusty Glacier	5.73	343	P	Pn	09 33 35.1	+1.7
PCA	Pinnacle	5.81	332	P	Pn	09 33 35.7	+1.3
HYT	Haines Junctio	5.92	347	P	Pn	09 33 38.2	+2.3
SAMH	Samovar Hills	5.99	330	P	Pn	09 33 38.3	+1.5
MESA	MESA	6.38	326	P	Pn	09 33 43.0	+0.6
KULT	Kultieth River	6.69	324	P	Pn	09 33 46.4	-0.1
KHIT	Khitrov Hills	7.02	323	P	Pn	09 33 49.6	-1.4
BERG	Berg Lake	7.14	321	P	Pn	09 33 51.9	-0.6
RAGM	Ragged Mountai	7.50	319	ePn	Pn	09 33 58.0	+0.5
MID	Middleton Isla	7.63	309	ePn	Pn	09 33 59.0	-0.3
EYAK	Cordova Ski Ar	8.01	317	ePn	Pn	09 34 04.7	+0.2
DIV	Divide	8.39	320	ePn	Pn	09 34 09.7	-0.1
DIV				eSn	Sn	09 35 41.7	-2.8
KLU	Klutina	8.69	322	ePn	Pn	09 34 13.9	+0.1
KLU				eSn	Sn	09 35 48.6	-3.2
HARP	HAARP	9.09	328	ePn	Pn	09 34 21.6	+2.3
DAWY	Dawson	9.28	347	ePn	Pn	09 34 22.6	+0.7
SEW	Seward	9.34	308	ePn	Pn	09 34 22.4	-0.2
SCM	Sheep Creek Mo	9.42	321	ePn	Pn	09 34 24.4	+0.6
SML	Sawmill	9.77	319	ePn	Pn	09 34 27.8	-0.9
DOT	Dot Lake	9.78	335	ePn	Pn	09 34 29.6	+0.8
BRLK	Bradley Lake	9.87	305	ePn	Pn	09 34 28.9	-1.1
RC01	Rabbit Creek A	9.93	313	ePn	Pn	09 34 29.1	-1.8
PMR	Palmer	9.96	317	ePn	Pn	09 34 31.4	+0.4
GHO	Glory Hole Cre	9.98	318	ePn	Pn	09 34 32.2	+0.7
SCRK	Sand Creek	10.04	336	ePn	Pn	09 34 33.4	+1.0
RIDG	Independ'e Rid	10.05	333	ePn	Pn	09 34 35.2	+2.7
HOM	Homer	10.19	303	ePn	Pn	09 34 34.5	+0.1
KDAK	Kodiak Island	10.23	292	Pn	Pn	09 34 34.1	-0.8
	4.8nm,0.3s,baz=118,slow=5.4,SNR=18						
KDAK	Kodiak Island	10.23	292	ePn	Pn	09 34 34.3	-0.6
NLWA	Neilton Lookou	10.29	134	ePn	Pn	09 34 34.0	-1.9
SUA	Susitna One	10.54	314	ePn	Pn	09 34 38.9	-0.4
OHAK	Old Harbor	10.56	289	ePn	Pn	09 34 38.1	-1.2
SPU	Mount Spurr	10.97	311	ePn	Pn	09 34 45.3	+0.3
RND	Reindeer	10.99	325	ePn	Pn	09 34 46.0	+0.7
RSO	Redoubt South	10.99	306	ePn	Pn	09 34 46.6	+1.1
HDA	Harding Lake	11.15	332	ePn	Pn	09 34 49.0	+1.5
MCK	McKinley	11.24	326	ePn	Pn	09 34 50.0	+1.3
ILAR	Eielson Array	11.42	333	Pn	Pn	09 34 53.2	+2.1
	1.5nm,0.3s,baz=157,slow=13,SNR=10						
TRF	Thorofare Moun	11.51	323	ePn	Pn	09 34 53.8	+1.4
WRH	Wood River Hil	11.52	330	ePn	Pn	09 34 53.5	+1.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLA	College	11.76	332	ePn	Pn	09 34 56.6	+0.9
LTY	Liberty	11.80	126	ePn	Pn	09 34 56.5	0.0
PPLA	Purkeypile	11.87	318	ePn	Pn	09 34 58.2	+0.8
CAST	Castle Rocks	12.13	320	ePn	Pn	09 35 01.8	+1.0
BPAW	Bear Paw Mtn.	12.16	324	ePn	Pn	09 35 01.9	+0.6
SVW2	Sparrevohn	12.51	307	ePn	Pn	09 35 06.0	-0.1
MLY	Manley	12.71	328	ePn	Pn	09 35 08.2	-0.6
YKA	Yellowknife Ar	12.74	46	Pn	Pn	09 35 09.7	+0.5
	1.0nm,0.3s,baz=240,slow=12,SNR=10						
INK	Inuvik	13.26	2	ePn	Pn	09 35 16.4	+0.2
G06A	Carlson Farm,	13.37	132	ePn	Pn	09 35 17.5	-0.3
COLD	Coldfoot	14.20	335	ePn	Pn	09 35 30.2	+1.2
F10A	Beach Ranch, E	14.37	122	ePn	Pn	09 35 33.3	+1.7
SDPT	Sand Point	14.66	282	ePn	P	09 35 37.0	-4.8
MSO	Missoula	15.45	114	ePn	Pn	09 35 42.4	-3.8
	142nm,1.6s						
DLMT	Dillon	17.13	116	ePn	P	09 36 09.0	-0.3
	77nm,1.5s						
BOZ	Bozeman (W)	17.47	113	eP	P	09 36 12.8	-0.4
HLID	Hailey	17.50	123	eP	P	09 36 13.8	+0.3
	32nm,1.4s						
ANM	Nome	17.88	314	ePn	P	09 36 19.1	+1.8
	24nm,0.9s						
HOPS	Hopland Field	17.93	149	ePn	P	09 36 17.3	-0.7
	50nm,1.5s						
RDOG	Red Dog Mine	18.41	326	eP	P	09 36 23.2	+0.1
	130nm,1.7s						
UNV	Unalaska Valle	18.42	279	eP	P	09 36 25.0	+1.7
	192nm,1.5s						
IMW	Indian Meadow	18.99	116	eP	Pn	09 36 29.4	-1.4
	20nm,1.1s						
RLMT	Red Lodge	19.04	111	eP	Pn	09 36 29.7	-1.5
MOOW	Moose Ponds	19.20	116	eP	P	09 36 31.3	-0.9
TPAW	Teton Pass	19.27	117	eP	Pn	09 36 33.4	-0.6
LOHW	Long Hollow	19.37	116	eP	Pn	09 36 35.6	+0.4
REDW	Red Top Meadow	19.42	117	eP	Pn	09 36 34.7	-1.0
WAKR	Walker	19.56	142	eP	Pn	09 36 38.0	+0.5
	21nm,1.2s						
KVN	Kaiserville	19.57	138	eP	Pn	09 36 37.8	+0.2
	37nm,1.5s						
NVAR	Mina Array Bea	20.04	140	P	Pn	09 36 45.3	+2.1
	0.1nm,0.3s,baz=321,slow=7.3,SNR=13						
GAMB	Gambell	20.41	310	eP	Pn	09 36 47.7	+0.6
	2.2nm,0.6s						
PDAR	Pinedale Array	20.50	117	P	Pn	09 36 50.6	+1.9
	9.5nm,0.9s,baz=314,slow=8.3,SNR=13						
TPNV	Topopah Spring	22.12	138	eP	P	09 37 06.8	+3.0
K22A	Casper	22.17	112	eP	P	09 37 06.4	+2.1
FCC	Fort Churchill	22.22	64	eP	P	09 37 07.3	+2.8
ISA	Isabella, Lake	22.45	143	eP	P	09 37 08.6	+1.4
	59nm,1.6s						
MSU	Marysvale	22.51	128	eP	P	09 37 08.2	+0.1
RSSD	Black Hills	22.54	106	eP	P	09 37 06.8	-1.5
	44nm,1.3s						
PV23	Carpenter Ridg	24.04	123	eP	P	09 37 23.1	-0.4
TXAR	Lajitas Array	34.04	126	P	P	09 38 56.2	+3.8
	0.6nm,0.9s,baz=328,slow=6.5,SNR=2.8						
DAG	Danmarks Havn	42.41	18	iP	P	09 40 05.8	+3.6
MAT	Matsushiro	59.41	291	P	P	09 42 15.4	+4.8
ZALV	Zalesovo Beam	66.53	336	P	P	09 43 00.1	+2.4
	1.4nm,0.6s,baz=355,slow=7.2,SNR=3.5						
ZALV	Zalesovo Beam	66.53	336	eP	P	09 43 00.5	+2.8
HHC	Hu-ho-hao-te	69.02	312	eP	P	09 43 12.3	-1.4
NJ2	Nanjing	72.88	302	eP	P	09 43 38.8	+1.7
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MK31	Makanchi Array	73.77	334	eP	P	09 43 45.6	+3.4
MKAR	Makanchi Array	73.77	334	P	P	09 43 44.1	+1.8
	comp=Z,0.8nm,0.7s,baz=28,slow=5.6,SNR=11						
WMQ	Urumqi	75.06	330	eP	P	09 43 52.1	+2.2
ESDC	Sonseca Array	76.65	37	P	P	09 44 02.9	+3.9
	comp=Z,0.7nm,0.3s,baz=322,slow=6.1,SNR=6.7						
KSH	Kashi	82.15	336	P	P	09 44 32.8	+3.7
KSH				sP	PcP	09 44 39.9	+5.4
KSH	Kashi	82.15	336	S	S	09 54 46.5	+2.7
KSH				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KSH				pmax	pmax		
	comp=Z,301µm,20.2s						
CMAR	Chiang Mai Arr	93.75	310	P	P	09 45 27.6	+2.3
	comp=Z,0.3nm,0.2s,baz=39,slow=3.6,SNR=4.1						

*ISCJB **05** 09:32:14.9±1.1, 55°.1N±0°.2×134°.6W±0°.2, h10km, mb4.4/16, Error ellipse: s-maj=29.6km s-min=17.9km az=173.7*
*IDC **05** 09:32:14.8±1.4, 55°.13N×134°.61W, h0km, mb4.4/16, mb1 4.5/17, mb1mx4.3/49, mbtmp4.4/17, ML3.9/1, Error ellipse: s-maj=36.4km s-min=18.0km az=167.0*
ISC 05 09:32:16.9±1.0, 55°.2N±0°.2×134°.5W±0°.1, h10km, n31, σ0s.74/31, mb4.5/16, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	Yellowknife Ar	12.57	46	Pn	Pn	09 35 13.8	-1.7
	1.0nm,0.3s,baz=241,slow=12,SNR=11						
RES	Resolute Bay	24.86	24	P	P	09 37 41.1	+2.0
	4.3nm,0.6s,baz=243,slow=11,SNR=5.1						
SCHQ	Schefferville	37.39	62	P	P	09 39 29.5	+0.1
	12nm,0.8s,baz=303,slow=7.0,SNR=7.3						
SCHQ	Schefferville	37.39	62	P	P	09 39 29.5	+0.1
SUMG	Summit	40.26	28	iP	P	09 39 55.5	+1.8
TIXI	Tiksi	40.88	331	P	P	09 39 58.4	0.0
	2.7nm,0.7s,baz=64,slow=7.6,SNR=5.2						
MJAR	Matsushiro Arr	59.52	291	P	P	09 42 19.5	-0.6
	2.0nm,0.6s,baz=37,slow=5.1,SNR=8.4						
NB2	NORSAR Subarra	60.97	18	P	P	09 42 29.2	-0.5
	comp=Z,0.8nm,0.7s,baz=340,slow=6.9						
NOA	NORSAR Array B	60.97	18	P	P	09 42 29.9	+0.3
	comp=Z,1.2nm,0.7s,baz=340,slow=6.8,SNR=4.8						
NOA	NORSAR Array B	60.97	18	P	P	09 42 29.9	+0.3
FINES	FINESS Array B	62.69	10	P	P	09 42 41.0	-0.2
	comp=Z,2.1nm,0.7s,baz=7.6,slow=5.8,SNR=7.3						
FINES	FINESS Array B	62.69	10	P	P	09 42 41.0	-0.2
KSRS	Korea Array	64.17	299	P	P	09 42 51.9	+0.5
	comp=Z,2.2nm,0.7s,baz=32,slow=8.0,SNR=7.1						
ZALV	Zalesovo Beam	66.51	336	P	P	09 43 04.9	-1.3
	comp=Z,4.0nm,0.6s,baz=19,slow=5.7,SNR=12						
GERES	GERESS Array B	72.94	21	P	P	09 43 46.3	+0.2
	comp=Z,1.1nm,0.9s,baz=344,slow=4.3,SNR=4.0						
GERES	GERESS Array B	72.94	21	P	P	09 43 46.3	+0.2
AKASG	Malin Array Be	73.60	11	P	P	09 43 49.1	-0.6
	comp=Z,4.0nm,0.6s,baz=350,slow=5.7,SNR=7.2						
AKASG	Malin Array Be	73.60	11	P	P	09 43 49.1	-0.6
MKAR	Makanchi Array	73.76	335	P	P	09 43 50.2	-0.7
	comp=Z,7.2nm,0.6s,baz=34,slow=4.9,SNR=50						
VYHS	Vyhne	74.27	18	eP	P	09 43 54.4	+0.6
AAK	Ala-Archa	79.47	339	P	P	09 44 23.4	0.0
	comp=Z,3.9nm,0.8s,baz=235,slow=2.1,SNR=8.9						
KBZ	Khabaz	81.42	2	P	P	09 44 33.7	+0.1
	comp=Z,4.8nm,0.8s,baz=353,slow=6.5,SNR=7.7						
KBZ	Khabaz	81.42	2	P	P	09 44 33.7	+0.1
BRTR	Keskin Array B	84.90	9	P	P	09 44 51.7	-0.2
	comp=Z,2.2nm,0.8s,baz=15,slow=5.1,SNR=7.8						
BRTR	Keskin Array B	84.90	9	P	P	09 44 51.7	-0.2
CMAR	Chiang Mai Arr	93.82	310	P	P	09 45 34.2	-0.1
	comp=Z,2.5nm,0.7s,baz=7.9,slow=4.9,SNR=10						
SIV	San Ignacio	93.83	113	P	P	09 45 34.0	-0.2
	comp=Z,2.1nm,0.8s,baz=309,slow=4.1,SNR=9.0						
SIV	San Ignacio	93.83	113	P	P	09 45 34.0	-0.2
VNA3	Neumayer Olymp	151.78	146	PKiKP	PKPbc	09 52 10.3	+0.3
VNA1	Neumayer--Stat	152.29	145	PKiKP	PKPbc	09 52 11.6	+0.5
VNA2	Neumayer--Watz	152.55	145	PKiKP	PKPbc	09 52 12.0	+0.2
	baz=316,slow=6.1						

*ISCJB **05** 09:36:19.9±0.8, 55°.62N±0°.06×135°.1W±0°.1, h9km, mb3.6/3, Error ellipse: s-maj=10.8km s-min=8.8km az=155.5*
*IDC **05** 09:36:21.1±1.1, 55°.66N×134°.97W, h0km, mb3.6/3, mb1 4.0/6, mb1mx3.6/45, mbtmp3.9/6, ML3.7/3, Error ellipse: s-maj=15.8km s-min=12.5km az=76.0*
ISC 05 09:36:22.1±1.0, 55°.62N±0°.07×135°.09W±0°.09, h9km, n9, σ1s.08/10, mb3.7/3, Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H02S1	DAWSON INLET T	2.86	147	Pn	Pn	09 37 07.7	-0.1
DLBC	Dease Lake	3.95	42	Pn	Pn	09 37 22.3	-0.5
	1.9nm,0.3s,baz=198,slow=13,SNR=4.0						
DLBC				Sn	Sn	09 38 09.2	-0.2
	6.9nm,0.3s,baz=311,slow=23,SNR=3.0						
DLBC				Lg	Lg	09 38 24.0	
	40nm,0.3s,baz=337,slow=9.3,SNR=8.6						
BBB	Bella Bella	5.37	127	Pn	Pn	09 37 41.7	-0.6
	2.7nm,0.3s,baz=318,slow=12,SNR=3.4						
BBB				Sn	Sn	09 38 42.5	-1.6
	6.9nm,0.3s,baz=141,slow=15,SNR=6.9						
KDAK	Kodiak Island	9.86	290	Pn	Pn	09 38 42.9	-0.9
	0.8nm,0.3s,baz=107,slow=11,SNR=3.5						
YKA	Yellowknife Ar	12.55	48	Pn	Pn	09 39 20.3	-0.3
	0.1nm,0.3s,baz=234,slow=13,SNR=3.3						
PDAR	Pinedale Array	20.92	117	P	Pn	09 41 08.9	+1.4
	1.0nm,0.8s,baz=294,slow=6.8,SNR=3.9						
TXAR	Lajitas Array	34.51	127	P	P	09 43 12.4	+2.0
	0.5nm,0.8s,baz=328,slow=8.5,SNR=2.0						
ZALV	Zalesovo Beam	65.98	335	P	P	09 47 08.4	+0.2
	0.4nm,0.5s,baz=22,slow=8.1,SNR=2.4						
MKAR	Makanchi Array	73.22	334	P	P	09 47 53.4	+0.4
	0.5nm,0.7s,baz=43,slow=6.0,SNR=3.6						

*NEIC **05** 09:41:27.0±0.0, 55°.75N×135°.23W, h10km, ML4.1(AEIC), After AEIC.*
*IDC **05** 09:41:27.1±1.0, 55°.65N×135°.13W, h0km, mb4.1/6, mb1 4.2/11, mb1mx3.9/44, mbtmp4.1/11, ML3.9/5, Error ellipse: s-maj=18.0km s-min=10.7km az=46.0*
ISC 05 09:41:26.4±2.4, 55°.72N±0°.06×135°.24W±0°.05, h4km±15km, n106, σ1s.58/119, mb4.1/9, Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	Craig	1.23	101	P	Pn	09 41 49.2	-1.0
CRAG				S	Sb	09 42 05.4	-0.8
SIT	Sitka	1.34	358	P	Pn	09 41 50.6	-1.2
SIT				S	Sg	09 42 09.4	0.0
WRAK	Wrangell Islan	1.77	65	P	Pn	09 41 57.3	-0.4
WRAK				S	Sg	09 42 21.8	-1.3
NDB	Naden	2.21	142	P	Pn	09 42 03.6	-0.3
JIS	Juneau Island	2.60	10	P	Pn	09 42 09.2	+0.1
JIS				S	Sn	09 42 39.7	-1.4
BESE	Bessie Mountai	2.87	4	P	Pn	09 42 13.1	+0.1
BESE				S	Sn	09 42 48.6	+0.6
DIB	Dawson Inlet,	2.99	146	ePn	Pn	09 42 14.6	+0.1
DIB				eSn	Sn	09 42 50.0	-0.8
H02S1	DAWSON INLET T	2.99	146	Pn	Pn	09 42 14.3	-0.2
H02S1				Sn	Sn	09 42 49.0	-1.8
SKAG	Skagway	3.75	359	P	Pn	09 42 26.3	+1.3
BNB	Barry Inlet	3.76	146	P	Pn	09 42 25.2	0.0
PLBC	Pleasant Camp	3.79	351	P	Pn	09 42 26.6	+1.1
DLBC	Dease Lake	3.94	44	Pn	Pn	09 42 28.6	+1.0
	5.5nm,0.3s,baz=220,slow=8.9,SNR=47						
DLBC				Lg	Lg	09 43 27.4	
	150nm,0.3s,baz=111,slow=23,SNR=16						
WHY	Whitehorse	4.96	2	P	Pn	09 42 42.6	+0.9
YUK7	Dusty Glacier	5.06	344	P	Pn	09 42 44.6	+1.5
PCA	Pinnacle	5.14	331	P	Pn	09 42 45.9	+1.9
HYT	Haines Junctio	5.26	348	ePn	Pn	09 42 47.9	+2.2
SAMH	Samovar Hills	5.32	329	P	Pn	09 42 48.9	+2.3
YUK6	Outpost Mounta	5.49	344	P	Pn	09 42 50.2	+1.2
BBB	Bella Bella	5.50	127	Pn	Pn	09 42 49.1	+0.2
	5.7nm,0.3s,baz=317,slow=7.0,SNR=19						
BBB				Sn	Sn	09 43 50.5	-2.0
	13nm,0.3s,baz=133,slow=24,SNR=10						
YUK5	Granite Creek	5.60	347	P	Pn	09 42 53.0	+2.5
RKAV	Rock Avalanche	5.62	327	P	Pn	09 42 52.8	+2.0
KULT	Kultieth River	6.04	322	P	Pn	09 42 56.7	+0.3
FSB	Fort Saint Jam	6.39	97	P	Pn	09 43 03.0	+1.8
DIV	Divide	7.74	319	ePn	Pn	09 43 21.4	+1.6
DIV				eSn	Sn	09 44 45.1	-2.6
KLU	Klutina	8.03	320	ePn	Pn	09 43 24.1	+0.3
HARP	HAARP	8.42	327	ePn	Pn	09 43 30.8	+1.7
DAWY	Dawson	8.62	348	ePn	Pn	09 43 33.3	+1.4
DAWY				eSn	Sn	09 45 04.8	-4.7
SCM	Sheep Creek Mo	8.76	319	ePn	Pn	09 43 34.2	+0.4
SCM				eSn	Sn	09 45 09.5	-3.5
PAX	Paxson	8.94	329	ePn	Pn	09 43 37.8	+1.5
DOT	Dot Lake	9.11	334	ePn	Pn	09 43 40.1	+1.6
SML	Sawmill	9.13	317	ePn	Pn	09 43 40.0	+1.3
SML				eSn	Sn	09 45 19.6	-2.1
BRLK	Bradley Lake	9.29	302	ePn	Pn	09 43 40.5	-0.4
RC01	Rabbit Creek A	9.31	311	ePn	Pn	09 43 41.5	+0.3
RC01				eSn	Sn	09 45 24.4	-1.8
PMR	Palmer	9.32	315	ePn	Pn	09 43 42.2	+0.9
PMR				eSn	Sn	09 45 26.0	-0.3
GHO	Glory Hole Cre	9.34	316	ePn	Pn	09 43 43.4	+1.7
GHO				eSn	Sn	09 45 27.7	+0.7
SCRK	Sand Creek	9.37	336	ePn	Pn	09 43 43.0	+0.9
RIDG	Independ'e Rid	9.38	333	ePn	Pn	09 43 44.1	+1.9
DHY	Denali Highway	9.61	325	ePn	Pn	09 43 47.1	+1.7
HOM	Homer	9.62	301	ePn	Pn	09 43 45.9	+0.5
KDAK	Kodiak Island	9.75	289	Pn	Pn	09 43 46.5	-0.6
	3.3nm,0.3s,baz=92,slow=6.2,SNR=43						
KDAK	Kodiak Island	9.75	289	ePn	Pn	09 43 46.9	-0.2
SUA	Susitna One	9.92	312	ePn	Pn	09 43 50.3	+0.7
OHAK	Old Harbor	10.10	286	ePn	Pn	09 43 50.6	-1.3
RND	Reindeer	10.33	324	ePn	Pn	09 43 56.2	+1.0
SPU	Mount Spurr	10.36	309	ePn	Pn	09 43 56.7	+1.1
RSO	Redoubt South	10.40	304	ePn	Pn	09 43 57.4	+1.1
HDA	Harding Lake	10.47	331	ePn	Pn	09 43 58.0	+0.9
MCK	McKinley	10.57	325	ePn	Pn	09 43 59.1	+0.6
IL1	Eielson Array	10.74	332	ePn	Pn	09 44 01.8	+1.0
ILAR	Eielson Array	10.74	332	Pn	Pn	09 44 02.6	+1.8
	0.6nm,0.3s,baz=157,slow=12,SNR=14						
ILB	Eielson Array	10.74	332	ePn	Pn	09 44 01.6	+0.9
WRH	Wood River Hil	10.85	329	ePn	Pn	09 44 03.4	+1.2
TRF	Thorofare Moun	10.85	322	ePn	Pn	09 44 03.7	+1.4
NLWA	Neilton Lookou	10.92	135	ePn	Pn	09 44 02.9	-0.5
PPLA	Purkeypile	11.23	317	ePn	Pn	09 44 08.5	+1.0
MDM	Murphy Dome	11.25	331	ePn	Pn	09 44 09.7	+2.0
CAST	Castle Rocks	11.48	319	ePn	Pn	09 44 11.7	+0.9
BPAW	Bear Paw Mtn.	11.50	323	ePn	Pn	09 44 12.7	+1.5
FYU	Fort Yukon	11.88	340	ePn	Pn	09 44 18.3	+2.0
SVW2	Sparrevohn	11.92	305	ePn	Pn	09 44 17.8	+0.9
MLY	Manley	12.04	327	ePn	Pn	09 44 20.0	+1.4
B08A	Colville Reser	12.24	120	ePn	Pn	09 44 20.4	-0.9
LON	Longmire	12.29	131	ePn	Pn	09 44 22.6	+0.6
LTY	Liberty	12.39	127	ePn	Pn	09 44 25.5	+2.0
YKA	Yellowknife Ar	12.54	49	Pn	Pn	09 44 24.2	-1.2
	0.3nm,0.3s,baz=145,slow=5.2,SNR=34						
YKB5	Yellowknife Ar	12.54	49	ePn	Pn	09 44 22.3	-3.1
INK	Inuvik	12.66	3	ePn	Pn	09 44 28.1	+1.2
COLD	Coldfoot	13.52	335	ePn	Pn	09 44 39.8	+1.1
IM3	Indian Mountai	13.61	326	ePn	Pn	09 44 41.5	+1.5
H04A	Detroit Lake	13.82	138	ePn	Pn	09 44 43.1	+0.1
WALA	Waterton Lakes	14.59	108	ePn	Pn	09 44 53.8	+0.2
F10A	Beach Ranch, E	14.94	123	ePn	Pn	09 44 58.5	+0.2
HUMO	Hull Mountain	15.35	144	ePn	Pn	09 45 03.8	+0.1
I07A	Izee	15.40	133	ePn	Pn	09 45 04.2	-0.1
BMO	Blue Mountains	15.75	126	ePn	Pn	09 45 09.0	+0.1
MSO	Missoula	15.97	115	ePn	Pn	09 45 12.3	+0.6
ANM	Nome	17.25	313	ePn	P	09 45 29.0	-0.5
DLMT	Dillon	17.65	116	ePn	P	09 45 34.1	0.0
HLID	Hailey	18.07	124	ePn	P	09 45 39.9	+1.1
FFC	Flin Flon	18.90	79	eP	Pn	09 45 48.9	+0.7
MOOW	Moose Ponds	19.73	117	eP	Pn	09 45 57.1	-1.3
GAMB	Gambell	19.80	309	eP	Pn	09 45 58.6	-0.3
YERR	Yerington	19.86	141	eP	P	09 45 58.0	-0.5
SNOW	Snow King Moun	19.93	118	eP	Pn	09 45 59.4	-1.4
REDW	Red Top Meadow	19.95	118	eP	P	09 45 59.0	-0.5
NV01	Mina Array Sit	20.69	140	eP	P	09 46 07.0	-0.6
NVAR	Mina Array Bea	20.69	140	P	Pn	09 46 11.5	+1.7
	1.5nm,0.7s,baz=327,slow=11,SNR=5.4						
PDAR	Pinedale Array	21.04	117	P	P	09 46 15.0	+3.7
	1.8nm,0.8s,baz=303,slow=5.4,SNR=9.3						
PDAR	Pinedale Array	21.04	117	eP	P	09 46 11.2	0.0
FCC	Fort Churchill	22.22	65	eP	P	09 46 24.9	+1.4
ULM	Lac du Bonnet	24.07	87	eP	P	09 46 43.5	+1.0
RES	Resolute Bay	24.56	24	P	P	09 46 50.5	+3.7
	6.3nm,0.8s,baz=245,slow=11,SNR=4.5						
RES	Resolute Bay	24.56	24	eP	P	09 46 47.7	+0.9
PV23	Carpenter Ridg	24.61	124	eP	P	09 46 48.0	+0.2
PV11	David Mesa, Pa	24.80	124	eP	P	09 46 50.8	+1.3
SPMN	Marine on St.	28.54	94	eP	P	09 47 18.6	-4.3
TXAR	Lajitas Array	34.63	126	P	P	09 48 20.5	+3.9
	0.8nm,0.8s,baz=329,slow=7.3,SNR=4.1						
SCHQ	Schefferville	37.53	62	P	P	09 48 44.1	+3.0
	10nm,1.1s,baz=293,slow=8.7,SNR=3.8						
NB2	NORSAR Subarra	60.61	18	P	P	09 51 39.4	+1.7
	comp=Z,0.7nm,0.7s,baz=340,slow=7.4						
NOA	NORSAR Array B	60.61	18	P	P	09 51 39.8	+2.2
	comp=Z,1.3nm,0.8s,baz=341,slow=6.9,SNR=4.4						
ZALV	Zalesovo Beam	65.85	335	P	P	09 52 13.8	+1.4
	comp=Z,0.7nm,0.5s,baz=36,slow=2.7,SNR=3.3						
HHC	Hu-ho-hao-te	68.40	311	eP	P	09 52 25.4	-3.6
HHC				pmax	pmax		
	comp=Z,25nm,0.8s						
HHC				pmax	pmax		
	comp=Z,57µm,4.8s						
KURK	Kurchatov	70.26	338	P	P	09 52 43.0	+2.8
KURBB	Kurchatov Arra	70.36	338	P	P	09 52 43.0	+2.2
	comp=Z,1.0nm,0.8s,baz=22,slow=5.7,SNR=7.4						
MKAR	Makanchi Array	73.09	334	P	P	09 52 59.4	+2.0
	comp=Z,1.3nm,0.6s,baz=48,slow=6.5,SNR=5.4						
WMQ	Urumqi	74.39	329	eP	P	09 53 04.0	-1.1

*NEIC **05** 09:55:07.3±0.0, 55°.62N×135°.25W, h10km, ML3.6(AEIC), After AEIC.*
*IDC **05** 09:55:08.3±1.3, 55°.57N×135°.20W, h0km, mb3.5/1, mb1 3.7/6, mb1mx3.4/44, mbtmp3.6/6, ML3.2/5, Error ellipse: s-maj=21.9km s-min=11.8km az=47.0*
ISC 05 09:55:08.5±2.2, 55°.63N±0°.04×135°.17W±0°.06, h5km±14km, n20, σ1s.27/29, Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	Craig	1.17	97	P	Pg	09 55 30.7	-0.3
CRAG				S	Sb	09 55 47.1	+0.4
SIT	Sitka	1.43	356	P	Pn	09 55 32.9	-2.2
SIT				S	Sn	09 55 51.4	-2.9
WRAK	Wrangell Islan	1.77	62	P	Pn	09 55 38.2	-1.6
WRAK				S	Sn	09 56 00.9	-1.8
NDB	Naden	2.12	142	P	Pn	09 55 42.2	-2.5
JIS	Juneau Island	2.68	9	P	Pn	09 55 52.7	+0.4
JIS				S	Sn	09 56 23.2	-2.0
H02S1	DAWSON INLET T	2.90	146	Pn	Pn	09 55 54.7	-0.6
H02S1				Sn	Sn	09 56 28.6	-1.9
BESE	Bessie Mountai	2.96	3	P	Pn	09 55 55.8	-0.5
BESE				S	Sn	09 56 32.4	+0.3
BNB	Barry Inlet	3.66	145	P	Pn	09 56 05.3	-0.6
PLBC	Pleasant Camp	3.89	351	P	Pn	09 56 08.2	-0.7
DLBC	Dease Lake	3.97	43	Pn	Pn	09 56 10.6	+0.4
	1.0nm,0.3s,baz=208,slow=12,SNR=8.4						
DLBC				Sn	Sn	09 56 56.7	-0.5
	4.7nm,0.3s,baz=260,slow=18,SNR=4.2						
DLBC				Lg	Lg	09 57 11.8	
	13nm,0.3s,baz=54,slow=18,SNR=10						
DLBC	Dease Lake	3.97	43	P	Pn	09 56 10.3	+0.2
WHY	Whitehorse	5.04	2	P	Pn	09 56 24.8	-0.1
PCA	Pinnacle	5.24	331	P	Pn	09 56 28.0	+0.5
SAMH	Samovar Hills	5.41	329	P	Pn	09 56 31.1	+1.2
BBB	Bella Bella	5.41	127	Pn	Pn	09 56 30.0	+0.1
	1.5nm,0.3s,baz=286,slow=8.1,SNR=13						
BBB				Sn	Sn	09 57 32.2	-0.3
	2.9nm,0.3s,baz=110,slow=18,SNR=8.2						
BBB	Bella Bella	5.41	127	P	Pn	09 56 29.7	-0.2
BBB				S	Sn	09 57 32.1	-0.4
KDAK	Kodiak Island	9.81	290	Pn	Pn	09 57 29.5	-0.7
	0.5nm,0.3s,baz=135,slow=4.8,SNR=6.7						
ILAR	Eielson Array	10.84	332	Pn	Pn	09 57 44.2	-0.1
	0.1nm,0.3s,baz=148,slow=12,SNR=25						
YKA	Yellowknife Ar	12.57	49	Pn	Pn	09 58 08.6	+0.8
	0.1nm,0.3s,baz=241,slow=12,SNR=8.2						
MKAR	Makanchi Array	73.19	334	P	P	10 06 41.6	+1.6
	0.3nm,0.6s,baz=36,slow=5.4,SNR=4.6						

*IDC **05** 10:05:50.0±1.8, 29°.10S×178°.12W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/35, mbtmp3.7/3, Error ellipse: s-maj=71.0km s-min=39.0km az=14.0*
ISC 05 10:05:56.4±1.6, 29°.3S±0°.3×178°.3W±0°.3, h35km, n9, σ0s.47/9, mb3.4/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.37	278	P	P	10 12 31.8	+0.3
	4.3nm,0.9s,baz=86,slow=14,SNR=3.3						
ASAR	Alice Springs	42.92	266	P	P	10 13 51.5	-0.4
	0.2nm,0.5s,baz=106,slow=7.2,SNR=5.1						
WRA	Warramunga Arr	43.80	271	P	P	10 13 59.0	0.0
	0.3nm,0.4s,baz=110,slow=7.8,SNR=12						
VNA3	Neumayer Olymp	79.46	176	P	P	10 17 58.9	+0.1
VNA2	Neumayer--Watz	79.89	177	P	P	10 18 01.4	+0.4
	baz=179,slow=3.2						
VNA1	Neumayer--Stat	80.12	177	P	P	10 18 02.7	+0.4
FINES	FINESS Array B	143.98	340	PKP	PKPab	10 25 25.2	+0.4
	3.5nm,0.5s,baz=64,slow=3.2,SNR=27						
AKASG	Malin Array Be	150.23	324	PKPbc	PKPbc	10 25 42.7	-0.6
	1.2nm,0.4s,baz=48,slow=3.0,SNR=7.1						
TORD	Torodi Ar. Bea	163.97	180	PKPab	PKPab	10 26 48.7	-0.6
	0.4nm,0.7s,baz=178,slow=4.3,SNR=2.5						

DDA 05 10:10:38.0, 39°.54N×27°.70E, h7km±4km, ML2.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STEP	BALIKESIR_Sava	0.17	175	IAML_P			
	comp=Z,1µm,0.2s						
STEP				iP	Pg	10 10 40.0	-1.4
DURS	Dursunbey	0.60	84	IAML_P			
	comp=Z,313nm,0.3s						
DURS				iP	Pb	10 10 50.8	-0.1
BAYC	CANAKKALE_Bayr	0.91	283	IAML_P			
	comp=Z,204nm,0.1s						
BAYC				iP	Pg	10 10 55.0	-0.5
BAYC				iS	Sn	10 11 10.4	-0.2
MANT	Manisa	1.25	147	iP	Pg	10 10 52.5	-9.4
URLA	Izmir	1.46	216	IAML_P			
	comp=Z,1µm,0.2s						
URLA				iP	Pg	10 11 06.5	+0.5
DGB	zmir	1.62	203	iP	Pg	10 11 10.3	+1.3

*BJI **05** 10:11:16.9, 55°.34N×135°.88W, h5km, mb5.1/40, mB5.3/1*
*AEIC **05** 10:11:18.8, 55°.83N×135°.30W, h10km, ML4.7, MB4.7(NEIC)*
*NEIC **05** 10:11:18.8±0.0, 55°.83N×135°.30W, h10km, mb4.7/89, ML4.7(AEIC), After AEIC.*
NEIC Felt [V] at Sitka and [IV] at Juneau. Also felt at Ketchikan. Felt at Prince Rupert and Terrace, British Columbia.
*ISCJB **05** 10:11:20.6±0.1, 55°.98N±0°.02×135°.20W±0°.04, h10km, mb4.8/147, Error ellipse: s-maj=3.5km s-min=1.5km az=138.6*
*MOS **05** 10:11:20.8±1.1, 55°.92N×135°.42W, h10km, mb5.2/49, Error ellipse: s-maj=11.3km s-min=4.1km az=102.9*
*IDC **05** 10:11:20.8±0.4, 55°.92N×135°.23W, h0km, mb4.6/34, mb1 4.8/41, mb1mx4.8/45, mbtmp4.6/41, ML3.9/7, Error ellipse: s-maj=8.9km s-min=7.3km az=12.0*
ISC 05 10:11:21.8±0.3, 55°.85N±0°.04×135°.32W±0°.04, h10km, n619, σ1s.47/627, mb4.9/148, 32C-13D, Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIT	Sitka	1.21	360	P	Pb	10 11 41.3	-3.3
SIT				S	Sb	10 11 57.9	-2.4
SIT	Sitka	1.21	360	P	Pb	10 11 41.3	-3.3
SIT				S	Sb	10 11 57.9	-2.4
CRAG	Craig	1.31	106	P	Pn	10 11 41.9	-4.1
CRAG				S	Sb	10 11 59.4	-3.8
WRAK	Wrangell Islan	1.76	70	P	Pn	10 11 49.2	-3.1
WRAK				S	Sn	10 12 13.9	-0.8
NDB	Naden	2.35	143	P	Pn	10 11 56.6	-3.8
JIS	Juneau Island	2.48	12	P	Pn	10 11 60.0	-2.2
JIS				S	Sn	10 12 30.6	-1.9
MASB	Masset	2.65	133	P	Pn	10 12 00.7	-3.8
BESE	Bessie Mountai	2.75	5	P	Pn	10 12 03.6	-2.3
DIB	Dawson Inlet,	3.13	147	ePn	Pn	10 12 08.0	-3.2
DIB				eSn	Sn	10 12 44.2	-4.4
H02S1	DAWSON INLET T	3.13	147	Pn	Pn	10 12 08.0	-3.1
H02S1				Sn	Sn	10 12 43.8	-4.8
SKAG	Skagway	3.62	360	P	Pn	10 12 16.4	-1.4
SKAG				S	Sn	10 13 00.0	-0.5
PLBC	Pleasant Camp	3.66	352	P	Pn	10 12 17.1	-1.2
DLBC	Dease Lake	3.88	46	Pn	Pn	10 12 19.8	-1.6
	7.6nm,0.3s,baz=223,slow=6.8,SNR=180						
DLBC				Pg	Pb	10 12 29.5	-0.7
	30nm,0.3s,baz=217,slow=10,SNR=46						
DLBC				Sn	Sn	10 13 05.1	-2.0
	56nm,0.3s,baz=154,slow=21,SNR=5.6						
DLBC				Lg	Lg	10 13 18.8	
	252nm,0.3s,baz=205,slow=23,SNR=9.3						
DLBC	Dease Lake	3.88	46	P	Pn	10 12 19.3	-2.1
BNB	Barry Inlet	3.90	146	P	Pn	10 12 17.4	-4.3
YKU2	Yakutat	4.35	329	ePn	Pn	10 12 27.7	-0.1
WHY	Whitehorse	4.83	3	P	Pn	10 12 33.0	-1.5
YUK7	Dusty Glacier	4.92	344	P	Pn	10 12 35.1	-0.7

PCA Pinnacle 5.00 330 P Pn 10 12 36.3 -0.5
HYT Haines Junctio 5.12 348 P Pn 10 12 38.0 -0.5
SAMH Samovar Hills 5.18 328 P Pn 10 12 39.4 +0.1
YUK6 Outpost Mounta 5.35 344 P Pn 10 12 41.0 -0.8
YUK5 Granite Creek 5.46 347 P Pn 10 12 42.6 -0.6
RKAV Rock Avalanche 5.48 327 P Pn 10 12 43.3 -0.3
MESA MESA 5.58 324 P Pn 10 12 43.7 -1.3
BBB Bella Bella 5.62 128 Pn Pn 10 12 42.5 -2.8
14nm,0.3s,baz=323,slow=13,SNR=48
BBB Sn Sn 10 13 45.1 -4.7
20nm,0.3s,baz=307,slow=17,SNR=3.5
BBB Lg Lg 10 14 15.0
92nm,0.3s,baz=315,slow=6.7,SNR=6.4
BBB Bella Bella 5.62 128 P Pn 10 12 42.1 -3.2
YUK4 Talbot Arm 5.77 344 P Pn 10 12 47.9 +0.3
KULT Kultieth River 5.90 321 P Pn 10 12 47.1 -2.1
KHIT Khitrov Hills 6.22 321 P Pn 10 12 51.6 -2.0
FSB Fort Saint Jam 6.45 98 P Pn 10 12 54.5 -2.2
RAGM Ragged Mountai 6.72 316 ePn Pn 10 12 58.1 -2.3
MID Middleton Isla 6.91 306 P Pn 10 12 58.8 -4.2
MID Middleton Isla 6.91 306 P Pn 10 12 58.8 -4.2
SGAM Sherman Glacie 7.00 316 P Pn 10 13 02.6 -1.6
EYAK Cordova Ski Ar 7.24 315 ePn Pn 10 13 05.9 -1.6
DIV Divide 7.61 318 ePn Pn 10 13 12.2 -0.4
DIV eSn Sn 10 14 34.1 -4.7
KLU Klutina 7.90 320 ePn Pn 10 13 15.7 -0.9
KLU eSn Sn 10 14 45.0 -0.9
BCA3 Beaver Creek A 7.94 338 P Pn 10 13 16.1 -1.1
HARP HAARP 8.28 327 ePn Pn 10 13 23.0 +1.1
DAWY Dawson 8.48 348 ePn Pn 10 13 24.6 -0.1
SEW Seward 8.62 305 ePn Pn 10 13 21.4 -5.0
SCM Sheep Creek Mo 8.63 319 ePn Pn 10 13 25.7 -1.0
SCM Sheep Creek Mo 8.63 319 eP Pn 10 13 25.7 -1.0
PAX Paxson 8.80 328 ePn Pn 10 13 30.6 +1.6
DOT Dot Lake 8.97 334 ePn Pn 10 13 30.9 -0.3
SML Sawmill 9.00 317 ePn Pn 10 13 30.2 -1.4
SML Sawmill 9.00 317 eP Pn 10 13 30.2 -1.4
BRLK Bradley Lake 9.18 302 ePn Pn 10 13 31.2 -2.9
RC01 Rabbit Creek A 9.18 311 ePn Pn 10 13 31.1 -3.0
PMR Palmer 9.19 314 ePn Pn 10 13 32.6 -1.6
PMR Palmer 9.19 314 eP Pn 10 13 32.6 -1.6
GHO Glory Hole Cre 9.21 316 ePn Pn 10 13 32.9 -1.6
SCRK Sand Creek 9.23 336 ePn Pn 10 13 34.4 -0.4
RIDG Independ'e Rid 9.24 333 ePn Pn 10 13 35.2 +0.3
DHY Denali Highway 9.47 325 ePn Pn 10 13 38.5 +0.3
HOM Homer 9.51 300 ePn Pn 10 13 35.6 -3.0
KDAK Kodiak Island 9.66 289 Pn Pn 10 13 37.3 -3.3
8.0nm,0.3s,baz=106,slow=4.4,SNR=112
KDAK Sn Sn 10 15 22.5 -6.5
0.7nm,0.3s,baz=233,slow=20,SNR=7.5
SUA Susitna One 9.79 311 ePn Pn 10 13 39.8 -2.8
OHAK Old Harbor 10.02 285 ePn Pn 10 13 41.5 -4.1
RND Reindeer 10.19 323 ePn Pn 10 13 48.4 +0.4
RND Reindeer 10.19 323 eP Pn 10 13 48.4 +0.4
SPU Mount Spurr 10.23 308 ePn Pn 10 13 45.3 -3.3
PGC Sidney 10.24 130 ePn Pn 10 13 50.1 +1.6
RSO Redoubt South 10.29 304 ePn Pn 10 13 47.8 -1.7
HDA Harding Lake 10.34 331 ePn Pn 10 13 49.9 0.0
HDA Harding Lake 10.34 331 P Pn 10 13 50.4 +0.5
baz=141,SNR=22
MCK McKinley 10.44 325 ePn Pn 10 13 51.3 0.0
MCK McKinley 10.44 325 eP Pn 10 13 51.3 0.0
EPYK Eagle Plains 10.57 357 P Pn 10 13 53.0 -0.2
baz=176,SNR=18
IL1 Eielson Array 10.60 332 ePn Pn 10 13 53.5 0.0
ILAR Eielson Array 10.60 332 Pn Pn 10 13 52.3 -1.3
0.7nm,0.3s,baz=154,slow=12,SNR=134
ILB Eielson Array 10.60 332 ePn Pn 10 13 53.1 -0.4
WRH Wood River Hil 10.71 329 ePn Pn 10 13 55.2 +0.3
TRF Thorofare Moun 10.71 321 ePn Pn 10 13 56.1 +0.9
COLA College 10.94 331 ePn Pn 10 14 00.3 +2.2
COLA College 10.94 331 eP Pn 10 14 00.3 +2.2
TCOL CIGO, UAF Yank 10.95 331 P Pn 10 13 57.9 -0.3
baz=140
POKR Poker Plat Res 11.02 332 P Pn 10 13 59.2 0.0
baz=142,SNR=9.1
NLWA Neilton Lookou 11.05 135 ePn Pn 10 14 00.5 +0.7
PPLA Purkeypile 11.10 316 ePn Pn 10 13 59.8 -0.6
MDM Murphy Dome 11.11 330 ePn Pn 10 14 00.7 +0.2
B05A Bryant 11.12 128 P Pn 10 14 03.2 +2.4
baz=318,SNR=30
B06A Marblemount 11.21 125 ePn Pn 10 14 05.5 +3.5
D03D Eldon 11.26 133 P Pn 10 14 08.7 +6.2
baz=322
CAST Castle Rocks 11.34 319 ePn Pn 10 14 03.0 -0.7
BPAW Bear Paw Mtn. 11.36 323 ePn Pn 10 14 03.2 -0.8
FYU Fort Yukon 11.74 340 ePn Pn 10 14 09.6 +0.6
SVW2 Sparrevohn 11.81 305 ePn Pn 10 14 07.9 -2.1
MLY Manley 11.90 327 ePn Pn 10 14 11.1 -0.2
C06D Leavenworth 11.92 126 P Pn 10 14 13.6 +1.9
baz=317
D05A Enumclaw 11.99 131 ePn Pn 10 14 15.0 +2.4
B08A Colville Reser 12.35 121 ePn Pn 10 14 18.4 +0.9
LON Longmire 12.41 132 ePn Pn 10 14 19.6 +1.2
YKA Yellowknife Ar 12.49 49 Pn Pn 10 14 16.7 -2.6
0.4nm,0.3s,baz=244,slow=12,SNR=142
YKA Lg Lg 10 17 48.1
0.3nm,0.3s,baz=241,slow=30,SNR=5.0
YKB5 Yellowknife Ar 12.49 49 ePn Pn 10 14 17.7 -1.7
YKW3 Yellowknife Ar 12.52 49 ePn Pn 10 14 18.0 -1.7
INK Inuvik 12.53 3 Pn Pn 10 14 18.6 -1.2
0.4nm,0.3s,baz=182,slow=12,SNR=17
INK Lg Lg 10 17 58.7
baz=87,slow=32,SNR=12
INK Inuvik 12.53 3 ePn Pn 10 14 19.0 -0.8
INK Lg Lg 10 17 58.7
INK Inuvik 12.53 3 eP Pn 10 14 19.0 -0.8
C09A Chrisman Ranch 13.24 120 ePn Pn 10 14 31.9 +2.2
COLD Coldfoot 13.38 334 ePn Pn 10 14 32.8 +1.3
E07A Sunnyside 13.41 127 ePn Pn 10 14 33.6 +1.6
D08A Wollman Farm, 13.47 124 ePn Pn 10 14 33.5 +0.8
IM3 Indian Mountai 13.47 326 ePn Pn 10 14 32.6 -0.1
NEW Newport 13.50 117 Pn Pn 10 14 32.4 -0.9
0.3nm,0.3s,baz=318,slow=12,SNR=18
NEW Lg Lg 10 18 17.6
0.2nm,0.3s,baz=42,slow=9.7,SNR=3.5
NEW Newport 13.50 117 ePn Pn 10 14 34.8 +1.5
NEW Lg Lg 10 18 17.6
NEW Newport 13.50 117 eP Pn 10 14 34.8 +1.5
NEW Newport 13.50 117 P Pn 10 14 35.1 +1.9
baz=311,SNR=42
HAWA Hanford 13.68 127 ePn Pn 10 14 36.9 +1.2
E08A Dider Farm, El 13.82 126 ePn Pn 10 14 38.0 +0.4
H04D Lebanon 13.89 140 P Pn 10 14 41.1 +2.6
baz=329
F07A Phinny Hill Vi 13.89 129 ePn Pn 10 14 40.2 +1.7
H04A Detroit Lake 13.96 138 ePn Pn 10 14 42.8 +3.3
G06A Carlson Farm, 14.11 133 eP Pn 10 14 45.3 +3.7
E09A Wood Farm, Sta 14.23 124 eP Pn 10 14 43.5 +0.4
I03D Drain, OR 14.39 143 P Pn 10 14 48.6 +3.2
baz=332
I04A Tendick Farm, 14.63 140 P Pn 10 14 50.5 +1.7
baz=330
WALA Waterton Lakes 14.68 109 ePn Pn 10 14 47.5 -1.9
66nm,1.2s
G08A Pilot Rock 14.79 129 ePn Pn 10 14 50.9 -0.1
KEBM Edson Butte 14.81 147 ePn P 10 14 59.0 +1.9
F10A Beach Ranch, E 15.05 123 eP Pn 10 14 54.6 +0.1
57nm,1.2s
K02D Willamette Mer 15.18 145 P P 10 15 02.5 +1.3
baz=334,SNR=5.3
PINE Pine Mountain 15.19 137 ePn P 10 15 03.1 +1.6
J04D Umpqua Natiena 15.22 140 P Pn 10 14 58.2 +1.4
baz=331,SNR=8.3
HUMO Hull Mountain 15.49 144 ePn P 10 15 03.9 -0.8
47nm,0.9s
J05D Fort Rock, OR 15.51 138 P Pn 10 15 02.1 +1.6
baz=329,SNR=12
L02E Cave Junction 15.68 146 P P 10 15 08.6 +1.9
baz=335
BMO Blue Mountains 15.87 126 ePn P 10 15 08.6 -0.3
18nm,0.9s
BMO Blue Mountains 15.87 126 eP P 10 15 08.6 -0.3
BMO pmax pmax
comp=Z,18nm,0.9s
K04D Chiloquin, OR 15.89 141 P Pn 10 15 07.2 +1.8
baz=331,SNR=6.1
L04D Klamath Falls 16.06 143 P P 10 15 12.1 +1.1
baz=333,SNR=18
MSO Missoula 16.07 115 ePn Pn 10 15 07.8 +0.1
comp=Z,55nm,1.3s
MSO Missoula 16.07 115 P Pn 10 15 08.1 +0.4
baz=312,SNR=16

YBH Yreka Blue Hor 16.35 145 Pn Pn 10 15 11.8 +0.4
comp=Z,0.1nm,0.3s,baz=4.3,slow=3.3,SNR=18
YBH Yreka Blue Hor 16.35 145 ePn P 10 15 15.2 +0.9
comp=Z,66nm,1.4s
YBH Yreka Blue Hor 16.35 145 eP P 10 15 15.2 +0.9
YBH pmax pmax
comp=Z,66nm,1.4s
J08A Circle Bar Ran 16.54 132 ePn Pn 10 15 14.6 +0.8
comp=Z,38nm,1.0s
M04C Macdoel 16.60 142 P P 10 15 16.6 -0.5
baz=333,SNR=15
M02C Callahan 16.61 145 P P 10 15 19.3 +2.2
baz=335,SNR=9.0
N02D Trinity Center 17.04 146 P P 10 15 21.8 -0.1
baz=335,SNR=14
MOD Modoc Plateau 17.05 139 ePn P 10 15 22.8 +0.7
comp=Z,28nm,1.4s
HRY Hotar Researc 17.23 112 eP Pn 10 15 22.5 0.0
WVOR Wild Horse Val 17.24 134 ePn P 10 15 28.1 +3.9
comp=Z,4.3nm,0.9s
KMRM Mail Ridge 17.42 149 ePn P 10 15 30.2 +4.1
comp=Z,72nm,1.4s
WDC Whiskeytown Da 17.45 146 ePn P 10 15 26.8 +0.5
comp=Z,55nm,1.3s
WDC Whiskeytown Da 17.45 146 eP P 10 15 26.8 +0.5
WDC pmax pmax
comp=Z,55nm,1.3s
LRM Limekiln Ridge 17.51 115 ePn P 10 15 26.6 -0.6
EGMT Eagleton 17.53 106 ePn Pn 10 15 25.0 -1.1
comp=Z,122nm,1.2s
EGMT Eagleton 17.53 106 P Pn 10 15 25.1 -1.0
baz=306,SNR=43
RDOG Red Dog Mine 17.61 325 ePn P 10 15 28.6 +0.8
comp=Z,66nm,1.4s
MFID Camas Ranch 17.65 127 ePn P 10 15 28.9 +0.3
comp=Z,24nm,1.0s
O02D Mt. Diablo Mer 17.74 147 P P 10 15 30.0 +0.4
baz=336
DLMT Dillon 17.75 117 ePn Pn 10 15 29.2 +0.2
comp=Z,86nm,1.4s
O03E Paynes Creek 17.95 145 P P 10 15 33.2 +1.3
baz=335,SNR=7.7
MCMT McKenzie Canyo 18.01 118 ePn Pn 10 15 32.2 0.0
BOZ Bozeman (W) 18.08 115 ePn P 10 15 33.5 +0.1
comp=Z,28nm,1.1s
BOZ Bozeman (W) 18.08 115 eP P 10 15 33.5 +0.1
BOZ pmax pmax
comp=Z,28nm,1.1s
BOZ Bozeman (W) 18.08 115 P P 10 15 33.3 -0.2
baz=313,SNR=15
HLID Hailey 18.19 124 ePn P 10 15 35.6 +0.9
comp=Z,58nm,1.1s
HLID Hailey 18.19 124 P P 10 15 36.1 +1.4
baz=320,SNR=46
ORV Oroville 18.71 145 eP Pn 10 15 40.9 +0.3
comp=Z,14nm,0.9s
QLMT Earthquake Lak 18.72 116 eP Pn 10 15 41.9 +1.0
BEKR Beckworth 18.82 142 eP Pn 10 15 42.9 +0.8
comp=Z,81nm,1.6s
YHB Horse Butte 18.89 116 eP Pn 10 15 44.5 +1.5
comp=Z,29nm,1.0s
FFC Flin Flon 18.92 79 eP P 10 15 40.4 -2.1
comp=Z,134nm,1.1s
FFC Flin Flon 18.92 79 i P P 10 15 41.2 -1.2
GCMT Greycliff 18.97 111 eP Pn 10 15 45.4 +1.5
YMR Madison River 19.07 116 eP Pn 10 15 46.1 +1.0
comp=Z,86nm,1.0s
YNR Norris Junctio 19.18 115 eP Pn 10 15 48.3 +1.8
comp=Z,54nm,1.4s
AFDM Forest Hills D 19.44 144 eP P 10 15 49.0 +0.8
comp=Z,16nm,0.9s
H17A Grant Village 19.46 116 P Pn 10 15 51.9 +2.1
baz=315,SNR=14
RLMT Red Lodge 19.63 112 eP Pn 10 15 52.9 +1.0
comp=Z,26nm,1.0s
RLMT Red Lodge 19.63 112 P Pn 10 15 52.8 +1.0
baz=312,SNR=28
GAMB Gambell 19.68 309 eP Pn 10 15 52.4 +0.4
comp=Z,92nm,1.2s
MOOW Moose Ponds 19.83 117 eP Pn 10 15 54.4 +0.1
comp=Z,30nm,1.0s
YERR Yerington 20.00 141 eP Pn 10 15 56.0 -0.2
comp=Z,28nm,1.2s
ELK Elko 20.06 130 P P 10 15 56.1 +0.8
comp=Z,10nm,1.0s,baz=345,slow=7.9,SNR=18
LAO LASA Array 20.25 105 eP Pn 10 15 59.1 +0.1
comp=Z,76nm,1.4s
DGMT Dagmar 20.34 98 eP Pn 10 15 58.9 -1.1
comp=Z,134nm,1.2s
DGMT Dagmar 20.34 98 P P 10 15 58.6 +0.6
baz=303,SNR=13
KVN Kaiserville 20.35 138 eP Pn 10 15 59.7 -0.7
comp=Z,31nm,1.1s
KVN Kaiserville 20.35 138 eP Pn 10 15 59.7 -0.7
KVN pmax pmax
comp=Z,31nm,1.1s
WAKR Walker 20.35 142 eP Pn 10 15 59.7 -0.7
comp=Z,33nm,1.0s
CMB Columbia Colle 20.46 144 eP P 10 16 00.1 +0.8
comp=Z,14nm,1.0s
CMB Columbia Colle 20.46 144 eP P 10 16 00.1 +0.8
CMB pmax pmax
comp=Z,13nm,1.0s
RYN Ryan 20.57 140 eP P 10 16 01.9 +1.3
comp=Z,18nm,1.0s
NV01 Mina Array Sit 20.82 140 eP P 10 16 03.9 +0.4
NVAR Mina Array Bea 20.82 140 P P 10 16 04.5 +1.0
comp=Z,9.2nm,0.9s,baz=314,slow=10,SNR=40
NVAR PcP PcP 10 20 12.3 +0.4
comp=Z,1.6nm,0.9s,baz=255,slow=2.8,SNR=3.6
SPUT South Promonto 20.85 125 ePn Pn 10 16 12.5 +6.3
comp=Z,37nm,1.3s
NV11 Mina Array Sit 20.88 139 eP P 10 16 04.8 +0.8
comp=Z,3.9nm,1.1s
BGU Big Grassy Mou 20.89 126 ePn Pn 10 16 07.5 +0.8
comp=Z,11nm,1.0s
BW06 Boulder Array 21.14 117 eP P 10 16 08.4 +1.5
comp=Z,53nm,1.3s
BW06 Boulder Array 21.14 117 P P 10 16 08.2 +1.2
baz=317,SNR=22
PD31 Pinedale Array 21.14 117 eP P 10 16 08.4 +1.5
PDAR Pinedale Array 21.14 117 P P 10 16 08.4 +1.5
comp=Z,4.3nm,0.9s,baz=305,slow=4.5,SNR=19
PDAR Pinedale Array 21.14 117 eP P 10 16 08.0 +1.1
SAO San Andreas Se 21.29 148 ePn P 10 16 14.0 +5.7
comp=Z,17nm,1.1s
MLAC Mammoth, Mammo 21.35 142 P P 10 16 10.8 +1.6
baz=334
DUG Dugway, Tooele 21.58 127 eP P 10 16 12.6 +1.1
comp=Z,24nm,1.0s
DUG Dugway, Tooele 21.58 127 eP P 10 16 12.6 +1.1
DUG pmax pmax
comp=Z,24nm,1.0s
DUG Dugway, Tooele 21.58 127 P P 10 16 12.8 +1.3
baz=324,SNR=8.8
JLU Jordanelle 21.88 124 eP P 10 16 16.6 +1.8
comp=Z,19nm,1.0s
R11A Troy Canyon, C 21.94 135 P P 10 16 17.5 +2.0
baz=329,SNR=12
TIN Tinemaha, Big 22.08 141 P P 10 16 18.0 +1.2
baz=334,SNR=7.8
NLU North Lily Min 22.11 126 eP P 10 16 18.1 +0.9
comp=Z,19nm,1.2s
FCC Fort Churchill 22.21 65 eP P 10 16 17.3 -0.6
comp=Z,134nm,1.3s
FCC Fort Churchill 22.21 65 eP P 10 16 17.3 -0.6
FCC pmax pmax
comp=Z,134nm,1.3s
GRAC Grapevine Rang 22.44 140 P P 10 16 22.2 +1.5
baz=333
PSUT Pine Spring 22.49 131 eP P 10 16 22.4 +0.9
comp=Z,22nm,1.1s
CWC Cottonwood Cre 22.68 142 P P 10 16 24.2 +0.8
baz=334
K22A Casper 22.77 113 eP P 10 16 24.6 +0.2
comp=Z,36nm,1.3s
K22A Casper 22.77 113 P P 10 16 24.1 -0.2
baz=316,SNR=6.6
TPNV Topopah Spring 22.89 138 eP P 10 16 25.6 0.0
comp=Z,34nm,0.9s
TPNV Topopah Spring 22.89 138 eP P 10 16 25.6 0.0
TPNV pmax pmax
comp=Z,34nm,0.9s
TPNV Topopah Spring 22.89 138 P P 10 16 25.9 +0.3
baz=332,SNR=37
DAC Darwin (Calif) 23.00 141 eP P 10 16 27.9 +1.1
comp=Z,23nm,1.2s

TMUT Trail Mountain 23.03 126 eP P 10 16 28.2 +1.0
comp=Z,11nm,0.9s
RSSD Black Hills 23.07 107 eP P 10 16 27.2 -0.3
comp=Z,17nm,0.9s
RSSD Black Hills 23.07 107 eP P 10 16 27.2 -0.3
RSSD pmax pmax
comp=Z,17nm,0.9s
RSSD Black Hills 23.07 107 P P 10 16 27.0 -0.5
baz=312
FURC Furnace Creek, 23.09 139 P P 10 16 28.5 +1.0
baz=333,SNR=8.6
MPMC Manual Prospec 23.23 141 P P 10 16 28.8 -0.3
baz=334,SNR=16
ISA Isabella, Lake 23.25 143 eP P 10 16 29.8 +0.6
comp=Z,40nm,1.5s
ISA Isabella, Lake 23.25 143 eP P 10 16 29.8 +0.6
ISA pmax pmax
comp=Z,40nm,1.5s
ISA Isabella, Lake 23.25 143 P P 10 16 29.0 -0.2
baz=336
MDND Maddock 23.25 95 P P 10 16 30.0 +0.9
baz=304
Q16A Castle Valley 23.35 126 eP P 10 16 31.3 +1.0
comp=Z,35nm,1.2s
CCUT Cedar City 23.53 132 eP P 10 16 33.0 +0.9
comp=Z,15nm,1.2s
SZCU Shurtz Canyon 23.61 131 eP P 10 16 33.7 +0.8
comp=Z,20nm,1.2s
MTPU Mount Pierson 23.62 129 eP P 10 16 34.4 +1.1
comp=Z,12nm,1.4s
LRMC Laurel Mtn Rad 23.68 142 P P 10 16 34.3 +0.7
baz=335,SNR=7.0
O20A White River Ci 23.77 120 eP P 10 16 34.5 0.0
comp=Z,17nm,0.9s
O20A White River Ci 23.77 120 P P 10 16 34.1 -0.3
baz=320
SHOC Shoshone, Teco 23.81 139 P P 10 16 36.5 +1.8
baz=333,SNR=9.3
LCMT Little Creek M 24.04 132 eP P 10 16 37.6 +0.7
comp=Z,12nm,1.4s
ULM Lac du Bonnet 24.11 87 P P 10 16 36.9 -0.6
comp=Z,15nm,0.9s,baz=293,slow=9.1,SNR=20
ULM Lg Lg 10 23 53.6
comp=Z,6.9nm,1.0s,baz=222,slow=5.9,SNR=4.2
ULM Lac du Bonnet 24.11 87 eP P 10 16 36.8 -0.6
comp=Z,34nm,1.1s
ULM Lg Lg 10 23 53.6
ULM Lac du Bonnet 24.11 87 eP P 10 16 36.8 -0.6
ULM pmax pmax
comp=Z,35nm,1.1s
GSC Goldstone, Bar 24.15 141 eP P 10 16 38.9 +0.9
comp=Z,38nm,1.0s
GSC Goldstone, Bar 24.15 141 eP P 10 16 38.9 +0.9
GSC pmax pmax
comp=Z,38nm,1.0s
GSC Goldstone, Bar 24.15 141 P P 10 16 38.8 +0.9
baz=334,SNR=21
KNB Kanab 24.21 132 eP P 10 16 39.4 +0.8
comp=Z,11nm,1.0s
KNB Kanab 24.21 132 eP P 10 16 39.4 +0.8
KNB pmax pmax
comp=Z,11nm,1.0s
TUQ Turquoise Moun 24.36 139 P P 10 16 40.7 +0.9
baz=333,SNR=24
RES Resolute Bay 24.46 25 P P 10 16 39.1 -1.2
comp=Z,1.9nm,0.7s,baz=218,slow=21,SNR=18
RES Resolute Bay 24.46 25 eP P 10 16 39.8 -0.6
comp=Z,33nm,1.0s
RES Resolute Bay 24.46 25 eP P 10 16 39.8 -0.6
RES pmax pmax
comp=Z,33nm,1.0s
PV09 Paradox Valley 24.63 124 eP P 10 16 42.6 0.0
PV21 Cone Mtn., Par 24.66 123 eP P 10 16 42.6 -0.2
comp=Z,68nm,1.5s
PV23 Carpenter Ridg 24.73 124 eP P 10 16 43.3 -0.1
comp=Z,44nm,1.1s
PV14 Lion Creek, Pa 24.79 124 eP P 10 16 43.7 -0.2
comp=Z,38nm,1.2s
BFSC Mount Baldy Ra 24.82 143 P P 10 16 44.8 +0.8
baz=336,SNR=28
PV20 West Nyswonger 24.84 124 eP P 10 16 44.7 +0.4
comp=Z,21nm,1.1s
PV19 Morning Glory 24.85 124 eP P 10 16 45.5 +1.0
comp=Z,26nm,1.1s
PV16 Nyswonger Mesa 24.88 124 eP P 10 16 44.6 -0.2
comp=Z,43nm,1.5s
PV17 East Wray Mesa 24.89 124 eP P 10 16 45.0 +0.2
comp=Z,41nm,1.3s
PV11 David Mesa, Pa 24.91 124 eP P 10 16 44.9 -0.1
comp=Z,31nm,0.9s
PV12 Saucer Basin, 24.93 124 eP P 10 16 45.4 +0.2
comp=Z,24nm,1.0s
U15A North Rim 24.93 132 eP P 10 16 46.0 +0.7
comp=Z,21nm,1.1s
PV03 Paradox Valley 24.96 124 eP P 10 16 45.2 -0.3
GMRC Granite Mounta 25.03 139 P P 10 16 46.6 +0.6
baz=333,SNR=9.1
BBRC Big Bear Solar 25.05 142 P P 10 16 47.6 +1.4
baz=335,SNR=13
PV13 Radium Mtn., P 25.05 124 eP P 10 16 46.3 0.0
comp=Z,41nm,1.2s
PV02 Paradox Valley 25.05 124 eP P 10 16 46.6 +0.3
comp=Z,14nm,0.9s
AGMN Agassiz Nation 25.11 91 eP P 10 16 46.5 0.0
comp=Z,51nm,1.3s
AGMN Agassiz Nation 25.11 91 P P 10 16 46.0 -0.5
baz=302,SNR=14
SMCO Snowmass 25.13 120 eP P 10 16 48.0 +0.8
comp=Z,3.8nm,0.8s
PV01 Paradox Valley 25.19 123 eP P 10 16 47.5 0.0
ISCO Idaho Springs 25.33 117 P P 10 16 50.4 +1.5
baz=319
W13A Hualapai Mount 25.43 136 eP P 10 16 50.4 +0.7
comp=Z,37nm,0.8s
MURC Murrieta 25.56 143 P P 10 16 52.2 +1.6
baz=336
BELC Belle Mtn. Jos 25.61 141 P P 10 16 51.7 +0.4
baz=334,SNR=8.4
SUSD Miller 25.64 101 P P 10 16 51.1 -0.2
baz=309
IRM Iron Mountain 25.78 139 P P 10 16 53.0 +0.3
baz=334,SNR=13
PFO Pinyon Flats O 25.80 142 P P 10 16 53.1 +0.1
comp=Z,6.9nm,0.9s,baz=311,slow=5.0,SNR=7.2
PFO Pinyon Flats O 25.80 142 P P 10 16 52.3 -0.6
baz=335,SNR=7.9
XPFO Pion Flat 25.80 142 eP P 10 16 53.1 +0.1
MVCO Mesa Verde 25.97 125 eP P 10 16 54.3 -0.3
comp=Z,5.5nm,0.8s
MVCO Mesa Verde 25.97 125 P P 10 16 53.4 -1.2
baz=325
PDMCI Parker Dam,Lak 26.03 137 P P 10 16 55.4 +0.5
baz=332
WUAZ Wupatki 26.10 131 eP P 10 16 56.4 +0.7
comp=Z,16nm,1.0s
WUAZ Wupatki 26.10 131 P P 10 16 56.3 +0.7
baz=329,SNR=12
BC3 Big Chuckawall 26.12 140 P P 10 16 56.2 +0.4
baz=334
S22A 4UR Ranch, Cre 26.33 121 eP P 10 16 57.9 -0.1
comp=Z,3.0nm,1.0s
Y12C Blythe 26.38 138 P P 10 16 58.6 +0.6
baz=333,SNR=8.2
MONP2 Monument Peak 26.46 142 P P 10 16 59.4 +0.4
baz=336,SNR=8.5
IKP In-Ko-Pah, Jac 26.79 142 P P 10 17 02.4 +0.5
baz=336
GLA Glamis 26.89 139 P P 10 17 02.6 -0.1
baz=334
SDCO Great Sand Dun 26.97 120 eP P 10 17 04.5 +0.7
comp=Z,0.9nm,0.7s
ECSD EROS Data Cent 27.39 100 eP P 10 17 06.8 -0.4
comp=Z,3.5nm,0.8s
ECSD EROS Data Cent 27.39 100 P P 10 17 06.5 -0.6
baz=310
EYMN Ely 27.77 88 eP P 10 17 10.6 +0.1
comp=Z,46nm,1.4s
EYMN Ely 27.77 88 P P 10 17 10.5 0.0
baz=303,SNR=5.1
F38A Pierce - Schro 28.68 92 P P 10 17 19.0 +0.4
baz=306,SNR=12
ANMO Albuquerque 28.77 125 P P 10 17 19.9 +0.3
comp=Z,3.0nm,0.9s,baz=308,slow=9.0,SNR=6.7
ANMO Albuquerque 28.77 125 eP P 10 17 19.3 -0.4
ANMO Albuquerque 28.77 125 P P 10 17 19.8 +0.2
baz=326
BILL Bilibino 28.80 318 eP P 10 17 18.6 -0.8
BILL ePPP PPP 10 18 16.2

BILL *e* 10 20 24.2
BILL pmax pmax
comp=Z,19nm,1.3s
TUC Tucson 29.11 134 P P 10 17 23.7 +1.1
baz=331
G39A Holcombe 29.48 92 P P 10 17 25.6 -0.1
baz=307
F40A Park Falls 29.69 90 P P 10 17 27.5 -0.1
baz=306
H39A Augusta 29.79 93 P P 10 17 28.6 +0.2
baz=308
I39A Houston 30.16 95 *e*P P 10 17 31.8 0.0
comp=Z,23nm,0.8s
I39A Houston 30.16 95 P P 10 17 31.8 0.0
baz=309
121A Cookes Peak, D 30.19 129 P P 10 17 33.3 +1.1
baz=329,SNR=12
H40A Chili 30.32 93 P P 10 17 33.2 +0.1
baz=308
J39A Decorah 30.39 96 P P 10 17 33.6 -0.1
baz=310
I40A Norwalk 30.65 94 P P 10 17 36.3 +0.2
baz=309
K39A Oelwein 30.70 97 P P 10 17 35.7 -0.7
baz=311
H41A Junction City 30.74 92 P P 10 17 36.6 -0.2
baz=308
J40A Soldiers Grove 30.89 95 P P 10 17 38.1 -0.1
baz=310
I41A Arkdale 30.96 93 P P 10 17 38.8 0.0
baz=309
L39A Vinton 31.01 98 P P 10 17 42.3 +3.1
baz=311
G42A Mountain 31.05 90 P P 10 17 39.7 +0.2
baz=307
H42A Shiocton 31.44 91 P P 10 17 42.4 -0.6
baz=308
G43A Wallace 31.46 89 P P 10 17 43.2 +0.1
baz=307
K41A Shullsburg 31.65 96 P P 10 17 44.5 -0.3
baz=311
MNTX Cornudas Mount 31.97 127 P P 10 17 48.4 +0.7
baz=328,SNR=13
J43A Natural Harves 32.21 93 P P 10 17 49.8 0.0
baz=310
N41A Harden Midland 32.60 99 P P 10 17 51.8 -1.4
baz=313
WMOK Wichita Mounta 32.70 115 P P 10 17 55.2 +1.0
baz=322,SNR=13
N42A Yates City 32.98 98 P P 10 17 55.1 -1.4
baz=313
O41A Passleys Farm, 32.99 100 P P 10 17 56.0 -0.6
baz=314,SNR=5.0
P41A Barry, Barry 33.19 100 P P 10 17 57.6 -0.8
baz=314
H46A Fife Lake 33.30 88 P P 10 17 59.1 -0.2
baz=308
HDIL Hopedale 33.58 97 P P 10 18 01.2 -0.5
baz=313
Q41A Truxton 33.60 101 P P 10 18 01.1 -0.9
baz=315
D48A Paudash Townsh 33.64 82 P P 10 18 02.1 -0.1
baz=305
H47A Mio 33.82 88 P P 10 18 04.1 +0.3
baz=308
R41A Rosebud 33.99 102 P P 10 18 04.6 -0.7
baz=316
I47A Gladwin 34.01 89 P P 10 18 05.1 -0.4
baz=309
Q42A Golden Eagle 34.02 101 P P 10 18 04.9 -0.7
baz=315
CCM Cathedral Cave 34.23 103 P P 10 18 06.9 -0.6
baz=316
S41A Jillco Farms, 34.30 104 P P 10 18 05.9 -2.1
baz=316
J47A Sunmer 34.33 90 P P 10 18 07.4 -0.8
baz=310
Q43A New Douglas 34.46 100 P P 10 18 09.1 -0.3
baz=315,SNR=19
MATQ Matagami 34.50 75 P P 10 18 09.9 +0.2
baz=303,SNR=5.8
S42A Caledonia 34.69 102 P P 10 18 09.9 -1.5
baz=316
TXAR Lajitas Array 34.75 126 P P 10 18 13.0 +0.8
comp=Z,4.1nm,0.7s,baz=330,slow=7.1,SNR=32
TXAR PcP PcP 10 20 45.2 -0.4
comp=Z,1.7nm,1.0s,baz=34,slow=1.9,SNR=4.2
R43A Red Bud 34.80 101 P P 10 18 11.7 -0.7
baz=315,SNR=5.7
J48A Bridge Port 34.87 89 P P 10 18 13.4 +0.4
baz=310
L47A Sherwood 34.93 92 P P 10 18 13.7 +0.2
baz=311
W39A Magazine 34.96 109 P P 10 18 14.9 +1.1
baz=319
K48A Perry 35.00 90 P P 10 18 14.1 +0.1
baz=310,SNR=5.2
T42A Van Buren 35.06 104 P P 10 18 13.0 -1.6
baz=317
M47A Cromwell 35.10 93 P P 10 18 14.9 -0.1
baz=312
P45A Graceland, Par 35.15 97 *e*P P 10 18 15.6 +0.2
comp=Z,38nm,1.0s
P45A Graceland, Par 35.15 97 P P 10 18 14.8 -0.5
baz=314
J49A Marlette 35.20 88 P P 10 18 15.2 -0.5
baz=309,SNR=5.0
S43A Fulton Ridge, 35.23 102 P P 10 18 15.5 -0.5
baz=316,SNR=14
Q45A Warren Harvey, 35.35 98 P P 10 18 16.4 -0.7
baz=314
N47A Urbana 35.38 94 P P 10 18 16.6 -0.7
baz=312
L48A N Adams 35.38 91 P P 10 18 17.3 -0.1
baz=311,SNR=9.4
K49A Clarkson 35.39 89 P P 10 18 17.5 +0.1
baz=310
T43A Greenville 35.46 103 P P 10 18 17.4 -0.6
baz=317
WHTX Lake Whitney, 35.54 116 P P 10 18 18.7 -0.1
baz=324
MIAR Mount Ida 35.57 109 P P 10 18 18.7 -0.3
baz=320
S44A Carbondale 35.59 101 P P 10 18 18.4 -0.8
baz=316
SIUC Southern Illin 35.60 101 *e*P P 10 18 18.8 -0.5
comp=Z,21nm,1.1s
SEY Seynchan 35.63 312 P P 10 18 20.4 +1.2
comp=Z,26nm,1.2s,baz=83,slow=8.5,SNR=8.8
L49A Milan 35.65 91 P P 10 18 20.2 +0.5
baz=311,SNR=12
N48A Decatur 35.77 93 P P 10 18 20.0 -0.6
baz=312
M49A Liberty Center 35.95 92 P P 10 18 21.6 -0.6
baz=312
P47A Martinsville 36.00 96 P P 10 18 21.8 -0.8
baz=314
O48A Farmland 36.10 94 P P 10 18 21.8 -1.7
baz=313
Q47A Bedord North L 36.29 97 P P 10 18 24.5 -0.7
baz=314
E53A Dumoine, Ponti 36.41 80 P P 10 18 25.1 -1.1
baz=307
P48A Milroy 36.49 95 P P 10 18 25.6 -1.3
baz=314
E54A Lac Daplat, Po 36.64 80 P P 10 18 25.5 -2.6
baz=307
LPIG La Paz 36.65 140 P P 10 18 29.9 +1.6
comp=Z,18nm,0.4s,baz=15,slow=5.7,SNR=5.7
R47A Wooly Knot Far 36.68 98 P P 10 18 26.9 -1.6
baz=315,SNR=5.3
WCI Wyandotte Cave 36.86 98 *e*P P 10 18 26.8 -3.3
comp=Z,11µm,3.9s
WCI Wyandotte Cave 36.86 98 *e*P P 10 18 26.8 -3.3
N50A Nevada 36.88 92 P P 10 18 28.8 -1.4
baz=312
O50A Cable 37.04 93 P P 10 18 29.8 -1.8
baz=313
PET Petropavlovsk 37.20 294⇓ *e*P P 10 18 34.9 +2.2
PET pmax pmax
comp=Z,100nm,1.8s
N51A Ashland 37.22 91 P P 10 18 33.0 -0.1
baz=312
P50A Jamestown 37.30 94 P P 10 18 32.9 -0.9
baz=313
ACSO Alum Creek Sta 37.34 92 *e*P P 10 18 34.3 +0.2
comp=Z,30nm,1.1s
S48A Wiedeman Farm, 37.40 98 P P 10 18 33.8 -0.8
baz=315,SNR=10
WVT Waverly 37.51 101 P P 10 18 34.4 -1.1
baz=317
SCHQ Schefferville 37.51 62 P P 10 18 35.8 +0.3
comp=Z,17nm,0.9s,baz=296,slow=7.8,SNR=12
U47A Clarksville 37.58 101 P P 10 18 34.8 -1.3
baz=317
T48A Bowling Green 37.60 99 P P 10 18 36.4 +0.1
baz=316
O51A Pataskala 37.61 92 P P 10 18 35.7 -0.7
baz=313
PETK Petropavlovsk- 37.64 295 P P 10 18 37.3 +0.8
comp=Z,13nm,0.9s,baz=80,slow=12,SNR=8.6
MA2 Magadan 37.77 307 P P 10 18 39.5 +2.0
comp=Z,32nm,1.0s,baz=53,slow=7.8,SNR=10
MA2 Magadan 37.77 307⇓ *e*P P 10 18 39.0 +1.5
MA2 pmax pmax
comp=Z,45nm,1.0s
R50A Paris 37.92 96 P P 10 18 37.7 -1.4
baz=315
U48A Cassie Pea, Po 37.95 100 P P 10 18 38.0 -1.3
baz=316
Q51A Peebles 37.96 94 *e*P P 10 18 39.2 -0.1
comp=Z,16nm,1.0s
Q51A Peebles 37.96 94 P P 10 18 38.4 -1.0
baz=314
O52A Adamsville 38.06 91 *e*P P 10 18 40.1 -0.1
comp=Z,38nm,1.0s
O52A Adamsville 38.06 91 P P 10 18 39.7 -0.5
baz=313
N53A Lisbon 38.16 90 P P 10 18 40.2 -0.8
baz=312
O53A New Philadelph 38.33 91 P P 10 18 41.5 -0.9
baz=313,SNR=5.6
R51A Hillsboro 38.33 95 P P 10 18 41.8 -0.7
baz=314
U49A Red Boiling Sp 38.37 99 P P 10 18 42.0 -0.9
baz=316
T50A Nancy 38.53 98 P P 10 18 43.7 -0.5
baz=316,SNR=5.2
N54A Moraine State 38.54 89 P P 10 18 43.9 -0.3
baz=312
W48A Pulaski 38.73 102 P P 10 18 45.3 -0.6
baz=318
P53A Whipple 38.74 92 *e*P P 10 18 45.7 -0.2
comp=Z,43nm,0.9s
P53A Whipple 38.74 92 P P 10 18 45.4 -0.5
baz=313,SNR=9.4
O54A Avella 38.84 90 P P 10 18 46.5 -0.2
baz=313
V49A McMinnville 38.84 100 P P 10 18 46.1 -0.7
baz=317
U50A Jamestown 38.96 98 P P 10 18 46.9 -0.9
baz=316
T51A Gray 39.07 97 P P 10 18 47.5 -1.2
baz=316
X48A Hartselle 39.18 102 P P 10 18 48.5 -1.1
baz=318
N55A Marion Center 39.22 88 P P 10 18 49.1 -0.9
baz=312
MCWV Mont Chateau 39.50 90 *e*P P 10 18 52.0 -0.2
comp=Z,22nm,1.0s
MCWV Mont Chateau 39.50 90 P P 10 18 51.8 -0.4
baz=313
T52A Hallie 39.51 96 P P 10 18 52.3 0.0
baz=316
Y48A Jasper 39.51 103 P P 10 18 51.6 -0.8
baz=319
W50A Signal Mountai 39.59 100 *e*P P 10 18 52.8 -0.2
comp=Z,19nm,0.9s
W50A Signal Mountai 39.59 100 P P 10 18 52.3 -0.7
baz=317
P55A Reedsville 39.61 90 P P 10 18 52.7 -0.6
baz=313
NCB Newcomb 39.81 81 *e*P P 10 18 55.4 +0.5
comp=Z,46nm,1.4s
Q55A Buckhannon 39.82 91 P P 10 18 54.0 -1.0
baz=314,SNR=7.2
SUMG Summit 39.90 28 *e*P P 10 18 56.6 +0.9
comp=Z,54nm,1.3s
SUMG Summit 39.90 28 *i*P P 10 18 56.9 +1.2
comp=Z,112nm,1.1s
SUMG Summit 39.90 28 *e*P P 10 18 56.6 +0.9
SUMG pmax pmax
comp=Z,54nm,1.3s
Y49A Blount Mountai 39.97 102 *e*P P 10 18 55.9 -0.3
comp=Z,25nm,1.1s
Y49A Blount Mountai 39.97 102 P P 10 18 54.5 -1.8
baz=319
TIXI Tiksi 40.07 331 P P 10 18 57.4 +0.8
comp=Z,2.9nm,0.8s,baz=76,slow=9.4,SNR=9.4
TIXI Tiksi 40.07 331⇓ *e*P P 10 18 56.7 +0.1
TIXI pmax pmax
comp=Z,15nm,1.3s
X51A Calhoun 40.30 100 *e*P P 10 18 58.9 -0.1
comp=Z,44nm,0.9s
X51A Calhoun 40.30 100 P P 10 18 57.9 -1.1
baz=318
V53A Saluda 40.64 97 P P 10 19 00.3 -1.4
baz=317
149A Jones 40.71 104 P P 10 18 59.8 -2.6
baz=320
BLA Blacksburg 40.87 93 *e*P P 10 19 04.1 +0.3
comp=Z,76nm,1.2s
BLA Blacksburg 40.87 93 *e*P P 10 19 04.1 +0.3
BLA pmax pmax
comp=Z,76nm,1.2s
BLA Blacksburg 40.87 93 P P 10 19 03.3 -0.4
baz=315,SNR=5.7
Y52A Lilburn 41.27 100 P P 10 19 06.6 -0.3
baz=318
Y53A Monroe 41.54 100 P P 10 19 09.1 -0.1
baz=318,SNR=6.1
Z52A Williamson 41.57 101 P P 10 19 09.4 -0.1
baz=319
Y54A Tignall 42.03 99 P P 10 19 12.9 -0.3
baz=318
YAK Yakutsk 45.16 319 *e*P P 10 19 39.0 +1.0
YAK pmax pmax
comp=Z,38nm,0.9s
YAK pmax pmax
comp=N,13nm,1.2s
YAK pmax pmax
comp=E,11nm,1.0s
NKL Nikolayevsk 45.99 304 *e*P P 10 19 45.4 +0.7
NKL pmax pmax
comp=Z,43nm,1.0s
YSS Yuzh-Sakhalins 49.01 296⇑ *e*P P 10 20 07.6 -0.7
YSS pmax pmax
comp=Z,46nm,1.2s
ASAJ Asahikawa 51.03 293 P P 10 20 24.8 +1.2
comp=Z,13nm,0.9s,baz=333,slow=2.3,SNR=3.6
ZEA Zeya 51.61 311 *e*P P 10 20 27.9 +0.1
ZEA pmax pmax
comp=Z,28nm,1.2s
ERM Erimo 52.22 291⇓ *e*P P 10 20 32.5 0.0
ERM pmax pmax
comp=Z,56nm,1.5s
KLR Kul'dur 52.79 305 P P 10 20 37.8 +1.1
comp=Z,14nm,1.1s,baz=46,slow=8.5,SNR=24
KLR Kul'dur 52.79 305⇑ *e*P P 10 20 36.5 -0.2
BOD Bodaibo 53.76 322 *e*P P 10 20 43.5 -0.2
BOD pmax pmax
comp=Z,33nm,1.3s
ARCES ARCESS Array B 54.14 8 P P 10 20 44.9 -1.5
comp=Z,4.7nm,0.8s,baz=348,slow=8.3,SNR=3.4
USRK Ussuriysk Ar. 56.31 300 P P 10 21 02.6 +0.3
comp=Z,4.5nm,0.9s,baz=44,slow=7.2,SNR=5.0
VLA Vladivostok 57.16 299⇓ *e*P P 10 21 10.5 +2.2
VLA pmax pmax
comp=Z,103nm,1.6s
MJAR Matsushiro Arr 58.83 290 P P 10 21 20.8 +0.6
comp=Z,5.7nm,1.0s,baz=11,slow=5.0,SNR=10
MAJO Matsushiro 58.83 290 *i*P P 10 21 20.9 +0.7
MAJO pmax pmax
comp=Z,25nm,1.1s
CN2 Changchun 59.73 304 *e*P P 10 21 25.0 -1.3
CN2 pmax pmax
comp=Z,10.0nm,1.0s
NB2 NORSAR Subarra 60.50 18 P P 10 21 31.1 -0.3
comp=Z,52nm,1.4s,baz=340,slow=6.9
NB2 NORSAR Subarra 60.50 18 P P 10 21 31.1 -0.3
baz=340,slow=6.9
NOA NORSAR Array B 60.50 18 P P 10 21 31.9 +0.6
comp=Z,7.1nm,0.9s,baz=340,slow=6.8,SNR=15
KONO Kongsberg 61.50 19⇑ *e*P P 10 21 39.8 +1.7
KONO pmax pmax
comp=Z,27nm,1.2s
FINES FINESS Array B 62.13 10 P P 10 21 42.9 +0.6
comp=Z,6.7nm,0.9s,baz=29,slow=4.4,SNR=8.8
FINES FINESS Array B 62.13 10 *i*P P 10 21 45.0 +2.7
FINES pmax pmax
comp=Z,7.0nm,0.9s
PRGR Permogore 62.85 359 *e*P P 10 21 46.2 -0.9
PRGR pmax pmax
comp=Z,16nm,0.8s
MOY Mondy 63.17 324 *e*P P 10 21 51.3 +1.7
MOY pmax pmax
comp=Z,37nm,2.0s
KSRS Korea Array 63.43 298 P P 10 21 52.5 +1.1
comp=Z,7.2nm,1.0s,baz=39,slow=5.9,SNR=13
KSAR Wonju Array Be 63.46 298 P P 10 21 52.5 +1.0
KSAR Wonju Array Be 63.46 298 P P 10 21 52.5 +1.0
ZAK Zakamensk 63.49 322 *e*P P 10 21 51.9 +0.2
ZAK pmax pmax
comp=Z,6.0nm,1.3s
KLMR Klimovskoe 63.56 3 *e*P P 10 21 51.0 -0.8
KLMR pmax pmax
comp=Z,24nm,1.3s
KLMR Klimovskoe 63.56 3 *e*P P 10 21 51.1 -0.8
KLMR AMP 10 21 56.8
comp=Z,24nm,1.2s
ULN Ulaanbaatar 64.25 319⇑ *e*P P 10 21 57.1 +0.3
ULN pmax pmax
comp=Z,13nm,1.3s
SONM Songino Array 64.52 319 P P 10 21 60.0 +1.5
comp=Z,8.5nm,1.0s,baz=46,slow=7.6,SNR=44
SONM Songino Array 64.52 319 P P 10 22 00.0 +1.5
TJN Taejon 64.55 298⇑ *i*P P 10 21 59.7 +1.0
VSU Vasula 65.13 10⇓ *e*P P 10 22 02.5 +0.4
VSU pmax pmax
comp=Z,71nm,1.3s
KNGR Kungurtug, Tuv 65.20 326⇑ *i*P P 10 22 04.0 +1.1
NVS Novosibirsk 65.25 337⇓ *i*P P 10 22 02.8 -0.2
NVS pmax pmax
comp=Z,17nm,1.5s
NVS pmax pmax
comp=N,7.0nm,1.7s
NVS pmax pmax
comp=E,12nm,1.7s
JNU Nakatsue 65.31 293 P P 10 22 04.3 +0.5
comp=E,17nm,0.9s,baz=148,slow=2.9,SNR=5.6
ZALV Zalesovo Beam 65.71 335 P P 10 22 05.9 -0.1
comp=E,6.1nm,0.9s,baz=16,slow=4.9,SNR=22
ZALV Zalesovo Beam 65.71 335 *e*P P 10 22 05.5 -0.5
ZALV Zalesovo Beam 65.71 335 *e*P P 10 22 05.5 -0.5
HVS Khovu-Aksy 65.90 329⇑ *i*P P 10 22 08.2 +0.8
HVS pmax pmax
comp=Z,21nm,0.9s
SVE Sverdlovsk 66.93 351 *e*P P 10 22 13.8 0.0
SVE pmax pmax
comp=Z,24nm,1.2s
ARU Arti 67.51 352 P P 10 22 17.3 -0.1
ARU S S 10 31 13.4 +0.1
HHC Hu-ho-hao-te 68.27 311 *e*P P 10 22 17.2 -5.5
HHC pP pP 10 22 22.1 -3.6
HHC pmax pmax
comp=Z,19nm,0.7s
SNF Seneffe 68.81 26 ⇑x P 10 22 23.1 -2.7
DGZ Jazzator, Alta 68.95 332 *ce*P P 10 22 27.7 +0.9
DGZ pmax pmax
comp=Z,11nm,1.3s
MEM Membach 69.14 25 x P 10 22 31.0 +3.2
OBN Obninsk 69.19 5 *e*P P 10 22 27.1 -0.9
OBN *e* 10 22 50.9
OBN *e* 10 24 59.5
OBN *e*PPP PPP 10 26 38.7
OBN pmax pmax
comp=Z,13nm,0.4s
BRVK Borovoye 69.42 344⇓ *e*P P 10 22 29.4 0.0
BRVK pmax pmax
comp=Z,19nm,1.1s
CLL Collm 70.02 21 *e*P P 10 22 35.0 +1.8
CLL *e* 10 22 44.0
CLL Collm 70.02 21 *e*P P 10 22 35.0 +1.8
CLL *e* 10 22 44.0
ROSC El Rosal 70.03 112 P P 10 22 35.1 +1.0
comp=Z,8.9nm,0.6s,baz=165,slow=11,SNR=4.9
WLF Walferdange 70.06 26 P P 10 22 34.1 +0.7
KURK Kurchatov 70.12 338⇓ *e*P P 10 22 33.1 -0.7
KURK pmax pmax
comp=Z,20nm,1.3s
MOX Moxa 70.37 22 P P 10 22 37.4 +2.1
BRG Berggiesshubel 70.62 20 *e*P P 10 22 35.7 -1.1
comp=Z,13nm,1.4s
BRG Berggiesshubel 70.62 20 *e*P P 10 22 35.7 -1.1
BRG pmax pmax
comp=Z,13nm,1.4s
KSP Ksiaz 71.09 19 P P 10 22 41.1 +1.4
UPC Upice 71.36 19 *e*P P 10 22 43.7 +2.4
UPC *e*P P 10 22 43.8 +2.4
UPC Upice 71.36 19 *e*P P 10 22 43.7 +2.4
UPC *e* 10 22 43.8
DPC Dobruska-Polom 71.56 19 *e*P P 10 22 45.4 +2.7
DPC Dobruska-Polom 71.56 19 *e*P P 10 22 45.4 +2.7
PRU Pruhonice 71.58 20 P P 10 22 43.7 +1.0
ECH Echery 71.65 25 P P 10 22 43.4 +0.2
LPSR Galich'ya Gora 71.81 4 *e*P P 10 22 43.9 -0.1
LPSR pmax pmax
comp=Z,10.0nm,0.8s
BFO Black Forest 71.82 25 *i*P P 10 22 46.2 +2.0
OTAV Otavalo 71.85 118 P P 10 22 45.3 0.0
KRLC Kraliky 71.91 18 *e*P P 10 22 48.6 +3.8
KRLC Kraliky 71.91 18 *e*P P 10 22 48.6 +3.8
WET Wettzell 72.05 21 P P 10 22 47.3 +1.7
NJ2 Nanjing 72.21 301 *e*P P 10 22 45.8 -0.9
NJ2 pmax pmax
comp=Z,50nm,1.0s
KHC Kasperske Hory 72.21 21 *e*P P 10 22 47.6 +1.1
KHC *ex* x 10 22 50.5
KHC Kasperske Hory 72.21 21 *e*P P 10 22 47.6 +1.1
KHC *e* 10 22 50.5
MORC Moravsky Berou 72.33 18⇑ *i*P P 10 22 51.7 +4.4
MORC Moravsky Berou 72.33 18 ⇑⇑P P 10 22 51.7 +4.4
MORC Moravsky Berou 72.33 18 *e*P P 10 22 50.7 +3.4
OKC Ostrava-Krasne 72.38 18 *e*P P 10 22 48.0 +0.5
OKC Ostrava-Krasne 72.38 18 *e*P P 10 22 48.0 +0.5
SLE Schleitheim 72.39 25 P P 10 22 48.4 +0.8
TREC Trest 72.42 20 P P 10 22 49.8 +2.0
TREC pmax pmax
comp=Z,7.0nm,2.6s
GERES GERESS Array B 72.50 21 P P 10 22 49.3 +0.9
comp=Z,3.9nm,0.8s,baz=336,slow=2.9,SNR=11
VRAC Vranov 72.62 19⇑ *i*P P 10 22 49.9 +1.0
VRAC Vranov 72.62 19 ⇑⇑P P 10 22 49.9 +1.0
VRAC Vranov 72.62 19 *e*P P 10 22 49.9 +1.0
PGAV Gavieira, Arco 72.74 39 *e*P P 10 22 54.0 +4.1
KRUC Moravsky 72.82 19 P P 10 22 51.7 +1.6
KRUC Moravsky 72.82 19 *e*P P 10 22 50.8 +0.7
MKAR Makanchi Array 72.95 334 P P 10 22 51.0 0.0
comp=Z,12nm,0.8s,baz=36,slow=5.3,SNR=100
MK01 Makanchi Array 72.97 334 *e*P P 10 22 50.3 -0.8
AKASG Malin Array Be 73.04 10 P P 10 22 51.1 -0.3
comp=Z,9.1nm,0.9s,baz=355,slow=6.1,SNR=19
AKASG Malin Array Be 73.04 10 *i*P P 10 22 54.0 +2.6
AKASG pmax pmax
comp=Z,9.0nm,0.8s
AKBB Malin Array Si 73.04 10 *e*P P 10 22 51.0 -0.4
comp=Z,19nm,1.1s
KIEV Kiev 73.04 10 *e*P P 10 22 50.7 -0.7
comp=Z,20nm,1.2s
KIEV Kiev 73.04 10⇓ *e*P P 10 22 50.9 -0.5
KIEV pmax pmax
comp=Z,7.0nm,1.0s
NIE Niedzica 73.14 16 P P 10 22 54.8 +2.7
DAVA Damuels 73.16 24 *i*P P 10 22 54.9 +2.5
comp=Z,7.9nm,1.2s
VSR Storozhevoye 73.20 4 *e*P P 10 22 51.4 -0.9
VSR pmax pmax
comp=Z,10.0nm,1.6s
VRH Novokhopyorsk 73.28 2 *e*P P 10 22 52.2 -0.6
VRH pmax pmax
comp=Z,10.0nm,0.6s
MOTA Moosalm 73.38 23 *e*P P 10 22 54.3 +0.7
comp=Z,1.9nm,0.6s
PBRG Braganca 73.41 38 *e*P P 10 22 56.1 +2.3
POLO Lamas de Olo 73.42 39 *e*P P 10 22 54.6 +0.6
WATA Walderalm 73.49 23 *e*P P 10 22 56.2 +1.9
comp=Z,13nm,1.1s
SQTA Sankt Quirin 73.52 23 *e*P P 10 22 55.8 +1.4
comp=Z,15nm,2.0s
PVRL Vila Real 73.54 39 *e*P P 10 22 59.1 +4.5

WTTA	Wattenberg	73.58	23	eP	P	10 22 56.2	+1.3
	comp=Z,15nm,1.3s						
FETA	Feichten	73.60	23	eP	P	10 22 56.2	+1.2
	comp=Z,8.2nm,1.2s						
MODS	Modra-Piesok	73.64	19	eP	P	10 22 55.7	+0.7
MODS				pmax	pmax		
	comp=Z,29nm,1.5s						
MODS	Modra-Piesok	73.64	19	eP	P	10 22 55.7	+0.7
VYHS	Vyhne	73.80	18	eP	P	10 22 56.2	+0.3
VYHS				e		10 23 00.2	
VYHS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VYHS	Vyhne	73.80	18	eP	P	10 22 56.2	+0.3
VYHS				esP	sP	10 23 00.2	0.0
CONA	Conrad Observa	73.81	20	eP	P	10 22 57.2	+1.1
	comp=Z,12nm,1.0s						
MVO	Moncorvo	73.88	38	eP	P	10 22 59.6	+3.0
PVIS	Viseu	73.97	39	eP	P	10 23 00.7	+3.6
GTA	Gaotai	74.19	319	⇑P	P	10 22 59.0	+0.5
GTA				pP	sP	10 23 03.3	+0.6
GTA				sP	pP	10 23 05.9	+4.4
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
WMQ	Urumqi	74.25	329	eP	P	10 22 55.8	-2.9
WMQ				pP	pP	10 22 59.9	-1.9
ABTA	Abfaltersbach	74.25	22	eP	P	10 23 00.2	+1.5
	comp=Z,5.3nm,0.9s						
PCAS	Casmilo, Conde	74.34	40	eP	P	10 23 02.9	+3.7
MTE	Manteigas	74.38	39	eP	P	10 23 01.1	+1.6
ARSA	Arzberg	74.39	20	epP	P	10 22 58.8	-0.6
	comp=Z,12nm,1.3s						
SOKA	Soboth	74.84	21	eP	P	10 23 02.5	+0.4
	comp=Z,14nm,1.2s						
PCBR	Castelo Branco	74.89	39	eP	P	10 23 03.8	+1.4
OBKA	Obir	74.91	21	eP	P	10 23 03.1	+0.6
	comp=Z,16nm,0.9s						
XAN	Xi'an	75.13	309	P	P	10 23 03.7	-0.2
XAN				pmax	pmax		
	comp=Z,17nm,1.6s						
LZH	Lanzhou	75.51	314	eP	P	10 23 07.3	+1.0
LZH				pP	sP	10 23 11.3	+0.9
LZH				sP	pP	10 23 13.8	+4.5
LZH				pmax	pmax		
	comp=Z,29nm,1.2s						
BURAR	Bucovina Array	75.62	13	⇑iP	P	10 23 07.0	+0.4
BURAR	Bucovina Array	75.62	13	⇑P	P	10 23 07.0	+0.4
PESTR	Estremoz	75.72	40	eP	P	10 23 06.7	-0.5
ESDC	Sonseca Array	76.26	37	P	P	10 23 10.9	+0.6
	comp=Z,8.4nm,0.9s,baz=330,slow=5.6,SNR=21						
BIZ	Bicaz	76.39	13	⇓iP	P	10 23 12.2	+1.3
PDGK	Podgornoye	76.89	335	P	P	10 23 13.7	-0.2
BZS	Buzias	77.05	16	⇑iP	P	10 23 15.3	+0.7
BZS	Buzias	77.05	16	⇑P	P	10 23 15.3	+0.7
DOPR	Dopca	77.26	14	⇑iP	P	10 23 16.8	+1.0
GZR	Gura Zlata	77.45	16	⇑iP	P	10 23 17.4	+0.5
GZR	Gura Zlata	77.45	16	⇑P	P	10 23 17.4	+0.5
PLOR	Plostina	77.53	13	⇑iP	P	10 23 18.1	+0.7
PLOR	Plostina	77.53	13	⇑P	P	10 23 18.1	+0.7
VOIR		77.73	14	⇑iP	P	10 23 19.0	+0.5
VOIR		77.73	14	⇑P	P	10 23 19.0	+0.5
ARR	Arges	77.74	14	⇓iP	P	10 23 19.1	+0.5
MDVR	Moldovita	77.88	17	⇑iP	P	10 23 20.9	+1.6
USP	Ospenovka	78.07	338	P	P	10 23 20.8	+0.4
	SNR=11						
TKM2	Tokmak 2	78.17	337	P	P	10 23 22.3	+1.1
	SNR=16						
CHMS	Chumysh	78.28	338	P	P	10 23 22.2	+0.7
	SNR=9.7						
CFR	Carcaliu	78.38	12	P	P	10 23 21.7	-0.3
KBK	Karagaybulak	78.56	338	P	P	10 23 23.9	+0.6
	SNR=15						
ULHL	Ulahol	78.67	337	P	P	10 23 24.9	+0.9
	SNR=6.9						
AAK	Ala-Archa	78.68	338	P	P	10 23 25.0	+1.0
	SNR=11						
AAK	Ala-Archa	78.68	338	⇑iP	P	10 23 24.8	+0.9
AAK				pmax	pmax		
	comp=Z,29nm,1.7s						
EKS2	Erkin-Say	78.80	339	P	P	10 23 25.4	+0.8
	SNR=18						
KZA	Kyzart	79.05	337	P	P	10 23 27.4	+1.1
	SNR=11						
AML	Almayashu	79.33	338	P	P	10 23 29.0	+1.2
	SNR=18						
VTS	Vitosha	80.25	16	⇑iP	P	10 23 31.7	-0.8
VTS	Vitosha	80.25	16	⇑P	P	10 23 31.7	-0.8
KIV	Kislovodsk	80.55	1	eP	P	10 23 34.1	+0.1
KIV				e		10 23 40.9	
KIV				e		10 26 38.7	
KIV				ePPP	PPP	10 28 24.4	
KIV				pmax	pmax		
	comp=Z,26nm,1.7s						
KBZ	Khabaz	80.78	1	P	P	10 23 36.0	+0.9
	comp=Z,2.8nm,0.4s,baz=327,slow=5.4,SNR=9.4						
KBZ	Khabaz	80.78	1	P	P	10 23 36.0	+0.9
NCK	Nalchik	81.02	1	⇑iP	P	10 23 36.3	-0.1
NCK				pmax	pmax		
	comp=Z,8.0nm,0.3s						
NEY	Neytrino	81.25	1	⇓eP	P	10 23 38.9	+1.0
NEY				pmax	pmax		
	comp=Z,8.0nm,1.8s						
KSH	Kashi	81.33	336	P	P	10 23 41.6	+3.3
KSH				pmax	pmax		
	comp=Z,71nm,1.2s						
SFK	Sufi-Kurgan	81.40	338	P	P	10 23 39.1	+0.3
SFK				pmax	pmax		
	comp=Z,44nm,0.9s						
KNT	Kendrikon	81.60	16	P	P	10 23 40.3	+0.8
FNA	Florina	81.71	18	P	P	10 23 40.5	+0.3
GRG	Griva	81.72	17	P	P	10 23 40.4	+0.2
ZEI	Tsey	81.73	1	eP	P	10 23 42.2	+1.8
ZEI				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KEST	Kesra	83.92	28	P	P	10 23 56.2	+4.4
	comp=Z,7.2nm,0.9s,baz=359,slow=2.1,SNR=5.4						
BRTR	Keskin Array B	84.33	9	P	P	10 23 53.9	0.0
	comp=Z,4.2nm,0.9s,baz=2.9,slow=2.5,SNR=12						
KMI	Kunming	85.51	309	P	P	10 23 54.4	-5.7
KMI				pmax	pmax		
	comp=Z,11nm,0.5s						
GEYT	Alibeck	85.88	349	P	P	10 24 01.9	+0.3
	comp=Z,4.1nm,0.8s,baz=336,slow=3.3,SNR=7.0						
KBL	Kabul	87.59	340	P	P	10 24 09.9	-0.3
LPAZ	La Paz	91.16	118	P	P	10 24 26.1	-1.4
	comp=Z,1.1nm,0.7s,baz=345,slow=5.1,SNR=4.1						
PAYA	Payao	91.82	309	P	P	10 24 31.6	+1.6
CMMT	Chiang Mai	92.70	310	P	P	10 24 34.9	+0.8
CHTO	Chiang Mai	92.70	310	P	P	10 24 35.0	+0.9
CHTO	Chiang Mai	92.70	310	P	P	10 24 35.0	+0.9
CMAR	Chiang Mai Arr	93.02	310	P	P	10 24 36.0	+0.5
	comp=Z,9.3nm,1.0s,baz=7.9,slow=4.8,SNR=37						
CMAR	Chiang Mai Arr	93.02	310	i P	P	10 24 36.2	+0.7
CMAR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CM01	Chiang Mai Arr	93.05	309	eP	P	10 24 35.1	-0.5
PBKT	Sadao Pong	93.78	307	P	P	10 24 40.1	+1.1
CPUP	Villa Florida	105.02	115	P	Pdif	10 25 30.9	+1.8
KMBO	Kilima Mbogo	125.11	9	PKP	PKiKP	10 30 23.2	+0.1
	comp=Z,2.6nm,0.8s,baz=60,slow=20,SNR=3.3						
BOSA	Boshof	149.43	35	PKP	PKPdf	10 31 05.8	-0.5
	comp=Z,14nm,0.9s,baz=39,slow=12,SNR=5.4						
BOSA				PKPbc	pPKPdf	10 31 10.2	+0.5
	comp=Z,16nm,1.0s,baz=344,slow=3.1,SNR=13						

*ISCJB **05** 10:11:32.2±0.3, 43.°80N±0.°01×20.°67E±0.°02, h4km±2km, Error ellipse: s-maj=2.2km s-min=1.8km az=144.6*
*PDG **05** 10:11:32.5±0.4, 43.°78N×20.°69E, h12km, MD3.3/1, ML3.1/9, Error ellipse: s-maj=0.6km s-min=1.0km az=0.0*
*SAR **05** 10:11:33.4±0.6, 43.°78N×20.°67E, h8km±2km, ML3.4/1*
*BEO **05** 10:11:33.5±0.2, 43.°75N×20.°67E, h7km±1km, ML2.9/20*
ISC 05 10:11:33.2±0.8**, 43.°77N**±0.°01×**20.°66E**±0.°01**, h13**km±6km**, n118, σ1§24**/182**, 13C-21D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRUS	Gruza	0.13	18	ePg	Pg	10 11 36.3	-0.3
GRUS				eSg	Sg	10 11 40.1	+1.1
IVAS	Ivanjica	0.41	243	ePg	Pg	10 11 40.2	-1.3
IVAS				eSg	Sg	10 11 47.1	+0.1
TRUS	Trudelj	0.49	338	ePg	Pg	10 11 42.4	-0.5
TRUS				eSg	Sb	10 11 51.4	+0.4
DIVS	Divibare	0.58	305	ePg	Pg	10 11 43.6	-1.1
DIVS				eSg	Sb	10 11 53.8	+0.1
DIVS	Divibare	0.58	305	ePg	Pg	10 11 43.9	-0.8
DIVS				eSg	Sg	10 11 52.6	+0.1
SELS	Selova	0.64	148	ePg	Pg	10 11 44.4	-1.3
SELS				eSg	Sb	10 11 54.8	-0.4
SVIS	Svilajnac	0.64	39	ePg	Pg	10 11 44.8	-0.9
SVIS				eSg	Sg	10 11 54.3	+0.1
SJES	Sjenica	0.71	225	ePg	Pg	10 11 46.4	-0.6
SJES				eSg	Sg	10 11 56.3	-0.1
BOVS	Bovan	0.77	99	ePg	Pg	10 11 47.7	-0.5
BOVS				eSg	Sb	10 11 58.8	-0.1
BBLS	Lazići	0.91	277	ePg	Pg	10 11 50.0	-0.8
BBLS				eSg	Sb	10 12 04.0	+0.9
BBLS	Lazići	0.91	277	ePg	Pg	10 11 50.1	-0.8
BBLS				eSg	Sg	10 12 02.7	-0.1
KUBS	Kucevo	0.98	48	ePg	Pg	10 11 50.7	-1.4
KUBS				eSg	Sg	10 12 04.4	-0.4
PLE	Pljevlja	1.02	245	⇑iPg	Pg	10 11 52.2	-0.7
PLE				eSg	Sn	10 12 08.9	+1.2
BEO	Beograd	1.05	353	ePg	Pb	10 11 52.0	-1.3
BEO				eSg	Sb	10 12 06.9	-0.1
IVA	Berane	1.05	212	⇓iPg	Pb	10 11 52.8	-0.6
IVA				eSg	Sn	10 12 09.2	+0.8
TEKS	Tekeris	1.13	314	ePg	Pb	10 11 54.7	0.0
TEKS				eSg	Sn	10 12 10.7	+0.5
TEKS	Tekeris	1.13	314	ePg	Pb	10 11 54.2	-0.5
TEKS				eSg	Sb	10 12 08.9	-0.4
ZAGS	Zajecar	1.14	87	ePg	Pb	10 11 54.7	-0.1
ZAGS				eSg	Sb	10 12 09.6	0.0
KOME	Kolasin	1.24	223	⇓iPg	Pn	10 11 55.5	-0.9
KOME				eSg	Sg	10 12 15.3	+2.1
MDVR	Moldovita	1.27	36	⇑iP	Pg	10 11 57.5	-0.1
MDVR	Moldovita	1.27	36	S	Sg	10 12 15.6	+1.5
BARS	Barje	1.27	138	ePg	Pn	10 11 51.7	-5.0
BARS	Barje	1.27	138	ePg	Pn	10 11 56.4	-0.3
BARS				eSg	Sb	10 12 05.8	-7.5
BARS				eSg	Sn	10 12 13.4	-0.3
HAPS	Han Pijesak,Bl	1.27	285	ePg	Pn	10 11 56.0	-0.9
HAPS				eSg	Sg	10 12 15.3	+0.9
HAPS	Han Pijesak,Bl	1.27	285	ePg	Pn	10 11 55.8	-1.1
HAPS				eSg	Sn	10 12 14.4	+0.5
PVY	Plav	1.28	204	⇓iPg	Pn	10 11 56.7	-0.2
PVY				eSg	Sg	10 12 16.9	+2.5
UPM	Unac-Piva	1.40	247	⇑iPg	Pn	10 11 58.8	+0.2
UPM				eSg	Sg	10 12 20.2	+2.0
UPM	Unac-Piva	1.40	247	ePg	Pn	10 11 58.6	0.0
UPM				eSg	Sg	10 12 18.3	+0.1
FRGS	Fruska Gora	1.52	337	ePg	Pg	10 12 02.0	-0.4
FRGS				eSg	Sg	10 12 22.4	+0.3
FRGS	Fruska Gora	1.52	337	ePn	Pb	10 12 01.0	-0.3
FRGS				eSn	Sb	10 12 20.4	-0.1
ZAPS	Zavoj	1.52	108	ePg	Pn	10 12 00.8	+0.6
ZAPS				eSg	Sb	10 12 20.9	+0.4
NKME	Niksic	1.60	232	⇑iPn	Pb	10 12 02.4	-0.2
NKME				eSn	Sg	10 12 25.4	+0.8
DJES	Djerdap	1.61	55	ePg	Pb	10 12 02.4	-0.5
DJES				eSg	Sg	10 12 25.2	+0.1
BANR	Banloc	1.65	12	⇓iP	Pg	10 12 04.8	-0.1
BANR	Banloc	1.65	12	S	Sg	10 12 28.9	+2.5
HERR	Herculane	1.68	48	⇑iP	Pn	10 12 02.9	+0.5
HERR	Herculane	1.68	48	S	Sg	10 12 27.5	+0.1
PDG	Podgorica	1.69	218	ePn	Pb	10 12 04.1	0.0
PDG				eSn	Sn	10 12 24.7	+0.9
PDG	Podgorica	1.69	218	⇓iP	Pb	10 12 04.8	+0.7
PDG	Podgorica	1.69	218	S	Sb	10 12 25.0	-0.2
PDG	Podgorica	1.69	218	ePn	Pb	10 12 03.7	-0.4
PDG				eSn	Sb	10 12 24.9	-0.2
TTG	Podgorica	1.69	218	⇑iPn	Pb	10 12 04.0	0.0
TTG				eSn	Sg	10 12 27.8	+0.4
PUNG	Punghina	1.72	72	⇓iP	Pn	10 12 03.6	+0.7
PUNG	Punghina	1.72	72	S	Sb	10 12 25.8	-0.4
CEME	Cevo	1.76	227	⇓iPn	Pn	10 12 04.0	+0.5
CEME				eSn	Sg	10 12 29.4	-0.5
BRY	Bratogost	1.77	242	⇑iPn	Pn	10 12 04.5	+0.8
BRY				eSn	Sg	10 12 29.7	-0.5
BRY	Bratogost	1.77	242	ePn	Pn	10 12 03.5	-0.2
BRY				eSn	Sn	10 12 27.4	+1.2
SKO	Skopje	1.88	162	ePn	Pn	10 12 05.3	+0.2
SKO	Skopje	1.88	162	i Pn	Pn	10 12 06.2	+1.0
DRME	Dracevica, Mon	1.91	215	⇑iPn	Pb	10 12 07.5	-0.5
DRME				eSn	Sb	10 12 32.5	+0.7
DRME	Dracevica, Mon	1.91	215	ePn	Pn	10 12 06.7	+1.1
DRME				eSn	Sn	10 12 30.3	+0.8
BUM	Brajici-Budva	1.95	222	⇓iPn	Pn	10 12 06.9	+0.7
BUM				eSn	Sb	10 12 33.8	+0.8
BZS	Buzias	1.97	20	ePn	Pn	10 12 06.0	-0.3
BZS				eSn	Sb	10 12 33.5	0.0
BZS	Buzias	1.97	20	⇓iP	Pn	10 12 06.1	-0.3
BZS	Buzias	1.97	20	S	Sg	10 12 36.5	-0.2
TREB	Trebinje	1.99	239	ePn	Pn	10 12 08.0	+1.4
TREB				eSn	Sb	10 12 33.0	-0.9
SRE	Strehaia	2.04	63	⇓iP	Pb	10 12 10.3	+0.2
SRE	Strehaia	2.04	63	S	Sg	10 12 40.3	+1.5
HCY	Herceg Novi	2.06	231	⇓iPn	Pn	10 12 08.8	+1.2
HCY				eSn	Sb	10 12 36.6	+0.5
HCY	Herceg Novi	2.06	231	ePn	Pn	10 12 09.0	+1.4
HCY				eSn	Sn	10 12 33.9	+0.7
ULC	Ulcinj	2.08	210	⇓iPn	Pn	10 12 09.0	+1.1
ULC				eSn	Sb	10 12 36.8	+0.2
VTS	Vitosha	2.20	121	ePn	Pn	10 12 09.8	+0.1
VTS				eSn	Sn	10 12 37.8	+0.9
VTS	Vitosha	2.20	121	⇓iP	Pn	10 12 08.8	-0.9
VTS	Vitosha	2.20	121	S	Sn	10 12 36.3	-0.6
VTS	Vitosha	2.20	121	eP	Pn	10 12 08.0	-1.7
GZR	Gura Zlata	2.22	42	⇓iP	Pn	10 12 10.1	+0.2
GZR	Gura Zlata	2.22	42	S	Sn	10 12 38.0	+0.7
MPEP	Malo Peshtene	2.28	99	i P	Pn	10 12 11.6	+1.0
STON	Ston	2.34	249	ePn	Pn	10 12 12.7	+1.4
STON				Sn	Sb	10 12 43.0	-1.0
STIP	Stip	2.36	151	i Pn	Pn	10 12 11.2	-0.4
KRUS	Krusevo	2.44	169	i Pn	Pn	10 12 13.0	+0.2
SIRR	Siria	2.60	15	⇑iP	Pb	10 12 18.0	-1.7
SIRR	Siria	2.60	15	S	Sg	10 12 56.4	-0.4
DEV	Deva	2.65	36	⇓iP	Pn	10 12 16.9	+1.2
DEV	Deva	2.65	36	S	Sg	10 12 58.6	+0.2
BLY	Banja Luka	2.68	293	ePn	Pn	10 12 17.4	+1.3
BLY				eSn	Sb	10 12 51.6	-2.3
BLY	Banja Luka	2.68	293	⇓iP	Pn	10 12 17.7	+1.6
BLY	Banja Luka	2.68	293	S	Sb	10 12 52.7	-1.2
BLY	Banja Luka	2.68	293	ePn	Pn	10 12 17.2	+1.1
BLY				eSn	Sn	10 12 49.9	+1.4
VLAD	Vladila	2.72	84	S	Sg	10 13 01.4	+0.9
LOT	Lotru	2.79	52	⇓iP	Pn	10 12 18.8	+1.1
LOT	Lotru	2.79	52	S	Sb	10 12 59.5	+2.4
VAY	Valandovo	2.82	149	ePn	Pn	10 12 18.2	+0.2
VAY	Valandovo	2.82	149	i Pn	Pn	10 12 18.1	0.0
MORH	Mrgy, Hungar	2.84	330	ePn	Pn	10 12 18.2	0.0
MORH				eSn	Sn	10 12 53.1	+0.9
MORH	Mrgy, Hungar	2.84	330	ePn	Pn	10 12 17.1	-1.1
MORH				eSg	Sn	10 12 35.1	-17
MORH				Sn	Sb	10 12 54.1	-4.2
MMB	Musomiste	3.14	133	eP	Pn	10 12 22.0	-0.4
HUMR	Humele	3.20	75	⇑iP	Pn	10 12 20.7	-2.6
HUMR	Humele	3.20	75	S	Sg	10 13 16.6	+0.5
ARR	Arges	3.26	59	⇑iP	Pn	10 12 25.3	+1.1
ARR	Arges	3.26	59	S	Sn	10 13 05.1	+2.2
DRGR		3.35	25	⇑iP	Pn	10 12 26.7	+1.3
DRGR		3.35	25	S	Sn	10 13 04.6	-0.6
VOIR		3.55	60	⇓iP	Pn	10 12 29.9	+1.7
VOIR		3.55	60	S	Sn	10 13 10.5	+0.4
CJR	Cluj-Napoca	3.60	34	⇓iP	Pn	10 12 30.9	+2.0
CJR	Cluj-Napoca	3.60	34	S	Sg	10 13 28.3	-0.7
TIH	Tihany	3.69	329	ePn	Pn	10 12 29.1	-0.9
TIH				Sn	Sn	10 13 11.0	-2.3
BEHE	Becsehely	3.86	316	ePn	Pn	10 12 32.4	+0.1
BEHE				eSn	Sn	10 13 17.4	0.0
BEHE	Becsehely	3.86	316	ePn	Pn	10 12 32.1	-0.2
BEHE				eSn	Sn	10 13 17.1	-0.4
BEHE				eSg	Sg	10 13 40.0	+3.0
DOPR	Dopca	4.02	55	⇑iP	Pn	10 12 36.1	+1.6
PSZ	Piszkesteto	4.19	353	⇓iP	Pn	10 12 39.4	+2.5
PSZ	Piszkesteto	4.19	353	ePn	Pn	10 12 37.0	+0.1
PSZ				Sn	Sn	10 13 26.1	+0.4
CRES	Cresnjev	4.24	301	ePn	Pn	10 12 37.6	+0.1
NVLJ	Novalja	4.24	283	ePn	Pn	10 12 38.7	+1.2
NVLJ				Sn	Sn	10 13 28.9	+2.1
CEY	Cerknica	4.86	296	ePn	Pn	10 12 46.0	0.0
CEY				eSn	Sn	10 13 41.2	-1.0
VYHS	Vyhne	4.90	346	ePN	Pn	10 12 46.9	+0.3
VYHS				eSN	Sn	10 13 44.3	+1.2
SOKA	Soboth	4.93	308	i Pn	Pn	10 12 46.8	-0.2
	0.2nm,0.1s						
SOKA				eSn	Sn	10 13 42.4	-1.5
	2.1nm,0.3s						
BURAR	Bucovina Array	5.00	38	⇓iP	Pn	10 12 49.6	+1.5
ARSA	Arzberg	5.02	316	i Pn	Pn	10 12 48.3	+0.1
	1.4nm,0.1s,SNR=7.6						
ARSA				eSn	Sn	10 13 43.7	-2.3
	4.0nm,0.4s						
OBKA	Obir	5.12	305	i Pn	Pn	10 12 51.1	+1.4
	0.6nm,0.1s						
OBKA				eSn	Sn	10 13 46.9	-1.8
	3.2nm,0.4s						
MODS	Modra-Piesok	5.17	334	ePN	Pn	10 12 51.1	+0.7
MODS				eSN	Sn	10 13 51.5	+1.6
CONA	Conrad Observa	5.34	323	i Pn	Pn	10 12 52.9	+0.1
	0.6nm,0.2s						
CONA				i Sn	Sn	10 13 56.0	+1.8
	2.1nm,0.3s						
MYKA	Terra Mystica	5.73	302	i Sn	Sn	10 14 02.5	-1.1
	2.5nm,0.4s						
ABTA	Abfaltersbach	6.48	300	i Pn	Pn	10 13 10.1	+1.8
	0.3nm,0.1s						
ABTA				i Sn	Sn	10 14 21.1	-1.1
	1.1nm,0.3s						
WATA	Walderalm	7.31	302	i Pn	Pn	10 13 21.5	+1.7
SQTA	Sankt Quirin	7.48	301	i Pn	Pn	10 13 22.1	-0.1
FETA	Feichten	7.71	298	ePn	Pn	10 13 28.2	+2.9
	1.2nm,0.3s						

ATH 05 10:20:29.6, 40.°69N×23.°37E, h9km±5km, ML1.3/2, Error ellipse: s-maj=5.5km s-min=1.1km az=292.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOH	Sokhos	0.14	355	P	Pg	10 20 32.8	+0.2
SOH				S	Sg	10 20 34.8	-0.1
SOH				AML	AML	10 20 35.1	
	comp=E,698μm,0.3s						
SOH				AML	AML	10 20 35.5	
	comp=N,558μm,0.2s						
HORT	Hortiatis	0.23	247	P	Pg	10 20 34.6	+0.4
HORT				S	Sg	10 20 37.4	+0.1
HORT				AML	AML	10 20 38.6	
	comp=N,152μm,0.1s						
HORT				AML	AML	10 20 39.0	
	comp=E,184μm,0.2s						
THE	Thessaloniki	0.31	260	P	Pg	10 20 36.3	+0.5
THE				S	Sg	10 20 40.3	+0.3
PLG	Polygyros	0.32	170	P	Pg	10 20 36.2	+0.3
PLG				S	Sg	10 20 40.0	-0.1
SRS	Serrai	0.46	21	P	Pg	10 20 38.2	-0.4
KNT	Kendrikon	0.59	323	P	Pg	10 20 40.9	-0.2
KNT				S	Sg	10 20 48.8	-0.1
PAIG	Paliouri	0.80	163	P	Pg	10 20 43.9	-1.0
THAS	Thassos island	1.03	94	P	Pb	10 20 49.5	-0.1
THAS				S	Sb	10 21 03.0	-0.1

*KRSC **05** 10:21:04.3±1.6, 53.°44N×157.°49E, h291km±16km, ML3.9*
*IDC **05** 10:21:04.9±1.2, 53.°40N×156.°88E, h286km±13km, mb2.8/5, mb1 3.0/5, mb1mx2.7/46, mbtmp3.5/5, Error ellipse: s-maj=47.9km s-min=19.5km az=178.0*
*ISCJB **05** 10:21:05.6±0.7, 53.°49N±0.°08×157.°6E±0.°2, h285km±6km, mb3.0/5, Error ellipse: s-maj=18.6km s-min=10.0km az=28.5*
ISC 05 10:21:05.2±0.9**, 53.°50N**±0.°08×**157.°3E**±0.°1**, h282**km±8km**, n28, σ1§37**/35**, mb2.9**/5**, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNL	Ganaly	0.42	62	eP	Pn	10 21 42.6	+0.9
PETK	Petropavlovsk-	0.45	150	P	Pn	10 21 42.5	+0.7
	14nm,0.3s,baz=46,slow=6.2,SNR=440						
APC	Apacha	0.58	190	eP	Pn	10 21 42.3	+0.3
KRX	Arik	0.81	100	eP	Pn	10 21 43.8	+0.8
KRMR	Karymshinskiy	0.83	144	eP	Pn	10 21 43.4	+0.5
KRMR				eS	S	10 22 13.0	+0.2
AVH	Avacha	0.88	105	eP	Pn	10 21 44.2	+1.0
SMAR	Somma	0.92	104	eP	Pn	10 21 44.6	+1.1
PET	Petropavlovsk	0.93	120	eP	Pn	10 21 43.5	+0.2
UGLR	Uglovaya	0.95	107	eP	Pn	10 21 44.6	+1.1
SDLR	Sedlovina	0.96	103	eP	Pn	10 21 44.1	+0.5
MTVR	Mutnovka	1.15	153	eP	Pn	10 21 45.6	+1.0
MTVR				eS	S	10 22 17.1	+1.2
NLC	Nalytchevo	1.26	104	eP	Pn	10 21 45.5	+0.5
NLC				eS	S	10 22 16.9	+0.3
RUS	Russkaya	1.29	146	eP	Pn	10 21 45.2	0.0
RUS				eS	S	10 22 16.3	-0.7
SPN	Mys Shipunski	1.67	103	eP	Pn	10 21 47.5	-0.3
SPN				eS	S	10 22 20.0	-1.6
KDTR	Khodutka, Kamc	1.76	164	eP	Pn	10 21 47.7	-0.8
KDTR				eS	S	10 22 20.3	-2.5
TUMR	Tumrok	2.43	42	eP	Pn	10 21 55.9	+1.7
ESO	Esso	2.56	18	eP	Pn	10 21 56.0	+0.7
MKZ	Mys Kozlova	2.81	66	S	S	10 22 37.0	-2.5
SRDR	Sredinnyy	3.14	25	eP	Pn	10 22 02.3	+1.2
BDR	Baidarnaya	3.80	34	eP	Pn	10 22 08.9	+0.7
SRKR	Sorokina	3.86	33	eP	Pn	10 22 08.5	-0.3
SMKR	Semkarok	3.90	36	eP	Pn	10 22 09.9	+0.6
KBTR	Krutoberegovo	4.18	47	eP	Pn	10 22 12.5	+0.2
KBTR				eS	S	10 23 02.1	-4.0
TIXI	Tiksi	22.02	336	P	P	10 25 35.6	-0.6
	1.9nm,0.4s,baz=137,slow=9.2,SNR=9.5						
ILAR	Eielson Array	29.71	46	P	P	10 26 46.2	+1.2
	0.2nm,0.6s,baz=266,slow=5.8,SNR=4.8						
YKA	Yellowknife Ar	43.98	42	P	P	10 28 45.4	+1.0
	0.2nm,0.5s,baz=302,slow=6.9,SNR=8.0						
MKAR	Makanchi Array	46.47	294	P	P	10 29 01.7	-2.4
	0.5nm,0.5s,baz=56,slow=6.8,SNR=15						
TXAR	Lajitas Array	71.99	65	P	P	10 32 00.1	+1.7
	0.1nm,0.4s,baz=302,slow=5.3,SNR=3.7						

*IDC **05** 10:25:20.9±1.8, 38.°72N×143.°35E, h0km, mb3.7/6, mb1 3.8/8, mb1mx3.5/57, mbtmp3.7/8, ML3.2/2, Error ellipse: s-maj=49.6km s-min=20.7km az=73.0*
*JMA **05** 10:25:23.4±0.1, 38.°68N×143.°01E, h13km±2km, M4.1*
ISC 05 10:25:22.1±2.0**, 38.°71N**±0.°04×**143.°00E**±0.°07**, h2**km±11km**, n25, σ1§47**/37**, mb3.7**/6**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	1.10	290	P	Pn	10 25 44.3	-0.3
OFUJ				eS	Sn	10 25 59.0	-1.3
JKMT	Kesennumamotoy	1.19	275	P	Pg	10 25 45.6	+0.6
JKMT				eS	Sn	10 26 01.3	-1.4
MIYJ	Miyakonagasawa	1.26	314	P	Pg	10 25 46.6	+0.4
MIYJ				eS	Sn	10 26 03.1	-1.1
JIKH	Ishinomakikobu	1.27	252	P	Pg	10 25 46.4	0.0
JIKH				S	Sn	10 26 02.9	-1.5
JIO	Ouri	1.32	259	P	Pg	10 25 47.2	-0.2
JIO				eS	Sn	10 26 04.1	-1.6
JMK	Ichinoseki	1.41	280	P	Pg	10 25 49.1	0.0
JMK				S	Sg	10 26 07.5	+0.1
JOM	Ohasama	1.53	300	P	Pg	10 25 51.1	-0.3
JOM				S	Sg	10 26 11.4	+0.2
JOU	Okura	1.86	260	P	Pb	10 25 56.3	-0.6
JOU				S	Sb	10 26 20.6	0.0
JMM	Marumori	1.93	245	P	Pn	10 25 56.1	+0.1
JMM				eS	Sn	10 26 20.1	-0.7
JRG	Rokugo	1.96	291	P	Pb	10 25 58.5	-0.1
JANG	Nango	2.01	326	P	Pb	10 25 58.0	-1.5
JYK	Kaneyama	2.07	276	P	Pb	10 25 59.6	-0.8
JFK	Kawauchi	2.15	232	P	Pn	10 25 58.5	-0.5
JFK				eS	Sn	10 26 24.9	-1.4
JAH	Hinai	2.35	310	P	Pb	10 26 04.7	-0.4
JAH				eS	Sb	10 26 35.0	+0.4
JYS	Shirataka	2.35	259	P	Pb	10 26 03.5	-1.8
JFT	Otama	2.41	241	P	Pb	10 26 03.7	-2.6
MJAR	Matsushiro Arr	4.38	242	Pn	Pn	10 26 33.3	+3.7
	2.1nm,0.3s,baz=55,slow=8.9,SNR=23						
MAT	Matsushiro	4.38	242	P	Pn	10 26 33.4	+3.7
MAT				eS	Sn	10 27 24.7	+3.5
ASAJ	Asahikawa	5.41	357	Pn	Pn	10 26 44.5	+0.7
	0.5nm,0.3s,baz=253,slow=19,SNR=6.0						
SONM	Songino Array	27.94	301	P	P	10 31 15.4	+1.5
	1.0nm,0.7s,baz=98,slow=8.3,SNR=5.7						

MKAR	Makanchi Array	44.31	301	P	P	10 33 32.7	-0.7
	0.3nm,0.5s,baz=91,slow=9.9,SNR=6.7						
KURBB	Kurchatov Arra	45.98	307	P	P	10 33 47.2	+0.7
	1.3nm,0.5s,baz=81,slow=8.5,SNR=2.9						
BVAR	Borovoye Array	50.38	312	P	P	10 34 21.4	+0.8
	0.4nm,0.5s,baz=58,slow=6.6,SNR=4.1						
WRA	Warramunga Arr	58.91	190	P	P	10 35 22.2	-0.5
	0.9nm,0.7s,baz=7.6,slow=7.2,SNR=16						
ASAR	Alice Springs	62.63	189	P	P	10 35 47.2	-0.8
	0.4nm,0.7s,baz=12,slow=5.8,SNR=4.3						

TAP 05 10:48:53.8, 21°.07N×122°.09E, h164km±1km, ML4.3, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	Lan-yu	1.09	333	eP	Pn	10 49 21.3	+0.6
	baz=332						
LAY				eS	Sn	10 49 40.2	-1.2
	baz=332						
TWKBT	Hengchun	1.47	306	P	Pn	10 49 24.8	+0.6
	baz=306						
TWKBT				eS	Sn	10 49 46.9	-0.7
	baz=306						
TWK1	Hengchun	1.48	306	iP	Pn	10 49 24.8	+0.5
	baz=306						
TWK1				S	Sn	10 49 47.0	-0.7
	baz=306						
HEN	Hengchun	1.56	307	eP	Pn	10 49 25.9	+0.8
	baz=306						
HEN				eS	Sn	10 49 48.6	-0.7
	baz=306						
TAW	Tawu	1.69	319	eP	Pn	10 49 25.4	-1.0
	baz=319						
TAW				eS	Sn	10 49 50.5	-1.2
	baz=319						
EAST	Anshuo	1.74	319	iP	Pn	10 49 26.8	-0.3
	baz=318						
EAST				eS	Sn	10 49 51.2	-1.6
	baz=318						
ECL	Taimali	1.85	326	eP	Pn	10 49 27.9	-0.3
	baz=325						
ECL				S	Sn	10 49 52.7	-2.0
	baz=325						
SCZT	Fangliau	1.88	314	P	Pn	10 49 28.5	-0.1
	baz=313						
SCZT				S	Sn	10 49 54.0	-1.3
	baz=313						
TTN	Taitung	1.89	333	eS	Sn	10 49 55.0	-0.5
	baz=332						
TWGBT	Beinan	1.98	332	eP	Pn	10 49 29.0	-0.6
	baz=331						
TWGBT				eS	Sn	10 49 55.7	-1.6
	baz=331						
TWG	Pinlang	1.98	332	eP	Pn	10 49 29.6	0.0
	baz=331						
TWG				eS	Sn	10 49 55.9	-1.5
	baz=331						
WLCH	Liuqiu	2.04	309	eP	Pn	10 49 31.8	+1.6
	baz=308						
WLCH				eS	Sn	10 49 57.4	-1.0
	baz=308						
MASBT	Mashibuluo	2.04	319	P	Pn	10 49 30.4	+0.1
	baz=318						
MASBT				eS	Sn	10 49 56.3	-2.3
	baz=318						
TWP	Hsiaoliuchiu	2.05	309	eP	Pn	10 49 32.5	+2.1
	baz=308						
CHKT	Chengkung	2.13	342	eS	Sn	10 49 59.5	-0.8
	baz=341						
SSD	Sandimen	2.15	321	P	Pn	10 49 31.6	+0.1
	baz=321						
SSD				eS	Sn	10 49 59.1	-1.6
	baz=321						
SGLT	Jiouru	2.22	318	eS	Sn	10 50 01.3	-0.8
	baz=318						
KAU	Kaohsiung	2.23	312	eS	Sn	10 50 01.0	-1.3
	baz=312						
ELDTW	Lidau	2.33	335	iP	Pn	10 49 34.9	+1.1
	baz=334						
ELDTW				eS	Sn	10 50 03.5	-1.3
	baz=334						
TWM1	Shoushan	2.33	319	P	Pn	10 49 35.3	+1.7
	baz=318						
TWM1				eS	Sn	10 50 03.4	-1.2
	baz=318						
SLGT	Liugui	2.33	325	eP	Pn	10 49 34.2	+0.5
	baz=325						
SLGT				S	Sn	10 50 03.5	-1.2
	baz=325						
TWF1	Yuli	2.39	342	eP	Pn	10 49 34.1	-0.3
	baz=342						
TWF1				eS	Sn	10 50 04.9	-0.9
	baz=342						
STYT	Tauyuan	2.42	330	P	Pn	10 49 35.2	+0.4
	baz=329						
STYT				S	Sn	10 50 05.6	-1.0
	baz=329						
YULB	Yu-li	2.42	343	eP	Pn	10 49 35.0	+0.2
	baz=342						
YULB				eS	Sn	10 50 04.8	-1.9
	baz=342						
SGST	Jiashian	2.44	325	P	Pn	10 49 35.4	+0.4
	baz=325						
SGST				S	Sn	10 50 06.7	-0.2
	baz=325						
HGSD	Ruisui	2.49	346	eP	Pn	10 49 36.8	+1.3
	baz=345						
HGSD				eS	Sn	10 50 06.5	-1.4
	baz=345						
EHY	Hungye	2.53	344	eP	Pn	10 49 37.0	+1.0
	baz=343						
EHY				eS	Sn	10 50 07.3	-1.5
	baz=343						
CHN1	Nanshi	2.55	326	P	Pn	10 49 36.6	+0.3
	baz=325						
CHN1				S	Sn	10 50 07.7	-1.7
	baz=325						
WTP	Ta-pu	2.56	328	iP	Pn	10 49 36.7	+0.2
	baz=327						
WTP				eS	Sn	10 50 08.6	-1.0
	baz=327						
TPUB	Ta-pu	2.60	329	iP	Pn	10 49 36.9	0.0
	baz=328						
TPUB				S	Sn	10 50 08.8	-1.6
	baz=328						
TAI1	Yung-k'ang	2.61	319	eS	Sn	10 50 10.5	0.0
	baz=318						
YUS	Yu-Shan	2.63	337	eS	Sn	10 50 10.8	-0.9
	baz=336						
CHN4	Tsaushan	2.66	329	P	Pn	10 49 37.7	+0.1
	baz=328						
CHN4				iS	Sn	10 50 10.3	-1.3
	baz=328						
ALS	Alishan	2.70	334	eP	Pn	10 49 39.3	+0.8
	baz=334						
ALS				eS	Sn	10 50 11.5	-1.5
	baz=334						
SCLT	Jiali	2.73	320	S	Sn	10 50 12.2	-0.9
	baz=320						
ESL	Shilin	2.80	348	eS	Sn	10 50 13.4	-1.2
	baz=347						
VWDT	VWDT	2.81	342	eP	Pn	10 49 41.5	+2.1
	baz=341						
VWDT				eS	Sn	10 50 14.8	-0.1
	baz=341						
CHN5	Tsauling	2.83	333	P	Pn	10 49 39.9	+0.1
	baz=332						
CHN5				S	Sn	10 50 13.7	-1.9
	baz=332						
CHN8	Yiju	2.86	323	eP	Pn	10 49 40.8	+0.8
	baz=322						
CHN8				eS	Sn	10 50 15.1	-0.7
	baz=322						
CHY	Chiayi	2.87	328	eS	Sn	10 50 13.7	-2.4
	baz=327						
CHN2	Minshiung	2.87	329	eS	Sn	10 50 16.5	+0.4
	baz=328						
SSLB	Suanglung	2.90	339	eP	Pn	10 49 40.0	-0.6
	baz=338						
SSLB				eS	Sn	10 50 15.7	-1.3
	baz=338						
WLGB	Puzi	2.91	326	S	Sn	10 50 16.4	-0.7
	baz=325						
WGK	Gukeng	2.96	332	eS	Sn	10 50 17.6	-0.6
	baz=331						
WDLH	Douliu	2.98	331	eS	Sn	10 50 17.3	-1.2
	baz=331						
SMLT	Sun Moon Lake	3.01	339	eP	Pn	10 49 42.8	+0.8
	baz=338						
SMLT				eS	Sn	10 50 18.0	-1.5
	baz=338						
WJS	Zhushan	3.01	336	eP	Pn	10 49 43.4	+1.5
	baz=335						
WJS				eS	Sn	10 50 19.1	-0.3
	baz=335						
TWD	Chiawan	3.03	351	eS	Sn	10 50 18.7	-1.0
	baz=351						
TYC	Yuchr	3.04	338	eP	Pn	10 49 42.9	+0.6
	baz=338						
TYC				eS	Sn	10 50 18.7	-1.3
	baz=338						
WNT	Mingjian	3.08	335	eS	Sn	10 50 19.8	-1.1
	baz=335						
WSF	Szhu	3.08	326	eS	Sn	10 50 19.1	-1.8
	baz=326						
CHGB	Renai	3.09	344	eS	Sn	10 50 19.3	-2.3
	baz=344						
NACB	Ninganchiao	3.12	352	eP	Pn	10 49 41.9	-1.4
	baz=351						
NACB				eS	Sn	10 50 21.2	-0.6
	baz=351						
WDGT	Dungji	3.13	315	eP	Pn	10 49 43.2	-0.2
	baz=314						
WDGT				eS	Sn	10 50 20.0	-2.0
	baz=314						
WHF	Hehuan Shan	3.15	346	eS	Sn	10 50 22.6	-0.6
	baz=346						
RLNB	Erlin	3.23	331	eS	Sn	10 50 23.0	-1.2
	baz=330						
WTCT	Ta-ch'eng	3.25	329	eS	Sn	10 50 23.0	-1.5
	baz=329						
VCHM	Qimei	3.26	311	eP	Pn	10 49 45.0	+0.1
	baz=310						
VCHM				eS	Sn	10 50 22.6	-2.1
	baz=310						
TDCB	Techi	3.28	345	eS	Sn	10 50 23.9	-1.8
	baz=344						
WCHH	Zhanghua	3.31	335	eS	Sn	10 50 25.5	-0.5
	baz=334						
TCU	Taichung	3.33	337	eS	Sn	10 50 25.3	-1.2
	baz=337						
ENA	Nanau	3.36	355	eS	Sn	10 50 26.0	-1.2
	baz=354						
PHUB	P'eng-hu	3.37	317	eP	Pn	10 49 45.7	-0.7
	baz=316						
PHUB				eS	Sn	10 50 24.4	-2.9
	baz=316						
NNSB	Datong	3.41	349	eP	Pn	10 49 47.7	+0.7
	baz=348						
NNSB				eS	Sn	10 50 26.4	-2.0
	baz=348						
PNG	Penghu	3.42	317	eP	Pn	10 49 46.5	-0.5
	baz=316						
PNG				eS	Sn	10 50 25.6	-2.8
	baz=316						
NNS	Nan Shan	3.42	349	eS	Sn	10 50 27.8	-1.0
	baz=349						
TWQ1	Liyutan	3.48	340	eS	Sn	10 50 28.5	-1.4
	baz=339						
PTSB	Yuanli	3.60	339	eS	Sn	10 50 30.1	-2.4
	baz=339						
YHNB	Yeheng	3.64	350	eP	Pn	10 49 51.2	+1.2
	baz=349						
YHNB				eS	Sn	10 50 33.0	-0.7
	baz=349						
NSTT	Nanjuang	3.68	344	eS	Sn	10 50 34.2	-0.4
	baz=344						
LIOB	Emei	3.69	345	eS	Sn	10 50 33.3	-1.5
	baz=344						
VWUC	VWUC	4.60	329	eP	Pn	10 50 01.9	-0.3
	baz=328						
VWUC				eS	Sn	10 50 51.8	-3.9
	baz=328						
KNM	Kinmen	4.74	315	eS	Sn	10 50 58.7	-0.3
	baz=313						
PTMZ	Houxiangcun	4.80	326	P	Pn	10 50 05.2	+0.2
	baz=325						
PTMZ				iS	Sn	10 50 57.7	-2.8
	baz=325						
AXDP	Jialang	5.38	316	eS	Sn	10 51 09.0	-5.0
	baz=315						
MHZQ	Yeshan	5.74	331	eS	Sn	10 51 20.3	-2.3
	baz=330						

*IDC **05** 11:04:07.2±1.1, 8°.21N×126°.51E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.5/45, mbtmp3.6/5, Error ellipse: s-maj=29.4km s-min=15.0km az=118.0*
*ISCJB **05** 11:04:12.1±0.5, 8°.03N±0°.05×126°.05E±0°.05, h36km, mb3.5/5, Error ellipse: s-maj=7.6km s-min=6.6km az=137.7*
*MAN **05** 11:04:12.2, 7°.99N×125°.89E, h9km, mb4.8, ML3.7, MS3.6*
ISC 05 11:04:13.3±0.9**, 8°.05N**±0°.05×**126°.06E**±0°.07**, h36**km**, n16, σ2s.53**/19**, mb3.4**/5**, 2C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.33	67	⇑iP	Pn	11 04 21.3	-0.3
BIPH				iS	Sn	11 04 28.2	0.0
BUKP	Musuan	1.00	260	eP	Pn	11 04 28.1	-2.8
BUTP	Butuan	1.01	335	eP	Pn	11 04 27.0	-3.9
BUTP				eS	Sn	11 04 43.0	-0.8
DAV	Davao City (W)	1.08	206	Pg	Pn	11 04 34.2	+2.2
	268nm,0.3s,baz=25,slow=2.1,SNR=49						
DAV				Lg	Lg	11 04 54.1	
	302nm,0.3s,baz=319,slow=18,SNR=16						
DMPH	Davao City--Mi	1.11	210	⇓eP	Pn	11 04 39.1	+6.8
DMPH				eS	Sn	11 04 58.5	+12
MATI	Mati	1.12	170	eP	Pn	11 04 32.0	-0.4
CGP	Cagayan de Oro	1.41	287	⇑eP	Pn	11 04 34.9	-1.5
CGP				iS	Sn	11 04 55.1	+1.4
SKMP	Bagumbayan, Su	2.14	225	eP	Pn	11 04 47.0	+0.5
MSLP	Maasin	2.38	330	eP	Pn	11 04 49.4	-0.4
DCPH	Dipolog City	2.73	281	⇓eP	Pn	11 04 58.5	+3.9
BESP	Borongan	3.58	350	eP	Pn	11 05 09.6	+3.3
BESP				eS	Sn	11 05 53.6	+6.3
FITZ	Fitzroy Crossi	25.99	181	P	P	11 09 42.4	-0.4
	3.0nm,0.8s,baz=3.7,slow=13,SNR=9.3						
WRA	Warramunga Arr	28.99	164	P	P	11 10 09.2	-0.6
	0.2nm,0.5s,baz=358,slow=8.5,SNR=4.8						
ASAR	Alice Springs	32.44	167	P	P	11 10 40.1	-0.1
	0.2nm,0.4s,baz=334,slow=7.1,SNR=8.9						
MKAR	Makanchi Array	53.67	324	P	P	11 13 30.9	-0.6
	0.9nm,0.9s,baz=116,slow=8.4,SNR=4.1						
ILAR	Eielson Array	81.52	26	P	P	11 16 25.4	-1.4
	0.4nm,0.9s,baz=246,slow=6.8,SNR=2.5						

*ISK **05** 11:07:52.7, 38°.69N×43°.17E, h13km±4km, ML2.0/4*
*DDA **05** 11:07:53.5, 38°.67N×43°.19E, h7km±5km, ML2.6*
ISC 05 11:07:53.4±1.0**, 38°.65N**±0°.04×**43°.12E**±0°.09**, h17**km±14km**, n10, σ0s.73**/14**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.21	106	PG	Pg	11 07 58.5	0.0
VANB				SG	Sg	11 08 02.7	+0.7
TVAN	Van	0.25	119	IAML_P			
	comp=Z,4μm,0.1s						
TVAN				iP	Pg	11 07 58.8	-0.4
TVAN				iS	Sg	11 08 02.9	-0.3
AKDM	Akdamar-Van	0.34	199	PG	Pb	11 08 01.0	-0.2
ADCV	BITLIS_Adilcev	0.35	296	IAML_P			
	comp=Z,903nm,0.1s						
ADCV				iP	Pb	11 08 02.3	+1.0
VMUR	Van-Muradiye	0.48	46	IAML_P			
	comp=Z,1μm,0.1s						
VMUR				iP	Pg	11 08 02.1	-1.1
VMUR				iS	Sg	11 08 10.5	+0.7
TUTA	Tutak	0.79	342	IAML_P			
	comp=Z,3μm,0.1s						
TUTA				iP	Pg	11 08 08.3	-0.5
GURO	Guroymak-BITLI	0.86	264	PG	Pn	11 08 10.7	-0.2
GURO				SG	Sn	11 08 23.5	+0.3
AGRB	Hanur-Agry	0.93	354	PG	Pg	11 08 10.3	-1.2
AGRB				SG	Sg	11 08 23.5	-0.2
SRTM	Siirt_Merkez	1.15	235	IAML_P			
	comp=Z,177nm,0.4s						
SRTM				iP	Pg	11 08 19.8	+4.0
EATA	Eleskirt	1.30	338	IAML_P			
	comp=Z,204nm,0.2s						
EATA				iP	Pn	11 08 17.5	+0.4

*ISCJB **05** 11:10:22.2±0.6, 55°.46N±0°.03×135°.01W±0°.09, h9km, mb3.4/1, Error ellipse: s-maj=7.8km s-min=3.8km az=154.3*
*NEIC **05** 11:10:24.0±0.0, 55°.43N×135°.13W, h23km, ML3.4(AEIC), After AEIC.*
*IDC **05** 11:10:23.5±1.3, 55°.39N×135°.00W, h0km, mb3.1/2, mb1 3.6/7, mb1mx3.3/48, mbtmp3.4/7, ML2.9/5, Error ellipse: s-maj=18.4km s-min=10.8km az=64.0*
ISC 05 11:10:23.9±1.0**, 55°.46N**±0°.04×**135°.02W**±0°.06**, h9**km**, n25, σ1s.12**/33**, Off coast of southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	Craig	1.08	89	ePn	Pg	11 10 44.1	-0.6
CRAG				eSn	Sg	11 10 58.4	-0.4
SIT	Sitka	1.61	354	ePn	Pn	11 10 50.9	-1.6
SIT				eSn	Sn	11 11 12.0	-1.4
WRAK	Wrangell Islan	1.79	56	ePn	Pn	11 10 54.3	-0.6
WRAK				eSn	Sb	11 11 19.1	-0.2
NDB	Naden	1.93	140	P	Pn	11 10 56.1	-0.9
MASB	Masset	2.26	129	ePn	Pn	11 11 00.7	-0.8
DIB	Dawson Inlet,	2.71	146	ePn	Pn	11 11 06.7	-0.9
H02S1	DAWSON INLET T	2.71	146	Pn	Pn	11 11 07.3	-0.3
H02S1				Sn	Sn	11 11 39.1	-1.3
JIS	Juneau Island	2.85	7	ePn	Pn	11 11 08.3	-1.1
BESE	Bessie Mountai	3.13	2	ePn	Pn	11 11 12.9	-0.6
BESE				eSn	Sn	11 11 50.5	-0.5
BNB	Barry Inlet	3.47	145	ePn	Pn	11 11 17.7	-0.4
SKAG	Skagway	4.02	358	ePn	Pn	11 11 25.8	+0.3
DLBC	Dease Lake	4.05	40	Pn	Pn	11 11 26.8	+0.7
	0.4nm,0.3s,baz=190,slow=8.7,SNR=6.6						
DLBC				Pg	Pb	11 11 36.0	+0.7
	1.5nm,0.3s,baz=214,slow=16,SNR=7.8						
DLBC				Sn	Sn	11 12 12.5	-1.2
	2.4nm,0.3s,baz=222,slow=5.9,SNR=3.9						
DLBC				Lg	Lg	11 12 29.3	
	6.4nm,0.3s,baz=346,slow=21,SNR=5.6						
DLBC	Dease Lake	4.05	40	ePn	Pn	11 11 25.7	-0.4
PLBC	Pleasant Camp	4.07	350	ePn	Pn	11 11 26.5	+0.2
WHY	Whitehorse	5.22	1	ePn	Pn	11 11 41.7	-0.4
BBB	Bella Bella	5.25	126	Pn	Pn	11 11 42.2	-0.2
	1.1nm,0.3s,baz=303,slow=7.4,SNR=16						
BBB				Sn	Sn	11 12 41.4	-1.5
	5.3nm,0.3s,baz=160,slow=23,SNR=12						
BBB				Lg	Lg	11 13 03.3	
	1.3nm,0.3s,baz=58,slow=13,SNR=2.9						
BBB	Bella Bella	5.25	126	ePn	Pn	11 11 41.8	-0.6
PCA	Pinnacle	5.43	331	P	Pn	11 11 45.9	+0.9
SAMH	Samovar Hills	5.60	329	P	Pn	11 11 48.5	+1.0
HMT	Hamilton	6.94	319	ePn	Pn	11 12 03.5	-2.2
KDAK	Kodiak Island	9.95	291	Pn	Pn	11 12 44.5	-2.4
	0.9nm,0.3s,baz=44,slow=4.3,SNR=10.0						
ILAR	Eielson Array	11.03	333	Pn	Pn	11 13 02.9	+1.2
	0.2nm,0.3s,baz=155,slow=13,SNR=26						
YKA	Yellowknife Ar	12.63	48	Pn	Pn	11 13 22.5	-0.9
	0.0nm,0.3s,baz=242,slow=12,SNR=3.4						
PDAR	Pinedale Array	20.81	117	P	P	11 15 06.8	+1.2
	0.2nm,0.6s,baz=336,slow=4.2,SNR=2.4						
TXAR	Lajitas Array	34.38	126	P	P	11 17 13.5	+2.2
	0.4nm,0.9s,baz=338,slow=2.1,SNR=3.8						

*IDC **05** 11:16:23.1±1.2, 32°.82N×141°.10E, h0km, mb3.3/4, mb1 3.6/6, mb1mx3.4/33, mbtmp3.4/6, ML3.6/2, Error ellipse: s-maj=30.6km s-min=20.6km az=62.0*
*ISCJB **05** 11:16:29.3±0.9, 33°.02N±0°.04×140°.85E±0°.07, h51km±10km, mb3.3/4, Error ellipse: s-maj=9.7km s-min=6.3km az=9.7*
*JMA **05** 11:16:29.8±0.1, 33°.05N×140°.82E, h51km, M3.5*
ISC 05 11:16:28.4±1.8**, 32°.96N**±0°.07×**140°.94E**±0°.08**, h35**km±7km**, n23, σ1s.29**/39**, mb3.4**/4**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.96	280	P	Pn	11 16 45.7	+0.4
JHJ2				S	Sn	11 16 57.4	-0.3
JHCJ	Hachijojimakas	0.97	277	P	Pn	11 16 45.7	+0.2
JHCJ				S	Sn	11 16 56.9	-1.1
JHJ	Hachijo jima 2	0.98	280	Pn	Pn	11 16 45.8	+0.1
	69nm,0.3s,baz=340,slow=23,SNR=191						
JHJ				Sn	Sn	11 16 57.5	-1.0
	341nm,0.3s,baz=73,slow=19,SNR=30						
JAOM	Aogashimamukai	1.11	244	P	Pb	11 16 48.7	-0.4
JAOM				S	Sn	11 17 02.1	+0.6
JMKN	Mikurajimanish	1.47	310	P	Pn	11 16 52.3	-0.1
JMKN				eS	Sn	11 17 09.4	-0.9
BSO1	Boso 1	1.69	1	P	Pn	11 16 55.9	+0.9
BSO3	Boso 3	1.88	349	P	Pn	11 16 58.3	+0.5
BSO3				eS	Sn	11 17 19.7	-0.4
JKO	Kozu shima	1.94	310	P	Pn	11 16 59.5	+0.6
JKO				S	Sn	11 17 20.9	-1.2
JTHY	Toshimahigashi	2.08	319	P	Pn	11 17 01.3	+0.4
JTHY				S	Sn	11 17 24.2	-1.4
BSO4	Boso 4	2.09	346	P	Pn	11 17 01.8	+0.9
BSO4				eS	Sn	11 17 26.0	+0.4
JIM2	Oshima 3	2.16	325	P	Pn	11 17 02.1	+0.1
JIM2				eS	Sn	11 17 24.9	-2.6
JIZS	Izushimoda	2.46	316	P	Pn	11 17 06.7	+0.7
JIZS				eS	Sn	11 17 34.7	-0.1
JOD2	Odawara 2	2.77	327	P	Pn	11 17 10.6	+0.3
JOD2				S	Sn	11 17 40.0	-2.5
TK02	Tokai 2	2.84	291	P	Pn	11 17 12.0	+1.0
TK02				eS	Sn	11 17 44.7	+0.8
JFNN	Fujinakano	2.91	321	P	Pn	11 17 14.0	+1.7
TK04	Tokai 4	2.93	300	P	Pn	11 17 13.9	+1.5
TK04				eS	Sn	11 17 47.9	+1.7
MJAR	Matsushiro Arr	4.23	329	Pn	Pn	11 17 32.2	+1.9
	2.1nm,0.3s,baz=155,slow=11,SNR=41						
MJAR				Sn	Sn	11 18 20.1	+1.7
	1.3nm,0.3s,baz=163,slow=26,SNR=5.9						
MAT	Matsushiro	4.23	329	P	Pn	11 17 32.9	+2.5
MAT				eS	Sn	11 18 16.8	-1.7
ASAJ	Asahikawa	11.22	6	Pn	Pn	11 19 04.4	-1.8
	0.7nm,0.3s,baz=239,slow=15,SNR=7.8						
MKAR	Makanchi Array	46.06	305	P	P	11 24 50.1	+1.3
	0.1nm,0.4s,baz=81,slow=9.6,SNR=4.1						
WRA	Warramunga Arr	52.98	188	P	P	11 25 40.9	-0.7
	0.3nm,0.5s,baz=4.1,slow=7.5,SNR=10						
ASAR	Alice Springs	56.70	188	P	P	11 26 07.0	-1.6
	0.2nm,0.5s,baz=357,slow=6.0,SNR=6.0						
TXAR	Lajitas Array	92.92	52	P	P	11 29 38.5	+0.2
	0.1nm,0.7s,baz=276,slow=1.6,SNR=3.1						

NEIC 05 11:20:26.4±0.0**, 55°.42N**×**135°.47W, h3**km**, ML3.4**(AEIC)**, After AEIC., Off coast of southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	Craig	1.34	87	ePn	Pn	11 20 51.5	-0.4
CRAG				eSn	Sg	11 21 08.0	-1.3
SIT	Sitka	1.64	3	ePn	Pn	11 20 55.8	-0.3
SIT				eSn	Sn	11 21 17.6	0.0
WRAK	Wrangell Islan	2.02	59	ePn	Pn	11 21 01.4	+0.1
WRAK				eSn	Sn	11 21 27.0	0.0
DIB	Dawson Inlet,	2.83	141	ePn	Pn	11 21 12.7	+0.3
JIS	Juneau Island	2.92	11	ePn	Pn	11 21 13.2	-0.4
JIS				eSn	Sn	11 21 51.5	+2.3
BNB	Barry Inlet	3.60	141	ePn	Pn	11 21 23.2	+0.2

NEIC 05 11:21:16.8±0.0**, 55°.51N**×**135°.01W, h10**km**, ML3.4**(AEIC)**, After AEIC., Off coast of southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	Craig	1.08	92	ePn	Pn	11 21 37.8	-0.1
CRAG				eSn	Sn	11 21 52.9	0.0
SIT	Sitka	1.56	354	ePn	Pn	11 21 45.0	+0.5
WRAK	Wrangell Islan	1.75	58	ePn	Pn	11 21 47.3	+0.1
WRAK				eSn	Sn	11 22 09.0	-0.5
BNB	Barry Inlet	3.52	146	ePn	Pn	11 22 11.4	-0.1
DLBC	Dease Lake	4.00	41	ePn	Pn	11 22 17.6	-0.6
WHY	Whitehorse	5.16	1	ePn	Pn	11 22 33.8	-0.3
BBB	Bella Bella	5.27	126	ePn	Pn	11 22 36.3	+0.8
PCA	Pinnacle	5.38	331	P	Pn	11 22 37.0	-0.1
HRY	Holter Researc	16.95	112	eSn	Sn	11 28 19.8	-2.3

DJA 05 11:27:54.1±0.5**, 9°S**±4°×**12°2E**±°**, h113**km±6km**, M4.1**/17**, mb4.2**/6**, MLv4.1**/17**, Savu Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**0.43**	**309**	P	Pn	11 28 13.1	+2.1
EDFI				S	Sn	11 28 42.3	+19
MMRI	**Maumere**	**0.43**	**28**	P	Pn	11 28 12.8	+1.9
MMRI				S	Sn	11 28 25.9	+2.4
WSI	**Waingapu**	**1.83**	**249**	P	Pn	11 28 25.7	+0.6
BASI	**Baing, Sumba**	**1.86**	**230**	P	Pn	11 28 25.5	0.0
BATI	**Baumata**	**2.00**	**126**	P	Pn	11 28 26.3	-0.9
BSSI	**Bau Bau, Buton**	**3.24**	**332**	P	Pn	11 28 41.8	-1.6
BBSI	**Bau Bau**	**3.55**	**9**	P	Pn	11 28 49.2	+1.7
BKSI	**Bulukumba**	**4.13**	**333**	P	Pn	11 28 54.4	-0.9
PLAI	**Plampang**	**4.21**	**272**	P	Pn	11 28 56.4	+0.1
BNSI	**Bone**	**4.97**	**337**	P	Pn	11 29 06.6	0.0
KDI	**Kendari**	**5.06**	**7**	P	Pn	11 29 09.3	+1.4
	50nm,0.8s,0.3nm						
SPSI	**Sidrap Palu**	**5.50**	**336**	P	Pn	11 29 12.9	-0.9
	15nm,1.3s,0.2nm						
TTSI	**Tana Toraja**	**6.33**	**340**	P	Pn	11 29 25.2	+0.2
	10nm,0.7s,0.2nm						
DNP	**Denpasar**	**6.75**	**272**	P	Pn	11 29 30.9	+0.3
IGBI	**Denpasar**	**6.80**	**271**	P	Pn	11 29 31.9	+0.5
	154nm,1.3s,0.7nm						
SRBI	**Singaraja**	**6.81**	**277**	P	Pn	11 29 31.8	+0.4
	33nm,1.0s,0.2nm						

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*JMA **05** 11:37:25.8±0.3, 42.°93N×148.°12E, h0km, M3.4*
*SKHL **05** 11:37:26.8±0.5, 43.°02N×148.°48E, h30km, mb3.9/2*
ISC 05 11:37:24.2±3.6, **43.°00N**±0.°08×**148.°3E**±0.°1, **h12**km±17km, **n13**, σ**2.s06**/19, **Off southeast coast of Hokkaido**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**1.39**	**310**	*e*P	**Pn**	**11 37 50.6**	**+1.2**
SHO				AMB	AMB	11 37 50.9	
	10.0nm,0.3s						
SHO				AMB	AMB	11 37 50.9	
	30nm,0.3s						
SHO				*e*S	**Sg**	**11 38 08.7**	**-0.1**
SHO				A	A	11 38 10.1	
	280nm,0.3s						
NEM2	**Nemuro 2**	**1.91**	**282**	P	**Pb**	**11 37 58.4**	**-0.6**
NEM2				*e*S	**Sb**	**11 38 22.2**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**2.06**	**301**	*e*P	**Pb**	**11 38 00.9**	**-0.6**
YUK				AMB	AMB	11 38 01.5	
	30nm,0.4s						
YUK				*e*S	**Sb**	**11 38 26.6**	**-0.4**
YUK				A	A	11 38 28.7	
	50nm,0.2s						
YUK				A	A	11 38 28.7	
	180nm,0.6s						
KUR	**Kuril'sk**	**2.26**	**352**	*e*P	**Pn**	**11 38 02.2**	**+0.8**
KUR				*e*S	**Sn**	**11 38 28.3**	**-0.8**
KUR				A	A	11 38 33.5	
	70nm,0.4s						
KUR				A	A	11 38 33.5	
	60nm,0.4s						
JKHN	**Kushirohamanak**	**2.31**	**273**	*e*S	**Sb**	**11 38 32.8**	**-1.4**
JRA	**Rausu**	**2.50**	**293**	*e*S	**Sb**	**11 38 38.1**	**-1.7**
JAK	**Akkeshi**	**2.65**	**271**	P	**Pn**	**11 38 08.8**	**+2.1**
JAK				*e*S	**Sb**	**11 38 40.2**	**-3.8**
JNK	**Nakash**	**2.68**	**284**	*e*S	**Sn**	**11 38 41.1**	**+1.4**
JAR	**Ashorobuto**	**3.33**	**277**	P	**Pn**	**11 38 18.7**	**+2.6**
JAR				*e*S	**Sn**	**11 38 57.6**	**+1.9**
JCH	**Churui**	**3.66**	**266**	P	**Pn**	**11 38 23.2**	**+2.6**
JNBK	**Urakawa-nobuka**	**4.16**	**262**	P	**Pn**	**11 38 29.7**	**+2.2**
JOT	**Ohata**	**5.63**	**256**	*e*S	**Sn**	**11 39 52.0**	**-0.2**
JOM	**Ohasama**	**6.35**	**239**	*e*S	**Sn**	**11 40 06.6**	**-3.5**

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*ISCJB **05** 11:39:33.4±0.2, 55.°47N±0.°02×135.°24W±0.°04, h9km, mb4.2/59, Error ellipse: s-maj=4.4km s-min=1.7km az=136.6*
*MOS **05** 11:39:35.2±2.1, 55.°57N×134.°96W, h10km, mb4.5/21, Error ellipse: s-maj=14.2km s-min=4.8km az=112.6*
*AEIC **05** 11:39:36.2, 55.°51N×135.°15W, h20km, ML4.5, MB4.0(NEIC)*
*NEIC **05** 11:39:36.2±0.0, 55.°51N×135.°15W, h20km, mb4.0/69, ML4.5(AEIC), After AEIC.*
*IDC **05** 11:39:37.7±0.7, 55.°64N×135.°15W, h0km, mb3.8/13, mb1 4.1/21, mb1mx4.0/41, mbtmp4.0/21, ML3.5/7, Error ellipse: s-maj=11.2km s-min=10.0km az=4.0*
ISC 05 11:39:35.6±0.5, **55.°50N**±0.°04×**135.°11W**±0.°05, **h9**km, **n302**, σ**1.s79**/263, **mb4.3**/59, **5C-8D, Off coast of southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	**Craig**	**1.13**	**91**	*e*Pn	**Pn**	**11 39 56.6**	**-1.0**
CRAG				*e*Sg	**Sn**	**11 40 12.3**	**-0.9**
SIT	**Sitka**	**1.56**	**356**	*e*Pn	**Pn**	**11 40 02.3**	**-1.2**
SIT	**Sitka**	**1.56**	**356**	*e*P	**Pn**	**11 40 02.3**	**-1.2**
WRAK	**Wrangell Islan**	**1.81**	**58**	*e*Pn	**Pn**	**11 40 06.0**	**-0.8**
WRAK				*e*Sn	**Sg**	**11 40 31.9**	**-1.7**
NDB	**Naden**	**2.00**	**140**	P	**Pb**	**11 40 09.5**	**-2.6**
MASB	**Masset**	**2.33**	**129**	*e*Pn	**Pn**	**11 40 14.0**	**-0.1**
H02S1	**DAWSON INLET T**	**2.77**	**145**	Pn	**Pn**	**11 40 20.9**	**+0.7**
H02S1				Sn	**Sn**	**11 40 53.3**	**-0.4**
JIS	**Juneau Island**	**2.81**	**8**	*e*Pn	**Pn**	**11 40 20.5**	**-0.2**
JIS				S	**Sn**	**11 40 53.3**	**-1.3**
BESE	**Bessie Mountai**	**3.09**	**2**	*e*Pn	**Pn**	**11 40 25.8**	**+1.2**
BESE				*e*Sn	**Sn**	**11 40 59.8**	**-1.9**
BNB	**Barry Inlet**	**3.54**	**145**	*e*Pn	**Pn**	**11 40 30.0**	**-0.8**
SKAG	**Skagway**	**3.97**	**358**	*e*Pn	**Pn**	**11 40 37.6**	**+1.0**
PLBC	**Pleasant Camp**	**4.02**	**351**	*e*Pn	**Pn**	**11 40 38.2**	**+0.8**
DLBC	**Dease Lake**	**4.05**	**41**	Pn	**Pn**	**11 40 38.5**	**+0.7**
	3.0nm,0.3s,baz=257,slow=5.5,SNR=60						
DLBC				Pg	**Pg**	**11 40 48.9**	**-4.2**
	16nm,0.3s,baz=192,slow=9.3,SNR=23						
DLBC				Lg	Lg	11 41 41.6	
	56nm,0.3s,baz=149,slow=21,SNR=10						
DLBC	**Dease Lake**	**4.05**	**41**	*e*Pn	**Pn**	**11 40 38.1**	**+0.4**
WHY	**Whitehorse**	**5.17**	**1**	*e*Pn	**Pn**	**11 40 54.0**	**+0.8**
YUK7	**Dusty Glacier**	**5.29**	**344**	*e*Pn	**Pn**	**11 40 56.1**	**+1.1**
BBB	**Bella Bella**	**5.31**	**126**	Pn	**Pn**	**11 40 55.2**	**+0.2**
	8.1nm,0.3s,baz=298,slow=9.7,SNR=62						
BBB				Sn	**Sn**	**11 41 54.2**	**-1.9**
	31nm,0.3s,baz=109,slow=18,SNR=12						
BBB				Lg	Lg	11 42 23.1	
	24nm,0.3s,baz=40,slow=20,SNR=4.7						
BBB	**Bella Bella**	**5.31**	**126**	*e*Pn	**Pn**	**11 40 55.5**	**+0.6**
BBB				*e*Sn	**Sn**	**11 41 54.5**	**-1.7**
HYT	**Haines Junctio**	**5.49**	**348**	*e*Pn	**Pn**	**11 40 59.0**	**+1.5**
SAMH	**Samovar Hills**	**5.54**	**329**	P	**Pn**	**11 41 00.4**	**+2.1**
YUK6	**Outpost Mounta**	**5.72**	**344**	*e*Pn	**Pn**	**11 41 02.1**	**+1.2**
YUK5	**Granite Creek**	**5.83**	**347**	*e*Pn	**Pn**	**11 41 04.3**	**+2.1**
RKAV	**Rock Avalanche**	**5.85**	**328**	P	**Pn**	**11 41 04.8**	**+2.3**
MESA	**MESA**	**5.94**	**325**	P	**Pn**	**11 41 05.1**	**+1.3**
YUK4	**Talbot Arm**	**6.15**	**344**	*e*Pn	**Pn**	**11 41 09.5**	**+2.9**
KULT	**Kultieth River**	**6.25**	**323**	P	**Pn**	**11 41 08.9**	**+0.9**
FSB	**Fort Saint Jam**	**6.29**	**95**	P	**Pn**	**11 41 09.8**	**+1.2**
KHIT	**Khitrov Hills**	**6.58**	**322**	P	**Pn**	**11 41 12.9**	**+0.5**
HMT	**Hamilton**	**6.87**	**319**	*e*Pn	**Pn**	**11 41 16.9**	**+0.4**
RAGM	**Ragged Mountai**	**7.06**	**318**	P	**Pn**	**11 41 19.1**	**+0.1**
MID	**Middleton Isla**	**7.22**	**308**	*e*Pn	**Pn**	**11 41 20.0**	**-1.1**
MID	**Middleton Isla**	**7.22**	**308**	*e*P	**Pn**	**11 41 20.0**	**-1.1**
SGAM	**Sherman Glacie**	**7.34**	**317**	*e*Pn	**Pn**	**11 41 24.3**	**+1.5**
EYAK	**Cordova Ski Ar**	**7.58**	**316**	*e*Pn	**Pn**	**11 41 24.7**	**-1.4**
DIV	**Divide**	**7.95**	**320**	*e*Pn	**Pn**	**11 41 30.3**	**-1.0**
KLU	**Klutina**	**8.25**	**321**	*e*Pn	**Pn**	**11 41 34.6**	**-0.7**
HARP	**HAARP**	**8.64**	**327**	*e*Pn	**Pn**	**11 41 39.0**	**-1.7**
DAWY	**Dawson**	**8.86**	**348**	*e*Pn	**Pn**	**11 41 42.7**	**-1.0**
SEW	**Seward**	**8.93**	**307**	*e*Pn	**Pn**	**11 41 43.0**	**-1.6**
SCM	**Sheep Creek Mo**	**8.98**	**320**	*e*Pn	**Pn**	**11 41 44.2**	**-1.1**
SCM	**Sheep Creek Mo**	**8.98**	**320**	*e*P	**Pn**	**11 41 44.3**	**-1.1**
KNK	**Knik Glacier**	**9.15**	**316**	*e*Pn	**Pn**	**11 41 45.7**	**-2.1**
PAX	**Paxson**	**9.17**	**329**	*e*Pn	**Pn**	**11 41 46.2**	**-1.8**
PAX	**Paxson**	**9.17**	**329**	*e*P	**Pn**	**11 41 46.2**	**-1.8**
DOT	**Dot Lake**	**9.34**	**335**	*e*Pn	**Pn**	**11 41 49.1**	**-1.1**
SML	**Sawmill**	**9.34**	**318**	*e*Pn	**Pn**	**11 41 48.0**	**-2.3**
SML	**Sawmill**	**9.34**	**318**	*e*P	**Pn**	**11 41 48.0**	**-2.3**
BRLK	**Bradley Lake**	**9.47**	**303**	*e*Pn	**Pn**	**11 41 50.3**	**-1.8**
RC01	**Rabbit Creek A**	**9.51**	**312**	*e*Pn	**Pn**	**11 41 51.6**	**-0.9**
PMR	**Palmer**	**9.52**	**316**	*e*Pn	**Pn**	**11 41 51.9**	**-0.9**
PMR	**Palmer**	**9.52**	**316**	*e*P	**Pn**	**11 41 51.9**	**-0.9**
GHO	**Glory Hole Cre**	**9.54**	**317**	*e*Pn	**Pn**	**11 41 52.7**	**-0.4**
SCRK	**Sand Creek**	**9.60**	**336**	*e*Pn	**Pn**	**11 41 53.2**	**-0.7**
SCRK				*e*Sn	**Sn**	**11 43 36.0**	**-5.8**
RIDG	**Independ'e Rid**	**9.61**	**333**	*e*Pn	**Pn**	**11 41 52.5**	**-1.5**
HOM	**Homer**	**9.80**	**302**	*e*Pn	**Pn**	**11 41 55.6**	**-0.9**
DHY	**Denali Highway**	**9.83**	**326**	*e*Pn	**Pn**	**11 41 56.4**	**-0.7**
KDAK	**Kodiak Island**	**9.89**	**291**	Pn	**Pn**	**11 41 57.2**	**-0.5**
	8.1nm,0.3s,baz=73,slow=5.1,SNR=105						
KDAK				Sn	**Sn**	**11 43 44.7**	**-4.0**
	baz=294,slow=20,SNR=2.5						
KDAK	**Kodiak Island**	**9.89**	**291**	*i* P	**Pn**	**11 41 57.5**	**-0.3**
SUA	**Susitna One**	**10.12**	**313**	*e*Pn	**Pn**	**11 42 00.4**	**-0.6**
OHAK	**Old Harbor**	**10.23**	**287**	*e*Pn	**Pn**	**11 42 01.8**	**-0.6**
RND	**Reindeer**	**10.55**	**324**	*e*Pn	**Pn**	**11 42 05.5**	**-1.3**
RND	**Reindeer**	**10.55**	**324**	*e*P	**Pn**	**11 42 05.5**	**-1.3**
SPU	**Mount Spurr**	**10.55**	**310**	*e*Pn	**Pn**	**11 42 05.6**	**-1.3**
RSO	**Redoubt South**	**10.59**	**305**	*e*Pn	**Pn**	**11 42 06.1**	**-1.4**
HDA	**Harding Lake**	**10.70**	**331**	*e*Pn	**Pn**	**11 42 08.3**	**-0.6**
HDA	**Harding Lake**	**10.70**	**331**	P	**Pn**	**11 42 11.2**	**+2.3**
	baz=141,SNR=14						
NLWA	**Neilton Lookou**	**10.72**	**135**	*e*Pn	**Pn**	**11 42 09.2**	**0.0**
MCK	**McKinley**	**10.80**	**325**	*e*Pn	**Pn**	**11 42 09.8**	**-0.4**
MCK	**McKinley**	**10.80**	**325**	*e*P	**Pn**	**11 42 09.8**	**-0.4**
EPYK	**Eagle Plains**	**10.93**	**357**	*e*Pn	**Pn**	**11 42 11.8**	**-0.3**
EPYK	**Eagle Plains**	**10.93**	**357**	P	**Pn**	**11 42 14.1**	**+2.1**
	baz=175						
IL1	**Eielson Array**	**10.97**	**333**	*e*Pn	**Pn**	**11 42 11.8**	**-0.8**
ILAR	**Eielson Array**	**10.97**	**333**	Pn	**Pn**	**11 42 13.9**	**+1.4**
	1.8nm,0.3s,baz=155,slow=11,SNR=272						
ILAR				Lg	Lg	11 45 33.1	
	0.1nm,0.3s,baz=108,slow=22,SNR=4.4						
ILAR	**Eielson Array**	**10.97**	**333**	P	**Pn**	**11 42 14.0**	**+1.4**
ILB	**Eielson Array**	**10.97**	**333**	*e*Pn	**Pn**	**11 42 11.1**	**-1.5**
TRF	**Thorofare Moun**	**11.06**	**322**	*e*Pn	**Pn**	**11 42 14.5**	**+0.5**
WRH	**Wood River Hil**	**11.07**	**330**	*e*Pn	**Pn**	**11 42 13.8**	**-0.1**
PRP	**Porcupine Dome**	**11.26**	**337**	*e*Pn	**Pn**	**11 42 16.9**	**+0.2**
COLA	**College**	**11.31**	**331**	*e*Pn	**Pn**	**11 42 17.4**	**+0.3**
COLA	**College**	**11.31**	**331**	*e*P	**Pn**	**11 42 17.4**	**+0.3**
TCOL	**CIGO, UAF Yank**	**11.31**	**331**	P	**Pn**	**11 42 19.6**	**+2.4**
	baz=140,SNR=6.9						
POKR	**Poker Plat Res**	**11.39**	**333**	P	**Pn**	**11 42 20.9**	**+2.7**
	baz=142,SNR=7.1						
PPLA	**Purkeypile**	**11.44**	**317**	*e*Pn	**Pn**	**11 42 18.4**	**-0.7**
MDM	**Murphy Dome**	**11.48**	**331**	*e*Pn	**Pn**	**11 42 19.0**	**-0.6**
CAST	**Castle Rocks**	**11.69**	**320**	*e*Pn	**Pn**	**11 42 22.1**	**-0.3**
BPAW	**Bear Paw Mtn.**	**11.72**	**324**	*e*Pn	**Pn**	**11 42 21.9**	**-0.9**
B08A	**Colville Reser**	**12.06**	**120**	*e*Pn	**Pn**	**11 42 26.6**	**-1.0**
LON	**Longmire**	**12.09**	**131**	*e*Pn	**Pn**	**11 42 28.3**	**+0.4**
LON	**Longmire**	**12.09**	**131**	*e*P	**Pn**	**11 42 28.3**	**+0.4**
SVW2	**Sparrevohn**	**12.11**	**306**	*e*Pn	**Pn**	**11 42 27.9**	**-0.2**
LTY	**Liberty**	**12.21**	**127**	*e*Pn	**Pn**	**11 42 29.2**	**-0.4**
MLY	**Manley**	**12.26**	**327**	*e*Pn	**Pn**	**11 42 29.8**	**-0.4**
YKA	**Yellowknife Ar**	**12.63**	**48**	Pn	**Pn**	**11 42 35.9**	**+0.7**
	0.3nm,0.3s,baz=245,slow=12,SNR=43						
YKA				Lg	Lg	11 46 08.4	
	0.1nm,0.3s,baz=247,slow=23,SNR=3.7						
YKA	**Yellowknife Ar**	**12.63**	**48**	P	**Pn**	**11 42 36.0**	**+0.7**
YKB5	**Yellowknife Ar**	**12.63**	**48**	*e*Pn	**Pn**	**11 42 35.3**	**0.0**
YKW3	**Yellowknife Ar**	**12.66**	**48**	*e*Pn	**Pn**	**11 42 35.5**	**-0.1**
INK	**Inuvik**	**12.87**	**3**	Pn	**Pn**	**11 42 40.1**	**+1.7**
	0.1nm,0.3s,baz=179,slow=13,SNR=8.6						
INK				Lg	Lg	11 46 21.6	
	0.1nm,0.3s,baz=270,slow=20,SNR=5.5						
INK	**Inuvik**	**12.87**	**3**	*e*Pn	**Pn**	**11 42 38.9**	**+0.4**
INK	**Inuvik**	**12.87**	**3**	*e*P	**Pn**	**11 42 38.9**	**+0.4**
C09A	**Chrisman Ranch**	**12.96**	**119**	*e*Pn	**Pn**	**11 42 39.9**	**0.0**
NEW	**Newport**	**13.24**	**116**	Pn	P	11 42 47.5	-6.2
	0.1nm,0.3s,baz=308,slow=11,SNR=7.7						
NEW				Lg	Lg	11 46 29.3	
	baz=343,slow=4.2,SNR=3.0						
NEW	**Newport**	**13.24**	**116**	*e*Pn	**Pn**	**11 42 43.3**	**-0.3**
NEW	**Newport**	**13.24**	**116**	*e*P	**Pn**	**11 42 43.3**	**-0.3**
NEW	**Newport**	**13.24**	**116**	P	**P**	**11 42 49.8**	**-3.8**
	baz=310,SNR=11						
H04A	**Detroit Lake**	**13.61**	**137**	*e*Pn	**Pn**	**11 42 47.8**	**-1.0**
COLD	**Coldfoot**	**13.75**	**335**	*e*Pn	**Pn**	**11 42 51.0**	**+0.5**
G06A	**Carlson Farm,**	**13.79**	**132**	*e*Pn	**Pn**	**11 42 51.4**	**+0.3**
IM3	**Indian Mountai**	**13.84**	**327**	*e*Pn	**Pn**	**11 42 51.1**	**-0.5**
E09A	**Wood Farm, Sta**	**13.93**	**123**	*e*Pn	**Pn**	**11 42 51.8**	**-1.2**
SDPT	**Sand Point**	**14.38**	**280**	*e*Pn	**Pn**	**11 42 58.0**	**-1.2**
WALA	**Waterton Lakes**	**14.46**	**108**	*e*Pn	**Pn**	**11 42 59.7**	**-0.6**
G08A	**Pilot Rock**	**14.47**	**128**	*e*Pn	**Pn**	**11 42 59.6**	**-1.0**
F10A	**Beach Ranch, E**	**14.76**	**123**	*e*Pn	**Pn**	**11 43 03.7**	**-0.8**
PINE	**Pine Mountain**	**14.85**	**136**	*e*Pn	**Pn**	**11 43 04.6**	**-1.2**
J05D	**Fort Rock, OR**	**15.16**	**138**	P	**P**	**11 43 19.3**	**+4.1**
	baz=329,SNR=8.7						
BMO	**Blue Mountains**	**15.56**	**126**	*e*Pn	**Pn**	**11 43 13.5**	**-1.6**
	7.1nm,1.0s						
BMO	**Blue Mountains**	**15.56**	**126**	*e*P	**Pn**	**11 43 13.5**	**-1.6**
BMO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MSO	**Missoula**	**15.81**	**114**	*e*Pn	**Pn**	**11 43 17.0**	**-1.4**
	comp=Z,4.6nm,0.9s						
MSO	**Missoula**	**15.81**	**114**	P	**P**	**11 43 21.6**	**-0.6**
	baz=311,SNR=10.0						
YBH	**Yreka Blue Hor**	**16.00**	**144**	Pn	**P**	**11 43 27.2**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=263,slow=2.4,SNR=5.4						
J08A	**Circle Bar Ran**	**16.22**	**132**	*e*Pn	**Pn**	**11 43 22.6**	**-1.0**
	comp=Z,11nm,1.1s						
MOD	**Modoc Plateau**	**16.70**	**138**	*e*Pn	**Pn**	**11 43 27.9**	**-1.9**
	comp=Z,2.8nm,0.8s						
HRY	**Holter Researc**	**16.99**	**111**	*e*Pn	**Pn**	**11 43 32.1**	**-1.3**
WDC	**Whiskeytown Da**	**17.09**	**146**	*e*Pn	**P**	**11 43 36.1**	**-0.2**
	comp=Z,3.2nm,0.9s						
WDC	**Whiskeytown Da**	**17.09**	**146**	*e*P	**P**	**11 43 36.1**	**-0.2**
WDC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
EGMT	**Eagleton**	**17.32**	**105**	*e*Pn	**P**	**11 43 38.4**	**-0.5**
	comp=Z,36nm,1.0s						
EGMT	**Eagleton**	**17.32**	**105**	P	**P**	**11 43 40.2**	**+1.3**
	baz=305,SNR=22						
MFID	**Camas Ranch**	**17.34**	**126**	*e*Pn	**P**	**11 43 38.0**	**-1.2**
	comp=Z,3.7nm,1.1s						
ANM	**Nome**	**17.46**	**313**	*e*Pn	**P**	**11 43 38.9**	**-1.3**
	comp=Z,10nm,1.0s						
ANM	**Nome**	**17.46**	**313**	*e*P	**P**	**11 43 38.9**	**-1.3**
ANM				pmax	pmax		
	comp=Z,10.0nm,1.0s						
DLMT	**Dillon**	**17.49**	**116**	*e*Pn	**P**	**11 43 39.7**	**-1.1**
	comp=Z,8.8nm,1.1s						
MCMT	**McKenzie Canyo**	**17.73**	**118**	*e*Pn	**P**	**11 43 42.5**	**-1.2**
BOZ	**Bozeman (W)**	**17.83**	**114**	*e*Pn	**P**	**11 43 43.3**	**-1.3**
	comp=Z,3.6nm,0.9s						
BOZ	**Bozeman (W)**	**17.83**	**114**	*e*P	**P**	**11 43 43.3**	**-1.3**
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BOZ	**Bozeman (W)**	**17.83**	**114**	P	**P**	**11 43 48.4**	**+3.8**
	baz=312						
HLID	**Hailey**	**17.89**	**123**	*e*Pn	**P**	**11 43 44.5**	**-0.9**
	comp=Z,9.9nm,1.1s						
HLID	**Hailey**	**17.89**	**123**	P	**P**	**11 43 49.0**	**+3.6**
	baz=319,SNR=12						
RDOG	**Red Dog Mine**	**17.96**	**325**	*e*Pn	**P**	**11 43 44.8**	**-1.0**
	comp=Z,36nm,1.0s						
ORV	**Oroville**	**18.36**	**145**	*e*P	**P**	**11 43 49.9**	**-0.4**
	comp=Z,1.8nm,0.9s						
ORV	**Oroville**	**18.36**	**145**	*e*P	**P**	**11 43 49.9**	**-0.4**
ORV				pmax	pmax		
	comp=Z,2.0nm,0.9s						
QLMT	**Earthquake Lak**	**18.45**	**115**	*e*P	**Pn**	**11 43 51.4**	**-0.2**
BEKR	**Beckworth**	**18.46**	**142**	*e*P	**Pn**	**11 43 51.7**	**0.0**
	comp=Z,5.5nm,1.1s						
YHB	**Horse Butte**	**18.63**	**115**	*e*P	**Pn**	**11 43 53.0**	**-0.8**
	comp=Z,13nm,1.1s						
GCMT	**Greycliff**	**18.73**	**111**	*e*P	**Pn**	**11 43 54.3**	**-0.7**
YMR	**Madison River**	**18.80**	**115**	*e*P	**Pn**	**11 43 55.3**	**-0.6**
	comp=Z,15nm,1.1s						
FFC	**Flin Flon**	**18.87**	**79**	*e*P	**P**	**11 43 54.5**	**-1.3**
	comp=Z,5.3nm,0.8s						
FFC	**Flin Flon**	**18.87**	**79**	*e*P	**P**	**11 43 54.5**	**-1.3**
FFC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
YNR	**Norris Junctio**	**18.92**	**115**	*e*P	**Pn**	**11 43 55.4**	**-1.9**
	comp=Z,4.4nm,0.9s						
YFT	**Old Faithful**	**19.02**	**115**	*e*P	**Pn**	**11 43 57.4**	**-1.2**
	comp=Z,7.1nm,1.0s						
AFDM	**Forest Hills D**	**19.08**	**144**	*e*P	**Pn**	**11 43 57.2**	**-1.8**
	comp=Z,1.1nm,0.6s						
YPP	**Pitchstone Pla**	**19.16**	**116**	*e*P	**Pn**	**11 43 59.0**	**-1.3**
	comp=Z,3.3nm,1.0s						
LKWY	**Lake**	**19.17**	**114**	*e*P	**Pn**	**11 43 58.6**	**-1.8**
	comp=Z,15nm,1.1s						
LKWY	**Lake**	**19.17**	**114**	*e*P	**Pn**	**11 43 58.6**	**-1.8**
LKWY				pmax	pmax		
	comp=Z,15nm,1.1s						
FLWY	**Flagg Ranch**	**19.35**	**116**	*e*P	**Pn**	**11 44 01.1**	**-1.4**
	comp=Z,8.4nm,0.9s						
IMW	**Indian Meadow**	**19.36**	**117**	*e*P	**Pn**	**11 44 01.2**	**-1.4**
	comp=Z,7.3nm,0.9s						
RLMT	**Red Lodge**	**19.38**	**112**	*e*P	**Pn**	**11 44 01.9**	**-0.9**
	comp=Z,8.1nm,1.0s						
RLMT	**Red Lodge**	**19.38**	**112**	P	**Pn**	**11 44 07.0**	**+4.1**
	baz=312,SNR=8.4						
MOOW	**Moose Ponds**	**19.56**	**117**	*e*P	**Pn**	**11 44 03.1**	**-1.9**
	comp=Z,6.0nm,0.9s						
TPAW	**Teton Pass**	**19.64**	**118**	*e*P	**Pn**	**11 44 04.9**	**-1.1**
	comp=Z,17nm,1.1s						
YERR	**Yerington**	**19.64**	**141**	*e*P	**Pn**	**11 44 04.8**	**-1.2**
	comp=Z,8.3nm,1.1s						
LOHW	**Long Hollow**	**19.73**	**117**	*e*P	**Pn**	**11 44 05.2**	**-1.9**
	comp=Z,7.1nm,1.1s						
ELK	**Elko**	**19.74**	**130**	P	**Pn**	**11 44 11.2**	**+4.0**
	comp=Z,0.1nm,0.3s,baz=325,slow=11,SNR=4.4						
ELK	**Elko**	**19.74**	**130**	*e*P	**Pn**	**11 44 05.3**	**-1.9**
	comp=Z,1.0nm,1.0s						
ELK	**Elko**	**19.74**	**130**	*e*P	**Pn**	**11 44 05.3**	**-1.9**
ELK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
REDW	**Red Top Meadow**	**19.79**	**118**	*e*P	**Pn**	**11 44 05.7**	**-2.0**
	comp=Z,4.8nm,1.1s						
GAMB	**Gambell**	**20.00**	**309**	*e*P	**Pn**	**11 44 07.7**	**-2.1**
	comp=Z,27nm,1.0s						
WAKR	**Walker**	**20.00**	**142**	*e*P	Pn	11 44 07.9	-2.3
	comp=Z,9.3nm,1.1s						
KVN	**Kaiserville**	**20.01**	**138**	*e*P	Pn	11 44 09.0	-1.3
	comp=Z,10nm,1.1s						
HVU	**Hansel Valley**	**20.03**	**124**	*e*P	Pn	11 44 08.9	-1.7
	comp=Z,6.9nm,1.0s						
HVU	**Hansel Valley**	**20.03**	**124**	*e*P	Pn	11 44 08.9	-1.7
HVU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
LAO	**LASA Array**	**20.04**	**104**	*e*P	Pn	11 44 09.5	-1.0
	comp=Z,5.5nm,0.9s						
LAO	**LASA Array**	**20.04**	**104**	P	Pn	11 44 14.5	+3.9
	baz=307						
DGMT	**Dagmar**	**20.17**	**97**	*e*P	Pn	11 44 10.8	-1.2
	comp=Z,20nm,1.1s						
RYN	**Ryan**	**20.22**	**140**	*e*P	Pn	11 44 11.0	-1.8
	comp=Z,4.9nm,1.1s						
NV01	**Mina Array Sit**	**20.48**	**140**	*e*P	Pn	11 44 14.2	-1.7
NVAR	**Mina Array Bea**	**20.48**	**140**	P	Pn	11 44 17.9	+2.1
	comp=Z,1.2nm,0.8s,baz=309,slow=9.4,SNR=5.4						
NV11	**Mina Array Sit**	**20.53**	**139**	*e*P	Pn	11 44 14.8	-1.6
	comp=Z,0.4nm,1.0s						
BW06	**Boulder Array**	**20.87**	**117**	*e*P	Pn	11 44 18.1	-2.4
	comp=Z,9.2nm,1.1s						
BW06	**Boulder Array**	**20.87**	**117**	P	Pn	11 44 24.2	+3.8
	baz=317,SNR=9.3						
PD31	**Pinedale Array**	**20.87**	**117**	*e*P	Pn	11 44 18.4	-2.1
PDAR	**Pinedale Array**	**20.87**	**117**	P	Pn	11 44 22.4	+1.9
	comp=Z,2.7nm,0.8s,baz=316,slow=8.4,SNR=20						
PDAR	**Pinedale Array**	**20.87**	**117**	*e*P	Pn	11 44 18.4	-2.1
TCUT	**Toone Canyon**	**21.20**	**123**	*e*P	**P**	**11 44 21.3**	**-0.2**
	comp=Z,17nm,0.9s						
DUG	**Dugway, Tooele**	**21.27**	**127**	*e*P	**P**	**11 44 22.2**	**0.0**
	comp=Z,7.6nm,1.1s						
DUG	**Dugway, Tooele**	**21.27**	**127**	*e*P	**P**	**11 44 22.2**	**0.0**
DUG				pmax	pmax		
	comp=Z,8.0nm,1.1s						
JLU	**Jordanelle**	**21.58**	**124**	*e*P	**P**	**11 44 25.2**	**-0.4**
	comp=Z,0.6nm,0.3s						
R11A	**Troy Canyon, C**	**21.60**	**134**	*e*P	**P**	**11 44 25.5**	**-0.3**
	comp=Z,0.7nm,1.0s						
R11A	**Troy Canyon, C**	**21.60**	**134**	P	**P**	**11 44 31.0**	**+5.2**
	baz=329						
NLU	**North Lily Min**	**21.80**	**126**	*e*P	**P**	**11 44 28.1**	**+0.1**
	comp=Z,6.5nm,1.1s						
PSUT	**Pine Spring**	**22.17**	**131**	*e*P	**P**	**11 44 31.3**	**-0.7**
	comp=Z,4.4nm,0.9s						
PAGB	**Antelope Grade**	**22.25**	**147**	*e*P	**P**	**11 44 32.8**	**+0.2**
	comp=Z,7.6nm,0.9s						
CWC	**Cottonwood Cre**	**22.33**	**142**	P	**P**	**11 44 36.9**	**+3.3**
	baz=334						
K22A	**Casper**	**22.52**	**113**	*e*P	**P**	**11 44 35.5**	**-0.1**
	comp=Z,20nm,1.1s						
K22A	**Casper**	**22.52**	**113**	P	P	11 44 43.4	+7.7
	baz=315,SNR=8.8						
TPNV	**Topopah Spring**	**22.55**	**138**	*e*P	**P**	**11 44 35.9**	**-0.1**
	comp=Z,6.3nm,0.8s						
TPNV	**Topopah Spring**	**22.55**	**138**	*e*P	**P**	**11 44 35.9**	**-0.1**
TPNV				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TPNV	**Topopah Spring**	**22.55**	**138**	P	**P**	**11 44 40.2**	**+4.2**
	baz=331,SNR=8.3						
DAC	**Darwin (Calif)**	**22.65**	**141**	*e*P	**P**	**11 44 37.6**	**+0.5**
	comp=Z,5.5nm,1.1s						
DAC	**Darwin (Calif)**	**22.65**	**141**	*e*P	**P**	**11 44 37.6**	**+0.5**
DAC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
FURC	**Furnace Creek,**	**22.75**	**139**	P	**P**	**11 44 42.6**	**+4.8**
	baz=333						
P17A	**Butcher Ranch,**	**22.80**	**125**	*e*P	**P**	**11 44 38.8**	**+0.1**
	comp=Z,3.8nm,1.0s						
RWWY	**Rawlins**	**22.85**	**116**	*e*P	**P**	**11 44 39.8**	**+0.5**
	comp=Z,7.2nm,1.0s						
RSSD	**Black Hills**	**22.85**	**107**	*e*P	**P**	**11 44 39.7**	**+0.5**
	comp=Z,6.8nm,0.8s						
RSSD	**Black Hills**	**22.85**	**107**	*e*P	**P**	**11 44 39.7**	**+0.5**
RSSD				pmax	pmax		
	comp=Z,7.0nm,0.8s						
RSSD	**Black Hills**	**22.85**	**107**	P	**P**	**11 44 43.9**	**+4.7**
	baz=311						
MSU	**Marysvale**	**22.92**	**128**	*e*P	**P**	**11 44 40.0**	**+0.1**
MSU	**Marysvale**	**22.92**	**128**	*e*P	**P**	**11 44 40.0**	**+0.1**
Q16A	**Castle Valley**	**23.05**	**126**	*e*P	**P**	**11 44 42.1**	**+0.9**
	comp=Z,6.3nm,1.0s						
CCUT	**Cedar City**	**23.20**	**132**	*e*P	**P**	**11 44 43.1**	**+0.3**
	comp=Z,2.2nm,0.9s						
SZCU	**Shurtz Canyon**	**23.28**	**131**	*e*P	**P**	**11 44 44.2**	**+0.5**
	comp=Z,3.6nm,1.0s						
LRMC	**Laurel Mtn Rad**	**23.33**	**142**	P	**P**	**11 44 47.4**	**+3.4**
	baz=335						
SHOC	**Shoshone, Teco**	**23.47**	**139**	P	**P**	**11 44 50.6**	**+5.3**
	baz=333						
GSC	**Goldstone, Bar**	**23.80**	**140**	*e*P	**P**	**11 44 49.8**	**+1.1**
	comp=Z,8.2nm,1.0s						
GSC	**Goldstone, Bar**	**23.80**	**140**	*e*P	**P**	**11 44 49.8**	**+1.1**
GSC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GSC	**Goldstone, Bar**	**23.80**	**140**	P	**P**	**11 44 52.9**	**+4.2**
	baz=334						
TUQ	**Turquoise Moun**	**24.01**	**139**	P	**P**	**11 44 54.7**	**+4.0**
	baz=333						
ULM	**Lac du Bonnet**	**24.01**	**86**	P	**P**	**11 44 55.1**	**+4.6**
	comp=Z,1.4nm,0.7s,baz=315,slow=5.7,SNR=2.5						
ULM				Lg	Lg	11 52 13.1	
	comp=Z,2.0nm,0.9s,baz=319,slow=5.7,SNR=3.6						
N23A	**Red Feather La**	**24.08**	**115**	*e*P	**P**	**11 44 50.5**	**-1.0**
	comp=Z,2.8nm,1.1s						
PV09	**Paradox Valley**	**24.34**	**123**	*e*P	**P**	**11 44 53.5**	**-0.3**
HEC	**Hector,Ludlow**	**24.40**	**140**	P	**P**	**11 44 59.6**	**+5.4**
	baz=334						
BFSC	**Mount Baldy Ra**	**24.46**	**143**	P	**P**	**11 44 59.9**	**+5.0**
	baz=336						
PV14	**Lion Creek, Pa**	**24.49**	**124**	*e*P	**P**	**11 44 55.0**	**-0.2**
	comp=Z,7.7nm,1.0s						
PV16	**Nyswonger Mesa**	**24.59**	**123**	*e*P	**P**	**11 44 56.3**	**+0.3**
	comp=Z,6.9nm,1.0s						
PV17	**East Wray Mesa**	**24.59**	**124**	*e*P	**P**	**11 44 56.0**	**-0.1**
	comp=Z,11nm,1.2s						
PV11	**David Mesa, Pa**	**24.62**	**123**	*e*P	**P**	**11 44 57.0**	**+0.7**
	comp=Z,7.6nm,0.9s						
LDFC	**Landfair**	**24.63**	**138**	*e*P	**P**	**11 44 55.6**	**-0.8**
	comp=Z,14nm,1.0s						
PV12	**Saucer Basin,**	**24.64**	**123**	*e*P	**P**	**11 44 56.9**	**+0.4**
	comp=Z,8.1nm,1.0s						
PV03	**Paradox Valley**	**24.66**	**123**	*e*P	**P**	**11 44 56.8**	**0.0**
RES	**Resolute Bay**	**24.73**	**24**	P	**P**	**11 44 59.9**	**+3.2**
	comp=Z,1.9nm,0.8s,baz=238,slow=12,SNR=9.0						
RES	**Resolute Bay**	**24.73**	**24**	*e*P	**P**	**11 44 57.6**	**+0.9**
	comp=Z,14nm,1.0s						
RES	**Resolute Bay**	**24.73**	**24**	*e*P	**P**	**11 44 57.7**	**+0.9**
RES				pmax	pmax		
	comp=Z,14nm,1.0s						
PV13	**Radium Mtn., P**	**24.75**	**124**	*e*P	**P**	**11 44 58.1**	**+0.5**
	comp=Z,7.7nm,0.9s						
PV01	**Paradox Valley**	**24.89**	**123**	*e*P	**P**	**11 44 58.7**	**-0.2**
ISCO	**Idaho Springs**	**25.07**	**116**	*e*P	**P**	**11 45 00.1**	**-0.4**
	comp=Z,4.7nm,1.1s						
ISCO	**Idaho Springs**	**25.07**	**116**	*e*P	**P**	**11 45 00.1**	**-0.4**
ISCO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
W13A	**Hualapai Mount**	**25.09**	**136**	*e*P	**P**	**11 44 60.0**	**-0.7**
	comp=Z,4.2nm,0.9s						
BELC	**Belle Mtn. Jos**	**25.26**	**140**	P	P	11 45 07.6	+5.5
	baz=334						
PFO	**Pinyon Flats O**	**25.45**	**142**	P	**P**	**11 45 08.6**	**+4.9**
	baz=335						

WUAZ	**Wupatki**	**25.77**	**131**	*e*P	**P**	**11 45 06.6**	**-0.1**
	comp=Z,8.4nm,1.1s						
MONP2	**Monument Peak**	**26.11**	**142**	P	P	11 45 15.4	+5.5
	baz=336						
214A	**Organ Pipe Nat**	**28.28**	**137**	P	P	11 45 34.6	+5.5
	baz=333						
BILL	**Bilibino**	**29.14**	**319⇓**	*e*P	P	11 45 39.3	+2.8
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
WMOK	**Wichita Mounta**	**32.44**	**115**	P	P	11 46 09.4	+3.6
	baz=321,SNR=5.2						
U40A	**Yellville**	**34.38**	**106**	P	P	11 46 29.2	+6.5
	baz=318						
LTX	**Lajitas**	**34.44**	**126**	*e*P	P	11 46 27.4	+3.9
LTX	**Lajitas**	**34.44**	**126**	*e*P	P	11 46 27.4	+3.9
TX31	**Lajitas Ar. Si**	**34.44**	**126**	*e*P	**P**	**11 46 23.4**	**0.0**
TXAR	**Lajitas Array**	**34.44**	**126**	P	P	11 46 27.4	+3.9
	comp=Z,0.7nm,0.9s,baz=332,slow=7.7,SNR=6.5						
V41A	**Mountainview**	**35.18**	**106**	P	P	11 46 36.5	+6.8
	baz=318						
MIAR	**Mount Ida**	**35.34**	**109**	P	P	11 46 39.0	+8.0
	baz=319						
SEY	**Seymchan**	**35.95**	**312⇓**	*e*P	P	11 46 40.1	+4.1
PET	**Petropavlovsk**	**37.45**	**295⇓**	*e*P	P	11 46 53.2	+4.3
PET				pmax	pmax		
	comp=Z,88nm,1.3s						
MA2	**Magadan**	**38.08**	**307⇓**	*e*P	P	11 46 59.0	+4.8
MA2				pmax	pmax		
	comp=Z,28nm,2.5s						
SUMG	**Summit**	**40.16**	**28**	*i* P	P	11 47 21.0	+9.2
	comp=Z,58nm,1.0s						
SUMG	**Summit**	**40.16**	**28**	*i* P	P	11 47 21.0	+9.2
SUMG				pmax	pmax		
	comp=Z,58nm,1.0s						
TIXI	**Tiksi**	**40.44**	**331⇓**	*e*P	P	11 47 16.8	+3.2
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						
DAG	**Danmarks Havn**	**42.11**	**18**	*i* P	**P**	**11 47 29.7**	**+2.4**
	comp=Z,3.3nm,0.9s						
DAG				*i*		11 47 35.7	
DAG	**Danmarks Havn**	**42.11**	**18**	*i* P	**P**	**11 47 29.7**	**+2.4**
DAG				*i*		11 47 35.7	
DAG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KLR	**Kul'dur**	**53.09**	**305⇑**	*e*P	P	11 48 56.2	+3.3
BOD	**Bodaibo**	**54.12**	**322**	*e*P	**P**	**11 49 02.3**	**+2.0**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.8s						
MAJO	**Matsushiro**	**59.07**	**290**	*e*P	P	11 49 39.1	+3.3
MAJO	**Matsushiro**	**59.07**	**290⇓**	*e*P	P	11 49 39.3	+3.4
MAJO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MJAR	**Matsushiro Arr**	**59.07**	**290**	P	P	11 49 39.1	+3.3
	comp=Z,1.4nm,0.9s,baz=72,slow=4.9,SNR=4.7						
NB2	**NORSAR Subarra**	**60.79**	**18**	P	**P**	**11 49 49.1**	**+1.7**
	comp=Z,6.1nm,1.1s,baz=340,slow=6.9						
NB200	**NORSAR Array S**	**60.79**	**18**	*e*P	**P**	**11 49 49.4**	**+2.0**
NOA	**NORSAR Array B**	**60.79**	**18**	P	**P**	**11 49 49.4**	**+2.0**
	comp=Z,1.2nm,0.8s,baz=341,slow=6.7,SNR=3.2						
IRK	**Irkutsk**	**61.94**	**323**	*e*P	**P**	**11 49 54.3**	**-1.0**
IRK				pmax	pmax		
	comp=Z,145nm,0.1s						
KSRS	**Korea Array**	**63.70**	**298**	P	P	11 50 10.7	+3.6
	comp=Z,1.9nm,0.8s,baz=43,slow=7.9,SNR=4.5						
KSAR	**Wonju Array Be**	**63.73**	**298**	P	P	11 50 10.7	+3.4
KSAR	**Wonju Array Be**	**63.73**	**298**	P	P	11 50 10.7	+3.4
SONA0	**Songino Array**	**64.86**	**319**	*e*P	P	11 50 18.6	+3.8
SONM	**Songino Array**	**64.86**	**319**	P	P	11 50 18.6	+3.8
	comp=Z,0.4nm,0.4s,baz=22,slow=4.7,SNR=4.0						
ZAA1	**Zalesovo Array**	**66.08**	**335**	*e*P	**P**	**11 50 24.3**	**+1.9**
ZAA0	**Zalesovo Array**	**66.08**	**335**	*e*P	**P**	**11 50 20.7**	**-1.7**
	comp=Z,2.4nm,0.8s						
ZALV	**Zalesovo Beam**	**66.08**	**335**	P	**P**	**11 50 24.3**	**+1.9**
	comp=Z,2.3nm,0.7s,baz=2.1,slow=8.0,SNR=9.1						
ZALV	**Zalesovo Beam**	**66.08**	**335**	*e*P	**P**	**11 50 22.1**	**-0.3**
ZALV	**Zalesovo Beam**	**66.08**	**335**	*i* P	**P**	**11 50 24.7**	**+2.3**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARU	**Arti**	**67.87**	**352**	P	**P**	**11 50 35.8**	**+2.1**
ARU						11 53 00.3	
ARU				S	**S**	**11 59 33.8**	**+2.0**
ARU				SS	**SS**	**12 03 53.5**	**+1.4**
DGZ	**Jazzator, Alta**	**69.31**	**332⇑**	*e*P	P	11 50 46.8	+3.7
DGZ				pmax	pmax		
	comp=Z,3.0nm,1.4s						
BRVK	**Borovoye**	**69.79**	**344⇓**	*e*P	**P**	**11 50 48.4**	**+2.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**70.49**	**338⇑**	*e*P	**P**	**11 50 52.0**	**+2.0**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
LPSR	**Galich'ya Gora**	**72.15**	**4**	*e*P	**P**	**11 50 55.5**	**-4.5**
LPSR				pmax	pmax		
	comp=Z,20nm,1.3s						
MK31	**Makanchi Array**	**73.32**	**334**	*e*P	**P**	**11 51 07.3**	**+0.1**
MK31	**Makanchi Array**	**73.32**	**334**	*e*P	**P**	**11 51 07.3**	**+0.1**
MK32	**Makanchi Array**	**73.32**	**334**	*e*P	**P**	**11 51 09.6**	**+2.4**
MKAR	**Makanchi Array**	**73.32**	**334**	P	**P**	**11 51 09.6**	**+2.4**
	comp=Z,3.5nm,0.8s,baz=39,slow=5.5,SNR=34						
MKAR	**Makanchi Array**	**73.32**	**334**	*e*P	**P**	**11 51 06.6**	**-0.6**
	comp=Z,16nm,0.8s						
MK01	**Makanchi Array**	**73.34**	**334**	*e*P	**P**	**11 51 07.0**	**-0.3**
KIEV	**Kiev**	**73.37**	**10⇑**	*e*P	P	11 51 13.5	+6.2
KIEV				pmax	pmax		
	comp=Z,8.0nm,1.4s						
VSR	**Storozhevoye**	**73.54**	**4**	*e*P	**P**	**11 51 10.7**	**+2.4**
VSR				pmax	pmax		
	comp=Z,5.0nm,0.4s						
VRH	**Novokhopyorsk**	**73.63**	**2**	*e*P	P	11 51 13.6	+4.8
VRH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
WMQ	**Urumqi**	**74.62**	**329**	*e*P	P	11 51 19.1	+4.2
ABKAR	**Akbulak array**	**74.85**	**350**	*e*P	**P**	**11 51 16.0**	**0.0**
ES19	**SONSECA Array**	**76.47**	**37**	*e*P	**P**	**11 51 24.9**	**-0.6**
ESDC	**Sonseca Array**	**76.47**	**37**	P	**P**	**11 51 28.2**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=327,slow=7.1,SNR=4.9						
AAK	**Ala-Archa**	**79.05**	**338⇓**	*e*P	P	11 51 43.1	+3.1
AAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
KIV	**Kislovodsk**	**80.90**	**2**	*e*P	**P**	**11 51 52.0**	**+2.1**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KSH	**Kashi**	**81.70**	**336**	P	P	11 51 58.7	+4.4
KSH				sP	PcP	11 52 05.7	+5.6
KSH				PP	PP	11 55 08.6	+8.4
KSH	**Kashi**	**81.70**	**336**	S	**S**	**12 02 08.0**	**+1.1**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,13µm,11.3s						
BR101	**Keskin Array S**	**84.66**	**9**	*e*P	**P**	**11 52 11.3**	**+1.8**
BRTR	**Keskin Array B**	**84.66**	**9**	P	**P**	**11 52 11.3**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=339,slow=7.7,SNR=2.5						
CMAR	**Chiang Mai Arr**	**93.34**	**310**	*ce*P	P	11 52 54.7	+3.7
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						

ISCJB ***05*** *11:45:24.5±1.8, 34°.92S±0°.05×72°.66W±0°.10, h10km±9km, Error ellipse: s-maj=13.5km s-min=7.5km az=15.9*

GUC ***05*** *11:45:25.3±0.6, 34°.87S×72°.65W, h23km±5km, ML3.5*

ISC 05 11:45:22.0±3.4**, 34°.88S**±0°.06×**72°.7W**±0°.1**, h2**km±20km**, n12,** σ**2ˢ.06**/19**, 1C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GO05	**Huala**	**0.67**	**102⇑**	*e*P	**Pb**	**11 45 36.5**	**+0.1**
GO05				*i* S	**Sb**	**11 45 44.5**	**-1.6**
GO05				IAML		11 45 47.4	
	comp=N,4µm,0.3s						
CCHI	**Chillan**	**1.80**	**163**	*e*P	**Pn**	**11 45 54.8**	**+0.8**
CCHI				*i* S	**Sn**	**11 46 17.4**	**-0.1**
CCHI				IAML		11 46 26.0	
	comp=E,1µm,0.5s						
LMEL	**Las Melosas**	**2.33**	**65**	*e*P	**Pb**	**11 46 03.6**	**-1.1**
LMEL				*i* S	**Sb**	**11 46 32.5**	**-1.5**
LMEL				IAML		11 46 40.3	
	comp=E,430nm,0.2s						
CLCH	**Cerro Calan**	**2.34**	**52**	*e*P	**Pn**	**11 46 02.4**	**+0.8**
CLCH				*e*S	**Sn**	**11 46 31.1**	**+0.2**
CLCH				IAML		11 46 43.6	
	comp=N,422nm,0.4s						
ROCH	**El Roble**	**2.38**	**37**	*e*P	**Pn**	**11 46 02.8**	**+0.6**
ROCH				IAML		11 46 49.0	
	comp=N,255nm,0.5s						
PEL	**Peldehue**	**2.42**	**45**	*e*P	**Pn**	**11 46 03.8**	**+1.1**
PEL				*e*S	**Sb**	**11 46 34.9**	**-1.8**
PEL				IAML		11 46 43.8	
	comp=E,205nm,0.5s						
FCH	**Farellones**	**2.55**	**53**	*e*P	**Pn**	**11 46 05.9**	**+1.3**
FCH				*e*S	**Sn**	**11 46 36.4**	**+0.1**
FCH				IAML		11 46 47.8	
	comp=N,157nm,0.3s						
AAGR	**Agrelo**	**3.70**	**62**	*i* P	**Pb**	**11 46 26.4**	**-1.8**
ARCO	**CERRO ARCO**	**3.76**	**58**	*i* P	**Pb**	**11 46 26.1**	**-3.0**
ARCO				IAML		11 46 35.0	
	comp=Z,29nm,0.4s						
ARCO				*i* S	**Sg**	**11 47 24.0**	**+1.3**
AUSP	**Uspallata**	**3.85**	**47**	*i* P	**Pn**	**11 46 25.3**	**+2.9**
ASAL	**Salagasta**	**3.97**	**56**	*i* P	**Pn**	**11 46 28.3**	**+4.4**
RTLS	**Leoncito**	**4.21**	**44**	*i* P	**Pn**	**11 46 30.2**	**+2.8**
RTLS				IAML		11 47 39.2	
	comp=Z,21nm,0.5s						

ISCJB ***05*** *12:05:51.5±0.2, 55°.91N±0°.02×135°.49W±0°.05, h14km, mb3.9/21, Error ellipse: s-maj=4.7km s-min=2.1km az=137.1*

IDC ***05*** *12:05:53.3±0.8, 55°.86N×135°.37W, h0km, mb3.6/9, mb1 3.9/15, mb1mx3.8/49, mbtmp3.7/15, ML3.6/6, Error ellipse: s-maj=12.9km s-min=9.7km az=48.0*

NEIC ***05*** *12:05:54.0±0.0, 55°.94N×135°.40W, h21km, mb3.9/32, ML3.8(AEIC), After AEIC.*

ISC 05 12:05:54.1±0.6**, 55°.91N**±0°.04×**135°.44W**±0°.05**, h14**km**, n122,** σ**1ˢ.30**/137**, mb4.0**/21**, Off coast of southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIT	**Sitka**	**1.15**	**3**	*e*Pn	**Pn**	**12 06 13.6**	**-2.2**
SIT				*e*Sn	**Sb**	**12 06 29.3**	**-1.3**
CRAG	**Craig**	**1.38**	**108**	*e*Pn	**Pn**	**12 06 17.4**	**-1.5**
CRAG				*e*Sn	**Sn**	**12 06 35.8**	**-1.2**
WRAK	**Wrangell Islan**	**1.80**	**72**	*e*Pn	**Pn**	**12 06 23.3**	**-1.5**
WRAK				*e*Sn	**Sn**	**12 06 45.2**	**-2.2**
NDB	**Naden**	**2.43**	**143**	P	**Pn**	**12 06 32.8**	**-0.6**
JIS	**Juneau Island**	**2.44**	**13**	*e*Pn	**Pn**	**12 06 32.6**	**-0.9**
JIS				*e*Sn	**Sn**	**12 07 04.0**	**+0.9**
BESE	**Bessie Mountai**	**2.70**	**7**	*e*Pn	**Pn**	**12 06 36.0**	**-1.1**
DIB	**Dawson Inlet,**	**3.21**	**146**	*e*Pn	**Pn**	**12 06 43.5**	**-0.6**
H02S1	**DAWSON INLET T**	**3.21**	**146**	Pn	**Pn**	**12 06 43.4**	**-0.8**
H02S1				Sn	**Sn**	**12 07 20.9**	**-1.3**
SKAG	**Skagway**	**3.56**	**1**	*e*Pn	**Pn**	**12 06 48.4**	**-0.5**
PLBC	**Pleasant Camp**	**3.59**	**352**	*e*Pn	**Pn**	**12 06 49.4**	**+0.1**
DLBC	**Dease Lake**	**3.88**	**47**	Pn	**Pn**	**12 06 53.5**	**0.0**
	2.7nm,0.3s,baz=215,slow=10.0,SNR=28						
DLBC				Pg	**Pb**	**12 07 02.8**	**+0.4**
	16nm,0.3s,baz=197,slow=8.5,SNR=34						
DLBC				Sn	**Sn**	**12 07 37.7**	**-1.2**
	17nm,0.3s,baz=204,slow=15,SNR=4.3						
DLBC				Lg	Lg	12 07 50.7	
	54nm,0.3s,baz=332,slow=9.2,SNR=9.9						
DLBC	**Dease Lake**	**3.88**	**47**	*e*Pn	**Pn**	**12 06 53.0**	**-0.4**
BNB	**Barry Inlet**	**3.98**	**146**	*e*Pn	**Pn**	**12 06 53.9**	**-0.8**
WHY	**Whitehorse**	**4.77**	**3**	*e*Pn	**Pn**	**12 07 05.0**	**-0.7**
YUK7	**Dusty Glacier**	**4.85**	**344**	*e*Pn	**Pn**	**12 07 07.5**	**+0.7**
PCA	**Pinnacle**	**4.92**	**331**	*e*Pn	**Pn**	**12 07 07.5**	**-0.1**
PCA				*e*Sn	**Sn**	**12 08 03.2**	**-1.0**
HYT	**Haines Junctio**	**5.05**	**348**	*e*Pn	**Pn**	**12 07 08.5**	**-1.0**
SAMH	**Samovar Hills**	**5.09**	**328**	P	**Pn**	**12 07 11.2**	**+1.1**
YUK5	**Granite Creek**	**5.39**	**347**	*e*Pn	**Pn**	**12 07 14.9**	**+0.7**
BBB	**Bella Bella**	**5.70**	**128**	Pn	**Pn**	**12 07 17.4**	**-0.9**
	5.6nm,0.3s,baz=315,slow=7.4,SNR=36						
BBB				Sn	**Sn**	**12 08 22.2**	**-1.3**
	4.9nm,0.3s,baz=102,slow=21,SNR=8.9						
BBB				Lg	Lg	12 08 49.0	
	2.9nm,0.3s,baz=131,slow=9.3,SNR=2.2						
BBB	**Bella Bella**	**5.70**	**128**	*e*Pn	**Pn**	**12 07 17.8**	**-0.5**
BBB				*e*Sn	**Sn**	**12 08 21.3**	**-2.2**
RAGM	**Ragged Mountai**	**6.63**	**316**	*e*Pn	**Pn**	**12 07 31.6**	**+0.5**
EYAK	**Cordova Ski Ar**	**7.16**	**315**	*e*Pn	**Pn**	**12 07 39.9**	**+1.7**
KLU	**Klutina**	**7.81**	**320**	*e*Pn	**Pn**	**12 07 46.9**	**-0.4**
HARP	**HAARP**	**8.20**	**327**	*e*Pn	**Pn**	**12 07 54.7**	**+2.1**
DAWY	**Dawson**	**8.42**	**348**	*e*Pn	**Pn**	**12 07 55.0**	**-0.6**
SEW	**Seward**	**8.54**	**305**	*e*Pn	**Pn**	**12 07 56.1**	**-1.1**
SCM	**Sheep Creek Mo**	**8.55**	**319**	*e*Pn	**Pn**	**12 07 57.4**	**0.0**
KNK	**Knik Glacier**	**8.73**	**314**	*e*Pn	**Pn**	**12 07 58.8**	**-1.1**
DOT	**Dot Lake**	**8.89**	**334**	*e*Pn	**Pn**	**12 08 02.5**	**+0.5**
SML	**Sawmill**	**8.91**	**317**	*e*Pn	**Pn**	**12 08 01.5**	**-0.8**
BRLK	**Bradley Lake**	**9.09**	**301**	*e*Pn	**Pn**	**12 08 04.0**	**-0.9**
BRLK				*e*Sn	**Sn**	**12 09 43.6**	**-3.3**
RC01	**Rabbit Creek A**	**9.10**	**311**	*e*Pn	**Pn**	**12 08 03.8**	**-1.0**
RC01				*e*Sn	**Sn**	**12 09 44.1**	**-2.8**
PMR	**Palmer**	**9.10**	**314**	*e*Pn	**Pn**	**12 08 04.3**	**-0.6**
PMR				*e*Sn	**Sn**	**12 09 44.2**	**-2.9**
GHO	**Glory Hole Cre**	**9.12**	**316**	*e*Pn	**Pn**	**12 08 04.6**	**-0.7**
GHO				*e*Sn	**Sn**	**12 09 45.5**	**-2.1**
SCRK	**Sand Creek**	**9.15**	**336**	*e*Pn	**Pn**	**12 08 04.4**	**-1.2**
RIDG	**Independ'e Rid**	**9.16**	**333**	*e*Pn	**Pn**	**12 08 05.8**	**+0.1**
DHY	**Denali Highway**	**9.39**	**325**	*e*Pn	**Pn**	**12 08 08.8**	**-0.2**
KDAK	**Kodiak Island**	**9.58**	**288**	Pn	**Pn**	**12 08 09.7**	**-1.7**
	1.1nm,0.3s,baz=106,slow=7.7,SNR=16						
KDAK				Sn	**Sn**	**12 09 54.2**	**-4.5**
	baz=89,slow=16,SNR=1.8						
KDAK				Lg	Lg	12 10 55.7	
	0.5nm,0.3s,baz=76,slow=6.8,SNR=10						
KDAK	**Kodiak Island**	**9.58**	**288**	*e*Pn	**Pn**	**12 08 11.0**	**-0.4**
SUA	**Susitna One**	**9.71**	**311**	*e*Pn	**Pn**	**12 08 14.3**	**+1.1**
RND	**Reindeer**	**10.11**	**323**	*e*Pn	**Pn**	**12 08 19.4**	**+0.6**
RSO	**Redoubt South**	**10.20**	**304**	*e*Pn	**Pn**	**12 08 21.1**	**+0.9**
RSO				*e*Sn	**Sn**	**12 10 11.5**	**-2.9**
MCK	**McKinley**	**10.35**	**325**	*e*Pn	**Pn**	**12 08 21.6**	**-0.5**
EPYK	**Eagle Plains**	**10.52**	**357**	*e*Pn	**Pn**	**12 08 23.6**	**-0.7**
IL1	**Eielson Array**	**10.52**	**332**	*e*Pn	**Pn**	**12 08 23.6**	**-0.7**
ILAR	**Eielson Array**	**10.52**	**332**	Pn	**Pn**	**12 08 25.4**	**+1.1**
	0.2nm,0.3s,baz=158,slow=13,SNR=20						
ILB	**Eielson Array**	**10.52**	**332**	*e*Pn	**Pn**	**12 08 24.1**	**-0.3**
WRH	**Wood River Hil**	**10.62**	**329**	*e*Pn	**Pn**	**12 08 25.5**	**-0.2**
TRF	**Thorofare Moun**	**10.63**	**321**	*e*Pn	**Pn**	**12 08 25.7**	**-0.2**
PRP	**Porcupine Dome**	**10.81**	**337**	*e*Pn	**Pn**	**12 08 28.3**	**-0.1**
PPLA	**Purkeypile**	**11.01**	**316**	*e*Pn	**Pn**	**12 08 31.0**	**-0.2**
MDM	**Murphy Dome**	**11.03**	**330**	*e*Pn	**Pn**	**12 08 31.1**	**-0.2**
CAST	**Castle Rocks**	**11.26**	**319**	*e*Pn	**Pn**	**12 08 34.2**	**-0.2**
BPAW	**Bear Paw Mtn.**	**11.28**	**323**	*e*Pn	**Pn**	**12 08 34.2**	**-0.5**
SVW2	**Sparrevohn**	**11.72**	**305**	*e*Pn	**Pn**	**12 08 41.1**	**+0.3**
MLY	**Manley**	**11.82**	**327**	*e*Pn	**Pn**	**12 08 41.6**	**-0.4**
B08A	**Colville Reser**	**12.43**	**121**	*e*Pn	**Pn**	**12 08 50.9**	**+0.4**
INK	**Inuvik**	**12.47**	**3**	Pn	**Pn**	**12 08 53.0**	**+2.1**
	0.1nm,0.3s,baz=174,slow=9.9,SNR=6.6						
INK				Lg	Lg	12 12 25.3	
	0.0nm,0.3s,baz=262,slow=31,SNR=3.6						
INK	**Inuvik**	**12.47**	**3**	*e*Pn	**Pn**	**12 08 50.7**	**-0.3**
LON	**Longmire**	**12.50**	**132**	*e*Pn	**Pn**	**12 08 51.8**	**+0.3**
YKA	**Yellowknife Ar**	**12.51**	**50**	Pn	**Pn**	**12 08 50.7**	**-0.7**
	0.2nm,0.3s,baz=248,slow=12,SNR=18						
YKA				Lg	Lg	12 12 20.6	
	0.1nm,0.3s,baz=250,slow=26,SNR=4.2						
YKB5	**Yellowknife Ar**	**12.51**	**50**	*e*Pn	**Pn**	**12 08 49.4**	**-2.0**
YKW3	**Yellowknife Ar**	**12.53**	**49**	*e*Pn	**Pn**	**12 08 50.9**	**-0.9**
LTY	**Liberty**	**12.60**	**127**	*e*Pn	**Pn**	**12 08 52.0**	**-0.9**
COLD	**Coldfoot**	**13.30**	**334**	*e*Pn	**Pn**	**12 09 03.0**	**+0.8**
IM3	**Indian Mountai**	**13.39**	**326**	*e*Pn	**Pn**	**12 09 02.6**	**-0.9**
NEW	**Newport**	**13.59**	**117**	Pn	**P**	**12 09 10.8**	**-4.4**
	0.1nm,0.3s,baz=324,slow=11,SNR=7.1						
NEW	**Newport**	**13.59**	**117**	*e*Pn	**Pn**	**12 09 06.3**	**0.0**
WALA	**Waterton Lakes**	**14.76**	**109**	*e*Pn	**Pn**	**12 09 21.4**	**-1.0**
F10A	**Beach Ranch, E**	**15.14**	**123**	*e*Pn	**Pn**	**12 09 26.1**	**-1.4**
	4.7nm,1.0s						
MSO	**Missoula**	**16.15**	**115**	*e*Pn	**Pn**	**12 09 39.9**	**-0.8**
	7.0nm,1.2s						
HRY	**Holter Researc**	**17.32**	**112**	*e*Pn	**Pn**	**12 09 54.6**	**-0.8**
WDC	**Whiskeytown Da**	**17.53**	**146**	*e*Pn	**Pn**	**12 09 56.5**	**-1.5**
	4.9nm,1.0s						
MFID	**Camas Ranch**	**17.74**	**127**	*e*Pn	**Pn**	**12 10 00.1**	**-0.4**
	4.9nm,1.1s						
DLMT	**Dillon**	**17.84**	**117**	*e*Pn	**Pn**	**12 10 01.2**	**-0.7**
	8.2nm,1.0s						
MCMT	**McKenzie Canyo**	**18.09**	**118**	*e*Pn	**P**	**12 10 05.2**	**-0.3**
BOZ	**Bozeman (W)**	**18.17**	**115**	*e*Pn	**Pn**	**12 10 04.9**	**-1.0**
	5.2nm,1.1s						
HLID	**Hailey**	**18.27**	**124**	*e*Pn	**Pn**	**12 10 06.6**	**-0.7**
	3.8nm,0.9s						
QLMT	**Earthquake Lak**	**18.80**	**116**	*e*P	**P**	**12 10 11.2**	**-2.0**
YHB	**Horse Butte**	**18.97**	**116**	*e*P	**P**	**12 10 14.5**	**-0.6**
	7.5nm,1.1s						
FFC	**Flin Flon**	**18.98**	**80**	*e*P	**P**	**12 10 13.6**	**-1.3**
	4.7nm,0.9s						
YMR	**Madison River**	**19.15**	**116**	*e*P	**P**	**12 10 16.1**	**-1.0**
	8.1nm,1.1s						
H17A	**Grant Village**	**19.54**	**116**	*e*P	**P**	**12 10 20.5**	**-0.9**
	3.9nm,1.0s						
RLMT	**Red Lodge**	**19.71**	**112**	*e*P	**P**	**12 10 22.2**	**-1.0**
	5.7nm,1.1s						
IMW	**Indian Meadow**	**19.71**	**117**	*e*P	**P**	**12 10 22.2**	**-1.0**
	4.1nm,1.1s						
TPAW	**Teton Pass**	**20.00**	**118**	*e*P	**P**	**12 10 25.8**	**-0.6**
	9.2nm,1.4s						
YERR	**Yerington**	**20.08**	**141**	*e*P	**P**	**12 10 26.8**	**-0.4**
	3.8nm,1.0s						
REDW	**Red Top Meadow**	**20.14**	**118**	*e*P	**P**	**12 10 27.4**	**-0.5**
	10nm,1.4s						
LAO	**LASA Array**	**20.33**	**105**	*e*P	**P**	**12 10 28.7**	**-1.0**
	6.2nm,1.0s						
DGMT	**Dagmar**	**20.41**	**98**	*e*P	**P**	**12 10 30.2**	**-0.4**
	32nm,1.3s						
HVU	**Hansel Valley**	**20.42**	**124**	*e*P	**P**	**12 10 30.4**	**-0.4**
	3.2nm,0.9s						
NV01	**Mina Array Sit**	**20.91**	**140**	*e*P	**P**	**12 10 35.6**	**-0.6**
NVAR	**Mina Array Bea**	**20.91**	**140**	P	Pn	12 10 37.2	-1.5
	1.0nm,0.8s,baz=327,slow=10,SNR=7.2						
NV11	**Mina Array Sit**	**20.96**	**139**	*e*P	**P**	**12 10 36.1**	**-0.6**
	0.4nm,0.9s						
BW06	**Boulder Array**	**21.23**	**117**	*e*P	**P**	**12 10 38.6**	**-1.0**
	6.1nm,1.2s						
PD31	**Pinedale Array**	**21.23**	**117**	*e*P	**P**	**12 10 38.2**	**-1.4**
PDAR	**Pinedale Array**	**21.23**	**117**	P	**P**	**12 10 42.1**	**+2.5**
	2.7nm,0.9s,baz=306,slow=5.0,SNR=13						
PDAR	**Pinedale Array**	**21.23**	**117**	*e*P	**P**	**12 10 38.2**	**-1.4**
TCUT	**Toone Canyon**	**21.57**	**123**	*e*P	**P**	**12 10 43.0**	**-0.4**
	12nm,1.0s						
CTU	**Camp Tracy**	**21.75**	**124**	*e*P	**P**	**12 10 45.9**	**+0.7**
	5.2nm,1.0s						
JLU	**Jordanelle**	**21.96**	**124**	*e*P	**P**	**12 10 47.6**	**0.0**
	5.1nm,1.1s						
FCC	**Fort Churchill**	**22.24**	**65**	*e*P	**P**	**12 10 49.4**	**-0.7**
	13nm,1.4s						
PSUT	**Pine Spring**	**22.58**	**131**	*e*P	**P**	**12 10 53.8**	**-0.4**
	4.0nm,1.2s						
TPNV	**Topopah Spring**	**22.98**	**138**	*e*P	**P**	**12 10 57.9**	**-0.4**
	6.6nm,0.8s						
MSU	**Marysvale**	**23.32**	**129**	*e*P	**P**	**12 11 02.9**	**+1.0**
GSTR	**Great Sitkin T**	**23.93**	**278**	*e*P	**P**	**12 11 08.6**	**+1.2**
ULM	**Lac du Bonnet**	**24.18**	**87**	P	**P**	**12 11 11.4**	**+1.7**
	2.4nm,0.9s,baz=304,slow=9.1,SNR=4.8						
GSC	**Goldstone, Bar**	**24.24**	**140**	*e*P	**P**	**12 11 11.2**	**+0.7**
	3.8nm,0.8s						
RES	**Resolute Bay**	**24.44**	**25**	P	**P**	**12 11 14.7**	**+2.8**
	2.8nm,0.8s,baz=248,slow=11,SNR=13						
PV09	**Paradox Valley**	**24.72**	**124**	*e*P	**P**	**12 11 15.2**	**+0.2**
PV23	**Carpenter Ridg**	**24.81**	**124**	*e*P	**P**	**12 11 16.1**	**+0.2**
	3.5nm,0.8s						
PV14	**Lion Creek, Pa**	**24.87**	**124**	*e*P	**P**	**12 11 16.5**	**+0.1**
	5.1nm,1.0s						
PV11	**David Mesa, Pa**	**25.00**	**124**	*e*P	**P**	**12 11 17.4**	**-0.1**
	3.2nm,0.6s						
LDFC	**Landfair**	**25.06**	**138**	*e*P	**P**	**12 11 18.1**	**+0.1**
	5.5nm,0.8s						
PV01	**Paradox Valley**	**25.27**	**123**	*e*P	**P**	**12 11 19.0**	**-1.0**
ECSD	**EROS Data Cent**	**27.47**	**100**	*e*P	**P**	**12 11 39.0**	**-0.5**
	4.7nm,1.1s						
TXAR	**Lajitas Array**	**34.84**	**126**	P	**P**	**12 12 46.9**	**+2.2**
	0.5nm,0.8s,baz=326,slow=6.1,SNR=5.8						
SONM	**Songino Array**	**64.43**	**319**	P	**P**	**12 16 33.4**	**+3.7**
	0.6nm,0.9s,baz=35,slow=5.4,SNR=4.0						
ZALV	**Zalesovo Beam**	**65.63**	**335**	P	**P**	**12 16 37.3**	**+0.1**
	0.4nm,0.5s,baz=61,slow=9.1,SNR=2.8						
MKAR	**Makanchi Array**	**72.87**	**334**	P	**P**	**12 17 23.9**	**+1.6**
	1.0nm,0.8s,baz=41,slow=5.3,SNR=11						
ESDC	**Sonseca Array**	**76.25**	**37**	P	**P**	**12 17 42.6**	**+0.6**
	0.2nm,0.4s,baz=335,slow=5.7,SNR=4.1						

SJA ***05*** *12:08:51.5±0.4, 30°.20S×72°.81W, h22km±10km, ML5.0, MW5.2*

IDC ***05*** *12:08:56.6±0.7, 30°.39S×71°.86W, h0km, mb4.2/11, mb1 4.4/15, mb1mx4.3/27, mbtmp4.2/15, ML4.3/4, MS5.2/1, Ms1 5.2/1, ms1mx4.4/24, Error ellipse: s-maj=23.4km s-min=18.3km az=73.0*

ISCJB ***05*** *12:08:58.9±1.2, 30°.28S±0°.03×72°.12W±0°.05, h29km±8km, mb4.6/44, Error ellipse: s-maj=7.2km s-min=4.3km az=167.6*

NEIC ***05*** *12:08:58.1±0.2, 30°.31S×72°.01W, h10km, mb4.8/35, ML4.7(GUC), Error ellipse: s-maj=6.4km s-min=3.9km az=85.0*

GUC ***05*** *12:08:58.2±0.7, 30°.32S×72°.24W, h45km±7km, ML4.7*

VAO ***05*** *12:08:59.4±1.8, 30°.61S×73°.16W, h123km±15km, mb4.6*

MOS ***05*** *12:09:01.3±1.4, 30°.20S×71°.90W, h39km, mb4.9/9, Error ellipse: s-maj=16.2km s-min=9.6km az=83.4*

ISC 05 12:08:56.7±0.7**, 30°.32S**±0°.03×**72°.14W**±0°.05**, h6**km±4km**, h7**km**:pP-P, n183,** σ**1ˢ.55**/195**, mb4.8**/44**, 6C-7D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.87**	**62**	*e*P	**Pn**	**12 09 15.4**	**0.0**
LSCH				*e*S	**Sn**	**12 09 28.9**	**+0.4**
GO04	**Tololo Observa**	**1.17**	**83**	*e*Pn	**Pn**	**12 09 20.2**	**+0.5**
GO04				*e*Sn	**Sn**	**12 09 38.2**	**+2.1**
GO04	**Tololo Observa**	**1.17**	**83⇓**	*i*P	**Pn**	**12 09 20.2**	**+0.5**
GO04				*e*S	**Sn**	**12 09 37.3**	**+1.2**
GO04				IAML		12 09 44.6	
	comp=N,61µm,0.6s						
CMCH	**Combarbala**	**1.30**	**131**	*e*P	**Pg**	**12 09 21.9**	**+0.3**
CMCH				*e*S	**Sn**	**12 09 39.9**	**+0.8**
LCO	**Las Campanas**	**1.80**	**44**	*e*Pn	**Pb**	**12 09 29.6**	**-0.6**
LCO	**Las Campanas**	**1.80**	**44**	*i* P	**Pb**	**12 09 29.4**	**-0.8**
LCO				*i* S	**Sg**	**12 09 57.3**	**+2.6**
LCO	**Las Campanas**	**1.80**	**44**	*e*P	**Pb**	**12 09 29.6**	**-0.6**
LCO	**Las Campanas**	**1.80**	**44⇑**	*i*P	**Pb**	**12 09 29.4**	**-0.8**
LCO				*e*S	**Sg**	**12 09 53.4**	**-1.3**
LCO				IAML		12 10 04.5	
	comp=E,5µm,0.4s						
AROD	**Rodeo**	**2.31**	**87**	*i* P	**Pg**	**12 09 39.5**	**-1.4**
ACDV	**Cuesta del Vie**	**2.61**	**88**	*i* P	**Pb**	**12 09 43.8**	**-0.3**
ACCO	**Cerro Coronel**	**2.67**	**97**	*i* P	**Pb**	**12 09 45.1**	**+0.1**
ROCH	**El Roble**	**2.81**	**160**	*e*P	**Pn**	**12 09 43.1**	**+0.7**
ROCH				IAML		12 10 41.0	
	comp=N,2µm,0.6s						
ROC1	**El Roble**	**2.82**	**160**	*e*Pn	**Pn**	**12 09 43.2**	**+0.7**
ROC1				*e*Sn	**Sn**	**12 10 14.7**	**-2.2**
ROC1	**El Roble**	**2.82**	**160**	*i* P	**Pn**	**12 09 43.1**	**+0.7**
RTLS	**Leoncito**	**2.85**	**122**	*i* P	**Pb**	**12 09 47.3**	**-0.8**
RTLS				IAML		12 10 33.3	
	comp=Z,3µm,0.9s						
PEL	**Peldehue**	**3.08**	**157**	*e*Pn	**Pn**	**12 09 47.2**	**+1.4**
PEL				*e*Sn	**Sn**	**12 10 18.2**	**-4.8**
PEL	**Peldehue**	**3.08**	**157**	*e*P	**Pn**	**12 09 47.3**	**+1.4**
PEL				*e*		12 10 18.2	
GO03	**Copiap**	**3.18**	**32**	*e*Pn	**Pn**	**12 09 48.5**	**+1.2**
GO03	**Copiap**	**3.18**	**32**	*e*P	**Pn**	**12 09 47.6**	**+0.3**
GO03				*e*S	**Sn**	**12 10 25.0**	**-0.6**
FCH	**Farellones**	**3.39**	**153⇑**	*i*P	**Pn**	**12 09 52.0**	**+1.7**
FCH				*i* S	**Sn**	**12 10 32.1**	**+1.1**
FCH				IAML		12 11 01.7	
	comp=E,783nm,0.7s						
RTCV	**Cerro Valdivia**	**3.45**	**117**	*i* P	**Pb**	**12 09 55.4**	**-2.8**
GO05	**Huala**	**4.68**	**178**	*e*Pn	**Pn**	**12 10 07.0**	**-0.9**
GO05				*e*Sn	**Sn**	**12 10 57.1**	**-5.4**
GO02	**Mina Guanaco**	**5.61**	**24**	*e*Pn	**Pn**	**12 10 20.7**	**-0.2**
PB10	**IPOC Station P**	**6.92**	**12**	*e*Pn	**Pn**	**12 10 37.2**	**-1.5**
PB04	**IPOC Station P**	**8.15**	**13**	*e*Pn	**Pn**	**12 10 55.9**	**+0.2**
LVC	**Limon Verde**	**8.20**	**21**	Pn	**Pn**	**12 10 54.7**	**-1.9**
	comp=E,1.2nm,0.3s,baz=188,slow=8.6,SNR=12						
LVC				Sn	**Sn**	**12 12 26.4**	**-3.3**
	comp=E,2.2nm,0.3s,baz=207,slow=11,SNR=2.2						
LVC				Lg	Lg	12 13 02.3	
	comp=E,3.7nm,0.3s,baz=312,slow=12,SNR=4.1						
LVC	**Limon Verde**	**8.20**	**21**	*e*Pn	**Pn**	**12 10 55.5**	**-1.1**
LVC				*e*Sn	**Sn**	**12 12 26.4**	**-3.3**
LVC	**Limon Verde**	**8.20**	**21**	*e*P	**Pn**	**12 10 55.4**	**-1.1**
GO06	**Curarrehue**	**9.26**	**177**	*e*Pn	**Pn**	**12 11 08.1**	**-2.7**
PB01	**IPOC Station P**	**9.54**	**15**	*e*Pn	**Pn**	**12 11 13.0**	**-1.7**
PLCA	**Paso Flores**	**10.47**	**173**	Pn	**Pn**	**12 11 27.1**	**-0.3**
	comp=E,0.7nm,0.3s,baz=0.1,slow=11,SNR=32						
PLCA	**Paso Flores**	**10.47**	**173**	*e*Pn	**Pn**	**12 11 26.9**	**-0.4**
PLCA	**Paso Flores**	**10.47**	**173**	*e*P	**Pn**	**12 11 26.0**	**-1.4**
PB11	**IPOC Station P**	**10.75**	**13**	*e*Pn	**Pn**	**12 11 30.7**	**-0.6**
GO01	**Chusmiza**	**10.93**	**15**	*e*Pn	**Pn**	**12 11 34.9**	**+0.8**
MNMC	**Minye Minye**	**11.37**	**12**	*e*Pn	**Pn**	**12 11 40.6**	**+0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TRQA	Tornquist	11.41	135	ePn	Pn	12 11 39.4	-0.8
TRQA	Tornquist	11.41	135	eP	Pn	12 11 39.4	-0.8
CPUP	Villa Florida	13.63	77	Pn	Pn	12 12 11.7	+1.1
	comp=E,0.2nm,0.3s,baz=248,slow=16,SNR=3.0						
LPAZ	La Paz	14.44	16	Pn	Pn	12 12 23.1	+1.0
	comp=E,0.9nm,0.3s,baz=186,slow=8.0,SNR=23						
LPAZ	La Paz	14.44	16	ePn	Pn	12 12 20.6	-1.7
LPAZ	La Paz	14.44	16	eP	Pn	12 12 20.5	-1.7
LPAZ	La Paz	14.44	16	eP	P	12 12 25.4	-3.9
PLTB	Pedras Altas	15.95	100	eP	P	12 12 47.2	+1.8
CPSB	Cacapava Do Su	16.14	95	eP	P	12 12 49.7	+2.2
SIV	San Ignacio	17.50	38	P	Pn	12 13 00.4	-1.0
	comp=E,1.2nm,0.3s,baz=234,slow=12,SNR=54						
AQDB	Aquidauana	17.77	60	eP	P	12 13 07.0	+1.4
ITAB	Concordia	17.80	85	eP	P	12 13 08.6	+2.7
CNLB	Canela	18.50	92	eP	Pn	12 13 15.9	+2.3
PTGB	Pitanga	18.65	77	eP	Pn	12 13 17.3	+1.7
TRCB	Terra Rica	18.97	71	eP	Pn	12 13 21.1	+1.7
TER01	Tubaro-SC	20.12	91	eP	Pn	12 13 33.2	+0.1
C2SB	Chapadao do Su	20.95	61	eP	Pn	12 13 41.8	-1.0
TIJ01	Guaruva-PR	21.04	82	eP	P	12 13 43.4	+1.9
FRTB	Fartura	21.29	76	eP	P	12 13 45.9	+1.9
ITRB	Iturama	22.35	67	eP	P	12 13 55.5	+0.1
BB19B	Bebedouro	23.15	72	eP	P	12 14 02.9	-0.9
RCLB	Rio Claro- Sao	23.37	76	eP	P	12 14 06.4	+0.2
EFI	East Falkland	23.75	158	eP	P	12 14 09.2	-0.3
	comp=E,36nm,1.0s						
EFI	East Falkland	23.75	158	eP	P	12 14 09.2	-0.3
EFI				pmax	pmax		
	comp=Z,37nm,1.0s						
USHA	Ushuaia	24.64	175	P	P	12 14 17.7	-0.1
	comp=Z,4.2nm,0.6s,baz=33,slow=5.9,SNR=3.3						
USHA				LR	LR	12 24 22.1	
	comp=Z,5μm,19.2s,baz=356,slow=38						
IPMB	Ipameri, GO	24.99	66	eP	P	12 14 21.4	+0.1
PMNB	Patos De Minas	26.11	69	eP	P	12 14 30.7	-0.8
BSCB	Bom Sucesso	26.30	76	eP	P	12 14 32.5	-0.7
BDFB	Brasilia	26.50	62	P	P	12 14 34.7	-0.4
	comp=Z,8.9nm,0.6s,baz=232,slow=8.5,SNR=15						
VAS01	Vassouras-RJ	26.89	80	eP	P	12 14 37.2	-1.3
DUB01	Friburgo-RJ	27.87	80	eP	P	12 14 43.7	-3.7
CAM01	Campos-RJ	28.59	80	eP	P	12 14 49.7	-3.9
MCI6	Montes Claros	29.08	69	eP	P	12 14 58.3	+0.2
MCI8	Montes Claros	29.13	69	eP	P	12 14 57.7	-0.9
MCI9	Montes Claros	29.14	69	eP	P	12 14 57.4	-1.3
MCI7	Montes Claros	29.15	69	eP	P	12 14 57.7	-1.1
JANB	Januaria	29.72	65	eP	P	12 15 02.3	-1.5
SJMB	Sao Joao De Ma	30.35	75	eP	P	12 15 08.6	-0.7
BSFB	Barra de Sao F	30.57	75	eP	P	12 15 10.2	-1.1
PTGA	Pitinga	31.62	24	eP	P	12 15 20.9	+0.5
	comp=Z,15nm,1.2s						
PTGA	Pitinga	31.62	24	eP	P	12 15 15.6	-4.9
PMSA	Palmer Station	34.85	174	eP	P	12 15 36.2	-12
SDV	Santo Domingo	39.00	2	eP	P	12 16 23.8	-0.4
	comp=Z,6.3nm,0.9s						
SDV	Santo Domingo	39.00	2	eP	P	12 16 16.7	-7.6
CRPR	Cabo Rojo, PR	48.29	6	eP	P	12 17 40.0	+1.3
	comp=Z,91nm,1.3s						
TEIG	Tepich	52.60	341	eP	P	12 18 12.2	+0.9
	comp=Z,54nm,1.3s						
VNA3	Neumayer Olymp	52.80	159	P	P	12 18 13.6	+1.3
VNA1	Neumayer--Stat	53.10	158	P	P	12 18 16.4	+2.0
VNA2	Neumayer--Watz	53.44	158	P	P	12 18 18.4	+1.4
	baz=285,slow=7.9						
QSPA	South Pole Qui	59.91	180	eP	P	12 19 03.9	+0.7
	comp=Z,11nm,1.1s						
X51A	Calhoun	65.64	348	eP	P	12 19 42.6	+1.1
	comp=Z,17nm,0.9s						
X48A	Hartselle	65.94	347	eP	P	12 19 44.4	+0.9
	comp=Z,7.8nm,1.0s						
W50A	Signal Mountai	66.34	348	eP	P	12 19 47.1	+1.0
	comp=Z,9.4nm,1.1s						
V53A	Saluda	66.40	351	eP	P	12 19 47.7	+1.2
	comp=Z,6.8nm,1.0s						
CPCT	Cooper Cave	66.45	349	eP	P	12 19 47.7	+1.0
	comp=Z,9.4nm,1.1s						
SWET	Sewanee	66.47	348	eP	P	12 19 47.5	+0.6
	comp=Z,8.7nm,1.0s						
LTX	Lajitas	66.50	330	eP	P	12 19 49.4	+2.1
LTX	Lajitas	66.50	330	eP	P	12 19 49.4	+2.1
TXAR	Lajitas Array	66.50	330	P	P	12 19 49.4	+2.1
	comp=Z,1.5nm,0.8s,baz=151,slow=8.4,SNR=13						
TX31	Lajitas Ar. Si	66.50	330	eP	P	12 19 47.4	+0.1
OXF	Oxford	66.51	344	eP	P	12 19 47.3	+0.2
	comp=Z,31nm,1.3s						
OXF	Oxford	66.51	344	eP	P	12 19 47.3	+0.2
OXF				pmax	pmax		
	comp=Z,31nm,1.3s						
TKL	Tuckaleechee C	66.53	350	eP	P	12 19 48.1	+0.9
	comp=Z,7.4nm,0.8s						
TKL	Tuckaleechee C	66.53	350	eP	P	12 19 48.1	+0.9
TKL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
V52A	Sevierville	66.69	350	eP	P	12 19 49.0	+0.8
	comp=Z,12nm,0.9s						
V51A	Loudon	66.77	349	eP	P	12 19 49.7	+1.0
	comp=Z,14nm,1.1s						
V48A	Smith Brothers	67.14	347	eP	P	12 19 51.8	+0.7
	comp=Z,12nm,1.3s						
WVT	Waverly	67.72	346	eP	P	12 19 55.8	+1.0
	comp=Z,16nm,1.4s						
WVT	Waverly	67.72	346	eP	P	12 19 55.8	+1.0
WVT				pmax	pmax		
	comp=Z,16nm,1.4s						
W39A	Magazine	68.28	341	eP	P	12 19 59.6	+1.3
	comp=Z,12nm,1.2s						
MNTX	Cornudas Mount	69.28	330	eP	P	12 20 05.2	+0.5
	comp=Z,4.9nm,1.0s						
SYO	Syowa Base	69.32	159	⇓iP	P	12 20 05.0	+0.6
SYO	Syowa Base	69.32	159	⇓esP	sP	12 20 08.2	+2.5
HHAR	Hobbs	69.34	341	eP	P	12 20 06.3	+1.3
	comp=Z,6.0nm,0.8s						
SIUC	Southern Illin	69.54	346	eP	P	12 20 07.2	+1.1
	comp=Z,9.5nm,0.7s						
MSTX	Muleshoe	70.19	333	eP	P	12 20 11.4	+1.1
	comp=Z,22nm,1.4s						
CCM	Cathedral Cave	70.32	344	eP	P	12 20 12.2	+1.3
	comp=Z,7.3nm,0.8s						
CCM	Cathedral Cave	70.32	344	eP	P	12 20 12.2	+1.3
CCM				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ACSO	Alum Creek Sta	70.91	351	eP	P	12 20 15.1	+0.6
	comp=Z,24nm,1.3s						
ANMO	Albuquerque	72.53	331	P	P	12 20 27.3	+2.8
	comp=Z,1.6nm,0.9s,baz=149,slow=4.4,SNR=4.3						
ANMO	Albuquerque	72.53	331	eP	P	12 20 25.7	+1.2
	comp=Z,6.7nm,1.3s						
ANMO	Albuquerque	72.53	331	eP	P	12 20 25.7	+1.2
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.3s						
DBIC	Dimbokro	74.11	72	P	P	12 20 35.1	+1.0
	comp=Z,6.5nm,0.9s,baz=202,slow=3.8,SNR=5.1						
DBIC	Dimbokro	74.11	72	eP	P	12 20 35.0	+0.9
	comp=Z,6.9nm,0.9s						
DBIC	Dimbokro	74.11	72	eP	P	12 20 35.0	+0.9
DBIC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
X16A	Lo Mia Camp, P	74.30	327	eP	P	12 20 36.9	+1.9
	comp=Z,6.0nm,1.0s						
SDCO	Great Sand Dun	74.55	333	eP	P	12 20 38.0	+1.4
	comp=Z,1.9nm,0.6s						
SMCO	Snowmass	76.37	333	eP	P	12 20 48.0	+0.9
	comp=Z,5.8nm,1.0s						
ECSD	EROS Data Cent	77.03	342	eP	P	12 20 51.2	+1.1
	comp=Z,6.9nm,0.9s						
MTPU	Mount Pierson	77.62	329	eP	P	12 20 54.7	+0.6
	comp=Z,1.6nm,0.9s						
CCUT	Cedar City	77.75	328	eP	P	12 20 55.5	+0.8
	comp=Z,3.2nm,1.0s						
PD31	Pinedale Array	80.45	333	eP	P	12 21 10.3	+0.9
PDAR	Pinedale Array	80.45	333	P	P	12 21 11.2	+1.9
	comp=Z,0.5nm,0.7s,baz=127,slow=6.5,SNR=3.9						
NV01	Mina Array Sit	80.83	325	eP	P	12 21 12.9	+1.4
NVAR	Mina Array Bea	80.83	325	P	P	12 21 14.2	+2.7
	comp=Z,0.6nm,0.8s,baz=134,slow=6.4,SNR=2.4						
ELK	Elko	81.19	328	P	P	12 21 15.4	+2.1
	comp=Z,0.4nm,0.3s,baz=144,slow=6.1,SNR=5.8						
BOSA	Boshof	81.87	118	P	P	12 21 16.7	-0.6
	comp=Z,1.3nm,0.7s,baz=180,slow=5.1,SNR=3.0						
ULM	Lac du Bonnet	82.93	345	P	P	12 21 22.8	+0.8
	comp=Z,1.2nm,0.6s,baz=211,slow=5.9,SNR=3.0						
TOA0	Torodi Ar. Sit	83.05	70	eP	P	12 21 23.1	-0.3
TORD	Torodi Ar. Bea	83.05	70	P	P	12 21 22.9	-0.5
	comp=Z,4.6nm,0.6s,baz=283,slow=5.3,SNR=28						
TOA1	Torodi Ar. Sit	83.05	70	eP	P	12 21 22.9	-0.5
HLID	Hailey	83.10	330	eP	P	12 21 23.8	+0.6
	comp=Z,3.7nm,1.0s						
J08A	Circle Bar Ran	84.73	328	eP	P	12 21 36.8	+5.3
	comp=Z,3.4nm,0.8s						
KEV	Kevo	121.24	24	eP	PKPpre	12 27 38.8	
WR1	Warramunga Arr	123.91	210	ePKPdf	PKiKP	12 27 56.2	-0.4
WRA	Warramunga Arr	123.91	210	PKP	PKiKP	12 27 56.2	-0.4
	comp=Z,0.5nm,0.7s,baz=156,slow=1.7,SNR=13						
WRAB	Tennant Creek	123.91	210	⇓iPKIKP	PKiKP	12 27 55.7	-0.9
OBN	Obninsk	124.78	41	ePKIKP	PKiKP	12 27 55.9	-1.2
OBN				e		12 29 45.0	
OBN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KIV	Kislovodsk	127.56	56	ePKIKP	PKPdf	12 28 00.5	-2.1
KIV				e		12 30 01.4	
KIV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MBWA	Marble Bar	127.56	194	eP	PKPpre	12 27 49.2	
NCK	Nalchik	128.15	56	⇓ePKIKP	PKiKP	12 28 03.9	-0.4
BILL	Bilibino	129.48	335	ePKIKP	PKiKP	12 28 06.3	+0.2
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SEY	Seymchan	136.78	332	⇑iPKIKP	PKiKP	12 28 19.0	-2.0
ARU	Arti	136.96	38	⇑ePKIKP	PKiKP	12 28 20.9	-0.7
ABKAR	Akbulak array	139.39	48	ePKPdf	PKiKP	12 28 25.4	-1.3
BRVK	Borovoye	144.50	39	⇓ePKIKP	PKiKP	12 28 34.2	-2.9
BVAR	Borovoye Array	144.57	39	PKP	PKPdf	12 28 33.8	+0.2
	comp=Z,1.0nm,0.4s,baz=288,slow=2.2,SNR=15						
KK31	Karatay Array	147.72	56	ePKPdf	PKPbc	12 28 41.0	-1.1
KK31	Karatay Array	147.72	56	ePKP2	PKPbc	12 28 41.1	-1.1
KKAR	Karatay Array	147.72	56	ePKPdf	PKPbc	12 28 41.6	-0.5
KKAR	Karatay Array	147.72	56	ePKP2	PKPbc	12 28 41.6	-0.5
BTK	Batken	148.40	62	ePKPdf	PKPbc	12 28 43.3	-0.8
BTK	Batken	148.40	62	ePKP2	PKPbc	12 28 43.3	-0.8
NVS	Novosibirsk	149.81	29	⇓iPKP2	PKiKP	12 28 49.0	+1.0
NVS				pmax	pmax		
	comp=Z,11nm,1.2s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.5s						
KURK	Kurchatov	150.15	39	⇑iPKP2	PKiKP	12 28 49.4	+0.5
HYB	Hyderabad	150.38	109	i PKP	PKiKP	12 28 51.0	+0.6
NIL	Nilore	150.53	74	ePKPbc	PKiKP	12 28 50.9	+0.6
NIL				ePKPab	sPKPab	12 28 59.0	+1.5
AAK	Ala-Archa	150.68	56	ePKPbc	PKiKP	12 28 52.2	+1.7
AAK	Ala-Archa	150.68	56	⇑iPKIKP	PKiKP	12 28 50.9	+0.4
ZAA1	Zalesovo Array	151.10	29	ePKPbc	PKiKP	12 28 51.5	+0.8
ZAA0	Zalesovo Array	151.10	29	ePKPbc	PKiKP	12 28 51.6	+0.9
ZAA0				ePKPab	sPKPab	12 29 00.1	+1.0
ZALV	Zalesovo Beam	151.10	29	PKPbc	PKiKP	12 28 51.5	+0.8
	comp=E,12nm,0.7s,baz=295,slow=3.4,SNR=44						
KSH	Kashi	152.40	62	PKPbc	PKiKP	12 28 54.5	+0.4
KSH				PKS	PKSdf	12 32 23.8	+2.3
KSH				PP	PP	12 32 50.4	+14
KSH				SKS	SKSdf	12 35 59.3	+4.4
KSH				AMB	AMB		
	comp=Z,3μm,15.7s						
ZEA	Zeya	152.70	335	ePKIKP	PKPpre	12 28 36.8	
ZEA				pmax	pmax		
	comp=Z,24nm,1.6s						
MK31	Makanchi Array	154.27	43	ePKPbc	PKiKP	12 28 58.5	+0.9
MK31				ePKPab	PKPab	12 29 07.3	-4.2
MK31	Makanchi Array	154.27	43	ePKIKP	PKiKP	12 28 58.5	+0.9
MK31				e		12 29 07.3	
MK32	Makanchi Array	154.27	43	ePKPdf	PKPdf	12 28 50.4	+1.1
MK32				ePKPbc	pPKPbc	12 28 58.0	-0.5
MKAR	Makanchi Array	154.27	43	PKP	PKPdf	12 28 50.4	+1.1
	comp=Z,0.3nm,0.7s,baz=332,slow=1.8,SNR=3.7						
MKAR				PKPbc	pPKPbc	12 28 58.0	-0.5
	comp=Z,1.0nm,0.8s,baz=319,slow=1.9,SNR=12						
MKAR	Makanchi Array	154.27	43	PKP	PKPdf	12 28 50.4	+1.1
MKAR				ePKPbc	pPKPbc	12 28 58.4	-0.1
MKAR				ePKPab	PKPab	12 29 07.2	-4.2
MKAR	Makanchi Array	154.27	43	PKIKP	PKPdf	12 28 50.4	+1.1
MKAR				e		12 28 58.4	
MKAR				e		12 29 07.3	
WMQ	Urumqi	159.08	44	ePKP	PKPdf	12 28 56.3	+0.7
SONA0	Songino Array	162.47	3	ePKPab	PKPab	12 29 47.7	+0.7
SONM	Songino Array	162.47	3	PKPab	PKPab	12 29 47.7	+0.7
	comp=Z,0.5nm,0.7s,baz=345,slow=5.1,SNR=4.0						
HHC	Hu-ho-hao-te	169.07	345	ePKP	PKPdf	12 29 00.1	-4.7
NJ2	Nanjing	170.43	283	ePKP	PKPdf	12 29 06.8	+1.1
KMI	Kunming	173.12	138	PKP	PKPdf	12 29 07.5	0.0
CD2	Chengdu	176.41	79	PKP	PKPdf	12 29 07.2	-0.9

*ISCJB **05** 12:24:41.1±1.1, 55°55N±0°03×135°26W±0°05, h1km±8km, mb3.7/7, Error ellipse: s-maj=6.4km s-min=3.4km az=44.3*
*IDC **05** 12:24:43.7±1.1, 55°49N×135°03W, h0km, mb3.8/4, mb1 3.9/10, mb1mx3.6/46, mbtmp3.8/10, ML3.5/6, Error ellipse: s-maj=15.0km s-min=10.4km az=55.0*
*NEIC **05** 12:24:44.6±0.0, 55°58N×135°15W, h19km, mb3.7/8, ML3.7(AEIC), After AEIC.*
ISC 05 12:24:43.0±2.6, **55°55N**±0°05×**135°19W**±0°06, **h0**km±16km, **n70**, σ**1s42**/76, **mb3.7**/7, **Off coast of southeastern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRAG	Craig	1.18	93	ePn	Pb	12 25 05.1	-1.1
CRAG				eSg	Sg	12 25 21.0	+0.2
SIT	Sitka	1.51	357	ePn	Pn	12 25 09.7	-1.6
SIT				eSn	Sn	12 25 28.7	-3.0
WRAK	Wrangell Islan	1.82	60	ePn	Pn	12 25 14.3	-1.2
WRAK				eSn	Sn	12 25 37.8	-1.4
NDB	Naden	2.06	140	P	Pn	12 25 18.6	-0.3
JIS	Juneau Island	2.77	9	ePn	Pn	12 25 27.8	-0.7
JIS				eSn	Sn	12 26 01.3	-1.3
DIB	Dawson Inlet,	2.84	145	ePn	Pn	12 25 29.3	-0.2
DIB				eSn	Sn	12 26 03.4	-0.9
H02S1	DAWSON INLET T	2.84	145	Pn	Pn	12 25 29.6	+0.2
H02S1				Sn	Sn	12 26 02.8	-1.5
BESE	Bessie Mountai	3.04	3	ePn	Pn	12 25 31.8	-0.6
BNB	Barry Inlet	3.60	144	ePn	Pn	12 25 39.8	-0.3
SKAG	Skagway	3.92	359	ePn	Pn	12 25 44.2	-0.1
PLBC	Pleasant Camp	3.97	351	ePn	Pn	12 25 45.7	+0.7
DLBC	Dease Lake	4.04	42	Pn	Pn	12 25 46.2	+0.1
	2.5nm,0.3s,baz=253,slow=5.5,SNR=58						
DLBC				Pg	Pb	12 25 53.8	-1.2
	6.1nm,0.3s,baz=224,slow=17,SNR=25						
DLBC				Lg	Lg	12 26 47.9	
	29nm,0.3s,baz=133,slow=27,SNR=10.0						
DLBC	Dease Lake	4.04	42	ePn	Pn	12 25 44.8	-1.3
WHY	Whitehorse	5.13	2	ePn	Pn	12 26 00.5	-0.6
YUK7	Dusty Glacier	5.23	344	ePn	Pn	12 26 03.8	+1.3
PCA	Pinnacle	5.30	331	ePn	Pn	12 26 04.3	+1.0
BBB	Bella Bella	5.38	126	Pn	Pn	12 26 02.6	-1.7
	4.6nm,0.3s,baz=294,slow=10,SNR=15						
BBB				Sn	Sn	12 27 05.0	-1.9
	8.1nm,0.3s,baz=120,slow=20,SNR=11						
BBB	Bella Bella	5.38	126	ePn	Pn	12 26 03.4	-0.9
BBB				eSn	Sn	12 27 04.4	-2.5
HYT	Haines Junctio	5.43	348	ePn	Pn	12 26 04.8	-0.4
SAMH	Samovar Hills	5.48	329	P	Pn	12 26 08.1	+2.3
YUK5	Granite Creek	5.77	347	ePn	Pn	12 26 11.9	+2.0
YUK4	Talbot Arm	6.09	344	ePn	Pn	12 26 17.2	+2.9
FSB	Fort Saint Jam	6.34	95	P	Pn	12 26 18.7	+1.1
HMT	Hamilton	6.80	319	ePn	Pn	12 26 23.6	-0.4
RAGM	Ragged Mountai	6.99	318	ePn	Pn	12 26 26.9	+0.3
EYAK	Cordova Ski Ar	7.51	316	ePn	Pn	12 26 34.4	+0.8
KLU	Klutina	8.18	321	ePn	Pn	12 26 42.4	-0.5
DAWY	Dawson	8.80	348	ePn	Pn	12 26 50.7	-0.6
SEW	Seward	8.86	307	ePn	Pn	12 26 51.7	-0.5
SCM	Sheep Creek Mo	8.91	320	ePn	Pn	12 26 53.4	+0.5
KNK	Knik Glacier	9.09	316	ePn	Pn	12 26 56.1	+0.9
BRLK	Bradley Lake	9.40	303	ePn	Pn	12 26 59.2	-0.4
PMR	Palmer	9.46	315	ePn	Pn	12 26 59.8	-0.5
GHO	Glory Hole Cre	9.48	317	ePn	Pn	12 26 59.6	-1.0
KDAK	Kodiak Island	9.83	290	Pn	Pn	12 27 04.6	-0.8
	0.9nm,0.3s,baz=80,slow=7.1,SNR=6.6						
KDAK				Sn	Sn	12 28 52.1	-4.2
	0.2nm,0.3s,baz=328,slow=19,SNR=1.8						
SUA	Susitna One	10.05	312	ePn	Pn	12 27 09.1	+0.6
OHAK	Old Harbor	10.17	287	ePn	Pn	12 27 09.7	-0.4
HDA	Harding Lake	10.64	331	ePn	Pn	12 27 16.8	+0.4
MCK	McKinley	10.73	325	ePn	Pn	12 27 20.1	+2.4
EPYK	Eagle Plains	10.88	357	ePn	Pn	12 27 21.3	+1.5
ILAR	Eielson Array	10.91	333	Pn	Pn	12 27 20.6	+0.5
	0.2nm,0.3s,baz=155,slow=12,SNR=20						
ILB	Eielson Array	10.91	333	ePn	Pn	12 27 20.6	+0.5
TRF	Thorofare Moun	11.00	322	ePn	Pn	12 27 21.6	+0.1
PRP	Porcupine Dome	11.20	337	ePn	Pn	12 27 25.3	+1.1
PPLA	Purkeypile	11.37	317	ePn	Pn	12 27 25.4	-1.1
MDM	Murphy Dome	11.41	331	ePn	Pn	12 27 26.1	-0.9
YKA	Yellowknife Ar	12.64	48	Pn	Pn	12 27 42.6	-1.1
	0.2nm,0.3s,baz=240,slow=12,SNR=30						
YKB5	Yellowknife Ar	12.64	48	ePn	Pn	12 27 42.3	-1.4
INK	Inuvik	12.83	3	Pn	Pn	12 27 48.9	+2.6
	0.1nm,0.3s,baz=185,slow=10,SNR=5.0						
INK	Inuvik	12.83	3	ePn	Pn	12 27 46.8	+0.5
NEW	Newport	13.30	116	Pn	Pn	12 27 55.7	+2.7
	0.1nm,0.3s,baz=295,slow=14,SNR=2.2						
MCMT	McKenzie Canyo	17.80	118	ePn	P	12 28 53.6	+0.6
FFC	Flin Flon	18.91	79	eP	Pn	12 29 05.2	-0.2
	1.4nm,0.8s						
IMW	Indian Meadow	19.42	117	eP	Pn	12 29 11.4	-0.6
	3.6nm,0.8s						
RLMT	Red Lodge	19.45	112	eP	Pn	12 29 11.3	-0.9
	5.2nm,1.1s						
MOOW	Moose Ponds	19.63	117	eP	P	12 29 12.3	-0.8
	3.8nm,1.1s						
BW06	Boulder Array	20.94	117	eP	P	12 29 27.1	-0.2
	5.6nm,1.1s						
PD31	Pinedale Array	20.94	117	eP	Pn	12 29 30.1	+0.3
PDAR	Pinedale Array	20.94	117	P	Pn	12 29 30.1	+0.3
	2.1nm,0.9s,baz=316,slow=3.8,SNR=5.8						
RSSD	Black Hills	22.91	107	eP	P	12 29 48.7	+0.2
	2.3nm,0.7s						
ULM	Lac du Bonnet	24.06	86	eP	P	12 29 58.6	-1.0
	0.3nm,0.6s						
RES	Resolute Bay	24.71	24	P	P	12 30 08.1	+2.8
	2.0nm,0.8s,baz=240,slow=12,SNR=6.8						
RES	Resolute Bay	24.71	24	eP	P	12 30 05.3	0.0
	2.9nm,0.9s						
FRB	Frobisher Bay	33.16	48	P	P	12 31 22.3	+1.8
	1.4nm,0.5s,baz=290,slow=9.1,SNR=9.8						
LTX	Lajitas	34.51	126	eP	P	12 31 36.4	+3.6
TXAR	Lajitas Array	34.51	126	P	P	12 31 36.4	+3.6
	0.5nm,0.7s,baz=330,slow=7.2,SNR=6.6						
NB200	NORSAR Array S	60.76	18	eP	P	12 34 58.4	+2.5
NOA	NORSAR Array B	60.76	18	P	P	12 34 58.4	+2.5
	0.4nm,0.7s,baz=338,slow=6.9,SNR=2.8						
MK32	Makanchi Array	73.26	334	eP	P	12 36 17.2	+1.6
MKAR	Makanchi Array	73.26	334	P	P	12 36 17.2	+1.6
	0.4nm,0.6s,baz=39,slow=5.5,SNR=3.0						

*NEIC **05** 12:28:27.1±0.0, 55°08N×134°70W, h10km, mb5.2/211, MW5.4, ML5.2(AEIC), Moment Tensor Solution. s16 Moment tensor: Scale 10^{17}Nm; M_{rr}0.11; $M_{\theta\theta}$-1.04; $M_{\phi\phi}$0.93; $M_{r\theta}$-0.09; $M_{\theta\phi}$0.77; $M_{\phi r}$-0.86; Best double couple: $M_0$1.50000×10^{17} NP1:ϕ_s248.00000°, δ63.00000°, λ15.00000°. NP2:ϕ_s152.00000°, δ77.00000°, λ152.00000°. Principal axes: T 1.6600, Plg29.0000°, Azm107.0000°; N -0.3200, Plg60.0000°, Azm309.0000°; P -1.3400, Plg9.0000°, Azm202.0000°; After AEIC.*
NEIC Felt at Juneau, Ketchikan and Skagway. Also felt at Peace River and Vancouver, British Columbia.
*AEIC **05** 12:28:27.1, 55°08N×134°70W, h10km, ML5.2, MB5.2(NEIC), MW5.4(USGS)*
*IDC **05** 12:28:28.9±0.5, 55°10N×134°72W, h0km, mb4.5/34, mb1 4.8/42, mb1mx4.7/45, mbtmp4.6/42, ML4.0/7, MS4.8/4, Ms1 4.7/4, ms1mx4.3/54, Error ellipse: s-maj=10.8km s-min=8.0km az=35.0*
*BJI **05** 12:28:28.0, 55°20N×134°50W, h10km, mb5.0/53, mB5.5/12, Ms5.6/12, Ms7 5.6/9*
*ISCJB **05** 12:28:30.6±0.1, 55°18N±0°02×134°58W±0°03, h25km, mb5.0/271, Error ellipse: s-maj=3.5km s-min=1.4km az=140.8*
*MOS **05** 12:28:30.0±1.1, 55°12N×134°57W, h20km, mb5.3/88, Error ellipse: s-maj=9.0km s-min=3.7km az=107.1*
ISC 05 12:28:32.7±0.3, **55°11N**±0°04×**134°57W**±0°04, **h25**km, **n992**, σ**1s88**/900, **mb5.1**/272, **48C-13D, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRAG	Craig	0.91	66	ePg	Pb	12 28 45.9	-3.8
CRAG				eSg	Sb	12 28 58.3	-3.1
NDB	Naden	1.50	140	P	Pn	12 28 54.0	-3.9
NDB				S	Sn	12 29 15.1	-1.6
WRAK	Wrangell Islan	1.82	43	ePn	Pn	12 28 59.9	-2.4
MASB	Masset	1.84	125	ePn	Pn	12 28 58.9	-3.8
SIT	Sitka	2.00	348	ePn	Pn	12 29 03.8	-1.0
SIT	Sitka	2.00	348	eP	Pn	12 29 03.8	-1.0
DIB	Dawson Inlet,	2.27	146	ePn	Pn	12 29 05.1	-3.4
H02S1	DAWSON INLET T	2.27	146	Pn	Pn	12 29 05.4	-3.2
H02S1				Sn	Sn	12 29 37.3	+1.6
BNB	Barry Inlet	3.04	145	ePn	Pn	12 29 14.4	-4.8
JIS	Juneau Island	3.18	2	ePn	Pn	12 29 18.1	-2.9
JIS				eSn	Sn	12 29 54.9	-3.2
BESE	Bessie Mountai	3.49	358	ePn	Pn	12 29 22.2	-3.1
BESE				eSn	Sn	12 30 04.4	-1.3
DLBC	Dease Lake	4.17	35	Pn	Pn	12 29 33.5	-1.2
	8.2nm,0.3s,baz=210,slow=9.0,SNR=19						
DLBC				Pg	Pb	12 29 44.3	-1.0
	51nm,0.3s,baz=221,slow=15,SNR=33						
DLBC				Lg	Lg	12 30 36.4	
	94nm,0.3s,baz=216,slow=27,SNR=5.7						
DLBC				LR	LR	12 31 04.9	
	comp=Z,13μm,19.9s,baz=256,slow=37						
DLBC	Dease Lake	4.17	35	ePn	Pn	12 29 32.8	-2.0
SKAG	Skagway	4.38	355	ePn	Pn	12 29 35.6	-2.0
PLBC	Pleasant Camp	4.47	348	ePn	Pn	12 29 36.9	-1.9
BBB	Bella Bella	4.83	125	Pn	Pn	12 29 40.0	-3.7
	14nm,0.3s,baz=288,slow=5.6,SNR=52						
BBB				Sn	Sn	12 30 33.8	-4.9
	111nm,0.3s,baz=114,slow=16,SNR=15						
BBB				Lg	Lg	12 30 54.4	
	162nm,0.3s,baz=33,slow=8.2,SNR=6.2						
BBB				LR	LR	12 31 28.6	
	comp=Z,16μm,19.6s,baz=15,slow=37						
BBB	Bella Bella	4.83	125	ePn	Pn	12 29 40.3	-3.4
BBB				eSn	Sn	12 30 35.7	-3.0
YKU2	Yakutat	5.21	330	ePn	Pn	12 29 48.2	-0.7
WHY	Whitehorse	5.57	358	ePn	Pn	12 29 52.1	-1.9
YUK7	Dusty Glacier	5.76	342	ePn	Pn	12 29 56.1	-0.6
PCA	Pinnacle	5.86	331	ePn	Pn	12 29 55.8	-2.1
HYT	Haines Junctio	5.94	346	ePn	Pn	12 29 58.1	-1.0
FSB	Fort Saint Jam	5.96	92	P	Pn	12 29 57.2	-2.1
SAMH	Samovar Hills	6.04	329	P	Pn	12 29 59.0	-1.4
YUK6	Outpost Mounta	6.19	343	ePn	Pn	12 30 00.7	-1.9
YUK5	Granite Creek	6.29	345	ePn	Pn	12 30 02.3	-1.6
MESA	MESA	6.44	325	P	Pn	12 30 03.9	-2.1
YUK4	Talbot Arm	6.62	343	ePn	Pn	12 30 08.1	-0.3
KULT	Kultieth River	6.75	323	P	Pn	12 30 07.2	-2.9
KHIT	Khitrov Hills	7.08	323	P	Pn	12 30 11.3	-3.4
HMT	Hamilton	7.37	319	ePn	Pn	12 30 15.5	-3.1
RAGM	Ragged Mountai	7.56	319	ePn	Pn	12 30 18.4	-2.8
MID	Middleton Isla	7.71	309	ePn	Pn	12 30 17.2	-5.9
MID	Middleton Isla	7.71	309	eP	Pn	12 30 17.2	-5.9
SGAM	Sherman Glacie	7.84	318	ePn	Pn	12 30 23.1	-1.9
EYAK	Cordova Ski Ar	8.08	317	ePn	Pn	12 30 24.3	-3.9
DIV	Divide	8.45	320	ePn	Pn	12 30 31.3	-2.1
DIV				eSn	Sn	12 32 04.9	-3.1
KLU	Klutina	8.75	322	ePn	Pn	12 30 34.9	-2.6
KLU				eSn	Sn	12 32 11.8	-3.3
HARP	HAARP	9.14	327	ePn	Pn	12 30 42.1	-0.7
PWL	Port Wells	9.30	314	ePn	Pn	12 30 40.8	-4.2
DAWY	Dawson	9.31	347	ePn	Pn	12 30 43.5	-1.6
SEW	Seward	9.41	308	ePn	Pn	12 30 41.6	-4.9
PGC	Sidney	9.43	129	ePn	Pn	12 30 44.0	-2.8
SCM	Sheep Creek Mo	9.48	320	ePn	Pn	12 30 45.2	-2.3
SCM	Sheep Creek Mo	9.48	320	eP	Pn	12 30 45.2	-2.3
KNK	Knik Glacier	9.65	317	ePn	Pn	12 30 46.7	-3.1
PAX	Paxson	9.67	329	ePn	Pn	12 30 48.4	-1.7
PAX	Paxson	9.67	329	eP	Pn	12 30 48.4	-1.7
A04D	Lummi Island	9.72	126	P	Pn	12 30 51.8	+1.1
	baz=315,SNR=6.0						
DOT	Dot Lake	9.83	334	ePn	Pn	12 30 50.1	-2.1
SML	Sawmill	9.84	319	ePn	Pn	12 30 49.8	-2.6
SML	Sawmill	9.84	319	eP	Pn	12 30 49.8	-2.6
BRLK	Bradley Lake	9.95	305	ePn	Pn	12 30 49.7	-4.2
RC01	Rabbit Creek A	10.00	313	ePn	Pn	12 30 50.5	-4.1
PMR	Palmer	10.02	316	ePn	Pn	12 30 51.7	-3.1
PMR	Palmer	10.02	316	eP	Pn	12 30 51.7	-3.1
GHO	Glory Hole Cre	10.04	317	ePn	Pn	12 30 52.3	-2.9
SCRK	Sand Creek	10.09	336	ePn	Pn	12 30 53.0	-2.8
RIDG	Independ'e Rid	10.10	333	ePn	Pn	12 30 55.0	-1.0
NLWA	Neilton Lookou	10.22	135	ePn	Pn	12 30 57.3	-0.4
HOM	Homer	10.27	303	ePn	Pn	12 30 54.8	-3.5
KDAK	Kodiak Island	10.32	292	Pn	Pn	12 30 54.4	-4.5

39nm,0.3s,baz=102,slow=7.5,SNR=91
KDAK Sn Sn 12 32 47.0 -6.7
4.2nm,0.3s,baz=96,slow=19,SNR=4.6
KDAK Kodiak Island 10.32 292 *e*Pn **Pn** 12 30 54.8 -4.1
KDAK *e*Sn **Sn** 12 32 47.5 -6.1
KDAK Kodiak Island 10.32 292 *e*P **Pn** 12 30 54.8 -4.1
KDAK *e* 12 32 47.5
B05A Bryant 10.33 126 P **Pn** 12 31 00.7 +1.6
baz=316,SNR=27
DHY Denali Highway 10.33 326 *e*Pn **Pn** 12 30 57.3 -1.9
D03D Eldon 10.44 132 P **Pn** 12 31 01.4 +0.9
baz=321
B06A Marblemount 10.44 124 *e*Pn **Pn** 12 31 00.3 -0.3
SUA Susitna One 10.61 313 *e*Pn **Pn** 12 30 59.0 -4.1
OHAK Old Harbor 10.64 289 *e*Pn **Pn** 12 30 58.9 -4.4
D04E Lakebay 10.85 132 P **Pn** 12 31 07.3 +1.1
baz=321
SPU Mount Spurr 11.04 311 *e*Pn **Pn** 12 31 05.4 -3.4
RND Reindeer 11.05 325 *e*Pn **Pn** 12 31 07.3 -1.6
RND Reindeer 11.05 325 *e*P **Pn** 12 31 07.3 -1.6
RSO Redoubt South 11.07 306 *e*Pn **Pn** 12 31 05.7 -3.7
C06D Leavenworth 11.14 125 P **Pn** 12 31 11.4 +1.2
baz=315,SNR=6.5
D05A Enumclaw 11.18 130 *e*Pn **Pn** 12 31 10.2 -0.5
HDA Harding Lake 11.20 331 *e*Pn **Pn** 12 31 09.6 -1.3
HDA Harding Lake 11.20 331 P **Pn** 12 31 09.9 -1.0
baz=141,SNR=9.8
MCK McKinley 11.30 326 *e*Pn **Pn** 12 31 11.3 -0.9
MCK McKinley 11.30 326 *e*P **Pn** 12 31 11.4 -0.9
EPYK Eagle Plains 11.35 356 *e*Pn **Pn** 12 31 11.6 -1.4
EPYK Eagle Plains 11.35 356 P **Pn** 12 31 12.0 -1.0
baz=174
E04D Cinebar 11.43 134 P **Pn** 12 31 15.5 +1.4
baz=323,SNR=22
ILAR Eielson Array 11.46 333 Pn **Pn** 12 31 13.6 -1.0
1.1nm,0.3s,baz=156,slow=12,SNR=112
ILAR Lg Lg 12 34 32.2
0.2nm,0.3s,baz=118,slow=25,SNR=3.7
ILB Eielson Array 11.46 333 *e*Pn **Pn** 12 31 13.6 -1.0
TRF Thorofare Moun 11.57 323 *e*Pn **Pn** 12 31 14.6 -1.5
WRH Wood River Hil 11.57 330 *e*Pn **Pn** 12 31 14.3 -1.7
LON Longmire 11.60 131 *e*Pn **Pn** 12 31 16.2 -0.3
LON Longmire 11.60 131 *e*P **Pn** 12 31 16.2 -0.3
B08A Colville Reser 11.60 119 *e*Pn **Pn** 12 31 16.6 0.0
F04D Rainier, OR 11.63 136 P **Pn** 12 31 18.1 +1.2
baz=325,SNR=9.4
LTY Liberty 11.72 126 *e*Pn **Pn** 12 31 18.6 +0.3
PRP Porcupine Dome 11.74 337 *e*Pn **Pn** 12 31 18.3 -0.3
BWN Browne 11.77 327 *e*Pn **Pn** 12 31 15.8 -2.9
COLA College 11.80 331 *e*Pn **Pn** 12 31 17.8 -1.4
COLA College 11.80 331 *e*P **Pn** 12 31 17.8 -1.4
TCOL CIGO, UAF Yank 11.81 331 P **Pn** 12 31 18.9 -0.3
baz=140,SNR=12
POKR Poker Plat Res 11.88 333 P **Pn** 12 31 19.2 -1.1
baz=142
PPLA Purkeypile 11.94 318 *e*Pn **Pn** 12 31 19.1 -2.1
MDM Murphy Dome 11.97 331 *e*Pn **Pn** 12 31 19.6 -2.0
CAST Castle Rocks 12.19 320 *e*Pn **Pn** 12 31 21.5 -3.1
BPAW Bear Paw Mtn. 12.22 324 *e*Pn **Pn** 12 31 22.2 -2.7
G03D McMinnville, O 12.26 139 P **Pn** 12 31 27.3 +1.8
baz=328,SNR=8.0
F05D White Salmon 12.43 133 P **Pn** 12 31 30.0 +2.2
baz=322,SNR=30
C09A Chrisman Ranch 12.50 119 *e*Pn **Pn** 12 31 28.5 -0.4
FYU Fort Yukon 12.59 340 *e*Pn **Pn** 12 31 27.6 -2.3
SVW2 Sparrevohn 12.59 307 *e*Pn **Pn** 12 31 26.5 -3.5
E07A Sunnyside 12.62 127 *e*Pn **Pn** 12 31 28.5 -1.9
YKA Yellowknife Ar 12.68 46 Pn **Pn** 12 31 29.9 -1.2
0.6nm,0.3s,baz=254,slow=13,SNR=19
YKA Lg Lg 12 35 00.5
0.2nm,0.3s,baz=240,slow=26,SNR=3.4
YKA LR LR 12 36 59.2
comp=Z,874nm,18.7s,baz=244,slow=40
YKB5 Yellowknife Ar 12.68 46 *e*Pn **Pn** 12 31 28.6 -2.6
D08A Wollman Farm, 12.70 123 *e*Pn **Pn** 12 31 29.8 -1.7
YKW3 Yellowknife Ar 12.71 46 *e*Pn **Pn** 12 31 29.8 -1.7
MLY Manley 12.76 328 *e*Pn **Pn** 12 31 30.0 -2.3
COR Corvallis 12.78 141 *e*Pn **Pn** 12 31 31.9 -0.7
COR Corvallis 12.78 141 P **Pn** 12 31 34.5 +1.9
COR pmax pmax
comp=Z,136nm,0.8s
NEW Newport 12.79 115 Pn **Pn** 12 31 33.4 +0.6
comp=Z,0.6nm,0.3s,baz=315,slow=12,SNR=22
NEW Lg Lg 12 35 07.4
comp=Z,0.6nm,0.3s,baz=186,slow=19,SNR=5.4
NEW LR LR 12 35 44.5
comp=Z,7μm,20.2s,baz=306,slow=34
NEW Newport 12.79 115 *e*Pn **Pn** 12 31 31.8 -1.0
NEW Newport 12.79 115 *e*P **Pn** 12 31 31.8 -1.0
NEW Newport 12.79 115 P **Pn** 12 31 33.6 +0.8
baz=309,SNR=47
HAWA Hanford 12.89 126 *e*Pn **Pn** 12 31 32.7 -1.4
G05D Wamic, OR 13.00 134 P **Pn** 12 31 38.0 +2.3
baz=324,SNR=15
I02D Swisshome 13.00 143 P **Pn** 12 31 38.1 +2.5
baz=331
E08A Dider Farm, El 13.04 125 *e*Pn **Pn** 12 31 35.2 -1.0
H04D Lebanon 13.04 139 P **Pn** 12 31 38.0 +1.8
baz=328,SNR=12
F07A Phinny Hill Vi 13.09 129 *e*Pn **Pn** 12 31 36.2 -0.6
H04A Detroit Lake 13.11 138 *e*Pn **Pn** 12 31 36.9 -0.3
INK Inuvik 13.26 2 Pn **Pn** 12 31 38.5 -0.5
comp=Z,0.9nm,0.3s,baz=169,slow=12,SNR=47
INK Lg Lg 12 35 25.4
comp=Z,0.2nm,0.3s,baz=271,slow=31,SNR=3.7
INK Inuvik 13.26 2 *e*Pn **Pn** 12 31 37.1 -1.9
INK Inuvik 13.26 2 *e*P **Pn** 12 31 37.1 -1.9
G06A Carlson Farm, 13.29 132 *e*Pn **Pn** 12 31 38.4 -1.3
E09A Wood Farm, Sta 13.46 123 *e*Pn **Pn** 12 31 40.4 -1.5
I03D Drain, OR 13.54 143 P **Pn** 12 31 44.6 +1.7
baz=331
I05D Terrebonne, OR 13.73 136 P **Pn** 12 31 48.0 +2.3
baz=326,SNR=13
I04A Tendick Farm, 13.79 140 P **Pn** 12 31 47.4 +1.0
baz=329,SNR=28
KEBM Edson Butte 13.95 147 *e*Pn **Pn** 12 31 47.0 -1.6
G08A Pilot Rock 13.99 128 *e*Pn **Pn** 12 31 48.1 -1.1
WALA Waterton Lakes 14.05 107 *e*Pn **Pn** 12 31 48.1 -1.9
COLD Coldfoot 14.24 335 *e*Pn **Pn** 12 31 51.4 -1.0
F10A Beach Ranch, E 14.29 123 *e*Pn **Pn** 12 31 51.7 -1.6
K02D Willamette Mer 14.32 146 P **Pn** 12 31 56.2 +2.5
baz=334
PINE Pine Mountain 14.35 136 *e*Pn **Pn** 12 31 53.4 -0.9
J04D Umpqua Nationa 14.38 141 P **Pn** 12 31 55.9 +1.3
baz=330,SNR=31
HUMO Hull Mountain 14.63 144 *e*Pn **Pn** 12 31 57.7 -0.2
J05D Fort Rock, OR 14.66 138 P **Pn** 12 31 59.5 +1.1
baz=328,SNR=40
I07A Izee 14.70 132 *e*Pn **Pn** 12 31 57.1 -1.9
SDPT Sand Point 14.76 282 *e*Pn **Pn** 12 31 57.3 -2.2
L02E Cave Junction 14.82 146 P **Pn** 12 32 02.8 +2.3
baz=334
K04D Chiloquin, OR 15.04 141 P **Pn** 12 32 04.4 +0.9
baz=330,SNR=16
BMO Blue Mountains 15.08 126 *e*Pn **Pn** 12 32 02.8 -1.2
comp=Z,64nm,0.9s
BMO Blue Mountains 15.08 126 *e*P **Pn** 12 32 02.8 -1.2
BMO pmax pmax
comp=Z,65nm,0.9s
L04D Klamath Falls 15.20 143 P **P** 12 32 10.4 0.0
baz=332,SNR=11
MSO Missoula 15.37 114 *e*Pn **Pn** 12 32 06.5 -1.3
comp=Z,134nm,1.1s
MSO Missoula 15.37 114 P **Pn** 12 32 07.7 -0.1
baz=310,SNR=35
YBH Yreka Blue Hor 15.50 145 Pn **Pn** 12 32 10.6 +1.2
comp=Z,0.1nm,0.3s,baz=341,slow=5.6,SNR=18
J08A Circle Bar Ran 15.72 132 *e*Pn **Pn** 12 32 11.1 -1.4
comp=Z,126nm,0.9s
M04C Macdoel 15.75 143 P **Pn** 12 32 14.2 +1.5
baz=332,SNR=30
M02C Callahan 15.75 146 P **P** 12 32 15.6 -0.9
baz=334,SNR=5.7
JCC Jacoby Creek, 15.92 150 *e*Pn **Pn** 12 32 14.7 -0.1
comp=Z,216nm,1.4s
KHMM Horse Mountain 15.95 149 *e*Pn **Pn** 12 32 15.4 0.0
comp=Z,177nm,1.3s
N02D Trinity Center 16.18 146 P **P** 12 32 21.1 -0.1
baz=335,SNR=28
MOD Modoc Plateau 16.20 139 *e*Pn **Pn** 12 32 17.5 -1.1
comp=Z,118nm,1.3s
WVOR Wild Horse Val 16.41 134 *e*Pn **Pn** 12 32 20.4 -0.9
comp=Z,59nm,1.0s
WVOR Wild Horse Val 16.41 134 *e*P **Pn** 12 32 20.4 -0.9
WVOR pmax pmax
comp=Z,59nm,1.0s
FALS False Pass 16.51 281 *e*Pn **Pn** 12 32 15.5 -6.8
comp=Z,161nm,0.8s
KMRM Mail Ridge 16.56 150 *e*Pn **Pn** 12 32 22.6 -0.5
comp=Z,306nm,1.3s
HRY Holter Researc 16.56 111 *e*Pn **Pn** 12 32 22.2 -0.9
WDC Whiskeytown Da 16.59 146 *e*Pn **P** 12 32 24.6 -1.1
comp=Z,154nm,1.0s
WDC Whiskeytown Da 16.59 146 *e*P **P** 12 32 24.6 -1.1
WDC pmax pmax
comp=Z,154nm,1.0s
LRM Limekiln Ridge 16.81 114 *e*Pn **Pn** 12 32 25.6 -0.7
MFID Camas Ranch 16.86 126 *e*Pn **P** 12 32 27.8 -1.1
comp=Z,77nm,1.0s
O02D Mt. Diablo Mer 16.88 147 P **P** 12 32 29.7 +0.7
baz=336,SNR=21
EGMT Eagleton 16.92 104 *e*Pn **Pn** 12 32 25.2 -2.3
comp=Z,152nm,1.0s
EGMT Eagleton 16.92 104 P **Pn** 12 32 25.7 -1.9
baz=304,SNR=30
DLMT Dillon 17.04 116 *e*Pn **Pn** 12 32 26.1 -3.1
comp=Z,187nm,1.1s
O03E Paynes Creek 17.09 145 P **P** 12 32 31.9 +0.6
baz=334,SNR=28
KCPM Cahto Peak 17.09 150 *e*Pn **P** 12 32 31.7 +0.3
comp=Z,191nm,1.4s
MCMT McKenzie Canyo 17.28 118 *e*Pn **Pn** 12 32 30.6 -1.6
BOZ Bozeman (W) 17.39 114 *e*Pn **Pn** 12 32 31.1 -2.5
comp=Z,39nm,1.0s
BOZ Bozeman (W) 17.39 114 *e*P **Pn** 12 32 31.1 -2.5
BOZ pmax pmax
comp=Z,39nm,1.0s
BOZ Bozeman (W) 17.39 114 P **Pn** 12 32 33.4 -0.1
baz=311,SNR=19
HLID Hailey 17.42 123 *e*Pn **Pn** 12 32 34.2 +0.3
comp=Z,156nm,1.1s
HLID Hailey 17.42 123 P **P** 12 32 34.5 -0.6
baz=318,SNR=196
ORV Oroville 17.86 145 *e*Pn **Pn** 12 32 37.1 -2.1
ORV Oroville 17.86 145 *e*P **Pn** 12 32 37.1 -2.1
HOPS Hopland Field 17.88 150 *e*Pn **P** 12 32 46.0 +6.0
BEKR Beckworth 17.96 142 *e*Pn **P** 12 32 42.0 +0.8
comp=Z,179nm,1.6s
QLMT Earthquake Lak 18.01 115 *e*Pn **Pn** 12 32 41.0 -0.2
YHB Horse Butte 18.18 115 *e*Pn **P** 12 32 44.0 +0.5
comp=Z,87nm,1.0s
GCMT Greycliff 18.31 110 *e*Pn **P** 12 32 44.3 -0.5
YMR Madison River 18.36 115 *e*Pn **Pn** 12 32 46.4 +0.8
comp=Z,319nm,1.4s
RDOG Red Dog Mine 18.46 326 *e*P **P** 12 32 45.0 -1.2
comp=Z,255nm,1.4s
YNR Norris Junctio 18.48 114 *e*P **Pn** 12 32 48.4 +1.3
comp=Z,75nm,1.2s
UNV Unalaska Valle 18.51 279 *e*P **P** 12 32 45.2 -1.6
comp=Z,148nm,0.9s
YFT Old Faithful 18.58 115 *e*P **Pn** 12 32 50.0 +1.8
comp=Z,141nm,1.4s
AFDM Forest Hills D 18.58 145 *e*P **P** 12 32 46.8 -0.9
comp=Z,22nm,1.2s
FFC Flin Flon 18.65 78 *e*P **P** 12 32 47.2 -1.2
comp=Z,267nm,1.5s
FFC Flin Flon 18.65 78 *e*P **P** 12 32 47.2 -1.2
FFC pmax pmax
comp=Z,267nm,1.5s
YPP Pitchstone Pla 18.72 116 *e*P **Pn** 12 32 51.2 +1.3
comp=Z,152nm,1.6s
LKWY Lake 18.73 114 *e*P **Pn** 12 32 50.2 +0.1
comp=Z,105nm,0.9s
LKWY Lake 18.73 114 *e*P **Pn** 12 32 50.2 +0.1
LKWY pmax pmax
comp=Z,105nm,0.9s
H17A Grant Village 18.75 115 *e*P **Pn** 12 32 51.8 +1.5
comp=Z,138nm,1.0s
H17A Grant Village 18.75 115 P **Pn** 12 32 51.6 +1.3
baz=313,SNR=23
RUBR Rubicon Trail 18.76 143 *e*P **Pn** 12 32 52.2 +1.7
comp=Z,108nm,1.2s
FLWY Flagg Ranch 18.90 116 *e*P **P** 12 32 51.4 -0.1
comp=Z,97nm,1.0s
IMW Indian Meadow 18.91 117 *e*P **P** 12 32 51.2 -0.4
comp=Z,72nm,0.8s
RLMT Red Lodge 18.95 111 *e*P **P** 12 32 51.8 -0.2
comp=Z,99nm,1.1s
RLMT Red Lodge 18.95 111 P **P** 12 32 52.2 +0.2
baz=311,SNR=30
MOOW Moose Ponds 19.11 117 *e*P **Pn** 12 32 55.1 +0.4
comp=Z,67nm,1.1s
YERR Yerington 19.14 141 *e*P **P** 12 32 53.3 -0.8
comp=Z,205nm,1.5s
TPAW Teton Pass 19.19 117 *e*P **Pn** 12 32 56.1 +0.4
comp=Z,246nm,1.3s
ELK Elko 19.25 130 P **Pn** 12 32 56.5 +0.2
comp=Z,0.3nm,0.3s,baz=323,slow=10,SNR=77
ELK Elko 19.25 130 *e*P **P** 12 32 55.2 0.0
comp=Z,48nm,1.2s
ELK Elko 19.25 130 *e*P **P** 12 32 55.3 0.0
ELK pmax pmax
comp=Z,49nm,1.2s
LOHW Long Hollow 19.28 117 *e*P **Pn** 12 32 56.8 +0.1
comp=Z,61nm,0.8s
SNOW Snow King Moun 19.31 117 *e*P **Pn** 12 32 57.5 +0.4
comp=Z,86nm,1.0s
REDW Red Top Meadow 19.33 118 *e*P **Pn** 12 32 57.6 +0.3
comp=Z,160nm,1.2s
WAKR Walker 19.50 142 *e*P **P** 12 32 58.3 +0.3
comp=Z,215nm,1.3s
KVN Kaiserville 19.51 139 *e*P **P** 12 32 58.4 +0.3
comp=Z,396nm,1.6s
KVN Kaiserville 19.51 139 *e*P **P** 12 32 58.4 +0.3
KVN pmax pmax
comp=Z,396nm,1.6s
HVU Hansel Valley 19.56 124 *e*P **P** 12 32 58.6 +0.1
comp=Z,164nm,1.4s
CMB Columbia Colle 19.60 145 *e*P **P** 12 32 58.5 -0.4
comp=Z,111nm,1.5s
CMB Columbia Colle 19.60 145 *e*P **P** 12 32 58.5 -0.4
CMB pmax pmax
comp=Z,111nm,1.5s
AHID Auburn Hatcher 19.64 119 *e*P **P** 12 32 59.7 +0.2
comp=Z,317nm,1.5s
LAO LASA Array 19.65 104 *e*P **P** 12 32 59.5 0.0
comp=Z,57nm,0.9s
LAO LASA Array 19.65 104 P **P** 12 32 59.5 0.0
baz=306,SNR=21
RYN Ryan 19.72 140 *e*P **P** 12 33 00.3 0.0
comp=Z,108nm,1.2s
DGMT Dagmar 19.82 97 *e*P **P** 12 33 01.6 +0.4
comp=Z,123nm,1.1s
DGMT Dagmar 19.82 97 P **P** 12 33 01.3 0.0
baz=301,SNR=25
NV01 Mina Array Sit 19.98 140 *e*P **Pn** 12 33 04.9 -0.1
NVAR Mina Array Bea 19.98 140 P **Pn** 12 33 04.9 -0.1
comp=Z,34nm,0.8s,baz=323,slow=9.7,SNR=37
SPUT South Promonto 20.08 124 *e*P **P** 12 33 03.3 -1.0
comp=Z,52nm,1.0s
BGU Big Grassy Mou 20.11 126 *e*P **P** 12 33 03.6 -0.9
comp=Z,38nm,1.2s
BW06 Boulder Array 20.42 117 *e*P **P** 12 33 07.9 -0.2
comp=Z,93nm,0.8s
BW06 Boulder Array 20.42 117 P **P** 12 33 08.8 +0.8
baz=316,SNR=128
PD31 Pinedale Array 20.42 117 *e*P **P** 12 33 08.8 +0.8
PDAR Pinedale Array 20.42 117 P **P** 12 33 08.8 +0.8
comp=Z,46nm,0.9s,baz=307,slow=4.4,SNR=16
PDAR Lg Lg 12 39 12.4
comp=Z,2.6nm,1.2s,baz=353,slow=14,SNR=3.7
SAO San Andreas Ge 20.43 148 *e*P **P** 12 33 07.4 -0.5
comp=Z,44nm,1.0s
SAO San Andreas Ge 20.43 148 *e*P **P** 12 33 07.4 -0.5
SAO pmax pmax
comp=Z,44nm,1.0s
GAMB Gambell 20.49 310 *e*P **P** 12 33 08.0 -0.3
comp=Z,213nm,1.2s
TCUT Toone Canyon 20.72 123 *e*P **P** 12 33 11.4 +0.1
comp=Z,191nm,0.8s
DUG Dugway, Tooele 20.79 127 *e*P **P** 12 33 11.6 -0.3
comp=Z,69nm,1.0s
DUG Dugway, Tooele 20.79 127 *e*P **P** 12 33 11.6 -0.3
DUG pmax pmax
comp=Z,69nm,1.0s
DUG Dugway, Tooele 20.79 127 P Pn 12 33 13.3 -1.1
baz=323,SNR=31
CTU Camp Tracy 20.89 124 *e*P **P** 12 33 13.2 +0.2
comp=Z,25nm,0.9s
JLU Jordanelle 21.10 124 *e*P **P** 12 33 15.8 +0.4
comp=Z,59nm,1.2s
R11A Troy Canyon, C 21.11 135 *e*P **P** 12 33 14.9 -0.5
comp=Z,47nm,0.9s
R11A Troy Canyon, C 21.11 135 P **P** 12 33 15.2 -0.2
baz=329,SNR=44
TIN Tinemaha, Big 21.22 142 P **P** 12 33 17.8 +1.2
baz=333,SNR=24
NLU North Lily Min 21.32 126 *e*P **P** 12 33 17.6 -0.2
comp=Z,60nm,1.1s
MPU Maple Canyon 21.48 125 *e*P **P** 12 33 19.1 -0.3
comp=Z,30nm,1.1s
GRAC Grapevine Rang 21.59 140 P **P** 12 33 21.1 +0.7
baz=332
PSUT Pine Spring 21.68 131 *e*P **P** 12 33 21.5 -0.1
comp=Z,106nm,1.1s
PAGB Antelope Grade 21.75 147 *e*P **P** 12 33 22.1 -0.1
comp=Z,101nm,1.1s
CWC Cottonwood Cre 21.83 142 P **P** 12 33 24.5 +1.4
baz=334
VES Vestal, Richgr 22.02 145 P **P** 12 33 25.1 0.0
baz=336,SNR=14
TPNV Topopah Spring 22.05 138 *e*P **P** 12 33 24.8 -0.7
comp=Z,142nm,0.9s
TPNV Topopah Spring 22.05 138 *e*P **P** 12 33 24.8 -0.7
TPNV pmax pmax
comp=Z,142nm,0.9s
TPNV Topopah Spring 22.05 138 P **P** 12 33 25.6 +0.1
baz=331,SNR=51
K22A Casper 22.09 113 *e*P **P** 12 33 25.2 -0.7
comp=Z,180nm,1.1s
K22A Casper 22.09 113 P **P** 12 33 25.1 -0.8
baz=314,SNR=19
FCC Fort Churchill 22.14 64 *e*P **P** 12 33 26.2 +0.1
comp=Z,204nm,1.1s
FCC Fort Churchill 22.14 64 *e*P **P** 12 33 26.2 +0.1
FCC pmax pmax
comp=Z,204nm,1.1s
DAC Darwin (Calif) 22.15 141 *e*P **P** 12 33 26.2 -0.4
comp=Z,113nm,1.4s
DAC Darwin (Calif) 22.15 141 *e*P **P** 12 33 26.2 -0.4
DAC pmax pmax
comp=Z,113nm,1.4s
SMMC Simmler 22.21 147 P **P** 12 33 27.4 +0.2
baz=337,SNR=7.8
FURC Furnace Creek, 22.24 140 P **P** 12 33 27.8 +0.4
baz=332,SNR=37
TMUT Trail Mountain 22.25 126 *e*P **P** 12 33 27.6 -0.2
comp=Z,76nm,1.1s
P17A Butcher Ranch, 22.33 125 *e*P **P** 12 33 28.3 -0.2
comp=Z,81nm,1.3s
MPMC Manual Prospec 22.38 141 P **P** 12 33 29.8 +0.7
baz=334,SNR=45
ISA Isabella, Lake 22.39 144 *e*P **P** 12 33 28.1 -1.0
comp=Z,65nm,1.3s
ISA Isabella, Lake 22.39 144 *e*P **P** 12 33 28.1 -1.0
ISA pmax pmax
comp=Z,65nm,1.3s
ISA Isabella, Lake 22.39 144 P **P** 12 33 29.2 +0.1
baz=335,SNR=25
RWWY Rawlins 22.41 115 *e*P **P** 12 33 28.3 -1.1
comp=Z,281nm,1.5s
MSU Marysvale 22.43 128 *e*P **P** 12 33 28.9 -0.8
MSU Marysvale 22.43 128 *e*P **P** 12 33 28.9 -0.8
RSSD Black Hills 22.45 107 *e*P **P** 12 33 29.0 -0.8
comp=Z,106nm,0.8s
RSSD Black Hills 22.45 107 *e*P **P** 12 33 29.0 -0.8
RSSD pmax pmax
comp=Z,107nm,0.8s
RSSD Black Hills 22.45 107 P **P** 12 33 29.4 -0.4
baz=310
Q16A Castle Valley 22.57 126 *e*P **P** 12 33 30.7 -0.4
comp=Z,138nm,1.3s
PKM Mcpherson Peak 22.66 147 P **P** 12 33 32.8 +0.8
baz=338,SNR=14
CCUT Cedar City 22.71 132 *e*P **P** 12 33 32.3 -0.3
comp=Z,48nm,1.0s
ARVC Arvin 22.76 145 P **P** 12 33 33.3 +0.4
baz=336
MDND Maddock 22.77 94 *e*P **P** 12 33 33.3 +0.3
comp=Z,272nm,1.1s
MDND Maddock 22.77 94 P **P** 12 33 33.3 +0.3
baz=302,SNR=9.8
SZCU Shurtz Canyon 22.79 131 *e*P **P** 12 33 33.3 -0.2
comp=Z,116nm,1.2s
MTPU Mount Pierson 22.82 129 *e*P **P** 12 33 33.9 -0.1
comp=Z,133nm,1.6s
LRMC Laurel Mtn Rad 22.83 142 P **P** 12 33 33.6 -0.2
baz=334,SNR=45
SHPR Sheep Range 22.86 136 *e*P **P** 12 33 33.5 -0.7
comp=Z,73nm,1.4s
SHOC Shoshone, Teco 22.97 139 P **P** 12 33 35.5 +0.4
baz=332,SNR=43
O20A White River Ci 23.03 120 *e*P **P** 12 33 35.4 -0.5
comp=Z,76nm,0.9s
O20A White River Ci 23.03 120 P **P** 12 33 35.7 -0.2
baz=319,SNR=24
LCMT Little Creek M 23.22 132 *e*P **P** 12 33 37.2 -0.5
comp=Z,184nm,1.6s
PKCU Pink Cliffs 23.26 130 *e*P **P** 12 33 38.1 -0.3
comp=Z,143nm,1.5s
EDW2 Edwards Air Fo 23.26 144 P **P** 12 33 37.5 -0.6
baz=335,SNR=7.9
GSC Goldstone, Bar 23.30 141 *e*P **P** 12 33 38.4 -0.2
comp=Z,128nm,1.2s
GSC Goldstone, Bar 23.30 141 *e*P **P** 12 33 38.4 -0.2
GSC pmax pmax
comp=Z,128nm,1.2s
GSC Goldstone, Bar 23.30 141 P **P** 12 33 38.7 +0.2
baz=334,SNR=37
KNB Kanab 23.39 132 *e*P **P** 12 33 39.3 -0.3
comp=Z,114nm,1.3s
KNB Kanab 23.39 132 *e*P **P** 12 33 39.3 -0.3
KNB pmax pmax
comp=Z,115nm,1.3s
TUQ Turquoise Moun 23.51 139 P **P** 12 33 40.5 -0.2
baz=332,SNR=34
PHWY Pilot Hill 23.60 114 *e*P **P** 12 33 41.0 -0.7
comp=Z,58nm,1.0s
N23A Red Feather La 23.64 115 *e*P **P** 12 33 41.6 -0.5
comp=Z,86nm,1.0s
N23A Red Feather La 23.64 115 P **P** 12 33 41.7 -0.4
baz=317,SNR=15
DECC Green Verdugo 23.72 145 P **P** 12 33 42.6 +0.1
baz=336
ULM Lac du Bonnet 23.74 86 P **P** 12 33 42.0 -0.6
comp=Z,7.6nm,0.8s,baz=296,slow=9.5,SNR=20
ULM Lg Lg 12 40 46.5
comp=Z,12nm,0.9s,baz=104,slow=4.9,SNR=3.2
ULM Lac du Bonnet 23.74 86 *e*P **P** 12 33 41.9 -0.6
comp=Z,26nm,0.8s
ULM Lac du Bonnet 23.74 86 *e*P **P** 12 33 41.9 -0.6
ULM pmax pmax
comp=Z,26nm,0.8s
MWC Mount Wilson 23.84 144 *e*P **P** 12 33 43.7 -0.2
comp=Z,42nm,0.9s
MWC Mount Wilson 23.84 144 *e*P **P** 12 33 43.7 -0.2
MWC pmax pmax
comp=Z,42nm,0.9s
PASC Pasadena Art C 23.84 145 *e*P **P** 12 33 43.8 0.0
comp=Z,91nm,1.3s
PV09 Paradox Valley 23.86 124 *e*P **P** 12 33 44.0 -0.2
PV21 Cone Mtn., Par 23.89 123 *e*P **P** 12 33 44.4 0.0
comp=Z,75nm,1.0s
HEC Hector Ludlow 23.90 141 P **P** 12 33 44.3 0.0
baz=334,SNR=40
PV23 Carpenter Ridg 23.96 123 *e*P **P** 12 33 45.1 +0.1
comp=Z,82nm,0.8s
BFSC Mount Baldy Ra 23.96 144 P **P** 12 33 45.3 +0.3
baz=336,SNR=42
PV10 Paradox Valley 24.00 124 *e*P **P** 12 33 45.7 +0.2
PV14 Lion Creek, Pa 24.01 124 *e*P **P** 12 33 45.6 +0.1
comp=Z,104nm,1.3s
PV20 West Nyswonger 24.07 124 *e*P **P** 12 33 46.2 +0.2
comp=Z,106nm,1.3s
PV19 Morning Glory 24.08 124 *e*P **P** 12 33 46.0 -0.2
comp=Z,183nm,1.5s
PV16 Nyswonger Mesa 24.11 124 *e*P **P** 12 33 45.8 -0.7
comp=Z,54nm,0.9s
PV17 East Wray Mesa 24.12 124 *e*P **P** 12 33 46.0 -0.5
comp=Z,76nm,0.9s
U15A North Rim 24.12 132 *e*P **P** 12 33 45.9 -0.7
comp=Z,48nm,1.0s
LDFC Landfair 24.13 138 *e*P **P** 12 33 46.0 -0.6
comp=Z,87nm,0.9s
PV11 David Mesa, Pa 24.14 123 *e*P **P** 12 33 46.3 -0.4
comp=Z,78nm,0.7s
PV12 Saucer Basin, 24.16 123 *e*P **P** 12 33 46.5 -0.4
comp=Z,193nm,1.6s
GMRC Granite Mounta 24.19 139 P **P** 12 33 47.8 +0.7
baz=333,SNR=25

PV03 **Paradox Valley** 24.19 123 *eP* P 12 33 46.2 -1.0
BBRC **Big Bear Solar** 24.20 142 P P 12 33 47.3 +0.1
baz=335,SNR=18
PV05 **Paradox Valley** 24.21 124 *eP* P 12 33 46.5 -0.8
PV13 **Radium Mtn., P** 24.28 124 *eP* P 12 33 46.9 -1.1
comp=Z,79nm,0.9s
PV02 **Paradox Valley** 24.28 123 *eP* P 12 33 47.3 -0.7
comp=Z,46nm,0.9s
SMCO **Snowmass** 24.39 119 *eP* P 12 33 48.7 -0.6
comp=Z,50nm,1.1s
PV01 **Paradox Valley** 24.42 123 *eP* P 12 33 48.8 -0.5
CIS **Catalina Islan** 24.48 146 P P 12 33 48.9 -0.6
baz=337
W13A **Hualapai Mount** 24.60 136 *eP* P 12 33 50.6 -0.3
comp=Z,60nm,1.1s
ISCO **Idaho Springs** 24.61 116 *eP* P 12 33 50.8 -0.4
comp=Z,79nm,1.4s
ISCO **Idaho Springs** 24.61 116 *eP* P 12 33 50.8 -0.4
ISCO pmax pmax
comp=Z,79nm,1.4s
ISCO **Idaho Springs** 24.61 116 P P 12 33 51.9 +0.7
baz=318,SNR=19
AGMN **Agassiz Nation** 24.68 90 *eP* P 12 33 55.8 +4.5
comp=Z,53nm,0.8s
AGMN **Agassiz Nation** 24.68 90 P P 12 33 51.1 -0.3
baz=301,SNR=20
MURC **Murrieta** 24.70 143 P P 12 33 51.5 -0.1
baz=336,SNR=13
BELC **Belle Mtn. Jos** 24.76 141 P P 12 33 52.8 +0.5
baz=334,SNR=25
SCI2 **San Clemente I** 24.82 146 P P 12 33 53.2 +0.5
baz=338,SNR=6.5
IRM **Iron Mountain** 24.94 139 P P 12 33 54.2 +0.4
baz=333,SNR=37
PFO **Pinyon Flats O** 24.95 142 P P 12 33 53.7 -0.2
comp=Z,15nm,1.0s,baz=350,slow=7.4,SNR=14
PFO **Pinyon Flats O** 24.95 142 *eP* P 12 33 53.3 -0.6
comp=Z,26nm,1.0s
PFO **Pinyon Flats O** 24.95 142 *eP* P 12 33 53.3 -0.6
PFO pmax pmax
comp=Z,26nm,1.0s
PFO **Pinyon Flats O** 24.95 142 P P 12 33 54.1 +0.1
baz=335,SNR=14
XPFO **Pion Flat** 24.95 142 *eP* P 12 33 53.6 -0.4
comp=Z,28nm,1.0s
RES **Resolute Bay** 24.97 24 P P 12 33 53.9 +0.2
comp=Z,6.7nm,0.8s,baz=238,slow=11,SNR=21
RES Lg Lg 12 41 30.9
comp=Z,7.4nm,1.1s,baz=154,slow=22,SNR=3.8
RES **Resolute Bay** 24.97 24 *eP* P 12 33 53.6 -0.1
comp=Z,86nm,1.2s
RES **Resolute Bay** 24.97 24 *eP* P 12 33 53.6 -0.1
RES pmax pmax
comp=Z,86nm,1.2s
SUSD **Miller** 25.08 100 P P 12 33 54.4 -0.6
baz=308,SNR=5.7
MVCO **Mesa Verde** 25.19 124 *eP* P 12 33 55.7 -0.6
comp=Z,36nm,0.8s
MVCO **Mesa Verde** 25.19 124 P P 12 33 55.9 -0.4
baz=324,SNR=32
PDMCI **Parker Dam,Lak** 25.19 137 P P 12 33 56.3 +0.3
baz=332,SNR=10
BC3 **Big Chuckawall** 25.27 140 P P 12 33 56.6 -0.3
baz=334,SNR=25
WUAZ **Wupatki** 25.28 131 *eP* P 12 33 56.7 -0.3
comp=Z,106nm,1.2s
WUAZ **Wupatki** 25.28 131 P P 12 33 57.5 +0.4
baz=328,SNR=58
109C **Camp Elliot, M** 25.38 144 P P 12 33 58.1 +0.4
baz=336
CPE **Camp Elliot** 25.38 144 *eP* P 12 33 57.8 +0.1
comp=Z,76nm,1.3s
Q24A **Divide** 25.48 117 *eP* P 12 33 58.6 -0.3
comp=Z,40nm,1.0s
Q24A **Divide** 25.48 117 P P 12 33 59.1 +0.2
baz=319,SNR=17
Y12C **Blythe** 25.53 138 *eP* P 12 33 59.1 0.0
comp=Z,113nm,1.4s
Y12C **Blythe** 25.53 138 P P 12 33 59.9 +0.8
baz=333,SNR=34
S22A **4UR Ranch, Cre** 25.57 121 *eP* P 12 33 59.9 0.0
comp=Z,21nm,0.9s
S22A **4UR Ranch, Cre** 25.57 121 P P 12 34 01.6 +1.8
baz=322,SNR=27
MONP2 **Monument Peak** 25.61 143 P P 12 34 00.7 +0.6
baz=336,SNR=25
OGNE **Ogallala** 25.68 110 *eP* P 12 34 00.1 -0.4
comp=Z,229nm,1.1s
OGNE **Ogallala** 25.68 110 P P 12 34 02.3 +1.8
baz=314,SNR=10
BAR **Barrett** 25.72 143 *eP* P 12 34 00.5 -0.4
comp=Z,63nm,1.4s
SWSC **Sam W. Stewart** 25.78 142 P P 12 34 01.8 +0.5
baz=335,SNR=12
IKP **In-Ko-Pah, Jac** 25.94 142 P P 12 34 03.4 +0.5
baz=335,SNR=18
GLA **Glamis** 26.04 140 *eP* P 12 34 03.6 -0.2
comp=Z,56nm,0.9s
GLA **Glamis** 26.04 140 *eP* P 12 34 03.6 -0.2
GLA pmax pmax
comp=Z,56nm,0.9s
GLA **Glamis** 26.04 140 P P 12 34 04.3 +0.5
baz=334,SNR=16
X16A **Lo Mia Camp, P** 26.19 133 *eP* P 12 34 04.9 -0.4
comp=Z,51nm,1.1s
SDCO **Great Sand Dun** 26.23 119 *eP* P 12 34 05.5 -0.3
comp=Z,17nm,0.9s
SDCO **Great Sand Dun** 26.23 119 P P 12 34 06.0 +0.2
baz=321,SNR=24
113A **Mohawk Valley,** 26.69 138 *eP* P 12 34 09.3 -0.3
comp=Z,25nm,1.1s
KSCO **Kaye Shedlock'** 26.75 114 *eP* P 12 34 10.1 -0.2
comp=Z,69nm,1.1s
KSCO **Kaye Shedlock'** 26.75 114 P P 12 34 10.7 +0.5
baz=318,SNR=6.2
ECSD **EROS Data Cent** 26.85 99 *eP* P 12 34 11.0 +0.1
comp=Z,29nm,0.9s
ECSD **EROS Data Cent** 26.85 99 P P 12 34 13.7 +2.7
baz=308
T25A **Trinidad** 27.25 119 *eP* P 12 34 14.3 -0.6
comp=Z,16nm,1.3s
EYMN **Ely** 27.37 87 *eP* P 12 34 15.2 -0.4
comp=Z,33nm,1.0s
EYMN **Ely** 27.37 87 P P 12 34 18.7 +3.1
baz=301,SNR=6.3
BGNE **Belgrade** 27.49 105 *eP* P 12 34 16.5 -0.3
comp=Z,110nm,1.4s
BGNE **Belgrade** 27.49 105 P P 12 34 16.8 0.0
baz=312
214A **Organ Pipe Nat** 27.78 137 P P 12 34 19.9 +0.4
baz=333,SNR=9.8
ANMO **Albuquerque** 27.99 124 P P 12 34 21.9 +0.4
comp=Z,4.0nm,1.0s,baz=315,slow=13,SNR=5.6
ANMO **Albuquerque** 27.99 124 *eP* P 12 34 21.1 -0.4
comp=Z,8.3nm,0.9s
ANMO **Albuquerque** 27.99 124 *eP* P 12 34 22.8 +1.3
ANMO pmax pmax
comp=Z,8.0nm,1.4s
ANMO **Albuquerque** 27.99 124 P P 12 34 23.6 +2.2
baz=325
E38A **The Farm, Brul** 28.06 90 P P 12 34 24.9 +3.1
baz=304,SNR=5.1
LAZ **Ladron** 28.12 126 *eP* P 12 34 23.2 +0.6
F38A **Pierce - Schro** 28.24 91 P P 12 34 23.6 +0.2
baz=305,SNR=10
TUC **Tucson** 28.29 134 *eP* P 12 34 23.6 -0.4
comp=Z,35nm,1.3s
TUC **Tucson** 28.29 134 *eP* P 12 34 23.6 -0.4
TUC pmax pmax
comp=Z,35nm,1.3s
TUC **Tucson** 28.29 134 P P 12 34 25.2 +1.2
baz=331
LENM **Lemitar** 28.39 126 *eP* P 12 34 24.4 -0.6
CBKS **Cedar Bluff** 28.44 110 *eP* P 12 34 25.0 -0.2
comp=Z,117nm,1.5s
CBKS **Cedar Bluff** 28.44 110 *eP* P 12 34 25.0 -0.2
CBKS pmax pmax
comp=Z,117nm,1.5s
CBKS **Cedar Bluff** 28.44 110 P P 12 34 25.9 +0.7
baz=316
BNM **Barren Site** 28.56 126 *eP* P 12 34 26.0 -0.7
F39A **Loretta** 28.81 90 P P 12 34 33.2 +4.7
baz=305
G39A **Holcombe** 29.03 92 P P 12 34 34.6 +4.2
baz=306
F40A **Park Falls** 29.27 90 P P 12 34 36.7 +4.2
baz=305
H39A **Augusta** 29.32 93 P P 12 34 37.0 +4.0
baz=306,SNR=6.6
121A **Cookes Peak, D** 29.39 129 P P 12 34 36.2 +2.4
baz=328,SNR=8.0
BILL **Bilibino** 29.64 319 *iP* P 12 34 33.8 -1.8
BILL *e* 12 34 39.2
BILL *ePPP* PPP 12 35 34.3
BILL *e* 12 37 38.8
BILL pmax pmax
comp=Z,46nm,1.7s
I39A **Houston** 29.68 94 *eP* P 12 34 35.4 -0.8
comp=Z,26nm,0.9s
319A **Douglas** 29.73 133 *eP* P 12 34 35.6 -1.2
comp=Z,72nm,1.2s
J39A **Decorah** 29.89 95 P P 12 34 41.0 +3.0
baz=308,SNR=6.7
KSU1 **Kansas State U** 29.94 106 *eP* P 12 34 37.8 -0.7
comp=Z,22nm,0.7s
KSU1 **Kansas State U** 29.94 106 P P 12 34 38.2 -0.3
baz=315,SNR=5.9
K39A **Oelwein** 30.18 96 P P 12 34 43.0 +2.3
baz=309,SNR=7.0
E42A **Champion** 30.25 87 P P 12 34 44.9 +3.7
baz=304
H41A **Junction City** 30.29 91 P P 12 34 46.1 +4.5
baz=306
AMTX **Amarillo** 30.39 118 *eP* P 12 34 41.9 -0.8
comp=Z,73nm,1.1s
AMTX **Amarillo** 30.39 118 P P 12 34 43.7 +1.0
baz=322
J40A **Soldiers Grove** 30.41 94 P P 12 34 42.0 -0.6
baz=308
L39A **Vinton** 30.49 97 P P 12 34 47.5 +4.2
baz=310
I41A **Arkdale** 30.50 92 P P 12 34 48.1 +4.7
baz=307
MSTX **Muleshoe** 30.57 121 *eP* P 12 34 43.6 -0.6
comp=Z,18nm,0.9s
MSTX **Muleshoe** 30.57 121 P P 12 34 48.5 +4.2
baz=324,SNR=7.4
K40A **Colesburg** 30.62 96 P P 12 34 48.0 +3.5
baz=309
G42A **Mountain** 30.63 89 P P 12 34 49.5 +4.9
baz=306,SNR=5.9
M39A **Webster** 30.81 98 P P 12 34 50.0 +3.8
baz=311
L40A **Anamosa** 30.97 97 *eP* P 12 34 52.7 +5.1
comp=Z,24nm,0.9s
L40A **Anamosa** 30.97 97 P P 12 34 51.9 +4.3
baz=310
JFWS **Jewell Farm** 30.99 94 *eP* P 12 34 47.6 -0.2
comp=Z,19nm,0.8s
JFWS **Jewell Farm** 30.99 94 *eP* P 12 34 47.6 -0.2
JFWS pmax pmax
comp=Z,19nm,0.8s
JFWS **Jewell Farm** 30.99 94 P P 12 34 50.7 +2.9
baz=309
H42A **Shiocton** 31.00 91 P P 12 34 53.0 +5.1
baz=307
F43A **Flat Rock, Esc** 31.01 87 P P 12 34 52.3 +4.3
baz=305
G43A **Wallace** 31.05 89 P P 12 34 53.5 +5.2
baz=306
HSIG 31.12 137 *eP* P 12 34 48.9 -0.2
comp=Z,32nm,1.2s
K41A **Shullsburg** 31.15 95 P P 12 34 53.6 +4.4
baz=309
I42A **Draeger Farm,** 31.16 92 P P 12 34 54.1 +4.9
baz=307
MNTX **Cornudas Mount** 31.18 127 *eP* P 12 34 49.9 +0.3
comp=Z,11nm,0.9s
MNTX **Cornudas Mount** 31.18 127 P P 12 34 51.0 +1.4
baz=327,SNR=8.3
M40A **Post Highland** 31.23 98 P P 12 34 54.8 +4.8
baz=311
GDL2 **Guadalupe Moun** 31.24 125 *eP* P 12 34 50.1 0.0
I43A **Langenfeld Bro** 31.60 91 P P 12 34 57.5 +4.4
baz=307
J43A **Natural Harves** 31.75 92 P P 12 34 58.2 +3.8
baz=308
L42A **Oliver, Polo** 31.90 95 *eP* P 12 34 56.4 +0.7
comp=Z,17nm,0.8s
L42A **Oliver, Polo** 31.90 95 P P 12 34 58.7 +2.9
baz=310
WMOK **Wichita Mounta** 32.00 115 *eP* P 12 34 56.1 -0.6
comp=Z,31nm,0.8s
WMOK **Wichita Mounta** 32.00 115 *eP* P 12 34 56.1 -0.6
WMOK pmax pmax
comp=Z,31nm,0.8s
WMOK **Wichita Mounta** 32.00 115 P P 12 34 57.2 +0.4
baz=321,SNR=34
N41A **Harden Midland** 32.07 98 P P 12 35 02.1 +4.8
baz=312,SNR=7.5
O41A **Passleys Farm,** 32.45 99 P P 12 35 01.3 +0.7
baz=311,SNR=12
N42A **Yates City** 32.45 97 P P 12 34 59.7 -0.9
baz=311
P41A **Barry, Barry** 32.64 100 P P 12 35 01.6 -0.8
baz=313,SNR=12
TUL1 **Leonard** 32.70 110 *eP* P 12 35 02.5 -0.4
comp=Z,41nm,0.9s
TUL1 **Leonard** 32.70 110 P P 12 35 02.4 -0.4
baz=318,SNR=12
O42A **Bath** 32.85 98 P P 12 35 08.5 +4.4
baz=312
E47A **Iron Bridge** 32.89 84 P P 12 35 09.4 +5.0
baz=304
H46A **Fife Lake** 32.90 88 P P 12 35 09.9 +5.4
baz=307
Q41A **Truxton** 33.04 101 P P 12 35 05.4 -0.4
baz=314,SNR=19
HDIL **Hopedale** 33.06 97 *eP* P 12 35 06.1 +0.2
comp=Z,76nm,1.4s
HDIL **Hopedale** 33.06 97 P P 12 35 09.4 +3.5
baz=312,SNR=5.7
P42A **Winchester** 33.11 99 *eP* P 12 35 06.1 -0.3
comp=Z,27nm,1.0s
FRB **Frobisher Bay** 33.19 48 P P 12 35 07.3 +0.5
comp=Z,76nm,0.7s,baz=283,slow=9.2,SNR=16
ABTX **Abilene, Hawle** 33.21 118 *eP* P 12 35 07.2 -0.1
comp=Z,17nm,0.8s
ABTX **Abilene, Hawle** 33.21 118 P P 12 35 11.3 +4.0
baz=323,SNR=5.8
D48A **Paudash Townsh** 33.32 81 P P 12 35 14.1 +5.9
baz=304,SNR=6.2
J46A **Howard City** 33.36 90 P P 12 35 13.0 +4.4
baz=308,SNR=5.3
R41A **Rosebud** 33.41 102 P P 12 35 08.3 -0.8
baz=314,SNR=24
HHAR **Hobbs** 33.43 107 *eP* P 12 35 08.2 -1.0
comp=Z,25nm,0.7s
H47A **Mio** 33.43 87 P P 12 35 14.5 +5.3
baz=307
Q42A **Golden Eagle** 33.46 100 P P 12 35 09.4 -0.1
baz=314,SNR=10
E48A **Lockeyer** 33.51 83 P P 12 35 16.0 +6.2
baz=304
P43A **Skaggs, Pawnee** 33.54 98 P P 12 35 09.7 -0.4
baz=313,SNR=6.1
I47A **Gladwin** 33.61 88 P P 12 35 16.5 +5.8
baz=307,SNR=5.2
CCM **Cathedral Cave** 33.66 102 *eP* P 12 35 10.0 -1.2
comp=Z,67nm,0.9s
CCM **Cathedral Cave** 33.66 102 *eP* P 12 35 10.0 -1.2
CCM pmax pmax
comp=Z,67nm,0.9s
CCM **Cathedral Cave** 33.66 102 P P 12 35 09.9 -1.2
baz=315
K46A **Dorr** 33.70 91 P P 12 35 09.9 -1.6
baz=309
S41A **Jillco Farms,** 33.71 103 P P 12 35 10.2 -1.4
baz=315,SNR=15
J47A **Sunmer** 33.91 89 P P 12 35 18.2 +4.9
baz=308
Q43A **New Douglas** 33.91 100 P P 12 35 13.0 -0.4
baz=313,SNR=11
LTX **Lajitas** 33.96 127 *eP* P 12 35 14.8 +0.8
LTX **Lajitas** 33.96 127 *eP* P 12 35 14.8 +0.8
TXAR **Lajitas Array** 33.96 127 P P 12 35 14.8 +0.7
comp=Z,3.3nm,0.7s,baz=333,slow=6.0,SNR=24
TXAR PcP PcP 12 37 51.6 -0.1
comp=Z,1.2nm,0.7s,baz=27,slow=0.5,SNR=3.7
U40A **Yellville** 33.98 106 P P 12 35 12.6 -1.4
baz=317,SNR=18
T41A **Mountain View** 34.08 104 P P 12 35 13.3 -1.6
baz=316,SNR=16
S42A **Caledonia** 34.11 102 P P 12 35 13.7 -1.5
baz=315,SNR=8.1
R43A **Red Bud** 34.24 101 P P 12 35 15.1 -1.2
baz=314,SNR=11
W39A **Magazine** 34.32 108 *eP* P 12 35 16.2 -0.7
comp=Z,26nm,0.7s
W39A **Magazine** 34.32 108 P P 12 35 16.3 -0.7
baz=318,SNR=18
Q44A **Meyer Farm, Va** 34.33 99 *eP* P 12 35 17.1 +0.1
comp=Z,31nm,1.0s
SFIN **Lafayette** 34.43 95 *eP* P 12 35 23.1 +5.3
comp=Z,64nm,1.6s
T42A **Van Buren** 34.47 103 *eP* P 12 35 16.6 -1.6
comp=Z,32nm,0.9s
T42A **Van Buren** 34.47 103 P P 12 35 16.9 -1.3
baz=316,SNR=15
L47A **Sherwood** 34.48 91 P P 12 35 17.7 -0.5
baz=310,SNR=5.8
U41A **Viola** 34.50 105 P P 12 35 16.9 -1.6
baz=317,SNR=5.1
K48A **Perry** 34.58 89 P P 12 35 25.0 +5.9
baz=309
P45A **Graceland, Par** 34.63 97 *eP* P 12 35 19.0 -0.6
comp=Z,66nm,1.2s
P45A **Graceland, Par** 34.63 97 P P 12 35 19.2 -0.3
baz=312,SNR=6.4
S43A **Fulton Ridge,** 34.66 102 P P 12 35 18.7 -1.2
baz=315,SNR=44
D51A **Lot 18 Range I** 34.75 80 P P 12 35 25.8 +5.3
baz=304,SNR=11
V41A **Mountainview** 34.78 106 P P 12 35 19.4 -1.5
baz=317,SNR=54
J49A **Marlette** 34.80 88 P P 12 35 26.4 +5.4
baz=308,SNR=5.7
Q45A **Warren Harvey,** 34.82 98 P P 12 35 20.4 -0.8
baz=313,SNR=8.6
WHTX **Lake Whitney,** 34.83 116 P P 12 35 21.2 -0.2
baz=323
JCT **Junction City** 34.86 121 *eP* P 12 35 21.3 -0.5
comp=Z,15nm,0.8s
JCT **Junction City** 34.86 121 P P 12 35 21.1 -0.6
baz=325,SNR=6.0
U42A **Revenden** 34.88 104 P P 12 35 19.8 -2.0
baz=316,SNR=7.5
T43A **Greenville** 34.88 102 P P 12 35 20.4 -1.4
baz=316,SNR=18
N47A **Urbana** 34.90 93 P P 12 35 24.2 +2.2
baz=311
MIAR **Mount Ida** 34.92 109 *eP* P 12 35 21.1 -1.0
comp=Z,66nm,0.7s
MIAR **Mount Ida** 34.92 109 *eP* P 12 35 21.1 -1.0
MIAR pmax pmax
comp=Z,66nm,0.7s
MIAR **Mount Ida** 34.92 109 P P 12 35 21.8 -0.3
baz=319,SNR=32
L48A **N Adams** 34.94 91 P P 12 35 22.0 -0.3
baz=310,SNR=6.7
OLIL **Olney** 34.97 98 *eP* P 12 35 27.2 +4.7
comp=Z,65nm,1.1s
E51A **G1948 Merrick** 35.00 81 P P 12 35 28.5 +5.8
baz=305
S44A **Carbondale** 35.03 101 P P 12 35 22.3 -0.8
baz=315,SNR=6.7
SIUC **Southern Illin** 35.04 101 *eP* P 12 35 23.1 0.0
comp=Z,120nm,1.4s
WHAR **Wooly Hollow** 35.07 107 *eP* P 12 35 22.9 -0.5
comp=Z,56nm,1.3s
HPIG 35.13 131 *eP* P 12 35 23.9 -0.3
comp=Z,25nm,1.2s
R45A **Skylar, Fairfi** 35.17 99 P P 12 35 23.3 -0.9
baz=314,SNR=9.9
W41B **Gary Mavity, V** 35.18 107 *eP* P 12 35 29.2 +4.9
comp=Z,75nm,1.6s
W41B **Gary Mavity, V** 35.18 107 P P 12 35 24.8 +0.5
baz=318,SNR=8.0
V42A **Cord** 35.19 105 P P 12 35 22.3 -2.1
baz=317,SNR=6.3
L49A **Milan** 35.22 90 P P 12 35 24.8 +0.1
baz=310,SNR=8.3
T44A **Benton** 35.27 102 P P 12 35 24.0 -1.1
baz=315,SNR=8.4
U43A **Rector** 35.33 103 P P 12 35 24.3 -1.3
baz=316,SNR=5.8
X40A **Basin Creek Fa** 35.37 108 *eP* P 12 35 25.0 -1.0
comp=Z,28nm,1.1s
X40A **Basin Creek Fa** 35.37 108 P P 12 35 25.1 -0.8
baz=319,SNR=7.9
UALR **University of** 35.42 107 *eP* P 12 35 25.6 -0.8
comp=Z,35nm,0.9s
S45A **Carrier Mills** 35.42 100 P P 12 35 31.4 +5.0
baz=315
PARMO **Parma** 35.48 102 *eP* P 12 35 26.3 -0.6
comp=Z,123nm,0.8s
P47A **Martinsville** 35.50 96 P P 12 35 27.3 +0.2
baz=312,SNR=7.2
M49A **Liberty Center** 35.51 91 P P 12 35 31.5 +4.3
baz=310,SNR=7.6
BLO **Bloomington** 35.57 96 *eP* P 12 35 32.7 +5.0
comp=Z,50nm,1.4s
BLO **Bloomington** 35.57 96 *eP* P 12 35 32.7 +5.0
BLO pmax pmax
comp=Z,50nm,1.4s
E52A **Mattawa** 35.62 81 P P 12 35 33.0 +5.0
baz=305,SNR=5.8
O48A **Farmland** 35.62 94 P P 12 35 28.6 +0.5
baz=312,SNR=5.8
435B **Jarrell** 35.73 118 *eP* P 12 35 27.8 -1.4
comp=Z,55nm,0.9s
435B **Jarrell** 35.73 118 P P 12 35 34.3 +5.1
baz=324
USIN **University of** 35.74 99 *eP* P 12 35 34.5 +5.3
comp=Z,74nm,1.0s
Q47A **Bedord North L** 35.78 97 P P 12 35 30.3 +0.8
baz=313,SNR=11
WLAR **White Oak Lake** 35.82 109 *eP* P 12 35 28.6 -1.3
comp=Z,89nm,1.0s
T45A **Paducah** 35.85 101 P P 12 35 34.9 +4.8
baz=315
S46A **Don Dixon Farm** 35.91 99 P P 12 35 29.6 -1.0
baz=314,SNR=9.4
U44B **Burton Farm, H** 35.94 102 P P 12 35 30.4 -0.5
baz=316,SNR=6.0
Y41A **Eaglette Beard** 35.94 109 P P 12 35 30.8 -0.1
baz=319,SNR=8.2
P48A **Milroy** 36.00 95 P P 12 35 29.9 -1.4
baz=312,SNR=6.3
E53A **Dumoine, Ponti** 36.12 80 P P 12 35 32.2 -0.1
baz=305
ALGO **Algonquin Park** 36.15 81 P P 12 35 38.6 +6.0
baz=306,SNR=6.7
R47A **Wooly Knot Far** 36.16 97 P P 12 35 35.8 +3.0
baz=314,SNR=11
Q48A **North Vernon** 36.18 96 P P 12 35 34.5 +1.5
baz=313
SADO **Sadowa** 36.23 83 P P 12 35 33.5 +0.2
comp=Z,16nm,1.0s,baz=321,slow=14,SNR=3.4
SADO Lg Lg 12 47 16.2
comp=Z,5.2nm,0.9s,baz=234,slow=22,SNR=6.9
SADO **Sadowa** 36.23 83 *eP* P 12 35 32.4 -0.9
comp=Z,46nm,1.1s
T46A **Princeton** 36.26 100 P P 12 35 38.7 +5.1
baz=315,SNR=7.4
U45A **Rockin P Farm,** 36.26 102 P P 12 35 39.0 +5.4
baz=316,SNR=6.0
Z41A **Richland Creek** 36.31 110 P P 12 35 38.3 +4.2
baz=320
SLBS **Sierra La Lagu** 36.31 140 *eP* P 12 35 33.7 -0.5
comp=Z,52nm,1.5s
G53A **Haliburton** 36.31 82 P P 12 35 39.0 +5.0
baz=307,SNR=6.9
WCI **Wyandotte Cave** 36.34 97 *eP* P 12 35 34.1 -0.2
comp=Z,72nm,1.6s
WCI **Wyandotte Cave** 36.34 97 *eP* P 12 35 34.1 -0.2
WCI pmax pmax
comp=Z,72nm,1.6s
WCI **Wyandotte Cave** 36.34 97 P P 12 35 36.9 +2.6
baz=314
E54A **Lac Daplat, Po** 36.36 79 P P 12 35 39.7 +5.3
baz=305
X43A **Marvell** 36.42 106 P P 12 35 39.3 +4.4
baz=318
Y42A **Garnett, Star** 36.43 108 P P 12 35 39.2 +4.2
baz=319
N50A **Nevada** 36.44 91 P P 12 35 39.4 +4.3
baz=311
SEY **Seymchan** 36.45 313 P P 12 35 34.2 -0.7
comp=Z,14nm,1.1s,baz=83,slow=9.3,SNR=15
SEY **Seymchan** 36.45 313 *eP* P 12 35 35.3 +0.4
S47A **Hartford** 36.45 99 P P 12 35 40.0 +4.8
baz=314
O50A **Cable** 36.58 93 P P 12 35 35.4 -0.9

baz=312
U46A Springville 36.59 101 P P 12 35 39.6 +3.2
baz=316,SNR=5.6
P50A Jamestown 36.83 93 P P 12 35 42.3 +3.9
baz=312
833A Chaparral WMA, 36.84 122 P P 12 35 43.3 +4.7
baz=326
S48A Wiedeman Farm, 36.87 98 P P 12 35 42.5 +3.7
baz=314,SNR=11
W45A Hickory Valley 36.89 104 P P 12 35 43.0 +4.1
baz=317
WVT Waverly 36.95 101 *e*P P 12 35 39.5 +0.1
comp=Z,41nm,1.4s
WVT Waverly 36.95 101 *e*P P 12 35 39.5 +0.1
WVT pmax pmax
comp=Z,41nm,1.4s
WVT Waverly 36.95 101 P P 12 35 43.4 +4.0
baz=316
V46A Holladay 37.02 102 P P 12 35 39.5 -0.6
baz=316,SNR=8.5
U47A Clarksville 37.03 100 P P 12 35 40.1 0.0
baz=316,SNR=9.3
T48A Bowling Green 37.06 99 P P 12 35 40.3 -0.2
baz=315,SNR=10
F55A Otter Lake 37.18 80 P P 12 35 47.6 +6.2
baz=306
Y44A Strider, Charl 37.20 106 P P 12 35 41.6 0.0
baz=316,SNR=9.4
S49A Springfield 37.22 97 P P 12 35 45.1 +3.3
baz=314
OXF Oxford 37.24 105 *e*P P 12 35 41.3 -0.7
comp=Z,160nm,1.0s
OXF Oxford 37.24 105 *e*P P 12 35 41.3 -0.7
OXF pmax pmax
comp=Z,160nm,1.0s
OXF Oxford 37.24 105 P P 12 35 40.8 -1.1
baz=318,SNR=20
PLVO Plevna 37.24 81 P P 12 35 48.5 +6.5
baz=307,SNR=5.5
X45A UM Field Stati 37.31 105 P P 12 35 41.9 -0.7
baz=318,SNR=7.0
G55A Calabogie 37.32 81 P P 12 35 47.7 +5.2
baz=307,SNR=6.8
V47A Nunnelly 37.34 101 P P 12 35 41.7 -1.1
baz=316,SNR=9.7
U48A Cassie Bea, Po 37.40 100 P P 12 35 47.4 +4.0
baz=315,SNR=11
R50A Paris 37.43 95 P P 12 35 47.9 +4.4
baz=313,SNR=6.2
H55A Tweed 37.48 82 P P 12 35 49.6 +5.7
baz=307,SNR=5.2
Q51A Peebles 37.48 94 P P 12 35 47.8 +3.8
baz=313
SCHQ Schefferville 37.49 62 P P 12 35 44.5 +0.5
comp=Z,25nm,1.1s,baz=293,slow=8.8,SNR=5.9
SCHQ Schefferville 37.49 62 *e*P P 12 35 44.3 +0.4
comp=Z,66nm,0.9s
T49A Edmonton 37.55 98 *e*P P 12 35 49.5 +4.8
comp=Z,48nm,1.5s
T49A Edmonton 37.55 98 P P 12 35 48.9 +4.2
baz=315,SNR=5.5
O52A Adamsville 37.62 91 *e*P P 12 35 44.9 -0.3
comp=Z,28nm,1.0s
O52A Adamsville 37.62 91 P P 12 35 48.3 +3.1
baz=312
PLAL Pickwick Lake 37.64 103 *e*P P 12 35 44.4 -0.9
comp=Z,68nm,1.0s
W47A Westpoint 37.71 102 P P 12 35 50.5 +4.5
baz=317,SNR=9.3
N53A Lisbon 37.74 89 P P 12 35 51.0 +4.8
baz=311,SNR=8.0
V48A Smith Brothers 37.79 101 *e*P P 12 35 46.7 +0.1
comp=Z,44nm,1.4s
V48A Smith Brothers 37.79 101 P P 12 35 49.9 +3.3
baz=316,SNR=6.2
S50A Richmond 37.80 96 P P 12 35 50.1 +3.4
baz=314,SNR=5.0
U49A Red Boiling Sp 37.83 99 P P 12 35 50.8 +3.8
baz=315,SNR=7.9
R51A Hillsboro 37.84 95 P P 12 35 50.2 +3.2
baz=313,SNR=5.7
ORIO Orleans, Innes 37.88 79 P P 12 35 53.5 +6.2
baz=307,SNR=6.0
O53A New Philadelph 37.89 90 P P 12 35 51.9 +4.4
baz=311,SNR=8.1
PET Petropavlovsk 37.90 295⇑ *e*P P 12 35 48.2 +0.9
PET pmax pmax
comp=Z,75nm,1.5s
Z45A Winona 37.93 106 *e*P P 12 35 47.1 -0.7
comp=Z,69nm,0.9s
Z45A Winona 37.93 106 P P 12 35 47.6 -0.2
baz=319
M54A Oil Creek Stat 37.96 88 P P 12 35 53.3 +5.3
baz=310,SNR=9.3
Y46A Houston 38.01 105 P P 12 35 47.9 -0.6
baz=318,SNR=10
T50A Nancy 38.01 97 P P 12 35 48.2 -0.3
baz=315,SNR=7.5
X47A Russelville 38.10 103 P P 12 35 52.8 +3.6
baz=317,SNR=7.4
N54A Moraine State 38.13 89 P P 12 35 54.8 +5.3
baz=311,SNR=6.2
Q52A Bidwell 38.15 93 P P 12 35 54.1 +4.5
baz=313
W48A Pulaski 38.16 101 P P 12 35 54.4 +4.6
baz=317,SNR=6.5
V49A McMinnville 38.29 100 P P 12 35 50.4 -0.5
baz=316,SNR=9.2
PEA1 Petropavlovsk- 38.35 296 *e*P P 12 35 51.3 +0.2
VBMS Vicksburg 38.35 108 P P 12 35 51.8 +0.5
baz=320
PETK Petropavlovsk- 38.35 296 P P 12 35 51.3 +0.2
comp=Z,4.8nm,0.7s,baz=79,slow=10,SNR=12
PETK Petropavlovsk- 38.35 296 *e*P P 12 35 50.4 -0.8
PETK Petropavlovsk- 38.35 296 *e*P P 12 35 50.4 -0.8
244A Avery, Jackson 38.39 109 P P 12 35 52.4 +0.7
baz=320,SNR=11
O54A Avella 38.41 90 P P 12 35 51.4 -0.4
baz=312,SNR=9.0
U50A Jamestown 38.43 98 P P 12 35 51.5 -0.6
baz=315,SNR=12
W49A Belvidere 38.55 101 P P 12 35 57.0 +3.9
baz=317,SNR=6.8
T51A Gray 38.56 97 P P 12 35 52.4 -0.7
baz=315,SNR=5.7
MA2 Magadan 38.57 308 P P 12 35 51.0 -1.9
comp=Z,16nm,0.7s,baz=74,slow=9.8,SNR=10
MA2 Magadan 38.57 308‖ *e*P P 12 35 53.4 +0.5
MA2 pmax pmax
comp=Z,89nm,1.7s
X48A Hartselle 38.60 102 *e*P P 12 35 52.7 -0.8
comp=Z,108nm,1.5s
X48A Hartselle 38.60 102 P P 12 35 52.9 -0.6
baz=317,SNR=9.1
V50A Pikeville 38.82 99 P P 12 36 00.1 +4.9
baz=316
N55A Marion Center 38.82 88 P P 12 36 00.7 +5.3
baz=311
245A Little AP, Sta 38.83 108 P P 12 36 01.1 +5.7
baz=320
LONY Lake Ozonia 38.91 80 P P 12 36 02.4 +6.4
baz=308,SNR=5.7
Y48A Jasper 38.93 103 P P 12 36 01.0 +4.8
baz=318,SNR=7.8
Z47A Carrollton 38.95 105 P P 12 35 58.7 +2.3
baz=318
X49A Woodville 38.96 102 P P 12 35 55.7 -0.8
baz=317,SNR=8.6
O55A Ligonier 39.02 89 P P 12 36 01.4 +4.5
baz=312
W50A Signal Mountai 39.03 100 *e*P P 12 35 56.5 -0.7
comp=Z,56nm,1.1s
W50A Signal Mountai 39.03 100 P P 12 35 56.9 -0.3
baz=316,SNR=9.7
MCWV Mont Chateau 39.07 90 *e*P P 12 36 00.6 +3.2
comp=Z,36nm,1.0s
MCWV Mont Chateau 39.07 90 P P 12 36 01.9 +4.6
baz=312,SNR=8.5
Z48A Northport 39.11 104 P P 12 35 56.9 -0.8
baz=318,SNR=9.2
V51A Loudon 39.15 98 P P 12 36 03.5 +5.5
baz=316
P55A Reedsville 39.18 90 P P 12 36 02.6 +4.2
baz=312,SNR=7.9
147A Livingston 39.24 105 *e*P P 12 35 58.1 -0.7
comp=Z,43nm,0.9s
147A Livingston 39.24 105 P P 12 36 01.9 +3.1
baz=319

W51A Cleveland 39.38 99 P P 12 36 05.1 +5.1
baz=316,SNR=8.0
Q55A Buckhannon 39.38 91 P P 12 36 05.6 +5.6
baz=313,SNR=6.3
X50B Fort Payne 39.38 101 P P 12 35 59.1 -0.9
baz=317,SNR=6.8
Y49A Blount Mountai 39.39 102 *e*P P 12 35 59.3 -0.8
comp=Z,45nm,0.8s
Y49A Blount Mountai 39.39 102 P P 12 35 59.2 -1.0
baz=318,SNR=12
247A Quitman 39.52 106 P P 12 36 05.8 +4.7
baz=320
SSPA Standing Stone 39.55 87 P P 12 36 06.2 +4.8
baz=311
V52A Sevierville 39.55 98 *e*P P 12 36 06.6 +5.2
comp=Z,60nm,1.3s
V52A Sevierville 39.55 98 P P 12 36 05.8 +4.4
baz=316,SNR=6.8
TKL Tuckaleechee C 39.58 98 P P 12 36 01.0 -0.7
comp=Z,6.2nm,1.1s,baz=343,slow=11,SNR=2.0
TKL Tuckaleechee C 39.58 98 *e*P P 12 36 01.2 -0.5
comp=Z,19nm,1.0s
TKL Tuckaleechee C 39.58 98 *e*P P 12 36 01.2 -0.5
TKL pmax pmax
comp=Z,19nm,1.0s
BINY Binghamton 39.62 84 P P 12 36 06.7 +4.8
baz=310
LRAL Lakeview Retre 39.67 104 *e*P P 12 36 01.2 -1.2
comp=Z,40nm,1.1s
LRAL Lakeview Retre 39.67 104 P P 12 36 01.9 -0.5
baz=318,SNR=8.6
LNIG Linares 39.69 125 *e*P P 12 36 02.0 -0.6
comp=Z,29nm,1.0s
Y50A Piedmont 39.75 102 P P 12 36 02.2 -0.9
baz=318,SNR=8.1
X51A Calhoun 39.75 100 *e*P P 12 36 02.3 -0.8
comp=Z,90nm,0.9s
X51A Calhoun 39.75 100 P P 12 36 02.2 -0.8
baz=317,SNR=12
Z49A Columbiana 39.82 103 P P 12 36 02.9 -0.8
baz=318,SNR=10
248A Dixon Mills 39.97 105 P P 12 36 04.6 -0.3
baz=319,SNR=6.3
149A Jones 40.12 104 P P 12 36 05.4 -0.7
baz=319,SNR=27
V53A Saluda 40.12 97 *e*P P 12 36 05.7 -0.5
comp=Z,22nm,1.0s
V53A Saluda 40.12 97 P P 12 36 06.0 -0.2
baz=316
ZAIG Zacatecas 40.12 131 *e*P P 12 36 05.5 -1.1
comp=Z,33nm,1.3s
ACCN Adirondack Com 40.19 81 *e*P P 12 36 06.4 -0.3
comp=Z,29nm,0.9s
X52A Dahlonega 40.27 99 P P 12 36 13.1 +5.7
baz=317,SNR=7.8
W53A Cullowhee 40.28 98 P P 12 36 13.5 +5.9
baz=316
SUMG Summit 40.37 28 *e*P P 12 36 08.0 -0.2
comp=Z,60nm,1.1s
SUMG Summit 40.37 28 *i* P P 12 36 09.8 +1.6
comp=Z,121nm,1.0s
SUMG Summit 40.37 28 *e*P P 12 36 08.0 -0.2
SUMG pmax pmax
comp=Z,60nm,1.1s
348A Jackson 40.40 106 P P 12 36 14.2 +5.8
baz=320
249A Camden 40.40 105 P P 12 36 07.7 -0.7
baz=319,SNR=10
BLA Blacksburg 40.40 93 *e*P P 12 36 13.5 +4.9
comp=Z,60nm,1.1s
BLA Blacksburg 40.40 93 P P 12 36 13.4 +4.9
baz=314,SNR=6.0
SKR Severo-Kuril's 40.48 294⇑ *e*P P 12 36 09.9 +1.0
150A Eclectic 40.54 103 P P 12 36 09.3 -0.3
baz=319,SNR=7.1
Y52A Lilburn 40.71 100 P P 12 36 10.7 -0.4
baz=317,SNR=5.6
349A Repton 40.84 106 P P 12 36 12.5 +0.5
baz=320,SNR=6.3
250A Grady 40.87 104 *e*P P 12 36 11.7 -0.7
comp=Z,53nm,0.8s
250A Grady 40.87 104 P P 12 36 12.2 -0.2
baz=319,SNR=5.8
TIXI Tiksi 40.93 331 P P 12 36 12.5 +0.1
comp=Z,5.0nm,0.6s,baz=71,slow=9.0,SNR=17
TIXI Tiksi 40.93 331 *c i*P P 12 36 12.2 -0.2
TIXI pmax pmax
comp=Z,25nm,1.6s
Y53A Monroe 40.99 100 P P 12 36 13.2 -0.2
baz=317,SNR=10
Z52A Williamson 41.01 101 P P 12 36 13.0 -0.5
baz=316,SNR=8.8
251A Midway 41.27 103 P P 12 36 15.3 -0.4
baz=319
R58B Mineral 41.34 90 P P 12 36 19.8 +3.6
baz=313,SNR=5.8
GOGA Godfrey 41.38 100 P P 12 36 15.6 -0.9
GOGA pmax pmax
comp=Z,29nm,1.9s
Z53A Monticello 41.42 100 P P 12 36 15.7 -1.2
baz=318,SNR=5.6
HODGE Hodges 41.47 98 *e*P P 12 36 22.0 +4.8
comp=Z,24nm,1.0s
Y54A Tignall 41.49 99 P P 12 36 16.8 -0.7
baz=317,SNR=9.4
252A Lumpkin 41.72 103 P P 12 36 19.9 +0.5
baz=319
351A Pinckard 41.77 104 P P 12 36 23.5 +3.7
baz=320,SNR=6.9
Z54A Sparta 41.86 100 P P 12 36 19.1 -1.4
baz=318,SNR=5.7
DAG Danmarks Havn 42.39 18 *i* P P 12 36 25.2 +0.9
DAG Danmarks Havn 42.39 18 P P 12 36 24.1 -0.2
DAG pmax pmax
comp=Z,65nm,1.1s
155A Kite 42.53 100 P P 12 36 29.0 +3.1
baz=318
254A Abbeville 42.57 101 P P 12 36 29.0 +2.8
baz=319
YAK Yakutsk 46.00 319 *e*P P 12 36 53.6 +0.3
YAK *e*S S 12 43 38.2 +1.8
YAK pmax pmax
comp=Z,65nm,1.1s
YAK pmax pmax
comp=N,32nm,1.3s
YAK pmax pmax
comp=E,42nm,1.3s
YAK smax smax
comp=N,432nm,10.1s
YAK smax smax
comp=E,734nm,8.1s
NKL Nikolayevsk 46.76 305 *e*P P 12 37 00.5 +1.1
NKL pmax pmax
comp=E,110nm,1.8s
NKL pmax pmax
comp=Z,430nm,1.8s
TYV Tymovskoe 47.24 301 *e*P P 12 37 03.5 +0.3
TYV pmax pmax
comp=Z,26nm,1.3s
YSS Yuzh-Sakhalins 49.73 297⇑ *e*P P 12 37 22.8 +0.4
YSS *e* 12 37 29.8
YSS pmax pmax
comp=Z,30nm,0.9s
GRNR Gornyy 50.31 304 *e*P P 12 37 27.2 +0.4
GRNR pmax pmax
comp=Z,33nm,1.1s
ZEA Zeya 52.42 312 *e*P P 12 37 42.1 -0.5
ZEA pmax pmax
comp=E,61nm,1.6s
ZEA pmax pmax
comp=N,64nm,1.8s
ZEA pmax pmax
comp=Z,71nm,1.2s
ERM Erimo 52.89 292 *ce*P P 12 37 46.5 +0.4
ERM pmax pmax
comp=Z,33nm,1.0s
KLR Kul'dur 53.57 306⇑ *i*P P 12 37 50.7 -0.3
BOD Bodaibo 54.62 322 *e*P P 12 37 57.9 -0.7
BOD pmax pmax
comp=Z,73nm,1.6s
ARA0 ARCESS Array S 54.82 8 *e*P P 12 38 00.1 +0.2
ARCES ARCESS Array B 54.82 8 P P 12 38 00.1 +0.2
comp=Z,8.5nm,0.7s,baz=346,slow=3.4,SNR=15
LVZ Lovozero 57.05 5⇑ *e*P P 12 38 16.7 +0.8
LVZ pmax pmax
comp=Z,7.0nm,1.0s
USRK Ussuriysk Ar. 57.06 301 P P 12 38 15.6 -0.6

comp=Z,2.7nm,0.9s,baz=38,slow=9.6,SNR=6.3
APA Apatity 57.31 5⇑ *i*P P 12 38 18.7 +1.0
APA pmax pmax
comp=Z,11nm,1.2s
APA MLR MLR
comp=Z,5μm,16.0s
HIA Hailar 58.90 313 *e*P P 12 38 28.9 -0.2
comp=Z,70nm,1.4s
HIA Hailar 58.90 313 *e*P P 12 38 28.9 -0.2
HIA pmax pmax
comp=Z,69nm,1.4s
OUL Oulu 59.21 9 P P 12 38 31.1 +0.2
OUL pmax pmax
comp=Z,80nm,1.5s
MAJO Matsushiro 59.49 291 *e*P P 12 38 33.0 -0.4
comp=Z,60nm,1.4s
MAJO Matsushiro 59.49 291⇑ *i*P P 12 38 33.1 -0.4
MAJO pmax pmax
comp=Z,23nm,1.4s
MAT Matsushiro 59.49 291 P P 12 38 33.0 -0.4
MJAR Matsushiro Arr 59.49 291 P P 12 38 33.2 -0.2
comp=Z,1.9nm,0.7s,baz=34,slow=5.5,SNR=8.4
MJB9 Matsu-Tunnel 59.49 291 *e*P P 12 38 33.3 -0.1
comp=Z,61nm,1.4s
CN2 Changchun 60.50 305 *e*P P 12 38 39.6 -0.6
CN2 pmax pmax
comp=Z,10.0nm,1.0s
NB2 NORSAR Subarra 61.08 18 P P 12 38 43.7 -0.2
comp=Z,15nm,1.0s,baz=339,slow=7.4
NB200 NORSAR Array S 61.08 18 *e*P P 12 38 43.5 -0.4
NOA NORSAR Array B 61.08 18 P P 12 38 43.5 -0.4
comp=Z,3.2nm,1.0s,baz=341,slow=6.6,SNR=4.0
HFS Hagfors 62.36 17 P P 12 38 53.0 +0.5
comp=Z,5.2nm,1.0s,baz=338,slow=11,SNR=3.0
IRK Irkutsk 62.44 324 *e*P P 12 38 52.6 -0.6
IRK pmax pmax
comp=Z,110nm,3.0s
FIA1 FINESS Array S 62.79 10 *e*P P 12 38 55.5 +0.2
FIA0 FINESS Array S 62.79 10 *e*P P 12 38 55.6 +0.3
FIA0 FINESS Array S 62.79 10 *e*P P 12 38 55.7 +0.3
FINES FINESS Array B 62.79 10 P P 12 38 55.6 +0.3
comp=Z,10nm,0.8s,baz=2.9,slow=3.8,SNR=7.8
EKA Eskdalemuir Ar 62.97 29 P P 12 38 57.3 +0.6
comp=Z,3.4nm,0.8s,baz=292,slow=7.4,SNR=5.1
PRGR Permogore 63.60 360 *e*P P 12 39 00.4 -0.3
PRGR pmax pmax
comp=Z,106nm,0.9s
MOY Mondy 64.03 325 *e*P P 12 39 05.0 +1.2
MOY pmax pmax
comp=Z,102nm,2.6s
KS01 Wonju Array Si 64.16 299 *e*P P 12 39 04.4 -0.3
KSRS Korea Array 64.16 299 P P 12 39 05.7 +0.9
comp=Z,4.8nm,1.1s,baz=41,slow=6.6,SNR=6.5
KSAR Wonju Array Be 64.19 299 P P 12 39 05.7 +0.7
KSAR Wonju Array Be 64.19 299 P P 12 39 05.7 +0.7
KLMR Klimovskoe 64.29 3 *e*P P 12 39 04.0 -1.2
KLMR *e* 12 41 25.7
KLMR pmax pmax
comp=Z,110nm,1.4s
KLMR Klimovskoe 64.29 3 *e*P P 12 39 04.1 -1.2
KLMR AMP 12 39 12.4
comp=Z,110nm,1.4s
KLMR *e*PP PP 12 41 25.8 -0.2
ZAK Zakamensk 64.34 323 *e*P P 12 39 05.0 -0.9
ZAK pmax pmax
comp=Z,10.0nm,1.5s
ULN Ulaanbaatar 65.09 319 *e*P P 12 39 10.2 -0.7
comp=Z,28nm,1.4s
ULN Ulaanbaatar 65.09 319 *e*P P 12 39 10.2 -0.7
ULN pmax pmax
comp=Z,28nm,1.4s
ULN Ulaanbaatar 65.09 319 P P 12 39 11.4 +0.5
SNR=6.6
SONA1 Songino Array 65.35 320 *e*P P 12 39 12.0 -0.6
SONA0 Songino Array 65.36 320 *e*P P 12 39 13.5 +0.9
SONM Songino Array 65.36 320 P P 12 39 13.5 +0.9
comp=Z,2.5nm,1.0s,baz=30,slow=6.2,SNR=17
VSU Vasula 65.79 11⇑ *e*P P 12 39 17.9 +2.9
VSU pmax pmax
comp=Z,132nm,1.0s
KNGR Kungurtug, Tuv 66.06 327‖ *e*P P 12 39 17.8 +0.7
NVS Novosibirsk 66.11 337 *e*P P 12 39 16.6 -0.5
NVS pmax pmax
comp=N,28nm,1.6s
NVS pmax pmax
comp=E,39nm,1.6s
NVS pmax pmax
comp=Z,82nm,1.6s
ZAA1 Zalesovo Array 66.57 336 *e*P P 12 39 20.1 0.0
ZAA0 Zalesovo Array 66.57 336 *e*P P 12 39 18.9 -1.2
comp=Z,54nm,1.1s
ZALV Zalesovo Beam 66.57 336 P P 12 39 20.1 0.0
comp=Z,3.4nm,0.6s,baz=16,slow=7.0,SNR=18
ZALV Zalesovo Beam 66.57 336 *e*P P 12 39 18.9 -1.2
ZALV Zalesovo Beam 66.57 336 *i* P P 12 39 19.2 -0.9
ZALV pmax pmax
comp=Z,3.0nm,0.6s
BJI Beijing 67.73 308 P P 12 39 31.5 +3.8
BJI pmax pmax
comp=Z,14nm,1.4s
SVE Sverdlovsk 67.74 351 *e*P P 12 39 32.5 +5.0
SVE pmax pmax
comp=Z,100nm,1.3s
ARU Arti 68.31 352 *e*P P 12 39 30.3 -0.7
comp=Z,91nm,1.0s
ARU Arti 68.31 352 *c i*P P 12 39 30.1 -0.9
ARU S S 12 48 30.8 +0.9
ARU SS SS 12 52 48.2 -3.9
ARU pmax pmax
comp=Z,16nm,0.9s
HHC Hu-ho-hao-te 69.09 312 *e*P P 12 39 36.5 +0.2
HHC sP pP 12 39 42.7 -1.0
HHC PcP PcP 12 40 01.0 +0.8
HHC pmax pmax
comp=Z,25nm,1.0s
HHC LR LR
comp=Z,1μm,13.0s
HHC LR LR
comp=Z,2μm,13.8s
NACGM Naroch 69.29 11 *e* P 12 39 40.0 +2.8
MOS Moscow 69.33 5 *e*P P 12 39 38.7 +1.3
MOS pmax pmax
comp=Z,88nm,1.5s
SGMF Saint Gilles 69.41 32 *e*P P 12 39 42.3 +4.3
FLN La Foliniere 69.57 30 *e*P P 12 39 43.8 +4.8
FLN pmax pmax
comp=Z,17nm,1.1s
MEM Membach 69.64 26 P P 12 39 37.8 -1.6
MEM Membach 69.64 26 ⇑*x* P 12 39 44.4 +4.9
SUW Suwalki 69.71 14 *e*P P 12 39 44.0 +4.2
SUW Suwalki 69.71 14 *e*P P 12 39 44.0 +4.2
DOU Dourbes 69.75 27 ⇑P P 12 39 39.9 -0.2
GRR Gorron 69.80 31 *e*P P 12 39 45.5 +5.1
GRR pmax pmax
comp=Z,13nm,0.8s
GIVF Givet 69.81 27 *e*P P 12 39 45.6 +5.1
GIVF pmax pmax
comp=Z,16nm,1.0s
DGZ Jazzator, Alta 69.81 332 *ce*P P 12 39 40.7 0.0
DGZ pmax pmax
comp=Z,9.0nm,1.5s
OBN Obninsk 69.90 5 *e*P P 12 39 39.5 -1.4
OBN pmax pmax
comp=Z,55nm,1.7s
BTO Baotou 69.95 313 *e*P P 12 39 46.1 +4.5
BRVK Borovoye 70.26 344 *e*P P 12 39 42.4 -0.8
comp=Z,38nm,1.0s
BRVK Borovoye 70.26 344 *e*P P 12 39 42.4 -0.8
BRVK pmax pmax
comp=Z,38nm,1.0s
BRVK Borovoye 70.26 344 P P 12 39 43.2 +0.1
SNR=17
BVAR Borovoye Array 70.27 344 P P 12 39 42.8 -0.5
comp=Z,1.4nm,0.6s,baz=22,slow=4.8,SNR=15
WLF Walferdange 70.55 26 ⇑P P 12 39 45.9 +0.9
CLL Collm 70.57 21 *e*P P 12 39 47.0 +1.9
comp=Z,21nm,1.4s
CLL *i* Pmax 12 39 49.7
comp=Z,21nm,1.4s
CLL Collm 70.57 21 *e*P P 12 39 47.0 +1.9
MOX Moxa 70.91 22 P P 12 39 47.6 +0.4
MOX pmax pmax
comp=Z,6.0nm,1.2s
KURK Kurchatov 70.97 338 *e*P P 12 39 45.7 -1.8
comp=Z,54nm,1.0s

KURK	Kurchatov	70.97	338	ceP	P	12 39 46.7	-0.8
KURK				pmax	pmax		
	comp=Z,23nm,1.7s						
KURK	Kurchatov	70.97	338	P	P	12 39 47.1	-0.5
	SNR=20						
OTAV	Otavalo	71.11	119	eP	P	12 39 48.1	-1.3
	comp=Z,30nm,1.4s						
OTAV	Otavalo	71.11	119	eP	P	12 39 48.1	-1.3
OTAV				pmax	pmax		
	comp=Z,30nm,1.4s						
BRG	Berggiesshubel	71.17	20	eP	P	12 39 50.4	+1.6
	comp=Z,40nm,1.7s						
BRG	Berggiesshubel	71.17	20	eP	P	12 39 50.4	+1.6
BRG				pmax	pmax		
	comp=Z,24nm,1.7s						
PVCC	Panska Ves	71.63	20	eP	P	12 39 58.4	+6.9
PVCC	Panska Ves	71.63	20	eP	P	12 39 58.4	+6.9
GRF	Grafenberg Arr	71.72	23	eP	P	12 39 54.2	+2.1
	comp=Z,59nm,2.1s,baz=346,slow=5.5						
UPC	Upice	71.93	19	eP	P	12 39 53.9	+0.6
UPC	Upice	71.93	19	eP	P	12 39 53.9	+0.6
HAU	Haudompre	72.13	26	P	P	12 39 59.6	+5.0
HAU				pmax	pmax		
	comp=Z,16nm,1.2s						
DPC	Dobruska-Polom	72.14	19	eP	P	12 39 59.6	+4.9
DPC	Dobruska-Polom	72.14	19	eP	P	12 39 59.6	+4.9
LOR	Lormes	72.15	28	eP	P	12 39 58.8	+4.0
LOR				pmax	pmax		
	comp=Z,13nm,0.8s						
GOPC	GO Pecny, Ondr	72.26	20	eP	P	12 40 01.7	+6.4
GOPC	GO Pecny, Ondr	72.26	20	eP	P	12 40 01.7	+6.4
BFO	Black Forest	72.32	25	eP	P	12 39 55.1	-0.6
	comp=Z,18nm,1.3s						
BFO	Black Forest	72.32	25	eP	P	12 39 55.2	-0.6
BFO				pmax	pmax		
	comp=Z,18nm,1.3s						
HINF	Hinteralfeld	72.43	26	eP	P	12 40 01.4	+4.9
HINF				pmax	pmax		
	comp=Z,52nm,1.9s						
AVF	Avril sur Loir	72.45	29	eP	P	12 40 00.4	+3.9
AVF				pmax	pmax		
	comp=Z,27nm,1.2s						
BGF	Bois d'Agland	72.52	29	eP	P	12 40 01.8	+4.8
BGF				pmax	pmax		
	comp=Z,16nm,1.0s						
LPSR	Galich'ya Gora	72.52	4	eP	P	12 39 56.3	-0.5
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
TCF	Toulx Ste Croi	72.59	30	eP	P	12 40 02.3	+4.9
TCF				pmax	pmax		
	comp=Z,17nm,1.1s						
WET	Wettzell	72.59	22	eP	P	12 39 57.8	+0.4
WET				pmax	pmax		
	comp=Z,7.0nm,1.4s						
SMF	Signal de Mont	72.72	29	eP	P	12 40 02.8	+4.7
SMF				pmax	pmax		
	comp=Z,15nm,1.2s						
KHC	Kasperske Hory	72.75	21	eP	P	12 39 58.4	+0.1
	comp=Z,13nm,1.6s						
KHC	Kasperske Hory	72.75	21	eP	P	12 40 03.5	+5.2
KHC				ex	x	12 40 10.5	
KHC	Kasperske Hory	72.75	21	eP	P	12 39 58.4	+0.1
KHC				pmax	pmax		
	comp=Z,13nm,1.6s						
NJ2	Nanjing	72.96	302	eP	P	12 40 05.5	+5.7
NJ2				pmax	pmax		
	comp=Z,67nm,0.9s						
GEC2	GERESS Array S	73.05	21	eP	P	12 40 00.2	0.0
	comp=Z,8.2nm,1.1s						
GEC2	GERESS Array S	73.05	21	eP	P	12 40 00.2	0.0
GEC2				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GERES	GERESS Array B	73.05	21	P	P	12 40 00.5	+0.3
	comp=Z,2.4nm,0.7s,baz=270,slow=4.0,SNR=6.2						
PGAV	Gavieira, Arco	73.05	39	eP	P	12 40 07.9	+7.6
	comp=Z,50nm,1.7s						
GEA0	GERESS Array S	73.06	21	eP	P	12 40 00.7	+0.5
VRAC	Vranov	73.19	19	⇑iP	P	12 40 03.1	+2.2
VRAC	Vranov	73.19	19	⇑P	P	12 40 03.1	+2.2
VRAC	Vranov	73.19	19	eP	P	12 40 02.6	+1.7
KRUC	Moravsky	73.38	19	P	P	12 40 02.3	+0.3
KRUC				pmax	pmax		
	comp=Z,17nm,1.3s						
KRUC	Moravsky	73.38	19	eP	P	12 40 03.2	+1.2
LFF	La Frestale	73.38	31	eP	P	12 40 03.8	+1.7
LFF				pmax	pmax		
	comp=Z,11nm,0.6s						
DAVA	Damuels	73.67	24	eP	P	12 40 05.7	+1.8
	comp=Z,7.5nm,1.0s						
AKASG	Malin Array Be	73.70	11	P	P	12 40 03.7	-0.1
	comp=Z,7.2nm,0.7s,baz=354,slow=5.8,SNR=8.5						
AKASG	Malin Array Be	73.70	11	ceP	P	12 40 05.0	+1.2
AKASG				pmax	pmax		
	comp=Z,16nm,0.7s						
AKBB	Malin Array Si	73.70	11	eP	P	12 40 03.1	-0.6
	comp=Z,35nm,0.8s						
AKBB	Malin Array Si	73.70	11	eP	P	12 40 03.2	-0.6
AKBB				pmax	pmax		
	comp=Z,35nm,0.8s						
KIEV	Kiev	73.70	11	eP	P	12 40 03.1	-0.7
	comp=Z,33nm,0.8s						
KIEV	Kiev	73.70	11	⇓eP	P	12 40 03.4	-0.4
KIEV				pmax	pmax		
	comp=Z,26nm,1.7s						
AK11	Malin Array Si	73.71	11	eP	P	12 40 03.5	-0.4
NIE	Niedzica	73.74	17	eP	P	12 40 07.2	+3.0
NIE	Niedzica	73.74	17	eP	P	12 40 07.2	+3.0
PBRG	Braganca	73.74	38	eP	P	12 40 09.0	+4.7
	comp=Z,33nm,1.7s						
POLO	Lamas de Olo	73.74	39	eP	P	12 40 09.1	+4.7
	comp=Z,21nm,1.3s						
MK31	Makanchi Array	73.81	335	eP	P	12 40 03.3	-1.3
MK31	Makanchi Array	73.81	335	eP	P	12 40 03.3	-1.3
MK32	Makanchi Array	73.81	335	eP	P	12 40 03.9	-0.7
MKAR	Makanchi Array	73.81	335	P	P	12 40 03.9	-0.7
	comp=Z,2.0nm,0.6s,baz=39,slow=5.5,SNR=31						
MKAR	Makanchi Array	73.81	335	eP	P	12 40 03.3	-1.3
	comp=Z,128nm,0.8s						
MK01	Makanchi Array	73.83	335	eP	P	12 40 03.5	-1.3
LANS	Liptovska Anna	73.86	17	eP	P	12 40 09.6	+4.8
LANS	Liptovska Anna	73.86	17	eP	P	12 40 09.6	+4.8
PVRL	Vila Real	73.86	39	eP	P	12 40 08.7	+3.7
	comp=Z,44nm,1.3s						
MAKZ	Makanchi	73.88	335	eP	P	12 40 03.7	-1.3
	comp=Z,86nm,1.0s						
MAKZ	Makanchi	73.88	335	eP	P	12 40 03.7	-1.3
MAKZ				pmax	pmax		
	comp=Z,86nm,1.0s						
MOTA	Moosalm	73.90	24	eP	P	12 40 08.9	+3.7
	comp=Z,2.6nm,0.7s						
VSR	Storozhevoye	73.92	4	eP	P	12 40 04.1	-1.0
VSR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
LVV	L'vov	73.92	14	eP	P	12 40 10.5	+5.3
VRH	Novokhopyorsk	74.02	2	eP	P	12 40 05.0	-0.6
VRH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SQTA	Sankt Quirin	74.04	23	eP	P	12 40 07.7	+1.7
	comp=Z,14nm,1.4s						
WTTA	Wattenberg	74.10	23	eP	P	12 40 08.2	+1.8
	comp=Z,14nm,1.3s						
SMOL	Smolenice	74.10	19	P	P	12 40 05.1	-1.2
FETA	Feichten	74.12	24	eP	P	12 40 10.0	+3.5
	comp=Z,9.1nm,1.3s						
MVO	Moncorvo	74.20	38	eP	P	12 40 07.3	+0.3
	comp=Z,33nm,1.6s						
MODS	Modra-Piesok	74.21	19	eP	P	12 40 11.2	+4.3
MODS				pmax	pmax		
	comp=Z,39nm,1.4s						
MODS	Modra-Piesok	74.21	19	eP	P	12 40 11.2	+4.3
PVIS	Viseu	74.28	39	eP	P	12 40 11.8	+4.3
	comp=Z,30nm,1.3s						
CONA	Conrad Observa	74.36	20	eP	P	12 40 09.2	+1.3
	comp=Z,12nm,1.3s						
VYHS	Vyhne	74.38	18	eP	P	12 40 12.7	+4.8
VYHS				pmax	pmax		
	comp=Z,7.0nm,1.1s						
VYHS	Vyhne	74.38	18	eP	P	12 40 12.7	+4.8
OTUK	Ortayu	74.56	342	P	P	12 40 08.5	-0.5
OTUK				pmax	pmax		
	comp=Z,26nm,1.3s						
PCAS	Casmilo, Conde	74.64	40	eP	P	12 40 10.0	+0.5
	comp=Z,86nm,1.3s						
MTE	Manteigas	74.69	39	eP	P	12 40 11.3	+1.4
	comp=Z,39nm,1.3s						
ABTA	Abfaltersbach	74.78	23	eP	P	12 40 11.2	+0.9
	comp=Z,14nm,1.6s						
UZH	Uzhgorod	74.82	16	eP	P	12 40 15.2	+4.8
UZH				e		12 40 26.2	
ETSF	Etsaut	74.83	33	eP	P	12 40 12.2	+1.5
ETSF				pmax	pmax		
	comp=Z,22nm,0.9s						
ARSA	Arzberg	74.94	21	eP	P	12 40 12.6	+1.4
	comp=Z,4.7nm,0.8s						
GTA	Gaotai	75.03	319	⇓P	P	12 40 12.2	+0.2
GTA				pP	pP	12 40 16.6	-2.9
GTA				sP	pwP	12 40 19.5	-2.0
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
WMQ	Urumqi	75.11	330	P	P	12 40 14.0	+1.7
WMQ				pP	pP	12 40 19.4	-0.4
WMQ				PcP	PcP	12 40 30.4	+4.6
WMQ				pmax	pmax		
	comp=Z,110nm,1.5s						
PSZ	Piszkesteto	75.12	17	⇑iP	P	12 40 13.8	+1.6
PSZ	Piszkesteto	75.12	17	⇑P	P	12 40 13.8	+1.6
PCBR	Castelo Branco	75.20	39	eP	P	12 40 13.4	+0.6
	comp=Z,18nm,1.2s						
ABKAR	Akbulak array	75.30	350	eP	P	12 40 12.1	-1.0
TRPA	Tarpa	75.35	16	⇑iP	P	12 40 15.9	+2.5
SOKA	Soboth	75.39	21	eP	P	12 40 14.9	+1.1
	comp=Z,11nm,1.1s						
OBKA	Obir	75.45	21	eP	P	12 40 15.1	+0.9
	comp=Z,11nm,0.8s						
XAN	Xi'an	75.93	310	P	P	12 40 16.2	-0.9
XAN				pP	pP	12 40 22.5	-2.1
XAN				pmax	pmax		
	comp=Z,30nm,1.1s						
PESTR	Estremoz	76.02	40	eP	P	12 40 22.7	+5.2
	comp=Z,25nm,1.6s						
EVO	Evora	76.16	40	eP	P	12 40 25.7	+7.5
	comp=Z,49nm,1.6s						
BURAR	Bucovina Array	76.24	14	⇑iP	P	12 40 21.4	+2.7
BURAR	Bucovina Array	76.24	14	⇑P	P	12 40 21.4	+2.7
PNCL	Nicolau / Gran	76.33	41	eP	P	12 40 25.7	+6.5
	comp=Z,40nm,1.4s						
LZH	Lanzhou	76.34	315	eP	P	12 40 20.0	+0.5
LZH				pP	pP	12 40 26.0	-1.1
LZH				sP	pwP	12 40 28.8	-0.3
LZH				pmax	pmax		
	comp=Z,36nm,1.1s						
LZH				pmax	pmax		
	comp=Z,110nm,4.5s						
WHN	Wuhan	76.38	304	⇓P	P	12 40 26.0	+6.4
ES19	SONSECA Array	76.60	37	eP	P	12 40 20.2	-0.6
ESDC	Sonseca Array	76.60	37	P	P	12 40 20.7	-0.1
	comp=Z,2.3nm,0.7s,baz=325,slow=5.6,SNR=12						
ARCR	ARCALIA	76.64	15	⇑iP	P	12 40 24.5	+3.7
DRGR		76.68	16	⇓iP	P	12 40 25.7	+4.5
DRGR		76.68	16	⇓P	P	12 40 25.7	+4.5
BIZ	Bicaz	77.03	13	⇓iP	P	12 40 27.5	+4.5
PVAQ	Vaqueiros	77.26	41	eP	P	12 40 29.9	+5.4
	comp=Z,92nm,1.6s						
KIS	Kishinev	77.31	12	eP	P	12 40 26.0	+1.4
KIS	Kishinev	77.31	12	eP	P	12 40 26.0	+1.4
KIS				i		12 40 29.0	
KIS				e		12 40 34.0	
BZS	Buzias	77.64	17	⇑iP	P	12 40 30.5	+4.1
BZS	Buzias	77.64	17	⇑P	P	12 40 30.6	+4.1
DOPR	Dopca	77.88	14	⇓iP	P	12 40 32.3	+4.5
GZR	Gura Zlata	78.05	16	⇑iP	P	12 40 33.8	+5.0
GZR	Gura Zlata	78.05	16	⇑P	P	12 40 33.8	+5.0
VRI	Vrincioaia	78.16	13	⇑iP	P	12 40 34.5	+5.1
VRI	Vrincioaia	78.16	13	⇑P	P	12 40 34.5	+5.1
PLOR	Plostina	78.17	13	⇑iP	P	12 40 34.5	+5.0
PLOR	Plostina	78.17	13	⇑P	P	12 40 34.5	+5.0
VOIR		78.35	14	⇑iP	P	12 40 34.5	+4.0
VOIR		78.35	14	⇑P	P	12 40 34.5	+4.0
MLR	Muntele Rosu	78.43	14	⇑iP	P	12 40 35.9	+4.9
MLR	Muntele Rosu	78.43	14	⇑P	P	12 40 35.9	+4.9
ENH	Enshi	78.87	308	eP	P	12 40 32.4	-1.2
	comp=Z,86nm,1.0s						
USP	Ospenovka	78.93	339	P	P	12 40 38.9	+5.2
	SNR=9.1						
CFR	Carcaliu	79.02	12	⇑iP	P	12 40 37.4	+3.3
CFR	Carcaliu	79.02	12	⇑P	P	12 40 37.4	+3.3
TKM2	Tokmak 2	79.03	338	P	P	12 40 40.1	+5.6
	SNR=14						
CHMS	Chumysh	79.13	339	P	P	12 40 40.4	+5.6
	SNR=11						
FRU	Bishkek	79.32	339	eP	P	12 40 43.0	+7.2
FRU				pmax	pmax		
	comp=Z,120nm,2.0s						
KBK	Karagaybulak	79.42	338	P	P	12 40 41.8	+5.2
	SNR=15						
AAK	Ala-Archa	79.53	339	P	P	12 40 43.9	+6.7
	SNR=10						
AAK	Ala-Archa	79.53	339	eP	P	12 40 36.5	-0.7
	comp=Z,25nm,1.0s						
AAK	Ala-Archa	79.53	339	eP	P	12 40 36.5	-0.7
AAK				pmax	pmax		
	comp=Z,25nm,1.0s						
AAK	Ala-Archa	79.53	339	P	P	12 40 42.5	+5.4
	SNR=8.5						
TLB	Topalu	79.59	13	⇑iP	P	12 40 41.2	+4.0
TLB	Topalu	79.59	13	⇑P	P	12 40 41.2	+4.0
EKS2	Erkin-Say	79.66	339	P	P	12 40 38.6	+0.8
	SNR=5.1						
KK31	Karatay Array	79.86	342	eP	P	12 40 38.3	-0.4
KK31	Karatay Array	79.86	342	eP	P	12 40 38.3	-0.4
KKAR	Karatay Array	79.86	342	eP	P	12 40 38.3	-0.4
KKAR	Karatay Array	79.86	342	eP	P	12 40 38.3	-0.4
KZA	Kyzart	79.91	338	P	P	12 40 45.2	+5.6
	SNR=8.0						
AML	Almayashu	80.18	339	P	P	12 40 48.2	+7.2
	SNR=13						
GOF	Gofitskoye	80.19	2	eP	P	12 40 44.5	+4.0
GOF				pmax	pmax		
	comp=Z,80nm,1.0s						
NRN	Naryn	80.36	337	eP	P	12 40 41.8	-0.1
	comp=Z,24nm,1.1s						
NRN	Naryn	80.36	337	eP	P	12 40 41.8	-0.1
NRN				pmax	pmax		
	comp=Z,24nm,1.1s						
CD2	Chengdu	80.85	312	eP	P	12 40 43.0	-1.3
VTS	Vitosha	80.85	16	⇑iP	P	12 40 48.5	+4.2
VTS	Vitosha	80.85	16	⇑P	P	12 40 48.5	+4.2
KIV	Kislovodsk	81.28	2	eP	P	12 40 46.0	-0.5
KIV				e		12 40 50.5	
KIV				e		12 43 48.6	
KIV				ePPP	PPP	12 45 43.4	
KIV				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KBZ	Khabaz	81.52	2	P	P	12 40 48.8	+1.2
	comp=Z,14nm,1.1s,baz=247,slow=7.7,SNR=3.9						
NCK	Nalchik	81.76	1	⇓eP	P	12 40 50.5	+1.6
NEY	Neytrino	81.99	2	⇓eP	P	12 40 49.8	-0.5
KSH	Kashi	82.19	337	P	P	12 40 52.9	+1.5
KSH				pP	pP	12 40 59.2	+0.3
KSH				sP	pwP	12 41 01.0	-0.1
KSH				PP	PP	12 44 02.5	+3.6
KSH				S	S	12 51 05.0	+0.2
KSH				SS	SS	12 56 28.8	+5.5
KSH				pmax	pmax		
	comp=Z,15nm,1.2s						
KSH				pmax	pmax		
	comp=Z,3μm,12.5s						
KSH				LR	LR		
	comp=Z,580nm,12.1s						
KSH				LR	LR		
	comp=Z,4μm,19.2s						
SFK	Sufi-Kurgan	82.26	339	P	P	12 40 52.2	+0.4
SFK				pmax	pmax		
	comp=Z,36nm,1.2s						
ZEI	Tsey	82.47	1	eP	P	12 40 56.1	+3.2
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BTK	Batken	82.75	341	eP	P	12 40 53.9	-0.3
	comp=Z,63nm,1.3s						
BTK	Batken	82.75	341	eP	P	12 40 53.9	-0.3
BTK				pmax	pmax		
	comp=Z,63nm,1.3s						
ALN	Alexandroupoli	82.94	15	eP	P	12 40 55.4	+0.3
	comp=Z,24nm,1.6s						
ALN	Alexandroupoli	82.94	15	eP	P	12 40 55.4	+0.3
ALN				pmax	pmax		
	comp=Z,24nm,1.6s						
GYA	Guiyang	83.41	308	eP	P	12 40 58.5	+0.6
GYA				PP	PP	12 44 11.4	+2.1
GYA				S	S	12 51 16.9	-0.6
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.4s						
AKH	Akhalkalaki	83.84	1	⇑iP	P	12 41 07.0	+7.1
KEST	Kesra	84.38	29	P	P	12 41 05.9	+3.3
	comp=Z,8.7nm,0.7s,baz=238,slow=7.9,SNR=7.5						
BR101	Keskin Array S	85.00	9	eP	P	12 41 06.1	+0.3
BR131	Keskin Array S	85.00	9	P	P	12 41 11.2	+5.4
	SNR=5.4						
BRTR	Keskin Array B	85.00	9	P	P	12 41 06.1	+0.3
	comp=Z,3.8nm,0.9s,baz=335,slow=4.2,SNR=5.0						
BRTR				PKKPbc	PKKPbc	12 59 16.4	+5.9
	comp=Z,0.9nm,0.7s,baz=166,slow=4.0,SNR=4.2						
BRTR	Keskin Array B	85.00	9	ceP	P	12 41 08.0	+2.2
BRTR				pmax	pmax		
	comp=Z,11nm,1.0s						
KMI	Kunming	86.32	310	P	P	12 41 12.5	-0.2
KMI				pmax	pmax		
	comp=Z,18nm,0.7s						
KMI				pmax	pmax		
	comp=Z,220nm,6.1s						
GEYT	Alibeck	86.69	350	P	P	12 41 16.7	+2.6
	comp=Z,11nm,1.0s,baz=308,slow=4.9,SNR=16						
LPAZ	La Paz	90.43	118	P	P	12 41 31.7	-0.9
	comp=Z,2.3nm,0.8s,baz=217,slow=5.1,SNR=3.7						
LPAZ	La Paz	90.43	118	eP	P	12 41 31.1	-1.5
LPAZ	La Paz	90.43	118	eP	P	12 41 31.1	-1.5
CMMT	Chiang Mai	93.51	310	P	P	12 41 52.5	+6.2
	comp=Z,7.4nm,1.2s						
CHTO	Chiang Mai	93.51	310	P	P	12 41 52.6	+6.3
	comp=Z,33nm,1.2s						
CM31	Chiang Mai Arr	93.83	310	eP	P	12 41 47.1	-0.7
CM31	Chiang Mai Arr	93.83	310	P	P	12 41 54.4	+6.6
	SNR=6.1						
CMAR	Chiang Mai Arr	93.83	310	P	P	12 41 48.1	+0.4
	comp=Z,2.7nm,1.0s,baz=8.0,slow=4.8,SNR=17						
CM01	Chiang Mai Arr	93.85	310	eP	P	12 41 46.9	-1.0
PBKT	Sadao Pong	94.58	308	P	P	12 41 57.9	+6.8
TORD	Torodi Ar. Bea	102.68	44	PP	PP	12 46 41.4	+0.9
	comp=Z,0.7nm,0.9s,baz=335,slow=10,SNR=3.4						
TORD				PKKP	PKKPdf	12 58 31.3	+1.0
	comp=Z,0.4nm,0.5s,baz=186,slow=1.5,SNR=3.7						
WRA	Warramunga Arr	106.72	259	PKiKP	PKiKP	12 46 54.7	-0.9
	comp=Z,0.3nm,0.6s,baz=21,slow=2.0,SNR=5.7						
ASAR	Alice Springs	109.92	257	PKiKP	PKiKP	12 46 59.9	-1.6
	comp=Z,0.6nm,0.9s,baz=58,slow=2.5,SNR=5.7						
KMBO	Kilima Mbogo	125.78	10	PKP	PKiKP	12 47 36.6	+3.8
	comp=Z,4.3nm,0.7s,baz=21,slow=3.9,SNR=9.8						
QSPA	South Pole Qui	144.91	180	ePKPdf	PKPab	12 48 05.2	-0.1
BOSA	Boshof	149.79	37	PKPbc	PKiKP	12 48 22.2	+1.1
	comp=Z,8.3nm,1.0s,baz=335,slow=2.8,SNR=9.0						
SUR	Sutherland	151.43	47	ePKPab	PKPab	12 48 30.7	-1.7
VNA3	Neumayer Olymp	151.74	146	P	PKPbc	12 48 22.0	-1.3
VNA1	Neumayer--Stat	152.25	145	P	PKPbc	12 48 23.1	-1.3
VNA2	Neumayer--Watz	152.51	145	P	PKPbc	12 48 24.7	-0.3
	baz=313,slow=5.3						
SYO	Syowa Base	165.79	171	⇑ePKPdf	PKPdf	12 48 35.4	+2.0
SYO	Syowa Base	165.79	171	⇓iX	PKPab	12 49 32.0	-1.1

NEIC 05 12:36:13.8±0.0, 56°.12N×135°.13W, h4km, ML3.8(AEIC), After AEIC., Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIT	Sitka	0.95	354	ePg	Pg	12 36 31.5	-0.5
SIT				eSg	Sb	12 36 45.8	+0.1
CRAG	Craig	1.31	119	ePn	Pn	12 36 37.9	-0.9
CRAG				eSn	Sn	12 36 56.4	-0.2
WRAK	Wrangell Islan	1.58	78	ePn	Pn	12 36 42.4	-0.2
WRAK				eSn	Sn	12 37 02.9	-0.6
JIS	Juneau Island	2.21	10	ePn	Pn	12 36 50.9	-0.2
BESE	Bessie Mountai	2.48	3	ePn	Pn	12 36 55.1	+0.2
SKAG	Skagway	3.36	358	ePn	Pn	12 37 07.5	+0.6
PLBC	Pleasant Camp	3.42	349	ePn	Pn	12 37 07.6	-0.1
DLBC	Dease Lake	3.62	48	ePn	Pn	12 37 11.9	+1.3
WHY	Whitehorse	4.56	2	ePn	Pn	12 37 23.8	+0.2
YUK7	Dusty Glacier	4.70	342	ePn	Pn	12 37 26.2	+0.6
PCA	Pinnacle	4.83	328	P	Pn	12 37 26.3	-1.0
HYT	Haines Junctio	4.88	346	ePn	Pn	12 37 28.2	+0.1
SAMH	Samovar Hills	5.02	326	P	Pn	12 37 29.3	-0.5
YUK6	Outpost Mounta	5.13	342	ePn	Pn	12 37 31.1	-0.4
YUK5	Granite Creek	5.23	345	ePn	Pn	12 37 33.4	+0.6
RKAV	Rock Avalanche	5.33	325	P	Pn	12 37 34.4	+0.2
BBB	Bella Bella	5.70	131	ePn	Pn	12 37 38.4	-0.7
BBB				eSn	Sn	12 38 43.8	-1.1
KLU	Klutina	7.77	318	ePn	Pn	12 38 08.0	+0.4
HARP	HAARP	8.13	325	ePn	Pn	12 38 12.7	+0.3
DAWY	Dawson	8.25	347	ePn	Pn	12 38 14.2	0.0
SCM	Sheep Creek Mo	8.51	317	ePn	Pn	12 38 17.0	-0.7
SCRK	Sand Creek	9.04	334	ePn	Pn	12 38 23.4	-1.5
RIDG	Independ'e Rid	9.06	332	ePn	Pn	12 38 26.1	+0.9
DHY	Denali Highway	9.33	323	ePn	Pn	12 38 29.3	+0.4
SUA	Susitna One	9.70	310	ePn	Pn	12 38 34.0	-0.1
RND	Reindeer	10.05	322	ePn	Pn	12 38 38.1	-0.6
RSO	Redoubt South	10.24	302	ePn	Pn	12 38 41.5	0.0
MCK	McKinley	10.29	324	ePn	Pn	12 38 42.4	+0.4
WRH	Wood River Hil	10.54	328	ePn	Pn	12 38 45.8	+0.4
TRF	Thorofare Moun	10.58	320	ePn	Pn	12 38 46.7	+0.6
PPLA	Purkeypile	10.99	315	ePn	Pn	12 38 50.4	-1.2
CAST	Castle Rocks	11.22	318	ePn	Pn	12 38 54.6	-0.2
BPAW	Bear Paw Mtn.	11.22	322	ePn	Pn	12 38 54.1	-0.6

RSNC 05 12:45:31.3±1.0, 7°.31N×76°.44W, h0km±7km, ML2.9, Mw3.5, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UREC	San Jos de Ur	1.00	64	eP	Pg	12 45 49.0	-1.5
UREC				eS	Sg	12 46 04.2	+0.6
UREC				i		12 46 07.4	
	comp=Z,358nm,0.7s						
HELC	Santa Helena	1.43	141	eP	Pg	12 45 56.8	-2.0
HELC				eS	Sg	12 46 16.7	-0.6
HELC				i		12 46 23.2	
	comp=Z,94nm,0.4s						
ZARC	Zaragoza, Cauc	1.58	83	eP	Pn	12 45 58.1	-2.4
ZARC				eS	Sn	12 46 19.8	-1.9
ZARC				i		12 46 23.6	
	comp=Z,451nm,0.4s						
MOTC	Monteria, Cord	1.65	28	eP	Pn	12 46 00.7	-0.9
MOTC				eS	Sn	12 46 22.0	-1.5
MOTC				i		12 46 31.7	
	comp=Z,54nm,0.6s						
PTBC	PUERTO BERRIO,	2.11	111	eP	Pn	12 46 07.0	-0.8
PTBC				eS	Sn	12 46 35.0	+0.1
PTBC				i		12 46 40.9	
	comp=Z,100nm,0.6s						
NORC	Norcasia	2.33	138	eP	Pb	12 46 14.1	-0.1
NORC				eS	Sg	12 46 46.0	-0.2
PLMC	San Jos del P	2.39	176	eP	Pn	12 46 10.4	-1.4
RREF	El Recreo	2.62	155	eP	Pn	12 46 17.4	+1.9
RREF				eS	Sg	12 46 56.2	+0.5
RREF				i		12 47 02.6	
	comp=Z,68nm,0.4s						
BRRC	Barranca, Sant	2.71	94	eP	Pn	12 46 15.4	-0.8
BRRC				eS	Sn	12 46 49.1	-0.7
BRRC				i		12 47 05.2	
	comp=Z,44nm,0.5s						
TOLC	Tolima	2.92	158	eP	Pb	12 46 23.9	-0.7
ANIL	Santa Ana	2.98	160	eP	Pb	12 46 23.1	-2.3
ANIL				eS	Sb	12 47 02.7	+0.1
YOTC	Yotoco, Valle	3.30	178	⇑eP	Pn	12 46 23.5	-0.9
YOTC				eS	Sn	12 47 02.9	-1.5
YOTC				i		12 47 10.1	
	comp=Z,15nm,0.5s						
CHIC	Chingaza	3.78	134	eP	Pn	12 46 34.2	+2.9
CHIC				eS	Sb	12 47 23.2	-2.7

IDC 05 12:46:58.1±7.5, 12°.33N×140°.74E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/30, mbtmp3.4/4, Error ellipse: s-maj=323.8km s-min=25.0km az=78.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.68	191	P	P	12 53 31.1	-1.2
	0.4nm,1.0s,baz=12,slow=9.7,SNR=2.6						
ASAR	Alice Springs	36.39	191	P	P	12 54 05.5	+1.0
	0.2nm,0.8s,baz=20,slow=11,SNR=3.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MKAR	**Makanchi Array**	**59.63**	**317**	P	P	12 57 04.7	+0.6
	0.5nm,0.7s,baz=100,slow=8.3,SNR=3.5						
KURBB	**Kurchatov Arra**	**63.01**	**321**	P	P	12 57 26.4	-0.6
	0.4nm,0.8s,baz=105,slow=6.9,SNR=4.9						

*THR **05** 12:50:01.2, 28°.23N×51°.86E, h18km, ML4.0*
*IDC **05** 12:50:01.4±0.8, 28°.52N×51°.88E, h0km, mb4.0/20, mb1 4.2/23, mb1mx4.1/43, mbtmp4.1/23, ML3.5/3, MS5.0/2, Ms1 5.0/2, ms1mx4.0/48, Error ellipse: s-maj=20.1km s-min=14.0km az=2.0*
*ISCJB **05** 12:50:02.5±0.2, 28°.54N±0°.02×51°.88E±0°.03, h15km, mb4.2/58, Error ellipse: s-maj=3.8km s-min=2.3km az=138.6*
*MOS **05** 12:50:02.7±1.2, 28°.47N×51°.90E, h20km, mb4.4/26, Error ellipse: s-maj=7.6km s-min=5.5km az=90.6*
*NEIC **05** 12:50:02.9±0.3, 28°.50N×51°.94E, h10km, mb4.2/24, ML4.0(THR), MN4.1(TEH), Error ellipse: s-maj=5.6km s-min=3.0km az=174.0*
*TEH **05** 12:50:03.7, 28°.58N×51°.96E, h15km, ML4.1*
*DSN **05** 12:50:05.7±1.6, 28°.49N×51°.96E, h15km, ML4.3/10, Error ellipse: s-maj=23.1km s-min=6.3km az=3.0*
*OMAN **05** 12:50:06.0±1.3, 28°.34N×51°.79E, h18km, ml4.5/9, ms4.2/1, Error ellipse: s-maj=16.3km s-min=12.4km az=21.0*
ISC 05 12:50:04.1±0.4**, 28°.57N**±0°.05×**51°.94E**±0°.04**, h15km, n211, σ1s.36**/225**, mb4.2**/58**, 5C-4D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHI	**Shiraz**	**1.18**	**25**	*e*Pg	**Pn**	**12 50 24.7**	**-1.6**
SHI				IAMB	IAmb	12 51 00.6	
	comp=N,28µm,1.0s						
JHRM	**Jahrom**	**1.44**	**92**	*e*Pn	**Pg**	**12 50 31.7**	**-0.1**
JHRM				IAMB	IAmb	12 50 56.0	
	comp=Z,0.0nm,0.5s						
IRAM	**Ramesheh**	**3.25**	**7**	*e*Pn	**Pn**	**12 50 55.2**	**+0.4**
IRAM				IAMB	IAmb	12 52 10.0	
	comp=Z,3µm,0.6s						
IMEH	**Mehriz**	**3.65**	**39**	IAMB	IAmb	12 51 18.1	
	comp=Z,2µm,0.6s						
IMEH				*e*Pn	**Pn**	**12 51 03.3**	**+3.1**
ISAD	**Sadrabad**	**3.66**	**24**	*e*Pn	**Pn**	**12 51 02.5**	**+2.1**
ISAD				IAMB	IAmb	12 52 09.1	
	comp=N,2µm,0.6s						
IGAR	**Gharneh**	**3.83**	**1**	*e*Pn	**Pn**	**12 51 04.9**	**+2.2**
IGAR				IAMB	IAmb	12 52 20.1	
	comp=Z,3µm,0.9s						
ROKH	**ROKH**	**3.85**	**348**	*e*Pn	**Pn**	**12 51 04.4**	**+1.4**
ROKH				IAMB	IAmb	12 52 22.4	
	comp=N,0.0nm,1.0s						
GENO	**Geno**	**3.92**	**106**	*e*Pn	**Pn**	**12 51 03.4**	**-0.5**
GENO				IAMB	IAmb	12 52 34.8	
	comp=Z,0.0nm,1.9s						
ICHK	**Chekchek**	**4.24**	**30**	*e*Pn	**Pn**	**12 51 10.2**	**+1.9**
ICHK				IAMB	IAmb	12 52 29.6	
	comp=N,979nm,0.7s						
IZEF	**Zefreh**	**4.33**	**4**	*e*Pn	**Pn**	**12 51 10.8**	**+1.2**
IZEF				IAMB	IAmb	12 52 29.3	
	comp=Z,592nm,0.8s						
KHGB	**Koh Gabri**	**4.34**	**64**	*e*Pn	**Pn**	**12 51 11.5**	**+1.7**
KHGB				IAMB	IAmb	12 52 37.2	
	comp=N,0.0nm,2.5s						
NIAN	**Nian**	**4.44**	**102**	*e*Pn	**Pn**	**12 51 10.5**	**-0.4**
NIAN				IAMB	IAmb	12 52 47.8	
	comp=N,0.0nm,0.8s						
KRBR	**Kerman**	**4.44**	**70**	*e*Pn	**Pn**	**12 51 12.8**	**+1.6**
KRBR	**Kerman**	**4.44**	**70**	*e*Pn	**Pn**	**12 51 12.8**	**+1.6**
KRBR				*e*Sg	**Sg**	**12 52 24.7**	**-2.0**
TVBK	**TV Kerman**	**4.44**	**70**	*e*Pn	**Pn**	**12 51 12.9**	**+1.7**
SHME	**Shamm**	**4.50**	**123**	*i* P	**Pn**	**12 51 12.4**	**+0.6**
	SNR=6.1						
SHME				S	**Sn**	**12 52 04.1**	**+0.2**
SHME	**Shamm**	**4.50**	**123**	*e*Pn	**Pn**	**12 51 13.0**	**+1.2**
BANOM	**Banah**	**4.69**	**123**	*i* P	**Pn**	**12 51 15.7**	**+1.3**
	SNR=42						
BANOM	**Banah**	**4.69**	**123**	P	**Pn**	**12 51 15.7**	**+1.3**
	SNR=42						
IKLH	**Kolahrood**	**4.75**	**356**	*e*Pn	**Pn**	**12 51 15.9**	**+0.5**
IKLH				IAMB	IAmb	12 53 04.1	
	comp=Z,1µm,0.9s						
AJN	**Ajban**	**4.83**	**145**	P	**Pn**	**12 51 18.2**	**+1.9**
	SNR=5.4						
AJN				S	**Sn**	**12 52 14.5**	**+2.5**
ANAR	**Anarak**	**4.86**	**18**	*e*Pn	**Pn**	**12 51 18.5**	**+1.7**
NAZ	**Nazwa, Dubai**	**4.87**	**136**	*i* P	**Pn**	**12 51 18.3**	**+1.5**
	SNR=15						
NAZ	**Nazwa, Dubai**	**4.87**	**136**	P	**Pn**	**12 51 18.5**	**+1.6**
NAZ				S	**Sn**	**12 52 14.5**	**+1.4**
NAZ	**Nazwa, Dubai**	**4.87**	**136**	*e*Pn	**Pn**	**12 51 18.8**	**+1.9**
MSFE	**Esma-Masafi**	**4.94**	**129**	*i* P	**Pn**	**12 51 18.3**	**+0.5**
	SNR=13						
MSFE	**Esma-Masafi**	**4.94**	**129**	*e*Pn	**Pn**	**12 51 18.8**	**+1.0**
ASUD	**Al Ashush, Dub**	**4.96**	**142**	*i* P	**Pn**	**12 51 20.0**	**+1.9**
	SNR=52						
ASUD	**Al Ashush, Dub**	**4.96**	**142**	P	**Pn**	**12 51 20.4**	**+2.4**
	SNR=52						
ASUD				S	**Sn**	**12 52 17.1**	**+1.9**
ASUD	**Al Ashush, Dub**	**4.96**	**142**	*e*Pn	**Pn**	**12 51 20.8**	**+2.8**
FAQ	**Al Faqa, Dubai**	**5.01**	**139**	P	**Pn**	**12 51 19.3**	**+0.5**
FAQ	**Al Faqa, Dubai**	**5.01**	**139**	S	**Sn**	**12 52 18.8**	**+2.3**
FAQ	**Al Faqa, Dubai**	**5.01**	**139**	*e*Pn	**Pn**	**12 51 20.7**	**+1.9**
CHMN	**Cheshme madani**	**5.06**	**74**	*e*Pn	**Pn**	**12 51 21.2**	**+1.5**
CHMN				IAMB	IAmb	12 53 05.8	
	comp=Z,0.0nm,1.7s						
HATD	**Hatta, Dubai**	**5.28**	**134**	*i* P	**Pn**	**12 51 23.4**	**+0.9**
	SNR=16						
HATD	**Hatta, Dubai**	**5.28**	**134**	P	**Pn**	**12 51 23.5**	**+0.9**
HATD				S	**Sn**	**12 52 24.0**	**+0.8**
HATD	**Hatta, Dubai**	**5.28**	**134**	*e*Pn	**Pn**	**12 51 23.8**	**+1.3**
ASHO	**Ashiyiah**	**5.34**	**135**	*i* P	**Pn**	**12 51 23.8**	**+0.5**
	SNR=54						
ASHO	**Ashiyiah**	**5.34**	**135**	P	**Pn**	**12 51 24.0**	**+0.7**
	SNR=54						
ASHO				S	**Sn**	**12 52 26.8**	**+2.2**
ASHO	**Ashiyiah**	**5.34**	**135**	*e*Pn	**Pn**	**12 51 24.1**	**+0.7**
KRSH	**Karshahi**	**5.39**	**2**	*e*Pn	**Pn**	**12 51 24.6**	**+0.5**
KRSH				IAMB	IAmb	12 52 27.2	
	comp=E,0.0nm,0.9s						
ALNE	**Al Ain**	**5.64**	**142**	*i* P	**Pn**	**12 51 29.0**	**+1.5**
	SNR=24						
ALNE	**Al Ain**	**5.64**	**142**	*e*Pn	**Pn**	**12 51 29.2**	**+1.7**
MZR	**Muzera**	**5.71**	**166**	P	**Pn**	**12 51 29.6**	**+1.1**
TPRV	**Parvadeh(Tabas**	**6.03**	**41**	*e*Pn	**Pn**	**12 51 34.3**	**+1.4**
TPRV				IAMB	IAmb	12 53 32.4	
	comp=Z,0.0nm,2.7s						
HSAM	**Samen**	**6.31**	**334**	*e*Pn	**Pn**	**12 51 38.5**	**+1.7**
ARQ	**Araqi**	**6.64**	**141**	P	**Pn**	**12 51 42.3**	**+1.1**
HAGD	**Aghdareh**	**6.68**	**340**	*e*Pn	**Pn**	**12 51 41.9**	**0.0**
TNSJ	**Nastanj**	**6.70**	**35**	*e*Pn	**Pn**	**12 51 42.9**	**+0.9**
TNSJ				IAMB	IAmb	12 54 01.4	
	comp=Z,0.0nm,2.4s						
TKDS	**Koohdasht(Taba**	**6.71**	**40**	*e*Pn	**Pn**	**12 51 43.1**	**+0.9**
TKDS				IAMB	IAmb	12 54 50.9	
	comp=Z,0.0nm,2.8s						
IKOM	**Komasi**	**6.75**	**327**	*e*Pn	**Pn**	**12 51 44.1**	**+1.3**
IKOM				IAMB	IAmb	12 54 27.1	
	comp=Z,0.0nm,1.6s						
HOQ	**Hoqain**	**6.92**	**135**	P	**Pn**	**12 51 46.3**	**+1.3**
HOQ	**Hoqain**	**6.92**	**135**	*e*Pn	**Pn**	**12 51 46.4**	**+1.3**
IGHG	**Ghaleghazi**	**7.35**	**323**	*e*Pn	**Pn**	**12 51 53.4**	**+2.3**
IGHG				IAMB	IAmb	12 53 26.8	
	comp=N,986nm,0.3s						
BSY	**Bisya**	**7.49**	**140**	P	**Pn**	**12 51 53.8**	**+1.0**
	SNR=15						
RAYN	**Ar Rayn**	**7.67**	**231**	*e*Pn	**Pn**	**12 51 54.5**	**-0.8**
RAYN				*e*Sn	**Sn**	**12 53 19.6**	**-2.3**
RAYN	**Ar Rayn**	**7.67**	**231**	*i* P	**Pn**	**12 51 55.1**	**-0.1**
	SNR=16						
RAYN	**Ar Rayn**	**7.67**	**231**	*e*P	**Pn**	**12 51 54.5**	**-0.8**
RAYN				*e*		12 53 19.6	
WSAR	**Wadi Sarin**	**8.02**	**130**	P	**Pn**	**12 52 00.1**	**-0.1**
WSAR				S	**Sn**	**12 53 27.2**	**-3.5**
CHBR	**Chabahar**	**8.17**	**109**	*e*Pn	**Pn**	**12 52 00.6**	**-1.5**
CHBR	**Chabahar**	**8.17**	**109**	*e*Pn	**Pn**	**12 52 00.6**	**-1.5**
MHTO	**MHTO**	**9.32**	**143**	P	**Pn**	**12 52 18.2**	**+0.3**
MHTO				S	**Sn**	**12 53 58.8**	**-3.8**
DQM	**DQM**	**10.00**	**148**	P	**Pn**	**12 52 27.1**	**-0.2**
GEYT	**Alibeck**	**10.67**	**27**	Pn	**Pn**	**12 52 37.5**	**+1.1**
	comp=N,0.4nm,0.3s,baz=243,slow=9.5,SNR=3.5						
GYA0B	**ALIBECK ARRAY**	**10.67**	**27**	*e*Pn	**Pn**	**12 52 34.8**	**-1.6**
ZEI	**Tsey**	**15.61**	**337**	*e*P	**Pn**	**12 53 44.1**	**+0.4**
ZEI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KBL	**Kabul**	**15.74**	**63**	*e*Pn	**Pn**	**12 53 46.5**	**+1.0**
	comp=Z,8.3nm,1.0s						
KBL	**Kabul**	**15.74**	**63**	*e*P	**Pn**	**12 53 46.5**	**+1.0**
KBL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NEY	**Neytrino**	**16.43**	**336⇓**	*e*P	**Pn**	**12 53 54.9**	**+0.7**
NEY				pmax	pmax		
	comp=Z,11nm,2.3s						
KBZ	**Khabaz**	**16.78**	**337**	Pn	**Pn**	**12 53 59.2**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=168,slow=8.7,SNR=5.5						
CSS	**Mathiatis**	**17.05**	**297**	*e*Pn	**Pn**	**12 54 01.9**	**-0.1**
	comp=Z,16nm,1.0s						
KIV	**Kislovodsk**	**17.05**	**337**	*e*Pn	**P**	**12 54 03.1**	**-0.7**
	comp=Z,14nm,1.1s						
KIV	**Kislovodsk**	**17.05**	**337**	*e*P	**P**	**12 54 03.4**	**-0.4**
KIV				pmax	pmax		
	comp=Z,14nm,1.1s						
BR101	**Keskin Array S**	**18.76**	**311**	*e*P	**Pn**	**12 54 23.1**	**0.0**
BR131	**Keskin Array S**	**18.76**	**311**	*e*P	**Pn**	**12 54 23.2**	**+0.1**
BRTR	**Keskin Array B**	**18.76**	**311**	Pn	**Pn**	**12 54 23.1**	**0.0**
	comp=Z,0.3nm,0.3s,baz=135,slow=12,SNR=8.5						
BRTR	**Keskin Array B**	**18.76**	**311**	*i* P	**Pn**	**12 54 24.7**	**+1.5**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NIL	**Nilore**	**18.93**	**69**	*e*P	**P**	**12 54 24.5**	**+0.1**
	comp=Z,9.4nm,0.8s						
NIL	**Nilore**	**18.93**	**69**	*e*P	**P**	**12 54 24.5**	**+0.1**
NIL				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BTK	**Batken**	**19.31**	**49**	*e*P	**P**	**12 54 28.6**	**-0.1**
	comp=Z,3.5nm,0.7s						
BTK	**Batken**	**19.31**	**49**	*e*P	**P**	**12 54 28.6**	**-0.1**
BTK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ANTO	**Ankara**	**19.40**	**311**	*e*P	**P**	**12 54 29.6**	**0.0**
	comp=Z,8.7nm,0.9s						
ANTO	**Ankara**	**19.40**	**311**	*e*P	**P**	**12 54 29.6**	**0.0**
ANTO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KK31	**Karatay Array**	**20.84**	**41**	*e*P	**P**	**12 54 45.1**	**-0.1**
KK31	**Karatay Array**	**20.84**	**41**	*e*P	**P**	**12 54 45.1**	**-0.1**
KKAR	**Karatay Array**	**20.84**	**41**	*e*P	**P**	**12 54 44.6**	**-0.6**
KKAR	**Karatay Array**	**20.84**	**41**	*e*P	**P**	**12 54 44.6**	**-0.6**
SFK	**Sufi-Kurgan**	**21.10**	**52**	P	**P**	**12 54 51.5**	**+3.2**
SFK				pmax	pmax		
	comp=Z,11nm,0.9s						
ARSB	**Arslanbob**	**21.37**	**48**	*e*P	**P**	**12 54 50.4**	**-0.7**
	comp=Z,8.2nm,0.7s						
ABKAR	**Akbulak array**	**21.55**	**14**	*e*P	**P**	**12 54 53.4**	**+0.6**
MANT	**Manisa**	**21.81**	**303**	*e*P	**P**	**12 54 56.2**	**+0.3**
	comp=Z,49nm,1.2s						
KSH	**Kashi**	**22.64**	**55**	P	**P**	**12 55 03.7**	**-1.1**
KSH				pP	pP	12 55 08.2	-1.1
KSH				PcP	**PcP**	**12 59 02.1**	**+4.8**
KSH				S	**S**	**12 59 04.6**	**-7.7**
KSH				sS	pS	12 59 06.9	-11
KSH				SS	**SnSn**	**12 59 42.7**	**+0.7**
KSH				pmax	pmax		
	comp=Z,19nm,0.6s						
KSH				pmax	pmax		
	comp=Z,2µm,8.8s						
KSH				LR	LR		
	comp=N,300nm,10.8s						
KSH				LR	LR		
	comp=E,1µm,11.5s						
KSH				LR	LR		
	comp=Z,5µm,19.6s						
AAK	**Ala-Archa**	**23.00**	**46**	P	**P**	**12 55 10.4**	**+2.0**
	comp=Z,2.4nm,0.8s,baz=207,slow=11,SNR=8.0						
AAK	**Ala-Archa**	**23.00**	**46**	*e*P	**P**	**12 55 08.9**	**+0.4**
	comp=Z,5.5nm,1.0s						
AAK	**Ala-Archa**	**23.00**	**46⇑**	*e*P	**P**	**12 55 10.5**	**+2.0**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
NRN	**Naryn**	**23.43**	**50**	*e*P	**P**	**12 55 13.0**	**0.0**
	comp=Z,5.8nm,0.8s						
NRN	**Naryn**	**23.43**	**50**	*e*P	**P**	**12 55 13.0**	**0.0**
NRN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
IDI	**Anoyia**	**23.87**	**293**	*e*P	**P**	**12 55 16.8**	**-0.3**
	comp=Z,16nm,1.1s						
VRH	**Novokhopyorsk**	**23.88**	**344**	*e*P	**P**	**12 55 16.9**	**0.0**
VRH				pmax	pmax		
	comp=Z,40nm,0.9s						
TIRR	**Tirgusor**	**24.55**	**317**	*e*P	**P**	**12 55 23.6**	**+0.4**
	comp=Z,4.9nm,0.9s						
TIRR	**Tirgusor**	**24.55**	**317**	*e*P	**P**	**12 55 23.6**	**+0.4**
TIRR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
VSR	**Storozhevoye**	**24.58**	**340**	*e*P	**P**	**12 55 21.7**	**-1.7**
VSR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
OTUK	**Ortayu**	**25.19**	**33**	P	**P**	**12 55 31.4**	**+2.5**
OTUK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
LPSR	**Galich'ya Gora**	**25.88**	**342**	*e*P	**P**	**12 55 36.8**	**+1.7**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ITM	**Ithomi**	**26.55**	**297**	*e*P	**P**	**12 55 41.6**	**+0.3**
	comp=Z,9.9nm,0.9s						
MLR	**Muntele Rosu**	**26.59**	**316**	P	**P**	**12 55 41.3**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=158,slow=19,SNR=2.5						
MLR	**Muntele Rosu**	**26.59**	**316**	*e*P	**P**	**12 55 42.3**	**+0.5**
	comp=Z,4.1nm,0.8s						
MLR	**Muntele Rosu**	**26.59**	**316**	*e*P	**P**	**12 55 42.3**	**+0.5**
MLR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VOIR		**27.11**	**316**	P	**P**	**12 55 50.5**	**+4.1**
VOIR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BRVK	**Borovoye**	**27.96**	**24⇓**	*e*P	**P**	**12 55 56.0**	**+2.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
AKASG	**Malin Array Be**	**27.98**	**328**	P	**P**	**12 55 53.0**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=130,slow=8.9,SNR=6.0						
AKASG	**Malin Array Be**	**27.98**	**328**	*i* P	**P**	**12 55 54.2**	**+0.1**
AKBB	**Malin Array Si**	**27.98**	**328**	*e*P	**P**	**12 55 54.2**	**+0.2**
	comp=Z,3.2nm,0.8s						
AKBB	**Malin Array Si**	**27.98**	**328**	*e*P	**P**	**12 55 54.2**	**+0.2**
AKBB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KIEV	**Kiev**	**27.98**	**328**	*e*P	**P**	**12 55 54.4**	**+0.3**
	comp=Z,3.0nm,0.8s						
KIEV	**Kiev**	**27.98**	**328**	*i* P	**P**	**12 55 55.3**	**+1.2**
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BUR08	**Bucovina Ar. S**	**28.16**	**320**	*e*P	**P**	**12 55 55.4**	**-0.5**
OBN	**Obninsk**	**28.76**	**342**	*e*P	**P**	**12 56 01.2**	**+0.3**
OBN				*e*		12 56 49.5	
OBN				*e*PPP	PPP	12 57 03.3	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MAKZ	**Makanchi**	**29.68**	**44**	*e*P	**P**	**12 56 09.7**	**+0.4**
	comp=Z,3.0nm,0.8s						
MAKZ	**Makanchi**	**29.68**	**44**	*e*P	**P**	**12 56 09.7**	**+0.4**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURBB	**Kurchatov Arra**	**29.80**	**35**	P	**P**	**12 56 11.2**	**+1.0**
	comp=Z,2.9nm,0.9s,baz=235,slow=9.2,SNR=25						
MK01	**Makanchi Array**	**29.86**	**44**	*e*P	**P**	**12 56 11.0**	**+0.1**
MK31	**Makanchi Array**	**29.87**	**44**	*e*P	**P**	**12 56 11.1**	**+0.2**
MK31	**Makanchi Array**	**29.87**	**44**	*e*P	**P**	**12 56 11.1**	**+0.2**
MK32	**Makanchi Array**	**29.87**	**44**	*e*P	**P**	**12 56 11.7**	**+0.8**
MKAR	**Makanchi Array**	**29.87**	**44**	P	**P**	**12 56 11.7**	**+0.7**
	comp=Z,2.3nm,0.9s,baz=230,slow=7.3,SNR=16						
MKAR	**Makanchi Array**	**29.87**	**44**	*e*P	**P**	**12 56 11.6**	**+0.7**
	comp=Z,26nm,1.1s						
MKAR	**Makanchi Array**	**29.87**	**44**	*i* P	**P**	**12 56 12.6**	**+1.7**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KURK	**Kurchatov**	**29.90**	**35**	*e*P	**P**	**12 56 11.2**	**+0.1**
KURK	**Kurchatov**	**29.90**	**35⇑**	*e*P	**P**	**12 56 13.1**	**+2.0**
LANS	**Liptovska Anna**	**32.22**	**319**	*e*P	**P**	**12 56 33.2**	**+1.6**
LANS				*e*		12 56 35.3	
LANS	**Liptovska Anna**	**32.22**	**319**	*e*P	**P**	**12 56 33.2**	**+1.6**
LANS				*e*sP	**pP**	**12 56 35.3**	**-1.1**
WMQ	**Urumqi**	**32.34**	**52**	*e*P	**P**	**12 56 35.1**	**+2.3**
KLMR	**Klimovskoe**	**33.35**	**349**	*e*P	**P**	**12 56 39.6**	**-1.7**
KLMR				pmax	pmax		
	comp=Z,13nm,1.4s						
KLMR	**Klimovskoe**	**33.35**	**349**	*e*P	**P**	**12 56 39.7**	**-1.6**
KLMR				AMP		12 56 42.3	
	comp=Z,13nm,1.4s						
DGZ	**Jazzator, Alta**	**34.23**	**42⇓**	*e*P	**P**	**12 56 50.6**	**+1.3**
DGZ				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ZAA0	**Zalesovo Array**	**34.88**	**34**	*e*P	**P**	**12 56 54.6**	**-0.1**
	comp=Z,5.7nm,0.9s						
ZALV	**Zalesovo Beam**	**34.88**	**34**	P	**P**	**12 56 54.8**	**+0.1**
	comp=Z,2.0nm,0.4s,baz=244,slow=9.4,SNR=20						
ZALV	**Zalesovo Beam**	**34.88**	**34**	*e*P	**P**	**12 56 54.4**	**-0.2**
ZALV	**Zalesovo Beam**	**34.88**	**34**	*i* P	**P**	**12 56 55.5**	**+0.8**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZAA1	**Zalesovo Array**	**34.88**	**34**	*e*P	**P**	**12 56 54.8**	**+0.1**
GEA0	**GERESS Array S**	**35.56**	**315**	*e*P	**P**	**12 57 01.6**	**+0.9**
GEC2	**GERESS Array S**	**35.56**	**315**	*e*P	**P**	**12 57 00.6**	**-0.1**
	comp=Z,2.3nm,0.8s						
GEC2	**GERESS Array S**	**35.56**	**315**	*e*P	**P**	**12 57 00.6**	**-0.1**
GEC2				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GERES	**GERESS Array B**	**35.56**	**315**	P	**P**	**12 57 00.6**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=97,slow=8.1,SNR=5.0						
KHC	**Kasperske Hory**	**35.74**	**316**	*e*P	**P**	**12 57 01.5**	**-0.7**
KHC	**Kasperske Hory**	**35.74**	**316**	*e*P	**P**	**12 57 01.5**	**-0.7**
WATA	**Walderalm**	**36.43**	**312**	*i* P	**P**	**12 57 08.6**	**+0.3**
	comp=Z,3.0nm,0.5s						
SQTA	**Sankt Quirin**	**36.64**	**312**	*e*P	**P**	**12 57 10.0**	**-0.1**
	comp=Z,3.4nm,0.4s						
MOTA	**Moosalm**	**36.74**	**312**	*i* P	**P**	**12 57 10.4**	**-0.6**
	comp=Z,1.2nm,0.4s						
CLL	**Collm**	**36.89**	**319**	*e*P	**P**	**12 57 11.0**	**-1.0**
CLL				*e*(sP)	**pP**	**12 57 15.0**	**-1.8**
CLL	**Collm**	**36.89**	**319**	*e*P	**P**	**12 57 11.0**	**-1.0**
CLL				*e*		12 57 15.0	
FETA	**Feichten**	**36.90**	**311**	*e*P	**P**	**12 57 12.5**	**+0.1**
	comp=Z,5.6nm,1.2s						
RETA	**Reutte**	**37.01**	**312**	*i* P	**P**	**12 57 13.1**	**0.0**
	comp=Z,1.4nm,0.4s						
FIA0	**FINESS Array S**	**37.11**	**340**	*e*P	**P**	**12 57 13.6**	**-0.1**
FIA0	**FINESS Array S**	**37.11**	**340**	*e*P	**P**	**12 57 13.6**	**-0.1**
FIA1	**FINESS Array S**	**37.11**	**340**	*e*P	**P**	**12 57 13.7**	**+0.1**
FINES	**FINESS Array B**	**37.11**	**340**	P	**P**	**12 57 13.6**	**-0.1**
	comp=Z,3.3nm,0.7s,baz=145,slow=9.5,SNR=12						
FINES	**FINESS Array B**	**37.11**	**340**	*i* P	**P**	**12 57 13.3**	**-0.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
DAVA	**Damuels**	**37.53**	**312**	*e*P	**P**	**12 57 17.5**	**-0.2**
	comp=Z,6.8nm,0.8s						
SENIN	**Lac Senin/Sane**	**39.05**	**309**	*e*P	**P**	**12 57 30.1**	**-0.4**
	comp=Z,4.9nm,1.0s						
BNI	**Bardonecchia**	**39.25**	**307**	*e*P	**P**	**12 57 31.8**	**-0.3**
	comp=Z,7.4nm,1.1s						
BNI	**Bardonecchia**	**39.25**	**307**	*e*P	**P**	**12 57 31.8**	**-0.3**
BNI				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KNGR	**Kungurtug, Tuv**	**40.63**	**44⇑**	*e*P	**P**	**12 57 45.7**	**+2.2**
GTA	**Gaotai**	**40.72**	**62**	⇑P	**P**	**12 57 45.9**	**+1.5**
GTA				pP	sP	12 57 50.5	-0.9
GTA				sP	pP	12 57 53.1	+3.7
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NC405	**NORSAR Array S**	**42.10**	**332**	*e*P	**P**	**12 57 55.0**	**-0.2**
NB201	**NORSAR Array S**	**42.24**	**332**	*e*P	**P**	**12 57 55.9**	**-0.6**
NB2	**NORSAR Subarra**	**42.27**	**332**	P	**P**	**12 57 55.5**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=120,slow=8.6						
NB2	**NORSAR Subarra**	**42.27**	**332**	P	**P**	**12 57 59.3**	**+2.6**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB200	**NORSAR Array S**	**42.27**	**332**	*e*P	**P**	**12 57 55.8**	**-0.9**
NOA	**NORSAR Array B**	**42.27**	**332**	P	**P**	**12 57 55.8**	**-0.9**
	comp=Z,1.9nm,0.9s,baz=120,slow=8.1,SNR=6.8						
NC303	**NORSAR Array S**	**42.30**	**332**	*e*P	**P**	**12 57 57.5**	**+0.6**
NAO01	**NORSAR Array S**	**42.30**	**331**	*e*P	**P**	**12 57 57.5**	**+0.5**
NBO00	**NORSAR Array S**	**42.45**	**332**	*e*P	**P**	**12 57 58.2**	**+0.1**
NC204	**NORSAR Array S**	**42.58**	**332**	*e*P	**P**	**12 57 59.1**	**-0.1**
ARA0	**ARCESS Array S**	**43.75**	**347**	*e*P	**P**	**12 58 08.0**	**-0.6**
ARCES	**ARCESS Array B**	**43.75**	**347**	P	**P**	**12 58 08.0**	**-0.6**
	comp=Z,3.4nm,1.0s,baz=141,slow=7.3,SNR=9.2						
ARCES	**ARCESS Array B**	**43.75**	**347**	P	**P**	**12 58 08.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**44.02**	**93**	P	**P**	**12 58 11.1**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=287,slow=9.2,SNR=3.9						
CMAR				PcP	**PcP**	**12 59 56.8**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=297,slow=6.0,SNR=2.8						
SONA0	**Songino Array**	**45.89**	**50**	*e*P	**P**	**12 58 24.7**	**-1.3**
SONM	**Songino Array**	**45.89**	**50**	P	**P**	**12 58 24.7**	**-1.3**
	comp=Z,1.4nm,0.9s,baz=266,slow=10,SNR=8.3						
SONA1	**Songino Array**	**45.89**	**50**	*e*P	**P**	**12 58 26.4**	**+0.3**
ULN	**Ulaanbaatar**	**46.33**	**50**	*e*P	**P**	**12 58 29.7**	**+0.1**
	comp=Z,2.9nm,0.8s						
ULN	**Ulaanbaatar**	**46.33**	**50⇑**	*e*P	**P**	**12 58 30.3**	**+0.7**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
OPO	**Ambohidratompo**	**47.09**	**186**	LR	LR	13 19 22.9	
	comp=Z,1µm,19.2s,baz=346,slow=38						
TOA0	**Torodi Ar. Sit**	**49.05**	**263**	*e*P	**P**	**12 58 49.7**	**-1.2**
TOA1	**Torodi Ar. Sit**	**49.05**	**263**	*e*P	**P**	**12 58 49.5**	**-1.4**
TORD	**Torodi Ar. Bea**	**49.05**	**263**	P	**P**	**12 58 49.5**	**-1.4**
	comp=Z,1.8nm,0.6s,baz=60,slow=8.1,SNR=12						
HHC	**Hu-ho-hao-te**	**49.65**	**59**	*e*P	**P**	**12 58 53.1**	**-2.2**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BOD	**Bodaibo**	**51.51**	**37**	*e*P	**P**	**12 59 08.4**	**-0.5**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.1s						
DBIC	**Dimbokro**	**57.77**	**259**	P	**P**	**12 59 55.2**	**+0.3**
	comp=Z,3.5nm,0.4s,baz=36,slow=6.1,SNR=9.8						
KIC	**Kosan Boka**	**57.82**	**259**	*e*P	**P**	**12 59 55.5**	**+0.1**
	comp=Z,24nm,1.3s						
TIC	**Toumodi**	**57.92**	**259**	*e*P	**P**	**12 59 56.1**	**0.0**
LIC	**Lamto**	**58.14**	**259**	*e*P	**P**	**12 59 57.7**	**+0.1**
	comp=Z,13nm,0.5s						
KS15	**Wonju Array Si**	**62.74**	**60**	*e*P	**P**	**13 00 27.7**	**-1.0**
KSAR	**Wonju Array Be**	**62.74**	**60**	P	**P**	**13 00 28.3**	**-0.4**
KSAR	**Wonju Array Be**	**62.74**	**60**	P	**P**	**13 00 28.3**	**-0.4**
KSRS	**Korea Array**	**62.77**	**60**	P	**P**	**13 00 28.3**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=278,slow=6.1,SNR=9.2						
LEM	**Lembang**	**64.13**	**114**	LR	LR	13 28 32.6	
	comp=Z,1µm,21.0s,baz=332,slow=36						
MAJO	**Matsushiro**	**70.84**	**58⇓**	*e*P	**P**	**13 01 18.6**	**-1.8**
MAJO				pmax	pmax		
	comp=Z,6.0nm,1.2s						
BILL	**Bilibino**	**72.27**	**21**	*e*P	**P**	**13 01 29.9**	**+1.4**
BILL				*e*		13 04 09.4	
BILL				*e*PPP	PPP	13 05 55.7	
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SCHQ	**Schefferville**	**81.78**	**329**	P	**P**	**13 02 22.4**	**+0.2**
	comp=Z,3.2nm,0.7s,baz=86,slow=4.1,SNR=5.6						
SCHQ	**Schefferville**	**81.78**	**329**	*e*P	**P**	**13 02 22.4**	**+0.3**
	comp=Z,5.8nm,0.8s						
IM3	**Indian Mountai**	**83.71**	**10**	*e*P	**P**	**13 02 32.4**	**+0.4**
ILAR	**Eielson Array**	**85.81**	**8**	P	**P**	**13 02 42.5**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=318,slow=3.7,SNR=8.3						
BPAW	**Bear Paw Mtn.**	**85.89**	**10**	*e*P	**P**	**13 02 43.7**	**+0.6**
	comp=Z,3.1nm,1.0s						
YKA	**Yellowknife Ar**	**88.62**	**354**	P	**P**	**13 02 56.1**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=7.5,slow=5.2,SNR=13						
YKB5	**Yellowknife Ar**	**88.62**	**354**	*e*P	**P**	**13 02 56.4**	**+0.1**
WRA	**Warramunga Arr**	**92.97**	**111**	P	**P**	**13 03 17.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=307,slow=4.4,SNR=4.6						
WRA	**Warramunga Arr**	**92.97**	**111**	*i* P	**P**	**13 03 18.1**	**+0.9**
ASAR	**Alice Springs**	**94.42**	**114**	P	**P**	**13 03 23.0**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=296,slow=4.3,SNR=3.7						

*IDC **05** 13:04:51.4±3.3, 53°.58S×159°.29E, h0km, mb4.2/3, mb1 4.4/4, mb1mx4.0/31, mbtmp4.3/4, ML4.7/1, MS5.0/1, Ms1 5.0/1, ms1mx4.1/26, Error ellipse: s-maj=74.3km s-min=46.6km az=174.0*
*WEL **05** 13:04:56.5±1.3, 54°S±16°×16°2E±2°5, h5km*
ISC 05 13:04:52.2±2.4**, 53°.7S**±0°.3×**159°.6E**±0°.2**, h10km, n28, σ2s.11**/29**, mb3.9**/4**, Macquarie Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APZ	**The Paps**	**8.76**	**41**	P	**Pn**	**13 06 58.4**	**-0.4**
APZ				S	**Sn**	**13 08 35.5**	**-2.1**
PYZ	**Puysegur Point**	**8.85**	**34**	P	Pn	13 07 05.0	+4.9
SYZ	**Scrubby Hill**	**9.47**	**44**	P	**Pn**	**13 07 08.3**	**-0.1**
SYZ				S	**Sn**	**13 08 52.3**	**-2.5**
WHZ	**Wether Hill Ro**	**9.53**	**38**	P	**Pn**	**13 07 09.3**	**-0.1**
DCZ	**Deep Cove**	**9.63**	**34**	P	Pn	13 07 16.2	+5.6
DCZ				S	Sn	13 09 09.8	+11
MLZ	**Mavora Lakes**	**10.05**	**37**	P	**Pn**	**13 07 18.0**	**+1.6**
TUZ	**Tuapeka**	**10.14**	**44**	P	**Pn**	**13 07 18.2**	**+0.6**
TUZ				S	**Sn**	**13 09 11.4**	**+0.1**
MSZ	**Milford Sound**	**10.58**	**34**	P	**Pn**	**13 07 27.0**	**+3.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HHSZ	**Highcliff Hill**	**10.60**	**47**	P	**Pn**	**13 07 26.2**	**+2.2**
EAZ	**Earnscleugh**	**10.60**	**41**	P	**Pn**	**13 07 27.7**	**+3.7**
EAZ				P	**Pn**	**13 07 27.4**	**+3.4**
WKZ	**Wanaka**	**10.84**	**39**	P	**Pn**	**13 07 28.5**	**+1.3**
ODZ	**Otahua Downs**	**11.29**	**44**	P	**Pn**	**13 07 33.7**	**+0.3**
JCZ	**Jackson Bay**	**11.40**	**36**	P	**Pn**	**13 07 37.9**	**+2.9**
LBZ	**Lake Benmore**	**11.65**	**41**	P	**Pn**	**13 07 39.6**	**+1.2**
FOZ	**Fox Glacier**	**12.24**	**38**	P	**Pn**	**13 07 49.1**	**+2.7**
RPZ	**Rata Peaks**	**12.56**	**42**	Pn	**Pn**	**13 07 51.9**	**+1.2**
	4.4nm,0.3s,baz=201,slow=4.0,SNR=16						
RPZ	**Rata Peaks**	**12.56**	**42**	P	**Pn**	**13 07 53.4**	**+2.7**
AKCZ	**Akaroa Harbour**	**13.20**	**47**	P	**Pn**	**13 08 01.4**	**+1.9**
MQZ	**McQueen's Vall**	**13.22**	**46**	P	**Pn**	**13 08 01.0**	**+1.2**
OXZ	**Oxford**	**13.28**	**43**	P	**Pn**	**13 08 02.9**	**+2.3**
CRLZ	**Canterbury Las**	**13.32**	**46**	P	**Pn**	**13 08 03.3**	**+2.2**
LTZ	**Lake Taylor**	**13.82**	**43**	P	**Pn**	**13 08 09.1**	**+1.1**
STKA	**Stephens Creek**	**25.36**	**322**	P	**P**	**13 10 22.3**	**+3.0**
	1.0nm,0.6s,baz=149,slow=15,SNR=3.1						
RAO	**Raoul Island**	**29.47**	**43**	LR	LR	13 23 03.3	
	comp=Z,3μm,18.8s,baz=330,slow=37						
ASAR	**Alice Springs**	**35.69**	**317**	P	**P**	**13 11 47.6**	**-3.0**
	0.7nm,0.8s,baz=156,slow=7.1,SNR=4.6						
WRA	**Warramunga Arr**	**38.88**	**320**	P	**P**	**13 12 17.0**	**-0.7**
	2.7nm,0.7s,baz=150,slow=7.3,SNR=14						
FITZ	**Fitzroy Crossi**	**44.16**	**310**	P	**P**	**13 13 00.8**	**-0.1**
	4.3nm,0.9s,baz=149,slow=8.6,SNR=6.9						
FINES	**FINESS Array B**	**154.40**	**306**	PKPbc	**PKiKP**	**13 24 51.6**	**+0.2**
	0.9nm,0.8s,baz=101,slow=7.2,SNR=5.2						

IDC 05 13:06:26.8±1.9**,3°.09S×151°.92E,h0km,mb3.8**/4**, mb1 4.0**/4**,mb1mx3.6**/39**,mbtmp3.8**/4**,Error ellipse: s-maj=110.6km s-min=25.5km az=126.0,New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.86**	**217**	Pn	Pn	13 08 28.8	+6.3
	1.8nm,0.3s,baz=19,slow=13,SNR=6.6						
WRA	**Warramunga Arr**	**23.98**	**224**	P	P	13 11 43.8	+0.5
	3.4nm,0.9s,baz=50,slow=10.0,SNR=22						
ASAR	**Alice Springs**	**26.87**	**219**	P	P	13 12 09.8	+0.2
	0.7nm,0.7s,baz=49,slow=8.5,SNR=7.1						
FITZ	**Fitzroy Crossi**	**29.76**	**238**	P	P	13 12 35.2	-0.1
	0.6nm,0.4s,baz=52,slow=12,SNR=4.9						
ILAR	**Eielson Array**	**80.92**	**22**	P	P	13 18 42.4	-0.4
	0.4nm,0.8s,baz=243,slow=5.3,SNR=6.3						
TORD	**Torodi Ar. Bea**	**148.91**	**290**	PKPbc	PKPbc	13 26 17.1	-0.6
	0.2nm,0.3s,baz=96,slow=2.2,SNR=3.8						

*ISK **05** 13:15:51.7, 41°.23N×42°.12E, h5km±1km, ML2.0/3*
*ISCJB **05** 13:15:53.8±1.3, 41°.21N±0°.05×42°.0E±0°.1, h10km±14km, Error ellipse: s-maj=17.7km s-min=7.6km az=18.7*
*DDA **05** 13:15:53.8, 41°.19N×41°.97E, h4km, ML2.5*
ISC 05 13:15:52.5±1.3**,41°.21N**±0°.04×**42°.05E**±0°.08**,h11**km±10km**, n12,σ0s.41**/15**,Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARTV	**Artvin**	**0.10**	**257**	IAML_P			
	comp=Z,84μm,0.1s						
ARTV				*i* P	**Pg**	**13 15 55.2**	**-0.2**
DAGI	**Agillar**	**0.17**	**219**	IAML_P			
	comp=Z,3μm,0.1s						
DAGI				*i* P	**Pb**	**13 15 57.3**	**-0.3**
DBOC	**Borcka**	**0.32**	**295**	IAML_P			
	comp=Z,3μm,0.1s						
DBOC				*i* P	**Pb**	**13 16 00.3**	**0.0**
DBAD	**Bademkaya**	**0.33**	**235**	IAML_P			
	comp=Z,4μm,0.2s						
DBAD				*i* P	**Pb**	**13 15 60.0**	**-0.5**
DBAD				*i* S	**Sg**	**13 16 04.1**	**+0.5**
DDEM	**Demirkent**	**0.39**	**216**	IAML_P			
	comp=Z,4μm,0.1s						
DDEM				*i* P	**Pb**	**13 16 01.2**	**-0.2**
BCA	**Borcka**	**0.40**	**306**	PG	**Pb**	**13 16 01.1**	**-0.6**
BATM	**Batumi**	**0.48**	**326**	PG	**Pg**	**13 16 01.4**	**-0.5**
BATM				SG	**Sg**	**13 16 08.9**	**+0.6**
BATM	**Batumi**	**0.48**	**326**	P	**Pb**	**13 16 03.0**	**+0.1**
BATM				S	**Sb**	**13 16 09.8**	**-0.2**
EPOS	**Posof**	**0.59**	**60**	*i* P	**Pn**	**13 16 07.2**	**+0.3**
CHOM	**Cayeli-Rize**	**0.98**	**264**	PG	**Pg**	**13 16 11.6**	**+0.2**
KOPR	**Koprukoy-ERZUR**	**1.22**	**187**	PN	**Pg**	**13 16 16.0**	**0.0**
BAYT	**Aydıntepe-Bayb**	**1.66**	**241**	PN	**Pb**	**13 16 23.1**	**-0.2**

*ISCJB **05** 13:16:20.2±0.6, 55°.91N±0°.04×135°.52W±0°.09, h14km, mb3.2/3, Error ellipse: s-maj=8.3km s-min=4.2km az=147.5*
*IDC **05** 13:16:20.7±1.1, 55°.87N×135°.47W, h0km, mb3.4/3, mb1 3.7/8, mb1mx3.4/45, mbtmp3.6/8, ML3.2/5, Error ellipse: s-maj=14.7km s-min=11.6km az=54.0*
*NEIC **05** 13:16:22.2±0.0, 56°.06N×135°.25W, h6km, ML3.4(AEIC), After AEIC.*
ISC 05 13:16:22.1±0.9**,55°.95N**±0°.05×**135°.45W**±0°.07**,h14km,n20, σ1s.17**/26**,mb3.4**/3**,Off coast of southeastern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIT	**Sitka**	**1.11**	**3**	P	**Pb**	**13 16 41.0**	**-1.9**
SIT				S	**Sb**	**13 16 55.8**	**-1.5**
CRAG	**Craig**	**1.40**	**109**	P	**Pn**	**13 16 46.9**	**-0.3**
CRAG				S	**Sb**	**13 17 05.3**	**-0.4**
WRAK	**Wrangell Islan**	**1.80**	**74**	P	**Pn**	**13 16 51.7**	**-0.8**
WRAK				S	**Sn**	**13 17 14.3**	**-0.8**
JIS	**Juneau Island**	**2.40**	**14**	P	**Pn**	**13 17 00.3**	**-0.5**
BESE	**Bessie Mountai**	**2.65**	**7**	P	**Pn**	**13 17 04.1**	**-0.3**
H02S1	**DAWSON INLET T**	**3.25**	**147**	Pn	**Pn**	**13 17 12.6**	**0.0**
H02S1				Sn	**Sn**	**13 17 50.2**	**-0.9**
SKAG	**Skagway**	**3.52**	**1**	P	**Pn**	**13 17 17.0**	**+0.8**
PLBC	**Pleasant Camp**	**3.55**	**352**	P	**Pn**	**13 17 17.2**	**+0.6**
DLBC	**Dease Lake**	**3.86**	**48**	Pn	**Pn**	**13 17 21.4**	**+0.4**
	1.1nm,0.3s,baz=227,slow=6.9,SNR=12						
DLBC				Pg	**Pb**	**13 17 30.6**	**+0.7**
	5.0nm,0.3s,baz=217,slow=17,SNR=13						
DLBC				Lg	Lg	13 18 19.4	
	5.5nm,0.3s,baz=130,slow=9.9,SNR=5.0						
BNB	**Barry Inlet**	**4.02**	**146**	P	**Pn**	**13 17 22.9**	**-0.3**
WHY	**Whitehorse**	**4.73**	**3**	P	**Pn**	**13 17 33.3**	**+0.3**
PCA	**Pinnacle**	**4.88**	**330**	P	**Pn**	**13 17 35.6**	**+0.6**
YUK5	**Granite Creek**	**5.34**	**347**	P	**Pn**	**13 17 42.9**	**+1.4**
BBB	**Bella Bella**	**5.74**	**128**	Pn	**Pn**	**13 17 47.8**	**+1.2**
	1.7nm,0.3s,baz=320,slow=15,SNR=6.3						
BBB				Sn	**Sn**	**13 18 51.4**	**-0.9**
	1.3nm,0.3s,baz=120,slow=20,SNR=4.9						
KDAK	**Kodiak Island**	**9.56**	**288**	Pn	**Pn**	**13 18 37.5**	**-1.5**
	0.3nm,0.3s,baz=69,slow=11,SNR=7.2						
ILAR	**Eielson Array**	**10.48**	**332**	Pn	**Pn**	**13 18 52.5**	**+0.8**
	0.1nm,0.3s,baz=154,slow=13,SNR=11						
ILAR				Lg	Lg	13 22 09.2	
	0.0nm,0.3s,baz=116,slow=26,SNR=3.8						
YKA	**Yellowknife Ar**	**12.48**	**50**	Pn	**Pn**	**13 19 18.6**	**-0.4**
	0.1nm,0.3s,baz=249,slow=12,SNR=15						
YKA				Lg	Lg	13 22 54.3	
	0.0nm,0.3s,baz=247,slow=28,SNR=6.5						
RES	**Resolute Bay**	**24.40**	**25**	P	**P**	**13 21 42.6**	**+3.2**
	0.8nm,0.8s,baz=203,slow=13,SNR=5.0						
TXAR	**Lajitas Array**	**34.87**	**126**	P	**P**	**13 23 11.7**	**-1.1**
	0.1nm,0.5s,baz=345,slow=10,SNR=2.5						
MKAR	**Makanchi Array**	**72.83**	**334**	P	**P**	**13 27 51.2**	**+1.3**
	0.4nm,0.8s,baz=23,slow=7.8,SNR=4.1						

MAN 05 13:24:12.8,9°.79N×125°.80E,h1km,mb4.3,ML3.1,MS2.8, 3C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.31**	**269**	⇑*e*P	Pb	13 24 21.3	+0.2
SCPH				*e*S	Sb	13 24 26.9	+0.3
BUTP	**Butuan**	**0.83**	**192**	*e*P	Pg	13 24 28.2	-0.5
BUTP				*e*S	Sg	13 24 39.3	-0.2
MSLP	**Maasin**	**0.99**	**291**	*e*P	Pb	13 24 32.3	-0.5
MSLP				*e*S	Sn	13 24 49.2	+0.8
BIPH	**Bislig**	**1.69**	**161**	⇑*i*P	Pn	13 24 43.1	-0.3
BIPH				*i* S	Sn	13 25 02.6	-3.0
CGP	**Cagayan de Oro**	**1.71**	**220**	⇓*e*P	Pg	13 24 46.9	+1.2
CGP				*e*S	Sn	13 25 02.6	-3.7
OCLP	**Ormoc**	**1.72**	**317**	*e*P	Pg	13 24 46.9	+1.1
OCLP				*e*S	Sg	13 25 10.1	+2.0
BESP	**Borongan**	**1.84**	**349**	*e*P	Pn	13 24 46.3	+0.7
BESP				*e*S	Sb	13 25 10.8	0.0
BUKP	**Musuan**	**2.03**	**201**	*e*P	Pn	13 24 48.9	+0.7
DCPH	**Dipolog City**	**2.69**	**244**	⇑*e*P	Sn	13 25 27.6	-3.0

*NDI **05** 13:41:27.8±3.3, 31°.72N×87°.14E, h35km, mb4.8, mb4.8(NEIC)*
*IDC **05** 13:41:28.8±0.5, 31°.25N×86°.50E, h0km, mb4.4/24, mb1 4.5/27, mb1mx4.4/37, mbtmp4.3/27, ML3.8/3, Error ellipse: s-maj=15.9km s-min=11.9km az=27.0*
*BJI **05** 13:41:30.5, 31°.30N×86°.55E, h10km, mb4.6/49, mB4.9/27, Ms4.4/28, Ms7 4.3/26*
*MOS **05** 13:41:31.2±0.9, 31°.26N×86°.54E, h26km, mb4.8/36, Error ellipse: s-maj=9.9km s-min=4.3km az=122.3*
*ISCJB **05** 13:41:32.2±0.1, 31°.27N±0°.02×86°.47E±0°.02, h33km, mb4.6/100, Error ellipse: s-maj=3.4km s-min=2.5km az=41.4*
*NEIC **05** 13:41:34.0±0.2, 31°.32N×86°.58E, h35km, mb4.8/47, Error ellipse: s-maj=5.9km s-min=3.0km az=53.0*
ISC 05 13:41:34.3±0.3**,31°.29N**±0°.04×**86°.47E**±0°.04**,h35km,n275, σ1s.33**/292**,mb4.7**/100**,35C-6D,Xizang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	**7.30**	**265**	*e*P	**Pn**	**13 43 21.1**	**+2.5**
DDI				*e*S	**Sn**	**13 44 40.7**	**+0.4**
SHL	**Shillong**	**7.42**	**139**	*e*Pn	**Pn**	**13 43 18.7**	**-1.7**
SHL				*e*Sn	**Sn**	**13 44 43.1**	**-0.4**
SHL	**Shillong**	**7.42**	**139**	*e*P	**Pn**	**13 43 18.7**	**-1.7**
SHL				*e*		13 44 43.1	
SHL	**Shillong**	**7.42**	**139**	*e*P	Pn	13 43 13.8	-6.6
SHL				*e*S	Sn	13 44 28.9	-15
BOK	**Bokaro**	**7.48**	**184**	*e*P	**Pn**	**13 43 22.6**	**+1.6**
BOK				*e*S	**Sn**	**13 44 44.6**	**0.0**
SMLA	**Simla**	**7.97**	**271**	*e*P	**Pn**	**13 43 28.7**	**+1.1**
SMLA				*e*S	**Sn**	**13 44 56.9**	**+0.2**
DHRM	**DHARAMSHALA**	**8.71**	**279**	*e*P	**Pn**	**13 43 38.4**	**+0.3**
DHRM				*e*S	**Sn**	**13 45 13.9**	**-1.4**
BRDH	**Bariadhala**	**9.73**	**151**	Sn	**Sn**	**13 45 42.0**	**+2.0**
	19nm,0.3s,baz=148,slow=19,SNR=8.5						
JBP	**Jabalpur**	**9.93**	**217**	⇑*e*P	**Pn**	**13 43 57.4**	**+2.8**
JBP				*e*x	x	13 45 33.1	
BHPL	**Bhopal**	**11.35**	**227**	*e*P	**Pn**	**13 44 13.8**	**-0.3**
CHCP	**Chirah Chowk**	**11.40**	**285**	P	**Pn**	**13 44 14.7**	**-0.1**
KSH	**Kashi**	**11.86**	**317**	P	**Pn**	**13 44 20.5**	**-0.5**
KSH				pP		13 44 24.6	
KSH				sP		13 44 28.2	
KSH				PP	**PnPn**	**13 44 35.6**	**+6.8**
KSH				S	**Sn**	**13 46 28.9**	**-3.2**
KSH				pmax	pmax		
	comp=Z,19nm,0.6s						
KSH				pmax	pmax		
	comp=Z,500nm,8.5s						
KSH				LR	LR		
	comp=N,2μm,8.4s						
KSH				LR	LR		
	comp=E,2μm,9.6s						
KSH				LR	LR		
	comp=Z,1μm,11.2s						
CEP	**Cherat**	**12.54**	**285**	⇑P	**Pn**	**13 44 29.4**	**-1.0**
WMQ	**Urumqi**	**12.55**	**4**	*e*P	**Pn**	**13 44 29.7**	**-0.7**
WMQ				sP	P	13 44 42.2	+0.6
WMQ				S	**Sn**	**13 46 50.4**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
THW	**Thamme Wali**	**12.59**	**281**	P	**Pn**	**13 44 29.5**	**-1.5**
NRN	**Naryn**	**13.17**	**323**	*e*Pn	**Pn**	**13 44 42.0**	**+2.9**
NRN	**Naryn**	**13.17**	**323**	*e*P	**Pn**	**13 44 42.0**	**+2.9**
SFK	**Sufi-Kurgan**	**13.66**	**313**	P	**Pn**	**13 44 43.8**	**-2.0**
SFK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
AAK	**Ala-Archa**	**14.82**	**323**	Pn	**Pn**	**13 45 02.1**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=98,slow=13,SNR=3.6						
AAK	**Ala-Archa**	**14.82**	**323**	⇑*e*P	**Pn**	**13 45 02.0**	**+0.7**
AAK				pmax	pmax		
	comp=Z,7.0nm,2.0s						
CD2	**Chengdu**	**14.82**	**87**	*e*P	**Pn**	**13 45 03.8**	**+2.5**
CD2				S	**Sn**	**13 47 48.3**	**+3.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,4.8s						
CD2				LR	LR		
	comp=Z,2μm,10.4s						
CD2				LR	LR		
	comp=Z,1μm,8.9s						
FRU	**Bishkek**	**14.89**	**324**	*e*P	**Pn**	**13 45 02.0**	**-0.3**
KBL	**Kabul**	**14.99**	**287**	*e*Pn	**Pn**	**13 44 59.9**	**-4.0**
	comp=Z,110nm,0.7s						
KBL				*e*Sn	**Sn**	**13 47 45.7**	**-3.1**
KBL	**Kabul**	**14.99**	**287**	*e*P	**Pn**	**13 44 59.9**	**-4.0**
KBL				*e*		13 47 45.7	
KBL				pmax	pmax		
	comp=Z,110nm,0.7s						
LZH	**Lanzhou**	**15.23**	**67**	*e*P	**Pn**	**13 45 08.3**	**+1.4**
LZH				pP	P	13 45 12.8	+1.3
LZH				sP	pP	13 45 15.6	-6.3
LZH				pmax	pmax		
	comp=Z,21nm,0.9s						
HYB	**Hyderabad**	**15.57**	**209**	*i* P	**Pn**	**13 45 10.0**	**-1.3**
HYB				*e*		13 45 18.0	
HYB				*e*S	**Sn**	**13 48 00.0**	**-2.7**
HYB	**Hyderabad**	**15.57**	**209**	*e*x	**Pn**	**13 45 07.9**	**-3.3**
HYB				*e*P	**P**	**13 45 13.5**	**-1.7**
HYB				IAmb	IAmb	13 45 18.0	
	comp=Z,30nm,0.4s						
KMI	**Kunming**	**15.59**	**109**	P	**Pn**	**13 45 11.6**	**-0.2**
KMI				pP	P	13 45 17.9	+2.3
KMI				sP	pP	13 45 22.4	-3.6
KMI				pmax	pmax		
	comp=Z,31nm,0.7s						
KMI				LR	LR		
	comp=Z,850nm,16.5s						
KMI				LR	LR		
	comp=Z,890nm,14.0s						
KMI				LR	LR		
	comp=Z,710nm,12.7s						
MK01	**Makanchi Array**	**15.79**	**349**	*e*Pn	**Pn**	**13 45 12.5**	**-1.5**
MK31	**Makanchi Array**	**15.82**	**349**	*e*Pn	**Pn**	**13 45 13.3**	**-1.0**
MK31	**Makanchi Array**	**15.82**	**349**	*e*P	**Pn**	**13 45 13.3**	**-1.0**
MKAR	**Makanchi Array**	**15.82**	**349**	Pn	**Pn**	**13 45 13.2**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=163,slow=13,SNR=13						
MKAR	**Makanchi Array**	**15.82**	**349**	*i* P	**P**	**13 45 16.7**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MAKZ	**Makanchi**	**15.88**	**349**	*e*Pn	**Pn**	**13 45 14.0**	**-1.2**
	comp=Z,8.6nm,0.8s						
MAKZ	**Makanchi**	**15.88**	**349**	*e*P	**Pn**	**13 45 14.0**	**-1.2**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CHTO	**Chiang Mai**	**16.77**	**135**	*e*Pn	**Pn**	**13 45 23.6**	**-3.0**
	comp=Z,8.8nm,0.6s						
CHTO	**Chiang Mai**	**16.77**	**135**	*e*P	**Pn**	**13 45 23.6**	**-3.0**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CHTO	**Chiang Mai**	**16.77**	**135**	P	**P**	**13 45 28.8**	**+0.3**
	comp=Z,60nm,0.6s						
CMMT	**Chiang Mai**	**16.77**	**135**	P	**P**	**13 45 28.7**	**+0.2**
	comp=Z,14nm,0.6s						
BHJ	**Bhuj**	**16.94**	**246**	*e*P	**Pn**	**13 45 29.2**	**+0.5**
CM31	**Chiang Mai Arr**	**17.04**	**136**	*e*Pn	**Pn**	**13 45 26.5**	**-3.5**
CMAR	**Chiang Mai Arr**	**17.04**	**136**	Pn	**Pn**	**13 45 27.1**	**-2.9**
	comp=Z,0.8nm,0.3s,baz=315,slow=12,SNR=26						
CMAR	**Chiang Mai Arr**	**17.04**	**136**	*i* P	**Pn**	**13 45 30.2**	**+0.2**
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
POO	**Poona**	**17.08**	**225**	*e*P	**P**	**13 45 31.3**	**-0.7**
POO				IAmb	IAmb	13 45 34.9	
	comp=Z,28nm,0.5s						
CM01	**Chiang Mai Arr**	**17.08**	**136**	*e*Pn	**Pn**	**13 45 28.1**	**-2.3**
KK31	**Karatay Array**	**17.31**	**317**	*e*Pn	**Pn**	**13 45 32.7**	**-0.5**
KK31	**Karatay Array**	**17.31**	**317**	*e*P	**Pn**	**13 45 32.7**	**-0.5**
KKAR	**Karatay Array**	**17.31**	**317**	*e*Pn	**Pn**	**13 45 32.4**	**-0.8**
KKAR	**Karatay Array**	**17.31**	**317**	*e*P	**Pn**	**13 45 32.4**	**-0.8**
GYA	**Guiyang**	**18.32**	**100**	*e*P	**P**	**13 45 45.8**	**+0.1**
GYA				pP	pP	13 45 52.0	-4.3
GYA				PP	**sP**	**13 46 01.8**	**+0.4**
GYA				S	**Sn**	**13 49 05.2**	**-4.3**
GYA				sS	S	13 49 15.7	+2.3
GYA				pmax	pmax		
	comp=Z,20nm,0.7s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
XAN	**Xi'an**	**19.10**	**76**	P	**P**	**13 45 51.4**	**-2.7**
XAN				pP	Pn	13 45 58.5	+3.4
XAN				pmax	pmax		
	comp=Z,14nm,1.3s						
GOA	**Goa**	**19.51**	**219**	*e*P	**P**	**13 45 58.8**	**+0.2**
GOA				IAmb	IAmb	13 46 01.1	
	comp=Z,28nm,0.4s						
UTHA	**Uthaitani**	**19.64**	**140**	P	**Pn**	**13 46 02.5**	**+0.9**
	comp=Z,5.4nm,0.8s						
PBKT	**Sadao Pong**	**19.72**	**135**	*e*P	**P**	**13 46 00.5**	**-0.4**
	comp=Z,11nm,0.8s						
PBKT	**Sadao Pong**	**19.72**	**135**	P	**Pn**	**13 46 03.1**	**+0.5**
	comp=Z,17nm,0.8s						
NONG	**Nongkai**	**20.04**	**127**	P	Pn	13 46 07.3	+1.0
	comp=Z,0.5nm,1.0s						
OTUK	**Ortayu**	**20.07**	**332**	P	**P**	**13 46 04.5**	**0.0**
OTUK				pmax	pmax		
	comp=Z,25nm,1.0s						
KURBB	**Kurchatov Arra**	**20.21**	**345**	P	**P**	**13 46 05.4**	**-0.6**
	comp=Z,30nm,1.0s,baz=161,slow=11,SNR=107						
KURK	**Kurchatov**	**20.27**	**345**	*e*P	**P**	**13 46 06.3**	**-0.4**
	comp=Z,44nm,1.1s						
KURK	**Kurchatov**	**20.27**	**345**	*d i*P	**P**	**13 46 05.8**	**-0.9**
KURK				pmax	pmax		
	comp=Z,46nm,1.1s						
CHAI	**Chaiyaphum**	**20.86**	**134**	P	**P**	**13 46 14.0**	**+0.7**
	comp=Z,7.7nm,0.7s						
BTO	**Baotou**	**21.16**	**57**	*e*P	**P**	**13 46 13.7**	**-2.8**
HHC	**Hu-ho-hao-te**	**22.35**	**58**	*e*P	**P**	**13 46 28.5**	**-0.8**
HHC				pP	pP	13 46 34.6	-5.4
HHC				*e*S	**S**	**13 50 31.7**	**-1.3**
HHC				pmax	pmax		
	comp=Z,24nm,1.0s						
HHC				pmax	pmax		
	comp=Z,190nm,3.5s						
HHC				LR	LR		
	comp=Z,310nm,11.0s						
HHC				LR	LR		
	comp=Z,270nm,9.7s						
SRAK	**Srakaew**	**22.36**	**137**	P	P	13 46 38.9	+9.5
ZAA0	**Zalesovo Array**	**22.68**	**357**	*e*P	**P**	**13 46 32.1**	**-0.5**
	comp=Z,13nm,1.0s						
ZALV	**Zalesovo Beam**	**22.68**	**357**	P	**P**	**13 46 31.7**	**-0.8**
	comp=Z,11nm,1.0s,baz=186,slow=8.9,SNR=24						
ZALV	**Zalesovo Beam**	**22.68**	**357**	*e*P	**P**	**13 46 31.4**	**-1.2**
ZALV	**Zalesovo Beam**	**22.68**	**357**	*i* P	**P**	**13 46 32.4**	**-0.1**
ZALV				pmax	pmax		
	comp=Z,11nm,1.0s						
NVS	**Novosibirsk**	**23.66**	**355**	*i* P	**P**	**13 46 43.0**	**+0.7**
NVS				pmax	pmax		
	comp=N,9.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,8.0nm,1.1s						
WHN	**Wuhan**	**23.91**	**84**	⇓P	**P**	**13 46 46.3**	**+1.4**
GEYT	**Alibeck**	**24.20**	**294**	P	**P**	**13 46 48.2**	**+0.6**
	comp=Z,3.8nm,0.8s,baz=107,slow=9.5,SNR=7.9						
GYA0B	**ALIBECK ARRAY**	**24.20**	**294**	*e*P	**P**	**13 46 49.1**	**+1.4**
	comp=Z,7.9nm,1.0s						
PALK	**Pallekele**	**24.49**	**194**	P	**P**	**13 46 52.7**	**+2.3**
	comp=Z,20nm,0.8s,baz=296,slow=7.3,SNR=6.9						
PALK	**Pallekele**	**24.49**	**194**	*e*P	**P**	**13 46 50.2**	**-0.2**
	comp=Z,26nm,0.9s						
PALK	**Pallekele**	**24.49**	**194**	*i* P	**P**	**13 46 53.8**	**+3.4**
BVAR	**Borovoye Array**	**24.67**	**336**	P	**P**	**13 46 51.8**	**+0.1**
	comp=Z,8.7nm,0.8s,baz=148,slow=8.7,SNR=29						
BVAR				PcP	**PcP**	**13 50 28.7**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=123,slow=5.3,SNR=4.7						
BRVK	**Borovoye**	**24.73**	**336**	*e*P	**P**	**13 46 52.1**	**-0.2**
	comp=Z,11nm,0.9s						
BRVK	**Borovoye**	**24.73**	**336**	*e*P	**P**	**13 46 52.1**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,11nm,0.9s						
PKDT	**Phuket**	**25.77**	**152**	P	**P**	**13 47 05.9**	**+3.9**
	comp=Z,15nm,0.8s						
WSAR	**Wadi Sarin**	**25.96**	**259**	P	**P**	**13 47 06.2**	**+2.5**
	comp=Z,14nm,0.9s,baz=114,slow=7.3,SNR=8.0						
ABKAR	**Akbulak array**	**26.84**	**320**	*e*P	**P**	**13 47 11.6**	**+0.2**
NJ2	**Nanjing**	**27.52**	**80**	*e*P	**P**	**13 47 17.8**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
AKTO	**Aktyubinsk**	**28.52**	**320**	P	**P**	**13 47 27.1**	**+0.6**
	comp=Z,2.2nm,0.5s,baz=116,slow=10,SNR=11						
SVE	**Sverdlovsk**	**31.21**	**332**	*e*P	**P**	**13 47 50.9**	**+0.8**
SVE				pmax	pmax		
	comp=Z,19nm,1.0s						
GSI	**Gunungsitoli**	**31.62**	**158**	*e*P	**P**	**13 47 54.7**	**+0.7**
	comp=Z,31nm,1.3s						
GSI	**Gunungsitoli**	**31.62**	**158**	P	**P**	**13 47 54.0**	**0.0**
ARU	**Arti**	**31.79**	**330**	*e*P	**P**	**13 47 55.2**	**-0.1**
	comp=Z,13nm,0.9s						
ARU	**Arti**	**31.79**	**330**	*d i*P	**P**	**13 47 55.8**	**+0.6**
ARU						13 48 56.5	
ARU				S	**S**	**13 53 05.1**	**+2.2**
ARU				SS	**SnSn**	**13 54 49.3**	**-2.5**
ARU				pmax	pmax		
	comp=Z,16nm,1.0s						
MNSI	**Mandailing Nat**	**32.77**	**155**	P	**P**	**13 48 03.4**	**-0.7**
	comp=Z,8.2nm,0.8s						
CN2	**Changchun**	**33.04**	**57**	*e*P	**P**	**13 48 06.1**	**-0.2**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
KSAR	**Wonju Array Be**	**34.52**	**68**	P	**P**	**13 48 18.4**	**-0.9**
KSAR	**Wonju Array Be**	**34.52**	**68**	P	**P**	**13 48 18.4**	**-0.9**
KSRS	**Korea Array**	**34.55**	**68**	P	**P**	**13 48 18.4**	**-1.2**
	comp=Z,1.8nm,0.6s,baz=275,slow=9.2,SNR=9.3						
AKH	**Akhalkalaki**	**35.74**	**299**	*e*P	**P**	**13 48 30.4**	**+0.4**
	comp=Z,6.7nm,0.9s						
AKH	**Akhalkalaki**	**35.74**	**299**	*e*P	**P**	**13 48 30.4**	**+0.4**
AKH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MDJ	**Mudanjiang**	**36.10**	**56**	P	**P**	**13 48 31.5**	**-1.3**
MDJ				pmax	pmax		
	comp=Z,12nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,660nm,15.0s						
NEY	**Neytrino**	**36.42**	**302**	⇓*e*P	**P**	**13 48 38.0**	**+2.3**
NEY				pmax	pmax		
	comp=Z,2.0nm,1.2s						
KIV	**Kislovodsk**	**36.51**	**303**	*e*P	P	13 48 51.3	+15
KIV				*e*		13 50 19.8	
USRK	**Ussuriysk Ar.**	**37.77**	**57**	P	**P**	**13 48 46.5**	**-0.4**
	comp=Z,5.5nm,0.8s,baz=258,slow=6.2,SNR=8.7						
KLR	**Kul'dur**	**38.27**	**49**	P	**P**	**13 48 51.6**	**+0.5**
	comp=Z,3.6nm,0.9s,baz=274,slow=12,SNR=8.8						
KLR	**Kul'dur**	**38.27**	**49**	⇑*i*P	**P**	**13 48 50.2**	**-0.9**
VRH	**Novokhopyorsk**	**38.35**	**314**	*e*P	**P**	**13 48 51.9**	**+0.1**
VRH				pmax	pmax		
	comp=Z,8.0nm,0.6s						
VSR	**Storozhevoye**	**39.93**	**314**	*e*P	**P**	**13 49 04.0**	**-0.9**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.5s						
PRGR	**Permogore**	**40.24**	**331**	*e*P	**P**	**13 49 07.1**	**-0.3**
PRGR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
LPSR	**Galich'ya Gora**	**40.36**	**316**	*e*P	**P**	**13 49 08.5**	**0.0**
LPSR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MOS	**Moscow**	**41.86**	**320**	*e*P	**P**	**13 49 19.9**	**-0.8**
MOS				pmax	pmax		
	comp=Z,32nm,0.9s						
OBN	**Obninsk**	**42.29**	**319**	*c i*P	**P**	**13 49 25.0**	**+0.8**
OBN				pmax	pmax		
	comp=Z,44nm,1.7s						
KLMR	**Klimovskoe**	**42.55**	**328**	*e*P	**P**	**13 49 25.9**	**-0.4**
KLMR				*e*		13 51 04.2	
KLMR				pmax	pmax		
	comp=Z,15nm,0.9s						
KLMR	**Klimovskoe**	**42.55**	**328**	*e*P	**P**	**13 49 25.9**	**-0.4**
KLMR				AMP		13 49 27.5	
	comp=Z,15nm,0.9s						
KLMR				*e*PP	**PP**	**13 51 04.3**	**-0.9**
MAJO	**Matsushiro**	**42.83**	**68**	⇓*e*P	**P**	**13 49 30.7**	**+1.7**
MAJO				pmax	pmax		
	comp=Z,18nm,1.5s						
MAT	**Matsushiro**	**42.83**	**68**	P	**P**	**13 49 27.7**	**-1.3**
MJAR	**Matsushiro Arr**	**42.84**	**68**	P	**P**	**13 49 28.6**	**-0.4**
	comp=Z,2.6nm,0.9s,baz=278,slow=9.6,SNR=5.6						
BRTR	**Keskin Array B**	**43.29**	**296**	P	**P**	**13 49 33.8**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=111,slow=7.9,SNR=6.7						
BRTR				PcP	**PcP**	**13 51 20.6**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=120,slow=4.4,SNR=3.8						
BRTR	**Keskin Array B**	**43.29**	**296**	*c e*P	**P**	**13 49 34.2**	**+1.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ATD	**Arta Tunnel**	**44.76**	**254**	*e*P	**P**	**13 49 45.8**	**+1.0**
	comp=Z,16nm,1.0s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**46.10**	**312**	P	**P**	**13 49 54.0**	**-0.9**
	comp=Z,1.3nm,0.4s,baz=80,slow=7.7,SNR=8.1						
AKBB	**Malin Array Si**	**46.10**	**312**	*e*P	**P**	**13 49 53.7**	**-1.2**
	comp=Z,3.6nm,0.9s						
AKBB	**Malin Array Si**	**46.10**	**312**	*e*P	**P**	**13 49 53.7**	**-1.2**
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KIEV	**Kiev**	**46.11**	**312**	*e*P	**P**	**13 49 53.7**	**-1.3**
	comp=Z,3.2nm,0.9s						
KIEV	**Kiev**	**46.11**	**312**	⇑*e*P	**P**	**13 49 54.4**	**-0.6**
KIEV				pmax	pmax		
	comp=Z,13nm,1.9s						
TIXI	**Tiksi**	**46.34**	**17**	P	**P**	**13 49 55.6**	**-0.9**
	comp=Z,1.8nm,0.6s,baz=252,slow=2.4,SNR=6.5						
TIXI	**Tiksi**	**46.34**	**17**	⇓*i*P	**P**	**13 49 57.1**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,13nm,2.5s						
JOF	**Joensuu**	**46.90**	**329**	P	**P**	**13 50 01.8**	**+0.9**
ICOR	**Ion Corvin**	**47.23**	**303**	⇑*i*P	**P**	**13 50 04.9**	**+1.1**
NACGM	**Naroch**	**47.83**	**318**	*e*	**P**	**13 50 08.0**	**-0.3**
VRI	**Vrincioaia**	**47.85**	**306**	⇑*i*P	**P**	**13 50 10.1**	**+1.5**
VRI	**Vrincioaia**	**47.85**	**306**	⇑P	**P**	**13 50 10.1**	**+1.5**
PLOR	**Plostina**	**47.90**	**305**	⇑*i*P	**P**	**13 50 10.9**	**+1.8**
PLOR	**Plostina**	**47.90**	**305**	⇑P	**P**	**13 50 10.9**	**+1.8**
VSU	**Vasula**	**48.21**	**322**	*ce*P	**P**	**13 50 11.8**	**+0.6**
MLR	**Muntele Rosu**	**48.42**	**305**	*e*P	**P**	**13 50 14.1**	**+0.9**
	comp=Z,23nm,0.9s						
MLR	**Muntele Rosu**	**48.42**	**305**	⇑*i*P	**P**	**13 50 15.1**	**+1.9**
MLR	**Muntele Rosu**	**48.42**	**305**	⇑P	**P**	**13 50 15.1**	**+1.9**
BURAR	**Bucovina Array**	**48.77**	**308**	⇑*i*P	**P**	**13 50 16.8**	**+1.0**
BURAR	**Bucovina Array**	**48.77**	**308**	⇑P	**P**	**13 50 16.8**	**+1.0**
BUR04	**Bucovina Ar. S**	**48.77**	**308**	*e*P	**P**	**13 50 15.6**	**-0.2**
DOPR	**Dopca**	**48.77**	**306**	⇑*i*P	**P**	**13 50 17.0**	**+1.2**
BUR08	**Bucovina Ar. S**	**48.78**	**308**	*e*P	**P**	**13 50 16.9**	**+1.0**
FIA1	**FINESS Array S**	**48.97**	**326**	*e*P	**P**	**13 50 17.1**	**+0.1**
FINES	**FINESS Array B**	**48.97**	**326**	P	**P**	**13 50 17.3**	**+0.3**
	comp=Z,7.9nm,0.8s,baz=101,slow=8.7,SNR=29						
VOIR		**49.06**	**305**	⇑*i*P	**P**	**13 50 18.5**	**+0.5**
VOIR		**49.06**	**305**	⇑P	**P**	**13 50 18.5**	**+0.5**
SUF	**Sumiainen**	**49.16**	**328**	P	**P**	**13 50 19.9**	**+1.5**
SUF				pmax	pmax		
	comp=Z,33nm,1.0s						
ARR	**Arges**	**49.36**	**305**	⇑*i*P	**P**	**13 50 20.3**	**0.0**
TRPA	**Tarpa**	**50.53**	**309**	⇑*i*P	**P**	**13 50 30.0**	**+1.0**
DRGR		**50.54**	**307**	⇑*i*P	**P**	**13 50 30.4**	**+1.1**
DRGR		**50.54**	**307**	⇑P	**P**	**13 50 30.4**	**+1.1**
GZR	**Gura Zlata**	**50.65**	**305**	⇑*i*P	**P**	**13 50 29.8**	**-0.3**
GZR	**Gura Zlata**	**50.65**	**305**	⇑P	**P**	**13 50 29.8**	**-0.3**
VTS	**Vitosha**	**50.74**	**302**	*e*P	**P**	**13 50 31.1**	**+0.2**
	comp=Z,10nm,1.3s						
VTS	**Vitosha**	**50.74**	**302**	*e*P	**P**	**13 50 31.1**	**+0.2**
VTS				pmax	pmax		
	comp=Z,10.0nm,1.3s						
VAF	**Ylistaro**	**50.78**	**328**	P	**P**	**13 50 32.4**	**+1.7**
VAF				pmax	pmax		
	comp=Z,38nm,2.9s						
IDI	**Anoyia**	**50.91**	**292**	*e*P	**P**	**13 50 32.1**	**-0.1**
	comp=Z,20nm,1.3s						
ARCES	**ARCESS Array B**	**50.96**	**337**	P	**P**	**13 50 32.6**	**+0.6**
	comp=Z,4.6nm,0.9s,baz=104,slow=8.9,SNR=6.1						
ARCES	**ARCESS Array B**	**50.96**	**337**	*e*P	**P**	**13 50 32.3**	**+0.3**
BZS	**Buzias**	**51.43**	**306**	⇑*i*P	**P**	**13 50 35.7**	**-0.2**
BZS	**Buzias**	**51.43**	**306**	⇑P	**P**	**13 50 35.7**	**-0.2**
LIT	**Litokhoron**	**51.71**	**299**	*e*P	**P**	**13 50 37.8**	**-0.3**
	comp=Z,19nm,1.3s						
LIT	**Litokhoron**	**51.71**	**299**	*e*P	**P**	**13 50 37.8**	**-0.3**
LIT				pmax	pmax		
	comp=Z,19nm,1.3s						
SEY	**Seymchan**	**51.73**	**32**	⇑*e*P	**P**	**13 50 38.9**	**+1.1**
AGG	**Agios Georgios**	**52.05**	**297**	*e*P	**P**	**13 50 40.2**	**-0.5**
	comp=Z,21nm,0.9s						
AGG	**Agios Georgios**	**52.05**	**297**	*e*P	**P**	**13 50 40.2**	**-0.5**
AGG				pmax	pmax		
	comp=Z,21nm,0.9s						
OJC	**Ojcow**	**52.13**	**312**	*e*P	**P**	**13 50 41.1**	**0.0**
	comp=Z,6.2nm,0.7s						
OJC	**Ojcow**	**52.13**	**312**	*e*P	**P**	**13 50 41.1**	**0.0**
OJC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ITM	**Ithomi**	**52.78**	**295**	*e*P	**P**	**13 50 45.2**	**-0.9**
	comp=Z,25nm,1.2s						
DIVS	**Divibare**	**52.81**	**304**	*e*P	**P**	**13 50 45.4**	**-0.8**
	comp=Z,9.4nm,1.1s						
VYHS	**Vyhne**	**52.95**	**310**	*e*P	**P**	**13 50 46.6**	**-0.6**
VYHS				pmax	pmax		
	comp=Z,3.0nm,1.2s						
VYHS	**Vyhne**	**52.95**	**310**	*e*P	**P**	**13 50 46.5**	**-0.6**
VYHS				*e*PP	**PP**	**13 52 44.2**	**-2.5**
MORC	**Moravsky Berou**	**53.63**	**311**	*e*P	**P**	**13 50 52.3**	**+0.1**
	comp=Z,5.7nm,0.8s						
MORC	**Moravsky Berou**	**53.63**	**311**	⇑*i*P	**P**	**13 50 53.3**	**+1.1**
MORC	**Moravsky Berou**	**53.63**	**311**	⇑P	**P**	**13 50 53.3**	**+1.1**
MORC	**Moravsky Berou**	**53.63**	**311**	*e*P	**P**	**13 50 52.8**	**+0.6**
JAVC	**Velka Javorina**	**53.67**	**310**	*e*P	**P**	**13 50 54.1**	**+1.6**
VRAC	**Vranov**	**54.31**	**311**	⇑*i*P	**P**	**13 50 57.6**	**+0.5**
VRAC	**Vranov**	**54.31**	**311**	⇑P	**P**	**13 50 57.6**	**+0.5**
VRAC	**Vranov**	**54.31**	**311**	*e*P	**P**	**13 50 58.2**	**+1.1**
DPC	**Dobruska-Polom**	**54.34**	**312**	*e*P	**P**	**13 50 58.1**	**+0.8**
DPC	**Dobruska-Polom**	**54.34**	**312**	*e*P	**P**	**13 50 58.1**	**+0.8**
KRUC	**Moravsky**	**54.47**	**311**	*e*P	**P**	**13 50 59.2**	**+1.0**
UPC	**Upice**	**54.51**	**312**	*e*P	**P**	**13 50 59.3**	**+0.8**
UPC	**Upice**	**54.51**	**312**	*e*P	**P**	**13 50 59.3**	**+0.8**
SOEI	**Soe**	**54.56**	**132**	*e*P	**P**	**13 50 58.7**	**-0.7**
	comp=Z,27nm,1.1s						
CONA	**Conrad Observa**	**55.00**	**309**	*e*P	**P**	**13 51 03.1**	**+0.9**
	comp=Z,18nm,1.6s						
FAKI	**Fak Fak**	**55.23**	**119**	*e*P	**P**	**13 51 03.5**	**-0.7**
	comp=Z,14nm,1.0s						
ARSA	**Arzberg**	**55.34**	**308**	*i* P	**P**	**13 51 05.0**	**+0.4**
	comp=Z,4.1nm,1.1s						
PVCC	**Panska Ves**	**55.42**	**313**	*e*P	**P**	**13 51 06.1**	**+1.0**
PVCC	**Panska Ves**	**55.42**	**313**	*e*P	**P**	**13 51 06.1**	**+1.0**
PRU	**Pruhonice**	**55.52**	**312**	*e*P	**P**	**13 51 07.0**	**+1.2**
PRU	**Pruhonice**	**55.52**	**312**	*e*P	**P**	**13 51 07.0**	**+1.2**
BRG	**Berggiesshubel**	**55.76**	**313**	*e*P	**P**	**13 51 08.0**	**+0.5**
	comp=Z,7.0nm,0.9s						
BRG	**Berggiesshubel**	**55.76**	**313**	*e*P	**P**	**13 51 08.0**	**+0.5**
BRG				pmax	pmax		
	comp=Z,40nm,0.9s						
SOKA	**Soboth**	**55.78**	**308**	*i* P	**P**	**13 51 08.6**	**+0.7**
	comp=Z,8.8nm,1.0s						
NC405	**NORSAR Array S**	**55.87**	**326**	*e*P	**P**	**13 51 07.9**	**-0.3**
NC602	**NORSAR Array S**	**55.98**	**325**	*e*P	**P**	**13 51 09.0**	**+0.1**
NC303	**NORSAR Array S**	**56.03**	**326**	*e*P	**P**	**13 51 09.1**	**-0.2**
NB201	**NORSAR Array S**	**56.08**	**325**	*e*P	**P**	**13 51 09.0**	**-0.7**
NB2	**NORSAR Subarra**	**56.12**	**325**	P	**P**	**13 51 09.3**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=85,slow=7.4						
NB2	**NORSAR Subarra**	**56.12**	**325**	P	**P**	**13 51 07.5**	**-2.5**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	**NORSAR Array B**	**56.12**	**325**	P	**P**	**13 51 09.8**	**-0.2**
	comp=Z,2.7nm,0.6s,baz=86,slow=7.3,SNR=22						
OBKA	**Obir**	**56.14**	**308**	*i* P	**P**	**13 51 11.0**	**+0.6**
	comp=Z,3.4nm,0.7s						
GEC2	**GERESS Array S**	**56.26**	**311**	*e*P	**P**	**13 51 11.6**	**+0.3**
	comp=Z,21nm,1.4s						
GERES	**GERESS Array B**	**56.26**	**311**	P	**P**	**13 51 12.0**	**+0.7**
	comp=Z,3.0nm,0.7s,baz=79,slow=6.9,SNR=21						
GERES	**GERESS Array B**	**56.26**	**311**	P	**P**	**13 51 12.0**	**+0.7**
GERES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GEA0	**GERESS Array S**	**56.26**	**311**	*e*P	**P**	**13 51 11.3**	**+0.1**
CLL	**Collm**	**56.28**	**314**	*e*P	**P**	**13 51 11.0**	**-0.2**
CLL	**Collm**	**56.28**	**314**	*e*P	**P**	**13 51 11.0**	**-0.2**
KHC	**Kasperske Hory**	**56.28**	**311**	*e*P	**P**	**13 51 11.3**	**0.0**
	comp=Z,5.9nm,1.5s						
KHC	**Kasperske Hory**	**56.28**	**311**	*e*P	**P**	**13 51 12.0**	**+0.6**
KHC	**Kasperske Hory**	**56.28**	**311**	*e*P	**P**	**13 51 12.0**	**+0.6**
NAO01	**NORSAR Array S**	**56.30**	**325**	*e*P	**P**	**13 51 10.6**	**-0.6**
NC204	**NORSAR Array S**	**56.32**	**326**	*e*P	**P**	**13 51 11.2**	**-0.3**
NBO00	**NORSAR Array S**	**56.33**	**325**	*e*P	**P**	**13 51 11.5**	**+0.1**
KMBO	**Kilima Mbogo**	**56.70**	**245**	P	**P**	**13 51 16.8**	**+1.8**
	comp=Z,12nm,0.9s,baz=43,slow=11,SNR=22						
KMBO	**Kilima Mbogo**	**56.70**	**245**	*e*P	**P**	**13 51 15.1**	**+0.1**
	comp=Z,19nm,1.0s						
KMBO	**Kilima Mbogo**	**56.70**	**245**	*ce*P	**P**	**13 51 16.3**	**+1.3**
KMBO				pmax	pmax		
	comp=Z,12nm,0.9s						
WET	**Wettzell**	**56.73**	**311**	P	**P**	**13 51 17.0**	**+2.4**
WET				pmax	pmax		
	comp=Z,6.0nm,1.7s						
BILL	**Bilibino**	**57.60**	**26**	*e*P	**P**	**13 51 20.2**	**-0.1**
BILL				*e*		13 53 24.9	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.3s						
GRFO	**Grafenberg**	**57.69**	**312**	*e*P	**P**	**13 51 22.7**	**+1.4**
	comp=Z,25nm,1.4s						
GRFO	**Grafenberg**	**57.69**	**312**	*e*P	**P**	**13 51 22.7**	**+1.4**
GRFO				pmax	pmax		
	comp=Z,25nm,1.4s						
SQTA	**Sankt Quirin**	**58.23**	**309**	*e*P	**P**	**13 51 24.8**	**-0.4**
	comp=Z,7.4nm,0.9s						
MOTA	**Moosalm**	**58.27**	**309**	*i* P	**P**	**13 51 25.0**	**-0.5**
	comp=Z,3.9nm,0.6s						
RETA	**Reutte**	**58.46**	**310**	*i* P	**P**	**13 51 26.7**	**-0.1**
	comp=Z,6.0nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**59.00**	**309**	*e*P	**P**	**13 51 30.5**	**-0.3**
	comp=Z,6.6nm,1.3s						
DAVA	**Damuels**	**59.09**	**309**	*e*P	**P**	**13 51 31.2**	**-0.1**
	comp=Z,9.2nm,0.9s						
SENIN	**Lac Senin/Sane**	**61.04**	**309**	*e*P	**P**	**13 51 44.8**	**0.0**
	comp=Z,9.2nm,1.1s						
MBWA	**Marble Bar**	**61.13**	**144**	*e*P	**P**	**13 51 45.4**	**+0.2**
	comp=Z,28nm,1.4s						
MBAR	**Mbarara**	**61.53**	**250**	*e*P	**P**	**13 51 48.4**	**0.0**
	comp=Z,24nm,0.8s						
MBAR	**Mbarara**	**61.53**	**250**	*e*P	**P**	**13 51 48.4**	**0.0**
MBAR				pmax	pmax		
	comp=Z,24nm,0.8s						
FITZ	**Fitzroy Crossi**	**61.85**	**137**	*e*P	**P**	**13 51 50.5**	**+0.4**
	comp=Z,6.8nm,1.2s						
ABPO	**Ambohimpanom**	**62.62**	**222**	*e*P	**P**	**13 51 55.6**	**+0.1**
	comp=Z,12nm,0.9s						
ABPO	**Ambohimpanom**	**62.62**	**222**	*e*P	**P**	**13 51 55.6**	**+0.1**
ABPO				pmax	pmax		
	comp=Z,13nm,0.9s						
KEST	**Kesra**	**62.89**	**297**	P	**P**	**13 51 57.8**	**+0.7**
	comp=Z,9.2nm,1.1s,baz=205,slow=17,SNR=2.8						
MORW	**Morawa**	**66.29**	**152**	*e*P	**P**	**13 52 19.1**	**0.0**
	comp=Z,19nm,1.1s						
WRA	**Warramunga Arr**	**68.59**	**131**	P	**P**	**13 52 34.0**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=326,slow=6.5,SNR=20						
WRA	**Warramunga Arr**	**68.59**	**131**	*i* P	**P**	**13 52 34.0**	**+0.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRAB	**Tennant Creek**	**68.59**	**131**	⇑*e*P	**P**	**13 52 33.9**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.7s						
WB2	**Warramunga Arr**	**68.59**	**131**	*e*P	**P**	**13 52 33.6**	**-0.3**
	comp=Z,8.1nm,1.2s						
SUMG	**Summit**	**69.81**	**345**	*e*P	**P**	**13 52 41.6**	**+0.4**
	comp=Z,39nm,1.4s						
SUMG	**Summit**	**69.81**	**345**	*i* P	**P**	**13 52 41.5**	**+0.3**
	comp=Z,38nm,0.9s						
SUMG	**Summit**	**69.81**	**345**	*e*P	**P**	**13 52 41.6**	**+0.4**
SUMG				pmax	pmax		
	comp=Z,39nm,1.4s						
NWAO	**Narrogin (SRO)**	**70.17**	**153**	*e*P	**P**	**13 52 42.9**	**-0.5**
	comp=Z,17nm,0.9s						
NWAO	**Narrogin (SRO)**	**70.17**	**153**	*e*P	**P**	**13 52 42.9**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,17nm,0.9s						
AS31	**Alice Springs**	**71.05**	**134**	*e*P	**P**	**13 52 48.6**	**-0.4**
	comp=Z,1.6nm,0.6s						
ASAR	**Alice Springs**	**71.05**	**134**	P	**P**	**13 52 49.1**	**+0.2**
	comp=Z,3.5nm,0.7s,baz=316,slow=6.1,SNR=30						
ES19	**SONSECA Array**	**71.06**	**305**	*e*P	**P**	**13 52 49.2**	**+0.1**
AS01	**Alice Springs**	**71.08**	**134**	*e*P	**P**	**13 52 48.3**	**-0.8**
ESDC	**Sonseca Array**	**71.12**	**305**	P	**P**	**13 52 48.5**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=59,slow=5.7,SNR=5.7						
TAM	**Tamanrasset**	**71.14**	**286**	*e*P	**P**	**13 52 49.7**	**-0.1**
	comp=Z,4.4nm,0.9s						
TAM	**Tamanrasset**	**71.14**	**286**	*e*P	**P**	**13 52 49.7**	**-0.1**
TAM				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LSZ	**Lusaka**	**72.60**	**239**	*e*P	**P**	**13 52 59.0**	**+0.5**
	comp=Z,15nm,0.6s						
LSZ	**Lusaka**	**72.60**	**239**	*e*P	**P**	**13 52 59.0**	**+0.5**
LSZ				pmax	pmax		
	comp=Z,15nm,0.6s						
IM3	**Indian Mountai**	**72.69**	**22**	*e*P	**P**	**13 52 58.1**	**-0.2**
MLY	**Manley**	**74.27**	**22**	*e*P	**P**	**13 53 08.2**	**+0.6**
	comp=Z,2.5nm,1.0s						
CAST	**Castle Rocks**	**74.90**	**23**	*e*P	**P**	**13 53 10.9**	**-0.3**
	comp=Z,6.1nm,1.0s						
IL1	**Eielson Array**	**75.65**	**21**	*e*P	**P**	**13 53 14.9**	**-0.5**
ILAR	**Eielson Array**	**75.65**	**21**	P	**P**	**13 53 14.8**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=308,slow=5.0,SNR=7.3						
TOA0	**Torodi Ar. Sit**	**78.89**	**279**	*e*P	**P**	**13 53 32.8**	**-1.7**
TORD	**Torodi Ar. Bea**	**78.89**	**279**	P	**P**	**13 53 32.8**	**-1.7**
	comp=Z,9.8nm,0.9s,baz=36,slow=5.5,SNR=43						
LBTB	**Lobatse**	**80.75**	**233**	*e*P	**P**	**13 53 45.6**	**+1.3**
	comp=Z,25nm,0.7s						
LBTB	**Lobatse**	**80.75**	**233**	*e*P	**P**	**13 53 45.7**	**+1.3**
LBTB				pmax	pmax		
	comp=Z,25nm,0.7s						
STKA	**Stephens Creek**	**81.67**	**135**	P	**P**	**13 53 51.9**	**+2.9**
	comp=Z,2.5nm,0.8s,baz=278,slow=2.0,SNR=4.7						
BOSA	**Boshof**	**83.32**	**231**	P	**P**	**13 53 58.5**	**+0.7**
	comp=Z,15nm,0.7s,baz=36,slow=3.6,SNR=26						
BOSA	**Boshof**	**83.32**	**231**	*e*P	**P**	**13 53 58.6**	**+0.7**
	comp=Z,17nm,0.8s						
BOSA	**Boshof**	**83.32**	**231**	*e*P	**P**	**13 53 58.6**	**+0.7**
BOSA				pmax	pmax		
	comp=Z,17nm,0.8s						
YKA	**Yellowknife Ar**	**85.02**	**10**	P	**P**	**13 54 05.5**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=338,slow=5.0,SNR=24						
YKB5	**Yellowknife Ar**	**85.02**	**10**	*e*P	**P**	**13 54 05.3**	**-0.5**
DBIC	**Dimbokro**	**87.71**	**276**	P	**P**	**13 54 19.9**	**0.0**
	comp=Z,24nm,0.8s,baz=36,slow=6.1,SNR=34						
KIC	**Kosan Boka**	**87.77**	**276**	*e*PKP2	**P**	**13 54 20.6**	**+0.3**
	comp=Z,46nm,0.8s						
TIC	**Toumodi**	**87.86**	**276**	*e*PKP2	**P**	**13 54 22.0**	**+1.3**
LIC	**Lamto**	**88.09**	**276**	*e*PKP2	**P**	**13 54 22.0**	**+0.2**
	comp=Z,50nm,0.8s						
TXAR	**Lajitas Array**	**118.95**	**10**	PKP	**PKPdf**	**14 00 19.5**	**-0.3**
	comp=Z,0.5nm,1.0s,baz=329,slow=1.1,SNR=3.0						
OTAV	**Otavalo**	**145.54**	**333**	*e*PKPdf	**PKPdf**	**14 01 08.7**	**-1.5**
OTAV	**Otavalo**	**145.54**	**333**	*e*PKP2	**PKPdf**	**14 01 08.7**	**-1.5**
CPUP	**Villa Florida**	**147.99**	**270**	PKPbc	**PKPbc**	**14 01 16.2**	**-0.2**
	comp=Z,8.6nm,0.8s,baz=103,slow=3.4,SNR=14						
LPAZ	**La Paz**	**152.47**	**297**	PKPbc	**PKPbc**	**14 01 27.6**	**-0.6**
	comp=Z,2.4nm,0.7s,baz=13,slow=1.5,SNR=8.5						

IDC 05 13:42:48.7±1.4**, 45°.85N**×**100°.32E, h0^{km}, mb3.8**/3**, mb1 4.1**/4**, mb1mx3.4**/44**, mbtmp3.9**/4**, ML3.8**/1**, Error ellipse: s-maj=32.1km s-min=23.9km az=161.0, Mongolia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**4.62**	**62**	Pn	Pn	13 43 59.8	-0.1
	4.1nm,0.3s,baz=249,slow=14,SNR=149						
SONM				Lg	Lg	13 45 15.8	
	112nm,0.3s,baz=248,slow=35,SNR=19						
BVAR	**Borovoye Array**	**20.63**	**301**	P	P	13 47 29.6	+0.1
	2.1nm,0.5s,baz=107,slow=11,SNR=7.9						
WRA	**Warramunga Arr**	**72.39**	**146**	P	P	13 54 16.4	-0.2
	0.5nm,0.5s,baz=344,slow=6.7,SNR=8.0						
ASAR	**Alice Springs**	**75.62**	**148**	P	P	13 54 35.6	+0.3
	0.5nm,0.5s,baz=342,slow=5.8,SNR=5.0						

*ISCJB **05** 13:45:14.5±0.5, 55°.41N±0°.04×134°.97W±0°.07, h9^{km}, mb3.4/2, Error ellipse: s-maj=7.2km s-min=4.2km az=139.2*

*NEIC **05** 13:45:14.7±0.0, 55°.42N×135°.03W, h10^{km}, ML3.5(AEIC), After AEIC.*

*IDC **05** 13:45:16.2±1.1, 55°.36N×134°.84W, h0^{km}, mb3.4/3, mb1 3.7/9, mb1mx3.4/42, mbtmp3.5/9, ML3.2/6, Error ellipse: s-maj=16.0km s-min=9.9km az=58.0*

ISC 05 13:45:16.7±1.0**, 55°.42N**±0°.05×**134°.88W**±0°.06**, h9^{km}, n28, σ1^{s}25**/33**, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRAG	**Craig**	**1.00**	**87**	P	**Pg**	**13 45 35.1**	**-0.8**
CRAG				S	**Sg**	**13 45 48.9**	**+0.1**
SIT	**Sitka**	**1.66**	**351**	P	**Pn**	**13 45 43.3**	**-2.6**
SIT				S	**Sn**	**13 46 04.3**	**-2.9**
WRAK	**Wrangell Islan**	**1.74**	**54**	P	**Pn**	**13 45 45.9**	**-1.1**
WRAK				S	**Sn**	**13 46 08.2**	**-1.1**
NDB	**Naden**	**1.85**	**142**	P	**Pn**	**13 45 47.8**	**-0.8**
H02S1	**DAWSON INLET T**	**2.63**	**147**	Pn	**Pn**	**13 45 58.8**	**-0.5**
H02S1				Sn	**Sn**	**13 46 28.6**	**-2.7**
JIS	**Juneau Island**	**2.87**	**5**	P	**Pn**	**13 46 01.3**	**-1.3**
BESE	**Bessie Mountai**	**3.16**	**0**	P	**Pn**	**13 46 05.4**	**-1.2**
BNB	**Barry Inlet**	**3.40**	**146**	P	**Pn**	**13 46 08.8**	**-1.1**
DLBC	**Dease Lake**	**4.02**	**39**	Pn	**Pn**	**13 46 18.6**	**+0.2**
	1.1nm,0.3s,baz=217,slow=7.6,SNR=34						
DLBC				Pg	**Pb**	**13 46 28.4**	**+0.7**
	5.0nm,0.3s,baz=202,slow=16,SNR=15						
DLBC				Lg	Lg	13 47 20.4	
	9.6nm,0.3s,baz=314,slow=25,SNR=12						
SKAG	**Skagway**	**4.05**	**357**	P	**Pn**	**13 46 18.6**	**-0.2**
PLBC	**Pleasant Camp**	**4.12**	**349**	P	**Pn**	**13 46 18.8**	**-1.0**
BBB	**Bella Bella**	**5.16**	**126**	Pn	**Pn**	**13 46 34.0**	**+0.1**
	2.8nm,0.3s,baz=297,slow=10.0,SNR=29						
BBB				Sn	**Sn**	**13 47 31.2**	**-2.3**
	4.3nm,0.3s,baz=128,slow=17,SNR=6.5						
BBB				Lg	Lg	13 47 57.0	
	2.8nm,0.3s,baz=246,slow=20,SNR=2.7						
BBB	**Bella Bella**	**5.16**	**126**	P	**Pn**	**13 46 33.1**	**-0.8**
WHY	**Whitehorse**	**5.25**	**360**	P	**Pn**	**13 46 34.8**	**-0.6**
YUK7	**Dusty Glacier**	**5.41**	**343**	P	**Pn**	**13 46 37.7**	**+0.1**
PCA	**Pinnacle**	**5.50**	**331**	P	**Pn**	**13 46 38.8**	**+0.1**
HYT	**Haines Junctio**	**5.59**	**347**	P	**Pn**	**13 46 40.3**	**+0.2**
SAMH	**Samovar Hills**	**5.68**	**329**	P	**Pn**	**13 46 41.1**	**-0.1**
YUK5	**Granite Creek**	**5.94**	**346**	P	**Pn**	**13 46 45.2**	**+0.4**
FSB	**Fort Saint Jam**	**6.15**	**95**	P	**Pn**	**13 46 48.1**	**+0.4**
KULT	**Kultieth River**	**6.40**	**322**	P	**Pn**	**13 46 50.1**	**-0.9**
KDAK	**Kodiak Island**	**10.04**	**291**	Pn	**Pn**	**13 47 40.7**	**-0.2**
	0.3nm,0.3s,baz=86,slow=5.7,SNR=5.8						
ILAR	**Eielson Array**	**11.10**	**332**	Pn	**Pn**	**13 47 56.0**	**+0.6**
	0.3nm,0.3s,baz=155,slow=13,SNR=32						
YKA	**Yellowknife Ar**	**12.59**	**48**	Pn	**Pn**	**13 48 15.7**	**0.0**
	0.0nm,0.3s,baz=231,slow=12,SNR=4.5						
YKA				Lg	Lg	13 51 49.0	
	0.0nm,0.3s,baz=241,slow=30,SNR=3.5						
INK	**Inuvik**	**12.95**	**2**	Pn	**Pn**	**13 48 22.2**	**+1.7**
	0.1nm,0.3s,baz=177,slow=10,SNR=5.2						
PDAR	**Pinedale Array**	**20.72**	**117**	P	Pn	13 49 59.2	-0.5
	1.2nm,0.9s,baz=324,slow=7.3,SNR=7.5						
RES	**Resolute Bay**	**24.75**	**24**	P	**P**	**13 50 39.4**	**+1.4**
	0.5nm,0.5s,baz=248,slow=13,SNR=4.2						
MKAR	**Makanchi Array**	**73.45**	**334**	P	**P**	**13 56 50.4**	**+1.3**
	0.4nm,0.7s,baz=40,slow=6.4,SNR=4.7						

*IDC **05** 14:04:04.7±0.6, 35°.93N×68°.94E, h0^{km}, mb4.0/23, mb1 4.2/28, mb1mx4.1/45, mbtmp4.1/28, ML4.5/4, Error ellipse: s-maj=15.9km s-min=10.8km az=3.0*

*NEIC **05** 14:04:06.7±0.5, 36°.09N×68°.92E, h10^{km}, mb4.5/5, Error ellipse: s-maj=11.1km s-min=8.1km az=180.0*

*BJI **05** 14:04:06.0, 36°.38N×68°.59E, h25^{km}, mb4.5/19, mB4.8/11, Ms4.1/5, Ms7 3.9/4*

*NNC **05** 14:04:07.0±3.3, 36°.28N×68°.52E, h0^{km}, mb4.7, mpv4.5, Error ellipse: s-maj=28.9km s-min=22.7km az=168.0*

*MOS **05** 14:04:08.4±1.2, 36°.18N×68°.91E, h28^{km}, mb4.5/34, Error ellipse: s-maj=7.1km s-min=4.9km az=84.3*

*ISCJB **05** 14:04:08.4±0.2, 36°.04N±0°.02×68°.97E±0°.03, h35^{km}, mb4.2/54, MS4.0/1, Error ellipse: s-maj=3.8km s-min=3.0km az=138.5*

ISC 05 14:04:10.1±0.4**, 36°.06N**±0°.04×**68°.82E**±0°.04**, h35^{km}, n155, σ2^{s}37**/167**, mb4.3**/55**, 21C-15D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.38**	**130**	P	**Pn**	**14 05 04.4**	**+3.9**
THW	**Thamme Wali**	**4.05**	**143**	P	**Pn**	**14 05 12.4**	**+2.7**
CHCP	**Chirah Chowk**	**4.37**	**122**	⇑P	**Pn**	**14 05 17.3**	**+3.3**
SFK	**Sufi-Kurgan**	**5.40**	**42**	⇑P	**Pn**	**14 05 30.5**	**+2.0**
	17nm,0.5s						
SFK				⇑S	**Sn**	**14 06 34.9**	**+5.4**
	74nm,0.4s						
SFK	**Sufi-Kurgan**	**5.40**	**42**	PN	**Pn**	**14 05 30.4**	**+2.0**
SFK				S	**Sn**	**14 06 34.9**	**+5.4**
SFK				pmax	pmax		
	comp=Z,17nm,0.5s						
SFK				smax	smax		
	comp=Z,74nm,0.4s						
KSH	**Kashi**	**6.63**	**57**	Pn	**Pn**	**14 05 41.7**	**-3.4**
KSH				Sn	Sn	14 06 45.7	-14
KSH				smax	smax		
	comp=N,540nm,0.8s						
KSH				smax	smax		
	comp=E,730nm,0.7s						
AML	**Almayashu**	**7.15**	**31**	P	**Pn**	**14 05 53.4**	**+0.9**
	SNR=51						
KK31	**Karatay Array**	**7.15**	**10**	⇓P	**Pn**	**14 05 53.5**	**+1.3**
	comp=E,2.4nm,0.2s,baz=196,slow=12,SNR=11						
KK31				⇓S	**Sn**	**14 07 14.7**	**+2.5**
	comp=E,14nm,0.3s,baz=281,slow=11,SNR=5.2						
KK31	**Karatay Array**	**7.15**	**10**	PN	**Pn**	**14 05 53.5**	**+1.3**
KK31				S	**Sn**	**14 07 14.7**	**+2.5**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KK31				smax	smax		
	comp=N,14nm,0.4s						
DHRM	**DHARAMSHALA**	**7.27**	**119**	*e*P	**Pn**	**14 05 54.8**	**+0.8**
DHRM				*e*S	**Sn**	**14 07 16.9**	**+1.4**
DHRM				IAML		14 07 46.5	
	comp=E,658nm,0.8s						
DHRM				IAML		14 07 46.6	
	comp=N,298nm,0.6s						
UCH	**Uchtor**	**7.58**	**34**	P	**Pn**	**14 05 59.0**	**+0.5**
	SNR=81						
EKS2	**Erkin-Say**	**7.63**	**29**	P	**Pn**	**14 06 00.1**	**+1.3**
	SNR=18						
KZA	**Kyzart**	**7.81**	**38**	P	**Pn**	**14 06 02.6**	**+0.9**
	SNR=61						
AAK	**Ala-Archa**	**7.90**	**32**	Pn	**Pn**	**14 06 03.6**	**+1.0**
	comp=N,16nm,0.3s,baz=189,slow=9.1,SNR=130						
AAK				Sn	**Sn**	**14 07 31.8**	**+1.0**
	comp=N,3.2nm,0.3s,baz=328,slow=23,SNR=10						
AAK				Lg	Lg	14 08 19.3	
	baz=301,slow=19,SNR=2.3						
AAK	**Ala-Archa**	**7.90**	**32**	P	**Pn**	**14 06 03.6**	**+1.0**
	SNR=51						
AAK	**Ala-Archa**	**7.90**	**32**	*e*Pn	**Pn**	**14 06 03.5**	**+0.9**
	comp=N,41nm,0.4s						
AAK				*e*Sn	**Sn**	**14 07 30.2**	**-0.6**
AAK	**Ala-Archa**	**7.90**	**32**	⇑P	**Pn**	**14 06 03.5**	**+0.9**
	comp=N,29nm,0.5s						
AAK				⇑S	**Sn**	**14 07 32.8**	**+2.0**
	comp=N,119nm,0.8s						
AAK	**Ala-Archa**	**7.90**	**32**	*c i*P	**Pn**	**14 06 03.4**	**+0.9**
AAK				pmax	pmax		
	comp=Z,35nm,0.6s						
FRU	**Bishkek**	**8.11**	**32**	*e*P	**Pn**	**14 06 06.0**	**+0.6**
FRU				*e*S	**Sn**	**14 07 37.0**	**+1.2**
FRU				pmax	pmax		
	comp=Z,80nm,2.0s						
FRU				smax	smax		
	comp=E,360nm,2.0s						
KBK	**Karagaybulak**	**8.12**	**34**	P	**Pn**	**14 06 06.8**	**+1.2**
	SNR=59						
CHMS	**Chumysh**	**8.30**	**32**	P	**Pn**	**14 06 08.6**	**+0.6**
	SNR=44						
USP	**Ospenovka**	**8.42**	**30**	P	**Pn**	**14 06 09.8**	**+0.1**
	SNR=30						
ULHL	**Ulahol**	**8.44**	**41**	P	**Pn**	**14 06 10.7**	**+0.5**
	SNR=27						
SMLA	**Simla**	**8.52**	**123**	*e*P	**Pn**	**14 06 10.8**	**-0.2**
SMLA				*e*S	**Sn**	**14 07 45.4**	**-0.5**
SMLA				IAML		14 07 48.8	
	comp=E,265nm,0.1s						
SMLA				IAML		14 07 49.7	
	comp=N,375nm,0.6s						
TKM2	**Tokmak 2**	**8.62**	**35**	P	**Pn**	**14 06 13.0**	**+0.5**
	SNR=82						
TKM2	**Tokmak 2**	**8.62**	**35**	⇑P	**Pn**	**14 06 12.9**	**+0.4**
	comp=N,28nm,0.5s						
TKM2				⇑S	**Sn**	**14 07 49.4**	**+0.8**
	comp=N,64nm,0.9s						
TKM2	**Tokmak 2**	**8.62**	**35**	P	**Pn**	**14 06 12.9**	**+0.4**
TKM2				S	**Sn**	**14 07 49.4**	**+0.8**
TKM2				pmax	pmax		
	comp=Z,28nm,0.5s						
TKM2				smax	smax		
	comp=N,64nm,0.9s						
GEYT	**Alibeck**	**8.77**	**285**	Pn	**Pn**	**14 06 12.7**	**-1.7**
	comp=N,8.7nm,0.3s,baz=117,slow=9.6,SNR=65						
GEYT				Sn	**Sn**	**14 07 49.1**	**-2.8**
	comp=N,7.4nm,0.3s,baz=75,slow=28,SNR=6.3						
GEYT				Lg	Lg	14 08 46.7	
	baz=135,slow=29,SNR=2.2						
MDOK	**Medeo**	**9.51**	**39**	⇓P	**Pn**	**14 06 25.2**	**+0.5**
	comp=N,19nm,0.6s						
DDI	**Dehra Dun**	**9.62**	**124**	*e*P	**Pn**	**14 06 25.1**	**-1.0**
DDI				*e*x	x	14 08 06.2	
DDI				IAML		14 09 27.4	

comp=E,151nm,1.0s
NDI New Delhi 10.22 134 *e*P Pn 14 06 32.5 -1.8
NDI *e*S **Sn 14 08 22.0 -5.6**
PDGK Podgornoye 10.96 45 ⇓P Pn 14 06 42.7 -1.8
comp=E,7.6nm,0.5s
PDGK Podgornoye 10.96 45 P **Pn 14 06 42.7 -1.8**
PDGK pmax pmax
comp=Z,8.0nm,0.5s
OTUK Ortayu 12.45 11 ⇑P Pn 14 07 03.0 -1.7
comp=Z,5.1nm,0.7s
OTUK ⇓S **Sn 14 09 15.9 -6.2**
comp=Z,10nm,0.7s
OTUK Ortayu 12.45 11 P **Pn 14 07 03.0 -1.7**
OTUK S **Sn 14 09 15.9 -6.2**
OTUK pmax pmax
comp=Z,5.0nm,0.7s
OTUK smax smax
comp=N,10.0nm,0.7s
BHJ Bhuj 12.78 177 *e*P Pn 14 07 05.9 -3.5
PYUN Piuthan 14.39 120 *e*P Pn 14 07 27.6 -3.8
comp=N,88nm,0.6s
PYUN *e*S Sn 14 09 59.9 -10
AB31 Akbulak array 14.70 337 ⇓P Pn 14 07 32.8 -2.5
comp=N,9.6nm,0.4s,baz=154,slow=13,SNR=7.7
AB31 ⇑S **Sn 14 10 09.1 -7.8**
comp=N,6.3nm,0.6s,baz=147,slow=23,SNR=7.9
AB31 Akbulak array 14.70 337 P **Pn 14 07 32.8 -2.5**
AB31 pmax pmax
comp=Z,10.0nm,0.4s
MK31 Makanchi Array 14.71 39 ⇓P Pn 14 07 32.4 -3.1
comp=Z,3.2nm,0.7s,baz=226,slow=14,SNR=24
MK31 Makanchi Array 14.71 39 P **Pn 14 07 32.4 -3.1**
MK31 pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 14.71 39 Pn **Pn 14 07 32.9 -2.6**
comp=Z,0.4nm,0.3s,baz=227,slow=13,SNR=36
DANN Dangsing 14.79 117 *e*P Pn 14 07 33.0 -4.0
comp=Z,101nm,0.5s
BHPL Bhopal 14.79 147 *e*P Pn 14 07 34.2 -2.5
KOLN Koldanda 15.02 119 *e*P Pn 14 07 36.4 -3.5
comp=Z,126nm,0.9s
KURBB Kurchatov Arra 16.16 23 Pn **Pn 14 07 49.8 -4.5**
comp=Z,0.1nm,0.3s,baz=211,slow=13,SNR=14
DMN Daman 16.19 117 *e*P Pn 14 07 51.0 -4.1
comp=Z,99nm,0.6s
KKN Kakani 16.21 116 *e*P Pn 14 07 51.9 -3.5
comp=Z,102nm,0.6s
KURK Kurchatov 16.26 23 *e*Pn Pn 14 07 51.7 -4.0
KURK *e*Sn **Sn 14 10 52.1 -2.8**
KURK Kurchatov 16.26 23⇓ *e*P Pn 14 07 51.9 -3.8
KURK pmax pmax
comp=Z,5.0nm,1.2s
AKTO Aktyubinsk 16.36 335 Pn **Pn 14 07 54.9 -1.9**
comp=Z,1.5nm,0.3s,baz=152,slow=12,SNR=24
AKTO Sn **Sn 14 10 49.5 -7.6**
comp=Z,0.2nm,0.3s,baz=74,slow=20,SNR=2.7
AKTO Aktyubinsk 16.36 335 ⇑P Pn 14 07 54.6 -2.3
comp=Z,6.2nm,0.6s
AKTO ⇑S **Sn 14 10 51.3 -5.8**
comp=Z,12nm,0.8s
PKIN Phulchoki 16.42 116 *e*P Pn 14 07 54.6 -3.5
comp=Z,144nm,0.6s
PKI Pulchoki 16.43 116 *e*P Pn 14 07 55.0 -3.3
comp=Z,242nm,0.7s
GUN Gumba 16.58 115 *e*P Pn 14 07 57.8 -2.4
comp=Z,118nm,0.6s
JIRN Jiri 16.95 115 *e*P Pn 14 08 02.1 -2.8
comp=Z,210nm,0.5s
BVA0 Borovoye Array 17.00 3 P **Pn 14 08 02.1 -2.8**
comp=Z,4.0nm,0.6s,baz=171,slow=11,SNR=55
BVA0 Borovoye Array 17.00 3 P **Pn 14 08 02.1 -2.8**
BVA0 pmax pmax
comp=Z,4.0nm,0.6s
BRVK Borovoye 17.03 3 *e*Pn Pn 14 08 02.3 -3.0
comp=Z,27nm,0.6s
BRVK Borovoye 17.03 3⇑ *e*P Pn 14 08 02.6 -2.7
NGP Nagpur 17.34 146 *e*P Pn 14 08 07.3 -2.1
NGP IAmb IAmb 14 08 08.4
comp=Z,16nm,0.5s
RAMN Ramite 17.65 116 *e*P Pn 14 08 10.4 -3.1
comp=Z,122nm,0.6s
MAK Makhachkala 17.81 299 *e*P Pn 14 08 15.1 +0.1
MAK *e*S **Sn 14 11 31.5 -0.9**
MAK pmax pmax
comp=Z,100nm,1.1s
MAK MLR MLR
comp=Z,280nm,12.0s
ODAN Odare 18.28 115 *e*P P 14 08 18.9 -2.2
BOK Bokaro 19.15 125 *e*P P 14 08 30.2 -0.3
DGZ Jazzator, Alta 19.21 39 *d*P P 14 08 29.6 -1.5
DGZ pmax pmax
comp=Z,4.0nm,0.8s
GNI Garni 19.37 289 P **Pn 14 08 36.9 +2.8**
comp=Z,0.7nm,0.3s,baz=13,slow=19,SNR=4.1
GNI Garni 19.37 289⇑ *e*P Pn 14 08 36.4 +2.2
GNI pmax pmax
comp=Z,135nm,1.1s
LSA Lhasa 19.78 102 *e*P P 14 08 38.1 +0.3
comp=Z,9.2nm,0.5s
LSA Lhasa 19.78 102 *e*P P 14 08 38.1 +0.3
LSA pmax pmax
comp=Z,9.0nm,0.5s
ZEI Tsey 20.35 297 *e*P Pn 14 08 47.3 +1.5
ZEI pmax pmax
comp=Z,5.0nm,0.7s
HYB Hyderabad 20.48 153 *i*P Pn 14 08 48.0 +0.7
HYB Hyderabad 20.48 153 *e*P P 14 08 45.4 +0.4
NCK Nalchik 20.71 299⇑ *e*P Pn 14 08 48.9 -0.9
NCK pmax pmax
comp=Z,11nm,0.5s
ZALV Zalesovo Beam 21.07 27 P **P 14 08 50.5 -0.6**
comp=Z,20nm,0.6s,baz=223,slow=11,SNR=82
NVS Novosibirsk 21.25 23 ⇓*i*P P 14 08 53.0 0.0
NVS *e* 14 12 48.4
NVS pmax pmax
comp=N,14nm,0.5s
NVS pmax pmax
comp=E,4.0nm,0.5s
NVS pmax pmax
comp=Z,16nm,0.5s
KBZ Khabaz 21.25 299 P **P 14 08 53.6 +0.5**
comp=Z,2.6nm,0.7s,baz=122,slow=10,SNR=5.8
KVAR Kislovodsk Arr 21.45 300 P **P 14 08 56.8 +1.4**
comp=Z,2.5nm,0.5s,baz=139,slow=20,SNR=3.6
KIV Kislovodsk 21.45 300 *e*P P 14 08 55.1 -0.3
comp=Z,16nm,0.8s
KIV Kislovodsk 21.45 300⇓ *e*P P 14 08 54.8 -0.6
KIV pmax pmax
comp=Z,9.0nm,0.7s
SVE Sverdlovsk 21.49 348 *e*P P 14 08 56.1 +0.5
SVE *e*S **S 14 12 50.7 -1.1**
SVE pmax pmax
comp=Z,17nm,1.3s
ARU Arti 21.53 344 *e*P P 14 08 54.9 -1.0
comp=Z,8.9nm,0.4s
ARU Arti 21.53 344 *c i*P P 14 08 56.1 +0.2
ARU 14 09 16.2
ARU S **S 14 12 55.9 +3.4**
ARU SS **SnSn 14 13 24.7 +7.6**
ARU pmax pmax
comp=Z,6.0nm,0.8s
BWNR Bhubaneshwar 21.65 132 *ex* P 14 08 53.5 -3.9
BWNR IAmb IAmb 14 08 54.4
comp=Z,30nm,0.9s
SHL Shillong 22.35 111 *e*P P 14 09 04.8 -0.4
HVS Khovu-Aksy 23.33 42⇑ *e*P P 14 09 15.0 -0.1
HVS pmax pmax
comp=Z,27nm,1.3s
RAYN Ar Rayn 23.71 245 *e*P P 14 09 18.7 -0.2
comp=Z,2.2nm,0.9s
RAYN Ar Rayn 23.71 245 *e*P P 14 09 18.7 -0.2
RAYN pmax pmax
comp=Z,2.0nm,0.9s
VRH Novokhopyorsk 24.59 316 *e*P P 14 09 27.5 +0.8
VRH pmax pmax
comp=Z,4.0nm,0.5s
GTA Gaotai 24.68 73 *e*P P 14 09 29.3 +1.5
GTA pP pP 14 09 34.2 -4.0
GTA sP sP 14 09 36.3 -6.3
GTA pmax pmax
comp=Z,17nm,0.9s
GTA pmax pmax
comp=Z,160nm,6.0s
GTA LR LR
comp=Z,250nm,14.3s
GTA LR LR
comp=Z,270nm,15.2s
GTA LR LR
comp=Z,380nm,14.9s
VSR Storozhevoye 26.04 315 *e*P P 14 09 40.4 +0.6
VSR pmax pmax
comp=Z,10.0nm,1.2s
LPSR Galich'ya Gora 26.76 318 *e*P P 14 09 47.6 +1.2
LPSR pmax pmax
comp=Z,10.0nm,1.2s
MOY Mondy 27.66 46 *e*P P 14 09 56.0 +1.4
MOY pmax pmax
comp=Z,8.0nm,2.1s
BRTR Keskin Array B 27.89 288 P **P 14 09 58.1 +1.3**
comp=Z,0.2nm,0.5s,baz=104,slow=8.3,SNR=2.7
ZAK Zakamensk 28.61 49 *e*P P 14 10 03.7 +0.7
ZAK pmax pmax
comp=Z,4.0nm,1.0s
OBN Obninsk 29.15 321⇓ *e*P P 14 10 08.2 +0.6
OBN *e* 14 10 59.2
OBN *e*PPP PPP 14 11 09.3
OBN pmax pmax
comp=Z,19nm,1.4s
SONM Songino Array 30.03 55 P **P 14 10 15.9 +0.2**
comp=Z,1.2nm,0.6s,baz=262,slow=8.5,SNR=13
SONM Songino Array 30.03 55 *e*P P 14 10 16.9 +1.2
SONM pmax pmax
comp=Z,1.0nm,0.6s
ULN Ulaanbaatar 30.47 55⇓ *e*P P 14 10 20.7 +1.0
ULN pmax pmax
comp=Z,12nm,2.5s
PALK Pallekele 30.65 156 *ce*P P 14 10 23.7 +2.4
KLMR Klimovskoe 31.02 332 *e*P P 14 10 23.5 -0.6
KLMR pmax pmax
comp=Z,8.0nm,1.4s
KLMR Klimovskoe 31.02 332 *e*P P 14 10 23.6 -0.6
KLMR AMP 14 10 33.1
comp=Z,8.0nm,1.4s
CHTO Chiang Mai 31.60 115 P P 14 10 37.3 +7.6
CMAR Chiang Mai Arr 31.82 115 P **P 14 10 31.5 -0.1**
comp=Z,2.3nm,0.7s,baz=292,slow=8.4,SNR=21
CMAR Chiang Mai Arr 31.82 115 *e*P P 14 10 32.6 +1.0
CMAR pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 31.86 310 P **P 14 10 32.8 +1.2**
comp=Z,3.3nm,0.6s,baz=86,slow=7.5,SNR=8.8
AKASG Malin Array Be 31.86 310 *e*P P 14 10 33.2 +1.6
AKASG pmax pmax
comp=Z,3.0nm,0.6s
KIEV Kiev 31.87 310⇑ *e*P P 14 10 33.3 +1.6
KIEV pmax pmax
comp=Z,14nm,1.7s
UTTA Uttaradit 33.46 115 P **P 14 10 47.4 +1.5**
comp=Z,2.8nm,0.7s
PBKT Sadao Pong 34.51 116 P **P 14 10 57.1 +2.0**
comp=Z,6.9nm,0.7s
CHAI Chaiyaphum 35.69 116 P **P 14 11 06.0 +0.8**
BOD Bodaibo 36.80 39 *e*P P 14 11 14.6 +0.3
BOD pmax pmax
comp=Z,6.0nm,1.5s
FINES FINESS Array B 36.88 327 P **P 14 11 16.1 +1.2**
comp=Z,2.3nm,0.6s,baz=120,slow=9.8,SNR=11
FINES FINESS Array B 36.88 327 *e*P P 14 11 16.5 +1.6
FINES pmax pmax
comp=Z,2.0nm,0.6s
KRAB Krabi 39.18 128 P P 14 11 26.7 -8.1
ARCES ARCESS Array B 40.89 338 P **P 14 11 49.7 +1.3**
comp=Z,3.7nm,0.9s,baz=120,slow=7.2,SNR=11
ARCES ARCESS Array B 40.89 338 *e*P P 14 11 51.4 +3.0
ARCES pmax pmax
comp=Z,3.0nm,0.8s
GERES GERESS Array B 41.75 306 P **P 14 11 57.2 +1.4**
comp=Z,0.1nm,0.3s,baz=92,slow=9.0,SNR=2.8
NORES NORESS Array B 43.48 323 P **P 14 12 10.6 +1.0**
NB2 NORSAR Subarra 43.68 323 P **P 14 12 12.2 +0.9**
comp=Z,1.3nm,0.5s,baz=99,slow=8.6
NOA NORSAR Array B 43.68 323 P **P 14 12 12.1 +0.9**
comp=Z,1.8nm,0.5s,baz=99,slow=8.0,SNR=14
NOA NORSAR Array B 43.68 323 *e*P P 14 12 12.5 +1.2
NOA pmax pmax
comp=Z,2.0nm,0.5s
PGF Pioggiola 45.91 297 *e*P P 14 12 30.3 +1.0
PGF pmax pmax
comp=Z,45nm,1.5s
HINF Hinteralfeld 46.40 305 *e*P P 14 12 39.7 +6.6
HINF pmax pmax
comp=Z,5.0nm,1.1s
KSAR Wonju Array Be 46.66 70 P **P 14 12 34.8 -0.4**
KSAR Wonju Array Be 46.66 70 P **P 14 12 34.8 -0.4**
KSRS Korea Array 46.68 70 P **P 14 12 34.8 -0.6**
comp=Z,1.7nm,0.5s,baz=269,slow=7.0,SNR=12
KSRS Korea Array 46.68 70 *e*P P 14 12 35.7 +0.4
KSRS pmax pmax
comp=Z,2.0nm,0.5s
HAU Haudompre 46.71 305 *e*P P 14 12 43.5 +8.0
HAU pmax pmax
comp=Z,5.0nm,1.0s
KLR Kul'dur 46.82 53 P **P 14 12 36.3 +0.1**
comp=Z,3.3nm,1.0s,baz=273,slow=8.2,SNR=8.1
KLR Kul'dur 46.82 53 *de*P P 14 12 36.9 +0.6
TIXI Tiksi 46.84 22⇑ *e*P P 14 12 36.4 +0.3
TIXI pmax pmax
comp=Z,7.0nm,1.0s
LPL La Plagne 46.89 302 *e*P P 14 12 44.4 +7.2
LPL pmax pmax
comp=Z,5.0nm,0.9s
BAIF Baives 47.78 308 *e*P P 14 12 46.7 +3.0
BAIF pmax pmax
comp=Z,36nm,1.8s
USRK Ussuriysk Ar. 47.91 60 P **P 14 12 44.8 0.0**
comp=Z,1.0nm,0.6s,baz=265,slow=6.6,SNR=4.0
CAF Calviac 50.24 302 *e*P P 14 13 09.4 +6.7
CAF pmax pmax
comp=Z,48nm,1.9s
RJF Les Rejaudoux 50.52 302 *e*P P 14 13 12.1 +7.3
RJF pmax pmax
comp=Z,11nm,1.2s
FLN La Foliniere 51.03 307 *e*P P 14 13 15.7 +7.1
FLN pmax pmax
comp=Z,19nm,1.2s
EPF Esparros 51.95 300 *e*P P 14 13 23.1 +7.5
EPF pmax pmax
comp=Z,8.0nm,1.2s
ETSF Etsaut 52.62 300 *e*P P 14 13 22.6 +2.0
ETSF pmax pmax
comp=Z,6.0nm,0.8s
MJAR Matsushiro Arr 54.75 67 P **P 14 13 36.4 +0.1**
comp=Z,0.7nm,0.5s,baz=262,slow=6.7,SNR=5.4
MJA0 Matsu Arr-Jizo 54.78 67 *e*P P 14 13 39.1 +2.6
MJA0 pmax pmax
comp=Z,1.0nm,0.5s
ESDC Sonseca Array 56.10 297 P **P 14 13 47.6 +1.7**
comp=Z,0.9nm,0.6s,baz=55,slow=7.4,SNR=4.5
BILL Bilibino 59.77 26⇓ *e*P P 14 14 12.3 +1.2
BILL *e* 14 14 56.6
BILL *e* 14 16 27.9
BILL *e*PPP PPP 14 17 47.0
BILL pmax pmax
comp=Z,14nm,3.3s
TORD Torodi Ar. Bea 63.94 268 P **P 14 14 38.9 -1.1**
comp=Z,1.0nm,0.4s,baz=47,slow=6.4,SNR=11
DBIC Dimbokro 72.91 266 P **P 14 15 38.6 +2.5**
comp=Z,1.7nm,0.6s,baz=50,slow=4.0,SNR=5.0
INK Inuvik 74.61 8 P **P 14 15 45.9 +0.8**
comp=Z,1.1nm,0.6s,baz=352,slow=9.7,SNR=6.4
ILAR Eielson Array 75.67 15 P **P 14 15 51.5 +0.2**
comp=Z,0.2nm,0.4s,baz=299,slow=5.1,SNR=6.4
ILAR Eielson Array 75.67 15 *e*P P 14 15 52.7 +1.4
YKA Yellowknife Ar 81.75 2 P **P 14 16 24.6 -0.1**
comp=Z,0.8nm,0.9s,baz=352,slow=5.5,SNR=5.8
WRA Warramunga Arr 83.27 120 P **P 14 16 31.3 -2.0**
comp=Z,1.6nm,0.8s,baz=323,slow=4.9,SNR=14
WRA Warramunga Arr 83.27 120 *e*P P 14 16 32.3 -1.0
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRAB Tennant Creek 83.27 120⇑ *e*P P 14 16 32.8 -0.5
WRAB pmax pmax
comp=Z,9.0nm,1.6s
ASAR Alice Springs 85.47 123 P **P 14 16 42.9 -1.5**
comp=Z,2.2nm,0.8s,baz=308,slow=4.9,SNR=18
PLCA Paso Flores 148.02 249 PKPbc **PKPbc 14 23 51.9 +0.1**
comp=Z,1.0nm,0.6s,baz=114,slow=3.3,SNR=6.5

IDC 05 14:25:34.6±4.1, 7.2°S × 129.6°E, h129km ± 30km, mb3.2/1, mb1 3.3/3, mb1mx3.0/25, mbtmp3.6/3, Error ellipse:

s-maj=138.6km s-min=30.0km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.53**	**161**	P	Pn	14 28 39.9	-1.6
	0.5nm,0.3s,baz=342,slow=14,SNR=14						
WRA				S	Sn	14 31 00.5	-11
	0.6nm,0.3s,baz=336,slow=22,SNR=9.3						
ASAR	**Alice Springs**	**16.95**	**166**	P	Pn	14 29 25.8	+1.6
	0.3nm,0.3s,baz=343,slow=11,SNR=29						
ASAR				S	Sn	14 32 23.9	-9.4
	0.2nm,0.3s,baz=350,slow=26,SNR=5.3						
ASAR				ScP	ScP	14 37 25.1	-1.1
	0.1nm,0.3s,baz=0.6,slow=1.5,SNR=7.7						
MKAR	**Makanchi Array**	**68.14**	**327**	P	P	14 36 20.8	0.0
	0.3nm,0.5s,baz=116,slow=7.7,SNR=4.0						

*ISCJB **05** 14:27:19.3±0.7, 19.7°S±0.2×178.4°W±0.2, h600km, mb3.5/10, Error ellipse: s-maj=28.1km s-min=16.3km az=135.6*
*IDC **05** 14:27:21.2±4.2, 19.6°S×178.3°W, h610km±53km, mb3.0/10, mb1 3.3/10, mb1mx3.1/25, mbtmp3.9/10, Error ellipse: s-maj=27.3km s-min=22.6km az=161.0*
ISC 05 14:27:20.5±0.9, 19.6°S±0.2×178.3°W±0.2, h600km, n14, σ0§68/14, mb3.4/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**25.63**	**198**	P	P	**14 32 03.8**	**-0.3**
	5.5nm,0.6s,baz=352,slow=4.7,SNR=3.8						
WRA	**Warramunga Arr**	**44.44**	**261**	P	P	**14 34 39.9**	**+0.1**
	0.4nm,0.4s,baz=97,slow=7.8,SNR=5.8						
ASAR	**Alice Springs**	**44.44**	**256**	P	P	**14 34 40.2**	**+0.3**
	0.3nm,0.3s,baz=85,slow=8.4,SNR=3.1						
ASAR				PcP	PcP	14 36 09.5	-0.7
	0.1nm,0.4s,baz=106,slow=3.3,SNR=3.3						
MJAR	**Matsushiro Arr**	**69.33**	**324**	P	P	**14 37 29.4**	**+0.3**
	0.9nm,0.6s,baz=160,slow=5.7,SNR=8.1						
PETK	**Petropavlovsk-**	**75.34**	**345**	P	P	**14 38 03.3**	**+0.1**
	2.2nm,0.8s,baz=164,slow=7.3,SNR=3.5						
NVAR	**Mina Array Bea**	**80.59**	**44**	P	P	**14 38 32.0**	**0.0**
	0.2nm,0.4s,baz=224,slow=8.3,SNR=3.7						
TXAR	**Lajitas Array**	**86.83**	**57**	P	P	**14 39 03.6**	**+0.9**
	0.5nm,0.8s,baz=219,slow=7.0,SNR=5.4						
ILAR	**Eielson Array**	**87.52**	**13**	P	P	**14 39 04.2**	**-0.8**
	0.6nm,0.6s,baz=213,slow=5.5,SNR=11						
PDAR	**Pinedale Array**	**88.52**	**43**	P	P	**14 39 10.9**	**+0.3**
	0.6nm,0.7s,baz=216,slow=4.5,SNR=5.5						
YKA	**Yellowknife Ar**	**95.84**	**25**	P	P	**14 39 42.7**	**-0.6**
	0.1nm,0.6s,baz=243,slow=4.6,SNR=2.3						
ARCES	**ARCESS Array B**	**128.00**	**350**	PKP	**PKPdf**	**14 45 17.9**	**-0.6**
	7.2nm,1.2s,baz=45,slow=0.3,SNR=8.6						
AKASG	**Malin Array Be**	**142.10**	**331**	PKhKP	PKPpre	14 45 40.6	
	0.6nm,0.3s,baz=43,slow=4.3,SNR=4.7						
BRTR	**Keskin Array B**	**146.03**	**313**	PKPbc	**PKPdf**	**14 45 53.9**	**+1.4**
	0.4nm,0.5s,baz=143,slow=4.1,SNR=3.2						
GERES	**GERESS Array B**	**149.27**	**344**	PKPbc	**PKPbc**	**14 46 02.1**	**-0.4**
	0.1nm,0.3s,baz=14,slow=5.4,SNR=4.3						

*IDC **05** 14:37:17.5±1.2, 19.46°N×155.19°W, h0km, mb3.7/9, mb1 4.0/9, mb1mx3.8/52, mbtmp3.7/9, Error ellipse: s-maj=43.3km s-min=22.2km az=144.0*
*NEIC **05** 14:37:18.0±0.0, 19.34°N×155.07°W, h9km, MD4.3(HVO), After HVO.*
NEIC Felt [V] at Honomu and [IV] at Hakalau, Kea`au, Papa`ikou and Pepeekeo. Felt throughout the Island of Hawai`i.
ISC 05 14:37:18.4±0.8, 19.43°N±0.05×155.12°W±0.04, h12km±4km, n47, σ1§40/63, mb3.9/10, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NPOC	**North of Pu'u**	**0.04**	**167**	*e*Pg	**Pg**	**14 37 20.4**	**-0.3**
STCH	**Steam Cracks**	**0.04**	**189**	*e*Pg	**Pg**	**14 37 20.4**	**-0.4**
JCUZ	**Jacuzzi**	**0.05**	**161**	*e*Pg	**Pg**	**14 37 20.2**	**-0.6**
PUH	**Pauahi**	**0.11**	**240**	*e*Pg	**Pg**	**14 37 21.5**	**0.0**
BYL	**Byron's Ledge**	**0.14**	**263**	*e*Pg	**Pg**	**14 37 22.2**	**+0.4**
BYL				*e*Sg	**Sg**	**14 37 25.0**	**+0.7**
HATHI	**Halema'uma'u T**	**0.14**	**268**	*e*Pg	**Pg**	**14 37 22.1**	**+0.3**
HATHI				*e*Sg	**Sg**	**14 37 25.3**	**+1.0**
SBLHI	**Steaming Bluff**	**0.14**	**270**	*e*Pg	**Pg**	**14 37 22.4**	**+0.4**
SBLHI				*e*Sg	**Sg**	**14 37 25.6**	**+1.1**
KKO	**Keanakako`i**	**0.14**	**258**	*e*Pg	**Pg**	**14 37 22.3**	**+0.3**
KKO				*e*Sg	**Sg**	**14 37 25.3**	**+0.8**
RIM	**Rim**	**0.15**	**258**	*e*Pg	**Pg**	**14 37 22.4**	**+0.3**
RIM				*e*Sg	**Sg**	**14 37 25.6**	**+1.0**
UWB	**Uwekahuna B**	**0.15**	**269**	*e*Pg	**Pg**	**14 37 22.3**	**+0.3**
UWB				*e*Sg	**Sg**	**14 37 25.6**	**+0.9**
NPH	**North Pit**	**0.15**	**264**	*e*Pg	**Pg**	**14 37 22.3**	**+0.2**
NPH				*e*Sg	**Sg**	**14 37 25.4**	**+0.7**
OBL	**Observatory Le**	**0.16**	**266**	*e*Pg	**Pg**	**14 37 22.5**	**+0.3**
OBL				*e*Sg	**Sg**	**14 37 25.9**	**+1.1**
UWE	**Uwekahuna**	**0.17**	**268**	*e*Pg	**Pg**	**14 37 22.8**	**+0.5**
UWE				*e*Sg	**Sg**	**14 37 26.6**	**+1.5**
SDHHI	**Sand Hill**	**0.17**	**257**	*e*Pg	**Pg**	**14 37 22.6**	**+0.2**
SDHHI				*e*Sg	**Sg**	**14 37 25.7**	**+0.6**
WRMHI	**West Rim**	**0.17**	**263**	*e*Pg	**Pg**	**14 37 22.6**	**+0.2**
WRMHI				*e*Sg	**Sg**	**14 37 26.5**	**+1.3**
HLP	**Hilina Pali**	**0.22**	**234**	*e*Pg	**Pg**	**14 37 23.1**	**-0.1**
MLH	**Mauna Loa**	**0.26**	**285**	*e*Pg	**Pg**	**14 37 24.7**	**+0.7**
MLH				*e*Sg	**Sg**	**14 37 30.6**	**+2.9**
AIN	**Ainahou**	**0.33**	**260**	*e*Pg	**Pg**	**14 37 26.1**	**+1.0**
AIN				*e*Sg	**Sb**	**14 37 32.3**	**+0.6**
HMH	**Humu'ula Sheep**	**0.39**	**297**	*e*Pg	**Pg**	**14 37 27.6**	**+1.4**
HMH				*e*Sg	**Sg**	**14 37 34.8**	**+3.3**
MLOA	**Mauna Loa Obse**	**0.45**	**284**	*e*Pg	**Pg**	**14 37 27.7**	**+0.4**
MLOA				*e*Sg	**Sg**	**14 37 35.2**	**+1.8**
MWH	**Moku'aweowe**	**0.46**	**277**	*e*Pg	**Pg**	**14 37 27.7**	**+0.1**
KHU	**Kahuku**	**0.50**	**249**	*e*Pg	**Pg**	**14 37 27.8**	**-0.6**
POHA	**Pohakuloa**	**0.51**	**310**	*e*Pg	**Pg**	**14 37 28.8**	**+0.3**
LPH	**Laupahoehoe**	**0.63**	**335**	*e*Pg	**Pg**	**14 37 30.0**	**-0.7**
HUH	**Hualalai**	**0.72**	**291**	*e*Pg	**Pg**	**14 37 32.1**	**-0.5**
KHLU	**Kahalu`u**	**0.75**	**283**	*e*Pg	**Pg**	**14 37 31.9**	**-1.1**
KHLU				*e*Sn	**Sg**	**14 37 44.0**	**+1.2**
I59US	**HAWAII INFRASO**	**0.75**	**283**	Pg	**Pg**	**14 37 33.6**	**+0.6**
	baz=120,slow=12						
I59US				Lg	Lg	14 37 44.9	
	baz=124,slow=14						
KKH	**Kailua Kona**	**0.88**	**285**	*e*Pg	**Pg**	**14 37 33.3**	**-2.1**
MHA	**Mahukona**	**1.06**	**316**	*e*Pg	**Pb**	**14 37 36.6**	**-2.1**
MHA				*e*Sg	**Sg**	**14 37 54.1**	**+1.5**
HLK	**Haleakala**	**1.70**	**321**	*e*Pn	**Pn**	**14 37 45.8**	**-2.4**
KHLH	**Kahului Airpor**	**1.91**	**320**	*e*Pn	**Pn**	**14 37 49.1**	**-1.8**
HON	**Honolulu**	**3.30**	**305**	*e*Pn	**Pn**	**14 38 06.6**	**-3.4**
HON				*e*Sn	**Sn**	**14 38 45.6**	**-3.5**
KIP	**Kipapa**	**3.36**	**307**	*e*Pn	**Pn**	**14 38 08.0**	**-2.9**
OPA	**Opana**	**3.52**	**310**	*e*Pn	**Pn**	**14 38 10.2**	**-2.9**
NVAR	**Mina Array Bea**	**37.05**	**51**	P	P	**14 44 30.1**	**+1.3**
	0.4nm,0.7s,baz=244,slow=9.8,SNR=2.5						
H02S1	**DAWSON INLET T**	**37.99**	**22**	T	T	15 24 43.7	
	SNR=92						
H06S1	**SOCORRO T**	**41.65**	**83**	T	T	15 29 24.0	
	SNR=3						
PDAR	**Pinedale Array**	**44.74**	**48**	P	P	**14 45 32.0**	**-0.1**
	0.3nm,0.5s,baz=254,slow=6.5,SNR=4.4						
ILAR	**Eielson Array**	**45.65**	**5**	P	P	**14 45 39.6**	**+0.9**
	1.0nm,0.5s,baz=198,slow=7.3,SNR=5.7						
TXAR	**Lajitas Array**	**47.57**	**68**	P	P	**14 45 56.0**	**+1.6**
	0.9nm,0.9s,baz=251,slow=8.5,SNR=9.0						
INK	**Inuvik**	**50.72**	**10**	P	P	**14 46 18.2**	**+0.5**
	1.7nm,0.8s,baz=214,slow=8.7,SNR=9.4						
YKA	**Yellowknife Ar**	**51.25**	**23**	P	P	**14 46 22.5**	**+0.7**
	1.0nm,0.7s,baz=232,slow=7.6,SNR=22						
WRA	**Warramunga Arr**	**79.42**	**244**	P	P	**14 49 25.6**	**+0.5**
	0.2nm,0.8s,baz=65,slow=5.6,SNR=3.8						
HHC	**Hu-ho-hao-te**	**79.98**	**310**	*e*P	P	**14 49 26.7**	**-1.3**
HHC				pmax	pmax		
	comp=Z,14nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,4.2s						
SONM	**Songino Array**	**81.34**	**318**	P	P	**14 49 36.1**	**+0.9**
	comp=Z,1.4nm,1.0s,baz=84,slow=6.0,SNR=6.9						
ASAR	**Alice Springs**	**81.37**	**241**	P	P	**14 49 36.5**	**+0.9**
	comp=Z,0.6nm,0.9s,baz=69,slow=5.1,SNR=4.1						
WMQ	**Urumqi**	**94.82**	**320**	*e*P	P	**14 50 41.8**	**+1.3**

*KRNET **05** 14:38:17.9±0.1, 41.08°N×71.83°E, h16km, mb2.1*
*NNC **05** 14:38:18.7±1.2, 41.07°N×71.78°E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=13.6km s-min=7.2km az=42.0*
ISC 05 14:38:17.5±1.4, 41.07°N±0.03×71.80°E±0.03, h2km±12km, n15, σ0§79/25, 13C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	Arkit	0.74	9	⇑iP	Pg	14 38 31.3	-0.4
	baz=9.0						
ARK				⇑iS	Sg	14 38 41.5	+0.2
	baz=9.0						
ARSB	Arslanbob	0.93	74	⇑iP	Pg	14 38 34.7	-0.6
	baz=74						
ARSB				⇑iS	Sg	14 38 47.5	+0.2
	baz=74						
BTK	Batken	1.26	217	⇓iP	Pn	14 38 41.7	-0.5
	baz=17						
BTK				⇓iS	Sn	14 38 59.5	-0.3
	baz=17						
SFK	Sufi-Kurgan	1.67	129	⇑Pg	Pg	14 38 50.2	+0.6
	1.5nm,0.4s						
SFK				⇓Lg	Lg	14 39 14.6	
	5.3nm,0.4s						
SFK	Sufi-Kurgan	1.67	129	Pg	Pn	14 38 48.5	+0.4
	1.1nm,0.2s						
SFK				Lg	Lg	14 39 09.6	
	3.1nm,0.2s						
SFK	Sufi-Kurgan	1.67	129	⇑iP	Pb	14 38 48.9	-0.3
	baz=29						
SFK				⇑iS	Sg	14 39 11.9	+0.7
	baz=29						
IUG	Iuzhnay	1.71	310	P	Pb	14 38 49.4	-0.5
	6.3nm,0.3s						
IUG				S	Sb	14 39 11.7	-0.1
	11nm,0.3s						
AML	Almayashu	1.77	53	⇑iP	Pn	14 38 49.3	-0.3
	baz=53						
AML				⇑iS	Sb	14 39 13.1	-0.8
	baz=53						
MRKS	Merke	1.98	32	P	Pb	14 38 55.0	+0.6
	2.7nm,0.3s						
MRKS				S	Sg	14 39 20.9	-0.4
	5.5nm,0.3s						
ARLS	Aral	2.05	66	⇓iP	Pb	14 38 54.7	-1.0
	baz=66						
ARLS				⇓iS	Sb	14 39 21.5	-0.3
	baz=66						
EKS2	Erkin-Say	2.17	42	⇓eP	Pn	14 38 55.5	+0.6
	baz=42						
EKS2				⇓iS	Sb	14 39 23.7	-1.4
	baz=42						
KK31	Karatay Array	2.25	335	Pg	Pg	14 39 01.7	+1.1
	0.4nm,0.3s,baz=147,slow=16,SNR=9.5						
KK31				⇑Lg	Lg	14 39 28.3	
	1.9nm,0.5s,baz=147,slow=26,SNR=4.0						
UCH	Uchtor	2.34	59	⇓iP	Pn	14 38 58.0	+0.5
	baz=60						
UCH				⇓iS	Sb	14 39 29.0	-1.3
	baz=60						
AAK	Ala-Archa	2.55	51	⇑Lg	Lg	14 39 36.1	
	2.3nm,0.6s						
KZA	Kyzart	2.78	68	⇑eP	Pn	14 39 04.5	+1.0
	baz=68						
KZA				⇑iS	Sn	14 39 39.2	+1.4
	baz=68						

IDC 05 14:38:39.9±2.2**, 3°.39N×127°.99E, h0^{km}, mb3.1**/3**, mb1 3.3**/3**, mb1mx3.2**/42**, mbtmp3.1**/3**, Error ellipse: s-maj=162.6km s-min=25.6km az=67.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.01	165	P	P	14 43 56.6	0.0
	0.2nm,0.5s,baz=345,slow=10,SNR=6.1						
ASAR	Alice Springs	27.50	168	P	P	14 44 28.2	-0.1
	0.2nm,0.8s,baz=357,slow=8.3,SNR=4.4						
MKAR	Makanchi Array	58.56	325	P	P	14 48 38.5	0.0
	0.1nm,0.4s,baz=117,slow=8.3,SNR=2.5						

*IDC **05** 14:43:02.2±1.0, 29°.44S×176°.31W, h0^{km}, mb4.0/6, mb1 4.2/7, mb1mx3.9/35, mbtmp4.0/7, ML3.3/1, Error ellipse: s-maj=30.3km s-min=24.6km az=166.0*

*ISCJB **05** 14:43:04.4±1.2, 29°.7S±0°.2×176°.4W±0°.2, h21^{km}, mb4.0/6, Error ellipse: s-maj=26.3km s-min=21.9km az=28.2*

ISC 05 14:43:05.6±1.0**, 29°.6S**±0°.2×**176°.3W**±0°.2**, h21^{km}, n11, σ1^{s}27**/11**, mb4.1**/6**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	10.25	210	Pn	Pn	14 45 29.9	-1.5
	0.3nm,0.3s,baz=30,slow=8.1,SNR=3.5						
URZ				Sn	Sn	14 47 17.1	-8.4
	0.3nm,0.3s,baz=187,slow=19,SNR=1.9						
CTA	Charters Tower	35.14	277	P	P	14 49 59.3	+1.4
	2.3nm,0.7s,baz=94,slow=13,SNR=3.7						
STKA	Stephens Creek	36.10	255	P	P	14 50 07.4	+1.3
	1.5nm,0.5s,baz=67,slow=9.2,SNR=4.7						
ASAR	Alice Springs	44.63	265	P	P	14 51 15.8	-1.0
	0.5nm,0.5s,baz=103,slow=6.6,SNR=14						
WRA	Warramunga Arr	45.55	270	P	P	14 51 22.9	-1.2
	1.8nm,0.7s,baz=109,slow=7.8,SNR=18						
QSPA	South Pole Qui	60.54	180	P	P	14 53 15.7	+1.5
	3.3nm,1.0s,baz=19,slow=2.8,SNR=6.1						
NVAR	Mina Array Bea	86.64	42	P	P	14 55 47.7	-0.1
	0.6nm,0.8s,baz=223,slow=8.7,SNR=3.0						
FINES	FINESS Array B	144.85	341	PKP	PKPab	15 02 38.2	-1.1
	0.9nm,0.6s,baz=67,slow=3.6,SNR=6.3						
NOA	NORSAR Array B	148.13	353	PKPbc	PKPbc	15 02 48.1	-1.0
	1.2nm,0.9s,baz=14,slow=4.4,SNR=3.5						
AKASG	Malin Array Be	151.50	325	PKPbc	PKPbc	15 02 57.2	-0.3
	1.0nm,0.6s,baz=44,slow=2.7,SNR=5.6						
TORD	Torodi Ar. Bea	163.56	173	PKPab	PKPab	15 03 59.1	+0.4
	0.7nm,0.9s,baz=172,slow=2.9,SNR=2.8						

*IDC **05** 14:55:46.3±1.6, 0°.81S×97°.03E, h0^{km}, mb3.9/8, mb1 3.9/9, mb1mx3.7/36, mbtmp3.9/9, ML4.0/1, MS3.8/1, Ms1 3.8/1, ms1mx3.1/39, Error ellipse: s-maj=53.9km s-min=19.8km az=59.0*

*ISCJB **05** 14:55:48.2±0.8, 0°.59S±0°.05×97°.21E±0°.05, h21^{km}, mb3.9/8, MS3.8/1, Error ellipse: s-maj=9.0km s-min=4.2km az=137.6*

*DJA **05** 14:55:49.1±0.6, 1°S±3°×9°7E±°, h42^{km}±53^{km}, M3.9/10, mB4.5/1, mb3.9/1, MLv4.0/10, Mw(mB)3.6/1*

ISC 05 14:55:49.9±1.0**, 0°.62S**±0°.07×**97°.17E**±0°.08**, h21^{km}, n27, σ1^{s}30**/29**, mb4.0**/8**, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	1.96	12	P	Pn	14 56 20.8	-1.1
GSI				S	Sn	14 56 45.0	-0.8
SISI	Saibi	2.04	110	P	Pn	14 56 21.7	-1.3
SISI				S	Sn	14 56 45.7	-2.1
MNSI	Mandailing Nat	2.79	60	P	Pn	14 56 32.2	-1.1
MNSI				S	Sn	14 57 06.0	-0.4
SNSI	Sinabang, Aceh	3.13	344	P	Pn	14 56 35.4	-2.6
SNSI				S	Sn	14 57 13.0	-1.8
PPI	Padang Panjang	3.23	87	P	Pn	14 56 38.5	-0.9
PPI				S	Sn	14 57 16.7	-0.5
PDSI	Padang	3.30	95	P	Pn	14 56 39.8	-0.6
PDSI				S	Sn	14 57 16.9	-2.1
TPTI		3.86	0	P	Pn	14 56 46.7	-1.4
TPTI				S	Sn	14 57 31.0	-1.8
KCSI	Kotacane, Aceh	4.16	8	P	Pn	14 56 51.5	-0.8
KCSI				S	Sn	14 57 39.2	-1.1
SDSI	Sungai Dareh	4.26	94	P	Pn	14 56 52.4	-1.2
KRJI	Kerinci	4.53	109	S	Sn	14 57 48.1	-1.3
CMAR	Chiang Mai Arr	19.04	5	P	Pn	15 00 12.8	+1.1
	0.2nm,0.3s,baz=195,slow=10,SNR=8.2						
H08S2	Diego Garcia H	25.57	254	T	T	15 27 54.0	
	baz=75,slow=76						
H08S3	Diego Garcia H	25.57	254	T	T	15 27 54.4	
	baz=75,slow=76						
H08S1	Diego Carcia H	25.59	254	T	T	15 27 52.0	
	baz=75,slow=76						
H01W3	Cape Leeuwin H	37.58	157	T	T	15 43 19.5	
	baz=333						
H01W2	Cape Leeuwin H	37.60	157	T	T	15 43 23.1	
	baz=333						
H01W1	Cape Leeuwin H	37.60	157	T	T	15 43 23.4	
	baz=333						
JOW	Kunigami	40.52	45	LR	LR	15 18 43.5	
	comp=Z,141nm,20.7s,baz=120,slow=34						
WRA	Warramunga Arr	41.12	120	P	P	15 03 32.2	-0.6
	0.4nm,0.7s,baz=301,slow=9.1,SNR=6.4						
ASAR	Alice Springs	42.34	126	P	P	15 03 42.9	+0.1
	0.4nm,0.4s,baz=298,slow=7.5,SNR=15						
KSRS	Korea Array	47.36	34	P	P	15 04 23.6	+1.1
	0.9nm,0.6s,baz=215,slow=8.1,SNR=3.8						
SONM	Songino Array	48.93	8	P	P	15 04 36.2	+1.5
	0.3nm,0.4s,baz=181,slow=7.2,SNR=3.4						
SONM				PcP	PcP	15 05 59.0	+0.2
	0.3nm,0.3s,baz=197,slow=4.4,SNR=5.6						
MKAR	Makanchi Array	49.00	346	P	P	15 04 36.3	+1.2
	1.2nm,0.6s,baz=157,slow=8.5,SNR=18						
USRK	Ussuriysk Ar.	54.34	30	P	P	15 05 15.6	+0.6
	2.9nm,0.7s,baz=232,slow=9.7,SNR=5.7						
ZALV	Zalesovo Beam	55.34	351	P	P	15 05 22.9	+0.8
	1.8nm,0.3s,baz=180,slow=6.3,SNR=13						
FINES	FINESS Array B	81.59	333	P	P	15 08 05.4	-0.6
	2.9nm,1.0s,baz=102,slow=6.1,SNR=4.0						
TXAR	Lajitas Array	145.21	33	PKPbc	PKPdf	15 15 27.3	+0.4
	0.5nm,0.6s,baz=280,slow=2.5,SNR=7.0						

*NEIC **05** 15:32:14.0±0.0, 55°.47N×135°.05W, h20^{km}, mb4.0/10, ML4.1(AEIC), After AEIC.*

NEIC Felt at Juneau and Ketchikan.

*AEIC **05** 15:32:14.0, 55°.47N×135°.05W, h20^{km}, ML4.1, MB4.0(NEIC)*

*ISCJB **05** 15:32:14.1±0.3, 55°.60N±0°.04×135°.04W±0°.07, h9^{km}, mb3.9/10, Error ellipse: s-maj=7.3km s-min=2.6km az=137.8*

*IDC **05** 15:32:14.0±0.7, 55°.50N×134°.93W, h0^{km}, mb3.9/12, mb1 4.1/20, mb1mx3.9/48, mbtmp3.9/20, ML3.5/8, Error ellipse: s-maj=13.3km s-min=9.4km az=66.0*

ISC 05 15:32:14.8±0.6**, 55°.49N**±0°.05×**135°.04W**±0°.05**, h9^{km}, n111, σ1^{s}88**/113**, mb3.9**/10**, Off coast of southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	Craig	1.09	90	ePg	Pg	15 32 34.0	-1.8
SIT	Sitka	1.58	354	ePn	Pn	15 32 40.8	-2.2
WRAK	Wrangell Islan	1.78	57	ePn	Pn	15 32 44.0	-1.8
NDB	Naden	1.96	141	P	Pn	15 32 45.9	-2.4
MASB	Masset	2.29	129	P	Pn	15 32 50.5	-2.2
DIB	Dawson Inlet,	2.74	146	ePn	Pn	15 32 56.4	-2.5
H02S1	DAWSON INLET T	2.74	146	Pn	Pn	15 32 57.2	-1.7
	SNR=1977						
H02S1				Sn	Sn	15 33 28.5	-3.6
JIS	Juneau Island	2.82	7	ePn	Pn	15 32 58.7	-1.3
BESE	Bessie Mountai	3.10	2	ePn	Pn	15 33 02.6	-1.4
BNB	Barry Inlet	3.50	145	P	Pn	15 33 07.5	-2.0
SKAG	Skagway	3.99	358	ePn	Pn	15 33 15.7	-0.4
DLBC	Dease Lake	4.03	41	Pn	Pn	15 33 15.9	-0.9
	2.0nm,0.3s,baz=244,slow=7.0,SNR=35						
DLBC				Pg	Pb	15 33 24.2	-1.9
	5.5nm,0.3s,baz=210,slow=14,SNR=18						
DLBC				Sn	Sn	15 34 00.2	-4.0
	17nm,0.3s,baz=230,slow=16,SNR=4.9						
DLBC				Lg	Lg	15 34 19.5	
	68nm,0.3s,baz=140,slow=21,SNR=14						
WHY	Whitehorse	5.19	1	ePn	Pn	15 33 31.9	-0.8
BBB	Bella Bella	5.27	126	Pn	Pn	15 33 31.6	-2.0
	10nm,0.3s,baz=296,slow=11,SNR=71						
BBB				Sn	Sn	15 34 30.5	-4.0
	12nm,0.3s,baz=243,slow=18,SNR=8.1						
BBB				Lg	Lg	15 34 56.5	
	10nm,0.3s,baz=41,slow=23,SNR=6.5						
BBB	Bella Bella	5.27	126	ePn	Pn	15 33 32.0	-1.6
BBB				Sn	Sn	15 34 30.5	-4.0
BBB				Lg	Lg	15 34 56.5	
YUK7	Dusty Glacier	5.32	343	P	Pn	15 33 35.2	+0.7
PCA	Pinnacle	5.40	331	P	Pn	15 33 35.5	0.0
HYT	Haines Junctio	5.51	347	ePn	Pn	15 33 37.3	+0.2
SAMH	Samovar Hills	5.57	329	P	Pn	15 33 38.3	+0.4
YUK6	Outpost Mounta	5.75	344	P	Pn	15 33 39.9	-0.5
YUK5	Granite Creek	5.85	346	P	Pn	15 33 42.3	+0.5
RKAV	Rock Avalanche	5.88	328	P	Pn	15 33 42.4	+0.3
FSB	Fort Saint Jam	6.25	95	P	Pn	15 33 47.1	-0.1
KULT	Kultieth River	6.29	323	P	Pn	15 33 46.9	-0.8
DIV	Divide	7.99	319	ePn	Pn	15 34 15.3	+4.3
KLU	Klutina	8.28	321	ePn	Pn	15 34 17.4	+2.4
HARP	HAARP	8.68	327	ePn	Pn	15 34 23.4	+3.0
DAWY	Dawson	8.88	348	ePn	Pn	15 34 23.4	+0.2
SEW	Seward	8.97	307	ePn	Pn	15 34 22.5	-1.9
DOT	Dot Lake	9.37	335	ePn	Pn	15 34 27.7	-2.1
SML	Sawmill	9.37	318	ePn	Pn	15 34 30.2	+0.2
BRLK	Bradley Lake	9.51	303	ePn	Pn	15 34 29.9	-1.9
RC01	Rabbit Creek A	9.55	312	ePn	Pn	15 34 31.1	-1.2
PMR	Palmer	9.56	316	ePn	Pn	15 34 32.6	+0.2
GHO	Glory Hole Cre	9.58	317	ePn	Pn	15 34 34.7	+1.9
RIDG	Independ'e Rid	9.64	333	ePn	Pn	15 34 35.7	+2.1
DHY	Denali Highway	9.87	325	ePn	Pn	15 34 39.0	+2.2
KDAK	Kodiak Island	9.93	291	Pn	Pn	15 34 35.0	-2.5
	2.4nm,0.3s,baz=81,slow=5.8,SNR=26						
KDAK				Sn	Sn	15 36 22.8	-6.2
	0.3nm,0.3s,baz=127,slow=20,SNR=5.0						
SUA	Susitna One	10.15	313	ePn	Pn	15 34 40.5	-0.3
RND	Reindeer	10.58	324	ePn	Pn	15 34 48.1	+1.6
SPU	Mount Spurr	10.59	310	ePn	Pn	15 34 46.2	-0.4
HDA	Harding Lake	10.73	331	ePn	Pn	15 34 49.3	+0.7
B05A	Bryant	10.77	127	P	Pn	15 34 51.9	+2.8
	baz=317						
MCK	McKinley	10.83	325	ePn	Pn	15 34 51.3	+1.4
IL1	Eielson Array	11.00	333	ePn	Pn	15 34 53.4	+1.2
ILAR	Eielson Array	11.00	333	Pn	Pn	15 34 52.6	+0.5
	0.3nm,0.3s,baz=156,slow=12,SNR=34						
ILAR				Lg	Lg	15 38 06.8	
	0.0nm,0.3s,baz=122,slow=25,SNR=4.0						
ILB	Eielson Array	11.00	333	ePn	Pn	15 34 53.0	+0.8
TRF	Thorofare Moun	11.10	322	ePn	Pn	15 34 55.8	+2.1
WRH	Wood River Hil	11.10	329	ePn	Pn	15 34 54.4	+0.8
PPLA	Purkeypile	11.47	317	ePn	Pn	15 34 58.8	0.0
MDM	Murphy Dome	11.51	331	ePn	Pn	15 35 00.5	+1.3
CAST	Castle Rocks	11.73	320	ePn	Pn	15 35 03.1	+1.0
BPAW	Bear Paw Mtn.	11.75	324	ePn	Pn	15 35 04.5	+2.1
LON	Longmire	12.05	131	ePn	Pn	15 35 08.0	+1.3
SVW2	Sparrevohn	12.15	306	ePn	Pn	15 35 06.3	-1.5
LTY	Liberty	12.17	127	ePn	Pn	15 35 12.6	+4.3
YKA	Yellowknife Ar	12.62	48	Pn	Pn	15 35 12.0	-2.2
	0.2nm,0.3s,baz=241,slow=12,SNR=15						
YKA				Lg	Lg	15 38 47.0	
	0.1nm,0.3s,baz=243,slow=30,SNR=3.8						
INK	Inuvik	12.89	3	Pn	Pn	15 35 18.6	+0.7
	0.1nm,0.3s,baz=168,slow=12,SNR=3.5						
INK				Lg	Lg	15 38 55.6	
	baz=251,slow=18,SNR=2.5						
NEW	Newport	13.20	116	Pn	Pn	15 35 25.6	+3.4
	0.1nm,0.3s,baz=326,slow=11,SNR=5.7						
NEW				Lg	Lg	15 39 03.1	
	0.1nm,0.3s,baz=233,slow=20,SNR=2.0						
NEW	Newport	13.20	116	P	Pn	15 35 25.4	+3.1
	baz=310,SNR=5.3						
IM3	Indian Mountai	13.87	327	ePn	Pn	15 35 33.4	+2.1
J04D	Umpqua Nationa	14.84	140	P	P	15 35 50.6	-0.2
	baz=330						
J05D	Fort Rock, OR	15.13	138	P	P	15 35 55.1	+1.2
	baz=329						
YBH	Yreka Blue Hor	15.96	144	Pn	P	15 36 02.0	-1.1
	0.1nm,0.3s,baz=3.0,slow=8.0,SNR=2.6						
EGMT	Eagleton	17.27	105	P	Pn	15 36 16.6	+0.4
	baz=305						
MCMT	McKenzie Canyo	17.69	118	ePn	P	15 36 23.4	+1.0
BOZ	Bozeman (W)	17.79	114	ePn	P	15 36 25.0	+1.6
	18nm,1.9s						
BOZ	Bozeman (W)	17.79	114	P	P	15 36 24.9	+1.5
	baz=312						
HLID	Hailey	17.85	123	ePn	P	15 36 25.1	+1.0
	11nm,1.1s						
HLID	Hailey	17.85	123	P	P	15 36 25.8	+1.7
	baz=319,SNR=14						
QLMT	Earthquake Lak	18.41	116	ePn	Pn	15 36 32.1	+1.8
GCMT	Greycliff	18.69	111	eP	Pn	15 36 36.4	+2.7
YMR	Madison River	18.76	115	eP	P	15 36 32.9	-1.3
	9.3nm,0.9s						
FFC	Flin Flon	18.84	79	eP	Pn	15 36 35.7	+0.5
	7.7nm,0.7s						
H17A	Grant Village	19.15	115	P	Pn	15 36 41.7	+2.3
	baz=314,SNR=7.0						
IMW	Indian Meadow	19.32	117	eP	Pn	15 36 42.6	+1.2
	12nm,1.1s						
RLMT	Red Lodge	19.34	112	P	Pn	15 36 43.9	+2.3
	baz=312,SNR=10						
TPAW	Teton Pass	19.61	118	eP	Pn	15 36 46.7	+1.9
	13nm,1.1s						
LOHW	Long Hollow	19.69	117	eP	Pn	15 36 47.1	+1.3
	11nm,1.3s						
ELK	Elko	19.70	130	P	Pn	15 36 46.0	0.0
	0.1nm,0.3s,baz=306,slow=11,SNR=4.5						
KVN	Kaiserville	19.97	138	eP	Pn	15 36 49.0	-0.1
	20nm,1.7s						
HVU	Hansel Valley	20.00	124	eP	Pn	15 36 51.2	+1.8
	4.8nm,1.1s						
LAO	LASA Array	20.00	104	P	Pn	15 36 50.7	+1.4
	baz=307,SNR=5.6						
NVAR	Mina Array Bea	20.44	140	P	Pn	15 36 54.5	-0.2
	1.3nm,0.7s,baz=314,slow=11,SNR=6.0						
BW06	Boulder Array	20.83	117	eP	Pn	15 36 58.0	-1.2
	10nm,1.1s						
BW06	Boulder Array	20.83	117	P	Pn	15 36 58.3	-0.9
	baz=316,SNR=12						
PD31	Pinedale Array	20.83	117	eP	Pn	15 36 58.2	-1.1
PDAR	Pinedale Array	20.83	117	P	Pn	15 36 58.3	-0.9
	5.7nm,0.9s,baz=317,slow=8.5,SNR=18						
PDAR	Pinedale Array	20.83	117	eP	P	15 36 57.8	+1.0
R11A	Troy Canyon, C	21.57	135	P	P	15 37 05.7	+1.1
	baz=329,SNR=5.7						
CWC	Cottonwood Cre	22.29	142	P	P	15 37 14.3	+1.8
	baz=334						
TPNV	Topopah Spring	22.52	138	P	P	15 37 17.6	+2.7
	baz=331,SNR=7.9						
RSSD	Black Hills	22.81	107	P	P	15 37 19.8	+1.8
	baz=311						
MPMC	Manual Prospec	22.84	141	P	P	15 37 19.5	+1.1
	baz=334						
GSC	Goldstone, Bar	23.77	141	P	P	15 37 29.0	+1.5
	baz=334						
TUQ	Turquoise Moun	23.97	139	P	P	15 37 31.6	+2.0
	baz=333,SNR=5.6						
ULM	Lac du Bonnet	23.98	86	P	P	15 37 29.4	+0.1
	3.1nm,0.8s,baz=304,slow=8.3,SNR=5.6						
BFSC	Mount Baldy Ra	24.43	143	P	P	15 37 36.3	+2.6
	baz=336						
RES	Resolute Bay	24.73	24	P	P	15 37 37.3	+1.3
	1.9nm,0.8s,baz=265,slow=11,SNR=8.3						
PV01	Paradox Valley	24.85	123	eP	P	15 37 37.0	-0.7
PFO	Pinyon Flats O	25.41	142	P	P	15 37 43.8	+1.2
	1.0nm,0.3s,baz=340,slow=6.9,SNR=3.1						
MONP2	Monument Peak	26.08	142	P	P	15 37 50.7	+1.9
	baz=336,SNR=5.2						
TXAR	Lajitas Array	34.41	126	P	P	15 39 03.5	+1.2
	1.0nm,0.7s,baz=326,slow=6.1,SNR=10						
TXAR				PcP	PcP	15 41 38.0	+0.2
	0.1nm,0.5s,baz=48,slow=1.3,SNR=3.4						
NOA	NORSAR Array B	60.80	18	P	P	15 42 27.4	+0.8
	0.4nm,0.6s,baz=0.3,slow=8.0,SNR=2.7						
ZALV	Zalesovo Beam	66.11	336	P	P	15 43 02.2	+0.4
	0.7nm,0.6s,baz=14,slow=6.4,SNR=3.5						
MKAR	Makanchi Array	73.35	334	P	P	15 43 46.6	0.0
	1.3nm,0.6s,baz=44,slow=6.0,SNR=6.8						
AKASG	Malin Array Be	73.37	10	P	P	15 43 46.4	-0.1
	1.6nm,0.6s,baz=353,slow=6.0,SNR=3.7						
WMQ	Urumqi	74.65	329	eP	P	15 43 56.7	+2.4
ESDC	Sonseca Array	76.46	37	P	P	15 44 05.3	+0.7
	0.6nm,0.5s,baz=332,slow=6.0,SNR=7.8						
CMAR	Chiang Mai Arr	93.38	310	P	P	15 45 31.3	+0.9
	0.3nm,0.3s,baz=14,slow=4.6,SNR=3.1						
BOSA	Boshof	149.64	36	PKPbc	PKPbc	15 52 04.4	-0.2
	1.7nm,0.8s,baz=45,slow=1.4,SNR=2.2						
BOSA				PKPab	PKPab	15 52 09.7	0.0
	1.6nm,0.8s,baz=354,slow=4.1,SNR=4.0						

*IDC **05** 15:40:48.6±1.4, 6°.39N×127°.79E, h0^{km}, mb3.4/4, mb1 3.5/5, mb1mx3.4/37, mbtmp3.5/5, ML3.8/1, Error ellipse: s-maj=60.8km s-min=20.2km az=63.0*

*ISCJB **05** 15:40:56.3±1.6, 5°.83N±0°.10×127°.1E±0°.1, h60^{km}±20^{km}, Error ellipse: s-maj=17.5km s-min=16.1km az=170.4*

*MAN **05** 15:40:56.6, 6°.07N×127°.19E, h18^{km}, mb4.7, ML3.5, MS3.4*

ISC 05 15:40:56.9±2.5**, 5°.9N**±0°.1×**127°.2E**±0°.1**, h56^{km}**±25^{km}**, n12, σ3^{s}07**/16**, 3C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.39	320	eP	Pn	15 41 18.2	-1.7
MATI				eS	Sn	15 41 36.0	-1.2
DAV	Davao City (W)	1.96	307	Pn	Pn	15 41 28.5	+0.7
	28nm,0.3s,baz=164,slow=3.5,SNR=4.1						
DAV				Sn	Sn	15 41 53.0	+1.7
	45nm,0.3s,baz=143,slow=22,SNR=17						
DMPH	Davao City--Mi	2.03	306	⇑eP	Pn	15 41 34.5	+5.8
DMPH				eS	Sn	15 42 00.7	+7.8
GSPH	General Santos	2.21	275	⇑iP	Pn	15 41 29.8	-1.5
GSPH				i S	Sn	15 41 54.2	-3.2
BIPH	Bislig	2.42	341	⇑iP	Pn	15 41 35.5	+1.4
BIPH				i S	Sn	15 41 59.1	-3.3
SKMP	Bagumbayan, Su	2.68	284	eP	Pn	15 41 37.8	+0.3
BUKP	Musuan	2.88	314	eP	Pn	15 41 39.0	-1.4
BUKP				eS	Sn	15 42 16.0	+2.2
BUTP	Butuan	3.42	334	eP	Pn	15 41 55.4	+7.6
BUTP				eS	Sn	15 42 35.6	+8.4
WRA	Warramunga Arr	26.62	165	P	P	15 46 32.8	+2.4
	0.2nm,0.6s,baz=346,slow=10,SNR=4.9						
ASAR	Alice Springs	30.10	168	P	P	15 47 02.5	+1.2
	0.2nm,0.8s,baz=339,slow=7.0,SNR=2.9						
MKAR	Makanchi Array	56.06	324	P	P	15 50 29.2	-1.0
	0.2nm,0.3s,baz=115,slow=6.9,SNR=12						
ZALV	Zalesovo Beam	58.88	332	P	P	15 50 48.0	-2.0
	0.4nm,0.5s,baz=120,slow=8.5,SNR=2.5						

*ISCJB **05** 15:41:41.6±0.3, 55°.64N±0°.04×135°.16W±0°.06, h9^{km}, mb3.9/11, MS3.8/1, Error ellipse: s-maj=6.8km s-min=3.0km az=43.4*

*NEIC **05** 15:41:41.9±0.0, 55°.64N×135°.26W, h13^{km}, mb4.0/2, ML3.9(AEIC), After AEIC.*

NEIC Felt at Juneau, Ketchikan, Metlakatla and Sitka. Also felt at Terrace, British Columbia.

*IDC **05** 15:41:42.5±0.8, 55°.62N×135°.19W, h0^{km}, mb3.6/11, mb1 3.9/17, mb1mx3.8/45, mbtmp3.8/17, ML3.7/6, MS3.8/1, Ms1 3.8/1, ms1mx2.8/52, Error ellipse: s-maj=14.2km s-min=10.8km az=56.0*

ISC 05 15:41:43.4±0.6**, 55°.63N**±0°.05×**135°.22W**±0°.05**, h9^{km}, n66, σ1^{s}83**/71**, mb3.8**/11**, Off coast of southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	Craig	1.20	97	ePg	Pb	15 42 03.9	-2.4
CRAG				eSg	Sb	15 42 20.9	-0.9
SIT	Sitka	1.43	358	ePn	Pn	15 42 07.3	-2.2
WRAK	Wrangell Islan	1.79	63	ePn	Pn	15 42 12.5	-1.9
NDB	Naden	2.13	141	P	Pn	15 42 17.4	-1.8
MASB	Masset	2.46	130	P	Pn	15 42 22.9	-0.7
JIS	Juneau Island	2.69	9	ePn	Pn	15 42 25.6	-1.2
DIB	Dawson Inlet,	2.91	146	ePn	Pn	15 42 28.2	-1.6
H02S1	DAWSON INLET T	2.91	146	Pn	Pn	15 42 28.5	-1.3
H02S1				Sn	Sn	15 43 01.9	-2.9
BESE	Bessie Mountai	2.96	4	ePn	Pn	15 42 29.5	-1.1
BNB	Barry Inlet	3.68	145	P	Pn	15 42 38.4	-2.0
SKAG	Skagway	3.84	359	ePn	Pn	15 42 41.9	-0.7
DLBC	Dease Lake	3.99	43	Pn	Pn	15 42 44.0	-0.8
	4.0nm,0.3s,baz=199,slow=13,SNR=36						
DLBC				Pg	Pb	15 42 53.1	-0.8
	8.2nm,0.3s,baz=205,slow=15,SNR=17						
DLBC				Sn	Sn	15 43 27.6	-4.0
	7.7nm,0.3s,baz=306,slow=17,SNR=3.1						
DLBC				Lg	Lg	15 43 42.0	
	31nm,0.3s,baz=130,slow=22,SNR=4.7						
DLBC	Dease Lake	3.99	43	ePn	Pn	15 42 43.8	-1.0
WHY	Whitehorse	5.05	2	ePn	Pn	15 42 58.6	-0.6
PCA	Pinnacle	5.22	331	P	Pn	15 43 01.8	+0.1
HYT	Haines Junctio	5.35	348	ePn	Pn	15 43 03.6	+0.2
SAMH	Samovar Hills	5.40	329	P	Pn	15 43 04.7	+0.6
BBB	Bella Bella	5.43	127	Pn	Pn	15 43 03.3	-1.2
	9.1nm,0.3s,baz=306,slow=11,SNR=58						
BBB				Sn	Sn	15 44 04.1	-3.0
	10nm,0.3s,baz=98,slow=16,SNR=10						
BBB				Lg	Lg	15 44 33.9	
	5.2nm,0.3s,baz=66,slow=20,SNR=2.7						
YUK6	Outpost Mounta	5.58	344	P	Pn	15 43 06.3	-0.4
YUK5	Granite Creek	5.69	347	P	Pn	15 43 08.3	+0.2
RKAV	Rock Avalanche	5.71	328	P	Pn	15 43 09.2	+0.8
MESA	MESA	5.80	325	P	Pn	15 43 09.3	-0.4
FSB	Fort Saint Jam	6.36	96	P	Pn	15 43 17.2	-0.1
KLU	Klutina	8.11	321	ePn	Pn	15 43 41.3	+0.1
HARP	HAARP	8.50	327	ePn	Pn	15 43 48.8	+2.2
DAWY	Dawson	8.72	348	ePn	Pn	15 43 49.8	+0.3
SCM	Sheep Creek Mo	8.84	320	ePn	Pn	15 43 52.9	+1.7
PAX	Paxson	9.03	329	ePn	Pn	15 43 57.4	+3.6
DOT	Dot Lake	9.20	335	ePn	Pn	15 43 56.6	+0.6
SML	Sawmill	9.20	318	ePn	Pn	15 43 55.9	-0.3
PMR	Palmer	9.39	315	ePn	Pn	15 44 01.2	+2.5
GHO	Glory Hole Cre	9.41	316	ePn	Pn	15 43 58.9	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCRK	**Sand Creek**	**9.46**	**336**	*e*Pn	**Pn**	**15 43 59.6**	**-0.1**
DHY	**Denali Highway**	**9.69**	**325**	*e*Pn	**Pn**	**15 44 06.3**	**+3.4**
KDAK	**Kodiak Island**	**9.79**	**290**	Pn	**Pn**	**15 44 03.9**	**-0.3**
	1.1nm,0.3s,baz=63,slow=7.4,SNR=8.2						
KDAK				Sn	**Sn**	**15 45 47.7**	**-6.4**
	0.1nm,0.3s,baz=135,slow=18,SNR=2.1						
RND	**Reindeer**	**10.41**	**324**	*e*Pn	**Pn**	**15 44 15.1**	**+2.4**
HDA	**Harding Lake**	**10.56**	**331**	*e*Pn	**Pn**	**15 44 16.0**	**+1.3**
IL1	**Eielson Array**	**10.83**	**333**	*e*Pn	**Pn**	**15 44 18.4**	**0.0**
ILAR	**Eielson Array**	**10.83**	**333**	Pn	**Pn**	**15 44 17.2**	**-1.2**
	0.4nm,0.3s,baz=155,slow=13,SNR=49						
ILAR				Lg	Lg	15 47 30.1	
	0.0nm,0.3s,baz=134,slow=30,SNR=3.6						
ILB	**Eielson Array**	**10.83**	**333**	*e*Pn	**Pn**	**15 44 18.5**	**+0.1**
TRF	**Thorofare Moun**	**10.93**	**322**	*e*Pn	**Pn**	**15 44 21.8**	**+1.9**
WRH	**Wood River Hil**	**10.93**	**329**	*e*Pn	**Pn**	**15 44 21.1**	**+1.4**
MDM	**Murphy Dome**	**11.34**	**331**	*e*Pn	**Pn**	**15 44 25.8**	**+0.4**
CAST	**Castle Rocks**	**11.55**	**319**	*e*Pn	**Pn**	**15 44 30.3**	**+2.0**
BPAW	**Bear Paw Mtn.**	**11.58**	**324**	*e*Pn	**Pn**	**15 44 31.8**	**+3.1**
YKA	**Yellowknife Ar**	**12.59**	**49**	Pn	**Pn**	**15 44 41.2**	**-1.2**
	0.3nm,0.3s,baz=235,slow=12,SNR=14						
YKA				Lg	Lg	15 48 13.8	
	0.0nm,0.3s,baz=248,slow=26,SNR=4.1						
YKB5	**Yellowknife Ar**	**12.59**	**49**	*e*Pn	**Pn**	**15 44 40.7**	**-1.8**
INK	**Inuvik**	**12.75**	**3**	Pn	**Pn**	**15 44 46.2**	**+1.7**
	0.1nm,0.3s,baz=162,slow=12,SNR=5.4						
INK				Lg	Lg	15 48 22.6	
	0.0nm,0.3s,baz=108,slow=20,SNR=3.6						
NEW	**Newport**	**13.35**	**116**	Pn	**Pn**	**15 44 56.4**	**+3.5**
	0.1nm,0.3s,baz=307,slow=9.0,SNR=5.8						
NEW				Lg	Lg	15 48 43.4	
	0.2nm,0.3s,baz=49,slow=20,SNR=3.2						
IM3	**Indian Mountai**	**13.70**	**327**	*e*Pn	**Pn**	**15 44 59.1**	**+1.6**
FFC	**Flin Flon**	**18.91**	**79**	*e*P	**P**	**15 46 05.3**	**+1.3**
	5.9nm,0.8s						
ELK	**Elko**	**19.87**	**130**	P	**Pn**	**15 46 19.4**	**+3.0**
	0.0nm,0.3s,baz=4.4,slow=12,SNR=3.9						
NVAR	**Mina Array Bea**	**20.61**	**140**	P	**P**	**15 46 24.6**	**+1.6**
	0.9nm,0.9s,baz=327,slow=9.7,SNR=2.8						
PDAR	**Pinedale Array**	**20.98**	**117**	P	**P**	**15 46 27.7**	**+0.7**
	1.4nm,0.9s,baz=322,slow=7.1,SNR=7.6						
TPNV	**Topopah Spring**	**22.69**	**138**	*e*P	**P**	**15 46 45.1**	**0.0**
	16nm,1.8s						
ULM	**Lac du Bonnet**	**24.07**	**86**	P	**P**	**15 46 59.2**	**+0.5**
	1.3nm,0.5s,baz=283,slow=9.5,SNR=4.6						
RES	**Resolute Bay**	**24.64**	**24**	P	**P**	**15 47 05.8**	**+2.1**
	2.7nm,0.7s,baz=244,slow=11,SNR=9.0						
TXAR	**Lajitas Array**	**34.57**	**126**	P	**P**	**15 48 33.5**	**+1.2**
	0.5nm,0.8s,baz=316,slow=5.2,SNR=4.3						
SCHQ	**Schefferville**	**37.56**	**62**	P	**P**	**15 48 58.7**	**+1.1**
	3.7nm,0.9s,baz=292,slow=11,SNR=3.0						
SCHQ				LR	LR	16 05 51.8	
	comp=Z,143nm,18.8s,baz=318,slow=39						
NOA	**NORSAR Array B**	**60.69**	**18**	P	**P**	**15 51 55.7**	**+1.3**
	0.9nm,0.9s,baz=340,slow=6.7,SNR=3.3						
ZALV	**Zalesovo Beam**	**65.94**	**335**	P	**P**	**15 52 29.7**	**+0.5**
	0.3nm,0.4s,baz=2.3,slow=7.2,SNR=2.8						
HHC	**Hu-ho-hao-te**	**68.47**	**311**	*e*P	**P**	**15 52 43.2**	**-2.5**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,88nm,3.9s						
MKAR	**Makanchi Array**	**73.18**	**334**	P	**P**	**15 53 14.8**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=43,slow=5.9,SNR=6.3						
AKASG	**Malin Array Be**	**73.25**	**10**	P	**P**	**15 53 14.4**	**0.0**
	comp=Z,0.2nm,0.3s,baz=349,slow=5.6,SNR=5.4						
WMQ	**Urumqi**	**74.48**	**329**	*e*P	**P**	**15 53 23.5**	**+1.7**
ESDC	**Sonseca Array**	**76.40**	**37**	P	**P**	**15 53 34.1**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=335,slow=5.7,SNR=3.9						

*IDC **05** 15:51:02.5±0.9, 12.°44S×165.°73E, h0km, mb4.2/14, mb1 4.4/16, mb1mx4.2/41, mbtmp4.3/16, ML4.3/2, MS3.3/2, Ms1 3.3/2, ms1mx2.9/29, Error ellipse: s-maj=28.9km s-min=17.4km az=130.0*

*ISCJB **05** 15:51:06.0±0.6, 12.°45S±0.°08×165.°59E±0.°09, h33km, mb4.2/14, MS3.5/1, Error ellipse: s-maj=13.1km s-min=11.9km az=2.1*

*NEIC **05** 15:51:07.9±0.5, 12.°43S×165.°69E, h35km, mb4.3/1, Error ellipse: s-maj=13.3km s-min=10.1km az=115.0*

ISC 05 15:51:07.5±0.6,**12.°53S**±0.°08×**165.°7E**±0.°1,**h35**km,**n21, σ1s.69**/22,**mb4.2**/14,**Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.38**	**298**	Pn	**Pn**	**15 52 39.6**	**+0.5**
	22nm,0.3s,baz=198,slow=21,SNR=8.1						
HNR				Sn	**Sn**	**15 53 48.0**	**-2.9**
	3.0nm,0.3s,baz=120,slow=20,SNR=4.8						
HNR				LR	LR	15 54 45.1	
	comp=Z,130nm,21.8s,baz=106,slow=35						
DZM	**Mont Dzumac**	**9.52**	**176**	Pn	**Pn**	**15 53 24.3**	**+2.0**
	1.0nm,0.3s,baz=304,slow=18,SNR=9.7						
DZM				Sn	**Sn**	**15 55 03.6**	**-4.6**
	0.3nm,0.3s,baz=311,slow=19,SNR=2.2						
CTA	**Charters Tower**	**20.06**	**245**	P	Pn	15 55 39.9	0.0
	7.6nm,0.8s,baz=71,slow=11,SNR=5.8						
STKA	**Stephens Creek**	**29.32**	**225**	P	**P**	**15 57 08.6**	**+1.6**
	2.4nm,0.8s,baz=60,slow=12,SNR=4.1						
STKA				LR	LR	16 09 17.6	
	comp=Z,121nm,18.7s,baz=238,slow=37						
WRA	**Warramunga Arr**	**30.91**	**252**	P	**P**	**15 57 20.9**	**-0.3**
	1.2nm,0.6s,baz=84,slow=8.6,SNR=17						
ASAR	**Alice Springs**	**32.06**	**245**	P	**P**	**15 57 30.6**	**-0.8**
	1.8nm,0.8s,baz=70,slow=9.7,SNR=18						
MBWA	**Marble Bar**	**44.65**	**253**	P	**P**	**15 59 18.5**	**+1.4**
	2.3nm,0.5s						
MJAR	**Matsushiro Arr**	**55.24**	**333**	P	**P**	**16 00 36.1**	**-1.2**
	1.0nm,0.6s,baz=171,slow=7.9,SNR=5.7						
PETK	**Petropavlovsk-**	**65.72**	**355**	P	**P**	**16 01 48.6**	**+0.1**
	10nm,1.0s,baz=134,slow=10,SNR=5.6						
CMAR	**Chiang Mai Arr**	**72.62**	**294**	P	**P**	**16 02 33.9**	**+1.9**
	1.3nm,0.8s,baz=131,slow=4.7,SNR=12						
SEY	**Seymchan**	**75.93**	**354**	P	**P**	**16 02 50.3**	**0.0**
	3.8nm,0.8s,baz=152,slow=10.0,SNR=5.8						
SONM	**Songino Array**	**79.80**	**324**	P	**P**	**16 03 13.4**	**+1.1**
	1.3nm,0.8s,baz=137,slow=6.8,SNR=5.4						
ILAR	**Eielson Array**	**84.94**	**18**	P	**P**	**16 03 38.8**	**+0.1**
	2.9nm,0.7s,baz=239,slow=5.1,SNR=20						
NVAR	**Mina Array Bea**	**87.05**	**50**	P	**P**	**16 03 49.9**	**-0.1**
	0.5nm,0.7s,baz=235,slow=8.7,SNR=4.2						
MKAR	**Makanchi Array**	**94.53**	**317**	P	**P**	**16 04 25.1**	**+0.6**
	2.1nm,0.9s,baz=97,slow=6.6,SNR=14						
ZALV	**Zalesovo Beam**	**94.69**	**324**	P	**P**	**16 04 24.2**	**-0.8**
	0.9nm,0.7s,baz=126,slow=4.1,SNR=4.8						
YKA	**Yellowknife Ar**	**96.33**	**27**	P	**P**	**16 04 30.6**	**-1.6**
	0.7nm,0.5s,baz=258,slow=4.6,SNR=26						
ARCES	**ARCESS Array B**	**117.73**	**345**	PKP	**PKPdf**	**16 09 49.5**	**-0.1**
	0.7nm,0.4s,baz=66,slow=2.3,SNR=25						
FINES	**FINESS Array B**	**123.10**	**338**	PKP	**PKPdf**	**16 10 00.3**	**+0.2**
	1.2nm,0.9s,baz=70,slow=2.2,SNR=4.8						
KEST	**Kesra**	**148.52**	**321**	PKPbc	**PKPab**	**16 10 52.5**	**-2.1**
	5.7nm,1.0s,baz=42,slow=2.1,SNR=4.3						
ESDC	**Sonseca Array**	**151.44**	**343**	PKPbc	**PKPbc**	**16 10 58.9**	**+0.7**
	0.4nm,0.6s,baz=28,slow=3.5,SNR=5.9						

*ISCJB **05** 16:02:26.9±1.7, 55.°42N±0.°04×135.°30W±0.°09, h8km±12km, mb3.4/4, Error ellipse: s-maj=9.0km s-min=4.8km az=152.4*

*NEIC **05** 16:02:27.0±0.0, 55.°46N×135.°33W, h10km, ML3.7(AEIC), After AEIC.*

*IDC **05** 16:02:29.4±1.0, 55.°51N×135.°24W, h0km, mb3.4/6, mb1 3.7/11, mb1mx3.5/50, mbtmp3.5/11, ML3.3/4, Error ellipse: s-maj=15.8km s-min=12.8km az=48.0*

ISC 05 16:02:26.9±1.9,**55.°40N**±0.°05×**135.°34W**±0.°06,**h3**km±12km,**n29, σ2s.07**/36,**mb3.6**/4,**Off coast of southeastern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRAG	**Craig**	**1.27**	**86**	*e*Pn	**Pg**	**16 02 51.5**	**+0.3**
CRAG				*e*Sn	**Sn**	**16 03 07.7**	**-1.3**
SIT	**Sitka**	**1.66**	**0**	*e*Pn	**Pn**	**16 02 55.4**	**-1.5**
SIT				*e*Sn	**Sg**	**16 03 19.3**	**-0.8**
WRAK	**Wrangell Islan**	**1.97**	**58**	*e*Pn	**Pb**	**16 03 01.1**	**-2.3**
WRAK				*e*Sn	**Sn**	**16 03 25.1**	**-1.3**
NDB	**Naden**	**2.01**	**135**	P	**Pn**	**16 02 59.9**	**-2.0**
DIB	**Dawson Inlet,**	**2.77**	**142**	*e*Pn	**Pn**	**16 03 13.2**	**+1.0**
DIB				*e*Sn	**Sn**	**16 03 44.7**	**-1.4**
H02S1	**DAWSON INLET T**	**2.77**	**142**	Pn	**Pn**	**16 03 13.2**	**+1.0**
H02S1				Sn	**Sn**	**16 03 45.4**	**-0.8**
JIS	**Juneau Island**	**2.93**	**10**	*e*Pn	**Pn**	**16 03 13.9**	**-0.5**
BESE	**Bessie Mountai**	**3.20**	**5**	*e*Pn	**Pn**	**16 03 18.8**	**+0.7**
BNB	**Barry Inlet**	**3.54**	**142**	P	**Pn**	**16 03 23.9**	**+1.1**
SKAG	**Skagway**	**4.07**	**0**	*e*Pn	**Pn**	**16 03 30.9**	**+0.9**
DLBC	**Dease Lake**	**4.21**	**42**	Pn	**Pn**	**16 03 32.9**	**+0.9**
	1.8nm,0.3s,baz=213,slow=9.0,SNR=27						
DLBC				Pg	**Pb**	**16 03 41.1**	**-0.5**
	1.2nm,0.3s,baz=230,slow=16,SNR=6.5						
DLBC				Sn	**Sn**	**16 04 19.6**	**-2.1**
	2.7nm,0.3s,baz=225,slow=16,SNR=3.9						
DLBC				Lg	Lg	16 04 35.9	
	18nm,0.3s,baz=112,slow=19,SNR=14						
WHY	**Whitehorse**	**5.28**	**2**	*e*Pn	**Pn**	**16 03 46.9**	**+0.2**
YUK7	**Dusty Glacier**	**5.35**	**345**	P	**Pn**	**16 03 49.2**	**+1.4**
BBB	**Bella Bella**	**5.36**	**124**	Pn	**Pn**	**16 03 48.9**	**+1.2**
	0.8nm,0.3s,baz=318,slow=5.9,SNR=7.6						
BBB				Sn	**Sn**	**16 04 48.4**	**-1.6**
	2.1nm,0.3s,baz=88,slow=13,SNR=7.9						
BBB				Lg	Lg	16 05 16.3	
	1.4nm,0.3s,baz=273,slow=19,SNR=2.3						
PCA	**Pinnacle**	**5.39**	**333**	*e*Pn	**Pn**	**16 03 49.6**	**+1.3**
PCA				*e*Sn	**Sn**	**16 04 48.3**	**-2.5**
KLU	**Klutina**	**8.24**	**322**	*e*Pn	**Pn**	**16 04 29.2**	**+1.9**
DAWY	**Dawson**	**8.93**	**348**	*e*Pn	**Pn**	**16 04 37.6**	**+1.0**
GHO	**Glory Hole Cre**	**9.53**	**318**	*e*Pn	**Pn**	**16 04 45.8**	**+0.8**
KDAK	**Kodiak Island**	**9.80**	**291**	Pn	**Pn**	**16 04 48.2**	**-0.4**
	0.3nm,0.3s,baz=74,slow=7.4,SNR=4.5						
KDAK				Sn	**Sn**	**16 06 32.0**	**-7.1**
	0.2nm,0.3s,baz=104,slow=18,SNR=2.1						
ILAR	**Eielson Array**	**11.00**	**333**	Pn	**Pn**	**16 05 06.0**	**+1.0**
	baz=152,slow=12,SNR=6.9						
ILAR				Lg	Lg	16 08 20.6	
	baz=118,slow=25,SNR=3.9						
TRF	**Thorofare Moun**	**11.06**	**323**	*e*Pn	**Pn**	**16 05 09.2**	**+3.1**
BPAW	**Bear Paw Mtn.**	**11.72**	**324**	*e*Pn	**Pn**	**16 05 12.6**	**-2.3**
YKA	**Yellowknife Ar**	**12.80**	**48**	Pn	**Pn**	**16 05 30.2**	**+0.6**
	0.1nm,0.3s,baz=237,slow=12,SNR=14						
YKA				Lg	Lg	16 09 08.9	
	0.0nm,0.3s,baz=245,slow=27,SNR=5.2						
NVAR	**Mina Array Bea**	**20.49**	**139**	P	Pn	16 07 10.8	+2.6
	0.3nm,0.5s,baz=323,slow=8.3,SNR=3.7						
PDAR	**Pinedale Array**	**20.95**	**116**	P	Pn	16 07 15.1	+1.5
	0.5nm,0.6s,baz=276,slow=4.3,SNR=5.2						
RES	**Resolute Bay**	**24.88**	**24**	P	**P**	**16 07 53.0**	**+2.6**
	1.1nm,0.8s,baz=236,slow=9.2,SNR=8.2						
TXAR	**Lajitas Array**	**34.49**	**126**	P	P	16 09 20.1	+4.0
	0.2nm,0.7s,baz=324,slow=5.6,SNR=5.6						
SONM	**Songino Array**	**64.85**	**319**	P	**P**	**16 13 10.5**	**+3.4**
	0.3nm,0.7s,baz=50,slow=6.0,SNR=3.2						
MKAR	**Makanchi Array**	**73.35**	**334**	P	**P**	**16 14 01.7**	**+2.0**
	0.5nm,0.8s,baz=46,slow=5.7,SNR=6.6						

*ISCJB **05** 16:13:42.3±0.4, 24.°25N±0.°04×122.°75E±0.°02, h16km±6km, Error ellipse: s-maj=7.4km s-min=2.4km az=2.9*

*JMA **05** 16:13:42.1±0.1, 24.°24N×122.°75E, h17km±2km, M2.3*

*TAP **05** 16:13:42.1, 24.°30N×122.°76E, h22km, ML2.6, C*

ISC 05 16:13:42.2±1.1,**24.°26N**±0.°04×**122.°75E**±0.°02,**h19**km±3km,**n43, σ0s.61**/72,**Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.26**	**44**	P	**Pg**	**16 13 48.2**	**0.0**
JYNG				S	**Sg**	**16 13 52.5**	**+0.2**
YOJ	**Yonaguni jima**	**0.31**	**50**	*e*P	**Pb**	**16 13 49.0**	**-0.1**
	baz=59						
YOJ				*e*S	**Sb**	**16 13 53.8**	**+0.1**
	baz=59						
YOJ	**Yonaguni jima**	**0.31**	**50**	P	**Pb**	**16 13 49.0**	**-0.1**
YOJ				S	**Sb**	**16 13 53.9**	**+0.1**
EOS1	**EOS1**	**0.63**	**297**	P	**Pg**	**16 13 54.6**	**-0.1**
	baz=299						
EOS1				*e*S	**Sg**	**16 14 03.5**	**+0.2**
	baz=299						
TWC	**Suao**	**0.89**	**293**	*e*P	**Pb**	**16 13 58.3**	**-0.6**
	baz=290						
TWC				*e*S	**Sb**	**16 14 10.0**	**-0.5**
	baz=290						
IRIF	**Iriomote-Funau**	**0.90**	**85**	P	**Pb**	**16 13 59.1**	**0.0**
IRIF				S	**Sg**	**16 14 11.1**	**-0.5**
NANB	**Nanao**	**0.93**	**280**	*e*P	**Pb**	**16 13 59.1**	**-0.5**
	baz=277						
NANB				*e*S	**Sb**	**16 14 11.6**	**+0.2**
	baz=277						
ENA	**Nanau**	**0.93**	**280**	*e*P	**Pb**	**16 13 59.2**	**-0.5**
	baz=277						
ENA				*e*S	**Sb**	**16 14 11.9**	**+0.2**
	baz=277						
HATJ	**Hateruma jima**	**0.99**	**102**	P	**Pb**	**16 14 00.6**	**0.0**
HATJ				S	**Sb**	**16 14 13.0**	**-0.2**
NACB	**Ninganchiao**	**1.06**	**265**	*e*P	**Pb**	**16 14 01.5**	**-0.3**
	baz=263						
NACB				*e*S	**Sn**	**16 14 16.3**	**+0.2**
	baz=263						
TWE	**Neicheng**	**1.09**	**295**	*e*P	**Pb**	**16 14 02.4**	**0.0**
	baz=298						
TWE				*e*S	**Sb**	**16 14 15.7**	**-0.4**
	baz=298						
TIPB	**Shuangxi**	**1.10**	**310**	*e*P	**Pn**	**16 14 02.1**	**-0.5**
	baz=320						
TIPB				*e*S	**Sb**	**16 14 15.7**	**-0.8**
	baz=320						
SLBB	**Yuanshan**	**1.13**	**296**	*e*P	**Pb**	**16 14 03.3**	**+0.3**
	baz=300						
ENTT	**Nioudou**	**1.14**	**289**	*e*P	**Pn**	**16 14 03.1**	**0.0**
	baz=298						
ENTT				*e*S	**Sb**	**16 14 17.9**	**+0.1**
	baz=298						
JKRS	**Kuro-shima**	**1.15**	**91**	P	**Pb**	**16 14 03.4**	**0.0**
JKRS				S	**Sn**	**16 14 18.8**	**+0.4**
WFSB	**Wu-fen Shan**	**1.19**	**313**	*e*P	**Pn**	**16 14 02.9**	**-0.9**
	baz=320						
NNSB	**Datong**	**1.26**	**278**	*e*P	**Pb**	**16 14 05.3**	**0.0**
	baz=286						
NNSB				*e*S	**Sn**	**16 14 21.4**	**+0.1**
	baz=286						
NNS	**Nan Shan**	**1.27**	**278**	*e*P	**Pb**	**16 14 05.4**	**-0.1**
	baz=276						
NNS				*e*S	**Sb**	**16 14 21.4**	**-0.1**
	baz=276						
JIJ	**Ishigaki jima**	**1.28**	**85**	P	**Pn**	**16 14 04.7**	**-0.2**
JIJ				S	**Sb**	**16 14 21.5**	**0.0**
ESL	**Shilin**	**1.28**	**250**	*e*P	**Pn**	**16 14 04.1**	**-1.0**
	baz=248						
YHNB	**Yeheng**	**1.32**	**288**	*e*P	**Pb**	**16 14 06.5**	**+0.2**
	baz=298						
YHNB				*e*S	**Sb**	**16 14 22.7**	**-0.1**
	baz=298						
NSK	**Sanguang**	**1.33**	**288**	*e*P	**Pb**	**16 14 06.8**	**+0.3**
	baz=298						
NSK				*e*S	**Sb**	**16 14 23.3**	**0.0**
	baz=298						
TATO	**Taipei**	**1.35**	**302**	*e*P	**Pb**	**16 14 06.8**	**0.0**
	baz=300						
WHF	**Hehuan Shan**	**1.36**	**265**	*e*P	**Pn**	**16 14 06.8**	**+0.3**
	baz=264						
WHF				*e*S	**Sn**	**16 14 24.3**	**+0.1**
	baz=264						
CHGB	**Renai**	**1.45**	**262**	*e*P	**Pn**	**16 14 07.9**	**+0.3**
	baz=247						
CHGB				*e*S	**Sb**	**16 14 26.7**	**-0.2**
	baz=247						
JISG	**Ishigakijimahi**	**1.46**	**77**	P	**Pn**	**16 14 07.5**	**+0.1**
JISG				S	**Sn**	**16 14 25.7**	**-0.3**
VWDT	**VWDT**	**1.56**	**251**	*e*P	**Pn**	**16 14 08.3**	**-0.4**
	baz=251						
VWDT				*e*S	**Sn**	**16 14 28.4**	**0.0**
	baz=251						
YULB	**Yu-li**	**1.59**	**237**	*e*P	**Pn**	**16 14 08.5**	**-0.7**
	baz=224						
YULB				*e*S	**Sn**	**16 14 28.6**	**-0.6**
	baz=224						
TWF1	**Yuli**	**1.61**	**236**	*e*P	**Pn**	**16 14 08.9**	**-0.6**
	baz=235						
LIOB	**Emei**	**1.62**	**284**	*e*P	**Pb**	**16 14 12.2**	**+0.6**
	baz=271						
LIOB				*e*S	**Sb**	**16 14 32.5**	**+0.9**
	baz=271						
NSTT	**Nanjuang**	**1.64**	**283**	*e*P	**Pb**	**16 14 11.7**	**0.0**
	baz=283						
SSLB	**Suanglung**	**1.71**	**254**	*e*P	**Pn**	**16 14 11.4**	**+0.5**
	baz=253						
SSLB				*e*S	**Sn**	**16 14 32.3**	**0.0**
	baz=253						
SMLT	**Sun Moon Lake**	**1.73**	**258**	*e*P	**Pn**	**16 14 12.3**	**+1.0**
	baz=257						
TYC	**Yuchr**	**1.77**	**259**	*e*P	**Pn**	**16 14 12.6**	**+1.0**
	baz=258						
TWQ1	**Liyutan**	**1.81**	**273**	*e*P	**Pb**	**16 14 14.4**	**-0.2**
	baz=259						
WNT	**Mingjian**	**1.93**	**259**	*e*P	**Pb**	**16 14 16.1**	**-0.5**
	baz=259						
CHN5	**Tsauling**	**2.01**	**251**	*e*P	**Pb**	**16 14 16.9**	**-1.2**
	baz=251						
TPUB	**Ta-pu**	**2.17**	**244**	*e*P	**Pn**	**16 14 18.3**	**+1.1**
	baz=244						
TPUB				*e*S	**Sn**	**16 14 45.1**	**+1.6**
	baz=244						
CHN4	**Tsaushan**	**2.17**	**246**	*e*P	**Pn**	**16 14 19.0**	**+1.7**
	baz=246						
CHN4				*e*S	**Sb**	**16 14 46.9**	**-0.5**
	baz=246						
WTP	**Ta-pu**	**2.20**	**243**	*e*P	**Pn**	**16 14 19.1**	**+1.3**
	baz=242						
TWK	**Hsinying**	**2.30**	**245**	*e*P	**Pn**	**16 14 20.4**	**+1.4**
	baz=245						
SGST	**Jiashian**	**2.31**	**240**	*e*P	**Pn**	**16 14 20.2**	**+1.1**
	baz=240						
SGST				*e*S	**Sb**	**16 14 50.3**	**-1.0**
	baz=240						
MASBT	**Mashibuluo**	**2.54**	**230**	*e*P	**Pn**	**16 14 23.1**	**+0.7**
	baz=220						

MAN 05 16:15:37.8, 18.°85N×121.°28E, h7km, mb4.5, ML3.4, MS3.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.95**	**129**	*e*P	Pg	16 15 55.8	-0.2
SGCP				*e*S	Sn	16 16 12.3	+1.0
APYP	**Conner**	**0.98**	**182**	*e*P	Pg	16 15 56.0	-0.6
APYP				*e*S	Sn	16 16 13.1	+0.9
CVP	**Callao Caves**	**1.25**	**155**	⇑*i*P	Pn	16 16 00.4	-1.3
CVP				*i* S	Sn	16 16 18.8	0.0
ABRA	**Dolores**	**1.31**	**204**	*e*P	Pn	16 15 59.8	-2.6
ABRA				*e*S	Sn	16 16 24.1	+3.9
CAUP	**Cauayan**	**1.97**	**165**	*e*P	Pb	16 16 13.2	-0.7
CAUP				*e*S	Sg	16 16 45.2	+4.2
PALP	**Palanan**	**2.09**	**148**	*e*P	Pn	16 16 13.3	+0.2
PALP				*e*S	Sg	16 16 46.7	+1.8

IDC 05 16:18:49.9±1.7,**1.°04N**×**127.°49E, h0**km,**mb3.7**/4,**mb1 4.0**/4,**mb1mx3.5**/50,**mbtmp3.8**/4,**Error ellipse: s-maj=137.8km s-min=21.3km az=67.0, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.91**	**163**	P	P	16 23 44.5	-0.5
	2.5nm,0.7s,baz=342,slow=11,SNR=22						
ASAR	**Alice Springs**	**25.34**	**166**	P	P	16 24 19.1	+0.4
	2.4nm,0.8s,baz=347,slow=11,SNR=20						
MKAR	**Makanchi Array**	**60.18**	**326**	P	P	16 28 59.5	-0.2
	0.3nm,0.5s,baz=122,slow=7.7,SNR=5.1						
KURBB	**Kurchatov Arra**	**64.40**	**328**	P	P	16 29 27.9	+0.2
	0.6nm,0.4s,baz=128,slow=6.4,SNR=4.2						

*IDC **05** 16:21:58.2±1.0, 35.°89N×68.°89E, h0km, mb3.7/8, mb1 3.8/11, mb1mx3.6/52, mbtmp3.7/11, ML3.5/4, Error ellipse: s-maj=21.7km s-min=18.7km az=154.0*

*ISCJB **05** 16:22:00.3±0.5, 35.°96N±0.°04×68.°82E±0.°06, h30km, mb3.6/8, Error ellipse: s-maj=7.0km s-min=5.2km az=163.7*

*NNC **05** 16:22:01.3±3.6, 36.°21N×68.°60E, h0km, mb4.1, mpv4.0, Error ellipse: s-maj=41.1km s-min=24.2km az=152.0*

ISC 05 16:22:02.3±0.8,**35.°98N**±0.°07×**68.°73E**±0.°06,**h30**km,**n43, σ1s.82**/49,**mb3.7**/8,**5C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**5.51**	**42**	⇑Pn	**Pn**	**16 23 24.6**	**+2.1**
	6.1nm,0.3s						
SFK				⇑Sn	**Sn**	**16 24 29.6**	**+4.6**
	9.2nm,0.3s						
KK31	**Karatay Array**	**7.25**	**10**	Pn	**Pn**	**16 23 47.2**	**+1.1**
	1.7nm,0.5s,baz=204,slow=16,SNR=23						
KK31				⇓Sn	**Sn**	**16 25 06.0**	**-1.3**
	2.8nm,0.3s,baz=212,slow=28,SNR=5.4						
AML	**Almayashu**	**7.25**	**31**	P	**Pn**	**16 23 47.5**	**+1.0**
	SNR=48						
UCH	**Uchtor**	**7.69**	**34**	P	**Pn**	**16 23 53.7**	**+1.1**
	SNR=39						
EKS2	**Erkin-Say**	**7.73**	**29**	P	**Pn**	**16 23 54.2**	**+1.4**
	SNR=6.6						
KZA	**Kyzart**	**7.92**	**38**	P	**Pn**	**16 23 56.8**	**+1.0**
	SNR=23						
AAK	**Ala-Archa**	**8.01**	**32**	Pn	**Pn**	**16 23 57.7**	**+1.0**
	4.6nm,0.3s,baz=278,slow=2.9,SNR=69						
AAK				Sn	**Sn**	**16 25 26.2**	**0.0**
	1.4nm,0.3s,baz=156,slow=20,SNR=9.2						
AAK	**Ala-Archa**	**8.01**	**32**	P	**Pn**	**16 23 57.5**	**+0.9**
	SNR=23						
AAK	**Ala-Archa**	**8.01**	**32**	⇑Pn	**Pn**	**16 23 57.0**	**+0.3**
	8.2nm,0.5s						
AAK				Sn	**Sn**	**16 25 28.4**	**+2.1**
	22nm,0.9s						
KBK	**Karagaybulak**	**8.22**	**34**	P	**Pn**	**16 24 01.4**	**+1.7**
	SNR=28						
CHMS	**Chumysh**	**8.41**	**32**	P	**Pn**	**16 24 03.6**	**+1.6**
	SNR=17						
USP	**Ospenovka**	**8.53**	**30**	P	**Pn**	**16 24 04.1**	**+0.4**
	SNR=9.6						
ULHL	**Ulahol**	**8.55**	**41**	P	Pn	16 23 53.4	-11
	SNR=7.2						
GEYT	**Alibeck**	**8.72**	**286**	Pn	**Pn**	**16 24 07.3**	**+0.9**
	0.4nm,0.3s,baz=120,slow=9.8,SNR=8.0						
GEYT				Sn	**Sn**	**16 25 43.5**	**-0.2**
	1.5nm,0.3s,baz=113,slow=22,SNR=7.3						
TKM2	**Tokmak 2**	**8.73**	**35**	P	**Pn**	**16 24 07.4**	**+0.8**
	SNR=24						
TKM2	**Tokmak 2**	**8.73**	**35**	⇑Pn	**Pn**	**16 24 06.8**	**+0.2**
	7.5nm,0.5s						
TKM2				⇓Sn	**Sn**	**16 25 44.1**	**0.0**
	6.7nm,0.8s						
PDGK	**Podgornoye**	**11.07**	**45**	⇑Pn	**Pn**	**16 24 37.4**	**-1.1**
	2.4nm,0.7s						
PYUN	**Piuthan**	**14.41**	**119**	*e*P	**Pn**	**16 25 23.3**	**-1.1**
	13nm,0.5s						
AB31	**Akbulak array**	**14.75**	**337**	P	**Pn**	**16 25 26.8**	**-1.8**
	0.9nm,0.5s,baz=156,slow=12,SNR=69						
DANN	**Dangsing**	**14.81**	**117**	*e*P	**Pn**	**16 25 29.0**	**-1.0**
MK31	**Makanchi Array**	**14.82**	**39**	P	**Pn**	**16 25 27.5**	**-2.2**
	1.0nm,0.7s,baz=227,slow=13,SNR=8.6						
MKAR	**Makanchi Array**	**14.82**	**39**	Pn	**Pn**	**16 25 27.3**	**-2.3**
	0.1nm,0.3s,baz=227,slow=13,SNR=8.5						
KOLN	**Koldanda**	**15.04**	**119**	*e*P	**Pn**	**16 25 30.7**	**-2.2**
DMN	**Daman**	**16.21**	**116**	*e*P	**Pn**	**16 25 45.6**	**-2.6**
	11nm,0.5s						
KKN	**Kakani**	**16.24**	**116**	*e*P	**Pn**	**16 25 46.0**	**-2.4**
	13nm,0.5s						
KURBB	**Kurchatov Arra**	**16.26**	**23**	Pn	**Pn**	**16 25 49.5**	**+1.3**
	0.1nm,0.3s,baz=211,slow=10,SNR=11						
AKTO	**Aktyubinsk**	**16.40**	**335**	Pn	**P**	**16 25 53.9**	**+1.3**
	0.4nm,0.3s,baz=145,slow=11,SNR=9.8						
AKTO				Sn	**Sn**	**16 28 46.1**	**-4.9**
	0.1nm,0.3s,baz=198,slow=20,SNR=2.5						
PKIN	**Phulchoki**	**16.44**	**116**	*e*P	**Pn**	**16 25 48.9**	**-2.2**
	9.3nm,0.4s						
PKI	**Pulchoki**	**16.46**	**116**	*e*P	**Pn**	**16 25 49.3**	**-2.0**
	18nm,0.7s						
GUN	**Gumba**	**16.61**	**114**	*e*P	**Pn**	**16 25 52.4**	**-0.9**
JIRN	**Jiri**	**16.98**	**114**	*e*P	**Pn**	**16 25 57.3**	**-0.7**
BVA0	**Borovoye Array**	**17.08**	**3**	P	**P**	**16 26 01.2**	**+1.0**
	1.1nm,0.6s,baz=161,slow=12,SNR=8.7						
BVAR	**Borovoye Array**	**17.08**	**3**	Pn	**Pn**	**16 25 55.1**	**-3.6**
	0.1nm,0.3s,baz=161,slow=10.0,SNR=2.9						
RAMN	**Ramite**	**17.68**	**116**	*e*P	**Pn**	**16 26 04.1**	**-2.4**
	14nm,0.5s						
ZALV	**Zalesovo Beam**	**21.18**	**27**	P	**P**	**16 26 45.0**	**+0.1**
	4.5nm,0.6s,baz=221,slow=10,SNR=23						
SONM	**Songino Array**	**30.14**	**55**	P	**P**	**16 28 09.5**	**0.0**
	0.2nm,0.6s,baz=240,slow=7.8,SNR=3.1						
FINES	**FINESS Array B**	**36.91**	**327**	P	**P**	**16 29 10.3**	**+2.3**
	0.8nm,0.6s,baz=108,slow=6.2,SNR=3.6						
ARCES	**ARCESS Array B**	**40.94**	**338**	P	**P**	**16 29 42.6**	**+0.9**
	3.2nm,1.0s,baz=132,slow=8.3,SNR=4.8						
NB2	**NORSAR Subarra**	**43.70**	**324**	P	**P**	**16 30 05.7**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=97,slow=8.6						
NOA	**NORSAR Array B**	**43.70**	**324**	P	**P**	**16 30 06.6**	**+2.3**
	comp=Z,0.6nm,0.6s,baz=98,slow=8.1,SNR=5.9						
TORD	**Torodi Ar. Bea**	**63.87**	**268**	P	**P**	**16 32 32.9**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=51,slow=6.5,SNR=7.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	83.29	120	P	P	16 34 26.2	-0.2
	comp=Z,0.3nm,0.7s,baz=327,slow=4.8,SNR=4.0						
ASAR	Alice Springs	85.48	123	P	P	16 34 37.8	+0.4
	comp=Z,0.3nm,0.7s,baz=311,slow=4.8,SNR=5.2						

IDC 05 16:23:47.2±15.0**, 17°.80S**×**177°.41W, h402**km±145km**, mb3.3**/4**, mb1 3.4**/4**, mb1mx3.0**/40**, mbtmp4.1**/4**, Error ellipse: s-maj=96.8km s-min=34.2km az=35.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	20.94	192	P	P	16 27 59.6	-0.3
	2.3nm,0.3s,baz=5.2,slow=8.0,SNR=4.4						
STKA	Stephens Creek	39.51	241	P	P	16 30 41.9	+0.7
	1.0nm,0.5s,baz=75,slow=12,SNR=2.1						
WRA	Warramunga Arr	45.58	259	P	P	16 31 28.9	-0.6
	0.3nm,0.4s,baz=91,slow=7.9,SNR=25						
WRA				PcP	PcP	16 32 59.6	-0.7
	0.7nm,1.1s,baz=93,slow=3.4,SNR=3.1						
ASAR	Alice Springs	45.73	254	P	P	16 31 30.8	0.0
	4.4nm,0.5s,baz=89,slow=9.0,SNR=100						
ASAR				PcP	PcP	16 32 59.9	-0.9
	0.3nm,0.6s,baz=109,slow=4.1,SNR=5.1						
BRTR	Keskin Array B	145.38	316	PKPbc	PKPbc	16 42 38.9	-0.3
	0.6nm,0.8s,baz=49,slow=9.7,SNR=2.6						

IDC 05 16:25:04.8±1.2, 55°.46N×135°.04W, h0km, mb3.5/1, mb1 3.6/7, mb1mx3.4/53, mbtmp3.6/7, ML3.2/6, MS3.5/2, Ms1 3.5/2, ms1mx2.8/31, Error ellipse: s-maj=15.8km s-min=12.9km az=58.0
NEIC 05 16:25:06.5±0.0, 55°.59N×135°.10W, h20km, ML3.5(AEIC), After AEIC.
ISC 05 16:25:05.7±3.2**, 55°.54N**±0°.04×**135°.09W**±0°.06**, h12**km±23km**, n21, σ1ˢ06**/27**, Off coast of southeastern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRAG	Craig	1.12	93	P	Pb	16 25 26.4	-0.6
CRAG				S	Sb	16 25 41.5	0.0
SIT	Sitka	1.53	355	P	Pn	16 25 31.3	-1.5
SIT				S	Sn	16 25 50.8	-1.8
WRAK	Wrangell Islan	1.77	59	P	Pn	16 25 35.9	-0.4
WRAK				S	Sn	16 25 59.0	+0.3
JIS	Juneau Island	2.77	8	P	Pn	16 25 49.7	-0.3
JIS				S	Sn	16 26 21.4	-1.8
H02S1	DAWSON INLET T	2.79	146	Pn	Pn	16 25 50.3	+0.1
H02S1				Sn	Sn	16 26 23.1	-0.7
BESE	Bessie Mountai	3.05	2	P	Pn	16 25 53.1	-0.8
BNB	Barry Inlet	3.56	145	P	Pn	16 26 00.8	0.0
SKAG	Skagway	3.94	358	P	Pn	16 26 06.4	+0.5
DLBC	Dease Lake	4.01	42	Pn	Pn	16 26 07.7	+0.6
	1.2nm,0.3s,baz=220,slow=15,SNR=33						
DLBC				Pg	Pb	16 26 16.1	-0.2
	2.2nm,0.3s,baz=218,slow=15,SNR=9.8						
DLBC				Sn	Sn	16 26 53.6	-0.4
	4.0nm,0.3s,baz=202,slow=19,SNR=2.7						
DLBC				Lg	Lg	16 27 08.8	
	12nm,0.3s,baz=122,slow=21,SNR=6.9						
DLBC	Dease Lake	4.01	42	P	Pn	16 26 07.5	+0.5
WHY	Whitehorse	5.14	1	P	Pn	16 26 23.1	+0.5
BBB	Bella Bella	5.32	126	Pn	Pn	16 26 24.3	-0.6
	0.9nm,0.3s,baz=305,slow=12,SNR=7.4						
BBB				Sn	Sn	16 27 24.1	-1.9
	1.9nm,0.3s,baz=96,slow=18,SNR=5.8						
BBB				Lg	Lg	16 27 49.8	
	1.9nm,0.3s,baz=247,slow=13,SNR=4.5						
PCA	Pinnacle	5.34	331	P	Pn	16 26 26.2	+1.0
SAMH	Samovar Hills	5.52	329	P	Pn	16 26 29.6	+1.9
KDAK	Kodiak Island	9.89	290	Pn	Pn	16 27 26.8	-0.7
	0.5nm,0.3s,baz=87,slow=9.9,SNR=5.4						
ILAR	Eielson Array	10.95	333	Pn	Pn	16 27 43.1	+1.1
	0.1nm,0.3s,baz=156,slow=13,SNR=31						
YKA	Yellowknife Ar	12.60	48	Pn	Pn	16 28 04.6	0.0
	0.1nm,0.3s,baz=244,slow=12,SNR=11						
YKA				Lg	Lg	16 31 40.0	
	0.0nm,0.3s,baz=251,slow=29,SNR=4.0						
INK	Inuvik	12.84	3	Pn	Pn	16 28 08.7	+1.0
	0.1nm,0.3s,baz=181,slow=8.5,SNR=3.5						
KLR	Kul'dur	53.08	305	LR	LR	16 58 27.3	
	comp=Z,46nm,18.1s,baz=162,slow=38						
SDV	Santo Domingo	68.38	106	LR	LR	17 09 55.2	
	comp=Z,27nm,20.2s,baz=277,slow=39						
MKAR	Makanchi Array	73.30	334	P	P	16 36 38.4	+1.7
	0.3nm,0.6s,baz=27,slow=6.6,SNR=3.6						

ISCJB 05 16:29:04.0±2.4, 20°.8S±0°.2×178°.5W±0°.4, h579km, mb3.9/6, Error ellipse: s-maj=46.7km s-min=24.6km az=167.5
IDC 05 16:29:05.3±6.7, 20°.81S×178°.40W, h588km±74km, mb3.3/6, mb1 3.4/7, mb1mx3.0/32, mbtmp4.3/7, Error ellipse: s-maj=48.6km s-min=30.0km az=60.0
ISC 05 16:29:05.2±2.5**, 20°.8S**±0°.2×**178°.5W**±0°.3**, h579**km**, n8, σ0ˢ46**/8**, mb4.0**/6**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	17.79	191	P	P	16 32 39.8	+0.1
	0.6nm,0.3s,baz=324,slow=19,SNR=4.1						
CTA	Charters Tower	32.99	265	P	P	16 34 53.8	+0.1
	4.8nm,0.9s,baz=81,slow=11,SNR=6.4						
STKA	Stephens Creek	37.23	244	P	P	16 35 28.5	-0.2
	2.1nm,0.8s,baz=90,slow=11,SNR=4.6						
ASAR	Alice Springs	43.99	257	P	P	16 36 22.6	0.0
	6.0nm,0.5s,baz=92,slow=8.0,SNR=141						
ASAR				PcP	PcP	16 37 55.4	+0.1
	0.5nm,0.9s,baz=104,slow=3.9,SNR=2.7						
WRA	Warramunga Arr	44.09	262	P	P	16 36 22.7	-0.6
	1.9nm,0.5s,baz=96,slow=7.1,SNR=71						
SIJI	Sorong	52.87	285	P	P	16 37 29.1	+0.7
	10nm,0.8s,baz=107,slow=19,SNR=5.0						
MJAR	Matsushiro Arr	70.19	324	P	P	16 39 20.3	-0.3
	0.5nm,0.6s,baz=152,slow=5.9,SNR=5.1						
AKASG	Malin Array Be	143.06	331	PKP	PKPab	16 47 30.2	-1.2
	0.6nm,0.3s,baz=42,slow=3.9,SNR=7.8						

SJA 05 16:34:30.0±0.5**, 29°.77S**×**68°.58W, h106**km±4km**, ML2.8, MW3.5, San Juan Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AGUA	GUANDACOL	0.29	15	*i* P	Pn	16 34 46.2	+0.8
AGUA				*i* S	Sn	16 34 57.6	+0.7
AROD	Rodeo	0.88	243	*i* P	Pn	16 34 51.3	+1.4
AROD				*i* S	Sn	16 35 06.7	+1.8
ACCO	Cerro Coronel	0.92	207	*i* P	Pn	16 34 51.9	+1.5
VCA	Vinchina	1.08	18	*i* P	Pn	16 34 52.5	+0.7
VCA				IAML		16 35 10.9	
	comp=Z,235nm,0.7s						
ACLC	CERRO LA CRUZ	1.46	77	*i* P	Pn	16 34 57.1	+1.0
RTCV	Cerro Valdivia	2.09	179	*i* P	Pn	16 35 05.1	+1.1
RTLS	Leoncito	2.12	197	*i* P	Pn	16 35 06.0	+1.4
RTLS				IAML		16 35 36.7	
	comp=Z,32nm,0.2s						

ISCJB 05 16:35:27.5±1.2, 23°.9S±0°.1×179°.8W±0°.2, h518km, mb4.0/6, Error ellipse: s-maj=23.5km s-min=14.7km az=172.6
IDC 05 16:35:28.7±5.4, 23°.81S×179°.76W, h528km±58km, mb3.4/6, mb1 3.6/7, mb1mx3.2/30, mbtmp4.3/7, Error ellipse: s-maj=37.7km s-min=20.4km az=39.0
ISC 05 16:35:28.0±1.1**, 24°.0S**±0°.1×**179°.7W**±0°.2**, h518**km**, n10, σ1ˢ33**/11**, mb4.1**/6**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	14.49	190	P	P	16 38 32.7	+0.3
	0.6nm,0.3s,baz=18,slow=6.4,SNR=4.2						
URZ				S	S	16 41 02.4	-2.1
	0.3nm,0.3s,baz=87,slow=19,SNR=3.5						
RPZ	Rata Peaks	21.09	199	P	P	16 39 37.1	+1.7
	5.2nm,0.5s,baz=55,slow=12,SNR=3.7						
CTA	Charters Tower	31.72	270	P	P	16 41 09.8	+0.5
	6.5nm,0.4s,baz=92,slow=11,SNR=26						
ASAR	Alice Springs	42.26	261	P	P	16 42 36.0	+0.1
	3.3nm,0.7s,baz=93,slow=7.1,SNR=39						
WRA	Warramunga Arr	42.64	266	P	P	16 42 38.4	-0.5
	3.4nm,0.3s,baz=96,slow=8.4,SNR=117						
QSPA	South Pole Qui	66.11	180	P	P	16 45 25.0	+1.6
	1.0nm,0.6s,baz=38,slow=2.7,SNR=3.3						
TXAR	Lajitas Array	90.27	58	P	P	16 47 33.6	-0.1
	0.2nm,0.6s,baz=236,slow=6.4,SNR=2.4						
MKAR	Makanchi Array	112.38	313	PKiKP	PKiKP	16 53 03.1	-1.7
	0.1nm,0.6s,baz=77,slow=3.1,SNR=2.1						
AKASG	Malin Array Be	145.17	327	PKPbc	PKPdf	16 54 05.2	-0.9
	0.2nm,0.3s,baz=41,slow=3.8,SNR=2.8						
TORD	Torodi Ar. Bea	169.14	187	PKPab	PKPab	16 55 51.7	+0.1
	1.5nm,1.2s,baz=183,slow=2.7,SNR=4.1						

NIED 05 16:47:00, 38°.90N×141°.90E, h50km, Mw3.9 Best double couple: M₀7.60000×10^14 NP1:φs198.00000°, δ16.00000°, λ83.00000°. NP2:φs26.00000°, δ74.00000°, λ92.00000°.
ISCJB 05 16:47:07.4±0.6, 38°.92N±0°.04×142°.08E±0°.06, h54km±4km, mb4.0/22, Error ellipse: s-maj=8.6km s-min=5.0km az=27.0
MOS 05 16:47:07.8±1.0, 38°.88N×142°.24E, h66km, mb4.4/15, Error ellipse: s-maj=11.6km s-min=8.0km az=84.2
JMA 05 16:47:09.5±0.1, 38°.92N×141°.93E, h51km±1km, M3.9 JMA Felt II J1.
IDC 05 16:47:11.8±1.0, 38°.90N×141°.86E, h75km±7km, mb3.6/14, mb1 3.8/18, mb1mx3.6/37, mbtmp4.0/18, MS2.6/1, Ms1 2.6/1, ms1mx2.3/40, Error ellipse: s-maj=22.9km s-min=13.3km az=80.0
ISC 05 16:47:09.8±0.7**, 38°.92N**±0°.05×**142°.04E**±0°.07**, h61**km±5km**, n51, σ2ˢ02**/68**, mb4.1**/22**, 6C-6D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.33	300	P	Pn	16 47 18.5	-1.8
OFUJ				S	Sn	16 47 24.7	-3.1
JKMT	Kesennumamotoy	0.45	257	P	Pn	16 47 19.4	-1.9
JKMT				S	Sn	16 47 26.1	-3.6
JMK	Ichinoseki	0.64	274	P	Pn	16 47 21.5	-1.9
JMK				S	Sn	16 47 30.1	-3.2
JIO	Ouri	0.71	230	P	Pn	16 47 22.4	-1.8
JIO				S	Sn	16 47 31.2	-3.5
JOM	Ohasama	0.80	314	P	Pn	16 47 24.0	-1.4
JOM				S	Sn	16 47 34.5	-2.3
JRG	Rokugo	1.19	294	P	Pn	16 47 28.8	-1.6
JRG				S	Sn	16 47 43.1	-2.7
JOU	Okura	1.21	243	P	Pn	16 47 28.9	-1.7
JOU				*e*S	Sn	16 47 43.4	-2.8
JYK	Kaneyama	1.31	271	P	Pn	16 47 30.4	-1.5
JMM	Marumori	1.43	223	P	Pn	16 47 31.7	-1.9
JMM				*e*S	Sn	16 47 48.5	-3.0
JANG	Nango	1.51	345	P	Pn	16 47 33.6	-1.1
ERM	Erimo	3.21	15⇓	*e*P	Pn	16 47 58.4	+0.6
MAJO	Matsushiro	3.85	233	*ce*P	Pn	16 48 07.6	+1.0
MAT	Matsushiro	3.85	233	P	Pn	16 48 07.4	+0.8
MAT				*e*S	Sn	16 48 51.2	+0.6
MJAR	Matsushiro Arr	3.85	233	P	Pn	16 48 07.3	+0.7
	4.1nm,0.3s,baz=43,slow=11,SNR=74						
MJAR				S	Sn	16 48 53.8	+3.2
	0.7nm,0.3s,baz=60,slow=24,SNR=3.0						
MJAR				LR	LR	16 49 46.5	
	comp=Z,86nm,21.6s,baz=70,slow=42						
YUK	Yuzh-Kuril'sk	5.87	28	P	Pn	16 48 32.9	-1.1
YUK				*e*S	Sn	16 49 34.4	-5.5
YUK				smax	smax		
	comp=E,45nm,0.3s						
YUK				smax	smax		
	comp=N,101nm,0.4s						
JHJ	Hachijo jima 2	6.07	198	P	Pn	16 48 37.1	+0.2
	comp=N,2.5nm,0.3s,baz=336,slow=19,SNR=5.3						
JHJ				S	Sn	16 49 39.9	-5.0
	comp=N,7.1nm,0.3s,baz=99,slow=19,SNR=2.3						
SHO	Shikotan	6.12	35	*e*P	Pn	16 48 35.9	-1.7
SHO				*e*S	Sn	16 49 39.4	-6.8
SHO				pmax	pmax		
	comp=N,2.0nm,0.3s						
SHO				pmax	pmax		
	comp=Z,3.0nm,0.3s						
SHO				pmax	pmax		
	comp=E,2.0nm,0.4s						
SHO				smax	smax		
	comp=N,87nm,0.5s						
SHO				smax	smax		
	comp=E,58nm,0.5s						
KUR	Kuril'sk	7.66	33	*e*P	Pn	16 48 57.7	-0.9
KUR				*e*S	Sn	16 50 20.1	-3.7
KUR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
USRK	Ussuriysk Ar.	9.20	308	P	Pn	16 49 19.3	-0.4
	comp=Z,1.0nm,0.3s,baz=117,slow=13,SNR=14						
JNU	Nakatsue	10.72	241	P	Pn	16 49 40.7	+0.1
	comp=Z,0.2nm,0.3s,baz=13,slow=14,SNR=2.6						
KSRS	Korea Array	11.21	267	P	Pn	16 49 50.2	+3.1
	comp=Z,0.2nm,0.3s,baz=79,slow=14,SNR=7.3						
SEY	Seymchan	24.85	11⇓	*e*P	P	16 52 27.2	+1.0
BOD	Bodaibo	26.23	325	*e*P	P	16 52 32.6	-6.2
BOD				pmax	pmax		
	comp=Z,4.0nm,1.9s						
ULN	Ulaanbaatar	26.76	301⇓	*e*P	P	16 52 45.2	+1.4
ULN				pmax	pmax		
	comp=Z,3.0nm,1.7s						
SONM	Songino Array	27.20	301	P	P	16 52 47.2	-0.6
	comp=Z,0.4nm,0.5s,baz=99,slow=8.6,SNR=8.2						
TIXI	Tiksi	33.49	352⇓	*i*P	P	16 53 42.5	-0.3
DGZ	Jazzator, Alta	39.72	304*c*	*i*P	P	16 54 37.1	+0.8
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ZALV	Zalesovo Beam	41.04	311	P	P	16 54 46.8	-0.1
	comp=Z,3.1nm,0.5s,baz=90,slow=7.3,SNR=14						
ZALV				PcP	PcP	16 56 46.1	+0.5
	comp=Z,0.5nm,0.3s,baz=118,slow=3.0,SNR=4.4						
ZALV	Zalesovo Beam	41.04	311	*i* P	P	16 54 47.0	+0.1
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CMAR	Chiang Mai Arr	42.47	254	P	P	16 54 58.5	-0.6
	comp=Z,0.4nm,0.7s,baz=48,slow=7.2,SNR=5.2						
MKAR	Makanchi Array	43.56	301	P	P	16 55 07.7	+0.1
	comp=Z,4.4nm,0.7s,baz=85,slow=10.0,SNR=51						
MKAR				pP	pP	16 55 26.5	+3.4
	comp=Z,0.7nm,0.6s,baz=96,slow=22,SNR=3.9						
KURK	Kurchatov	45.18	307*c*	*i*P	P	16 55 19.9	-0.5
KURK				pmax	pmax		
	comp=Z,11nm,1.3s						
BRVK	Borovoye	49.74	311	*ce*P	P	16 55 55.8	+0.1
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AAK	Ala-Archa	50.05	297⇓	*e*P	P	16 56 00.2	+1.8
AAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ARU	Arti	55.29	318	P	P	16 56 36.2	-0.5
ARU						16 58 39.0	
ARU				S	S	17 04 17.1	+1.3
ARU				SS	SS	17 07 59.6	-0.6
WRAB	Tennant Creek	58.98	188⇑	*e*P	P	16 57 03.1	+0.1
WRA	Warramunga Arr	58.99	188	P	P	16 57 03.0	-0.1
	comp=Z,0.8nm,0.5s,baz=5.9,slow=6.9,SNR=27						
ARCES	ARCESS Array B	62.41	339	P	P	16 57 24.5	-1.3
	comp=Z,3.3nm,1.1s,baz=48,slow=8.6,SNR=2.7						
ASAR	Alice Springs	62.72	188	P	P	16 57 28.4	0.0
	comp=Z,0.5nm,0.6s,baz=354,slow=4.1,SNR=10.0						
ASAR				pP	pP	16 57 48.1	+3.4
	comp=Z,0.2nm,0.6s,baz=2.4,slow=8.0,SNR=1.8						
FINES	FINESS Array B	67.38	332	P	P	16 57 58.1	-0.1
	comp=Z,2.3nm,0.6s,baz=38,slow=9.6,SNR=12						
FINES	FINESS Array B	67.38	332	*i* P	P	16 57 58.5	+0.3
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NCK	Nalchik	69.77	310⇑	*i*P	P	16 58 14.8	+1.3
NCK				pmax	pmax		
	comp=Z,9.0nm,0.4s						
KBZ	Khabaz	70.06	310	P	P	16 58 15.9	+0.8
	comp=Z,1.8nm,0.9s,baz=79,slow=5.2,SNR=3.3						
NOA	NORSAR Array B	72.64	337	P	P	16 58 30.2	-0.3
	comp=Z,0.8nm,0.8s,baz=38,slow=5.9,SNR=3.5						
NOA				pP	pP	16 58 50.1	+3.0
	comp=Z,0.4nm,0.8s,baz=35,slow=6.2,SNR=2.2						
AKASG	Malin Array Be	73.11	322	P	P	16 58 32.9	-0.5
	comp=Z,0.9nm,0.4s,baz=43,slow=6.0,SNR=7.4						
AKASG	Malin Array Be	73.11	322	*i* P	P	16 58 33.5	+0.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KIEV	Kiev	73.13	322⇓	*e*P	P	16 58 31.5	-2.0
KIEV				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BRTR	Keskin Array B	77.97	312	P	P	16 59 02.1	+0.5
	comp=Z,0.3nm,0.4s,baz=108,slow=4.0,SNR=7.2						
CLL	Collm	79.71	330	*e*P	P	16 59 11.0	+0.3
CLL				*e*		16 59 16.0	
GERES	GERESS Array B	81.37	328	P	P	16 59 20.2	+0.4
	comp=Z,0.3nm,0.5s,baz=34,slow=7.1,SNR=3.1						
TXAR	Lajitas Array	88.59	53	P	P	16 59 58.4	+2.0
	comp=Z,0.1nm,0.7s,baz=270,slow=0.9,SNR=1.9						

ISCJB 05 16:58:13.9±0.6, 20°.28S±0°.03×69°.99W±0°.08, h70km±7km, mb3.7/1, Error ellipse: s-maj=12.3km s-min=4.7km az=176.1
GUC 05 16:58:14.3±0.7, 20°.29S×69°.95W, h53km±7km, ML3.9
IDC 05 16:58:17.3±3.2, 20°.29S×69°.79W, h88km±31km, mb3.3/2, mb1 3.7/5, mb1mx3.3/29, mbtmp3.8/5, Error ellipse: s-maj=62.1km s-min=15.3km az=94.0
ISC 05 16:58:15.2±0.9**, 20°.28S**±0°.03×**69°.96W**±0°.08**, h64**km±8km**, n17, σ1ˢ59**/27**, 2C-7D, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB11	IPOC Station P	0.59	29⇓	*i*P	Pn	16 58 27.6	-1.1
PB11				*e*S	Sn	16 58 37.4	-1.2
PB11				IAML		16 58 38.3	
	comp=N,8μm,0.2s						
PSGC	Pisagua	0.70	347⇓	*i*P	Pn	16 58 28.7	-1.2
PSGC				*e*S	Sn	16 58 39.4	-1.2
PB08	IPOC Station P	0.77	80⇓	*i*P	Pn	16 58 30.2	-0.7
PB08				*e*S	Sn	16 58 41.9	-0.6
PB08				IAML		16 58 42.6	
	comp=N,6μm,0.2s						
PB01	IPOC Station P	0.88	150⇑	*i*P	Pn	16 58 30.8	-1.3
PB01				*e*S	Sn	16 58 43.2	-1.2
PB01				IAML		16 58 44.3	
	comp=N,5μm,0.4s						
GO01	Chusmiza	0.94	50⇓	*i*P	Pn	16 58 32.5	-0.7
GO01				IAML		16 58 46.7	
	comp=N,13μm,0.1s						
PB02	IPOC Station P	1.03	177⇑	*i*P	Pn	16 58 33.5	-0.6
PB02				*e*S	Sn	16 58 47.3	-0.7
PB02				IAML		16 58 49.2	
	comp=E,6μm,0.3s						
MNMC	Minye Minye	1.19	17⇓	*i*P	Pn	16 58 35.8	-0.5
MNMC				*e*S	Sn	16 58 52.5	+0.6
MNMC				IAML		16 58 59.1	
	comp=N,5μm,0.1s						
PB07	IPOC Station P	1.44	177⇓	*e*P	Pn	16 58 38.7	-0.8
PB07				*e*S	Sn	16 58 58.0	+0.4
PB07				IAML		16 58 59.2	
	comp=E,4μm,0.3s						
PB12	IPOC Station P	1.69	348	*e*P	Pn	16 58 42.0	-0.7
PB12				*i* S	Sn	16 59 03.1	-0.5
PB12				IAML		16 59 07.1	
	comp=N,3μm,0.1s						
PB03	IPOC Station P	1.77	174⇓	*i*P	Pn	16 58 43.1	-0.7
PB03				IAML		16 59 07.6	
	comp=E,2μm,0.6s						
LVC	Limon Verde	2.51	157	P	Pn	16 58 54.5	+0.4
	comp=E,37nm,0.3s,baz=340,slow=11,SNR=420						
LVC				S	Sn	16 59 26.0	+2.2
	comp=E,59nm,0.3s,baz=201,slow=19,SNR=29						
PB10	IPOC Station P	3.26	190	*e*P	Pn	16 59 01.7	-2.3
LPAZ	La Paz	4.33	24	P	Pn	16 59 22.3	+3.0
	comp=E,2.1nm,0.3s,baz=183,slow=7.3,SNR=29						
SIV	San Ignacio	9.46	65	P	Pn	17 00 27.2	-1.7
	comp=E,1.1nm,0.3s,baz=267,slow=11,SNR=26						
PLCA	Paso Flores	20.39	181	P	P	17 02 46.7	-0.2
	comp=E,2.0nm,0.8s,baz=26,slow=9.5,SNR=4.0						
YKA	Yellowknife Ar	89.72	341	P	P	17 11 04.7	-1.1
	comp=E,0.4nm,0.7s,baz=134,slow=4.6,SNR=10						
YKA				pP	pP	17 11 28.4	+4.5
	comp=E,0.6nm,0.8s,baz=133,slow=5.0,SNR=6.1						
MKAR	Makanchi Array	145.20	34	PKPbc	PKPbc	17 17 44.5	-0.8
	comp=E,0.3nm,0.6s,baz=329,slow=4.5,SNR=4.9						

ISCJB 05 17:15:22.0±0.4, 55°.48N±0°.04×135°.14W±0°.06, h9km, mb3.3/2, Error ellipse: s-maj=6.5km s-min=3.6km az=34.4
IDC 05 17:15:23.6±1.1, 55°.42N×134°.91W, h0km, mb3.4/2, mb1 3.6/7, mb1mx3.4/35, mbtmp3.5/7, ML3.2/5, Error ellipse: s-maj=14.8km s-min=10.3km az=59.0
NEIC 05 17:15:25.1±0.0, 55°.55N×135°.04W, h20km, ML3.5(AEIC), After AEIC.
ISC 05 17:15:23.9±0.9**, 55°.45N**±0°.05×**135°.07W**±0°.06**, h9**km**, n52, σ1ˢ22**/59**, Off coast of southeastern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRAG	Craig	1.11	88	*e*Pn	Pg	17 15 44.1	-1.0
CRAG				*e*Sg	Sn	17 15 59.3	-1.7
SIT	Sitka	1.62	355	*e*Pn	Pn	17 15 50.7	-1.8
WRAK	Wrangell Islan	1.81	57	*e*Pn	Pn	17 15 54.4	-0.9
NDB	Naden	1.94	140	P	Pn	17 15 57.2	+0.1
DIB	Dawson Inlet,	2.72	145	*e*Pn	Pn	17 16 07.5	-0.2
H02S1	DAWSON INLET T	2.72	145	Pn	Pn	17 16 07.9	+0.3
H02S1				Sn	Sn	17 16 40.4	-0.1
JIS	Juneau Island	2.86	7	*e*Pn	Pn	17 16 09.1	-0.5
JIS				*e*Sn	Sb	17 16 49.0	-1.0
BESE	Bessie Mountai	3.14	2	*e*Pn	Pn	17 16 13.4	-0.1
BESE				*e*Sg	Sb	17 16 57.8	-0.4
SKAG	Skagway	4.02	358	*e*Pn	Pn	17 16 26.2	+0.6
DLBC	Dease Lake	4.07	41	Pn	Pn	17 16 26.4	+0.1
	1.5nm,0.3s,baz=238,slow=7.2,SNR=7.5						
DLBC				Pg	Pb	17 16 34.9	-0.8
	2.8nm,0.3s,baz=208,slow=16,SNR=5.3						
DLBC				Sn	Sn	17 17 13.5	-0.6
	2.8nm,0.3s,baz=220,slow=16,SNR=3.7						
DLBC				Lg	Lg	17 17 28.6	
	7.0nm,0.3s,baz=318,slow=18,SNR=4.2						
DLBC	Dease Lake	4.07	41	*e*Pn	Pn	17 16 26.0	-0.4
DLBC				*e*Sg	Sb	17 17 28.1	+3.1
WHY	Whitehorse	5.23	1	*e*Pn	Pn	17 16 42.6	+0.4
BBB	Bella Bella	5.26	126	Pn	Pn	17 16 42.6	+0.1
	0.5nm,0.3s,baz=309,slow=13,SNR=9.3						
BBB				Sn	Sn	17 17 41.5	-1.8
	1.6nm,0.3s,baz=105,slow=17,SNR=4.9						
BBB				Lg	Lg	17 18 05.3	
	1.7nm,0.3s,baz=66,slow=20,SNR=2.4						
BBB	Bella Bella	5.26	126	*e*Pn	Pn	17 16 43.1	+0.5
PCA	Pinnacle	5.42	331	*e*Pn	Pn	17 16 46.2	+1.4
SAMH	Samovar Hills	5.60	329	P	Pn	17 16 48.6	+1.4
HMT	Hamilton	6.92	319	*e*Pn	Pn	17 17 04.5	-1.0
RAGM	Ragged Mountai	7.11	318	*e*Pn	Pn	17 17 06.0	-2.0
KLU	Klutina	8.30	321	*e*Pn	Pn	17 17 21.0	-3.3
HARP	HAARP	8.70	327	*e*Pn	Pn	17 17 30.6	+0.9
DAWY	Dawson	8.91	348	*e*Pn	Pn	17 17 34.0	+1.4
SEW	Seward	8.98	307	*e*Pn	Pn	17 17 32.9	-0.7
SCM	Sheep Creek Mo	9.03	320	*e*Pn	Pn	17 17 35.6	+1.3
KNK	Knik Glacier	9.21	316	*e*Pn	Pn	17 17 38.6	+1.9
SML	Sawmill	9.39	318	*e*Pn	Pn	17 17 38.2	-1.0
DOT	Dot Lake	9.39	335	*e*Pn	Pn	17 17 39.9	+0.6
BRLK	Bradley Lake	9.52	303	*e*Pn	Pn	17 17 39.9	-1.0
RC01	Rabbit Creek A	9.56	312	*e*Pn	Pn	17 17 41.0	-0.5
PMR	Palmer	9.58	316	*e*Pn	Pn	17 17 41.6	-0.1
GHO	Glory Hole Cre	9.60	317	*e*Pn	Pn	17 17 43.1	+1.1
SCRK	Sand Creek	9.65	336	*e*Pn	Pn	17 17 42.5	-0.4
RIDG	Independ'e Rid	9.66	333	*e*Pn	Pn	17 17 42.6	-0.4
DHY	Denali Highway	9.89	326	*e*Pn	Pn	17 17 45.4	-0.7
KDAK	Kodiak Island	9.93	291	Pn	Pn	17 17 45.6	-0.9
	1.2nm,0.3s,baz=77,slow=14,SNR=20						
KDAK	Kodiak Island	9.93	291	*e*Pn	Pn	17 17 45.9	-0.6
SUA	Susitna One	10.17	313	*e*Pn	Pn	17 17 51.9	+2.0
RND	Reindeer	10.60	324	*e*Pn	Pn	17 17 57.5	+1.7
RSO	Redoubt South	10.64	305	*e*Pn	Pn	17 17 59.2	+2.8
HDA	Harding Lake	10.76	331	*e*Pn	Pn	17 17 58.8	+0.9
MCK	McKinley	10.85	326	*e*Pn	Pn	17 17 58.5	-0.7
IL1	Eielson Array	11.03	333	*e*Pn	Pn	17 18 01.6	0.0
ILAR	Eielson Array	11.03	333	Pn	Pn	17 18 03.1	+1.6
	0.1nm,0.3s,baz=154,slow=13,SNR=14						
ILB	Eielson Array	11.03	333	*e*Pn	Pn	17 18 01.2	-0.4
TRF	Thorofare Moun	11.12	322	*e*Pn	Pn	17 18 04.4	+1.4
WRH	Wood River Hil	11.13	330	*e*Pn	Pn	17 18 03.7	+0.8
PPLA	Purkeypile	11.49	317	*e*Pn	Pn	17 18 07.2	-0.8
MLY	Manley	12.32	328	*e*Pn	Pn	17 18 20.3	+1.0
YKA	Yellowknife Ar	12.65	48	Pn	Pn	17 18 23.3	-0.5
	0.1nm,0.3s,baz=240,slow=12,SNR=5.2						
YKA				Lg	Lg	17 22 00.8	
	0.0nm,0.3s,baz=242,slow=30,SNR=3.3						
IM3	Indian Mountai	13.89	327	*e*Pn	Pn	17 18 41.2	+0.6
PDAR	Pinedale Array	20.83	117	P	Pn	17 20 09.6	+1.4
	1.1nm,0.9s,baz=301,slow=6.4,SNR=6.1						
RES	Resolute Bay	24.77	24	P	P	17 20 46.2	+0.8
	0.9nm,1.1s,baz=250,slow=12,SNR=2.7						
MKAR	Makanchi Array	73.38	334	P	P	17 26 57.0	+1.3

0.4nm,0.7s,baz=33,slow=3.2,SNR=4.5

MOS ***05*** *17:42:20.0±1.1, 19°.95S×66°.55E, h10km, mb5.1/59, MS4.9/14, Error ellipse: s-maj=8.5km s-min=5.2km az=97.9*

ISCJB ***05*** *17:42:21.0±0.2, 20°.03S±0°.04×66°.55E±0°.03, h16km, mb4.9/129, MS5.0/124, Error ellipse: s-maj=5.1km s-min=4.2km az=2.3*

NEIC ***05*** *17:42:20.8±0.2, 19°.99S×66°.45E, h6km, mb5.3/16, MS5.1/86, MW5.4, Error ellipse: s-maj=5.7km s-min=4.3km az=187.0, Moment Tensor Solution. s27 Moment tensor: Scale 10^{17}Nm; M_{rr}0.21; $M_{\theta\theta}$1.24; $M_{\phi\phi}$-1.45; $M_{r\theta}$-0.08; $M_{\theta\phi}$-0.86; $M_{\phi r}$-0.42; Best double couple: $M_0$1.70000×10^{17} NP1:ϕ_s331.00000°, δ83.00000°, λ-10.00000°. NP2: ϕ_s62.00000°, δ80.00000°, λ-173.00000°. Principal axes: T 1.5000, Plg2.0000°, Azm17.0000°; N 0.3000, Plg78.0000°, Azm116.0000°; P -1.7900, Plg12.0000°, Azm286.0000°;*

IDC ***05*** *17:42:20.0±0.4, 20°.02S×66°.53E, h0km, mb4.7/26, mb1 4.8/27, mb1mx4.7/35, mbtmp4.7/27, ML4.0/1, MS4.6/26, Ms1 4.6/26, ms1mx4.5/38 Error ellipse: s-maj=15.5km s-min=12.5km az=33.0*

BJI ***05*** *17:42:21.1, 19°.59S×66°.31E, h8km, mb4.9/49, mB5.2/36, Ms5.1/39, Ms7 4.8/38*

GCMT ***05*** *17:42:24.8±0.2, 20°.09S±0°.01×66°.48E±0°.01, h13km±1km, MW5.5/105, Moment Tensor Solution. s45,c57; s105,c192; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.36±.05; $M_{\theta\theta}$1.87±.05; $M_{\phi\phi}$-1.51±.04; $M_{r\theta}$0.50±.12; $M_{\theta\phi}$-1.08±.04; $M_{\phi r}$0.33±.11; Best double couple: $M_0$2.10200×10^{17} NP1:ϕ_s242.00000°, δ85.00000°, λ-162.00000°. NP2:ϕ_s151.00000°, δ72.00000°, λ-5.00000°. Principal axes: T 2.2450, Plg9.0000°, Azm15.0000°; N -0.2870, Plg71.0000°, Azm258.0000°; P -1.9580, Plg16.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 17:42:21.0±0.6**, 20°.00S**±0°.05×**66°.44E**±0°.05**, h4**km±3km**, h5**km**:pP-P, n645,** σ**1s72**/565**, mb5.1**/146**, MS5.0**/124**, 34C-9D, Mauritius-Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRIV	**Mauritius Mete**	**8.41**	**266**	*e*Pn	**Pn**	**17 44 20.6**	**-3.0**
RER	**Riviere de l'E**	**10.09**	**262**	*e*Pn	**Pn**	**17 44 43.0**	**-3.7**
H08S1	**Diego Carcia H**	**13.61**	**26**	T	T	17 59 31.9	
	baz=204,slow=76,SNR=1427						
H08S2	**Diego Garcia H**	**13.61**	**26**	T	T	17 59 35.8	
	baz=204,slow=76,SNR=627						
H08S3	**Diego Garcia H**	**13.62**	**26**	T	T	17 59 32.1	
	baz=204,slow=76,SNR=939						
DGAR	**Diego Garcia**	**13.81**	**26**	*e*Pn	**Pn**	**17 45 38.1**	**+0.6**
DGAR	**Diego Garcia**	**13.81**	**26**⇑	*e*P	**Pn**	**17 45 39.0**	**+1.5**
DGAR				pmax	pmax		
	comp=Z,228nm,1.5s						
H08N3	**Diego Garcia H**	**14.28**	**19**	T	T	18 00 28.9	
	baz=197,slow=76,SNR=432						
H08N1	**Diego Carcia H**	**14.29**	**19**	T	T	18 00 59.3	
	baz=197,slow=76,SNR=307						
H08N2	**Diego Garcia H**	**14.30**	**19**	T	T	18 00 34.8	
	baz=197,slow=76,SNR=402						
ABPO	**Ambohimpanom**	**18.14**	**270**	*e*Pn	**P**	**17 46 34.7**	**+0.2**
ABPO	**Ambohimpanom**	**18.14**	**270**	*e*P	**P**	**17 46 34.7**	**+0.2**
OPO	**Ambohidratompo**	**18.23**	**271**	P	**P**	**17 46 35.8**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=89,slow=13,SNR=20						
OPO				LR	LR	17 52 01.3	
	comp=Z,5µm,19.7s,baz=94,slow=32						
HMDM	**Hanimaadhoo**	**27.42**	**15**	*e*P	**P**	**17 48 07.6**	**-0.3**
CRZF	**Crozet Islands**	**28.94**	**201**	*e*P	**P**	**17 48 22.4**	**+1.1**
PAF	**Port-aux-Franc**	**29.44**	**175**	*e*P	**P**	**17 48 25.9**	**+0.4**
PAF	**Port-aux-Franc**	**29.44**	**175**	*e*P	**P**	**17 48 25.9**	**+0.4**
PALK	**Pallekele**	**30.52**	**29**	*e*P	**P**	**17 48 36.4**	**+0.9**
PALK	**Pallekele**	**30.52**	**29**	*e*P	**P**	**17 48 36.4**	**+0.9**
KMBO	**Kilima Mbogo**	**34.16**	**300**	P	**P**	**17 49 09.0**	**+1.3**
	comp=Z,7.6nm,0.9s,baz=87,slow=7.0,SNR=16						
KMBO				LR	LR	18 00 37.1	
	comp=Z,1µm,20.0s,baz=108,slow=32						
KMBO	**Kilima Mbogo**	**34.16**	**300**	*e*P	**P**	**17 49 09.0**	**+1.3**
KMBO				*e*sP	**P**	**17 49 09.4**	**+1.6**
KMBO	**Kilima Mbogo**	**34.16**	**300**	P	**P**	**17 49 09.6**	**+1.8**
KMBO	**Kilima Mbogo**	**34.16**	**300**	*i* P	**P**	**17 49 09.6**	**+1.8**
KMBO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KMBO	**Kilima Mbogo**	**34.16**	**300**	P	**P**	**17 49 09.7**	**+2.0**
	SNR=7.4						
NAI	**Nairobi**	**34.44**	**299**	*e*P	**P**	**17 49 12.4**	**+2.2**
NAI	**Nairobi**	**34.44**	**299**	*e*P	**P**	**17 49 12.4**	**+2.2**
LSZ	**Lusaka**	**36.70**	**271**	*e*P	**P**	**17 49 29.5**	**0.0**
	comp=Z,18nm,0.9s						
LSZ				*e*PP	**PP**	**17 50 56.3**	**+3.3**
LSZ				LR	LR		
	comp=Z,1µm,20.0s						
LSZ	**Lusaka**	**36.70**	**271**	*e*P	**P**	**17 49 29.5**	**0.0**
LSZ				*e*		17 50 56.3	
LSZ				pmax	pmax		
	comp=Z,19nm,0.9s						
LSZ				MLR	MLR		
	comp=Z,1µm,20.0s						
GSI	**Gunungsitoli**	**37.15**	**59**	*e*P	**P**	**17 49 33.9**	**+0.8**
LBTB	**Lobatse**	**37.96**	**255**	*e*P	**P**	**17 49 40.2**	**+0.2**
LBTB	**Lobatse**	**37.96**	**255**	*e*P	**P**	**17 49 40.3**	**+0.2**
BOSA	**Boshof**	**38.35**	**249**	P	**P**	**17 49 43.8**	**+0.4**
	comp=Z,25nm,0.9s,baz=97,slow=8.0,SNR=11						
BOSA	**Boshof**	**38.35**	**249**	*e*P	**P**	**17 49 43.5**	**+0.2**
BOSA	**Boshof**	**38.35**	**249**	*e*P	**P**	**17 49 43.6**	**+0.2**
MNAI	**Manna**	**38.80**	**71**	*e*P	**P**	**17 49 46.5**	**-0.6**
XMIS	**Christmas Isla**	**38.91**	**82**	*e*P	**P**	**17 49 49.4**	**+1.4**
ATD	**Arta Tunnel**	**39.01**	**321**	LR	LR	18 02 59.4	
	comp=Z,653nm,20.1s,baz=134,slow=32						
ATD	**Arta Tunnel**	**39.01**	**321**	*e*P	**P**	**17 49 49.1**	**+0.3**
HYB	**Hyderabad**	**39.04**	**19**	*i* P	**P**	**17 49 48.0**	**-1.0**
LHMI	**Lhok Sumawe**	**39.09**	**53**	*e*P	**P**	**17 49 50.5**	**+1.0**
PSI	**Prapat**	**39.12**	**58**	*e*P	**P**	**17 49 49.7**	**-0.2**
PSI	**Prapat**	**39.12**	**58**	*e*P	**P**	**17 49 49.7**	**-0.2**
BKNI	**Bangkinang**	**39.45**	**63**	*e*P	**P**	**17 49 52.2**	**-0.4**
FURI	**Furi**	**39.64**	**314**	*e*P	**P**	**17 49 54.7**	**+0.2**
MBAR	**Mbarara**	**39.90**	**295**	*e*P	**P**	**17 49 55.6**	**-0.9**
MBAR	**Mbarara**	**39.90**	**295**⇓	*e*P	**P**	**17 49 58.2**	**+1.7**
MBAR				pmax	pmax		
	comp=Z,17nm,1.2s						
DAMY	**Dhamar**	**40.63**	**326**	*e*P	**P**	**17 50 01.9**	**-0.8**
PBA	**Port Blair**	**40.74**	**42**	*e*P	P	17 50 01.2	-2.0
IPM	**Ipoh**	**41.80**	**58**	*e*P	**P**	**17 50 12.4**	**+0.4**
CISI	**Cisompet, Garu**	**41.92**	**79**	*e*P	**P**	**17 50 15.1**	**+2.1**
KULM	**Kulim**	**41.99**	**57**	*e*P	**P**	**17 50 12.9**	**-0.6**
SUR	**Sutherland**	**42.47**	**244**	*e*P	**P**	**17 50 18.6**	**+1.1**
	comp=Z,56nm,1.0s						
SUR				LR	LR		
	comp=Z,3µm,19.0s						
MYKOM	**Kota Tinggi**	**42.60**	**64**	*e*P	**P**	**17 50 19.1**	**+0.6**
KRAB	**Krabi**	**42.73**	**52**	P	P	17 50 27.1	+7.6
TRTT	**Trang**	**42.85**	**53**	P	**P**	**17 50 24.0**	**+3.5**
	comp=Z,9.9nm,1.1s						
SMRI	**Semarang**	**44.53**	**79**	*e*P	**P**	**17 50 35.4**	**+1.3**
ASHO	**Ashiyiah**	**45.55**	**347**	P	**P**	**17 50 39.6**	**-2.4**
ASUD	**Al Ashush, Dub**	**45.66**	**346**	P	**P**	**17 50 44.2**	**+1.4**
HATD	**Hatta, Dubai**	**45.67**	**347**	P	**P**	**17 50 44.8**	**+1.8**
FAQ	**Al Faqa, Dubai**	**45.72**	**346**	P	**P**	**17 50 44.7**	**+1.4**
MORW	**Morawa**	**45.74**	**111**	*e*P	**P**	**17 50 45.2**	**+1.6**
TSUM	**Tsumeb**	**45.90**	**262**	*e*P	**P**	**17 50 45.3**	**+0.1**
	comp=Z,10nm,1.0s						
TSUM				LR	LR		
	comp=Z,977nm,20.0s						
PHET	**Kaeng Krachan**	**46.22**	**48**	P	P	17 50 53.4	+6.0
NWAO	**Narrogin (SRO)**	**46.85**	**117**	PFAKE		17 51 00.0	+7.7
NWAO				LR	LR		
	comp=Z,2µm,20.0s						
PATY	**Pattaya**	**47.10**	**49**	P	P	17 51 02.7	+8.4
JAGI	**Jajag, Banyuwa**	**47.49**	**83**	*e*P	**P**	**17 50 58.7**	**+1.2**
MAW	**Mawson**	**47.64**	**182**	P	**P**	**17 50 57.4**	**-0.5**
	comp=Z,40nm,0.8s,baz=341,slow=8.4,SNR=20						
MAW				LR	LR	18 06 02.4	
	comp=Z,1µm,20.7s,baz=356,slow=30						
MAW	**Mawson**	**47.64**	**182**	*e*P	**P**	**17 50 58.8**	**+1.0**
MAW	**Mawson**	**47.64**	**182**	*e*P	**P**	**17 50 58.8**	**+1.0**
RAYN	**Ar Rayn**	**47.84**	**334**	*e*P	**P**	**17 50 59.7**	**-0.3**
	comp=Z,7.4nm,0.7s						
RAYN	**Ar Rayn**	**47.84**	**334**	P	**P**	**17 51 00.3**	**+0.3**
RAYN	**Ar Rayn**	**47.84**	**334**	*e*P	**P**	**17 50 59.7**	**-0.3**
RAYN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KSM	**Kuching**	**48.00**	**69**	*e*P	**P**	**17 51 03.0**	**+1.5**
UMPA	**Umpang Tak**	**48.06**	**44**	P	**P**	**17 51 01.7**	**-0.1**
	comp=Z,5.4nm,0.8s,comp=Z,81nm						
MBWA	**Marble Bar**	**49.70**	**101**	*e*P	**P**	**17 51 14.2**	**-0.2**
	comp=Z,200nm,1.4s						
MBWA				LR	LR		
	comp=Z,1µm,22.0s						
PBKT	**Sadao Pong**	**49.71**	**45**	*e*P	**P**	**17 51 14.0**	**-0.4**
PBKT	**Sadao Pong**	**49.71**	**45**	P	**P**	**17 51 14.9**	**+0.5**
	comp=Z,14nm,0.9s,comp=Z,2µm						
CM01	**Chiang Mai Arr**	**49.76**	**42**	*e*P	**P**	**17 51 14.4**	**-0.3**
CM31	**Chiang Mai Arr**	**49.77**	**42**	*e*P	**P**	**17 51 14.6**	**-0.4**
CM31	**Chiang Mai Arr**	**49.77**	**42**	P	**P**	**17 51 15.4**	**+0.5**
	SNR=10						
CMAR	**Chiang Mai Arr**	**49.77**	**42**	P	**P**	**17 51 14.9**	**+0.1**
	comp=Z,9.4nm,0.8s,baz=235,slow=8.5,SNR=109						
CMAR				LR	LR	18 09 15.3	
	comp=Z,728nm,21.1s,baz=227,slow=32						
CMAR	**Chiang Mai Arr**	**49.77**	**42**	P	**P**	**17 51 15.0**	**+0.1**
CHAI	**Chaiyaphum**	**49.93**	**47**	P	**P**	**17 51 16.9**	**+0.7**
	comp=Z,7.1nm,0.8s						
CHTO	**Chiang Mai**	**50.04**	**42**	*e*P	**P**	**17 51 16.6**	**-0.3**
	comp=Z,7.1nm,0.9s						
CHTO				LR	LR		
	comp=Z,1µm,21.0s						
CHTO	**Chiang Mai**	**50.04**	**42**	*e*P	**P**	**17 51 16.6**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CHTO				MLR	MLR		
	comp=Z,1µm,21.0s						
CHTO	**Chiang Mai**	**50.04**	**42**	P	**P**	**17 51 16.9**	**0.0**
	comp=Z,47nm,0.9s						
CMMT	**Chiang Mai**	**50.04**	**42**	P	**P**	**17 51 16.9**	**-0.1**
	comp=Z,10nm,0.9s						
SBUM	**Sibu**	**50.15**	**69**	*e*P	**P**	**17 51 17.6**	**-0.3**
KOLN	**Koldanda**	**50.31**	**20**	*e*P	**P**	**17 51 19.4**	**+0.3**
	comp=Z,36nm,0.8s						
PYUN	**Piuthan**	**50.43**	**19**	*e*P	**P**	**17 51 20.3**	**+0.3**
	comp=Z,86nm,0.9s						
RAMN	**Ramite**	**50.60**	**23**	*e*P	**P**	**17 51 22.0**	**+0.7**
	comp=Z,26nm,0.7s						
DMN	**Daman**	**50.66**	**22**	*e*P	**P**	**17 51 22.1**	**+0.3**
	comp=Z,49nm,1.1s						
PKI	**Pulchoki**	**50.73**	**22**	*e*P	**P**	**17 51 22.3**	**-0.1**
	comp=Z,28nm,1.0s						
PKIN	**Phulchoki**	**50.73**	**22**	*e*P	**P**	**17 51 22.2**	**-0.2**
	comp=Z,20nm,0.9s						
KKN	**Kakani**	**50.89**	**22**	*e*P	**P**	**17 51 23.7**	**+0.2**
	comp=Z,44nm,0.8s						
DANN	**Dangsing**	**50.90**	**20**	*e*P	**P**	**17 51 23.8**	**+0.2**
	comp=Z,69nm,0.8s						
JIRN	**Jiri**	**51.09**	**23**	*e*P	**P**	**17 51 25.4**	**+0.2**
	comp=Z,50nm,0.7s						
GUN	**Gumba**	**51.21**	**22**	*e*P	**P**	**17 51 26.5**	**+0.5**
	comp=Z,78nm,0.9s						
SHL	**Shillong**	**51.61**	**30**	*e*P	**P**	**17 51 29.1**	**+0.2**
SHL	**Shillong**	**51.61**	**30**	*e*P	**P**	**17 51 29.1**	**+0.2**
SHL	**Shillong**	**51.61**	**30**	*i* P	**P**	**17 51 30.0**	**+1.2**
SYO	**Syowa Base**	**51.72**	**192**⇑	*i*P	**P**	**17 51 28.0**	**-0.9**
NONG	**Nongkai**	**52.23**	**46**	P	**P**	**17 51 33.8**	**+0.4**
	comp=Z,0.6nm,0.9s						
NIL	**Nilore**	**53.75**	**7**	*e*P	**P**	**17 51 43.8**	**-0.5**
	comp=Z,44nm,0.9s						
NIL				LR	LR		
	comp=Z,1µm,22.0s						
NIL	**Nilore**	**53.75**	**7**	*e*P	**P**	**17 51 43.8**	**-0.5**
NIL				pmax	pmax		
	comp=Z,44nm,0.9s						
NIL				MLR	MLR		
	comp=Z,1µm,22.0s						
CASY	**Casey**	**54.25**	**160**	*e*P	**P**	**17 51 48.8**	**+1.1**
	comp=Z,9.4nm,1.0s						
CASY				LR	LR		
	comp=Z,168nm,20.0s						
KBL	**Kabul**	**54.30**	**3**	*e*P	**P**	**17 51 48.6**	**0.0**
KBL	**Kabul**	**54.30**	**3**	*e*P	**P**	**17 51 48.6**	**0.0**
LSA	**Lhasa**	**54.85**	**26**	*e*P	**P**	**17 51 53.1**	**+0.1**
LSA				LR	LR		
	comp=Z,903nm,19.0s						
LSA	**Lhasa**	**54.85**	**26**	*i* P	**P**	**17 51 54.0**	**+0.9**
	SNR=8.0						
LSA	**Lhasa**	**54.85**	**26**	*e*P	**P**	**17 51 53.1**	**+0.1**
LSA				MLR	MLR		
	comp=Z,903nm,19.0s						
MMRI	**Maumere**	**55.01**	**87**	*e*P	**P**	**17 51 55.2**	**+1.3**
FITZ	**Fitzroy Crossi**	**55.73**	**99**	*e*P	**P**	**17 51 57.9**	**-1.2**
FORT	**Forrest**	**56.09**	**114**	*e*P	**P**	**17 52 02.3**	**+0.7**
SOEI	**Soe**	**56.57**	**89**	*e*P	**P**	**17 52 04.4**	**-0.9**
KMI	**Kunming**	**57.08**	**40**	P	**P**	**17 52 12.6**	**+3.8**
KMI				pP	pwP	17 52 15.2	+2.6
KMI				sP	sP	17 52 16.9	+7.1
KMI				S	**S**	**18 00 06.0**	**+1.4**
KMI				sS	sS	18 00 13.1	+7.3
KMI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KMI				pmax	pmax		
	comp=Z,83nm,4.3s						
KMI				LR	LR		
	comp=Z,690nm,18.1s						
KMI				LR	LR		
	comp=Z,640nm,19.7s						
KMI				LR	LR		
	comp=Z,620nm,18.9s						
QIZ	**Qiongzhong**	**57.58**	**50**	P	**P**	**17 52 11.3**	**-0.8**
QIZ				S	**S**	**18 00 12.0**	**+1.1**
QIZ				LR	LR		
	comp=Z,710nm,15.0s						
QIZ				LR	LR		
	comp=Z,710nm,19.3s						
QIZ				LR	LR		
	comp=Z,470nm,23.5s						
QIZ	**Qiongzhong**	**57.58**	**50**	PFAKE		17 52 20.0	+7.9
QIZ				LR	LR		
	comp=Z,666nm,22.0s						
GEYT	**Alibeck**	**58.15**	**352**	P	**P**	**17 52 15.8**	**0.0**
	comp=Z,26nm,0.5s,baz=196,slow=10,SNR=9.0						
GEYT				LR	LR	18 14 55.6	
	comp=Z,329nm,21.8s,baz=155,slow=34						
GYA0B	**ALIBECK ARRAY**	**58.15**	**352**	*e*P	**P**	**17 52 13.8**	**-2.1**
LUWI	**Luwuk**	**58.17**	**78**	*e*P	**P**	**17 52 12.0**	**-4.5**
KSH	**Kashi**	**59.88**	**9**	P	**P**	**17 52 24.8**	**-3.1**
KSH				sP	pwP	17 52 33.2	+1.5
KSH				PcP	**PcP**	**17 53 12.0**	**-2.4**
KSH				PcS	**PcS**	**17 57 10.1**	**-6.5**
KSH				S	S	18 00 30.5	-10
KSH				sS	pS	18 00 37.5	-3.7
KSH				pmax	pmax		
	comp=Z,78nm,0.8s						
KSH				pmax	pmax		
	comp=Z,280nm,3.3s						
KSH				LR	LR		
	comp=Z,490nm,6.4s						
KSH				LR	LR		
	comp=Z,340nm,9.2s						
KSH				LR	LR		
	comp=Z,480nm,14.0s						
BTK	**Batken**	**59.89**	**4**	*e*P	**P**	**17 52 26.9**	**-1.0**
BTK	**Batken**	**59.89**	**4**	*e*P	**P**	**17 52 26.9**	**-1.0**
NVL	**N'lazarevskaya**	**59.91**	**198**	*e*P	P	17 52 33.4	+5.7
NVL				*i* S	**S**	**18 00 43.3**	**+3.3**
NVL				*e*SS	**SS**	**18 04 44.4**	**+8.5**
NVL				pmax	pmax		
	comp=Z,15nm,0.7s						
SFK	**Sufi-Kurgan**	**60.07**	**6**	P	**P**	**17 52 28.6**	**-0.8**
SFK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA	**Guiyang**	**60.46**	**42**	*e*P	**P**	**17 52 35.2**	**+3.0**
GYA				PP	**PP**	**17 54 51.6**	**+5.9**
GYA				S	**S**	**18 00 50.2**	**+1.8**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,5.4s						
ARSB	**Arslanbob**	**61.31**	**6**	*e*P	**P**	**17 52 36.9**	**-0.8**
SIRT	**Sirnak**	**61.50**	**338**	*e*P	**P**	**17 52 39.1**	**+0.1**
NRN	**Naryn**	**61.76**	**8**	*e*P	**P**	**17 52 39.8**	**-1.2**
NRN	**Naryn**	**61.76**	**8**	*e*P	**P**	**17 52 39.8**	**-1.2**
CD2	**Chengdu**	**62.03**	**36**	*e*P	**P**	**17 52 44.5**	**+1.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
AML	**Almayashu**	**62.18**	**6**	P	**P**	**17 52 43.8**	**0.0**
	SNR=12						
ASAR	**Alice Springs**	**62.21**	**107**	P	**P**	**17 52 42.5**	**-1.6**
	comp=Z,4.9nm,0.7s,baz=266,slow=5.8,SNR=38						
ASAR				LR	LR	18 15 49.9	
	comp=Z,2µm,20.9s,baz=279,slow=32						
AS31	**Alice Springs**	**62.21**	**107**	*e*P	**P**	**17 52 41.5**	**-2.6**
AS01	**Alice Springs**	**62.25**	**107**	*e*P	**P**	**17 52 41.4**	**-3.0**
KZA	**Kyzart**	**62.30**	**7**	P	**P**	**17 52 46.0**	**+1.3**
	SNR=8.3						
UCH	**Uchtor**	**62.36**	**7**	P	**P**	**17 52 44.8**	**-0.3**
	SNR=6.2						
KDJ	**Kajisay**	**62.61**	**9**	*e*P	**P**	**17 52 44.9**	**-1.6**
KDJ	**Kajisay**	**62.61**	**9**	*e*P	**P**	**17 52 44.9**	**-1.6**
AAK	**Ala-Archa**	**62.77**	**7**	P	**P**	**17 52 47.6**	**+0.2**
	SNR=11						
AAK	**Ala-Archa**	**62.77**	**7**	*e*P	**P**	**17 52 47.1**	**-0.4**
AAK				LR	LR		
	comp=Z,949nm,22.0s						
AAK	**Ala-Archa**	**62.77**	**7**	*i* P	**P**	**17 52 47.3**	**-0.2**
	SNR=18						
AAK	**Ala-Archa**	**62.77**	**7***c*	*i*P	**P**	**17 52 47.5**	**0.0**
AAK				pmax	pmax		
	comp=Z,20nm,1.6s						
AAK	**Ala-Archa**	**62.77**	**7**	P	**P**	**17 52 47.9**	**+0.4**
	SNR=7.9						
KBK	**Karagaybulak**	**62.84**	**7**	P	**P**	**17 52 48.0**	**0.0**
	SNR=9.1						
KK31	**Karatay Array**	**62.90**	**3**	*e*P	**P**	**17 52 47.6**	**-0.6**
KK31	**Karatay Array**	**62.90**	**3**	*e*P	**P**	**17 52 47.6**	**-0.6**
KKAR	**Karatay Array**	**62.90**	**3**	*e*P	**P**	**17 52 47.7**	**-0.5**
KKAR	**Karatay Array**	**62.90**	**3**	*e*P	**P**	**17 52 47.7**	**-0.5**
FRU1	**Bishkek**	**62.95**	**7**	*e*P	**P**	**17 52 47.8**	**-0.8**
FRU1	**Bishkek**	**62.95**	**7**	*e*P	**P**	**17 52 47.8**	**-0.8**
FRU	**Bishkek**	**62.97**	**7**	*e*P	**P**	**17 52 48.0**	**-0.7**
TNTI	**Ternate**	**63.10**	**78**	*e*P	**P**	**17 52 49.2**	**-0.9**
PRZ	**Przheval'sk**	**63.15**	**10**	*e*P	**P**	**17 52 49.4**	**-0.7**
PRZ	**Przheval'sk**	**63.15**	**10**	*e*P	**P**	**17 52 49.4**	**-0.7**
GNI	**Garni**	**63.17**	**341**	LR	LR	18 18 42.0	
	comp=Z,543nm,20.3s,baz=164,slow=34						
GNI	**Garni**	**63.17**	**341**	*e*P	**P**	**17 52 50.9**	**+0.7**
	comp=Z,350nm,0.9s						
GNI	**Garni**	**63.17**	**341**	P	**P**	**17 52 52.1**	**+1.9**
GNI	**Garni**	**63.17**	**341***c*	*i*P	**P**	**17 52 54.4**	**+4.2**
TKM2	**Tokmak 2**	**63.17**	**8**	P	**P**	**17 52 49.9**	**-0.3**
	SNR=18						
WRA	**Warramunga Arr**	**63.37**	**103**	P	**P**	**17 52 50.4**	**-1.6**
	comp=Z,10nm,0.9s,baz=261,slow=5.9,SNR=21						
WRA				LR	LR	18 16 28.3	
	comp=Z,896nm,20.8s,baz=265,slow=32						
WR1	**Warramunga Arr**	**63.37**	**103**	*e*P	**P**	**17 52 50.4**	**-1.5**
WB2	**Warramunga Arr**	**63.38**	**103**	*e*P	**P**	**17 52 50.3**	**-1.7**
WRAB	**Tennant Creek**	**63.38**	**103**	*e*P	**P**	**17 52 50.2**	**-1.8**
	comp=Z,25nm,0.7s						
WRAB				LR	LR		
	comp=Z,986nm,20.0s						
WRAB	**Tennant Creek**	**63.38**	**103***d*	*e*P	**P**	**17 52 50.0**	**-2.0**
WRAB				pmax	pmax		
	comp=Z,37nm,1.6s						
USP	**Ospenovka**	**63.39**	**7**	P	**P**	**17 52 51.2**	**-0.2**
	SNR=10						
WC3	**Warramunga Arr**	**63.40**	**103**	*e*P	**P**	**17 52 50.4**	**-1.7**
SAUI	**Saumlaki**	**63.73**	**89**	*e*P	**P**	**17 52 53.4**	**-0.9**
ECAT	**Cat-ERZURUM**	**63.90**	**338**	*i* P	P	17 53 07.5	+12
DAV	**Davao City (W)**	**64.07**	**71**	LR	LR	18 19 21.4	
	comp=Z,154nm,19.4s,baz=197,slow=35						
KARS	**Kars**	**64.12**	**340**	*e*P	**P**	**17 52 54.5**	**-1.9**
KARS	**Kars**	**64.12**	**340**	*e*P	**P**	**17 52 54.5**	**-1.9**
PDGK	**Podgornoye**	**64.15**	**11**	P	**P**	**17 52 56.0**	**-0.6**
PDGK				pmax	pmax		
	comp=Z,15nm,1.0s						
TBLG	**Delisi**	**64.63**	**342**	*e*P	**P**	**17 52 58.9**	**-0.7**
TBLG	**Delisi**	**64.63**	**342**	*e*P	**P**	**17 52 58.9**	**-0.7**
AKH	**Akhalkalaki**	**64.70**	**341**	*e*P	**P**	**17 52 59.7**	**-0.6**
AKH	**Akhalkalaki**	**64.70**	**341**⇑	*i*P	P	17 53 06.7	+6.4
AKH	**Akhalkalaki**	**64.70**	**341**	*e*P	**P**	**17 52 59.7**	**-0.6**
ENH	**Enshi**	**64.91**	**41**	*e*P	**P**	**17 53 00.9**	**-0.8**
	comp=Z,20nm,0.9s						
ENH				LR	LR		
	comp=Z,752nm,21.0s						
MAK	**Makhachkala**	**65.03**	**345**	*e*P	P	17 52 55.3	-6.9
MAK				*e*S	S	18 01 34.8	-10
MAK				pmax	pmax		
	comp=Z,123nm,1.0s						
CUZAR	**Zara_SIVAS**	**65.31**	**336**	*i* P	**P**	**17 53 06.9**	**+2.6**
CUSAR	**Sarkisla-SIVAS**	**65.51**	**335**	*i* P	P	17 53 10.7	+5.1
GROC	**Groznyy**	**65.70**	**344**	*e*P	**P**	**17 53 06.6**	**+0.1**
GROC				*e*		17 53 35.1	
GROC				*e*		17 55 31.2	
GROC				pmax	pmax		
	comp=Z,71nm,1.0s						
ZEI	**Tsey**	**65.84**	**342**	*e*P	P	17 53 12.2	+4.5
ZEI				pmax	pmax		
	comp=Z,27nm,1.0s						
VNA2	**Neumayer--Watz**	**65.97**	**200**	P	**P**	**17 53 07.7**	**-0.4**
	baz=76,slow=6.5						
LZH	**Lanzhou**	**66.06**	**33**	*e*P	**P**	**17 53 08.8**	**-0.4**
LZH				pP	pwP	17 53 13.7	+0.6
LZH				sP	sP	17 53 17.4	+7.2
LZH				S	**S**	**18 01 57.4**	**-0.8**
LZH				sS	sS	18 02 07.6	+8.2
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
LZH				pmax	pmax		
	comp=Z,290nm,4.9s						
LZH				LR	LR		
	comp=Z,990nm,11.4s						
LZH				LR	LR		
	comp=Z,480nm,10.8s						
LZH				LR	LR		
	comp=Z,940nm,14.1s						
VNA1	**Neumayer--Stat**	**66.22**	**201**	P	**P**	**17 53 09.8**	**+0.3**
FAKI	**Fak Fak**	**66.29**	**84**	*e*P	**P**	**17 53 10.2**	**-0.8**
FAKI	**Fak Fak**	**66.29**	**84**	P	P	17 53 20.1	+9.1
WMQ	**Urumqi**	**66.44**	**17**	P	**P**	**17 53 11.5**	**+0.2**
WMQ				pP	pwP	17 53 17.5	+2.3
WMQ				sP	sP	17 53 21.5	+9.2
WMQ				PcP	**PcP**	**17 53 44.5**	**+3.5**
WMQ				S	**S**	**18 02 02.0**	**-0.2**
WMQ				pmax	pmax		
	comp=Z,50nm,1.9s						
WMQ				pmax	pmax		
	comp=Z,680nm,3.9s						
WMQ				LR	LR		
	comp=Z,1µm,18.3s						
WMQ				LR	LR		
	comp=Z,2µm,16.1s						
WMQ				LR	LR		
	comp=Z,1µm,23.5s						
NCK	**Nalchik**	**66.58**	**342**⇑	*e*P	**P**	**17 53 14.1**	**+1.9**
NCK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
NEY	**Neytrino**	**66.61**	**341**⇑	*e*P	**P**	**17 53 14.4**	**+1.8**
NEY				pmax	pmax		
	comp=Z,7.0nm,2.0s						
VNA3	**Neumayer Olymp**	**66.75**	**200**	P	**P**	**17 53 12.6**	**-0.4**
GTA	**Gaotai**	**66.83**	**28**	⇑P	**P**	**17 53 13.8**	**-0.3**
GTA				pP	pwP	17 53 18.7	+0.8
GTA				sP	sP	17 53 21.0	+6.0
GTA				S	**S**	**18 02 04.4**	**-2.9**
GTA				sS	sS	18 02 13.1	+4.6
GTA				SS	**SS**	**18 06 25.0**	**-0.9**
GTA				pmax	pmax		
	comp=Z,14nm,1.1s						
GTA				pmax	pmax		
	comp=Z,110nm,8.6s						
GTA				LR	LR		
	comp=Z,460nm,21.3s						
GTA				LR	LR		
	comp=Z,290nm,19.0s						
GTA				LR	LR		
	comp=Z,580nm,20.9s						
BR101	**Keskin Array S**	**66.85**	**333**	*e*P	**P**	**17 53 14.6**	**+0.4**
BR131	**Keskin Array S**	**66.85**	**333**	*e*P	**P**	**17 53 14.4**	**+0.3**
BR131	**Keskin Array S**	**66.85**	**333**	P	**P**	**17 53 16.8**	**+2.6**
	SNR=6.6						
BRTR	**Keskin Array B**	**66.85**	**333**	P	**P**	**17 53 14.6**	**+0.4**
	comp=Z,11nm,0.9s,baz=158,slow=6.9,SNR=37						
BRTR				LR	LR	18 21 55.8	
	comp=Z,343nm,18.1s,baz=138,slow=36						
BRTR	**Keskin Array B**	**66.85**	**333**	*i* P	**P**	**17 53 17.0**	**+2.8**
BRTR				pmax	pmax		
	comp=Z,11nm,0.9s						
KBZ	**Khabaz**	**67.00**	**342**	P	**P**	**17 53 14.8**	**+0.1**
	comp=Z,4.1nm,0.8s,baz=201,slow=6.1,SNR=7.5						
KBZ				LR	LR	18 22 47.4	
	comp=Z,454nm,18.4s,baz=162,slow=36						
XAN	**Xi'an**	**67.27**	**37**	P	**P**	**17 53 15.6**	**-1.2**
XAN				pP	pwP	17 53 20.6	0.0

XAN pmax pmax
comp=Z,12nm,1.0s
XAN pmax pmax
comp=Z,180nm,3.6s
KIV Kislovodsk 67.27 342 *e*P **P 17 53 17.1 +0.5**
comp=Z,64nm,1.1s
KIV LR LR
comp=Z,419nm,20.0s
KIV Kislovodsk 67.27 342 *e*P **P 17 53 15.2 -1.5**
KIV *e* 17 53 42.1
KIV *e*PPP PPP 17 57 20.3
KIV pmax pmax
comp=Z,7.0nm,1.3s
KIV MLR MLR
comp=Z,401nm,18.0s
ANTO Ankara 67.33 332 PFAKE 17 53 30.0 +13
ANTO LR LR
comp=Z,573nm,21.0s
STKA Stephens Creek 67.44 117 P **P 17 53 18.4 +0.3**
comp=Z,3.0nm,0.6s,baz=281,slow=5.0,SNR=9.4
STKA LR LR 18 18 20.7
comp=Z,737nm,21.8s,baz=250,slow=32
STKA Stephens Creek 67.44 117 *e*P **P 17 53 18.8 +0.7**
STKA Stephens Creek 67.44 117 *e*P **P 17 53 18.8 +0.7**
MAKZ Makanchi 67.96 11 *e*P **P 17 53 19.5 -1.4**
MAKZ Makanchi 67.96 11 *e*P **P 17 53 19.5 -1.4**
MK01 Makanchi Array 67.99 12 *e*P **P 17 53 19.8 -1.3**
MK31 Makanchi Array 68.01 12 *e*P **P 17 53 20.0 -1.2**
MK31 Makanchi Array 68.01 12 *e*P **P 17 53 20.0 -1.2**
MK32 Makanchi Array 68.01 12 *e*P **P 17 53 20.3 -0.9**
MKAR Makanchi Array 68.01 12 P **P 17 53 20.3 -0.9**
comp=Z,5.8nm,0.8s,baz=201,slow=6.0,SNR=34
MKAR LR LR 18 22 18.5
comp=Z,667nm,19.3s,baz=200,slow=35
MKAR Makanchi Array 68.01 12 *e*P **P 17 53 19.7 -1.5**
OTUK Ortayu 68.14 4 P **P 17 53 22.1 +0.1**
OTUK pmax pmax
comp=Z,15nm,0.8s
GOF Gofitskoye 68.17 342 *e*P P 17 53 28.8 +6.6
GOF pmax pmax
comp=Z,20nm,0.8s
ABKAR Abkulak array 69.19 355 *e*P **P 17 53 27.7 -0.7**
ANN Anapa 69.71 338 *e*P **P 17 53 29.3 -2.5**
ANN *e* 17 56 01.8
ANN *e*S **S 18 02 37.8 -3.3**
ANN pmax pmax
comp=Z,67nm,1.2s
QSPA South Pole Qui 70.11 180 *e*P **P 17 53 33.0 -1.3**
QSPA LR LR
comp=Z,872nm,20.0s
SIM Simferopol' 71.04 336 *e*P P 17 53 44.7 +4.8
SIM *e*S **S 18 03 01.8 +5.1**
SIM pmax pmax
comp=Z,20nm,1.0s
KURK Kurchatov 71.22 8 *e*P **P 17 53 39.7 -1.2**
comp=Z,80nm,0.8s
KURK LR LR
comp=Z,2µm,22.0s
KURK Kurchatov 71.22 8*c i*P **P 17 53 39.9 -1.0**
KURK pmax pmax
comp=Z,17nm,1.0s
ALN Alexandroupoli 71.27 329 P **P 17 53 40.6 -0.8**
ALN pmax pmax
comp=Z,11nm,1.3s
TOA0 Torodi Ar. Sit 71.70 292 *e*P **P 17 53 43.1 -1.5**
TORD Torodi Ar. Bea 71.70 292 P **P 17 53 43.6 -1.0**
comp=Z,6.6nm,1.1s,baz=109,slow=3.9,SNR=15
TORD LR LR 18 22 33.0
comp=Z,613nm,22.0s,baz=40,slow=34
TOA1 Torodi Ar. Sit 71.71 292 *e*P **P 17 53 43.6 -1.1**
AGG Agios Georgios 71.78 325 *e*P **P 17 53 43.9 -0.7**
VNDA Vanda 71.78 167 P **P 17 53 43.2 -0.9**
comp=Z,9.8nm,1.0s,baz=262,slow=8.7,SNR=13
VNDA LR LR 18 22 04.9
comp=Z,319nm,19.4s,baz=252,slow=33
VNDA Vanda 71.78 167 *e*P **P 17 53 42.8 -1.3**
VNDA *e*PcP **P 17 53 43.2 -0.9**
VNDA Vanda 71.78 167 *e*P **P 17 53 42.8 -1.3**
VNDA *e* 17 53 43.2
DGZ Jazzator, Alta 71.85 14*de*P **P 17 53 43.4 -1.5**
DGZ pmax pmax
comp=Z,5.0nm,1.5s
NJ2 Nanjing 72.09 45 *e*P **P 17 53 46.1 -0.4**
NJ2 pmax pmax
comp=Z,11nm,0.7s
KDZ Kurdzhali 72.15 329 P P 17 53 54.8 +8.1
JMB Yambol 72.22 330 P P 17 53 57.3 +10
PRD Provadia 72.41 331 P P 17 53 53.0 +4.8
LIT Litokhoron 72.47 326 *e*P **P 17 53 47.8 -0.9**
LIT Litokhoron 72.47 326 *e*P **P 17 53 47.8 -0.9**
BTO Baotou 72.65 33 *e*P **P 17 53 48.6 -1.3**
SRS Serrai 72.65 327 P **P 17 53 47.9 -1.9**
SRS pmax pmax
comp=Z,11nm,1.2s
MFTR Murfatlar 72.73 332⇑ *i*P P 17 53 54.7 +4.6
SBA Scott Base 72.74 167 PFAKE 17 54 00.0 +10
SBA LR LR
comp=Z,507nm,20.0s
BRVK Borovoye 72.83 2 *e*P **P 17 53 48.8 -1.7**
comp=Z,35nm,1.0s
BRVK LR LR
comp=Z,388nm,21.0s
BRVK Borovoye 72.83 2 *i* P **P 17 53 49.5 -1.0**
BRVK pmax pmax
comp=Z,6.0nm,0.9s
PLD Plovdiv 72.84 329 P P 17 53 56.2 +5.4
PLD Plovdiv 72.84 329 P P 17 54 00.7 +10
MMB Musomiste 72.94 328 P P 17 53 59.8 +8.3
TIRR Tirgusor 72.95 333 *e*P **P 17 53 50.0 -1.4**
TIRR Tirgusor 72.95 333⇓ *i*P **P 17 53 55.1 +3.7**
TIRR Tirgusor 72.95 333 *e*P **P 17 53 50.0 -1.4**
TAM Tamanrasset 73.09 303 P **P 17 53 53.9 +1.0**
TAM pmax pmax
comp=Z,5.0nm,1.0s
SZH Strazhica 73.14 330 P P 17 53 57.0 +4.4
TLB Topalu 73.22 332⇑ *i*P **P 17 53 57.1 +4.1**
TLB Topalu 73.22 332 P **P 17 53 57.0 +4.1**
HARR Harsova 73.35 332⇑ *i*P P 17 53 58.4 +4.7
KKB Krupnik 73.47 328 P **P 17 53 58.6 +4.1**
FNA Florina 73.56 326 P **P 17 53 55.4 +0.2**
FNA pmax pmax
comp=Z,21nm,1.2s
TIA Tai'an 73.63 41 P **P 17 53 54.7 -0.9**
TIA S **S 18 03 23.4 -3.3**
TIA LR LR
comp=Z,170nm,21.6s
TIA LR LR
comp=Z,170nm,18.6s
TIA LR LR
comp=Z,290nm,26.0s
HHC Hu-ho-hao-te 73.63 34 *e*P **P 17 53 56.0 +0.3**
HHC pP pwP 17 53 59.4 -0.1
HHC PcP **PcP 17 54 11.4 -0.1**
HHC S **S 18 03 24.5 -2.3**
HHC SS **SS 18 08 12.2 +1.7**
HHC pmax pmax
comp=Z,14nm,0.8s
HHC pmax pmax
comp=Z,200nm,4.5s
HHC LR LR
comp=Z,430nm,14.7s
HHC LR LR
comp=Z,200nm,12.1s
HHC LR LR
comp=Z,250nm,16.4s
CFR Carcaliu 73.65 333⇑ *i*P **P 17 53 59.7 +4.2**
CFR Carcaliu 73.65 333 P **P 17 53 54.9 -0.6**
CFR pmax pmax
comp=Z,35nm,1.1s
VTS Vitosha 73.94 328 *e*P **P 17 53 57.5 0.0**
VTS Vitosha 73.94 328⇑ *i*P **P 17 54 01.2 +3.8**
VTS Vitosha 73.94 328 *e*P **P 17 53 57.5 0.0**
VTS Vitosha 73.94 328 P **P 17 54 01.3 +3.8**
VRH Novokhopyorsk 74.15 344 *e*P **P 17 54 01.3 +3.0**
VRH pmax pmax
comp=Z,30nm,1.3s
CTA Charters Tower 74.19 106 P **P 17 53 59.5 +0.1**
comp=Z,7.7nm,1.0s,baz=248,slow=5.4,SNR=2.7
CTA LR LR 18 22 55.3
comp=Z,694nm,21.9s,baz=236,slow=33
CTAO Charters Tower 74.19 106 PFAKE 17 54 10.0 +11
CTAO LR LR
comp=Z,1µm,20.0s
MPEP Malo Peshtene 74.25 329 P P 17 54 03.5 +4.4

ISR Istrita 74.30 332⇑ *i*P P 17 54 04.4 +5.0
ISR Istrita 74.30 332 P **P 17 54 03.6 +4.2**
ISR pmax pmax
comp=Z,47nm,1.2s
ODBI Odobesti 74.58 333⇑ *i*P P 17 54 06.2 +5.3
KIC Kosan Boka 74.69 283 *e*P **P 17 54 01.3 -1.0**
comp=Z,48nm,0.8s
VRI Vrincioaia 74.80 332⇑ *i*P **P 17 54 06.1 +3.8**
VRI Vrincioaia 74.80 332 P **P 17 54 06.1 +3.8**
PLOR Plostina 74.82 332⇑ *i*P **P 17 54 06.3 +3.9**
PLOR Plostina 74.82 332 P **P 17 54 06.3 +3.9**
MLR Muntele Rosu 74.85 332 *e*P **P 17 54 04.3 +1.6**
MLR Muntele Rosu 74.85 332⇑ *i*P P 17 54 07.2 +4.5
VSR Storozhevoye 74.85 343 *e*P **P 17 54 04.8 +2.4**
VSR pmax pmax
comp=Z,10.0nm,0.8s
LIC Lamto 74.90 282 *e*P **P 17 54 02.9 -0.6**
comp=Z,113nm,1.1s
DBIC Dimbokro 74.91 283 P **P 17 54 03.5 -0.1**
comp=Z,13nm,0.9s,baz=108,slow=7.0,SNR=12
DBIC LR LR 18 25 52.0
comp=Z,888nm,18.6s,baz=96,slow=35
DBIC Dimbokro 74.91 283 *e*P **P 17 54 02.6 -1.0**
DBIC Dimbokro 74.91 283 *e*P **P 17 54 02.6 -1.0**
TIC Toumodi 75.05 283 *e*P **P 17 54 03.9 -0.6**
VOIR 75.21 331⇑ *i*P **P 17 54 08.4 +3.7**
VOIR 75.21 331 P **P 17 54 04.7 0.0**
VOIR pmax pmax
comp=Z,32nm,1.3s
PUNG Punghina 75.33 329⇓ *i*P P 17 54 10.6 +5.3
ZAA0 Zalesovo Array 75.33 11 *e*P **P 17 54 03.6 -1.4**
ZALV Zalesovo Beam 75.33 11 P **P 17 54 04.3 -0.8**
comp=Z,11nm,0.7s,baz=201,slow=6.5,SNR=33
ZALV LR LR 18 26 03.2
comp=Z,378nm,19.1s,baz=248,slow=35
ZALV Zalesovo Beam 75.33 11 *e*P **P 17 54 03.6 -1.4**
ZALV Zalesovo Beam 75.33 11 *i* P **P 17 54 04.1 -1.0**
ZALV pmax pmax
comp=Z,11nm,0.7s
ZAA1 Zalesovo Array 75.33 11 *e*P **P 17 54 04.3 -0.8**
ARR Arges 75.35 331⇑ *i*P **P 17 54 09.3 +3.8**
KNGR Kungurtug, Tuv 75.45 20⇓ *i*P **P 17 54 05.9 -0.1**
DOPR Dopca 75.47 332⇑ *i*P **P 17 54 09.6 +3.5**
BJT Baijiatuau 75.58 37 PFAKE 17 54 20.0 +13
BJT LR LR
comp=Z,556nm,19.0s
LOT Lotru 75.81 331⇓ *i*P P 17 54 12.6 +4.4
BIZ Bicaz 75.91 333⇑ *i*P **P 17 54 12.2 +3.6**
NVS Novosibirsk 75.91 10 *i* P **P 17 54 08.5 +0.1**
NVS pmax pmax
comp=Z,23nm,1.3s
NVS pmax pmax
comp=N,21nm,1.5s
NVS pmax pmax
comp=E,11nm,1.8s
HERR Herculane 76.02 329⇓ *i*P **P 17 54 13.2 +3.9**
LPSR Galich'ya Gora 76.16 343 *e*P **P 17 54 12.3 +2.5**
LPSR pmax pmax
comp=Z,30nm,1.0s
GZR Gura Zlata 76.23 330⇑ *i*P P 17 54 15.3 +4.8
GZR Gura Zlata 76.23 330 P P 17 54 15.3 +4.8
MDVR Moldovita 76.29 329⇑ *i*P **P 17 54 14.7 +3.8**
ARU Arti 76.42 356 *e*P **P 17 54 10.3 -1.0**
comp=Z,50nm,1.0s
ARU LR LR
comp=Z,357nm,19.0s
ARU Arti 76.42 356*c i*P **P 17 54 10.5 -0.8**
ARU 17 57 01.0
ARU S **S 18 03 58.3 +1.3**
ARU SS **SS 18 08 58.2 +6.1**
ARU pmax pmax
comp=Z,9.0nm,0.8s
ARU MLR MLR
comp=Z,556nm,17.0s
SONA0 Songino Array 76.44 26 *e*P **P 17 54 11.5 -0.3**
SONM Songino Array 76.44 26 P **P 17 54 11.5 -0.3**
comp=Z,6.6nm,0.9s,baz=216,slow=6.3,SNR=24
SONM LR LR 18 27 08.4
comp=Z,483nm,20.2s,baz=201,slow=35
SONA1 Songino Array 76.46 26 *e*P **P 17 54 11.2 -0.7**
DEV Deva 76.53 330⇑ *i*P P 17 54 17.4 +5.2
DEV Deva 76.53 330 P **P 17 54 16.1 +3.9**
DEV pmax pmax
comp=Z,31nm,1.3s
DIVS Divibare 76.64 328 *e*P **P 17 54 14.9 +2.0**
SVE Sverdlovsk 76.69 357 *e*P **P 17 54 12.9 +0.1**
SVE pmax pmax
comp=Z,30nm,1.3s
SVE MLR MLR
comp=Z,641nm,19.0s
ULN Ulaanbaatar 76.74 27 *e*P **P 17 54 12.9 -0.6**
comp=Z,10.0nm,1.1s
ULN LR LR
comp=Z,464nm,22.0s
ULN Ulaanbaatar 76.74 27*c i*P **P 17 54 12.8 -0.7**
ULN pmax pmax
comp=Z,10.0nm,1.1s
BURAR Bucovina Array 76.81 333⇑ *i*P **P 17 54 17.7 +3.9**
BURAR Bucovina Array 76.81 333 P **P 17 54 17.7 +3.9**
BUR04 Bucovina Ar. S 76.82 333 *e*P **P 17 54 13.9 0.0**
BZS Buzias 76.94 329⇑ *i*P P 17 54 19.3 +4.8
BZS Buzias 76.94 329 P **P 17 54 15.5 +1.0**
ZAK Zakamensk 77.25 23 *e*P **P 17 54 15.5 -0.8**
ZAK pmax pmax
comp=Z,4.0nm,1.6s
DRGR 77.30 331⇑ *i*P P 17 54 21.7 +5.1
DRGR 77.30 331 P **P 17 54 20.2 +3.6**
DRGR pmax pmax
comp=Z,38nm,1.3s
KEST Kesra 77.41 316 LR LR 18 29 25.2
comp=Z,486nm,18.3s,baz=162,slow=36
KEST Kesra 77.41 316 *e*P **P 17 54 15.8 -1.6**
HORU Horodok 77.55 334 P **P 17 54 21.6 +3.8**
AKASG Malin Array Be 77.66 337 P **P 17 54 18.1 -0.2**
comp=Z,13nm,1.0s,baz=139,slow=4.7,SNR=17
AKASG LR LR 18 29 03.9
comp=Z,183nm,19.3s,baz=145,slow=36
AKBB Malin Array Si 77.66 337 *e*P **P 17 54 17.1 -1.2**
AKBB Malin Array Si 77.66 337 *e*P **P 17 54 17.1 -1.2**
KIEV Kiev 77.66 337 *e*P **P 17 54 17.5 -0.8**
KIEV pmax pmax
comp=Z,35nm,1.1s
KIEV LR LR
comp=Z,320nm,21.0s
KIEV Kiev 77.66 337 *i* P **P 17 54 18.3 0.0**
SNR=12
KIEV Kiev 77.66 337 *e*P **P 17 54 17.5 -0.8**
KIEV pmax pmax
comp=Z,35nm,1.1s
KIEV MLR MLR
comp=Z,320nm,21.0s
AK11 Malin Array Si 77.66 337 *e*P **P 17 54 17.8 -0.6**
PMG Port Moresby 78.18 96 P **P 17 54 22.0 -0.1**
comp=Z,12nm,0.8s,baz=280,slow=11,SNR=2.2
PMG Port Moresby 78.18 96 *e*P **P 17 54 22.0 -0.1**
PMG LR LR
comp=Z,1µm,22.0s
PMG Port Moresby 78.18 96 *e*P **P 17 54 22.0 -0.1**
PMG MLR MLR
comp=Z,1µm,22.0s
MORS Morshin 78.54 333 P P 17 54 28.5 +5.2
MORH Mrgy, Hungar 78.82 328⇑ *e*P P 17 54 34.0 +9.1
UZH Uzhgorod 78.86 332 *e*P **P 17 54 26.9 +1.8**
UZH *e* 17 54 33.4
LVV L'vov 79.01 334 *e*P **P 17 54 30.1 +4.2**
OBN Obninsk 79.04 343 *e*P **P 17 54 25.7 -0.1**
OBN *e* 17 54 33.8
OBN *e* 17 57 24.8
OBN pmax pmax
comp=Z,8.0nm,0.4s
OBN MLR MLR
comp=Z,499nm,21.0s
MOS Moscow 79.31 344 *e*P P 17 54 36.7 +9.4
MOS *e* 17 54 41.7
MOS pmax pmax
comp=Z,50nm,1.3s
KWP Kalwaria Pacla 79.43 333 P **P 17 54 28.4 +0.2**
KWP pmax pmax
comp=Z,27nm,1.1s
PSZ Piszkesteto 79.43 330 P **P 17 54 29.3 +1.0**
PSZ pmax pmax
comp=Z,7.0nm,1.6s
PSZ Piszkesteto 79.43 330 *e*P P 17 54 37.0 +8.7
NIE Niedzica 80.33 331 P **P 17 54 36.6 +3.5**
NIE pmax pmax
comp=Z,5.0nm,1.4s
VYHS Vyhne 80.34 330 *e*P P 17 54 37.6 +4.5
VYHS *e* 17 54 42.2
VYHS pmax pmax
comp=Z,14nm,1.5s
VYHS Vyhne 80.34 330 *e*P P 17 54 37.6 +4.5
VYHS *e*PCP **PcP 17 54 42.2 +2.0**
LANS Liptovska Anna 80.51 331 *e*P P 17 54 43.7 +10
LANS Liptovska Anna 80.51 331 *e*PCP P 17 54 43.7 +10
SOP Sopron 80.86 328 P **P 17 54 36.6 +0.6**
SOP pmax pmax
comp=Z,14nm,1.2s
SOKA Soboth 80.95 327 *e*P **P 17 54 37.9 +1.3**
comp=Z,13nm,1.3s
MODS Modra-Piesok 80.99 329 *e*P P 17 54 44.8 +8.1
MODS Modra-Piesok 80.99 329 *e*PCP P 17 54 44.8 +8.1
ARSA Arzberg 81.09 328 *e*P **P 17 54 38.8 +1.5**
comp=Z,16nm,1.3s
OJC Ojcow 81.13 332 *e*P **P 17 54 36.1 -1.3**
OJC Ojcow 81.13 332 *e*P **P 17 54 36.1 -1.3**
KS15 Wonju Array Si 81.26 45 *e*P **P 17 54 36.8 -1.5**
KSAR Wonju Array Be 81.26 45 P P 17 54 37.2 -1.0
KSAR Wonju Array Be 81.26 45 P **P 17 54 37.3 -1.0**
KS01 Wonju Array Si 81.28 45 *e*P **P 17 54 36.9 -1.6**
KSRS Korea Array 81.29 45 P **P 17 54 37.2 -1.2**
comp=Z,5.3nm,1.1s,baz=243,slow=5.5,SNR=5.6
KSRS LR LR 18 29 55.9
comp=Z,390nm,20.2s,baz=224,slow=35
CONA Conrad Observa 81.38 328 *e*P **P 17 54 40.0 +1.2**
comp=Z,29nm,1.3s
MYKA Terra Mystica 81.64 326 *e*P **P 17 54 41.5 +1.3**
comp=Z,8.1nm,1.2s
MORC Moravsky Berou 81.84 330 *e*P **P 17 54 40.4 -0.8**
MORC Moravsky Berou 81.84 330⇑ *i*P P 17 54 45.9 +4.7
MORC Moravsky Berou 81.84 330 *e*P **P 17 54 40.4 -0.8**
MORC Moravsky Berou 81.84 330 *e*P P 17 54 45.6 +4.4
KRUC Moravsky 81.89 329 P **P 17 54 41.3 -0.1**
KRUC pmax pmax
comp=Z,14nm,1.2s
KRUC Moravsky 81.89 329 *e*P **P 17 54 44.6 +3.2**
VRAC Vranov 81.97 330 P **P 17 54 43.5 +1.7**
VRAC pmax pmax
comp=Z,10.0nm,1.3s
MOA Molln 82.12 328 *e*P **P 17 54 43.7 +1.0**
comp=Z,23nm,1.2s
IDID Didziasalis 82.27 338 *e*P **P 17 54 46.3 +3.1**
IDID lAmb lAmb 17 54 53.6
comp=Z,5.7nm,0.9s
ABTA Abfaltersbach 82.31 326 *e*P **P 17 54 44.9 +1.1**
comp=Z,20nm,0.9s
IIGN Ignalina 82.47 338 *e*P **P 17 54 47.0 +2.8**
IIGN lAmb lAmb 17 54 54.6
comp=Z,7.3nm,0.9s
TREC Trest 82.48 329 P **P 17 54 43.9 -0.6**
TREC pmax pmax
comp=Z,5.0nm,1.2s
ISAL Salakas 82.68 338 *e*P **P 17 54 48.3 +3.0**
ISAL lAmb lAmb 17 54 50.9
comp=Z,6.9nm,0.9s
IZAR Zarasai 82.78 338 *e*P **P 17 54 48.8 +2.9**
IZAR lAmb lAmb 17 54 57.1
comp=Z,6.1nm,0.9s
PRGR Permogore 83.05 350 *e*P **P 17 54 46.0 -1.1**
PRGR pmax pmax
comp=Z,19nm,0.8s
GEC2 GERESS Array S 83.06 328 *e*P **P 17 54 47.0 -0.6**
GEC2 GERESS Array S 83.06 328 *e*P **P 17 54 47.1 -0.6**
GERES GERESS Array B 83.06 328 P **P 17 54 47.8 +0.2**
comp=Z,0.6nm,0.8s,baz=151,slow=2.2,SNR=3.5
SQTA Sankt Quirin 83.30 326 *e*P **P 17 54 50.2 +1.3**
comp=Z,12nm,1.1s
KHC Kasperske Hory 83.31 328 *e*P **P 17 54 52.1 +3.3**
KHC Kasperske Hory 83.31 328 *e*P **P 17 54 52.1 +3.3**
CN2 Changchun 83.33 39 *e*P **P 17 54 50.1 +1.1**
CN2 *e*sP PcP 17 54 57.1 +3.6
CN2 *e*S **S 18 05 09.4 -1.1**
CN2 *e*SS **SS 18 10 38.0 +1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,320nm,20.0s
CN2 LR LR
comp=Z,290nm,20.0s
CN2 LR LR
comp=Z,390nm,22.0s
PABE Paberze 83.40 337 *e*P **P 17 54 51.0 +2.0**
PABE lAmb lAmb 17 54 58.8
comp=Z,24nm,0.9s
PRU Pruhonice 83.41 329 P **P 17 54 48.7 -0.6**
PRU pmax pmax
comp=Z,3.0nm,1.2s
FETA Feichten 83.43 325 *e*P **P 17 54 50.5 +0.9**
comp=Z,15nm,1.1s
FUORN Ofenpass-Fuorn 83.43 325 *e*P **P 17 54 49.6 -0.2**
KLMR Klimovskoe 83.46 347 *e*P **P 17 54 47.3 -1.9**
KLMR pmax pmax
comp=Z,49nm,1.2s
KLMR Klimovskoe 83.46 347 *e*P **P 17 54 47.4 -1.8**
KLMR AMP 17 55 00.8
comp=Z,49nm,1.2s
HIA Hailar 83.61 32 PFAKE 17 55 00.0 +10
HIA LR LR
comp=Z,395nm,20.0s
WET Wettzell 83.67 328 P **P 17 54 50.0 -0.7**
WET pmax pmax
comp=Z,5.0nm,1.3s
RETA Reutte 83.70 326 *e*P **P 17 54 51.7 +0.8**
comp=Z,7.7nm,1.0s
PVCC Panska Ves 83.75 330 *e*P **P 17 54 54.7 +3.7**
PVCC Panska Ves 83.75 330 *e*P **P 17 54 54.7 +3.7**
FUR Furstenfeldbru 83.86 326 P **P 17 54 53.6 +1.9**
FUR pmax pmax
comp=Z,34nm,1.0s
DAVA Damuels 84.05 325 *e*P **P 17 54 53.7 +0.9**
comp=Z,15nm,0.8s
BRG Berggiesshubel 84.28 330 *e*P **P 17 54 57.6 +3.9**
comp=Z,5.7nm,1.2s
BRG *e* 17 55 03.0
comp=Z,14nm,1.4s
BRG Berggiesshubel 84.28 330 *e*P **P 17 54 57.6 +3.9**
BRG *e* 17 55 03.0
BRG pmax pmax
comp=Z,7.0nm,1.2s
BNI Bardonecchia 84.50 322 P **P 17 54 56.6 +1.4**
BNI pmax pmax
comp=Z,13nm,1.8s
PBUR Paburg 84.54 337 *e*P **P 17 54 56.5 +1.7**
PBUR lAmb lAmb 17 55 04.7
comp=Z,145nm,1.4s
NKC Novy Kostel 84.58 329 *e*P P 17 55 05.0 +10
NKC Novy Kostel 84.58 329 *e*P P 17 55 05.0 +10
VSU Vasula 84.78 340 *e*P **P 17 54 59.2 +3.2**
VSU lAmb lAmb 17 55 06.3
comp=Z,67nm,0.9s
GRF Grafenberg Arr 84.85 328 *e*P P 17 55 05.7 +9.0
comp=Z,27nm,1.4s,baz=127,slow=6.0
GRF *e*L L 18 30 09.3
comp=Z,230nm,21.0s
GRF Grafenberg Arr 84.85 328 P **P 17 55 00.0 +3.4**
GRF pmax pmax
comp=Z,17nm,1.4s
SENIN Lac Senin/Sane 84.91 323 *e*P **P 17 54 57.1 -0.2**
CLL Collm 85.01 330 *e*P **P 17 54 58.0 +0.6**
CLL *e* 17 55 04.0
comp=Z,11nm,1.3s
CLL *e*PP **PP 17 58 14.0 -0.6**
CLL *e*S **S 18 05 31.0 +4.0**
CLL *e*PPS PPS 18 06 42.0
CLL *e*SS **SS 18 11 01.0 +0.3**
CLL *e*SSS SSS 18 14 31.0
CLL Collm 85.01 330 *e*P **P 17 54 58.0 +0.6**
CLL *e* 17 55 04.0
CLL *e*S **S 18 05 31.0 +4.0**
SLE Schleitheim 85.08 325 P **P 17 54 58.6 +0.7**
SLE pmax pmax
comp=Z,13nm,1.2s
MOX Moxa 85.26 329 *e*L L 18 32 58.5
comp=Z,206nm,19.9s
BFO Black Forest 85.51 325 PFAKE 17 55 10.0 +10
BFO LR LR
comp=Z,11nm,19.0s
FOZ Fox Glacier 85.69 135 *e*P **P 17 55 00.8 -0.4**
MDJ Mudanjiang 86.25 40 PFAKE 17 55 10.0 +6.3

MDJ LR LR
comp=Z,383nm,20.0s
CLZ Clausthal 86.62 329 P **P** **17 55 05.8 +0.4**
CLZ pmax pmax
comp=Z,16nm,1.1s
JCJ Chichijima 87.00 60 LR LR 18 29 30.0
comp=Z,96nm,19.4s,baz=231,slow=33
BOD Bodaibo 87.00 23 *e*P **P** **17 55 05.9 -1.2**
BOD pmax pmax
comp=Z,10.0nm,1.6s
FIA0 FINESS Array S 87.36 342 *e*P **P** **17 55 08.2 -0.5**
FIA0 FINESS Array S 87.36 342 *e*P **P** **17 55 08.2 -0.5**
FINES FINESS Array B 87.36 342 P **P** **17 55 08.2 -0.5**
comp=Z,1.2nm,0.5s,baz=142,slow=5.3,SNR=5.6
USRK Ussuriysk Ar. 87.49 41 P **P** **17 55 09.8 0.0**
comp=Z,1.0nm,0.8s,baz=236,slow=7.0,SNR=3.6
ETSF Etsaut 87.74 317 *e*P P 17 55 15.9 +4.7
ETSF pmax pmax
comp=Z,12nm,1.0s
MAJO Matsushiro 87.97 50 *e*P **P** **17 55 11.1 -1.3**
MAJO Matsushiro 87.97 50ǁ *e*P **P** **17 55 11.7 -0.6**
MAJO pmax pmax
comp=Z,12nm,1.3s
MAT Matsushiro 87.97 50 P **P** **17 55 11.1 -1.2**
MAT S **S** **18 06 00.2 +3.6**
MJAR Matsushiro Arr 87.97 50 P **P** **17 55 11.6 -0.7**
comp=Z,6.3nm,0.9s,baz=214,slow=4.8,SNR=7.7
MJAR LR LR 18 32 05.0
comp=Z,154nm,21.7s,baz=240,slow=34
SJPF Ste Jean 88.28 317 *e*P **P** **17 55 17.5 +3.9**
SJPF pmax pmax
comp=Z,13nm,0.9s
ES19 SONSECA Array 88.41 313 *e*P **P** **17 55 13.8 -0.5**
ESDC Sonseca Array 88.44 313 P **P** **17 55 14.6 0.0**
comp=Z,1.9nm,0.7s,baz=101,slow=3.8,SNR=14
ESDC LR LR 18 36 17.8
comp=Z,167nm,18.5s,baz=170,slow=37
ESLA Sonseca Array 88.44 313 *e*P **P** **17 55 12.9 -1.6**
PAB San Pablo 88.65 313 *e*P **P** **17 55 14.9 -0.6**
PAB LR LR
comp=Z,410nm,20.0s
PAB San Pablo 88.65 313 *e*P **P** **17 55 14.9 -0.6**
PAB MLR MLR
comp=Z,410nm,20.0s
SNZO South Karori 89.91 134 PFAKE 17 55 30.0 +8.6
SNZO LR LR
comp=Z,581nm,19.0s
KLR Kul'dur 89.96 37ǁ *e*P **P** **17 55 22.1 +0.8**
PESTR Estremoz 90.61 311 *e*P P 17 55 30.4 +5.8
comp=Z,18nm,1.5s
EVO Evora 90.76 311 *e*P P 17 55 32.4 +7.1
comp=Z,15nm,1.5s
MVO Moncorvo 91.20 314 *e*P **P** **17 55 29.5 +2.1**
comp=Z,17nm,1.8s
PBRG Braganca 91.28 314 *e*P **P** **17 55 30.3 +2.5**
DZM Mont Dzumac 91.40 114 *e*SS SS 18 12 33.1 -1.4
comp=Z,497nm,27.4s
DZM Mont Dzumac 91.40 114 *e*LR LR 18 24 47.2
comp=Z,1µm,22.7s
NB2 NORSAR Subarra 92.06 336 P P 17 55 37.5 +6.6
comp=Z,1.5nm,0.8s,baz=77,slow=5.6
NB200 NORSAR Array S 92.06 336 *e*P **P** **17 55 31.9 +1.0**
NOA NORSAR Array B 92.06 336 P **P** **17 55 31.9 +1.0**
comp=Z,0.3nm,0.7s,baz=118,slow=4.5,SNR=3.3
EFI East Falkland 93.76 211 PFAKE 17 55 50.0 +11
EFI LR LR
comp=Z,791nm,21.0s
ERM Erimo 93.77 47 PFAKE 17 55 50.0 +11
ERM LR LR
comp=Z,209nm,19.0s
ARA0 ARCESS Array S 93.93 347 *e*P **P** **17 55 39.8 +0.5**
ARCES ARCESS Array B 93.93 347 P **P** **17 55 39.8 +0.5**
comp=Z,4.6nm,0.8s,baz=151,slow=4.1,SNR=7.9
ARCES LR LR 18 39 35.4
comp=Z,6.7nm,19.1s,baz=146,slow=37
YSS Yuzh-Sakhalins 95.47 42 PFAKE 17 56 00.0 +13
YSS LR LR
comp=Z,163nm,19.0s
TIXI Tiksi 100.64 17 PFAKE 17 56 20.0 +10
TIXI LR LR
comp=Z,502nm,22.0s
MA2 Magadan 104.20 31 PFAKE 17 56 40.0 +14
MA2 LR LR
comp=Z,342nm,20.0s
TRQA Tornquist 104.63 220 PFAKE 17 56 40.0 +12
TRQA LR LR
comp=Z,480nm,22.0s
WAKE Wake Island 105.61 75 PFAKE 18 01 00.0 +14
WAKE LR LR
comp=Z,3µm,22.0s
BILL Bilibino 112.05 24 PFAKE 18 01 10.0 +13
BILL LR LR
comp=Z,535nm,19.0s
BILL Bilibino 112.05 24 *i* PKIKP **PKiKP** **18 00 56.2 -0.7**
BILL pmax pmax
comp=Z,1.0nm,1.1s
LCO Las Campanas 116.09 222 PFAKE 18 01 20.0 +14
LCO LR LR
comp=Z,325nm,20.0s
LVC Limon Verde 119.23 228 PFAKE 18 01 20.0 +7.4
LVC LR LR
comp=Z,427nm,20.0s
LPAZ La Paz 122.62 234 PKP **PKiKP** **18 01 20.1 +0.4**
comp=Z,1.4nm,0.7s,baz=211,slow=5.9,SNR=5.4
LPAZ La Paz 122.62 234 *e*PKPdf **PKPdf** **18 01 18.4 -1.1**
LPAZ La Paz 122.62 234 *e*PKIKP **PKPdf** **18 01 18.5 -1.1**
PTGA Pitinga 123.63 255 PFAKE 18 01 30.0 +9.0
PTGA LR LR
comp=Z,14µm,21.0s
IM3 Indian Mountai 127.18 19 *e*PKPpre PKPpre 18 01 19.5
IM3 *e*PKPdf **PKiKP** **18 01 25.8 -0.7**
PPT2 Papeete2 128.56 134 *e*LR LR 18 41 51.2
comp=Z,415nm,24.8s
GRGR Grenville 129.68 269 PFAKE 18 01 40.0 +7.0
GRGR LR LR
comp=Z,467nm,19.0s
COLA College 129.73 18 PFAKE 18 01 40.0 +8.4
COLA LR LR
comp=Z,415nm,21.0s
ILAR Eielson Array 130.09 18 PKP **PKPdf** **18 01 31.2 -0.3**
comp=Z,0.6nm,0.8s,baz=343,slow=3.3,SNR=4.4
ILB Eielson Array 130.09 18 *e*PKPdf **PKPdf** **18 01 30.6 -1.0**
INK Inuvik 130.11 10 PKP **PKPdf** **18 01 30.9 -0.5**
comp=Z,1.1nm,0.8s,baz=340,slow=0.3,SNR=3.8
INK Inuvik 130.11 10 *e*PKPdf **PKPdf** **18 01 30.6 -0.9**
INK Inuvik 130.11 10 *e*PKIKP **PKPdf** **18 01 30.6 -0.9**
NNA Nana 131.87 232 PFAKE 18 01 50.0 +12
NNA LR LR
comp=Z,183nm,20.0s
RKT Rikitea 132.32 153 *e*T T 20 28 11.0
comp=Z,1.8nm,0.2s
KDAK Kodiak Island 132.73 27 PFAKE 18 01 50.0 +12
KDAK LR LR
comp=Z,175nm,19.0s
SJG San Juan 135.26 276 PFAKE 18 01 50.0 +5.8
SJG LR LR
comp=Z,431nm,20.0s
SDV Santo Domingo 137.11 261 PFAKE 18 02 00.0 +12
SDV LR LR
comp=Z,415nm,19.0s
YKA Yellowknife Ar 137.54 1 PKP **PKPdf** **18 01 45.2 -0.4**
comp=Z,1.4nm,0.8s,baz=1.1,slow=2.5,SNR=11
YKA PP **PP** **18 04 29.8 -1.2**
comp=Z,0.9nm,0.9s,baz=359,slow=6.8,SNR=7.3
YKB5 Yellowknife Ar 137.54 1 *e*PKPpre PKPpre 18 01 38.4
YKB5 *e*PKPdf **PKPdf** **18 01 44.6 -1.0**
SDDR Presa de Saban 140.22 276 PFAKE 18 02 00.0 +5.6
SDDR LR LR
comp=Z,364nm,21.0s
OTAV Otavalo 140.42 244 PFAKE 18 02 00.0 +4.5
OTAV LR LR
comp=Z,454nm,20.0s
TAOE Nuku Hiva Isla 141.17 135 *e*LR LR 18 47 53.4
comp=Z,502nm,28.5s
BINY Binghamton 141.39 313 PFAKE 18 02 00.0 +3.9
BINY LR LR
comp=Z,600nm,19.0s
E47A Iron Bridge 143.82 324 P **PKiKP** **18 02 02.4 +1.6**
baz=53
CBN Corbin Frederi 143.84 308 PFAKE 18 02 10.0 +8.8
CBN LR LR
comp=Z,474nm,20.0s
FFC Flin Flon 144.23 349 *e*PKPdf **PKPab** **18 01 54.2 -1.5**
FFC *ep*PKPdf **PKPdf** **18 01 57.2 -0.7**
FFC LR LR
comp=Z,289nm,19.0s
FFC Flin Flon 144.23 349 *e*PKIKP **PKPab** **18 01 54.2 -1.5**
FFC *e* 18 01 57.2
FFC MLR MLR
comp=Z,289nm,19.0s
R58B Mineral 144.30 308 *e*PKPdf **PKPdf** **18 01 59.4 +0.9**
R58B Mineral 144.30 308 P **PKPdf** **18 01 59.4 +0.9**
baz=70
E46A Sault Ste Mari 144.44 324 P **PKPdf** **18 01 58.7 +0.2**
baz=52
G47A Hillman 144.90 322 P **PKiKP** **18 02 01.2 -1.9**
baz=54
O54A Avella 145.24 313 P **PKiKP** **18 02 02.2 -1.9**
baz=64
N53A Lisbon 145.28 314 P **PKiKP** **18 02 03.7 -0.4**
baz=63
I48A Sherman Twp 145.38 321 P **PKiKP** **18 02 04.2 0.0**
baz=55
J49A Marlette 145.50 319 P **PKiKP** **18 02 04.1 -0.4**
baz=57
Q55A Buckhannon 145.52 311 P **PKiKP** **18 02 03.5 -1.2**
baz=66
GLMI Grayling 145.54 323 PFAKE 18 02 10.0 +5.5
GLMI LR LR
comp=Z,492nm,21.0s
BCIP Isla Barro Col 145.71 257 PFAKE 18 02 10.0 +4.3
BCIP LR LR
comp=Z,291nm,20.0s
O53A New Philadelph 145.78 313 P **PKiKP** **18 02 04.4 -0.8**
baz=63
L50A Kingsville 145.99 317 P **PKiKP** **18 02 04.6 -0.9**
baz=59
D41A Chassel 146.19 329 P **PKiKP** **18 02 06.1 +0.4**
baz=46
P53A Whipple 146.24 312 P **PKiKP** **18 02 05.8 -0.3**
baz=64
N51A Ashland 146.26 315 *e*PKPdf **PKPdf** **18 02 01.0 -0.9**
N51A Ashland 146.26 315 P **PKiKP** **18 02 04.6 -1.5**
baz=61
E42A Champion 146.30 327 P **PKiKP** **18 02 04.7 -1.3**
baz=47
AAM Ann Arbor 146.39 318 PFAKE 18 02 10.0 +3.7
AAM LR LR
comp=Z,592nm,20.0s
BLA Blacksburg 146.46 308 PFAKE 18 02 10.0 +3.3
BLA LR LR
comp=Z,395nm,22.0s
ULM Lac du Bonnet 146.71 339 PKPbc **PKPdf** **18 02 02.7 +0.4**
comp=Z,19nm,0.7s,baz=56,slow=4.2,SNR=11
ULM Lac du Bonnet 146.71 339 *e*PKPdf **PKPdf** **18 02 01.9 -0.4**
ULM Lac du Bonnet 146.71 339 *e*PKP2 **PKPdf** **18 02 01.9 -0.4**
EYMN Ely 146.90 332 PFAKE 18 02 10.0 +2.8
EYMN LR LR
comp=Z,481nm,20.0s
ACSO Alum Creek Sta 146.99 314 PFAKE 18 02 10.0 +2.4
ACSO LR LR
comp=Z,568nm,21.0s
Q52A Bidwell 147.08 312 P **PKiKP** **18 02 08.0 +0.1**
baz=64
COWI Conover 147.14 328 PFAKE 18 02 10.0 +2.2
COWI LR LR
comp=Z,405nm,20.0s
E40A Wakefield 147.27 329 P **PKiKP** **18 02 07.9 -0.1**
baz=44
NHSC New Hope 147.56 301 PFAKE 18 02 20.0 +11
NHSC LR LR
comp=Z,341nm,19.0s
E39A Mellen 147.64 330 P **PKiKP** **18 02 08.1 -0.7**
baz=43
F40A Park Falls 147.76 329 P **PKiKP** **18 02 08.5 -0.5**
baz=44
E38A The Farm, Brul 147.94 331 *e*PKPdf **PKPdf** **18 02 02.7 -1.8**
E38A *e*PKPbc **PKiKP** **18 02 08.7 -0.7**
E38A The Farm, Brul 147.94 331 P **PKiKP** **18 02 08.7 -0.7**
baz=42
F39A Loretta 148.15 329 P **PKPab** **18 02 10.1 -0.8**
baz=43
G40A Rib Lake 148.26 328 P **PKPab** **18 02 11.6 +0.3**
baz=45
AGMN Agassiz Nation 148.36 337 PFAKE 18 02 20.0 +8.3
AGMN LR LR
comp=Z,405nm,20.0s
T52A Hallie 148.38 309 P **PKiKP** **18 02 10.6 0.0**
baz=66
N47A Urbana 148.44 317 P **PKiKP** **18 02 10.4 -0.2**
baz=57
P49A Miami Univ. Ec 148.50 314 P **PKiKP** **18 02 11.1 +0.4**
baz=60
F38A Pierce - Schro 148.57 330 P **PKiKP** **18 02 11.1 +0.5**
baz=42
G39A Holcombe 148.72 329 P **PKiKP** **18 02 11.3 +0.3**
baz=44
V53A Saluda 148.81 306 *e*PKPdf **PKPdf** **18 02 06.8 +0.5**
P48A Milroy 149.01 315 P **PKiKP** **18 02 12.2 +0.4**
baz=59
N46A Monticello 149.09 318 P **PKPab** **18 02 13.1 -1.7**
baz=56
W53A Cullowhee 149.26 306 P **PKPab** **18 02 14.2 -1.8**
baz=68
PAYG Puerto Ayora 149.30 231 PFAKE 18 02 20.0 +3.5
PAYG LR LR
comp=Z,324nm,19.0s
J41A Loganville 149.47 325 P **PKiKP** **18 02 13.7 +1.1**
baz=48
Q48A North Vernon 149.48 314 P **PKiKP** **18 02 13.5 +0.7**
baz=60
K42A Prairie Point, 149.49 324 P **PKiKP** **18 02 13.7 +1.0**
baz=49
N45A Kentland 149.60 319 P **PKiKP** **18 02 14.1 +1.1**
baz=55
SFIN Lafayette 149.61 318 P **PKPab** **18 02 14.8 -2.2**
baz=56
S49A Springfield 149.73 312 P **PKiKP** **18 02 14.6 +1.3**
baz=62
JFWS Jewell Farm 149.90 325 PFAKE 18 02 20.0 +1.9
JFWS LR LR
comp=Z,557nm,20.0s
V51A Loudon 149.92 308 P **PKiKP** **18 02 15.2 +1.4**
baz=66
Q47A Bedord North L 149.95 315 P **PKiKP** **18 02 15.6 +1.9**
baz=59
U50A Jamestown 150.03 309 P **PKiKP** **18 02 14.5 +0.5**
baz=65
X52A Dahlonega 150.03 305 P **PKiKP** **18 02 15.4 +1.3**
baz=69
Y53A Monroe 150.05 304 P **PKiKP** **18 02 15.2 +1.0**
baz=70
O45A Potomac 150.08 318 P **PKiKP** **18 02 15.8 +1.8**
baz=55
GOGA Godfrey 150.11 303 PFAKE 18 02 20.0 +0.7
GOGA LR LR
comp=Z,443nm,21.0s
Z53A Monticello 150.23 303 P **PKiKP** **18 02 15.4 +0.9**
baz=71
Y52A Lilburn 150.42 304 *e*PKPdf **PKPbc** **18 02 11.2 -3.0**
K40A Colesburg 150.53 325 P **PKiKP** **18 02 15.2 +0.3**
baz=47
DGMT Dagmar 150.61 347 PFAKE 18 02 20.0 -0.8
DGMT LR LR
comp=Z,471nm,20.0s
U49A Red Boiling Sp 150.66 310 P **PKiKP** **18 02 16.4 +1.1**
baz=63
X51A Calhoun 150.78 306 *e*PKPdf PKPpre 18 02 04.9
X51A *e*PKPbc **PKPbc** **18 02 14.2 -0.8**
X51A Calhoun 150.78 306 P **PKiKP** **18 02 16.1 +0.5**
baz=68
TIGA Tifton 150.79 299 *e*PKPab **PKPab** **18 02 22.1 -0.1**
JTS JuntasAbangare 150.79 255 PFAKE 18 02 20.0 -2.6
JTS LR LR
comp=Z,276nm,19.0s
T48A Bowling Green 150.83 312 P **PKiKP** **18 02 16.0 +0.4**
baz=62
HDIL Hopedale 150.86 320 *e*PKPdf **PKPdf** **18 02 09.5 +0.2**
HDIL *e*PKPab **PKPab** **18 02 21.7 -0.5**
HDIL LR LR
comp=Z,507nm,22.0s
W50A Signal Mountai 150.88 307 *e*PKPdf **PKPdf** **18 02 05.6 -4.0**
W50A *e*PKPbc **PKiKP** **18 02 15.7 -0.2**
W50A *e*PKPab **PKPab** **18 02 21.8 -0.6**
W50A Signal Mountai 150.88 307 P **PKiKP** **18 02 17.0 +1.2**
baz=66
K39A Oelwein 150.93 326 P **PKiKP** **18 02 16.4 +0.8**
baz=46
L40A Anamosa 151.01 324 *e*PKPdf **PKPdf** **18 02 08.3 -1.2**
L40A *e*PKPab **PKPab** **18 02 20.9 -1.7**
WALA Waterton Lakes 151.01 0 *e*PKPbc **PKiKP** **18 02 16.1 +0.3**
WALA *e*PKPab **PKPab** **18 02 22.6 0.0**
V49A McMinnville 151.08 309 P **PKiKP** **18 02 16.8 +0.6**
baz=64
Q45A Warren Harvey, 151.11 316 P **PKiKP** **18 02 17.3 +1.2**
baz=56
Y51A Rockmart 151.19 305 P **PKiKP** **18 02 18.0 +1.5**
baz=68
U48A Cassie Pea, Po 151.21 311 P **PKiKP** **18 02 17.6 +1.2**
baz=62
B08A Colville Reser 151.33 8 *e*PKPdf **PKPdf** **18 02 07.9 -1.9**
B08A *e*PKPbc **sPKPdf** **18 02 12.8 +2.1**
B08A *e*PKPab **PKPab** **18 02 23.2 -0.6**
353A Camilla 151.33 299 P **PKiKP** **18 02 19.2 +2.4**
baz=74
152A Waverly Hall 151.34 302 P **PKiKP** **18 02 18.3 +1.4**
baz=71
L39A Vinton 151.39 325 P **PKiKP** **18 02 17.9 +1.3**
baz=46
NLWA Neilton Lookou 151.42 15 *e*PKPdf **PKPdf** **18 02 08.2 -1.8**
NLWA *e*PKPab **PKPab** **18 02 23.7 -0.5**
NLWA LR LR
comp=Z,473nm,21.0s
R45A Skylar, Fairfi 151.52 315 P **PKiKP** **18 02 18.2 +1.2**
baz=57
252A Lumpkin 151.57 301 P **PKiKP** **18 02 18.5 +1.2**
baz=72
W49A Belvidere 151.62 308 P **PKiKP** **18 02 18.9 +1.5**
baz=65
NEW Newport 151.66 5 PFAKE 18 02 20.0 +2.9
NEW LR LR
comp=Z,481nm,20.0s
NEW Newport 151.66 5 P **PKiKP** **18 02 19.0 +2.0**
baz=353
Q44A Meyer Farm, Va 151.66 317 P **PKiKP** **18 02 19.0 +1.7**
baz=55
U47A Clarksville 151.78 311 P **PKiKP** **18 02 17.3 -0.3**
baz=62
EGMT Eagleton 151.88 355 *e*PKPdf **PKPdf** **18 02 11.3 +0.6**
EGMT *e*PKPbc **sPKPbc** **18 02 19.0 +0.8**
EGMT LR LR
comp=Z,415nm,20.0s
EGMT Eagleton 151.88 355 P **PKiKP** **18 02 17.4 -0.2**
baz=7.6
T46A Princeton 151.91 313 P **PKiKP** **18 02 17.7 -0.1**
baz=60
X49A Woodville 151.92 307 P **PKiKP** **18 02 18.3 +0.3**
baz=66
251A Midway 152.08 301 P **PKiKP** **18 02 19.6 +1.3**
baz=71
P42A Winchester 152.09 319 *e*PKPdf **PKPdf** **18 02 10.3 -0.9**
P42A *e*PKPbc **PKPbc** **18 02 15.2 -2.6**
P42A *e*PKPab **PKPab** **18 02 26.2 -1.0**
P42A Winchester 152.09 319 P **PKiKP** **18 02 19.3 +1.1**
baz=52
W48A Pulaski 152.11 308 P **PKiKP** **18 02 20.1 +1.8**
baz=64
SCIA State Center 152.19 326 PFAKE 18 02 20.0 +1.7
SCIA LR LR
comp=Z,573nm,22.0s
V47A Nunnelly 152.23 310 P **PKiKP** **18 02 19.9 +1.3**
baz=62
Y49A Blount Mountai 152.24 305 P **PKiKP** **18 02 19.8 +1.1**
baz=67
WVT Waverly 152.31 311 *e*PKPdf **PKPdf** **18 02 10.1 -1.5**
WVT *e*PKPbc **PKPbc** **18 02 18.0 -0.4**
WVT Waverly 152.31 311 *e*PKIKP **PKPdf** **18 02 10.1 -1.5**
WVT *e* 18 02 18.0
ECSD EROS Data Cent 152.42 333 *e*PKPbc **PKPbc** **18 02 17.9 -0.6**
ECSD LR LR
comp=Z,519nm,20.0s
ECSD EROS Data Cent 152.42 333 P **PKiKP** **18 02 19.1 +0.4**
baz=36
W47A Westpoint 152.55 309 P **PKiKP** **18 02 19.4 +0.1**
baz=63
V46A Holladay 152.67 310 P **PKiKP** **18 02 20.2 +0.7**
baz=62
LAO LASA Array 152.71 349 *e*PKPdf **PKPdf** **18 02 09.0 -3.0**
LAO *e*PKPbc **sPKPdf** **18 02 16.0 +3.0**
LAO *e*PKPab **PKPab** **18 02 27.5 -2.2**
LAO LR LR
comp=Z,451nm,20.0s
Q41A Truxton 153.02 319 P **PKiKP** **18 02 22.5 +2.4**
baz=52
X47A Russelville 153.06 308 P **PKiKP** **18 02 21.3 +0.9**
baz=64
R42A Luebbering 153.16 318 P **PKiKP** **18 02 20.8 +0.4**
baz=54
HAWA Hanford 153.23 9 PFAKE 18 02 20.0 -0.1
HAWA LR LR
comp=Z,433nm,19.0s
MSO Missoula 153.24 1 *e*PKPdf **PKPdf** **18 02 12.0 -0.8**
MSO *e*PKPbc **PKiKP** **18 02 20.6 +0.1**
T43A Greenville 153.51 315 P **PKiKP** **18 02 21.4 +0.3**
baz=56
CCM Cathedral Cave 153.58 318 P **PKiKP** **18 02 22.0 +0.7**
baz=53
BRAL Brewton 153.70 300 PFAKE 18 02 20.0 -1.6
BRAL LR LR
comp=Z,360nm,19.0s
T42A Van Buren 154.07 316 *e*PKPbc **PKPbc** **18 02 19.2 -3.1**
BOZ Bozeman (W) 154.43 357 *e*PKPbc **PKPbc** **18 02 19.4 -3.5**
BOZ LR LR
comp=Z,568nm,22.0s
BOZ Bozeman (W) 154.43 357 *e*PKIKP **PKPbc** **18 02 19.4 -3.5**
BOZ MLR MLR
comp=Z,568nm,22.0s
RLMT Red Lodge 154.70 353 PFAKE 18 02 30.0 +6.3
RLMT LR LR
comp=Z,339nm,22.0s
YMR Madison River 155.31 356 *e*PKPdf **PKPdf** **18 02 14.9 -1.1**
YMR *e*PKPbc pPKPbc 18 02 23.8 -1.9
LKWY Lake 155.37 355 PFAKE 18 02 30.0 -11
LKWY LR LR
comp=Z,647nm,21.0s
KSU1 Kansas State U 156.00 326 PFAKE 18 02 30.0 +13
KSU1 LR LR
comp=Z,546nm,22.0s
HLID Hailey 156.50 2 PFAKE 18 02 30.0 +12
HLID LR LR
comp=Z,312nm,19.0s
OGNE Ogallala 156.93 337 PFAKE 18 02 30.0 +12
OGNE LR LR
comp=Z,436nm,21.0s
BW06 Boulder Array 157.06 352 PFAKE 18 02 30.0 +12
BW06 LR LR
comp=Z,476nm,20.0s
PD31 Pinedale Array 157.06 352 *e*PKPdf **PKPdf** **18 02 16.5 -1.9**
PDAR Pinedale Array 157.06 352 PKP **PKPdf** **18 02 17.6 -0.7**
comp=Z,1.2nm,1.1s,baz=5.7,slow=3.6,SNR=4.1
PDAR PP **PP** **18 06 25.5 -0.5**
comp=Z,0.5nm,1.0s,baz=17,slow=6.6,SNR=3.0
PDAR Pinedale Array 157.06 352 *e*PKPdf **PKPdf** **18 02 16.1 -2.2**
PDAR PP **PP** **18 06 25.5 -0.5**
MIAR Mount Ida 157.14 313 PFAKE 18 02 30.0 +12
MIAR LR LR
comp=Z,445nm,20.0s
AHID Auburn Hatcher 157.21 355 PFAKE 18 02 30.0 +12
AHID LR LR
comp=Z,550nm,19.0s
WVOR Wild Horse Val 157.23 10 PFAKE 18 02 30.0 +12
WVOR LR LR
comp=Z,395nm,20.0s
CBKS Cedar Bluff 157.77 330 PFAKE 18 02 30.0 +11
CBKS LR LR
comp=Z,494nm,22.0s
HVU Hansel Valley 158.28 358 *e*PKPdf **PKPdf** **18 02 22.4 +2.6**
HVU *e*PKPab **PKPab** **18 02 53.0 -0.7**
HVU Hansel Valley 158.28 358 *e*PKIKP **PKPdf** **18 02 22.4 +2.6**
HVU *e* 18 02 53.0
ISCO Idaho Springs 159.12 343 PFAKE 18 02 30.0 +8.9
ISCO LR LR
comp=Z,369nm,20.0s
NATX Nacogdoches 159.39 308 PFAKE 18 02 30.0 +8.8
NATX LR LR
comp=Z,402nm,21.0s
DUG Dugway, Tooele 159.86 358 PFAKE 18 02 30.0 +8.3
DUG LR LR
comp=Z,450nm,20.0s
WMOK Wichita Mounta 160.35 321 PFAKE 18 02 30.0 +7.8
WMOK LR LR
comp=Z,409nm,19.0s
KVN Kaiserville 160.62 11 *ep*PKPdf pPKPdf 18 02 27.7 +4.4
SDCO Great Sand Dun 160.98 340 PFAKE 18 02 30.0 +6.8
SDCO LR LR
comp=Z,605nm,22.0s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NV01	**Mina Array Sit**	**161.18**	**12**	*e*PKPdf	**PKPdf**	**18 02 21.8**	**-1.5**
NVAR	**Mina Array Bea**	**161.18**	**12**	PKP	**PKPdf**	**18 02 22.6**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=282,slow=1.8,SNR=2.4						
NVAR				PKPab	**PKPab**	**18 03 06.2**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=350,slow=2.7,SNR=2.8						
MVCO	**Mesa Verde**	**162.29**	**347**	PFAKE		18 02 30.0	+5.5
MVCO				LR	LR		
	comp=Z,514nm,19.0s						
JCT	**Junction City**	**163.78**	**313**	*e*PKPdf	**PKPdf**	**18 02 24.9**	**-1.0**
JCT				LR	LR		
	comp=Z,379nm,20.0s						
JCT	**Junction City**	**163.78**	**313**	*e*PKIKP	**PKPdf**	**18 02 24.9**	**-1.0**
JCT				MLR	MLR		
	comp=Z,379nm,20.0s						
ANMO	**Albuquerque**	**163.85**	**339**	PFAKE		18 02 40.0	+14
ANMO				LR	LR		
	comp=Z,353nm,20.0s						
WUAZ	**Wupatki**	**164.43**	**353**	PFAKE		18 02 40.0	+14
WUAZ				LR	LR		
	comp=Z,529nm,19.0s						
PFO	**Pinyon Flats O**	**166.20**	**10**	PFAKE		18 02 40.0	+12
PFO				LR	LR		
	comp=Z,604nm,20.0s						
MNTX	**Cornudas Mount**	**166.23**	**329**	*e*PKPdf	**PKPdf**	**18 02 29.3**	**+1.4**
MNTX				LR	LR		
	comp=Z,423nm,19.0s						
LTX	**Lajitas**	**167.08**	**318**	*e*PKPdf	**PKPdf**	**18 02 29.8**	**+1.1**
LTX				*e*PKPab	**pPKPab**	**18 03 33.4**	**0.0**
LTX	**Lajitas**	**167.08**	**318**	*e*PKIKP	**PKPdf**	**18 02 29.8**	**+1.1**
TX31	**Lajitas Ar. Si**	**167.08**	**318**	*e*PKPdf	**PKPdf**	**18 02 29.7**	**+1.0**
TX31				*e*PKPdf	**PKPdf**	**18 02 30.2**	**+1.5**
TX31				*e*PKPab	**PKPab**	**18 03 32.4**	**-0.2**
TX31				*e*PKPab	**PKPab**	**18 03 33.0**	**+0.4**
TXAR	**Lajitas Array**	**167.08**	**318**	PKP	**PKPdf**	**18 02 29.8**	**+1.1**
	comp=Z,1.2nm,1.0s,baz=222,slow=1.7,SNR=6.3						
TXAR				PKPab	**pPKPab**	**18 03 33.4**	**0.0**
	comp=Z,2.5nm,1.1s,baz=64,slow=4.1,SNR=5.2						
TUC	**Tucson**	**167.49**	**349**	PFAKE		18 02 40.0	+11
TUC				LR	LR		
	comp=Z,636nm,19.0s						

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*NNC **05** 17:44:48.7±5.8, 36°.82N×70°.18E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=56.6km s-min=29.8km az=161.0*

ISC 05 17:44:44.9±3.6**, 36°.4N**±0°.2×**70°.3E**±0°.1**, h10**km**, n11, σ1s60**/14**, 5C-1D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.36**	**34**	⇑P	**Pn**	**17 45 53.1**	**+1.8**
	4.8nm,0.3s						
SFK				⇑S	**Sn**	**17 46 43.6**	**+1.3**
	10.0nm,0.2s						
AML	**Almayashu**	**6.26**	**24**	P	**Pn**	**17 46 18.7**	**+1.1**
	SNR=28						
UCH	**Uchtor**	**6.63**	**28**	P	**Pn**	**17 46 23.2**	**+0.4**
	SNR=9.1						
KK31	**Karatay Array**	**6.67**	**1**	P	**Pn**	**17 46 24.6**	**+1.7**
	2.3nm,0.5s,baz=181,slow=13,SNR=30						
KK31				⇑S	**Sn**	**17 47 39.3**	**+0.4**
	1.7nm,0.4s,baz=186,slow=24,SNR=7.1						
KZA	**Kyzart**	**6.80**	**33**	P	**Pn**	**17 46 24.6**	**-0.5**
	SNR=5.1						
AAK	**Ala-Archa**	**6.98**	**26**	P	**Pn**	**17 46 28.1**	**+0.8**
	SNR=5.1						
AAK	**Ala-Archa**	**6.98**	**26**	P	**Pn**	**17 46 27.5**	**+0.2**
	3.4nm,0.7s						
AAK				⇑S	**Sn**	**17 47 43.6**	**-3.2**
	5.3nm,0.6s						
USP	**Ospenovka**	**7.54**	**24**	P	**Pn**	**17 46 35.5**	**+0.6**
	SNR=7.7						
AB31	**Akbulak array**	**14.90**	**333**	⇑P	**Pn**	**17 48 15.2**	**-0.2**
	1.2nm,0.5s						
AKTO	**Aktyubinsk**	**16.58**	**331**	⇓P	**Pn**	**17 48 34.7**	**-2.7**
	1.6nm,0.8s						
BVA0	**Borovoye Array**	**16.59**	**0**	P	**Pn**	**17 48 37.7**	**+0.2**
	baz=172,slow=8.5,SNR=4.9						

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*IDC **05** 17:47:52.3±1.4, 6°.21S×107°.20W, h0km, mb4.0/7, mb1 4.3/7, mb1mx4.0/33, mbtmp4.0/7, MS4.2/11, Ms1 4.2/11, ms1mx4.0/23, Error ellipse: s-maj=42.7km s-min=25.5km az=44.0*

*ISCJB **05** 17:47:53.6±0.6, 6°.19S±0°.08×106°.9W±0°.1, h10km, mb4.5/78, MS4.2/11, Error ellipse: s-maj=18.8km s-min=7.5km az=148.1*

*NEIC **05** 17:47:54.0±0.5, 6°.33S×107°.08W, h10km, mb4.6/71, Error ellipse: s-maj=14.7km s-min=6.7km az=62.0*

ISC 05 17:47:54.1±0.8**, 6°.3S**±0°.1×**107°.1W**±0°.2**, h10**km**, n108, σ1s17**/94**, mb4.6**/78**, MS4.1**/11**, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**20.87**	**186**	LR	LR	17 58 35.0	
	comp=Z,392nm,18.3s,baz=9.0,slow=31						
TLIG	**Tlapa**	**25.11**	**19**	*e*P	**P**	**17 53 22.8**	**+3.3**
	15nm,1.0s						
CMIG	**Matias Romero**	**26.14**	**27**	LR	LR	18 01 25.8	
	comp=Z,738nm,20.4s,baz=198,slow=31						
APG	**El Apazote**	**26.79**	**38**	LR	LR	18 01 54.1	
	comp=Z,1μm,18.9s,baz=212,slow=31						
JTS	**JuntasAbangare**	**27.50**	**53**	LR	LR	18 01 52.2	
	comp=Z,1μm,18.1s,baz=296,slow=30						
LPIG	**La Paz**	**30.33**	**354**	LR	LR	18 03 07.3	
	comp=Z,370nm,20.7s,baz=200,slow=30						
RKT	**Rikitea**	**31.65**	**235**	*e*LR	LR	18 02 38.6	
	comp=Z,713nm,26.5s,baz=59						
TAOE	**Nuku Hiva Isla**	**32.86**	**263**	*e*LR	LR	18 03 06.9	
	comp=Z,459nm,24.3s						
ROSC	**El Rosal**	**34.53**	**72**	LR	LR	18 06 04.7	
	comp=Z,175nm,19.8s,baz=260,slow=32						
TXAR	**Lajitas Array**	**35.53**	**5**	P	**P**	**17 54 51.4**	**-0.1**
	0.8nm,0.9s,baz=192,slow=11,SNR=5.9						
TXAR				LR	LR	18 06 42.2	
	comp=Z,220nm,19.0s,baz=0.0,slow=32						
LTX	**Lajitas**	**35.53**	**5**	*e*P	**P**	**17 54 51.4**	**-0.1**
TX31	**Lajitas Ar. Si**	**35.53**	**5**	*e*P	**P**	**17 54 52.9**	**+1.4**
JCT	**Junction City**	**37.18**	**10**	*e*P	**P**	**17 55 06.6**	**+1.0**
	24nm,1.9s						
319A	**Douglas**	**37.47**	**357**	*e*P	**P**	**17 55 09.5**	**+1.4**
	26nm,1.5s						
MNTX	**Cornudas Mount**	**37.77**	**2**	*e*P	**P**	**17 55 10.4**	**-0.1**
	5.3nm,1.0s						
PB01	**IPOC Station P**	**39.27**	**116**	*e*P	**P**	**17 55 25.4**	**+1.9**
	20nm,1.2s						
ABTX	**Abilene, Hawle**	**39.30**	**10**	*e*P	**P**	**17 55 23.7**	**+0.3**
	29nm,1.9s						
113A	**Mohawk Valley,**	**39.31**	**351**	*e*P	**P**	**17 55 25.3**	**+1.8**
	19nm,1.8s						
SDV	**Santo Domingo**	**39.34**	**68**	P	**P**	**17 55 24.2**	**0.0**
	3.2nm,0.7s,baz=58,slow=7.5,SNR=4.4						
SDV	**Santo Domingo**	**39.34**	**68**	*e*P	**P**	**17 55 24.1**	**0.0**
	9.5nm,1.0s						
LPAZ	**La Paz**	**39.43**	**108**	P	**P**	**17 55 26.3**	**+0.9**
	1.4nm,0.9s,baz=270,slow=8.1,SNR=3.0						
LPAZ				LR	LR	18 08 03.3	
	comp=Z,300nm,20.1s,baz=270,slow=31						
LPAZ	**La Paz**	**39.43**	**108**	*e*P	**P**	**17 55 24.9**	**-0.5**
NATX	**Nacogdoches**	**39.62**	**17**	*e*P	**P**	**17 55 26.6**	**+0.6**
	12nm,0.8s						
BNM	**Barren Site**	**40.18**	**1**	*e*P	**P**	**17 55 31.2**	**+0.2**
LENM	**Lemitar**	**40.19**	**0**	*e*P	**P**	**17 55 32.3**	**+1.3**
MSTX	**Muleshoe**	**40.21**	**6**	*e*P	**P**	**17 55 31.8**	**+0.8**
	14nm,1.4s						
LVC	**Limon Verde**	**40.24**	**118**	*e*P	**P**	**17 55 30.1**	**-1.8**
	11nm,1.3s						
X16A	**Lo Mia Camp, P**	**40.65**	**354**	*e*P	**P**	**17 55 35.6**	**+0.8**
	10nm,1.6s						
GO03	**Copiap**	**40.91**	**126**	*e*P	**P**	**17 55 39.1**	**+2.1**
	34nm,1.6s						
LCO	**Las Campanas**	**41.15**	**128**	*e*P	**P**	**17 55 38.3**	**-0.9**
	24nm,1.4s						
W18A	**Petrified Fore**	**41.22**	**357**	*e*P	**P**	**17 55 40.6**	**+1.2**
	6.7nm,0.8s						
AMTX	**Amarillo**	**41.23**	**7**	*e*P	**P**	**17 55 40.5**	**+1.0**
	42nm,1.9s						
WMOK	**Wichita Mounta**	**41.51**	**10**	*e*P	**P**	**17 55 42.0**	**+0.3**
	27nm,1.9s						
WUAZ	**Wupatki**	**41.74**	**355**	*e*P	**P**	**17 55 45.7**	**+2.0**
	6.9nm,1.1s						
LDFC	**Landfair**	**41.79**	**350**	*e*P	**P**	**17 55 45.5**	**+1.4**
	39nm,1.9s						
MIAR	**Mount Ida**	**42.54**	**17**	*e*P	**P**	**17 55 49.7**	**-0.3**
	11nm,1.3s						
U15A	**North Rim**	**42.73**	**354**	*e*P	**P**	**17 55 51.9**	**0.0**
	12nm,1.6s						
ROC1	**El Roble**	**42.79**	**133**	*e*P	**P**	**17 55 52.5**	**+0.1**
	14nm,1.3s						
PPT2	**Papeete2**	**42.96**	**251**	*e*LR	LR	18 07 47.7	
	comp=Z,798nm,26.0s,baz=78						
ISA	**Isabella, Lake**	**43.04**	**346**	*e*P	**P**	**17 55 55.8**	**+1.6**
	7.6nm,1.5s						
W39A	**Magazine**	**43.09**	**16**	*e*P	**P**	**17 55 55.0**	**+0.5**
	17nm,1.3s						
T25A	**Trinidad**	**43.23**	**3**	*e*P	**P**	**17 55 56.9**	**+0.9**
	21nm,1.9s						
MVCO	**Mesa Verde**	**43.25**	**358**	*e*P	**P**	**17 55 56.8**	**+0.7**
	22nm,1.5s						
TUL1	**Leonard**	**43.26**	**13**	*e*P	**P**	**17 55 55.6**	**-0.2**
	10nm,1.1s						
KNB	**Kanab**	**43.37**	**353**	*e*P	**P**	**17 55 59.1**	**+2.2**
	11nm,1.2s						
DAC	**Darwin (Calif)**	**43.43**	**348**	*e*P	**P**	**17 55 58.2**	**+0.7**
	3.2nm,1.1s						
W41B	**Gary Mavity, V**	**43.51**	**18**	*e*P	**P**	**17 55 58.0**	**+0.1**
	30nm,1.7s						
PAGB	**Antelope Grade**	**43.55**	**344**	*e*P	**P**	**17 55 58.9**	**+0.6**
	42nm,1.9s						
WHAR	**Wooly Hollow**	**43.61**	**18**	*e*P	**P**	**17 55 59.6**	**+0.9**
	22nm,1.5s						
PKCU	**Pink Cliffs**	**43.74**	**354**	*e*P	**P**	**17 56 02.8**	**+2.7**
	23nm,1.5s						
S22A	**4UR Ranch, Cre**	**43.77**	**0**	*e*P	**P**	**17 56 00.9**	**+0.6**
	3.8nm,0.9s						
SDCO	**Great Sand Dun**	**43.79**	**2**	*e*P	**P**	**17 56 01.9**	**+1.4**
	14nm,1.8s						
TPNV	**Topopah Spring**	**43.81**	**349**	*e*P	**P**	**17 56 03.4**	**+2.9**
	11nm,1.4s						
CCUT	**Cedar City**	**43.96**	**353**	*e*P	**P**	**17 56 04.3**	**+2.5**
	13nm,1.8s						
TBI	**Tubuai**	**44.13**	**243**	*e*LR	LR	18 08 25.4	
	comp=Z,746nm,27.0s,baz=76						
PV05	**Paradox Valley**	**44.14**	**358**	*e*P	**P**	**17 56 03.6**	**+0.4**
	22nm,1.6s						
PV01	**Paradox Valley**	**44.17**	**358**	*e*P	**P**	**17 56 03.6**	**+0.1**
	12nm,1.6s						
PV13	**Radium Mtn., P**	**44.21**	**358**	*e*P	**P**	**17 56 05.0**	**+1.2**
	18nm,1.6s						
PV02	**Paradox Valley**	**44.25**	**358**	*e*P	**P**	**17 56 05.5**	**+1.4**
	9.0nm,1.2s						
PV03	**Paradox Valley**	**44.30**	**358**	*e*P	**P**	**17 56 05.8**	**+1.3**
	6.1nm,1.0s						
MTPU	**Mount Pierson**	**44.31**	**354**	*e*P	**P**	**17 56 05.9**	**+1.1**
	9.6nm,1.4s						
PV17	**East Wray Mesa**	**44.33**	**358**	*e*P	**P**	**17 56 05.7**	**+1.0**
	8.6nm,1.2s						
PV16	**Nyswonger Mesa**	**44.36**	**358**	*e*P	**P**	**17 56 04.9**	**-0.1**
	9.8nm,1.4s						
PV19	**Morning Glory**	**44.36**	**358**	*e*P	**P**	**17 56 05.5**	**+0.5**
	10nm,1.4s						
PV12	**Saucer Basin,**	**44.37**	**358**	*e*P	**P**	**17 56 04.1**	**-0.9**
	7.7nm,1.2s						
PV15	**Paradox Valley**	**44.38**	**358**	*e*P	**P**	**17 56 05.4**	**+0.3**
	17nm,1.6s						
PV07	**Paradox Valley**	**44.48**	**358**	*e*P	**P**	**17 56 07.4**	**+1.5**
	12nm,1.5s						
PSUT	**Pine Spring**	**44.99**	**353**	*e*P	**P**	**17 56 10.2**	**+0.1**
	6.9nm,1.5s						
Q24A	**Divide**	**45.02**	**2**	*e*P	**P**	**17 56 11.4**	**+1.1**
	16nm,1.7s						
OMMB	**Old Mammoth Mi**	**45.02**	**347**	*e*P	**P**	**17 56 11.7**	**+1.3**
	14nm,1.9s						
R11A	**Troy Canyon, C**	**45.06**	**351**	*e*P	**P**	**17 56 11.3**	**+0.8**
	9.5nm,1.8s						
P17A	**Butcher Ranch,**	**45.62**	**356**	*e*P	**P**	**17 56 15.4**	**+0.6**
	7.2nm,1.1s						
NV01	**Mina Array Sit**	**45.65**	**348**	*e*P	**P**	**17 56 16.8**	**+1.6**
NVAR	**Mina Array Bea**	**45.65**	**348**	P	**P**	**17 56 15.7**	**+0.4**
	0.9nm,0.7s,baz=173,slow=9.0,SNR=7.3						
NVAR				LR	LR	18 11 32.2	
	comp=Z,295nm,18.7s,baz=168,slow=31						
RYN	**Ryan**	**45.89**	**348**	*e*P	**P**	**17 56 18.7**	**+1.6**
	11nm,1.5s						
V48A	**Smith Brothers**	**45.91**	**23**	*e*P	**P**	**17 56 17.0**	**-0.1**
	9.3nm,1.1s						
O20A	**White River Ci**	**46.16**	**359**	*e*P	**P**	**17 56 20.6**	**+1.3**
	9.2nm,0.5s						
MPU	**Maple Canyon**	**46.22**	**355**	*e*P	**P**	**17 56 20.8**	**+1.1**
	12nm,1.4s						
CCM	**Cathedral Cave**	**46.48**	**17**	*e*P	**P**	**17 56 20.9**	**-0.7**
	23nm,1.5s						
DUG	**Dugway, Tooele**	**46.51**	**354**	*e*P	**P**	**17 56 21.3**	**-0.6**
	7.6nm,1.3s						
W52A	**Murphy**	**46.56**	**26**	*e*P	**P**	**17 56 22.3**	**+0.1**
	9.5nm,0.6s						
CPCT	**Cooper Cave**	**46.60**	**26**	*e*P	**P**	**17 56 22.0**	**-0.6**
	8.3nm,0.7s						
BG3	**Lake Jocassee**	**46.92**	**27**	*e*P	**P**	**17 56 24.2**	**-0.9**
	38nm,1.6s						
V51A	**Loudon**	**46.98**	**25**	*e*P	P	17 56 20.5	-4.9
	9.8nm,0.6s						
PTGA	**Pitinga**	**47.34**	**85**	*e*P	**P**	**17 56 28.0**	**-0.8**
	12nm,1.3s						
PDAR	**Pinedale Array**	**48.83**	**358**	LR	LR	18 13 48.7	
	comp=Z,109nm,18.1s,baz=138,slow=32						
MFID	**Camas Ranch**	**50.06**	**352**	*e*P	**P**	**17 56 49.8**	**+0.6**
	8.6nm,1.1s						
ULM	**Lac du Bonnet**	**57.10**	**9**	P	**P**	**17 57 39.3**	**-1.3**
	7.4nm,1.1s,baz=193,slow=9.3,SNR=5.5						
FFC	**Flin Flon**	**60.90**	**3**	*e*P	**P**	**17 58 05.7**	**-1.2**
	15nm,1.4s						
FCC	**Fort Churchill**	**65.64**	**7**	*e*P	**P**	**17 58 36.9**	**-1.3**
	7.4nm,0.7s						
YKA	**Yellowknife Ar**	**68.78**	**356**	P	**P**	**17 58 57.1**	**-1.0**
	2.9nm,0.7s,baz=163,slow=6.2,SNR=37						
YKB5	**Yellowknife Ar**	**68.78**	**356**	*e*P	**P**	**17 58 57.0**	**-1.1**
YKW3	**Yellowknife Ar**	**68.85**	**356**	*e*P	**P**	**17 58 56.9**	**-1.6**
	8.4nm,1.3s						
KDAK	**Kodiak Island**	**73.61**	**337**	LR	LR	18 24 25.4	
	comp=Z,429nm,20.1s,baz=144,slow=30						
KDAK	**Kodiak Island**	**73.61**	**337**	*e*P	**P**	**17 59 28.1**	**+0.7**
	214nm,2.0s						
RND	**Reindeer**	**76.28**	**342**	*e*P	**P**	**17 59 42.8**	**-0.1**
	25nm,1.3s						
IL1	**Eielson Array**	**76.72**	**344**	*e*P	**P**	**17 59 44.4**	**-0.8**
ILAR	**Eielson Array**	**76.72**	**344**	P	**P**	**17 59 44.8**	**-0.5**
	1.1nm,0.8s,baz=162,slow=5.5,SNR=10						
ILB	**Eielson Array**	**76.72**	**344**	*e*P	**P**	**17 59 44.4**	**-0.8**
QSPA	**South Pole Qui**	**83.82**	**180**	*e*P	**P**	**18 00 25.2**	**+1.5**
	15nm,1.4s						
CLL	**Collm**	**113.40**	**36**	*e*PKiKP	**PKiKP**	**18 06 34.0**	**+1.6**
SONA0	**Songino Array**	**129.68**	**331**	*e*PKPdf	**PKPdf**	**18 07 03.3**	**-0.7**
SONM	**Songino Array**	**129.68**	**331**	PKP	**PKPdf**	**18 07 03.3**	**-0.7**
	0.3nm,0.8s,baz=77,slow=3.1,SNR=3.8						
MK32	**Makanchi Array**	**138.80**	**350**	*e*PKPdf	**PKPdf**	**18 07 19.9**	**-1.1**
MKAR	**Makanchi Array**	**138.80**	**350**	PKP	**PKPdf**	**18 07 19.9**	**-1.1**
	0.3nm,0.9s,baz=8.5,slow=2.9,SNR=3.2						
KMBO	**Kilima Mbogo**	**143.67**	**100**	PKP	**PKPdf**	**18 07 29.9**	**-1.0**
	0.7nm,0.3s,baz=339,slow=2.8,SNR=4.1						
KMBO	**Kilima Mbogo**	**143.67**	**100**	*e*PKPdf	PKPbc	18 07 29.0	+0.7
CMAR	**Chiang Mai Arr**	**151.87**	**298**	PKPbc	**PKPbc**	**18 07 49.8**	**-0.6**
	1.1nm,0.5s,baz=34,slow=1.3,SNR=14						

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*THR **05** 17:55:18.7, 28°.69N×52°.20E, h14km, ML3.5*

*IDC **05** 17:55:19.5±1.4, 28°.40N×51°.94E, h0km, mb3.5/13, mb1 3.7/16, mb1mx3.6/44, mbtmp3.6/16, ML3.1/3, Error ellipse: s-maj=30.8km s-min=19.1km az=174.0*

*ISCJB **05** 17:55:21.2±0.4, 28°.52N±0°.03×51°.88E±0°.05, h15km, mb3.5/13, Error ellipse: s-maj=7.2km s-min=4.1km az=152.1*

*TEH **05** 17:55:27.8, 28°.79N×52°.28E, h20km, ML3.5*

*DSN **05** 17:55:27.4±2.6, 28°.09N×51°.89E, h15km, ML3.6/7, Error ellipse: s-maj=44.1km s-min=7.1km az=5.0*

ISC 05 17:55:22.7±0.7**, 28°.48N**±0°.06×**51°.83E**±0°.07**, h15**km**, n40, σ1s59**/40**, mb3.4**/13**, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroun**	**1.29**	**0**	*e*Sg	**Sb**	**17 56 04.0**	**+0.4**
SHI	**Shiraz**	**1.30**	**27**	*e*Pg	**Pn**	**17 55 44.0**	**-2.6**
JHRM	**Jahrom**	**1.54**	**89**	*e*Pg	**Pn**	**17 55 50.2**	**+0.5**
IRAM	**Ramesheh**	**3.35**	**8**	*e*Pn	**Pn**	**17 56 14.1**	**-0.7**
IRAM				IAMB	IAmb	17 57 16.9	
	comp=Z,2μm,0.8s						
IMEH	**Mehriz**	**3.77**	**39**	*e*Pn	**Pn**	**17 56 20.2**	**-0.4**
IMEH				IAMB	IAmb	17 56 38.6	
	comp=Z,983nm,0.8s						
IGAR	**Gharneh**	**3.92**	**3**	*e*Pn	**Pn**	**17 56 25.4**	**+2.9**
IGAR				IAMB	IAmb	17 57 30.1	
	comp=N,1μm,0.5s						
ICHK	**Chekchek**	**4.36**	**30**	*e*Pn	**Pn**	**17 56 28.4**	**-0.3**
IZEF	**Zefreh**	**4.42**	**5**	*e*Pn	**Pn**	**17 56 29.8**	**+0.3**
IZEF				IAMB	IAmb	17 57 57.4	
	comp=N,384nm,0.7s						
SHME	**Shamm**	**4.54**	**121**	*i* P	**Pn**	**17 56 32.5**	**+1.6**
	SNR=5.1						
SHME				S	**Sn**	**17 57 23.4**	**0.0**
KRBR	**Kerman**	**4.56**	**70**	*e*AML	AML	17 57 48.3	
	comp=E,43nm,0.6s						
KRBR				*e*Pn	Pn	17 56 24.4	-7.1
YZKH	**Yazd**	**4.57**	**31**	*e*Pn	Pn	17 56 25.5	-5.9
YZKH				*e*Sg	**Sn**	**17 57 29.9**	**+5.7**
BANOM	**Banah**	**4.73**	**122**	P	**Pn**	**17 56 34.1**	**+0.6**
BANOM				S	**Sn**	**17 57 26.1**	**-2.0**
IKLH	**Kolahrood**	**4.83**	**358**	*e*Pn	**Pn**	**17 56 36.6**	**+1.5**
IKLH				IAMB	IAmb	17 58 14.4	
	comp=Z,334nm,0.6s						
ASUD	**Al Ashush, Dub**	**4.96**	**140**	*i* P	**Pn**	**17 56 38.2**	**+1.5**
	SNR=30						
ANAR	**Anarak**	**4.97**	**19**	*e*Pn	**Pn**	**17 56 38.7**	**+1.8**
FAQ	**Al Faqa, Dubai**	**5.02**	**137**	P	**Pn**	**17 56 38.6**	**+1.1**
HATD	**Hatta, Dubai**	**5.30**	**132**	P	**Pn**	**17 56 43.0**	**+1.7**
ASHO	**Ashiyiah**	**5.35**	**134**	*i* P	**Pn**	**17 56 43.7**	**+1.6**
	SNR=30						
KRSH	**Karshahi**	**5.48**	**3**	*e*Pn	**Pn**	**17 56 43.0**	**-1.0**
KRSH				IAMB	IAmb	17 58 43.3	
	comp=Z,0.0nm,1.2s						
KHMZ	**Khomeyn**	**5.48**	**343**	*e*Pn	**Pn**	**17 56 40.8**	**-3.2**
ALNE	**Al Ain**	**5.64**	**140**	*i* P	**Pn**	**17 56 47.1**	**+1.1**
	SNR=12						
IKFM	**Kafar-mosalman**	**6.08**	**327**	IAMB	IAmb	17 59 21.9	
	comp=Z,0.0nm,1.6s						
RAYN	**Ar Rayn**	**7.53**	**230**	P	**Pn**	**17 57 13.1**	**+1.1**
GEYT	**Alibeck**	**10.79**	**28**	Pn	**Pn**	**17 57 56.7**	**0.0**
	comp=Z,0.2nm,0.3s,baz=206,slow=12,SNR=2.7						
KBZ	**Khabaz**	**16.82**	**337**	Pn	**P**	**17 59 20.4**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=147,slow=6.0,SNR=3.1						
BRTR	**Keskin Array B**	**18.74**	**311**	P	**Pn**	**17 59 42.1**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=135,slow=11,SNR=4.2						
AAK	**Ala-Archa**	**23.13**	**46**	P	**P**	**18 00 27.5**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=225,slow=10.0,SNR=2.3						
AKASG	**Malin Array Be**	**28.00**	**329**	P	**P**	**18 01 12.0**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=118,slow=6.7,SNR=2.6						
KURBB	**Kurchatov Arra**	**29.93**	**35**	P	**P**	**18 01 29.1**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=236,slow=9.2,SNR=3.7						
MKAR	**Makanchi Array**	**30.00**	**44**	P	**P**	**18 01 29.8**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=234,slow=9.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**35.01**	**34**	P	**P**	**18 02 13.2**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=243,slow=9.6,SNR=4.8						
FINES	**FINESS Array B**	**37.15**	**340**	P	**P**	**18 02 32.1**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=145,slow=7.0,SNR=6.1						
HFS	**Hagfors**	**40.78**	**332**	P	**P**	**18 03 02.6**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=129,slow=8.6,SNR=11						
NB2	**NORSAR Subarra**	**42.30**	**332**	P	**P**	**18 03 15.9**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=124,slow=9.3						
NOA	**NORSAR Array B**	**42.30**	**332**	P	**P**	**18 03 15.7**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=125,slow=8.6,SNR=3.2						
SONM	**Songino Array**	**46.02**	**50**	P	**P**	**18 03 45.3**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=258,slow=7.6,SNR=4.5						
ESDC	**Sonseca Array**	**46.87**	**299**	P	**P**	**18 03 53.0**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=64,slow=7.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**48.94**	**263**	P	**P**	**18 04 08.6**	**0.0**
	comp=Z,0.6nm,0.7s,baz=55,slow=8.0,SNR=5.1						
YKA	**Yellowknife Ar**	**88.69**	**354**	P	**P**	**18 08 14.8**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=13,slow=5.4,SNR=3.7						
ASAR	**Alice Springs**	**94.48**	**114**	P	**P**	**18 08 40.9**	**-1.8**
	comp=Z,0.5nm,1.0s,baz=302,slow=4.3,SNR=5.5						

IDC 05 18:09:56.5±4.5**, 6°.07S×148°.92E, h153**km±33km**, mb3.2**/3**, mb1 3.2**/5**, mb1mx3.0**/24**, mbtmp3.6**/5**, Error ellipse: s-maj=93.7km s-min=33.7km az=110.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.75**	**208**	P	Pn	18 10 52.7	-0.9
	0.7nm,0.3s,baz=32,slow=13,SNR=4.0						
PMG				S	Sn	18 11 38.9	+1.0
	6.2nm,0.3s,baz=132,slow=16,SNR=13						
WRA	**Warramunga Arr**	**19.77**	**224**	P	P	18 14 15.3	+0.4
	0.3nm,0.3s,baz=51,slow=11,SNR=29						
ASAR	**Alice Springs**	**22.69**	**218**	P	P	18 14 45.7	+0.4
	0.5nm,0.5s,baz=54,slow=8.8,SNR=15						
FITZ	**Fitzroy Crossi**	**25.67**	**240**	P	P	18 15 11.4	-1.0
	1.1nm,0.7s,baz=59,slow=9.7,SNR=4.3						
MKAR	**Makanchi Array**	**78.77**	**320**	P	P	18 21 42.6	+0.3
	0.6nm,1.0s,baz=130,slow=5.8,SNR=2.8						

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*ISCJB **05** 18:34:18.8±0.5, 15°.01S±0°.08×173°.69W±0°.09, h10km, MS3.5/2, Error ellipse: s-maj=12.8km s-min=11.0km az=18.9*

*NEIC **05** 18:34:20.8±0.4, 15°.06S×173°.69W, h10km, mb4.8/4, Error ellipse: s-maj=10.9km s-min=9.2km az=108.0*

*IDC **05** 18:34:21.5±2.7, 14°.37S×174°.10W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.8/31, mbtmp3.8/4, MS3.5/2, Ms1 3.5/2, ms1mx3.0/45, Error ellipse: s-maj=159.7km s-min=25.8km az=146.0*

ISC 05 18:34:19.9±0.6**, 15°.07S**±0°.08×**173°.7W**±0°.1**, h10**km**, n24, σ1s95**/24**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.35**	**139**	*e*Pn	**Pn**	**18 35 40.5**	**+0.6**
NIUE				*e*Sn	**Sn**	**18 36 36.3**	**-5.2**
FUNA	**Funafuti**	**9.55**	**312**	*e*Pn	**Pn**	**18 36 37.1**	**-0.5**
FUNA				*e*Sn	**Sn**	**18 38 20.6**	**-4.5**
KNTN	**Kanton**	**12.37**	**9**	*e*Pn	**Pn**	**18 37 16.8**	**+0.7**
WHZ	**Wether Hill Ro**	**34.40**	**203**	*e*P	**P**	**18 41 06.4**	**-0.9**
	113nm,1.6s						
PMG	**Port Moresby**	**38.66**	**274**	LR	LR	18 57 16.2	
	comp=Z,121nm,18.3s,baz=136,slow=36						
KEKH	**Kekaha**	**39.28**	**21**	*e*P	**P**	**18 41 46.4**	**-2.6**
	409nm,1.4s						
WB2	**Warramunga Arr**	**49.67**	**257**	*e*P	**P**	**18 43 12.1**	**-0.3**
WRAB	**Tennant Creek**	**49.67**	**257**	*e*P	**P**	**18 43 11.9**	**-0.5**
	33nm,2.0s						
WR1	**Warramunga Arr**	**49.68**	**257**	*e*P	**P**	**18 43 13.7**	**+1.2**
	16nm,1.5s						
WRA	**Warramunga Arr**	**49.68**	**257**	P	**P**	**18 43 13.6**	**+1.2**
	0.5nm,0.5s,baz=90,slow=7.0,SNR=10						
AS01	**Alice Springs**	**49.94**	**252**	*e*P	**P**	**18 43 15.8**	**+1.4**
AS31	**Alice Springs**	**49.98**	**252**	*e*P	**P**	**18 43 16.2**	**+1.4**
	1.0nm,0.7s						
ASAR	**Alice Springs**	**49.98**	**252**	P	**P**	**18 43 16.1**	**+1.4**
	2.6nm,0.7s,baz=85,slow=8.2,SNR=47						
MJAR	**Matsushiro Arr**	**68.53**	**320**	LR	LR	19 11 35.0	
	comp=Z,18nm,19.7s,baz=345,slow=33						
OHAK	**Old Harbor**	**73.99**	**11**	*e*P	**P**	**18 45 57.1**	**+1.7**
	151nm,1.7s						
NVAR	**Mina Array Bea**	**74.25**	**42**	P	**P**	**18 45 59.4**	**+1.7**
	1.4nm,0.8s,baz=231,slow=11,SNR=7.1						
QSPA	**South Pole Qui**	**74.97**	**180**	*e*P	**P**	**18 46 03.4**	**+2.0**
	19nm,1.9s						
IL1	**Eielson Array**	**82.17**	**11**	*e*P	**P**	**18 46 40.6**	**-0.1**
ILAR	**Eielson Array**	**82.17**	**11**	P	**P**	**18 46 40.9**	**+0.2**
	0.5nm,0.9s,baz=212,slow=8.5,SNR=5.6						
ILB	**Eielson Array**	**82.17**	**11**	*e*P	**P**	**18 46 40.4**	**-0.3**
IM3	**Indian Mountai**	**82.18**	**8**	*e*P	**P**	**18 46 41.9**	**+1.2**
BTK	**Batken**	**119.02**	**308**	*e*PKPdf	**PKiKP**	**18 53 10.6**	**+1.1**
BR101	**Keskin Array S**	**145.75**	**321**	*e*PKPdf	**PKPab**	**18 54 01.0**	**+0.9**
BRTR	**Keskin Array B**	**145.75**	**321**	PKP	**PKPab**	**18 54 01.0**	**+0.9**
	0.5nm,0.7s,baz=66,slow=3.5,SNR=2.9						

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*ISCJB **05** 18:51:40.8±0.8, 31°.25S±0°.08×68°.66W±0°.09, h114km±5km, mb3.6/1, Error ellipse: s-maj=15.5km s-min=9.6km az=135.7*

*SJA **05** 18:51:41.6±0.4, 31°.33S×68°.66W, h106km±1km, ML3.6, MW4.0*

*IDC **05** 18:51:43.4±9.1, 30°.95S×69°.07W, h134km±73km, mb3.4/1, mb1 3.5/2, mb1mx3.1/34, mbtmp4.0/2, Error ellipse: s-maj=82.0km s-min=59.5km az=132.0*

ISC 05 18:51:40.7±0.9**, 31°.19S**±0°.07×**68°.73W**±0°.08**, h113**km±6km**, n15, σ1s07**/24**, San Juan Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.26**	**123**	*i* P	**Pn**	**18 51 57.0**	**+0.3**
RTLL				IAML		18 51 57.0	
	comp=Z,3μm,0.2s						
RTLL				*i* S	**Sn**	**18 52 08.7**	**-0.1**
AMOG	**MOGNA**	**0.32**	**40**	*i* P	**Pn**	**18 51 58.2**	**+1.2**
AMOG				*i* S	**Sn**	**18 52 10.3**	**+1.1**

ZON	Zonda	0.36	173	i P	Pn	18 51 57.2	0.0
ZON				IAML		18 51 57.6	
	comp=Z,1µm,0.2s						
ZON				i S	Sn	18 52 08.7	-0.9
SJA	San Juan	0.37	157	i P	Pn	18 51 57.4	+0.2
SJA				IAML		18 51 57.8	
	comp=Z,2µm,0.2s						
SJA				i S	Sn	18 52 08.5	-1.2
CFA	Coronel Fontan	0.59	135	i P	Pn	18 51 58.3	-0.3
CFA				i S	Sn	18 52 10.7	-1.4
RTCV	Cerro Valdivia	0.69	166	i P	Pn	18 51 59.0	-0.3
RTCV				i S	Sn	18 52 12.0	-1.4
RTLS	Leoncito	0.78	218	i P	Pn	18 52 01.1	+0.8
RTLS				i S	Sn	18 52 15.8	+0.7
RTLS				IAML		18 52 17.4	
	comp=Z,840nm,0.4s						
AUSP	Uspallata	1.18	208	i P	Pn	18 52 04.9	+0.6
ACAN	Cantantal	1.71	130	i P	Pn	18 52 10.1	-0.1
APLL	PUNTA DE LOS L	2.06	68	i S	Sn	18 52 40.9	+0.5
APLL				IAML		18 52 42.5	
	comp=Z,196nm,0.2s						
LVC	Limon Verde	8.54	359	P	Pn	18 53 41.7	-0.2
	comp=Z,2.2nm,0.3s,baz=183,slow=9.7,SNR=18						
LVC				S	Sn	18 55 13.5	-3.3
	comp=Z,0.2nm,0.3s,baz=37,slow=20,SNR=2.2						
TORD	Torodi Ar. Bea	80.61	68	P	P	19 03 42.1	+1.0
	comp=Z,0.7nm,0.8s,baz=245,slow=5.1,SNR=5.5						
WRA	Warramunga Arr	124.55	207	PKP	PKPdf	19 10 27.0	-0.3
	comp=Z,0.3nm,0.8s,baz=168,slow=1.8,SNR=4.8						
ZALV	Zalesovo Beam	150.36	32	PKPbc	PKPbc	19 11 18.0	-0.2
	comp=Z,1.1nm,0.4s,baz=314,slow=4.3,SNR=6.0						
MKAR	Makanchi Array	152.81	47	PKPbc	PKPbc	19 11 24.3	+0.1
	comp=Z,0.4nm,0.6s,baz=2.2,slow=1.9,SNR=4.5						
MKAR				PKPab	PKPab	19 11 36.1	+0.5
	comp=Z,0.4nm,0.6s,baz=287,slow=4.9,SNR=4.9						

*IDC **05** 18:56:04.3±0.9, 7°.73N×136°.75E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.8/51, mbtmp3.9/10, MS3.5/3, Ms1 3.5/3, ms1mx2.9/37, Error ellipse: s-maj=53.3km s-min=18.5km az=86.0*

*ISCJB **05** 18:56:07.7±0.5, 7°.67N±0°.06×136°.7E±0°.2, h35km, mb4.2/16, MS3.4/3, Error ellipse: s-maj=23.3km s-min=7.5km az=173.2*

*NEIC **05** 18:56:11.2±2.5, 7°.70N×136°.80E, h51km±23km, mb4.6/9, Error ellipse: s-maj=22.1km s-min=9.1km az=80.0*

ISC 05 18:56:09.8±0.7, **7°.76N**±0°.09×**136°.8E**±0°.2, **h35km, n33, σ1s.08**/32, **mb4.4**/16, **MS3.7**/3, **Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FAKI	Fak Fak	11.55	204	ePn	Pn	18 58 52.5	+0.2
PMG	Port Moresby	19.91	149	eP	Pn	19 00 40.9	+0.5
	28nm,1.3s						
SOEI	Soe	21.43	216	eP	P	19 00 56.9	+1.6
	42nm,1.3s						
BATI	Baumata	22.15	217	LR	LR	19 09 36.1	
	comp=Z,263nm,18.3s,baz=264,slow=37						
WRAB	Tennant Creek	27.63	185	eP	P	19 01 52.1	-2.2
	22nm,1.7s						
WB2	Warramunga Arr	27.64	185	eP	P	19 01 52.2	-2.2
	28nm,1.8s						
WR1	Warramunga Arr	27.64	185	eP	P	19 01 53.5	-0.9
	37nm,1.9s						
WRA	Warramunga Arr	27.64	185	P	P	19 01 53.5	-0.9
	0.7nm,0.6s,baz=4.1,slow=10,SNR=17						
MJAR	Matsushiro Arr	28.68	2	P	P	19 02 01.8	-1.7
	1.0nm,0.8s,baz=180,slow=10,SNR=3.5						
MAJO	Matsushiro	28.68	2	eP	P	19 02 01.8	-1.7
KSRS	Korea Array	30.65	346	LR	LR	19 13 13.2	
	comp=Z,18nm,19.5s,baz=100,slow=34						
AS01	Alice Springs	31.36	185	eP	P	19 02 25.9	-1.4
AS31	Alice Springs	31.36	185	eP	P	19 02 25.9	-1.5
	2.6nm,1.4s						
ASAR	Alice Springs	31.36	185	P	P	19 02 26.4	-1.1
	0.2nm,0.6s,baz=16,slow=12,SNR=8.1						
SONA0	Songino Array	47.57	332	eP	P	19 04 42.7	+0.6
SONA0				ePcP	PcP	19 06 11.8	+0.1
SONM	Songino Array	47.57	332	P	P	19 04 42.7	+0.6
	1.3nm,1.0s,baz=146,slow=7.9,SNR=6.4						
SONM				PcP	PcP	19 06 11.8	+0.1
	0.2nm,0.5s,baz=129,slow=4.5,SNR=2.7						
SONA1	Songino Array	47.57	332	eP	P	19 04 43.1	+0.9
MK01	Makanchi Array	60.49	320	eP	P	19 06 15.8	-0.5
MK31	Makanchi Array	60.50	320	eP	P	19 06 16.8	+0.3
MK32	Makanchi Array	60.50	320	eP	P	19 06 16.1	-0.3
MKAR	Makanchi Array	60.50	320	P	P	19 06 16.1	-0.4
	1.0nm,0.8s,baz=109,slow=8.5,SNR=11						
MKAR	Makanchi Array	60.50	320	eP	P	19 06 16.6	+0.2
	9.1nm,0.5s						
MAKZ	Makanchi	60.71	320	eP	P	19 06 17.9	0.0
	2.9nm,0.6s						
ZALV	Zalesovo Beam	62.05	328	P	P	19 06 26.5	-0.3
	0.9nm,0.7s,baz=91,slow=6.2,SNR=3.4						
ZAA1	Zalesovo Array	62.05	328	eP	P	19 06 26.5	-0.3
ILAR	Eielson Array	77.18	25	LR	LR	19 35 43.0	
	comp=Z,49nm,21.8s,baz=140,slow=31						
INK	Inuvik	82.72	22	P	P	19 08 31.0	+1.4
	0.6nm,0.9s,baz=207,slow=2.3,SNR=2.9						
INK	Inuvik	82.72	22	eP	P	19 08 31.0	+1.4
	13nm,1.8s						
ARA0	ARCESS Array S	90.07	341	eP	P	19 09 05.6	-0.2
ARCES	ARCESS Array B	90.07	341	P	P	19 09 05.6	-0.2
	4.4nm,1.0s,baz=68,slow=8.0,SNR=5.3						
YKA	Yellowknife Ar	91.58	26	P	P	19 09 14.0	+1.1
	0.1nm,0.5s,baz=294,slow=5.0,SNR=3.2						
FIA0	FINESS Array S	92.93	333	eP	P	19 09 18.3	-0.8
FINES	FINESS Array B	92.93	333	P	P	19 09 18.3	-0.8
	2.3nm,1.0s,baz=131,slow=6.3,SNR=7.8						

*IDC **05** 18:59:41.3±24.0, 15°.06S×172°.99W, h0km, mb4.4/4, mb1 4.5/4, mb1mx3.8/51, mbtmp4.4/4, Error ellipse: s-maj=457.4km s-min=159.0km az=70.0*

*ISCJB **05** 18:59:43.4±1.0, 15°.4S±0°.2×172°.8W±0°.2, h29km, mb5.0/15, Error ellipse: s-maj=37.6km s-min=12.4km az=43.1*

*NEIC **05** 18:59:45.7±1.1, 15°.36S×172°.75W, h35km±7km, mb4.7/7, Error ellipse: s-maj=36.5km s-min=10.8km az=133.0*

ISC 05 18:59:44.9±1.2, **15°.4S**±0°.2×**172°.8W**±0°.3, **h29km, n20, σ1s.11**/19, **mb4.8**/15, **Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRLZ	Canterbury Las	30.76	201	eP	P	19 05 57.2	-0.5
	361nm,1.8s						
ARMA	Armidale	35.88	239	eP	P	19 06 42.4	-0.2
	15nm,1.4s						
SDHHI	Sand Hill	38.58	27	eP	P	19 07 06.3	+0.7
	128nm,1.2s						
HUH	Hualalai	38.60	26	eP	P	19 07 03.1	-2.9
	352nm,1.4s						
POHA	Pohakuloa	38.80	26	eP	P	19 07 09.1	+1.5
	725nm,2.0s						
CTA	Charters Tower	39.23	257	P	P	19 07 10.6	-0.5
	8.4nm,1.1s,baz=76,slow=12,SNR=3.0						
TOO	Toolangi	42.95	231	eP	P	19 07 43.2	+1.6
	29nm,1.5s						
STKA	Stephens Creek	44.57	240	P	P	19 07 54.8	+0.2
	2.4nm,0.6s,baz=86,slow=9.8,SNR=6.8						
STKA	Stephens Creek	44.57	240	eP	P	19 07 54.8	+0.2
	6.3nm,1.8s						
BBOO	Buckleboo	49.35	240	eP	P	19 08 31.9	-0.1
	97nm,1.7s						
WB2	Warramunga Arr	50.42	257	eP	P	19 08 40.1	-0.1
WRAB	Tennant Creek	50.42	257	eP	P	19 08 40.3	0.0
	14nm,1.4s						
WR1	Warramunga Arr	50.43	257	eP	P	19 08 40.2	-0.2
	18nm,1.6s						
WRA	Warramunga Arr	50.43	257	P	P	19 08 40.2	-0.2
	0.7nm,0.5s,baz=92,slow=7.0,SNR=41						
AS01	Alice Springs	50.65	252	eP	P	19 08 41.9	0.0
AS31	Alice Springs	50.69	252	eP	P	19 08 42.2	-0.1
	2.6nm,0.6s						
ASAR	Alice Springs	50.69	252	P	P	19 08 42.4	+0.1
	8.9nm,0.5s,baz=88,slow=7.8,SNR=214						
FITZ	Fitzroy Crossi	58.80	258	eP	P	19 09 43.2	+2.2
	20nm,1.8s						
SPU	Mount Spurr	78.05	10	eP	P	19 11 40.9	+0.3
COLA	College	82.21	10	epP	pP	19 12 13.8	+1.7

*IDC **05** 19:03:47.4±2.6, 43°.04N×105°.14W, h0km, mb2.6/1, mb1 3.4/3, mb1mx3.1/43, mbtmp3.1/3, ML2.2/1, Error ellipse: s-maj=50.1km s-min=10.3km az=159.0*

*ISCJB **05** 19:03:50.9±0.5, 43°.57N±0°.03×105°.28W±0°.06, h0km, Error ellipse: s-maj=5.9km s-min=4.6km az=10.6*

*ANF **05** 19:03:50.9±0.8, 43°.53N×105°.33W, ML3.3/5, Error ellipse: s-maj=13.4km s-min=6.1km az=136.0*

*NEIC **05** 19:03:52.2±0.5, 43°.56N×105°.26W, h0km, ML3.1, Error ellipse: s-maj=6.5km s-min=5.6km az=82.0, Suspected Mining explosion.*

NEIC 83 km [52 miles] SSE of Gillette.

ISC 05 19:03:51.2±0.9, **43°.57N**±0°.04×**105°.21W**±0°.04, **h0km, n43, σ1s.36**/44, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	Black Hills	1.02	56	ePg	Pn	19 04 12.0	-0.9
RSSD	Black Hills	1.02	56	P	Pn	19 04 11.9	-1.0
	baz=238						
K22A	Casper	1.32	227	ePg	Pg	19 04 14.0	-2.6
K22A	Casper	1.32	227	P	Pg	19 04 13.6	-3.0
	baz=45						
K22A				S	Sg	19 04 31.5	-2.3
	baz=45						
PHWY	Pilot Hill	2.27	185	ePn	Pn	19 04 30.2	-0.1
RWWY	Rawlins	2.38	219	ePn	Pn	19 04 31.9	+0.1
N23A	Red Feather La	2.72	192	ePn	Pn	19 04 36.1	-0.4
N23A	Red Feather La	2.72	192	P	Pn	19 04 36.7	+0.3
	baz=10						
N23A				S	Sn	19 05 12.1	+1.9
	baz=10						
LAO	LASA Array	3.21	347	ePn	Pn	19 04 43.5	+0.7
BW06	Boulder Array	3.28	257	ePn	Pn	19 04 44.5	+0.5
BW06	Boulder Array	3.28	257	S	Sn	19 05 26.6	+2.8
	baz=74						
PD31	Pinedale Array	3.28	257	ePn	Pn	19 04 43.6	-0.4
PDAR	Pinedale Array	3.28	257	Pn	Pn	19 04 43.3	-0.8
	3.5nm,0.3s,baz=88,slow=21,SNR=36						
PDAR				Lg	Lg	19 05 29.0	
	16nm,0.3s,baz=85,slow=33,SNR=16						
PDAR	Pinedale Array	3.28	257	ePn	Pn	19 04 44.4	+0.3
RLMT	Red Lodge	3.30	300	ePn	Pn	19 04 43.4	-0.9
RLMT	Red Lodge	3.30	300	P	Pn	19 04 43.8	-0.6
	baz=117						
OGNE	Ogallala	3.52	137	ePb	Pg	19 04 58.6	-0.2
ISCO	Idaho Springs	3.77	185	ePn	Pn	19 04 51.4	+0.5
LKWY	Lake	3.87	287	ePn	Pn	19 04 53.1	+0.9
GCMT	Greycliff	3.88	307	ePn	Pn	19 04 54.1	+1.9
LOHW	Long Hollow	3.92	273	ePn	Pn	19 04 54.0	+1.2
H17A	Grant Village	3.96	284	ePn	Pn	19 04 54.6	+1.2
MOOW	Moose Ponds	4.02	275	ePn	Pn	19 04 54.4	+0.1
SNOW	Snow King Moun	4.03	270	ePb	Pb	19 05 02.3	-1.0
YPP	Pitchstone Pla	4.10	282	ePn	Pn	19 04 56.2	+0.8
O20A	White River Ci	4.11	214	ePn	Pn	19 04 56.4	+1.0
IMW	Indian Meadow	4.16	277	ePn	Pn	19 04 56.5	+0.2
TPAW	Teton Pass	4.17	271	ePn	Pn	19 04 56.5	+0.1
YMR	Madison River	4.29	287	ePn	Pn	19 04 57.2	-0.7
Q24A	Divide	4.60	179	ePb	Pb	19 05 14.0	+1.1
BOZ	Bozeman (W)	5.01	296	ePn	Pn	19 05 08.0	+0.2
TCUT	Toone Canyon	5.20	244	ePn	Pn	19 05 10.2	-0.3
PV09	Paradox Valley	5.86	212	ePn	Pn	19 05 21.2	+1.5
PV11	David Mesa, Pa	5.95	209	ePn	Pn	19 05 21.0	+0.3
PV16	Nyswonger Mesa	5.95	209	ePn	Pn	19 05 22.7	+2.0
PV02	Paradox Valley	5.98	208	ePn	Pn	19 05 21.6	+0.4
PV17	East Wray Mesa	5.99	210	ePn	Pn	19 05 21.3	0.0
TMUT	Trail Mountain	6.20	229	ePn	Pn	19 05 26.0	+1.7
HLID	Hailey	6.69	273	ePb	Pb	19 05 52.3	+3.9
I10CA	LAC DU BONNET	9.14	40	i		20 03 10.0	
	baz=219,slow=337,SNR=1.1						
ULM	Lac du Bonnet	9.24	40	Pn	Pn	19 06 04.4	-1.3
	0.4nm,0.3s,baz=225,slow=14,SNR=5.8						
ULM				Lg	Lg	19 08 38.2	
	0.2nm,0.3s,baz=149,slow=22,SNR=3.1						
YKA	Yellowknife Ar	19.75	347	P	Pn	19 08 23.4	-0.3
	0.1nm,0.5s,baz=156,slow=10,SNR=3.8						
YKB5	Yellowknife Ar	19.75	347	eP	Pn	19 08 23.4	-0.3

*IDC **05** 19:03:55.7±13.0, 36°.20N×70°.49E, h173km±122km, mb3.1/5, mb1 3.2/7, mb1mx2.9/53, mbtmp3.7/7, Error ellipse: s-maj=71.3km s-min=26.2km az=17.0*

*ISCJB **05** 19:03:58.2±0.6, 36°.51N±0°.04×70°.39E±0°.08, h204km, mb3.2/4, Error ellipse: s-maj=9.5km s-min=5.4km az=169.1*

*NNC **05** 19:04:02.7±0.9, 36°.83N×70°.37E, h204km±14km, mb2.6, mpv3.6, Error ellipse: s-maj=11.0km s-min=9.2km az=106.0*

ISC 05 19:03:59.5±0.8, **36°.55N**±0°.07×**70°.44E**±0°.09, **h204km, n27, σ1s.09**/31, **mb3.2**/4, **5C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	4.21	34	⇓P	Pn	19 05 04.9	+0.7
	2.3nm,0.3s						
SFK				⇑S	S	19 05 54.8	+0.1
	16nm,0.5s						
AML	Almayashu	6.12	23	P	Pn	19 05 29.0	+0.4
	SNR=46						
UCH	Uchtor	6.49	28	P	Pn	19 05 34.0	+0.6
	SNR=23						
KK31	Karatay Array	6.55	0	P	Pn	19 05 33.7	-0.1
	1.3nm,0.3s,baz=177,slow=11,SNR=78						
KK31				⇑S	S	19 06 45.4	-3.0
	1.0nm,0.3s,baz=297,slow=11,SNR=7.5						
EKS2	Erkin-Say	6.63	22	P	Pn	19 05 35.5	+0.6
	SNR=6.1						
AAK	Ala-Archa	6.84	26	P	Pn	19 05 38.4	+0.7
	SNR=6.6						
AAK	Ala-Archa	6.84	26	⇓P	Pn	19 05 38.0	+0.3
	1.0nm,0.2s						
AAK				⇑S	S	19 06 54.3	-1.2
	5.7nm,0.5s						
KBK	Karagaybulak	7.02	28	P	Pn	19 05 40.9	+0.8
	SNR=5.0						
TKM2	Tokmak 2	7.50	30	P	Pn	19 05 47.0	+0.7
	SNR=15						
TKM2	Tokmak 2	7.50	30	⇓P	Pn	19 05 46.8	+0.4
	5.9nm,0.5s						
TKM2				⇑S	S	19 07 09.9	-1.3
	2.1nm,0.7s						
MKAR	Makanchi Array	13.52	37	P	Pn	19 07 04.4	+1.3
	0.2nm,0.3s,baz=222,slow=14,SNR=13						
PYUN	Piuthan	13.54	125	eP	Pn	19 07 02.5	-1.2
	6.0nm,0.4s						
DANN	Dangsing	13.89	122	eP	Pn	19 07 07.5	-0.7
	9.7nm,0.5s						
AB31	Akbulak array	14.83	332	P	Pn	19 07 18.5	-0.7
	0.7nm,0.5s,baz=146,slow=13,SNR=32						
DMN	Daman	15.28	122	eP	Pn	19 07 24.5	-0.7
	3.1nm,0.3s						
PKIN	Phulchoki	15.50	121	eP	Pn	19 07 28.0	+0.1
	8.4nm,0.5s						
PKI	Pulchoki	15.51	121	eP	Pn	19 07 28.1	0.0
	9.2nm,0.5s						
GUN	Gumba	15.63	119	eP	P	19 07 30.4	+0.9
	5.7nm,0.4s						
JIRN	Jiri	16.00	119	eP	P	19 07 34.1	+0.5
	24nm,0.4s						
AKTO	Aktyubinsk	16.52	331	P	P	19 07 39.5	+0.9
	0.2nm,0.3s,baz=141,slow=11,SNR=13						
AKTO	Aktyubinsk	16.52	331	⇑P	P	19 07 39.5	+0.9
	2.8nm,0.8s						
RAMN	Ramite	16.73	120	eP	P	19 07 42.0	+0.6
	6.6nm,0.4s						
ZALV	Zalesovo Beam	20.06	25	P	P	19 08 18.4	+1.5
	1.3nm,0.4s,baz=218,slow=9.7,SNR=8.1						
HFS	Hagfors	42.75	322	P	P	19 11 38.2	+1.8
	3.5nm,1.0s,baz=113,slow=11,SNR=2.6						
TORD	Torodi Ar. Bea	65.27	268	P	P	19 14 19.5	-0.2
	0.1nm,0.4s,baz=58,slow=6.7,SNR=1.5						
WRA	Warramunga Arr	82.40	122	P	P	19 15 57.4	-1.5
	0.4nm,0.8s,baz=321,slow=4.2,SNR=2.0						
ASAR	Alice Springs	84.65	125	P	P	19 16 08.8	-1.5
	0.5nm,1.0s,baz=318,slow=4.8,SNR=2.0						

IDC 05 19:07:32.8±2.0, **4°.45N**×**127°.14E, h0km, mb3.4**/4, **mb1 3.6**/4, **mb1mx3.4**/36, **mbtmp3.4**/4, **Error ellipse: s-maj=109.1km s-min=25.4km az=70.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.46	184	P	P	19 12 34.5	+0.9
	1.3nm,0.8s,baz=30,slow=8.1,SNR=3.6						
WRA	Warramunga Arr	25.25	164	P	P	19 13 00.0	-0.8
	1.6nm,0.9s,baz=343,slow=10,SNR=7.8						
ASAR	Alice Springs	28.72	167	P	P	19 13 32.1	+0.1
	0.2nm,0.8s,baz=346,slow=9.5,SNR=5.8						
MKAR	Makanchi Array	57.20	325	P	P	19 17 21.8	0.0
	0.3nm,0.6s,baz=117,slow=8.3,SNR=5.1						

SJA 05 19:27:09.6±0.7, **33°.30S**×**68°.40W, h20km**±4km, **ML3.5, MW3.9, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AVIZ	Vizcacheras	0.20	209	i P	Pg	19 27 15.4	+0.5
AAGR	Agrelo	0.42	300	i P	Pb	19 27 18.6	+0.2
ARCO	CERRO ARCO	0.64	315	i P	Pg	19 27 22.5	+0.1
ARCO				i S	Sg	19 27 31.9	+0.9
ARCO				IAML		19 27 35.1	
	comp=Z,2µm,0.6s						
ASAL	Salagasta	0.79	332	i P	Pn	19 27 25.7	-0.1
AUSP	Uspallata	1.36	322	i P	Pg	19 27 35.9	0.0
AUSP				i S	Sg	19 27 54.9	+1.2
RTCV	Cerro Valdivia	1.44	355	i P	Pb	19 27 36.5	+0.7
RTCV				i S	Sg	19 27 57.1	+1.0
RTLS	Leoncito	1.68	333	i P	Pb	19 27 40.5	+0.5
RTLS				i S	Sg	19 28 03.6	-0.2
RTLS				IAML		19 28 05.9	
	comp=Z,428nm,0.7s						
MRA	San Martin	2.42	70	i P	Pn	19 27 50.3	+2.1
MRA				IAML		19 28 28.5	
	comp=Z,364nm,0.3s						

MAN 05 19:34:43.2, 6°.87N×**125°.90E, h4km, mb4.1, ML2.9, MS2.5, 3C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	0.36	78	eP	Pg	19 34 50.6	+0.5
MATI				eS	Sb	19 34 57.5	-0.8
DMPH	Davao City--Mi	0.44	299	⇑eP	Pn	19 35 01.7	+5.3
DMPH				eS	Sb	19 35 14.4	+14
GSPH	General Santos	1.22	231	⇑iP	Pg	19 35 03.8	-2.8
GSPH				i S	Sg	19 35 18.5	-4.0
BIPH	Bislig	1.38	19	⇑iP	Pn	19 35 08.8	-0.5
BIPH				i S	Sn	19 35 28.5	+0.4
SKMP	Bagumbayan, Su	1.39	256	eP	Pn	19 35 08.2	-1.2

PGC 05 19:39:51.8±2.5, **52°.61N**×**132°.71W, h32km, ML3.5**/8, **92km southwest of Sandspit, Bc Haida Gwaii Region, Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HG1B	Mitchell Dam	0.48	47	P	Pb	19 40 02.0	+0.1
HG1B				S	Sb	19 40 09.2	+0.3
BNB	Barry Inlet	0.58	93	P	Pb	19 40 03.6	-0.1
BNB				S	Sb	19 40 10.6	-1.2
DIB	Dawson Inlet,	0.61	13	P	Pb	19 40 03.4	-0.6
DIB				S	Sb	19 40 11.2	-1.2
MOBC	Moresby Island	0.70	40	P	Pn	19 40 05.4	-0.1
MOBC				S	Sb	19 40 11.9	-3.0
HG3B	Hotspring	0.77	92	P	Pn	19 40 06.4	+0.1
HG3B				S	Sn	19 40 16.6	-0.3
NDB	Naden	1.35	354	Pn	Pn	19 40 14.2	-0.3
NDB				Sn	Sn	19 40 30.2	-1.1
MASB	Masset	1.46	16	Pn	Pb	19 40 18.2	-0.1
RUBB	Prince Rupert	2.26	40	Pn	Pn	19 40 27.8	+1.0
BBB	Bella Bella	2.85	97	Pn	Pn	19 40 35.7	+0.8
WOSB	Woss	4.56	120	Pn	Pn	19 40 57.9	-0.6
FSB	Fort Saint Jam	5.33	66	Pn	Pn	19 41 09.8	+0.7
FSB				Pg	Pb	19 41 32.7	+8.5
FSB				Sg	Sb	19 42 35.7	+8.1

*IDC **05** 19:50:04.8±1.1, 13°.40N×91°.40W, h0km, mb4.2/12, mb1 4.4/14, mb1mx4.1/39, mbtmp4.2/14, ML4.2/2, MS3.6/6, Ms1 3.6/6, ms1mx3.1/51, Error ellipse: s-maj=25.8km s-min=18.9km az=35.0*

*UCR **05** 19:50:11.6±3.0, 13°.77N×91°.38W, h8km±29km, ML4.1, mb4.3(NEIC)*

*NEIC **05** 19:50:13.1±0.4, 13°.72N×91°.45W, h35km, mb4.3/89, MD4.1(MEX), Error ellipse: s-maj=7.8km s-min=4.4km az=204.0*

*MEX **05** 19:50:19.0±0.3, 14°.14N×91°.94W, h66km±11km, MD4.1*

ISC 05 19:50:12.4±1.2, **13°.66N**±0°.07×**91°.59W**±0°.05, **h46km**±11km, **n242, σ1s.99**/256, **mb4.3**/89, **MS3.6**/6, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		1.41	332	eP	Pn	19 50 33.7	-1.9
THIG				i S	Sn	19 50 45.3	-7.7
APG	El Apazote	1.73	39	Pn	Pn	19 50 39.8	-0.4
	107nm,0.3s,baz=209,slow=15,SNR=712						
APG				Sn	Sn	19 51 02.4	+1.2
	302nm,0.3s,baz=304,slow=7.3,SNR=9.3						
RTR	El Retiro	1.90	83	eP	Pn	19 50 41.0	-1.6
CEVE	Cerro Verde	1.92	85	eP	Pn	19 50 41.1	-1.7
SBLS	San Blas	1.92	84	eP	Pn	19 50 40.8	-2.0
SBLS				eP	Pn	19 50 42.0	-0.8
SNJE	San Jose	1.94	84	eP	Pn	19 50 41.2	-1.8
CEDA	San Andres	2.14	86	eP	Pn	19 50 44.4	-1.2
	comp=Z,5µm,0.5s						
CEDA				eS	Sn	19 51 09.3	-1.7
CEDA				IAML		19 51 24.1	
	comp=Z,5µm,0.5s						
BOQS	Boqueron	2.24	88	eP	Pn	19 50 45.9	-1.4
BOQS				eS	Sn	19 51 12.6	-1.4
SNET	Serv Nac Est T	2.29	89	eP	Pn	19 50 46.3	-1.5
SNET				eP	Pn	19 50 46.5	-1.3
SNET				eS	Sn	19 51 13.0	-1.9
SNET				eS	Sn	19 51 13.5	-1.4
OPAM	San Salvador	2.32	88	eP	Pn	19 50 47.5	-0.7
LOMA	San Marcos	2.35	90	eP	Pn	19 50 47.1	-1.4
LOMA				eS	Sn	19 51 15.5	-0.6
LOMA				IAML		19 51 26.4	
	comp=Z,5µm,0.5s						
LFU	La Fuente	2.41	88	eP	Pn	19 50 48.8	-0.6
LFRS	El Faro	2.46	90	eP	Pn	19 50 48.9	-1.2
LBRS	Las Brisas	2.47	88	eP	Pn	19 50 49.8	-0.6
PAVA	Las Pavas	2.58	88	eP	Pn	19 50 50.7	-1.1
CCIG	Comitan	2.66	349	ePn	Pn	19 50 54.2	+1.1
CCIG	Comitan	2.66	349	eP	Pn	19 50 51.8	-1.3
CCIG				i S	Sn	19 51 16.2	-8.0
PACA	Pacayal	3.18	93	eP	Pn	19 50 59.3	-0.8
PACA				eS	Sn	19 51 42.8	+5.9
LCY	Lacayo	3.21	94	eP	Pn	19 51 00.5	0.0
VSM	San Miguel	3.23	94	eP	Pn	19 51 00.6	-0.3
VSM				eP	Pn	19 51 00.8	-0.1
CAHU	Cacacuatique	3.28	88	eP	Pn	19 51 00.5	-1.1
LCND	La Caada	3.61	95	eP	Pn	19 51 05.1	-0.8
LCND				IAML		19 51 59.5	
	comp=Z,1µm,0.8s						
CNCH	Conchagua	3.67	95	eP	Pn	19 51 06.6	-0.2
TGUH	Tegucigalpa,Un	4.21	84	ePn	Pn	19 51 13.9	-0.2
CRIN	San Cristobal	4.52	102	eP	Pn	19 51 19.2	+0.8
CRIN				eS	Sn	19 52 09.6	-0.2
CRIN				IAML		19 52 27.2	
	comp=N,858nm,0.5s						
CMIG	Matias Romero	4.67	317	Pn	Pn	19 51 20.3	-0.1
	comp=N,5.2nm,0.3s,baz=132,slow=11,SNR=39						
CMIG				Sn	Sn	19 52 18.3	+5.0
	comp=N,13nm,0.3s,baz=67,slow=21,SNR=6.1						
CMIG	Matias Romero	4.67	317	eP	Pn	19 51 18.6	-1.8
CMIG				i S	Sn	19 52 04.0	-9.3
CNGN	Cerro Negro	4.90	103	eS	Sn	19 52 17.3	-1.9
CNGN				IAML		19 52 36.5	
	comp=N,192nm,0.7s						
MOMN	Momotombo	5.07	104	eP	Pn	19 51 25.7	-0.3
ESTN	Estel	5.11	96	ePn	Pn	19 51 26.1	-0.4
ESTN				eSn	Sn	19 52 22.2	-2.1
ESTN	Estel	5.11	96	eP	Pn	19 51 26.2	-0.4
ESTN				eS	Sn	19 52 22.9	-1.4
BOAB	BOACO BROADBAN	5.89	101	ePn	Pn	19 51 37.2	0.0
BOAB				eSn	Sn	19 52 46.3	+2.8
BOAB	BOACO BROADBAN	5.89	101	eP	Pn	19 51 36.6	-0.6
VHO	Vista Hermosa	6.01	305	i P	Pn	19 51 37.7	-1.4
VHO				i S	Sn	19 52 38.5	-8.3
ESPN	Las Esperanzas	7.25	101	ePn	Pn	19 51 56.8	+1.0
TEIG	Tepich	7.26	25	ePn	Pn	19 51 56.6	+0.6
TEIG				eSn	Sn	19 53 15.2	-2.0
TEIG	Tepich	7.26	25	eP	Pn	19 51 56.5	+0.6

JTS JuntasAbangare 7.30 117 Pn Pn 19 51 58.0 +1.4
comp=N,3.3nm,0.3s,baz=8.9,slow=12,SNR=8.5
JTS Pg 19 52 09.0
comp=N,5.2nm,0.3s,baz=349,slow=9.3,SNR=14
JTS Sn Sn 19 53 12.3 -5.9
comp=N,1.2nm,0.3s,baz=68,slow=19,SNR=1.7
JTS Lg Lg 19 53 39.0
comp=N,2.4nm,0.3s,baz=252,slow=20,SNR=5.8
MYIG Mrida 7.47 13 *e*Pn Pn 19 51 59.3 +0.4
TLIG Tlapa 7.76 301 *e*Pn Pn 19 52 05.6 +2.6
TLIG *e*Sn Sn 19 53 35.7 +6.0
553A Crawfordville 17.73 21 P P 19 54 17.6 +1.3
baz=203
346A Big Creek Wild 17.76 6 *e*Pn P 19 54 17.6 +1.0
comp=N,62nm,1.4s
435B Jarrell 17.92 343 *e*Pn P 19 54 19.9 +1.5
comp=N,10nm,1.0s
555A McAlpin 18.22 25 *e*Pn Pn 19 54 22.3 +0.4
comp=N,60nm,0.8s
555A McAlpin 18.22 25 P Pn 19 54 24.9 +3.0
baz=207
NATX Nacogdoches 18.24 352 *e*P Pn 19 54 23.3 +1.2
comp=N,16nm,0.8s
454A Quitman 18.49 22 P Pn 19 54 28.9 +3.7
baz=205
WHTX Lake Whitney, 19.03 345 *e*P Pn 19 54 32.1 +0.4
comp=N,8.0nm,0.8s
ROSC El Rosal 19.15 116 *e*P P 19 54 31.6 -0.9
comp=N,6.9nm,0.9s
LTX Lajitas 19.20 326 *e*P Pn 19 54 34.6 +0.8
TX31 Lajitas Ar. Si 19.20 326 *e*P Pn 19 54 35.0 +1.1
TXAR Lajitas Array 19.20 326 P Pn 19 54 34.7 +0.8
comp=N,0.2nm,0.3s,baz=152,slow=11,SNR=47
150A Eclectic 19.54 14 P Pn 19 54 36.8 -0.9
baz=196
151A Opelika 19.64 16 P Pn 19 54 38.1 -0.9
baz=198,SNR=6.8
LRAL Lakeview Retre 19.74 11 *e*P Pn 19 54 39.3 -0.8
comp=N,18nm,1.3s
152A Waverly Hall 19.94 17 *e*P Pn 19 54 41.2 -1.3
comp=N,23nm,1.5s
Z49A Columbiana 19.99 12 P Pn 19 54 42.3 -0.8
baz=194
ABTX Abilene, Hawle 20.27 340 *e*P Pn 19 54 45.4 -1.0
comp=N,12nm,0.9s
Z52A Williamson 20.51 17 P P 19 54 47.5 +0.8
baz=200
Y49A Blount Mountai 20.65 12 *e*P P 19 54 48.9 +0.6
comp=N,9.7nm,0.8s
Y49A Blount Mountai 20.65 12 P P 19 54 48.8 +0.5
baz=194
Y50A Piedmont 20.84 14 P Pn 19 54 51.5 -1.6
baz=196
Z53A Monticello 20.86 19 P P 19 54 50.1 -0.4
baz=202
MIAR Mount Ida 20.88 355 *e*P Pn 19 54 52.7 -0.9
comp=N,8.6nm,1.0s
Y51A Rockmart 21.01 15 P P 19 54 52.3 +0.2
baz=198
GOGA Godfrey 21.01 19 *e*P P 19 54 52.9 +0.7
comp=N,17nm,1.3s
GOGA Godfrey 21.01 19 P P 19 54 52.8 +0.7
baz=202
UALR University of 21.04 358 *e*P P 19 54 54.4 +2.1
comp=N,9.4nm,0.6s
SDV Santo Domingo 21.08 101 P P 19 54 50.6 -2.7
comp=N,2.0nm,0.4s,baz=296,slow=11,SNR=2.5
SDV Santo Domingo 21.08 101 *e*P P 19 54 53.1 -0.1
comp=N,4.8nm,0.7s
Y52A Lilburn 21.25 17 *e*P P 19 54 55.5 +0.8
comp=N,9.8nm,0.8s
Y52A Lilburn 21.25 17 P P 19 54 55.5 +0.8
baz=200
Y53A Monroe 21.38 19 P P 19 54 56.1 0.0
baz=201
X50B Fort Payne 21.40 14 P P 19 54 56.1 -0.3
baz=196
W41B Gary Mavity, V 21.43 359 *e*P P 19 54 57.6 +1.0
comp=N,13nm,1.4s
W41B Gary Mavity, V 21.43 359 P P 19 54 56.8 +0.2
baz=178
W42A Bald Knob 21.52 0 P P 19 54 59.3 +1.7
baz=180
WHAR Wooly Hollow 21.55 358 *e*P P 19 54 59.5 +1.6
comp=N,5.4nm,0.8s
W47A Westpoint 21.80 9 P P 19 54 59.6 -1.0
baz=190
GDL2 Guadalupe Moun 21.85 330 *e*P P 19 55 03.3 +2.0
MNTX Cornudas Mount 21.97 327 *e*P P 19 55 03.8 +1.3
comp=N,12nm,0.8s
MNTX Cornudas Mount 21.97 327 P P 19 55 03.4 +1.0
baz=142,SNR=22
WMOK Wichita Mounta 21.98 344 *e*P P 19 55 02.9 +0.5
comp=N,11nm,1.4s
WMOK Wichita Mounta 21.98 344 P P 19 55 02.9 +0.5
baz=161
X52A Dahlonega 21.99 17 P P 19 55 02.6 0.0
baz=200
V41A Mountainview 22.04 359 P P 19 55 01.8 -1.3
baz=178
V42A Cord 22.06 0 P P 19 55 02.7 -0.6
baz=180,SNR=8.5
SWET Sewanee 22.07 12 *e*P P 19 55 03.4 -0.1
comp=N,20nm,1.5s
HODGE Hodges 22.16 21 *e*P P 19 55 04.0 -0.4
comp=N,7.1nm,0.8s
W50A Signal Mountai 22.19 14 *e*P P 19 55 04.8 0.0
comp=N,11nm,1.1s
V46A Holladay 22.27 7 P P 19 55 03.9 -1.7
baz=189
U41A Viola 22.59 359 P P 19 55 09.2 +0.1
baz=179
U42A Revenden 22.60 1 P P 19 55 07.7 -1.4
baz=180,SNR=12
V49A McMinnville 22.60 12 P P 19 55 08.5 -0.7
baz=194
MSTX Muleshoe 22.63 335 *e*P P 19 55 11.2 +1.6
comp=N,8.0nm,0.7s
MSTX Muleshoe 22.63 335 P P 19 55 09.8 +0.2
baz=150
WVT Waverly 22.63 8 *e*P P 19 55 09.5 +0.1
comp=N,6.6nm,1.1s
WVT Waverly 22.63 8 P P 19 55 08.7 -0.8
baz=189
U40A Yellville 22.63 357 P P 19 55 08.0 -1.5
baz=176
BG3 Lake Jocassee 22.64 19 *e*P P 19 55 09.9 +0.3
comp=N,8.7nm,0.7s
U43A Rector 22.64 2 P P 19 55 08.9 -0.7
baz=183
TKL Tuckaleechee C 23.01 16 P P 19 55 13.2 -0.3
comp=N,7.9nm,0.6s,baz=180,slow=11,SNR=17
TKL Tuckaleechee C 23.01 16 *e*P P 19 55 13.5 +0.1
comp=N,9.5nm,0.6s
AMTX Amarillo 23.02 338 *e*P P 19 55 14.0 +0.4
comp=N,13nm,0.8s
AMTX Amarillo 23.02 338 P P 19 55 12.6 -1.1
baz=154
V52A Sevierville 23.23 17 P P 19 55 14.6 -1.0
baz=200
T42A Van Buren 23.28 1 *e*P P 19 55 14.7 -1.3
comp=N,6.7nm,0.7s
T42A Van Buren 23.28 1 P P 19 55 14.5 -1.6
baz=181,SNR=7.3
T41A Mountain View 23.29 360 P P 19 55 15.3 -0.8
baz=179,SNR=10
V53A Saluda 23.30 18 *e*P P 19 55 15.7 -0.6
comp=N,9.9nm,0.7s
V53A Saluda 23.30 18 P P 19 55 15.8 -0.5
baz=202
KMSC Kings Mountain 23.31 22 *e*P P 19 55 16.0 -0.4
comp=N,17nm,0.9s
KMSC Kings Mountain 23.31 22 P P 19 55 16.5 +0.1
baz=206
U49A Red Boiling Sp 23.35 12 P P 19 55 15.7 -1.0
baz=194
T43A Greenville 23.36 3 P P 19 55 15.1 -1.7
baz=183
U50A Jamestown 23.46 14 P P 19 55 17.2 -0.6
baz=196,SNR=5.3
U51A La Follette 23.62 15 P P 19 55 18.4 -1.0
baz=198
U52A Thorn Hill 23.81 17 P P 19 55 19.5 -1.6
baz=200
S41A Jillco Farms, 23.83 360 P P 19 55 20.3 -1.0
baz=179,SNR=8.9
TZTN Tazewell 23.90 16 *e*P P 19 55 21.8 -0.2
comp=N,7.5nm,0.6s

121A Cookes Peak, D 23.92 324 P P 19 55 25.7 +3.3
baz=138,SNR=7.1
319A Douglas 23.98 320 *e*P P 19 55 25.7 +2.8
comp=N,14nm,0.9s
S42A Caledonia 24.03 2 P P 19 55 21.2 -1.8
baz=182
S44A Carbondale 24.03 5 P P 19 55 23.2 +0.2
baz=185
T50A Nancy 24.04 13 P P 19 55 21.9 -1.3
baz=196
SIUC Southern Illin 24.05 5 *e*P P 19 55 24.0 +0.8
comp=N,14nm,0.8s
S47A Hartford 24.21 9 P P 19 55 25.1 +0.4
baz=191
CCM Cathedral Cave 24.30 1 *e*P P 19 55 25.5 0.0
comp=N,13nm,0.9s
CCM Cathedral Cave 24.30 1 P P 19 55 25.2 -0.4
baz=180
R41A Rosebud 24.54 0 P P 19 55 26.2 -1.5
baz=180,SNR=13
BNM Barren Site 24.54 329 *e*P P 19 55 30.1 +2.0
R43A Red Bud 24.57 3 P P 19 55 26.8 -1.1
baz=184
T52A Hallie 24.59 17 P P 19 55 27.2 -1.0
baz=200
LPM Los Pinos Moun 24.67 329 *e*P P 19 55 32.0 +2.7
R45A Skylar, Fairfi 24.71 6 P P 19 55 29.7 +0.5
baz=187
LENM Lemitar 24.73 328 *e*P P 19 55 32.1 +2.3
SJG San Juan 24.85 76 LR LR 20 05 46.1
comp=N,140nm,18.9s,baz=125,slow=38
WCI Wyandotte Cave 24.92 10 P P 19 55 30.1 -1.1
baz=192
ANMO Albuquerque 25.10 330 P P 19 55 34.8 +1.7
comp=N,3.9nm,0.7s,baz=145,slow=11,SNR=16
ANMO Albuquerque 25.10 330 *e*P P 19 55 35.0 +1.9
comp=N,3.7nm,0.8s
ANMO Albuquerque 25.10 330 P P 19 55 35.2 +2.1
baz=144
Q42A Golden Eagle 25.17 2 P P 19 55 32.4 -1.0
baz=182
Q41A Truxton 25.20 1 P P 19 55 33.0 -0.7
baz=180,SNR=6.7
TUC Tucson 25.55 320 *e*P P 19 55 39.9 +2.8
comp=N,7.2nm,0.9s
TUC Tucson 25.55 320 P P 19 55 40.4 +3.3
baz=132
P42A Winchester 25.85 2 *e*P P 19 55 40.4 +0.7
comp=N,7.6nm,0.6s
P42A Winchester 25.85 2 P P 19 55 39.9 +0.2
baz=182
T25A Trinidad 26.04 336 *e*P P 19 55 43.7 +2.1
comp=N,4.7nm,0.8s
T25A Trinidad 26.04 336 P P 19 55 44.2 +2.5
baz=150
Q51A Peebles 26.30 15 P P 19 55 42.5 -1.2
baz=198
SDCO Great Sand Dun 27.00 335 *e*P P 19 55 52.3 +1.9
comp=N,4.1nm,1.4s
SDCO Great Sand Dun 27.00 335 P P 19 55 52.9 +2.6
baz=149
X16A Lo Mia Camp, P 27.39 322 *e*P P 19 55 56.6 +2.8
comp=N,3.1nm,0.8s
S22A 4UR Ranch, Cre 27.56 333 *e*P P 19 55 57.1 +1.7
comp=N,6.0nm,1.4s
S22A 4UR Ranch, Cre 27.56 333 P P 19 55 57.1 +1.7
baz=146
MVCO Mesa Verde 27.90 330 *e*P P 19 56 00.3 +2.0
comp=N,8.7nm,1.0s
MVCO Mesa Verde 27.90 330 P P 19 56 00.4 +2.1
baz=143
WUAZ Wupatki 28.13 324 *e*P P 19 56 02.5 +2.2
comp=N,5.3nm,0.9s
PV12 Saucer Basin, 28.93 331 *e*P P 19 56 09.3 +1.8
comp=N,23nm,1.6s
U15A North Rim 29.30 324 *e*P P 19 56 13.8 +2.9
comp=N,2.9nm,0.9s
W13A Hualapai Mount 29.34 321 *e*P P 19 56 13.5 +2.4
comp=N,3.3nm,0.9s
NNA Nana 29.38 149 LR LR 20 05 50.8
comp=N,46nm,18.9s,baz=308,slow=32
BC3 Big Chuckawall 29.44 317 P P 19 56 14.9 +3.0
baz=127
KNB Kanab 30.02 325 *e*P P 19 56 20.5 +3.4
comp=N,4.6nm,0.9s
PKCU Pink Cliffs 30.04 326 *e*P P 19 56 21.1 +3.7
comp=N,3.8nm,0.9s
LDFC Landfair 30.09 319 *e*P P 19 56 21.9 +4.2
comp=N,6.3nm,1.0s
GMRC Granite Mounta 30.26 318 P P 19 56 22.6 +3.4
baz=128
MTPU Mount Pierson 30.41 327 *e*P P 19 56 24.5 +3.7
comp=N,6.0nm,0.8s
Q16A Castle Valley 30.54 329 *e*P P 19 56 25.0 +3.2
comp=N,20nm,1.6s
CCUT Cedar City 30.70 325 *e*P P 19 56 27.1 +3.9
comp=N,6.6nm,1.0s
MSU Marysvale 30.75 327 *e*P P 19 56 26.9 +3.2
P17A Butcher Ranch, 30.76 330 *e*P P 19 56 26.4 +2.7
comp=N,6.0nm,1.0s
TMUT Trail Mountain 30.85 329 *e*P P 19 56 27.1 +2.4
comp=N,2.7nm,0.9s
TCRU Three Creeks R 30.97 327 *e*P P 19 56 28.4 +2.8
comp=N,6.8nm,0.8s
SHPR Sheep Range 31.04 321 *e*P P 19 56 29.8 +3.7
comp=N,2.9nm,1.0s
PSUT Pine Spring 31.67 326 *e*P P 19 56 35.3 +3.6
comp=N,6.7nm,0.9s
MPMC Manual Prospec 32.22 318 P P 19 56 39.8 +3.2
baz=127
DUG Dugway, Tooele 32.34 329 *e*P P 19 56 39.2 +1.7
comp=N,8.2nm,1.5s
HWUT Hardware Ranch 32.83 332 *e*P P 19 56 44.4 +2.7
comp=N,3.4nm,1.0s
PD31 Pinedale Array 32.90 335 *e*P P 19 56 43.5 +1.1
PDAR Pinedale Array 32.90 335 P P 19 56 43.1 +0.7
comp=N,0.6nm,0.6s,baz=121,slow=9.7,SNR=4.7
PDAR Pinedale Array 32.90 335 *e*P P 19 56 44.4 +1.9
BGU Big Grassy Mou 33.00 329 *e*P P 19 56 46.0 +2.8
comp=N,4.1nm,0.7s
HVU Hansel Valley 33.53 331 *e*P P 19 56 50.5 +2.6
comp=N,4.1nm,0.9s
REDW Red Top Meadow 33.92 334 *e*P P 19 56 52.6 +1.2
comp=N,7.4nm,0.8s
SNOW Snow King Moun 33.97 335 *e*P P 19 56 53.4 +1.6
ELK Elko 34.00 327 P P 19 56 54.6 +2.5
comp=N,3.8nm,0.9s,baz=143,slow=6.4,SNR=11
ELK Elko 34.00 327 *e*P P 19 56 54.6 +2.5
comp=N,3.0nm,0.8s
LOHW Long Hollow 34.03 335 *e*P P 19 56 54.3 +2.1
comp=N,3.0nm,0.8s
TPAW Teton Pass 34.07 334 *e*P P 19 56 55.0 +2.3
comp=N,6.0nm,1.2s
NV11 Mina Array Sit 34.10 321 *e*P P 19 56 56.3 +3.4
comp=N,0.4nm,1.0s
NV01 Mina Array Sit 34.19 321 *e*P P 19 56 56.4 +2.7
NVAR Mina Array Bea 34.19 321 P P 19 56 56.3 +2.5
comp=N,3.8nm,0.7s,baz=132,slow=8.4,SNR=19
NVAR LR LR 20 12 25.0
comp=N,122nm,19.2s,baz=101,slow=39
KVN Kaiserville 34.46 322 *e*P P 19 56 58.8 +2.8
comp=N,8.4nm,1.2s
RLMT Red Lodge 34.77 338 *e*P P 19 56 59.9 +1.2
comp=N,5.1nm,1.3s
BMN Battle Mountai 34.86 325 *e*P P 19 57 02.3 +2.9
comp=N,3.8nm,0.8s
LAO LASA Array 35.15 342 P P 19 57 04.8 +3.1
baz=155
HLID Hailey 35.67 331 *e*P P 19 57 08.1 +1.7
comp=N,3.7nm,0.8s
HLID Hailey 35.67 331 P P 19 57 09.0 +2.6
baz=140,SNR=8.8
MCMT McKenzie Canyo 35.95 334 *e*P P 19 57 10.7 +1.8
BOZ Bozeman (W) 36.08 336 P P 19 57 12.1 +2.3
baz=145
MFID Camas Ranch 36.24 330 *e*P P 19 57 13.0 +1.8
comp=N,9.2nm,1.1s
J08A Circle Bar Ran 37.55 327 *e*P P 19 57 24.0 +1.7
comp=N,20nm,0.8s
MSO Missoula 38.01 335 *e*P P 19 57 27.3 +1.1
comp=N,4.0nm,0.8s
BMO Blue Mountains 38.02 330 *e*P P 19 57 27.5 +1.3
comp=N,9.9nm,1.4s
F10A Beach Ranch, E 38.80 331 *e*P P 19 57 34.0 +1.2
comp=N,20nm,0.7s
PINE Pine Mountain 39.16 326 *e*P P 19 57 37.8 +1.8
comp=N,8.7nm,1.0s
H04A Detroit Lake 40.42 326 *e*P P 19 57 48.1 +1.9

comp=N,9.1nm,0.7s
NEW Newport 40.48 334 P P 19 57 48.0 +1.3
comp=N,2.1nm,0.7s,baz=144,slow=11,SNR=4.1
C09A Chrisman Ranch 40.64 332 *e*P P 19 57 48.9 +1.0
comp=N,9.3nm,0.8s
B08A Colville Reser 41.53 332 *e*P P 19 57 56.1 +0.8
comp=N,3.9nm,0.8s
LON Longmire 41.59 329 *e*P P 19 57 57.3 +1.5
comp=N,12nm,1.0s
SIV San Ignacio 42.16 133 P P 19 58 01.2 +0.3
comp=N,1.4nm,0.8s,baz=321,slow=6.5,SNR=4.0
SCHQ Schefferville 45.41 20 P P 19 58 24.1 -2.2
comp=N,8.2nm,0.9s,baz=230,slow=11,SNR=3.6
SCHQ LR LR 20 18 23.5
comp=N,172nm,18.4s,baz=336,slow=37
YKA Yellowknife Ar 51.45 347 P P 19 59 12.2 -0.5
comp=N,1.8nm,0.6s,baz=151,slow=7.6,SNR=20
YKB5 Yellowknife Ar 51.45 347 *e*P P 19 59 12.2 -0.5
YKW3 Yellowknife Ar 51.51 347 *e*P P 19 59 12.6 -0.6
comp=N,6.6nm,1.1s
FRB Frobisher Bay 52.56 13 LR LR 20 22 10.0
comp=N,30nm,18.5s,baz=1.0,slow=36
INK Inuvik 60.88 343 P P 20 00 19.9 -0.1
comp=N,4.1nm,1.0s,baz=131,slow=8.2,SNR=5.2
INK Inuvik 60.88 343 *e*P P 20 00 19.8 -0.1
comp=N,15nm,1.4s
RES Resolute Bay 61.05 359 P P 20 00 18.9 -2.1
comp=N,0.8nm,0.5s,baz=186,slow=10,SNR=5.1
RES Resolute Bay 61.05 359 *e*P P 20 00 19.4 -1.6
comp=N,4.1nm,1.4s
KLU Klutina 61.46 334 *e*P P 20 00 25.0 +0.9
comp=N,12nm,1.2s
KDAK Kodiak Island 63.22 328 P P 20 00 36.8 +1.0
comp=N,7.7nm,0.9s,baz=96,slow=4.9,SNR=4.5
KDAK Kodiak Island 63.22 328 *e*P P 20 00 36.6 +0.8
comp=N,96nm,1.5s
IL1 Eielson Array 63.31 337 *e*P P 20 00 36.3 0.0
ILAR Eielson Array 63.31 337 P P 20 00 36.8 +0.4
comp=N,3.1nm,0.9s,baz=117,slow=5.8,SNR=13
ILB Eielson Array 63.31 337 *e*P P 20 00 36.3 0.0
RND Reindeer 63.51 335 *e*P P 20 00 38.7 +0.9
comp=N,25nm,1.5s
SUA Susitna One 63.57 333 *e*P P 20 00 38.9 +0.7
comp=N,44nm,1.5s
MDM Murphy Dome 63.91 337 *e*P P 20 00 40.1 -0.2
comp=N,6.7nm,1.2s
TRF Thorofare Moun 64.12 335 *e*P P 20 00 41.8 -0.1
comp=N,30nm,1.5s
PPLA Purkeypile 64.72 334 *e*P P 20 00 46.1 +0.3
comp=N,17nm,1.3s
MLY Manley 64.91 336 *e*P P 20 00 47.2 +0.3
comp=N,11nm,1.1s
SVW2 Sparrevohn 65.66 331 *e*P P 20 00 52.2 +0.5
comp=N,9.3nm,1.2s
JMIC Jan Mayen 74.93 20 LR LR 20 34 33.0
comp=N,39nm,18.1s,baz=246,slow=36
TORD Torodi Ar. Bea 90.07 77 P P 20 03 05.0 -3.1
comp=N,0.2nm,0.5s,baz=297,slow=6.3,SNR=2.2
KURBB Kurchatov Arra 115.41 7 PKP PKPdf 20 08 49.4 +0.2
comp=N,0.2nm,0.4s,baz=356,slow=1.6,SNR=3.6
MKAR Makanchi Array 119.58 5 PKP PKPdf 20 08 57.3 -0.1
comp=N,0.2nm,0.5s,baz=304,slow=2.8,SNR=3.4
WRA Warramunga Arr 135.70 255 PKP PKPdf 20 09 29.1 +0.3
comp=N,0.6nm,1.1s,baz=96,slow=2.8,SNR=4.2
ASAR Alice Springs 135.93 250 PKP PKPdf 20 09 28.1 -1.0
comp=N,0.7nm,1.1s,baz=106,slow=3.0,SNR=3.3
CMAR Chiang Mai Arr 146.44 342 PKPbc PKPbc 20 09 49.5 +0.1
comp=N,5.6nm,1.0s,baz=340,slow=3.5,SNR=25

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*NEIC **05** 19:53:22.3±0.0, 55°.57N×135°.07W, h5km, ML3.9(AEIC), After AEIC.*
*IDC **05** 19:53:23.0±0.9, 55°.50N×135°.04W, h0km, mb3.4/5, mb1 3.8/11, mb1mx3.6/49, mbtmp3.6/11, ML3.6/6, MS3.2/1, Ms1 3.2/1, ms1mx2.5/31, Error ellipse: s-maj=13.8km s-min=9.0km az=54.0*
ISC 05 19:53:22.1±1.9, **55°.56N**±0°.05×**135°.16W**±0°.05, **h1**km±13km, **n73**, σ**1**§**54**/88, **mb3.6**/4, **Off coast of southeastern Alaska**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CRAG Craig 1.16 94 *e*Pg Pg 19 53 43.6 -0.7
CRAG *e*Sg Sg 19 53 58.3 -1.1
SIT Sitka 1.51 357 *e*Pn Pn 19 53 48.8 -1.3
SIT S Sn 19 54 09.2 -1.2
WRAK Wrangell Islan 1.80 60 *e*Pn Pn 19 53 52.8 -1.4
WRAK S Sb 19 54 17.4 -1.4
NDB Naden 2.06 140 P Pn 19 53 57.1 -0.7
MASB Masset 2.39 129 *e*Pn Pn 19 54 01.6 -0.7
JIS Juneau Island 2.76 9 *e*Pn Pn 19 54 07.1 -0.3
JIS *e*Sn Sn 19 54 39.6 -1.6
DIB Dawson Inlet, 2.83 145 *e*Pn Pn 19 54 08.1 -0.3
DIB *e*Sn Sn 19 54 42.6 -0.5
H02S1 DAWSON INLET T 2.83 145 Pn Pn 19 54 08.1 -0.3
H02S1 Sn Sn 19 54 43.5 +0.4
BESE Bessie Mountai 3.04 3 *e*Pn Pn 19 54 10.3 -0.9
BNB Barry Inlet 3.60 145 *e*Pn Pn 19 54 18.6 -0.5
SKAG Skagway 3.92 359 *e*Pn Pn 19 54 23.6 +0.4
PLBC Pleasant Camp 3.96 351 *e*Pn Pn 19 54 24.8 +0.8
DLBC Dease Lake 4.03 42 Pn Pn 19 54 25.3 +0.4
3.3nm,0.3s,baz=216,slow=11,SNR=58
DLBC Pg Pb 19 54 34.0 +0.2
2.9nm,0.3s,baz=224,slow=15,SNR=12
DLBC Sn Sn 19 55 10.7 -2.0
19nm,0.3s,baz=225,slow=14,SNR=4.8
DLBC Lg Lg 19 55 26.0
34nm,0.3s,baz=304,slow=23,SNR=10
DLBC Dease Lake 4.03 42 *e*Pn Pn 19 54 24.4 -0.5
WHY Whitehorse 5.12 2 *e*Pn Pn 19 54 40.2 +0.3
YUK7 Dusty Glacier 5.23 344 *e*Pn Pn 19 54 43.1 +1.5
PCA Pinnacle 5.30 331 P Pn 19 54 43.6 +1.2
BBB Bella Bella 5.37 126 Pn Pn 19 54 42.5 -0.7
2.1nm,0.3s,baz=299,slow=11,SNR=21
BBB Sn Sn 19 55 43.2 -2.4
13nm,0.3s,baz=102,slow=20,SNR=15
BBB Lg Lg 19 56 07.9
6.7nm,0.3s,baz=239,slow=15,SNR=3.8
BBB Bella Bella 5.37 126 *e*Pn Pn 19 54 41.8 -1.3
BBB *e*Sn Sn 19 55 43.1 -2.4
HYT Haines Junctio 5.43 348 *e*Pn Pn 19 54 44.6 +0.5
SAMH Samovar Hills 5.48 329 P Pn 19 54 47.3 +2.5
YUK6 Outpost Mounta 5.66 344 *e*Pn Pn 19 54 48.7 +1.2
YUK5 Granite Creek 5.77 347 *e*Pn Pn 19 54 51.0 +2.1
RKAV Rock Avalanche 5.78 328 P Pn 19 54 51.2 +2.2
MESA MESA 5.88 325 P Pn 19 54 52.0 +1.6
YUK4 Talbot Arm 6.08 344 *e*Pn Pn 19 54 56.1 +2.9
FSB Fort Saint Jam 6.33 95 P Pn 19 54 57.1 +0.6
KHIT Khitrov Hills 6.51 322 P Pn 19 54 59.7 +0.7
HMT Hamilton 6.81 318 *e*Pn Pn 19 55 03.0 -0.1
HMT *e*Sn Sn 19 56 19.7 -1.4
BMRM Bremner River 7.36 321 *e*Pn Pn 19 55 10.6 0.0
BMRM *e*Sn Sn 19 56 33.5 -1.2
KLU Klutina 8.18 321 *e*Pn Pn 19 55 22.1 +0.2
KLU *e*Sn Sn 19 56 49.5 -5.4
BCA3 Beaver Creek A 8.25 339 *e*Pn Pn 19 55 24.1 +1.3
HARP HAARP 8.58 327 *e*Pn Pn 19 55 27.9 +0.6
PWL Port Wells 8.74 313 *e*Pn Pn 19 55 29.7 +0.2
DAWY Dawson 8.79 348 *e*Pn Pn 19 55 30.7 +0.5
SEW Seward 8.87 307 *e*Sn Sn 19 57 07.8 -3.9
SCM Sheep Creek Mo 8.92 320 *e*Pn Pn 19 55 33.0 +1.0
KNK Knik Glacier 9.10 316 *e*Pn Pn 19 55 34.1 -0.3
KNK *e*Sn Sn 19 57 16.3 -1.0
PAX Paxson 9.11 329 *e*Pn Pn 19 55 34.7 +0.2
DOT Dot Lake 9.28 335 *e*Pn Pn 19 55 37.5 +0.7
SML Sawmill 9.28 318 *e*Pn Pn 19 55 36.8 -0.1
SML *e*Sn Sn 19 57 18.9 -2.9
BRLK Bradley Lake 9.41 303 *e*Pn Pn 19 55 37.8 -0.9
RC01 Rabbit Creek A 9.45 312 *e*Pn Pn 19 55 39.8 +0.7
RC01 *e*Sn Sn 19 57 23.7 -2.2
GHO Glory Hole Cre 9.48 317 *e*Pn Pn 19 55 40.9 +1.2
RIDG Independ'e Rid 9.55 333 *e*Pn Pn 19 55 41.3 +0.7
DHY Denali Highway 9.77 325 *e*Pn Pn 19 55 46.0 +2.3
KDAK Kodiak Island 9.84 290 Pn Pn 19 55 44.6 0.0
2.0nm,0.3s,baz=91,slow=12,SNR=29
KDAK Sn Sn 19 57 31.3 -4.3
0.4nm,0.3s,baz=0.0,slow=20,SNR=4.8
KDAK Kodiak Island 9.84 290 *e*Pn Pn 19 55 43.5 -1.0
SUA Susitna One 10.06 312 *e*Pn Pn 19 55 48.7 +1.1
RND Reindeer 10.48 324 *e*Pn Pn 19 55 55.2 +1.9
RSO Redoubt South 10.53 305 *e*Pn Pn 19 55 54.2 +0.1
HDA Harding Lake 10.64 331 *e*Pn Pn 19 55 55.5 0.0
EPYK Eagle Plains 10.88 357 *e*Pn Pn 19 56 00.1 +1.4
IL1 Eielson Array 10.91 333 *e*Pn Pn 19 56 00.0 +0.9

ILAR	Eielson Array	10.91	333	Pn	Pn	19 56 00.6	+1.5
	0.8nm,0.3s,baz=155,slow=13,SNR=101						
ILAR				Lg	Lg	19 59 17.8	
	0.0nm,0.3s,baz=122,slow=26,SNR=2.7						
ILB	Eielson Array	10.91	333	*e*Pn	Pn	19 56 00.1	+1.0
TRF	Thorofare Moun	11.00	322	*e*Pn	Pn	19 56 02.2	+1.7
WRH	Wood River Hil	11.01	329	*e*Pn	Pn	19 56 01.2	+0.8
PPLA	Purkeypile	11.38	317	*e*Pn	Pn	19 56 07.0	+1.4
MDM	Murphy Dome	11.42	331	*e*Pn	Pn	19 56 06.6	+0.5
CAST	Castle Rocks	11.63	319	*e*Pn	Pn	19 56 09.9	+0.9
SVW2	Sparrevohn	12.05	306	*e*Pn	Pn	19 56 14.5	-0.2
MLY	Manley	12.20	327	*e*Pn	Pn	19 56 17.9	+1.1
YKA	Yellowknife Ar	12.62	48	Pn	Pn	19 56 22.3	-0.2
	0.1nm,0.3s,baz=243,slow=12,SNR=16						
YKB5	Yellowknife Ar	12.62	48	*e*Pn	Pn	19 56 22.4	-0.1
INK	Inuvik	12.82	3	Pn	Pn	19 56 28.1	+2.9
	0.2nm,0.3s,baz=163,slow=15,SNR=4.7						
INK				Lg	Lg	20 00 05.8	
	0.0nm,0.3s,baz=61,slow=19,SNR=2.8						
IM3	Indian Mountai	13.77	327	*e*Pn	Pn	19 56 39.4	+1.2
PDAR	Pinedale Array	20.92	117	P	Pn	19 58 07.5	-1.1
	0.4nm,0.6s,baz=308,slow=7.4,SNR=3.4						
RES	Resolute Bay	24.70	24	P	P	19 58 46.0	+1.9
	1.2nm,0.8s,baz=251,slow=11,SNR=3.9						
PFO	Pinyon Flats O	25.51	142	LR	LR	20 08 53.5	
	comp=Z,54nm,18.1s,baz=152,slow=37						
TXAR	Lajitas Array	34.50	126	P	P	20 00 13.7	+2.0
	0.3nm,0.8s,baz=38,slow=4.6,SNR=3.1						
SONM	Songino Array	64.80	319	P	P	20 04 03.1	+1.0
	0.4nm,1.0s,baz=79,slow=7.5,SNR=2.2						
MKAR	Makanchi Array	73.26	334	P	P	20 04 56.3	+1.7
	0.4nm,0.6s,baz=45,slow=6.9,SNR=6.1						

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*IDC **05** 20:03:34.1±4.8, 36.°48N×70.°82E, h226km±41km, mb3.2/4, mb1 3.2/10, mb1mx2.9/45, mbtmp3.9/10, Error ellipse: s-maj=41.7km s-min=23.0km az=172.0*
*ISCJB **05** 20:03:35.1±0.6, 36.°64N±0.°05×70.°91E±0.°09, h250km, mb3.4/4, Error ellipse: s-maj=10.2km s-min=6.0km az=160.7*
*NNC **05** 20:03:40.1±3.2, 37.°05N×70.°82E, h240km±31km, mb2.7, mpv3.6, Error ellipse: s-maj=31.9km s-min=26.4km az=18.0*
ISC 05 20:03:37.4±1.0, **36.°83N**±0.°09×**70.°96E**±0.°10, **h250**km, **n32**, σ**1.°92**/34, **mb3.4**/4, **9C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.75	31	⇑P	Pn	20 04 39.3	+0.8
	6.7nm,0.4s						
SFK				⇑S	S	20 05 26.3	-0.7
	28nm,0.5s						
AML	Almayashu	5.70	21	P	Pn	20 05 03.2	+1.1
	SNR=50						
UCH	Uchtor	6.05	26	P	Pn	20 05 07.5	+1.1
	SNR=35						
KZA	Kyzart	6.20	31	P	Pn	20 05 09.0	+0.7
	SNR=9.7						
KK31	Karatay Array	6.28	357	⇑P	Pn	20 05 09.6	+0.7
	1.1nm,0.5s,baz=180,slow=12						
KK31				⇓S	S	20 06 20.1	-2.1
	3.9nm,0.5s,baz=182,slow=20						
AAK	Ala-Archa	6.41	24	P	Pn	20 05 12.0	+1.4
	2.1nm,0.3s,baz=186,slow=5.0,SNR=45						
AAK				S	S	20 06 17.8	-7.6
	1.2nm,0.3s,baz=197,slow=3.4,SNR=5.4						
AAK	Ala-Archa	6.41	24	P	Pn	20 05 12.2	+1.5
	SNR=12						
AAK	Ala-Archa	6.41	24	⇓P	Pn	20 05 12.1	+1.5
	2.5nm,0.5s						
AAK				⇑S	S	20 06 26.2	+0.8
	12nm,0.6s						
KBK	Karagaybulak	6.58	27	P	Pn	20 05 14.6	+1.7
	SNR=5.3						
ULHL	Ulahol	6.78	35	P	Pn	20 05 16.2	+0.9
	SNR=15						
TKM2	Tokmak 2	7.05	29	P	Pn	20 05 20.1	+1.3
	SNR=11						
TKM2	Tokmak 2	7.05	29	⇑P	Pn	20 05 19.6	+0.8
	5.6nm,0.7s						
TKM2				⇑S	S	20 06 37.2	-3.0
	14nm,0.8s						
MAKZ	Makanchi	12.91	36	⇑P	Pn	20 06 32.6	+0.6
	6.8nm,0.6s						
MK31	Makanchi Array	13.05	37	⇑P	Pn	20 06 34.2	+0.5
	1.0nm,0.5s,baz=227,slow=10.0,SNR=36						
MKAR	Makanchi Array	13.05	37	P	Pn	20 06 35.0	+1.3
	0.4nm,0.3s,baz=212,slow=13,SNR=24						
PYUN	Piuthan	13.36	127	*e*P	Pn	20 06 34.5	-3.5
	9.1nm,0.5s						
DANN	Dangsing	13.70	124	*e*P	Pn	20 06 40.1	-2.0
	7.3nm,0.5s						
AB31	Akbulak array	14.78	331	⇓P	Pn	20 06 54.3	-0.4
	0.8nm,0.5s,baz=144,slow=13,SNR=45						
KURBB	Kurchatov Arra	14.82	19	P	P	20 06 55.4	+0.4
	0.1nm,0.3s,baz=212,slow=8.3,SNR=7.7						
KKN	Kakani	15.08	123	*e*P	P	20 06 56.2	-2.1
	5.0nm,0.4s						
PKIN	Phulchoki	15.29	123	*e*P	P	20 06 59.1	-1.6
	4.3nm,0.4s						
PKI	Pulchoki	15.30	123	*e*P	P	20 06 59.5	-1.4
	8.8nm,0.7s						
JIRN	Jiri	15.78	121	*e*P	P	20 07 05.8	-0.4
	13nm,0.3s						
BVAR	Borovoye Array	16.20	359	P	Pn	20 07 13.0	+1.4
	0.6nm,0.3s,baz=166,slow=12,SNR=12						
AKTO	Aktyubinsk	16.48	330	P	Pn	20 07 15.6	+0.6
	1.3nm,0.3s,baz=138,slow=9.2,SNR=27						
AKTO	Aktyubinsk	16.48	330	⇑P	Pn	20 07 14.8	-0.2
	5.4nm,0.6s						
RAMN	Ramite	16.51	122	*e*P	P	20 07 12.3	-1.8
	6.6nm,0.5s						
ZALV	Zalesovo Beam	19.63	25	P	P	20 07 49.1	+1.9
	0.5nm,0.3s,baz=215,slow=11,SNR=7.8						
SONM	Songino Array	28.18	56	P	P	20 09 08.8	+1.9
	0.4nm,0.9s,baz=238,slow=4.2,SNR=3.1						
FINES	FINESS Array B	37.20	326	P	P	20 10 25.3	+0.9
	1.2nm,0.8s,baz=119,slow=11,SNR=4.4						
ARCES	ARCESS Array B	40.83	337	P	P	20 10 55.2	+0.9
	2.3nm,0.8s,baz=104,slow=6.9,SNR=4.5						
TORD	Torodi Ar. Bea	65.70	268	P	P	20 13 53.8	-1.8
	0.3nm,0.4s,baz=53,slow=5.7,SNR=6.2						

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*ISCJB **05** 20:12:41.0±0.3, 43.°77N±0.°03×105.°27W±0.°04, h0km, mb3.8/3, Error ellipse: s-maj=4.1km s-min=3.7km az=164.5*
*NEIC **05** 20:12:42.9±0.2, 43.°79N×105.°29W, h0km, ML3.4, Error ellipse: s-maj=2.6km s-min=2.4km az=74.0, Suspected Mining explosion.*
NEIC 58 km [36 miles] SSE of Gillette.
*IDC **05** 20:12:42.8±1.0, 43.°97N×105.°70W, h0km, mb3.8/3, mb1 3.7/8, mb1mx3.4/65, mbtmp3.5/8, ML3.0/4, Error ellipse: s-maj=24.8km s-min=8.6km az=145.0*
ISC 05 20:12:42.2±0.7, **43.°80N**±0.°06×**105.°37W**±0.°06, **h0**km, **n89**, σ**1.°36**/87, **mb3.9**/3, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.02	71	*e*Pg	Pg	20 13 00.8	-0.8
K22A	Casper	1.43	217	*e*Pn	Pn	20 13 07.6	-1.8
PHWY	Pilot Hill	2.50	182	*e*Pn	Pn	20 13 24.1	-0.3
RWWY	Rawlins	2.51	213	*e*Pn	Pn	20 13 25.4	+1.0
N23A	Red Feather La	2.94	189	*e*Pn	Pn	20 13 30.7	+0.4
LAO	LASA Array	2.95	349	*e*Pn	Pn	20 13 31.8	+1.4
RLMT	Red Lodge	3.09	297	*e*Pn	Pn	20 13 33.4	+1.1
PD31	Pinedale Array	3.23	253	*e*Pn	Pn	20 13 35.1	+0.8
PDAR	Pinedale Array	3.23	253	Pn	Pn	20 13 34.9	+0.6
	5.2nm,0.3s,baz=72,slow=16,SNR=54						
PDAR				Lg	Lg	20 14 19.9	
	8.6nm,0.3s,baz=66,slow=26,SNR=4.5						
PDAR	Pinedale Array	3.23	253	*e*Pn	Pn	20 13 35.2	+0.9
BW06	Boulder Array	3.23	253	*e*Pn	Pn	20 13 35.1	+0.8
GCMT	Greycliff	3.65	305	*e*Pn	Pn	20 13 41.3	+1.3
OGNE	Ogallala	3.78	138	*e*Pn	Pn	20 13 42.3	+0.6
H17A	Grant Village	3.80	281	*e*Pn	Pn	20 13 44.3	+2.2
LOHW	Long Hollow	3.80	269	*e*Pn	Pn	20 13 43.9	+1.7
FLWY	Flagg Ranch	3.86	276	*e*Pn	Pn	20 13 44.4	+1.5
MOOW	Moose Ponds	3.89	271	*e*Pn	Pn	20 13 45.3	+1.9
YNR	Norris Junctio	3.92	285	*e*Pn	Pn	20 13 45.1	+1.3
SNOW	Snow King Moun	3.92	267	*e*Pn	Pn	20 13 45.5	+1.6
YPP	Pitchstone Pla	3.95	279	*e*Pn	Pn	20 13 45.5	+1.2
YFT	Old Faithful	3.99	281	*e*Pn	Pn	20 13 47.4	+2.6
ISCO	Idaho Springs	4.00	183	*e*Pn	Pn	20 13 45.5	+0.4
REDW	Red Top Meadow	4.01	266	*e*Pn	Pn	20 13 46.4	+1.4
IMW	Indian Meadow	4.03	273	*e*Pn	Pn	20 13 46.9	+1.5
TPAW	Teton Pass	4.06	268	*e*Pn	Pn	20 13 47.2	+1.4
YMR	Madison River	4.11	284	*e*Pn	Pn	20 13 48.7	+2.3
O20A	White River Ci	4.24	211	*e*Pn	Pn	20 13 49.2	+1.0
YHB	Horse Butte	4.29	285	*e*Pn	Pn	20 13 49.8	+1.0
AHID	Auburn Hatcher	4.31	258	*e*Pn	Pn	20 13 51.1	+2.0
QLMT	Earthquake Lak	4.47	285	*e*Pn	Pn	20 13 53.9	+2.5
DGMT	Dagmar	4.74	10	*e*Pn	Pn	20 13 55.4	+0.5
SMCO	Snowmass	4.77	195	*e*Pn	Pn	20 13 58.7	+2.9
BOZ	Bozeman (W)	4.81	294	*e*Pn	Pn	20 13 57.4	+1.4
Q24A	Divide	4.84	178	*e*Pn	Pn	20 13 56.8	+0.4
HWUT	Hardware Ranch	5.06	246	*e*Pn	Pn	20 14 00.6	+1.1
TCUT	Toone Canyon	5.21	241	*e*Pn	Pn	20 14 03.5	+1.9
KSCO	Kaye Shedlock'	5.21	156	*e*Pn	Pn	20 14 01.4	-0.1
EGMT	Eagleton	5.21	326	*e*Pn	Pn	20 14 02.0	+0.5
DLMT	Dillon	5.39	289	*e*Pn	Pn	20 14 05.9	+2.0
HRY	Holter Researc	5.41	305	*e*Pn	Pn	20 14 06.1	+1.9
MCMT	McKenzie Canyo	5.46	283	*e*Pn	Pn	20 14 06.7	+1.6
JLU	Jordanelle	5.53	237	*e*Pn	Pn	20 14 07.6	+1.7
MDND	Maddock	5.71	43	*e*Pn	Pn	20 14 08.9	+0.8
HVU	Hansel Valley	5.81	252	*e*Pn	Pn	20 14 10.8	+1.1
BGNE	Belgrade	5.84	112	*e*Pn	Pn	20 14 11.5	+1.5
PV21	Cone Mtn., Par	5.90	209	*e*Pn	Pn	20 14 11.7	+0.7
P17A	Butcher Ranch,	5.91	225	*e*Pn	Pn	20 14 11.9	+0.8
PV23	Carpenter Ridg	6.01	208	*e*Pn	Pn	20 14 13.5	+0.9
PV09	Paradox Valley	6.01	209	*e*Pn	Pn	20 14 13.3	+0.7
MPU	Maple Canyon	6.01	233	*e*Pn	Pn	20 14 13.7	+1.2
SDCO	Great Sand Dun	6.05	181	*e*Pn	Pn	20 14 13.6	+0.4
PV12	Saucer Basin,	6.06	206	*e*Pn	Pn	20 14 14.1	+0.8
PV14	Lion Creek, Pa	6.08	208	*e*Pn	Pn	20 14 14.1	+0.6
PV20	West Nyswonger	6.09	208	*e*Pn	Pn	20 14 14.9	+1.2
PV11	David Mesa, Pa	6.10	207	*e*Pn	Pn	20 14 14.5	+0.7
PV16	Nyswonger Mesa	6.10	207	*e*Pn	Pn	20 14 14.5	+0.7
PV19	Morning Glory	6.13	208	*e*Pn	Pn	20 14 14.5	+0.4
PV02	Paradox Valley	6.14	206	*e*Pn	Pn	20 14 15.1	+0.7
PV17	East Wray Mesa	6.15	207	*e*Pn	Pn	20 14 15.2	+0.8
S22A	4UR Ranch, Cre	6.15	191	*e*Pn	Pn	20 14 15.1	+0.6
PV13	Radium Mtn., P	6.21	206	*e*Pn	Pn	20 14 16.1	+0.8
TMUT	Trail Mountain	6.28	226	*e*Pn	Pn	20 14 17.2	+0.9
NLU	North Lily Min	6.31	235	*e*Pn	Pn	20 14 17.7	+1.1
ECSD	EROS Data Cent	6.34	88	*e*Pn	Pn	20 14 16.6	-0.3
CBKS	Cedar Bluff	6.54	138	*e*Pn	Pn	20 14 19.9	+0.3
Q16A	Castle Valley	6.54	224	*e*Pn	Pn	20 14 20.1	+0.2
DUG	Dugway, Tooele	6.61	240	*e*Pn	Pn	20 14 21.4	+0.7
T25A	Trinidad	6.70	173	*e*Pn	Pn	20 14 22.0	+0.1
MVCO	Mesa Verde	7.00	201	*e*Pn	Pn	20 14 26.7	+0.5
MSU	Marysvale	7.37	226	*e*Pn	Pn	20 14 32.2	+1.1
MTPU	Mount Pierson	7.73	224	*e*Pn	Pn	20 14 37.0	+0.8
PKCU	Pink Cliffs	8.25	222	*e*Pn	Pn	20 14 44.5	+1.1
PSUT	Pine Spring	8.28	233	*e*Pn	Pn	20 14 45.0	+1.3
CCUT	Cedar City	8.71	227	*e*Pn	Pn	20 14 50.5	+1.0
I10CA	LAC DU BONNET	9.04	42	*i*		21 10 00.0	
	baz=222,slow=334,SNR=2.7						
U15A	North Rim	9.07	218	*e*Pn	Pn	20 14 54.9	+0.3
ULM	Lac du Bonnet	9.14	42	Pn	Pn	20 14 54.5	-0.7
	1.3nm,0.3s,baz=239,slow=11,SNR=9.3						
ULM				Pg		20 15 28.1	
	1.3nm,0.3s,baz=226,slow=17,SNR=7.4						
ULM				Lg	Lg	20 17 26.4	
	0.6nm,0.3s,baz=129,slow=22,SNR=3.1						
ULM	Lac du Bonnet	9.14	42	*e*Pn	Pn	20 14 54.3	-1.0
WUAZ	Wupatki	9.48	211	*e*Pn	Pn	20 15 00.9	+0.9
NVAR	Mina Array Bea	11.13	246	Pn	Pn	20 15 23.3	+0.6
	0.1nm,0.3s,baz=59,slow=14,SNR=2.5						
FFC	Flin Flon	11.15	10	*e*Pn	Pn	20 15 21.6	-1.2
LTX	Lajitas	14.50	174	*e*Pn	P	20 16 14.3	-1.4
TXAR	Lajitas Array	14.50	174	Pn	P	20 16 14.3	-1.4
	0.0nm,0.3s,baz=4.2,slow=14,SNR=3.2						
T49A	Edmonton	16.50	107	*e*Pn	P	20 16 43.2	+5.6
Q51A	Peebles	17.18	99	*e*Pn	Pn	20 16 35.2	-8.3
YKA	Yellowknife Ar	19.49	347	P	P	20 17 09.6	-0.8
	0.1nm,0.3s,baz=151,slow=13,SNR=7.7						
ZALV	Zalesovo Beam	82.24	354	P	P	20 25 04.0	-0.9
	0.7nm,0.6s,baz=50,slow=4.5,SNR=3.0						
SONM	Songino Array	84.55	339	P	P	20 25 17.2	0.0
	0.3nm,0.8s,baz=90,slow=4.3,SNR=2.6						
MKAR	Makanchi Array	89.53	355	P	P	20 25 40.2	-1.0
	0.6nm,0.8s,baz=12,slow=3.5,SNR=7.0						

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*IDC **05** 20:16:41.2±3.7, 16.°34N×98.°23W, h0km, mb3.7/6, mb1 3.9/10, mb1mx3.7/50, mbtmp3.6/10, ML3.2/4, MS3.7/2, Ms1 3.7/2, ms1mx2.8/35, Error ellipse: s-maj=81.1km s-min=22.6km az=19.0*
*ISCJB **05** 20:16:42.3±1.0, 16.°18N±0.°05×98.°34W±0.°03, h24km±6km, mb3.8/12, MS4.2/1, Error ellipse: s-maj=8.4km s-min=4.7km az=21.3*
*MEX **05** 20:16:43.8±0.4, 16.°19N×98.°36W, h4km±2km, MD4.0*
*NEIC **05** 20:16:43.0±0.0, 16.°20N×98.°37W, h4km, mb4.1/7, MD4.0(MEX), After MEX.*
ISC 05 20:16:42.9±1.6, **16.°18N**±0.°07×**98.°36W**±0.°05, **h18**km±6km, **n37**, σ**1.°22**/49, **mb3.9**/12, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.31	46	*i* P	Pg	20 16 49.5	-0.2
PNIG				*e*S	Sg	20 16 53.6	-0.7
TLIG	Tlapa	1.39	352	*e*Pn	Pn	20 17 05.9	-1.7
TLIG				*e*Sg	Sn	20 17 23.9	-1.8
TLIG	Tlapa	1.39	352	*e*P	Pn	20 17 05.8	-1.8
TLIG				*e*S	Sn	20 17 23.8	-1.8
VHO	Vista Hermosa	1.79	60	*e*P	Pn	20 17 12.3	-0.8
VHO				*i* S	Sn	20 17 34.8	-0.8
CAIG	El Cayaco	2.03	296	*i* P	Pn	20 17 15.4	-0.8
CAIG				*i* S	Sn	20 17 40.2	-0.8
MEIG	Mezcala	2.12	325	*e*P	Pn	20 17 15.7	-1.8
MEIG				*i* S	Sn	20 17 42.5	-0.9
HUIG	Huatulco	2.20	100	*e*P	Pn	20 17 17.6	-0.9
HUIG				*e*S	Sn	20 17 44.9	-0.5
TPIG	Tehuac#an	2.43	23	*e*P	Pn	20 17 21.0	-0.9
TPIG				*i* S	Sn	20 17 50.2	-1.0
PLIG	Platanillo	2.46	334	*e*P	Pn	20 17 21.2	-1.1
PLIG				*i* S	Sn	20 17 51.1	-0.9
YAIG	Yautepec	2.76	346	*e*P	Pn	20 17 26.7	+0.3
YAIG				*i* S	Sn	20 17 58.7	-0.7
CMIG	Matias Romero	3.45	74	Pn	Pn	20 17 34.0	-1.8
	3.3nm,0.3s,baz=237,slow=11,SNR=46						
CMIG				Sn	Sn	20 18 15.2	-1.1
	14nm,0.3s,baz=264,slow=7.8,SNR=7.2						
CMIG	Matias Romero	3.45	74	*e*P	Pn	20 17 35.1	-0.7
CMIG				*i* S	Sn	20 18 15.4	-0.8
LVIG	Laguna Verde	3.98	27	*e*Pn	Pn	20 17 44.7	+1.6
LVIG	Laguna Verde	3.98	27	*e*P	Pn	20 17 42.8	-0.3
LVIG				*i* S	Sn	20 18 29.5	+0.2
CCIG	Comitan	5.98	88	*e*Pn	Pn	20 18 12.7	+2.0
APG	El Apazote	7.70	98	Pn	Pn	20 18 34.4	0.0
	0.1nm,0.3s,baz=294,slow=20,SNR=2.5						
LNIG	Linares	8.74	353	*e*Pn	Pn	20 18 50.4	+1.9
TEIG	Tepich	10.39	66	*e*Pn	Pn	20 19 11.4	+0.2
TXAR	Lajitas Array	13.98	340	Pn	Pn	20 20 02.6	+2.3
	0.0nm,0.3s,baz=162,slow=12,SNR=3.3						
TXAR				LR	LR	20 26 04.3	
	comp=Z,100nm,19.9s,baz=0.0,slow=41						
TX31	Lajitas Ar. Si	13.98	340	*e*Pn	Pn	20 20 01.5	+1.3
JCT	Junction City	14.30	355	*e*Pn	Pn	20 20 05.9	+1.3
435B	Jarrell	14.56	3	*e*Pn	Pn	20 20 09.6	+1.5
ANMO	Albuquerque	20.05	340	Pn	Pn	20 21 16.5	-0.7
	0.2nm,0.3s,baz=156,slow=12,SNR=6.9						
ANMO	Albuquerque	20.05	340	*e*P	P	20 21 15.9	+0.5
	7.9nm,1.4s						
X16A	Lo Mia Camp, P	21.64	330	*e*P	P	20 21 33.6	+1.1
	5.7nm,0.9s						
S22A	4UR Ranch, Cre	22.75	342	*e*P	P	20 21 45.5	+1.0
	2.9nm,0.8s						
MVCO	Mesa Verde	22.80	339	*e*P	P	20 21 46.7	+1.7
	16nm,1.5s						
ISCO	Idaho Springs	24.38	346	*e*P	P	20 22 01.7	+1.3
	5.0nm,0.7s						
KNB	Kanab	24.40	331	*e*P	P	20 22 01.3	+0.8
	5.5nm,1.0s						
MTPU	Mount Pierson	24.96	333	*e*P	P	20 22 07.2	+1.4
	7.7nm,0.8s						
PDAR	Pinedale Array	28.18	342	P	P	20 22 35.6	+1.0
	0.6nm,0.6s,baz=141,slow=10,SNR=6.3						
NVAR	Mina Array Bea	28.26	326	P	P	20 22 36.2	+0.8
	0.2nm,0.4s,baz=144,slow=10,SNR=4.7						
YKA	Yellowknife Ar	47.66	350	P	P	20 25 16.5	-1.4
	0.1nm,0.3s,baz=156,slow=7.1,SNR=3.5						
DLBC	Dease Lake	48.27	338	LR	LR	20 44 55.8	
	comp=Z,265nm,19.1s,baz=195,slow=35						
INK	Inuvik	56.70	345	P	P	20 26 25.2	+0.3
	1.1nm,0.7s,baz=111,slow=7.1,SNR=5.6						
ILAR	Eielson Array	58.48	338	P	P	20 26 37.9	+0.2
	0.4nm,0.8s,baz=146,slow=5.2,SNR=8.3						
RES	Resolute Bay	58.55	1	P	P	20 26 37.4	-0.6
	0.6nm,0.6s,baz=181,slow=5.3,SNR=4.3						

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*ISCJB **05** 20:16:53.2±0.2, 50.°80N±0.°01×5.°94E±0.°02, h17km, Error ellipse: s-maj=2.0km s-min=1.6km az=166.0*
*LDG **05** 20:16:54.0±0.1, 50.°79N×5.°98E, h18km, Md3.2/2, Ml3.2/25, Error ellipse: s-maj=1.7km s-min=1.2km az=162.0*
*BGR **05** 20:16:54.7±0.6, 50.°80N×6.°15E, h10km, ML2.7/7, Error ellipse: s-maj=7.8km s-min=4.4km az=94.0*
*BNS **05** 20:16:54.1±1.2, 50.°82N×6.°00E, h16km±5km, ML2.5*
BNS Felt II EMS.
ISC 05 20:16:52.4±0.7, **50.°79N**±0.°01×**5.°94E**±0.°01, **h17**km, **n96**, σ**1.°93**/179, **22C-9D, Belgium**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGN	Heimansgroeve	0.03	189	*e*Pg	Pg	20 16 56.7	+1.4
	baz=84						
HGN				*e*Sg	Sg	20 16 58.9	+1.6
BEBN	Eben Emael	0.17	271	⇓P	Pg	20 16 58.1	+1.4
BEBN				S	Sg	20 17 01.2	+1.6
	comp=E,86nm,0.2s						
MEM	Membach	0.19	167	⇓P	Pg	20 16 58.5	+1.5
MEM				S	Sg	20 17 01.9	+1.7
	comp=E,166nm,0.3s						
MEM	Membach	0.19	167	*e*Pg	Pg	20 16 58.5	+1.5
DREG	Dreilaegerbach	0.23	125	⇓*e*Pg	Pg	20 16 58.9	+1.3
DREG				*e*Sg	Sg	20 17 02.4	+1.2
	comp=E,505nm,0.2s						
BLCH	La Chartreuse	0.27	235	⇑P	Pg	20 16 59.8	+1.6
BLCH				S	Sg	20 17 04.2	+1.9
	comp=E,256nm,0.1s						
KLL	Kalltalsperre	0.28	122	⇓*e*Pg	Pg	20 16 59.6	+1.2
KLL				*e*Sg	Sg	20 17 03.6	+1.0
	comp=E,448nm,0.1s						
GSH	Grosshau	0.29	101	⇑*i*Pg	Pg	20 16 59.7	+1.1
GSH				*e*Sg	Sg	20 17 03.9	+1.1
	comp=E,799nm,0.3s						
BSTI	Sart Tilman	0.32	229	⇑P	Pg	20 17 00.8	+1.7
JUE	Julich	0.32	68	⇑*i*Pg	Pg	20 17 00.3	+1.2
RWB	Wassenberg	0.34	24	⇑*i*Pg	Pg	20 17 00.3	+0.8
RWB				*e*Sg	Sg	20 17 05.3	+1.0
	comp=E,332nm,0.3s						
BD08	Hambach Funkst	0.37	75	*e*Pg	Pg	20 17 01.2	+1.2
BOPT	Opiter	0.37	329	⇓P	Pg	20 17 01.7	+1.6
BOPT				S	Sg	20 17 07.5	+2.1
	comp=N,233nm,0.1s						
RODG	Roetgen-Dahlhe	0.38	23	⇑*e*Pg	Pg	20 17 01.0	+0.7
RODG				*e*Sg	Sg	20 17 06.5	+0.9
	comp=N,639nm,0.4s						
HKB	Herkenbosch	0.42	20	⇑P	Pg	20 17 01.7	+0.7
HKB				S	Sg	20 17 08.0	+1.2
OLFT	Oleftalsperre	0.43	134	*e*Pg	Pg	20 17 02.3	+1.3
OLFT				*e*Sg	Sg	20 17 08.1	+1.2
BD04	Gut Margarthen	0.44	73	⇑*e*Pg	Pb	20 17 02.7	+1.1
BD03	Millendorf	0.44	63	⇑*e*Pg	Pg	20 17 02.2	+0.9
BHOU	Houvegnez	0.44	174	⇑P	Pg	20 17 03.0	+1.6
BHOU				S	Sg	20 17 08.8	+1.4
	comp=N,23nm,0.1s						
BD09	Hochneukirch	0.45	47	⇓*i*Pg	Pg	20 17 02.4	+1.0
BD07	Roetschberg	0.49	72	⇑*e*Pg	Pg	20 17 03.6	+1.4
PLH	Pulheim	0.60	69	⇑*i*Pg	Pg	20 17 04.7	+0.6
PLH				*e*Sg	Sg	20 17 12.5	+0.3
STB	Steinbach	0.61	109	⇓*e*Pg	Pg	20 17 05.2	+0.9
STB				*e*Sg	Sg	20 17 12.8	+0.3
	comp=N,218nm,0.4s						
TDN	Todenfeld	0.68	108	*e*Pg	Pg	20 17 06.5	+0.8
TDN				*e*Sg	Sg	20 17 15.1	+0.5
	comp=N,236nm,0.1s						
BGES	Gesves	0.68	233	⇑P	Pb	20 17 07.1	+1.3
BGES				S	Sg	20 17 16.0	+1.2
BMOL	Mol	0.69	308	P	Pb	20 17 07.1	+1.3
BMOL				S	Sg	20 17 15.9	+1.0
HILG	Hillesheim	0.69	136	⇑*e*Pg	Pg	20 17 07.1	+1.2
HILG				*e*Sg	Sg	20 17 16.0	+1.0
	comp=N,92nm,0.3s						
LKLB	Kalborn	0.70	171	⇑P	Pg	20 17 07.6	+1.4
LKLB				S	Sg	20 17 16.4	+1.0
	comp=N,63nm,0.2s						
LOH	Wallersheim-Lo	0.72	148	*e*Pg	Pg	20 17 07.9	+1.4
LOH				*e*Sg	Sg	20 17 17.3	+1.3
	comp=N,203nm,0.2s						
AHRW	Bad Neuenahr-A	0.77	109	*e*Pg	Pb	20 17 08.0	+0.8
AHRW				*e*Sg	Sb	20 17 17.3	-0.1
	SNR=5.1						
OPLO	Oploo	0.80	354	*e*Pg	Pb	20 17 08.8	+0.9
	baz=162						
OPLO				*e*Sg	Sb	20 17 19.9	+1.5
BNS	Bensberg	0.80	77	*e*Pg	Pb	20 17 08.5	+0.7
BNS				*e*Sg	Sb	20 17 18.3	-0.1
	comp=N,329nm,0.3s						
LAUG	Laupendahl	0.84	48	⇑*e*Pg	Pb	20 17 08.5	-0.1
LAUG				*e*Sg	Sb	20 17 18.8	-0.8
	comp=N,199nm,0.2s						
WBS	Wahnbachtalspe	0.85	89	*e*Pg	Pb	20 17 09.1	+0.4
WBS				*e*Sg	Sb	20 17 20.1	+0.2
	comp=N,205nm,0.4s						
BCES	Court-Saint-Et	0.89	258	⇑P	Pb	20 17 10.2	+0.9
BCES				S	Sb	20 17 22.2	+1.4
	comp=N,494nm,0.1s						
BMRD	Maredsous	0.89	237	⇑P	Pb	20 17 10.5	+1.1
BMRD				S	Sb	20 17 22.8	+1.7
	comp=Z,72nm,0.2s						
BHE	Schloss Buerre	0.91	119	*e*Pg	Pb	20 17 10.3	+0.7
BHE				*e*Sg	Sb	20 17 21.9	+0.6
	comp=Z,143nm,0.1s						
GIVF	Givet	0.99	226	*e*Pg	Pb	20 17 12.2	+1.1
	SNR=1.0						
GIVF				*e*Sg	Sb	20 17 25.8	+1.9
	comp=Z,153nm,0.2s,SNR=1.0						
UCC	Uccle	1.00	271	P	Pb	20 17 11.8	+0.6
UCC				S	Sb	20 17 24.2	0.0
BUG	Bochum--Univer	1.06	52	*e*Pg	Pb	20 17 12.2	0.0
	SNR=13						
BUG				*e*Sg	Sb	20 17 25.9	+0.1
	SNR=16						
BGG	Burgeitz	1.07	123	⇓*e*Pg	Pb	20 17 12.8	+0.4
BGG				*e*Sg	Sb	20 17 27.2	+1.2
	comp=Z,138nm,0.2s						
SNF	Seneffe	1.09	256	⇑P	Pn	20 17 13.7	+0.8
BRQR	Ronquire	1.11	261	⇑P	Pn	20 17 13.7	+0.6
DOU	Dourbes	1.11	231	⇑P	Pn	20 17 14.0	+0.9
DOU				S	Sb	20 17 28.8	+1.6
	comp=N,54nm,0.2s						
WLF	Walferdange	1.14	173	P	Pn	20 17 14.8	+1.3
BSKQ	Steenkerk	1.19	264	⇑P	Pn	20 17 14.9	+0.7
BSKQ				S	Sb	20 17 30.4	+0.8
	comp=N,98nm,0.1s						
KOE	Koeppel	1.20	107	*e*Pg	Pn	20 17 14.4	0.0
KOE				*e*Sg	Sb	20 17 30.2	+0.3
	comp=N,122nm,0.2s						
WTSB	Winterswijk	1.29	24	*e*Pg	Pn	20 17 15.4	-0.3
	baz=197						
WTSB				*e*Sg	Sb	20 17 31.4	-1.1
BAIF	Baives	1.33	237	*e*P	Pn	20 17 17.4	+1.3
	SNR=1.0						
BAIF	Baives	1.33	237	*e*Pg	Pb	20 17 19.0	+2.2
	SNR=1.0						
BAIF				*e*Sn	Sn	20 17 32.3	-1.1
	comp=N,92nm,0.3s,SNR=1.0						
BBOU	Bougnies	1.33	253	⇓P	Pn	20 17 17.7	+1.5
SORT	Sorpetalsperre	1.40	66	*e*Pg	Pn	20 17 17.9	+0.8
SORT				*e*Sg	Sn	20 17 34.4	-0.7
	comp=N,72nm,0.3s						
TNS	Taunus Mts	1.70	109	*e*Pn	Pn	20 17 21.6	+0.3
	SNR=2.4						
TNS				*e*Pg	Pb	20 17 24.6	+1.4
	SNR=7.0						
TNS				*e*Sg	Sb	20 17 45.8	+1.5
	SNR=4.1						
IBBN	Ibbenburen	1.89	36	*e*Pg	Pb	20 17 28.9	+2.5
	SNR=4.4						
IBBN				*e*Sg	Sg	20 17 53.2	-0.2
	SNR=3.2						
PAGF	Fort de Pagny	2.24	184	*e*Pn	Pn	20 17 28.8	+0.1
PAGF	Fort de Pagny	2.24	184	*e*Pg	Pb	20 17 35.6	+3.2
	baz=0.4						
PAGF				*e*Sn	Sn	20 17 53.4	-2.6
PAGF				*e*Sg	Sg	20 18 04.6	+0.1
	comp=N,19nm,0.3s,baz=3.3						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MEZF	Maizieres J'vi	2.37	194	ePn	Pn	20 17 30.3	-0.1
	baz=21,SNR=1.0						
MEZF	Maizieres J'vi	2.37	194	ePg	Pb	20 17 37.9	+3.4
	baz=12						
MEZF				eSn	Sn	20 17 56.6	-2.4
	SNR=1.0						
MEZF				eSg	Sb	20 18 07.4	+4.1
	comp=N,29nm,0.3s,baz=17						
CDF	Champ du Feu	2.54	159	ePn	Pn	20 17 33.3	+0.5
	SNR=1.0						
CDF	Champ du Feu	2.54	159	ePg	Pg	20 17 41.1	+0.1
CDF				eSn	Sn	20 18 01.2	-2.2
	SNR=1.0						
CDF				eSg	Sg	20 18 14.2	+0.3
	comp=N,7.1nm,0.3s						
UBBA	Unterbreizbach	2.58	88	eSg	Sb	20 18 10.4	+1.0
	SNR=4.0						
GTTG	Gvttingen	2.64	72	eSg	Sb	20 18 14.1	+2.7
	SNR=3.6						
SFTF	Sexfontaines	2.66	193	ePn	Pn	20 17 34.2	-0.2
	baz=1.5						
SFTF	Sexfontaines	2.66	193	ePg	Pb	20 17 42.9	+3.4
SFTF				eSn	Sn	20 18 03.9	-2.3
SFTF				eSg	Sg	20 18 17.2	-0.5
	comp=N,36nm,0.2s,baz=12						
HAU	Haudompre	2.80	174	ePn	Pn	20 17 36.7	+0.3
HAU	Haudompre	2.80	174	ePg	Pb	20 17 45.8	+3.8
	SNR=1.0						
HAU				eSn	Sn	20 18 07.2	-2.6
HAU				eSg	Sg	20 18 22.1	-0.3
	comp=N,18nm,0.2s						
BFO	Black Forest	2.92	147	ePn	Pn	20 17 38.8	+0.9
	SNR=2.5						
BFO				eSn	Sn	20 18 10.0	-2.6
	SNR=2.6						
BFO				eSg	Sg	20 18 24.6	-1.4
	SNR=1.7						
CLZ	Clausthal	2.97	68	ePg	Pb	20 17 47.9	+3.1
	SNR=4.0						
CLZ				eSg	Sb	20 18 23.4	+2.5
	SNR=2.8						
HINF	Hinteralfeld	3.04	168	ePn	Pn	20 17 39.3	-0.4
	SNR=1.0						
HINF	Hinteralfeld	3.04	168	ePg	Pg	20 17 50.1	-0.5
HINF				eSn	Sn	20 18 13.4	-2.3
	SNR=1.0						
HINF				eSg	Sg	20 18 29.4	-0.5
	comp=N,5.3nm,0.2s						
MOX	Moxa	3.61	90	ePn	Pn	20 17 48.1	+0.6
	SNR=1.8						
MOX				eSg	Sg	20 18 45.3	-2.9
	SNR=3.8						
LOR	Lormes	3.78	202	ePn	Pn	20 17 50.2	+0.3
	baz=23,SNR=1.0						
LOR	Lormes	3.78	202	ePg	Pb	20 18 03.8	+5.1
	baz=30						
LOR				eSn	Sn	20 18 31.4	-2.6
LOR				eSg	Sg	20 18 52.3	-1.5
	comp=N,15nm,0.3s,baz=18,SNR=1.0						
SSF	Saint Saulge	4.06	204	ePn	Pn	20 17 54.1	+0.4
	SNR=1.0						
SSF				eSn	Sn	20 18 37.1	-3.8
SSF				eSg	Sg	20 19 01.6	-1.2
	comp=N,11nm,0.3s						
HYF	Humbligny	4.14	213	ePn	Pn	20 17 55.5	+0.7
HYF	Humbligny	4.14	213	ePg	Pg	20 18 10.8	-0.9
HYF				eSn	Sn	20 18 39.8	-3.0
HYF				eSg	Sg	20 19 04.2	-1.1
CABF	La Chapelle	4.19	179	ePn	Pn	20 17 55.5	0.0
	SNR=1.0						
CABF	La Chapelle	4.19	179	ePg	Pg	20 18 11.6	-0.9
CABF				eSn	Sn	20 18 41.4	-2.6
	SNR=1.0						
CABF				eSg	Sg	20 19 05.6	-1.1
	comp=N,5.0nm,0.4s						
AVF	Avril sur Loir	4.36	204	ePn	Pn	20 17 57.5	-0.2
	SNR=1.0						
AVF				eSn	Sn	20 18 44.3	-3.7
	SNR=1.0						
AVF				eSg	Sg	20 19 10.0	-2.1
	comp=N,4.1nm,0.3s						
SMF	Signal de Mont	4.38	199	ePn	Pn	20 17 57.9	-0.1
	SNR=1.0						
SMF				eSn	Sn	20 18 44.7	-3.9
	SNR=1.0						
SMF				eSg	Sg	20 19 10.7	-2.1
	comp=N,8.7nm,0.2s,SNR=1.0						
CLL	Collm	4.49	81	ePn	Pn	20 17 56.0	-3.5
CLL				ePg	Pg	20 18 16.0	-2.2
CLL				eSg	Sb	20 19 10.0	+5.6
	comp=Z,4.0nm,0.8s						
LDF	La Druitiere	4.51	243	ePn	Pn	20 18 00.7	+0.9
LDF				eSn	Sn	20 18 48.2	-3.6
	comp=Z,5.3nm,0.4s						
FLN	La Foliniere	4.63	246	ePn	Pn	20 18 02.6	+1.1
	baz=62,SNR=1.0						
FLN				eSn	Sn	20 18 50.1	-4.7
	SNR=1.0						
FLN				eSg	Sg	20 19 18.7	-2.2
	comp=Z,6.0nm,0.3s,baz=75,SNR=1.0						
BGF	Bois d'Agland	4.71	207	ePn	Pn	20 18 02.8	+0.2
	SNR=1.0						
BGF				eSn	Sn	20 18 53.6	-3.1
BGF				eSg	Sg	20 19 21.3	-2.1
	comp=Z,16nm,0.3s,SNR=1.0						
GRR	Gorron	5.03	244	ePn	Pn	20 18 07.9	+0.9
	SNR=1.0						
GRR				eSn	Sn	20 19 00.5	-4.2
	comp=Z,5.0nm,0.2s						
TCF	Toulx Ste Croi	5.14	210	ePn	Pn	20 18 08.9	+0.3
	SNR=1.0						
TCF				eSn	Sn	20 19 02.2	-5.3
	comp=Z,3.7nm,0.3s						
MFF	Saint Martin d	5.81	226	ePn	Pn	20 18 17.9	+0.1
	SNR=1.0						
MFF				eSn	Sn	20 19 19.2	-4.8
	comp=Z,1.6nm,0.3s,SNR=1.0						
SGMF	Saint Gilles	6.09	249	ePn	Pn	20 18 21.8	+0.3
	SNR=1.0						
SGMF				eSn	Sn	20 19 26.1	-4.6
	comp=Z,1.2nm,0.3s						
RJF	Les Rejaudoux	6.24	210	ePn	Pn	20 18 23.4	-0.2
RJF				eSn	Sn	20 19 30.5	-4.0
	SNR=1.0						
CAF	Calviac	6.42	205	ePn	Pn	20 18 26.3	+0.1
CAF				eSn	Sn	20 19 33.6	-5.4
	comp=Z,3.5nm,0.5s						
ROSF	Rostrenen	6.48	251	ePn	Pn	20 18 26.9	0.0
	SNR=1.0						
ROSF				eSn	Sn	20 19 35.1	-5.2
QUIF	Quistinic	6.61	248	ePn	Pn	20 18 28.5	-0.1
	SNR=1.0						
QUIF				eSn	Sn	20 19 37.0	-6.5
LFF	La Frestale	6.82	213	ePn	Pn	20 18 31.2	-0.4
	SNR=1.0						
LFF				eSn	Sn	20 19 42.3	-6.4
	comp=Z,2.7nm,0.3s,SNR=1.0						
LASF	Ste Croix	6.87	193	ePn	Pn	20 18 31.8	-0.4
MTLF	Montolieu	7.87	200	ePn	Pn	20 18 45.6	-0.5
EPF	Esparros	8.66	208	ePn	Pn	20 18 55.6	-1.2
	SNR=1.0						

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*IDC **05** 20:29:09.5±3.1, 36°.21N×71°.17E, h94km±25km, mb3.6/10, mb1 3.6/16, mb1mx3.3/64, mbtmp3.9/16, MS3.8/1, Ms1 3.8/1, ms1mx2.5/50, Error ellipse: s-maj=23.3km s-min=16.3km az=178.0*

*ISCJB **05** 20:29:13.6±0.5, 36°.40N±0°.03×71°.29E±0°.07, h150km, mb3.6/9, Error ellipse: s-maj=8.6km s-min=3.5km az=154.6*

*NNC **05** 20:29:19.2±3.4, 36°.87N×71°.08E, h174km±43km, mb3.0, mpv3.9, Error ellipse: s-maj=39.1km s-min=31.5km az=122.0*

ISC 05 20:29:14.7±0.7**, 36°.40N**±0°.06×**71°.32E**±0°.08**, h150km, n50, σ1s.91**/56**, mb3.7**/9**, 6C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.99	25	⇑P	Pn	20 30 15.2	+0.2
	20nm,0.3s						
SFK				⇑S	Sn	20 31 02.3	+0.4
	52nm,0.2s						
DHRM	DHARAMSHALA	5.84	134	eP	Pn	20 30 40.6	+1.1
DHRM				eS	Sn	20 31 45.2	-0.5
DHRM				IAML		20 31 48.2	
	comp=E,217nm,0.2s						
DHRM				IAML		20 31 48.8	
	comp=N,240nm,0.2s						
AML	Almayashu	6.01	17	P	Pn	20 30 40.5	-1.3
	SNR=46						
UCH	Uchtor	6.32	22	P	Pn	20 30 45.8	-0.2
	SNR=20						
KZA	Kyzart	6.43	27	P	Pn	20 30 46.7	-0.8
	SNR=18						
EKS2	Erkin-Say	6.53	16	P	Pn	20 30 47.0	-1.5
	SNR=5.3						
AAK	Ala-Archa	6.69	21	P	Pn	20 30 49.9	-0.8
	comp=N,4.5nm,0.3s,baz=179,slow=4.7,SNR=64						
AAK				S	Sn	20 32 03.1	-2.8
	comp=N,2.9nm,0.3s,baz=328,slow=22,SNR=15						
AAK	Ala-Archa	6.69	21	P	Pn	20 30 50.4	-0.3
	SNR=26						
AAK	Ala-Archa	6.69	21	P	Pn	20 30 50.8	+0.1
	comp=N,7.1nm,0.4s						
AAK				⇓S	Sn	20 32 02.0	-3.9
	comp=N,12nm,0.4s						
KK31	Karatay Array	6.72	355	P	Pn	20 30 48.7	-2.2
	comp=N,2.4nm,0.3s,baz=186,slow=14,SNR=78						
KK31				⇓S	Sn	20 31 59.0	-7.4
	comp=N,6.6nm,0.5s,baz=183,slow=24,SNR=3.8						
KBK	Karagaybulak	6.84	23	P	Pn	20 30 53.3	+0.6
	SNR=6.1						
ULHL	Ulahol	6.97	32	P	Pn	20 30 56.1	+1.6
	SNR=6.5						
CHMS	Chumysh	7.10	21	P	Pn	20 30 56.0	+0.1
	SNR=9.0						
SMLA	Simla	7.17	136	eP	Pn	20 30 56.9	-0.1
SMLA				eS	Sn	20 32 14.1	-3.1
SMLA				IAML		20 32 20.1	
	comp=N,114nm,0.3s						
SMLA				IAML		20 32 21.2	
	comp=E,82nm,0.3s						
USP	Ospenovka	7.28	19	P	Pn	20 30 57.6	-0.8
	SNR=6.7						
TKM2	Tokmak 2	7.30	26	⇓P	Pn	20 30 58.2	-0.6
	comp=E,1.2nm,0.3s						
TKM2				⇑S	Sn	20 32 17.2	-3.3
	comp=E,2.2nm,0.5s						
JOSI	Joshimath	9.02	128	eP	Pn	20 31 23.7	+1.8
JOSI				eS	Sn	20 33 00.1	-1.9
JOSI				IAML		20 33 06.5	
	comp=E,94nm,0.6s						
JOSI				IAML		20 33 07.0	
	comp=N,74nm,0.6s						
BHGR	Bahadurgarh	9.04	147	eS	Sn	20 32 58.9	-3.3
KUDL	Kundal	9.32	151	eP	Pn	20 31 25.0	-0.7
KUDL				eS	Sn	20 33 03.5	-5.6
BISR	Bishrakh	9.36	145	ex	x	20 33 56.9	
GEYT	Alibeck	10.64	282	P	Pn	20 31 38.0	-5.2
	comp=N,2.1nm,0.3s,baz=88,slow=9.7,SNR=30						
GEYT				S	Sn	20 33 32.2	-8.7
	comp=N,2.6nm,0.3s,baz=280,slow=28,SNR=9.6						
PYUN	Piuthan	12.88	127	eP	Pn	20 32 11.6	-0.9
	comp=N,31nm,0.4s						
DANN	Dangsing	13.22	124	eP	Pn	20 32 16.2	-0.8
	comp=N,20nm,0.3s						
MK31	Makanchi Array	13.22	35	⇑P	Pn	20 32 17.4	+0.9
	comp=N,0.8nm,0.5s,baz=201,slow=8.6,SNR=6.0						
MKAR	Makanchi Array	13.22	35	P	Pn	20 32 17.5	+0.9
	comp=N,0.1nm,0.3s,baz=218,slow=14,SNR=7.7						
KOLN	Koldanda	13.50	126	eP	Pn	20 32 19.8	-0.6
	comp=N,25nm,0.6s						
DMN	Daman	14.61	123	eP	Pn	20 32 34.8	+0.4
	comp=N,20nm,0.3s						
KKN	Kakani	14.61	122	eP	Pn	20 32 34.0	-0.4
	comp=N,31nm,0.5s						
PKIN	Phulchoki	14.82	122	eP	Pn	20 32 37.0	-0.2
	comp=N,21nm,0.5s						
PKI	Pulchoki	14.84	122	eP	Pn	20 32 37.3	-0.1
	comp=N,27nm,0.4s						
GUN	Gumba	14.95	120	eP	Pn	20 32 38.5	-0.3
	comp=N,24nm,0.5s						
KURBB	Kurchatov Arra	15.13	18	P	Pn	20 32 42.1	+1.6
	comp=N,0.1nm,0.3s,baz=206,slow=11,SNR=8.5						
AB31	Akbulak array	15.29	331	⇑P	Pn	20 32 40.7	-1.8
	comp=N,0.8nm,0.4s						
JIRN	Jiri	15.32	120	eP	Pn	20 32 43.8	+0.4
	comp=N,58nm,0.4s						
RAMN	Ramite	16.05	122	eP	Pn	20 32 52.1	-0.1
	comp=N,11nm,0.3s						
BVAR	Borovoye Array	16.63	358	P	P	20 33 00.2	+1.6
	comp=N,0.5nm,0.3s,baz=159,slow=11,SNR=16						
AKTO	Aktyubinsk	16.99	330	P	P	20 33 02.9	+0.2
	comp=N,0.4nm,0.3s,baz=147,slow=8.3,SNR=9.0						
AKTO				S	S	20 36 03.3	-8.7
	comp=N,0.1nm,0.3s,baz=331,slow=21,SNR=5.7						
AKTO	Aktyubinsk	16.99	330	⇑P	P	20 33 02.7	0.0
	comp=N,4.6nm,0.9s						
ZALV	Zalesovo Beam	19.90	24	P	P	20 33 36.0	+1.8
	comp=N,3.7nm,0.6s,baz=217,slow=11,SNR=18						
ASF	Jabal al Asfar	28.66	272	LR	LR	20 49 14.9	
	comp=N,195nm,19.2s,baz=107,slow=42						
AKASG	Malin Array Be	33.20	309	P	P	20 35 37.2	+0.2
	comp=N,1.3nm,0.6s,baz=79,slow=7.4,SNR=7.5						
FINES	FINESS Array B	37.71	326	P	P	20 36 16.4	+1.2
	comp=N,0.7nm,0.3s,baz=122,slow=8.2,SNR=12						
ARCES	ARCESS Array B	41.33	338	P	P	20 36 47.2	+2.1
	comp=N,0.9nm,0.5s,baz=106,slow=8.9,SNR=4.9						
HFS	Hagfors	43.30	322	P	P	20 37 02.2	+1.1
	comp=N,1.9nm,0.4s,baz=96,slow=11,SNR=23						
NB2	NORSAR Subarra	44.61	323	P	P	20 37 12.2	+0.5
	comp=Z,0.7nm,0.4s,baz=98,slow=7.9						
NOA	NORSAR Array B	44.61	323	P	P	20 37 12.5	+0.8
	comp=Z,1.5nm,0.6s,baz=101,slow=7.3,SNR=11						
TIXI	Tiksi	45.77	22	P	P	20 37 22.3	+1.7
	comp=Z,0.9nm,0.3s,baz=297,slow=5.2,SNR=4.0						
YKA	Yellowknife Ar	81.33	3	P	P	20 41 15.8	+1.9
	comp=Z,0.3nm,0.5s,baz=351,slow=5.5,SNR=10						
WRA	Warramunga Arr	81.72	122	P	P	20 41 17.5	+0.9
	comp=Z,0.5nm,1.0s,baz=324,slow=4.8,SNR=5.8						
ASAR	Alice Springs	83.99	125	P	P	20 41 29.2	+0.9
	comp=Z,0.5nm,0.9s,baz=315,slow=4.6,SNR=4.2						

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*ISCJB **05** 20:33:00.4±0.7, 52°.8N±0°.1×171°.77E±0°.05, h22km, mb3.9/25, MS3.5/2, Error ellipse: s-maj=18.6km s-min=4.5km az=178.6*

*IDC **05** 20:33:00.6±1.6, 53°.09N×171°.81E, h0km, mb3.8/16, mb1 4.0/17, mb1mx3.7/69, mbtmp3.8/17, ML2.8/1, MS3.6/2, Ms1 3.6/2, ms1mx2.6/47, Error ellipse: s-maj=41.1km s-min=15.2km az=178.0*

*NEIC **05** 20:33:01.8±2.8, 52°.88N×171°.87E, h15km±19km, mb4.2/11, Error ellipse: s-maj=15.6km s-min=4.5km az=175.0*

ISC 05 20:33:02.3±1.0**, 52°.8N**±0°.2×**171°.85E**±0°.05**, h22km, n49, σ1s.01**/52**, mb4.0**/25**, Near Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMY	Shemya	1.37	92	ePn	Pn	20 33 24.5	-1.5
SMY				eSn	Sn	20 33 42.3	-1.2
PEA0B	Petropavlovsk-	8.55	278	ePn	Pn	20 35 05.5	+0.9
PEA0B				eSn	Sn	20 36 37.8	-2.6
PEA1	Petropavlovsk-	8.55	278	ePn	Pn	20 35 05.0	+0.3
PEA1				eSn	Sn	20 36 40.5	+0.2
PETK	Petropavlovsk-	8.55	278	Pn	Pn	20 35 05.0	+0.3
	0.6nm,0.3s,baz=93,slow=19,SNR=13						
PETK				Sn	Sn	20 36 40.5	+0.2
	0.5nm,0.3s,baz=100,slow=40,SNR=4.3						
PETK	Petropavlovsk-	8.55	278	ePn	Pn	20 35 05.5	+0.9
PETK				eSn	Sn	20 36 37.1	-3.3
OHAK	Old Harbor	20.33	64	eP	P	20 37 36.1	-0.4
	25nm,1.2s						
KDAK	Kodiak Island	20.69	62	P	P	20 37 40.1	-0.4
	17nm,1.1s,baz=283,slow=4.7,SNR=7.6						
KDAK	Kodiak Island	20.69	62	eP	P	20 37 39.8	-0.7
	66nm,1.4s						
PPLA	Purkeypile	21.34	48	eP	P	20 37 47.9	+0.2
	17nm,1.4s						
IM3	Indian Mountai	21.56	39	eP	P	20 37 51.3	+1.4
SUA	Susitna One	21.79	52	eP	P	20 37 52.6	+0.2
	12nm,1.3s						
KNK	Knik Glacier	22.88	52	eP	P	20 38 04.5	+0.5
	14nm,1.2s						
SML	Sawmill	22.97	51	eP	P	20 38 05.2	+0.3
	18nm,1.4s						
SCM	Sheep Creek Mo	23.45	51	eP	P	20 38 10.1	+0.4
MDM	Murphy Dome	23.48	43	eP	P	20 38 11.0	+1.0
	2.9nm,0.9s						
ILAR	Eielson Array	24.01	44	P	P	20 38 13.8	-1.3
	1.9nm,1.0s,baz=246,slow=7.6,SNR=9.9						
ILB	Eielson Array	24.01	44	eP	P	20 38 14.4	-0.6
KLU	Klutina	24.10	52	eP	P	20 38 16.0	0.0
	4.7nm,1.1s						
PRP	Porcupine Dome	24.71	42	eP	P	20 38 21.1	-0.5
	2.1nm,0.9s						
KLR	Kul'dur	25.25	278	P	P	20 38 26.9	+0.5
	1.3nm,0.7s,baz=42,slow=12,SNR=4.0						
TIXI	Tiksi	26.57	331	P	P	20 38 36.1	-2.1
	1.7nm,0.5s,baz=107,slow=0.5,SNR=4.2						
DAWY	Dawson	27.17	46	eP	P	20 38 43.5	-0.3
	4.7nm,1.3s						
JHJ	Hachijo jima 2	30.24	242	LR	LR	20 50 14.4	
	comp=Z,102nm,19.2s,baz=50,slow=34						
YKB5	Yellowknife Ar	38.41	46	eP	P	20 40 21.1	-0.4
YKA	Yellowknife Ar	38.41	46	P	P	20 40 21.8	+0.2
	0.3nm,0.4s,baz=290,slow=8.1,SNR=7.1						
SONA0	Songino Array	40.79	290	eP	P	20 40 42.6	+0.9
SONM	Songino Array	40.79	290	P	P	20 40 42.6	+0.9
	0.7nm,0.5s,baz=62,slow=8.0,SNR=7.0						
JOW	Kunigami	41.43	249	LR	LR	20 59 60.0	
	comp=Z,69nm,19.0s,baz=128,slow=39						
SPA0	Spitsbergen Ar	48.43	353	eP	P	20 41 41.0	-1.1
SPITS	Spitsbergen Ar	48.43	353	P	P	20 41 41.0	-1.1
	36nm,1.2s,baz=57,slow=5.3,SNR=3.4						
PDAR	Pinedale Array	51.24	68	P	P	20 42 06.8	+2.6
	0.5nm,0.6s,baz=302,slow=4.2,SNR=6.2						
MK32	Makanchi Array	54.51	302	eP	P	20 42 27.2	-0.8
MKAR	Makanchi Array	54.51	302	P	P	20 42 27.2	-0.8
	0.1nm,0.3s,baz=52,slow=6.8,SNR=5.1						
ARA0	ARCESS Array S	55.52	346	eP	P	20 42 34.8	-0.3
ARCES	ARCESS Array B	55.52	346	P	P	20 42 34.8	-0.3
	4.2nm,1.0s,baz=34,slow=7.3,SNR=7.3						
BVAR	Borovoye Array	55.92	314	P	P	20 42 38.5	+0.4
	0.7nm,0.4s,baz=45,slow=6.8,SNR=9.5						
BRVK	Borovoye	55.94	314	eP	P	20 42 38.7	+0.5
	1.6nm,0.6s						
FIA0	FINESS Array S	62.90	342	eP	P	20 43 26.5	+0.4
FINES	FINESS Array B	62.90	342	P	P	20 43 26.5	+0.4
	2.1nm,0.8s,baz=23,slow=7.7,SNR=6.2						
AKTO	Aktyubinsk	63.00	319	P	P	20 43 27.6	+0.6
	1.8nm,0.5s,baz=53,slow=7.3,SNR=7.5						
ABKAR	Akbulak array	63.14	317	eP	P	20 43 28.4	+0.6
LTX	Lajitas	64.01	75	eP	P	20 43 34.5	+0.5
TX31	Lajitas Ar. Si	64.01	75	eP	P	20 43 34.0	-0.1
TXAR	Lajitas Array	64.01	75	P	P	20 43 34.5	+0.5
	0.1nm,0.6s,baz=267,slow=3.6,SNR=3.1						
NB2	NORSAR Subarra	65.46	350	P	P	20 43 43.0	0.0
	comp=Z,0.6nm,0.5s,baz=12,slow=6.5						
NB200	NORSAR Array S	65.46	350	eP	P	20 43 43.5	+0.5
NOA	NORSAR Array B	65.46	350	P	P	20 43 43.5	+0.5
	comp=Z,0.2nm,0.5s,baz=1.8,slow=5.8,SNR=7.9						
HFS	Hagfors	66.06	348	P	P	20 43 46.9	+0.2
	comp=Z,1.9nm,0.5s,baz=29,slow=3.4,SNR=18						
BRTR	Keskin Array B	80.99	329	P	P	20 45 16.2	+1.2
	comp=Z,0.6nm,0.6s,baz=79,slow=2.9,SNR=3.7						

IDC 05 20:35:54.7±25.0**, 23°.23S**×**173°.02W, h0km, mb4.2**/4**, mb1 4.4**/4**, mb1mx3.9**/43**, mbtmp4.2**/4**, Error ellipse: s-maj=472.8km s-min=149.1km az=77.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	37.89	267	P	P	20 43 14.1	+0.3
	6.8nm,0.6s,baz=91,slow=10,SNR=16						
STKA	Stephens Creek	40.91	248	P	P	20 43 38.1	-0.8
	0.8nm,0.4s,baz=107,slow=11,SNR=3.4						
ASAR	Alice Springs	48.45	258	P	P	20 44 39.3	0.0
	1.1nm,0.4s,baz=89,slow=8.1,SNR=33						
WRA	Warramunga Arr	48.84	263	P	P	20 44 42.1	-0.2
	1.7nm,0.5s,baz=104,slow=8.1,SNR=43						

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*ISCJB **05** 20:43:16.8±0.2, 55°.47N±0°.02×135°.42W±0°.05, h10km, mb4.2/53, MS3.4/9, Error ellipse: s-maj=4.6km s-min=2.0km az=140.7*

*NEIC **05** 20:43:18.0±0.0, 55°.46N×135°.38W, h10km, mb4.2/66, ML4.2(AEIC), After AEIC.*

NEIC Felt at Ketchikan and Sitka.

*IDC **05** 20:43:19.3±0.7, 55°.52N×135°.27W, h0km, mb4.1/17, mb1 4.3/24, mb1mx4.1/50, mbtmp4.1/24, ML3.6/7, MS3.5/11, Ms1 3.5/11, ms1mx3.2/46, Error ellipse: s-maj=13.6km s-min=9.8km az=49.0*

ISC 05 20:43:19.5±0.4**, 55°.45N**±0°.04×**135°.31W**±0°.04**, h10km, n180, σ1s.42**/187**, mb4.3**/51**, MS3.4**/9**, Off coast of southeastern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRAG	Craig	1.24	88	ePn	Pn	20 43 40.9	-2.0
CRAG				eSn	Sb	20 43 58.1	-0.9
SIT	Sitka	1.61	360	ePn	Pn	20 43 45.3	-2.7
SIT				eSn	Sn	20 44 07.6	-1.2
WRAK	Wrangell Islan	1.93	58	ePn	Pn	20 43 50.8	-1.5
WRAK				eSn	Sn	20 44 14.6	-2.0
NDB	Naden	2.03	136	P	Pn	20 43 53.1	-0.7
MASB	Masset	2.38	126	ePn	Pn	20 43 57.8	-0.7
DIB	Dawson Inlet,	2.79	142	ePn	Pn	20 44 03.6	-0.6
H02S1	DAWSON INLET T	2.79	142	Pn	Pn	20 44 03.6	-0.6
H02S1				Sn	Sn	20 44 35.7	-2.2
	SNR=4168						
JIS	Juneau Island	2.88	10	ePn	Pn	20 44 04.2	-1.2
BESE	Bessie Mountai	3.15	4	ePn	Pn	20 44 08.3	-0.9
BESE				eSn	Sn	20 44 45.4	-1.4
BNB	Barry Inlet	3.56	142	ePn	Pn	20 44 13.4	-1.4
SKAG	Skagway	4.03	360	ePn	Pn	20 44 18.2	-2.9
PLBC	Pleasant Camp	4.06	352	ePn	Pn	20 44 21.0	-0.6
DLBC	Dease Lake	4.16	42	Pn	Pn	20 44 22.3	-0.8
	6.4nm,0.3s,baz=210,slow=10,SNR=41						
DLBC				Pg	Pb	20 44 33.0	+0.1
	12nm,0.3s,baz=226,slow=14,SNR=14						
DLBC				Sn	Sn	20 45 10.1	-1.8
	12nm,0.3s,baz=164,slow=16,SNR=3.8						
DLBC				Lg	Lg	20 45 26.7	
	38nm,0.3s,baz=300,slow=24,SNR=16						
DLBC	Dease Lake	4.16	42	ePn	Pn	20 44 22.4	-0.7
DLBC				eSn	Sn	20 45 10.3	-1.6
WHY	Whitehorse	5.23	2	ePn	Pn	20 44 37.0	-0.8
YUK7	Dusty Glacier	5.32	345	ePn	Pn	20 44 38.7	-0.4
PCA	Pinnacle	5.36	332	ePn	Pn	20 44 39.0	-0.5
BBB	Bella Bella	5.37	125	Pn	Pn	20 44 39.7	+0.2
	3.7nm,0.3s,baz=306,slow=7.4,SNR=23						
BBB				Sn	Sn	20 45 38.4	-3.0
	14nm,0.3s,baz=94,slow=14,SNR=14						
BBB				Lg	Lg	20 46 12.3	
	24nm,0.3s,baz=36,slow=23,SNR=9.5						
BBB	Bella Bella	5.37	125	ePn	Pn	20 44 38.5	-1.1
BBB				eSn	Sn	20 45 39.0	-2.4
HYT	Haines Junctio	5.52	349	ePn	Pn	20 44 40.1	-1.6
SAMH	Samovar Hills	5.53	330	P	Pn	20 44 42.2	+0.3
YUK6	Outpost Mounta	5.74	345	ePn	Pn	20 44 44.6	-0.4
RKAV	Rock Avalanche	5.83	329	P	Pn	20 44 46.7	+0.6
YUK5	Granite Creek	5.86	348	ePn	Pn	20 44 46.4	0.0
YUK4	Talbot Arm	6.17	345	ePn	Pn	20 44 51.6	+0.8
FSB	Fort Saint Jam	6.40	94	P	Pn	20 44 54.5	+0.7
HMT	Hamilton	6.84	319	ePn	Pn	20 44 58.8	-0.9
BMRM	Bremner River	7.40	322	ePn	Pn	20 45 02.8	-4.6
KLU	Klutina	8.22	322	ePn	Pn	20 45 16.6	-2.2
HARP	HAARP	8.63	328	ePn	Pn	20 45 22.3	-2.1
DAWY	Dawson	8.89	348	ePn	Pn	20 45 26.9	-0.9
SCM	Sheep Creek Mo	8.95	321	ePn	Pn	20 45 27.5	-1.2
KNK	Knik Glacier	9.12	316	ePn	Pn	20 45 29.1	-1.9
PAX	Paxson	9.16	330	ePn	Pn	20 45 29.7	-1.9
SML	Sawmill	9.30	319	ePn	Pn	20 45 31.6	-2.0
DOT	Dot Lake	9.34	335	ePn	Pn	20 45 32.6	-1.4
BRLK	Bradley Lake	9.41	304	ePn	Pn	20 45 33.3	-1.7
PMR	Palmer	9.49	316	ePn	Pn	20 45 34.7	-1.3
GHO	Glory Hole Cre	9.51	317	ePn	Pn	20 45 34.4	-2.0
KDAK	Kodiak Island	9.81	291	Pn	Pn	20 45 38.6	-1.8
	0.3nm,0.3s,baz=86,slow=8.3,SNR=9.6						
KDAK				Sn	Sn	20 47 25.6	-4.7
	0.3nm,0.3s,baz=339,slow=19,SNR=2.2						
KDAK	Kodiak Island	9.81	291	ePn	Pn	20 45 38.0	-2.4
KDAK				eSn	Sn	20 47 25.7	-4.7
DHY	Denali Highway	9.82	326	ePn	Pn	20 45 38.0	-2.7
SUA	Susitna One	10.07	313	ePn	Pn	20 45 42.7	-1.4
RND	Reindeer	10.53	325	ePn	Pn	20 45 49.5	-0.8
RSO	Redoubt South	10.53	306	ePn	Pn	20 45 47.8	-2.7
MCK	McKinley	10.78	326	ePn	Pn	20 45 54.4	+0.7
IL1	Eielson Array	10.97	333	ePn	Pn	20 45 54.7	-1.6
ILAR	Eielson Array	10.97	333	Pn	Pn	20 45 56.0	-0.3
	0.3nm,0.3s,baz=153,slow=12,SNR=70						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ILAR				Lg	Lg	20 49 06.8	
	0.0nm,0.3s,baz=295,slow=14,SNR=4.3						
ILB	**Eielson Array**	**10.97**	**333**	*e*Pn	**Pn**	**20 45 55.0**	**-1.3**
EPYK	**Eagle Plains**	**10.98**	**357**	*e*Pn	**Pn**	**20 45 55.9**	**-0.6**
TRF	**Thorofare Moun**	**11.04**	**323**	*e*Pn	**Pn**	**20 45 58.0**	**+0.6**
WRH	**Wood River Hil**	**11.06**	**330**	*e*Pn	**Pn**	**20 45 57.9**	**+0.4**
PRP	**Porcupine Dome**	**11.27**	**338**	*e*Pn	**Pn**	**20 45 60.0**	**-0.5**
PPLA	**Purkeypile**	**11.40**	**318**	*e*Pn	**Pn**	**20 46 00.8**	**-1.6**
MDM	**Murphy Dome**	**11.47**	**331**	*e*Pn	**Pn**	**20 46 02.6**	**-0.6**
CAST	**Castle Rocks**	**11.66**	**320**	*e*Pn	**Pn**	**20 46 04.2**	**-1.5**
BPAW	**Bear Paw Mtn.**	**11.70**	**324**	*e*Pn	**Pn**	**20 46 05.6**	**-0.6**
LON	**Longmire**	**12.13**	**130**	*e*Pn	**Pn**	**20 46 11.4**	**-0.9**
MLY	**Manley**	**12.25**	**328**	*e*Pn	**Pn**	**20 46 13.0**	**-0.9**
YKA	**Yellowknife Ar**	**12.76**	**48**	Pn	**Pn**	**20 46 20.0**	**-0.7**
	0.3nm,0.3s,baz=243,slow=12,SNR=37						
YKA				Lg	Lg	20 49 52.0	
	baz=246,slow=28,SNR=4.7						
YKB5	**Yellowknife Ar**	**12.76**	**48**	*e*Pn	**Pn**	**20 46 20.0**	**-0.7**
YKW3	**Yellowknife Ar**	**12.78**	**48**	*e*Pn	**Pn**	**20 46 19.4**	**-1.6**
INK	**Inuvik**	**12.93**	**3**	Pn	**Pn**	**20 46 22.6**	**-0.5**
	0.1nm,0.3s,baz=176,slow=14,SNR=21						
INK				Lg	Lg	20 50 10.3	
	0.1nm,0.3s,baz=71,slow=26,SNR=8.3						
INK	**Inuvik**	**12.93**	**3**	*e*Pn	**Pn**	**20 46 22.2**	**-0.8**
NEW	**Newport**	**13.31**	**115**	Lg	Lg	20 50 25.3	
	0.1nm,0.3s,baz=41,slow=13,SNR=3.7						
NEW				LR	LR	20 51 46.6	
	comp=Z,182nm,21.6s,baz=305,slow=38						
COLD	**Coldfoot**	**13.75**	**335**	*e*Pn	**Pn**	**20 46 32.2**	**-2.1**
IM3	**Indian Mountai**	**13.82**	**327**	*e*Pn	**Pn**	**20 46 34.8**	**-0.4**
F10A	**Beach Ranch, E**	**14.82**	**122**	*e*Pn	**Pn**	**20 46 48.5**	**-0.6**
PINE	**Pine Mountain**	**14.89**	**136**	*e*Pn	**Pn**	**20 46 49.0**	**-1.0**
BMO	**Blue Mountains**	**15.62**	**125**	*e*Pn	**Pn**	**20 46 58.0**	**-1.6**
	7.0nm,1.2s						
MSO	**Missoula**	**15.89**	**114**	*e*Pn	**Pn**	**20 47 02.1**	**-1.0**
	13nm,1.3s						
J08A	**Circle Bar Ran**	**16.27**	**131**	*e*Pn	**Pn**	**20 47 06.3**	**-1.6**
	15nm,1.3s						
HRY	**Holter Researc**	**17.07**	**111**	*e*Pn	**Pn**	**20 47 17.1**	**-1.2**
MFID	**Camas Ranch**	**17.40**	**126**	*e*Pn	**Pn**	**20 47 21.6**	**-0.7**
	7.2nm,1.3s						
EGMT	**Eagleton**	**17.41**	**105**	*e*Pn	**Pn**	**20 47 21.8**	**-0.6**
	21nm,1.1s						
DLMT	**Dillon**	**17.57**	**116**	*e*Pn	**Pn**	**20 47 24.1**	**-0.2**
	6.0nm,1.0s						
MCMT	**McKenzie Canyo**	**17.81**	**117**	*e*P	**Pn**	**20 47 27.3**	**-0.2**
BOZ	**Bozeman (W)**	**17.91**	**114**	*e*P	**Pn**	**20 47 28.3**	**-0.3**
	10nm,1.5s						
HLID	**Hailey**	**17.96**	**123**	*e*Pn	**Pn**	**20 47 28.8**	**-0.4**
	8.3nm,1.4s						
QLMT	**Earthquake Lak**	**18.53**	**115**	*e*P	**P**	**20 47 35.6**	**-0.5**
YHB	**Horse Butte**	**18.71**	**115**	*e*P	**P**	**20 47 37.6**	**-0.5**
	5.7nm,1.0s						
YMR	**Madison River**	**18.88**	**115**	*e*P	**P**	**20 47 39.6**	**-0.4**
	11nm,1.0s						
FFC	**Flin Flon**	**18.99**	**78**	*e*P	**P**	**20 47 40.9**	**0.0**
	13nm,1.3s						
YPP	**Pitchstone Pla**	**19.24**	**115**	*e*P	**P**	**20 47 44.5**	**+0.5**
	8.2nm,1.3s						
LKWY	**Lake**	**19.25**	**114**	*e*P	**Pn**	**20 47 44.8**	**-0.2**
	5.7nm,1.0s						
H17A	**Grant Village**	**19.27**	**115**	*e*P	**Pn**	**20 47 45.2**	**-0.2**
	6.2nm,1.0s						
FLWY	**Flagg Ranch**	**19.43**	**116**	*e*P	**P**	**20 47 46.0**	**0.0**
	21nm,1.5s						
IMW	**Indian Meadow**	**19.43**	**116**	*e*P	**P**	**20 47 46.2**	**0.0**
	12nm,1.3s						
RLMT	**Red Lodge**	**19.47**	**111**	*e*P	**P**	**20 47 46.4**	**0.0**
	26nm,1.6s						
MOOW	**Moose Ponds**	**19.64**	**116**	*e*P	**P**	**20 47 48.5**	**+0.2**
	7.2nm,1.3s						
TPAW	**Teton Pass**	**19.72**	**117**	*e*P	**P**	**20 47 49.7**	**+0.5**
	17nm,1.4s						
ELK	**Elko**	**19.79**	**130**	P	**Pn**	**20 47 52.7**	**+1.2**
	0.1nm,0.3s,baz=309,slow=11,SNR=4.4						
ELK				LR	LR	20 55 36.6	
	comp=Z,139nm,19.9s,baz=331,slow=37						
ELK	**Elko**	**19.79**	**130**	*e*P	**P**	**20 47 50.4**	**+0.4**
	6.0nm,1.2s						
LOHW	**Long Hollow**	**19.81**	**116**	*e*P	**P**	**20 47 49.3**	**-0.9**
	18nm,1.5s						
GAMB	**Gambell**	**19.95**	**309**	*e*P	**P**	**20 47 50.4**	**-0.8**
	38nm,1.3s						
WAKR	**Walker**	**20.03**	**141**	*e*P	**P**	**20 47 52.5**	**0.0**
	20nm,1.6s						
KVN	**Kaiserville**	**20.04**	**138**	*e*P	**P**	**20 47 52.2**	**-0.5**
	10nm,1.3s						
HVU	**Hansel Valley**	**20.10**	**123**	*e*P	**P**	**20 47 54.1**	**+0.8**
	8.3nm,1.2s						
AHID	**Auburn Hatcher**	**20.17**	**119**	*e*P	**P**	**20 47 52.5**	**-1.6**
	11nm,1.1s						
RYN	**Ryan**	**20.25**	**139**	*e*P	**P**	**20 47 53.8**	**-1.2**
	5.2nm,1.2s						
NV01	**Mina Array Sit**	**20.51**	**139**	*e*P	**P**	**20 47 57.5**	**-0.3**
NVAR	**Mina Array Bea**	**20.51**	**139**	P	Pn	20 48 00.7	+0.7
	3.2nm,0.9s,baz=317,slow=9.9,SNR=10						
NVAR				LR	LR	20 56 25.1	
	comp=Z,92nm,18.6s,baz=314,slow=38						
NV11	**Mina Array Sit**	**20.56**	**139**	*e*P	**P**	**20 47 57.8**	**-0.5**
	0.7nm,1.1s						
HWUT	**Hardware Ranch**	**20.81**	**122**	*e*P	**P**	**20 48 00.4**	**-0.6**
	12nm,1.6s						
BW06	**Boulder Array**	**20.95**	**117**	*e*P	**P**	**20 48 02.0**	**-0.5**
	10.0nm,1.1s						
PD31	**Pinedale Array**	**20.95**	**117**	*e*P	**P**	**20 48 01.9**	**-0.7**
PDAR	**Pinedale Array**	**20.95**	**117**	P	Pn	20 48 05.2	+0.1
	5.6nm,1.0s,baz=309,slow=4.7,SNR=14						
PDAR	**Pinedale Array**	**20.95**	**117**	*e*P	**P**	**20 48 02.5**	**-0.1**
TCUT	**Toone Canyon**	**21.26**	**122**	*e*P	**P**	**20 48 05.1**	**-0.8**
	39nm,1.4s						
DUG	**Dugway, Tooele**	**21.32**	**126**	*e*P	**P**	**20 48 05.2**	**-1.3**
	11nm,1.5s						
JLU	**Jordanelle**	**21.64**	**123**	*e*P	**P**	**20 48 09.8**	**-0.3**
	23nm,1.7s						
R11A	**Troy Canyon, C**	**21.64**	**134**	*e*P	**P**	**20 48 09.2**	**-0.8**
	5.7nm,1.1s						
NLU	**North Lily Min**	**21.86**	**125**	*e*P	**P**	**20 48 11.4**	**-0.9**
	3.7nm,1.1s						
PSUT	**Pine Spring**	**22.22**	**131**	*e*P	**P**	**20 48 15.2**	**-1.0**
	12nm,1.3s						
FCC	**Fort Churchill**	**22.37**	**64**	*e*P	**P**	**20 48 16.7**	**-0.7**
	24nm,1.3s						
TPNV	**Topopah Spring**	**22.59**	**137**	*e*P	**P**	**20 48 19.7**	**-0.4**
	11nm,0.9s						
K22A	**Casper**	**22.60**	**112**	*e*P	**P**	**20 48 19.8**	**-0.5**
	8.7nm,1.0s						
DAC	**Darwin (Calif)**	**22.68**	**140**	*e*P	**P**	**20 48 20.4**	**-0.6**
	14nm,1.4s						
RWWY	**Rawlins**	**22.93**	**115**	*e*P	**P**	**20 48 22.2**	**-1.6**
	11nm,1.0s						
RSSD	**Black Hills**	**22.95**	**106**	*e*P	**P**	**20 48 23.7**	**-0.2**
	20nm,1.5s						
MSU	**Marysvale**	**22.98**	**128**	*e*P	**P**	**20 48 23.7**	**-0.6**
Q16A	**Castle Valley**	**23.11**	**126**	*e*P	**P**	**20 48 25.5**	**-0.1**
	9.4nm,1.2s						
CCUT	**Cedar City**	**23.25**	**131**	*e*P	**P**	**20 48 26.7**	**-0.4**
	13nm,1.6s						
SZCU	**Shurtz Canyon**	**23.33**	**131**	*e*P	**P**	**20 48 27.7**	**-0.2**
	19nm,1.5s						
MTPU	**Mount Pierson**	**23.36**	**129**	*e*P	**P**	**20 48 28.1**	**-0.2**
	4.4nm,1.3s						
LCMT	**Little Creek M**	**23.76**	**132**	*e*P	**P**	**20 48 32.7**	**+0.7**
	9.9nm,1.6s						
GSC	**Goldstone, Bar**	**23.83**	**140**	*e*P	**P**	**20 48 33.3**	**+0.7**
	9.7nm,1.1s						
KNB	**Kanab**	**23.93**	**131**	*e*P	**P**	**20 48 32.4**	**-1.3**
	5.8nm,1.1s						
ULM	**Lac du Bonnet**	**24.13**	**86**	P	**P**	**20 48 35.8**	**+0.6**
	3.4nm,1.0s,baz=254,slow=8.9,SNR=3.6						
ULM				LR	LR	20 57 57.7	
	comp=Z,132nm,21.2s,baz=328,slow=36						
PV09	**Paradox Valley**	**24.40**	**123**	*e*P	**P**	**20 48 37.1**	**-1.0**
PV14	**Lion Creek, Pa**	**24.55**	**123**	*e*P	**P**	**20 48 38.7**	**-0.8**
	6.4nm,1.0s						
PV17	**East Wray Mesa**	**24.66**	**123**	*e*P	**P**	**20 48 39.6**	**-0.8**
	4.5nm,1.0s						
U15A	**North Rim**	**24.66**	**131**	*e*P	**P**	**20 48 39.6**	**-0.9**
	6.3nm,1.1s						
LDFC	**Landfair**	**24.67**	**137**	*e*P	**P**	**20 48 39.3**	**-1.1**
	10.0nm,0.9s						
PV11	**David Mesa, Pa**	**24.68**	**123**	*e*P	**P**	**20 48 39.8**	**-0.8**
	6.3nm,1.0s						
PV13	**Radium Mtn., P**	**24.82**	**123**	*e*P	**P**	**20 48 41.1**	**-0.8**
	11nm,1.3s						
RES	**Resolute Bay**	**24.83**	**24**	P	**P**	**20 48 42.4**	**+1.1**
	11nm,0.9s,baz=244,slow=9.9,SNR=30						
RES				LR	LR	20 58 16.1	
	comp=Z,91nm,19.4s,baz=31,slow=36						
RES	**Resolute Bay**	**24.83**	**24**	*e*P	**P**	**20 48 40.7**	**-0.7**
	13nm,0.9s						
PV01	**Paradox Valley**	**24.96**	**123**	*e*P	**P**	**20 48 42.4**	**-0.8**
W13A	**Hualapai Mount**	**25.13**	**135**	*e*P	**P**	**20 48 44.5**	**-0.2**
	6.3nm,1.1s						
WUAZ	**Wupatki**	**25.82**	**131**	*e*P	**P**	**20 48 49.6**	**-1.3**
	10nm,1.1s						
WMOK	**Wichita Mounta**	**32.52**	**114**	*e*P	**P**	**20 49 49.5**	**-0.8**
	4.0nm,0.9s						
FRB	**Frobisher Bay**	**33.27**	**48**	P	**P**	**20 49 57.3**	**+0.8**
	1.1nm,0.6s,baz=288,slow=7.2,SNR=8.0						
LTX	**Lajitas**	**34.50**	**126**	*e*P	**P**	**20 50 10.6**	**+2.9**
TXAR	**Lajitas Array**	**34.50**	**126**	P	**P**	**20 50 10.6**	**+2.9**
	1.7nm,0.8s,baz=322,slow=6.6,SNR=16						
TXAR				PcP	**PcP**	**20 52 44.1**	**+1.6**
	0.2nm,0.4s,baz=289,slow=2.8,SNR=3.5						
TXAR				LR	LR	21 05 45.0	
	comp=Z,88nm,18.6s,baz=0.0,slow=39						
MIAR	**Mount Ida**	**35.42**	**109**	*e*P	**P**	**20 50 14.7**	**-0.8**
	8.0nm,0.9s						
SEY	**Seymchan**	**35.91**	**312**	P	**P**	**20 50 20.9**	**+1.6**
	0.5nm,0.3s,baz=130,slow=2.8,SNR=4.1						
SCHQ	**Schefferville**	**37.70**	**62**	LR	LR	21 06 09.4	
	comp=Z,180nm,19.7s,baz=360,slow=36						
TKL	**Tuckaleechee C**	**40.04**	**98**	P	**P**	**20 50 55.9**	**+1.4**
	3.0nm,1.0s,baz=131,slow=3.7,SNR=3.6						
TKL	**Tuckaleechee C**	**40.04**	**98**	*e*P	**P**	**20 50 52.3**	**-2.2**
	13nm,1.4s						
SUMG	**Summit**	**40.26**	**28**	*e*P	**P**	**20 50 55.5**	**-0.8**
	12nm,1.1s						
SUMG	**Summit**	**40.26**	**28**	*i* P	**P**	**20 50 58.7**	**+2.3**
	23nm,1.0s						
TIXI	**Tiksi**	**40.43**	**331**	P	**P**	**20 50 58.4**	**+1.1**
	0.9nm,0.7s,baz=41,slow=0.8,SNR=3.6						
DAG	**Danmarks Havn**	**42.20**	**18**	*i* P	**P**	**20 51 12.8**	**+1.1**
NB2	**NORSAR Subarra**	**60.88**	**18**	P	**P**	**20 53 32.5**	**+0.8**
	comp=Z,11nm,1.4s,baz=341,slow=6.9						
NB200	**NORSAR Array S**	**60.88**	**18**	*e*P	**P**	**20 53 31.9**	**+0.3**
NOA	**NORSAR Array B**	**60.88**	**18**	P	**P**	**20 53 32.0**	**+0.3**
	comp=Z,1.7nm,1.1s,baz=339,slow=6.9,SNR=2.8						
NOA				LR	LR	21 18 46.5	
	comp=Z,31nm,18.9s,baz=315,slow=35						
FINES	**FINESS Array B**	**62.53**	**10**	LR	LR	21 24 26.4	
	comp=Z,42nm,18.1s,baz=356,slow=40						
SONA0	**Songino Array**	**64.83**	**319**	*e*P	**P**	**20 54 00.8**	**+2.5**
SONM	**Songino Array**	**64.83**	**319**	P	**P**	**20 54 00.8**	**+2.5**
	comp=Z,1.2nm,0.8s,baz=62,slow=10,SNR=4.4						
ARU	**Arti**	**67.91**	**352**	*e*P	**P**	**20 54 16.1**	**-1.6**
	comp=Z,8.2nm,0.8s						
BRVK	**Borovoye**	**69.81**	**344**	*e*P	**P**	**20 54 28.4**	**-1.2**
	comp=Z,4.1nm,0.8s						
ROSC	**El Rosal**	**69.86**	**112**	LR	LR	21 29 21.3	
	comp=Z,15nm,19.0s,baz=184,slow=40						
GERES	**GERESS Array B**	**72.88**	**21**	P	**P**	**20 54 50.0**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=132,slow=2.0,SNR=5.1						
AKASG	**Malin Array Be**	**73.44**	**10**	P	**P**	**20 54 51.9**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=355,slow=5.9,SNR=7.8						
AKBB	**Malin Array Si**	**73.44**	**10**	*e*P	**P**	**20 54 50.6**	**-0.8**
	comp=Z,10.0nm,1.3s						
ABKAR	**Akbulak array**	**74.89**	**350**	*e*P	**P**	**20 54 58.6**	**-1.3**
ES19	**SONSECA Array**	**76.58**	**37**	*e*P	**P**	**20 55 08.4**	**-1.4**
ESDC	**Sonseca Array**	**76.58**	**37**	P	**P**	**20 55 10.2**	**+0.4**
	comp=Z,2.4nm,1.0s,baz=330,slow=5.2,SNR=11						
KIV	**Kislovodsk**	**80.96**	**1**	*e*P	**P**	**20 55 32.4**	**-1.5**
	comp=Z,10nm,0.9s						
KBZ	**Khabaz**	**81.19**	**1**	P	**P**	**20 55 36.1**	**+1.2**
	comp=Z,4.7nm,0.9s,baz=8.4,slow=2.9,SNR=9.0						
KSH	**Kashi**	**81.71**	**336**	P	**P**	**20 55 37.4**	**-0.6**
KSH				pP	sP	20 55 41.4	-0.3
KSH				PP	**PP**	**20 58 49.7**	**+5.7**
BTK	**Batken**	**82.29**	**340**	*e*P	**P**	**20 55 39.1**	**-1.9**
	comp=Z,9.3nm,1.4s						
BR101	**Keskin Array S**	**84.73**	**9**	*e*P	**P**	**20 55 54.5**	**+0.9**
BR131	**Keskin Array S**	**84.73**	**9**	*e*P	**P**	**20 55 51.5**	**-2.2**
BRTR	**Keskin Array B**	**84.73**	**9**	P	**P**	**20 55 54.5**	**+0.9**
	comp=Z,3.0nm,1.0s,baz=347,slow=5.9,SNR=10						
GEYT	**Alibeck**	**86.28**	**349**	P	**P**	**20 56 02.0**	**+0.7**
	comp=Z,8.9nm,0.5s,baz=67,slow=5.0,SNR=4.2						
IDI	**Anoyia**	**88.05**	**16**	LR	LR	21 36 54.8	
	comp=Z,13nm,19.8s,baz=37,slow=37						
CMAR	**Chiang Mai Arr**	**93.29**	**310**	P	**P**	**20 56 35.5**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=5.5,slow=4.8,SNR=13						
BOSA	**Boshof**	**149.76**	**36**	PKPbc	**PKiKP**	**21 03 10.1**	**-0.3**
	comp=Z,3.6nm,1.0s,baz=245,slow=4.5,SNR=2.8						

IDC ***05*** *20:45:57.9±0.5, 36°.30N×143°.09E, h0km, mb4.2/26, mb1 4.4/34, mb1mx4.3/51, mbtmp4.3/34, ML4.1/5, MS3.1/5, Ms1 3.1/5, ms1mx2.8/44, Error ellipse: s-maj=14.4km s-min=12.0km az=123.0*

NEIC ***05*** *20:45:59.0±0.1, 36°.28N×143°.11E, h10km, mb4.6/67, Error ellipse: s-maj=3.3km s-min=2.3km az=163.0*

ISCJB ***05*** *20:46:00.5±0.2, 36°.38N±0°.03×142°.98E±0°.02, h29km, mb4.4/104, MS4.6/1, Error ellipse: s-maj=4.0km s-min=2.5km az=166.3*

NIED ***05*** *20:46:00, 36°.40N×142°.90E, h11km, Mw4.2 Best double couple: M0 1.98000×10^15 NP1:φs27.00000°, δ39.00000°, λ-73.00000°. NP2:φs186.00000°, δ53.00000°, λ-103.00000°.*

JMA ***05*** *20:46:01.6±0.2, 36°.42N×142°.93E, h70km, M4.4*

BJI ***05*** *20:46:01.5, 36°.40N×143°.00E, h31km, mb4.6/27, mB4.9/17, Ms4.3/3, Ms7 4.0/2*

MOS ***05*** *20:46:02.8±1.1, 36°.66N×143°.01E, h33km, mb4.6/40, Error ellipse: s-maj=8.1km s-min=5.2km az=96.5*

ISC 05 20:46:01.7±0.4**, 36°.30N**±0°.04×**143°.15E**±0°.05**, h29**km**, n250, σ1s62**/272**, mb4.5**/109**, 6C-5D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.95**	**253**	P	**Pn**	**20 46 31.6**	**-1.2**
CHOJ				*e*S	**Sn**	**20 46 53.7**	**-2.6**
ONAJ	**Iwakimizuishiy**	**2.05**	**294**	P	**Pn**	**20 46 31.4**	**-2.9**
ONAJ				*e*S	**Sn**	**20 46 53.9**	**-5.0**
JHYU	**Hitachinakayam**	**2.07**	**272**	P	**Pn**	**20 46 32.5**	**-1.9**
JHO	**Hitachi**	**2.10**	**279**	P	**Pn**	**20 46 32.5**	**-2.4**
JFK	**Kawauchi**	**2.11**	**301**	P	**Pn**	**20 46 32.1**	**-3.0**
BSO1	**Boso 1**	**2.41**	**228**	P	**Pn**	**20 46 38.6**	**-0.1**
JFT	**Otama**	**2.56**	**299**	P	**Pn**	**20 46 39.6**	**-1.7**
JFT				S	**Sn**	**20 47 07.3**	**-4.1**
JAG	**Ashikaga**	**2.98**	**274**	P	**Pn**	**20 46 45.0**	**-2.1**
JMK	**Ichinoseki**	**3.06**	**331**	P	**Pn**	**20 46 45.6**	**-2.5**
JMK				S	**Sn**	**20 47 18.9**	**-4.8**
JNS	**Sasagawa**	**3.42**	**297**	P	**Pn**	**20 46 51.5**	**-1.5**
JYK	**Kaneyama**	**3.43**	**321**	P	**Pn**	**20 46 51.0**	**-2.1**
JYK				*e*S	**Sn**	**20 47 28.7**	**-4.1**
JRY	**Ryogami san**	**3.45**	**267**	P	**Pn**	**20 46 51.5**	**-2.0**
JOD2	**Odawara 2**	**3.46**	**254**	P	**Pn**	**20 46 52.3**	**-1.3**
JOD2				S	**Sn**	**20 47 31.0**	**-2.6**
JOM	**Ohasama**	**3.49**	**336**	P	**Pn**	**20 46 51.8**	**-2.3**
JOM				S	**Sn**	**20 47 29.9**	**-4.5**
JFNN	**Fujinakano**	**3.79**	**254**	P	**Pn**	**20 46 57.1**	**-1.1**
JFNN				S	**Sn**	**20 47 39.4**	**-2.4**
JYN	**Shimob**	**3.82**	**259**	P	**Pn**	**20 46 57.4**	**-1.2**
JYN				*e*S	**Sn**	**20 47 39.5**	**-3.1**
MJAR	**Matsushiro Arr**	**3.99**	**275**	Pn	**Pn**	**20 46 59.2**	**-1.7**
	22nm,0.3s,baz=110,slow=7.6,SNR=363						
MAJO	**Matsushiro**	**3.99**	**275**	*e*Pn	**Pn**	**20 46 60.0**	**-0.9**
MAJO	**Matsushiro**	**3.99**	**275***c*	*i*P	**Pn**	**20 47 00.2**	**-0.7**
MAT	**Matsushiro**	**3.99**	**275**	P	**Pn**	**20 47 00.0**	**-0.9**
MAT				*e*S	**Sn**	**20 47 43.5**	**-3.3**
MAT	**Matsushiro**	**3.99**	**275**	P	**Pn**	**20 47 00.1**	**-0.9**
MJB9	**Matsu-Tunnel**	**3.99**	**275**	*e*Pn	**Pn**	**20 47 00.0**	**-1.0**
JHJ2	**Mitsune**	**4.20**	**222**	*e*Pn	**Pn**	**20 47 02.4**	**-1.4**
JHJ2				*e*Sn	**Sn**	**20 47 47.5**	**-4.3**
JHJ	**Hachijo jima 2**	**4.21**	**222**	Pn	**Pn**	**20 47 02.3**	**-1.6**
	55nm,0.3s,baz=349,slow=9.1,SNR=22						
JHJ				Sn	**Sn**	**20 47 46.5**	**-5.6**
	176nm,0.3s,baz=289,slow=23,SNR=9.4						
JSD	**Sado**	**4.27**	**295**	P	**Pn**	**20 47 02.5**	**-2.2**
INU	**Inuyama**	**5.07**	**261**	*e*Pn	**Pn**	**20 47 14.9**	**-0.9**
ERM	**Erimo**	**5.71**	**0**	*e*Pn	**Pn**	**20 47 21.9**	**-2.6**
ERM				*e*Sn	**Sn**	**20 48 22.3**	**-6.7**
ERM	**Erimo**	**5.71**	**0**⇑	*e*P	**Pn**	**20 47 21.4**	**-3.1**
ERM				pmax	pmax		
	comp=Z,74nm,0.9s						
ASAJ	**Asahikawa**	**7.82**	**357**	Pn	**Pn**	**20 47 51.7**	**-1.7**
	comp=Z,4.7nm,0.3s,baz=196,slow=11,SNR=17						
ASAJ				LR	LR	20 51 45.0	
	comp=Z,257nm,19.3s,baz=152,slow=44						
ASAJ	**Asahikawa**	**7.82**	**357**	*e*Pn	**Pn**	**20 47 52.0**	**-1.5**
YUK	**Yuzh-Kuril'sk**	**8.00**	**14**	P	**Pn**	**20 47 52.6**	**-3.3**
YUK				*e*S	Sn	20 49 15.2	-10
YUK				pmax	pmax		
	comp=Z,97nm,0.3s						
YUK				pmax	pmax		
	comp=E,31nm,0.1s						
YUK				pmax	pmax		
	comp=N,79nm,0.3s						
SHO	**Shikotan**	**8.07**	**19**	*e*P	**Pn**	**20 47 54.1**	**-2.8**
SHO				*e*S	Sn	20 49 15.8	-11
SHO				pmax	pmax		
	comp=E,6.0nm,0.2s						
SHO				pmax	pmax		
	comp=Z,12nm,0.2s						
SHO				pmax	pmax		
	comp=N,7.0nm,0.4s						
CBIJ	**Chichi jima**	**9.21**	**185**	*e*Pn	**Pn**	**20 48 11.2**	**-1.4**
CBIJ				*e*Sn	**Sn**	**20 49 48.5**	**-6.8**
JCJ	**Chichijima**	**9.21**	**185**	Pn	**Pn**	**20 48 10.8**	**-1.9**
JCJ				Sn	**Sn**	**20 49 49.2**	**-6.0**
KUR	**Kuril'sk**	**9.62**	**20**	*e*P	**Pn**	**20 48 15.6**	**-2.4**
KUR				*e*S	Sn	20 49 55.5	-10
KUR				pmax	pmax		
	comp=Z,18nm,0.4s						
JNU	**Nakatsue**	**10.58**	**256**	LR	LR	20 52 52.4	
	comp=Z,80nm,18.1s,baz=108,slow=39						
YSS	**Yuzh-Sakhalins**	**10.65**	**359**	*e*P	**Pn**	**20 48 31.6**	**-0.6**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				MLR	MLR		
	comp=Z,200nm,16.0s						
USA0B	**Ussuriysk Arra**	**11.61**	**316**	*e*Pn	**Pn**	**20 48 43.9**	**-1.5**
USRK	**Ussuriysk Ar.**	**11.61**	**316**	Pn	**Pn**	**20 48 43.8**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=125,slow=14,SNR=9.8						
USRK				LR	LR	20 53 04.1	
	comp=Z,72nm,20.5s,baz=174,slow=37						
KSRS	**Korea Array**	**12.25**	**280**	Pn	**Pn**	**20 48 53.9**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=97,slow=14,SNR=13						
KSRS				LR	LR	20 53 22.6	
	comp=Z,77nm,21.7s,baz=49,slow=36						
KS01	**Wonju Array Si**	**12.27**	**280**	*e*Pn	**Pn**	**20 48 53.5**	**-0.9**
KS15	**Wonju Array Si**	**12.28**	**280**	*e*Pn	**Pn**	**20 48 53.6**	**-1.0**
KSAR	**Wonju Array Be**	**12.28**	**280**	Pn	**Pn**	**20 48 53.9**	**-0.6**
KSAR	**Wonju Array Be**	**12.28**	**280**	P	**Pn**	**20 48 53.9**	**-0.6**
MDJ	**Mudanjiang**	**13.24**	**313**	*e*Pn	**Pn**	**20 49 07.0**	**-0.6**
GRNR	**Gornyy**	**15.25**	**344**	*e*P	**Pn**	**20 49 32.0**	**-2.9**
KLR	**Kul'dur**	**15.37**	**331**	Pn	**Pn**	**20 49 36.4**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=168,slow=14,SNR=5.2						
KLR	**Kul'dur**	**15.37**	**331**⇑	*e*P	**Pn**	**20 49 35.4**	**-1.1**
PEA0B	**Petropavlovsk-**	**19.67**	**27**	*e*P	**P**	**20 50 28.1**	**-0.1**
	comp=Z,55nm,1.4s						
PETK	**Petropavlovsk-**	**19.67**	**27**	P	**P**	**20 50 28.9**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=190,slow=7.5,SNR=5.8						
PETK				LR	LR	21 00 55.9	
	comp=Z,39nm,18.3s,baz=213,slow=46						
PEA1	**Petropavlovsk-**	**19.67**	**27**	*e*P	**P**	**20 50 28.9**	**+0.6**
ZEA	**Zeya**	**20.66**	**333**	*e*P	**P**	**20 50 37.6**	**-1.4**
ZEA				pmax	pmax		
	comp=N,38nm,0.9s						
ZEA				pmax	pmax		
	comp=E,22nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,38nm,0.9s						
BJI	**Beijing**	**21.50**	**288**	P	**P**	**20 50 46.6**	**-1.5**
BJT	**Baijiatuau**	**21.50**	**288**	*e*P	**P**	**20 50 47.0**	**-1.2**
	comp=Z,11nm,0.9s						
BJT	**Baijiatuau**	**21.50**	**288**	*e*P	**P**	**20 50 47.0**	**-1.2**
BJT				pmax	pmax		
	comp=Z,11nm,0.9s						
MA2	**Magadan**	**23.81**	**10**	P	**P**	**20 51 12.3**	**+0.5**
	comp=Z,5.2nm,0.6s,baz=194,slow=10,SNR=4.8						
MA2	**Magadan**	**23.81**	**10**⇑	*e*P	**P**	**20 51 13.2**	**+1.3**
MA2				pmax	pmax		
	comp=Z,28nm,2.1s						
YAK	**Yakutsk**	**27.11**	**346**	*e*P	**P**	**20 51 39.8**	**-1.9**
YAK				*e*		20 52 24.8	
YAK				*e*		20 54 59.6	
YAK				*e*S	**S**	**20 56 15.5**	**-2.3**
YAK				*e*SS	**SnSn**	**20 57 23.8**	**-1.9**
YAK				pmax	pmax		
	comp=Z,16nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,6.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,46nm,2.5s						
YAK				pmax	pmax		
	comp=N,41nm,2.7s						
YAK				pmax	pmax		
	comp=E,46nm,2.7s						
YAK				smax	smax		
	comp=N,101nm,4.3s						
YAK				smax	smax		
	comp=E,102nm,4.2s						
YAK				MLR	MLR		
	comp=Z,66nm,19.0s						
YAK				MLR	MLR		
	comp=E,111nm,20.0s						
YAK				MLR	MLR		
	comp=N,60nm,17.0s						
SEY	**Seymchan**	**27.27**	**9**	P	**P**	**20 51 44.5**	**+1.3**
	comp=N,1.3nm,0.5s,baz=232,slow=15,SNR=9.2						
SEY	**Seymchan**	**27.27**	**9**⇑	*e*P	**P**	**20 51 44.8**	**+1.6**
XAN	**Xi'an**	**27.99**	**276**	P	**P**	**20 51 52.3**	**+2.3**
XAN				pP	pwP	20 52 04.8	-1.5
XAN				pmax	pmax		
	comp=N,8.0nm,0.6s						
XAN				pmax	pmax		
	comp=N,83nm,4.3s						
ENH	**Enshi**	**28.68**	**268**	*e*P	**P**	**20 51 56.3**	**+0.2**
	comp=N,12nm,0.8s						
BOD	**Bodaibo**	**28.90**	**327**	*e*P	**P**	**20 51 59.5**	**+1.8**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.7s						
ULN	**Ulaanbaatar**	**28.92**	**305**	*e*P	**P**	**20 51 58.4**	**+0.1**
	comp=Z,4.6nm,0.8s						
ULN	**Ulaanbaatar**	**28.92**	**305**⇓	*e*P	**P**	**20 51 59.8**	**+1.5**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SONA1	**Songino Array**	**29.35**	**305**	*e*P	**P**	**20 52 02.2**	**+0.2**
SONA0	**Songino Array**	**29.35**	**305**	*e*P	**P**	**20 52 03.7**	**+1.6**
SONM	**Songino Array**	**29.35**	**305**	P	**P**	**20 52 03.7**	**+1.6**
	comp=Z,4.3nm,0.7s,baz=104,slow=8.8,SNR=21						
LZH	**Lanzhou**	**31.57**	**281**	*e*P	**P**	**20 52 24.5**	**+2.6**
LZH				pP	pwP	20 52 36.1	-2.1
LZH				pmax	pmax		
	comp=Z,22nm,1.0s						
LZH				pmax	pmax		
	comp=Z,100nm,4.2s						
ZAK	**Zakamensk**	**31.82**	**309**	*e*P	**P**	**20 52 24.6**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CD2	**Chengdu**	**33.08**	**272**	*e*P	**P**	**20 52 35.0**	**0.0**
GTA	**Gaotai**	**34.12**	**289**	*e*P	**P**	**20 52 45.4**	**+1.4**
GTA				pP	sP	20 52 54.7	+1.9
GTA				sP	pwP	20 52 58.6	-1.5
GTA				PcP	**PcP**	**20 55 22.2**	**+1.3**
GTA				S	**S**	**20 58 08.7**	**+0.4**
GTA				sS	sS	20 58 23.5	+4.7
GTA				SS	**SnSn**	**21 00 16.2**	**-0.7**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,110nm,5.9s						
GTA				LR	LR		
	comp=Z,72nm,16.2s						
GTA				LR	LR		
	comp=Z,84nm,17.5s						
GTA				LR	LR		
	comp=Z,88nm,15.2s						
BILL	**Bilibino**	**34.35**	**15**	*e*P	**P**	**20 52 45.8**	**+0.2**
	comp=Z,4.7nm,0.9s						
BILL	**Bilibino**	**34.35**	**15**	*e*P	**P**	**20 52 45.6**	**0.0**
BILL				*e*		20 53 58.7	
BILL				*e*		20 55 21.3	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TIXI	**Tiksi**	**36.19**	**352**	P	**P**	**20 53 00.6**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=301,slow=1.1,SNR=5.5						
TIXI	**Tiksi**	**36.19**	**352**⇑	*e*P	**P**	**20 53 01.1**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ANM	**Nome**	**41.51**	**31**	*e*P	**P**	**20 53 47.3**	**+1.4**
	comp=Z,11nm,1.0s						
ANM	**Nome**	**41.51**	**31**	*e*P	**P**	**20 53 47.3**	**+1.4**

ANM pmax pmax
comp=Z,11nm,1.0s
DGZ Jazzator, Alta 41.95 307 ⇓ eP P 20 53 50.7 +0.7
DGZ pmax pmax
comp=Z,2.0nm,0.9s
PBKT Sadao Pong 42.17 254 eP P 20 53 52.1 +0.2
comp=Z,6.3nm,0.9s
CMAR Chiang Mai Arr 42.68 257 P P 20 53 56.5 +0.4
comp=Z,0.4nm,0.7s,baz=44,slow=7.6,SNR=4.9
CMAR Chiang Mai Arr 42.68 257 i P P 20 53 57.9 +1.9
CM01 Chiang Mai Arr 42.69 257 eP P 20 53 56.0 -0.1
ZAA0 Zalesovo Array 43.44 313 eP P 20 54 01.4 -0.4
comp=Z,4.1nm,1.1s
ZAA1 Zalesovo Array 43.44 313 eP P 20 54 02.0 +0.3
ZALV Zalesovo Beam 43.44 313 P P 20 54 02.0 +0.3
comp=Z,1.5nm,0.5s,baz=97,slow=7.2,SNR=7.1
ZALV PcP PcP 20 55 49.9 +0.3
comp=Z,1.7nm,0.7s,baz=121,slow=3.4,SNR=4.7
ZALV Zalesovo Beam 43.44 313 eP P 20 54 01.6 -0.1
ZALV Zalesovo Beam 43.44 313 eP P 20 54 01.6 -0.1
MK01 Makanchi Array 45.69 303 eP P 20 54 19.6 -0.3
MK31 Makanchi Array 45.69 303 eP P 20 54 19.6 -0.3
MK31 Makanchi Array 45.69 303 eP P 20 54 19.6 -0.3
MK32 Makanchi Array 45.69 303 eP P 20 54 20.4 +0.5
MKAR Makanchi Array 45.69 303 P P 20 54 20.4 +0.5
comp=Z,7.0nm,1.0s,baz=87,slow=9.1,SNR=25
MKAR Makanchi Array 45.69 303 eP P 20 54 20.4 +0.5
comp=Z,49nm,1.0s
MKAR Makanchi Array 45.69 303 i P P 20 54 24.0 +4.1
MKAR pmax pmax
comp=Z,7.0nm,1.0s
MAKZ Makanchi 45.90 303 eP P 20 54 22.0 +0.5
comp=Z,7.9nm,1.0s
MAKZ Makanchi 45.90 303 eP P 20 54 22.0 +0.5
MAKZ pmax pmax
comp=Z,8.0nm,1.0s
IM3 Indian Mountai 46.58 30 eP P 20 54 27.4 +0.9
PPLA Purkeypile 46.98 34 eP P 20 54 31.3 +1.4
comp=Z,26nm,1.5s
KURK Kurchatov 47.48 309 eP P 20 54 33.6 -0.2
comp=Z,13nm,0.6s
KURK Kurchatov 47.48 309 ⇓ eP P 20 54 33.6 -0.2
KURK pmax pmax
comp=Z,4.0nm,0.6s
SUA Susitna One 47.62 36 eP P 20 54 35.9 +1.0
comp=Z,20nm,1.3s
MLY Manley 47.74 32 eP P 20 54 37.3 +1.6
comp=Z,4.7nm,1.0s
RAMN Ramite 48.45 276 eP P 20 54 43.2 +1.2
comp=Z,14nm,0.7s
RND Reindeer 48.51 34 eP P 20 54 42.3 +0.7
comp=Z,6.0nm,1.3s
RND Reindeer 48.51 34 eP P 20 54 42.3 +0.7
RND pmax pmax
comp=Z,6.0nm,1.3s
GUN Gumba 48.62 277 eP P 20 54 48.2 +4.8
comp=Z,14nm,0.6s
SML Sawmill 48.76 36 eP P 20 54 44.7 +1.1
comp=Z,22nm,1.5s
SML Sawmill 48.76 36 eP P 20 54 44.7 +1.1
SML pmax pmax
comp=Z,22nm,1.5s
MDM Murphy Dome 48.80 32 eP P 20 54 45.0 +1.2
comp=Z,6.3nm,0.9s
PKIN Phulchoki 49.15 277 eP P 20 54 50.4 +3.1
comp=Z,3.2nm,0.4s
KKN Kakani 49.15 277 eP P 20 54 51.2 +3.9
comp=Z,12nm,0.6s
SCM Sheep Creek Mo 49.24 36 eP P 20 54 48.9 +1.6
comp=Z,32nm,1.4s
SCM Sheep Creek Mo 49.24 36 eP P 20 54 48.9 +1.6
SCM pmax pmax
comp=Z,32nm,1.4s
IL1 Eielson Array 49.37 32 eP P 20 54 48.7 +0.5
ILAR Eielson Array 49.37 32 P P 20 54 49.0 +0.8
comp=Z,2.0nm,0.7s,baz=260,slow=5.9,SNR=23
ILB Eielson Array 49.37 32 eP P 20 54 49.5 +1.3
FYU Fort Yukon 50.05 30 eP P 20 54 54.7 +1.4
comp=Z,8.9nm,1.1s
KOLN Koldanda 50.51 278 eP P 20 54 58.7 +1.1
PYUN Piuthan 50.85 279 eP P 20 55 00.9 +0.7
comp=Z,36nm,0.9s
AAK Ala-Archa 52.06 299 ⇓ eP P 20 55 13.4 +4.4
AAK pmax pmax
comp=Z,3.0nm,0.9s
BRVK Borovoye 52.15 313 eP P 20 55 09.3 0.0
comp=Z,2.3nm,0.9s
BRVK Borovoye 52.15 313 eP P 20 55 09.3 0.0
BRVK pmax pmax
comp=Z,2.0nm,0.9s
EPYK Eagle Plains 53.47 30 eP P 20 55 20.0 +1.1
comp=Z,9.3nm,1.0s
ARSB Arslanbob 53.55 298 eP P 20 55 19.9 -0.1
comp=Z,7.1nm,0.8s
HYT Haines Junctio 54.06 36 eP P 20 55 24.3 +0.9
comp=Z,5.6nm,1.0s
INK Inuvik 54.41 27 P P 20 55 27.1 +1.5
comp=Z,2.5nm,0.5s,baz=295,slow=6.1,SNR=24
INK Inuvik 54.41 27 eP P 20 55 26.6 +1.0
comp=Z,12nm,1.5s
INK Inuvik 54.41 27 eP P 20 55 26.6 +1.0
INK pmax pmax
comp=Z,12nm,1.5s
GSI Gunungsitoli 54.64 241 eP P 20 55 28.0 0.0
comp=Z,19nm,1.2s
WRAB Tennant Creek 56.54 190 eP P 20 55 41.5 0.0
comp=Z,20nm,1.5s
WRAB Tennant Creek 56.54 190 eP P 20 55 41.5 0.0
WRAB pmax pmax
comp=Z,20nm,1.5s
WB2 Warramunga Arr 56.55 190 eP P 20 55 41.3 -0.2
WR1 Warramunga Arr 56.55 190 eP P 20 55 41.8 +0.3
comp=Z,5.5nm,0.8s
WRA Warramunga Arr 56.55 190 P P 20 55 41.8 +0.3
comp=Z,4.1nm,0.8s,baz=11,slow=7.1,SNR=30
WRA PcP PcP 20 56 39.2 +1.3
comp=Z,3.1nm,1.2s,baz=2.3,slow=4.0,SNR=6.3
FITZ Fitzroy Crossi 56.58 200 eP P 20 55 41.8 +0.1
comp=Z,6.8nm,1.3s
ARU Arti 57.83 319 eP P 20 55 50.0 -0.2
comp=Z,7.7nm,0.7s
ARU Arti 57.83 319 P P 20 55 50.4 +0.1
ARU 20 57 55.4
ARU S S 21 03 50.4 +2.8
ARU SS SS 21 07 41.5 +3.6
ABKAR Akbulak array 59.48 311 eP P 20 56 00.8 -1.0
AS01 Alice Springs 60.27 190 eP P 20 56 07.5 0.0
AS31 Alice Springs 60.27 190 eP P 20 56 07.4 -0.2
comp=Z,0.8nm,0.8s
ASAR Alice Springs 60.28 190 P P 20 56 08.0 +0.5
comp=Z,2.6nm,0.8s,baz=11,slow=6.1,SNR=20
PRGR Permogore 62.14 328 eP P 20 56 17.5 -2.2
PRGR pmax pmax
comp=Z,5.0nm,0.8s
RES Resolute Bay 62.96 15 P P 20 56 25.2 +0.1
comp=Z,2.7nm,0.6s,baz=127,slow=21,SNR=6.1
RES Resolute Bay 62.96 15 eP P 20 56 25.1 +0.1
comp=Z,13nm,1.3s
RES Resolute Bay 62.96 15 eP P 20 56 25.1 +0.1
RES pmax pmax
comp=Z,13nm,1.3s
YKA Yellowknife Ar 63.74 30 P P 20 56 31.1 +0.8
comp=Z,1.1nm,0.7s,baz=300,slow=6.6,SNR=13
YKA PcP PcP 20 57 07.4 +1.2
comp=Z,0.6nm,0.6s,baz=304,slow=3.9,SNR=8.3
YKB5 Yellowknife Ar 63.74 30 eP P 20 56 30.6 +0.2
ARA0 ARCESS Array S 65.17 340 eP P 20 56 40.1 +0.5
ARCES ARCESS Array B 65.17 340 P P 20 56 40.1 +0.5
comp=Z,1.6nm,0.7s,baz=52,slow=7.9,SNR=7.0
ARCES ARCESS Array B 65.17 340 eP P 20 56 39.1 -0.5
ARCES ARCESS Array B 65.17 340 eP P 20 56 39.1 -0.5
OUL Oulu 67.84 336 P P 20 56 56.8 +0.1
OUL pmax pmax
comp=Z,11nm,2.3s
PINE Pine Mountain 69.75 50 eP P 20 57 09.0 -0.2
comp=Z,6.3nm,0.8s
E09A Wood Farm, Sta 70.01 47 eP P 20 57 10.7 +0.2
comp=Z,3.8nm,0.8s
FIA1 FINESS Array S 70.11 333 eP P 20 57 10.5 -0.4
FIA0 FINESS Array S 70.11 333 eP P 20 57 11.3 +0.5
FIA0 FINESS Array S 70.11 333 eP P 20 57 11.3 +0.5
FINES FINESS Array B 70.11 333 P P 20 57 11.3 +0.5
comp=Z,3.8nm,0.8s,baz=69,slow=10,SNR=8.9
JTMT Jette 71.56 44 eP P 20 57 20.1 0.0
comp=Z,3.1nm,0.8s
BEKR Beckworth 72.18 53 eP P 20 57 23.9 -0.1
comp=Z,5.2nm,1.0s
KBZ Khabaz 72.44 312 P P 20 57 26.6 +1.4
comp=Z,3.4nm,0.9s,baz=87,slow=5.3,SNR=4.3
KIV Kislovodsk 72.44 312 eP P 20 57 24.9 -0.5
comp=Z,12nm,1.2s
KIV Kislovodsk 72.44 312 eP P 20 57 27.4 +2.0
KIV e 20 57 41.8
KIV e 21 00 01.4
KIV ePPP PPP 21 01 48.0
KIV pmax pmax
comp=Z,6.0nm,0.8s
KIV MLR MLR
comp=Z,48nm,15.0s
CMB Columbia Colle 73.15 55 eP P 20 57 30.8 +1.1
comp=Z,9.5nm,1.4s
CMB Columbia Colle 73.15 55 eP P 20 57 30.8 +1.1
CMB pmax pmax
comp=Z,10.0nm,1.4s
YERR Yerington 73.39 54 eP P 20 57 32.0 +0.8
comp=Z,8.8nm,1.3s
FFC Flin Flon 73.56 33 i P P 20 57 33.5 +1.8
LRM Limekiln Ridge 73.69 45 eP P 20 57 30.1 -2.9
DLMT Dillon 73.87 45 eP P 20 57 34.2 +0.3
comp=Z,11nm,1.4s
FCC Fort Churchill 74.03 27 eP P 20 57 34.6 +0.3
comp=Z,3.7nm,1.2s
FCC Fort Churchill 74.03 27 eP P 20 57 34.6 +0.3
FCC pmax pmax
comp=Z,4.0nm,1.2s
MCMT McKenzie Canyo 74.04 46 eP P 20 57 35.4 +0.3
RYN Ryan 74.05 54 eP P 20 57 35.4 +0.3
comp=Z,2.9nm,0.9s
KVN Kaiserville 74.09 53 eP P 20 57 35.8 +0.4
comp=Z,4.1nm,1.0s
KVN Kaiserville 74.09 53 eP P 20 57 35.8 +0.4
KVN pmax pmax
comp=Z,4.0nm,1.0s
BOZ Bozeman (W) 74.29 45 eP P 20 57 36.8 +0.4
comp=Z,4.4nm,0.9s
BOZ Bozeman (W) 74.29 45 eP P 20 57 36.8 +0.4
BOZ pmax pmax
comp=Z,4.0nm,0.9s
NV01 Mina Array Sit 74.31 54 eP P 20 57 37.2 +0.5
NVAR Mina Array Bea 74.31 54 P P 20 57 38.1 +1.5
comp=Z,3.8nm,0.8s,baz=282,slow=6.1,SNR=12
ELK Elko 74.95 50 P P 20 57 42.3 +1.9
comp=Z,0.7nm,0.4s,baz=358,slow=5.9,SNR=5.5
NC405 NORSAR Array S 75.19 338 eP P 20 57 40.9 -0.2
NC303 NORSAR Array S 75.20 338 eP P 20 57 40.9 -0.3
NC204 NORSAR Array S 75.34 338 eP P 20 57 41.4 -0.6
NB2 NORSAR Subarra 75.39 338 P P 20 57 42.6 +0.2
comp=Z,1.2nm,0.6s,baz=37,slow=6.2
NB2 NORSAR Subarra 75.39 338 P P 20 57 42.5 +0.2
NB2 pmax pmax
comp=Z,1.0nm,0.6s
NB200 NORSAR Array S 75.39 338 eP P 20 57 42.9 +0.6
NOA NORSAR Array B 75.39 338 P P 20 57 42.9 +0.6
comp=Z,3.2nm,0.8s,baz=39,slow=5.8,SNR=14
H17A Grant Village 75.60 45 eP P 20 57 44.5 +0.4
comp=Z,6.3nm,0.9s
AKASG Malin Array Be 75.73 323 P P 20 57 44.4 +0.1
comp=Z,1.5nm,0.5s,baz=47,slow=6.2,SNR=7.0
AKBB Malin Array Si 75.73 323 eP P 20 57 43.4 -0.9
comp=Z,8.1nm,1.4s
AKBB Malin Array Si 75.73 323 eP P 20 57 43.4 -0.9
AKBB pmax pmax
comp=Z,8.0nm,1.4s
KIEV Kiev 75.74 323 ⇓ eP P 20 57 43.7 -0.7
KIEV pmax pmax
comp=Z,6.0nm,1.3s
MOOW Moose Ponds 75.89 46 eP P 20 57 45.6 -0.1
comp=Z,4.4nm,1.0s
RLMT Red Lodge 75.91 44 eP P 20 57 46.0 +0.2
comp=Z,2.3nm,0.9s
R11A Troy Canyon, C 76.11 53 eP P 20 57 47.2 +0.1
comp=Z,5.4nm,1.2s
TPNV Topopah Spring 76.49 54 eP P 20 57 49.7 +0.6
comp=Z,2.9nm,0.6s
TPNV Topopah Spring 76.49 54 eP P 20 57 49.7 +0.6
TPNV pmax pmax
comp=Z,3.0nm,0.6s
DUG Dugway, Tooele 76.77 50 eP P 20 57 50.8 +0.1
comp=Z,5.7nm,0.8s
DUG Dugway, Tooele 76.77 50 eP P 20 57 50.8 +0.1
DUG pmax pmax
comp=Z,6.0nm,0.8s
TCUT Toone Canyon 77.08 48 eP P 20 57 52.6 +0.1
comp=Z,6.8nm,0.9s
PSUT Pine Spring 77.11 52 eP P 20 57 52.8 +0.1
comp=Z,5.0nm,1.1s
FRB Frobisher Bay 77.16 14 P P 20 57 52.5 +0.4
comp=Z,2.7nm,0.7s,baz=310,slow=6.9,SNR=5.2
PD31 Pinedale Array 77.18 46 eP P 20 57 53.2 +0.1
PDAR Pinedale Array 77.18 46 P P 20 57 53.5 +0.4
comp=Z,1.6nm,0.8s,baz=269,slow=1.6,SNR=14
PDAR Pinedale Array 77.18 46 eP P 20 57 52.7 -0.3
NLU North Lily Min 77.37 50 eP P 20 57 54.1 0.0
comp=Z,8.3nm,1.4s
MPU Maple Canyon 77.61 49 eP P 20 57 56.0 +0.5
comp=Z,4.8nm,0.9s
CCUT Cedar City 78.00 52 eP P 20 57 57.8 0.0
comp=Z,4.1nm,1.0s
MSU Marysvale 78.17 51 eP P 20 57 58.7 0.0
MSU Marysvale 78.17 51 eP P 20 57 58.7 0.0
LCMT Little Creek M 78.40 53 eP P 20 57 59.5 -0.3
comp=Z,4.2nm,0.8s
P17A Butcher Ranch, 78.48 49 eP P 20 58 00.4 +0.1
comp=Z,6.4nm,0.9s
RAR Rarotonga 78.60 127 LR LR 21 24 42.3
comp=Z,277nm,21.4s,baz=249,slow=30
KNB Kanab 78.66 52 eP P 20 58 01.5 +0.2
comp=Z,7.6nm,1.0s
KNB Kanab 78.66 52 eP P 20 58 01.5 +0.2
KNB pmax pmax
comp=Z,8.0nm,1.0s
U15A North Rim 79.36 53 eP P 20 58 05.0 -0.2
comp=Z,3.9nm,0.7s
BUR04 Bucovina Ar. S 79.75 323 eP P 20 58 06.6 -0.3
PV09 Paradox Valley 80.07 49 eP P 20 58 09.4 +0.3
PV21 Cone Mtn., Par 80.13 49 eP P 20 58 09.8 +0.4
comp=Z,8.8nm,0.7s
PV23 Carpenter Ridg 80.17 49 eP P 20 58 09.7 +0.1
comp=Z,6.8nm,0.7s
PV10 Paradox Valley 80.20 49 eP P 20 58 10.3 +0.5
PV14 Lion Creek, Pa 80.22 49 eP P 20 58 09.7 -0.1
comp=Z,10nm,0.9s
PV20 West Nyswonger 80.27 49 eP P 20 58 10.3 +0.2
comp=Z,12nm,0.7s
PV19 Morning Glory 80.28 49 eP P 20 58 10.5 +0.3
comp=Z,8.7nm,0.8s
PV17 East Wray Mesa 80.31 49 eP P 20 58 10.5 +0.2
comp=Z,12nm,0.9s
PV16 Nyswonger Mesa 80.32 49 eP P 20 58 10.0 -0.4
comp=Z,6.2nm,0.7s
PV11 David Mesa, Pa 80.35 49 eP P 20 58 10.8 +0.2
comp=Z,9.2nm,0.6s
BR101 Keskin Array S 80.38 312 eP P 20 58 11.2 +0.6
BRTR Keskin Array B 80.38 312 P P 20 58 11.2 +0.6
comp=Z,1.5nm,1.0s,baz=102,slow=3.0,SNR=5.3
BRTR Keskin Array B 80.38 312 i P P 20 58 11.1 +0.5
BRTR pmax pmax
comp=Z,2.0nm,1.0s
PV12 Saucer Basin, 80.39 49 eP P 20 58 10.9 +0.2
comp=Z,3.9nm,0.7s
PV03 Paradox Valley 80.40 49 eP P 20 58 11.0 +0.2
PV13 Radium Mtn., P 80.47 49 eP P 20 58 11.0 -0.3
comp=Z,7.4nm,0.7s
PV01 Paradox Valley 80.64 49 eP P 20 58 12.6 +0.4
NIE Niedzica 80.78 326 P P 20 58 13.3 +0.9
NIE pmax pmax
comp=Z,4.0nm,1.9s
BRG Berggiesshubel 82.39 330 P P 20 58 20.8 0.0
CLL Collm 82.42 331 eP P 20 58 21.0 0.0
CLL Collm 82.42 331 eP P 20 58 21.0 0.0
KRUC Moravsky 82.76 328 P P 20 58 23.1 +0.3
ANMO Albuquerque 83.98 51 P P 20 58 29.9 +0.3
comp=Z,2.0nm,0.9s,baz=254,slow=2.8,SNR=6.9
GERES GERESS Array B 84.06 329 P P 20 58 29.6 0.0
comp=Z,0.7nm,0.6s,baz=36,slow=7.1,SNR=4.0
GEA0 GERESS Array S 84.07 329 eP P 20 58 29.3 -0.4
VTS Vitosha 84.28 320 P P 20 58 31.5 +0.6
VTS pmax pmax
comp=Z,5.0nm,1.1s
LTX Lajitas 89.45 53 eP P 20 58 57.9 +1.6
LTX Lajitas 89.45 53 eP P 20 58 57.9 +1.6
TXAR Lajitas Array 89.45 53 P P 20 58 57.9 +1.6
comp=Z,1.6nm,0.8s,baz=302,slow=2.9,SNR=16
LPAZ La Paz 145.83 63 PKPbc PKPab 21 05 40.4 +0.6
comp=Z,5.3nm,0.8s,baz=348,slow=3.1,SNR=16
LPAZ La Paz 145.83 63 ePKPdf PKPdf 21 05 37.9 -0.9
LPAZ La Paz 145.83 63 ePKIKP PKPdf 21 05 37.9 -0.9

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*IDC **05** 20:49:04.3±11.0, 36.11N×77.60E, h0km, mb3.9/2, mb1 3.7/3, mb1mx3.2/39, mbtmp3.6/3, ML3.1/1, Error ellipse: s-maj=206.6km s-min=45.4km az=134.0*
*NNC **05** 20:49:11.9±7.9, 36.24N×78.17E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=65.0km s-min=39.3km az=164.0*
ISC 05 20:49:11.9±2.7, 36.0N±0.2×78.2E±0.1, h88km, n6, σ2.9 30/10, 4C-2D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
SFK	**Sufi-Kurgan**	**5.44**	**319**	⇓	P	**Pn**	**20 50 31.8**	**+1.1**
	0.4nm,0.2s						
SFK				⇑	S	**Sn**	**20 51 36.3**	**+4.2**
	2.5nm,0.4s						
PDGK	**Podgornoye**	**7.40**	**8**	⇑	P	**Pn**	**20 50 59.0**	**+1.8**
	2.2nm,0.6s						
PDGK				⇑	S	**Sn**	**20 52 21.2**	**+1.6**
	8.8nm,0.5s						
KK31	**Karatay Array**	**9.23**	**323**	⇑	P	**Pn**	**20 51 22.3**	**+0.2**
	0.2nm,0.3s,baz=139,slow=12,SNR=14						
KK31				⇓	S	**Sn**	**20 53 01.4**	**-2.8**
	0.4nm,0.7s,baz=135,slow=23,SNR=4.2						
MKAR	**Makanchi Array**	**11.23**	**15**		Pn	**Pn**	**20 51 49.0**	**-0.3**
	0.1nm,0.3s,baz=198,slow=13,SNR=8.4						
MKAR					Sn	**Sn**	**20 53 50.5**	**-2.2**
	0.3nm,0.3s,baz=195,slow=23,SNR=12						
FINES	**FINESS Array B**	**41.19**	**325**	P		**P**	**20 56 47.1**	**-0.2**
	1.3nm,0.8s,baz=106,slow=8.8,SNR=7.6						
ARCES	**ARCESS Array B**	**43.88**	**336**	P		**P**	**20 57 09.4**	**+0.3**
	1.3nm,0.8s,baz=98,slow=6.7,SNR=2.5						

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*JMA **05** 20:51:52.1±0.2, 23.96N×122.41E, h13km±4km, M2.6*
*TAP **05** 20:51:53.4, 24.01N×122.36E, h18km±1km, ML2.8, D*
ISC 05 20:51:51.5±1.1, 24.00N±0.03×122.39E±0.02, h14km±9km, n50, σ0.9 42/85, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
EOS1	**EOS1**	**0.59**	**336**	P		**Pb**	**20 52 04.0**	**+0.3**
	baz=338						
EOS1				*e*	S	**Sb**	**20 52 12.3**	**+0.3**
	baz=338						
JYNG	**Yonagunijimaku**	**0.67**	**48**	P		**Pb**	**20 52 05.3**	**+0.2**
JYNG				*e*	S	**Sb**	**20 52 13.9**	**-0.4**
HWA	**Hwalien**	**0.72**	**268**	*e*	P	**Pn**	**20 52 07.7**	**+0.5**
	baz=266						
NANB	**Nanao**	**0.72**	**306**	*e*	P	**Pb**	**20 52 05.8**	**-0.1**
	baz=306						
NANB				*e*	S	**Sg**	**20 52 15.0**	**-0.2**
	baz=306						
YOJ	**Yonaguni jima**	**0.73**	**51**	*i*	P	**Pn**	**20 52 07.2**	**-0.2**
	baz=52						
YOJ	**Yonaguni jima**	**0.73**	**51**	P		**Pb**	**20 52 06.3**	**+0.3**
YOJ				*e*	S	**Sb**	**20 52 15.8**	**0.0**
ENA	**Nanau**	**0.73**	**306**	P		**Pg**	**20 52 05.8**	**+0.1**
	baz=306						
ENA				*e*	S	**Sg**	**20 52 15.4**	**0.0**
	baz=306						
TWD	**Chiawan**	**0.73**	**276**	*e*	P	**Pb**	**20 52 06.7**	**+0.7**
	baz=275						
NACB	**Ninganchiao**	**0.75**	**283**	P		**Pb**	**20 52 06.9**	**+0.6**
	baz=282						
NACB				*e*	S	**Sn**	**20 52 18.2**	**-0.6**
	baz=282						
TWC	**Suao**	**0.78**	**321**	P		**Pg**	**20 52 06.6**	**-0.1**
	baz=322						
TWC				*e*	S	**Sg**	**20 52 15.6**	**-1.4**
	baz=322						
ILA	**Ilan**	**0.96**	**322**	*e*	P	**Pn**	**20 52 10.3**	**-0.3**
	baz=323						
ILA				*e*	S	**Sb**	**20 52 22.3**	**-0.2**
	baz=323						
TWE	**Neicheng**	**0.97**	**317**	*e*	P	**Pn**	**20 52 10.8**	**0.0**
	baz=318						
TWE				*e*	S	**Sb**	**20 52 22.4**	**-0.5**
	baz=318						
ENTT	**Nioudou**	**0.98**	**310**	P		**Pn**	**20 52 10.8**	**-0.1**
	baz=311						
ENTT				*e*	S	**Sb**	**20 52 23.1**	**-0.2**
	baz=311						
NTC	**Toucheng**	**0.99**	**329**	*e*	P	**Pg**	**20 52 10.6**	**-0.1**
	baz=330						
NTC				*e*	S	**Sg**	**20 52 23.6**	**0.0**
	baz=330						
NNSB	**Datong**	**1.01**	**295**	*e*	P	**Pn**	**20 52 11.7**	**+0.2**
	baz=294						
NNSB				*e*	S	**Sn**	**20 52 25.2**	**-0.4**
	baz=294						
SLBB	**Yuanshan**	**1.02**	**317**	*e*	P	**Pn**	**20 52 11.6**	**+0.1**
	baz=318						
SLBB				*e*	S	**Sg**	**20 52 24.2**	**-0.3**
	baz=318						
HGSD	**Ruisui**	**1.02**	**240**	*e*	P	**Pb**	**20 52 11.4**	**+0.4**
	baz=238						
HGSD				*e*	S	**Sb**	**20 52 24.4**	**+0.1**
	baz=238						
NNS	**Nan Shan**	**1.03**	**295**	P		**Pn**	**20 52 11.8**	**+0.2**
	baz=295						
NNS				*e*	S	**Sn**	**20 52 25.4**	**-0.5**
	baz=295						
WHF	**Hehuan Shan**	**1.04**	**278**	*e*	P	**Pb**	**20 52 11.7**	**+0.2**
	baz=277						
TWB1	**Santiao Chiao**	**1.07**	**340**	*e*	P	**Pg**	**20 52 12.9**	**+0.8**
	baz=341						
TIPB	**Shuangxi**	**1.09**	**332**	*e*	P	**Pg**	**20 52 12.8**	**+0.1**
	baz=333						
TIPB				*e*	S	**Sb**	**20 52 26.2**	**-0.2**
	baz=333						
EHY	**Hungye**	**1.10**	**243**	P		**Pb**	**20 52 12.3**	**+0.1**
	baz=241						
EHY					S	**Sb**	**20 52 26.3**	**-0.2**
	baz=241						
CHGB	**Renai**	**1.11**	**273**	P		**Pb**	**20 52 12.8**	**+0.1**
	baz=272						
CHGB					S	**Sb**	**20 52 27.5**	**+0.3**
	baz=272						
NWLT	**Wulai**	**1.12**	**314**	*e*	P	**Pg**	**20 52 13.4**	**+0.3**
	baz=314						
NWLT				*e*	S	**Sg**	**20 52 27.3**	**-0.4**
	baz=314						
YHNB	**Yeheng**	**1.14**	**306**	*e*	P	**Pg**	**20 52 14.0**	**+0.4**
	baz=306						
YHNB				*e*	S	**Sb**	**20 52 27.4**	**-0.3**
	baz=306						
NSK	**Sanguang**	**1.16**	**306**	*e*	P	**Pg**	**20 52 14.3**	**+0.5**
	baz=306						
NSK				*e*	S	**Sb**	**20 52 28.1**	**-0.2**
	baz=306						
VWDT	**VWDT**	**1.17**	**258**	*e*	P	**Pn**	**20 52 13.5**	**0.0**
	baz=256						
VWDT				*e*	S	**Sn**	**20 52 29.2**	**0.0**
	baz=256						
YULB	**Yu-li**	**1.17**	**239**	*e*	P	**Pn**	**20 52 13.1**	**-0.4**
	baz=237						
YULB				*e*	S	**Sb**	**20 52 28.1**	**-0.6**
	baz=237						
TWF1	**Yuli**	**1.19**	**237**	*e*	P	**Pn**	**20 52 13.6**	**-0.3**
	baz=235						
NWF	**Wu-fen Shan**	**1.20**	**333**	*e*	S	**Sg**	**20 52 30.0**	**-0.3**
	baz=333						
WFSB	**Wu-fen Shan**	**1.20**	**333**	*e*	P	**Pg**	**20 52 14.5**	**-0.1**
	baz=333						
WFSB				*e*	S	**Sg**	**20 52 30.1**	**-0.2**
	baz=333						
TWA	**Mucha**	**1.22**	**323**	*e*	P	**Pg**	**20 52 15.3**	**+0.2**
	baz=324						
TWA				*e*	S	**Sn**	**20 52 30.4**	**-0.2**
	baz=324						
IRIF	**Iriomote-Funau**	**1.27**	**75**	P		**Pg**	**20 52 15.7**	**-0.2**
IRIF				*e*	S	**Sg**	**20 52 32.6**	**+0.2**
TATO	**Taipei**	**1.27**	**320**	*e*	P	**Pb**	**20 52 15.5**	**+0.3**
	baz=320						
TATO				*e*	S	**Sn**	**20 52 31.6**	**-0.2**
	baz=320						
SSLB	**Suanglung**	**1.33**	**261**	*e*	P	**Pn**	**20 52 15.8**	**+0.1**
	baz=260						
SSLB				*e*	S	**Sb**	**20 52 32.8**	**-0.5**
	baz=260						
YM01	**YM01**	**1.36**	**327**	*e*	P	**Pg**	**20 52 19.1**	**+1.4**

baz=327
YM07 YM07 1.36 329 *e*P **Pb 20 52 16.8 -0.1**
baz=329
YM07 *e*S **Sb 20 52 34.2 +0.1**
baz=329
SMLT Sun Moon Lake 1.37 265 *e*P **Pn 20 52 16.8 +0.5**
baz=264
YM10 YM10 1.37 327 *e*P **Pb 20 52 17.3 +0.2**
baz=327
YM10 *e*S **Sb 20 52 34.6 +0.1**
baz=327
YM11 YM11 1.38 327 *e*P **Pg 20 52 18.2 +0.1**
baz=328
YM05 YM05 1.38 327 *e*P **Pb 20 52 17.2 +0.1**
baz=327
YM05 *e*S **Sb 20 52 34.6 -0.1**
baz=327
YM04 YM04 1.39 326 *e*P **Pb 20 52 17.5 +0.3**
baz=326
TYC Yuchr 1.41 266 *e*P **Pn 20 52 17.2 +0.4**
baz=265
LIOB Emei 1.41 297 *e*P **Pg 20 52 18.4 -0.2**
baz=297
NSTT Nanjuang 1.41 297 *e*P **Pg 20 52 18.9 +0.1**
baz=296
NSTT *e*S **Sg 20 52 36.9 -0.2**
baz=296
JKRS Kuro-shima 1.50 81 P **Pb 20 52 19.3 +0.2**
JKRS *e*S **Sb 20 52 38.5 +0.6**
WJS Zhushan 1.53 264 *e*P **Pb 20 52 20.5 +0.8**
baz=262
JIJ Ishigaki jima 1.64 77 P **Pb 20 52 20.9 -0.6**
JIJ *e*S **Sb 20 52 41.6 -0.5**
JISG Ishigakijimahi 1.84 71 P **Pn 20 52 23.7 +0.9**
JISG *e*S **Sn 20 52 46.4 +0.5**
JTJ Tarama 2.20 73 *e*S **Sb 20 52 57.2 -1.0**

ISCJB ***05*** *21:18:18.9±1.1, 37.°40N±0.°04×143.°42E±0.°08, h61km±18km, mb3.2/3, Error ellipse: s-maj=10.6km s-min=5.9km az=12.3*
JMA ***05*** *21:18:18.7±0.2, 37.°39N×143.°42E, h44km, M3.2*
IDC ***05*** *21:18:19.1±2.1, 36.°61N×143.°28E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.2/49, mbtmp3.2/4, ML3.1/1, Error ellipse: s-maj=49.5km s-min=28.1km az=61.0*
ISC 05 21:18:20.0±2.3**, 37.41N**±0.°05×**143.4E**±0.°1**, h43**km±30km**, n20,** σ**0s86**/33**, mb3.1**/3**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.79**	**301**	P		**Pn**		**21 18 48.0**	**-0.4**
JIKH				S		**Sn**		**21 19 09.9**	**0.0**
JIO	**Ouri**	**1.94**	**303**	P		**Pn**		**21 18 50.5**	**0.0**
JIO				S		**Sn**		**21 19 13.6**	**-0.1**
JFK	**Kawauchi**	**2.03**	**270**	P		**Pn**		**21 18 51.5**	**-0.3**
JFK				S		**Sn**		**21 19 15.5**	**-0.4**
JKMT	**Kesennumamotoy**	**2.08**	**313**	P		**Pn**		**21 18 52.1**	**-0.3**
JKMT				S		**Sn**		**21 19 17.1**	**+0.1**
ONAJ	**Iwakimizuishiy**	**2.12**	**262**	P		**Pn**		**21 18 52.8**	**-0.2**
ONAJ				*e*S		**Sn**		**21 19 16.9**	**-1.2**
JMM	**Marumori**	**2.13**	**283**	P		**Pn**		**21 18 52.8**	**-0.4**
JMM				S		**Sn**		**21 19 18.5**	**0.0**
JMK	**Ichinoseki**	**2.32**	**312**	P		**Pn**		**21 18 56.0**	**+0.3**
JFT	**Otama**	**2.46**	**273**	P		**Pn**		**21 18 58.5**	**+0.9**
JFT				S		**Sn**		**21 19 27.1**	**+0.7**
JOM	**Ohasama**	**2.65**	**322**	P		**Pn**		**21 19 00.4**	**+0.1**
JOM				S		**Sn**		**21 19 31.5**	**+0.3**
JYK	**Kaneyama**	**2.84**	**303**	P		**Pn**		**21 19 03.7**	**+0.8**
JYK				*e*S		**Sn**		**21 19 37.3**	**+1.4**
JANG	**Nango**	**3.31**	**334**	P		**Pn**		**21 19 10.0**	**+0.7**
JANG				S		**Sn**		**21 19 46.4**	**-1.0**
JAG	**Ashikaga**	**3.33**	**254**	P		**Pn**		**21 19 09.7**	**+0.1**
JAG				S		**Sn**		**21 19 47.0**	**-0.9**
BSO1	**Boso 1**	**3.39**	**216**	P		**Pn**		**21 19 10.5**	**+0.6**
BSO1				*e*S		**Sn**		**21 19 48.6**	**0.0**
JRY	**Ryogami san**	**3.89**	**250**	P		**Pn**		**21 19 17.2**	**-0.1**
JRY				*e*S		**Sn**		**21 19 59.1**	**-2.6**
JOD2	**Odawara 2**	**4.10**	**240**	P		**Pn**		**21 19 20.8**	**+0.6**
JOD2				*e*S		**Sn**		**21 20 07.0**	**0.0**
MJAR	**Matsushiro Arr**	**4.26**	**260**	Pn		**Pn**		**21 19 23.0**	**+0.5**
	1.2nm,0.3s,baz=90,slow=15,SNR=22								
MJAR				Sn		**Sn**		**21 20 12.9**	**+2.0**
	0.4nm,0.3s,baz=94,slow=28,SNR=3.0								
JOT	**Ohata**	**4.37**	**336**	S		**Sn**		**21 20 12.3**	**-1.2**
ZALV	**Zalesovo Beam**	**42.85**	**312**	P		P		21 26 22.5	+8.8
	0.4nm,0.5s,baz=74,slow=7.1,SNR=2.7								
MKAR	**Makanchi Array**	**45.28**	**302**	P		P		21 26 39.8	+6.4
	0.2nm,0.7s,baz=79,slow=9.8,SNR=2.7								
WRA	**Warramunga Arr**	**57.68**	**190**	P		**P**		**21 28 06.1**	**-0.1**
	0.1nm,0.5s,baz=9.4,slow=7.4,SNR=3.2								

ROM ***05*** *21:26:54.6±0.2, 45.°114N±0.°005×11.°66E±0.°01, h6km±1km, ML3.0/62*
ISCJB ***05*** *21:26:55.8±0.2, 45.°11N±0.°01×11.°54E±0.°02, h28km±2km, Error ellipse: s-maj=2.6km s-min=1.9km az=150.2*
LDG ***05*** *21:26:55.3±0.1, 45.°11N×11.°76E, h10km, Md3.2/2, Ml3.0/32, Error ellipse: s-maj=2.0km s-min=1.6km az=123.0*
PRU ***05*** *21:26:57.1±0.0, 45.°14N×11.°80E, h12km*
STR ***05*** *21:26:59.5±2.3, 45.°N±12.°×1.°1E±1.°7, h27km, M4.0/7, mb4.8/2, MLv3.5/7*
ISC 05 21:26:55.2±0.9**, 45.°13N**±0.°02×**11.°62E**±0.°02**, h18**km±3km**, n184,** σ**1s21**/235**, 7C-17D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TEOL	**Teolo**	**0.24**	**9**	⇑*i*Pg		**Pg**		**21 27 00.4**	**-0.3**
TEOL				*i* Sg		**Sb**		**21 27 05.2**	**+0.7**
TEOL	**Teolo**	**0.24**	**9**	P		**Pg**		**21 27 00.4**	**-0.3**
TEOL				S		**Sb**		**21 27 05.1**	**+0.7**
TEOL					AML	AML			
	comp=E,10595μm,1.0s								
TEOL					AML	AML			
	comp=N,8430μm,0.7s								
TEOL					AML	AML			
	comp=E,10595μm,1.0s								
TEOL					AML	AML			
	comp=N,8430μm,0.7s								
TEOL					AML	AML			
	comp=E,10550μm,1.0s								
TEOL					AML	AML			
	comp=N,8430μm,0.7s								
TEOL					AML	AML			
	comp=E,10550μm,1.0s								
TEOL					AML	AML			
	comp=N,8430μm,0.7s								
SERM	**Sermide**	**0.26**	**243**	P		**Pg**		**21 27 00.3**	**-0.7**
SERM				S		**Sg**		**21 27 05.0**	**+0.1**
SERM					AML	AML			
	comp=E,2335μm,0.6s								
SERM					AML	AML			
	comp=N,2230μm,0.5s								
SERM					AML	AML			
	comp=E,4240μm,1.0s								
SERM					AML	AML			
	comp=N,4400μm,0.5s								
SERM					AML	AML			
	comp=E,2870μm,0.5s								
SERM					AML	AML			
	comp=N,3350μm,0.7s								
SERM					AML	AML			
	comp=E,4185μm,1.0s								
SERM					AML	AML			
	comp=N,6300μm,0.7s								
SERM					AML	AML			
	comp=E,2865μm,0.5s								
SERM					AML	AML			
	comp=N,3355μm,0.7s								
SERM					AML	AML			
	comp=E,4195μm,1.0s								
SERM					AML	AML			
	comp=N,6305μm,0.7s								
SERM					AML	AML			
	comp=E,4195μm,1.0s								
SERM					AML	AML			
	comp=N,6305μm,0.7s								
SERM					AML	AML			
	comp=N,3355μm,0.7s								
SERM					AML	AML			
	comp=E,2865μm,0.5s								
ADRI	**Adria, Italy**	**0.30**	**107**	⇓*i*Pg		**Pg**		**21 27 01.4**	**-0.3**
ZOVE	**Zovencedo**	**0.34**	**345**	*e*P		**Pg**		**21 27 02.2**	**-0.2**
ZOVE				S		**Sg**		**21 27 07.8**	**+0.5**
GAZZ	**Gazzo Veronese**	**0.37**	**268**	⇓*e*Pg		**Pg**		**21 27 02.9**	**0.0**
GAZZ				*e*Sg		**Sg**		**21 27 09.8**	**+1.7**
T0813	**Massa Finalese**	**0.39**	**230**	P		**Pg**		**21 27 02.7**	**-0.5**
T0813					AML	AML			
	comp=E,4825μm,0.2s								
T0813					AML	AML			
	comp=N,4930μm,1.2s								
T0813					AML	AML			
	comp=E,5385μm,0.2s								
T0813					AML	AML			
	comp=N,4800μm,1.2s								
T0813					AML	AML			
	comp=E,4825μm,0.2s								
T0813					AML	AML			
	comp=N,4930μm,1.2s								
T0813					AML	AML			
	comp=E,5385μm,0.2s								
T0813					AML	AML			
	comp=N,4815μm,1.2s								
T0813					AML	AML			
	comp=E,4825μm,0.2s								
T0813					AML	AML			
	comp=N,4930μm,1.1s								
T0813					AML	AML			
	comp=E,5385μm,0.2s								
T0813					AML	AML			
	comp=N,4830μm,1.2s								
T0813					AML	AML			
	comp=N,4930μm,1.1s								
T0813					AML	AML			
	comp=N,4830μm,1.2s								
T0813					AML	AML			
	comp=E,5385μm,0.2s								
T0813					AML	AML			
	comp=E,4825μm,0.2s								
FIU	**Minerbio Fiu**	**0.49**	**190**	P		**Pg**		**21 27 04.9**	**-0.3**
FIU					AML	AML			
	comp=E,3470μm,0.2s								
FIU					AML	AML			
	comp=N,3580μm,0.2s								
FIU					AML	AML			
	comp=E,3470μm,0.2s								
FIU					AML	AML			
	comp=N,3580μm,0.2s								
FIU					AML	AML			
	comp=E,3470μm,0.2s								
FIU					AML	AML			
	comp=N,3580μm,0.2s								
FIU					AML	AML			
	comp=N,3580μm,0.2s								
FIU					AML	AML			
	comp=E,3470μm,0.2s								
SBPO	**S.Benedetto Po**	**0.50**	**262**	P		**Pb**		**21 27 05.7**	**+0.3**
RAVA	**Ravarino**	**0.51**	**224**	P		**Pg**		**21 27 05.5**	**0.0**
RAVA				S		**Sb**		**21 27 14.5**	**+1.9**
RAVA					AML	AML			
	comp=E,2225μm,0.7s								
RAVA					AML	AML			
	comp=N,2530μm,0.3s								
RAVA					AML	AML			
	comp=E,2225μm,0.7s								
RAVA					AML	AML			
	comp=N,2530μm,0.3s								
RAVA					AML	AML			
	comp=E,2220μm,0.7s								
RAVA					AML	AML			
	comp=N,2530μm,0.3s								
RAVA					AML	AML			
	comp=E,2220μm,0.7s								
MARN	**Marana (Italy)**	**0.59**	**331**	⇓*e*Pg		**Pb**		**21 27 06.7**	**-0.1**
MARN				*e*Sg		**Sb**		**21 27 15.3**	**+0.5**
ROVR	**Rover Verones**	**0.65**	**324**	P		**Pb**		**21 27 07.7**	**-0.3**
ASOL	**Asolo**	**0.70**	**17**	P		**Pb**		**21 27 09.6**	**+0.7**
ASOL					AML	AML			
	comp=E,4000μm,0.2s								
ASOL					AML	AML			
	comp=N,2470μm,0.8s								
ASOL					AML	AML			
	comp=E,4000μm,0.2s								
ASOL					AML	AML			
	comp=N,2475μm,0.8s								
ASOL					AML	AML			
	comp=E,4000μm,0.2s								
ASOL					AML	AML			
	comp=N,2475μm,0.8s								
NOVE	**Novellara**	**0.72**	**243**	P		**Pb**		**21 27 09.5**	**+0.4**
NOVE					AML	AML			
	comp=E,3590μm,0.3s								
NOVE					AML	AML			
	comp=N,1585μm,1.3s								
NOVE					AML	AML			
	comp=E,3585μm,0.3s								
NOVE					AML	AML			
	comp=N,1590μm,1.3s								
NOVE					AML	AML			
	comp=E,3585μm,0.3s								
NOVE					AML	AML			
	comp=N,1590μm,1.3s								
NOVE					AML	AML			
	comp=E,3585μm,0.3s								
NOVE					AML	AML			
	comp=N,1590μm,1.3s								
MTRZ	**Monterenzio**	**0.76**	**188**	P		**Pn**		**21 27 12.7**	**+1.8**
MTRZ					AML	AML			
	comp=E,1155μm,0.6s								
MTRZ					AML	AML			
	comp=N,932μm,0.3s								
MTRZ					AML	AML			
	comp=E,1200μm,0.6s								
MTRZ					AML	AML			
	comp=N,934μm,0.3s								
MTRZ					AML	AML			
	comp=E,1155μm,0.6s								
MTRZ					AML	AML			
	comp=N,930μm,0.3s								
MTRZ					AML	AML			
	comp=E,1200μm,0.6s								
MTRZ					AML	AML			
	comp=N,934μm,0.3s								
MTRZ					AML	AML			
	comp=N,934μm,0.3s								
MTRZ					AML	AML			
	comp=E,1155μm,0.6s								
MTRZ					AML	AML			
	comp=E,1200μm,0.6s								
MTRZ					AML	AML			
	comp=N,930μm,0.3s								
CGRP	**Cima Grappa**	**0.77**	**10**	⇑*i*Pg		**Pb**		**21 27 09.9**	**-0.2**
CGRP	**Cima Grappa**	**0.77**	**10**	P		**Pb**		**21 27 09.9**	**-0.2**
CGRP					AML	AML			
	comp=E,907μm,1.2s								
CGRP					AML	AML			
	comp=N,1145μm,0.6s								
CGRP					AML	AML			
	comp=E,907μm,1.2s								
CGRP					AML	AML			
	comp=N,1145μm,0.6s								
CGRP					AML	AML			
	comp=N,1145μm,0.6s								
CGRP					AML	AML			
	comp=E,907μm,1.2s								
MTLO	**Montello**	**0.77**	**26**	*e*Pg		**Pb**		**21 27 10.3**	**+0.3**
MTLO				*e*Sg		**Sn**		**21 27 22.3**	**+0.1**
IESO	**Jesolo**	**0.77**	**59**	*e*Pg		**Pg**		**21 27 10.6**	**+0.3**
IESO				*e*Sg		**Sn**		**21 27 23.0**	**+0.8**
IMOL	**Imola, Italy**	**0.77**	**173**	P		**Pn**		**21 27 11.7**	**+0.6**
BALD	**Monte Baldo**	**0.79**	**315**	⇓*i*Pg		**Pb**		**21 27 10.3**	**-0.2**
BALD				*i* Sg		**Sb**		**21 27 22.4**	**+1.4**
ZEN8	**San Zeno di Mo**	**0.81**	**310**	P		**Pb**		**21 27 10.2**	**-0.5**
DOSS	**Dosso del Somm**	**0.81**	**338**	⇑*e*Pg		**Pb**		**21 27 10.7**	**-0.2**
DOSS				*e*Sg		**Sb**		**21 27 22.7**	**+1.2**
ZCCA	**Zocca**	**0.90**	**211**	P		**Pn**		**21 27 13.4**	**+0.4**
ZCCA					AML	AML			
	comp=E,581μm,0.5s								
ZCCA					AML	AML			
	comp=N,501μm,0.5s								
ZCCA					AML	AML			
	comp=E,570μm,0.4s								
ZCCA					AML	AML			
	comp=N,450μm,0.5s								
ZCCA					AML	AML			
	comp=E,581μm,0.5s								
ZCCA					AML	AML			
	comp=N,500μm,0.5s								
ZCCA					AML	AML			
	comp=E,570μm,0.4s								
ZCCA					AML	AML			
	comp=N,450μm,0.5s								
ZCCA					AML	AML			
	comp=N,450μm,0.5s								
ZCCA					AML	AML			
	comp=N,500μm,0.5s								
ZCCA					AML	AML			
	comp=E,581μm,0.5s								
SALO	**Salr**	**0.91**	**303**	P		**Pb**		**21 27 13.0**	**+0.5**
SALO				S		**Sg**		**21 27 27.0**	**+1.9**
SALO					AML	AML			
	comp=E,1695μm,1.0s								
SALO					AML	AML			
	comp=N,2515μm,0.9s								
SALO					AML	AML			
	comp=E,1695μm,1.0s								
SALO					AML	AML			
	comp=N,2515μm,0.9s								
CTI	**Castel Tesino**	**0.92**	**1**	P		**Pb**		**21 27 12.6**	**-0.1**
CTI					AML	AML			
	comp=E,2220μm,0.6s								
CTI					AML	AML			
	comp=N,2320μm,0.2s								
CTI					AML	AML			
	comp=E,2220μm,0.6s								
CTI					AML	AML			
	comp=N,2320μm,0.2s								
CTI					AML	AML			
	comp=N,2320μm,0.2s								
CTI					AML	AML			
	comp=E,2220μm,0.6s								
VARN	**Col Varnada, M**	**0.93**	**21**	⇓*e*Pg		**Pb**		**21 27 12.9**	**+0.1**
VARN				*e*Sg		**Sn**		**21 27 28.2**	**+1.8**
PANI	**Panarotta**	**0.94**	**348**	⇑*e*Pg		**Pb**		**21 27 13.1**	**-0.1**
PRMA	**PARMA**	**0.99**	**249**	AML	AML				
	comp=E,698μm,0.3s								
PRMA					AML	AML			
	comp=E,698μm,0.3s								
PRMA					AML	AML			
	comp=N,715μm,1.0s								
PRMA					AML	AML			
	comp=E,698μm,0.3s								
PRMA					AML	AML			
	comp=N,715μm,1.0s								
PRMA					AML	AML			
	comp=N,715μm,1.0s								
FRE8	**Fregona**	**1.03**	**30**	P		**Pb**		**21 27 15.0**	**+0.6**
CAE	**Caneva**	**1.05**	**33**	⇓*e*Pg		**Pb**		**21 27 15.2**	**+0.3**
CAE				*e*Sg		**Sg**		**21 27 30.9**	**+1.5**
RNI	**Roncone**	**1.10**	**321**	⇑*e*Pg		**Pn**		**21 27 15.8**	**-0.1**
ERBM	**Eremo**	**1.11**	**231**	AML	AML				
	comp=N,222μm,1.1s								
ERBM					AML	AML			
	comp=E,233μm,1.2s								
ERBM					AML	AML			
	comp=N,222μm,1.1s								
ERBM					AML	AML			
	comp=E,234μm,1.2s								
ERBM					AML	AML			
	comp=E,234μm,1.2s								
ERBM					AML	AML			
	comp=N,222μm,1.1s								
FAU	**Forcella Aurin**	**1.13**	**13**	*e*Pg		**Pn**		**21 27 16.4**	**+0.2**
AGOR	**Agordo**	**1.20**	**14**	⇓*e*Pg		**Pn**		**21 27 17.6**	**+0.5**
AGOR	**Agordo**	**1.20**	**14**	P		**Pn**		**21 27 17.6**	**+0.5**
AGOR					AML	AML			
	comp=E,564μm,0.4s								
AGOR					AML	AML			
	comp=N,831μm,0.3s								
AGOR					AML	AML			
	comp=E,564μm,0.4s								
AGOR					AML	AML			
	comp=N,832μm,0.3s								
AGOR					AML	AML			
	comp=E,564μm,0.4s								
AGOR					AML	AML			
	comp=N,832μm,0.3s								
MABI	**Malga Bissina**	**1.21**	**321**	P		**Pn**		**21 27 17.7**	**+0.3**
MABI					AML	AML			
	comp=E,505μm,0.4s								
MABI					AML	AML			
	comp=N,330μm,0.3s								
MABI					AML	AML			
	comp=E,504μm,0.4s								
MABI					AML	AML			
	comp=N,330μm,0.3s								
MABI					AML	AML			
	comp=N,330μm,0.3s								
MABI					AML	AML			
	comp=E,504μm,0.4s								
PTF	**Prato**	**1.23**	**199**	P		**Pb**		**21 27 18.3**	**+0.4**
SFI	**Santa Sofia**	**1.23**	**172**	P		**Pb**		**21 27 18.0**	**0.0**
SFI					AML	AML			
	comp=E,408μm,0.4s								
SFI					AML	AML			
	comp=N,341μm,0.4s								
SFI					AML	AML			
	comp=E,408μm,0.4s								
SFI					AML	AML			
	comp=N,341μm,0.4s								
SFI					AML	AML			
	comp=E,408μm,0.4s								
SFI					AML	AML			
	comp=N,341μm,0.4s								
MLNI	**Malnisio**	**1.24**	**34**	⇓*e*Pg		**Pn**		**21 27 18.3**	**+0.7**
POPM	**Popiglio**	**1.24**	**210**	P		**Pn**		**21 27 18.0**	**+0.3**
POPM					AML	AML			
	comp=E,266μm,0.7s								
POPM					AML	AML			
	comp=N,299μm,0.2s								
POPM					AML	AML			
	comp=E,266μm,0.7s								
POPM					AML	AML			
	comp=N,299μm,0.2s								
POPM					AML	AML			
	comp=E,266μm,0.7s								
POPM					AML	AML			
	comp=N,299μm,0.2s								
CSO	**Casso**	**1.25**	**23**	⇑*e*Pg		**Pn**		**21 27 18.2**	**+0.4**
GRAM	**Graiana**	**1.27**	**241**	P		**Pb**		**21 27 19.6**	**+0.9**
GRAM				S		**Sg**		**21 27 37.6**	**+1.1**
SARO	**Sassorosso**	**1.28**	**223**	P		**Pb**		**21 27 19.3**	**+0.5**
VLC	**Villacollemand**	**1.31**	**223**	AML	AML				
	comp=E,114μm,1.6s								
VLC					AML	AML			
	comp=N,96μm,1.3s								
VLC					AML	AML			
	comp=N,96μm,1.3s								
VLC					AML	AML			
	comp=E,114μm,1.6s								
TLI	**Talmassons**	**1.31**	**52**	⇓*e*Pg		**Pb**		**21 27 19.9**	**+0.6**
CIMO	**Cimolais**	**1.32**	**26**	⇓*e*Pg		**Pn**		**21 27 19.1**	**+0.4**
CTL8	**Castelleone**	**1.32**	**277**	AML	AML				
	comp=E,731μm,1.2s								
CTL8					AML	AML			
	comp=N,484μm,1.1s								
CTL8					AML	AML			
	comp=E,731μm,1.2s								
CTL8					AML	AML			
	comp=N,484μm,1.1s								
OZOL	**Ozolo**	**1.34**	**343**	⇓*e*Pg		**Pn**		**21 27 20.3**	**+1.2**
KOSI	**Kohlern**	**1.35**	**353**	P		**Pn**		**21 27 20.3**	**+1.1**
KOSI					AML	AML			
	comp=E,650μm,0.8s								
KOSI					AML	AML			
	comp=N,858μm,0.6s								
KOSI					AML	AML			
	comp=E,650μm,0.8s								
KOSI					AML	AML			
	comp=N,858μm,0.6s								
KOSI					AML	AML			
	comp=E,650μm,0.8s								
KOSI					AML	AML			
	comp=N,858μm,0.6s								
STAL	**STALIGIAL**	**1.37**	**34**	P		**Pn**		**21 27 19.8**	**+0.4**
STAL					AML	AML			
	comp=E,1630μm,0.3s								
STAL					AML	AML			
	comp=N,1510μm,0.9s								
STAL					AML	AML			
	comp=E,2210μm,0.3s								
STAL					AML	AML			
	comp=N,1365μm,1.2s								

STAL AML AML
comp=E,1630µm,0.3s
STAL AML AML
comp=N,1510µm,0.9s
STAL AML AML
comp=E,2210µm,0.3s
STAL AML AML
comp=N,1365µm,1.2s
STAL AML AML
comp=N,1510µm,0.9s
STAL AML AML
comp=E,1630µm,0.3s
STAL AML AML
comp=E,2210µm,0.3s
STAL AML AML
comp=N,1365µm,1.2s
APPI Appiano 1.38 349 P **Pn** **21 27 20.8 +1.2**
APPI AML AML
comp=E,892µm,1.2s
APPI AML AML
comp=N,729µm,0.3s
APPI AML AML
comp=E,892µm,1.2s
APPI AML AML
comp=N,729µm,0.3s
APPI AML AML
comp=N,729µm,0.3s
APPI AML AML
comp=E,892µm,1.2s
BOSI Bolzano 1.39 351 P **Pb** **21 27 21.7 +1.2**
BOSI AML AML
comp=E,1775µm,0.5s
BOSI AML AML
comp=N,2025µm,0.7s
BOSI AML AML
comp=E,1775µm,0.5s
BOSI AML AML
comp=N,2025µm,0.7s
BOSI AML AML
comp=E,1775µm,0.5s
BOSI AML AML
comp=N,2025µm,0.7s
CARE Lago del Cares 1.45 334 *e*Pg **Pn** **21 27 22.3 +1.6**
MAIM Mastiano 1.46 214 P **Pn** **21 27 21.2 +0.7**
MAIM S **Sg** **21 27 42.2 +0.1**
MAIM Mastiano 1.46 214 P **Pn** **21 27 21.2 +0.7**
MAIM AML AML
comp=E,152µm,1.6s
MAIM AML AML
comp=N,170µm,0.4s
MAIM AML AML
comp=E,152µm,1.6s
MAIM AML AML
comp=N,170µm,0.4s
MAIM AML AML
comp=E,152µm,1.6s
MAIM AML AML
comp=N,170µm,0.4s
AFL Alpe Faloria 1.46 15‖ *e*Pg **Pb** **21 27 23.3 +1.4**
MPRI Monte Prat 1.47 40‖ *e*Pg **Pn** **21 27 21.7 +0.9**
PESA Pesaro 1.47 143 P **Pb** **21 27 21.6 -0.4**
PESA AML AML
comp=E,464µm,1.2s
PESA AML AML
comp=N,548µm,0.2s
PESA AML AML
comp=E,464µm,1.2s
PESA AML AML
comp=N,548µm,0.2s
PESA AML AML
comp=E,464µm,1.2s
PESA AML AML
comp=N,548µm,0.2s
BUA Buia 1.52 44 *e*Pg **Pn** **21 27 22.4 +0.9**
CRE Caprese Michel 1.52 171 P **Pb** **21 27 23.2 +0.2**
CRE AML AML
comp=E,279µm,0.6s
CRE AML AML
comp=N,242µm,1.4s
CRE AML AML
comp=E,278µm,0.6s
CRE AML AML
comp=N,242µm,1.4s
CRE AML AML
comp=N,242µm,1.4s
CRE AML AML
comp=E,278µm,0.6s
PARC Parchiule 1.54 163 P **Pb** **21 27 22.4 -0.8**
PARC AML AML
comp=E,230µm,1.1s
PARC AML AML
comp=N,186µm,0.5s
PARC AML AML
comp=N,186µm,0.5s
PARC AML AML
comp=E,230µm,1.1s
PE3 Peglio 1.56 156 AML AML
comp=E,410µm,0.3s
PE3 AML AML
comp=E,410µm,0.3s
PE3 AML AML
comp=N,482µm,0.4s
PE3 AML AML
comp=N,482µm,0.4s
CSMI Casera Mimoias 1.56 27‖ *e*Pg **Pn** **21 27 23.2 +1.0**
GEPF Gemona 1.57 42 P **Pn** **21 27 22.7 +0.6**
GEPF AML AML
comp=E,260µm,1.3s
GEPF AML AML
comp=N,366µm,0.5s
GEPF AML AML
comp=E,260µm,1.3s
GEPF AML AML
comp=N,366µm,0.5s
BRES Bressanone 1.57 3 P **Pb** **21 27 24.6 +0.6**
BRES AML AML
comp=E,548µm,0.3s
BRES AML AML
comp=N,570µm,0.3s
BRES AML AML
comp=E,548µm,0.3s
BRES AML AML
comp=N,570µm,0.3s
BRES AML AML
comp=N,570µm,0.3s
BRES AML AML
comp=E,548µm,0.3s
BOB Bobbio (Coli) 1.58 258 AML AML
comp=E,272µm,0.6s
BOB AML AML
comp=N,339µm,0.7s
BOB AML AML
comp=N,339µm,0.7s
BOB AML AML
comp=E,272µm,0.6s
BOO Bordano 1.58 41‖ *e*Pg **Pn** **21 27 22.9 +0.5**
BAD Bernadia 1.59 45‖ *e*Pg **Pn** **21 27 23.3 +0.8**
COLI Coloredo 1.59 50‖ *e*Pg **Pn** **21 27 23.2 +0.8**
CLUD Cludinico 1.60 33‖ *e*Pg **Pn** **21 27 23.1 +0.6**
BRMO Bormio 1.61 328 P **Pb** **21 27 25.0 +0.6**
BRMO AML AML
comp=E,360µm,0.6s
BRMO AML AML
comp=N,549µm,0.5s
BRMO AML AML
comp=N,549µm,0.5s
BRMO AML AML
comp=E,360µm,0.6s
FUSE Fusea 1.61 36 *e*Pg **Pn** **21 27 23.8 +1.0**
ABSI Aberstueckl 1.62 353 P **Pn** **21 27 24.3 +1.3**
ABSI AML AML
comp=E,1034µm,0.7s
ABSI AML AML
comp=N,992µm,0.7s
ABSI AML AML
comp=E,1034µm,0.7s
ABSI AML AML
comp=N,992µm,0.7s
ABSI AML AML
comp=N,992µm,0.7s
ABSI AML AML
comp=E,1034µm,0.7s
TRI Trieste 1.62 68 P **Pn** **21 27 22.9 +0.1**
TRI AML AML
comp=E,287µm,0.5s
TRI AML AML
comp=N,188µm,0.3s
TRI AML AML
comp=E,287µm,0.5s
TRI AML AML
comp=N,188µm,0.3s
VINO Villanova 1.62 45 P **Pn** **21 27 23.2 +0.3**
SABO M.te Sabotino 1.64 58 P **Pn** **21 27 23.8 +0.7**
SABO AML AML
comp=E,818µm,1.5s
SABO AML AML
comp=N,934µm,1.0s
SABO AML AML
comp=E,818µm,1.5s
SABO AML AML
comp=N,934µm,1.0s
FSSB Fossombrone 1.66 149 P **Pn** **21 27 23.5 +0.2**
FSSB AML AML
comp=E,542µm,0.3s
FSSB AML AML
comp=N,414µm,0.2s
FSSB AML AML
comp=E,542µm,0.3s
FSSB AML AML
comp=N,414µm,0.2s
FSSB AML AML
comp=N,414µm,0.2s
FSSB AML AML
comp=E,542µm,0.3s
PLMA Palmaria, Port 1.66 230 AML AML
comp=E,136µm,1.4s
PLMA AML AML
comp=E,136µm,1.4s
PLMA AML AML
comp=N,168µm,0.8s
PLMA AML AML
comp=N,168µm,0.8s
MOSI Grossmontoni 1.67 334 AML AML
comp=N,2305µm,0.7s
MOSI AML AML
comp=E,1850µm,0.8s
MOSI AML AML
comp=N,2305µm,0.7s
MOSI AML AML
comp=E,1850µm,0.8s
CSNT Castellina Chi 1.67 188 P **Pn** **21 27 24.1 +0.6**
CSNT AML AML
comp=E,106µm,0.6s
CSNT AML AML
comp=N,156µm,0.5s
CSNT AML AML
comp=E,106µm,0.6s
CSNT AML AML
comp=N,156µm,0.5s
FVI Forni Avoltri 1.68 29 AML AML
comp=N,600µm,1.4s
FVI AML AML
comp=E,413µm,1.5s
FVI AML AML
comp=N,600µm,1.4s
FVI AML AML
comp=E,413µm,1.5s
MSSA Maissana 1.70 242 P **Pn** **21 27 25.8 +1.8**
MSSA AML AML
comp=E,134µm,0.6s
MSSA AML AML
comp=N,130µm,1.5s
MSSA AML AML
comp=E,134µm,0.6s
MSSA AML AML
comp=N,130µm,1.5s
MPAG Monte Paganucc 1.71 151 P **Pn** **21 27 24.1 +0.1**
MPAG AML AML
comp=E,176µm,0.3s
MPAG AML AML
comp=N,187µm,0.4s
MPAG AML AML
comp=E,176µm,0.3s
MPAG AML AML
comp=N,187µm,0.4s
ROBS Robic 1.74 49 *i* Pn **Pn** **21 27 25.1 +0.7**
ROBS *i* Sn **Sb** **21 27 47.8 -0.2**
ABTA Abfaltersbach 1.74 21 *e*Pn **Pn** **21 27 26.2 +1.6**
comp=N,1.5nm,0.2s
ABTA *e*Pg **Pb** **21 27 28.1 +1.5**
comp=N,21nm,0.2s,SNR=30
ABTA Sg **Sg** **21 27 51.7 +0.4**
comp=N,51nm,0.4s
SKDS Skadanscina 1.74 75 *i* Pn **Pn** **21 27 24.4 -0.1**
SKDS *i* Sn **Sn** **21 27 46.5 +0.2**
ATPC Poggio Castell 1.75 160 AML AML
comp=N,166µm,0.7s
ATPC AML AML
comp=E,276µm,0.6s
ATPC AML AML
comp=N,166µm,0.7s
ATPC AML AML
comp=E,276µm,0.6s
PTCC Patocco-Chiusa 1.77 43 P **Pn** **21 27 25.6 +0.7**
PTCC AML AML
comp=E,285µm,0.2s
PTCC AML AML
comp=N,220µm,0.5s
PTCC AML AML
comp=E,285µm,0.2s
PTCC AML AML
comp=N,220µm,0.5s
FUORN Ofenpass-Fuorn 1.77 328 AML AML
comp=E,308µm,1.3s
FUORN AML AML
comp=N,256µm,0.6s
FUORN AML AML
comp=N,256µm,0.6s
FUORN AML AML
comp=E,308µm,1.3s
ATBU Serra di Buran 1.78 158 P **Pn** **21 27 25.8 +0.7**
ATBU AML AML
comp=E,469µm,1.6s
ATBU AML AML
comp=N,388µm,1.5s
ATBU AML AML
comp=E,469µm,1.6s
ATBU AML AML
comp=N,388µm,1.5s
ROSI Rosskopf 1.81 356 AML AML
comp=N,850µm,0.4s
ROSI AML AML
comp=E,846µm,1.0s
ROSI AML AML
comp=N,850µm,0.4s
ROSI AML AML
comp=E,846µm,1.0s
CAFI Castiglion Fio 1.81 172 AML AML
comp=E,127µm,1.0s
CAFI AML AML
comp=N,120µm,0.5s
CAFI AML AML
comp=N,120µm,0.5s
CAFI AML AML
comp=E,127µm,1.0s
ATVO AVT- Monte Val 1.83 162 AML AML
comp=E,214µm,0.6s
ATVO AML AML
comp=E,214µm,0.6s
ATVO AML AML
comp=N,148µm,0.6s
ATVO AML AML
comp=N,148µm,0.6s
RISI Rein 1.85 10 AML AML
comp=N,848µm,0.4s
RISI AML AML
comp=E,774µm,0.4s
RISI AML AML
comp=N,848µm,0.4s
RISI AML AML
comp=E,774µm,0.4s
ARVD Arcevia 1.89 149 AML AML
comp=N,78µm,0.5s
ARVD AML AML
comp=E,86µm,1.4s
ARVD AML AML
comp=N,78µm,0.5s
ARVD AML AML
comp=E,86µm,1.4s
JAVS Javornik 1.89 65 *i* Pn **Pn** **21 27 26.9 +0.3**
JAVS *i* Sn **Sn** **21 27 50.5 +0.6**
ATVA AVT- Monte Val 1.91 165 AML AML
comp=E,64µm,0.4s
ATVA AML AML
comp=E,64µm,0.4s
ATVA AML AML
comp=N,61µm,0.5s
ATVA AML AML
comp=N,61µm,0.5s
ACOM Acomizza, Ital 1.94 42 AML AML
comp=N,404µm,0.3s
ACOM AML AML
comp=E,420µm,0.3s
ACOM AML AML
comp=E,420µm,0.3s
ACOM AML AML
comp=N,404µm,0.3s
MUGIO Muggio 1.98 295 AML AML
comp=N,310µm,0.3s
MUGIO AML AML
comp=E,147µm,0.6s
MUGIO AML AML
comp=E,147µm,0.6s
MUGIO AML AML
comp=N,310µm,0.3s
FETA Feichten 1.99 342 *e*Pn **Pb** **21 27 31.3 +0.3**
comp=N,4.5nm,0.2s,SNR=9.4
FETA *e*Sg **Sb** **21 27 58.7 +3.2**
comp=N,51nm,0.4s
DAVOX Davos/Dischmat 2.05 324 AML AML
comp=E,249µm,0.5s
DAVOX AML AML
comp=E,249µm,0.5s
DAVOX AML AML
comp=N,322µm,0.6s
DAVOX AML AML
comp=N,322µm,0.6s
MYKA Terra Mystica 2.06 43 *e*Pn **Pn** **21 27 30.7 +1.7**
comp=N,2.3nm,0.3s,SNR=10
MYKA *e*Pg **Pg** **21 27 34.6 -0.3**
comp=N,22nm,0.2s
MYKA *e*Sn **Sg** **21 28 00.5 -1.2**
comp=N,28nm,0.3s
ATCC AVT- Casa Cast 2.08 159 AML AML
comp=N,220µm,0.6s
ATCC AML AML
comp=E,212µm,0.6s
ATCC AML AML
comp=N,220µm,0.6s
ATCC AML AML
comp=E,212µm,0.6s
CING Cingoli 2.09 146 AML AML
comp=E,62µm,0.4s
CING AML AML
comp=N,66µm,0.9s
CING AML AML
comp=E,62µm,0.4s
CING AML AML
comp=N,66µm,0.9s
SQTA Sankt Quirin 2.11 352 *e*Pn **Pb** **21 27 32.6 -0.5**
comp=N,6.9nm,0.2s,SNR=19
SQTA *e*Sg **Sb** **21 28 02.2 +3.2**
comp=N,79nm,0.3s
AOI Ancona 2.12 137 AML AML
comp=E,97µm,0.4s
AOI AML AML
comp=N,114µm,0.3s
AOI AML AML
comp=N,114µm,0.3s
AOI AML AML
comp=E,97µm,0.4s
WTTA Wattenberg 2.14 0 *e*Pn **Pb** **21 27 33.5 0.0**
comp=E,9.5nm,0.2s,SNR=13
WTTA *e*Pg **Pg** **21 27 35.6 -0.7**
comp=E,7.3nm,0.2s
WTTA *e*Sg **Sg** **21 28 03.5 -0.6**
comp=E,89nm,0.3s
WTTA Wattenberg 2.14 0 AML AML
comp=N,395µm,0.7s
WTTA AML AML
comp=E,392µm,0.9s
WTTA AML AML
comp=N,395µm,0.7s
WTTA AML AML
comp=E,392µm,0.9s
GBAS Gorenja Brezov 2.15 67 *i* Pn **Pn** **21 27 30.6 +0.5**
GBAS *i* Sn **Sn** **21 27 57.5 +1.3**
WATA Walderalm 2.21 359 *e*Pn **Pb** **21 27 34.9 +0.2**
comp=E,8.9nm,0.2s,SNR=36
WATA *e*Sg **Sg** **21 28 05.4 -0.9**
comp=E,26nm,0.2s
LJU Ljubljana 2.24 65 AML AML
comp=E,651µm,0.6s
LJU AML AML
comp=N,881µm,0.2s
LJU AML AML
comp=E,651µm,0.6s
LJU AML AML
comp=N,881µm,0.2s
MGAB Montegabbione 2.24 171 AML AML
comp=N,98µm,0.6s
MGAB AML AML
comp=E,109µm,0.6s
MGAB AML AML
comp=N,98µm,0.6s
MGAB AML AML
comp=E,109µm,0.6s
MOTA Moosalm 2.25 351 *e*Pn **Pn** **21 27 34.2 +2.6**
comp=E,6.2nm,0.2s,SNR=9.9
MOTA *e*Sn **Sn** **21 28 01.3 +2.4**
comp=E,23nm,0.4s
PCP Piancastagn 2.26 256 AML AML
comp=E,78µm,0.7s
PCP AML AML
comp=E,78µm,0.7s
PCP AML AML
comp=N,85µm,1.1s
PCP AML AML
comp=N,85µm,1.1s
SACS San Casciano d 2.29 175 AML AML
comp=E,55µm,0.9s
SACS AML AML
comp=E,55µm,0.9s
SACS AML AML
comp=N,77µm,0.7s
SACS AML AML
comp=N,77µm,0.7s
KBA Koelnbreinsper 2.29 31 *e*Pn **Pb** **21 27 35.4 -0.7**
comp=N,1.2nm,0.2s
KBA *e*Pg **Pg** **21 27 38.0 -1.2**
comp=N,29nm,0.3s
KBA Sg **Sg** **21 28 09.2 +0.2**
comp=N,21nm,0.4s
CESI CESI - Serrava 2.31 156 AML AML
comp=E,36µm,0.4s
CESI AML AML
comp=E,36µm,0.4s
CESI AML AML
comp=N,42µm,1.2s
CESI AML AML
comp=N,42µm,1.2s
CSP1 Cessapalombo 2.33 150 AML AML
comp=N,160µm,0.4s
CSP1 AML AML
comp=E,146µm,1.6s
CSP1 AML AML
comp=N,160µm,0.4s
CSP1 AML AML
comp=E,146µm,1.6s
NVLJ Novalja 2.38 103 *e*Pn **Pn** **21 27 33.8 +0.5**
NVLJ Sn **Sn** **21 28 01.7 -0.3**
FUSIO Fusio 2.46 304 AML AML
comp=N,148µm,0.5s
FUSIO AML AML
comp=E,196µm,0.6s
FUSIO AML AML
comp=N,148µm,0.5s
FUSIO AML AML
comp=E,196µm,0.6s
OBKA Obir 2.47 55 *e*Pn **Pn** **21 27 36.1 +1.4**
comp=E,1.4nm,0.2s
OBKA *i* Pg **Pg** **21 27 41.6 -1.1**
comp=E,11nm,0.3s
OBKA *e*Sn **Sb** **21 28 07.8 -1.5**
comp=E,12nm,0.2s
OBKA Sg **Sg** **21 28 15.0 +0.3**
comp=E,74nm,0.3s
DAVA Damuels 2.48 331 *e*Pn **Pb** **21 27 38.5 -0.7**
comp=E,4.1nm,0.3s
DAVA Sn **Sb** **21 28 11.1 +1.7**
comp=E,55nm,0.5s
NRCA Norcia 2.53 154 AML AML
comp=E,72µm,0.2s

NRCA AML AML
comp=E,72µm,0.2s
NRCA AML AML
comp=N,65µm,0.7s
NRCA AML AML
comp=N,65µm,0.7s
OZLJ Ozalj 2.76 78 *i* Pn **Pn 21 27 40.0 +1.5**
SOKA Soboth 2.85 56 *e*Pn **Pn 21 27 41.1 +1.3**
comp=N,0.7nm,0.2s
SOKA *e*Pg **Pb 21 27 47.5 +2.0**
comp=N,18nm,0.7s,SNR=7.7
SOKA Sn **Sb 21 28 17.4 -2.6**
comp=N,12nm,0.3s
TERO Teramo 2.89 149 AML AML
comp=E,24µm,0.5s
TERO AML AML
comp=E,24µm,0.5s
TERO AML AML
comp=N,28µm,0.7s
TERO AML AML
comp=N,28µm,0.7s
UDBI Udbina 3.01 100 *e*Pn **Pn 21 27 44.2 +2.2**
PGF Pioggiola 3.20 217 *e*Pn **Pn 21 27 44.4 -0.2**
SNR=1.0
PGF *e*Sn **Sn 21 28 21.0 -1.3**
comp=N,12nm,0.6s,SNR=1.0
SBF Sospel 3.25 249 *e*Pn **Pn 21 27 44.9 -0.4**
SNR=1.0
SBF *e*Sn **Sn 21 28 23.9 +0.4**
comp=N,10nm,0.3s
SBF *e*Sg **Sg 21 28 40.3 +0.8**
comp=N,25nm,0.4s
MOA Molln 3.28 33 *i* Pn **Pn 21 27 47.8 +2.1**
comp=N,1.3nm,0.2s
MOA *e*Pg **Pb 21 27 54.7 +1.9**
comp=N,4.6nm,0.2s
ARSA Arzberg 3.45 51 *i* Pn **Pn 21 27 49.0 +1.1**
comp=N,5.9nm,0.3s
LPG La Plagne 3.45 278 *e*Pn **Pn 21 27 49.2 +0.9**
SNR=1.0
LPG La Plagne 3.45 278 *e*Pg **Pg 21 28 00.6 -0.7**
LPG *e*Sn **Sn 21 28 28.6 -0.2**
LPG *e*Sg **Sg 21 28 45.9 -0.2**
comp=N,14nm,0.4s,SNR=1.0
MBDF Montbardon 3.46 265 *e*Pn **Pn 21 27 48.4 +0.1**
SNR=1.0
MBDF *e*Sn **Sn 21 28 28.0 -0.9**
comp=N,4.9nm,0.2s
MBDF *e*Sg **Sg 21 28 47.7 +1.3**
comp=N,10.0nm,0.4s
LPL La Plagne 3.47 278 *e*Pn **Pn 21 27 49.2 +0.8**
LPL La Plagne 3.47 278 *e*Pg **Pg 21 28 00.4 -1.2**
LPL *e*Sn **Sn 21 28 29.0 -0.1**
SNR=1.0
LPL *e*Sg **Sg 21 28 47.0 +0.4**
comp=N,11nm,0.5s,SNR=1.0
RSL Roselend 3.56 281 Pn **Pn 21 27 50.4 +0.8**
CALF Calern 3.63 249 Pn **Pn 21 27 50.3 -0.3**
CALF Sn **Sn 21 28 33.7 +0.7**
KIZ Kirchzarten 3.81 319 Pn **Pn 21 27 54.6 +1.7**
FRF La Foret Royal 3.89 248 *e*Pn **Pn 21 27 54.4 +0.3**
SNR=1.0
FRF *e*Sn **Sn 21 28 39.2 -0.1**
comp=N,3.1nm,0.2s
CONA Conrad Observa 4.05 45 *i* Pn **Pn 21 27 57.9 +1.5**
comp=N,1.3nm,0.2s
ORIF Oris-en-Rattie 4.07 269 *e*Pn **Pn 21 27 57.3 +0.7**
SNR=1.0
ORIF *e*Sn **Sn 21 28 42.5 -1.3**
comp=N,15nm,0.6s
ORIF *e*Sg **Sg 21 29 06.7 +0.8**
comp=N,11nm,0.6s
ORIF Oris-en-Rattie 4.07 269 Pn **Pn 21 27 56.8 +0.2**
LMR La Mourre 4.08 246 *e*Pn **Pn 21 27 56.9 +0.2**
SNR=1.0
LMR *e*Sn **Sn 21 28 42.4 -1.6**
comp=N,5.9nm,0.4s,SNR=1.0
MOF Molkenrain 4.12 313 Pn **Pn 21 27 58.7 +1.4**
CABF La Chapelle 4.14 293 *e*Pn **Pn 21 27 58.4 +0.9**
SNR=1.0
CABF La Chapelle 4.14 293 *e*Pg **Pg 21 28 13.2 -1.2**
CABF *e*Sn **Sn 21 28 45.6 +0.2**
comp=N,1.6nm,0.2s
CABF *e*Sg **Sg 21 29 08.4 +0.4**
comp=N,13nm,0.6s
KHC Kasperske Hory 4.22 18 *e*PN **Pn 21 28 00.7 +2.1**
KHC *e*PG **Pg 21 28 13.5 -2.6**
KHC *e*SN **Sn 21 28 47.9 +0.4**
KHC *e*SG **Sg 21 29 09.7 -1.1**
comp=N,17nm,1.3s
HINF Hinteralfeld 4.25 311 *e*Pn **Pn 21 27 59.5 +0.5**
SNR=1.0
HINF *e*Sn **Sn 21 28 46.5 -1.7**
comp=N,7.1nm,0.3s,SNR=1.0
HINF *e*Sg **Sg 21 29 11.8 +0.2**
comp=N,6.3nm,0.3s
OG35 Corcelles 4.34 284 Pn **Pn 21 28 00.8 +0.5**
ECH Echery 4.36 317 Pn **Pn 21 28 01.8 +1.4**
WLS Welschbruch 4.40 320 Pn **Pn 21 28 02.8 +1.7**
CDF Champ du Feu 4.44 319 *e*Pn **Pn 21 28 02.5 +0.9**
SNR=1.0
CDF *e*Sn **Sn 21 28 52.0 -0.8**
comp=N,4.5nm,0.2s
CDF *e*Sg **Sg 21 29 17.1 -0.5**
comp=N,14nm,0.6s
SMRF Simiane la Rot 4.47 257 *e*Pn **Pn 21 28 02.3 +0.3**
SMRF *e*Sn **Sn 21 28 52.6 -0.9**
comp=N,0.9nm,0.2s
HAU Haudompre 4.64 310 *e*Pn **Pn 21 28 05.0 +0.7**
SNR=1.0
HAU *e*Sn **Sn 21 28 56.9 -0.7**
comp=N,15nm,0.3s
STON Ston 4.93 115 *i* Pn **Pn 21 28 08.5 +0.1**
STON Sn **Sn 21 29 03.5 -1.3**
VIVF Saint-Julien-l 4.93 269 *e*Pn **Pn 21 28 08.8 +0.4**
SNR=1.0
VIVF *e*Sn **Sn 21 29 03.9 -1.1**
comp=N,2.2nm,0.4s,SNR=1.0
MODS Modra-Piesok 5.07 48 *e*PN **Pn 21 28 10.1 -0.1**
MODS *e*SN **Sn 21 29 06.7 -1.6**
KRUC Moravsky 5.11 38 *e*PN **Pn 21 28 11.3 +0.5**
KRUC *e*PG **Pg 21 28 29.9 -3.1**
NKC Novy Kostel 5.14 6 *e*SG **Sg 21 29 40.5 +0.4**
PRU Pruhonice 5.25 21 *e*SG **Sg 21 29 42.7 -1.0**
comp=N,6.1nm,0.6s
PAGF Fort de Pagny 5.30 312 *e*Pn **Pn 21 28 13.8 +0.4**
PAGF *e*Sn **Sn 21 29 12.4 -1.6**
comp=N,2.6nm,0.3s
SFTF Sexfontaines 5.47 307 *e*Pn **Pn 21 28 15.9 +0.1**
SFTF Sexfontaines 5.47 307 *e*Pg **Pg 21 28 36.9 -3.1**
SFTF *e*Sn **Sn 21 29 16.8 -1.5**
comp=N,3.5nm,0.4s
ABH Alteburg 5.50 331 Pn **Pn 21 28 18.5 +2.3**
MEZF Maizieres J'vi 5.63 309 *e*Pn **Pn 21 28 18.4 +0.5**
SNR=1.0
MEZF Maizieres J'vi 5.63 309 *e*Pg **Pg 21 28 40.0 -2.9**
MEZF *e*Sn **Sn 21 29 21.0 -1.0**
comp=N,3.1nm,0.3s
SMF Signal de Mont 5.64 288 *e*Pn **Pn 21 28 18.7 +0.7**
SNR=1.0
SMF Signal de Mont 5.64 288 *e*Pg **Pg 21 28 40.7 -2.4**
SMF *e*Sn **Sn 21 29 20.5 -1.8**
comp=N,5.4nm,0.3s,SNR=1.0
LOR Lormes 5.79 294 *e*Pn **Pn 21 28 20.6 +0.4**
baz=110,SNR=1.0
LOR *e*Sn **Sn 21 29 23.9 -2.3**
comp=N,6.6nm,0.4s,SNR=1.0
LOR Lormes 5.79 294 Pn **Pn 21 28 20.8 +0.6**
SSF Saint Saulge 5.96 292 *e*Pn **Pn 21 28 23.0 +0.5**
SNR=1.0
SSF *e*Sn **Sn 21 29 28.1 -2.2**
SNR=1.0
SSF *e*Sg **Sg 21 30 04.8 -1.7**
comp=N,1.5nm,0.3s,SNR=1.0
VYHS Vyhne 5.99 53 *e*PN **Pn 21 28 22.8 -0.1**
VYHS *e*SN **Sn 21 29 26.5 -4.5**
AVF Avril sur Loir 6.00 289 *e*Pn **Pn 21 28 23.5 +0.6**
SNR=1.0
AVF *e*Sn **Sn 21 29 29.4 -1.7**
comp=N,0.7nm,0.2s
AGO Saint Agoulin 6.03 282 Pn **Pn 21 28 23.9 +0.6**
UPC Upice 6.14 27 *e*PN **Pn 21 28 25.6 +0.6**
CLL Collm 6.25 8 *e*Pn **Pn 21 28 30.0 +3.5**
CLL *e*Pg **Pg 21 28 56.0 +1.2**
CLL *e* 21 29 53.0
CLL *e*Sg **Sg 21 30 15.0 -0.8**

comp=Z,10.0nm,0.8s
BGF Bois d'Agland 6.29 286 *e*Pn **Pn 21 28 27.5 +0.5**
SNR=1.0
BGF Bois d'Agland 6.29 286 *e*Pg **Pg 21 28 53.1 -2.5**
BGF *e*Sn **Sn 21 29 36.4 -2.0**
comp=Z,2.0nm,0.3s
HYF Humbligny 6.59 292 *e*Pn **Pn 21 28 31.8 +0.7**
HYF *e*Sn **Sn 21 29 43.3 -2.4**
TCF Toulx Ste Croi 6.69 283 *e*Pn **Pn 21 28 33.4 +0.9**
SNR=1.0
TCF *e*Sn **Sn 21 29 46.5 -1.7**
comp=Z,2.1nm,0.4s,SNR=1.0
CAF Calviac 6.77 272 *e*Pn **Pn 21 28 33.8 +0.2**
SNR=1.0
MFF Saint Martin d 8.34 284 *e*Pn **Pn 21 28 55.4 +0.3**
MFF *e*Sn **Sn 21 30 24.8 -4.0**
comp=Z,0.3nm,0.3s

ISCJB ***05*** *21:26:54.0±0.2, 55°.25N±0°.03×134°.78W±0°.05, h24km, mb4.0/18, MS3.4/1, Error ellipse: s-maj=4.5km s-min=2.5km az=136.9*
IDC ***05*** *21:26:53.5±0.8, 55°.18N×134°.75W, h0km, mb3.8/11, mb1 4.0/16, mb1mx3.8/44, mbtmp3.8/16, ML3.8/4, MS3.5/1, Ms1 3.5/1, ms1mx2.5/51, Error ellipse: s-maj=14.5km s-min=10.6km az=55.0*
NEIC ***05*** *21:26:54.3±0.0, 55°.25N×134°.71W, h20km, mb4.0/22, ML3.9(AEIC), After AEIC.*
NEIC Felt at Ketchikan.
ISC 05 21:26:56.2±0.5**, 55°.21N**±0°.04×**134°.78W**±0°.05**, h24**km**, n104,** σ**1**^{s}**84**/111**, mb4.1**/18**, Southeastern Alaska**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
CRAG Craig 0.98 74 P **Pn 21 27 11.6 -2.8**
CRAG S **Sb 21 27 24.3 -2.6**
NDB Naden 1.65 139 P **Pn 21 27 22.1 -1.5**
WRAK Wrangell Islan 1.83 48 P **Pn 21 27 24.5 -1.6**
WRAK S **Sn 21 27 44.7 -3.7**
SIT Sitka 1.88 351 P **Pn 21 27 24.0 -2.7**
SIT S **Sn 21 27 46.7 -2.8**
MASB Masset 2.00 126 P **Pn 21 27 26.8 -1.6**
DIB Dawson Inlet, 2.42 145 *e*Pn **Pn 21 27 33.1 -1.2**
H02S1 DAWSON INLET T 2.42 145 Pn **Pn 21 27 32.9 -1.3**
SNR=270
H02S1 Sn **Sb 21 28 06.5 -2.0**
JIS Juneau Island 3.08 4 P **Pn 21 27 41.6 -1.6**
BNB Barry Inlet 3.19 145 P **Pn 21 27 42.5 -2.4**
BESE Bessie Mountai 3.38 359 P **Pn 21 27 45.9 -1.6**
DLBC Dease Lake 4.16 37 Pn **Pn 21 27 57.1 -1.0**
6.2nm,0.3s,baz=198,slow=16,SNR=27
DLBC Pg **Pb 21 28 07.5 -1.1**
4.4nm,0.3s,baz=223,slow=15,SNR=10
DLBC Sn **Sn 21 28 44.8 -1.1**
8.3nm,0.3s,baz=28,slow=12,SNR=5.2
DLBC Lg Lg 21 29 02.5
24nm,0.3s,baz=280,slow=16,SNR=4.8
DLBC Dease Lake 4.16 37 P **Pn 21 27 57.4 -0.7**
SKAG Skagway 4.27 356 P **Pn 21 27 58.9 -0.7**
PLBC Pleasant Camp 4.34 349 P **Pn 21 28 01.5 +0.9**
BBB Bella Bella 4.99 125 Pn **Pn 21 28 07.6 -1.8**
6.1nm,0.3s,baz=312,slow=8.3,SNR=66
BBB Sn **Sn 21 29 03.6 -2.6**
8.9nm,0.3s,baz=82,slow=19,SNR=7.3
BBB Lg Lg 21 29 28.6
9.0nm,0.3s,baz=344,slow=8.6,SNR=5.5
YKU2 Yakutat 5.06 330 *e*Pn **Pn 21 28 09.5 -0.9**
WHY Whitehorse 5.46 359 P **Pn 21 28 15.1 -1.0**
PCA Pinnacle 5.71 331 P **Pn 21 28 19.6 +0.2**
HYT Haines Junctio 5.81 347 P **Pn 21 28 21.1 +0.2**
SAMH Samovar Hills 5.89 329 P **Pn 21 28 22.5 +0.6**
FSB Fort Saint Jam 6.08 93 P **Pn 21 28 24.5 0.0**
YUK5 Granite Creek 6.16 346 P **Pn 21 28 26.1 +0.5**
HMT Hamilton 7.21 319 *e*Pn **Pn 21 28 39.3 -0.7**
MID Middleton Isla 7.55 309 *e*Pn **Pn 21 28 44.2 -0.4**
EYAK Cordova Ski Ar 7.92 317 *e*Pn **Pn 21 28 48.3 -1.3**
KLU Klutina 8.59 322 *e*Pn **Pn 21 28 57.4 -1.5**
HARP HAARP 8.99 328 *e*Pn **Pn 21 29 04.8 +0.5**
DAWY Dawson 9.18 347 *e*Pn **Pn 21 29 06.5 -0.5**
SEW Seward 9.26 308 *e*Pn **Pn 21 29 06.8 -1.1**
SCM Sheep Creek Mo 9.32 320 *e*Pn **Pn 21 29 09.4 +0.4**
KNK Knik Glacier 9.50 316 *e*Pn **Pn 21 29 12.3 +1.0**
PAX Paxson 9.52 329 *e*Pn **Pn 21 29 13.8 +2.2**
PGC Sidney 9.59 129 *e*Pn **Pn 21 29 15.7 +3.2**
SML Sawmill 9.68 319 *e*Pn **Pn 21 29 13.9 0.0**
BRLK Bradley Lake 9.79 304 *e*Pn **Pn 21 29 14.0 -1.4**
RC01 Rabbit Creek A 9.85 313 *e*Pn **Pn 21 29 14.8 -1.3**
GHO Glory Hole Cre 9.89 317 *e*Pn **Pn 21 29 16.9 +0.2**
KDAK Kodiak Island 10.17 292 Pn **Pn 21 29 18.4 -2.1**
1.0nm,0.3s,baz=81,slow=6.9,SNR=25
KDAK Sn **Sn 21 31 08.3 -5.3**
0.6nm,0.3s,baz=107,slow=19,SNR=5.7
KDAK Kodiak Island 10.17 292 *e*Pn **Pn 21 29 20.3 -0.2**
KDAK Sn **Sn 21 31 08.3 -5.3**
DHY Denali Highway 10.18 326 *e*Pn **Pn 21 29 21.5 +0.8**
SUA Susitna One 10.46 313 *e*Pn **Pn 21 29 22.7 -1.8**
OHAK Old Harbor 10.50 289 *e*Pn **Pn 21 29 24.3 -0.7**
RND Reindeer 10.89 325 *e*Pn **Pn 21 29 31.3 +0.8**
ILAR Eielson Array 11.32 333 Pn **Pn 21 29 36.9 +0.7**
baz=153,slow=12,SNR=6.7
ILAR Lg Lg 21 32 58.7
0.0nm,0.3s,baz=125,slow=25,SNR=3.4
TRF Thorofare Moun 11.41 323 *e*Pn **Pn 21 29 39.2 +1.6**
WRH Wood River Hil 11.42 330 *e*Pn **Pn 21 29 38.8 +1.3**
B08A Colville Reser 11.75 119 *e*Pn **Pn 21 29 42.9 +0.7**
LTY Liberty 11.88 126 *e*Pn **Pn 21 29 44.6 +0.6**
YKA Yellowknife Ar 12.69 47 Pn **Pn 21 29 54.0 -0.9**
0.2nm,0.3s,baz=244,slow=12,SNR=16
YKA Sn **Sn 21 32 17.1 +1.8**
0.0nm,0.3s,baz=237,slow=25,SNR=4.0
YKA Lg Lg 21 33 26.7
0.0nm,0.3s,baz=154,slow=11,SNR=3.1
YKB5 Yellowknife Ar 12.69 47 *e*Pn **Pn 21 29 53.6 -1.3**
YKW3 Yellowknife Ar 12.72 46 *e*Pn **Pn 21 29 55.2 0.0**
IM3 Indian Mountai 14.18 327 *e*Pn **Pn 21 30 14.6 -0.7**
PINE Pine Mountain 14.51 136 *e*Pn **Pn 21 30 16.8 -3.2**
JTMT Jette 14.76 112 *e*Pn **Pn 21 30 20.8 -2.5**
MSO Missoula 15.52 114 *e*Pn **Pn 21 30 31.4 -1.9**
8.1nm,1.2s
J08A Circle Bar Ran 15.88 132 *e*Pn **Pn 21 30 36.8 -1.3**
6.7nm,1.0s
JCC Jacoby Creek, 16.07 149 *e*Pn **Pn 21 30 39.4 -0.9**
164nm,1.7s
WDC Whiskeytown Da 16.74 146 *e*Pn **Pn 21 30 49.4 +0.5**
14nm,1.4s
DLMT Dillon 17.19 116 *e*Pn **Pn 21 30 52.9 -1.8**
10.0nm,1.5s
KCPM Cahto Peak 17.24 150 *e*Pn **Pn 21 30 55.7 +0.4**
102nm,1.7s
MCMT McKenzie Canyo 17.43 117 *e*Pn **Pn 21 30 55.3 -2.4**
BOZ Bozeman (W) 17.54 114 *e*Pn **P 21 31 00.5 +0.5**
4.1nm,1.2s
HLID Hailey 17.57 123 *e*Pn **Pn 21 30 58.7 -0.8**
4.8nm,1.0s
LKWY Lake 18.88 114 *e*P **Pn 21 31 18.4 +2.9**
4.1nm,0.9s
FLWY Flagg Ranch 19.05 116 *e*P **Pn 21 31 19.5 +2.0**
15nm,1.5s
RLMT Red Lodge 19.10 111 *e*P **Pn 21 31 19.9 +1.7**
6.3nm,1.1s
MOOW Moose Ponds 19.26 117 *e*P **P 21 31 17.9 -1.1**
4.3nm,1.2s
ELK Elko 19.41 130 *e*P **Pn 21 31 26.2 +4.3**
1.8nm,0.4s
WAKR Walker 19.66 142 *e*P **Pn 21 31 24.5 -0.3**
9.1nm,1.2s
KVN Kaiserville 19.66 138 *e*P **Pn 21 31 27.1 +2.3**
23nm,1.7s
NV01 Mina Array Sit 20.13 140 *e*P Pn 21 31 33.4 +2.9
NVAR Mina Array Bea 20.13 140 P Pn 21 31 30.7 +0.2
0.8nm,0.8s,baz=299,slow=8.7,SNR=4.9
BW06 Boulder Array 20.57 117 *e*P **P 21 31 33.0 -0.3**
3.5nm,0.9s
PD31 Pinedale Array 20.57 117 *e*P **P 21 31 33.9 +0.6**
PDAR Pinedale Array 20.57 117 P Pn 21 31 35.4 -0.2
2.9nm,0.8s,baz=314,slow=7.0,SNR=16
PDAR Pinedale Array 20.57 117 *e*P **P 21 31 33.0 -0.3**
FCC Fort Churchill 22.20 64 *e*P **P 21 31 50.4 0.0**
17nm,1.8s
TPNV Topopah Spring 22.21 138 *e*P **P 21 31 51.1 +0.3**
4.9nm,0.8s
DAC Darwin (Calif) 22.30 141 *e*P **P 21 31 50.9 -0.9**
6.0nm,1.2s

RSSD Black Hills 22.59 107 *e*P **P 21 31 53.8 -1.1**
18nm,1.8s
ULM Lac du Bonnet 23.84 86 P **P 21 32 08.3 +1.0**
1.4nm,0.7s,baz=285,slow=7.7,SNR=4.0
PV09 Paradox Valley 24.02 123 *e*P **P 21 32 12.1 +2.8**
PV17 East Wray Mesa 24.27 124 *e*P **P 21 32 14.7 +3.1**
20nm,1.7s
PV12 Saucer Basin, 24.32 123 *e*P **P 21 32 16.3 +4.3**
25nm,1.8s
W13A Hualapai Mount 24.75 136 *e*P **P 21 32 19.0 +3.1**
3.1nm,0.9s
RES Resolute Bay 24.92 24 P **P 21 32 18.3 +1.5**
3.1nm,0.5s,baz=235,slow=8.0,SNR=26
RES LR LR 21 42 33.4
comp=Z,105nm,18.5s,baz=222,slow=38
RES Resolute Bay 24.92 24 *e*P **P 21 32 19.3 +2.5**
TX31 Lajitas Ar. Si 34.12 126 *e*P **P 21 33 37.7 -1.3**
TXAR Lajitas Array 34.12 126 P **P 21 33 41.2 +2.2**
0.3nm,0.6s,baz=327,slow=6.7,SNR=5.4
ESPN Las Esperanzas 58.09 117 *e*P **P 21 36 45.8 -1.6**
53nm,1.2s
NAO01 NORSAR Array S 61.13 18 *e*P **P 21 37 09.6 +1.7**
SONA1 Songino Array 65.19 319 *e*P **P 21 37 37.2 +2.0**
SONM Songino Array 65.21 319 P **P 21 37 36.8 +1.6**
0.2nm,0.4s,baz=74,slow=5.1,SNR=3.1
ZALV Zalesovo Beam 66.43 336 P **P 21 37 43.9 +1.1**
1.4nm,0.7s,baz=15,slow=5.8,SNR=6.4
ZALV Zalesovo Beam 66.43 336 *e*P **P 21 37 42.6 -0.2**
AKASG Malin Array Be 73.61 11 P **P 21 38 27.7 +0.7**
1.0nm,0.7s,baz=352,slow=6.1,SNR=4.5
MK31 Makanchi Array 73.67 334 *e*P **P 21 38 29.1 +1.7**
MKAR Makanchi Array 73.67 334 P **P 21 38 28.4 +1.0**
1.3nm,0.7s,baz=40,slow=6.0,SNR=18
MK01 Makanchi Array 73.69 334 *e*P **P 21 38 27.7 +0.1**
MAKZ Makanchi 73.73 335 *e*P **P 21 38 27.0 -0.8**
2.3nm,0.8s
WMQ Urumqi 74.97 330 *e*P **P 21 38 38.8 +3.7**
BUR04 Bucovina Ar. S 76.17 14 *e*P **P 21 38 43.4 +1.5**
ESDC Sonseca Array 76.59 37 P **P 21 38 45.5 +1.1**
0.4nm,0.7s,baz=326,slow=6.4,SNR=5.1
CMAR Chiang Mai Arr 93.67 310 P **P 21 40 12.5 +1.8**
0.6nm,0.8s,baz=8.2,slow=4.4,SNR=6.3

IDC 05 21:54:24.3±9.7**, 31°.47S**×**179°.65W, h272**km±102km**, mb2.9**/2**, mb1 3.2**/3**, mb1mx3.0**/35**, mbtmp3.7**/3**, Error ellipse: s-maj=97.7km s-min=39.9km az=4.0, Kermadec Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
URZ Urewera 7.28 201 P Pn 21 56 09.2 +0.6
0.6nm,0.3s,baz=262,slow=3.9,SNR=7.1
URZ S S 21 57 32.2 -0.4
1.3nm,0.3s,baz=106,slow=23,SNR=11
ASAR Alice Springs 41.65 269 P P 22 01 47.0 +0.3
0.4nm,0.6s,baz=105,slow=7.6,SNR=5.0
WRA Warramunga Arr 42.74 274 P P 22 01 55.1 -0.4
0.4nm,0.3s,baz=111,slow=8.1,SNR=18
FINES FINESS Array B 145.64 338 PKPbc PKPdf 22 13 29.4 -0.1
1.0nm,0.4s,baz=34,slow=3.5,SNR=20

IDC 05 21:56:39.6±3.2**, 10°.88N**×**125°.84E, h0**km**, mb3.7**/4**, mb1 3.8**/4**, mb1mx3.4**/49**, mbtmp3.7**/4**, MS3.1**/2**, Ms1 3.1**/2**, ms1mx2.5**/42**, Error ellipse: s-maj=288.3km s-min=22.2km az=66.0, Leyte**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
MJAR Matsushiro Arr 27.89 22 LR LR 22 11 31.6
comp=Z,27nm,21.8s,baz=65,slow=32
WRA Warramunga Arr 31.75 165 P P 22 03 05.3 -0.3
0.3nm,0.8s,baz=345,slow=9.5,SNR=3.2
ASAR Alice Springs 35.23 167 P P 22 03 36.2 +0.2
0.2nm,0.5s,baz=352,slow=6.9,SNR=4.4
PALK Pallekele 44.68 269 LR LR 22 25 56.3
comp=Z,30nm,18.1s,baz=117,slow=39
MKAR Makanchi Array 51.28 323 P P 22 05 45.6 +0.2
0.4nm,0.6s,baz=110,slow=8.0,SNR=7.2
KURBB Kurchatov Arra 55.33 325 P P 22 06 14.7 -0.3
0.9nm,0.5s,baz=128,slow=7.2,SNR=7.8

GUC ***05*** *22:03:29.6±0.7, 30°.31S×72°.17W, h57km±7km, ML3.5*
SJA ***05*** *22:03:30.9±0.8, 30°.22S×72°.13W, h65km, ML3.5, MW4.0*
ISC 05 22:03:24.7±1.8**, 30°.18S**±0°.04×**72°.50W**±0°.10**, h25**km**, n17,** σ**2**^{s}**25**/23**, 2D, Off coast of central Chile**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
LSCH La Serena 1.12 76 *e*P **Pn 22 03 47.1 +2.4**
LSCH *e*S **Sn 22 04 00.1 +0.8**
GO04 Tololo Observa 1.47 90 *e*P **Pb 22 03 52.1 +0.6**
GO04 *e*S **Sb 22 04 08.5 -1.3**
GO04 Tololo Observa 1.47 90⇓*i*P **Pb 22 03 51.7 +0.2**
GO04 *e*S **Sb 22 04 08.9 -0.9**
GO04 IAML 22 04 21.2
comp=N,3µm,0.4s
CMCH Combarbala 1.62 128 *e*P **Pb 22 03 53.5 -0.5**
CMCH *e*S **Sb 22 04 11.5 -2.6**
CMCH IAML 22 04 20.8
comp=N,2µm,0.6s
LCO Las Campanas 1.95 54 *e*P **Pb 22 04 00.8 +1.1**
LCO Las Campanas 1.95 54 *e*P **Pb 22 04 00.7 +1.0**
LCO *e*S **Sb 22 04 24.2 +0.4**
LCO IAML 22 04 36.4
comp=E,304nm,0.4s
AROD Rodeo 2.62 90 *i* P **Pb 22 04 10.7 -0.4**
ACCO Cerro Coronel 2.99 99 *e*P **Pb 22 04 16.6 -0.8**
ROCH El Roble 3.06 156 *e*P **Pn 22 04 14.4 +2.7**
ROCH IAML 22 05 07.4
comp=E,128nm,0.3s
ROC1 El Roble 3.06 156⇓*e*P **Pb 22 04 16.8 -1.7**
RTLS Leoncito 3.19 121 *i* P **Pb 22 04 18.0 -2.7**
RTLS IAML 22 05 08.4
comp=Z,111nm,0.7s
GO03 Copiap 3.25 38 *e*P **Pb 22 04 19.1 -2.7**
GO03 *e*S **Sb 22 04 57.4 -3.6**
GO03 IAML 22 05 22.0
comp=E,95nm,0.7s
PEL Peldehue 3.33 153 *e*P **Pb 22 04 20.9 -2.2**
CLCH Cerro Calan 3.61 153 *e*P **Pn 22 04 21.8 +2.6**
CLCH *e*S **Sn 22 05 01.2 +0.2**
CLCH IAML 22 05 21.0
comp=E,200nm,0.5s
FCH Farellones 3.66 150 *e*P **Pn 22 04 23.1 +3.1**
FCH IAML 22 05 23.6
comp=E,51nm,0.4s
RTCV Cerro Valdivia 3.79 117 *e*P Pb 22 04 25.5 -5.4
VCA Vinchina 4.01 70 *i* P **Pb 22 04 30.1 -4.6**
VCA IAML 22 05 43.5
comp=Z,95nm,0.6s

NIED ***05*** *22:04:00, 43°.80N×147°.00E, h86km, Mw4.5 Best double couple: M₀5.71000×10^15 NP1:φs71.00000°, δ34.00000°, λ-101.00000°. NP2:φs264.00000°, δ57.00000°, λ-83.00000°.*
BJI ***05*** *22:04:34.6, 44°.16N×147°.01E, h99km, mb4.6/44, mB4.9/26*
IDC ***05*** *22:04:34.9±0.6, 44°.01N×146°.94E, h84km±5km, mb4.3/30, mb1 4.4/39, mb1mx4.4/54, mbtmp4.6/39, MS2.9/8, Ms1 2.9/8, ms1mx2.8/46, Error ellipse: s-maj=11.1km s-min=9.0km az=155.0*
MOS ***05*** *22:04:34.6±1.0, 43°.92N×146°.98E, h92km, mb4.8/83, Error ellipse: s-maj=6.0km s-min=4.0km az=104.7*
MOS Felt (II) at Yuzhno-Kuril'sk.
ISCJB ***05*** *22:04:35.0±0.2, 43°.96N±0°.02×146°.93E±0°.02, h93km±2km, mb4.6/250, Error ellipse: s-maj=4.4km s-min=2.6km az=157.0*
SKHL ***05*** *22:04:35.7±0.4, 43°.90N×146°.88E, h94km±4km, msh5.3/2*
SKHL Felt (II) at Yushno-Kuril'sk.
NEIC ***05*** *22:04:36.3±0.4, 44°.01N×146°.85E, h92km±3km, mb4.7/144, Error ellipse: s-maj=4.2km s-min=2.4km az=158.0*
NEIC Recorded [2 JMA] in eastern Hokkaido.
JMA ***05*** *22:04:36.3±0.2, 43°.79N×146°.98E, h82km±3km, M4.3*
JMA Felt II J1.
ISC 05 22:04:35.2±0.5**, 43°.96N**±0°.04×**146°.97E**±0°.04**, h89**km±3km**, h88**km**:pP-P, n651,** σ**1**^{s}**27**/706**, mb4.7**/263**, 37C-47D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.13	230⇓	*i*P	Pn	22 04 47.0	-0.8
SHO				AMB	AMB	22 04 48.0	
	1μm,0.2s						
SHO				AMB	AMB	22 04 48.0	
	2μm,0.2s						
SHO				AMB	AMB	22 04 48.0	
	9μm,0.2s						
SHO				*i* S	Sn	22 04 56.0	-1.1
SHO				A	A	22 04 57.0	
	54μm,0.3s						
SHO				A	A	22 04 57.0	
	41μm,0.3s						
SHO	Shikotan	0.13	230*d*	*i*PN	Pn	22 04 47.8	0.0
SHO				*i* S	Sn	22 04 56.6	-0.5
SHO				pmax	pmax		
	comp=N,1μm,0.1s						
SHO				pmax	pmax		
	comp=E,2μm,0.1s						
SHO				pmax	pmax		
	comp=Z,9μm,0.1s						
SHO				smax	smax		
	comp=N,54μm,0.3s						
SHO				smax	smax		
	comp=E,41μm,0.3s						
YUK	Yuzh-Kuril'sk	0.80	276⇓	*i*P	Pn	22 04 52.9	+0.3
YUK				AMB	AMB	22 04 53.6	
	comp=E,610nm,0.3s						
YUK				AMB	AMB	22 04 53.6	
	comp=E,3μm,0.3s						
YUK				AMB	AMB	22 04 53.6	
	comp=E,14μm,0.3s						
YUK				*i* S	Sn	22 05 05.7	+0.1
YUK				A	A	22 05 06.5	
	comp=E,34μm,0.4s						
YUK				A	A	22 05 06.5	
	comp=E,24μm,0.4s						
YUK	Yuzh-Kuril'sk	0.80	276*d*	*i*PN	Pn	22 04 53.1	+0.5
YUK				*i* S	Sn	22 05 05.7	+0.1
YUK				pmax	pmax		
	comp=N,605nm,0.2s						
YUK				pmax	pmax		
	comp=Z,14μm,0.2s						
YUK				pmax	pmax		
	comp=E,3μm,0.1s						
YUK				smax	smax		
	comp=N,35μm,0.3s						
YUK				smax	smax		
	comp=E,24μm,0.2s						
LAGR	Lagunnoye	0.86	277⇑	*i*P	Pn	22 04 53.0	-0.2
LAGR				AMB	AMB	22 04 54.0	
	comp=E,1μm,0.2s						
LAGR				AMB	AMB	22 04 54.0	
	comp=E,820nm,0.2s						
LAGR				AMB	AMB	22 04 54.0	
	comp=E,3μm,0.2s						
LAGR				*i* S	Sn	22 05 07.0	+0.3
LAGR				A	A	22 05 07.0	
	comp=E,20μm,0.3s						
LAGR				A	A	22 05 07.0	
	comp=E,21μm,0.3s						
LAGR	Lagunnoye	0.86	277*c*	*i*PN	Pn	22 04 53.9	+0.7
LAGR				*i* S	Sn	22 05 07.2	+0.5
LAGR				pmax	pmax		
	comp=N,1μm,0.2s						
LAGR				pmax	pmax		
	comp=Z,3μm,0.2s						
LAGR				pmax	pmax		
	comp=E,819nm,0.3s						
LAGR				smax	smax		
	comp=E,21μm,0.3s						
LAGR				smax	smax		
	comp=N,20μm,0.2s						
GRPR	Tuman	0.87	273⇓	*i*P	Pn	22 04 53.0	-0.3
GRPR				AMB	AMB	22 04 54.0	
	comp=N,3μm,0.3s						
GRPR				AMB	AMB	22 04 54.0	
	comp=N,3μm,0.3s						
GRPR				AMB	AMB	22 04 54.0	
	comp=N,9μm,0.3s						
GRPR				*i* S	Sn	22 05 06.0	-0.8
GRPR				A	A	22 05 07.0	
	comp=N,19μm,0.4s						
GRPR				A	A	22 05 07.0	
	comp=N,18μm,0.4s						
GRPR	Tuman	0.87	273⇓	*i*PN	Pn	22 04 53.7	+0.4
GRPR				*i* S	Sn	22 05 06.8	0.0
GRPR				pmax	pmax		
	comp=N,3μm,0.3s						
GRPR				pmax	pmax		
	comp=E,3μm,0.3s						
GRPR				pmax	pmax		
	comp=Z,9μm,0.3s						
GRPR				smax	smax		
	comp=N,19μm,0.2s						
GRPR				smax	smax		
	comp=E,18μm,0.3s						
NEM2	Nemuro 2	1.07	237	⇓P	Pn	22 04 55.5	-0.1
NEM2				*e*S	Sn	22 05 09.7	-1.2
GLVR	Golovnino	1.07	259⇓	*i*P	Pn	22 04 56.0	+0.4
GLVR				AMB	AMB	22 04 56.0	
	comp=E,340nm,0.2s						
GLVR				AMB	AMB	22 04 56.0	
	comp=E,420nm,0.2s						
GLVR				AMB	AMB	22 04 56.0	
	comp=E,2μm,0.2s						
GLVR				*i* S	Sn	22 05 11.0	+0.1
GLVR				A	A	22 05 12.0	
	comp=E,25μm,0.4s						
GLVR				A	A	22 05 12.0	
	comp=E,17μm,0.4s						
GLVR	Golovnino	1.07	259*d*	*i*PN	Pn	22 04 56.3	+0.7
GLVR				*i* S	Sn	22 05 11.5	+0.6
GLVR				pmax	pmax		
	comp=E,423nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,2μm,0.1s						
GLVR				pmax	pmax		
	comp=N,343nm,0.2s						
GLVR				smax	smax		
	comp=N,25μm,0.2s						
GLVR				smax	smax		
	comp=E,17μm,0.2s						
JRA	Rausu	1.33	270	⇓P	Pn	22 05 00.1	+1.3
JRA				*e*S	Sn	22 05 18.3	+1.7
KUR	Kuril'sk	1.43	26⇓	*i*P	Pn	22 05 01.1	+1.1
KUR				AMB	AMB	22 05 01.5	
	comp=E,130nm,0.2s						
KUR				AMB	AMB	22 05 01.5	
	comp=E,310nm,0.2s						
KUR				AMB	AMB	22 05 01.5	
	comp=E,1μm,0.2s						
KUR				*i* S	Sn	22 05 19.9	+1.3
KUR				A	A	22 05 20.0	
	comp=E,5μm,0.3s						
KUR				A	A	22 05 20.0	
	comp=E,6μm,0.3s						
KUR				A	A	22 05 20.6	
	comp=E,18μm,1.0s						
KUR	Kuril'sk	1.43	26*d*	*i*PN	Pn	22 05 01.0	+1.1
KUR				*i* S	Sn	22 05 19.6	+1.0
KUR				pmax	pmax		
	comp=Z,1μm,0.3s						
KUR				pmax	pmax		
	comp=E,313nm,0.2s						
KUR				pmax	pmax		
	comp=N,133nm,0.1s						
KUR				pmax	pmax		
	comp=Z,1μm,1.0s						
KUR				smax	smax		
	comp=N,18μm,1.1s						
KUR				smax	smax		
	comp=E,7μm,0.5s						
KUR				smax	smax		
	comp=N,5μm,0.4s						
KUR				smax	smax		
	comp=E,5μm,0.4s						
JKHN	Kushirohamanak	1.58	237	P	Pn	22 05 02.2	+0.3
JKHN				*e*S	Sn	22 05 21.3	-0.8
JNK	Nakash	1.67	258	⇓P	Pn	22 05 03.8	+0.7
JNK				*e*S	Sn	22 05 24.3	+0.1
JAK	Akkeshi	1.91	241	⇓P	Pn	22 05 06.3	+0.1
JAK				*e*S	Sn	22 05 28.7	-1.1
JTKR	Abashiri--Toko	2.21	271	P	Pn	22 05 11.6	+1.5
JTKR				*e*S	Sn	22 05 38.4	+1.6
JAR	Ashorobuto	2.42	255	⇓P	Pn	22 05 14.5	+1.6
JAR				*e*S	Sn	22 05 42.6	+0.9
JOB	Onbets	2.52	246	P	Pn	22 05 15.3	+1.1
JMP	Maruseppu	2.61	272	P	Pn	22 05 17.0	+1.6
JMP				*e*S	Sn	22 05 47.9	+1.6
JCH	Churui	2.96	244	P	Pn	22 05 20.6	+0.5
JCH				*e*S	Sn	22 05 54.3	-0.4
JKK2	Kamakawa 2	3.05	270	⇓P	Pn	22 05 23.4	+2.0
JKA	Kamikawa-asahi	3.16	274	*e*P	Pn	22 05 23.8	+1.0
ASAJ	Asahikawa	3.16	274	P	Pn	22 05 23.8	+1.0
	comp=E,8.9nm,0.3s,baz=71,slow=16,SNR=28						
ASAJ				S	Sn	22 06 02.6	+3.1
	comp=E,21nm,0.3s,baz=280,slow=28,SNR=5.1						
ASAJ				LR	LR	22 06 11.2	
	comp=E,62nm,21.3s,baz=109,slow=31						
ASAJ	Asahikawa	3.16	274	*e*Pn	Pn	22 05 24.4	+1.6
ASAJ				*e*Sn	Sn	22 06 02.9	+3.3
ASAJ	Asahikawa	3.16	274	P	Pn	22 05 25.2	+2.4
JFR	Furan	3.28	258	*e*S	Sn	22 06 04.2	+1.7
JSE	Soyaes	3.30	289	P	Pn	22 05 26.5	+1.9
JEM	Erimo	3.40	237	P	Pn	22 05 28.0	+1.9
ERM	Erimo	3.41	237	*e*Pn	Pn	22 05 28.4	+2.3
ERM				*e*Sn	Sn	22 06 06.9	+1.5
ERM	Erimo	3.41	237⇑	*i*P	Pn	22 05 28.2	+2.1
ERM	Erimo	3.41	237*c*	*i*PN	Pn	22 05 28.2	+2.1
JNBK	Urakawa-nobuka	3.51	243	P	Pn	22 05 27.8	+0.2
JNBK				*e*S	Sn	22 06 06.5	-1.6
YSS	Yuzh-Sakhalins	4.22	317	*e*Pn	Pn	22 05 37.8	+0.7
YSS				*e*Sn	Sn	22 06 25.4	+0.3
YSS	Yuzh-Sakhalins	4.22	317⇑	*i*P	Pn	22 05 38.5	+1.4
YSS				AMB	AMB	22 05 39.5	
	comp=E,160nm,0.8s						
YSS				*e*S	Sn	22 06 25.5	+0.4
YSS				A	A	22 06 26.8	
	comp=E,600nm,2.0s						
YSS				A	A	22 06 28.8	
	comp=E,240nm,0.7s						
YSS				A	A	22 06 28.8	
	comp=E,270nm,0.7s						
YSS	Yuzh-Sakhalins	4.22	317	*i* PN	Pn	22 05 38.9	+1.8
YSS				*e*S	Sn	22 06 25.5	+0.4
YSS				pmax	pmax		
	comp=Z,160nm,0.8s						
YSS				smax	smax		
	comp=N,600nm,1.8s						
YSS				smax	smax		
	comp=N,240nm,0.8s						
YSS				smax	smax		
	comp=E,270nm,0.7s						
UGL	Uglegorsk	6.14	328	*e*PN	Pn	22 06 05.6	+2.4
UGL				*e*		22 07 19.5	
UGL				pmax	pmax		
	comp=Z,242nm,0.9s						
TEY	Ternei	7.49	282⇓	*e*P	Pn	22 06 24.6	+2.9
TEY				AMB	AMB	22 06 26.5	
	comp=Z,40nm,0.8s						
TYV	Tymovskoe	7.50	339⇓	*e*P	Pn	22 06 25.0	+3.2
TYV				AMB	AMB	22 06 25.5	
	comp=Z,50nm,1.0s						
TYV				AMB	AMB	22 06 25.5	
	comp=Z,1μm,2.0s						
TYV				*e*S	Sn	22 07 46.2	+1.0
TYV				A	A	22 07 55.9	
	comp=Z,40nm,0.8s						
TYV				A	A	22 07 55.9	
	comp=Z,70nm,0.8s						
TYV	Tymovskoe	7.50	339	*e*PN	Pn	22 06 23.4	+1.6
TYV				pmax	pmax		
	comp=Z,22nm,0.9s						
TYV				pmax	pmax		
	comp=Z,100nm,1.9s						
SKR	Severo-Kuril's	9.15	39	*e*P	Pn	22 06 46.0	+1.7
SKR				AMB	AMB	22 06 50.4	
	comp=Z,130nm,0.7s						
GRNR	Gornyy	9.88	317	*e*P	Pn	22 06 56.2	+2.0
GRNR				AMB	AMB	22 06 57.2	
	comp=Z,130nm,1.0s						
GRNR	Gornyy	9.88	317	*e*PN	Pn	22 06 56.2	+2.0
GRNR				pmax	pmax		
	comp=Z,13nm,1.0s						
OKH	Okha	9.96	346⇓	*e*P	Pn	22 06 58.8	+3.5
OKH				AMB	AMB	22 07 03.8	
	comp=Z,130nm,0.9s						
MJB9	Matsu-Tunnel	9.98	225	*e*Pn	Pn	22 06 54.9	-0.8
MAJO	Matsushiro	9.98	225	*e*Pn	Pn	22 06 54.9	-0.8
MAJO	Matsushiro	9.98	225⇑	*e*P	Pn	22 06 54.8	-0.8
MAJO	Matsushiro	9.98	225⇑	*e*PN	Pn	22 06 54.8	-0.8
MAJO				pmax	pmax		
	comp=Z,13nm,0.6s						
MAT	Matsushiro	9.98	225	P	Pn	22 06 54.6	-1.1
MAT				*e*S	Sn	22 08 43.5	-2.3
MJAR	Matsushiro Arr	9.98	225	P	Pn	22 06 54.8	-0.9
	comp=Z,0.9nm,0.3s,baz=25,slow=13,SNR=20						
NKL	Nikolayevsk	10.10	338⇑	*e*P	Pn	22 06 58.5	+1.4
NKL				AMB	AMB	22 07 02.0	
	comp=Z,30nm,0.7s						
USA0B	Ussuriysk Arra	10.79	276	*e*Pn	Pn	22 07 06.9	+0.3
USRK	Ussuriysk Ar.	10.79	276	P	Pn	22 07 06.2	-0.4
	comp=Z,0.7nm,0.3s,baz=82,slow=14,SNR=12						
INU	Inuyama	11.51	225	*e*Pn	Pn	22 07 17.1	+0.6
PEA0B	Petropavlovsk-	11.58	34	*e*Pn	Pn	22 07 16.8	-0.4
PETK	Petropavlovsk-	11.58	34	P	Pn	22 07 16.4	-0.9
	comp=Z,0.5nm,0.3s,baz=199,slow=12,SNR=9.0						
PETK	Petropavlovsk-	11.58	34	*e*Pn	Pn	22 07 17.5	+0.2
KLR	Kul'dur	11.72	302	P	Pn	22 07 20.2	+1.1
	comp=Z,0.3nm,0.3s,baz=99,slow=9.9,SNR=12						
KLR				LR	LR	22 11 48.2	
	comp=Z,89nm,20.9s,baz=118,slow=37						
KLR	Kul'dur	11.72	302⇓	*e*P	Pn	22 07 21.3	+2.1
KLR	Kul'dur	11.72	302⇓	*e*PN	Pn	22 07 21.3	+2.1
PET	Petropavlovsk	11.92	36⇑	*e*P	Pn	22 07 22.3	+0.5
PET				AMB	AMB	22 07 25.5	
	comp=Z,30nm,1.0s						
PET	Petropavlovsk	11.92	36⇓	*e*PN	Pn	22 07 20.5	-1.3
PET				pmax	pmax		
	comp=Z,74nm,1.7s						
JHJ	Hachijo jima 2	12.19	210	LR	LR	22 12 09.6	
	comp=Z,40nm,21.8s,baz=26,slow=37						
EKMR	Ekimchan	13.00	319⇑	*i*P	Pn	22 07 37.1	+0.8
EKMR				AMB	AMB	22 07 38.0	
	comp=Z,50nm,0.9s						
MA2	Magadan	15.81	7	P	Pn	22 08 12.4	0.0
	comp=Z,4.2nm,0.3s,baz=184,slow=11,SNR=15						
MA2	Magadan	15.81	7	*e*Pn	Pn	22 08 12.5	0.0
	comp=Z,18nm,0.6s						
MA2	Magadan	15.81	7⇓	*e*P	Pn	22 08 13.2	+0.8
MA2	Magadan	15.81	7⇓	*e*P	Pn	22 08 13.2	+0.8
MA2				pmax	pmax		
	comp=Z,15nm,0.6s						
KSRS	Korea Array	15.82	252	P	Pn	22 08 13.0	+0.3
	comp=Z,0.3nm,0.3s,baz=66,slow=11,SNR=7.9						
KSRS				LR	LR	22 13 42.3	
	comp=Z,48nm,19.7s,baz=36,slow=34						
KS01	Wonju Array Si	15.83	252	*e*Pn	Pn	22 08 13.8	+1.0
KSAR	Wonju Array Be	15.86	252	P	Pn	22 08 13.0	-0.1
KSAR	Wonju Array Be	15.86	252	P	Pn	22 08 13.0	-0.1
BMKR	Bomnak	15.93	319⇓	*i*P	Pn	22 08 14.4	+0.5
BMKR				AMB	AMB	22 08 15.2	
	comp=Z,40nm,0.7s						
ZEA	Zeya	16.20	314	*e*P	Pn	22 08 15.8	-1.6
ZEA	Zeya	16.20	314	*e*P	P	22 08 22.2	+3.3
ZEA				pmax	pmax		
	comp=Z,25nm,1.2s						
JNU	Nakatsue	16.57	235	P	Pn	22 08 22.1	0.0
	comp=Z,0.8nm,0.3s,baz=45,slow=4.1,SNR=9.1						
JNU				LR	LR	22 15 28.3	
	comp=Z,21nm,20.0s,baz=170,slow=39						
JNU	Nakatsue	16.57	235	*e*Pn	P	22 08 23.0	-0.1
	comp=Z,23nm,1.0s						
KROS	Kirovskiy	16.69	316	*e*P	Pn	22 08 20.2	-3.2
KROS				AMB	AMB	22 08 21.7	
	comp=Z,10.0nm,0.5s						
TJN	Taejon	16.77	250⇑	*i*P	P	22 08 26.7	+1.5
SEY	Seymchan	19.27	8	P	P	22 08 51.1	-1.3
	comp=Z,1.4nm,0.3s,baz=199,slow=11,SNR=23						
SEY	Seymchan	19.27	8⇑	*e*P	P	22 08 53.0	+0.6
HIA	Hailar	19.39	295	*e*P	P	22 08 52.0	-2.0
	comp=Z,12nm,0.8s						
HIA	Hailar	19.39	295	*e*P	P	22 08 52.0	-2.0
HIA				pmax	pmax		
	comp=Z,12nm,0.8s						
YAK	Yakutsk	20.76	337	*e*P	P	22 09 04.7	-3.8
YAK				*e**PP	pP	22 09 29.8	+4.2
YAK				*e*S	S	22 12 48.8	-6.2
YAK				*e**SS	sS	22 13 23.6	-0.2
YAK				pmax	pmax		
	comp=Z,37nm,1.1s						
YAK				pmax	pmax		
	comp=N,21nm,1.0s						
YAK				pmax	pmax		
	comp=E,11nm,1.1s						
YAK				smax	smax		
	comp=N,37nm,1.3s						
YAK				smax	smax		
	comp=E,36nm,1.3s						
JOW	Kunigami	22.81	228	*e*P	P	22 09 32.5	+1.9
	comp=E,63nm,1.2s						
BJT	Baijiatuau	23.16	271	*e*P	P	22 09 33.6	-0.3
	comp=E,10nm,0.7s						
BJT	Baijiatuau	23.16	271	*e*P	P	22 09 33.6	-0.3
BJT	Baijiatuau	23.16	271	*e*P	P	22 09 33.6	-0.3
BJT				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TIA	Tai'an	24.02	261	P	P	22 09 42.0	+0.3
TIA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BOD	Bodaibo	24.69	316	*e*P	P	22 09 43.9	-3.7
BOD				pmax	pmax		
	comp=Z,7.0nm,1.3s						
NJ2	Nanjing	25.02	251	*e*P	P	22 09 51.8	+1.0
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
BILL	Bilibino	26.20	16⇓	*e*P	P	22 10 00.9	-0.3
BILL	Bilibino	26.20	16	*e*P	P	22 10 00.7	-0.5
BILL				*e*		22 10 33.7	
BILL				*e*		22 10 50.2	
BILL				*e*		22 13 21.1	
BILL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BILL				MLR	MLR		
	comp=Z,56nm,15.0s						
HHC	Hu-ho-hao-te	26.21	276	*e*P	P	22 10 01.3	-0.4
HHC				S	S	22 14 18.2	-9.1
HHC				sS	sS	22 15 07.9	+5.8
HHC				pmax	pmax		
	comp=Z,25nm,0.8s						
HHC				pmax	pmax		
	comp=Z,66nm,3.5s						
ULN	Ulaanbaatar	27.83	292	*e*P	P	22 10 16.0	-0.2
	comp=Z,3.9nm,0.9s						
ULN	Ulaanbaatar	27.83	292⇑	*e*P	P	22 10 16.4	+0.2
ULN	Ulaanbaatar	27.83	292⇑	*e*P	P	22 10 16.4	+0.2
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONA1	Songino Array	28.27	292	*e*P	P	22 10 20.1	0.0
SONM	Songino Array	28.27	292	P	P	22 10 20.1	0.0
	comp=Z,5.2nm,0.5s,baz=79,slow=8.4,SNR=38						
SONM				PcP	PcP	22 13 30.6	-0.5
	comp=Z,0.5nm,0.5s,baz=138,slow=3.5,SNR=3.8						
TIXI	Tiksi	29.13	348⇓	*e*P	P	22 10 23.0	-4.3
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ANM	Nome	33.49	35	*e*P	P	22 11 05.6	-0.1
	comp=Z,17nm,1.5s						
ANM	Nome	33.49	35	*e*P	P	22 11 05.6	-0.1
ANM				pmax	pmax		
	comp=Z,17nm,1.5s						
LZH	Lanzhou	33.64	272	*e*P	P	22 11 09.0	+1.6
LZH				pP	pP	22 11 29.0	+1.2
LZH				sP	sP	22 11 41.4	+3.4
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
GTA	Gaotai	35.13	279	*e*P	P	22 11 22.4	+2.1
GTA				pP	sP	22 11 48.5	-2.5
GTA				sP	pP	22 12 00.5	+20
GTA				PcP	PcP	22 13 51.3	+1.5
GTA				S	S	22 16 47.4	+0.7
GTA				ScP	ScP	22 17 27.8	+0.5
GTA				PcS	PcS	22 17 36.8	-0.1
GTA				SS	SnSn	22 19 12.3	+0.3
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,96nm,5.9s						
GTA				LR	LR		
	comp=Z,73nm,15.2s						
GTA				LR	LR		
	comp=Z,80nm,16.5s						
GTA				LR	LR		
	comp=Z,90nm,15.9s						
HVS	Khovu-Aksy	35.98	301⇓	*e*P	P	22 11 27.4	+0.1
HVS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CD2	Chengdu	36.30	264	*e*P	P	22 11 30.0	-0.2
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
RSO	Redoubt South	38.90	43	*e*P	P	22 11 54.7	+2.7
PPLA	Purkeypile	39.10	39	*e*P	P	22 11 55.1	+1.5
	comp=Z,88nm,1.9s						
CAST	Castle Rocks	39.15	39	*e*P	P	22 11 54.8	+1.0
	comp=Z,11nm,0.8s						
KDAK	Kodiak Island	39.20	47	*e*P	P	22 11 54.8	+0.6
	comp=Z,216nm,1.8s						
KDAK	Kodiak Island	39.20	47	*e*P	P	22 11 54.5	+0.2
KDAK	Kodiak Island	39.20	47	*i* P	P	22 11 54.5	+0.2
BPAW	Bear Paw Mtn.	39.64	37	*e*P	P	22 11 59.3	+1.5
	comp=Z,48nm,2.0s						
MLY	Manley	39.75	36	*e*P	P	22 12 00.4	+1.6
	comp=Z,35nm,2.0s						
SUA	Susitna One	39.83	42	*e*P	P	22 12 00.4	+0.9
	comp=Z,64nm,1.9s						
BRLK	Bradley Lake	39.88	44	*e*P	P	22 12 01.0	+1.1
	comp=Z,132nm,1.9s						
TRF	Thorofare Moun	39.95	38	*e*P	P	22 12 01.8	+1.1
	comp=Z,49nm,1.7s						
DGZ	Jazzator, Alta	40.20	300*d*	*e*P	P	22 12 03.0	+0.1
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
RC01	Rabbit Creek A	40.34	42	*e*P	P	22 12 05.2	+1.5
	comp=Z,41nm,1.4s						
KMI	Kunming	40.44	257	P	P	22 12 06.7	+1.5
KMI				pmax	pmax		
	comp=Z,13nm,0.5s						
KMI				pmax	pmax		
	comp=Z,140nm,5.2s						
MCK	McKinley	40.55	38	*e*P	P	22 12 06.4	+1.0
	comp=Z,11nm,1.0s						
MCK	McKinley	40.55	38	*e*P	P	22 12 06.4	+1.0
RND	Reindeer	40.60	38	*e*P	P	22 12 06.5	+0.6
	comp=Z,20nm,1.4s						
GHO	Glory Hole Cre	40.67	41	*e*P	P	22 12 08.1	+1.6
	comp=Z,92nm,2.0s						
ZAA0	Zalesovo Array	40.77	307	*e*P	P	22 12 06.7	-0.6
	comp=Z,5.4nm,1.4s						
ZAA0				*e*PcP	PcP	22 14 07.3	+0.5
ZALV	Zalesovo Beam	40.77	307	P	P	22 12 05.0	-2.3
	comp=Z,1.4nm,0.3s,baz=84,slow=7.5,SNR=12						
ZALV				PcP	PcP	22 14 07.4	+0.6
	comp=Z,4.7nm,0.7s,baz=64,slow=2.9,SNR=12						
ZALV	Zalesovo Beam	40.77	307	*e*P	P	22 12 05.7	-1.6
ZALV				*e*PcP	PcP	22 14 07.1	+0.3
ZALV	Zalesovo Beam	40.77	307	*e*P	P	22 12 05.7	-1.6
ZALV				*e*		22 14 07.1	
MDM	Murphy Dome	40.82	36	*e*P	P	22 12 08.7	+1.1
	comp=Z,7.4nm,0.7s						
WRH	Wood River Hil	40.89	37	*e*P	P	22 12 08.3	+0.1
	comp=Z,13nm,1.1s						
KNK	Knik Glacier	40.92	42	*e*P	P	22 12 09.9	+1.4
	comp=Z,60nm,1.7s						
SML	Sawmill	40.95	41	*e*P	P	22 12 10.3	+1.6
	comp=Z,18nm,0.7s						
SML	Sawmill	40.95	41	*e*P	P	22 12 10.3	+1.6
TCOL	CIGO, UAF Yank	40.98	36	P	P	22 12 10.4	+1.6
	baz=272						
COLA	College	40.98	36	*e*P	P	22 12 09.6	+0.7
	comp=Z,24nm,1.0s						
COLA	College	40.98	36	*e*P	P	22 12 09.6	+0.7
COLA	College	40.98	36	*e*P	P	22 12 09.6	+0.7
COLA				pmax	pmax		
	comp=Z,24nm,1.0s						
POKR	Poker Plat Res	41.15	36	P	P	22 12 11.5	+1.2
	baz=272,SNR=11						
DHY	Denali Highway	41.29	39	*e*P	P	22 12 12.5	+0.8
	comp=Z,44nm,1.8s						
HDA	Harding Lake	41.39	37	P	P	22 12 12.5	+0.2
	baz=273,SNR=5.4						
ILAR	Eielson Array	41.40	36	P	P	22 12 12.0	-0.3
	comp=Z,3.3nm,0.6s,baz=264,slow=6.1,SNR=64						
ILAR				PcP	PcP	22 14 07.8	-0.9
	comp=Z,0.5nm,0.5s,baz=289,slow=3.3,SNR=4.3						

ILAR ScP **ScP** **22 17 48.3 -2.2**
comp=Z,0.3nm,1.0s,baz=236,slow=4.6,SNR=4.2
SCM **Sheep Creek Mo** **41.42 41** *e*P **P** **22 12 13.4 +0.8**
comp=Z,29nm,1.2s
SCM **Sheep Creek Mo** **41.42 41** *e*P **P** **22 12 13.4 +0.8**
SCM pmax pmax
comp=Z,29nm,1.2s
WMQ **Urumqi** **41.90 291** P **P** **22 12 17.7 +0.9**
WMQ pP pP 22 12 42.2 +4.5
WMQ sP sP 22 12 48.8 +1.0
WMQ pmax pmax
comp=Z,36nm,0.7s
WMQ pmax pmax
comp=Z,250nm,4.5s
FYU **Fort Yukon** **42.00 34** *e*P **P** **22 12 19.1 +1.9**
comp=Z,25nm,0.7s
KLU **Klutina** **42.13 41** *e*P **P** **22 12 19.2 +0.8**
comp=Z,29nm,1.2s
RIDG **Independ'e Rid** **42.37 38** *e*P **P** **22 12 21.9 +1.6**
comp=Z,23nm,1.4s
HARP **HAARP** **42.37 40** *e*P **P** **22 12 21.5 +1.2**
comp=Z,135nm,2.0s
SCRK **Sand Creek** **42.72 37** *e*P **P** **22 12 23.5 +0.3**
comp=Z,6.1nm,0.6s
DOT **Dot Lake** **42.72 38** *e*P **P** **22 12 23.2 +0.1**
comp=Z,9.0nm,1.0s
MK31 **Makanchi Array** **44.37 297** *e*P **P** **22 12 36.5 -0.1**
MK31 **Makanchi Array** **44.37 297** *e*P **P** **22 12 36.5 -0.1**
MKAR **Makanchi Array** **44.37 297** P **P** **22 12 36.4 -0.2**
comp=Z,7.1nm,0.6s,baz=79,slow=8.2,SNR=82
MKAR PcP **PcP** **22 14 18.9 -0.2**
comp=Z,1.8nm,0.8s,baz=74,slow=5.2,SNR=3.7
MKAR LR LR 22 31 20.1
comp=Z,41nm,18.7s,baz=48,slow=36
MKAR **Makanchi Array** **44.37 297** *e*P **P** **22 12 36.5 -0.2**
comp=Z,60nm,0.8s
MKAR PcP **PcP** **22 14 18.9 -0.2**
MKAR **Makanchi Array** **44.37 297** *e*P **P** **22 12 36.5 -0.2**
MKAR 22 14 18.9
MKAR pmax pmax
comp=Z,60nm,0.8s
MK01 **Makanchi Array** **44.38 297** *e*P **P** **22 12 36.2 -0.4**
MAKZ **Makanchi** **44.57 297** *e*P **P** **22 12 38.0 -0.2**
comp=Z,9.0nm,0.8s
MAKZ **Makanchi** **44.57 297** *e*P **P** **22 12 38.0 -0.2**
MAKZ pmax pmax
comp=Z,9.0nm,0.8s
DAWY **Dawson** **44.71 37** *e*P **P** **22 12 40.6 +1.5**
comp=Z,18nm,1.6s
KURK **Kurchatov** **45.31 304** *e*P **P** **22 12 43.0 -0.9**
comp=Z,12nm,1.1s
KURK **Kurchatov** **45.31 304** *ce*P **P** **22 12 42.7 -1.2**
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURBB **Kurchatov Arra** **45.39 304** P **P** **22 12 43.6 -0.9**
comp=Z,5.1nm,0.4s,baz=74,slow=8.2,SNR=55
EPYK **Eagle Plains** **45.42 33** *e*P **P** **22 12 46.0 +1.4**
comp=Z,24nm,0.9s
EPYK **Eagle Plains** **45.42 33** P **P** **22 12 45.9 +1.3**
baz=280
HYT **Haines Junctio** **46.26 41** *e*P **P** **22 12 52.6 +1.2**
comp=Z,45nm,1.5s
INK **Inuvik** **46.29 30** P **P** **22 12 52.0 +0.6**
comp=Z,9.7nm,0.4s,baz=284,slow=6.3,SNR=103
INK **Inuvik** **46.29 30** *e*P **P** **22 12 51.8 +0.5**
comp=Z,10nm,0.4s
INK **Inuvik** **46.29 30** *e*P **P** **22 12 52.0 +0.6**
INK **Inuvik** **46.29 30** P **P** **22 12 52.0 +0.6**
INK pmax pmax
comp=Z,10.0nm,0.4s
CHAI **Chaiyaphum** **47.17 248** P **P** **22 13 00.2 +1.3**
comp=Z,5.4nm,0.8s
CMMT **Chiang Mai** **47.21 254** P **P** **22 13 00.3 +1.0**
comp=Z,9.8nm,0.9s
CHTO **Chiang Mai** **47.22 254** *e*P **P** **22 13 00.3 +1.0**
comp=Z,7.6nm,0.9s
CHTO **Chiang Mai** **47.22 254** *e*P **P** **22 13 00.3 +1.0**
CHTO pmax pmax
comp=Z,8.0nm,0.9s
CHTO **Chiang Mai** **47.22 254** P **P** **22 13 00.4 +1.1**
CMAR **Chiang Mai Arr** **47.46 253** P **P** **22 13 01.1 0.0**
comp=Z,2.2nm,0.6s,baz=39,slow=7.5,SNR=16
CMAR **Chiang Mai Arr** **47.46 253** *i*P **P** **22 13 02.4 +1.3**
CMAR **Chiang Mai Arr** **47.46 253** *i*P **P** **22 13 02.4 +1.3**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CM01 **Chiang Mai Arr** **47.47 253** *e*P **P** **22 13 02.2 +1.0**
PDGK **Podgornoye** **47.56 294** P **P** **22 13 02.1 +0.3**
PDGK pmax pmax
comp=Z,8.0nm,0.8s
SHL **Shillong** **47.92 266** P **P** **22 13 06.3 +1.5**
SHL pmax pmax
comp=Z,14nm,0.5s
SRAK **Srakaew** **48.49 246** P **P** **22 13 07.9 -1.2**
comp=Z,43nm,0.8s
BVAR **Borovoye Array** **49.27 309** P **P** **22 13 14.1 -0.6**
comp=Z,1.8nm,0.5s,baz=78,slow=10,SNR=25
BVAR PcP **PcP** **22 14 36.2 0.0**
comp=Z,1.4nm,0.5s,baz=89,slow=4.4,SNR=5.2
BRVK **Borovoye** **49.32 309** *e*P **P** **22 13 14.6 -0.4**
comp=Z,7.3nm,1.4s
BRVK **Borovoye** **49.32 309**⇑ *e*P **P** **22 13 14.0 -1.0**
BRVK pmax pmax
comp=Z,8.0nm,1.6s
KDJ **Kajisay** **49.62 294** *e*P **P** **22 13 18.9 +1.2**
comp=Z,15nm,0.8s
KDJ **Kajisay** **49.62 294** *e*P **P** **22 13 18.9 +1.2**
KDJ pmax pmax
comp=Z,15nm,0.8s
OTUK **Ortayu** **50.03 303** P **P** **22 13 20.8 +0.3**
OTUK pmax pmax
comp=Z,17nm,0.9s
ULHL **Ulahol** **50.19 294** P **P** **22 13 23.1 +1.0**
SNR=9.2
TKM2 **Tokmak 2** **50.30 295** P **P** **22 13 23.9 +1.0**
SNR=14
NRN **Naryn** **50.72 293** *e*P **P** **22 13 27.1 +1.0**
comp=Z,3.4nm,0.6s
NRN **Naryn** **50.72 293** *e*P **P** **22 13 27.2 +1.0**
NRN pmax pmax
comp=Z,3.0nm,0.6s
JIRN **Jiri** **50.79 273** *e*P **P** **22 13 27.3 +0.3**
comp=Z,19nm,0.6s
KBK **Karagaybulak** **50.85 295** P **P** **22 13 27.8 +0.8**
SNR=21
USP **Ospenovka** **50.85 296** P **P** **22 13 27.2 +0.4**
SNR=22
GUN **Gumba** **50.87 273** *e*P **P** **22 13 28.4 +0.9**
comp=Z,13nm,0.5s
PHET **Kaeng Krachan** **50.90 248** P **P** **22 13 30.4 +3.1**
comp=Z,6.9nm,1.0s,comp=Z,105nm
RAMN **Ramite** **50.91 272** *e*P **P** **22 13 28.1 +0.4**
comp=Z,15nm,0.4s
KZA **Kyzart** **50.92 294** P **P** **22 13 29.3 +1.6**
SNR=12
FRU1 **Bishkek** **50.98 296** *e*P **P** **22 13 29.0 +1.2**
comp=Z,18nm,0.5s
FRU1 **Bishkek** **50.98 296** *e*P **P** **22 13 29.0 +1.2**
FRU1 pmax pmax
comp=Z,18nm,0.5s
AAK **Ala-Archa** **51.15 295** P **P** **22 13 29.8 +0.6**
comp=Z,8.3nm,0.5s,baz=105,slow=5.3,SNR=74
AAK **Ala-Archa** **51.15 295** P **P** **22 13 29.7 +0.6**
SNR=15
AAK **Ala-Archa** **51.15 295** *e*P **P** **22 13 29.7 +0.6**
comp=Z,9.2nm,0.5s
KKN **Kakani** **51.38 273** *e*P **P** **22 13 31.7 +0.6**
PKI **Pulchoki** **51.41 273** *e*P **P** **22 13 31.9 +0.4**
comp=Z,7.3nm,0.6s
PKIN **Phulchoki** **51.41 273** *e*P **P** **22 13 32.2 +0.7**
comp=Z,4.4nm,0.5s
DMN **Daman** **51.60 273** *e*P **P** **22 13 33.3 +0.4**
EKS2 **Erkin-Say** **51.61 296** P **P** **22 13 33.3 +0.7**
SNR=19
KSH **Kashi** **51.66 291** P **P** **22 13 36.7 +3.7**
KSH PcP **PcP** **22 14 50.4 +5.0**
KSH S **S** **22 20 47.3 -0.3**
KSH sS sS 22 21 35.7 +11
KSH pmax pmax
comp=Z,13nm,0.9s
KSH pmax pmax
comp=Z,280nm,4.8s
KSH LR LR
comp=Z,130nm,6.3s
KSH LR LR
comp=Z,170nm,9.3s
KSH LR LR

comp=Z,570nm,6.1s
AML **Almayashu** **51.91 295** P **P** **22 13 36.0 +0.9**
SNR=7.2
DANN **Dangsing** **52.15 275** *e*P **P** **22 13 37.7 +0.8**
comp=Z,32nm,0.6s
KOLN **Koldanda** **52.60 274** *e*P **P** **22 13 40.9 +0.7**
comp=Z,7.7nm,0.5s
ARSB **Arbob** **52.77 295** *e*P **P** **22 13 42.3 +1.1**
comp=Z,27nm,0.7s
PYUN **Piuthan** **52.84 275** *e*P **P** **22 13 42.5 +0.5**
SVE **Sverdlovsk** **52.90 317** *e*P **P** **22 13 41.1 -0.6**
SVE **Sverdlovsk** **52.90 317** *e*P **P** **22 13 41.1 -0.6**
SVE pmax pmax
comp=Z,14nm,0.9s
SFK **Sufi-Kurgan** **53.07 293** P **P** **22 13 44.1 +0.5**
SFK pmax pmax
comp=Z,12nm,1.3s
KK31 **Karatay Array** **53.50 298** *e*P **P** **22 13 46.6 +0.2**
KK31 **Karatay Array** **53.50 298** *e*P **P** **22 13 46.6 +0.2**
KKAR **Karatay Array** **53.50 298** *e*P **P** **22 13 46.6 +0.2**
KKAR **Karatay Array** **53.50 298** *e*P **P** **22 13 46.6 +0.2**
ARU **Arti** **54.11 317** *e*P **P** **22 13 49.9 -0.7**
comp=Z,18nm,0.6s
ARU **Arti** **54.11 317** *d i*P **P** **22 13 49.7 -0.9**
ARU 22 15 52.9
ARU S **S** **22 21 20.6 +0.5**
ARU pmax pmax
comp=Z,14nm,0.6s
RES **Resolute Bay** **54.81 17** *e*P **P** **22 13 54.4 -1.0**
comp=Z,7.3nm,0.6s
RES **Resolute Bay** **54.81 17** *e*P **P** **22 13 54.4 -1.0**
RES pmax pmax
comp=Z,7.0nm,0.6s
BTK **Batken** **54.83 294** *e*P **P** **22 13 56.7 +0.5**
comp=Z,8.9nm,0.6s
YKW3 **Yellowknife Ar** **55.66 34** *e*P **P** **22 14 02.4 +0.8**
comp=Z,11nm,1.0s
YKA **Yellowknife Ar** **55.70 34** P **P** **22 14 02.5 +0.6**
comp=Z,4.3nm,0.7s,baz=302,slow=6.9,SNR=56
YKA pP **pP** **22 14 22.7 -1.0**
comp=Z,2.1nm,0.7s,baz=300,slow=7.0,SNR=4.3
YKB5 **Yellowknife Ar** **55.70 34** *e*P **P** **22 14 01.8 -0.2**
KULM **Kulim** **55.94 240** *e*P **P** **22 14 04.5 +0.3**
comp=Z,11nm,1.0s
NIL **Nilore** **56.61 286** *e*P **P** **22 14 09.7 +0.8**
comp=Z,10nm,0.7s
NIL **Nilore** **56.61 286** *e*P **P** **22 14 09.7 +0.8**
NIL pmax pmax
comp=Z,10.0nm,0.7s
ABKAR **Akbulak array** **56.83 309** *e*P **P** **22 14 10.8 +0.6**
AKTO **Aktyubinsk** **57.30 311** P **P** **22 14 13.6 +0.1**
comp=Z,4.5nm,0.7s,baz=67,slow=9.0,SNR=21
PRGR **Permogore** **57.32 326** *e*P **P** **22 14 09.0 -4.4**
PRGR pmax pmax
comp=Z,12nm,0.6s
ARCES **ARCESS Array B** **59.01 340** P **P** **22 14 23.6 -1.5**
comp=Z,1.3nm,0.4s,baz=49,slow=7.0,SNR=37
ARE0 **ARCESS Array S** **59.01 340** *e*P **P** **22 14 23.9 -1.2**
DAG **Danmarks Havn** **59.20 356** *i*P **P** **22 14 24.4 -1.9**
DAG **Danmarks Havn** **59.20 356** *i*P **P** **22 14 24.4 -1.9**
KTK1 **Kautokeino** **59.95 340** *e*P **P** **22 14 30.6 -1.0**
KLMR **Klimovskoe** **60.19 327** *e*P **P** **22 14 30.4 -2.9**
KLMR pmax pmax
comp=Z,14nm,0.8s
KLMR **Klimovskoe** **60.19 327** *e*P **P** **22 14 30.5 -2.9**
KLMR AMP 22 14 34.1
comp=Z,14nm,0.8s
TRO **Tromso** **60.52 342** *e*P **P** **22 14 34.2 -1.2**
TRO IAMs_20 IAMs_20 22 23 42.6
comp=Z,1μm,3.8s
GSI **Gunungsitoli** **60.95 240** *e*P **P** **22 14 39.9 +0.8**
comp=Z,8.1nm,0.8s
NEW **Newport** **62.29 49** *e*P **P** **22 14 48.4 +0.6**
comp=Z,5.5nm,1.0s
NEW **Newport** **62.29 49** *e*P **P** **22 14 48.4 +0.6**
NEW **Newport** **62.29 49** *e*P **P** **22 14 48.4 +0.6**
NEW pmax pmax
comp=Z,6.0nm,1.0s
HYB **Hyderabad** **62.65 268** *i*P **P** **22 14 50.0 -0.6**
STEI **Steigen** **62.69 341** *e*P **P** **22 14 49.2 -0.9**
L04D **Klamath Falls** **62.85 57** P **P** **22 14 53.0 +1.3**
baz=306
J05D **Fort Rock, OR** **62.87 55** P **P** **22 14 53.0 +1.1**
baz=306
N02D **Trinity Center** **63.34 58** P **P** **22 14 56.6 +1.7**
baz=306
SUF **Sumiainen** **63.68 334** P **P** **22 14 57.4 +0.8**
SUF pmax pmax
comp=Z,19nm,1.1s
SUMG **Summit** **63.71 2** *e*P **P** **22 14 57.0 -0.1**
comp=Z,42nm,1.5s
SUMG **Summit** **63.71 2** *i*P **P** **22 14 57.1 -0.1**
SUMG **Summit** **63.71 2** *i*P **P** **22 14 57.1 -0.1**
GEYT **Alibeck** **64.23 299** P **P** **22 15 00.2 -0.6**
comp=Z,5.5nm,0.5s,baz=29,slow=3.4,SNR=6.3
GYA0B **ALIBECK ARRAY** **64.23 299** *e*P **P** **22 14 59.9 -0.8**
comp=Z,4.0nm,0.8s
O03E **Paynes Creek** **64.29 58** P **P** **22 15 02.0 +0.8**
baz=307
MOR8 **Moi Rana** **64.30 341** *e*P **P** **22 14 58.1 -2.6**
WRAB **Tennant Creek** **64.62 193** *e*P **P** **22 15 03.5 +0.2**
comp=Z,22nm,1.0s
WRAB **Tennant Creek** **64.62 193**⇑ *i*P **P** **22 15 03.5 +0.2**
WRAB pmax pmax
comp=Z,24nm,1.0s
FIA1 **FINESS Array S** **64.63 333** *e*P **P** **22 15 01.6 -1.3**
WRA **Warramunga Arr** **64.63 193** P **P** **22 15 03.2 -0.1**
comp=Z,14nm,0.9s,baz=12,slow=6.8,SNR=64
FINES **FINESS Array B** **64.63 333** P **P** **22 15 01.5 -1.4**
comp=Z,12nm,0.5s,baz=43,slow=7.8,SNR=114
FITZ **Fitzroy Crossi** **64.77 202** *e*P **P** **22 15 05.6 +1.4**
comp=Z,17nm,1.5s
WVOR **Wild Horse Val** **64.91 55** *e*P **P** **22 15 06.5 +1.4**
comp=Z,4.1nm,1.0s
WVOR **Wild Horse Val** **64.91 55** *e*P **P** **22 15 06.6 +1.4**
WVOR pmax pmax
comp=Z,4.0nm,1.0s
OBN **Obninsk** **65.07 324** *e*P **P** **22 15 05.4 -0.4**
OBN **Obninsk** **65.07 324** *e*P **P** **22 15 05.4 -0.4**
OBN *e* 22 15 36.0
OBN *e* 22 17 30.5
OBN pmax pmax
comp=Z,9.0nm,1.4s
VRH **Novokhopyorsk** **65.28 318** *e*P **P** **22 15 06.6 -0.7**
VRH pmax pmax
comp=Z,10.0nm,0.6s
BEKR **Beckworth** **65.44 58** *e*P **P** **22 15 09.9 +1.2**
comp=Z,5.8nm,0.9s
SCO **Scoresbysund** **65.59 356** *i*P **P** **22 15 09.1 +0.2**
SCO **Scoresbysund** **65.59 356** *i*P **P** **22 15 09.1 +0.2**
FFC **Flin Flon** **65.61 36** *e*P **P** **22 15 10.0 +0.6**
comp=Z,23nm,1.9s
FFC **Flin Flon** **65.61 36** *i*P **P** **22 15 12.2 +2.8**
LPSR **Galich'ya Gora** **65.69 320** *e*P **P** **22 15 09.6 -0.3**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
FCC **Fort Churchill** **65.91 30** *e*P **P** **22 15 11.5 +0.3**
comp=Z,14nm,1.2s
FCC **Fort Churchill** **65.91 30** *e*P **P** **22 15 11.5 +0.3**
FCC **Fort Churchill** **65.91 30** *e*P **P** **22 15 11.5 +0.3**
FCC pmax pmax
comp=Z,14nm,1.2s
NSS **Namsos** **66.24 340** *e*P **P** **22 15 13.0 -0.2**
EGMT **Eagleton** **66.34 46** P **P** **22 15 15.2 +1.0**
baz=310
VSR **Storozhevoye** **66.49 319** *e*P **P** **22 15 14.7 -0.3**
VSR pmax pmax
comp=Z,20nm,0.5s
DLMT **Dillon** **66.53 49** *e*P **P** **22 15 16.2 +0.6**
comp=Z,6.5nm,1.0s
CMB **Columbia Colle** **66.54 59** *e*P **P** **22 15 17.0 +1.3**
comp=Z,3.4nm,0.7s
CMB **Columbia Colle** **66.54 59** *e*P **P** **22 15 17.0 +1.3**
CMB pmax pmax
comp=Z,3.0nm,0.7s
VSU **Vasula** **66.59 330** *d i*P **P** **22 15 15.6 +0.1**
VSU pmax pmax
comp=Z,20nm,0.7s
HLID **Hailey** **66.65 52** *e*P **P** **22 15 17.9 +1.5**
comp=Z,3.8nm,1.0s
HLID **Hailey** **66.65 52** P **P** **22 15 17.5 +1.0**
baz=309
YERR **Yerington** **66.66 58** *e*P **P** **22 15 18.2 +1.6**
comp=Z,9.2nm,1.0s
WAKR **Walker** **66.84 58** *e*P **P** **22 15 18.8 +1.1**
comp=Z,5.6nm,1.1s

BOZ **Bozeman (W)** **66.90 48** *e*P **P** **22 15 19.1 +1.1**
comp=Z,7.9nm,0.8s
BOZ **Bozeman (W)** **66.90 48** *e*P **P** **22 15 19.1 +1.1**
BOZ **Bozeman (W)** **66.90 48** *e*P **P** **22 15 19.1 +1.1**
BOZ pmax pmax
comp=Z,8.0nm,0.8s
BOZ **Bozeman (W)** **66.90 48** P **P** **22 15 18.9 +1.0**
baz=310,SNR=12
KVN **Kaiserville** **67.31 57** *e*P **P** **22 15 22.3 +1.6**
comp=Z,8.6nm,0.9s
KVN **Kaiserville** **67.31 57** *e*P **P** **22 15 22.3 +1.6**
KVN pmax pmax
comp=Z,9.0nm,0.9s
RYN **Ryan** **67.32 58** *e*P **P** **22 15 22.3 +1.6**
comp=Z,5.2nm,0.8s
NVAR **Mina Array Bea** **67.58 58** P **P** **22 15 22.9 +0.4**
comp=Z,6.1nm,0.7s,baz=289,slow=6.9,SNR=28
YHB **Horse Butte** **67.68 49** *e*P **P** **22 15 23.3 +0.3**
comp=Z,5.7nm,0.7s
YMR **Madison River** **67.86 49** *e*P **P** **22 15 25.9 +1.8**
comp=Z,4.6nm,0.8s
ELK **Elko** **67.95 54** *e*P **P** **22 15 25.7 +0.9**
comp=Z,2.7nm,1.1s
ELK **Elko** **67.95 54** *e*P **P** **22 15 25.7 +0.9**
ELK pmax pmax
comp=Z,3.0nm,1.1s
YPP **Pitchstone Pla** **68.20 49** *e*P **P** **22 15 28.9 +2.5**
comp=Z,8.3nm,1.6s
H17A **Grant Village** **68.25 49** *e*P **P** **22 15 28.9 +2.3**
comp=Z,6.0nm,1.0s
H17A **Grant Village** **68.25 49** P **P** **22 15 29.3 +2.7**
baz=311,SNR=5.2
ASAR **Alice Springs** **68.35 193** P **P** **22 15 27.8 +0.8**
comp=Z,5.5nm,0.7s,baz=10,slow=5.7,SNR=48
ASAR pP **pP** **22 15 48.7 -0.9**
comp=Z,1.7nm,0.7s,baz=12,slow=5.2,SNR=4.0
RLMT **Red Lodge** **68.48 48** P **P** **22 15 29.2 +1.2**
baz=311
MOOW **Moose Ponds** **68.58 50** *e*P **P** **22 15 30.2 +1.6**
comp=Z,3.9nm,0.9s
GOF **Gofitskoye** **68.61 312** *e*P **P** **22 15 29.7 +1.2**
GOF pmax pmax
comp=Z,30nm,0.6s
TPAW **Teton Pass** **68.63 50** *e*P **P** **22 15 30.7 +1.7**
comp=Z,6.2nm,0.9s
HVU **Hansel Valley** **68.72 52** *e*P **P** **22 15 31.1 +1.6**
comp=Z,3.4nm,0.7s
HVU **Hansel Valley** **68.72 52** *e*P **P** **22 15 31.1 +1.6**
HVU pmax pmax
comp=Z,3.0nm,0.7s
LOHW **Long Hollow** **68.74 50** *e*P **P** **22 15 31.6 +2.0**
comp=Z,2.6nm,0.7s
IZAR **Zarasai** **68.78 329** *e*P **P** **22 15 29.5 +0.2**
IZAR IAmb IAmb 22 15 30.4
comp=Z,9.2nm,0.6s
IDID **Didziasalis** **68.92 328** *e*P **P** **22 15 30.3 +0.1**
IDID IAmb IAmb 22 15 31.5
comp=Z,7.8nm,0.8s
ISAL **Salakas** **68.96 329** *e*P **P** **22 15 30.7 +0.2**
ISAL IAmb IAmb 22 15 31.9
comp=Z,7.8nm,0.7s
CWC **Cottonwood Cre** **68.97 59** P **P** **22 15 32.0 +0.9**
baz=310
FRB **Frobisher Bay** **69.02 16** LR LR 22 46 54.1
comp=Z,28nm,18.8s,baz=150,slow=37
FRB **Frobisher Bay** **69.02 16** P **P** **22 15 30.1 -0.5**
FRB pmax pmax
comp=Z,19nm,2.2s
GRAC **Grapevine Rang** **69.06 59** P **P** **22 15 33.0 +1.5**
baz=310
IIGN **Ignalina** **69.09 328** *e*P **P** **22 15 31.5 +0.2**
IIGN IAmb IAmb 22 15 32.6
comp=Z,20nm,0.5s
NC303 **NORSAR Array S** **69.17 339** *e*P **P** **22 15 31.2 -0.4**
NC405 **NORSAR Array S** **69.17 339** *e*P **P** **22 15 31.4 -0.3**
NACGM **Naroch** **69.21 328** *e* **P** **22 15 30.0 -2.0**
SBC **Santa Barbara** **69.21 62** P **P** **22 15 34.0 +1.6**
baz=310
R11A **Troy Canyon, C** **69.28 56** *e*P **P** **22 15 33.9 +0.9**
comp=Z,4.5nm,1.2s
R11A **Troy Canyon, C** **69.28 56** P **P** **22 15 33.9 +0.9**
baz=310,SNR=5.9
NC204 **NORSAR Array S** **69.28 339** *e*P **P** **22 15 32.2 -0.3**
NB201 **NORSAR Array S** **69.33 339** *e*P **P** **22 15 32.4 -0.4**
NCK **Nalchik** **69.34 311**⇓ *e*P **P** **22 15 34.1 +1.0**
NCK pmax pmax
comp=Z,11nm,0.6s
NB2 **NORSAR Subarra** **69.36 339** P **P** **22 15 31.8 -1.1**
comp=Z,4.8nm,0.4s,baz=31,slow=6.5
NB2 **NORSAR Subarra** **69.36 339** P **P** **22 15 31.8 -1.1**
baz=31,slow=6.5
NOA **NORSAR Array B** **69.36 339** P **P** **22 15 32.1 -0.8**
comp=Z,5.9nm,0.5s,baz=32,slow=6.5,SNR=99
NOA LR LR 22 48 44.8
comp=Z,7.2nm,20.9s,baz=345,slow=38
AKN **Aaknes** **69.43 341** *e*P **P** **22 15 34.7 +1.4**
NBO00 **NORSAR Array S** **69.48 339** *e*P **P** **22 15 33.5 -0.2**
KVAR **Kislovodsk Ar** **69.52 312** P **P** **22 15 34.1 -0.3**
comp=Z,8.7nm,0.7s,baz=282,slow=19,SNR=32
KIV **Kislovodsk** **69.53 312** *e*P **P** **22 15 34.9 +0.5**
comp=Z,30nm,0.7s
KIV **Kislovodsk** **69.53 312** *e*P **P** **22 15 35.0 +0.7**
KIV **Kislovodsk** **69.53 312** *e*P **P** **22 15 35.0 +0.7**
KIV *e* 22 15 57.4
KIV *e* 22 18 10.9
KIV pmax pmax
comp=Z,28nm,0.7s
KIV MLR MLR
comp=Z,49nm,14.0s
NC602 **NORSAR Array S** **69.53 338** *e*P **P** **22 15 33.5 -0.5**
NC602 **NORSAR Array S** **69.53 338** *e*P **P** **22 15 33.3 -0.7**
KBZ **Khabaz** **69.56 311** P **P** **22 15 35.5 +1.1**
comp=Z,14nm,0.7s,baz=70,slow=3.5,SNR=67
MPMC **Manual Prospec** **69.58 59** P **P** **22 15 35.8 +0.9**
baz=310,SNR=5.1
NAO01 **NORSAR Array S** **69.61 339** *e*P **P** **22 15 34.0 -0.5**
ZEI **Tsey** **69.64 310** *e*P **P** **22 15 34.5 -0.7**
ZEI pmax pmax
comp=Z,8.0nm,0.6s
FURC **Furnace Creek,** **69.71 59** P **P** **22 15 36.6 +1.2**
baz=310
DUG **Dugway, Tooele** **69.72 53** *e*P **P** **22 15 37.3 +1.6**
comp=Z,4.4nm,0.7s
DUG **Dugway, Tooele** **69.72 53** P **P** **22 15 37.2 +1.6**
DUG pmax pmax
comp=Z,4.0nm,0.7s
DUG **Dugway, Tooele** **69.72 53** P **P** **22 15 36.8 +1.1**
baz=311,SNR=6.7
TPNV **Topopah Spring** **69.78 58** *e*P **P** **22 15 37.0 +1.0**
comp=Z,5.4nm,0.8s
TPNV **Topopah Spring** **69.78 58** *e*P **P** **22 15 37.1 +1.0**
TPNV pmax pmax
comp=Z,5.0nm,0.8s
TPNV **Topopah Spring** **69.78 58** P **P** **22 15 37.0 +1.0**
baz=310,SNR=8.0
TBLG **Delisi** **69.87 309** *e*P **P** **22 15 37.5 +1.2**
comp=Z,20nm,0.6s
TBLG **Delisi** **69.87 309** P **P** **22 15 37.9 +1.5**
TBLG pmax pmax
comp=Z,20nm,0.6s
BW06 **Boulder Array** **69.88 50** *e*P **P** **22 15 37.5 +0.8**
comp=Z,3.4nm,0.6s
BW06 **Boulder Array** **69.88 50** P **P** **22 15 37.4 +0.7**
baz=312,SNR=8.3
PDAR **Pinedale Array** **69.88 50** P **P** **22 15 37.4 +0.7**
comp=Z,2.5nm,0.5s,baz=248,slow=1.7,SNR=35
PDAR pP **PcP** **22 15 58.8 +0.1**
comp=Z,1.3nm,0.8s,baz=306,slow=3.3,SNR=3.1
TCUT **Toone Canyon** **69.93 52** *e*P **P** **22 15 38.6 +1.6**
comp=Z,8.1nm,0.9s
NEY **Neytrino** **69.98 311**⇓ *e*P **P** **22 15 38.4 +1.2**
NEY pmax pmax
comp=Z,1.0nm,0.6s
EDW2 **Edwards Air Fo** **70.02 61** P **P** **22 15 38.5 +1.0**
baz=310
PSUT **Pine Spring** **70.19 55** *e*P **P** **22 15 39.9 +1.2**
comp=Z,2.7nm,0.9s
NLU **North Lily Min** **70.31 53** *e*P **P** **22 15 40.1 +0.8**
comp=Z,3.6nm,0.9s
HYA **Hoyanger** **70.50 341** *e*P **P** **22 15 40.2 +0.4**
HYA IAmb IAmb 22 15 40.7
comp=Z,25nm,1.0s
MPU **Maple Canyon** **70.52 53** *e*P **P** **22 15 41.2 +0.5**
comp=Z,5.2nm,0.9s
SHPR **Sheep Range** **70.73 58** *e*P **P** **22 15 42.4 +0.6**
comp=Z,4.2nm,0.9s
AKH **Akhalkalaki** **70.78 309**⇑ *i*P **P** **22 15 43.6 +1.5**

AKH **Akhalkalaki** 70.78 309 P P 22 15 43.6 +1.5
GNI **Garni** 70.91 308 P P 22 15 43.8 +0.8
comp=Z,4.0nm,0.6s,baz=288,slow=2.0,SNR=6.0
TUQ **Turquoise Moun** 70.96 59 P P 22 15 44.1 +0.9
baz=311
MSU **Marysvale** 71.20 54 *e*P P 22 15 45.5 +0.7
MSU **Marysvale** 71.20 54 P P 22 15 45.5 +0.7
TMUT **Trail Mountain** 71.25 53 *e*P P 22 15 46.5 +1.4
comp=Z,8.7nm,1.4s
SUW **Suwalki** 71.26 329 *e*P P 22 15 44.2 -0.3
SUW **Suwalki** 71.26 329 *e*P P 22 15 44.4 -0.1
comp=Z,31nm,1.0s
SUW **Suwalki** 71.26 329 *e*P P 22 15 44.4 -0.1
SUW pmax pmax
comp=Z,31nm,1.0s
AKASG **Malin Array Be** 71.34 324 P P 22 15 44.8 -0.3
comp=Z,16nm,0.7s,baz=39,slow=6.6,SNR=63
AKBB **Malin Array Si** 71.34 324 *e*P P 22 15 44.9 -0.2
comp=Z,30nm,0.9s
KIEV **Kiev** 71.35 324 *e*P P 22 15 44.6 -0.6
comp=Z,29nm,0.9s
KIEV **Kiev** 71.35 324 *ce*P P 22 15 44.8 -0.3
KIEV pmax pmax
comp=Z,32nm,0.9s
AK11 **Malin Array Si** 71.38 324 *e*P P 22 15 45.2 -0.1
P17A **Butcher Ranch,** 71.40 53 *e*P P 22 15 47.4 +1.5
comp=Z,5.3nm,0.8s
ULM **Lac du Bonnet** 71.41 37 P P 22 15 45.3 -0.3
comp=Z,0.8nm,0.4s,baz=322,slow=5.9,SNR=3.6
ULM pP PcP 22 16 06.2 +1.5
comp=Z,2.0nm,0.8s,baz=340,slow=7.0,SNR=2.9
ODD1 **Odda** 71.50 340 *e*P P 22 15 46.8 +0.8
ODD1 IAmb IAmb 22 15 47.1
comp=Z,14nm,0.8s
MTPU **Mount Pierson** 71.51 55 *e*P P 22 15 47.7 +0.9
comp=Z,4.2nm,0.8s
GMRC **Granite Mounta** 71.54 59 P P 22 15 47.5 +0.7
baz=311
LCMT **Little Creek M** 71.56 56 *e*P P 22 15 48.5 +1.7
comp=Z,5.2nm,1.0s
K22A **Casper** 71.61 48 P P 22 15 47.5 +0.4
baz=313
KNB **Kanab** 71.81 56 *e*P P 22 15 50.2 +1.7
comp=Z,28nm,2.0s
KNB **Kanab** 71.81 56 P P 22 15 50.1 +1.7
KNB pmax pmax
comp=Z,28nm,1.9s
PFO **Pinyon Flats O** 71.81 61 *e*P P 22 15 49.8 +1.4
comp=Z,13nm,1.8s
PFO **Pinyon Flats O** 71.81 61 *e*P P 22 15 49.8 +1.4
PFO pmax pmax
comp=Z,13nm,1.8s
XPFO **Pion Flat** 71.81 61 *e*P P 22 15 49.0 +0.6
comp=Z,4.1nm,1.0s
BELC **Belle Mtn. Jos** 71.85 60 P P 22 15 49.1 +0.5
baz=311
RSSD **Black Hills** 71.91 46 *e*P P 22 15 50.0 +1.1
comp=Z,5.4nm,0.9s
RSSD **Black Hills** 71.91 46 *e*P P 22 15 50.0 +1.1
RSSD pmax pmax
comp=Z,5.0nm,0.9s
RSSD **Black Hills** 71.91 46 P P 22 15 49.5 +0.6
baz=314
IRM **Iron Mountain** 72.28 60 P P 22 15 51.5 +0.5
baz=312
W13A **Hualapai Mount** 72.43 58 *e*P P 22 15 52.7 +0.5
comp=Z,1.7nm,0.8s
U15A **North Rim** 72.52 56 *e*P P 22 15 53.7 +1.0
comp=Z,1.1nm,0.8s
IKP **In-Ko-Pah, Jac** 72.66 61 P P 22 15 54.4 +0.9
baz=312
SNART **Snartemo** 72.73 339 *e*P P 22 15 53.0 -0.2
PV09 **Paradox Valley** 72.98 53 *e*P P 22 15 56.4 +0.9
PV21 **Cone Mtn., Par** 73.03 53 *e*P P 22 15 56.9 +1.2
comp=Z,6.6nm,0.7s
PV23 **Carpenter Ridg** 73.08 53 *e*P P 22 15 57.8 +1.7
comp=Z,25nm,1.8s
PV10 **Paradox Valley** 73.12 53 *e*P P 22 15 57.7 +1.4
N23A **Red Feather La** 73.13 49 *e*P P 22 15 57.2 +0.9
comp=Z,8.7nm,1.1s
N23A **Red Feather La** 73.13 49 P P 22 15 57.0 +0.8
baz=314
PV14 **Lion Creek, Pa** 73.13 53 *e*P P 22 15 57.6 +1.3
comp=Z,6.5nm,0.5s
PV20 **West Nyswonger** 73.18 53 *e*P P 22 15 56.8 +0.2
comp=Z,38nm,1.8s
PV19 **Morning Glory** 73.19 53 *e*P P 22 15 57.9 +1.2
comp=Z,15nm,1.4s
PV17 **East Wray Mesa** 73.23 53 *e*P P 22 15 58.2 +1.4
comp=Z,12nm,0.6s
PV16 **Nyswonger Mesa** 73.23 53 *e*P P 22 15 58.2 +1.3
comp=Z,14nm,1.3s
BSD **Bornholm Skovb** 73.25 334 *i* P P 22 15 56.6 +0.2
BSD **Bornholm Skovb** 73.25 334 *i* P P 22 15 56.6 +0.2
PV11 **David Mesa, Pa** 73.27 53 *e*P P 22 15 58.8 +1.8
comp=Z,7.8nm,0.8s
PV05 **Paradox Valley** 73.28 53 *e*P P 22 15 58.4 +1.1
PV12 **Saucer Basin,** 73.29 53 *e*P P 22 15 58.4 +1.1
comp=Z,10nm,1.4s
PV03 **Paradox Valley** 73.31 53 *e*P P 22 15 58.5 +1.1
PV13 **Radium Mtn., P** 73.39 53 *e*P P 22 15 59.3 +1.5
comp=Z,6.7nm,0.6s
COP **Copenhagen** 73.55 335 *i* P P 22 15 57.3 -0.8
COP **Copenhagen** 73.55 335 *e*P P 22 15 57.3 -0.8
PV01 **Paradox Valley** 73.55 53 *e*P P 22 15 59.4 +0.6
HORU **Horodok** 73.65 324 P P 22 15 59.3 +0.5
SMCO **Snowmass** 73.74 51 *e*P P 22 16 01.1 +1.0
comp=Z,3.7nm,0.6s
MUD **Monsted U'grnd** 73.84 337 *i* P P 22 15 59.4 -0.4
MUD **Monsted U'grnd** 73.84 337 *i* P P 22 15 59.4 -0.4
BEL **Belsk** 73.86 329 *e*P P 22 16 01.3 +1.2
BEL **Belsk** 73.86 329 P P 22 16 02.3 +2.3
BEL pmax pmax
comp=Z,104nm,0.9s
GKP **Gorka Klasztor** 73.99 331 *e*P P 22 16 01.4 +0.6
GKP **Gorka Klasztor** 73.99 331 *e*P P 22 16 01.4 +0.6
ISCO **Idaho Springs** 74.07 50 *e*P P 22 16 03.4 +1.5
comp=Z,4.2nm,0.9s
ISCO **Idaho Springs** 74.07 50 *e*P P 22 16 03.4 +1.5
ISCO pmax pmax
comp=Z,4.0nm,0.9s
ISCO **Idaho Springs** 74.07 50 P P 22 16 02.8 +1.0
baz=314
LVV **L'vov** 74.18 326 *e*P P 22 16 02.6 +0.7
MVCO **Mesa Verde** 74.23 53 *e*P P 22 16 03.5 +0.7
comp=Z,25nm,2.0s
MVCO **Mesa Verde** 74.23 53 P P 22 16 03.5 +0.7
baz=314
X16A **Lo Mia Camp, P** 74.38 57 *e*P P 22 16 04.8 +1.2
comp=Z,5.5nm,0.9s
S22A **4UR Ranch, Cre** 74.81 52 P P 22 16 07.4 +1.1
baz=314
KWP **Kalwaria Pacla** 74.86 326 *e*P P 22 16 06.7 +0.8
KWP **Kalwaria Pacla** 74.86 326 *e*P P 22 16 06.9 +1.0
comp=Z,608nm,1.3s
KWP **Kalwaria Pacla** 74.86 326 *e*P P 22 16 06.9 +1.0
Q24A **Divide** 74.91 50 P P 22 16 07.5 +0.7
baz=315
KSV **Kosov** 74.92 324 P P 22 16 07.0 +0.8
PRAR **RASCA** 75.15 323 ⇓ *i*P P 22 16 08.1 +0.5
OGNE **Ogallala** 75.19 47 *e*P P 22 16 09.1 +1.0
comp=Z,21nm,0.8s
BIR **Birlad** 75.36 321 ⇓ *i*P P 22 16 09.9 +1.1
BIR **Birlad** 75.36 321 P P 22 16 09.8 +1.0
BURAR **Bucovina Array** 75.39 324 ⇓ *i*P P 22 16 10.2 +1.1
BURAR **Bucovina Array** 75.39 324 P P 22 16 10.2 +1.1
BIZ **Bicaz** 75.53 323 ⇓ *i*P P 22 16 10.9 +1.1
OJC **Ojcow** 75.53 328 *e*P P 22 16 10.3 +0.6
OJC **Ojcow** 75.53 328 *e*P P 22 16 10.2 +0.5
comp=Z,72nm,1.2s
OJC **Ojcow** 75.53 328 *e*P P 22 16 10.3 +0.6
SDCO **Great Sand Dun** 75.57 51 *e*P P 22 16 11.7 +1.2
comp=Z,11nm,1.7s
SDCO **Great Sand Dun** 75.57 51 P P 22 16 11.3 +0.8
baz=315
STKA **Stephens Creek** 75.63 185 P P 22 16 11.2 +1.0
comp=Z,4.0nm,0.7s,baz=320,slow=9.4,SNR=7.1
TLCR 75.64 320 ⇑ *i*P P 22 16 11.4 +1.0
TLCR 75.64 320 P P 22 16 11.3 +0.9
BSEG **Bad Segeberg** 75.68 335 *e*P P 22 16 11.1 +0.6
comp=Z,17nm,0.9s,baz=32,slow=5.9
PETR **Petresti** 75.96 321 ⇑ *i*P P 22 16 14.2 +2.0
CFR **Carcaliu** 75.96 320 ⇓ *i*P P 22 16 13.2 +1.0
CFR **Carcaliu** 75.96 320 P P 22 16 13.2 +1.0
TRSU **Trosnyk** 75.97 325 P P 22 16 13.9 +1.7
NIE **Niedzica** 75.99 327 *e*P P 22 16 13.5 +1.1

NIE **Niedzica** 75.99 327 *e*P P 22 16 13.5 +1.1
ODBI **Odobesti** 76.01 321 ⇑ *i*P P 22 16 14.2 +1.7
VRI **Vrincioaia** 76.08 322 ⇓ *i*P P 22 16 14.6 +1.7
VRI **Vrincioaia** 76.08 322 P P 22 16 14.6 +1.7
TRPA **Tarpa** 76.11 325 ⇓ *i*P P 22 16 14.4 +1.4
ARCR **ARCALIA** 76.17 324 ⇑ *i*P P 22 16 15.3 +1.9
TIRR **Tirgusor** 76.38 320 ⇓ *i*P P 22 16 15.1 +0.5
TLB **Topalu** 76.45 320 ⇑ *i*P P 22 16 16.3 +1.3
TLB **Topalu** 76.45 320 P P 22 16 16.3 +1.3
LANS **Liptovska Anna** 76.53 328 *e*P P 22 16 17.3 +1.9
LANS **Liptovska Anna** 76.53 328 *e*P P 22 16 17.3 +1.9
DOPR **Dopca** 76.59 322 ⇓ *i*P P 22 16 17.0 +1.1
T25A **Trinidad** 76.61 51 *e*P P 22 16 17.6 +1.3
comp=Z,12nm,1.4s
T25A **Trinidad** 76.61 51 P P 22 16 16.6 +0.3
baz=316
UPC **Upice** 76.70 330 *e*P P 22 16 17.7 +1.4
UPC **Upice** 76.70 330 *e*P P 22 16 17.7 +1.4
MLR **Muntele Rosu** 76.71 322 *e*P P 22 16 17.7 +1.0
comp=Z,41nm,1.9s
MLR **Muntele Rosu** 76.71 322 ⇑ *i*P P 22 16 17.4 +0.7
DPC **Dobruska-Polom** 76.72 330 *e*P P 22 16 17.9 +1.4
DPC *ex* x 22 16 21.7
DPC **Dobruska-Polom** 76.72 330 *e*P P 22 16 17.9 +1.4
DPC *e* 22 16 21.7
ISR **Istrita** 76.73 321 ⇑ *i*P P 22 16 18.7 +2.0
ISR **Istrita** 76.73 321 P P 22 16 18.6 +1.9
MORC **Moravsky Berou** 76.75 329 *e*P P 22 16 17.4 +0.7
comp=Z,10nm,0.5s
MORC **Moravsky Berou** 76.75 329 ⇑ *i*P P 22 16 17.7 +1.0
MORC **Moravsky Berou** 76.75 329 *e*P P 22 16 17.4 +0.7
MORC pmax pmax
comp=Z,11nm,0.5s
MORC **Moravsky Berou** 76.75 329 *e*P P 22 16 17.5 +0.8
KRLC **Kraliky** 76.78 330 *e*P P 22 16 17.7 +0.8
KRLC **Kraliky** 76.78 330 *e*P P 22 16 17.7 +0.8
ICOR **Ion Corvin** 76.92 320 ⇑ *i*P P 22 16 19.7 +2.0
ANMO **Albuquerque** 76.98 54 *e*P P 22 16 18.5 +0.1
comp=Z,9.3nm,1.5s
ANMO **Albuquerque** 76.98 54 ⇑ *i*P P 22 16 19.9 +1.4
ANMO pmax pmax
comp=Z,6.0nm,1.5s
NRDL **Niedersach Rie** 76.99 335 *e*P P 22 16 18.4 +0.6
comp=Z,7.3nm,0.9s,baz=32,slow=5.9
RETH **Rethem/Aller,** 77.01 335 *e*P P 22 16 18.5 +0.5
comp=Z,19nm,1.1s,baz=32,slow=5.9
CLL **Collm** 77.07 332 *e*P P 22 16 18.0 -0.4
comp=Z,18nm,0.7s
CLL **Collm** 77.07 332 *e*P P 22 16 18.5 +0.1
comp=Z,22nm,0.8s,baz=32,slow=5.9
CLL **Collm** 77.07 332 ⇑ *i*P P 22 16 18.3 -0.1
comp=Z,22nm,0.8s
CLL *i* 22 16 21.1
CLL **Collm** 77.07 332 ⇑ *i*P P 22 16 18.3 -0.1
CLL **Collm** 77.07 332 ⇑ *i*P P 22 16 18.3 -0.1
CLL pmax pmax
comp=Z,21nm,0.8s
DRGR 77.10 324 ⇑ *i*P P 22 16 19.4 +0.6
DRGR 77.10 324 P P 22 16 19.4 +0.6
BRG **Berggiesshubel** 77.12 332 *i* P P 22 16 18.6 -0.2
comp=Z,3.9nm,0.6s
BRG **Berggiesshubel** 77.12 332 *e*P P 22 16 18.8 +0.1
comp=Z,3.9nm,0.6s,baz=32,slow=5.9
BRG **Berggiesshubel** 77.12 332 *i* P P 22 16 18.5 -0.2
BRG pmax pmax
comp=Z,7.0nm,0.6s
VOIR 77.15 322 ⇓ *i*P P 22 16 20.9 +1.8
VOIR 77.15 322 P P 22 16 20.8 +1.7
PVCC **Panska Ves** 77.19 331 *e*P P 22 16 20.1 +1.0
PVCC **Panska Ves** 77.19 331 *e*P P 22 16 20.1 +1.0
FBE **Freiberg** 77.28 332 *e*P P 22 16 20.3 +0.7
comp=Z,9.8nm,0.9s,baz=32,slow=5.9
VYHS **Vyhne** 77.30 328 *e*P P 22 16 20.8 +1.0
VYHS pmax pmax
comp=Z,3.0nm,0.6s
VYHS **Vyhne** 77.30 328 *e*P P 22 16 20.8 +1.0
BR131 **Keskin Array S** 77.31 313 *e*P P 22 16 20.8 +0.7
BRTR **Keskin Array B** 77.31 313 P P 22 16 21.2 +1.1
comp=Z,2.2nm,0.7s,baz=73,slow=3.8,SNR=15
PSZ **Piszkesteto** 77.35 327 *e*P P 22 16 19.7 -0.4
comp=Z,5.1nm,0.7s
PSZ **Piszkesteto** 77.35 327 ⇑ *i*P P 22 16 21.9 +1.8
PSZ **Piszkesteto** 77.35 327 *e*P P 22 16 19.7 -0.4
PSZ pmax pmax
comp=Z,5.0nm,0.7s
ARR **Arges** 77.39 322 ⇑ *i*P P 22 16 22.0 +1.6
JAVC **Velka Javorina** 77.45 328 *e*P P 22 16 22.9 +2.3
SCHQ **Schefferville** 77.47 19 P P 22 16 20.6 0.0
comp=Z,1.4nm,0.3s,baz=356,slow=5.6,SNR=7.8
CLZ **Clausthal** 77.47 334 *e*P P 22 16 21.4 +0.7
comp=Z,14nm,0.8s,baz=32,slow=5.9
VRAC **Vranov** 77.48 329 *e*P P 22 16 21.8 +1.0
GOPC **GO Pecny, Ondr** 77.63 331 *e*P P 22 16 22.6 +1.0
GOPC **GO Pecny, Ondr** 77.63 331 *e*P P 22 16 22.6 +1.0
PRU **Pruhonice** 77.66 331 *e*P P 22 16 22.6 +0.9
PRU **Pruhonice** 77.66 331 *e*P P 22 16 22.6 +0.9
PRU **Pruhonice** 77.66 331 *e*P P 22 16 22.6 +0.9
KRUC **Moravsky** 77.76 329 *e*P P 22 16 23.2 +0.9
GTTG **Gyttingen** 77.86 334 *e*P P 22 16 23.5 +0.7
comp=Z,23nm,1.0s,baz=32,slow=5.9
IBBN **Ibbenburen** 77.86 336 *e*P P 22 16 23.3 +0.5
comp=Z,22nm,1.1s,baz=32,slow=5.9
MODS **Modra-Piesok** 78.00 328 *e*P P 22 16 23.8 +0.2
MODS pmax pmax
comp=Z,11nm,1.4s
MODS **Modra-Piesok** 78.00 328 *e*P P 22 16 23.8 +0.2
PLN **Plauen** 78.05 332 *e*P P 22 16 24.5 +0.6
comp=Z,6.3nm,1.2s,baz=32,slow=5.9
MOX **Moxa** 78.10 333 *e*P P 22 16 24.6 +0.4
comp=Z,11nm,1.4s,baz=32,slow=5.9
MOX **Moxa** 78.10 333 P P 22 16 26.7 +2.6
MOX pmax pmax
comp=Z,7.0nm,1.1s
GZR **Gura Zlata** 78.18 323 ⇓ *i*P P 22 16 25.7 +0.9
GZR **Gura Zlata** 78.18 323 P P 22 16 25.6 +0.8
BZS **Buzias** 78.50 324 ⇓ *i*P P 22 16 26.8 +0.4
KHC **Kasperske Hory** 78.72 331 *e*P P 22 16 27.9 +0.3
comp=Z,3.5nm,0.6s
KHC **Kasperske Hory** 78.72 331 *e*P P 22 16 28.4 +0.8
KHC *ex* x 22 16 34.4
KHC **Kasperske Hory** 78.72 331 *e*P P 22 16 28.4 +0.8
KHC **Kasperske Hory** 78.72 331 *e*P P 22 16 28.4 +0.8
KHC *e* 22 16 34.4
HERR **Herculane** 78.74 323 ⇑ *i*P P 22 16 28.6 +0.8
CONA **Conrad Observa** 78.90 329 *i* P P 22 16 29.9 +1.2
comp=Z,5.6nm,0.7s
GEC2 **GERESS Array S** 78.91 331 *e*P P 22 16 28.7 -0.1
comp=Z,2.4nm,0.6s
GEC2 **GERESS Array S** 78.91 331 *e*P P 22 16 28.7 -0.1
GEC2 pmax pmax
comp=Z,2.0nm,0.6s
GERES **GERESS Array B** 78.91 331 P P 22 16 29.0 +0.2
comp=Z,1.7nm,0.5s,baz=39,slow=6.5,SNR=21
GEA0 **GERESS Array S** 78.92 331 *e*P P 22 16 29.1 +0.2
WET **Wettzell** 78.95 331 *e*P P 22 16 29.9 +1.0
comp=Z,8.9nm,1.1s,baz=32,slow=5.9
PHSR **Pinarhisar** 78.95 318 ⇓ *i*P P 22 16 30.8 +1.8
GRA1 **Grafenberg Arr** 79.05 333 *e*P P 22 16 30.6 +1.2
comp=Z,12nm,0.7s
GRF **Grafenberg Arr** 79.05 333 *e*P P 22 16 30.6 +1.2
comp=Z,13nm,0.8s,baz=32,slow=5.9
GRF **Grafenberg Arr** 79.05 333 *e*P P 22 16 30.6 +1.2
GRF pmax pmax
comp=Z,12nm,0.7s
GRFO **Grafenberg** 79.05 333 *e*P P 22 16 29.7 +0.3
comp=Z,11nm,0.7s
GRFO **Grafenberg** 79.05 333 *e*P P 22 16 29.7 +0.3
GRFO pmax pmax
comp=Z,11nm,0.7s
MOA **Moln** 79.55 330 *i* P P 22 16 33.7 +1.5
comp=Z,4.9nm,0.9s
M39A **Webster** 79.74 41 P P 22 16 33.4 +0.1
baz=321
MEM **Membach** 79.88 336 ⇑ *i*P P 22 16 34.2 +0.3
MNTX **Cornudas Mount** 79.92 56 *e*P P 22 16 35.4 +0.9
comp=Z,4.3nm,0.9s
MNTX **Cornudas Mount** 79.92 56 P P 22 16 35.3 +0.8
baz=316
GDL2 **Guadalupe Moun** 80.16 55 *e*P P 22 16 36.6 +0.7
VTS **Vitosha** 80.21 321 *e*P P 22 16 37.1 +1.1
comp=Z,5.4nm,0.9s
VTS **Vitosha** 80.21 321 ⇓ *i*P P 22 16 37.0 +1.0
VTS **Vitosha** 80.21 321 *e*P P 22 16 37.1 +1.1
VTS pmax pmax
comp=Z,5.0nm,0.9s
SOKA **Soboth** 80.25 329 *e*P P 22 16 37.5 +1.4
comp=Z,7.9nm,1.1s
GROS **Grobnik** 80.26 328 *i* P P 22 16 36.7 +0.6
OBKA **Obir** 80.58 329 *e*P P 22 16 39.0 +1.1
comp=Z,3.8nm,0.6s
GOLS **Golise** 80.59 328 *i* P P 22 16 38.3 +0.5
BAIF **Baives** 80.89 337 *e*P P 22 16 39.9 +0.6
BAIF pmax pmax
comp=Z,4.0nm,1.0s
WATA **Walderalm** 80.95 331 *i* P P 22 16 40.2 +0.4
comp=Z,3.4nm,0.4s
WTTA **Wattenberg** 80.99 331 *e*P P 22 16 41.1 +1.0
comp=Z,4.4nm,0.5s
MOTA **Moosalm** 81.10 331 *e*P P 22 16 41.0 +0.3
comp=Z,8.2nm,0.8s
BOJS **Bojanci** 81.16 328 *i* P P 22 16 41.3 +0.5
SQTA **Sankt Quirin** 81.17 331 *e*P P 22 16 42.0 +1.0
comp=Z,4.6nm,0.6s
PLE **Pljevlja** 81.28 324 P P 22 16 43.8 +2.1
CDF **Champ du Feu** 81.44 334 *e*P P 22 16 42.3 0.0
CDF pmax pmax
comp=Z,3.0nm,0.7s
FETA **Feichten** 81.51 331 *e*P P 22 16 43.1 +0.2
comp=Z,4.1nm,0.9s
DAVA **Damuels** 81.57 332 *e*P P 22 16 43.8 +0.7
comp=Z,4.2nm,0.7s
ECH **Echery** 81.65 334 *e*P P 22 16 43.7 +0.3
comp=Z,26nm,2.0s
ECH **Echery** 81.65 334 *e*P P 22 16 43.7 +0.3
ECH pmax pmax
comp=Z,26nm,2.0s
P41A **Barry, Barry** 81.68 41 P P 22 16 43.8 +0.2
baz=322
RAYN **Ar Rayn** 81.80 295 *e*P P 22 16 45.5 +0.9
comp=Z,3.2nm,1.1s
RAYN **Ar Rayn** 81.80 295 *e*P P 22 16 45.5 +0.9
RAYN pmax pmax
comp=Z,3.0nm,1.1s
FUORN **Ofenpass-Fuorn** 82.02 331 *e*P P 22 16 47.0 +1.4
comp=Z,6.3nm,0.6s
HAU **Haudompre** 82.09 335 *e*P P 22 16 47.8 +2.1
HAU pmax pmax
comp=Z,2.0nm,0.7s
HINF **Hinteralfeld** 82.10 334 *e*P P 22 16 46.3 +0.5
HINF pmax pmax
comp=Z,3.0nm,0.6s
Q41A **Truxton** 82.16 42 P P 22 16 46.2 0.0
baz=322
TUL1 **Leonard** 82.21 47 P P 22 16 46.7 +0.2
baz=320
FNA **Florina** 82.48 321 *e*P P 22 16 48.6 +0.7
comp=Z,28nm,1.5s
FNA **Florina** 82.48 321 *e*P P 22 16 48.6 +0.7
FNA pmax pmax
comp=Z,28nm,1.5s
R41A **Rosebud** 82.60 42 P P 22 16 48.8 +0.3
baz=322
TXAR **Lajitas Array** 82.64 56 P P 22 16 49.9 +0.9
comp=Z,5.0nm,0.7s,baz=294,slow=3.6,SNR=74
TXAR pP pP 22 17 12.1 -0.2
comp=Z,1.9nm,0.7s,baz=299,slow=3.5,SNR=5.5
CCM **Cathedral Cave** 82.86 43 *e*P P 22 16 50.0 +0.2
comp=Z,6.3nm,0.9s
CCM **Cathedral Cave** 82.86 43 *e*P P 22 16 50.0 +0.2
CCM pmax pmax
comp=Z,6.0nm,0.9s
CCM **Cathedral Cave** 82.86 43 P P 22 16 49.9 0.0
baz=322
SENIN **Lac Senin/Sane** 83.24 333 *e*P P 22 16 53.1 +1.2
comp=Z,25nm,1.7s
S42A **Caledonia** 83.30 42 P P 22 16 52.7 +0.6
baz=322
FLN **La Foliniere** 83.35 339 *e*P P 22 16 51.9 -0.2
FLN pmax pmax
comp=Z,5.0nm,0.6s
U40A **Yellville** 83.38 45 P P 22 16 52.7 +0.1
baz=321
CABF **La Chapelle** 83.41 334 *e*P P 22 16 53.6 +1.0
CABF pmax pmax
comp=Z,50nm,2.1s
LDF **La Druitiere** 83.41 339 *e*P P 22 16 52.8 +0.3
LDF pmax pmax
comp=Z,27nm,1.6s
LOR **Lormes** 83.50 336 *e*P P 22 16 52.7 -0.3
LOR pmax pmax
comp=Z,8.0nm,1.0s
GRR **Gorron** 83.79 339 *e*P P 22 16 54.5 +0.1
GRR pmax pmax
comp=Z,7.0nm,0.6s
SSF **Saint Saulge** 83.80 336 *e*P P 22 16 54.3 -0.2
SSF pmax pmax
comp=Z,11nm,1.4s
S43A **Fulton Ridge,** 83.81 42 P P 22 16 54.8 +0.1
baz=323
SMF **Signal de Mont** 84.07 335 *e*P P 22 16 55.9 0.0
SMF pmax pmax
comp=Z,10.0nm,0.8s
AVF **Avril sur Loir** 84.08 336 *e*P P 22 16 55.9 0.0
AVF pmax pmax
comp=Z,6.0nm,0.7s
T43A **Greenville** 84.09 43 P P 22 16 56.4 +0.3
baz=323
S44A **Carbondale** 84.11 42 P P 22 16 56.5 +0.2
baz=323
SIUC **Southern Illin** 84.11 41 *e*P P 22 16 56.2 0.0
comp=Z,11nm,0.8s
LPL **La Plagne** 84.17 333 *e*P P 22 16 58.2 +1.5
LPL pmax pmax
comp=Z,5.0nm,0.7s
LPG **La Plagne** 84.18 333 *e*P P 22 16 57.8 +0.9
LPG pmax pmax
comp=Z,5.0nm,0.6s
WHTX **Lake Whitney,** 84.27 50 *e*P P 22 16 57.1 -0.1
comp=Z,5.5nm,0.8s
SGMF **Saint Gilles** 84.34 340 *e*P P 22 16 57.6 +0.4
SGMF pmax pmax
comp=Z,14nm,1.0s
MIAR **Mount Ida** 84.42 46 *e*P P 22 16 58.7 +0.9
comp=Z,24nm,1.8s
MIAR **Mount Ida** 84.42 46 *e*P P 22 16 58.7 +0.9
MIAR pmax pmax
comp=Z,24nm,1.8s
MIAR **Mount Ida** 84.42 46 P P 22 16 58.1 +0.3
baz=321
ROSF **Rostrenen** 84.44 341 *e*P P 22 16 58.4 +0.7
ROSF pmax pmax
comp=Z,48nm,1.5s
MOQ **Mont Orford** 84.53 27 *e*P P 22 16 58.5 +0.2
AQU **L'Aquila** 84.53 327 *e*P P 22 16 58.8 +0.4
comp=Z,20nm,1.2s
AQU **L'Aquila** 84.53 327 *e*P P 22 16 58.8 +0.4
AQU pmax pmax
comp=Z,20nm,1.2s
QUIF **Quistinic** 84.81 340 *e*P P 22 16 59.8 +0.3
QUIF pmax pmax
comp=Z,43nm,1.6s
MBDF **Montbardon** 84.86 333 *e*P P 22 17 00.7 +0.6
MBDF pmax pmax
comp=Z,3.0nm,0.6s
TCF **Toulx Ste Croi** 84.88 336 *e*P P 22 17 00.8 +0.8
ORIF **Oris-en-Rattie** 84.98 333 *e*P P 22 17 01.8 +1.2
ORIF pmax pmax
comp=Z,3.0nm,0.6s
IDI **Anoyia** 85.18 316 *e*P P 22 17 02.5 +0.7
comp=Z,81nm,1.9s
VIVF **Saint-Julien-l** 85.42 334 *e*P P 22 17 04.1 +1.3
RJF **Les Rejaudoux** 85.97 336 *e*P P 22 17 05.9 +0.5
RJF pmax pmax
comp=Z,46nm,2.2s
WVT **Waverly** 86.04 42 P P 22 17 06.1 +0.1
baz=324
CAF **Calviac** 86.16 336 *e*P P 22 17 08.6 +2.2
CAF pmax pmax
comp=Z,28nm,1.6s
V47A **Nunnelly** 86.43 42 P P 22 17 08.0 +0.1
baz=324
LFF **La Frestale** 86.53 337 *e*P P 22 17 09.1 +1.0
U49A **Red Boiling Sp** 86.70 40 P P 22 17 09.4 +0.3
baz=325
T50A **Nancy** 86.72 39 P P 22 17 09.3 +0.1
baz=326
V51A **Loudon** 87.94 39 P P 22 17 15.6 +0.5
baz=326
EPF **Esparros** 88.39 336 *e*P P 22 17 19.7 +2.5
EPF pmax pmax

	comp=Z,2.0nm,0.6s						
ETSF	**Etsaut**	**88.77**	**337**	eP	**P**	**22 17 21.7**	**+2.7**
ES19	**SONSECA Array**	**92.67**	**338**	eP	**P**	**22 17 37.2**	**0.0**
ESDC	**Sonseca Array**	**92.71**	**338**	P	**P**	**22 17 38.2**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=14,slow=4.6,SNR=5.9						
TORD	**Torodi Ar. Bea**	**114.95**	**322**	PKP	**PKiKP**	**22 23 04.2**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=16,slow=2.9,SNR=8.5						
TORD				PP	**PP**	**22 23 58.7**	**-6.5**
	comp=Z,0.3nm,0.6s,baz=27,slow=7.0,SNR=3.7						
VNDA	**Vanda**	**121.55**	**176**	PKP	**PKPdf**	**22 23 16.9**	**0.0**
	comp=Z,1.5nm,1.1s,baz=13,slow=7.1,SNR=4.3						
RCBR	**Riachuelo**	**141.94**	**5**	PKP	**PKPdf**	**22 23 55.6**	**-1.6**
	comp=Z,99nm,1.1s,baz=288,slow=0.4,SNR=5.0						
BDFB	**Brasilia**	**149.03**	**29**	PKPbc	**PKPbc**	**22 24 12.1**	**-1.3**
	comp=Z,5.0nm,0.7s,baz=170,slow=4.4,SNR=8.8						
VNA2	**Neumayer--Watz**	**150.15**	**197**	PKP	**PKiKP**	**22 24 15.2**	**0.0**
VNA3	**Neumayer Olymp**	**150.34**	**195**	PKP	**PKiKP**	**22 24 15.4**	**-0.1**
VNA1	**Neumayer--Stat**	**150.54**	**196**	PKP	**PKiKP**	**22 24 16.3**	**+0.4**
PLCA	**Paso Flores**	**152.24**	**96**	PKPbc	**PKPbc**	**22 24 19.8**	**-0.5**
	comp=Z,3.1nm,0.6s,baz=317,slow=3.3,SNR=10						

IDC 05 22:07:15.1±11.0**, 17°.61S×178°.57W, h548**km±141km**, mb2.8**/6**, mb1 3.2**/6**, mb1mx3.0**/27**, mbtmp3.7**/6**, Error ellipse: s-maj=115.0km s-min=35.1km az=161.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.53**	**259**	P	P	22 14 38.3	-0.4
	0.3nm,0.5s,baz=96,slow=8.0,SNR=12						
ASAR	**Alice Springs**	**44.72**	**254**	P	P	22 14 40.1	0.0
	1.3nm,0.7s,baz=88,slow=9.1,SNR=15						
NVAR	**Mina Array Bea**	**79.32**	**44**	P	P	22 18 24.8	+0.2
	0.2nm,0.3s,baz=234,slow=7.7,SNR=3.0						
ILAR	**Eielson Array**	**85.64**	**13**	P	P	22 18 55.3	-0.2
	0.3nm,0.5s,baz=221,slow=4.7,SNR=12						
TXAR	**Lajitas Array**	**85.97**	**58**	P	P	22 18 57.6	-0.5
	0.5nm,0.7s,baz=204,slow=6.4,SNR=3.9						
PDAR	**Pinedale Array**	**87.25**	**43**	P	P	22 19 04.0	+0.1
	0.3nm,0.6s,baz=235,slow=3.2,SNR=3.6						
GERES	**GERESS Array B**	**147.29**	**345**	PKPbc	PKPbc	22 25 56.8	-0.6
	0.1nm,0.3s,baz=27,slow=1.5,SNR=5.5						

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*ISCJB **05** 22:27:50.4±1.3, 39°.88N±0°.03×142°.35E±0°.08, h18km±9km, mb3.4/3, Error ellipse: s-maj=10.8km s-min=5.1km az=3.4*

*JMA **05** 22:27:50.8±0.1, 39°.87N×142°.31E, h27km±1km, M3.4*

*IDC **05** 22:27:55.4±3.0, 39°.79N×142°.42E, h59km±30km, mb3.1/3, mb1 3.4/5, mb1mx3.1/41, mbtmp3.4/5, ML3.2/2, Error ellipse: s-maj=42.4km s-min=16.3km az=108.0*

ISC 05 22:27:51.0±1.6**, 39°.87N**±0°.03×**142°.27E**±0°.06**, h14**km±9km**, n17, σ1s.50**/30**, mb3.7**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.32**	**283**	P	**Pb**	**22 27 58.8**	**+0.3**
JTH				S	**Sb**	**22 28 04.3**	**+0.7**
MIYJ	**Miyakonagasawa**	**0.45**	**230**	P	**Pb**	**22 28 00.6**	**-0.2**
MIYJ				S	**Sg**	**22 28 07.1**	**+1.0**
JKEN	**Kujiedanarisaw**	**0.55**	**308**	P	**Pg**	**22 28 01.7**	**-0.1**
JKEN				S	**Sg**	**22 28 09.4**	**+0.3**
JKZ	**Kuzumaki**	**0.73**	**279**	P	**Pg**	**22 28 05.4**	**+0.1**
JKZ				S	**Sg**	**22 28 15.4**	**+0.5**
JANG	**Nango**	**0.77**	**311**	P	**Pg**	**22 28 05.0**	**-0.9**
JANG				S	**Sg**	**22 28 15.0**	**-1.1**
JOM	**Ohasama**	**0.85**	**243**	P	**Pb**	**22 28 07.2**	**-0.4**
JOM				S	**Sg**	**22 28 18.7**	**0.0**
OFUJ	**Ofunato**	**0.91**	**211**	P	**Pb**	**22 28 07.4**	**-1.2**
OFUJ				eS	**Sb**	**22 28 19.5**	**-1.1**
JMK	**Ichinoseki**	**1.23**	**222**	P	**Pn**	**22 28 13.1**	**-0.6**
JMK				S	**Sb**	**22 28 29.0**	**-0.5**
JAH	**Hinai**	**1.30**	**285**	P	**Pn**	**22 28 14.5**	**-0.2**
JAH				S	**Sn**	**22 28 31.5**	**-0.3**
JTM	**Tenmabayashi**	**1.30**	**315**	P	**Pn**	**22 28 13.6**	**-1.1**
JTM				S	**Sn**	**22 28 31.0**	**-0.9**
JRG	**Rokugo**	**1.35**	**250**	P	**Pb**	**22 28 16.4**	**+0.4**
JRG				eS	**Sb**	**22 28 34.1**	**+0.9**
ASAJ	**Asahikawa**	**4.25**	**3**	P	**Pn**	**22 28 57.0**	**+1.7**
	1.0nm,0.3s,baz=208,slow=12,SNR=3.2						
ASAJ				S	**Sn**	**22 29 48.9**	**+4.2**
	1.3nm,0.3s,baz=356,slow=18,SNR=2.6						
MAT	**Matsushiro**	**4.61**	**225**	P	**Pn**	**22 29 03.2**	**+2.9**
MAT				eS	**Sn**	**22 29 55.3**	**+1.7**
MJAR	**Matsushiro Arr**	**4.61**	**225**	P	**Pn**	**22 29 03.7**	**+3.5**
	0.9nm,0.3s,baz=35,slow=12,SNR=33						
MKAR	**Makanchi Array**	**43.24**	**300**	P	**P**	**22 35 51.8**	**0.0**
	0.2nm,0.7s,baz=80,slow=8.8,SNR=4.0						
ILAR	**Eielson Array**	**46.76**	**34**	P	**P**	**22 36 18.6**	**-0.7**
	0.8nm,1.1s,baz=263,slow=5.3,SNR=4.0						
WRA	**Warramunga Arr**	**59.96**	**189**	P	**P**	**22 37 54.8**	**-2.0**
	0.5nm,0.7s,baz=6.8,slow=7.1,SNR=7.3						

MEX 05 22:37:20.8±0.6**, 16°.30N**×**97°.93W, h26**km±10km**, MD3.6, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.21**	**296**	i P	Pb	22 37 25.5	-1.3
PNIG				eS	Sb	22 37 29.5	-1.2
VHO	**Vista Hermosa**	**1.38**	**56**	eP	Pn	22 37 42.2	-2.4
VHO				i S	Sn	22 37 59.2	-3.0
TLIG	**Tlapa**	**1.39**	**334**	i P	Pn	22 37 42.3	-2.4
TLIG				i S	Sn	22 37 58.8	-3.5

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*IDC **05** 22:46:30.8±6.0, 35°.98N×71°.43E, h55km±46km, mb3.3/6, mb1 3.4/11, mb1mx3.2/49, mbtmp3.5/11, ML3.2/5, MS3.2/1, Ms1 3.2/1, ms1mx2.3/35, Error ellipse: s-maj=56.9km s-min=35.4km az=150.0*

*ISCJB **05** 22:46:35.4±0.7, 36°.34N±0°.04×71°.37E±0°.09, h114km, mb3.5/5, Error ellipse: s-maj=10.9km s-min=5.0km az=162.1*

*NNC **05** 22:46:39.5±4.2, 36°.70N×70°.85E, h149km±68km, mb2.8, mpv3.6, Error ellipse: s-maj=47.7km s-min=38.0km az=109.0*

ISC 05 22:46:37.3±0.9**, 36°.38N**±0°.08×**71°.27E**±0°.09**, h114**km**, n36, σ2s.32**/39**, mb3.6**/5**, 5C-5D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.03**	**25**	⇑P	**Pn**	**22 47 38.7**	**+1.5**
	3.1nm,0.3s						
SFK				⇑S	**Sn**	**22 48 27.1**	**+3.3**
	4.6nm,0.2s						
AML	**Almayashu**	**6.04**	**17**	P	**Pn**	**22 48 04.1**	**-0.4**
	SNR=25						
UCH	**Uchtor**	**6.36**	**22**	P	**Pn**	**22 48 08.7**	**-0.2**
	SNR=7.3						
EKS2	**Erkin-Say**	**6.56**	**16**	P	**Pn**	**22 48 11.1**	**-0.2**
	SNR=7.2						
AAK	**Ala-Archa**	**6.72**	**21**	P	**Pn**	**22 48 13.1**	**-0.5**
	2.0nm,0.3s,baz=218,slow=9.8,SNR=44						
AAK				S	**Sn**	**22 49 26.4**	**-2.3**
	0.1nm,0.3s,baz=150,slow=20,SNR=3.4						
AAK	**Ala-Archa**	**6.72**	**21**	P	**Pn**	**22 48 13.5**	**-0.1**
	SNR=7.8						
AAK	**Ala-Archa**	**6.72**	**21**	⇓P	**Pn**	**22 48 12.6**	**-1.0**
	2.2nm,0.4s						
AAK				⇑S	**Sn**	**22 49 27.1**	**-1.6**
	4.2nm,0.6s						
KK31	**Karatay Array**	**6.74**	**355**	⇓P	**Pn**	**22 48 11.3**	**-2.2**
	2.5nm,0.3s,baz=174,slow=12,SNR=220						
KK31				⇓S	**Sn**	**22 49 22.5**	**-6.3**
	3.6nm,0.5s,baz=185,slow=20,SNR=7.9						
CHMS	**Chumysh**	**7.13**	**21**	P	**Pn**	**22 48 19.2**	**+0.3**
	SNR=5.2						
USP	**Ospenovka**	**7.31**	**19**	P	**Pn**	**22 48 20.4**	**-1.0**
	SNR=5.9						
TKM2	**Tokmak 2**	**7.33**	**26**	⇓P	**Pn**	**22 48 21.0**	**-0.8**
	2.6nm,0.6s						
TKM2				⇑S	**Sn**	**22 49 43.7**	**+0.1**
	1.4nm,0.6s						
GEYT	**Alibeck**	**10.61**	**282**	S	Sn	22 50 53.6	-9.3
	1.0nm,0.3s,baz=74,slow=32,SNR=5.2						
PYUN	**Piuthan**	**12.90**	**126**	eP	**Pn**	**22 49 34.1**	**-2.6**
	11nm,0.3s						
DANN	**Dangsing**	**13.25**	**124**	eP	**Pn**	**22 49 38.9**	**-2.3**
	7.2nm,0.4s						
MKAR	**Makanchi Array**	**13.26**	**35**	P	**Pn**	**22 49 40.8**	**-0.2**
	0.0nm,0.3s,baz=213,slow=11,SNR=2.8						
KOLN	**Koldanda**	**13.52**	**126**	eP	**Pn**	**22 49 41.8**	**-2.9**
DMN	**Daman**	**14.63**	**123**	eP	**Pn**	**22 49 56.1**	**-2.9**
	4.3nm,0.5s						
KKN	**Kakani**	**14.63**	**122**	eP	**Pn**	**22 49 56.7**	**-2.3**
PKIN	**Phulchoki**	**14.85**	**122**	eP	**Pn**	**22 49 59.4**	**-2.3**
PKI	**Pulchoki**	**14.86**	**122**	eP	**Pn**	**22 49 59.8**	**-2.2**
GUN	**Gumba**	**14.97**	**120**	eP	**Pn**	**22 50 01.2**	**-2.2**
	5.6nm,0.4s						
KURBB	**Kurchatov Arra**	**15.16**	**18**	P	**Pn**	**22 50 05.9**	**+0.7**
	0.0nm,0.3s,baz=206,slow=10,SNR=3.0						
AB31	**Akbulak array**	**15.29**	**331**	⇓P	**Pn**	**22 50 03.2**	**-3.6**
	0.3nm,0.2s						
JIRN	**Jiri**	**15.35**	**120**	eP	**Pn**	**22 50 05.2**	**-2.9**
	8.1nm,0.4s						
RAMN	**Ramite**	**16.07**	**121**	eP	**Pn**	**22 50 13.6**	**-3.4**
	4.3nm,0.5s						
BVAR	**Borovoye Array**	**16.65**	**358**	P	**Pn**	**22 50 23.6**	**0.0**
	0.2nm,0.3s,baz=167,slow=13,SNR=5.0						
AKTO	**Aktyubinsk**	**16.99**	**330**	P	**P**	**22 50 27.7**	**-0.1**
	0.2nm,0.3s,baz=161,slow=13,SNR=6.8						
AKTO	**Aktyubinsk**	**16.99**	**330**	⇑P	**P**	**22 50 26.1**	**-1.7**
	0.8nm,0.6s						
WSAR	**Wadi Sarin**	**17.06**	**223**	LR	LR	22 57 04.6	
	comp=Z,80nm,19.4s,baz=108,slow=38						
ZALV	**Zalesovo Beam**	**19.93**	**24**	P	**P**	**22 50 59.7**	**-0.2**
	1.4nm,0.5s,baz=224,slow=9.7,SNR=8.8						
FINES	**FINESS Array B**	**37.70**	**326**	P	**P**	**22 53 44.2**	**+3.0**
	1.3nm,0.8s,baz=130,slow=10,SNR=3.9						
ARCES	**ARCESS Array B**	**41.33**	**338**	P	**P**	**22 54 15.2**	**+3.8**
	1.2nm,0.7s,baz=112,slow=8.2,SNR=7.5						
NB2	**NORSAR Subarra**	**44.60**	**323**	P	**P**	**22 54 40.3**	**+2.5**
	comp=Z,0.5nm,0.5s,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.60**	**323**	P	**P**	**22 54 40.3**	**+2.5**
	comp=Z,0.8nm,0.6s,baz=96,slow=7.7,SNR=5.2						
TORD	**Torodi Ar. Bea**	**65.93**	**269**	P	**P**	**22 57 11.9**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=71,slow=5.5,SNR=3.0						
YKA	**Yellowknife Ar**	**81.35**	**3**	P	**P**	**22 58 43.0**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=352,slow=5.5,SNR=4.1						

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*IDC **05** 22:54:32.9±1.1, 22°.37N×62°.98E, h0km, mb3.7/13, mb1 3.9/14, mb1mx3.7/56, mbtmp3.7/14, ML4.3/1, MS3.1/2, Ms1 3.1/2, ms1mx2.5/49, Error ellipse: s-maj=25.6km s-min=19.9km az=14.0*

*ISCJB **05** 22:54:33.5±0.4, 22°.55N±0°.06×62°.97E±0°.03, h10km, mb4.0/20, MS3.0/1, Error ellipse: s-maj=8.4km s-min=3.8km az=166.8*

*NEIC **05** 22:54:34.5±0.4, 22°.45N×62°.99E, h10km, mb4.5/9, Error ellipse: s-maj=10.0km s-min=6.4km az=174.0*

*OMAN **05** 22:54:41.4±1.0, 22°.37N×62°.60E, h10km, Error ellipse: s-maj=12.5km s-min=7.4km az=174.0*

*DSN **05** 22:54:42.3±1.5, 23°.00N×62°.79E, h15km, ML3.7/9, Error ellipse: s-maj=53.2km s-min=11.6km az=13.0*

ISC 05 22:54:34.5±0.7**, 22°.52N**±0°.07×**62°.99E**±0°.06**, h10**km**, n66, σ1s.71**/71**, mb4.0**/20**, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JLN	**Jalan Bani Buh**	**3.33**	**264**	P	**Pn**	**22 55 27.5**	**+0.7**
	SNR=113						
JLN				S	**Sn**	**22 56 04.1**	**-2.3**
WBK	**Wadi Bani Khal**	**3.72**	**272**	P	**Pn**	**22 55 34.1**	**+2.0**
	SNR=15						
WBK				S	**Sn**	**22 56 15.1**	**-0.8**
WSAR	**Wadi Sarin**	**4.08**	**281**	Pn	**Pn**	**22 55 38.0**	**+0.9**
	18nm,0.3s,baz=122,slow=12,SNR=157						
WSAR				Sn	**Sn**	**22 56 20.8**	**-4.2**
	10nm,0.3s,baz=239,slow=18,SNR=14						
WSAR	**Wadi Sarin**	**4.08**	**281**	P	**Pn**	**22 55 37.5**	**+0.4**
WSAR				S	**Sn**	**22 56 22.6**	**-2.4**
SMDO	**Samad**	**4.59**	**278**	P	**Pn**	**22 55 46.8**	**+2.7**
	SNR=9.1						
MHTO	**MHTO**	**4.91**	**253**	P	**Pn**	**22 55 50.2**	**+1.8**
	SNR=43						
MHTO				S	**Sn**	**22 56 43.2**	**-2.1**
HOQ	**Hoqain**	**5.33**	**283**	P	**Pn**	**22 55 56.1**	**+1.8**
HOQ				S	**Sn**	**22 56 56.3**	**+0.4**
DQM	**DQM**	**5.70**	**244**	P	**Pn**	**22 56 01.0**	**+1.7**
	SNR=52						
DQM				S	**Sn**	**22 57 03.8**	**-1.0**
SOHO	**SOHO**	**6.15**	**286**	P	**Pn**	**22 56 06.3**	**+0.9**
HATD	**Hatta, Dubai**	**6.69**	**291**	i P	**Pn**	**22 56 14.1**	**+1.1**
	SNR=6.3						
HATD				S	**Sn**	**22 57 29.0**	**-0.2**
HATD	**Hatta, Dubai**	**6.69**	**291**	P	**Pn**	**22 56 15.2**	**+2.3**
	SNR=6.4						
ASHO	**Ashiyiah**	**6.71**	**290**	i P	**Pn**	**22 56 16.6**	**+3.4**
	SNR=16						
ASHO				S	**Sn**	**22 57 29.3**	**-0.5**
ASHO	**Ashiyiah**	**6.71**	**290**	P	**Pn**	**22 56 16.8**	**+3.6**
	SNR=32						
ALNE	**Al Ain**	**6.83**	**284**	i P	**Pn**	**22 56 17.5**	**+2.7**
	SNR=7.3						
MSFE	**Esma-Masafi**	**6.86**	**296**	i P	**Pn**	**22 56 16.7**	**+1.5**
	SNR=6.6						
BANOM	**Banah**	**6.98**	**300**	i P	**Pn**	**22 56 17.7**	**+0.7**
	SNR=44						
FAQ	**Al Faqa, Dubai**	**7.13**	**290**	i P	**Pn**	**22 56 21.7**	**+2.7**
	SNR=7.3						
FAQ	**Al Faqa, Dubai**	**7.13**	**290**	P	**Pn**	**22 56 21.7**	**+2.7**
	SNR=7.7						
SHME	**Shamm**	**7.17**	**301**	i P	**Pn**	**22 56 20.6**	**+1.2**
	SNR=8.4						
ASUD	**Al Ashush, Dub**	**7.33**	**288**	i P	**Pn**	**22 56 24.5**	**+2.8**
	SNR=21						
ASUD	**Al Ashush, Dub**	**7.33**	**288**	P	**Pn**	**22 56 24.8**	**+3.1**
	SNR=22						
UMQ	**Umm Al-Quwin**	**7.33**	**296**	P	**Pn**	**22 56 25.5**	**+3.8**
DMTO	**DMTO**	**8.94**	**239**	P	**Pn**	**22 56 46.6**	**+2.8**
	SNR=15						
NIL	**Nilore**	**14.30**	**37**	ePn	**Pn**	**22 57 55.6**	**-1.6**
NIL				eSn	**Sn**	**23 00 35.4**	**-0.6**
GEYT	**Alibeck**	**15.92**	**346**	LR	LR	23 05 38.2	
	comp=Z,59nm,18.8s,baz=5.0,slow=41						
RAYN	**Ar Rayn**	**16.13**	**277**	ePn	**Pn**	**22 58 20.5**	**-1.0**
	4.0nm,1.0s						
RAYN				eSn	Sn	23 01 09.5	-11
AAK	**Ala-Archa**	**22.24**	**23**	LR	LR	23 09 08.2	
	comp=Z,53nm,18.3s,baz=168,slow=39						
MK01	**Makanchi Array**	**28.79**	**28**	eP	**P**	**23 00 32.9**	**+0.3**
MK31	**Makanchi Array**	**28.80**	**28**	eP	**P**	**23 00 33.8**	**+1.0**
MK32	**Makanchi Array**	**28.80**	**28**	eP	**P**	**23 00 34.0**	**+1.3**
MKAR	**Makanchi Array**	**28.80**	**28**	P	**P**	**23 00 34.0**	**+1.3**
	0.6nm,0.5s,baz=213,slow=9.7,SNR=11						
MKAR	**Makanchi Array**	**28.80**	**28**	eP	**P**	**23 00 33.8**	**+1.0**
	7.4nm,0.6s						
H08N2	**Diego Garcia H**	**29.72**	**164**	T	T	23 31 24.2	
	baz=345,slow=75,SNR=36						
H08N3	**Diego Garcia H**	**29.74**	**164**	T	T	23 31 14.6	
	baz=345,slow=75,SNR=31						
H08N1	**Diego Carcia H**	**29.74**	**164**	T	T	23 31 25.7	
	baz=345,slow=75,SNR=47						
KURBB	**Kurchatov Arra**	**30.57**	**20**	P	**P**	**23 00 49.6**	**+1.3**
	0.6nm,0.9s,baz=216,slow=8.6,SNR=4.0						
KURK	**Kurchatov**	**30.68**	**20**	eP	**P**	**23 00 49.6**	**+0.4**
ZALV	**Zalesovo Beam**	**35.46**	**22**	P	**P**	**23 01 31.7**	**+0.8**
	0.8nm,0.4s,baz=232,slow=9.9,SNR=5.4						
ZALV	**Zalesovo Beam**	**35.46**	**22**	eP	**P**	**23 01 30.8**	**-0.1**
ZAA1	**Zalesovo Array**	**35.46**	**22**	eP	**P**	**23 01 31.7**	**+0.7**
AKASG	**Malin Array Be**	**38.49**	**325**	P	**P**	**23 01 58.1**	**+1.3**
	1.6nm,0.5s,baz=126,slow=7.2,SNR=12						
AKBB	**Malin Array Si**	**38.49**	**325**	eP	**P**	**23 01 57.8**	**+1.0**
	6.4nm,0.6s						
KIEV	**Kiev**	**38.49**	**325**	eP	**P**	**23 01 56.9**	**+0.2**
	6.3nm,0.6s						
AK11	**Malin Array Si**	**38.51**	**325**	eP	**P**	**23 01 58.3**	**+1.4**
FNA	**Florina**	**39.40**	**307**	eP	**P**	**23 02 04.3**	**-0.3**
	10nm,0.7s						
SONA0	**Songino Array**	**42.78**	**43**	eP	**P**	**23 02 33.9**	**+1.5**
SONM	**Songino Array**	**42.78**	**43**	P	**P**	**23 02 33.9**	**+1.5**
	0.4nm,0.8s,baz=251,slow=6.7,SNR=4.4						
MORC	**Moravsky Berou**	**44.72**	**319**	eP	**P**	**23 02 46.9**	**-1.1**
	10nm,2.0s						
FIA0	**FINESS Array S**	**46.43**	**337**	eP	**P**	**23 03 01.6**	**+0.5**
FINES	**FINESS Array B**	**46.43**	**337**	P	**P**	**23 03 01.6**	**+0.5**
	2.3nm,1.0s,baz=125,slow=10.0,SNR=5.2						
GEC2	**GERESS Array S**	**46.82**	**317**	eP	**P**	**23 03 05.5**	**+1.0**
	6.3nm,1.6s						
GERES	**GERESS Array B**	**46.82**	**317**	P	**P**	**23 03 05.5**	**+1.0**
	0.4nm,0.6s,baz=129,slow=7.7,SNR=3.5						
ARA0	**ARCESS Array S**	**52.08**	**344**	eP	**P**	**23 03 44.4**	**+0.1**
ARCES	**ARCESS Array B**	**52.08**	**344**	P	**P**	**23 03 44.4**	**+0.1**
	2.1nm,0.8s,baz=134,slow=6.9,SNR=11						
NB2	**NORSAR Subarra**	**52.33**	**331**	P	**P**	**23 03 46.8**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=118,slow=6.9						
NB200	**NORSAR Array S**	**52.33**	**331**	eP	**P**	**23 03 46.7**	**+0.4**
NOA	**NORSAR Array B**	**52.33**	**331**	P	**P**	**23 03 46.7**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=124,slow=8.0,SNR=2.8						
TORD	**Torodi Ar. Bea**	**58.76**	**272**	P	**P**	**23 04 33.0**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=58,slow=5.4,SNR=6.7						
TOA1	**Torodi Ar. Sit**	**58.76**	**272**	eP	**P**	**23 04 33.0**	**-0.2**
WRA	**Warramunga Arr**	**81.43**	**116**	P	**P**	**23 06 51.5**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=312,slow=4.3,SNR=6.6						
WR1	**Warramunga Arr**	**81.43**	**116**	eP	**P**	**23 06 51.5**	**-0.8**
	comp=Z,12nm,1.4s						
ASAR	**Alice Springs**	**82.81**	**119**	P	**P**	**23 06 59.4**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=299,slow=5.5,SNR=4.3						
AS31	**Alice Springs**	**82.81**	**119**	eP	**P**	**23 06 59.4**	**-0.1**
	comp=Z,0.8nm,0.9s						
FYU	**Fort Yukon**	**88.67**	**11**	eP	**P**	**23 07 23.9**	**-3.9**
	comp=Z,16nm,1.1s						
YKA	**Yellowknife Ar**	**95.26**	**359**	P	**P**	**23 07 59.2**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=355,slow=4.5,SNR=4.1						
YKB5	**Yellowknife Ar**	**95.26**	**359**	eP	**P**	**23 07 59.2**	**+0.9**

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*NIED **05** 23:08:00, 33°.50N×140°.30E, h74km, Mw4.0 Best double couple: M0 9.75000×10^14 NP1: φs340.00000°, δ33.00000°, λ47.00000°. NP2: φs208.00000°, δ67.00000°, λ114.00000°.*

*MOS **05** 23:08:19.8±1.3, 33°.43N×140°.40E, h77km, mb4.3/17, Error ellipse: s-maj=17.2km s-min=7.4km az=111.6*

*ISCJB **05** 23:08:21.2±0.5, 33°.44N±0°.03×140°.26E±0°.08, h87km±3km, mb3.9/24, Error ellipse: s-maj=11.0km s-min=5.6km az=171.6*

*IDC **05** 23:08:21.3±0.9, 33°.43N×140°.27E, h77km±6km, mb3.7/17, mb1 3.9/22, mb1mx3.7/50, mbtmp4.0/22, MS3.0/2, Ms1 3.0/2, ms1mx2.6/27, Error ellipse: s-maj=19.8km s-min=11.9km az=83.0*

*JMA **05** 23:08:22.8, 33°.51N×140°.29E, h70km±2km, M4.1*

ISC 05 23:08:22.1±0.8**, 33°.45N**±0°.04×**140°.27E**±0°.07**, h81**km±6km**, n58, σ1s.14**/68**, mb4.0**/24**, 3C-4D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.51**	**228**	P	**Pn**	**23 08 36.2**	**+0.1**
JHJ	**Hachijo jima 2**	**0.53**	**231**	P	**Pn**	**23 08 36.3**	**+0.1**
	605nm,0.3s,baz=332,slow=12,SNR=634						
JHJ				S	**Sn**	**23 08 46.4**	**-0.2**
	2µm,0.3s,baz=73,slow=19,SNR=57						
JHCJ	**Hachijojimakas**	**0.55**	**226**	P	**Pn**	**23 08 36.4**	**0.0**
JHCJ				eS	**Sn**	**23 08 46.5**	**-0.5**
JMKN	**Mikurajimanish**	**0.71**	**308**	P	**Pn**	**23 08 37.6**	**-0.5**
JAOM	**Aogashimamukai**	**1.07**	**203**	P	**Pn**	**23 08 43.3**	**+1.1**
JKO	**Kozu shima**	**1.19**	**308**	P	**Pn**	**23 08 43.7**	**+0.1**
BSO1	**Boso 1**	**1.33**	**26**	P	**Pn**	**23 08 45.0**	**+0.1**
JTHY	**Toshimahigashi**	**1.34**	**323**	P	**Pn**	**23 08 45.7**	**+0.2**
JTHY				eS	**Sn**	**23 09 03.1**	**+0.1**
BSO3	**Boso 3**	**1.36**	**8**	P	**Pn**	**23 08 45.8**	**+0.4**
JIM2	**Oshima 3**	**1.44**	**331**	P	**Pn**	**23 08 46.6**	**-0.1**
BSO4	**Boso 4**	**1.53**	**2**	P	**Pn**	**23 08 48.6**	**+0.8**
JIZS	**Izushimoda**	**1.71**	**318**	P	**Pn**	**23 08 50.7**	**+0.5**
JIZS				eS	**Sn**	**23 09 11.4**	**-0.1**
KTJ3	**Kamata3**	**1.78**	**326**	P	**Pn**	**23 08 51.2**	**+0.1**
KTJ3				eS	**Sn**	**23 09 12.8**	**-0.3**
JOD2	**Odawara 2**	**2.05**	**332**	P	**Pn**	**23 08 55.1**	**+0.3**
JOD2				eS	**Sn**	**23 09 19.2**	**-0.4**
MJAR	**Matsushiro Arr**	**3.51**	**332**	P	**Pn**	**23 09 14.1**	**-0.4**
	10nm,0.3s,baz=164,slow=12,SNR=100						
MJAR				S	**Sn**	**23 09 56.5**	**+1.6**
	5.9nm,0.3s,baz=154,slow=16,SNR=5.6						
MAJO	**Matsushiro**	**3.51**	**332**	⇓eP	**Pn**	**23 09 15.9**	**+1.4**
MAT	**Matsushiro**	**3.51**	**332**	P	**Pn**	**23 09 15.8**	**+1.3**
MAT				eS	**Sn**	**23 09 53.2**	**-1.8**
JNU	**Nakatsue**	**7.87**	**270**	P	**Pn**	**23 10 13.7**	**-0.2**
	1.2nm,0.3s,baz=95,slow=3.4,SNR=12						
ASAJ	**Asahikawa**	**10.80**	**9**	P	**Pn**	**23 10 51.6**	**-2.2**
	0.5nm,0.3s,baz=127,slow=20,SNR=4.3						
KSRS	**Korea Array**	**10.83**	**295**	P	**Pn**	**23 10 53.5**	**-0.6**
	0.2nm,0.3s,baz=113,slow=14,SNR=12						
KSRS				LR	LR	23 14 32.4	
	comp=Z,33nm,19.9s,baz=156,slow=34						
KSRS	**Korea Array**	**10.83**	**295**	eP	**Pn**	**23 10 57.4**	**+3.3**
YSS	**Yuzh-Sakhalins**	**13.62**	**7**	eP	Pn	23 11 23.4	-8.2
KLR	**Kul'dur**	**16.99**	**341**	P	**Pn**	**23 12 12.3**	**-2.1**
	0.3nm,0.3s,baz=157,slow=7.7,SNR=10						
KLR				LR	LR	23 17 32.4	
	comp=Z,113nm,21.8s,baz=188,slow=32						
ZEA	**Zeya**	**22.29**	**339**	eP	**P**	**23 13 12.3**	**-0.2**
ZEA				pmax	pmax		
	comp=Z,11nm,0.9s						
ULN	**Ulaanbaatar**	**28.76**	**310**	⇑eP	**P**	**23 14 12.5**	**+0.3**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SONM	**Songino Array**	**29.17**	**310**	P	**P**	**23 14 15.4**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=110,slow=8.7,SNR=6.8						
SONM	**Songino Array**	**29.17**	**310**	eP	**P**	**23 14 17.3**	**+1.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SEY	**Seymchan**	**30.48**	**11**	⇓eP	**P**	**23 14 29.8**	**+2.9**
BILL	**Bilibino**	**37.72**	**16**	eP	**P**	**23 15 29.7**	**+0.2**
BILL				pmax	pmax		
	comp=Z,1.0nm,1.1s						
TIXI	**Tiksi**	**38.74**	**354**	P	**P**	**23 15 36.7**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=104,slow=3.4,SNR=1.8						
DGZ	**Jazzator, Alta**	**41.82**	**309**	⇓eP	**P**	**23 16 04.2**	**+0.3**
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**43.71**	**315**	P	**P**	**23 16 17.4**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=120,slow=7.5,SNR=6.7						
ZALV				PcP	**PcP**	**23 18 03.9**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=112,slow=4.0,SNR=7.5						
ZALV	**Zalesovo Beam**	**43.71**	**315**	eP	**P**	**23 16 19.8**	**+0.9**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**45.31**	**305**	P	**P**	**23 16 31.9**	**0.0**
	comp=Z,1.0nm,0.6s,baz=87,slow=9.8,SNR=20						
MKAR				PcP	**PcP**	**23 18 10.1**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=98,slow=2.9,SNR=2.9						
MKAR				ScP	**ScP**	**23 21 52.7**	**-2.9**
	comp=Z,0.2nm,0.6s,baz=81,slow=2.4,SNR=3.1						
KURK	**Kurchatov**	**47.47**	**311**	⇑eP	**P**	**23 16 49.3**	**+0.7**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AAK	**Ala-Archa**	**51.43**	**301**	⇑eP	**P**	**23 17 19.8**	**+0.7**
BRVK	**Borovoye**	**52.40**	**314**	⇓eP	**P**	**23 17 28.8**	**+2.9**
ILAR	**Eielson Array**	**53.03**	**31**	P	**P**	**23 17 29.4**	**-0.9**
	comp=Z,0.7nm,0.9s,baz=266,slow=6.5,SNR=6.6						
ILAR	**Eielson Array**	**53.03**	**31**	eP	**P**	**23 17 30.9**	**+0.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**53.40**	**187**	P	**P**	**23 17 32.5**	**-1.1**
	comp=Z,6.6nm,0.4s,baz=3.3,slow=7.6,SNR=205						
ASAR	**Alice Springs**	**57.12**	**187**	P	**P**	**23 17 59.9**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=16,slow=14,SNR=47						
STKA	**Stephens Creek**	**64.99**	**179**	P	**P**	**23 18 52.4**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=356,slow=7.1,SNR=4.3						
STKA	**Stephens Creek**	**64.99**	**179**	eP	**P**	**23 18 54.7**	**+1.3**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ARCES	**ARCESS Array B**	**67.02**	**340**	P	**P**	**23 19 06.1**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=46,slow=14,SNR=4.1						
YKA	**Yellowknife Ar**	**67.38**	**29**	P	**P**	**23 19 08.6**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=292,slow=6.3,SNR=4.3						
OBN	**Obninsk**	**70.41**	**324**	eP	**P**	**23 19 27.0**	**-0.2**
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
FINES	**FINESS Array B**	**71.54**	**332**	P	**P**	**23 19 34.0**	**0.0**
	comp=Z,0.9nm,0.4s,baz=67,slow=5.0,SNR=12						
KBZ	**Khabaz**	**72.53**	**311**	P	**P**	**23 19 40.4**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=201,slow=8.5,SNR=4.2						
KIV	**Kislovodsk**	**72.55**	**311**	eP	**P**	**23 19 40.1**	**-0.4**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
AKASG	**Malin Array Be**	**76.55**	**322**	P	**P**	**23 20 03.9**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=50,slow=5.7,SNR=8.0						
AKASG	**Malin Array Be**	**76.55**	**322**	eP	**P**	**23 20 04.7**	**+1.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NB2	**NORSAR Subarra**	**77.12**	**337**	P	**P**	**23 20 06.1**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**77.12**	**337**	P	**P**	**23 20 06.4**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=43,slow=5.5,SNR=3.3						
BRTR	**Keskin Array B**	**80.52**	**311**	P	**P**	**23 20 26.8**	**+1.2**
	comp=Z,0.9nm,0.9s,baz=125,slow=6.2,SNR=5.1						
BRTR	**Keskin Array B**	**80.52**	**311**	eP	**P**	**23 20 27.7**	**+2.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GERES	**GERESS Array B**	**85.24**	**328**	P	**P**	**23 20 48.9**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=46,slow=4.2,SNR=3.5						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TXAR	Lajitas Array	93.06	52	P	P	23 21 28.0	+0.8
	comp=Z,0.7nm,0.8s,baz=277,slow=3.6,SNR=7.8						
LPAZ	La Paz	149.23	63	PKPbc	PKPbc	23 28 01.3	-1.4
	comp=Z,0.5nm,0.5s,baz=20,slow=10,SNR=2.7						

*ISCJB **05** 23:14:58.9±0.6, 52°.64N±0°.03×4°.13E±0°.03, h16km±6km, Error ellipse: s-maj=4.9km s-min=2.8km az=148.1*
*LDG **05** 23:14:58.8±0.2, 52°.95N×4°.31E, h10km, Ml2.8/16, Error ellipse: s-maj=5.2km s-min=2.8km az=46.0*
*BGS **05** 23:15:00.2±0.5, 53°.02N×4°.41E, h5km, ML2.7*
ISC 05 23:14:58.5±1.0, **52°.80N**±0°.03×**4°.11E**±0°.02, **h14**km±8km, **n55**, σ**1s.65**/92, **The Netherlands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PPB4	Philisteinsche	0.38	113	ePg	Pg	23 15 06.0	-0.1
	baz=308						
PPB4				eSg	Sb	23 15 11.8	-0.8
WMH4	Warmenhuizen	0.40	103	ePg	Pg	23 15 06.1	-0.5
	baz=292						
WMH4				eSg	Sg	23 15 11.9	-0.1
OTL4	Oterleek	0.47	111	ePg	Pg	23 15 07.8	0.0
	baz=302						
OTL4				eSg	Sg	23 15 14.5	+0.4
WYN4	Wijnaldum	0.91	64	ePg	Pb	23 15 15.3	-0.7
	baz=241						
WYN4				eSg	Sb	23 15 27.7	-0.3
FDG4	Firdgum	0.98	62	ePg	Pn	23 15 19.6	+1.6
	baz=240						
FDG4				eSg	Sg	23 15 30.4	+0.1
ZWE4	Zweins	0.98	66	ePg	Pg	23 15 17.2	-0.4
	baz=245						
NIW4	Wetzens (Niawi	1.29	64	ePg	Pb	23 15 22.0	-0.7
	baz=243						
NIW4				eSg	Sb	23 15 38.3	-0.8
HWF4	Haulerwijk	1.39	78	ePg	Pn	23 15 22.1	-1.3
	baz=259						
HWF4				eSg	Sb	23 15 41.8	+0.1
ENV4	Elp / Enerveen	1.54	86	ePg	Pn	23 15 25.2	-0.3
	baz=268						
ENV4				eSg	Sb	23 15 45.8	-0.2
ENM4	Eenrum	1.56	66	ePg	Pb	23 15 26.7	-0.3
	baz=246						
ENM4				eSg	Sg	23 15 47.5	-1.1
VBG4	Venebrugge (Br	1.58	98	ePg	Pb	23 15 26.9	-0.6
	baz=282						
VBG4				eSg	Sb	23 15 47.3	-0.1
ZL24	Zuidlaardervee	1.63	79	ePg	Pb	23 15 28.2	-0.1
	baz=260						
ZL24				eSg	Sb	23 15 48.9	+0.2
ZLV4	Zuidlaardervee	1.63	79	ePg	Pb	23 15 28.2	-0.1
	baz=260						
ZLV4				eSg	Sb	23 15 48.8	+0.1
WDB4	Woudbloem 4	1.64	75	ePg	Pg	23 15 31.2	+1.2
	baz=256						
WDB4				eSg	Sg	23 15 50.8	-0.5
FSW4	Finsterwolde 4	1.87	76	ePg	Pb	23 15 32.6	+0.1
	baz=258						
FSW4				eSg	Sn	23 15 53.2	-0.2
WACR	West Acre	2.12	269	eP	Pb	23 15 37.4	+0.7
WACR				eS	Sg	23 16 04.2	-2.2
WACR				IAML		23 16 09.5	
	comp=N,40nm,0.4s						
WACR				IAML		23 16 10.6	
	comp=E,33nm,0.3s						
WACR	West Acre	2.12	269	eP	Pb	23 15 37.4	+0.7
WACR				eS	Sg	23 16 04.2	-2.2
WACR				IAML		23 16 09.5	
	comp=N,40nm,0.4s						
WACR				IAML		23 16 10.6	
	comp=E,33nm,0.3s						
GIVF	Givet	2.74	170	ePn	Pn	23 15 42.3	+0.2
GIVF	Givet	2.74	170	ePg	Pg	23 15 51.5	+0.5
GIVF				eSn	Sn	23 16 14.2	-0.8
GIVF				eSg	Sg	23 16 29.2	+2.6
	comp=E,17nm,0.6s						
BAIF	Baives	2.75	179	ePn	Pn	23 15 43.3	+1.1
BAIF	Baives	2.75	179	ePg	Pg	23 15 52.2	+1.0
BAIF				eSn	Sn	23 16 15.0	-0.2
BAIF				eSg	Sg	23 16 30.0	+3.2
	comp=E,9.4nm,0.5s						
CWF	Charnwood Fore	3.29	271	eP	Pb	23 15 53.3	-3.4
CWF				IAML		23 16 49.9	
	comp=N,6.7nm,0.4s						
CWF				IAML		23 16 53.7	
	comp=E,5.4nm,0.3s						
CWF	Charnwood Fore	3.29	271	eP	Pb	23 15 53.3	-3.4
CWF				IAML		23 16 49.9	
	comp=N,6.7nm,0.4s						
CWF				IAML		23 16 53.7	
	comp=E,5.4nm,0.3s						
HPK	Haverah Park	3.62	291	eP	Pn	23 15 56.6	+2.4
HPK				IAML		23 17 04.2	
	comp=E,19nm,0.6s						
HPK				IAML		23 17 12.8	
	comp=N,17nm,0.4s						
HPK	Haverah Park	3.62	291	eP	Pn	23 15 56.6	+2.4
HPK				IAML		23 17 04.2	
	comp=E,19nm,0.6s						
HPK				IAML		23 17 12.8	
	comp=N,17nm,0.4s						
EDMD	Edmundbyers	4.13	302	eP	Pn	23 16 03.2	+2.0
EDMD				eS	Sn	23 16 48.6	-0.6
EDMD				IAML		23 16 52.1	
	comp=N,13nm,0.2s						
EDMD				IAML		23 16 52.4	
	comp=E,12nm,0.2s						
EDMD	Edmundbyers	4.13	302	eP	Pn	23 16 03.2	+2.0
EDMD				eS	Sn	23 16 48.6	-0.6
EDMD				IAML		23 16 52.1	
	comp=N,13nm,0.2s						
EDMD				IAML		23 16 52.4	
	comp=E,12nm,0.2s						
MCH1	Michaelchurch	4.42	262	eP	Pn	23 16 08.0	+2.8
MCH1				eS	Sn	23 16 59.4	+2.9
MCH1				IAML		23 17 00.4	
	comp=N,14nm,0.7s						
MCH1				IAML		23 17 01.1	
	comp=E,8.2nm,0.3s						
MCH1	Michaelchurch	4.42	262	eP	Pn	23 16 08.0	+2.8
MCH1				eS	Sn	23 16 59.4	+2.9
MCH1				IAML		23 17 00.4	
	comp=N,14nm,0.7s						
MCH1				IAML		23 17 01.1	
	comp=E,8.2nm,0.3s						
CDF	Champ du Feu	4.84	154	eP	Pn	23 16 14.2	+3.2
WPM1	Penmaenmawr	4.86	279	eP	Pn	23 16 14.4	+3.3
WPM1	Penmaenmawr	4.86	279	eP	Pn	23 16 14.4	+3.3
FLN	La Foliniere	4.98	218	ePn	Pn	23 16 14.6	+1.7
FLN				eSn	Sn	23 17 10.7	+0.5
	comp=E,3.6nm,0.4s						
ESK	Eskdalemuir	4.99	303	eP	Pn	23 16 14.4	+1.4
ESK	Eskdalemuir	4.99	303	eP	Pn	23 16 14.4	+1.4
LDF	La Druitiere	5.00	214	ePn	Pn	23 16 14.4	+1.3
LDF				eSn	Sn	23 17 11.5	+0.9
	comp=E,2.8nm,0.3s						
GRR	Gorron	5.43	218	ePn	Pn	23 16 20.8	+1.7
GRR				eSn	Sn	23 17 20.5	-0.8
	comp=E,3.4nm,0.3s						
LOR	Lormes	5.54	182	ePn	Pn	23 16 21.3	+0.7
LOR				eSn	Sn	23 17 21.4	-2.7
	comp=E,3.1nm,0.3s						
SSF	Saint Saulge	5.76	184	ePn	Pn	23 16 24.2	+0.6
SSF				eSn	Sn	23 17 27.6	-1.9
	comp=E,1.1nm,0.4s						
AVF	Avril sur Loir	6.04	185	eP	Pn	23 16 32.7	+5.3
SMF	Signal de Mont	6.17	182	ePn	Pn	23 16 29.6	+0.4
SMF				eSn	Sn	23 17 36.4	-3.1
	comp=E,0.8nm,0.3s						
SGMF	Saint Gilles	6.22	226	ePn	Pn	23 16 31.9	+2.0
SGMF				eSn	Sn	23 17 39.4	-1.5
	comp=E,0.7nm,0.2s						
BGF	Bois d'Agland	6.30	188	ePn	Pn	23 16 31.9	+0.8
BGF				eSn	Sn	23 17 41.7	-1.1
	comp=E,1.3nm,0.3s						
CABF	La Chapelle	6.33	168	ePn	Pn	23 16 32.3	+0.8
ROSF	Rostrenen	6.49	229	ePn	Pn	23 16 34.5	+1.0
ROSF				eSn	Sn	23 17 46.1	-1.2
	comp=E,2.4nm,0.3s						
QUIF	Quistinic	6.75	226	ePn	Pn	23 16 38.9	+1.8
QUIF				eSn	Sn	23 17 52.1	-1.6
	comp=E,0.9nm,0.3s						
MFF	Saint Martin d	6.79	206	ePn	Pn	23 16 38.7	+1.0
MFF				eSn	Sn	23 17 52.4	-2.4
	comp=E,1.0nm,0.3s						
LPL	La Plagne	7.49	166	ePn	Pn	23 16 48.1	+0.5
LPG	La Plagne	7.51	166	ePn	Pn	23 16 48.6	+0.7
RJF	Les Rejaudoux	7.70	194	ePn	Pn	23 16 51.1	+1.0
RJF				eSn	Sn	23 18 15.9	-1.2
	comp=E,0.7nm,0.3s						
VIVF	Saint-Julien-l	7.96	177	ePn	Pn	23 16 54.3	+0.5
ORIF	Oris-en-Rattie	7.98	171	ePn	Pn	23 16 54.3	+0.2
CAF	Calviac	8.00	190	ePn	Pn	23 16 55.2	+0.9
CAF				eSn	Sn	23 18 22.5	-2.0
	comp=E,0.7nm,0.2s						
LFF	La Frestale	8.18	197	ePn	Pn	23 16 57.0	+0.3
LFF				eSn	Sn	23 18 24.1	-4.7
	comp=E,0.7nm,0.2s						
MTLF	Montolieu	9.55	188	ePn	Pn	23 17 16.0	+0.4

*IDC **05** 23:17:16.5±2.0, 9°.47N×84°.45W, h0km, mb3.3/3, mb1 3.8/3, mb1mx3.4/42, mbtmp3.3/3, Error ellipse: s-maj=114.7km s-min=18.4km az=59.0*
*ISCJB **05** 23:17:18.0±1.1, 9°.36N±0°.05×84°.66W±0°.05, h18km±7km, mb3.2/3, Error ellipse: s-maj=11.0km s-min=3.3km az=41.4*
*UCR **05** 23:17:19.1±1.7, 9°.42N×84°.61W, h19km±4km, MD4.0*
ISC 05 23:17:17.2±1.4, **9°.42N**±0°.04×**84°.57W**±0°.04, **h5**km±10km, **n37**, σ**0s.59**/52, **mb3.2**/3, **1C-1D**, **Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCR2	La Lucha 2	0.64	60	eP	Pb	23 17 31.5	+0.4
SRA1	San Ramn	0.67	8	eP	Pb	23 17 31.5	0.0
SRA1				eS	Sb	23 17 41.5	+0.4
EDDO	Dominical	0.71	103	eP	Pb	23 17 32.7	+0.5
EDDO				eS	Sn	23 17 44.7	-0.7
SJS	Escuela Geolog	0.72	44	eP	Pn	23 17 33.0	-1.3
SJS				eS	Sn	23 17 45.6	-0.3
HDC	Heredia	0.73	38	eP	Pn	23 17 33.2	-1.2
HDC				i S	Sb	23 17 42.7	-0.3
URSC	Urasca	0.88	62	eP	Pn	23 17 35.9	-0.6
JTS	JuntasAbangare	0.95	336	Pg	Pg	23 17 35.3	0.0
	282nm,0.3s,baz=142,slow=3.3,SNR=1315						
JTS				Lg	Lg	23 17 48.0	
	335nm,0.3s,baz=323,slow=20,SNR=28						
JTS	JuntasAbangare	0.95	336	⇓iP	Pg	23 17 35.4	0.0
JTS				eS	Sg	23 17 48.2	+0.5
EDLM	Las Mercedes	0.98	98	eP	Pb	23 17 36.7	0.0
EDLM				eS	Sn	23 17 53.1	+1.1
FORC	Fortuna	1.05	355	i P	Pn	23 17 38.2	-0.4
FORC				i S	Sn	23 17 53.4	-0.3
ARE1	Arenal 1	1.05	352	eP	Pb	23 17 38.0	+0.2
CEDE	Laguna Cedeo	1.07	353	i P	Pn	23 17 38.6	-0.4
VCR	Vista de Mar	1.26	304	eP	Pn	23 17 40.9	-0.8
ACAL	Aguas Claras	1.29	339	i P	Pn	23 17 41.7	-0.4
ACAL				i S	Sb	23 17 58.8	-0.3
EDBA	Buenos Aires	1.30	101	eP	Pn	23 17 41.8	-0.4
EDBA				eS	Sn	23 18 01.1	+1.1
DRK0	Durika	1.32	97	⇑iP	Pg	23 17 42.7	+0.3
DRK0				eS	Sn	23 18 00.9	+0.4
PTEN	Parque Tenorio	1.35	342	i P	Pn	23 17 42.6	-0.3
CUI	Cuipilapa	1.36	335	i P	Pn	23 17 42.5	-0.6
CUI				i S	Sb	23 18 00.6	-0.5
HORNC	Hornillas	1.42	335	i P	Pn	23 17 43.4	-0.4
GUAB	Guayabo de Bag	1.44	333	i P	Pn	23 17 43.6	-0.4
LIM1	Limonal	1.44	332	i P	Pn	23 17 44.0	-0.1
MESS	Mesas	1.45	335	eP	Pn	23 17 44.1	-0.1
MESS				i P	Pn	23 17 44.2	-0.1
MESS				eS	Sg	23 18 04.1	+0.2
TRT1	Tortuguero	1.45	36	eP	Pg	23 17 44.8	-0.3
PTJ1	Puerto Jimnez	1.53	125	eP	Pg	23 17 46.8	+0.3
PTJ1				eS	Sg	23 18 05.9	-0.4
GPS2	Hotel Rincn d	1.53	330	i P	Pn	23 17 45.4	0.0
NY14	Universidad de	1.55	322	i P	Pn	23 17 45.2	-0.3
GPS1	Guardaparques	1.55	330	i P	Pn	23 17 45.6	-0.1
GPS1				i S	Sn	23 18 05.6	-0.6
LAPC	Finca la Perla	1.59	328	i P	Pn	23 17 45.4	-0.7
GB1A	Borinquen Arri	1.61	330	i P	Pn	23 17 46.5	0.0
BRU2	Volcan	1.96	108	eP	Pb	23 17 52.6	-0.8
ESPN	Las Esperanzas	2.77	5	eP	Pn	23 18 03.1	+0.7
AZU	Azuero	4.54	111	eP	Pn	23 18 25.5	-1.3
ZANG	Zanguenga, Cho	4.67	95	eP	Pn	23 18 27.6	-0.8
FRIJ	El Hiral	4.78	92	eP	Pn	23 18 31.0	+1.0
TXAR	Lajitas Array	26.70	321	P	P	23 22 57.4	-0.3
	0.2nm,0.4s,baz=147,slow=12,SNR=12						
NVAR	Mina Array Bea	41.83	319	P	P	23 25 09.5	+1.0
	0.8nm,0.8s,baz=128,slow=7.3,SNR=4.1						
YKA	Yellowknife Ar	57.28	344	P	P	23 27 05.4	-0.2
	0.1nm,0.4s,baz=138,slow=8.0,SNR=3.5						

*ISCJB **05** 23:21:53.2±0.9, 19°.1S±0°.1×169°.4E±0°.1, h100km, mb3.9/6, Error ellipse: s-maj=19.5km s-min=12.5km az=138.7*
*IDC **05** 23:21:59.3±2.8, 19°.26S×169°.16E, h130km±22km, mb3.7/7, mb1 3.9/8, mb1mx3.6/39, mbtmp4.2/8, MS2.6/1, Ms1 2.6/1, ms1mx2.3/22, Error ellipse: s-maj=25.5km s-min=21.5km az=168.0*
ISC 05 23:21:55.5±0.7, **19°.2S**±0°.1×**169°.3E**±0°.1, **h100**km, **n22**, σ**1s.34**/25, **mb3.9**/6, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.97	222	P	Pn	23 22 56.0	+1.6
	8.8nm,0.3s,baz=114,slow=15,SNR=153						
DZM				S	Sn	23 23 40.7	+0.7
	28nm,0.3s,baz=104,slow=23,SNR=14						
DZM				LR	LR	23 23 44.9	
	comp=Z,69nm,18.1s,baz=254,slow=28						
URZ	Urewera	20.22	162	P	P	23 26 23.1	+0.6
	10nm,0.6s,baz=358,slow=2.7,SNR=8.2						
STKA	Stephens Creek	27.96	238	P	P	23 27 37.6	+0.9
	1.6nm,0.6s,baz=32,slow=9.5,SNR=2.5						
WRA	Warramunga Arr	32.95	263	P	P	23 28 19.5	-1.4
	1.9nm,0.9s,baz=95,slow=8.2,SNR=11						
WRA				PcP	PcP	23 31 02.0	-1.0
	0.5nm,0.6s,baz=91,slow=3.2,SNR=7.3						
ASAR	Alice Springs	33.23	256	P	P	23 28 22.6	-0.8
	5.9nm,0.6s,baz=84,slow=8.9,SNR=112						
ASAR				ScP	ScP	23 34 35.5	-3.7
	0.4nm,0.7s,baz=85,slow=4.6,SNR=4.8						
VNDA	Vanda	58.53	182	P	P	23 31 40.5	-0.5
	0.9nm,0.9s,baz=348,slow=7.6,SNR=5.4						
SONM	Songino Array	87.19	323	P	P	23 34 31.3	+0.7
	0.4nm,0.7s,baz=183,slow=4.2,SNR=4.2						
NVAR	Mina Array Bea	88.68	48	P	P	23 34 39.9	+1.9
	1.1nm,0.8s,baz=232,slow=7.1,SNR=5.8						
VNA3	Neumayer Olymp	89.85	180	P	P	23 34 41.1	-1.6
VNA2	Neumayer--Watz	90.14	181	P	P	23 34 42.9	-1.2
	baz=182,slow=3.9						
VNA1	Neumayer--Stat	90.43	181	P	P	23 34 42.9	-2.5
YKA	Yellowknife Ar	100.55	27	P	Pdif	23 35 32.9	+1.5
	0.3nm,0.8s,baz=252,slow=4.8,SNR=5.3						
ARCES	ARCESS Array B	125.00	345	PKP	PKPdf	23 40 43.1	-0.3
	1.6nm,0.7s,baz=55,slow=2.0,SNR=16						
CONA	Conrad Observa	144.10	329	i PKPdf	PKPdf	23 41 20.0	+0.4
	5.4nm,1.9s						
GERES	GERESS Array B	144.45	332	PKP	PKPab	23 41 18.6	0.0
	1.7nm,0.6s,baz=22,slow=4.3,SNR=16						
ARSA	Arzberg	144.74	329	i PKPdf	PKPdf	23 41 21.1	+0.4
	4.1nm,1.2s						
MOA	Molln	144.92	330	i PKPdf	PKPdf	23 41 21.3	+0.3
	6.4nm,0.7s						
SOKA	Soboth	145.38	328	i PKPab	PKPab	23 41 23.0	+0.8
	4.3nm,0.9s						
ABTA	Abfaltersbach	146.54	331	i PKPab	PKPbc	23 41 25.5	+0.1
	7.0nm,1.4s						
MOTA	Moosalm	146.72	333	i PKPab	PKPbc	23 41 26.1	0.0
	2.9nm,0.8s						
SQTA	Sankt Quirin	146.77	332	i PKPab	PKPbc	23 41 26.4	+0.2
	4.3nm,0.7s						
FETA	Feichten	147.13	333	i PKPab	PKPbc	23 41 27.6	+0.4
	3.1nm,0.7s						

*IDC **05** 23:22:32.3±1.9, 46°.23N×152°.69E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.5/41, mbtmp3.6/7, ML2.6/2, MS3.2/2, Ms1 3.2/2, ms1mx2.4/40, Error ellipse: s-maj=48.0km s-min=33.7km az=161.0*
*ISCJB **05** 23:22:35.7±1.3, 46°.3N±0°.2×152°.6E±0°.3, h35km, mb3.7/5, MS3.8/1, Error ellipse: s-maj=40.1km s-min=15.3km az=42.3*
ISC 05 23:22:37.4±1.4, **46°.3N**±0°.2×**152°.7E**±0°.3, **h35**km, **n10**, σ**0s.95**/8, **mb3.6**/5, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	7.60	24	Pn	Pn	23 24 24.3	-1.2
	0.1nm,0.3s,baz=209,slow=16,SNR=3.6						
KLR	Kul'dur	14.37	290	LR	LR	23 31 27.4	
	comp=Z,32nm,19.1s,baz=86,slow=37						
MJAR	Matsushiro Arr	14.53	233	Pn	Pn	23 25 59.7	-0.6
	0.1nm,0.3s,baz=42,slow=14,SNR=2.5						
YKA	Yellowknife Ar	51.51	36	P	P	23 31 39.9	+0.8
	0.2nm,0.8s,baz=289,slow=5.8,SNR=3.7						
ARCES	ARCESS Array B	58.22	341	P	P	23 32 27.9	+0.4
	8.9nm,1.2s,baz=20,slow=11,SNR=3.8						
FINES	FINESS Array B	64.35	335	P	P	23 33 09.8	+0.7
	0.5nm,0.5s,baz=34,slow=7.8,SNR=5.0						
NB2	NORSAR Subarra	68.59	341	P	P	23 33 37.4	+1.2
	comp=Z,0.2nm,0.4s,baz=39,slow=5.9						
NOA	NORSAR Array B	68.59	341	P	P	23 33 36.2	0.0
	comp=Z,0.3nm,0.4s,baz=29,slow=6.6,SNR=6.7						
TXAR	Lajitas Array	78.02	60	P	P	23 34 32.4	0.0
	comp=Z,0.4nm,1.0s,baz=309,slow=5.7,SNR=2.6						
EIL	Elat	85.76	309	LR	LR	00 20 56.2	
	comp=Z,34nm,19.0s,baz=192,slow=41						

*ISCJB **05** 23:26:08.6±0.2, 43°.198N±0°.010×0°.30W±0°.01, h4km±1km, Error ellipse: s-maj=1.7km s-min=1.5km az=140.7*
*LDG **05** 23:26:12.4±0.1, 43°.07N×0°.22W, h2km, Md3.7/2, Ml4.1/51, Error ellipse: s-maj=1.1km s-min=0.9km az=129.0*
*MDD **05** 23:26:12.6±0.2, 43°.09N×0°.20W, h3km±2km, mbLg3.4/49, Error ellipse: s-maj=2.2km s-min=1.6km az=168.0, PRXIMO*
MDD EMS: II INTENSIDAD MAXIMA-ESPAA. EMS: IV INTENSIDAD MAXIMA-FRANCIA (BCSF).
*MRB **05** 23:26:12.2±0.4, 43°.08N×0°.21W, h4km±3km, ML3.6/21, Error ellipse: s-maj=1.6km s-min=1.0km az=179.0*
*STR **05** 23:26:12.6±0.2, 43°N±2°×°±°, h5km, M3.5/4, MLv3.5/4*
*NEIC **05** 23:26:12.4±0.0, 43°.07N×0°.22W, h2km, ML4.1(LDG), MN3.7(MDD), After LDG.*
NEIC Felt at Argeles-Gazost, Lourdes and Nay, France.
*INMG **05** 23:26:13.5±1.4, 42°.98N×0°.23W, h3km±2km, ML3.4, Error ellipse: s-maj=1.9km s-min=1.5km az=11.0*
*SFS **05** 23:26:13.0, 42°.98N×0°.23W, ML3.4, LARUNS (FRANCIA)*
*IGIL **05** 23:26:15.4, 42°.99N×0°.23W, h0km, ML3.1*
ISC 05 23:26:11.6±0.8, **43°.13N**±0°.02×**0°.20W**±0°.01, **h13**km±5km, **n320**, σ**2s.03**/637, **1C**, **Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PYLO	Lourdes	0.11	103	Pg	Pg	23 26 15.0	+0.2
PYLO				Sg	Sg	23 26 17.1	0.0
PYLO	Lourdes	0.11	103	P	Pg	23 26 14.9	+0.1
PYLO				S	Sg	23 26 16.9	-0.1
	12µm,0.3s						
LABF	Labassere	0.21	111	Pg	Pg	23 26 16.2	-0.1
VIEF	Viey	0.29	146	Pg	Pg	23 26 17.1	-0.5
ETSF	Etsaut	0.35	230	ePg	Pg	23 26 18.2	-0.5
	SNR=1.0						
ETSF				eSg	Sg	23 26 21.8	-1.6
	12µm,0.3s						
ETSF	Etsaut	0.35	230	ePg	Pg	23 26 18.2	-0.5
ETSF				eSg	Sg	23 26 21.8	-1.6
ETSF	Etsaut	0.35	230	Pg	Pg	23 26 18.2	-0.5
ETSF				Lg	Lg	23 26 21.8	
	6µm,0.3s						
ETSF	Etsaut	0.35	230	Pg	Pg	23 26 18.2	-0.5
ATE	Arette	0.37	264	Pg	Pg	23 26 19.0	0.0
	19nm,0.1s,SNR=7.9						
ATE				Lg	Lg	23 26 24.3	
	2µm,0.1s,SNR=7.9						
ATE	Arette	0.37	264	P	Pg	23 26 18.8	-0.2
ATE				S	Sg	23 26 24.5	+0.5
	2µm,0.3s						
EPF	Esparros	0.41	103	ePg	Pg	23 26 20.2	+0.5
	SNR=1.0						
EPF				eSg	Sg	23 26 25.9	+0.7
	7µm,0.4s						
EPF	Esparros	0.41	103	ePg	Pg	23 26 20.2	+0.5
EPF	Esparros	0.41	103	Pg	Pg	23 26 20.2	+0.5
EPF				Lg	Lg	23 26 25.9	
	3µm,0.4s						
EPF	Esparros	0.41	103	Pg	Pg	23 26 20.2	+0.5
EPF				Sg	Sg	23 26 25.9	+0.7
URDF	Urds	0.43	317	Pg	Pb	23 26 21.3	+0.3
URDF				Sg	Sb	23 26 28.3	+1.0
FMON	Montouss	0.45	98	P	Pg	23 26 20.7	+0.2
FMON				S	Sg	23 26 27.3	+0.6
	1µm,0.4s						
RESF	Ens	0.51	129	Pg	Pg	23 26 21.4	-0.2
ECHI	Chisagues Biel	0.54	148	Pg	Pg	23 26 21.6	-0.6
	24nm,0.2s,SNR=7.9						
ECHI				Lg	Lg	23 26 28.1	
	3µm,0.2s,SNR=7.9						
ECHI	Chisagues Biel	0.54	148	P	Pg	23 26 21.6	-0.6
ECHI				S	Sg	23 26 28.5	-1.0
	2µm,0.2s						
MELF	Melles	0.75	109	Pg	Pg	23 26 25.7	-0.3
SJPF	Ste Jean	0.75	269	ePg	Pg	23 26 26.0	-0.2
	SNR=1.0						
SJPF				eSg	Sg	23 26 35.3	-0.8
	881nm,0.3s						
SJPF	Ste Jean	0.75	269	ePg	Pg	23 26 26.0	-0.2
SJPF				eSn	Sg	23 26 35.3	-0.8
SJPF	Ste Jean	0.75	269	Pg	Pg	23 26 26.0	-0.2
SJPF				Lg	Lg	23 26 35.3	
	441nm,0.3s						
SJPF	Ste Jean	0.75	269	Pg	Pg	23 26 26.0	-0.2
IELO	Elcoad	0.81	250	Pg	Pg	23 26 27.0	-0.3
	84nm,0.3s,SNR=7.9						
IELO				Lg	Lg	23 26 37.9	
	973nm,0.3s,SNR=7.9						
IELO	Elcoad	0.81	250	Pg	Pg	23 26 27.0	-0.3
EORO	Oroz-Betelu	0.85	255	Pg	Pg	23 26 27.8	-0.2
	0.8nm,0.3s,SNR=7.9						
EORO				Lg	Lg	23 26 38.8	
	8.3nm,0.4s,SNR=7.9						
EORO	Oroz-Betelu	0.85	255	Pg	Pg	23 26 28.0	0.0
EORO				Lg	Lg	23 26 38.8	
CARA	Val d'Aran	0.85	119	P	Pg	23 26 28.0	-0.2
CARA				S	Sg	23 26 39.7	+0.3
	2µm,0.3s						
TERF	Tercis-les-Bai	0.87	310	Pg	Pn	23 26 30.2	+0.8
TERF				Sg	Sn	23 26 43.2	+1.3
MLS	Moulis	0.96	100	Pg	Pb	23 26 30.7	+0.7
MLS				Sg	Sb	23 26 43.8	+1.1
EALK	Alkurruntz	0.96	276	Pg	Pg	23 26 29.3	-0.8
	2.9nm,0.1s,SNR=11						
EALK				Lg	Lg	23 26 43.5	
	518nm,0.3s,SNR=20						
EALK	Alkurruntz	0.96	276	Pg	Pb	23 26 30.7	+0.5
EALK				Sg	Sb	23 26 43.2	+0.4
IUNC	Unciti	1.02	249	⇑Pg	Pg	23 26 31.4	0.0
	48nm,0.2s,SNR=18						
IUNC				Lg	Lg	23 26 45.4	
	2µm,0.4s,SNR=7.9						
CTRE	Tremp	1.07	138	Pg	Pg	23 26 31.7	-0.5
CTRE				Lg	Lg	23 26 46.4	
	898nm,0.4s						
CTRE	Tremp	1.07	138	P	Pg	23 26 31.8	-0.5
CTRE				S	Sg	23 26 46.4	+0.2
	876nm,0.4s						
EARA	Aranguren	1.07	251	Pg	Pb	23 26 32.6	+0.6
	19nm,0.2s,SNR=53						
EARA				Lg	Lg	23 26 46.3	
	667nm,0.4s						
EARA	Aranguren	1.07	251	Pg	Pg	23 26 32.4	+0.2
EARA	Aranguren	1.07	251	Lg	Lg	23 26 45.9	
SALF	Salau	1.08	109	Pg	Pg	23 26 31.4	-1.0
CEST	Esterri de Car	1.19	116	Pg	Pg	23 26 33.7	-0.7
CEST				Lg	Lg	23 26 49.9	
	878nm,0.3s						
CEST	Esterri de Car	1.19	116	P	Pg	23 26 33.8	-0.7
CEST				S	Sg	23 26 50.0	0.0
	832nm,0.3s						
CSOR	Sort	1.23	127	Pg	Pg	23 26 35.0	-0.3
	47nm,0.3s,SNR=238						
CSOR				Lg	Lg	23 26 51.8	
	258nm,0.2s,SNR=6.6						
CSOR	Sort	1.23	127	P	Pg	23 26 34.6	-0.7
CSOR				S	Sg	23 26 51.3	0.0
	921nm,0.3s						
ESAC	San Caprasio	1.42	188	Pg	Pn	23 26 38.1	+1.1
	1µm,0.3s,SNR=540						
ESAC				Lg	Lg	23 26 56.5	

685nm,0.2s,SNR=23
ESAC San Caprasio 1.42 188 Pg **Pn 23 26 38.1 +1.1**
CAVN Les Avellanes 1.43 150 Pg **Pn 23 26 37.2 0.0**
CAVN Lg Lg 23 26 56.7
1µm,0.2s
CAVN Les Avellanes 1.43 150 P **Pn 23 26 37.8 +0.6**
CAVN S **Sb 23 26 56.8 +0.7**
2µm,0.2s
CORG Organya 1.43 128 Pg **Pn 23 26 37.6 +0.4**
CORG Lg Lg 23 26 56.9
CORG Organya 1.43 128 P **Pn 23 26 38.2 +1.0**
CORG S **Sb 23 26 57.7 +1.4**
MONQ Montcuq 1.60 39 Pg **Pg 23 26 43.6 +1.3**
MONQ Sg **Sg 23 27 05.9 +2.8**
CLLI Llivia 1.72 111 Pn **Pb 23 26 44.2 +1.1**
12nm,0.3s,SNR=110
CLLI Pg **Pg 23 26 46.5 +1.8**
72nm,0.3s,SNR=7.9
CLLI Lg Lg 23 27 07.1
75nm,0.2s,SNR=22
CLLI Llivia 1.72 111 P **Pn 23 26 43.1 +1.7**
CLLI S **Sn 23 27 05.1 +1.8**
454nm,0.6s
CARF Carcanieres 1.74 103 Pg **Pb 23 26 44.7 +1.3**
CARF Sg **Sg 23 27 07.8 +0.2**
MTLF Montolieu 1.78 82 *e*Pn **Pn 23 26 42.9 +0.9**
SNR=1.0
MTLF Montolieu 1.78 82 *e*Pg **Pg 23 26 46.2 +0.5**
SNR=1.0
MTLF *e*Sg **Sg 23 27 09.3 +0.5**
429nm,0.3s,SNR=1.0
MTLF Montolieu 1.78 82 *e*Pn **Pn 23 26 42.9 +0.9**
MTLF *e*Pg **Pg 23 26 46.2 +0.5**
MTLF *e*Sn **Sg 23 27 09.3 +0.5**
MTLF Montolieu 1.78 82 Pn **Pn 23 26 42.9 +0.9**
MTLF Pg **Pg 23 26 46.2 +0.5**
MTLF Lg Lg 23 27 09.3
214nm,0.3s
MTLF Montolieu 1.78 82 Pg **Pb 23 26 45.1 +1.1**
MTLF Montolieu 1.78 82 Pn **Pn 23 26 42.9 +0.9**
MTLF Sg **Sg 23 27 09.3 +0.5**
VALF Valcebollere 1.78 113 Pg **Pb 23 26 45.2 +1.1**
VALF Sg **Sg 23 27 09.9 +0.9**
LRVF chteau la Riv 1.82 357 Pn **Pb 23 26 44.7 0.0**
LRVF Pg **Pg 23 26 46.8 +0.3**
LRVF Sg **Sg 23 27 12.5 +2.3**
LFF La Frestale 1.94 20 *e*Pn **Pn 23 26 45.1 +1.0**
SNR=1.0
LFF La Frestale 1.94 20 *e*Pg **Pg 23 26 49.6 +0.9**
LFF *e*Sg **Sg 23 27 15.6 +1.8**
1µm,0.5s,SNR=1.0
LFF La Frestale 1.94 20 *e*Pn **Pn 23 26 45.1 +1.0**
LFF *e*Pg **Pg 23 26 49.6 +0.9**
LFF *e*Sg **Sg 23 27 15.6 +1.8**
LFF La Frestale 1.94 20 Pn **Pn 23 26 45.1 +1.0**
LFF Pg **Pg 23 26 49.6 +0.9**
LFF Lg Lg 23 27 15.6
686nm,0.5s
EPOB Poblet 2.01 151 Pn **Pn 23 26 46.1 +0.9**
2.8nm,0.3s,SNR=128
EPOB Pg **Pb 23 26 48.2 +0.3**
12nm,0.1s,SNR=7.9
EPOB Sn **Sn 23 27 09.1 -1.1**
32nm,0.2s,SNR=7.9
EPOB Lg Lg 23 27 13.8
145nm,0.3s,SNR=6.0
EPOB Poblet 2.01 151 P **Pn 23 26 45.6 +0.4**
EPOB S **Sn 23 27 11.2 +1.0**
534nm,0.5s
CORI Orista 2.02 124 P **Pn 23 26 46.0 +0.7**
CORI S **Sn 23 27 12.5 +2.2**
1µm,0.3s
CGAR Garraf 2.08 151 Sn **Sg 23 27 21.6 +3.2**
CGAR Garraf 2.08 151 P **Pg 23 26 52.3 +0.8**
CGAR S **Sg 23 27 21.8 +3.4**
168nm,0.7s
ERTA Horta de San J 2.20 169 Pn **Pn 23 26 48.7 +0.9**
2.3nm,0.4s,SNR=7.9
ERTA Pg **Pb 23 26 52.0 +0.7**
9.4nm,0.1s,SNR=83
ERTA Sn **Sn 23 27 13.4 -1.5**
36nm,0.2s,SNR=7.9
ERTA Lg Lg 23 27 19.6
161nm,0.2s,SNR=16
ERTA Horta de San J 2.20 169 P **Pn 23 26 48.4 +0.6**
ERTA S **Sn 23 27 15.6 +0.6**
407nm,0.5s
CBEU Beuda 2.29 111 P **Pn 23 26 50.2 +1.2**
CBEU S **Sn 23 27 19.5 +2.4**
882nm,0.4s
SJAF Saint Jean de 2.35 105 Pn **Pn 23 26 52.3 +2.4**
0.9nm,0.2s,SNR=7.9
SJAF Pg **Pg 23 26 56.4 -0.3**
9.1nm,0.2s,SNR=7.9
SJAF Sn **Sn 23 27 20.0 +1.3**
4.1nm,0.1s,SNR=7.9
SJAF Lg Lg 23 27 27.6
71nm,0.2s,SNR=7.9
EBR Ebro Roquetas 2.36 167 Pg **Pb 23 26 54.3 +0.4**
92nm,0.2s,SNR=7.9
EBR Sn **Sn 23 27 17.5 -1.2**
357nm,0.3s,SNR=7.9
EBR Lg Lg 23 27 24.4
948nm,0.3s,SNR=7.9
EBR Ebro Roquetas 2.36 167 P **Pn 23 26 51.3 +1.4**
EBR S **Sn 23 27 19.1 +0.4**
1µm,0.5s
EJON La Jonquera 2.37 106 Pn **Pb 23 26 53.5 -0.6**
0.7nm,0.3s,SNR=7.9
EJON Pg **Pg 23 26 56.8 -0.2**
11nm,0.2s,SNR=42
EJON Sn **Sn 23 27 20.4 +1.4**
15nm,0.2s,SNR=7.9
EJON Lg Lg 23 27 28.1
202nm,0.4s,SNR=22
ELAN Lanestosa 2.37 274 Pn **Pb 23 26 53.2 -0.9**
14nm,0.4s,SNR=35
ELAN Pg **Pg 23 26 57.3 +0.3**
16nm,0.2s,SNR=7.9
ELAN Sn **Sn 23 27 22.1 +3.1**
20nm,0.3s,SNR=7.9
ELAN Lg Lg 23 27 29.3
60nm,0.4s,SNR=4.0
CFON Fontmartina 2.38 124 Pn **Pn 23 26 52.9 +2.7**
15nm,0.3s,SNR=77
CFON Pg **Pb 23 26 55.6 +1.4**
59nm,0.2s,SNR=7.9
CFON Sn **Sn 23 27 18.0 -1.3**
58nm,0.2s,SNR=7.9
CFON Lg Lg 23 27 26.7
852nm,0.3s,SNR=20
CFON Fontmartina 2.38 124 P **Pn 23 26 51.3 +1.0**
CFON S **Sn 23 27 21.0 +1.6**
1µm,0.3s
CMAS Mas de Barbera 2.43 171 P **Pn 23 26 51.8 +0.9**
CMAS S **Sn 23 27 21.0 +0.5**
1µm,0.4s
CAF Calviac 2.43 41 *e*Pn **Pn 23 26 51.8 +0.8**
SNR=1.0
CAF Calviac 2.43 41 *e*Pg **Pg 23 26 58.8 +0.7**
CAF *e*Sn **Sn 23 27 21.6 +1.0**
294nm,0.2s,SNR=1.0
CAF *e*Sg **Sg 23 27 31.1 +1.5**
305nm,0.2s
CAF Calviac 2.43 41 *e*Pn **Pn 23 26 51.8 +0.8**
CAF *e*Pg **Pg 23 26 58.8 +0.7**
CAF *e*Sn **Sn 23 27 21.6 +1.0**
CAF *e*Sg **Sg 23 27 31.1 +1.5**
CAF Calviac 2.43 41 Pn **Pn 23 26 51.8 +0.8**
CAF Pg **Pg 23 26 58.8 +0.7**
CAF Sn **Sn 23 27 21.6 +1.0**
147nm,0.2s
CAF Lg Lg 23 27 31.1
152nm,0.2s
RJF Les Rejaudoux 2.50 29 *e*Pn **Pn 23 26 52.5 +0.5**
SNR=1.0
RJF Les Rejaudoux 2.50 29 *e*Pg **Pg 23 26 59.8 +0.3**
SNR=1.0
RJF *e*Sn **Sn 23 27 23.1 +0.8**
334nm,0.3s,SNR=1.0
RJF *e*Sg **Sg 23 27 33.4 +1.4**
313nm,0.3s
RJF Les Rejaudoux 2.50 29 *e*Pn **Pn 23 26 52.5 +0.5**
RJF *e*Pg **Pg 23 26 59.8 +0.3**
RJF *e*Sn **Sn 23 27 23.1 +0.8**
RJF Les Rejaudoux 2.50 29 Pn **Pn 23 26 52.5 +0.5**
RJF Pg **Pg 23 26 59.8 +0.3**
RJF Sn **Sn 23 27 23.1 +0.8**
167nm,0.3s
RJF Lg Lg 23 27 33.4
156nm,0.3s
CPAL Palau Saverder 2.61 107 P **Pn 23 26 54.2 +0.9**
CPAL S **Sn 23 27 27.3 +2.4**
151nm,0.4s
CCAS Cassa de la Se 2.61 117 P **Pn 23 26 54.5 +1.1**
CCAS S **Sn 23 27 26.9 +2.0**
310nm,0.5s
EMOS Mosqueruela 2.77 184 Pn **Pn 23 26 57.5 +1.8**
3.0nm,0.3s,SNR=29
EMOS Pg **Pb 23 27 01.9 +0.9**
7.2nm,0.2s,SNR=7.9
EMOS Sn **Sn 23 27 27.0 -2.0**
23nm,0.2s,SNR=6.0
EMOS Lg Lg 23 27 36.3
274nm,0.4s,SNR=9.5
EMOS Mosqueruela 2.77 184 P **Pn 23 26 56.7 +0.9**
EMOS S **Sn 23 27 29.4 +0.4**
334nm,0.6s
LASF Ste Croix 3.10 71 *e*Pn **Pn 23 27 00.5 +0.4**
SNR=1.0
LASF Ste Croix 3.10 71 *e*Pg **Pg 23 27 10.6 -0.3**
LASF *e*Sn **Sn 23 27 36.7 -0.2**
SNR=1.0
LASF *e*Sg **Sg 23 27 50.6 -0.4**
229nm,0.4s,SNR=1.0
LASF Ste Croix 3.10 71 *e*Pn **Pn 23 27 00.5 +0.4**
LASF *e*Pg **Pg 23 27 10.6 -0.3**
LASF *e*Sg **Sg 23 27 50.6 -0.4**
LASF Ste Croix 3.10 71 Pn **Pn 23 27 00.5 +0.4**
LASF Pg **Pg 23 27 10.6 -0.3**
LASF Sn **Sn 23 27 36.7 -0.2**
LASF Lg Lg 23 27 50.6
114nm,0.4s
MFF Saint Martin d 3.48 1 *e*Pn **Pn 23 27 06.0 +0.7**
SNR=1.0
MFF Saint Martin d 3.48 1 *e*Pg **Pg 23 27 17.8 -0.4**
MFF *e*Sn **Sn 23 27 45.9 -0.4**
122nm,0.3s,SNR=1.0
MFF *e*Sg **Sg 23 28 03.4 +0.2**
154nm,0.4s
MFF Saint Martin d 3.48 1 *e*Pn **Pn 23 27 06.0 +0.7**
MFF Saint Martin d 3.48 1 Pn **Pn 23 27 06.0 +0.7**
MFF Pg **Pg 23 27 17.8 -0.4**
MFF Sn **Sn 23 27 45.9 -0.4**
0.1nm,0.3s
MFF Lg Lg 23 28 03.4
77nm,0.4s
PYM Petit Puy Mans 3.49 40 Pg **Pg 23 27 19.0 +0.6**
ECHE Chera 3.58 190 Pn **Pn 23 27 07.5 +0.7**
8.7nm,0.4s,SNR=7.9
ECHE Pg **Pb 23 27 16.9 +2.2**
2.8nm,0.2s,SNR=7.9
ECHE Sn **Sn 23 27 45.8 -3.1**
9.1nm,0.3s,SNR=7.9
ECHE Lg Lg 23 28 01.2
96nm,0.3s,SNR=7.9
TCF Toulx Ste Croi 3.60 28 *e*Pn **Pn 23 27 07.2 +0.2**
SNR=1.0
TCF Toulx Ste Croi 3.60 28 *e*Pg **Pg 23 27 20.8 +0.3**
TCF *e*Sg **Sg 23 28 06.7 -0.4**
91nm,0.3s,SNR=1.0
TCF Toulx Ste Croi 3.60 28 *e*Pn **Pn 23 27 07.2 +0.2**
TCF Toulx Ste Croi 3.60 28 Pn **Pn 23 27 07.2 +0.2**
TCF Pg **Pg 23 27 20.8 +0.3**
TCF Lg Lg 23 28 06.7
46nm,0.3s
UCM Universidad Co 3.62 220 *e*P **Pn 23 27 08.0 +0.7**
UCM *e*S **Sb 23 28 04.2 +4.9**
AGO Saint Agoulin 3.77 38 Pg **Pg 23 27 24.6 +0.9**
GUD Guadarrama 3.86 231 Pn **Pn 23 27 12.2 +1.5**
16nm,0.7s,SNR=29
GUD Pg **Pb 23 27 22.2 +2.7**
0.0nm,0.2s,SNR=9.2
GUD Sn **Sn 23 27 56.0 +0.2**
13nm,0.3s,SNR=8.2
GUD Lg Lg 23 28 12.5
52nm,0.5s,SNR=5.6
VIVF Saint-Julien-l 3.92 62 *e*Pn **Pn 23 27 12.3 +0.9**
VIVF Saint-Julien-l 3.92 62 *e*Pg **Pg 23 27 25.7 -0.9**
VIVF *e*Sg **Sg 23 28 15.7 -1.6**
108nm,0.4s,SNR=1.0
VIVF Saint-Julien-l 3.92 62 *e*Pn **Pn 23 27 12.3 +0.9**
VIVF *e*Pg **Pg 23 27 25.7 -0.9**
VIVF *e*Sg **Sg 23 28 15.7 -1.6**
VIVF Saint-Julien-l 3.92 62 Pn **Pn 23 27 12.3 +0.9**
VIVF Pg **Pg 23 27 25.7 -0.9**
VIVF Lg Lg 23 28 15.7
54nm,0.4s
SSB Saint Sauveur 4.03 56 *e*Pn **Pn 23 27 12.8 -0.2**
SSB *e*Sn **Sn 23 28 03.5 +3.4**
BGF Bois d'Agland 4.06 31 *e*Pn **Pn 23 27 13.4 +0.1**
SNR=1.0
BGF Bois d'Agland 4.06 31 *e*Pg **Pg 23 27 28.4 -0.9**
BGF *e*Sn **Sn 23 27 59.8 -0.9**
BGF *e*Sg **Sg 23 28 21.1 -0.7**
673nm,0.4s
BGF Bois d'Agland 4.06 31 *e*Pn **Pn 23 27 13.4 +0.1**
BGF *e*Sn **Sn 23 27 59.8 -0.9**
BGF *e*Sg **Sg 23 28 21.1 -0.7**
BGF Bois d'Agland 4.06 31 Pn **Pn 23 27 13.4 +0.1**
BGF Pg **Pg 23 27 28.4 -0.9**
BGF Sn **Sn 23 27 59.8 -0.9**
BGF Lg Lg 23 28 21.1
336nm,0.4s
EIBI Ibiza 4.26 164 Pn **Pn 23 27 16.2 +0.2**
2.4nm,0.3s,SNR=7.4
EIBI Sn **Sn 23 28 01.2 -4.3**
12nm,0.3s,SNR=6.0
SMRF Simiane la Rot 4.28 77 *e*Pn **Pn 23 27 17.1 +0.7**
SMRF Simiane la Rot 4.28 77 *e*Pg **Pg 23 27 33.2 -0.4**
SMRF *e*Sg **Sg 23 28 28.7 -0.3**
93nm,0.5s,SNR=1.0
SMRF Simiane la Rot 4.28 77 *e*Pn **Pn 23 27 17.1 +0.7**
SMRF *e*Pg **Pg 23 27 33.2 -0.4**
SMRF *e*Sg **Sg 23 28 28.7 -0.3**
SMRF Simiane la Rot 4.28 77 Pn **Pn 23 27 17.1 +0.7**
SMRF Pg **Pg 23 27 33.2 -0.4**
SMRF Lg Lg 23 28 28.7
93nm,0.5s
ES19 SONSECA Array 4.41 220 *e*Pn **Pn 23 27 18.8 +0.6**
ES19 *e*Sn **Sn 23 28 10.4 +1.0**
EBEN2 Beniarda presa 4.44 180 Sn **Sn 23 28 07.9 -2.3**
14nm,0.3s,SNR=7.9
EBEN2 Lg Lg 23 28 26.3
60nm,0.4s,SNR=7.9
AVF Avril sur Loir 4.45 33 *e*Pn **Pn 23 27 18.5 -0.1**
SNR=1.0
AVF Avril sur Loir 4.45 33 *e*Pg **Pg 23 27 35.8 -0.9**
AVF *e*Sg **Sg 23 28 34.2 -0.1**
155nm,0.5s
AVF Avril sur Loir 4.45 33 *e*Pn **Pn 23 27 18.5 -0.1**
AVF *e*Pg **Pg 23 27 35.8 -0.9**
AVF Avril sur Loir 4.45 33 Pn **Pn 23 27 18.5 -0.1**
AVF Pg **Pg 23 27 35.8 -0.9**
AVF Lg Lg 23 28 34.2
77nm,0.5s
ESDC Sonseca Array 4.46 221 Pn **Pn 23 27 19.2 +0.3**
3.3nm,0.1s,baz=44,slow=14,SNR=73
ESDC Sn **Sn 23 28 08.9 -1.7**
5.4nm,0.4s,baz=41,slow=24,SNR=5.3
ESDC Lg Lg 23 28 29.8
12nm,0.3s,baz=46,slow=29,SNR=6.3
ESLA Sonseca Array 4.46 221 *e*Pn **Pn 23 27 19.5 +0.6**
ESLA *e*Sn **Sn 23 28 11.3 +0.7**
SMF Signal de Mont 4.54 38 *e*Pn **Pn 23 27 19.7 -0.3**
SNR=1.0
SMF Signal de Mont 4.54 38 *e*Pg **Pg 23 27 37.5 -1.0**
SMF *e*Sg **Sg 23 28 36.5 -0.8**
147nm,0.6s
SMF Signal de Mont 4.54 38 *e*Pn **Pn 23 27 19.7 -0.3**
SMF Signal de Mont 4.54 38 Pn **Pn 23 27 19.7 -0.3**
SMF Pg **Pg 23 27 37.5 -1.0**
SMF Lg Lg 23 28 36.5
73nm,0.6s
ETOB Tobarra 4.59 193 Pn **Pn 23 27 22.2 +1.5**
6.3nm,0.3s,SNR=21
ETOB Sn **Sn 23 28 10.4 -3.5**
9.9nm,0.4s,SNR=4.7
ETOB Lg Lg 23 28 32.4
35nm,0.5s
HYF Humbligny 4.60 25 *e*Pn **Pn 23 27 21.0 +0.2**
HYF Humbligny 4.60 25 *e*Pg **Pg 23 27 38.7 -1.0**
HYF *e*Sg **Sg 23 28 37.4 -1.9**
HYF Humbligny 4.60 25 *e*Pn **Pn 23 27 21.0 +0.2**
HYF Humbligny 4.60 25 Pn **Pn 23 27 21.0 +0.2**
HYF Pg **Pg 23 27 38.7 -1.0**
HYF Lg Lg 23 28 37.4
SSF Saint Saulge 4.73 32 *e*Pn **Pn 23 27 22.4 -0.1**
SNR=1.0
SSF Saint Saulge 4.73 32 *e*Pg **Pg 23 27 41.2 -0.9**
SSF *e*Sg **Sg 23 28 42.3 -1.0**
85nm,0.3s,SNR=1.0
SSF Saint Saulge 4.73 32 *e*Pn **Pn 23 27 22.4 -0.1**
SSF *e*Sg **Sg 23 28 42.3 -1.0**
SSF Saint Saulge 4.73 32 Pn **Pn 23 27 22.4 -0.1**
SSF Pg **Pg 23 27 41.2 -0.9**
SSF Lg Lg 23 28 42.3
42nm,0.3s
ORIF Oris-en-Rattie 4.74 66 *e*Pn **Pn 23 27 23.1 +0.4**
SNR=1.0
ORIF *e*Sn **Sn 23 28 15.5 -2.0**
SNR=1.0
ORIF *e*Sg **Sg 23 28 42.0 -1.6**
65nm,0.6s
ORIF Oris-en-Rattie 4.74 66 *e*Pn **Pn 23 27 23.1 +0.4**
ORIF *e*Sn **Sn 23 28 15.5 -2.0**
ORIF *e*Sg **Sg 23 28 42.0 -1.6**
ORIF Oris-en-Rattie 4.74 66 Pn **Pn 23 27 23.1 +0.4**
ORIF Sn **Sn 23 28 15.5 -2.0**
ORIF Lg Lg 23 28 42.0
32nm,0.6s
PAB San Pablo 4.75 223 *e*Pn **Pn 23 27 23.6 +0.7**
PAB *e*Sn **Sn 23 28 17.9 +0.1**
PAB San Pablo 4.75 223 Pn **Pn 23 27 23.4 +0.5**
7.3nm,0.5s,SNR=7.9
PAB Sn **Sn 23 28 16.1 -1.6**
7.8nm,0.3s,SNR=7.9
PAB Lg Lg 23 28 38.1
22nm,0.3s,SNR=7.9
LMR La Mourre 4.91 85 *e*Pn **Pn 23 27 25.8 +0.9**
SNR=1.0
LMR La Mourre 4.91 85 *e*Pg **Pg 23 27 44.7 -0.8**
LMR *e*Sn **Sn 23 28 19.8 -1.7**
LMR *e*Sg **Sg 23 28 47.4 -1.6**
13nm,0.2s,SNR=1.0
LMR La Mourre 4.91 85 *e*Pn **Pn 23 27 25.8 +0.9**
LMR La Mourre 4.91 85 Pn **Pn 23 27 25.8 +0.9**
LMR Pg **Pg 23 27 44.7 -0.8**
LMR Sn **Sn 23 28 19.8 -1.7**
LMR Lg Lg 23 28 47.4
6.3nm,0.2s
ECAL Calabor 4.97 258 Pn **Pn 23 27 27.6 +1.6**
8.3nm,0.2s,SNR=50
ECAL Pg **Pb 23 27 43.0 +4.5**
11nm,0.3s,SNR=7.9
ECAL Sn **Sn 23 28 22.2 -1.2**
12nm,0.3s,SNR=5.0
ECAL Lg Lg 23 28 43.5
74nm,0.5s,SNR=7.0
FRF La Foret Royal 5.01 83 *e*Pn **Pn 23 27 26.8 +0.4**
SNR=1.0
FRF La Foret Royal 5.01 83 *e*Pg **Pg 23 27 45.8 -1.7**
FRF *e*Sn **Sn 23 28 23.8 -0.3**
27nm,0.4s,SNR=1.0
FRF *e*Sg **Sg 23 28 49.2 -3.2**
13nm,0.3s
FRF La Foret Royal 5.01 83 *e*Pn **Pn 23 27 26.8 +0.4**
FRF *e*Pg **Pg 23 27 45.8 -1.7**
FRF La Foret Royal 5.01 83 Pn **Pn 23 27 26.8 +0.4**
FRF Pg **Pg 23 27 45.8 -1.7**
FRF Sn **Sn 23 28 23.8 -0.3**
14nm,0.4s
FRF Lg Lg 23 28 49.2
6.4nm,0.3s
PBRG Braganca 5.02 257 *e*Pn **Pn 23 27 28.0 +1.5**
PBRG *e*Sn **Sn 23 28 24.3 -0.1**
PBRG A A 23 28 52.3
26nm,0.6s
PBRG Braganca 5.02 257 Pn **Pn 23 27 28.0 +1.5**
PBRG Sn **Sn 23 28 24.3 -0.1**
13nm,0.6s
LOR Lormes 5.04 33 *e*Pn **Pn 23 27 26.5 -0.3**
baz=220
LOR Lormes 5.04 33 *e*Pg **Pg 23 27 46.8 -1.2**
baz=217
LOR *e*Sg **Sg 23 28 50.9 -2.3**
131nm,0.5s,baz=219
LOR Lormes 5.04 33 *e*Pn **Pn 23 27 26.5 -0.3**
LOR *e*Pg **Pg 23 27 46.8 -1.2**
LOR Lormes 5.04 33 Pn **Pn 23 27 26.5 -0.3**
LOR Pg **Pg 23 27 46.8 -1.2**
LOR Lg Lg 23 28 50.9
65nm,0.5s
EPON Pontenova 5.08 275 Pn **Pn 23 27 29.2 +1.8**
10nm,0.2s,SNR=36
EPON Pg **Pb 23 27 41.9 +1.6**
8.2nm,0.2s,SNR=7.9
EPON Sn **Sn 23 28 26.9 +0.9**
4.6nm,0.3s,SNR=4.9
EPON Lg Lg 23 28 55.6
8.2nm,0.4s
ETRV Los Montesinos 5.12 185 Pn **Pn 23 27 29.1 +1.3**
22nm,0.5s,SNR=7.9
ETRV Sn **Sn 23 28 23.2 -3.5**
62nm,0.5s,SNR=7.9
ETRV Lg Lg 23 28 50.3
30nm,0.3s,SNR=7.9
CLF Chambon-Foret 5.20 19 *e*Pb **Pb 23 27 45.9 +3.7**
QUIF Quistinic 5.23 338 *e*Pn **Pn 23 27 30.1 +0.8**
SNR=1.0
QUIF *e*Sg **Sg 23 28 57.9 -1.3**
72nm,0.6s,SNR=1.0
QUIF Quistinic 5.23 338 *e*Pn **Pn 23 27 30.1 +0.8**
QUIF *e*Sg **Sg 23 28 57.9 -1.3**
QUIF Quistinic 5.23 338 Pn **Pn 23 27 30.1 +0.8**
QUIF Lg Lg 23 28 57.9
36nm,0.6s
MBDF Montbardon 5.28 70 *e*Pn **Pn 23 27 30.4 +0.1**
MBDF Montbardon 5.28 70 *e*Pg **Pg 23 27 50.5 -2.2**
MBDF *e*Sg **Sg 23 29 00.1 -1.0**
22nm,0.5s
MBDF Montbardon 5.28 70 *e*Pn **Pn 23 27 30.4 +0.1**
MBDF *e*Sg **Sg 23 29 00.1 -1.0**
MBDF Montbardon 5.28 70 Pn **Pn 23 27 30.4 +0.1**
MBDF Pg **Pg 23 27 50.5 -2.2**
MBDF Lg Lg 23 29 00.1
11nm,0.5s
GRR Gorron 5.29 355 *e*Pn **Pn 23 27 29.9 -0.2**
SNR=1.0
GRR *e*Sn **Sn 23 28 28.9 -1.9**
18nm,0.2s,SNR=1.0
GRR *e*Sg **Sg 23 28 59.6 -1.5**
27nm,0.3s
GRR Gorron 5.29 355 *e*Pn **Pn 23 27 29.9 -0.2**
GRR *e*Sg **Sg 23 28 59.6 -1.5**
GRR Gorron 5.29 355 Pn **Pn 23 27 29.9 -0.2**
GRR Sn **Sn 23 28 28.9 -1.9**
8.9nm,0.2s
GRR Lg Lg 23 28 59.6
14nm,0.3s
SESP Santiago Espad 5.31 200 Pn **Pn 23 27 31.1 +0.5**
7.2nm,0.4s,SNR=7.9
SESP Pg **Pb 23 27 48.6 +4.3**
6.1nm,0.4s,SNR=7.9
SESP Sn **Sn 23 28 27.4 -4.3**
7.6nm,0.3s,SNR=7.9
SESP Lg Lg 23 28 55.7
26nm,0.4s,SNR=7.9
BNI Bardonecchia 5.31 66 *e*Pn **Pn 23 27 33.3 +2.6**
BNI *e*Sn **Sn 23 28 35.1 +3.3**
EMUR La Murta 5.34 189 Pn **Pn 23 27 32.2 +1.3**
6.8nm,0.3s,SNR=22
EMUR Pg **Pb 23 27 48.3 +3.6**
4.2nm,0.3s,SNR=7.9
EMUR Sn **Sn 23 28 27.5 -4.7**
13nm,0.5s,SNR=7.9
EMUR Lg Lg 23 28 55.3
22nm,0.4s
EPLA Plasencia 5.37 237 Pn **Pn 23 27 32.7 +1.4**
1.6nm,0.3s,SNR=16
EPLA Pg **Pb 23 27 49.4 +4.2**
1.8nm,0.1s,SNR=7.9
EPLA Sn **Sn 23 28 29.9 -3.0**
4.4nm,0.2s,SNR=6.9
EPLA Lg Lg 23 29 00.0
22nm,0.4s

SGMF	Saint Gilles	5.39	343	ePn	Pn	23 27 31.9	+0.3
	SNR=1.0						
SGMF				eSn	Sn	23 28 31.3	-2.1
SGMF				eSg	Sg	23 29 01.8	-2.7
	105nm,0.6s						
SGMF	Saint Gilles	5.39	343	ePn	Pn	23 27 31.9	+0.3
SGMF				eSg	Sg	23 29 01.8	-2.7
SGMF	Saint Gilles	5.39	343	Pn	Pn	23 27 31.9	+0.3
SGMF				Sn	Sn	23 28 31.3	-2.1
SGMF				Lg	Lg	23 29 01.8	
	53nm,0.6s						
MVO	Moncorvo	5.44	251	ePn	Pn	23 27 33.6	+1.2
MVO				eSn	Sn	23 28 33.8	-1.1
MVO				eSg	Sb	23 28 58.3	+6.6
MVO				A	A	23 29 10.2	
	70nm,0.6s						
MVO	Moncorvo	5.44	251	Pn	Pn	23 27 33.6	+1.2
	7.7nm,0.4s,SNR=30						
MVO				Sn	Sn	23 28 34.3	-0.6
	12nm,0.2s,SNR=7.9						
MVO				Lg	Lg	23 28 59.8	
	80nm,0.5s,SNR=7.0						
LDF	La Druitiere	5.47	1	ePn	Pn	23 27 32.7	0.0
	SNR=1.0						
LDF				eSn	Sn	23 28 32.3	-3.1
	SNR=1.0						
LDF				eSg	Sg	23 29 05.9	-1.2
	56nm,0.4s,SNR=1.0						
LDF	La Druitiere	5.47	1	ePn	Pn	23 27 32.7	0.0
LDF				eSn	Sn	23 28 32.3	-3.1
LPL	La Plagne	5.52	62	ePn	Pn	23 27 34.3	+0.8
LPL	La Plagne	5.52	62	ePg	Pg	23 27 54.8	-2.4
LPL				eSn	Sn	23 28 34.6	-2.3
LPL				eSg	Sg	23 29 07.9	-0.7
	48nm,0.7s,SNR=1.0						
LPL	La Plagne	5.52	62	ePn	Pn	23 27 34.3	+0.8
LPL				ePg	Pg	23 27 54.8	-2.4
LPL				eSn	Sn	23 28 34.6	-2.3
LPL				eSg	Sg	23 29 07.9	-0.7
LPL	La Plagne	5.52	62	Pn	Pn	23 27 34.3	+0.8
LPL				Pg	Pg	23 27 54.8	-2.4
LPL				Sn	Sn	23 28 34.6	-2.3
LPL				Lg	Lg	23 29 07.9	
	24nm,0.7s						
LPG	La Plagne	5.52	62	ePn	Pn	23 27 34.3	+0.6
LPG	La Plagne	5.52	62	ePg	Pg	23 27 56.7	-0.6
LPG				eSn	Sn	23 28 35.5	-1.6
LPG				eSg	Sg	23 29 07.7	-1.1
	43nm,0.7s,SNR=1.0						
LPG	La Plagne	5.52	62	ePn	Pn	23 27 34.3	+0.6
LPG				ePg	Pg	23 27 56.7	-0.6
LPG				eSn	Sn	23 28 35.5	-1.6
LPG				eSg	Sg	23 29 07.7	-1.1
LPG	La Plagne	5.52	62	Pn	Pn	23 27 34.3	+0.6
LPG				Pg	Pg	23 27 56.7	-0.6
LPG				Sn	Sn	23 28 35.5	-1.6
LPG				Lg	Lg	23 29 07.7	
	21nm,0.7s						
SBF	Sospel	5.60	80	ePn	Pn	23 27 35.7	+1.1
	SNR=1.0						
SBF				eSn	Sn	23 28 35.9	-2.9
SBF				eSg	Sg	23 29 08.6	-2.7
	38nm,0.5s,SNR=1.0						
SBF	Sospel	5.60	80	ePn	Pn	23 27 35.7	+1.1
SBF				eSg	Sg	23 29 08.6	-2.7
SBF	Sospel	5.60	80	Pn	Pn	23 27 35.7	+1.1
SBF				Sn	Sn	23 28 35.9	-2.9
SBF				Lg	Lg	23 29 08.6	
	19nm,0.5s						
ROSF	Rostrenen	5.64	339	ePn	Pn	23 27 35.2	+0.2
	SNR=1.0						
ROSF				eSn	Sn	23 28 37.8	-1.8
	34nm,0.5s,SNR=1.0						
ROSF				eSg	Sg	23 29 10.0	-2.5
	63nm,0.5s						
ROSF	Rostrenen	5.64	339	ePn	Pn	23 27 35.2	+0.2
ROSF				eSn	Sn	23 28 37.8	-1.8
ROSF	Rostrenen	5.64	339	Pn	Pn	23 27 35.2	+0.2
ROSF				Sn	Sn	23 28 37.8	-1.8
	0.0nm,0.5s						
ROSF				Lg	Lg	23 29 10.0	
	32nm,0.5s						
FLN	La Foliniere	5.64	358	ePn	Pn	23 27 34.8	-0.2
	baz=174,SNR=1.0						
FLN				eSn	Sn	23 28 36.8	-2.8
	SNR=1.0						
FLN				eSg	Sg	23 29 10.5	-2.1
	18nm,0.2s						
FLN	La Foliniere	5.64	358	ePn	Pn	23 27 34.8	-0.2
FLN				eSn	Sn	23 28 36.8	-2.8
FLN				eSg	Sg	23 29 10.5	-2.1
FLN	La Foliniere	5.64	358	Pn	Pn	23 27 34.8	-0.2
FLN				Sn	Sn	23 28 36.8	-2.8
FLN				Lg	Lg	23 29 10.5	
	9.1nm,0.2s						
CABF	La Chapelle	5.67	50	ePn	Pn	23 27 36.1	+0.6
	SNR=1.0						
CABF	La Chapelle	5.67	50	ePg	Pg	23 27 59.2	-0.8
CABF				eSg	Sg	23 29 12.5	-0.8
	234nm,0.9s,SNR=1.0						
CABF	La Chapelle	5.67	50	ePn	Pn	23 27 36.1	+0.6
CABF				ePg	Pg	23 27 59.2	-0.8
CABF				eSg	Sg	23 29 12.5	-0.8
CABF	La Chapelle	5.67	50	Pn	Pn	23 27 36.1	+0.6
CABF				Pg	Pg	23 27 59.2	-0.8
CABF				Lg	Lg	23 29 12.5	
	117nm,0.9s						
EQES	Quesada	5.75	203	Pn	Pn	23 27 38.0	+1.3
	0.8nm,0.1s,SNR=19						
EQES				Sn	Sn	23 28 37.2	-5.4
	15nm,0.4s,SNR=7.9						
EQES				Lg	Lg	23 29 11.2	
	10nm,0.4s						
EAGO	Agolada(Pontev	5.80	270	Pn	Pn	23 27 38.8	+1.6
	17nm,0.4s,SNR=7.9						
EAGO				Sn	Sn	23 28 43.5	-0.1
	7.1nm,0.3s,SNR=7.9						
EAGO				Lg	Lg	23 29 14.9	
	8.0nm,0.3s,SNR=7.9						
PVRL	Vila Real	5.88	254	ePn	Pn	23 27 39.7	+1.3
PVRL				eSn	Sn	23 28 43.5	-2.2
PVRL				eSg	Sb	23 29 11.8	+7.5
PVRL				A	A	23 29 22.7	
	39nm,0.6s						
PVRL	Vila Real	5.88	254	Pn	Pn	23 27 39.7	+1.3
PVRL				Sn	Sn	23 28 43.5	-2.2
PVRL				Lg	Lg	23 29 11.8	
	20nm,0.6s						
POLO	Lamas de Olo	5.90	255	ePn	Pn	23 27 39.7	+1.0
POLO				eSn	Sn	23 28 44.6	-1.7
POLO				eSg	Sb	23 29 13.3	+8.4
POLO				A	A	23 29 18.5	
	12nm,0.5s						
POLO	Lamas de Olo	5.90	255	Pn	Pn	23 27 39.7	+1.0
POLO				Sn	Sn	23 28 44.6	-1.7
POLO				Lg	Lg	23 29 13.3	
	12nm,0.5s						
ELOB	Lobios	5.95	260	Pn	Pn	23 27 40.4	+1.1
	12nm,0.4s,SNR=26						
ELOB				Sn	Sn	23 28 46.8	-0.6
	12nm,0.4s,SNR=7.9						
ELOB				Lg	Lg	23 29 15.8	
	20nm,0.4s						
PCAB	Cabril	5.96	259	ePn	Pn	23 27 40.9	+1.4
PCAB				eSn	Sn	23 28 47.6	-0.1
PCAB				eSg	Sg	23 29 16.1	-6.9
PCAB				A	A	23 29 28.8	
	24nm,0.6s						
PCAB	Cabril	5.96	259	Pn	Pn	23 27 40.9	+1.4
PCAB				Sn	Sn	23 28 47.6	-0.1
PCAB				Lg	Lg	23 29 16.1	
	12nm,0.6s						
EADA	Adamuz	5.97	215	Pn	Pn	23 27 40.5	+0.9
	8.0nm,0.3s,SNR=28						
EADA				Sn	Sn	23 28 43.2	-4.6
	2.0nm,0.2s,SNR=5.0						
EADA				Lg	Lg	23 29 18.3	
	29nm,0.4s,SNR=4.7						
GORA	Gorafe	6.04	202	Pn	Pn	23 27 41.7	+1.0
	12nm,0.2s,SNR=7.9						
GORA				Sn	Sn	23 28 47.0	-2.7
	29nm,0.4s,SNR=7.9						
GORA				Lg	Lg	23 29 22.9	
	30nm,0.3s,SNR=7.9						
PGAV	Gavieira, Arco	6.07	262	ePn	Pn	23 27 42.5	+1.4
PGAV				eSn	Sn	23 28 50.9	+0.4
PGAV				eSg	Sg	23 29 19.9	-6.6
PGAV				A	A	23 29 22.6	
	21nm,0.8s						
PGAV	Gavieira, Arco	6.07	262	Pn	Pn	23 27 42.5	+1.4
PGAV				Sn	Sn	23 28 50.9	+0.4
PGAV				Lg	Lg	23 29 19.9	
	21nm,0.8s						
MTE	Manteigas	6.13	246	ePn	Pn	23 27 42.7	+0.9
MTE				eSn	Sn	23 28 48.9	-2.9
MTE				eSg	Sg	23 29 21.3	-7.0
MTE				A	A	23 29 32.6	
	54nm,0.5s						
MTE	Manteigas	6.13	246	ePn	Pn	23 27 41.4	-0.5
MTE				eSb	Sg	23 29 21.8	-6.5
MTE	Manteigas	6.13	246	Pn	Pn	23 27 42.7	+0.9
MTE				Sn	Sn	23 28 48.9	-2.9
MTE				Lg	Lg	23 29 21.3	
	27nm,0.5s						
PVIS	Viseu	6.22	250	ePn	Pn	23 27 43.6	+0.5
PVIS				eSn	Sn	23 28 51.7	-2.4
PVIS				eSg	Sg	23 29 24.6	-6.7
PVIS				A	A	23 29 38.5	
	27nm,0.7s						
PVIS	Viseu	6.22	250	Pn	Pn	23 27 43.6	+0.5
PVIS				Sn	Sn	23 28 51.7	-2.4
PVIS				Lg	Lg	23 29 24.6	
	14nm,0.7s						
SENIN	Lac Senin/Sane	6.24	56	ePn	Pn	23 27 46.4	+2.9
SENIN				ePg	Pg	23 28 10.5	-0.6
SENIN				eSn	Sn	23 28 57.1	+2.3
SENIN				eSg	Sg	23 29 32.1	+0.2
SFTF	Sexfontaines	6.27	34	ePn	Pn	23 27 43.4	-0.2
SFTF	Sexfontaines	6.27	34	ePg	Pg	23 28 09.0	-2.5
SFTF				eSn	Sn	23 28 51.9	-3.1
	13nm,0.3s						
SFTF				eSg	Sg	23 29 31.0	-1.6
	102nm,0.7s						
SFTF	Sexfontaines	6.27	34	ePn	Pn	23 27 43.4	-0.2
SFTF				eSg	Sg	23 29 31.0	-1.6
SFTF	Sexfontaines	6.27	34	Pn	Pn	23 27 43.4	-0.2
SFTF				Pg	Pg	23 28 09.0	-2.5
SFTF				Sn	Sn	23 28 51.9	-3.1
	13nm,0.3s						
SFTF				Lg	Lg	23 29 31.0	
	102nm,0.7s						
ENIJ	Nijar	6.34	195	Pn	Pn	23 27 46.2	+1.5
	14nm,0.7s,SNR=7.9						
ENIJ				Sn	Sn	23 28 52.4	-4.4
	6.0nm,0.3s,SNR=7.9						
ENIJ				Lg	Lg	23 29 27.7	
	7.1nm,0.4s,SNR=7.9						
EZAM	Zamans	6.34	264	Pn	Pn	23 27 45.8	+1.1
	20nm,0.6s,SNR=7.9						
EZAM				Sn	Sn	23 28 56.2	-0.8
	1.9nm,0.3s,SNR=7.9						
EZAM				Lg	Lg	23 29 33.9	
	3.3nm,0.3s,SNR=7.9						
PCBR	Castelo Branco	6.38	241	ePn	Pn	23 27 45.9	+0.8
PCBR				eSn	Sn	23 28 54.8	-2.9
PCBR				eSg	Sg	23 29 34.0	-2.1
PCBR				A	A	23 29 39.9	
	26nm,0.6s						
PCBR	Castelo Branco	6.38	241	Pn	Pn	23 27 45.9	+0.8
PCBR				Sn	Sn	23 28 54.8	-2.9
PCBR				Lg	Lg	23 29 34.0	
	13nm,0.6s						
EQUE	Quentar	6.41	204	Pn	Pn	23 27 47.7	+1.9
	3.8nm,0.3s,SNR=6.3						
EQUE				Sn	Sn	23 28 53.7	-5.2
	3.1nm,0.4s,SNR=7.9						
EQUE				Lg	Lg	23 29 32.6	
	13nm,0.4s						
ECAB	El Cabril	6.42	220	Pn	Pn	23 27 46.6	+0.8
	0.7nm,0.2s,SNR=19						
ECAB				Sn	Sn	23 28 55.4	-3.5
	9.5nm,0.5s,SNR=5.9						
ECAB				Lg	Lg	23 29 32.8	
	16nm,0.4s						
EMAZ	Mazaricos	6.44	271	Pn	Pn	23 27 47.2	+1.3
	3.1nm,0.2s,SNR=7.9						
EMAZ				Sn	Sn	23 28 56.8	-2.5
	3.6nm,0.3s,SNR=7.9						
EMAZ				Lg	Lg	23 29 39.6	
	8.3nm,0.5s,SNR=7.9						
MEZF	Maizieres J'vi	6.51	32	ePn	Pn	23 27 47.5	+0.6
	baz=207						
MEZF	Maizieres J'vi	6.51	32	ePg	Pg	23 28 14.2	-1.9
	baz=216						
MEZF				eSn	Sn	23 28 58.8	-2.2
	14nm,0.5s						
MEZF				eSg	Sg	23 29 37.9	-2.4
	82nm,0.5s						
MEZF	Maizieres J'vi	6.51	32	ePn	Pn	23 27 47.5	+0.6
MEZF				eSn	Sn	23 28 58.8	-2.2
MEZF				eSg	Sg	23 29 37.9	-2.4
MEZF	Maizieres J'vi	6.51	32	Pn	Pn	23 27 47.5	+0.6
MEZF				Pg	Pg	23 28 14.2	-1.9
MEZF				Sn	Sn	23 28 58.8	-2.2
	14nm,0.5s						
MEZF				Lg	Lg	23 29 37.9	
	82nm,0.5s						
EBER	Berja	6.55	199	Pn	Pn	23 27 49.3	+1.5
	5.6nm,0.3s,SNR=7.8						
EBER				Sn	Sn	23 28 58.7	-3.7
	3.3nm,0.3s,SNR=7.9						
EBER				Lg	Lg	23 29 39.7	
	42nm,0.9s						
PTO	Porto	6.56	255	ePn	Pn	23 27 48.9	+1.3
PTO				eSn	Sn	23 29 02.0	-0.2
PTO	Porto	6.56	255	Pn	Pn	23 27 48.9	+1.3
PTO				Sn	Sn	23 29 02.0	-0.2
PMRV	Marv??o	6.56	238	ePn	Pn	23 27 50.7	+3.0
PMRV				eSn	Sn	23 29 02.1	-0.2
PMRV				eSg	Sg	23 29 42.0	+0.1
PMRV				A	A	23 29 49.6	
	31nm,0.7s						
PMRV	Marv??o	6.56	238	Pn	Pn	23 27 50.7	+3.0
PMRV				Sn	Sn	23 29 02.1	-0.2
PMRV				Lg	Lg	23 29 42.0	
	31nm,0.7s						
HAU	Haudompre	6.70	41	ePg	Pg	23 28 17.1	-2.7
HAU				eSg	Sg	23 29 44.5	-2.0
	43nm,0.5s						
HAU	Haudompre	6.70	41	ePg	Pg	23 28 17.1	-2.7
HAU				eSg	Sg	23 29 44.5	-2.0
HAU	Haudompre	6.70	41	Pg	Pg	23 28 17.1	-2.7
HAU				Lg	Lg	23 29 44.5	
	21nm,0.5s						
EGOR	Sierra Gorda,	6.71	208	Pn	Pn	23 27 50.8	+0.9
	7.4nm,0.3s,SNR=7.9						
EGOR				Sn	Sn	23 29 02.8	-3.5
	1.5nm,0.3s,SNR=7.9						
EGOR				Lg	Lg	23 29 44.7	
	5.7nm,0.3s,SNR=7.9						
EBAD	Badajoz	6.76	232	Pn	Pn	23 27 50.2	-0.2
	0.5nm,0.1s,SNR=15						
EBAD				Sn	Sn	23 29 04.1	-3.0
	8.2nm,0.4s,SNR=4.6						
EBAD				Lg	Lg	23 29 45.0	
	17nm,0.6s						
ELGU	Los Guajares,	6.78	204	Pn	Pn	23 27 52.7	+1.9
	4.7nm,0.3s,SNR=7.9						
ELGU				Sn	Sn	23 29 02.0	-5.8
	2.1nm,0.2s,SNR=7.9						
ELGU				Lg	Lg	23 29 44.3	
	6.3nm,0.3s,SNR=7.9						
PGF	Pioggiola	6.79	92	ePn	Pn	23 27 51.2	+0.3
	SNR=1.0						
PGF	Pioggiola	6.79	92	eP	Pn	23 27 55.9	+5.0
PGF				eSn	Sn	23 29 03.9	-4.1
	10nm,0.4s						
PGF	Pioggiola	6.79	92	ePn	Pn	23 27 51.2	+0.3
PGF				ePb	Pb	23 27 55.9	-13
PGF	Pioggiola	6.79	92	Pn	Pn	23 27 51.2	+0.3
PGF				Sn	Sn	23 29 03.9	-4.1
	5.1nm,0.4s						
COI	Coimbra	6.81	247	Sn	Sn	23 29 05.9	-2.4
COI				Lg	Lg	23 29 44.6	
	31nm,0.7s						
HINF	Hinteralfeld	6.82	44	ePn	Pn	23 27 52.6	+1.3
HINF	Hinteralfeld	6.82	44	ePg	Pg	23 28 20.1	-2.0
HINF				eSn	Sn	23 29 05.9	-2.9
	4.6nm,0.4s						
HINF				eSg	Sg	23 29 48.4	-2.0
	31nm,0.7s						
HINF	Hinteralfeld	6.82	44	ePn	Pn	23 27 52.6	+1.3
HINF				ePg	Pg	23 28 20.1	-2.0
HINF				eSn	Sn	23 29 05.9	-2.9
HINF				eSg	Sg	23 29 48.4	-2.0
HINF	Hinteralfeld	6.82	44	Pn	Pn	23 27 52.6	+1.3
HINF				Pg	Pg	23 28 20.1	-2.0
HINF				Sn	Sn	23 29 05.9	-2.9
	2.3nm,0.4s						
HINF				Lg	Lg	23 29 48.4	
	15nm,0.7s						
PAGF	Fort de Pagny	6.83	35	ePg	Pg	23 28 20.6	-1.6
	baz=214						
PAGF				eSg	Sg	23 29 48.8	-1.7
	206nm,0.9s						
PAGF	Fort de Pagny	6.83	35	ePg	Pg	23 28 20.6	-1.6
PAGF				eSg	Sg	23 29 48.8	-1.7
PCAS	Casmilo, Conde	6.94	247	ePn	Pn	23 27 54.0	+1.1
PCAS				eSn	Sn	23 29 08.8	-2.8
PCAS				eSg	Sg	23 29 47.5	-6.6
PCAS				A	A	23 29 57.7	
	35nm,0.6s						
PCAS	Casmilo, Conde	6.94	247	Pn	Pn	23 27 54.0	+1.1
PCAS				Sn	Sn	23 29 08.8	-2.8
PCAS				Lg	Lg	23 29 47.5	
	35nm,0.6s						
PESTR	Estremoz	7.02	235	ePn	Pn	23 27 54.4	+0.3
PESTR				A	A	23 30 04.4	
	17nm,0.6s						
PESTR	Estremoz	7.02	235	ePn	Pn	23 27 53.7	-0.4
PESTR				eSn	Sn	23 29 11.7	-2.1
PTOM	Tomar	7.10	243	ePn	Pn	23 27 56.3	+1.2
PTOM				eSn	Sn	23 29 12.4	-3.2
PTOM				eSg	Sg	23 29 55.9	-3.5
PTOM				A	A	23 30 03.8	
	33nm,0.7s						
PTOM	Tomar	7.10	243	Pn	Pn	23 27 56.3	+1.2
PTOM				Sn	Sn	23 29 12.4	-3.2
PTOM				Lg	Lg	23 29 55.9	
	17nm,0.7s						
ECH	Echery	7.24	43	ePn	Pn	23 27 59.9	+2.9
ECH				ePg	Pg	23 28 30.9	+0.8
ECH				eSn	Sn	23 29 19.3	+0.2
ECH				eSg	Sg	23 30 00.8	-3.0
EMIN	Mina Concepcio	7.28	225	Pn	Pn	23 27 57.4	-0.1
	0.7nm,0.6s,SNR=8.1						
EMIN				Sn	Sn	23 29 13.8	-6.2
	0.8nm,0.3s,SNR=7.9						
EMIN				Lg	Lg	23 30 02.5	
	5.8nm,0.5s						
CDF	Champ du Feu	7.43	42	ePg	Pg	23 28 31.0	-2.8
CDF				eSg	Sg	23 30 07.8	-2.1
	39nm,0.7s						
CDF	Champ du Feu	7.43	42	Pg	Pg	23 28 31.0	-2.8
CDF				Lg	Lg	23 30 07.8	
	19nm,0.7s						
EMIJ	Mijas	7.44	210	Pn	Pn	23 28 01.4	+1.6
	1.1nm,0.3s,SNR=8.4						
EMIJ				Sn	Sn	23 29 19.4	-4.5
	6.1nm,0.4s,SNR=7.9						
EMIJ				Lg	Lg	23 30 07.9	
	15nm,0.5s						
ALMR	Almeirim	7.46	241	eP	Pn	23 28 01.0	+0.9
ALMR				eS	Sn	23 29 18.3	-6.2
ALMR				AML	AML	23 29 21.3	
	comp=N,14nm,0.4s						
ALMR	Almeirim	7.46	241	eP	Pn	23 28 01.0	+0.9
ALMR				eS	Sn	23 29 18.3	-6.2
ALMR	Almeirim	7.46	241	Pn	Pn	23 28 01.0	+0.9
ALMR				Sn	Sn	23 29 18.3	-6.2
EVO	Evora	7.49	235	ePn	Pn	23 28 02.9	+2.4
EVO				eSn	Sn	23 29 23.4	-1.9
EVO				eSg	Sg	23 30 09.3	-2.6
EVO				A	A	23 30 27.0	
	comp=N,14nm,0.8s						
EVO	Evora	7.49	235	Pn	Pn	23 28 02.9	+2.4
EVO				Sn	Sn	23 29 23.4	-1.9
EVO				Lg	Lg	23 30 09.3	
	comp=N,14nm,0.8s						
EVO	Evora	7.49	235	eP	Pn	23 28 03.2	+2.8
EVO				eS	Sg	23 30 04.8	-7.1
BAIF	Baives	7.57	22	ePn	Pn	23 28 01.4	-0.1
	SNR=1.0						
BAIF				eSg	Sg	23 30 11.8	-2.5
	comp=N,45nm,0.7s						
BAIF	Baives	7.57	22	ePn	Pn	23 28 01.4	-0.1
BAIF				eSg	Sg	23 30 11.8	-2.5
BAIF	Baives	7.57	22	Pn	Pn	23 28 01.4	-0.1
BAIF				Lg	Lg	23 30 11.8	
	comp=N,22nm,0.7s						
ESPR	Espera	7.61	217	Pn	Pn	23 28 04.0	+2.0
	comp=N,0.6nm,0.2s,SNR=7.9						
ESPR				Lg	Lg	23 30 13.3	
	comp=N,6.2nm,0.4s						
PBEJ	Beja	7.74	231	ePn	Pn	23 28 07.6	+3.7
PBEJ				eSn	Sn	23 29 28.9	-2.5
PBEJ				eSg	Sg	23 30 15.3	-4.7
PBEJ				A	A	23 30 30.3	
	comp=N,12nm,0.6s						
PBEJ	Beja	7.74	231	Pn	Pn	23 28 07.6	+3.7
PBEJ				Sn	Sn	23 29 28.9	-2.5
PBEJ				Lg	Lg	23 30 15.3	
	comp=N,6.1nm,0.6s						
GIVF	Givet	7.79	25	ePn	Pn	23 28 04.6	+0.1
	SNR=1.0						
GIVF				eSg	Sg	23 30 18.1	-3.2
	comp=N,46nm,0.6s						
GIVF	Givet	7.79	25	ePn	Pn	23 28 04.6	+0.1
GIVF				eSg	Sg	23 30 18.1	-3.2
GIVF	Givet	7.79	25	Pn	Pn	23 28 04.6	+0.1
GIVF				Lg	Lg	23 30 18.1	
	comp=N,23nm,0.6s						
WLF	Walferdange	7.88	32	ePn	Pn	23 28 05.6	0.0
EGRO	El Granado	7.88	227	Pn	Pn	23 28 05.0	-0.8
	comp=N,0.8nm,0.3s,SNR=13						
EGRO				Sn	Sn	23 29 26.1	-8.7
	comp=N,0.9nm,0.1s,SNR=7.9						
EGRO				Lg	Lg	23 30 20.1	
	comp=N,15nm,0.7s						
BFO	Black Forest	7.92	46	ePn	Pn	23 28 04.0	-2.3
PMAFR	Mafra	8.03	242	eSn	Sn	23 29 36.0	-2.5
PMAFR				eSg	Sg	23 30 25.5	-3.6
PMAFR				A	A	23 30 43.8	
	comp=N,24nm,0.7s						
PMAFR	Mafra	8.03	242	Pn	Pn	23 28 08.1	+0.3
	comp=N,1.5nm,0.2s,SNR=7.9						
PMAFR				Sn	Sn	23 29 33.8	-4.7
	comp=N,3.6nm,0.3s,SNR=7.9						
PMAFR				Lg	Lg	23 30 26.6	
	comp=N,45nm,0.7s,SNR=7.9						
PNCL	Nicolau / Gran	8.07	234	ePn	Pn	23 28 09.1	+0.7
PNCL				eSn	Sn	23 29 36.5	-3.0
PNCL				eSg	Sg	23 30 30.2	-0.3
PNCL				A	A	23 30 48.5	
	comp=N,8.4nm,0.7s						
PNCL	Nicolau / Gran	8.07	234	Pn	Pn	23 28 09.1	+0.7
PNCL				Sn	Sn	23 29 36.5	-3.0
PNCL				Lg	Lg	23 30 30.2	
	comp=N,8.4nm,0.7s						
MESJ	Messejana	8.07	232	eP	Pn	23 28 09.0	+0.5
MESJ				eS	Sn	23 29 31.5	-8.0
MESJ				AML	AML	23 29 39.5	
	comp=N,9.4nm,0.7s						
MESJ	Messejana	8.07	232	ePn	Pn	23 28 10.3	+1.8
MESJ				eSn	Sn	23 29 34.8	-4.8
MESJ				eSg	Sg	23 30 26.9	-3.7
MESJ				A	A	23 30 33.8	
	comp=N,14nm,0.7s						
MESJ	Messejana	8.07	232	Pn	Pn	23 28 10.3	+1.8
MESJ				Sn	Sn	23 29 34.8	-4.8
MESJ				Lg	Lg	23 30 26.9	
	comp=N,14nm,0.7s						
PVAQ	Vaqueiros	8.10	228	ePn	Pn	23 28 10.2	+1.4
PVAQ				eSn	Sn	23 29 37.5	-2.8
PVAQ				eSg	Sg	23 30 28.3	-3.2
PVAQ				A	A	23 30 37.8	
	comp=N,14nm,0.7s						
PVAQ	Vaqueiros	8.10	228	Pn	Pn	23 28 10.2	+1.4
PVAQ				Sn	Sn	23 29 37.5	-2.8
PVAQ				Lg	Lg	23 30 28.3	
	comp=N,14nm,0.7s						
FUORN	Ofenpass-Fuorn	8.21	61	ePn	Pn	23 28 12.8	+2.2
PBDV	Barranco-do-Ve	8.34	228	eSn	Sn	23 29 40.8	-5.3
PBDV				eSg	Sg	23 30 36.1	-2.9

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBDV				A	A	23 30 50.9	
	comp=N,18nm,0.6s						
PBDV	Barranco-do-Ve	8.34	228	Sn	Sn	23 29 40.8	-5.3
PBDV				Lg	Lg	23 30 36.1	
	comp=N,18nm,0.6s						
PTEO	Sao Teotonio	8.57	232	*e*Pn	Pn	23 28 17.1	+1.9
PTEO				*e*Sn	Sn	23 29 48.2	-3.5
PTEO				*e*Sg	Sg	23 30 45.5	-0.9
PTEO				A	A	23 31 04.1	
	comp=N,16nm,0.6s						
PTEO	Sao Teotonio	8.57	232	Pn	Pn	23 28 17.1	+1.9
PTEO				Sn	Sn	23 29 48.2	-3.5
PTEO				Lg	Lg	23 30 45.5	
	comp=N,8.0nm,0.6s						
FETA	Feichten	8.66	59	*i* Pn	Pn	23 28 17.7	+1.1
	comp=N,0.2nm,0.1s						
MORF	Marmelete	8.69	231	*e*P	Pn	23 28 16.9	-0.1
MORF				*e*S	Sn	23 29 46.0	-8.8
MORF				AML	AML	23 29 56.7	
	comp=N,15nm,0.2s						
MORF	Marmelete	8.69	231	*e*Pn	Pn	23 28 18.2	+1.2
MORF				*e*Sn	Sn	23 29 50.1	-4.7
MORF				A	A	23 31 10.6	
	comp=N,7.4nm,0.7s						
MORF	Marmelete	8.69	231	Pn	Pn	23 28 18.2	+1.2
MORF				Sn	Sn	23 29 50.1	-4.7
	comp=N,7.4nm,0.7s						
PFVI	Vila Bisbo	8.91	231	*e*Sn	Sn	23 29 57.5	-2.7
PFVI	Vila Bisbo	8.91	231	Pn	Pn	23 28 22.2	+2.3
	comp=N,4.1nm,0.4s,SNR=7.9						
PFVI				Sn	Sn	23 29 54.9	-5.3
	comp=N,1.3nm,0.2s,SNR=7.9						
MOTA	Moosalm	9.02	58	*e*Pn	Pn	23 28 23.7	+2.2
	comp=N,3.6nm,0.4s						
SQTA	Sankt Quirin	9.04	59	*i* Pn	Pn	23 28 24.4	+2.6
	comp=N,0.4nm,0.2s						
DSB	Dublin	10.93	340	*e*Pn	Pn	23 28 45.5	-2.0
TIP	Timpagrande	13.37	101	*e*Pn	Pn	23 29 19.7	-1.3

ISCJB 05 23:26:21.7±0.3, 40°.42N±0°.01×25°.95E±0°.02, h14km±2km, mb3.2/3, MS3.0/2, Error ellipse: s-maj=2.3km s-min=2.2km az=8.6
ATH 05 23:26:21.6, 40°.42N×25°.92E, h26km±1km, ML3.8/7, Error ellipse: s-maj=1.6km s-min=0.9km az=295.0
ISK 05 23:26:21.4, 40°.41N×25°.92E, h16km, ML3.9/29
SOF 05 23:26:21.7, 40°.50N×25°.92E, h2km, MD3.7
THE 05 23:26:22.5, 40°.40N×25°.91E, h9km, ML3.8/13, Error ellipse: s-maj=0.9km s-min=0.5km az=50.0
BEO 05 23:26:24.6±1.5, 40°.51N×25°.91E, h19km±8km, ML3.8/2
IDC 05 23:26:25.2±1.4, 40°.71N×26°.37E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.2/43, mbtmp3.4/4, ML3.6/1, MS3.1/2, Ms1 3.2/2, ms1mx2.6/17, Error ellipse: s-maj=31.0km s-min=18.0km az=180.0
ISC 05 23:26:22.6±0.9**, 40°.39N**±0°.02×**25°.94E**±0°.02**, h8**km±6km**, n167, σ1s.24**/184**, mb3.1**/3**, 26C-5D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GOKC	Gokceada-Canak	0.19	185	PG	Pg	23 26 26.7	+0.2
GOKC				SG	Sg	23 26 30.5	+1.3
GADA	Gvkgeada	0.20	189	PG	Pg	23 26 27.2	+0.5
GADA				SG	Sg	23 26 30.8	+1.3
GADA	Gvkgeada	0.20	189	P	Pg	23 26 27.1	+0.4
GADA				S	Sg	23 26 30.4	+0.9
SMTH	Samothraki Isl	0.32	285	P	Pg	23 26 28.8	-0.2
SMTH				S	Sg	23 26 33.2	-0.1
SMTH				AML	AML	23 26 33.4	
	comp=E,68260μm,0.1s						
SMTH				AML	AML	23 26 33.7	
	comp=N,39571μm,0.1s						
SMTH	Samothraki Isl	0.32	285	P	Pg	23 26 28.5	-0.5
SMTH				S	Sg	23 26 33.0	-0.3
ENEZ	Enez	0.38	25	PG	Pg	23 26 29.9	-0.2
GELI	Tayfur-Gelibol	0.41	89	PG	Pg	23 26 30.5	-0.1
GELI				SG	Sg	23 26 36.9	+0.9
ALN	Alexandroupoli	0.51	9	PG	Pg	23 26 32.1	-0.5
ALN	Alexandroupoli	0.51	9	P	Pg	23 26 32.1	-0.5
ALN				S	Sg	23 26 39.2	-0.1
ALN				AML	AML	23 26 40.5	
	comp=N,5807μm,0.5s						
ALN				AML	AML	23 26 40.8	
	comp=E,5275μm,0.2s						
ALN	Alexandroupoli	0.51	9	P	Pg	23 26 32.0	-0.5
ALN				S	Sg	23 26 40.0	+0.6
ERIK	Erikli-Kesan	0.52	57	PG	Pg	23 26 32.2	-0.5
ERIK				SG	Sg	23 26 39.5	0.0
LPK	Lapseki	0.63	91	PG	Pg	23 26 34.6	-0.1
EZN	Ezine	0.64	152	PG	Pg	23 26 34.7	-0.2
EZN	Ezine	0.64	152	P	Pg	23 26 34.5	-0.4
EZN				S	Sg	23 26 43.8	+0.6
LIA	Limnos Island	0.76	230	P	Pg	23 26 36.8	-0.4
LIA				S	Sb	23 26 48.0	-0.6
LIA				AML	AML	23 26 49.3	
	comp=E,21700μm,0.4s						
LIA				AML	AML	23 26 49.5	
	comp=N,13069μm,0.3s						
LIA	Limnos Island	0.76	230	P	Pg	23 26 36.8	-0.4
LIA				S	Sb	23 26 47.9	-0.6
RDO	Rodhopi	0.82	338	PG	Pg	23 26 36.7	-1.6
RDO	Rodhopi	0.82	338	P	Pg	23 26 37.3	-1.0
RDO				S	Sg	23 26 47.7	-1.3
RDO				AML	AML	23 26 51.7	
	comp=E,7800μm,0.2s						
RDO				AML	AML	23 26 52.8	
	comp=N,13166μm,0.2s						
RDO	Rodhopi	0.82	338	P	Pg	23 26 37.3	-1.0
RDO				S	Sg	23 26 48.6	-0.4
GPNR	Gulpinar-Canak	0.94	171	PG	Pg	23 26 40.2	-0.6
THAS	Thassos island	0.95	284	P	Pg	23 26 39.8	-1.2
THAS				S	Sg	23 26 53.5	+0.1
THAS				AML	AML	23 26 55.3	
	comp=N,14435μm,0.3s						
THAS				AML	AML	23 26 55.6	
	comp=E,7182μm,0.3s						
THAS	Thassos island	0.95	284	P	Pg	23 26 39.8	-1.2
THAS				S	Sg	23 26 53.5	+0.1
KRBG	Karabiga-Canak	1.04	89	PG	Pg	23 26 41.6	-1.0
EFSA	Agios Efstrati	1.12	221	P	Pg	23 26 43.6	-0.5
PRK	Paraskevi	1.17	167	P	Pg	23 26 45.2	+0.1
PRK				S	Sn	23 27 01.4	+0.1
PRK	Paraskevi	1.17	167	P	Pn	23 26 45.3	+0.1
PRK				S	Sn	23 27 01.8	+0.5
SIGR	SIGRI	1.18	183	PN	Pb	23 26 43.4	-1.8
SIGR	SIGRI	1.18	183	P	Pb	23 26 44.0	-1.2
SIGR				S	Sg	23 27 00.5	-0.1
SIGR				AML	AML	23 27 02.0	
	comp=N,24024μm,0.4s						
SIGR				AML	AML	23 27 02.0	
	comp=E,18426μm,0.7s						
SIGR	SIGRI	1.18	183	P	Pb	23 26 44.0	-1.2
SIGR				S	Sg	23 27 00.2	-0.3
MRMT	Marmara Adasi	1.28	80	PN	Pn	23 26 45.2	-1.6
SBT4	Kumbag-Tekirda	1.29	70	PN	Pn	23 26 45.6	-1.2
KVLA	Kavala	1.30	295	P	Pn	23 26 45.6	-1.4
KVLA				S	Sb	23 27 03.0	-1.2
KVLA				AML	AML	23 27 06.5	
	comp=E,4222μm,0.4s						
KVLA				AML	AML	23 27 06.6	
	comp=N,7874μm,0.3s						
TKR	Tekirdag	1.35	63	PN	Pn	23 26 46.5	-1.3
GONE	Gonen-Balikesi	1.38	104	PN	Pn	23 26 47.5	-0.6
EDC	Edincik	1.47	91	PN	Pn	23 26 48.4	-1.0
OUR	Ouranopolis	1.50	269	PN	Pn	23 26 48.3	-1.4
OUR	Ouranopolis	1.50	269	P	Pn	23 26 49.2	-0.5
OUR	Ouranopolis	1.50	269	P	Pn	23 26 49.9	+0.2
DKL	Dikili	1.51	150	PN	Pn	23 26 48.9	-1.0
CRLT	Corlu	1.55	61	PN	Pn	23 26 49.1	-1.4
EDRB	Edirne	1.58	22	PN	Pn	23 26 49.3	-1.6
RZN	Rozhen	1.59	325	P	Pn	23 26 50.2	-1.1
BALB	Balikesir	1.67	116	PN	Pn	23 26 50.9	-1.2
DIM	Dimitrovgrad	1.69	350	P	Pn	23 26 51.3	-1.1
PHSR	Pinarhisar	1.73	44	PN	Pn	23 26 51.8	-1.1
PHSR	Pinarhisar	1.73	44	⇑*i*P	Pn	23 26 51.8	-1.1
FOCM	Foa	1.78	160	PN	Pn	23 26 52.9	-0.7
PAIG	Paliouri	1.79	256	P	Pn	23 26 51.7	-2.1
PAIG	Paliouri	1.79	256	P	Pn	23 26 51.6	-2.2
NVR	Nevrokopi	1.84	302	P	Pn	23 26 53.5	-1.1
NVR	Nevrokopi	1.84	302	P	Pn	23 26 53.4	-1.1
NVR				S	Sn	23 27 17.5	-0.6
KCTX	Karacabey (Bur	1.85	93	PN	Pn	23 26 53.4	-1.3
SKY	Skiros Island	1.85	216	P	Pn	23 26 52.7	-1.9
KRBN	Karaburun	1.85	165	PN	Pn	23 26 53.9	-0.8
PSRA	Psara	1.87	189	P	Pn	23 26 54.8	0.0
PLG	Polygyros	1.91	270	P	Pn	23 26 53.9	-1.6
PLG	Polygyros	1.91	270	P	Pn	23 26 53.8	-1.6
PLG				S	Sn	23 27 19.2	-0.4
SLVT	Silivri	1.92	63	PN	Pn	23 26 54.3	-1.2
SRS	Serrai	1.93	293	*e*Sg	Pb	23 26 58.3	+0.3
SRS	Serrai	1.93	293	*e*Pg	Pg	23 27 07.1	+7.6
SRS	Serrai	1.93	293	P	Pn	23 26 54.3	-1.3
SRS	Serrai	1.93	293	P	Pn	23 26 54.3	-1.3
PLD	Plovdiv	1.95	332	*e*Sg	Pn	23 26 56.9	+0.9
PLD	Plovdiv	1.95	332	*e*Pg	Sg	23 27 31.2	+5.9
PLD	Plovdiv	1.95	332	PN	Pn	23 26 54.5	-1.5
PLD	Plovdiv	1.95	332	P	Pn	23 26 55.5	-0.5
PLD				Pg	Pb	23 26 58.4	0.0
AOS	Alonnisos	2.00	233	P	Pn	23 26 54.6	-2.1
AOS				S	Sn	23 27 20.6	-1.2
CHOS	Chios island	2.00	177	PN	Pn	23 26 54.9	-1.9
CHOS	Chios island	2.00	177	P	Pn	23 26 56.0	-0.8
CHOS	Chios island	2.00	177	P	Pn	23 26 56.0	-0.8
CHOS				S	Sn	23 27 20.8	-1.2
SOH	Sokhos	2.02	283	P	Pn	23 26 55.6	-1.3
SOH	Sokhos	2.02	283	P	Pn	23 26 55.6	-1.3
SOH				S	Sn	23 27 21.3	-1.0
MMB	Musomiste	2.06	306	P	Pn	23 26 56.6	-0.9
CTYL	Yalikoy Yolu	2.08	58	PN	Pn	23 26 56.3	-1.5
CTYL	Yalikoy Yolu	2.08	58	⇓*i*P	Pn	23 26 56.3	-1.5
KIYI	Yalıkoy-Catalc	2.10	58	PN	Pn	23 26 56.0	-2.0
CTKS	Kestanelik-??a	2.12	66	PN	Pn	23 26 56.9	-1.5
JMB	Yambol	2.13	13	P	Pn	23 26 58.2	-0.3
HORT	Hortiatis	2.17	276	PN	Pn	23 26 57.5	-1.7
HORT	Hortiatis	2.17	276	P	Pn	23 26 57.8	-1.3
HORT	Hortiatis	2.17	276	P	Pn	23 26 57.8	-1.3
BLCB	Balcova	2.18	157	PN	Pn	23 26 58.3	-0.8
DST	Dursunbey	2.20	110	PN	Pn	23 26 58.8	-0.7
ARMT	Armutlu	2.24	85	PN	Pn	23 26 58.5	-1.4
MDNY	Mudanya-Bursa	2.25	90	PN	Pn	23 26 58.9	-1.2
SBT5	Esenkoy-Cinarc	2.25	83	PN	Pn	23 26 59.1	-1.0
GOMA	Golmarmara-Man	2.27	137	PN	Pn	23 26 59.7	-0.7
ORLT	Orhaneli	2.29	98	PN	Pn	23 27 00.1	-0.6
BGKT	Bogazkoy	2.29	69	PN	Pn	23 26 59.5	-1.2
KNT	Kendrikon	2.44	289	PN	Pn	23 27 01.2	-1.5
KNT	Kendrikon	2.44	289	P	Pn	23 27 01.9	-0.7
KNT	Kendrikon	2.44	289	P	Pn	23 27 02.0	-0.7
ISK	Istanbul-Kandi	2.46	73	PN	Pn	23 27 01.9	-1.2
KAVV	Kandilli-Istan	2.47	73	PN	Pn	23 27 01.9	-1.2
MRKA	Markates	2.48	228	P	Pn	23 27 01.4	-1.8
GEMT	Gemlik	2.48	88	PN	Pn	23 27 02.7	-0.6
EREA	Eretria	2.51	219	P	Pn	23 27 01.8	-1.9
KLYT	Kilyos	2.51	69	PN	Pn	23 27 02.2	-1.4
KLYT	Kilyos	2.51	69	⇑*i*P	Pn	23 27 03.3	-0.3
PGB	Panagyurishte	2.54	329	P	Pn	23 27 03.3	-0.8
SMIA	Simia	2.59	235	P	Pn	23 27 03.3	-1.5
SMIA				S	Sn	23 27 36.0	-0.5
KKB	Krupnik	2.61	305	P	Pn	23 27 04.2	-0.9
YLV	Yalova	2.62	85	PN	Pn	23 27 03.8	-1.5
LIT	Litokhoron	2.66	265	P	Pn	23 27 04.2	-1.5
VAY	Valandovo	2.72	291	*e*Pn	Pb	23 27 10.4	-1.1
VAY	Valandovo	2.72	291	P	Pn	23 27 06.7	+0.1
GRG	Griva	2.75	283	PN	Pn	23 27 05.1	-1.9
SMG	Samos	2.77	165	P	Pn	23 27 06.7	-0.5
SMG	Samos	2.77	165	P	Pn	23 27 06.9	-0.3
KULA	Kula-Manisa	2.82	131	PN	Pn	23 27 07.6	-0.4
PTL	Penteli	2.84	215	P	Pn	23 27 06.4	-1.8
PVL	Pavlikeni	2.86	351	P	Pn	23 27 07.7	-0.8
AYDB	Zeytinkoy-Aydi	2.87	148	PN	Pn	23 27 08.4	-0.4
SZH	Strazhica	2.88	360	P	Pn	23 27 08.3	-0.4
SILT	Sile	2.91	74	⇑*i*P	Pn	23 27 08.6	-0.6
VTS	Vitosha	3.01	318	*e*Pn	Pg	23 27 29.0	+8.7
VTS	Vitosha	3.01	318	⇑*i*P	Pn	23 27 10.9	+0.2
VTS	Vitosha	3.01	318	P	Pn	23 27 10.3	-0.4
VTS	Vitosha	3.01	318	P	Pn	23 27 10.4	-0.3
PRD	Provadia	3.01	21	P	Pn	23 27 09.3	-1.3
APE	Apeiranthos	3.33	186	⇑*i*P	Pn	23 27 18.3	+3.3
MPEP	Malo Peshtene	3.39	332	P	Pn	23 27 15.6	-0.2
FNA	Florina	3.50	278	*e*Pn	Pg	23 27 40.3	+11
AMGA	Amorgos Island	3.55	181	P	Pn	23 27 16.7	-1.3
IOSP	Ios island	3.69	188	P	Pn	23 27 18.2	-1.8
VLAD	Vladila	3.78	343	⇑*i*P	Pn	23 27 20.8	-0.4
SGRR	Singureni	3.83	0	⇑*i*P	Pg	23 27 35.6	-0.4
BARS	Barje	3.93	309	*e*Pn	Pn	23 27 23.0	-0.2
BARS	Barje	3.93	309	*e*Pn	Pb	23 27 31.1	-1.0
ICOR	Ion Corvin	3.97	20	⇑*i*P	Pn	23 27 24.0	+0.2
LEHL	Lehliu	4.13	9	⇑*i*P	Pn	23 27 26.0	0.0
HUMR	Humele	4.20	351	⇑*i*P	Pn	23 27 26.1	-0.8
MFTR	Murfatlar	4.21	25	⇑*i*P	Pn	23 27 25.3	-1.7
KDZE	Karadeniz Ereo	4.28	76	⇑*i*P	Pg	23 28 02.4	+18
SULR		4.29	3	⇑*i*P	Pn	23 27 27.3	-0.9
IGT	Igoumenitsa	4.39	261	*e*Pn	Pb	23 27 42.2	+2.2
ZAGS	Zajecar	4.39	322	*e*Pn	Pn	23 27 21.6	-8.0
TIRR	Tirgusor	4.46	23	⇑*i*P	Pn	23 27 29.4	-1.0
TLB	Topalu	4.47	20	⇑*i*P	Pn	23 27 30.1	-0.5
BOVS	Bovan	4.52	317	*e*Pn	Pg	23 27 52.1	+2.8
HARR	Harsova	4.54	18	⇑*i*P	Pn	23 27 31.8	+0.2
SELS	Selova	4.58	310	*e*Pn	Pn	23 27 23.3	-8.9
ISR	Istrita	4.75	5	⇑*i*P	Pn	23 27 32.7	-1.8
CFR	Carcaliu	5.05	18	⇓*i*P	Pn	23 27 38.0	-0.6
GRUS	Gruza	5.22	314	*e*Pn	Pn	23 27 31.3	-10
LOT	Lotru	5.30	343	⇓*i*P	Pn	23 27 41.2	-0.9
IVAS	Ivanjica	5.36	308	*e*Pn	Pn	23 27 37.7	-5.2
MDVR	Moldovita	5.38	326	⇑*i*P	Pn	23 27 42.3	-0.9
ODBI	Odobesti	5.43	8	⇓*i*P	Pn	23 27 43.6	-0.2
PLOR	Plostina	5.48	5	⇑*i*P	Pn	23 27 45.2	+0.6
VRI	Vrincioaia	5.50	6	⇑*i*P	Pn	23 27 44.7	-0.2
DOPR	Dopca	5.59	356	⇑*i*P	Pn	23 27 46.3	+0.3
MDB	Medias	5.86	349	⇑*i*P	Pn	23 27 48.4	-1.3
BRTR	Keskin Array B	5.95	94	Pn	Pn	23 27 51.0	-0.1
	comp=N,1.6nm,0.3s,baz=271,slow=13,SNR=69						
BRTR				Sn	Sn	23 28 57.9	-1.5
	comp=N,0.5nm,0.3s,baz=267,slow=14,SNR=4.1						
BZS	Buzias	6.11	330	*e*Pn	Pn	23 27 47.5	-5.6
CJR	Cluj-Napoca	6.55	346	⇑*i*P	Pn	23 27 59.9	+0.7
BIZ	Bicaz	6.55	1	⇑*i*P	Pn	23 27 57.9	-1.3
ARCR	ARCALIA	6.79	351	⇑*i*P	Pn	23 28 02.6	+0.1
DRGR		6.81	341	⇓*i*P	Pn	23 28 02.5	-0.4
BURAR	Bucovina Array	7.24	356	⇑*i*P	Pn	23 28 08.5	-0.3
VYHS	Vyhne	9.56	330	*e*PN	Pn	23 28 37.8	-2.7
BRG	Berggiesshubel	13.41	325	SG	S	23 32 48.9	+23
	comp=N,4.6nm,1.2s						
CLL	Collm	14.13	325	*e*Pg	P	23 30 03.0	+12
CLL				*e*Sg	S	23 32 46.0	+4.9
FINES	FINESS Array B	21.08	0	P	P	23 31 07.8	+0.8
	comp=N,3.9nm,1.0s,baz=184,slow=12,SNR=3.3						
FINES				LR	LR	23 38 37.3	
	comp=N,74nm,18.1s,baz=242,slow=35						
NOA	NORSAR Array B	22.57	341	LR	LR	23 41 18.8	
	comp=N,36nm,18.1s,baz=290,slow=40						
TORD	Torodi Ar. Bea	34.48	225	P	P	23 33 19.0	+7.9
	comp=N,0.1nm,0.6s,baz=46,slow=8.3,SNR=1.9						
MKAR	Makanchi Array	40.56	62	P	P	23 34 02.3	0.0
	comp=N,0.3nm,0.7s,baz=289,slow=6.6,SNR=3.7						

BJI 05 23:34:13.6, 23°.72N×114°.61E, h10km, ML4.0/7, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GZH	Guangzhou	1.32	242	Pg	Pn	23 34 34.1	-4.0
GZH				Sg	Sb	23 34 45.6	-10
GZH				smax	smax		
	comp=N,3μm,0.5s						
GZH				smax	smax		
	comp=E,2μm,0.4s						
MCO	Taipa Grande	1.86	212	P	Pb	23 34 48.0	+0.3
WHN	Wuhan	6.80	358	Pg	Pg	23 36 25.1	+1.2
WHN				Sg	Sg	23 37 50.6	-1.3
WHN				smax	smax		
	comp=N,170nm,0.8s						
WHN				smax	smax		
	comp=E,280nm,1.4s						

IDC 05 23:41:06.8±1.8**, 2°.23N×95°.98W, h0**km**, mb3.5**/6**, mb1 3.9**/6**, mb1mx3.7**/26**, mbtmp3.5**/6**, MS3.3**/7**, Ms1 3.3**/7**, ms1mx3.1**/23**, Error ellipse: s-maj=109.0km s-min=38.0km az=82.0, Galapagos Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTS	JuntasAbangare	13.57	53	LR	LR	23 47 59.2	
	comp=Z,62nm,21.1s,baz=212,slow=30						
APG	El Apazote	13.81	23	LR	LR	23 48 37.1	
	comp=Z,160nm,19.2s,baz=88,slow=33						
ROSC	El Rosal	21.77	83	LR	LR	23 53 23.7	
	comp=Z,56nm,21.8s,baz=71,slow=34						
H06E1	SOCORRO T-PHAS	22.02	319	T	T	00 08 24.9	
	SNR=7.7						
LPIG	La Paz	25.78	329	LR	LR	23 54 18.8	
	comp=Z,103nm,21.4s,baz=30,slow=31						
SDV	Santo Domingo	26.06	74	LR	LR	23 55 44.4	
	comp=Z,68nm,21.9s,baz=314,slow=34						
TXAR	Lajitas Array	27.93	346	P	P	23 46 59.8	+0.8
	0.7nm,0.6s,baz=164,slow=10,SNR=10						
TXAR				LR	LR	23 56 36.3	
	comp=Z,32nm,20.0s,baz=0.0,slow=33						
NVAR	Mina Array Bea	41.41	333	P	P	23 48 55.5	+0.1
	0.1nm,0.3s,baz=163,slow=6.5,SNR=2.5						
PDAR	Pinedale Array	42.14	345	P	P	23 49 01.4	+0.1
	0.4nm,0.6s,baz=134,slow=6.4,SNR=4.9						
PDAR				LR	LR	00 05 30.3	
	comp=Z,113nm,19.4s,baz=178,slow=35						
ULM	Lac du Bonnet	47.84	0	P	P	23 49 44.9	-1.3
	1.3nm,0.6s,baz=213,slow=5.0,SNR=4.2						
YKA	Yellowknife Ar	61.71	350	P	P	23 51 26.1	-0.5
	0.1nm,0.7s,baz=157,slow=6.5,SNR=3.3						
ILAR	Eielson Array	72.24	340	P	P	23 52 33.5	-0.2
	0.6nm,0.7s,baz=144,slow=5.2,SNR=11						
KURBB	Kurchatov Arra	127.14	4	PKP	PKiKP	00 00 14.5	+0.7
	0.3nm,0.7s,baz=336,slow=2.0,SNR=2.9						
ASAR	Alice Springs	127.29	242	PKP	PKPdf	00 00 13.3	-1.1
	0.5nm,0.9s,baz=114,slow=2.3,SNR=3.1						

PGC 05 23:48:56.3±0.1**, 49°.00N×129°.41W, h10**km**, MLSn2.9**/17**, Mw3.5**/17**, Mw3.6**/17**, 237km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EDB	Eliza Dome	1.73	59	Pn	Pn	23 49 24.1	-2.4
EDB				Sn	Sn	23 49 44.7	-3.9
PACB	Port Alice, BC	1.91	40	Pn	Pn	23 49 26.6	-2.2
PACB				Sn	Sn	23 49 48.5	-4.3
ETB	Estevan Point	1.92	77	Pn	Pn	23 49 26.9	-2.1
PHC	Port Hardy	2.14	36	Pn	Pn	23 49 30.1	-1.9
PHC				Sn	Sn	23 49 55.1	-3.5
WOSB	Woss	2.19	57	Pn	Pn	23 49 31.1	-1.7
TLCB	Telegraph Cove	2.28	46	Pn	Pn	23 49 32.2	-1.7
TLCB				Sn	Sn	23 49 58.7	-3.4
TOFB	Tofino	2.31	85	Sn	Sn	23 49 58.8	-4.0
GDR	Gold River	2.34	69	Pn	Pn	23 49 33.0	-1.8
NCRB	Newcastle Ridg	2.59	56	Pn	Pn	23 49 37.3	-1.1
NCRB				Sn	Sn	23 50 07.9	-2.1
B928	Bamfield	2.83	92	Pn	Pn	23 49 39.0	-2.4
B928				Sn	Sn	23 50 11.1	-4.3
CBB	Campbell River	2.83	67	Pn	Pn	23 49 40.0	-1.5
CBB				Sn	Sn	23 50 13.7	-2.0
B927	Port Alberni	3.03	84	Pn	Pn	23 49 43.1	-1.2
BBB	Bella Bella	3.30	14	Pn	Pn	23 49 46.7	-1.2
BBB				Sn	Sn	23 50 23.1	-4.1
PFB	Port Renfrew	3.31	95	Pn	Pn	23 49 47.0	-1.3
TXB	Texada	3.33	76	Pn	Pn	23 49 47.2	-1.2
B926	Mesachie Lake	3.49	91	Pn	Pn	23 49 49.6	-0.9
B926				Sn	Sn	23 50 28.7	-3.2
NLLB	Nanaimo Lost L	3.57	84	Pn	Pn	23 49 51.2	-0.5
NLLB				Sn	Sn	23 50 33.0	-0.9
SHB	Sechelt	3.67	78	Pn	Pn	23 49 53.1	-0.1
SHB				Sn	Sn	23 50 35.8	-0.8
LZB	Mount Lazard	3.71	94	Pn	Pn	23 49 53.2	-0.6
VDB	Vedder Mountai	4.81	87	Pn	Pn	23 50 08.0	-0.7
MBW	Mount Baker	4.96	90	Pn	Pn	23 50 11.3	+0.3
LON	Longmire	5.59	111	Pn	Pn	23 50 20.5	+1.0
FMW	Mount Fremont	5.59	109	Pn	Pn	23 50 20.9	+1.2
FSB	Fort Saint Jam	6.33	28	Pn	Pn	23 50 30.3	+0.6
YKW3	Yellowknife Ar	15.88	26	P	Pn	23 52 38.8	-0.8

ISCJB 05 23:53:34.0±0.4, 24°.56N±0°.02×122°.55E±0°.01, h89km±4km, Error ellipse: s-maj=3.4km s-min=2.2km az=170.8
JMA 05 23:53:33.7±0.2, 24°.53N×122°.50E, h94km±2km, M2.7
TAP 05 23:53:33.4, 24°.58N×122°.54E, h99km, ML3.7, C
ISC 05 23:53:34.4±1.3**, 24°.55N**±0°.03×**122°.54E**±0°.02**, h89**km±7km**, n94, σ0s.79**/175**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EOS1	EOS1	0.38	269	*e*P	Pn	23 53 48.4	+0.2
	baz=262						
EOS1				*e*S	Sn	23 53 59.6	+1.3
	baz=262						
JYNG	Yonagunijimaku	0.38	105	P	Pn	23 53 48.5	+0.3
JYNG				S	Sn	23 53 59.1	+0.7
YOJ	Yonaguni jima	0.44	102	P	Pn	23 53 48.9	+0.4
	baz=110						
YOJ				S	Sn	23 53 59.9	+0.8
	baz=110						
YOJ	Yonaguni jima	0.44	102	P	Pn	23 53 48.8	+0.2
YOJ				S	Sn	23 53 58.6	-0.5
TWC	Suao	0.63	275	P	Pn	23 53 49.5	-0.7
	baz=273						
TWC				*e*S	Sn	23 54 01.3	-0.7
	baz=273						
TWB1	Santiao Chiao	0.68	312	*e*P	Pn	23 53 50.2	-0.5
	baz=308						
TWB1				S	Sn	23 54 02.7	0.0
	baz=308						
NTC	Toucheng	0.71	295	P	Pn	23 53 50.8	-0.2
	baz=289						
NTC				*e*S	Sn	23 54 03.1	-0.2
	baz=289						
NANB	Nanao	0.73	260	P	Pn	23 53 51.0	-0.2
	baz=254						
NANB				*e*S	Sn	23 54 03.9	+0.2
	baz=254						
ENA	Nanau	0.74	260	P	Pn	23 53 51.2	-0.1
	baz=254						
ENA				S	Sn	23 54 03.7	-0.1
	baz=254						
ILA	Ilan	0.75	286	P	Pn	23 53 51.1	-0.2
	baz=282						
ILA				S	Sn	23 54 04.5	+0.5
	baz=282						
TWE	Neicheng	0.81	282	P	Pn	23 53 51.9	-0.1
	baz=280						
TWE				*e*S	Sn	23 54 04.9	-0.2
	baz=280						
SLBB	Yuanshan	0.85	284	P	Pn	23 53 52.5	0.0
	baz=288						
SLBB				S	Sn	23 54 05.9	0.0
	baz=288						
NWF	Wu-fen Shan	0.86	307	*e*P	Pn	23 53 52.7	+0.1
	baz=299						
NWF				*e*S	Sn	23 54 06.8	+0.5
	baz=299						
WFSB	Wu-fen Shan	0.86	307	*e*P	Pn	23 53 52.5	-0.1
	baz=300						
WFSB				*e*S	Sn	23 54 06.6	+0.5
	baz=300						
ENTT	Nioudou	0.89	276	*e*P	Pn	23 53 53.1	+0.2
	baz=274						
ENTT				*e*S	Sn	23 54 06.8	+0.1
	baz=274						
NACB	Ninganchiao	0.94	247	*e*P	Pn	23 53 52.5	-0.9
	baz=241						
NACB				*e*S	Sn	23 54 07.3	-0.3
	baz=241						
TWA	Mucha	0.97	296	P	Pn	23 53 53.5	-0.3
	baz=288						
TWA				*e*S	Sn	23 54 07.6	-0.6
	baz=288						
NWLT	Wulai	0.97	283	P	Pn	23 53 53.6	-0.2
	baz=287						
TWD	Chiawan	0.98	242	P	Pn	23 53 53.2	-0.6
	baz=236						
TWD				*e*S	Sn	23 54 08.2	-0.2
	baz=236						
HWA	Hwalien	1.03	236	P	Pn	23 53 54.2	-0.2
	baz=229						
HWA				*e*S	Sn	23 54 09.4	0.0
	baz=229						
YM07	YM07	1.04	307	P	Pn	23 53 54.3	-0.3
	baz=297						
YM07				*e*S	Sn	23 54 09.8	+0.1

baz=297
TATO Taipei 1.05 294 P **Pn 23 53 54.3 -0.3**
baz=286
TATO *e*S **Sn 23 54 08.2 -1.5**
baz=286
YM01 YM01 1.06 304 *e*P **Pn 23 53 55.5 +0.6**
baz=294
YM01 *e*S **Sn 23 54 10.3 +0.2**
baz=294
NNSB Datong 1.06 264 P **Pn 23 53 54.8 -0.2**
baz=256
NNSB *e*S **Sn 23 54 10.3 0.0**
baz=256
YHNB Yeheng 1.07 276 P **Pn 23 53 55.0 +0.1**
baz=275
YHNB *e*S **Sn 23 54 10.4 +0.1**
baz=275
YM11 YM11 1.07 305 *e*P **Pn 23 53 54.4 -0.6**
baz=296
NNS Nan Shan 1.07 264 P **Pn 23 53 54.9 -0.1**
baz=256
NNS S **Sn 23 54 10.6 +0.1**
baz=256
YM08 YM08 1.07 306 *e*P **Pn 23 53 54.4 -0.6**
baz=297
YM08 *e*S **Sn 23 54 10.2 -0.2**
baz=297
YM10 YM10 1.07 304 P **Pn 23 53 54.4 -0.6**
baz=294
YM10 *e*S **Sn 23 54 09.0 -1.4**
baz=294
ENLB Shoufeng 1.08 233 P **Pn 23 53 54.7 -0.2**
baz=232
ENLB S **Sn 23 54 10.7 +0.4**
baz=232
YM05 YM05 1.08 305 *e*P **Pn 23 53 54.7 -0.4**
baz=295
YM05 *e*S **Sn 23 54 09.5 -1.0**
baz=295
NSK Sanguang 1.08 277 P **Pn 23 53 55.1 0.0**
baz=275
NSK *e*S **Sn 23 54 10.4 -0.3**
baz=275
YM04 YM04 1.09 303 P **Pn 23 53 54.6 -0.6**
baz=294
YM04 *e*S **Sn 23 54 09.9 -0.9**
baz=294
IRIF Iriomote-Funau 1.10 101 P **Pn 23 53 55.2 0.0**
IRIF S **Sn 23 54 11.0 +0.1**
TWY Chenhua 1.12 310 *e*P **Pn 23 53 55.5 0.0**
baz=301
TWY *e*S **Sn 23 54 11.1 -0.1**
baz=301
TWS1 Kuangyinshan 1.16 298 P **Pn 23 53 55.7 -0.3**
baz=293
TWS1 S **Sn 23 54 12.0 0.0**
baz=293
NTST Danshui 1.17 302 *e*P **Pn 23 53 55.8 -0.2**
baz=294
NTST *e*S **Sn 23 54 11.1 -1.1**
baz=294
WLTB Daxi 1.21 284 *e*P **Pn 23 53 56.5 0.0**
baz=287
WLTB S **Sn 23 54 13.5 +0.3**
baz=287
WHF Hehuan Shan 1.23 251 P **Pn 23 53 56.8 -0.4**
baz=250
WHF *e*S **Sn 23 54 13.9 -0.5**
baz=250
ESL Shilin 1.25 234 *e*P **Pn 23 53 56.3 -0.8**
baz=228
ESL *e*S **Sn 23 54 12.8 -1.3**
baz=228
HATJ Hateruma jima 1.25 113 P **Pn 23 53 57.6 +0.5**
HATJ S **Sn 23 54 14.7 +0.6**
TWT Tachien 1.28 257 P **Pn 23 53 58.0 +0.4**
baz=256
TWT *e*S **Sn 23 54 15.4 +0.4**
baz=256
TDCB Techi 1.30 257 *e*P **Pn 23 53 58.0 +0.2**
baz=256
TDCB *e*S **Sn 23 54 14.8 -0.5**
baz=256
NCU National Centr 1.30 289 P **Pn 23 53 57.7 +0.1**
baz=287
NCU S **Sn 23 54 15.6 +0.5**
baz=287
NCUH Zhongli 1.30 289 *e*P **Pn 23 53 57.4 -0.3**
baz=287
NCUH *e*S **Sn 23 54 15.5 +0.3**
baz=287
CHGB Renai 1.34 249 P **Pn 23 53 58.4 0.0**
baz=242
CHGB *e*S **Sn 23 54 16.4 0.0**
baz=242
JKRS Kuro-shima 1.37 103 P **Pn 23 53 58.9 +0.4**
JKRS S **Sn 23 54 16.9 +0.2**
LIOB Emei 1.39 274 P **Pn 23 53 58.8 0.0**
baz=273
LIOB *e*S **Sn 23 54 17.3 0.0**
baz=273
NSTT Nanjuang 1.41 273 P **Pn 23 53 59.4 +0.4**
baz=272
NSTT *e*S **Sn 23 54 17.2 -0.2**
baz=272
SBCB Hsinchu 1.44 280 *e*P **Pn 23 53 59.3 0.0**
baz=279
SBCB S **Sn 23 54 18.3 +0.1**
baz=279
JIJ Ishigaki jima 1.47 97 P **Pn 23 53 59.7 -0.1**
JIJ S **Sn 23 54 18.3 -0.6**
HGSD Ruisui 1.47 224 P **Pn 23 53 59.3 -0.5**
baz=224
HGSD *e*S **Sn 23 54 19.2 +0.3**
baz=224
VWDT VWDT 1.51 238 P **Pn 23 54 00.2 0.0**
baz=233
VWDT *e*S **Sn 23 54 19.2 -0.6**
baz=233
EHY Hungye 1.53 227 P **Pn 23 53 59.5 -1.0**
baz=226
EHY *e*S **Sn 23 54 18.9 -1.4**
baz=226
NMLH Miaoli 1.60 270 P **Pn 23 54 01.7 +0.3**
baz=259
NMLH S **Sn 23 54 22.2 +0.5**
baz=259
JISG Ishigakijimahi 1.61 88 P **Pn 23 54 01.2 -0.3**
JISG S **Sn 23 54 21.8 -0.3**
YULB Yu-li 1.62 225 *e*P **Pn 23 54 01.0 -0.8**
baz=231
YULB *e*S **Sn 23 54 20.3 -2.1**
baz=231
TWQ1 Liyutan 1.63 263 P **Pn 23 54 02.3 +0.6**
baz=262
TWQ1 *e*S **Sn 23 54 22.6 +0.1**
baz=262
NSY Sanyi 1.63 266 P **Pn 23 54 02.2 +0.4**
baz=264
NSY *e*S **Sn 23 54 23.2 +0.6**
baz=264
SSLB Suanglung 1.64 243 *e*P **Pn 23 54 01.9 -0.1**
baz=239
SSLB *e*S **Sn 23 54 22.4 -0.5**
baz=239
SMLT Sun Moon Lake 1.64 246 P **Pn 23 54 02.4 +0.4**
baz=239
SMLT *e*S **Sn 23 54 23.7 +0.7**
baz=239
TWF1 Yuli 1.65 224 P **Pn 23 54 01.2 -0.9**
baz=230
TWF1 *e*S **Sn 23 54 22.1 -1.0**
baz=230
TYC Yuchr 1.67 248 P **Pn 23 54 02.4 +0.1**
baz=241
TYC *e*S **Sn 23 54 24.2 +0.8**
baz=241
PTSB Yuanli 1.68 267 *e*P **Pn 23 54 02.7 +0.3**
baz=266
PTSB *e*S **Sn 23 54 24.0 +0.4**
baz=266
YUS Yu-Shan 1.80 234 P **Pn 23 54 04.4 0.0**
baz=229
YUS *e*S **Sn 23 54 26.6 -0.6**
baz=229
CHKT Chengkung 1.81 217 *e*P **Pn 23 54 03.1 -1.0**
baz=211
CHKT *e*S **Sn 23 54 24.5 -2.1**
baz=211
WJS Zhushan 1.81 247 *e*P **Pn 23 54 05.0 +0.8**
baz=256
WJS *e*S **Sn 23 54 28.5 +1.8**
baz=256
WNT Mingjian 1.83 249 *e*P **Pn 23 54 05.0 +0.7**
baz=248
WNT *e*S **Sn 23 54 29.2 +2.1**
baz=248
ELDTW Lidau 1.95 226 *e*P **Pn 23 54 05.6 -0.4**
baz=224
ELDTW *e*S **Sn 23 54 28.4 -1.7**
baz=224
CHN5 Tsauling 1.95 241 *e*S **Sn 23 54 31.4 +1.3**
baz=233
JTJ Tarama 1.97 87 P **Pn 23 54 06.4 +0.2**
JTJ S **Sn 23 54 30.3 -0.1**
WGK Gukeng 2.01 245 *e*S **Sn 23 54 33.1 +1.8**
baz=254
WDLH Douliu 2.02 245 *e*S **Sn 23 54 33.5 +1.8**
baz=255
RLNB Erlin 2.10 252 *e*S **Sn 23 54 33.4 -0.1**
baz=260
STYT Tauyuan 2.14 230 *e*P **Pn 23 54 08.7 +0.1**
baz=229
STYT *e*S **Sn 23 54 35.1 +0.5**
baz=229
CHN2 Minshiung 2.15 242 *e*S **Sn 23 54 35.8 +1.2**
baz=252
TPUB Ta-pu 2.15 235 *e*P **Pn 23 54 09.0 +0.4**
baz=234
TPUB *e*S **Sn 23 54 36.1 +1.4**
baz=234
TWGBT Beinan 2.19 218 *e*P **Pn 23 54 08.4 -0.7**
baz=218
TWGBT *e*S **Sn 23 54 34.4 -1.2**
baz=218
TWG Pinlang 2.19 218 *e*P **Pn 23 54 08.7 -0.4**
baz=218
TWG S **Sn 23 54 34.2 -1.5**
baz=218
WTP Ta-pu 2.19 234 P **Pn 23 54 10.6 +1.4**
baz=233
WTP S **Sn 23 54 36.8 +1.0**
baz=233
CHY Chiayi 2.20 242 *e*S **Sn 23 54 36.9 +1.0**
baz=252
TWK Hsinying 2.27 236 *i* P **Pn 23 54 11.1 +0.8**
baz=235
TWK S **Sn 23 54 38.5 +0.8**
baz=235
CHN1 Nanshi 2.29 234 P **Pn 23 54 11.8 +1.2**
baz=233
CHN1 S **Sn 23 54 38.7 +0.6**
baz=233
SGST Jiashian 2.32 231 *e*P **Pn 23 54 11.3 +0.5**
baz=239
SGST *e*S **Sn 23 54 40.2 +1.5**
baz=239
SLGT Liugui 2.33 229 *e*P **Pn 23 54 12.6 +1.6**
baz=237
SLGT *e*S **Sn 23 54 40.6 +1.6**
baz=237
JIRB Irabujima 2.41 83 S **Sn 23 54 40.0 -0.8**
ECL Taimali 2.43 217 P **Pn 23 54 11.4 -0.9**
baz=217
ECL S **Sn 23 54 39.0 -2.4**
baz=217
JIKM Ikemajima 2.49 81 S **Sn 23 54 42.7 0.0**
SSD Sandimen 2.51 225 *e*P **Pn 23 54 13.9 +0.4**
baz=224
SSD *e*S **Sn 23 54 44.4 +1.0**
baz=224
JMJ Miyako jima 2 2.52 84 S **Sn 23 54 42.9 -0.5**
MASBT Mashibuluo 2.61 223 *e*P **Pn 23 54 16.3 +1.6**
baz=234
MASBT *e*S **Sn 23 54 46.0 +0.3**
baz=234
SCZT Fangliau 2.80 220 *e*P **Pn 23 54 18.2 +1.0**
baz=230
SCZT *e*S **Sn 23 54 50.8 +0.6**
baz=230
VWUC VWUC 2.85 279 *e*P **Pn 23 54 17.0 -0.9**
baz=279
PHUB P'eng-hu 2.91 250 *e*S **Sn 23 54 49.7 -3.1**
baz=249

IDC 05 23:59:23.9±2.6, 48.64S×124.58E, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/30, mbtmp3.6/2, MS3.3/1, Ms1 3.3/1, ms1mx2.8/14, Error ellipse: s-maj=123.5km s-min=44.2km az=138.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**15.76**	**327**	T	T	00 20 37.3	
	baz=147						
H01W2	**Cape Leeuwin H**	**15.77**	**327**	T	T	00 20 29.4	
	baz=147						
H01W3	**Cape Leeuwin H**	**15.78**	**327**	T	T	00 20 29.2	
	baz=147						
STKA	**Stephens Creek**	**21.11**	**44**	P	P	00 04 09.0	-0.9
	1.0nm,0.5s,baz=220,slow=7.9,SNR=2.3						
ASAR	**Alice Springs**	**25.99**	**20**	P	P	00 04 58.9	+0.6
	0.9nm,1.0s,baz=196,slow=8.6,SNR=4.2						
WRA	**Warramunga Arr**	**29.69**	**19**	LR	LR	00 17 20.5	
	comp=Z,58nm,18.2s,baz=320,slow=36						
YKA	**Yellowknife Ar**	**145.14**	**44**	PKPbc	PKPbc	00 19 01.5	0.0
	0.2nm,0.8s,baz=270,slow=2.7,SNR=4.5						
EKA	**Eskdalemuir Ar**	**147.80**	**302**	PKPbc	PKPbc	00 19 08.4	-1.2
	1.1nm,0.8s,baz=77,slow=3.2,SNR=2.7						

*IDC **06** 00:10:48.8±1.8, 28°.26N×52°.19E, h0km, mb3.6/12, mb1 3.6/13, mb1mx3.5/38, mbtmp3.6/13, ML3.1/1, MS3.0/5, Ms1 3.0/5, ms1mx2.7/35, Error ellipse: s-maj=40.5km s-min=21.3km az=160.0*
*THR **06** 00:10:50.6, 28°.47N×52°.16E, h14km, ML3.4*
*ISCJB **06** 00:10:53.2±0.3, 28°.51N±0°.03×51°.82E±0°.04, h15km, mb3.6/13, MS2.9/2, Error ellipse: s-maj=5.8km s-min=3.1km az=149.6*
*TEH **06** 00:10:54.6, 28°.56N×51°.90E, h18km, ML3.5*
*OMAN **06** 00:10:57.4±0.9, 28°.69N×52°.08E, h149km±24km, ml3.9/6, Error ellipse: s-maj=19.5km s-min=9.5km az=60.0*
*DSN **06** 00:10:57.5±2.3, 28°.38N×51°.94E, h15km, ML3.6/10, Error ellipse: s-maj=38.0km s-min=9.1km az=6.0*

ISC 06 00:10:54.0±0.6, 28.62N±0°.06×51.89E±0°.06, h15km, n69, σ2901/69, mb3.7/13, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHI	**Shiraz**	**1.15**	**28**	*e*Pg	**Pn**	**00 11 16.8**	**+1.0**
SHI				IAMB	IAmb	00 11 58.1	
	comp=Z,58μm,2.0s						
JHRM	**Jahrom**	**1.49**	**94**	*e*Pn	**Pn**	**00 11 22.4**	**+2.1**
JHRM				*e*Sg	**Sb**	**00 11 43.5**	**+3.4**
JHRM				IAMB	IAmb	00 11 46.6	
	comp=Z,0.0nm,0.6s						
IRAM	**Ramesheh**	**3.21**	**7**	*e*Pn	**Pn**	**00 11 46.6**	**+2.6**
IRAM				IAMB	IAmb	00 12 58.4	
	comp=Z,1μm,1.2s						
ISAD	**Sadrabad**	**3.63**	**25**	*e*Pn	**Pn**	**00 11 52.8**	**+2.9**
IGAR	**Gharneh**	**3.77**	**2**	*e*Pn	**Pn**	**00 11 55.1**	**+3.3**
IGAR				IAMB	IAmb	00 12 42.7	
	comp=Z,321nm,0.2s						
ROKH	**ROKH**	**3.79**	**349**	*e*Pn	**Pn**	**00 11 56.5**	**+4.5**
ROKH				IAMB	IAmb	00 13 31.0	
	comp=Z,0.0nm,2.5s						
IPIR	**Pirpir**	**4.14**	**348**	*e*Pn	**Pn**	**00 12 00.3**	**+3.3**
IPIR				IAMB	IAmb	00 13 33.7	
	comp=Z,615nm,1.0s						
ICHK	**Chekchek**	**4.21**	**30**	*e*Pn	**Pn**	**00 12 00.7**	**+2.8**
ICHK				IAMB	IAmb	00 13 59.0	
	comp=N,478nm,1.0s						
IZEF	**Zefreh**	**4.28**	**5**	*e*Pn	**Pn**	**00 12 01.8**	**+3.0**
IZEF				IAMB	IAmb	00 13 55.2	
	comp=Z,286nm,1.1s						
NGRK	**Negar Kerman**	**4.35**	**75**	*e*Pn	**Pn**	**00 12 02.2**	**+2.2**
NGRK				IAMB	IAmb	00 13 35.2	
	comp=Z,0.0nm,0.6s						
KHGB	**Koh Gabri**	**4.36**	**65**	*e*Pn	**Pn**	**00 12 02.4**	**+2.5**
KHGB				IAMB	IAmb	00 13 28.9	
	comp=N,0.0nm,1.6s						
KRBR	**Kerman**	**4.46**	**71**	*e*Pn	Pn	00 11 58.0	-3.4
KRBR				*e*Sg	**Sb**	**00 13 03.9**	**-2.1**
SHME	**Shamm**	**4.57**	**123**	P	**Pn**	**00 12 04.3**	**+1.8**
IKLH	**Kolahrood**	**4.69**	**357**	*e*Pn	**Pn**	**00 12 07.8**	**+3.3**
IKLH				IAMB	IAmb	00 13 47.9	
	comp=Z,534nm,1.0s						
BANOM	**Banah**	**4.75**	**123**	*i* P	**Pn**	**00 12 05.8**	**+0.7**
	SNR=25						
BANOM				S	**Sn**	**00 12 59.3**	**-0.7**
ANAR	**Anarak**	**4.82**	**19**	*e*Pn	**Pn**	**00 12 09.4**	**+3.3**
AJN	**Ajban**	**4.90**	**145**	*i* P	**Pn**	**00 12 09.7**	**+2.6**
	SNR=5.2						
AJN	**Ajban**	**4.90**	**145**	P	**Pn**	**00 12 09.2**	**+2.1**
NAZ	**Nazwa, Dubai**	**4.94**	**136**	*i* P	**Pn**	**00 12 09.1**	**+1.4**
	SNR=6.7						
NAZ	**Nazwa, Dubai**	**4.94**	**136**	P	**Pn**	**00 12 09.3**	**+1.5**
	SNR=6.6						
NAZ				S	**Sn**	**00 13 06.5**	**+1.8**
NAZ	**Nazwa, Dubai**	**4.94**	**136**	*e*Pn	**Pn**	**00 12 09.5**	**+1.8**
MSFE	**Esma-Masafi**	**5.00**	**129**	P	**Pn**	**00 12 08.6**	**0.0**
MSFE	**Esma-Masafi**	**5.00**	**129**	*e*Pn	**Pn**	**00 12 09.4**	**+0.8**
ASUD	**Al Ashush, Dub**	**5.03**	**142**	*i* P	**Pn**	**00 12 10.8**	**+1.9**
	SNR=52						
ASUD	**Al Ashush, Dub**	**5.03**	**142**	P	**Pn**	**00 12 11.0**	**+2.1**
	SNR=52						
ASUD				S	**Sn**	**00 13 07.8**	**+1.1**
ASUD	**Al Ashush, Dub**	**5.03**	**142**	*e*Pn	**Pn**	**00 12 11.2**	**+2.3**
FAQ	**Al Faqa, Dubai**	**5.08**	**139**	P	**Pn**	**00 12 10.4**	**+0.7**
FAQ	**Al Faqa, Dubai**	**5.08**	**139**	*e*Pn	**Pn**	**00 12 10.8**	**+1.1**
CHMN	**Cheshme madani**	**5.09**	**75**	*e*Pn	**Pn**	**00 12 12.9**	**+2.9**
CHMN				IAMB	IAmb	00 14 25.2	
	comp=Z,0.0nm,0.5s						
KRSH	**Karshahi**	**5.34**	**2**	*e*Pn	**Pn**	**00 12 15.6**	**+2.3**
KRSH				IAMB	IAmb	00 14 06.7	
	comp=Z,0.0nm,0.9s						
HATD	**Hatta, Dubai**	**5.35**	**134**	P	**Pn**	**00 12 14.8**	**+1.4**
HATD	**Hatta, Dubai**	**5.35**	**134**	P	**Pn**	**00 12 14.8**	**+1.4**
HATD				S	**Sn**	**00 13 14.4**	**-0.4**
HATD	**Hatta, Dubai**	**5.35**	**134**	*e*Pn	**Pn**	**00 12 15.0**	**+1.6**
KHMZ	**Khomeyn**	**5.36**	**343**	*e*Pn	**Pn**	**00 12 15.7**	**+2.0**
KHMZ	**Khomeyn**	**5.36**	**343**	*e*Pn	**Pn**	**00 12 15.7**	**+2.0**
ASHO	**Ashiyiah**	**5.41**	**135**	*i* P	**Pn**	**00 12 14.7**	**+0.5**
	SNR=15						
ASHO	**Ashiyiah**	**5.41**	**135**	P	**Pn**	**00 12 15.2**	**+1.1**
	SNR=5.7						
ASHO	**Ashiyiah**	**5.41**	**135**	*e*Pn	**Pn**	**00 12 15.3**	**+1.1**
ALNE	**Al Ain**	**5.71**	**142**	*i* P	**Pn**	**00 12 19.6**	**+1.3**
	SNR=25						
ALNE	**Al Ain**	**5.71**	**142**	*e*Pn	**Pn**	**00 12 20.0**	**+1.7**
SOHO	**SOHO**	**6.11**	**136**	P	**Pn**	**00 12 24.6**	**+0.9**
	SNR=5.4						
SOHO				S	**Sn**	**00 13 34.3**	**+1.0**
TNSJ	**Nastanj**	**6.68**	**36**	*e*Pn	**Pn**	**00 12 33.8**	**+2.1**
TNSJ				IAMB	IAmb	00 14 51.9	
	comp=Z,0.0nm,2.3s						
TKDS	**Koohdasht(Taba**	**6.70**	**41**	*e*Pn	**Pn**	**00 12 34.4**	**+2.5**
TKDS				IAMB	IAmb	00 16 42.7	
	comp=Z,0.0nm,3.6s						
HOQ	**Hoqain**	**6.99**	**135**	*e*Pn	**Pn**	**00 12 37.4**	**+1.5**
BSY	**Bisya**	**7.56**	**140**	P	**Pn**	**00 12 46.0**	**+2.3**
	SNR=11						
RAYN	**Ar Rayn**	**7.67**	**230**	*i* P	**Pn**	**00 12 45.6**	**+0.5**
	SNR=10.0						
SMDO	**Samad**	**7.84**	**134**	P	**Pn**	**00 12 50.1**	**+2.5**
	SNR=8.2						
MHTO	**MHTO**	**9.39**	**143**	P	**Pn**	**00 13 10.0**	**+1.2**
	SNR=7.0						
DQM	**DQM**	**10.07**	**148**	P	**Pn**	**00 13 19.0**	**+0.9**
	SNR=7.8						
GEYT	**Alibeck**	**10.64**	**28**	LR	LR	00 18 14.9	
	comp=Z,77nm,20.1s,baz=345,slow=41						
DMTO	**DMTO**	**11.21**	**165**	P	**Pn**	**00 13 34.0**	**+0.2**
	SNR=5.5						
BRTR	**Keskin Array B**	**18.69**	**311**	P	**Pn**	**00 15 15.3**	**+3.1**
	comp=Z,0.1nm,0.3s,baz=135,slow=13,SNR=3.9						
BRTR				LR	LR	00 23 38.0	
	comp=Z,36nm,18.7s,baz=92,slow=40						
ATD	**Arta Tunnel**	**18.99**	**208**	LR	LR	00 24 00.9	
	comp=Z,55nm,19.7s,baz=12,slow=42						
OBN	**Obninsk**	**28.70**	**342**	LR	LR	00 29 31.1	
	comp=Z,22nm,19.4s,baz=176,slow=38						
KURBB	**Kurchatov Arra**	**29.78**	**35**	P	**P**	**00 16 58.9**	**-1.1**
	comp=Z,0.4nm,0.9s,baz=240,slow=8.7,SNR=3.6						
MKAR	**Makanchi Array**	**29.86**	**44**	P	P	00 16 57.4	-3.4
	comp=Z,0.2nm,0.7s,baz=217,slow=6.9,SNR=2.4						
ZALV	**Zalesovo Beam**	**34.86**	**34**	P	**P**	**00 17 43.1**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=245,slow=10,SNR=3.7						
GERES	**GERESS Array B**	**35.49**	**315**	LR	LR	00 38 05.6	
	comp=Z,25nm,18.6s,baz=265,slow=46						
FINES	**FINESS Array B**	**37.04**	**340**	P	**P**	**00 18 02.3**	**-0.7**
	comp=Z,1.5nm,0.9s,baz=138,slow=12,SNR=5.5						
HFS	**Hagfors**	**40.68**	**332**	P	**P**	**00 18 33.8**	**+0.3**
	comp=Z,1.0nm,0.4s,baz=120,slow=8.5,SNR=11						
NOA	**NORSAR Array B**	**42.20**	**332**	P	**P**	**00 18 46.7**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=135,slow=7.5,SNR=3.5						
ARCES	**ARCESS Array B**	**43.69**	**347**	P	**P**	**00 18 58.8**	**+0.8**
	comp=Z,2.6nm,1.0s,baz=134,slow=6.9,SNR=6.2						
CMAR	**Chiang Mai Arr**	**44.07**	**93**	P	**P**	**00 18 59.4**	**-2.3**
	comp=Z,0.9nm,0.3s,baz=348,slow=11,SNR=6.7						
SONM	**Songino Array**	**45.89**	**50**	P	**P**	**00 19 14.3**	**-1.6**
	comp=Z,0.2nm,0.5s,baz=264,slow=7.6,SNR=2.2						
EKA	**Eskdalemuir Ar**	**47.25**	**320**	P	**P**	**00 19 27.1**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=103,slow=8.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**49.01**	**263**	P	**P**	**00 19 38.5**	**-1.9**
	comp=Z,0.3nm,0.4s,baz=60,slow=8.2,SNR=4.0						
DBIC	**Dimbokro**	**57.74**	**259**	P	**P**	**00 20 43.7**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=15,slow=7.8,SNR=2.9						
YKA	**Yellowknife Ar**	**88.56**	**354**	P	**P**	**00 23 44.2**	**-1.6**
	comp=Z,0.1nm,0.7s,baz=11,slow=6.1,SNR=2.5						

*HEL **06** 00:22:13.3±0.1, 67°.84N×20°.18E, h0km, ML1.9, ML2.0(UPP), Explosion*

UPP 06 00:22:12.8±0.0, 67.84N×20.19E, h0km, ML2.0, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**27**	P	Pg	00 22 15.5	+0.3
KUA				S	Sg	00 22 17.3	+0.5
KUA	**Kurravaara**	**0.13**	**27**	P	Pg	00 22 15.5	+0.3
KUA				S	Sg	00 22 17.3	+0.5
KUA	**Kurravaara**	**0.13**	**27**	*i* P	Pg	00 22 15.5	+0.3
KUA				*i* S	Sg	00 22 17.3	+0.5
LANU	**Lannavaara**	**0.71**	**72**	P	Pg	00 22 26.1	-0.3
LANU	**Lannavaara**	**0.71**	**72**	P	Pg	00 22 26.1	-0.3
LANU	**Lannavaara**	**0.71**	**72**	*e*P	Pg	00 22 26.1	-0.3
LANU				*e*S	Sg	00 22 36.2	+0.6
DUNU	**Dundret**	**0.74**	**168**	P	Pg	00 22 26.8	-0.1
DUNU	**Dundret**	**0.74**	**168**	P	Pg	00 22 26.8	-0.1
DUNU	**Dundret**	**0.74**	**168**	*i* P	Pg	00 22 26.8	-0.1
SALU	**Saltoluokta**	**0.79**	**235**	P	Pg	00 22 27.7	-0.3
SALU	**Saltoluokta**	**0.79**	**235**	P	Pg	00 22 27.7	-0.3
SALU	**Saltoluokta**	**0.79**	**235**	*i* P	Pg	00 22 27.7	-0.3
MASU	**Masugnsbyn**	**0.80**	**118**	P	Pg	00 22 27.7	-0.3
MASU	**Masugnsbyn**	**0.80**	**118**	P	Pg	00 22 27.7	-0.3
MASU	**Masugnsbyn**	**0.80**	**118**	*i* P	Pg	00 22 27.7	-0.3
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*P	Pn	00 22 37.3	+0.7
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*PB	Pb	00 22 35.9	-0.2
KIF				MSG		00 22 51.1	
	comp=Z,16nm,0.2s						
KIF				*e*SB	Sb	00 22 51.9	-0.2
PAJU	**Pajala**	**1.40**	**125**	P	Pn	00 22 38.2	-1.4
PAJU	**Pajala**	**1.40**	**125**	P	Pn	00 22 38.2	-1.4
PAJU	**Pajala**	**1.40**	**125**	*e*P	Pn	00 22 38.2	-1.4
HEF	**Hetta**	**1.42**	**65**	*e*P	Pn	00 22 39.1	-0.7
HEF	**Hetta**	**1.42**	**65**	*e*P	Pn	00 22 38.7	-1.1
	baz=247						
HEF				MSG		00 22 56.5	
	comp=Z,7.9nm,0.2s						
HEF				*e*SN	Sn	00 23 00.0	+0.8
ERTU	**Ertsjaerv**	**1.51**	**148**	*e*P	Pn	00 22 40.1	-0.9
ERTU				*e*SN	Sn	00 23 02.7	+1.3
KALU	**Kalix**	**2.35**	**146**	*e*P	Pn	00 22 53.5	+0.9
KALU				*e*SG	Sb	00 23 25.2	-0.3
TOF	**Tornio**	**2.41**	**135**	*e*PB	Pn	00 22 54.6	+1.3
TOF				MSG		00 23 24.0	
	comp=Z,6.5nm,0.2s						
TOF				*e*SG	Sb	00 23 27.5	+0.5
SGF	**Sodankyl**	**2.46**	**96**	*e*PG	Pb	00 22 56.7	-1.1
	baz=282						
SGF				*e*SG	Sb	00 23 29.6	+1.1
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB	Pb	00 22 58.0	-1.9
RNF				*e*SG	Sb	00 23 32.3	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEV	**Kevo**	**3.14**	**49**	*e*SB	Sb	00 23 44.9	-3.1
KEV				MSG		00 23 46.0	
	comp=Z,3.1nm,0.2s						
BURU	**Burvik**	**3.31**	**171**	*e*PG	Pb	00 23 11.4	-0.8
	baz=354						
UMAU	**Umeaa**	**3.98**	**177**	*e*PB	Pb	00 23 19.6	-4.1
UMAU				*e*		00 24 06.2	
MSF	**Maaselka**	**4.00**	**115**	*e*P	Pn	00 23 18.6	+3.4
	baz=301						

UPP 06 00:22:15.2±0.1**,67°.82N×20°.25E,h0km,ML2.2, Explosion,Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**14**	P	Pg	00 22 18.1	+0.2
KUA				S	Sg	00 22 20.0	+0.2
KUA	**Kurravaara**	**0.14**	**14**	P	Pg	00 22 18.1	+0.2
KUA				S	Sg	00 22 20.0	+0.2
RATU	**Laukkuluspa**	**0.25**	**272**	P	Pg	00 22 17.4	-2.6
RATU				S	Pg	00 22 19.9	-0.1
RATU	**Laukkuluspa**	**0.25**	**272**	P	Pg	00 22 20.2	+0.2
RATU				S	Sg	00 22 23.1	0.0
RATU	**Laukkuluspa**	**0.25**	**272**	P	Pg	00 22 17.4	-2.6
RATU				S	Pg	00 22 19.9	-0.1
RATU	**Laukkuluspa**	**0.25**	**272**	P	Pg	00 22 20.2	+0.2
RATU				S	Sg	00 22 23.1	0.0
RATU	**Laukkuluspa**	**0.25**	**272**	*i* P	Pg	00 22 17.4	-2.6
RATU				*i* S	Pg	00 22 19.9	-0.1
SALU	**Saltoluokta**	**0.80**	**237**	P	Pg	00 22 30.1	-0.4
SALU				S	Sg	00 22 41.5	+0.7
SALU	**Saltoluokta**	**0.80**	**237**	P	Pg	00 22 30.1	-0.4
SALU				S	Sg	00 22 41.5	+0.7
PAJU	**Pajala**	**1.36**	**124**	P	Pg	00 22 40.3	-1.0
PAJU	**Pajala**	**1.36**	**124**	P	Pg	00 22 40.3	-1.0

*SOME **06** 00:31:00.3,41°.93N×80°.08E,h0km*
*NNC **06** 00:31:01.8±1.9,41°.41N×79°.60E,h35km±20km,mb2.8, mpv2.1,Error ellipse: s-maj=14.7km s-min=7.8km az=147.0*
ISC 06 00:30:56.9±3.3**,41°.6N**±0°.1×**80°.0E**±0°.1**,h10km,n6, σ3.s13**/11**,1C-3D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.57**	**346**	*e*P	**Pn**	**00 31 23.4**	**-1.5**
	1.5nm,0.3s						
SHLS				*e*S	**Sb**	**00 31 40.1**	**-6.0**
	5.0nm,0.7s						
PDGK	**Podgornoye**	**1.73**	**348**	P	**Pg**	**00 31 32.6**	**+2.5**
	0.3nm,0.3s						
PDGK				S	**Sg**	**00 31 56.1**	**+3.5**
	0.7nm,0.3s						
PDGK	**Podgornoye**	**1.73**	**348**	⇑P	**Pg**	**00 31 31.7**	**+1.5**
	0.4nm,0.4s						
PDGK				⇓S	**Sg**	**00 31 55.4**	**+2.7**
	1.3nm,0.6s						
TNSS	**Tian-Shan**	**2.65**	**303**	Pg	**Pg**	**00 31 48.9**	**+1.3**
	0.9nm,0.3s						
TNSS				Lg	Lg	00 32 23.9	
	3.3nm,0.3s						
TNSS	**Tian-Shan**	**2.65**	**303**	*e*P	**Pg**	**00 31 48.9**	**+1.3**
	0.9nm,0.3s						
TNSS				*e*S	**Sg**	**00 32 23.9**	**+1.9**
	3.3nm,0.3s						
TKM2	**Tokmak 2**	**3.50**	**293**	⇓Pn	**Pn**	**00 31 51.9**	**+0.4**
	0.7nm,0.7s						
TKM2				⇓Sn	**Sn**	**00 32 30.8**	**-2.2**
	0.7nm,0.5s						

*ISCJB **06** 00:33:57.4±0.8,31°.55S±0°.04×66°.88W±0°.04, h130km±10km,Error ellipse: s-maj=7.3km s-min=5.4km az=158.5*
*SJA **06** 00:33:57.6±0.7,31°.58S×66°.88W,h126km±8km,ML3.3, MW3.7*
ISC 06 00:33:57.8±1.6**,31°.58S**±0°.05×**66°.87W**±0°.04**, h131km**±13km**,n20,**σ**0.s86**/32**,3C-1D,La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACAN	**Cantantal**	**0.74**	**201**	*i* P	**Pn**	**00 34 18.7**	**0.0**
APLL	**PUNTA DE LOS L**	**1.22**	**14**	*i* P	**Pn**	**00 34 23.5**	**+0.4**
MRA	**San Martin**	**1.29**	**131**	*i* P	**Pn**	**00 34 24.2**	**+0.3**
MRA				*i* S	**Sn**	**00 34 43.2**	**-0.4**
RTLL	**Cerro Villicun**	**1.39**	**280**	*i* P	**Pn**	**00 34 25.2**	**+0.4**
RTLL				*i* S	**Sn**	**00 34 45.1**	**-0.3**
RTLL	**Cerro Villicun**	**1.39**	**280**	*e*P	**Pn**	**00 34 25.2**	**+0.4**
RTLL				*i* S	**Sn**	**00 34 44.8**	**-0.6**
RTCV	**Cerro Valdivia**	**1.45**	**258**	*i* P	**Pn**	**00 34 25.5**	**0.0**
RTCV				*i* S	**Sn**	**00 34 46.2**	**-0.3**
AMOG	**MOGNA**	**1.52**	**294**	*i* P	**Pn**	**00 34 26.7**	**+0.3**
TCA	**Tanti**	**1.96**	**84**	*i* P	**Pn**	**00 34 31.8**	**+0.3**
TCA				IAML		00 34 57.3	
	comp=Z,52nm,0.3s						
TCA				*i* S	**Sn**	**00 34 57.5**	**+0.3**
TCA	**Tanti**	**1.96**	**84**	⇑*i*P	**Pn**	**00 34 32.3**	**+0.8**
TCA				*i* S	**Sn**	**00 34 56.8**	**-0.4**
RTLS	**Leoncito**	**2.08**	**263**	IAML		00 34 33.7	
	comp=Z,184nm,0.2s						
RTLS				*i* P	**Pn**	**00 34 33.8**	**+0.7**
RTLS				*i* S	**Sn**	**00 35 01.3**	**+1.2**
VCA	**Vinchina**	**3.06**	**337**	*i* P	**Pn**	**00 34 45.9**	**+0.5**
VCA				IAML		00 35 25.7	
	comp=Z,244nm,0.3s						
VCA	**Vinchina**	**3.06**	**337**	*e*P	**Pn**	**00 34 46.9**	**+1.4**
VCA				*i* S	**Sn**	**00 35 21.0**	**-1.1**
CYA	**Choya**	**3.26**	**17**	⇑*i*P	**Pn**	**00 34 48.1**	**+0.2**
CYA				*i* S	**Sn**	**00 35 25.1**	**-1.6**
CYA				IAML		00 35 27.5	
	comp=N,169nm,0.3s						
FCH	**Farellones**	**3.38**	**238**	⇑*i*P	**Pn**	**00 34 50.4**	**+0.7**
FCH				*e*S	**Sn**	**00 35 30.7**	**+1.0**
FCH				IAML		00 35 33.8	
	comp=N,72nm,0.7s						
CMCH	**Combarbala**	**3.55**	**275**	*e*P	**Pn**	**00 34 52.4**	**+0.6**
PEL	**Peldehue**	**3.58**	**243**	*e*P	**Pn**	**00 34 52.4**	**+0.3**
PEL				IAML		00 35 37.0	
	comp=E,90nm,0.4s						
CLCH	**Cerro Calan**	**3.59**	**239**	*e*P	**Pn**	**00 34 50.0**	**-2.2**
LMEL	**Las Melosas**	**3.61**	**230**	*e*P	**Pn**	**00 34 53.4**	**+0.8**
GO04	**Tololo Observa**	**3.65**	**292**	⇓*i*P	**Pn**	**00 34 54.1**	**+0.8**
GO04				*i* S	**Sn**	**00 35 35.4**	**-0.8**
ROCH	**El Roble**	**3.77**	**247**	*e*P	**Pn**	**00 34 54.4**	**-0.4**
ROCH				*e*S	**Sn**	**00 35 37.6**	**-1.3**

*AZER **06** 00:38:24.6±0.0,38°.41N×43°.52E,h13km,ml3.7/29,Error ellipse: s-maj=9.7km s-min=1.4km az=242.0*
*NSSP **06** 00:38:26.4,38°.93N×43°.47E,h10km,Ms3.8*
*DDA **06** 00:38:27.5,38°.76N×43°.66E,h7km±1km,ML3.8*
*ISK **06** 00:38:27.2,38°.81N×43°.55E,h5km,ML3.7/21*
*TEH **06** 00:38:28.7,38°.82N×43°.51E,h16km,ML3.6*
ISC 06 00:38:27.9±1.2**,38°.82N**±0°.02×**43°.56E**±0°.02**,h2km**±10km**, n118,**σ**1.s84**/142**,27C-24D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.17**	**4**	*i* P	**Pg**	**00 38 32.9**	**+1.7**
VANB	**Van**	**0.26**	**210**	PG	**Pb**	**00 38 35.5**	**+0.1**
VANB				SG	**Sb**	**00 38 40.2**	**-0.2**
VANB	**Van**	**0.26**	**210**	*e*Pg	**Pb**	**00 38 35.4**	**+0.1**
ERCV	**ERCIS-VAN**	**0.26**	**319**	PG	**Pb**	**00 38 33.7**	**-1.8**
ERCV				SG	**Sb**	**00 38 38.9**	**-1.6**
ERCV	**ERCIS-VAN**	**0.26**	**319**	*e*Pg	**Pb**	**00 38 33.6**	**-1.9**
CLDR	**Caldiran**	**0.43**	**41**	PG	**Pb**	**00 38 36.8**	**-1.6**
CLDR				SG	**Sb**	**00 38 44.2**	**-1.1**
CLDR	**Caldiran**	**0.43**	**41**	*e*Pg	**Pb**	**00 38 36.7**	**-1.6**
AKDM	**Akdamar-Van**	**0.67**	**223**	PG	**Pb**	**00 38 41.2**	**-1.1**
MLAZ	**Malazgirt-MUS**	**0.85**	**292**	PG	**Pb**	**00 38 44.7**	**-0.7**
AGRB	**Hanur-Agry**	**0.87**	**330**	PG	**Pb**	**00 38 44.8**	**-1.1**
AGRB	**Hanur-Agry**	**0.87**	**330**	*e*Pg	**Pb**	**00 38 44.8**	**-1.1**
IGDI	**IGDIR**	**1.12**	**21**	IAML_P			
	comp=Z,3μm,0.2s						
IGDI				*i* P	**Pn**	**00 38 50.2**	**-0.5**
IGDI				*i* S	**Sn**	**00 39 08.9**	**+2.2**
GURO	**Guroymak-BITLI**	**1.22**	**258**	PN	**Pb**	**00 38 50.8**	**-1.0**
GURO	**Guroymak-BITLI**	**1.22**	**258**	*e*Pn	**Pg**	**00 38 50.6**	**-0.7**
TASB	**TASBURUN-IGDIR**	**1.28**	**24**	PN	**Pb**	**00 38 52.7**	**0.0**
TASB	**TASBURUN-IGDIR**	**1.28**	**24**	*e*Pg	**Pb**	**00 38 53.0**	**+0.3**
HYR	**Heyderabad**	**1.35**	**48**	*e*Pg	**Pg**	**00 38 55.4**	**+1.7**
HYR	**Heyderabad**	**1.35**	**48**	⇓P	**Pg**	**00 38 55.4**	**+1.7**
HYR				⇓S	**Sn**	**00 39 17.5**	**+5.2**
NAX	**Nakhchivan**	**1.55**	**76**	*e*Pn	**Pb**	**00 38 56.6**	**-0.7**
NAX	**Nakhchivan**	**1.55**	**76**	⇓P	**Pb**	**00 38 56.7**	**-0.7**
	SNR=74						
NAX				⇑S	**Sg**	**00 39 20.7**	**+3.0**
CUKT	**Cukurca**	**1.57**	**179**	PN	**Pb**	**00 38 56.7**	**-1.0**
CUKT	**Cukurca**	**1.57**	**179**	*e*Pn	**Pb**	**00 38 56.8**	**-1.0**
SIRT	**Sirnak**	**1.58**	**214**	PN	**Pg**	**00 38 58.1**	**-0.1**
SIRT	**Sirnak**	**1.58**	**214**	*e*Pn	**Pg**	**00 38 57.6**	**-0.6**
GNI	**Garni**	**1.61**	**34**	PN	**Pb**	**00 38 57.9**	**-0.6**
GNI	**Garni**	**1.61**	**34**	⇑*i*P	**Pg**	**00 38 58.6**	**-0.2**
GNI				⇑*i*S	**Sg**	**00 39 21.0**	**+1.3**
GNI	**Garni**	**1.61**	**34**	*e*Pn	**Pb**	**00 38 57.8**	**-0.7**
SBZ	**Shahbuz**	**1.66**	**69**	*e*Pn	**Pg**	**00 38 59.2**	**-0.4**
SBZ	**Shahbuz**	**1.66**	**69**	⇑P	**Pg**	**00 38 59.2**	**-0.4**
SBZ				⇑S	**Sg**	**00 39 24.3**	**+3.2**
IMRD	**Marand**	**1.68**	**93**	*e*Pn	**Pb**	**00 38 58.7**	**-0.9**
IMRD				IAMB	IAmb	00 39 05.8	
	comp=Z,11μm,0.6s						
ISHB	**Shabestar**	**1.70**	**108**	*e*Pn	**Pg**	**00 39 00.0**	**-0.5**
ISHB				IAMB	IAmb	00 39 00.9	
	comp=Z,14μm,0.5s						
ISHB				*e*Sg	**Sg**	**00 39 26.3**	**+3.8**
KOPR	**Koprukoy-ERZUR**	**1.76**	**312**	PN	**Pb**	**00 39 00.4**	**-0.6**
KARS	**Kars**	**1.84**	**349**	PN	**Pb**	**00 39 01.3**	**-1.1**
KARS	**Kars**	**1.84**	**349**	*e*Pn	**Pb**	**00 39 01.4**	**-1.0**
ORD	**Ordubad**	**1.91**	**86**	*e*Pn	**Pb**	**00 39 02.3**	**-1.1**
ORD	**Ordubad**	**1.91**	**86**	⇑P	**Pb**	**00 39 02.3**	**-1.1**
ORD				⇓S	**Sg**	**00 39 28.1**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.97**	**251**	PN	**Pb**	**00 39 03.2**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.97**	**251**	*e*Pn	**Pb**	**00 39 03.1**	**-1.3**
KARO	**Karliova-Bingo**	**2.01**	**285**	PN	**Pb**	**00 39 03.6**	**-1.7**
BTMN	**Batman**	**2.02**	**243**	*i* P	**Pg**	**00 39 06.4**	**-0.2**
ITBZ	**Tabriz**	**2.12**	**105**	IAMB	IAmb	00 39 17.0	
	comp=Z,2μm,0.5s						
ITBZ				*e*Pn	**Pb**	**00 39 06.1**	**-0.9**
BNGB	**Bingl**	**2.25**	**275**	PN	**Pb**	**00 39 07.5**	**-1.8**
BINT	**Bingol**	**2.40**	**272**	*e*Pn	**Pn**	**00 39 07.1**	**-1.2**
BGD	**Bogdanovka**	**2.44**	**1**	P	**Pg**	**00 39 14.7**	**+0.1**
GDB	**GEDABAY**	**2.54**	**41**	*e*Pn	**Pb**	**00 39 12.4**	**-1.9**
GDB	**GEDABAY**	**2.54**	**41**	⇓P	**Pb**	**00 39 12.4**	**-1.9**
	SNR=55						
AKH	**Akhalkalaki**	**2.59**	**359**	PN	**Pn**	**00 39 11.9**	**+1.0**
AKH	**Akhalkalaki**	**2.59**	**359**	P	**Pg**	**00 39 18.0**	**+0.6**
QZX	**Qazax, Azerbai**	**2.63**	**31**	*e*Pn	**Pb**	**00 39 14.1**	**-1.7**
QZX	**Qazax, Azerbai**	**2.63**	**31**	⇓P	**Pb**	**00 39 14.1**	**-1.7**
	SNR=43						
QZX				⇓S	**Sg**	**00 39 52.6**	**+0.1**
TRLG	**Trialeti**	**2.75**	**9**	P	**Pb**	**00 39 17.9**	**+0.1**
MAZI	**Mazidag**	**2.80**	**242**	PN	**Pn**	**00 39 14.6**	**+0.7**
MAZI	**Mazidag**	**2.80**	**242**	*e*Pn	**Pn**	**00 39 14.5**	**+0.7**
GANJ	**Ganja**	**2.81**	**49**	*e*Pn	**Pb**	**00 39 15.7**	**-3.0**
GANJ	**Ganja**	**2.81**	**49**	⇓P	**Pb**	**00 39 15.7**	**-3.0**
	SNR=30						
GANJ				⇑S	**Sb**	**00 39 54.1**	**+0.6**
DYBB	**Diyarbakir**	**2.82**	**253**	PN	**Pn**	**00 39 14.9**	**+0.8**
BCA	**Borcka**	**3.01**	**331**	PN	**Pn**	**00 39 17.9**	**+1.3**
BCA	**Borcka**	**3.01**	**331**	*e*Pn	**Pn**	**00 39 18.0**	**+1.3**
TBLG	**Delisi**	**3.04**	**17**	PN	**Pn**	**00 39 18.2**	**+1.1**
TBLG	**Delisi**	**3.04**	**17**	P	**Pg**	**00 39 24.2**	**-2.0**
BAYT	**Aydıntepe-Bayb**	**3.07**	**302**	PN	**Pn**	**00 39 18.8**	**+1.2**
BAYT	**Aydıntepe-Bayb**	**3.07**	**302**	*e*Pn	**Pn**	**00 39 18.8**	**+1.2**
CHOM	**Cayeli-Rize**	**3.13**	**318**	PN	**Pn**	**00 39 19.5**	**+1.3**
CHOM	**Cayeli-Rize**	**3.13**	**318**	*e*Pn	**Pn**	**00 39 19.6**	**+1.3**
TNCL	**Tunceli-Merkez**	**3.14**	**277**	*i* P	**Pg**	**00 39 26.2**	**-1.8**
BRDA	**Brd**	**3.15**	**62**	*e*Pn	**Pn**	**00 39 19.9**	**+1.4**
BRDA	**Brd**	**3.15**	**62**	⇑P	**Pn**	**00 39 19.9**	**+1.4**
	SNR=6.5						
BRDA				⇑S	**Sb**	**00 40 01.7**	**-1.7**
PTK	**Pertek**	**3.25**	**273**	PN	**Pn**	**00 39 21.2**	**+1.1**
PTK	**Pertek**	**3.25**	**273**	*e*Pn	**Pn**	**00 39 21.1**	**+1.0**
MNGR	**Mingechevir, A**	**3.34**	**53**	*e*Pn	**Pn**	**00 39 23.2**	**+2.1**
MNGR	**Mingechevir, A**	**3.34**	**53**	⇓P	**Pn**	**00 39 23.3**	**+2.1**
	SNR=3.6						
MNGR				⇑S	**Sb**	**00 40 08.2**	**-0.8**
ISRB	**Sarab**	**3.38**	**106**	*e*Pn	**Pn**	**00 39 24.1**	**+2.2**
ISRB				IAMB	IAmb	00 39 32.8	
	comp=Z,844nm,0.4s						
ZRD	**Zardab**	**3.51**	**64**	*e*Pn	**Pn**	**00 39 24.7**	**+1.3**
ZRD	**Zardab**	**3.51**	**64**	⇓P	**Pn**	**00 39 24.8**	**+1.3**
ZRD				⇑S	**Sb**	**00 40 10.3**	**-3.4**
ZKTA	**Zakatala**	**3.66**	**39**	*e*Pn	**Pn**	**00 39 24.7**	**-0.9**
ZKTA	**Zakatala**	**3.66**	**39**	⇑P	**Pb**	**00 39 29.1**	**-4.3**
	SNR=10						
ZKTA				⇓S	**Sb**	**00 40 17.5**	**-0.7**
SEKA	**Sheki**	**3.67**	**48**	*e*Pn	**Pb**	**00 39 29.0**	**-4.6**
SEKA	**Sheki**	**3.67**	**48**	⇓P	**Pb**	**00 39 29.0**	**-4.6**
SEKA				⇑S	**Sb**	**00 40 18.7**	**0.0**
GUDG	**Gudauri**	**3.71**	**11**	P	**Pg**	**00 39 37.0**	**-1.9**
LRK	**Lerik**	**3.75**	**91**	*e*Pn	**Pn**	**00 39 25.2**	**-1.6**
LRK	**Lerik**	**3.75**	**91**	⇑P	**Pn**	**00 39 25.3**	**-1.6**
	SNR=7.1						
GLBA	**Clilabad**	**3.79**	**82**	*e*Pn	**Pn**	**00 39 27.0**	**-0.3**
GLBA	**Clilabad**	**3.79**	**82**	⇑P	**Pn**	**00 39 27.0**	**-0.3**
	SNR=9.9						
GLBA				⇑S	**Sn**	**00 40 14.5**	**+2.1**
KDMR	**Kurdemir**	**3.90**	**65**	*e*Pn	**Pn**	**00 39 30.3**	**+1.6**
KDMR	**Kurdemir**	**3.90**	**65**	⇑P	**Pn**	**00 39 30.4**	**+1.6**
KDMR				⇓S	**Sb**	**00 40 19.7**	**-5.2**
SAAT	**Saatly**	**3.91**	**73**	*e*Pn	**Pn**	**00 39 29.2**	**+0.3**
SAAT	**Saatly**	**3.91**	**73**	⇓P	**Pn**	**00 39 29.2**	**+0.3**
SAAT				⇓S	**Sn**	**00 40 18.5**	**+3.0**
QBL	**Gabala**	**3.92**	**56**	*e*Pn	**Pn**	**00 39 31.4**	**+2.3**
QBL	**Gabala**	**3.92**	**56**	⇑P	**Pn**	**00 39 31.4**	**+2.3**
	SNR=13						
URFA	**Urfa**	**3.98**	**251**	PN	**Pn**	**00 39 31.4**	**+1.4**
IML	**Ismayilli**	**4.07**	**60**	*e*Pn	**Pn**	**00 39 33.0**	**+1.8**
IML	**Ismayilli**	**4.07**	**60**	⇑P	**Pn**	**00 39 33.1**	**+1.8**
IML				⇓S	**Sb**	**00 40 25.2**	**-4.8**
LKRN	**Lenkeran, Azer**	**4.08**	**90**	*e*Pn	**Pn**	**00 39 30.3**	**-1.0**
LKRN	**Lenkeran, Azer**	**4.08**	**90**	⇓P	**Pn**	**00 39 30.4**	**-1.0**
LKRN				⇓S	**Sn**	**00 40 20.3**	**+0.6**
ASTR	**Astara**	**4.10**	**92**	*e*Pn	**Pn**	**00 39 30.5**	**-1.1**
ASTR	**Astara**	**4.10**	**92**	⇑P	**Pn**	**00 39 30.6**	**-1.1**
ASTR				⇓S	**Sn**	**00 40 20.5**	**+0.3**
XNQ	**Khinaliq**	**4.23**	**55**	*e*Pn	**Pn**	**00 39 36.0**	**+2.5**
XNQ	**Khinaliq**	**4.23**	**55**	⇓P	**Pn**	**00 39 36.1**	**+2.5**
	SNR=3.8						
XNQ				⇓S	**Sb**	**00 40 29.5**	**-5.2**
PQL	**Pirkuli**	**4.35**	**62**	*e*Pn	**Pn**	**00 39 36.7**	**+1.6**
PQL	**Pirkuli**	**4.35**	**62**	⇑P	**Pn**	**00 39 36.7**	**+1.6**
ALIB	**Äli-Bayra**	**4.37**	**73**	*e*Pn	**Pn**	**00 39 36.2**	**+0.9**
ALIB	**Äli-Bayra**	**4.37**	**73**	⇑P	**Pn**	**00 39 36.2**	**+0.9**
QUB	**Quba**	**4.48**	**54**	*e*Pn	**Pn**	**00 39 40.0**	**+3.1**
GBS	**Qobustan**	**4.49**	**66**	*e*Pn	**Pn**	**00 39 38.2**	**+1.2**
GBS	**Qobustan**	**4.49**	**66**	⇑P	**Pn**	**00 39 38.3**	**+1.2**
QSAR	**Qusar**	**4.50**	**52**	*e*Pn	**Pn**	**00 39 39.5**	**+2.4**
QSAR	**Qusar**	**4.50**	**52**	⇓P	**Pn**	**00 39 39.5**	**+2.4**
QUBA	**Quba, Azerbaij**	**4.55**	**55**	⇑P	**Pn**	**00 39 40.1**	**+2.2**
ATGJ	**Altiaghaj**	**4.62**	**62**	*e*Pn	**Pn**	**00 39 40.2**	**+1.5**
ATGJ	**Altiaghaj**	**4.62**	**62**	⇑P	**Pn**	**00 39 40.3**	**+1.5**
	SNR=3.8						
SIZA	**Siyzn**	**4.68**	**60**	*e*Pn	**Pn**	**00 39 41.5**	**+1.9**
SIZA	**Siyzn**	**4.68**	**60**	⇓P	**Pn**	**00 39 41.5**	**+1.9**
GOBA	**Gobu**	**5.02**	**70**	*e*Pn	**Pn**	**00 39 45.3**	**+1.1**
GOBA	**Gobu**	**5.02**	**70**	⇓P	**Pn**	**00 39 45.3**	**+1.1**
NDR	**Nardaran**	**5.26**	**68**	*e*Pn	**Pn**	**00 39 48.4**	**+0.9**
NDR	**Nardaran**	**5.26**	**68**	⇑P	**Pn**	**00 39 48.4**	**+0.9**
GALA	**Gala**	**5.34**	**71**	*e*Pn	**Pn**	**00 39 49.1**	**+0.6**
GALA	**Gala**	**5.34**	**71**	⇑P	**Pn**	**00 39 49.1**	**+0.6**

*IDC **06** 00:46:16.8±2.9,6°.79S×130°.70E,h67km±28km,mb3.9/11, mb1 4.1/14,mb1mx3.8/37,mbtmp4.3/14,ML4.7/3,Error ellipse: s-maj=28.0km s-min=14.0km az=72.0*
*ISCJB **06** 00:46:17.4±0.3,6°.81S±0°.03×130°.83E±0°.05,h100km, mb4.3/15,Error ellipse: s-maj=7.4km s-min=3.5km az=164.4*
*NEIC **06** 00:46:19.7±0.7,6°.76S×130°.85E,h100km±7km,mb4.6/7, Error ellipse: s-maj=9.1km s-min=6.7km az=68.0*
*DJA **06** 00:46:19.5±0.5,7°S±3°×13°1E±°,h113km±11km,M4.8/10, mB5.4/4,mb4.7/8,MLv4.9/10,Mw(mB)4.8/4*
ISC 06 00:46:19.1±0.5**,6°.78S**±0°.04×**130°.80E**±0°.06**,h100km,n64,** σ**2.s47**/75**,mb4.5**/24**,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.29**	**158**	*e*Pn	**Pn**	**00 46 46.6**	**+3.8**
SAUI				*e*Sn	**Sn**	**00 47 00.1**	**-0.7**
SAUI	**Saumlaki**	**1.29**	**158**	P	**Pn**	**00 46 46.0**	**+3.2**
SAUI				S	**Sn**	**00 47 04.6**	**+3.8**
BNDI	**Bandanaira**	**2.42**	**338**	P	**Pn**	**00 46 56.7**	**-0.5**
BNDI				S	**Sn**	**00 47 25.7**	**-0.6**
FAKI	**Fak Fak**	**4.10**	**21**	*e*Pn	**Pn**	**00 47 19.2**	**-0.5**
FAKI				*e*Sn	**Sn**	**00 48 02.1**	**-4.5**
FAKI	**Fak Fak**	**4.10**	**21**	P	**Pn**	**00 47 19.1**	**-0.5**
FAKI				S	**Sn**	**00 48 03.4**	**-3.2**
NLAI	**Namlea**	**5.10**	**313**	P	**Pn**	**00 47 32.6**	**-0.6**
	144nm,0.9s,0.4nm						
SIJI	**Sorong**	**5.89**	**4**	P	**Pn**	**00 47 42.2**	**-1.8**
	46nm,0.3s,baz=0.3,slow=23,SNR=156						
SIJI				S	**Sn**	**00 48 42.7**	**-7.6**
	17nm,0.3s,baz=200,slow=23,SNR=14						
SWI	**Sorong**	**5.90**	**4**	P	**Pn**	**00 47 42.8**	**-1.3**
	136nm,0.5s,4μm1.3nm						
RKPI	**Ransiki, Papua**	**6.22**	**33**	P	**Pn**	**00 47 47.9**	**-0.6**
SANI	**Sanana**	**6.72**	**314**	P	**Pn**	**00 47 56.2**	**+1.0**
SOEI	**Soe**	**7.11**	**245**	*e*Pn	**Pn**	**00 48 01.7**	**+1.0**
SOEI				*e*Sn	**Sn**	**00 49 16.4**	**-3.7**
SOEI	**Soe**	**7.11**	**245**	P	**Pn**	**00 48 01.2**	**+0.5**
BATI	**Baumata**	**7.84**	**244**	P	**Pn**	**00 48 10.9**	**+0.4**
	11nm,0.3s,baz=116,slow=18,SNR=9.4						
BATI				S	**Sn**	**00 49 33.1**	**-4.5**
	28nm,0.3s,baz=137,slow=16,SNR=11						
BATI	**Baumata**	**7.84**	**244**	P	**Pn**	**00 48 10.9**	**+0.4**
	21nm,0.5s,0.3nm						
TNTI	**Ternate**	**8.25**	**335**	P	**Pn**	**00 48 15.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**12.32**	**204**	*e*Pn	**Pn**	**00 49 08.8**	**-2.3**
FITZ				*e*Sn	Sn	00 51 18.2	-8.5
WRAB	**Tennant Creek**	**13.52**	**166**	*e*Pn	**Pn**	**00 49 25.4**	**-1.5**
WRAB				*e*Sn	Sn	00 51 45.1	-11
WR1	**Warramunga Arr**	**13.52**	**166**	*e*Pn	**Pn**	**00 49 24.5**	**-2.4**
WR1				*e*Sn	Sn	00 51 45.9	-10
WRA	**Warramunga Arr**	**13.52**	**166**	P	**Pn**	**00 49 24.5**	**-2.4**
	2.6nm,0.3s,baz=352,slow=13,SNR=34						
WRA				S	Sn	00 51 45.9	-10
	7.3nm,0.3s,baz=350,slow=20,SNR=12						
WB2	**Warramunga Arr**	**13.53**	**166**	*e*Pn	**Pn**	**00 49 25.1**	**-1.9**
COEN	**Coen**	**14.10**	**121**	*e*Pn	**Pn**	**00 49 32.7**	**-1.7**
PMG	**Port Moresby**	**16.40**	**100**	P	**Pn**	**00 50 03.5**	**0.0**
	0.8nm,0.3s,baz=279,slow=13,SNR=2.4						
AS31	**Alice Springs**	**17.05**	**170**	*e*Pn	**P**	**00 50 12.8**	**+1.2**
	5.5nm,0.5s						
AS31				*e*Sn	**Sn**	**00 53 13.6**	**-7.5**
ASAR	**Alice Springs**	**17.05**	**170**	P	**Pn**	**00 50 11.6**	**+0.2**
	2.8nm,0.3s,baz=350,slow=8.9,SNR=78						
ASAR				S	**Sn**	**00 53 13.6**	**-7.5**
	2.0nm,0.3s,baz=349,slow=26,SNR=8.3						
AS01	**Alice Springs**	**17.06**	**170**	*e*Pn	**Pn**	**00 50 11.4**	**-0.1**
AS01				*e*Sn	**Sn**	**00 53 12.7**	**-8.5**
MBWA	**Marble Bar**	**17.86**	**216**	*e*P	**P**	**00 50 21.1**	**+0.5**
	38nm,1.5s						
FORT	**Forrest**	**24.01**	**186**	*e*P	**P**	**00 51 27.0**	**+2.3**
	23nm,0.8s						
BBOO	**Buckleboo**	**26.35**	**170**	*e*P	**P**	**00 51 47.3**	**+1.4**
	26nm,1.4s						
STKA	**Stephens Creek**	**26.92**	**159**	P	**P**	**00 51 52.8**	**+1.8**
	1.7nm,0.6s,baz=327,slow=10,SNR=4.2						
STKA	**Stephens Creek**	**26.92**	**159**	*e*P	**P**	**00 51 52.8**	**+1.8**
	1.2nm,1.3s						
MNAI	**Manna**	**27.82**	**273**	*e*P	**P**	**00 52 00.5**	**+1.2**
	352nm,0.9s						
NWAO	**Narrogin (SRO)**	**28.91**	**204**	P	**P**	**00 52 10.1**	**+1.3**
	5.0nm,0.8s,baz=51,slow=2.2,SNR=5.2						
NWAO	**Narrogin (SRO)**	**28.91**	**204**	*e*P	**P**	**00 52 09.0**	**+0.3**
	25nm,1.3s						
CM31	**Chiang Mai Arr**	**40.21**	**309**	*e*P	**P**	**00 53 46.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**40.21**	**309**	P	**P**	**00 53 46.4**	**+0.3**
	1.5nm,0.5s,baz=142,slow=7.8,SNR=9.5						
URZ	**Urewera**	**52.24**	**134**	P	**P**	**00 55 20.6**	**+0.5**
	7.6nm,0.9s,baz=248,slow=5.4						
RAMN	**Ramite**	**54.37**	**310**	*e*P	**P**	**00 55 36.6**	**+0.4**
	16nm,0.6s						
JIRN	**Jiri**	**55.05**	**311**	*e*P	**P**	**00 55 41.3**	**+0.1**
	9.7nm,0.6s						
GUN	**Gumba**	**55.41**	**311**	*e*P	**P**	**00 55 43.9**	**+0.1**
	18nm,0.7s						
PKI	**Pulchoki**	**55.59**	**310**	*e*P	**P**	**00 55 44.9**	**-0.2**
PKIN	**Phulchoki**	**55.61**	**310**	*e*P	**P**	**00 55 45.3**	**+0.2**
	3.9nm,0.5s						
KKN	**Kakani**	**55.81**	**310**	*e*P	**P**	**00 55 46.6**	**+0.1**
	8.1nm,0.6s						
DMN	**Daman**	**55.85**	**310**	*e*P	**P**	**00 55 47.0**	**+0.2**
	6.5nm,0.4s						
KOLN	**Koldanda**	**57.08**	**309**	*e*P	**P**	**00 55 55.8**	**+0.3**
	14nm,0.9s						
DANN	**Dangsing**	**57.25**	**310**	*e*P	**P**	**00 55 57.4**	**+0.6**
	2.0nm,0.3s						
PYUN	**Piuthan**	**57.71**	**309**	*e*P	**P**	**00 56 00.1**	**+0.1**
	3.7nm,0.4s						
SONA0	**Songino Array**	**58.49**	**341**	*e*P	**P**	**00 56 06.0**	**+1.1**
SONM	**Songino Array**	**58.49**	**341**	P	**P**	**00 56 06.0**	**+1.1**
	0.8nm,0.6s,baz=168,slow=5.4,SNR=5.5						
PETK	**Petropavlovsk-**	**63.87**	**18**	P	**P**	**00 56 44.2**	**+3.2**
	2.5nm,0.9s,baz=209,slow=12,SNR=2.6						
PEA1	**Petropavlovsk-**	**63.88**	**18**	*e*P	**P**	**00 56 44.2**	**+3.2**
MK01	**Makanchi Array**	**68.47**	**326**	*e*P	**P**	**00 57 11.6**	**+1.0**
MK31	**Makanchi Array**	**68.48**	**326**	*e*P	**P**	**00 57 11.8**	**+1.2**
MK32	**Makanchi Array**	**68.48**	**326**	*e*P	**P**	**00 57 11.9**	**+1.3**
MKAR	**Makanchi Array**	**68.48**	**326**	P	**P**	**00 57 11.9**	**+1.2**
	4.9nm,0.6s,baz=122,slow=8.0,SNR=78						
MKAR	**Makanchi Array**	**68.48**	**326**	*e*P	**P**	**00 57 11.8**	**+1.2**
	28nm,0.8s						
MAKZ	**Makanchi**	**68.67**	**326**	*e*P	**P**	**00 57 12.8**	**+1.0**
	3.8nm,0.5s						
AAK	**Ala-Archa**	**70.89**	**319**	P	**P**	**00 57 27.8**	**+2.1**
	1.0nm,0.4s,baz=252,slow=10,SNR=5.2						
ZALV	**Zalesovo Beam**	**71.75**	**333**	P	**P**	**00 57 29.8**	**-0.5**
	0.6nm,0.6s,baz=108,slow=4.8,SNR=4.5						
ZAA1	**Zalesovo Array**	**71.75**	**333**	*e*P	**P**	**00 57 29.8**	**-0.6**
KURBB	**Kurchatov Arra**	**72.75**	**328**	P	**P**	**00 57 36.6**	**+0.3**
	1.1nm,0.7s,baz=128,slow=5.0,SNR=11						
KURK	**Kurchatov**	**72.75**	**328**	*e*P	**P**	**00 57 36.6**	**+0.2**
BVAR	**Borovoye Array**	**78.31**	**328**	P	**P**	**00 58 08.8**	**+0.7**
	0.4nm,0.3s,baz=152,slow=7.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**129.55**	**281**	PKP	**PKPdf**	**01 05 18.2**	**+0.8**
	0.1nm,0.5s,baz=113,slow=4.6,SNR=2.8						
TOA1	**Torodi Ar. Sit**	**129.55**	**281**	*e*PKPdf	**PKPdf**	**01 05 18.2**	**+0.8**

*IDC **06** 00:49:19.3±6.4,35°.50N×106°.67E,h0km,mb3.5/6, mb1 3.6/7,mb1mx3.3/36,mbtmp3.5/7,ML3.1/1,Error ellipse: s-maj=110.7km s-min=76.4km az=141.0*
ISC 06 00:49:25.7±5.6**,35°.8N**±0°.5×**106°.7E**±0°.6**,h35km,n7,** σ**1.s76**/7**,mb3.7**/6**,Gansu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**12.08**	**359**	Pn	**Pn**	**00 52 14.9**	**-0.4**
	0.1nm,0.3s,baz=179,slow=14,SNR=3.5						
MKAR	**Makanchi Array**	**21.33**	**309**	P	**P**	**00 54 10.1**	**+0.5**
	0.2nm,0.7s,baz=101,slow=11,SNR=3.2						
ZALV	**Zalesovo Beam**	**23.75**	**327**	P	**P**	**00 54 35.6**	**+1.0**
	0.9nm,0.5s,baz=132,slow=11,SNR=6.6						
KURBB	**Kurchatov Arra**	**25.16**	**315**	P	**P**	**00 54 45.7**	**-1.9**
	0.2nm,0.4s,baz=118,slow=9.9,SNR=2.7						
ARCES	**ARCESS Array B**	**53.97**	**335**	P	**P**	**00 58 47.6**	**+1.9**
	1.9nm,0.9s,baz=91,slow=9.0,SNR=3.3						
FINES	**FINESS Array B**	**54.99**	**325**	P	**P**	**00 58 54.3**	**+1.2**
	1.7nm,0.9s,baz=88,slow=4.7,SNR=3.1						
NOA	**NORSAR Array B**	**61.95**	**327**	P	**P**	**00 59 40.2**	**-1.6**
	0.8nm,0.8s,baz=77,slow=6.8,SNR=3.7						

*IDC **06** 01:10:05.6±1.2,7°.08S×155°.20E,h0km,mb3.9/6, mb1 4.0/7,mb1mx3.8/37,mbtmp4.0/7,ML4.2/1,MS3.0/1, Ms1 3.0/1,ms1mx2.5/26,Error ellipse: s-maj=31.7km s-min=27.7km az=39.0*
*ISCJB **06** 01:10:09.8±0.8,7°.1S±0°.2×155°.21E±0°.09,h41km,mb3.9/6, Error ellipse: s-maj=24.1km s-min=9.5km az=23.0*
ISC 06 01:10:11.6±0.9**,7°.2S**±0°.2×**155°.2E**±0°.1**,h41km,n8,**σ**1.s30**/8**, mb4.0**/6**,Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.23**	**116**	Pn	**Pn**	**01 11 26.4**	**-1.0**
	7.8nm,0.3s,baz=311,slow=19,SNR=2.7						
HNR				Sn	**Sn**	**01 12 27.8**	**+1.4**
	baz=204,slow=20,SNR=2.9						
PMG	**Port Moresby**	**8.26**	**254**	LR	LR	01 15 31.5	
	comp=Z,97nm,19.0s,baz=236,slow=39						
WRA	**Warramunga Arr**	**23.89**	**236**	P	**P**	**01 15 21.2**	**-0.5**
	1.4nm,0.9s,baz=61,slow=9.9,SNR=5.1						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ASAR	**Alice Springs**	**26.22**	**229**	P	**P**	**01 15 42.7**	**-0.2**
	0.4nm,0.8s,baz=65,slow=9.3,SNR=2.7						
CMAR	**Chiang Mai Arr**	**61.02**	**296**	P	**P**	**01 20 23.3**	**+1.7**
	1.0nm,0.3s,baz=111,slow=4.9,SNR=4.2						
SONM	**Songino Array**	**69.57**	**327**	P	**P**	**01 21 16.7**	**+0.1**
	0.6nm,0.5s,baz=146,slow=6.1,SNR=6.8						
MKAR	**Makanchi Array**	**83.64**	**319**	P	**P**	**01 22 35.7**	**-0.3**
	2.0nm,0.8s,baz=105,slow=5.8,SNR=22						
ZALV	**Zalesovo Beam**	**84.41**	**326**	P	**P**	**01 22 38.2**	**-1.5**
	1.5nm,0.7s,baz=120,slow=5.8,SNR=5.6						

KRSC 06 01:19:36.1±1.3**, 49.°79N×156.°66E, h9**km±19km**, ML3.7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.96**	**339**	*e*P	Pg	01 19 53.9	-0.7
SKR				*e*S	Sb	01 20 07.7	0.0
PAU	**Pauzhetka**	**1.68**	**3**	*e*P	Pn	01 20 06.3	+0.6
PAU				*e*S	Sb	01 20 28.5	-0.1
KDTR	**Khodutka, Kamc**	**2.22**	**23**	*e*P	Pb	01 20 15.4	-0.9
KDTR				*e*S	Sn	01 20 42.0	+1.5
MTVR	**Mutnovka**	**2.87**	**19**	*e*P	Pb	01 20 25.3	-2.2
MTVR				*e*S	Sb	01 20 59.8	-2.9
RUS	**Russkaya**	**2.90**	**23**	*e*P	Pn	01 20 24.3	+1.9
RUS				*e*S	Sn	01 20 59.2	+1.9
KRMR	**Karymshinskiy**	**3.18**	**16**	*e*P	Pn	01 20 29.5	+3.2
KRMR				*e*S	Sb	01 21 08.7	-3.0
UGLR	**Uglovaya**	**3.68**	**21**	*e*P	Pn	01 20 37.2	+3.9
AVH	**Avacha**	**3.72**	**20**	*e*P	Pn	01 20 36.4	+2.7
KOK	**Koryaka**	**3.72**	**19**	*e*P	Pn	01 20 36.8	+3.0
SDLR	**Sedlovina**	**3.76**	**21**	*e*P	Pn	01 20 38.0	+3.6
KRX	**Arik**	**3.79**	**18**	*e*P	Pn	01 20 38.1	+3.3
SPN	**Mys Shipunski**	**3.93**	**31**	*e*P	Pn	01 20 40.6	+4.1
SPN				*e*S	Sb	01 21 28.1	-5.0
GNL	**Ganaly**	**3.99**	**11**	*e*P	Pn	01 20 42.0	+4.4

IDC 06 01:23:49.2±2.1**, 2.°26N×97.°78W, h0**km**, mb3.5**/5**, mb1 3.9**/5**, mb1mx3.7**/31**, mbtmp3.5**/5**, MS3.1**/7**, Ms1 3.1**/7**, ms1mx2.9**/27**, Error ellipse: s-maj=281.1km s-min=25.1km az=70.0, West of Galapagos Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**14.58**	**29**	LR	LR	01 31 14.4	
	comp=Z,76nm,20.7s,baz=110,slow=30						
CMIG	**Matias Romero**	**15.01**	**11**	LR	LR	01 31 02.2	
	comp=Z,46nm,20.5s,baz=180,slow=29						
NNA	**Nana**	**25.17**	**125**	LR	LR	01 35 49.7	
	comp=Z,43nm,22.0s,baz=300,slow=29						
TXAR	**Lajitas Array**	**27.50**	**349**	P	P	01 29 37.8	+0.1
	0.4nm,0.8s,baz=170,slow=12,SNR=3.5						
TXAR				LR	LR	01 39 28.8	
	comp=Z,18nm,18.1s,baz=0.0,slow=34						
RPN	**Rapa Nui**	**31.27**	**200**	LR	LR	01 39 14.0	
	comp=Z,54nm,19.4s,baz=27,slow=30						
PDAR	**Pinedale Array**	**41.68**	**347**	P	P	01 31 39.2	-0.7
	0.4nm,0.8s,baz=144,slow=10.0,SNR=3.1						
PDAR				LR	LR	01 48 16.4	
	comp=Z,35nm,19.4s,baz=148,slow=35						
PLCA	**Paso Flores**	**49.48**	**153**	P	P	01 32 41.4	-0.1
	0.5nm,0.5s,baz=292,slow=11,SNR=2.5						
YKA	**Yellowknife Ar**	**61.40**	**351**	P	P	01 34 07.6	+0.8
	0.1nm,0.9s,baz=155,slow=6.5,SNR=4.5						
ILAR	**Eielson Array**	**71.59**	**340**	P	P	01 35 12.0	-0.2
	0.7nm,0.8s,baz=152,slow=5.7,SNR=6.3						
RES	**Resolute Bay**	**72.36**	**1**	LR	LR	02 05 24.2	
	comp=Z,22nm,18.9s,baz=82,slow=34						

RSNC 06 02:02:54.9±0.9**, 7.°55N×73.°05W, h159**km±5km**, ML2.9, Mw3.5, 1C-1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCAC	**Ocana**	**0.74**	**339**	*e*P	Pn	02 03 18.3	-0.4
OCAC				*e*S	Sn	02 03 36.6	-0.5
BRRC	**Barranca, Sant**	**0.79**	**237**	⇑ *i*P	Pn	02 03 18.9	-0.1
BRRC				*e*S	Sn	02 03 36.7	-0.6
BRRC				*i*		02 03 40.4	
	comp=N,218nm,0.2s						
BARC	**Barichara**	**0.96**	**188**	*e*P	Pn	02 03 20.3	-0.2
BARC				*e*S	Sn	02 03 39.4	-0.7
BARC				*i*		02 03 41.2	
	comp=Z,136nm,0.2s						
RUSC	**La Rusia**	**1.64**	**181**	*e*P	Pn	02 03 26.9	-0.3
RUSC				*e*S	Sn	02 03 51.3	-0.7
RUSC				*i*		02 03 54.1	
	comp=N,24nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.72**	**235**	⇓ *i*P	Pn	02 03 27.0	-0.5
PTBC				*e*S	Sn	02 03 51.9	-0.6
PTBC				*i*		02 03 58.8	
	comp=N,115nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.80**	**268**	*e*P	Pn	02 03 27.7	-0.6
ZARC				*e*S	Sn	02 03 53.6	-0.4
ZARC				*i*		02 04 00.1	
	comp=N,158nm,0.3s						
CODC	**Agustn Codazz**	**2.41**	**351**	*e*P	Pn	02 03 34.1	-1.2
CODC				*e*S	Sn	02 04 05.1	-1.6
CODC				*i*		02 04 06.0	
	comp=N,28nm,0.4s						
SDV	**Santo Domingo**	**2.73**	**61**	*e*P	Pn	02 03 39.0	-0.5
HELC	**Santa Helena**	**2.81**	**242**	*e*P	Pn	02 03 40.6	0.0
HELC				*e*S	Sn	02 04 15.3	-0.6
HELC				*i*		02 04 24.4	
	comp=N,19nm,0.5s						
MOTC	**Monteria, Cord**	**2.87**	**295**	*e*P	Pn	02 03 39.1	-1.9
MOTC				*e*S	Sn	02 04 13.9	-2.7
MOTC				*i*		02 04 16.2	
	comp=N,54nm,0.2s						
CHIC	**Chingaza**	**2.98**	**193**	*e*P	Pn	02 03 43.2	+0.4
CHIC				*e*S	Sn	02 04 18.2	-1.6
CHIC				*i*		02 04 23.4	
	comp=N,22nm,0.4s						
SJCC	**San Jacinto, C**	**3.15**	**318**	*e*P	Pn	02 03 43.6	-0.9
SJCC				*e*S	Sn	02 04 20.4	-2.6
SJCC				*i*		02 04 23.0	
	comp=N,53nm,0.4s						
DBBC	**Dabeiba**	**3.18**	**261**	*e*P	Pn	02 03 44.6	-0.4
ANIL	**Santa Ana**	**3.83**	**218**	*e*S	Sn	02 04 38.3	-0.9
ANIL				*i*		02 04 53.0	
	comp=N,30nm,0.3s						

*ISCJB **06** 02:06:52.8±0.6, 55.°61N±0.°04×135.°21W±0.°08, h9km, mb3.2/1, Error ellipse: s-maj=8.0km s-min=4.8km az=140.7*

*IDC **06** 02:06:53.4±1.2, 55.°59N×135.°15W, h0km, mb2.9/2, mb1 3.4/7, mb1mx3.2/42, mbtmp3.3/7, ML3.0/5, Error ellipse: s-maj=21.9km s-min=9.8km az=52.0*

*NEIC **06** 02:06:56.1±0.0, 55.°64N×135.°04W, h20km, ML3.2(AEIC), After AEIC.*

ISC 06 02:06:54.5±1.0**, 55.°61N**±0.°05×**135.°14W**±0.°07**, h9**km**, n20, σ1.°12**/26**, Off coast of southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	**Craig**	**1.16**	**96**	P	**Pb**	**02 07 16.0**	**-0.6**
CRAG				S	**Sb**	**02 07 30.5**	**-1.2**
SIT	**Sitka**	**1.46**	**356**	P	**Pn**	**02 07 19.4**	**-1.5**
WRAK	**Wrangell Islan**	**1.77**	**62**	P	**Pn**	**02 07 24.8**	**-0.5**
WRAK				S	**Sn**	**02 07 46.6**	**-1.2**
NDB	**Naden**	**2.09**	**142**	P	**Pn**	**02 07 30.6**	**+0.8**
MASB	**Masset**	**2.41**	**130**	P	**Pn**	**02 07 34.5**	**+0.4**
H02S1	**DAWSON INLET T**	**2.87**	**146**	Pn	**Pn**	**02 07 41.0**	**+0.6**
	SNR=417						
H02S1				Sn	**Sn**	**02 08 13.5**	**-1.6**
H02S1				Lg	Lg	02 08 23.6	
	SNR=1.8						
H02S1				T	T	02 10 11.2	
BESE	**Bessie Mountai**	**2.98**	**3**	P	**Pn**	**02 07 42.2**	**+0.1**
BNB	**Barry Inlet**	**3.64**	**145**	P	**Pn**	**02 07 50.9**	**-0.1**
PLBC	**Pleasant Camp**	**3.91**	**351**	P	**Pn**	**02 07 55.3**	**+0.5**
DLBC	**Dease Lake**	**3.98**	**43**	Pn	**Pn**	**02 07 55.6**	**-0.2**
	0.5nm,0.3s,baz=217,slow=5.1,SNR=6.2						
DLBC				Pg	**Pb**	**02 08 07.8**	**+3.0**
	1.2nm,0.3s,baz=202,slow=18,SNR=8.1						
DLBC				Lg	Lg	02 08 56.8	
	4.2nm,0.3s,baz=307,slow=20,SNR=9.1						
DLBC	**Dease Lake**	**3.98**	**43**	P	**Pn**	**02 07 56.4**	**+0.6**
WHY	**Whitehorse**	**5.07**	**1**	P	**Pn**	**02 08 11.2**	**+0.5**
PCA	**Pinnacle**	**5.26**	**331**	P	**Pn**	**02 08 14.4**	**+1.1**
BBB	**Bella Bella**	**5.39**	**127**	Pn	**Pn**	**02 08 15.2**	**+0.2**
	2.1nm,0.3s,baz=299,slow=19,SNR=34						
BBB				Sn	**Sn**	**02 09 15.6**	**-1.5**
	4.7nm,0.3s,baz=117,slow=18,SNR=11						
BBB				Lg	Lg	02 09 45.3	
	1.8nm,0.3s,baz=187,slow=19,SNR=2.2						
BBB	**Bella Bella**	**5.39**	**127**	P	**Pn**	**02 08 15.5**	**+0.5**
BBB				S	**Sn**	**02 09 16.9**	**-0.2**
KDAK	**Kodiak Island**	**9.84**	**290**	Pn	**Pn**	**02 09 15.1**	**-0.8**
	0.7nm,0.3s,baz=95,slow=6.4,SNR=12						
ILAR	**Eielson Array**	**10.87**	**332**	Pn	**Pn**	**02 09 30.2**	**+0.1**
	0.1nm,0.3s,baz=156,slow=13,SNR=13						
YKA	**Yellowknife Ar**	**12.58**	**48**	Pn	**Pn**	**02 09 53.0**	**-0.4**
	0.0nm,0.3s,baz=250,slow=12,SNR=2.8						
PDAR	**Pinedale Array**	**20.94**	**117**	P	**P**	**02 11 39.3**	**+1.7**
	0.1nm,0.3s,baz=301,slow=7.2,SNR=2.8						
MKAR	**Makanchi Array**	**73.22**	**334**	P	**P**	**02 18 24.1**	**-1.4**
	0.3nm,0.9s,baz=7.8,slow=6.4,SNR=2.1						

MEX 06 02:19:14.4±0.4**, 15.°51N×92.°33W, h186**km±6km**, MD3.8, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.60**	**174**	*i* P	Pn	02 19 38.6	-1.7
THIG				*i* S	Sn	02 19 58.2	-2.3
CCIG	**Comitan**	**0.79**	**13**	*i* P	Pn	02 19 40.4	-1.2
CCIG				*e*S	Sn	02 20 00.1	-2.7
CMIG	**Matias Romero**	**2.91**	**303**	*e*P	Pn	02 20 01.3	-1.0
CMIG				*i* S	Sn	02 20 37.5	-2.2

*TIR **06** 02:25:41.1, 34.°77N×21.°30E, h4km, Md2.5/3*

SKO 06 02:25:40.3, 40.°71N×21.°39E, h15km**, M1.1, ML1.7, 1C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.07**	**352**	⇑ *i*Pg	Pg	02 25 42.9	-0.5
FNA				*i* Sg	Sg	02 25 43.8	-1.7
FNA	**Florina**	**0.07**	**352**	*i* PG	Pg	02 25 42.9	-0.6
FNA				*i* SG	Sg	02 25 44.0	-1.5
BIA	**Bitola**	**0.31**	**351**	*i* Pg	Pb	02 25 47.5	-0.2
BIA				*i* Sg	Sg	02 25 51.9	+0.4
KBN	**Korca**	**0.47**	**260**	*i* PG	Pg	02 25 49.9	+0.2
KBN				*i* SG	Sb	02 25 56.6	-0.4
OHR	**Ohrid**	**0.60**	**312**	*i* Pg	Pb	02 25 52.5	-0.1
OHR				*i* Sg	Sb	02 26 00.6	-0.3
OHR				*e*Lg	Lg	02 26 02.6	
	comp=E,20nm,0.4s						
OHR				*e*Lg	Lg	02 26 02.6	
	comp=N,50nm,1.6s						
KRUS	**Krusevo**	**0.67**	**351**	*i* Pg	Pg	02 25 53.4	0.0
KRUS				*i* Sg	Sb	02 26 02.9	0.0
IGT	**Igoumenitsa**	**1.43**	**215**	*i* PN	Pg	02 26 11.9	+4.1
IGT				*i* SN	Sg	02 26 31.2	+4.8

*NIED **06** 02:32:00, 35.°30N×141.°30E, h29km, Mw4.4 Best double couple: Mo3.83000×10^15 NP1:φs324.00000°, δ63.00000°, λ173.00000°. NP2:φs57.00000°, δ84.00000°, λ27.00000°.*

*IDC **06** 02:32:29.6±0.6, 35.°31N×141.°15E, h0km, mb4.1/22, mb1 4.2/30, mb1mx4.1/41, mbtmp4.0/30, ML3.4/7, MS3.5/13, Ms1 3.5/13, ms1mx3.3/35, Error ellipse: s-maj=16.0km s-min=12.2km az=93.0*

*NEIC **06** 02:32:31.9±1.8, 35.°30N×141.°17E, h15km±11km, mb4.6/18, Error ellipse: s-maj=5.5km s-min=4.6km az=93.0*

NEIC Recorded [1 JMA] in Chiba.

*MOS **06** 02:32:31.6±1.0, 35.°17N×141.°05E, h25km, mb4.7/29, Error ellipse: s-maj=11.2km s-min=5.8km az=121.8*

*JMA **06** 02:32:32.6±0.1, 35.°33N×141.°17E, h38km±2km, M4.5 Broadband fault plane solution: P waves. NP1: φs334.00000°, δ70.00000°, λ-98.00000°. NP2: φs176.00000°, δ21.00000°, λ-69.00000°. Principal axes: T Plg25.0000°, Azm70.0000°; N Plg7.0000°, Azm337.0000°; P Plg64.0000°, Azm231.0000°;*

JMA Felt I J1.

*ISCJB **06** 02:32:32.4±0.7, 35.°26N±0.°03×141.°15E±0.°05, h31km±4km, mb4.3/53, MS3.6/10 Error ellipse: s-maj=6.8km s-min=4.9km az=6.6*

ISC 06 02:32:33.6±1.2**, 35.°28N**±0.°04×**141.°09E**±0.°05**, h25**km±8km**, n155, σ1.°00**/155**, mb4.4**/62**, MS3.7**/10**, 11C-9D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.46**	**336**	⇓P	**Pb**	**02 32 42.4**	**-0.8**
CHOJ				S	**Sb**	**02 32 49.2**	**-0.5**
BSO1	**Boso 1**	**0.63**	**189**	P	**Pb**	**02 32 45.7**	**0.0**
BSO1				*e*X		02 32 54.1	
JSMT	**Sammumatsuo**	**0.64**	**305**	P	**Pb**	**02 32 45.9**	**-0.2**
KTR	**Katsuura**	**0.65**	**258**	⇑P	**Pb**	**02 32 46.5**	**+0.2**
KTR				S	**Sn**	**02 32 56.7**	**+0.1**
BSO3	**Boso 3**	**0.68**	**225**	P	**Pb**	**02 32 47.0**	**+0.4**
BSO4	**Boso 4**	**0.68**	**245**	⇑P	**Pb**	**02 32 47.1**	**+0.3**
BSO4				*e*X		02 32 58.5	
JKUC	**kamogawauchiur**	**0.74**	**261**	P	**Pb**	**02 32 47.7**	**-0.1**
JKUC				S	**Sb**	**02 32 58.5**	**+0.9**
JYT	**Yasato**	**1.20**	**323**	P	**Pn**	**02 32 53.3**	**-1.3**
JHJ2	**Mitsune**	**2.41**	**206**	*e*Pn	**Pn**	**02 33 11.6**	**+0.2**
JHJ	**Hachijo jima 2**	**2.41**	**207**	Pn	**Pn**	**02 33 10.7**	**-0.7**
	31nm,0.3s,baz=319,slow=21,SNR=28						
JHJ				Sn	**Sn**	**02 33 37.4**	**-2.8**
	136nm,0.3s,baz=55,slow=22,SNR=14						
JHJ				LR	LR	02 34 13.8	
	comp=Z,135nm,19.8s,baz=178,slow=42						
MJAR	**Matsushiro Arr**	**2.66**	**299**	Pn	**Pn**	**02 33 15.8**	**+1.0**
	13nm,0.3s,baz=158,slow=12,SNR=89						
MJAR				LR	LR	02 34 19.0	
	comp=Z,342nm,21.0s,baz=120,slow=41						
MAJO	**Matsushiro**	**2.66**	**299**	*e*Pn	**Pn**	**02 33 16.1**	**+1.3**
MAJO	**Matsushiro**	**2.66**	**299**	*d* *i*P	**Pn**	**02 33 16.9**	**+2.1**
MAT	**Matsushiro**	**2.66**	**299**	P	**Pn**	**02 33 16.4**	**+1.6**
MAT				*e*S	**Sb**	**02 33 50.8**	**-1.9**
MJB9	**Matsu-Tunnel**	**2.66**	**299**	*e*Pn	**Pn**	**02 33 15.9**	**+1.1**
INU	**Inuyama**	**3.33**	**272**	*e*Pn	**Pn**	**02 33 24.7**	**+0.6**
ERM	**Erimo**	**6.92**	**13**	*e*Pn	**Pn**	**02 34 13.3**	**+0.1**
ERM	**Erimo**	**6.92**	**13**	⇑ *e*P	**Pn**	**02 34 17.3**	**+4.1**
CBIJ	**Chichi jima**	**8.21**	**173**	*e*Pn	**Pn**	**02 34 29.3**	**-1.8**
JCJ	**Chichijima**	**8.21**	**173**	Pn	**Pn**	**02 34 30.2**	**-0.9**
	12nm,0.3s,baz=180,slow=24,SNR=2.5						
JNU	**Nakatsue**	**8.73**	**259**	Pn	**Pn**	**02 34 39.0**	**+0.8**
	0.1nm,0.3s,baz=37,slow=10,SNR=1.6						
JNU				LR	LR	02 38 09.9	
	comp=Z,102nm,19.1s,baz=114,slow=39						
ASAJ	**Asahikawa**	**8.90**	**7**	Pn	**Pn**	**02 34 37.0**	**-3.4**
	2.1nm,0.3s,baz=206,slow=12,SNR=8.3						
SHO	**Shikotan**	**9.65**	**26**	*e*P	Pn	02 34 57.6	+6.9
SHO				pmax	pmax		
	comp=Z,20nm,0.4s						
SHO				pmax	pmax		
	comp=N,9.0nm,0.3s						
SHO				pmax	pmax		
	comp=E,11nm,0.3s						
KSRS	**Korea Array**	**10.84**	**285**	Pn	**Pn**	**02 35 08.1**	**+1.1**
	comp=E,0.2nm,0.3s,baz=94,slow=13,SNR=3.3						
KSRS				LR	LR	02 39 31.6	
	comp=E,342nm,18.3s,baz=98,slow=39						
KS01	**Wonju Array Si**	**10.87**	**285**	*e*Pn	**Pn**	**02 35 07.2**	**-0.3**
KS15	**Wonju Array Si**	**10.87**	**285**	*e*Pn	**Pn**	**02 35 08.1**	**+0.7**
KSAR	**Wonju Array Be**	**10.87**	**285**	Pn	**Pn**	**02 35 08.1**	**+0.7**
KSAR	**Wonju Array Be**	**10.87**	**285**	P	**Pn**	**02 35 08.1**	**+0.7**
USRK	**Ussuriysk Ar.**	**11.33**	**325**	Pn	**Pn**	**02 35 13.5**	**-0.2**
	comp=E,0.3nm,0.3s,baz=62,slow=7.1,SNR=4.9						
USRK				LR	LR	02 39 27.0	
	comp=E,299nm,18.5s,baz=132,slow=37						
CN2	**Changchun**	**14.75**	**310**	*e*P	**Pn**	**02 36 01.6**	**+1.2**
KLR	**Kul'dur**	**15.54**	**337**	Pn	**Pn**	**02 36 10.2**	**-0.7**
	comp=E,0.2nm,0.3s,baz=163,slow=8.8,SNR=5.2						
KLR	**Kul'dur**	**15.54**	**337**	⇑ *e*P	**Pn**	**02 36 10.8**	**-0.1**
ZEA	**Zeya**	**20.86**	**336**	*e*P	Pn	02 37 16.3	+0.4
ZEA				pmax	pmax		
	comp=Z,17nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,14.0s						
PETK	**Petropavlovsk-**	**21.34**	**28**	LR	LR	02 46 06.4	
	comp=Z,51nm,20.6s,baz=220,slow=38						
HHC	**Hu-ho-hao-te**	**23.84**	**292**	*e*P	**P**	**02 37 44.0**	**-0.8**
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,97nm,5.6s						
MA2	**Magadan**	**25.12**	**12**	P	**P**	**02 37 54.8**	**-1.3**
	comp=Z,12nm,0.7s,baz=205,slow=7.6,SNR=8.9						
MA2	**Magadan**	**25.12**	**12**	⇑ *e*P	**P**	**02 37 57.6**	**+1.5**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
XAN	**Xi'an**	**26.43**	**277**	P	P	02 38 18.6	+10
XAN				pP	sP	02 38 25.9	+7.3
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ULN	**Ulaanbaatar**	**28.16**	**307**	*e*P	**P**	**02 38 24.2**	**+0.3**
	comp=Z,1.2nm,0.5s						
ULN	**Ulaanbaatar**	**28.16**	**307**	⇓ *e*P	**P**	**02 38 24.7**	**+0.8**
ULN				pmax	pmax		
	comp=Z,12nm,2.5s						
SEY	**Seymchan**	**28.56**	**11**	P	**P**	**02 38 26.0**	**-1.0**
	comp=Z,2.5nm,0.7s,baz=157,slow=4.3,SNR=7.5						
SEY	**Seymchan**	**28.56**	**11**	⇑ *e*P	**P**	**02 38 28.2**	**+1.2**
SONA1	**Songino Array**	**28.58**	**307**	*e*P	**P**	**02 38 26.9**	**-0.7**
SONA0	**Songino Array**	**28.59**	**307**	*e*P	**P**	**02 38 27.3**	**-0.4**
SONM	**Songino Array**	**28.59**	**307**	P	**P**	**02 38 27.3**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=107,slow=8.3,SNR=12						
SONM				LR	LR	02 50 19.6	
	comp=Z,108nm,18.7s,baz=162,slow=37						
BOD	**Bodaibo**	**28.89**	**330**	*e*P	**P**	**02 38 29.4**	**-0.6**
BOD				pmax	pmax		
	comp=Z,7.0nm,2.1s						
GTA	**Gaotai**	**32.87**	**290**	*e*P	P	02 38 56.0	-10
GTA				pP	pP	02 38 59.5	-13
GTA				sP	sP	02 39 02.4	-13
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BILL	**Bilibino**	**35.78**	**16**	⇓ *e*P	**P**	**02 39 33.9**	**+3.7**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.5s						
TIXI	**Tiksi**	**37.00**	**354**	P	**P**	**02 39 39.9**	**-0.6**
	comp=Z,3.5nm,0.7s,baz=144,slow=5.5,SNR=11						
TIXI	**Tiksi**	**37.00**	**354**	⇓ *e*P	**P**	**02 39 40.9**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CM31	**Chiang Mai Arr**	**40.83**	**257**	*e*P	**P**	**02 40 13.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**40.83**	**257**	P	**P**	**02 40 13.1**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=45,slow=12,SNR=2.6						
CMAR				LR	LR	02 59 21.7	
	comp=Z,60nm,18.3s,baz=60,slow=39						
DGZ	**Jazzator, Alta**	**41.23**	**307**	*c* *i*P	**P**	**02 40 17.2**	**+0.8**
DGZ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WMQ	**Urumqi**	**41.42**	**299**	P	**P**	**02 40 19.9**	**+1.9**
WMQ				pP	pP	02 40 25.1	-0.5
WMQ				sP	sP	02 40 30.8	+2.4
WMQ				pmax	pmax		
	comp=Z,21nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,440nm,5.3s						
WMQ				LR	LR		
	comp=N,220nm,18.7s						
WMQ				LR	LR		
	comp=E,140nm,23.9s						
WMQ				LR	LR		
	comp=Z,100nm,19.7s						
ZAA0	**Zalesovo Array**	**42.92**	**314**	*e*P	**P**	**02 40 29.5**	**-0.4**
	comp=Z,4.4nm,1.0s						
ZAA1	**Zalesovo Array**	**42.92**	**314**	*e*P	**P**	**02 40 30.1**	**+0.2**
ZALV	**Zalesovo Beam**	**42.92**	**314**	P	**P**	**02 40 30.1**	**+0.2**
	comp=Z,1.7nm,0.5s,baz=88,slow=6.6,SNR=8.2						
ZALV	**Zalesovo Beam**	**42.92**	**314**	*e*P	**P**	**02 40 29.3**	**-0.6**
ZALV	**Zalesovo Beam**	**42.92**	**314**	*i* P	**P**	**02 40 30.0**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NVS	**Novosibirsk**	**43.88**	**315**	*e*P	**P**	**02 40 37.8**	**+0.2**
NVS				pmax	pmax		
	comp=N,3.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,3.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRDH	**Bariadhala**	**44.63**	**267**	LR	LR	03 03 26.8	
	comp=Z,86nm,18.1s,baz=160,slow=42						
MK01	**Makanchi Array**	**44.85**	**304**	*e*P	**P**	**02 40 45.5**	**-0.1**
MK31	**Makanchi Array**	**44.85**	**304**	*e*P	**P**	**02 40 45.9**	**+0.3**
MK31	**Makanchi Array**	**44.85**	**304**	*e*P	**P**	**02 40 45.9**	**+0.3**
MK32	**Makanchi Array**	**44.85**	**304**	*e*P	**P**	**02 40 45.7**	**+0.1**
MKAR	**Makanchi Array**	**44.85**	**304**	P	**P**	**02 40 45.7**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=86,slow=8.7,SNR=31						
MKAR				LR	LR	03 00 04.9	
	comp=Z,107nm,18.7s,baz=86,slow=37						
MAKZ	**Makanchi**	**45.06**	**304**	*e*P	**P**	**02 40 47.4**	**+0.1**
	comp=Z,3.4nm,0.8s						
MAKZ	**Makanchi**	**45.06**	**304**	*e*P	**P**	**02 40 47.4**	**+0.1**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURK	**Kurchatov**	**46.83**	**309**	*e*P	**P**	**02 41 00.6**	**-0.4**
	comp=Z,9.4nm,0.9s						
KURK	**Kurchatov**	**46.83**	**309**	*c* *i*P	**P**	**02 41 00.5**	**-0.5**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
RAMN	**Ramite**	**46.89**	**276**	*e*P	**P**	**02 41 02.7**	**+0.5**
	comp=Z,13nm,0.6s						
JIRN	**Jiri**	**46.94**	**277**	*e*P	**P**	**02 41 04.2**	**+1.5**
	comp=Z,12nm,0.3s						
GUN	**Gumba**	**47.09**	**277**	*e*P	**P**	**02 41 05.0**	**+1.1**
	comp=Z,6.9nm,0.6s						
PDGK	**Podgornoye**	**47.38**	**299**	P	**P**	**02 41 05.3**	**-0.4**
PDGK				pmax	pmax		
	comp=Z,15nm,0.8s						
PKI	**Pulchoki**	**47.61**	**277**	*e*P	**P**	**02 41 08.1**	**+0.2**
PKIN	**Phulchoki**	**47.62**	**277**	*e*P	**P**	**02 41 08.4**	**+0.5**
	comp=Z,3.1nm,0.4s						
DMN	**Daman**	**47.84**	**277**	*e*P	**P**	**02 41 10.7**	**+1.1**
	comp=Z,3.0nm,0.4s						
GKN	**Gorkha**	**48.06**	**278**	*e*P	**P**	**02 41 11.9**	**+0.7**
	comp=Z,0.1nm,0.2s						
DANN	**Dangsing**	**48.64**	**279**	*e*P	**P**	**02 41 16.4**	**+0.6**
	comp=Z,21nm,0.6s						
KOLN	**Koldanda**	**49.00**	**278**	*e*P	**P**	**02 41 19.3**	**+0.8**
	comp=Z,3.5nm,0.4s						
PYUN	**Piuthan**	**49.36**	**279**	*e*P	**P**	**02 41 21.7**	**+0.5**
	comp=Z,12nm,0.6s						
NRN	**Naryn**	**50.35**	**298**	*e*P	**P**	**02 41 30.9**	**+2.2**
	comp=Z,3.3nm,0.8s						
NRN	**Naryn**	**50.35**	**298**	*e*P	**P**	**02 41 30.9**	**+2.2**
NRN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AAK	**Ala-Archa**	**51.11**	**300**	*e*P	**P**	**02 41 34.1**	**-0.1**
	comp=Z,3.0nm,0.9s						
AAK	**Ala-Archa**	**51.11**	**300**	⇓ *e*P	**P**	**02 41 35.5**	**+1.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ILAR	**Eielson Array**	**51.12**	**32**	P	**P**	**02 41 33.9**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=266,slow=5.8,SNR=9.3						
ILB	**Eielson Array**	**51.12**	**32**	*e*P	**P**	**02 41 33.9**	**+0.1**
OTUK	**Ortayu**	**51.26**	**307**	P	**P**	**02 41 34.7**	**-0.4**
OTUK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BRVK	**Borovoye**	**51.63**	**313**	*e*P	**P**	**02 41 37.5**	**-0.3**
	comp=Z,4.4nm,1.0s						
BRVK	**Borovoye**	**51.63**	**313**	⇓ *i*P	**P**	**02 41 38.1**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SFK	**Sufi-Kurgan**	**52.57**	**297**	P	**P**	**02 41 44.5**	**-0.8**
SFK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KK31	**Karatay Array**	**53.79**	**301**	*e*P	**P**	**02 41 54.3**	**+0.3**
KK31	**Karatay Array**	**53.79**	**301**	*e*P	**P**	**02 41 54.3**	**+0.3**
KKAR	**Karatay Array**	**53.79**	**301**	*e*P	**P**	**02 41 54.3**	**+0.3**
KKAR	**Karatay Array**	**53.79**	**301**	*e*P	**P**	**02 41 54.3**	**+0.3**
NIL	**Nilore**	**54.93**	**289**	*e*P	**P**	**02 42 03.2**	**+0.8**
	comp=Z,8.2nm,1.0s						
NIL	**Nilore**	**54.93**	**289**	*e*P	**P**	**02 42 03.2**	**+0.8**
NIL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WRAB	**Tennant Creek**	**55.28**	**188**	*e*P	**P**	**02 42 04.9**	**0.0**
	comp=Z,7.7nm,0.9s						
WRAB	**Tennant Creek**	**55.28**	**188**	*e*P	**P**	**02 42 04.9**	**0.0**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WR1	**Warramunga Arr**	**55.29**	**188**	*e*P	**P**	**02 42 05.0**	**+0.1**
	comp=Z,42nm,1.8s						
WRA	**Warramunga Arr**	**55.29**	**188**	P	**P**	**02 42 05.0**	**+0.1**
	comp=Z,3.0nm,0.4s,baz=2.2,slow=7.4,SNR=41						
SVE	**Sverdlovsk**	**56.30**	**319**	*e*P	**P**	**02 42 12.6**	**+0.8**
SVE				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ARU	**Arti**	**57.51**	**319**	*e*P	**P**	**02 42 19.9**	**-0.5**
	comp=Z,8.8nm,1.0s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARU	Arti	57.51	319	d iP	P	02 42 20.5	+0.1
ARU						02 44 26.3	
ARU				S	S	02 50 13.6	-2.5
ARU				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ABKAR	Akbulak array	58.88	311	eP	P	02 42 29.9	-0.2
AS31	Alice Springs	59.02	188	eP	P	02 42 31.1	-0.2
ASAR	Alice Springs	59.02	188	P	P	02 42 31.1	-0.2
	comp=Z,0.8nm,0.5s,baz=11,slow=8.4,SNR=12						
RES	Resolute Bay	64.36	14	eP	P	02 43 07.2	+0.6
	comp=Z,19nm,1.8s						
RES	Resolute Bay	64.36	14	eP	P	02 43 07.2	+0.6
RES				pmax	pmax		
	comp=Z,19nm,1.8s						
YKA	Yellowknife Ar	65.45	30	P	P	02 43 14.3	+0.4
	comp=Z,0.4nm,0.9s,baz=296,slow=6.7,SNR=5.3						
YKB5	Yellowknife Ar	65.45	30	eP	P	02 43 14.3	+0.4
ARA0	ARCESS Array S	65.54	340	eP	P	02 43 13.2	-1.2
ARCES	ARCESS Array B	65.54	340	P	P	02 43 13.2	-1.2
	comp=Z,4.9nm,0.9s,baz=46,slow=5.2,SNR=3.6						
MSF	Maaselka	66.53	335	P	P	02 43 21.3	+0.5
STKA	Stephens Creek	66.81	180	P	P	02 43 22.7	-0.2
	comp=Z,0.9nm,0.4s,baz=335,slow=9.9,SNR=3.1						
STKA	Stephens Creek	66.81	180	eP	P	02 43 22.7	-0.2
	comp=Z,8.6nm,2.0s						
STKA	Stephens Creek	66.81	180	eP	P	02 43 22.7	-0.2
STKA				pmax	pmax		
	comp=Z,9.0nm,2.0s						
JOF	Joensuu	67.39	332	P	P	02 43 25.5	-0.8
JOF				pmax	pmax		
	comp=Z,14nm,2.8s						
OBN	Obninsk	69.34	324	⇓eP	P	02 43 40.0	+1.4
OBN				e		02 46 13.0	
OBN				pmax	pmax		
	comp=Z,47nm,2.9s						
VSR	Storozhevoye	70.08	319	eP	P	02 43 42.1	-1.2
VSR				pmax	pmax		
	comp=Z,10.0nm,1.8s						
FIA0	FINESS Array S	70.24	332	eP	P	02 43 44.2	+0.1
FIA0	FINESS Array S	70.24	332	eP	P	02 43 44.2	+0.1
FINES	FINESS Array B	70.24	332	P	P	02 43 44.2	+0.1
	comp=Z,0.9nm,0.3s,baz=68,slow=6.0,SNR=17						
FINES				LR	LR	03 15 40.9	
	comp=Z,48nm,18.1s,baz=12,slow=37						
KBZ	Khabaz	71.85	311	P	P	02 43 54.5	+0.4
	comp=Z,3.0nm,0.8s,baz=339,slow=2.3,SNR=5.9						
KIV	Kislovodsk	71.86	311	eP	P	02 43 54.9	+0.5
	comp=Z,4.1nm,0.5s						
KIV	Kislovodsk	71.86	311	⇑eP	P	02 43 55.9	+1.6
KIV				e		02 44 14.4	
KIV				pmax	pmax		
	comp=Z,6.0nm,0.7s						
AKASG	Malin Array Be	75.52	322	P	P	02 44 15.5	0.0
	comp=Z,0.8nm,0.4s,baz=47,slow=5.8,SNR=8.0						
AKBB	Malin Array Si	75.52	322	eP	P	02 44 15.5	0.0
	comp=Z,21nm,1.8s						
KIEV	Kiev	75.54	322	eP	P	02 44 14.8	-0.9
	comp=Z,1.8nm,0.4s						
KIEV	Kiev	75.54	322	⇑eP	P	02 44 15.2	-0.4
KIEV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	NORSAR Subarra	75.70	337	P	P	02 44 16.6	+0.1
	comp=Z,0.7nm,0.7s,baz=40,slow=5.9						
NB200	NORSAR Array S	75.70	337	eP	P	02 44 16.3	-0.1
NOA	NORSAR Array B	75.70	337	P	P	02 44 16.3	-0.1
	comp=Z,1.0nm,0.7s,baz=40,slow=5.8,SNR=5.9						
NOA				LR	LR	03 20 42.4	
	comp=Z,67nm,19.1s,baz=280,slow=38						
NV01	Mina Array Sit	76.25	53	eP	P	02 44 19.8	-0.5
NVAR	Mina Array Bea	76.25	53	P	P	02 44 19.8	-0.5
	comp=Z,0.6nm,0.7s,baz=310,slow=7.0,SNR=2.4						
FRB	Frobisher Bay	78.54	13	P	P	02 44 32.3	+0.1
PD31	Pinedale Array	79.08	45	eP	P	02 44 37.0	+1.0
PDAR	Pinedale Array	79.08	45	P	P	02 44 37.0	+1.0
	comp=Z,0.3nm,0.6s,baz=249,slow=1.5,SNR=3.4						
BR101	Keskin Array S	79.82	312	eP	P	02 44 41.0	+1.1
BRTR	Keskin Array B	79.82	312	P	P	02 44 41.0	+1.1
	comp=Z,0.5nm,0.8s,baz=130,slow=1.9,SNR=3.7						
BRTR				LR	LR	03 24 31.5	
	comp=Z,30nm,18.5s,baz=75,slow=39						
RAYN	Ar Rayn	81.08	292	eP	P	02 44 46.8	-0.1
	comp=Z,3.0nm,1.0s						
RAYN	Ar Rayn	81.08	292	eP	P	02 44 46.8	-0.1
RAYN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CLL	Collm	82.48	330	eP	P	02 44 54.0	+0.3
CLL	Collm	82.48	330	eP	P	02 44 54.0	+0.3
GEC2	GERESS Array S	84.06	328	eP	P	02 45 01.5	-0.5
	comp=Z,10nm,1.8s						
GEC2	GERESS Array S	84.06	328	eP	P	02 45 01.5	-0.5
GEC2				pmax	pmax		
	comp=Z,10.0nm,1.8s						
GERES	GERESS Array B	84.06	328	P	P	02 45 01.5	-0.5
	comp=Z,0.5nm,0.7s,baz=45,slow=5.8,SNR=5.3						
MEM	Membach	85.76	333	⇑P	P	02 45 10.0	-0.4
LTX	Lajitas	91.40	52	eP	P	02 45 38.6	+0.9
LTX	Lajitas	91.40	52	eP	P	02 45 38.7	+0.9
TXAR	Lajitas Array	91.40	52	P	P	02 45 38.6	+0.9
	comp=Z,0.6nm,1.0s,baz=252,slow=2.5,SNR=3.7						
LPAZ	La Paz	147.78	62	PKPbc	PKiKP	02 52 18.9	-0.4
	comp=Z,0.5nm,0.6s,baz=337,slow=7.7,SNR=2.9						
LVC	Limon Verde	150.99	72	ePKPbc	PKPbc	02 52 23.0	-2.0
LVC	Limon Verde	150.99	72	ePKIKP	PKPbc	02 52 23.0	-2.0
SIV	San Ignacio	152.40	52	PKPbc	PKPbc	02 52 27.7	-0.2
	comp=Z,0.5nm,0.6s,baz=275,slow=7.3,SNR=3.7						

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*IDC **06** 03:25:07.3±2.7, 36°.56N×76°.00E, h0km, mb3.4/4, mb1 3.5/8, mb1mx3.3/34, mbtmp3.4/8, ML3.1/4, MS3.5/1, Ms1 3.5/1, ms1mx2.4/36, Error ellipse: s-maj=47.5km s-min=32.0km az=4.0*

*ISCJB **06** 03:25:24.0±0.6, 37°.45N±0°.07×76°.1E±0°.1, h105km, mb3.2/4, Error ellipse: s-maj=17.9km s-min=5.4km az=154.0*

*NNC **06** 03:25:30.9±7.6, 37°.97N×75°.60E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=66.9km s-min=59.3km az=72.0*

ISC 06 03:25:24.7±1.0**, 37°.40N**±0°.10×**75°.9E**±0°.1**, h105**km**, n20,** σ1s29/22**, mb3.3**/4**, 5C-2D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.22	325	⇑Pn	Pn	03 26 14.8	+1.0
	2.4nm,0.3s						
SFK				⇑Lg	Lg	03 26 52.4	
	14nm,0.4s						
AAK	Ala-Archa	5.34	349	Pn	Pn	03 26 44.5	+2.2
	0.4nm,0.3s,baz=172,slow=9.7,SNR=8.4						
AAK				Sn	Sn	03 27 42.5	-0.1
	0.8nm,0.3s,baz=339,slow=21,SNR=6.0						
AAK	Ala-Archa	5.34	349	⇓Pn	Pn	03 26 44.3	+2.0
	2.0nm,0.7s						
AAK				⇑Sn	Sn	03 27 43.7	+1.2
	4.2nm,0.8s						
TKM2	Tokmak 2	5.52	357	⇓Pn	Pn	03 26 45.8	+1.1
	1.0nm,0.4s						
TKM2				⇑Lg	Lg	03 28 05.6	
	1.7nm,0.6s						
KK31	Karatay Array	7.04	326	Pn	Pn	03 27 05.0	-0.1
	0.5nm,0.3s,baz=132,slow=13,SNR=28						
KK31				⇑Sn	Sn	03 28 19.8	-3.7
	3.2nm,0.6s,baz=132,slow=22,SNR=13						
MKAR	Makanchi Array	10.51	25	Pn	Pn	03 27 51.5	-0.7
	0.1nm,0.3s,baz=197,slow=12,SNR=4.9						
PYUN	Piuthan	11.01	145	eP	Pn	03 27 59.3	0.0
	6.2nm,0.3s						
DANN	Dangsing	11.17	142	eP	Pn	03 28 01.1	-0.3
	16nm,0.5s						
KOLN	Koldanda	11.57	144	eP	Pn	03 28 07.4	+0.6
	3.4nm,0.3s						
KKN	Kakani	12.40	138	eP	Pn	03 28 17.6	-0.2
	6.4nm,0.3s						
DMN	Daman	12.46	139	eP	Pn	03 28 18.4	-0.1
	4.1nm,0.4s						
PKIN	Phulchoki	12.63	138	eP	Pn	03 28 20.7	-0.2
	8.4nm,0.4s						
KURBB	Kurchatov Arra	13.35	7	Pn	P	03 28 35.5	0.0
	0.1nm,0.3s,baz=198,slow=10.0,SNR=14						
BVAR	Borovoye Array	16.09	348	Pn	Pn	03 29 04.4	-0.3
	0.1nm,0.3s,baz=146,slow=10,SNR=2.4						
ZALV	Zalesovo Beam	17.65	18	P	P	03 29 22.1	-1.0
	0.3nm,0.3s,baz=209,slow=13,SNR=5.0						
SONM	Songino Array	24.58	55	P	P	03 30 33.5	-1.3
	0.2nm,0.5s,baz=262,slow=7.1,SNR=3.0						
KVAR	Kislovodsk Arr	25.92	295	LR	LR	03 43 53.4	
	comp=Z,117nm,20.8s,baz=108,slow=43						
FINES	FINESS Array B	39.00	324	P	P	03 32 41.3	+0.9
	0.6nm,0.5s,baz=128,slow=7.7,SNR=9.0						
NOA	NORSAR Array B	46.06	322	P	P	03 33 37.8	+0.2
	0.5nm,0.9s,baz=99,slow=8.4,SNR=2.7						
YKA	Yellowknife Ar	80.09	5	P	P	03 37 22.6	+0.2
	0.2nm,0.4s,baz=345,slow=5.7,SNR=10.0						

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*SOME **06** 03:28:22.5, 40°.82N×78°.50E, h15km*

*KRNET **06** 03:28:25.7±0.1, 41°.01N×78°.43E, h22km, mb2.9*

*NNC **06** 03:28:26.7±1.2, 41°.08N×78°.45E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=9.0km s-min=6.4km az=155.0*

ISC 06 03:28:28.7±2.4**, 41°.02N**±0°.07×**78°.41E**±0°.04**, h7**km±17km**, n60,** σ1s**67**/93**, 30C-14D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KDJ	Kajisay	1.44	321	⇓iP	Pn	03 28 52.7	-2.7
	baz=21						
KDJ				⇓iS	Sn	03 29 12.6	-2.2
	baz=21						
PRZ	Przheval'sk	1.46	360	⇑iP	Pn	03 28 53.1	-2.6
	baz=60						
PRZ				⇑iS	Sn	03 29 12.5	-2.8
	baz=60						
NRN	Naryn	1.86	284	⇑eP	Pn	03 29 00.1	-1.2
	baz=83						
NRN				⇑iS	Sb	03 29 25.7	-1.2
	baz=83						
ULHL	Ulahol	2.04	308	⇑iP	Pn	03 29 03.0	-0.6
	baz=8.0						
ULHL				⇑iS	Sn	03 29 30.0	+0.6
	baz=8.0						
SATY	Saty	2.04	360	Pg	Pn	03 29 02.7	-0.9
	38nm,0.5s						
SATY				Lg	Lg	03 29 32.3	
	45nm,0.3s						
SATY	Saty	2.04	360	eP	Pn	03 29 02.7	-0.9
	27nm,0.5s						
SATY				eS	Sb	03 29 31.9	+0.1
	43nm,0.3s						
UZB	Uzynbulak	2.18	12	Pg	Pn	03 29 04.2	-1.3
	7.5nm,0.5s						
UZB				Lg	Lg	03 29 34.5	
	20nm,0.4s						
UZB	Uzynbulak	2.18	12	eP	Pn	03 29 04.2	-1.3
	4.9nm,0.4s						
UZB				eS	Sn	03 29 34.5	+1.7
	20nm,0.4s						
SHLS	Shalkode	2.28	20	Pg	Pb	03 29 09.1	-1.1
	19nm,0.4s						
SHLS				Lg	Lg	03 29 43.0	
	54nm,0.5s						
SHLS	Shalkode	2.28	20	eP	Pb	03 29 09.1	-1.1
	19nm,0.4s						
SHLS				eS	Sg	03 29 43.0	+1.2
	54nm,0.5s						
TNSS	Tian-Shan	2.29	332	Pg	Pn	03 29 07.4	+0.1
	21nm,0.4s						
TNSS				Lg	Lg	03 29 39.6	
	14nm,0.5s						
TNSS	Tian-Shan	2.29	332	eP	Pn	03 29 07.4	+0.1
	21nm,0.4s						
TNSS				⇑iS	Sb	03 29 39.6	+0.2
	14nm,0.5s						
BOOM	Boomskoye usch	2.36	309	⇑iP	Pn	03 29 07.1	-0.9
	baz=9.0						
BOOM				⇑iS	Sn	03 29 37.7	+0.3
	baz=9.0						
MDOK	Medeo	2.37	335	Pn	Pn	03 29 08.4	+0.2
	13nm,0.7s						
MDOK				Lg	Lg	03 29 39.8	
	19nm,0.5s						
MDOK	Medeo	2.37	335	Pg	Pn	03 29 08.6	+0.5
	12nm,0.3s						
MDOK				Lg	Lg	03 29 42.0	
	25nm,0.5s						
MDOK	Medeo	2.37	335	eP	Pn	03 29 08.6	+0.5
	12nm,0.3s						
MDOK				eS	Sb	03 29 42.0	+0.7
	25nm,0.5s						
KOTS	Kotyrbulak	2.42	337	Pg	Pn	03 29 09.3	+0.6
	10.0nm,0.3s						
KOTS				Lg	Lg	03 29 43.4	
	28nm,0.4s						
KOTS	Kotyrbulak	2.42	337	eP	Pn	03 29 09.3	+0.6
	10.0nm,0.3s						
KOTS				eS	Sb	03 29 43.4	+0.7
	28nm,0.4s						
IZV	Izvestkoviy	2.42	327	Pg	Pn	03 29 09.5	+0.6
	9.3nm,0.4s						
IZV				Lg	Lg	03 29 43.6	
	18nm,0.4s						
IZV	Izvestkoviy	2.42	327	eP	Pn	03 29 09.5	+0.6
	9.3nm,0.4s						
IZV				eS	Sb	03 29 43.6	+0.8
	18nm,0.4s						
PDGK	Podgornoye	2.44	19	Pg	Pn	03 29 08.6	-0.5
	5.4nm,0.2s						
PDGK				Lg	Lg	03 29 41.8	
	13nm,0.6s						
PDGK	Podgornoye	2.44	19	⇑Pn	Pn	03 29 08.3	-0.8
	5.4nm,0.5s						
PDGK				⇓Lg	Lg	03 29 41.9	
	34nm,0.8s						
PDGK	Podgornoye	2.44	19	⇓iP	Pn	03 29 08.0	-1.1
	baz=18						
PDGK				⇓iS	Sn	03 29 39.4	0.0
	baz=18						
KNDC	Almaty	2.45	334	⇓Pn	Pn	03 29 09.9	+0.8
	15nm,0.6s						
KNDC				⇑Lg	Lg	03 29 45.2	
	40nm,0.6s						
KURS	Kuram	2.48	356	Pg	Pn	03 29 10.9	+1.4
	19nm,0.5s						
KURS				Lg	Lg	03 29 45.8	
	32nm,0.6s						
KURS	Kuram	2.48	356	eP	Pn	03 29 10.9	+1.4
	19nm,0.5s						
KURS				⇓eS	Sb	03 29 45.8	+1.6
	32nm,0.6s						
MTBS	Maitube	2.57	326	Pg	Pn	03 29 12.5	+1.6
	5.0nm,0.3s						
MTBS				Lg	Lg	03 29 48.5	
	16nm,0.3s						
MTBS	Maitube	2.57	326	eP	Pn	03 29 12.5	+1.6
	5.0nm,0.3s						
MTBS				eS	Sb	03 29 48.5	+1.3
	16nm,0.3s						
KZA	Kyzart	2.60	295	⇑iP	Pn	03 29 11.0	-0.5
	baz=95						
KZA				⇑iS	Sn	03 29 43.6	+0.1
	baz=95						
KST	Kastek	2.72	319	Pg	Pn	03 29 14.7	+1.8
	5.5nm,0.2s						
KST				Lg	Lg	03 29 52.5	
	24nm,0.8s						
KST	Kastek	2.72	319	⇑iP	Pn	03 29 14.7	+1.8
	5.5nm,0.2s						
KST				eS	Sb	03 29 52.5	+1.0
	24nm,0.8s						
KTMS	Ketmen	2.82	30	Pg	Pn	03 29 15.8	+1.5
	2.7nm,0.1s						
KTMS				Lg	Lg	03 29 54.0	
	21nm,0.6s						
KTMS	Ketmen	2.82	30	eP	Pn	03 29 15.8	+1.5
	2.7nm,0.1s						
KTMS				eS	Sb	03 29 54.0	-0.3
	21nm,0.6s						
TKM2	Tokmak 2	2.83	313	⇑Pn	Pn	03 29 16.0	+1.5
	2.5nm,0.3s						
TKM2				⇓Lg	Lg	03 29 54.9	
	12nm,0.6s						
TKM2	Tokmak 2	2.83	313	⇓eP	Pn	03 29 13.8	-0.7
	baz=13						
TKM2				⇓iS	Sn	03 29 49.0	0.0
	baz=13						
DGS	Degeres	2.96	319	Pg	Pn	03 29 19.2	+2.9
	6.2nm,0.5s						
DGS				Lg	Lg	03 30 00.0	
	18nm,0.5s						
DGS	Degeres	2.96	319	eP	Pn	03 29 19.2	+2.9
	6.2nm,0.5s						
DGS				eS	Sb	03 30 00.0	+1.7
	18nm,0.5s						
KTBS	Karatobe	2.98	335	Pg	Pn	03 29 19.1	+2.6
	5.9nm,0.4s						
KTBS				Lg	Lg	03 29 60.0	
	23nm,0.4s						
KTBS	Karatobe	2.98	335	eP	Pn	03 29 19.1	+2.6
	5.9nm,0.4s						
KTBS				eS	Sb	03 29 60.0	+1.2
	23nm,0.4s						
CHKK	Chushkaly	3.02	340	Pg	Pn	03 29 19.8	+2.9
	4.5nm,0.3s						
CHKK				Lg	Lg	03 30 01.2	
	40nm,0.3s						
CHKK	Chushkaly	3.02	340	eP	Pn	03 29 19.8	+2.9
	4.5nm,0.3s						
CHKK				⇓iS	Sb	03 30 01.2	+1.3
	40nm,0.3s						
KBK	Karagaybulak	3.06	303	⇑iP	Pn	03 29 16.7	-1.0
	baz=3.0						
KBK				⇑iS	Sn	03 29 54.3	-0.3
	baz=3.0						
UCH	Uchtor	3.16	294	⇑iP	Pn	03 29 18.4	-0.9
	baz=94						
UCH				⇑iS	Sn	03 29 57.1	-0.4
	baz=94						
ARLS	Aral	3.19	287	⇓iP	Pn	03 29 18.9	-0.4
	baz=87						
ARLS				⇓iS	Sn	03 29 57.2	-0.5
	baz=87						
ARXS	Arharly	3.22	353	Pg	Pb	03 29 23.6	-2.7
	4.6nm,0.5s						
ARXS				Lg	Lg	03 30 08.0	
	13nm,0.5s						
ARXS	Arharly	3.22	353	eP	Pb	03 29 23.6	-2.7
	4.6nm,0.5s						
ARXS				eS	Sb	03 30 08.0	+2.3
	13nm,0.5s						
KUU	Kurty	3.26	333	Pg	Pb	03 29 24.3	-2.5
	3.8nm,0.5s						
KUU				Lg	Lg	03 30 08.6	
	9.6nm,0.6s						
KUU	Kurty	3.26	333	eP	Pb	03 29 24.3	-2.5
	3.8nm,0.5s						
KUU				eS	Sb	03 30 08.6	+2.0
	9.6nm,0.6s						
FRU1	Bishkek	3.34	304	⇑iP	Pn	03 29 20.8	-0.6
	baz=4.0						
FRU1				⇑eS	Sn	03 30 00.7	-0.7
	baz=4.0						
AAK	Ala-Archa	3.34	300	⇑Pg	Pb	03 29 26.5	-1.8
	5.7nm,1.1s						
AAK				⇑Lg	Lg	03 30 10.6	
	7.5nm,0.7s						
DJR	Jarkent	3.46	17	Pg	Pn	03 29 26.9	+3.8
	1.5nm,0.5s						
DJR				Lg	Lg	03 30 13.3	
	6.0nm,0.3s						
DJR	Jarkent	3.46	17	eP	Pn	03 29 26.9	+3.8
	1.5nm,0.5s						
DJR				eS	Sb	03 30 13.3	+0.5
	6.0nm,0.3s						
USP	Ospenovka	3.67	309	⇑eP	Pn	03 29 25.3	-0.7
	baz=9.0						
USP				⇑iS	Sn	03 30 08.8	-0.8
	baz=9.0						
EKS2	Erkin-Say	3.83	297	⇑iP	Pn	03 29 27.6	-0.6
	baz=97						
EKS2				⇑iS	Sn	03 30 12.7	-0.8
	baz=97						
SFK	Sufi-Kurgan	3.87	257	⇑Pg	Pb	03 29 37.5	+0.1
	1.4nm,0.6s						
SFK				⇑Lg	Lg	03 30 29.0	
	1.5nm,0.4s						
MRKS	Merke	4.24	296	Pg	Pb	03 29 41.9	-1.7
	3.3nm,0.4s						
MRKS				Lg	Lg	03 30 38.8	
	5.5nm,0.5s						
MRKS	Merke	4.24	296	eP	Pb	03 29 41.9	-1.7
	3.3nm,0.4s						
MRKS				eS	Sb	03 30 38.8	+3.8
	5.5nm,0.5s						
KAPS	Kapalarasan	4.32	9	Pg	Pb	03 29 42.2	-2.8
	1.9nm,0.5s						
KAPS				Lg	Lg	03 30 39.2	
	4.5nm,0.6s						
KAPS	Kapalarasan	4.32	9	eP	Pb	03 29 42.2	-2.8
	1.9nm,0.5s						
KAPS				eS	Sb	03 30 39.2	+1.9
	4.5nm,0.6s						
KK31	Karatay Array	6.24	292	⇓Pg	Pb	03 30 19.6	+2.0
	1.7nm,1.1s,baz=114,slow=16						
KK31				⇑Lg	Lg	03 31 44.6	
	1.6nm,0.8s,baz=104,slow=27,SNR=6.4						

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*ISCJB **06** 03:42:05.4±0.8, 35°.39N±0°.05×140°.47E±0°.06, h64km±5km, mb3.2/5, Error ellipse: s-maj=7.9km s-min=7.6km az=151.9*

*JMA **06** 03:42:06.2±0.2, 35°.46N×140°.45E, h56km±2km, M2.8*

*IDC **06** 03:42:06.9±2.5, 34°.93N×139°.81E, h115km±19km, mb2.9/5, mb1 3.1/6, mb1mx2.9/30, mbtmp3.2/6, Error ellipse: s-maj=30.8km s-min=23.3km az=69.0*

ISC 06 03:42:04.3±1.0**, 35°.39N**±0°.05×**140°.48E**±0°.06**, h69**km±6km**, n18,** σ1s**68**/25**, mb3.1**/5**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCN	Nagara	0.23	276	P	Pn	03 42 15.8	+0.9
JCN				S	Sn	03 42 23.4	+0.7
JSMT	Sammumatsuo	0.25	353	P	Pn	03 42 15.4	+0.3
JSMT				S	Sn	03 42 22.4	-0.5
KTR	Katsuura	0.28	209	P	Pn	03 42 16.1	+0.9
KTR				S	Sn	03 42 23.3	+0.1
JKUC	kamogawauchiur	0.33	225	P	Pn	03 42 16.4	+0.8
JKUC				S	Sn	03 42 23.6	-0.2
BSO4	Boso 4	0.42	197	P	Pn	03 42 17.8	+1.6
CHOJ	Chosi	0.43	45	P	Pn	03 42 17.2	+0.8
CHOJ				eS	Sn	03 42 25.1	-0.2
BSO3	Boso 3	0.59	178	P	Pn	03 42 19.4	+1.7
BSO1	Boso 1	0.84	151	P	Pn	03 42 22.1	+1.9
JIM2	Oshima 3	1.09	232	P	Pn	03 42 24.9	+0.9
JIM2				eS	Sn	03 42 38.0	-0.6
JOD2	Odawara 2	1.15	264	P	Pn	03 42 25.8	+1.2
JOD2				S	Sn	03 42 40.0	+0.2
JAG	Ashikaga	1.33	321	P	Pn	03 42 28.2	+1.3
MJAR	Matsushiro Arr	2.17	303	P	Pn	03 42 40.2	+2.0
	3.1nm,0.3s,baz=173,slow=18,SNR=31						
MJAR				S	Sn	03 43 07.2	+3.0
	4.2nm,0.3s,baz=164,slow=16,SNR=7.6						
MAT	Matsushiro	2.17	303	P	Pn	03 42 40.5	+2.2
MAT				eS	Sn	03 43 04.6	+0.4
SONM	Songino Array	28.12	307	P	P	03 47 46.2	-3.6
	0.2nm,0.4s,baz=104,slow=9.1,SNR=3.4						
MKAR	Makanchi Array	44.37	303	P	P	03 50 03.2	-4.6
	0.2nm,0.8s,baz=81,slow=9.2,SNR=2.9						
KURBB	Kurchatov Arra	46.43	309	P	P	03 50 22.0	-2.0
	0.1nm,0.6s,baz=81,slow=7.7,SNR=2.6						
ILAR	Eielson Array	51.28	32	P	P	03 51 03.6	+2.8
	0.4nm,0.9s,baz=261,slow=5.4,SNR=4.0						
WRA	Warramunga Arr	55.34	187	P	P	03 51 25.1	-5.9
	0.7nm,0.9s,baz=2.5,slow=7.6,SNR=2.8						

JMA 06 03:50:18.7±0.3**, 25°.21N×129°.37E, h47**km**, M3.6, Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JJT3	Tamagusuku3	1.71	303	P	Pn	03 50 47.2	+1.2
JJT3				eS	Sn	03 51 06.9	+0.2
JMZ	Minamidaito 2	1.78	70	P	Pn	03 50 47.6	+0.6
JNTH	Nagotoyohara	1.78	317	P	Pn	03 50 47.7	+0.7
JOW	Kunigami	1.89	329	P	Pn	03 50 49.7	+1.1
JOW				S	Sn	03 51 11.5	+0.3
JYRO	Yoronjima	1.99	336	P	Pn	03 50 51.1	+1.3
JYRO				eS	Sn	03 51 12.6	-0.9
JIH	Iheya	2.21	326	P	Pn	03 50 54.4	+1.5
JIH				eS	Sn	03 51 18.7	-0.4
JOKE	Okinoerabujima	2.26	342	P	Pn	03 50 55.2	+1.6
JOKE				S	Sn	03 51 19.9	-0.4
JAGN	Aguni-jima	2.36	306	P	Pn	03 50 56.1	+1.2
JAGN				eS	Sn	03 51 22.6	0.0
JKE	Kume jima 2	2.58	296	P	Pn	03 50 58.4	+0.4
JTK	Tokunoshima	2.59	352	P	Pn	03 50 59.7	+1.5
JAMN	Amaminishikomi	3.03	357	P	Pn	03 51 06.0	+1.9
JAMN				eS	Sn	03 51 40.4	+1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JZK	Kikaishima	3.14	10	eS	Sn	03 51 43.3	+1.4
JAM	Amami Oshima	3.19	4	P	Pn	03 51 08.4	+2.0

*NEIC **06** 03:58:45.8±0.0, 52°.50N×167°.50W, h5km, ML3.0(AEIC), After AEIC.*
*IDC **06** 03:58:46.3±1.9, 53°.11N×167°.48W, h0km, mb3.5/8, mb1 3.7/9, mb1mx3.5/48, mbtmp3.6/9, ML3.2/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/35, Error ellipse: s-maj=48.3km s-min=22.7km az=179.0*
ISC 06 03:58:48.8±0.9, **52°.66N**±0°.09×**167°.50W**±0°.07, **h28km, n20, σ1s19**/23, **mb3.5**/7, **Fox Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OKSP	Okmok Steeple	0.77	322	P	Pn	03 59 03.4	-0.4
OKTU	Okmok Mt. Tuli	0.80	336	P	Pn	03 59 04.1	-0.2
OKER	Okmok East Rim	0.87	338	P	Pb	03 59 05.4	+0.1
NIKH	Nikolski High	0.88	292	P	Pn	03 59 03.5	-1.8
NIKH				S	Sn	03 59 18.9	+1.8
MREP	Makushin Rep't	1.24	21	P	Pn	03 59 10.9	+0.6
MSW	Makushin Switc	1.33	19	P	Pn	03 59 12.2	+0.6
UNV	Unalaska Valle	1.34	26	P	Pn	03 59 12.0	+0.4
UNV				S	Sb	03 59 31.9	+2.1
MCIR	Makushin Cirqu	1.35	15	P	Pb	03 59 13.2	-0.2
MTBL	Makushin Table	1.41	20	P	Pn	03 59 13.3	+0.7
KOFP	Korovin Flat P	4.05	267	P	Pn	03 59 49.9	+1.0
ATKA	Atka Island	4.12	266	P	Pn	03 59 49.9	+0.1
KDAK	Kodiak Island	9.94	53	Pn	Pn	04 01 09.2	-0.4
	0.2nm,0.3s,baz=207,slow=9.0,SNR=3.4						
PETK	Petropavlovsk-	20.89	285	P	P	04 03 29.2	+0.7
	1.9nm,0.6s,baz=83,slow=13,SNR=6.5						
PETK				LR	LR	04 11 59.8	
	comp=Z,23nm,19.9s,baz=59,slow=38						
INK	Inuvik	22.48	33	P	P	04 03 42.7	-2.8
	0.9nm,0.5s,baz=224,slow=8.5,SNR=4.1						
YKA	Yellowknife Ar	29.19	49	P	P	04 04 47.1	-0.3
	0.1nm,0.6s,baz=272,slow=8.4,SNR=3.5						
YKA				PcP	PcP	04 07 54.3	+0.4
	0.1nm,0.8s,baz=282,slow=6.3,SNR=3.3						
NVAR	Mina Array Bea	36.53	93	P	P	04 05 53.9	+1.9
	0.3nm,0.7s,baz=294,slow=6.5,SNR=2.5						
MKAR	Makanchi Array	64.43	314	P	P	04 09 21.8	-0.4
	0.1nm,0.3s,baz=54,slow=8.5,SNR=2.6						
FINES	FINESS Array B	65.73	353	P	P	04 09 29.5	-0.9
	1.2nm,0.6s,baz=18,slow=7.6,SNR=11						
NOA	NORSAR Array B	66.65	1	P	P	04 09 35.7	-0.6
	0.7nm,0.8s,baz=0.5,slow=6.2,SNR=2.9						
AKASG	Malin Array Be	76.05	349	P	P	04 10 31.9	-1.3
	0.2nm,0.3s,baz=13,slow=5.8,SNR=2.9						

IDC 06 04:13:50.8±5.0, **7°.05S**×**147°.80E, h0km, mb2.8**/1, **mb1 3.5**/2, **mb1mx3.2**/27, **mbtmp3.2**/2, **ML3.4**/1, **Error ellipse: s-maj=213.2km s-min=49.0km az=115.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.30	224	P	Pn	04 18 05.8	-0.5
	0.1nm,0.3s,baz=48,slow=11,SNR=4.6						
ASAR	Alice Springs	21.24	217	P	P	04 18 38.5	-0.2
	0.2nm,0.3s,baz=52,slow=8.8,SNR=5.5						
TORD	Torodi Ar. Bea	146.11	283	PKPbc	PKPdf	04 33 33.3	+0.2
	0.4nm,0.8s,baz=76,slow=4.0,SNR=2.8						

MEX 06 04:26:18.1±0.4, **17°.06N**×**101°.75W, h17km**±28km, **MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.61	26	i P	Pg	04 26 28.1	-2.1
ZIIG				i S	Sg	04 26 35.9	-2.5
CAIG	El Cayaco	1.42	90	eP	Pn	04 26 39.3	-3.8
CAIG				eS	Sn	04 26 56.2	-5.2
ARIG	Puente Sto Nin	1.81	47	eP	Pn	04 26 45.7	-2.9
ARIG				i S	Sn	04 27 06.2	-4.9
MEIG	Mezcala	2.21	67	i P	Pn	04 26 51.7	-2.4
MEIG				i S	Sn	04 27 17.4	-3.7
PLIG	Platanillo	2.52	58	i P	Pn	04 26 55.7	-2.7
PLIG				i S	Sn	04 27 25.1	-3.7

IDC 06 04:29:44.9±3.6, **4°.34S**×**103°.74E, h0km, mb3.5**/6, **mb1 3.7**/6, **mb1mx3.5**/50, **mbtmp3.5**/6, **Error ellipse: s-maj=156.3km s-min=20.3km az=56.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	23.14	348	P	P	04 34 52.0	-1.1
	1.2nm,0.3s,baz=184,slow=8.8,SNR=4.0						
H08S2	Diego Garcia H	31.24	262	T	T	05 07 28.5	
	baz=93						
H08S3	Diego Garcia H	31.25	262	T	T	05 07 26.5	
	baz=93						
H08S1	Diego Carcia H	31.26	262	T	T	05 07 24.7	
	baz=93						
H01W3	Cape Leeuwin H	31.88	164	T	T	05 08 44.9	
	baz=330						
H01W2	Cape Leeuwin H	31.89	164	T	T	05 08 44.0	
	baz=330						
H01W1	Cape Leeuwin H	31.89	164	T	T	05 08 44.0	
	baz=330						
WRA	Warramunga Arr	33.59	120	P	P	04 36 27.4	+0.2
	1.3nm,1.2s,baz=290,slow=8.7,SNR=3.4						
ASAR	Alice Springs	34.86	126	P	P	04 36 37.7	-0.5
	0.2nm,0.6s,baz=301,slow=7.7,SNR=2.7						
SONM	Songino Array	52.01	2	P	P	04 38 57.0	+0.7
	0.1nm,0.3s,baz=186,slow=7.9,SNR=3.0						
MKAR	Makanchi Array	54.34	342	P	P	04 39 14.2	+0.9
	0.1nm,0.3s,baz=162,slow=8.4,SNR=4.0						
ZALV	Zalesovo Beam	60.20	347	P	P	04 39 53.6	-1.0
	0.4nm,0.4s,baz=126,slow=7.5,SNR=3.9						
TXAR	Lajitas Array	144.06	43	PKP	PKPdf	04 49 23.6	0.0
	0.5nm,0.9s,baz=309,slow=4.0,SNR=3.9						

ISC 06 04:31:38.7±1.9, **51°.42N**±0°.08×**16°.15E**±0°.05, **h0km, n14, σ0s84**/27, **Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.58	171	ePg	Pg	04 31 50.4	+0.5
KSP				eSg	Sb	04 31 59.8	-0.7
UPC	Upice	0.91	186	ePG	Pg	04 31 56.4	+0.2
UPC				eSG	Sb	04 32 09.5	-0.6
	comp=Z,9.9nm,0.3s						
DPC	Dobruska-Polom	1.07	174	ePG	Pg	04 31 59.1	-0.1
DPC				eSG	Sb	04 32 14.1	-0.6
	comp=Z,4.7nm,0.3s						
PVCC	Panska Ves	1.34	229	ePG	Pg	04 32 03.2	-1.1
PVCC				eSG	Sg	04 32 22.2	+0.5
	comp=Z,15nm,0.2s						
KRLC	Kraliky	1.40	163	ePG	Pg	04 32 05.6	+0.1
BRG	Berggiesshubel	1.49	250	PG	Pn	04 32 05.7	-1.1
BRG				SG	Sg	04 32 25.5	-1.2
	5.4nm,0.5s						
GOPC	GO Pecny, Ondr	1.74	211	eSG	Sg	04 32 35.0	+0.6
PRU	Pruhonice	1.76	216	ePG	Pn	04 32 10.8	+0.4
PRU				eSG	Sg	04 32 35.3	+0.2
MORC	Moravsky Berou	1.86	151	ePN	Pn	04 32 11.3	-0.6
MORC				eSG	Sb	04 32 37.9	+0.4
CLL	Collm	1.98	268	i Pg	Pn	04 32 13.6	+0.2
CLL				eSg	Sn	04 32 40.0	+1.1
VRAC	Vranov	2.13	172	ePN	Pn	04 32 15.0	-0.5
VRAC				eSG	Sg	04 32 47.4	+0.3
KRUC	Moravsky	2.36	176	eSG	Sg	04 32 55.7	+1.2
NKC	Novy Kostel	2.63	245	ePG	Pb	04 32 26.5	-0.2
NKC				eSG	Sb	04 33 02.0	+2.5
KHC	Kasperske Hory	2.82	217	ePN	Pn	04 32 24.5	-0.6
KHC				ePG	Pb	04 32 30.2	+0.2
KHC				eSN	Sn	04 32 59.1	-0.7
KHC				eSG	Sg	04 33 09.2	-0.1

*NEIC **06** 04:40:29.4±0.8, 27°.86S×176°.25W, mb4.2/2, Error ellipse: s-maj=24.7km s-min=19.6km az=198.0*
*IDC **06** 04:40:29.2±1.2, 27°.96S×176°.23W, h39km±6km, mb3.9/4, mb1 4.0/4, mb1mx3.6/35, mbtmp4.1/4, MS3.3/1, Ms1 3.3/1, ms1mx2.7/28, Error ellipse: s-maj=50.0km s-min=24.8km az=164.0*
ISC 06 04:40:27.9±0.9, **28°.1S**±0°.1×**176°.3W**±0°.2, **h28km, n17, σ1s11**/22, **mb4.1**/6, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	11.56	207	Sn	Sn	04 45 17.0	-2.0
	1.3nm,0.3s,baz=60,slow=20,SNR=6.4						
PPT	Papeete	26.70	73	LR	LR	04 54 33.0	
	comp=Z,56nm,18.9s,baz=213,slow=32						
CTA	Charters Tower	34.99	275	P	P	04 47 19.9	+1.8
	2.5nm,0.4s,baz=99,slow=13,SNR=4.1						
STKA	Stephens Creek	36.51	254	P	P	04 47 31.7	+0.7
	1.2nm,0.5s,baz=94,slow=14,SNR=2.9						
ASAR	Alice Springs	44.78	264	P	P	04 48 39.4	0.0
	0.7nm,0.4s,baz=94,slow=6.9,SNR=22						
ASAR				pP	sP	04 48 51.5	+0.2
	0.9nm,0.7s,baz=130,slow=7.3,SNR=5.1						
WRAB	Tennant Creek	45.55	269	eP	P	04 48 45.1	-0.4
	1.2nm,0.5s						
WRA	Warramunga Arr	45.56	269	P	P	04 48 44.9	-0.8
	0.6nm,0.5s,baz=105,slow=6.1,SNR=8.9						
WRA				pP	sP	04 48 57.0	-0.4
	1.1nm,0.5s,baz=109,slow=7.6,SNR=4.8						
CASY	Casey	57.88	207	eP	P	04 50 17.6	+0.7
	1.6nm,0.5s						
MBWA	Marble Bar	58.00	262	eP	P	04 50 18.2	-0.2
QSPA	South Pole Qui	62.03	180	eP	P	04 50 47.3	+1.7
MKAR	Makanchi Array	117.40	311	PKP	PKPdf	04 59 09.0	-1.7
	0.1nm,0.5s,baz=106,slow=5.2,SNR=2.1						
MKAR				pPKP	pPKPdf	04 59 20.2	+0.2
	0.3nm,0.5s,baz=228,slow=0.7,SNR=4.4						
FINES	FINESS Array B	143.43	342	PKhKP	PKPpre	04 59 52.8	
	1.9nm,0.9s,baz=50,slow=3.0,SNR=3.9						
FINES				pPKP	pPKPdf	05 00 07.4	-1.0
	1.2nm,0.6s,baz=57,slow=3.5,SNR=2.6						
NB2	NORSAR Subarra	146.65	353	PKP	PKPbc	05 00 06.3	-0.1
	comp=Z,14nm,1.7s,baz=12,slow=2.9						
NOA	NORSAR Array B	146.65	353	PKPbc	PKPbc	05 00 06.2	-0.1
	comp=Z,1.1nm,0.8s,baz=11,slow=2.8,SNR=4.9						
NOA				pPKPbc	sPKPdf	05 00 17.7	+0.5
	comp=Z,0.4nm,0.6s,baz=342,slow=3.5,SNR=2.3						
AKASG	Malin Array Be	150.27	326	PKPbc	PKPbc	05 00 13.6	-2.4
	comp=Z,0.4nm,0.4s,baz=36,slow=1.3,SNR=4.5						
AKASG				pPKPbc	sPKPbc	05 00 27.3	-1.2
	comp=Z,1.2nm,0.6s,baz=125,slow=1.9,SNR=4.0						
BRTR	Keskin Array B	152.69	303	PKPbc	PKPbc	05 00 22.4	+0.2
	comp=Z,0.4nm,0.8s,baz=45,slow=4.9,SNR=3.3						
BRTR				PKPab	PKPab	05 00 32.6	-0.4
	comp=Z,0.6nm,0.6s,baz=102,slow=4.5,SNR=6.6						
BRTR				pPKPab	sPKPab	05 00 44.6	-0.7
	comp=Z,1.1nm,0.7s,baz=114,slow=3.4,SNR=5.3						
TORD	Torodi Ar. Bea	165.03	172	PKPab	PKPab	05 01 26.8	+0.2
	comp=Z,0.7nm,0.6s,baz=194,slow=3.7,SNR=8.5						

*NIED **06** 04:46:00, 27°.00N×127°.30E, h98km, Mw4.1 Best double couple: Mo1.40000×10^15 NP1:φs295.00000°, δ82.00000°, λ174.00000°. NP2:φs26.00000°, δ84.00000°, λ8.00000°.*
*ISCJB **06** 04:46:35.2±0.4, 27°.02N±0°.07×127°.32E±0°.07, h98km±5km, mb3.8/12, Error ellipse: s-maj=13.6km s-min=6.4km az=137.1*
*IDC **06** 04:46:35.4±1.0, 26°.99N×127°.30E, h88km±12km, mb3.7/12, mb1 3.8/14, mb1mx3.6/44, mbtmp4.0/14, Error ellipse: s-maj=22.1km s-min=20.6km az=122.0*
*JMA **06** 04:46:36.9±0.3, 26°.97N×127°.35E, h90km±3km, M3.6*
ISC 06 04:46:36.1±0.7, **26°.99N**±0°.07×**127°.33E**±0°.07, **h95km**±8km, **n26, σ0s72**/38, **mb3.9**/12, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAGN	Aguni-jima	0.41	191	P	Pn	04 46 50.9	+0.2
JAGN				S	Sn	04 47 01.6	0.0
JIH	Iheya	0.57	85	P	Pn	04 46 52.5	+0.6
JIH				S	Sn	04 47 03.6	-0.1
JNTH	Nagotoyohara	0.78	127	P	Pn	04 46 54.1	+0.3
JNTH				S	Sn	04 47 06.2	-0.8
JKE	Kume jima 2	0.82	217	P	Pn	04 46 54.5	+0.2
JKE				S	Sn	04 47 07.5	-0.4
JOW	Kunigami	0.86	100	P	Pn	04 46 55.0	+0.4
	148nm,0.3s,baz=116,slow=17,SNR=479						
JOW				S	Sn	04 47 07.7	-0.8
	758nm,0.3s,baz=58,slow=19,SNR=178						
JOW				LR	LR	04 47 24.6	
	comp=Z,193nm,20.7s,baz=106,slow=56						
JOW	Kunigami	0.86	100	P	Pn	04 46 55.0	+0.4
JOW				S	Sn	04 47 07.9	-0.6
JJT3	Tamagusuku3	0.93	154	P	Pn	04 46 56.3	+0.9
JJT3				S	Sn	04 47 10.3	+0.3
JYRO	Yoronjima	1.00	88	P	Pn	04 46 56.5	+0.4
JYRO				S	Sn	04 47 10.4	-0.8
JOKE	Okinoerabujima	1.16	71	P	Pn	04 46 58.3	+0.3
JOKE				S	Sn	04 47 13.9	-0.7
JTK	Tokunoshima	1.64	61	P	Pn	04 47 04.2	+0.3
JTK				S	Sn	04 47 25.0	0.0
JNU	Nakatsue	6.84	26	P	Pn	04 48 14.7	+0.9
	1.7nm,0.3s,baz=301,slow=3.4,SNR=14						
JNU				S	Sn	04 49 30.2	+0.1
	0.3nm,0.3s,baz=162,slow=19,SNR=2.3						
KSRS	Korea Array	10.45	3	P	Pn	04 49 03.4	+0.6
	0.1nm,0.3s,baz=181,slow=13,SNR=5.8						
SONM	Songino Array	26.48	327	P	P	04 52 04.5	+0.1
	2.0nm,0.5s,baz=138,slow=10,SNR=16						
MKAR	Makanchi Array	40.43	311	P	P	04 54 04.2	-0.8
	0.8nm,0.4s,baz=94,slow=9.9,SNR=23						
MKAR				PcP	PcP	04 56 05.9	-0.2
	0.4nm,0.6s,baz=114,slow=1.8,SNR=4.3						
ZALV	Zalesovo Beam	41.16	323	P	P	04 54 08.6	-2.2
	0.8nm,0.4s,baz=110,slow=9.2,SNR=5.2						
ILAR	Eielson Array	64.15	28	P	P	04 56 59.1	-1.0
	0.2nm,0.5s,baz=232,slow=4.6,SNR=6.6						
KBZ	Khabaz	68.06	309	P	P	04 57 26.6	+1.2
	3.7nm,0.9s,baz=60,slow=3.2,SNR=8.3						
INK	Inuvik	68.51	23	P	P	04 57 28.9	+1.1
	0.9nm,0.5s,baz=293,slow=6.6,SNR=7.0						
FINES	FINESS Array B	71.81	330	P	P	04 57 47.9	-0.1
	1.4nm,0.3s,baz=61,slow=5.7,SNR=26						
AKASG	Malin Array Be	74.43	319	P	P	04 58 03.3	-0.4
	1.1nm,0.3s,baz=64,slow=6.0,SNR=6.5						
BRTR	Keskin Array B	75.94	307	P	P	04 58 13.2	+0.5
	2.8nm,0.8s,baz=131,slow=3.9,SNR=23						
YKA	Yellowknife Ar	78.18	25	P	P	04 58 25.3	+0.7
	0.4nm,0.5s,baz=307,slow=5.9,SNR=15						
NB2	NORSAR Subarra	78.28	333	P	P	04 58 24.4	-0.9
	comp=Z,0.8nm,0.5s,baz=54,slow=5.6						
NOA	NORSAR Array B	78.28	333	P	P	04 58 25.0	-0.3
	comp=Z,0.8nm,0.5s,baz=53,slow=5.6,SNR=7.8						
VYHS	Vyhne	81.44	320	eP	P	04 58 42.6	0.0
GERES	GERESS Array B	84.11	323	P	P	04 58 57.0	+0.5
	comp=Z,1.1nm,0.7s,baz=46,slow=5.8,SNR=8.4						

IDC 06 04:47:02.9±3.1, **1°.06N**×**129°.38E, h0km, mb3.0**/3, **mb1 3.3**/3, **mb1mx3.1**/39, **mbtmp3.1**/3, **Error ellipse: s-maj=229.6km s-min=29.0km az=69.0, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.43	167	P	P	04 51 50.9	-1.9
	0.5nm,0.6s,baz=347,slow=11,SNR=3.5						
ASAR	Alice Springs	24.97	170	P	P	04 52 29.7	+1.3
	0.2nm,0.4s,baz=342,slow=8.3,SNR=4.6						
MKAR	Makanchi Array	61.24	325	P	P	04 57 19.8	-0.1
	0.1nm,0.4s,baz=115,slow=6.5,SNR=3.7						

IDC 06 04:48:21.2±10.0, **16°.83S**×**174°.76W, h0km, mb3.7**/3, **mb1 4.0**/3, **mb1mx3.6**/36, **mbtmp3.7**/3, **Error ellipse: s-maj=477.9km s-min=39.0km az=140.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.25	258	P	P	04 57 04.0	-0.3
	0.4nm,0.5s,baz=93,slow=6.7,SNR=3.1						
ASAR	Alice Springs	48.43	253	P	P	04 57 05.7	0.0
	0.8nm,0.6s,baz=89,slow=8.4,SNR=15						
ILAR	Eielson Array	84.10	12	P	P	05 00 53.5	0.0
	0.6nm,1.1s,baz=225,slow=5.9,SNR=4.7						

MEX 06 04:56:26.8±0.5, **16°.47N**×**98°.50W, h18km**±71km, **MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.37	102	eP	Pg	04 56 33.3	-1.3
PNIG				i S	Sg	04 56 38.8	-1.1
TLIG	Tlapa	1.09	357	eP	Pb	04 56 43.6	-3.6
TLIG				i S	Sb	04 56 56.5	-4.6
CAIG	El Cayaco	1.78	289	eP	Pn	04 56 54.0	-2.7
CAIG				i S	Sn	04 57 15.3	-3.7
VHO	Vista Hermosa	1.80	70	eP	Pn	04 56 54.9	-2.3
VHO				eS	Sn	04 57 15.6	-4.0

*ISCJB **06** 05:14:32.9±1.2, 5°.49S±0°.10×147°.8E±0°.3, h167km, mb3.3/5, Error ellipse: s-maj=46.9km s-min=12.7km az=7.6*
*IDC **06** 05:14:34.8±3.4, 5°.49S×147°.84E, h175km±38km, mb3.2/5, mb1 3.5/7, mb1mx3.3/27, mbtmp3.8/7, Error ellipse: s-maj=61.6km s-min=26.2km az=114.0*
ISC 06 05:14:33.9±1.3, **5°.6S**±0°.1×**147°.9E**±0°.4, **h167km, n8, σ1s51**/9, **mb3.4**/5, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.88	191	P	Pn	05 15 35.0	+1.9
	45nm,0.3s,baz=10,slow=9.4,SNR=71						
PMG				S	Sn	05 16 16.6	-2.8
	8.5nm,0.3s,baz=86,slow=23,SNR=4.8						
WRA	Warramunga Arr	19.44	221	P	P	05 18 48.2	+0.5
	1.0nm,0.3s,baz=45,slow=12,SNR=30						
ASAR	Alice Springs	22.48	215	P	P	05 19 20.5	+1.0
	1.3nm,0.4s,baz=47,slow=8.7,SNR=43						
SONM	Songino Array	64.46	330	P	P	05 24 52.7	0.0
	0.5nm,0.7s,baz=131,slow=6.5,SNR=3.6						
MKAR	Makanchi Array	77.73	320	P	P	05 26 12.1	-0.2
	0.3nm,0.6s,baz=101,slow=7.3,SNR=3.0						
ZALV	Zalesovo Beam	79.12	328	P	P	05 26 18.9	-0.9
	0.4nm,0.5s,baz=128,slow=9.3,SNR=2.3						
ILAR	Eielson Array	84.74	23	P	P	05 26 48.9	0.0
	0.4nm,0.8s,baz=260,slow=4.9,SNR=4.5						
TORD	Torodi Ar. Bea	145.84	285	PKPbc	PKPdf	05 33 53.0	-0.7
	0.5nm,0.4s,baz=56,slow=3.5,SNR=8.6						

*KRAR **06** 05:21:05.9±0.2, 53°.71N×90°.98E, M2.2, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*IDC **06** 05:21:09.2±4.2, 53°.69N×90°.72E, h0km, mb1 2.7/2, mb1mx2.7/32, mbtmp2.7/2, ML2.0/2, Error ellipse: s-maj=35.5km s-min=25.9km az=69.0*
*NNC **06** 05:21:19.6±3.8, 53°.47N×90°.09E, h19km±19km, mb3.3, mpv3.0, Error ellipse: s-maj=22.5km s-min=19.6km az=84.0, Suspected Mining explosion.*
ISC 06 05:21:13.0±4.0, **53°.7N**±0°.1×**90°.2E**±0°.2, **h0km, n10, σ1s01**/12, **11C-3D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.20	277	i		05 42 45.0	
	baz=96,slow=351,SNR=5.8						
ZAA0	Zalesovo Array	3.20	277	⇑Pn	Pb	05 22 09.8	-0.9
	4.8nm,0.7s						
ZAA0				⇑Lg	Lg	05 22 59.8	
	12nm,0.9s						
ZALV	Zalesovo Beam	3.20	277	Pn	Pn	05 22 05.4	+0.8
	0.1nm,0.3s,baz=87,slow=15,SNR=2.9						
ZALV				Lg	Lg	05 22 59.8	
	1.0nm,0.3s,baz=90,slow=29,SNR=11						
KURK	Kurchatov	7.72	252	⇑Pn	Pn	05 23 06.3	-0.2
	1.2nm,1.0s						
KURK				⇑Sn	Sn	05 24 34.7	+0.1
	1.6nm,0.8s						
KURK				⇑Lg	Lg	05 25 20.0	
	4.6nm,0.9s						
KURBB	Kurchatov Arra	7.81	252	⇓Pn	Pn	05 23 09.3	+1.4
	1.5nm,0.7s						
KURBB				⇑Sn	Sn	05 24 36.5	-0.4
	6.5nm,1.1s						
KURBB				⇑Lg	Lg	05 25 25.6	
	20nm,1.1s						
MK31	Makanchi Array	8.57	219	⇓Pn	Pn	05 23 17.6	-0.6
	0.2nm,0.6s,baz=38,slow=13,SNR=5.3						
MK31				⇑Sn	Sn	05 24 54.9	-0.6
	0.4nm,0.7s						
MK31				⇑Lg	Lg	05 25 47.3	
	0.8nm,0.7s,baz=32,slow=32,SNR=4.5						
MKAR	Makanchi Array	8.57	219	Pn	Pn	05 23 17.4	-0.8
	0.1nm,0.3s,baz=42,slow=14,SNR=6.5						
MKAR				Sn	Sn	05 24 56.6	+1.0
	0.1nm,0.3s,baz=34,slow=26,SNR=3.7						
MKAR				Lg	Lg	05 25 45.6	
	0.0nm,0.3s,baz=40,slow=32,SNR=5.3						
MAKZ	Makanchi	8.68	221	⇑Pn	Pn	05 23 21.2	+1.5
	0.7nm,1.1s						
MAKZ				⇑Sn	Sn	05 24 58.9	+0.7
	0.5nm,0.7s						
MAKZ				⇓Lg	Lg	05 25 51.9	
	2.5nm,1.0s						
SONM	Songino Array	11.80	113	Lg	Lg	05 27 04.4	
	baz=300,slow=30,SNR=6.6						
I34MN	SONGINO INFRAS	11.82	113	i		06 40 55.0	
	baz=307,slow=333,SNR=2.0						

IDC 06 05:25:28.0±1.7, **7°.36S**×**128°.29E, h0km, mb3.1**/1, **mb1 3.5**/3, **mb1mx3.3**/20, **mbtmp3.3**/3, **ML3.5**/2, **Error ellipse: s-maj=229.3km s-min=32.4km az=64.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.82	155	Pn	Pn	05 28 44.4	-0.9
	0.3nm,0.3s,baz=333,slow=14,SNR=6.7						
WRA				Sn	Sn	05 31 02.8	-17
	0.1nm,0.3s,baz=330,slow=25,SNR=2.9						
ASAR	Alice Springs	17.09	162	P	P	05 29 29.5	-0.8
	0.2nm,0.3s,baz=338,slow=9.5,SNR=12						
ASAR				S	Sn	05 32 26.5	-13
	0.0nm,0.3s,baz=340,slow=25,SNR=3.1						
MKAR	Makanchi Array	67.61	328	P	P	05 36 26.7	+0.1
	0.1nm,0.5s,baz=121,slow=5.6,SNR=3.6						
LPAZ	La Paz	151.43	145	PKPbc	PKPbc	05 45 25.3	-0.4
	0.5nm,0.4s,baz=236,slow=7.3,SNR=3.3						

*SJA **06** 05:26:02.5±0.5, 30°.98S×68°.19W, h103km±3km, ML3.5, MW3.6*
*ISCJB **06** 05:26:03.7±0.9, 30°.95S±0°.03×68°.19W±0°.06, h97km±9km, Error ellipse: s-maj=8.5km s-min=5.6km az=8.1*
*GUC **06** 05:26:04.0±0.6, 30°.93S×68°.31W, h121km±20km, ML3.3*
ISC 06 05:26:04.7±1.6, **30°.96S**±0°.04×**68°.19W**±0°.07, **h90km**±12km, **n20, σ0s76**/28, **1C-1D, San Juan Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMOG	MOGNA	0.26	273	i P	Pn	05 26 18.1	0.0
RTLL	Cerro Villicun	0.45	214	i P	Pn	05 26 18.8	-0.3
RTLL				IAML		05 26 30.7	
	comp=Z,1μm,0.2s						
CFA	Coronel Fontan	0.65	184	i P	Pn	05 26 20.7	-0.1
CFA				i S	Sn	05 26 33.2	+0.5
ZON	Zonda	0.72	215	IAML		05 26 34.2	
	comp=Z,708nm,0.2s						
RTCV	Cerro Valdivia	0.95	198	i P	Pn	05 26 23.3	-0.6
RTCV				i S	Sn	05 26 38.3	0.0
RTLS	Leoncito	1.27	228	i P	Pn	05 26 27.6	-0.2
RTLS				IAML		05 26 28.4	
	comp=Z,611nm,0.1s						
RTLS				i S	Sn	05 26 46.2	+0.9
AGUA	GUANDACOL	1.49	350	i P	Pn	05 26 30.1	-0.3
AUSP	Uspallata	1.63	219	i P	Pn	05 26 31.9	-0.4
ASAL	Salagasta	1.72	199	i P	Pn	05 26 32.7	-0.7
ASAL				i S	Sn	05 26 54.7	-0.4
ACLC	CERRO LA CRUZ	1.86	35	i P	Pn	05 26 35.0	-0.3
ARCO	CERRO ARCO	1.99	198	IAML		05 26 36.7	
	comp=Z,268nm,0.2s						
VCA	Vinchina	2.21	360	⇑iP	Pn	05 26 41.0	+1.1
VCA				IAML		05 27 15.7	
	comp=N,167nm,0.3s						
GO04	Tololo Observa	2.38	288	eP	Pn	05 26 42.9	+0.6
GO04				i S	Sn	05 27 11.7	+0.7
CMCH	Combarbala	2.43	264	eP	Pn	05 26 42.4	-0.2
CMCH				i S	Sn	05 27 11.6	0.0
LSCH	La Serena	2.84	291	i S	Sn	05 27 20.3	-1.1
LSCH				IAML		05 27 21.5	
	comp=N,47nm,0.3s						
FCH	Farellones	2.96	216	⇓iP	Pn	05 26 50.6	+0.6
FCH				i S	Sn	05 27 26.6	+1.7
FCH				IAML		05 27 35.5	

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
	comp=E,39nm,0.3s						
ROCH	**El Roble**	**3.13**	**229**	*i* P	**Pn**	**05 26 51.0**	**-1.2**
ROCH				*i* S	**Sn**	**05 27 27.7**	**-1.1**
ROCH				IAML		05 27 32.7	
	comp=N,84nm,0.6s						
CLCH	**Cerro Calan**	**3.15**	**219**	*e*P	**Pn**	**05 26 52.5**	**+0.2**
CLCH				*e*S	**Sn**	**05 27 29.8**	**+0.8**
CLCH				IAML		05 27 33.5	
	comp=E,104nm,0.6s						
LMEL	**Las Melosas**	**3.35**	**210**	*i* P	**Pn**	**05 26 55.4**	**+0.3**
GO03	**Copiap**	**3.80**	**331**	*e*P	**Pn**	**05 27 01.0**	**0.0**
GO03				*i* S	**Sn**	**05 27 43.7**	**-1.0**
GO03				IAML		05 27 46.0	
	comp=N,48nm,0.3s						

MEX 06 05:30:23.6±0.5**, 17°.46N×101°.15W, h5^{km}, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.33**	**295**	*i* P	Pg	05 30 29.6	-0.4
ZIIG				*i* S	Sg	05 30 34.9	+0.5
CAIG	**El Cayaco**	**0.94**	**116**	*i* P	Pg	05 30 40.2	-1.4
CAIG				*i* S	Sg	05 30 52.3	-1.6
ARIG	**Puente Sto Nin**	**1.12**	**43**	*i* P	Pg	05 30 41.7	-3.3
ARIG				*e*S	Sg	05 30 56.7	-2.8
MEIG	**Mezcala**	**1.53**	**72**	*i* P	Pn	05 30 48.7	-3.0
MEIG				*i* S	Sn	05 31 07.4	-4.7
PLIG	**Platanillo**	**1.82**	**59**	*e*P	Pn	05 30 52.2	-3.5
PLIG				*e*S	Sn	05 31 14.1	-5.1

IDC 06 05:35:24.0±9.8**, 15°.93S×166°.08E, h0^{km}, mb3.8**/4**, mb1 3.9**/4**, mb1mx3.7**/22**, mbtmp3.7**/4**, Error ellipse: s-maj=288.9km s-min=44.4km az=129.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.43**	**258**	P	P	05 41 38.0	-0.5
	0.6nm,0.8s,baz=87,slow=8.9,SNR=3.2						
ASAR	**Alice Springs**	**31.18**	**251**	P	P	05 41 45.5	+0.3
	1.1nm,0.7s,baz=79,slow=8.7,SNR=13						
SONM	**Songino Array**	**82.78**	**324**	P	P	05 47 51.3	+1.2
	0.7nm,0.7s,baz=135,slow=4.7,SNR=5.7						
MKAR	**Makanchi Array**	**97.28**	**316**	P	P	05 48 56.9	-2.1
	0.1nm,0.7s,baz=103,slow=3.1,SNR=2.6						

IDC 06 05:41:08.1±3.8**, 29°.75S×178°.42W, h0^{km}, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.8**/28**, mbtmp3.9**/3**, Error ellipse: s-maj=225.5km s-min=36.2km az=158.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.27**	**256**	P	P	05 47 56.0	0.0
	1.3nm,0.7s,baz=103,slow=13,SNR=3.6						
ASAR	**Alice Springs**	**42.78**	**266**	P	P	05 49 07.8	+0.2
	0.8nm,0.8s,baz=106,slow=7.5,SNR=11						
WRA	**Warramunga Arr**	**43.71**	**272**	P	P	05 49 14.7	-0.5
	1.5nm,0.7s,baz=112,slow=7.9,SNR=5.8						
FINES	**FINESS Array B**	**144.42**	**340**	PKP	PKPbc	06 00 44.4	+0.4
	2.3nm,0.7s,baz=36,slow=5.0,SNR=17						
NB2	**NORSAR Subarra**	**148.06**	**351**	PKP	PKPab	06 00 59.4	+1.7
	comp=Z,0.5nm,0.7s,baz=11,slow=2.6						
NOA	**NORSAR Array B**	**148.06**	**351**	PKPbc	PKPbc	06 00 54.9	-0.1
	comp=Z,0.7nm,0.7s,baz=14,slow=4.1,SNR=3.0						
AKASG	**Malin Array Be**	**150.57**	**323**	PKPbc	PKPbc	06 01 00.7	-0.8
	comp=Z,0.8nm,0.6s,baz=59,slow=2.8,SNR=2.7						
BRTR	**Keskin Array B**	**151.97**	**299**	PKPbc	PKPbc	06 01 05.2	-0.1
	comp=Z,0.5nm,0.9s,baz=46,slow=4.2,SNR=3.0						

*ISCJB **06** 05:55:09.9±0.3, 13°.34N±0°.05×144°.23E±0°.06, h129^{km}, mb4.2/35, Error ellipse: s-maj=7.9km s-min=6.7km az=164.5*
*NEIC **06** 05:55:11.9±0.6, 13°.38N×144°.33E, h137^{km}±5^{km}, mb4.5/21, Error ellipse: s-maj=7.9km s-min=5.5km az=80.0*
*IDC **06** 05:55:11.4±0.4, 13°.41N×144°.45E, h132^{km}±3^{km}, mb3.8/19, mb1 3.9/19, mb1mx3.9/34, mbtmp4.2/19, Error ellipse: s-maj=16.5km s-min=10.7km az=79.0*
ISC 06 05:55:11.2±0.5**, 13°.36N**±0°.08×**144°.33E**±0°.10**, h129^{km}, n76, σ0^{s}83**/77**, mb4.5**/43**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.58**	**67**	LR	LR	05 55 14.5	
	comp=Z,61nm,18.5s,baz=146,slow=7.1						
GUMO				P	**Pn**	**05 55 32.0**	**+1.4**
	814nm,0.3s,baz=241,slow=0.6,SNR=289						
GUMO				S	**Sn**	**05 55 46.0**	**+0.8**
	1µm,0.3s,baz=290,slow=19,SNR=50						
GUMO	**Guam**	**0.58**	**67**	*e*Pn	**Pn**	**05 55 32.0**	**+1.4**
GUMO				*e*Sn	**Sn**	**05 55 45.8**	**+0.5**
GUMO				*e*Sn	Sn	05 55 46.0	+0.8
ANA2	**Anatahan**	**3.25**	**24**	*e*Pn	**Pn**	**05 56 02.4**	**+1.2**
RABL	**Rabaul**	**19.09**	**155**	*e*P	**P**	**05 59 23.5**	**-0.6**
	107nm,0.4s						
JOW	**Kunigami**	**20.14**	**314**	P	**P**	**05 59 36.9**	**+1.6**
	12nm,0.5s,baz=106,slow=7.4,SNR=3.8						
JOW	**Kunigami**	**20.14**	**314**	*e*P	**P**	**05 59 35.7**	**+0.4**
	62nm,1.3s						
JNU	**Nakatsue**	**23.18**	**330**	P	**P**	**06 00 07.1**	**+0.5**
	8.1nm,0.8s,baz=180,slow=7.0,SNR=4.5						
JNU	**Nakatsue**	**23.18**	**330**	*e*P	**P**	**06 00 05.9**	**-0.7**
	12nm,1.0s						
MJAR	**Matsushiro Arr**	**23.73**	**348**	P	**P**	**06 00 10.8**	**-0.7**
	7.1nm,0.7s,baz=168,slow=8.6,SNR=25						
MAJO	**Matsushiro**	**23.73**	**348**	*e*P	**P**	**06 00 11.7**	**+0.2**
	12nm,0.6s						
MAT	**Matsushiro**	**23.73**	**348**	P	**P**	**06 00 10.7**	**-0.8**
MJB9	**Matsu-Tunnel**	**23.73**	**348**	*e*P	**P**	**06 00 11.1**	**-0.5**
	12nm,0.7s						
KSRS	**Korea Array**	**28.11**	**332**	P	**P**	**06 00 51.3**	**+0.4**
	2.1nm,0.5s,baz=140,slow=9.6,SNR=13						
KS15	**Wonju Array Si**	**28.12**	**331**	*e*P	**P**	**06 00 51.1**	**+0.1**
KSAR	**Wonju Array Be**	**28.12**	**331**	P	**P**	**06 00 51.3**	**+0.3**
KS01	**Wonju Array Si**	**28.14**	**332**	*e*P	**P**	**06 00 49.0**	**-2.2**
USRK	**Ussuriysk Ar.**	**32.50**	**343**	P	**P**	**06 01 29.7**	**+0.2**
	2.7nm,0.6s,baz=142,slow=9.5,SNR=7.9						
WRAB	**Tennant Creek**	**34.51**	**197**	*e*P	**P**	**06 01 45.5**	**-1.7**
	21nm,0.6s						
WB2	**Warramunga Arr**	**34.52**	**197**	*e*P	**P**	**06 01 47.8**	**+0.5**
	3.8nm,0.9s						
WR1	**Warramunga Arr**	**34.52**	**197**	*e*P	**P**	**06 01 47.6**	**+0.3**
	19nm,1.5s						
WRA	**Warramunga Arr**	**34.52**	**197**	P	**P**	**06 01 47.6**	**+0.3**
	1.9nm,0.7s,baz=3.1,slow=9.7,SNR=12						
AS31	**Alice Springs**	**38.18**	**196**	*e*P	**P**	**06 02 19.1**	**+0.6**
	2.1nm,1.4s						
ASAR	**Alice Springs**	**38.18**	**196**	P	**P**	**06 02 19.2**	**+0.8**
	0.9nm,0.5s,baz=20,slow=13,SNR=22						
DZM	**Mont Dzumac**	**41.36**	**148**	P	**P**	**06 02 45.4**	**+0.6**
	3.1nm,0.4s,baz=270,slow=10,SNR=6.3						
DZM	**Mont Dzumac**	**41.36**	**148**	*e*P	**P**	**06 02 45.1**	**+0.3**
	35nm,1.5s						
CM31	**Chiang Mai Arr**	**43.85**	**283**	*e*P	**P**	**06 03 04.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**43.85**	**283**	P	**P**	**06 03 04.8**	**-0.2**
	3.0nm,0.5s,baz=81,slow=6.1,SNR=13						
STKA	**Stephens Creek**	**45.05**	**183**	P	**P**	**06 03 12.8**	**-1.4**
	2.5nm,0.6s,baz=6.5,slow=6.2,SNR=6.8						
STKA	**Stephens Creek**	**45.05**	**183**	*e*P	**P**	**06 03 14.8**	**+0.5**
	1.8nm,1.4s						
SONA0	**Songino Array**	**46.62**	**325**	*e*P	**P**	**06 03 27.3**	**+0.7**
SONM	**Songino Array**	**46.62**	**325**	P	**P**	**06 03 27.3**	**+0.7**
	1.0nm,0.6s,baz=142,slow=7.1,SNR=13						
SHL	**Shillong**	**50.62**	**292**	*e*P	**P**	**06 03 57.7**	**0.0**
	8.3nm,0.4s						
RAMN	**Ramite**	**55.43**	**294**	*e*P	**P**	**06 04 33.7**	**+0.8**
	5.0nm,0.2s						
JIRN	**Jiri**	**55.82**	**294**	*e*P	**P**	**06 04 36.5**	**+0.6**
	12nm,0.4s						
GUN	**Gumba**	**56.11**	**295**	*e*P	**P**	**06 04 38.5**	**+0.6**
	8.0nm,0.4s						
PKI	**Pulchoki**	**56.51**	**294**	*e*P	**P**	**06 04 41.1**	**+0.4**
PKIN	**Phulchoki**	**56.52**	**294**	*e*P	**P**	**06 04 40.7**	**0.0**
	5.0nm,0.4s						
KKN	**Kakani**	**56.63**	**295**	*e*P	**P**	**06 04 42.2**	**+0.7**
	4.9nm,0.4s						
DMN	**Daman**	**56.78**	**294**	*e*P	**P**	**06 04 42.8**	**+0.2**
	6.7nm,0.4s						
DANN	**Dangsing**	**57.99**	**295**	*e*P	**P**	**06 04 51.4**	**+0.3**
	20nm,0.5s						
KOLN	**Koldanda**	**58.12**	**294**	*e*P	**P**	**06 04 52.3**	**+0.4**
	6.4nm,0.5s						
MK01	**Makanchi Array**	**61.28**	**316**	*e*P	**P**	**06 05 13.2**	**+0.2**
MK31	**Makanchi Array**	**61.29**	**316**	*e*P	**P**	**06 05 13.4**	**+0.3**
MK32	**Makanchi Array**	**61.29**	**316**	*e*P	**P**	**06 05 13.6**	**+0.6**
MKAR	**Makanchi Array**	**61.29**	**316**	P	**P**	**06 05 13.6**	**+0.6**
	1.4nm,0.5s,baz=94,slow=8.6,SNR=26						
MKAR	**Makanchi Array**	**61.29**	**316**	*e*P	**P**	**06 05 13.2**	**+0.2**
	12nm,0.5s						
MAKZ	**Makanchi**	**61.50**	**316**	*e*P	**P**	**06 05 14.6**	**+0.2**
	2.6nm,0.7s						
ZALV	**Zalesovo Beam**	**61.50**	**325**	P	**P**	**06 05 13.6**	**-0.6**
	0.7nm,0.4s,baz=84,slow=6.6,SNR=3.7						
ZAA1	**Zalesovo Array**	**61.50**	**325**	*e*P	**P**	**06 05 13.6**	**-0.6**
KURK	**Kurchatov**	**64.42**	**320**	*e*P	**P**	**06 05 33.3**	**-0.3**
	18nm,1.6s						
ILAR	**Eielson Array**	**69.00**	**25**	P	**P**	**06 06 00.2**	**-2.3**
	1.1nm,0.4s,baz=253,slow=5.5,SNR=17						
ILB	**Eielson Array**	**69.00**	**25**	*e*P	**P**	**06 06 00.4**	**-2.0**
INK	**Inuvik**	**74.78**	**22**	P	**P**	**06 06 35.7**	**-1.1**
	2.2nm,0.9s,baz=250,slow=7.1,SNR=8.1						
INK	**Inuvik**	**74.78**	**22**	*e*P	**P**	**06 06 36.1**	**-0.7**
	3.8nm,1.0s						
YKA	**Yellowknife Ar**	**83.31**	**27**	P	**P**	**06 07 22.3**	**-1.0**
	0.4nm,0.3s,baz=286,slow=5.1,SNR=22						
YKB5	**Yellowknife Ar**	**83.31**	**27**	*e*P	**P**	**06 07 22.7**	**-0.7**
YBH	**Yreka Blue Hor**	**83.42**	**49**	*e*P	**P**	**06 07 25.6**	**+1.1**
	15nm,1.6s						
NEW	**Newport**	**85.75**	**41**	*e*P	**P**	**06 07 36.2**	**+0.2**
	4.7nm,0.7s						
BMO	**Blue Mountains**	**86.53**	**45**	*e*P	**P**	**06 07 40.3**	**+0.3**
	4.7nm,0.8s						
NV01	**Mina Array Sit**	**87.48**	**51**	*e*P	**P**	**06 07 45.5**	**+0.6**
NVAR	**Mina Array Bea**	**87.48**	**51**	P	**P**	**06 07 45.3**	**+0.4**
	1.8nm,0.6s,baz=264,slow=6.5,SNR=14						
MFID	**Camas Ranch**	**87.94**	**46**	*e*P	**P**	**06 07 47.2**	**+0.4**
	7.4nm,0.9s						
HLID	**Hailey**	**88.88**	**45**	*e*P	**P**	**06 07 51.4**	**0.0**
	1.9nm,0.8s						
ELK	**Elko**	**89.12**	**48**	*e*P	**P**	**06 07 52.4**	**-0.3**
	3.3nm,0.7s						
TPNV	**Topopah Spring**	**89.44**	**52**	*e*P	**P**	**06 07 54.4**	**+0.3**
	3.8nm,0.8s						
SHPR	**Sheep Range**	**90.41**	**52**	*e*P	**P**	**06 08 00.1**	**+1.4**
	2.7nm,0.9s						
FIA0	**FINESS Array S**	**91.14**	**335**	*e*P	**P**	**06 08 00.1**	**-1.1**
FINES	**FINESS Array B**	**91.14**	**335**	P	**P**	**06 08 00.1**	**-1.1**
	0.4nm,0.4s,baz=57,slow=4.6,SNR=9.1						
PD31	**Pinedale Array**	**92.50**	**45**	*e*P	**P**	**06 08 07.1**	**-1.2**
PDAR	**Pinedale Array**	**92.50**	**45**	P	**P**	**06 08 07.4**	**-0.9**
	0.4nm,0.7s,baz=262,slow=3.0,SNR=5.0						
ESDC	**Sonseca Array**	**119.54**	**332**	PKP	**PKPdf**	**06 13 45.5**	**-0.7**
	0.1nm,0.4s,baz=9.1,slow=2.2,SNR=3.3						
TOA1	**Torodi Ar. Sit**	**134.56**	**304**	*e*PKPdf	**PKPdf**	**06 14 15.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**134.56**	**304**	PKP	**PKPdf**	**06 14 15.4**	**+0.1**
	0.4nm,0.6s,baz=111,slow=2.5,SNR=3.9						
DBIC	**Dimbokro**	**143.49**	**301**	PKP	PKPab	06 14 28.6	+0.4
	3.4nm,0.8s,baz=27,slow=3.0,SNR=8.0						
LPAZ	**La Paz**	**148.51**	**99**	PKPbc	**PKPbc**	**06 14 45.1**	**+0.6**
	1.4nm,0.5s,baz=329,slow=3.2,SNR=8.1						
LPAZ	**La Paz**	**148.51**	**99**	*e*PKPbc	**PKPbc**	**06 14 45.4**	**+0.9**

*NEIC **06** 05:56:37.9±0.0, 17°.21N×94°.62W, h169^{km}, MD4.1(MEX), After MEX.*
MEX 06 05:56:37.9±0.6**, 17°.28N×94°.64W, h168^{km}**±7^{km}**, MD3.9, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.30**	**232**	*e*Pn	Pn	05 56 59.2	-1.4
CMIG				*e*Sn	Sn	05 57 15.7	-2.2
CMIG	**Matias Romero**	**0.30**	**232**	*i* P	Pn	05 56 59.2	-1.4
CMIG				*i* S	Sn	05 57 15.7	-2.2
VHO	**Vista Hermosa**	**2.02**	**265**	*e*Pn	Pn	05 57 14.0	-0.5
VHO				*e*Sn	Sn	05 57 41.1	-1.7
VHO	**Vista Hermosa**	**2.02**	**265**	*i* P	Pn	05 57 14.0	-0.5
VHO				*i* S	Sn	05 57 41.1	-1.7
CCIG	**Comitan**	**2.59**	**112**	*e*Pn	Pn	05 57 21.5	+0.3
CCIG				*e*Sn	Sn	05 57 52.8	-1.9
TPIG	**Tehuac#an**	**2.83**	**294**	*e*Pn	Pn	05 57 25.2	+1.0
TPIG				*e*Sn	Sn	05 57 58.3	-1.7
TPIG	**Tehuac#an**	**2.83**	**294**	*i* P	Pn	05 57 22.6	-1.5
TPIG				*i* S	Sn	05 57 58.3	-1.7
TLIG	**Tlapa**	**3.76**	**275**	*e*Pn	Pn	05 57 34.6	-1.2
TLIG				*e*Sn	Sn	05 58 16.4	-4.4
060A	**Indiantown**	**16.39**	**51**	*e*P	P	06 00 16.7	-1.5

TRN 06 06:14:26.5, 11°.25N×61°.75W, h14^{km}, MD3.6, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.69**	**151**	*e*P	Pg	06 14 39.5	-0.4
TRN				*e*S	Sb	06 14 49.8	+0.1
GRHS	**Sauteurs**	**0.97**	**6**	*e*P	Pn	06 14 45.8	0.0
GRHS				*e*S	Sn	06 14 58.9	-0.5
TPP	**Pointe-a-Pierr**	**0.97**	**163**	*e*P	Pb	06 14 45.1	-0.1
TPP				*e*S	Sn	06 14 58.8	-0.6
TBH	**Brigand Hill**	**1.01**	**139**	*e*P	Pn	06 14 46.9	+0.5
TBH				*e*S	Sn	06 15 01.2	+0.7
GRSS	**Sisters**	**1.05**	**7**	*e*P	Pn	06 14 47.0	+0.1
GRSS				*e*S	Sn	06 15 01.2	-0.1
TOSP	**Speyside**	**1.19**	**88**	*e*P	Pg	06 14 49.3	-0.1
FCV	**Fort Charlotte**	**1.96**	**14**	*e*P	Pn	06 15 00.5	+1.2
FCV				*e*S	Sn	06 15 24.1	+0.3
SVB	**Belmont**	**2.06**	**13**	*e*P	Pn	06 15 01.2	+0.4
SVB				*e*S	Sn	06 15 25.9	-0.6
SVCV	**St. Vincent, C**	**2.09**	**16**	*e*P	Pn	06 15 01.6	+0.4
SVCV				*e*S	Sn	06 15 27.8	+0.7
SVV	**Soufriere Volc**	**2.12**	**14**	*e*P	Pn	06 15 02.4	+0.9
SVV				*e*S	Sn	06 15 28.1	+0.4
SSV	**Crater Summit**	**2.13**	**15**	*e*P	Pn	06 15 03.0	+1.1
SLB	**Belfond**	**2.65**	**15**	*e*P	Pn	06 15 10.2	+1.3
SLB				*e*S	Sn	06 15 40.7	-0.2
BBGH	**Gun Hill**	**2.85**	**48**	*e*P	Pn	06 15 12.2	+0.6
BBGH				*e*S	Sn	06 15 44.9	-0.8
SLW	**Petit Monier**	**2.86**	**16**	*e*S	Sn	06 15 45.7	-0.5
BBSP	**Saint Philip**	**2.90**	**50**	*e*S	Sn	06 15 46.9	0.0
TRMF	**Trois Ilets**	**3.33**	**12**	*e*P	Pn	06 15 16.9	-1.4
ZAM	**Aeronautique**	**3.37**	**12**	*e*P	Pn	06 15 18.2	-0.6
MVM	**Montagne Vaucl**	**3.38**	**14**	*e*P	Pn	06 15 17.5	-1.5
LPMF	**Morne Lapointe**	**3.39**	**13**	*e*P	Pn	06 15 17.8	-1.2
FDF	**Fort de France**	**3.51**	**9**	*e*P	Pn	06 15 21.0	+0.3
PCM	**Pelee Case Pet**	**3.58**	**8**	*e*P	Pn	06 15 20.0	-1.7
MGG	**Marie-Galante**	**4.66**	**5**	*e*P	Pn	06 15 37.4	+0.9

*ISCJB **06** 06:22:53.8±0.4, 55°.49N±0°.03×134°.71W±0°.09, h10^{km}, mb3.5/2, Error ellipse: s-maj=7.7km s-min=2.5km az=153.6*
*NEIC **06** 06:22:53.9±0.0, 55°.46N×135°.11W, h10^{km}, ML3.5(AEIC), ML3.6(OTT), After AEIC.*
*IDC **06** 06:22:54.1±1.0, 55°.51N×134°.85W, h0^{km}, mb3.1/4, mb1 3.5/10, mb1mx3.3/35, mbtmp3.2/10, ML2.9/6, Error ellipse: s-maj=17.1km s-min=9.9km az=59.0*
*PGC **06** 06:22:56.0±2.7, 55°.44N×134°.81W, h10^{km}, ML3.6/10, 182km Sse of Sitka, Ak Southeastern Alaska*
ISC 06 06:22:54.1±0.7**, 55°.47N**±0°.03×**134°.81W**±0°.04**, h10^{km}, n55, σ1^{s}88**/77**, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	**Craig**	**0.96**	**89**	P	**Pn**	**06 23 14.8**	**+1.2**
CRAG				S	**Sn**	**06 23 29.1**	**+1.8**
SIT	**Sitka**	**1.61**	**350**	P	**Pn**	**06 23 21.6**	**-0.9**
SIT				S	**Sg**	**06 23 44.5**	**-1.4**
WRAK	**Wrangell Islan**	**1.68**	**55**	P	**Pb**	**06 23 24.6**	**-0.5**
WRAK				S	**Sg**	**06 23 49.6**	**+1.5**
NDB	**Naden**	**1.87**	**144**	P	**Pb**	**06 23 27.3**	**-0.9**
NDB	**Naden**	**1.87**	**144**	Pn	**Pb**	**06 23 26.8**	**-1.4**
MASB	**Masset**	**2.18**	**131**	P	**Pb**	**06 23 31.9**	**-1.6**
MASB	**Masset**	**2.18**	**131**	Pn	**Pn**	**06 23 31.2**	**+0.9**
DIB	**Dawson Inlet,**	**2.65**	**148**	Pn	**Pn**	**06 23 37.4**	**+0.6**
DIB	**Dawson Inlet,**	**2.65**	**148**	Pn	**Pn**	**06 23 37.4**	**+0.6**
DIB				Sn	**Sn**	**06 24 08.5**	**-0.5**
H02S1	**DAWSON INLET T**	**2.65**	**148**	Pn	**Pn**	**06 23 37.9**	**+1.0**
H02S1				Sn	**Sn**	**06 24 07.6**	**-1.4**
	SNR=337						
JIS	**Juneau Island**	**2.82**	**5**	P	**Pn**	**06 23 40.3**	**+1.1**
JIS				S	**Sn**	**06 24 13.7**	**+0.6**
MOBC	**Moresby Island**	**2.87**	**143**	Pn	**Pn**	**06 23 40.6**	**+0.8**
MOBC	**Moresby Island**	**2.87**	**143**	Pn	**Pn**	**06 23 40.6**	**+0.8**
MOBC				Sn	**Sn**	**06 24 14.9**	**+0.6**
RUBB	**Prince Rupert**	**2.87**	**112**	Pn	**Pn**	**06 23 41.1**	**+1.3**
RUBB	**Prince Rupert**	**2.87**	**112**	Pn	**Pn**	**06 23 41.1**	**+1.3**
RUBB				Sn	**Sn**	**06 24 16.0**	**+1.6**
RUBB				Sg	**Sg**	**06 24 26.6**	**+0.3**
HG1B	**Mitchell Dam**	**2.99**	**147**	Pn	**Pn**	**06 23 42.7**	**+1.2**
HG1B				Sn	**Sn**	**06 24 18.2**	**+0.9**
HG1B				Sg	**Sg**	**06 24 28.7**	**-1.3**
BESE	**Bessie Mountai**	**3.12**	**360**	P	**Pn**	**06 23 44.0**	**+0.7**
BESE				S	**Sn**	**06 24 21.3**	**+0.7**
BESE	**Bessie Mountai**	**3.12**	**360**	Pn	**Pn**	**06 23 44.0**	**+0.7**
BNB	**Barry Inlet**	**3.42**	**147**	P	**Pn**	**06 23 48.4**	**+1.0**
BNB	**Barry Inlet**	**3.42**	**147**	Pn	**Pn**	**06 23 48.6**	**+1.2**
HG3B	**Hotspring**	**3.52**	**144**	Pn	**Pn**	**06 23 49.4**	**+0.7**
HG3B				Sn	**Sn**	**06 24 29.2**	**-1.1**
HG3B				Sg	**Sg**	**06 24 43.4**	**-3.5**
DLBC	**Dease Lake**	**3.96**	**39**	Pn	**Pn**	**06 23 56.2**	**+1.3**
	0.4nm,0.3s,baz=199,slow=8.6,SNR=18						
DLBC				Pg	**Pg**	**06 24 09.2**	**-0.8**
	2.8nm,0.3s,baz=212,slow=12,SNR=16						
DLBC				Lg	Lg	06 24 57.5	
	4.6nm,0.3s,baz=166,slow=19,SNR=3.4						
DLBC	**Dease Lake**	**3.96**	**39**	P	**Pn**	**06 23 57.2**	**+2.3**
DLBC	**Dease Lake**	**3.96**	**39**	Pn	**Pn**	**06 23 57.2**	**+2.3**
DLBC				Sg	**Sg**	**06 24 59.3**	**-1.8**
SKAG	**Skagway**	**4.01**	**356**	P	**Pn**	**06 23 56.2**	**+0.7**
PLBC	**Pleasant Camp**	**4.08**	**349**	P	**Pn**	**06 23 57.1**	**+0.6**
PLBC	**Pleasant Camp**	**4.08**	**349**	Pn	**Pn**	**06 23 57.5**	**+1.0**
PLBC				Sg	**Sg**	**06 25 03.0**	**-2.0**
BBB	**Bella Bella**	**5.16**	**127**	Pn	**Pn**	**06 24 12.8**	**+1.6**
	1.6nm,0.3s,baz=313,slow=8.6,SNR=28						
BBB				Sn	**Sn**	**06 25 11.2**	**+0.5**
	2.4nm,0.3s,baz=316,slow=23,SNR=7.2						
BBB				Lg	Lg	06 25 37.8	
	1.2nm,0.3s,baz=277,slow=16,SNR=2.4						
BBB	**Bella Bella**	**5.16**	**127**	P	**Pn**	**06 24 13.5**	**+2.3**
BBB	**Bella Bella**	**5.16**	**127**	Pn	**Pn**	**06 24 12.8**	**+1.6**
BBB				Sn	**Sn**	**06 25 10.9**	**+0.2**
BBB				Sg	**Sg**	**06 25 37.6**	**-1.8**
WHY	**Whitehorse**	**5.20**	**360**	P	**Pn**	**06 24 13.5**	**+1.5**
WHY	**Whitehorse**	**5.20**	**360**	Pn	**Pn**	**06 24 13.8**	**+1.8**
WHY				Sn	**Sn**	**06 25 11.6**	**-0.4**
YUK7	**Dusty Glacier**	**5.37**	**342**	Pn	**Pn**	**06 24 16.8**	**+2.4**
YUK7				Sn	**Sn**	**06 25 15.5**	**-0.8**
PCA	**Pinnacle**	**5.47**	**330**	P	**Pn**	**06 24 17.0**	**+1.3**
PCA	**Pinnacle**	**5.47**	**330**	Pn	**Pn**	**06 24 17.0**	**+1.3**
HYT	**Haines Junctio**	**5.55**	**346**	Pn	**Pn**	**06 24 18.6**	**+1.8**
HYT				Sg	**Sg**	**06 25 50.8**	**-1.4**
SAMH	**Samovar Hills**	**5.66**	**328**	P	**Pn**	**06 24 19.2**	**+1.0**
YUK6	**Outpost Mounta**	**5.80**	**343**	P	**Pn**	**06 24 21.4**	**+1.2**
YUK6	**Outpost Mounta**	**5.80**	**343**	Sg	**Sg**	**06 25 58.0**	**-2.0**
YUK5	**Granite Creek**	**5.90**	**345**	Pn	**Pn**	**06 24 23.8**	**+2.2**
FSB	**Fort Saint Jam**	**6.12**	**95**	Pn	**Pn**	**06 24 27.6**	**+3.1**
YUK4	**Talbot Arm**	**6.22**	**343**	Pn	**Pn**	**06 24 29.2**	**+3.2**
TLCB	**Telegraph Cove**	**6.89**	**132**	Pn	**Pn**	**06 24 36.2**	**+1.2**
BMBC	**Bull Mountain**	**7.18**	**80**	Sg	**Sg**	**06 26 35.8**	**-8.6**
FNBB	**Fort Nelson**	**7.27**	**57**	Pn	**Pn**	**06 24 42.4**	**+2.1**
FNBB				Sg	**Sg**	**06 26 43.1**	**-4.0**
WOSB	**Woss**	**7.29**	**133**	Pn	**Pn**	**06 24 39.6**	**-1.0**
DAWY	**Dawson**	**8.92**	**347**	Pn	**Pn**	**06 25 05.4**	**+2.5**
KDAK	**Kodiak Island**	**10.06**	**291**	Pn	**Pn**	**06 25 17.0**	**-1.4**
	0.3nm,0.3s,baz=110,slow=12,SNR=5.7						
ILAR	**Eielson Array**	**11.08**	**332**	Pn	**Pn**	**06 25 31.2**	**-1.1**
	0.1nm,0.3s,baz=154,slow=13,SNR=7.2						
YKA	**Yellowknife Ar**	**12.53**	**48**	Pn	**Pn**	**06 25 52.5**	**+0.4**
	0.0nm,0.3s,baz=241,slow=12,SNR=5.3						
ELK	**Elko**	**19.59**	**131**	P	**Pn**	**06 27 24.3**	**+0.6**
	0.0nm,0.3s,baz=27,slow=18,SNR=1.8						
NVAR	**Mina Array Bea**	**20.34**	**140**	P	Pn	06 27 33.1	+0.4
	0.1nm,0.4s,baz=326,slow=7.7,SNR=2.3						
PDAR	**Pinedale Array**	**20.71**	**117**	P	Pn	06 27 35.9	-1.0
	0.2nm,0.6s,baz=345,slow=3.1,SNR=2.2						
TXAR	**Lajitas Array**	**34.29**	**127**	P	**P**	**06 29 43.7**	**+3.3**
	0.5nm,0.9s,baz=339,slow=6.7,SNR=4.2						
MKAR	**Makanchi Array**	**73.42**	**334**	P	**P**	**06 34 28.3**	**+2.2**
	0.5nm,0.7s,baz=40,slow=6.1,SNR=5.9						

MAN 06 06:39:19.9, 11°.21N×124°.49E, h10^{km}, mb3.9, ML2.6, MS2.2, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.20**	**143**	*e*P	Pg	06 39 25.2	+1.0
OCLP				*e*S	Sg	06 39 29.9	+2.9
MSLP	**Maasin**	**1.13**	**161**	*e*P	Pb	06 39 41.2	-0.4
MSLP				*e*S	Sn	06 39 58.4	+0.9
RCP	**Roxas**	**1.74**	**282**⇑	*e*P	Pn	06 39 49.8	-0.5
RCP				*e*S	Sb	06 40 13.3	-0.7

*ISCJB **06** 06:46:54.2±0.6, 27°.65N±0°.04×104°.05E±0°.06, h10^{km}, mb3.4/10, MS2.8/2, Error ellipse: s-maj=8.3km s-min=5.5km az=157.7*
*IDC **06** 06:46:55.5±0.9, 27°.60N×104°.08E, h0^{km}, mb3.4/11, mb1 3.7/12, mb1mx3.5/52, mbtmp3.5/12, ML4.4/1, MS2.8/3, Ms1 2.9/3, ms1mx2.5/34, Error ellipse: s-maj=30.9km s-min=19.0km az=65.0*
*BJI **06** 06:46:57.4, 27°.55N×103°.97E, h6^{km}, ML3.8/18*
ISC 06 06:46:56.7±0.6**, 27°.56N**±0°.04×**104°.01E**±0°.05**, h10^{km}, n18, σ2^{s}12**/25**, mb3.5**/10**, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**2.61**	**114**	Pn	**Pb**	**06 47 44.0**	**+0.4**
GYA				Sn	**Sb**	**06 48 16.6**	**+0.8**
GYA				Sg	**Sg**	**06 48 21.2**	**+0.7**
GYA				smax	smax		
	comp=N,240nm,0.8s						
GYA				smax	smax		
	comp=E,180nm,0.7s						
KMI	**Kunming**	**2.69**	**205**	Pg	**Pb**	**06 47 45.7**	**+0.7**
KMI				Sg	**Sb**	**06 48 16.1**	**-2.0**
KMI				smax	smax		
	comp=N,34nm,1.0s						
KMI				smax	smax		
	comp=E,62nm,0.9s						
CD2	**Chengdu**	**3.34**	**356**	Pn	**Pn**	**06 47 50.0**	**+0.9**
CD2				Pg	**Pb**	**06 47 57.5**	**+1.4**
CD2				Sn	**Sn**	**06 48 25.5**	**-3.4**
CD2				Sg	**Sb**	**06 48 40.6**	**+3.7**
CD2				smax	smax		
	comp=N,680nm,0.5s						
CD2				smax	smax		
	comp=E,850nm,0.6s						
XAN	**Xi'an**	**7.71**	**32**	Pn	**Pn**	**06 48 52.0**	**+2.9**
XAN				Sn	**Sn**	**06 50 14.6**	**-2.0**
XAN				Sg	**Sg**	**06 50 58.2**	**-6.0**
XAN				smax	smax		
	comp=N,57nm,1.0s						
XAN				smax	smax		
	comp=E,62nm,0.9s						
CMAR	**Chiang Mai Arr**	**10.19**	**208**	Pn	**Pn**	**06 49 22.5**	**-0.7**
	0.8nm,0.3s,baz=18,slow=12,SNR=3.8						
CMAR				LR	LR	06 53 49.2	
	comp=Z,38nm,20.5s,baz=200,slow=40						
SONM	**Songino Array**	**20.32**	**5**	P	**P**	**06 51 32.7**	**-0.3**
	0.4nm,0.4s,baz=181,slow=9.5,SNR=5.6						
SONM				LR	LR	07 00 30.8	
	comp=Z,58nm,20.1s,baz=229,slow=40						
WMQ	**Urumqi**	**20.89**	**325**	*e*P	**P**	**06 51 40.1**	**+1.0**
KSRS	**Korea Array**	**22.39**	**58**	P	**P**	**06 51 53.7**	**-1.6**
	0.7nm,0.6s,baz=251,slow=10,SNR=2.6						
JNU	**Nakatsue**	**23.80**	**70**	LR	LR	07 02 05.0	
	comp=Z,20nm,18.8s,baz=297,slow=38						
MKAR	**Makanchi Array**	**25.70**	**324**	P	**P**	**06 52 28.4**	**+1.3**
	0.9nm,0.7s,baz=126,slow=11,SNR=7.3						
ZALV	**Zalesovo Beam**	**29.91**	**337**	P	**P**	**06 53 02.9**	**-1.6**
	0.4nm,0.5s,baz=139,slow=8.9,SNR=2.8						
KURBB	**Kurchatov Arra**	**30.08**	**327**	P	**P**	**06 53 05.7**	**-0.5**
	0.3nm,0.6s,baz=131,slow=10.0,SNR=3.9						
WRA	**Warramunga Arr**	**55.61**	**145**	P	**P**	**06 56 33.3**	**+0.4**
	0.3nm,0.5s,baz=335,slow=8.3,SNR=3.3						
ASAR	**Alice Springs**	**58.53**	**148**	P	**P**	**06 56 53.9**	**+0.3**
	0.3nm,0.6s,baz=337,slow=6.4,SNR=4.2						
FINES	**FINESS Array B**	**60.47**	**327**	P	**P**	**06 57 07.8**	**+1.4**
	2.5nm,1.1s,baz=54,slow=7.2,SNR=3.0						
NOA	**NORSAR Array B**	**67.61**	**328**	P	**P**	**06 57 53.8**	**+0.4**
	0.7nm,0.9s,baz=77,slow=5.2,SNR=2.3						
ILAR	**Eielson Array**	**73.06**	**25**	P	**P**	**06 58 25.5**	**-1.2**
	0.1nm,0.7s,baz=285,slow=4.8,SNR=2.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**85.09**	**17**	P	**P**	**06 59 34.6**	**+2.1**
	0.1nm,0.7s,baz=326,slow=5.1,SNR=4.5						

MAN 06 06:51:52.2, 9°.78N×123°.08E, h24km, mb4.1, ML2.9, MS2.5, 1D, Negros

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.46**	**160**	⇓*i*P	Pn	06 52 03.6	+0.2
SNPH				*i* S	Sn	06 52 11.6	+0.7
TBP	**Tagbilaran**	**0.78**	**96**	*e*P	Pb	06 52 05.5	-1.6
GUIM	**Jordan**	**0.97**	**330**	*e*P	Pn	06 52 10.3	-0.1
GUIM				*e*S	Sn	06 52 23.3	-0.1
LLP	**Lapu-Lapu**	**1.03**	**58**	*e*P	Pn	06 52 08.8	-2.4
LLP				*e*S	Sb	06 52 20.3	-4.1
MSLP	**Maasin**	**1.79**	**78**	*e*P	Pn	06 52 22.2	+0.5
MSLP				*e*S	Sn	06 52 44.9	+1.2

*ISCJB **06** 06:58:40.5±0.6, 6°.86N±0°.04×73°.10W±0°.05, h156km±5km, mb3.0/2, Error ellipse: s-maj=8.7km s-min=5.3km az=25.9*
*IDC **06** 06:58:41.4±0.8, 7°.00N×73°.19W, h143km±47km, mb2.9/2, mb1 3.3/4, mb1mx3.0/35, mbtmp3.4/4, Error ellipse: s-maj=101.0km s-min=7.7km az=133.0*
*RSNC **06** 06:58:42.3±1.2, 6°.80N×73°.11W, h146km±7km, ML3.5, Mw3.9*
ISC 06 06:58:41.2±1.0**, 6°.85N**±0°.04×**73°.10W**±0°.05**, h151**km±7km**, n21, σ0s.91**/31**, 1C-2D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**198**	⇓*i*P	**Pn**	**06 59 02.3**	**+0.2**
BARC				*i*		06 59 18.3	
	comp=Z,2µm,0.2s						
BRRC	**Barranca, Sant**	**0.66**	**293**	⇓*i*P	**Pn**	**06 59 04.1**	**+0.6**
BRRC				*i*		06 59 04.3	
	comp=Z,405nm,0.2s						
BRRC				*e*S	**Sn**	**06 59 21.1**	**+0.4**
RUSC	**La Rusia**	**0.95**	**179**	⇑*i*P	**Pn**	**06 59 06.2**	**0.0**
RUSC				*e*S	**Sn**	**06 59 24.1**	**-1.3**
RUSC				*i*		06 59 25.6	
	comp=N,695nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.39**	**257**	*e*P	**Pn**	**06 59 08.8**	**-0.9**
PTBC				*i*		06 59 35.5	
	comp=N,717nm,0.4s						
OCAC	**Ocana**	**1.40**	**351**	*e*P	**Pn**	**06 59 10.4**	**+0.5**
OCAC				*e*S	**Sn**	**06 59 33.3**	**+1.2**
OCAC				*i*		06 59 37.2	
	comp=N,2µm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.86**	**290**	*e*S	**Sn**	**06 59 40.2**	**-0.4**
CHIC	**Chingaza**	**2.29**	**196**	*e*P	**Pn**	**06 59 20.4**	**+0.1**
CHIC				*e*S	**Sn**	**06 59 49.2**	**-1.2**
CHIC				*i*		06 59 56.0	
	comp=N,143nm,0.3s						
ROSC	**El Rosal**	**2.34**	**211**	P	**Pn**	**06 59 22.2**	**+1.4**
	comp=N,14nm,0.3s,baz=346,slow=17,SNR=58						
ROSC				S	**Sn**	**06 59 52.9**	**+1.6**
	comp=N,30nm,0.3s,baz=15,slow=20,SNR=27						
ROSC	**El Rosal**	**2.34**	**211**	*e*S	**Sn**	**06 59 51.4**	**+0.1**
HELC	**Santa Helena**	**2.50**	**255**	*e*P	**Pn**	**06 59 23.3**	**+0.6**
HELC				*e*S	**Sn**	**06 59 54.7**	**0.0**
HELC				*i*		07 00 02.3	
	comp=Z,88nm,0.2s						
VILC	**Villavicencio,**	**2.78**	**192**	*e*P	**Pn**	**06 59 25.8**	**-0.2**
VILC				*e*S	**Sn**	**06 59 59.6**	**-1.1**
VILC				*i*		07 00 05.8	
	comp=N,318nm,0.4s						
RREF	**El Recreo**	**2.96**	**229**	*e*P	**Pn**	**06 59 30.1**	**+1.4**
RREF				*i*		07 00 16.3	
	comp=Z,90nm,0.3s						
CODC	**Agustn Codazz**	**3.09**	**354**	*e*P	**Pn**	**06 59 30.1**	**+0.4**
CODC				*i*		07 00 13.3	
	comp=N,36nm,0.5s						
TOLC	**Tolima**	**3.15**	**225**	*e*P	**Pn**	**06 59 31.5**	**+0.6**
SDV	**Santo Domingo**	**3.17**	**50**	P	**Pn**	**06 59 31.7**	**+0.7**
	comp=N,5.2nm,0.3s,baz=236,slow=10,SNR=73						
SDV				S	**Sn**	**07 00 08.6**	**-0.9**
	comp=N,10.0nm,0.3s,baz=238,slow=19,SNR=32						
SDV	**Santo Domingo**	**3.17**	**50**	*e*P	**Pn**	**06 59 31.9**	**+1.0**
MOTC	**Monteria, Cord**	**3.19**	**307**	*e*P	**Pn**	**06 59 29.7**	**-1.2**
ANIL	**Santa Ana**	**3.28**	**225**	*e*P	**Pn**	**06 59 33.7**	**+1.3**
ANIL				*e*S	**Sn**	**07 00 13.1**	**+1.0**
ANIL				*i*		07 00 20.1	
	comp=Z,52nm,0.4s						
PLMC	**San Jos del P**	**3.71**	**239**	*e*P	**Pn**	**06 59 38.2**	**+0.4**
PLMC				*e*S	**Sn**	**07 00 21.0**	**-0.8**
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**07 05 31.7**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=129,slow=8.7,SNR=4.8						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**07 08 52.8**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=134,slow=6.9,SNR=7.8						

SJA 06 07:02:38.4±0.5**, 28°.69S**×**66°.53W, h79**km±3km**, ML3.0, MW3.6, Catamarca Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CYA	**Choya**	**0.69**	**69**	*i* P	Pn	07 02 54.7	+0.8
CYA				*i* S	Sn	07 03 06.8	+1.5
CYA				IAML		07 03 08.1	
	comp=Z,459nm,0.3s						
APLL	**PUNTA DE LOS L**	**1.70**	**180**	*i* P	Pn	07 03 07.5	+1.1
APLL				IAML		07 03 34.1	
	comp=Z,112nm,0.2s						
AGUA	**GUANDACOL**	**1.89**	**245**	*i* P	Pn	07 03 10.7	+1.8
FSA	**Cafayete**	**2.61**	**11**	*i* P	Pn	07 03 20.4	+1.8
FSA				IAML		07 04 12.5	
	comp=Z,42nm,0.7s						
TCA	**Tanti**	**3.13**	**148**	*i* P	Pn	07 03 27.5	+1.9
TCA				IAML		07 04 24.3	
	comp=Z,16nm,0.4s						
MRA	**San Martin**	**3.79**	**170**	*i* P	Pn	07 03 36.2	+1.7
MRA				IAML		07 04 43.2	
	comp=Z,74nm,0.3s						

*ISCJB **06** 07:14:32.8±0.6, 50°.01N±0°.03×78°.60E±0°.09, h0km, Error ellipse: s-maj=8.2km s-min=4.5km az=164.2*
*NNC **06** 07:14:33.4±0.9, 50°.01N×78°.65E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=17.6km s-min=4.7km az=82.0, Suspected Mining explosion.*
*IDC **06** 07:14:34.6±0.8, 50°.05N×78°.76E, h0km, mb1 2.9/3, mb1mx2.8/48, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=10.6km s-min=5.7km az=58.0*
ISC 06 07:14:34.1±0.9**, 50°.01N**±0°.05×**78°.62E**±0°.07**, h0**km**, n10, σ0s.85**/15**, 8C-2D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.62**	**355**	Pg	**Pg**	**07 14 45.4**	**-0.5**
	2.3nm,0.3s,baz=169,slow=19,SNR=88						
KURBB				Lg	Lg	07 14 55.0	
	3.4nm,0.3s,baz=162,slow=33,SNR=35						
KURBB	**Kurchatov Arra**	**0.62**	**355**	⇑P	**Pg**	**07 14 45.2**	**-0.7**
	15nm,0.3s						
KURBB				⇑S	**Sg**	**07 14 53.9**	**0.0**
	67nm,0.7s						
KURK	**Kurchatov**	**0.71**	**0**	⇑P	**Pg**	**07 14 46.6**	**-1.0**
	5.1nm,0.3s						
KURK				⇑S	**Sg**	**07 14 57.4**	**+0.6**
	21nm,0.8s						
MAKZ	**Makanchi**	**3.91**	**144**	⇓Pn	**Pn**	**07 15 35.9**	**+0.5**
	2.5nm,0.8s						
MAKZ				⇓Lg	Lg	07 16 34.4	
	2.9nm,0.8s						
MK31	**Makanchi Array**	**4.04**	**141**	⇑Pn	**Pn**	**07 15 37.5**	**+0.3**
	0.4nm,0.3s,baz=323,slow=10,SNR=32						
MK31				⇑Lg	Lg	07 16 39.8	
	1.5nm,0.4s,baz=326,slow=26,SNR=7.8						
MKAR	**Makanchi Array**	**4.04**	**141**	Pn	**Pn**	**07 15 37.6**	**+0.4**
	0.4nm,0.3s,baz=322,slow=11,SNR=30						
MKAR				Pg	**Pb**	**07 15 45.0**	**-1.2**
	0.8nm,0.3s,baz=322,slow=16,SNR=12						
MKAR				Sn	**Sn**	**07 16 26.2**	**+0.9**
	0.4nm,0.3s,baz=329,slow=25,SNR=3.5						
MKAR				Lg	Lg	07 16 39.4	
	1.2nm,0.3s,baz=328,slow=25,SNR=10						
OTUK	**Ortayu**	**4.49**	**249**	⇑Pn	**Pn**	**07 15 44.4**	**+1.1**
	1.2nm,0.3s						
OTUK				⇑Lg	Lg	07 16 58.9	
	2.7nm,0.6s						
I46RU	**ZALESOVO INFRA**	**5.50**	**42**	*i*		07 47 50.0	
	baz=221,slow=348,SNR=1.4						
ZALV	**Zalesovo Beam**	**5.50**	**42**	Pn	**Pn**	**07 15 58.2**	**+1.0**
	1.0nm,0.3s,baz=232,slow=15,SNR=20						
ZALV				Sn	**Sn**	**07 17 01.5**	**+0.5**
	0.2nm,0.3s,baz=241,slow=21,SNR=2.3						
ZALV				Lg	Lg	07 17 26.7	
	0.3nm,0.3s,baz=232,slow=32,SNR=3.3						
BVAR	**Borovoye Array**	**5.96**	**304**	Pn	**Pn**	**07 16 04.3**	**+0.8**
	0.2nm,0.3s,baz=119,slow=14,SNR=5.1						
BVAR				Sn	**Sn**	**07 17 11.6**	**-0.8**
	0.3nm,0.3s,baz=115,slow=24,SNR=4.0						
BVAR				Lg	Lg	07 17 44.4	
	0.4nm,0.3s,baz=121,slow=27,SNR=3.5						

*MOS **06** 07:20:33.6±1.5, 55°.21N×109°.39E, h7km, mb4.0/1, Error ellipse: s-maj=15.5km s-min=8.1km az=67.6*
*BYKL **06** 07:20:33.8±0.2, 55°.25N×109°.18E*
*IDC **06** 07:20:33.0±1.9, 55°.21N×109°.34E, h0km, mb3.2/1, mb1 3.3/4, mb1mx3.1/57, mbtmp3.1/4, ML3.0/3, Error ellipse: s-maj=42.7km s-min=23.6km az=122.0*
ISC 06 07:20:34.1±1.1**, 55°.21N**±0°.02×**109°.37E**±0°.03**, h6**km±9km**, n53, σ2s.29**/111**, 8C-3D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.57**	**10**	⇑*i*Pg	**Pg**	**07 20 44.6**	**-0.5**
	18nm,0.3s						
NIZ				⇑*i*Pg	**Pg**	**07 20 44.6**	**-0.5**
	18nm,0.3s						
NIZ				⇑*i*Pg	**Pg**	**07 20 44.6**	**-0.5**
	48nm,0.3s						
NIZ				*e*Sg	**Sg**	**07 20 52.0**	**-0.5**
NIZ				Pmax			
	119nm,0.3s						
NIZ				Smax			
	860nm,0.4s						
NIZ	**Nizh Angarsk**	**0.57**	**10**	⇑*i*PG	**Pg**	**07 20 44.5**	**-0.5**
NIZ				*e*		07 20 52.5	
NIZ				pmax	pmax		
	comp=Z,124nm,0.5s						
NIZ				smax	smax		
	comp=N,889nm,0.5s						
YLYR	**Ulyunkhan**	**1.08**	**107**	⇑*i*Pg	**Pb**	**07 20 55.2**	**0.0**
YLYR				*e*Sg	**Sn**	**07 21 10.7**	**-0.5**
YLYR				*e*		07 21 14.3	
YLYR				Pmax			
	comp=N,184nm,0.6s						
YLYR				max			
	comp=N,1µm,0.4s						
YLYR	**Ulyunkhan**	**1.08**	**107**	⇑*i*PG	**Pb**	**07 20 55.2**	**0.0**
KMO	**Kumora**	**1.24**	**56**	⇑*i*Pg	**Pn**	**07 20 57.3**	**-0.8**
KMO				*e*Pb	**Pg**	**07 20 59.1**	**+1.3**
KMO				*e*		07 21 03.0	
KMO				*e*		07 21 06.5	
KMO				*e*Sg	**Sn**	**07 21 14.8**	**-0.3**
KMO				*e*		07 21 18.3	
KMO				max			
	comp=N,479nm,0.3s						
KMO				max			
	comp=N,634nm,0.6s						
KMO	**Kumora**	**1.24**	**56**	⇑*i*PG	**Pn**	**07 20 57.2**	**-0.8**
KMO				*e*		07 21 15.3	
KMO				pmax	pmax		
	comp=Z,155nm,0.1s						
KMO				smax	smax		
	comp=E,635nm,0.6s						
SYVR	**Suvo**	**1.60**	**167**	⇓*i*Pg	**Pg**	**07 21 04.4**	**-0.3**
SYVR				*e*		07 21 08.4	
SYVR				*e*Sg	**Sg**	**07 21 26.6**	**+1.2**
SYVR				*e*		07 21 28.4	
SYVR				Pmax			
	comp=E,121nm,0.3s						
SYVR				max			
	comp=E,874nm,0.8s						
SYVR	**Suvo**	**1.60**	**167**	*e*PG	**Pg**	**07 21 04.3**	**-0.4**
SYVR				*e*		07 21 26.6	
SYVR				pmax	pmax		
	comp=Z,149nm,0.4s						
SYVR				smax	smax		
	comp=E,902nm,0.8s						
YOA	**Uoyan**	**1.62**	**54**	*e*Pg	**Pb**	**07 21 04.5**	**+0.1**
YOA				*e*Sg	**Sg**	**07 21 26.7**	**+0.6**
YOA				*e*		07 21 30.5	
YOA				Pmax			
	comp=E,449nm,0.5s						
YOA				max			
	comp=E,4µm,1.1s						
YOA	**Uoyan**	**1.62**	**54**	*e*PG	**Pb**	**07 21 04.6**	**+0.1**
OGRR	**Ongureny**	**1.88**	**214**	⇓*i*Pg	**Pn**	**07 21 07.1**	**+0.3**
OGRR				*e*Sg	**Sb**	**07 21 32.9**	**+0.2**
OGRR				Pmax			
	comp=E,85nm,0.4s						
OGRR				Smax			
	comp=E,367nm,0.4s						
OGRR	**Ongureny**	**1.88**	**214**	*e*PN	**Pn**	**07 21 07.1**	**+0.3**
OGRR				*e*		07 21 08.4	
OGRR				*e*		07 21 32.8	
OGRR				pmax	pmax		
	comp=Z,95nm,0.5s						
OGRR				smax	smax		
	comp=E,394nm,0.7s						
MXMB	**Maximikha**	**1.99**	**191**	*e*Pn	**Pn**	**07 21 07.6**	**-0.7**
MXMB				*e*Pg	**Pb**	**07 21 09.9**	**-0.7**
MXMB				*e*Sg	**Sg**	**07 21 36.7**	**-1.1**
MXMB				*e*		07 21 44.1	
UKT	**Uakit**	**2.44**	**82**	*i* Pn	**Pn**	**07 21 16.0**	**+1.4**
UKT				⇓*e*Pg	**Pb**	**07 21 18.8**	**+0.3**
UKT				*e*PgPg	**PbPb**	**07 21 21.6**	**0.0**
UKT				*e*		07 21 25.8	
UKT				*e*		07 21 48.1	
UKT				*e*Sg	**Sg**	**07 21 51.9**	**-0.6**
UKT				max			
	comp=E,151nm,0.7s						
UKT				Smax			
	comp=E,637nm,0.9s						
SVKR	**Severomuysk**	**2.54**	**67**	*e*Pn	**Pn**	**07 21 16.5**	**+0.6**
SVKR				*e*Pg	**Pb**	**07 21 20.6**	**+0.5**
SVKR				*e*Sg	**Sg**	**07 21 55.5**	**-0.1**
SVKR				Pmax			
	comp=E,106nm,0.3s						
SVKR				Smax			
	comp=E,646nm,0.7s						
KELR	**Kotokel**	**2.57**	**198**	*e*Pg	**Pb**	**07 21 19.8**	**-0.8**
KELR				*e*Sg	**Sb**	**07 21 53.5**	**+1.0**
ZRHB	**Zarechye**	**2.97**	**207**	*e*Pn	**Pn**	**07 21 22.6**	**+0.8**
ZRHB				*e*Pg	**Pb**	**07 21 27.1**	**-0.3**
ZRHB				*e*Sg	**Sg**	**07 22 06.6**	**-2.8**
ZRHB				Pmax			
	comp=E,39nm,0.5s						
ZRHB				Smax			
	comp=E,378nm,0.6s						
TRG	**Tyrgan**	**3.04**	**217**	*e*Pn	**Pn**	**07 21 22.2**	**-0.5**
TRG				*e*Pg	**Pb**	**07 21 28.7**	**+0.1**
TRG				*e*		07 21 59.9	
TRG				*e*Sg	**Sb**	**07 22 07.9**	**+2.0**
TRG				Pmax			
	comp=E,18nm,0.2s						
TRG				Smax			
	comp=E,217nm,0.5s						
TRG	**Tyrgan**	**3.04**	**217**	*e*PN	**Pn**	**07 21 22.2**	**-0.5**
TRG				*e*		07 21 28.0	
TRG				*e*S	**Sn**	**07 21 58.8**	**-0.6**
TRG				*e*		07 22 06.7	
TRG				pmax	pmax		
	comp=Z,27nm,0.1s						
TRG				smax	smax		
	comp=E,180nm,0.2s						
TRTB	**Turuntaevo**	**3.16**	**200**	*e*Pn	**Pn**	**07 21 24.1**	**-0.3**
TRTB				*e*		07 21 28.8	
TRTB				*e*Pg	**Pb**	**07 21 30.5**	**-0.2**
TRTB				*e*Sg	**Sb**	**07 22 11.2**	**+1.7**
UUDB	**Ulan-Yde**	**3.50**	**198**	*e*Pn	**Pn**	**07 21 29.8**	**+0.7**
UUDB				*e*Pg	**Pb**	**07 21 36.6**	**+0.1**
UUDB				*e*		07 22 19.0	
UUDB				*e*Sg	**Sg**	**07 22 23.4**	**-3.1**
UUDB				Pmax			
	comp=E,23nm,0.7s						
UUDB				Smax			
	comp=E,74nm,0.8s						
STDB	**Stepnoy Dvoret**	**3.53**	**212**	*e*Pg	**Pb**	**07 21 37.2**	**+0.2**
STDB				*e*Sg	**Sb**	**07 22 23.0**	**+2.9**
KAB	**Kabansk**	**3.56**	**208**	*e*	**Sn**	**07 22 08.5**	**-3.7**
KAB				*e*Sg	**Sb**	**07 22 23.8**	**+3.0**
KAB				Smax			
	comp=E,403nm,0.5s						
BOD	**Bodaibo**	**3.66**	**43**	*e*Pn	**Pn**	**07 21 30.3**	**-0.9**
BOD				*e*Pg	**Pb**	**07 21 38.9**	**-0.3**
BOD				*e*Sg	**Sb**	**07 22 27.4**	**+3.6**
BOD				*e*		07 22 33.2	
BOD				Pmax			
	comp=E,25nm,0.5s						
BOD				Smax			
	comp=E,135nm,0.8s						
BOD	**Bodaibo**	**3.66**	**43**	*e*PN	**Pn**	**07 21 31.0**	**-0.2**
BOD				*e*		07 21 38.8	
BOD				*e*		07 22 27.4	
BOD				pmax	pmax		
	comp=Z,32nm,1.3s						
BOD				smax	smax		
	comp=N,137nm,0.8s						
HRMR	**Khuramsha**	**3.87**	**203**	*e*Pn	**Pn**	**07 21 33.6**	**-0.6**
HRMR				*e*		07 21 38.0	
HRMR				*e*Pg	**Pb**	**07 21 43.5**	**+0.8**
HRMR				*e*		07 21 51.2	
HRMR				*e*		07 22 21.8	
HRMR				*e*Sg	**Sb**	**07 22 33.3**	**+3.4**
HRMR				Pmax			
	comp=N,31nm,0.4s						
HRMR				Smax			
	comp=N,313nm,0.7s						
BGT	**Bolshoye Golou**	**3.95**	**218**	*e*Pn	**Pn**	**07 21 35.0**	**-0.3**
BGT				*e*		07 21 39.1	
BGT				*e*Pg	**Pb**	**07 21 43.3**	**-0.9**
BGT				*e*		07 21 51.5	
BGT				*e*		07 22 20.3	
BGT				*e*Sg	**Sb**	**07 22 34.9**	**+2.7**
BGT				max			
	comp=N,32nm,0.8s						
BGT				Smax			
	comp=N,124nm,1.0s						
CIT	**Chita**	**4.05**	**140**	*e*Sg	**Sg**	**07 22 42.2**	**-1.9**
CIT				Smax			
	comp=N,117nm,0.3s						
IRK	**Irkutsk**	**4.25**	**228**	*e*Sg	**Sb**	**07 22 42.8**	**+2.2**
IRK				Smax			
	comp=N,335nm,0.5s						
IRK	**Irkutsk**	**4.25**	**228**	*e*PN	**Pb**	**07 21 50.0**	**+0.9**
IRK				*e*		07 22 43.7	
IRK				pmax	pmax		
	comp=Z,137nm,0.2s						
IRK				smax	smax		
	comp=N,338nm,0.4s						
LSTR	**Listvyanka**	**4.31**	**221**	*e*Pn	**Pn**	**07 21 39.6**	**-0.5**
LSTR				Pg	**Pb**	**07 21 50.6**	**+0.4**
LSTR				*e*		07 22 23.0	
LSTR				*e*Sg	**Sb**	**07 22 44.9**	**+2.5**
LSTR				Pmax			
	comp=N,8.0nm,0.4s						
LSTR				Smax			
	comp=N,88nm,1.4s						
TLY	**Talaya**	**4.92**	**226**	*e*Pn	**Pn**	**07 21 46.5**	**-2.1**
TLY				*e*Pg	**Pb**	**07 22 00.8**	**+0.1**
TLY				*e*Sn	**Sn**	**07 22 41.2**	**-4.7**
TLY				*e*Sg	**Sb**	**07 23 04.0**	**+3.9**
TLY				Pmax			
	comp=N,18nm,0.7s						
TLY				Smax			
	comp=N,139nm,1.0s						
CRS	**Chara**	**5.26**	**68**	*e*	**Pn**	**07 21 57.5**	**+4.2**
CRS				*e*Pg	**Pb**	**07 22 10.4**	**+3.9**
CRS				*e*Sn	**Sn**	**07 22 51.7**	**-2.6**
CRS				*e*Sg	**Sg**	**07 23 19.4**	**-3.6**
CRS				*e*		07 23 28.4	
CRS				Pmax			
	comp=N,23nm,0.7s						
CRS				max			
	comp=N,57nm,0.7s						
ARS	**Arshan**	**5.29**	**234**	*e*Pn	**Pn**	**07 21 51.5**	**-2.2**
ARS				*e*		07 21 58.9	
ARS				*e*		07 22 09.5	
ARS				*e*Sn	**Sn**	**07 22 51.0**	**-4.1**
ARS				*e*Sg	**Sb**	**07 23 15.5**	**+4.7**
ARS				max			
	comp=N,43nm,0.6s						
ARS				Smax			
	comp=N,448nm,0.9s						
ARS	**Arshan**	**5.29**	**234**	*e*PN	**Pn**	**07 21 55.4**	**+1.7**
ARS				*e*		07 22 09.3	
ARS				*e*		07 23 15.6	
ARS				pmax	pmax		
	comp=Z,36nm,0.5s						
ARS				smax	smax		
	comp=E,451nm,0.7s						
KPC	**Khapcheranga**	**5.81**	**160**	*e*Pn	**Pn**	**07 22 00.7**	**-0.2**
KPC				*e*		07 22 05.0	
KPC				Pg	**Pb**	**07 22 19.3**	**+3.4**
KPC				*e*Sg	**Sg**	**07 23 35.4**	**-5.2**
KPC				Pmax			
	comp=E,3.0nm,0.5s						
KPC				Smax			
	comp=E,69nm,1.3s						
ZAK	**Zakamensk**	**6.09**	**220**	*e*Pn	**Pn**	**07 22 03.9**	**-0.8**
ZAK				*e*Pg	**Pb**	**07 22 23.3**	**+2.8**
ZAK				*e*		07 23 19.0	
ZAK				*e*Sg	**Sb**	**07 23 40.4**	**+6.8**
ZAK				*e*		07 23 46.1	
ZAK				Pmax			
	comp=E,5.0nm,0.5s						
ZAK				max			
	comp=E,90nm,1.0s						
ZAK	**Zakamensk**	**6.09**	**220**	*e*PN	**Pb**	**07 22 23.8**	**+3.3**
MOY	**Mondy**	**6.14**	**238**	*e*Pn	**Pn**	**07 22 06.1**	**+0.7**
MOY				Pg	**Pb**	**07 22 22.2**	**+0.8**
MOY				*e*		07 23 13.4	
MOY				*e*Sg	**Sb**	**07 23 40.3**	**+5.2**
MOY				Pmax			
	comp=E,7.0nm,0.4s						
MOY				Smax			
	comp=E,103nm,1.4s						
MOY	**Mondy**	**6.14**	**238**	*e*PN	**Pn**	**07 22 06.7**	**+1.3**
MOY				*e*		07 22 26.0	
MOY				*e*S	**Sn**	**07 23 14.0**	**-1.9**
MOY				*e*		07 23 40.6	
MOY				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MOY				smax	smax		
	comp=N,50nm,0.7s						
TUP	**Tupik**	**6.17**	**93**	*e*Pn	**Pn**	**07 22 06.7**	**+1.0**
TUP				*e*Pg	**Pb**	**07 22 26.2**	**+4.3**
TUP				*e*		07 23 28.5	
TUP				*e*Sg	**Sg**	**07 23 48.5**	**-3.5**
TUP				Pmax			
	comp=N,8.0nm,0.6s						
TUP				Smax			
	comp=N,79nm,0.8s						
TUP	**Tupik**	**6.17**	**93**	*e*PN	**Pn**	**07 22 06.0**	**+0.3**
TUP				*e*		07 22 25.9	
TUP				*e*S	**Sn**	**07 23 17.4**	**+0.9**
TUP				*e*		07 23 48.1	
TUP				pmax	pmax		
	comp=Z,12nm,0.8s						
TUP				smax	smax		
	comp=N,79nm,1.3s						
ORL	**Orlik**	**6.26**	**249**	*e*Pn	**Pn**	**07 22 05.5**	**-1.5**
ORL				*e*Pg	**Pb**	**07 22 25.5**	**+2.1**
ORL				*e*Sn	**Sn**	**07 23 14.4**	**-4.5**
ORL				*e*Sg	**Sb**	**07 23 45.1**	**+6.5**
ORL				Pmax			
	comp=N,9.0nm,0.8s						
ORL				Smax			
	comp=N,97nm,1.2s						
ORL	**Orlik**	**6.26**	**249**	*e*PN	**Pn**	**07 22 06.5**	**-0.5**
ORL				*e*		07 22 24.4	
ORL				*e*S	**Sn**	**07 23 16.0**	**-2.9**
ORL				*e*		07 23 46.1	
ORL				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ORL				smax	smax		
	comp=N,97nm,1.2s						
SONM	**Songino Array**	**7.62**	**195**	Pn	**Pn**	**07 22 26.4**	**+0.7**
	comp=N,0.1nm,0.3s,baz=13,slow=9.2,SNR=2.4						
SONM				Sn	**Sn**	**07 23 47.3**	**-5.1**
	comp=N,0.1nm,0.3s,baz=0.3,slow=24,SNR=6.7						
SONM				Lg	Lg	07 24 33.5	
	comp=N,0.9nm,0.3s,baz=13,slow=25,SNR=8.9						
TDJR	**Todzha**	**8.35**	**256**	Pg	**Pb**	**07 23 01.1**	**+2.2**
TDJR				*e*		07 24 15.5	
TDJR				*e*Sg	Sb	07 24 48.1	+10

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ZALV	**Zalesovo Beam**	**14.28**	**275**	Pn	**P**	**07 24 01.1**	**-2.9**
	comp=N,0.1nm,0.3s,baz=83,slow=12,SNR=3.6						
KLR	**Kul'dur**	**14.93**	**104**	Lg	Lg	07 28 28.0	
	comp=N,0.0nm,0.3s,baz=214,slow=15,SNR=5.6						
MKAR	**Makanchi Array**	**18.91**	**255**	P	**P**	**07 24 54.1**	**-1.3**
	comp=N,0.1nm,0.3s,baz=62,slow=9.3,SNR=4.2						
KURK	**Kurchatov**	**18.97**	**269**	P	**Pn**	**07 24 57.0**	**+0.4**
KURBB	**Kurchatov Arra**	**19.06**	**269**	P	**P**	**07 24 57.0**	**0.0**
	comp=N,0.1nm,0.3s,baz=67,slow=11,SNR=6.5						
BVAR	**Borovoye Array**	**22.75**	**281**	P	**P**	**07 25 40.1**	**+3.3**
	comp=N,0.8nm,0.5s,baz=76,slow=14,SNR=6.4						
ILAR	**Eielson Array**	**47.00**	**35**	P	**P**	**07 29 05.2**	**-0.3**
	comp=N,0.3nm,0.8s,baz=305,slow=9.1,SNR=4.3						

*IDC **06** 07:24:30.1±1.1, 1°.46N×92°.14E, h0km, mb3.9/9, mb1 4.0/12, mb1mx3.7/57, mbtmp3.9/12, ML4.0/2, MS3.3/6, Ms1 3.4/6, ms1mx3.0/35, Error ellipse: s-maj=37.7km s-min=16.9km az=49.0*

*DJA **06** 07:24:31.9±0.7, 1°N±14°×9°2E±°, h10km, M4.6/7, mB5.1/3, mb4.6/6, MLv4.6/7, Mw(mB)4.5/3*

*ISCJB **06** 07:24:32.9±0.5, 1°.49N±0°.06×92°.19E±0°.05, h33km, mb4.3/15, MS3.5/3, Error ellipse: s-maj=8.8km s-min=6.1km az=36.5*

*NEIC **06** 07:24:34.4±2.1, 1°.46N×92°.16E, h31km±15km, mb4.6/6, Error ellipse: s-maj=10.3km s-min=5.2km az=52.0*

ISC 06 07:24:35.0±0.7, **1°.54N**±0°.08×**92°.30E**±0°.07, **h35km, n49, σ1s.90**/47, **mb4.3**/15, **MS3.5**/3, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**4.12**	**78**	P	**Pn**	**07 25 37.6**	**+2.1**
SNSI				S	**Sn**	**07 26 19.9**	**-2.6**
TPTI		**5.17**	**71**	P	**Pn**	**07 25 51.5**	**+1.5**
TPTI				S	**Sn**	**07 26 44.3**	**-4.2**
GSI	**Gunungsitoli**	**5.28**	**92**	*e*Pn	**Pn**	**07 25 53.4**	**+1.8**
GSI				*e*Sn	**Sn**	**07 26 49.8**	**-1.5**
GSI	**Gunungsitoli**	**5.28**	**92**	P	**Pn**	**07 25 53.8**	**+2.3**
GSI				S	**Sn**	**07 26 48.8**	**-2.5**
KCSI	**Kotacane, Aceh**	**5.81**	**70**	P	**Pn**	**07 26 02.5**	**+3.6**
KCSI				S	**Sn**	**07 27 04.9**	**+0.5**
LHMI	**Lhok Sumawe**	**5.92**	**52**	*e*Pn	**Pn**	**07 26 03.0**	**+2.7**
LHMI	**Lhok Sumawe**	**5.92**	**52**	P	**Pn**	**07 26 03.1**	**+2.9**
PSI	**Prapat**	**6.74**	**79**	Pn	**Pn**	**07 26 12.8**	**+1.1**
	0.7nm,0.3s,baz=360,slow=17,SNR=2.8						
PSI				Sn	**Sn**	**07 27 22.8**	**-4.6**
	1.8nm,0.3s,baz=180,slow=20,SNR=3.9						
PSI				LR	LR	07 29 21.3	
	comp=Z,191nm,18.4s,baz=250,slow=42						
MNSI	**Mandailing Nat**	**7.32**	**96**	P	**Pn**	**07 26 22.1**	**+2.6**
KULM	**Kulim**	**9.13**	**66**	*e*Pn	**Pn**	**07 26 47.9**	**+3.4**
KRAB	**Krabi**	**9.56**	**46**	P	**Pn**	**07 26 53.0**	**+2.8**
	22nm,0.8s,2μm						
PBA	**Port Blair**	**10.06**	**3**	*e*Pn	Pn	07 26 57.8	+0.6
MNAI	**Manna**	**12.16**	**119**	*e*Pn	**Pn**	**07 27 27.0**	**+1.1**
PALK	**Pallekele**	**12.88**	**297**	Pn	**Pn**	**07 27 33.9**	**-2.0**
	3.0nm,0.3s,baz=115,slow=12,SNR=10						
PALK				Sn	Sn	07 29 43.7	-14
	2.9nm,0.3s,baz=116,slow=3.6,SNR=5.6						
PALK				LR	LR	07 31 59.3	
	comp=Z,119nm,18.5s,baz=117,slow=35						
PALK	**Pallekele**	**12.88**	**297**	*e*Pn	**Pn**	**07 27 34.5**	**-1.3**
PALK				*e*Sn	Sn	07 29 43.7	-14
UTHA	**Uthaitani**	**15.62**	**26**	P	P	07 28 25.0	+8.6
	11nm,0.7s,96nm						
UMPA	**Umpang Tak**	**15.95**	**24**	P	P	07 28 32.5	+12
XMIS	**Christmas Isla**	**17.87**	**132**	*e*Pn	**P**	**07 28 41.7**	**+0.2**
	46nm,0.7s						
CM01	**Chiang Mai Arr**	**18.01**	**21**	*e*Pn	**P**	**07 28 42.9**	**0.0**
CM31	**Chiang Mai Arr**	**18.04**	**21**	*e*Pn	**P**	**07 28 43.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**18.04**	**21**	P	**P**	**07 28 43.3**	**0.0**
	baz=214,slow=14,SNR=9.6						
CMAR				LR	LR	07 34 41.2	
	comp=Z,63nm,19.9s,baz=188,slow=34						
H08S2	**Diego Garcia H**	**21.76**	**245**	T	T	07 51 27.8	
	baz=61,slow=75,SNR=4.2						
H08S3	**Diego Garcia H**	**21.76**	**245**	T	T	07 51 40.5	
	baz=61,slow=75,SNR=5.1						
H08S1	**Diego Carcia H**	**21.77**	**245**	T	T	07 51 34.3	
	baz=61,slow=75,SNR=4.2						
SHL	**Shillong**	**23.89**	**359**	*e*P	**P**	**07 29 45.6**	**-0.2**
	11nm,0.5s						
LSA	**Lhasa**	**28.03**	**358**	*e*P	**P**	**07 30 20.2**	**-3.4**
	6.1nm,0.5s						
GIRL	**Giralia**	**32.17**	**140**	*e*P	**P**	**07 30 58.4**	**-1.4**
	235nm,1.4s						
FAKI	**Fak Fak**	**40.19**	**96**	*e*P	**P**	**07 32 07.6**	**-0.8**
	71nm,1.3s						
MK32	**Makanchi Array**	**45.91**	**350**	*e*P	**P**	**07 32 55.0**	**+0.7**
MKAR	**Makanchi Array**	**45.91**	**350**	P	**P**	**07 32 55.0**	**+0.7**
	0.4nm,0.7s,baz=160,slow=8.4,SNR=5.0						
WR1	**Warramunga Arr**	**46.42**	**120**	*e*P	**P**	**07 32 59.8**	**+1.0**
	26nm,1.6s						
WRA	**Warramunga Arr**	**46.42**	**120**	P	**P**	**07 32 59.8**	**+1.0**
	2.2nm,0.6s,baz=298,slow=8.6,SNR=17						
AS31	**Alice Springs**	**47.57**	**124**	*e*P	**P**	**07 33 08.2**	**+0.6**
	1.2nm,0.6s						
ASAR	**Alice Springs**	**47.57**	**124**	P	**P**	**07 33 08.4**	**+0.8**
	0.3nm,0.3s,baz=298,slow=7.5,SNR=12						
ASAR				LR	LR	07 51 05.6	
	comp=Z,100nm,22.0s,baz=124,slow=34						
SONA0	**Songino Array**	**47.71**	**13**	*e*P	**P**	**07 33 10.3**	**+1.9**
SONM	**Songino Array**	**47.71**	**13**	P	**P**	**07 33 10.3**	**+1.9**
	0.4nm,0.6s,baz=191,slow=8.0,SNR=3.6						
GEYT	**Alibeck**	**47.91**	**323**	LR	LR	07 53 32.8	
	comp=Z,56nm,20.0s,baz=310,slow=36						
KSRS	**Korea Array**	**48.49**	**38**	LR	LR	07 53 44.5	
	comp=Z,19nm,19.0s,baz=130,slow=36						
KURBB	**Kurchatov Arra**	**50.28**	**349**	P	**P**	**07 33 28.3**	**+0.4**
	0.3nm,0.5s,baz=169,slow=6.8,SNR=4.5						
KURK	**Kurchatov**	**50.35**	**349**	*e*P	**P**	**07 33 28.3**	**-0.1**
ZALV	**Zalesovo Beam**	**52.60**	**354**	P	**P**	**07 33 45.7**	**+0.5**
	0.7nm,0.3s,baz=179,slow=6.7,SNR=5.2						
ZAA1	**Zalesovo Array**	**52.61**	**354**	*e*P	**P**	**07 33 45.7**	**+0.5**
STKA	**Stephens Creek**	**57.28**	**130**	P	**P**	**07 34 20.4**	**+0.9**
	3.5nm,1.1s,baz=284,slow=12,SNR=3.7						
STKA	**Stephens Creek**	**57.28**	**130**	*e*P	**P**	**07 34 19.7**	**+0.2**
	6.4nm,1.8s						
FIA0	**FINESS Array S**	**77.46**	**333**	*e*P	**P**	**07 36 26.8**	**+0.1**
FINES	**FINESS Array B**	**77.46**	**333**	P	**P**	**07 36 26.8**	**+0.1**
	1.8nm,0.9s,baz=107,slow=6.4,SNR=7.1						
GEC2	**GERESS Array S**	**81.34**	**319**	*e*P	**P**	**07 36 48.1**	**-0.1**
	14nm,1.7s						
GERES	**GERESS Array B**	**81.34**	**319**	P	**P**	**07 36 48.8**	**+0.6**
	0.9nm,0.8s,baz=72,slow=4.3,SNR=4.6						
TXAR	**Lajitas Array**	**145.71**	**25**	PKPbc	**PKPab**	**07 44 11.5**	**+0.1**
	0.9nm,0.6s,baz=273,slow=1.0,SNR=13						

*IDC **06** 07:26:24.5±1.9, 34°.71S×179°.15W, h0km, mb4.3/2, mb1 4.5/3, mb1mx3.9/38, mbtmp4.2/3, ML3.9/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/29, Error ellipse: s-maj=63.0km s-min=37.1km az=143.0*

ISC 06 07:26:30.2±1.9, **34°.8S**±0°.2×**179°.2W**±0°.4, **h35km, n9, σ0s.50**/9, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.52**	**220**	Pn	**Pn**	**07 27 36.0**	**-0.2**
	5.2nm,0.3s,baz=44,slow=5.6,SNR=14						
URZ				Sn	**Sn**	**07 28 27.7**	**+0.2**
	4.7nm,0.3s,baz=16,slow=23,SNR=5.9						
RPZ	**Rata Peaks**	**11.64**	**217**	Sn	Sn	07 31 09.9	-12
	0.3nm,0.3s,baz=196,slow=19,SNR=4.6						
HNR	**Honiara**	**31.64**	**318**	LR	LR	07 42 42.9	
	comp=Z,50nm,19.9s,baz=318,slow=31						
STKA	**Stephens Creek**	**32.71**	**264**	LR	LR	07 45 13.8	
	comp=Z,129nm,18.2s,baz=183,slow=34						
ASAR	**Alice Springs**	**42.04**	**272**	P	**P**	**07 34 18.9**	**+0.3**
	3.1nm,0.8s,baz=116,slow=7.9,SNR=30						
WRA	**Warramunga Arr**	**43.43**	**277**	P	**P**	**07 34 29.5**	**-0.3**
	3.7nm,0.7s,baz=119,slow=7.5,SNR=16						
FINES	**FINESS Array B**	**148.85**	**337**	PKPbc	**PKPbc**	**07 46 13.6**	**+0.4**
	3.7nm,1.0s,baz=64,slow=4.8,SNR=6.9						
BRTR	**Keskin Array B**	**153.47**	**290**	PKPbc	**PKPbc**	**07 46 25.2**	**+0.2**
	0.4nm,0.6s,baz=104,slow=6.1,SNR=2.1						
BRTR				PKPab	**pPKPbc**	**07 46 35.6**	**-0.7**
	0.5nm,0.6s,baz=102,slow=3.3,SNR=3.8						
AKASG	**Malin Array Be**	**153.98**	**316**	PKPbc	**PKPbc**	**07 46 25.1**	**-0.4**
	0.2nm,0.3s,baz=62,slow=2.2,SNR=3.1						
AKASG				PKPab	**pPKPbc**	**07 46 37.4**	**+0.6**
	1.0nm,0.5s,baz=57,slow=1.7,SNR=4.7						

*MOS **06** 07:26:36.5±2.5, 55°.23N×109°.24E, h9km, mb4.1/1, Error ellipse: s-maj=25.7km s-min=13.0km az=73.5*

BYKL 06 07:26:36.1±0.2, **55°.27N**×**109°.14E, 7C-1D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.56**	**24**	⇑*i*Pg	Pg	07 26 47.2	+0.5
NIZ				*e*Sg	Sg	07 26 54.8	+0.9
NIZ				*e*Sb	Sb	07 26 58.9	+1.7
NIZ				Pmax			
	70nm,0.2s						
NIZ				Smax			
	544nm,0.4s						
NIZ	**Nizh Angarsk**	**0.56**	**24**	⇑*i*PG	Pg	07 26 47.3	+0.6
NIZ				*e*		07 26 54.8	
NIZ				pmax	pmax		
	comp=Z,64nm,0.3s						
NIZ				smax	smax		
	comp=N,550nm,0.3s						
YLYR	**Ulyunkhan**	**1.23**	**108**	⇑*i*Pg	Pg	07 26 58.1	-1.5
YLYR				*e*Sg	Sg	07 27 13.9	-1.6
YLYR				*e*Sb	Sb	07 27 16.9	+0.3
YLYR				Pmax			
	comp=N,134nm,0.2s						
YLYR				max			
	comp=N,1μm,0.5s						
YLYR	**Ulyunkhan**	**1.23**	**108**	⇑*i*PG	Pg	07 26 58.1	-1.5
YLYR				*e*		07 27 10.7	
YLYR				pmax	pmax		
	comp=Z,136nm,0.2s						
YLYR				smax	smax		
	comp=N,888nm,0.3s						
KMO	**Kumora**	**1.32**	**61**	⇑*i*Pg	Pg	07 27 00.1	-1.3
KMO				*e*Pb	Pb	07 27 01.7	-0.1
KMO				*e*		07 27 05.9	
KMO				*e*		07 27 08.1	
KMO				*e*Sg	Sg	07 27 17.8	-0.8
KMO				*e*		07 27 21.6	
KMO				max			
	comp=N,164nm,0.3s						
KMO				max			
	comp=N,255nm,0.9s						
KMO	**Kumora**	**1.32**	**61**	⇑*i*PG	Pg	07 27 00.0	-1.4
KMO				*e*		07 27 18.4	
KMO				pmax	pmax		
	comp=Z,73nm,0.2s						
KMO				smax	smax		
	comp=E,204nm,0.5s						
SYVR	**Suvo**	**1.69**	**162**	⇑*i*Pg	Pn	07 27 06.9	0.0
SYVR				*e*		07 27 11.0	
SYVR				*i* Sg	Sb	07 27 29.6	-0.3
SYVR				*e*Sb	Sg	07 27 31.1	+0.7
SYVR				max			
	comp=E,108nm,0.3s						
SYVR				max			
	comp=E,669nm,0.7s						
SYVR	**Suvo**	**1.69**	**162**	*e*PN	Pn	07 27 06.6	-0.3
SYVR				*e*		07 27 29.4	
SYVR				pmax	pmax		
	comp=Z,110nm,0.3s						
SYVR				smax	smax		
	comp=E,588nm,0.3s						
YOA	**Uoyan**	**1.70**	**58**	*e*	Pn	07 27 07.3	+0.3
YOA				*e*		07 27 14.5	
YOA				*e*Sg	Sb	07 27 29.8	-0.3
YOA				*e*		07 27 33.7	
YOA				max			
	comp=E,205nm,0.4s						
YOA				max			
	comp=E,1μm,0.6s						
OGRR	**Ongureny**	**1.86**	**210**	⇓*i*Pg	Pn	07 27 09.9	+0.6
OGRR				*e*Sg	Sg	07 27 35.6	-0.3
OGRR				*e*		07 27 37.4	
OGRR				Pmax			
	comp=E,41nm,0.3s						
OGRR				max			
	comp=E,260nm,0.2s						
OGRR	**Ongureny**	**1.86**	**210**	*e*PN	Pn	07 27 09.9	+0.6
OGRR				*e*		07 27 11.1	
OGRR				*e*		07 27 35.4	
OGRR				pmax	pmax		
	comp=Z,41nm,0.3s						
OGRR				smax	smax		
	comp=E,261nm,0.2s						
MXMB	**Maximikha**	**2.02**	**187**	*e*Pg	Pb	07 27 12.7	-1.0
MXMB				*e*Sg	Sb	07 27 39.7	+0.2
MXMB				*e*		07 27 42.5	
UKT	**Uakit**	**2.57**	**83**	*e*	Pn	07 27 18.5	-0.5
UKT				*e*Pg	Pb	07 27 21.3	-1.8
UKT				*e*PgPg	Pg	07 27 24.6	-0.7
UKT				*e*		07 27 43.9	
UKT				*e*Sg	Sb	07 27 54.7	-0.5
UKT				max			
	comp=E,69nm,0.5s						
UKT				Smax			
	comp=E,273nm,0.6s						
KELR	**Kotokel**	**2.59**	**194**	*e*	Pg	07 27 25.6	-0.1
KELR				*e*Sg	Sb	07 27 56.7	+0.9
SVKR	**Severomuysk**	**2.64**	**69**	*e*Sg	Sb	07 27 58.2	+0.9
SVKR				max			
	comp=E,388nm,0.4s						
ZRHB	**Zarechye**	**2.96**	**204**	*e*Pg	Pb	07 27 30.2	+0.4
ZRHB				*e*Sg	Sg	07 28 09.4	-1.9
ZRHB				Pmax			
	comp=E,63nm,0.4s						
ZRHB				Smax			
	comp=E,174nm,0.6s						
TRG	**Tyrgan**	**3.01**	**214**	*e*Pn	Pn	07 27 24.9	-0.1
TRG				*e*		07 27 49.6	
TRG				*e*Sg	Sg	07 28 10.9	-1.7
TRG				max			
	comp=E,11nm,0.2s						
TRG				Smax			
	comp=E,104nm,0.4s						
TRTB	**Turuntaevo**	**3.17**	**197**	*e*Pn	Pn	07 27 28.2	+0.9
TRTB				*e*Pg	Pb	07 27 33.5	+0.1
TRTB				*e*Sn	Sn	07 28 03.6	-2.3
TRTB				*e*Sg	Sb	07 28 14.2	+1.6
STDB	**Stepnoy Dvoret**	**3.52**	**209**	*e*	Pb	07 27 37.1	-2.1
STDB				*e*Sg	Sg	07 28 26.0	-3.0
STDB				Smax			
	comp=E,107nm,0.6s						
UUDB	**Ulan-Yde**	**3.52**	**195**	*e*Pg	Pb	07 27 38.6	-0.7
UUDB				*e*Sg	Sb	07 28 24.7	+2.2
UUDB				*e*SgSg	SbSb	07 28 27.0	-0.7
UUDB				Pmax			
	comp=E,15nm,0.9s						
UUDB				max			
	comp=E,32nm,0.5s						
KAB	**Kabansk**	**3.55**	**206**	*e*Sg	Sb	07 28 25.9	+2.6
KAB				Smax			
	comp=E,182nm,0.5s						
BOD	**Bodaibo**	**3.71**	**45**	*e*	Pn	07 27 31.4	-3.2
BOD				*e*Pg	Pb	07 27 42.1	-0.4
BOD				*e*Sn	Sn	07 28 14.9	-4.1
BOD				*e*Sg	Sb	07 28 30.8	+2.8
BOD				Pmax			
	comp=E,9.0nm,0.5s						
BOD				Smax			
	comp=E,36nm,0.5s						
HRMR	**Khuramsha**	**3.88**	**201**	*e*Pn	Pn	07 27 35.8	-1.1
HRMR				*e*		07 27 41.2	
HRMR				*e*Pg	Pb	07 27 45.1	-0.2
HRMR				*e*Sg	Sb	07 28 35.9	+3.2
HRMR				Pmax			
	comp=E,18nm,0.4s						
HRMR				Smax			
	comp=E,147nm,0.5s						
NLYR	**Nelyaty**	**3.89**	**69**	*e*Pn	Pn	07 27 37.1	-0.1
NLYR				*e*Pg	Pb	07 27 45.6	0.0
NLYR				*e*		07 28 18.5	
NLYR				*e*Sg	Sb	07 28 36.4	+3.2
NLYR				*e*		07 28 45.0	
NLYR				Pmax			
	comp=E,7.0nm,0.5s						
NLYR				max			
	comp=E,63nm,0.8s						
BGT	**Bolshoye Golou**	**3.92**	**216**	*e*Pn	Pn	07 27 36.8	-0.7
BGT				*e*Pg	Pb	07 27 45.9	-0.1
BGT				*e*Sn	Sn	07 28 23.9	-0.3
BGT				*e*Sg	Sb	07 28 36.9	+2.9
BGT				*e*		07 28 43.0	
BGT				Pmax			
	comp=E,6.0nm,0.4s						
BGT				Smax			
	comp=E,42nm,0.4s						
IRK	**Irkutsk**	**4.19**	**226**	*e*Sg	Sg	07 28 47.1	-3.4
IRK				*e*		07 28 47.4	
IRK				max			
	comp=E,167nm,0.4s						
IRK	**Irkutsk**	**4.19**	**226**	*e*PN	Pn	07 27 36.8	-4.4
IRK				*e*		07 27 50.2	
IRK				*e*		07 28 45.0	
IRK				pmax	pmax		
	comp=Z,122nm,0.1s						
IRK				smax	smax		
	comp=N,142nm,0.8s						
LSTR	**Listvyanka**	**4.27**	**219**	*e*Pn	Pn	07 27 40.8	-1.5
LSTR				*e*Pg	Pb	07 27 51.4	-0.5
LSTR				*e*		07 28 32.8	
LSTR				*e*Sg	Sb	07 28 47.8	+3.8
LSTR				Pmax			
	comp=N,3.0nm,0.2s						
LSTR				Smax			
	comp=N,34nm,0.8s						
TLY	**Talaya**	**4.87**	**225**	*e*	Pb	07 27 58.6	-3.6
TLY				*e*		07 28 05.3	
TLY				*e*Sn	Sn	07 28 42.5	-5.1
TLY				*e*Sg	Sb	07 29 06.7	+5.4
TLY				max			
	comp=N,7.0nm,0.6s						
TLY				Smax			
	comp=N,33nm,0.4s						
ARS	**Arshan**	**5.22**	**233**	*e*Pn	Pn	07 27 54.6	-0.8
ARS				*e*		07 28 11.3	
ARS				*e*Sn	Sn	07 28 53.1	-3.2
ARS				*e*Sg	Sg	07 29 17.8	-5.9
ARS				max			
	comp=N,16nm,0.4s						
ARS				Smax			
	comp=N,152nm,0.9s						
ARS	**Arshan**	**5.22**	**233**	*e*PN	Pn	07 27 57.0	+1.6
ARS				*e*		07 28 12.1	
ARS				*e*		07 29 17.8	
ARS				pmax	pmax		
	comp=Z,16nm,0.3s						
ARS				smax	smax		
	comp=E,132nm,0.6s						
CRS	**Chara**	**5.37**	**69**	*e*	Pb	07 28 14.1	+3.4
CRS				*e*Sg	Sg	07 29 22.1	-6.3
CRS				max			
	comp=E,10.0nm,0.8s						
CRS				Smax			
	comp=E,23nm,0.7s						
KPC	**Khapcheranga**	**5.92**	**159**	*e*Pn	Pn	07 28 03.5	-1.5
KPC				*e*		07 28 10.9	
KPC				*e*Pg	Pb	07 28 23.1	+3.0
KPC				*e*Sn	Sn	07 29 07.5	-5.9
KPC				*e*Sg	Sb	07 29 38.7	+7.3
KPC				Pmax			
	comp=E,2.0nm,0.2s						
KPC				Smax			
	comp=E,49nm,1.3s						
ZAK	**Zakamensk**	**6.05**	**218**	Pg	Pb	07 28 24.0	+1.7
ZAK				*e*		07 29 16.1	
ZAK				*e*Sg	Sg	07 29 43.7	-6.5
ZAK				Pmax			
	comp=E,2.0nm,0.2s						
ZAK				Smax			
	comp=E,25nm,1.0s						
MOY	**Mondy**	**6.06**	**237**	*e*Pn	Pn	07 28 06.6	-0.4
MOY				*e*		07 28 08.8	
MOY				*e*Sn	Sn	07 29 15.0	-2.0
MOY				*e*Sg	Sb	07 29 42.5	+7.0
MOY				max			
	comp=E,5.0nm,0.6s						
MOY				Smax			
	comp=E,39nm,1.5s						
ORL	**Orlik**	**6.16**	**247**	*e*Pn	Pn	07 28 09.6	+1.3
ORL				*e*Sg	Sg	07 29 46.3	-7.4
ORL				max			
	comp=E,4.0nm,0.5s						
ORL				Smax			
	comp=E,45nm,1.3s						
TUP	**Tupik**	**6.30**	**93**	*e*	Pn	07 28 07.5	-2.8
TUP				*e*Pg	Pb	07 28 28.6	+1.9
TUP				*e*Sn	Sn	07 29 31.2	+8.2
TUP				*e*Sg	Sb	07 29 49.9	+7.3
TUP				Pmax			
	comp=E,3.0nm,0.3s						
TUP				Smax			
	comp=E,44nm,1.1s						
TUP	**Tupik**	**6.30**	**93**	*e*PN	Pn	07 28 07.4	-2.9
TUP				*e*		07 28 27.4	
TUP				*e*S	Sn	07 29 17.8	-5.2
TUP				*e*		07 29 49.4	
TUP				pmax	pmax		
	comp=Z,6.0nm,0.4s						
TUP				smax	smax		
	comp=N,40nm,0.8s						
TDJR	**Todzha**	**8.23**	**255**	*e*		07 30 15.4	
TDJR				*e*Sg	Sg	07 30 50.2	-10
KNGR	**Kungurtug, Tuv**	**8.43**	**241**	*e*		07 30 49.0	
KNGR				*e*Sg	Sg	07 30 57.2	-9.4

IDC 06 07:33:03.6±1.9, **1°.75N**×**127°.09E, h0km, mb3.9**/4, **mb1 4.0**/4, **mb1mx3.6**/35, **mbtmp3.9**/4, **Error ellipse: s-maj=170.5km s-min=21.8km az=65.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.70**	**162**	P	P	07 38 07.6	+0.5
	2.0nm,0.4s,baz=341,slow=11,SNR=18						
ASAR	**Alice Springs**	**26.11**	**166**	P	P	07 38 39.1	-0.3
	0.4nm,0.4s,baz=338,slow=8.2,SNR=11						
STKA	**Stephens Creek**	**36.16**	**159**	P	P	07 40 07.6	-0.2
	1.1nm,0.3s,baz=337,slow=10,SNR=4.7						
MKAR	**Makanchi Array**	**59.38**	**326**	P	P	07 43 07.9	0.0
	0.7nm,0.4s,baz=117,slow=7.8,SNR=19						

MAN 06 07:47:59.8, 8°.24N×**126°.08E, h59km, mb4.3, ML3.1, MS2.9, 1C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.28**	**102**	⇑*i*P	Pn	07 48 11.1	+1.5
BIPH				*i* S	Sn	07 48 17.2	+0.4
BUTP	**Butuan**	**0.85**	**328**	*e*P	Pn	07 48 16.7	+0.8
BUTP				*e*S	Sn	07 48 30.9	+3.1
BUKP	**Musuan**	**1.07**	**250**	*e*P	Pn	07 48 16.7	-2.1
BUKP				*e*S	Sn	07 48 36.5	+3.5
DMPH	**Davao City--Mi**	**1.29**	**206**	⇓*e*P	Pn	07 48 28.8	+7.1
DMPH				*e*S	Sn	07 48 47.7	+10
MATI	**Mati**	**1.30**	**172**	*e*P	Pn	07 48 22.2	+0.4
MATI				*e*S	Sn	07 48 40.4	+2.1
CGP	**Cagayan de Oro**	**1.39**	**279**	⇓*e*P	Pn	07 48 24.2	+1.3
CGP				*e*S	Sn	07 48 41.4	+1.0
PAGZ	**Pagadian**	**2.71**	**262**	*e*P	Pn	07 48 45.7	+4.9

*NIED **06** 08:11:00, 37°.50N×142°.00E, h23km, Mw4.5 Best double couple: $M_0$5.79000×10^{15} NP1:ϕ_s23.00000°, δ4.00000°, λ-84.00000°. NP2:ϕ_s197.00000°, δ86.00000°, λ-90.00000°.*

*IDC **06** 08:11:20.3±0.4, 37°.43N×142°.13E, h0km, mb4.5/30, mb1 4.7/33, mb1mx4.6/47, mbtmp4.6/33, ML4.3/3, MS3.8/17, Ms1 3.8/17, ms1mx3.5/43, Error ellipse: s-maj=13.8km s-min=10.8km az=98.0*

*BJI **06** 08:11:23.7, 37°.43N×142°.14E, h32km, mb4.8/56, mB4.9/40, Ms4.4/40, Ms7 4.1/37*

*JMA **06** 08:11:23.9±0.1, 37°.50N×142°.06E, h31km±3km, M4.6*

JMA Felt II J1.

*ISCJB **06** 08:11:23.1±0.6, 37°.53N±0°.02×142°.09E±0°.02, h20km±4km, mb4.7/197, MS3.9/18, Error ellipse: s-maj=4.1km s-min=3.0km az=161.1*

*MOS **06** 08:11:24.9±1.3, 37°.52N×142°.14E, h37km, mb4.9/52, Error ellipse: s-maj=6.7km s-min=4.5km az=103.2*

*NEIC **06** 08:11:27.2±0.5, 37°.48N×142°.06E, h42km±4km, mb4.7/124, Error ellipse: s-maj=4.9km s-min=3.4km az=144.0*

NEIC Felt at Fukushima, Sendai and Tsuchiura. Recorded [2 JMA] in Fukushima and Miyagi.

ISC 06 08:11:23.3±0.7, 37.47N±0.03×142.18E±0.04, h18km±3km, n455, σ1.53/489, mb4.8/205, MS3.9/18, 38C-5D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.01	326	P	Pb	08 11 40.8	-1.4
JIKH				S	Sb	08 11 52.4	-2.8
JFK	Kawauchi	1.04	265	P	Pb	08 11 41.1	-1.8
JFK				S	Sb	08 11 53.1	-3.1
ONAJ	Iwakimizuishiy	1.16	252	P	Pn	08 11 42.8	-1.9
ONAJ				eS	Sb	08 11 57.1	-2.5
JMM	Marumori	1.17	290	P	Pn	08 11 43.0	-1.7
JMM				S	Sb	08 11 56.3	-3.5
JIO	Ouri	1.18	326	P	Pn	08 11 43.5	-1.4
JIO				S	Sb	08 11 56.8	-3.3
JFT	Otama	1.47	272	P	Pn	08 11 48.1	-0.8
JFT				S	Sn	08 12 05.8	-1.8
JOU	Okura	1.49	307	P	Pn	08 11 48.3	-1.0
JOU				S	Sn	08 12 06.0	-2.3
JMK	Ichinoseki	1.66	333	P	Pn	08 11 50.7	-0.8
JMK				S	Sn	08 12 10.1	-2.3
JYS	Shirataka	1.83	295	P	Pn	08 11 53.2	-0.7
JYS				S	Sn	08 12 15.8	-0.9
JFY	Yanaizu	1.97	269	P	Pn	08 11 55.4	-0.4
JFY				eS	Sn	08 12 18.7	-1.4
JYK	Kaneyama	2.04	316	P	Pn	08 11 56.0	-0.7
JOM	Ohasama	2.12	341	P	Pn	08 11 57.6	-0.2
JOM				eS	Sn	08 12 22.1	-1.5
JYA	Atsumi	2.25	301	P	Pn	08 11 59.3	-0.3
MJAR	Matsushiro Arr	3.31	255	Pn	Pn	08 12 14.9	+0.7
	39nm,0.3s,baz=118,slow=11,SNR=170						
MJAR				Sn	Sb	08 12 58.5	-3.0
	56nm,0.3s,baz=88,slow=18,SNR=4.9						
MJAR				LR	LR	08 13 38.7	
	comp=Z,1μm,21.4s,baz=80,slow=43						
MAJO	Matsushiro	3.31	255	ePn	Pn	08 12 15.2	+1.0
MAJO	Matsushiro	3.31	255c	iP	Pn	08 12 14.7	+0.4
MAT	Matsushiro	3.31	255	P	Pn	08 12 15.0	+0.7
MAT				eS	Sn	08 12 56.2	+3.0
MJB9	Matsu-Tunnel	3.31	255	ePn	Pn	08 12 15.1	+0.8
ERM	Erimo	4.60	9	ePn	Pn	08 12 31.7	-0.2
ERM	Erimo	4.60	9	iP	Pn	08 12 31.5	-0.4
INU	Inuyama	4.67	245	ePn	Pn	08 12 35.4	+2.5
JHJ2	Mitsune	4.76	205	ePn	Pn	08 12 34.1	0.0
JHJ2				eSn	Sn	08 13 27.0	-1.9
JHJ	Hachijo jima 2	4.76	205	Pn	Pn	08 12 34.4	+0.2
	61nm,0.3s,baz=312,slow=23,SNR=15						
JHJ				Sn	Sn	08 13 25.0	-4.0
	183nm,0.3s,baz=261,slow=23,SNR=7.5						
JHJ				LR	LR	08 14 37.3	
	comp=Z,704nm,21.5s,baz=80,slow=42						
ASAJ	Asahikawa	6.64	3	Pn	Pn	08 13 00.1	+0.1
	3.2nm,0.3s,baz=230,slow=7.7,SNR=14						
ASAJ				Sn	Sn	08 14 14.6	-0.7
	3.9nm,0.3s,baz=41,slow=19,SNR=3.1						
ASAJ	Asahikawa	6.64	3	ePn	Pn	08 13 00.5	+0.5
ASAJ				Sn	Sn	08 14 14.6	-0.7
YUK	Yuzh-Kuril'sk	7.12	22	eP	Pn	08 13 05.3	-1.3
YUK				eS	Sn	08 14 22.0	-5.0
YUK				pmax	pmax		
	comp=Z,63nm,0.3s						
YUK				pmax	pmax		
	comp=N,42nm,0.2s						
YUK				pmax	pmax		
	comp=E,23nm,0.1s						
SHO	Shikotan	7.30	27	eP	Pn	08 13 06.1	-2.9
SHO				pmax	pmax		
	comp=E,11nm,0.4s						
SHO				pmax	pmax		
	comp=Z,24nm,0.4s						
SHO				pmax	pmax		
	comp=N,6.0nm,0.3s						
TEY	Ternei	8.64	333⇑	eP	Pn	08 13 32.8	+5.4
TEY				pmax	pmax		
	comp=E,60nm,1.0s						
TEY				pmax	pmax		
	comp=Z,80nm,1.0s						
TEY				pmax	pmax		
	comp=N,140nm,0.7s						
KUR	Kuril'sk	8.85	27	eP	Pn	08 13 32.5	+2.3
KUR				eS	Sn	08 15 04.7	-4.8
KUR				pmax	pmax		
	comp=Z,81nm,0.6s						
KUR				smax	smax		
	comp=N,75nm,0.5s						
KUR				smax	smax		
	comp=E,105nm,0.5s						
YSS	Yuzh-Sakhalins	9.48	2⇓	eP	Pn	08 13 40.5	+1.6
YSS				eS	Sn	08 15 20.2	-4.8
YSS				pmax	pmax		
	comp=Z,30nm,2.1s						
MSHR	Mys Shultsa	9.87	305	iP	Pn	08 13 47.4	+3.2
JNU	Nakatsue	10.20	248	Pn	Pn	08 13 50.1	+1.2
	comp=Z,1.2nm,0.3s,baz=69,slow=7.8,SNR=17						
JNU				LR	LR	08 17 59.2	
	comp=Z,564nm,20.9s,baz=117,slow=39						
JNU	Nakatsue	10.20	248	ePn	Pn	08 13 50.4	+1.5
USA0B	Ussuriysk Arra	10.23	314	ePn	Pn	08 13 51.2	+2.0
USRK	Ussuriysk Ar.	10.23	314	Pn	Pn	08 13 51.0	+1.8
	comp=Z,4.4nm,0.3s,baz=122,slow=14,SNR=21						
USRK				LR	LR	08 17 32.9	
	comp=Z,601nm,19.6s,baz=127,slow=36						
CBIJ	Chichi jima	10.35	180	ePn	Pn	08 13 48.7	-2.1
CBIJ				Sn	Sn	08 15 35.7	-11
JCJ	Chichijima	10.35	180	Pn	Pn	08 13 48.5	-2.3
	comp=Z,8.3nm,0.3s,baz=180,slow=20,SNR=4.5						
JCJ				Sn	Sn	08 15 35.7	-11
	comp=Z,15nm,0.3s,baz=0.0,slow=20,SNR=3.6						
KSRS	Korea Array	11.33	274	Pn	Pn	08 14 08.1	+3.8
	comp=Z,1.1nm,0.3s,baz=86,slow=14,SNR=32						
KSRS				LR	LR	08 18 17.8	
	comp=Z,522nm,19.0s,baz=82,slow=37						
KS01	Wonju Array Si	11.36	274	ePn	Pn	08 14 08.7	+4.1
KS15	Wonju Array Si	11.37	274	ePn	Pn	08 14 07.0	+2.2
KSAR	Wonju Array Be	11.37	274	Pn	Pn	08 14 08.1	+3.4
KSAR	Wonju Array Be	11.37	274	P	Pn	08 14 08.1	+3.4
MDJ	Mudanjiang	11.88	311	P	Pn	08 14 17.4	+5.7
MDJ				pmax	pmax		
	comp=Z,29nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,230nm,2.6s						
MDJ				LR	LR		
	comp=Z,380nm,12.9s						
MDJ				LR	LR		
	comp=Z,410nm,12.5s						
MDJ				LR	LR		
	comp=Z,670nm,18.1s						
MDJ	Mudanjiang	11.88	311	Pn	Pn	08 14 15.0	+3.3
	comp=Z,33nm,0.9s						
KLR	Kul'dur	13.97	331	Pn	Pn	08 14 41.8	+1.6
	comp=Z,0.1nm,0.3s,baz=145,slow=18,SNR=3.5						
KLR				LR	LR	08 20 04.2	
	comp=Z,488nm,18.2s,baz=182,slow=37						
KLR	Kul'dur	13.97	331	iP	Pn	08 14 43.3	+3.0
CN2	Changchun	14.18	302	eP	Pn	08 14 46.7	+3.5
JOW	Kunigami	15.83	232	ePn	Pn	08 15 07.5	+2.2
	comp=Z,85nm,1.4s						
DL2	Dalian	16.22	281	P	P	08 15 14.9	+1.6
DL2				pmax	pmax		
	comp=Z,43nm,0.7s						
DL2				pmax	pmax		
	comp=Z,140nm,4.0s						
DL2				LR	LR		
	comp=Z,120nm,13.0s						
DL2				LR	LR		
	comp=Z,380nm,16.4s						
DL2				LR	LR		
	comp=Z,400nm,18.4s						
PETK	Petropavlovsk-	19.00	30	P	P	08 15 41.6	-2.2
	comp=Z,0.4nm,0.3s,baz=185,slow=15,SNR=7.5						
PETK				LR	LR	08 23 43.8	
	comp=Z,86nm,18.7s,baz=220,slow=39						
PETK	Petropavlovsk-	19.00	30	eP	P	08 15 43.7	-0.1
PETK	Petropavlovsk-	19.00	30	eP	P	08 15 43.7	-0.1
ZEA	Zeya	19.26	332	eP	P	08 15 46.1	-0.6
ZEA				pmax	pmax		
	comp=E,20nm,0.7s						
ZEA				pmax	pmax		
	comp=N,31nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,33nm,0.8s						
ZEA				MLR	MLR		
	comp=N,400nm,16.0s						
ZEA				MLR	MLR		
	comp=E,500nm,16.0s						
ZEA				MLR	MLR		
	comp=Z,500nm,16.0s						
NJ2	Nanjing	19.89	261	eP	P	08 15 54.0	+0.3
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BJI	Beijing	20.42	285	P	P	08 15 58.7	-0.7
BJI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BJT	Baijiatuau	20.43	285	eP	P	08 15 58.5	-1.0
	comp=Z,31nm,0.6s						
BJT	Baijiatuau	20.43	285	eP	P	08 15 58.5	-1.0
BJT				pmax	pmax		
	comp=Z,31nm,0.6s						
NACB	Ninganchiao	22.04	239	eP	P	08 16 20.8	+3.8
	comp=Z,23nm,0.9s						
MA2	Magadan	22.80	11	P	P	08 16 24.2	-0.6
	comp=Z,15nm,0.7s,baz=193,slow=7.7,SNR=12						
MA2				LR	LR	08 24 47.4	
	comp=Z,98nm,21.8s,baz=222,slow=35						
MA2	Magadan	22.80	11c	eP	P	08 16 26.4	+1.6
MA2				pmax	pmax		
	comp=Z,13nm,0.8s						
TPUB	Ta-pu	23.27	239	eP	P	08 16 31.0	+1.1
	comp=Z,151nm,1.9s						
HHC	Hu-ho-hao-te	23.92	288	eP	P	08 16 36.6	+0.4
HHC				S	S	08 20 46.8	-5.1
HHC				pmax	pmax		
	comp=Z,30nm,0.8s						
HHC				pmax	pmax		
	comp=Z,160nm,6.7s						
HHC				LR	LR		
	comp=Z,550nm,12.1s						
HHC				LR	LR		
	comp=Z,470nm,12.1s						
HHC				LR	LR		
	comp=Z,540nm,13.0s						
WHN	Wuhan	24.03	262	⇑P	P	08 16 40.4	+3.2
YAK	Yakutsk	25.78	346	eP	P	08 16 52.1	-0.7
YAK				e*PP	sP	08 16 58.6	-1.5
YAK				e		08 17 28.9	
YAK				eS	S	08 21 18.4	-2.6
YAK				e*SS	sS	08 21 30.9	+1.4
YAK				pmax	pmax		
	comp=Z,12nm,0.9s						
YAK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
YAK				smax	smax		
	comp=N,20nm,1.1s						
YAK				smax	smax		
	comp=E,14nm,0.9s						
YAK				MLR	MLR		
	comp=Z,231nm,16.0s						
YAK				MLR	MLR		
	comp=N,126nm,15.0s						
YAK				MLR	MLR		
	comp=E,134nm,15.0s						
SEY	Seymchan	26.25	11	P	P	08 16 58.0	+0.9
	comp=E,7.9nm,0.6s,baz=185,slow=8.4,SNR=38						
SEY	Seymchan	26.25	11c	eP	P	08 16 57.5	+0.5
XAN	Xi'an	27.13	273	P	P	08 17 06.3	+0.9
XAN				pP	sP	08 17 16.3	+3.7
XAN				sP	pP	08 17 21.3	+11
XAN				pmax	pmax		
	comp=E,40nm,0.7s						
XAN				LR	LR		
	comp=E,200nm,14.1s						
XAN				LR	LR		
	comp=E,240nm,16.3s						
BOD	Bodaibo	27.49	327	eP	P	08 17 07.6	-0.7
BOD				pmax	pmax		
	comp=Z,17nm,0.9s						
ULN	Ulaanbaatar	27.62	303	eP	P	08 17 10.4	+0.7
	comp=Z,8.3nm,0.8s						
ULN	Ulaanbaatar	27.62	303c	eP	P	08 17 10.5	+0.7
ULN				pmax	pmax		
	comp=Z,15nm,1.3s						
ENH	Enshi	27.98	265	eP	P	08 17 12.0	-1.0
	comp=Z,38nm,0.6s						
SONA1	Songino Array	28.05	303	eP	P	08 17 13.8	+0.2
SONM	Songino Array	28.05	303	P	P	08 17 13.6	0.0
	comp=Z,7.6nm,0.7s,baz=96,slow=8.5,SNR=44						
SONM				LR	LR	08 28 45.6	
	comp=Z,162nm,18.4s,baz=72,slow=37						
ZAK	Zakamensk	30.48	308	eP	P	08 17 33.0	-2.1
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LZH	Lanzhou	30.60	279	eP	P	08 17 40.6	+4.2
LZH				pP	sP	08 17 51.2	+7.5
LZH				sP	pP	08 17 54.6	+13
LZH				PP	PnPn	08 18 37.1	+1.4
LZH				S	S	08 22 31.4	-6.3
LZH				pmax	pmax		
	comp=Z,37nm,1.2s						
LZH				pmax	pmax		
	comp=Z,140nm,4.1s						
LZH				LR	LR		
	comp=Z,490nm,10.8s						
LZH				LR	LR		
	comp=Z,530nm,14.1s						
LZH				LR	LR		
	comp=Z,890nm,14.6s						
CD2	Chengdu	32.28	270	eP	P	08 17 50.6	-0.5
CD2				S	S	08 23 01.4	-2.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,4.8s						
CD2				LR	LR		
	comp=Z,1μm,12.4s						
CD2				LR	LR		
	comp=Z,330nm,14.9s						
GTA	Gaotai	33.02	287	eP	P	08 17 58.2	+0.6
GTA				pP	sP	08 18 07.4	+2.5
GTA				sP	pP	08 18 11.6	+8.7
GTA				PcP	PcP	08 20 41.3	+0.2
GTA				S	S	08 23 13.3	-2.1
GTA				sS	sS	08 23 30.1	+6.1
GTA				SS	SnSn	08 25 15.0	+1.4
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,86nm,5.9s						
GTA				LR	LR		
	comp=Z,120nm,17.1s						
GTA				LR	LR		
	comp=Z,190nm,19.4s						
GTA				LR	LR		
	comp=Z,230nm,18.7s						
BILL	Bilibino	33.44	16	eP	P	08 18 00.4	-0.3
BILL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KNGR	Kungurtug, Tuv	34.16	307	iP	P	08 18 07.9	+0.5
TIXI	Tiksi	34.93	353	P	P	08 18 12.6	-1.0
	comp=Z,0.9nm,0.3s,baz=126,slow=7.5,SNR=3.6						
TIXI	Tiksi	34.93	353	iP	P	08 18 13.4	-0.2
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KMI	Kunming	35.63	261	P	P	08 18 22.3	+1.8
KMI				pmax	pmax		
	comp=Z,19nm,0.6s						
KMI				pmax	pmax		
	comp=Z,120nm,4.2s						
DGZ	Jazzator, Alta	40.63	305d	iP	P	08 19 03.4	+1.1
DGZ				pmax	pmax		
	comp=Z,14nm,0.6s						
WMQ	Urumqi	41.19	297	P	P	08 19 09.0	+2.2
WMQ				pP	sP	08 19 16.3	+2.1
WMQ				sP	pP	08 19 24.4	+12
WMQ				PP	PnPn	08 20 48.4	+2.1
WMQ				pmax	pmax		
	comp=Z,43nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,400nm,4.3s						
WMQ				LR	LR		
	comp=Z,190nm,20.5s						
WMQ				LR	LR		
	comp=Z,230nm,25.3s						
WMQ				LR	LR		
	comp=Z,250nm,18.5s						
ZAA0	Zalesovo Array	42.07	312	eP	P	08 19 14.2	+0.4
	comp=Z,7.0nm,0.7s						
ZALV	Zalesovo Beam	42.07	312	P	P	08 19 13.8	0.0
	comp=Z,3.2nm,0.5s,baz=83,slow=7.2,SNR=12						
ZALV				LR	LR	08 37 23.0	
	comp=Z,199nm,18.3s,baz=70,slow=37						
ZALV	Zalesovo Beam	42.07	312	eP	P	08 19 13.9	+0.1
ZALV	Zalesovo Beam	42.07	312	eP	P	08 19 13.9	+0.1
CMAR	Chiang Mai Arr	42.20	255	P	P	08 19 16.2	+1.0
	comp=Z,1.4nm,0.4s,baz=46,slow=9.1,SNR=4.3						
CMAR				LR	LR	08 37 57.4	
	comp=Z,90nm,19.6s,baz=82,slow=38						
LSA	Lhasa	42.78	275	P	P	08 19 22.1	+1.7
RDOG	Red Dog Mine	42.84	27	eP	P	08 19 21.4	+1.5
	comp=Z,18nm,1.1s						
NVS	Novosibirsk	42.98	313	eP	P	08 19 21.6	+0.4
NVS				pmax	pmax		
	comp=N,2.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CHBT	CHBT	43.21	246	P	P	08 19 37.2	+14
SHL	Shillong	44.02	269	eP	P	08 19 32.6	+2.4
	comp=Z,15nm,0.5s						
SHL	Shillong	44.02	269	eP	P	08 19 32.6	+2.4
SHL				pmax	pmax		
	comp=Z,15nm,0.5s						
MK01	Makanchi Array	44.40	302	eP	P	08 19 33.1	+0.3
MK31	Makanchi Array	44.41	302	eP	P	08 19 32.7	-0.1
MK31	Makanchi Array	44.41	302	eP	P	08 19 32.7	-0.1
MKAR	Makanchi Array	44.41	302	P	P	08 19 33.0	+0.2
	comp=Z,4.1nm,0.7s,baz=86,slow=9.8,SNR=47						
MKAR				LR	LR	08 38 01.9	
	comp=Z,93nm,19.9s,baz=70,slow=36						
MKAR	Makanchi Array	44.41	302	eP	P	08 19 33.3	+0.5
	comp=Z,53nm,0.8s						
MKAR	Makanchi Array	44.41	302	eP	P	08 19 33.3	+0.5
MKAR				pmax	pmax		
	comp=Z,53nm,0.8s						
MAKZ	Makanchi	44.62	302	eP	P	08 19 34.5	+0.1
	comp=Z,8.7nm,0.8s						
MAKZ	Makanchi	44.62	302	eP	P	08 19 34.6	+0.1
MAKZ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PHET	Kaeng Krachan	45.09	249	P	P	08 19 46.9	+8.3
	comp=Z,9.2nm,0.7s						
KURK	Kurchatov	46.15	308	eP	P	08 19 46.2	-0.3
	comp=Z,29nm,0.8s						
KURK	Kurchatov	46.15	308c	eP	P	08 19 46.6	+0.1
KURK				pmax	pmax		
	comp=Z,28nm,0.7s						
RSO	Redoubt South	46.18	39	eP	P	08 19 47.9	+1.0
KURBB	Kurchatov Arra	46.22	308	P	P	08 19 46.5	-0.5
	comp=Z,22nm,0.7s,baz=81,slow=7.9,SNR=68						
KDAK	Kodiak Island	46.36	42	P	P	08 19 48.4	+0.3
	comp=Z,17nm,0.8s,baz=258,slow=4.2,SNR=8.5						
KDAK	Kodiak Island	46.36	42c	eP	P	08 19 48.5	+0.4
CAST	Castle Rocks	46.52	34	eP	P	08 19 50.9	+1.6
	comp=Z,17nm,1.5s						
CAST				eS	S	08 26 38.7	+2.0
ODAN	Odare	47.00	274	eP	P	08 19 54.9	+1.1
	comp=Z,24nm,0.6s						
PDGK	Podgornoye	47.11	298	P	P	08 19 55.7	+1.3
MLY	Manley	47.15	32	eP	P	08 19 55.8	+1.5
	comp=Z,5.8nm,0.8s						
RAMN	Ramite	47.58	274	eP	P	08 19 58.3	-0.1
	comp=Z,47nm,0.6s						
JIRN	Jiri	47.59	275	eP	P	08 20 00.1	+1.6
	comp=Z,26nm,0.4s						
GUN	Gumba	47.72	276	eP	P	08 20 00.8	+1.2
	comp=Z,77nm,0.6s						
RND	Reindeer	47.97	34	eP	P	08 20 01.5	+0.8
	comp=Z,6.6nm,0.8s						
RND				eS	S	08 26 59.6	+2.2
RND	Reindeer	47.97	34	eP	P	08 20 01.5	+0.8
RND				eS	S	08 26 59.6	+2.2
RND				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MDM	Murphy Dome	48.22	32	eP	P	08 20 04.0	+1.4
	comp=Z,8.9nm,0.8s						
PKI	Pulchoki	48.24	276	eP	P	08 20 03.7	+0.1
	comp=Z,20nm,0.6s						
KKN	Kakani	48.25	276	eP	P	08 20 03.7	+0.2
	comp=Z,69nm,0.7s						
PKIN	Phulchoki	48.25	276	eP	P	08 20 03.4	-0.2
	comp=Z,12nm,0.5s						
KRAB	Krabi	48.53	244	P	P	08 20 11.8	+6.3
	comp=Z,22nm,0.6s						
POKR	Poker Plat Res	48.55	32	P	P	08 20 06.4	+1.4
	baz=271,SNR=8.4						
HDA	Harding Lake	48.78	33	eP	P	08 20 07.1	+0.2
ILAR	Eielson Array	48.80	33	P	P	08 20 07.5	+0.6
	comp=Z,6.8nm,0.7s,baz=266,slow=6.5,SNR=72						
DANN	Dangsing	49.20	277	eP	P	08 20 10.6	-0.3
	comp=Z,95nm,0.5s						
PYUN	Piuthan	49.92	277	eP	P	08 20 15.3	-1.0
TKM2	Tokmak 2	49.96	298	P	P	08 20 17.0	+0.6
	SNR=35						
SCRK	Sand Creek	50.10	34	eP	P	08 20 17.3	+0.2
	comp=Z,6.0nm,0.7s						
NRN	Naryn	50.13	296	eP	P	08 20 17.4	-0.5
	comp=Z,3.7nm,0.8s						
NRN	Naryn	50.13	296	eP	P	08 20 17.4	-0.5
NRN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KZA	Kyzart	50.46	297	P	P	08 20 24.5	+4.1
	SNR=7.1						
KBK	Karagaybulak	50.50	298	P	P	08 20 23.5	+3.1
	SNR=15						
USP	Ospenovka	50.62	299	P	P	08 20 21.1	-0.1
	SNR=9.4						
OTUK	Ortayu	50.67	306	P	P	08 20 21.4	0.0
BVAR	Borovoye Array	50.73	312	P	P	08 20 21.3	-0.5
	comp=Z,1.7nm,0.5s,baz=78,slow=6.9,SNR=16						
BVAR				PcP	PcP	08 21 38.2	-0.5
	comp=Z,2.2nm,0.7s,baz=90,slow=3.3,SNR=4.1						
BRVK	Borovoye	50.79	312	eP	P	08 20 22.5	+0.3
	comp=Z,4.9nm,0.8s						
BRVK	Borovoye	50.79	312c	eP	P	08 20 23.7	+1.5
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSH	Kashi	50.79	294	P	P	08 20 29.2	+6.6
KSH				pP	sP	08 20 36.0	+5.9
KSH				PcP	PcP	08 21 40.1	+0.7
KSH				PcS	PcS	08 25 34.7	-2.2
KSH				S	S	08 27 43.0	+5.4
KSH				sS	sS	08 27 59.4	+13
KSH				pmax	pmax		
	comp=Z,14nm,0.8s						
KSH				pmax	pmax		
	comp=Z,280nm,4.6s						
KSH				LR	LR		
	comp=Z,140nm,5.9s						
KSH				LR	LR		
	comp=Z,190nm,8.1s						
KSH				LR	LR		
	comp=Z,230nm,8.3s						
AAK	Ala-Archa	50.82	298	P	P	08 20 23.3	+0.4
	SNR=9.8						
AAK	Ala-Archa	50.82	298	eP	P	08 20 24.2	+1.4
	comp=Z,5.8nm,0.8s						
AAK	Ala-Archa	50.82	298	eP	P	08 20 24.3	+1.4
AAK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
EKS2	Erkin-Say	51.31	299	P	P	08 20 28.3	+1.8
	SNR=8.7						
AML	Almayashu	51.54	298	P	P	08 20 32.1	+3.5
	SNR=21						
SFK	Sufi-Kurgan	52.40	295	P	P	08 20 35.7	+0.9
EPYK	Eagle Plains	52.84	30	P	P	08 20 38.9	+1.5
	baz=280						
KK31	Karatay Array	53.43	300	eP	P	08 20 43.4	+1.3
KK31	Karatay Array	53.43	300	eP	P	08 20 43.4	+1.3
KKAR	Karatay Array	53.43	300	eP	P	08 20 43.1	+1.0
KKAR	Karatay Array	53.43	300	eP	P	08 20 43.1	+1.0
HYT	Haines Junctio	53.58	37	eP	P	08 20 44.1	+1.1
	comp=Z,19nm,1.1s						
INK	Inuvik	53.72	27	P	P	08 20 44.2	+0.4
	comp=Z,4.8nm,0.7s,baz=297,slow=7.0,SNR=31						
INK	Inuvik	53.72	27	eP	P	08 20 44.1	+0.4
	comp=Z,8.8nm,1.0s						
GSI	Gunungsitoli	54.55	240	eP	P	08 20 49.8	-0.8
	comp=Z,18nm,0.9s						
NIL	Nilore	55.06	288	eP	P	08 20 57.1	+3.0
	comp=Z,14nm,0.7s						
NIL	Nilore	55.06	288	eP	P	08 20 57.1	+3.0
NIL				pmax	pmax		
	comp=Z,14nm,0.7s						
SVE	Sverdlovsk	55.22	319	eP	P	08 20 55.5	+0.6
SVE				pmax	pmax		
	comp=Z,16nm,0.8s						

ARU **Arti** 56.44 319 *e*P P 08 21 03.1 -0.5
comp=Z,15nm,0.8s
ARU **Arti** 56.44 319 *d i*P P 08 21 03.0 -0.6
ARU 08 23 05.5
ARU S S 08 28 53.0 -0.5
ARU SS SS 08 32 38.9 -1.2
ARU pmax pmax
comp=Z,7.0nm,0.7s
CTA **Charters Tower** 57.38 175 P P 08 21 10.2 -0.3
comp=Z,4.4nm,0.8s,baz=350,slow=12,SNR=3.6
WRAB **Tennant Creek** 57.57 189 *e*P P 08 21 11.2 -0.7
comp=Z,20nm,0.9s
WRAB *e*S S 08 29 11.1 +2.0
WRAB **Tennant Creek** 57.57 189 *ce*P P 08 21 11.9 0.0
WRAB pmax pmax
comp=Z,46nm,2.5s
WRA **Warramunga Arr** 57.58 189 P P 08 21 11.2 -0.8
comp=Z,15nm,0.9s,baz=8.9,slow=7.3,SNR=51
WRA **Warramunga Arr** 57.58 189 *ce*P P 08 21 11.1 -0.9
WRA pmax pmax
comp=Z,15nm,0.9s
DLBC **Dease Lake** 57.90 38 *e*P P 08 21 16.3 +2.3
comp=Z,6.3nm,0.8s
ABKAR **Akbulak array** 58.12 310 *e*P P 08 21 14.4 -1.2
PRGR **Permogore** 60.73 327 *e*P P 08 21 33.3 -0.1
PRGR pmax pmax
comp=Z,6.0nm,0.4s
ASAR **Alice Springs** 61.31 189 P P 08 21 37.6 -0.1
comp=Z,12nm,0.7s,baz=12,slow=6.9,SNR=91
RES **Resolute Bay** 62.02 15 *e*P P 08 21 41.9 0.0
comp=Z,4.6nm,0.6s
RES **Resolute Bay** 62.02 15 *e*P P 08 21 41.9 0.0
RES pmax pmax
comp=Z,5.0nm,0.6s
MBWA **Marble Bar** 62.03 204 *e*P P 08 21 42.6 0.0
comp=Z,14nm,0.7s
YKW3 **Yellowknife Ar** 63.08 30 *e*P P 08 21 49.4 +0.2
comp=Z,4.9nm,0.8s
YKA **Yellowknife Ar** 63.12 30 P P 08 21 49.6 +0.1
comp=Z,3.9nm,0.6s,baz=302,slow=6.3,SNR=56
YKB5 **Yellowknife Ar** 63.12 30 *e*P P 08 21 49.1 -0.4
KLMR **Klimovskoe** 63.71 328 *e*P P 08 21 52.8 -0.6
KLMR pmax pmax
comp=Z,8.0nm,1.3s
KLMR **Klimovskoe** 63.71 328 *e*P P 08 21 52.9 -0.5
KLMR AMP 08 21 59.2
comp=Z,8.0nm,1.3s
ARCES **ARCESS Array B** 63.80 339 P P 08 21 53.5 -0.4
comp=Z,1.8nm,0.8s,baz=43,slow=6.7,SNR=5.1
GEYT **Alibeck** 64.16 299 P P 08 21 56.6 -0.1
comp=Z,0.8nm,0.4s,baz=77,slow=6.5,SNR=2.9
D03D **Eldon** 66.36 47 P P 08 22 12.2 +1.4
baz=300
E04D **Cinebar** 67.16 48 P P 08 22 17.5 +1.6
baz=301
I02D **Swisshome** 67.64 51 P P 08 22 19.6 +0.6
baz=301
VRH **Novokhopyorsk** 67.66 318 *e*P P 08 22 17.4 -1.6
VRH pmax pmax
comp=Z,7.0nm,0.7s
OBN **Obninsk** 68.11 323 *e*P P 08 22 21.9 +0.1
OBN *e* 08 24 52.5
OBN pmax pmax
comp=Z,3.0nm,0.9s
OBN MLR MLR
comp=Z,116nm,15.0s
I03D **Drain, OR** 68.16 51 P P 08 22 23.9 +1.6
baz=301
LPSR **Galich'ya Gora** 68.36 320 *e*P P 08 22 23.2 -0.2
LPSR pmax pmax
comp=Z,9.0nm,0.8s
H04A **Detroit Lake** 68.36 50 *e*P P 08 22 24.5 +0.9
comp=Z,8.5nm,0.9s
K02D **Willamette Mer** 68.48 52 P P 08 22 26.0 +1.5
baz=302
G05D **Wamic, OR** 68.59 49 P P 08 22 26.5 +1.4
baz=302
I04A **Tendick Farm,** 68.69 51 P P 08 22 27.1 +1.4
baz=302
FIA1 **FINESS Array S** 68.71 332 *e*P P 08 22 23.8 -1.6
FINES **FINESS Array B** 68.71 332 P P 08 22 24.9 -0.5
comp=Z,6.8nm,0.9s,baz=36,slow=8.3,SNR=22
FINES LR LR 08 58 01.7
comp=Z,60nm,19.3s,baz=9.0,slow=41
FINES **FINESS Array B** 68.71 332 *i* P P 08 22 24.8 -0.6
FINES pmax pmax
comp=Z,7.0nm,0.9s
L02E **Cave Junction** 68.80 53 P P 08 22 27.9 +1.5
baz=302
STKA **Stephens Creek** 68.99 181 P P 08 22 26.4 -1.1
comp=Z,2.6nm,0.7s,baz=326,slow=11,SNR=6.5
C09A **Chrisman Ranch** 68.99 45 *e*P P 08 22 28.3 +0.8
comp=Z,8.6nm,1.1s
VSR **Storozhevoye** 69.00 319 *i* P P 08 22 25.8 -1.6
VSR pmax pmax
comp=Z,7.0nm,0.9s
I05D **Terrebonne, OR** 69.05 50 P P 08 22 29.4 +1.4
baz=302
J04D **Umpqua Nationa** 69.17 51 P P 08 22 30.5 +1.6
baz=302
FORT **Forrest** 69.17 193 *e*P P 08 22 28.9 +0.3
comp=Z,39nm,0.6s
NEW **Newport** 69.39 45 P P 08 22 30.6 +0.6
baz=304
L04D **Klamath Falls** 69.59 52 P P 08 22 32.6 +1.2
baz=302
PINE **Pine Mountain** 69.59 50 *e*P P 08 22 33.2 +1.8
comp=Z,16nm,0.8s
J05D **Fort Rock, OR** 69.68 51 P P 08 22 33.5 +1.5
baz=303
M02C **Callahan** 69.68 53 P P 08 22 33.6 +1.7
baz=302
E09A **Wood Farm, Sta** 69.77 47 *e*P P 08 22 33.0 +0.7
comp=Z,16nm,1.4s
N02D **Trinity Center** 70.00 53 P P 08 22 35.5 +1.6
baz=303
M04C **Macdoel** 70.11 52 P P 08 22 35.9 +1.3
baz=303
O02D **Mt. Diablo Mer** 70.38 54 P P 08 22 37.6 +1.3
baz=303
VSU **Vasula** 70.39 330 *ce*P P 08 22 35.1 -0.7
VSU pmax pmax
comp=Z,80nm,2.5s
WALA **Waterton Lakes** 70.70 43 *e*P P 08 22 39.1 +1.0
comp=Z,10nm,0.9s
O03E **Paynes Creek** 70.95 54 P P 08 22 40.1 +0.4
baz=303
MOD **Modoc Plateau** 71.01 52 *e*P P 08 22 41.0 +0.8
comp=Z,4.3nm,0.8s
KBZ **Khabaz** 71.08 311 P P 08 22 40.5 +0.2
comp=Z,2.0nm,0.7s,baz=168,slow=13,SNR=3.8
KBZ LR LR 08 58 43.4
comp=Z,58nm,19.9s,baz=18,slow=40
KIV **Kislovodsk** 71.08 311 *e*P P 08 22 41.6 +1.1
KIV *i* 08 23 00.7
KIV *i* 08 25 19.8
KIV *i* PPP PPP 08 26 55.1
KIV pmax pmax
comp=Z,11nm,1.0s
BMO **Blue Mountains** 71.18 48 *e*P P 08 22 41.8 +0.7
comp=Z,5.0nm,0.8s
BMO **Blue Mountains** 71.18 48 *e*P P 08 22 41.8 +0.7
BMO pmax pmax
comp=Z,5.0nm,0.8s
JTMT **Jette** 71.26 44 *e*P P 08 22 42.6 +1.1
comp=Z,11nm,1.1s
J08A **Circle Bar Ran** 71.33 49 *e*P P 08 22 43.0 +1.0
comp=Z,6.4nm,0.8s
WVOR **Wild Horse Val** 71.74 50 *e*P P 08 22 45.8 +1.2
comp=Z,9.3nm,1.2s
WVOR **Wild Horse Val** 71.74 50 *e*P P 08 22 45.8 +1.2
WVOR pmax pmax
comp=Z,9.0nm,1.2s
MSO **Missoula** 71.98 45 P P 08 22 46.5 +0.6
baz=306
MFID **Camas Ranch** 72.88 48 *e*P P 08 22 52.5 +1.2
comp=Z,6.9nm,0.9s
FFC **Flin Flon** 73.00 33 *e*P P 08 22 52.0 +0.4
comp=Z,12nm,0.8s
FFC **Flin Flon** 73.00 33 *ce*P P 08 22 52.2 +0.5
CMB **Columbia Colle** 73.12 55 *e*P P 08 22 53.6 +0.9
comp=Z,5.8nm,0.8s
CMB **Columbia Colle** 73.12 55 *e*P P 08 22 53.6 +0.9
CMB pmax pmax
comp=Z,6.0nm,0.8s
HRY **Holter Researc** 73.22 44 *e*P P 08 22 53.9 +0.6
YERR **Yerington** 73.32 54 *e*P P 08 22 55.4 +1.4
comp=Z,6.6nm,0.8s
FCC **Fort Churchill** 73.33 27 *e*P P 08 22 53.6 +0.1
comp=Z,16nm,1.3s
FCC **Fort Churchill** 73.33 27 *e*P P 08 22 53.6 +0.1
FCC pmax pmax
comp=Z,16nm,1.3s
LRM **Limekiln Ridge** 73.41 45 *e*P P 08 22 55.5 +1.0
EGMT **Eagleton** 73.54 42 *e*P P 08 22 55.6 +0.5
comp=Z,8.1nm,0.8s
EGMT **Eagleton** 73.54 42 P P 08 22 55.5 +0.5
baz=308
DLMT **Dillon** 73.60 45 *e*P P 08 22 56.4 +0.8
comp=Z,9.5nm,0.7s
HLID **Hailey** 73.62 47 *e*P P 08 22 57.0 +1.2
comp=Z,5.5nm,1.0s
HLID **Hailey** 73.62 47 P P 08 22 56.9 +1.2
baz=306,SNR=8.0
NWAO **Narrogin (SRO)** 73.80 202 P P 08 22 55.8 -0.7
comp=Z,4.2nm,0.6s,baz=45,slow=14,SNR=4.7
RYN **Ryan** 73.98 54 *e*P P 08 22 59.4 +1.5
comp=Z,7.7nm,1.1s
BOZ **Bozeman (W)** 74.00 45 *e*P P 08 22 58.4 +0.5
comp=Z,10nm,0.8s
KVN **Kaiserville** 74.01 53 *e*P P 08 22 59.6 +1.5
comp=Z,11nm,1.1s
NB2 **NORSAR Subarra** 74.02 338 P P 08 22 57.0 -0.5
comp=Z,3.2nm,0.6s,baz=39,slow=6.2
NOA **NORSAR Array B** 74.02 338 P P 08 22 57.1 -0.5
comp=Z,2.5nm,0.7s,baz=39,slow=5.6,SNR=15
NOA LR LR 08 59 12.1
comp=Z,87nm,19.3s,baz=355,slow=39
NVAR **Mina Array Bea** 74.24 54 P P 08 23 01.0 +1.5
comp=Z,6.8nm,0.8s,baz=281,slow=6.1,SNR=29
AKASG **Malin Array Be** 74.32 323 P P 08 22 58.4 -1.0
comp=Z,1.2nm,0.4s,baz=46,slow=5.3,SNR=7.9
AKASG LR LR 08 57 40.2
comp=Z,48nm,18.6s,baz=305,slow=37
AKASG **Malin Array Be** 74.32 323 *ce*P P 08 23 02.2 +2.7
AKASG pmax pmax
comp=Z,3.0nm,0.5s
KIEV **Kiev** 74.33 323 *e*P P 08 22 58.8 -0.7
comp=Z,4.3nm,0.4s
KIEV **Kiev** 74.33 323 *i* P P 08 22 59.6 +0.1
KIEV pmax pmax
comp=Z,3.0nm,0.8s
YHB **Horse Butte** 74.76 45 *e*P P 08 23 04.0 +1.6
comp=Z,27nm,0.3s
ELK **Elko** 74.80 50 *e*P P 08 23 04.0 +1.3
comp=Z,3.3nm,0.9s
ELK **Elko** 74.80 50 *e*P P 08 23 04.0 +1.3
ELK pmax pmax
comp=Z,3.0nm,0.9s
YMR **Madison River** 74.94 45 *e*P P 08 23 05.0 +1.5
comp=Z,8.3nm,0.7s
YFT **Old Faithful** 75.15 45 *e*P P 08 23 07.7 +3.0
comp=Z,9.9nm,0.8s
VES **Vestal, Richgr** 75.23 56 P P 08 23 05.4 +0.4
baz=306
YPP **Pitchstone Pla** 75.28 45 *e*P P 08 23 08.1 +2.6
comp=Z,5.1nm,0.7s
LKWY **Lake** 75.32 45 *e*P P 08 23 07.7 +2.0
comp=Z,5.5nm,0.8s
LKWY **Lake** 75.32 45 *e*P P 08 23 07.7 +2.0
LKWY pmax pmax
comp=Z,5.0nm,0.8s
H17A **Grant Village** 75.33 45 *e*P P 08 23 08.6 +2.8
comp=Z,74nm,0.2s
H17A **Grant Village** 75.33 45 P P 08 23 08.4 +2.6
baz=308,SNR=13
IMW **Indian Meadow** 75.43 46 *e*P P 08 23 08.2 +1.8
comp=Z,12nm,0.7s
FLWY **Flagg Ranch** 75.45 45 *e*P P 08 23 08.7 +2.3
comp=Z,20nm,1.5s
RLMT **Red Lodge** 75.60 44 *e*P P 08 23 08.5 +1.2
comp=Z,30nm,1.6s
RLMT **Red Lodge** 75.60 44 P P 08 23 08.3 +1.1
baz=309,SNR=5.8
MOOW **Moose Ponds** 75.63 46 *e*P P 08 23 09.0 +1.5
comp=Z,5.7nm,0.9s
HVU **Hansel Valley** 75.66 48 *e*P P 08 23 09.3 +1.7
comp=Z,4.9nm,0.7s
HVU **Hansel Valley** 75.66 48 *e*P P 08 23 09.3 +1.7
HVU pmax pmax
comp=Z,5.0nm,0.7s
TPAW **Teton Pass** 75.67 46 *e*P P 08 23 09.4 +1.6
comp=Z,8.9nm,0.8s
ISA **Isabella, Lake** 75.73 56 P P 08 23 08.0 0.0
baz=306
LOHW **Long Hollow** 75.80 46 *e*P P 08 23 10.1 +1.7
comp=Z,3.7nm,0.8s
REDW **Red Top Meadow** 75.81 46 *e*P P 08 23 09.9 +1.4
comp=Z,9.0nm,1.0s
ARVC **Arvin** 75.81 57 P P 08 23 09.0 +0.7
baz=306
DAC **Darwin (Calif)** 75.95 55 *e*P P 08 23 10.4 +1.0
comp=Z,5.8nm,0.8s
DAC **Darwin (Calif)** 75.95 55 *e*P P 08 23 10.4 +1.0
DAC pmax pmax
comp=Z,6.0nm,0.8s
R11A **Troy Canyon, C** 76.01 52 *e*P P 08 23 10.7 +1.0
comp=Z,9.2nm,1.1s
BGU **Big Grassy Mou** 76.03 49 *e*P P 08 23 11.3 +1.6
comp=Z,7.0nm,0.9s
AHID **Auburn Hatcher** 76.04 47 *e*P P 08 23 11.1 +1.3
comp=Z,5.0nm,0.8s
DGMT **Dagmar** 76.11 39 *e*P P 08 23 10.7 +0.8
comp=Z,13nm,0.8s
DGMT **Dagmar** 76.11 39 P P 08 23 10.4 +0.5
baz=312
MPMC **Manual Prospec** 76.15 55 P P 08 23 11.3 +0.8
baz=306,SNR=6.7
FRB **Frobisher Bay** 76.21 14 P P 08 23 10.2 +0.2
FRB pmax pmax
comp=Z,18nm,1.0s
LAO **LASA Array** 76.24 41 *e*P P 08 23 12.1 +1.4
comp=Z,14nm,0.9s
LAO **LASA Array** 76.24 41 P P 08 23 11.8 +1.1
baz=311,SNR=5.5
TPNV **Topopah Spring** 76.42 54 *e*P P 08 23 13.1 +1.1
comp=Z,8.6nm,0.8s
TPNV **Topopah Spring** 76.42 54 *e*P P 08 23 13.1 +1.1
TPNV pmax pmax
comp=Z,9.0nm,0.8s
TPNV **Topopah Spring** 76.42 54 P P 08 23 13.0 +0.9
baz=307,SNR=11
EDW2 **Edwards Air Fo** 76.51 56 P P 08 23 13.2 +0.8
baz=306,SNR=9.1
DUG **Dugway, Tooele** 76.61 50 *e*P P 08 23 14.3 +1.3
comp=Z,8.7nm,0.6s
DUG **Dugway, Tooele** 76.61 50 *e*P P 08 23 14.3 +1.3
DUG pmax pmax
comp=Z,9.0nm,0.6s
DUG **Dugway, Tooele** 76.61 50 P P 08 23 14.2 +1.2
baz=308,SNR=14
TCUT **Toone Canyon** 76.88 48 *e*P P 08 23 16.0 +1.3
comp=Z,10nm,0.7s
BW06 **Boulder Array** 76.92 46 *e*P P 08 23 15.5 +0.6
comp=Z,6.6nm,0.7s
BW06 **Boulder Array** 76.92 46 P P 08 23 15.3 +0.5
baz=309,SNR=7.0
PDAR **Pinedale Array** 76.92 46 P P 08 23 15.3 +0.5
comp=Z,5.5nm,0.6s,baz=265,slow=2.1,SNR=60
CTU **Camp Tracy** 76.94 49 *e*P P 08 23 16.2 +1.3
comp=Z,5.1nm,0.8s
PSUT **Pine Spring** 76.98 51 *e*P P 08 23 16.6 +1.4
comp=Z,8.4nm,1.0s
GSC **Goldstone, Bar** 77.05 55 *e*P P 08 23 16.6 +1.1
comp=Z,5.0nm,0.9s
GSC **Goldstone, Bar** 77.05 55 *e*P P 08 23 16.6 +1.1
GSC pmax pmax
comp=Z,5.0nm,0.9s
BFSC **Mount Baldy Ra** 77.11 57 P P 08 23 17.1 +1.2
baz=307
JLU **Jordanelle** 77.17 49 *e*P P 08 23 17.7 +1.4
comp=Z,3.6nm,0.7s
RRX **Edison Barstow** 77.17 56 P P 08 23 17.3 +1.2
baz=307
NLU **North Lily Min** 77.20 49 *e*P P 08 23 18.0 +1.5
comp=Z,7.4nm,0.9s
SHPR **Sheep Range** 77.39 54 *e*P P 08 23 19.1 +1.6
comp=Z,6.0nm,0.9s
MPU **Maple Canyon** 77.43 49 *e*P P 08 23 18.9 +1.3
comp=Z,8.1nm,0.7s
TUQ **Turquoise Moun** 77.54 55 P P 08 23 19.2 +0.9
baz=307,SNR=8.3
CCUT **Cedar City** 77.89 52 *e*P P 08 23 22.0 +1.6
comp=Z,6.1nm,1.0s
MSU **Marysvale** 78.03 51 *e*P P 08 23 22.7 +1.6
MSU **Marysvale** 78.03 51 *e*P P 08 23 22.7 +1.6
GMRC **Granite Mounta** 78.11 55 P P 08 23 22.2 +0.7
baz=308,SNR=6.3
TMUT **Trail Mountain** 78.13 49 *e*P P 08 23 23.1 +1.4
comp=Z,3.4nm,0.8s
TPFO **Pinon Flats** 78.29 57 P P 08 23 23.2 +0.7
baz=307
LCMT **Little Creek M** 78.30 52 *e*P P 08 23 24.2 +1.7
comp=Z,9.9nm,1.0s
P17A **Butcher Ranch,** 78.31 49 *e*P P 08 23 24.1 +1.6
comp=Z,11nm,0.7s
MTPU **Mount Pierson** 78.32 51 *e*P P 08 23 24.9 +2.1
comp=Z,8.3nm,0.8s
BURAR **Bucovina Array** 78.34 322⇑ *i*P P 08 23 22.8 +0.3
BURAR **Bucovina Array** 78.34 322 ⇑P P 08 23 22.8 +0.3
BIZ **Bicaz** 78.37 321⇑ *i*P P 08 23 23.9 +1.4
Q16A **Castle Valley** 78.39 50 *e*P P 08 23 24.7 +1.6
comp=Z,7.7nm,1.1s
CFR **Carcaliu** 78.52 319⇑ *i*P P 08 23 25.2 +1.8
CFR **Carcaliu** 78.52 319 ⇑P P 08 23 25.2 +1.8
KNB **Kanab** 78.56 52 *e*P P 08 23 25.9 +1.9
comp=Z,13nm,1.1s
KNB **Kanab** 78.56 52 P P 08 23 25.9 +1.9
KNB pmax pmax
comp=Z,13nm,1.1s
K22A **Casper** 78.71 45 *e*P P 08 23 25.5 +0.8
comp=Z,20nm,1.4s
MONP2 **Monument Peak** 78.75 57 P P 08 23 25.1 0.0
baz=308
VRI **Vrincioaia** 78.79 320⇑ *i*P P 08 23 27.4 +2.5
VRI **Vrincioaia** 78.79 320 ⇑P P 08 23 27.4 +2.5
ULM **Lac du Bonnet** 78.80 34 P P 08 23 24.7 -0.1
comp=Z,4.7nm,0.7s,baz=304,slow=6.7,SNR=8.1
IRM **Iron Mountain** 78.83 56 P P 08 23 26.4 +1.1
baz=308,SNR=6.1
RWWY **Rawlins** 78.95 46 *e*P P 08 23 27.0 +0.8
comp=Z,8.8nm,0.8s
BRTR **Keskin Array B** 79.02 312 P P 08 23 27.1 +0.7
comp=Z,0.5nm,0.5s,baz=91,slow=5.8,SNR=3.7
BRTR LR LR 09 03 10.3
comp=Z,53nm,18.1s,baz=71,slow=39
BRTR **Keskin Array B** 79.02 312 *i* P P 08 23 31.3 +4.9
BRTR pmax pmax
comp=Z,1.0nm,0.5s
RSSD **Black Hills** 79.09 42 *e*P P 08 23 27.3 +0.4
comp=Z,7.6nm,1.0s
RSSD **Black Hills** 79.09 42 *e*P P 08 23 27.3 +0.4
RSSD pmax pmax
comp=Z,8.0nm,1.0s
RSSD **Black Hills** 79.09 42 P P 08 23 27.0 +0.2
baz=312
SWSC **Sam W. Stewart** 79.13 57 P P 08 23 27.9 +1.0
baz=308
ARCR **ARCALIA** 79.14 322⇑ *i*P P 08 23 32.3 +5.6
U15A **North Rim** 79.26 52 *e*P P 08 23 29.4 +1.4
comp=Z,6.4nm,0.8s
TRPA **Tarpa** 79.27 324⇑ *i*P P 08 23 27.5 +0.1
O20A **White River Ci** 79.36 47 *e*P P 08 23 29.2 +0.7
comp=Z,6.0nm,0.8s
O20A **White River Ci** 79.36 47 P P 08 23 29.1 +0.7
baz=310
DOPR **Dopca** 79.40 321⇑ *i*P P 08 23 29.2 +1.0
Y12C **Blythe** 79.48 56 *e*P P 08 23 30.2 +1.4
comp=Z,9.1nm,1.1s
Y12C **Blythe** 79.48 56 P P 08 23 30.0 +1.1
baz=308
GLA **Glamis** 79.71 56 P P 08 23 31.2 +1.0
baz=308
PV09 **Paradox Valley** 79.89 49 *e*P P 08 23 32.8 +1.4
PV21 **Cone Mtn., Par** 79.94 49 *e*P P 08 23 32.8 +1.2
comp=Z,13nm,0.7s
PV23 **Carpenter Ridg** 79.99 49 *e*P P 08 23 33.4 +1.4
comp=Z,28nm,1.4s
PV10 **Paradox Valley** 80.03 49 *e*P P 08 23 33.8 +1.7
PV14 **Lion Creek, Pa** 80.04 49 *e*P P 08 23 33.3 +1.1
comp=Z,26nm,1.1s
PV20 **West Nyswonger** 80.09 49 *e*P P 08 23 33.9 +1.6
comp=Z,18nm,0.7s
PV19 **Morning Glory** 80.10 49 *e*P P 08 23 33.8 +1.3
comp=Z,13nm,0.8s
PV17 **East Wray Mesa** 80.14 49 *e*P P 08 23 34.0 +1.4
comp=Z,18nm,0.8s
DRGR 80.14 323⇑ *i*P P 08 23 34.1 +1.8
DRGR 80.14 323 ⇑P P 08 23 34.1 +1.8
PV16 **Nyswonger Mesa** 80.14 49 *e*P P 08 23 34.0 +1.4
comp=Z,9.3nm,0.7s
PV11 **David Mesa, Pa** 80.17 49 *e*P P 08 23 34.2 +1.4
comp=Z,48nm,1.5s
PV05 **Paradox Valley** 80.18 49 *e*P P 08 23 34.5 +1.6
N23A **Red Feather La** 80.19 46 *e*P P 08 23 34.5 +1.5
comp=Z,17nm,0.9s
N23A **Red Feather La** 80.19 46 P P 08 23 34.0 +1.1
baz=312
ARR **Arges** 80.19 321⇓ *i*P P 08 23 33.0 +0.4
PV12 **Saucer Basin,** 80.20 49 *e*P P 08 23 34.3 +1.3
comp=Z,8.8nm,1.0s
PV03 **Paradox Valley** 80.22 49 *e*P P 08 23 34.4 +1.3
AGMN **Agassiz Nation** 80.23 35 *e*P P 08 23 32.6 -0.1
comp=Z,16nm,1.5s
AGMN **Agassiz Nation** 80.23 35 P P 08 23 32.4 -0.2
baz=317
PV13 **Radium Mtn., P** 80.30 49 *e*P P 08 23 34.9 +1.4
comp=Z,14nm,0.8s
PV02 **Paradox Valley** 80.32 49 *e*P P 08 23 35.0 +1.3
comp=Z,9.4nm,0.8s
MORC **Moravsky Berou** 80.32 327 *e*P P 08 23 33.5 +0.3
comp=Z,3.8nm,1.0s
MORC **Moravsky Berou** 80.32 327⇑ *i*P P 08 23 33.1 -0.1
MORC **Moravsky Berou** 80.32 327 *e*P P 08 23 33.5 +0.3
MORC pmax pmax
comp=Z,4.0nm,1.0s
WUAZ **Wupatki** 80.41 53 *e*P P 08 23 35.6 +1.5
comp=Z,9.6nm,0.9s
WUAZ **Wupatki** 80.41 53 P P 08 23 35.4 +1.4
baz=310,SNR=6.4
DPC **Dobruska-Polom** 80.41 328 *e*P P 08 23 35.6 +2.0
DPC *ep*P PcP 08 23 44.0 +3.3
DPC **Dobruska-Polom** 80.41 328 *e*P P 08 23 35.6 +2.0
DPC *e* 08 23 44.0
PV01 **Paradox Valley** 80.46 49 *e*P P 08 23 35.6 +1.2
113A **Mohawk Valley,** 80.59 56 *e*P P 08 23 35.9 +1.0
comp=Z,6.0nm,1.0s
PSZ **Piszkesteto** 80.65 325⇑ *i*P P 08 23 34.9 -0.1
PSZ **Piszkesteto** 80.65 325 ⇑P P 08 23 34.9 -0.1
VYHS **Vyhne** 80.71 326 *e*P P 08 23 35.6 +0.3
VYHS pmax pmax
comp=Z,5.0nm,1.5s
VYHS **Vyhne** 80.71 326 *e*P P 08 23 35.6 +0.3
SMCO **Snowmass** 80.73 47 *e*P P 08 23 37.4 +1.3
comp=Z,3.2nm,0.9s
BRG **Berggiesshubel** 80.98 330 *e*P P 08 23 36.9 +0.3
comp=Z,4.6nm,1.3s
BRG **Berggiesshubel** 80.98 330 *e*P P 08 23 36.9 +0.3
BRG pmax pmax
comp=Z,3.0nm,1.3s
CLL **Collm** 81.02 330 *e*P P 08 23 36.0 -0.8
comp=Z,4.0nm,0.8s
CLL **Collm** 81.02 330 *e*P P 08 23 36.0 -0.8
CLL pmax pmax
comp=Z,22nm,0.8s
X16A **Lo Mia Camp, P** 81.06 53 *e*P P 08 23 39.3 +1.6
comp=Z,7.3nm,0.9s
GZR **Gura Zlata** 81.10 322⇑ *i*P P 08 23 36.5 -1.0
GZR **Gura Zlata** 81.10 322 ⇑P P 08 23 36.5 -1.0
MVCO **Mesa Verde** 81.11 50 *e*P P 08 23 38.9 +1.0
comp=Z,6.1nm,0.8s
MVCO **Mesa Verde** 81.11 50 P P 08 23 38.7 +0.8
baz=311
ISCO **Idaho Springs** 81.11 46 *e*P P 08 23 39.1 +1.2
comp=Z,2.1nm,0.6s
ISCO **Idaho Springs** 81.11 46 *e*P P 08 23 39.1 +1.2
ISCO pmax pmax
comp=Z,2.0nm,0.6s
ISCO **Idaho Springs** 81.11 46 P P 08 23 38.9 +1.0
baz=312
PRU **Pruhonice** 81.43 329 *e*P P 08 23 39.9 +0.9
PRU **Pruhonice** 81.43 329 *e*P P 08 23 39.9 +0.9
BZS **Buzias** 81.51 322⇑ *i*P P 08 23 39.4 -0.1
BZS **Buzias** 81.51 322 ⇑P P 08 23 39.4 -0.1
S22A **4UR Ranch, Cre** 81.76 48 *e*P P 08 23 43.1 +1.7
comp=Z,5.3nm,1.0s
Q24A **Divide** 81.93 47 P P 08 23 43.5 +1.2
baz=312
MDVR **Moldovita** 82.07 322⇑ *i*P P 08 23 41.3 -1.3
EYMN **Ely** 82.44 33 P P 08 23 45.5 +1.1
baz=320

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CONA	**Conrad Observa**	**82.45**	**327**	*e*P	**P**	**08 23 44.2**	**-0.3**
	comp=Z,1.6nm,0.7s						
KHC	**Kasperske Hory**	**82.49**	**329**	*e*P	**P**	**08 23 49.2**	**+4.5**
	comp=Z,5.8nm,1.7s						
KHC	**Kasperske Hory**	**82.49**	**329**	*e*P	**P**	**08 23 44.6**	**-0.1**
KHC				*e*PCP	**pP**	**08 23 49.4**	**-1.0**
KHC	**Kasperske Hory**	**82.49**	**329**	*e*P	**P**	**08 23 44.6**	**-0.1**
SDCO	**Great Sand Dun**	**82.54**	**48**	*e*P	**P**	**08 23 46.8**	**+1.3**
	comp=Z,9.3nm,1.4s						
SDCO	**Great Sand Dun**	**82.54**	**48**	P	**P**	**08 23 46.4**	**+0.9**
	baz=312						
GERES	**GERESS Array B**	**82.66**	**329**	P	**P**	**08 23 44.8**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=32,slow=3.3,SNR=4.1						
GEA0	**GERESS Array S**	**82.67**	**329**	*e*P	**P**	**08 23 45.0**	**-0.7**
TUC	**Tucson**	**82.83**	**55**	P	**P**	**08 23 47.4**	**+0.6**
	baz=310						
VTS	**Vitosha**	**82.88**	**319**	⇑*i*P	**P**	**08 23 45.0**	**-2.0**
VTS	**Vitosha**	**82.88**	**319**	⇑P	**P**	**08 23 45.0**	**-2.0**
ECSD	**EROS Data Cent**	**83.19**	**39**	*e*P	**P**	**08 23 48.5**	**+0.1**
	comp=Z,9.1nm,0.8s						
ECSD	**EROS Data Cent**	**83.19**	**39**	P	**P**	**08 23 48.3**	**-0.1**
	baz=317,SNR=6.9						
KSCO	**Kaye Shedlock'**	**83.34**	**45**	P	**P**	**08 23 49.6**	**+0.2**
	baz=314						
E38A	**The Farm, Brul**	**83.44**	**34**	P	**P**	**08 23 49.2**	**-0.4**
	baz=320						
T25A	**Trinidad**	**83.59**	**48**	*e*P	**P**	**08 23 52.1**	**+1.2**
	comp=Z,8.7nm,0.8s						
T25A	**Trinidad**	**83.59**	**48**	P	**P**	**08 23 51.9**	**+1.0**
	baz=313						
SOKA	**Soboth**	**83.77**	**326**	*e*P	**P**	**08 23 51.1**	**-0.3**
	comp=Z,3.0nm,0.8s						
LAZ	**Ladron**	**83.78**	**51**	*e*P	**P**	**08 23 53.4**	**+1.5**
ANMO	**Albuquerque**	**83.84**	**50**	*e*P	**P**	**08 23 53.6**	**+1.5**
	comp=Z,8.2nm,1.1s						
ANMO	**Albuquerque**	**83.84**	**50**	*ce*P	**P**	**08 23 52.6**	**+0.5**
ANMO				pmax	pmax		
	comp=Z,14nm,2.5s						
ANMO	**Albuquerque**	**83.84**	**50**	P	**P**	**08 23 53.5**	**+1.4**
	baz=312						
E39A	**Mellen**	**84.05**	**34**	P	**P**	**08 23 52.5**	**-0.2**
	baz=321						
OBKA	**Obir**	**84.11**	**327**	*e*P	**P**	**08 23 51.3**	**-1.8**
	comp=Z,4.3nm,1.1s						
MEM	**Membach**	**84.19**	**334**	⇓P	**P**	**08 23 52.5**	**-0.9**
E40A	**Wakefield**	**84.29**	**33**	P	**P**	**08 23 54.5**	**+0.6**
	baz=321						
D41A	**Chassel**	**84.38**	**32**	P	**P**	**08 23 54.7**	**+0.3**
	baz=322						
319A	**Douglas**	**84.41**	**55**	*e*P	**P**	**08 23 55.8**	**+0.8**
	comp=Z,14nm,1.1s						
MYKA	**Terra Mystica**	**84.41**	**327**	*e*P	**P**	**08 23 54.1**	**-0.5**
	comp=Z,1.3nm,0.5s						
F40A	**Park Falls**	**84.60**	**34**	P	**P**	**08 23 55.2**	**-0.3**
	baz=321						
121A	**Cookes Peak, D**	**84.61**	**53**	P	**P**	**08 23 57.3**	**+1.2**
	baz=312						
WATA	**Walderalm**	**84.73**	**329**	*e*P	**P**	**08 23 56.2**	**-0.1**
	comp=Z,1.4nm,0.6s						
MOTA	**Moosalm**	**84.91**	**329**	*e*P	**P**	**08 23 57.0**	**-0.3**
	comp=Z,1.7nm,0.6s						
RETA	**Reutte**	**84.94**	**329**	*e*P	**P**	**08 23 57.4**	**+0.1**
	comp=Z,3.5nm,0.8s						
SQTA	**Sankt Quirin**	**84.97**	**329**	*e*P	**P**	**08 23 57.4**	**-0.2**
	comp=Z,3.9nm,1.1s						
BFO	**Black Forest**	**85.22**	**331**	*e*P	**P**	**08 23 58.2**	**-0.4**
	comp=Z,5.5nm,0.9s						
BFO	**Black Forest**	**85.22**	**331**	*ce*P	**P**	**08 23 58.9**	**+0.3**
FETA	**Feichten**	**85.33**	**329**	*e*P	**P**	**08 23 58.9**	**-0.5**
	comp=Z,3.1nm,1.0s						
DAVA	**Damuels**	**85.46**	**330**	*e*P	**P**	**08 23 59.9**	**-0.1**
	comp=Z,3.3nm,0.7s						
E43A	**Lone Tree Farm**	**85.58**	**32**	P	**P**	**08 24 00.5**	**+0.1**
	baz=323						
FUORN	**Ofenpass-Fuorn**	**85.84**	**329**	*e*P	**P**	**08 24 02.0**	**0.0**
	comp=Z,6.2nm,0.7s						
KSU1	**Kansas State U**	**86.58**	**42**	*e*P	**P**	**08 24 05.6**	**+0.1**
	comp=Z,9.8nm,0.7s						
AMTX	**Amarillo**	**86.75**	**48**	*e*P	**P**	**08 24 07.7**	**+1.1**
	comp=Z,7.3nm,0.9s						
TXAR	**Lajitas Array**	**89.37**	**53**	P	**P**	**08 24 19.8**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=307,slow=3.0,SNR=31						
CCM	**Cathedral Cave**	**90.14**	**39**	*e*P	**P**	**08 24 22.8**	**+0.3**
	comp=Z,9.4nm,1.1s						
CCM	**Cathedral Cave**	**90.14**	**39**	*e*P	**P**	**08 24 22.8**	**+0.3**
CCM				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MIAR	**Mount Ida**	**91.58**	**43**	P	**P**	**08 24 30.3**	**+1.1**
MIAR				pmax	pmax		
	comp=Z,17nm,1.1s						
WHAR	**Wooly Hollow**	**91.71**	**42**	*e*P	**P**	**08 24 30.4**	**+0.6**
	comp=Z,8.1nm,0.7s						
W41B	**Gary Mavity, V**	**91.82**	**42**	*e*P	**P**	**08 24 30.8**	**+0.5**
	comp=Z,41nm,1.9s						
TORD	**Torodi Ar. Bea**	**117.45**	**316**	PKP	**PKPdf**	**08 30 07.2**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=122,slow=1.9,SNR=3.3						
VNA2	**Neumayer--Watz**	**142.91**	**196**	PKP	**PKPdf**	**08 30 50.3**	**-4.3**
VNA3	**Neumayer Olymp**	**143.15**	**195**	PKP	PKPab	08 30 50.8	+0.2
VNA1	**Neumayer--Stat**	**143.31**	**196**	PKP	PKPab	08 30 52.1	+0.9
LPAZ	**La Paz**	**145.94**	**60**	PKPbc	**PKPdf**	**08 31 02.8**	**+0.5**
	comp=Z,11nm,0.8s,baz=330,slow=3.1,SNR=33						
PLCA	**Paso Flores**	**154.47**	**108**	PKP	**PKPdf**	**08 31 14.5**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=270,slow=8.1,SNR=2.1						
PLCA				PKPab	**PKPab**	**08 31 34.5**	**-2.7**
	comp=Z,2.8nm,0.8s,baz=176,slow=2.9,SNR=2.8						

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*SJA **06** 08:28:07.0±0.6, 34°.03S×69°.83W, h158km±13km, ML2.6, MW3.1*
*ISCJB **06** 08:28:08.5±1.1, 33°.98S±0°.07×70°.07W±0°.09, h132km±8km, Error ellipse: s-maj=14.2km s-min=8.2km az=38.7*
*GUC **06** 08:28:09.2±0.6, 33°.94S×70°.14W, h124km±3km, ML2.7*
ISC 06 08:28:09.2±1.9**, 33°.99S**±0°.07×**70°.05W**±0°.07**, h126**km±12km**, n13, σ0ˢ.67**/21**, 2C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.19**	**317**	⇓*i*P	**Pn**	**08 28 26.5**	**-0.2**
LMEL				*i* S	**Sn**	**08 28 40.8**	**+0.9**
LMEL				IAML		08 28 57.1	
	comp=N,209nm,0.2s						
FCH	**Farellones**	**0.69**	**343**	⇑*i*P	**Pn**	**08 28 29.3**	**-0.3**
FCH				*i* S	**Sn**	**08 28 45.2**	**+0.4**
FCH				IAML		08 28 47.9	
	comp=N,181nm,0.2s						
CLCH	**Cerro Calan**	**0.72**	**325**	⇓*i*P	**Pn**	**08 28 29.4**	**0.0**
CLCH				*i* S	**Sn**	**08 28 44.4**	**-0.2**
CLCH				IAML		08 28 45.8	
	comp=E,401nm,0.4s						
PEL	**Peldehue**	**1.00**	**328**	*e*P	**Pn**	**08 28 31.6**	**-0.2**
PEL				*i* S	**Sn**	**08 28 48.2**	**-0.7**
PEL				IAML		08 28 49.3	
	comp=N,227nm,0.5s						
ROCH	**El Roble**	**1.30**	**321**	⇓*i*P	**Pn**	**08 28 34.8**	**-0.2**
ROCH				*i* S	**Sn**	**08 28 54.3**	**-0.3**
ROCH				IAML		08 28 57.1	
	comp=N,232nm,0.3s						
AAGR	**Agrelo**	**1.36**	**49**	*i* P	**Pn**	**08 28 35.5**	**-0.1**
AVIZ	**Vizcacheras**	**1.38**	**68**	*i* P	**Pn**	**08 28 35.4**	**-0.4**
ASAL	**Salagasta**	**1.73**	**36**	*i* P	**Pn**	**08 28 39.7**	**-0.1**
AUSP	**Uspallata**	**1.85**	**18**	*i* P	**Pn**	**08 28 41.9**	**+0.5**
GO05	**Huala**	**1.86**	**236**	⇑*i*P	**Pn**	**08 28 41.4**	**+0.2**
GO05				*i* S	**Sn**	**08 29 05.8**	**+0.1**
RTLS	**Leoncito**	**2.27**	**16**	*i* P	**Pn**	**08 28 47.3**	**+0.6**
RTLS				IAML		08 28 49.0	
	comp=Z,26nm,0.3s						
RTLS				*i* S	**Sn**	**08 29 17.2**	**+1.9**
CMCH	**Combarbala**	**2.92**	**344**	*e*P	**Pn**	**08 28 54.7**	**-0.1**
RTLL	**Cerro Villicun**	**2.97**	**27**	*i* P	**Pn**	**08 28 54.9**	**-0.5**
RTLL				*i* S	**Sn**	**08 29 29.6**	**-1.2**

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*TAP **06** 08:37:11.0, 24°.78N×122°.77E, h124km, ML3.5, C*
*ISCJB **06** 08:37:11.6±0.5, 24°.71N±0°.03×122°.74E±0°.02, h119km±4km, Error ellipse: s-maj=4.9km s-min=2.9km az=1.7*
*JMA **06** 08:37:11.2±0.2, 24°.75N×122°.74E, h123km±2km, M2.5*
ISC 06 08:37:11.7±1.6**, 24°.73N**±0°.05×**122°.75E**±0°.03**, h121**km±9km**, n72, σ0ˢ.59**/123**, 3C-3D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.33**	**146**	P	**Pn**	**08 37 28.8**	**-0.1**
JYNG				*e*S	**Sn**	**08 37 42.3**	**+0.5**
YOJ	**Yonaguni jima**	**0.36**	**137**	P	**Pn**	**08 37 29.0**	**0.0**
	baz=155						
YOJ				*e*S	**Sn**	**08 37 42.3**	**+0.3**
	baz=155						
YOJ	**Yonaguni jima**	**0.36**	**137**	P	**Pn**	**08 37 29.0**	**0.0**
YOJ				S	**Sn**	**08 37 42.8**	**+0.8**
EOS1	**EOS1**	**0.59**	**253**	P	**Pn**	**08 37 30.6**	**+0.3**
	baz=243						
EOS1				*e*S	**Sn**	**08 37 44.6**	**+0.3**
	baz=243						
TWB1	**Santiao Chiao**	**0.74**	**292**	P	**Pn**	**08 37 31.6**	**+0.1**
	baz=287						
TWB1				*e*S	**Sn**	**08 37 46.4**	**0.0**
	baz=287						
TWC	**Suao**	**0.82**	**262**	P	**Pn**	**08 37 31.9**	**-0.2**
	baz=254						
TWC				*e*S	**Sn**	**08 37 46.7**	**-0.9**
	baz=254						
TIPB	**Shuangxi**	**0.87**	**286**	⇓P	**Pn**	**08 37 32.8**	**+0.2**
	baz=277						
TIPB				S	**Sn**	**08 37 48.2**	**-0.2**
	baz=277						
NWF	**Wu-fen Shan**	**0.94**	**292**	⇑*i*P	**Pn**	**08 37 33.5**	**+0.2**
	baz=288						
NWF				*e*S	**Sn**	**08 37 49.8**	**+0.1**
	baz=288						
WFSB	**Wu-fen Shan**	**0.94**	**292**	P	**Pn**	**08 37 33.5**	**+0.3**
	baz=288						
NANB	**Nanao**	**0.95**	**252**	P	**Pn**	**08 37 33.6**	**+0.3**
	baz=250						
NANB				*e*S	**Sn**	**08 37 49.3**	**-0.5**
	baz=250						
ENA	**Nanau**	**0.96**	**252**	*e*P	**Pn**	**08 37 33.9**	**+0.5**
	baz=249						
ENA				*e*S	**Sn**	**08 37 50.1**	**+0.3**
	baz=249						
IRIF	**Iriomote-Funau**	**0.98**	**113**	P	**Pn**	**08 37 33.5**	**-0.1**
IRIF				S	**Sn**	**08 37 50.0**	**-0.1**
TWE	**Neicheng**	**0.98**	**270**	P	**Pn**	**08 37 33.8**	**+0.2**
	baz=262						
TWE				S	**Sn**	**08 37 49.9**	**-0.3**
	baz=262						
SLBB	**Yuanshan**	**1.01**	**272**	P	**Pn**	**08 37 34.2**	**+0.3**
	baz=269						
SLBB				*e*S	**Sn**	**08 37 50.5**	**-0.3**
	baz=269						
ENTT	**Nioudou**	**1.08**	**266**	*e*P	**Pn**	**08 37 34.9**	**+0.3**
	baz=269						
TWA	**Mucha**	**1.08**	**284**	*e*P	**Pn**	**08 37 34.1**	**-0.5**
	baz=272						
PCYT	**Pengchaiyu**	**1.09**	**326**	*e*P	**Pn**	**08 37 34.8**	**+0.1**
	baz=326						
YM07	**YM07**	**1.11**	**294**	P	**Pn**	**08 37 34.8**	**-0.1**
	baz=290						
YM07				*e*S	**Sn**	**08 37 52.7**	**+0.1**
	baz=290						
NWLT	**Wulai**	**1.13**	**273**	*e*P	**Pn**	**08 37 35.0**	**-0.1**
	baz=270						
NWLT				*e*S	**Sn**	**08 37 52.2**	**-0.7**
	baz=270						
YM01	**YM01**	**1.15**	**292**	*e*P	**Pn**	**08 37 36.4**	**+1.1**
	baz=280						
YM01				*e*S	**Sn**	**08 37 53.5**	**+0.3**
	baz=280						
YM08	**YM08**	**1.15**	**294**	*e*P	**Pn**	**08 37 35.1**	**-0.2**
	baz=290						
YM08				*e*S	**Sn**	**08 37 52.9**	**-0.3**
	baz=290						
YM11	**YM11**	**1.15**	**293**	*e*P	**Pn**	**08 37 35.3**	**-0.1**
	baz=289						
YM05	**YM05**	**1.16**	**292**	*e*P	**Pn**	**08 37 35.9**	**+0.5**
	baz=289						
YM05				*e*S	**Sn**	**08 37 53.2**	**-0.3**
	baz=289						
YM10	**YM10**	**1.16**	**292**	*e*P	**Pn**	**08 37 35.1**	**-0.3**
	baz=288						
YM10				*e*S	**Sn**	**08 37 53.5**	**0.0**
	baz=288						
TATO	**Taipei**	**1.17**	**282**	P	**Pn**	**08 37 35.1**	**-0.4**
	baz=272						
TATO				*e*S	**Sn**	**08 37 51.5**	**-2.1**
	baz=272						
TWY	**Chenhua**	**1.17**	**298**	*e*P	**Pn**	**08 37 35.6**	**+0.1**
	baz=295						
HATJ	**Hateruma jima**	**1.18**	**124**	P	**Pn**	**08 37 36.0**	**+0.4**
HATJ				*e*S	**Sn**	**08 37 54.7**	**+1.0**
YM04	**YM04**	**1.18**	**291**	*e*P	**Pn**	**08 37 35.8**	**+0.2**
	baz=280						
YM04				*e*S	**Sn**	**08 37 53.4**	**-0.4**
	baz=280						
NACB	**Ninganchiao**	**1.18**	**243**	*e*P	**Pn**	**08 37 35.8**	**+0.2**
	baz=241						
NACB				*e*S	**Sn**	**08 37 53.0**	**-0.8**
	baz=241						
TWD	**Chiawan**	**1.23**	**239**	*e*P	**Pn**	**08 37 35.9**	**-0.2**
	baz=233						
TWD				*e*S	**Sn**	**08 37 54.5**	**-0.2**
	baz=233						
YHNB	**Yeheng**	**1.25**	**268**	⇓P	**Pn**	**08 37 36.8**	**+0.4**
	baz=270						
YHNB				*e*S	**Sn**	**08 37 55.0**	**-0.2**
	baz=270						
JKRS	**Kuro-shima**	**1.25**	**113**	P	**Pn**	**08 37 36.8**	**+0.4**
JKRS				S	**Sn**	**08 37 55.8**	**+0.7**
NTST	**Danshui**	**1.25**	**291**	*e*P	**Pn**	**08 37 36.5**	**+0.1**
	baz=292						
TWS1	**Kuangyinshan**	**1.26**	**287**	P	**Pn**	**08 37 36.7**	**+0.2**
	baz=277						
TWS1				*e*S	**Sn**	**08 37 55.5**	**+0.2**
	baz=277						
NSK	**Sanguang**	**1.26**	**268**	⇓P	**Pn**	**08 37 36.9**	**+0.3**
	baz=271						
NSK				*e*S	**Sn**	**08 37 55.3**	**-0.2**
	baz=271						
NNSB	**Datong**	**1.27**	**257**	P	**Pn**	**08 37 37.0**	**+0.2**
	baz=255						
NNSB				*e*S	**Sn**	**08 37 55.5**	**-0.3**
	baz=255						
HWA	**Hwalien**	**1.28**	**235**	*e*P	**Pn**	**08 37 37.3**	**+0.6**
	baz=229						
HWA				*e*S	**Sn**	**08 37 55.6**	**0.0**
	baz=229						
NNS	**Nan Shan**	**1.28**	**257**	⇑P	**Pn**	**08 37 37.1**	**+0.2**
	baz=255						
NNS				*e*S	**Sn**	**08 37 55.5**	**-0.4**
	baz=255						
JIJ	**Ishigaki jima**	**1.32**	**106**	P	**Pn**	**08 37 37.1**	**-0.1**
JIJ				S	**Sn**	**08 37 55.3**	**-1.2**
ENLB	**Shoufeng**	**1.33**	**232**	*e*P	**Pn**	**08 37 36.8**	**-0.4**
	baz=231						
ENLB				*e*S	**Sn**	**08 37 56.9**	**+0.3**
	baz=231						
WLTB	**Daxi**	**1.36**	**276**	*e*P	**Pn**	**08 37 37.6**	**+0.1**
	baz=273						
WLTB				*e*S	**Sn**	**08 37 57.5**	**+0.2**
	baz=273						
JISG	**Ishigakijimahi**	**1.43**	**95**	P	**Pn**	**08 37 38.2**	**-0.2**
JISG				S	**Sn**	**08 37 57.6**	**-1.1**
NCU	**National Centr**	**1.44**	**280**	*e*P	**Pn**	**08 37 38.2**	**-0.2**
	baz=278						
WHF	**Hehuan Shan**	**1.47**	**247**	*e*P	**Pn**	**08 37 39.2**	**0.0**
	baz=246						
WHF				*e*S	**Sn**	**08 37 59.5**	**-0.7**
	baz=246						
ESL	**Shilin**	**1.50**	**233**	⇑*e*P	**Pn**	**08 37 38.8**	**-0.4**
	baz=228						
ESL				*e*S	**Sn**	**08 37 59.3**	**-0.8**
	baz=228						
TWT	**Tachien**	**1.50**	**252**	*e*P	**Pn**	**08 37 39.8**	**+0.4**
	baz=245						
TWT				*e*S	**Sn**	**08 38 00.5**	**0.0**
	baz=245						
TDCB	**Techi**	**1.52**	**252**	*e*P	**Pn**	**08 37 40.1**	**+0.6**
	baz=245						
TDCB				*e*S	**Sn**	**08 38 00.5**	**-0.3**
	baz=245						
LIOB	**Emei**	**1.57**	**267**	*e*P	**Pn**	**08 37 40.3**	**+0.2**
	baz=265						
LIOB				*e*S	**Sn**	**08 38 01.7**	**+0.1**
	baz=265						
CHGB	**Renai**	**1.58**	**245**	*e*P	**Pn**	**08 37 40.8**	**+0.5**
	baz=239						
CHGB				*e*S	**Sn**	**08 38 01.8**	**-0.3**
	baz=239						
NSTT	**Nanjuang**	**1.59**	**267**	*e*P	**Pn**	**08 37 40.3**	**+0.1**
	baz=265						
NSTT				*e*S	**Sn**	**08 38 01.6**	**-0.4**
	baz=265						
HGSD	**Ruisui**	**1.72**	**225**	*e*P	**Pn**	**08 37 41.6**	**-0.2**
	baz=229						
HGSD				*e*S	**Sn**	**08 38 04.7**	**-0.1**
	baz=229						
VWDT	**VWDT**	**1.75**	**237**	*e*P	**Pn**	**08 37 42.8**	**+0.6**
	baz=236						
VWDT				*e*S	**Sn**	**08 38 04.8**	**-0.6**
	baz=236						
EHY	**Hungye**	**1.78**	**227**	*e*P	**Pn**	**08 37 42.3**	**-0.2**
	baz=234						
JTJ	**Tarama**	**1.78**	**92**	P	**Pn**	**08 37 42.7**	**+0.2**
JTJ				S	**Sn**	**08 38 05.4**	**-0.6**
NMLH	**Miaoli**	**1.79**	**264**	*e*P	**Pn**	**08 37 42.6**	**0.0**
	baz=263						
YULB	**Yu-li**	**1.88**	**225**	*e*P	**Pn**	**08 37 43.1**	**-0.6**
	baz=231						
YULB				*e*S	**Sn**	**08 38 06.9**	**-1.2**
	baz=231						
SMLT	**Sun Moon Lake**	**1.88**	**244**	*e*P	**Pn**	**08 37 44.7**	**+0.8**
	baz=238						
SMLT				*e*S	**Sn**	**08 38 08.1**	**-0.3**
	baz=238						
TWF1	**Yuli**	**1.90**	**224**	P	**Pn**	**08 37 43.8**	**-0.2**
	baz=230						
TWF1				*e*S	**Sn**	**08 38 07.9**	**-0.8**
	baz=230						
TYC	**Yuchr**	**1.91**	**245**	*e*P	**Pn**	**08 37 45.0**	**+0.9**
	baz=247						
TYC				*e*S	**Sn**	**08 38 08.5**	**-0.2**
	baz=247						
CHN5	**Tsauling**	**2.20**	**240**	*e*P	**Pn**	**08 37 48.6**	**+0.8**
	baz=239						
ELDTW	**Lidau**	**2.20**	**226**	*e*P	**Pn**	**08 37 47.7**	**-0.1**
	baz=223						
JIRB	**Irabujima**	**2.21**	**87**	S	**Sn**	**08 38 15.7**	**+0.2**
CHN4	**Tsaushan**	**2.40**	**236**	*e*P	**Pn**	**08 37 51.0**	**+0.8**
	baz=235						
CHN4				*e*S	**Sn**	**08 38 19.5**	**-0.2**
	baz=235						
TPUB	**Ta-pu**	**2.40**	**234**	*e*P	**Pn**	**08 37 50.2**	**0.0**
	baz=234						
TWGBT	**Beinan**	**2.44**	**219**	*e*P	**Pn**	**08 37 49.0**	**-1.7**
	baz=219						
TWG	**Pinlang**	**2.44**	**219**	*e*P	**Pn**	**08 37 49.6**	**-1.2**
	baz=219						
WTP	**Ta-pu**	**2.44**	**233**	*e*P	**Pn**	**08 37 51.9**	**+1.1**
	baz=233						
WTP				*e*S	**Sn**	**08 38 22.5**	**+1.6**
	baz=233						
TWK	**Hsinying**	**2.52**	**235**	*e*P	**Pn**	**08 37 53.2**	**+1.4**
	baz=235						
CHN1	**Nanshi**	**2.54**	**233**	*e*P	**Pn**	**08 37 52.3**	**+0.2**
	baz=233						
SLGT	**Liugui**	**2.58**	**228**	*e*S	**Sn**	**08 38 26.1**	**+2.0**
	baz=236						
MASBT	**Mashibuluo**	**2.86**	**223**	*e*P	**Pn**	**08 37 56.5**	**+0.4**
	baz=223						
LAY	**Lan-yu**	**2.89**	**203**	*e*P	**Pn**	**08 37 56.3**	**-0.4**
	baz=203						

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*AEIC **06** 08:37:28.4, 55°.73N×135°.17W, h20km, ML4.3, MB4.5(NEIC), ML4.9(OTT)*
*NEIC **06** 08:37:28.4±0.0, 55°.73N×135°.17W, h20km, mb4.5/124, ML4.3(AEIC), MW4.5(OTT), After AEIC.*
NEIC Felt at Craig, Ketchikan, Klawock, Petersburg and Sitka.
*PGC **06** 08:37:28.7, 55°.64N×135°.11W, h10km, mb4.5, ML4.9/10, Mw4.5, 157km south of Sitka, Ak Off Coast Of Southeastern Alaska*
*IDC **06** 08:37:28.9±0.6, 55°.80N×135°.17W, h0km, mb4.1/18, mb1 4.3/25, mb1mx4.2/49, mbtmp4.1/25, ML3.6/6, MS3.7/22, Ms1 3.7/22, ms1mx3.6/35, Error ellipse: s-maj=10.7km s-min=9.5km az=29.0*
*MOS **06** 08:37:29.5±1.1, 55°.85N×135°.12W, h17km, mb4.6/33, Error ellipse: s-maj=14.0km s-min=4.6km az=111.4*
ISC 06 08:37:29.3±1.5**, 55°.67N**±0°.03×**135°.14W**±0°.04**, h7**km±9km**, n469, σ2ˢ.00**/491**, mb4.5**/101**, MS3.8**/19**, 10C, Off coast of southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	**Craig**	**1.16**	**99**	P	**Pn**	**08 37 49.5**	**-2.4**
CRAG				S	**Sb**	**08 38 05.3**	**-1.5**
SIT	**Sitka**	**1.39**	**356**	P	**Pn**	**08 37 51.4**	**-3.7**
SIT				S	**Sn**	**08 38 11.0**	**-2.6**
SIT	**Sitka**	**1.39**	**356**	P	**Pn**	**08 37 51.4**	**-3.7**
SIT				S	**Sn**	**08 38 11.0**	**-2.6**
WRAK	**Wrangell Islan**	**1.73**	**63**	P	**Pn**	**08 37 57.8**	**-1.9**
WRAK				S	**Sn**	**08 38 19.3**	**-2.8**
NDB	**Naden**	**2.14**	**143**	P	**Pn**	**08 38 03.6**	**-1.8**
NDB	**Naden**	**2.14**	**143**	Pn	**Pn**	**08 38 03.6**	**-1.8**
NDB				Sn	**Sn**	**08 38 30.0**	**-2.2**
MASB	**Masset**	**2.45**	**131**	P	**Pn**	**08 38 07.8**	**-1.7**
MASB	**Masset**	**2.45**	**131**	Pn	**Pn**	**08 38 08.0**	**-1.6**
JIS	**Juneau Island**	**2.64**	**9**	P	**Pn**	**08 38 09.7**	**-2.5**
JIS				S	**Sn**	**08 38 41.1**	**-3.4**
BESE	**Bessie Mountai**	**2.92**	**3**	P	**Pn**	**08 38 13.8**	**-2.3**
BESE	**Bessie Mountai**	**2.92**	**3**	Pn	**Pn**	**08 38 13.8**	**-2.3**
BESE				Sg	**Sb**	**08 38 58.5**	**+1.0**
DIB	**Dawson Inlet,**	**2.92**	**147**	*e*Pn	**Pn**	**08 38 14.5**	**-1.5**
DIB				*e*Sn	**Sn**	**08 38 52.2**	**+0.8**
DIB	**Dawson Inlet,**	**2.92**	**147**	Pn	**Pn**	**08 38 13.9**	**-2.1**
DIB				Sn	**Sn**	**08 38 48.8**	**-2.6**
DIB				Sg	**Sb**	**08 38 58.2**	**+0.7**
H02S1	**DAWSON INLET T**	**2.92**	**147**	Pn	**Pn**	**08 38 14.4**	**-1.7**
H02S1				Sn	**Sn**	**08 38 49.1**	**-2.2**
RUBB	**Prince Rupert**	**3.12**	**114**	Pn	**Pn**	**08 38 16.9**	**-1.9**
RUBB				Sn	**Sn**	**08 38 54.3**	**-1.9**
RUBB				Sg	**Sb**	**08 39 05.1**	**+1.9**
MOBC	**Moresby Island**	**3.14**	**143**	Pn	**Pn**	**08 38 17.2**	**-1.9**
MOBC				Sn	**Sn**	**08 38 54.3**	**-2.5**
MOBC				Sg	**Sb**	**08 39 06.7**	**+2.9**
HG1B	**Mitchell Dam**	**3.26**	**146**	Pn	**Pn**	**08 38 18.9**	**-1.8**
HG1B				Sn	**Sn**	**08 38 55.8**	**-3.9**
HG1B				Sg	**Sb**	**08 39 09.9**	**+2.7**
BNB	**Barry Inlet**	**3.69**	**146**	P	**Pn**	**08 38 25.5**	**-1.1**
BNB	**Barry Inlet**	**3.69**	**146**	Pn	**Pn**	**08 38 24.0**	**-2.6**
HG3B	**Hotspring**	**3.79**	**143**	Pn	**Pn**	**08 38 25.4**	**-2.5**
HG3B				Sn	**Sn**	**08 39 07.7**	**-4.9**
HG3B				Sg	**Sb**	**08 39 25.4**	**+3.1**
SKAG	**Skagway**	**3.80**	**359**	P	**Pn**	**08 38 26.3**	**-1.8**
PLBC	**Pleasant Camp**	**3.85**	**351**	P	**Pn**	**08 38 27.0**	**-1.8**
PLBC	**Pleasant Camp**	**3.85**	**351**	Pn	**Pn**	**08 38 27.0**	**-1.8**
PLBC				Sn	**Sn**	**08 39 11.2**	**-3.1**
PLBC				Sg	**Sb**	**08 39 27.9**	**+3.7**
DLBC	**Dease Lake**	**3.93**	**43**	Pn	**Pn**	**08 38 28.9**	**-1.1**
	4.0nm,0.3s,baz=220,slow=7.9,SNR=87						
DLBC				Sn	**Sn**	**08 39 15.3**	**-1.1**
	19nm,0.3s,baz=249,slow=8.9,SNR=6.1						
DLBC				Lg	Lg	08 39 31.3	
	98nm,0.3s,baz=314,slow=23,SNR=20						
DLBC	**Dease Lake**	**3.93**	**43**	S	**Sn**	**08 39 15.8**	**-0.6**
DLBC	**Dease Lake**	**3.93**	**43**	Pn	**Pn**	**08 38 28.9**	**-1.2**
DLBC				Sn	**Sn**	**08 39 14.2**	**-2.2**
DLBC				Sg	**Sb**	**08 39 31.1**	**+4.5**
WHY	**Whitehorse**	**5.00**	**1**	P	**Pn**	**08 38 43.4**	**-1.4**
WHY				S	**Sn**	**08 39 40.5**	**-2.3**
WHY	**Whitehorse**	**5.00**	**1**	Pn	**Pn**	**08 38 43.4**	**-1.4**
WHY				Sn	**Sn**	**08 39 37.8**	**-5.0**
YUK7	**Dusty Glacier**	**5.12**	**343**	P	**Pn**	**08 38 45.1**	**-1.4**
YUK7	**Dusty Glacier**	**5.12**	**343**	Pn	**Pn**	**08 38 44.8**	**-1.7**
PCA	**Pinnacle**	**5.21**	**330**	P	**Pn**	**08 38 46.3**	**-1.3**
PCA	**Pinnacle**	**5.21**	**330**	Pn	**Pn**	**08 38 46.2**	**-1.3**
HYT	**Haines Junctio**	**5.32**	**347**	P	**Pn**	**08 38 47.6**	**-1.5**
HYT	**Haines Junctio**	**5.32**	**347**	Pn	**Pn**	**08 38 47.8**	**-1.2**
SAMH	**Samovar Hills**	**5.39**	**328**	P	**Pn**	**08 38 49.2**	**-0.8**
BBB	**Bella Bella**	**5.42**	**127**	Pn	**Pn**	**08 38 48.8**	**-1.6**
	18nm,0.3s,baz=294,slow=8.7,SNR=76						
BBB				Sn	**Sn**	**08 39 49.3**	**-3.7**
	28nm,0.3s,baz=116,slow=22,SNR=6.7						
BBB				Lg	Lg	08 40 18.4	
	23nm,0.3s,baz=140,slow=22,SNR=3.8						
BBB				LR	LR	08 40 53.8	
	comp=Z,1μm,19.3s,baz=348,slow=37						
BBB	**Bella Bella**	**5.42**	**127**	P	**Pn**	**08 38 48.7**	**-1.7**
BBB	**Bella Bella**	**5.42**	**127**	Pn	**Pn**	**08 38 48.8**	**-1.6**
BBB				Sn	**Sn**	**08 39 49.9**	**-3.1**
BBB				Sg	**Sg**	**08 40 19.4**	**-3.9**
YUK6	**Outpost Mounta**	**5.55**	**343**	P	**Pn**	**08 38 50.6**	**-1.8**
YUK6	**Outpost Mounta**	**5.55**	**343**	Pn	**Pn**	**08 38 50.7**	**-1.8**
YUK5	**Granite Creek**	**5.66**	**346**	P	**Pn**	**08 38 52.8**	**-1.0**
YUK5	**Granite Creek**	**5.66**	**346**	Pn	**Pn**	**08 38 52.8**	**-1.0**

RKAV Rock Avalanche 5.69 327 P Pn 08 38 53.7 -0.6
MESA MESA 5.79 324 P Pn 08 38 54.1 -1.6
BCBC Bella Coola 5.94 120 Pn Pn 08 38 58.7 +1.1
YUK4 Talbot Arm 5.98 344 P Pn 08 38 58.3 0.0
YUK4 Talbot Arm 5.98 344 Pn Pn 08 38 58.3 0.0
KULT Kultieth River 6.11 322 P Pn 08 38 57.5 -2.4
FSB Fort Saint Jam 6.32 96 P Pn 08 39 02.9 0.0
FSB Fort Saint Jam 6.32 96 Pn Pn 08 39 02.8 0.0
KHIT Khitrov Hills 6.43 321 P Pn 08 39 01.9 -2.5
PHC Port Hardy 6.79 134 Pn Pn 08 39 07.4 -1.8
PHC Sn Sn 08 40 22.2 -4.5
RAGM Ragged Mountai 6.92 317 ePn Pn 08 39 09.3 -1.7
PACB Port Alice, BC 6.98 136 Pn Pn 08 39 09.5 -2.3
PACB Sn Sn 08 40 24.7 -6.6
TLCB Telegraph Cove 7.16 132 Pn Pn 08 39 12.7 -1.6
TLCB Sn Sn 08 40 29.0 -6.8
BMRM Bremner River 7.28 321 P Pn 08 39 13.3 -2.6
FNBB Fort Nelson 7.32 59 Pn Pn 08 39 17.0 +0.6
BMBC Bull Mountain 7.33 82 Pn Pn 08 39 17.6 +0.9
BMBC Sg Sg 08 41 17.6 -6.8
EYAK Cordova Ski Ar 7.45 315 ePn Pn 08 39 15.9 -2.3
WOSB Woss 7.56 133 Pn Pn 08 39 18.5 -1.4
EDB Eliza Dome 7.57 137 Pn Pn 08 39 19.9 0.0
EDB Sn Sn 08 40 43.9 -2.0
DIV Divide 7.81 319 P Pn 08 39 20.6 -2.7
DIV Divide 7.81 319 Pn Pn 08 39 22.0 -1.3
GDR Gold River 8.08 133 Pn Pn 08 39 26.8 -0.1
KLU Klutina 8.10 320 ePn Pn 08 39 25.2 -2.0
BCA3 Beaver Creek A 8.15 338 P Pn 08 39 25.4 -2.5
CBB Campbell River 8.17 130 Pn Pn 08 39 28.1 -0.1
CBB Sn Sn 08 40 56.3 -4.4
PWL Port Wells 8.68 312 P Pn 08 39 31.8 -3.3
DAWY Dawson 8.69 348 P Pn 08 39 33.4 -1.8
DAWY Dawson 8.69 348 Pn Pn 08 39 33.8 -1.4
DAWY Sg 08 41 59.3 -8.4
SEW Seward 8.82 306 P Pn 08 39 32.5 -4.4
TXB Texada 8.83 128 Pn Pn 08 39 37.7 +0.5
SCM Sheep Creek Mo 8.84 319 P Pn 08 39 35.4 -1.9
SCM Sheep Creek Mo 8.84 319 P Pn 08 39 35.4 -1.9
PAX Paxson 9.01 328 ePn Pn 08 39 40.1 +0.3
PAX Paxson 9.01 328 Pn Pn 08 39 39.9 +0.2
PAX Paxson 9.01 328 P Pn 08 39 40.0 +0.3
B927 Port Alberni 9.02 131 Pn Pn 08 39 41.0 +1.3
KNK Knik Glacier 9.02 315 P Pn 08 39 36.9 -2.9
SHB Sechelt 9.15 127 Pn Pn 08 39 42.5 +0.8
DOT Dot Lake 9.18 334 ePn Pn 08 39 41.2 -0.7
DOT Dot Lake 9.18 334 Pn Pn 08 39 40.5 -1.4
SML Sawmill 9.20 317 P Pn 08 39 38.1 -4.2
SML Sawmill 9.20 317 P Pn 08 39 38.1 -4.2
GHNB Nanoose 9.21 129 Pn Pn 08 39 44.1 +1.9
NLLB Nanaimo Lost L 9.37 129 Pn Pn 08 39 46.4 +1.8
NLLB Sn Sn 08 41 28.5 -1.7
RC01 Rabbit Creek A 9.38 311 P Pn 08 39 41.2 -3.5
PMR Palmer 9.39 315 P Pn 08 39 42.0 -2.7
PMR Palmer 9.39 315 P Pn 08 39 42.1 -2.7
GHO Glory Hole Cre 9.41 316 P Pn 08 39 42.5 -2.6
SCRK Sand Creek 9.44 336 ePn Pn 08 39 44.2 -1.3
RIDG Independ'e Rid 9.45 333 ePn Pn 08 39 45.1 -0.6
B926 Mesachie Lake 9.62 131 Pn Pn 08 39 50.8 +2.9
PFB Port Renfrew 9.68 133 Pn Pn 08 39 49.3 +0.5
DHY Denali Highway 9.68 325 ePn Pn 08 39 49.0 0.0
HOM Homer 9.70 301 ePn Pn 08 39 47.8 -1.2
KDAK Kodiak Island 9.82 290 Pn Pn 08 39 47.7 -3.0
12nm,0.3s,baz=97,slow=5.0,SNR=127
KDAK Sn Sn 08 41 34.9 -6.1
baz=20,slow=4.4,SNR=3.9
KDAK LR LR 08 43 12.5
comp=Z,550nm,19.1s,baz=131,slow=35
LZB Mount Lazard 9.91 131 Pn Pn 08 39 53.1 +1.1
SUA Susitna One 9.99 312 P Pn 08 39 49.7 -3.5
B010 North Saanich 10.04 130 Pn Pn 08 39 55.2 +1.5
PGC Sidney 10.04 130 ePn Pn 08 39 55.6 +1.9
PGC Sidney 10.04 130 Pn Pn 08 39 54.9 +1.2
B009 North Saanich 10.04 130 Pn Pn 08 39 56.6 +2.8
B011 North Saanich 10.04 130 Pn Pn 08 39 55.4 +1.6
PA12 PA12 Sannich 10.04 130 Pn Pn 08 39 55.9 +2.2
SNB Saturna Island 10.07 128 Pn Pn 08 39 56.4 +2.2
OHAK Old Harbor 10.17 286 P Pn 08 39 51.5 -3.9
HILA High Level 10.26 66 Pn Pn 08 40 01.0 +4.3
VGZ Gonzales 10.27 130 Pn Pn 08 40 00.3 +3.4
MCW Mount Constitu 10.29 128 Pn Pn 08 39 59.1 +1.9
VDB Vedder Mountai 10.38 124 Pn Pn 08 40 00.9 +2.5
RND Reindeer 10.40 324 ePn Pn 08 39 58.6 -0.1
RND Reindeer 10.40 324 eP Pn 08 39 58.6 -0.1
SPU Mount Spurr 10.43 309 ePn Pn 08 39 57.0 -2.1
RSO Redoubt South 10.48 304 ePn Pn 08 39 59.6 -0.3
HDA Harding Lake 10.54 331 ePn Pn 08 40 00.1 -0.5
HDA Harding Lake 10.54 331 P Pn 08 40 00.4 -0.2
baz=141,SNR=16
MBW Mount Baker 10.64 125 Pn Pn 08 40 05.7 +3.5
MCK McKinley 10.65 325 ePn Pn 08 40 01.7 -0.3
MCK McKinley 10.65 325 eP Pn 08 40 01.7 -0.3
BLN Blyn Mountain 10.74 131 Pn Pn 08 40 05.6 +2.3
ILAR Eielson Array 10.81 332 Pn Pn 08 40 02.4 -1.9
1.7nm,0.3s,baz=154,slow=11,SNR=217
ILAR Lg Lg 08 43 12.8
0.0nm,0.3s,baz=118,slow=27,SNR=3.4
ILAR LR LR 08 43 20.7
comp=Z,128nm,20.1s,baz=146,slow=33
NLWA Neilton Lookou 10.85 135 ePn Pn 08 40 06.7 +1.9
WRH Wood River Hil 10.92 329 ePn Pn 08 40 05.6 -0.1
TRF Thorofare Moun 10.92 322 ePn Pn 08 40 06.2 +0.3
B05A Bryant 10.93 127 P Pn 08 40 09.8 +3.9
baz=318,SNR=18
HDW Hoodsport 10.98 132 Pn Pn 08 40 08.9 +2.2
B06A Marblemount 11.02 125 ePn Pn 08 40 09.4 +2.3
JCW Jim Creek 11.06 127 Pn Pn 08 40 11.4 +3.7
SLEB Sale Mountain 11.10 107 Pn Pn 08 40 10.0 +1.6
SLEB Sg 08 43 20.4
RDEA Red Earth Cree 11.10 77 Sg 08 43 14.2
GNW Green Mountain 11.14 132 Pn Pn 08 40 09.6 +0.8
COLA College 11.15 331 ePn Pn 08 40 08.2 -0.6
COLA College 11.15 331 eP Pn 08 40 08.2 -0.6
POKR Poker Plat Res 11.23 332 P Pn 08 40 09.7 -0.3
baz=142,SNR=6.2
PPLA Purkeypile 11.30 317 ePn Pn 08 40 11.5 +0.4
MDM Murphy Dome 11.32 331 ePn Pn 08 40 10.7 -0.6
PNT Penticton 11.39 118 Pn Pn 08 40 14.8 +2.6
PNT Sg 08 43 25.1
D04E Lakebay 11.47 133 P Pn 08 40 15.3 +2.0
baz=323
GPW Glacier Peak 11.47 125 Pn Pn 08 40 16.8 +3.2
CAST Castle Rocks 11.55 319 ePn Pn 08 40 13.6 -0.8
BPAW Bear Paw Mtn. 11.57 323 ePn Pn 08 40 13.8 -0.8
D05A Enumclaw 11.79 131 ePn Pn 08 40 21.6 +3.9
D05A Enumclaw 11.79 131 Pn Pn 08 40 22.0 +4.3
FYU Fort Yukon 11.95 340 ePn Pn 08 40 18.6 -1.1
SVW2 Sparrevohn 12.00 305 ePn Pn 08 40 17.8 -2.7
E04D Cinebar 12.05 134 P Pn 08 40 24.4 +3.1
baz=324
MLY Manley 12.11 327 ePn Pn 08 40 21.1 -1.0
FMW Mount Fremont 12.13 131 Pn Pn 08 40 25.2 +2.7
B08A Colville Reser 12.16 120 ePn Pn 08 40 25.6 +2.8
B08A Colville Reser 12.16 120 Pn Pn 08 40 25.5 +2.7
LON Longmire 12.21 131 ePn Pn 08 40 26.3 +2.8
LON Longmire 12.21 131 Pn Pn 08 40 25.7 +2.2
LON Longmire 12.21 131 eP Pn 08 40 26.3 +2.8
LTY Liberty 12.32 127 ePn Pn 08 40 28.6 +3.5
LTY Liberty 12.32 127 Pn Pn 08 40 27.9 +2.9
YKA Yellowknife Ar 12.53 49 Pn Pn 08 40 26.6 -1.1
0.1nm,0.3s,baz=246,slow=12,SNR=31
YKA Lg Lg 08 43 60.0
0.1nm,0.3s,baz=248,slow=26,SNR=5.1
YKA LR LR 08 45 45.8
comp=Z,27nm,18.2s,baz=228,slow=40
YKW3 Yellowknife Ar 12.55 48 Pn Pn 08 40 26.8 -1.3
YKW3 Sg 08 43 54.2
YKW1 Yellowknife Ar 12.57 49 Pn Pn 08 40 27.9 -0.4
INK Inuvik 12.70 3 Pn Pn 08 40 29.6 -0.4
0.1nm,0.3s,baz=178,slow=12,SNR=16
INK Lg Lg 08 44 06.2
0.1nm,0.3s,baz=266,slow=18,SNR=4.2
INK LR LR 08 45 12.0
comp=Z,255nm,21.8s,baz=172,slow=37
INK Inuvik 12.70 3 ePn Pn 08 40 29.2 -0.8
INK Lg Lg 08 44 06.2
INK Inuvik 12.70 3 Pn Pn 08 40 29.2 -0.8
INK Inuvik 12.70 3 eP Pn 08 40 29.2 -0.8
CHGN Chignik 13.04 282 ePn Pn 08 40 35.8 +1.2
C09A Chrisman Ranch 13.06 120 ePn Pn 08 40 37.3 +2.3
E07A Sunnyside 13.21 127 ePn Pn 08 40 40.0 +2.8

D08A Wollman Farm, 13.28 124 ePn Pn 08 40 40.0 +2.1
NEW Newport 13.33 116 Pn Pn 08 40 41.8 +3.1
0.2nm,0.3s,baz=316,slow=13,SNR=39
NEW Lg Lg 08 44 27.0
0.1nm,0.3s,baz=41,slow=19,SNR=4.7
NEW LR LR 08 46 03.3
comp=Z,1μm,18.6s,baz=303,slow=38
NEW Newport 13.33 116 eP Pn 08 40 41.7 +3.0
NEW Newport 13.33 116 P Pn 08 40 41.7 +3.0
baz=311,SNR=21
PRDA Priddis 13.35 102 Pn Pn 08 40 40.2 +1.1
HAWA Hanford 13.49 127 ePn Pn 08 40 43.3 +2.4
COLD Coldfoot 13.59 334 ePn Pn 08 40 42.3 +0.2
COLD Coldfoot 13.59 334 Pn Pn 08 40 42.1 0.0
G05D Wamic, OR 13.63 134 P Pn 08 40 46.7 +3.9
baz=325
E08A Dider Farm, El 13.63 126 ePn Pn 08 40 44.9 +2.1
H04D Lebanon 13.68 140 P Pn 08 40 48.1 +4.6
baz=329
F07A Phinny Hill Vi 13.69 129 ePn Pn 08 40 46.1 +2.5
H04A Detroit Lake 13.75 138 ePn P 08 40 49.9 -3.7
G06A Carlson Farm, 13.91 133 ePn Pn 08 40 49.4 +2.7
E09A Wood Farm, Sta 14.04 124 ePn Pn 08 40 50.3 +1.9
WALA Waterton Lakes 14.52 108 eP P 08 41 02.6 +0.8
G08A Pilot Rock 14.59 129 ePn Pn 08 40 57.1 +1.1
BSMT Bassoo Peak 14.79 113 Pn Pn 08 41 01.0 +2.2
F10A Beach Ranch, E 14.87 123 ePn Pn 08 41 01.3 +1.5
K02D Willamette Mer 14.97 145 P P 08 41 05.4 -1.4
baz=334,SNR=5.6
PINE Pine Mountain 14.98 137 ePn Pn 08 41 03.6 +2.2
31nm,1.1s
J04D Umpqua Nationa 15.02 141 P P 08 41 05.4 -2.1
baz=331,SNR=9.0
JTMT Jette 15.12 113 ePn Pn 08 41 04.6 +1.3
26nm,0.9s
JTMT Jette 15.12 113 Pn Pn 08 41 04.5 +1.3
YBMT Yellow Bay 15.19 112 Pn Pn 08 41 05.8 +1.6
FBMT Ferry Basin 15.27 114 Pn Pn 08 41 06.5 +1.3
HUMO Hull Mountain 15.28 144 ePn Pn 08 41 07.7 +2.5
32nm,0.8s
J05D Fort Rock, OR 15.30 138 P Pn 08 41 07.5 +1.9
baz=329,SNR=17
KUKN Kugluktuk,NWT 15.33 29 Pn Pn 08 41 05.6 -0.2
SWMT Swartz Lake 15.42 113 Pn Pn 08 41 09.1 +2.0
L02E Cave Junction 15.47 146 P P 08 41 14.6 +2.3
baz=335,SNR=5.8
BMO Blue Mountains 15.67 126 ePn Pn 08 41 11.6 +1.2
12nm,0.8s
BMO Blue Mountains 15.67 126 eP Pn 08 41 11.6 +1.2
BMO pmax pmax
comp=Z,12nm,0.8s
L04D Klamath Falls 15.85 143 P P 08 41 18.3 +1.7
baz=333,SNR=15
MSO Missoula 15.89 115 ePn Pn 08 41 14.4 +1.1
Missoula=Z,45nm,1.4s
MSO Missoula 15.89 115 P Pn 08 41 14.2 +0.9
baz=312,SNR=9.3
YBH Yreka Blue Hor 16.14 145 Pn P 08 41 20.3 +0.4
comp=Z,0.3nm,0.3s,baz=3.0,slow=4.5,SNR=27
YBH Yreka Blue Hor 16.14 145 eP P 08 41 20.9 +1.0
YBH Yreka Blue Hor 16.14 145 eP P 08 41 20.9 +1.0
J08A Circle Bar Ran 16.34 132 ePn P 08 41 21.2 -0.9
comp=Z,23nm,1.0s
M04C Macdoel 16.39 142 P P 08 41 23.6 +1.0
baz=333,SNR=14
M02C Callahan 16.40 145 P P 08 41 26.2 +3.4
baz=335,SNR=6.3
BPMT Black Pine Rid 16.41 115 Pn P 08 41 22.0 -1.0
N02D Trinity Center 16.83 146 P P 08 41 28.7 +1.3
baz=335,SNR=12
MOD Modoc Plateau 16.84 139 ePn P 08 41 27.8 +0.2
comp=Z,15nm,1.1s
ELMT Elliston 16.84 113 Pn P 08 41 27.0 -0.7
WVOR Wild Horse Val 17.04 134 ePn P 08 41 30.2 +0.4
comp=Z,10nm,1.1s
WVOR Wild Horse Val 17.04 134 eP P 08 41 30.2 +0.4
WVOR pmax pmax
comp=Z,10.0nm,1.1s
HRY Holter Researc 17.07 112 ePn Pn 08 41 29.0 +0.8
KMRM Mail Ridge 17.21 149 eP P 08 41 34.8 +3.1
comp=Z,56nm,1.3s
WDC Whiskeytown Da 17.24 146 eP P 08 41 33.9 +2.0
comp=Z,27nm,1.1s
WDC Whiskeytown Da 17.24 146 eP P 08 41 33.9 +2.0
WDC pmax pmax
comp=Z,27nm,1.1s
ANM Nome 17.33 313 eP P 08 41 32.4 -0.3
comp=Z,15nm,1.1s
ANM Nome 17.33 313 eP P 08 41 32.4 -0.3
ANM pmax pmax
comp=Z,15nm,1.1s
LRM Limekiln Ridge 17.34 115 ePn P 08 41 33.8 +0.6
LRM Limekiln Ridge 17.34 115 Pn P 08 41 33.5 +0.3
EGMT Eagleton 17.38 106 ePn Pn 08 41 32.7 +0.6
comp=Z,40nm,0.9s
MFID Camas Ranch 17.46 127 ePn P 08 41 34.4 0.0
comp=Z,22nm,1.1s
DLMT Dillon 17.58 117 ePn P 08 41 36.2 +0.4
comp=Z,35nm,1.1s
RDOG Red Dog Mine 17.82 325 ePn Pn 08 41 36.5 -0.8
comp=Z,45nm,1.2s
MCMT McKenzie Canyo 17.83 118 eP P 08 41 39.9 +1.2
BOZ Bozeman (W) 17.91 114 eP P 08 41 40.5 +1.1
comp=Z,32nm,1.1s
BOZ Bozeman (W) 17.91 114 eP P 08 41 40.5 +1.1
BOZ pmax pmax
comp=Z,32nm,1.1s
HLID Hailey 18.00 124 ePn P 08 41 41.6 +1.2
comp=Z,21nm,1.0s
HLID Hailey 18.00 124 P P 08 41 41.6 +1.2
baz=320,SNR=30
ORV Oroville 18.50 145 eP Pn 08 41 46.2 +0.3
comp=Z,38nm,1.6s
ORV Oroville 18.50 145 eP Pn 08 41 46.2 +0.3
ORV pmax pmax
comp=Z,38nm,1.6s
QLMT Earthquake Lak 18.54 116 eP Pn 08 41 47.7 +1.1
BEKR Beckworth 18.61 142 eP Pn 08 41 48.8 +1.4
comp=Z,74nm,1.8s
YHB Horse Butte 18.72 116 eP Pn 08 41 50.0 +1.3
comp=Z,33nm,1.0s
GCMT Greycliff 18.81 111 eP P 08 41 45.9 -3.4
FFC Flin Flon 18.85 79 eP Pn 08 41 50.2 +0.1
comp=Z,46nm,1.8s
FFC Flin Flon 18.85 79 ceP Pn 08 41 51.1 +1.0
YMR Madison River 18.89 116 eP Pn 08 41 51.6 +0.8
comp=Z,70nm,1.1s
YNR Norris Junctio 19.00 115 eP Pn 08 41 54.5 +2.3
comp=Z,36nm,1.3s
YFT Old Faithful 19.11 116 eP Pn 08 41 55.3 +1.8
comp=Z,33nm,1.5s
AFDM Forest Hills D 19.23 145 eP Pn 08 41 55.3 +0.6
comp=Z,9.7nm,0.9s
LKWY Lake 19.25 115 eP Pn 08 41 55.2 -0.1
comp=Z,22nm,1.3s
LKWY Lake 19.25 115 eP Pn 08 41 55.2 -0.1
LKWY pmax pmax
comp=Z,22nm,1.3s
YPP Pitchstone Pla 19.25 116 eP Pn 08 41 57.9 +2.6
comp=Z,14nm,1.0s
H17A Grant Village 19.28 116 eP Pn 08 41 57.5 +2.0
comp=Z,52nm,1.4s
FLWY Flagg Ranch 19.44 116 eP Pn 08 42 00.4 +3.0
IMW Indian Meadow 19.45 117 eP P 08 41 57.2 +0.7
comp=Z,53nm,1.1s
RLMT Red Lodge 19.46 112 eP Pn 08 41 57.6 -0.1
comp=Z,46nm,1.1s
RLMT Red Lodge 19.46 112 P Pn 08 41 58.5 +0.8
baz=312,SNR=22
MOOW Moose Ponds 19.66 117 eP Pn 08 42 00.5 +0.5
comp=Z,38nm,1.2s
TPAW Teton Pass 19.74 118 eP Pn 08 42 02.3 +1.2
comp=Z,35nm,1.1s
YERR Yerington 19.79 141 eP Pn 08 42 02.2 +0.7
comp=Z,24nm,1.3s
LOHW Long Hollow 19.82 117 eP Pn 08 42 02.1 +0.1
comp=Z,49nm,1.4s
SNOW Snow King Moun 19.86 118 eP Pn 08 42 06.0 +3.6
comp=Z,39nm,1.1s
ELK Elko 19.86 130 P Pn 08 42 02.6 +0.1
comp=Z,0.1nm,0.3s,baz=313,slow=9.7,SNR=12
ELK Lg Lg 08 48 14.9
comp=Z,0.1nm,0.3s,baz=215,slow=16,SNR=2.3
ELK LR LR 08 49 33.6
comp=Z,252nm,18.7s,baz=326,slow=36
ELK Elko 19.86 130 eP Pn 08 42 02.9 +0.3
comp=Z,6.2nm,0.8s
ELK Lg Lg 08 48 14.9
ELK Elko 19.86 130 eP Pn 08 42 02.9 +0.3
ELK pmax pmax
comp=Z,6.0nm,0.8s
GAMB Gambell 19.88 309 eP Pn 08 42 02.1 -0.2
comp=Z,68nm,1.5s
REDW Red Top Meadow 19.88 118 eP Pn 08 42 05.8 +3.0
comp=Z,35nm,1.3s
LAO LASA Array 20.10 104 eP Pn 08 42 04.7 -0.5
comp=Z,43nm,1.1s
LAO LASA Array 20.10 104 P P 08 42 04.3 +1.0
baz=307
HVU Hansel Valley 20.14 124 eP Pn 08 42 05.3 -0.4
comp=Z,18nm,1.0s
HVU Hansel Valley 20.14 124 eP Pn 08 42 05.4 -0.4
HVU pmax pmax
comp=Z,18nm,1.0s
WAKR Walker 20.15 142 eP Pn 08 42 06.0 +0.2
comp=Z,32nm,1.2s
KVN Kaiserville 20.15 139 eP Pn 08 42 06.0 +0.3
comp=Z,19nm,1.0s
KVN Kaiserville 20.15 139 eP Pn 08 42 06.1 +0.3
KVN pmax pmax
comp=Z,19nm,1.0s
AHID Auburn Hatcher 20.20 120 eP P 08 42 05.3 +0.7
comp=Z,110nm,1.8s
DGMT Dagmar 20.21 98 eP P 08 42 05.1 +0.6
comp=Z,80nm,1.5s
DGMT Dagmar 20.21 98 P P 08 42 05.3 +0.8
baz=303,SNR=6.8
CMB Columbia Colle 20.25 144 eP Pn 08 42 06.9 0.0
comp=Z,9.9nm,1.1s
CMB Columbia Colle 20.25 144 eP Pn 08 42 06.9 0.0
CMB pmax pmax
comp=Z,10.0nm,1.1s
RYN Ryan 20.36 140 eP Pn 08 42 07.8 -0.5
comp=Z,16nm,1.2s
NVAR Mina Array Bea 20.62 140 P Pn 08 42 11.6 +0.1
comp=Z,7.9nm,0.8s,baz=316,slow=11,SNR=40
SPUT South Promonto 20.66 125 eP Pn 08 42 11.1 -0.7
comp=Z,47nm,1.8s
BGU Big Grassy Mou 20.70 126 eP Pn 08 42 11.9 -0.4
comp=Z,11nm,1.2s
BW06 Boulder Array 20.96 117 eP P 08 42 13.7 +0.8
comp=Z,20nm,1.1s
PDAR Pinedale Array 20.96 117 P Pn 08 42 14.7 -0.7
comp=Z,5.3nm,0.8s,baz=303,slow=4.9,SNR=24
PDAR LR LR 08 49 42.8
comp=Z,144nm,19.8s,baz=324,slow=35
OMMB Old Mammoth Mi 21.10 142 eP P 08 42 16.1 +1.6
comp=Z,9.0nm,0.8s
MLAC Mammoth, Mammo 21.14 142 P P 08 42 21.0 +6.2
baz=334
TCUT Toone Canyon 21.30 123 eP P 08 42 19.4 +2.8
comp=Z,59nm,1.0s
DUG Dugway, Tooele 21.38 127 eP P 08 42 18.4 +1.1
comp=Z,28nm,1.3s
DUG Dugway, Tooele 21.38 127 eP P 08 42 18.4 +1.1
DUG pmax pmax
comp=Z,28nm,1.3s
DUG Dugway, Tooele 21.38 127 P P 08 42 18.4 +1.1
baz=324,SNR=20
CTU Camp Tracy 21.47 124 eP P 08 42 19.8 +1.4
comp=Z,14nm,1.2s
JLU Jordanelle 21.69 124 eP P 08 42 21.3 +0.6
comp=Z,17nm,1.3s
R11A Troy Canyon, C 21.73 135 eP P 08 42 22.1 +0.9
comp=Z,8.2nm,1.0s
R11A Troy Canyon, C 21.73 135 P P 08 42 21.9 +0.8
baz=329,SNR=14
NLU North Lily Min 21.91 126 eP P 08 42 24.3 +1.3
comp=Z,10nm,1.0s
MPU Maple Canyon 22.07 125 eP P 08 42 23.2 -1.5
comp=Z,7.6nm,1.1s
FCC Fort Churchill 22.19 65 eP P 08 42 25.9 +0.3
comp=Z,5.4nm,0.8s
FCC Fort Churchill 22.19 65 eP P 08 42 25.9 +0.3
FCC pmax pmax
comp=Z,5.0nm,0.8s
GRAC Grapevine Rang 22.23 140 P P 08 42 29.1 +2.8
baz=333,SNR=10.0
PSUT Pine Spring 22.29 131 eP P 08 42 28.3 +1.1
comp=Z,9.9nm,0.9s
PAGB Antelope Grade 22.40 147 eP P 08 42 29.7 +1.6
comp=Z,36nm,1.3s
K22A Casper 22.60 113 eP P 08 42 30.9 +0.5
comp=Z,25nm,1.0s
TPNV Topopah Spring 22.69 138 eP P 08 42 33.3 +1.9
comp=Z,32nm,0.9s
TPNV Topopah Spring 22.69 138 eP P 08 42 33.3 +1.9
TPNV pmax pmax
comp=Z,33nm,0.9s
TPNV Topopah Spring 22.69 138 P P 08 42 32.9 +1.6
baz=332,SNR=24
DAC Darwin (Calif) 22.79 141 eP P 08 42 34.4 +1.9
comp=Z,25nm,1.1s
DAC Darwin (Calif) 22.79 141 P P 08 42 34.4 +1.9
DAC pmax pmax
comp=Z,25nm,1.1s
TMUT Trail Mountain 22.84 126 eP P 08 42 34.6 +1.5
comp=Z,36nm,1.7s
TCRU Three Creeks R 22.84 129 eP P 08 42 34.4 +1.4
comp=Z,10nm,0.9s
SMMC Simmler 22.86 147 P P 08 42 34.9 +1.9
baz=338
P17A Butcher Ranch, 22.91 125 eP P 08 42 34.5 +0.8
comp=Z,15nm,1.3s
RSSD Black Hills 22.92 107 eP P 08 42 33.8 0.0
comp=Z,79nm,1.7s
RSSD Black Hills 22.92 107 eP P 08 42 33.8 0.0
RSSD pmax pmax
comp=Z,79nm,1.7s
RSSD Black Hills 22.92 107 P P 08 42 33.6 -0.2
baz=312
RWWY Rawlins 22.94 116 eP P 08 42 34.0 -0.1
comp=Z,14nm,0.9s
MPMC Manual Prospec 23.02 141 P P 08 42 36.6 +1.7
baz=334,SNR=17
ISA Isabella, Lake 23.04 143 eP P 08 42 34.2 -0.7
comp=Z,12nm,1.1s
ISA Isabella, Lake 23.04 143 eP P 08 42 34.2 -0.7
ISA pmax pmax
comp=Z,12nm,1.1s
ISA Isabella, Lake 23.04 143 P P 08 42 36.3 +1.4
baz=336,SNR=9.8
MSU Marysvale 23.04 129 eP P 08 42 36.6 +1.6
ATKA Atka Island 23.04 278 eP P 08 42 34.4 -0.3
comp=Z,197nm,1.7s
MDND Maddock 23.13 95 eP P 08 42 33.7 -2.1
comp=Z,37nm,1.0s
MDND Maddock 23.13 95 P P 08 42 38.2 +2.5
baz=303
Q16A Castle Valley 23.16 126 eP P 08 42 37.5 +1.2
comp=Z,31nm,1.5s
CCUT Cedar City 23.33 132 eP P 08 42 39.6 +1.6
comp=Z,16nm,1.3s
ARVC Arvin 23.41 145 P P 08 42 39.2 +0.6
baz=336
SZCU Shurtz Canyon 23.41 131 eP P 08 42 40.5 +1.6
comp=Z,16nm,1.2s
MTPU Mount Pierson 23.43 129 eP P 08 42 40.9 +1.7
comp=Z,7.9nm,1.2s
SHPR Sheep Range 23.50 136 eP P 08 42 41.1 +1.4
comp=Z,7.5nm,1.0s
O20A White River Ci 23.59 120 eP P 08 42 40.9 +0.3
comp=Z,9.9nm,0.8s
O20A White River Ci 23.59 120 P P 08 42 41.5 +0.9
baz=320,SNR=7.6
LCMT Little Creek M 23.84 132 eP P 08 42 44.1 +1.1
comp=Z,5.8nm,1.0s
EDW2 Edwards Air Fo 23.91 143 P P 08 42 45.7 +2.1
baz=336
OSI Osito Audit: C 23.91 145 eP P 08 42 46.2 +2.6
comp=Z,48nm,1.9s
GSC Goldstone, Bar 23.95 141 eP P 08 42 45.6 +1.7
comp=Z,24nm,0.9s
GSC Goldstone, Bar 23.95 141 P P 08 42 45.9 +2.0
baz=334,SNR=24
KNB Kanab 24.01 132 eP P 08 42 45.4 +0.7
comp=Z,7.7nm,0.9s
KNB Kanab 24.01 132 eP P 08 42 45.4 +0.7
KNB pmax pmax
comp=Z,8.0nm,0.9s
ULM Lac du Bonnet 24.02 87 P P 08 42 44.9 +0.5
comp=Z,4.2nm,0.8s,baz=273,slow=7.9,SNR=6.5
ULM Lg Lg 08 50 05.2
comp=Z,1.4nm,0.8s,baz=202,slow=12,SNR=4.6

ULM LR LR 08 51 47.0
comp=Z,73nm,21.9s,baz=302,slow=36
PHWY Pilot Hill 24.12 114 eP P 08 42 47.0 +1.2
comp=Z,53nm,2.0s
TUQ Turquoise Moun 24.15 139 P P 08 42 47.8 +1.9
baz=333,SNR=18
N23A Red Feather La 24.17 115 eP P 08 42 53.1 +6.8
comp=Z,15nm,1.1s
N23A Red Feather La 24.17 115 P P 08 42 46.9 +0.6
baz=318
PV09 Paradox Valley 24.44 124 eP P 08 42 49.6 +0.8
PV21 Cone Mtn., Par 24.47 123 eP P 08 42 49.4 +0.5
comp=Z,30nm,1.2s
MWC Mount Wilson 24.49 144 eP P 08 42 50.9 +1.8
comp=Z,17nm,1.0s
MWC Mount Wilson 24.49 144 eP P 08 42 50.9 +1.8
MWC pmax pmax
comp=Z,17nm,1.0s
PASC Pasadena Art C 24.49 144 eP P 08 42 47.8 -1.1
comp=Z,12nm,1.0s
PV23 Carpenter Ridg 24.54 124 eP P 08 42 50.4 +0.8
comp=Z,35nm,1.1s
HEC Hector,Ludlow 24.54 140 P P 08 42 51.1 +1.7
baz=334,SNR=6.7
RES Resolute Bay 24.58 24 P P 08 42 50.5 +1.1
comp=Z,5.1nm,0.8s,baz=243,slow=11,SNR=16
RES Lg Lg 08 50 26.1
comp=Z,3.3nm,1.1s,baz=156,slow=19,SNR=3.7
RES LR LR 08 52 57.7
comp=Z,314nm,20.8s,baz=254,slow=38
RES Resolute Bay 24.58 24 eP P 08 42 50.1 +0.8
comp=Z,9.4nm,1.0s
RES Lg Lg 08 50 26.1
RES Resolute Bay 24.58 24 eP P 08 42 50.1 +0.8
RES pmax pmax
comp=Z,9.0nm,1.0s
PV10 Paradox Valley 24.59 124 eP P 08 42 51.4 +1.4
PV10 eS S 08 47 09.7 -1.5
PV14 Lion Creek, Pa 24.59 124 eP P 08 42 50.7 +0.6
comp=Z,42nm,1.4s
BFSC Mount Baldy Ra 24.61 143 P P 08 42 52.0 +1.9
baz=336,SNR=12
PV20 West Nyswonger 24.65 124 eP P 08 42 50.4 -0.1
comp=Z,47nm,1.6s
PV19 Morning Glory 24.66 124 eP P 08 42 50.6 -0.1
comp=Z,29nm,1.3s
PV16 Nyswonger Mesa 24.70 124 eP P 08 42 51.3 +0.3
comp=Z,13nm,0.9s
PV17 East Wray Mesa 24.70 124 eP P 08 42 51.5 +0.5
comp=Z,44nm,1.4s
PV11 David Mesa, Pa 24.73 124 eP P 08 42 51.5 +0.3
comp=Z,32nm,1.2s
U15A North Rim 24.73 132 eP P 08 42 53.0 +1.6
comp=Z,6.8nm,0.9s
PV12 Saucer Basin, 24.74 124 eP P 08 42 52.1 +0.7
comp=Z,18nm,1.1s
LDFC Landfair 24.77 138 eP P 08 42 52.6 +1.1
comp=Z,40nm,1.0s
PV03 Paradox Valley 24.77 124 eP P 08 42 52.1 +0.4
PV05 Paradox Valley 24.80 124 eP P 08 42 52.6 +0.7
GMRC Granite Mounta 24.82 139 P P 08 42 53.4 +1.3
baz=333,SNR=11
BBRC Big Bear Solar 24.84 142 P P 08 42 53.9 +1.5
baz=335,SNR=6.6
PV02 Paradox Valley 24.86 124 eP P 08 42 53.2 +0.7
comp=Z,14nm,0.9s
PV13 Radium Mtn., P 24.86 124 eP P 08 42 53.0 +0.5
comp=Z,62nm,1.6s
FMP Fort Macarthur 24.88 145 P P 08 42 54.7 +2.4
baz=337
SMCO Snowmass 24.95 120 eP P 08 42 53.8 +0.3
comp=Z,11nm,1.1s
PV01 Paradox Valley 25.00 123 eP P 08 42 54.5 +0.8
AGMN Agassiz Nation 25.01 91 eP P 08 42 53.2 -0.2
comp=Z,8.2nm,0.9s
AGMN Agassiz Nation 25.01 91 P P 08 42 52.8 -0.6
baz=302
ISCO Idaho Springs 25.16 117 eP P 08 42 57.8 +2.6
comp=Z,5.9nm,0.9s
ISCO Idaho Springs 25.16 117 eP P 08 42 57.8 +2.6
ISCO pmax pmax
comp=Z,6.0nm,0.9s
ISCO Idaho Springs 25.16 117 P P 08 42 56.9 +1.7
baz=319
W13A Hualapai Mount 25.23 136 eP P 08 42 57.2 +1.4
comp=Z,7.7nm,0.9s
BELC Belle Mtn. Jos 25.40 141 P P 08 42 59.0 +1.7
baz=334
IRM Iron Mountain 25.57 139 P P 08 43 00.6 +1.8
baz=334,SNR=7.5
PFO Pinyon Flats O 25.59 142 P P 08 43 00.6 +1.7
comp=Z,8.4nm,0.9s,baz=333,slow=7.0,SNR=6.7
PFO LR LR 08 53 09.7
comp=Z,221nm,20.2s,baz=326,slow=37
PFO Pinyon Flats O 25.59 142 eP P 08 43 00.2 +1.2
comp=Z,11nm,1.0s
PFO Pinyon Flats O 25.59 142 eP P 08 43 00.2 +1.2
PFO pmax pmax
comp=Z,11nm,1.0s
XPFO Pion Flat 25.59 142 eP P 08 43 00.2 +1.2
comp=Z,11nm,1.0s
TPFO Pinon Flats 25.60 142 P P 08 42 60.0 +0.9
baz=335
MVCO Mesa Verde 25.78 125 eP P 08 43 01.3 +0.6
comp=Z,48nm,2.0s
MVCO Mesa Verde 25.78 125 P P 08 43 01.2 +0.4
baz=324
WUAZ Wupatki 25.90 131 eP P 08 43 03.5 +1.7
comp=Z,11nm,1.0s
WUAZ Wupatki 25.90 131 P P 08 43 03.1 +1.2
baz=329,SNR=8.2
S22A 4UR Ranch, Cre 26.14 121 eP P 08 43 05.0 +0.9
comp=Z,5.5nm,1.0s
Y12C Blythe 26.17 138 eP P 08 43 06.0 +2.0
comp=Z,9.8nm,1.0s
MONP2 Monument Peak 26.26 142 P P 08 43 06.5 +1.4
baz=336,SNR=6.9
GLA Glamis 26.68 140 eP P 08 43 13.2 +4.4
comp=Z,14nm,0.9s
GLA Glamis 26.68 140 eP P 08 43 13.2 +4.4
GLA pmax pmax
comp=Z,14nm,0.9s
GLA Glamis 26.68 140 P P 08 43 10.2 +1.4
baz=334
SDCO Great Sand Dun 26.79 120 eP P 08 43 10.8 +0.9
comp=Z,2.5nm,0.9s
SDCO Great Sand Dun 26.79 120 P P 08 43 10.4 +0.4
baz=322
X16A Lo Mia Camp, P 26.81 133 eP P 08 43 12.1 +2.0
comp=Z,6.3nm,1.0s
214A Organ Pipe Nat 28.42 137 P P 08 43 25.9 +1.6
baz=333
ANMO Albuquerque 28.58 124 P P 08 43 26.7 +0.8
comp=Z,1.2nm,0.6s,baz=336,slow=8.5,SNR=6.8
ANMO LR LR 08 56 23.7
comp=Z,176nm,18.5s,baz=328,slow=40
ANMO Albuquerque 28.58 124 eP P 08 43 27.1 +1.1
comp=Z,2.6nm,1.0s
ANMO Albuquerque 28.58 124 ceP P 08 43 26.2 +0.3
ANMO pmax pmax
comp=Z,9.0nm,1.7s
ANMO Albuquerque 28.58 124 P P 08 43 27.0 +1.1
baz=326
TUC Tucson 28.91 134 eP P 08 43 30.9 +2.2
comp=Z,7.0nm,1.1s
TUC Tucson 28.91 134 eP P 08 43 30.9 +2.2
TUC pmax pmax
comp=Z,7.0nm,1.1s
TUC Tucson 28.91 134 P P 08 43 30.5 +1.8
baz=331
LENM Lemitar 28.98 126 eP P 08 43 30.8 +1.3
BILL Bilibino 29.00 319 ceP P 08 43 28.3 -0.9
BILL e 08 44 18.3
BILL eS S 08 48 14.1 -6.0
BILL pmax pmax
comp=Z,3.0nm,1.1s
BILL MLR MLR
comp=Z,247nm,20.0s
121A Cookes Peak, D 29.99 129 P P 08 43 39.4 +0.9
baz=329
319A Douglas 30.35 132 eP P 08 43 43.9 +2.3
comp=Z,19nm,1.4s
AMTX Amarillo 30.94 118 eP P 08 43 48.1 +1.4
comp=Z,11nm,1.0s
MNTX Cornudas Mount 31.77 127 eP P 08 43 55.7 +1.7
comp=Z,6.9nm,1.1s
MNTX Cornudas Mount 31.77 127 P P 08 43 55.4 +1.4

baz=328,SNR=7.0
GDL2 Guadalupe Moun 31.82 125 eP P 08 43 56.2 +1.7
J43A Natural Harves 32.09 93 P P 08 43 56.3 -0.4
baz=309
WMOK Wichita Mounta 32.52 115 eP P 08 44 01.7 +1.2
comp=Z,12nm,1.1s
WMOK Wichita Mounta 32.52 115 eP P 08 44 01.7 +1.2
WMOK pmax pmax
comp=Z,12nm,1.1s
P41A Barry, Barry 33.06 100 P P 08 44 04.9 -0.3
baz=314
TXAR Lajitas Array 34.56 127 P P 08 44 19.8 +1.4
comp=Z,3.3nm,0.8s,baz=327,slow=8.0,SNR=33
HPIG 35.75 131 eP P 08 44 30.8 +2.0
comp=Z,7.7nm,0.9s
SEY Seymchan 35.83 312 P P 08 44 28.8 -0.1
comp=Z,1.8nm,0.8s,baz=75,slow=12,SNR=4.5
SEY Seymchan 35.83 312 ceP P 08 44 29.2 +0.3
435B Jarrell 36.27 118 eP P 08 44 34.1 +1.1
comp=Z,12nm,0.9s
N51A Ashland 37.11 91 eP P 08 44 40.4 +0.3
comp=Z,48nm,1.4s
PETK Petropavlovsk- 37.81 295 P P 08 44 46.2 +0.3
comp=Z,2.4nm,0.8s,baz=83,slow=12,SNR=5.4
PETK LR LR 09 00 54.3
comp=Z,56nm,19.0s,baz=71,slow=37
MA2 Magadan 37.97 307 P P 08 44 47.8 +0.7
comp=Z,3.1nm,0.8s,baz=97,slow=17,SNR=3.0
MA2 Magadan 37.97 307 ceP P 08 44 47.1 0.0
MA2 pmax pmax
comp=Z,13nm,1.7s
TIXI Tiksi 40.28 331 P P 08 45 06.7 +0.4
comp=Z,2.2nm,0.7s,baz=76,slow=10,SNR=6.1
TIXI Tiksi 40.28 331 ceP P 08 45 06.5 +0.2
TIXI pmax pmax
comp=Z,6.0nm,1.7s
KLR Kul'dur 52.98 305 iP P 08 46 46.8 +0.8
BOD Bodaibo 53.97 322 eP P 08 46 52.1 -1.1
BOD pmax pmax
comp=Z,8.0nm,1.3s
CN2 Changchun 59.92 304 eP P 08 47 38.4 +2.9
NB2 NORSAR Subarra 60.63 18 P P 08 47 39.8 -0.4
comp=Z,12nm,1.7s,baz=339,slow=7.4
NOA NORSAR Array B 60.63 18 P P 08 47 39.9 -0.4
comp=Z,1.2nm,0.8s,baz=340,slow=6.8,SNR=5.0
NOA LR LR 09 12 49.4
comp=Z,85nm,19.8s,baz=355,slow=35
FINES FINESS Array B 62.29 10 LR LR 09 16 57.4
comp=Z,54nm,18.8s,baz=3.0,slow=38
KLMR Klimovskoe 63.74 3 eP P 08 48 04.0 +3.0
KLMR pmax pmax
comp=Z,11nm,1.2s
KLMR Klimovskoe 63.74 3 eP P 08 48 04.0 +3.0
KLMR AMP 08 48 10.5
comp=Z,11nm,1.2s
ULN Ulaanbaatar 64.45 319 iP P 08 48 06.0 -0.1
ULN pmax pmax
comp=Z,2.0nm,1.1s
SONM Songino Array 64.72 319 P P 08 48 08.8 +0.9
comp=Z,0.5nm,0.8s,baz=40,slow=12,SNR=6.3
ZALV Zalesovo Beam 65.92 335 P P 08 48 14.7 -0.6
comp=Z,1.8nm,0.8s,baz=41,slow=4.6,SNR=8.2
ZALV LR LR 09 19 20.0
comp=Z,74nm,19.4s,baz=68,slow=38
ARU Arti 67.70 352 P P 08 48 25.6 -1.0
ARU 08 48 50.5
ARU S S 08 57 24.7 +0.8
HHC Hu-ho-hao-te 68.47 311 eP P 08 48 32.7 +0.8
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,85nm,5.4s
DGZ Jazzator, Alta 69.16 332 iP P 08 48 35.9 -0.1
DGZ pmax pmax
comp=Z,3.0nm,1.6s
OBN Obninsk 69.36 5 eP P 08 48 37.0 0.0
OBN eS S 08 57 46.5 +2.9
OBN eSS SS 09 02 05.7 -3.5
OBN pmax pmax
comp=Z,5.0nm,1.3s
OBN MLR MLR
comp=Z,66nm,14.0s
BRVK Borovoye 69.62 344 ceP P 08 48 39.0 +0.3
BRVK pmax pmax
comp=Z,5.0nm,1.7s
ROSC El Rosal 69.86 112 LR LR 09 23 34.6
comp=Z,29nm,18.4s,baz=90,slow=40
KURK Kurchatov 70.32 338 eP P 08 48 42.5 -0.5
comp=Z,5.5nm,1.0s
KURK Kurchatov 70.32 338 ceP P 08 48 43.0 0.0
KURK pmax pmax
comp=Z,4.0nm,1.3s
NJ2 Nanjing 72.39 301 eP P 08 48 57.6 +1.8
NJ2 pmax pmax
comp=Z,12nm,0.5s
MKAR Makanchi Array 73.16 334 P P 08 48 59.5 -0.8
comp=Z,3.0nm,0.8s,baz=37,slow=5.2,SNR=30
MKAR LR LR 09 26 31.6
comp=Z,83nm,19.9s,baz=17,slow=40
MKAR Makanchi Array 73.16 334 eP P 08 48 59.7 -0.5
comp=Z,17nm,0.8s
AKASG Malin Array Be 73.20 10 P P 08 48 59.8 -0.5
comp=Z,0.6nm,0.5s,baz=353,slow=5.9,SNR=4.1
AKASG LR LR 09 21 29.8
comp=Z,58nm,21.6s,baz=305,slow=36
MAKZ Makanchi 73.23 334 eP P 08 49 00.3 -0.2
comp=Z,6.7nm,0.9s
MAKZ Makanchi 73.23 334 eP P 08 49 00.3 -0.2
MAKZ pmax pmax
comp=Z,7.0nm,0.9s
VSR Storozhevoye 73.37 4 iP P 08 49 00.9 -0.4
VSR pmax pmax
comp=Z,3.0nm,1.0s
WMQ Urumqi 74.46 329 eP P 08 49 07.7 -0.2
WMQ LR LR
comp=N,150nm,20.9s
WMQ LR LR
comp=E,160nm,22.3s
WMQ LR LR
comp=Z,120nm,22.3s
ABKAR Akbulak array 74.68 350 eP P 08 49 08.8 -0.2
LZH Lanzhou 75.71 314 eP P 08 49 17.7 +2.3
LZH pP sP 08 49 22.4 +4.1
LZH sP PcP 08 49 25.5 -2.6
LZH pmax pmax
comp=Z,21nm,1.1s
ESDC Sonseca Array 76.34 37 P P 08 49 19.4 +0.6
comp=Z,1.1nm,0.8s,baz=329,slow=4.5,SNR=4.3
AAK Ala-Archa 78.88 338 ceP P 08 49 33.5 +0.4
AAK pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 79.22 341 eP P 08 49 34.2 -0.4
KKAR Karatay Array 79.22 341 eP P 08 49 34.3 -0.4
RAR Rarotonga 79.40 203 LR LR 09 16 48.5
comp=Z,45nm,21.8s,baz=287,slow=30
KIV Kislovodsk 80.73 2 iP P 08 49 42.1 -0.8
KIV e 08 52 43.0
KIV ePPP PPP 08 54 31.7
KIV pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 80.96 1 P P 08 49 43.7 -0.3
comp=Z,1.2nm,0.7s,baz=11,slow=10,SNR=3.0
KSH Kashi 81.54 336 P P 08 49 49.7 +2.3
KSH pP PcP 08 49 56.1 +2.7
KSH PP PP 08 52 57.2 +4.4
KSH Kashi 81.54 336 S S 08 59 58.5 -0.9
KSH Kashi 81.54 336 sS sS 09 00 05.7 +2.7
KSH pmax pmax
comp=Z,9.0nm,0.6s
KSH pmax pmax
comp=Z,230nm,8.3s
KSH LR LR
comp=N,85nm,5.8s
KSH LR LR
comp=E,41nm,5.6s
KSH LR LR
comp=Z,270nm,6.1s
BRTR Keskin Array B 84.49 9 LR LR 09 30 58.9
comp=Z,28nm,18.9s,baz=294,slow=38
GNI Garni 84.55 0 ceP P 08 50 03.2 +0.2
GNI pmax pmax
comp=Z,109nm,1.7s
LPAZ La Paz 90.98 118 LR LR 09 35 22.1
comp=Z,46nm,18.1s,baz=336,slow=38
CMAR Chiang Mai Arr 93.22 310 LR LR 09 37 56.4
comp=Z,59nm,18.6s,baz=194,slow=39

QSPA South Pole Qui 145.48 180 ePKPbc PKPab 08 57 07.2 +0.4

GUC 06 08:38:59.4±0.5, 23°.88S×67°.33W, h237km±6km, ML3.6, 9C-1D, Chile-Argentina border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
LVC Limon Verde 1.93 311 ⇓ iP Pn 08 39 41.9 +1.3
LVC iS S 08 40 14.3 +1.5
PB15 IPOC Station P 2.08 288 ⇑ iP Pn 08 39 43.5 +1.7
PB15 eS S 08 40 17.0 +2.1
PB06 IPOC Station P 2.37 299 ⇑ iP Pn 08 39 46.6 +2.0
PB06 iS S 08 40 22.5 +2.4
PB06 IAML 08 40 23.4
comp=N,88nm,0.5s
GO02 Mina Guanaco 2.43 238 ⇑ iP Pn 08 39 45.0 -0.2
GO02 iS S 08 40 21.0 -0.2
PB09 IPOC Station P 2.72 319 ⇑ iP Pn 08 39 50.7 +2.4
PB09 IAML 08 40 32.8
comp=E,52nm,0.4s
PB05 IPOC Station P 2.83 291 ⇑ iP Pn 08 39 51.5 +2.1
PB05 iS S 08 40 31.0 +2.3
PB05 IAML 08 40 34.9
comp=N,35nm,0.2s
PB03 IPOC Station P 2.88 309 ⇑ iP Pn 08 39 52.0 +2.0
PB03 iS S 08 40 32.2 +2.4
PB03 IAML 08 40 33.6
comp=N,63nm,0.3s
PB10 IPOC Station P 2.98 276 ⇑ iP Pn 08 39 53.0 +2.1
PB10 iS S 08 40 33.5 +2.1
PB04 IPOC Station P 3.02 300 ⇑ iP Pn 08 39 53.8 +2.3
PB04 iS S 08 40 35.2 +2.7
PB04 IAML 08 40 37.2
comp=N,77nm,0.3s
PB07 IPOC Station P 3.19 312 ⇑ iP Pn 08 39 55.4 +2.0
PB07 iS S 08 40 38.1 +2.2
PB07 IAML 08 40 40.0
comp=E,59nm,0.2s
PB01 IPOC Station P 3.46 324 eP Pn 08 39 58.2 +1.8
PB01 eS S 08 40 43.4 +2.1
PB01 IAML 08 40 45.8
comp=E,58nm,0.6s
PB02 IPOC Station P 3.48 317 eP Pn 08 39 58.8 +2.1
PB02 iS S 08 40 43.6 +1.8
PB02 IAML 08 40 47.8
comp=E,83nm,0.3s
PB08 IPOC Station P 4.09 335 eP Pn 08 40 06.5 +2.4
PB08 eS S 08 40 58.1 +2.9
PB08 IAML 08 41 03.9
comp=N,31nm,0.3s
MNMC Minye Minye 5.17 335 eP Pn 08 40 20.3 +3.0
MNMC eS S 08 41 21.2 +2.0

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*MAN **06** 08:50:58.5, 8°.46N×126°.86E, h21km, mb4.8, ML3.7, MS3.7*
MAN INTENSITY I - BISLIG SURIGAO DEL SUR.
*IDC **06** 08:51:01.6±3.3, 8°.52N×126°.88E, h60km±32km, mb3.7/11, mb1 3.9/11, mb1mx3.7/37, mbtmp4.0/11, MS3.3/3, Ms1 3.3/3, ms1mx2.9/35, Error ellipse: s-maj=31.4km s-min=15.7km az=76.0*
ISC 06 08:50:56.9±1.3, 8°.52N±0°.04×126°.96E±0°.06, h20km±5km, n41, σ1s.59/48, mb3.8/15, 4C-3D, Mindanao

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BIPH Bislig 0.68 240 ⇓ iP Pg 08 51 10.0 -0.4
BIPH iS Sg 08 51 16.0 -3.4
BUTP Butuan 1.39 289 eP Pn 08 51 20.5 -0.8
BUTP eS Sn 08 51 39.6 +0.4
MATI Mati 1.71 204 eP Pn 08 51 26.0 +0.3
MATI eS Sn 08 51 46.6 -0.4
SCPH Surigao 1.92 311 ⇑ eP Pn 08 51 29.0 +0.6
BUKP Musuan 1.98 251 eP Pn 08 51 29.9 +0.5
BUKP eS Sb 08 51 56.5 -0.2
DAV Davao City (W) 1.99 224 P Pb 08 51 32.5 +0.1
78nm,0.3s,baz=60,slow=5.1,SNR=21
DAV S Sg 08 51 60.0 -1.0
105nm,0.3s,baz=359,slow=23,SNR=8.6
DAV LR LR 08 52 39.6
comp=Z,1μm,19.6s,baz=347,slow=51
DMPH Davao City--Mi 2.03 225 ⇑ iP Pg 08 51 38.6 +2.7
DMPH iS Sg 08 52 01.9 -0.4
CGP Cagayan de Oro 2.24 268 ⇓ eP Pn 08 51 34.0 +1.1
CGP eS Sn 08 52 00.7 +0.6
MSLP Maasin 2.62 308 eP Pn 08 51 40.0 +1.8
SKMP Bagumbayan, Su 3.11 230 eP Pn 08 51 45.9 +0.9
TBP Tagbilaran 3.27 291 eP Pn 08 51 47.8 +0.7
PLP Palo 3.27 324 ⇑ eP Pn 08 51 48.8 +1.7
BESP Borongan 3.41 334 eP Pb 08 51 55.1 -1.5
OCLP Ormoc 3.42 318 eP Pn 08 51 52.3 +3.2
LLP Lapu-Lapu 3.45 301 eP Pn 08 51 52.3 +2.7
LLP eS Sn 08 52 27.6 -2.3
DCPH Dipolog City 3.56 271 ⇓ eP Pn 08 51 53.0 +1.8
DCPH eS Sn 08 52 33.6 +0.8
PAGZ Pagadian 3.60 260 eP Pn 08 51 54.6 +2.9
IPIL Ipil 4.40 261 eP Pn 08 52 04.8 +2.1
GUIM Jordan 4.79 296 eP Pn 08 52 09.7 +1.7
RCP Roxas 5.13 306 ⇑ eP Pn 08 52 15.2 +2.5
KSRS Korea Array 28.82 2 P P 08 56 53.9 +0.1
0.3nm,0.5s,baz=185,slow=11,SNR=2.0
CMAR Chiang Mai Arr 28.93 293 P P 08 56 55.4 +0.2
0.9nm,0.3s,baz=117,slow=7.9,SNR=8.1
WRA Warramunga Arr 29.20 166 P P 08 56 56.5 -0.9
0.8nm,0.9s,baz=344,slow=9.5,SNR=2.7
MJAR Matsushiro Arr 29.71 18 LR LR 09 09 52.7
comp=Z,17nm,18.7s,baz=250,slow=38
ASAR Alice Springs 32.70 168 P P 08 57 28.7 +0.3
0.3nm,0.3s,baz=346,slow=7.1,SNR=15
USRK Ussuriysk Ar. 35.81 6 P P 08 57 54.6 -0.4
5.4nm,0.9s,baz=210,slow=8.3,SNR=9.4
USRK LR LR 09 13 31.1
comp=Z,61nm,19.3s,baz=18,slow=38
KLR Kul'dur 40.77 5 P P 08 58 37.4 +0.6
0.6nm,0.3s,baz=193,slow=12,SNR=4.2
STKA Stephens Creek 42.54 161 P P 08 58 52.1 +0.7
0.9nm,0.6s,baz=326,slow=7.3,SNR=1.3
SONM Songino Array 42.88 340 P P 08 58 57.9 +3.7
0.4nm,0.7s,baz=153,slow=9.7,SNR=2.8
JIRN Jiri 42.91 302 eP P 08 58 55.3 +0.3
GUN Gumba 43.25 302 eP P 08 58 57.6 -0.1
KOLN Koldanda 45.13 301 eP P 08 59 12.4 -0.3
DANN Dangsing 45.16 302 eP P 08 59 12.6 -0.4
7.9nm,0.4s
PYUN Piuthan 45.74 301 eP P 08 59 17.2 -0.3
22nm,1.0s
MKAR Makanchi Array 53.82 323 P P 09 00 17.4 -1.1
0.7nm,0.6s,baz=112,slow=8.0,SNR=11
ILAR Eielson Array 80.71 26 P P 09 03 09.3 +0.8
0.5nm,0.7s,baz=229,slow=5.3,SNR=8.4
ARCES ARCESS Array B 86.06 340 P P 09 03 35.6 -0.4
11nm,1.2s,baz=78,slow=6.5,SNR=15
FINES FINESS Array B 87.74 332 P P 09 03 43.1 -1.2
0.9nm,0.3s,baz=80,slow=4.5,SNR=23
AKASG Malin Array Be 88.34 321 LR LR 09 44 59.3
comp=Z,33nm,18.1s,baz=35,slow=37
YKA Yellowknife Ar 95.07 24 P P 09 04 15.2 -3.2
0.4nm,0.9s,baz=291,slow=5.7,SNR=2.6
TORD Torodi Ar. Bea 121.53 291 PKP PKPdf 09 09 49.7 -0.6
0.2nm,0.5s,baz=95,slow=1.9,SNR=2.9

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*LDG **06** 09:05:42.3±0.2, 45°.65N×14°.27E, h2km, Ml3.2/5, Error ellipse: s-maj=5.9km s-min=4.6km az=162.0*
*LJU **06** 09:05:42.3, 45°.71N×14°.22E, h16km, ML2.9*
*ISCJB **06** 09:05:42.8±0.2, 45°.66N±0°.01×14°.21E±0°.01, h18km±2km, Error ellipse: s-maj=2.4km s-min=1.5km az=22.7*
*PDG **06** 09:05:42.7±0.7, 45°.66N×14°.17E, h17km±1km, ML3.8/7, Error ellipse: s-maj=1.0km s-min=0.9km az=90.0*
*ROM **06** 09:05:42.5±0.2, 45°.67N±0°.01×14°.21E±0°.01, h10km, ML3.2/35*
*SAR **06** 09:05:43.4±0.7, 45°.67N×14°.21E, h5km±2km, ML3.1/1*
*VIE **06** 09:05:43.4±0.2, 45°.75N×14°.22E, h8km±2km, mb2.9/9, ml3.4/9, Error ellipse: s-maj=2.7km s-min=1.6km az=179.0 31 km SSE of Idrija*
*PRU **06** 09:05:44.1±0.0, 45°.75N×14°.27E, h10km*
*BEO **06** 09:05:45.8±0.4, 45°.75N×14°.43E, h9km±2km, ML3.0/2*
ISC 06 09:05:43.2±0.8, 45°.71N±0°.02×14°.21E±0°.01, h16km±4km, n186, σ1s.35/280, 23C-26D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEY	**Cerknica**	**0.16**	**78**	*e*Pg	**Pg**	**09 05 46.6**	**-0.8**
CEY				*e*Sg	**Sg**	**09 05 49.3**	**-0.9**
CEY	**Cerknica**	**0.16**	**78**	⇑*i*Pg	**Pg**	**09 05 46.8**	**-0.7**
CEY				*i* Sg	**Sg**	**09 05 49.8**	**-0.4**
	comp=Z,711nm,0.1s						
CEY	**Cerknica**	**0.16**	**78**	⇑*i*Pg	**Pg**	**09 05 46.7**	**-0.7**
CEY				*e*Sg	**Sg**	**09 05 49.7**	**-0.4**
SKDS	**Skadanscina**	**0.21**	**221**	⇑*i*Pg	**Pg**	**09 05 47.4**	**-0.8**
SKDS				*i* Sg	**Sg**	**09 05 50.7**	**-0.7**
	comp=Z,1µm,0.1s						
JAVS	**Javornik**	**0.21**	**332**	⇓*i*Pg	**Pg**	**09 05 47.7**	**-0.6**
JAVS				*i* Sg	**Sg**	**09 05 51.2**	**-0.5**
	comp=Z,1µm,0.1s						
KNDS	**Knezji Dol**	**0.21**	**146**	⇑*i*Pg	**Pg**	**09 05 47.6**	**-0.7**
KNDS				*i* Sg	**Sg**	**09 05 51.3**	**-0.4**
	comp=Z,1µm,0.1s						
GBAS	**Gorenja Brezov**	**0.28**	**35**	*i* Pg	**Pg**	**09 05 48.8**	**-0.5**
GBAS				*i* Sg	**Sg**	**09 05 53.4**	**-0.2**
	comp=Z,932nm,0.1s						
TRI	**Trieste**	**0.31**	**271**	⇑*i*Pg	**Pg**	**09 05 49.0**	**-0.8**
TRI				*i* Sg	**Sg**	**09 05 53.9**	**-0.4**
TRI	**Trieste**	**0.31**	**271**	*i* P	**Pg**	**09 05 49.0**	**-0.8**
TRI				S	**Sg**	**09 05 53.9**	**-0.4**
TRI				AML	AML		
	comp=E,3825µm,0.3s						
TRI				AML	AML		
	comp=N,1565µm,1.2s						
TRI				AML	AML		
	comp=N,1565µm,1.2s						
TRI				AML	AML		
	comp=E,3825µm,0.3s						
CRNS	**Crni Vrh**	**0.38**	**6**	⇓*i*Pg	**Pg**	**09 05 50.4**	**-0.6**
CRNS				*e*Sg	**Sg**	**09 05 56.3**	**0.0**
	comp=Z,210nm,0.1s						
VOJS	**Vojsko**	**0.40**	**325**	*i* Pg	**Pg**	**09 05 50.8**	**-0.6**
VOJS				*i* Sg	**Sg**	**09 05 57.0**	**0.0**
	comp=Z,318nm,0.1s						
LJU	**Ljubljana**	**0.41**	**33**	*e*Pg	**Pg**	**09 05 51.5**	**0.0**
LJU				*e*Sg	**Sg**	**09 05 57.4**	**+0.3**
LJU	**Ljubljana**	**0.41**	**33**	⇓*i*Pg	**Pg**	**09 05 51.5**	**0.0**
LJU				*i* Sg	**Sg**	**09 05 57.3**	**+0.2**
	comp=Z,556nm,0.1s						
LJU	**Ljubljana**	**0.41**	**33**	⇓*i*Pg	**Pg**	**09 05 51.4**	**0.0**
LJU				*e*Sg	**Sg**	**09 05 57.3**	**+0.2**
LJU	**Ljubljana**	**0.41**	**33**	P	**Pg**	**09 05 51.5**	**0.0**
LJU				S	**Sg**	**09 05 57.4**	**+0.3**
LJU				AML	AML		
	comp=E,11300µm,0.4s						
LJU				AML	AML		
	comp=N,10095µm,0.3s						
LJU				AML	AML		
	comp=E,11300µm,0.4s						
LJU				AML	AML		
	comp=N,10095µm,0.3s						
LJU				AML	AML		
	comp=E,11300µm,0.4s						
LJU				AML	AML		
	comp=N,10095µm,0.3s						
VISS	**Visnje**	**0.45**	**77**	⇑*i*Pg	**Pg**	**09 05 51.6**	**-0.7**
VISS				*e*Sg	**Sg**	**09 05 58.1**	**-0.4**
GBRS	**Gornja Briga**	**0.46**	**112**	⇑*i*Pg	**Pg**	**09 05 51.7**	**-0.7**
GBRS				*i* Sg	**Sg**	**09 05 58.9**	**+0.2**
	comp=Z,146nm,0.1s						
SABO	**M.te Sabotino**	**0.51**	**303**	⇑*i*Pg	**Pg**	**09 05 52.3**	**-1.1**
SABO				*i* Sg	**Sg**	**09 05 59.9**	**-0.3**
SABO	**M.te Sabotino**	**0.51**	**303**	P	**Pg**	**09 05 52.3**	**-1.1**
SABO				S	**Sg**	**09 05 59.9**	**-0.3**
SABO				AML	AML		
	comp=E,5575µm,0.8s						
SABO				AML	AML		
	comp=N,7755µm,0.4s						
SABO				AML	AML		
	comp=E,5575µm,0.8s						
SABO				AML	AML		
	comp=N,7755µm,0.4s						
SABO				AML	AML		
	comp=N,7755µm,0.4s						
SABO				AML	AML		
	comp=E,5575µm,0.8s						
VNDS	**Vrh nad Dolski**	**0.52**	**41**	⇑*i*Pg	**Pg**	**09 05 53.5**	**-0.2**
VNDS				*e*Sg	**Sg**	**09 06 00.4**	**-0.3**
	comp=Z,626nm,0.2s						
MOZS	**Mozjanca**	**0.61**	**15**	⇓*i*Pg	**Pg**	**09 05 55.3**	**0.0**
MOZS				*i* Sg	**Sb**	**09 06 04.2**	**+0.3**
	comp=Z,303nm,0.2s						
DRE	**Drenchia**	**0.61**	**320**	⇓*e*Pg	**Pg**	**09 05 54.5**	**-0.8**
DRE				*e*Sg	**Sg**	**09 06 03.6**	**+0.1**
CADS	**Cadrg**	**0.62**	**328**	*e*Pg	**Pg**	**09 05 54.4**	**-1.0**
CADS				*e*Sg	**Sg**	**09 06 03.7**	**0.0**
	comp=Z,277nm,0.1s						
GORS	**Gorjuse**	**0.63**	**346**	*i* Pg	**Pg**	**09 05 55.1**	**-0.6**
GORS				*e*Sg	**Sg**	**09 06 04.6**	**+0.5**
	comp=Z,156nm,0.1s						
PDKS	**Podkum**	**0.66**	**57**	⇑*i*Pg	**Pg**	**09 05 55.7**	**-0.4**
PDKS				*e*Sg	**Sg**	**09 06 04.6**	**-0.2**
	comp=Z,564nm,0.2s						
COLI	**Coloredo**	**0.72**	**307**	⇑*e*Pg	**Pg**	**09 05 56.5**	**-0.8**
COLI				*e*Sg	**Sg**	**09 06 07.3**	**+0.4**
ROBS	**Robic**	**0.73**	**318**	*e*Pg	**Pg**	**09 05 56.4**	**-1.1**
ROBS				*i* Sg	**Sg**	**09 06 07.0**	**-0.1**
	comp=Z,88nm,0.1s						
BOJS	**Bojanci**	**0.76**	**105**	*e*Pg	**Pg**	**09 05 57.5**	**-0.5**
BOJS				*e*Sg	**Sg**	**09 06 07.3**	**-0.8**
BOJS	**Bojanci**	**0.76**	**105**	*e*Pg	**Pg**	**09 05 56.9**	**-1.2**
BOJS				*i* Sg	**Sg**	**09 06 07.3**	**-0.8**
	comp=Z,187nm,0.2s						
BOJS	**Bojanci**	**0.76**	**105**	P	**Pg**	**09 05 56.8**	**-1.2**
BOJS				AML	AML		
	comp=E,1100µm,0.6s						
BOJS				AML	AML		
	comp=N,938µm,0.5s						
BOJS				AML	AML		
	comp=E,1100µm,0.6s						
BOJS				AML	AML		
	comp=N,938µm,0.5s						
BOJS				AML	AML		
	comp=E,1100µm,0.6s						
BOJS				AML	AML		
	comp=N,938µm,0.5s						
BOJS				AML	AML		
	comp=N,938µm,0.5s						
BOJS				AML	AML		
	comp=E,1100µm,0.6s						
TLI	**Talmassons**	**0.80**	**286**	⇑*e*Pg	**Pg**	**09 05 57.7**	**-1.2**
LEGS	**Legarje**	**0.81**	**72**	*e*Pg	**Pg**	**09 05 58.4**	**-0.7**
LEGS				*e*Sg	**Sg**	**09 06 09.1**	**-0.7**
OBKA	**Obir**	**0.84**	**16**	*e*Pg	**Pg**	**09 05 58.9**	**-0.7**
	comp=E,70nm,0.2s,SNR=69						
OBKA				Sg	**Sg**	**09 06 10.6**	**0.0**
	comp=E,306nm,0.4s						
BAD	**Bernadia**	**0.86**	**309**	⇓*e*Pg	**Pg**	**09 05 59.7**	**-0.2**
BAD				*e*Sg	**Sg**	**09 06 11.1**	**-0.1**
PRED	**Cave del Predi**	**0.86**	**329**	⇓*e*Pg	**Pg**	**09 05 59.0**	**-1.0**
CRES	**Cresnjev**	**0.88**	**82**	*e*Pg	**Pg**	**09 05 59.7**	**-0.7**
CRES				*e*Sg	**Sg**	**09 06 11.2**	**-0.8**
	comp=Z,435nm,0.3s						
CRES	**Cresnjev**	**0.88**	**82**	*e*Pg	**Pg**	**09 05 59.6**	**-0.7**
CRES				*e*Sg	**Sb**	**09 06 12.1**	**+0.4**
OZLJ	**Ozalj**	**0.89**	**95**	*e*Pg	**Pg**	**09 05 59.0**	**-1.4**
OZLJ				Sg	**Sb**	**09 06 12.2**	**+0.5**
LSR	**Lussari**	**0.91**	**329**	⇑*e*Pg	**Pg**	**09 06 00.2**	**-0.6**
BUA	**Buia**	**0.92**	**304**	⇓*e*Pg	**Pg**	**09 06 01.1**	**+0.1**
BUA				*e*Sg	**Sb**	**09 06 13.7**	**+1.0**
CESS	**Cesta pri Krsk**	**0.92**	**73**	*i* Pg	**Pg**	**09 06 00.8**	**-0.3**
CESS				*e*Sg	**Sg**	**09 06 12.5**	**-0.6**
	comp=Z,81nm,0.2s						
PTCC	**Patocco-Chiusa**	**0.92**	**320**	P	**Pg**	**09 06 00.1**	**-0.9**
PTCC				AML	AML		
	comp=E,960µm,1.0s						
PTCC				AML	AML		
	comp=N,832µm,0.7s						
PTCC				AML	AML		
	comp=E,960µm,1.0s						
PTCC				AML	AML		
	comp=N,832µm,0.7s						
PTCC				AML	AML		
	comp=E,960µm,1.0s						
PTCC				AML	AML		
	comp=N,832µm,0.7s						
GEPF	**Gemona**	**0.94**	**308**	P	**Pg**	**09 06 01.0**	**-0.5**
GEPF				AML	AML		
	comp=E,1220µm,0.3s						
GEPF				AML	AML		
	comp=N,1605µm,1.0s						
GEPF				AML	AML		
	comp=N,1605µm,1.0s						
GEPF				AML	AML		
	comp=E,1220µm,0.3s						
ACOM	**Acomizza, Ital**	**0.97**	**330**	⇓*e*Pg	**Pg**	**09 06 01.7**	**-0.4**
ACOM	**Acomizza, Ital**	**0.97**	**330**	P	**Pg**	**09 06 01.6**	**-0.4**
ACOM				AML	AML		
	comp=E,1930µm,0.3s						
ACOM				AML	AML		
	comp=N,1325µm,0.6s						
ACOM				AML	AML		
	comp=E,1930µm,0.3s						
ACOM				AML	AML		
	comp=N,1325µm,0.6s						
ACOM				AML	AML		
	comp=E,1930µm,0.3s						
ACOM				AML	AML		
	comp=N,1325µm,0.6s						
DOBS	**Dobrina**	**0.98**	**63**	*i* Pg	**Pg**	**09 06 01.5**	**-0.9**
DOBS				*e*Sg	**Sg**	**09 06 14.2**	**-1.1**
	comp=Z,246nm,0.2s						
BOO	**Bordano**	**0.99**	**309**	⇑*e*Pg	**Pg**	**09 06 02.1**	**-0.3**
MYKA	**Terra Mystica**	**1.00**	**337**	*e*Pg	**Pg**	**09 06 01.7**	**-1.0**
	comp=Z,22nm,0.2s,SNR=29						
MYKA				Sg	**Sb**	**09 06 16.4**	**+1.1**
	comp=Z,258nm,0.3s						
GCIS	**Gornji Cirnik**	**1.01**	**80**	*i* Pg	**Pg**	**09 06 02.2**	**-0.5**
GCIS				*i* Sg	**Sb**	**09 06 15.8**	**+0.6**
	comp=Z,87nm,0.2s						
MPRI	**Monte Prat**	**1.01**	**303**	⇑*e*Pg	**Pg**	**09 06 02.8**	**0.0**
GOLS	**Golise**	**1.03**	**72**	⇑*i*Pg	**Pg**	**09 06 02.8**	**-0.4**
GOLS				*e*Sg	**Sg**	**09 06 15.9**	**-1.0**
	comp=Z,220nm,0.2s						
FUSE	**Fusea**	**1.10**	**311**	*e*Pg	**Pb**	**09 06 03.9**	**0.0**
PLRO	**Paularo**	**1.12**	**319**	*e*Pg	**Pb**	**09 06 04.6**	**+0.3**
SOKA	**Soboth**	**1.13**	**30**	*e*Pg	**Pb**	**09 06 04.2**	**-0.2**
	comp=Z,47nm,0.2s,SNR=26						
SOKA				Sg	**Sg**	**09 06 18.6**	**-1.2**
	comp=Z,90nm,0.3s						
BISS	**Bistriski jare**	**1.14**	**34**	*i* Pg	**Pb**	**09 06 04.3**	**-0.2**
BISS				*i* Sg	**Sb**	**09 06 18.4**	**-0.7**
	comp=Z,194nm,0.1s						
GROS	**Grobnik**	**1.18**	**50**	*i* Pg	**Pb**	**09 06 05.0**	**-0.2**
GROS				*e*Sg	**Sb**	**09 06 20.1**	**-0.1**
	comp=Z,282nm,0.2s						
IESO	**Jesolo**	**1.18**	**262**	⇓*e*Pg	**Pb**	**09 06 05.6**	**+0.4**
STAL	**STALIGIAL**	**1.18**	**298**	P	**Pb**	**09 06 05.6**	**+0.3**
STAL				AML	AML		
	comp=E,2845µm,0.2s						
STAL				AML	AML		
	comp=N,3175µm,0.2s						
STAL				AML	AML		
	comp=E,3445µm,1.3s						
STAL				AML	AML		
	comp=N,2890µm,0.2s						
STAL				AML	AML		
	comp=E,2845µm,0.2s						
STAL				AML	AML		
	comp=N,3170µm,0.2s						
STAL				AML	AML		
	comp=E,3445µm,1.3s						
STAL				AML	AML		
	comp=N,2890µm,0.2s						
STAL				AML	AML		
	comp=E,3445µm,1.3s						
STAL				AML	AML		
	comp=N,3170µm,0.2s						
STAL				AML	AML		
	comp=E,2845µm,0.2s						
STAL				AML	AML		
	comp=N,2890µm,0.2s						
CLUD	**Cludinico**	**1.19**	**310**	⇑*e*Pg	**Pb**	**09 06 05.5**	**+0.1**
MLNI	**Malnisio**	**1.20**	**292**	⇑*e*Pg	**Pb**	**09 06 06.0**	**+0.3**
ZOU	**Zoufplan**	**1.21**	**315**	⇑*e*Pg	**Pb**	**09 06 06.0**	**+0.1**
ZOU	**Zoufplan**	**1.21**	**315**	⇑*e*Pg	**Pb**	**09 06 06.0**	**+0.1**
NVLJ	**Novalja**	**1.23**	**157**	*e*Pg	**Pn**	**09 06 05.5**	**-0.2**
NVLJ				Sg	**Sn**	**09 06 23.4**	**+1.4**
FVI	**Forni Avoltri**	**1.33**	**312**	P	**Pn**	**09 06 08.1**	**+0.9**
FVI				AML	AML		
	comp=E,1910µm,0.5s						
FVI				AML	AML		
	comp=N,1365µm,0.2s						
FVI				AML	AML		
	comp=E,1910µm,0.5s						
FVI				AML	AML		
	comp=N,1365µm,0.2s						
FVI				AML	AML		
	comp=E,1910µm,0.5s						
FVI				AML	AML		
	comp=N,1365µm,0.2s						
KBA	**Koelnbreinsper**	**1.50**	**337**	Pg	**Pn**	**09 06 10.8**	**+1.2**
	comp=N,41nm,0.3s						
KBA				Sg	**Sg**	**09 06 31.9**	**+0.3**
	comp=N,71nm,0.3s						
ABTA	**Abaltersbach**	**1.57**	**312**	*e*Pn	**Pn**	**09 06 11.8**	**+1.3**
	comp=N,19nm,0.2s,SNR=23						
ABTA				Sg	**Sg**	**09 06 33.9**	**0.0**
	comp=N,164nm,0.2s						
KOGS	**Kog**	**1.60**	**62**	*e*Pn	**Pb**	**09 06 12.8**	**+0.4**
KOGS				*e*Sn	**Sg**	**09 06 34.1**	**-0.8**
	comp=Z,171nm,0.2s						
KOGS	**Kog**	**1.60**	**62**	P	**Pb**	**09 06 12.8**	**+0.4**
KOGS				AML	AML		
	comp=E,1425µm,0.8s						
KOGS				AML	AML		
	comp=N,1715µm,0.5s						
KOGS				AML	AML		
	comp=E,1425µm,0.8s						
KOGS				AML	AML		
	comp=N,1715µm,0.5s						
UDBI	**Udbina**	**1.61**	**136**	*e*Pn	**Pb**	**09 06 13.0**	**+0.3**
UDBI				Sn	**Sg**	**09 06 34.6**	**-0.5**
CGRP	**Cima Grappa**	**1.69**	**277**	P	**Pn**	**09 06 12.4**	**+0.1**
CGRP				AML	AML		
	comp=E,666µm,0.8s						
CGRP				AML	AML		
	comp=N,840µm,0.4s						
CGRP				AML	AML		
	comp=E,665µm,0.8s						
CGRP				AML	AML		
	comp=N,840µm,0.4s						
CGRP				AML	AML		
	comp=E,665µm,0.8s						
CGRP				AML	AML		
	comp=N,840µm,0.4s						
ARSA	**Arzberg**	**1.79**	**30**	*e*Pg	**Pb**	**09 06 16.2**	**+0.5**
ARSA				*e*Sg	**Sb**	**09 06 38.5**	**+0.6**
ARSA	**Arzberg**	**1.79**	**30**	Pn	**Pn**	**09 06 13.7**	**+0.2**
	comp=N,8.5nm,0.2s,SNR=22						
ARSA				Sn	**Sb**	**09 06 38.8**	**+0.9**
	comp=N,25nm,0.3s						
ARSA	**Arzberg**	**1.79**	**30**	P	**Pn**	**09 06 13.8**	**+0.3**
ARSA				AML	AML		
	comp=E,102µm,1.5s						
ARSA				AML	AML		
	comp=N,89µm,0.6s						
ARSA				AML	AML		
	comp=E,102µm,1.5s						
ARSA				AML	AML		
	comp=N,89µm,0.6s						
TEOL	**Teolo**	**1.82**	**260**	P	**Pn**	**09 06 13.4**	**-0.4**
RISI	**Rein**	**1.93**	**311**	P	**Pn**	**09 06 17.1**	**+1.6**
RISI				AML	AML		
	comp=E,1920µm,0.4s						
RISI				AML	AML		
	comp=N,2560µm,0.4s						
RISI				AML	AML		
	comp=N,2560µm,0.4s						
RISI				AML	AML		
	comp=E,1920µm,0.4s						
BEHE	**Becsehely**	**1.94**	**66**	*e*Pn	**Pn**	**09 06 16.0**	**+0.5**
BEHE				⇓*e*Pg	**Pb**	**09 06 19.0**	**+0.8**
BEHE				*e*Sg	**Sg**	**09 06 46.0**	**+0.3**
BEHE	**Becsehely**	**1.94**	**66**	*e*Pn	**Pn**	**09 06 17.4**	**+1.9**
BEHE				*e*Sn	**Sb**	**09 06 42.1**	**-0.1**
BRES	**Bressanone**	**1.98**	**301**	P	**Pn**	**09 06 17.5**	**+1.1**
BRES				AML	AML		
	comp=E,528µm,1.5s						
BRES				AML	AML		
	comp=N,604µm,0.2s						
BRES				AML	AML		
	comp=E,528µm,1.5s						
BRES				AML	AML		
	comp=N,604µm,0.2s						
KOSI	**Kohlern**	**2.11**	**292**	P	**Pn**	**09 06 18.8**	**+0.8**
KOSI				AML	AML		
	comp=E,408µm,0.3s						
KOSI				AML	AML		
	comp=N,518µm,1.2s						
KOSI				AML	AML		
	comp=E,408µm,0.3s						
KOSI				AML	AML		
	comp=N,518µm,1.2s						
MOA	**Molln**	**2.15**	**1**	*e*Pn	**Pn**	**09 06 19.4**	**+1.1**
	comp=N,3.1nm,0.3s,SNR=11						
MOA				Sn	**Sn**	**09 06 46.0**	**+1.3**
	comp=N,12nm,0.4s						
AOI	**Ancona**	**2.20**	**192**	P	**Pn**	**09 06 19.3**	**+0.3**
AOI				AML	AML		
	comp=E,154µm,1.6s						
AOI				AML	AML		
	comp=N,164µm,0.5s						
AOI				AML	AML		
	comp=E,154µm,1.6s						
AOI				AML	AML		
	comp=N,164µm,0.5s						
ROVR	**Rover Verones**	**2.20**	**270**	P	**Pn**	**09 06 19.2**	**+0.1**
APPI	**Appiano**	**2.21**	**292**	P	**Pn**	**09 06 20.0**	**+0.7**
APPI				AML	AML		
	comp=E,342µm,1.5s						
APPI				AML	AML		
	comp=N,542µm,0.5s						
APPI				AML	AML		
	comp=E,342µm,1.5s						
APPI				AML	AML		
	comp=N,542µm,0.5s						
ABSI	**Aberstueckl**	**2.25**	**298**	P	**Pn**	**09 06 21.0**	**+1.0**
ABSI				AML	AML		
	comp=E,798µm,0.5s						
ABSI				AML	AML		
	comp=N,1430µm,0.5s						
ABSI				AML	AML		
	comp=N,1430µm,0.5s						
ABSI				AML	AML		
	comp=E,798µm,0.5s						
FSSB	**Fossombrone**	**2.26**	**207**	AML	AML		
	comp=E,400µm,1.5s						
FSSB				AML	AML		
	comp=N,545µm,1.5s						
FSSB				AML	AML		
	comp=E,400µm,1.5s						
FSSB				AML	AML		
	comp=N,545µm,1.5s						
ROSI	**Rosskopf**	**2.29**	**303**	P	**Pn**	**09 06 22.1**	**+1.6**
ROSI				AML	AML		
	comp=E,500µm,0.4s						
ROSI				AML	AML		
	comp=N,539µm,0.4s						
ROSI				AML	AML		
	comp=E,500µm,0.4s						
ROSI				AML	AML		
	comp=N,539µm,0.4s						
BLY	**Banja Luka**	**2.31**	**113**	*e*Pg	**Pb**	**09 06 24.9**	**+0.4**
BLY				*e*Sg	**Sb**	**09 06 53.9**	**+1.2**
BLY	**Banja Luka**	**2.31**	**113**	⇑*i*P	**Pn**	**09 06 22.5**	**+1.9**
BLY	**Banja Luka**	**2.31**	**113**	S	**Sn**	**09 06 50.7**	**+2.1**
BLY	**Banja Luka**	**2.31**	**113**	*e*Pn	**Pn**	**09 06 22.0**	**+1.4**
BLY				*e*Sn	**Sn**	**09 06 50.0**	**+1.4**
WTTA	**Wattenberg**	**2.36**	**312**	Pn	**Pn**	**09 06 23.3**	**+1.8**
	comp=N,3.9nm,0.2s						
WTTA				Sn	**Sb**	**09 06 54.9**	**+0.4**
	comp=N,99nm,0.5s						
WTTA	**Wattenberg**	**2.36**	**312**	AML	AML		
	comp=N,176µm,0.5s						
WTTA				AML	AML		
	comp=E,274µm,0.8s						
WTTA				AML	AML		
	comp=N,176µm,0.5s						
WTTA				AML	AML		
	comp=E,274µm,0.8s						
WATA	**Walderalm**	**2.44**	**313**	*e*Pn	**Pn**	**09 06 24.6**	**+2.1**
	comp=E,0.6nm,0.1s,SNR=12						
SFI	**Santa Sofia**	**2.46**	**224**	P	**Pn**	**09 06 22.3**	**-0.4**
SFI				AML	AML		
	comp=E,126µm,1.3s						
SFI				AML	AML		
	comp=N,150µm,0.4s						
SFI				AML	AML		
	comp=E,126µm,1.3s						
SFI				AML	AML		
	comp=N,150µm,0.4s						
PARC	**Parchiule**	**2.49**	**215**	AML	AML		
	comp=E,124µm,0.4s						
PARC				AML	AML		
	comp=N,110µm,0.5s						
PARC				AML	AML		
	comp=E,124µm,0.4s						
PARC				AML	AML		
	comp=N,110µm,0.5s						
CONA	**Conrad Observa**	**2.50**	**26**	Pn	**Pn**	**09 06 23.9**	**+0.6**
	comp=N,1.3nm,0.1s						
CONA				Sn	**Sn**	**09 06 52.9**	**-0.5**
	comp=N,6.7nm,0.3s						
EL6	**Elcito**	**2.50**	**199**	AML	AML		
	comp=E,206µm,0.9s						
EL6				AML	AML		
	comp=N,250µm,1.3s						
EL6				AML	AML		
	comp=N,250µm,1.3s						
EL6				AML	AML		
	comp=E,206µm,0.9s						
ATBU	**Serra di Buran**	**2.53**	**209**	AML	AML		
	comp=N,442µm,0.5s						
ATBU				AML	AML		
	comp=E,402µm,0.4s						
ATBU				AML	AML		
	comp=N,442µm,0.5s						
ATBU				AML	AML		
	comp=E,402µm,0.4s						
SQTA	**Sankt Quirin**	**2.57**	**307**	*e*Pn	**Pn**	**09 06 26.6**	**+2.3**
	comp=E,4.2nm,0.1s,SNR=7.3						
SQTA				Sn	**Sb**	**09 06 60.0**	**-0.3**
	comp=E,82nm,0.4s						
MABI	**Malga Bissina**	**2.60**	**279**	P	**Pn**	**09 06 25.2**	**+0.4**
MABI				AML	AML		
	comp=E,97µm,0.4s						
MABI				AML	AML		
	comp=N,114µm,0.4s						
MABI				AML	AML		
	comp=N,114µm,0.4s						
MABI				AML	AML		
	comp=E,97µm,0.4s						
MOTA	**Moosalm**	**2.70**	**309**	Pn	**Pn**	**09 06 28.4**	**+2.3**
	comp=E,1.4nm,0.1s,SNR=9.4						
MOSI	**Grossmontoni**	**2.70**	**291**	P	**Pn**	**09 06 27.2**	**+1.0**
MOSI				AML	AML		
	comp=E,792µm,0.4s						
MOSI				AML	AML		
	comp=N,761µm,0.3s						
MOSI				AML	AML		
	comp=E,792µm,0.4s						
MOSI				AML	AML		
	comp=N,761µm,0.3s						
CSP1	**Cessapalombo**	**2.71**	**196**	P	**Pn**	**09 06 25.9**	**-0.3**
FETA	**Feichten**	**2.75**	**300**	Pn	**Pn**	**09 06 28.4**	**+1.7**
	comp=N,3.6nm,0.3s						
FETA				Pg	**Pb**	**09 06 34.3**	**+2.3**
	comp=N,19nm,0.4s						
FETA				Sg	**Sg**	**09 07 09.4**	**-2.1**
	comp=N,25nm,0.4s						
FDMO	**Fiordimonte**	**2.79**	**197**	AML	AML		
	comp=E,79µm,0.3s						
FDMO				AML	AML		
	comp=E,79µm,0.3s						
FDMO				AML	AML		
	comp=N,63µm,1.2s						
FDMO				AML	AML		
	comp=N,63µm,1.2s						
ATVA	**AVT- Monte Val**	**2.79**	**210**	AML	AML		
	comp=E,73µm,0.7s						
ATVA				AML	AML		
	comp=E,73µm,0.7s						
ATVA				AML	AML		
	comp=N,78µm,1.0s						
ATVA				AML	AML		
	comp=N,78µm,1.0s						
CESI	**CESI - Serrava**	**2.86**	**200**	AML	AML		
	comp=N,66µm,1.0s						
CESI				AML	AML		

	comp=E,72µm,0.4s						
CESI				AML	AML		
	comp=N,66µm,1.0s						
CESI				AML	AML		
	comp=E,72µm,0.4s						
RETA	**Reutte**	**2.97**	**308**	*e*Pn	**Pn**	**09 06 31.7**	**+1.9**
	comp=E,2.2nm,0.1s						
RETA				Sn	**Sn**	**09 07 09.4**	**+4.4**
	comp=E,20nm,0.4s						
TERO	**Teramo**	**3.11**	**188**	AML	AML		
	comp=E,24µm,1.4s						
TERO				AML	AML		
	comp=E,24µm,1.4s						
TERO				AML	AML		
	comp=N,25µm,0.6s						
TERO				AML	AML		
	comp=N,25µm,0.6s						
MORH	**Mrgy, Hungar**	**3.13**	**79**	*e*Pg	**Pb**	**09 06 41.0**	**+2.5**
MORH				*e*Pn	**Pn**	**09 06 30.1**	**-1.8**
MORH				Sn	**Sn**	**09 07 08.0**	**-0.9**
MORH				*e*Sg	**Sg**	**09 07 25.0**	**+1.1**
MORH	**Mrgy, Hungar**	**3.13**	**79**	*e*Pn	**Pn**	**09 06 33.9**	**+2.0**
DAVA	**Damuels**	**3.38**	**299**	*e*Pn	**Pn**	**09 06 37.3**	**+1.8**
	comp=N,2.3nm,0.2s						
DAVA				Pg	**Pg**	**09 06 46.7**	**-1.3**
	comp=N,3.7nm,0.2s						
DAVA				*e*Sn	**Sn**	**09 07 19.2**	**+3.9**
	comp=N,15nm,0.4s						
DAVA				Sg	**Sg**	**09 07 32.4**	**+0.6**
	comp=N,15nm,0.3s						
MODS	**Modra-Piesok**	**3.40**	**37**	*e*PN	**Pn**	**09 06 34.5**	**-1.0**
MODS				*e*SN	**Sn**	**09 07 12.5**	**-2.9**
MODS				*e*SG	**Sg**	**09 07 30.5**	**-1.7**
MODS				*e*LG	Lg	09 07 34.7	
KHC	**Kasperske Hory**	**3.45**	**353**	*e*PN	**Pn**	**09 06 37.1**	**+0.8**
KHC				*e*PG	**Pb**	**09 06 46.2**	**+2.2**
KHC				*e*SN	**Sn**	**09 07 17.3**	**+0.4**
KHC				*e*SG	**Sg**	**09 07 32.2**	**-1.9**
	comp=N,15nm,0.8s						
SRO	**Srobarova**	**3.52**	**52**	*e*SG	**Sg**	**09 07 36.6**	**+0.3**
SMOL	**Smolenice**	**3.57**	**37**	*e*PN	**Pn**	**09 06 39.0**	**+1.1**
SMOL				*e*SG	**Sg**	**09 07 38.3**	**+0.6**
MSSA	**Maissana**	**3.61**	**249**	AML	AML		
	comp=E,41µm,1.3s						
MSSA				AML	AML		
	comp=N,43µm,1.2s						
MSSA				AML	AML		
	comp=N,43µm,1.2s						
MSSA				AML	AML		
	comp=E,41µm,1.3s						
KRUC	**Moravsky**	**3.67**	**23**	*e*PN	**Pn**	**09 06 39.3**	**0.0**
KRUC				*e*SG	**Sb**	**09 07 36.2**	**+4.3**
HAPS	**Han Pijesak,Bl**	**3.74**	**114**	*e*Pn	**Pn**	**09 06 41.4**	**+1.1**
HAPS	**Han Pijesak,Bl**	**3.74**	**114**	*e*Pn	**Pn**	**09 06 41.1**	**+0.8**
STON	**Ston**	**3.78**	**137**	*e*Pn	**Pn**	**09 06 41.6**	**+0.8**
VRAC	**Vranov**	**3.95**	**23**	*e*PN	**Pn**	**09 06 42.9**	**-0.2**
VRAC				*e*SG	**Sb**	**09 07 44.2**	**+4.3**
FRGS	**Fruska Gora**	**3.98**	**96**	*e*Pn	**Pn**	**09 06 44.5**	**+0.9**
FRGS	**Fruska Gora**	**3.98**	**96**	*e*Pn	**Pn**	**09 06 44.4**	**+0.9**
FRGS				*e*Sn	**Sn**	**09 07 30.6**	**+0.7**
BBLS	**Lazići**	**4.13**	**115**	*e*Pn	**Pn**	**09 06 47.2**	**+1.5**
BBLS	**Lazići**	**4.13**	**115**⇓	*i*Pn	**Pn**	**09 06 47.2**	**+1.5**
BBLS				*e*Sn	**Sn**	**09 07 34.2**	**+0.5**
BRY	**Bratogost**	**4.18**	**131**⇓	*i*Pn	**Pn**	**09 06 47.2**	**+0.7**
BRY				*e*Sn	**Sn**	**09 07 36.1**	**+1.0**
VYHS	**Vyhne**	**4.21**	**47**	*e*PN	**Pn**	**09 06 47.1**	**+0.3**
VYHS				*e*SN	**Sn**	**09 07 31.6**	**-4.0**
VYHS				*e*SG	**Sg**	**09 07 55.6**	**-2.9**
VYHS				*e*LG	Lg	09 08 09.9	
TREB	**Trebinje**	**4.22**	**134**	*e*Pn	**Pn**	**09 06 47.2**	**+0.4**
TREB				*e*Sn	**Sn**	**09 07 36.2**	**+0.5**
PRU	**Pruhonice**	**4.29**	**3**	*e*SG	**Sg**	**09 07 59.6**	**-1.3**
	comp=E,6.0nm,0.4s						
DIVS	**Divibare**	**4.41**	**109**	*e*Pn	**Pn**	**09 06 50.8**	**+1.3**
DIVS	**Divibare**	**4.41**	**109**	*e*Pn	**Pn**	**09 06 50.4**	**+0.9**
HCY	**Herceg Novi**	**4.49**	**135**⇓	*i*Pn	**Pn**	**09 06 51.5**	**+1.0**
HCY				*e*Sn	**Sn**	**09 07 43.1**	**+0.8**
HCY	**Herceg Novi**	**4.49**	**135**	*e*Sn	**Sn**	**09 07 42.7**	**+0.4**
NKME	**Niksic**	**4.50**	**129**⇓	*i*Pn	**Pn**	**09 06 51.3**	**+0.6**
NKME				*e*Sn	**Sn**	**09 07 43.6**	**+0.9**
CEME	**Cevo**	**4.63**	**131**⇓	*i*Pn	**Pn**	**09 06 53.6**	**+1.0**
CEME				*e*Sn	**Sn**	**09 07 46.6**	**+0.6**
MORC	**Moravsky Berou**	**4.65**	**28**⇓	*i*P	**Pn**	**09 06 53.4**	**+0.6**
MORC	**Moravsky Berou**	**4.65**	**28**	S	**Sn**	**09 07 43.8**	**-2.7**
MORC	**Moravsky Berou**	**4.65**	**28**	*e*PN	**Pn**	**09 06 53.4**	**+0.6**
MORC				*e*SG	**Sg**	**09 08 11.2**	**-1.3**
NKC	**Novy Kostel**	**4.68**	**346**	*e*SG	**Sg**	**09 08 12.2**	**-1.2**
	comp=E,8.3nm,0.6s						
IVAS	**Ivanjica**	**4.75**	**115**	*e*Pn	**Pn**	**09 06 55.1**	**+1.0**
KOME	**Kolasin**	**4.76**	**125**⇓	*i*Pn	**Pn**	**09 06 55.4**	**+1.1**
KOME				*e*Sn	**Sn**	**09 07 50.4**	**+1.2**
BUM	**Brajici-Budva**	**4.80**	**134**⇓	*i*Pn	**Pn**	**09 06 55.8**	**+1.0**
BUM				*e*Sn	**Sn**	**09 07 51.1**	**+1.1**
DPC	**Dobruska-Polom**	**4.86**	**16**	*e*SG	**Sg**	**09 08 18.0**	**-1.1**
	comp=E,12nm,1.0s						
PDG	**Podgorica**	**4.89**	**130**	S	**Sn**	**09 07 56.0**	**+3.7**
PDG	**Podgorica**	**4.89**	**130**	*e*Sn	**Sn**	**09 07 51.7**	**-0.6**
TTG	**Podgorica**	**4.89**	**130**⇓	*i*Pn	**Pn**	**09 06 56.9**	**+0.9**
TTG				*e*Sn	**Sn**	**09 07 53.0**	**+0.7**
IVA	**Berane**	**4.97**	**123**⇓	*i*Pn	**Pn**	**09 06 57.9**	**+0.7**
IVA				*e*Sn	**Sn**	**09 07 55.1**	**+0.8**
GRUS	**Gruza**	**4.97**	**109**	*e*Pn	**Pn**	**09 06 58.9**	**+1.7**
DRME	**Dracevica, Mon**	**5.03**	**133**⇓	*i*Pn	**Pn**	**09 06 58.8**	**+0.9**
DRME				*e*Sn	**Sn**	**09 07 56.2**	**+0.6**
DRME	**Dracevica, Mon**	**5.03**	**133**	*e*Sn	**Sn**	**09 07 55.7**	**+0.1**
SBF	**Sospel**	**5.16**	**251**	*e*Pn	**Pn**	**09 06 58.9**	**-0.9**
SBF				*e*Sn	**Sn**	**09 07 54.9**	**-4.2**
BRG	**Berggiesshubel**	**5.17**	**358**	PG	**Pg**	**09 07 20.1**	**-2.1**
BRG				SG	**Sg**	**09 08 26.5**	**-2.7**
	comp=E,4.1nm,0.6s						
PVY	**Plav**	**5.17**	**125**⇑	*i*Pn	**Pn**	**09 07 01.4**	**+1.3**
PVY				*e*Sn	**Sn**	**09 08 00.3**	**+0.8**
BZS	**Buzias**	**5.19**	**88**	*e*Pn	**Pn**	**09 07 01.4**	**+1.2**
BZS	**Buzias**	**5.19**	**88**	S	**Sn**	**09 07 56.6**	**-3.1**
ULC	**Ulcinj**	**5.22**	**134**⇓	*i*Pn	**Pn**	**09 07 01.1**	**+0.5**
ULC				*e*Sn	**Sn**	**09 08 00.7**	**+0.3**
LPG	**La Plagne**	**5.24**	**270**	*e*Pn	**Pn**	**09 07 03.6**	**+2.5**
LPL	**La Plagne**	**5.25**	**271**	*e*Pn	**Pn**	**09 07 02.4**	**+1.2**
MBDF	**Montbardon**	**5.34**	**262**	*e*Pn	**Pn**	**09 07 00.9**	**-1.5**
MBDF				*e*Sn	**Sn**	**09 08 01.6**	**-2.1**
	comp=E,3.2nm,0.3s						
MDVR	**Moldovita**	**5.38**	**97**⇑	*i*P	**Pn**	**09 07 03.4**	**+0.6**
MDVR	**Moldovita**	**5.38**	**97**	S	**Sn**	**09 08 02.0**	**-2.4**
CDF	**Champ du Feu**	**5.46**	**302**	*e*Pn	**Pn**	**09 07 04.1**	**+0.2**
HINF	**Hinteralfeld**	**5.48**	**295**	*e*Pn	**Pn**	**09 07 04.2**	**+0.1**
HINF				*e*Sn	**Sn**	**09 08 04.2**	**-2.6**
	comp=E,15nm,0.4s						
SELS	**Selova**	**5.54**	**114**	*e*Pn	**Pn**	**09 07 05.8**	**+0.9**
CLL	**Collm**	**5.66**	**352**	*i* Pn	**Pn**	**09 07 07.3**	**+0.7**
CLL				*e*Sn	**Sn**	**09 08 11.0**	**-0.3**
CLL				*e*Sg	**Sg**	**09 08 42.0**	**-2.9**
	comp=Z,12nm,1.1s						
CABF	**La Chapelle**	**5.71**	**282**	*e*Pn	**Pn**	**09 07 07.8**	**+0.4**
BOVS	**Bovan**	**5.73**	**109**	*e*Pn	**Pn**	**09 07 09.0**	**+1.4**
FRF	**La Foret Royal**	**5.81**	**251**	*e*Sn	**Sn**	**09 08 11.1**	**-3.7**
HAU	**Haudompre**	**5.86**	**296**	*e*Pn	**Pn**	**09 07 09.1**	**-0.3**
HAU				*e*Sn	**Sn**	**09 08 14.0**	**-2.2**
	comp=Z,6.8nm,0.4s						
ORIF	**Oris-en-Rattie**	**5.93**	**265**	*e*Pn	**Pn**	**09 07 11.4**	**+1.0**
ORIF				*e*Sn	**Sn**	**09 08 15.9**	**-2.0**
	comp=Z,3.6nm,0.4s						
LMR	**La Mourre**	**5.99**	**249**	*e*Pn	**Pn**	**09 07 09.8**	**-1.4**
LMR				*e*Sn	**Sn**	**09 08 14.6**	**-4.8**
DRGR		**6.00**	**77**⇓	*i*P	**Pn**	**09 07 10.3**	**-1.0**
DRGR		**6.00**	**77**	S	**Sn**	**09 08 14.4**	**-5.2**
GZR	**Gura Zlata**	**6.03**	**90**⇓	*i*P	**Pn**	**09 07 11.7**	**0.0**
GZR	**Gura Zlata**	**6.03**	**90**	S	**Sn**	**09 08 16.6**	**-3.7**
BARS	**Barje**	**6.18**	**115**	*e*Pn	**Pn**	**09 07 15.0**	**+1.3**
ZAPS	**Zavoj**	**6.50**	**109**	*e*Pn	**Pn**	**09 07 19.9**	**+1.8**
VIVF	**Saint-Julien-l**	**6.78**	**266**	*e*Pn	**Pn**	**09 07 21.1**	**-0.9**
SMF	**Signal de Mont**	**7.26**	**281**	*e*Pn	**Pn**	**09 07 28.4**	**-0.2**
LOR	**Lormes**	**7.31**	**286**	*e*Pn	**Pn**	**09 07 29.9**	**+0.6**
LOR				*e*Sn	**Sn**	**09 08 48.8**	**-3.2**
	comp=Z,3.9nm,0.4s						
SSF	**Saint Saulge**	**7.53**	**284**	*e*Pn	**Pn**	**09 07 32.2**	**0.0**
AVF	**Avril sur Loir**	**7.61**	**282**	*e*Pn	**Pn**	**09 07 32.9**	**-0.4**
BGF	**Bois d'Agland**	**7.94**	**280**	*e*Pn	**Pn**	**09 07 37.8**	**-0.1**
TCF	**Toulx Ste Croi**	**8.38**	**278**	*e*Pn	**Pn**	**09 07 44.6**	**+0.7**
CAF	**Calviac**	**8.60**	**269**	*e*Pn	**Pn**	**09 07 46.6**	**-0.3**

*ISCJB **06** 09:34:29.8±1.0, 12°.80N±0°.03×121°.24E±0°.05, h9km±7km, mb3.7/7, MS3.4/4, Error ellipse: s-maj=8.3km s-min=5.1km az=10.3*

*MAN **06** 09:34:29.2, 12°.83N×121°.25E, h0km, mb4.6, ML3.5, MS3.3*

*IDC **06** 09:34:29.7±0.9, 12°.61N×121°.21E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/46, mbtmp3.8/7, MS3.4/5, Ms1 3.5/5, ms1mx2.9/46, Error ellipse: s-maj=38.0km s-min=11.8km az=75.0*

ISC 06 09:34:29.8±1.4**, 12°.79N**±0°.03×**121°.21E**±0°.04**, h2**km±10km**, n21,** σ**1.s46**/26**, mb3.7**/7**, MS3.2**/4**, 3D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.34**	**196**	*e*P	**Pb**	**09 34 38.0**	**-0.6**
SJMP				*e*S	**Sb**	**09 34 46.3**	**+1.8**
OTRP	**Odiongan**	**0.90**	**118**	*e*P	**Pg**	**09 34 45.9**	**-1.1**
OTRP				*e*S	**Sn**	**09 35 02.9**	**0.0**
BOAC	**Boac**	**0.90**	**43**	*e*P	**Pg**	**09 34 45.5**	**-1.7**
BOAC				*e*S	**Sg**	**09 34 58.7**	**-0.2**
TGY	**Tagaytay City**	**1.33**	**348**	Pg	**Pg**	**09 34 55.8**	**+0.5**
	276nm,0.3s,baz=196,slow=4.1,SNR=31						
TGY				Lg	Lg	09 35 18.9	
	258nm,0.3s,baz=328,slow=19,SNR=5.7						
TGY	**Tagaytay City**	**1.33**	**348**	*e*P	**Pn**	**09 34 53.4**	**-2.0**
TGY				*e*S	**Sg**	**09 35 13.4**	**+0.8**
AUQP	**San Andres**	**1.52**	**70**	*e*P	**Pb**	**09 34 58.4**	**-0.3**
AUQP				*e*S	**Sg**	**09 35 22.1**	**+3.5**
GQP	**Guinayangan**	**1.63**	**47**⇓	*e*P	**Pn**	**09 34 59.1**	**-0.3**
GQP				*e*S	**Sn**	**09 35 19.2**	**-1.8**
RCP	**Roxas**	**1.93**	**129**⇓	*e*P	**Pn**	**09 35 04.0**	**+0.4**
CUYO	**Cuyo Island**	**1.94**	**186**	*e*P	**Pn**	**09 35 01.7**	**-2.1**
CUYO				*e*S	**Sb**	**09 35 30.1**	**-0.4**
JAP	**San Jose, Anti**	**2.15**	**160**⇓	*e*P	**Pn**	**09 35 07.0**	**+0.3**
ENPP	**El Nido**	**2.36**	**228**	*e*P	**Pn**	**09 35 09.1**	**-0.4**
GUIM	**Jordan**	**2.54**	**148**	*e*P	**Pn**	**09 35 11.9**	**0.0**
DAV	**Davao City (W)**	**7.13**	**143**	LR	LR	09 39 42.4	
	comp=Z,258nm,20.9s,baz=348,slow=45						
CMAR	**Chiang Mai Arr**	**22.17**	**288**	P	**P**	**09 39 28.4**	**+1.1**
	0.9nm,0.3s,baz=102,slow=9.4,SNR=4.5						
CMAR				LR	LR	09 48 55.1	
	comp=Z,34nm,18.8s,baz=180,slow=39						
KSRS	**Korea Array**	**25.28**	**13**	P	**P**	**09 39 59.3**	**+1.8**
	1.5nm,0.9s,baz=185,slow=9.2,SNR=4.0						
KSRS				LR	LR	09 50 38.3	
	comp=Z,47nm,19.1s,baz=210,slow=38						
WRA	**Warramunga Arr**	**35.00**	**158**	P	**P**	**09 41 22.1**	**-1.7**
	1.7nm,0.8s,baz=338,slow=9.5,SNR=4.4						
ASAR	**Alice Springs**	**38.30**	**161**	P	**P**	**09 41 51.0**	**-0.9**
	2.3nm,0.8s,baz=339,slow=6.6,SNR=15						
MKAR	**Makanchi Array**	**47.06**	**324**	P	**P**	**09 43 05.1**	**+2.2**
	0.3nm,0.7s,baz=123,slow=7.8,SNR=3.9						
MKAR				LR	LR	10 03 12.1	
	comp=Z,37nm,18.6s,baz=97,slow=36						
STKA	**Stephens Creek**	**48.52**	**157**	P	**P**	**09 43 14.1**	**-0.2**
	2.9nm,0.9s,baz=336,slow=10.0,SNR=3.3						
KURBB	**Kurchatov Arra**	**51.22**	**326**	P	**P**	**09 43 34.7**	**+0.1**
	0.3nm,0.6s,baz=129,slow=8.5,SNR=3.1						
RAR	**Rarotonga**	**84.59**	**113**	LR	LR	10 19 05.0	
	comp=Z,210nm,20.3s,baz=295,slow=32						

IDC 06 09:37:13.4±5.5**, 13°.29N**×**122°.26E, h0**km**, mb3.6**/3**, mb1 3.9**/3**, mb1mx3.3**/45**, mbtmp3.6**/3**, 1C, Error ellipse: s-maj=189.2km s-min=14.3km az=42.0, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.51**	**302**	Pg	Pn	09 37 41.8	-0.1
	332nm,0.3s,baz=309,slow=6.5,SNR=7.4						
TGY				Lg	Lg	09 38 01.0	
	165nm,0.3s,baz=344,slow=18,SNR=2.9						
RCP	**Roxas**	**1.79**	**164**⇑	*e*P	Pg	09 37 50.4	+2.7
CMAR	**Chiang Mai Arr**	**22.99**	**286**	P	P	09 42 19.6	-0.5
	0.7nm,0.3s,baz=101,slow=9.3,SNR=4.1						
WRA	**Warramunga Arr**	**35.10**	**160**	P	P	09 44 08.3	-0.4
	0.5nm,0.6s,baz=342,slow=9.2,SNR=3.5						
ASAR	**Alice Springs**	**38.46**	**163**	P	P	09 44 37.4	+0.1
	0.5nm,0.5s,baz=340,slow=6.7,SNR=7.6						

*ISCJB **06** 09:38:48.0±0.7, 39°.17N±0°.09×106°.2E±0°.2, h33km, mb3.5/9, Error ellipse: s-maj=19.9km s-min=12.4km az=160.3*

*IDC **06** 09:38:50.1±6.0, 39°.16N×106°.18E, h33km±47km, mb3.3/10, mb1 3.5/12, mb1mx3.3/56, mbtmp3.5/12, ML3.0/2, Error ellipse: s-maj=27.3km s-min=17.7km az=68.0*

ISC 06 09:38:50.3±0.9**, 39°.1N**±0°.1×**106°.2E**±0°.2**, h35**km**, n12,** σ**0.s77**/12**, mb3.5**/9**, Western Nei Mongol**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**8.69**	**1**	Pn	**Pn**	**09 40 54.2**	**+0.6**
	0.1nm,0.3s,baz=185,slow=14,SNR=3.4						
SONM				Lg	Lg	09 43 26.4	
	0.3nm,0.3s,baz=189,slow=27,SNR=5.3						
MKAR	**Makanchi Array**	**19.01**	**301**	P	**Pn**	**09 43 10.2**	**+0.2**
	0.1nm,0.3s,baz=102,slow=11,SNR=5.2						
ZALV	**Zalesovo Beam**	**20.73**	**323**	P	**P**	**09 43 27.7**	**+0.1**
	1.0nm,0.6s,baz=127,slow=11,SNR=3.2						
CMAR	**Chiang Mai Arr**	**21.54**	**199**	P	**P**	**09 43 37.3**	**+0.7**
	0.8nm,0.4s,baz=8.4,slow=8.9,SNR=4.6						
KURBB	**Kurchatov Arra**	**22.55**	**310**	P	**P**	**09 43 46.2**	**-0.9**
	1.4nm,0.9s,baz=108,slow=12,SNR=7.3						
BVAR	**Borovoye Array**	**28.09**	**311**	P	**P**	**09 44 38.7**	**+0.2**
	0.8nm,0.5s,baz=97,slow=10,SNR=5.8						
BRTR	**Keskin Array B**	**54.52**	**295**	P	**P**	**09 48 13.9**	**-0.9**
	0.7nm,0.9s,baz=72,slow=9.3,SNR=3.2						
NOA	**NORSAR Array B**	**58.89**	**326**	P	**P**	**09 48 46.0**	**+0.5**
	0.6nm,0.8s,baz=60,slow=6.7,SNR=2.8						
ILAR	**Eielson Array**	**61.92**	**28**	P	**P**	**09 49 04.7**	**-1.3**
	0.3nm,0.9s,baz=282,slow=6.4,SNR=3.2						
WRA	**Warramunga Arr**	**64.43**	**150**	P	**P**	**09 49 22.6**	**-0.4**
	0.3nm,0.7s,baz=340,slow=7.1,SNR=4.0						
ASAR	**Alice Springs**	**67.66**	**153**	P	**P**	**09 49 44.1**	**+0.3**
	0.8nm,0.6s,baz=335,slow=6.1,SNR=12						
YKA	**Yellowknife Ar**	**73.54**	**18**	P	**P**	**09 50 19.9**	**+0.7**
	0.2nm,0.7s,baz=326,slow=5.3,SNR=2.8						

MAN 06 09:57:38.6, 12°.92N×**121°.18E, h28**km**, mb4.4, ML3.2, MS3.0, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.46**	**187**	*e*P	Pb	09 57 45.7	-2.7
SJMP				*e*S	Sb	09 57 52.1	-2.9
BOAC	**Boac**	**0.84**	**50**	*e*P	Pn	09 57 54.4	-0.2
BOAC				*e*S	Sn	09 58 06.4	+0.3
OTRP	**Odiongan**	**0.99**	**124**	*e*P	Pb	09 57 57.2	-0.1
OTRP				*e*S	Sn	09 58 09.8	-0.1
BUSP	**Coron**	**1.32**	**226**	*e*P	Pn	09 58 01.1	-0.2
BUSP				*e*S	Sn	09 58 18.6	+0.6

*GUC **06** 10:13:58.9±0.7, 29°.42S×68°.57W, h5km±5km, ML3.7*

*SJA **06** 10:13:59.4±0.7, 29°.42S×68°.70W, h9km±2km, ML3.5, MW3.6*

ISC 06 10:14:01.5±1.5**, 29°.44S**±0°.03×**68°.63W**±0°.03**, h3**km±12km**, n19,** σ**1.s13**/31**, 1C-3D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGUA	**GUANDACOL**	**0.13**	**113**	*i* P	**Pg**	**10 14 04.5**	**+0.4**
AMOG	**MOGNA**	**1.50**	**176**	*i* P	**Pn**	**10 14 27.7**	**-1.7**
LCO	**Las Campanas**	**1.86**	**283**⇓	*i*P	**Pn**	**10 14 33.0**	**-1.5**
LCO	**Las Campanas**	**1.86**	**283**⇓	*i*P	**Pn**	**10 14 34.4**	**-0.1**
LCO				*e*S	**Sn**	**10 14 57.8**	**-0.8**
LCO				IAML		10 15 04.4	
	comp=E,678nm,0.4s						
RTLL	**Cerro Villicun**	**1.89**	**176**	*i* P	**Pn**	**10 14 34.4**	**-0.3**
RTLL				*i* S	**Sb**	**10 15 00.6**	**-0.2**
RTLL	**Cerro Villicun**	**1.89**	**176**	*e*P	**Pn**	**10 14 34.5**	**-0.3**
RTLL				*e*S	**Sn**	**10 14 59.2**	**+0.1**
GO04	**Tololo Observa**	**2.02**	**248**⇑	*i*P	**Pn**	**10 14 36.9**	**+0.2**
GO04				*e*S	**Sg**	**10 15 06.4**	**-0.1**
GO04				IAML		10 15 10.9	
	comp=E,2µm,0.5s						
APLL	**PUNTA DE LOS L**	**2.06**	**118**	*i* P	**Pn**	**10 14 37.1**	**+0.1**
APLL				*i* S	**Sb**	**10 15 05.4**	**-0.1**
APLL				IAML		10 15 07.8	
	comp=Z,433nm,0.3s						
GO03	**Copiap**	**2.32**	**322**	*e*P	**Pn**	**10 14 41.2**	**+0.7**
GO03				*i* S	**Sb**	**10 15 12.0**	**-0.9**
GO03				IAML		10 15 14.6	
	comp=N,283nm,0.8s						
LSCH	**La Serena**	**2.32**	**258**	*e*P	**Pn**	**10 14 41.8**	**+1.3**
LSCH				*e*S	**Sb**	**10 15 11.3**	**-1.8**
RTCV	**Cerro Valdivia**	**2.42**	**178**	*i* P	**Pn**	**10 14 42.0**	**+0.1**
RTCV				*i* S	**Sn**	**10 15 13.4**	**+1.3**
RTLS	**Leoncito**	**2.42**	**194**	*i* P	**Pn**	**10 14 42.7**	**+0.5**
RTLS				*i* S	**Sb**	**10 15 14.5**	**-1.8**
RTLS				IAML		10 15 18.2	
	comp=Z,198nm,0.3s						
CYA	**Choya**	**2.67**	**69**	*i* P	**Pn**	**10 14 45.9**	**+0.5**
CYA				*i* S	**Sb**	**10 15 20.3**	**-2.8**
CYA				IAML		10 15 28.6	
	comp=Z,199nm,0.9s						
CYA	**Choya**	**2.67**	**69**⇓	*i*P	**Pn**	**10 14 45.9**	**+0.5**
CMCH	**Combarbala**	**2.68**	**229**	*e*P	**Pn**	**10 14 47.4**	**+1.8**
AUSP	**Uspallata**	**2.85**	**193**	*i* P	**Pn**	**10 14 48.6**	**+0.4**
AUSP				*i* S	**Sn**	**10 15 24.6**	**+1.5**
MRA	**San Martin**	**3.89**	**141**	*i* P	**Pn**	**10 15 02.8**	**+0.6**
TCA	**Tanti**	**3.97**	**120**	*e*P	**Pn**	**10 15 02.9**	**-0.4**
GO02	**Mina Guanaco**	**4.34**	**348**	*e*P	**Pn**	**10 15 09.1**	**+0.4**
GO02				*e*S	**Sn**	**10 16 01.5**	**+1.6**

*IDC **06** 10:20:39.5±9.1, 17°.33S×174°.14W, h92km±82km, mb4.2/13, mb1 4.4/13, mb1mx4.1/35, mbtmp4.5/13, MS3.4/4, Ms1 3.4/4, ms1mx3.1/24, Error ellipse: s-maj=26.5km s-min=20.4km az=161.0*

*ISCJB **06** 10:20:40.2±0.1, 17°.09S±0°.03×174°.30W±0°.05, h100km, mb4.5/108, Error ellipse: s-maj=7.2km s-min=3.3km az=31.9*

*NEIC **06** 10:20:41.5±1.2, 17°.17S×174°.27W, h103km±10km, mb4.6/93, Error ellipse: s-maj=7.8km s-min=3.4km az=144.0*

NEIC Felt at Neiafu.

*WEL **06** 10:20:41.0, 17°.17S×174°.27W, h103km*

*BJI **06** 10:20:41.8, 16°.97S×174°.38W, h96km, mb4.9/11, mB5.1/3*

ISC 06 10:20:40.7±0.4**, 17°.35S**±0°.06×**174°.16W**±0°.06**, h100**km**, n197,** σ**1.s86**/199**, mb4.5**/107**, 1C, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.37**	**114**	*e*Pn	**Pn**	**10 21 47.2**	**+2.3**
NIUE				*e*Sn	**Sn**	**10 22 35.5**	**+0.7**
GLKZ	**Green Lake**	**12.35**	**196**	S	**Sn**	**10 25 45.6**	**-3.1**
RAR	**Rarotonga**	**14.11**	**108**	LR	LR	10 28 32.5	
	comp=Z,101nm,19.1s,baz=272,slow=34						
RAR	**Rarotonga**	**14.11**	**108**	*e*Pn	**P**	**10 23 59.6**	**-1.1**
DZM	**Mont Dzumac**	**18.85**	**252**	P	**Pn**	**10 24 56.5**	**+1.8**
	0.4nm,0.3s,baz=79,slow=19,SNR=5.7						
DZM	**Mont Dzumac**	**18.85**	**252**	*e*P	**Pn**	**10 24 57.0**	**+2.2**
	40nm,1.2s						
OUZ	**Omahuta**	**20.87**	**209**	*e*P	Pn	10 25 17.8	-0.4
	66nm,1.5s						
OUZ	**Omahuta**	**20.87**	**209**	P	Pn	10 25 17.5	-0.7
WCZ	**Waipu Caves**	**21.14**	**207**	P	**P**	**10 25 21.0**	**+3.4**
WMGZ	**Waiomatatini S**	**21.41**	**196**	P	**P**	**10 25 26.3**	**+5.9**
HAZ	**Te Kaha**	**21.52**	**198**	P	**P**	**10 25 24.7**	**+3.0**
HAZ				S	**S**	**10 29 09.0**	**-5.6**
WIAZ	**Waiheke Island**	**21.55**	**204**	P	**P**	**10 25 25.0**	**+3.0**
PKGZ	**Pakihiroa**	**21.57**	**197**	P	**P**	**10 25 26.2**	**+4.0**
PKGZ				S	**S**	**10 29 10.9**	**-4.6**
MBAZ	**Motutapu North**	**21.62**	**204**	P	**P**	**10 25 27.9**	**+5.2**
PUZ	**Puketiti**	**21.69**	**196**	P	**P**	**10 25 26.7**	**+3.2**
PUZ				S	**S**	**10 29 11.4**	**-6.3**
RUGZ	**Raukumara Rang**	**21.75**	**198**	P	**P**	**10 25 27.6**	**+3.3**
ETAZ	**East Tamaki Re**	**21.77**	**204**	P	**P**	**10 25 27.3**	**+2.9**
MKAZ	**Moumakai**	**21.82**	**204**	P	**P**	**10 25 27.9**	**+3.1**
TWGZ	**Tauwhareparae**	**21.86**	**197**	P	**P**	**10 25 29.3**	**+3.9**
TWGZ				S	**S**	**10 29 19.2**	**-1.8**
WTAZ	**Waiatarua**	**21.89**	**205**	P	**P**	**10 25 28.9**	**+3.3**
KBAZ	**Karaka Road Bo**	**21.91**	**204**	P	**P**	**10 25 29.1**	**+3.3**
AWAZ	**Awhitu Peninsu**	**21.98**	**205**	P	**P**	**10 25 30.2**	**+3.6**
CNGZ	**Carnagh Statio**	**22.09**	**196**	P	**P**	**10 25 31.2**	**+3.6**
MWZ	**Matawai**	**22.14**	**198**	P	**P**	**10 25 30.8**	**+2.6**
TKGZ	**Te Karaka**	**22.14**	**197**	P	**P**	**10 25 30.5**	**+2.3**
URZ	**Urewera**	**22.19**	**198**	P	**P**	**10 25 28.7**	**-0.1**
	21nm,0.3s,baz=307,slow=2.2,SNR=43						
URZ				S	**PcP**	**10 29 22.0**	**+0.2**
	12nm,0.9s,baz=304,slow=18,SNR=3.0						
URZ	**Urewera**	**22.19**	**198**	*e*P	**P**	**10 25 30.0**	**+1.3**
	68nm,1.4s						
URZ				*e*PcP	**PcP**	**10 29 22.0**	**+0.2**
URZ	**Urewera**	**22.19**	**198**	P	**P**	**10 25 30.0**	**+1.3**
TOZ	**Tahuroa Road**	**22.24**	**202**	P	**P**	**10 25 32.5**	**+3.3**
KARZ	**Kaharoa**	**22.25**	**200**	P	**P**	**10 25 33.6**	**+4.3**
RAGZ	**Rawiri**	**22.32**	**198**	P	**P**	**10 25 33.6**	**+3.4**
RIGZ	**Rimuhau**	**22.42**	**197**	P	**P**	**10 25 34.6**	**+3.4**
MUGZ	**Murupara**	**22.49**	**199**	P	**P**	**10 25 33.8**	**+1.9**
SNGZ	**Shannon Statio**	**22.61**	**197**	P	**P**	**10 25 37.0**	**+3.9**
ALRZ	**Allen Road**	**22.71**	**200**	P	**P**	**10 25 37.3**	**+3.2**
KNZ	**Kokohu**	**22.74**	**197**	P	**P**	**10 25 38.7**	**+4.4**
TLZ	**Tolley Road**	**22.77**	**201**	P	**P**	**10 25 37.8**	**+3.0**
RAHZ	**Arahi**	**22.80**	**198**	P	**P**	**10 25 36.9**	**+1.8**
MTHZ	**Maungataniwha**	**22.82**	**198**	P	**P**	**10 25 39.7**	**+4.4**
HIZ	**Hauiti**	**23.17**	**202**	*e*P	**P**	**10 25 42.2**	**+3.6**
	84nm,1.5s						
BKZ	**Black Stump Fm**	**23.21**	**199**	*e*P	**P**	**10 25 40.4**	**+1.3**
	8.2nm,0.7s						
BFZ	**Birch Farm**	**24.68**	**198**	*e*P	**P**	**10 25 53.5**	**+1.3**
	53nm,1.2s						
HNR	**Honiara**	**26.37**	**284**	LR	LR	10 36 35.4	
	comp=Z,65nm,19.1s,baz=128,slow=36						
THZ	**Tophouse**	**26.74**	**202**	*e*P	**P**	**10 26 12.7**	**+1.7**
	34nm,1.4s						
KHZ	**Kahutara**	**27.10**	**200**	*e*P	**P**	**10 26 15.9**	**+1.9**
	45nm,1.4s						
LTZ	**Lake Taylor**	**27.86**	**202**	*e*P	**P**	**10 26 22.8**	**+1.9**
	18nm,0.9s						
OXZ	**Oxford**	**28.42**	**201**	*e*P	**P**	**10 26 27.6**	**+1.7**
	17nm,0.5s						
RPZ	**Rata Peaks**	**29.11**	**202**	P	**P**	**10 26 32.1**	**+0.1**
	3.4nm,0.5s,baz=325,slow=6.5,SNR=3.6						
RPZ	**Rata Peaks**	**29.11**	**202**	*e*P	**P**	**10 26 34.1**	**+2.1**
	54nm,1.3s						
WKZ	**Wanaka**	**30.82**	**204**	*e*P	**P**	**10 26 49.2**	**+2.1**
	99nm,1.5s						
WHZ	**Wether Hill Ro**	**32.12**	**204**	*e*P	P	10 27 02.4	+3.9
	32nm,1.3s						
ARMA	**Armidale**	**33.74**	**241**	*e*P	**P**	**10 27 13.6**	**+0.6**
	8.8nm,0.6s						
CTAO	**Charters Tower**	**37.53**	**259**	*e*P	**P**	**10 27 45.2**	**-0.2**
TOO	**Toolangi**	**40.69**	**232**	*e*P	**P**	**10 28 12.1**	**+0.6**
	20nm,1.3s						
COEN	**Coen**	**41.16**	**268**	*e*P	**P**	**10 28 16.6**	**+1.0**
	27nm,1.5s						
STKA	**Stephens Creek**	**42.45**	**242**	P	**P**	**10 28 25.9**	**0.0**
	8.4nm,0.7s,baz=74,slow=8.4,SNR=10						
BBOO	**Buckleboo**	**47.22**	**241**	*e*P	**P**	**10 29 03.8**	**0.0**
	14nm,1.0s						
WC3	**Warramunga Arr**	**48.68**	**258**	*e*P	**P**	**10 29 14.5**	**-0.8**
	8.9nm,0.6s						
WB2	**Warramunga Arr**	**48.70**	**258**	*e*P	**P**	**10 29 14.6**	**-0.8**
	8.8nm,0.6s						
WRAB	**Tennant Creek**	**48.71**	**258**	*e*P	**P**	**10 29 14.6**	**-0.8**
	8.8nm,0.6s						
WR1	**Warramunga Arr**	**48.72**	**258**	*e*P	**P**	**10 29 14.7**	**-0.8**
	12nm,0.6s						
WRA	**Warramunga Arr**	**48.72**	**258**	P	**P**	**10 29 14.7**	**-0.8**
	7.5nm,0.6s,baz=97,slow=7.0,SNR=199						
WRA				LR	LR	10 48 30.6	
	comp=Z,61nm,21.0s,baz=180,slow=34						
AS01	**Alice Springs**	**48.80**	**254**	*e*P	**P**	**10 29 15.3**	**-0.8**
AS31	**Alice Springs**	**48.84**	**254**	*e*P	**P**	**10 29 15.8**	**-0.7**
	12nm,0.6s						
ASAR	**Alice Springs**	**48.84**	**254**	P	**P**	**10 29 15.7**	**-0.7**
	35nm,0.5s,baz=89,slow=8.7,SNR=621						
FORT	**Forrest**	**53.90**	**244**	*e*P	**P**	**10 29 54.2**	**+0.2**
	23nm,0.9s						
FITZ	**Fitzroy Crossi**	**57.12**	**259**	*e*P	**P**	**10 30 17.4**	**+0.1**
	15nm,1.5s						
SOEI	**Soe**	**60.13**	**269**	*e*P	**P**	**10 30 39.9**	**+1.5**
	47nm,1.3s						
RPN	**Rapa Nui**	**60.23**	**112**	LR	LR	10 49 09.8	
	comp=Z,55nm,21.8s,baz=306,slow=28						
SBA	**Scott Base**	**61.26**	**185**	*e*P	**P**	**10 30 47.8**	**+3.0**
	9.9nm,0.8s						
VNDA	**Vanda**	**61.37**	**186**	*e*P	**P**	**10 30 47.8**	**+2.2**
	3.3nm,0.8s						
MBWA	**Marble Bar**	**62.14**	**255**	*e*P	**P**	**10 30 50.8**	**-0.9**
	12nm,1.3s						
H06S1	**SOCORRO T**	**71.73**	**63**	T	T	11 50 44.8	
	SNR=8.4						
JNU	**Nakatsue**	**72.61**	**314**	*e*P	**P**	**10 31 57.7**	**+0.2**
	9.2nm,1.0s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
QSPA	**South Pole Qui**	**72.70**	**180**	*e*P	**P**	**10 31 58.6**	**+1.0**
	9.7nm,0.8s						
KMRM	**Mail Ridge**	**74.04**	**38**	*e*P	**P**	**10 32 06.5**	**+0.7**
	21nm,0.9s						
PETK	**Petropavlovsk-**	**74.26**	**343**	P	**P**	**10 32 06.5**	**-0.3**
	2.2nm,0.7s,baz=77,slow=12,SNR=4.9						
PEA1	**Petropavlovsk-**	**74.27**	**343**	*e*P	**P**	**10 32 06.5**	**-0.3**
CMB	**Columbia Colle**	**74.70**	**41**	*e*P	**P**	**10 32 09.8**	**+0.2**
	5.7nm,1.3s						
WAKR	**Walker**	**75.58**	**41**	*e*P	**P**	**10 32 15.3**	**+0.4**
	2.5nm,0.7s						
YBH	**Yreka Blue Hor**	**75.59**	**37**	*e*P	**P**	**10 32 15.1**	**+0.4**
	3.6nm,1.1s						
BEKR	**Beckworth**	**75.83**	**40**	*e*P	**P**	**10 32 15.9**	**-0.3**
	7.2nm,1.2s						
YERR	**Yerington**	**75.99**	**41**	*e*P	**P**	**10 32 17.3**	**+0.1**
	3.6nm,1.0s						
RYN	**Ryan**	**76.23**	**42**	*e*P	**P**	**10 32 19.1**	**+0.5**
	5.2nm,1.1s						
NV01	**Mina Array Sit**	**76.26**	**42**	*e*P	**P**	**10 32 19.2**	**+0.5**
NVAR	**Mina Array Bea**	**76.26**	**42**	P	**P**	**10 32 19.2**	**+0.5**
	2.3nm,0.7s,baz=224,slow=8.7,SNR=17						
NV11	**Mina Array Sit**	**76.36**	**42**	*e*P	**P**	**10 32 18.8**	**-0.4**
	0.3nm,1.1s						
KVN	**Kaiserville**	**76.75**	**42**	*e*P	**P**	**10 32 21.5**	**0.0**
	3.4nm,1.4s						
TPNV	**Topopah Spring**	**76.76**	**44**	*e*P	**P**	**10 32 21.4**	**-0.1**
	3.2nm,1.2s						
MOD	**Modoc Plateau**	**77.10**	**38**	*e*P	**P**	**10 32 23.5**	**+0.2**
	11nm,1.4s						
SHPR	**Sheep Range**	**77.25**	**45**	*e*P	**P**	**10 32 23.2**	**-1.1**
	2.6nm,1.3s						
PINE	**Pine Mountain**	**77.89**	**36**	*e*P	**P**	**10 32 27.0**	**-0.8**
	5.9nm,1.0s						
TUC	**Tucson**	**78.18**	**51**	*e*P	**P**	**10 32 29.1**	**-0.4**
	5.0nm,1.0s						
WVOR	**Wild Horse Val**	**78.41**	**39**	*e*P	**P**	**10 32 31.2**	**+0.7**
	8.2nm,1.2s						
X16A	**Lo Mia Camp, P**	**78.75**	**49**	*e*P	**P**	**10 32 33.8**	**+1.1**
	2.9nm,1.1s						
319A	**Douglas**	**78.86**	**52**	*e*P	**P**	**10 32 34.2**	**+1.0**
	6.2nm,0.8s						
G06A	**Carlson Farm,**	**78.97**	**35**	*e*P	**P**	**10 32 33.4**	**-0.1**
	10.0nm,1.5s						
CCUT	**Cedar City**	**79.02**	**45**	*e*P	**P**	**10 32 33.9**	**-0.3**
	7.7nm,1.4s						
J08A	**Circle Bar Ran**	**79.05**	**38**	*e*P	**P**	**10 32 35.1**	**+1.1**
	9.4nm,1.4s						
KNB	**Kanab**	**79.11**	**46**	*e*P	**P**	**10 32 35.2**	**+0.6**
	3.3nm,0.9s						
U15A	**North Rim**	**79.17**	**46**	*e*P	**P**	**10 32 35.8**	**+0.7**
	12nm,1.3s						
PSUT	**Pine Spring**	**79.21**	**44**	*e*P	**P**	**10 32 35.1**	**0.0**
	2.0nm,0.7s						
ELK	**Elko**	**79.52**	**41**	*e*P	**P**	**10 32 36.6**	**-0.2**
	2.5nm,0.9s						
PKCU	**Pink Cliffs**	**79.68**	**46**	*e*P	**P**	**10 32 39.3**	**+1.5**
	15nm,1.4s						
MTPU	**Mount Pierson**	**80.07**	**45**	*e*P	**P**	**10 32 40.1**	**0.0**
	3.8nm,0.9s						
RC01	**Rabbit Creek A**	**80.59**	**12**	*e*P	**P**	**10 32 40.6**	**-1.2**
	19nm,1.3s						
BMO	**Blue Mountains**	**80.61**	**37**	*e*P	**P**	**10 32 43.1**	**+0.7**
	4.6nm,1.4s						
NJ2	**Nanjing**	**80.77**	**308**	*e*P	**P**	**10 32 44.6**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
D08A	**Wollman Farm,**	**81.03**	**35**	*e*P	**P**	**10 32 45.1**	**+0.7**
	6.9nm,1.3s						
F10A	**Beach Ranch, E**	**81.32**	**36**	*e*P	**P**	**10 32 46.0**	**-0.1**
	6.0nm,1.0s						
TMUT	**Trail Mountain**	**81.37**	**44**	*e*P	**P**	**10 32 48.2**	**+1.3**
	4.4nm,1.1s						
HLID	**Hailey**	**81.59**	**39**	*e*P	**P**	**10 32 48.7**	**+1.0**
	4.6nm,1.0s						
B08A	**Colville Reser**	**81.60**	**33**	*e*P	**P**	**10 32 47.4**	**-0.1**
	0.5nm,0.7s						
MNTX	**Cornudas Mount**	**81.97**	**53**	*e*P	**P**	**10 32 50.3**	**+0.5**
	4.4nm,0.8s						
CN2	**Changchun**	**82.12**	**321**	*e*P	**P**	**10 32 53.7**	**+3.5**
TCUT	**Toone Canyon**	**82.17**	**43**	*e*P	**P**	**10 32 51.6**	**+0.7**
	16nm,0.9s						
LTX	**Lajitas**	**82.30**	**56**	*e*P	**P**	**10 32 51.4**	**-0.3**
TX31	**Lajitas Ar. Si**	**82.30**	**56**	*e*P	**P**	**10 32 52.1**	**+0.4**
TXAR	**Lajitas Array**	**82.30**	**56**	P	**P**	**10 32 51.4**	**-0.3**
	1.3nm,0.7s,baz=215,slow=7.7,SNR=16						
PV09	**Paradox Valley**	**82.38**	**46**	*e*P	**P**	**10 32 53.0**	**+0.9**
PV10	**Paradox Valley**	**82.38**	**46**	*e*P	**P**	**10 32 52.4**	**+0.3**
PV14	**Lion Creek, Pa**	**82.39**	**46**	*e*P	**P**	**10 32 50.0**	**-2.1**
	10nm,1.1s						
PV13	**Radium Mtn., P**	**82.43**	**46**	*e*P	**P**	**10 32 52.0**	**-0.3**
	13nm,1.3s						
PV23	**Carpenter Ridg**	**82.44**	**46**	*e*P	**P**	**10 32 53.2**	**+0.7**
	9.5nm,0.9s						
PV02	**Paradox Valley**	**82.51**	**46**	*e*P	**P**	**10 32 52.7**	**-0.1**
	6.7nm,0.9s						
PV21	**Cone Mtn., Par**	**82.52**	**46**	*e*P	**P**	**10 32 53.3**	**+0.5**
	8.3nm,0.8s						
PV12	**Saucer Basin,**	**82.52**	**46**	*e*P	**P**	**10 32 53.7**	**+0.9**
	7.7nm,1.0s						
PV01	**Paradox Valley**	**82.59**	**46**	*e*P	**P**	**10 32 53.6**	**+0.4**
ANMO	**Albuquerque**	**82.61**	**50**	*e*P	**P**	**10 32 53.6**	**+0.3**
	12nm,1.5s						
TRF	**Thorofare Moun**	**82.67**	**11**	*e*P	**P**	**10 32 52.9**	**0.0**
	7.7nm,0.9s						
RND	**Reindeer**	**82.88**	**11**	*e*P	**P**	**10 32 54.2**	**+0.3**
	6.0nm,0.9s						
MCK	**McKinley**	**83.17**	**11**	*e*P	**P**	**10 32 55.4**	**+0.1**
	6.5nm,0.9s						
MCMT	**McKenzie Canyo**	**83.22**	**39**	*e*P	**P**	**10 32 56.1**	**-0.2**
S22A	**4UR Ranch, Cre**	**83.62**	**47**	*e*P	**P**	**10 32 58.7**	**+0.1**
	6.0nm,0.8s						
DLMT	**Dillon**	**83.66**	**39**	*e*P	**P**	**10 32 58.6**	**+0.2**
	5.5nm,0.9s						
REDW	**Red Top Meadow**	**83.68**	**41**	*e*P	**P**	**10 32 58.1**	**-0.6**
	13nm,1.3s						
TPAW	**Teton Pass**	**83.68**	**41**	*e*P	**P**	**10 32 58.6**	**-0.1**
	8.2nm,0.9s						
O20A	**White River Ci**	**83.77**	**45**	*e*P	**P**	**10 32 58.7**	**-0.4**
	4.8nm,0.8s						
SNOW	**Snow King Moun**	**83.79**	**41**	*e*P	**P**	**10 32 59.7**	**+0.5**
	8.8nm,0.9s						
IMW	**Indian Meadow**	**83.90**	**40**	*e*P	**P**	**10 33 00.1**	**+0.2**
	6.1nm,0.8s						
LOHW	**Long Hollow**	**83.96**	**41**	*e*P	**P**	**10 33 00.4**	**+0.3**
	9.2nm,1.4s						
LNIG	**Linares**	**83.98**	**62**	*e*P	**P**	**10 32 59.8**	**-0.6**
	6.9nm,0.9s						
WRH	**Wood River Hil**	**84.00**	**11**	*e*P	**P**	**10 32 59.5**	**+0.1**
	6.3nm,0.9s						
FLWY	**Flagg Ranch**	**84.14**	**40**	*e*P	**P**	**10 33 01.4**	**+0.5**
	8.7nm,1.0s						
HDA	**Harding Lake**	**84.15**	**12**	*e*P	**P**	**10 33 00.5**	**+0.2**
	4.4nm,0.8s						
SMCO	**Snowmass**	**84.18**	**46**	*e*P	**P**	**10 33 01.6**	**+0.1**
	4.1nm,0.8s						
BW06	**Boulder Array**	**84.20**	**42**	*e*P	**P**	**10 33 00.7**	**-0.6**
	5.2nm,0.8s						
PD31	**Pinedale Array**	**84.20**	**42**	*e*P	**P**	**10 33 01.3**	**0.0**
PDAR	**Pinedale Array**	**84.20**	**42**	P	**P**	**10 33 00.5**	**-0.9**
	4.0nm,0.6s,baz=213,slow=3.4,SNR=42						
PDAR	**Pinedale Array**	**84.20**	**42**	*e*P	**P**	**10 33 00.8**	**-0.5**
BOZ	**Bozeman (W)**	**84.36**	**39**	*e*P	**P**	**10 33 03.1**	**+1.1**
COLA	**College**	**84.41**	**11**	*e*P	**P**	**10 33 01.8**	**+0.3**
	10nm,0.8s						
ILAR	**Eielson Array**	**84.49**	**11**	P	**P**	**10 33 00.8**	**-1.1**
	1.1nm,0.7s,baz=233,slow=6.4,SNR=20						
ILB	**Eielson Array**	**84.49**	**11**	*e*P	**P**	**10 33 00.9**	**-1.0**
IL1	**Eielson Array**	**84.49**	**11**	*e*P	**P**	**10 33 01.7**	**-0.3**
IM3	**Indian Mountai**	**84.50**	**8**	*e*P	**P**	**10 33 02.8**	**+0.8**
SDCO	**Great Sand Dun**	**84.56**	**48**	*e*P	**P**	**10 33 03.0**	**-0.3**
	1.4nm,1.1s						
PRP	**Porcupine Dome**	**85.42**	**12**	*e*P	**P**	**10 33 06.9**	**+0.1**
	4.6nm,1.0s						
DAWY	**Dawson**	**85.48**	**15**	*e*P	**P**	**10 33 07.5**	**+0.5**
	3.5nm,0.9s						
BJI	**Beijing**	**86.28**	**314**	P	**P**	**10 33 11.9**	**+0.5**
BJI				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ABTX	**Abilene, Hawle**	**86.78**	**55**	*e*P	**P**	**10 33 14.2**	**+0.1**
	16nm,0.8s						
RSSD	**Black Hills**	**88.38**	**43**	*e*P	**P**	**10 33 21.2**	**-0.5**
	4.1nm,1.0s						
PLCA	**Paso Flores**	**88.74**	**132**	P	**P**	**10 33 24.2**	**+0.7**
	1.8nm,0.8s,baz=217,slow=5.1,SNR=3.0						
HHC	**Hu-ho-hao-te**	**89.82**	**313**	*e*P	**P**	**10 33 29.8**	**+1.4**
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC				pmax	pmax		
	comp=Z,93nm,4.8s						
VNA3	**Neumayer Olymp**	**90.99**	**175**	P	**P**	**10 33 33.3**	**0.0**
VNA2	**Neumayer--Watz**	**91.47**	**176**	P	**P**	**10 33 36.3**	**+0.8**
	baz=190,slow=4.6						
VNA1	**Neumayer--Stat**	**91.68**	**175**	P	**P**	**10 33 37.4**	**+1.0**
YKA	**Yellowknife Ar**	**92.17**	**24**	P	**P**	**10 33 36.7**	**-1.9**
	0.2nm,0.7s,baz=241,slow=4.7,SNR=4.2						
YKB5	**Yellowknife Ar**	**92.17**	**24**	*e*P	**P**	**10 33 36.7**	**-1.9**
CMAR	**Chiang Mai Arr**	**92.54**	**288**	P	**P**	**10 33 41.7**	**+0.3**
	0.5nm,0.3s,baz=104,slow=3.8,SNR=4.3						
KSH	**Kashi**	**116.04**	**306**	PKP	**PKiKP**	**10 39 14.9**	**+2.5**
KSH				sPKP		10 39 51.0	
KSH				PP	PP	10 40 27.9	+9.4
KMBO	**Kilima Mbogo**	**144.01**	**242**	PKP	**PKPdf**	**10 40 04.0**	**-1.9**
	0.6nm,0.3s,baz=45,slow=4.3,SNR=4.1						
CLL	**Collm**	**145.65**	**352**	⇑*i*PKPdf	**PKPab**	**10 40 07.8**	**-0.3**
	comp=Z,9.0nm,1.2s						
CLL				*i*		10 40 14.3	
CLL				*e*(sPKPdf)		10 40 48.0	
BUR08	**Bucovina Ar. S**	**145.86**	**336**	*e*PKPdf	**PKiKP**	**10 40 09.6**	**-2.5**
BRG	**Berggiesshubel**	**145.94**	**351**	*e*P	**PKPab**	**10 40 09.2**	**0.0**
	comp=Z,5.5nm,1.1s						
DPC	**Dobruska-Polom**	**146.02**	**348**	*e*PKP	**PKiKP**	**10 40 10.1**	**-2.1**
DPC				*e*x	x	10 40 15.4	
BR101	**Keskin Array S**	**147.17**	**318**	*e*PKPdf	**PKPbc**	**10 40 11.9**	**-0.8**
BR131	**Keskin Array S**	**147.17**	**318**	*e*PKPbc	**PKPab**	**10 40 12.7**	**-1.9**
BRTR	**Keskin Array B**	**147.17**	**318**	PKPbc	**PKPbc**	**10 40 11.9**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=120,slow=1.3,SNR=6.0						
VYHS	**Vyhne**	**147.18**	**344**	*e*PKP	**PKPab**	**10 40 12.8**	**-1.3**
KHC	**Kasperske Hory**	**147.69**	**350**	*e*PKP	**PKiKP**	**10 40 14.4**	**-1.3**
GEC2	**GERESS Array S**	**147.94**	**350**	*e*PKPbc	**PKiKP**	**10 40 14.8**	**-1.5**
GERES	**GERESS Array B**	**147.94**	**350**	PKPbc	**PKiKP**	**10 40 14.8**	**-1.5**
	comp=Z,1.1nm,0.8s,baz=316,slow=5.6,SNR=3.5						
CONA	**Conrad Observa**	**148.42**	**347**	PKPbc	**PKPbc**	**10 40 13.6**	**-2.1**
	comp=Z,5.0nm,1.0s						
MOA	**Molln**	**148.81**	**349**	*e*PKPbc	**PKPbc**	**10 40 13.8**	**-2.9**
	comp=Z,0.6nm,0.5s						
RETA	**Reutte**	**149.68**	**353**	*e*PKiKP	**PKiKP**	**10 40 19.1**	**-0.8**
	comp=Z,7.0nm,1.4s						
WATA	**Walderalm**	**149.73**	**352**	*e*PKiKP	**PKiKP**	**10 40 19.8**	**-0.3**
	comp=Z,1.6nm,0.5s						
MOTA	**Moosalm**	**149.78**	**353**	*e*PKiKP	**PKiKP**	**10 40 20.2**	**+0.1**
	comp=Z,0.9nm,0.5s						
SOKA	**Soboth**	**149.78**	**347**	PKPbc	**PKiKP**	**10 40 18.9**	**-1.2**
	comp=Z,2.6nm,0.8s						
SQTA	**Sankt Quirin**	**149.89**	**353**	*e*PKiKP	**PKiKP**	**10 40 19.7**	**-0.7**
	comp=Z,1.7nm,0.5s						
DAVA	**Damuels**	**149.96**	**355**	*e*PKiKP	**PKiKP**	**10 40 20.8**	**+0.2**
	comp=Z,4.7nm,1.0s						
OBKA	**Obir**	**150.04**	**348**	*e*PKiKP	**PKPab**	**10 40 22.2**	**-3.6**
	comp=Z,7.3nm,1.6s						
FETA	**Feichten**	**150.14**	**353**	*e*PKiKP	**PKiKP**	**10 40 20.2**	**-0.7**
	comp=Z,6.1nm,1.3s						
ABTA	**Abfaltersbach**	**150.17**	**351**	*e*PKPbc	**PKiKP**	**10 40 19.2**	**-1.7**
	comp=Z,5.0nm,1.0s						
FUORN	**Ofenpass-Fuorn**	**150.59**	**354**	*e*PKPbc	**PKiKP**	**10 40 22.3**	**+0.3**
TORD	**Torodi Ar. Bea**	**174.21**	**136**	PKP	**PKPdf**	**10 40 38.9**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=151,slow=3.4,SNR=4.2						
TORD				PKPab	**PKPab**	**10 42 09.2**	**-2.5**
	comp=Z,3.0nm,1.1s,baz=229,slow=4.5,SNR=7.0						
TOA1	**Torodi Ar. Sit**	**174.21**	**136**	*e*PKPdf	**PKPdf**	**10 40 38.9**	**-0.6**
TOA1				*e*PKPab	**PKPab**	**10 42 09.2**	**-2.5**

*ISCJB **06** 10:24:04.8±0.8, 40°.40N±0°.03×25°.93E±0°.05, h9km±6km, Error ellipse: s-maj=7.2km s-min=5.0km az=15.5*
*ATH **06** 10:24:04.7, 40°.40N×25°.92E, h17km±7km, ML1.7/1, Error ellipse: s-maj=7.1km s-min=1.1km az=305.0*
*DDA **06** 10:24:05.0, 40°.38N×26°.02E, h7km±2km, ML2.6*
ISC 06 10:24:05.0±1.4, **40°.41N**±0°.05×**25°.91E**±0°.08, **h19**km±6km, **n9**, σ**0s.37**/15, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMTH	**Samothraki Isl**	**0.29**	**282**	P	**Pg**	**10 24 11.4**	**-0.2**
SMTH				S	**Sg**	**10 24 16.0**	**-0.1**
SMTH				AML	AML	10 24 16.3	
	comp=E,378μm,0.1s						
SMTH				AML	AML	10 24 16.3	
	comp=N,368μm,0.1s						
ALN	**Alexandroupoli**	**0.50**	**12**	P	**Pg**	**10 24 14.7**	**-0.5**
ALN				S	**Sg**	**10 24 22.2**	**+0.3**
BOZC	**Bozcaada**	**0.58**	**169**	IAML_P			
	comp=Z,652nm,0.2s						
BOZC				*i* P	**Pb**	**10 24 16.4**	**0.0**
BOZC				*i* S	**Sb**	**10 24 23.8**	**-0.4**
KESN	**Edirne-Kesan**	**0.72**	**55**	IAML_P			
	comp=Z,362nm,0.1s						
KESN				*i* P	**Pn**	**10 24 20.7**	**+0.2**
KESN				*i* S	**Sb**	**10 24 28.7**	**-0.1**
LIA	**Limnos Island**	**0.76**	**228**	P	**Pg**	**10 24 19.5**	**-0.3**
LIA				S	**Sg**	**10 24 30.2**	**+0.4**
RDO	**Rodhopi**	**0.79**	**339**	P	**Pg**	**10 24 20.2**	**-0.3**
RDO				S	**Sg**	**10 24 31.5**	**+0.5**
BAYC	**CANAKKALE_Bayr**	**0.83**	**144**	IAML_P			
	comp=Z,599nm,0.1s						
BAYC				*i* P	**Pb**	**10 24 20.6**	**-0.2**
THAS	**Thassos island**	**0.93**	**283**	P	**Pg**	**10 24 22.6**	**-0.5**
SIGR	**SIGRI**	**1.20**	**182**	P	**Pn**	**10 24 27.1**	**+0.4**

*MOS **06** 10:25:06.2±1.2, 1°.89N×89°.72E, h10km, mb4.8/31, Error ellipse: s-maj=9.4km s-min=5.5km az=109.1*
*IDC **06** 10:25:06.6±0.7, 1°.99N×89°.73E, h0km, mb4.3/19, mb1 4.4/21, mb1mx4.3/34, mbtmp4.3/21, ML4.4/2, MS3.7/11, Ms1 3.7/11, ms1mx3.5/29, Error ellipse: s-maj=22.9km s-min=12.5km az=41.0*
*ISCJB **06** 10:25:06.3±0.3, 1°.83N±0°.04×89°.74E±0°.03, h10km, mb4.6/80, MS3.9/13, Error ellipse: s-maj=6.2km s-min=3.4km az=24.7*
*NEIC **06** 10:25:07.9±2.7, 1°.88N×89°.68E, h8km±16km, mb4.8/35, Error ellipse: s-maj=8.4km s-min=4.1km az=220.0*
*BJI **06** 10:25:07.0, 1°.90N×89°.70E, h14km, mb4.6/39, mB5.0/27, Ms4.3/12, Ms7 4.0/13*
*KLM **06** 10:25:20.9, 1°.87N×90°.42E, h81km, mb4.8*
*DJA **06** 10:25:31.5±3.3, 2°N±9°×9°1E±2°8, h10km, M5.0/8, mb5.1/8, mB5.5/5, MLv5.0/6, Mw(mB)5.0/5*
ISC 06 10:25:08.3±0.4, **1°.90N**±0°.06×**89°.70E**±0°.05, **h10**km, **n238**, σ**1s.64**/234, **mb4.7**/90, **MS3.8**/13, **24C-3D**, **North Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**6.64**	**86**	P	**Pn**	**10 26 45.2**	**-0.8**
TPTI		**7.59**	**80**	P	**Pn**	**10 26 58.2**	**-0.9**
	122nm,0.5s,2μm0.5nm						
GSI	**Gunungsitoli**	**7.89**	**94**	*e*Pn	**Pn**	**10 27 01.9**	**-1.4**
GSI				*e*Sn	**Sn**	**10 28 27.1**	**-5.7**
GSI	**Gunungsitoli**	**7.89**	**94**	P	**Pn**	**10 27 02.4**	**-0.9**
	91nm,0.9s,0.5nm						
LHMI	**Lhok Sumawe**	**7.95**	**65**	*e*Pn	**Pn**	**10 27 05.1**	**+1.1**
LHMI	**Lhok Sumawe**	**7.95**	**65**	P	**Pn**	**10 27 05.2**	**+1.2**
KCSI	**Kotacane, Aceh**	**8.22**	**79**	P	**Pn**	**10 27 08.3**	**+0.5**
	270nm,0.5s,4μm1.2nm						
TSI	**Tuntungan**	**8.99**	**80**	P	**Pn**	**10 27 19.1**	**+0.7**
	294nm,0.7s,1.0nm						
PSI	**Prapat**	**9.26**	**84**	Pn	**Pn**	**10 27 21.5**	**-0.6**
	4.2nm,0.3s,baz=360,slow=1.7,SNR=21						
PSI				Sn	Sn	10 28 52.0	-14
	2.1nm,0.3s,baz=180,slow=20,SNR=1.6						
PSI				LR	LR	10 30 51.0	
	comp=Z,570nm,22.0s,baz=269,slow=37						
PSI	**Prapat**	**9.26**	**84**	*e*Pn	**Pn**	**10 27 21.2**	**-0.9**
PSI				Sn	Sn	10 28 52.0	-14
PSI				*e*Sn	Sn	10 29 06.1	-0.4
PSI	**Prapat**	**9.26**	**84**	*e*P	**Pn**	**10 27 21.2**	**-0.9**
PSI				*e*		10 29 06.1	
MNSI	**Mandailing Nat**	**9.94**	**96**	P	**Pn**	**10 27 30.7**	**-0.6**
PALK	**Pallekele**	**10.43**	**301**	Pn	**Pn**	**10 27 36.0**	**-2.2**
	3.2nm,0.3s,baz=116,slow=12,SNR=13						
PALK				Sn	Sn	10 29 21.7	-14
	44nm,0.3s,baz=295,slow=0.7,SNR=15						
PALK				LR	LR	10 31 12.5	
	comp=Z,427nm,18.4s,baz=116,slow=35						
PALK	**Pallekele**	**10.43**	**301**	*e*Pn	**Pn**	**10 27 37.2**	**-1.0**
PALK				*e*Sn	Sn	10 29 22.2	-13
PALK	**Pallekele**	**10.43**	**301**	*ce*P	**Pn**	**10 27 39.4**	**+1.2**
PKDT	**Phuket**	**10.46**	**55**	P	**Pn**	**10 27 38.5**	**+0.1**
	97nm,0.6s						
PDSI	**Padang**	**11.12**	**104**	P	Pn	10 27 55.6	+8.1
KULM	**Kulim**	**11.43**	**73**	*e*Pn	**Pn**	**10 27 50.5**	**-1.3**
TRTT	**Trang**	**11.56**	**59**	P	**Pn**	**10 27 53.0**	**-0.6**
	27nm,0.5s						
IPM	**Ipoh**	**11.59**	**77**	*e*Pn	**Pn**	**10 27 53.3**	**-0.7**
FRIM	**Kepong**	**11.98**	**83**	P	**Pn**	**10 27 58.8**	**-0.6**
SKLT	**Songkhla**	**12.07**	**64**	P	**Pn**	**10 28 00.6**	**0.0**
	86nm,0.9s,1μm						
KGM	**Kluang**	**13.61**	**89**	P	**Pn**	**10 28 21.4**	**-0.2**
KTGM	**Kuala Trenggan**	**13.83**	**75**	P	**Pn**	**10 28 23.1**	**-1.5**
MYKOM	**Kota Tinggi**	**14.14**	**90**	*e*Pn	**Pn**	**10 28 28.9**	**0.0**
MYKOM	**Kota Tinggi**	**14.14**	**90**	P	**Pn**	**10 28 29.3**	**+0.5**
DSRI	**Dabo**	**15.06**	**99**	P	**Pn**	**10 28 43.0**	**+1.6**
SRDT	**SRDT**	**15.48**	**36**	P	**P**	**10 28 56.7**	**+5.3**
COCO	**West Island**	**15.69**	**153**	*ce*P	**P**	**10 28 57.0**	**+3.3**
MDSI	**Maura Dua**	**15.80**	**114**	P	**P**	**10 28 56.9**	**+2.0**
UTHA	**Uthaitani**	**16.63**	**35**	P	**Pn**	**10 29 02.1**	**+0.4**
	2.8nm,0.7s						
UMPA	**Umpang Tak**	**16.83**	**32**	P	**P**	**10 29 10.9**	**+4.4**
PPBI	**Pangkal Pinang**	**16.92**	**104**	P	**P**	**10 29 09.7**	**+2.3**
PBKT	**Sadao Pong**	**18.32**	**37**	*e*Pn	**P**	**10 29 23.1**	**+0.3**
	18nm,1.0s						
PBKT	**Sadao Pong**	**18.32**	**37**	P	**P**	**10 29 24.0**	**+1.2**
	18nm,0.9s,1μm						
CHAI	**Chaiyaphum**	**18.44**	**40**	P	**Pn**	**10 29 24.6**	**+0.3**
	5.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**18.78**	**28**	P	**Pn**	**10 29 29.4**	**+0.9**
	0.5nm,0.3s,baz=221,slow=12,SNR=26						
CMAR				LR	LR	10 36 28.2	
	comp=Z,121nm,19.8s,baz=210,slow=36						
CMAR	**Chiang Mai Arr**	**18.78**	**28**	*ce*P	**Pn**	**10 29 29.3**	**+0.9**
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HYB	**Hyderabad**	**18.91**	**325**	*i* P	**Pn**	**10 29 30.0**	**0.0**
HYB				*e*		10 32 49.0	
HYB				*e*S	**Sn**	**10 33 00.0**	**-2.0**
CHTO	**Chiang Mai**	**19.09**	**28**	*e*P	**Pn**	**10 29 33.2**	**+1.0**
	comp=Z,9.9nm,1.0s						
CHTO	**Chiang Mai**	**19.09**	**28**	*e*P	**Pn**	**10 29 33.2**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CHTO	**Chiang Mai**	**19.09**	**28**	P	**Pn**	**10 29 34.1**	**+1.9**
	comp=Z,51nm,0.9s						
CMMT	**Chiang Mai**	**19.09**	**28**	P	**Pn**	**10 29 34.0**	**+1.8**
	comp=Z,11nm,0.9s						
LAMP	**Lampang**	**19.17**	**30**	P	**Pn**	**10 29 38.8**	**+5.7**
	comp=Z,6.5nm,0.9s						
H08S2	**Diego Garcia H**	**19.61**	**241**	T	T	10 49 53.9	
	baz=62,slow=75,SNR=542						
H08S3	**Diego Garcia H**	**19.61**	**241**	T	T	10 50 07.9	
	baz=62,slow=75,SNR=527						
H08S1	**Diego Carcia H**	**19.63**	**241**	T	T	10 50 21.2	
	baz=62,slow=75,SNR=462						
PAYA	**Payao**	**20.00**	**29**	P	Pn	10 29 44.0	+1.0
	comp=Z,6.9nm,0.8s,comp=Z,498nm						
SKNT	**Sakolnakorn**	**20.53**	**42**	P	Pn	10 29 50.9	+1.6
	comp=Z,15nm,3.0s						
KSM	**Kuching**	**20.60**	**91**	*e*P	Pn	10 29 50.0	-0.2
	comp=Z,56nm,1.5s						
SBUM	**Sibu**	**22.51**	**88**	*e*P	**P**	**10 30 08.6**	**+0.2**
	comp=Z,6.9nm,1.0s						
POO	**Poona**	**22.68**	**318**	*e*P	**P**	**10 30 11.0**	**+0.7**
	comp=Z,20nm,1.0s						
POO				*i* PP	**PnPn**	**10 30 39.0**	**+4.8**
POO				*i* PPP	PPP	10 30 49.0	
POO				*i* S	**S**	**10 34 15.0**	**-3.8**
POO				*i* LQ	LQ	10 34 37.0	
POO				*i* SS	**SnSn**	**10 34 56.0**	**+7.2**
POO				*i* SSS	SSS	10 35 11.0	
POO				*i* LR	LR	10 35 42.0	
JBP	**Jabalpur**	**23.14**	**337**	*e*P	**P**	**10 30 08.2**	**-6.7**
JBP				*e*S	**S**	**10 34 31.9**	**+5.3**
SHL	**Shillong**	**23.62**	**5**	*e*P	**P**	**10 30 20.9**	**+1.0**
	comp=Z,34nm,1.0s						
SHL	**Shillong**	**23.62**	**5**	*e*P	**P**	**10 30 20.9**	**+1.0**
SHL				pmax	pmax		
	comp=Z,34nm,1.0s						
SHL	**Shillong**	**23.62**	**5**	*e*P	**P**	**10 30 18.0**	**-1.9**
ODAN	**Odare**	**24.91**	**355**	*e*P	**P**	**10 30 32.6**	**+0.6**
	comp=Z,48nm,1.1s						
RAMN	**Ramite**	**25.08**	**353**	*e*P	**P**	**10 30 35.1**	**+1.6**
	comp=Z,112nm,1.0s						
JIRN	**Jiri**	**25.83**	**353**	*e*P	**P**	**10 30 41.2**	**+0.8**
	comp=Z,109nm,0.8s						
PKI	**Pulchoki**	**25.85**	**351**	*e*P	**P**	**10 30 41.4**	**+0.8**
	comp=Z,14nm,0.6s						
PKIN	**Phulchoki**	**25.86**	**351**	*e*P	**P**	**10 30 41.5**	**+0.9**
	comp=Z,14nm,0.6s						
DMN	**Daman**	**25.94**	**351**	*e*P	**P**	**10 30 42.2**	**+0.9**
	comp=Z,86nm,1.1s						
QIZ	**Qiongzhong**	**26.05**	**48**	P	**P**	**10 30 43.5**	**+1.3**
QIZ				S	**S**	**10 35 16.0**	**+2.6**
QIZ				LR	LR		
	comp=Z,200nm,8.7s						
GUN	**Gumba**	**26.12**	**352**	*e*P	**P**	**10 30 43.8**	**+0.8**
	comp=Z,45nm,0.9s						
KMI	**Kunming**	**26.29**	**27**	P	**P**	**10 30 47.6**	**+3.1**
KMI				pP	pwP	10 30 51.5	+1.0
KMI				sP	sP	10 30 53.1	+5.6
KMI				pmax	pmax		
	comp=Z,16nm,0.7s						
KMI				pmax	pmax		
	comp=Z,130nm,4.4s						
KOLN	**Koldanda**	**26.38**	**348**	*e*P	**P**	**10 30 46.1**	**+0.9**
	comp=Z,36nm,0.9s						
KKM	**Kota Kinabalu**	**26.76**	**80**	*e*P	**P**	**10 30 49.7**	**+0.9**
	comp=Z,24nm,1.1s						
PYUN	**Piuthan**	**26.83**	**347**	*e*P	**P**	**10 30 50.0**	**+0.7**
	comp=Z,46nm,0.9s						
DANN	**Dangsing**	**26.90**	**348**	*e*P	**P**	**10 30 50.6**	**+0.5**
	comp=Z,75nm,1.2s						
LSA	**Lhasa**	**27.68**	**3**	*e*P	**P**	**10 30 58.8**	**+1.6**
	comp=Z,20nm,0.9s						
LSA	**Lhasa**	**27.68**	**3**	*e*P	**P**	**10 30 58.8**	**+1.6**
LSA				pmax	pmax		
	comp=Z,20nm,0.9s						
GYA	**Guiyang**	**29.36**	**32**	*e*P	**P**	**10 31 14.8**	**+3.0**
CD2	**Chengdu**	**31.77**	**23**	*e*P	**P**	**10 31 34.0**	**+1.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ENH	**Enshi**	**33.89**	**32**	*e*P	**P**	**10 31 51.2**	**-0.3**
	comp=Z,23nm,1.0s						
NIL	**Nilore**	**35.14**	**336**	*e*P	**P**	**10 32 02.6**	**+0.3**
	comp=Z,34nm,0.6s						
NIL	**Nilore**	**35.14**	**336**	*e*P	**P**	**10 32 02.6**	**+0.3**
NIL				pmax	pmax		
	comp=Z,35nm,0.6s						
LZH	**Lanzhou**	**36.45**	**19**	*e*P	P	10 32 22.8	+9.1
LZH				pP	pwP	10 32 26.0	+6.3
LZH				sP	sP	10 32 28.8	+12
LZH				PP	PP	10 34 06.5	+30
LZH				S	S	10 38 19.9	+24
LZH				sS	ScP	10 38 33.5	+8.8
LZH				SS	SS	10 40 52.2	+17
LZH				pmax	pmax		
	comp=Z,29nm,1.0s						
LZH				pmax	pmax		
	comp=Z,210nm,6.0s						
LZH				LR	LR		
	comp=N,430nm,10.3s						
LZH				LR	LR		
	comp=E,310nm,11.8s						
LZH				LR	LR		
	comp=Z,530nm,13.0s						
XAN	**Xi'an**	**36.67**	**27**	P	**P**	**10 32 14.1**	**-1.4**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,100nm,7.8s						
XAN				LR	LR		
	comp=Z,250nm,16.3s						
XAN				LR	LR		
	comp=Z,260nm,20.6s						
YULB	**Yu-li**	**37.33**	**53**	*e*P	**P**	**10 32 23.3**	**+2.1**
	comp=Z,13nm,0.8s						
KBL	**Kabul**	**37.76**	**332**	*e*P	**P**	**10 32 25.0**	**+0.1**
	comp=Z,7.2nm,0.6s						
KBL	**Kabul**	**37.76**	**332**	*e*P	**P**	**10 32 25.0**	**+0.1**
KBL				pmax	pmax		
	comp=Z,7.0nm,0.6s						
GTA	**Gaotai**	**38.45**	**13**	*e*P	**P**	**10 32 31.3**	**+0.7**
GTA				PcP	**PcP**	**10 34 44.5**	**+0.7**
GTA				S	**S**	**10 38 25.6**	**-0.4**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,99nm,8.4s						

GTA LR LR
comp=Z,120nm,18.1s
GTA LR LR
comp=Z,110nm,17.8s
GTA LR LR
comp=Z,130nm,18.7s
KSH Kashi 39.47 343 P **P** **10 32 36.1 -3.0**
KSH sP pwP 10 32 46.7 +1.6
KSH S **S** **10 38 34.3 -7.0**
KSH sS sS 10 38 47.9 +2.9
KSH pmax pmax
comp=Z,21nm,0.6s
KSH pmax pmax
comp=Z,220nm,5.1s
KSH LR LR
comp=Z,190nm,5.4s
KSH LR LR
comp=Z,130nm,6.1s
KSH LR LR
comp=Z,500nm,7.3s
FITZ Fitzroy Crossi 40.58 121 *e*P **P** **10 32 48.2 -0.3**
comp=Z,5.8nm,1.1s
NJ2 Nanjing 40.66 39 *e*P **P** **10 32 52.3 +3.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
SFK Sufi-Kurgan 40.69 341 P **P** **10 32 49.9 +0.5**
SFK pmax pmax
comp=Z,14nm,1.7s
NRN Naryn 41.25 344 *e*P **P** **10 32 54.4 +0.4**
comp=Z,4.7nm,0.9s
NRN Naryn 41.25 344 *e*P **P** **10 32 54.4 +0.4**
NRN pmax pmax
comp=Z,5.0nm,0.9s
BTK Batken 41.67 338 *e*P **P** **10 32 57.4 +0.1**
comp=Z,8.0nm,0.8s
BTK Batken 41.67 338 *e*P **P** **10 32 57.4 +0.1**
BTK pmax pmax
comp=Z,8.0nm,0.8s
WMQ Urumqi 41.78 358 P **P** **10 32 58.6 +0.6**
WMQ pP pwP 10 33 03.4 -0.7
WMQ sP sP 10 33 07.9 +6.7
WMQ PP **PnPn** **10 34 38.9 -0.8**
WMQ pmax pmax
comp=Z,21nm,0.7s
WMQ pmax pmax
comp=Z,180nm,4.7s
WMQ LR LR
comp=Z,160nm,20.5s
WMQ LR LR
comp=Z,210nm,22.5s
WMQ LR LR
comp=Z,120nm,21.5s
ARSB Arslanbob 42.04 341 *e*P **P** **10 33 00.9 +0.5**
comp=Z,11nm,0.7s
PDGK Podgornoye 42.24 349 P **P** **10 33 02.9 +1.0**
PDGK pmax pmax
comp=Z,11nm,1.1s
UCH Uchtor 42.40 343 P **P** **10 33 04.2 +0.6**
SNR=6.5
AML Almayashu 42.55 342 P **P** **10 33 05.7 +0.9**
SNR=9.9
TKM2 Tokmak 2 42.74 345 P **P** **10 33 06.4 +0.3**
SNR=6.8
AAK Ala-Archa 42.78 343*ce*P **P** **10 33 07.4 +1.0**
AAK pmax pmax
comp=Z,7.0nm,1.7s
FAKI Fak Fak 42.80 96 *e*P **P** **10 33 05.3 -1.5**
comp=Z,31nm,1.1s
EKS2 Erkin-Say 43.01 343 P **P** **10 33 09.2 +1.0**
SNR=7.6
H01W3 Cape Leeuwin H 43.17 150 T T 11 19 04.8
baz=325,slow=75,SNR=48
H01W2 Cape Leeuwin H 43.18 150 T T 11 19 03.0
baz=325,slow=75,SNR=39
H01W1 Cape Leeuwin H 43.19 150 T T 11 19 06.7
baz=325,slow=75,SNR=42
NWAO Narrogin (SRO) 43.32 145 P **P** **10 33 11.1 +0.4**
comp=Z,6.0nm,0.8s,baz=9.5,slow=6.1,SNR=2.5
USP Ospenovka 43.36 344 P **P** **10 33 11.5 +0.5**
SNR=6.6
HHC Hu-ho-hao-te 43.52 24 *e*P **P** **10 33 14.3 +2.0**
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,140nm,5.4s
KKAR Karatay Array 44.45 340 *e*P **P** **10 33 19.5 -0.2**
KKAR Karatay Array 44.45 340 *e*P **P** **10 33 19.5 -0.2**
JOW Kunigami 44.52 53 *e*P **P** **10 33 21.0 +0.5**
comp=Z,56nm,1.3s
MK32 Makanchi Array 45.18 353 *e*P **P** **10 33 24.9 -0.4**
MKAR Makanchi Array 45.18 353 P **P** **10 33 24.9 -0.4**
comp=Z,2.4nm,0.7s,baz=171,slow=9.1,SNR=32
MKAR Makanchi Array 45.18 353 *e*P **P** **10 33 25.3 -0.1**
comp=Z,30nm,0.8s
MKAR Makanchi Array 45.18 353*ce*P **P** **10 33 25.0 -0.4**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MAKZ Makanchi 45.23 353 *e*P **P** **10 33 26.0 +0.2**
comp=Z,6.2nm,1.0s
MAKZ Makanchi 45.23 353 *e*P **P** **10 33 26.0 +0.2**
MAKZ pmax pmax
comp=Z,6.0nm,1.0s
GEYT Alibeck 46.10 325 P **P** **10 33 33.1 +0.3**
comp=Z,8.3nm,0.7s,baz=153,slow=10.0,SNR=17
DGZ Jazzator, Alta 47.66 358 *i* P **P** **10 33 45.7 +0.7**
DGZ pmax pmax
comp=Z,1.0nm,1.0s
SONA0 Songino Array 47.98 15 *e*P **P** **10 33 47.7 +0.2**
SONM Songino Array 47.98 15 P **P** **10 33 47.7 +0.2**
comp=Z,8.4nm,0.8s,baz=196,slow=9.1,SNR=42
SONM LR LR 10 56 03.2
comp=Z,139nm,20.6s,baz=188,slow=39
ULN Ulaanbaatar 48.18 16 *e*P **P** **10 33 48.9 -0.2**
comp=Z,6.3nm,1.0s
ULN Ulaanbaatar 48.18 16*ce*P **P** **10 33 51.0 +1.9**
ULN pmax pmax
comp=Z,6.0nm,1.7s
OTUK Ortayu 48.53 345 P **P** **10 33 51.5 -0.1**
OTUK pmax pmax
comp=Z,8.0nm,0.8s
WRA Warramunga Ar 48.86 119 P **P** **10 33 54.5 -0.1**
comp=Z,8.4nm,0.7s,baz=296,slow=8.6,SNR=50
WR1 Warramunga Arr 48.86 119 *e*P **P** **10 33 54.5 -0.1**
comp=Z,14nm,0.8s
WRAB Tennant Creek 48.87 119 *e*P **P** **10 33 54.7 0.0**
comp=Z,16nm,0.8s
WRAB Tennant Creek 48.87 119*d i*P **P** **10 33 54.9 +0.2**
WRAB pmax pmax
comp=Z,18nm,0.9s
WB2 Warramunga Arr 48.87 119 *e*P **P** **10 33 54.7 0.0**
comp=Z,14nm,0.8s
KURK Kurchatov 49.53 351 *e*P **P** **10 33 58.9 -0.3**
comp=Z,9.5nm,0.8s
KURK Kurchatov 49.53 351*ce*P **P** **10 33 59.1 -0.1**
KURK pmax pmax
comp=Z,11nm,1.7s
ZAK Zakamensk 49.66 11 *e*P **P** **10 33 59.4 -0.9**
ZAK pmax pmax
comp=Z,2.0nm,1.3s
KSAR Wonju Array Be 49.81 40 P **P** **10 34 01.1 -0.4**
KSAR Wonju Array Be 49.81 40 P **P** **10 34 01.2 -0.4**
KSRS Korea Array 49.85 40 P **P** **10 34 01.1 -0.7**
comp=Z,1.8nm,0.9s,baz=214,slow=8.4,SNR=7.0
KSRS LR LR 10 56 17.4
comp=Z,66nm,19.6s,baz=230,slow=38
ASAR Alice Springs 49.93 123 P **P** **10 34 02.9 +0.1**
comp=Z,4.1nm,0.8s,baz=295,slow=7.7,SNR=27
AS31 Alice Springs 49.93 123 *e*P **P** **10 34 02.6 -0.2**
comp=Z,1.4nm,0.5s
AS01 Alice Springs 49.97 123 *e*P **P** **10 34 02.3 -0.8**
ZALV Zalesovo Beam 52.03 356 P **P** **10 34 17.1 -0.9**
comp=Z,2.3nm,0.5s,baz=183,slow=7.2,SNR=13
ZAA1 Zalesovo Array 52.03 356 *e*P **P** **10 34 17.1 -0.9**
CN2 Changchun 52.40 32 *e*P **P** **10 34 23.7 +2.8**
KMBO Kilima Mbogo 52.53 267 LR LR 10 54 29.5
comp=Z,82nm,18.0s,baz=92,slow=34
NVS Novosibirsk 53.03 355 *e*P **P** **10 34 23.8 -1.6**
BRVK Borovoye 53.47 346*ce*P **P** **10 34 30.6 +1.9**
BRVK pmax pmax
comp=Z,7.0nm,2.5s
ABKAR Akbulak array 53.60 336 *e*P **P** **10 34 29.6 -0.1**
USRK Ussuriysk Ar. 56.31 36 P **P** **10 34 47.8 -1.6**
comp=Z,2.3nm,0.8s,baz=229,slow=6.0,SNR=4.3
MAJO Matsushiro 56.44 46 *e*P **P** **10 34 50.2 -0.3**
MAJO Matsushiro 56.44 46 *e*P **P** **10 34 50.2 -0.3**
MJAR Matsushiro Arr 56.44 46 P **P** **10 34 50.2 -0.3**
comp=Z,3.1nm,0.8s,baz=230,slow=7.3,SNR=5.0
NCK Nalchik 58.20 322 *i* P **P** **10 35 02.0 -0.8**
NCK pmax pmax
comp=Z,7.0nm,0.9s
NEY Neytrino 58.62 321 *i* P **P** **10 35 06.8 +0.9**
NEY pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 58.76 322 P **P** **10 35 06.2 -0.5**
comp=Z,6.4nm,0.8s,baz=131,slow=7.4,SNR=14
BOD Bodaibo 58.98 15 *e*P **P** **10 35 07.2 -0.7**
BOD pmax pmax
comp=Z,6.0nm,1.1s
KIV Kislovodsk 59.01 322 *e*P **P** **10 35 08.6 +0.1**
comp=Z,12nm,0.9s
KIV Kislovodsk 59.01 322 *e*P **P** **10 35 07.7 -0.8**
KIV *e* 10 35 57.0
KIV *e* 10 37 18.1
KIV pmax pmax
KIV comp=Z,12nm,1.0s MLR MLR
comp=Z,62nm,15.0s
KLR Kul'dur 59.24 31 *i* P **P** **10 35 10.0 +0.1**
SVE Sverdlovsk 59.48 342 *e*P **P** **10 35 09.0 -2.4**
SVE pmax pmax
comp=Z,10.0nm,0.8s
STKA Stephens Creek 59.51 129 P **P** **10 35 11.8 -0.4**
comp=Z,1.8nm,0.6s,baz=259,slow=5.2,SNR=3.3
CTAO Charters Tower 59.57 115 *e*P **P** **10 35 12.5 -0.2**
comp=Z,38nm,1.4s
CTAO Charters Tower 59.57 115 *e*P **P** **10 35 12.5 -0.2**
CTAO pmax pmax
comp=Z,38nm,1.4s
ARU Arti 59.82 341 *e*P **P** **10 35 13.2 -0.5**
comp=Z,9.1nm,1.0s
ARU Arti 59.82 341*c i*P **P** **10 35 13.0 -0.8**
ARU 10 37 21.8
ARU S **S** **10 43 26.0 +0.8**
ARU SS **SS** **10 47 22.4 +1.0**
ARU pmax pmax
comp=Z,8.0nm,0.9s
BR101 Keskin Array P 63.17 314 *e*P **P** **10 35 36.2 -0.7**
BR131 Keskin Array S 63.17 314 *e*P **P** **10 35 36.0 -1.0**
BRTR Keskin Array B 63.17 314 P **P** **10 35 36.2 -0.7**
comp=Z,3.0nm,0.6s,baz=132,slow=7.2,SNR=22
EIDS Eidsvold 65.23 119 *e*P **P** **10 35 51.8 +1.3**
comp=Z,16nm,1.3s
CAN Canberra 66.53 130 *e*P **P** **10 35 59.5 +0.7**
comp=Z,11nm,1.3s
CAN Canberra 66.53 130 *e*P **P** **10 35 59.5 +0.7**
CAN pmax pmax
comp=Z,11nm,1.3s
YAK Yakutsk 67.03 19 *e*P **P** **10 35 59.2 -2.2**
YAK pmax pmax
comp=Z,14nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.1s
PRGR Permogore 68.17 339 *e*P **P** **10 36 07.1 -1.5**
PRGR *e* 10 36 31.3
PRGR pmax pmax
comp=Z,15nm,0.6s
OBN Obninsk 68.19 330 *e*P **P** **10 36 11.1 +2.3**
OBN pmax pmax
comp=Z,3.0nm,0.9s
BOSA Boshof 68.69 238 LR LR 11 05 16.6
comp=Z,63nm,18.1s,baz=202,slow=35
KLMR Klimovskoe 70.00 336 *e*P **P** **10 36 17.5 -2.4**
KLMR pmax pmax
comp=Z,9.0nm,1.1s
KLMR Klimovskoe 70.00 336 *e*P **P** **10 36 17.5 -2.4**
KLMR AMP 10 36 34.4
comp=Z,9.0nm,1.1s
VRI Vrincioaia 70.07 319⇑*i*P **P** **10 36 21.4 +0.7**
VRI Vrincioaia 70.07 319⇑P **P** **10 36 21.4 +0.7**
PLOR Plostina 70.11 319⇑P **P** **10 36 21.7 +0.6**
PLOR Plostina 70.11 319⇑P **P** **10 36 21.7 +0.6**
AKASG Malin Array Be 70.21 324 P **P** **10 36 20.6 -0.9**
comp=Z,0.8nm,0.4s,baz=92,slow=5.2,SNR=5.1
AKASG LR LR 11 09 04.7
comp=Z,44nm,20.5s,baz=305,slow=38
AKASG Malin Array Be 70.21 324*ce*P **P** **10 36 22.7 +1.3**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 70.21 324 *e*P **P** **10 36 20.7 -0.8**
comp=Z,2.5nm,0.8s
AKBB Malin Array Si 70.21 324 *e*P **P** **10 36 20.7 -0.8**
AKBB pmax pmax
comp=Z,3.0nm,0.8s
KIEV Kiev 70.21 324 *e*P **P** **10 36 20.7 -0.8**
comp=Z,5.2nm,1.4s
KIEV Kiev 70.21 324 *i* P **P** **10 36 19.2 -2.3**
KIEV pmax pmax
comp=Z,9.0nm,2.0s
AK11 Malin Array Si 70.23 324 *e*P **P** **10 36 21.3 -0.3**
MLR Muntele Rosu 70.47 318 *e*P **P** **10 36 24.2 +0.8**
comp=Z,14nm,0.8s
MLR Muntele Rosu 70.47 318⇑*i*P **P** **10 36 24.0 +0.6**
MLR Muntele Rosu 70.47 318 *e*P **P** **10 36 24.2 +0.8**
MLR pmax pmax
comp=Z,14nm,0.8s
HNR Honiara 70.86 101 P **P** **10 36 26.4 +0.3**
comp=Z,92nm,0.9s,baz=328,slow=1.5,SNR=3.5
DOPR Dopca 70.99 318⇑*i*P **P** **10 36 25.6 -0.8**
VOIR 71.05 318⇑*i*P **P** **10 36 25.9 -1.0**
VOIR 71.05 318⇑P **P** **10 36 25.9 -1.0**
BURAR Bucovina Array 71.61 320⇓*i*P **P** **10 36 30.8 +0.6**
BURAR Bucovina Array 71.61 320⇓P **P** **10 36 30.8 +0.6**
BUR04 Bucovina Ar. S 71.61 320 *e*P **P** **10 36 30.5 +0.3**
BUR08 Bucovina Ar. S 71.62 320 *e*P **P** **10 36 30.8 +0.5**
DRGR 73.00 319⇑*i*P **P** **10 36 37.8 -0.7**
DRGR 73.00 319⇑P **P** **10 36 37.8 -0.7**
BZS Buzias 73.42 317⇑*i*P **P** **10 36 40.8 -0.1**
BZS Buzias 73.42 317⇑P **P** **10 36 40.8 -0.1**
TRPA Tarpa 73.48 320⇑*i*P P 10 36 36.3 -4.9
TIXI Tiksi 73.93 12 *i* P **P** **10 36 41.0 -2.4**
TIXI pmax pmax
comp=Z,5.0nm,0.6s
PETK Petropavlovsk- 75.40 35 P **P** **10 36 49.9 -2.4**
comp=Z,1.3nm,0.6s,baz=201,slow=3.4,SNR=5.0
PETK LR LR 11 12 55.3
comp=Z,23nm,18.3s,baz=214,slow=38
PEA1 Petropavlovsk- 75.40 35 *e*P **P** **10 36 49.9 -2.4**
LVZ Lovozero 75.69 341 *e*P **P** **10 36 54.4 +0.7**
comp=Z,14nm,1.0s
LVZ Lovozero 75.69 341 *e*P **P** **10 36 54.4 +0.7**
LVZ pmax pmax
comp=Z,14nm,1.0s
VYHS Vyhne 75.96 320 *e*P P 10 37 02.5 +6.9
VYHS pmax pmax
comp=Z,2.0nm,1.4s
VYHS Vyhne 75.96 320 *e*P P 10 37 02.5 +6.9
FIA0 FINESS Array S 75.98 334 *e*P **P** **10 36 54.5 -0.9**
FIA0 FINESS Array S 75.98 334 *e*P **P** **10 36 54.5 -0.9**
FINES FINESS Array B 75.98 334 P **P** **10 36 54.5 -0.9**
comp=Z,2.3nm,0.7s,baz=85,slow=6.3,SNR=7.7
SEY Seymchan 76.16 25 P **P** **10 36 55.0 -1.4**
comp=Z,2.0nm,0.3s,baz=176,slow=23,SNR=18
KRLC Kraliky 77.62 321 *e*P **P** **10 37 08.8 +3.8**
KRLC Kraliky 77.62 321 *e*P **P** **10 37 08.8 +3.8**
DPC Dobruska-Polom 77.97 321 *e*P **P** **10 37 07.7 +0.8**
DPC Dobruska-Polom 77.97 321 *e*P **P** **10 37 07.7 +0.8**
SYO Syowa Base 78.45 196*i e*P **P** **10 37 08.8 -1.3**
GEC2 GERESS Array S 79.37 319 *e*P **P** **10 37 14.5 -0.2**
GERES GERESS Array B 79.37 319 P **P** **10 37 14.5 -0.2**
comp=Z,2.2nm,0.8s,baz=125,slow=3.9,SNR=9.7
ARA0 ARCESS Array S 79.40 341 *e*P **P** **10 37 14.5 +0.1**
ARCES ARCESS Array B 79.40 341 P **P** **10 37 14.5 +0.1**
comp=Z,7.2nm,1.1s,baz=104,slow=7.5,SNR=4.0
KHC Kasperske Hory 79.50 320 *e*P **P** **10 37 14.6 -0.8**
KHC *e*pP **pwP** **10 37 20.4 -1.1**
KHC Kasperske Hory 79.50 320 *e*P **P** **10 37 14.6 -0.8**
KHC *e* 10 37 20.4
CLL Collm 80.21 322 *e*P **P** **10 37 19.0 -0.1**
CLL Collm 80.21 322 *e*P **P** **10 37 19.0 -0.1**
NOA NORSAR Array B 82.77 331 LR LR 11 16 41.8
comp=Z,38nm,18.3s,baz=295,slow=37
BILL Bilibino 83.23 22 *i* P **P** **10 37 33.0 -1.7**
BILL pmax pmax
comp=Z,1.0nm,0.9s
SENIN Lac Senin/Sane 83.38 316 *e*P **P** **10 37 36.0 -0.2**
comp=Z,4.7nm,0.8s
TORD Torodi Ar. Bea 87.63 283 P **P** **10 37 58.1 +0.3**
comp=Z,0.2nm,0.5s,baz=65,slow=5.2,SNR=3.0
TOA1 Torodi Ar. Sit 87.64 283 *e*P **P** **10 37 58.1 +0.3**
DBIC Dimbokro 94.31 277 LR LR 11 18 59.0
comp=Z,32nm,20.1s,baz=92,slow=34
PDAR Pinedale Array 132.26 19 PKP **PKPdf** **10 44 22.4 -1.0**
comp=Z,0.5nm,0.8s,baz=270,slow=2.6,SNR=4.6
NVAR Mina Array Bea 132.27 30 PKP **PKPdf** **10 44 23.4 -0.1**
comp=Z,0.4nm,0.6s,baz=328,slow=1.4,SNR=3.3
146A Union 145.63 358 *e*PKPdf **PKPbc** **10 44 47.8 0.0**
NATX Nacogdoches 146.27 7 *e*PKPdf **PKPbc** **10 44 49.9 0.0**
LTX Lajitas 146.41 21 *e*PKPdf **PKPdf** **10 44 49.2 -0.1**
LTX Lajitas 146.41 21 *e*PKP2 **PKPdf** **10 44 49.2 -0.1**
TXAR Lajitas Array 146.41 21 PKPbc **PKPdf** **10 44 49.2 0.0**
comp=Z,5.6nm,0.8s,baz=276,slow=1.7,SNR=55
JCT Junction City 146.55 15 *e*PKPdf **PKPbc** **10 44 50.4 -0.4**
JCT Junction City 146.55 15 *e*PKP2 **PKPbc** **10 44 50.4 -0.4**
HPIG 147.72 26 *e*PKPbc **PKPbc** **10 44 53.9 -0.5**

MAN 06 10:26:43.3, 12.78N×121.33E, h26km, mb4.3, ML3.2, MS2.9, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJMP	**San Jose**	**0.37**	**213**	*e*P	Pb	10 26 51.4	-0.1
SJMP				*e*S	Sb	10 26 58.2	+1.2
OTRP	**Odiongan**	**0.79**	**121**	*e*P	Pn	10 26 59.0	+0.2
OTRP				*e*S	Sn	10 27 10.3	+0.5
BOAC	**Boac**	**0.85**	**37**	*e*P	Pn	10 26 59.6	+0.1
BOAC				*e*S	Sn	10 27 11.2	+0.1
BUSP	**Coron**	**1.34**	**235**	*e*P	Pn	10 27 06.0	-0.3
BUSP				*e*S	Sb	10 27 24.2	-0.3
AUQP	**San Andres**	**1.42**	**67**	*e*P	Pb	10 27 10.7	+1.5

MEX 06 10:34:04.2±0.6, 16.61N×98.32W, h7km±7km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.28**	**139**	*e*P	Pg	10 34 09.2	-0.6
PNIG				*e*S	Sg	10 34 14.1	+0.5
TLIG	**Tlapa**	**0.98**	**346**	*e*P	Pg	10 34 20.0	-3.1
TLIG				*e*S	Sg	10 34 33.4	-2.4
VHO	**Vista Hermosa**	**1.59**	**73**	*i* P	Pn	10 34 29.1	-3.9
VHO				*i* S	Sn	10 34 48.9	-5.0
CAIG	**El Cayaco**	**1.91**	**284**	*i* P	Pn	10 34 34.7	-2.6
CAIG				*i* S	Sn	10 34 57.1	-4.5
TPIG	**Tehuac#an**	**2.02**	**27**	*e*P	Pn	10 34 35.9	-3.0
TPIG				*e*S	Sn	10 35 00.4	-4.2
PLIG	**Platanillo**	**2.10**	**328**	*e*P	Pn	10 34 38.5	-1.5
PLIG				*i* S	Sn	10 35 01.9	-4.5

*ISCJB **06** 10:37:27.3±0.6, 37.13N±0.05×27.97E±0.04, h0km, Error ellipse: s-maj=7.1km s-min=4.5km az=23.3*
*DDA **06** 10:37:28.5, 37.16N×27.89E, h7km±1km, ML2.6*
*ISK **06** 10:37:28.0, 37.16N×27.87E, h3km, ML2.2/6, Suspected Mining explosion.*
ISC 06 10:37:25.5±1.0, 37.04N±0.05×27.95E±0.04, h0km, n13, σ0s46/16, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSB	**Milas**	**0.28**	**332**	PG	**Pg**	**10 37 31.6**	**+0.6**
MLSB				SG	**Sg**	**10 37 34.9**	**+0.2**
BDRM	**Kayabasi**	**0.40**	**273**	IAML_P			
	comp=Z,3μm,0.2s						
BDRM				*i* P	**Pb**	**10 37 35.7**	**+0.2**
DAT	**Datca**	**0.43**	**223**	PG	**Pn**	**10 37 38.5**	**-0.6**
DAT	**Datca**	**0.43**	**223**	*i* P	**Pn**	**10 37 38.8**	**-0.2**
BODT	**Bodrum**	**0.51**	**272**	PG	**Pb**	**10 37 37.2**	**-0.1**
BODT				SG	**Sb**	**10 37 44.8**	**-0.5**
TURN	**Turunc**	**0.55**	**108**	PG	**Pb**	**10 37 38.1**	**+0.1**
TURN				SG	**Sb**	**10 37 46.1**	**-0.4**
TURN	**Turunc**	**0.55**	**108**	*i* P	**Pb**	**10 37 38.3**	**+0.3**
AYDN	**Tasoluk**	**0.62**	**355**	*i* P	**Pb**	**10 37 38.6**	**-0.7**
GCAM	**G?zelcaml?**	**0.87**	**319**	PG	**Pb**	**10 37 43.3**	**-0.1**
GCAM	**G?zelcaml?**	**0.87**	**319**	IAML_P			
	comp=Z,880nm,0.1s						
GCAM				*i* P	**Pb**	**10 37 43.5**	**+0.1**
TAVA	**DENIZLI_Tavas**	**0.88**	**61**	*i* P	**Pb**	**10 37 43.4**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.90**	**357**	PG	**Pg**	**10 37 43.6**	**+0.8**
BLCB	**Balcova**	**1.52**	**332**	PN	**Pg**	**10 37 55.1**	**+0.5**

*ISCJB **06** 10:41:34.3±0.5, 19.33S±0.03×69.50W±0.07, h107km±4km, Error ellipse: s-maj=11.3km s-min=5.0km az=177.5*
*GUC **06** 10:41:34.4±0.7, 19.35S×69.47W, h99km±2km, ML3.9*
*IDC **06** 10:41:36.6±1.7, 19.40S×69.15W, h118km±16km, mb3.3/3, mb1 3.6/5, mb1mx3.3/29, mbtmp3.7/5, Error ellipse: s-maj=43.0km s-min=15.3km az=92.0*
ISC 06 10:41:34.6±0.7, 19.33S±0.04×69.49W±0.07, h100km±5km, n23, σ0s81/36, 5C-6D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNMC	**Minye Minye**	**0.23**	**334**⇑	*i*P	**Pn**	**10 41 49.4**	**0.0**
MNMC				*i* S	**Sn**	**10 42 01.0**	**+0.7**
GO01	**Chusmiza**	**0.43**	**140**⇓	*i*P	**Pn**	**10 41 50.7**	**0.0**
GO01				*i* S	**Sn**	**10 42 02.6**	**+0.1**
GO01				IAML		10 42 03.4	
	comp=E,9μm,0.3s						
PB11	**IPOC Station P**	**0.45**	**200**⇓	*i*P	**Pn**	**10 41 50.6**	**+0.2**
PB11				*i* S	**Sn**	**10 42 02.5**	**+0.4**
PSGC	**Pisagua**	**0.65**	**246**⇑	*i*P	**Pn**	**10 41 51.9**	**+0.1**
PSGC				*i* S	**Sn**	**10 42 04.9**	**+0.2**
PB08	**IPOC Station P**	**0.86**	**159**⇓	*i*P	**Pn**	**10 41 54.5**	**+0.4**
PB08				*i* S	**Sn**	**10 42 09.2**	**+0.5**
PB08				IAML		10 42 10.1	
	comp=E,5μm,0.2s						
PB16	**IPOC Station P**	**0.99**	**359**⇓	*i*P	**Pn**	**10 41 56.4**	**+0.8**
PB12	**IPOC Station P**	**1.07**	**312**⇑	*i*P	**Pn**	**10 41 56.2**	**+0.2**
PB12				*i* S	**Sn**	**10 42 12.6**	**+0.6**
PB01	**IPOC Station P**	**1.70**	**180**⇑	*i*P	**Pn**	**10 42 03.9**	**+0.4**
PB01				*i* S	**Sn**	**10 42 25.9**	**+0.5**
PB01				IAML		10 42 29.9	
	comp=N,1μm,0.3s						
PB02	**IPOC Station P**	**2.01**	**191**	*e*P	**Pn**	**10 42 07.7**	**+0.2**
PB02				*i* S	**Sn**	**10 42 33.3**	**+0.7**
PB02				IAML		10 42 41.2	
	comp=E,2μm,0.3s						
PB07	**IPOC Station P**	**2.41**	**189**⇑	*i*P	**Pn**	**10 42 13.3**	**+0.5**
PB07				*e*S	**Sn**	**10 42 42.8**	**+0.8**
PB07				IAML		10 42 50.4	
	comp=E,970nm,0.4s						
PB09	**IPOC Station P**	**2.46**	**175**	*e*P	**Pn**	**10 42 14.3**	**+0.9**
PB09				IAML		10 42 53.9	
	comp=E,446nm,0.4s						
PB03	**IPOC Station P**	**2.71**	**185**⇓	*i*P	**Pn**	**10 42 16.7**	**-0.1**
PB03				IAML		10 43 01.3	
	comp=E,309nm,0.5s						
PB04	**IPOC Station P**	**3.05**	**192**	*e*P	**Pn**	**10 42 22.1**	**+0.9**
PB04				IAML		10 43 08.2	
	comp=E,401nm,0.4s						
LPAZ	**La Paz**	**3.29**	**23**	P	**Pn**	**10 42 27.1**	**+2.2**
	comp=E,4.0nm,0.3s,baz=210,slow=6.5,SNR=78						
LPAZ				S	**Sn**	**10 43 02.7**	**-1.0**
	comp=E,1.5nm,0.3s,baz=148,slow=4.7,SNR=4.4						
LVC	**Limon Verde**	**3.30**	**171**	P	**Pn**	**10 42 26.0**	**+1.2**
	comp=E,4.9nm,0.3s,baz=10.0,slow=9.5,SNR=38						
LVC				S	**Sn**	**10 43 04.1**	**+0.6**
	comp=E,23nm,0.3s,baz=272,slow=20,SNR=17						
PB06	**IPOC Station P**	**3.36**	**181**⇓	*i*P	**Pn**	**10 42 25.7**	**+0.3**
PB06				IAML		10 43 31.3	
	comp=E,182nm,0.3s						
TXAR	**Lajitas Array**	**58.55**	**325**	P	**P**	**10 51 21.5**	**+0.5**
	comp=E,0.1nm,0.6s,baz=144,slow=7.8,SNR=2.3						
TORD	**Torodi Ar. Bea**	**77.16**	**71**	P	**P**	**10 53 15.3**	**-2.6**
	comp=E,0.2nm,0.3s,baz=228,slow=5.0,SNR=4.0						
YKA	**Yellowknife Ar**	**88.97**	**341**	P	**P**	**10 54 18.1**	**+0.5**
	comp=E,1.5nm,0.6s,baz=134,slow=4.9,SNR=54						
YKA				pP	**pP**	**10 54 44.4**	**-0.4**
	comp=E,0.2nm,0.5s,baz=132,slow=4.7,SNR=2.7						
ASAR	**Alice Springs**	**131.55**	**209**	PKP	**PKPdf**	**11 00 36.1**	**-0.3**
	comp=E,0.3nm,0.6s,baz=148,slow=1.6,SNR=6.4						
WRA	**Warramunga Arr**	**134.51**	**212**	PKP	**PKPdf**	**11 00 42.6**	**+0.6**
	comp=E,0.3nm,0.8s,baz=146,slow=1.5,SNR=6.4						
MJAR	**Matsushiro Arr**	**150.28**	**311**	PKPbc	**PKPbc**	**11 01 14.3**	**-0.2**
	comp=E,1.2nm,0.7s,baz=63,slow=1.9,SNR=4.4						
SONM	**Songino Array**	**151.37**	**6**	PKPbc	**PKiKP**	**11 01 17.7**	**+0.4**
	comp=E,1.3nm,0.5s,baz=290,slow=1.1,SNR=11						
SONM				pPKPbc	**pPKPbc**	**11 01 45.1**	**-0.3**
	comp=E,0.5nm,0.5s,baz=285,slow=1.3,SNR=3.3						

*VIE **06** 10:56:48.7±0.2, 47.46N×15.35E, h5km±3km, mb1.8/7,*

ml2.7/8, Error ellipse: s-maj=1.6km s-min=1.1km az=105.0
4 km NE of Kapfenberg felt 5 ems98 at St. Marein / Styria
*PRU **06** 10:56:49.5±0.0, 47°.50N×15°.44E, h0km*
ISC 06 10:56:48.9±1.1**, 47°.49N**±0°.02×**15°.39E**±0°.02**, h1**km±10km**,**
n33, σ1s**.06**/59**, Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARSA	Arzberg	0.25	159	*i* Pg	Pg	10 56 54.1	+0.4
	45nm,0.1s,SNR=274						
ARSA				*i* Sg	Sg	10 56 57.3	+0.3
	312nm,0.1s						
CONA	Conrad Observa	0.55	35	*e*Pg	Pg	10 56 59.8	+0.5
	5.9nm,0.2s						
CONA				*e*Sg	Sb	10 57 08.7	-1.0
	19nm,0.2s						
MOA	Molln	0.84	296	*e*Pg	Pg	10 57 05.0	-0.1
	1.0nm,0.1s						
MOA				*e*Sg	Sg	10 57 16.8	+0.8
	14nm,0.1s						
SOKA	Soboth	0.84	197	*e*Pg	Pg	10 57 04.4	-0.6
	4.1nm,0.1s,SNR=11						
SOKA				*e*Sg	Sg	10 57 14.6	-1.3
	35nm,0.2s						
OBKA	Obir	1.13	211	*e*Pg	Pg	10 57 10.0	-0.6
	2.4nm,0.2s,SNR=42						
OBKA				Sg	Sg	10 57 25.3	+0.1
	9.6nm,0.1s						
KBA	Koelnbreinsper	1.45	254	Pg	Pb	10 57 16.8	0.0
	3.9nm,0.2s						
KBA				Sg	Sn	10 57 36.4	+0.3
	33nm,0.6s						
MYKA	Terra Mystica	1.47	235	Pg	Pn	10 57 16.0	-0.6
	2.4nm,0.2s						
MYKA				Sg	Sb	10 57 35.5	-0.7
	3.9nm,0.2s						
MODS	Modra-Piesok	1.55	54	*e*PG	Pn	10 57 17.2	-0.4
MODS				*e*SN	Sn	10 57 38.5	+0.2
MODS				*e*LG	Lg	10 57 40.4	
SMOL	Smolenice	1.71	52	*e*PG	Pb	10 57 21.0	-0.1
SMOL				*e*SN	Sb	10 57 43.3	+0.2
KRUC	Moravsky	1.71	23	*e*PN	Pn	10 57 20.3	+0.5
KRUC				*e*SG	Sb	10 57 43.2	0.0
OZLJ	Ozalj	1.87	178	*e*Pn	Pg	10 57 25.9	+1.2
OZLJ				Sn	Sb	10 57 47.4	-0.2
VRAC	Vranov	1.99	23	*e*PN	Pn	10 57 24.0	+0.3
VRAC				*e*SG	Sn	10 57 49.8	+0.5
KHC	Kasperske Hory	2.04	324	*e*PN	Pn	10 57 25.8	+1.4
KHC				*e*PG	Pb	10 57 27.7	+0.9
KHC				*e*SG	Sb	10 57 52.9	+0.2
	comp=Z,30nm,0.4s						
JAVC	Velka Javorina	2.05	47	*e*PN	Pb	10 57 26.0	-1.0
ABTA	Abfaltersbach	2.10	250	Pg	Pb	10 57 26.8	-1.0
	0.9nm,0.3s						
ABTA				Sg	Sg	10 57 55.7	-0.6
	7.2nm,0.5s						
VYHS	Vyhne	2.52	65	*e*PN	Pn	10 57 30.7	-0.3
VYHS				*e*SN	Sn	10 58 02.0	-0.4
VYHS				*e*SG	Sg	10 58 12.0	+2.1
VYHS				*e*LG	Lg	10 58 17.8	
WTTA	Wattenberg	2.56	266	Pg	Pb	10 57 36.3	+0.6
	1.9nm,0.2s						
WTTA				Sg	Sg	10 58 10.6	-0.5
	9.9nm,0.4s						
PRU	Pruhonice	2.57	348	*e*SG	Sb	10 58 08.9	+1.2
	comp=Z,12nm,0.3s						
WATA	Walderalm	2.59	268	Pg	Pg	10 57 37.9	-0.7
	1.5nm,0.2s						
PRA	Prague	2.66	347	*e*SG	Sg	10 58 14.7	+0.3
	comp=Z,22nm,0.4s						
MORC	Moravsky Berou	2.70	31	*e*PN	Pn	10 57 33.9	+0.5
MORC				*e*SG	Sn	10 58 06.6	-0.2
SQTA	Sankt Quirin	2.86	266	*e*Pg	Pg	10 57 43.0	-0.6
	3.9nm,0.3s						
SQTA				Sg	Sg	10 58 20.5	-0.1
	9.3nm,0.3s						
MOTA	Moosalm	2.92	269	*e*Pn	Pn	10 57 38.7	+2.2
	0.7nm,0.1s,SNR=4.9						
DPC	Dobruska-Polom	2.93	12	*e*PG	Pb	10 57 42.5	+0.6
DPC				*e*SG	Sg	10 58 22.4	-0.6
	comp=Z,9.7nm,0.5s						
NVLJ	Novalja	2.94	187	*e*Pn	Pn	10 57 36.3	-0.4
NVLJ				Sn	Sn	10 58 12.3	-0.3
PVCC	Panska Ves	3.09	350	*e*SG	Sg	10 58 28.0	-0.2
	comp=Z,28nm,0.5s						
RETA	Reutte	3.14	272	Pg	Pb	10 57 47.5	+2.0
	1.6nm,0.2s						
RETA				Sg	Sg	10 58 29.1	-0.6
	9.0nm,0.6s						
FETA	Feichten	3.21	263	*e*Pn	Pn	10 57 42.9	+2.4
	2.2nm,0.3s,SNR=7.5						
FETA				Sg	Sg	10 58 30.6	-1.3
	1.6nm,0.4s						
NKC	Novy Kostel	3.37	326	*e*SG	Sg	10 58 36.4	-0.6
	comp=Z,18nm,0.6s						
BRG	Berggiesshubel	3.52	345	PN	Pn	10 57 41.4	-3.3
BRG				*i*		10 58 06.0	
BRG	Berggiesshubel	3.52	345	SN	Sn	10 58 25.1	-1.9
BRG				SG	Sg	10 58 40.6	-1.4
	8.3nm,0.4s						
DAVA	Damuels	3.75	269	*e*Pn	Pn	10 57 50.2	+2.3
	1.5nm,0.2s						
DAVA				Sg	Sg	10 58 48.4	-0.9
	9.5nm,0.4s						
CLL	Collm	4.13	339	*i* Sg	Sg	10 59 00.2	-1.3
	comp=Z,17nm,1.2s						

IDC 06 11:01:04.3±2.1**, 0°.73N**×**126°.94E, h0**km**, mb3.4**/3**,**
mb1 3.7/3**, mb1mx3.3**/24**, mbtmp3.4**/3**, Error ellipse:**
s-maj=172.8km s-min=25.9km az=66.0, Northern
Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.79	161	P	P	11 05 57.2	-0.8
	0.8nm,0.6s,baz=340,slow=11,SNR=11						
ASAR	Alice Springs	25.18	165	P	P	11 06 32.2	+0.5
	0.8nm,0.7s,baz=340,slow=10,SNR=13						
MKAR	Makanchi Array	60.13	326	P	P	11 11 13.6	-0.1
	0.1nm,0.4s,baz=130,slow=6.7,SNR=5.6						

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*SOME **06** 11:03:52.5, 41°.28N×70°.92E, h5km*
*KRNET **06** 11:03:52.5±0.1, 41°.42N×70°.83E, h23km, mb2.3*
*NNC **06** 11:03:56.1±7.5, 41°.39N×71°.40E, h0km, mb3.0, mpv2.7,*
Error ellipse: s-maj=63.2km s-min=27.3km az=14.0
ISC 06 11:03:53.1±1.6**, 41°.30N**±0°.05×**70°.95E**±0°.04**, h1**km±13km**,**
n13, σ1s**.37**/24**, 14C-8D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARK	Arkit	0.91	56	⇑*i*P	Pg	11 04 10.3	-0.2
	baz=67						
ARK				⇑*i*S	Sb	11 04 23.6	-0.9
	baz=67						
IUG	Iuzhnay	1.09	321	*e*P	Pg	11 04 13.5	-0.6
	6.6nm,0.3s						
IUG				*e*S	Sb	11 04 28.7	-1.0
	17nm,0.6s						
BTK	Batken	1.24	185	⇓*i*P	Pn	11 04 17.6	-0.1
	baz=80						
BTK				⇓*i*S	Sn	11 04 36.7	+1.6
	baz=80						
ARSB	Arslanbob	1.53	88	⇑*i*P	Pb	11 04 22.0	-0.4
	baz=93						
ARSB				⇑*i*S	Sg	11 04 43.9	+1.7
	baz=93						
KK31	Karatay Array	1.84	350	⇑Pn	Pb	11 04 26.6	-0.9
	3.6nm,0.4s,baz=144,slow=14						
KK31				⇓Sn	Sg	11 04 54.3	+2.3
	6.9nm,0.4s,baz=156,slow=25						
AML	Almayashu	2.22	67	⇑*i*P	Pn	11 04 31.3	-0.1
	baz=71						
AML				⇑*i*S	Sb	11 05 00.9	-1.4
	baz=71						
MRKS	Merke	2.23	49	*e*P	Pb	11 04 33.3	-1.0
	2.7nm,0.4s						
MRKS				*e*S	Sb	11 05 02.9	+0.5
	4.0nm,0.5s						
EKS2	Erkin-Say	2.51	56	⇑*i*P	Pn	11 04 36.1	+0.9
	baz=60						
EKS2				⇑*i*S	Sb	11 05 09.3	-1.2
	baz=60						
ARLS	Aral	2.59	76	⇓*i*P	Pn	11 04 37.0	+0.7
	baz=79						
ARLS				⇓*i*S	Sb	11 05 10.4	-2.5
	baz=79						
UCH	Uchtor	2.82	70	⇓*i*P	Pn	11 04 39.7	-0.1
	baz=73						
UCH				⇓*i*S	Sn	11 05 15.3	+0.6
	baz=73						
AAK	Ala-Archa	2.96	62	⇑Pg	Pb	11 04 43.8	-3.0
	1.7nm,0.6s						
AAK				⇓Lg	Lg	11 05 21.9	
	1.8nm,0.6s						
AAK	Ala-Archa	2.96	62	⇑*i*P	Pn	11 04 41.9	+0.5
	baz=65						
AAK				⇑*i*S	Sn	11 05 19.2	+1.5
	baz=65						
TKM2	Tokmak 2	3.82	63	⇑Pg	Pb	11 05 02.1	+0.7
	2.7nm,0.9s						
TKM2				⇑Lg	Lg	11 05 49.1	
	1.3nm,0.8s						

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*BJI **06** 11:08:26.1, 0°.49N×127°.76E, h150km, mb4.9/59, mB4.9/39*
*ISCJB **06** 11:08:31.3±0.3, 1°.13N±0°.02×127°.53E±0°.02, h154km±2km, mb4.9/142, Error ellipse: s-maj=3.7km s-min=2.6km az=155.0*
*IDC **06** 11:08:31.9±0.6, 1°.10N×127°.46E, h144km±5km, mb4.3/29, mb1 4.4/32, mb1mx4.3/38, mbtmp4.8/32, MS3.5/6, Ms1 3.5/6, ms1mx3.1/43, Error ellipse: s-maj=10.9km s-min=6.4km az=66.0*
*DJA **06** 11:08:32.6±0.2, 1°N±2°×12°7E±°, h142km±2km, M5.2/73, mB5.7/37, mb5.3/73, MLv5.5/15, Mw(mB)5.2/37*
*MOS **06** 11:08:32.6±1.1, 1°.15N×127°.43E, h167km, mb4.8/34, Error ellipse: s-maj=8.9km s-min=5.2km az=126.1*
*NEIC **06** 11:08:32.8±0.4, 1°.10N×127°.48E, h153km±3km, mb5.2/90, Error ellipse: s-maj=4.1km s-min=2.6km az=59.0*
*KLM **06** 11:08:32.2, 1°.05N×127°.56E, h151km, mb5.4*
*GCMT **06** 11:08:32.8±0.3, 1°.09N±0°.02×127°.43E±0°.03, h158km±4km, MW5.0/69, Moment Tensor Solution. s18,c20; s69,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.23±.15; $M_{\theta\theta}$1.43±.15; $M_{\phi\phi}$-1.66±.18; $M_{r\theta}$-1.43±.10; $M_{\theta\phi}$1.10±.13; $M_{\phi r}$-2.52±.13; Best double couple: $M_0$3.46700×10^{16} NP1:ϕ_s207.00000°, δ88.00000°, λ123.00000°. NP2: ϕ_s300.00000°, δ33.00000°, λ4.00000°. Principal axes: T 3.5250, Plg38.0000°, Azm146.0000°; N -0.1190, Plg33.0000°, Azm25.0000°; P -3.4090, Plg34.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 11:08:32.6±0.4**, 1°.13N**±0°.03×**127°.49E**±0°.04**, h152**km±3km**,**
h153km**:pP-P, n426,** σ1s**.35**/498**, mb5.0**/153**, 15C-7D,**
Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	0.38	199	*e*Pn	Pn	11 08 53.4	-0.3
TNTI				*e*Sn	Sn	11 09 09.4	-0.3
TNTI	Ternate	0.38	199	P	Pn	11 08 53.7	+0.1
TNTI				S	Sn	11 09 09.4	-0.3
MNI	Manado	2.67	277	P	Pn	11 09 15.1	-0.8
SGSI	Sangihe	3.21	322	P	Pn	11 09 21.8	-0.8
SGSI				S	Sn	11 10 00.1	-1.3
SANI	Sanana	3.50	205	P	Pn	11 09 25.0	-1.4
KMSI	Cibinong	3.55	261	P	Pn	11 09 26.8	-0.3
KMSI				S	Sn	11 10 07.9	-1.4
SWI	Sorong	4.26	118	P	Pn	11 09 38.1	+1.8
SWI	Sorong	4.26	118	P	Pn	11 09 37.5	+1.2
SIJI	Sorong	4.27	118	P	Pn	11 09 37.4	+1.0
	8.9nm,0.3s,baz=316,slow=7.8,SNR=53						
SIJI				S	Sn	11 10 24.9	-1.2
	3.6nm,0.3s,baz=356,slow=15,SNR=3.6						
NLAI	Namlea	4.36	185	P	Pn	11 09 37.4	-0.2
LUWI	Luwuk	5.19	245	*e*Pn	Pn	11 09 46.5	-2.0
LUWI				*e*Sn	Sn	11 10 43.6	-4.2
LUWI	Luwuk	5.19	245	P	Pn	11 09 47.0	-1.5
	782nm,0.6s,20μm32nm						
GSPH	General Santos	5.54	333	⇓*i*P	Pn	11 09 52.7	-0.6
GSPH				*i* S	Sn	11 10 52.5	-3.8
MRSI	Marisa	5.59	263	P	Pn	11 09 52.6	-1.2
	479nm,0.8s,5μm2.5nm						
MATI	Mati	5.90	348	*e*P	Pn	11 09 58.5	+0.4
SKMP	Bagumbayan, Su	6.11	331	*e*P	Pn	11 09 59.9	-0.9
BNDI	Bandanaira	6.11	157	P	Pn	11 10 02.4	+1.5
	643nm,1.4s,2.5nm						
DAV	Davao City (W)	6.20	342	P	Pn	11 10 02.5	+0.5
	62nm,0.3s,baz=66,slow=0.8,SNR=14						
DAV				S	Sn	11 11 12.5	+0.5
	147nm,0.3s,baz=347,slow=21,SNR=4.3						
DAV	Davao City (W)	6.20	342	*e*Pn	Pn	11 10 02.3	+0.3
DAV				*e*Sn	Sn	11 11 11.8	-0.3
DAV	Davao City (W)	6.20	342	P	Pn	11 10 01.9	-0.1
	SNR=15						
DMPH	Davao City--Mi	6.23	342	⇓*i*P	Pn	11 10 07.6	+5.1
FAKI	Fak Fak	6.23	130	*e*Pn	Pn	11 10 03.5	+1.1
FAKI	Fak Fak	6.23	130	P	Pn	11 10 03.4	+1.0
	112nm,0.9s,1μm0.6nm						
CTBH	Cotabato--PC H	6.86	332	⇓*e*P	Pn	11 10 09.8	-0.9
CTBH				*i* S	Sn	11 11 23.7	-4.2
KDI	Kendari	7.02	224	P	Pn	11 10 12.1	-0.8
	210nm,0.9s,2μm1.7nm						
BIPH	Bislig	7.09	351	⇑*i*P	Pn	11 10 17.1	+3.2
BIPH				*i* S	Sn	11 11 32.6	-0.9
BUKP	Musuan	7.12	340	*e*P	Pn	11 10 14.1	-0.3
MPSI	Mapaga	7.63	264	P	Pn	11 10 20.7	-0.4
	158nm,1.1s,2μm0.6nm						
PAGZ	Pagadian	7.83	329	*e*P	Pn	11 10 21.6	-2.1
PCI	Palu	7.92	255	P	Pn	11 10 24.4	-0.5
PCI				pmax	pmax		
	comp=Z,361nm,0.9s						
PCI	Palu	7.92	255	P	Pn	11 10 24.0	-0.9
	comp=Z,363nm,0.9s,comp=Z,3μmcomp=Z,1.2nm						
BUTP	Butuan	8.00	347	*e*P	Pn	11 10 26.5	+0.4
IPIL	Ipil	8.23	324	*e*P	Pn	11 10 28.5	-0.6
TTSI	Tana Toraja	8.72	242	P	Pn	11 10 34.7	-0.9
	comp=Z,469nm,0.6s,comp=Z,5μm						
BAKI	Biak	8.92	105	P	Pn	11 10 41.2	+2.9
BNSI	Bone	9.20	233	P	Pn	11 10 41.4	-0.6
	comp=Z,150nm,0.7s,comp=Z,2μm						
SPSI	Sidrap Palu	9.23	237	P	Pn	11 10 41.7	-0.7
	comp=Z,212nm,0.7s,comp=Z,2μm						
MSLP	Maasin	9.32	344	*e*P	Pn	11 10 42.5	-1.0
BKSI	Bulukumba	9.76	229	P	Pn	11 10 50.0	+0.6
	comp=Z,68nm,0.7s,comp=Z,658nm						
SAUI	Saumlaki	9.82	157	*e*Pn	Pn	11 10 49.5	-0.8
SAUI	Saumlaki	9.82	157	P	Pn	11 10 49.7	-0.6
	comp=Z,757nm,1.0s,comp=Z,6μm						
SGKI	Sangatta, Kali	10.02	261	P	Pn	11 10 50.9	-2.1
	comp=Z,430nm,0.9s,comp=Z,3μm						
TSM	Tawau	10.11	288	P	Pn	11 10 55.5	+1.5
TSM	Tawau	10.11	288	P	Pn	11 10 53.8	-0.3
OCLP	Ormoc	10.26	344	*e*P	Pn	11 10 55.1	-1.0
SMKI	Samarinda	10.40	261	P	Pn	11 10 57.5	-0.4
	comp=Z,208nm,0.8s,comp=Z,4μm						
BKB	Balikpapan	10.86	257	P	Pn	11 11 03.6	-0.3
SOEI	Soe	11.28	196	*e*Pn	Pn	11 11 13.2	+3.5
SOEI	Soe	11.28	196	P	Pn	11 11 12.7	+3.1
	comp=Z,128nm,0.9s						
EDFI	Ende, Flores	11.39	210	P	Pn	11 11 11.1	0.0
	comp=Z,38nm,0.7s						
BATI	Baumata	11.89	199	P	Pn	11 11 17.4	-0.1
	comp=Z,7.3nm,0.3s,baz=300,slow=3.5,SNR=7.4						
BATI				S	Sn	11 13 31.3	+2.2
	baz=246,slow=16,SNR=1.4						
BATI	Baumata	11.89	199	P	Pn	11 11 17.7	+0.2
	comp=Z,46nm,0.9s						
KBKI	Kotabaru	12.14	249	P	Pn	11 11 20.2	-0.6
	comp=Z,53nm,1.2s,comp=Z,2μm						
KKM	Kota Kinabalu	12.26	294	*e*Pn	Pn	11 11 22.3	-0.1
KKM	Kota Kinabalu	12.26	294	P	Pn	11 11 22.9	+0.5
MTKI	Muara Teweh, K	12.76	261	P	Pn	11 11 27.7	-1.1
WSI	Waingapu	12.90	214	P	Pn	11 11 31.7	+1.2
GENI	Genyem	13.20	106	P	Pn	11 11 36.3	+1.9
JAY	Jayapura	13.70	105	P	P	11 11 42.9	-1.5
	comp=Z,5.4nm,0.3s,baz=272,slow=21,SNR=17						
JAY	Jayapura	13.70	105	P	P	11 11 43.8	-0.6
	comp=Z,536nm,0.9s						
PLAI	Plampang	13.84	224	P	Pn	11 11 43.9	+1.4
	comp=Z,443nm,0.9s,comp=Z,5μm						
TGY	Tagaytay City	14.42	334	P	P	11 11 51.8	-0.6
	comp=Z,35nm,0.3s,baz=16,slow=16,SNR=2.4						
BTM	Bintulu	14.54	278	P	Pn	11 11 51.7	+0.3
SRBI	Singaraja	15.29	233	P	P	11 12 02.4	+0.4
	comp=Z,96nm,1.2s,comp=Z,3μm						
SBUM	Sibu	15.32	275	*e*Pn	Pn	11 12 00.7	-0.3
	comp=Z,23nm,0.8s						
KMMI	Kalianget	15.75	239	P	P	11 12 09.6	+2.5
IGBI	Denpasar	15.78	231	P	P	11 12 10.7	+3.3
STKI	Sintang	16.05	266	P	P	11 12 10.4	0.0
JAGI	Jajag, Banyuwa	16.36	234	*e*Pn	P	11 12 15.0	+1.1
	comp=Z,310nm,1.3s						
JAGI	Jajag, Banyuwa	16.36	234	P	P	11 12 15.4	+1.5
KNRA	Kununurra	16.75	176	P	P	11 12 17.4	-0.7
	baz=17,SNR=35						
KSM	Kuching	17.18	271	*e*P	Pn	11 12 23.7	0.0
	comp=Z,264nm,0.9s						
KSM	Kuching	17.18	271	P	Pn	11 12 25.2	+1.5
NGJI	Ngawi	18.08	242	P	Pn	11 12 36.3	+1.9
PWJI	Pagerwojo	18.09	240	P	Pn	11 12 34.3	-0.2
	comp=Z,312nm,1.4s						
PCJI	Pacitan	18.72	240	P	Pn	11 12 42.1	+0.2
SMRI	Semarang	18.85	244	*e*P	Pn	11 12 43.6	+0.1
	comp=Z,509nm,0.8s						
SMRI	Semarang	18.85	244	P	Pn	11 12 43.7	+0.2
	comp=Z,665nm,0.8s						
UGM	Wanagama	19.16	242	*e*P	P	11 12 45.5	+1.0
	comp=Z,622nm,1.3s						
UGM	Wanagama	19.16	242	P	Pn	11 12 54.9	+7.8
FITZ	Fitzroy Crossi	19.20	185	P	P	11 12 43.6	-1.2
	baz=19,SNR=33						
FITZ	Fitzroy Crossi	19.20	185	*e*P	P	11 12 43.6	-1.2
	comp=Z,32nm,0.8s						
JCJI	Jatiwangi	20.62	248	P	Pn	11 13 03.1	-1.3
CMJI	Cimerak	20.95	245	P	P	11 13 04.3	+0.5
LEM	Lembang	21.35	248	P	P	11 13 08.8	+0.6
	comp=Z,81nm,0.6s,baz=39,slow=8.2,SNR=13						
LEM	Lembang	21.35	248	P	P	11 13 09.0	+0.8
CISI	Cisompet, Garu	21.44	246	*e*P	P	11 13 08.4	-0.6
	comp=Z,174nm,0.7s						
CISI	Cisompet, Garu	21.44	246	P	P	11 13 08.3	-0.8
COEN	Coen	21.59	135	P	P	11 13 10.6	-0.1
	baz=22,SNR=26						
COEN	Coen	21.59	135	*e*P	P	11 13 10.3	-0.4
	comp=Z,37nm,0.8s						
PPBI	Pangkal Pinang	21.60	261	P	P	11 13 10.3	-0.4
CBJI	Citeko	21.93	250	P	P	11 13 14.4	+0.3
WRAB	Tennant Creek	21.99	163	*e*P	P	11 13 13.7	-1.0
	comp=Z,146nm,0.8s						
WRAB	Tennant Creek	21.99	163	*c**e*P	P	11 13 13.6	-1.1
WRAB				pmax	pmax		
	comp=Z,149nm,0.9s						
WRA	Warramunga Arr	22.00	163	P	P	11 13 13.8	-0.9
	comp=Z,69nm,0.3s,baz=342,slow=10,SNR=509						
WRA				S	S	11 17 03.6	-3.5
	comp=Z,10nm,1.0s,baz=343,slow=17,SNR=5.6						
WRA				PcP	PcP	11 17 05.9	-1.5
	comp=Z,4.2nm,0.7s,baz=341,slow=1.8,SNR=6.1						
WRA				ScP	ScP	11 20 28.8	-2.0
	comp=Z,3.8nm,1.0s,baz=346,slow=3.8,SNR=6.0						
WRA	Warramunga Arr	22.00	163	*c**e*P	P	11 13 12.3	-2.5
WRA				pmax	pmax		
	comp=Z,69nm,0.3s						
WR1	Warramunga Arr	22.00	163	*e*P	P	11 13 13.8	-0.9
	comp=Z,188nm,0.8s						
WR1				*e*S	S	11 17 03.6	-3.5
WR1				*e*PcP	PcP	11 17 05.9	-1.5
WR1				*e*ScP	ScP	11 20 28.8	-1.9
WB2	Warramunga Arr	22.00	163	*e*P	P	11 13 13.7	-1.1
	comp=Z,185nm,0.8s						
TNG	Tangerang	22.04	251	P	P	11 13 16.9	+1.7
PMG	Port Moresby	22.21	119	P	P	11 13 16.6	-0.3
	comp=Z,12nm,0.8s,baz=329,slow=16,SNR=3.4						
TWG	Pinlang	22.44	344	*e*P	P	11 13 17.0	-2.1
	comp=Z,452nm,1.8s						
SBJI	Serang	22.51	251	P	P	11 13 22.1	+2.3
YULB	Yu-li	22.93	345	*e*P	P	11 13 22.4	-1.2
	comp=Z,27nm,1.1s						
TPRI	Tanjung Pinang	22.96	270	P	P	11 13 23.5	-0.5
DSRI	Dabo	22.97	266	P	P	11 13 24.8	+0.7
TPUB	Ta-pu	23.02	344	*e*P	P	11 13 24.3	-0.1
	comp=Z,221nm,2.0s						
PMBI	Palembang	23.07	260	P	P	11 13 25.9	+0.9
BLSI	Bandar Lampung	23.14	254	P	P	11 13 26.0	+0.3
KLI	Kotabumi	23.38	255	P	P	11 13 29.2	+1.3
KLI				pmax	pmax		
	comp=Z,206nm,0.8s						
KLI	Kotabumi	23.38	255	P	P	11 13 28.4	+0.5
SSLB	Suanglung	23.39	345	*e*P	P	11 13 27.4	-0.6
	comp=Z,30nm,1.1s						
MBWA	Marble Bar	23.42	198	*e*P	P	11 13 27.0	-1.1
	comp=Z,32nm,0.8s						
NACB	Ninganchiao	23.61	346	*e*P	P	11 13 31.0	+1.2
	comp=Z,38nm,1.0s						
MYKOM	Kota Tinggi	23.64	272	*e*P	P	11 13 30.8	+0.6
	comp=Z,186nm,1.3s						
MYKOM	Kota Tinggi	23.64	272	P	P	11 13 31.5	+1.3
KASI	Kota Agung	23.90	254	P	P	11 13 34.5	+1.9
MDSI	Maura Dua	23.95	256	P	P	11 13 33.6	+0.5
JMBI	JAMBI	24.00	263	P	P	11 13 37.2	+3.6
YHNB	Yeheng	24.14	346	*e*P	P	11 13 34.8	+0.2
	comp=Z,186nm,1.7s						
KGM	Kluang	24.18	272	P	P	11 13 36.6	+1.5
LWLI	Liwa	24.19	255	P	P	11 13 36.0	+0.6
LHSI	Lahat	24.45	258	P	P	11 13 39.3	+1.7
XMIS	Christmas Isla	24.60	242	*e*P	P	11 13 38.3	-0.7
	comp=Z,157nm,0.6s						
QIS	Mount Isa	24.61	152	P	P	11 13 39.2	+0.2
	baz=25,SNR=237						
KTGM	Kuala Trenggan	24.67	280	P	P	11 13 41.0	+1.4
QIZ	Qiongzhong	24.81	317	P	P	11 13 41.3	+0.5
QIZ				S	S	11 17 56.0	+3.6
MNAI	Manna	25.11	257	*e*P	P	11 13 44.3	+0.6
	comp=Z,445nm,1.0s						
RGRI	Rengat	25.20	267	P	P	11 13 45.8	+1.4
MTSU	Mount Surprise	25.31	140	P	P	11 13 45.7	+0.3
	baz=25,SNR=30						
AS31	Alice Springs	25.43	166	*e*P	P	11 13 45.9	-0.5
	comp=Z,41nm,0.3s						
ASAR	Alice Springs	25.43	166	P	P	11 13 45.7	-0.7
	comp=Z,16nm,0.4s,baz=352,slow=7.4,SNR=403						
ASAR				PcP	PcP	11 17 14.5	-0.2
	comp=Z,1.4nm,0.3s,baz=5.1,slow=1.7,SNR=4.5						
ASAR				S	S	11 18 09.8	+7.7
	comp=Z,23nm,1.1s,baz=341,slow=19,SNR=7.3						
ASAR				ScP	ScP	11 20 38.8	-1.2
	comp=Z,2.0nm,0.4s,baz=352,slow=2.1,SNR=9.8						
AS01	Alice Springs	25.44	166	*e*P	P	11 13 45.6	-0.9
JOW	Kunigami	25.56	2	P	P	11 13 49.6	+2.1
	comp=Z,5.3nm,0.3s,baz=114,slow=23,SNR=5.8						
JOW	Kunigami	25.56	2	*e*P	P	11 13 49.9	+2.4
	comp=Z,216nm,1.9s						
MASI	Maura Aman, Be	25.59	260	P	P	11 13 49.7	+1.6
FRIM	Kepong	25.93	275	P	P	11 13 52.4	+1.4
WRKA	Warakurna	26.03	178	P	P	11 13 51.1	-0.7
	baz=26,SNR=146						
SDSI	Sungai Dareh	26.14	266	P	P	11 13 53.9	+1.0
KRJI	Kerinci	26.22	263	P	P	11 13 55.3	+1.6
IPM	Ipoh	26.64	278	*e*P	P	11 13 57.3	-0.1
	comp=Z,51nm,1.3s						
IPM	Ipoh	26.64	278	P	P	11 13 57.9	+0.5
PDSI	Padang	27.10	266	P	P	11 14 01.9	+0.3
KULM	Kulim	27.11	279	*e*P	P	11 14 01.5	0.0
	comp=Z,41nm,1.4s						
KULM	Kulim	27.11	279	P	P	11 14 02.0	+0.4
PPI	Padang Panjang	27.14	267	P	P	11 14 02.4	+0.6
MNSI	Mandailing Nat	27.91	270	P	P	11 14 09.0	+0.3
SKNT	Sakolnakorn	27.98	306	P	P	11 14 14.3	+5.0
	comp=Z,28nm,1.1s						
CTA	Charters Tower	27.98	140	P	P	11 14 10.0	+0.7
	comp=Z,38nm,1.1s,baz=312,slow=14,SNR=9.3						
CTAO	Charters Tower	27.98	140	*e*P	P	11 14 10.0	+0.7
	comp=Z,44nm,1.0s						
CTAO	Charters Tower	27.98	140	*e*P	P	11 14 10.0	+0.7
CTAO				pmax	pmax		
	comp=Z,44nm,1.0s						
TRTT	Trang	28.49	284	P	P	11 14 16.5	+2.7
	comp=Z,5.4nm,0.8s						
SISI	Saibi	28.50	265	P	P	11 14 13.1	-0.9
PSI	Prapat	28.59	274	P	P	11 14 15.2	+0.2
	comp=Z,59nm,0.9s,baz=165,slow=0.1,SNR=38						
PSI	Prapat	28.59	274	*e*P	P	11 14 15.1	+0.1
	comp=Z,60nm,0.8s						
PSI	Prapat	28.59	274	*e*P	P	11 14 15.1	+0.1
PSI				pmax	pmax		
	comp=Z,60nm,0.8s						
MEEK	Meekatharra	28.91	197	P	P	11 14 16.5	-0.9
	baz=29,SNR=11						
KRAB	Krabi	29.05	285	P	P	11 14 19.6	+0.8
CHAI	Chaiyaphum	29.12	302	P	P	11 14 20.2	+0.8

comp=Z,10nm,1.0s,comp=Z,137nm
KCSI Kotacane, Aceh 29.79 275 P **P** **11 14 24.3 -1.1**
PKDT Phuket 29.81 284 P **P** **11 14 26.7 +1.1**
comp=Z,5.8nm,0.6s,comp=Z,11µm
GSI Gunungsitoli 29.91 271 *e*P **P** **11 14 25.6 -0.9**
comp=Z,98nm,0.8s
GSI Gunungsitoli 29.91 271 P **P** **11 14 26.0 -0.4**
PBKT Sadao Pong 30.29 302 *e*P **P** **11 14 30.5 +0.8**
comp=Z,11nm,0.9s
PBKT Sadao Pong 30.29 302 P P 11 14 36.5 +6.8
TPTI 30.36 274 P **P** **11 14 30.1 -0.3**
SRDT SRDT 30.96 296 P **P** **11 14 37.9 +2.2**
comp=Z,35nm,1.6s,comp=Z,4µm
UTHA Uthaitani 31.16 299 P **P** **11 14 39.2 +1.8**
comp=Z,3.6nm,1.2s
NANT Nan 31.60 305 P **P** **11 14 43.0 +1.8**
comp=Z,5.6nm,0.7s,comp=Z,127nm
FORT Forrest 31.74 179 P **P** **11 14 41.6 -0.7**
baz=32,SNR=18
FORT Forrest 31.74 179 *e*P **P** **11 14 41.4 -0.9**
comp=Z,102nm,0.9s
WHN Wuhan 31.80 338 P **P** **11 14 45.2 +2.4**
NJ2 Nanjing 31.82 346 *e*P **P** **11 14 44.9 +2.0**
NJ2 pmax pmax
comp=Z,12nm,0.5s
QLP Quilpie 31.94 151 P **P** **11 14 43.8 -0.3**
baz=32,SNR=39
UMPA Umpang Tak 31.94 300 P **P** **11 14 47.1 +2.8**
comp=Z,4.0nm,1.1s,comp=Z,2µm
MORW Morawa 31.97 199 P **P** **11 14 43.9 -0.4**
baz=32,SNR=10
MORW Morawa 31.97 199 *e*P **P** **11 14 43.8 -0.6**
comp=Z,113nm,1.8s
JNU Nakatsue 31.98 5 P **P** **11 14 44.6 +0.2**
comp=Z,8.9nm,0.9s,baz=19,slow=13,SNR=4.8
JNU Nakatsue 31.98 5 *e*P **P** **11 14 44.5 0.0**
comp=Z,17nm,1.1s
GYA Guiyang 32.18 323 ⇑*i*P **P** **11 14 48.1 +1.8**
GYA pP pwP 11 15 22.6 +1.7
GYA sP sP 11 15 40.4 +5.3
GYA PP **PP** **11 16 02.0 -0.2**
GYA S **S** **11 19 51.8 +3.6**
GYA sS sS 11 20 48.2 +3.3
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.4s
LAMP Lampang 32.34 304 P **P** **11 14 50.3 +2.6**
comp=Z,5.5nm,0.9s
CM01 Chiang Mai Arr 32.85 303 *e*P **P** **11 14 53.1 +0.9**
CM31 Chiang Mai Arr 32.88 303 *e*P **P** **11 14 53.6 +1.1**
CM31 Chiang Mai Arr 32.88 303 P **P** **11 14 52.1 -0.4**
CMAR Chiang Mai Arr 32.88 303 P **P** **11 14 52.4 -0.1**
comp=Z,6.6nm,0.9s,baz=127,slow=7.3,SNR=45
CMAR PcP **PcP** **11 17 35.4 +1.8**
comp=Z,1.0nm,0.7s,baz=122,slow=5.0,SNR=4.1
CMAR ScP **ScP** **11 21 04.0 +0.2**
comp=Z,2.4nm,0.8s,baz=163,slow=2.5,SNR=15
CMMT Chiang Mai 33.04 304 P **P** **11 14 55.3 +1.4**
comp=Z,23nm,0.9s
CHTO Chiang Mai 33.05 304 *e*P **P** **11 14 53.9 0.0**
comp=Z,20nm,0.9s
CHTO Chiang Mai 33.05 304 *e*P **P** **11 14 53.9 0.0**
CHTO pmax pmax
comp=Z,20nm,0.9s
CHTO Chiang Mai 33.05 304 P **P** **11 14 55.3 +1.4**
comp=Z,102nm,0.9s
BLDU Ballidu 33.20 197 P **P** **11 14 54.6 -0.4**
baz=33,SNR=20
ENH Enshi 33.65 331 *e*P **P** **11 14 59.8 +0.8**
comp=Z,58nm,0.9s
KMI Kunming 33.76 317 P **P** **11 15 02.9 +2.6**
KMI pP pwP 11 15 35.9 +0.7
KMI sP sP 11 15 53.8 +4.8
KMI pmax pmax
comp=Z,36nm,0.6s
KMI pmax pmax
comp=Z,210nm,4.7s
KLBR Kellerberrin 33.83 195 P **P** **11 14 59.9 -0.6**
baz=34,SNR=31
HNR Honiara 33.99 109 P **P** **11 15 02.5 +0.4**
comp=Z,70nm,0.9s,baz=79,slow=4.8,SNR=2.8
RMQ Roma 34.28 145 P **P** **11 15 04.5 0.0**
baz=34,SNR=7.3
MUN Mundaring 34.62 197 P **P** **11 15 06.8 -0.5**
baz=35,SNR=8.4
BBOO Buckleboo 34.72 167 P **P** **11 15 07.6 -0.6**
baz=35,SNR=120
BBOO Buckleboo 34.72 167 *e*P **P** **11 15 07.5 -0.6**
comp=Z,63nm,0.8s
EIDS Eidsvold 34.86 141 P **P** **11 15 09.2 -0.3**
baz=35,SNR=16
EIDS Eidsvold 34.86 141 *e*P **P** **11 15 08.8 -0.6**
comp=Z,67nm,0.8s
NWAO Narrogin (SRO) 35.23 195 P **P** **11 15 12.1 -0.5**
comp=Z,12nm,0.4s,baz=258,slow=7.4,SNR=26
NWAO Narrogin (SRO) 35.23 195 P **P** **11 15 12.0 -0.5**
baz=35,SNR=24
NWAO Narrogin (SRO) 35.23 195 *e*P **P** **11 15 12.0 -0.5**
comp=Z,28nm,0.9s
NWAO Narrogin (SRO) 35.23 195 *e*P **P** **11 15 12.0 -0.5**
NWAO pmax pmax
comp=Z,28nm,0.9s
STKA Stephens Creek 35.45 159 P **P** **11 15 14.3 0.0**
comp=Z,28nm,0.3s,baz=329,slow=8.2,SNR=153
STKA LR LR 11 30 44.3
comp=Z,62nm,20.0s,baz=19,slow=38
STKA Stephens Creek 35.45 159 P **P** **11 15 14.4 0.0**
baz=36,SNR=81
STKA Stephens Creek 35.45 159 *e*P **P** **11 15 14.1 -0.3**
comp=Z,19nm,0.9s
STKA Stephens Creek 35.45 159 *e*P **P** **11 15 14.1 -0.3**
STKA pmax pmax
comp=Z,19nm,0.9s
HTT Hallett 36.03 164 P **P** **11 15 19.2 -0.1**
baz=36,SNR=23
KS15 Wonju Array Si 36.13 1 *e*P **P** **11 15 20.7 +0.5**
KSAR Wonju Array Be 36.13 1 P **P** **11 15 21.1 +1.0**
KSAR ScP **ScP** **11 21 13.6 -1.4**
KSR Wonju Array Be 36.13 1 P **P** **11 15 21.1 +1.0**
KSRS Korea Array 36.15 1 P **P** **11 15 21.1 +0.9**
comp=Z,3.0nm,0.4s,baz=180,slow=10,SNR=22
KSRS ScP **ScP** **11 21 13.6 -1.4**
comp=Z,1.9nm,0.8s,baz=191,slow=4.3,SNR=6.8
KS01 Wonju Array Si 36.17 1 *e*P **P** **11 15 21.1 +0.6**
MJAR Matsushiro Arr 36.60 15 P **P** **11 15 23.3 -0.9**
comp=Z,1.1nm,0.4s,baz=197,slow=9.8,SNR=6.2
MJAR pP **pP** **11 15 54.5 -2.4**
comp=Z,3.4nm,0.8s,baz=186,slow=9.5,SNR=4.2
MAJO Matsushiro 36.61 15 *e*P **P** **11 15 23.3 -0.9**
MAJO epP **pP** **11 15 54.5 -2.4**
MAJO Matsushiro 36.61 15 *e*P **P** **11 15 23.3 -0.9**
MAJO *e**PP **pP** **11 15 54.6 -2.4**
CMSA Cobar Meteorol 36.80 154 P **P** **11 15 26.1 +0.2**
baz=37,SNR=41
RKGY Rocky Gully 36.90 195 P **P** **11 15 27.3 +0.6**
baz=37,SNR=21
XAN Xi'an 37.06 334 P **P** **11 15 28.8 +0.6**
XAN pP pP 11 16 01.3 +0.9
XAN PcP **PcP** **11 17 47.8 +2.1**
XAN pmax pmax
comp=Z,41nm,1.2s
XAN pmax pmax
comp=Z,120nm,4.3s
CD2 Chengdu 37.18 325 ⇑P **P** **11 15 30.1 +0.9**
CD2 pmax pmax
comp=Z,80nm,0.6s
ARMA Armidale 38.90 146 P **P** **11 15 44.4 +0.8**
baz=39,SNR=38
ARMA Armidale 38.90 146 *e*P **P** **11 15 44.5 +0.8**
comp=Z,71nm,0.8s
ARPS Mount Arapiles 40.00 162 P **P** **11 15 52.9 +0.4**
baz=40,SNR=42
BJT Baijiatuan 40.05 346 *e*P **P** **11 15 53.3 +0.4**
comp=Z,16nm,0.9s
BJT Baijiatuan 40.05 346 *e*P **P** **11 15 53.3 +0.4**
BJT pmax pmax
comp=Z,16nm,0.9s
BJI Beijing 40.07 346 P **P** **11 15 53.2 +0.1**
BJI pmax pmax
comp=Z,120nm,4.9s
YNG Young 40.34 153 P **P** **11 15 56.2 +0.8**
baz=40,SNR=18
LZH Lanzhou 41.12 330 *e*P **P** **11 16 04.1 +2.2**
LZH pP pP 11 16 36.0 +1.3
LZH sP sP 11 16 53.3 +1.7
LZH S **S** **11 22 03.8 0.0**
LZH sS sS 11 23 03.0 +1.0
LZH SS **SS** **11 25 15.2 +2.5**
LZH pmax pmax
comp=Z,120nm,1.0s
CAN Canberra 41.47 153 *e*P **P** **11 16 05.5 +0.8**
comp=Z,65nm,0.9s
CAN Canberra 41.47 153 *e*P **P** **11 16 05.5 +0.8**
CAN pmax pmax
comp=Z,65nm,0.9s
CNB Canberra Magne 41.63 153 P **P** **11 16 07.2 +1.2**
baz=42,SNR=6.6
TOO Toolangi 41.96 158 P **P** **11 16 09.7 +1.1**
baz=42,SNR=10.0
TOO Toolangi 41.96 158 *e*P **P** **11 16 09.4 +0.8**
comp=Z,27nm,0.9s
TOO Toolangi 41.96 158 *e*P **P** **11 16 09.4 +0.8**
TOO pmax pmax
comp=Z,27nm,0.9s
SHL Shillong 42.04 308 *e*P **P** **11 16 10.1 +0.4**
comp=Z,108nm,0.8s
SHL Shillong 42.04 308 *e*P **P** **11 16 10.1 +0.4**
SHL pmax pmax
comp=Z,108nm,0.8s
HHC Hu-ho-hao-te 42.09 342 *e*P **P** **11 16 10.8 +1.1**
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,160nm,7.7s
CN2 Changchun 42.52 358 *e*P **P** **11 16 16.7 +3.7**
MILA Mila 42.98 154 P **P** **11 16 17.1 +0.2**
baz=43,SNR=4.6
USRK Ussuriysk Ar. 43.07 5 P **P** **11 16 18.1 +0.7**
comp=Z,1.2nm,0.3s,baz=179,slow=6.8,SNR=11
DZM Mont Dzumac 44.45 124 P **P** **11 16 29.3 +0.3**
comp=Z,16nm,1.1s,baz=302,slow=15,SNR=7.6
DZM Mont Dzumac 44.45 124 *e*P **P** **11 16 29.2 +0.3**
comp=Z,52nm,1.5s
LSA Lhasa 44.73 313 *e*P **P** **11 16 33.5 +2.0**
comp=Z,44nm,0.6s
LSA Lhasa 44.73 313 *e*P **P** **11 16 33.5 +2.0**
LSA pmax pmax
comp=Z,44nm,0.6s
GTA Gaotai 45.70 330 *e*P **P** **11 16 39.4 +0.8**
GTA pP pwP 11 17 16.0 +1.4
GTA sP sP 11 17 33.5 +4.8
GTA PcP **PcP** **11 18 15.4 +1.4**
GTA ScP **ScP** **11 21 52.1 -0.8**
GTA PcS **PcS** **11 22 07.3 -1.2**
GTA S **S** **11 23 12.2 +1.8**
GTA sS sS 11 24 15.2 +5.7
GTA SS **SS** **11 26 34.2 -2.7**
GTA pmax pmax
comp=Z,16nm,1.2s
GTA pmax pmax
comp=Z,170nm,9.4s
GTA LR LR
comp=Z,94nm,16.5s
GTA LR LR
comp=Z,140nm,16.2s
GTA LR LR
comp=Z,120nm,19.0s
ODAN Odare 46.21 307 *e*P **P** **11 16 44.1 +1.2**
comp=Z,213nm,0.8s
RAMN Ramite 46.88 307 *e*P **P** **11 16 49.5 +1.3**
comp=Z,281nm,0.7s
PALK Pallekele 47.03 279 *e*P **P** **11 16 49.2 0.0**
comp=Z,119nm,1.8s
PALK Pallekele 47.03 279 *e*P **P** **11 16 49.2 0.0**
PALK pmax pmax
comp=Z,119nm,1.8s
JIRN Jiri 47.52 307 *e*P **P** **11 16 54.5 +1.2**
comp=Z,235nm,0.3s
GUN Gumba 47.88 308 *e*P **P** **11 16 57.1 +1.1**
comp=Z,246nm,0.4s
KLR Kul'dur 48.05 4 P **P** **11 16 57.1 +0.6**
comp=Z,1.8nm,0.4s,baz=190,slow=11,SNR=16
KLR Kul'dur 48.05 4 *i*P **P** **11 16 56.6 +0.1**
PKI Pulchoki 48.10 307 *e*P **P** **11 16 58.3 +0.6**
comp=Z,60nm,0.3s
PKIN Phulchoki 48.12 307 *e*P **P** **11 16 58.3 +0.6**
comp=Z,55nm,0.3s
KKN Kakani 48.30 307 *e*P **P** **11 16 59.8 +0.7**
comp=Z,104nm,0.5s
DMN Daman 48.36 307 *e*P **P** **11 17 00.4 +0.8**
comp=Z,181nm,0.8s
KOLN Koldanda 49.64 306 *e*P **P** **11 17 10.6 +1.3**
comp=Z,512nm,0.8s
DANN Dangsing 49.76 307 *e*P **P** **11 17 11.3 +1.1**
comp=Z,292nm,0.6s
ULN Ulaanbaatar 49.81 342 *e*P **P** **11 17 10.9 +0.8**
comp=Z,9.8nm,1.0s
ULN Ulaanbaatar 49.81 342 *ce*P **P** **11 17 10.8 +0.7**
ULN pmax pmax
comp=Z,12nm,1.1s
SONA0 Songino Array 49.98 342 *e*P **P** **11 17 11.9 +0.5**
SONA0 *e*ScP **ScP** **11 22 09.6 -1.2**
SONM Songino Array 49.98 342 P **P** **11 17 11.9 +0.5**
comp=Z,3.2nm,0.8s,baz=154,slow=9.0,SNR=22
SONM ScP **ScP** **11 22 09.6 -1.2**
comp=Z,1.3nm,0.9s,baz=159,slow=3.6,SNR=4.7
SONM LR LR 11 41 49.7
comp=Z,45nm,18.4s,baz=202,slow=40
SONA1 Songino Array 49.99 342 *e*P **P** **11 17 11.4 -0.1**
PYUN Piuthan 50.27 306 *e*P **P** **11 17 15.3 +1.3**
comp=Z,436nm,0.9s
HYB Hyderabad 50.74 292 ⇑*i*P **P** **11 17 18.0 +0.5**
ZAK Zakamensk 53.21 341 *e*P **P** **11 17 34.6 -0.7**
ZAK pmax pmax
comp=Z,3.0nm,1.1s
MNCI Minicoy 54.66 279 *e*P **P** **11 17 46.8 +0.5**
comp=Z,165nm,1.3s
WMQ Urumqi 55.28 326 ⇑*i*P **P** **11 17 51.7 +1.4**
WMQ sP sP 11 18 38.2 -3.1
WMQ pmax pmax
comp=Z,58nm,1.1s
WMQ pmax pmax
comp=Z,250nm,4.3s
WMQ LR LR
comp=Z,220nm,23.1s
WMQ LR LR
comp=Z,180nm,18.9s
WMQ LR LR
comp=Z,96nm,21.7s
BOD Bodaibo 57.53 351 *e*P **P** **11 18 05.3 -0.6**
BOD pmax pmax
comp=Z,7.0nm,1.5s
PEA0B Petropavlovsk- 57.55 21 *e*P **P** **11 18 07.3 +1.1**
comp=Z,162nm,1.9s
PETK Petropavlovsk- 57.55 21 P **P** **11 18 07.1 +1.0**
comp=Z,4.3nm,0.8s,baz=201,slow=6.4,SNR=13
PETK pP **pP** **11 18 39.4 -2.2**
comp=Z,7.6nm,1.0s,baz=222,slow=4.0,SNR=3.9
PETK PcP **PcP** **11 18 57.8 -0.1**
comp=Z,5.0nm,0.9s,baz=197,slow=3.1,SNR=3.7
PETK Petropavlovsk- 57.55 21 *e*P **P** **11 18 06.6 +0.5**
PETK pP **pP** **11 18 39.4 -2.2**
PETK PcP **PcP** **11 18 57.8 -0.1**
PETK Petropavlovsk- 57.55 21 *e*P **P** **11 18 06.6 +0.5**
PETK 11 18 57.8
PEA1 Petropavlovsk- 57.55 21 *e*P **P** **11 18 07.1 +1.0**
PEA1 *e*pP **pP** **11 18 39.4 -2.2**
PEA1 *e*PcP **PcP** **11 18 57.8 -0.1**
DCZ Deep Cove 58.15 148 *e*P **P** **11 18 11.2 +0.7**
comp=Z,34nm,1.1s
FOZ Fox Glacier 58.39 145 *e*P **P** **11 18 12.1 0.0**
comp=Z,62nm,1.1s
MLZ Mavora Lakes 58.60 147 *e*P **P** **11 18 13.7 +0.1**
comp=Z,122nm,1.9s
WKZ Wanaka 58.75 147 *e*P **P** **11 18 14.4 -0.3**
comp=Z,156nm,1.8s
WHZ Wether Hill Ro 58.85 148 *e*P **P** **11 18 14.8 -0.5**
comp=Z,153nm,2.0s
LBZ Lake Benmore 59.12 145 *e*P **P** **11 18 17.2 0.0**
comp=Z,57nm,0.5s
THZ Tophouse 59.20 142 *e*P **P** **11 18 18.3 +0.5**
comp=Z,138nm,1.7s
DGZ Jazzator, Alta 59.22 331 *di*P **P** **11 18 18.2 +0.3**
DGZ pmax pmax
comp=Z,5.0nm,1.1s
RPZ Rata Peaks 59.22 144 *e*P **P** **11 18 17.9 0.0**
comp=Z,34nm,1.0s
LTZ Lake Taylor 59.39 143 *e*P **P** **11 18 19.0 -0.1**
comp=Z,114nm,1.8s
OXZ Oxford 59.57 144 *e*P **P** **11 18 19.4 -0.8**
comp=Z,130nm,1.9s
ODZ Otahua Downs 59.79 146 *e*P **P** **11 18 21.4 -0.3**
comp=Z,79nm,1.6s
KHZ Kahutara 59.96 142 *e*P **P** **11 18 22.1 -0.8**
comp=Z,196nm,1.9s
SNZO South Karori 60.09 140 *e*P **P** **11 18 22.8 -1.0**
comp=Z,172nm,1.3s
MK01 Makanchi Array 60.09 326 *e*P **P** **11 18 24.1 +0.2**
MK31 Makanchi Array 60.11 326 *e*P **P** **11 18 24.4 +0.4**
MK31 Makanchi Array 60.11 326 *e*P **P** **11 18 24.4 +0.4**
MK32 Makanchi Array 60.11 326 *e*P **P** **11 18 24.4 +0.4**
MK32 epP **pP** **11 18 57.5 -1.5**
MK32 *e*ScP **ScP** **11 22 54.0 -1.1**
MKAR Makanchi Array 60.11 326 P **P** **11 18 24.4 +0.4**
comp=Z,6.6nm,0.4s,baz=113,slow=7.8,SNR=189
MKAR pP **pP** **11 18 57.5 -1.5**
comp=Z,4.9nm,0.6s,baz=121,slow=8.6,SNR=2.9
MKAR ScP **ScP** **11 22 54.0 -1.1**
comp=Z,1.0nm,0.8s,baz=129,slow=5.7,SNR=4.8
MKAR LR LR 11 47 05.4
comp=Z,49nm,18.0s,baz=124,slow=38
MKAR Makanchi Array 60.11 326 *e*P **P** **11 18 24.3 +0.3**
comp=Z,85nm,0.9s
MKAR pP **pP** **11 18 57.5 -1.5**
MKAR ScP **ScP** **11 22 54.0 -1.1**
MKAR Makanchi Array 60.11 326 *e*P **P** **11 18 24.3 +0.3**
MKAR pmax pmax
comp=Z,85nm,0.9s
NIL Nilore 60.12 309 *e*P **P** **11 18 24.2 -0.1**
comp=Z,46nm,1.4s
NIL Nilore 60.12 309 *e*P **P** **11 18 24.2 -0.1**
NIL pmax pmax
comp=Z,46nm,1.4s
URZ Urewera 60.15 136 *e*P **P** **11 18 24.0 -0.3**
comp=Z,132nm,1.7s
MQZ McQueen's Vall 60.15 144 *e*P **P** **11 18 24.5 +0.3**
comp=Z,192nm,1.7s
BKZ Black Stump Fm 60.16 137 *e*P **P** **11 18 24.0 -0.5**
comp=Z,102nm,1.6s
MAKZ Makanchi 60.30 326 *e*P **P** **11 18 25.5 +0.3**
comp=Z,20nm,0.9s
MAKZ Makanchi 60.30 326 *e*P **P** **11 18 25.5 +0.3**
MAKZ pmax pmax
comp=Z,20nm,0.9s
KSH Kashi 60.41 316 P **P** **11 18 28.4 +2.1**
KSH pP pwP 11 19 04.9 +0.7
KSH PcP **PcP** **11 19 08.7 -1.0**
KSH PcS **PcS** **11 23 11.0 -1.4**
KSH S **S** **11 26 26.5 -3.1**
KSH pmax pmax
comp=Z,56nm,1.2s
KSH pmax pmax
comp=Z,400nm,6.2s
BFZ Birch Farm 60.76 139 *e*P **P** **11 18 28.2 -0.3**
comp=Z,52nm,1.2s
YAK Yakutsk 60.77 1 *e*P **P** **11 18 27.2 -0.9**
YAK *e* 11 19 12.3
YAK *e* 11 20 41.6
YAK *e*S **S** **11 26 31.1 -1.9**
YAK *e* 11 27 59.2
YAK *e*SS **SS** **11 30 33.7 -0.8**
YAK pmax pmax
comp=Z,11nm,1.0s
YAK pmax pmax
comp=Z,6.0nm,0.8s
YAK smax smax
comp=E,86nm,2.3s
YAK smax smax
comp=N,33nm,1.5s
KDJ Kajisay 60.78 319 *e*P **P** **11 18 30.6 +1.8**
comp=N,13nm,0.8s
KDJ Kajisay 60.78 319 *e*P **P** **11 18 30.6 +1.8**
KDJ pmax pmax
comp=Z,13nm,0.8s
MA2 Magadan 61.03 13 P **P** **11 18 31.5 +1.6**
comp=Z,4.7nm,0.8s,baz=234,slow=14,SNR=2.9
MA2 pP **pP** **11 19 04.5 -1.1**
comp=Z,8.0nm,0.8s,baz=177,slow=7.1,SNR=4.9
MA2 Magadan 61.03 13 *i*P **P** **11 18 32.5 +2.6**
MA2 pmax pmax
comp=Z,9.0nm,1.1s
NRN Naryn 61.25 318 *e*P **P** **11 18 32.5 +0.4**
comp=Z,7.4nm,0.9s
NRN Naryn 61.25 318 *e*P **P** **11 18 32.5 +0.4**
NRN pmax pmax
comp=Z,7.0nm,0.9s
ULHL Ulahol 61.45 319 P **P** **11 18 34.7 +1.3**
SNR=6.3
KZA Kyzart 62.04 318 P **P** **11 18 38.6 +1.1**
SNR=11
TKM2 Tokmak 2 62.19 319 P **P** **11 18 39.0 +0.7**
SNR=17
UCH Uchtor 62.59 318 P **P** **11 18 42.5 +1.2**
SNR=16
AAK Ala-Archa 62.79 318 *e*P **P** **11 18 42.6 +0.4**
comp=Z,16nm,1.6s
AAK Ala-Archa 62.79 318 *ce*P **P** **11 18 43.1 +0.9**
AAK pmax pmax
comp=Z,9.0nm,1.3s
FRU Bishkek 62.79 319 *e*P **P** **11 18 44.0 +1.9**
USP Ospenovka 63.06 319 P **P** **11 18 44.4 +0.6**
SNR=20
AML Almayashu 63.10 318 P **P** **11 18 45.6 +1.1**
SNR=17
ZAA0 Zalesovo Array 63.23 333 *e*P **P** **11 18 44.0 -0.7**
comp=Z,9.9nm,1.1s
ZALV Zalesovo Beam 63.23 333 P **P** **11 18 43.9 -0.8**
comp=Z,3.5nm,0.7s,baz=114,slow=5.4,SNR=16
ZALV LR LR 11 46 52.6
comp=Z,28nm,18.2s,baz=68,slow=36
ZALV Zalesovo Beam 63.23 333 *e*P **P** **11 18 43.5 -1.2**
ZALV Zalesovo Beam 63.23 333 *e*P **P** **11 18 43.5 -1.2**
ZAA1 Zalesovo Array 63.23 333 *e*P **P** **11 18 43.9 -0.8**
ARSB Arslanbob 63.25 317 *e*P **P** **11 18 46.0 +0.7**
comp=Z,17nm,1.0s
EKS2 Erkin-Say 63.27 318 P **P** **11 18 46.1 +0.7**
SNR=14
KBL Kabul 63.71 308 *e*P **P** **11 18 48.4 -0.1**
comp=Z,15nm,0.9s
KBL Kabul 63.71 308 *e*P **P** **11 18 48.4 -0.1**
KBL pmax pmax
comp=Z,15nm,0.9s
BTK Batken 64.27 315 *e*P **P** **11 18 52.6 +0.7**
comp=Z,52nm,1.8s
KURK Kurchatov 64.33 328 *e*P **P** **11 18 51.7 -0.2**
comp=Z,30nm,0.7s
KURK Kurchatov 64.33 328 *ce*P **P** **11 18 51.9 0.0**
KURK pmax pmax
comp=Z,30nm,0.7s
KURK Kurchatov 64.33 328 P **P** **11 18 51.9 0.0**
SNR=11
SEY Seymchan 64.38 12 *i*P **P** **11 18 52.4 +0.4**
NVS Novosibirsk 64.52 333 *e*P **P** **11 18 52.6 -0.4**
NVS *e* 11 19 34.7
NVS pmax pmax
comp=Z,7.0nm,0.8s
NVS pmax pmax
comp=N,4.0nm,0.8s
NVS pmax pmax
comp=E,5.0nm,0.8s
KK31 Karatay Array 65.64 318 *e*P **P** **11 19 00.5 -0.1**
KK31 Karatay Array 65.64 318 *e*P **P** **11 19 00.5 -0.1**
KKAR Karatay Array 65.64 318 *e*P **P** **11 19 00.6 0.0**
KKAR Karatay Array 65.64 318 *e*P **P** **11 19 00.6 0.0**
CASY Casey 68.35 187 *e*P **P** **11 19 17.6 +0.4**
comp=E,11nm,0.9s
BRVK Borovoye 69.97 327 *e*P **P** **11 19 27.1 -0.4**
comp=E,18nm,0.9s
BRVK Borovoye 69.97 327 *ce*P **P** **11 19 27.4 -0.1**
BRVK pmax pmax
comp=Z,22nm,1.0s
BRVK Borovoye 69.97 327 P **P** **11 19 27.3 -0.1**
SNR=6.6
ATKA Atka Island 70.20 34 *e*P **P** **11 19 30.0 +1.1**
comp=Z,106nm,1.2s
TIXI Tiksi 70.41 0 *ce*P **P** **11 19 30.0 +0.2**
TIXI pmax pmax
comp=Z,3.0nm,0.9s
MHTO MHTO 70.50 292 P **P** **11 19 31.1 -0.2**
SNR=8.4
DQM DQM 70.78 291 P **P** **11 19 33.0 -0.1**
SNR=5.2
BILL Bilibino 71.86 14 *e*P **P** **11 19 39.8 +1.2**
BILL pmax pmax
comp=Z,11nm,2.7s
GEYT Alibeck 73.11 309 P **P** **11 19 47.0 +0.4**
comp=Z,18nm,0.5s,baz=144,slow=5.5,SNR=16

GEYT LR LR 11 55 49.0
comp=Z,48nm,18.3s,baz=340,slow=39
GYA0B ALIBECK ARRAY 73.11 309 *e*P **P 11 19 47.1 +0.5**
comp=Z,9.9nm,0.9s
ABKAR Akbulak array 74.63 321 *e*P **P 11 19 54.6 -0.6**
AKUT Akutan 75.63 34 *e*P **P 11 19 59.9 -0.9**
comp=Z,278nm,1.4s
SVE Sverdlovsk 76.56 329⇓*e*P **P 11 20 05.9 -0.1**
SVE pmax pmax
comp=Z,26nm,1.3s
ARU Arti 77.52 328 *e*P **P 11 20 10.7 -0.7**
comp=Z,7.3nm,0.9s
ARU Arti 77.52 328*d i*P **P 11 20 10.2 -1.2**
ARU 11 23 07.4
ARU S **S 11 29 50.1 +0.1**
ARU SS **SS 11 34 51.1 -1.3**
ARU pmax pmax
comp=Z,8.0nm,1.0s
VNDA Vanda 80.77 173 P **P 11 20 28.3 -0.4**
comp=Z,6.5nm,0.4s,baz=321,slow=5.3,SNR=48
VNDA Vanda 80.77 173 *e*P **P 11 20 28.2 -0.4**
comp=Z,11nm,0.6s
VNDA Vanda 80.77 173 *e*P **P 11 20 28.2 -0.4**
VNDA pmax pmax
comp=Z,11nm,0.6s
MAW Mawson 81.60 200 P **P 11 20 33.4 +0.2**
comp=Z,5.7nm,0.8s,baz=59,slow=5.9,SNR=3.4
MAW Mawson 81.60 200 *e*P **P 11 20 33.5 +0.4**
comp=Z,48nm,1.8s
MAW Mawson 81.60 200 *e*P **P 11 20 33.5 +0.4**
MAW pmax pmax
comp=Z,48nm,1.8s
SBA Scott Base 81.68 172 *e*P **P 11 20 34.0 +0.6**
comp=Z,72nm,2.0s
SBA Scott Base 81.68 172 *e*P **P 11 20 34.0 +0.6**
SBA pmax pmax
comp=Z,72nm,2.0s
RAYN Ar Rayn 82.20 293 *e*P **P 11 20 37.2 -0.1**
comp=Z,17nm,1.1s
RAYN Ar Rayn 82.20 293 *e*P **P 11 20 37.2 -0.1**
RAYN pmax pmax
comp=Z,17nm,1.1s
GNI Garni 83.72 310 *i* P **P 11 20 44.5 -0.5**
ZEI Tsey 84.52 313 *e*P **P 11 20 47.1 -1.9**
ZEI pmax pmax
comp=Z,11nm,1.1s
AKH Akhalkalaki 84.75 311 *e*P **P 11 20 51.2 +1.0**
comp=Z,21nm,1.0s
AKH Akhalkalaki 84.75 311⇑*i*P **P 11 20 51.4 +1.2**
AKH Akhalkalaki 84.75 311 *e*P **P 11 20 51.2 +1.0**
AKH pmax pmax
comp=Z,21nm,1.0s
PRGR Permogore 85.13 332 *e*P **P 11 20 50.1 -1.2**
PRGR pmax pmax
comp=Z,6.0nm,0.3s
KBZ Khabaz 85.31 314 P **P 11 20 52.9 +0.3**
comp=Z,3.0nm,0.8s,baz=154,slow=4.1,SNR=4.8
KIV Kislovodsk 85.47 314 *i* P **P 11 20 52.2 -1.4**
KIV pmax pmax
comp=Z,5.0nm,1.0s
VRH Novokhopyorsk 86.46 321 *e*P **P 11 20 57.1 -1.0**
VRH pmax pmax
comp=Z,10.0nm,0.7s
KLMR Klimovskoe 88.03 331 *e*P **P 11 21 03.0 -2.4**
KLMR *e**PP **pwP 11 21 47.5 +1.0**
KLMR pmax pmax
comp=Z,8.0nm,1.1s
KLMR Klimovskoe 88.03 331 *e*P **P 11 21 03.1 -2.4**
KLMR AMP 11 21 05.2
comp=Z,8.0nm,1.1s
KLMR *e*pP **pwP 11 21 47.6 +1.0**
VSR Storozhevoye 88.07 321 *e*P **P 11 21 03.7 -2.2**
VSR pmax pmax
comp=Z,10.0nm,1.1s
LPSR Galich'ya Gora 88.23 322 *e*P **P 11 21 05.0 -1.6**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
OBN Obninsk 89.61 325 *e*P **P 11 21 10.6 -2.3**
OBN pmax pmax
comp=Z,8.0nm,0.9s
SYO Syowa Base 90.29 201⇑*e*P **P 11 21 15.4 -0.4**
APA Apatity 90.53 337⇓*i*P **P 11 21 20.1 +3.1**
APA *i* *PP **pwP 11 21 59.0 +1.6**
APA pmax pmax
comp=Z,4.0nm,1.2s
APA MLR MLR
comp=Z,700nm,16.0s
QSPA South Pole Qui 91.06 180 *e*P **P 11 21 18.3 -1.4**
comp=Z,11nm,1.4s
BR101 Keskin Array S 92.25 310 *e*P **P 11 21 24.2 -1.6**
BR101 *e*PP **PP 11 25 11.7 +3.4**
BR101 *e* 12 07 42.6
BRTR Keskin Array B 92.25 310 P **P 11 21 24.2 -1.6**
comp=Z,1.2nm,0.8s,baz=101,slow=6.4,SNR=6.1
BRTR PP **PP 11 25 11.7 +3.4**
comp=Z,2.2nm,0.9s,baz=130,slow=5.0,SNR=7.9
BRTR LR LR 12 07 42.6
comp=Z,13nm,20.1s,baz=284,slow=38
ARA0 ARCESS Array S 93.13 340 *e*P **P 11 21 27.9 -1.1**
ARA0 *e*PKKPdf **PKKPdf 11 38 36.3 -1.4**
ARCES ARCESS Array B 93.13 340 P **P 11 21 27.9 -1.1**
comp=Z,1.5nm,0.3s,baz=90,slow=5.6,SNR=42
ARCES PKKP **PKKPdf 11 38 36.3 -1.4**
comp=Z,2.1nm,0.8s,baz=240,slow=3.2,SNR=11
AKASG Malin Array Be 94.37 321 P **P 11 21 33.5 -1.7**
comp=Z,0.4nm,0.3s,baz=69,slow=5.2,SNR=3.1
AKBB Malin Array Si 94.37 321 *e*P **P 11 21 32.9 -2.2**
comp=Z,6.8nm,1.2s
AKBB Malin Array Si 94.37 321 *e*P **P 11 21 32.9 -2.2**
AKBB pmax pmax
comp=Z,7.0nm,1.2s
FIA0 FINESS Array S 94.46 332 *e*P **P 11 21 34.7 -0.6**
FIA0 FINESS Array S 94.46 332 *e*P **P 11 21 34.7 -0.6**
FINES FINESS Array B 94.46 332 P **P 11 21 34.7 -0.6**
comp=Z,0.4nm,0.3s,baz=74,slow=3.4,SNR=11
MLR Muntele Rosu 97.28 316⇑*i*P **P 11 21 46.0 -2.7**
BUR04 Bucovina Ar. S 97.43 318 *e*P **P 11 21 48.5 -0.8**
NB200 NORSAR Array S 101.44 334 *e*Pdif **Pdif 11 22 05.9 -0.8**
NOA NORSAR Array B 101.44 334 P **Pdif 11 22 05.9 -0.8**
comp=Z,0.8nm,0.9s,baz=75,slow=4.1,SNR=2.7
YKA Yellowknife Ar 101.53 25 P **Pdif 11 22 06.7 -0.3**
comp=Z,0.1nm,0.5s,baz=294,slow=4.1,SNR=3.4
YKA pP **pPdif 11 22 43.6 -2.0**
comp=Z,0.2nm,0.8s,baz=291,slow=4.9,SNR=3.2
YKA PKKPbc **PKKPbc 11 38 13.2 -3.8**
comp=Z,0.1nm,0.4s,baz=120,slow=3.4,SNR=7.1
SDCO Great Sand Dun 117.72 46 *e*PKPdf **PKPdf 11 27 00.6 -1.1**
LTX Lajitas 122.55 54 *e*PKPdf **PKPdf 11 27 10.8 -0.2**
LTX Lajitas 122.55 54 *e*PKIKP **PKPdf 11 27 10.8 -0.2**
TX31 Lajitas Ar. Si 122.55 54 *e*PKPdf **PKiKP 11 27 11.6 +0.5**
TXAR Lajitas Array 122.55 54 PKP **PKPdf 11 27 10.7 -0.2**
comp=Z,0.3nm,0.8s,baz=270,slow=2.7,SNR=3.8
TORD Torodi Ar. Bea 124.42 287 PKP **PKiKP 11 27 16.2 +1.2**
comp=Z,0.3nm,0.3s,baz=83,slow=1.7,SNR=6.8
TORD PKKPbc **PKKPab 11 36 59.4 +1.0**
comp=Z,0.9nm,1.0s,baz=270,slow=2.9,SNR=4.9
TOA1 Torodi Ar. Sit 124.42 287 *e*PKPdf **PKiKP 11 27 16.2 +1.2**
TOA1 *e*PKKPbc **PKKPab 11 36 59.4 +1.1**
DBIC Dimbokro 131.81 280 SKPbc **SKPbc 11 30 40.2 -0.6**
comp=Z,15nm,0.8s,baz=85,slow=4.8,SNR=14
LRAL Lakeview Retre 132.97 41 *e*PKPdf **PKiKP 11 27 31.4 -0.4**
V52A Sevierville 133.18 35 *e*PKPdf **PKPdf 11 27 31.0 +0.1**
TKL Tuckaleechee C 133.20 35 *e*PKPdf **PKiKP 11 27 31.8 -0.4**
TKL Tuckaleechee C 133.20 35 *e*PKIKP **PKiKP 11 27 31.8 -0.4**
PLCA Paso Flores 137.32 160 PKP **PKPdf 11 27 39.0 +0.4**
comp=Z,4.0nm,0.8s,baz=153,slow=4.5,SNR=7.9
PLCA SKPbc **SKPbc 11 30 58.3 +0.3**
comp=Z,2.9nm,0.7s,baz=198,slow=3.4,SNR=5.1
PLCA Paso Flores 137.32 160 *e*PKIKP **PKPdf 11 27 39.2 +0.6**
JTS JuntasAbangare 145.78 70 *e*PKPdf **PKPab 11 27 55.8 +0.1**
JTS JuntasAbangare 145.78 70 *e*PKP2 **PKPab 11 27 55.8 +0.1**
GO04 Tololo Observa 146.29 151 *e*PKPdf **PKPbc 11 27 56.3 -0.2**
LCO Las Campanas 147.29 150 *e*PKPbc **PKPbc 11 27 59.1 -0.2**
LCO Las Campanas 147.29 150 *e*PKP2 **PKPbc 11 27 59.1 -0.2**
GO03 Copiap 148.68 149 *e*PKPbc **PKPbc 11 28 02.7 0.0**
LVC Limon Verde 153.35 144 *e*PKPbc **PKiKP 11 28 15.2 +0.9**
CPUP Villa Florida 154.52 170 PKPbc **PKiKP 11 28 16.3 +0.2**
comp=Z,1.4nm,0.6s,baz=222,slow=3.2,SNR=5.2
CPUP PKPab **PKPab 11 28 31.3 +0.4**
comp=Z,5.4nm,0.9s,baz=203,slow=3.5,SNR=7.4
PB11 IPOC Station P 155.01 139 *e*PKPab **PKPab 11 28 26.6 -6.9**
GO01 Chusmiza 155.38 140 *e*PKPab **PKPab 11 28 36.4 +0.9**
MNMC Minye Minye 155.50 138 *e*PKPab **PKPab 11 28 36.2 +0.5**
LPAZ La Paz 158.47 135 PKP **PKPdf 11 28 13.8 +0.1**
comp=Z,0.6nm,0.4s,baz=262,slow=4.0,SNR=3.7
LPAZ PKPab **PKPab 11 28 50.2 +1.1**
comp=Z,3.7nm,0.8s,baz=206,slow=2.4,SNR=12
LPAZ La Paz 158.47 135 *e*PKPdf **PKPdf 11 28 12.7 -1.0**
LPAZ *e*PKPab **PKPab 11 28 49.3 +0.3**
LPAZ La Paz 158.47 135 *e*PKIKP **PKPdf 11 28 12.7 -1.0**
LPAZ *e* 11 28 49.3

MEX 06 11:18:21.5±0.4**, 16.°22N**×**98.°06W, h5**km**, MD3.5, Near coast of Guerrero**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res ISC
PNIG Pinotepa 0.18 340 *i* P Pg 11 18 24.9 -0.3
PNIG *e*S Sg 11 18 27.4 -0.2
VHO Vista Hermosa 1.53 56 *i* P Pn 11 18 46.9 -2.8
VHO *i* S Sn 11 19 05.9 -4.2

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*ISCJB **06** 11:21:33.6±0.7, 5.°43S±0.°08×145.°6E±0.°1, h86km, mb3.7/9, Error ellipse: s-maj=21.0km s-min=7.7km az=157.0*
*IDC **06** 11:21:35.3±2.1, 5.°44S×145.°66E, h90km±20km, mb3.4/8, mb1 3.6/12, mb1mx3.5/35, mbtmp3.8/12, Error ellipse: s-maj=29.3km s-min=13.3km az=66.0*
ISC 06 11:21:35.1±0.8**, 5.°40S**±0.°10×**145.°6E**±0.°2**, h86**km**, n14,** σ**0.s89**/14**, mb3.6**/9**, Eastern New Guinea region**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res ISC
PMG Port Moresby 4.25 159 P **Pn 11 22 38.9 +1.2**
19nm,0.3s,baz=218,slow=21,SNR=92
PMG S **Sn 11 23 25.3 -0.8**
11nm,0.3s,baz=140,slow=21,SNR=14
JAY Jayapura 5.69 300 P **Pn 11 22 57.5 +0.2**
1.4nm,0.3s,baz=104,slow=6.9,SNR=4.4
CTA Charters Tower 14.61 178 P **Pn 11 24 58.2 +0.7**
0.1nm,0.3s,baz=347,slow=20,SNR=2.7
WRA Warramunga Arr 18.15 216 P **P 11 25 39.7 -1.2**
0.3nm,0.3s,baz=40,slow=10,SNR=22
ASAR Alice Springs 21.39 211 P **P 11 26 14.6 -1.4**
0.8nm,0.5s,baz=35,slow=7.8,SNR=20
JOW Kunigami 36.19 333 P **P 11 28 29.2 -0.4**
27nm,0.9s,baz=131,slow=11,SNR=2.9
CMAR Chiang Mai Arr 51.77 298 P **P 11 30 35.4 +0.9**
1.1nm,0.6s,baz=120,slow=5.5,SNR=5.2
SONM Songino Array 63.23 331 P **P 11 31 55.1 +0.5**
0.1nm,0.4s,baz=156,slow=2.9,SNR=3.6
VNDA Vanda 72.59 176 P **P 11 32 52.8 +0.2**
0.9nm,1.0s,baz=8.5,slow=6.8,SNR=3.4
MKAR Makanchi Array 76.18 321 P **P 11 33 14.3 +0.3**
0.5nm,0.7s,baz=99,slow=7.5,SNR=5.5
ZALV Zalesovo Beam 77.79 328 P **P 11 33 22.8 -0.1**
0.4nm,0.5s,baz=98,slow=8.9,SNR=3.0
QSPA South Pole Qui 84.56 180 P **P 11 33 58.0 -0.7**
0.5nm,0.4s,baz=159,slow=1.6,SNR=6.8
ILAR Eielson Array 85.47 23 P **P 11 34 02.2 -0.9**
1.4nm,0.8s,baz=255,slow=4.7,SNR=14
TORD Torodi Ar. Bea 143.62 285 PKP PKPbc 11 40 58.2 -0.6
0.9nm,1.1s,baz=83,slow=2.5,SNR=3.8

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*IDC **06** 11:23:11.6±1.3, 3.°01S×126.°34E, h0km, mb3.5/3, mb1 3.9/5, mb1mx3.6/39, mbtmp3.7/5, ML4.0/2, Error ellipse: s-maj=34.0km s-min=22.2km az=65.0*
*ISCJB **06** 11:23:13.9±0.8, 2.°98S±0.°07×126.°27E±0.°06, h32km, mb3.6/3, Error ellipse: s-maj=10.8km s-min=6.4km az=36.6*
*DJA **06** 11:23:15.1±0.5, 3°S±4°×12°6E±°, h10km, M3.9/6, mb4.2/4, MLv3.8/6*
ISC 06 11:23:15.6±1.1**, 2.°96S**±0.°10×**126.°27E**±0.°08**, h32**km**, n10,** σ**1.s43**/13**, mb3.6**/3**, Ceram Sea**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res ISC
NLAI Namlea 0.88 109 P **Pn 11 23 31.0 -0.8**
NLAI S **Sb 11 23 42.9 -1.0**
SANI Sanana 0.94 343 P **Pn 11 23 30.4 -2.3**
SANI S **Sn 11 23 43.7 -1.3**
SWI Sorong 5.41 67 P **Pn 11 24 35.3 +1.2**
SIJI Sorong 5.41 68 Pn **Pn 11 24 35.1 +0.9**
10nm,0.3s,baz=241,slow=9.6,SNR=22
SIJI Sn **Sn 11 25 35.1 -0.3**
1.7nm,0.3s,baz=192,slow=19,SNR=4.4
MRSI Marisa 5.51 308 P **Pn 11 24 37.2 +1.7**
FAKI Fak Fak 5.98 90 P **Pn 11 24 41.9 0.0**
WRA Warramunga Arr 18.63 156 P **P 11 27 29.4 -1.4**
0.4nm,0.3s,baz=338,slow=11,SNR=8.7
ASAR Alice Springs 21.88 161 P **P 11 28 04.9 -1.1**
3.2nm,0.6s,baz=343,slow=12,SNR=30
SONM Songino Array 53.49 343 P **P 11 32 34.2 +1.1**
0.2nm,0.6s,baz=160,slow=7.3,SNR=2.3
MKAR Makanchi Array 62.83 328 P **P 11 33 39.9 +1.5**
0.3nm,0.6s,baz=121,slow=8.7,SNR=3.1

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*ISCJB **06** 11:26:57.1±0.3, 24.°80N±0.°02×122.°02E±0.°02, h2km±3km, Error ellipse: s-maj=2.6km s-min=2.3km az=176.4*
*TAP **06** 11:26:57.2, 24.°81N×121.°97E, h7km, ML3.5, B*
*JMA **06** 11:26:57.6±0.1, 24.°82N×121.°89E, h41km±4km, M3.0*
ISC 06 11:26:57.3±0.8**, 24.°82N**±0.°02×**121.°98E**±0.°02**, h10**km±5km**, n100,** σ**0.s75**/139**, 21C-5D, Taiwan**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res ISC
EGS 0.05 305⇓*i*P **Pg 11 26 59.1 -0.3**
baz=320
EGS *i* S **Sg 11 27 00.4 -0.5**
baz=320
NTC Toucheng 0.14 286⇑*i*P **Pg 11 27 00.9 +0.4**
baz=298
NTC S **Sg 11 27 03.7 +0.9**
baz=298
TWB1 Santiao Chiao 0.19 3⇑*i*P **Pg 11 27 01.8 +0.4**
baz=6.0
TWB1 *i* S **Sg 11 27 04.5 +0.2**
baz=6.0
TIPB Shuangxi 0.21 318 ⇑P **Pg 11 27 02.2 +0.4**
baz=319
TIPB S **Sg 11 27 05.0 +0.3**
baz=319
ILA Ilan 0.22 257 P **Pg 11 27 01.9 +0.1**
baz=257
ILA S **Sg 11 27 05.2 +0.4**
baz=257
TWC Suao 0.24 210⇓*i*P **Pg 11 27 02.2 0.0**
baz=208
TWC *e*S **Sg 11 27 05.1 -0.3**
baz=208
EOS1 EOS1 0.30 153 ⇑P **Pg 11 27 04.0 +0.7**
baz=151
EOS1 *e*S **Sb 11 27 09.9 +0.3**
baz=151
TWE Neicheng 0.30 252⇓*i*P **Pg 11 27 03.4 +0.1**
baz=251
TWE *e*S **Sg 11 27 07.2 -0.1**
baz=251
NWF Wu-fen Shan 0.31 325⇑*i*P **Pb 11 27 04.3 -0.7**
baz=316
NWF S **Sb 11 27 09.3 -0.9**
baz=316
WFSB Wu-fen Shan 0.31 325 ⇑P **Pb 11 27 04.3 -0.6**
baz=316
WFSB S **Sb 11 27 09.2 -0.9**
baz=316
SLBB Yuanshan 0.32 259 ⇑P **Pg 11 27 04.0 +0.3**
baz=260
TWA Mucha 0.40 295⇑*i*P **Pb 11 27 05.6 -0.7**
baz=295
TWA S **Sb 11 27 10.7 -1.8**
baz=295
ENTT Nioudou 0.41 245⇓*e*P **Pg 11 27 05.3 -0.2**
baz=245
ENTT S **Sg 11 27 11.3 +0.4**
baz=245
NWLT Wulai 0.43 265 *e*P **Pg 11 27 05.8 -0.1**
baz=266
NANB Nanao 0.44 208 ⇓P **Pg 11 27 05.7 -0.2**
baz=215
NANB *e*S **Sg 11 27 11.5 -0.2**
baz=215
ENA Nanau 0.44 209 *e*P **Pg 11 27 05.7 -0.2**
baz=209
TATO Taipei 0.47 290 ⇑P **Pb 11 27 07.0 -0.7**
baz=281
TATO S **Sb 11 27 13.1 -1.6**
baz=281
YM07 YM07 0.48 318 ⇑P **Pb 11 27 07.8 -0.1**
baz=318
YM01 YM01 0.50 312⇑*e*P **Pb 11 27 09.1 +0.9**
baz=312
YM11 YM11 0.51 314 ⇑P **Pb 11 27 08.3 0.0**
baz=314
YM10 YM10 0.51 312 ⇑P **Pb 11 27 08.3 0.0**
baz=312
YM05 YM05 0.51 313 ⇑P **Pb 11 27 08.1 -0.3**
baz=302
YM05 *e*S **Sb 11 27 17.2 +1.3**
baz=302
YM08 YM08 0.51 317 ⇑P **Pb 11 27 08.1 -0.3**
baz=316
YM04 YM04 0.53 310 ⇑P **Pb 11 27 08.5 -0.1**
baz=310
YHNB Yeheng 0.57 255 ⇑P **Pg 11 27 08.2 -0.1**
baz=248
YHNB *e*S **Sg 11 27 15.3 -0.5**
baz=248
TWY Chenhua 0.57 323 ⇑P **Pb 11 27 09.6 +0.1**
baz=323
NSK Sanguang 0.58 256⇑*i*P **Pg 11 27 08.4 -0.2**
baz=256
NSK *e*S **Sb 11 27 17.0 -0.9**
baz=256
TWS1 Kuangyinshan 0.58 299 P **Pb 11 27 09.9 +0.3**
baz=310
NTST Danshui 0.59 306 *e*P **Pb 11 27 10.1 +0.4**
baz=306
WLTB Daxi 0.66 273 ⇑P **Pb 11 27 11.3 +0.4**
baz=273
WLTB *e*S **Sb 11 27 19.9 -0.2**
baz=273
NNSB Datong 0.67 235 *e*P **Pg 11 27 09.6 -0.6**
baz=235
NNSB *e*S **Sb 11 27 19.4 -1.0**
baz=235
NNS Nan Shan 0.67 236 *e*P **Pg 11 27 10.0 -0.2**
baz=236
NNS *e*S **Sb 11 27 19.4 -1.0**
baz=236
NACB Ninganchiao 0.73 209 P **Pg 11 27 11.2 -0.2**
baz=218
NACB *e*S **Sg 11 27 20.7 -0.2**
baz=218
NCU National Centr 0.74 282 *e*P **Pb 11 27 12.3 +0.1**
baz=282
NCU *e*S **Sn 11 27 23.4 -1.6**
baz=282
NCUH Zhongli 0.74 282 *e*P **Pn 11 27 13.1 -0.7**
baz=282
TWD Chiawan 0.81 206 ⇑P **Pg 11 27 12.9 0.0**
baz=198
TWD *e*S **Sg 11 27 23.4 -0.2**
baz=198
PCYT Pengchaiyu 0.81 6 *e*P **Pg 11 27 13.3 +0.2**
baz=11
LIOB Emei 0.89 259 *e*P **Pn 11 27 15.6 -0.3**
baz=260
HWA Hwalien 0.90 202 *e*P **Pn 11 27 16.0 0.0**
baz=202
SBCB Hsinchu 0.90 269 *e*P **Pn 11 27 16.2 +0.1**
baz=286
SBCB *e*S **Sn 11 27 30.4 +1.2**
baz=286
NSTT Nanjuang 0.91 259 *e*P **Pb 11 27 15.0 -0.1**
baz=259
NSTT *e*S **Sn 11 27 29.2 0.0**
baz=259
HSN Hsinchu 0.92 269 *e*P **Pb 11 27 15.0 -0.3**
baz=287
TWT Tachien 0.92 233 *e*P **Pb 11 27 15.8 +0.3**
baz=225
WHF Hehuan Shan 0.93 224 *e*P **Pg 11 27 14.4 -0.9**
baz=225
TDCB Techi 0.93 233 *e*P **Pg 11 27 14.8 -0.5**
baz=226
JYNG Yonagunijimaku 0.95 112 P **Pg 11 27 15.8 +0.2**
JYNG S **Sg 11 27 28.7 +0.7**
ENLB Shoufeng 0.97 201 *e*P **Pn 11 27 17.5 +0.5**
baz=210
YOJ Yonaguni jima 1.00 110 *e*P **Pb 11 27 16.6 -0.1**
baz=111
YOJ *e*S **Sg 11 27 30.3 +0.6**
baz=111
YOJ Yonaguni jima 1.00 110 P **Pb 11 27 16.8 +0.1**
YOJ *e*S **Sg 11 27 30.3 +0.6**
CHGB Renai 1.05 224 *e*P **Pg 11 27 16.6 -0.9**
baz=213
ESL Shilin 1.11 207 *e*P **Pb 11 27 17.7 -0.9**
baz=207
NMLH Miaoli 1.12 256 *e*P **Pn 11 27 20.0 +1.0**
baz=256
NSY Sanyi 1.18 251 *e*P **Pg 11 27 20.3 +0.3**
baz=250
NSY *e*S **Sn 11 27 37.9 +2.0**
baz=250
TWQ1 Liyutan 1.19 247 *e*P **Pg 11 27 20.9 +0.7**
baz=247
TWQ1 *e*S **Sn 11 27 38.1 +1.9**
baz=247
PTSB Yuanli 1.22 253 *e*P **Pg 11 27 21.5 +0.8**
baz=272
VWDT VWDT 1.30 216 *e*P **Pn 11 27 21.4 -0.1**
baz=217
VWDT *e*S **Sb 11 27 38.5 -0.1**
baz=217
SMLT Sun Moon Lake 1.35 227 *e*P **Pn 11 27 22.4 +0.1**
baz=216
TCU Taichung 1.36 241 *e*P **Pg 11 27 24.6 +1.2**
baz=260
TYC Yuchr 1.37 229 *e*P **Pb 11 27 23.0 0.0**
baz=219
SSLB Suanglung 1.39 223 *e*P **Pn 11 27 22.6 -0.1**
baz=224
HGSD Ruisui 1.41 201 *e*P **Pg 11 27 24.6 +0.2**
baz=190
EHY Hungye 1.44 205 *e*P **Pn 11 27 23.0 -0.3**
baz=207
WJS Zhushan 1.51 229 *e*P **Pg 11 27 26.2 -0.1**
baz=220
YULB Yu-li 1.55 204 *e*P **Pn 11 27 24.5 -0.4**
baz=206
TWF1 Yuli 1.58 203 *e*P **Pn 11 27 26.1 +0.7**
baz=215
YUS Yu-Shan 1.62 216 *e*P **Pn 11 27 27.0 +0.7**
baz=217
IRIF Iriomote-Funau 1.66 106 P **Pn 11 27 25.8 -0.7**
IRIF *e*S **Sn 11 27 46.7 -1.2**
ALS Alishan 1.68 220 *e*P **Pg 11 27 30.0 +0.4**
baz=220
CHN5 Tsauling 1.70 225 *e*P **Pg 11 27 29.9 +0.1**
baz=226
CHN5 *e*S **Sg 11 27 53.6 +1.7**
baz=226
WGK Gukeng 1.71 229 *e*P **Pg 11 27 29.9 -0.2**
baz=229
HATJ Hateruma jima 1.83 114 P **Pn 11 27 28.8 +0.1**
HATJ *e*S **Sn 11 27 51.1 -0.8**
ELDTW Lidau 1.84 209 *e*P **Pn 11 27 30.1 +1.0**
baz=211
CHN4 Tsaushan 1.93 221 *e*P **Pg 11 27 33.7 -0.6**
baz=209
CHY Chiayi 1.93 228 *e*P **Pb 11 27 33.0 +0.4**
baz=245
JKRS Kuro-shima 1.94 107 P **Pn 11 27 30.1 -0.1**
JKRS *e*S **Sn 11 27 53.9 -0.7**
TPUB Ta-pu 1.95 220 *e*P **Pb 11 27 33.5 +0.6**
baz=206
STYT Tauyuan 1.99 214 *e*P **Pb 11 27 34.0 +0.4**
baz=203
WTP Ta-pu 2.00 219 *e*P **Pb 11 27 33.7 -0.1**
baz=206
JIJ Ishigaki jima 2.02 102 P **Pn 11 27 31.5 +0.1**
JIJ *e*S **Sn 11 27 55.2 -1.5**
TWK Hsinying 2.06 222 *e*P **Pb 11 27 34.6 -0.1**
baz=225
TWK *e*S **Sg 11 28 04.0 +0.6**
baz=225
CHN1 Nanshi 2.10 220 *e*P **Pb 11 27 35.5 +0.1**
baz=223
JISG Ishigakijimahi 2.13 96 P **Pn 11 27 33.4 +0.5**
JISG *e*S **Sn 11 28 01.1 +1.6**
SGST Jiashian 2.15 217 *e*P **Pb 11 27 36.3 +0.1**
baz=207
SGST *e*S **Sg 11 28 06.0 -0.3**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
	baz=207						
TWG	Pinlang	2.15	203	eP	Pb	11 27 35.3	-1.1
	baz=191						
TWGBT	Beinan	2.15	203	eP	Pb	11 27 35.4	-1.0
	baz=191						
SLGT	Liugui	2.19	214	eP	Pb	11 27 36.8	-0.1
	baz=217						
MATB	Ma-tsu	2.27	306	eP	Pn	11 27 35.7	+0.9
	baz=304						
VWUC	VWUC	2.30	275	eP	Pn	11 27 35.0	-0.3
	baz=273						
ECL	Taimali	2.40	203	eP	Pn	11 27 38.4	+1.8
	baz=193						
SSD	Sandimen	2.40	211	eP	Pb	11 27 40.4	-0.2
	baz=215						
MASBT	Mashibuluo	2.52	210	eP	Pb	11 27 40.7	-1.9
	baz=213						
PHUB	P'eng-hu	2.55	240	eP	Pn	11 27 39.5	+0.8
	baz=239						
PTMZ	Houxiangcun	2.60	276	eP	Pn	11 27 38.8	-0.7
	baz=273						
EAST	Anshuo	2.63	203	eP	Pn	11 27 42.4	+2.5
	baz=194						
LYJJ	Jianjiangzhen	2.65	311	eP	Pn	11 27 39.2	-0.8
	baz=310						
XPSS	Dashiqiu	2.65	323	eP	Pn	11 27 39.5	-0.5
	baz=322						
VCHM	Qimei	2.83	236	eP	Pn	11 27 43.2	+0.7
	baz=248						
MHZQ	Yeshan	2.96	296	eP	Pn	11 27 46.0	+1.7
	baz=294						
KNMB	Chin-men Tao	3.29	265	eP	Pn	11 27 48.3	-0.5
	baz=262						
AXDP	Jialang	3.64	272	eP	Pn	11 27 53.8	+0.1
	baz=269						

*MOS **06** 11:32:40.8±1.4, 55°.24N×109°.28E, h9km, mb4.4/1, Error ellipse: s-maj=23.6km s-min=12.0km az=67.8*

BYKL 06 11:32:40.1±0.2**, 55°.25N×109°.17E, 9C-2D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
NIZ	Nizh Angarsk	0.57	22	⇑iPg	Pg	11 32 50.9	-0.1
NIZ				iSg	Sg	11 32 58.6	+0.3
NIZ				e		11 33 02.2	
NIZ				Pmax			
	105nm,0.1s						
NIZ				Smax			
	586nm,0.2s						
NIZ	Nizh Angarsk	0.57	22	⇑iPG	Pg	11 32 50.9	-0.1
NIZ				e		11 32 58.3	
NIZ				pmax	pmax		
	comp=Z,127nm,0.3s						
NIZ				smax	smax		
	comp=N,675nm,0.3s						
YLYR	Ulyunkhan	1.21	107	⇓iPg	Pg	11 33 01.6	-1.6
	comp=N,74nm,0.4s						
YLYR				⇑iPg	Pg	11 33 01.6	-1.6
	comp=N,207nm,0.4s						
YLYR				⇑iPg	Pg	11 33 01.6	-1.6
	comp=N,234nm,0.4s						
YLYR				e		11 33 06.8	
YLYR				eSg	Sg	11 33 16.9	-1.9
YLYR				eSb	Sb	11 33 20.2	+0.3
YLYR				Pmax			
	comp=N,183nm,0.4s						
YLYR				max			
	comp=N,2μm,0.4s						
YLYR	Ulyunkhan	1.21	107	⇑iPG	Pg	11 33 01.7	-1.5
YLYR				e		11 33 14.6	
YLYR				pmax	pmax		
	comp=Z,197nm,0.2s						
YLYR				smax	smax		
	comp=N,1μm,0.3s						
KMO	Kumora	1.32	60	⇑iPg	Pg	11 33 03.8	-1.5
	comp=N,12nm,0.4s						
KMO				⇑iPg	Pg	11 33 03.8	-1.5
	comp=N,20nm,0.4s						
KMO				⇑iPg	Pg	11 33 03.8	-1.5
	comp=N,118nm,0.4s						
KMO				ePb	Pb	11 33 05.4	-0.3
KMO				e		11 33 09.3	
KMO				eSg	Sg	11 33 20.8	-1.6
KMO				e		11 33 25.2	
KMO				max			
	comp=N,283nm,0.4s						
KMO				max			
	comp=N,434nm,0.8s						
KMO	Kumora	1.32	60	⇑iPG	Pg	11 33 03.8	-1.5
KMO				e		11 33 22.0	
KMO				pmax	pmax		
	comp=Z,288nm,0.4s						
KMO				smax	smax		
	comp=E,385nm,0.5s						
SYVR	Suvo	1.67	163	⇓iPg	Pn	11 33 10.0	-0.6
SYVR				e		11 33 14.6	
SYVR				iSg	Sb	11 33 33.2	0.0
SYVR				e		11 33 34.8	
SYVR				max			
	comp=E,122nm,0.3s						
SYVR				max			
	comp=E,736nm,0.7s						
SYVR	Suvo	1.67	163	ePN	Pn	11 33 10.7	+0.1
SYVR				e		11 33 33.2	
SYVR				pmax	pmax		
	comp=Z,123nm,0.3s						
SYVR				smax	smax		
	comp=E,752nm,0.5s						
YOA	Uoyan	1.69	57	ePg	Pn	11 33 11.0	0.0
YOA				eSg	Sb	11 33 34.1	+0.1
YOA				e		11 33 37.6	
YOA				Pmax			
	comp=E,439nm,0.5s						
YOA				max			
	comp=E,2μm,0.4s						
YOA	Uoyan	1.69	57	ePN	Pn	11 33 11.0	0.0
YOA				e		11 33 11.6	
YOA				e		11 33 34.2	
YOA				pmax	pmax		
	comp=Z,446nm,0.5s						
YOA				smax	smax		
	comp=E,2μm,0.9s						
OGRR	Ongureny	1.85	210	ePg	Pn	11 33 13.3	+0.2
OGRR				e		11 33 19.8	
OGRR				eSg	Sg	11 33 39.3	-0.3
OGRR				max			
	comp=E,39nm,0.3s						
OGRR				Smax			
	comp=E,356nm,0.2s						
OGRR	Ongureny	1.85	210	ePN	Pn	11 33 13.7	+0.6
OGRR				e		11 33 14.9	
OGRR				e		11 33 39.2	
OGRR				pmax	pmax		
	comp=Z,51nm,0.5s						
OGRR				smax	smax		
	comp=E,354nm,0.3s						
MXMB	Maximikha	2.01	187	ePn	Pn	11 33 14.6	-0.6
MXMB				ePg	Pb	11 33 16.4	-1.0
MXMB				e		11 33 19.4	
MXMB				eSg	Sb	11 33 43.5	+0.5
MXMB				e		11 33 47.9	
UKT	Uakit	2.56	83	ePn	Pn	11 33 22.3	-0.5
UKT				ePg	Pb	11 33 25.6	-1.2
UKT				e		11 33 31.3	
UKT				e		11 33 55.2	
UKT				eSg	Sb	11 33 58.9	+0.1
UKT				max			
	comp=E,89nm,0.4s						
UKT				Smax			
	comp=E,544nm,0.5s						
KELR	Kotokel	2.58	195	ePn	Pn	11 33 22.8	-0.3
KELR				eSg	Sb	11 33 59.8	+0.5
KELR				e		11 34 02.5	
ZRHB	Zarechye	2.95	205	ePg	Pb	11 33 33.8	+0.2
ZRHB				eSg	Sg	11 34 13.2	-1.7
ZRHB				Smax			
	comp=E,254nm,0.7s						
TRG	Tyrgan	3.00	215	ePn	Pn	11 33 28.4	-0.5
TRG				eSg	Sb	11 34 12.8	+1.3
TRG				e		11 34 18.1	
TRG				max			
	comp=E,133nm,0.2s						
TRTB	Turuntaevo	3.16	197	ePn	Pn	11 33 30.6	-0.5
TRTB				ePg	Pb	11 33 37.1	0.0
TRTB				ePgPg	PbPb	11 33 39.3	-1.0
TRTB				e		11 33 44.5	
TRTB				eSg	Sb	11 34 17.7	+1.5
UUDB	Ulan-Yde	3.51	195	ePn	Pn	11 33 35.8	-0.1
UUDB				ePg	Pb	11 33 42.1	-0.9
UUDB				eSg	Sb	11 34 28.6	+2.5
UUDB				Pmax			
	comp=E,15nm,0.6s						
UUDB				Smax			
	comp=E,42nm,0.9s						
STDB	Stepnoy Dvoret	3.51	210	ePn	Pn	11 33 34.9	-0.9
STDB				e		11 33 50.6	
STDB				eSg	Sg	11 34 29.7	-3.0
STDB				eSgSg	SgSg	11 34 33.1	+0.4
KAB	Kabansk	3.54	206	eSg	Sb	11 34 30.0	+3.0
KAB				Smax			
	comp=E,162nm,0.5s						
BOD	Bodaibo	3.71	44	e	Pn	11 33 38.0	-0.7
BOD				Pg	Pb	11 33 45.3	-1.2
BOD				eSg	Sb	11 34 34.2	+2.2
BOD				Pmax			
	comp=E,15nm,0.1s						
BOD				Smax			
	comp=E,107nm,0.7s						
HRMR	Khuramsha	3.86	201	ePn	Pn	11 33 41.0	+0.3
HRMR				e		11 33 45.6	
HRMR				ePg	Pb	11 33 49.9	+0.8
HRMR				eSg	Sb	11 34 39.8	+3.4
HRMR				Pmax			
	comp=E,24nm,0.3s						
HRMR				Smax			
	comp=E,179nm,0.7s						
NLYR	Nelyaty	3.88	69	ePn	Pn	11 33 40.3	-0.7
NLYR				ePg	Pb	11 33 50.1	+0.7
NLYR				e		11 34 24.5	
NLYR				eSg	Sb	11 34 40.1	+3.1
NLYR				e		11 34 48.8	
NLYR				Pmax			
	comp=E,21nm,0.7s						
NLYR				max			
	comp=E,111nm,0.8s						
BGT	Bolshoye Golou	3.91	216	ePn	Pn	11 33 41.2	-0.2
BGT				e		11 33 47.5	
BGT				Pg	Pb	11 33 49.6	-0.3
BGT				eSg	Sb	11 34 41.3	+3.5
BGT				Pmax			
	comp=E,14nm,0.4s						
BGT				Smax			
	comp=E,51nm,0.5s						
CIT	Chita	4.16	139	eSg	Sb	11 34 49.1	+4.3
CIT				Smax			
	comp=E,140nm,0.3s						
IRK	Irkutsk	4.19	226	e	Sn	11 34 39.3	+4.5
IRK				eSg	Sg	11 34 50.6	-3.9
IRK				Smax			
	comp=E,199nm,0.5s						
IRK	Irkutsk	4.19	226	ePN	Pb	11 33 56.8	+2.2
IRK				e		11 34 51.0	
IRK				pmax	pmax		
	comp=Z,56nm,0.1s						
IRK				smax	smax		
	comp=N,281nm,0.8s						
LSTR	Listvyanka	4.26	219	e	Pn	11 33 44.7	-1.5
LSTR				Pg	Pb	11 33 55.8	-0.1
LSTR				eSn	Sn	11 34 31.9	-4.7
LSTR				eSg	Sb	11 34 51.8	+4.0
LSTR				Pmax			
	comp=N,6.0nm,0.2s						
LSTR				Smax			
	comp=N,68nm,1.1s						
TLY	Talaya	4.87	225	e	Pn	11 33 51.0	-3.5
TLY				Pg	Pb	11 34 07.2	+1.0
TLY				e		11 34 49.1	
TLY				e		11 34 52.1	
TLY				eSg	Sb	11 35 10.2	+5.0
TLY				Pmax			
	comp=N,9.0nm,0.7s						
TLY				Smax			
	comp=N,72nm,1.0s						
ARS	Arshan	5.22	233	e	Pn	11 33 51.7	-7.8
ARS				e		11 34 04.0	
ARS				eSn	Sn	11 34 56.8	-3.6
ARS				eSg	Sg	11 35 22.7	-5.0
ARS				max			
	comp=N,25nm,0.5s						
ARS				Smax			
	comp=N,237nm,0.7s						
ARS	Arshan	5.22	233	ePN	Pg	11 34 16.3	-3.8
ARS				e		11 35 22.1	
ARS				pmax	pmax		
	comp=Z,26nm,0.4s						
ARS				smax	smax		
	comp=E,237nm,0.7s						
CRS	Chara	5.36	68	e	Pg	11 34 19.0	-3.7
CRS				eSg	Sg	11 35 26.1	-6.0
CRS				Smax			
	comp=E,43nm,0.5s						
KPC	Khapcheranga	5.89	159	ePn	Pn	11 34 07.2	-1.4
KPC				e		11 34 11.4	
KPC				e		11 34 14.7	
KPC				eSn	Sn	11 35 05.1	-12
KPC				eSg	Sg	11 35 42.4	-6.8
KPC				max			
	comp=E,3.0nm,0.4s						
KPC				Smax			
	comp=E,49nm,1.3s						
ZAK	Zakamensk	6.04	219	ePn	Pn	11 33 59.6	-11
ZAK				Pg	Pb	11 34 28.4	+2.2
ZAK				eSg	Sb	11 35 46.3	+7.2
ZAK				Pmax			
	comp=E,4.0nm,0.5s						
ZAK				Smax			
	comp=E,44nm,1.0s						
MOY	Mondy	6.06	237	e	Pn	11 34 03.3	-7.7
MOY				e		11 34 13.1	
MOY				e		11 35 21.0	
MOY				eSg	Sb	11 35 46.4	+6.8
MOY				max			
	comp=E,8.0nm,0.4s						
MOY				Smax			
	comp=E,56nm,1.4s						
ORL	Orlik	6.16	248	ePn	Pn	11 34 12.0	-0.4
ORL				eSn	Sn	11 35 20.9	-2.7
ORL				eSg	Sg	11 35 51.2	-6.7
ORL				max			
	comp=E,6.0nm,0.7s						
ORL				Smax			
	comp=E,63nm,1.3s						
ORL	Orlik	6.16	248	ePN	Pn	11 34 13.6	+1.2
ORL				e		11 34 32.7	
ORL				e		11 35 52.9	
ORL				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ORL				smax	smax		
	comp=N,62nm,1.4s						
TUP	Tupik	6.29	93	ePn	Pn	11 34 12.5	-1.5
TUP				e		11 34 20.0	
TUP				e		11 34 29.9	
TUP				eSg	Sb	11 35 53.6	+7.6
TUP				max			
	comp=N,4.0nm,0.4s						
TUP				Smax			
	comp=N,78nm,1.3s						
TUP	Tupik	6.29	93	ePN	Pn	11 34 12.2	-1.8
TUP				e		11 34 31.4	
TUP				eS	Sn	11 35 23.0	-3.5
TUP				e		11 35 53.1	
TUP				pmax	pmax		
	comp=Z,12nm,0.8s						
TUP				smax	smax		
	comp=N,76nm,1.0s						
TDJR	Todzha	8.24	255	e		11 36 23.6	
TDJR				eSg	Sg	11 36 55.4	-9.2
KNGR	Kungurtug, Tuv	8.44	241	e		11 36 31.8	
KNGR				e		11 36 53.0	
KNGR				eSg	Sg	11 37 00.9	-10

*SJA **06** 11:48:00.6±0.9, 24°.27S×67°.04W, h194km±6km, ML3.6, MW4.3*

*ISCJB **06** 11:48:00.4±0.2, 24°.29S±0°.02×67°.09W±0°.02, h188km±2km, mb3.9/19, Error ellipse: s-maj=3.7km s-min=3.0km az=160.7*

*NEIC **06** 11:48:00.4±0.5, 24°.31S×66°.92W, h170km±5km, mb4.2/15, Error ellipse: s-maj=9.3km s-min=5.3km az=90.0*

*IDC **06** 11:48:01.1±1.1, 24°.12S×66°.82W, h174km±10km, mb3.6/11, mb1 3.7/16, mb1mx3.7/23, mbtmp4.0/16, Error ellipse: s-maj=15.1km s-min=12.8km az=45.0*

*VAO **06** 11:48:02.0±0.4, 24°.29S×67°.28W, h220km±6km, mb4.3*

*GUC **06** 11:48:03.4±0.6, 24°.04S×67°.56W, h224km±7km, ML4.3*

ISC 06 11:48:01.2±0.6**, 24°.28S**±0°.04×**67°.09W**±0°.04**, h181**km±6km**, n124, σ1s.46**/176**, mb3.9**/19**, 9C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.50	107	iP	Pn	11 48 34.5	+1.1
SLA				IAML		11 48 35.7	
	comp=Z,394nm,0.7s						
SLA				iS	Sn	11 48 59.2	+0.7
AZAP	Zapla	1.84	89	iP	Pn	11 48 37.2	+0.3
AZAP				IAML		11 48 38.4	
	comp=Z,367nm,0.5s						
AZAP				eS	Sn	11 49 04.1	-0.5
HJA	Humahuaca	1.87	55	iP	Pn	11 48 38.0	+0.6
HJA				IAML		11 48 39.0	
	comp=Z,172nm,0.6s						
HJA				iS	Sn	11 49 06.6	+1.2
FSA	Cafayete	2.08	151	iP	Pn	11 48 40.2	+0.9
LVC	Limon Verde	2.36	314	P	Pn	11 48 44.0	+1.2
	comp=Z,12nm,0.3s,baz=118,slow=7.1,SNR=216						
LVC				S	Sn	11 49 15.2	+0.2
	comp=Z,104nm,0.3s,baz=315,slow=19,SNR=65						
LVC	Limon Verde	2.36	314	ePn	Pn	11 48 44.0	+1.2
LVC				eSn	Sn	11 49 17.0	+1.9
LVC	Limon Verde	2.36	314	eP	Pn	11 48 44.5	+1.7
LVC				eS	Sn	11 49 17.1	+2.1
LVC	Limon Verde	2.36	314	eP	Pn	11 48 44.0	+1.2
LVC				eS	Sn	11 49 15.8	+0.8
LVC	Limon Verde	2.36	314	eP	Pn	11 48 44.2	+1.4
PB15	IPOC Station P	2.43	296	eP	Pn	11 48 45.0	+1.6
PB15				eS	Sn	11 49 17.3	+1.1
PB15	IPOC Station P	2.43	296	⇑iP	Pn	11 48 44.9	+1.5
PB15				eS	Sn	11 49 16.7	+0.5
GO02	Mina Guanaco	2.44	248	ePn	Pn	11 48 45.0	+1.4
GO02				eSn	Sn	11 49 18.1	+1.6
GO02	Mina Guanaco	2.44	248	⇑iP	Pn	11 48 45.0	+1.4
GO02				iS	Sn	11 49 18.1	+1.6
GO02				IAML		11 49 19.5	
	comp=E,1μm,0.5s						
YJA	Yavi	2.55	35	iP	Pn	11 48 45.7	+0.7
YJA				eS	Sn	11 49 19.9	+0.9
YJA				IAML		11 49 23.8	
	comp=Z,43nm,0.8s						
PB06	IPOC Station P	2.77	304	iP	Pn	11 48 48.5	+1.2
PB06				eS	Sn	11 49 23.1	-0.1
PB06	IPOC Station P	2.77	304	⇑iP	Pn	11 48 48.5	+1.2
PB06				iS	Sn	11 49 22.5	-0.7
PB14	IPOC Station P	3.04	263	eP	Pn	11 48 51.7	+1.0
PB14				eS	Sn	11 49 28.8	-0.5
PB09	IPOC Station P	3.17	321	eP	Pn	11 48 53.8	+1.6
PB09				iS	Sn	11 49 32.4	+0.4
PB09	IPOC Station P	3.17	321	eP	Pn	11 48 53.6	+1.4
PB09				eS	Sn	11 49 32.1	+0.1
PB09				IAML		11 49 33.5	
	comp=N,275nm,0.5s						
PB05	IPOC Station P	3.19	296	iP	Pn	11 48 53.2	+0.8
PB05				eS	Sn	11 49 31.0	-1.3
PB05	IPOC Station P	3.19	296	iP	Pn	11 48 53.0	+0.6
PB05				eS	Sn	11 49 30.5	-1.8
PB05				IAML		11 49 37.0	
	comp=E,367nm,0.2s						
PB10	IPOC Station P	3.27	283	ePn	Pn	11 48 54.0	+0.8
PB10				eSn	Sn	11 49 33.1	-0.6
PB10	IPOC Station P	3.27	283	eP	Pn	11 48 54.2	+1.0
PB10				eS	Sn	11 49 32.9	-0.7
PB10	IPOC Station P	3.27	283	⇓iP	Pn	11 48 53.7	+0.5
PB10				iS	Sn	11 49 32.4	-1.3
PB03	IPOC Station P	3.31	312	eP	Pn	11 48 54.6	+0.7
PB03				eS	Sn	11 49 33.0	-2.1
PB03	IPOC Station P	3.31	312	⇓iP	Pn	11 48 54.6	+0.7
PB03				iS	Sn	11 49 33.0	-2.1
PB03				IAML		11 49 36.2	
	comp=E,869nm,0.1s						
PB04	IPOC Station P	3.42	304	ePn	Pn	11 48 56.0	+0.8
PB04				eSn	Sn	11 49 36.6	-0.8
PB04	IPOC Station P	3.42	304	eP	Pn	11 48 56.1	+0.9
PB04				iS	Sn	11 49 36.6	-0.8
PB04	IPOC Station P	3.42	304	⇑iP	Pn	11 48 55.8	+0.5
PB04				iS	Sn	11 49 35.7	-1.7
PB07	IPOC Station P	3.62	314	eP	Pn	11 48 58.3	+0.5
PB07				eS	Sn	11 49 40.6	-1.4
PB07	IPOC Station P	3.62	314	⇑iP	Pn	11 48 58.2	+0.5
PB07				iS	Sn	11 49 40.1	-1.9
PB01	IPOC Station P	3.91	325	ePn	Pn	11 49 01.3	-0.1
PB01				eSn	Sn	11 49 45.9	-2.6
PB01	IPOC Station P	3.91	325	eP	Pn	11 49 01.8	+0.4
PB01	IPOC Station P	3.91	325	⇑iP	Pn	11 49 01.3	-0.1
PB01				iS	Sn	11 49 46.5	-1.9
PB02	IPOC Station P	3.93	318	eP	Pn	11 49 01.7	+0.2
PB02				eS	Sn	11 49 46.9	-1.8
PB02	IPOC Station P	3.93	318	⇑iP	Pn	11 49 01.5	0.0
PB02				iS	Sn	11 49 46.2	-2.5
CYA	Choya	4.30	165	iS	Sn	11 49 56.5	-0.6
GO03	Copiap	4.35	220	ePn	Pn	11 49 06.3	-0.5
GO03				eSn	Sn	11 49 57.5	-0.8
GO03	Copiap	4.35	220	iP	Pn	11 49 06.4	-0.4
GO03				eS	Sn	11 49 57.5	-0.8
GO03	Copiap	4.35	220	⇑iP	Pn	11 49 06.3	-0.5
GO03				iS	Sn	11 49 58.3	0.0
PB08	IPOC Station P	4.55	335	eP	Pn	11 49 10.4	+0.7
PB08				eS	Sn	11 50 02.1	-1.3
PB08	IPOC Station P	4.55	335	⇑iP	Pn	11 49 10.4	+0.7
PB08				iS	Sn	11 50 02.1	-1.3
GO01	Chusmiza	4.99	337	ePn	Pn	11 49 15.7	+0.1
GO01				eSn	Sn	11 50 14.8	+0.9
PB11	IPOC Station P	5.09	332	ePn	Pn	11 49 15.8	-0.7
PB11				eSn	Sn	11 50 10.6	-5.2
PB11	IPOC Station P	5.09	332	eP	Pn	11 49 15.4	-1.2
PB11	IPOC Station P	5.09	332	eP	Pn	11 49 15.3	-1.2
PB11				iS	Sn	11 50 12.0	-3.8
AGUA	GUANDACOL	5.33	193	iP	Pn	11 49 20.8	+1.2
AGUA				iS	Sn	11 50 20.4	-0.9
PSGCX	Pisagua	5.45	328	eP	Pn	11 49 20.6	-0.5
MNMC	Minye Minye	5.63	335	ePn	Pn	11 49 22.9	-0.8
MNMC				eSn	Sn	11 50 26.1	-2.5
MNMCX	Minye Minye	5.63	335	eP	Pn	11 49 23.4	-0.4
MNMCX				eS	Sn	11 50 26.2	-2.4
LCO	Las Campanas	5.71	214	ePn	Pn	11 49 23.5	-1.2
LCO				eSn	Sn	11 50 28.9	-1.5
LCO	Las Campanas	5.71	214	eP	Pn	11 49 23.7	-1.0
LCO				iS	Sn	11 50 28.4	-1.9
LCO	Las Campanas	5.71	214	eP	Pn	11 49 24.2	-0.4
APLL	PUNTA DE LOS L	6.11	175	iP	Pn	11 49 29.1	-0.6
APLL				IAML		11 49 30.4	
	comp=Z,62nm,0.2s						
APLL				eS	Sn	11 50 35.3	-4.1
PB12	IPOC Station P	6.40	331	eP	Pn	11 49 32.2	-1.4
GO04	Tololo Observa	6.73	209	ePn	Pn	11 49 36.4	-1.6
GO04				eSn	Sn	11 50 52.1	-2.3
ACAN	Cantantal	7.96	181	iP	Pn	11 49 52.9	-1.1
ACAN				eS	Sn	11 51 18.4	-4.9
LPAZ	La Paz	8.02	353	P	Pn	11 49 54.9	-0.4
	comp=Z,1.1nm,0.3s,baz=108,slow=4.3,SNR=28						
LPAZ				S	Sn	11 51 23.0	-2.6
	baz=311,slow=11,SNR=3.2						
LPAZ	La Paz	8.02	353	ePn	Pn	11 49 55.2	-0.1
LPAZ	La Paz	8.02	353	iP	Pn	11 49 55.2	-0.1
LPAZ	La Paz	8.02	353	eP	Pn	11 49 55.8	+0.5
CPUP	Villa Florida	9.06	105	P	Pn	11 50 06.9	-1.5
	comp=Z,0.2nm,0.3s,baz=271,slow=11,SNR=4.7						
CPUP	Villa Florida	9.06	105	ePn	Pn	11 50 06.7	-1.7
ROC1	El Roble	9.32	201	ePn	Pn	11 50 11.7	-0.3
ROC1				eSn	Sn	11 51 52.6	-3.5
TRCB	Terra Rica	13.34	87	eP	P	11 51 06.7	-0.2
PTGB	Pitanga	13.68	95	eP	P	11 51 10.3	-0.4
GO06	Curarrehue	15.70	193	ePn	P	11 51 33.8	+0.7
	comp=Z,11nm,0.8s						
FRTB	Fartura	16.06	90	eP	Pn	11 51 39.2	+2.0
ITRB	Iturama	16.16	77	eP	P	11 51 38.4	+0.1
PLCA	Paso Flores	16.66	189	P	Pn	11 51 44.7	+0.4
	comp=Z,0.3nm,0.3s,baz=20,slow=12,SNR=7.9						
PLCA	Paso Flores	16.66	189	eP	P	11 51 42.9	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,7.2nm,0.6s						
BB19B	**Bebedouro**	**17.42**	**83**	eP	**Pn**	**11 51 52.9**	**-0.6**
RCLB	**Rio Claro- Sao**	**18.05**	**88**	eP	**P**	**11 51 57.9**	**-1.0**
IPMB	**Ipameri, GO**	**18.68**	**74**	eP	**P**	**11 52 05.4**	**-0.4**
BDFB	**Brasilia**	**19.86**	**68**	P	**P**	**11 52 17.5**	**-1.1**
	comp=Z,1.8nm,0.3s,baz=241,slow=11,SNR=37						
BDFB	**Brasilia**	**19.86**	**68**	eP	**P**	**11 52 17.7**	**-0.9**
	comp=Z,34nm,0.9s						
JANB	**Januaria**	**23.30**	**71**	eP	**P**	**11 52 50.9**	**-2.2**
SMTB	**Santa Maria do**	**24.12**	**54**	eP	**P**	**11 52 58.7**	**-1.8**
PTGA	**Pitinga**	**24.41**	**17**	P	**P**	**11 53 01.5**	**-1.5**
	comp=Z,4.1nm,0.5s,baz=319,slow=22,SNR=7.7						
PTGA	**Pitinga**	**24.41**	**17**	eP	**P**	**11 53 01.9**	**-1.2**
	comp=Z,4.7nm,0.6s						
PTGA	**Pitinga**	**24.41**	**17**	eP	**P**	**11 53 01.6**	**-1.4**
ALF01	**Guarapari-ES**	**24.62**	**87**	eP	**P**	**11 53 04.0**	**-0.9**
SJMB	**Sao Joao De Ma**	**24.71**	**82**	eP	**P**	**11 53 04.0**	**-1.8**
BSFB	**Barra de Sao F**	**24.98**	**83**	eP	**P**	**11 53 06.6**	**-1.6**
OBIP	**Obispado Ponce**	**42.07**	**1**	eP	**P**	**11 55 35.0**	**-0.3**
	comp=Z,21nm,1.1s						
VNA3	**Neumayer Olymp**	**56.91**	**161**	P	**P**	**11 57 27.9**	**+1.0**
VNA1	**Neumayer--Stat**	**57.11**	**160**	P	**P**	**11 57 29.4**	**+1.2**
VNA2	**Neumayer--Watz**	**57.48**	**160**	P	**P**	**11 57 31.9**	**+1.1**
	baz=278,slow=7.9						
SWET	**Sewanee**	**61.81**	**343**	eP	**P**	**11 58 00.9**	**+0.1**
	comp=Z,5.5nm,1.2s						
WVT	**Waverly**	**63.20**	**341**	eP	**P**	**11 58 10.3**	**+0.3**
	comp=Z,2.3nm,0.8s						
TXAR	**Lajitas Array**	**63.86**	**325**	P	**P**	**11 58 15.8**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=159,slow=8.7,SNR=4.2						
QSPA	**South Pole Qui**	**65.92**	**180**	eP	**P**	**11 58 29.1**	**+1.6**
	comp=Z,8.1nm,0.6s						
DBIC	**Dimbokro**	**67.97**	**71**	P	**P**	**11 58 39.9**	**-1.1**
	comp=Z,4.8nm,1.1s,baz=253,slow=11,SNR=2.6						
DBIC	**Dimbokro**	**67.97**	**71**	eP	**P**	**11 58 39.9**	**-1.1**
	comp=Z,6.8nm,1.1s						
SYO	**Syowa Base**	**73.31**	**159**	⇓iX	**P**	**11 59 13.2**	**+0.8**
VNDA	**Vanda**	**74.41**	**190**	P	**P**	**11 59 21.4**	**+2.8**
	comp=Z,0.6nm,0.7s,baz=144,slow=4.3,SNR=3.5						
TOA0	**Torodi Ar. Sit**	**76.74**	**69**	eP	**P**	**11 59 32.2**	**-0.7**
	comp=Z,2.9nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.74**	**69**	P	**P**	**11 59 30.3**	**-2.6**
	comp=Z,1.7nm,0.5s,baz=262,slow=5.5,SNR=26						
PDAR	**Pinedale Array**	**77.35**	**329**	P	**P**	**11 59 37.2**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=107,slow=7.9,SNR=3.6						
ULM	**Lac du Bonnet**	**78.47**	**342**	P	**P**	**11 59 42.0**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=4.9,slow=20,SNR=3.7						
ULM	**Lac du Bonnet**	**78.47**	**342**	eP	**P**	**11 59 42.5**	**+0.8**
	comp=Z,3.2nm,1.3s						
NVAR	**Mina Array Bea**	**78.71**	**321**	P	**P**	**11 59 45.3**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=146,slow=6.6,SNR=3.1						
KVN	**Kaiserville**	**79.02**	**322**	eP	**P**	**11 59 47.4**	**+2.2**
	comp=Z,1.6nm,0.7s						
RLMT	**Red Lodge**	**79.05**	**331**	eP	**P**	**11 59 47.2**	**+1.9**
HLID	**Hailey**	**80.28**	**327**	eP	**P**	**11 59 54.5**	**+2.6**
	comp=Z,2.3nm,0.9s						
BOSA	**Boshof**	**80.67**	**117**	P	**P**	**11 59 54.9**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=236,slow=3.6,SNR=2.9						
MAW	**Mawson**	**81.19**	**163**	P	**P**	**11 59 57.5**	**+1.3**
	comp=Z,16nm,1.0s,baz=214,slow=3.6,SNR=5.5						
MAW	**Mawson**	**81.19**	**163**	eP	**P**	**11 59 57.6**	**+1.4**
	comp=Z,15nm,1.5s						
PINE	**Pine Mountain**	**83.81**	**324**	eP	**P**	**12 00 12.4**	**+2.1**
	comp=Z,1.5nm,0.8s						
YKA	**Yellowknife Ar**	**94.36**	**340**	P	**P**	**12 01 00.2**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=132,slow=4.6,SNR=16						
AS01	**Alice Springs**	**128.15**	**205**	ePKPdf	**PKPdf**	**12 06 46.7**	**+0.3**
ASAR	**Alice Springs**	**128.17**	**205**	PKP	**PKPdf**	**12 06 46.8**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=143,slow=1.7,SNR=17						
AS31	**Alice Springs**	**128.17**	**205**	ePKPdf	**PKiKP**	**12 06 47.0**	**-0.2**
WB2	**Warramunga Arr**	**131.33**	**207**	ePKPdf	**PKiKP**	**12 06 53.2**	**-0.4**
WRA	**Warramunga Arr**	**131.34**	**207**	PKP	**PKiKP**	**12 06 53.2**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=157,slow=1.7,SNR=27						
WRAB	**Tennant Creek**	**131.34**	**207**	ePKPdf	**PKPdf**	**12 06 48.6**	**-4.0**
ZALV	**Zalesovo Beam**	**143.68**	**28**	PKP	**PKPdf**	**12 07 13.3**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=307,slow=5.7,SNR=5.0						
XMIS	**Christmas Isla**	**144.73**	**168**	ePKPbc	**PKPab**	**12 07 14.3**	**-2.0**
MAKZ	**Makanchi**	**146.60**	**40**	ePKPbc	**PKPbc**	**12 07 21.9**	**+0.6**
MK31	**Makanchi Array**	**146.79**	**40**	ePKPbc	**PKPbc**	**12 07 22.3**	**+0.5**
MKAR	**Makanchi Array**	**146.79**	**40**	PKPbc	**PKPbc**	**12 07 20.9**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=340,slow=1.5,SNR=16						
MKAR	**Makanchi Array**	**146.79**	**40**	ePKPbc	**PKPbc**	**12 07 22.4**	**+0.6**
MK01	**Makanchi Array**	**146.81**	**40**	ePKPdf	**PKPdf**	**12 07 20.6**	**+0.9**
MK01				ePKPbc	**PKPbc**	**12 07 22.6**	**+0.7**
MAJO	**Matsushiro**	**155.08**	**305**	eP	**PKPdf**	**12 07 30.6**	**-2.1**

IDC 06 11:49:54.2±1.8**, 2°.32N×125°.07E, h0km, mb3.5**/4**, mb1 3.6**/4**, mb1mx3.4**/42**, mbtmp3.5**/4**, Error ellipse: s-maj=184.7km s-min=23.4km az=64.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.92**	**158**	P	P	11 55 08.7	-1.3
	0.4nm,0.6s,baz=337,slow=10,SNR=12						
ASAR	**Alice Springs**	**27.22**	**162**	P	P	11 55 40.7	+0.7
	0.2nm,0.4s,baz=338,slow=8.5,SNR=7.0						
STKA	**Stephens Creek**	**37.45**	**157**	P	P	11 57 10.4	+1.0
	1.4nm,0.6s,baz=337,slow=13,SNR=2.9						
MKAR	**Makanchi Array**	**57.79**	**327**	P	P	11 59 47.0	-0.3
	0.2nm,0.5s,baz=125,slow=7.1,SNR=3.9						

*PRE **06** 12:08:58.9±2.0, 26°.45S×27°.39E, h2km, ML2.9*
*ISCJB **06** 12:08:59.1±0.7, 26°.44S±0°.03×27°.41E±0°.04, h10km±6km, mb3.7/4, Error ellipse: s-maj=6.9km s-min=4.2km az=136.2*
*IDC **06** 12:08:59.7±1.5, 26°.35S×27°.09E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/30, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=51.1km s-min=15.4km az=118.0*
ISC 06 12:08:59.2±1.1**, 26°.43S**±0°.03×**27°.38E**±0°.03**, h6**km±8km**, n20,** σ1^s**21**/36**, mb3.9**/4**, South Africa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.22**	**68**	eP	**Pg**	**12 09 03.9**	**+0.3**
KLOF				eS	**Sg**	**12 09 06.2**	**-0.4**
KLOF				AML	AML	12 09 07.6	
	comp=Z,2μm,0.2s						
PRYS	**Parys**	**0.49**	**182**	eP	**Pb**	**12 09 09.0**	**-1.3**
PRYS				eS	**Sg**	**12 09 15.3**	**+0.2**
PRYS				AML	AML	12 09 20.4	
	comp=Z,1μm,0.5s						
KSR	**Koster**	**0.72**	**323**	eP	**Pg**	**12 09 13.6**	**+0.5**
KSR				eS	**Sg**	**12 09 22.5**	**0.0**
KSR				AML	AML	12 09 29.2	
	comp=Z,187nm,0.7s						
ERPM	**east rand prop**	**0.78**	**84**	eP	**Pg**	**12 09 14.0**	**-0.2**
ERPM				eS	**Sg**	**12 09 23.9**	**-0.3**
ERPM				AML	AML	12 09 31.2	
	comp=Z,180nm,0.6s						
SLR	**Silverton**	**1.07**	**50**	eP	**Pg**	**12 09 19.3**	**-0.3**
SLR				eS	**Sb**	**12 09 34.0**	**-0.4**
SLR				AML	AML	12 09 38.2	
	comp=Z,290nm,0.4s						
SWZ	**Schweizer**	**1.98**	**247**	eP	**Pb**	**12 09 35.3**	**-0.4**
SWZ				eS	**Sb**	**12 09 59.0**	**-1.7**
SWZ				AML	AML	12 10 01.4	
	comp=Z,434nm,0.8s						
LBTB	**Lobatse**	**2.14**	**311**	eP	**Pb**	**12 09 37.5**	**-1.0**
LBTB				eS	**Sb**	**12 10 04.2**	**-1.1**
LBTB				AML	AML	12 10 07.7	
	comp=Z,513nm,0.3s						
BOSA	**Boshof**	**2.88**	**221**	i P	**Pn**	**12 09 46.3**	**+0.6**
BOSA				i S	**Sb**	**12 10 27.2**	**+0.7**
BOSA	**Boshof**	**2.88**	**221**	Pn	**Pn**	**12 09 46.3**	**+0.6**
	comp=Z,4.9nm,0.3s,baz=40,slow=13,SNR=112						
BOSA				Pg	**Pb**	**12 09 51.6**	**+0.6**
	comp=Z,10.0nm,0.3s,baz=40,slow=17,SNR=35						
BOSA				Lg	Lg	12 10 27.2	
	comp=Z,44nm,0.3s,baz=126,slow=21,SNR=29						
BOSA	**Boshof**	**2.88**	**221**	eP	**Pn**	**12 09 45.9**	**+0.2**
BOSA				eS	**Sn**	**12 10 21.5**	**+0.8**
BOSA				AML	AML	12 10 27.8	
	comp=Z,89nm,0.3s						
BOSA	**Boshof**	**2.88**	**221**	i P	**Pn**	**12 09 46.3**	**+0.6**
BOSA				i S	**Sb**	**12 10 27.2**	**+0.7**
MSNA	**Messina**	**4.73**	**31**	eP	**Pn**	**12 10 12.0**	**+0.9**
MSNA				eS	**Sn**	**12 11 04.7**	**-1.6**
MSNA				AML	AML	12 11 25.2	
	comp=Z,28nm,0.7s						
PKA	**Prieska**	**5.21**	**231**	eP	**Pn**	**12 10 16.9**	**-0.8**
PKA				eS	**Sn**	**12 11 16.0**	**-2.1**
PKA				AML	AML	12 11 54.9	
	comp=Z,8.0nm,0.4s						
BLWY	**Bulawayo**	**6.37**	**10**	i P	**Pn**	**12 10 34.5**	**+0.8**
BLWY				i S	**Sn**	**12 11 47.4**	**+0.6**
BLWY	**Bulawayo**	**6.37**	**10**	i P	**Pn**	**12 10 34.5**	**+0.8**
BLWY				i S	**Sn**	**12 11 47.4**	**+0.6**
GRAN	**Grantham**	**7.41**	**217**	eP	**Pn**	**12 10 48.7**	**+0.8**
GRAN				eS	**Sn**	**12 12 08.2**	**-4.1**
GRAN				AML	AML	12 12 29.9	
	comp=Z,4.9nm,0.3s						
TORD	**Torodi Ar. Bea**	**46.60**	**324**	P	**P**	**12 17 26.9**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=133,slow=8.1,SNR=7.6						
ESDC	**Sonseca Array**	**71.97**	**335**	P	**P**	**12 20 24.9**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=152,slow=5.1,SNR=4.0						
FINES	**FINESS Array B**	**87.57**	**359**	P	**P**	**12 21 48.9**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=185,slow=8.4,SNR=2.8						
MKAR	**Makanchi Array**	**88.14**	**34**	P	**P**	**12 21 52.1**	**+1.5**
	comp=Z,0.1nm,0.5s,baz=207,slow=2.9,SNR=3.1						

KRSC 06 12:09:10.7±1.6**, 48°.34N×157°.39E, h40**km±25km**, ML3.7, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.49**	**341**	eP	Pn	12 09 51.0	+2.4
SKR				eS	Sn	12 10 19.2	+1.4
PAU	**Pauzhetka**	**3.16**	**353**	eP	Pn	12 10 00.9	+3.1
PAU				eS	Sn	12 10 39.7	+5.5
KDTR	**Khodutka, Kamc**	**3.50**	**7**	eP	Pn	12 10 07.1	+4.6
KDTR				eS	Sn	12 10 47.6	+4.9
RUS	**Russkaya**	**4.16**	**9**	eP	Pn	12 10 15.6	+4.0
RUS				eS	Sn	12 11 04.7	+5.7
MTVR	**Mutnovka**	**4.18**	**7**	eP	Pn	12 10 15.8	+3.8
MTVR				eS	Sn	12 11 06.1	+6.4
KRMR	**Karymshinskiy**	**4.52**	**6**	eS	Sn	12 11 12.3	+4.5
UGLR	**Uglovaya**	**4.96**	**10**	eP	Pn	12 10 27.1	+4.4
NLC	**Nalytchevo**	**5.00**	**14**	eS	Sn	12 11 25.2	+5.7
AVH	**Avacha**	**5.01**	**9**	eP	Pn	12 10 28.2	+4.9
KOK	**Koryaka**	**5.02**	**9**	eP	Pn	12 10 28.2	+4.7
SDLR	**Sedlovina**	**5.04**	**10**	eP	Pn	12 10 28.4	+4.7
SPN	**Mys Shipunski**	**5.05**	**18**	eP	Pn	12 10 28.2	+4.4
SPN				eS	Sn	12 11 24.7	+3.9
GNL	**Ganaly**	**5.38**	**3**	eP	Pn	12 10 32.9	+4.5
MKZ	**Mys Kozlova**	**6.79**	**22**	eP	Pn	12 10 52.8	+5.2

*ISCJB **06** 12:14:31.3±0.3, 55°.39N±0°.02×135°.23W±0°.05, h10km, mb3.5/5, MS3.3/1, Error ellipse: s-maj=5.0km s-min=2.2km az=141.4*
*PGC **06** 12:14:33.1±2.5, 55°.41N×135°.31W, h10km, ML4.2/9, Mw4.0, 183km south of Sitka, Ak Off Coast Of Southeastern Alaska*
*NEIC **06** 12:14:33.0±0.0, 55°.45N×135°.33W, h20km, ML3.8(AEIC), MW4.0(OTT), After AEIC.*
*IDC **06** 12:14:33.9±1.0, 55°.61N×135°.31W, h0km, mb3.5/7, mb1 3.8/13, mb1mx3.6/46, mbtmp3.6/13, ML3.2/6, MS3.1/3, Ms1 3.1/3, ms1mx2.6/30, Error ellipse: s-maj=14.5km s-min=13.2km az=31.0*
ISC 06 12:14:32.5±0.6**, 55°.46N**±0°.03×**135°.28W**±0°.04**, h10**km**, n87,** σ2^s**21**/116**, mb3.6**/5**, Off coast of southeastern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRAG	**Craig**	**1.23**	**88**	ePg	**Pn**	**12 14 55.3**	**-0.4**
CRAG				eSn	**Sb**	**12 15 11.7**	**+0.1**
SIT	**Sitka**	**1.60**	**359**	ePn	**Pn**	**12 14 59.7**	**-1.2**
SIT				eSn	**Sg**	**12 15 23.8**	**-0.3**
WRAK	**Wrangell Islan**	**1.91**	**58**	ePn	**Pn**	**12 15 05.2**	**+0.1**
WRAK				eSn	**Sn**	**12 15 29.2**	**0.0**
NDB	**Naden**	**2.03**	**137**	ePn	**Pn**	**12 15 06.4**	**-0.3**
NDB				eSn	**Sn**	**12 15 31.6**	**-0.5**
NDB	**Naden**	**2.03**	**137**	Pn	**Pn**	**12 15 06.4**	**-0.3**
NDB				Sn	**Sn**	**12 15 31.6**	**-0.5**
MASB	**Masset**	**2.38**	**126**	ePn	**Pn**	**12 15 11.7**	**+0.2**
MASB				eSn	**Sn**	**12 15 41.2**	**+0.6**
MASB	**Masset**	**2.38**	**126**	Pn	**Pn**	**12 15 11.7**	**+0.2**
MASB				Sn	**Sn**	**12 15 41.2**	**+0.6**
DIB	**Dawson Inlet,**	**2.79**	**143**	ePn	**Pn**	**12 15 16.5**	**-0.7**
DIB				eSn	**Sn**	**12 15 48.1**	**-2.8**
DIB	**Dawson Inlet,**	**2.79**	**143**	Pn	**Pn**	**12 15 16.5**	**-0.7**
DIB				Sn	**Sn**	**12 15 48.1**	**-2.8**
H02S1	**DAWSON INLET T**	**2.79**	**143**	Pn	**Pn**	**12 15 16.4**	**-0.8**
H02S1				Sn	**Sn**	**12 15 48.0**	**-2.8**
	SNR=3060						
JIS	**Juneau Island**	**2.87**	**10**	eSn	**Sn**	**12 15 55.4**	**+2.6**
MOBC	**Moresby Island**	**3.02**	**139**	ePn	**Pn**	**12 15 19.6**	**-0.8**
MOBC				eSn	**Sn**	**12 15 55.8**	**-0.8**
MOBC				eSg	**Sg**	**12 16 07.1**	**-2.3**
MOBC	**Moresby Island**	**3.02**	**139**	Pn	**Pn**	**12 15 19.6**	**-0.8**
MOBC				Sn	**Sn**	**12 15 55.8**	**-0.8**
MOBC				Sg	**Sg**	**12 16 07.1**	**-2.3**
RUBB	**Prince Rupert**	**3.12**	**109**	ePn	**Pn**	**12 15 21.0**	**-0.6**
RUBB				eSn	**Sn**	**12 15 58.8**	**-0.1**
RUBB				eSg	**Sg**	**12 16 11.2**	**-1.4**
RUBB	**Prince Rupert**	**3.12**	**109**	Pn	**Pn**	**12 15 21.0**	**-0.6**
RUBB				Sn	**Sn**	**12 15 58.8**	**-0.1**
RUBB				Sg	**Sg**	**12 16 11.2**	**-1.4**
BESE	**Bessie Mountai**	**3.14**	**4**	ePn	**Pn**	**12 15 22.5**	**+0.4**
BESE				eSn	**Sb**	**12 16 03.1**	**-3.7**
BESE	**Bessie Mountai**	**3.14**	**4**	Pn	**Pn**	**12 15 22.1**	**+0.1**
BNB	**Barry Inlet**	**3.56**	**143**	ePn	**Pn**	**12 15 27.4**	**-0.4**
BNB	**Barry Inlet**	**3.56**	**143**	Pn	**Pn**	**12 15 27.4**	**-0.4**
HG3B	**Hotspring**	**3.67**	**140**	Sn	**Sn**	**12 16 10.4**	**-2.1**
HG3B				Sg	**Sg**	**12 16 27.4**	**-2.8**
DHAK	**Deception Hill**	**3.98**	**338**	ePn	**Pn**	**12 15 34.1**	**+0.6**
SKAG	**Skagway**	**4.02**	**360**	ePn	**Pn**	**12 15 35.3**	**+1.3**
PLBC	**Pleasant Camp**	**4.05**	**352**	ePn	**Pn**	**12 15 34.9**	**+0.4**
PLBC				eSg	**Sg**	**12 16 39.5**	**-3.1**
PLBC	**Pleasant Camp**	**4.05**	**352**	Pn	**Pn**	**12 15 34.9**	**+0.4**
PLBC				Sg	**Sg**	**12 16 39.5**	**-3.1**
DLBC	**Dease Lake**	**4.15**	**42**	Pn	**Pn**	**12 15 37.0**	**+1.0**
	1.9nm,0.3s,baz=225,slow=7.0,SNR=56						
DLBC				Pg	**Pg**	**12 15 50.5**	**-1.4**
	4.8nm,0.3s,baz=227,slow=15,SNR=21						
DLBC				Sn	**Sn**	**12 16 24.8**	**+0.4**
	4.0nm,0.3s,baz=179,slow=14,SNR=3.6						
DLBC				Lg	Lg	12 16 43.0	
	11nm,0.3s,baz=108,slow=16,SNR=15						
DLBC	**Dease Lake**	**4.15**	**42**	ePn	**Pn**	**12 15 36.8**	**+0.9**
DLBC				eSg	**Sg**	**12 16 42.8**	**-2.8**
DLBC	**Dease Lake**	**4.15**	**42**	Pn	**Pn**	**12 15 36.9**	**+1.0**
DLBC				Sg	**Sg**	**12 16 42.7**	**-2.9**
WHY	**Whitehorse**	**5.22**	**2**	ePn	**Pn**	**12 15 51.7**	**+1.0**
WHY				eSn	**Sn**	**12 16 49.4**	**-1.6**
WHY				eSg	**Sg**	**12 17 16.3**	**-3.8**
WHY	**Whitehorse**	**5.22**	**2**	Pn	**Pn**	**12 15 51.3**	**+0.6**
WHY				Sn	**Sn**	**12 16 49.4**	**-1.6**
WHY				Sg	**Sg**	**12 17 16.3**	**-3.8**
PCA	**Pinnacle**	**5.36**	**332**	ePn	**Pn**	**12 15 53.7**	**+1.2**
PCA	**Pinnacle**	**5.36**	**332**	Pn	**Pn**	**12 15 53.8**	**+1.2**
BBB	**Bella Bella**	**5.36**	**125**	Pn	**Pn**	**12 15 52.7**	**+0.2**
	2.2nm,0.3s,baz=296,slow=9.0,SNR=18						
BBB				Sn	**Sn**	**12 16 52.8**	**-1.4**
	11nm,0.3s,baz=99,slow=16,SNR=16						
BBB				Lg	Lg	12 17 26.2	
	3.9nm,0.3s,baz=19,slow=12,SNR=4.0						
BBB	**Bella Bella**	**5.36**	**125**	ePn	**Pn**	**12 15 53.2**	**+0.7**
BBB				eSn	**Sn**	**12 16 53.8**	**-0.4**
BBB	**Bella Bella**	**5.36**	**125**	Pn	**Pn**	**12 15 52.7**	**+0.2**
BBB				Sn	**Sn**	**12 16 52.4**	**-1.8**
HYT	**Haines Junctio**	**5.51**	**349**	ePn	**Pn**	**12 15 56.5**	**+1.8**
YUK5	**Granite Creek**	**5.85**	**348**	ePn	**Pn**	**12 16 00.3**	**+0.9**
YUK5	**Granite Creek**	**5.85**	**348**	Pn	**Pn**	**12 16 00.3**	**+0.9**
BCBC	**Bella Coola**	**5.91**	**118**	Sn	**Sn**	**12 17 06.2**	**-1.5**
FSB	**Fort Saint Jam**	**6.38**	**94**	ePn	**Pn**	**12 16 08.0**	**+1.5**
FSB	**Fort Saint Jam**	**6.38**	**94**	Pn	**Pn**	**12 16 08.0**	**+1.5**
PHC	**Port Hardy**	**6.70**	**132**	eSn	**Sn**	**12 17 24.4**	**-2.9**
PHC	**Port Hardy**	**6.70**	**132**	Sn	**Sn**	**12 17 24.4**	**-2.9**
PACB	**Port Alice, BC**	**6.88**	**134**	Sn	**Sn**	**12 17 28.0**	**-3.7**
TLCB	**Telegraph Cove**	**7.08**	**131**	Pn	**Pn**	**12 16 16.3**	**+0.2**
BMRM	**Bremner River**	**7.40**	**322**	ePn	Pn	12 16 26.3	+5.9
BMBC	**Bull Mountain**	**7.45**	**80**	Sg	**Sg**	**12 18 23.9**	**-7.3**
FNBB	**Fort Nelson**	**7.50**	**58**	ePn	**Pn**	**12 16 24.1**	**+2.2**
FNBB				eSg	**Sg**	**12 18 27.8**	**-5.3**
FNBB	**Fort Nelson**	**7.50**	**58**	Pn	**Pn**	**12 16 24.1**	**+2.2**
FNBB				Sg	**Sg**	**12 18 27.8**	**-5.3**
KLU	**Klutina**	**8.22**	**322**	ePn	Pn	12 16 36.5	+4.7
DAWY	**Dawson**	**8.88**	**348**	ePn	**Pn**	**12 16 42.0**	**+1.2**
DAWY	**Dawson**	**8.88**	**348**	Pn	**Pn**	**12 16 42.0**	**+1.2**
SCM	**Sheep Creek Mo**	**8.95**	**320**	ePn	**Pn**	**12 16 44.2**	**+2.5**
KNK	**Knik Glacier**	**9.12**	**316**	ePn	**Pn**	**12 16 47.5**	**+3.4**
DOT	**Dot Lake**	**9.34**	**335**	ePn	**Pn**	**12 16 47.5**	**+0.4**
GHO	**Glory Hole Cre**	**9.51**	**317**	ePn	Pn	12 16 54.1	+4.7
SCRK	**Sand Creek**	**9.60**	**336**	ePn	**Pn**	**12 16 52.7**	**+2.0**
KDAK	**Kodiak Island**	**9.82**	**291**	Pn	**Pn**	**12 16 52.0**	**-1.5**
	0.2nm,0.3s,baz=61,slow=13,SNR=4.0						
KDAK				Sn	**Sn**	**12 18 36.3**	**-7.3**
	0.1nm,0.3s,baz=142,slow=22,SNR=1.8						
KDAK				Lg	Lg	12 19 42.1	
	0.3nm,0.3s,baz=75,slow=8.1,SNR=12						
KDAK				LR	LR	12 20 16.4	
	comp=Z,32nm,18.3s,baz=129,slow=35						
DHY	**Denali Highway**	**9.82**	**326**	ePn	**Pn**	**12 16 57.0**	**+3.3**
SUA	**Susitna One**	**10.08**	**313**	ePn	**Pn**	**12 16 59.1**	**+1.9**
HDA	**Harding Lake**	**10.70**	**332**	ePn	**Pn**	**12 17 08.4**	**+2.8**
MCK	**McKinley**	**10.78**	**326**	ePn	Pn	12 17 10.9	+4.2
IL1	**Eielson Array**	**10.97**	**333**	ePn	**Pn**	**12 17 12.2**	**+2.9**
ILAR	**Eielson Array**	**10.97**	**333**	Pn	**Pn**	**12 17 10.1**	**+0.8**
	0.1nm,0.3s,baz=154,slow=13,SNR=22						
ILB	**Eielson Array**	**10.97**	**333**	ePn	**Pn**	**12 17 10.1**	**+0.8**
EPYK	**Eagle Plains**	**10.97**	**357**	ePn	**Pn**	**12 17 12.0**	**+2.6**
TRF	**Thorofare Moun**	**11.04**	**323**	ePn	**Pn**	**12 17 13.0**	**+2.6**
CAST	**Castle Rocks**	**11.66**	**320**	ePn	**Pn**	**12 17 19.6**	**+0.8**
BPAW	**Bear Paw Mtn.**	**11.70**	**324**	ePn	**Pn**	**12 17 20.7**	**+1.4**
SVW2	**Sparrevohn**	**12.06**	**306**	ePn	**Pn**	**12 17 25.9**	**+1.7**
YKA	**Yellowknife Ar**	**12.74**	**48**	Pn	**Pn**	**12 17 33.3**	**-0.2**
	0.2nm,0.3s,baz=241,slow=12,SNR=20						
INK	**Inuvik**	**12.92**	**3**	Pn	**Pn**	**12 17 37.6**	**+1.7**
	0.1nm,0.3s,baz=187,slow=12,SNR=4.9						
INK	**Inuvik**	**12.92**	**3**	ePn	**Pn**	**12 17 38.6**	**+2.6**
COLD	**Coldfoot**	**13.75**	**335**	ePn	**Pn**	**12 17 50.4**	**+3.1**
IM3	**Indian Mountai**	**13.82**	**327**	ePn	**P**	**12 17 52.4**	**-4.3**
BOZ	**Bozeman (W)**	**17.90**	**114**	ePn	**Pn**	**12 18 39.9**	**-1.6**
MOOW	**Moose Ponds**	**19.63**	**116**	eP	**P**	**12 19 01.5**	**+0.2**
YERR	**Yerington**	**19.67**	**140**	eP	**P**	**12 19 02.0**	**+0.3**
TPAW	**Teton Pass**	**19.71**	**117**	eP	**Pn**	**12 19 03.7**	**+0.1**
ELK	**Elko**	**19.79**	**130**	P	**Pn**	**12 19 08.6**	**+4.1**
	0.1nm,0.3s,baz=312,slow=7.3,SNR=4.5						
ELK				LR	LR	12 26 50.3	
	comp=Z,82nm,18.5s,baz=345,slow=37						
NVAR	**Mina Array Bea**	**20.51**	**139**	P	Pn	12 19 14.9	+2.0
	0.5nm,0.6s,baz=332,slow=9.6,SNR=3.6						
PDAR	**Pinedale Array**	**20.94**	**117**	P	Pn	12 19 19.6	+1.6
	1.4nm,1.0s,baz=318,slow=6.0,SNR=5.8						
RES	**Resolute Bay**	**24.82**	**24**	P	**P**	**12 19 57.2**	**+3.0**
	2.1nm,0.7s,baz=232,slow=8.1,SNR=8.8						
TXAR	**Lajitas Array**	**34.49**	**126**	P	**P**	**12 21 24.3**	**+3.6**
	0.5nm,0.7s,baz=319,slow=7.0,SNR=6.4						
SDV	**Santo Domingo**	**68.46**	**106**	LR	LR	12 57 33.6	
	comp=Z,17nm,18.2s,baz=73,slow=38						
MKAR	**Makanchi Array**	**73.32**	**334**	P	**P**	**12 26 05.2**	**+1.3**
	0.2nm,0.6s,baz=33,slow=5.5,SNR=3.7						
AKASG	**Malin Array Be**	**73.43**	**10**	P	**P**	**12 26 06.0**	**+1.6**
	0.5nm,0.4s,baz=343,slow=5.3,SNR=5.0						
ESDC	**Sonseca Array**	**76.56**	**37**	P	**P**	**12 26 25.3**	**+2.5**
	0.4nm,0.7s,baz=334,slow=6.4,SNR=4.6						

*ISN **06** 12:16:54.4±0.3, 37°.53N×42°.59E, h0km, ML2.5*
*ISK **06** 12:16:56.7, 37°.68N×42°.52E, h6km, ML2.5/7*
*DDA **06** 12:16:57.1, 37°.66N×42°.51E, h7km±2km, ML2.8*
ISC 06 12:16:57.0±1.0**, 37°.65N**±0°.03×**42°.55E**±0°.04**, h12**km±9km**, n14,** σ0^s**68**/20**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIRT	**Sirnak**	**0.17**	**209**	PG	**Pg**	**12 17 00.8**	**-0.2**
SIRT				SG	**Sg**	**12 17 03.9**	**+0.2**
SIRN	**Sırnak**	**0.19**	**214**	IAML_P			
	comp=Z,22μm,0.2s						
SIRN				i P	**Pg**	**12 17 01.2**	**0.0**
SRTM	**Siirt_Merkez**	**0.60**	**305**	IAML_P			
	comp=Z,1μm,0.2s						
SRTM				i P	**Pg**	**12 17 08.3**	**-0.4**
AKDM	**Akdamar-Van**	**0.76**	**27**	PG	**Pg**	**12 17 11.4**	**-0.3**
AKDM				SG	**Sg**	**12 17 22.2**	**+0.5**
GURO	**Guroymak-BITLI**	**0.98**	**336**	PG	**Pg**	**12 17 15.5**	**-0.5**
GURO				SG	**Sg**	**12 17 28.4**	**-0.5**
BTMN	**Batman**	**1.04**	**284**	i P	**Pn**	**12 17 17.7**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.18**	**295**	PN	**Pn**	**12 17 19.4**	**0.0**
MSL	**Mosul**	**1.33**	**160**	ePg	**Pn**	**12 17 21.0**	**-0.5**
	baz=340						
MSL				eSg	**Sb**	**12 17 39.6**	**+0.7**
MARD	**Mardin**	**1.45**	**257**	i P	**Pg**	**12 17 24.2**	**-0.6**
MARD				i S	**Sg**	**12 17 44.8**	**+1.2**
MAZI	**Mazidag**	**1.68**	**264**	PN	**Pb**	**12 17 27.2**	**-0.8**
BNGL	**BINGOL**	**1.70**	**320**	i P	**Pb**	**12 17 27.7**	**-0.7**
BNGL				i S	**Sg**	**12 17 52.5**	**+0.8**
AGRB	**Hanur-Agry**	**1.95**	**10**	PN	**Pn**	**12 17 31.2**	**+1.0**
KARO	**Karliova-Bingo**	**2.03**	**325**	PN	**Pn**	**12 17 31.8**	**+0.5**
PTK	**Pertek**	**2.77**	**297**	PN	**Pn**	**12 17 42.4**	**+0.9**

IDC 06 12:26:53.9±10.0**, 15°.61S×175°.97W, h402**km±98km**, mb3.1**/5**, mb1 3.4**/5**, mb1mx3.0**/37**, mbtmp3.8**/5**, Error ellipse: s-maj=95.6km s-min=27.7km az=139.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.79**	**239**	P	P	12 34 06.9	+0.7
	1.9nm,0.9s,baz=101,slow=10,SNR=2.5						
WRA	**Warramunga Arr**	**47.38**	**257**	P	P	12 34 49.5	-0.5
	0.6nm,0.4s,baz=94,slow=7.1,SNR=29						
WRA				PcP	PcP	12 36 13.3	-0.1
	0.3nm,0.5s,baz=91,slow=3.5,SNR=3.4						
ASAR	**Alice Springs**	**47.69**	**252**	P	P	12 34 51.8	-0.5
	1.6nm,0.4s,baz=90,slow=7.5,SNR=73						
ASAR				PcP	PcP	12 36 14.2	-0.3
	0.3nm,0.8s,baz=91,slow=7.4,SNR=2.7						
ILAR	**Eielson Array**	**83.15**	**12**	P	P	12 38 36.2	+0.5
	0.3nm,0.4s,baz=220,slow=5.2,SNR=14						
PDAR	**Pinedale Array**	**84.09**	**43**	P	P	12 38 40.6	-0.6
	0.2nm,0.6s,baz=248,slow=4.8,SNR=2.4						

MAN 06 12:27:11.6, 12°.86N×121°.18E, h13km**, mb4.2, ML3.0, MS2.7, Mindoro**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.40**	**189**	eP	Pg	12 27 19.5	0.0
SJMP				eS	Sb	12 27 26.0	-0.5
BOAC	**Boac**	**0.88**	**47**	eP	Pg	12 27 28.1	-0.5
BOAC				eS	Sn	12 27 42.1	-0.2
OTRP	**Odiongan**	**0.96**	**121**	eP	Pb	12 27 29.4	-0.6
BUSP	**Coron**	**1.28**	**229**	eP	Pn	12 27 34.3	-0.9
BUSP				eS	Sg	12 27 52.9	0.0

*ISCJB **06** 12:35:40.9±0.3, 58°.95S±0°.05×25°.40W±0°.10, h35km, mb4.7/47, MS3.7/14, Error ellipse: s-maj=8.2km s-min=5.8km az=138.3*
*NEIC **06** 12:35:44.9±1.2, 58°.96S×25°.48W, h55km±10km, mb4.7/39, Error ellipse: s-maj=7.0km s-min=5.1km az=51.0*
*IDC **06** 12:35:45.6±4.4, 58°.94S×25°.46W, h62km±38km, mb4.2/17, mb1 4.3/17, mb1mx4.2/30, mbtmp4.5/17, MS3.7/15, Ms1 3.7/15, ms1mx3.6/21, Error ellipse: s-maj=15.7km s-min=13.5km az=55.0*
ISC 06 12:35:42.6±0.3**, 58°.97S**±0°.07×**25°.37W**±0°.07**, h35**km**, n175,** σ0^s**85**/167**, mb4.7**/45**, MS3.7**/14**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.72**	**303**	ePn	**Pn**	**12 37 33.6**	**+1.3**
VNA1	**Neumayer--Stat**	**13.72**	**156**	P	**Pn**	**12 38 54.3**	**+0.1**
VNA1	**Neumayer--Stat**	**13.72**	**156**	PKiKP	PKiKP	12 52 33.6	+22
VNA1				S	Sn	12 41 13.9	-11
VNA3	**Neumayer Olymp**	**13.90**	**159**	P	**Pn**	**12 38 56.1**	**-0.7**
VNA3	**Neumayer Olymp**	**13.90**	**159**	PKiKP	PKiKP	12 52 33.7	+22
VNA3				S	Sn	12 41 14.4	-15
VNA2	**Neumayer--Watz**	**14.11**	**155**	P	**Pn**	**12 38 59.3**	**-0.3**
	baz=310,slow=16						
VNA2	**Neumayer--Watz**	**14.11**	**155**	PKiKP	PKiKP	12 52 33.3	+21
	baz=292,slow=21						
VNA2				S	Sn	12 41 24.0	-11
	baz=318,slow=22						
PMSA	**Palmer Station**	**18.89**	**236**	LR	LR	12 46 13.5	
	comp=Z,183nm,18.2s,baz=90,slow=33						
PMSA	**Palmer Station**	**18.89**	**236**	eP	**P**	**12 39 60.0**	**+0.4**
	37nm,1.1s						
EFI	**East Falkland**	**19.82**	**277**	eP	**Pn**	**12 40 11.0**	**-0.6**
	39nm,1.0s						

USHA	Ushuaia	23.56	261	P	P	12 40 49.9	+0.5
	8.8nm,0.6s,baz=120,slow=12,SNR=9.2						
USHA				LR	LR	12 47 47.9	
	comp=Z,303nm,20.9s,baz=74,slow=31						
QSPA	South Pole Qui	31.27	180	P	P	12 41 59.3	+0.5
	13nm,0.6s,baz=212,slow=1.9,SNR=185						
QSPA				PcP	PcP	12 44 52.2	+0.1
	2.6nm,0.8s,baz=312,slow=4.4,SNR=3.6						
QSPA				LR	LR	12 54 03.4	
	comp=Z,166nm,20.1s,baz=224,slow=35						
QSPA	South Pole Qui	31.27	180	eP	P	12 41 59.6	+0.8
	15nm,0.6s						
QSPA				ePcP	PcP	12 44 52.2	+0.1
TRQA	Tornquist	31.43	295	eP	P	12 42 00.0	-0.2
	14nm,1.1s						
PLCA	Paso Flores	33.55	283	P	P	12 42 18.0	-0.8
	4.3nm,0.9s,baz=185,slow=4.8,SNR=6.7						
PLCA				LR	LR	12 53 55.0	
	comp=Z,96nm,21.3s,baz=184,slow=32						
PLCA	Paso Flores	33.55	283	eP	P	12 42 18.3	-0.5
	6.6nm,0.9s						
MAW	Mawson	37.23	141	P	P	12 42 50.4	+0.3
	4.5nm,0.7s,baz=254,slow=14,SNR=3.4						
MAW				LR	LR	12 56 31.4	
	comp=Z,140nm,18.5s,baz=250,slow=33						
MAW	Mawson	37.23	141	eP	P	12 42 50.5	+0.5
	2.6nm,1.1s						
GO05	Huala	38.66	287	eP	P	12 43 01.4	-1.1
	14nm,0.9s						
CPUP	Villa Florida	39.49	312	P	P	12 43 10.2	+0.7
	1.9nm,0.9s,baz=189,slow=8.7,SNR=3.2						
CPUP				LR	LR	12 59 07.4	
	comp=Z,27nm,21.8s,baz=174,slow=36						
PEL	Peldehue	39.55	290	eP	P	12 43 09.9	-0.1
	28nm,0.6s						
ROC1	El Roble	39.85	290	eP	P	12 43 13.2	+0.5
	17nm,0.8s						
SUR	Sutherland	40.59	70	LR	LR	12 55 44.7	
	comp=Z,116nm,20.9s,baz=200,slow=30						
GO04	Tololo Observa	42.05	293	eP	P	12 43 30.5	-0.4
	14nm,0.8s						
LCO	Las Campanas	42.97	294	eP	P	12 43 37.8	-0.6
	10nm,0.9s						
SBA	Scott Base	43.23	184	eP	P	12 43 42.0	+2.5
	7.7nm,0.8s						
VNDA	Vanda	43.69	182	P	P	12 43 44.5	+1.3
	8.7nm,0.6s,baz=186,slow=6.9,SNR=84						
VNDA				LR	LR	13 00 48.7	
	comp=Z,70nm,20.6s,baz=188,slow=34						
VNDA	Vanda	43.69	182	eP	P	12 43 44.7	+1.5
	9.3nm,0.7s						
GO02	Mina Guanaco	45.73	298	eP	P	12 43 57.9	-2.5
	8.1nm,0.7s						
BOSA	Boshof	45.85	71	P	P	12 44 01.4	+0.2
	2.4nm,0.9s,baz=206,slow=9.8,SNR=3.8						
BOSA				LR	LR	13 01 31.4	
	comp=Z,71nm,18.1s,baz=189,slow=34						
BDFB	Brasilia	46.39	329	P	P	12 44 06.5	+1.1
	1.4nm,0.4s,baz=167,slow=10,SNR=3.8						
BDFB				LR	LR	13 02 10.2	
	comp=Z,74nm,18.4s,baz=167,slow=34						
LVC	Limon Verde	47.63	300	P	P	12 44 15.0	-0.4
	3.0nm,0.5s,baz=130,slow=7.8,SNR=4.8						
LVC	Limon Verde	47.63	300	eP	P	12 44 15.0	-0.4
	4.6nm,0.8s						
LBTB	Lobatse	49.03	69	P	P	12 44 26.4	+0.5
	1.8nm,0.8s,baz=213,slow=5.2,SNR=5.3						
LBTB	Lobatse	49.03	69	eP	P	12 44 27.6	+1.8
	4.7nm,1.0s						
PB01	IPOC Station P	49.25	301	eP	P	12 44 27.0	-0.6
	6.3nm,1.0s						
GO01	Chusmiza	50.33	302	eP	P	12 44 35.5	-0.7
	3.4nm,0.6s						
TSUM	Tsumeb	50.36	57	eP	P	12 44 38.0	+2.0
	4.0nm,0.9s						
PB11	IPOC Station P	50.45	301	eP	P	12 44 36.9	+0.1
	9.2nm,1.0s						
H10S2	ASCENSION HYDR	50.56	14	T	T	13 39 09.4	
	baz=188,slow=75,SNR=16						
H10S3	ASCENSION HYDR	50.57	14	T	T	13 39 04.1	
	baz=188,slow=75,SNR=19						
H10S1	ASCENSION HYDR	50.58	14	T	T	13 39 09.3	
	baz=188,slow=75,SNR=20						
CASY	Casey	50.82	159	eP	P	12 44 39.8	+0.9
	9.1nm,1.0s						
MNMC	Minye Minye	50.98	302	eP	P	12 44 40.1	-0.8
	7.1nm,0.7s						
LPAZ	La Paz	52.87	305	P	P	12 44 53.9	-1.4
	1.9nm,0.6s,baz=91,slow=9.6,SNR=9.3						
LPAZ	La Paz	52.87	305	eP	P	12 44 54.0	-1.4
	2.2nm,0.7s						
LSZ	Lusaka	58.60	65	P	P	12 45 36.0	0.0
	3.8nm,0.6s,baz=201,slow=7.1,SNR=11						
LSZ	Lusaka	58.60	65	eP	P	12 45 36.3	+0.3
	4.6nm,0.8s						
OPO	Ambohidratompo	65.28	85	P	P	12 46 18.6	-2.3
	2.3nm,0.3s,baz=244,slow=5.4,SNR=7.8						
LIC	Lamto	67.00	22	eP	P	12 46 32.3	+0.7
	54nm,1.5s						
KIC	Kosan Boka	67.19	22	eP	P	12 46 33.5	+0.7
	14nm,0.8s						
TIC	Toumodi	67.41	22	eP	P	12 46 34.3	+0.1
DBIC	Dimbokro	67.46	22	P	P	12 46 35.1	+0.6
	3.8nm,0.7s,baz=175,slow=8.2,SNR=5.5						
DBIC				LR	LR	13 09 38.6	
	comp=Z,38nm,18.6s,baz=139,slow=30						
DBIC	Dimbokro	67.46	22	eP	P	12 46 35.4	+0.8
	4.7nm,0.8s						
ROSC	El Rosal	74.50	309	LR	LR	13 22 54.9	
	comp=Z,44nm,18.2s,baz=137,slow=38						
TOA0	Torodi Ar. Sit	75.16	27	eP	P	12 47 22.0	+1.0
	12nm,0.8s						
TORD	Torodi Ar. Bea	75.16	27	P	P	12 47 20.6	-0.4
	6.6nm,0.6s,baz=194,slow=6.4,SNR=40						
TOA1	Torodi Ar. Sit	75.17	27	eP	P	12 47 20.6	-0.5
KMBO	Kilima Mbogo	75.23	67	LR	LR	13 17 54.5	
	comp=Z,98nm,18.4s,baz=104,slow=34						
MLZ	Mavora Lakes	75.43	190	eP	P	12 47 22.1	-0.3
	18nm,1.2s						
ODZ	Otahua Downs	75.51	192	eP	P	12 47 24.2	+1.5
	2.3nm,0.8s						
PTCN	Pitcairn Islan	76.05	245	eP	P	12 47 26.4	+0.2
	193nm,0.6s						
MQZ	McQueen's Vall	76.60	193	eP	P	12 47 29.1	+0.1
	15nm,1.1s						
TAU	Tasmania Unive	78.30	175	eP	P	12 47 38.4	-0.1
	16nm,0.9s						
BKZ	Black Stump Fm	80.55	197	eP	P	12 47 51.4	+0.5
	14nm,1.2s						
HIZ	Hauiti	81.43	196	eP	P	12 47 54.8	-0.7
	40nm,1.1s						
CAN	Canberra	85.94	175	eP	P	12 48 18.9	+0.1
	6.1nm,1.0s						
BBOO	Buckleboo	87.26	164	eP	P	12 48 24.2	-1.0
	8.6nm,1.0s						
FORT	Forrest	87.89	157	eP	P	12 48 28.8	+0.5
	21nm,0.6s						
STKA	Stephens Creek	88.84	169	P	P	12 48 32.8	+0.1
	1.6nm,0.5s,baz=182,slow=7.2,SNR=8.3						
STKA				LR	LR	13 27 05.1	
	comp=Z,67nm,18.6s,baz=205,slow=35						
STKA	Stephens Creek	88.84	169	eP	P	12 48 32.8	+0.1
	0.8nm,0.8s						
ASAR	Alice Springs	95.90	161	P	P	12 49 04.8	-0.7
	2.9nm,0.7s,baz=182,slow=3.9,SNR=54						
ASAR				PKKPbc	PKKPbc	13 05 52.4	+1.3
	0.7nm,0.5s,baz=17,slow=2.3,SNR=23						
ASAR				LR	LR	13 28 36.8	
	comp=Z,82nm,21.8s,baz=239,slow=33						
AS31	Alice Springs	95.90	161	eP	P	12 49 04.9	-0.7
	1.0nm,0.6s						
AS01	Alice Springs	95.91	161	eP	P	12 49 04.5	-1.1
WRA	Warramunga Arr	99.62	161	P	Pdif	12 49 20.9	-1.4
	0.3nm,0.5s,baz=192,slow=4.3,SNR=6.2						
WRA				PKKPbc	PKKPbc	13 05 41.2	+0.3
	0.7nm,0.7s,baz=359,slow=3.0,SNR=9.2						
WR1	Warramunga Arr	99.62	161	ePdif	Pdif	12 49 20.9	-1.4
	3.7nm,1.1s						
WR1				ePKKPbc	PKKPbc	13 05 41.2	+0.3
I39A	Houston	116.04	313	ePKPdf	PKPdf	12 54 19.9	-0.8
RABL	Rabaul	117.01	177	ePKPdf	PKPdf	12 54 22.2	-1.4
ECSD	EROS Data Cent	117.94	309	ePKPdf	PKPdf	12 54 23.3	-1.1
AKASG	Malin Array Be	117.99	36	PKP	PKPdf	12 54 23.4	-0.7
	0.4nm,0.3s,baz=225,slow=2.5,SNR=3.4						
SCHQ	Schefferville	118.23	334	PKP	PKPdf	12 54 23.7	-0.8
	5.7nm,1.0s,baz=192,slow=1.1,SNR=3.8						
SCHQ	Schefferville	118.23	334	ePKPdf	PKPdf	12 54 24.0	-0.5
PV10	Paradox Valley	118.94	297	ePKPdf	PKPdf	12 54 26.5	-0.3
SHPR	Sheep Range	120.34	291	ePKPdf	PKPdf	12 54 29.9	+0.5
RSSD	Black Hills	121.34	304	ePKPdf	PKPdf	12 54 30.5	-0.7
R11A	Troy Canyon, C	122.01	292	ePKPdf	PKPdf	12 54 32.8	+0.2
PDAR	Pinedale Array	122.69	299	PKP	PKPdf	12 54 32.8	-1.0
	0.2nm,0.4s,baz=121,slow=5.4,SNR=4.1						
PDAR	Pinedale Array	122.69	299	ePKPdf	PKPdf	12 54 32.9	-0.9
NB2	NORSAR Subarra	123.01	20	PKPdf	PKPdf	12 54 33.2	-0.4
	comp=Z,8.9nm,1.4s,baz=202,slow=1.9						
NB2	NORSAR Subarra	123.01	20	PKPdf	PKPdf	12 54 33.2	-0.4
	baz=202,slow=1.9						
NB200	NORSAR Array S	123.01	20	ePKPdf	PKPdf	12 54 33.0	-0.5
NOA	NORSAR Array B	123.01	20	PKP	PKPdf	12 54 33.0	-0.5
	comp=Z,1.6nm,0.9s,baz=198,slow=1.8,SNR=5.5						
ULM	Lac du Bonnet	123.02	314	PKP	PKPdf	12 54 32.6	-1.2
	comp=Z,3.2nm,0.5s,baz=157,slow=1.6,SNR=11						
ULM	Lac du Bonnet	123.02	314	ePKPdf	PKPdf	12 54 32.3	-1.5
NB201	NORSAR Array S	123.03	20	ePKPdf	PKPdf	12 54 33.9	+0.3
CM01	Chiang Mai Arr	123.09	111	ePKPdf	PKPdf	12 54 35.0	-0.1
CMAR	Chiang Mai Arr	123.11	111	PKP	PKPdf	12 54 35.1	0.0
	comp=Z,2.3nm,0.8s,baz=228,slow=3.6,SNR=17						
NC204	NORSAR Array S	123.15	20	ePKPdf	PKPdf	12 54 34.1	+0.3
NV11	Mina Array Sit	123.32	290	ePKPdf	PKPdf	12 54 36.0	+1.0
NV01	Mina Array Sit	123.39	290	ePKPdf	PKPdf	12 54 35.9	+0.6
NVAR	Mina Array Bea	123.39	290	PKP	PKPdf	12 54 35.5	+0.2
	comp=Z,0.6nm,0.6s,baz=104,slow=3.6,SNR=6.5						
LOHW	Long Hollow	123.83	299	ePKPdf	PKPdf	12 54 36.1	+0.2
TPAW	Teton Pass	123.89	299	ePKPdf	PKPdf	12 54 36.4	+0.2
MOOW	Moose Ponds	124.00	299	ePKPdf	PKPdf	12 54 35.8	-0.5
LAO	LASA Array	124.32	305	ePKPdf	PKPdf	12 54 36.6	+0.1
FIA0	FINESS Array S	126.51	28	ePKPdf	PKPdf	12 54 39.9	-0.3
FINES	FINESS Array B	126.51	28	PKP	PKPdf	12 54 39.9	-0.3
	comp=Z,2.1nm,0.5s,baz=179,slow=1.4,SNR=24						
FIA1	FINESS Array S	126.51	28	ePKPdf	PKPdf	12 54 40.0	-0.2
KMRM	Mail Ridge	127.43	287	ePKPdf	PKPdf	12 54 42.7	-0.1
ABKAR	Akbulak array	128.20	56	ePKPdf	PKPdf	12 54 43.9	+0.1
HUMO	Hull Mountain	128.86	290	ePKPdf	PKPdf	12 54 46.2	+0.9
FCC	Fort Churchill	129.20	321	ePKPdf	PKPdf	12 54 44.6	-0.7
AAK	Ala-Archa	130.00	72	ePKPdf	PKPdf	12 54 48.0	+0.3
ARA0	ARCESS Array S	133.29	22	ePKPdf	PKPdf	12 54 52.3	-0.6
ARCES	ARCESS Array B	133.29	22	PKP	PKPdf	12 54 52.3	-0.6
	comp=Z,2.3nm,0.7s,baz=221,slow=1.6,SNR=8.6						
ARCES	ARCESS Array B	133.29	22	ePKPdf	PKPdf	12 54 53.8	+1.0
MAKZ	Makanchi	136.69	73	ePKPpre	PKPpre	12 54 51.5	
MK01	Makanchi Array	136.83	73	ePKPpre	PKPpre	12 54 51.7	
MK01				ePKPdf	PKiKP	12 55 01.6	-0.4
MK32	Makanchi Array	136.84	73	ePKPpre	PKPpre	12 54 50.9	
MK32				ePKPdf	PKPdf	12 54 59.3	-0.9
MKAR	Makanchi Array	136.84	73	PKhKP	PKPpre	12 54 50.9	
	comp=Z,0.5nm,0.7s,baz=238,slow=2.0,SNR=6.3						
MKAR				PKP	PKPdf	12 54 59.3	-0.9
	comp=Z,0.7nm,0.7s,baz=252,slow=1.0,SNR=6.1						
KURK	Kurchatov	137.72	66	ePKPdf	PKPdf	12 55 03.8	+2.1
YKA	Yellowknife Ar	138.97	315	PKhKP	PKPpre	12 54 55.9	
	comp=Z,0.2nm,0.5s,baz=123,slow=3.8,SNR=14						
YKA				PKP	PKPdf	12 55 03.0	-0.5
	comp=Z,8.2nm,0.6s,baz=127,slow=2.5,SNR=186						
YKB5	Yellowknife Ar	138.97	315	ePKPdf	PKPdf	12 55 03.2	-0.4
YKW3	Yellowknife Ar	139.02	315	ePKPdf	PKPdf	12 55 03.2	-0.4
RES	Resolute Bay	140.94	337	ePKPpre	PKPpre	12 55 01.3	
ZALV	Zalesovo Beam	142.71	66	PKhKP	PKPpre	12 55 04.9	
	comp=Z,1.0nm,0.6s,baz=259,slow=1.9,SNR=6.1						
ZALV				PKP	PKPdf	12 55 08.8	-1.8
	comp=Z,1.0nm,0.6s,baz=244,slow=3.7,SNR=4.3						
ZALV	Zalesovo Beam	142.71	66	ePKPpre	PKPpre	12 55 06.3	
ZAA1	Zalesovo Array	142.71	66	ePKPpre	PKPpre	12 55 04.9	
ZAA1				ePKPdf	PKPdf	12 55 08.8	-1.8
DLBC	Dease Lake	142.79	303	ePKPpre	PKPpre	12 55 02.8	
JIS	Juneau Island	144.63	300	ePKPdf	PKPdf	12 55 14.4	+0.6
BESE	Bessie Mountai	145.00	301	ePKPbc	PKPdf	12 55 15.4	+0.9
HYT	Haines Junctio	147.28	303	ePKPbc	PKPbc	12 55 21.6	+0.8
INK	Inuvik	148.66	317	ePKPbc	PKPbc	12 55 23.2	-0.9
EPYK	Eagle Plains	149.19	313	ePKPbc	PKPbc	12 55 24.4	-1.2
DAWY	Dawson	149.43	308	ePKPbc	PKPbc	12 55 24.9	-1.4
SONA0	Songino Array	149.83	90	ePKPbc	PKPbc	12 55 27.8	-0.1
SONM	Songino Array	149.83	90	PKPbc	PKPbc	12 55 27.8	-0.1
	comp=Z,5.8nm,0.8s,baz=213,slow=3.1,SNR=31						
SONA1	Songino Array	149.84	90	ePKPdf	PKPdf	12 55 23.8	+0.7
SONA1				ePKPbc	PKPbc	12 55 27.7	-0.2
BMRM	Bremner River	150.47	300	ePKPbc	PKPbc	12 55 30.3	+1.4
DOT	Dot Lake	151.22	306	ePKPbc	PKPbc	12 55 30.2	-0.3
KLU	Klutina	151.26	301	ePKPbc	PKPbc	12 55 30.9	+0.1
SCRK	Sand Creek	151.29	306	ePKPbc	PKPbc	12 55 30.5	-0.3
RIDG	Independ'e Rid	151.58	306	ePKPbc	PKPbc	12 55 31.3	-0.1
SCM	Sheep Creek Mo	152.01	301	ePKPbc	PKPbc	12 55 32.2	-0.3
SEW	Seward	152.34	297	ePKPbc	PKPbc	12 55 32.6	-0.5
KNK	Knik Glacier	152.37	300	ePKPbc	PKPbc	12 55 33.9	+0.7
PRP	Porcupine Dome	152.38	309	ePKPbc	PKPbc	12 55 32.6	-0.7
KSAR	Wonju Array Be	152.38	129	PKPbc	PKPbc	12 55 33.7	-0.3
KSRS	Korea Array	152.40	129	PKPbc	PKPbc	12 55 33.7	-0.3
	comp=Z,1.2nm,0.7s,baz=206,slow=2.1,SNR=7.0						
KS01	Wonju Array Si	152.41	129	ePKPbc	PKPbc	12 55 34.0	0.0
DHY	Denali Highway	152.45	303	ePKPbc	PKPbc	12 55 33.2	-0.3
SML	Sawmill	152.45	301	ePKPbc	PKPbc	12 55 32.9	-0.5
FYU	Fort Yukon	152.52	311	ePKPbc	PKPbc	12 55 34.1	+0.8
HDA	Harding Lake	152.66	306	ePKPbc	PKPbc	12 55 33.9	+0.2
GHO	Glory Hole Cre	152.70	300	ePKPbc	PKPbc	12 55 33.4	-0.6
IL1	Eielson Array	152.74	307	ePKPbc	PKPbc	12 55 32.8	-1.1
ILAR	Eielson Array	152.74	307	PKPbc	PKPbc	12 55 32.8	-1.1
	comp=Z,6.6nm,1.0s,baz=137,slow=1.2,SNR=24						
ILB	Eielson Array	152.74	307	ePKPbc	PKPbc	12 55 33.1	-0.8
KDAK	Kodiak Island	152.89	291	ePKPbc	PKPbc	12 55 33.9	-0.5
WRH	Wood River Hil	153.16	306	ePKPbc	PKPbc	12 55 33.9	-0.9
RND	Reindeer	153.19	304	ePKPbc	PKPbc	12 55 34.9	-0.1
MCK	McKinley	153.31	304	ePKPbc	PKPbc	12 55 36.6	+1.4
TRF	Thorofare Moun	153.82	303	ePKPbc	PKPbc	12 55 35.7	-0.8
RSO	Redoubt South	154.01	296	ePKPdf	PKPdf	12 55 28.2	-0.7
BPAW	Bear Paw Mtn.	154.28	305	ePKPbc	PKPbc	12 55 36.5	-0.8
PPLA	Purkeypile	154.50	302	ePKPbc	PKPbc	12 55 38.4	+0.5
COLD	Coldfoot	154.57	312	ePKPbc	PKPbc	12 55 38.5	+0.8
CAST	Castle Rocks	154.59	303	ePKPab	PKPab	12 55 50.9	-2.1
MAJO	Matsushiro	155.13	147	ePKPab	PKPab	12 55 55.4	-0.5
MJAR	Matsushiro Arr	155.13	147	PKPab	PKPab	12 55 55.4	-0.5
	comp=Z,0.8nm,0.6s,baz=176,slow=5.0,SNR=4.9						
CHGN	Chignik	155.13	284	ePKPdf	PKPdf	12 55 31.1	+0.8
IM3	Indian Mountai	155.80	309	ePKPdif	PKPdf	12 55 40.7	+10
IM3				ePKPab	PKPab	12 55 57.9	-0.1
USRK	Ussuriysk Ar.	159.74	127	PKPab	PKPab	12 56 15.3	-0.3
	comp=Z,0.8nm,0.6s,baz=247,slow=1.1,SNR=3.2						
PETK	Petropavlovsk-	173.88	198	PKPab	PKPab	12 57 17.0	-0.7
	comp=Z,2.5nm,0.9s,baz=180,slow=1.4,SNR=3.1						
PEA1	Petropavlovsk-	173.88	198	ePKPab	PKPab	12 57 17.0	-0.7

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*ISCJB **06** 13:00:07.7±0.4,23.°65N±0.°01×121.°93E±0.°02,h17km±3km,*
Error ellipse: s-maj=3.2km s-min=1.8km az=39.9
*JMA **06** 13:00:07.4±0.3,23.°68N×121.°90E,h11km±5km,M2.7*
*TAP **06** 13:00:08.8,23.°69N×121.°85E,h22km,ML2.9,C*
ISC 06 13:00:07.6±1.0**,23.°67N**±0.°02×**121.°89E**±0.°02**,h17**km±8km**,**
n90,σ0.s64/147**,2C-5D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENLB	Shoufeng	0.36	311	⇓P	Pb	13 00 15.8	+0.3
	baz=321						
ENLB				S	Sb	13 00 21.2	+0.3
	baz=321						
HWA	Hwalien	0.41	319	eP	Pb	13 00 17.4	+1.0
	baz=330						
HWA				eS	Sb	13 00 22.4	0.0
	baz=330						
ESL	Shilin	0.45	289	⇓iP	Pg	13 00 16.8	+0.1
	baz=281						
ESL				iS	Sg	13 00 22.9	+0.2
	baz=281						
HGSD	Ruisui	0.47	248	eP	Pb	13 00 17.6	+0.2
	baz=243						
HGSD				eS	Sb	13 00 24.4	+0.4
	baz=243						
TWD	Chiawan	0.49	327	eP	Pg	13 00 17.5	0.0
	baz=330						
EHY	Hungye	0.55	253	P	Pb	13 00 19.2	+0.3
	baz=256						
EHY				S	Sb	13 00 27.1	+0.7
	baz=256						
NACB	Ninganchiao	0.57	332	⇓iP	Pg	13 00 18.7	-0.3
	baz=341						
NACB				eS	Sg	13 00 26.4	-0.3
	baz=341						
YULB	Yu-li	0.61	244	P	Pg	13 00 20.2	+0.5
	baz=256						
YULB				S	Sb	13 00 29.0	+0.7
	baz=256						
TWF1	Yuli	0.63	240	eP	Pb	13 00 20.6	+0.3
	baz=253						
TWF1				eS	Sb	13 00 29.8	+0.9
	baz=253						
VWDT	VWDT	0.69	277	eP	Pg	13 00 21.4	+0.1
	baz=275						
VWDT				eS	Sg	13 00 30.0	-0.5
	baz=275						
CHKT	Chengkung	0.74	221	eP	Pb	13 00 21.6	-0.5
	baz=205						
CHKT				eS	Sg	13 00 30.7	-1.4
	baz=205						
WHF	Hehuan Shan	0.75	310	⇑iP	Pg	13 00 22.1	-0.2
	baz=310						
WHF				eS	Sb	13 00 32.2	-0.4
	baz=310						
CHGB	Renai	0.77	301	P	Pg	13 00 22.6	-0.1
	baz=309						
CHGB				eS	Sg	13 00 32.5	-0.4
	baz=309						
NANB	Nanao	0.77	350	eP	Pb	13 00 22.5	-0.1
	baz=353						
NANB				eS	Sb	13 00 32.7	-0.1
	baz=353						
ENA	Nanau	0.77	350	eP	Pb	13 00 22.3	-0.3
	baz=352						
ENA				eS	Sb	13 00 32.8	0.0
	baz=352						
SSLB	Suanglung	0.87	278	eP	Pb	13 00 23.8	-0.5
	baz=277						
TWT	Tachien	0.88	312	eP	Pn	13 00 25.2	-0.3
	baz=311						
TWT				eS	Sb	13 00 35.8	-0.3
	baz=311						
YUS	Yu-Shan	0.88	259	eP	Pb	13 00 24.9	+0.1
	baz=256						
YUS				eS	Sb	13 00 35.9	-0.7
	baz=256						
NNSB	Datong	0.89	328	⇓P	Pb	13 00 24.5	-0.2
	baz=330						
NNSB				eS	Sb	13 00 35.8	-0.6
	baz=330						
TDCB	Techi	0.89	311	eP	Pb	13 00 24.7	-0.1
	baz=311						
TDCB				eS	Sb	13 00 35.4	-1.0
	baz=311						
EOS1	EOS1	0.90	14	eP	Pb	13 00 25.3	+0.4
	baz=27						
EOS1				eS	Sg	13 00 37.7	+0.6
	baz=27						
NNS	Nan Shan	0.91	328	eP	Pb	13 00 24.2	-0.8
	baz=330						
NNS				eS	Sb	13 00 35.8	-1.1
	baz=330						
ELDTW	Lidau	0.94	240	⇑P	Pb	13 00 24.8	-0.7
	baz=237						
ELDTW				eS	Sb	13 00 36.5	-1.2
	baz=237						
SMLT	Sun Moon Lake	0.94	283	⇓P	Pb	13 00 25.2	-0.3
	baz=282						
SMLT				eS	Sg	13 00 38.4	+0.2
	baz=282						
TWC	Suao	0.94	358	eP	Pb	13 00 25.8	+0.3
TWC				eS	Sg	13 00 38.1	-0.1
TYC	Yuchr	0.98	284	eP	Pb	13 00 25.9	-0.2
	baz=283						
TYC				eS	Sb	13 00 38.8	-0.1
	baz=283						
ENTT	Nioudou	1.01	343	eP	Pb	13 00 26.4	-0.4
	baz=345						
ENTT				eS	Sb	13 00 39.4	-0.5
	baz=345						
TWE	Neicheng	1.07	349	eP	Pb	13 00 27.6	-0.2
	baz=351						
WJS	Zhushan	1.08	278	eP	Pg	13 00 28.7	+0.1
	baz=277						
WJS				eS	Sn	13 00 43.1	+0.5
	baz=277						
YHNB	Yeheng	1.10	335	P	Pb	13 00 28.0	-0.4
	baz=336						
YHNB				eS	Sb	13 00 41.2	-1.4
	baz=336						
SLBB	Yuanshan	1.11	348	eP	Pb	13 00 28.1	-0.3
	baz=349						
CHN5	Tsauling	1.12	267	eP	Pn	13 00 29.2	+0.5
	baz=256						
CHN5				eS	Sg	13 00 44.5	+0.6
	baz=256						
NSK	Sanguang	1.12	334	eP	Pb	13 00 28.3	-0.3
	baz=335						
NSK				eS	Sb	13 00 42.0	-0.9
	baz=335						
WNT	Mingjian	1.13	281	eP	Pn	13 00 29.2	+0.5
	baz=280						
WNT				eS	Sg	13 00 44.3	+0.1
	baz=280						
TWGBT	Beinan	1.13	222	eP	Pn	13 00 27.2	-1.6
	baz=220						
TWG	Pinlang	1.13	222	eP	Pn	13 00 27.3	-1.5
	baz=220						
STYT	Tauyuan	1.16	245	eP	Pn	13 00 29.1	-0.1
	baz=233						
STYT				eS	Sb	13 00 43.9	-0.2
	baz=233						
NWLT	Wulai	1.16	342	eP	Pn	13 00 28.9	-0.3
	baz=343						
TCU	Taichung	1.21	293	eS	Sg	13 00 47.9	+1.0
	baz=292						
TPUB	Ta-pu	1.22	253	eP	Pb	13 00 30.7	+0.4
	baz=251						
TPUB				eS	Sn	13 00 46.5	+0.4
	baz=251						
WGK	Gukeng	1.22	271	eS	Sg	13 00 47.0	-0.2
	baz=270						
TWQ1	Liyutan	1.23	304	P	Pg	13 00 31.3	-0.1
	baz=303						
TWQ1				eS	Sg	13 00 46.9	-0.5
	baz=303						
CHN4	Tsaushan	1.23	255	eP	Pb	13 00 31.0	+0.4
	baz=254						
CHN4				eS	Sg	13 00 48.1	+0.5
	baz=254						
JYNG	Yonagunijimaku	1.24	51	eS	Sb	13 00 46.8	+0.5
WDLH	Douliu	1.24	271	eP	Pn	13 00 30.6	+0.4
	baz=270						
WDLH				eS	Sn	13 00 47.2	+0.5
	baz=270						
WTP	Ta-pu	1.25	251	eP	Pb	13 00 31.0	+0.2
	baz=248						
WTP				eS	Sn	13 00 47.1	+0.2
	baz=248						
NSTT	Nanjuang	1.26	320	eP	Pb	13 00 31.3	+0.3
	baz=320						
NSTT				eS	Sb	13 00 46.5	-0.4
	baz=320						
LIOB	Emei	1.26	321	eP	Pg	13 00 32.0	0.0
	baz=321						
LIOB				eS	Sn	13 00 47.1	-0.1
	baz=321						
WCHH	Zhanghua	1.29	289	eS	Sg	13 00 50.0	+0.7
	baz=288						
YOJ	Yonaguni jima	1.29	52	eP	Pn	13 00 31.6	+0.7
	baz=53						
YOJ				eS	Sb	13 00 47.8	0.0
	baz=53						
TIPB	Shuangxi	1.30	357	eP	Pb	13 00 32.1	+0.4
	baz=359						
TIPB				eS	Sn	13 00 48.4	+0.2
	baz=359						
CHN2	Minshiung	1.31	264	eS	Sg	13 00 50.6	+0.6
	baz=263						
WLTB	Daxi	1.32	334	eP	Pg	13 00 32.9	-0.2
	baz=335						
WLTB				eS	Sg	13 00 50.1	-0.2
	baz=335						
SLGT	Liugui	1.33	240	P	Pn	13 00 32.1	+0.6
	baz=227						
SLGT				eS	Sb	13 00 49.3	+0.4
	baz=227						
PTSB	Yuanli	1.33	306	eS	Sg	13 00 50.8	-0.1
	baz=305						
SGST	Jiashian	1.34	244	eP	Pb	13 00 32.5	+0.1
	baz=229						
SGST				eS	Sg	13 00 52.0	+1.1
	baz=229						
TWA	Mucha	1.34	348	eS	Sg	13 00 50.4	-0.5
	baz=336						
TWB1	Santiao Chiao	1.34	4	eP	Pn	13 00 32.0	+0.4
	baz=6.0						

TWB1				eS	Sn	13 00 48.1	-0.9
	baz=6.0						
CHN1	Nanshi	1.34	249	eP	Pb	13 00 32.5	+0.1
	baz=248						
CHN1				eS	Sg	13 00 51.7	+0.6
	baz=248						
TWK	Hsinying	1.35	253	P	Pb	13 00 32.8	+0.2
	baz=251						
TWK				eS	Sg	13 00 50.6	-0.7
	baz=251						
TATO	Taipei	1.35	344	eP	Pn	13 00 32.1	+0.3
	baz=345						
TATO				eS	Sn	13 00 48.7	-0.8
	baz=345						
CHY	Chiayi	1.36	263	eP	Pb	13 00 32.9	+0.2
	baz=261						
CHY				eS	Sg	13 00 50.7	-0.8
	baz=261						
ECL	Taimali	1.37	219	eP	Pn	13 00 30.4	-1.7
	baz=218						
NWF	Wu-fen Shan	1.40	356	eP	Pb	13 00 33.9	+0.4
	baz=356						
WFSB	Wu-fen Shan	1.40	356	eP	Pb	13 00 33.8	+0.4
	baz=342						
WFSB				eS	Sn	13 00 50.0	-0.6
	baz=342						
RLNB	Erlin	1.42	279	eP	Pn	13 00 33.3	+0.6
	baz=266						
RLNB				eS	Sg	13 00 52.5	-1.1
	baz=266						
SSD	Sandimen	1.48	232	eP	Pn	13 00 33.5	-0.1
	baz=225						
SSD				eS	Sb	13 00 54.0	+0.7
	baz=225						
TWS1	Kuangyinshan	1.49	343	eS	Sb	13 00 53.9	+0.3
	baz=344						
YM01	YM01	1.50	349	eP	Pb	13 00 35.2	+0.1
	baz=333						
YM10	YM10	1.51	349	eP	Pb	13 00 35.6	+0.2
	baz=349						
YM04	YM04	1.52	348	eP	Pn	13 00 34.6	+0.5
	baz=348						
YM05	YM05	1.52	349	eP	Pn	13 00 34.7	+0.5
	baz=349						
YM11	YM11	1.52	349	eP	Pn	13 00 33.6	-0.6
	baz=333						
YM07	YM07	1.52	351	eP	Pn	13 00 33.8	-0.4
	baz=334						
WSF	Szhu	1.53	269	eS	Sb	13 00 55.6	+0.8
	baz=268						
MASBT	Mashibuluo	1.56	228	eP	Pn	13 00 34.4	-0.3
	baz=223						
MASBT				eS	Sb	13 00 56.0	+0.3
	baz=223						
CHN8	Yiju	1.58	259	eS	Sb	13 00 57.0	+0.9
	baz=257						
EAST	Anshuo	1.60	217	eP	Pn	13 00 33.8	-1.5
	baz=216						
LAY	Lan-yu	1.65	191	eP	Pn	13 00 34.1	-1.8
	baz=190						
SCZT	Fangliau	1.74	223	eP	Pn	13 00 38.6	+1.4
	baz=215						
IRIF	Iriomote-Funau	1.81	68	P	Pn	13 00 38.8	+0.8
IRIF				S	Sn	13 01 01.0	+0.4
TWKBT	Hengchun	1.99	210	eP	Pn	13 00 39.3	-1.2
	baz=200						
TWK1	Hengchun	1.99	211	eP	Pn	13 00 40.0	-0.5
	baz=200						
JKRS	Kuro-shima	2.02	73	P	Pn	13 00 42.0	+1.1
JKRS				eS	Sn	13 01 07.7	+1.9
PHUB	P'eng-hu	2.13	266	eP	Pn	13 00 43.2	+0.7
	baz=249						
PHUB				eS	Sn	13 01 08.2	-0.5
	baz=249						
JIJ	Ishigaki jima	2.17	71	P	Pn	13 00 43.3	+0.2
JIJ				S	Sn	13 01 08.6	-1.0
JISG	Ishigakijimahi	2.39	67	P	Pn	13 00 46.1	0.0
JISG				S	Sn	13 01 14.1	-0.9
VWUC	VWUC	2.59	301	eP	Pn	13 00 49.0	+0.2
	baz=301						
PTMZ	Houxiangcun	2.88	299	eP	Pn	13 00 52.9	+0.2
	baz=299						
KNMB	Chin-men Tao	3.30	285	eP	Pn	13 00 59.2	+0.6
	baz=284						

IDC 06 13:11:57.8±1.6, 1°.48S×138°.41E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.6/26, mbtmp3.6/5, ML3.5/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/25, Error ellipse: s-maj=29.3km s-min=21.4km az=91.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAY	Jayapura	2.52	114	Pn	Pn	13 12 39.6	-0.4
	1.1nm,0.3s,baz=266,slow=16,SNR=4.7						
JAY				Sn	Sn	13 13 10.9	-0.5
	4.2nm,0.3s,baz=114,slow=18,SNR=7.0						
PMG	Port Moresby	11.74	132	LR	LR	13 20 25.1	
	comp=Z,88nm,18.7s,baz=36,slow=43						
WRA	Warramunga Arr	18.77	192	P	Pn	13 16 19.7	+0.6
	0.5nm,0.3s,baz=10,slow=12,SNR=26						
WRA				S	Sn	13 19 42.5	-7.4
	0.1nm,0.3s,baz=356,slow=24,SNR=4.7						
ASAR	Alice Springs	22.48	191	P	P	13 17 00.3	+1.3
	1.8nm,0.6s,baz=14,slow=11,SNR=39						
ASAR				S	S	13 21 06.7	-0.1
	0.6nm,0.9s,baz=15,slow=20,SNR=4.3						
MKAR	Makanchi Array	68.64	322	P	P	13 23 01.9	-1.0
	0.2nm,0.6s,baz=108,slow=9.3,SNR=3.0						
VNDA	Vanda	77.02	175	P	P	13 23 53.1	+1.0
	0.5nm,0.8s,baz=343,slow=6.0,SNR=4.4						

MOS 06 13:14:45.4±0.0, 42°.52N×41°.04E, h8km, MPVA3.3
DDA 06 13:14:47.1, 42°.19N×41°.19E, h6km±4km, ML2.5
ISC 06 13:14:44.0±1.3, 42°.41N±0°.03×41°.13E±0°.06, h15km±11km, n17, σ0s.90/29, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATM	Batumi	0.91	152	P	Sb	13 15 14.6	+1.3
BATM				S	Sn	13 15 16.4	+1.4
DOMR	Dombai	0.96	22	ePg	Pg	13 15 02.3	-0.3
DOMR				i Sg	Sb	13 15 15.5	+0.5
DBOC	Borcka	1.13	159	i P	Pg	13 15 05.7	-0.2
ARXR	Arkhyz	1.16	5	ePg	Pg	13 15 07.1	+0.7
ARXR				i Sg	Sb	13 15 21.2	+0.3
ARTV	Artvin	1.36	154	IAML_P			
	comp=Z,854nm,0.1s						
ARTV				i P	Pg	13 15 09.7	-0.5
ARTV				i S	Sb	13 15 25.8	-0.8
RPOR	Krasnaya Polya	1.44	334	ePg	Pn	13 15 10.0	+0.4
RPOR				eSg	Sb	13 15 29.1	+0.3
DBAD	Bademkaya	1.45	163	IAML_P			
	comp=Z,324nm,0.1s						
DBAD				i P	Pn	13 15 10.0	+0.2
DBAD				i S	Sb	13 15 29.3	+0.2
DAGI	Agillar	1.45	156	IAML_P			
	comp=Z,128nm,0.1s						
DAGI				i P	Pb	13 15 10.5	-0.4
DAGI				i S	Sn	13 15 27.1	-1.7
EPOS	Posof	1.50	127	i P	Pg	13 15 22.1	+9.3
EPOS				i S	Sg	13 15 33.0	+0.8
SOC	Sochi	1.57	319	ePg	Pb	13 15 12.1	-0.6
SOC				eSg	Sb	13 15 32.5	+0.1
DDEM	Demirkent	1.58	163	i P	Pg	13 15 15.5	+1.0
DDEM				i S	Sb	13 15 33.3	+0.3
SHA1	Shidzhatmaz	1.74	40	ePg	Pg	13 15 17.3	-0.2
SHA1				i Sg	Sg	13 15 40.3	+0.2
GUZR	Guzeripl'	1.75	335	i Pg	Pb	13 15 15.3	-0.6
GUZR				eSg	Sb	13 15 37.8	0.0
LZRR	Lazarevskoye	1.99	321	ePg	Pb	13 15 19.7	-0.3
LZRR				eSg	Sb	13 15 44.4	-0.3
AKH	Akhalkalaki	2.03	119	P	Sg	13 15 50.6	+1.4
BGD	Bogdanovka	2.17	121	P	Sg	13 15 51.2	-2.7
TRLG	Trialeti	2.38	110	P	Sg	13 16 00.8	+0.2

THR 06 13:54:09.8, 29°.56N×51°.48E, h17km, ML3.4
TEH 06 13:54:09.4, 29°.64N×51°.49E, h10km, ML3.4
ISCJB 06 13:54:10.9±0.5, 29°.58N±0°.03×51°.55E±0°.05, h20km, Error ellipse: s-maj=6.6km s-min=3.7km az=165.7
OMAN 06 13:54:15.4±0.2, 29°.15N×51°.45E, h10km, Error ellipse: s-maj=6.9km s-min=5.3km az=11.0
DSN 06 13:54:15.1±2.1, 29°.41N×51°.63E, h15km, ML3.3/8, Error ellipse: s-maj=29.5km s-min=8.7km az=8.0
ISC 06 13:54:12.2±1.0, 29°.60N±0°.05×51°.53E±0°.06, h20km, n44, σ1s.58/50, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IKAZ	Kazeroun	0.32	56	ePg	Pb	13 54 16.9	-2.5
IKAZ				eSg	Sb	13 54 21.5	-2.9
IKAZ				IAMB	IAmb	13 54 22.8	
	comp=Z,78μm,0.2s						
SHI	Shiraz	0.86	87	ePg	Pb	13 54 27.7	-0.7
SHI				IAMB	IAmb	13 54 47.2	
	comp=Z,11μm,0.2s						
IRAM	Ramesheh	2.32	18	ePn	Pn	13 54 49.4	0.0
IRAM				IAMB	IAmb	13 54 53.4	
	comp=Z,2μm,0.3s						
ZNGN	Zangian	2.58	347	ePn	Pn	13 54 52.8	-0.2
ROKH	ROKH	2.77	351	ePn	Pn	13 54 55.4	-0.2
ROKH				IAMB	IAmb	13 55 44.6	
	comp=Z,0.0nm,1.2s						
IGAR	Gharneh	2.83	9	ePn	Pn	13 54 56.5	+0.1
IGAR				IAMB	IAmb	13 55 03.6	
	comp=Z,1μm,0.5s						
ISAD	Sadrabad	2.96	38	ePn	Pn	13 54 59.6	+1.3
ISAD				IAMB	IAmb	13 55 43.6	
	comp=N,1μm,0.4s						
IPIR	Pirpir	3.12	350	ePn	Pn	13 55 00.4	-0.1
IPIR				IAMB	IAmb	13 56 01.1	
	comp=Z,623nm,0.2s						
IMEH	Mehriz	3.20	55	IAMB	IAmb	13 55 04.5	
	comp=Z,801nm,0.2s						
IMEH				ePn	Pn	13 55 02.8	+1.2
IZEF	Zefreh	3.35	12	IAMB	IAmb	13 55 05.2	
	comp=Z,676nm,0.2s						
IZEF				ePn	Pn	13 55 03.9	+0.2
ICHK	Chekchek	3.61	42	IAMB	IAmb	13 55 09.4	
	comp=Z,498nm,0.2s						
ICHK				ePn	Pn	13 55 07.7	+0.5
IKLH	Kolahrood	3.71	1	IAMB	IAmb	13 55 12.1	
	comp=Z,463nm,0.2s						
IKLH				ePn	Pn	13 55 08.4	-0.1
YZKH	Yazd	3.83	43	ePn	Pn	13 55 10.9	+0.9
YZKH	Yazd	3.83	43	ePn	Pn	13 55 10.9	+0.9
YZKH				eSg	Sb	13 56 10.7	+5.7
ANAR	Anarak	4.04	27	ePn	Pn	13 55 13.0	0.0
KHMZ	Khomeyn	4.34	342	ePn	Pn	13 55 17.7	+0.5
KHMZ	Khomeyn	4.34	342	ePn	Pn	13 55 17.7	+0.5
KRSH	Karshahi	4.39	7	ePn	Pn	13 55 17.5	-0.3
KRSH				IAMB	IAmb	13 56 09.6	
	comp=N,0.0nm,0.3s						
KRBR	Kerman	4.56	84	ePn	Pn	13 55 21.3	+1.0
KRBR	Kerman	4.56	84	eAML	AML	13 56 19.1	
	comp=N,36nm,0.7s						
KRBR				eAML	AML	13 56 22.1	
	comp=E,24nm,0.4s						
KRBR	Kerman	4.56	84	ePn	Pn	13 55 21.3	+1.0
KRBR				eSn	Sn	13 56 13.4	+0.5
SHME	Shamm	5.40	130	i P	Pn	13 55 31.6	0.0
	SNR=7.2						
SHME				S	Sn	13 56 32.8	-0.5
TPRV	Parvadeh(Tabas	5.58	51	ePn	Pn	13 55 34.8	+0.7
BANOM	Banah	5.59	130	i P	Pn	13 55 35.7	+1.4
	SNR=19						
BANOM	Banah	5.59	130	P	Pn	13 55 35.7	+1.4
	SNR=19						
MSFE	Esma-Masafi	5.89	135	i P	Pn	13 55 39.1	+0.7
	SNR=6.7						
MSFE	Esma-Masafi	5.89	135	ePn	Pn	13 55 39.5	+1.1
ASUD	Al Ashush, Dub	6.00	145	i P	Pn	13 55 41.7	+1.8
	SNR=18						
ASUD	Al Ashush, Dub	6.00	145	P	Pn	13 55 41.6	+1.8
	SNR=18						
ASUD				S	Sn	13 56 50.2	+2.2
ASUD	Al Ashush, Dub	6.00	145	ePn	Pn	13 55 41.4	+1.6
FAQ	Al Faqa, Dubai	6.04	142	P	Pn	13 55 41.8	+1.5
TNSJ	Nastanj	6.13	44	ePn	Pn	13 55 42.4	+0.7
TNSJ				IAMB	IAmb	13 55 46.9	
	comp=Z,0.0nm,0.4s						
TKDS	Koohdasht(Taba	6.22	49	ePn	Pn	13 55 43.3	+0.3
TABS	Tabas	6.24	48	ePn	Pn	13 55 44.2	+1.0
TABS	Tabas	6.24	48	ePn	Pn	13 55 44.2	+1.0
HATD	Hatta, Dubai	6.28	138	P	Pn	13 55 45.1	+1.5
HATD	Hatta, Dubai	6.28	138	ePn	Pn	13 55 45.3	+1.7
ASHO	Ashiyiah	6.34	139	i P	Pn	13 55 44.9	+0.3
	SNR=11						
ASHO	Ashiyiah	6.34	139	P	Pn	13 55 45.2	+0.6
	SNR=15						
ASHO				S	Sn	13 56 55.5	-1.0
ASHO	Ashiyiah	6.34	139	ePn	Pn	13 55 45.1	+0.5
MZR	Muzera	6.80	165	P	Pn	13 55 52.8	+2.0
SOHO	SOHO	7.04	139	P	Pn	13 55 54.5	+0.4
	SNR=7.5						
RAYN	Ar Rayn	8.11	223	i P	Pn	13 56 09.8	+1.0
	SNR=11						
MHTO	MHTO	10.36	144	P	Pn	13 56 39.7	0.0
	SNR=10						
MHTO				S	Sn	13 58 30.4	-4.9

GUC 06 14:34:44.2±0.6, 17°.06S×72°.77W, h75km±16km, ML4.4
ISCJB 06 14:34:50.8±0.6, 17°.57S±0°.05×72°.51W±0°.07, h33km, mb4.3/11, MS3.8/6, Error ellipse: s-maj=10.2km s-min=6.0km az=161.2
NEIC 06 14:34:56.9±0.9, 17°.62S×72°.01W, h75km±9km, mb4.7/3, ML4.5(ARE), Error ellipse: s-maj=12.5km s-min=9.2km az=93.0
NEIC Felt [II] at Mollendo.
IDC 06 14:34:56.4±2.1, 17°.43S×71°.92W, h62km±19km, mb4.0/8, mb1 4.2/11, mb1mx3.9/35, mbtmp4.3/11, MS3.7/9, Ms1 3.7/9, ms1mx3.5/20, Error ellipse: s-maj=20.1km s-min=14.3km az=62.0
ISC 06 14:34:52.3±0.6, 17°.53S±0°.06×72°.30W±0°.07, h33km, n60, σ1s.88/58, mb4.4/11, MS3.9/6, 7C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB12	IPOC Station P	2.16	120	⇑iP	Pn	14 35 27.3	+1.1
PB12				eS	Sb	14 36 00.8	+3.4
PB12				IAML		14 36 10.4	
	comp=E,1μm,0.2s						
PB16	IPOC Station P	2.77	107	⇑eP	Pn	14 35 36.5	+1.5
PB16				eS	Sb	14 36 16.4	+0.9
PB16				IAML		14 36 24.4	
	comp=N,759nm,0.6s						
PSGC	Pisagua	2.92	135	⇑iP	Pn	14 35 37.9	+1.4
PSGC				i S	Sb	14 36 18.8	-0.1
PSGC				IAML		14 36 36.7	
	comp=E,345nm,0.6s						
MNMC	Minye Minye	3.02	122	ePn	Pn	14 35 39.9	+1.8
MNMC	Minye Minye	3.02	122	eP	Pn	14 35 39.3	+1.2
PB11	IPOC Station P	3.35	132	ePn	Pn	14 35 43.8	+1.2
PB11	IPOC Station P	3.35	132	⇑iP	Pn	14 35 44.0	+1.5
GO01	Chusmiza	3.63	126	ePn	Pn	14 35 48.6	+1.9
GO01	Chusmiza	3.63	126	eP	Pn	14 35 48.1	+1.4
PB08	IPOC Station P	3.95	132	eP	Pn	14 35 53.1	+2.1
LPAZ	La Paz	4.17	73	P	Pn	14 35 58.1	+3.8
	comp=E,11nm,0.3s,baz=253,slow=8.8,SNR=28						
LPAZ				LR	LR	14 37 44.8	
	comp=E,878nm,18.8s,baz=256,slow=44						
LPAZ	La Paz	4.17	73	ePn	Pn	14 35 57.9	+3.6
PB01	IPOC Station P	4.39	143	ePn	Pn	14 35 58.0	+1.2
PB01	IPOC Station P	4.39	143	⇑eP	Pn	14 35 58.0	+1.2
PB02	IPOC Station P	4.40	149	⇑iP	Pn	14 35 58.4	+1.5
PB07	IPOC Station P	4.76	152	⇑eP	Pn	14 36 03.2	+1.3
PB04	IPOC Station P	5.19	157	ePn	Pn	14 36 08.8	+0.9
LVC	Limon Verde	5.98	148	P	Pn	14 36 21.1	+2.3
	comp=E,7.6nm,0.3s,baz=339,slow=8.2,SNR=44						
LVC				S	Sn	14 37 27.4	+1.1
	comp=E,7.7nm,0.3s,baz=118,slow=20,SNR=14						
LVC	Limon Verde	5.98	148	ePn	Pn	14 36 20.8	+2.0
LVC				S	Sn	14 37 27.4	+1.1
PB10	IPOC Station P	6.18	165	ePn	Pn	14 36 21.8	+0.5
PB10				eSn	Sn	14 37 26.4	-4.4
NNA	Nana	7.04	321	P	Pn	14 36 41.0	+7.7
	comp=E,4.4nm,0.3s,baz=155,slow=7.6,SNR=9.7						
NNA				S	Sb	14 38 06.8	-11
	comp=E,5.2nm,0.3s,baz=233,slow=19,SNR=3.4						
NNA	Nana	7.04	321	ePn	Pn	14 36 42.3	+9.0
NNA				S	Sb	14 38 06.8	-11
GO02	Mina Guanaco	8.01	162	ePn	Pn	14 36 47.7	+1.1
GO03	Copiap	10.20	170	ePn	Pn	14 37 18.4	+1.9
GO03				eSn	Sn	14 39 06.7	-3.1
SIV	San Ignacio	10.86	84	P	Pn	14 37 24.4	-1.2
	comp=E,0.2nm,0.3s,baz=269,slow=16,SNR=12						
SIV				S	Sn	14 39 22.2	-3.8
	comp=E,0.2nm,0.3s,baz=54,slow=17,SNR=1.6						
SIV				LR	LR	14 42 05.7	
	comp=E,392nm,21.2s,baz=300,slow=41						
LCO	Las Campanas	11.53	173	ePn	Pn	14 37 35.7	+0.9
GO04	Tololo Observa	12.66	174	ePn	Pn	14 37 52.3	+1.9
CPUP	Villa Florida	16.41	125	LR	LR	14 46 11.4	
	comp=E,147nm,18.4s,baz=284,slow=42						
PTGA	Pitinga	20.63	37	P	P	14 39 26.5	-2.7
	comp=E,16nm,0.5s,baz=223,slow=10,SNR=15						
PTGA	Pitinga	20.63	37	eP	P	14 39 26.6	-2.5
	comp=E,17nm,0.6s						
ROSC	El Rosal	22.31	355	LR	LR	14 49 12.8	
	comp=E,160nm,18.1s,baz=272,slow=38						
PLCA	Paso Flores	23.18	177	P	P	14 39 58.4	+2.2
	comp=E,2.5nm,0.8s,baz=27,slow=11,SNR=4.2						
BDFB	Brasilia	23.35	89	P	P	14 39 57.0	-1.1
	comp=E,2.4nm,0.8s,baz=268,slow=11,SNR=4.2						
BDFB				LR	LR	14 49 34.8	
	comp=E,122nm,20.8s,baz=238,slow=38						
SDV	Santo Domingo	26.30	4	P	P	14 40 26.4	+1.1
	comp=E,1.8nm,0.3s,baz=290,slow=6.0,SNR=4.8						
TXAR	Lajitas Array	55.56	327	P	P	14 44 24.7	-0.1
	comp=E,0.1nm,0.4s,baz=147,slow=10,SNR=2.5						
LIC	Lamto	70.47	77	eP	P	14 46 13.1	+9.0
	comp=E,32nm,1.2s						
TIC	Toumodi	70.63	76	eP	P	14 46 14.3	+9.2
KIC	Kosan Boka	70.78	77	eP	P	14 46 15.2	+9.1
	comp=E,26nm,1.0s						
DBIC	Dimbokro	70.79	76	LR	LR	15 15 15.5	
	comp=E,108nm,20.4s,baz=228,slow=34						
TOA0	Torodi Ar. Sit	79.13	72	eP	P	14 46 52.0	-2.2
TORD	Torodi Ar. Bea	79.13	72	P	P	14 46 51.8	-2.4
	comp=E,1.8nm,0.7s,baz=285,slow=5.8,SNR=13						
TORD				LR	LR	15 19 49.3	
	comp=E,129nm,21.5s,baz=315,slow=34						
TSUM	Tsumeb	84.28	108	P	P	14 47 21.2	-0.4
	comp=E,5.7nm,0.8s,baz=263,slow=4.8,SNR=12						
TSUM	Tsumeb	84.28	108	eP	P	14 47 23.2	+1.6
	comp=E,6.7nm,0.8s						
PAB	San Pablo	85.00	46	eP	P	14 47 25.0	+0.3
	comp=E,17nm,1.6s						
ESDC	Sonseca Array	85.32	46	P	P	14 47 25.6	-0.6
	comp=E,1.9nm,0.8s,baz=256,slow=5.2,SNR=19						
ES19	SONSECA Array	85.38	46	eP	P	14 47 26.7	+0.2
YKA	Yellowknife Ar	86.42	342	P	P	14 47 30.9	-0.1
	comp=E,2.3nm,0.7s,baz=137,slow=5.1,SNR=58						
YKB5	Yellowknife Ar	86.42	342	eP	P	14 47 30.4	-0.6
BOSA	Boshof	88.15	119	LR	LR	15 24 15.3	
	comp=E,56nm,21.2s,baz=207,slow=34						
KEST	Kesra	93.51	54	LR	LR	15 31 55.3	
	comp=E,39nm,18.0s,baz=294,slow=37						
ASAR	Alice Springs	131.72	213	PKP	PKPdf	14 54 03.9	+1.1
	comp=E,0.2nm,0.6s,baz=143,slow=1.4,SNR=6.4						
WRA	Warramunga Arr	134.50	216	PKP	PKPdf	14 54 09.3	+1.2
	comp=E,0.8nm,0.8s,baz=144,slow=2.0,SNR=7.0						
ZALV	Zalesovo Beam	139.56	21	PKP	PKPdf	14 54 16.0	-0.3
	comp=E,0.9nm,0.7s,baz=294,slow=1.5,SNR=4.0						
MAKZ	Makanchi	143.90	30	ePKPdf	PKPab	14 54 22.0	+0.5
MKAR	Makanchi Array	144.06	30	PKP	PKPab	14 54 22.9	+0.8
	comp=E,1.3nm,0.7s,baz=325,slow=3.9,SNR=15						
MK01	Makanchi Array	144.08	30	ePKPdf	PKPab	14 54 22.7	+0.5
KSH	Kashi	144.83	45	PKP	PKPab	14 54 21.8	-3.6
KSH				pPKP	sPKPdf	14 54 49.0	+8.1
KSH				PP	PP	14 57 45.5	+1.8
KSH				AMB	AMB		
	comp=Z,340nm,5.3s						
USRK	Ussuriysk Ar.	146.46	328	PKPbc	PKPbc	14 54 30.9	+0.7
	comp=Z,2.7nm,0.8s,baz=77,slow=4.1,SNR=5.0						
MJAR	Matsushiro Arr	147.09	311	PKPbc	PKPbc	14 54 33.1	+0.8
	comp=Z,3.6nm,0.7s,baz=107,slow=1.9,SNR=12						
SONM	Songino Array	149.75	2	PKPbc	PKPbc	14 54 39.9	+0.9
	comp=Z,1.2nm,0.8s,baz=322,slow=1.2,SNR=6.1						

ISCJB 06 14:50:52.9±0.4, 8°.31S±0°.04×123°.76E±0°.05, h150km, mb3.8/10, Error ellipse: s-maj=8.2km s-min=5.5km az=149.2
DJA 06 14:50:54.0±0.4, 8°S±4°×12°4E±°, h170km±6km, M4.3/11, mb4.3/6, MLv4.3/11
IDC 06 14:50:54.3±1.1, 8°.32S×123°.60E, h155km±11km, mb3.6/10, mb1 3.8/11, mb1mx3.6/29, mbtmp4.1/11, Error ellipse: s-maj=26.9km s-min=12.1km az=69.0
ISC 06 14:50:53.8±0.6, 8°.36S±0°.05×123°.66E±0°.06, h150km, n24, σ1s.74/28, mb3.9/10, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMRI	Maumere	1.43	259	P	Pn	14 51 24.1	+1.4
MMRI				S	Sn	14 51 46.8	+2.1
SOEI	Soe	1.51	157	P	Pn	14 51 25.1	+1.4
SOEI				S	Sn	14 51 48.6	+2.1
BATI	Baumata	1.83	180	P	Pn	14 51 28.6	+1.5
	1μm,0.3s,baz=13,slow=3.0,SNR=824						
BATI				S	Sn	14 51 54.7	+2.1
	262nm,0.3s,baz=335,slow=22,SNR=12						
BATI	Baumata	1.83	180	P	Pn	14 51 28.6	+1.5
EDFI	Ende, Flores	1.98	259	P	Pn	14 51 30.4	+1.5
WSI	Waingapu	3.56	248	P	Pn	14 51 48.4	0.0
WSI				S	Sn	14 52 29.2	-1.5
KDI	Kendari	4.50	347	P	Pn	14 52 01.8	+1.1
BKSI	Bulukumba	4.63	311	P	Pn	14 52 03.5	+1.1
BNSI	Bone	5.29	318	P	Pn	14 52 13.5	+2.4
PLAI	Plampang	5.83	265	P	Pn	14 52 18.9	+0.5
	75nm,1.1s,0.3nm						
TTSI	Tana Toraja	6.52	324	P	Pn	14 52 33.4	+5.9
SANI	Sanana	6.69	20	P	Pn	14 52 31.1	+1.3
	25nm,1.3s,0.1nm						
WRA	Warramunga Arr	15.47	139	P	Pn	14 54 22.1	-2.1
	1.7nm,0.3s,baz=316,slow=12,SNR=98						
WRA				S	Sn	14 57 03.5	-13
	1.9nm,0.3s,baz=315,slow=24,SNR=15						
ASAR	Alice Springs	18.11	148	P	P	14 54 55.5	+1.1
	1.5nm,0.3s,baz=330,slow=12,SNR=104						
ASAR				S	S	14 58 09.2	-5.0
	0.5nm,0.3s,baz=320,slow=23,SNR=8.9						
CTA	Charters Tower	24.77	120	P	P	14 56 03.1	+1.2
	6.0nm,0.9s,baz=304,slow=11,SNR=5.1						
NWAO	Narrogin (SRO)	25.16	193	P	P	14 56 05.0	-0.2
	4.1nm,0.5s,baz=269,slow=7.7,SNR=9.3						
STKA	Stephens Creek	28.73	147	P	P	14 56 38.0	+0.8
	4.2nm,0.4s,baz=325,slow=8.3,SNR=27						
CMAR	Chiang Mai Arr	36.12	318	P	P	14 57 42.2	+0.5
	0.2nm,0.4s,baz=134,slow=6.4,SNR=4.3						
MJAR	Matsushiro Arr	46.71	16	P	P	14 59 06.3	-1.5
	0.7nm,0.8s,baz=206,slow=9.6,SNR=4.1						
USRK	Ussuriysk Ar.	52.86	8	P	P	14 59 54.0	0.0
	0.9nm,0.6s,baz=191,slow=7.0,SNR=6.8						
SONM	Songino Array	58.00	346	P	P	15 00 30.7	-0.2
	0.9nm,0.7s,baz=160,slow=8.6,SNR=4.8						
MKAR	Makanchi Array	66.09	330	P	P	15 01 24.4	-0.4
	1.0nm,0.4s,baz=133,slow=7.2,SNR=34						
ZALV	Zalesovo Beam	70.18	337	P	P	15 01 48.1	-2.0
	0.8nm,0.4s,baz=119,slow=3.4,SNR=4.9						
VNDA	Vanda	71.93	172	P	P	15 02 00.6	+0.3
	0.8nm,0.5s,baz=324,slow=7.2,SNR=13						

TEH 06 15:13:16.2, 30°.31N×57°.54E, h3km, ML3.5
THR 06 15:13:17.3, 30°.18N×57°.49E, h17km, ML3.2
ISCJB 06 15:13:19.1±0.8, 30°.31N±0°.06×57°.55E±0°.10, h15km, Error ellipse: s-maj=12.7km s-min=8.0km az=18.1
ISC 06 15:13:17.7±1.2, 30°.25N±0°.05×57°.52E±0°.07, h15km, n21, σ2s.17/17, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHMN	Cheshme madani	0.39	178	IAMB	IAmb	15 13 29.6	
	comp=N,0.0nm,0.1s						
TVBK	TV Kerman	0.71	248	IAMB	IAmb	15 13 39.7	
	comp=Z,0.0nm,0.1s						
KRBR	Kerman	0.71	248	eAML	AML	15 13 39.3	
	comp=N,1μm,0.2s						
KRBR				ePg	Pg	15 13 30.2	-1.4
KRBR				eAML	AML	15 13 39.7	
	comp=E,1μm,0.2s						
KHGB	Koh Gabri	0.91	278	IAMB	IAmb	15 13 48.0	
	comp=Z,0.0nm,0.1s						
NGRK	Negar Kerman	0.92	229	IAMB	IAmb	15 13 47.7	
	comp=Z,0.0nm,0.1s						
IKOO	Kooshah	2.51	30	ePn	Pn	15 13 58.7	+0.6
IKOO				IAMB	IAmb	15 14 07.0	
	comp=Z,3μm,0.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IMEH	Mehriz	2.75	295	IAMB	IAmb	15 14 07.4	
	comp=Z,861nm,0.4s						
IMEH				ePn	Pn	15 14 03.4	+1.9
NIAN	Nian	2.75	193	IAMB	IAmb	15 14 48.1	
	comp=Z,0.0nm,0.5s						
NIAN				ePn	Pb	15 14 05.2	-1.4
ITEG	Tejag	2.83	21	IAMB	IAmb	15 14 12.3	
	comp=Z,2μm,0.2s						
ITEG				ePn	Pn	15 14 03.2	+0.6
TPRV	Parvadeh(Tabas	2.86	346	ePn	Pn	15 14 04.2	+1.4
TPRV				IAMB	IAmb	15 14 50.9	
	comp=Z,0.0nm,0.3s						
GENO	Geno	3.08	203	IAMB	IAmb	15 14 14.1	
	comp=Z,0.0nm,0.3s						
GENO				ePn	Pn	15 14 08.5	+2.5
IDAH	Dahanechah	3.19	38	IAMB	IAmb	15 15 09.9	
	comp=N,1μm,0.4s						
YZKH	Yazd	3.29	311	ePn	Pn	15 14 10.8	+2.0
YZKH	Yazd	3.29	311	ePn	Pn	15 14 10.8	+2.0
ICHK	Chekchek	3.33	307	ePn	Pn	15 14 12.0	+2.6
ICHK				IAMB	IAmb	15 15 04.9	
	comp=Z,630nm,0.4s						
TKDS	Koohdasht(Taba	3.37	354	ePn	Pn	15 14 11.8	+1.9
TKDS				IAMB	IAmb	15 15 13.7	
	comp=Z,0.0nm,0.7s						
TABS	Tabas	3.40	354	ePn	Pn	15 14 12.8	+2.4
TABS	Tabas	3.40	354	ePn	Pn	15 14 12.8	+2.4
TABS				eSg	Sg	15 15 05.5	-1.5
TNSJ	Nastanj	3.78	348	ePn	Pn	15 14 16.9	+1.4
TNSJ				IAMB	IAmb	15 15 24.2	
	comp=Z,0.0nm,0.5s						
SHRT	Shahrakht	4.12	34	ePn	Pn	15 14 22.8	+2.7
SHRT	Shahrakht	4.12	34	eP	Pn	15 14 22.8	+2.7

*IDC **06** 15:24:12.7±0.8, 30°.01N×57°.61E, h0^{km}, mb3.9/15, mb1 4.0/18, mb1mx3.9/42, mbtmp3.9/18, ML3.2/2, MS3.3/9, Ms1 3.3/9, ms1mx3.0/34, Error ellipse: s-maj=17.8km s-min=16.6km az=143.0*
*THR **06** 15:24:14.8, 30°.15N×57°.52E, h16^{km}, ML4.3*
*NEIC **06** 15:24:14.1±0.5, 29°.97N×57°.62E, h10^{km}, mb4.1/5, MN4.2(TEH), Error ellipse: s-maj=9.9km s-min=6.6km az=152.0*
NEIC Felt at Kerman.
*ISCJB **06** 15:24:15.8±0.2, 30°.25N±0°.02×57°.50E±0°.03, h15^{km}, mb4.0/20, MS3.4/8, Error ellipse: s-maj=3.8km s-min=2.3km az=17.2*
*TEH **06** 15:24:15.3, 30°.23N×57°.47E, h10^{km}, ML4.2*
*DSN **06** 15:24:20.0±1.0, 30°.11N×57°.68E, h15^{km}, ML4.0/10, Error ellipse: s-maj=39.6km s-min=8.4km az=105.0*
*OMAN **06** 15:24:23.4±3.6, 29°.90N×57°.91E, h10^{km}, ml4.5/4, ms2.7/1, Error ellipse: s-maj=78.2km s-min=30.9km az=118.0*
ISC 06 15:24:16.5±0.5, **30°.26N**±0°.04×**57°.52E**±0°.04, **h15**^{km}, **n116**, σ**2^{s}04**/116, **mb4.0**/20, **MS3.4**/8, **Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHMN	Cheshme madani	0.39	177	ePg	Pg	15 24 21.5	-3.1
CHMN				eSg	Sg	15 24 26.8	-3.3
CHMN				IAMB	IAmb	15 24 27.4	
	comp=Z,0.0nm,0.2s						
TVBK	TV Kerman	0.71	248	ePg	Pg	15 24 28.4	-2.0
TVBK				eSg	Sg	15 24 38.0	-1.8
TVBK				IAMB	IAmb	15 24 39.1	
	comp=Z,0.0nm,0.2s						
KRBR	Kerman	0.71	248	ePg	Pg	15 24 28.2	-2.2
KRBR	Kerman	0.71	248	eAML	AML	15 24 37.9	
	comp=N,2μm,0.3s						
KRBR				eAML	AML	15 24 38.9	
	comp=E,2μm,0.2s						
KRBR	Kerman	0.71	248	ePg	Pg	15 24 28.2	-2.2
KRBR				eSg	Sg	15 24 37.7	-2.2
KHGB	Koh Gabri	0.91	278	ePg	Pg	15 24 31.4	-2.7
KHGB				IAMB	IAmb	15 24 49.6	
	comp=Z,0.0nm,0.1s						
NGRK	Negar Kerman	0.92	228	ePg	Pb	15 24 32.0	-2.3
NGRK				IAMB	IAmb	15 24 33.0	
	comp=Z,0.0nm,0.2s						
NGRK				eSg	Sg	15 24 44.2	-2.2
IMEH	Mehriz	2.74	295	ePn	Pn	15 25 01.3	+1.1
IMEH				IAMB	IAmb	15 25 49.6	
	comp=Z,10μm,0.7s						
NIAN	Nian	2.75	193	ePn	Pn	15 25 03.1	+3.0
NIAN				IAMB	IAmb	15 25 46.6	
	comp=Z,0.0nm,0.4s						
ITEG	Tejag	2.83	21	ePn	Pn	15 25 01.5	+0.1
ITEG				IAMB	IAmb	15 25 54.4	
	comp=Z,16μm,0.4s						
TPRV	Parvadeh(Tabas	2.85	346	ePn	Pn	15 25 02.6	+1.0
TPRV				IAMB	IAmb	15 25 51.1	
	comp=Z,0.0nm,0.6s						
SZD1	Zahaedan-tmp	3.01	104	ePn	Pn	15 25 04.9	+1.2
SZD1				IAMB	IAmb	15 25 58.6	
	comp=E,0.0nm,0.3s						
GENO	Geno	3.08	203	IAMB	IAmb	15 25 58.0	
	comp=Z,0.0nm,0.4s						
GENO				ePn	Pn	15 25 06.5	+1.7
IDAH	Dahanechah	3.19	38	ePn	Pn	15 25 08.0	+1.7
IDAH				IAMB	IAmb	15 26 05.2	
	comp=Z,7μm,0.4s						
YZKH	Yazd	3.29	311	ePn	Pn	15 25 09.0	+1.5
YZKH	Yazd	3.29	311	ePn	Pn	15 25 08.9	+1.5
ICHK	Chekchek	3.32	307	ePn	Pn	15 25 09.9	+1.8
ICHK				IAMB	IAmb	15 26 12.1	
	comp=Z,9μm,0.5s						
TKDS	Koohdasht(Taba	3.36	354	ePn	Pn	15 25 10.1	+1.5
TKDS				IAMB	IAmb	15 26 12.6	
	comp=Z,0.0nm,0.8s						
TABS	Tabas	3.40	354	ePn	Pn	15 25 10.9	+1.8
TABS	Tabas	3.40	354	eAML	AML	15 26 12.1	
	comp=N,647nm,0.7s						
TABS	Tabas	3.40	354	ePn	Pn	15 25 10.9	+1.8
TABS				eSg	Sg	15 26 04.0	-1.8
IMON	Monand	3.45	31	ePn	Pn	15 25 11.0	+1.0
TNSJ	Nastanj	3.78	348	ePn	Pn	15 25 15.5	+1.2
TNSJ				IAMB	IAmb	15 26 23.4	
	comp=Z,0.0nm,0.7s						
ANAR	Anarak	4.36	313	ePn	Pn	15 25 23.8	+1.5
SHME	Shamm	4.36	196	iP	Pn	15 25 23.6	+1.4
	SNR=9.0						
SHME				S	Sn	15 26 15.0	+2.1
BANOM	Banah	4.45	194	iP	Pn	15 25 26.7	+3.2
	SNR=35						
BANOM				S	Sn	15 26 17.5	+2.5
BANOM	Banah	4.45	194	P	Pn	15 25 30.7	+7.2
	SNR=9.2						
IRAM	Ramesheh	4.67	291	ePn	Pn	15 25 28.3	+1.6
IRAM				IAMB	IAmb	15 26 55.6	
	comp=E,1μm,0.5s						
UMQ	Umm Al-Quwin	4.99	200	ePn	Pn	15 25 34.0	+3.1
MSFE	Esma-Masafi	5.02	194	iP	Pn	15 25 33.5	+2.1
	SNR=14						
MSFE	Esma-Masafi	5.02	194	ePn	Pn	15 25 34.4	+3.0
IZEF	Zefreh	5.15	302	ePn	Pn	15 25 34.0	+0.7
IZEF				IAMB	IAmb	15 27 15.8	
	comp=Z,1μm,0.7s						
CHBR	Chabahar	5.33	150	ePn	Pn	15 25 34.5	-1.1
CHBR	Chabahar	5.33	150	ePn	Pn	15 25 34.5	-1.1
NAZ	Nazwa, Dubai	5.50	198	iP	Pn	15 25 39.5	+1.6
	SNR=6.2						
NAZ	Nazwa, Dubai	5.50	198	P	Pn	15 25 39.9	+2.1
	SNR=11						
NAZ	Nazwa, Dubai	5.50	198	ePn	Pn	15 25 40.9	+3.0
HATD	Hatta, Dubai	5.55	193	P	Pn	15 25 41.1	+2.6
HATD	Hatta, Dubai	5.55	193	ePn	Pn	15 25 42.3	+3.8
ASHO	Ashiyiah	5.70	193	iP	Pn	15 25 42.5	+1.8
	SNR=18						
ASHO	Ashiyiah	5.70	193	P	Pn	15 25 42.9	+2.2
	SNR=8.8						
ASHO	Ashiyiah	5.70	193	ePn	Pn	15 25 43.3	+2.6
FAQ	Al Faqa, Dubai	5.75	198	iP	Pn	15 25 42.8	+1.6
	SNR=33						
FAQ	Al Faqa, Dubai	5.75	198	P	Pn	15 25 42.9	+1.6
	SNR=6.4						
FAQ				S	Sn	15 26 49.2	+2.2
FAQ	Al Faqa, Dubai	5.75	198	ePn	Pn	15 25 42.9	+1.6
KRSH	Karshahi	5.88	310	ePn	Pn	15 25 44.5	+1.3
KRSH				IAMB	IAmb	15 27 39.9	
	comp=Z,0.0nm,0.8s						
ROKH	ROKH	5.93	292	ePn	Pn	15 25 45.9	+2.0
ROKH				IAMB	IAmb	15 27 33.6	
	comp=Z,0.0nm,1.2s						
ASUD	Al Ashush, Dub	5.94	200	iP	Pn	15 25 45.9	+2.1
	SNR=20						
ASUD	Al Ashush, Dub	5.94	200	P	Pn	15 25 45.9	+2.1
	SNR=7.2						
ASUD				S	Sn	15 26 53.4	+1.8
ASUD	Al Ashush, Dub	5.94	200	ePn	Pn	15 25 46.7	+2.8
IANJ	Anjilo	6.02	331	ePn	Pn	15 25 46.7	+1.5
IANJ				IAMB	IAmb	15 27 42.9	
	comp=Z,1μm,0.7s						
AJN	Ajban	6.10	202	P	Pn	15 25 50.4	+4.3
	SNR=5.8						
AJN				S	Sn	15 26 55.5	-0.2
SBZV	Sabzevar	6.12	1	ePn	Pn	15 25 48.3	+1.8
SBZV				IAMB	IAmb	15 28 26.1	
	comp=Z,0.0nm,1.9s						
SOHO	SOHO	6.16	188	P	Pn	15 25 46.9	-0.1
ALNE	Al Ain	6.37	195	P	Pn	15 25 52.9	+3.0
ALNE	Al Ain	6.37	195	ePn	Pn	15 25 53.8	+3.9
IAKL	Akhelmad	6.41	9	IAMB	IAmb		
	comp=N,0.0nm,0.0s						
IAKL				ePn	Pn	15 25 52.3	+1.6
IKRD	Kardeh	6.56	7	ePn	Pn	15 25 56.8	+4.2
IKRD				IAMB	IAmb	15 28 22.2	
	comp=Z,457nm,0.9s						
ISHM	Shahmirzad	6.57	328	ePn	Pn	15 25 54.8	+1.9
ISHM				IAMB	IAmb	15 28 04.1	
	comp=Z,1μm,0.7s						
HOQ	Hoqain	6.65	182	P	Pn	15 25 55.8	+2.1
	SNR=7.3						
HOQ	Hoqain	6.65	182	ePn	Pn	15 25 56.2	+2.5
BIDO	Bidbid	6.73	175	ePn	Pn	15 25 56.4	+1.6
IKIA	Kiasar	6.75	333	ePn	Pn	15 25 56.5	+1.3
IKIA				IAMB	IAmb	15 28 05.9	
	comp=Z,2μm,1.0s						
ISFR	Sfrayin	6.79	3	ePn	Pn	15 25 57.4	+1.5
ISFR				IAMB	IAmb	15 28 17.8	
	comp=Z,972nm,0.9s						
ARQ	Araqi	6.95	188	P	Pn	15 26 02.5	+4.7
	SNR=14						
ARQ				S	Sn	15 27 22.3	+5.6
IDMV	Damavand	7.03	320	ePn	Pn	15 26 00.9	+1.8
IDMV				IAMB	IAmb	15 28 38.3	
	comp=Z,884nm,0.9s						
SMDO	Samad	7.18	176	P	Pn	15 26 02.3	+1.2
	SNR=6.3						
BSY	Bisya	7.49	182	P	Pn	15 26 08.9	+3.7
	SNR=18						
GEYT	Alibeck	7.67	4	Pn	Pn	15 26 10.2	+2.5
	comp=Z,0.7nm,0.3s,baz=180,slow=11,SNR=9.2						
GEYT				Lg	Lg	15 28 20.9	
	comp=Z,0.7nm,0.3s,baz=193,slow=35,SNR=2.9						
GEYT				LR	LR	15 29 37.3	
	comp=Z,318nm,19.2s,baz=180,slow=41						
GYA0B	ALIBECK ARRAY	7.67	4	ePn	Pn	15 26 09.1	+1.4
MZR	Muzera	8.08	208	P	Pn	15 26 16.7	+3.4
MHTO	MHTO	9.24	177	P	Pn	15 26 31.7	+2.5
	SNR=7.1						
RAYN	Ar Rayn	12.64	241	ePn	Pn	15 27 11.3	-4.5
AKH	Akhalkalaki	15.89	318	ePn	Pn	15 28 01.5	+1.8
	comp=Z,6.5nm,0.9s						
KK31	Karatay Array	16.50	35	ePn	Pn	15 28 07.1	-0.3
KKAR	Karatay Array	16.50	35	ePn	Pn	15 28 07.2	-0.2
KBZ	Khabaz	17.77	323	P	P	15 28 26.5	+2.5
	comp=Z,0.0nm,0.3s,baz=105,slow=16,SNR=1.9						
AAK	Ala-Archa	18.38	43	P	Pn	15 28 30.8	0.0
	baz=342,slow=20,SNR=2.5						
AAK				LR	LR	15 36 26.8	
	comp=Z,91nm,19.1s,baz=224,slow=40						
NRN	Naryn	18.64	48	eP	P	15 28 33.4	-0.6
	comp=Z,3.7nm,0.9s						
ABKAR	Akbulak array	19.07	5	eP	P	15 28 38.9	+0.7
EIL	Elat	19.56	274	LR	LR	15 38 01.2	
	comp=Z,57nm,19.4s,baz=282,slow=42						
BR131	Keskin Array S	21.67	302	eP	P	15 29 09.2	+2.5
BRTR	Keskin Array B	21.67	302	P	P	15 29 08.1	+1.3
	comp=Z,6.3nm,1.0s,baz=122,slow=12,SNR=23						
BRTR				LR	LR	15 38 36.1	
	comp=Z,84nm,18.1s,baz=94,slow=40						
ATD	Arta Tunnel	23.08	219	LR	LR	15 39 43.8	
	comp=Z,26nm,18.7s,baz=354,slow=41						
BRVK	Borovoye	24.62	19	eP	P	15 29 36.8	+0.6
	comp=Z,7.8nm,1.5s						
MAKZ	Makanchi	25.13	42	eP	P	15 29 41.5	+0.7
	comp=Z,9.1nm,0.8s						
MK01	Makanchi Array	25.30	42	eP	P	15 29 42.8	+0.4
MK31	Makanchi Array	25.30	42	eP	P	15 29 43.1	+0.7
MKAR	Makanchi Array	25.30	42	P	P	15 29 43.4	+1.0
	comp=Z,3.1nm,0.6s,baz=227,slow=9.4,SNR=44						
MKAR	Makanchi Array	25.30	42	eP	P	15 29 43.1	+0.6
	comp=Z,25nm,0.6s						
KURBB	Kurchatov Arra	25.71	32	P	P	15 29 46.8	+0.7
	comp=Z,1.0nm,0.6s,baz=230,slow=9.2,SNR=6.7						
KURK	Kurchatov	25.82	32	P	P	15 29 46.8	-0.2
WMQ	Urumqi	27.46	52	eP	P	15 30 03.5	+1.5
WMQ				LR	LR		
	comp=N,380nm,23.3s						
WMQ				LR	LR		
	comp=E,180nm,24.1s						
WMQ				LR	LR		
	comp=Z,120nm,20.3s						
IDI	Anoyia	27.81	289	LR	LR	15 43 53.1	
	comp=Z,39nm,21.9s,baz=328,slow=42						
AKASG	Malin Array Be	29.38	322	P	P	15 30 19.1	+0.3
	comp=Z,0.2nm,0.3s,baz=122,slow=8.8,SNR=1.6						
ZALV	Zalesovo Beam	30.81	32	P	P	15 30 31.2	-0.3
	comp=Z,1.8nm,0.6s,baz=258,slow=7.5,SNR=8.0						
ZALV	Zalesovo Beam	30.81	32	eP	P	15 30 31.6	+0.1
VYHS	Vyhne	34.55	313	eP	P	15 31 05.4	+1.1
GTA	Gaotai	35.63	64	eP	P	15 31 12.8	-1.1
GTA				pP	pP	15 31 17.6	-0.9
GTA				sP	sP	15 31 19.9	-0.5
GTA				S	S	15 36 48.7	-1.0
GTA				pmax	pmax		
	comp=Z,2.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,71nm,7.0s						
GTA				LR	LR		
	comp=N,120nm,16.2s						
GTA				LR	LR		
	comp=E,100nm,14.6s						
GTA				LR	LR		
	comp=Z,160nm,15.2s						
FINES	FINESS Array B	37.40	336	P	P	15 31 27.6	-1.0
	comp=Z,1.9nm,0.9s,baz=102,slow=8.4,SNR=4.0						
GERES	GERESS Array B	37.92	312	P	P	15 31 35.2	+1.9
	comp=Z,0.5nm,0.6s,baz=91,slow=8.8,SNR=2.8						
CMAR	Chiang Mai Arr	39.32	98	LR	LR	15 50 16.3	
	comp=Z,28nm,18.9s,baz=340,slow=40						
NOA	NORSAR Array B	43.21	329	P	P	15 32 16.4	-0.3
	comp=Z,0.4nm,0.6s,baz=139,slow=7.2,SNR=2.8						
HHC	Hu-ho-hao-te	44.60	61	eP	P	15 32 27.4	-0.9
HHC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,150nm,6.1s						
ESDC	Sonseca Array	50.38	298	P	P	15 33 12.1	-1.1
	comp=Z,0.3nm,0.6s,baz=71,slow=7.8,SNR=4.0						
TOA0	Torodi Ar. Sit	54.07	264	eP	P	15 33 39.9	-0.9
TORD	Torodi Ar. Bea	54.07	264	P	P	15 33 39.4	-1.4
	comp=Z,3.6nm,0.9s,baz=65,slow=7.1,SNR=20						
KSRS	Korea Array	57.69	63	LR	LR	16 02 17.0	
	comp=Z,43nm,20.1s,baz=295,slow=40						
DBIC	Dimbokro	62.85	262	LR	LR	16 06 56.7	
	comp=Z,61nm,18.0s,baz=80,slow=41						
BOSA	Boshof	66.14	211	P	P	15 35 02.0	-1.4
	comp=Z,1.8nm,0.7s,baz=14,slow=7.3,SNR=5.5						
ILAR	Eielson Array	83.38	10	P	P	15 36 41.7	-1.1
	comp=Z,0.4nm,0.7s,baz=326,slow=5.1,SNR=6.3						
CAST	Castle Rocks	83.72	13	eP	P	15 36 45.2	+0.7
	comp=Z,6.5nm,1.1s						
YKA	Yellowknife Ar	87.36	356	P	P	15 37 02.8	+0.2
	comp=Z,1.2nm,0.8s,baz=357,slow=4.9,SNR=22						
YKB5	Yellowknife Ar	87.36	356	eP	P	15 37 03.4	+0.8
WRA	Warramunga Arr	89.11	114	P	P	15 37 09.3	-2.3
	comp=Z,0.7nm,0.6s,baz=315,slow=3.9,SNR=9.2						
ASAR	Alice Springs	90.77	117	P	P	15 37 16.1	-3.3
	comp=Z,0.5nm,0.8s,baz=311,slow=5.0,SNR=3.1						

*IDC **06** 15:38:34.3±0.8, 58°.71S×25°.22W, h0^{km}, mb4.3/5, mb1 4.2/5, mb1mx4.0/22, mbtmp4.2/5, Error ellipse: s-maj=44.8km s-min=24.3km az=105.0*
*NEIC **06** 15:38:44.1±5.9, 58°.79S×24°.71W, h74^{km}±50^{km}, mb4.6/2, Error ellipse: s-maj=34.8km s-min=13.5km az=104.0*
ISC 06 15:38:38.6±0.8, **58°.8S**±0°.1×**25°.0W**±0°.2, **h28**^{km}, **n34**, σ**0^{s}88**/25, **mb4.3**/6, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.81	156	P	Pn	15 41 51.9	-0.2
VNA1	Neumayer--Stat	13.81	156	PKiKP	PKiKP	15 55 26.2	+17
VNA1				S	Sn	15 44 12.8	-11
VNA3	Neumayer Olymp	14.01	159	P	Pn	15 41 54.2	-0.8
VNA3	Neumayer Olymp	14.01	159	PKiKP	PKiKP	15 55 27.6	+18
VNA3				S	Sn	15 44 12.6	-17
VNA2	Neumayer--Watz	14.21	156	P	Pn	15 41 56.8	-0.7
	baz=317,slow=15						
VNA2	Neumayer--Watz	14.21	156	PKiKP	PKiKP	15 55 26.2	+17
VNA2				S	Sn	15 44 21.9	-12
QSPA	South Pole Qui	31.45	180	eP	P	15 44 57.9	+0.6
	4.3nm,0.8s						
VNDA	Vanda	43.88	182	P	P	15 46 43.3	+1.4
	3.7nm,0.9s,baz=184,slow=6.6,SNR=17						
VNDA	Vanda	43.88	182	eP	P	15 46 42.8	+1.0
BOSA	Boshof	45.62	71	P	P	15 46 57.2	+0.8
	2.6nm,0.8s,baz=166,slow=5.7,SNR=4.5						
H10S2	ASCENSION HYDR	50.35	13	T	T	16 42 03.8	
	baz=188,slow=75,SNR=18						
H10S3	ASCENSION HYDR	50.35	13	T	T	16 42 05.1	
	baz=188,slow=75,SNR=18						
H10S1	ASCENSION HYDR	50.36	13	T	T	16 42 08.7	
	baz=188,slow=75,SNR=21						
H10N1	ASCENSION HYDR	51.46	13	T	T	16 43 20.4	
	baz=186,slow=75,SNR=5.0						
H10N3	ASCENSION HYDR	51.47	13	T	T	16 43 23.7	
	baz=186,slow=75,SNR=17						
H10N2	ASCENSION HYDR	51.48	13	T	T	16 43 29.2	
	baz=186,slow=75,SNR=14						
DBIC	Dimbokro	67.23	22	P	P	15 49 31.6	+1.5
	2.5nm,0.9s,baz=149,slow=5.4,SNR=3.2						
DBIC	Dimbokro	67.23	22	eP	P	15 49 31.1	+0.9
	19nm,1.5s						
TOA0	Torodi Ar. Sit	74.92	27	eP	P	15 50 15.7	-1.0
TORD	Torodi Ar. Bea	74.92	27	P	P	15 50 16.0	-0.7
	2.4nm,0.4s,baz=194,slow=6.2,SNR=27						
TOA1	Torodi Ar. Sit	74.92	27	eP	P	15 50 16.0	-0.7
ASAR	Alice Springs	96.01	161	P	P	15 52 02.3	-0.9
	0.4nm,1.0s,baz=183,slow=3.4,SNR=3.3						
FIA0	FINESS Array S	126.27	28	ePKPdf	PKPdf	15 57 35.4	-1.5
FINES	FINESS Array B	126.27	28	PKP	PKPdf	15 57 35.4	-1.5
	2.7nm,1.1s,baz=132,slow=2.8,SNR=6.7						
ARA0	ARCESS Array S	133.06	22	ePKPdf	PKPdf	15 57 49.1	-0.5
ARCES	ARCESS Array B	133.06	22	PKP	PKPdf	15 57 49.1	-0.5
	1.9nm,0.8s,baz=290,slow=1.0,SNR=7.8						
YKA	Yellowknife Ar	138.97	315	PKP	PKPdf	15 58 00.3	-0.4
	0.2nm,0.4s,baz=128,slow=2.4,SNR=9.4						
YKB5	Yellowknife Ar	138.97	315	ePKPdf	PKPdf	15 58 00.7	-0.1
INK	Inuvik	148.65	317	PKPbc	PKPbc	15 58 20.6	-0.6
	1.2nm,0.5s,baz=54,slow=3.4,SNR=10						
INK	Inuvik	148.65	317	ePKPbc	PKPbc	15 58 20.9	-0.4
SONA0	Songino Array	149.65	90	ePKPbc	PKPbc	15 58 24.7	+0.1
SONM	Songino Array	149.65	90	PKPbc	PKPbc	15 58 24.7	+0.1
	0.3nm,0.4s,baz=207,slow=2.9,SNR=3.0						
ILAR	Eielson Array	152.77	307	PKPbc	PKPbc	15 58 31.2	+0.1
	0.5nm,0.6s,baz=140,slow=6.3,SNR=12						
ILB	Eielson Array	152.77	307	ePKPbc	PKPbc	15 58 31.7	+0.6

*TAP **06** 15:41:57.9, 24°.00N×122°.62E, h24^{km}, ML2.5, D*
*ISCJB **06** 15:41:58.8±0.4, 24°.00N±0°.02×122°.61E±0°.02, h30^{km}±3^{km}, Error ellipse: s-maj=3.5km s-min=2.6km az=148.8*
*JMA **06** 15:41:59.2±0.1, 24°.05N×122°.57E, h30^{km}±4^{km}, M1.7*
ISC 06 15:41:58.9±1.1, **24°.01N**±0°.03×**122°.61E**±0°.03, **h28**^{km}±11^{km}, **n64**, σ**0^{s}51**/113, **Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.53	35	P	Pb	15 42 09.7	0.0
JYNG				eS	Sb	15 42 17.1	0.0
YOJ	Yonaguni jima	0.58	39	eP	Pb	15 42 09.9	-0.6
	baz=36						
YOJ				S	Sb	15 42 18.7	+0.3
	baz=36						
YOJ	Yonaguni jima	0.58	39	P	Pb	15 42 10.7	+0.2
YOJ				S	Sb	15 42 18.5	+0.1
EOS1	EOS1	0.69	321	P	Pb	15 42 12.3	-0.1
	baz=320						
EOS1				eS	Sn	15 42 22.6	0.0
	baz=320						
NANB	Nanao	0.89	298	P	Pn	15 42 15.1	-0.4
	baz=298						
NANB				eS	Sn	15 42 26.6	-0.9
	baz=298						
ENA	Nanau	0.90	298	P	Pn	15 42 14.6	-1.0
	baz=298						
ENA				eS	Sn	15 42 27.1	-0.6
	baz=298						
TWC	Suao	0.92	311	eP	Pn	15 42 15.1	-0.8
	baz=311						
TWC				eS	Sn	15 42 27.6	-0.5
	baz=311						
HWA	Hwalien	0.92	268	eS	Sn	15 42 28.0	-0.2
	baz=268						
ENLB	Shoufeng	0.93	264	eP	Pn	15 42 15.7	-0.3
	baz=264						
ENLB				eS	Sn	15 42 28.4	-0.1
	baz=264						
TWD	Chiawan	0.93	274	eS	Sb	15 42 28.8	+0.4
	baz=275						
NACB	Ninganchiao	0.94	280	P	Pn	15 42 15.3	-0.9
	baz=280						
NACB				eS	Sn	15 42 29.0	+0.2
	baz=280						
EGS		1.04	323	eS	Sn	15 42 31.1	0.0
	baz=323						
IRIF	Iriomote-Funau	1.07	72	P	Pb	15 42 19.0	+0.3
IRIF				S	Sb	15 42 33.1	+0.7
ESL	Shilin	1.10	260	eP	Pn	15 42 18.3	0.0
	baz=260						
ESL				eS	Sn	15 42 32.8	+0.2
	baz=260						
TWE	Neicheng	1.11	310	eP	Pn	15 42 18.2	-0.4
	baz=309						
TWE				eS	Sn	15 42 33.0	0.0
	baz=309						
ENTT	Nioudou	1.14	303	eP	Pn	15 42 19.4	+0.4
	baz=303						
ENTT				eS	Sn	15 42 33.7	0.0
	baz=303						
TWB1	Santiao Chiao	1.14	330	eS	Sn	15 42 33.9	+0.2
	baz=330						
SLBB	Yuanshan	1.16	310	eP	Pn	15 42 19.5	+0.3
	baz=309						
SLBB				eS	Sn	15 42 34.7	+0.6
	baz=309						
TIPB	Shuangxi	1.20	323	eP	Pn	15 42 20.3	+0.6
	baz=323						
TIPB				eS	Sn	15 42 35.5	+0.4
	baz=323						
NNSB	Datong	1.20	291	eP	Pn	15 42 19.5	-0.4
	baz=290						
NNSB				eS	Sn	15 42 35.4	+0.1
	baz=290						
HGSD	Ruisui	1.21	245	eP	Pn	15 42 20.0	+0.2
	baz=245						
HGSD				eS	Sn	15 42 35.4	+0.1
	baz=245						
NNS	Nan Shan	1.21	291	eP	Pn	15 42 19.6	-0.4
	baz=291						
NNS				eS	Sn	15 42 35.7	+0.2
	baz=291						
WHF	Hehuan Shan	1.24	276	eP	Pn	15 42 19.7	-0.9
	baz=276						
WHF				eS	Sn	15 42 36.1	-0.6
	baz=276						
NWLT	Wulai	1.27	307	eP	Pn	15 42 20.4	-0.3
	baz=307						
NWLT				eS	Sn	15 42 37.5	+0.7
	baz=307						
EHY	Hungye	1.28	247	eP	Pn	15 42 20.1	-0.8
	baz=247						
EHY				eS	Sn	15 42 37.4	+0.2
	baz=247						
NWF	Wu-fen Shan	1.30	324	eP	Pn	15 42 21.0	-0.2
	baz=324						
NWF				eS	Sn	15 42 38.2	+0.5
	baz=324						
WFSB	Wu-fen Shan	1.30	324	eP	Pn	15 42 21.3	+0.2
	baz=324						
WFSB				eS	Sn	15 42 37.8	+0.2
	baz=324						
YHNB	Yeheng	1.30	300	eP	Pn	15 42 20.4	-0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=300						
YHNB				eS	Sb	15 42 38.8	-0.3
	baz=300						
CHGB	Renai	1.32	272	P	Pn	15 42 21.8	+0.2
	baz=272						
CHGB				S	Sn	15 42 38.1	-0.2
	baz=272						
TWA	Mucha	1.34	316	eS	Sn	15 42 38.5	-0.3
	baz=316						
YULB	Yu-li	1.35	243	P	Pn	15 42 21.8	-0.1
	baz=243						
YULB				S	Sn	15 42 39.2	+0.3
	baz=243						
VWDT	VWDT	1.37	260	eP	Pn	15 42 22.2	+0.1
	baz=259						
VWDT				eS	Sn	15 42 39.5	+0.2
	baz=259						
TWF1	Yuli	1.37	242	eP	Pn	15 42 21.9	-0.2
	baz=241						
TWF1				eS	Sn	15 42 39.2	-0.2
	baz=241						
JIJ	Ishigaki jima	1.44	76	P	Pb	15 42 23.9	-1.1
JIJ				S	Sb	15 42 42.3	-0.7
YM07	YM07	1.47	322	eP	Pn	15 42 23.6	+0.1
	baz=322						
YM07				eS	Sn	15 42 42.3	+0.5
	baz=322						
YM10	YM10	1.49	320	eP	Pn	15 42 23.5	-0.3
	baz=320						
YM10				eS	Sn	15 42 43.2	+0.9
	baz=320						
WLTB	Daxi	1.50	304	eP	Pn	15 42 24.1	+0.3
	baz=304						
WLTB				eS	Sn	15 42 42.8	+0.4
	baz=304						
SSLB	Suanglung	1.53	262	eP	Pb	15 42 26.1	-0.6
	baz=262						
SSLB				eS	Sn	15 42 43.7	+0.3
	baz=262						
LIOB	Emei	1.59	294	eP	Pn	15 42 25.0	-0.1
	baz=293						
LIOB				eS	Sn	15 42 44.8	0.0
	baz=293						
NSTT	Nanjuang	1.59	293	eP	Pn	15 42 25.7	+0.5
	baz=293						
NSTT				eS	Sn	15 42 45.1	+0.3
	baz=293						
JISG	Ishigakijimahi	1.65	69	P	Pn	15 42 26.6	+0.6
JISG				S	Sn	15 42 45.2	-1.1
ELDTW	Lidau	1.68	241	eP	Pn	15 42 26.4	0.0
	baz=241						
ELDTW				eS	Sn	15 42 46.8	-0.2
	baz=241						
TWQ1	Liyutan	1.71	282	eS	Sn	15 42 48.4	+0.6
	baz=281						
ALS	Alishan	1.73	254	eP	Pn	15 42 26.8	-0.5
	baz=253						
ALS				eS	Sn	15 42 48.4	-0.2
	baz=253						
WJS	Zhushan	1.73	264	eS	Sn	15 42 49.2	+0.8
	baz=264						
WNT	Mingjian	1.77	266	eS	Sn	15 42 49.3	+0.1
	baz=266						
CHN5	Tsauling	1.82	257	eS	Sn	15 42 50.1	-0.5
	baz=257						
WCHH	Zhanghua	1.88	272	eP	Pn	15 42 28.9	-0.2
	baz=272						
WCHH				eS	Sn	15 42 52.2	+0.4
	baz=272						
STYT	Tauyuan	1.90	244	eP	Pn	15 42 30.3	+0.9
	baz=243						
STYT				eS	Sn	15 42 52.2	-0.3
	baz=243						
WDLH	Douliu	1.93	261	eS	Sn	15 42 53.4	+0.4
	baz=260						
TPUB	Ta-pu	1.95	249	eP	Pn	15 42 30.3	+0.2
	baz=249						
TPUB				eS	Sn	15 42 54.2	+0.5
	baz=249						
CHN4	Tsaushan	1.96	251	eP	Pn	15 42 31.4	+1.1
	baz=250						
CHN4				eS	Sn	15 42 54.6	+0.6
	baz=250						
WTP	Ta-pu	1.98	248	eP	Pn	15 42 31.6	+1.0
	baz=247						
WTP				eS	Sn	15 42 55.6	+1.0
	baz=247						
RLNB	Erlin	2.06	267	eP	Pn	15 42 32.4	+0.7
	baz=267						
RLNB				eS	Sn	15 42 56.8	+0.3
	baz=267						
ECL	Taimali	2.08	228	eS	Sn	15 42 56.1	-0.6
	baz=227						
CHN1	Nanshi	2.08	247	eS	Sn	15 42 57.0	+0.1
	baz=247						
TWK	Hsinying	2.08	250	eP	Pn	15 42 32.1	+0.1
	baz=249						
TWK				eS	Sn	15 42 56.8	-0.3
	baz=249						
WTCT	Ta-ch'eng	2.14	267	eP	Pn	15 42 33.0	+0.4
	baz=266						
WLGB	Puzi	2.19	256	eP	Pn	15 42 33.8	+0.5
	baz=256						
WLGB				eS	Sn	15 42 60.0	+0.6
	baz=256						
SSD	Sandimen	2.21	236	eP	Pn	15 42 34.3	+0.6
	baz=235						
SSD				eS	Sn	15 42 59.5	-0.7
	baz=235						
MASBT	Mashibuluo	2.29	233	eP	Pn	15 42 35.2	+0.4
	baz=232						
MASBT				eS	Sn	15 43 02.7	+0.6
	baz=232						
VCHM	Qimei	3.03	255	eP	Pn	15 42 45.5	+0.6
	baz=254						
VCHM				eS	Sn	15 43 20.5	+0.3
	baz=254						
XPSS	Dashiqiu	3.64	324	eS	Sn	15 43 34.7	-0.6
	baz=323						
MHZQ	Yeshan	3.86	303	eP	Pn	15 42 57.2	+0.9
	baz=302						

*ISCJB **06** 15:49:12.0±0.3, 38°.62S±0°.02×176°.23E±0°.04, h134km±3km, mb3.6/3, Error ellipse: s-maj=4.8km s-min=3.6km az=7.4*
*IDC **06** 15:49:12.2±0.9, 38°.74S×175°.91E, h86km±12km, mb3.4/3, mb1 3.6/4, mb1mx3.4/24, mbtmp3.8/4, Error ellipse: s-maj=25.5km s-min=14.0km az=133.0*
*WEL **06** 15:49:13.3, 39°S±1°×17°6E±°, h125km±2km*
ISC 06 15:49:13.3±0.8**, 38°.61S**±0°.04×**176°.21E**±0°.04**, h132**km±5km**, n146, σ1s.39**/156**, mb3.5**/3**, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WPRZ	Whakapapatarin	0.10	337	P	Pn	15 49 30.4	-0.9
ALRZ	Allen Road	0.11	64	P	Pn	15 49 30.1	-1.2
ALRZ				S	Sn	15 49 43.4	-1.4
PRRZ	Plateau Road	0.18	51	P	Pn	15 49 30.2	-1.2
PRRZ				S	Sn	15 49 43.5	-1.5
WHTZ	Whakaora	0.21	255	P	Pn	15 49 31.2	-0.4
HRRZ	Handcock Road	0.23	14	P	Pn	15 49 30.6	-1.0
MRHZ	Matea Rd	0.27	144	P	Pn	15 49 31.0	-0.7
MRHZ				S	Sn	15 49 43.4	-2.3
GRRZ	Galatos Road	0.27	343	P	Pn	15 49 30.9	-0.8
HATZ	Hinemaiaia	0.29	199	P	Pn	15 49 31.2	-0.5
HATZ				S	Sn	15 49 43.8	-1.9
HSRZ	Hossack Road	0.30	5	P	Pn	15 49 30.9	-0.9
KUTZ	Kaahu Road	0.33	292	P	Pn	15 49 31.2	-0.6
RRRZ	Republican Roa	0.36	41	P	Pn	15 49 30.8	-1.2
HLRZ	Highlands Stat	0.38	17	P	Pn	15 49 31.4	-0.7
WATZ	Wairara	0.39	256	P	Pn	15 49 31.7	-0.4
RATZ	Rangitukua	0.43	233	P	Pn	15 49 31.9	-0.4
UTU	Utuhina	0.43	358	P	Pn	15 49 31.5	-0.8
TARZ	Mount Tarawera	0.44	32	P	Pn	15 49 31.3	-1.2
MUGZ	Murupara	0.46	73	P	Pn	15 49 31.1	-1.3
RITZ	Rihia Road	0.46	217	P	Pn	15 49 32.5	+0.1
RITZ				S	Sn	15 49 47.0	0.0
NGRZ	Ngongotaha	0.51	358	P	Pn	15 49 31.8	-0.9
MKRZ	Makatiti	0.51	23	P	Pn	15 49 32.3	-0.6
OMRZ	Omania	0.52	14	P	Pn	15 49 31.6	-1.2
KATZ	Kakaramea	0.54	228	P	Pn	15 49 32.9	-0.1
MTHZ	Maungataniwha	0.55	116	P	Pn	15 49 32.4	-0.5
MTHZ				S	Sn	15 49 46.3	-1.5
KARZ	Kaharoa	0.59	2	P	Pn	15 49 32.1	-1.1
BKZ	Black Stump Fm	0.59	159	P	Pn	15 49 33.0	-0.3
TLZ	Tolley Road	0.60	298	P	Pn	15 49 32.7	-0.5
RTZ	Ruatahuna	0.60	91	P	Pn	15 49 32.4	-0.9
RTZ				S	Sn	15 49 46.6	-1.8
LIRZ	Lichensteins R	0.62	13	P	Pn	15 49 32.3	-1.1
EDRZ	Edgecumbe	0.65	40	P	Pn	15 49 32.1	-1.5
KRVZ	Karewarewa	0.66	223	P	Pn	15 49 33.6	-0.1
NMHZ	Naumai	0.67	136	P	Pn	15 49 34.3	+0.5
WTVZ	West Tongariro	0.70	224	P	Pn	15 49 33.9	-0.1
MARZ	Manawahe	0.72	30	P	Pn	15 49 32.9	-1.3
NGZ	Ngauruhoe	0.74	220	P	Pn	15 49 34.3	0.0
RAHZ	Arahi	0.75	114	P	Pn	15 49 34.2	0.0
TWVZ	Taurewa	0.76	233	P	Pn	15 49 34.4	-0.1
COVZ	Chateau Observ	0.79	221	P	Pn	15 49 34.4	-0.3
TUVZ	Tukino	0.79	213	P	Pn	15 49 34.9	+0.2
URZ	Urewera	0.79	64	P	Pn	15 49 32.9	-1.7
	328nm,0.3s,baz=266,slow=4.3,SNR=3558						
URZ				S	Sn	15 49 47.5	-3.2
	baz=150,slow=20						
URZ	Urewera	0.79	64	P	Pn	15 49 33.1	-1.5
KMRZ	Kaimai	0.80	344	P	Pn	15 49 33.8	-0.9
OPRZ	Ohinepanea	0.81	19	P	Pn	15 49 33.3	-1.5
FWVZ	Far West T-bar	0.82	219	P	Pn	15 49 34.9	-0.2
KWHZ	Kaweka Forest	0.83	169	P	Pn	15 49 35.1	+0.2
WHVZ	Whangaehu Hut	0.83	216	P	Pn	15 49 35.2	0.0
DRZ	Dome Shelter	0.83	217	P	Pn	15 49 35.5	+0.2
TRVZ	Turoa	0.86	217	P	Pn	15 49 35.5	+0.1
MOVZ	Moawhango	0.87	204	P	Pn	15 49 35.1	-0.2
TGRZ	Tauranga	0.88	2	P	Pn	15 49 34.2	-1.1
BHHZ	Black Hill Sta	0.88	188	P	Pn	15 49 35.4	0.0
ARHZ	Aropaoanui	0.89	137	P	Pn	15 49 35.8	+0.4
SNGZ	Shannon Statio	0.90	101	P	Pn	15 49 35.3	-0.2
MCHZ	McNeill Hill	0.91	156	P	Pn	15 49 36.3	+0.7
WHHZ	Waihua	0.92	120	P	Pn	15 49 35.8	+0.1
RAGZ	Rawiri	0.95	83	P	Pn	15 49 35.3	-0.7
PKVZ	Pokaka	0.96	225	P	Pn	15 49 36.3	+0.2
MTVZ	Mangateitei	0.96	217	P	Pn	15 49 36.3	+0.2
WHRZ	Whale Island	0.96	39	P	Pn	15 49 35.3	-0.8
KRHZ	Kereru	1.04	173	P	Pn	15 49 36.9	+0.2
TOZ	Tahuroa Road	1.04	327	P	Pn	15 49 36.1	-0.7
HIZ	Hauiti	1.07	275	P	Pn	15 49 37.0	0.0
MWZ	Matawai	1.07	75	P	Pn	15 49 36.0	-1.1
KNZ	Kokohu	1.21	110	P	Pn	15 49 38.0	-0.4
RIGZ	Rimuhau	1.22	95	P	Pn	15 49 38.1	-0.4
CKHZ	Cape Kidnapper	1.24	147	P	Pn	15 49 39.2	+0.4
VRZ	Vera Road	1.25	245	P	Pn	15 49 39.1	+0.4
KAHZ	Kahuranaki	1.29	157	P	Pn	15 49 39.7	+0.4
TKGZ	Te Karaka	1.29	83	P	Pn	15 49 38.9	-0.4
PNHZ	Pukenui	1.30	180	P	Pn	15 49 39.3	-0.1
RUGZ	Raukumara Rang	1.32	61	P	Pn	15 49 37.7	-2.0
MYRZ	Mayor Island	1.33	1	P	Pn	15 49 39.0	-0.8
PRGZ	Paritu Road	1.34	104	P	Pn	15 49 39.4	-0.4
MHGZ	Mahia Peninsul	1.43	113	P	Pn	15 49 40.6	-0.1
TWGZ	Tauwhareparae	1.46	73	P	Pn	15 49 40.5	-0.6
TSZ	Takapari Road	1.46	188	P	Pn	15 49 41.0	-0.1
WPHZ	Waipukurau	1.46	173	P	Pn	15 49 41.1	0.0
WAZ	Wanganui	1.49	220	P	Pn	15 49 41.8	+0.5
PXZ	Pawanui	1.50	161	P	Pn	15 49 41.6	+0.1
HAZ	Te Kaha	1.50	56	P	Pn	15 49 39.6	-1.9
CNGZ	Carnagh Statio	1.57	86	P	Pn	15 49 41.9	-0.4
PKGZ	Pakihiroa	1.64	64	P	Pn	15 49 42.0	-1.1
LREZ	Lake Rotokare	1.64	238	P	Pn	15 49 43.9	+0.8
PRHZ	Porangahau	1.68	169	P	Pn	15 49 43.6	0.0
DVHZ	Dannevirke	1.69	181	P	Pn	15 49 43.3	-0.4
PUZ	Puketiti	1.70	72	P	Pn	15 49 42.5	-1.3
MKAZ	Moumakai	1.72	331	P	Pn	15 49 43.4	-0.6
OHWZ	Ohakea	1.74	203	P	Pn	15 49 44.6	+0.4
POWZ	Post Office Ro	1.81	191	P	Pn	15 49 44.7	-0.4
PKE	Pukeiti	1.83	251	P	Pn	15 49 46.1	+0.7
KBAZ	Karaka Road Bo	1.84	325	P	Pn	15 49 45.2	-0.3
KHEZ	Kahui Hut	1.84	248	P	Pn	15 49 46.5	+0.9
ANWZ	Angora Road	1.86	174	P	Pn	15 49 45.6	0.0
KUZ	Kuaotunu	1.90	348	P	Pn	15 49 45.2	-1.1
WMGZ	Waiomatatini S	1.91	66	P	Pn	15 49 44.9	-1.3
WMGZ				P	Pn	15 49 44.9	-1.3
NBEZ	Newall Road No	1.94	250	P	Pn	15 49 47.5	+0.8
ETAZ	East Tamaki Re	1.94	328	P	Pn	15 49 46.2	-0.5
PRWZ	Pori Road	1.95	185	P	Pn	15 49 46.5	-0.2
AWAZ	Awhitu Peninsu	1.98	321	P	Pn	15 49 46.8	-0.4
NMEZ	Namu Road	1.99	246	P	Pn	15 49 48.1	+0.9
WIAZ	Waiheke Island	2.01	334	P	Pn	15 49 46.9	-0.6
BFZ	Birch Farm	2.07	179	P	Pn	15 49 47.6	-0.5
MRZ	Mangatainoka R	2.10	193	P	Pn	15 49 47.9	-0.7
HBAZ	Herne Bay Bore	2.12	326	P	Pn	15 49 48.2	-0.6
MBAZ	Motutapu North	2.12	330	P	Pn	15 49 48.2	-0.6
WTAZ	Waiatarua	2.12	322	P	Pn	15 49 48.7	-0.2
TIWZ	Tintock	2.18	187	P	Pn	15 49 48.9	-0.6
RVAZ	Riverhead Bore	2.25	324	P	Pn	15 49 49.7	-0.7
ABAZ	Army Bay	2.29	331	P	Pn	15 49 50.5	-0.4
CPWZ	Castlepoint	2.29	180	P	Pn	15 49 50.8	-0.1
OGWZ	Otaki Gorge	2.34	200	P	Pn	15 49 50.8	-0.8
HOWZ	Holdsworth Sta	2.34	193	P	Pn	15 49 50.6	-1.0
KIW	Kapiti Island	2.46	204	P	Pn	15 49 51.9	-1.1
TMWZ	Te Maipa	2.50	186	P	Pn	15 49 52.5	-1.1
MTW	Mount Morrison	2.60	192	P	Pn	15 49 53.4	-1.4
CAW	Cannon Point	2.64	199	P	Pn	15 49 54.1	-1.3
DUWZ	D'Urville Isla	2.81	218	P	Pn	15 49 56.0	-1.6
TRWZ	Traveller	2.81	188	P	Pn	15 49 56.0	-1.5
PAWZ	Paruwai Farm	2.83	192	P	Pn	15 49 56.2	-1.6
MSWZ	Moikau Station	2.90	194	P	Pn	15 49 56.8	-1.8
BHW	Baring Head	2.98	200	P	Pn	15 49 57.8	-1.8
TCW	Tory Channel	2.99	209	P	Pn	15 49 58.1	-1.7
PLWZ	Palliser	3.04	194	P	Pn	15 49 58.6	-2.0
WCZ	Waipu Caves	3.06	330	P	Pn	15 50 00.3	-0.4
TUWZ	Tuamarina	3.31	211	P	Pn	15 50 02.0	-2.0
NNZ	Nelson	3.39	219	P	Pn	15 50 02.9	-2.1
CMWZ	Cape Campbell	3.49	205	P	Pn	15 50 04.9	-1.4
BSWZ	Blackbirch Sta	3.58	209	P	Pn	15 50 05.4	-2.1
QRZ	Quartz Range	3.60	231	P	Pn	15 50 06.1	-1.7
OUZ	Omahuta	3.98	327	P	Pn	15 50 12.9	0.0
THZ	Tophouse	4.04	218	P	Pn	15 50 11.4	-2.2
KHZ	Kahutara	4.31	207	P	Pn	15 50 14.7	-2.5
DSZ	Denniston Nort	4.60	226	P	Pn	15 50 18.4	-2.7
LTZ	Lake Taylor	5.13	214	P	Pn	15 50 25.2	-2.9
AMCZ	Amberley	5.30	209	P	Pn	15 50 27.3	-3.0
INZ	Inchbonnie	5.48	220	P	Pn	15 50 30.6	-2.1
RPZ	Rata Peaks	6.41	216	P	Pn	15 50 41.4	-3.9
	5.1nm,0.3s,baz=236,slow=2.2,SNR=31						
RPZ				S	Sn	15 51 50.0	-7.2
	11nm,0.3s,baz=357,slow=18,SNR=16						
RPZ	Rata Peaks	6.41	216	P	Pn	15 50 42.1	-3.1
FOZ	Fox Glacier	6.89	222	P	Pn	15 50 50.7	-1.0
LBZ	Lake Benmore	7.33	216	P	Pn	15 50 55.1	-2.6
CTZ	Chatham Island	7.44	136	P	Pn	15 50 58.3	-0.8
ASAR	Alice Springs	38.80	280	P	P	15 56 26.5	+1.2
	0.4nm,0.5s,baz=116,slow=6.1,SNR=36						
WRA	Warramunga Arr	40.58	285	P	P	15 56 41.5	+1.5
	0.3nm,0.3s,baz=125,slow=8.3,SNR=18						
QSPA	South Pole Qui	51.51	180	P	P	15 58 08.2	+3.1
	1.5nm,0.8s,baz=28,slow=2.2,SNR=8.7						
QSPA	South Pole Qui	51.51	180	eP	P	15 58 08.3	+3.2
	15nm,1.3s						
FINES	FINESS Array B	150.63	331	PKPbc	PKPab	16 08 55.1	-0.9
	1.2nm,0.8s,baz=28,slow=8.6,SNR=4.4						
TORD	Torodi Ar. Bea	154.18	192	PKPbc	PKiKP	16 09 00.2	+2.2
	0.5nm,0.9s,baz=192,slow=2.1,SNR=3.4						

*ISCJB **06** 15:51:19.4±0.7, 54°.9S±0°.1×129°.8W±0°.2, h10km, MS4.2/8, Error ellipse: s-maj=21.8km s-min=15.5km az=166.2*
*IDC **06** 15:51:20.0±0.8, 54°.86S×129°.66W, h0km, mb3.9/6, mb1 4.2/6, mb1mx4.0/26, mbtmp3.9/6, MS4.0/11, Ms1 4.0/11, ms1mx3.8/20, Error ellipse: s-maj=40.3km s-min=22.1km az=159.0*
*NEIC **06** 15:51:21.3±0.5, 55°.52S×129°.60W, h10km, mb4.6/2, Error ellipse: s-maj=26.0km s-min=14.9km az=171.0*
*GCMT **06** 15:51:27.3±0.3, 55°.17S±0°.02×129°.46W±0°.03, h13km±2km, MW4.9/78, Moment Tensor Solution. s18,c19; s78,c97; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}-0.54±.12; $M_{\theta\theta}$1.90±.14; $M_{\phi\phi}$-1.36±.11; $M_{r\theta}$0.34±.26; $M_{\theta\phi}$1.89±.09; $M_{\phi r}$1.66±.43; Best double couple: $M_0$3.05300×10¹⁶ NP1:ϕ_s203.00000°, δ81.00000°, λ-145.00000°. NP2: ϕ_s108.00000°, δ56.00000°, λ-10.00000°. Principal axes: T 3.0750, Plg17.0000°, Azm331.0000°; N -0.0420, Plg54.0000°, Azm216.0000°; P -3.0300, Plg30.0000°, Azm71.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 15:51:21.3±0.7**, 54°.9S**±0°.2×**129°.7W**±0°.1**, h10**km**, n39,** σ**1s.09**/20**, MS4.1**/8**, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RKT	Rikitea	31.93	351	eLR	LR	16 05 55.7	
	comp=Z,410nm,28.5s,baz=168						
RKT	Rikitea	31.93	351	eT	T	16 31 20.5	
	13nm,0.3s						
VNDA	Vanda	32.59	202	P	P	15 57 54.4	+2.1
	1.2nm,0.9s,baz=89,slow=6.5,SNR=4.4						
VNDA				LR	LR	16 08 16.8	
	comp=Z,121nm,19.1s,baz=111,slow=31						
TBI	Tubuai	34.73	327	eLR	LR	16 07 11.4	
	comp=Z,556nm,29.8s,baz=146						
TBI	Tubuai	34.73	327	eT	T	16 34 58.0	
	46nm,0.3s						
PPT2	Papeete2	40.19	330	eLR	LR	16 09 40.5	
	comp=Z,709nm,26.5s						
PPT	Papeete	40.21	330	LR	LR	16 12 20.3	
	comp=Z,257nm,19.1s,baz=173,slow=31						
PLCA	Paso Flores	40.93	95	LR	LR	16 11 54.2	
	comp=Z,157nm,18.6s,baz=240,slow=30						
VAH	Vaihoa	41.90	334	eT	T	16 43 54.0	
	94nm,0.2s						
PMOR	Pomariorio Ree	42.20	333	eT	T	16 44 16.2	
	4.2nm,0.2s						
PEL	Peldehue	46.09	87	eP	P	15 59 45.0	-0.4
	36nm,1.2s						
VNA3	Neumayer Olymp	47.30	158	P	P	15 59 53.2	-1.1
VNA2	Neumayer--Watz	48.03	158	P	P	15 59 59.1	-0.9
	baz=219,slow=9.0						
VNA1	Neumayer--Stat	48.05	158	P	P	16 00 01.3	+1.3
DZM	Mont Dzumac	57.23	278	eLR	LR	16 17 27.2	
	comp=Z,205nm,28.1s						
MAW	Mawson	57.51	186	LR	LR	16 23 45.3	
	comp=Z,116nm,18.9s,baz=175,slow=34						
CPUP	Villa Florida	58.88	92	P	P	16 01 19.6	-0.6
	3.9nm,1.0s,baz=205,slow=4.5,SNR=4.1						
CPUP				LR	LR	16 23 20.4	
	comp=Z,194nm,18.5s,baz=222,slow=33						
LPAZ	La Paz	60.55	76	P	P	16 01 32.4	-0.1
	6.0nm,1.1s,baz=207,slow=4.9,SNR=8.8						
LPAZ				LR	LR	16 22 45.3	
	comp=Z,25nm,20.9s,baz=245,slow=31						
LPAZ	La Paz	60.55	76	eP	P	16 01 33.0	+0.5
STKA	Stephens Creek	63.89	251	LR	LR	16 23 47.2	
	comp=Z,152nm,21.7s,baz=86,slow=30						
STKA	Stephens Creek	63.89	251	eP	P	16 01 52.0	-2.1
	6.3nm,1.8s						
BDFB	Brasilia	72.61	92	LR	LR	16 31 28.4	
	comp=Z,90nm,19.4s,baz=171,slow=33						
ASAR	Alice Springs	74.53	251	P	P	16 02 59.5	-0.6
	0.9nm,0.9s,baz=126,slow=5.5,SNR=5.5						
H01W1	Cape Leeuwin H	75.21	230	T	T	17 26 25.6	
	baz=146,slow=76,SNR=29						
H01W2	Cape Leeuwin H	75.22	230	T	T	17 26 33.4	
	baz=146,slow=76,SNR=19						
H01W3	Cape Leeuwin H	75.23	230	T	T	17 26 26.9	
	baz=146,slow=76,SNR=25						
NWAO	Narrogin (SRO)	75.47	233	LR	LR	16 28 31.5	
	comp=Z,334nm,20.2s,baz=342,slow=30						
WR1	Warramunga Arr	77.27	254	eP	P	16 03 15.2	-0.6
	33nm,1.8s						
WRA	Warramunga Arr	77.27	254	P	P	16 03 15.2	-0.6
	0.4nm,0.5s,baz=143,slow=5.3,SNR=6.8						
TXAR	Lajitas Array	86.79	23	P	P	16 04 06.7	+1.3
	0.2nm,0.7s,baz=226,slow=6.2,SNR=3.1						
BOSA	Boshof	94.14	158	LR	LR	16 45 04.6	
	comp=Z,103nm,18.2s,baz=198,slow=34						
PDAR	Pinedale Array	98.75	15	LR	LR	16 41 05.8	
	comp=Z,61nm,21.6s,baz=227,slow=30						
ILAR	Eielson Array	120.02	352	PKP	PKiKP	16 10 11.2	+0.5
	0.3nm,0.7s,baz=191,slow=2.7,SNR=4.6						
SONA0	Songino Array	145.09	282	ePKPbc	PKPdf	16 10 58.1	+0.1
SONM	Songino Array	145.09	282	PKPbc	PKPdf	16 10 58.1	+0.1
	0.5nm,0.6s,baz=123,slow=3.2,SNR=3.4						
MK32	Makanchi Array	158.39	261	ePKPab	PKPab	16 11 53.7	+1.2
MKAR	Makanchi Array	158.39	261	PKPab	PKPab	16 11 53.7	+1.2
	0.6nm,0.8s,baz=112,slow=5.4,SNR=7.0						
BRTR	Keskin Array B	161.20	137	PKPab	PKPab	16 12 04.3	-0.8
	0.9nm,0.7s,baz=188,slow=6.4,SNR=6.3						
BR101	Keskin Array S	161.20	137	ePKPab	PKPab	16 12 04.2	-0.8

IDC 06 15:53:12.9±5.4**, 30°.19S**×**177°.82W, h0**km**, mb3.7**/3**, mb1 3.8**/3**, mb1mx3.6**/23**, mbtmp3.7**/3**, Error ellipse: s-maj=207.2km s-min=49.9km az=150.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.68	257	P	P	16 00 05.2	+0.8
	0.9nm,0.6s,baz=94,slow=14,SNR=3.1						
ASAR	Alice Springs	43.28	267	P	P	16 01 15.9	-0.7
	0.4nm,0.7s,baz=108,slow=7.5,SNR=8.6						
WRA	Warramunga Arr	44.25	272	P	P	16 01 23.9	-0.5
	0.4nm,0.4s,baz=111,slow=8.1,SNR=14						
FINES	FINESS Array B	145.00	340	PKPbc	PKPbc	16 12 50.1	-0.6
	3.0nm,1.1s,baz=28,slow=2.7,SNR=8.4						

IDC 06 16:07:29.6±2.0**, 6°.64S**×**129°.28E, h0**km**, mb3.5**/1**, mb1 3.9**/3**, mb1mx3.5**/20**, mbtmp3.7**/3**, ML3.9**/2**, MS4.1**/2**, Ms1 4.1**/2**, ms1mx3.0**/29**, Error ellipse: s-maj=112.9km s-min=31.0km az=68.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.11	160	Pn	Pn	16 10 50.7	-0.2
	0.5nm,0.3s,baz=339,slow=12,SNR=38						
WRA				Sn	Sn	16 13 16.4	-12
	0.6nm,0.3s,baz=339,slow=22,SNR=9.0						
ASAR	Alice Springs	17.50	166	P	Pn	16 11 35.3	0.0
	0.5nm,0.3s,baz=347,slow=11,SNR=106						
ASAR				S	Sn	16 14 38.1	-13
	0.2nm,0.3s,baz=64,slow=18,SNR=5.6						
RPZ	Rata Peaks	51.96	142	LR	LR	16 37 34.3	
	comp=Z,184nm,21.1s,baz=257,slow=35						
MKAR	Makanchi Array	67.53	327	P	P	16 18 27.8	0.0
	0.2nm,0.3s,baz=116,slow=8.2,SNR=7.3						
OPO	Ambohidratompo	80.44	252	LR	LR	16 52 11.3	
	comp=Z,129nm,18.3s,baz=188,slow=33						

*DDA **06** 16:18:05.4, 36°.83N×43°.47E, h7km±2km, ML3.0*
*ISK **06** 16:18:06.7, 37°.00N×43°.44E, h5km, ML3.0/9*
*ISN **06** 16:18:14.8±0.3, 36°.79N×43°.03E, h0km, ML2.8*
ISC 06 16:18:07.1±1.6**, 36°.91N**±0°.05×**43°.50E**±0°.04**, h7**km±12km**, n19,** σ**1s.11**/28**, Iraq**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CUKT	Cukurca	0.35	14	PG	Pg	16 18 12.6	-1.4
CUKT				SG	Sg	16 18 18.8	+0.2
MSL	Mosul	0.60	212	ePg	Pn	16 18 23.4	+1.4
	baz=350						
MSL				eSg	Sn	16 18 29.4	-2.5
YOVA	Hakkari_Yksek	0.92	43	IAML_P			
	comp=Z,946nm,0.2s						
YOVA				i P	Pb	16 18 25.9	+0.3
SIRT	Sirnak	1.03	305	PG	Pg	16 18 25.8	-1.1
SIRT				SG	Sg	16 18 39.9	-0.4
SIRN	Sırnak	1.05	304	IAML_P			
	comp=Z,1µm,0.3s						
SIRN				i P	Pg	16 18 26.8	-0.4
SIRN				i S	Sb	16 18 42.0	+0.5
GEVA	Gevas	1.44	346	IAML_P			
	comp=Z,3µm,0.3s						
GEVA				i P	Pb	16 18 34.1	-0.2
GEVA				i S	Sg	16 18 56.4	+2.8
AKDM	Akdamar-Van	1.48	344	PN	Pn	16 18 33.8	-0.4
TVAN	Van	1.62	357	IAML_P			
	comp=Z,2µm,0.5s						
TVAN				i P	Pg	16 18 38.6	+0.4
TVAN				i S	Sb	16 18 58.6	+0.5
SRTM	Siirt_Merkez	1.66	311	IAML_P			
	comp=Z,2µm,0.4s						
SRTM				i P	Pb	16 18 37.6	-0.3
SRTM				i S	Sg	16 19 00.5	+0.2
GURO	Guroymak-BITLI	2.01	325	PN	Pn	16 18 41.7	+0.2
BTMN	Batman	2.03	300	IAML_P			
	comp=Z,395nm,0.4s						
BTMN				i P	Pb	16 18 44.0	-0.3
BTMN				i S	Sb	16 19 09.3	-0.5
MARD	Mardin	2.21	281	i P	Pb	16 18 47.5	0.0
MARD				i S	Sb	16 19 15.1	0.0
CLDR	Caldiran	2.25	8	PN	Pn	16 18 45.1	+0.1
MAZI	Mazidag	2.50	284	PN	Pn	16 18 49.4	+1.2

AGRB	**Hanur-Agry**	**2.69 352**	PN	**Pn**	**16 18 51.2**	**+0.2**
DYBB	**Diyarbakir**	**2.87 292**	PN	**Pn**	**16 18 54.5**	**+1.2**
KARO	**Karliova-Bingo**	**3.08 322**	PN	**Pn**	**16 18 56.9**	**+0.6**
URFA	**Urfa**	**3.77 279**	PN	**Pn**	**16 19 07.7**	**+2.0**
PTK	**Pertek**	**3.80 303**	PN	**Pn**	**16 19 07.2**	**+1.0**

*ISCJB **06** 16:27:56.8±0.3,23°.94N±0°.01×122°.48E±0°.01, h29km±2km, Error ellipse: s-maj=2.3km s-min=1.9km az=41.1*
*JMA **06** 16:27:56.4±0.2,23°.92N×122°.49E, h21km±3km, M2.7*
*TAP **06** 16:27:56.1,23°.95N×122°.46E, h21km, ML3.2, D*
ISC 06 16:27:56.3±1.2**,23°.95N**±0°.02×**122°.47E**±0°.02**, h20**km±5km**, n114,** σ0°.59/210**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.66**	**41**	**P**		**Pb**	**16 28 09.2**	**0.0**
JYNG				*e*S		**Sb**	**16 28 17.7**	**-0.3**
EOS1	**EOS1** baz=332	**0.67**	**333**	P		**Pb**	**16 28 09.8**	**+0.4**
EOS1	baz=332			*e*S		**Sn**	**16 28 20.0**	**-0.5**
YOJ	**Yonaguni jima** baz=43	**0.71**	**44**	*i* P		**Pb**	**16 28 10.3**	**+0.3**
YOJ	baz=43			*i* S		**Sn**	**16 28 21.3**	**-0.2**
YOJ	**Yonaguni jima**	**0.71**	**44**	P		**Pb**	**16 28 09.8**	**-0.2**
YOJ				S		**Sb**	**16 28 20.3**	**+1.0**
HWA	**Hwalien** baz=272	**0.79**	**272**	*e*S		**Sn**	**16 28 22.8**	**-0.6**
ENLB	**Shoufeng** baz=266	**0.80**	**267**	*e*P		**Pb**	**16 28 11.7**	**+0.3**
ENLB	baz=266			S		**Sn**	**16 28 23.7**	**+0.2**
TWD	**Chiawan** baz=279	**0.81**	**279**	P		**Pb**	**16 28 11.6**	**0.0**
TWD	baz=279			*e*S		**Sb**	**16 28 22.3**	**+0.2**
NANB	**Nanao** baz=306	**0.81**	**306**	P		**Pb**	**16 28 11.8**	**+0.1**
NANB	baz=306			*e*S		**Sn**	**16 28 23.9**	**-0.1**
ENA	**Nanau** baz=306	**0.82**	**306**	P		**Pb**	**16 28 11.6**	**-0.2**
ENA	baz=306			*e*S		**Sn**	**16 28 23.5**	**-0.7**
NACB	**Ninganchiao** baz=285	**0.83**	**286**	P		**Pn**	**16 28 12.5**	**-0.3**
NACB	baz=285			*e*S		**Sn**	**16 28 24.9**	**+0.5**
TWC	**Suao** baz=320	**0.87**	**319**	P		**Pb**	**16 28 12.3**	**-0.4**
TWC	baz=320			*e*S		**Sb**	**16 28 24.1**	**+0.3**
ESL	**Shilin** baz=261	**0.96**	**262**	*e*P		**Pb**	**16 28 14.2**	**0.0**
ESL	baz=261			*e*S		**Sn**	**16 28 27.5**	**-0.1**
EGS	baz=332	**1.02**	**331**	*e*P		**Pb**	**16 28 15.2**	**0.0**
ILA	**Ilan** baz=321	**1.05**	**321**	P		**Pb**	**16 28 15.6**	**-0.1**
ILA	baz=321			S		**Sn**	**16 28 30.8**	**+1.1**
HGSD	**Ruisui** baz=244	**1.06**	**245**	*e*P		**Pn**	**16 28 15.6**	**-0.3**
HGSD	baz=244			*e*S		**Sn**	**16 28 30.1**	**0.0**
TWE	**Neicheng** baz=317	**1.06**	**317**	P		**Pb**	**16 28 16.5**	**+0.5**
TWE	baz=317			*e*S		**Sb**	**16 28 29.8**	**+0.4**
ENTT	**Nioudou** baz=310	**1.07**	**310**	*e*P		**Pb**	**16 28 16.7**	**+0.5**
ENTT	baz=310			*e*S		**Sb**	**16 28 29.8**	**0.0**
NTC	**Toucheng** baz=327	**1.07**	**327**	P		**Pn**	**16 28 15.7**	**-0.4**
NTC	baz=327			*e*S		**Sn**	**16 28 31.0**	**+0.5**
NNSB	**Datong** baz=295	**1.10**	**296**	*e*P		**Pb**	**16 28 17.1**	**+0.4**
NNSB	baz=295			*e*S		**Sn**	**16 28 31.3**	**0.0**
SLBB	**Yuanshan** baz=316	**1.10**	**317**	P		**Pb**	**16 28 17.3**	**+0.6**
SLBB	baz=316			*e*S		**Sn**	**16 28 31.2**	**-0.1**
NNS	**Nan Shan** baz=296	**1.11**	**296**	*e*P		**Pn**	**16 28 16.2**	**-0.6**
WHF	**Hehuan Shan** baz=280	**1.12**	**280**	*e*P		**Pn**	**16 28 16.6**	**-0.5**
WHF	baz=280			*e*S		**Sb**	**16 28 31.5**	**0.0**
EHY	**Hungye** baz=247	**1.14**	**247**	*e*P		**Pb**	**16 28 17.4**	**+0.1**
EHY	baz=247			*e*S		**Sn**	**16 28 32.1**	**0.0**
TWB1	**Santiao Chiao** baz=338	**1.14**	**338**	P		**Pn**	**16 28 17.0**	**-0.1**
TWB1	baz=338			*e*S		**Sb**	**16 28 30.8**	**-0.9**
TIPB	**Shuangxi** baz=330	**1.18**	**330**	*e*P		**Pb**	**16 28 18.1**	**+0.2**
TIPB	baz=330			*e*S		**Sb**	**16 28 32.9**	**+0.2**
CHGB	**Renai** baz=275	**1.19**	**276**	*e*P		**Pn**	**16 28 17.9**	**0.0**
CHGB	baz=275			*e*S		**Sn**	**16 28 33.6**	**0.0**
NWLT	**Wulai** baz=313	**1.21**	**313**	*e*P		**Pn**	**16 28 17.9**	**-0.1**
NWLT	baz=313			*e*S		**Sn**	**16 28 33.8**	**0.0**
YULB	**Yu-li** baz=242	**1.21**	**243**	P		**Pn**	**16 28 18.1**	**+0.1**
YULB	baz=242			*e*S		**Sn**	**16 28 34.0**	**+0.2**
IRIF	**Iriomote-Funau**	**1.22**	**71**	P		**Pn**	**16 28 18.2**	**+0.1**
IRIF				*e*S		**Sn**	**16 28 34.2**	**+0.3**
TWT	**Tachien** baz=284	**1.22**	**285**	*e*P		**Pb**	**16 28 18.8**	**+0.1**
TWT	baz=284			*e*S		**Sn**	**16 28 35.0**	**+0.6**
HATJ	**Hateruma jima**	**1.23**	**85**	P		**Pn**	**16 28 18.1**	**-0.1**
HATJ				S		**Sb**	**16 28 34.3**	**+0.2**
TWF1	**Yuli** baz=240	**1.23**	**241**	P		**Pn**	**16 28 18.3**	**0.0**
TWF1	baz=240			*e*S		**Sb**	**16 28 34.4**	**+0.2**
YHNB	**Yeheng** baz=305	**1.23**	**306**	P		**Pn**	**16 28 18.6**	**+0.2**
YHNB	baz=305			*e*S		**Sn**	**16 28 34.7**	**+0.3**
VWDT	**VWDT** baz=260	**1.23**	**261**	P		**Pn**	**16 28 18.6**	**+0.3**
VWDT	baz=260			*e*S		**Sb**	**16 28 34.4**	**+0.2**
TDCB	**Techi** baz=284	**1.23**	**284**	P		**Pn**	**16 28 18.7**	**+0.2**
TDCB	baz=284			*e*S		**Sn**	**16 28 34.8**	**+0.2**
NSK	**Sanguang** baz=305	**1.25**	**306**	*e*P		**Pn**	**16 28 18.9**	**+0.3**
NSK	baz=305			*e*S		**Sn**	**16 28 34.5**	**-0.3**
NWF	**Wu-fen Shan** baz=330	**1.28**	**331**	P		**Pn**	**16 28 18.7**	**-0.4**
NWF	baz=330			*e*S		**Sn**	**16 28 35.8**	**+0.1**
WFSB	**Wu-fen Shan** baz=330	**1.28**	**331**	P		**Pb**	**16 28 19.6**	**-0.1**
WFSB	baz=330			*e*S		**Sb**	**16 28 35.9**	**+0.2**
TWA	**Mucha** baz=322	**1.31**	**322**	*e*P		**Pn**	**16 28 19.6**	**+0.2**
TWA	baz=322			*e*S		**Sb**	**16 28 36.5**	**0.0**
CHKT	**Chengkung** baz=229	**1.32**	**230**	*e*P		**Pn**	**16 28 19.6**	**+0.1**
CHKT	baz=229			*e*S		**Sn**	**16 28 36.4**	**-0.1**
TATO	**Taipei** baz=319	**1.36**	**319**	*e*P		**Pb**	**16 28 21.0**	**0.0**
TATO	baz=319			*e*S		**Sn**	**16 28 37.5**	**0.0**
SSLB	**Suanglung** baz=263	**1.40**	**264**	*e*P		**Pn**	**16 28 20.8**	**+0.2**
SSLB	baz=263			*e*S		**Sb**	**16 28 38.9**	**-0.2**
TAP	**Taipei** baz=321	**1.40**	**321**	*e*S		**Sb**	**16 28 38.8**	**-0.2**
WLTB	**Daxi** baz=309	**1.43**	**309**	*e*P		**Pn**	**16 28 21.4**	**+0.4**
WLTB	baz=309			*e*S		**Sb**	**16 28 39.7**	**-0.3**
JKRS	**Kuro-shima**	**1.44**	**78**	P		**Pb**	**16 28 22.0**	**-0.3**
JKRS				S		**Sb**	**16 28 40.4**	**+0.2**
SMLT	**Sun Moon Lake** baz=267	**1.44**	**268**	*e*P		**Pb**	**16 28 23.1**	**+0.7**
SMLT	baz=267			*e*S		**Sn**	**16 28 39.1**	**-0.4**
YM07	**YM07** baz=327	**1.45**	**328**	*e*P		**Pn**	**16 28 21.6**	**+0.2**
YM07	baz=327			*e*S		**Sb**	**16 28 40.2**	**-0.2**
YM01	**YM01** baz=325	**1.45**	**326**	*e*P		**Pb**	**16 28 23.2**	**+0.7**
YM01	baz=325			*e*S		**Sn**	**16 28 40.1**	**+0.4**
YM10	**YM10** baz=325	**1.46**	**326**	*e*P		**Pn**	**16 28 21.9**	**+0.4**
YM10	baz=325			*e*S		**Sn**	**16 28 40.0**	**-0.1**
YM11	**YM11** baz=326	**1.46**	**326**	*e*P		**Pn**	**16 28 21.6**	**+0.1**
YM11	baz=326			*e*S		**Sn**	**16 28 40.5**	**+0.3**
YM05	**YM05** baz=325	**1.46**	**326**	*e*P		**Pn**	**16 28 22.0**	**+0.4**
YM05	baz=325			*e*S		**Sn**	**16 28 40.4**	**+0.2**
YUS	**Yu-Shan** baz=251	**1.46**	**252**	*e*P		**Pn**	**16 28 21.8**	**-0.2**
YUS	baz=251			*e*S		**Sn**	**16 28 40.5**	**-0.3**
YM04	**YM04** baz=324	**1.47**	**325**	*e*P		**Pn**	**16 28 21.6**	**-0.1**
YM04	baz=324			*e*S		**Sn**	**16 28 40.6**	**+0.3**
YM08	**YM08** baz=327	**1.47**	**327**	*e*P		**Pb**	**16 28 23.6**	**+0.6**
YM08	baz=327			*e*S		**Sn**	**16 28 40.6**	**+0.3**
TYC	**Yuchr** baz=268	**1.48**	**269**	*e*P		**Pn**	**16 28 21.6**	**-0.1**
TYC	baz=268			*e*S		**Sn**	**16 28 40.6**	**+0.3**
TWS1	**Kuangyinshan** baz=320	**1.49**	**320**	*e*P		**Pn**	**16 28 22.0**	**+0.1**
TWS1	baz=320			*e*S		**Sn**	**16 28 41.0**	**+0.1**
LIOB	**Emei** baz=297	**1.50**	**298**	*e*P		**Pn**	**16 28 22.3**	**+0.3**
LIOB	baz=297			*e*S		**Sb**	**16 28 41.5**	**-0.4**
NSTT	**Nanjuang** baz=297	**1.50**	**297**	*e*P		**Pn**	**16 28 22.4**	**+0.4**
NSTT	baz=297			*e*S		**Sb**	**16 28 42.1**	**0.0**
NTST	**Danshui** baz=322	**1.52**	**323**	*e*P		**Pn**	**16 28 22.8**	**+0.5**
NTST	baz=322			*e*S		**Sn**	**16 28 42.1**	**+0.5**
ELDTW	**Lidau** baz=240	**1.53**	**241**	*e*P		**Pn**	**16 28 22.3**	**-0.2**
ELDTW	baz=240			*e*S		**Sn**	**16 28 42.1**	**+0.1**
TWY	**Chenhua** baz=329	**1.54**	**329**	*e*P		**Pn**	**16 28 22.6**	**0.0**
TWY	baz=329			*e*S		**Sn**	**16 28 42.6**	**+0.6**
NCU	**National Centr** baz=311	**1.55**	**311**	*e*P		**Pn**	**16 28 23.2**	**+0.5**
NCU	baz=311			*e*S		**Sn**	**16 28 42.7**	**+0.5**
JIJ	**Ishigaki jima**	**1.58**	**75**	P		**Pn**	**16 28 23.2**	**0.0**
JIJ				*e*S		**Sn**	**16 28 42.8**	**-0.2**
ALS	**Alishan** baz=253	**1.59**	**254**	*e*P		**Pn**	**16 28 23.6**	**+0.1**
ALS	baz=253			*e*S		**Sn**	**16 28 44.1**	**+0.6**
SBCB	**Hsinchu** baz=301	**1.59**	**302**	*e*S		**Sn**	**16 28 43.2**	**0.0**
TWQ1	**Liyutan** baz=284	**1.60**	**285**	*e*P		**Pn**	**16 28 23.9**	**+0.5**
TWQ1	baz=284			*e*S		**Sn**	**16 28 43.4**	**-0.1**
WJS	**Zhushan** baz=265	**1.60**	**266**	*e*P		**Pn**	**16 28 24.0**	**+0.6**
WJS	baz=265			*e*S		**Sn**	**16 28 43.2**	**-0.2**
NSY	**Sanyi** baz=286	**1.63**	**287**	*e*P		**Pn**	**16 28 24.6**	**+0.8**
NSY	baz=286			*e*S		**Sn**	**16 28 44.0**	**-0.2**
WNT	**Mingjian** baz=267	**1.64**	**268**	*e*P		**Pb**	**16 28 25.4**	**-0.3**
WNT	baz=267			*e*S		**Sn**	**16 28 44.8**	**+0.5**
NMLH	**Miaoli** baz=291	**1.64**	**291**	*e*P		**Pn**	**16 28 24.1**	**+0.2**
NMLH	baz=291			*e*S		**Sn**	**16 28 44.4**	**-0.1**
TCU	**Taichung** baz=276	**1.65**	**277**	*e*P		**Pb**	**16 28 25.1**	**-0.8**
TCU	baz=276			*e*S		**Sb**	**16 28 45.7**	**-0.7**
CHN5	**Tsauling** baz=258	**1.68**	**258**	*e*P		**Pb**	**16 28 26.0**	**-0.5**
CHN5	baz=258			*e*S		**Sn**	**16 28 45.5**	**0.0**
PTSB	**Yuanli** baz=287	**1.69**	**287**	*e*P		**Pn**	**16 28 24.5**	**-0.1**
PTSB	baz=287			*e*S		**Sn**	**16 28 45.8**	**+0.2**
TTN	**Taitung** baz=225	**1.70**	**226**	*e*P		**Pn**	**16 28 24.6**	**-0.1**
TTN	baz=225			*e*S		**Sn**	**16 28 46.1**	**+0.2**
TWGBT	**Beinan** baz=228	**1.70**	**229**	*e*P		**Pn**	**16 28 25.0**	**+0.2**
TWGBT	baz=228			*e*S		**Sn**	**16 28 46.1**	**+0.1**
TWG	**Pinlang** baz=228	**1.71**	**229**	*e*P		**Pn**	**16 28 25.1**	**+0.3**
TWG	baz=228			*e*S		**Sn**	**16 28 44.8**	**-1.3**
WCHH	**Zhanghua** baz=274	**1.75**	**275**	*e*P		**Pn**	**16 28 25.5**	**+0.1**
WCHH	baz=274			*e*S		**Sn**	**16 28 48.1**	**+0.9**
STYT	**Tauyuan** baz=243	**1.75**	**244**	*e*P		**Pn**	**16 28 26.1**	**+0.5**
STYT	baz=243			*e*S		**Sn**	**16 28 47.9**	**+0.5**
WGK	**Gukeng** baz=261	**1.77**	**262**	*e*P		**Pn**	**16 28 26.8**	**+1.1**
WGK	baz=261			*e*S		**Sn**	**16 28 48.2**	**+0.7**
WDLH	**Douliu** baz=261	**1.79**	**262**	*e*P		**Pn**	**16 28 26.4**	**+0.5**
WDLH	baz=261			*e*S		**Sn**	**16 28 48.5**	**+0.5**
JISG	**Ishigakijimahi**	**1.80**	**69**	P		**Pn**	**16 28 26.0**	**-0.1**
JISG				*e*S		**Sn**	**16 28 47.7**	**-0.6**
TPUB	**Ta-pu** baz=249	**1.81**	**249**	*e*P		**Pn**	**16 28 27.4**	**+1.1**
TPUB	baz=249			*e*S		**Sn**	**16 28 48.4**	**-0.2**
CHN4	**Tsaushan** baz=250	**1.82**	**251**	*e*P		**Pn**	**16 28 27.0**	**+0.5**
CHN4	baz=250			*e*S		**Sn**	**16 28 49.0**	**+0.1**
CHN2	**Minshiung** baz=257	**1.87**	**258**	*e*S		**Sn**	**16 28 50.2**	**0.0**
SLGT	**Liugui** baz=240	**1.93**	**241**	*e*P		**Pn**	**16 28 28.0**	**+0.1**
SLGT	baz=240			*e*S		**Sn**	**16 28 51.2**	**-0.3**
CHY	**Chiayi** baz=256	**1.93**	**257**	*e*S		**Sn**	**16 28 52.1**	**+0.6**
RLNB	**Erlin** baz=268	**1.93**	**269**	*e*P		**Pn**	**16 28 28.2**	**+0.3**
RLNB				*e*S		**Sn**	**16 28 52.1**	**+0.5**
SGST	**Jiashian** baz=243	**1.93**	**244**	*e*P		**Pn**	**16 28 28.1**	**+0.1**
SGST	baz=243			*e*S		**Sn**	**16 28 51.5**	**-0.2**
CHN1	**Nanshi** baz=246	**1.94**	**247**	*e*P		**Pn**	**16 28 29.4**	**+1.4**
CHN1	baz=246			*e*S		**Sn**	**16 28 51.9**	**+0.1**
ECL	**Taimali** baz=225	**1.94**	**226**	*e*P		**Pn**	**16 28 28.8**	**+0.7**
ECL	baz=225			*e*S		**Sn**	**16 28 51.2**	**-0.5**
TWK	**Hsinying** baz=249	**1.94**	**250**	*e*P		**Pn**	**16 28 27.9**	**-0.3**
TWK	baz=249			*e*S		**Sn**	**16 28 51.5**	**-0.4**
WTCT	**Ta-ch'eng** baz=267	**2.00**	**268**	*e*S		**Sn**	**16 28 54.3**	**+0.9**
WLGB	**Puzi** baz=256	**2.04**	**257**	*e*S		**Sn**	**16 28 55.2**	**+0.9**
SSD	**Sandimen** baz=234	**2.07**	**235**	*e*P		**Pn**	**16 28 30.1**	**+0.2**
SSD	baz=234			*e*S		**Sn**	**16 28 55.1**	**0.0**
LAY	**Lan-yu** baz=203	**2.08**	**204**	*e*S		**Sn**	**16 28 53.8**	**-1.6**
TAW	**Tawu** baz=222	**2.15**	**223**	*e*S		**Sn**	**16 28 58.1**	**+1.2**
MASBT	**Mashibuluo** baz=231	**2.15**	**232**	*e*P		**Pn**	**16 28 31.2**	**+0.3**
MASBT	baz=231			*e*S		**Sn**	**16 28 57.4**	**+0.4**
JTJ	**Tarama**	**2.15**	**71**	*e*S		**Sn**	**16 28 57.0**	**0.0**
CHN8	**Yiju** baz=253	**2.16**	**254**	*e*P		**Pn**	**16 28 32.2**	**+1.2**
CHN8	baz=253			*e*S		**Sn**	**16 28 58.3**	**+1.2**
EAST	**Anshuo** baz=223	**2.16**	**224**	*e*P		**Pn**	**16 28 31.5**	**+0.4**
EAST	baz=223			*e*S		**Sn**	**16 28 57.3**	**0.0**
TWM1	**Shoushan** baz=239	**2.19**	**240**	*e*S		**Sn**	**16 28 58.2**	**+0.2**
SCZT	**Fangliau** baz=227	**2.31**	**228**	*e*P		**Pb**	**16 28 35.7**	**-1.6**
SCZT	baz=227			*e*S		**Sn**	**16 29 00.9**	**-0.2**
TSEB	**Hengchuen, Pin** baz=216	**2.50**	**216**	*e*S		**Sn**	**16 29 07.0**	**+1.3**
HEN	**Hengchun** baz=219	**2.51**	**220**	*e*S		**Sn**	**16 29 06.5**	**+0.6**
TWKBT	**Hengchun** baz=217	**2.52**	**218**	*e*P		**Pn**	**16 28 37.4**	**+1.4**
TWKBT	baz=217			*e*S		**Sn**	**16 29 06.6**	**+0.5**
PHUB	**P'eng-hu** baz=260	**2.69**	**261**	*e*P		**Pn**	**16 28 37.9**	**-0.4**
PHUB	baz=260			*e*S		**Sn**	**16 29 10.4**	**+0.1**
PTTC	**Pingtan** baz=302	**2.90**	**303**	*e*P		**Pn**	**16 28 41.4**	**+0.1**
PTTC	baz=302			*e*S		**Sn**	**16 29 14.2**	**-1.3**
VWUC	**VWUC** baz=290	**2.94**	**291**	*e*P		**Pn**	**16 28 42.2**	**+0.4**
VWUC	baz=290			*e*S		**Sn**	**16 29 15.0**	**-1.6**
MATB	**Ma-tsu** baz=313	**3.17**	**314**	*e*P		**Pn**	**16 28 46.3**	**+1.3**
MATB	baz=313			*e*S		**Sn**	**16 29 20.6**	**-1.6**
PTMZ	**Houxiangcun** baz=289	**3.24**	**290**	*e*P		**Pn**	**16 28 46.5**	**+0.5**
PTMZ	baz=289			*e*S		**Sn**	**16 29 21.7**	**-2.2**
XPSS	**Dashiqiu** baz=325	**3.61**	**326**	*e*P		**Pn**	**16 28 51.0**	**-0.1**
KNMB	**Chin-men Tao** baz=277	**3.76**	**279**	*e*P		**Pn**	**16 28 53.2**	**0.0**
KNMB	baz=277			*e*S		**Sn**	**16 29 34.3**	**-2.5**
MHZQ	**Yeshan** baz=304	**3.78**	**305**	*e*S		**Sn**	**16 29 34.6**	**-2.8**
AXDP	**Jialang** baz=283	**4.21**	**284**	*e*P		**Pn**	**16 28 59.5**	**+0.2**

*ISCJB **06** 16:28:18.9±0.2,26°.24S±0°.02×178°.24E±0°.04, h631km, mb4.9/92, Error ellipse: s-maj=4.4km s-min=2.6km az=170.7*
*MOS **06** 16:28:18.9±2.1,26°.10S×178°.14E, h619km, mb5.0/17, Error ellipse: s-maj=12.3km s-min=9.7km az=39.2*
*IDC **06** 16:28:18.9±0.8,26°.16S×178°.39E, h622km±8km, mb4.3/33, mb1 4.4/35, mb1mx4.3/46, mbtmp5.3/35, Error ellipse: s-maj=11.0km s-min=8.2km az=60.0*
*NEIC **06** 16:28:19.2±0.5,26°.25S×178°.38E, h632km±6km, mb5.1/63, Error ellipse: s-maj=6.0km s-min=5.1km az=65.0*
*WEL **06** 16:28:19.0,26°.25S×178°.38E, h632km*
*BJI **06** 16:28:19.2,25°.89S×178°.46E, h633km, mb4.8/38, mB5.2/23*
*GCMT **06** 16:28:23.2±0.2,26°.22S±0°.02×178°.34E±0°.03, h642km±2km, MW5.4/84, Moment Tensor Solution. s84,c113; Duration: 1§2 Moment tensor: Scale 10^17^Nm; Mrr-0.17±.03; Mθθ0.78±.05; Mϕϕ-0.61±.05; Mrθ-0.57±.04; Mθϕ-1.11±.05; Mϕr-0.79±.04; Best double couple: M0 1.60000×10^17^ NP1:ϕs78.00000°, δ73.00000°, λ-154.00000°. NP2:ϕs339.00000°, δ65.00000°, λ-19.00000°. Principal axes: T 1.4030, Plg5.0000°, Azm207.0000°; N 0.3940, Plg59.0000°, Azm108.0000°; P -1.7970, Plg31.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
ISC 06 16:28:19.5±0.3**,26°.23S**±0°.05×**178°.40E**±0°.05**, h631**km**, n624,** σ1§**43**/665**, mb4.9**/92**, 75C-9D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**4.43**	**134**	P		**P**	**16 29 50.1**	**+0.1**
RAO	**Raoul Island** 492nm,0.3s,baz=70,slow=10.0,SNR=19	**4.44**	**134**	P		**P**	**16 29 49.7**	**-0.4**
RAO	**Raoul Island**	**4.44**	**134**	*e*P		**P**	**16 29 49.0**	**-1.2**
RAO	**Raoul Island**	**4.44**	**134**	*e*P		**P**	**16 29 49.0**	**-1.2**
GLKZ	**Green Lake**	**4.45**	**134**	P		**P**	**16 29 51.0**	**+0.8**
GLKZ				S		**S**	**16 31 09.3**	**+4.9**
NFK	**Norfolk Island** baz=9.7,SNR=6.7	**9.69**	**251**	P		**P**	**16 30 36.9**	**+1.0**
OUZ	**Omahuta**	**9.87**	**204**	*e*P		**P**	**16 30 39.3**	**+1.9**
OUZ	**Omahuta**	**9.87**	**204**	P		**P**	**16 30 39.4**	**+1.9**
WCZ	**Waipu Caves**	**10.29**	**199**	P		**P**	**16 30 43.6**	**+2.1**
GRZ	**Great Barrier**	**10.30**	**193**	P		**P**	**16 30 43.2**	**+1.5**
KUZ	**Kuaotunu**	**10.73**	**192**	P		**P**	**16 30 46.9**	**+1.0**
ABAZ	**Army Bay**	**10.78**	**196**	P		**P**	**16 30 48.6**	**+2.3**
WIAZ	**Waiheke Island**	**10.90**	**194**	P		**P**	**16 30 49.1**	**+1.6**
MBAZ	**Motutapu North**	**10.93**	**195**	P		**P**	**16 30 49.2**	**+1.5**
RVAZ	**Riverhead Bore**	**11.00**	**196**	P		**P**	**16 30 49.8**	**+1.3**
HBAZ	**Herne Bay Bore**	**11.04**	**196**	P		**P**	**16 30 50.5**	**+1.6**
EPAZ	**Eden Park BICE**	**11.06**	**195**	P		**P**	**16 30 50.8**	**+1.7**
ETAZ	**East Tamaki Re**	**11.10**	**195**	P		**P**	**16 30 51.2**	**+1.8**
WTAZ	**Waiatarua**	**11.16**	**196**	P		**P**	**16 30 51.5**	**+1.5**
MKAZ	**Moumakai**	**11.19**	**193**	P		**P**	**16 30 51.4**	**+1.2**
KBAZ	**Karaka Road Bo**	**11.24**	**195**	P		**P**	**16 30 52.5**	**+1.7**
MXZ	**Matakaoa Point**	**11.30**	**180**	*e*P		**P**	**16 30 48.3**	**-3.0**
HAZ	**Te Kaha**	**11.51**	**182**	P		**P**	**16 30 51.1**	**-2.2**
HAZ				S		**S**	**16 32 53.0**	**-6.4**
WMGZ	**Waiomatatini S**	**11.56**	**180**	P		**P**	**16 30 51.5**	**-2.3**
WMGZ				S		**S**	**16 32 55.6**	**-4.7**
TGRZ	**Tauranga**	**11.61**	**188**	P		**P**	**16 30 56.6**	**+2.3**
PKGZ	**Pakihiroa**	**11.63**	**181**	P		**P**	**16 30 52.1**	**-2.4**
PKGZ				S		**S**	**16 32 58.1**	**-3.5**
PKGZ	**Pakihiroa**	**11.63**	**181**	P		**S**	**16 32 58.8**	**-2.9**
DZM	**Mont Dzumac** 16nm,0.3s,baz=112,slow=7.0,SNR=178	**11.67**	**288**	P		**P**	**16 30 56.0**	**+0.7**
DZM	**Mont Dzumac**	**11.67**	**288**	*e*P		**P**	**16 30 56.0**	**+0.7**
OPRZ	**Ohinepanea**	**11.69**	**187**	P		**P**	**16 30 56.2**	**+1.2**
RUGZ	**Raukumara Rang**	**11.72**	**183**	P		**P**	**16 30 52.8**	**-2.7**
RUGZ	**Raukumara Rang**	**11.72**	**183**	P		**S**	**16 33 01.6**	**-1.7**
TOZ	**Tahuroa Road**	**11.73**	**191**	P		**P**	**16 30 56.8**	**+1.4**
PUZ	**Puketiti**	**11.81**	**181**	P		**P**	**16 30 53.9**	**-2.3**
PUZ				S		**S**	**16 33 00.2**	**-4.5**
PUZ	**Puketiti**	**11.81**	**181**	P		**S**	**16 32 58.5**	**-6.2**
KARZ	**Kaharoa**	**11.90**	**188**	P		**P**	**16 30 58.9**	**+1.8**
TWGZ	**Tauwhareparae**	**11.92**	**182**	P		**P**	**16 30 55.4**	**-1.9**

TWGZ Tauwhareparae 11.92 182 P S 16 33 01.7 -4.9
OMRZ Omania 11.97 188 P P 16 30 59.8 +2.0
URZ Urewera 12.05 185 P P 16 30 55.1 -3.3
6.4nm,0.3s,baz=272,slow=4.6,SNR=122
URZ S S 16 33 01.9 -6.8
3.7nm,0.3s,baz=229,slow=19,SNR=6.5
URZ Urewera 12.05 185 eP P 16 30 55.9 -2.5
URZ S S 16 33 01.9 -6.8
URZ Urewera 12.05 185 P P 16 30 55.9 -2.5
URZ S S 16 33 04.1 -4.5
URZ Urewera 12.05 185 P S 16 33 04.8 -3.8
UTU Utuhina 12.06 188 P P 16 31 03.4 +4.8
TARZ Mount Tarawera 12.08 187 P P 16 31 00.6 +1.7
MWZ Matawai 12.10 183 P P 16 30 56.6 -2.4
MWZ S S 16 33 05.8 -3.8
MWZ Matawai 12.10 183 P S 16 33 05.0 -4.7
RRRZ Republican Roa 12.18 187 P P 16 31 02.4 +2.6
HSRZ Hossack Road 12.19 188 P P 16 31 02.2 +2.4
TKGZ Te Karaka 12.19 182 P P 16 30 57.5 -2.3
TKGZ Te Karaka 12.19 182 P S 16 33 06.1 -4.9
CNGZ Carnagh Statio 12.22 181 P P 16 30 58.4 -1.7
CNGZ Carnagh Statio 12.22 181 P S 16 33 07.1 -4.6
GRRZ Galatos Road 12.24 189 P P 16 31 02.0 +1.7
RAGZ Rawiri 12.26 184 P P 16 31 00.2 -0.4
MUGZ Murupara 12.29 186 P P 16 30 59.5 -1.3
PRRZ Plateau Road 12.35 187 P P 16 31 01.6 +0.2
WPRZ Whakapapatarin 12.40 188 P P 16 31 02.5 +0.7
RTZ Ruatahuna 12.41 185 P P 16 31 01.3 -0.7
KUTZ Kaahu Road 12.42 189 P P 16 31 03.8 +1.8
RIGZ Rimuhau 12.46 182 P P 16 31 00.4 -2.0
RIGZ Rimuhau 12.46 182 P S 16 33 10.1 -5.7
SNGZ Shannon Statio 12.55 184 P P 16 31 01.4 -1.9
SNGZ Shannon Statio 12.55 184 P S 16 33 16.0 -1.5
WHTZ Whakaora 12.57 189 P P 16 31 06.3 +2.7
HIZ Hauiti 12.61 193 eP P 16 31 04.0 +0.2
MTHZ Maungataniwha 12.66 186 P P 16 31 03.5 -0.8
MTHZ Maungataniwha 12.66 186 P S 16 33 16.8 -2.5
PRGZ Paritu Road 12.67 182 P P 16 31 04.4 0.0
MRHZ Matea Rd 12.68 187 P P 16 31 03.8 -0.7
RAHZ Arahi 12.70 185 P P 16 31 03.0 -1.7
RAHZ Arahi 12.70 185 P S 16 33 19.0 -1.0
RAHZ P S 16 33 19.1 -1.0
KNZ Kokohu 12.78 183 P P 16 31 03.3 -2.1
RATZ Rangitukua 12.80 189 P P 16 31 06.9 +1.2
WHHZ Waihua 12.85 184 P P 16 31 06.7 +0.6
WHHZ Waihua 12.85 184 P S 16 33 19.7 -2.9
RITZ Rihia Road 12.89 189 P P 16 31 06.9 +0.4
MHGZ Mahia Peninsul 12.90 182 P P 16 31 05.9 -0.6
NMHZ Naumai 12.90 186 P P 16 31 07.6 +1.0
NIUE Niue 12.91 59 P P 16 31 08.1 +1.1
baz=13,SNR=8.6
NIUE Niue 12.91 59 eP P 16 31 07.0 0.0
BKZ Black Stump Fm 13.00 187 eP P 16 31 05.4 -2.2
BKZ Black Stump Fm 13.00 187 P P 16 31 05.2 -2.4
BKZ Black Stump Fm 13.00 187 P S 16 33 23.5 -1.8
ARHZ Aropaoanui 13.05 185 P P 16 31 08.0 0.0
ARHZ Aropaoanui 13.05 185 P S 16 33 26.3 +0.3
WTVZ West Tongariro 13.07 190 P S 16 31 08.9 +0.6
MCHZ McNeill Hill 13.26 186 P S 16 33 29.5 0.0
KWHZ Kaweka Forest 13.27 187 P S 16 33 28.0 -1.7
KRHZ Kereru 13.49 187 P P 16 31 10.9 -1.3
KRHZ Kereru 13.49 187 P S 16 33 34.2 +0.8
KAHZ Kahuranaki 13.59 185 P S 16 33 31.1 -4.1
PNHZ Pukenui 13.77 187 P S 16 33 37.7 -0.6
PXZ Pawanui 13.83 185 P S 16 33 36.1 -3.0
WPHZ Waipukurau 13.90 186 P S 16 33 41.8 +1.5
TSZ Takapari Road 13.95 188 P S 16 33 41.6 +0.5
PRHZ Porangahau 14.08 186 P S 16 33 43.6 +0.3
DVHZ Dannevirke 14.16 187 P S 16 33 43.8 -0.8
ANWZ Angora Road 14.29 186 P S 16 33 44.8 -1.8
POWZ Post Office Ro 14.30 188 P S 16 33 45.1 -1.7
PRWZ Pori Road 14.43 187 P S 16 33 51.0 +2.0
BFZ Birch Farm 14.53 187 eP P 16 31 19.8 -2.1
BFZ Birch Farm 14.53 187 P S 16 33 49.7 -0.9
BFZ P S 16 33 49.7 -0.9
MRZ Mangatainoka R 14.59 189 P S 16 33 53.3 +1.7
HOWZ Holdsworth Sta 14.83 189 P S 16 33 54.7 -0.9
KIW Kapiti Island 14.88 190 P S 16 33 56.8 +0.4
DUWZ D'Urville Isla 15.01 193 P S 16 33 59.5 -0.2
MTW Mount Morrison 15.09 188 P S 16 33 59.5 -0.2
CAW Cannon Point 15.10 190 P S 16 33 59.8 -0.1
TCW Tory Channel 15.33 192 P S 16 34 02.5 -1.1
SNZO South Karori 15.35 191 eP P 16 31 28.5 -0.9
459nm,0.6s
BHW Baring Head 15.42 190 P S 16 34 08.2 +3.1
NNZ Nelson 15.52 194 P S 16 34 09.1 +2.4
PLWZ Palliser 15.52 189 P S 16 34 08.1 +1.2
TUWZ Tuamarina 15.61 193 P S 16 34 09.0 +0.8
THZ Tophouse 16.15 195 eP P 16 31 35.9 -0.7
402nm,0.6s
KHZ Kahutara 16.64 193 eP P 16 31 39.9 -1.1
480nm,0.7s
KHZ Kahutara 16.64 193 P S 16 34 24.6 -0.3
LTZ Lake Taylor 17.26 195 eP P 16 31 45.7 -1.2
377nm,0.5s
LTZ Lake Taylor 17.26 195 P S 16 34 37.1 +1.9
INZ Inchbonnie 17.42 197 P P 16 31 47.7 -0.4
INZ Inchbonnie 17.42 197 P S 16 34 45.4 +7.9
LHI Lord Howe Isla 17.73 248 P P 16 31 50.9 -0.3
baz=18,SNR=9.6
LHI Lord Howe Isla 17.73 248 eP P 16 31 53.2 +2.0
179nm,0.8s
OXZ Oxford 17.83 195 eP P 16 31 50.0 -1.9
529nm,0.7s
OXZ Oxford 17.83 195 P P 16 31 51.0 -1.0
OXZ P 16 31 51.0 -1.0
OXZ Oxford 17.83 195 P S 16 34 45.4 +1.1
CRLZ Canterbury Las 17.94 194 eP P 16 31 51.9 -0.9
107nm,0.9s
WVZ Waitaha Valley 17.94 198 P P 16 31 53.0 +0.2
MQZ McQueen's Vall 18.06 194 eP P 16 31 52.9 -1.0
85nm,0.7s
MQZ McQueen's Vall 18.06 194 P P 16 31 53.5 -0.5
AKCZ Akaroa Harbour 18.16 193 P P 16 31 55.4 +0.4
RPZ Rata Peaks 18.44 197 P P 16 31 56.7 -0.8
6.8nm,0.3s,baz=335,slow=1.3,SNR=33
RPZ Rata Peaks 18.44 197 eP P 16 31 56.2 -1.4
83nm,0.6s
RPZ Rata Peaks 18.44 197 P P 16 31 56.9 -0.6
FOZ Fox Glacier 18.63 200 eP P 16 31 58.2 -1.0
92nm,0.8s
FOZ Fox Glacier 18.63 200 P P 16 31 58.7 -0.5
LBZ Lake Benmore 19.30 198 eP P 16 32 03.3 -2.0
LBZ Lake Benmore 19.30 198 P P 16 32 04.3 -1.0
JCZ Jackson Bay 19.44 201 P P 16 32 06.7 +0.1
ODZ Otahua Downs 19.79 196 eP P 16 32 09.0 -0.7
30nm,0.9s
ODZ Otahua Downs 19.79 196 P P 16 32 09.2 -0.4
WKZ Wanaka 20.04 200 eP P 16 32 10.9 -1.0
63nm,1.0s
WKZ Wanaka 20.04 200 P P 16 32 11.2 -0.8
MSZ Milford Sound 20.25 202 P P 16 32 15.4 +1.6
EAZ Earnscleugh 20.32 199 P P 16 32 14.6 +0.1
MLZ Mavora Lakes 20.81 201 eP P 16 32 18.2 -0.7
110nm,0.9s
MLZ Mavora Lakes 20.81 201 P P 16 32 19.8 +1.0
TUZ Tuapeka 20.90 197 P P 16 32 19.6 +0.1
DCZ Deep Cove 21.21 202 eP P 16 32 21.4 -0.9
46nm,0.7s
WHZ Wether Hill Ro 21.33 200 eP P 16 32 23.6 +0.1
263nm,0.8s
ARMA Armidale 23.91 254 P P 16 32 48.2 +1.5
baz=24,SNR=29
ARMA Armidale 23.91 254 eP P 16 32 47.8 +1.1
45nm,0.6s
HNR Honiara 24.18 310 P P 16 32 48.2 -0.9
224nm,0.9s,baz=174,slow=2.7,SNR=16
HNR Honiara 24.18 310 eP P 16 32 49.0 -0.2
HNR Honiara 24.18 310 eP P 16 32 46.2 -2.9
169nm,0.8s
HNR Honiara 24.18 310 eP P 16 32 46.2 -2.9
HNR pmax pmax
comp=Z,169nm,0.8s
EIDS Eidsvold 24.59 266 P P 16 32 53.2 +0.6
baz=25,SNR=61
EIDS Eidsvold 24.59 266 eP P 16 32 52.5 -0.1
comp=Z,111nm,0.7s
MGCD Mangrove Creek 24.66 247 P P 16 32 55.0 +1.9
baz=25,SNR=78
RIV Riverview 24.72 246 P P 16 32 55.4 +1.8
baz=25,SNR=3.8
CNB Canberra Magne 26.47 243 P P 16 33 10.5 +1.5
baz=26,SNR=30
RMQ Roma 26.54 263 P P 16 33 11.4 +1.7
baz=26,SNR=94
CAN Canberra 26.76 243 eP P 16 33 11.7 +0.1
comp=Z,89nm,2.0s
CAN Canberra 26.76 243 eP P 16 33 11.7 +0.1
CAN pmax pmax
comp=Z,89nm,2.0s
MILA Mila 27.04 239 P P 16 33 15.7 +1.7
baz=27,SNR=6.1
YNG Young 27.06 245 P P 16 33 15.7 +1.5
baz=27,SNR=21
CMSA Cobar Meteorol 29.06 252 P P 16 33 32.1 +0.6
baz=29,SNR=143
TOO Toolangi 30.00 240 P P 16 33 40.3 +0.8
baz=30,SNR=21
TOO Toolangi 30.00 240 eP P 16 33 40.2 +0.8
comp=Z,27nm,1.0s
TOO Toolangi 30.00 240 eP P 16 33 40.3 +0.8
TOO pmax pmax
comp=Z,27nm,1.0s
CTA Charters Tower 30.13 275 P P 16 33 41.5 +0.6
comp=Z,140nm,0.5s,baz=100,slow=11,SNR=458
CTAO Charters Tower 30.13 275 eP P 16 33 41.3 +0.5
comp=Z,139nm,0.8s
CTAO Charters Tower 30.13 275 eP P 16 33 41.3 +0.5
CTAO pmax pmax
comp=Z,139nm,0.8s
MOO Moorlands 30.21 230 P P 16 33 41.3 +0.1
baz=30,SNR=6.1
TAU Tasmania Unive 30.30 229 eP P 16 33 42.4 +0.4
comp=Z,72nm,1.4s
TAU Tasmania Unive 30.30 229 eP P 16 33 42.4 +0.4
TAU pmax pmax
comp=Z,72nm,1.4s
QLP Quilpie 30.55 262 P P 16 33 44.4 +0.1
baz=30,SNR=63
MTSU Mount Surprise 32.50 277 P P 16 34 01.5 +0.6
baz=32,SNR=120
STKA Stephens Creek 32.56 251 P P 16 34 01.9 +0.6
comp=Z,19nm,0.5s,baz=95,slow=11,SNR=69
STKA Stephens Creek 32.56 251 P P 16 34 01.9 +0.6
baz=32,SNR=55
STKA Stephens Creek 32.56 251 eP P 16 34 01.6 +0.4
comp=Z,4.5nm,0.6s
STKA Stephens Creek 32.56 251 eP P 16 34 01.6 +0.4
STKA pmax pmax
comp=Z,5.0nm,0.6s
ARPS Mount Arapiles 32.72 242 P P 16 34 03.2 +0.7
baz=33,SNR=11
RABL Rabaul 33.33 307 eP P 16 34 07.5 -0.4
comp=Z,115nm,0.6s
PMG Port Moresby 33.99 294 P P 16 34 13.2 -0.1
comp=Z,89nm,0.8s,baz=115,slow=5.5,SNR=21
PMG Port Moresby 33.99 294 eP P 16 34 13.0 -0.4
comp=Z,102nm,0.9s
PMG Port Moresby 33.99 294 eP P 16 34 13.0 -0.4
PMG pmax pmax
comp=Z,102nm,0.9s
HTT Hallett 34.83 249 P P 16 34 20.5 +0.3
baz=35,SNR=32
COEN Coen 35.14 283 P P 16 34 23.6 +0.6
baz=35,SNR=81
COEN Coen 35.14 283 eP P 16 34 23.4 +0.5
comp=Z,68nm,0.6s
QIS Mount Isa 35.95 271 P P 16 34 29.4 -0.2
baz=36,SNR=85
BBOO Buckleboo 37.24 250 P P 16 34 39.4 -0.4
baz=37,SNR=49
BBOO Buckleboo 37.24 250 eP P 16 34 39.2 -0.7
comp=Z,44nm,0.6s
AS01 Alice Springs 40.24 264 eP P 16 35 03.6 -0.5
AS31 Alice Springs 40.28 264 eP P 16 35 03.9 -0.5
comp=Z,27nm,0.6s
ASAR Alice Springs 40.28 264 P P 16 35 04.6 +0.2
comp=Z,66nm,0.5s,baz=93,slow=7.6,SNR=1597
ASAR PcP PcP 16 36 52.4 +0.4
comp=Z,7.1nm,0.7s,baz=114,slow=5.4,SNR=4.3
ASAR S S 16 40 25.8 -2.8
comp=Z,28nm,1.0s,baz=101,slow=16,SNR=28
WB2 Warramunga Arr 40.85 269 eP P 16 35 08.1 -0.9
WRAB Tennant Creek 40.86 269 eP P 16 35 08.1 -0.9
comp=Z,97nm,0.6s
WRAB Tennant Creek 40.86 269 deP P 16 35 08.3 -0.7
WRAB pmax pmax
comp=Z,59nm,0.5s
WRA Warramunga Arr 40.86 269 P P 16 35 08.3 -0.7
comp=Z,82nm,0.5s,baz=103,slow=7.8,SNR=830
WRA S S 16 40 34.0 -3.0
comp=Z,9.2nm,0.9s,baz=96,slow=14,SNR=9.9
JAY Jayapura 43.18 297 P P 16 35 27.1 -0.1
comp=Z,29nm,0.3s,baz=187,slow=8.9,SNR=26
JAY Jayapura 43.18 297 P P 16 35 27.4 +0.2
GENI Genyem 43.56 296 P P 16 35 30.4 +0.3
FORT Forrest 44.18 252 P P 16 35 34.1 -0.5
baz=44,SNR=45
FORT Forrest 44.18 252 eP P 16 35 33.3 -1.3
comp=Z,147nm,0.7s
WRKA Warakurna 44.96 260 P P 16 35 40.0 -0.7
baz=45,SNR=102
KDU Kakadu 45.12 278 P P 16 35 40.8 -1.1
baz=45,SNR=73
SRPI Serui, Papua 47.18 294 P P 16 35 57.5 0.0
KNRA Kununurra 47.28 273 P P 16 35 58.2 0.0
baz=47,SNR=67
SAUI Saumlaki 48.22 283 eP P 16 36 05.4 +0.2
comp=Z,142nm,0.7s
SAUI Saumlaki 48.22 283 P P 16 36 05.6 +0.4
FITZ Fitzroy Crossi 49.25 268 P P 16 36 12.6 -0.1
baz=49,SNR=112
FITZ Fitzroy Crossi 49.25 268 eP P 16 36 12.9 +0.1
comp=Z,47nm,0.7s
FAKI Fak Fak 49.93 290 eP P 16 36 17.0 -0.8
comp=Z,40nm,0.8s
FAKI Fak Fak 49.93 290 P P 16 36 17.3 -0.5
GUMO Guam 51.28 316 P P 16 36 26.6 -0.8
comp=Z,100nm,0.4s,baz=354,slow=23,SNR=5.0
SIJI Sorong 51.86 291 P P 16 36 31.5 -0.2
comp=Z,236nm,0.7s,baz=81,slow=23,SNR=113
SWI Sorong 51.87 291 P P 16 36 31.9 +0.2
VNDA Vanda 51.95 185 P P 16 36 32.5 +1.2
comp=Z,9.1nm,0.6s,baz=2.3,slow=7.9,SNR=96
VNDA Vanda 51.95 185 eP P 16 36 31.9 +0.6
comp=Z,10.0nm,0.6s
VNDA Vanda 51.95 185 eP P 16 36 31.9 +0.6
VNDA pmax pmax
comp=Z,10.0nm,0.6s
SBA Scott Base 51.98 183 eP P 16 36 33.3 +1.8
comp=Z,46nm,0.8s
SBA Scott Base 51.98 183 eP P 16 36 33.3 +1.8
SBA pmax pmax
comp=Z,46nm,0.8s
KLBR Kellerberrin 52.78 249 P P 16 36 37.6 -0.4
baz=53,SNR=14
RKGY Rocky Gully 52.92 245 P P 16 36 38.9 -0.1
baz=53,SNR=14
NWAO Narrogin (SRO) 52.98 247 P P 16 36 38.9 -0.4
baz=53,SNR=5.3
MEEK Meekatharra 53.09 255 P P 16 36 39.1 -1.2
baz=53,SNR=38
MBWA Marble Bar 53.58 262 eP P 16 36 42.4 -1.4
comp=Z,19nm,0.8s
SOEI Soe 53.65 277 eP P 16 36 45.6 +1.2
comp=Z,165nm,0.8s
SOEI Soe 53.65 277 P P 16 36 45.9 +1.4
BLDU Ballidu 53.85 250 P P 16 36 44.9 -0.6
baz=54,SNR=132
BATI Baumata 53.99 277 P P 16 36 47.6 +0.8
comp=Z,60nm,0.5s,baz=126,slow=2.0,SNR=11
MUN Mundaring 54.00 248 P P 16 36 46.3 -0.3
baz=54,SNR=17
NLAI Namlea 54.17 286 P P 16 36 47.7 -0.3
MORW Morawa 54.74 252 P P 16 36 51.5 -0.3
baz=55,SNR=39
MORW Morawa 54.74 252 eP P 16 36 51.3 -0.5
comp=Z,39nm,0.5s
SANI Sanana 55.72 287 P P 16 36 57.8 -0.9
TNTI Ternate 56.02 290 eP P 16 37 00.0 -0.7
comp=Z,48nm,0.7s
EDFI Ende, Flores 56.37 277 P P 16 37 03.1 -0.2
WSI Waingapu 57.23 275 P P 16 37 09.0 0.0
CASY Casey 57.39 206 eP P 16 37 08.4 -0.8
comp=Z,31nm,0.6s
KDI Kendari 57.72 283 P P 16 37 11.6 -0.7
GIRL Giralia 58.00 259 P P 16 37 15.1 +1.0
baz=58,SNR=11
LUWI Luwuk 59.00 286 eP P 16 37 20.1 -0.8
comp=Z,82nm,0.8s
LUWI Luwuk 59.00 286 P P 16 37 20.4 -0.5
BKSI Bulukumba 59.28 280 P P 16 37 22.1 -0.7
BNSI Bone 59.72 281 P P 16 37 26.0 +0.3
PLAI Plampang 59.83 275 P P 16 37 26.0 -0.4
SPSI Sidrap Palu 60.22 281 P P 16 37 27.6 -1.4
MRSI Marisa 60.48 287 P P 16 37 29.4 -1.3
DAV Davao City (W) 60.99 295 P P 16 37 33.4 -0.5
comp=Z,108nm,0.5s,baz=338,slow=2.0,SNR=6.8
QSPA South Pole Qui 63.87 180 P P 16 37 52.8 +1.0
comp=Z,81nm,0.6s,baz=19,slow=1.2,SNR=608
TSM Tawau 65.92 288 P P 16 38 06.3 +1.0
KKM Kota Kinabalu 68.23 289 P P 16 38 20.0 +0.5
LEM Lembang 69.79 272 P P 16 38 29.6 +0.7
comp=Z,99nm,0.8s,baz=32,slow=3.9,SNR=8.1
SBUM Sibu 69.89 283 P P 16 38 29.9 +0.6
KSM Kuching 71.11 281 P P 16 38 37.8 +1.4
JOW Kunigami 71.50 314 P P 16 38 37.3 -1.2
comp=Z,29nm,0.7s,baz=130,slow=20,SNR=8.6
INU Inuyama 72.67 326 eP P 16 38 44.6 -0.4
comp=Z,24nm,0.9s
MJAR Matsushiro Arr 73.02 327 P P 16 38 46.1 -0.8
comp=Z,13nm,0.7s,baz=167,slow=6.2,SNR=53
MAJO Matsushiro 73.02 327 eP P 16 38 46.2 -0.7
comp=Z,18nm,0.8s
MAJO Matsushiro 73.02 327 iP P 16 38 46.5 -0.5
MAJO pmax pmax
comp=Z,24nm,0.9s
MAT Matsushiro 73.02 327 P P 16 38 46.2 -0.8
MJB9 Matsu-Tunnel 73.03 327 eP P 16 38 46.2 -0.8
comp=Z,18nm,0.8s
TWG Pinlang 73.86 306 eP P 16 38 50.1 -1.9
comp=Z,103nm,0.6s
JNU Nakatsue 74.33 320 P P 16 38 53.8 -0.7
comp=Z,18nm,0.7s,baz=244,slow=1.7,SNR=24
JNU Nakatsue 74.33 320 eP P 16 38 53.8 -0.7
comp=Z,33nm,1.1s
SSLB Suanglung 74.55 307 eP P 16 38 53.8 -2.1
comp=Z,68nm,1.6s
MAW Mawson 75.07 201 P P 16 38 57.9 -0.1
comp=Z,16nm,0.6s,baz=133,slow=4.5,SNR=14
MAW Mawson 75.07 201 P P 16 38 59.0 +1.0
baz=75,SNR=9.3
ERM Erimo 75.31 334 iP P 16 38 59.0 -0.6
ERM pmax pmax
comp=Z,40nm,1.0s
MYKOM Kota Tinggi 76.96 279 P P 16 39 09.7 +0.4
PMSA Palmer Station 77.35 157 P P 16 39 11.8 +1.3
comp=Z,38nm,0.9s,baz=258,slow=4.4,SNR=4.7
KGM Kluang 77.54 279 P P 16 39 13.1 +0.7
KSRS Korea Array 79.12 321 P P 16 39 20.6 +0.4
comp=Z,7.2nm,0.8s,baz=135,slow=5.8,SNR=33
KS15 Wonju Array Si 79.13 321 eP P 16 39 20.0 -0.4
KSAR Wonju Array Be 79.13 321 P P 16 39 20.6 +0.3
KSAR Wonju Array Be 79.13 321 P P 16 39 20.6 +0.3
KS01 Wonju Array Si 79.15 321 eP P 16 39 19.9 -0.5
KTGM Kuala Trenggan 79.22 281 P P 16 39 22.3 +0.9
YSS Yuzh-Sakhalins 79.64 336 iP P 16 39 23.8 +1.1
YSS e 16 39 26.2
YSS pmax pmax
comp=Z,30nm,0.8s
SYO Syowa Base 80.42 194 eP P 16 39 25.8 -0.8
SYO Syowa Base 80.42 194 ePcP P 16 39 28.0 +1.4
IPM Ipoh 80.70 280 P P 16 39 29.2 +0.1
PETK Petropavlovsk- 81.03 348 P P 16 39 30.3 +0.5
comp=Z,14nm,0.6s,baz=136,slow=6.1,SNR=42
PETK Petropavlovsk- 81.03 348 eP P 16 39 29.4 -0.4
PETK Petropavlovsk- 81.03 348 eP P 16 39 29.4 -0.4
NJ2 Nanjing 81.11 312 eP P 16 39 29.6 -1.1
NJ2 pmax pmax
comp=Z,15nm,0.5s
KULM Kulim 81.40 280 P P 16 39 32.6 0.0
PSI Prapat 81.80 277 P P 16 39 34.2 -0.6
comp=Z,16nm,0.7s,baz=180,slow=5.4,SNR=16
PSI Prapat 81.80 277 eP P 16 39 32.8 -2.1
comp=Z,19nm,0.7s
PSI Prapat 81.80 277 eP P 16 39 32.8 -2.1
PSI pmax pmax
comp=Z,19nm,0.7s
USA0B Ussuriysk Arra 81.95 328 eP P 16 39 35.3 +0.7
comp=Z,158nm,2.0s
USRK Ussuriysk Ar. 81.95 328 P P 16 39 35.5 +0.8
comp=Z,18nm,0.7s,baz=118,slow=4.3,SNR=32
GSI Gunungsitoli 82.34 275 eP P 16 39 37.8 +0.4
comp=Z,48nm,0.8s
VNA3 Neumayer Olymp 82.64 177 P P 16 39 38.1 +0.3
NVL N'lazarevskaya 82.81 184 eP P 16 39 38.6 -0.1
NVL pmax pmax
comp=Z,6.0nm,0.6s
VNA2 Neumayer--Watz 83.03 178 P P 16 39 40.3 +0.4
baz=191,slow=4.6
VNA1 Neumayer--Stat 83.28 178 P P 16 39 41.5 +0.5
WHN Wuhan 83.29 309 iP P 16 39 43.4 +1.7
MDJ Mudanjiang 83.41 327 eP P 16 39 42.5 +0.6
comp=Z,30nm,1.2s
LHMI Lhok Sumawe 84.65 278 eP P 16 39 47.9 -1.0
comp=Z,50nm,0.8s
TIA Tai'an 84.80 315 P P 16 39 49.7 +0.7
TIA pmax pmax
comp=Z,12nm,0.9s
CN2 Changchun 84.91 325 iP P 16 39 49.5 +0.2
CN2 epP pP 16 42 01.5 +0.4
CN2 eS S 16 49 24.5 -2.2
CN2 pmax pmax
comp=Z,40nm,1.0s
GRNR Gornyy 85.15 335 eP P 16 39 51.9 +1.6
GRNR pmax pmax
comp=Z,18nm,0.8s
NONG Nongkai 85.29 293 P P 16 39 53.7 +1.9
BFSC Mount Baldy Ra 85.37 48 P P 16 39 53.5 +1.6
baz=234
MONP2 Monument Peak 85.43 50 P P 16 39 54.3 +2.0
baz=235
EDW2 Edwards Air Fo 85.52 48 P P 16 39 54.3 +1.7
baz=234
ISA Isabella, Lake 85.67 47 P P 16 39 54.9 +1.7
baz=233
KLR Kul'dur 85.85 331 P P 16 39 54.8 +1.1
comp=Z,11nm,0.7s,baz=98,slow=3.6,SNR=35
KLR Kul'dur 85.85 331 dP P 16 39 54.5 +0.8
BELC Belle Mtn. Jos 86.35 49 P P 16 39 59.1 +2.4
baz=235
M02C Callahan 86.50 40 P P 16 39 59.8 +2.7
baz=230
MPMC Manual Prospec 86.55 47 P P 16 39 59.4 +1.8
baz=234
HEC Hector,Ludlow 86.60 48 P P 16 39 59.4 +1.7
baz=235
ENH Enshi 86.61 306 eP P 16 39 56.4 -1.4
comp=Z,29nm,0.9s
GYA Guiyang 86.70 301 iP P 16 39 58.4 0.0
GYA pP pwP 16 42 14.0 -2.9
GYA sP sP 16 43 15.8 +2.7
GYA PP PP 16 43 36.3 +2.9
GYA SKS SKSac 16 49 25.5 -0.8
GYA S S 16 49 44.7 +0.1
GYA pmax pmax
comp=Z,20nm,1.0s
IRM Iron Mountain 87.03 50 P P 16 40 01.8 +2.2
baz=235
UTHA Uthaitani 87.21 289 P P 16 40 03.0 +2.2
L04D Klamath Falls 87.34 40 P P 16 40 02.8 +1.8
baz=230
NVAR Mina Array Bea 87.42 45 P P 16 40 03.0 +1.4
comp=Z,1.8nm,0.7s,baz=224,slow=7.3,SNR=9.9
PLCA Paso Flores 87.68 135 P P 16 40 04.2 +1.4
comp=Z,4.2nm,0.8s,baz=225,slow=3.0,SNR=7.3
BJT Baijiatuao 87.71 317 eP P 16 40 02.6 0.0
comp=Z,17nm,0.7s
BJT Baijiatuao 87.71 317 eP P 16 40 02.6 0.0
BJT pmax pmax
comp=Z,17nm,0.7s
BJI Beijing 87.72 317 P P 16 40 03.3 +0.6
BJI pmax pmax
comp=Z,16nm,0.7s
SUKH Sukhothai 87.95 290 P P 16 40 07.4 +3.2
UMPA Umpang Tak 88.01 289 P P 16 40 06.8 +2.2
J04D Umpqua Nationa 88.10 39 P P 16 40 06.9 +2.3
baz=231
MOD Modoc Plateau 88.31 41 eP P 16 40 06.8 +1.2
comp=Z,7.7nm,0.9s
LAMP Lampang 88.44 291 P P 16 40 09.4 +2.9
MA2 Magadan 88.47 346 P P 16 40 05.8 +0.1
comp=Z,7.2nm,0.8s,baz=152,slow=8.9,SNR=5.8
J05D Fort Rock, OR 88.62 39 P P 16 40 09.2 +2.2

	baz=231						
CM01	**Chiang Mai Arr**	**88.95**	**291**	*e*P	**P**	**16 40 09.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**88.98**	**291**	P	**P**	**16 40 10.7**	**+1.6**
	comp=Z,3.0nm,0.6s,baz=143,slow=4.5,SNR=26						
CMAR				PP	**PP**	**16 43 52.3**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=130,slow=5.8,SNR=7.0						
CMAR				PKKPbc	**PKKPbc**	**16 57 44.5**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=287,slow=4.4,SNR=6.3						
CMAR	**Chiang Mai Arr**	**88.98**	**291**	*i* P	**P**	**16 40 05.3**	**-3.8**
XAN	**Xi'an**	**89.05**	**309**	P	**P**	**16 40 09.8**	**+0.7**
XAN				pmax	pmax		
	comp=Z,21nm,0.8s						
XAN				pmax	pmax		
	comp=Z,120nm,4.1s						
KMI	**Kunming**	**89.08**	**299**	P	**P**	**16 40 10.2**	**+0.6**
KMI				pmax	pmax		
	comp=Z,15nm,0.6s						
KMI				pmax	pmax		
	comp=Z,69nm,4.1s						
CMMT	**Chiang Mai**	**89.15**	**291**	P	**P**	**16 40 11.5**	**+1.7**
CHTO	**Chiang Mai**	**89.15**	**291**	*e*P	**P**	**16 40 10.6**	**+0.7**
	comp=Z,11nm,0.9s						
CHTO	**Chiang Mai**	**89.15**	**291**	*e*P	**P**	**16 40 10.6**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,11nm,0.9s						
CHTO	**Chiang Mai**	**89.15**	**291**	P	**P**	**16 40 11.6**	**+1.8**
LCMT	**Little Creek M**	**89.90**	**48**	*e*P	**P**	**16 40 14.8**	**+1.7**
	comp=Z,4.5nm,0.9s						
U15A	**North Rim**	**90.22**	**49**	*e*P	**P**	**16 40 16.5**	**+1.7**
	comp=Z,8.4nm,1.0s						
SUA	**Susitna One**	**90.88**	**14**	*e*P	**P**	**16 40 16.9**	**0.0**
	comp=Z,87nm,2.0s						
HHC	**Hu-ho-hao-te**	**91.05**	**316**	*e*P	**P**	**16 40 20.7**	**+2.5**
HHC				S	**S**	**16 50 24.6**	**+1.2**
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC				pmax	pmax		
	comp=Z,150nm,6.1s						
ZEA	**Zeya**	**91.08**	**332**	*e*P	**P**	**16 40 18.8**	**+0.9**
ZEA				pmax	pmax		
	comp=Z,12nm,1.0s						
CD2	**Chengdu**	**91.16**	**304**	*e*P	**P**	**16 40 19.5**	**+0.6**
SEY	**Seymchan**	**91.24**	**348**	P	**P**	**16 40 18.8**	**+0.4**
	comp=Z,6.8nm,0.6s,baz=171,slow=5.3,SNR=34						
SEY	**Seymchan**	**91.24**	**348**	*i* P	**P**	**16 40 18.2**	**-0.2**
GHO	**Glory Hole Cre**	**91.56**	**15**	*e*P	**P**	**16 40 20.3**	**+0.3**
	comp=Z,94nm,1.9s						
TMUT	**Trail Mountain**	**92.48**	**47**	*e*P	**P**	**16 40 26.8**	**+1.6**
	comp=Z,3.9nm,0.7s						
TRF	**Thorofare Moun**	**92.74**	**14**	*e*P	**P**	**16 40 24.7**	**-0.8**
	comp=Z,47nm,1.8s						
TXAR	**Lajitas Array**	**92.88**	**59**	P	**P**	**16 40 27.5**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=201,slow=6.6,SNR=8.4						
RND	**Reindeer**	**93.01**	**14**	*e*P	**P**	**16 40 26.5**	**-0.1**
	comp=Z,26nm,1.5s						
RND	**Reindeer**	**93.01**	**14**	*e*P	**P**	**16 40 26.5**	**-0.1**
RND				pmax	pmax		
	comp=Z,26nm,1.5s						
LZH	**Lanzhou**	**93.67**	**309**	*e*P	**P**	**16 40 31.4**	**+1.0**
LZH				pP	pP	16 42 45.2	+0.7
LZH				sP	sP	16 43 44.6	-1.6
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
BILL	**Bilibino**	**94.41**	**355**	*e*P	**P**	**16 40 32.1**	**-0.7**
BILL				*e**PP	**pP**	**16 42 46.1**	**-1.0**
BILL				*e*		16 44 30.9	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ILAR	**Eielson Array**	**94.63**	**14**	P	**P**	**16 40 33.4**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=213,slow=5.4,SNR=18						
PDAR	**Pinedale Array**	**95.36**	**45**	P	**P**	**16 40 37.2**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=212,slow=5.0,SNR=4.7						
ULN	**Ulaanbaatar**	**97.56**	**320**	*i* P	Pdif	16 40 46.1	-1.5
ULN				pmax	pmax		
	comp=Z,10.0nm,3.5s						
SONM	**Songino Array**	**97.92**	**320**	P	**P**	**16 40 49.7**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=149,slow=4.6,SNR=6.7						
GTA	**Gaotai**	**98.06**	**310**	⇑P	**P**	**16 40 50.9**	**+0.8**
GTA				pP	pwP	16 43 09.8	-0.8
GTA				sP	sP	16 44 09.7	+3.6
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
YKA	**Yellowknife Ar**	**103.08**	**26**	PKiKP	**PKiKP**	**16 45 26.8**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=228,slow=1.5,SNR=7.9						
YKA				PKKPbc	**PKKPbc**	**16 57 04.5**	**-2.1**
	comp=Z,0.3nm,0.5s,baz=38,slow=2.7,SNR=8.7						
MKAR	**Makanchi Array**	**112.64**	**312**	PKiKP	**PKiKP**	**16 45 44.7**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=212,slow=1.2,SNR=12						
MKAR				PP	**PP**	**16 46 44.2**	**-1.6**
	comp=Z,1.2nm,0.8s,baz=94,slow=6.2,SNR=3.6						
MKAR				SKP		16 48 22.6	
	comp=Z,1.0nm,0.9s,baz=77,slow=5.4,SNR=3.9						
MKAR				PKKPbc	**PKKPbc**	**16 56 36.4**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=283,slow=2.2,SNR=10						
ZALV	**Zalesovo Beam**	**112.81**	**320**	PKiKP	**PKiKP**	**16 45 45.0**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=177,slow=1.4,SNR=7.8						
ZALV	**Zalesovo Beam**	**112.81**	**320**	PKIKP	**PKiKP**	**16 45 45.0**	**-0.5**
RES	**Resolute Bay**	**114.20**	**17**	PKiKP	PKPdf	16 45 46.9	-0.8
	comp=Z,1.2nm,0.6s,baz=267,slow=2.5,SNR=7.2						
KSH	**Kashi**	**115.34**	**303**	PKP	**PKiKP**	**16 45 54.9**	**+3.8**
KSH				PP	PP	16 47 14.8	+10
KSH				PKS	**PKSdf**	**16 49 26.6**	**-1.2**
KSH				SKS	**SKSdf**	**16 52 06.0**	**+1.5**
KSH				AMB	AMB		
	comp=Z,320nm,5.1s						
KURK	**Kurchatov**	**115.86**	**316**	*e*PKPdf	**PKPdf**	**16 45 50.1**	**-1.4**
KURK				PP	**PP**	**16 47 06.8**	**-1.2**
KURK				SKP		16 48 29.0	
KURK				PKKPbc	**PKKPbc**	**16 56 26.4**	**+0.6**
KURK	**Kurchatov**	**115.86**	**316***c*	*i*PKIKP	**PKiKP**	**16 45 52.1**	**+0.6**
KURK				pmax	pmax		
	comp=Z,6.0nm,2.5s						
KURBB	**Kurchatov Arra**	**115.91**	**316**	PKP	**PKPdf**	**16 45 50.6**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=107,slow=1.9,SNR=18						
KURBB				PP	**PP**	**16 47 06.8**	**-1.5**
	comp=Z,1.9nm,0.9s,baz=102,slow=6.2,SNR=4.5						
KURBB				SKP		16 48 29.0	
	comp=Z,1.4nm,0.8s,baz=99,slow=2.2,SNR=7.1						
KURBB				PKKPbc	**PKKPbc**	**16 56 26.4**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=280,slow=4.0,SNR=7.1						
AAK	**Ala-Archa**	**117.12**	**306**	PKP	**PKPdf**	**16 45 53.8**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=99,slow=4.3,SNR=9.2						
AAK				PKKPbc	**PKKPbc**	**16 56 23.0**	**+1.5**
	comp=Z,1.1nm,0.5s,baz=331,slow=1.7,SNR=6.6						
AAK	**Ala-Archa**	**117.12**	**306**	*i* PKIKP	**PKPdf**	**16 45 54.1**	**-0.3**
BDFB	**Brasilia**	**118.61**	**127**	PKP	**PKPdf**	**16 45 57.0**	**-1.0**
	comp=Z,1.3nm,0.4s,baz=338,slow=1.4,SNR=4.2						
KBL	**Kabul**	**119.59**	**296**	*e*PKPdf	**PKPdf**	**16 45 58.9**	**-0.6**
KBL	**Kabul**	**119.59**	**296**	*e*PKIKP	**PKPdf**	**16 45 58.9**	**-0.6**
BOSA	**Boshof**	**119.68**	**207**	PKP	**PKPdf**	**16 45 59.8**	**0.0**
	comp=Z,2.9nm,0.7s,baz=344,slow=0.5,SNR=6.2						
KK31	**Karatay Array**	**120.09**	**306**	*e*PKPdf	**PKPdf**	**16 45 59.4**	**-0.5**
KK31	**Karatay Array**	**120.09**	**306**	*e*PKIKP	**PKPdf**	**16 45 59.4**	**-0.5**
KKAR	**Karatay Array**	**120.09**	**306**	*e*PKPdf	**PKPdf**	**16 45 59.4**	**-0.6**
KKAR	**Karatay Array**	**120.09**	**306**	*e*PKIKP	**PKPdf**	**16 45 59.4**	**-0.6**
BRVK	**Borovoye**	**121.27**	**318**	*e*PKPdf	**PKPdf**	**16 46 00.7**	**-1.2**
BRVK	**Borovoye**	**121.27**	**318***c*	*i*PKIKP	**PKPdf**	**16 46 01.5**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FRB	**Frobisher Bay**	**123.37**	**29**	PKP	**PKPdf**	**16 46 05.0**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=331,slow=2.8,SNR=8.1						
SPITS	**Spitsbergen Ar**	**127.32**	**355**	PKP	**PKiKP**	**16 46 13.4**	**0.0**
	comp=Z,2.6nm,0.4s,baz=96,slow=11,SNR=10						
ABKAR	**Akbulak array**	**127.77**	**313**	*e*PKPdf	**PKPdf**	**16 46 13.8**	**-0.6**
ARU	**Arti**	**127.86**	**322**	*e*PKPdf	**PKPdf**	**16 46 14.2**	**-0.1**
ARU	**Arti**	**127.86**	**322**	*i* PKIKP	**PKPdf**	**16 46 14.6**	**+0.3**
ARU						16 48 23.9	
ARU						16 52 27.4	
GEYT	**Alibeck**	**128.84**	**299**	PKP	**PKiKP**	**16 46 17.6**	**-0.1**
	comp=Z,5.8nm,0.7s,baz=232,slow=1.7,SNR=9.6						
GYA0B	**ALIBECK ARRAY**	**128.84**	**299**	*e*PKPdf	**PKPdf**	**16 46 14.9**	**-2.0**
GYA0B				*e*PKPdf	**PKiKP**	**16 46 18.5**	**+0.8**
SFJD	**Kangerlussuaq**	**129.47**	**23**	PKP	**PKPdf**	**16 46 17.1**	**0.0**
	comp=Z,2.1nm,0.4s,baz=323,slow=1.9,SNR=4.6						
LSZ	**Lusaka**	**129.59**	**218**	*e*PKPdf	**PKiKP**	**16 46 19.9**	**-0.1**
KMBO	**Kilima Mbogo**	**133.69**	**240**	PKP	**PKPdf**	**16 46 27.8**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=44,slow=8.5,SNR=4.3						
KMBO				SKPbc	**SKPbc**	**16 48 58.9**	**+0.8**
	comp=Z,2.8nm,1.1s,baz=56,slow=5.1,SNR=4.7						
KMBO	**Kilima Mbogo**	**133.69**	**240**	*i* PKIKP	**PKiKP**	**16 46 31.3**	**+2.8**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARCES	**ARCESS Array B**	**133.84**	**347**	PKhKP	PKPpre	16 46 17.1	
	comp=Z,4.3nm,0.7s,baz=95,slow=1.7,SNR=17						
ARCES				PKP	**PKiKP**	**16 46 26.3**	**-0.4**
	comp=Z,4.6nm,0.7s,baz=64,slow=2.1,SNR=13						
ARCES				SKPbc	**SKPbc**	**16 48 58.1**	**+1.7**
	comp=Z,8.1nm,0.7s,baz=29,slow=3.3,SNR=13						
KLMR	**Klimovskoe**	**135.60**	**333**	*e*PKIKP	**PKPdf**	**16 46 28.5**	**-0.3**
KLMR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KLMR	**Klimovskoe**	**135.60**	**333**	*e*PKPdf	**PKPdf**	**16 46 28.5**	**-0.3**
KLMR				AMP		16 46 35.2	
	comp=Z,8.0nm,1.1s						
KLMR				*e*SKP		16 49 03.3	
OBN	**Obninsk**	**139.95**	**327**	*e*PKIKP	**PKPdf**	**16 46 37.0**	**+0.1**
OBN				*e*		16 49 42.5	
OBN				*i*		16 50 02.1	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AKH	**Akhalkalaki**	**140.05**	**304**	*e*PKPpre	PKPpre	16 46 29.4	
AKH	**Akhalkalaki**	**140.05**	**304**⇑	*i*P	**PKPdf**	**16 46 33.1**	**-4.7**
AKH	**Akhalkalaki**	**140.05**	**304**	*e*PKHKP	PKPpre	16 46 29.4	
KBZ	**Khabaz**	**140.10**	**308**	PKhKP	PKPpre	16 46 31.7	
	comp=Z,1.2nm,0.7s,baz=46,slow=3.3,SNR=4.2						
FIA1	**FINESS Array S**	**140.14**	**340**	*e*PKPpre	PKPpre	16 46 29.5	
FINES	**FINESS Array B**	**140.15**	**340**	PKhKP	PKPpre	16 46 30.0	
	comp=Z,3.8nm,0.4s,baz=51,slow=4.0,SNR=62						
FINES				PKP	**PKiKP**	**16 46 38.8**	**-1.0**
	comp=Z,2.6nm,0.3s,baz=80,slow=2.9,SNR=11						
FINES				SKPbc	**SKPbc**	**16 49 15.4**	**+0.6**
	comp=Z,3.7nm,0.8s,baz=75,slow=2.2,SNR=5.4						
KIV	**Kislovodsk**	**140.21**	**308**	*e*PKIKP	**PKPdf**	**16 46 36.9**	**-1.0**
KIV				*e*		16 49 43.8	
KIV				*e*PPP	PPP	16 52 57.1	
KIV				pmax	pmax		
	comp=Z,7.0nm,1.2s						
VSU	**Vasula**	**142.14**	**336***c*	*i*PKIKP	**PKiKP**	**16 46 42.8**	**-1.1**
VSU				pmax	pmax		
	comp=Z,57nm,1.7s						
VSU	**Vasula**	**142.14**	**336**	*e*P	**PKPdf**	**16 46 42.1**	**+1.4**
VSU				IAmb	IAmb	16 46 43.5	
	comp=Z,46nm,0.7s						
DOMB	**Dombas**	**143.48**	**352**	*e*PKPab	PKPab	16 46 41.7	-0.3
AKN	**Aaknes**	**143.59**	**353**	*e*PKPdf	**PKPdf**	**16 46 43.3**	**0.0**
NC303	**NORSAR Array S**	**143.92**	**349**	*e*PKPbc	PKPbc	16 46 43.0	-0.4
NC405	**NORSAR Array S**	**143.97**	**349**	*e*PKPbc	PKPbc	16 46 43.5	0.0
NC204	**NORSAR Array S**	**143.97**	**350**	*e*PKPbc	PKPbc	16 46 43.5	-0.1
NB201	**NORSAR Array S**	**144.10**	**349**	*e*PKPbc	PKPbc	16 46 43.9	-0.1
NB2	**NORSAR Subarra**	**144.12**	**349**	PKP	PKPbc	16 46 43.4	-0.7
	comp=Z,12nm,0.7s,baz=16,slow=3.2						
NB2	**NORSAR Subarra**	**144.12**	**349**	PKP	PKPbc	16 46 43.4	-0.7
	comp=Z,12nm,0.7s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**144.12**	**349**	PKP	PKPbc	16 46 43.5	-0.5
	comp=Z,7.8nm,0.7s,baz=24,slow=3.4,SNR=47						
NOA				SKPbc	**SKPbc**	**16 49 25.0**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=19,slow=4.7,SNR=4.5						
NBO00	**NORSAR Array S**	**144.20**	**350**	*e*PKPbc	PKPbc	16 46 44.2	-0.1
IZAR	**Zarasai**	**144.25**	**333**	*e*P	**PKPdf**	**16 46 44.4**	**-0.1**
IZAR				IAmb	IAmb	16 46 48.3	
	comp=Z,23nm,0.8s						
SLIT	**Slitere, Latvi**	**144.32**	**338**	*e*P	**PKPdf**	**16 46 43.6**	**-1.0**
SLIT				IAmb	IAmb	16 46 46.7	
	comp=Z,95nm,0.7s						
IDID	**Didziasalis**	**144.35**	**332**	*e*P	**PKPdf**	**16 46 44.1**	**-0.6**
IDID				IAmb	IAmb	16 46 48.6	
	comp=Z,12nm,0.9s						
NC602	**NORSAR Array S**	**144.35**	**349**	*e*PKPdf	**PKPdf**	**16 46 44.2**	**-0.3**
NC602	**NORSAR Array S**	**144.35**	**349**	*e*PKPdf	**PKPdf**	**16 46 44.3**	**-0.3**
NAO01	**NORSAR Array S**	**144.36**	**350**	*e*PKPdf	**PKPdf**	**16 46 44.5**	**0.0**
ISAL	**Salakas**	**144.42**	**333**	*e*P	**PKPdf**	**16 46 44.8**	**-0.1**
ISAL				IAmb	IAmb	16 46 47.8	
	comp=Z,14nm,0.9s						
HFS	**Hagfors**	**144.50**	**347**	PKP	**PKPdf**	**16 46 44.5**	**-0.3**
	comp=Z,29nm,0.5s,baz=64,slow=2.3,SNR=289						
IIGN	**Ignalina**	**144.54**	**333**	*e*P	**PKPdf**	**16 46 44.9**	**-0.1**
IIGN				IAmb	IAmb	16 46 48.1	
	comp=Z,12nm,0.5s						
CUZAR	**Zara_SIVAS**	**144.59**	**303**	*i* P	**PKPab**	**16 46 47.9**	**+0.8**
HYA	**Hoyanger**	**144.67**	**353**	*e*PKPab	**PKPab**	**16 46 46.4**	**-0.1**
CUKAN	**kangal_SIVAS**	**144.92**	**302**	*i* P	**PKPab**	**16 46 48.7**	**+0.1**
PABE	**Paberze**	**145.33**	**334**	*e*P	**PKPbc**	**16 46 48.0**	**+0.2**
PABE				IAmb	IAmb	16 46 50.2	
	comp=Z,64nm,0.7s						
CUALT	**Altinyayla-SIV**	**145.47**	**302**	*i* P	**PKiKP**	**16 46 51.7**	**0.0**
BER	**Bergen**	**145.52**	**354**	*e*PKPbc	**PKPbc**	**16 46 48.2**	**+0.1**
PBUR	**Paburg**	**145.70**	**337**	*e*P	**PKPbc**	**16 46 48.6**	**-0.1**
PBUR				IAmb	IAmb	16 46 51.1	
	comp=Z,67nm,0.6s						
KONO	**Kongsberg**	**145.70**	**350**	*e*PKPbc	**PKPbc**	**16 46 48.6**	**-0.1**
KONO	**Kongsberg**	**145.70**	**350**	*e*PKIKP	**PKPbc**	**16 46 48.6**	**-0.1**
KONO	**Kongsberg**	**145.70**	**350**	*e*PKPbc	**PKPbc**	**16 46 48.4**	**-0.3**
SIM	**Simferopol'**	**145.82**	**312**	PKHKP	PKPpre	16 46 46.6	
SIM				pmax	pmax		
	comp=Z,28nm,0.7s						
CUSAR	**Sarkisla-SIVAS**	**145.83**	**302**	*i* P	**PKPab**	**16 46 51.3**	**-0.8**
ODD1	**Odda**	**145.85**	**353**	*e*PKPbc	**PKPbc**	**16 46 49.4**	**+0.2**
ODD1				IAmb	IAmb	16 48 40.8	
	comp=Z,175nm,1.8s						
ODD1				*e*		17 08 17.4	
AKASG	**Malin Array Be**	**146.07**	**324**	PKPbc	**PKPbc**	**16 46 49.1**	**-0.9**
	comp=Z,20nm,0.7s,baz=46,slow=3.9,SNR=47						
AKASG				SKPbc	**SKiKP**	**16 49 29.8**	**+0.1**
	comp=Z,4.7nm,0.9s,baz=51,slow=3.2,SNR=7.2						
AKBB	**Malin Array Si**	**146.07**	**324**	*e*PKPbc	**PKPbc**	**16 46 49.2**	**-0.8**
AKBB	**Malin Array Si**	**146.07**	**324**	*e*PKIKP	**PKPbc**	**16 46 49.2**	**-0.8**
KIEV	**Kiev**	**146.08**	**324**	*e*PKPbc	**PKPbc**	**16 46 49.4**	**-0.6**
KIEV	**Kiev**	**146.08**	**324**⇑	*i*P	**PKPbc**	**16 46 49.9**	**-0.1**
KIEV	**Kiev**	**146.08**	**324**	*e*PKIKP	**PKPbc**	**16 46 49.4**	**-0.6**
AK11	**Malin Array Si**	**146.11**	**324**	*e*PKPbc	**PKPbc**	**16 46 49.1**	**-1.0**
BLS5	**Blasjo**	**146.35**	**353**	*e*PKPbc	**PKPbc**	**16 46 50.4**	**-0.2**
KMY	**Karmoy**	**146.69**	**354**	*e*PKPbc	**PKPbc**	**16 46 51.2**	**-0.2**
KMY				IAmb	IAmb	16 48 17.8	
	comp=Z,453nm,2.3s						
SUW	**Suwalki**	**146.73**	**333**	*e*PKP	**PKPbc**	**16 46 51.5**	**-0.2**
SUW	**Suwalki**	**146.73**	**333**	*e*PKPbc	**PKPbc**	**16 46 51.0**	**-0.7**
SUW	**Suwalki**	**146.73**	**333**	*e*PKIKP	**PKPbc**	**16 46 51.0**	**-0.7**
SNART	**Snartemo**	**147.31**	**351**	*e*PKPbc	**PKPbc**	**16 46 53.0**	**0.0**
SNART				IAmb	IAmb	16 46 55.5	
	comp=Z,16nm,0.7s						
ILGA	**Ilgaz**	**147.34**	**306**	*e*PKPbc	**PKiKP**	**16 46 55.1**	**-0.5**
BR131	**Keskin Array S**	**147.73**	**304**	*e*PKPbc	**PKPbc**	**16 46 54.2**	**-0.7**
BRTR	**Keskin Array B**	**147.73**	**304**	PKPbc	**PKPbc**	**16 46 54.6**	**-0.4**
	comp=Z,6.0nm,0.6s,baz=145,slow=4.6,SNR=29						
KAC	**Achnashellach**	**148.64**	**4**	*e*P	**PKPbc**	**16 46 56.6**	**+0.2**
MCD	**Coleburn Disti**	**148.64**	**2**	*e*P	**PKPbc**	**16 46 56.2**	**-0.2**
BSD	**Bornholm Skovb**	**148.71**	**342**	*i* P	**PKPbc**	**16 46 56.5**	**-0.1**
BSD	**Bornholm Skovb**	**148.71**	**342**	*e*PKHKP	**PKPbc**	**16 46 56.5**	**-0.1**
MDO	**Dochfour**	**148.75**	**3**	*e*P	**PKPbc**	**16 46 56.4**	**-0.3**
KPL	**Plockton**	**148.77**	**4**	*e*P	**PKPbc**	**16 46 56.6**	**-0.1**
MUD	**Monsted U'grnd**	**148.81**	**348**	*i* P	**PKPbc**	**16 46 57.0**	**+0.2**
MUD	**Monsted U'grnd**	**148.81**	**348**	*i* PKHKP	**PKPbc**	**16 46 57.0**	**+0.2**
CSS	**Mathiatis**	**148.82**	**295**	*e*PKPbc	**PKPbc**	**16 46 57.0**	**-0.6**
TLCR		**149.15**	**316**⇑	*i*P	**PKPbc**	**16 46 58.4**	**+0.4**
TLCR		**149.15**	**316**	⇑PKHKP	**PKPbc**	**16 46 58.4**	**+0.4**
LVV	**L'vov**	**149.25**	**327**	*e*PKHKP	**PKPbc**	**16 46 58.3**	**+0.2**
BEL	**Belsk**	**149.32**	**332**	*e*PKP	**PKiKP**	**16 46 59.0**	**0.0**
BEL	**Belsk**	**149.32**	**332**	*e*PKHKP	**PKiKP**	**16 46 59.0**	**0.0**
DRUM	**Mains of Drumt**	**149.33**	**1**	*e*P	**PKPbc**	**16 46 58.0**	**0.0**
BIR	**Birlad**	**149.36**	**318**⇑	*i*P	**PKiKP**	**16 46 59.7**	**+0.5**
BIR	**Birlad**	**149.36**	**318**	⇑PKHKP	**PKPbc**	**16 46 59.7**	**+1.2**
GKP	**Gorka Klasztor**	**149.54**	**338**	*e*PKP	**PKiKP**	**16 46 59.1**	**-0.2**
GKP	**Gorka Klasztor**	**149.54**	**338**	*e*PKHKP	**PKiKP**	**16 46 59.2**	**-0.2**
CFR	**Carcaliu**	**149.58**	**316**⇑	*i*P	**PKPbc**	**16 46 59.3**	**+0.3**
CFR	**Carcaliu**	**149.58**	**316**	⇑PKHKP	**PKPbc**	**16 46 59.3**	**+0.3**
PRAR	**RASCA**	**149.58**	**321**⇑	*i*P	**PKiKP**	**16 47 00.1**	**+0.4**
EDU	**Dundee**	**149.69**	**2**	*e*P	**PKPbc**	**16 46 59.0**	**+0.1**
INVG	**Invergeldie, C**	**149.77**	**3**	*e*P	**PKPbc**	**16 46 58.9**	**-0.3**
MFTR	**Murfatlar**	**149.86**	**314**⇑	*i*P	**PKiKP**	**16 47 00.5**	**+0.2**
LAWE	**Loch Awe, Argy**	**149.87**	**4**	*e*P	**PKPbc**	**16 46 59.3**	**-0.1**
PETR	**Petresti**	**149.87**	**318**⇑	*i*P	**PKPbc**	**16 46 59.6**	**-0.1**
BIZ	**Bicaz**	**149.89**	**321**⇑	*i*P	**PKiKP**	**16 47 00.9**	**+0.6**
TLB	**Topalu**	**149.92**	**315**⇑	*i*P	**PKiKP**	**16 47 00.6**	**+0.2**
TLB	**Topalu**	**149.92**	**315**	⇑PKHKP	**PKPbc**	**16 47 00.6**	**+0.7**
HARR	**Harsova**	**149.94**	**315**⇑	*i*P	**PKiKP**	**16 47 01.2**	**+0.7**
HARR	**Harsova**	**149.94**	**315**	⇑PKHKP	**PKPbc**	**16 47 01.2**	**+1.3**
ODBI	**Odobesti**	**149.96**	**318**⇓	*i*P	**PKPbc**	**16 47 00.0**	**+0.1**
BUR08	**Bucovina Ar. S**	**149.99**	**322**	*e*PKPbc	**PKPbc**	**16 46 59.4**	**-0.7**
BURAR	**Bucovina Array**	**150.00**	**322**⇑	*i*P	**PKiKP**	**16 47 01.9**	**+1.2**
BURAR	**Bucovina Array**	**150.00**	**322**	⇑PKHKP	**PKPbc**	**16 47 01.9**	**+1.8**
EAB	**Aberfoyle**	**150.00**	**3**	*e*P	**PKPbc**	**16 46 59.7**	**0.0**
BUR04	**Bucovina Ar. S**	**150.00**	**322**	*e*PKPbc	**PKPbc**	**16 47 00.3**	**+0.1**
KWP	**Kalwaria Pacla**	**150.02**	**328**	*e*PKP	**PKiKP**	**16 47 00.4**	**-0.1**
KWP	**Kalwaria Pacla**	**150.02**	**328**	*e*PKHKP	**PKiKP**	**16 47 00.4**	**-0.1**
CVDA	**Cernavoda**	**150.04**	**315**⇑	*i*P	**PKPbc**	**16 47 00.0**	**-0.1**
VRI	**Vrincioaia**	**150.10**	**318**⇑	*i*P	**PKPbc**	**16 47 00.4**	**+0.1**
VRI	**Vrincioaia**	**150.10**	**318**	⇑PKHKP	**PKPbc**	**16 47 00.4**	**+0.1**
PLOR	**Plostina**	**150.15**	**318**⇑	*i*P	**PKPbc**	**16 46 59.5**	**-1.0**
PLOR	**Plostina**	**150.15**	**318**	⇑PKHKP	**PKPbc**	**16 46 59.5**	**-1.0**
ICOR	**Ion Corvin**	**150.29**	**314**⇑	*i*P	**PKPab**	**16 47 11.2**	**+1.2**
ESY	**Stoneypath**	**150.32**	**1**	*e*P	**PKPbc**	**16 47 00.3**	**-0.2**
PGOR	**Pogoanele**	**150.43**	**316**⇑	*i*P	**PKiKP**	**16 47 03.0**	**+1.5**
ISP	**Isparta**	**150.55**	**301**	*e*PKPbc	**PKPbc**	**16 47 00.6**	**-1.1**
ISP	**Isparta**	**150.55**	**301**⇑	*i*P	**PKPbc**	**16 47 01.1**	**-0.6**
ISP	**Isparta**	**150.55**	**301**	*e*PKIKP	**PKPbc**	**16 47 00.6**	**-1.1**
MLR	**Muntele Rosu**	**150.76**	**318**	*e*PKPbc	**PKPbc**	**16 47 01.4**	**-0.6**
MLR	**Muntele Rosu**	**150.76**	**318**⇑	*i*P	**PKPbc**	**16 47 02.1**	**+0.1**
MLR	**Muntele Rosu**	**150.76**	**318**	⇑PKIKP	**PKPbc**	**16 47 02.1**	**+0.1**
ARCR	**ARCALIA**	**150.78**	**322**⇑	*i*P	**PKiKP**	**16 47 03.7**	**+1.5**
DOPR	**Dopca**	**150.84**	**319**⇑	*i*P	**PKiKP**	**16 47 03.0**	**+0.6**
BMR	**Baia Mare**	**150.89**	**324**⇑	*i*P	**PKPbc**	**16 47 01.8**	**-0.2**
BMR	**Baia Mare**	**150.89**	**324**	⇑PKIKP	**PKPbc**	**16 47 01.8**	**-0.2**
EKA	**Eskdalemuir Ar**	**150.90**	**2**	PKPbc	**PKPbc**	**16 47 01.3**	**-0.5**
	comp=Z,5.3nm,0.6s,baz=343,slow=2.9,SNR=31						
EKA				PKPab	**PKPab**	**16 47 11.9**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=345,slow=2.9,SNR=4.4						
ESK	**Eskdalemuir**	**150.91**	**2**	*e*P	**PKPbc**	**16 47 01.2**	**-0.6**
SECR		**150.93**	**317**⇓	*i*P	**PKPbc**	**16 47 02.4**	**+0.2**
OJC	**Ojcow**	**150.94**	**331**	*e*PKP	**PKiKP**	**16 47 02.4**	**0.0**
OJC	**Ojcow**	**150.94**	**331**	*e*PKPbc	**PKPbc**	**16 47 02.0**	**-0.1**
OJC	**Ojcow**	**150.94**	**331**	*e*PKIKP	**PKPbc**	**16 47 02.0**	**-0.1**
TRPA	**Tarpa**	**151.10**	**325**⇑	*i*P	**PKiKP**	**16 47 02.8**	**0.0**
VOIR		**151.32**	**319**⇑	*i*P	**PKiKP**	**16 47 03.8**	**+0.3**
VOIR		**151.32**	**319**	⇑PKIKP	**PKiKP**	**16 47 03.8**	**+0.3**
RUE	**Ruedersdorf**	**151.33**	**340**	*e*P	**PKPbc**	**16 47 02.9**	**+0.1**
RUE				IAmb	IAmb	16 47 03.9	
	comp=Z,11nm,0.5s						
SGRR	**Singureni**	**151.39**	**316**⇑	*i*P	PKPab	16 47 23.7	+9.0
CJR	**Cluj-Napoca**	**151.42**	**322**⇑	*i*P	**PKiKP**	**16 47 05.1**	**+1.5**
CJR	**Cluj-Napoca**	**151.42**	**322**	⇑PKIKP	**PKiKP**	**16 47 05.1**	**+1.5**
EDMD	**Edmundbyers**	**151.42**	**0**	*e*P	**PKPbc**	**16 47 02.6**	**-0.3**
ARR	**Arges**	**151.61**	**319**⇑	*i*P	**PKiKP**	**16 47 04.6**	**+0.6**
HUMR	**Humele**	**151.85**	**317**⇑	*i*P	**PKPbc**	**16 47 03.3**	**-1.0**
DRGR		**151.86**	**323**⇑	*i*P	**PKiKP**	**16 47 04.6**	**+0.1**
DRGR		**151.86**	**323**	⇑PKIKP	**PKiKP**	**16 47 04.6**	**+0.1**
KSP	**Ksiaz**	**151.86**	**336**	*e*PKP	**PKiKP**	**16 47 04.8**	**+0.5**
KSP	**Ksiaz**	**151.86**	**336**	*e*PKIKP	**PKiKP**	**16 47 04.8**	**+0.5**
LANS	**Liptovska Anna**	**151.87**	**330**	*e*PKIKP	**PKiKP**	**16 47 06.5**	**+2.1**
LANS				*e*		16 47 17.5	
LANS	**Liptovska Anna**	**151.87**	**330**	*e*PKP	**PKiKP**	**16 47 06.5**	**+2.1**
LANS				*e*		16 47 17.5	
OKC	**Ostrava-Krasne**	**151.93**	**332**⇑	*e*PKP	**PKiKP**	**16 47 05.9**	**+1.5**
OKC				*e*PKPAB	**PKPab**	**16 47 17.7**	**+1.0**
OKC	**Ostrava-Krasne**	**151.93**	**332**	*e*PKIKP	**PKiKP**	**16 47 05.9**	**+1.5**
OKC				*e*		16 47 17.7	
LOT	**Lotru**	**152.07**	**320**⇑	*i*P	**PKPab**	**16 47 19.3**	**+1.6**
MORC	**Moravsky Berou**	**152.22**	**333**	*e*PKPbc	**PKPbc**	**16 47 05.0**	**0.0**
MORC	**Moravsky Berou**	**152.22**	**333**⇑	*i*P	**PKiKP**	**16 47 05.8**	**+0.7**
MORC	**Moravsky Berou**	**152.22**	**333**	⇑PKIKP	**PKiKP**	**16 47 05.8**	**+0.7**
MORC	**Moravsky Berou**	**152.22**	**333**	*e*PKP	**PKiKP**	**16 47 05.6**	**+0.5**
MORC				*e*		16 47 19.9	
UPC	**Upice**	**152.24**	**335**⇑	*e*PKP	**PKiKP**	**16 47 05.7**	**+0.6**
UPC				*e*PKPAB	**PKPab**	**16 47 19.3**	**+1.2**
UPC	**Upice**	**152.24**	**335**	*e*PKIKP	**PKiKP**	**16 47 05.7**	**+0.6**
UPC				*e*		16 47 19.3	
DPC	**Dobruska-Polom**	**152.25**	**335**⇑	*e*PKP	**PKiKP**	**16 47 05.8**	**+0.6**
DPC				*e*PKPAB	**PKPab**	**16 47 19.1**	**+0.9**
DPC	**Dobruska-Polom**	**152.25**	**335**	*e*PKIKP	**PKiKP**	**16 47 05.8**	**+0.6**
DPC				*e*		16 47 19.1	
KRLC	**Kraliky**	**152.29**	**334**⇑	*e*PKP	**PKiKP**	**16 47 05.8**	**+0.5**
KRLC	**Kraliky**	**152.29**	**334**	*e*PKIKP	**PKiKP**	**16 47 05.8**	**+0.5**
DEV	**Deva**	**152.31**	**321**⇑	*i*P	**PKPbc**	**16 47 04.7**	**-0.5**
DEV	**Deva**	**152.31**	**321**	⇑PKIKP	**PKPbc**	**16 47 04.7**	**-0.5**
PSZ	**Piszkesteto**	**152.55**	**328**	*e*PKPbc	**PKPbc**	**16 47 04.2**	**-1.6**
PSZ	**Piszkesteto**	**152.55**	**328**⇑	*i*P	**PKiKP**	**16 47 08.9**	**+3.0**
PSZ	**Piszkesteto**	**152.55**	**328**	*e*PKIKP	**PKPbc**	**16 47 04.2**	**-1.6**
CLL	**Collm**	**152.59**	**340**	*e*PKPbc	**PKPbc**	**16 47 04.7**	**-0.9**
CLL				*e*PKPab	**PKPab**	**16 47 19.2**	**-0.3**
CLL	**Collm**	**152.59**	**340**⇓	*i*PKPbc	**PKiKP**	**16 47 05.8**	**0.0**
	comp=Z,12nm,0.9s						
CLL			⇑	*i*PKPab	**PKPab**	**16 47 19.7**	**+0.2**
	comp=Z,16nm,0.7s						
CLL				*e*pPKPbc	**pPKPbc**	**16 49 27.0**	**-1.2**
CLL				*e*SKPdf	**SKPdf**	**16 49 32.0**	**-0.5**
CLL				*e*pPKPab	**pPKPab**	**16 49 35.0**	**-0.5**
CLL	**Collm**	**152.59**	**340**	*e*PKIKP	**PKPbc**	**16 47 04.7**	**-0.9**
CLL				*e*		16 47 19.2	
VYHS	**Vyhne**	**152.63**	**330**	*e*PKIKP	**PKPbc**	**16 47 05.9**	**0.0**
VYHS				*e*		16 47 20.4	
VYHS	**Vyhne**	**152.63**	**330**	*e*PKP	**PKPbc**	**16 47 05.9**	**0.0**
VYHS				*e*		16 47 20.4	
BRG	**Berggiesshubel**	**152.66**	**338**	*i* PKP	**PKiKP**	**16 47 06.0**	**+0.1**
	comp=Z,6.9nm,0.8s						
BRG				*e*		16 47 21.0	
	comp=Z,8.4nm,0.8s						
BRG				*e*		16 49 35.6	
	comp=Z,2.5nm,0.7s						
BRG	**Berggiesshubel**	**152.66**	**338**	*i* PKIKP	**PKiKP**	**16 47 06.0**	**+0.1**
BRG				*e*		16 47 21.0	
BRG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GZR	**Gura Zlata**	**152.67**	**321**⇑	*i*P	**PKPbc**	**16 47 05.6**	**-0.5**
GZR	**Gura Zlata**	**152.67**	**321**	⇑PKIKP	**PKPbc**	**16 47 05.6**	**-0.5**
PVCC	**Panska Ves**	**152.74**	**337**⇑	*e*PKP	**PKiKP**	**16 47 06.9**	**+0.8**
PVCC				*e*PKPAB	**PKPab**	**16 47 21.7**	**+1.5**
PVCC	**Panska Ves**	**152.74**	**337**	*e*PKIKP	**PKiKP**	**16 47 06.9**	**+0.8**
PVCC				*e*		16 47 21.7	
SIRR	**Siria**	**152.75**	**323**⇑	*i*P	**PKiKP**	**16 47 06.8**	**+0.5**
VRAC	**Vranov**	**152.97**	**333**⇑	*i*P	**PKPab**	**16 47 23.0**	**+1.7**
VRAC	**Vranov**	**152.97**	**333**	*e*PKP	**PKiKP**	**16 47 07.0**	**+0.3**
VRAC				*e*		16 47 21.8	
HERR	**Herculane**	**153.18**	**320**⇑	*i*P	**PKPab**	**16 47 21.5**	**-0.8**
GOPC	**GO Pecny, Ondr**	**153.18**	**336**⇑	*e*PKP	**PKiKP**	**16 47 07.5**	**+0.4**
GOPC	**GO Pecny, Ondr**	**153.18**	**336**	*e*PKIKP	**PKiKP**	**16 47 07.5**	**+0.4**
BZS	**Buzias**	**153.18**	**322**⇑	*i*P	**PKiKP**	**16 47 08.0**	**+0.8**
BZS	**Buzias**	**153.18**	**322**	⇑PKIKP	**PKiKP**	**16 47 08.0**	**+0.8**
PRU	**Pruhonice**	**153.21**	**337**⇑	*e*PKP	**PKiKP**	**16 47 07.5**	**+0.4**
PRU				*e*PKPAB	**PKPab**	**16 47 22.9**	**+0.7**
PRU	**Pruhonice**	**153.21**	**337**	*e*PKIKP	**PKiKP**	**16 47 07.5**	**+0.4**
PRU				*e*		16 47 22.9	
KRUC	**Moravsky**	**153.25**	**333**	*e*PKP	**PKiKP**	**16 47 07.5**	**+0.3**
KRUC				*e*		16 47 22.7	
SRO	**Srobarova**	**153.37**	**329**	*e*PKP	**PKPab**	**16 47 24.4**	**+1.5**
MODS	**Modra-Piesok**	**153.41**	**331**	*e*PKIKP	**PKPbc**	**16 47 06.5**	**-1.1**
MODS				*e*		16 47 23.0	
MODS	**Modra-Piesok**	**153.41**	**331**	*e*PKP	**PKPbc**	**16 47 06.5**	**-1.1**
MODS				*e*		16 47 23.0	
MDVR	**Moldovita**	**153.64**	**321**⇑	*i*P	**PKiKP**	**16 47 08.3**	**+0.1**
NKC	**Novy Kostel**	**153.70**	**339**	*e*PKPAB	**PKPab**	**16 47 25.5**	**+1.2**
NKC	**Novy Kostel**	**153.70**	**339**	*e*PKP2	**PKPab**	**16 47 25.5**	**+1.2**
VTS	**Vitosha**	**153.96**	**315**	*e*PKPbc	**PKPbc**	**16 47 08.5**	**-0.6**
VTS				*e*PKPab	**PKPab**	**16 47 26.6**	**+0.7**
VTS	**Vitosha**	**153.96**	**315**⇑	*i*P	**PKPab**	**16 47 26.9**	**+1.0**
KHC	**Kasperske Hory**	**154.27**	**337**	*e*PKPbc	**PKiKP**	**16 47 09.1**	**-0.3**
KHC				*e*PKPab	**PKPab**	**16 47 27.0**	**+0.2**
KHC	**Kasperske Hory**	**154.27**	**337**⇑	*e*PKP	**PKPbc**	**16 47 09.7**	**+0.3**
KHC				*e*PKPAB	**PKPab**	**16 47 27.3**	**+0.5**
KHC	**Kasperske Hory**	**154.27**	**337**	*e*PKIKP	**PKPbc**	**16 47 09.7**	**+0.3**
KHC				*e*		16 47 27.3	
CONA	**Conrad Observa**	**154.36**	**332**	*e*PKPab	**PKPab**	**16 47 28.3**	**+0.9**
	comp=Z,10.0nm,0.8s,SNR=8.6						
GERES	**GERESS Array B**	**154.46**	**336**	PKPbc	**PKPbc**	**16 47 10.1**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=47,slow=2.4,SNR=4.9						
GERES				PKPab	**PKPab**	**16 47 27.5**	**-0.3**
	comp=Z,2.5nm,0.6s,baz=35,slow=4.4,SNR=9.4						
GEA0	**GERESS Array S**	**154.47**	**336**	*e*PKPbc	**PKiKP**	**16 47 09.2**	**-0.6**
GEA0				*e*PKPab	**PKPab**	**16 47 27.5**	**-0.3**
GRF	**Grafenberg Arr**	**154.56**	**340**	*e*PKPab	**PKPab**	**16 47 28.9**	**+0.9**
	baz=28,slow=3.7						
MEM	**Membach**	**154.96**	**349**	⇑PKP	**PKPab**	**16 47 29.8**	**+0.1**
ARSA	**Arzberg**	**155.03**	**332**	*e*PKPab	**PKPab**	**16 47 30.3**	**+0.1**
	comp=Z,5.2nm,0.8s						
MOA	**Molln**	**155.07**	**334**	*e*PKPab	**PKPab**	**16 47 30.9**	**+0.6**
	comp=Z,7.2nm,1.0s						
SOKA	**Soboth**	**155.69**	**331**	*e*PKPab	**PKPab**	**16 47 33.1**	**0.0**
	comp=Z,8.3nm,0.9s,SNR=5.0						
DOU	**Dourbes**	**155.69**	**350**	⇑PKP	**PKPab**	**16 47 33.7**	**+0.9**
OBKA	**Obir**	**156.03**	**332**	*e*PKPab	**PKPab**	**16 47 34.2**	**-0.4**
	comp=Z,3.8nm,0.7s						
MYKA	**Terra Mystica**	**156.31**	**333**	*e*PKPab	**PKPab**	**16 47 35.2**	**-0.6**
	comp=Z,4.9nm,0.5s						
VISS	**Visnje**	**156.45**	**330**	*i* PKPdf	**PKPab**	**16 47 35.8**	**-0.6**
PDG	**Podgorica**	**156.47**	**319**⇑	*i*P	**PKPab**	**16 47 37.2**	**+0.7**
TTG	**Podgorica**	**156.47**	**319**	*e*PKPab	**PKPab**	**16 47 35.2**	**-1.3**
BOJS	**Bojanci**	**156.50**	**329**	*e*PKPdf	**PKPab**	**16 47 36.6**	**+0.1**
WATA	**Walderalm**	**156.50**	**337**	*e*PKPab	**PKPab**	**16 47 37.0**	**+0.3**
	comp=Z,3.0nm,0.8s						
WTTA	**Wattenberg**	**156.54**	**337**	*e*PKPab	**PKPab**	**16 47 37.0**	**+0.2**
	comp=Z,5.2nm,0.7s						

BFO	**Black Forest**	**156.60**	**343**	*e*PKPab	**PKPab**	**16 47 36.6**	**-0.3**
RETA	**Reutte**	**156.64**	**339**	*e*PKPab	**PKPab**	**16 47 37.8**	**+0.6**
	comp=Z,11nm,1.1s						
MOTA	**Moosalm**	**156.65**	**338**	*e*PKPab	**PKPab**	**16 47 37.8**	**+0.4**
	comp=Z,6.5nm,0.8s						
ABTA	**Abfaltersbach**	**156.66**	**335**	*e*PKPab	**PKPab**	**16 47 36.9**	**-0.4**
	comp=Z,6.9nm,1.1s						
JAVS	**Javornik**	**156.72**	**331**	*e*PKPdf	**PKPab**	**16 47 36.8**	**-0.8**
SQTA	**Sankt Quirin**	**156.72**	**338**	*e*PKPab	**PKPab**	**16 47 38.1**	**+0.5**
	comp=Z,7.9nm,0.7s						
FETA	**Feichten**	**157.06**	**338**	*e*PKPab	**PKPab**	**16 47 39.5**	**+0.4**
	comp=Z,5.7nm,0.9s						
DAVA	**Damuels**	**157.10**	**340**	*e*PKPab	**PKPab**	**16 47 39.9**	**+0.6**
	comp=Z,12nm,1.1s						
FUORN	**Ofenpass-Fuorn**	**157.57**	**338**	*e*PKPab	**PKPab**	**16 47 41.3**	**-0.2**
SENIN	**Lac Senin/Sane**	**158.69**	**343**	*e*PKPab	**PKPab**	**16 47 46.3**	**0.0**
AQU	**L'Aquila**	**159.74**	**326**	*e*PKPab	**PKPab**	**16 47 51.0**	**+0.2**
LIC	**Lamto**	**159.84**	**170**	*e*PKP2	**PKPab**	**16 47 52.1**	**+0.4**
	comp=Z,29nm,0.8s						
KIC	**Kosan Boka**	**160.02**	**171**	*e*PKP2	**PKPab**	**16 47 52.9**	**+0.4**
	comp=Z,16nm,0.8s						
TIC	**Toumodi**	**160.26**	**170**	*e*PKP2	**PKPab**	**16 47 53.8**	**+0.2**
DBIC	**Dimbokro**	**160.31**	**170**	PKP	**PKPdf**	**16 47 08.1**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=189,slow=3.8,SNR=4.7						
DBIC				PKPab	**PKPab**	**16 47 54.1**	**+0.4**
	comp=Z,2.0nm,0.5s,baz=171,slow=4.6,SNR=6.4						
ES19	**SONSECA Array**	**166.43**	**8**	*e*PKPab	**PKPab**	**16 48 18.1**	**-2.1**
ESDC	**Sonseca Array**	**166.44**	**8**	PKP	**PKPdf**	**16 47 14.4**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=90,slow=2.6,SNR=3.3						
ESDC				PKPab	**PKPab**	**16 48 19.8**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=337,slow=4.4,SNR=5.7						
TOA0	**Torodi Ar. Sit**	**166.63**	**194**	*e*PKPdf	**PKPdf**	**16 47 13.4**	**-1.2**
TOA0				*e*PKPdf	PKPdf	16 47 13.9	-0.7
TOA0				*e*PKPab	**PKPab**	**16 48 19.9**	**-1.7**
TOA0				*e*PKPab	PKPab	16 48 21.6	0.0
TORD	**Torodi Ar. Bea**	**166.63**	**194**	PKP	**PKPdf**	**16 47 13.9**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=335,slow=3.4,SNR=8.0						
TORD				PKPab	**PKPab**	**16 48 20.2**	**-1.3**
	comp=Z,3.5nm,0.5s,baz=164,slow=3.2,SNR=28						
TORD				PP	**PP**	**16 52 11.5**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=152,slow=6.6,SNR=3.5						

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*ISCJB **06** 16:36:49.9±1.0, 26°.29S±0°.09×178°.4E±0°.2, h612km, mb3.9/9, Error ellipse: s-maj=24.3km s-min=10.8km az=168.3*
*IDC **06** 16:36:51.6±3.2, 26°.29S×178°.46E, h621km±35km, mb3.4/9, mb1 3.5/11, mb1mx3.2/42, mbtmp4.4/11, Error ellipse: s-maj=31.3km s-min=16.2km az=63.0*
ISC 06 16:36:50.7±0.8**, 26°.4S**±0°.1×**178°.4E**±0°.1**, h612**km**, n22, σ1ˢ.23**/25**, mb3.9**/9**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.73**	**289**	P	**P**	**16 39 28.5**	**+1.6**
	1.5nm,0.3s,baz=176,slow=22,SNR=14						
URZ	**Urewera**	**11.88**	**185**	P	**P**	**16 39 29.5**	**+1.5**
	1.1nm,0.3s,baz=265,slow=3.2,SNR=6.4						
URZ				S	**S**	**16 41 35.0**	**-2.2**
	1.1nm,0.3s,baz=104,slow=20,SNR=5.6						
CTA	**Charters Tower**	**30.14**	**275**	P	**P**	**16 42 14.7**	**+1.5**
	4.3nm,0.4s,baz=96,slow=10,SNR=16						
ASAR	**Alice Springs**	**40.26**	**264**	P	**P**	**16 43 37.5**	**+0.8**
	1.4nm,0.5s,baz=91,slow=7.3,SNR=22						
ASAR				S	**S**	**16 48 59.6**	**-2.0**
	1.2nm,0.9s,baz=99,slow=16,SNR=6.7						
WRA	**Warramunga Arr**	**40.86**	**270**	P	**P**	**16 43 41.6**	**+0.2**
	1.7nm,0.3s,baz=103,slow=8.3,SNR=44						
WRA				S	**S**	**16 49 07.6**	**-2.8**
	0.5nm,0.6s,baz=103,slow=12,SNR=5.1						
SIJI	**Sorong**	**51.92**	**291**	P	**P**	**16 45 04.7**	**0.0**
	11nm,0.6s,baz=94,slow=6.4,SNR=6.8						
QSPA	**South Pole Qui**	**63.69**	**180**	P	**P**	**16 46 24.3**	**+1.0**
	2.2nm,0.5s,baz=217,slow=1.5,SNR=19						
MJAR	**Matsushiro Arr**	**73.16**	**327**	P	**P**	**16 47 19.5**	**-1.0**
	1.0nm,0.6s,baz=173,slow=5.4,SNR=8.5						
JNU	**Nakatsue**	**74.47**	**320**	P	**P**	**16 47 27.8**	**-0.2**
	4.2nm,1.1s,baz=23,slow=2.4,SNR=5.0						
PETK	**Petropavlovsk-**	**81.20**	**348**	P	**P**	**16 48 03.8**	**+0.2**
	2.3nm,0.6s,baz=144,slow=8.0,SNR=9.1						
USRK	**Ussuriysk Ar.**	**82.09**	**328**	P	**P**	**16 48 08.4**	**+0.1**
	1.5nm,0.7s,baz=201,slow=10.0,SNR=5.3						
KURBB	**Kurchatov Arra**	**116.03**	**316**	PKP	**PKPdf**	**16 54 23.7**	**-1.2**
	0.1nm,0.4s,baz=114,slow=2.2,SNR=4.4						
BVAR	**Borovoye Array**	**121.33**	**318**	PKP	**PKPdf**	**16 54 34.5**	**-0.5**
	0.7nm,0.5s,baz=125,slow=2.3,SNR=8.9						
ARCES	**ARCESS Array B**	**134.01**	**347**	PKhKP	PKPpre	16 54 50.5	
	3.2nm,0.9s,baz=53,slow=0.6,SNR=5.6						
ARCES				PKP	**PKPdf**	**16 54 59.5**	**+0.8**
	1.9nm,0.9s,baz=352,slow=1.9,SNR=6.3						
FINES	**FINESS Array B**	**140.31**	**340**	PKhKP	PKPpre	16 55 03.2	
	0.6nm,0.4s,baz=51,slow=4.9,SNR=13						
FINES				PKP	**PKiKP**	**16 55 12.2**	**-1.0**
	2.8nm,0.9s,baz=83,slow=3.9,SNR=5.4						
NB2	**NORSAR Subarra**	**144.29**	**349**	PKP	**PKPdf**	**16 55 16.7**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=11,slow=3.4						
NOA	**NORSAR Array B**	**144.29**	**349**	PKP	**PKPdf**	**16 55 16.8**	**-0.9**
	comp=Z,0.6nm,0.9s,baz=196,slow=9.8,SNR=8.4						
HFS	**Hagfors**	**144.67**	**347**	PKP	**PKPdf**	**16 55 17.9**	**-0.3**
	comp=Z,3.6nm,0.3s,baz=63,slow=2.7,SNR=66						
AKASG	**Malin Array Be**	**146.21**	**324**	PKPbc	**PKPbc**	**16 55 22.7**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=43,slow=3.7,SNR=10						
MMAI	**Mount Meron Ar**	**147.31**	**291**	PKPbc	**PKPbc**	**16 55 27.6**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=63,slow=3.9,SNR=5.1						
BRTR	**Keskin Array B**	**147.83**	**303**	PKPbc	**PKPbc**	**16 55 27.9**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=145,slow=4.5,SNR=4.9						
EKA	**Eskdalemuir Ar**	**151.07**	**2**	PKPbc	**PKPbc**	**16 55 34.4**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=343,slow=1.7,SNR=5.4						

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*IDC **06** 16:51:23.8±1.5, 39°.55N×54°.50E, h0km, mb3.0/2, mb1 3.4/6, mb1mx3.1/54, mbtmp3.3/6, ML3.3/4, Error ellipse: s-maj=19.5km s-min=12.0km az=18.0*
*ISCJB **06** 16:51:25.6±0.9, 39°.88N±0°.06×54°.82E±0°.10, h33km, mb2.7/1, Error ellipse: s-maj=11.6km s-min=6.7km az=152.9*
*NNC **06** 16:51:28.8±4.8, 39°.98N×55°.33E, h0km, mb3.7, mpv3.0, Error ellipse: s-maj=62.4km s-min=21.8km az=73.0*
ISC 06 16:51:27.8±1.0**, 39°.77N**±0°.08×**54°.74E**±0°.07**, h35**km**, n10, σ1ˢ.97**/16**, 3C-4D, Turkmenistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**3.22**	**124**	Pn	**Pn**	**16 52 16.3**	**+0.4**
	3.4nm,0.3s,baz=303,slow=16,SNR=98						
GEYT				Sn	**Sn**	**16 52 52.4**	**-0.6**
	2.7nm,0.3s,baz=293,slow=15,SNR=6.1						
GEYT				Lg	Lg	16 53 06.8	
	4.1nm,0.3s,baz=266,slow=22,SNR=6.1						
GYA0B	**ALIBECK ARRAY**	**3.22**	**124**	⇓Pn	**Pn**	**16 52 16.3**	**+0.5**
	2.8nm,0.4s						
GYA0B				⇑Lg	Lg	16 53 07.3	
	27nm,0.5s						
KBZ	**Khabaz**	**9.69**	**298**	Pn	**Pn**	**16 53 43.5**	**-1.0**
	0.1nm,0.3s,baz=112,slow=5.4,SNR=4.0						
KBZ				Sn	**Sn**	**16 55 30.0**	**-2.0**
	0.1nm,0.3s,baz=292,slow=19,SNR=2.9						
AB31	**Akbulak array**	**10.18**	**20**	⇑Pn	**Pn**	**16 53 53.9**	**+2.6**
	1.0nm,0.3s,baz=202,slow=13,SNR=185						
AB31				Sn	**Sn**	**16 55 43.0**	**-1.1**
	1.0nm,0.3s,baz=195,slow=24,SNR=18						
AKTO	**Aktyubinsk**	**10.91**	**11**	Pn	**Pn**	**16 54 03.2**	**+1.9**
	0.4nm,0.3s,baz=182,slow=7.0,SNR=7.1						
AKTO				Sn	**Sn**	**16 56 01.5**	**-0.5**
	0.3nm,0.3s,baz=205,slow=19,SNR=5.5						
AKTO	**Aktyubinsk**	**10.91**	**11**	⇓Pn	**Pn**	**16 54 02.4**	**+1.1**
	1.6nm,0.7s						
AKTO				⇓Sn	**Sn**	**16 56 01.9**	**-0.1**
	2.8nm,0.7s						
KK31	**Karatay Array**	**12.30**	**69**	⇑Pn	**Pn**	**16 54 18.4**	**-1.9**
	0.4nm,0.5s,baz=254,slow=16,SNR=8.7						
KK31				⇓Sn	**Sn**	**16 56 32.4**	**-3.7**
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**17.04**	**34**	P	**P**	**16 55 26.1**	**+1.5**
	0.2nm,0.3s,baz=222,slow=11,SNR=6.9						
AKASG	**Malin Array Be**	**20.92**	**310**	P	**P**	**16 56 07.4**	**+0.3**
	0.6nm,0.4s,baz=108,slow=9.8,SNR=5.0						
MKAR	**Makanchi Array**	**21.18**	**62**	P	**P**	**16 56 13.4**	**+3.4**
	0.2nm,0.5s,baz=256,slow=12,SNR=4.7						

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*IDC **06** 16:54:38.6±1.3, 34°.63S×179°.31W, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.9/33, mbtmp4.2/5, ML4.1/1, MS3.6/3, Ms1 3.5/3, ms1mx3.1/26, Error ellipse: s-maj=34.6km s-min=31.4km az=69.0*
*WEL **06** 16:54:40.6±1.1, 35°S±7°×17°9W±1°0, h33km, ML4.8/42*
*NEIC **06** 16:54:47.9±3.1, 35°.04S×179°.58W, h66km±22km, mb4.2/3, Error ellipse: s-maj=32.0km s-min=15.5km az=52.0*
ISC 06 16:54:43.3±1.1**, 34°.97S**±0°.08×**179°.0W**±0°.1**, h43**km**, n83, σ1ˢ.47**/87**, mb4.1**/6**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**3.55**	**216**	P	**Pn**	**16 55 36.5**	**+0.6**
WMGZ				S	**Sn**	**16 56 18.5**	**+2.0**
PKGZ	**Pakihiroa**	**3.77**	**219**	P	**Pn**	**16 55 38.7**	**-0.2**
PKGZ				S	**Sn**	**16 56 23.1**	**+1.0**
PUZ	**Puketiti**	**3.82**	**215**	P	**Pn**	**16 55 39.0**	**-0.7**
PUZ				S	**Sn**	**16 56 24.3**	**+1.0**
HAZ	**Te Kaha**	**3.83**	**223**	P	**Pn**	**16 55 40.1**	**+0.4**
HAZ				S	**Sn**	**16 56 26.7**	**+3.2**
RUGZ	**Raukumara Rang**	**4.04**	**221**	P	**Pn**	**16 55 42.7**	**0.0**
TWGZ	**Tauwhareparae**	**4.04**	**217**	P	**Pn**	**16 55 42.2**	**-0.4**
TWGZ				S	**Sn**	**16 56 30.4**	**+1.6**
CNGZ	**Carnagh Statio**	**4.18**	**212**	P	**Pn**	**16 55 44.2**	**-0.3**
TKGZ	**Te Karaka**	**4.31**	**216**	P	**Pn**	**16 55 47.1**	**+0.8**
MWZ	**Matawai**	**4.39**	**219**	P	**Pn**	**16 55 46.8**	**-0.7**
URZ	**Urewera**	**4.56**	**223**	Pn	**Pn**	**16 55 49.2**	**-0.5**
	7.8nm,0.3s,baz=279,slow=3.8,SNR=66						
URZ				Sn	**Sn**	**16 56 40.3**	**-1.1**
	14nm,0.3s,baz=250,slow=7.3,SNR=9.7						
URZ	**Urewera**	**4.56**	**223**	P	**Pn**	**16 55 49.1**	**-0.6**
RIGZ	**Rimuhau**	**4.56**	**214**	P	**Pn**	**16 55 49.3**	**-0.6**
RAGZ	**Rawiri**	**4.57**	**219**	P	**Pn**	**16 55 50.2**	**+0.3**
OPRZ	**Ohinepanea**	**4.62**	**230**	P	**Pn**	**16 55 50.3**	**-0.2**
MARZ	**Manawahe**	**4.63**	**228**	P	**Pn**	**16 55 51.5**	**+0.7**
KUZ	**Kuaotunu**	**4.67**	**246**	P	**Pn**	**16 55 51.4**	**+0.1**
PRGZ	**Paritu Road**	**4.69**	**212**	P	**Pn**	**16 55 51.2**	**-0.3**
GRZ	**Great Barrier**	**4.73**	**253**	P	**Pn**	**16 55 51.9**	**-0.2**
TGRZ	**Tauranga**	**4.74**	**233**	P	**Pn**	**16 55 52.2**	**-0.1**
SNGZ	**Shannon Statio**	**4.83**	**217**	P	**Pn**	**16 55 53.3**	**-0.1**
KNZ	**Kokohu**	**4.86**	**213**	P	**Pn**	**16 55 52.2**	**-1.7**
MHGZ	**Mahia Peninsul**	**4.87**	**210**	P	**Pn**	**16 55 53.0**	**-1.0**
RTZ	**Ruatahuna**	**4.89**	**221**	P	**Pn**	**16 55 54.3**	**0.0**
MUGZ	**Murupara**	**4.90**	**223**	P	**Pn**	**16 55 54.1**	**-0.3**
KMRZ	**Kaimai**	**5.02**	**234**	P	**Pn**	**16 55 55.7**	**-0.3**
RAHZ	**Arahi**	**5.06**	**218**	P	**Pn**	**16 55 56.6**	**0.0**
WHHZ	**Waihua**	**5.11**	**216**	P	**Pn**	**16 55 57.1**	**-0.2**
MTHZ	**Maungataniwha**	**5.13**	**220**	P	**Pn**	**16 55 57.7**	**0.0**
WIAZ	**Waiheke Island**	**5.13**	**248**	P	**Pn**	**16 55 57.7**	**+0.1**
MKAZ	**Moumakai**	**5.22**	**244**	P	**Pn**	**16 55 58.9**	**+0.1**
TOZ	**Tahuroa Road**	**5.25**	**237**	P	**Pn**	**16 55 59.2**	**-0.1**
NMHZ	**Naumai**	**5.33**	**218**	P	**Pn**	**16 56 01.2**	**+0.8**
ETAZ	**East Tamaki Re**	**5.34**	**247**	P	**Pn**	**16 56 00.8**	**+0.3**
MRHZ	**Matea Rd**	**5.35**	**223**	P	**Pn**	**16 55 59.8**	**-0.9**
WHTZ	**Whakaora**	**5.50**	**226**	P	**Pn**	**16 56 02.9**	**+0.1**
BKZ	**Black Stump Fm**	**5.55**	**220**	*e*Pn	**Pn**	**16 56 01.8**	**-1.6**
BKZ	**Black Stump Fm**	**5.55**	**220**	P	**Pn**	**16 56 02.1**	**-1.2**
RVAZ	**Riverhead Bore**	**5.55**	**249**	P	**Pn**	**16 56 05.4**	**+2.0**
TLZ	**Tolley Road**	**5.55**	**231**	P	**Pn**	**16 56 04.2**	**+0.7**
WCZ	**Waipu Caves**	**5.56**	**258**	P	**Pn**	**16 56 03.3**	**-0.1**
AWAZ	**Awhitu Peninsu**	**5.60**	**246**	P	**Pn**	**16 56 05.6**	**+1.7**
MCHZ	**McNeill Hill**	**5.66**	**217**	P	**Pn**	**16 56 04.8**	**0.0**
WATZ	**Wairara**	**5.66**	**227**	P	**Pn**	**16 56 04.7**	**-0.2**
RATZ	**Rangitukua**	**5.74**	**226**	P	**Pn**	**16 56 05.5**	**-0.5**
KWHZ	**Kaweka Forest**	**5.78**	**218**	P	**Pn**	**16 56 05.6**	**-0.9**
KAHZ	**Kahuranaki**	**5.85**	**213**	P	**Pn**	**16 56 04.7**	**-2.8**
KRVZ	**Karewarewa**	**5.97**	**225**	P	**Pn**	**16 56 08.4**	**-0.8**
OTVZ	**Oturere**	**6.00**	**224**	P	**Pn**	**16 56 08.6**	**-1.1**
BHHZ	**Black Hill Sta**	**6.01**	**220**	P	**Pn**	**16 56 09.1**	**-0.6**
WTVZ	**West Tongariro**	**6.01**	**225**	P	**Pn**	**16 56 09.1**	**-0.7**
TWVZ	**Taurewa**	**6.07**	**226**	P	**Pn**	**16 56 09.8**	**-0.8**
COVZ	**Chateau Observ**	**6.10**	**225**	P	**Pn**	**16 56 09.7**	**-1.3**
HIZ	**Hauiti**	**6.10**	**233**	*e*Pn	**Pn**	**16 56 10.0**	**-0.9**
HIZ	**Hauiti**	**6.10**	**233**	P	**Pn**	**16 56 10.8**	**-0.1**
OUZ	**Omahuta**	**6.12**	**266**	*e*Pn	**Pn**	**16 56 09.9**	**-1.2**
OUZ	**Omahuta**	**6.12**	**266**	P	**Pn**	**16 56 10.6**	**-0.5**
MOVZ	**Moawhango**	**6.12**	**222**	P	**Pn**	**16 56 10.1**	**-1.1**
WNVZ	**Wahianoa**	**6.15**	**223**	P	**Pn**	**16 56 10.2**	**-1.5**
BFZ	**Birch Farm**	**6.85**	**212**	*e*Pn	**Pn**	**16 56 17.2**	**-3.9**
SNZO	**South Karori**	**8.06**	**216**	*e*Pn	**Pn**	**16 56 36.6**	**-1.1**
THZ	**Tophouse**	**9.31**	**221**	*e*Pn	**Pn**	**16 56 51.8**	**-3.2**
KHZ	**Kahutara**	**9.47**	**216**	*e*Pn	Pn	16 56 52.0	-5.0
LTZ	**Lake Taylor**	**10.37**	**219**	*e*Pn	**Pn**	**16 57 06.3**	**-3.1**
MQZ	**McQueen's Vall**	**10.87**	**214**	*e*Pn	**Pn**	**16 57 12.0**	**-4.2**
OXZ	**Oxford**	**10.88**	**217**	*e*Pn	**Pn**	**16 57 13.5**	**-2.9**
RPZ	**Rata Peaks**	**11.66**	**219**	*e*Pn	**Pn**	**16 57 24.1**	**-2.8**
ODZ	**Otahua Downs**	**12.82**	**215**	*e*Pn	**Pn**	**16 57 40.5**	**-2.4**
WKZ	**Wanaka**	**13.48**	**220**	*e*Pn	**Pn**	**16 57 50.6**	**-1.3**
WHZ	**Wether Hill Ro**	**14.76**	**218**	*e*Pn	**Pn**	**16 58 07.8**	**-1.3**
DZM	**Mont Dzumac**	**18.14**	**311**	LR	LR	17 04 35.7	
	comp=Z,370nm,18.2s,baz=144,slow=34						
PPT	**Papeete**	**31.37**	**64**	LR	LR	17 10 26.4	
	comp=Z,47nm,21.9s,baz=208,slow=30						
STKA	**Stephens Creek**	**32.93**	**264**	P	**P**	**17 01 13.4**	**-0.2**
	0.9nm,0.5s,baz=100,slow=8.4,SNR=3.8						
STKA				LR	LR	17 13 04.4	
	comp=Z,90nm,19.8s,baz=33,slow=34						
STKA	**Stephens Creek**	**32.93**	**264**	*e*P	**P**	**17 01 11.1**	**-2.6**
	4.7nm,1.8s						
AS31	**Alice Springs**	**42.28**	**272**	*e*P	**P**	**17 02 30.9**	**-2.0**
	1.4nm,0.6s						
ASAR	**Alice Springs**	**42.28**	**272**	P	**P**	**17 02 31.5**	**-1.3**
	3.2nm,0.6s,baz=115,slow=7.6,SNR=101						
WR1	**Warramunga Arr**	**43.68**	**277**	*e*P	**P**	**17 02 42.2**	**-1.9**
	41nm,1.9s						
WRA	**Warramunga Arr**	**43.68**	**277**	P	**P**	**17 02 42.2**	**-1.9**
	4.2nm,0.7s,baz=117,slow=7.6,SNR=61						
QSPA	**South Pole Qui**	**55.15**	**180**	P	**P**	**17 04 15.0**	**+3.9**
	1.0nm,0.6s,baz=58,slow=0.2,SNR=8.7						
FIA0	**FINESS Array S**	**149.09**	**337**	*e*PKPbc	**PKPbc**	**17 14 26.8**	**+0.8**
FINES	**FINESS Array B**	**149.09**	**337**	PKPbc	**PKPbc**	**17 14 26.8**	**+0.8**
	1.1nm,0.5s,baz=31,slow=4.4,SNR=12						
BR101	**Keskin Array S**	**153.75**	**290**	*e*PKPbc	**PKPbc**	**17 14 38.3**	**+0.6**
BRTR	**Keskin Array B**	**153.75**	**290**	PKPbc	**PKPbc**	**17 14 38.3**	**+0.6**
	0.7nm,0.7s,baz=166,slow=6.3,SNR=4.5						
AKASG	**Malin Array Be**	**154.25**	**316**	PKPbc	**PKPbc**	**17 14 39.6**	**+1.4**
	0.1nm,0.3s,baz=67,slow=2.4,SNR=3.0						
AKASG				PKPab	**pPKPbc**	**17 14 50.8**	**-0.8**
	1.3nm,0.7s,baz=65,slow=2.7,SNR=5.5						

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*JMA **06** 16:56:27.3±0.2, 43°.74N×147°.89E, h6km, M3.6*
*SKHL **06** 16:56:27.9±0.5, 43°.99N×148°.17E, h60km, mb4.1/3*
ISC 06 16:56:26.2±3.1**, 43°.9N**±0°.1×**148°.3E**±0°.2**, h35**km**, n12, σ1ˢ.08**/20**, 2D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**1.05**	**268**	⇓*i*P	**Pn**	**16 56 44.9**	**+0.6**
SHO				AMB	AMB	16 56 45.3	
	20nm,0.1s						
SHO				*e*S	**Sn**	**16 56 57.3**	**-0.4**
SHO				A	A	16 56 59.6	
	480nm,0.2s						
SHO				A	A	16 56 59.6	
	1μm,0.5s						
KUR	**Kuril'sk**	**1.35**	**348**	*e*P	**Pn**	**16 56 48.6**	**+0.1**
KUR				AMB	AMB	16 56 49.9	
	40nm,0.5s						
KUR				AMB	AMB	16 56 49.9	
	110nm,0.5s						
KUR				*e*S	**Sn**	**16 57 04.5**	**-0.7**
KUR				A	A	16 57 11.2	
	210nm,0.3s						
KUR				A	A	16 57 11.2	
	80nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.75**	**275**	⇓*i*P	**Pn**	**16 56 54.1**	**+0.1**
YUK				AMB	AMB	16 56 54.7	
	10.0nm,0.2s						
YUK				AMB	AMB	16 56 54.7	
	40nm,0.2s						
YUK				AMB	AMB	16 56 54.7	
	70nm,0.2s						
YUK				*i* S	**Sn**	**16 57 13.7**	**-1.3**
YUK				A	A	16 57 16.0	
	150nm,0.2s						
YUK				A	A	16 57 16.0	
	120nm,0.2s						
NEM2	**Nemuro 2**	**1.92**	**254**	P	**Pn**	**16 56 56.5**	**+0.2**
NEM2				*e*S	**Sn**	**16 57 17.7**	**-1.5**
JRA	**Rausu**	**2.28**	**272**	P	**Pn**	**16 57 02.7**	**+1.4**
JRA				*e*S	**Sn**	**16 57 28.4**	**+0.3**
JKHN	**Kushirohamanak**	**2.42**	**251**	P	**Pn**	**16 57 03.8**	**+0.7**
JKHN				*e*S	**Sn**	**16 57 30.1**	**-1.4**
JNK	**Nakash**	**2.60**	**264**	*e*S	**Sn**	**16 57 35.5**	**-0.5**
JAK	**Akkeshi**	**2.77**	**252**	P	**Pn**	**16 57 08.5**	**+0.6**
JAK				*e*S	**Sn**	**16 57 38.4**	**-1.7**
JTKR	**Abashiri--Toko**	**3.16**	**273**	P	**Pn**	**16 57 14.7**	**+1.4**
JAR	**Ashorobuto**	**3.33**	**261**	P	**Pn**	**16 57 17.4**	**+1.6**
JAR				*e*S	**Sn**	**16 57 53.7**	**-0.4**
JOB	**Onbets**	**3.39**	**254**	*e*S	**Sn**	**16 57 54.5**	**-1.0**
JCH	**Churui**	**3.82**	**252**	P	**Pn**	**16 57 23.4**	**+1.0**

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*IDC **06** 16:56:37.2±3.7, 10°.77N×141°.62E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.6/41, mbtmp3.6/8, ML3.8/1, Error ellipse: s-maj=93.5km s-min=25.8km az=164.0*
*ISCJB **06** 16:56:40.7±2.6, 10°.7N±0°.4×141°.6E±0°.2, h35km, mb3.6/7, Error ellipse: s-maj=63.5km s-min=11.0km az=155.2*
ISC 06 16:56:41.6±2.9**, 10°.6N**±0°.5×**141°.6E**±0°.2**, h35**km**, n8, σ0ˢ.87**/9**, mb3.6**/7**, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.34**	**46**	Pn	**Pn**	**16 57 44.6**	**-0.5**
	5.2nm,0.3s,baz=15,slow=20,SNR=1.7						
GUMO				Sn	**Sn**	**16 58 35.6**	**+1.0**
	9.3nm,0.3s,baz=140,slow=17,SNR=2.3						
CMAR	**Chiang Mai Arr**	**41.98**	**286**	P	**P**	**17 04 30.8**	**+1.0**
	0.4nm,0.7s,baz=97,slow=5.8,SNR=5.1						
SONM	**Songino Array**	**47.47**	**328**	P	**P**	**17 05 12.9**	**-0.4**
	0.3nm,0.6s,baz=126,slow=7.3,SNR=2.4						
MKAR	**Makanchi Array**	**61.51**	**318**	P	**P**	**17 06 54.4**	**-0.7**
	0.4nm,0.6s,baz=101,slow=8.7,SNR=8.2						
ZALV	**Zalesovo Beam**	**62.27**	**326**	P	**P**	**17 06 59.8**	**-0.2**
	0.3nm,0.4s,baz=97,slow=6.3,SNR=2.7						
BVAR	**Borovoye Array**	**70.34**	**323**	P	**P**	**17 07 52.0**	**+0.2**
	1.8nm,0.6s,baz=116,slow=6.9,SNR=15						
ILAR	**Eielson Array**	**72.61**	**25**	P	**P**	**17 08 04.3**	**-0.9**
	0.2nm,0.8s,baz=238,slow=6.7,SNR=4.2						
YKA	**Yellowknife Ar**	**86.95**	**27**	P	**P**	**17 09 23.6**	**+0.8**
	0.2nm,0.5s,baz=288,slow=4.8,SNR=4.6						

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*TIR **06** 17:12:06.1, 40°.52N×19°.61E, h13km, Md3.1/7*
*BEO **06** 17:12:06.7±1.3, 40°.58N×19°.07E, h23km±6km, ML2.7/2*
*THE **06** 17:12:07.9, 40°.49N×19°.62E, h4km±1km, ML2.4/9, Error ellipse: s-maj=1.7km s-min=0.7km az=237.0*
*ATH **06** 17:12:07.1, 40°.52N×19°.51E, h29km±2km, ML2.6/9, Error ellipse: s-maj=2.5km s-min=1.2km az=268.0*
*SKO **06** 17:12:09.5, 40°.52N×19°.72E, h0km*
ISC 06 17:12:07.0±0.8**, 40°.52N**±0°.02×**19°.60E**±0°.02**, h11**km±5km**, n57, σ1ˢ.49**/93**, 6C, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.10**	**236**	P	**Pg**	**17 12 09.7**	**+0.1**
VLO				S	**Sg**	**17 12 12.2**	**+0.7**
VLO	**Vlora**	**0.10**	**236**	*i* PG	**Pg**	**17 12 09.6**	**0.0**
VLO				*i* SG	**Sg**	**17 12 11.2**	**-0.3**
TPE	**Tepelena**	**0.39**	**126**	P	**Pg**	**17 12 13.7**	**-1.0**
TPE	**Tepelena**	**0.39**	**126**	*i* PG	**Pg**	**17 12 14.0**	**-0.7**
TPE				*i* SG	**Sg**	**17 12 20.3**	**+0.5**
SRN	**Sarande**	**0.71**	**154**	P	**Pg**	**17 12 19.8**	**-0.9**
SRN				S	**Sb**	**17 12 31.0**	**-0.1**
SRN	**Sarande**	**0.71**	**154**	*i* PG	**Pg**	**17 12 20.4**	**-0.3**
SRN				*i* SG	**Sb**	**17 12 31.2**	**+0.1**
KASA	**Kassiopi**	**0.82**	**161**	P	**Pn**	**17 12 23.8**	**-0.6**
KASA				S	**Sn**	**17 12 35.4**	**-1.0**
KASA				AML	AML	17 12 36.1	
	comp=N,819μm,0.2s						
KASA				AML	AML	17 12 36.5	
	comp=E,1264μm,0.3s						
KEK	**Kerkira**	**0.82**	**169**	P	**Pg**	**17 12 22.9**	**0.0**
KEK				S	**Sn**	**17 12 35.6**	**-1.0**
KEK				AML	AML	17 12 36.7	
	comp=N,593μm,0.4s						
KEK				AML	AML	17 12 37.8	
	comp=E,916μm,0.4s						
KEK	**Kerkira**	**0.82**	**169**	P	**Pg**	**17 12 21.8**	**-1.1**
KEK				S	**Sb**	**17 12 34.1**	**-0.2**
TIR	**Tirane**	**0.85**	**14**	*e*Pg	**Pn**	**17 12 24.3**	**-0.5**
TIR				*e*Sg	**Sn**	**17 12 38.9**	**+1.6**
TIR	**Tirane**	**0.85**	**14**	P	**Pn**	**17 12 24.4**	**-0.5**
TIR				S	**Sn**	**17 12 37.1**	**-0.2**
TIR				AML	AML	17 12 43.2	
	comp=E,1057μm,0.4s						
TIR				AML	AML	17 12 46.4	
	comp=N,930μm,0.4s						
TIR	**Tirane**	**0.85**	**14**	P	**Pn**	**17 12 24.5**	**-0.4**
TIR				S	**Sn**	**17 12 37.7**	**+0.4**
TIR	**Tirane**	**0.85**	**14**	⇑*i*Pg	**Pn**	**17 12 24.5**	**-0.4**
TIR	**Tirane**	**0.85**	**14**	*i* PG	**Pb**	**17 12 24.1**	**+0.3**
TIR				*i* SG	**Sn**	**17 12 36.5**	**-0.8**
SCTE	**Santa Cesarea**	**0.97**	**243**	P	**Pb**	**17 12 24.6**	**-1.3**
SCTE				S	**Sb**	**17 12 38.4**	**-0.3**
SCTE				AML	AML	17 12 39.9	
	comp=N,446μm,0.3s						
SCTE				AML	AML	17 12 40.1	
	comp=E,536μm,0.2s						
OHR	**Ohrid**	**1.08**	**57**	⇑*i*Pg	**Pb**	**17 12 27.7**	**-0.1**
OHR				*i* Sg	**Sb**	**17 12 41.4**	**-0.6**
NEST	**Nestorio**	**1.11**	**95**	P	**Pg**	**17 12 28.7**	**+0.3**
NEST				S	**Sn**	**17 12 46.1**	**+2.2**
NEST				AML	AML	17 12 49.1	
	comp=N,229μm,0.4s						
NEST				AML	AML	17 12 50.4	
	comp=E,382μm,0.6s						
NEST	**Nestorio**	**1.11**	**95**	P	**Pb**	**17 12 28.2**	**-0.1**
NEST				S	**Sn**	**17 12 44.2**	**+0.3**
IGT	**Igoumenitsa**	**1.14**	**150**	P	**Pn**	**17 12 28.8**	**-0.1**
IGT				S	**Sn**	**17 12 45.1**	**+0.7**
IGT				AML	AML	17 12 47.5	
	comp=N,335μm,0.3s						
IGT				AML	AML	17 12 50.2	
	comp=E,262μm,0.5s						
IGT	**Igoumenitsa**	**1.14**	**150**	P	**Pn**	**17 12 28.7**	**-0.1**
IGT				S	**Sn**	**17 12 44.7**	**+0.3**
IGT	**Igoumenitsa**	**1.14**	**150**	⇑*i*Pg	**Pn**	**17 12 28.8**	**-0.1**
PENT	**Pentalofos**	**1.22**	**105**	P	**Pb**	**17 12 30.1**	**0.0**
PENT	**Pentalofos**	**1.22**	**105**	P	**Pb**	**17 12 30.1**	**0.0**
PENT				S	**Sg**	**17 12 48.2**	**+1.9**
JAN	**Janina**	**1.29**	**132**	P	**Pg**	**17 12 31.7**	**0.0**
JAN				S	**Sg**	**17 12 50.9**	**+2.3**
JAN				AML	AML	17 12 53.1	
	comp=E,459μm,0.6s						
JAN				AML	AML	17 12 54.3	
	comp=N,377μm,0.4s						
JAN	**Janina**	**1.29**	**132**	P	**Pg**	**17 12 31.8**	**0.0**
JAN				S	**Sg**	**17 12 49.5**	**+0.9**
PHP	**Peshkopia**	**1.32**	**28**	P	**Pb**	**17 12 31.8**	**-0.1**
PHP				S	**Sg**	**17 12 51.4**	**+1.8**
PHP	**Peshkopia**	**1.32**	**28**	*i* PN	**Pb**	**17 12 32.0**	**+0.1**
PHP				*i* SN	**Sg**	**17 12 51.5**	**+1.9**
FNA	**Florina**	**1.38**	**79**	P	**Pb**	**17 12 32.9**	**+0.1**
FNA				AML	AML	17 12 56.4	
	comp=N,738μm,0.3s						
FNA				AML	AML	17 12 57.0	
	comp=E,713μm,0.4s						
FNA	**Florina**	**1.38**	**79**	P	**Pb**	**17 12 32.7**	**-0.1**
FNA				S	**Sg**	**17 12 53.1**	**+1.8**
FNA	**Florina**	**1.38**	**79**	⇑*i*Pg	**Pg**	**17 12 33.0**	**-0.4**
FNA				*i* Sg	**Sg**	**17 12 50.7**	**-0.6**
BIA	**Bitola**	**1.40**	**69**	P	**Pg**	**17 12 34.0**	**+0.1**
BIA				S	**Sg**	**17 12 53.7**	**+1.6**
BIA	**Bitola**	**1.40**	**69**	⇑*i*Pg	**Pb**	**17 12 33.4**	**+0.2**
BIA				*i* Sg	**Sg**	**17 12 51.5**	**-0.6**
MEV	**Metsovon**	**1.45**	**120**	P	**Pg**	**17 12 34.6**	**-0.3**
KRUS	**Krusevo**	**1.51**	**55**	⇑*i*Pg	**Pb**	**17 12 35.2**	**+0.2**
KRUS				*i* Sg	**Sb**	**17 12 54.6**	**+0.4**
PUK	**Puka**	**1.54**	**8**	*i* PN	**Pb**	**17 12 35.0**	**-0.4**
PUK				*i* SN	**Sg**	**17 12 55.9**	**-0.5**
KZN	**Kozani**	**1.67**	**97**	P	**Pb**	**17 12 37.6**	**-0.2**
KZN				AML	AML	17 13 08.0	
	comp=N,209μm,0.6s						
KZN				AML	AML	17 13 09.6	
	comp=E,284μm,0.6s						
TAR1	**Taranto**	**1.76**	**271**	*e*Pn	**Pg**	**17 12 44.7**	**+3.9**
MASS	**Massafra**	**1.87**	**274**	*e*Pn	**Pb**	**17 12 40.4**	**-0.8**
BCI	**Bajram Curri**	**1.88**	**11**	*i* PN	**Pb**	**17 12 40.2**	**-1.1**
PDG	**Podgorica**	**1.92**	**352**	*e*Pg	**Pn**	**17 12 40.4**	**+0.8**
PDG				*e*Sg	**Sb**	**17 13 05.1**	**-0.9**
SKO	**Skopje**	**2.01**	**43**	*e*Pn	**Pn**	**17 12 41.9**	**+1.1**
SKO				*e*Sn	**Sg**	**17 13 10.2**	**-1.3**
THL	**Klokotos Trika**	**2.09**	**117**	P	**Pn**	**17 12 42.8**	**+0.9**
BAI	**Bari**	**2.15**	**287**	*e*Pn	**Pb**	**17 12 47.1**	**+1.3**
BAI				Sn	**Sg**	**17 13 24.6**	**+8.7**
SG1	**Sgolgore (BA)**	**2.24**	**279**	*e*Pn	**Pb**	**17 12 46.3**	**-1.2**
SG1				Sn	**Sg**	**17 13 18.0**	**-1.0**

VAY	**Valandovo**	**2.39**	**70**	*e*Pn	**Pb**	**17 12 49.6**	**-0.4**
STON	**Ston**	**2.74**	**329**	*e*Pn	**Pn**	**17 12 49.2**	**-1.7**
STON				Sn	**Sn**	**17 13 21.4**	**-2.5**
SJES	**Sjenica**	**2.75**	**6**	*e*Pn	**Pn**	**17 12 50.6**	**-0.5**
BARS	**Barje**	**2.83**	**35**	*e*Pn	**Pn**	**17 12 52.9**	**+0.8**
SELS	**Selova**	**2.92**	**22**	*e*Pn	**Pn**	**17 12 54.4**	**+1.0**
IVAS	**Ivanjica**	**3.08**	**8**	*e*Pn	**Pn**	**17 12 54.9**	**-0.7**
BBLS	**Lazići**	**3.34**	**358**	*e*Pn	**Pn**	**17 12 56.2**	**-3.0**
GRUS	**Gruza**	**3.46**	**13**	*e*Pn	**Pn**	**17 13 00.9**	**+0.1**
BOVS	**Bovan**	**3.48**	**26**	*e*Pn	**Pn**	**17 13 01.2**	**+0.1**
ZAPS	**Zavoj**	**3.56**	**38**	*e*Pn	**Pn**	**17 13 03.7**	**+1.5**
DIVS	**Divibare**	**3.58**	**5**	*e*Pn	**Pn**	**17 13 01.5**	**-1.1**
UDBI	**Udbina**	**4.90**	**326**	*i* Pn	**Pn**	**17 13 20.0**	**-0.6**
UDBI				Sn	**Sn**	**17 14 14.5**	**-2.9**
NVLJ	**Novalja**	**5.34**	**321**	*e*Pn	**Pn**	**17 13 25.6**	**-0.9**
NVLJ				Sn	**Sn**	**17 14 23.7**	**-4.3**

ISC 06 17:17:43.9±0.8**, 50°.23N**±0°.04×**18°.68E**±0°.02**, h0**km**, n20, σ0s87**/37**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.21**	**72**	*e*Pg	**Pg**	**17 17 48.0**	**+0.1**
CHZP				*e*Sg	**Sg**	**17 17 50.9**	**+0.2**
OKC	**Ostrava-Krasne**	**0.52**	**222**	*e*PG	**Pg**	**17 17 55.0**	**+1.2**
OKC				*e*SG	**Sb**	**17 18 02.9**	**-1.0**
	comp=Z,26nm,0.3s						
OJC	**Ojcow**	**0.72**	**90**	*e*Pg	**Pg**	**17 17 57.0**	**-0.6**
OJC				*e*Sg	**Sg**	**17 18 06.7**	**-0.2**
MORC	**Moravsky Berou**	**0.86**	**239**	*e*PG	**Pg**	**17 18 00.8**	**+0.5**
MORC				*e*SG	**Sb**	**17 18 12.7**	**-1.1**
LANS	**Liptovska Anna**	**1.19**	**154**	*e*PG	**Pg**	**17 18 06.8**	**+0.1**
LANS				*e*SG	**Sg**	**17 18 23.2**	**+1.0**
KRLC	**Kraliky**	**1.23**	**264**	*e*PG	**Pg**	**17 18 07.0**	**-0.4**
KRLC				*e*SG	**Sg**	**17 18 23.0**	**-0.3**
	comp=Z,5.4nm,0.4s						
NIE	**Niedzica**	**1.33**	**127**	*e*Pg	**Pg**	**17 18 08.9**	**-0.3**
NIE				*e*Sg	**Sg**	**17 18 26.9**	**+0.5**
DPC	**Dobruska-Polom**	**1.52**	**276**	*e*PG	**Pn**	**17 18 12.1**	**-0.2**
DPC				*e*SG	**Sb**	**17 18 33.1**	**+0.4**
	comp=Z,22nm,0.5s						
VRAC	**Vranov**	**1.64**	**237**	*e*PN	**Pn**	**17 18 13.5**	**-0.4**
VRAC				*e*SG	**Sg**	**17 18 37.0**	**+0.6**
KSP	**Ksiaz**	**1.64**	**293**	*e*Pg	**Pb**	**17 18 15.6**	**+0.6**
KSP				*e*Sn	**Sn**	**17 18 35.7**	**-0.1**
KSP				*e*Sg	**Sg**	**17 18 37.5**	**+0.9**
UPC	**Upice**	**1.73**	**280**	*e*PG	**Pn**	**17 18 15.8**	**+0.6**
UPC				*e*SG	**Sb**	**17 18 39.0**	**+0.2**
	comp=Z,10nm,0.4s						
VYHS	**Vyhne**	**1.74**	**177**	*e*PN	**Pn**	**17 18 14.6**	**-0.7**
VYHS				*e*SN	**Sn**	**17 18 38.5**	**+0.3**
VYHS				*e*LG	Lg	17 18 48.9	
KRUC	**Moravsky**	**1.89**	**233**	*e*PN	**Pn**	**17 18 17.4**	**+0.1**
KRUC				*e*SG	**Sb**	**17 18 43.5**	**+0.2**
GOPC	**GO Pecny, Ondr**	**2.53**	**264**	*e*PG	**Pb**	**17 18 29.5**	**-0.6**
GOPC				*e*SG	**Sb**	**17 19 02.7**	**+1.0**
	comp=Z,4.7nm,0.3s						
PVCC	**Panska Ves**	**2.65**	**278**	*e*SG	**Sg**	**17 19 08.4**	**-0.5**
	comp=Z,7.7nm,0.2s						
PRU	**Pruhonice**	**2.67**	**266**	*e*PG	**Pb**	**17 18 32.5**	**-0.1**
PRU				*e*SG	**Sb**	**17 19 07.2**	**+1.3**
	comp=Z,6.0nm,0.4s						
BRG	**Berggiesshubel**	**3.09**	**284**	SG	**Sg**	**17 19 22.6**	**-0.5**
	4.1nm,0.4s						
KHC	**Kasperske Hory**	**3.49**	**254**	*e*PG	**Pb**	**17 18 47.1**	**+0.6**
KHC				*e*x	x	17 18 50.8	
KHC				*e*SG	**Sg**	**17 19 33.0**	**-2.9**
	comp=Z,5.7nm,0.4s						
CLL	**Collm**	**3.76**	**289**	*e*Sg	**Sg**	**17 19 45.0**	**+0.3**
NKC	**Novy Kostel**	**4.00**	**272**	*e*SG	**Sg**	**17 19 50.2**	**-2.1**
	comp=Z,4.6nm,0.4s						

*BGR **06** 17:19:16.3±0.5, 50°.33N×7°.32E, h10km, ML1.6/3, Error ellipse: s-maj=7.8km s-min=3.3km az=54.0*
*LDG **06** 17:19:16.7±0.1, 50°.38N×7°.37E, h7km, Md2.5/2, Ml2.3/10, Error ellipse: s-maj=1.1km s-min=1.0km az=31.0*
*BNS **06** 17:19:17.1±1.2, 50°.37N×7°.35E, h7km±17km, ML1.4*
*STR **06** 17:19:18.6±1.1, 50°N±6°×°±1°1, h17km±5km, M1.7/1, MLv1.7/1*
ISC 06 17:19:16.3±0.8**, 50°.35N**±0°.02×**7°.34E**±0°.02**, h17**km±5km**, n54, σ0s71**/96**, 4C-4D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHE	**Schloss Buerre**	**0.10**	**272**	⇑*i*Pg	**Pg**	**17 19 19.5**	**-0.4**
BHE				*e*Sg	**Sg**	**17 19 21.4**	**-0.8**
	393nm,0.1s						
BGG	**Burgeitz**	**0.14**	**181**	⇑*i*Pg	**Pg**	**17 19 20.5**	**+0.3**
BGG				*i* Sg	**Sg**	**17 19 22.8**	**-0.1**
	212nm,0.1s						
AHRW	**Bad Neuenahr-A**	**0.26**	**318**	⇓P*	**Pg**	**17 19 22.1**	**+0.2**
AHRW				*e*Pg	**Pg**	**17 19 22.2**	**+0.2**
	SNR=6.6						
AHRW				*e*Sg	**Sg**	**17 19 25.3**	**-0.5**
	SNR=7.0						
AHRW				S*	**Sg**	**17 19 25.4**	**-0.5**
KOE	**Koeppel**	**0.26**	**73**	⇓*i*Pg	**Pg**	**17 19 21.6**	**-0.5**
FSH	**Hochheid**	**0.31**	**209**	⇑*i*P*	**Pb**	**17 19 23.3**	**-0.1**
FSH				S*	**Sb**	**17 19 27.6**	**-0.6**
TDN	**Todenfeld**	**0.34**	**312**	*e*Pg	**Pg**	**17 19 23.5**	**+0.1**
TDN				*e*Sg	**Sg**	**17 19 28.0**	**-0.2**
	56nm,0.2s						
STB	**Steinbach**	**0.40**	**307**	⇓*i*Pg	**Pg**	**17 19 25.0**	**+0.4**
STB				*e*Sg	**Sg**	**17 19 29.7**	**-0.5**
	26nm,0.4s						
FACH	**Fachingen**	**0.42**	**89**	⇓*i*P*	**Pg**	**17 19 24.5**	**-0.2**
FACH				S*	**Sg**	**17 19 31.1**	**+0.6**
HILG	**Hillesheim**	**0.43**	**262**	⇑*e*Pg	**Pb**	**17 19 25.5**	**+0.1**
HILG				*e*Sg	**Sb**	**17 19 31.1**	**-0.5**
	17nm,0.2s						
WBS	**Wahnbachtalspe**	**0.46**	**355**	*e*Pg	**Pg**	**17 19 25.2**	**-0.3**
WBS				*e*Sg	**Sg**	**17 19 30.9**	**-0.9**
	72nm,0.2s						
ABH	**Alteburg**	**0.49**	**164**	Pg	**Pb**	**17 19 26.7**	**+0.3**
ABH	**Alteburg**	**0.49**	**164**	P*	**Pb**	**17 19 27.6**	**+1.2**
ABH				S*	**Sb**	**17 19 33.1**	**-0.1**
ABH				SmS		17 19 36.5	
BIW	**Bindweide**	**0.49**	**39**	P*	**Pg**	**17 19 25.7**	**-0.4**
BIW				S*	**Sg**	**17 19 31.5**	**-1.4**
LOH	**Wallersheim-Lo**	**0.54**	**252**	*e*Sg	**Sb**	**17 19 35.2**	**+0.3**
	26nm,0.2s						
GWBC	**Aumenau**	**0.60**	**85**	P*	**Pn**	**17 19 30.2**	**+0.2**
RUP	**Ruppelstein**	**0.67**	**196**	P*	**Pb**	**17 19 30.5**	**+0.9**
BLI	**Bleialf**	**0.69**	**261**	P*	**Pb**	**17 19 30.0**	**+0.2**
BLI				PmP		17 19 31.6	
BLI				S*	**Sb**	**17 19 39.2**	**+0.2**
BLI				SmS		17 19 42.6	
TNS	**Taunus Mts**	**0.72**	**100**	P*	**Pg**	**17 19 30.0**	**-0.3**
TNS				PmP		17 19 31.6	
TNS				*e*Sg	**Sg**	**17 19 39.8**	**-0.2**
	SNR=4.3						
TNS				SmS		17 19 42.0	
KLL	**Kalltalsperre**	**0.72**	**295**	*e*Pg	**Pg**	**17 19 30.0**	**-0.4**
GSH	**Grosshau**	**0.72**	**303**	*e*Pg	**Pg**	**17 19 30.4**	**0.0**
GSH				*e*Sg	**Sb**	**17 19 40.5**	**+0.4**
	15nm,0.2s						
PLH	**Pulheim**	**0.73**	**333**	*e*Pg	**Pg**	**17 19 30.4**	**-0.3**
PLH				*e*Sg	**Sg**	**17 19 39.9**	**-0.5**
RIVT	**Riveris**	**0.74**	**210**	P*	**Pg**	**17 19 30.5**	**-0.2**
RIVT				Pg	**Pg**	**17 19 30.6**	**-0.2**
RIVT				PmP		17 19 32.4	
DREG	**Dreilaegerbach**	**0.77**	**294**	*e*Pg	**Pb**	**17 19 31.5**	**+0.2**
IMS	**Imsbach**	**0.84**	**154**	P*	**Pb**	**17 19 33.0**	**+0.6**
IMS				PmP		17 19 33.8	
IMS				SmS		17 19 45.5	
MEM	**Membach**	**0.89**	**287**	P	**Pb**	**17 19 34.1**	**+0.8**
MEM				S	**Sb**	**17 19 45.7**	**+0.8**
MEM	**Membach**	**0.89**	**287**	PmP		17 19 34.1	
MEM				SmS		17 19 46.9	
HGN	**Heimansgroeve**	**0.99**	**295**	*e*Pn	**Pb**	**17 19 35.7**	**+0.7**
HGN				*e*Pg	**Pn**	**17 19 36.0**	**+0.7**
HGN				*e*Sn	**Sg**	**17 19 48.1**	**-0.4**
HGN				*e*Sg	**Sb**	**17 19 49.0**	**+1.3**
DUP	**Duppenweiler**	**1.01**	**201**	PmP		17 19 36.8	
WLF	**Walferdange**	**1.03**	**229**	P*	**Pg**	**17 19 35.5**	**-0.7**
WLF				Pg	**Pb**	**17 19 36.1**	**+0.5**
WLF				PmP		17 19 37.2	
LAUG	**Laupendahl**	**1.03**	**346**	*e*Pg	**Pg**	**17 19 35.9**	**-0.4**
BUG	**Bochum--Univer**	**1.09**	**358**	*e*Pg	**Pb**	**17 19 36.8**	**+0.1**
	SNR=5.9						
BUG				*e*Sg	**Sg**	**17 19 51.3**	**-0.4**
	SNR=4.8						
WBG	**Bieber**	**1.30**	**97**	Pg	**Pg**	**17 19 41.9**	**+0.6**
PEB	**Petersbachel**	**1.31**	**169**	Pg	**Pg**	**17 19 41.3**	**-0.1**
PEB				Sg	**Sg**	**17 19 58.5**	**0.0**
LANF	**Langenberg**	**1.40**	**167**	Pg	**Pg**	**17 19 43.7**	**+0.4**
GIVF	**Givet**	**1.64**	**262**	*e*Pn	**Pn**	**17 19 44.6**	**+0.3**
GIVF	**Givet**	**1.64**	**262**	*e*Pg	**Pg**	**17 19 47.5**	**-0.2**
GIVF				*e*Sn	**Sn**	**17 20 05.2**	**+0.3**
	8.6nm,0.3s						
SIND	**Sindeldorf**	**1.77**	**124**	Pg	**Pg**	**17 19 50.1**	**-0.2**
SIND				Sg	**Sg**	**17 20 13.4**	**0.0**
OPP	**Oppenau**	**1.94**	**163**	S	**Sn**	**17 20 10.6**	**-1.7**
CDF	**Champ du Feu**	**1.94**	**181**	*e*P	**Pb**	**17 19 51.3**	**+0.1**
CDF				*e*Sn	**Sn**	**17 20 12.7**	**+0.2**
	1.4nm,0.2s						
CDF				*e*Sg	**Sg**	**17 20 19.1**	**+0.4**
	1.5nm,0.2s						
BAIF	**Baives**	**2.04**	**263**	*e*Pn	**Pn**	**17 19 50.3**	**+0.6**
BAIF	**Baives**	**2.04**	**263**	*e*Pg	**Pg**	**17 19 54.9**	**-0.4**
BAIF				*e*Sn	**Sn**	**17 20 14.1**	**-0.6**
BAIF				*e*Sg	**Sg**	**17 20 21.5**	**-0.2**
	4.8nm,0.2s						
PAGF	**Fort de Pagny**	**2.08**	**211**	*e*Pn	**Pn**	**17 19 51.0**	**+0.6**
PAGF	**Fort de Pagny**	**2.08**	**211**	*e*Pg	**Pg**	**17 19 56.3**	**+0.1**
PAGF				*e*Sn	**Sn**	**17 20 15.9**	**-0.1**
PAGF				*e*Sg	**Sg**	**17 20 23.7**	**+0.4**
	2.3nm,0.3s						
BFO	**Black Forest**	**2.12**	**162**	S	**Sn**	**17 20 15.5**	**-1.5**
BFO				*e*Sg	**Sg**	**17 20 22.8**	**-1.7**
	SNR=2.3						
ECH	**Echery**	**2.14**	**183**	Pg	**Pb**	**17 19 55.7**	**+1.2**
ECH				Sg	**Sg**	**17 20 23.1**	**-1.9**
ECH	**Echery**	**2.14**	**183**	Pg	**Pg**	**17 19 56.3**	**-1.0**
MEZF	**Maizieres J'vi**	**2.38**	**220**	*e*Pn	**Pn**	**17 19 54.8**	**+0.3**
MEZF				*e*Sn	**Sn**	**17 20 23.1**	**-0.1**
MEZF				*e*Sg	**Sg**	**17 20 32.6**	**-0.1**
	3.0nm,0.3s						
HAU	**Haudompre**	**2.44**	**196**	*e*Pn	**Pn**	**17 19 55.7**	**+0.4**
HAU	**Haudompre**	**2.44**	**196**	*e*Pg	**Pg**	**17 20 02.2**	**-0.7**
HAU				*e*Sn	**Sn**	**17 20 24.6**	**-0.1**
HAU				*e*Sg	**Sg**	**17 20 34.6**	**+0.1**
	2.8nm,0.2s						
HINF	**Hinteralfeld**	**2.56**	**187**	*e*P	**Pn**	**17 19 59.5**	**+2.5**
HINF	**Hinteralfeld**	**2.56**	**187**	*e*Pg	**Pg**	**17 20 04.9**	**-0.3**
HINF				*e*Sn	**Sn**	**17 20 27.2**	**-0.5**
HINF				*e*Sg	**Sg**	**17 20 38.0**	**-0.4**
	2.5nm,0.3s						
SFTF	**Sexfontaines**	**2.62**	**216**	*e*Pn	**Pn**	**17 19 58.3**	**+0.5**
SFTF				*e*Sn	**Sn**	**17 20 28.2**	**-1.1**
SFTF				*e*Sg	**Sg**	**17 20 40.4**	**-0.1**
	3.0nm,0.3s						
LOR	**Lormes**	**3.85**	**218**	*e*Pn	**Pn**	**17 20 14.8**	**+0.1**
LOR	**Lormes**	**3.85**	**218**	*e*Pg	**Pg**	**17 20 28.6**	**-1.3**
LOR				*e*Sn	**Sn**	**17 20 57.6**	**-1.9**
	0.9nm,0.3s						

*IDC **06** 17:21:48.9±2.7, 25°.94S×178°.39E, h669km±31km, mb3.1/6, mb1 3.3/7, mb1mx3.0/26, mbtmp4.3/7, Error ellipse: s-maj=38.6km s-min=15.5km az=34.0*
ISC 06 17:21:46.7±1.9**, 26°.0S**±0°.3×**178°.5E**±0°.2**, h631**km**, n11, σ1s01**/12**, mb3.9**/6**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.66**	**287**	P	**P**	**17 24 23.8**	**+1.4**
	1.5nm,0.3s,baz=186,slow=22,SNR=17						
CTA	**Charters Tower**	**30.16**	**275**	P	**P**	**17 27 09.1**	**+0.8**
	4.0nm,0.3s,baz=91,slow=11,SNR=16						
STKA	**Stephens Creek**	**32.67**	**251**	P	**P**	**17 27 29.4**	**+0.1**
	1.6nm,0.6s,baz=92,slow=9.8,SNR=5.6						
ASAR	**Alice Springs**	**40.35**	**263**	P	**P**	**17 28 31.9**	**-0.4**
	2.2nm,0.5s,baz=92,slow=7.4,SNR=84						
WRA	**Warramunga Arr**	**40.92**	**269**	P	**P**	**17 28 36.0**	**-0.7**
	1.2nm,0.4s,baz=105,slow=6.8,SNR=93						
WRA				S	**S**	**17 34 03.4**	**-1.7**
	0.4nm,0.7s,baz=112,slow=13,SNR=3.0						
VNDA	**Vanda**	**52.15**	**185**	P	**P**	**17 30 00.1**	**+0.1**
	0.6nm,0.5s,baz=16,slow=6.6,SNR=9.2						
QSPA	**South Pole Qui**	**64.06**	**180**	P	**P**	**17 31 20.7**	**+0.5**
	4.1nm,0.5s,baz=212,slow=0.6,SNR=40						
VNA3	**Neumayer Olymp**	**82.83**	**177**	P	**P**	**17 33 05.7**	**-0.3**
VNA2	**Neumayer--Watz**	**83.23**	**178**	P	**P**	**17 33 08.3**	**+0.3**
	baz=189,slow=4.7						
VNA1	**Neumayer--Stat**	**83.47**	**178**	P	**P**	**17 33 09.0**	**-0.2**
BVAR	**Borovoye Array**	**121.09**	**318**	PKP	**PKPdf**	**17 39 27.1**	**-1.7**
	0.3nm,0.5s,baz=216,slow=1.2,SNR=2.6						

*ISCJB **06** 17:22:29.6±0.8, 26°.3S±0°.2×178°.3E±0°.1, h650km, mb3.9/8, Error ellipse: s-maj=21.5km s-min=13.8km az=16.7*
*IDC **06** 17:22:32.2±2.3, 26°.20S×178°.22E, h667km±27km, mb3.3/8, mb1 3.5/9, mb1mx3.2/27, mbtmp4.4/9, Error ellipse: s-maj=20.1km s-min=15.2km az=22.0*
ISC 06 17:22:30.7±0.7**, 26°.2S**±0°.2×**178°.3E**±0°.1**, h650**km**, n21, σ0s94**/20**, mb4.1**/8**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.59**	**288**	P	**P**	**17 25 06.0**	**+0.2**
	2.6nm,0.3s,baz=190,slow=22,SNR=16						
CTA	**Charters Tower**	**30.05**	**275**	P	**P**	**17 27 51.2**	**+0.7**
	16nm,0.4s,baz=97,slow=11,SNR=40						
STKA	**Stephens Creek**	**32.49**	**251**	P	**P**	**17 28 11.3**	**+0.4**
	2.7nm,0.5s,baz=100,slow=11,SNR=10						
ASAR	**Alice Springs**	**40.20**	**264**	P	**P**	**17 29 13.9**	**0.0**
	5.3nm,0.4s,baz=92,slow=7.6,SNR=59						
WRA	**Warramunga Arr**	**40.78**	**269**	P	**P**	**17 29 18.1**	**-0.4**
	4.0nm,0.4s,baz=103,slow=7.8,SNR=48						
WRA				S	**S**	**17 34 44.1**	**-1.0**
	0.5nm,0.8s,baz=99,slow=14,SNR=3.1						
VNDA	**Vanda**	**51.97**	**184**	P	**P**	**17 30 42.0**	**+0.6**
	0.8nm,0.6s,baz=356,slow=8.1,SNR=5.1						
QSPA	**South Pole Qui**	**63.89**	**180**	P	**P**	**17 32 02.2**	**+0.5**
	4.7nm,0.5s,baz=341,slow=0.4,SNR=20						
VNA3	**Neumayer Olymp**	**82.66**	**177**	P	**P**	**17 33 47.4**	**-0.3**
VNA2	**Neumayer--Watz**	**83.06**	**178**	P	**P**	**17 33 49.3**	**-0.3**
	baz=186,slow=4.7						
VNA1	**Neumayer--Stat**	**83.31**	**178**	P	**P**	**17 33 49.6**	**-1.2**
NVAR	**Mina Array Bea**	**87.47**	**45**	P	**P**	**17 34 10.1**	**-1.4**
	0.2nm,0.5s,baz=219,slow=8.1,SNR=2.8						
TXAR	**Lajitas Array**	**92.94**	**59**	P	**P**	**17 34 37.7**	**+1.0**
	0.5nm,1.0s,baz=266,slow=4.2,SNR=2.9						
BVAR	**Borovoye Array**	**121.13**	**318**	PKP	**PKPdf**	**17 40 10.4**	**-0.6**
	0.4nm,0.4s,baz=88,slow=1.1,SNR=5.9						
SCHQ	**Schefferville**	**125.22**	**40**	PKP	**PKPdf**	**17 40 19.5**	**+0.7**
	1.7nm,0.5s,baz=186,slow=18,SNR=6.2						
ARCES	**ARCESS Array B**	**133.80**	**347**	PKP	**PKPdf**	**17 40 35.7**	**+1.1**
	2.6nm,0.9s,baz=52,slow=2.7,SNR=6.3						
FINES	**FINESS Array B**	**140.10**	**340**	PKhKP	PKPpre	17 40 39.8	
	0.9nm,0.6s,baz=61,slow=4.4,SNR=7.0						
FINES				PKP	**PKPdf**	**17 40 45.3**	**-1.1**
	0.3nm,0.3s,baz=76,slow=8.0,SNR=3.6						
NB2	**NORSAR Subarra**	**144.08**	**349**	PKP	PKPbc	17 40 52.8	-0.6
	comp=Z,0.6nm,0.5s,baz=27,slow=3.4						
NOA	**NORSAR Array B**	**144.08**	**349**	PKP	PKPbc	17 40 53.1	-0.3
	comp=Z,0.3nm,0.6s,baz=21,slow=4.8,SNR=5.1						
AKASG	**Malin Array Be**	**146.00**	**324**	PKPbc	**PKPdf**	**17 40 58.6**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=42,slow=3.6,SNR=4.8						
BRTR	**Keskin Array B**	**147.65**	**304**	PKPbc	**PKPbc**	**17 41 03.7**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=116,slow=3.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**166.63**	**194**	PKPab	**PKPab**	**17 42 29.5**	**-1.6**
	comp=Z,0.9nm,0.9s,baz=172,slow=3.0,SNR=3.6						

*IDC **06** 17:22:39.5±1.4, 34°.77S×179°.24W, h0km, mb4.4/4, mb1 4.5/5, mb1mx4.1/29, mbtmp4.4/5, ML4.2/1, MS3.9/12, Ms1 3.9/12, ms1mx3.7/25, Error ellipse: s-maj=47.6km s-min=27.4km az=141.0*
*ISCJB **06** 17:22:41.2±1.0, 34°.92S±0°.08×178°.8W±0°.2, h42km, mb4.4/4, MS3.9/10, Error ellipse: s-maj=23.4km s-min=6.7km az=25.5*
*WEL **06** 17:22:42.5±1.0, 35°S±16°×17°9W±1°9, h33km, ML5.0/23*
ISC 06 17:22:44.3±1.1**, 35°.0S**±0°.1×**178°.9W**±0°.2**, h42**km**, n52, σ0s99**/51**, mb4.4**/4**, MS3.7**/10**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKGZ	**Pakihiroa**	**3.81**	**219**	P	**Pn**	**17 23 40.0**	**-0.5**
PKGZ				S	**Sn**	**17 24 25.1**	**+1.1**
PUZ	**Puketiti**	**3.86**	**216**	P	**Pn**	**17 23 40.8**	**-0.3**
PUZ				S	**Sn**	**17 24 26.1**	**+0.8**
HAZ	**Te Kaha**	**3.87**	**223**	P	**Pn**	**17 23 41.5**	**+0.2**
HAZ				S	**Sn**	**17 24 27.9**	**+2.5**
RUGZ	**Raukumara Rang**	**4.08**	**222**	P	**Pn**	**17 23 44.4**	**+0.2**
RUGZ				S	**Sn**	**17 24 31.4**	**+0.7**
TWGZ	**Tauwhareparae**	**4.08**	**217**	P	**Pn**	**17 23 44.8**	**+0.6**
TWGZ				S	**Sn**	**17 24 31.8**	**+1.1**
CNGZ	**Carnagh Statio**	**4.22**	**213**	P	**Pn**	**17 23 45.7**	**-0.4**
CNGZ				S	**Sn**	**17 24 35.2**	**+1.2**
TKGZ	**Te Karaka**	**4.35**	**216**	P	**Pn**	**17 23 47.9**	**+0.1**
TKGZ				S	**Sn**	**17 24 37.8**	**+0.6**
MWZ	**Matawai**	**4.43**	**219**	P	**Pn**	**17 23 48.2**	**-0.8**
MWZ				S	**Sn**	**17 24 39.4**	**+0.1**
URZ	**Urewera**	**4.60**	**223**	Pn	**Pn**	**17 23 50.5**	**-0.8**
	11nm,0.3s,baz=270,slow=4.6,SNR=59						
URZ				Sn	**Sn**	**17 24 42.3**	**-1.2**
	12nm,0.3s,baz=183,slow=15,SNR=9.0						
URZ	**Urewera**	**4.60**	**223**	P	**Pn**	**17 23 50.5**	**-0.8**
RIGZ	**Rimuhau**	**4.60**	**215**	P	**Pn**	**17 23 50.8**	**-0.6**
OPRZ	**Ohinepanea**	**4.66**	**230**	P	**Pn**	**17 23 52.1**	**-0.1**
PRGZ	**Paritu Road**	**4.72**	**212**	P	**Pn**	**17 23 52.1**	**-0.9**
RTZ	**Ruatahuna**	**4.93**	**221**	P	**Pn**	**17 23 55.7**	**-0.2**
OMRZ	**Omania**	**4.94**	**229**	P	**Pn**	**17 23 58.0**	**+2.1**
TARZ	**Mount Tarawera**	**4.94**	**227**	P	**Pn**	**17 23 56.9**	**+0.9**
MUGZ	**Murupara**	**4.95**	**223**	P	**Pn**	**17 23 54.7**	**-1.4**
RRRZ	**Republican Roa**	**5.00**	**226**	P	**Pn**	**17 23 55.8**	**-1.0**
RAHZ	**Arahi**	**5.10**	**218**	P	**Pn**	**17 23 58.2**	**0.0**
MTHZ	**Maungataniwha**	**5.17**	**220**	P	**Pn**	**17 23 58.4**	**-0.8**
TOZ	**Tahuroa Road**	**5.30**	**237**	P	**Pn**	**17 24 00.7**	**-0.2**
MRHZ	**Matea Rd**	**5.39**	**223**	P	**Pn**	**17 24 01.2**	**-1.0**
ARHZ	**Aropaoanui**	**5.41**	**216**	P	**Pn**	**17 24 01.4**	**-0.9**
BKZ	**Black Stump Fm**	**5.59**	**220**	P	**Pn**	**17 24 03.9**	**-1.0**
MCHZ	**McNeill Hill**	**5.70**	**217**	P	**Pn**	**17 24 06.3**	**0.0**
RAO	**Raoul Island**	**5.75**	**9**	LR	LR	17 25 36.7	
	comp=Z,2μm,21.4s,baz=288,slow=32						
RATZ	**Rangitukua**	**5.78**	**226**	P	**Pn**	**17 24 07.2**	**-0.4**
KWHZ	**Kaweka Forest**	**5.82**	**219**	P	**Pn**	**17 24 07.0**	**-1.1**
KAHZ	**Kahuranaki**	**5.89**	**214**	P	**Pn**	**17 24 06.6**	**-2.4**
KRVZ	**Karewarewa**	**6.01**	**225**	P	**Pn**	**17 24 10.4**	**-0.4**
WTVZ	**West Tongariro**	**6.05**	**225**	P	**Pn**	**17 24 10.9**	**-0.5**
HIZ	**Hauiti**	**6.14**	**233**	P	**Pn**	**17 24 12.7**	**+0.2**
DZM	**Mont Dzumac**	**18.16**	**311**	LR	LR	17 32 46.1	
	comp=Z,2μm,18.0s,baz=132,slow=34						
DZM	**Mont Dzumac**	**18.16**	**311**	*e*LR	LR	17 31 00.9	
	comp=Z,1μm,23.4s						
RAR	**Rarotonga**	**21.68**	**56**	LR	LR	17 33 47.0	
	comp=Z,135nm,21.6s,baz=243,slow=31						
TBI	**Tubuai**	**28.09**	**74**	*e*LR	LR	17 35 54.4	
	comp=Z,390nm,26.5s						
PPT2	**Papeete2**	**31.31**	**64**	*e*LR	LR	17 37 17.2	
	comp=Z,278nm,23.0s						
PPT	**Papeete**	**31.32**	**64**	LR	LR	17 38 19.9	
	comp=Z,150nm,21.0s,baz=228,slow=30						
HNR	**Honiara**	**31.93**	**318**	LR	LR	17 38 57.2	
	comp=Z,87nm,21.5s,baz=186,slow=31						
STKA	**Stephens Creek**	**32.97**	**264**	LR	LR	17 41 46.9	
	comp=Z,386nm,18.9s,baz=50,slow=35						
CTA	**Charters Tower**	**34.07**	**287**	P	**P**	**17 29 23.5**	**-1.3**
	6.2nm,0.8s,baz=121,slow=11,SNR=4.4						
PMG	**Port Moresby**	**40.09**	**301**	LR	LR	17 44 21.7	
	comp=Z,543nm,19.1s,baz=128,slow=33						
ASAR	**Alice Springs**	**42.32**	**272**	P	**P**	**17 30 32.9**	**-1.3**
	2.7nm,0.6s,baz=112,slow=7.4,SNR=14						
ASAR				LR	LR	17 47 49.9	
	comp=Z,416nm,18.9s,baz=120,slow=36						
WRA	**Warramunga Arr**	**43.72**	**277**	P	**P**	**17 30 43.9**	**-1.6**
	3.0nm,0.5s,baz=121,slow=7.7,SNR=13						
WRA				LR	LR	17 49 27.7	
	comp=Z,432nm,18.1s,baz=120,slow=37						
MJAR	**Matsushiro Arr**	**81.57**	**326**	LR	LR	18 10 04.6	
	comp=Z,20nm,19.0s,baz=150,slow=35						
PETK	**Petropavlovsk-**	**90.03**	**346**	P	**P**	**17 35 39.3**	**+0.4**
	1.9nm,0.7s,baz=114,slow=6.5,SNR=3.1						
PETK				LR	LR	18 10 50.8	
	comp=Z,31nm,20.9s,baz=126,slow=32						
CMAR	**Chiang Mai Arr**	**94.19**	**289**	LR	LR	18 21 32.5	
	comp=Z,22nm,18.6s,baz=290,slow=38						
KURBB	**Kurchatov Arra**	**123.61**	**312**	PKP	**PKPdf**	**17 41 38.0**	**+1.4**
	0.4nm,0.5s,baz=112,slow=1.9,SNR=5.0						
BVAR	**Borovoye Array**	**129.05**	**313**	PKP	**PKPdf**	**17 41 48.2**	**+1.2**
	0.3nm,0.5s,baz=101,slow=1.5,SNR=3.1						
FINES	**FINESS Array B**	**149.09**	**337**	PKPbc	**PKPbc**	**17 42 27.9**	**+0.9**
	2.0nm,0.6s,baz=30,slow=4.9,SNR=12						
BRTR	**Keskin Array B**	**153.78**	**290**	PKPbc	**PKPbc**	**17 42 39.8**	**+0.9**
	1.0nm,0.8s,baz=146,slow=5.7,SNR=5.2						
BRTR				PKPab	**PKPab**	**17 42 51.5**	**-0.4**
	1.9nm,0.8s,baz=155,slow=4.2,SNR=7.3						
AKASG	**Malin Array Be**	**154.27**	**316**	PKPbc	**PKPbc**	**17 42 40.0**	**+0.7**
	0.5nm,0.5s,baz=51,slow=2.9,SNR=4.0						
AKASG				PKPab	**pPKPbc**	**17 42 52.4**	**-0.1**
	1.4nm,0.6s,baz=62,slow=1.7,SNR=5.7						

*ISCJB **06** 17:28:38.1±1.7, 19°.2S±0°.2×169°.2E±0°.3, h100km, mb3.8/8, Error ellipse: s-maj=48.7km s-min=10.6km az=33.6*
*IDC **06** 17:28:40.4±3.8, 19°.36S×169°.30E, h112km±33km, mb3.7/8, mb1 3.8/9, mb1mx3.6/28, mbtmp4.0/9, Error ellipse: s-maj=55.5km s-min=27.3km az=139.0*
ISC 06 17:28:39.8±1.4**, 19°.2S**±0°.2×**169°.2E**±0°.3**, h100**km**, n15, σ0s95**/17**, mb3.9**/8**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.87**	**222**	P	**Pn**	**17 29 38.0**	**+0.7**
	2.1nm,0.3s,baz=93,slow=11,SNR=83						
DZM				S	**Sn**	**17 30 21.1**	**-0.7**
	7.4nm,0.3s,baz=149,slow=23,SNR=15						
CTA	**Charters Tower**	**21.65**	**264**	P	**P**	**17 33 23.4**	**+1.1**
	4.1nm,0.7s,baz=94,slow=13,SNR=4.9						
STKA	**Stephens Creek**	**27.85**	**238**	P	**P**	**17 34 20.3**	**+0.2**
	2.1nm,0.6s,baz=56,slow=8.9,SNR=7.8						
WRA	**Warramunga Arr**	**32.84**	**263**	P	**P**	**17 35 02.7**	**-1.5**
	0.8nm,0.7s,baz=81,slow=6.2,SNR=7.9						
WRA				PcP	**PcP**	**17 37 45.8**	**-1.2**
	0.3nm,0.6s,baz=95,slow=2.6,SNR=4.3						
ASAR	**Alice Springs**	**33.12**	**256**	P	**P**	**17 35 05.8**	**-0.8**
	5.1nm,0.5s,baz=82,slow=8.7,SNR=82						
PETK	**Petropavlovsk-**	**72.69**	**353**	P	**P**	**17 39 56.9**	**+0.3**
	1.9nm,0.9s,baz=160,slow=7.1,SNR=5.3						
CMAR	**Chiang Mai Arr**	**78.47**	**294**	P	**P**	**17 40 30.5**	**+0.2**
	0.5nm,0.7s,baz=136,slow=4.9,SNR=5.3						
SONM	**Songino Array**	**87.17**	**323**	P	**P**	**17 41 15.1**	**+0.3**
	1.0nm,0.8s,baz=139,slow=6.2,SNR=6.1						
ILAR	**Eielson Array**	**90.19**	**17**	P	**P**	**17 41 27.1**	**-1.4**
	0.4nm,0.8s,baz=247,slow=5.1,SNR=4.7						
GERES	**GERESS Array B**	**144.44**	**332**	PKP	**PKPab**	**17 48 03.1**	**+0.2**
	1.3nm,0.7s,baz=31,slow=3.1,SNR=8.3						
MOA	**Molln**	**144.91**	**330**	*i* PKPdf	**PKPbc**	**17 48 05.2**	**+0.6**
	8.2nm,1.0s						
SOKA	**Soboth**	**145.37**	**328**	*e*PKPdf	**PKPdf**	**17 48 06.5**	**+0.4**
	2.2nm,0.6s						
ABTA	**Abfaltersbach**	**146.53**	**330**	*e*PKPbc	**PKPdf**	**17 48 08.9**	**+0.8**
	2.5nm,0.7s						
MOTA	**Moosalm**	**146.72**	**332**	*e*PKPab	**PKPbc**	**17 48 10.6**	**+0.3**
	1.5nm,0.6s						
SQTA	**Sankt Quirin**	**146.77**	**332**	*e*PKPab	**PKPdf**	**17 48 10.3**	**+1.7**
	3.0nm,0.6s						

KRSC 06 17:29:36.0±1.8**, 56°.08N×163°.05E, h10**km±6km**, ML3.8, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.18**	**315**	*e*P	Pg	17 29 38.3	-1.6
KBG	**Krutoberegovo**	**0.26**	**313**	*e*P	Pb	17 29 43.2	+0.4
KBG				*e*S	Sb	17 29 46.9	-0.4
SMKR	**Semkarok**	**1.01**	**300**	*e*P	Pg	17 29 55.4	-0.1
SMKR				*e*S	Sg	17 30 08.5	-0.2
BDR	**Baidarnaya**	**1.14**	**296**	*e*P	Pb	17 29 57.7	-0.1
BDR				*e*S	Sb	17 30 12.2	-0.4
SRKR	**Sorokina**	**1.20**	**300**	*e*P	Pb	17 29 58.6	-0.1
ZLN	**Zelenaya**	**1.26**	**268**	*e*P	Pb	17 29 59.9	0.0
ZLN				*e*S	Sb	17 30 16.2	0.0
CIRR	**Tsirk**	**1.29**	**273**	*e*P	Pb	17 30 00.3	-0.1
LGNR	**Loginova**	**1.32**	**271**	*e*P	Pb	17 30 00.9	-0.1
BZGR	**Bezymyannyi-Gr**	**1.33**	**265**	*e*P	Pn	17 30 00.7	0.0
KLY	**Klyuchi**	**1.36**	**281**	*e*P	Pn	17 29 59.1	-1.9
KLY				*e*S	Sb	17 30 14.9	-4.0
KRSR	**Krestovskiy**	**1.40**	**277**	*e*P	Pn	17 30 00.9	-0.7
BZWR	**Bezymyannyi-We**	**1.44**	**266**	*e*P	Pn	17 30 01.9	-0.3
BZMR	**Bezymyannaya**	**1.44**	**265**	*e*P	Pg	17 30 03.8	+0.1
KPT	**Kopyto**	**1.59**	**267**	*e*P	Pn	17 30 03.7	-0.6
KPT				*e*S	Sn	17 30 24.8	-0.1
MKZ	**Mys Kozlova**	**1.70**	**207**	*e*P	Pg	17 30 08.3	-0.3
MKZ				*e*S	Sb	17 30 29.1	+0.4
TUMD	**Tumrok D**	**1.74**	**241**	*e*P	Pb	17 30 08.0	0.0

TUMD				eS	Sb	17 30 30.1	+0.2
KOZ	**Kozyrevsk**	**1.78**	**271**	eP	Pn	17 30 07.4	+0.6
KOZ				eS	Sb	17 30 30.4	-0.6
TUMR	**Tumrok**	**1.83**	**245**	eP	Pb	17 30 09.2	-0.3
TUMR				eS	Sb	17 30 32.1	-0.4
KZV	**Kizimen**	**1.84**	**239**	eP	Pb	17 30 08.9	-0.9
KZV				eS	Sb	17 30 33.3	+0.5
SRDR	**Sredinnyy**	**1.88**	**279**	eP	Pb	17 30 09.4	-1.0
SRDR				eS	Sn	17 30 32.4	+0.5
ESO	**Esso**	**2.45**	**268**	eP	Pb	17 30 18.7	-1.3
KII	**Karymskiy**	**2.91**	**227**	eP	Pn	17 30 24.7	+2.3
SPN	**Mys Shipunski**	**3.47**	**212**	eP	Pn	17 30 32.1	+2.2
SPN				eS	Sn	17 31 13.2	+2.2
NLC	**Nalytchevo**	**3.62**	**218**	eP	Pn	17 30 35.6	+3.5
NLC				eS	Sn	17 31 19.1	+4.3
SDLR	**Sedlovina**	**3.70**	**222**	eP	Pn	17 30 36.8	+3.5
KRX	**Arik**	**3.73**	**225**	eP	Pn	17 30 37.7	+4.0
SMAR	**Somma**	**3.75**	**223**	eP	Pn	17 30 36.8	+2.8
AVH	**Avacha**	**3.77**	**223**	eP	Pn	17 30 36.4	+2.2
UGLR	**Uglovaya**	**3.78**	**222**	eP	Pn	17 30 37.9	+3.5
KOK	**Koryaka**	**3.79**	**224**	eP	Pn	17 30 38.4	+3.9
GNL	**Ganaly**	**3.79**	**233**	eP	Pn	17 30 38.0	+3.4
PET	**Petropavlovsk**	**3.99**	**222**	eP	Pn	17 30 40.6	+3.5
PET				eS	Sn	17 31 28.2	+4.4
KRMR	**Karymshinskiy**	**4.34**	**223**	eP	Pn	17 30 45.9	+4.0
KRMR				eS	Sn	17 31 38.4	+5.9
RUS	**Russkaya**	**4.52**	**218**	eP	Pn	17 30 47.4	+3.0

*IDC **06** 17:39:58.3±2.8, 13°.92N×92°.36W, h0km, mb3.5/3, mb1 3.8/6, mb1mx3.5/31, mbtmp3.4/6, ML3.3/3, Error ellipse: s-maj=55.5km s-min=24.8km az=4.0*

ISC 06 17:40:04.8±2.0**, 14°.0N**±0°.2×**92°.37W**±0°.08**, h46km, n7, σ1^{s}49**/9**, mb3.7**/3**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**2.10**	**61**	Pn	**Pn**	**17 40 36.1**	**-1.6**
	10nm,0.3s,baz=232,slow=8.4,SNR=129						
APG				Sn	**Sn**	**17 41 03.7**	**+1.0**
	21nm,0.3s,baz=41,slow=11,SNR=8.9						
CMIG	**Matias Romero**	**3.91**	**322**	Pn	**Pn**	**17 41 00.2**	**-2.2**
	2.0nm,0.3s,baz=155,slow=11,SNR=19						
CMIG				Sn	**Sn**	**17 41 48.0**	**+0.9**
	4.8nm,0.3s,baz=156,slow=10,SNR=3.8						
TXAR	**Lajitas Array**	**18.50**	**327**	P	**P**	**17 44 17.9**	**+0.6**
	0.0nm,0.3s,baz=155,slow=15,SNR=4.3						
NVAR	**Mina Array Bea**	**33.44**	**321**	P	**P**	**17 46 41.4**	**+1.7**
	0.3nm,0.7s,baz=134,slow=10,SNR=3.2						
YKA	**Yellowknife Ar**	**50.94**	**347**	P	**P**	**17 49 00.5**	**-0.8**
	0.5nm,0.6s,baz=151,slow=7.6,SNR=12						
ILAR	**Eielson Array**	**62.70**	**337**	P	**P**	**17 50 25.0**	**+0.3**
	1.1nm,1.2s,baz=108,slow=5.8,SNR=4.7						
CMAR	**Chiang Mai Arr**	**145.87**	**341**	PKPbc	**PKPdf**	**17 59 39.5**	**+0.1**
	0.4nm,0.3s,baz=349,slow=3.2,SNR=6.8						

*IDC **06** 17:40:32.0±1.1, 44°.60N×79°.49E, h0km, mb1 3.4/7, mb1mx3.2/40, mbtmp3.4/7, ML3.2/7, Error ellipse: s-maj=14.0km s-min=8.5km az=145.0*
*NNC **06** 17:40:33.8±0.5, 44°.65N×79°.45E, h0km, mb4.4, mpv4.2, Error ellipse: s-maj=4.0km s-min=3.3km az=55.0*
*BJI **06** 17:40:34.0, 44°.67N×79°.51E, h6km, ML3.4/9*
*SOME **06** 17:40:35.0, 44°.67N×79°.53E, h25km, MS2.6*

ISC 06 17:40:33.7±1.1**, 44°.65N**±0°.02×**79°.44E**±0°.02**, h4**km±9km**, n72, σ1^{s}73**/108**, 22C-17D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.41**	**142**	P	**Pg**	**17 40 42.1**	**+0.5**
	128nm,0.2s						
DJR				S	**Sg**	**17 40 47.4**	**+0.5**
DJR	**Jarkent**	**0.41**	**142**	eP	**Pg**	**17 40 42.1**	**+0.5**
	211nm,0.1s						
DJR				eS	**Sg**	**17 40 47.2**	**+0.3**
	2µm,0.3s						
KAPS	**Kapalarasan**	**0.64**	**355**	eP	**Pg**	**17 40 46.3**	**+0.4**
	508nm,0.2s						
KAPS				eS	**Sg**	**17 40 54.6**	**+0.4**
	1µm,0.2s						
TDK	**Taldyqorghan**	**0.81**	**296**	P	**Pb**	**17 40 50.1**	**-0.3**
	2µm,0.6s						
TDK				S	**Sg**	**17 41 00.7**	**+0.9**
	2µm,0.5s						
TDK	**Taldyqorghan**	**0.81**	**296**	eP	**Pb**	**17 40 50.1**	**-0.3**
	2µm,0.6s						
TDK				eS	**Sg**	**17 41 00.7**	**+0.9**
	2µm,0.5s						
ARXS	**Arharly**	**1.23**	**250**	P	**Pg**	**17 40 57.7**	**+0.4**
	650nm,0.3s						
ARXS				S	**Sg**	**17 41 13.6**	**+0.3**
	433nm,0.2s						
ARXS	**Arharly**	**1.23**	**250**	eP	**Pg**	**17 40 57.7**	**+0.4**
	650nm,0.3s						
ARXS				eS	**Sg**	**17 41 13.6**	**+0.3**
	433nm,0.2s						
PDGK	**Podgornoye**	**1.32**	**178**	P	**Pg**	**17 40 58.5**	**-0.6**
	212nm,0.2s						
PDGK				S	**Sg**	**17 41 14.9**	**-1.3**
	156nm,0.4s						
PDGK	**Podgornoye**	**1.32**	**178**	⇑P	**Pg**	**17 40 58.2**	**-0.8**
	174nm,0.3s						
PDGK				⇑S	**Sg**	**17 41 15.8**	**-0.4**
	145nm,0.4s						
KURS	**Kuram**	**1.48**	**219**	P	**Pb**	**17 41 02.3**	**+0.6**
	141nm,0.4s						
KURS				S	**Sn**	**17 41 21.9**	**+1.0**
	865nm,0.5s						
KURS	**Kuram**	**1.48**	**219**	eP	**Pb**	**17 41 02.4**	**+0.6**
	141nm,0.4s						
KURS				eS	**Sn**	**17 41 21.9**	**+1.0**
	865nm,0.5s						
SHLS	**Shalkode**	**1.50**	**179**	P	**Pb**	**17 41 02.6**	**+0.5**
	163nm,0.3s						
SHLS				S	**Sb**	**17 41 21.9**	**+0.5**
	624nm,1.0s						
SHLS	**Shalkode**	**1.50**	**179**	eP	**Pb**	**17 41 02.6**	**+0.5**
	163nm,0.3s						
SHLS				eS	**Sb**	**17 41 21.9**	**+0.5**
	624nm,1.0s						
UZB	**Uzynbulak**	**1.54**	**191**	P	**Pg**	**17 41 03.1**	**0.0**
	717nm,0.3s						
UZB				S	**Sg**	**17 41 22.8**	**-0.2**
	1µm,0.4s						
UZB	**Uzynbulak**	**1.54**	**191**	eP	**Pg**	**17 41 03.1**	**0.0**
	717nm,0.3s						
UZB				eS	**Sg**	**17 41 22.8**	**-0.2**
	1µm,0.4s						
SATY	**Saty**	**1.76**	**205**	P	**Pg**	**17 41 07.4**	**0.0**
	159nm,0.3s						
SATY				S	**Sg**	**17 41 30.4**	**+0.2**
	4µm,0.5s						
SATY	**Saty**	**1.76**	**205**	eP	**Pg**	**17 41 07.4**	**0.0**
	159nm,0.3s						
SATY				eS	**Sg**	**17 41 30.4**	**+0.2**
	4µm,0.5s						
CHKK	**Chushkaly**	**1.93**	**246**	eP	**Pb**	**17 41 09.8**	**+0.4**
	156nm,0.2s						
CHKK				eS	**Sb**	**17 41 34.4**	**+0.5**
	1µm,0.3s						
KTBS	**Karatobe**	**2.19**	**246**	Pg	**Pb**	**17 41 14.7**	**+0.8**
	60nm,0.3s						
KTBS				Lg	Lg	17 41 42.7	
	734nm,0.4s						
KTBS	**Karatobe**	**2.19**	**246**	eP	**Pb**	**17 41 14.7**	**+0.8**
	60nm,0.3s						
KTBS				eS	**Sb**	**17 41 42.7**	**+1.3**
	734nm,0.4s						
KOTS	**Kotyrbulak**	**2.20**	**231**	Pg	**Pg**	**17 41 15.4**	**-0.4**
	65nm,0.3s						
KOTS				Lg	Lg	17 41 44.0	
	2µm,0.5s						
KOTS	**Kotyrbulak**	**2.20**	**231**	eP	**Pg**	**17 41 15.4**	**-0.4**
	65nm,0.3s						
KOTS				eS	**Sg**	**17 41 44.0**	**-0.3**
	2µm,0.5s						
MDOK	**Medeo**	**2.28**	**230**	⇑Pn	**Pn**	**17 41 14.2**	**+2.0**
	44nm,0.4s						
MDOK				⇓Lg	Lg	17 41 46.3	
	117nm,0.4s						
MDOK	**Medeo**	**2.28**	**230**	Pg	**Pb**	**17 41 15.0**	**-0.4**
	83nm,0.3s						
MDOK				Lg	Lg	17 41 43.6	
	432nm,0.5s						
MDOK	**Medeo**	**2.28**	**230**	eP	**Pb**	**17 41 15.0**	**-0.4**
	83nm,0.3s						
MDOK				eS	**Sb**	**17 41 43.6**	**-0.4**
	432nm,0.5s						
KNDC	**Almaty**	**2.29**	**232**	⇑Pn	**Pb**	**17 41 15.4**	**-0.2**
	94nm,0.2s						
KNDC				⇑Sn	**Sg**	**17 41 46.8**	**-0.4**
	260nm,0.5s						
AAA	**Alma-Ata**	**2.32**	**232**	Pg	**Pb**	**17 41 16.1**	**-0.1**
	338nm,0.3s						
AAA				Lg	Lg	17 41 45.7	
	452nm,0.6s						
AAA	**Alma-Ata**	**2.32**	**232**	eP	**Pb**	**17 41 16.1**	**-0.1**
	338nm,0.3s						
AAA				eS	**Sb**	**17 41 45.7**	**+0.5**
	452nm,0.6s						
KUU	**Kurty**	**2.35**	**252**	eP	**Pb**	**17 41 16.7**	**+0.1**
	34nm,0.2s						
KUU				eS	**Sb**	**17 41 46.1**	**+0.1**
	630nm,0.2s						
TNSS	**Tian-Shan**	**2.42**	**229**	Pg	**Pb**	**17 41 19.2**	**+1.2**
	69nm,0.3s						
TNSS				Lg	Lg	17 41 50.5	
	443nm,0.5s						
TNSS	**Tian-Shan**	**2.42**	**229**	eP	**Pb**	**17 41 19.2**	**+1.2**
	69nm,0.3s						
TNSS				eS	**Sg**	**17 41 50.5**	**-0.9**
	443nm,0.5s						
MTBS	**Maitube**	**2.65**	**236**	Pg	**Pb**	**17 41 22.9**	**+1.1**
	61nm,0.4s						
MTBS				Lg	Lg	17 41 57.0	
	1µm,0.5s						
MTBS	**Maitube**	**2.65**	**236**	eP	**Pb**	**17 41 22.9**	**+1.1**
	61nm,0.4s						
MTBS				eS	**Sb**	**17 41 57.0**	**+2.3**
	1µm,0.5s						
MAKZ	**Makanchi**	**2.79**	**39**	⇓Pn	**Pn**	**17 41 20.7**	**+1.6**
	8.7nm,0.4s						
MAKZ				⇑Lg	Lg	17 41 57.4	
	30nm,0.3s						
MK31	**Makanchi Array**	**2.93**	**42**	⇑Pn	**Pn**	**17 41 21.8**	**+0.8**
	8.4nm,0.3s,baz=211,slow=12,SNR=190						
MK31				⇑Lg	Lg	17 42 03.3	
	40nm,0.3s,baz=219,slow=27,SNR=14						
MKAR	**Makanchi Array**	**2.93**	**42**	Pn	**Pn**	**17 41 21.8**	**+0.7**
	3.7nm,0.3s,baz=218,slow=15,SNR=140						
MKAR				Sn	**Sn**	**17 41 57.4**	**+0.7**
	27nm,0.3s,baz=219,slow=26,SNR=21						
MKAR				Lg	Lg	17 42 04.3	
	45nm,0.3s,baz=221,slow=29,SNR=15						
KST	**Kastek**	**2.98**	**239**	Pg	**Pb**	**17 41 26.6**	**-0.8**
	65nm,0.7s						
KST				Lg	Lg	17 42 03.6	
	186nm,0.5s						
KST	**Kastek**	**2.98**	**239**	eP	**Pb**	**17 41 27.9**	**+0.5**
	65nm,0.7s						
KST				eS	**Sb**	**17 42 05.2**	**+0.9**
	186nm,0.5s						
DGS	**Degeres**	**3.00**	**243**	Pg	**Pb**	**17 41 28.0**	**+0.4**
	22nm,0.3s						
DGS				Lg	Lg	17 42 05.6	
	502nm,0.5s						
DGS	**Degeres**	**3.00**	**243**	eP	**Pb**	**17 41 28.0**	**+0.4**
	22nm,0.3s						
DGS				eS	**Sb**	**17 42 05.6**	**+1.0**
	502nm,0.5s						
TKM2	**Tokmak 2**	**3.27**	**239**	⇑P	**Pb**	**17 41 31.7**	**-0.7**
	0.1nm,0.1s,SNR=41						
TKM2	**Tokmak 2**	**3.27**	**239**	⇑Pg	**Pg**	**17 41 35.1**	**-1.3**
	34nm,0.5s						
TKM2				⇓Lg	Lg	17 42 17.1	
	102nm,0.6s						
ULHL	**Ulahol**	**3.35**	**225**	P	**Pb**	**17 41 33.8**	**+0.2**
	SNR=6.7						
SGDS	**Sogindy**	**3.67**	**253**	Pg	**Pb**	**17 41 39.9**	**+0.9**
	46nm,0.5s						
SGDS				Lg	Lg	17 42 25.9	
	96nm,0.8s						
CHMS	**Chumysh**	**3.77**	**246**	⇓P	**Pn**	**17 41 34.0**	**+1.3**
	5.2nm,0.2s,SNR=5.5						
KBK	**Karagaybulak**	**3.82**	**240**	P	**Pn**	**17 41 35.2**	**+1.8**
	SNR=13						
USP	**Ospenovka**	**3.82**	**250**	P	**Pn**	**17 41 34.2**	**+0.9**
	SNR=10						
KZA	**Kyzart**	**3.99**	**231**	P	**Pn**	**17 41 40.7**	**+4.7**
	SNR=14						
AAK	**Ala-Archa**	**4.11**	**242**	Pn	**Pn**	**17 41 39.2**	**+1.9**
	1.1nm,0.3s,baz=80,slow=7.4,SNR=30						
AAK				Lg	Lg	17 42 40.2	
	4.1nm,0.3s,baz=322,slow=23,SNR=10						
AAK	**Ala-Archa**	**4.11**	**242**	P	**Pn**	**17 41 39.3**	**+1.9**
	SNR=7.3						
AAK	**Ala-Archa**	**4.11**	**242**	⇓Pg	**Pb**	**17 41 48.8**	**+2.1**
	22nm,0.4s						
AAK				⇓Lg	Lg	17 42 45.5	
	49nm,0.7s						
UCH	**Uchtor**	**4.33**	**238**	P	**Pb**	**17 41 53.0**	**+2.5**
	SNR=27						
EKS2	**Erkin-Say**	**4.56**	**246**	P	**Pn**	**17 41 45.1**	**+1.5**
	SNR=14						
MRKS	**Merke**	**4.89**	**249**	Pg	**Pb**	**17 42 03.5**	**+3.6**
	19nm,0.5s						
MRKS				Lg	Lg	17 43 06.8	
	85nm,0.8s						
MRKS	**Merke**	**4.89**	**249**	eP	**Pb**	**17 42 03.5**	**+3.6**
	19nm,0.5s						
MRKS				eS	**Sg**	**17 43 06.8**	**-3.9**
	85nm,0.8s						
SEM	**Semipalatinsk**	**5.79**	**5**	Pg	**Pg**	**17 42 21.1**	**-3.4**
	11nm,0.4s						
SEM				Lg	Lg	17 43 36.4	
	39nm,0.6s						
WMQ	**Urumqi**	**5.99**	**95**	ePn	**Pn**	**17 42 03.2**	**+0.1**
WMQ				smax	smax		
	comp=N,36nm,0.5s						
WMQ				smax	smax		
	comp=E,25nm,0.5s						
KURBB	**Kurchatov Arra**	**6.00**	**354**	Pn	**Pn**	**17 42 02.6**	**-0.6**
	0.2nm,0.3s,baz=172,slow=12,SNR=21						
KURBB				Lg	Lg	17 43 45.1	
	1.3nm,0.3s,baz=176,slow=27,SNR=7.7						
KURBB	**Kurchatov Arra**	**6.00**	**354**	⇓Pg	**Pg**	**17 42 24.7**	**-3.9**
	5.1nm,0.4s						
KURBB				⇑Lg	Lg	17 43 44.3	
	35nm,0.6s						
OTUK	**Ortayu**	**6.08**	**309**	⇑Pn	**Pn**	**17 42 04.7**	**+0.5**
	2.1nm,0.6s						
OTUK				⇑Lg	Lg	17 43 46.5	
	73nm,0.8s						
KURK	**Kurchatov**	**6.09**	**355**	⇑Pn	**Pn**	**17 42 04.9**	**+0.5**
	1.1nm,0.4s						
KURK				⇑Pg	**Pb**	**17 42 23.5**	**+3.2**
	12nm,0.7s						
KURK				⇑Lg	Lg	17 43 45.0	
	58nm,1.0s						
SFK	**Sufi-Kurgan**	**6.39**	**226**	⇓Pg	**Pg**	**17 42 33.3**	**-2.7**
	6.8nm,0.7s						
SFK				⇑Lg	Lg	17 43 59.2	
	19nm,0.8s						
KK31	**Karatay Array**	**6.63**	**260**	⇓Pn	**Pn**	**17 42 11.7**	**-0.2**
	0.4nm,0.3s						
KK31				⇓Pg	**Pg**	**17 42 37.1**	**-3.6**
	1.1nm,0.3s						
KK31				⇑Lg	Lg	17 44 04.7	
	20nm,0.6s						
ZAA0	**Zalesovo Array**	**9.94**	**19**	⇓Pn	**Pn**	**17 42 56.8**	**-0.4**
	1.4nm,0.3s						
ZAA0				⇓Sn	**Sn**	**17 44 46.8**	**-2.3**
	5.2nm,0.9s						
ZALV	**Zalesovo Beam**	**9.94**	**19**	Pn	**Pn**	**17 42 56.4**	**-0.8**
	0.9nm,0.3s,baz=209,slow=14,SNR=16						
ZALV				Sn	**Sn**	**17 44 44.3**	**-4.8**
	1.0nm,0.3s,baz=212,slow=22,SNR=6.4						
ZALV				Lg	Lg	17 45 48.7	
	0.4nm,0.3s,baz=196,slow=25,SNR=8.0						
BVA0	**Borovoye Array**	**10.28**	**328**	⇓Pn	**Pn**	**17 43 01.6**	**-0.2**
	1.6nm,0.7s,baz=174,slow=17,SNR=4.7						
BVA0				⇓Lg	Lg	17 46 00.9	
	21nm,1.1s,baz=135,slow=26,SNR=5.8						
BVAR	**Borovoye Array**	**10.28**	**328**	Pn	**Pn**	**17 43 01.0**	**-0.8**
	0.3nm,0.3s,baz=141,slow=14,SNR=3.9						
BVAR				Sn	**Sn**	**17 44 52.8**	**-4.5**
	0.5nm,0.3s,baz=218,slow=27,SNR=3.3						
BVAR				Lg	Lg	17 45 56.5	
	1.3nm,0.3s,baz=132,slow=25,SNR=3.7						
BRVK	**Borovoye**	**10.34**	**328**	⇑Pn	**Pn**	**17 43 02.4**	**-0.3**
	2.1nm,0.9s						
BRVK				⇑Sn	**Sn**	**17 45 05.7**	**+6.8**
	1.9nm,0.4s						
BRVK				⇑Lg	Lg	17 46 03.1	
	16nm,1.0s						
AB31	**Akbulak array**	**14.08**	**296**	⇓Pn	**Pn**	**17 43 50.9**	**-2.9**
	2.2nm,0.7s						
AB31				⇓Lg	Lg	17 48 04.4	
	1.7nm,0.8s						
AKTO	**Aktyubinsk**	**15.55**	**299**	Pn	**Pn**	**17 44 09.8**	**-3.8**
	0.2nm,0.3s,baz=106,slow=8.8,SNR=3.6						
AKTO				Sn	Sn	17 46 55.9	-10
	0.1nm,0.3s,baz=3.4,slow=17,SNR=2.5						
AKTO				Lg	Lg	17 48 45.4	
	0.1nm,0.3s,baz=48,slow=5.6,SNR=4.1						
AKTO	**Aktyubinsk**	**15.55**	**299**	⇓Pn	**Pn**	**17 44 14.8**	**+1.2**
	1.0nm,0.6s						
AKTO				⇑Lg	Lg	17 48 50.2	
	5.2nm,1.2s						
SONM	**Songino Array**	**18.88**	**71**	P	**P**	**17 44 53.0**	**-1.9**
	0.1nm,0.3s,baz=277,slow=12,SNR=2.6						

SJA 06 17:52:12.2±0.7**, 34°.91S**×**68°.75W, h172**km±7km**, ML3.0, MW3.6, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RFA	**San Rafael**	**0.27**	**60**	*i* P	Pn	17 52 35.6	+0.2
RFA				*i* S	Sn	17 52 53.2	+0.1
RFA				IAML		17 52 54.9	
	comp=Z,338nm,0.2s						
AVIZ	**Vizcacheras**	**1.44**	**8**	*i* P	Pn	17 52 43.6	+0.5
AAGR	**Agrelo**	**1.82**	**358**	*i* P	Pn	17 52 47.0	+0.1
AAGR				*i* S	Sn	17 53 13.6	-0.1
ASAL	**Salagasta**	**2.31**	**358**	*i* P	Pn	17 52 53.0	+0.6
ASAL				*i* S	Sn	17 53 23.5	0.0
AUSP	**Uspallata**	**2.73**	**349**	*i* P	Pn	17 52 59.1	+1.6
AUSP				*i* S	Sn	17 53 32.6	0.0
RTLS	**Leoncito**	**3.13**	**351**	*i* P	Pn	17 53 03.6	+1.2
RTLS				*i* S	Sn	17 53 41.8	+0.3
RTLS				IAML		17 53 46.0	
	comp=Z,18nm,0.4s						

SJA 06 17:55:04.5±0.5**, 31°.36S**×**65°.12W, h18**km±14km**, ML2.3, MW3.5, Cordoba Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCA	**Tanti**	**0.45**	**87**	*i* P	Pb	17 55 14.3	+0.2
TCA				*i* S	Sb	17 55 21.0	+0.5
TCA				IAML		17 55 22.3	
	comp=Z,41nm,0.4s						
MRA	**San Martin**	**1.17**	**205**	*i* P	Pb	17 55 26.7	+0.4
MRA				*i* S	Sb	17 55 41.1	-0.1
MRA				IAML		17 55 45.6	
	comp=Z,294nm,0.2s						
APLL	**PUNTA DE LOS L**	**1.54**	**308**	*i* P	Pb	17 55 33.3	+0.8
APLL				*i* S	Sg	17 55 54.1	-0.2
APLL				IAML		17 55 56.6	
	comp=Z,54nm,0.1s						
ACAN	**Cantantal**	**1.98**	**242**	*i* P	Pb	17 55 41.0	+1.0
ACAN				*i* S	Sn	17 56 00.2	-1.3
CFA	**Coronel Fontan**	**2.67**	**264**	*i* P	Pb	17 55 49.4	-2.5
CFA				*i* S	Sb	17 56 27.1	+2.8
RTLL	**Cerro Villicun**	**2.87**	**270**	*i* P	Pn	17 55 52.2	+2.9
RTLL				*i* S	Sg	17 56 33.8	-2.9
AMOG	**MOGNA**	**2.92**	**277**	*i* P	Pb	17 55 56.7	+0.6
AMOG				*i* S	Sg	17 56 35.1	-3.2
RTCV	**Cerro Valdivia**	**2.96**	**259**	*i* P	Pn	17 55 53.6	+3.0
RTCV				*i* S	Sb	17 56 35.7	+3.1
CYA	**Choya**	**2.96**	**348**	*i* P	Pn	17 55 53.7	+3.0
CYA				*i* S	Sg	17 56 36.9	-2.9

*ISCJB **06** 18:10:15.2±1.0, 62°.4S±0°.1×161°.4W±0°.3, h10km, mb4.1/5, MS4.4/14, Error ellipse: s-maj=23.6km s-min=17.6km az=152.3*
*IDC **06** 18:10:15.5±0.9, 62°.38S×161°.37W, h0km, mb4.0/5, mb1 4.1/6, mb1mx4.0/29, mbtmp3.9/6, ML3.6/1, MS4.4/15, Ms1 4.4/15, ms1mx4.2/26, Error ellipse: s-maj=35.5km s-min=24.2km az=33.0*
*NEIC **06** 18:10:16.6±0.7, 62°.31S×161°.26W, h10km, mb4.0/1, Error ellipse: s-maj=21.4km s-min=17.0km az=67.0*
*GCMT **06** 18:10:20.6±0.3, 62°.84S±0°.02×161°.68W±0°.03, h12km, MW5.0/78, Moment Tensor Solution. s23,c28; s78,c106; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.31±.13; $M_{\theta\theta}$3.77±.12; $M_{\phi\phi}$-3.45±.10; $M_{r\theta}$-2.31±.39; $M_{\theta\phi}$-0.30±.11; $M_{\phi r}$1.09±.34; Best double couple: $M_0$4.34600×10^{16} NP1:ϕ_s317.00000°,δ87.00000°,λ32.00000°. NP2: ϕ_s225.00000°,δ58.00000°,λ176.00000°. Principal axes: T 4.8750, Plg25.0000°, Azm186.0000°; N -1.0490, Plg57.0000°, Azm322.0000°; P -3.8180, Plg20.0000°, Azm86.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 18:10:16.6±1.0**, 62°.3S**±0°.2×**161°.3W**±0°.2**, h10km, n40, σ0^{s}99**/16**, mb4.2**/5**, MS4.4**/14**, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**18.52**	**201**	eP	**P**	**18 14 31.8**	**-0.8**
	14nm,1.3s						
VNDA	**Vanda**	**19.18**	**203**	P	**Pn**	**18 14 40.6**	**-0.2**
	0.2nm,0.3s,baz=65,slow=17,SNR=15						
VNDA				LR	LR	18 20 11.0	
	comp=Z,2µm,18.7s,baz=57,slow=31						
VNDA	**Vanda**	**19.18**	**203**	eP	**Pn**	**18 14 41.5**	**+0.7**
VNDA				ePn	**Pn**	**18 14 42.1**	**+1.3**
URZ	**Urewera**	**27.49**	**321**	LR	LR	18 24 32.0	
	comp=Z,344nm,21.8s,baz=164,slow=31						
QSPA	**South Pole Qui**	**27.78**	**180**	P	**P**	**18 16 04.7**	**-0.7**
	2.1nm,0.9s,baz=160,slow=2.9,SNR=3.4						
QSPA	**South Pole Qui**	**27.78**	**180**	eP	**P**	**18 16 05.5**	**+0.1**
RAO	**Raoul Island**	**34.83**	**334**	LR	LR	18 27 37.0	
	comp=Z,340nm,19.4s,baz=241,slow=30						
TBI	**Tubuai**	**39.79**	**17**	eLR	LR	18 28 15.3	
	comp=Z,1µm,27.8s						
TBI	**Tubuai**	**39.79**	**17**	eT	T	19 00 18.6	
	26nm,0.3s						
RAR	**Rarotonga**	**41.11**	**2**	LR	LR	18 30 37.8	
	comp=Z,312nm,21.9s,baz=203,slow=30						
RKT	**Rikitea**	**43.08**	**37**	eLQ	LQ	18 28 05.7	
	1µm,28.8s						
RKT				eLR	LR	18 29 53.4	
	comp=Z,734nm,26.2s						
RKT	**Rikitea**	**43.08**	**37**	eT	T	19 04 20.3	
	4.3nm,0.3s						
TVO	**Taravao**	**45.30**	**16**	eT	T	19 07 11.6	
	4.3nm,0.3s						
PAE	**Paea**	**45.38**	**16**	eT	T	19 07 17.0	
	5.1nm,0.3s						
PPT2	**Papeete2**	**45.45**	**16**	eLR	LR	18 30 52.7	
	comp=Z,1µm,25.0s						
PPT2	**Papeete2**	**45.45**	**16**	eT	T	19 07 23.4	
	10nm,0.3s						
PPT	**Papeete**	**45.47**	**16**	LR	LR	18 32 44.5	
	comp=Z,462nm,19.4s,baz=182,slow=30						
DZM	**Mont Dzumac**	**45.84**	**316**	eLR	LR	18 31 21.8	
	comp=Z,324nm,26.6s						
MAW	**Mawson**	**46.48**	**202**	LR	LR	18 35 57.6	
	comp=Z,536nm,21.4s,baz=149,slow=33						
STKA	**Stephens Creek**	**47.11**	**283**	LR	LR	18 34 34.2	
	comp=Z,429nm,21.9s,baz=168,slow=31						
VAH	**Vaihoa**	**48.03**	**18**	eT	T	19 10 35.5	
	80nm,0.3s						
PMOR	**Pomariorio Ree**	**48.22**	**18**	eT	T	19 10 50.1	
	6.3nm,0.3s						
RPN	**Rapa Nui**	**48.91**	**69**	LR	LR	18 34 46.2	
	comp=Z,417nm,21.4s,baz=246,slow=30						
PLCA	**Paso Flores**	**55.24**	**112**	P	**P**	**18 19 50.3**	**+0.7**
	2.3nm,1.0s,baz=264,slow=10,SNR=1.7						
PLCA				LR	LR	18 38 13.2	
	comp=Z,284nm,19.7s,baz=256,slow=30						
TAOE	**Nuku Hiva Isla**	**55.57**	**26**	eLR	LR	18 35 32.2	
	comp=Z,729nm,25.4s						
H01W1	**Cape Leeuwin H**	**57.30**	**256**	T	T	19 22 26.0	
	baz=146,slow=76,SNR=6.7						
H01W2	**Cape Leeuwin H**	**57.31**	**256**	T	T	19 22 28.0	
	baz=146,slow=76,SNR=7.5						
H01W3	**Cape Leeuwin H**	**57.32**	**256**	T	T	19 22 27.1	
	baz=146,slow=76,SNR=6.8						
NWAO	**Narrogin (SRO)**	**57.53**	**260**	LR	LR	18 39 39.1	
	comp=Z,240nm,19.8s,baz=101,slow=31						
AS01	**Alice Springs**	**57.61**	**281**	eP	**P**	**18 20 07.9**	**+1.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ASAR	**Alice Springs**	**57.63**	**281**	P	**P**	**18 20 07.6**	**+0.9**
	3.7nm,0.9s,baz=155,slow=5.2,SNR=10						
ASAR				LR	LR	18 41 03.7	
	comp=Z,522nm,21.7s,baz=144,slow=32						
WRA	**Warramunga Arr**	**60.66**	**283**	P	**P**	**18 20 27.9**	**+0.1**
	0.7nm,0.9s,baz=152,slow=5.8,SNR=6.1						
WRA				LR	LR	18 42 51.8	
	comp=Z,325nm,21.2s,baz=180,slow=32						
LEM	**Lembang**	**84.50**	**266**	LR	LR	18 56 54.2	
	comp=Z,154nm,19.4s,baz=206,slow=33						
BOSA	**Boshof**	**89.22**	**186**	P	**P**	**18 23 12.3**	**-0.2**
	2.4nm,0.9s,baz=153,slow=2.3,SNR=2.7						
BOSA				LR	LR	18 59 50.1	
	comp=Z,383nm,19.4s,baz=200,slow=33						
ROSC	**El Rosal**	**92.85**	**85**	LR	LR	18 58 23.6	
	comp=Z,123nm,19.0s,baz=102,slow=31						
ILAR	**Eielson Array**	**127.25**	**8**	PKP	**PKiKP**	**18 29 19.9**	**-0.1**
	0.2nm,0.5s,baz=240,slow=1.8,SNR=7.2						
MKAR	**Makanchi Array**	**141.73**	**276**	PKP	**PKPdf**	**18 29 45.0**	**-2.1**
	0.2nm,0.7s,baz=86,slow=4.8,SNR=2.1						
ZALV	**Zalesovo Beam**	**145.59**	**287**	PKPbc	**PKPdf**	**18 29 52.4**	**-1.1**
	0.8nm,0.5s,baz=103,slow=4.7,SNR=5.4						
GEYT	**Alibeck**	**145.73**	**243**	PKPbc	**PKPab**	**18 29 55.2**	**-0.1**
	4.8nm,1.0s,baz=204,slow=3.3,SNR=14						
MDT	**Midelt**	**146.93**	**142**	PKPbc	**PKPbc**	**18 29 59.1**	**+0.4**
	3.4nm,0.9s,baz=207,slow=4.5,SNR=5.1						

WEL 06 18:11:57.2,38°5S±1°0×**17°8E**±°**,h27**km±1km**,ML3.6**/23**,**
Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.03**	**52**	P	Pb	18 12 02.1	+0.3
CNGZ				S	Sb	18 12 07.2	+2.2
TKGZ	**Te Karaka**	**0.26**	**284**	P	Pb	18 12 03.8	-0.1
TKGZ				S	Sn	18 12 09.5	-0.9
TWGZ	**Tauwhareparae**	**0.36**	**335**	P	Pb	18 12 05.5	+0.2
RIGZ	**Rimuhau**	**0.38**	**238**	P	Pb	18 12 06.2	+0.6
RIGZ				S	Sn	18 12 14.2	+0.8
PUZ	**Puketiti**	**0.44**	**9**	P	Pb	18 12 06.7	+0.2
PRGZ	**Paritu Road**	**0.48**	**209**	P	Pn	18 12 07.9	-0.4
PRGZ				S	Sn	18 12 17.5	+1.7
MWZ	**Matawai**	**0.54**	**288**	P	Pb	18 12 07.9	-0.2
MWZ				S	Sb	18 12 16.2	+0.7
RAGZ	**Rawiri**	**0.60**	**271**	P	Pb	18 12 09.3	+0.2
RAGZ				S	Sn	18 12 18.9	+0.2
PKGZ	**Pakihiroa**	**0.62**	**353**	P	Pb	18 12 09.7	+0.2
PKGZ				S	Sn	18 12 19.8	+0.6
KNZ	**Kokohu**	**0.65**	**217**	P	Pb	18 12 09.9	0.0
RUGZ	**Raukumara Rang**	**0.67**	**324**	P	Pb	18 12 09.9	-0.4
MHGZ	**Mahia Peninsul**	**0.68**	**198**	P	Pn	18 12 10.8	-0.2
WMGZ	**Waiomatatini S**	**0.71**	**16**	P	Pn	18 12 11.3	-0.1
WMGZ				S	Sn	18 12 23.4	+2.0
SNGZ	**Shannon Statio**	**0.71**	**247**	P	Pb	18 12 11.2	+0.2
HAZ	**Te Kaha**	**0.81**	**337**	P	Pb	18 12 12.0	-0.6
URZ	**Urewera**	**0.87**	**286**	P	Pn	18 12 13.2	-0.4
WHHZ	**Waihua**	**0.93**	**232**	P	Pn	18 12 14.1	-0.3
RTZ	**Ruatahuna**	**0.94**	**263**	P	Pn	18 12 14.5	-0.2
MXZ	**Matakaoa Point**	**0.95**	**6**	P	Pb	18 12 15.2	+0.3
RAHZ	**Arahi**	**0.95**	**244**	P	Pn	18 12 14.5	-0.2
MTHZ	**Maungataniwha**	**1.10**	**251**	P	Pn	18 12 16.7	-0.1
MUGZ	**Murupara**	**1.10**	**271**	P	Pn	18 12 16.9	+0.1
ARHZ	**Aropaoanui**	**1.19**	**230**	P	Pb	18 12 18.6	-0.5
EDRZ	**Edgecumbe**	**1.20**	**289**	P	Pn	18 12 18.3	+0.1
MARZ	**Manawahe**	**1.29**	**293**	P	Pn	18 12 19.0	-0.5
TARZ	**Mount Tarawera**	**1.34**	**281**	P	Pn	18 12 20.6	+0.5
CKHZ	**Cape Kidnapper**	**1.44**	**216**	P	Pn	18 12 20.4	-1.0
OPRZ	**Ohinepanea**	**1.44**	**297**	P	Pn	18 12 20.8	-0.6
HLRZ	**Highlands Stat**	**1.46**	**279**	P	Pb	18 12 24.9	+1.3
BKZ	**Black Stump Fm**	**1.47**	**243**	P	Pn	18 12 21.8	-0.1
MCHZ	**McNeill Hill**	**1.49**	**230**	P	Pn	18 12 21.6	-0.5
HRRZ	**Handcock Road**	**1.49**	**274**	P	Pb	18 12 24.5	+0.3
HSRZ	**Hossack Road**	**1.53**	**277**	P	Pn	18 12 23.3	+0.7
KAHZ	**Kahuranaki**	**1.64**	**218**	P	Pn	18 12 23.1	-1.1
KWHZ	**Kaweka Forest**	**1.65**	**236**	P	Pn	18 12 23.8	-0.5
KRHZ	**Kereru**	**1.81**	**230**	P	Pn	18 12 25.5	-1.0
BHHZ	**Black Hill Sta**	**1.92**	**238**	P	Pn	18 12 27.6	-0.5
KRVZ	**Karewarewa**	**2.07**	**253**	P	Pn	18 12 31.3	+1.2
PNHZ	**Pukenui**	**2.08**	**227**	P	Pn	18 12 28.9	-1.5
WTVZ	**West Tongariro**	**2.11**	**252**	P	Pb	18 12 34.8	0.0
DVHZ	**Dannevirke**	**2.37**	**220**	P	Pn	18 12 32.0	-2.3
BFZ	**Birch Farm**	**2.64**	**214**	P	Pn	18 12 35.3	-2.6
MRZ	**Mangatainoka R**	**2.94**	**222**	P	Pn	18 12 39.5	-2.6
PKE	**Pukeiti**	**3.34**	**257**	P	Pn	18 12 49.2	+1.6
DUWZ	**D'Urville Isla**	**4.01**	**234**	P	Pn	18 12 54.6	-2.2

MAN 06 18:13:06.2,7°58N×127°04E,h35km**,mb4.5,ML3.4,MS3.2,**
Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.00**	**231**	*e*P	Pn	18 13 24.1	+0.3
MATI				*e*S	Sn	18 13 36.2	-0.5
BUTP	**Butuan**	**1.97**	**315**	*e*P	Pn	18 13 38.4	+1.3
BUTP				*e*S	Sn	18 14 00.5	0.0
BUKP	**Musuan**	**1.98**	**279**	*e*P	Pn	18 13 37.8	+0.5
BUKP				*e*S	Sn	18 14 02.2	+1.2

PRU 06 18:14:48.9±0.0**,51°43N×16°21E,h0**km**,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPC	**Upice**	**0.93**	**188**	*e*PG	Pg	18 15 06.4	-0.3
DPC	**Dobruska-Polom**	**1.08**	**176**	*e*PG	Pg	18 15 09.1	-0.5
PVCC	**Panska Ves**	**1.38**	**230**	*e*PG	Pg	18 15 14.9	-0.3
GOPC	**GO Pecny, Ondr**	**1.77**	**211**	*e*PG	Pn	18 15 21.2	+0.4

*ISCJB **06** 18:14:57.4±0.3, 51°48N±0°02×16°23E±0°03, h0km, Error ellipse: s-maj=2.7km s-min=2.2km az=168.4*
*IPEC **06** 18:15:00.2±0.3, 51°47N×16°32E, h0km, ML2.7/3, Error ellipse: s-maj=3.1km s-min=1.7km az=66.0*
*IDC **06** 18:15:01.1±0.7, 51°43N×16°03E, h0km, mb1 3.3/9, mb1mx3.1/51, mbtmp3.1/9, ML2.7/9, Error ellipse: s-maj=13.2km s-min=6.6km az=101.0*
*UPP **06** 18:15:04.6±2.9, 51°72N×15°80E, h1km, ML2.1, Suspected explosion*
ISC 06 18:14:58.7±0.6**,51°52N**±0°03×**16°20E**±0°02**,h0**km**,n60,**
σ1§**31**/104**,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**175**	*e*Pg	**Pg**	**18 15 12.4**	**+0.6**
KSP				*i* Sg	**Sg**	**18 15 20.5**	**0.0**
UPC	**Upice**	**1.02**	**187**	*e*PG	**Pg**	**18 15 18.7**	**+0.4**
UPC				*e*SG	**Sg**	**18 15 31.2**	**-0.3**
	comp=Z,148nm,0.6s						
DPC	**Dobruska-Polom**	**1.18**	**176**	*e*PG	**Pg**	**18 15 21.4**	**+0.2**
DPC				*e*SG	**Sg**	**18 15 35.5**	**-0.9**
	comp=Z,35nm,0.4s						
PVCC	**Panska Ves**	**1.43**	**227**	*e*PG	**Pb**	**18 15 27.2**	**+1.0**
PVCC				*e*SG	**Sb**	**18 15 45.4**	**+0.4**
	comp=Z,154nm,0.3s						
KRLC	**Kraliky**	**1.49**	**165**	*e*PG	**Pb**	**18 15 27.5**	**+0.2**
KRLC				*e*SG	**Sg**	**18 15 46.2**	**-0.5**
	comp=Z,12nm,0.4s						
BRG	**Berggiesshubel**	**1.56**	**246**	PN	**Pb**	**18 15 28.5**	**+0.1**
BRG				PG	**Pg**	**18 15 29.8**	**+1.2**
BRG				SG	**Sg**	**18 15 50.0**	**+1.3**
	41nm,0.4s						
PRA	**Prague**	**1.83**	**218**	*e*PG	**Pn**	**18 15 32.3**	**+0.9**
PRA				*e*SG	**Sb**	**18 15 56.5**	**-0.1**
	comp=Z,23nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.84**	**210**	*e*PG	**Pb**	**18 15 32.7**	**-0.5**
GOPC				*e*SG	**Sb**	**18 15 57.0**	**+0.2**
	comp=Z,20nm,0.4s						
PRU	**Pruhonice**	**1.86**	**215**	*e*PN	**Pn**	**18 15 31.8**	**0.0**
PRU				*e*PG	**Pb**	**18 15 34.0**	**+0.5**
PRU				*e*SG	**Sb**	**18 15 57.0**	**-0.3**
	comp=Z,24nm,0.5s						
MORC	**Moravsky Berou**	**1.94**	**153**	*e*PN	**Pn**	**18 15 33.2**	**+0.2**
MORC				*e*SG	**Sn**	**18 15 58.8**	**+0.6**
MORC	**Moravsky Berou**	**1.94**	**153**	*e*Pn	**Pn**	**18 15 33.2**	**+0.2**
	baz=336						
MORC				*e*Sg	**Sn**	**18 15 58.7**	**+0.6**
	46nm,0.8s,baz=336						
CLL	**Collm**	**2.01**	**265**	*e*Pg	**Pg**	**18 15 37.0**	**-0.2**
CLL				*e*Sg	**Sg**	**18 16 05.0**	**+1.7**
	comp=Z,26nm,0.6s						
OKC	**Ostrava-Krasne**	**2.09**	**143**	*e*PG	**Pg**	**18 15 39.3**	**+0.5**
OKC				*e*SG	**Sb**	**18 16 03.9**	**-0.1**
	comp=Z,34nm,0.6s						
VRAC	**Vranov**	**2.23**	**173**	Pn	**Pn**	**18 15 37.2**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=344,slow=17,SNR=8.5						
VRAC				Sn	**Sn**	**18 16 05.0**	**-0.1**
	comp=Z,4.3nm,0.3s,baz=31,slow=12,SNR=17						
VRAC	**Vranov**	**2.23**	**173**	*e*PN	**Pn**	**18 15 37.7**	**+0.8**
VRAC				*e*SG	**Sb**	**18 16 08.1**	**+0.1**
VRAC	**Vranov**	**2.23**	**173**	*e*Pn	**Pn**	**18 15 37.7**	**+0.8**
	baz=355						
VRAC				*e*Sg	**Sb**	**18 16 08.1**	**+0.1**
	comp=Z,37nm,0.7s,baz=355						
TREC	**Trest**	**2.27**	**192**	*e*PG	**Pb**	**18 15 41.4**	**+0.8**
TREC				*e*SG	**Sg**	**18 16 10.8**	**-0.9**
	comp=Z,23nm,0.4s						
KRUC	**Moravsky**	**2.46**	**177**	*e*PN	**Pn**	**18 15 41.2**	**+1.1**
KRUC				*e*SG	**Sb**	**18 16 15.9**	**+1.1**
KRUC	**Moravsky**	**2.46**	**177**	*e*Pn	**Pn**	**18 15 41.2**	**+1.1**
	baz=359						
KRUC				*e*Sg	**Sb**	**18 16 15.8**	**+1.1**
	comp=Z,33nm,1.0s,baz=359						
OJC	**Ojcow**	**2.63**	**118**	*e*Pg	**Pg**	**18 15 49.9**	**+0.9**
OJC				*e*Sg	**Sg**	**18 16 24.6**	**+1.6**
NKC	**Novy Kostel**	**2.70**	**243**	*e*PN	**Pn**	**18 15 44.5**	**+1.1**
NKC				*e*PG	**Pg**	**18 15 50.9**	**+0.4**
NKC				*e*SG	**Sg**	**18 16 25.4**	**-0.1**
	comp=Z,28nm,0.4s						
KHC	**Kasperske Hory**	**2.92**	**216**	*e*PN	**Pn**	**18 15 47.6**	**+1.1**
KHC				*e*PG	**Pb**	**18 15 53.2**	**+1.5**
KHC				*e*SN	**Sn**	**18 16 22.2**	**-0.1**
KHC				*e*SG	**Sb**	**18 16 30.4**	**+2.5**
	comp=Z,10nm,0.3s						
SMOL	**Smolenice**	**3.11**	**165**	*e*SG	**Sg**	**18 16 38.1**	**-0.6**
GERES	**GERESS Array B**	**3.12**	**212**	Pn	**Pn**	**18 15 49.6**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=33,slow=13,SNR=14						
GERES				Pg	**Pb**	**18 15 56.3**	**+1.2**
	comp=Z,5.4nm,0.3s,baz=33,slow=17,SNR=66						
GERES				Lg	Lg	18 16 35.7	
	comp=Z,3.8nm,0.3s,baz=32,slow=28,SNR=9.2						
LANS	**Liptovska Anna**	**3.17**	**137**	*e*PG	**Pb**	**18 15 57.2**	**+1.4**
LANS				*e*SG	**Sg**	**18 16 39.7**	**-0.7**
MODS	**Modra-Piesok**	**3.23**	**167**	*e*PG	**Pb**	**18 15 58.1**	**+1.2**
MODS				*e*SG	**Sg**	**18 16 42.6**	**+0.3**
MODS				*e*LG	Lg	18 16 49.5	
VYHS	**Vyhne**	**3.48**	**150**	*e*PG	**Pg**	**18 16 05.8**	**+0.5**
VYHS				*e*SG	**Sg**	**18 16 47.6**	**-2.7**
VYHS				*e*LG	Lg	18 16 53.4	
CONA	**Conrad Observa**	**3.60**	**184**	*e*Pn	**Pn**	**18 15 57.3**	**+1.4**
	comp=Z,0.4nm,0.3s						
CONA				Sg	**Sg**	**18 16 51.6**	**-2.8**
	comp=Z,11nm,0.4s						
BSD	**Bornholm Skovb**	**3.68**	**348**	*i* P	**Pn**	**18 15 58.0**	**+1.2**
BSD				*i* S	**Sn**	**18 16 39.5**	**-1.4**
MOA	**Molln**	**3.88**	**200**	*e*Pn	**Pn**	**18 16 00.5**	**+0.9**
	comp=Z,0.7nm,0.2s						
MOA				Sg	**Sg**	**18 17 02.3**	**-1.1**
	comp=Z,8.4nm,0.5s						
ARSA	**Arzberg**	**4.30**	**186**	*e*Pn	**Pn**	**18 16 06.8**	**+1.5**
	comp=Z,0.4nm,0.3s						
ARSA				Sg	**Sg**	**18 17 14.4**	**-2.3**
	comp=Z,2.8nm,0.6s						
BLEU	**Blekinge**	**4.80**	**357**	P	**Pn**	**18 16 13.6**	**+1.4**
BLEU				S	**Sn**	**18 17 06.2**	**-2.2**
BLEU	**Blekinge**	**4.80**	**357**	P	**Pn**	**18 16 13.6**	**+1.4**
BLEU				S	**Sn**	**18 17 06.2**	**-2.2**
SOKA	**Soboth**	**4.91**	**189**	Pg	**Pg**	**18 16 30.5**	**-2.2**
	comp=Z,0.5nm,0.4s						
BJUU	**Bjuv**	**4.93**	**339**	P	**Pn**	**18 16 14.4**	**+0.4**
BJUU				S	**Sn**	**18 17 10.1**	**-1.6**
BJUU	**Bjuv**	**4.93**	**339**	P	**Pn**	**18 16 14.4**	**+0.4**
BJUU				S	**Sn**	**18 17 10.1**	**-1.6**
WATA	**Walderalm**	**5.16**	**218**	*i* Pn	**Pn**	**18 16 18.9**	**+1.6**
	comp=Z,1.0nm,0.2s						
MOTA	**Moosalm**	**5.34**	**220**	*e*Pn	**Pn**	**18 16 21.1**	**+1.4**
	comp=Z,0.5nm,0.2s						
RETA	**Reutte**	**5.37**	**223**	*e*Pn	**Pn**	**18 16 20.9**	**+0.8**
	comp=Z,0.7nm,0.2s						
RETA				*e*Sn	**Sn**	**18 17 22.0**	**-0.6**
	comp=Z,1.6nm,0.4s						
SQTA	**Sankt Quirin**	**5.40**	**219**	*e*Pn	**Pn**	**18 16 22.7**	**+2.2**
	comp=Z,1.2nm,0.2s						
SQTA				Sg	**Sg**	**18 17 48.9**	**-3.1**
	comp=Z,1.6nm,0.3s						
VXJU	**Vaexsjoe**	**5.46**	**353**	P	**Pn**	**18 16 22.7**	**+1.5**
VXJU				S	**Sn**	**18 17 23.2**	**-1.6**
VXJU	**Vaexsjoe**	**5.46**	**353**	P	**Pn**	**18 16 22.7**	**+1.5**
VXJU				S	**Sn**	**18 17 23.2**	**-1.6**
BYXU	**Byxelkrok**	**5.80**	**4**	P	**Pn**	**18 16 28.0**	**+2.1**
BYXU	**Byxelkrok**	**5.80**	**4**	P	**Pn**	**18 16 28.0**	**+2.1**
FABU	**Falkenberg**	**5.86**	**341**	P	**Pn**	**18 16 27.8**	**+1.1**
FABU	**Falkenberg**	**5.86**	**341**	P	**Pn**	**18 16 27.8**	**+1.1**
GNOU	**Gnosjoe**	**5.95**	**347**	P	**Pn**	**18 16 29.3**	**+1.3**
GNOU	**Gnosjoe**	**5.95**	**347**	P	**Pn**	**18 16 29.3**	**+1.3**
DAVOX	**Davos/Dischmat**	**6.30**	**224**	Pn	**Pn**	**18 16 33.8**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=7.6,slow=15,SNR=4.5						
DAVOX				Lg	Lg	18 18 16.3	
	comp=Z,0.1nm,0.3s,baz=192,slow=20,SNR=2.2						
LNKU	**Linkoeping**	**6.73**	**357**	P	**Pn**	**18 16 40.6**	**+2.0**
LNKU	**Linkoeping**	**6.73**	**357**	P	**Pn**	**18 16 40.6**	**+2.0**
FKPU	**Falk**	**6.80**	**349**	P	**Pn**	**18 16 42.1**	**+2.4**
FKPU	**Falk**	**6.80**	**349**	P	**Pn**	**18 16 42.1**	**+2.4**
AKASG	**Malin Array Be**	**8.24**	**91**	Pn	**Pn**	**18 17 00.4**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=278,slow=12,SNR=3.7						
HFS	**Hagfors**	**8.75**	**352**	Pn	**Pn**	**18 17 07.2**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=176,slow=13,SNR=6.5						
HFS				Sn	**Sn**	**18 18 42.9**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=177,slow=29,SNR=3.2						
NOA	**NORSAR Array B**	**9.93**	**346**	Pn	**Pn**	**18 17 23.5**	**+0.9**
	comp=Z,0.0nm,0.3s,baz=162,slow=12,SNR=4.0						
FINES	**FINESS Array B**	**11.33**	**25**	Pn	**Pn**	**18 17 41.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=204,slow=12,SNR=6.9						
EKA	**Eskdalemuir Ar**	**12.15**	**296**	Pn	**Pn**	**18 17 52.7**	**-0.2**
	baz=102,slow=13,SNR=2.6						
BRTR	**Keskin Array B**	**16.92**	**127**	Pn	**Pn**	**18 18 56.1**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=335,slow=12,SNR=2.6						
ARCES	**ARCESS Array B**	**18.60**	**10**	Pn	**P**	**18 19 14.6**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=198,slow=11,SNR=5.2						

*IDC **06** 18:17:30.8±0.8, 22°79S×66°05W, h238km±8km, mb3.8/15, mb1 3.9/22, mb1mx3.8/43, mbtmp4.4/22, Error ellipse: s-maj=14.1km s-min=10.7km az=25.0*
*NEIC **06** 18:17:31.4±0.4, 22°86S×66°11W, h246km±4km, mb5.0/8, Error ellipse: s-maj=6.6km s-min=4.8km az=86.0*
*SJA **06** 18:17:31.6±0.9, 22°80S×66°22W, h263km±5km, ML4.6, MW4.3*
*ISCJB **06** 18:17:31.2±0.2, 22°86S±0°02×66°27W±0°02, h261km±2km, mb5.4/1, Error ellipse: s-maj=3.6km s-min=2.6km az=155.5*
*BJI **06** 18:17:32.8, 22°90S×66°10W, h253km, mB5.1/2*
*VAO **06** 18:17:32.4±0.4, 22°80S×66°37W, h275km±5km, mb4.4*
*GUC **06** 18:17:32.5±0.4, 22°77S×66°70W, h281km±17km, ML5.0*
ISC 06 18:17:31.5±0.6**,22°91S**±0°04×**66°28W**±0°04**,h254**km±5km**,**
n186,σ1§**76**/241**,8C-3D,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**0.85**	**110**	*i* P	**Pn**	**18 18 08.2**	**+1.5**
HJA				IAML		18 18 08.6	
	comp=Z,2μm,0.6s						
HJA				*e*S	**S**	**18 18 36.1**	**+1.8**
YJA	**Yavi**	**1.02**	**44**	*i* P	**Pn**	**18 18 08.5**	**+0.9**
YJA				*e*S	**S**	**18 18 30.1**	**-5.9**
YJA				IAML		18 18 38.1	
	comp=Z,265nm,0.7s						
AZAP	**Zapla**	**1.72**	**140**	*i* P	**Pn**	**18 18 13.2**	**+1.1**
AZAP				IAML		18 18 14.1	
	comp=Z,851nm,0.4s						
AZAP				*e*S	**S**	**18 18 44.5**	**+0.3**
SLA	**San Lorenzo**	**1.94**	**159**	*i* P	**Pn**	**18 18 16.3**	**+2.4**
SLA				*e*S	**S**	**18 18 48.9**	**+1.5**
ALOL	**LOMAS DE OLMED**	**2.29**	**113**	*i* P	**Pn**	**18 18 17.6**	**+0.5**
LVC	**Limon Verde**	**2.44**	**277**	P	**Pn**	**18 18 20.6**	**+1.7**
	comp=Z,218nm,0.3s,baz=97,slow=5.6,SNR=1442						
LVC				S	**S**	**18 18 56.6**	**+0.3**
	comp=Z,206nm,0.3s,baz=245,slow=19,SNR=34						
LVC	**Limon Verde**	**2.44**	**277**	*i* P	**Pn**	**18 18 20.7**	**+1.8**
LVC				*e*S	**S**	**18 18 56.8**	**+0.5**
LVC	**Limon Verde**	**2.44**	**277**	*e*P	**Pn**	**18 18 20.6**	**+1.7**
PB15	**IPOC Station P**	**2.95**	**264**	*e*P	**Pn**	**18 18 26.2**	**+2.3**
PB15				*e*S	**S**	**18 19 06.2**	**+0.8**
PB15	**IPOC Station P**	**2.95**	**264**	*e*P	**Pn**	**18 18 25.2**	**+1.3**
PB15				*e*S	**S**	**18 19 06.0**	**+0.6**
PB09	**IPOC Station P**	**2.96**	**291**	*i* P	**Pn**	**18 18 25.9**	**+2.0**
PB09				*e*S	**S**	**18 19 05.9**	**+0.4**
PB09	**IPOC Station P**	**2.96**	**291**	*e*P	**Pn**	**18 18 25.8**	**+1.8**
PB09				*e*S	**S**	**18 19 05.7**	**+0.2**
PB09				IAML		18 19 08.4	
	comp=E,1μm,0.4s						
PB06	**IPOC Station P**	**3.04**	**273**	*e*P	**Pn**	**18 18 26.4**	**+1.6**
PB06				*e*S	**S**	**18 19 05.7**	**-1.4**
PB06	**IPOC Station P**	**3.04**	**273**⇑	*i*P	**Pn**	**18 18 26.3**	**+1.4**
PB06				*e*S	**S**	**18 19 07.0**	**-0.1**
PB06				IAML		18 19 09.2	
	comp=N,2μm,0.1s						
FSA	**Cafayete**	**3.20**	**175**	*e*P	**Pn**	**18 18 28.9**	**+2.4**
FSA				*e*S	**S**	**18 19 11.9**	**+1.7**
PB03	**IPOC Station P**	**3.32**	**284**	*i* P	**Pn**	**18 18 29.1**	**+1.1**
PB03				*e*S	**S**	**18 19 11.3**	**-1.4**
PB03	**IPOC Station P**	**3.32**	**284**⇑	*i*P	**Pn**	**18 18 29.1**	**+1.1**
PB03				*e*S	**S**	**18 19 11.2**	**-1.5**
PB01	**IPOC Station P**	**3.51**	**301**	*e*Pn	**Pn**	**18 18 30.7**	**+0.7**
PB01	**IPOC Station P**	**3.51**	**301**	*e*P	**Pn**	**18 18 30.9**	**+0.9**
PB01				*e*S	**S**	**18 19 15.1**	**-1.3**
PB01	**IPOC Station P**	**3.51**	**301**⇑	*i*P	**Pn**	**18 18 30.8**	**+0.9**
PB07	**IPOC Station P**	**3.54**	**289**	*i* P	**Pn**	**18 18 31.6**	**+1.1**
PB07				*e*S	**S**	**18 19 14.8**	**-2.3**
PB07	**IPOC Station P**	**3.54**	**289**⇑	*i*P	**Pn**	**18 18 31.5**	**+1.1**
PB05	**IPOC Station P**	**3.62**	**270**	*i* P	**Pn**	**18 18 32.6**	**+1.4**
PB05				*e*S	**S**	**18 19 15.6**	**-3.0**
PB05	**IPOC Station P**	**3.62**	**270**	*e*P	**Pn**	**18 18 32.4**	**+1.1**
PB04	**IPOC Station P**	**3.62**	**278**	*e*Pn	**Pn**	**18 18 32.6**	**+1.3**
PB04	**IPOC Station P**	**3.62**	**278**	*i* P	**Pn**	**18 18 32.6**	**+1.3**
PB04				*e*S	**S**	**18 19 17.7**	**-1.0**
PB04	**IPOC Station P**	**3.62**	**278**	*e*P	**Pn**	**18 18 32.5**	**+1.2**
PB04				*i* S	**S**	**18 19 17.4**	**-1.3**
PB02	**IPOC Station P**	**3.71**	**295**	*e*P	**Pn**	**18 18 32.9**	**+0.7**
PB02				*e*S	**S**	**18 19 17.9**	**-2.6**
PB02	**IPOC Station P**	**3.71**	**295**⇑	*i*P	**Pn**	**18 18 33.0**	**+0.7**
GO02	**Mina Guanaco**	**3.77**	**233**	*e*Pn	**Pn**	**18 18 35.5**	**+2.4**
GO02	**Mina Guanaco**	**3.77**	**233**⇑	*i*P	**Pn**	**18 18 35.0**	**+1.9**
GO02				*e*S	**S**	**18 19 23.5**	**+1.6**
PB08	**IPOC Station P**	**3.84**	**315**	*i* P	**Pn**	**18 18 35.5**	**+1.4**
PB08				*i* S	**S**	**18 19 22.9**	**-0.8**
PB08	**IPOC Station P**	**3.84**	**315**⇓	*i*P	**Pn**	**18 18 35.3**	**+1.2**
PB10	**IPOC Station P**	**3.98**	**261**	*e*Pn	**Pn**	**18 18 36.6**	**+1.4**
PB10	**IPOC Station P**	**3.98**	**261**	*e*P	**Pn**	**18 18 36.5**	**+1.3**
PB10				*i* S	**S**	**18 19 24.9**	**-0.9**
PB10	**IPOC Station P**	**3.98**	**261**⇑	*i*P	**Pn**	**18 18 36.5**	**+1.3**
GO01	**Chusmiza**	**4.22**	**319**	*e*Pn	**Pn**	**18 18 39.2**	**+0.6**
PB11	**IPOC Station P**	**4.44**	**314**	*e*Pn	**Pn**	**18 18 40.6**	**-0.4**
PB11	**IPOC Station P**	**4.44**	**314**	*i* P	**Pn**	**18 18 40.6**	**-0.4**
PB11				*e*S	**S**	**18 19 32.7**	**-3.4**
PB11	**IPOC Station P**	**4.44**	**314**⇓	*i*P	**Pn**	**18 18 40.5**	**-0.4**
PSGCX	**Pisagua**	**4.87**	**312**	*e*P	**Pn**	**18 18 45.4**	**-0.7**
PSGCX				*e*S	**S**	**18 19 40.5**	**-4.9**
MNMC	**Minye Minye**	**4.87**	**320**	*e*Pn	**Pn**	**18 18 46.4**	**+0.1**
MNMC	**Minye Minye**	**4.87**	**320**	*e*P	**Pn**	**18 18 46.3**	**+0.1**
MNMCX	**Minye Minye**	**4.87**	**320**	*i* P	**Pn**	**18 18 46.3**	**+0.1**
MNMCX				*e*S	**S**	**18 19 42.5**	**-3.2**
PB16	**IPOC Station P**	**5.46**	**326**	*i* P	**Pn**	**18 18 54.4**	**+0.6**
PB16				*e*S	**S**	**18 19 55.9**	**-3.5**
CYA	**Choya**	**5.52**	**176**	*i* P	**Pn**	**18 18 56.7**	**+2.8**
CYA				*i* S	**S**	**18 20 01.4**	**+1.8**
PB12	**IPOC Station P**	**5.71**	**318**	*e*P	**Pn**	**18 18 54.5**	**-1.9**
PB12				*e*S	**S**	**18 19 58.2**	**-6.0**
PB12	**IPOC Station P**	**5.71**	**318**	*e*P	**Pn**	**18 18 54.4**	**-1.9**
GO03	**Copiap**	**5.88**	**217**	*e*Pn	**Pn**	**18 18 59.0**	**+0.7**
GO03	**Copiap**	**5.88**	**217**	*e*P	**Pn**	**18 18 59.0**	**+0.7**
GO03				*e*S	**S**	**18 20 06.2**	**-1.5**
ACLC	**CERRO LA CRUZ**	**6.51**	**185**	*e*P	**Pn**	**18 19 07.7**	**+1.4**
ACLC				*e*S	**S**	**18 20 21.7**	**-0.6**
LPAZ	**La Paz**	**6.82**	**345**	P	**Pn**	**18 19 10.1**	**-0.5**
	comp=N,5.9nm,0.3s,baz=116,slow=5.8,SNR=123						
LPAZ				S	**S**	**18 20 27.4**	**-2.6**
	comp=N,1.4nm,0.3s,baz=297,slow=15,SNR=7.8						
LPAZ	**La Paz**	**6.82**	**345**	*e*Pn	**Pn**	**18 19 10.7**	**0.0**
LPAZ				S	**S**	**18 20 27.4**	**-2.6**
LPAZ	**La Paz**	**6.82**	**345**	*i* P	**Pn**	**18 19 10.6**	**0.0**
LPAZ				*e*S	**S**	**18 20 25.8**	**-4.3**
AGUA	**GUANDACOL**	**6.84**	**196**	*i* P	**Pn**	**18 19 11.9**	**+1.6**
AGUA				*e*S	**S**	**18 20 29.0**	**-0.7**
LCO	**Las Campanas**	**7.26**	**212**	*e*Pn	**Pn**	**18 19 16.1**	**+0.4**
LCO	**Las Campanas**	**7.26**	**212**	*e*P	**Pn**	**18 19 16.1**	**+0.4**
LCO				*e*S	**S**	**18 20 32.5**	**-7.0**
APLL	**PUNTA DE LOS L**	**7.46**	**182**	*e*P	**Pn**	**18 19 18.1**	**+0.2**
APLL				*e*S	**S**	**18 20 39.3**	**-4.4**
APLL				IAML		18 20 45.1	
	comp=Z,88nm,0.5s						
ACDV	**Cuesta del Vie**	**7.66**	**199**	*e*P	**Pn**	**18 19 23.1**	**+2.5**
ACDV				*e*S	**S**	**18 20 49.8**	**+1.2**
AROD	**Rodeo**	**7.77**	**201**	*i* P	**Pn**	**18 19 25.0**	**+2.8**
AROD				*e*S	**S**	**18 20 52.2**	**+0.9**
ACCO	**Cerro Coronel**	**8.04**	**197**	*e*P	**Pn**	**18 19 26.9**	**+1.2**
ACCO				*e*S	**S**	**18 20 56.5**	**-1.0**
AMOG	**MOGNA**	**8.23**	**193**	*i* P	**Pn**	**18 19 28.1**	**+0.3**
AMOG				*e*S	**S**	**18 20 58.1**	**-3.5**
GO04	**Tololo Observa**	**8.29**	**208**	*e*Pn	**Pn**	**18 19 29.1**	**+0.4**
GO04	**Tololo Observa**	**8.29**	**208**	*i* P	**Pn**	**18 19 29.1**	**+0.4**
GO04				*e*S	**S**	**18 21 03.9**	**+0.9**
SIV	**San Ignacio**	**8.46**	**36**	P	**Pn**	**18 19 28.5**	**-2.3**
	comp=Z,8.9nm,0.3s,baz=227,slow=7.5,SNR=256						
SIV				S	S	18 20 53.6	-13
	baz=250,slow=16,SNR=3.7						
RTLL	**Cerro Villicun**	**8.61**	**193**	*i* P	**Pn**	**18 19 32.8**	**+0.3**
RTLL				*e*S	**S**	**18 21 05.4**	**-4.8**
RTLL				IAML		18 21 12.1	
	comp=Z,83nm,0.4s						
CPUP	**Villa Florida**	**8.83**	**114**	P	**Pn**	**18 19 34.0**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=286,slow=12,SNR=7.9						
CPUP	**Villa Florida**	**8.83**	**114**	*e*Pn	**Pn**	**18 19 33.1**	**-2.1**
CFA	**Coronel Fontan**	**8.83**	**191**	*e*P	**Pn**	**18 19 35.3**	**0.0**
CFA				*e*S	**S**	**18 21 10.4**	**-5.0**
RTCV	**Cerro Valdivia**	**9.14**	**192**	*i* P	**Pn**	**18 19 39.5**	**+0.3**
RTCV				*e*S	**S**	**18 21 19.3**	**-3.2**
RTLS	**Leoncito**	**9.25**	**196**	*e*P	**Pn**	**18 19 42.4**	**+1.6**
RTLS				*e*S	**S**	**18 21 24.1**	**-1.3**
ACAN	**Cantantal**	**9.36**	**185**	*e*P	**Pn**	**18 19 41.8**	**-0.2**
AUSP	**Uspallata**	**9.68**	**196**	*e*P	**Pn**	**18 19 48.1**	**+1.9**
AUSP				*e*S	**S**	**18 21 29.8**	**-5.6**
ASAL	**Salagasta**	**9.90**	**193**	*i* P	**Pn**	**18 19 50.4**	**+1.5**
ASAL				*e*S	**S**	**18 21 37.1**	**-3.2**
AQDB	**Aquidauana**	**10.13**	**78**	*e*P	**Pn**	**18 19 51.8**	**+0.1**
AAGR	**Agrelo**	**10.38**	**192**	*e*P	**Pn**	**18 19 56.2**	**+1.3**
ROC1	**El Roble**	**10.86**	**202**	*e*Pn	**Pn**	**18 20 02.4**	**+1.3**
PEL	**Peldehue**	**10.91**	**200**	*e*Pn	**Pn**	**18 20 02.3**	**+0.9**
TRCB	**Terra Rica**	**12.58**	**92**	*e*P	**P**	**18 20 23.9**	**-0.6**
GO05	**Huala**	**13.03**	**201**	*e*Pn	**P**	**18 20 29.3**	**+0.1**
PTGB	**Pitanga**	**13.14**	**101**	*e*P	**P**	**18 20 30.3**	**-0.3**
ITAB	**Concordia**	**13.52**	**111**	*e*P	**P**	**18 20 36.0**	**+1.2**
CPSB	**Cacapava Do Su**	**13.69**	**126**	*e*P	**P**	**18 20 37.9**	**+1.3**
PLTB	**Pedras Altas**	**14.29**	**131**	*e*P	**P**	**18 20 43.9**	**+0.5**
NNA	**Nana**	**14.81**	**315**	P	**Pn**	**18 20 50.7**	**+1.3**
	comp=Z,4.1nm,0.3s,baz=156,slow=10,SNR=18						
NNA	**Nana**	**14.81**	**315**	*e*P	**Pn**	**18 20 51.3**	**+1.8**
ITRB	**Iturama**	**15.18**	**81**	*e*P	**Pn**	**18 20 53.8**	**-0.1**
CNLB	**Canela**	**15.25**	**118**	*e*P	**Pn**	**18 20 55.7**	**+1.1**
FRTB	**Fartura**	**15.39**	**95**	*e*P	**Pn**	**18 20 57.5**	**+1.2**
TIJ01	**Guaruva-PR**	**15.96**	**102**	*e*P	**Pn**	**18 21 02.6**	**-0.5**
TER01	**Tubaro-SC**	**16.43**	**113**	*e*P	**Pn**	**18 21 08.2**	**-0.4**
BB19B	**Bebedouro**	**16.57**	**87**	*e*P	**Pn**	**18 21 09.4**	**-0.9**
RCLB	**Rio Claro- Sao**	**17.31**	**92**	*e*P	**P**	**18 21 16.9**	**+0.3**
IPMB	**Ipameri, GO**	**17.62**	**77**	*e*P	**P**	**18 21 19.4**	**-0.6**
PLCA	**Paso Flores**	**18.13**	**190**	P	**Pn**	**18 21 28.0**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=21,slow=6.1,SNR=3.4						
PLCA	**Paso Flores**	**18.13**	**190**	*e*P	**P**	**18 21 25.5**	**+0.2**
BDFB	**Brasilia**	**18.69**	**70**	P	**P**	**18 21 30.2**	**-1.4**
	comp=Z,1.7nm,0.3s,baz=239,slow=12,SNR=44						
BDFB	**Brasilia**	**18.69**	**70**	*e*P	**P**	**18 21 31.5**	**-0.1**
	comp=Z,39nm,0.9s						
PMNB	**Patos De Minas**	**19.06**	**80**	*e*P	**P**	**18 21 35.2**	**-0.3**
BSCB	**Bom Sucesso**	**20.04**	**89**	*e*P	**P**	**18 21 45.9**	**-0.1**
VAS01	**Vassouras-RJ**	**21.09**	**93**	*e*P	**P**	**18 21 57.2**	**+0.3**
MCI6	**Montes Claros**	**21.90**	**78**	*e*P	**P**	**18 22 03.5**	**-1.0**
MCI8	**Montes Claros**	**21.93**	**78**	*e*P	**P**	**18 22 03.7**	**-1.0**
MCI9	**Montes Claros**	**21.94**	**78**	*e*P	**P**	**18 22 03.8**	**-1.1**
MCI7	**Montes Claros**	**21.98**	**78**	*e*P	**P**	**18 22 04.3**	**-0.9**
DUB01	**Friburgo-RJ**	**22.10**	**92**	*e*P	**P**	**18 22 06.6**	**+0.3**
JANB	**Januaria**	**22.18**	**73**	*e*P	**P**	**18 22 06.6**	**-0.5**
SMTB	**Santa Maria do**	**22.73**	**55**	*e*P	**P**	**18 22 11.1**	**-1.0**
CAM01	**Campos-RJ**	**22.79**	**92**	*e*P	**P**	**18 22 12.5**	**-0.1**
PTGA	**Pitinga**	**22.89**	**16**	P	**P**	**18 22 12.4**	**-1.0**
	comp=Z,26nm,0.8s,baz=200,slow=12,SNR=34						
PTGA	**Pitinga**	**22.89**	**16**	*e*P	**P**	**18 22 12.3**	**-1.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,26nm,0.8s						
PTGA	Pitinga	22.89	16	eP	P	18 22 12.3	-1.1
SJMB	Sao Joao De Ma	23.82	85	eP	P	18 22 21.4	-0.5
ALF01	Guarapari-ES	23.84	89	eP	P	18 22 21.4	-0.6
BSFB	Barra de Sao F	24.10	85	eP	P	18 22 24.0	-0.4
RIB01	Linhares ES	24.40	86	eP	P	18 22 26.7	-0.5
OTAV	Otavalo	25.88	331	eP	P	18 22 38.9	-2.1
SDV	Santo Domingo	31.89	352	eP	P	18 23 35.5	+1.8
	comp=Z,12nm,0.4s						
RCBR	Riachuelo	33.86	65	eP	P	18 23 50.1	-0.6
	comp=Z,20nm,0.7s						
RCBR	Riachuelo	33.86	65	eP	P	18 23 50.2	-0.5
APG	El Apazote	44.50	326	P	P	18 25 19.1	+0.5
	comp=Z,6.1nm,0.4s,baz=130,slow=8.5,SNR=13						
LRAL	Lakeview Retre	59.04	340	P	P	18 27 05.4	+0.3
	baz=158						
Z48A	Northport	59.54	339	P	P	18 27 09.0	+0.5
	baz=157						
W53A	Cullowhee	59.94	344	P	P	18 27 12.8	+1.5
	baz=162						
Y47A	UCPARC, Winfie	60.12	339	P	P	18 27 12.9	+0.5
	baz=157						
X48A	Hartselle	60.37	340	eP	P	18 27 14.9	+0.8
	comp=Z,131nm,1.0s						
X48A	Hartselle	60.37	340	P	P	18 27 14.6	+0.5
	baz=158						
W50A	Signal Mountai	60.55	342	P	P	18 27 16.4	+1.1
	baz=160						
TKL	Tuckaleechee C	60.56	344	P	P	18 27 15.3	-0.1
	comp=Z,2.1nm,0.7s,baz=157,slow=7.7,SNR=3.7						
X47A	Russelville	60.68	340	P	P	18 27 16.6	+0.4
	baz=157						
W49A	Belvidere	60.75	341	P	P	18 27 16.8	+0.1
	baz=159						
NATX	Nacogdoches	60.77	332	P	P	18 27 19.0	+2.1
	baz=150						
V50A	Pikevile	60.93	343	P	P	18 27 19.0	+1.1
	baz=160						
W48A	Pulaski	60.97	341	P	P	18 27 18.6	+0.5
	baz=158						
OXF	Oxford	61.19	338	P	P	18 27 19.9	+0.3
	baz=156						
W47A	Westpoint	61.27	340	P	P	18 27 20.1	0.0
	baz=157						
WVT	Waverly	62.16	340	eP	P	18 27 26.1	+0.1
	comp=Z,73nm,0.8s						
WVT	Waverly	62.16	340	P	P	18 27 26.1	+0.1
	baz=157						
TXAR	Lajitas Array	63.19	324	P	P	18 27 34.7	+1.6
	comp=Z,0.2nm,0.4s,baz=151,slow=7.3,SNR=12						
W39A	Magazine	63.41	335	P	P	18 27 36.5	+2.3
	baz=152						
U40A	Yellville	64.07	336	P	P	18 27 39.7	+1.1
	baz=153						
S42A	Caledonia	64.61	339	P	P	18 27 42.0	0.0
	baz=155						
S41A	Jillco Farms,	64.78	338	P	P	18 27 43.7	+0.7
	baz=154						
CCM	Cathedral Cave	65.02	338	P	P	18 27 45.2	+0.6
	baz=154						
R41A	Rosebud	65.29	338	P	P	18 27 47.1	+0.8
	baz=154						
MNTX	Cornudas Mount	65.95	324	P	P	18 27 51.5	+0.7
	baz=140						
MSTX	Muleshoe	66.38	327	P	P	18 27 54.9	+1.4
	baz=143						
LIC	Lamto	66.47	72	eP	P	18 27 53.4	-1.0
	comp=Z,14nm,0.6s						
TIC	Toumodi	66.68	72	eP	P	18 27 54.6	-1.1
KIC	Kosan Boka	66.79	72	eP	P	18 27 55.6	-0.8
	comp=Z,19nm,0.7s						
DBIC	Dimbokro	66.83	72	P	P	18 27 54.4	-2.3
	comp=Z,6.4nm,0.6s,baz=223,slow=7.8,SNR=14						
DBIC	Dimbokro	66.83	72	eP	P	18 27 55.4	-1.3
	comp=Z,8.1nm,0.7s						
DBIC	Dimbokro	66.83	72	eP	P	18 27 56.1	-0.5
ANMO	Albuquerque	69.02	325	P	P	18 28 09.6	-0.5
	comp=Z,1.0nm,0.6s,baz=232,slow=9.7,SNR=4.1						
PV13	Radium Mtn., P	72.70	326	eP	P	18 28 32.8	+0.6
	comp=Z,69nm,0.9s						
N23A	Red Feather La	73.40	330	P	P	18 28 39.2	+2.9
	baz=142						
GMRC	Granite Mounta	74.08	319	P	P	18 28 43.3	+3.2
	baz=133						
SYO	Syowa Base	74.32	159⇓	eP	P	18 28 40.0	-0.8
SYO	Syowa Base	74.32	159⇑	ePcP	PcP	18 28 50.8	-3.5
TOA0	Torodi Ar. Sit	75.56	69	eP	P	18 28 48.4	-0.4
TORD	Torodi Ar. Bea	75.56	69	P	P	18 28 46.6	-2.3
	comp=Z,3.9nm,0.3s,baz=253,slow=5.3,SNR=83						
R11A	Troy Canyon, C	76.50	322	P	P	18 28 56.8	+3.0
	baz=134						
PDAR	Pinedale Array	76.56	329	P	P	18 28 55.1	+0.9
	comp=Z,0.5nm,0.5s,baz=125,slow=7.0,SNR=5.0						
ULM	Lac du Bonnet	77.41	341	P	P	18 28 58.9	+0.5
	comp=Z,1.1nm,0.5s,baz=160,slow=4.9,SNR=6.3						
NVAR	Mina Array Bea	78.11	321	P	P	18 29 03.5	+0.6
	comp=Z,0.9nm,0.9s,baz=164,slow=7.7,SNR=4.4						
HLID	Hailey	79.54	327	P	P	18 29 13.5	+3.1
	baz=136						
BOSA	Boshof	80.64	117	P	P	18 29 16.8	+0.1
	comp=Z,0.9nm,0.4s,baz=278,slow=4.5,SNR=6.7						
BOSA	Boshof	80.64	117	eP	P	18 29 15.7	-1.0
MDT	Midelt	80.81	49	P	P	18 29 17.0	-0.3
	comp=Z,3.2nm,1.0s,baz=268,slow=6.9,SNR=5.2						
MSO	Missoula	81.67	329	P	P	18 29 22.4	+1.0
	baz=136						
ESDC	Sonseca Array	85.16	43	P	P	18 29 39.7	+0.4
	comp=Z,2.9nm,0.8s,baz=244,slow=4.5,SNR=25						
KEST	Kesra	92.23	52	P	P	18 30 13.5	+0.7
	comp=Z,3.6nm,0.9s,baz=281,slow=5.2,SNR=3.5						
YKA	Yellowknife Ar	93.34	340	P	P	18 30 18.7	+1.6
	comp=Z,0.2nm,0.4s,baz=130,slow=4.7,SNR=8.9						
ZALV	Zalesovo Beam	142.13	28	PKhKP	PKPpre	18 36 29.9	
	comp=Z,1.0nm,0.4s,baz=293,slow=3.6,SNR=5.4						
ZALV				PKP	PKiKP	18 36 35.0	-1.1
	comp=Z,1.0nm,0.4s,baz=298,slow=4.3,SNR=5.8						
KSH	Kashi	144.03	54	PKP	PKPdf	18 36 36.8	-0.3
KSH				pPKP	pPKPdf	18 37 39.6	-3.5
KSH				sPKP		18 38 03.1	
KSH				PP	PP	18 39 59.1	+4.9
KSH				PKS	PKSdf	18 40 12.7	-0.1
PALK	Pallekele	144.66	111	PKP	PKPdf	18 36 39.6	+0.8
	comp=Z,4.7nm,0.7s,baz=117,slow=4.5						
MKAR	Makanchi Array	145.27	39	PKPbc	PKPab	18 36 41.0	+1.3
	comp=Z,10.0nm,0.8s,baz=312,slow=3.1,SNR=96						
WMQ	Urumqi	150.09	40	ePKPbc	PKPdf	18 36 46.0	-1.0
WMQ				LR	LR		
	comp=Z,210nm,20.3s						
WMQ				LR	LR		
	comp=Z,250nm,21.9s						
WMQ				LR	LR		
	comp=Z,220nm,23.5s						
SONM	Songino Array	154.45	11	PKPab	PKPab	18 37 18.1	+0.7
	comp=Z,0.3nm,0.4s,baz=318,slow=4.3,SNR=3.8						
MAJO	Matsushiro	154.85	308	eP	PKPdf	18 36 53.2	-1.0
GTA	Gaotai	159.74	33	ePKP	PKPdf	18 37 01.5	+1.2
GTA				PKPab	PKPab	18 37 41.9	+1.4
GTA				pPKP	pPKPdf	18 38 08.3	+1.6
GTA				sPKP		18 38 32.8	
HHC	Hu-ho-hao-te	162.02	5	ePKP	PKPdf	18 37 05.1	+2.4
CMAR	Chiang Mai Arr	165.48	105	PKPab	PKPab	18 38 06.2	-0.1
	comp=Z,0.2nm,0.5s,baz=248,slow=3.8,SNR=4.9						
KMI	Kunming	169.72	75	PKP	PKPdf	18 37 07.4	-2.1
NJ2	Nanjing	169.82	335	ePKP	PKPdf	18 37 08.0	-1.0
GYA	Guiyang	172.68	60	ePKP	PKPdf	18 37 08.4	-2.4
GYA				pPKP	pPKPdf	18 38 14.8	-2.6
GYA				PKPab	PKPab	18 38 39.9	+1.9
GYA				PKS	PKSdf	18 40 40.0	-3.3
GYA				PP	PP	18 42 30.2	+0.2
GYA				AMB	AMB		
	comp=Z,120nm,8.5s						

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*VAO **06** 18:24:40.0±0.3, 16.̊99N×94.̊53W, h10km, mb5.6*

*MOS **06** 18:24:41.5±0.9, 17.̊08N×94.̊90W, h45km, mb5.2/63, Error ellipse: s-maj=7.8km s-min=4.6km az=92.6*

*IDC **06** 18:24:43.5±0.5, 17.̊06N×94.̊87W, h56km±2km, mb4.5/32, mb1 4.7/36, mb1mx4.6/49, mbtmp4.8/36, MS4.1/18, Ms1 4.1/18, ms1mx3.9/27, Error ellipse: s-maj=15.5km s-min=7.4km az=46.0*

*ISCJB **06** 18:24:43.2±0.3, 17.̊08N±0.̊01×94.̊93W±0.̊02, h65km±2km, mb4.9/199, Error ellipse: s-maj=3.0km s-min=2.0km az=142.2*

*NEIC **06** 18:24:44.0±0.0, 16.̊87N×95.̊02W, h55km, mb5.2/169, MD5.0(MEX), After MEX.*

NEIC Felt [III] at Oaxaca. Also felt at Acatzingo, Coatzacoalcos, Coyoacan, Cordoba, Ixtac Zoquitlan, Matias Romero, Mexico, Minatitlan, San Augustin de Las Juntas, San Andres Tuxtla, San Cristobal de Las Casas, San Pedro Pochulta, Santa Ana del Valle, Tuxtla Gutierrez and Valle Nacional.

*BJI **06** 18:24:44.1, 17.̊10N×95.̊00W, h65km, mB5.2/4, Ms5.0/2, Ms7 4.7/2*

*MEX **06** 18:24:45.0±0.8, 16.̊94N×95.̊06W, h54km±6km, MD4.5*

*GCMT **06** 18:24:46.0±0.2, 17.̊22N±0.̊01×94.̊97W±0.̊01, h62km±1km, MW5.3/101, Moment Tensor Solution. s73,c103; s101,c148; Duration: 1.̊1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.12±.02; $M_{\theta\theta}$0.30±.02; $M_{\phi\phi}$-0.41±.03; $M_{r\theta}$-0.16±.02; $M_{\theta\phi}$0.90±.02; $M_{\phi r}$-0.30±.02; Best double couple: $M_0$1.02800×10^{17} NP1:ϕ_s189.00000°, δ82.00000°, λ161.00000°. NP2:ϕ_s282.00000°, δ71.00000°, λ8.00000°. Principal axes: T 1.0080, Plg19.0000°, Azm144.0000°; N 0.0390, Plg69.0000°, Azm349.0000°; P -1.0470, Plg8.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*UCR **06** 18:24:48.0±1.3, 17.̊25N×94.̊23W, h0km±32km, ML4.4, mb5.2(NEIC)*

ISC 06 18:24:43.2±0.4**, 17.̊04N**±0.̊04×**94.̊97W**±0.̊03**, h53**km±3km**, h53km:pP-P, n952, σ1.̊47**/951**, mb5.0**/201**, MS4.2**/20**, 8C-2D, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.10	59	P	Pn	18 24 52.1	+0.7
	5µm,0.3s,baz=250,slow=7.6						
CMIG				S	Sn	18 24 58.4	+1.1
	9µm,0.3s,baz=143,slow=20,SNR=305						
CMIG	Matias Romero	0.10	59	eP	Pn	18 24 52.5	+1.1
CMIG				eS	Sn	18 24 58.7	+1.3
TUIG	Tuzandepetl	1.12	28	i P	Pn	18 25 04.4	+1.8
TUIG				i S	Sn	18 25 19.7	+2.7
HUIG	Huatulco	1.67	221	eP	Pn	18 25 08.5	-1.6
HUIG				i S	Sn	18 25 26.7	-3.8
VHO	Vista Hermosa	1.69	271	eP	Pn	18 25 10.4	-0.1
VHO				eS	Sn	18 25 29.5	-1.6
TGBT	Tuxtla Gutierr	1.82	98	eP	Pn	18 25 14.3	+2.2
PANG	Puerto Angel	1.99	227	eP	Pn	18 25 12.8	-1.6
TPIG	Tehuac#an	2.66	301	eP	Pn	18 25 23.5	-0.3
TPIG				i S	Sn	18 25 54.1	-0.8
CCIG	Comitan	2.82	105	ePn	Pn	18 25 29.4	+3.4
CCIG	Comitan	2.82	105	eP	Pn	18 25 28.1	+2.2
CCIG				i S	Sn	18 25 59.9	+1.1
LVIG	Laguna Verde	3.00	333	ePn	Pn	18 25 25.9	-2.4
PNIG	Pinotepa	3.09	258	eP	Pn	18 25 27.8	-1.8
PNIG				i S	Sn	18 26 02.5	-2.9
THIG		3.36	129	i P	Pn	18 25 34.4	+1.2
THIG				eS	Sn	18 26 12.6	+0.8
TLIG	Tlapa	3.48	279	ePn	Pn	18 25 35.2	+0.2
TLIG	Tlapa	3.48	279	eP	Pn	18 25 35.1	+0.2
TLIG				eS	Sn	18 26 13.1	-1.8
PHPU	Puebla	3.64	304	eP	Pn	18 25 37.8	+0.5
ACP2	Acapulco	4.71	269	i P	Pn	18 25 50.2	-1.6
APG	El Apazote	4.78	114	P	Pn	18 25 53.4	+0.4
	32nm,0.3s,baz=234,slow=22,SNR=113						
APG				S	Sn	18 26 46.8	-0.4
	1µm,0.3s,baz=76,slow=20,SNR=24						
IXG	Ixpaco	5.20	123	eP	Pn	18 26 00.4	+1.7
MRL	Marmol	5.44	110	eP	Pn	18 26 02.4	+0.5
MRL				eS	Sn	18 27 00.9	-2.5
RTR	El Retiro	6.01	121	eP	Pn	18 26 13.0	+3.2
SBLS	San Blas	6.06	121	eP	Pn	18 26 14.4	+3.9
CEVE	Cerro Verde	6.06	121	eP	Pn	18 26 12.8	+2.2
CEVE				eS	Sn	18 27 21.0	+2.2
CEVE				IAML		18 27 48.2	
	comp=Z,2µm,0.6s						
CEDA	San Andres	6.27	120	IAML		18 27 56.8	
	comp=Z,647nm,0.7s						
MYIG	Mrida	6.30	51	ePn	Pn	18 26 13.6	+0.1
BOQS	Boqueron	6.40	120	eP	Pn	18 26 18.2	+3.1
SNET	Serv Nac Est T	6.46	120	eP	Pn	18 26 18.8	+2.9
SNET				IAML		18 28 32.5	
	comp=Z,365nm,0.6s						
LOMA	San Marcos	6.53	120	IAML		18 28 03.8	
	comp=Z,621nm,0.5s						
LBRS	Las Brisas	6.59	119	eP	Pn	18 26 20.7	+3.0
LFRS	El Faro	6.63	120	eP	Pn	18 26 20.5	+2.2
PAVA	Las Pavas	6.69	119	eP	Pn	18 26 21.7	+2.6
PAVA				IAML		18 28 01.6	
	comp=Z,388nm,0.5s						
SNVI	San Vicente	6.83	119	eP	Pn	18 26 24.1	+3.2
TEIG	Tepich	7.09	62	ePn	Pn	18 26 23.9	-0.5
TEIG	Tepich	7.09	62	eP	Pn	18 26 22.7	-1.7
TEIG				eS	Sn	18 27 38.9	-4.8
TEIG				IAML		18 27 40.8	
	comp=Z,1µm,0.8s						
PACA	Pacayal	7.33	118	IAML		18 28 45.5	
	comp=Z,1µm,0.7s						
VSM	San Miguel	7.39	118	eP	Pn	18 26 31.9	+3.1
LCND	La Caada	7.78	118	IAML		18 28 38.0	
	comp=Z,190nm,0.8s						
TGUH	Tegucigalpa,Un	7.99	111	ePn	Pn	18 26 39.3	+2.6
TGUH	Tegucigalpa,Un	7.99	111	eP	Pn	18 26 38.1	+1.4
LNIG	Linares	8.87	333	ePn	Pn	18 26 48.6	-0.3
ZAIG	Zacatecas	9.14	310	ePn	Pn	18 26 54.1	+1.4
ESTN	Estel	9.18	114	ePn	Pn	18 26 55.4	+2.3
ESTN	Estel	9.18	114	eP	Pn	18 26 55.5	+2.3
COPN	Copaltepe	9.44	120	eP	Pn	18 26 59.4	+2.8
MATN	Matagalpa	9.65	114	eP	Pn	18 27 01.6	+2.0
KVTX	Kingsville	10.80	346	Pn	Pn	18 27 15.7	+0.6
	comp=Z,358nm,1.0s						
ESPN	Las Esperanzas	11.39	114	ePn	Pn	18 27 24.6	+1.3
JTS	JuntasAbangare	11.82	123	P	Pn	18 27 30.0	+0.8
	comp=Z,9.5nm,0.3s,baz=350,slow=8.1,SNR=40						
JTS	JuntasAbangare	11.82	123	ePn	Pn	18 27 30.8	+1.6
JTS	JuntasAbangare	11.82	123	eP	Pn	18 27 30.8	+1.6
JTS	JuntasAbangare	11.82	123d	iP	Pn	18 27 30.6	+1.4
833A	Chaparral WMA,	11.95	341	ePn	Pn	18 27 32.3	+1.5
833A	Chaparral WMA,	11.95	341	P	Pn	18 27 31.5	+0.7
	baz=160,SNR=260						
WBCY	West Bay, Gran	13.11	78	ePn	Pn	18 27 46.4	-0.3
WBCY				eSn	Sn	18 30 03.4	-7.5
FSCY	Frank Sound, G	13.30	78	ePn	Pn	18 27 49.2	-0.1
FSCY				eSn	Sn	18 30 11.3	-4.3
435B	Jarrell	13.89	351	ePn	Pn	18 27 57.8	+0.5
435B	Jarrell	13.89	351	P	Pn	18 27 57.2	-0.1
	baz=170,SNR=614						
HPIG		13.97	317	ePn	Pn	18 27 59.5	+1.0
JCT	Junction City	14.09	343	ePn	Pn	18 28 00.2	+0.2
JCT	Junction City	14.09	343	eP	Pn	18 28 00.2	+0.2
JCT	Junction City	14.09	343	P	Pn	18 28 00.4	+0.4
	baz=161,SNR=71						
TXAR	Lajitas Array	14.61	328	P	Pn	18 28 08.1	+1.2
	comp=Z,0.4nm,0.3s,baz=152,slow=13,SNR=42						
TXAR				LR	LR	18 34 06.0	
	comp=Z,354nm,21.1s,baz=0.0,slow=38						
TX31	Lajitas Ar. Si	14.61	328	ePn	Pn	18 28 08.2	+1.2
NATX	Nacogdoches	14.66	1	ePn	Pn	18 28 07.2	-0.2
NATX	Nacogdoches	14.66	1	P	Pn	18 28 07.5	0.0
	baz=181,SNR=44						
WHTX	Lake Whitney,	15.05	352	ePn	Pn	18 28 13.0	+0.4
WHTX	Lake Whitney,	15.05	352	P	Pn	18 28 13.4	+0.7
	baz=171,SNR=639						
346A	Big Creek Wild	15.13	18	ePn	Pn	18 28 12.6	-1.1
	comp=Z,386nm,1.4s						
346A	Big Creek Wild	15.13	18	P	Pn	18 28 13.0	-0.6
	baz=200,SNR=5.9						
448A	Bay Minette	15.27	24	P	Pn	18 28 13.9	-1.6
	baz=206						
449A	Pace	15.38	26	P	Pn	18 28 17.5	+0.7
	baz=209,SNR=6.0						
244A	Avery, Jackson	15.43	14	P	Pn	18 28 17.1	-0.4
	baz=196,SNR=12						
SLBS	Sierra La Lagu	15.51	298	ePn	Pn	18 28 19.0	+0.3
	comp=Z,100nm,1.1s						
059Z	Ave Maria	15.60	51	P	Pn	18 28 17.3	-2.4
	baz=236,SNR=6.4						
245A	Little AP, Sta	15.62	16	P	Pn	18 28 21.3	+1.4
	baz=198						
348A	Jackson	15.69	23	ePn	Pn	18 28 19.4	-1.3
	comp=Z,255nm,1.1s						
348A	Jackson	15.69	23	P	Pn	18 28 19.5	-1.3
	baz=206,SNR=7.5						
450A	Crestview	15.69	28	P	Pn	18 28 21.0	+0.2
	baz=211						
058A	Arcadia	15.74	48	P	Pn	18 28 21.3	-0.3
	baz=233,SNR=13						
061Z	Ochoppi	15.75	54	ePn	Pn	18 28 20.8	-0.8
	comp=Z,683nm,0.8s						
061Z				eSn	Sn	18 31 07.4	-7.9
061Z	Ochoppi	15.75	54	P	Pn	18 28 21.2	-0.4
	baz=238						
349A	Repton	15.90	25	P	Pn	18 28 23.1	-0.5
	baz=208,SNR=30						
451A	Vernon	15.92	30	ePn	Pn	18 28 22.5	-1.3
	comp=Z,242nm,1.4s						
451A	Vernon	15.92	30	P	Pn	18 28 23.1	-0.6
	baz=214						
LPIG	La Paz	15.98	299	P	P	18 28 25.9	-1.3
	baz=4.4,slow=2.6,SNR=17						
247A	Quitman	16.02	20	P	Pn	18 28 24.4	-0.6
	baz=202,SNR=10						
ABTX	Abilene, Hawle	16.08	346	ePn	Pn	18 28 26.1	+0.3
	comp=Z,552nm,0.7s						
ABTX	Abilene, Hawle	16.08	346	P	Pn	18 28 26.1	+0.3
	baz=164,SNR=478						
958A	Wauchula	16.10	47	P	Pn	18 28 26.6	+0.6
	baz=232						
145A	Houston Renfro	16.15	15	P	Pn	18 28 27.3	+0.6
	baz=198						
059A	Moore Haven	16.17	50	P	Pn	18 28 27.6	+0.7
	baz=235,SNR=9.7						
857A	Zephyrhills	16.20	44	P	P	18 28 28.9	-0.8
	baz=229,SNR=11						
553A	Crawfordville	16.25	34	P	Pn	18 28 28.8	+0.9
	baz=218						
Z41A	Richland Creek	16.27	6	ePn	Pn	18 28 27.8	-0.3
	comp=Z,298nm,0.7s						
Z41A	Richland Creek	16.27	6	P	Pn	18 28 29.0	+0.9
	baz=188,SNR=22						
060Z	West Palm Beac	16.30	53	P	Pn	18 28 28.8	+0.2
	baz=238						
350A	Dozier	16.33	27	P	Pn	18 28 29.2	+0.3
	baz=210,SNR=5.9						
248A	Dixon Mills	16.36	22	P	P	18 28 30.7	-0.7
	baz=205,SNR=8.1						
452A	Marianna	16.39	31	P	Pn	18 28 29.0	-0.6
	baz=215						
Z42A	Norrel Spur, H	16.39	9	P	Pn	18 28 30.5	+0.8
	baz=190						
655A	Horseshoe Beac	16.41	39	P	Pn	18 28 30.0	0.0
	baz=223						
146A	Union	16.42	18	ePn	P	18 28 31.3	-0.8
	comp=Z,154nm,1.2s						
146A	Union	16.42	18	P	Pn	18 28 30.4	+0.3
	baz=200,SNR=5.6						
Z43A	Armstrong Fami	16.45	11	P	Pn	18 28 30.6	+0.2
	baz=193						
249A	Camden	16.48	24	P	Pn	18 28 31.1	+0.3
	baz=207,SNR=21						
351A	Pinckard	16.54	29	P	Pn	18 28 31.9	+0.4
	baz=213,SNR=10						
DWPF	Disney Wildern	16.65	46	ePn	Pn	18 28 29.9	-3.0
	comp=Z,1µm,0.8s						
DWPF				eSn	Sn	18 31 26.5	-10
MTDJ	Mount Denham	16.66	83	ePn	P	18 28 34.6	-0.4
	comp=Z,170nm,0.9s						
959A	Okeechobee	16.68	49	P	P	18 28 35.8	+0.8
	baz=234,SNR=7.8						
147A	Livingston	16.70	20	ePn	Pn	18 28 34.4	+0.8
	comp=Z,405nm,1.5s						
147A	Livingston	16.70	20	P	P	18 28 34.8	-0.4
	baz=203,SNR=17						
656A	Willston	16.75	41	P	P	18 28 36.1	+0.4
	baz=225,SNR=5.7						
757A	Oxford	16.76	43	P	P	18 28 35.7	-0.2
	baz=227,SNR=8.4						
858A	St. Cloud	16.76	46	P	P	18 28 37.4	+1.6
	baz=231						
060A	Indiantown	16.79	51	ePn	Pn	18 28 35.3	+0.6
	comp=Z,514nm,0.6s						
060A	Indiantown	16.79	51	P	P	18 28 36.0	-0.1
	baz=236,SNR=5.1						
453A	Whigham	16.83	33	ePn	Pn	18 28 34.5	-0.7
	comp=Z,221nm,0.8s						
453A	Whigham	16.83	33	P	P	18 28 37.1	+0.5
	baz=217,SNR=16						
250A	Grady	16.84	26	ePn	Pn	18 28 34.2	-1.1
	comp=Z,247nm,1.4s						
250A	Grady	16.84	26	P	Pn	18 28 35.7	+0.5
	baz=210,SNR=15						
Y41A	Eaglette Beard	16.90	7	P	P	18 28 37.4	0.0
	baz=188,SNR=33						
148A	Greensboro	16.92	22	P	P	18 28 37.1	-0.4
	baz=205,SNR=12						
Z45A	Winona	16.94	15	ePn	Pn	18 28 37.1	+0.5
	comp=Z,346nm,1.1s						
Z45A	Winona	16.94	15	P	Pn	18 28 37.1	+0.5
	baz=198,SNR=16						
Y42A	Garnett, Star	16.97	9	P	P	18 28 38.9	+0.8
	baz=190,SNR=7.7						
Z46A	Louisville	16.98	18	P	P	18 28 38.3	+0.1
	baz=200,SNR=11						
859A	Kempfer Cattle	16.99	47	P	P	18 28 38.0	-0.3
	baz=232						
352A	Blakely	17.03	31	ePn	Pn	18 28 38.1	+0.4
	comp=Z,266nm,1.1s						
352A	Blakely	17.03	31	P	P	18 28 39.1	+0.3
	baz=214,SNR=16						
555A	McAlpin	17.03	38	ePn	Pn	18 28 36.7	-1.0
	comp=Z,357nm,1.3s						
555A				eSn	Sn	18 31 31.9	-14
555A	McAlpin	17.03	38	P	P	18 28 39.1	+0.3
	baz=222,SNR=12						
CCAR	Cane Creek	17.05	9	ePn	P	18 28 39.7	+0.7
	comp=Z,116nm,0.7s						
454A	Quitman	17.09	35	P	P	18 28 39.7	+0.2
	baz=219,SNR=12						
149A	Jones	17.16	24	P	P	18 28 39.9	-0.4
	baz=207,SNR=31						
Y43A	Makayla and Ka	17.19	11	P	P	18 28 40.7	+0.1
	baz=193						
Z47A	Carrollton	17.25	20	P	P	18 28 41.2	-0.1
	baz=203,SNR=28						
353A	Camilla	17.27	33	P	P	18 28 42.7	+1.2
	baz=217,SNR=21						
556A	Lake Butler	17.28	39	P	P	18 28 42.2	+0.7
	baz=224,SNR=15						
251A	Midway	17.31	28	P	P	18 28 41.8	-0.1
	baz=212,SNR=19						
657A	Interlachen	17.32	42	P	P	18 28 42.6	+0.5
	baz=226,SNR=5.8						
GDL2	Guadalupe Moun	17.33	332	ePn	P	18 28 42.6	+0.3
Y44A	Strider, Charl	17.38	13	P	P	18 28 42.4	-0.3
	baz=195,SNR=22						
MNTX	Cornudas Mount	17.39	329	ePn	Pn	18 28 42.0	-0.2
	comp=Z,77nm,0.8s						
MNTX	Cornudas Mount	17.39	329	P	Pn	18 28 41.9	-0.2
	baz=145,SNR=138						
Y45A	Yeager Farm, C	17.45	15	P	P	18 28 43.9	+0.5
	baz=198,SNR=12						
455A	Stateville	17.45	36	P	P	18 28 44.6	+1.1
	baz=221,SNR=26						
LRAL	Lakeview Retre	17.47	23	ePn	Pn	18 28 43.4	+0.2
	comp=Z,47nm,0.8s						
LRAL	Lakeview Retre	17.47	23	P	P	18 28 43.9	+0.1
	baz=206,SNR=24						
MIAR	Mount Ida	17.48	4	ePn	P	18 28 44.5	+0.7
	comp=Z,181nm,0.8s						
MIAR	Mount Ida	17.48	4	eP	P	18 28 44.5	+0.7
MIAR				pmax	pmax		
	comp=Z,181nm,0.8s						
MIAR	Mount Ida	17.48	4	P	P	18 28 45.4	+1.7
	baz=184,SNR=137						
X40A	Basin Creek Fa	17.48	6	ePn	P	18 28 43.6	-0.2
	comp=Z,74nm,0.9s						
X40A	Basin Creek Fa	17.48	6	P	P	18 28 45.6	+1.8
	baz=187,SNR=26						
150A	Eclectic	17.48	26	P	P	18 28 43.6	-0.3
	baz=210,SNR=31						
X41A	Kaden, Bauxite	17.52	7	P	P	18 28 46.7	+2.4
	baz=188,SNR=40						
252A	Lumpkin	17.54	30	P	P	18 28 44.9	+0.3
	baz=214,SNR=33						
Z48A	Northport	17.58	21	P	P	18 28 45.3	+0.4
	baz=204,SNR=12						
658A	Bunnell	17.60	43	ePn	Pn	18 28 44.4	-0.3
	comp=Z,110nm,0.6s						
658A	Bunnell	17.60	43	P	P	18 28 45.6	+0.4
	baz=228						
Y46A	Houston	17.65	17	P	P	18 28 45.5	-0.1
	baz=200,SNR=49						
TIGA	Tifton	17.68	34	ePn	Pn	18 28 45.5	-0.2

comp=Z,131nm,0.8s
TIGA Tifton 17.68 34 P P 18 28 45.9 -0.1
baz=218,SNR=18
X42A Stuttgart 17.70 9 P P 18 28 47.3 +1.2
baz=191
557A Orange Park 17.70 41 P Pn 18 28 45.9 -0.1
baz=226,SNR=8.2
151A Opelika 17.71 28 P P 18 28 47.2 +0.8
baz=212,SNR=22
X43A Marvell 17.79 11 ePn P 18 28 47.9 +0.8
comp=Z,237nm,0.8s
X43A Marvell 17.79 11 P P 18 28 49.1 +2.0
baz=193,SNR=17
Z49A Columbiana 17.79 24 P P 18 28 48.0 +0.7
baz=207,SNR=46
UALR University of 17.82 7 ePn P 18 28 48.9 +1.4
comp=Z,101nm,0.8s
253A Americus 17.89 31 P P 18 28 49.4 +1.0
baz=216,SNR=5.8
X44A Crenshaw 17.92 13 P P 18 28 49.0 +0.4
baz=195,SNR=6.9
WMOK Wichita Mounta 17.95 350 eP P 18 28 48.8 -0.2
comp=Z,277nm,0.9s
WMOK Wichita Mounta 17.95 350 eP P 18 28 48.8 -0.2
WMOK pmax pmax
comp=Z,277nm,0.9s
WMOK Wichita Mounta 17.95 350 P Pn 18 28 50.4 +1.4
baz=168,SNR=60
Y47A UCPARC, Winfie 17.97 20 P Pn 18 28 50.1 +0.8
baz=202,SNR=33
355A Pearson 18.00 36 P Pn 18 28 51.3 +1.6
baz=220,SNR=7.2
EPT El Paso 18.02 327 eP Pn 18 28 50.4 +0.4
comp=Z,138nm,1.4s
X45A UM Field Stati 18.02 15 P Pn 18 28 51.7 +1.9
baz=197,SNR=24
456A Hilliard 18.02 39 P Pn 18 28 51.0 +1.0
baz=224
OXF Oxford 18.10 15 eP Pn 18 28 51.4 +0.6
comp=Z,238nm,1.3s
OXF Oxford 18.10 15 eP Pn 18 28 51.4 +0.6
OXF pmax pmax
comp=Z,238nm,1.3s
OXF Oxford 18.10 15 P Pn 18 28 52.6 +1.8
baz=197,SNR=30
152A Waverly Hall 18.11 29 P Pn 18 28 52.5 +1.6
baz=213,SNR=14
W39A Magazine 18.11 3 P Pn 18 28 52.9 +1.9
baz=184,SNR=133
PAYG Puerto Ayora 18.20 165 eP Pn 18 28 53.0 +0.8
comp=Z,86nm,1.0s
Y48A Jasper 18.20 21 P Pn 18 28 53.8 +1.7
baz=204,SNR=38
W41B Gary Mavity, V 18.22 7 eP Pn 18 28 53.6 +1.4
comp=Z,124nm,0.8s
W41B Gary Mavity, V 18.22 7 P Pn 18 28 55.2 +2.9
baz=188,SNR=79
254A Abbeville 18.23 33 P Pn 18 28 54.2 +1.8
baz=218,SNR=35
457A Yulee 18.23 40 P Pn 18 28 53.5 +1.0
baz=225
MSTX Muleshoe 18.26 339 eP P 18 28 52.6 +0.1
comp=Z,244nm,1.1s
MSTX Muleshoe 18.26 339 P Pn 18 28 53.0 +0.1
baz=156,SNR=88
WHAR Wooly Hollow 18.33 7 eP Pn 18 28 55.1 +1.4
comp=Z,177nm,0.9s
X46A Booneville 18.36 17 P Pn 18 28 56.2 +2.3
baz=200,SNR=14
W43A Forest City 18.37 11 P Pn 18 28 56.5 +2.4
baz=193
356A Blackshear 18.40 37 P Pn 18 28 55.6 +1.1
baz=222,SNR=6.3
W42A Bald Knob 18.42 9 P Pn 18 28 56.3 +1.7
baz=190
Y49A Blount Mountai 18.43 23 eP Pn 18 28 55.4 +0.5
comp=Z,51nm,0.8s
Y49A Blount Mountai 18.43 23 P Pn 18 28 55.6 +0.8
baz=207,SNR=17
Z51A Franklin 18.45 27 P Pn 18 28 55.8 +0.6
baz=211
153A Fort Valley 18.52 31 P Pn 18 28 56.6 +0.7
baz=215
X47A Russelville 18.53 19 P Pn 18 28 57.3 +1.2
baz=202,SNR=19
W44A Shelby Farms P 18.60 13 P Pn 18 28 58.3 +1.4
baz=196
255A Hazlehurst 18.65 35 eP P 18 28 57.1 +0.3
comp=Z,156nm,0.9s
255A Hazlehurst 18.65 35 P Pn 18 28 57.8 +0.3
baz=220,SNR=19
Z52A Williamson 18.68 29 P Pn 18 28 58.8 +0.9
baz=213,SNR=16
Y50A Piedmont 18.72 25 P Pn 18 28 59.4 +1.1
baz=208,SNR=40
X48A Hartselle 18.74 21 eP Pn 18 28 58.0 -0.5
comp=Z,131nm,1.0s
X48A Hartselle 18.74 21 P Pn 18 28 59.4 +0.9
baz=204,SNR=39
AMTX Amarillo 18.75 343 eP P 18 28 58.2 +0.3
comp=Z,231nm,0.9s
AMTX Amarillo 18.75 343 P Pn 18 28 59.6 +0.8
baz=160
W45A Hickory Valley 18.77 15 P Pn 18 29 00.4 +1.5
baz=197,SNR=15
TUL1 Leonard 18.81 358 eP Pn 18 28 58.9 -0.5
comp=Z,243nm,0.8s
TUL1 Leonard 18.81 358 P Pn 18 28 59.8 +0.4
baz=178,SNR=56
V41A Mountainview 18.84 7 P Pn 18 29 00.3 +0.6
baz=188,SNR=129
357A Townsend 18.85 38 P Pn 18 29 00.9 +1.0
baz=223
154A Montrose 18.85 32 P Pn 18 29 00.7 +0.8
baz=217,SNR=17
PLAL Pickwick Lake 18.90 18 eP P 18 28 59.6 +0.2
comp=Z,140nm,1.4s
HSIG 18.91 312 eP Pn 18 29 00.9 +0.3
comp=Z,203nm,1.3s
W46A Michie 18.95 17 P Pn 18 29 02.7 +1.6
baz=200,SNR=14
V42A Cord 18.96 9 P Pn 18 29 01.9 +0.7
baz=191,SNR=60
Y51A Rockmart 19.00 26 P Pn 18 29 02.6 +0.9
baz=210,SNR=27
256A Glennville 19.02 36 P Pn 18 29 02.6 +0.6
baz=221,SNR=7.6
X49A Woodville 19.04 22 P Pn 18 29 03.2 +1.0
baz=206,SNR=54
GTBY Guantanamo Bay 19.05 78 eP P 18 29 00.9 -0.3
comp=Z,146nm,0.7s
V43A Jonesboro 19.08 11 P Pn 18 29 02.8 +0.2
baz=193
Z53A Monticello 19.16 30 P Pn 18 29 03.3 -0.2
baz=215,SNR=29
155A Kite 19.19 34 P Pn 18 29 03.9 -0.1
baz=219,SNR=24
X50B Fort Payne 19.25 24 P Pn 18 29 06.5 +1.7
baz=208,SNR=10
121A Cookes Peak, D 19.29 325 P Pn 18 29 05.8 +0.4
baz=141,SNR=150
W47A Westpoint 19.29 19 P Pn 18 29 06.1 +1.0
baz=202,SNR=27
319A Douglas 19.31 320 eP Pn 18 29 05.8 +0.2
comp=Z,458nm,1.1s
GOGA Godfrey 19.31 30 eP P 18 29 04.3 +0.4
comp=Z,63nm,0.6s
GOGA Godfrey 19.31 30 eP P 18 29 04.3 +0.4
GOGA pmax pmax
comp=Z,63nm,0.6s
GOGA Godfrey 19.31 30 P Pn 18 29 05.6 +0.2
baz=215,SNR=28
U40A Yellville 19.33 5 P Pn 18 29 05.1 -0.5
baz=186,SNR=28
V45A Humboldt 19.38 15 P Pn 18 29 07.2 +1.1
baz=198,SNR=7.5
W48A Pulaski 19.40 20 P Pn 18 29 07.2 +0.7
baz=204,SNR=22
Y52A Lilburn 19.41 28 eP P 18 29 05.5 +0.5
comp=Z,87nm,1.0s
Y52A Lilburn 19.41 28 P Pn 18 29 06.4 -0.2
baz=213,SNR=31
U41A Viola 19.42 7 P P 18 29 05.3 +0.2
baz=189,SNR=41
Z54A Sparta 19.48 32 P P 18 29 06.5 +0.8
baz=217,SNR=36
257A Skidaway Islan 19.51 38 P Pn 18 29 08.4 +0.6
baz=223
U42A Revenden 19.52 9 P Pn 18 29 09.0 +1.2
baz=191,SNR=27
W49A Belvidere 19.61 22 P Pn 18 29 09.8 +0.8
baz=205,SNR=17
Y53A Monroe 19.62 29 P Pn 18 29 09.5 +0.4
baz=214,SNR=34
V46A Holladay 19.65 17 P Pn 18 29 08.8 -0.6
baz=200,SNR=55
X51A Calhoun 19.66 26 P Pn 18 29 09.7 +0.2
baz=210,SNR=17
U43A Rector 19.67 11 P Pn 18 29 09.7 0.0
baz=193,SNR=27
156A Sylvania 19.75 36 P Pn 18 29 12.0 +1.4
baz=221,SNR=7.8
SWET Sewanee 19.82 22 eP P 18 29 09.1 -0.3
comp=Z,107nm,1.3s
Z55A Blythe 19.83 33 P P 18 29 10.3 +0.7
baz=218,SNR=9.9
V47A Nunnelly 19.85 18 P Pn 18 29 11.5 -0.3
baz=201,SNR=55
U44B Burton Farm, H 19.86 13 P Pn 18 29 11.6 -0.3
baz=196
U44A Portageville 19.95 13 P Pn 18 29 12.3 -0.6
baz=195
V48A Smith Brothers 19.99 20 eP P 18 29 11.2 -0.1
comp=Z,96nm,1.0s
V48A Smith Brothers 19.99 20 P P 18 29 11.2 -0.1
baz=203,SNR=26
BNM Barren Site 19.99 331 eP Pn 18 29 12.9 -0.8
U45A Rockin P Farm, 20.00 15 P Pn 18 29 14.1 +0.6
baz=198
W50A Signal Mountai 20.03 24 eP P 18 29 11.3 -0.5
comp=Z,63nm,0.7s
W50A Signal Mountai 20.03 24 P P 18 29 11.1 -0.8
baz=208,SNR=34
WVT Waverly 20.04 17 eP P 18 29 11.8 -0.1
comp=Z,73nm,0.8s
WVT Waverly 20.04 17 eP P 18 29 11.8 -0.1
WVT pmax pmax
comp=Z,73nm,0.8s
WVT Waverly 20.04 17 P P 18 29 11.8 -0.1
baz=200
Y54A Tignall 20.06 31 P P 18 29 10.8 -1.2
baz=216,SNR=26
Y22D IRIS PASSCAL I 20.07 330 P Pn 18 29 14.4 -0.1
baz=145
X52A Dahlonega 20.10 27 P P 18 29 12.5 -0.1
baz=212,SNR=20
LPM Los Pinos Moun 20.13 331 eP Pn 18 29 14.9 -0.3
T41A Mountain View 20.13 7 P P 18 29 13.5 +0.7
baz=189,SNR=28
U46A Springville 20.16 16 P P 18 29 13.0 -0.1
baz=199,SNR=10
LENM Lemitar 20.17 330 eP Pn 18 29 14.8 -0.9
T42A Van Buren 20.20 9 eP P 18 29 13.9 +0.3
comp=Z,76nm,0.6s
T42A Van Buren 20.20 9 P P 18 29 13.7 +0.1
baz=191,SNR=31
W51A Cleveland 20.22 25 P P 18 29 14.8 +1.1
baz=209,SNR=14
X53A Estanollee 20.29 29 P P 18 29 14.4 -0.2
baz=214,SNR=18
V49A McMinnville 20.32 22 P P 18 29 14.3 -0.6
baz=206,SNR=39
T43A Greenville 20.39 11 P P 18 29 15.8 +0.2
baz=193,SNR=33
LAZ Ladron 20.44 330 eP Pn 18 29 17.6 -1.3
U47A Clarksville 20.49 18 P Pn 18 29 18.9 -0.4
baz=201,SNR=15
SJCC San Jacinto, C 20.50 108 eP P 18 29 15.9 -1.2
SJCC San Jacinto, C 20.50 108 eP P 18 29 15.9 -1.2
W52A Murphy 20.50 27 P P 18 29 17.5 +0.6
baz=211,SNR=10
MOTC Monteria, Cord 20.52 111 eP P 18 29 14.9 -2.3
MOTC Monteria, Cord 20.52 111 eP P 18 29 14.9 -2.3
T44A Benton 20.52 12 P Pn 18 29 18.5 -1.2
baz=195,SNR=6.0
V50A Pikevile 20.53 23 P P 18 29 17.2 0.0
baz=208,SNR=20
HODGE Hodges 20.57 31 eP P 18 29 17.7 +0.1
comp=Z,151nm,1.1s
ANMO Albuquerque 20.57 332 P P 18 29 18.8 +0.9
comp=Z,42nm,0.8s,baz=148,slow=12,SNR=85
ANMO Albuquerque 20.57 332 eP P 18 29 18.7 +0.9
comp=Z,55nm,0.9s
ANMO Albuquerque 20.57 332 ceP P 18 29 18.5 +0.6
ANMO pmax pmax
comp=Z,58nm,0.8s
ANMO Albuquerque 20.57 332 P P 18 29 18.5 +0.6
baz=148
S41A Jillco Farms, 20.66 7 P P 18 29 19.3 +0.7
baz=189,SNR=65
T45A Paducah 20.67 14 P Pn 18 29 20.4 -1.0
baz=197
U48A Cassie Pea, Po 20.78 19 P Pn 18 29 21.7 -1.0
baz=203,SNR=18
NHSC New Hope 20.83 37 eP P 18 29 20.7 +0.4
comp=Z,916nm,1.2s
NHSC New Hope 20.83 37 P P 18 29 20.8 +0.4
baz=223,SNR=51
DBBC Dabeiba 20.86 116 eP P 18 29 20.1 -0.9
DBBC Dabeiba 20.86 116 eP P 18 29 20.1 -0.9
TUC Tucson 20.88 320 eP Pn 18 29 22.6 -1.4
comp=Z,224nm,1.0s
TUC Tucson 20.88 320 eP Pn 18 29 22.6 -1.5
TUC pmax pmax
comp=Z,224nm,1.0s
TUC Tucson 20.88 320 P P 18 29 22.4 +1.4
baz=134
T46A Princeton 20.88 16 P Pn 18 29 22.8 -1.2
baz=199,SNR=16
S43A Fulton Ridge, 20.90 11 P P 18 29 20.8 -0.4
baz=193,SNR=39
W53A Cullowhee 20.90 28 P P 18 29 21.3 0.0
baz=213,SNR=17
V51A Loudon 20.94 25 eP P 18 29 20.8 -0.8
comp=Z,60nm,0.6s
V51A Loudon 20.94 25 P P 18 29 20.6 -0.9
baz=209,SNR=29
SMRC Santa Marta, M 20.94 103 eP P 18 29 20.8 -1.0
SMRC Santa Marta, M 20.94 103 eP P 18 29 20.8 -1.0
S42A Caledonia 20.98 9 P P 18 29 21.6 -0.3
baz=191,SNR=34
U49A Red Boiling Sp 21.04 21 P P 18 29 21.6 -1.0
baz=205,SNR=66
T47A Sharon Grove 21.05 18 eP P 18 29 24.8 +2.1
comp=Z,56nm,0.6s
T47A Sharon Grove 21.05 18 P P 18 29 24.4 +1.7
baz=201,SNR=9.6
TKL Tuckaleechee C 21.05 26 P P 18 29 22.9 +0.1
comp=Z,42nm,0.9s,baz=191,slow=11,SNR=44
TKL Tuckaleechee C 21.05 26 eP P 18 29 23.3 +0.5
comp=Z,68nm,1.0s
TKL Tuckaleechee C 21.05 26 eP P 18 29 23.3 +0.5
TKL pmax pmax
comp=Z,69nm,1.0s
UREC San Jos de Ur 21.09 114 eP P 18 29 20.5 -2.9
UREC San Jos de Ur 21.09 114 eP P 18 29 20.5 -2.9
JSC Jenkinsville 21.11 33 eP P 18 29 23.5 0.0
comp=Z,132nm,0.9s
JSC Jenkinsville 21.11 33 eP P 18 29 23.5 0.0
JSC pmax pmax
comp=Z,132nm,0.9s
S44A Carbondale 21.18 13 P P 18 29 23.9 -0.2
baz=195,SNR=16
CCM Cathedral Cave 21.19 8 eP P 18 29 24.2 0.0
comp=Z,71nm,0.8s
CCM Cathedral Cave 21.19 8 eP P 18 29 24.2 0.0
CCM pmax pmax
comp=Z,71nm,0.8s
CCM Cathedral Cave 21.19 8 P P 18 29 23.8 -0.5
baz=190
V52A Sevierville 21.28 26 eP P 18 29 25.4 +0.1
comp=Z,68nm,1.1s
V52A Sevierville 21.28 26 P P 18 29 25.2 -0.1
baz=211,SNR=29
U50A Jamestown 21.29 23 P P 18 29 24.6 -0.7
baz=207,SNR=28
S45A Carrier Mills 21.31 14 P P 18 29 25.3 -0.2
baz=197,SNR=24
T48A Bowling Green 21.38 19 P P 18 29 27.4 +1.2
baz=203,SNR=16
R41A Rosebud 21.41 8 P P 18 29 27.3 +0.7
baz=190,SNR=22
R42A Luebbering 21.48 9 P P 18 29 26.6 -0.7
baz=191,SNR=17
V53A Saluda 21.48 28 eP P 18 29 27.8 +0.4
comp=Z,84nm,1.1s
V53A Saluda 21.48 28 P P 18 29 27.6 +0.2
baz=213,SNR=24
S46A Don Dixon Farm 21.53 16 P P 18 29 28.2 +0.3
baz=199,SNR=16
U51A La Follette 21.57 25 P P 18 29 29.3 +0.9
baz=209,SNR=36
MALC Bahia Malaga 21.61 125 eP P 18 29 29.4 +0.5
MALC Bahia Malaga 21.61 125 eP P 18 29 29.4 +0.5
GRGC Isla de Gorgon 21.61 128 eP P 18 29 30.1 +1.2
GRGC Isla de Gorgon 21.61 128 eP P 18 29 30.1 +1.2
R43A Red Bud 21.61 11 P P 18 29 30.2 +1.5
baz=193,SNR=53
T49A Edmonton 21.66 21 P P 18 29 29.4 +0.2
baz=205,SNR=34
S47A Hartford 21.68 18 P P 18 29 29.0 -0.5
baz=201,SNR=31
T25A Trinidad 21.69 339 eP P 18 29 31.4 +1.6
comp=Z,234nm,1.3s
T25A Trinidad 21.69 339 P P 18 29 31.3 +1.5
baz=155,SNR=67
KMSC Kings Mountain 21.75 31 eP P 18 29 30.4 +0.1
comp=Z,138nm,1.0s
KMSC Kings Mountain 21.75 31 P P 18 29 30.2 -0.1
baz=217,SNR=49
ZARC Zaragoza, Cauc 21.80 113 eP P 18 29 27.4 -3.7
ZARC Zaragoza, Cauc 21.80 113 eP P 18 29 27.4 -3.7
T50A Nancy 21.82 22 P P 18 29 31.5 +0.5
baz=207,SNR=24
U52A Thorn Hill 21.85 26 P P 18 29 30.3 -1.1
baz=211,SNR=23
HELC Santa Helena 21.86 117 eP P 18 29 29.9 -2.0
HELC Santa Helena 21.86 117 eP P 18 29 29.9 -2.0
TZTN Tazewell 21.90 25 eP P 18 29 31.4 -0.5
comp=Z,38nm,0.8s
TZTN Tazewell 21.90 25 P P 18 29 31.2 -0.8
baz=210,SNR=14
214A Organ Pipe Nat 21.95 316 P P 18 29 32.9 +0.3
baz=129,SNR=34
R45A Skylar, Fairfi 21.97 14 P P 18 29 33.0 +0.4
baz=197,SNR=11
S48A Wiedeman Farm, 21.99 19 P P 18 29 31.4 -1.4
baz=203,SNR=37
TUMC Tumaco 22.00 132 eP P 18 29 35.3 +2.2
TUMC Tumaco 22.00 132 eP P 18 29 35.3 +2.2
KSU1 Kansas State U 22.03 357 eP P 18 29 32.4 -0.8
comp=Z,121nm,0.8s
KSU1 Kansas State U 22.03 357 P P 18 29 32.7 -0.5
baz=176,SNR=12
Q41A Truxton 22.08 8 P P 18 29 33.4 -0.3
baz=190,SNR=20
R46A Gibon Southern 22.09 16 P P 18 29 34.2 +0.4
baz=199,SNR=6.9
CBKS Cedar Bluff 22.09 350 eP P 18 29 34.1 +0.2
comp=Z,165nm,1.0s
CBKS Cedar Bluff 22.09 350 eP P 18 29 34.1 +0.2
CBKS pmax pmax
comp=Z,165nm,1.0s
CBKS Cedar Bluff 22.09 350 P P 18 29 35.5 +1.6
baz=168,SNR=15
T51A Gray 22.11 24 P P 18 29 33.8 -0.3
baz=209,SNR=17
Q42A Golden Eagle 22.13 9 P P 18 29 34.4 +0.1
baz=191,SNR=19
U53A Fall Branch 22.16 27 P P 18 29 34.4 -0.4
baz=213,SNR=11
Q43A New Douglas 22.30 11 P P 18 29 35.7 -0.4
baz=193,SNR=15
W18A Petrified Fore 22.31 327 P P 18 29 37.3 +0.8
baz=140
S49A Springfield 22.35 21 P P 18 29 35.7 -1.0
baz=205,SNR=32
Q44A Meyer Farm, Va 22.39 12 P P 18 29 37.1 -0.1
baz=195,SNR=14
YOTC Yotoco, Valle 22.41 123 eP P 18 29 36.6 -1.1
YOTC Yotoco, Valle 22.41 123 eP P 18 29 36.6 -1.1
R47A Wooly Knot Far 22.43 18 P P 18 29 37.4 -0.2
baz=202,SNR=33
WCI Wyandotte Cave 22.44 18 eP P 18 29 36.8 -0.9
comp=Z,118nm,0.8s
WCI Wyandotte Cave 22.44 18 eP P 18 29 36.8 -0.9
WCI pmax pmax
comp=Z,118nm,0.8s
S50A Richmond 22.57 22 P P 18 29 38.2 -0.8
baz=207,SNR=15
Q45A Warren Harvey, 22.57 14 P P 18 29 38.7 -0.4
baz=197,SNR=44
SDDR Presa de Saban 22.60 81 P P 18 29 39.6 0.0
comp=Z,66nm,0.9s
PTBC PUERTO BERRIO, 22.60 115 eP P 18 29 37.5 -2.2
PTBC PUERTO BERRIO, 22.60 115 eP P 18 29 37.5 -2.2
SDCO Great Sand Dun 22.61 338 eP P 18 29 40.5 +0.7
comp=Z,48nm,1.1s
T52A Hallie 22.62 26 P P 18 29 38.8 -0.8
baz=211,SNR=14
RREF El Recreo 22.70 120 eP P 18 29 40.7 -0.6
RREF El Recreo 22.70 120 eP P 18 29 40.7 -0.6
R48A Northridge Ran 22.73 19 P P 18 29 40.5 -0.2
baz=203,SNR=34
X16A Lo Mia Camp, P 22.74 323 eP P 18 29 42.2 +1.1
comp=Z,49nm,0.8s
NORC Norcasia 22.74 118 eP P 18 29 40.0 -1.2
NORC Norcasia 22.74 118 eP P 18 29 40.0 -1.2
P42A Winchester 22.82 9 eP P 18 29 40.9 -0.8
comp=Z,66nm,0.8s
P42A Winchester 22.82 9 P P 18 29 40.8 -0.8
baz=192,SNR=24
S51A Beattyville 22.83 24 eP P 18 29 40.5 -1.4
comp=Z,62nm,1.0s
S51A Beattyville 22.83 24 P P 18 29 40.4 -1.4
baz=209,SNR=16
R49A Shelbyville 22.85 20 P P 18 29 41.4 -0.6
baz=205,SNR=25
ANIL Santa Ana 22.88 121 eP P 18 29 42.2 -0.6
ANIL Santa Ana 22.88 121 eP P 18 29 42.2 -0.6
KSCO Kaye Shedlock' 22.89 345 eP P 18 29 43.5 +0.9
comp=Z,73nm,0.8s
TOLC Tolima 22.89 121 eP P 18 29 43.2 +0.2
TOLC Tolima 22.89 121 eP P 18 29 43.2 +0.2
P43A Skaggs, Pawnee 23.01 11 P P 18 29 43.7 +0.1
baz=193,SNR=13
POPC Popayan, Colom 23.04 127 eP P 18 29 45.4 +1.0
POPC Popayan, Colom 23.04 127 eP P 18 29 45.4 +1.0
Q47A Bedord North L 23.06 17 P P 18 29 43.7 -0.4
baz=201,SNR=14
S22A 4UR Ranch, Cre 23.12 335 eP P 18 29 46.4 +1.3
comp=Z,34nm,1.0s
S22A 4UR Ranch, Cre 23.12 335 P P 18 29 45.4 +0.4
baz=150,SNR=22
R50A Paris 23.13 22 P P 18 29 43.5 -1.3
baz=207,SNR=15
BLO Bloomington 23.25 17 eP P 18 29 45.4 -0.6
comp=Z,58nm,0.8s
BLO Bloomington 23.25 17 eP P 18 29 45.4 -0.6
BLO pmax pmax
comp=Z,58nm,0.8s
CMBC Cumbal 23.25 132 eP P 18 29 49.3 +2.6
CMBC Cumbal 23.25 132 eP P 18 29 49.3 +2.6
Q48A North Vernon 23.25 18 P P 18 29 45.3 -0.6
baz=203,SNR=14
O41A Wesleys Farm, 23.27 8 P P 18 29 45.1 -0.9
baz=190,SNR=22
P45A Graceland, Par 23.27 14 P P 18 29 45.3 -0.9
baz=198
OTAV Otavalo 23.31 134 eP P 18 29 49.4 +2.1
comp=Z,235nm,1.3s
OTAV Otavalo 23.31 134 eP P 18 29 49.4 +2.1
OTAV Otavalo 23.31 134 eP P 18 29 49.4 +2.1
SOTA Rioblanco 23.35 127 eP P 18 29 49.3 +1.6
SOTA Rioblanco 23.35 127 eP P 18 29 49.3 +1.6
MVCO Mesa Verde 23.37 332 eP P 18 29 48.0 +0.6
comp=Z,20nm,0.8s
MVCO Mesa Verde 23.37 332 P P 18 29 47.9 +0.5
baz=146,SNR=48
PCON Cinco Dias 23.39 127 eP P 18 29 50.3 +2.2
PCON Cinco Dias 23.39 127 eP P 18 29 50.3 +2.2
GCUF Volcan Galeras 23.41 130 eP P 18 29 50.6 +2.4
GCUF Volcan Galeras 23.41 130 eP P 18 29 50.6 +2.4
MARP Paez Belalcaza 23.41 125 eP P 18 29 49.4 +1.4
MARP Paez Belalcaza 23.41 125 eP P 18 29 49.4 +1.4
R51A Hillsboro 23.42 23 P P 18 29 46.2 -1.3
baz=208,SNR=18
O42A Bath 23.46 9 P P 18 29 46.6 -1.3
baz=192,SNR=8.4
CRUC La Cruz 23.46 129 eP P 18 29 50.6 +2.0
CRUC La Cruz 23.46 129 eP P 18 29 50.6 +2.0

P46A **Rosedale** 23.49 15 P P 18 29 47.5 -0.7
baz=199,SNR=15
WUAZ **Wupatki** 23.49 325 eP P 18 29 50.1 +1.6
comp=Z,90nm,0.9s
WUAZ **Wupatki** 23.49 325 P P 18 29 49.5 +1.0
baz=138,SNR=47
Q24A **Divide** 23.59 340 P P 18 29 50.6 +1.1
baz=155,SNR=9.8
Q49A **Aurora** 23.59 20 P P 18 29 47.6 -1.5
baz=205,SNR=24
ROSC **El Rosal** 23.59 119 P P 18 29 49.5 -0.3
comp=Z,30nm,1.0s,baz=113,slow=16,SNR=14
ROSC LR LR 18 40 19.9
comp=Z,333nm,18.4s,baz=336,slow=40
ROSC **El Rosal** 23.59 119 eP P 18 29 51.9 +2.1
comp=Z,38nm,1.0s
ROSC **El Rosal** 23.59 119 eP P 18 29 52.1 +2.3
ROSC **El Rosal** 23.59 119 eP P 18 29 52.1 +2.3
P47A **Martinsville** 23.61 17 P P 18 29 48.6 -0.8
baz=201,SNR=20
BARC **Barichara** 23.69 113 eP P 18 29 49.1 -1.5
BARC **Barichara** 23.69 113 eP P 18 29 49.1 -1.5
O44A **Mansfield** 23.71 12 P P 18 29 49.2 -1.1
baz=196,SNR=9.0
Q50A **Georgetown** 23.75 22 P P 18 29 49.5 -1.1
baz=207
R52A **Catlettsburg** 23.81 25 P P 18 29 50.4 -0.8
baz=210,SNR=6.5
P48A **Milroy** 23.84 19 P P 18 29 49.8 -1.6
baz=203,SNR=20
BLA **Blacksburg** 23.84 30 eP P 18 29 50.5 -1.1
BLA **Blacksburg** 23.84 30 eP P 18 29 50.5 -1.1
BLA **Blacksburg** 23.84 30 P P 18 29 50.3 -1.3
baz=216,SNR=21
N41A **Harden Midland** 23.85 8 eP P 18 29 50.6 -1.0
comp=Z,69nm,0.6s
N41A **Harden Midland** 23.85 8 P P 18 29 50.5 -1.0
baz=190,SNR=18
BETC **Betania** 23.91 125 eP P 18 29 55.0 +2.6
BETC **Betania** 23.91 125 eP P 18 29 55.0 +2.6
N40A **Mertquake, Sal** 23.94 6 P P 18 29 52.0 -0.3
baz=188,SNR=11
HDIL **Hopedale** 23.94 11 eP P 18 29 51.7 -0.7
comp=Z,51nm,0.8s
HDIL **Hopedale** 23.94 11 P P 18 29 51.3 -1.0
baz=194,SNR=9.2
O45A **Potomac** 23.96 14 P P 18 29 52.1 -0.5
baz=197,SNR=17
GLA **Glamis** 23.97 315 eP P 18 29 54.2 +1.4
comp=Z,124nm,1.3s
GLA **Glamis** 23.97 315 eP P 18 29 54.2 +1.4
GLA pmax pmax
comp=Z,124nm,1.3s
GLA **Glamis** 23.97 315 P P 18 29 54.0 +1.2
baz=127,SNR=13
N42A **Yates City** 24.09 9 P P 18 29 52.7 -1.0
baz=192,SNR=6.0
RUSC **La Rusia** 24.11 115 eP P 18 29 52.8 -1.9
RUSC **La Rusia** 24.11 115 eP P 18 29 52.8 -1.9
P49A **Miami Univ. Ec** 24.12 20 P P 18 29 52.4 -1.7
baz=204,SNR=12
Q51A **Peebles** 24.14 23 eP P 18 29 52.6 -1.7
comp=Z,73nm,1.1s
Q51A **Peebles** 24.14 23 P P 18 29 52.6 -1.7
baz=208,SNR=11
PV01 **Paradox Valley** 24.17 333 eP P 18 29 56.4 +1.6
CHIC **Chingaza** 24.20 118 eP P 18 29 55.0 -0.4
CHIC **Chingaza** 24.20 118 eP P 18 29 55.0 -0.4
Y12C **Blythe** 24.20 317 eP P 18 29 56.6 +1.8
comp=Z,16nm,0.9s
Y12C **Blythe** 24.20 317 P P 18 29 56.0 +1.2
baz=129,SNR=8.7
SFIN **Lafayette** 24.24 15 eP P 18 29 53.9 -1.2
comp=Z,118nm,1.0s
SFIN **Lafayette** 24.24 15 P P 18 29 53.8 -1.2
baz=199
PV13 **Radium Mtn., P** 24.30 333 eP P 18 29 57.5 +1.5
comp=Z,76nm,1.1s
PDMCI **Parker Dam,Lak** 24.30 319 P P 18 29 54.8 -0.9
baz=131,SNR=22
N43A **Stutzman Famil** 24.34 11 P P 18 29 55.6 -0.3
baz=194,SNR=17
O47A **Sheridan** 24.34 16 P P 18 29 54.7 -1.3
baz=201,SNR=7.6
N44A **Piper City** 24.40 13 P P 18 29 55.8 -0.7
baz=196,SNR=8.6
SMCO **Snowmass** 24.42 337 eP P 18 29 58.8 +1.6
comp=Z,163nm,1.1s
FLOC **Florencia** 24.43 127 eP P 18 29 58.8 +1.6
FLOC **Florencia** 24.43 127 eP P 18 29 58.8 +1.6
BGNE **Belgrade** 24.44 354 P P 18 29 57.3 +0.4
baz=173,SNR=6.7
M40A **Post Highland** 24.46 6 P P 18 29 56.2 -0.9
baz=188,SNR=17
M39A **Webster** 24.47 5 P P 18 29 56.3 -0.9
baz=186,SNR=11
ISCO **Idaho Springs** 24.49 340 eP P 18 29 59.3 +1.5
comp=Z,90nm,1.4s
ISCO **Idaho Springs** 24.49 340 eP P 18 29 59.3 +1.5
ISCO pmax pmax
comp=Z,90nm,1.4s
ISCO **Idaho Springs** 24.49 340 P P 18 29 58.2 +0.4
baz=155,SNR=38
P50A **Jamestown** 24.50 21 P P 18 29 55.6 -1.9
baz=206,SNR=27
Q52A **Bidwell** 24.50 24 P P 18 29 56.0 -1.4
baz=210,SNR=22
VILC **Villavicencio,** 24.50 119 eP P 18 29 59.0 +1.1
VILC **Villavicencio,** 24.50 119 eP P 18 29 59.0 +1.1
M41A **Milan** 24.55 8 P P 18 29 57.4 -0.5
baz=190,SNR=12
SWSC **Sam W. Stewart** 24.57 314 P P 18 29 58.2 0.0
baz=126
N45A **Kentland** 24.58 14 P P 18 29 58.4 +0.2
baz=197
OGNE **Ogallala** 24.59 347 eP P 18 29 59.9 +1.5
comp=Z,266nm,0.9s
OGNE **Ogallala** 24.59 347 P P 18 29 59.7 +1.3
baz=164,SNR=42
IKP **In-Ko-Pah, Jac** 24.61 313 P P 18 30 00.6 +1.9
baz=125,SNR=9.5
P51A **Williamsport** 24.65 23 P P 18 29 57.5 -1.3
baz=208,SNR=21
O48A **Farmland** 24.65 18 P P 18 29 56.8 -2.1
baz=203,SNR=26
W13A **Hualapai Mount** 24.66 320 eP P 18 30 01.2 +1.9
comp=Z,30nm,1.0s
U15A **North Rim** 24.67 325 eP P 18 30 01.2 +1.8
comp=Z,112nm,1.2s
M42A **Sheffield** 24.74 9 P P 18 29 59.2 -0.4
baz=192
BC3 **Big Chuckawall** 24.75 316 P P 18 30 00.8 +0.9
baz=127,SNR=34
N46A **Monticello** 24.81 15 P P 18 29 59.1 -1.2
baz=199
SCIA **State Center** 24.83 3 eP P 18 29 59.4 -1.0
comp=Z,161nm,0.6s
SCIA **State Center** 24.83 3 P P 18 29 60.0 -0.5
baz=184,SNR=15
O49A **Covington** 24.84 20 eP P 18 29 59.3 -1.3
comp=Z,163nm,0.8s
O49A **Covington** 24.84 20 P P 18 29 59.1 -1.5
baz=205,SNR=51
IRM **Iron Mountain** 24.85 317 P P 18 30 01.8 +1.0
baz=129,SNR=35
M43A **Waltham Townsh** 24.86 11 P P 18 30 00.5 -0.2
baz=194,SNR=22
NEE2 **Needles Airpor** 24.90 319 P P 18 30 01.2 0.0
baz=131,SNR=6.0
MONP2 **Monument Peak** 24.97 313 P P 18 30 01.9 -0.2
baz=124
M44A **Midewin, Midew** 24.99 12 eP P 18 30 02.0 +0.1
comp=Z,55nm,0.7s
M44A **Midewin, Midew** 24.99 12 P P 18 30 01.6 -0.3
baz=196
SDV **Santo Domingo** 25.04 106 P P 18 30 01.2 -1.7
comp=Z,45nm,0.7s,baz=295,slow=4.9,SNR=43
SDV **Santo Domingo** 25.04 106 eP P 18 30 01.2 -1.7
comp=Z,80nm,0.8s
SDV **Santo Domingo** 25.04 106 eP P 18 30 00.6 -2.3
SDV **Santo Domingo** 25.04 106 eP P 18 30 00.6 -2.3
SDV **Santo Domingo** 25.04 106 eP P 18 30 01.2 -1.6
O50A **Cable** 25.04 21 P P 18 30 00.8 -1.6
baz=206,SNR=23
N47A **Urbana** 25.07 17 P P 18 30 00.9 -1.8
baz=201,SNR=7.0
P52A **Corning** 25.13 24 P P 18 30 01.7 -1.5
baz=210,SNR=7.8
L40A **Anamosa** 25.14 7 eP P 18 30 02.5 -0.8
comp=Z,50nm,0.6s
L40A **Anamosa** 25.14 7 P P 18 30 02.8 -0.6
baz=188,SNR=15
M45A **Boilermakers S** 25.16 14 P P 18 30 03.4 0.0
baz=198
N48A **Decatur** 25.24 18 P P 18 30 04.2 0.0
baz=203,SNR=8.9
L41A **Preston** 25.24 8 P P 18 30 03.4 -0.8
baz=190,SNR=9.3
L42A **Oliver, Polo** 25.29 9 P P 18 30 03.6 -1.0
baz=192
P53A **Whipple** 25.30 25 eP P 18 30 03.9 -0.9
comp=Z,112nm,1.3s
P53A **Whipple** 25.30 25 P P 18 30 03.6 -1.1
baz=212,SNR=14
BELC **Belle Mtn. Jos** 25.32 316 P P 18 30 04.1 -1.1
baz=127,SNR=5.7
ACSO **Alum Creek Sta** 25.34 22 eP P 18 30 03.6 -1.4
comp=Z,50nm,0.8s
ACSO **Alum Creek Sta** 25.34 22 P P 18 30 03.7 -1.4
baz=208,SNR=11
O51A **Pataskala** 25.40 22 P P 18 30 03.9 -1.7
baz=208,SNR=5.8
PFO **Pinyon Flats O** 25.40 315 P P 18 30 06.0 +0.1
comp=Z,14nm,0.8s,baz=122,slow=10,SNR=12
PFO pP pP 18 30 19.9 +0.5
comp=Z,16nm,0.9s,baz=113,slow=7.8,SNR=6.0
PFO **Pinyon Flats O** 25.40 315 P P 18 30 03.9 -2.0
baz=126
Q55A **Buckhannon** 25.45 28 P P 18 30 05.8 -0.4
baz=215,SNR=11
M47A **Cromwell** 25.54 16 P P 18 30 06.9 0.0
baz=201
N49A **Columbus Grove** 25.56 19 eP P 18 30 05.7 -1.4
comp=Z,38nm,0.8s
N49A **Columbus Grove** 25.56 19 P P 18 30 05.4 -1.6
baz=204,SNR=7.1
GMRC **Granite Mounta** 25.57 318 P P 18 30 08.1 +0.6
baz=129,SNR=14
N23A **Red Feather La** 25.59 340 P P 18 30 07.8 +0.1
baz=155,SNR=18
L43A **Garden Prairie** 25.62 11 P P 18 30 06.9 -0.7
baz=194,SNR=6.5
O52A **Adamsville** 25.66 24 eP P 18 30 06.7 -1.4
comp=Z,76nm,1.0s
O52A **Adamsville** 25.66 24 P P 18 30 06.6 -1.5
baz=210,SNR=8.9
K39A **Oelwein** 25.71 5 P P 18 30 07.2 -1.3
baz=187,SNR=7.0
O20A **White River Ci** 25.73 336 eP P 18 30 10.7 +1.8
comp=Z,67nm,0.9s
O20A **White River Ci** 25.73 336 P P 18 30 10.6 +1.8
baz=150,SNR=29
N50A **Nevada** 25.76 21 P P 18 30 07.3 -1.6
baz=207
L44A **Lake County Fo** 25.77 12 P P 18 30 08.4 -0.5
baz=196
K40A **Colesburg** 25.78 7 P P 18 30 08.3 -0.8
baz=188,SNR=5.2
K41A **Shullsburg** 25.79 8 P P 18 30 08.4 -0.8
baz=190,SNR=18
PHWY **Pilot Hill** 25.81 342 eP P 18 30 11.5 +1.8
comp=Z,35nm,1.1s
P55A **Reedsville** 25.98 27 P P 18 30 09.4 -1.6
baz=215
PTLC **Puerto Leguiza** 26.00 128 eP P 18 30 15.7 +4.4
PTLC **Puerto Leguiza** 26.00 128 eP P 18 30 15.7 +4.4
O53A **New Philadelph** 26.02 25 P P 18 30 10.0 -1.3
baz=211,SNR=13
HEC **Hector,Ludlow** 26.04 317 P P 18 30 12.8 +1.2
baz=128,SNR=14
K42A **Prairie Point,** 26.10 9 P P 18 30 11.4 -0.6
baz=192,SNR=13
JFWS **Jewell Farm** 26.10 8 eP P 18 30 11.2 -0.8
comp=Z,82nm,0.6s
JFWS **Jewell Farm** 26.10 8 eP P 18 30 11.2 -0.8
JFWS pmax pmax
comp=Z,82nm,0.6s
JFWS **Jewell Farm** 26.10 8 P P 18 30 10.9 -1.1
baz=190,SNR=20
M49A **Liberty Center** 26.12 19 P P 18 30 10.8 -1.4
baz=204,SNR=11
MSU **Marysvale** 26.17 328 eP P 18 30 16.5 +3.6
MSU **Marysvale** 26.17 328 eP P 18 30 16.5 +3.6
K43A **Burlington** 26.20 11 eP P 18 30 12.3 -0.5
comp=Z,55nm,0.9s
K43A **Burlington** 26.20 11 P P 18 30 11.8 -1.1
baz=194
L47A **Sherwood** 26.23 17 P P 18 30 11.1 -2.0
baz=202,SNR=5.3
P17A **Butler Ranch,** 26.23 332 eP P 18 30 15.0 +1.6
comp=Z,52nm,1.1s
O54A **Avella** 26.30 26 P P 18 30 12.6 -1.3
baz=213,SNR=5.9
TMUT **Trail Mountain** 26.31 331 eP P 18 30 15.5 +1.2
comp=Z,28nm,1.1s
J39A **Decorah** 26.36 5 P P 18 30 12.9 -1.4
baz=187
M50A **Fremont** 26.36 20 P P 18 30 12.9 -1.5
baz=206,SNR=5.2
SHPR **Sheep Range** 26.37 321 eP P 18 30 16.4 +1.7
comp=Z,28nm,1.2s
L48A **N Adams** 26.41 18 P P 18 30 12.8 -2.1
baz=203
J40A **Soldiers Grove** 26.52 7 P P 18 30 14.4 -1.3
baz=189,SNR=8.4
J41A **Loganville** 26.58 8 P P 18 30 15.3 -1.0
baz=191,SNR=11
ECSD **EROS Data Cent** 26.64 357 eP P 18 30 16.8 -0.1
comp=Z,6.5nm,1.1s
ECSD **EROS Data Cent** 26.64 357 P P 18 30 16.6 -0.3
baz=177,SNR=12
N53A **Lisbon** 26.64 24 P P 18 30 15.5 -1.4
baz=211,SNR=15
J42A **Columbus** 26.66 10 P P 18 30 15.9 -1.1
baz=192
O55A **Ligonier** 26.78 27 P P 18 30 15.8 -2.4
baz=216
J43A **Natural Harves** 26.84 11 P P 18 30 17.9 -0.8
baz=194
I39A **Houston** 26.89 6 eP P 18 30 18.2 -0.9
comp=Z,48nm,0.5s
I39A **Houston** 26.89 6 P P 18 30 18.0 -1.0
baz=187,SNR=17
K47A **Vermontville** 26.93 16 P P 18 30 17.4 -2.0
baz=201
L50A **Kingsville** 27.01 20 P P 18 30 18.4 -1.7
baz=206
I40A **Norwalk** 27.02 7 P P 18 30 19.3 -0.9
baz=189,SNR=9.1
N54A **Moraine State** 27.12 25 eP P 18 30 20.2 -1.0
comp=Z,29nm,1.0s
N54A **Moraine State** 27.12 25 P P 18 30 20.1 -1.1
baz=213
I42A **Draeger Farm,** 27.25 10 eP P 18 30 21.6 -0.7
comp=Z,66nm,1.3s
I42A **Draeger Farm,** 27.25 10 P P 18 30 22.3 -0.1
baz=193
TPNV **Topopah Spring** 27.32 321 eP P 18 30 25.4 +2.2
comp=Z,33nm,1.0s
TPNV **Topopah Spring** 27.32 321 P P 18 30 24.8 +1.6
baz=131,SNR=10
I43A **Langenfeld Bro** 27.38 11 P P 18 30 22.6 -0.8
baz=194
N55A **Marion Center** 27.39 27 P P 18 30 22.3 -1.4
baz=215
SJG **San Juan** 27.48 83 P P 18 30 23.8 -0.9
comp=Z,10nm,0.6s,baz=246,slow=12,SNR=2.9
MPMC **Manual Prospec** 27.53 318 P P 18 30 26.5 +1.3
baz=128,SNR=8.6
H38A **Maiden Rock** 27.64 4 P P 18 30 25.2 -0.7
baz=186
M54A **Oil Creek Stat** 27.71 25 P P 18 30 25.3 -1.2
baz=213
H39A **Augusta** 27.73 6 P P 18 30 26.2 -0.4
baz=188,SNR=48
DAC **Darwin (Calif)** 27.73 318 eP P 18 30 28.7 +1.7
comp=Z,18nm,1.0s
DAC **Darwin (Calif)** 27.73 318 eP P 18 30 28.7 +1.7
DAC pmax pmax
comp=Z,18nm,1.0s
SSPA **Standing Stone** 27.77 29 eP P 18 30 24.9 -2.0
comp=Z,105nm,1.0s
SSPA **Standing Stone** 27.77 29 P P 18 30 25.6 -1.4
baz=217
R11A **Troy Canyon, C** 27.87 324 P P 18 30 28.6 +0.5
baz=134,SNR=7.3
RSSD **Black Hills** 28.06 346 eP P 18 30 30.9 +1.1
comp=Z,41nm,1.1s
RSSD **Black Hills** 28.06 346 eP P 18 30 31.0 +1.1
RSSD pmax pmax
comp=Z,41nm,1.1s
SPMN **Marine on St.** 28.16 3 eP P 18 30 29.8 -0.6
comp=Z,51nm,0.7s
SPMN **Marine on St.** 28.16 3 P P 18 30 30.0 -0.4
baz=184,SNR=26
G38A **Ridgeland** 28.16 5 P P 18 30 29.8 -0.7
baz=186,SNR=15
I47A **Gladwin** 28.31 16 P P 18 30 31.0 -0.8
baz=201
BW06 **Boulder Array** 28.50 337 eP P 18 30 33.7 -0.1
comp=Z,20nm,0.9s
BW06 **Boulder Array** 28.50 337 P P 18 30 34.0 +0.2
baz=150
PD31 **Pinedale Array** 28.50 337 eP P 18 30 35.2 +1.5
PDAR **Pinedale Array** 28.50 337 P P 18 30 34.6 +0.8
comp=Z,5.7nm,1.0s,baz=116,slow=10,SNR=18
PDAR pP pP 18 30 49.0 +1.6
comp=Z,2.6nm,0.5s,baz=131,slow=9.7,SNR=7.3
PDAR LR LR 18 45 14.2
comp=Z,420nm,19.2s,baz=176,slow=43
PDAR **Pinedale Array** 28.50 337 eP P 18 30 33.5 -0.2
PDAR pP pP 18 30 49.0 +1.6
G41A **Antigo** 28.50 9 P P 18 30 32.4 -1.1
baz=192
F37A **Hinrichs Farm,** 28.66 3 P P 18 30 33.9 -1.0
baz=185
I48A **Sherman Twp** 28.69 17 P P 18 30 33.8 -1.3
baz=203
G43A **Wallace** 28.79 11 P P 18 30 34.4 -1.6
baz=195
J52A **Paris** 28.88 22 P P 18 30 34.5 -2.3
baz=210
H47A **Mio** 28.93 16 P P 18 30 35.7 -1.6
baz=202
F38A **Pierce - Schro** 28.95 4 P P 18 30 36.2 -1.2
baz=186,SNR=8.7
F39A **Loretta** 28.99 6 P P 18 30 36.4 -1.4
baz=188,SNR=7.1
N59A **State Game Lan** 28.99 31 P P 18 30 36.8 -1.2
baz=220
HVU **Hansel Valley** 29.01 332 eP P 18 30 39.7 +1.5
comp=Z,17nm,0.8s
HVU **Hansel Valley** 29.01 332 eP P 18 30 39.7 +1.5
HVU pmax pmax
comp=Z,17nm,0.8s
F40A **Park Falls** 29.08 7 P P 18 30 37.4 -1.1
baz=190
AHID **Auburn Hatcher** 29.10 335 eP P 18 30 40.1 +1.1
comp=Z,23nm,1.0s
I51A **Listowel** 29.18 21 P P 18 30 37.9 -1.6
baz=208
COWI **Conover** 29.38 8 eP P 18 30 38.6 -2.6
comp=Z,36nm,0.8s
K55A **Perry** 29.38 26 P P 18 30 40.0 -1.3
baz=214
ELK **Elko** 29.40 328 P P 18 30 43.0 +1.1
comp=Z,6.0nm,0.8s,baz=137,slow=6.8,SNR=30
ELK pP pP 18 30 57.6 +2.2
comp=Z,10nm,0.9s,baz=128,slow=5.6,SNR=10
ELK **Elko** 29.40 328 eP P 18 30 43.5 +1.7
comp=Z,16nm,0.9s
ELK pP pP 18 30 57.6 +2.2
NV11 **Mina Array Sit** 29.43 321 eP P 18 30 44.0 +2.0
comp=Z,3.2nm,1.3s
F43A **Flat Rock, Esc** 29.43 11 P P 18 30 40.3 -1.5
baz=195,SNR=7.8
OMMB **Old Mammoth Mi** 29.44 319 eP P 18 30 44.4 +2.2
comp=Z,22nm,1.3s
E39A **Mellen** 29.48 6 P P 18 30 40.6 -1.5
baz=189
REDW **Red Top Meadow** 29.50 336 eP P 18 30 44.1 +1.4
comp=Z,96nm,1.4s
NV01 **Mina Array Sit** 29.52 321 eP P 18 30 44.5 +1.6
NVAR **Mina Array Bea** 29.52 321 P P 18 30 44.9 +2.1
comp=Z,15nm,0.7s,baz=134,slow=9.2,SNR=100
NVAR pP pP 18 30 59.1 +2.7
comp=Z,29nm,0.8s,baz=132,slow=9.5,SNR=16
NVAR LR LR 18 44 54.0
comp=Z,340nm,18.7s,baz=152,slow=41
SNOW **Snow King Moun** 29.55 336 eP P 18 30 44.8 +1.7
comp=Z,57nm,0.6s
MEDO **Medina** 29.59 25 P P 18 30 41.7 -1.4
baz=213
E38A **The Farm, Brul** 29.62 5 eP P 18 30 42.7 -0.6
comp=Z,41nm,0.6s
E38A **The Farm, Brul** 29.62 5 P P 18 30 42.5 -0.8
baz=187,SNR=14
E40A **Wakefield** 29.62 7 P P 18 30 42.4 -1.0
baz=190
RYN **Ryan** 29.78 321 eP P 18 30 47.4 +2.3
comp=Z,30nm,1.3s
KVN **Kaiserville** 29.80 322 eP P 18 30 47.3 +2.0
comp=Z,12nm,0.9s
KVN **Kaiserville** 29.80 322 eP P 18 30 47.3 +2.0
KVN pmax pmax
comp=Z,12nm,0.9s
IMW **Indian Meadow** 29.99 337 eP P 18 30 49.0 +2.0
comp=Z,37nm,1.3s
E43A **Lone Tree Farm** 29.99 11 eP P 18 30 45.9 -0.8
comp=Z,33nm,0.7s
E43A **Lone Tree Farm** 29.99 11 P P 18 30 45.3 -1.4
baz=195
FLWY **Flagg Ranch** 30.06 337 eP P 18 30 49.0 +1.5
comp=Z,18nm,0.8s
WLVO **Wesleyville** 30.24 24 P P 18 30 49.0 +0.1
baz=213
LKWY **Lake** 30.36 338 eP P 18 30 49.7 -0.6
comp=Z,57nm,1.1s
LKWY **Lake** 30.36 338 eP P 18 30 49.7 -0.6
LKWY pmax pmax
comp=Z,57nm,1.1s
YERR **Yerington** 30.44 321 eP P 18 30 53.2 +2.2
comp=Z,17nm,0.8s
RLMT **Red Lodge** 30.46 340 P P 18 30 52.7 +1.7
baz=152,SNR=7.1
CMB **Columbia Colle** 30.57 318 eP P 18 30 52.6 +0.6
comp=Z,129nm,1.3s
CMB **Columbia Colle** 30.57 318 eP P 18 30 52.6 +0.6
CMB pmax pmax
comp=Z,129nm,1.3s
SADO **Sadowa** 30.68 22 P P 18 30 50.6 -2.2
comp=Z,7.9nm,0.7s,baz=232,slow=8.4,SNR=10.0
I55A **Frankford** 30.77 25 P P 18 30 52.2 -1.4
baz=214
KLBO **Killbear Provi** 30.82 21 P P 18 30 51.6 -2.4
baz=208
E47A **Iron Bridge** 30.90 16 P P 18 30 53.5 -1.2
baz=202
EYMN **Ely** 30.95 5 eP P 18 30 54.1 -1.1
comp=Z,20nm,0.6s
MDND **Maddock** 30.96 354 eP P 18 30 55.5 +0.3
comp=Z,90nm,0.9s
LAO **LASA Array** 31.00 345 eP P 18 30 56.4 +0.7
comp=Z,7.8nm,0.9s
HLID **Hailey** 31.16 332 eP P 18 30 58.7 +1.5
comp=Z,11nm,0.9s
C40A **Isle Royale Na** 31.16 8 P P 18 30 55.9 -1.1
baz=191
AGMN **Agassiz Nation** 31.18 359 eP P 18 30 56.5 -0.7
comp=Z,34nm,0.8s
H55A **Tweed** 31.25 25 P P 18 30 56.3 -1.5
baz=214
F51A **Arnstein** 31.42 20 P P 18 30 57.1 -2.1
baz=208
D47A **Chapleau** 31.50 16 P P 18 30 58.3 -1.7
baz=202
BEKR **Beckworth** 31.67 321 eP P 18 31 03.6 +1.8
comp=Z,22nm,1.3s
PLVO **Plevna** 31.70 24 P P 18 31 00.2 -1.5
baz=214
D48A **Paudash Townsh** 31.96 17 P P 18 31 02.2 -1.7
baz=204
G55A **Calabogie** 32.02 25 P P 18 31 02.9 -1.6
baz=214
E51A **G1948 Merrick** 32.09 20 P P 18 31 02.9 -2.3
baz=209
E52A **Mattawa** 32.16 21 P P 18 31 04.2 -1.6
baz=210
WVOR **Wild Horse Val** 32.39 326 eP P 18 31 09.5 +1.5
comp=Z,22nm,1.1s
WVOR **Wild Horse Val** 32.39 326 eP P 18 31 09.5 +1.5
WVOR pmax pmax
comp=Z,22nm,1.1s

LONY Lake Ozonia 32.41 28 P P 18 31 05.3 -2.7
comp=Z,35nm,0.6s
E53A Dumoine, Ponti 32.60 22 P P 18 31 07.6 -2.0
baz=212
D51A Lot 18 Range I 32.62 20 P P 18 31 07.8 -2.0
baz=208
ORIO Orleans, Innes 32.67 26 P P 18 31 09.2 -1.0
baz=216
E54A Lac Daplat, Po 32.82 23 P P 18 31 09.5 -2.1
baz=212
D52A ZEK Kipawa Sen 32.84 21 P P 18 31 09.9 -1.9
baz=210
MOD Modoc Plateau 32.94 324 eP P 18 31 12.4 -0.4
comp=Z,46nm,1.6s
J08A Circle Bar Ran 32.95 328 eP P 18 31 14.3 +1.4
comp=Z,52nm,0.8s
ULM Lac du Bonnet 33.13 359 P P 18 31 13.2 -1.0
comp=Z,8.4nm,0.5s,baz=176,slow=9.9,SNR=26
ULM LR LR 18 47 00.6
comp=Z,124nm,20.6s,baz=182,slow=40
ULM Lac du Bonnet 33.13 359 eP P 18 31 13.0 -1.2
comp=Z,16nm,0.8s
O02D Mt. Diablo Mer 33.34 319 P P 18 31 15.7 -0.5
baz=126
LBNH Lisbon 33.36 31 P P 18 31 16.3 0.0
baz=223
NNA Nana 33.95 147 ceP P 18 31 23.8 +2.0
M02C Callahan 34.10 321 P P 18 31 23.1 +0.2
baz=127
L04D Klamath Falls 34.28 323 P P 18 31 25.0 +0.5
baz=129
F10A Beach Ranch, E 34.29 332 eP P 18 31 25.4 +0.9
comp=Z,69nm,0.8s
J05D Fort Rock, OR 34.37 325 P P 18 31 27.2 +2.0
baz=132
PINE Pine Mountain 34.55 326 eP P 18 31 27.6 +0.7
comp=Z,11nm,1.0s
J04D Umpqua Nationa 34.82 324 P P 18 31 31.3 +2.1
baz=130
I05D Terrebonne, OR 35.13 326 P P 18 31 32.4 +0.7
baz=133
MATQ Matagami 35.52 19 P P 18 31 32.9 -1.9
baz=209,SNR=9.6
H04A Detroit Lake 35.81 326 eP P 18 31 38.9 +1.4
comp=Z,44nm,1.3s
I03D Drain, OR 35.81 324 P P 18 31 38.3 +0.9
baz=129
J01E Myrtle Point 35.81 323 P P 18 31 37.9 +0.5
baz=128
H04D Lebanon 36.00 325 P P 18 31 39.1 0.0
baz=131
NEW Newport 36.03 335 LR LR 18 47 51.3
comp=Z,280nm,18.6s,baz=151,slow=38
NEW Newport 36.03 335 eP P 18 31 38.7 -0.6
comp=Z,5.3nm,0.7s
NEW Newport 36.03 335 eP P 18 31 38.7 -0.6
NEW pmax pmax
comp=Z,5.0nm,0.7s
FFC Flin Flon 38.00 353 eP P 18 31 56.2 +0.3
comp=Z,68nm,1.4s
FFC Flin Flon 38.00 353 ceP P 18 31 57.6 +1.7
PTGA Pitinga 38.75 114 eP P 18 32 00.4 -2.3
A04D Lummi Island 38.83 331 P P 18 32 05.3 +2.4
baz=135
FCC Fort Churchill 41.66 1 eP P 18 32 25.7 -0.5
comp=Z,30nm,1.2s
FCC Fort Churchill 41.66 1 eP P 18 32 25.7 -0.5
FCC pmax pmax
comp=Z,30nm,1.2s
LPAZ La Paz 42.39 140 P P 18 32 33.0 -0.3
comp=Z,20nm,0.7s,baz=330,slow=6.4,SNR=57
LPAZ La Paz 42.39 140 eP P 18 32 33.6 +0.2
comp=Z,23nm,0.9s
LPAZ La Paz 42.39 140 eP P 18 32 33.6 +0.2
LPAZ pmax pmax
comp=Z,23nm,0.9s
LPAZ La Paz 42.39 140 eP P 18 32 33.2 -0.2
SCHQ Schefferville 43.48 23 P P 18 32 40.1 -1.0
comp=Z,4.3nm,0.6s,baz=233,slow=8.7,SNR=5.8
SCHQ LR LR 18 53 35.6
comp=Z,274nm,19.0s,baz=270,slow=40
BBB Bella Bella 43.72 331 LR LR 18 54 45.5
comp=Z,257nm,18.4s,baz=170,slow=41
MNMC Minye Minye 43.75 144 eP P 18 32 44.9 +0.9
comp=Z,130nm,1.1s
PB11 IPOC Station P 44.23 145 eP P 18 32 48.2 +0.6
comp=Z,92nm,1.0s
GO01 Chusmiza 44.41 144 eP P 18 32 50.9 +1.4
comp=Z,51nm,0.9s
LVC Limon Verde 46.94 146 eP P 18 33 09.3 0.0
YKA Yellowknife Ar 47.45 348 P P 18 33 12.1 -0.1
comp=Z,4.0nm,0.6s,baz=152,slow=7.3,SNR=99
YKA pP pP 18 33 26.3 -0.2
comp=Z,17nm,0.8s,baz=155,slow=7.4,SNR=16
YKB5 Yellowknife Ar 47.45 348 eP P 18 33 11.6 -0.7
YKW3 Yellowknife Ar 47.51 348 eP P 18 33 12.9 +0.2
comp=Z,27nm,0.9s
DLBC Dease Lake 48.73 336 LR LR 18 54 43.8
comp=Z,290nm,20.7s,baz=134,slow=37
DLBC Dease Lake 48.73 336 eP P 18 33 24.8 +2.4
comp=Z,135nm,1.4s
LCO Las Campanas 51.44 153 eP P 18 33 44.4 +0.9
comp=Z,92nm,0.9s
LCO Las Campanas 51.44 153 eP P 18 33 44.4 +0.9
LCO pmax pmax
comp=Z,92nm,0.9s
LCO Las Campanas 51.44 153 eP P 18 33 44.4 +0.9
GO04 Tololo Observa 52.40 153 eP P 18 33 51.3 +0.7
comp=Z,63nm,0.9s
SMTB Santa Maria do 53.45 115 eP P 18 33 56.6 -1.7
AQDB Aquidauana 53.62 133 eP P 18 33 58.5 -0.9
ROC1 El Roble 54.76 155 eP P 18 34 08.4 +0.6
comp=Z,29nm,0.7s
PEL Peldehue 55.03 155 eP P 18 34 10.1 +0.5
comp=Z,50nm,0.8s
PEL Peldehue 55.03 155 eP P 18 34 10.1 +0.5
PEL pmax pmax
comp=Z,50nm,0.8s
RKT Rikitea 55.88 226 eLR LR 18 50 17.3
comp=Z,241nm,29.0s
RKT Rikitea 55.88 226 eT T 19 32 23.3
comp=Z,3.8nm,0.3s
CPUP Villa Florida 56.54 139 P P 18 34 19.1 -1.2
comp=Z,14nm,0.8s,baz=324,slow=7.9,SNR=32
CPUP Villa Florida 56.54 139 eP P 18 34 19.2 -1.2
comp=Z,16nm,0.8s
CPUP Villa Florida 56.54 139 eP P 18 34 19.2 -1.2
CPUP pmax pmax
comp=Z,16nm,0.8s
CPUP Villa Florida 56.54 139 eP P 18 34 19.3 -1.2
BDFB Brasilia 56.56 122 P P 18 34 20.2 -0.7
comp=Z,58nm,0.8s,baz=293,slow=8.0,SNR=84
BDFB Brasilia 56.56 122 eP P 18 34 21.2 +0.3
comp=Z,84nm,0.9s
BDFB Brasilia 56.56 122 eP P 18 34 21.2 +0.3
BDFB pmax pmax
comp=Z,84nm,0.9s
INK Inuvik 56.73 344 LR LR 19 01 49.3
comp=Z,290nm,20.6s,baz=104,slow=39
INK Inuvik 56.73 344 eP P 18 34 21.9 +0.7
comp=Z,90nm,0.9s
INK Inuvik 56.73 344 eP P 18 34 21.9 +0.7
INK pmax pmax
comp=Z,90nm,0.9s
ITRB Iturama 57.04 128 eP P 18 34 23.3 -0.8
TRCB Terra Rica 57.29 132 eP P 18 34 24.9 -1.0
SFJD Kangerlussuaq 57.54 19 eP P 18 34 28.7 +1.8
RES Resolute Bay 57.66 0 eP P 18 34 26.9 -0.7
comp=Z,9.1nm,1.0s
RES Resolute Bay 57.66 0 eP P 18 34 26.9 -0.7
RES pmax pmax
comp=Z,9.0nm,1.0s
IPMB Ipameri, GO 57.70 125 eP P 18 34 28.4 -0.4
KDAK Kodiak Island 58.64 328 P P 18 34 35.1 +0.4
comp=Z,10nm,0.9s,baz=141,slow=2.7,SNR=3.2
KDAK pP pP 18 34 50.8 +1.5
comp=Z,12nm,0.8s,baz=12,slow=5.8,SNR=2.3
KDAK LR LR 18 58 51.9
comp=Z,195nm,20.7s,baz=85,slow=35
HDA Harding Lake 58.78 336 P P 18 34 36.7 +1.0
baz=118
IL1 Eielson Array 58.93 337 eP P 18 34 36.7 0.0
ILAR Eielson Array 58.93 337 P P 18 34 37.1 +0.5
comp=Z,2.3nm,0.7s,baz=165,slow=4.6,SNR=33
ILAR pP pP 18 34 51.4 +0.1
comp=Z,24nm,1.0s,baz=131,slow=5.0,SNR=36
ILB Eielson Array 58.93 337 eP P 18 34 37.4 +0.7

BB19B Bebedouro 59.23 128 eP P 18 34 39.2 -0.3
JANB Januaria 59.29 120 eP P 18 34 39.9 -0.1
POKR Poker Flat Res 59.30 337 P P 18 34 40.1 +0.8
baz=118
COLA College 59.34 337 eP P 18 34 42.9 +3.4
PMNB Patos De Minas 59.40 124 eP P 18 34 40.5 -0.3
FRTB Fartura 59.83 131 eP P 18 34 44.0 +0.5
MCI8 Montes Claros 60.43 121 eP P 18 34 47.2 -0.6
MCI9 Montes Claros 60.47 121 eP P 18 34 47.8 -0.3
ITAB Concordia 60.53 136 eP P 18 34 47.6 -0.6
MCI6 Montes Claros 60.53 121 eP P 18 34 48.2 -0.3
MCI7 Montes Claros 60.57 121 eP P 18 34 49.0 +0.2
RCLB Rio Claro- Sao 60.77 129 eP P 18 34 49.8 -0.2
TIJ01 Guaruva-PR 61.45 132 eP P 18 34 55.1 +0.4
PLCA Paso Flores 61.80 159 P P 18 34 56.5 -0.1
comp=Z,38nm,0.8s,baz=356,slow=8.1,SNR=60
PLCA LR LR 18 57 23.7
comp=Z,84nm,18.9s,baz=352,slow=32
PLCA Paso Flores 61.80 159 eP P 18 34 57.0 +0.4
comp=Z,43nm,0.8s
PLCA Paso Flores 61.80 159 eP P 18 34 57.0 +0.4
PLCA pmax pmax
comp=Z,43nm,0.8s
PLCA Paso Flores 61.80 159 eP P 18 34 56.5 -0.1
CPSB Cacapava Do Su 61.83 139 eP P 18 34 55.9 -1.0
BSCB Bom Sucesso 62.06 126 eP P 18 34 59.1 +0.3
RCBR Riachuelo 62.62 106 eP P 18 35 02.6 -0.1
comp=Z,26nm,0.8s
RCBR Riachuelo 62.62 106 eP P 18 35 02.6 -0.1
RCBR pmax pmax
comp=Z,26nm,0.8s
RCBR Riachuelo 62.62 106 eP P 18 35 02.5 -0.1
PLTB Pedras Altas 62.68 141 eP P 18 35 02.8 +0.2
CNLB Canela 62.75 137 eP P 18 35 03.7 +0.5
TER01 Tubaro-SC 63.38 135 eP P 18 35 07.1 -0.3
SJMB Sao Joao De Ma 63.71 121 eP P 18 35 09.7 0.0
VAS01 Vassouras-RJ 63.80 126 eP P 18 35 10.8 +0.6
PPT2 Papeete2 63.83 240 eLR LR 18 54 05.0
comp=Z,480nm,29.0s
BSFB Barra de Sao F 64.05 121 eP P 18 35 12.8 +0.9
SUMG Summit 64.10 16 *i* P P 18 35 07.4 -4.5
SUMG Summit 64.10 16 *i* P P 18 35 07.4 -4.5
RIB01 Linhares ES 64.67 122 eP P 18 35 16.2 +0.3
CAM01 Campos-RJ 64.95 125 eP P 18 35 18.3 +0.6
ALF01 Guarapari-ES 65.06 123 eP P 18 35 18.5 +0.1
TBI Tubuai 66.68 235 eLR LR 18 55 21.9
comp=Z,404nm,29.0s
SCO Scoresbysund 68.39 20 *i* P P 18 35 38.9 0.0
SCO *i* S pP 18 35 49.0 -4.8
SCO Scoresbysund 68.39 20 *i* P P 18 35 38.9 0.0
SCO *i* S pP 18 35 49.0 -4.8
DAG Danmarks Havn 70.39 14 *i* P P 18 35 49.9 -1.3
comp=Z,4.0nm,0.6s
DAG *i* 18 36 06.9
DAG Danmarks Havn 70.39 14 eP P 18 35 49.9 -1.3
DAG *i* 18 36 06.9
DAG pmax pmax
comp=Z,3.0nm,0.6s
PGAV Gavieira, Arco 76.40 50 eP P 18 36 31.8 +4.5
PCAS Casmilo, Conde 76.59 52 eP P 18 36 28.9 +0.6
comp=Z,45nm,1.4s
PTOM Tomar 76.74 52 eP P 18 36 33.6 +4.5
comp=Z,28nm,1.2s
POLO Lamas de Olo 76.86 51 eP P 18 36 30.5 +0.6
comp=Z,15nm,1.3s
PVIS Viseu 76.92 51 eP P 18 36 34.6 +4.4
comp=Z,32nm,1.7s
PVRL Vila Real 76.94 51 eP P 18 36 31.3 +1.0
MORF Marmelete 77.01 55 eP P 18 36 33.6 +2.8
EKA Eskdalemuir Ar 77.19 36 P P 18 36 30.5 -0.8
comp=Z,3.4nm,0.6s,baz=263,slow=5.7,SNR=13
MESJ Messejana 77.24 54 eP P 18 36 37.1 +5.1
MTE Manteigas 77.24 51 eP P 18 36 36.1 +4.1
comp=Z,26nm,1.6s
EVO Evora 77.26 53 eP P 18 36 36.0 +3.9
comp=Z,16nm,1.8s
PCBR Castelo Branco 77.40 52 eP P 18 36 33.6 +0.8
comp=Z,30nm,1.4s
MVO Moncorvo 77.47 51 eP P 18 36 34.0 +0.7
comp=Z,32nm,1.6s
PBEJ Beja 77.48 54 eP P 18 36 35.9 +2.6
comp=Z,20nm,1.5s
PESTR Estremoz 77.52 53 eP P 18 36 34.8 +1.3
comp=Z,16nm,1.4s
PMRV Marv??o 77.55 52 eP P 18 36 36.1 +2.4
comp=Z,19nm,1.5s
PBRG Braganca 77.55 50 eP P 18 36 38.4 +4.7
comp=Z,22nm,1.8s
BILL Bilibino 77.58 338 ceP P 18 36 34.1 +0.8
BILL *i* 18 36 48.0
BILL eS S 18 46 25.2 +4.8
BILL pmax pmax
comp=Z,11nm,0.9s
PVAQ Vaqueiros 77.72 54 eP P 18 36 36.6 +1.9
comp=Z,21nm,1.8s
QUIF Quistinic 78.74 43 eP P 18 36 45.4 +5.3
QUIF pmax pmax
comp=Z,86nm,2.1s
PAB San Pablo 79.82 52 eP P 18 36 46.4 +0.1
comp=Z,23nm,1.1s
PAB San Pablo 79.82 52 eP P 18 36 46.4 +0.1
PAB pmax pmax
comp=Z,23nm,1.1s
ESDC Sonseca Array 80.08 52 P P 18 36 47.2 -0.5
comp=Z,5.7nm,0.8s,baz=292,slow=5.1,SNR=28
ESDC LR LR 19 09 35.0
comp=Z,162nm,19.7s,baz=290,slow=34
ES19 SONSECA Array 80.12 52 eP P 18 36 47.7 -0.2
FLN La Foliniere 80.28 42 eP P 18 36 48.3 -0.1
FLN pmax pmax
comp=Z,24nm,1.2s
LDF La Druitiere 80.55 42 eP P 18 36 49.7 -0.2
LDF pmax pmax
comp=Z,8.0nm,0.6s
MFF Saint Martin d 81.06 44 eP P 18 36 52.6 0.0
MFF pmax pmax
comp=Z,55nm,1.8s
MDT Midelt 81.26 58 P P 18 36 54.0 -0.1
comp=Z,3.5nm,0.8s,baz=292,slow=6.1,SNR=5.6
ETSF Etsaut 81.75 48 eP P 18 36 57.4 +0.9
ETSF pmax pmax
comp=Z,12nm,0.7s
LFF La Frestale 82.10 46 eP P 18 36 57.8 -0.4
LFF pmax pmax
comp=Z,10.0nm,0.6s
RJF Les Rejaudoux 82.53 45 eP P 18 37 00.0 -0.4
RJF pmax pmax
comp=Z,12nm,0.7s
TCF Toulx Ste Croi 82.71 44 eP P 18 37 01.7 +0.3
TCF pmax pmax
comp=Z,11nm,1.0s
NB2 NORSAR Subarra 82.84 28 P P 18 37 02.6 +0.8
comp=Z,1.4nm,0.6s,baz=292,slow=5.3
NOA NORSAR Array B 82.84 26 P P 18 37 01.8 +0.1
comp=Z,2.3nm,0.7s,baz=292,slow=5.2,SNR=13
NOA pP pP 18 37 18.9 +1.8
comp=Z,3.8nm,0.9s,baz=292,slow=5.2,SNR=5.8
NOA LR LR 19 15 21.0
comp=Z,67nm,18.2s,baz=310,slow=37
BAIF Baives 82.86 40 eP P 18 37 02.4 +0.4
BAIF pmax pmax
comp=Z,26nm,1.5s
CAF Calviac 83.01 45 eP P 18 37 03.2 +0.2
CAF pmax pmax
comp=Z,6.0nm,0.7s
BGF Bois d'Agland 83.05 44 eP P 18 37 02.6 -0.5
BGF pmax pmax
comp=Z,12nm,0.8s
DOU Dourbes 83.08 40 ⇑P P 18 37 03.4 +0.3
GIVF Givet 83.22 40 eP P 18 37 03.9 0.0
GIVF pmax pmax
comp=Z,16nm,1.2s
AVF Avril sur Loir 83.31 43 eP P 18 37 04.5 +0.1
AVF pmax pmax
comp=Z,7.0nm,0.8s
SSF Saint Saulge 83.33 43 eP P 18 37 04.8 +0.3
SSF pmax pmax
comp=Z,13nm,1.1s
LOR Lormes 83.50 43 eP P 18 37 05.0 -0.4
LOR pmax pmax
comp=Z,11nm,0.8s
MTLF Montolieu 83.58 47 eP P 18 37 06.5 +0.6
MTLF pmax pmax
comp=Z,12nm,0.9s
SMF Signal de Mont 83.68 43 eP P 18 37 06.5 +0.2
SMF pmax pmax
comp=Z,4.0nm,0.7s
MEM Membach 83.78 39 ⇑P P 18 37 08.2 +1.5
comp=Z,6.4nm,1.0s
ARCES ARCESS Array B 84.14 18 P P 18 37 08.7 +0.4
comp=Z,5.9nm,0.8s,baz=297,slow=4.4,SNR=19
WLF Walferdange 84.18 40 ⇓P P 18 37 09.0 +0.2
HFS Hagfors 84.32 28 P P 18 37 09.0 -0.3
comp=Z,6.6nm,0.9s,baz=257,slow=5.6,SNR=4.0
HFS Hagfors 84.32 28 P P 18 37 09.0 -0.3
SSB Saint Sauveur 84.57 44 eP P 18 37 11.8 +0.8
comp=Z,12nm,1.1s
SSB Saint Sauveur 84.57 44 eP P 18 37 11.7 +0.8
SSB pmax pmax
comp=Z,12nm,1.1s
VIVF Saint-Julien-l 84.79 45 eP P 18 37 15.5 +3.4
VIVF pmax pmax
comp=Z,7.0nm,1.0s
SEY Seymchan 84.81 335 *i* P P 18 37 12.4 +0.7
HAU Haudompre 84.85 41 eP P 18 37 12.2 -0.1
HAU pmax pmax
comp=Z,13nm,0.7s
PMSA Palmer Station 84.92 167 eP P 18 37 14.5 +2.5
BSEG Bad Segeberg 85.08 35 eL L 19 10 01.1
comp=Z,173nm,21.3s
CABF La Chapelle 85.15 43 eP P 18 37 14.2 +0.3
CABF pmax pmax
comp=Z,7.0nm,0.8s
HINF Hinteralfeld 85.23 41 eP P 18 37 14.9 +0.7
HINF pmax pmax
comp=Z,8.0nm,0.8s
ECH Echery 85.29 41 eP P 18 37 14.6 +0.1
comp=Z,14nm,1.0s
ECH Echery 85.29 41 eP P 18 37 14.6 +0.1
ECH pmax pmax
comp=Z,15nm,1.0s
CDF Champ du Feu 85.30 41 eP P 18 37 14.3 -0.3
CDF pmax pmax
comp=Z,12nm,0.9s
TNS Taunus Mts 85.38 39 eL L 19 10 18.2
comp=Z,241nm,20.5s
ORIF Oris-en-Rattie 85.58 44 eP P 18 37 17.3 +1.2
ORIF pmax pmax
comp=Z,8.0nm,0.8s
LPL La Plagne 85.95 44 eP P 18 37 19.6 +1.5
LPL pmax pmax
comp=Z,25nm,1.5s
LPG La Plagne 85.97 44 eP P 18 37 19.9 +1.7
LPG pmax pmax
comp=Z,37nm,1.4s
BFO Black Forest 85.98 41 eP P 18 37 18.5 +0.6
comp=Z,0.9nm,0.9s
BFO Black Forest 85.98 41 eL L 19 11 42.3
comp=Z,237nm,19.3s
BFO Black Forest 85.98 41 *i* P P 18 37 19.6 +1.7
BNI Bardonecchia 86.07 44 eP P 18 37 19.1 +0.6
comp=Z,17nm,1.2s
BNI Bardonecchia 86.07 44 eP P 18 37 19.2 +0.6
BNI pmax pmax
comp=Z,17nm,1.2s
MBDF Montbardon 86.24 44 eP P 18 37 20.1 +0.6
PETK Petropavlovsk- 86.53 325 P P 18 37 19.5 -0.9
comp=Z,1.8nm,0.7s,baz=226,slow=8.9,SNR=5.7
PETK pP pP 18 37 36.6 +0.8
comp=Z,9.6nm,1.0s,baz=81,slow=9.5,SNR=6.0
TIXI Tiksi 86.69 347 ceP P 18 37 21.4 +0.5
TIXI pmax pmax
comp=Z,12nm,2.5s
MOX Moxa 87.09 38 eL L 19 11 12.7
comp=Z,182nm,21.5s
MA2 Magadan 87.10 332 *i* P P 18 37 23.7 +0.6
MA2 pmax pmax
comp=Z,19nm,1.2s
GRF Grafenberg Arr 87.23 39 eP P 18 37 27.2 +3.2
comp=Z,62nm,2.1s,baz=285,slow=5.3
GRF eL L 19 15 14.0
comp=Z,210nm,20.6s
DAVA Damuels 87.34 41 ePcP P 18 37 26.1 +1.3
comp=Z,9.5nm,0.8s,SNR=4.9
DAVOX Davos/Dischmat 87.53 42 P P 18 37 26.3 +0.6
comp=Z,4.7nm,0.7s,baz=269,slow=6.1,SNR=13
CLL Collm 87.62 37 eP P 18 37 27.0 +1.2
CLL *e* 18 38 01.0
CLL Collm 87.62 37 eP P 18 37 27.0 +1.2
NKC Novy Kostel 87.74 38 eP P 18 37 28.1 +1.6
NKC Novy Kostel 87.74 38 eP P 18 37 28.1 +1.6
RETA Reutte 87.81 41 eP P 18 37 28.0 +1.1
comp=Z,7.3nm,0.8s,SNR=5.8
FUR Furstenfeldbru 87.87 40 eL L 19 14 20.6
comp=Z,221nm,18.7s
FETA Feichten 87.98 41 eP P 18 37 28.3 +0.5
comp=Z,4.7nm,0.7s
TIC Toumodi 88.03 84 eP P 18 37 27.8 -0.7
MOTA Moosalm 88.08 41 eP P 18 37 28.9 +0.6
comp=Z,7.0nm,0.7s,SNR=10.0
LIC Lamto 88.15 84 eP P 18 37 28.4 -0.6
comp=Z,100nm,1.1s
DBIC Dimbokro 88.18 84 P P 18 37 28.5 -0.7
comp=Z,18nm,0.9s,baz=262,slow=3.9,SNR=20
DBIC LR LR 19 13 23.8
comp=Z,61nm,21.6s,baz=237,slow=33
DBIC Dimbokro 88.18 84 eP P 18 37 28.8 -0.4
comp=Z,2.6nm,1.0s
DBIC Dimbokro 88.18 84 eP P 18 37 28.8 -0.4
DBIC pmax pmax
comp=Z,25nm,1.0s
DBIC Dimbokro 88.18 84 eP P 18 37 29.1 -0.1
SQTA Sankt Quirin 88.20 41 eP P 18 37 28.6 -0.2
comp=Z,1.7nm,0.6s
BRG Berggiesshubel 88.34 37 eP P 18 37 31.4 +2.2
comp=Z,3.9nm,0.9s
BRG Berggiesshubel 88.34 37 eP P 18 37 31.4 +2.2
BRG pmax pmax
comp=Z,41nm,0.9s
KIC Kosan Boka 88.38 84 eP P 18 37 29.6 -0.5
comp=Z,57nm,0.9s
WET Wettzell 88.45 39 eL L 19 15 47.5
comp=Z,241nm,21.5s
KHC Kasperske Hory 88.87 39 eP P 18 37 32.9 +1.1
KHC ex x 18 37 37.3
KHC Kasperske Hory 88.87 39 eP P 18 37 32.9 +1.1
FINES FINESS Array B 88.95 24 P P 18 37 32.8 +1.0
comp=Z,2.1nm,0.8s,baz=350,slow=4.0,SNR=6.5
FINES LR LR 19 17 58.7
comp=Z,83nm,19.6s,baz=310,slow=36
GEC2 GERESS Array S 89.06 39 eL L 19 16 15.4
comp=Z,233nm,19.1s
GERES GERESS Array B 89.06 39 P P 18 37 32.6 -0.2
comp=Z,1.2nm,0.8s,baz=339,slow=3.3,SNR=9.9
GERES LR LR 19 16 25.3
comp=Z,188nm,20.1s,baz=286,slow=35
GEA0 GERESS Array S 89.07 39 eP P 18 37 32.6 -0.2
PRU Pruhonice 89.07 37 eP P 18 37 33.3 +0.6
PRU Pruhonice 89.07 37 eP P 18 37 33.3 +0.6
ABTA Abfaltersach 89.21 41 ePcP P 18 37 34.4 +0.9
comp=Z,4.5nm,0.8s
MOA Molln 89.83 39 eP P 18 37 36.4 +0.1
comp=Z,2.8nm,0.6s
DPC Dobruska-Polom 89.94 37 eP P 18 37 37.8 +1.0
DPC ePCP PcP 18 37 41.5 +3.5
DPC Dobruska-Polom 89.94 37 eP P 18 37 37.8 +1.0
OBKA Obir 90.58 41 eP P 18 37 40.5 +0.5
comp=Z,5.6nm,0.8s
CONA Conrad Observa 90.76 39 eP P 18 37 41.2 +0.5
comp=Z,3.5nm,0.8s
SOKA Soboth 90.81 40 eP P 18 37 41.4 +0.4
comp=Z,6.4nm,1.2s
ARSA Arzberg 90.86 40 eP P 18 37 41.6 +0.4
comp=Z,3.0nm,0.7s
KEST Kesra 91.33 52 P P 18 37 42.6 -1.0
comp=Z,6.9nm,0.8s,baz=262,slow=5.8,SNR=6.2
MODS Modra-Piesok 91.40 38 eP P 18 37 43.5 -0.1
MODS pmax pmax
comp=Z,7.0nm,1.0s
MODS Modra-Piesok 91.40 38 eP P 18 37 43.5 -0.1
VYHS Vyhne 92.26 38 eP P 18 37 48.8 +1.2
VYHS pmax pmax
comp=Z,5.0nm,1.6s
VYHS Vyhne 92.26 38 eP P 18 37 48.8 +1.2
TOA0 Torodi Ar. Sit 92.43 76 eP P 18 37 48.5 -0.4
TORD Torodi Ar. Bea 92.43 76 P P 18 37 47.6 -1.4
comp=Z,2.4nm,0.9s,baz=292,slow=5.0,SNR=12
TORD LR LR 19 15 20.5
comp=Z,78nm,21.6s,baz=285,slow=33
PRGR Permogore 95.57 18 eP P 18 38 01.5 -0.9
PRGR pmax pmax

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,7.0nm,0.7s						
OBN	Obninsk	97.24	26	eP	Pdif	18 38 10.2	0.0
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,136nm,20.0s						
DZM	Mont Dzumac	103.96	251	eLR	LR	19 12 50.8	
	comp=Z,267nm,28.5s						
KIV	Kislovodsk	108.01	31	eP	Pdif	18 38 55.8	-2.8
KIV				e		18 43 30.7	
KIV				ePPP	PPP	18 45 45.2	
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MKAR	Makanchi Array	116.42	2	PKP	PKiKP	18 43 20.1	-1.1
	comp=Z,0.3nm,0.5s,baz=36,slow=2.7,SNR=4.4						
HHC	Hu-ho-hao-te	117.36	338	ePKP	PKPdf	18 43 18.1	-5.2
WMQ	Urumqi	119.39	358	ePKP	PKPdf	18 43 26.9	-0.1
WMQ				LR	LR		
	comp=Z,210nm,19.9s						
WMQ				LR	LR		
	comp=Z,230nm,20.5s						
GEYT	Alibeck	119.75	24	PKP	PKPdf	18 43 26.9	-1.0
	comp=Z,1.6nm,0.8s,baz=299,slow=1.5,SNR=3.2						
NJ2	Nanjing	121.40	326	ePKP	PKPdf	18 43 30.0	-1.1
GTA	Gaotai	122.17	346	ePKP	PKiKP	18 43 36.5	+3.7
GTA				sPKP		18 43 55.1	
GTA				PP	PP	18 45 15.0	+8.3
GTA				AMB	AMB		
	comp=Z,130nm,8.6s						
GTA				LR	LR		
	comp=Z,100nm,17.8s						
GTA				LR	LR		
	comp=Z,120nm,18.4s						
GTA				LR	LR		
	comp=Z,160nm,18.7s						
KSH	Kashi	123.11	8	PKP	PKPdf	18 43 31.7	-2.7
KSH				PP	PP	18 45 15.2	+2.3
KSH				PKS	PKSdf	18 47 08.0	-3.2
BOSA	Boshof	124.21	113	PKP	PKPdf	18 43 35.1	-1.6
	comp=Z,8.0nm,0.8s,baz=289,slow=1.1,SNR=12						
BOSA	Boshof	124.21	113	ePKPdf	PKPdf	18 43 35.7	-1.0
BOSA	Boshof	124.21	113	ePKIKP	PKPdf	18 43 35.7	-1.0
BOSA	Boshof	124.21	113	eP	PKiKP	18 43 39.0	+2.0
LZH	Lanzhou	124.24	342	ePKP	PKiKP	18 43 38.1	+1.1
LZH				sPKP		18 44 00.8	
STKA	Stephens Creek	126.98	243	PKP	PKPdf	18 43 41.0	-0.7
	comp=Z,4.7nm,0.8s,baz=64,slow=1.4,SNR=8.1						
STKA	Stephens Creek	126.98	243	ePKPdf	PKPdf	18 43 41.5	-0.3
STKA	Stephens Creek	126.98	243	ePKIKP	PKPdf	18 43 41.5	-0.3
CD2	Chengdu	129.04	339	PKP	PKPdf	18 43 45.0	-0.9
GYA	Guiyang	131.92	334	ePdif	Pdif	18 40 43.2	-2.1
GYA				PP	PP	18 46 14.4	+3.0
GYA				AMB	AMB		
	comp=Z,120nm,7.8s						
WRAB	Tennant Creek	133.27	258c	iPKIKP	PKiKP	18 43 57.3	+2.1
WRAB				pmax	pmax		
	comp=Z,11nm,1.7s						
WRA	Warramunga Arr	133.28	258	PKP	PKPdf	18 43 53.7	-0.3
	comp=Z,3.0nm,0.8s,baz=82,slow=2.3,SNR=6.8						
DAV	Davao City (W)	133.30	298	eP	PKiKP	18 43 57.0	+1.5
ASAR	Alice Springs	133.88	253	PKhKP	PKPpre	18 43 49.6	
	comp=Z,0.6nm,0.6s,baz=103,slow=4.2,SNR=2.4						
KMI	Kunming	134.68	337	PKP	PKPdf	18 43 55.1	-1.8
CMAR	Chiang Mai Arr	142.16	338	PKhKP	PKPpre	18 44 05.2	
	comp=Z,0.8nm,0.6s,baz=341,slow=3.4,SNR=6.7						
NWAO	Narrogin (SRO)	146.97	235	PKPbc	PKPbc	18 44 19.4	-1.0
	comp=Z,4.1nm,0.7s,baz=355,slow=3.5,SNR=6.3						
MBWA	Marble Bar	147.00	257	eP	PKPab	18 44 22.2	-0.1

IDC 06 18:25:11.9±3.3, 21°.83S×176°.82W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.7/37, mbtmp3.9/3, Error ellipse: s-maj=195.8km s-min=47.5km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	45.30	258	P	P	18 33 32.2	+0.4
	1.2nm,0.7s,baz=100,slow=7.2,SNR=14						
ASAR				PcP	PcP	18 35 10.3	-1.5
	0.2nm,0.5s,baz=119,slow=3.9,SNR=5.2						
WRA	Warramunga Arr	45.52	263	P	P	18 33 33.5	-0.1
	0.9nm,0.7s,baz=96,slow=7.8,SNR=23						
CMAR	Chiang Mai Arr	91.59	289	P	P	18 38 21.2	-0.1
	0.9nm,0.9s,baz=136,slow=3.0,SNR=5.6						
FINES	FINESS Array B	137.35	344	PKP	PKiKP	18 44 38.9	+0.2
	1.7nm,0.9s,baz=64,slow=3.2,SNR=3.2						
AKASG	Malin Array Be	144.70	331	PKP	PKPdf	18 44 51.3	+0.8
	0.2nm,0.3s,baz=43,slow=4.2,SNR=13						
BRTR	Keskin Array B	148.54	311	PKPbc	PKPdf	18 44 59.0	+1.5
	0.4nm,0.7s,baz=130,slow=3.2,SNR=3.7						

DDA 06 18:28:47.6, 37°.32N×36°.23E, h16km±1km, ML3.6
ISK 06 18:28:47.2, 37°.29N×36°.28E, h8km, ML3.2/32
ISC 06 18:28:47.9±1.1, 37°.29N±0°.03×36°.27E±0°.02, h7km±10km, n48, σ1s.01/63, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANDN	Andirin	0.29	11	IAML_P			
	comp=Z,86μm,0.2s						
ANDN				iP	Pg	18 28 53.9	+0.3
ANDN				iS	Sb	18 28 59.0	-1.7
KOZT	Kozan	0.40	298	PG	Pb	18 28 55.7	-1.6
KOZT				SG	Sb	18 29 02.3	-1.4
KMRS	Kahramanmaras	0.54	67	PG	Pg	18 28 58.2	-0.1
KMRS				SG	Sg	18 29 05.5	+0.1
YURE	YUREGIR	0.69	228	iP	Pb	18 29 01.6	-0.6
YURE				iS	Sn	18 29 16.7	+1.5
SAIM	ADANA	0.70	348	IAML_P			
	comp=Z,13μm,0.1s						
SAIM				iP	Pg	18 29 00.8	-0.5
SAIM				iS	Sb	18 29 11.1	-1.2
GAZ	Gaziantep	0.76	99	PG	Pg	18 29 02.6	+0.2
KUZU	Kuzuini	0.82	129	iP	Pn	18 29 05.0	-1.0
KUZU				iS	Sn	18 29 18.6	+0.2
TAHT	Tahtakopru-Hat	0.92	184	PG	Pb	18 29 05.5	-0.6
KARA	Karaisali	0.97	268	PG	Pb	18 29 06.0	-1.0
GZT	Gaziantep	1.03	86	iP	Pn	18 29 08.4	-0.5
GZT				iS	Sn	18 29 24.3	+0.7
GULE	Gulek	1.19	270	IAML_P			
	comp=Z,2μm,0.1s						
GULE				iP	Pg	18 29 10.2	-0.6
GULE				iS	Sn	18 29 30.2	+2.5
ELBS	KAHRAMANMARAS	1.23	33	IAML_P			
	comp=Z,1μm,0.2s						
ELBS				iP	Pg	18 29 11.1	-0.5
ELBS				iS	Sg	18 29 29.2	+1.6
MERS	Mersin	1.46	254	PN	Pb	18 29 14.3	-1.1
NIG	Nigde	1.55	302	PN	Pb	18 29 16.2	-0.9
BNN	Bunyan	1.59	348	PN	Pb	18 29 16.7	-1.0
DARE	Darende-Malaty	1.59	37	PN	Pb	18 29 16.9	-0.8
ATAB	Bozova	1.62	83	iP	Pg	18 29 19.4	+0.5
ATAB				iS	Sg	18 29 41.3	+1.4
CUGUR	Gurin_SVAS	1.63	29	iP	Pg	18 29 20.5	+1.4
CUGUR				iS	Sg	18 29 41.3	+1.0
AKCD	Akcadag	1.65	52	IAML_P			
	comp=Z,4μm,0.2s						
AKCD				iP	Pb	18 29 18.0	-0.6
AKCD				iS	Sg	18 29 41.5	+0.7
KERG	Konya-Eregli	1.72	275	IAML_P			
	comp=Z,631nm,0.1s						
KERG				iP	Pb	18 29 18.8	-1.0
KERG				iS	Sg	18 29 43.3	+0.3
AVNS	Nevsehir-Avano	1.88	324	iS	Sg	18 29 48.5	+0.1
KIZK	Mersin	1.89	245	PN	Pb	18 29 20.6	-2.1
KIZK	Mersin	1.89	245	IAML_P			
	comp=Z,490nm,0.2s						
KIZK				iP	Pb	18 29 21.8	-0.9
SURC	SANLIURFA_SURC	1.92	102	iP	Pn	18 29 20.2	-0.7
SURC				iS	Sg	18 29 51.1	+1.7
CUALT	Altinyayla-SIV	2.01	11	iP	Pb	18 29 23.4	-1.5
CUALT				iS	Sg	18 29 53.6	+1.0
URFA	Urfa	2.04	85	PN	Pn	18 29 21.9	-0.7
CUSAR	Sarkisla-SIVAS	2.12	359	iP	Pb	18 29 24.7	-2.0
KEBE	Keben-Mersin	2.22	248	PN	Pn	18 29 25.6	+0.4
IKL	Isikli	2.33	244	PN	Pn	18 29 26.4	-0.2
SULT	Sultanhani-AKS	2.37	293	PN	Pn	18 29 27.4	+0.2
TEVE	Tevekalti-Mers	2.43	250	PN	Pn	18 29 28.1	+0.1
EREN	Erenkoy	2.44	225	PN	Pn	18 29 28.9	+0.7
YOZ	Yozgat	2.46	343	PN	Pn	18 29 28.9	+0.4
AKKU	Akkuyu-Mersin	2.46	243	PN	Pn	18 29 28.2	-0.2
YAYX	Yaylak	2.54	311	PN	Pn	18 29 29.8	+0.2
BERE	Bereket-Mersin	2.62	250	PN	Pn	18 29 31.9	+1.1
SVSK	Karacayir	2.68	12	PN	Pn	18 29 32.1	+0.7
SERE	Sereflikochisa	2.70	309	PN	Pn	18 29 32.3	+0.5
TEKE	Tekeli-Mersin	2.79	247	PN	Pn	18 29 33.5	+0.6
ILIC	ilic-Erzincan	2.81	39	PN	Pn	18 29 33.3	0.0
KAMT	Kaman	2.89	317	PN	Pn	18 29 35.5	+1.1
TOKT	Tokat	3.03	4	PN	Pn	18 29 36.7	+0.4
HDMB	Hadim	3.04	265	PN	Pn	18 29 37.2	+0.6
DYBB	Diyarbakir	3.14	77	PN	Pn	18 29 38.3	+0.5
CORM	Corum	3.15	336	PN	Pn	18 29 38.8	+0.7
KONT	Konya--Tatoy	3.17	283	PN	Pn	18 29 39.2	+1.0
RSDY	Resadiye-TOKAT	3.21	15	PN	Pn	18 29 39.5	+0.8
AFSR	Afar-Bala (An	3.31	311	PN	Pn	18 29 41.2	+1.0

WEL 06 18:28:47.8±1.0, 35°S±14°×17°9W±1°9, h33km, ML4.5/16, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	3.56	214	P	Pn	18 29 42.1	+1.4
WMGZ				S	Sn	18 30 23.3	+1.7
PKGZ	Pakihiroa	3.78	217	P	Pn	18 29 43.8	0.0
PKGZ				S	Sn	18 30 27.8	+0.7
HAZ	Te Kaha	3.83	221	P	Pn	18 29 45.4	+1.0
HAZ				S	Sn	18 30 31.1	+2.9
PUZ	Puketiti	3.84	214	P	Pn	18 29 44.2	-0.3
PUZ				S	Sn	18 30 29.3	+0.8
TWGZ	Tauwhareparae	4.05	215	P	Pn	18 29 48.5	+1.0
TWGZ				S	Sn	18 30 36.0	+2.1
CNGZ	Carnagh Statio	4.20	211	P	Pn	18 29 49.3	-0.2
TKGZ	Te Karaka	4.33	214	P	Pn	18 29 51.9	+0.7
TKGZ				S	Sn	18 30 41.1	+0.7
MWZ	Matawai	4.40	218	P	Pn	18 29 51.6	-0.7
MWZ				S	Sn	18 30 42.0	-0.3
URZ	Urewera	4.56	221	P	Pn	18 29 54.1	-0.3
URZ				S	Sn	18 30 46.3	0.0
RIGZ	Rimuhau	4.58	213	P	Pn	18 29 54.4	-0.4
RIGZ				S	Sn	18 30 47.0	+0.1
OPRZ	Ohinepanea	4.61	229	P	Pn	18 29 55.2	+0.2
PRGZ	Paritu Road	4.71	210	P	Pn	18 29 56.2	-0.3
SNGZ	Shannon Statio	4.84	216	P	Pn	18 29 58.6	+0.3
SNGZ				S	Sn	18 30 53.2	0.0
RTZ	Ruatahuna	4.89	219	P	Pn	18 29 58.8	-0.2
MHGZ	Mahia Peninsul	4.90	209	P	Pn	18 29 58.6	-0.5
MUGZ	Murupara	4.90	222	P	Pn	18 29 58.3	-0.9
MUGZ				S	Sn	18 30 53.8	-0.9
MTHZ	Maungataniwha	5.14	219	P	Pn	18 30 02.8	+0.4
TOZ	Tahuroa Road	5.23	236	P	Pn	18 30 04.4	+0.8
MRHZ	Matea Rd	5.35	221	P	Pn	18 30 04.6	-0.8
KWHZ	Kaweka Forest	5.79	217	P	Pn	18 30 10.5	-0.8

GII 06 18:29:25.7±0.0, 34°.93N×36°.66E, h6km, MD3.2/5, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NATI	Neve Ativ	1.83	205	Pn	Pn	18 29 56.4	-1.3
NATI				Sn	Sn	18 30 20.7	-0.5
KSDI	Kefar Szold	1.92	206	P	Pn	18 29 58.1	-0.9
	241nm,0.9s						
KSDI	Kefar Szold	1.92	206	Pn	Pn	18 29 58.0	-1.0
KSDI				Sn	Sn	18 30 23.2	-0.3
KSHT	Keshet	2.07	200	Pn	Pn	18 30 00.6	-0.4
MMA0B	Mount Meron ar	2.18	209	Pn	Pn	18 30 02.1	-0.4
MMA0B				Sn	Sn	18 30 30.3	+0.4
HNTI	Hanita	2.22	214	Pn	Pn	18 30 02.7	-0.3
HNTI				Sn	Sn	18 30 31.1	+0.3
BLGI	Bet Lehem HaGe	2.51	209	Pn	Pn	18 30 07.0	0.0
BLGI				Sn	Sn	18 30 38.8	+0.9
MMLI	Mount Malkishu	2.69	203	Pn	Pn	18 30 09.1	-0.5
MMLI				Sn	Sn	18 30 42.8	+0.3
OFRI	`Ofer	2.69	212	Pn	Pn	18 30 09.2	-0.4
OFRI				Sn	Sn	18 30 43.4	+0.9
ASF	Jabal al Asfar	2.76	176	P	Pn	18 30 09.8	-0.8
	24nm,0.6s						
HMDT	Nahal Hemdat	2.83	200	Pn	Pn	18 30 11.4	-0.1
HMDT				Sn	Sn	18 30 46.7	+0.8
HSUJ	Al Zarqa	2.85	188	P	Pn	18 30 13.4	+1.7
	87nm,0.5s						
SLTI	Sal'it	3.00	207	Pn	Pn	18 30 13.5	-0.3
WALJ	Wala	3.44	192	P	Pn	18 30 22.5	+2.7
DSI	Dead Sea	3.52	198	Pn	Pn	18 30 21.2	+0.3
AMAZ	Amatzia	3.69	204	Pn	Pn	18 30 23.2	-0.1
GHAJ	Ghor Haditha	3.73	194	Pn	Pn	18 30 23.1	-0.7
MZDA	Masada	3.77	197	Pn	Pn	18 30 24.3	-0.1
ZFRI	Zfri	4.54	196	Pn	Pn	18 30 35.2	+0.3
PRNI	Paran	4.78	197	Pn	Pn	18 30 37.9	-0.3
EIL	Elat	5.44	196	Pn	Pn	18 30 47.7	+0.3

IDC 06 18:31:12.2±13.0, 0°.19N×91°.61E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.4/55, mbtmp3.6/4, ML4.1/1, Error ellipse: s-maj=272.9km s-min=91.8km az=158.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.53	21	P	P	18 35 41.2	-0.2
	0.2nm,0.3s,baz=211,slow=11,SNR=16						
MKAR	Makanchi Array	47.12	351	P	P	18 39 46.6	+0.5
	0.4nm,0.8s,baz=155,slow=7.9,SNR=3.1						
SONM	Songino Array	49.16	13	P	P	18 40 02.3	+0.2
	1.3nm,0.7s,baz=194,slow=9.2,SNR=9.1						
ZALV	Zalesovo Beam	53.87	355	P	P	18 40 36.1	-0.8
	0.4nm,0.4s,baz=185,slow=6.7,SNR=1.9						

ISCJB 06 18:33:05.0±0.5, 7°.06S±0°.04×130°.96E±0°.07, h100km, Error ellipse: s-maj=9.9km s-min=6.3km az=3.4
IDC 06 18:33:05.4±2.7, 6°.85S×130°.91E, h75km±22km, mb3.8/3, mb1 4.1/5, mb1mx3.6/38, mbtmp4.3/5, MS3.2/1, Ms1 3.2/1, ms1mx2.6/31, Error ellipse: s-maj=35.9km s-min=18.4km az=96.0
DJA 06 18:33:07.8±0.6, 7°S±5°×13°1E±°, h106km±18km, M4.9/10, mb4.9/7, mB5.5/5, MLv4.9/10, Mw(mB)4.9/5
ISC 06 18:33:06.6±0.8, 6°.99S±0°.06×130°.82E±0°.08, h100km, n21, σ2s.64/22, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.10	154	P	Pn	18 33 30.3	+2.2
BNDI	Bandanaira	2.61	340	P	Pn	18 33 48.1	+0.9
FAKI	Fak Fak	4.29	19	P	Pn	18 34 09.5	-0.2
KMPI	Kaimana, Papua	4.38	41	P	Pn	18 34 12.2	+1.3
NLAI	Namlea	5.25	315	P	Pn	18 34 24.2	+1.4
	74nm,0.5s						
SIJI	Sorong	6.09	4	P	Pn	18 34 32.7	-1.6
	90nm,0.3s,baz=189,slow=10,SNR=396						
SIJI				S	Sn	18 35 37.9	-4.7
	22nm,0.3s,baz=125,slow=23,SNR=8.9						
SWI	Sorong	6.10	4	P	Pn	18 34 33.2	-1.1
RKPI	Ransiki, Papua	6.39	32	P	Pn	18 34 39.4	+1.2
SANI	Sanana	6.87	315	P	Pn	18 34 47.7	+2.9
SOEI	Soe	7.04	247	P	Pn	18 34 48.6	+1.4
BATI	Baumata	7.76	245	P	Pn	18 34 58.2	+1.2
	18nm,0.3s,baz=127,slow=2.1,SNR=17						
BATI				S	Sn	18 36 20.9	-2.4
	14nm,0.3s,baz=52,slow=19,SNR=5.5						
BATI	Baumata	7.76	245	P	Pn	18 34 58.2	+1.2
EDFI	Ende, Flores	9.21	258	P	Pn	18 35 19.5	+2.8
WRA	Warramunga Arr	13.32	165	P	Pn	18 36 08.6	-3.3
	8.0nm,0.3s,baz=349,slow=14,SNR=158						
WRA				S	Sn	18 38 28.4	-10
	2.5nm,0.3s,baz=344,slow=22,SNR=5.8						
PMG	Port Moresby	16.35	100	LR	LR	18 44 22.7	
	comp=Z,83nm,18.6s,baz=122,slow=42						
ASAR	Alice Springs	16.85	170	P	Pn	18 36 56.2	-0.2
	3.5nm,0.3s,baz=338,slow=8.7,SNR=147						
ASAR				S	Sn	18 39 56.0	-7.7
	0.9nm,0.3s,baz=358,slow=27,SNR=5.8						
CMAR	Chiang Mai Arr	40.35	309	P	P	18 40 35.5	+0.7
	0.4nm,0.6s,baz=135,slow=6.8,SNR=6.2						
MKAR	Makanchi Array	68.66	326	P	P	18 44 01.5	+2.3
	4.1nm,0.6s,baz=117,slow=8.2,SNR=56						
ZALV	Zalesovo Beam	71.93	333	P	P	18 44 18.4	-0.6
	1.0nm,0.5s,baz=116,slow=6.4,SNR=3.3						
TORD	Torodi Ar. Bea	129.60	281	PKP	PKPdf	18 52 06.6	+1.6
	0.3nm,0.6s,baz=62,slow=2.4,SNR=2.9						
LPAZ	La Paz	150.22	141	PKPbc	PKiKP	18 52 50.1	+1.5
	2.6nm,0.8s,baz=281,slow=5.2,SNR=7.2						

ISCJB 06 18:40:38.6±0.3, 41°.00N±0°.02×20°.19E±0°.03, h9km±3km, Error ellipse: s-maj=3.6km s-min=2.5km az=179.1
TIR 06 18:40:38.5, 40°.99N×20°.20E, h1km, Md2.9/7
ATH 06 18:40:38.3, 40°.98N×20°.14E, h28km±2km, ML2.4/3, Error ellipse: s-maj=3.0km s-min=1.1km az=26.0
SKO 06 18:40:39.1, 41°.00N×20°.16E, h22km
BEO 06 18:40:39.9±0.3, 41°.01N×20°.24E, h9km±2km, ML2.3/9
ISC 06 18:40:39.1±1.0, 40°.98N±0°.02×20°.17E±0°.02, h14km±9km, n41, σ1s.08/70, 7C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.43	328	ePg	Pg	18 40 47.4	-0.4
TIR				eSg	Sb	18 40 55.3	+0.4
TIR	Tirane	0.43	328	P	Pg	18 40 47.3	-0.4
TIR				S	Sb	18 40 54.9	0.0
TIR				AML	AML	18 40 56.0	
	comp=E,1607μm,0.4s						
TIR				AML	AML	18 40 59.7	
	comp=N,1557μm,0.5s						
TIR	Tirane	0.43	328⇑	iPg	Pg	18 40 47.3	-0.4
TIR	Tirane	0.43	328	i PG	Pg	18 40 47.2	-0.5
TIR				i SG	Sb	18 40 55.1	+0.2
OHR	Ohrid	0.50	74⇑	iPg	Pb	18 40 49.0	-0.6
OHR				i Sg	Sb	18 40 58.3	+1.5
TPE	Tepelena	0.69	190	i PG	Pg	18 40 52.2	-0.3
TPE				i SG	Sn	18 41 04.9	0.0
VLO	Vlora	0.72	225	i PG	Pb	18 40 53.6	+0.3
VLO				i SG	Sn	18 41 06.2	+0.6
PHP	Peshkopia	0.73	16	i PG	Pg	18 40 52.8	-0.6
PHP				i SG	Sn	18 41 05.4	-0.8
NEST	Nestorio	0.88	130	P	Pb	18 40 56.0	-0.1
NEST				S	Sb	18 41 08.0	+0.3
BIA	Bitola	0.88	87⇑	iPg	Pb	18 40 55.7	-0.4
BIA				i Sg	Sb	18 41 07.7	0.0
KRUS	Krusevo	0.91	64⇑	iPg	Pg	18 40 55.8	-0.8
KRUS				i Sg	Sb	18 41 08.3	-0.2
FNA	Florina	0.94	102	ePg	Pg	18 40 56.6	-0.7
FNA				eSg	Sb	18 41 09.2	-0.3
FNA	Florina	0.94	102	P	Pb	18 40 56.8	-0.3
FNA				S	Sn	18 41 10.7	-0.5
FNA				AML	AML	18 41 12.8	
	comp=N,491μm,0.4s						
FNA				AML	AML	18 41 13.1	
	comp=E,434μm,0.3s						
FNA	Florina	0.94	102⇑	iPg	Pg	18 40 56.5	-0.7
FNA				i Sg	Sb	18 41 09.8	+0.3
PENT	Pentalofos	1.08	136	P	Pb	18 40 59.6	+0.1
PUK	Puka	1.08	349	i PG	Pg	18 40 59.5	-0.4
PUK				i SG	Sn	18 41 16.2	+1.5
SRN	Sarande	1.10	187	i PG	Pg	18 41 00.0	-0.3
SRN				i SG	Sn	18 41 16.6	+1.5
ULC	Ulcinj	1.20	325⇑	iPg	Pb	18 41 00.4	-1.2
KEK	Kerkira	1.29	193	P	Pn	18 41 02.2	-0.5
KEK				S	Sb	18 41 19.9	+0.2
SKO	Skopje	1.38	44	ePg	Pn	18 41 03.9	0.0
SKO				eSg	Sb	18 41 21.4	-0.7
SKO	Skopje	1.38	44⇑	iPg	Pn	18 41 03.8	-0.1
SKO				i Sg	Sg	18 41 22.7	-0.8
BCI	Bajram Curri	1.39	357	i PN	Pb	18 41 04.9	+0.1
BCI				i SN	Sg	18 41 27.1	+3.3
KZN	Kozani	1.39	118	P	Pb	18 41 04.9	0.0
JAN	Janina	1.42	158	P	Pn	18 41 04.8	+0.3
IGT	Igoumenitsa	1.45	175	ePg	Pg	18 41 06.5	-0.4
IGT				eSg	Sg	18 41 26.7	+0.9
IGT	Igoumenitsa	1.45	175	P	Pn	18 41 04.3	-0.6
IGT				S	Sn	18 41 24.0	+0.3
IGT				AML	AML	18 41 33.0	
	comp=E,152μm,0.6s						
IGT				AML	AML	18 41 35.1	
	comp=N,134μm,0.4s						
PDG	Podgorica	1.60	335	ePg	Pb	18 41 08.5	+0.1
PDG				eSg	Sg	18 41 30.5	-0.2
STIP	Stip	1.68	64	ePn	Pg	18 41 10.2	-1.1
GRG	Griva	1.69	90	P	Pn	18 41 07.9	-0.3
GRG	Griva	1.69	90	ePn	Pn	18 41 07.9	-0.3
VAY	Valandovo	1.85	79	ePn	Pn	18 41 09.7	-0.6
VAY				eSn	Sn	18 41 33.9	+0.4
VAY	Valandovo	1.85	79	ePn	Pn	18 41 09.3	-1.0
SJES	Sjenica	2.29	356	ePn	Pn	18 41 18.4	+1.9
SJES				eSn	Sn	18 41 45.2	+0.7
SELS	Selova	2.35	17	ePn	Pn	18 41 18.5	+1.2
IVAS	Ivanjica	2.60	360	ePn	Pn	18 41 22.4	+1.7
IVAS				eSn	Sn	18 41 53.6	+1.6
STON	Ston	2.64	317	ePn	Pn	18 41 18.1	-3.0
STON				Sn	Sn	18 41 48.2	-4.8
VTS	Vitosha	2.79	54	ePn	Pn	18 41 23.7	+0.3
VTS				eSn	Sn	18 41 56.9	0.0
BOVS	Bovan	2.89	23	ePn	Pn	18 41 24.4	-0.2
BOVS				eSn	Sn	18 41 59.5	+0.3
GRUS	Gruza	2.94	8	ePn	Pn	18 41 26.0	+0.7
ZAPS	Zavoj	2.94	38	ePn	Pn	18 41 26.0	+0.7
ZAPS				eSn	Sn	18 42 01.4	+1.0
BBLS	Lazići	2.94	349	ePn	Pn	18 41 26.8	+1.4

NIED 06 18:51:00, 23°.70N×141°.80E, h107km, Mw4.6 Best double couple: $M_0$9.60000×10^15 NP1:ϕ_s283.00000°, δ14.00000°, λ167.00000°. NP2:ϕ_s26.00000°, δ87.00000°, λ76.00000°.
MOS 06 18:51:26.0±0.9, 23°.57N×141°.94E, h107km, mb4.7/41, Error ellipse: s-maj=11.3km s-min=5.3km az=109.4
BJI 06 18:51:27.1, 23°.66N×142°.20E, h124km, mb4.7/28, mB4.9/15
JMA 06 18:51:29.8±0.3, 23°.72N×141°.84E, h168km±2km, M4.8
IDC 06 18:51:30.1±0.8, 23°.56N×141°.92E, h130km±6km, mb4.0/24, mb1 4.1/28, mb1mx4.1/40, mbtmp4.4/28, MS3.1/3, Ms1 3.1/3, ms1mx2.7/37, Error ellipse: s-maj=14.1km s-min=8.9km az=91.0
NEIC 06 18:51:30.1±0.3, 23°.52N×141°.93E, mb4.7/18, Error ellipse: s-maj=7.8km s-min=6.0km az=96.0
ISCJB 06 18:51:33.0±0.3, 23°.94N±0°.03×141°.82E±0°.06, h150km, mb4.4/80, Error ellipse: s-maj=7.3km s-min=4.3km az=15.2
ISC 06 18:51:32.5±0.4, 23°.77N±0°.05×141°.88E±0°.09, h150km, n239, σ1s.75/244, mb4.5/93, 21C-11D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	2.86	5	P	Pn	18 52 17.1	-1.0
JHHJ				eS	Sn	18 52 53.8	+0.4
JCJ	Chichijima	3.32	5	P	Pn	18 52 23.7	-0.2
	292nm,0.3s,baz=100,slow=23,SNR=846						
JCJ				S	Sn	18 53 04.5	+0.6
	341nm,0.3s,baz=300,slow=24,SNR=22						
CBIJ	Chichi jima	3.32	5	ePn	Pn	18 52 23.6	-0.3
CBIJ				S	Sn	18 53 04.5	+0.6
CBIJ	Chichi jima	3.32	5	P	Pn	18 52 23.3	-0.7
CBIJ				eS	Sn	18 53 04.3	+0.4
JHJ2	Mitsune	9.48	349	ePn	Pn	18 53 44.8	-0.8
JHJ2	Mitsune	9.48	349	P	Pn	18 53 44.1	-1.5
JHJ2				eS	Sn	18 55 27.4	-3.3
JHJ	Hachijo jima 2	9.50	349	P	Pn	18 53 44.4	-1.4
	19nm,0.3s,baz=49,slow=23,SNR=36						
JHJ				S	Sn	18 55 27.0	-4.0
	20nm,0.3s,baz=107,slow=19,SNR=4.9						
JMKN	Mikurajimanish	10.28	349	P	Pn	18 53 54.7	-1.5
GUMO	Guam	10.51	164	LR	LR	18 56 48.9	
	comp=Z,129nm,18.9s,baz=24,slow=31						
BSO1	Boso 1	10.87	356	P	Pn	18 54 01.6	-1.9
BSO1				eS	Sn	18 55 58.1	-5.3
BSO3	Boso 3	11.06	354	P	Pn	18 54 03.2	-2.9
BSO4	Boso 4	11.26	354	P	Pn	18 54 07.5	-1.5
JKN2	Miekihoku	11.53	336	P	P	18 54 14.8	-5.2
JOD2	Odawara 2	11.71	349	P	Pn	18 54 13.3	-1.6
JHU	Hanno	12.25	350	P	Pn	18 54 19.4	-2.5
JHU				eS	Sn	18 56 29.6	-7.7
INU	Inuyama	12.29	341	ePn	P	18 54 24.6	-3.9
JRY	Ryogami san	12.47	349	P	Pn	18 54 22.6	-2.3
JOW	Kunigami	12.68	287	P	P	18 54 37.1	+4.1
JAG	Ashikaga	12.79	351	P	Pn	18 54 25.1	-3.8
JHO	Hitachi	12.85	355	P	Pn	18 54 26.7	-3.0
MJAR	Matsushiro Arr	13.12	347	P	Pn	18 54 30.4	-2.8
	1.3nm,0.3s,baz=280,slow=21,SNR=16						
MJAR				S	Sn	18 56 51.7	-6.5

0.8nm,0.3s,baz=87,slow=28,SNR=4.4
MAJO Matsushiro 13.12 347 *e*Pn **Pn 18 54 30.4 -2.7**
MAJO *e*Sn **Sn 18 56 51.7 -6.5**
MAJO Matsushiro 13.12 347 *i* P **P 18 54 34.0 -3.8**
MAT Matsushiro 13.12 347 P **Pn 18 54 31.3 -1.9**
MAT *e*S **Sn 18 56 51.3 -7.0**
JNU Nakatsue 13.43 316 P **P 18 54 38.5 -2.7**
0.1nm,0.3s,baz=129,slow=13,SNR=2.1
JHS Saijyo 13.54 328 P P 18 54 45.7 +3.2
JKE Kume jima 2 13.92 284 P P 18 54 50.0 +3.3
KSRS Korea Array 18.15 322 P **Pn 18 55 33.5 -1.5**
0.1nm,0.3s,baz=138,slow=11,SNR=4.2
KSRS LR LR 19 02 01.5
comp=Z,41nm,20.8s,baz=145,slow=34
KSAR Wonju Array Be 18.16 322 P **Pn 18 55 33.5 -1.6**
KSAR Wonju Array Be 18.16 322 P **Pn 18 55 33.5 -1.6**
ASAJ Asahikawa 20.30 1 P Pn 18 55 59.6 -0.6
12nm,0.6s,baz=19,slow=2.1,SNR=6.5
USRK Ussuriysk Ar. 21.93 341 P **P 18 56 13.5 -0.4**
3.8nm,0.7s,baz=154,slow=12,SNR=11
YSS Yuzh-Sakhalins 23.14 2 *e*P **P 18 56 25.7 +0.3**
YSS *e* 18 56 47.0
KLR Kul'dur 26.64 345 P **P 18 56 56.9 -0.1**
2.4nm,0.6s,baz=175,slow=11,SNR=9.2
KLR Kul'dur 26.64 345 *i* P **P 18 56 57.4 +0.4**
NKL Nikolayevsk 29.35 359 *e*P **P 18 57 23.0 +2.0**
PETK Petropavlovsk- 31.66 18 P **P 18 57 42.8 +1.4**
2.3nm,0.7s,baz=199,slow=7.0,SNR=4.5
PETK LR LR 19 12 32.7
comp=Z,38nm,20.2s,baz=85,slow=40
PEA1 Petropavlovsk- 31.66 18 *e*P **P 18 57 42.8 +1.4**
ZEA Zeya 31.89 344 *e*P **P 18 57 43.0 -0.4**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
LZH Lanzhou 34.96 299 *e*P P 18 58 12.9 +2.4
LZH pmax pmax
comp=Z,46nm,1.1s
LZH pmax pmax
comp=Z,140nm,5.4s
MA2 Magadan 36.32 8 P **P 18 58 22.8 +1.2**
comp=Z,6.0nm,0.8s,baz=175,slow=8.9,SNR=5.6
MA2 Magadan 36.32 8*c*e P **P 18 58 23.1 +1.6**
MA2 pmax pmax
comp=Z,8.0nm,1.1s
ULN Ulaanbaatar 36.61 320*c*e P **P 18 58 24.1 -0.2**
ULN pmax pmax
comp=Z,1.0nm,0.8s
SONA0 Songino Array 36.98 319 *e*P **P 18 58 28.6 +1.2**
SONM Songino Array 36.98 319 P **P 18 58 28.6 +1.2**
comp=Z,0.7nm,0.7s,baz=130,slow=5.7,SNR=5.7
GTA Gaotai 38.71 304 *e*P **P 18 58 43.7 +1.6**
GTA pmax pmax
comp=Z,4.0nm,1.8s
GTA pmax pmax
comp=Z,52nm,6.8s
GTA LR LR
comp=Z,120nm,16.8s
GTA LR LR
comp=Z,120nm,17.8s
GTA LR LR
comp=Z,130nm,19.4s
SEY Seymchan 39.78 7 P **P 18 58 52.4 +2.0**
comp=Z,4.6nm,0.7s,baz=193,slow=7.0,SNR=22
SEY Seymchan 39.78 *7c*e P **P 18 58 51.3 +0.9**
CHTO Chiang Mai 40.20 271 P **P 18 58 55.5 +1.0**
CHTO pmax pmax
comp=Z,5.0nm,1.7s
CM31 Chiang Mai Arr 40.29 271 *e*P **P 18 58 56.0 +0.8**
CMAR Chiang Mai Arr 40.29 271 P **P 18 58 56.0 +0.8**
comp=Z,1.5nm,0.7s,baz=62,slow=7.3,SNR=16
WB2 Warramunga Arr 44.06 190 *e*P **P 18 59 23.0 -2.7**
WR1 Warramunga Arr 44.06 190 *e*P **P 18 59 22.7 -2.9**
comp=Z,15nm,0.5s
WR1 *e*ScP **ScP 19 04 46.2 0.0**
WRA Warramunga Arr 44.06 190 P **P 18 59 22.7 -2.9**
comp=Z,7.3nm,0.5s,baz=9.5,slow=8.5,SNR=150
WRA ScP **ScP 19 04 46.2 0.0**
comp=Z,1.7nm,0.8s,baz=0.9,slow=4.1,SNR=8.1
WRA S **S 19 05 41.7 -5.2**
comp=Z,1.6nm,0.7s,baz=7.8,slow=13,SNR=11
LEM Lembang 45.21 232 P **P 18 59 34.9 -0.1**
LEM pmax pmax
comp=Z,13nm,1.8s
SHL Shillong 45.26 283 *e*P **P 18 59 36.5 +1.2**
comp=Z,5.1nm,0.8s
SHL Shillong 45.26 283 *e*P **P 18 59 36.6 +1.2**
SHL pmax pmax
comp=Z,5.0nm,0.8s
LSA Lhasa 45.40 289 *e*P P 18 59 39.5 +2.6
comp=Z,13nm,1.3s
LSA Lhasa 45.40 289 *i* P P 18 59 39.5 +2.7
SNR=5.6
LSA Lhasa 45.40 289 *e*P P 18 59 39.5 +2.7
LSA pmax pmax
comp=Z,13nm,1.3s
BILL Bilibino 46.75 12*c*e P **P 18 59 48.6 +2.4**
BILL *e* 19 01 38.6
BILL pmax pmax
comp=Z,8.0nm,0.6s
AS31 Alice Springs 47.78 190 *e*P **P 18 59 52.1 -2.7**
comp=Z,1.6nm,0.6s
ASAR Alice Springs 47.78 190 P **P 18 59 52.2 -2.5**
comp=Z,2.1nm,0.6s,baz=18,slow=11,SNR=52
ASAR ScP **ScP 19 05 02.0 +0.4**
comp=Z,0.6nm,0.6s,baz=11,slow=4.6,SNR=11
ASAR S **S 19 06 34.9 -5.2**
comp=Z,1.0nm,0.7s,baz=9.8,slow=23,SNR=12
TIXI Tiksi 48.48 355 *i* P **P 19 00 00.2 +0.7**
TIXI pmax pmax
comp=Z,3.0nm,1.1s
DGZ Jazzator, Alta 49.41 316 *i* P **P 19 00 08.1 +1.0**
DGZ pmax pmax
comp=Z,3.0nm,0.7s
RAMN Ramite 49.72 286 *e*P **P 19 00 11.3 +1.3**
comp=Z,9.2nm,0.5s
JIRN Jiri 49.97 287 *e*P **P 19 00 13.9 +1.9**
comp=Z,56nm,0.7s
GUN Gumba 50.21 287 *e*P **P 19 00 15.6 +1.9**
comp=Z,11nm,0.5s
PKI Pulchoki 50.67 287 *e*P **P 19 00 18.4 +1.2**
comp=Z,14nm,1.0s
PKIN Phulchoki 50.68 287 *e*P **P 19 00 18.3 +1.1**
comp=Z,8.4nm,0.8s
KKN Kakani 50.75 287 *e*P **P 19 00 19.0 +1.4**
comp=Z,15nm,0.9s
DMN Daman 50.93 287 *e*P **P 19 00 20.5 +1.4**
comp=Z,9.4nm,0.6s
ZAA1 Zalesovo Array 51.85 321 *e*P **P 19 00 25.1 -0.1**
ZALV Zalesovo Beam 51.85 321 P **P 19 00 25.1 0.0**
comp=Z,1.7nm,0.3s,baz=114,slow=7.2,SNR=12
ZALV PcP **PcP 19 01 36.6 +0.7**
comp=Z,3.8nm,0.6s,baz=115,slow=4.0,SNR=11
ZALV Zalesovo Beam 51.85 321 *i* P **P 19 00 26.6 +1.5**
ZALV pmax pmax
comp=Z,2.0nm,0.3s
DANN Dangsing 51.99 288 *e*P P 19 00 29.0 +2.0
comp=Z,95nm,0.7s
KOLN Koldanda 52.22 288 *e*P **P 19 00 30.1 +1.5**
comp=Z,25nm,0.8s
MK32 Makanchi Array 52.42 312 *e*P **P 19 00 30.7 +1.2**
MKAR Makanchi Array 52.42 312 P **P 19 00 30.7 +1.2**
comp=Z,4.2nm,0.7s,baz=87,slow=9.5,SNR=71
MKAR PcP **PcP 19 01 39.3 +1.0**
comp=Z,1.6nm,0.7s,baz=82,slow=5.0,SNR=5.5
MKAR ScP **ScP 19 05 22.2 +0.8**
comp=Z,0.2nm,0.6s,baz=103,slow=3.1,SNR=2.8
MKAR Makanchi Array 52.42 312 *e*P **P 19 00 30.7 +1.2**
comp=Z,29nm,0.6s
MKAR PcP **PcP 19 01 39.3 +1.0**
MKAR ScP **ScP 19 05 22.2 +0.8**
MKAR Makanchi Array 52.42 312 *e*P **P 19 00 30.7 +1.2**
MKAR 19 01 39.3
MKAR pmax pmax
comp=Z,29nm,0.6s
MAKZ Makanchi 52.64 312 *e*P **P 19 00 32.2 +1.1**
comp=Z,6.0nm,0.7s
MAKZ Makanchi 52.64 312 *e*P **P 19 00 32.2 +1.1**
MAKZ pmax pmax
comp=Z,6.0nm,0.7s
PYUN Piuthan 52.70 288 *e*P **P 19 00 33.8 +1.7**
comp=Z,49nm,0.9s
PDGK Podgornoye 54.28 307 P **P 19 00 45.2 +1.9**
PDGK pmax pmax
comp=Z,7.0nm,0.9s
KURK Kurchatov 55.15 316 *e*P **P 19 00 49.0 -0.2**
comp=Z,3.9nm,0.8s
KURK Kurchatov 55.15 316 *e*P **P 19 00 49.0 -0.2**
KURK pmax pmax
comp=Z,4.0nm,0.8s
STKA Stephens Creek 55.33 180 P **P 19 00 47.6 -3.1**
comp=Z,1.7nm,0.5s,baz=26,slow=7.9,SNR=7.0
RDOG Red Dog Mine 55.40 22 *e*P P 19 00 54.0 +3.3
comp=Z,15nm,0.8s
KDAK Kodiak Island 57.20 35 P **P 19 01 04.2 +0.5**
comp=Z,11nm,0.9s,baz=237,slow=6.3,SNR=4.5
AAK Ala-Archa 57.96 307 P **P 19 01 11.6 +2.1**
AAK Ala-Archa 57.96 307*c*e P 19 01 11.7 +2.2
AAK pmax pmax
comp=Z,9.0nm,2.5s
IM3 Indian Mountai 58.14 26 *e*P **P 19 01 12.4 +2.4**
CAST Castle Rocks 58.31 29 *e*P **P 19 01 13.5 +2.1**
comp=Z,6.7nm,0.9s
BPAW Bear Paw Mtn. 58.91 28 *e*P **P 19 01 17.4 +1.9**
comp=Z,8.3nm,1.0s
SFK Sufi-Kurgan 58.94 304 P **P** 19 01 18.6 +2.2
SFK pmax pmax
comp=Z,7.0nm,1.1s
OTUK Ortayu 59.19 313 P **P 19 01 19.8 +2.1**
OTUK pmax pmax
comp=Z,5.0nm,1.1s
ARSB Arslanbob 59.20 305 *e*P P 19 01 20.6 +2.6
comp=Z,4.7nm,0.8s
BRVK Borovoye 60.39 319*c*e P **P 19 01 27.8 +2.1**
BRVK pmax pmax
comp=Z,6.0nm,0.7s
IL1 Eielson Array 60.76 28 *e*P **P 19 01 27.8 -0.3**
ILAR Eielson Array 60.76 28 P **P 19 01 28.9 +0.8**
comp=Z,2.7nm,0.9s,baz=261,slow=5.5,SNR=20
ILAR pP **pP 19 02 00.3 -2.5**
comp=Z,1.2nm,0.7s,baz=263,slow=5.4,SNR=3.0
KKAR Karatay Array 60.84 307 *e*P **P 19 01 30.9 +1.9**
KKAR Karatay Array 60.84 307 *e*P **P 19 01 31.0 +1.9**
SCRK Sand Creek 61.95 29 *e*P **P 19 01 37.8 +1.5**
comp=Z,7.4nm,0.8s
KBL Kabul 63.30 298 *e*P **P 19 01 46.4 +0.6**
comp=Z,12nm,0.9s
KBL Kabul 63.30 298 *e*P **P 19 01 46.4 +0.6**
KBL pmax pmax
comp=Z,13nm,0.9s
INK Inuvik 66.16 24 P **P 19 02 04.8 +1.4**
comp=Z,5.3nm,0.5s,baz=290,slow=5.2,SNR=41
ARU Arti 66.89 323*d i*P **P 19 02 08.2 -0.1**
ARU 19 02 35.8
ARU 19 04 34.5
ARU pmax pmax
comp=Z,6.0nm,0.5s
ABKAR Akbulak array 67.23 315 *e*P **P 19 02 11.6 +0.9**
GEYT Alibeck 71.09 304 P P 19 02 36.9 +2.3
comp=Z,4.0nm,0.8s,baz=90,slow=4.4,SNR=8.9
PRGR Permogore 72.27 330 *e*P **P 19 02 42.5 +1.3**
PRGR pmax pmax
comp=Z,9.0nm,0.7s
KBS Kingsbay 73.77 351 P **P 19 02 51.4 +1.7**
YKA Yellowknife Ar 75.19 28 P **P 19 02 59.3 +1.2**
comp=Z,1.6nm,0.6s,baz=293,slow=5.6,SNR=33
YKA pP **pP 19 03 30.9 -3.2**
comp=Z,1.0nm,0.7s,baz=290,slow=5.7,SNR=4.3
YKB5 Yellowknife Ar 75.19 28 *e*P **P 19 02 59.4 +1.2**
KLMR Klimovskoe 75.32 330 *e*P **P 19 02 59.2 +0.3**
KLMR pmax pmax
comp=Z,12nm,1.5s
KLMR Klimovskoe 75.32 330 *e*P **P 19 02 59.2 +0.3**
KLMR AMP 19 03 16.7
comp=Z,12nm,1.5s
RES Resolute Bay 75.34 13 P **P 19 03 00.3 +1.5**
RES pmax pmax
comp=Z,7.0nm,2.0s
BANOM Banah 76.24 292 P **P 19 03 06.7 +1.8**
SHME Shamm 76.33 293 *i* P P 19 03 07.6 +2.2
SNR=6.8
ARA0 ARCESS Array S 76.58 341 *e*P **P 19 03 07.4 +1.5**
ARCES ARCESS Array B 76.58 341 P **P 19 03 07.4 +1.4**
comp=Z,5.5nm,0.7s,baz=80,slow=9.2,SNR=35
ARCES ARCESS Array B 76.58 341 *e*P **P 19 03 07.3 +1.3**
HATD Hatta, Dubai 76.76 291 *i* P **P 19 03 09.4 +1.6**
SNR=5.8
ASHO Ashiyiah 76.87 291 P **P 19 03 09.9 +1.4**
FAQ Al Faqa, Dubai 77.25 292 P **P 19 03 11.4 +0.9**
ALNE Al Ain 77.35 291 *i* P **P 19 03 12.7 +1.6**
SNR=6.2
VRH Novokhopyorsk 77.89 321 *e*P **P 19 03 14.8 +1.3**
VRH pmax pmax
comp=Z,20nm,0.7s
JOF Joensuu 77.93 334 P **P 19 03 14.4 +0.8**
JOF pmax pmax
comp=Z,20nm,2.6s
OUL Oulu 78.87 337 P **P 19 03 19.6 +0.9**
LPSR Galich'ya Gora 78.91 323 *e*P **P 19 03 20.5 +1.4**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
DAG Danmarks Havn 78.98 356 *i* P **P 19 03 20.0 +0.9**
comp=Z,4.0nm,0.9s
DAG Danmarks Havn 78.98 356 *i* P **P 19 03 20.0 +0.9**
DAG pmax pmax
comp=Z,3.0nm,0.9s
OBN Obninsk 79.10 326 *e*P **P 19 03 19.9 -0.2**
OBN *e* 19 06 21.7
OBN pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 79.35 321 *e*P **P 19 03 22.5 +0.9**
VSR pmax pmax
comp=Z,20nm,0.6s
NCK Nalchik 79.70 313 *i* P **P 19 03 24.5 +0.8**
NCK pmax pmax
comp=Z,6.0nm,0.9s
ZEI Tsey 79.77 312 *e*P **P 19 03 24.7 +0.4**
ZEI pmax pmax
comp=Z,14nm,0.7s
SUF Sumiainen 80.07 335 P **P 19 03 25.3 +0.1**
SUF pmax pmax
comp=Z,18nm,1.0s
KBZ Khabaz 80.07 313 P **P 19 03 27.3 +1.7**
comp=Z,38nm,0.8s,baz=96,slow=4.6,SNR=85
KIV Kislovodsk 80.12 314 *e*P **P 19 03 26.8 +0.7**
comp=Z,19nm,0.9s
KIV Kislovodsk 80.12 314*de*P **P 19 03 27.8 +1.8**
KIV *e* 19 06 25.8
KIV *e*PPP PPP 19 08 21.1
KIV pmax pmax
comp=Z,20nm,0.9s
NEY Neytrino 80.38 313 *i* P P 19 03 30.4 +2.9
NEY pmax pmax
comp=Z,3.0nm,0.8s
FIA0 FINESS Array S 80.80 334 *e*P **P 19 03 29.8 +0.7**
FIA0 FINESS Array S 80.80 334 *e*P **P 19 03 29.8 +0.7**
FINES FINESS Array B 80.80 334 P **P 19 03 29.8 +0.7**
comp=Z,5.3nm,0.3s,baz=64,slow=4.8,SNR=82
VAF Ylistaro 81.20 336 P **P 19 03 31.8 +0.6**
VAF pmax pmax
comp=Z,16nm,0.8s
VSU Vasula 82.16 331 *i* P **P 19 03 36.4 +0.1**
VSU pmax pmax
comp=Z,22nm,1.0s
NV01 Mina Array Sit 82.80 51 *e*P **P 19 03 40.3 0.0**
NVAR Mina Array Bea 82.80 51 P **P 19 03 40.3 0.0**
comp=Z,1.3nm,0.8s,baz=270,slow=6.9,SNR=6.7
NVAR pP **pP 19 04 15.4 -1.5**
comp=Z,1.8nm,0.9s,baz=266,slow=6.0,SNR=4.7
SUMG Summit 83.91 0 *e*P **P 19 03 47.5 +1.9**
comp=Z,5.8nm,0.6s
SUMG Summit 83.91 0 *i* P **P 19 03 47.5 +1.9**
comp=Z,15nm,0.6s
SUMG Summit 83.91 0 *e*P **P 19 03 47.5 +1.9**
SUMG pmax pmax
comp=Z,6.0nm,0.6s
NACGM Naroch 84.10 328 *e* P **P 19 03 45.0 -1.4**
FFC Flin Flon 84.70 32*ce*P **P 19 03 51.5 +2.1**
AKASG Malin Array Be 85.13 324 P **P 19 03 51.4 -0.3**
comp=Z,4.9nm,0.7s,baz=54,slow=5.1,SNR=16
AKASG Malin Array Be 85.13 324 *i* P **P 19 03 52.0 +0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 85.13 324 *e*P **P 19 03 51.4 -0.2**
AKBB Malin Array Si 85.13 324 *e*P **P 19 03 51.4 -0.2**
KIEV Kiev 85.14 324 *e*P **P 19 03 52.0 +0.3**
comp=Z,21nm,1.4s
KIEV Kiev 85.14 324 *i*P **P 19 03 52.3 +0.6**
KIEV Kiev 85.14 324 *i* P **P 19 03 52.3 +0.6**
SNR=6.8
KIEV Kiev 85.14 324 *i* P **P 19 03 51.9 +0.3**
KIEV pmax pmax
comp=Z,14nm,1.2s
RAYN Ar Rayn 86.23 294 *e*P **P 19 03 58.9 +1.2**
comp=Z,13nm,0.6s
RAYN Ar Rayn 86.23 294 *i* P **P 19 03 59.1 +1.4**
SNR=19
SUW Suwalki 86.34 329 *e*P **P 19 03 57.8 +0.3**
SUW Suwalki 86.34 329 *e*P **P 19 03 57.8 +0.3**
comp=Z,47nm,0.8s
SUW Suwalki 86.34 329 *e*P **P 19 03 57.8 +0.3**
SUW pmax pmax
comp=Z,47nm,0.8s
NB2 NORSAR Subarra 86.59 338 P **P 19 03 58.4 -0.3**
comp=Z,10nm,1.0s,baz=44,slow=5.1
NB2 NORSAR Subarra 86.59 338 P **P 19 03 57.9 -0.8**
NB2 pmax pmax
comp=Z,2.0nm,0.7s
NB200 NORSAR Array S 86.59 338 *e*P **P 19 03 58.6 0.0**
NOA NORSAR Array B 86.59 338 P **P 19 03 58.6 0.0**
comp=Z,3.4nm,0.8s,baz=50,slow=4.8,SNR=15
NORES NORESS Array B 86.69 338 P **P 19 03 58.9 -0.2**
BR101 Keskin Array S 88.05 313 *e*P **P 19 04 06.7 +0.4**
BRTR Keskin Array B 88.05 313 P **P 19 04 06.7 +0.4**
comp=Z,4.4nm,0.8s,baz=74,slow=4.1,SNR=20
TLCR 88.31 319 ⇓*i*P **P 19 04 08.1 +1.0**
TLCR 88.31 319 ⇓P **P 19 04 08.1 +1.0**
CFR Carcaliu 88.72 320 *e*P **P 19 04 09.2 +0.2**
CFR pmax pmax
comp=Z,8.0nm,2.1s
BEL Belsk 88.81 328 *e*P **P 19 04 10.5 +1.1**
BEL Belsk 88.81 328 P **P 19 04 10.1 +0.7**
BEL pmax pmax
comp=Z,52nm,0.8s
BUR08 Bucovina Ar. S 89.02 323 *e*P **P 19 04 11.7 +1.1**
BUR04 Bucovina Ar. S 89.03 323 *e*P **P 19 04 11.2 +0.6**
BURAR Bucovina Array 89.03 323 ⇑*i*P P 19 03 58.7 -12
TLB Topalu 89.09 319 ⇓*i*P **P 19 04 11.9 +1.1**
TLB Topalu 89.09 319 ⇓P **P 19 04 11.9 +1.1**
VRI Vrincioaia 89.16 321 ⇑*i*P **P 19 04 12.3 +1.1**
VRI Vrincioaia 89.16 321 ⇑P **P 19 04 12.3 +1.1**
KWP Kalwaria Pacla 89.19 325 *e*P **P 19 04 12.4 +1.2**
KWP Kalwaria Pacla 89.19 325 *e*P **P 19 04 12.4 +1.2**
DOPR Dopca 89.88 321 ⇑*i*P **P 19 04 15.3 +0.8**
TRPA Tarpa 90.18 324 ⇑*i*P **P 19 04 16.2 +0.4**
OJC Ojcow 90.31 327 *e*P **P 19 04 17.1 +0.7**
OJC Ojcow 90.31 327 *e*P **P 19 04 17.1 +0.7**
VOIR 90.38 321 ⇑*i*P **P 19 04 17.6 +0.7**
VOIR 90.38 321 ⇑P **P 19 04 17.6 +0.7**
NIE Niedzica 90.56 326 *e*P **P 19 04 17.1 -0.6**
NIE Niedzica 90.56 326 *e*P **P 19 04 17.1 -0.6**
DRGR 90.89 323 ⇑*i*P **P 19 04 20.1 +0.8**
DRGR 90.89 323 ⇑P **P 19 04 20.1 +0.8**
LOT Lotru 91.10 322 ⇑*i*P **P 19 04 21.8 +1.5**
KSP Ksiaz 91.61 329 *e*P **P 19 04 22.5 +0.1**
KSP Ksiaz 91.61 329 *e*P **P 19 04 22.5 +0.1**
MORC Moravsky Berou 91.71 328 ⇓*i*P **P 19 04 23.8 +0.8**
MORC Moravsky Berou 91.71 328 ⇓P **P 19 04 23.8 +0.8**
MORC Moravsky Berou 91.71 328 *e*P **P 19 04 23.5 +0.5**
PSZ Piszkesteto 91.71 325 ⇑*i*P **P 19 04 21.2 -1.9**
PSZ Piszkesteto 91.71 325 ⇑P **P 19 04 21.2 -1.9**
VYHS Vyhne 91.89 326 *e*P **P 19 04 24.8 +1.0**
VYHS pmax pmax
comp=Z,6.0nm,1.0s
VYHS Vyhne 91.89 326 *e*P **P 19 04 24.8 +1.0**
DPC Dobruska-Polom 91.92 329 *e*P **P 19 04 24.2 +0.2**
DPC Dobruska-Polom 91.92 329 *e*P **P 19 04 24.2 +0.2**
UPC Upice 91.97 329 *e*P **P 19 04 25.2 +1.1**
UPC Upice 91.97 329 *e*P **P 19 04 25.2 +1.1**
JAVC Velka Javorina 92.25 327 *e*P **P 19 04 27.0 +1.5**
VRAC Vranov 92.49 328 ⇑*i*P **P 19 04 27.6 +1.1**
VRAC Vranov 92.49 328 ⇑P **P 19 04 27.6 +1.1**
VRAC Vranov 92.49 328 *e*P **P 19 04 27.2 +0.7**
BRG Berggiesshubel 92.68 330 *e*P **P 19 04 27.4 0.0**
comp=Z,2.1nm,0.7s
BRG Berggiesshubel 92.68 330 *e*P **P 19 04 27.4 0.0**
BRG pmax pmax
comp=Z,2.0nm,0.7s
KRUC Moravsky 92.75 328 P **P 19 04 28.4 +0.7**
KRUC Moravsky 92.75 328 *e*P **P 19 04 28.4 +0.7**
CLL Collm 92.81 331 ⇓*i*P **P 19 04 28.3 +0.4**
comp=Z,4.0nm,0.8s
CLL Collm 92.81 331 ⇓*i*P **P 19 04 28.3 +0.4**
CLL pmax pmax
comp=Z,16nm,0.8s
CONA Conrad Observa 93.77 327 *e*PcP **P 19 04 33.9 +1.3**
comp=Z,4.1nm,0.9s
NKC Novy Kostel 93.81 330 P **P 19 04 33.0 +0.4**
MOX Moxa 93.89 331 P **P 19 04 33.6 +0.6**
MOX pmax pmax
comp=Z,5.0nm,2.6s
KHC Kasperske Hory 94.06 329 *e*P **P 19 04 34.6 +0.8**
KHC Kasperske Hory 94.06 329 *e*P **P 19 04 34.6 +0.8**
GEC2 GERESS Array S 94.20 329 *e*P **P 19 04 34.4 -0.1**
GEC2 GERESS Array S 94.20 329 *e*P **P 19 04 34.4 -0.1**
GERES GERESS Array B 94.20 329 P **P 19 04 34.4 -0.1**
comp=Z,1.4nm,0.7s,baz=46,slow=5.8,SNR=8.8
ARSA Arzberg 94.39 327 *e*PcP **P 19 04 36.2 +0.8**
comp=Z,3.8nm,1.1s
SOKA Soboth 95.03 326 *e*PcP **P 19 04 38.8 +0.5**
comp=Z,2.3nm,0.8s
MOTA Moosalm 96.49 329 *e*P **P 19 04 42.2 -2.9**
comp=Z,0.4nm,0.5s
FETA Feichten 96.90 329 *e*P **P 19 04 45.7 -1.3**
comp=Z,5.1nm,1.9s
TORD Torodi Ar. Bea 126.51 309 PKP **PKiKP 19 10 18.1 -0.9**
comp=Z,0.2nm,0.7s,baz=92,slow=3.5,SNR=4.2
VNA2 Neumayer--Watz 129.60 193 PKP **PKiKP 19 10 22.6 -0.9**
VNA3 Neumayer Olymp 129.78 192 PKP **PKiKP 19 10 23.2 -0.8**
VNA1 Neumayer--Stat 130.00 193 PKP **PKiKP 19 10 23.6 -0.7**
PLCA Paso Flores 148.01 130 PKPbc **PKiKP 19 10 59.6 -2.6**
comp=Z,3.0nm,0.8s,baz=291,slow=2.3,SNR=6.5
LPAZ La Paz 150.88 81 PKPbc **PKiKP 19 11 09.6 +0.2**
comp=Z,0.9nm,0.4s,baz=0.6,slow=2.5,SNR=6.2

PGC 06 19:06:40.8±9.6,**48.76N**×**129.18W,h10**km,**MLSn2.9**/10, **Mw3.6**/10,**242km west of Tofino, Bc Vancouver Island, Canada Region,Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
KEMF	**NEPTUNE Canada**	**0.82**	**176**	P Pg	19 06 55.2	-1.3
PACB	**Port Alice, BC**	**2.00**	**33**	Sn Sn	19 07 35.0	-4.7
WOSB	**Woss**	**2.20**	**50**	Pn Pn	19 07 16.3	-1.2
WOSB				Sn Sn	19 07 41.0	-3.9
PHC	**Port Hardy**	**2.25**	**30**	Sn Sn	19 07 41.8	-4.1
TLCB	**Telegraph Cove**	**2.35**	**40**	Sn Sn	19 07 44.7	-3.5
NCRB	**Newcastle Ridg**	**2.61**	**50**	Pn Pn	19 07 22.5	-0.7
NCRB				Sn Sn	19 07 50.6	-4.4
CBB	**Campbell River**	**2.80**	**62**	Sn Sn	19 07 57.1	-2.3
TXB	**Texada**	**3.25**	**71**	Pn Pn	19 07 31.1	-0.6
NLLB	**Nanaimo Lost L**	**3.45**	**80**	Pn Pn	19 07 34.6	+0.1
BBB	**Bella Bella**	**3.49**	**11**	Pn Pn	19 07 35.0	-0.1
BBB				Sn Sn	19 08 12.8	-3.7
SHB	**Sechelt**	**3.58**	**74**	Pn Pn	19 07 36.0	-0.4

ISCJB ***06*** *19:06:43.8±1.1,5˚.31S±0˚.09×146˚.4E±0˚.2,h150km, mb3.6/4,Error ellipse: s-maj=23.0km s-min=9.1km az=155.5*

IDC ***06*** *19:06:43.9±1.5,5˚.28S×146˚.47E,h138km±14km,mb3.5/4, mb1 3.7/9,mb1mx3.4/39,mbtmp4.0/9,Error ellipse: s-maj=21.4km s-min=11.4km az=99.0*

ISC 06 19:06:44.6±1.1,**5˚.27S**±0˚.09×**146˚.4E**±0˚.1,**h150**km,**n9,** σ**1**§**42**/12,**mb3.8**/4,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
PMG	**Port Moresby**	**4.17**	**170**	P **Pn**	**19 07 47.4**	**+0.2**
	1.0nm,0.3s,baz=331,slow=10,SNR=6.6			S **Sn**	**19 08 33.8**	**-2.1**
PMG	13nm,0.3s,baz=170,slow=19,SNR=34					
JAY	**Jayapura**	**6.34**	**295**	P **Pn**	**19 08 14.9**	**-1.0**
	5.3nm,0.3s,baz=147,slow=4.2,SNR=21					
CTA	**Charters Tower**	**14.73**	**181**	P **Pn**	**19 10 05.3**	**-0.4**
	0.1nm,0.3s,baz=340,slow=13,SNR=2.0					
SIJI	**Sorong**	**15.76**	**286**	P **P**	**19 10 18.5**	**-0.9**
	0.8nm,0.3s,baz=126,slow=10,SNR=3.6					
WRA	**Warramunga Arr**	**18.74**	**218**	P **Pn**	**19 10 53.2**	**-1.1**
	2.9nm,0.3s,baz=37,slow=12,SNR=193					
WRA	baz=40,slow=17,SNR=2.7			S **S**	**19 14 20.1**	**+2.4**
ASAR	**Alice Springs**	**21.92**	**212**	P **P**	**19 11 27.3**	**+1.2**
	4.8nm,0.6s,baz=46,slow=7.9,SNR=209					

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR				S	**S**	**19 15 19.5**	**+1.4**
	0.6nm,0.8s,baz=30,slow=20,SNR=4.6						
STKA	**Stephens Creek**	**26.86**	**189**	P	**P**	**19 12 12.1**	**+0.8**
	1.4nm,0.7s,baz=352,slow=8.8,SNR=4.3						
MKAR	**Makanchi Array**	**76.58**	**321**	P	**P**	**19 18 19.1**	**+0.5**
	0.1nm,0.5s,baz=104,slow=6.4,SNR=4.1						
ILAR	**Eielson Array**	**85.03**	**23**	P	**P**	**19 19 03.5**	**+0.5**
	1.0nm,0.6s,baz=251,slow=4.9,SNR=19						

DJA 06 19:22:14.0±2.3**,9°S**±8°×**10°9E**±°**,h21**km±18km**,M3.9**/10**,MLv3.9**/10**,Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.94**	**355**	P	Pb	19 22 31.6	-0.1
CMJI				S	Sn	19 22 44.7	-0.2
CISI	**Cisompet, Garu**	**1.36**	**329**	P	Pn	19 22 37.6	-0.3
CISI				S	Sn	19 22 54.9	-0.5
LEM	**Lembang**	**2.10**	**334**	P	Pb	19 22 49.8	-1.6
UGM	**Wanagama**	**2.13**	**68**	P	Pn	19 22 47.5	-0.9
SMRI	**Semarang**	**2.52**	**49**	P	Pn	19 22 54.9	+1.1
WOJI	**Wonogiri, Jawa**	**2.53**	**70**	P	Pn	19 22 53.2	-0.7
PCJI	**Pacitan**	**2.67**	**79**	P	Pn	19 22 55.0	-0.8
TNG	**Tangerang**	**3.15**	**324**	P	Pn	19 23 01.5	-1.0
PWJI	**Pagerwojo**	**3.31**	**78**	P	Pn	19 23 04.0	-0.7
GRJI	**Gresik**	**4.31**	**66**	P	Pn	19 23 18.7	+0.4

*IDC **06** 19:38:58.5±0.4, 45.°71N×154.°02E, h0km, mb4.7/31, mb1 4.8/38, mb1mx4.7/50, mbtmp4.7/38, ML4.1/6, MS3.9/28, Ms1 3.9/28, ms1mx3.8/41, Error ellipse: s-maj=13.4km s-min=9.7km az=146.0*

*ISCJB **06** 19:39:00.7±0.1, 45.°54N±0.°03×154.°03E±0.°02, h28km, mb4.9/236, MS4.1/46, Error ellipse: s-maj=4.9km s-min=1.9km az=163.4*

*NIED **06** 19:39:00, 45.°80N×154.°00E, h32km, Mw5.0 Best double couple: M0 3.16000×10^16 NP1:φs252.00000°, δ21.00000°, λ80.00000°. NP2:φs82.00000°, δ69.00000°, λ94.00000°.*

*JMA **06** 19:39:00.3±0.9, 45.°85N×154.°03E, h30km, M5.2*

*BJI **06** 19:39:01.0, 45.°83N×153.°77E, h16km, mb4.9/67, mB5.2/51, Ms4.6/53, Ms7 4.4/53*

*GCMT **06** 19:39:02.0±0.4, 45.°69N±0.°03×154.°29E±0.°04, h21km, MW5.0/79, Moment Tensor Solution. s30,c30; s79,c118; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.84±.22; Mθθ1.92±.14; Mφφ1.92±.13; Mrθ0.40±.24; Mθφ1.39±.07; Mφr-0.08±.23; Best double couple: M0 3.59500×10^16 NP1:φs229.00000°, δ47.00000°, λ-84.00000°. NP2: φs41.00000°, δ43.00000°, λ-96.00000°. Principal axes: T 3.3170, Plg2.0000°, Azm315.0000°; N 0.5560, Plg4.0000°, Azm45.0000°; P -3.8730, Plg85.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MOS **06** 19:39:02.8±1.2, 45.°64N×153.°93E, h43km, mb5.2/73, MS4.1/21 Error ellipse: s-maj=5.5km s-min=4.3km az=120.8*

*SKHL **06** 19:39:03.1±0.1, 45.°83N×153.°86E, h41km±5km, mb5.4/2, Ms4.8/9*

*NEIC **06** 19:39:04.0±0.2, 45.°68N×154.°02E, h35km, mb4.9/115, Error ellipse: s-maj=5.6km s-min=2.8km az=158.0*

ISC 06 19:39:01.1±0.7**, 45.°73N**±0.°05×**153.°96E**±0.°04**, h14**km±4km**, n776, σ1.59**/835**, mb4.9**/252**, MS4.2**/48**, 66C-24D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.31**	**266**⇑	*i*P	**Pn**	**19 40 07.0**	**+0.9**
KUR				AMB	AMB	19 40 08.0	
	540nm,0.3s						
KUR				AMB	AMB	19 40 08.0	
	330nm,0.3s						
KUR				AMB	AMB	19 40 08.0	
	2μm,0.3s						
KUR				*i* S	**Sn**	**19 40 55.0**	**-1.1**
KUR				A	A	19 41 00.0	
	1μm,0.4s						
KUR				A	A	19 41 00.0	
	2μm,0.4s						
KUR				AMS	AMS	19 43 28.0	
	6μm,10.0s						
KUR				AMS	AMS	19 43 28.0	
	5μm,10.0s						
KUR				AMS	AMS	19 43 28.0	
	5μm,10.0s						
KUR	**Kuril'sk**	**4.31**	**266***c*	*i*PN	**Pn**	**19 40 06.9**	**+0.9**
KUR				pmax	pmax		
	comp=Z,2μm,0.4s						
KUR				pmax	pmax		
	comp=E,326nm,0.3s						
KUR				pmax	pmax		
	comp=N,536nm,0.2s						
KUR				MLR	MLR		
	comp=Z,3μm,9.0s						
SKR	**Severo-Kuril's**	**5.17**	**15**	*e*P	**Pn**	**19 40 17.0**	**-0.8**
SKR				AMB	AMB	19 40 20.0	
	comp=Z,260nm,0.7s						
SKR				AMB	AMB	19 40 27.0	
	comp=Z,1μm,4.5s						
SKR				*e*S	**Sn**	**19 41 12.3**	**-4.8**
SKR				A	A	19 41 22.0	
	comp=Z,690nm,0.5s						
SKR				A	A	19 41 22.0	
	comp=Z,320nm,0.5s						
SKR				AMS	AMS	19 42 04.0	
	comp=Z,2μm,17.0s						
SKR				AMS	AMS	19 42 04.0	
	comp=Z,4μm,17.0s						
SKR				AMS	AMS	19 42 04.0	
	comp=Z,2μm,17.0s						
SKR	**Severo-Kuril's**	**5.17**	**15**	*e*PN	**Pn**	**19 40 17.0**	**-0.8**
SKR				pmax	pmax		
	comp=Z,257nm,0.7s						
SKR				pmax	pmax		
	comp=Z,1μm,4.5s						
SKR				MLR	MLR		
	comp=Z,2μm,15.0s						
SKR				MLR	MLR		
	comp=Z,2μm,17.0s						
SHO	**Shikotan**	**5.40**	**252**⇓	*i*P	**Pn**	**19 40 19.5**	**-1.5**
SHO				AMB	AMB	19 40 26.0	
	comp=Z,70nm,0.4s						
SHO				AMB	AMB	19 40 26.0	
	comp=Z,80nm,0.4s						
SHO				AMB	AMB	19 40 26.0	
	comp=Z,230nm,0.4s						
SHO				*i* S	**Sn**	**19 41 18.8**	**-4.1**
SHO				A	A	19 41 26.0	
	comp=Z,370nm,0.3s						
SHO				A	A	19 41 26.0	
	comp=Z,770nm,0.3s						
SHO				AMS	AMS	19 42 37.0	
	comp=Z,3μm,16.0s						
SHO				AMS	AMS	19 42 37.0	
	comp=Z,3μm,16.0s						
SHO				AMS	AMS	19 42 37.0	
	comp=Z,2μm,16.0s						
SHO	**Shikotan**	**5.40**	**252***c*	*i*PN	**Pn**	**19 40 19.2**	**-1.8**
SHO				pmax	pmax		
	comp=N,73nm,0.4s						
SHO				pmax	pmax		
	comp=Z,227nm,0.4s						
SHO				pmax	pmax		
	comp=E,81nm,0.3s						
SHO				MLR	MLR		
	comp=Z,835nm,10.0s						
YUK	**Yuzh-Kuril'sk**	**5.99**	**256**⇓	*i*P	**Pn**	**19 40 29.0**	**-0.2**
YUK				AMB	AMB	19 40 33.0	
	comp=Z,240nm,0.3s						
YUK				AMB	AMB	19 40 33.0	
	comp=Z,280nm,0.3s						
YUK				AMB	AMB	19 40 33.0	
	comp=Z,430nm,0.3s						
YUK				*i* S	**Sn**	**19 41 35.0**	**-2.6**
YUK				A	A	19 41 38.1	
	comp=Z,2μm,2.0s						
YUK				A	A	19 41 38.1	
	comp=Z,1μm,2.0s						
YUK				A	A	19 41 40.0	
	comp=Z,1μm,0.4s						
YUK				A	A	19 41 40.0	
	comp=Z,280nm,0.4s						
YUK				AMS	AMS	19 42 47.0	
	comp=Z,6μm,12.0s						
YUK				AMS	AMS	19 42 47.0	
	comp=Z,4μm,12.0s						
YUK	**Yuzh-Kuril'sk**	**5.99**	**256***c*	*i*PN	**Pn**	**19 40 29.2**	**0.0**
YUK				pmax	pmax		
	comp=Z,427nm,0.2s						
YUK				pmax	pmax		
	comp=N,244nm,0.3s						
YUK				pmax	pmax		
	comp=E,277nm,0.4s						
YUK				MLR	MLR		
	comp=Z,751nm,9.0s						
LAGR	**Lagunnoye**	**6.04**	**257**⇑	*i*P	**Pn**	**19 40 31.0**	**+1.2**
LAGR				AMB	AMB	19 40 33.0	
	comp=Z,350nm,0.5s						
LAGR				AMB	AMB	19 40 33.0	
	comp=Z,290nm,0.5s						
LAGR				AMB	AMB	19 40 33.0	
	comp=Z,420nm,0.5s						
LAGR				*i* S	**Sn**	**19 41 36.0**	**-2.7**
LAGR				A	A	19 41 49.0	
	comp=Z,2μm,0.6s						
LAGR				A	A	19 41 49.0	
	comp=Z,2μm,0.6s						
LAGR	**Lagunnoye**	**6.04**	**257**⇑	*i*PN	**Pn**	**19 40 31.4**	**+1.6**
LAGR				pmax	pmax		
	comp=N,345nm,0.5s						
LAGR				pmax	pmax		
	comp=Z,421nm,0.5s						
LAGR				pmax	pmax		
	comp=E,289nm,0.4s						
PAU	**Pauzhetka**	**6.05**	**17**⇑	*i*P	**Pn**	**19 40 29.0**	**-0.9**
PAU				AMB	AMB	19 40 29.3	
	comp=E,270nm,0.9s						
PAU				AMB	AMB	19 40 29.3	
	comp=E,120nm,0.9s						
PAU				*i* S	**Sn**	**19 41 34.1**	**-4.8**
PAU				A	A	19 41 37.0	
	comp=E,370nm,0.4s						
PAU				A	A	19 41 37.0	
	comp=E,670nm,0.4s						
PAU				AMS	AMS	19 43 11.2	
	comp=E,10μm,17.0s						
PAU				AMS	AMS	19 43 11.2	
	comp=E,33μm,17.0s						
PAU				AMS	AMS	19 43 11.2	
	comp=E,6μm,17.0s						
GRPR	**Tuman**	**6.07**	**256**⇑	*i*P	**Pn**	**19 40 29.0**	**-1.3**
GRPR				AMB	AMB	19 40 40.0	
	comp=E,280nm,0.3s						
GRPR				AMB	AMB	19 40 40.0	
	comp=E,310nm,0.3s						
GRPR				AMB	AMB	19 40 40.0	
	comp=E,510nm,0.3s						
GRPR				*i* S	**Sn**	**19 41 36.0**	**-3.4**
GRPR				A	A	19 41 42.0	
	comp=E,860nm,0.4s						
GRPR				A	A	19 41 42.0	
	comp=E,1μm,0.4s						
GRPR	**Tuman**	**6.07**	**256**⇑	*i*PN	**Pn**	**19 40 29.9**	**-0.4**
GRPR				pmax	pmax		
	comp=N,279nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,506nm,0.3s						
GRPR				pmax	pmax		
	comp=E,311nm,0.2s						
NEM2	**Nemuro 2**	**6.33**	**251**	P	**Pn**	**19 40 31.8**	**-2.0**
NEM2				*e*S	**Sn**	**19 41 39.1**	**-6.6**
GLVR	**Golovnino**	**6.33**	**255**⇑	*i*P	**Pn**	**19 40 33.0**	**-0.8**
GLVR				AMB	AMB	19 40 40.0	
	comp=E,140nm,0.5s						
GLVR				AMB	AMB	19 40 40.0	
	comp=E,200nm,0.5s						
GLVR				AMB	AMB	19 40 40.0	
	comp=E,580nm,0.5s						
GLVR				*i* S	**Sn**	**19 41 42.0**	**-3.8**
GLVR				A	A	19 41 50.0	
	comp=E,1μm,0.4s						
GLVR				A	A	19 41 50.0	
	comp=E,2μm,0.4s						
GLVR	**Golovnino**	**6.33**	**255**⇑	*i*PN	**Pn**	**19 40 33.5**	**-0.3**
GLVR				pmax	pmax		
	comp=E,197nm,0.5s						
GLVR				pmax	pmax		
	comp=Z,577nm,0.5s						
GLVR				pmax	pmax		
	comp=N,135nm,0.3s						
JRA	**Rausu**	**6.53**	**257**	P	**Pn**	**19 40 36.9**	**+0.3**
JNK	**Nakash**	**6.93**	**255**	P	**Pn**	**19 40 41.6**	**-0.4**
JNK				*e*S	**Sn**	**19 41 55.3**	**-5.2**
JAK	**Akkeshi**	**7.17**	**251**	P	**Pn**	**19 40 43.4**	**-2.0**
JAK				*e*S	**Sn**	**19 41 59.4**	**-7.2**
JTKR	**Abashiri--Toko**	**7.35**	**260**	P	**Pn**	**19 40 48.1**	**+0.2**
JAR	**Ashorobuto**	**7.67**	**255**	P	**Pn**	**19 40 52.1**	**-0.2**
JAR				*e*S	**Sn**	**19 42 14.7**	**-4.3**
JMP	**Maruseppu**	**7.72**	**261**	P	**Pn**	**19 40 53.6**	**+0.6**
PEA0B	**Petropavlovsk-**	**7.78**	**17**	*e*Pn	**Pn**	**19 40 53.0**	**-0.8**
PETK	**Petropavlovsk-**	**7.78**	**17**	Pn	**Pn**	**19 40 52.6**	**-1.1**
	comp=N,8.4nm,0.3s,baz=189,slow=14,SNR=161						
PETK				Sn	**Sn**	**19 42 23.1**	**+1.6**
	comp=N,0.5nm,0.3s,baz=149,slow=17,SNR=2.2						
PETK				LR	LR	19 44 04.1	
	comp=N,499nm,20.9s,baz=200,slow=39						
PETK	**Petropavlovsk-**	**7.78**	**17**	*e*Pn	**Pn**	**19 40 53.2**	**-0.5**
PETK				Sn	**Sn**	**19 42 23.1**	**+1.6**
PETK	**Petropavlovsk-**	**7.78**	**17**	*e*PN	**Pn**	**19 40 53.2**	**-0.5**
JOB	**Onbets**	**7.79**	**252**	P	**Pn**	**19 40 52.7**	**-1.1**
JOB				*e*S	**Sn**	**19 42 15.9**	**-5.8**
YSS	**Yuzh-Sakhalins**	**7.85**	**283**	*e*P	**Pn**	**19 40 56.6**	**+1.9**
YSS				AMB	AMB	19 40 58.7	
	comp=N,60nm,0.6s						
YSS				AMB	AMB	19 40 58.7	
	comp=N,110nm,0.6s						
YSS				*e*S	**Sn**	**19 42 21.0**	**-2.2**
YSS				AMS	AMS	19 45 14.6	
	comp=N,2μm,13.0s						
YSS				AMS	AMS	19 45 14.6	
	comp=N,2μm,13.0s						
YSS	**Yuzh-Sakhalins**	**7.85**	**283**⇑	*e*PN	**Pn**	**19 40 57.5**	**+2.8**
YSS				pmax	pmax		
	comp=E,60nm,0.6s						
YSS				pmax	pmax		
	comp=Z,110nm,0.6s						
YSS				MLR	MLR		
	comp=Z,2μm,13.0s						
YSS				MLR	MLR		
	comp=E,2μm,12.0s						
PET	**Petropavlovsk**	**7.92**	**21**⇓	*e*P	**Pn**	**19 40 54.2**	**-1.4**
PET				AMB	AMB	19 40 56.5	
	comp=E,40nm,0.8s						
PET				*e*S	**Sn**	**19 42 18.5**	**-6.4**
PET				A	A	19 42 21.7	
	comp=E,140nm,0.4s						
PET				A	A	19 42 21.7	
	comp=E,180nm,0.4s						
PET				AMS	AMS	19 44 06.7	
	comp=E,900nm,13.0s						
PET	**Petropavlovsk**	**7.92**	**21**	*e*PN	**Pn**	**19 40 53.4**	**-2.2**
PET				MLR	MLR		
	comp=Z,2μm,16.0s						
PET				MLR	MLR		
	comp=Z,900nm,13.0s						
JSE	**Soyaes**	**8.05**	**269**	P	**Pn**	**19 40 59.2**	**+1.8**
JKK2	**Kamakawa 2**	**8.18**	**261**	P	**Pn**	**19 40 59.8**	**+0.5**
JKA	**Kamikawa-asahi**	**8.22**	**263**	*e*P	**Pn**	**19 41 00.7**	**+0.9**
ASAJ	**Asahikawa**	**8.22**	**263**	Pn	**Pn**	**19 41 00.7**	**+0.9**
	comp=Z,7.5nm,0.3s,baz=76,slow=21,SNR=13						
ASAJ				LR	LR	19 45 43.2	
	comp=Z,841nm,18.0s,baz=99,slow=49						
ASAJ	**Asahikawa**	**8.22**	**263**	*e*Pn	**Pn**	**19 41 02.1**	**+2.4**
ASAJ				*e*Sn	**Sn**	**19 42 36.9**	**+4.5**
ASAJ	**Asahikawa**	**8.22**	**263**	P	**Pn**	**19 41 01.7**	**+1.9**
JCH	**Churui**	**8.22**	**252**	P	**Pn**	**19 40 58.3**	**-1.5**
JCH				*e*S	**Sn**	**19 42 25.9**	**-6.6**
JWK2	**Keihoku**	**8.48**	**272**	P	**Pn**	**19 41 07.3**	**+4.0**
JFR	**Furan**	**8.52**	**257**	P	**Pn**	**19 41 04.8**	**+0.9**
ERM	**Erimo**	**8.64**	**248**	*e*Pn	**Pn**	**19 41 07.5**	**+2.0**
ERM				*e*Sn	**Sn**	**19 42 36.9**	**-5.7**
ERM	**Erimo**	**8.64**	**248**	*e*P	**Pn**	**19 41 07.5**	**+2.0**
ERM	**Erimo**	**8.64**	**248**	*e*PN	**Pn**	**19 41 07.5**	**+2.0**
JEM	**Erimo**	**8.64**	**248**	*e*S	**Sn**	**19 42 36.0**	**-6.6**
JAB	**Ashibetsu**	**8.66**	**259**	P	**Pn**	**19 41 09.0**	**+3.2**
UGL	**Uglegorsk**	**8.73**	**297**	*e*P	**Pn**	**19 41 08.2**	**+1.4**
UGL				AMB	AMB	19 41 15.2	
	comp=Z,100nm,0.7s						
UGL				*e*S	**Sn**	**19 42 41.0**	**-3.9**
UGL				A	A	19 42 49.8	
	comp=Z,120nm,0.6s						
UGL				AMS	AMS	19 45 49.0	
	comp=Z,4μm,17.0s						
UGL				AMS	AMS	19 45 52.0	
	comp=Z,4μm,14.0s						
UGL				AMS	AMS	19 45 52.0	
	comp=Z,3μm,14.0s						
UGL	**Uglegorsk**	**8.73**	**297**	*e*PN	Pn	19 41 11.8	+5.0
UGL				pmax	pmax		
	comp=Z,104nm,1.2s						
UGL				MLR	MLR		
	comp=Z,4μm,17.0s						
UGL				MLR	MLR		
	comp=N,4μm,15.0s						
UGL				MLR	MLR		
	comp=E,3μm,13.0s						
JNBK	**Urakawa-nobuka**	**8.78**	**251**	P	**Pn**	**19 41 05.5**	**-1.9**
JNBK				*e*S	Sn	19 42 37.8	-8.3
JBT2	**Biratori 2**	**8.83**	**255**	P	**Pn**	**19 41 06.9**	**-1.2**
JBT2				*e*S	**Sn**	**19 42 41.8**	**-5.5**
TYV	**Tymovskoe**	**9.11**	**308**	*e*P	**Pn**	**19 41 14.0**	**+2.0**
TYV				AMB	AMB	19 41 16.9	
	comp=E,20nm,0.8s						
TYV				*e*S	**Sn**	**19 42 50.6**	**-3.7**
TYV				A	A	19 42 57.4	
	comp=E,20nm,0.7s						
TYV				AMS	AMS	19 46 02.0	
	comp=E,3μm,13.0s						
TYV				AMS	AMS	19 46 02.0	
	comp=E,2μm,13.0s						
TYV	**Tymovskoe**	**9.11**	**308**	*e*PN	**Pn**	**19 41 16.0**	**+4.0**
TYV				pmax	pmax		
	comp=Z,24nm,0.9s						
TYV				MLR	MLR		
	comp=E,3μm,13.0s						
TYV				MLR	MLR		
	comp=Z,2μm,13.0s						
JEW	**Eniwo**	**9.42**	**257**	P	**Pn**	**19 41 16.9**	**+0.7**
JNB	**Noboribetsu**	**9.85**	**255**	P	**Pn**	**19 41 21.5**	**-0.6**
JNB				*e*S	**Sn**	**19 43 06.5**	**-5.8**
JKB	**Kayabe**	**10.10**	**252**	P	**Pn**	**19 41 23.6**	**-1.9**
JKB				*e*S	Sn	19 43 09.2	-9.2
JYM2	**Yakumo 2**	**10.44**	**255**	P	**Pn**	**19 41 28.9**	**-1.3**
JYM2				*e*S	**Sn**	**19 43 19.2**	**-7.7**
JSH	**Shimam**	**10.46**	**258**	P	**Pn**	**19 41 30.6**	**+0.2**
JANG	**Nango**	**10.55**	**244**	P	**Pn**	**19 41 28.3**	**-3.5**
JANG				*e*S	Sn	19 43 17.6	-12
JTH	**Tanohata**	**10.59**	**241**	P	**Pn**	**19 41 28.1**	**-4.2**
JTH				*e*S	Sn	19 43 15.5	-15
JTM	**Tenmabayashi**	**10.61**	**247**	P	**Pn**	**19 41 29.9**	**-2.7**
JTM				*e*S	Sn	19 43 19.9	-11
JSR	**Shiriuchi**	**10.67**	**252**	P	**Pn**	**19 41 30.7**	**-2.6**
JSR				*e*S	Sn	19 43 23.0	-10
JOSM	**Okushiri--Mats**	**11.06**	**256**	P	**Pn**	**19 41 37.5**	**-1.2**
OFUJ	**Ofunato**	**11.24**	**238**	P	**Pn**	**19 41 37.7**	**-3.5**
NKL	**Nikolayevsk**	**11.38**	**316**	*e*P	**Pn**	**19 41 42.2**	**-0.8**
NKL				AMB	AMB	19 41 46.0	
	comp=Z,30nm,1.0s						
NKL				AMS	AMS	19 48 24.0	
	comp=Z,2μm,14.0s						
NKL				AMS	AMS	19 48 24.0	
	comp=Z,2μm,14.0s						
NKL				AMS	AMS	19 48 24.0	
	comp=Z,4μm,14.0s						
NKL	**Nikolayevsk**	**11.38**	**316**	*e*PN	**Pn**	**19 41 40.0**	**-3.0**
NKL				MLR	MLR		
	comp=N,2μm,14.0s						
NKL				MLR	MLR		
	comp=E,2μm,14.0s						
NKL				MLR	MLR		
	comp=Z,4μm,14.0s						
JRG	**Rokugo**	**11.68**	**242**	P	**Pn**	**19 41 45.5**	**-1.6**
JIO	**Ouri**	**11.84**	**237**	P	**Pn**	**19 41 45.8**	**-3.6**
JIO				*e*S	Sn	19 43 47.6	-14
TEY	**Ternei**	**12.22**	**273**⇑	*e*P	**Pn**	**19 41 56.8**	**+2.2**
TEY				AMB	AMB	19 41 57.4	
	comp=Z,20nm,0.8s						
TEY	**Ternei**	**12.22**	**273**⇑	*e*PN	**Pn**	**19 41 56.8**	**+2.2**
TEY				pmax	pmax		
	comp=E,20nm,0.8s						
TEY				pmax	pmax		
	comp=Z,20nm,0.8s						
GRNR	**Gornyy**	**12.72**	**300**⇑	*e*P	**Pn**	**19 42 03.4**	**+2.1**
GRNR				AMB	AMB	19 42 05.4	
	comp=Z,10.0nm,1.0s						
GRNR	**Gornyy**	**12.72**	**300**	*e*PN	**Pn**	**19 42 04.1**	**+2.8**
GRNR				pmax	pmax		
	comp=Z,13nm,1.0s						
JFY	**Yanaizu**	**13.51**	**237**	P	**Pn**	**19 42 09.5**	**-2.7**
MA2	**Magadan**	**14.00**	**353**	Pn	**Pn**	**19 42 20.4**	**+1.6**
	comp=Z,3.5nm,0.3s,baz=158,slow=11,SNR=19						
MA2				LR	LR	19 47 18.6	
	comp=Z,280nm,20.3s,baz=182,slow=36						
MA2	**Magadan**	**14.00**	**353**⇑	*e*P	**Pn**	**19 42 18.7**	**-0.1**
MA2	**Magadan**	**14.00**	**353***c*	*e*P	**Pn**	**19 42 18.7**	**-0.1**
MA2				pmax	pmax		
	comp=Z,22nm,1.0s						
MAJO	**Matsushiro**	**14.98**	**238**	*e*Pn	**Pn**	**19 42 30.8**	**-1.4**
	comp=Z,49nm,0.9s						
MAJO	**Matsushiro**	**14.98**	**238**	*i* P	**Pn**	**19 42 30.3**	**-1.9**
MJAR	**Matsushiro Arr**	**14.98**	**238**	Pn	**Pn**	**19 42 30.2**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=31,slow=13,SNR=16						
MJAR				LR	LR	19 51 23.1	
	comp=Z,83nm,18.5s,baz=45,slow=50						
MJB9	**Matsu-Tunnel**	**14.98**	**238**	*e*Pn	**Pn**	**19 42 30.9**	**-1.3**
	comp=Z,14nm,0.8s						
MAT	**Matsushiro**	**14.98**	**238**	P	**Pn**	**19 42 29.7**	**-2.5**
MAT				*e*S	**Sn**	**19 45 24.0**	**+6.2**
KLR	**Kul'dur**	**15.40**	**291**	Pn	**Pn**	**19 42 38.2**	**+0.5**
	comp=Z,1.6nm,0.3s,baz=92,slow=9.2,SNR=26						
KLR				PcP	**PcP**	**19 47 39.5**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=90,slow=2.9,SNR=4.2						
KLR				LR	LR	19 48 13.7	
	comp=Z,524nm,21.3s,baz=102,slow=36						
KLR	**Kul'dur**	**15.40**	**291**	*i* P	**Pn**	**19 42 38.9**	**+1.1**
KLR	**Kul'dur**	**15.40**	**291**	*i* P	**Pn**	**19 42 38.9**	**+1.1**
EKMR	**Ekimchan**	**15.49**	**306**	*e*P	**Pn**	**19 42 38.8**	**0.0**
EKMR				AMB	AMB	19 42 45.6	
	comp=Z,30nm,0.7s						
USA0B	**Ussuriysk Arra**	**15.62**	**272**	*e*Pn	**Pn**	**19 42 40.9**	**+0.3**
	comp=Z,100nm,1.1s						
USRK	**Ussuriysk Ar.**	**15.62**	**272**	Pn	**Pn**	**19 42 39.8**	**-0.8**
	comp=Z,3.1nm,0.3s,baz=84,slow=13,SNR=62						
USRK				LR	LR	19 49 53.2	
	comp=Z,326nm,19.3s,baz=71,slow=42						
MDJ	**Mudanjiang**	**17.20**	**275**	P	**Pn**	**19 43 00.2**	**-0.6**
MDJ				pmax	pmax		
	comp=Z,40nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,260nm,2.6s						
MDJ				LR	LR		
	comp=Z,680nm,11.6s						
MDJ				LR	LR		
	comp=Z,490nm,16.7s						
MDJ				LR	LR		
	comp=Z,970nm,14.8s						
MDJ	**Mudanjiang**	**17.20**	**275**	*e*Pn	**Pn**	**19 43 01.2**	**+0.5**
	comp=Z,105nm,1.0s						
SEY	**Seymchan**	**17.27**	**358**	P	**Pn**	**19 42 59.3**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=162,slow=9.9,SNR=9.1						
SEY	**Seymchan**	**17.27**	**358**	*i* P	**Pn**	**19 42 58.1**	**-3.3**
BMKR	**Bomnak**	**18.33**	**308**⇓	*e*P	**Pn**	**19 43 14.0**	**-0.6**
BMKR				AMB	AMB	19 43 16.8	
	comp=Z,50nm,0.5s						
ZEA	**Zeya**	**18.95**	**305**	*e*P	**P**	**19 43 21.0**	**-0.4**
ZEA				AMB	AMB	19 43 25.8	
	comp=Z,30nm,1.0s						
ZEA				AMB	AMB	19 43 31.0	
	comp=Z,400nm,8.0s						
ZEA				AMS	AMS	19 52 35.0	
	comp=Z,1μm,13.0s						
ZEA				AMS	AMS	19 52 35.0	
	comp=Z,600nm,12.0s						
ZEA	**Zeya**	**18.95**	**305**	*e*P	**P**	**19 43 21.0**	**-0.4**
ZEA				*e*		19 46 52.0	
ZEA				pmax	pmax		
	comp=N,50nm,1.2s						
ZEA				pmax	pmax		
	comp=E,43nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,73nm,1.6s						
ZEA				pmax	pmax		
	comp=Z,400nm,8.0s						

ZEA MLR MLR
comp=Z,1μm,13.0s
ZEA MLR MLR
comp=N,600nm,12.0s
ZEA MLR MLR
comp=E,600nm,12.0s
KROS Kirovskiy 19.28 307⇑ *i*P **P 19 43 21.9 -3.2**
KROS AMB AMB 19 43 25.2
comp=E,10.0nm,0.5s
KROS AMB AMB 19 43 25.2
comp=E,20nm,0.5s
KROS AMB AMB 19 43 25.2
comp=E,30nm,0.5s
CN2 Changchun 20.29 275 *e*P **P 19 43 36.6 +0.4**
CN2 *es*P pwP 19 43 50.0 +2.3
CN2 *e*S **S 19 47 18.3 -4.9**
CN2 pmax pmax
comp=E,50nm,0.8s
CN2 LR LR
comp=E,590nm,16.0s
CN2 LR LR
comp=E,710nm,16.0s
CN2 LR LR
comp=E,770nm,16.0s
KSRS Korea Array 21.08 256 P **P 19 43 45.0 +0.2**
comp=E,11nm,1.0s,baz=59,slow=9.4,SNR=19
KSRS LR LR 19 55 06.4
comp=E,194nm,18.0s,baz=51,slow=46
KSRS Korea Array 21.08 256 *e*P **P 19 43 45.0 +0.2**
KSRS Korea Array 21.08 256 P **P 19 43 45.0 +0.2**
KSRS pmax pmax
comp=Z,12nm,1.0s
KSRS MLR MLR
comp=Z,194nm,18.0s
KS15 Wonju Array Si 21.12 256 *e*P **P 19 43 48.3 +3.2**
KSAR Wonju Array Be 21.12 256 P **P 19 43 45.0 -0.1**
KSAR Wonju Array Be 21.12 256 P **P 19 43 45.0 -0.1**
YAK Yakutsk 21.50 328 *e*P **P 19 43 47.6 -1.4**
YAK Yakutsk 21.50 328 *e*P **P 19 43 47.6 -1.4**
YAK *e**PP **pwP 19 44 00.1 -0.5**
YAK *e* 19 44 08.8
YAK *e*S **S 19 47 44.3 -2.5**
YAK *e* 19 47 49.5
YAK *e**SS Sn 19 48 04.3 +9.3
YAK *e*SS **SnSn 19 48 13.4 +3.4**
YAK pmax pmax
comp=Z,53nm,0.9s
YAK pmax pmax
comp=E,16nm,1.1s
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=Z,20nm,0.8s
YAK pmax pmax
comp=N,43nm,1.5s
YAK pmax pmax
comp=E,12nm,0.8s
YAK smax smax
comp=N,160nm,2.0s
YAK smax smax
comp=E,88nm,1.6s
YAK MLR MLR
comp=Z,427nm,24.0s
YAK MLR MLR
comp=N,313nm,20.0s
YAK MLR MLR
comp=E,162nm,15.0s
JNU Nakatsue 21.73 243 P **P 19 43 52.4 +0.5**
comp=E,7.5nm,1.0s,baz=37,slow=11,SNR=2.7
JNU LR LR 19 52 20.2
comp=E,140nm,21.9s,baz=37,slow=37
TJN Taejon 22.04 254*ce*P **P 19 43 56.4 +1.4**
HIA Hailar 23.27 291 *e*P **P 19 44 05.0 -2.9**
comp=E,19nm,0.8s
HIA Hailar 23.27 291 *e*P **P 19 44 05.0 -2.9**
HIA pmax pmax
comp=Z,19nm,0.8s
BILL Bilibino 23.27 12⇑ *e*P **P 19 44 08.2 +0.5**
BILL Bilibino 23.27 12*ce*P **P 19 44 08.2 +0.5**
BILL *e* 19 44 33.2
BILL *i* 19 48 18.5
BILL pmax pmax
comp=Z,64nm,1.7s
BILL MLR MLR
comp=Z,373nm,16.0s
DL2 Dalian 24.74 266 P **P 19 44 22.3 +0.5**
DL2 S **S 19 48 46.0 +2.7**
DL2 pmax pmax
comp=Z,56nm,1.0s
DL2 pmax pmax
comp=Z,410nm,5.6s
DL2 LR LR
comp=Z,280nm,10.6s
DL2 LR LR
comp=Z,330nm,10.9s
DL2 LR LR
comp=Z,410nm,15.7s
BOD Bodaibo 27.10 311 *e*P **P 19 44 41.1 -1.9**
BOD pmax pmax
comp=Z,30nm,1.6s
JOW Kunigami 27.81 236 LR LR 19 56 38.3
comp=Z,132nm,21.3s,baz=120,slow=38
BJI Beijing 28.07 272 P **P 19 44 56.2 +4.3**
BJI pmax pmax
comp=Z,33nm,0.8s
BJI pmax pmax
comp=Z,290nm,8.3s
BJI LR LR
comp=Z,440nm,15.2s
BJI LR LR
comp=Z,530nm,16.7s
BJT Baijiatuau 28.09 272 P **P 19 44 53.5 +1.4**
comp=Z,55nm,1.0s
BJT Baijiatuau 28.09 272 *e*P **P 19 44 53.5 +1.4**
BJT Baijiatuau 28.09 272 P **P 19 44 53.5 +1.4**
BJT pmax pmax
comp=Z,55nm,1.0s
MIDW Midway 28.60 118 *e*P P 19 44 51.6 -5.0
comp=Z,72nm,0.6s
TIXI Tiksi 28.61 344 P **P 19 44 55.7 -0.7**
comp=Z,7.0nm,0.6s,baz=145,slow=8.9,SNR=21
TIXI LR LR 19 57 29.8
comp=Z,264nm,18.1s,baz=131,slow=39
TIXI Tiksi 28.61 344⇑ *e*P **P 19 44 55.3 -1.1**
TIXI Tiksi 28.61 344*ce*P **P 19 44 55.3 -1.1**
TIXI pmax pmax
comp=Z,25nm,1.3s
TIXI MLR MLR
comp=Z,313nm,14.0s
TIA Tai'an 29.17 264 P **P 19 45 02.7 +1.0**
TIA pmax pmax
comp=Z,3.0nm,0.8s
ANM Nome 29.18 35 *e*P **P 19 45 02.7 +1.2**
comp=Z,7.0nm,0.9s
ANM Nome 29.18 35 *e*P **P 19 45 02.7 +1.2**
ANM pmax pmax
comp=Z,7.0nm,0.9s
NJ2 Nanjing 30.28 256 *e*P **P 19 45 14.9 +3.3**
NJ2 pmax pmax
comp=Z,13nm,0.5s
HHC Hu-ho-hao-te 30.97 276 *e*P **P 19 45 19.1 +1.4**
HHC sP pwP 19 45 32.8 +3.8
HHC S **S 19 50 19.6 -2.2**
HHC sS sS 19 50 36.1 +11
HHC pmax pmax
comp=Z,47nm,1.0s
HHC pmax pmax
comp=Z,410nm,5.2s
HHC LR LR
comp=Z,420nm,13.8s
HHC LR LR
comp=Z,520nm,14.7s
HHC LR LR
comp=Z,740nm,15.6s
CHGN Chignik 31.17 53 *e*PcP **PcP 19 48 16.0 +2.3**
ULN Ulaanbaatar 31.80 291 *e*P **P 19 45 27.4 +2.4**
comp=Z,27nm,1.1s
ULN Ulaanbaatar 31.80 291⇑ *e*P **P 19 45 24.9 -0.1**
ULN Ulaanbaatar 31.80 291*ce*P **P 19 45 24.9 -0.1**
ULN pmax pmax
comp=Z,12nm,1.0s
BTO Baotou 32.14 277 *e*P **P 19 45 29.1 +1.1**
SONA1 Songino Array 32.23 291 *e*P **P 19 45 31.1 +2.3**
SONA1 *e*PcP **PcP 19 48 17.2 +0.2**
SONM Songino Array 32.24 291 P **P 19 45 29.3 +0.5**
comp=Z,6.4nm,0.9s,baz=71,slow=6.6,SNR=31
SONM PcP **PcP 19 48 16.3 -0.6**
comp=Z,2.2nm,0.7s,baz=116,slow=3.2,SNR=5.2
SONM LR LR 19 58 58.8
comp=Z,314nm,21.4s,baz=70,slow=37
ZAK Zakamensk 33.65 297 *e*P **P 19 45 40.6 -0.5**
ZAK Zakamensk 33.65 297 *e*P **P 19 45 40.6 -0.5**
ZAK *e* 19 48 19.4
ZAK pmax pmax
comp=Z,11nm,1.5s
OHAK Old Harbor 33.96 51 *e*P **P 19 45 42.7 -0.9**
comp=Z,66nm,1.4s
IM3 Indian Mountai 34.26 35 *e*P **P 19 45 46.7 +0.6**
IM3 *e*PcP **PcP 19 48 22.6 +0.4**
KDAK Kodiak Island 34.31 50 P **P 19 45 45.4 -1.2**
comp=Z,22nm,0.7s,baz=257,slow=7.4,SNR=15
KDAK Kodiak Island 34.31 50 *e*P **P 19 45 45.5 -1.2**
comp=Z,27nm,0.9s
KDAK Kodiak Island 34.31 50 *i*P **P 19 45 45.6 -1.0**
PPLA Purkeypile 34.55 41 *e*P **P 19 45 50.1 +1.3**
comp=Z,18nm,1.1s
PPLA *e*PcP **PcP 19 48 23.1 -0.1**
CAST Castle Rocks 34.64 40 *e*P **P 19 45 49.2 -0.2**
comp=Z,8.9nm,1.0s
MOY Mondy 34.80 299 *e*P **P 19 45 52.1 +1.0**
MOY pmax pmax
comp=Z,17nm,1.5s
BPAW Bear Paw Mtn. 35.18 39 *e*P **P 19 45 54.3 +0.2**
comp=Z,6.0nm,0.8s
MLY Manley 35.37 37 *e*P **P 19 45 55.7 -0.1**
comp=Z,6.3nm,0.9s
TRF Thorofare Moun 35.45 40 *e*P **P 19 45 57.1 +0.5**
comp=Z,12nm,1.1s
COLD Coldfoot 35.86 33 *e*P **P 19 46 00.3 +0.4**
comp=Z,3.0nm,0.8s
XAN Xi'an 36.03 267 P **P 19 46 02.2 +0.4**
XAN pP pwP 19 46 10.1 -3.0
XAN sP sP 19 46 14.0 +9.0
XAN pmax pmax
comp=Z,16nm,1.0s
XAN pmax pmax
comp=Z,190nm,5.1s
XAN LR LR
comp=Z,390nm,17.4s
XAN LR LR
comp=Z,190nm,16.3s
XAN LR LR
comp=Z,400nm,15.2s
RND Reindeer 36.09 40 *e*P **P 19 46 01.8 -0.2**
comp=Z,14nm,0.9s
RND Reindeer 36.09 40 *e*P **P 19 46 01.8 -0.2**
RND pmax pmax
comp=Z,14nm,0.9s
SML Sawmill 36.32 43 *e*P **P 19 46 04.3 +0.4**
comp=Z,41nm,0.7s
SML Sawmill 36.32 43 *e*P **P 19 46 04.3 +0.4**
SML Sawmill 36.32 43 *e*P **P 19 46 04.3 +0.4**
SML pmax pmax
comp=Z,41nm,0.7s
MDM Murphy Dome 36.43 37 *e*P **P 19 46 05.8 +1.0**
comp=Z,10nm,0.8s
WRH Wood River Hil 36.46 38 *e*P **P 19 46 05.6 +0.6**
comp=Z,6.7nm,0.9s
COLA College 36.59 38 *e*P **P 19 46 05.1 -1.0**
comp=Z,15nm,0.9s
COLA College 36.59 38 *e*P **P 19 46 05.1 -1.0**
COLA pmax pmax
comp=Z,15nm,0.9s
DHY Denali Highway 36.75 41 *e*P **P 19 46 07.9 +0.2**
comp=Z,11nm,0.8s
DHY *e*PcP **PcP 19 48 30.8 +1.0**
POKR Poker Plat Res 36.77 37 P **P 19 46 08.6 +0.8**
baz=267,SNR=15
SCM Sheep Creek Mo 36.79 43 *e*P **P 19 46 08.5 +0.5**
comp=Z,18nm,0.8s
SCM Sheep Creek Mo 36.79 43 *e*P **P 19 46 08.5 +0.5**
SCM pmax pmax
comp=Z,18nm,0.8s
HDA Harding Lake 36.96 38 *e*P **P 19 46 09.2 -0.1**
comp=Z,8.8nm,0.6s
HDA Harding Lake 36.96 38 P **P 19 46 09.2 -0.1**
baz=268
IL1 Eielson Array 36.99 38 *e*P **P 19 46 09.1 -0.5**
ILAR Eielson Array 36.99 38 P **P 19 46 09.3 -0.3**
comp=Z,2.8nm,0.7s,baz=249,slow=8.0,SNR=53
ILB Eielson Array 36.99 38 *e*P **P 19 46 09.6 0.0**
KNGR Kungurtug, Tuv 37.18 299 *i*P **P 19 46 11.3 -0.2**
KLU Klutina 37.48 43 *e*P **P 19 46 14.5 +0.7**
comp=Z,31nm,1.1s
FYU Fort Yukon 37.75 35 *e*P **P 19 46 17.3 +1.4**
comp=Z,18nm,0.9s
ENH Enshi 37.77 262 *e*P **P 19 46 16.8 +0.1**
comp=Z,21nm,1.0s
DOT Dot Lake 38.23 40 *e*P **P 19 46 19.9 -0.2**
comp=Z,8.9nm,1.0s
SCRK Sand Creek 38.26 39 *e*P **P 19 46 20.2 -0.2**
comp=Z,6.7nm,1.3s
LZH Lanzhou 38.52 274 *e*P **P 19 46 25.6 +2.6**
LZH pP pwP 19 46 34.0 -0.4
LZH sP sP 19 46 38.4 +12
LZH PP **PnPn 19 47 58.9 +5.9**
LZH S **S 19 52 18.6 +0.3**
LZH sS ScP 19 52 32.0 +9.0
LZH pmax pmax
comp=Z,61nm,1.0s
LZH pmax pmax
comp=Z,320nm,4.9s
LZH LR LR
comp=Z,680nm,11.1s
LZH LR LR
comp=Z,550nm,11.9s
LZH LR LR
comp=Z,790nm,12.8s
GTA Gaotai 39.72 281 *i*P **P 19 46 34.5 +1.5**
GTA pP pwP 19 46 42.2 -2.1
GTA sP sP 19 46 45.3 +9.0
GTA PcP **PcP 19 48 40.0 +0.7**
GTA S **S 19 52 36.6 +0.4**
GTA sS sS 19 52 49.0 +10
GTA SS **SS 19 55 26.8 -4.8**
GTA pmax pmax
comp=Z,18nm,1.3s
GTA pmax pmax
comp=Z,230nm,7.6s
GTA LR LR
comp=Z,250nm,16.5s
GTA LR LR
comp=Z,340nm,15.5s
GTA LR LR
comp=Z,380nm,15.9s
DAWY Dawson 40.27 39 *e*P **P 19 46 38.0 +0.9**
comp=Z,6.0nm,0.9s
CD2 Chengdu 41.39 267 *e*P **P 19 46 47.5 +0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HYT Haines Junctio 41.61 43 *e*P **P 19 46 49.0 +0.7**
comp=Z,20nm,0.7s
GYA Guiyang 42.08 259⇓ *i*P **P 19 46 52.5 -0.1**
GYA pP pwP 19 47 02.2 -1.8
GYA PP **PP 19 48 34.3 +4.4**
GYA S **S 19 53 12.0 +0.4**
GYA sS sS 19 53 21.8 +6.8
GYA SS **SS 19 56 13.9 -5.0**
GYA pmax pmax
comp=Z,30nm,0.9s
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=Z,530nm,16.9s
GYA LR LR
comp=Z,570nm,17.4s
GYA LR LR
comp=Z,510nm,17.0s
INK Inuvik 42.21 32 P **P 19 46 53.5 +0.5**
comp=Z,5.7nm,0.6s,baz=294,slow=6.4,SNR=40
INK Inuvik 42.21 32 *e*P **P 19 46 53.8 +0.9**
comp=Z,8.0nm,0.7s
DGZ Jazzator, Alta 43.62 300*c i*P **P 19 47 05.8 +1.0**
DGZ pmax pmax
comp=Z,6.0nm,0.9s
ZAA0 Zalesovo Array 43.69 307 *e*P **P 19 47 06.2 +1.0**
comp=Z,8.1nm,1.4s
ZALV Zalesovo Beam 43.69 307 P **P 19 47 04.3 -0.8**
comp=Z,2.0nm,0.4s,baz=58,slow=6.7,SNR=11
ZALV PcP **PcP 19 48 50.5 -1.4**
comp=Z,4.9nm,0.8s,baz=82,slow=3.1,SNR=9.9
ZALV LR LR 20 06 20.5
comp=Z,293nm,18.4s,baz=70,slow=38
ZALV Zalesovo Beam 43.69 307 *e*P **P 19 47 04.1 -1.0**
ZALV *e*PcP **PcP 19 48 52.0 0.0**
ZALV Zalesovo Beam 43.69 307 *e*P **P 19 47 04.1 -1.0**
ZALV *e* 19 48 52.0
NVS Novosibirsk 44.28 309 *e*P **P 19 47 10.2 +0.4**
NVS Novosibirsk 44.28 309 *e*P **P 19 47 10.2 +0.4**
NVS *e* 19 48 53.8
NVS pmax pmax
comp=N,4.0nm,1.0s
NVS pmax pmax
comp=E,7.0nm,1.0s
NVS pmax pmax
comp=Z,13nm,1.0s
KMI Kunming 45.65 261 P **P 19 47 22.9 +1.6**
KMI pmax pmax
comp=Z,20nm,0.6s
KMI pmax pmax
comp=Z,170nm,5.3s
WMQ Urumqi 45.85 293⇑ *i*P **P 19 47 24.9 +2.3**
WMQ pP pwP 19 47 32.4 -1.5
WMQ sP sP 19 47 36.4 +11
WMQ PcP **PcP 19 49 00.1 +0.4**
WMQ PP **PP 19 49 12.9 +3.1**
WMQ S **S 19 54 07.1 +1.0**
WMQ pmax pmax
comp=Z,60nm,0.9s
WMQ pmax pmax
comp=Z,810nm,4.5s
WMQ LR LR
comp=Z,410nm,22.3s
WMQ LR LR
comp=Z,310nm,22.9s
WMQ LR LR
comp=Z,370nm,24.5s
DLBC Dease Lake 45.89 45 P **P 19 47 23.9 +1.1**
comp=Z,10nm,0.8s,baz=293,slow=12,SNR=3.4
SEM Semipalatinsk 47.61 304 *e*P **P 19 47 33.8 -2.6**
SEM pmax pmax
comp=Z,17nm,0.6s
SEM MLR MLR
comp=Z,205nm,14.0s
SEM Semipalatinsk 47.61 304 *e*P **P 19 47 33.8 -2.6**
comp=Z,16nm,0.6s
SEM *e*LRM MLR 20 10 00.1
comp=Z,204nm,14.1s
MK31 Makanchi Array 47.94 299 *e*P **P 19 47 39.3 +0.5**
MK31 Makanchi Array 47.94 299 *e*P **P 19 47 39.3 +0.5**
MKAR Makanchi Array 47.94 299 P **P 19 47 39.5 +0.7**
comp=Z,15nm,0.8s,baz=68,slow=7.2,SNR=102
MKAR LR LR 20 08 35.6
comp=Z,342nm,19.2s,baz=60,slow=37
MKAR Makanchi Array 47.94 299 *e*P **P 19 47 39.3 +0.5**
comp=Z,94nm,0.8s
MKAR Makanchi Array 47.94 299 *e*P **P 19 47 39.3 +0.5**
MKAR Makanchi Array 47.94 299 *e*P **P 19 47 39.3 +0.5**
MKAR pmax pmax
comp=Z,94nm,0.8s
MK01 Makanchi Array 47.94 299 *e*P **P 19 47 39.0 +0.1**
MAKZ Makanchi 48.12 299 *e*P **P 19 47 40.9 +0.7**
comp=Z,18nm,1.0s
MAKZ Makanchi 48.12 299 *e*P **P 19 47 40.9 +0.7**
MAKZ pmax pmax
comp=Z,18nm,1.0s
KURK Kurchatov 48.42 305 *e*P **P 19 47 42.5 +0.1**
comp=Z,37nm,1.4s
KURK Kurchatov 48.42 305 *e*P **P 19 47 42.5 +0.1**
KURK Kurchatov 48.42 305 *e*P **P 19 47 42.5 +0.1**
KURK pmax pmax
comp=Z,37nm,1.4s
NONG Nongkai 50.13 254 P **P 19 47 57.6 +1.7**
comp=Z,0.5nm,1.5s
LSA Lhasa 50.92 275 *e*P **P 19 48 04.5 +2.1**
comp=Z,5.6nm,0.7s
LSA Lhasa 50.92 275 P **P 19 48 04.2 +1.8**
LSA Lhasa 50.92 275 *e*P **P 19 48 04.5 +2.1**
LSA pmax pmax
comp=Z,6.0nm,0.7s
TDK Taldyqorghan 51.17 298 *e*P **P 19 48 03.4 -0.1**
TDK pmax pmax
comp=Z,40nm,0.6s
TDK MLR MLR
comp=Z,485nm,16.0s
TDK Taldyqorghan 51.17 298 *e*P **P 19 48 03.5 -0.1**
comp=Z,40nm,0.6s
TDK *e*LRM MLR 20 11 43.8
comp=Z,485nm,15.6s
PDGK Podgornoye 51.33 296 P **P 19 48 05.9 +1.1**
PDGK pmax pmax
comp=Z,12nm,1.1s
YKW3 Yellowknife Ar 51.36 36 *e*P **P 19 48 05.0 +0.4**
comp=Z,7.4nm,0.7s
YKA Yellowknife Ar 51.40 36 P **P 19 48 05.2 +0.3**
comp=Z,7.3nm,0.7s,baz=295,slow=7.1,SNR=101
YKA PcP **PcP 19 49 18.9 -0.3**
comp=Z,1.0nm,0.6s,baz=309,slow=3.8,SNR=5.9
YKB5 Yellowknife Ar 51.40 36 *e*P **P 19 48 04.0 -0.9**
YKB5 *e*PcP **PcP 19 49 19.3 +0.1**
SHLS Shalkode 51.43 296 *e*P **P 19 48 02.7 -2.9**
SHLS pmax pmax
comp=Z,11nm,0.7s
SHLS MLR MLR
comp=Z,147nm,16.0s
SHLS Shalkode 51.43 296 *e*P **P 19 48 02.8 -2.9**
comp=Z,11nm,0.7s
SHLS *e*LRM MLR 20 12 50.8
comp=Z,147nm,15.7s
RES Resolute Bay 51.62 18 P **P 19 48 07.0 +0.7**
comp=Z,8.0nm,0.9s,baz=332,slow=9.2,SNR=22
RES Resolute Bay 51.62 18 *e*P **P 19 48 07.5 +1.1**
comp=Z,9.5nm,0.9s
UZB Uzynbulak 51.72 296 *e*P **P 19 48 06.7 -1.0**
UZB pmax pmax
comp=Z,19nm,1.9s
UZB MLR MLR
comp=Z,120nm,14.0s
UZB Uzynbulak 51.72 296 *e*P **P 19 48 06.8 -1.0**
comp=Z,19nm,1.9s
UZB *e*LRM MLR 20 12 11.2
comp=Z,120nm,14.2s
KPKS Kokpek 51.77 296 *e*P **P 19 48 06.9 -1.1**
KPKS pmax pmax
comp=Z,43nm,1.3s
KPKS MLR MLR
comp=Z,272nm,14.0s
KPKS Kokpek 51.77 296 *e*P **P 19 48 06.9 -1.1**
comp=Z,43nm,1.3s
KPKS *e*LRM MLR 20 13 29.3
comp=Z,272nm,13.9s
BRVK Borovoye 52.00 310 *e*P **P 19 48 10.8 +1.2**
comp=Z,13nm,0.9s
BRVK Borovoye 52.00 310*ce*P **P 19 48 10.1 +0.6**
BRVK pmax pmax
comp=Z,35nm,2.5s
ZHN Zhinishke 52.07 296 *e*P **P 19 48 09.7 -0.7**
ZHN pmax pmax
comp=Z,10.0nm,0.9s
ZHN MLR MLR
comp=Z,264nm,15.0s
ZHN Zhinishke 52.07 296 *e*P **P 19 48 09.7 -0.7**
comp=Z,10nm,0.9s
ZHN *e*LRM MLR 20 13 14.3
comp=Z,264nm,15.2s
SATY Saty 52.15 296 *e*P **P 19 48 09.4 -1.5**
SATY pmax pmax
comp=Z,73nm,1.3s
SATY MLR MLR
comp=Z,183nm,13.0s
SATY Saty 52.15 296 *e*P **P 19 48 09.4 -1.5**
comp=Z,73nm,1.3s
SATY *e*LRM MLR 20 13 49.4
comp=Z,183nm,13.3s
BRZS Berezniki 52.15 306*de*P **P 19 48 10.4 -0.3**
BRZS pmax pmax
comp=Z,142nm,0.9s
BRZS MLR MLR
comp=Z,319nm,14.0s
BRZS Berezniki 52.15 306⇓ *e*P **P 19 48 10.4 -0.3**
comp=Z,142nm,0.9s
BRZS *e*LRM MLR 20 13 03.4
comp=Z,319nm,14.4s
LAMP Lampang 52.19 257 P **P 19 48 13.3 +1.9**
comp=Z,5.0nm,0.9s
CMMT Chiang Mai 52.46 258 P **P 19 48 14.1 +0.7**
comp=Z,11nm,0.8s
CHTO Chiang Mai 52.47 258 *e*P **P 19 48 14.6 +1.2**

comp=Z,11nm,1.0s
CHTO Chiang Mai 52.47 258 *e*P **P 19 48 14.6 +1.2**
CHTO pmax pmax
comp=Z,11nm,1.0s
CHTO Chiang Mai 52.47 258 P **P 19 48 14.2 +0.8**
comp=Z,51nm,0.9s
PBKT Sadao Pong 52.65 254 *e*P **P 19 48 15.5 +0.7**
comp=Z,7.4nm,1.0s
PBKT Sadao Pong 52.65 254 P **P 19 48 17.5 +2.8**
comp=Z,10nm,1.4s
CM31 Chiang Mai Arr 52.71 258 *e*P **P 19 48 16.6 +1.3**
CMAR Chiang Mai Arr 52.71 258 P **P 19 48 16.2 +1.0**
comp=Z,5.5nm,0.8s,baz=37,slow=6.4,SNR=53
CMAR PcP **PcP 19 49 25.7 +0.8**
comp=Z,1.2nm,0.8s,baz=16,slow=3.0,SNR=4.0
CMAR LR LR 20 13 11.4
comp=Z,57nm,19.5s,baz=45,slow=39
CM01 Chiang Mai Arr 52.73 258 *e*P **P 19 48 16.4 +1.1**
SHL Shillong 52.94 270 P **P 19 48 17.1 0.0**
SHL pmax pmax
comp=Z,21nm,1.0s
SHL Shillong 52.94 270 *e*P **P 19 48 19.0 +1.9**
MDOK Medeo 52.95 297 *e*P **P 19 48 15.7 -1.1**
MDOK pmax pmax
comp=Z,154nm,1.4s
MDOK MLR MLR
comp=Z,225nm,15.0s
MDOK Medeo 52.95 297 *e*P **P 19 48 15.8 -1.1**
comp=Z,154nm,1.4s
MDOK *e*LRM MLR 20 12 47.5
comp=Z,225nm,14.7s
AAA Alma-Ata 53.01 297 *e*P **P 19 48 18.1 +0.9**
AAA Alma-Ata 53.01 297 *e*P **P 19 48 18.1 +0.9**
AAA pmax pmax
comp=Z,138nm,1.0s
AAA MLR MLR
comp=Z,123nm,15.0s
AAA Alma-Ata 53.01 297 *e*P **P 19 48 18.1 +0.9**
comp=Z,138nm,1.0s
AAA *e*LRM MLR 20 12 55.1
comp=Z,122nm,14.8s
TNSS Tian-Shan 53.08 297 *e*P **P 19 48 17.9 -0.2**
TNSS pmax pmax
comp=Z,14nm,0.9s
TNSS Tian-Shan 53.08 297 *e*P **P 19 48 17.9 -0.2**
comp=Z,14nm,0.9s
OTUK Ortayu 53.20 304 P **P 19 48 19.7 +1.2**
OTUK pmax pmax
comp=Z,9.0nm,1.1s
MTBS Maitube 53.35 297 *e*P **P 19 48 20.6 +0.8**
MTBS pmax pmax
comp=Z,98nm,1.2s
MTBS Maitube 53.35 297 *e*P **P 19 48 20.6 +0.8**
comp=Z,98nm,1.2s
KDJ Kajisay 53.40 296 *e*P **P 19 48 23.2 +2.9**
comp=Z,28nm,1.0s
KDJ Kajisay 53.40 296 *e*P **P 19 48 23.2 +2.9**
KDJ pmax pmax
comp=Z,28nm,1.0s
TKM2 Tokmak 2 53.98 297 P **P 19 48 26.0 +1.4**
SNR=15
D03D Eldon 54.33 56 P **P 19 48 26.6 -0.2**
baz=301
UMPA Umpang Tak 54.33 256 P **P 19 48 30.4 +3.2**
comp=Z,3.8nm,0.9s
UTHA Uthaitani 54.40 255 P **P 19 48 29.8 +2.2**
comp=Z,2.9nm,0.9s
CHMS Chumysh 54.46 298 P **P 19 48 29.1 +1.3**
SNR=8.6
USP Ospenovka 54.48 298 P **P 19 48 29.4 +1.5**
SNR=54
KBK Karagaybulak 54.52 297 P **P 19 48 30.0 +1.5**
SNR=19
FRU Bishkek 54.63 298 ǁ *i*P **P 19 48 30.0 +0.9**
FRU Bishkek 54.63 298 ǁ *i*P **P 19 48 30.0 +0.9**
FRU pmax pmax
comp=Z,92nm,1.9s
FRU1 Bishkek 54.64 298 *e*P **P 19 48 31.4 +2.2**
comp=Z,55nm,1.3s
FRU1 Bishkek 54.64 298 *e*P **P 19 48 31.4 +2.2**
FRU1 pmax pmax
comp=Z,55nm,1.3s
KZA Kyzart 54.65 296 P **P 19 48 31.9 +2.2**
SNR=19
AAK Ala-Archa 54.82 297 P **P 19 48 32.0 +1.4**
SNR=22
AAK Ala-Archa 54.82 297 *e*P **P 19 48 32.0 +1.4**
comp=Z,26nm,1.1s
AAK Ala-Archa 54.82 297 *i*P **P 19 48 32.0 +1.4**
SNR=35
AAK Ala-Archa 54.82 297 *ce*P **P 19 48 32.1 +1.4**
AAK pmax pmax
comp=Z,23nm,1.0s
SVE Sverdlovsk 54.98 318 ǁ *e*P **P 19 48 32.4 +1.1**
SVE Sverdlovsk 54.98 318 ǁ *e*P **P 19 48 32.4 +1.1**
SVE pmax pmax
comp=Z,20nm,0.8s
TULEG Thule 55.02 11 *e*P **P 19 48 31.3 0.0**
comp=Z,9.5nm,0.7s
EKS2 Erkin-Say 55.25 298 P **P 19 48 35.4 +1.7**
SNR=24
AML Almayashu 55.59 297 P **P 19 48 38.7 +2.3**
SNR=17
KSH Kashi 55.59 294 P **P 19 48 40.3 +4.1**
KSH pP pwP 19 48 46.1 -1.5
KSH ScP **ScP 19 53 33.5 -0.6**
KSH PcS **PcS 19 53 36.4 +0.4**
KSH S **S 19 56 23.0 +1.6**
KSH sS sS 19 56 40.1 +15
KSH pmax pmax
comp=Z,16nm,0.8s
KSH LR LR
comp=Z,270nm,11.5s
KSH LR LR
comp=Z,250nm,8.9s
KSH LR LR
comp=Z,810nm,19.8s
JIRN Jiri 55.62 276 *e*P **P 19 48 37.7 +0.9**
comp=Z,29nm,0.6s
GUN Gumba 55.68 276 *e*P **P 19 48 37.5 +0.3**
comp=Z,34nm,1.0s
RAMN Ramite 55.77 275 *e*P **P 19 48 38.1 +0.3**
comp=Z,46nm,0.9s
ARU Arti 56.16 318 *e*P **P 19 48 40.3 +0.5**
comp=Z,75nm,1.4s
ARU Arti 56.16 318 ǁ *i*P **P 19 48 40.2 +0.4**
ARU Arti 56.16 318 *d i*P **P 19 48 40.2 +0.4**
ARU *e*PP **pwP 19 48 51.3 -0.7**
ARU 19 49 36.7
ARU 19 50 42.6
ARU S **S 19 56 29.7 +1.4**
ARU SS **SS 20 00 18.7 +4.7**
ARU pmax pmax
comp=Z,22nm,0.7s
PHET Kaeng Krachan 56.17 252 P **P 19 48 42.3 +1.9**
comp=Z,7.3nm,0.8s
KKN Kakani 56.17 277 *e*P **P 19 48 41.3 +0.7**
comp=Z,32nm,0.9s
PKI Pulchoki 56.22 276 *e*P **P 19 48 41.6 +0.5**
comp=Z,28nm,1.1s
PKIN Phulchoki 56.22 276 *e*P **P 19 48 41.4 +0.4**
comp=Z,14nm,0.9s
DMN Daman 56.41 277 *e*P **P 19 48 43.1 +0.8**
comp=Z,58nm,1.2s
DZA Taraz 56.63 299 *e*P **P 19 48 43.2 -0.2**
DZA pmax pmax
comp=Z,235nm,1.1s
DZA Taraz 56.63 299 *e*P **P 19 48 43.2 -0.2**
comp=Z,235nm,1.1s
DANN Dangsing 56.88 278 *e*P **P 19 48 46.6 +0.9**
comp=Z,54nm,1.1s
SFK Sufi-Kurgan 56.89 295 P **P 19 48 46.8 +1.3**
SFK pmax pmax
comp=Z,23nm,1.0s
KK31 Karatay Array 57.01 300 *e*P **P 19 48 47.1 +1.0**
KKAR Karatay Array 57.01 300 *e*P **P 19 48 47.1 +1.0**
NEW Newport 57.33 53 P **P 19 48 47.1 -1.2**
comp=Z,4.7nm,1.1s,baz=355,slow=3.7,SNR=4.8
KOLN Koldanda 57.35 278 *e*P **P 19 48 49.7 +0.7**
comp=Z,33nm,0.9s
PYUN Piuthan 57.57 278 *e*P **P 19 48 51.3 +0.8**
comp=Z,75nm,0.9s
PINE Pine Mountain 57.63 59 *e*P **P 19 48 51.8 +1.1**
comp=Z,16nm,1.3s
PINE *e*PcP **PcP 19 49 44.8 +1.1**
DAG Danmarks Havn 57.69 358 *i*P **P 19 48 49.4 -0.9**
comp=Z,3.4nm,0.8s
DAG *e* 19 49 02.1
DAG Danmarks Havn 57.69 358 *i*P **P 19 48 49.4 -0.9**
DAG *e* 19 49 02.1
DAG pmax pmax
comp=Z,3.0nm,0.8s
IUG Iuzhnay 57.84 299 *e*P **P 19 48 52.0 -0.1**
IUG pmax pmax
comp=Z,250nm,1.4s
IUG MLR MLR
comp=Z,112nm,13.0s
IUG Iuzhnay 57.84 299 *e*P **P 19 48 52.1 -0.1**
comp=Z,250nm,1.4s
IUG *e*LRM MLR 20 16 45.0
comp=Z,112nm,13.1s
LVZ Lovozero 57.94 337 *e*P **P 19 48 53.0 +0.7**
comp=Z,41nm,1.2s
LVZ Lovozero 57.94 337 *e*P **P 19 48 53.0 +0.7**
LVZ pmax pmax
comp=Z,41nm,1.2s
CHM Chimkent 58.01 300 *e*P **P 19 48 53.2 +0.1**
CHM pmax pmax
comp=Z,402nm,1.4s
CHM Chimkent 58.01 300 *e*P **P 19 48 53.3 +0.1**
comp=Z,402nm,1.4s
PRGR Permogore 58.54 328 ⇑ *i*P **P 19 48 57.5 +1.0**
PRGR *e**PP **pwP 19 49 09.3 +1.3**
PRGR pmax pmax
comp=Z,79nm,0.9s
WALA Waterton Lakes 58.64 50 *e*P **P 19 48 57.9 +0.3**
comp=Z,6.8nm,0.8s
ARCES ARCESS Array B 59.01 341 P **P 19 48 59.6 -0.1**
comp=Z,16nm,0.9s,baz=15,slow=2.6,SNR=15
ARCES LR LR 20 17 00.7
comp=Z,7.1nm,22.0s,baz=229,slow=39
O03E Paynes Creek 59.10 62 P **P 19 49 00.5 -0.4**
baz=306
ABKAR Akbulak array 59.53 311 *e*P **P 19 49 04.5 +0.9**
MSO Missoula 59.92 52 P **P 19 49 05.9 -0.5**
baz=306
SGF Sodankyl 60.39 339 P **P 19 49 10.5 +1.3**
SGF pmax pmax
comp=Z,39nm,1.2s
MSF Maaselka 60.91 337 P **P 19 49 14.5 +1.7**
FFC Flin Flon 61.15 40 *e*P **P 19 49 14.9 +0.3**
comp=Z,12nm,0.7s
FFC Flin Flon 61.15 40 *e*P **P 19 49 14.9 +0.3**
FFC Flin Flon 61.15 40 *e*P **P 19 49 14.9 +0.3**
FFC pmax pmax
comp=Z,12nm,0.7s
KLMR Klimovskoe 61.28 329 *e*P **P 19 49 13.7 -1.7**
KLMR *e* 19 51 28.0
KLMR pmax pmax
comp=Z,72nm,1.3s
KLMR Klimovskoe 61.28 329 *e*P **P 19 49 13.7 -1.7**
KLMR AMP 19 49 21.0
comp=Z,72nm,1.2s
KLMR *e*PP **PP 19 51 28.1 -1.7**
HLID Hailey 61.60 56 *e*P **P 19 49 18.1 0.0**
comp=Z,4.1nm,1.3s
HLID *e*PcP **PcP 19 50 00.4 +0.8**
HLID Hailey 61.60 56 P **P 19 49 17.9 -0.1**
baz=307
SUMG Summit 61.68 4 *e*P **P 19 49 18.1 -0.3**
comp=Z,19nm,1.0s
SUMG Summit 61.68 4 *i*P **P 19 49 18.3 -0.1**
comp=Z,49nm,1.0s
SUMG Summit 61.68 4 *e*P **P 19 49 18.1 -0.3**
SUMG pmax pmax
comp=Z,19nm,1.0s
FCC Fort Churchill 61.80 33 *e*P **P 19 49 18.6 -0.2**
comp=Z,13nm,0.7s
FCC Fort Churchill 61.80 33 *e*P **P 19 49 18.6 -0.2**
FCC Fort Churchill 61.80 33 *e*P **P 19 49 18.6 -0.2**
FCC pmax pmax
comp=Z,13nm,0.7s
BOZ Bozeman (W) 61.95 52 P **P 19 49 20.4 +0.1**
baz=308
RYN Ryan 62.13 62 *e*P **P 19 49 22.2 +0.5**
comp=Z,5.5nm,0.9s
KVN Kaiserville 62.14 62 *e*P **P 19 49 22.2 +0.5**
comp=Z,7.3nm,1.1s
KVN Kaiserville 62.14 62 *e*P **P 19 49 22.2 +0.5**
KVN pmax pmax
comp=Z,7.0nm,1.1s
OUL Oulu 62.38 338 P **P 19 49 25.3 +2.6**
OUL pmax pmax
comp=Z,16nm,1.4s
NV01 Mina Array Sit 62.39 62 *e*P **P 19 49 23.3 -0.2**
NV01 *e*PcP **PcP 19 50 03.4 +0.5**
NVAR Mina Array Bea 62.39 62 P **P 19 49 23.2 -0.3**
comp=Z,5.1nm,0.7s,baz=294,slow=6.9,SNR=30
JOF Joensuu 62.51 334 *e*P **P 19 49 24.2 +0.6**
JOF Joensuu 62.51 334 P **P 19 49 24.2 +0.6**
JOF pmax pmax
comp=Z,36nm,0.9s
ELK Elko 62.84 59 *e*P **P 19 49 26.9 +0.5**
ELK Elko 62.84 59 *e*P **P 19 49 27.0 +0.5**
KBL Kabul 62.99 293 *e*P **P 19 49 27.7 +0.2**
comp=Z,17nm,0.8s
KBL Kabul 62.99 293 *e*P **P 19 49 27.7 +0.2**
KBL pmax pmax
comp=Z,17nm,0.8s
FLWY Flagg Ranch 63.40 53 *e*P **P 19 49 31.5 +1.3**
comp=Z,9.7nm,1.1s
RLMT Red Lodge 63.55 52 *e*P **P 19 49 31.9 +0.8**
comp=Z,7.4nm,1.0s
RLMT Red Lodge 63.55 52 P **P 19 49 31.4 +0.4**
baz=309
MOOW Moose Ponds 63.59 54 *e*P **P 19 49 32.0 +0.7**
comp=Z,6.0nm,1.0s
TPAW Teton Pass 63.63 54 *e*P **P 19 49 32.6 +0.9**
comp=Z,12nm,0.9s
HVU Hansel Valley 63.65 56 *e*P **P 19 49 31.5 -0.2**
comp=Z,4.4nm,1.0s
HVU Hansel Valley 63.65 56 *e*P **P 19 49 31.5 -0.2**
HVU pmax pmax
comp=Z,4.0nm,1.0s
LOHW Long Hollow 63.75 54 *e*P **P 19 49 33.1 +0.6**
comp=Z,13nm,1.4s
REDW Red Top Meadow 63.77 54 *e*P **P 19 49 33.3 +0.8**
comp=Z,25nm,1.4s
R11A Troy Canyon, C 64.12 61 *e*P **P 19 49 34.8 -0.1**
comp=Z,5.5nm,0.9s
R11A Troy Canyon, C 64.12 61 P **P 19 49 34.7 -0.2**
baz=309
SUF Sumiainen 64.18 336 P **P 19 49 35.7 +1.1**
SUF pmax pmax
comp=Z,21nm,1.2s
MPMC Manual Prospec 64.37 64 P **P 19 49 36.0 -0.6**
baz=309
TPNV Topopah Spring 64.59 62 *e*P **P 19 49 37.8 -0.2**
comp=Z,8.2nm,0.9s
TPNV Topopah Spring 64.59 62 *e*P **P 19 49 37.8 -0.2**
TPNV pmax pmax
comp=Z,8.0nm,0.9s
TPNV Topopah Spring 64.59 62 P **P 19 49 37.6 -0.3**
baz=309
DUG Dugway, Tooele 64.62 58 *e*P **P 19 49 38.7 +0.6**
comp=Z,4.9nm,0.8s
DUG Dugway, Tooele 64.62 58 *e*P **P 19 49 38.7 +0.6**
DUG Dugway, Tooele 64.62 58 *e*P **P 19 49 38.7 +0.6**
DUG pmax pmax
comp=Z,5.0nm,0.8s
DUG Dugway, Tooele 64.62 58 P **P 19 49 38.1 0.0**
baz=309,SNR=7.0
VAF Ylistaro 64.88 338 P **P 19 49 43.5 +4.4**
VAF pmax pmax
comp=Z,26nm,1.0s
BW06 Boulder Array 64.88 54 *e*P **P 19 49 39.6 -0.2**
comp=Z,9.0nm,1.1s
BW06 Boulder Array 64.88 54 P **P 19 49 39.6 -0.2**
baz=310
PD31 Pinedale Array 64.88 54 *e*P **P 19 49 39.7 -0.1**
PDAR Pinedale Array 64.88 54 P **P 19 49 39.6 -0.3**
comp=Z,4.5nm,0.9s,baz=284,slow=2.8,SNR=29
PDAR Pinedale Array 64.88 54 *e*P **P 19 49 39.8 -0.1**
PSUT Pine Spring 65.05 60 *e*P **P 19 49 41.1 0.0**
comp=Z,3.5nm,1.1s
FIA1 FINESS Array S 65.21 335 *e*P **P 19 49 41.5 +0.2**
FINES FINESS Array B 65.22 335 P **P 19 49 41.5 +0.2**
comp=Z,28nm,0.9s,baz=35,slow=7.7,SNR=103
FINES LR LR 20 21 02.3
comp=Z,174nm,18.8s,baz=24,slow=39
NLU North Lily Min 65.22 58 *e*P **P 19 49 42.5 +0.4**
comp=Z,3.4nm,0.8s
SHPR Sheep Range 65.54 62 *e*P **P 19 49 44.6 +0.5**
comp=Z,9.1nm,1.3s
MOS Moscow 65.62 326 *e*P **P 19 49 41.8 -2.3**
MOS Moscow 65.62 326 *e*P **P 19 49 41.8 -2.3**
MOS pmax pmax
comp=Z,34nm,1.0s
SFJD Kangerlussuaq 66.06 10 *i*P **P 19 49 46.6 -0.1**
comp=Z,27nm,1.1s
SFJD Kangerlussuaq 66.06 10 *i*P **P 19 49 46.6 -0.1**
SFJD pmax pmax
comp=Z,27nm,1.1s
MSU Marysvale 66.08 59 *e*P **P 19 49 48.0 +0.3**
MSU Marysvale 66.08 59 *e*P **P 19 49 48.0 +0.3**
LCMT Little Creek M 66.40 61 *e*P **P 19 49 50.4 +0.7**
comp=Z,7.2nm,0.8s
OBN Obninsk 66.48 326 *e*P **P 19 49 49.2 -0.5**
comp=Z,89nm,1.0s
OBN Obninsk 66.48 326 ǁ *i*P **P 19 49 48.9 -0.7**
OBN Obninsk 66.48 326 ǁ *i*P **P 19 49 48.9 -0.7**
OBN *i* 19 52 18.9
OBN pmax pmax
comp=Z,36nm,0.9s
OBN MLR MLR
comp=N,159nm,18.0s
ULM Lac du Bonnet 66.91 41 P **P 19 49 52.1 -0.4**
comp=N,6.7nm,0.5s,baz=312,slow=6.6,SNR=20
ULM Lac du Bonnet 66.91 41 *e*P **P 19 49 52.2 -0.4**
comp=N,8.8nm,0.6s
RSSD Black Hills 67.04 50 *e*P **P 19 49 53.3 -0.4**
comp=N,11nm,0.6s
RSSD Black Hills 67.04 50 *e*P **P 19 49 53.3 -0.4**
RSSD pmax pmax
comp=Z,11nm,0.6s
RSSD Black Hills 67.04 50 P **P 19 49 53.0 -0.7**
baz=312
VRH Novokhopyorsk 67.17 321 *e*P **P 19 49 53.9 -0.2**
VRH pmax pmax
comp=Z,60nm,0.7s
LPSR Galich'ya Gora 67.37 323 *e*P **P 19 49 55.6 +0.3**
LPSR pmax pmax
comp=Z,70nm,0.8s
VSU Vasula 67.39 333 *ce*P **P 19 49 54.8 -0.6**
VSU pmax pmax
comp=Z,70nm,1.0s
VSU Vasula 67.39 333 *e*P **P 19 49 55.7 +0.3**
VSU IAmb IAmb 19 49 56.6
comp=Z,65nm,0.7s
GEYT Alibeck 67.64 302 P **P 19 49 58.1 +0.7**
comp=Z,9.1nm,0.7s,baz=316,slow=4.1,SNR=17
GEYT LR LR 20 21 35.6
comp=Z,172nm,19.6s,baz=70,slow=38
GYA0B ALIBECK ARRAY 67.64 302 *e*P **P 19 49 58.9 +1.5**
comp=Z,17nm,0.8s
WRAB Tennant Creek 67.73 200 *e*P **P 19 49 57.1 -0.8**
comp=Z,15nm,1.0s
WRAB Tennant Creek 67.73 200 *ce*P **P 19 49 55.9 -2.0**
WRAB pmax pmax
comp=Z,30nm,1.7s
WB2 Warramunga Arr 67.74 200 *e*P **P 19 49 57.6 -0.4**
WRA Warramunga Arr 67.74 200 P **P 19 49 57.1 -0.9**
comp=Z,8.3nm,0.8s,baz=20,slow=7.0,SNR=28
WRA Warramunga Arr 67.74 200 *i*P **P 19 49 57.0 -1.0**
WRA pmax pmax
comp=Z,8.0nm,0.8s
PPSI Pulau Pagai 67.81 241 P **P 19 49 59.1 +0.5**
PV17 East Wray Mesa 68.14 57 *e*P **P 19 50 01.0 +0.2**
comp=Z,16nm,0.7s
PV11 David Mesa, Pa 68.18 57 *e*P **P 19 50 01.3 +0.3**
comp=Z,11nm,0.9s
VSR Storozhevoye 68.28 322 *e*P **P 19 50 01.1 0.0**
VSR pmax pmax
comp=Z,30nm,0.6s
AGMN Agassiz Nation 68.29 42 *e*P **P 19 49 60.0 -1.3**
comp=Z,14nm,1.1s
AGMN Agassiz Nation 68.29 42 P **P 19 50 01.1 -0.2**
baz=315
PV13 Radium Mtn., P 68.31 57 *e*P **P 19 50 02.1 +0.2**
comp=Z,7.8nm,0.7s
DZM Mont Dzumac 68.42 168 LR LR 20 15 39.2
comp=Z,79nm,19.1s,baz=56,slow=32
DZM Mont Dzumac 68.42 168 *e*LR LR 20 10 40.3
comp=Z,138nm,27.1s
ISCO Idaho Springs 69.07 54 *e*P **P 19 50 06.2 -0.4**
comp=Z,11nm,1.2s
ISCO Idaho Springs 69.07 54 *e*P **P 19 50 06.2 -0.4**
ISCO pmax pmax
comp=Z,11nm,1.2s
ISCO Idaho Springs 69.07 54 P **P 19 50 06.0 -0.6**
baz=312,SNR=9.6
MVCO Mesa Verde 69.13 58 *e*P **P 19 50 05.2 -1.8**
comp=Z,4.2nm,0.8s
NC303 NORSAR Array S 69.19 342 *e*P **P 19 50 07.1 +0.5**
NC405 NORSAR Array S 69.21 341 *e*P **P 19 50 07.4 +0.6**
NC204 NORSAR Array S 69.27 342 *e*P **P 19 50 07.8 +0.6**
NB201 NORSAR Array S 69.36 342 *e*P **P 19 50 08.3 +0.6**
NB2 NORSAR Subarra 69.38 342 P **P 19 50 07.7 -0.2**
comp=Z,3.4nm,0.7s,baz=26,slow=6.5
NOA NORSAR Array B 69.38 342 P **P 19 50 08.0 +0.1**
comp=Z,11nm,0.9s,baz=27,slow=6.2,SNR=29
NOA LR LR 20 23 36.3
comp=Z,86nm,19.6s,baz=15,slow=39
NC602 NORSAR Array S 69.58 341 *e*P **P 19 50 09.3 +0.2**
NORES NORESS Array B 69.58 341 P **P 19 50 11.6 +2.5**
NAO01 NORSAR Array S 69.63 342 *e*P **P 19 50 09.7 +0.3**
IZAR Zarasai 69.73 332 *e*P **P 19 50 10.4 +0.4**
S22A 4UR Ranch, Cre 69.75 57 *e*P **P 19 50 10.1 -0.8**
comp=Z,14nm,1.4s
ISAL Salakas 69.92 331 *e*P **P 19 50 11.6 +0.4**
IDID Didziasalis 69.92 331 *e*P **P 19 50 11.5 +0.3**
IDID IAmb IAmb 19 50 16.6
comp=Z,14nm,1.0s
IIGN Ignalina 70.06 331 *e*P **P 19 50 12.4 +0.3**
IIGN IAmb IAmb 19 50 17.6
comp=Z,16nm,0.9s
MAK Makhachkala 70.18 312 *e*P **P 19 50 10.4 -2.6**
MAK *e* 19 52 46.1
MAK *e*S **S 19 59 18.0 -5.8**
MAK *e*SS **SS 20 03 55.0 +2.0**
MAK pmax pmax
comp=Z,38nm,1.1s
MAK MLR MLR
comp=Z,618nm,16.0s
NACGM Naroch 70.23 331 *e* **P 19 50 13.0 -0.1**
OGNE Ogallala 70.28 51 *e*P **P 19 50 13.0 -0.8**
comp=Z,29nm,0.9s
OGNE Ogallala 70.28 51 P **P 19 50 13.4 -0.4**
baz=314
SDCO Great Sand Dun 70.52 56 P **P 19 50 14.4 -1.2**
comp=Z,1.2nm,0.6s
SDCO Great Sand Dun 70.52 56 P **P 19 50 15.4 -0.2**
baz=313,SNR=5.1
EYMN Ely 70.57 40 P **P 19 50 14.7 -0.7**
baz=318
GOF Gofitskoye 70.96 316 *e*P **P 19 50 19.2 +1.4**
GOF pmax pmax
comp=Z,80nm,0.7s
ECSD EROS Data Cent 71.17 46 *e*P **P 19 50 18.3 -0.8**
comp=Z,6.8nm,0.6s
AS01 Alice Springs 71.42 199 *e*P **P 19 50 21.0 +0.4**
AS31 Alice Springs 71.43 199 *e*P **P 19 50 19.7 -1.0**
comp=Z,2.9nm,0.8s
ASAR Alice Springs 71.43 199 P **P 19 50 21.0 +0.3**
comp=Z,7.3nm,0.8s,baz=14,slow=5.7,SNR=36
E38A The Farm, Brul 71.53 41 P **P 19 50 20.5 -0.8**
baz=318
NCK Nalchik 71.81 314 *e*P **P 19 50 22.7 -0.3**
NCK pmax pmax
comp=Z,32nm,0.9s
ANMO Albuquerque 71.88 58 *e*P **P 19 50 22.8 -0.9**
comp=Z,2.7nm,0.8s
ANMO Albuquerque 71.88 58 *ce*P **P 19 50 22.7 -1.0**
ANMO pmax pmax
comp=Z,14nm,2.5s
ANMO Albuquerque 71.88 58 P **P 19 50 23.6 -0.1**
baz=313
KIV Kislovodsk 71.93 315 *e*P **P 19 50 24.6 +0.8**
comp=Z,47nm,0.8s
KIV Kislovodsk 71.93 315 ǁ *i*P **P 19 50 24.6 +0.8**
KIV Kislovodsk 71.93 315 *d i*P **P 19 50 24.6 +0.8**
KIV *e* 19 50 34.1
KIV *e* 19 50 41.4
KIV *e* 19 52 58.9
KIV *e*PPP PPP 19 54 48.4
KIV *e*S **S 19 59 48.0 +3.6**
KIV *e*SS **SS 20 04 17.6 -2.4**

KIV pmax pmax
comp=Z,31nm,0.8s
KBZ Khabaz 71.99 315 P **P 19 50 24.7 +0.7**
comp=Z,52nm,1.0s,baz=98,slow=3.2,SNR=30
KBZ LR LR 20 26 38.1
comp=Z,177nm,19.3s,baz=29,slow=40
E39A Mellen 72.17 41 P **P 19 50 23.9 -1.1**
baz=318
ZEI Tsey 72.17 313 *eP* **P 19 50 24.1 -1.3**
ZEI pmax pmax
comp=Z,25nm,0.8s
SUW Suwalki 72.17 332 *eP* **P 19 50 24.8 -0.1**
SUW Suwalki 72.17 332 *eP* **P 19 50 24.8 -0.1**
F39A Loretta 72.34 42 P **P 19 50 25.5 -0.6**
baz=318
E40A Wakefield 72.42 41 P **P 19 50 26.0 -0.5**
baz=319
NEY Neytrino 72.43 314 *d iP* **P 19 50 27.9 +1.0**
NEY pmax pmax
comp=Z,3.0nm,0.8s
G38A Ridgeland 72.46 43 P **P 19 50 25.7 -1.1**
baz=318
F40A Park Falls 72.71 41 P **P 19 50 27.4 -0.9**
baz=319
AKASG Malin Array Be 72.72 327 P **P 19 50 28.1 -0.1**
comp=Z,18nm,0.6s,baz=34,slow=6.3,SNR=66
AKASG LR LR 20 24 03.1
comp=Z,90nm,21.6s,baz=45,slow=37
AKASG Malin Array Be 72.72 327 P **P 19 50 28.2 -0.1**
AKASG pmax pmax
comp=Z,17nm,0.6s
AKASG MLR MLR
comp=Z,90nm,21.6s
AKBB Malin Array Si 72.72 327 *eP* **P 19 50 28.1 -0.2**
comp=Z,32nm,0.8s
KIEV Kiev 72.73 327 *eP* **P 19 50 28.0 -0.3**
comp=Z,30nm,0.8s
KIEV Kiev 72.73 327 ⇓ *iP* **P 19 50 28.5 +0.2**
KIEV Kiev 72.73 327 *i* P **P 19 50 28.3 0.0**
SNR=27
KIEV Kiev 72.73 327 *eP* **P 19 50 28.0 -0.3**
KIEV pmax pmax
comp=Z,30nm,0.8s
AK11 Malin Array Si 72.76 327 *eP* **P 19 50 28.3 -0.1**
F41A Three Lakes 73.31 41 *eP* **P 19 50 31.6 -0.2**
comp=Z,45nm,1.3s
E42A Champion 73.32 40 P **P 19 50 31.3 -0.6**
baz=320
AKH Akhalkalaki 73.38 313 ⇑ *iP* **P 19 50 34.2 +1.7**
I39A Houston 73.60 43 *eP* **P 19 50 32.8 -0.7**
comp=Z,20nm,0.8s
I39A Houston 73.60 43 P **P 19 50 32.4 -1.1**
baz=318
GNI Garni 73.64 311 P **P 19 50 36.3 +2.2**
comp=Z,236nm,1.2s
GNI Garni 73.64 311 P **P 19 50 36.3 +2.2**
GNI pmax pmax
comp=Z,236nm,1.2s
ANN Anapa 73.83 318 *eP* **P 19 50 39.1 +4.2**
ANN pmax pmax
comp=Z,77nm,1.2s
J39A Decorah 73.90 44 P **P 19 50 33.9 -1.4**
baz=318
H41A Junction City 73.91 42 P **P 19 50 34.2 -1.2**
baz=319
SCHQ Schefferville 74.02 23 P **P 19 50 35.3 -0.6**
comp=Z,10nm,0.8s,baz=12,slow=6.5,SNR=6.3
SCIA State Center 74.22 46 *eP* **P 19 50 36.7 -0.5**
comp=Z,29nm,0.6s
KSU1 Kansas State U 74.52 50 P **P 19 50 37.8 -1.3**
baz=317
K40A Colesburg 74.65 44 P **P 19 50 38.5 -1.2**
baz=319
D46A Sault St. Mari 74.65 37 P **P 19 50 38.3 -1.3**
baz=322
GKP Gorka Klasztor 74.67 335 *eP* **P 19 50 39.9 +0.3**
GKP Gorka Klasztor 74.67 335 *eP* **P 19 50 39.9 +0.3**
J41A Loganville 74.69 43 P **P 19 50 38.9 -1.0**
baz=319
AMTX Amarillo 74.73 56 P **P 19 50 40.1 -0.3**
baz=315
MNTX Cornudas Mount 74.77 60 *eP* **P 19 50 40.4 -0.2**
comp=Z,2.7nm,0.7s
MNTX Cornudas Mount 74.77 60 P **P 19 50 40.2 -0.5**
baz=315
BEL Belsk 74.79 332 *eP* **P 19 50 41.4 +1.0**
BEL Belsk 74.79 332 *eP* **P 19 50 41.3 +1.0**
I42A Draeger Farm, 74.81 42 P **P 19 50 39.7 -0.9**
baz=320
MATQ Matagami 74.87 32 P **P 19 50 39.6 -1.3**
baz=325
H43A Windswept, Lux 74.89 41 P **P 19 50 39.8 -1.2**
baz=320
D47A Chapleau 74.91 36 P **P 19 50 39.8 -1.4**
baz=322
JFWS Jewell Farm 74.92 43 P **P 19 50 39.9 -1.4**
baz=319
K41A Shullsburg 75.12 43 P **P 19 50 41.2 -1.2**
baz=319
J42A Columbus 75.14 42 P **P 19 50 41.4 -1.1**
baz=320
I43A Langenfeld Bro 75.17 41 P **P 19 50 41.5 -1.2**
baz=320
SIM Simferopol' 75.23 320 P **P 19 50 43.6 +0.6**
SIM pmax pmax
comp=Z,26nm,1.0s
E47A Iron Bridge 75.31 37 P **P 19 50 42.1 -1.3**
baz=322
D48A Paudash Townsh 75.35 36 P **P 19 50 42.3 -1.4**
baz=323
LVV L'vov 75.37 329 *eP* **P 19 50 43.5 -0.3**
ARMA Armidale 75.81 182 *eP* **P 19 50 47.4 +1.0**
comp=Z,10nm,0.9s
CHGQ Chibougamau 75.92 30 P **P 19 50 45.8 -1.1**
baz=327,SNR=5.5
MILM Milestii Mici 75.92 325 ⇑ *iP* **P 19 50 47.1 +0.2**
H46A Fife Lake 75.99 39 P **P 19 50 46.7 -0.7**
baz=322
BSEG Bad Segeberg 76.00 339 *eP* **P 19 50 47.5 +0.3**
baz=26,slow=4.8
BSEG *eL* L 20 26 11.4
comp=Z,193nm,21.0s
KWP Kalwaria Pacla 76.00 330 *eP* **P 19 50 48.1 +0.7**
KWP Kalwaria Pacla 76.00 330 *eP* **P 19 50 48.1 +0.7**
RUE Ruedersdorf 76.37 336 *eP* **P 19 50 50.2 +0.8**
baz=26,slow=4.8
F49A Sandfield 76.38 37 P **P 19 50 48.3 -1.3**
baz=323
WMOK Wichita Mounta 76.49 54 *eP* **P 19 50 50.1 -0.3**
comp=Z,8.1nm,1.1s
WMOK Wichita Mounta 76.49 54 P **P 19 50 49.6 -0.8**
baz=317,SNR=5.2
OJC Ojcow 76.50 332 *eP* **P 19 50 50.8 +0.6**
OJC Ojcow 76.50 332 *eP* **P 19 50 50.1 -0.1**
comp=Z,12nm,0.7s
OJC Ojcow 76.50 332 *eP* **P 19 50 50.1 -0.1**
OJC Ojcow 76.50 332 *eP* **P 19 50 50.1 -0.1**
OJC pmax pmax
comp=Z,12nm,0.7s
BUR08 Bucovina Ar. S 76.75 327 *eP* **P 19 50 52.5 +0.7**
BUR04 Bucovina Ar. S 76.76 327 *eP* **P 19 50 52.6 +0.8**
BURAR Bucovina Array 76.77 327 ⇑ *iP* **P 19 50 52.5 +0.6**
E51A G1948 Merrick 76.80 35 P **P 19 50 50.3 -1.7**
baz=325
GIRR Girov 76.81 326 ⇑ *iP* **P 19 50 52.7 +0.7**
D52A ZEK Kipawa Sen 76.87 34 P **P 19 50 50.3 -2.0**
baz=325
BANOM Banah 76.92 294 *i* P **P 19 50 53.9 +0.9**
SNR=6.9
SHME Shamm 76.94 294 P **P 19 50 53.6 +0.5**
BIZ Bicaz 76.98 326 ⇑ *iP* **P 19 50 54.1 +1.1**
UZH Uzhgorod 76.99 329 *eP* **P 19 50 54.2 +1.2**
NIE Niedzica 77.02 331 *eP* **P 19 50 53.9 +0.8**
NIE Niedzica 77.02 331 *eP* **P 19 50 53.9 +0.8**
KSP Ksiaz 77.08 334 *eP* **P 19 50 54.3 +0.8**
KSP Ksiaz 77.08 334 *eP* **P 19 50 54.3 +0.8**
HDIL Hopedale 77.17 44 *eP* **P 19 50 53.8 -0.4**
comp=Z,25nm,0.6s
TLCR 77.32 324 ⇑ *iP* **P 19 50 55.6 +0.7**
RETH Rethem/Aller, 77.32 339 *eP* **P 19 50 55.4 +0.7**
baz=26,slow=4.8
TRPA Tarpa 77.33 329 ⇑ *iP* **P 19 50 56.1 +1.3**
TRPA Tarpa 77.33 329 ⇓ *eP* **P 19 50 55.0 +0.2**
E52A Mattawa 77.34 34 P **P 19 50 53.5 -1.4**
baz=325
Q41A Truxton 77.43 46 P **P 19 50 54.4 -1.2**
baz=319,SNR=5.4
UPC Upice 77.46 334 *eP* **P 19 50 56.6 +1.0**
UPC *ex* x 19 50 59.2
UPC Upice 77.46 334 *eP* **P 19 50 56.6 +1.0**
UPC *e* 19 50 59.2
TX31 Lajitas Ar. Si 77.48 61 *eP* **P 19 50 55.8 -0.4**
TXAR Lajitas Array 77.48 61 P **P 19 50 55.9 -0.3**
comp=Z,8.3nm,0.7s,baz=304,slow=4.2,SNR=88
DPC Dobruska-Polom 77.50 334 *eP* **P 19 50 57.0 +1.1**
DPC *esP* **PcP** 19 51 13.7 +7.5
DPC Dobruska-Polom 77.50 334 *eP* **P 19 50 57.0 +1.1**
DPC *e* 19 51 13.7
ABTX Abilene, Hawle 77.53 56 P **P 19 50 55.9 -0.5**
baz=317
LANS Liptovska Anna 77.53 331 *eP* **P 19 50 57.6 +1.6**
LANS Liptovska Anna 77.53 331 *eP* **P 19 50 57.6 +1.6**
ARCR ARCALIA 77.53 327 ⇑ *iP* **P 19 50 57.6 +1.5**
PETR Petresti 77.53 325 ⇑ *iP* **P 19 50 57.8 +1.8**
ASSE Asse, Remlinge 77.54 338 *eP* **P 19 50 56.5 +0.6**
comp=Z,49nm,1.9s,baz=26,slow=4.8
ODBI Odobesti 77.57 325 ⇑ *iP* **P 19 50 58.0 +1.7**
CFR Carcaliu 77.61 324 ⇑ *iP* **P 19 50 58.1 +1.6**
MORC Moravsky Berou 77.62 333 ⇑ *iP* **P 19 50 57.5 +1.0**
MORC Moravsky Berou 77.62 333 *eP* **P 19 50 56.6 +0.1**
VRI Vrincioaia 77.62 325 ⇑ *iP* **P 19 50 58.0 +1.4**
CLL Collm 77.64 336 *eP* **P 19 50 56.4 -0.1**
comp=Z,34nm,1.2s,baz=26,slow=4.8
CLL Collm 77.64 336 *i* P **P 19 50 56.5 -0.1**
comp=Z,34nm,1.2s
CLL *e* 19 51 04.0
CLL *epP* **pwP** **19 51 07.0 -1.2**
CLL *epPcP* 19 51 18.0
CLL LmV 20 25 00.0
comp=Z,100nm,19.1s
CLL Collm 77.64 336 *i* P **P 19 50 56.5 -0.1**
CLL Collm 77.64 336 *i* P **P 19 50 56.5 -0.1**
CLL *e* 19 51 04.0
CLL *e* 19 51 07.0
CLL pmax pmax
comp=Z,4.0nm,1.2s
E53A Dumoine, Ponti 77.65 34 P **P 19 50 54.8 -1.9**
baz=326
BMRO Meriville Lake 77.67 37 P **P 19 50 56.5 -0.4**
baz=324
BRG Berggiesshubel 77.75 335 *eP* **P 19 50 57.7 +0.5**
comp=Z,12nm,1.2s
BRG Berggiesshubel 77.75 335 *eP* **P 19 50 57.5 +0.3**
comp=Z,12nm,1.2s,baz=26,slow=4.8
BRG Berggiesshubel 77.75 335 *eP* **P 19 50 57.7 +0.5**
BRG pmax pmax
comp=Z,6.0nm,1.3s
E54A Lac Daplat, Po 77.79 33 P **P 19 50 56.0 -1.5**
baz=326
HATD Hatta, Dubai 77.80 293 P **P 19 50 57.7 -0.2**
R41A Rosebud 77.85 47 P **P 19 50 56.9 -1.1**
baz=319
CLZ Clausthal 77.88 338 *eP* **P 19 50 58.6 +0.6**
comp=Z,35nm,1.2s,baz=26,slow=4.8
FBE Freiberg 77.88 336 *eP* **P 19 50 58.4 +0.5**
comp=Z,21nm,1.2s,baz=26,slow=4.8
ASHO Ashiyiah 77.95 293 P **P 19 50 59.5 +0.7**
STKA Stephens Creek 78.05 191 P **P 19 50 57.7 -1.1**
comp=Z,5.5nm,1.0s,baz=339,slow=7.9,SNR=5.6
STKA LR LR 20 22 29.6
comp=Z,44nm,21.9s,baz=25,slow=34
DOPR Dopca 78.06 326 ⇑ *iP* **P 19 51 00.6 +1.5**
CCM Cathedral Cave 78.10 47 P **P 19 50 58.2 -1.2**
baz=320
CJR Cluj-Napoca 78.13 328 ⇑ *iP* **P 19 51 00.5 +1.1**
TLB Topalu 78.13 324 ⇑ *iP* **P 19 51 00.1 +0.7**
S41A Jillco Farms, 78.20 48 P **P 19 50 58.4 -1.6**
baz=319,SNR=5.3
FAQ Al Faqa, Dubai 78.20 293 P **P 19 51 00.5 +0.3**
MLR Muntele Rosu 78.24 326 *eP* **P 19 51 00.7 +0.5**
comp=Z,8.1nm,0.8s
MLR Muntele Rosu 78.24 326 ⇑ *iP* **P 19 51 00.7 +0.5**
MLR Muntele Rosu 78.24 326 *eP* **P 19 51 00.7 +0.5**
MLR pmax pmax
comp=Z,8.0nm,0.8s
VYHS Vyhne 78.31 331 *eP* **P 19 51 01.1 +0.8**
VYHS pmax pmax
comp=Z,7.0nm,1.4s
VYHS Vyhne 78.31 331 *eP* **P 19 51 01.1 +0.8**
ISR Istrita 78.31 325 ⇑ *iP* **P 19 51 01.7 +1.2**
VRAC Vranov 78.33 333 ⇑ *iP* **P 19 51 01.7 +1.2**
VRAC Vranov 78.33 333 *eP* **P 19 51 00.9 +0.4**
GOPC GO Pecny, Ondr 78.36 334 *eP* **P 19 51 01.4 +0.8**
GOPC GO Pecny, Ondr 78.36 334 *eP* **P 19 51 01.4 +0.8**
PRU Pruhonice 78.36 335 *eP* **P 19 51 01.4 +0.8**
PRU *ex* x 19 51 05.3
PRU Pruhonice 78.36 335 *eP* **P 19 51 01.4 +0.8**
PRU Pruhonice 78.36 335 *eP* **P 19 51 01.4 +0.8**
PRU *e* 19 51 05.3
JAVC Velka Javorina 78.37 332 *eP* **P 19 52.3 +1.5**
SFIN Lafayette 78.37 43 P **P 19 50 59.9 -1.0**
baz=321
L48A N Adams 78.39 40 P **P 19 51 00.1 -0.8**
baz=322
DRGR 78.39 328 ⇓ *iP* **P 19 51 01.4 +0.5**
DRGR 78.39 328 P **P 19 51 02.9 +2.0**
I51A Listowel 78.39 37 P **P 19 51 00.3 -0.6**
baz=324
PSZ Piszkesteto 78.44 330 ⇑ *iP* **P 19 51 02.4 +1.2**
ASUD Al Ashush, Dub 78.46 293 P **P 19 51 02.2 +0.6**
U40A Yellville 78.55 49 P **P 19 51 00.6 -1.3**
baz=319,SNR=8.3
S42A Caledonia 78.55 47 P **P 19 51 00.5 -1.3**
baz=320,SNR=14
TANN Tannenbergstha 78.59 336 *eP* **P 19 51 02.2 +0.3**
comp=Z,36nm,1.7s,baz=26,slow=4.8
T41A Mountain View 78.60 48 P **P 19 51 00.9 -1.3**
baz=319,SNR=5.1
KRUC Moravsky 78.61 333 *eP* **P 19 51 02.0 0.0**
ICOR Ion Corvin 78.61 324 ⇑ *iP* **P 19 51 03.2 +1.1**
MOX Moxa 78.62 337 *eP* **P 19 51 02.4 +0.4**
comp=Z,20nm,1.3s,baz=26,slow=4.8
MOX *eL* L 20 23 41.8
comp=Z,109nm,21.4s
VOIR 78.64 326 ⇑ *iP* **P 19 51 03.4 +1.1**
WERN Wernitzgruen 78.73 336 *eP* **P 19 51 03.4 +0.7**
comp=Z,18nm,1.1s,baz=26,slow=4.8
ARR Arges 78.86 326 ⇑ *iP* **P 19 51 05.0 +1.5**
UBBA Unterbreizbach 78.90 338 *eP* **P 19 51 03.9 +0.5**
comp=Z,21nm,1.5s,baz=26,slow=4.8
MODS Modra-Piesok 78.92 332 *eP* **P 19 51 04.2 +0.4**
MODS pmax pmax
comp=Z,18nm,1.3s
MODS Modra-Piesok 78.92 332 *eP* **P 19 51 04.2 +0.4**
G55A Calabogie 78.95 34 P **P 19 51 01.8 -2.2**
baz=326
T42A Van Buren 78.96 48 P **P 19 51 02.9 -1.3**
baz=320
N48A Decatur 78.97 41 P **P 19 51 03.4 -0.8**
baz=322,SNR=6.6
Q45A Warren Harvey, 79.01 45 P **P 19 51 03.2 -1.2**
baz=321
MANZ Manzenberg 79.08 336 *eP* **P 19 51 05.0 +0.4**
comp=Z,90nm,1.2s,baz=26,slow=4.8
DELO Deloro Mine 79.21 35 P **P 19 51 04.5 -0.8**
baz=326
SIRR Siria 79.22 329 ⇑ *iP* **P 19 51 07.0 +1.6**
ROTZ Rotzenmuhle 79.25 336 *eP* **P 19 51 06.2 +0.7**
comp=Z,15nm,1.2s,baz=26,slow=4.8
WHTX Lake Whitney, 79.25 55 P **P 19 51 05.2 -0.6**
baz=318
N49A Columbus Grove 79.31 41 P **P 19 51 05.1 -0.9**
baz=323
V41A Mountainview 79.35 49 P **P 19 51 04.5 -1.8**
baz=319
O48A Farmland 79.39 42 P **P 19 51 05.2 -1.2**
baz=322
S44A Carbondale 79.39 46 P **P 19 51 05.8 -0.7**
baz=320
KHC Kasperske Hory 79.41 335 *eP* **P 19 51 07.5 +1.0**
comp=Z,3.8nm,0.8s
KHC Kasperske Hory 79.41 335 *eP* **P 19 51 07.5 +1.0**
KHC *ex* x 19 51 10.3
KHC *ex* x 19 51 21.8
KHC Kasperske Hory 79.41 335 *eP* **P 19 51 07.5 +1.0**
KHC Kasperske Hory 79.41 335 *eP* **P 19 51 07.5 +1.0**
KHC pmax pmax
comp=Z,4.0nm,0.8s
P47A Martinsville 79.47 43 P **P 19 51 06.1 -0.8**
baz=322,SNR=5.1
MIAR Mount Ida 79.52 51 P **P 19 51 06.6 -0.6**
baz=319
BR131 Keskin Array S 79.54 317 *eP* **P 19 51 08.4 +0.9**
BRTR Keskin Array B 79.54 317 P **P 19 51 08.1 +0.6**
comp=Z,6.5nm,0.9s,baz=61,slow=3.7,SNR=25
BRTR LR LR 20 31 26.8
comp=Z,59nm,18.2s,baz=52,slow=40
GZR Gura Zlata 79.55 327 ⇑ *iP* **P 19 51 07.7 +0.4**
GRF Grafenberg Arr 79.59 336 *eP* **P 19 51 08.1 +0.7**
comp=Z,39nm,1.4s,baz=26,slow=4.8
GRF *eL* L 20 25 21.2
comp=Z,101nm,19.9s
GRF Grafenberg Arr 79.59 336 P **P 19 51 09.9 +2.5**
GRFO Grafenberg 79.59 336 *eP* **P 19 51 08.7 +1.3**
comp=Z,36nm,1.3s
GRFO Grafenberg 79.59 336 P **P 19 51 09.9 +2.5**
WET Wettzell 79.61 335 *eP* **P 19 51 08.3 +0.8**
comp=Z,17nm,1.3s,baz=26,slow=4.8
WET *eL* L 20 27 07.6
comp=Z,194nm,18.8s
GEC2 GERESS Array S 79.63 335 *eL* L 20 29 50.7
comp=Z,125nm,18.6s
GERES GERESS Array B 79.63 335 P **P 19 51 08.2 +0.4**
comp=Z,2.2nm,0.6s,baz=37,slow=6.2,SNR=17
GERES LR LR 20 29 52.2
comp=Z,98nm,18.8s,baz=56,slow=38
GEA0 GERESS Array S 79.64 335 *eP* **P 19 51 07.9 +0.1**
S45A Carrier Mills 79.75 46 P **P 19 51 07.8 -0.6**
baz=321
W41B Gary Mavity, V 79.76 50 *eP* **P 19 51 07.8 -0.7**
comp=Z,12nm,1.1s
W41B Gary Mavity, V 79.76 50 P **P 19 51 07.4 -1.1**
baz=319
CONA Conrad Observa 79.77 333 *eP* **P 19 51 09.8 +1.4**
comp=Z,8.1nm,1.2s
BZS Buzias 79.79 328 ⇓ *iP* **P 19 51 09.3 +0.8**
Q47A Bedord North L 79.82 44 P **P 19 51 08.0 -0.8**
baz=322,SNR=5.8
O49A Covington 79.83 41 P **P 19 51 07.6 -1.2**
baz=323
TNS Taunus Mts 79.86 338 *eL* L 20 27 54.4
comp=Z,158nm,21.5s
R46A Gibon Southern 79.86 45 P **P 19 51 08.7 -0.3**
baz=321
P48A Milroy 79.89 43 P **P 19 51 08.3 -0.8**
baz=322
N50A Nevada 79.90 40 P **P 19 51 08.8 -0.4**
baz=323
BEBN Eben Emael 80.01 340 ⇑ P **P 19 51 10.4 +0.8**
MEM Membach 80.11 340 ⇓ P **P 19 51 10.2 +0.1**
comp=Z,15nm,1.3s
HERR Herculane 80.12 327 ⇑ *iP* **P 19 51 12.4 +2.1**
N51A Ashland 80.13 40 P **P 19 51 09.7 -0.8**
baz=324
P49A Miami Univ. Ec 80.17 42 P **P 19 51 09.6 -1.1**
baz=323
J55A Hilton 80.17 36 P **P 19 51 09.7 -0.9**
baz=326
S46A Don Dixon Farm 80.17 45 P **P 19 51 09.7 -0.9**
baz=321
O50A Cable 80.19 41 P **P 19 51 09.6 -1.2**
baz=323
R47A Wooly Knot Far 80.28 44 P **P 19 51 10.5 -0.7**
baz=322,SNR=7.1
MOA Molln 80.34 334 *eP* **P 19 51 12.9 +1.4**
comp=Z,5.7nm,0.8s
WCI Wyandotte Cave 80.44 44 *eP* **P 19 51 11.6 -0.5**
comp=Z,14nm,0.8s
WCI Wyandotte Cave 80.44 44 *eP* **P 19 51 11.6 -0.5**
WCI pmax pmax
comp=Z,14nm,0.8s
WCI Wyandotte Cave 80.44 44 P **P 19 51 11.4 -0.8**
baz=322
MDVR Moldovita 80.47 328 ⇑ *iP* **P 19 51 12.3 +0.1**
ARSA Arzberg 80.48 333 *eP* **P 19 51 12.5 +0.2**
comp=Z,3.9nm,1.2s
K55A Perry 80.51 36 P **P 19 51 11.6 -0.8**
baz=326
R48A Northridge Ran 80.51 44 P **P 19 51 12.2 -0.4**
baz=322,SNR=5.4
P50A Jamestown 80.53 41 P **P 19 51 12.0 -0.7**
baz=323
T46A Princeton 80.58 46 P **P 19 51 13.3 +0.4**
baz=321,SNR=8.9
SNF Seneffe 80.61 341 ⇑ P **P 19 51 13.4 +0.7**
W43A Forest City 80.65 49 P **P 19 51 12.5 -0.8**
baz=320
O51A Pataskala 80.65 40 P **P 19 51 12.6 -0.7**
baz=324
M54A Oil Creek Stat 80.84 38 P **P 19 51 13.6 -0.6**
baz=325
N53A Lisbon 80.91 39 P **P 19 51 13.9 -0.7**
baz=325
DOU Dourbes 80.92 341 ⇑ P **P 19 51 14.9 +0.4**
WLF Walferdange 80.95 339 ⇑ P **P 19 51 15.3 +0.7**
FUR Furstenfeldbru 80.95 336 *eL* L 20 25 06.4
comp=Z,138nm,21.1s
STU Stuttgart 80.99 337 P **P 19 51 17.0 +2.1**
S48A Wiederman Farm, 81.01 44 P **P 19 51 14.5 -0.7**
baz=322,SNR=5.3
O52A Adamsville 81.02 40 *eP* **P 19 51 14.9 -0.3**
comp=Z,28nm,0.8s
O52A Adamsville 81.02 40 P **P 19 51 14.6 -0.7**
baz=324
Q50A Georgetown 81.06 42 P **P 19 51 15.1 -0.4**
baz=323
PPT Papeete 81.08 126 LR LR 20 23 19.3
comp=Z,107nm,19.9s,baz=348,slow=33
PPT2 Papeete2 81.10 126 *eL* LR 20 16 34.6
comp=Z,258nm,25.2s
SOKA Soboth 81.14 333 *eP* **P 19 51 16.5 +0.6**
comp=Z,18nm,1.3s
N54A Moraine State 81.15 38 P **P 19 51 15.5 -0.5**
baz=325
PERS Pernice 81.15 333 *eP* **P 19 51 16.4 +0.5**
O53A New Philadelph 81.19 39 P **P 19 51 15.3 -0.8**
baz=324,SNR=5.4
Q51A Peebles 81.21 42 P **P 19 51 15.7 -0.6**
baz=323
T48A Bowling Green 81.27 45 P **P 19 51 15.4 -1.2**
baz=322
P52A Corning 81.28 40 P **P 19 51 15.5 -1.1**
baz=324
S49A Springfield 81.28 44 P **P 19 51 15.8 -0.8**
baz=322,SNR=5.5
WVT Waverly 81.33 46 *eP* **P 19 51 16.7 -0.2**
WVT Waverly 81.33 46 P **P 19 51 16.1 -0.8**
baz=321
R50A Paris 81.34 43 P **P 19 51 16.3 -0.7**
baz=323
V46A Holladay 81.44 47 P **P 19 51 16.7 -0.8**
baz=321
OBKA Obir 81.45 333 *eP* **P 19 51 18.2 +0.7**
comp=Z,2.0nm,0.6s
WATA Walderalm 81.62 335 *eP* **P 19 51 19.4 +0.9**
comp=Z,10nm,0.9s
BFO Black Forest 81.62 338 *eP* **P 19 51 16.4 -1.9**
comp=Z,2.5nm,1.1s
BFO Black Forest 81.62 338 *eL* L 20 23 05.1
comp=Z,141nm,19.1s
BFO Black Forest 81.62 338 *eP* **P 19 51 16.4 -1.9**
BFO pmax pmax
comp=Z,3.0nm,1.1s
MYKA Terra Mystica 81.62 334 *ePcP* **P 19 51 19.9 +1.5**
comp=Z,5.0nm,0.9s
WTTA Wattenberg 81.66 335 *eP* **P 19 51 19.8 +1.1**
comp=Z,0.1nm,0.2s
R51A Hillsboro 81.68 42 P **P 19 51 18.3 -0.5**
baz=323
T49A Edmonton 81.70 44 *eP* **P 19 51 18.4 -0.5**
comp=Z,6.9nm,0.8s
RETA Reutte 81.72 336 *eP* **P 19 51 20.1 +1.3**
comp=Z,10nm,1.2s
V47A Nunnelly 81.72 46 P **P 19 51 18.6 -0.4**
baz=322,SNR=5.5
N55A Marion Center 81.73 38 P **P 19 51 18.4 -0.7**
baz=326,SNR=5.1
P53A Whipple 81.73 40 P **P 19 51 18.2 -0.9**
baz=324
VTS Vitosha 81.74 326 ⇑ *iP* **P 19 51 19.9 +0.7**
MOTA Moosalm 81.75 335 *ePcP* **P 19 51 21.0 +1.8**
comp=Z,18nm,0.9s
OXF Oxford 81.77 48 P **P 19 51 18.5 -0.8**
baz=321
SQTA Sankt Quirin 81.83 335 *eP* **P 19 51 20.7 +1.1**
comp=Z,18nm,1.1s
ABTA Abfaltersbach 81.87 334 *eP* **P 19 51 20.0 +0.3**
comp=Z,3.3nm,0.8s

VISS	Visnje	81.98	332	eP	P	19 51 20.0	-0.2
U49A	Red Boiling Sp	82.05	45	P	P	19 51 20.0	-0.7
	baz=322,SNR=5.3						
O55A	Ligonier	82.07	38	P	P	19 51 19.6	-1.2
	baz=326						
T50A	Nancy	82.10	44	P	P	19 51 20.4	-0.6
	baz=323,SNR=6.7						
V48A	Smith Brothers	82.14	46	P	P	19 51 20.6	-0.6
	baz=322,SNR=5.0						
JAVS	Javornik	82.15	333	eP	P	19 51 20.4	-0.8
FETA	Feichten	82.15	336	ePcP	P	19 51 24.1	+2.8
	comp=Z,9.6nm,1.3s						
DAVA	Damuels	82.15	336	ePcP	P	19 51 22.7	+1.5
	comp=Z,17nm,1.2s						
S51A	Beattyville	82.21	43	eP	P	19 51 20.4	-1.2
	comp=Z,13nm,0.8s						
S51A	Beattyville	82.21	43	P	P	19 51 20.9	-0.7
	baz=323						
SSPA	Standing Stone	82.32	37	P	P	19 51 21.3	-0.8
	baz=326						
O56A	Blue Knob Stat	82.34	38	eP	P	19 51 22.1	-0.2
	comp=Z,15nm,0.9s						
O56A	Blue Knob Stat	82.34	38	P	P	19 51 21.3	-0.9
	baz=326						
P55A	Reedsville	82.42	39	P	P	19 51 22.5	-0.2
	baz=325,SNR=6.4						
S52A	Salyersville	82.42	42	P	P	19 51 21.9	-0.7
	baz=324						
W48A	Pulaski	82.55	46	P	P	19 51 22.7	-0.7
	baz=322,SNR=9.0						
X47A	Russelville	82.57	47	P	P	19 51 22.4	-1.1
	baz=322						
T51A	Gray	82.58	43	P	P	19 51 22.6	-0.9
	baz=323						
U50A	Jamestown	82.58	44	P	P	19 51 22.8	-0.7
	baz=323,SNR=5.9						
FUORN	Ofenpass-Fuorn	82.65	336	eP	P	19 51 25.9	+1.9
	comp=Z,10nm,1.0s						
Q55A	Buckhannon	82.72	39	P	P	19 51 23.8	-0.4
	baz=325						
W49A	Belvidere	82.91	46	P	P	19 51 24.5	-0.7
	baz=322						
N59A	State Game Lan	82.97	36	P	P	19 51 24.9	-0.6
	baz=327						
SWET	Sewanee	83.00	46	eP	P	19 51 25.1	-0.6
	comp=Z,15nm,0.7s						
X48A	Hartselle	83.04	47	P	P	19 51 24.5	-1.4
	baz=322						
V50A	Pikevile	83.05	45	P	P	19 51 25.2	-0.7
	baz=323						
TZTN	Tazewell	83.11	43	P	P	19 51 25.6	-0.6
	baz=324						
V51A	Loudon	83.31	44	P	P	19 51 26.5	-0.8
	baz=323						
W50A	Signal Mountai	83.32	45	P	P	19 51 26.5	-0.9
	baz=323						
X49A	Woodville	83.35	46	P	P	19 51 26.6	-0.9
	baz=322,SNR=6.4						
Y48A	Jasper	83.39	47	P	P	19 51 26.4	-1.3
	baz=322						
Z48A	Northport	83.62	48	P	P	19 51 27.9	-1.0
	baz=322						
PAL	Palisades	83.64	34	P	P	19 51 28.0	-0.9
	baz=328						
V52A	Sevierville	83.65	44	P	P	19 51 28.2	-0.8
	baz=324						
TKL	Tuckaleechee C	83.71	44	LR	LR	20 27 15.4	
	comp=Z,30nm,21.7s,baz=335,slow=35						
X50B	Fort Payne	83.73	46	P	P	19 51 28.5	-1.1
	baz=323						
147A	Livingston	83.79	49	P	P	19 51 29.3	-0.5
	baz=322						
Y49A	Blount Mountai	83.83	47	P	P	19 51 28.6	-1.4
	baz=322						
BLA	Blacksburg	84.03	41	eP	P	19 51 28.5	-2.5
	comp=Z,9.1nm,0.9s						
BLA	Blacksburg	84.03	41	eP	P	19 51 28.5	-2.5
BLA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BLA	Blacksburg	84.03	41	P	P	19 51 29.9	-1.2
	baz=325						
TIR	Tirane	84.10	327	⇑iP	P	19 51 34.0	+2.7
BG3	Lake Jocassee	84.65	44	eP	P	19 51 34.4	+0.2
	comp=Z,18nm,1.1s						
BNI	Bardonecchia	85.08	337	eP	P	19 51 37.1	+0.8
	comp=Z,3.8nm,0.7s						
BNI	Bardonecchia	85.08	337	eP	P	19 51 37.2	+0.8
BNI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
250A	Grady	85.38	48	eP	P	19 51 37.9	0.0
	comp=Z,21nm,0.8s						
250A	Grady	85.38	48	P	P	19 51 37.7	-0.2
	baz=322						
RAYN	Ar Rayn	85.43	299	eP	P	19 51 38.6	+0.3
	comp=Z,6.9nm,0.8s						
RAYN	Ar Rayn	85.43	299	i P	P	19 51 38.6	+0.3
	SNR=9.3						
RAYN	Ar Rayn	85.43	299	eP	P	19 51 38.6	+0.3
RAYN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
Y54A	Tignall	85.68	44	P	P	19 51 39.1	-0.2
	baz=324						
CMIG	Matias Romero	91.91	63	LR	LR	20 31 56.5	
	comp=Z,24nm,18.5s,baz=353,slow=35						
ESDC	Sonseca Array	92.70	343	P	P	19 52 10.7	-1.9
	comp=Z,0.8nm,0.9s,baz=38,slow=3.5,SNR=5.5						
ESDC				LR	LR	20 39 39.6	
	comp=Z,48nm,18.2s,baz=175,slow=39						
KEST	Kesra	92.85	332	P	P	19 52 11.4	-1.9
	comp=Z,2.7nm,0.8s,baz=34,slow=3.6,SNR=3.1						
KEST				LR	LR	20 38 22.3	
	comp=Z,55nm,19.2s,baz=294,slow=38						
TORD	Torodi Ar. Bea	116.27	330	PKP	PKPdf	19 57 42.3	-2.0
	comp=Z,0.5nm,0.7s,baz=29,slow=3.3,SNR=3.3						
DBIC	Dimbokro	124.50	334	PKP	PKPdf	19 57 58.6	-1.5
	comp=Z,2.6nm,0.8s,baz=239,slow=4.1,SNR=4.4						
DBIC				PP	PP	19 59 44.8	-0.5
	comp=Z,4.5nm,0.9s,baz=11,slow=7.7,SNR=4.9						
LPAZ	La Paz	134.28	64	PKP	PKPdf	19 58 19.4	+0.1
	comp=Z,0.9nm,0.6s,baz=274,slow=4.0,SNR=3.8						
BDFB	Brasilia	144.79	39	PKP	PKPab	19 58 36.0	-0.6
	comp=Z,6.8nm,0.9s,baz=285,slow=3.4,SNR=10						
BDFB	Brasilia	144.79	39	ePKPdf	PKPab	19 58 36.4	-0.2
PLCA	Paso Flores	147.51	97	PKPbc	PKPbc	19 58 43.8	-0.5
	comp=Z,8.2nm,0.9s,baz=267,slow=3.4,SNR=13						
PLCA	Paso Flores	147.51	97	ePKPbc	PKPbc	19 58 44.1	-0.1
CPUP	Villa Florida	148.44	63	PKPbc	PKPdf	19 58 46.0	+2.5
	comp=Z,10nm,0.8s,baz=347,slow=3.2,SNR=16						
CPUP	Villa Florida	148.44	63	ePKPbc	PKPbc	19 58 46.3	-0.7
CPUP	Villa Florida	148.44	63	ePKP2	PKPbc	19 58 46.3	-0.7
VNA2	Neumayer--Watz	153.15	193	PKP	PKPbc	19 58 55.7	-1.2
VNA3	Neumayer Olymp	153.22	192	PKP	PKPbc	19 58 55.5	-1.5
VNA1	Neumayer--Stat	153.53	193	PKP	PKPbc	19 58 56.4	-1.2

*ISCJB **06** 19:53:24.6±0.3, 24.13°N±0.02°×122.36°E±0.01°, h27km±2km,*
Error ellipse: s-maj=2.8km s-min=2.0km az=152.5
*JMA **06** 19:53:24.7±0.1, 24.07°N×122.32°E, h46km±3km, M2.3*
*TAP **06** 19:53:25.0, 24.16°N×122.34°E, h47km, ML3.2, C*
ISC 06 19:53:24.0±1.1, **24.10°N**±0.02°×**122.35°E**±0.02°, **h27**km±12km,
n89, σ**0.80s**/162, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EOS1	EOS1	0.49	336	P	Pn	19 53 35.5	+0.3
	baz=328						
EOS1				eS	Sn	19 53 43.4	+0.7
	baz=328						
NANB	Nanao	0.63	301	eP	Pn	19 53 37.5	+0.4
	baz=302						
NANB				eS	Sn	19 53 47.1	+0.7
	baz=302						
ENA	Nanau	0.64	300	i P	Pn	19 53 37.6	+0.3
	baz=301						
ENA				i S	Sn	19 53 46.9	+0.3
	baz=301						
JYNG	Yonagunijimaku	0.65	57	P	Pn	19 53 38.2	+0.9
JYNG				S	Sn	19 53 47.5	+0.8
TWC	Suao	0.68	318	P	Pn	19 53 37.7	-0.1
	baz=316						
TWC				eS	Sb	19 53 46.4	+0.1
	baz=316						
TWD	Chiawan	0.69	268	P	Pn	19 53 38.1	+0.2
	baz=254						
TWD				eS	Sn	19 53 47.7	0.0
	baz=254						
HWA	Hwalien	0.69	260	eS	Sn	19 53 49.1	+1.3
	baz=254						
NACB	Ninganchiao	0.69	276	eP	Pn	19 53 38.1	+0.2
	baz=262						
NACB				eS	Sn	19 53 48.2	+0.3
	baz=262						
YOJ	Yonaguni jima	0.70	59	eP	Pn	19 53 38.7	+0.6
	baz=63						
YOJ				eS	Sn	19 53 48.4	+0.3
	baz=63						
YOJ	Yonaguni jima	0.70	59	P	Pn	19 53 38.9	+0.8
YOJ				S	Sn	19 53 48.4	+0.3
ENLB	Shoufeng	0.71	254	eP	Pn	19 53 39.0	+0.8
	baz=242						
ENLB				eS	Sn	19 53 49.5	+1.2
	baz=242						
TWE	Neicheng	0.87	315	P	Pb	19 53 41.0	+0.4
	baz=313						
TWE				S	Sn	19 53 52.2	-0.1
	baz=313						
ESL	Shilin	0.89	251	eP	Pn	19 53 40.9	+0.2
	baz=239						
ESL				eS	Sb	19 53 52.4	+0.2
	baz=239						
NTC	Toucheng	0.89	328	eS	Sn	19 53 52.4	-0.2
	baz=326						
ENTT	Nioudou	0.89	307	P	Pb	19 53 41.2	+0.4
	baz=295						
ENTT				eS	Sn	19 53 52.7	-0.1
	baz=295						
SLBB	Yuanshan	0.92	315	eP	Pb	19 53 42.0	+0.7
	baz=313						
SLBB				eS	Sn	19 53 53.8	+0.3
	baz=313						
NNSB	Datong	0.94	290	eP	Pb	19 53 41.8	+0.1
	baz=287						
NNSB				eS	Sn	19 53 54.3	+0.2
	baz=287						
NNS	Nan Shan	0.95	291	P	Pn	19 53 41.9	+0.2
	baz=288						
NNS				S	Sn	19 53 54.8	+0.4
	baz=288						
TWB1	Santiao Chiao	0.96	340	eS	Sb	19 53 53.0	-1.3
	baz=351						
TIPB	Shuangxi	0.99	331	eP	Pb	19 53 42.8	+0.3
	baz=342						
TIPB				eS	Sb	19 53 54.2	-0.9
	baz=342						
WHF	Hehuan Shan	0.99	273	P	Pn	19 53 42.6	+0.1
	baz=259						
WHF				eS	Sb	19 53 55.6	0.0
	baz=259						
NWLT	Wulai	1.02	311	eP	Pb	19 53 43.2	+0.2
	baz=300						
HGSD	Ruisui	1.04	234	eP	Pn	19 53 43.1	+0.3
	baz=224						
HGSD				eS	Sn	19 53 56.6	+0.1
	baz=224						
YHNB	Yeheng	1.05	303	eP	Pb	19 53 43.6	+0.1
	baz=300						
YHNB				eS	Sn	19 53 56.2	-0.6
	baz=300						
NSK	Sanguang	1.07	302	P	Pb	19 53 43.7	-0.1
	baz=300						
NSK				eS	Sn	19 53 56.6	-0.7
	baz=300						
CHGB	Renai	1.07	268	eP	Pn	19 53 44.0	+0.5
	baz=254						
CHGB				eS	Sn	19 53 57.9	+0.3
	baz=254						
TWT	Tachien	1.08	278	eP	Pb	19 53 44.6	+0.5
	baz=264						
TWT				eS	Sb	19 53 58.2	+0.3
	baz=264						
NWF	Wu-fen Shan	1.09	332	eS	Sn	19 53 57.0	-0.9
	baz=331						
WFSB	Wu-fen Shan	1.09	332	eS	Sn	19 53 57.3	-0.4
	baz=331						
TDCB	Techi	1.10	278	eP	Pb	19 53 44.4	0.0
	baz=265						
TDCB				eS	Sn	19 53 57.8	-0.2
	baz=265						
EHY	Hungye	1.11	238	P	Pn	19 53 44.3	+0.5
	baz=245						
EHY				eS	Sn	19 53 58.7	+0.5
	baz=245						
TWA	Mucha	1.12	322	eP	Pb	19 53 45.0	+0.4
	baz=333						
TWA				eS	Sb	19 53 59.0	+0.2
	baz=333						
VWDT	VWDT	1.16	253	eP	Pb	19 53 45.4	+0.1
	baz=249						
VWDT				eS	Sn	19 53 59.7	+0.4
	baz=249						
TATO	Taipei	1.17	318	eP	Pb	19 53 45.7	+0.1
	baz=328						
TATO				eS	Sb	19 54 00.3	0.0
	baz=328						
YULB	Yu-li	1.20	234	eP	Pn	19 53 45.3	+0.3
	baz=243						
YULB				eS	Sn	19 53 59.7	-0.6
	baz=243						
TWF1	Yuli	1.22	232	P	Pn	19 53 45.8	+0.5
	baz=242						
TWF1				S	Sn	19 54 01.0	+0.1
	baz=242						
WLTB	Daxi	1.25	307	eP	Pb	19 53 46.8	-0.1
	baz=305						
YM07	YM07	1.26	328	eP	Pb	19 53 46.4	-0.6
	baz=327						
YM07				eS	Sn	19 54 00.3	-1.5
	baz=327						
YM01	YM01	1.26	326	eP	Pb	19 53 47.8	+0.7
	baz=336						
YM01				eS	Sn	19 54 01.4	-0.4
	baz=336						
YM10	YM10	1.27	326	eP	Pb	19 53 46.8	-0.4
	baz=336						
YM10				eS	Sn	19 54 01.2	-1.0
	baz=336						
YM11	YM11	1.27	327	eP	Pb	19 53 46.7	-0.6
	baz=337						
YM05	YM05	1.27	326	eP	Pb	19 53 46.7	-0.6
	baz=337						
YM05				eS	Sn	19 54 01.0	-1.3
	baz=337						
YM04	YM04	1.28	325	eP	Pb	19 53 46.7	-0.7
	baz=336						
YM04				eS	Sn	19 54 01.3	-1.1
	baz=336						
IRIF	Iriomote-Funau	1.28	79	P	Pb	19 53 47.0	-0.4
IRIF				S	Sb	19 54 02.8	-0.7
TWS1	Kuangyinshan	1.30	320	eP	Pb	19 53 47.5	-0.3
	baz=330						
TWS1				eS	Sb	19 54 04.2	0.0
	baz=330						
SSLB	Suanglung	1.31	256	eP	Pn	19 53 47.5	+0.9
	baz=253						
SSLB				eS	Sn	19 54 03.6	+0.4
	baz=253						
LIOB	Emei	1.33	294	eP	Pb	19 53 48.1	-0.1
	baz=292						
LIOB				eS	Sb	19 54 05.1	+0.2
	baz=292						
NSTT	Nanjuang	1.34	293	eP	Pb	19 53 48.3	-0.1
	baz=291						
NSTT				eS	Sb	19 54 05.1	0.0
	baz=291						
NTST	Danshui	1.34	322	eS	Sn	19 54 03.8	0.0
	baz=333						
SMLT	Sun Moon Lake	1.34	261	P	Pb	19 53 48.2	-0.4
	baz=258						
SMLT				S	Sn	19 54 04.6	+0.6
	baz=258						
CHKT	Chengkung	1.35	222	eP	Pn	19 53 46.8	-0.1
	baz=212						
CHKT				eS	Sn	19 54 02.4	-1.6
	baz=212						
TYC	Yuchr	1.38	262	P	Pb	19 53 48.6	-0.4
	baz=259						
TYC				eS	Sn	19 54 05.0	+0.2
	baz=259						
YUS	Yu-Shan	1.42	245	eP	Pn	19 53 49.1	+0.7
	baz=242						
YUS				eS	Sn	19 54 06.5	+0.1
	baz=242						
TWQ1	Liyutan	1.46	280	eP	Pb	19 53 50.2	-0.2
	baz=277						
TWQ1				eS	Sb	19 54 08.9	+0.3
	baz=277						
NSY	Sanyi	1.48	282	eP	Pb	19 53 50.7	-0.1
	baz=280						
NSY				eS	Sb	19 54 09.4	+0.1
	baz=280						
WJS	Zhushan	1.51	260	eP	Pb	19 53 51.9	+0.6
	baz=257						
WJS				eS	Sb	19 54 11.0	+1.0
	baz=257						
ELDTW	Lidau	1.52	234	eP	Pn	19 53 49.9	+0.4
	baz=222						
ELDTW				eS	Sn	19 54 07.7	-0.8
	baz=222						
JKRS	Kuro-shima	1.52	85	P	Pb	19 53 50.9	-0.6
JKRS				S	Sb	19 54 10.0	-0.4
TCU	Taichung	1.53	272	eP	Pb	19 53 51.5	-0.1
	baz=269						
TCU				eS	Sb	19 54 11.1	+0.5
	baz=269						
WNT	Mingjian	1.54	262	eP	Pb	19 53 52.0	+0.2
	baz=259						
WNT				eS	Sb	19 54 11.3	+0.4
	baz=259						
CHN5	Tsauling	1.61	252	eP	Pb	19 53 52.8	-0.3
	baz=249						
CHN5				eS	Sb	19 54 12.7	-0.3
	baz=249						
JIJ	Ishigaki jima	1.66	81	P	Pn	19 53 51.9	+0.6
JIJ				eS	Sn	19 54 11.2	-0.5
WGK	Gukeng	1.69	256	eP	Pb	19 53 53.8	-0.5
	baz=253						
WGK				eS	Sb	19 54 15.8	+0.7
	baz=253						
WDLH	Douliu	1.71	256	eP	Pb	19 53 54.2	-0.4
	baz=254						
WDLH				eS	Sb	19 54 15.6	-0.1
	baz=254						
TWGBT	Beinan	1.73	223	eP	Pn	19 53 52.5	+0.2
	baz=230						
TWGBT				eS	Sn	19 54 13.5	0.0
	baz=230						
STYT	Tauyuan	1.73	238	eP	Pn	19 53 53.9	+1.6
	baz=235						
STYT				eS	Sn	19 54 14.7	+1.1
	baz=235						
TWG	Pinlang	1.73	223	eP	Pn	19 53 52.2	-0.1
	baz=230						
TWG				eS	Sn	19 54 13.1	-0.4
	baz=230						
TPUB	Ta-pu	1.77	243	eP	Pb	19 53 55.2	-0.5
	baz=241						
TPUB				eS	Sb	19 54 16.9	-0.6
	baz=241						
CHN4	Tsaushan	1.77	245	eP	Pb	19 53 55.3	-0.5
	baz=243						
CHN4				eS	Sb	19 54 16.9	-0.7
	baz=243						
WTP	Ta-pu	1.80	242	eP	Pb	19 53 55.4	-1.0
	baz=239						
WTP				eS	Sb	19 54 17.9	-0.7
	baz=239						
CHN2	Minshiung	1.81	252	eS	Sb	19 54 18.9	+0.3
	baz=249						
RLNB	Erlin	1.83	264	eS	Sb	19 54 19.0	-0.2
	baz=261						
JISG	Ishigakijimahi	1.85	75	P	Pn	19 53 54.3	+0.4
JISG				eS	Sn	19 54 15.5	-1.0
CHY	Chiayi	1.86	252	eS	Sb	19 54 19.5	-0.7
	baz=249						
TWK	Hsinying	1.90	244	eP	Pb	19 53 56.9	-1.0
	baz=242						
TWK				eS	Sb	19 54 20.3	-0.9
	baz=242						
CHN1	Nanshi	1.90	242	eP	Pn	19 53 56.1	+1.4
	baz=239						
CHN1				eS	Sb	19 54 20.4	-1.0
	baz=239						
SGST	Jiashian	1.91	238	eP	Pb	19 53 57.3	-0.9
	baz=236						
SGST				eS	Sb	19 54 21.4	-0.3
	baz=236						
SLGT	Liugui	1.91	235	eP	Pn	19 53 56.9	+2.1
	baz=224						
SLGT				eS	Sb	19 54 20.9	-0.8
	baz=224						
ECL	Taimali	1.97	221	eP	Pn	19 53 55.9	+0.3
	baz=227						
ECL				eS	Sn	19 54 18.7	-0.8
	baz=227						
WSF	Szhu	2.00	257	eS	Sb	19 54 23.4	-0.8
	baz=267						
SSD	Sandimen	2.08	230	eP	Pn	19 53 59.1	+2.1
	baz=224						
SSD				eS	Sn	19 54 24.5	+2.5
	baz=224						
CHN8	Yiju	2.10	249	eS	Sb	19 54 25.4	-1.6
	baz=247						
MASBT	Mashibuluo	2.17	227	eP	Pn	19 53 59.4	+1.1
	baz=223						
MASBT				eS	Sn	19 54 27.1	+2.9
	baz=223						
EAST	Anshuo	2.20	219	eP	Pn	19 53 59.2	+0.4
	baz=218						
JTJ	Tarama	2.21	76	P	Pn	19 54 00.0	+1.1
JTJ				eS	Sn	19 54 26.8	+1.5
SCZT	Fangliau	2.34	223	eP	Pb	19 54 03.9	-1.6
	baz=218						
SCZT				eS	Sb	19 54 32.2	-1.8
	baz=218						
PHUB	P'eng-hu	2.61	258	eS	Sn	19 54 35.7	+0.5
	baz=268						
JIRB	Irabujima	2.67	74	P	Pn	19 54 06.8	+1.6
JIRB				S	Sn	19 54 37.2	+0.5
VWUC	VWUC	2.78	289	eP	Pn	19 54 06.3	-0.4
	baz=287						
VWUC				eS	Sn	19 54 36.2	-3.2
	baz=287						

*ISK **06** 19:55:52.3, 35.88°N×28.21°E, h5km, ML3.1/13*
*DDA **06** 19:55:53.4, 35.90°N×28.16°E, h3km±5km, ML3.3*
*THE **06** 19:55:53.3, 35.86°N×28.19°E, h0km±1km, ML2.6/3, Error ellipse: s-maj=1.9km s-min=1.2km az=160.0*
*ATH **06** 19:55:53.8, 35.87°N×28.20E, h19km±2km, ML2.6/2, Error ellipse: s-maj=3.0km s-min=1.2km az=353.0*
*ISCJB **06** 19:55:54.7±0.7, 35.85°N±0.04°×28.20°E±0.03°, h16km±7km, Error ellipse: s-maj=6.1km s-min=4.6km az=163.0*
ISC 06 19:55:53.8±1.3, **35.89°N**±0.03°×**28.21°E**±0.02°, **h5**km±10km,
n39, σ**0.96s**/56, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.33	348	PG	Pg	19 55 59.6	-0.7
ARG				SG	Sg	19 56 06.1	+1.4
ARG	Arkhangelos	0.33	348	P	Pg	19 56 00.7	+0.4
ARG				S	Sb	19 56 07.0	-0.9
ARG				AML	AML	19 56 08.2	
	comp=N,1469μm,0.4s						
ARG				AML	AML	19 56 10.3	
	comp=E,1716μm,0.3s						
ARG	Arkhangelos	0.33	348	P	Pg	19 56 00.7	+0.4
ARG				S	Sb	19 56 07.2	-0.7
KARP	Karpathos	0.92	249	PG	Pg	19 56 10.9	-0.6
KARP	Karpathos	0.92	249	P	Pg	19 56 11.1	-0.4
KARP				S	Sb	19 56 24.2	-0.7
KARP				AML	AML	19 56 33.7	
	comp=E,1637μm,0.5s						
KARP				AML	AML	19 56 35.4	
	comp=N,1412μm,0.6s						
KARP	Karpathos	0.92	249	P	Pb	19 56 11.3	-1.0
KARP				S	Sb	19 56 24.6	-0.2
DATC	Datca-Mugla	0.98	333	PG	Pb	19 56 12.6	-0.6
DAT	Datca	0.98	329	PG	Pg	19 56 12.4	-0.3
DAT	Datca	0.98	329	IAML_P			
	comp=Z,2μm,0.1s						
DAT				i P	Pb	19 56 13.6	+0.2
DAT				i S	Sb	19 56 27.0	+0.3
DALY	Dalyan (Mula)	0.99	21	PG	Pg	19 56 12.6	-0.3
DALY	Dalyan (Mula)	0.99	21	IAML_P			
	comp=Z,4μm,0.2s						
DALY				i P	Pb	19 56 13.3	-0.2
DALY				i S	Sn	19 56 28.7	-0.1
FETY	Fethiye	1.02	43	PG	Pg	19 56 12.6	-0.9
FETY	Fethiye	1.02	43	P	Pg	19 56 12.7	-0.8
FETY				S	Sn	19 56 29.4	-0.2

FETY	**Fethiye**	**1.02**	**43**	IAML_P			
	comp=Z,5μm,0.2s						
FETY				*i* P	**Pg**	**19 56 13.1**	**-0.4**
FETY				*i* S	**Sn**	**19 56 29.5**	**-0.2**
TURN	**Turunc**	**1.03**	**18**	PG	**Pg**	**19 56 10.8**	**-2.8**
TURN	**Turunc**	**1.03**	**18**	IAML_P			
	comp=Z,3μm,0.1s						
TURN				*i* P	**Pg**	**19 56 11.3**	**-2.3**
TURN				*i* S	**Sb**	**19 56 27.7**	**-0.2**
KSL	**Kastellorizon**	**1.14**	**76**	P	**Pg**	**19 56 15.6**	**-0.1**
KSL				S	**Sn**	**19 56 32.1**	**-0.3**
KSL	**Kastellorizon**	**1.14**	**76**	P	**Pb**	**19 56 15.7**	**-0.3**
KSL				S	**Sn**	**19 56 32.9**	**+0.5**
AKAS	**Kas**	**1.18**	**73**	PN	**Pb**	**19 56 16.4**	**-0.3**
AKAS	**Kas**	**1.18**	**73**	IAML_P			
	comp=Z,4μm,0.2s						
AKAS				*i* P	**Pn**	**19 56 17.0**	**-0.1**
AKAS				*i* S	**Sn**	**19 56 38.0**	**+4.4**
BDRM	**Kayabasi**	**1.33**	**332**	IAML_P			
	comp=Z,6μm,0.4s						
BDRM				*i* P	**Pg**	**19 56 19.9**	**+0.6**
BDRM				*i* S	**Sn**	**19 56 37.3**	**+0.2**
BODT	**Bodrum**	**1.38**	**328**	PN	**Pb**	**19 56 19.6**	**-0.5**
BODT	**Bodrum**	**1.38**	**328**	P	**Pb**	**19 56 19.6**	**-0.5**
BODT				S	**Sn**	**19 56 38.5**	**+0.2**
MLSB	**Milas**	**1.45**	**346**	PN	**Pb**	**19 56 20.7**	**-0.6**
ELL	**Elmali**	**1.61**	**57**	PN	**Pb**	**19 56 23.6**	**-0.6**
TAVA	**DENIZLI_Tavas**	**1.67**	**19**	IAML_P			
	comp=Z,1μm,0.2s						
TAVA				*i* P	**Pb**	**19 56 25.0**	**-0.1**
GOLH	**Golhisar**	**1.73**	**39**	IAML_P			
	comp=Z,1μm,0.3s						
GOLH				*i* S	**Sg**	**19 56 50.3**	**+0.9**
AYDN	**Tasoluk**	**1.79**	**351**	IAML_P			
	comp=Z,2μm,0.2s						
AYDN				*i* P	**Pg**	**19 56 27.7**	**-0.4**
AYDN				*i* S	**Sb**	**19 56 49.5**	**-0.3**
GCAM	**G?zelcaml?**	**1.97**	**337**	PN	**Pn**	**19 56 28.3**	**+0.5**
GCAM	**G?zelcaml?**	**1.97**	**337**	IAML_P			
	comp=Z,1μm,0.2s						
GCAM				*i* P	**Pb**	**19 56 29.4**	**-0.8**
GCAM				*i* S	**Sn**	**19 56 53.0**	**+0.1**
KORT	**Korkueli**	**2.05**	**57**	PN	**Pn**	**19 56 29.2**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**2.07**	**353**	PN	**Pn**	**19 56 29.6**	**+0.3**
SMG	**Samos**	**2.12**	**329**	P	**Pn**	**19 56 29.5**	**-0.5**
NPS	**Neapolis**	**2.21**	**254**	P	**Pn**	**19 56 31.6**	**+0.4**
LAST	**Lasithi**	**2.35**	**253**	P	**Pn**	**19 56 33.5**	**+0.4**
APE	**Apeiranthos**	**2.46**	**299**	PN	**Pn**	**19 56 34.5**	**-0.1**
APE	**Apeiranthos**	**2.46**	**299**	P	**Pn**	**19 56 35.8**	**+1.2**
BCK	**Bucak**	**2.47**	**50**	PN	**Pn**	**19 56 34.9**	**+0.1**
KULA	**Kula-Manisa**	**2.64**	**8**	PN	**Pn**	**19 56 37.8**	**+0.6**

MEX 06 20:04:42.5±0.5**, 16°.27N×98°.17W, h14**km±1km**, MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.13**	**20**	*e*P	Pg	20 04 45.0	-0.9
PNIG				*i* S	Sg	20 04 47.8	-0.6
TLIG	**Tlapa**	**1.34**	**344**	*e*P	Pn	20 05 03.2	-3.8
TLIG				*e*S	Sb	20 05 19.5	-5.1
VHO	**Vista Hermosa**	**1.59**	**60**	*i* P	Pn	20 05 07.4	-3.1
VHO				*i* S	Sn	20 05 26.3	-4.7

IDC 06 20:24:08.9±56.0**, 15°.39S×173°.77W, h0**km**, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.6**/32**, mbtmp4.0**/3**, Error ellipse: s-maj=1082.0km s-min=176.2km az=78.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.73**	**240**	P	P	20 32 16.4	+0.2
	2.7nm,1.1s,baz=58,slow=9.5,SNR=2.9						
WRA	**Warramunga Arr**	**49.50**	**257**	P	P	20 33 01.1	-0.6
	0.2nm,0.3s,baz=94,slow=7.2,SNR=9.3						
ASAR	**Alice Springs**	**49.77**	**252**	P	P	20 33 03.8	0.0
	4.0nm,0.6s,baz=89,slow=7.7,SNR=9.5						

JMA 06 20:49:09.6±0.1**, 36°.90N×141°.07E, h50**km±1km**, M2.8, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.30**	**313**	P	Pn	20 49 18.5	-0.3
ONAJ				S	Sn	20 49 24.9	-0.4
JFFD	**Fukushimafurud**	**0.45**	**295**	P	Pn	20 49 20.2	-0.1
JFFD				S	Sn	20 49 27.6	-0.4
JFK	**Kawauchi**	**0.49**	**342**	P	Pn	20 49 20.5	-0.3
JFK				S	Sn	20 49 28.2	-0.6
JHO	**Hitachi**	**0.49**	**234**	P	Pn	20 49 20.5	-0.3
JFT	**Otama**	**0.85**	**317**	P	Pn	20 49 26.1	+0.7
JFT				S	Sn	20 49 37.6	+0.7
JMM	**Marumori**	**0.99**	**347**	P	Pn	20 49 27.0	-0.2
MAT	**Matsushiro**	**2.33**	**262**	P	Pn	20 49 46.9	+1.5
MAT				S	Sn	20 50 16.5	+3.6

IDC 06 20:50:03.1±6.6**, 2°.74N×96°.77E, h87**km±63km**, mb3.3**/3**, mb1 3.2**/5**, mb1mx2.9**/63**, mbtmp3.5**/5**, ML2.9**/2**, Error ellipse: s-maj=97.1km s-min=54.1km az=14.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.15**	**88**	P	Pn	20 50 37.2	-0.1
	0.8nm,0.3s,baz=360,slow=9.7,SNR=3.2						
PSI				S	Sn	20 51 04.0	+0.6
	1.9nm,0.3s,baz=180,slow=20,SNR=4.3						
CMAR	**Chiang Mai Arr**	**15.76**	**8**	P	Pn	20 53 40.1	0.0
	0.1nm,0.3s,baz=199,slow=11,SNR=5.3						
H08S2	**Diego Garcia H**	**26.33**	**247**	T	T	21 22 43.9	
	baz=71						
H08S3	**Diego Garcia H**	**26.33**	**247**	T	T	21 22 41.7	
	baz=71						
H08S1	**Diego Carcia H**	**26.35**	**247**	T	T	21 22 43.4	
	baz=71						
MKAR	**Makanchi Array**	**45.65**	**346**	P	P	20 58 14.9	0.0
	0.4nm,0.4s,baz=157,slow=9.5,SNR=17						
SONM	**Songino Array**	**45.68**	**9**	P	P	20 58 15.0	-0.4
	0.2nm,0.3s,baz=184,slow=9.5,SNR=3.2						
ZALV	**Zalesovo Beam**	**51.98**	**351**	P	P	20 59 03.2	0.0
	0.6nm,0.4s,baz=179,slow=8.1,SNR=4.0						

*IDC **06** 20:51:04.4±1.5, 45°.78N×154°.04E, h0km, mb3.7/9, mb1 3.8/12, mb1mx3.6/63, mbtmp3.7/12, ML2.5/2, Error ellipse: s-maj=39.4km s-min=21.4km az=148.0*
*ISCJB **06** 20:51:06.0±1.1, 45°.9N±0°.1×153°.9E±0°.2, h20km, mb3.7/9, Error ellipse: s-maj=25.0km s-min=9.1km az=39.6*
ISC 06 20:51:07.6±1.3**, 45°.8N**±0°.2×**154°.0E**±0°.2**, h20**km**, n12, σ0s.56**/13**, mb3.7**/9**, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.72**	**17**	Pn	**Pn**	**20 52 58.4**	**-0.4**
	0.4nm,0.3s,baz=189,slow=14,SNR=12						
PETK				Sn	**Sn**	**20 54 25.4**	**-0.2**
	0.0nm,0.3s,baz=213,slow=15,SNR=2.5						
MJAR	**Matsushiro Arr**	**15.02**	**238**	Pn	**Pn**	**20 54 38.3**	**-0.3**
	baz=47,slow=16,SNR=3.5						
USRK	**Ussuriysk Ar.**	**15.63**	**272**	Pn	**Pn**	**20 54 45.4**	**-1.2**
	0.2nm,0.3s,baz=85,slow=14,SNR=5.3						
MKAR	**Makanchi Array**	**47.92**	**298**	P	**P**	**20 59 44.5**	**+0.2**
	0.5nm,0.8s,baz=77,slow=6.9,SNR=4.5						
YKA	**Yellowknife Ar**	**51.34**	**36**	P	**P**	**21 00 10.6**	**+0.5**
	0.3nm,0.6s,baz=295,slow=7.1,SNR=4.9						
BVAR	**Borovoye Array**	**51.93**	**310**	P	**P**	**21 00 15.4**	**+0.7**
	0.2nm,0.4s,baz=54,slow=6.8,SNR=5.1						
CMAR	**Chiang Mai Arr**	**52.73**	**258**	P	**P**	**21 00 21.5**	**+0.4**
	0.3nm,0.7s,baz=23,slow=7.9,SNR=3.6						
FINES	**FINESS Array B**	**65.16**	**335**	P	**P**	**21 01 46.8**	**+0.1**
	1.4nm,0.7s,baz=28,slow=9.5,SNR=7.6						
NOA	**NORSAR Array B**	**69.33**	**342**	P	**P**	**21 02 13.1**	**-0.1**
	0.4nm,0.6s,baz=32,slow=6.3,SNR=2.8						
HFS	**Hagfors**	**69.57**	**340**	P	**P**	**21 02 14.4**	**-0.2**
	4.6nm,1.1s,baz=66,slow=7.2,SNR=5.3						
AKASG	**Malin Array Be**	**72.68**	**327**	P	**P**	**21 02 34.0**	**+0.4**
	0.8nm,0.6s,baz=33,slow=6.3,SNR=3.3						
TXAR	**Lajitas Array**	**77.45**	**61**	P	**P**	**21 03 01.0**	**-0.6**
	0.7nm,0.9s,baz=304,slow=3.3,SNR=5.3						

IDC 06 20:52:52.5±3.8**, 18°.19S×177°.50W, h0**km**, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.6**/45**, mbtmp3.7**/4**, MS3.6**/1**, Ms1 3.6**/1**, ms1mx2.7**/25**, Error ellipse: s-maj=181.2km s-min=29.8km az=141.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**11.02**	**182**	LR	LR	20 59 19.1	
	comp=Z,292nm,20.6s,baz=287,slow=35						
STKA	**Stephens Creek**	**39.25**	**242**	P	P	21 00 22.9	-0.2
	1.8nm,0.7s,baz=58,slow=9.5,SNR=4.2						
WRA	**Warramunga Arr**	**45.43**	**260**	P	P	21 01 13.5	-0.1
	0.2nm,0.3s,baz=96,slow=7.5,SNR=8.4						
ASAR	**Alice Springs**	**45.55**	**254**	P	P	21 01 14.2	-0.2
	0.9nm,0.6s,baz=88,slow=8.6,SNR=17						
ILAR	**Eielson Array**	**85.97**	**13**	P	P	21 05 34.0	-0.2
	0.7nm,1.1s,baz=214,slow=6.2,SNR=3.9						
GERES	**GERESS Array B**	**148.10**	**346**	PKPbc	PKPbc	21 12 39.9	-0.5
	0.2nm,0.3s,baz=222,slow=1.3,SNR=3.4						

*IDC **06** 20:53:12.9±1.2, 12°.70N×120°.78E, h0km, mb3.1/4, mb1 3.4/4, mb1mx3.1/63, mbtmp3.1/4, Error ellipse: s-maj=38.6km s-min=17.0km az=80.0*
*MAN **06** 20:53:13.2, 12°.79N×121°.17E, h1km, mb4.3, ML3.2, MS2.9*
*ISCJB **06** 20:53:15.4±0.7, 12°.72N±0°.04×121°.27E±0°.05, h18km±8km, mb3.1/4, Error ellipse: s-maj=9.9km s-min=5.2km az=35.1*
ISC 06 20:53:15.8±1.2**, 12°.78N**±0°.04×**121°.19E**±0°.04**, h23**km±11km**, n14, σ1s.72**/22**, mb3.2**/4**, 1C, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.33**	**193**	*e*P	**Pb**	**20 53 22.4**	**-0.7**
SJMP				*e*S	**Sn**	**20 53 31.4**	**+0.1**
OTRP	**Odiongan**	**0.91**	**117**	*e*P	**Pn**	**20 53 31.5**	**-1.8**
OTRP				*e*S	**Sn**	**20 53 47.7**	**+2.0**
BOAC	**Boac**	**0.93**	**43**	*e*P	**Pn**	**20 53 30.9**	**-2.6**
BOAC				*e*S	**Sb**	**20 53 43.5**	**-1.7**
BUSP	**Coron**	**1.24**	**232**	*e*P	**Pn**	**20 53 37.3**	**-0.5**
BUSP				*e*S	**Sb**	**20 53 55.5**	**+1.3**
TGY	**Tagaytay City**	**1.34**	**349**	Pn	**Pb**	**20 53 40.2**	**-0.1**
	197nm,0.3s,baz=196,slow=3.5,SNR=16						
TGY				Sn	**Sb**	**20 53 59.5**	**+2.4**
	109nm,0.3s,baz=240,slow=19,SNR=9.8						
AUQP	**San Andres**	**1.54**	**69**	*e*P	**Pn**	**20 53 42.5**	**+0.5**
AUQP				*e*S	**Sb**	**20 54 06.4**	**+3.5**
GQP	**Guinayangan**	**1.66**	**47**	⇑*e*P	**Pn**	**20 53 43.4**	**-0.2**
GQP				*e*S	**Sb**	**20 54 06.0**	**-0.1**
CUYO	**Cuyo Island**	**1.93**	**185**	*e*P	**Pn**	**20 53 47.2**	**-0.1**
POLP	**Polilio Island**	**2.07**	**20**	*e*P	**Pn**	**20 53 50.5**	**+1.2**
POLP				*e*S	**Sb**	**20 54 18.6**	**+0.6**
ENPP	**El Nido**	**2.33**	**228**	*e*P	**Pn**	**20 53 53.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**22.15**	**288**	P	**P**	**20 58 07.0**	**-3.3**
	0.1nm,0.3s,baz=101,slow=9.3,SNR=3.3						
WRA	**Warramunga Arr**	**35.00**	**158**	P	**P**	**21 00 07.6**	**+0.8**
	0.2nm,0.6s,baz=332,slow=11,SNR=2.8						
SONM	**Songino Array**	**37.07**	**343**	P	**P**	**21 00 24.3**	**-0.1**
	0.2nm,0.6s,baz=172,slow=12,SNR=2.7						
ASAR	**Alice Springs**	**38.30**	**161**	P	**P**	**21 00 36.0**	**+1.1**
	0.3nm,0.6s,baz=340,slow=6.4,SNR=4.2						

*MOS **06** 20:53:25.6±0.9, 42°.30N×40°.80E, h4km, mb3.9/5, Error ellipse: s-maj=6.1km s-min=5.9km az=122.3*
MOS Felt (II) at Sochi.
*AZER **06** 20:53:27.0±0.0, 41°.57N×40°.34E, h5km, ml3.4/6, Error ellipse: s-maj=13.0km s-min=7.3km az=7.0*
*ISCJB **06** 20:53:26.6±0.5, 42°.41N±0°.02×40°.85E±0°.02, h3km±3km, mb3.2/5, Error ellipse: s-maj=2.9km s-min=2.2km az=35.6*
*ISK **06** 20:53:27.5, 42°.35N×40°.92E, h7km, ML3.6/11*
*DDA **06** 20:53:28.8, 42°.29N×41°.03E, h18km±1km, ML3.6*
*TIF **06** 20:53:28.4, 42°.33N×40°.91E, h25km±1km*
*IDC **06** 20:53:28.1±0.8, 42°.59N×40°.83E, h0km, mb3.4/4, mb1 3.4/8, mb1mx3.2/56, mbtmp3.3/8, ML3.6/3, Error ellipse: s-maj=13.0km s-min=8.0km az=169.0*
*MOS **06** 20:53:29.3±0.0, 42°.51N×41°.08E, h9km, MPVA4.4, FELT I=II MSK at Sochi*
*NORS **06** 20:53:31.3±0.0, 42°.58N×41°.40E, h2km, MPVA4.2*
ISC 06 20:53:26.9±1.1**, 42°.37N**±0°.02×**40°.92E**±0°.02**, h2**km±9km**, n109, σ1s.54**/155**, mb3.2**/5**, 16C-12D, Black Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.96**	**143**	PG	**Pg**	**20 53 45.5**	**+0.2**
BATM				SG	**Sb**	**20 53 59.5**	**+0.1**
BATM	**Batumi**	**0.96**	**143**	P	**Pn**	**20 53 46.8**	**-0.6**
BATM				S	**Sn**	**20 54 00.1**	**-1.6**
DOMR	**Dombai**	**1.05**	**29**	*c i*PG	**Pg**	**20 53 46.8**	**-0.3**
DOMR	**Dombai**	**1.05**	**29**	*i* Pg	**Pg**	**20 53 47.0**	**0.0**
DOMR				*i* Sg	**Sg**	**20 53 59.6**	**-1.1**
BCA	**Borcka**	**1.07**	**150**	PG	**Pb**	**20 53 48.2**	**+0.1**
BCA				SG	**Sn**	**20 54 02.9**	**-1.4**
BCA	**Borcka**	**1.07**	**150**	⇑*i*P	**Pb**	**20 53 48.2**	**+0.1**
BCA	**Borcka**	**1.07**	**150**	S	**Sn**	**20 54 02.9**	**-1.4**
DBOC	**Borcka**	**1.17**	**151**	IAML_P			
	comp=Z,8μm,0.1s						
DBOC				*i* P	**Pn**	**20 53 50.5**	**+0.2**
ARXR	**Arkhyz**	**1.22**	**12**	*i* Pg	**Pg**	**20 53 50.3**	**+0.1**
ARXR				*i* Sg	**Sg**	**20 54 05.3**	**-0.7**
CHOM	**Cayeli-Rize**	**1.28**	**185**	PN	**Pg**	**20 53 52.0**	**+0.6**
CHOM				SN	**Sn**	**20 54 09.9**	**+0.3**
CHAY	**Cayeli-Rize**	**1.29**	**186**	PN	**Pg**	**20 53 52.3**	**+0.6**
ARTV	**Artvin**	**1.41**	**147**	IAML_P			
	comp=Z,11μm,0.1s						
ARTV				*i* P	**Pb**	**20 53 53.8**	**-0.2**
ARTV				*i* S	**Sb**	**20 54 11.8**	**-0.6**
RPOR	**Krasnaya Polya**	**1.41**	**340**	⇓*e*PG	**Pn**	**20 53 54.2**	**+0.5**
RPOR				*e*S	**Sb**	**20 54 13.0**	**+0.6**
RPOR	**Krasnaya Polya**	**1.41**	**340**	*i* Pg	**Pn**	**20 53 54.1**	**+0.5**
RPOR				*i* Sg	**Sb**	**20 54 13.0**	**+0.6**
DBAD	**Bademkaya**	**1.47**	**157**	*i* P	**Pb**	**20 53 54.8**	**-0.3**
DAGI	**Agillar**	**1.49**	**150**	IAML_P			
	comp=Z,4μm,0.2s						
DAGI				*i* P	**Pb**	**20 53 55.3**	**-0.1**
DAGI				*i* S	**Sb**	**20 54 14.4**	**-0.5**
SOC	**Sochi**	**1.50**	**324**	*e*PG	**Pb**	**20 53 55.9**	**+0.5**
SOC				*e*		20 54 17.3	
SOC				pmax	pmax		
	comp=Z,153nm,0.3s						
SOC	**Sochi**	**1.50**	**324**	*i* Pg	**Pg**	**20 53 56.5**	**+1.0**
SOC				*i* Sg	**Sg**	**20 54 16.5**	**+1.6**
NEY	**Neytrino**	**1.59**	**56**	*d i*PN	**Pn**	**20 53 55.6**	**-0.6**
NEY	**Neytrino**	**1.59**	**56**	*e*Pg	**Pn**	**20 53 55.9**	**-0.4**
NEY				*e*Sg	**Sn**	**20 54 15.0**	**-2.5**
DDEM	**Demirkent**	**1.61**	**157**	*i* P	**Pg**	**20 53 57.8**	**+0.1**
DDEM				*i* S	**Sg**	**20 54 18.1**	**-0.3**
EPOS	**Posof**	**1.61**	**122**	*i* P	**Pb**	**20 53 57.4**	**0.0**
EPOS				*i* S	**Sg**	**20 54 18.4**	**0.0**
KTUT	**Trabzon**	**1.63**	**212**	PN	**Pn**	**20 53 56.9**	**+0.3**
KTUT	**Trabzon**	**1.63**	**212**	⇓*i*P	**Pb**	**20 53 57.3**	**-0.4**
KTUT	**Trabzon**	**1.63**	**212**	S	**Sb**	**20 54 18.5**	**-0.2**
MACK	**Trabzon**	**1.67**	**211**	IAML_P			
	comp=Z,3μm,0.1s						
MACK				*i* P	**Pb**	**20 53 58.5**	**+0.2**
MACK				*i* S	**Sg**	**20 54 20.9**	**+0.4**
GUZR	**Guzeripl'**	**1.72**	**340**	*i* Pg	**Pb**	**20 53 59.7**	**+0.3**
GUZR				*i* Sg	**Sb**	**20 54 22.4**	**+0.9**
SHA1	**Shidzhatmaz**	**1.87**	**42**	*e*PN	**Pn**	**20 54 01.3**	**+1.2**
SHA1	**Shidzhatmaz**	**1.87**	**42**	*i* Pg	**Pn**	**20 54 00.7**	**+0.6**
SHA1				*i* Sg	**Sn**	**20 54 23.8**	**-0.6**
LZRR	**Lazarevskoye**	**1.93**	**325**	*e*Pg	**Pb**	**20 54 03.1**	**+0.4**
LZRR				*i* Sg	**Sb**	**20 54 28.6**	**+1.4**
KBZ	**Khabaz**	**1.98**	**46**	Pn	**Pb**	**20 54 03.0**	**-0.7**
	comp=Z,16nm,0.3s,baz=230,slow=13,SNR=186						
KBZ				Sn	**Sb**	**20 54 28.1**	**-0.7**
	comp=Z,26nm,0.3s,baz=21,slow=5.1,SNR=18						
DIGR	**Digorskoe uzhe**	**2.03**	**74**	*e*PN	**Pn**	**20 54 02.5**	**+0.1**
DIGR				pmax	pmax		
	comp=Z,192nm,0.6s						
KIV	**Kislovodsk**	**2.04**	**39**	*c i*PN	**Pn**	**20 54 02.8**	**+0.4**
KIV				pmax	pmax		
	comp=Z,139nm,1.0s						
BAYT	**Aydıntepe-Bayb**	**2.06**	**197**	PN	**Pn**	**20 54 03.6**	**+0.9**
AKH	**Akhalkalaki**	**2.15**	**116**	PN	**Pn**	**20 54 04.9**	**+1.0**
AKH	**Akhalkalaki**	**2.15**	**116**	P	**Pb**	**20 54 05.6**	**-1.0**
AKH				S	**Sb**	**20 54 32.3**	**-1.5**
AKH	**Akhalkalaki**	**2.15**	**116**	⇑*i*P	**Pn**	**20 54 05.0**	**+1.0**
AKH	**Akhalkalaki**	**2.15**	**116**	*e*PN	**Pb**	**20 54 05.6**	**-1.0**
AKH				*e*S	**Sb**	**20 54 32.3**	**-1.5**
BAYB	**BAYBURT**	**2.17**	**193**	*i* P	**Pb**	**20 54 06.8**	**-0.2**
ESPY	**Espiye-Giresun**	**2.19**	**229**	PN	**Pn**	**20 54 05.1**	**+0.7**
ZEI	**Tsey**	**2.24**	**78**	*e*PN	**Pn**	**20 54 06.5**	**+1.3**
ZEI				*e*S	**Sn**	**20 54 34.9**	**+1.3**
NCK	**Nalchik**	**2.26**	**59**	*i* PN	**Pn**	**20 54 05.4**	**0.0**
BGD	**Bogdanovka**	**2.29**	**118**	P	**Pb**	**20 54 07.8**	**-1.3**
BGD				S	**Sn**	**20 54 35.7**	**+1.0**
PYA1	**Pyatigorsk**	**2.32**	**43**	*i* PN	**Pn**	**20 54 07.9**	**+1.8**
LSNR	**Lesken**	**2.32**	**66**	*e*PN	**Pb**	**20 54 08.9**	**-0.6**
LSNR				pmax	pmax		
	comp=Z,72nm,0.7s						
KBTC	**Kuba-Taba**	**2.33**	**51**	*e*PN	**Pn**	**20 54 08.1**	**+1.9**
KBTC				*e*S	**Sn**	**20 54 37.0**	**+1.6**
KARS	**Kars**	**2.38**	**136**	PN	**Pn**	**20 54 08.1**	**+1.0**
KARS	**Kars**	**2.38**	**136**	PN	**Pn**	**20 54 08.0**	**+1.0**
KORR	**Kora**	**2.43**	**72**	*e*PN	**Pb**	**20 54 10.2**	**-1.1**
KORR				pmax	pmax		
	comp=Z,71nm,0.6s						
KOPR	**Koprukoy-ERZUR**	**2.48**	**163**	PN	**Pn**	**20 54 09.2**	**+0.7**
STDR	**Stavd-Durt**	**2.52**	**66**	*e*PN	**Pg**	**20 54 15.4**	**+0.3**
STDR				*e*S	**Sg**	**20 54 46.5**	**-1.2**
TRLG	**Trialeti**	**2.52**	**108**	P	**Pb**	**20 54 11.3**	**-1.6**
TRLG				S	**Sb**	**20 54 42.4**	**-2.0**
LACR	**Lac**	**2.54**	**79**	*e*PN	**Pn**	**20 54 10.4**	**+1.2**
LACR				pmax	pmax		
	comp=Z,87nm,0.3s						
KELT	**Kelkit**	**2.55**	**210**	IAML_P			
	comp=Z,341nm,0.1s						
KELT				*i* P	**Pb**	**20 54 11.8**	**-1.7**
KELT				*i* S	**Sb**	**20 54 43.6**	**-1.8**
GUDG	**Gudauri**	**2.64**	**87**	P	**Pn**	**20 54 12.9**	**+2.2**
TBLG	**Delisi**	**2.92**	**101**	PN	**Pn**	**20 54 15.2**	**+0.9**
TBLG	**Delisi**	**2.92**	**101**	P	**Pn**	**20 54 16.0**	**+1.7**
TBLG				S	**Sn**	**20 54 50.6**	**+0.6**
TBLG	**Delisi**	**2.92**	**101**	*e*PN	**Pn**	**20 54 16.0**	**+1.7**
TBLG				*e*S	**Sn**	**20 54 50.6**	**+0.6**
GOF	**Gofitskoye**	**3.09**	**29**	*e*PN	**Pg**	**20 54 25.9**	**-0.2**
GOF				*e*S	**Sg**	**20 55 04.5**	**-1.7**
GOF				smax	smax		
	comp=N,260nm,0.8s						
AGRB	**Hanur-Agry**	**3.21**	**150**	PN	**Pn**	**20 54 19.5**	**+1.0**
RSDY	**Resadiye-TOKAT**	**3.35**	**235**	PN	**Pn**	**20 54 21.5**	**+1.3**
TASB	**TASBURUN-IGDIR**	**3.46**	**133**	PN	**Pn**	**20 54 23.3**	**+1.4**
ANN	**Anapa**	**3.51**	**315**	*e*PN	**Pn**	**20 54 26.1**	**+3.7**
ANN				*e*		20 55 09.0	
ANN				pmax	pmax		
	comp=Z,14nm,0.7s						
ANN				smax	smax		
	comp=N,47nm,1.6s						
ANN				smax	smax		
	comp=Z,40nm,1.0s						
ANN				smax	smax		
	comp=E,31nm,1.0s						
ANN				smax	smax		
	comp=Z,13nm,0.4s						
ANN				smax	smax		
	comp=N,20nm,0.4s						
ANN				smax	smax		
	comp=E,38nm,0.5s						
ANN	**Anapa**	**3.51**	**315**	*e*Pn	**Pn**	**20 54 26.2**	**+3.8**
ANN				*e*Sn	**Sb**	**20 55 10.5**	**-2.2**
QZX	**Qazax, Azerbai**	**3.58**	**110**	⇑P	**Pb**	**20 54 30.1**	**-0.9**
QZX				⇓S	**Sb**	**20 55 15.9**	**+0.9**
GNI	**Garni**	**3.64**	**126**	PN	**Pn**	**20 54 25.8**	**+1.4**
GNI	**Garni**	**3.64**	**126**	Pn	**Pb**	**20 54 31.2**	**-0.8**
	comp=E,0.6nm,0.3s,baz=307,slow=20,SNR=4.5						
GNI				Sn	**Sb**	**20 55 19.8**	**+3.2**
	comp=E,6.8nm,0.3s,baz=50,slow=15,SNR=7.8						
GNI	**Garni**	**3.64**	**126**	*i* PN	**Pn**	**20 54 25.5**	**+1.1**
GDB	**GEDABAY**	**3.99**	**113**	⇓P	**Pb**	**20 54 35.1**	**-2.9**
GDB				⇓S	**Sb**	**20 55 26.7**	**0.0**
LGD	**Lagodekhi**	**4.00**	**96**	P	**Pb**	**20 54 38.0**	**0.0**
LGD				S	**Sb**	**20 55 27.7**	**+0.9**
LGD	**Lagodekhi**	**4.00**	**96**	*e*PN	**Pb**	**20 54 38.0**	**0.0**
LGD				*e*S	**Sb**	**20 55 27.7**	**+0.9**
DIKM	**Dikmen**	**4.28**	**262**	⇑*i*P	**Pn**	**20 54 34.7**	**+1.7**
DIKM	**Dikmen**	**4.28**	**262**	S	**Sn**	**20 55 23.4**	**-0.2**
ZKTA	**Zakatala**	**4.31**	**98**	⇑P	**Pb**	**20 54 41.5**	**-1.9**
ZKTA				⇓S	**Sb**	**20 55 39.5**	**+3.6**
GANJ	**Ganja**	**4.41**	**111**	⇑P	**Pb**	**20 54 41.3**	**-3.7**
GANJ				⇓S	**Sb**	**20 55 36.9**	**-1.8**
SBZ	**Shahbuz**	**4.60**	**129**	⇓P	**Pn**	**20 54 39.3**	**+1.7**
SBZ				⇓S	**Sn**	**20 55 35.5**	**+3.8**
SEKA	**Sheki**	**4.84**	**102**	⇑P	**Pb**	**20 54 50.4**	**-2.0**
SEKA				⇑S	**Sb**	**20 55 53.5**	**+2.5**
SUDU	**Sudak**	**4.98**	**302**	*e*PN	**Pn**	**20 54 44.0**	**+1.4**
SUDU				*e*S	**Sn**	**20 55 41.3**	**+0.6**
BZK	**Bozkurt**	**5.16**	**268**	⇑*i*P	**Pn**	**20 54 46.1**	**+1.0**
BZK	**Bozkurt**	**5.16**	**268**	S	**Sn**	**20 55 45.2**	**+0.1**
ALU	**Alushta**	**5.27**	**298**	*e*PN	**Pn**	**20 54 47.9**	**+1.3**
ALU				*e*S	**Sn**	**20 55 47.3**	**-0.6**
YAL	**Yalta**	**5.36**	**296**	*e*PN	**Pn**	**20 54 49.0**	**+1.2**
YAL				*e*S	**Sn**	**20 55 49.6**	**-0.5**
SEV	**Sevastopol'**	**5.71**	**295**	*e*P	**Pn**	**20 54 53.2**	**+0.6**
SEV				*e*S	**Sn**	**20 55 59.0**	**+0.3**
BRTR	**Keskin Array B**	**6.11**	**247**	Pn	**Pn**	**20 55 01.1**	**+2.8**
	comp=E,0.2nm,0.3s,baz=62,slow=15,SNR=8.4						
BRTR				Sn	**Sn**	**20 56 11.3**	**+2.5**
	comp=E,0.1nm,0.3s,baz=84,slow=26,SNR=3.4						
TLCR		**9.20**	**292**	⇑*i*P	**Pn**	**20 55 40.5**	**0.0**
TLCR		**9.20**	**292**	P	**Pn**	**20 55 40.5**	**0.0**
TIRR	**Tirgusor**	**9.34**	**287**	⇑*i*P	**Pn**	**20 55 41.7**	**-0.7**
TIRR	**Tirgusor**	**9.34**	**287**	S	**Sn**	**20 57 21.3**	**-6.7**
TIRR	**Tirgusor**	**9.34**	**287**	P	**Pn**	**20 55 41.6**	**-0.8**
TLB	**Topalu**	**9.62**	**288**	⇑*i*P	**Pn**	**20 55 45.7**	**-0.6**
TLB	**Topalu**	**9.62**	**288**	S	**Sn**	**20 57 31.0**	**-3.9**
TLB	**Topalu**	**9.62**	**288**	P	**Pn**	**20 55 45.6**	**-0.7**
CFR	**Carcaliu**	**9.66**	**291**	⇓*i*P	**Pn**	**20 55 46.9**	**0.0**
CFR	**Carcaliu**	**9.66**	**291**	S	**Sn**	**20 57 31.5**	**-4.5**
CFR	**Carcaliu**	**9.66**	**291**	P	**Pn**	**20 55 46.9**	**0.0**
MLR	**Muntele Rosu**	**11.24**	**291**	Pn	**Pn**	**20 56 08.7**	**+0.1**
	comp=E,0.3nm,0.3s,baz=78,slow=9.3,SNR=4.1						
MLR				Sn	**Sn**	**20 58 12.3**	**-2.5**
	comp=E,0.1nm,0.3s,baz=83,slow=10,SNR=1.9						
MLR	**Muntele Rosu**	**11.24**	**291**	⇑*i*P	**Pn**	**20 56 08.5**	**-0.1**
AKASG	**Malin Array Be**	**11.57**	**320**	Pn	**Pn**	**20 56 09.6**	**-3.4**
	comp=E,0.4nm,0.3s,baz=132,slow=14,SNR=2.5						
AKASG				Sn	Sn	20 58 13.7	-9.0
	comp=E,0.3nm,0.3s,baz=74,slow=41,SNR=2.0						
VOIR		**11.85**	**290**	⇑*i*P	**Pn**	**20 56 16.8**	**-0.2**
VOIR		**11.85**	**290**	P	**Pn**	**20 56 16.7**	**-0.2**
BURAR	**Bucovina Array**	**12.28**	**301**	⇓*i*P	**Pn**	**20 56 23.0**	**+0.1**
BURAR	**Bucovina Array**	**12.28**	**301**	P	**Pn**	**20 56 22.9**	**+0.1**
FINES	**FINESS Array B**	**21.08**	**340**	P	**P**	**20 58 11.7**	**-0.5**
	comp=E,0.9nm,0.8s,baz=141,slow=12,SNR=4.0						
BRVK	**Borovoye**	**22.30**	**51**	*i* P	**P**	**20 58 25.4**	**0.0**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.2s						
BVAR	**Borovoye Array**	**22.36**	**51**	P	**P**	**20 58 27.0**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=251,slow=9.0,SNR=2.3						
BVAR	**Borovoye Array**	**22.36**	**51**	P	**P**	**20 58 27.0**	**+1.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
HFS	**Hagfors**	**24.34**	**326**	P	**P**	**20 58 43.7**	**-2.1**
	comp=Z,2.1nm,0.9s,baz=113,slow=14,SNR=2.4						
KURBB	**Kurchatov Arra**	**26.93**	**59**	P	**P**	**20 59 12.1**	**+2.7**
	comp=Z,0.3nm,0.3s,baz=277,slow=9.1,SNR=4.6						
KURK	**Kurchatov**	**26.99**	**59**	P	**P**	**20 59 12.1**	**+2.2**

*IDC **06** 20:53:54.4±1.7, 45°.74N×154°.07E, h0km, mb3.5/8, mb1 3.6/9, mb1mx3.4/61, mbtmp3.5/9, ML2.3/1, Error ellipse: s-maj=45.0km s-min=24.8km az=161.0*
*ISCJB **06** 20:53:56.0±1.5, 45°.9N±0°.2×154°.0E±0°.3, h19km, mb3.5/8, Error ellipse: s-maj=36.0km s-min=18.5km az=146.8*
ISC 06 20:53:57.6±1.6**, 45°.8N**±0°.2×**154°.1E**±0°.2**, h19**km**, n9, σ0s.49**/9**, mb3.5**/8**, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.71**	**17**	Pn	**Pn**	**20 55 48.7**	**0.0**
	0.2nm,0.3s,baz=194,slow=13,SNR=6.1						
MKAR	**Makanchi Array**	**47.97**	**299**	P	**P**	**21 02 35.4**	**+0.5**
	0.2nm,0.6s,baz=66,slow=6.0,SNR=4.1						
KURBB	**Kurchatov Arra**	**48.53**	**305**	P	**P**	**21 02 38.2**	**-1.0**
	0.5nm,0.2s,baz=64,slow=8.6,SNR=5.2						
YKA	**Yellowknife Ar**	**51.31**	**36**	P	**P**	**21 03 00.2**	**+0.1**
	0.2nm,0.7s,baz=293,slow=6.9,SNR=3.6						
CMAR	**Chiang Mai Arr**	**52.79**	**258**	P	**P**	**21 03 11.6**	**0.0**
	0.2nm,0.6s,baz=47,slow=6.6,SNR=3.2						
FINES	**FINESS Array B**	**65.19**	**335**	P	**P**	**21 04 37.3**	**+0.2**
	0.7nm,0.8s,baz=44,slow=16,SNR=3.1						
HFS	**Hagfors**	**69.59**	**340**	P	**P**	**21 05 05.2**	**+0.2**
	0.7nm,0.6s,baz=43,slow=5.0,SNR=3.1						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**72.71**	**327**	P	**P**	**21 05 24.2**	**+0.2**
	0.3nm,0.4s,baz=34,slow=6.6,SNR=2.3						
TXAR	**Lajitas Array**	**77.40**	**61**	P	**P**	**21 05 51.4**	**-0.2**
	0.3nm,0.8s,baz=302,slow=5.2,SNR=3.2						

*IDC **06** 21:01:15.2±0.9, 45°.73N×154°.00E, h0km, mb3.5/10, mb1 3.7/14, mb1mx3.5/52, mbtmp3.5/14, ML2.8/4, Error ellipse: s-maj=26.0km s-min=18.9km az=149.0*
*ISCJB **06** 21:01:16.2±0.8, 45°.7N±0°.1×154°.0E±0°.1, h19km, mb3.5/10, Error ellipse: s-maj=19.7km s-min=11.6km az=150.1*
ISC 06 21:01:18.2±0.9**, 45°.8N**±0°.1×**154°.0E**±0°.1**, h19km, n14, σ0.s74**/14**, mb3.6**/10**, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.75**	**17**	Pn	**Pn**	**21 03 08.7**	**-1.3**
	0.3nm,0.3s,baz=189,slow=13,SNR=9.0						
MJAR	**Matsushiro Arr**	**14.99**	**238**	Pn	**Pn**	**21 04 47.7**	**-1.2**
	0.1nm,0.3s,baz=36,slow=15,SNR=2.7						
KLR	**Kul'dur**	**15.39**	**291**	Pn	**Pn**	**21 04 54.3**	**+0.2**
	0.1nm,0.3s,baz=195,slow=20,SNR=1.8						
USRK	**Ussuriysk Ar.**	**15.62**	**272**	Pn	**Pn**	**21 04 56.5**	**-0.6**
	0.2nm,0.3s,baz=81,slow=14,SNR=4.7						
MKAR	**Makanchi Array**	**47.92**	**299**	P	**P**	**21 09 55.3**	**+0.2**
	0.5nm,0.8s,baz=69,slow=6.8,SNR=5.8						
KURBB	**Kurchatov Arra**	**48.49**	**305**	P	**P**	**21 10 00.7**	**+1.3**
	0.3nm,0.4s,baz=64,slow=9.4,SNR=3.1						
YKA	**Yellowknife Ar**	**51.38**	**36**	P	**P**	**21 10 21.1**	**+0.1**
	0.1nm,0.5s,baz=318,slow=8.4,SNR=4.1						
CMAR	**Chiang Mai Arr**	**52.71**	**258**	P	**P**	**21 10 32.3**	**+0.6**
	0.3nm,0.7s,baz=38,slow=7.0,SNR=3.7						
PDAR	**Pinedale Array**	**64.86**	**54**	P	**P**	**21 11 56.8**	**+0.7**
	0.1nm,0.5s,baz=340,slow=6.7,SNR=2.5						
FINES	**FINESS Array B**	**65.19**	**335**	P	**P**	**21 11 57.6**	**+0.1**
	2.9nm,1.0s,baz=61,slow=9.0,SNR=6.0						
WRA	**Warramunga Arr**	**67.77**	**200**	P	**P**	**21 12 14.3**	**-0.3**
	0.5nm,0.9s,baz=12,slow=6.8,SNR=2.7						
NOA	**NORSAR Array B**	**69.36**	**342**	P	**P**	**21 12 24.3**	**+0.2**
	0.4nm,0.7s,baz=29,slow=6.5,SNR=2.4						
AKASG	**Malin Array Be**	**72.70**	**327**	P	**P**	**21 12 44.5**	**+0.1**
	0.4nm,0.4s,baz=34,slow=6.6,SNR=3.8						
TXAR	**Lajitas Array**	**77.47**	**61**	P	**P**	**21 13 12.4**	**-0.1**
	0.3nm,0.8s,baz=337,slow=5.4,SNR=3.5						

*IDC **06** 21:01:58.5±1.6, 43°.84N×105°.42W, h0km, mb1 3.5/4, mb1mx3.3/47, mbtmp3.2/4, ML2.8/3, Error ellipse: s-maj=43.4km s-min=8.6km az=148.0*
*ISCJB **06** 21:01:59.1±0.3, 43°.79N±0°.02×105°.27W±0°.04, h0km, Error ellipse: s-maj=3.8km s-min=3.4km az=178.1*
*NEIC **06** 21:01:60.0±0.4, 43°.83N×105°.20W, h0km, ML3.5, MN2.7, Error ellipse: s-maj=4.8km s-min=4.0km az=83.0, Suspected Mining explosion.*
NEIC 57 km [35 miles] SSE of Gillette.
ISC 06 21:01:59.2±0.7**, 43°.80N**±0°.03×**105°.24W**±0°.04**, h0km, n58, σ1.s45**/69**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.93**	**69**	ePg	**Pb**	**21 02 17.9**	**-0.3**
RSSD				eSg	**Sb**	**21 02 30.3**	**-0.9**
K22A	**Casper**	**1.48**	**220**	ePn	**Pn**	**21 02 25.9**	**-1.4**
K22A				eSg	**Sg**	**21 02 48.1**	**+1.3**
PHWY	**Pilot Hill**	**2.50**	**184**	ePn	**Pn**	**21 02 41.1**	**-0.4**
PHWY				eSn	**Sn**	**21 03 14.5**	**+1.7**
RWWY	**Rawlins**	**2.56**	**215**	ePn	**Pn**	**21 02 43.7**	**+1.6**
RWWY				eSn	**Sn**	**21 03 15.3**	**+1.2**
N23A	**Red Feather La**	**2.95**	**190**	ePn	**Pn**	**21 02 48.4**	**+0.9**
N23A				eSn	**Sn**	**21 03 24.2**	**+0.4**
LAO	**LASA Array**	**2.97**	**347**	ePn	**Pn**	**21 02 49.5**	**+1.8**
LAO				eSn	**Sn**	**21 03 26.6**	**+2.6**
RLMT	**Red Lodge**	**3.17**	**296**	ePn	**Pn**	**21 02 51.4**	**+0.9**
RLMT				eSn	**Sn**	**21 03 29.5**	**+0.3**
PDAR	**Pinedale Array**	**3.32**	**253**	Pn	**Pn**	**21 02 53.1**	**+0.6**
	3.8nm,0.3s,baz=77,slow=14,SNR=57						
PDAR				Lg	Lg	21 03 39.0	
	19nm,0.3s,baz=71,slow=32,SNR=11						
BW06	**Boulder Array**	**3.32**	**253**	ePn	**Pn**	**21 02 53.3**	**+0.7**
BW06				eSn	**Sn**	**21 03 33.3**	**+0.5**
OGNE	**Ogallala**	**3.71**	**139**	ePn	**Pn**	**21 02 59.5**	**+1.7**
GCMT	**Greycliff**	**3.73**	**304**	ePn	**Pn**	**21 02 59.3**	**+1.2**
GCMT				eSn	**Sn**	**21 03 43.5**	**+0.8**
H17A	**Grant Village**	**3.89**	**281**	ePn	**Pn**	**21 03 02.5**	**+2.0**
LOHW	**Long Hollow**	**3.89**	**269**	ePn	**Pn**	**21 03 02.2**	**+1.8**
LOHW				eSn	**Sn**	**21 03 47.0**	**0.0**
FLWY	**Flagg Ranch**	**3.95**	**276**	ePn	**Pn**	**21 03 02.0**	**+0.7**
MOOW	**Moose Ponds**	**3.99**	**271**	ePn	**Pn**	**21 03 03.4**	**+1.6**
ISCO	**Idaho Springs**	**4.01**	**184**	ePn	**Pn**	**21 03 03.3**	**+1.2**
SNOW	**Snow King Moun**	**4.02**	**267**	ePn	**Pn**	**21 03 03.4**	**+1.2**
YPP	**Pitchstone Pla**	**4.04**	**279**	ePn	**Pn**	**21 03 03.5**	**+0.9**
YFT	**Old Faithful**	**4.08**	**281**	ePn	**Pn**	**21 03 04.4**	**+1.3**
REDW	**Red Top Meadow**	**4.10**	**266**	ePn	**Pn**	**21 03 03.7**	**+0.4**
IMW	**Indian Meadow**	**4.12**	**273**	ePn	**Pn**	**21 03 05.7**	**+2.0**
TPAW	**Teton Pass**	**4.16**	**268**	ePn	**Pn**	**21 03 05.7**	**+1.6**
YMR	**Madison River**	**4.20**	**284**	ePn	**Pn**	**21 03 06.0**	**+1.3**
O20A	**White River Ci**	**4.29**	**212**	ePn	**Pn**	**21 03 06.4**	**+0.4**
YHB	**Horse Butte**	**4.38**	**285**	ePn	**Pn**	**21 03 07.4**	**+0.3**
AHID	**Auburn Hatcher**	**4.40**	**258**	ePn	**Pn**	**21 03 09.5**	**+2.0**
DGMT	**Dagmar**	**4.73**	**8**	ePn	**Pn**	**21 03 13.9**	**+2.2**
Q24A	**Divide**	**4.83**	**179**	ePn	**Pn**	**21 03 12.5**	**-1.0**
BOZ	**Bozeman (W)**	**4.90**	**294**	ePn	**Pn**	**21 03 11.5**	**-2.7**
HWUT	**Hardware Ranch**	**5.15**	**247**	ePn	**Pn**	**21 03 19.1**	**+1.4**
KSCO	**Kaye Shedlock'**	**5.17**	**157**	ePn	**Pn**	**21 03 18.2**	**+0.3**
KSCO				ePg	**Pg**	**21 03 38.2**	**-0.1**
EGMT	**Eagleton**	**5.27**	**325**	ePn	**Pn**	**21 03 19.4**	**+0.2**
	13nm,0.5s						
TCUT	**Toone Canyon**	**5.29**	**242**	ePn	**Pn**	**21 03 21.6**	**+1.9**
DLMT	**Dillon**	**5.48**	**289**	ePg	**Pg**	**21 03 42.7**	**-1.5**
HRY	**Holter Researc**	**5.49**	**304**	ePn	**Pn**	**21 03 23.1**	**+0.8**
HVU	**Hansel Valley**	**5.90**	**253**	ePn	**Pn**	**21 03 29.4**	**+1.4**
PV21	**Cone Mtn., Par**	**5.94**	**210**	ePn	**Pn**	**21 03 30.6**	**+1.9**
P17A	**Butcher Ranch,**	**5.97**	**225**	ePn	**Pn**	**21 03 30.5**	**+1.5**
PV23	**Carpenter Ridg**	**6.05**	**209**	ePg	**Pg**	**21 03 52.5**	**-2.7**
PV12	**Saucer Basin,**	**6.10**	**207**	ePn	**Pn**	**21 03 34.1**	**+3.3**
PV14	**Lion Creek, Pa**	**6.13**	**209**	ePn	**Pn**	**21 03 32.5**	**+1.3**
PV11	**David Mesa, Pa**	**6.14**	**208**	ePn	**Pn**	**21 03 32.9**	**+1.5**
PV16	**Nyswonger Mesa**	**6.15**	**208**	ePn	**Pn**	**21 03 33.0**	**+1.6**
PV19	**Morning Glory**	**6.17**	**209**	ePn	**Pn**	**21 03 33.7**	**+2.0**
PV02	**Paradox Valley**	**6.18**	**206**	ePn	**Pn**	**21 03 34.0**	**+2.1**
PV17	**East Wray Mesa**	**6.19**	**208**	ePn	**Pn**	**21 03 33.4**	**+1.4**
ECSD	**EROS Data Cent**	**6.25**	**88**	ePn	Pn	21 03 38.1	+5.5
PV13	**Radium Mtn., P**	**6.25**	**207**	ePn	**Pn**	**21 03 34.0**	**+1.1**
TMUT	**Trail Mountain**	**6.35**	**227**	ePn	**Pn**	**21 03 35.5**	**+1.3**
BGU	**Big Grassy Mou**	**6.45**	**246**	ePn	**Pn**	**21 03 37.7**	**+2.2**
BGU				eSg	**Sg**	**21 05 26.7**	**+0.6**
Q16A	**Castle Valley**	**6.61**	**224**	ePn	**Pn**	**21 03 38.4**	**+0.6**
DUG	**Dugway, Tooele**	**6.69**	**240**	ePn	**Pn**	**21 03 39.8**	**+1.0**
PSUT	**Pine Spring**	**8.36**	**234**	ePn	**Pn**	**21 04 03.4**	**+1.6**
ULM	**Lac du Bonnet**	**9.08**	**41**	Pn	**Pn**	**21 04 09.6**	**-1.9**
	0.9nm,0.3s,baz=235,slow=12,SNR=12						
ULM				Lg	Lg	21 06 38.4	
	0.2nm,0.3s,baz=108,slow=20,SNR=2.5						
NV01	**Mina Array Sit**	**11.22**	**246**	ePn	**Pn**	**21 04 41.3**	**+0.4**
NVAR	**Mina Array Bea**	**11.22**	**246**	Pn	**Pn**	**21 04 41.3**	**+0.3**
	0.1nm,0.3s,baz=53,slow=14,SNR=2.6						
YKA	**Yellowknife Ar**	**19.51**	**347**	P	**P**	**21 06 26.8**	**-0.8**
	0.1nm,0.3s,baz=160,slow=11,SNR=6.6						
YKB5	**Yellowknife Ar**	**19.51**	**347**	eP	**P**	**21 06 26.9**	**-0.8**

SJA 06 21:19:15.6±0.5**, 26°.46S**×**67°.19W, h10km**±7km**, ML3.0, MW3.6, Catamarca Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FSA	**Cafayete**	**1.14**	**73**	eP	Pn	21 19 37.7	-0.1
FSA				eS	Sn	21 19 53.9	+0.3
FSA				IAML		21 19 59.9	
	comp=Z,92nm,0.4s						
SLA	**San Lorenzo**	**2.30**	**42**	eP	Pb	21 19 57.9	+0.6
CYA	**Choya**	**2.33**	**148**	eP	Pb	21 19 56.7	-1.1
CYA				eS	Sb	21 20 26.4	-0.2
CYA				IAML		21 20 31.8	
	comp=Z,153nm,0.4s						
AZAP	**Zapla**	**2.94**	**41**	eP	Pb	21 20 05.7	-2.6
AZAP				IAML		21 20 13.3	
	comp=Z,96nm,0.4s						
ACLC	**CERRO LA CRUZ**	**2.97**	**176**	eP	Pn	21 20 04.5	+1.6
AGUA	**GUANDACOL**	**3.23**	**201**	eP	Pn	21 20 09.1	+2.6

*ISCJB **06** 21:39:08.6±0.4, 43°.15N±0°.08×140°.08E±0°.08, h192km±5km, mb3.2/7, Error ellipse: s-maj=14.1km s-min=8.8km az=153.2*
*JMA **06** 21:39:09.9±0.3, 43°.16N×140°.06E, h183km±3km, M2.7*
*IDC **06** 21:39:10.4±2.6, 43°.17N×140°.03E, h194km±31km, mb3.1/7, mb1 3.2/9, mb1mx3.0/41, mbtmp3.5/9, Error ellipse: s-maj=29.6km s-min=20.0km az=6.0*
ISC 06 21:39:09.5±0.8**, 43°.12N**±0°.09×**140°.14E**±0°.07**, h189km**±7km**, n22, σ0.s86**/28**, mb3.1**/7**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JSK	**Shakotan**	**0.34**	**46**	P	**Pn**	**21 39 34.6**	**-0.2**
JSH	**Shimam**	**0.48**	**188**	P	**Pn**	**21 39 35.1**	**-0.2**
JSH				eS	**Sn**	**21 39 54.1**	**-1.0**
JNB	**Noboribetsu**	**0.93**	**134**	P	**Pn**	**21 39 37.8**	**+0.2**
JEW	**Eniwo**	**1.00**	**106**	P	**Pn**	**21 39 38.9**	**+0.8**
JEW				eS	**Sn**	**21 40 02.0**	**+1.8**
JYM2	**Yakumo 2**	**1.01**	**170**	P	**Pn**	**21 39 38.4**	**+0.1**
JYM2				eS	**Sn**	**21 40 00.6**	**+0.1**
JOSM	**Okushiri--Mats**	**1.14**	**206**	P	**Pn**	**21 39 39.4**	**+0.2**
JOSM				eS	**Sn**	**21 40 01.9**	**-0.3**
JKB	**Kayabe**	**1.40**	**151**	P	**Pn**	**21 39 41.5**	**+0.2**
JIAM	**Iburiatsuma**	**1.40**	**110**	P	**Pn**	**21 39 42.3**	**+1.0**
JFR	**Furan**	**1.80**	**88**	P	**Pn**	**21 39 45.7**	**+0.6**
JOT	**Ohata**	**1.86**	**158**	P	**Pn**	**21 39 45.7**	**-0.1**
JKK2	**Kamakawa 2**	**2.04**	**67**	P	**Pn**	**21 39 48.7**	**+1.0**
JKK2				eS	**Sn**	**21 40 18.0**	**+0.6**
JNBK	**Urakawa-nobuka**	**2.10**	**113**	P	**Pn**	**21 39 48.4**	**+0.1**
JCH	**Churui**	**2.42**	**101**	P	**Pn**	**21 39 50.7**	**-1.1**
JCH				eS	**Sn**	**21 40 22.7**	**-2.1**
MJAR	**Matsushiro Arr**	**6.73**	**193**	P	**Pn**	**21 40 47.7**	**+1.4**
	0.9nm,0.3s,baz=24,slow=11,SNR=10.0						
KLR	**Kul'dur**	**8.44**	**319**	P	**Pn**	**21 41 08.0**	**-0.3**
	0.1nm,0.3s,baz=129,slow=15,SNR=3.7						
SONM	**Songino Array**	**24.00**	**293**	P	**P**	**21 44 07.3**	**+0.4**
	0.4nm,0.5s,baz=84,slow=7.9,SNR=3.3						
ZALV	**Zalesovo Beam**	**37.29**	**307**	P	**P**	**21 46 02.5**	**-0.4**
	0.7nm,0.3s,baz=94,slow=8.4,SNR=5.0						
MKAR	**Makanchi Array**	**40.31**	**296**	P	**P**	**21 46 27.3**	**-0.9**
	0.4nm,0.7s,baz=82,slow=8.8,SNR=3.7						
ILAR	**Eielson Array**	**44.99**	**35**	P	**P**	**21 47 06.0**	**+0.5**
	0.5nm,0.6s,baz=274,slow=8.2,SNR=10						
YKA	**Yellowknife Ar**	**59.09**	**31**	P	**P**	**21 48 49.4**	**0.0**
	0.2nm,0.5s,baz=304,slow=6.5,SNR=6.4						
FINES	**FINESS Array B**	**63.01**	**331**	P	**P**	**21 49 15.0**	**-0.7**
	1.1nm,0.8s,baz=40,slow=11,SNR=4.0						
PDAR	**Pinedale Array**	**74.12**	**46**	P	**P**	**21 50 25.8**	**+0.6**
	0.2nm,0.5s,baz=294,slow=2.9,SNR=2.9						

*IDC **06** 21:40:03.5±1.2, 3°.23S×138°.99E, h0km, mb3.3/3, mb1 3.7/5, mb1mx3.5/30, mbtmp3.5/5, ML3.6/2, Error ellipse: s-maj=28.6km s-min=20.2km az=128.0*
*ISCJB **06** 21:40:06.5±0.9, 3°.3S±0°.1×139°.0E±0°.1, h35km, mb3.4/2, Error ellipse: s-maj=24.0km s-min=13.6km az=33.3*
ISC 06 21:40:08.3±1.0**, 3°.3S**±0°.1×**139°.1E**±0°.2**, h35km, n6, σ1.s40**/6**, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.82**	**65**	Pg	**Pn**	**21 40 37.3**	**0.0**
	19nm,0.3s,baz=224,slow=13,SNR=36						
JAY				Lg	Lg	21 40 57.3	
	22nm,0.3s,baz=320,slow=17,SNR=12						
WRA	**Warramunga Arr**	**17.16**	**195**	P	**Pn**	**21 44 04.8**	**-0.8**
	0.3nm,0.3s,baz=17,slow=13,SNR=20						
WRA				S	Sn	21 47 04.9	-11
	0.1nm,0.3s,baz=11,slow=22,SNR=2.6						
FITZ	**Fitzroy Crossi**	**19.72**	**221**	P	**P**	**21 44 35.5**	**+0.4**
	0.1nm,0.3s,baz=45,slow=10.0,SNR=5.7						
ASAR	**Alice Springs**	**20.84**	**193**	P	**P**	**21 44 48.0**	**+0.7**
	0.5nm,0.4s,baz=22,slow=9.8,SNR=12						
SONM	**Songino Array**	**58.40**	**335**	P	**P**	**21 50 01.9**	**+1.4**
	0.2nm,0.3s,baz=132,slow=2.1,SNR=3.0						
MKAR	**Makanchi Array**	**70.47**	**322**	P	**P**	**21 51 17.8**	**-1.6**
	0.2nm,0.6s,baz=124,slow=7.2,SNR=3.0						

MAN 06 21:59:21.5, 12°.75N×**121°.13E, h1km, mb4.4, ML3.2, MS3.0, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.29**	**182**	eP	Pg	21 59 24.7	-2.3
SJMP				eS	Sb	21 59 38.4	+3.5
OTRP	**Odiongan**	**0.95**	**114**	eP	Pg	21 59 34.6	-5.1
OTRP				eS	Sn	21 59 57.1	+0.8
BOAC	**Boac**	**0.99**	**45**	eP	Pg	21 59 40.2	-0.3
BOAC				eS	Sb	21 59 56.0	+1.0
BUSP	**Coron**	**1.18**	**231**	eP	Pg	21 59 40.2	-3.8
BUSP				eS	Sn	22 00 05.2	+3.5
CUYO	**Cuyo Island**	**1.89**	**183**	eP	Pg	21 59 57.7	-0.1
ENPP	**El Nido**	**2.27**	**227**	eP	Pb	22 00 02.3	-0.9

*NIED **06** 22:08:00, 36°.40N×139°.60E, h119km, Mw4.0 Best double couple: M0 1.17000×10^15 NP1: φs269.00000°, δ42.00000°, λ57.00000°. NP2: φs131.00000°, δ56.00000°, λ116.00000°.*
*ISCJB **06** 22:08:22.2±0.3, 36°.32N±0°.03×139°.52E±0°.06, h137km±2km, mb3.6/15, Error ellipse: s-maj=7.6km s-min=5.0km az=173.5*
*JMA **06** 22:08:23.9±0.1, 36°.30N×139°.58E, h128km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs59.00000°, δ66.00000°, λ28.00000°. NP2: φs317.00000°, δ65.00000°, λ154.00000°. Principal axes: T Plg36.0000°, Azm279.0000°; N Plg54.0000°, Azm97.0000°; P Plg1.0000°, Azm188.0000°;*
JMA Felt I J1.
*IDC **06** 22:08:24.0±0.7, 36°.35N×139°.39E, h136km±5km, mb3.5/15, mb1 3.7/19, mb1mx3.5/51, mbtmp3.9/19 Error ellipse: s-maj=16.4km s-min=11.8km az=84.0*
ISC 06 22:08:23.0±0.7**, 36°.32N**±0°.04×**139°.52E**±0°.06**, h133km**±5km**, n36, σ0.s96**/50**, mb3.8**/15**, 1C-8D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAG	**Ashikaga**	**0.12**	**335**	⇑P	**Pn**	**22 08 41.5**	**+0.4**
JAG				eS	**Sn**	**22 08 54.6**	**-0.3**
JKT	**Katashina**	**0.50**	**334**	⇓P	**Pn**	**22 08 43.2**	**+0.6**
JKT				S	**Sn**	**22 08 57.7**	**+0.3**
JRY	**Ryogami san**	**0.58**	**239**	⇓P	**Pn**	**22 08 43.9**	**+0.9**
JRY				eS	**Sn**	**22 08 58.5**	**+0.5**
JHK	**Hiroka**	**1.01**	**337**	⇓P	**Pn**	**22 08 46.8**	**+0.5**
JHK				S	**Sn**	**22 09 04.4**	**+0.3**
MJAR	**Matsushiro Arr**	**1.08**	**282**	P	**Pn**	**22 08 47.5**	**+0.5**
	144nm,0.3s,baz=101,slow=8.1,SNR=1624						
MJAR				S	**Sn**	**22 09 04.8**	**-0.3**
	134nm,0.3s,baz=108,slow=12,SNR=20						
MAT	**Matsushiro**	**1.08**	**283**	P	**Pn**	**22 08 47.8**	**+0.8**
MAT				S	**Sn**	**22 09 06.1**	**+0.9**
MAT	**Matsushiro**	**1.08**	**283**	P	**Pn**	**22 08 47.8**	**+0.8**
MAT				eS	**Sn**	**22 09 05.4**	**+0.2**
JOD2	**Odawara 2**	**1.11**	**199**	⇓P	**Pn**	**22 08 47.3**	**0.0**
JOD2				S	**Sn**	**22 09 05.5**	**-0.1**
JYN	**Shimob**	**1.14**	**224**	⇓P	**Pn**	**22 08 48.3**	**+0.7**
JYN				S	**Sn**	**22 09 07.0**	**+0.8**
JFNN	**Fujinakano**	**1.31**	**211**	eS	**Sn**	**22 09 09.9**	**+0.7**
JFT	**Otama**	**1.37**	**28**	⇓P	**Pn**	**22 08 50.5**	**+0.6**
JFT				eS	**Sn**	**22 09 10.4**	**0.0**
JNS	**Sasagawa**	**1.51**	**354**	⇓P	**Pn**	**22 08 51.7**	**+0.3**
JSD	**Sado**	**1.99**	**330**	⇓P	**Pn**	**22 08 57.1**	**+0.1**
JSD				S	**Sn**	**22 09 22.6**	**-0.5**
BSO1	**Boso 1**	**2.04**	**144**	P	**Pn**	**22 08 57.9**	**+0.8**
BSO1				eS	**Sn**	**22 09 23.9**	**+0.6**
JHJ	**Hachijo jima 2**	**3.20**	**176**	P	**Pn**	**22 09 12.8**	**+0.5**
	348nm,0.3s,baz=296,slow=16,SNR=96						
JHJ				S	**Sn**	**22 09 50.5**	**+0.1**
	102nm,0.3s,baz=307,slow=24,SNR=7.8						
JNU	**Nakatsue**	**7.79**	**248**	P	**Pn**	**22 10 14.9**	**+1.3**
	0.9nm,0.3s,baz=68,slow=5.4,SNR=11						
ASAJ	**Asahikawa**	**8.14**	**16**	P	**Pn**	**22 10 15.6**	**-2.6**
	1.8nm,0.3s,baz=211,slow=14,SNR=4.1						
KSRS	**Korea Array**	**9.36**	**280**	P	**Pn**	**22 10 34.9**	**+0.2**
	0.2nm,0.3s,baz=92,slow=14,SNR=6.1						
JCJ	**Chichijima**	**9.47**	**165**	P	**Pn**	**22 10 32.5**	**-3.7**
	18nm,0.3s,baz=118,slow=22,SNR=9.8						
JCJ				S	Sn	22 12 10.3	-11
	7.7nm,0.3s,baz=287,slow=19,SNR=4.6						
USRK	**Ussuriysk Ar.**	**9.75**	**326**	P	**Pn**	**22 10 39.5**	**-0.3**
	0.1nm,0.3s,baz=151,slow=15,SNR=4.8						
SONM	**Songino Array**	**26.94**	**306**	P	**P**	**22 13 51.6**	**-0.3**
	0.6nm,0.6s,baz=103,slow=8.9,SNR=4.4						
ZALV	**Zalesovo Beam**	**41.28**	**313**	P	**P**	**22 15 55.3**	**+0.4**
	0.9nm,0.5s,baz=96,slow=6.0,SNR=5.6						
ZALV				PcP	**PcP**	**22 17 50.9**	**-0.1**
	0.7nm,0.4s,baz=107,slow=2.4,SNR=3.6						
MKAR	**Makanchi Array**	**43.21**	**302**	P	**P**	**22 16 11.1**	**+0.3**
	1.6nm,0.7s,baz=90,slow=10,SNR=22						
ILAR	**Eielson Array**	**50.91**	**32**	P	**P**	**22 17 11.2**	**+1.0**
	0.6nm,0.6s,baz=273,slow=4.9,SNR=13						
FITZ	**Fitzroy Crossi**	**55.69**	**196**	P	**P**	**22 17 45.5**	**0.0**
	3.5nm,0.8s,baz=38,slow=3.4,SNR=4.3						
INK	**Inuvik**	**55.72**	**27**	P	**P**	**22 17 46.5**	**+1.4**
	1.0nm,0.8s,baz=204,slow=2.1,SNR=4.4						
WRA	**Warramunga Arr**	**56.16**	**186**	P	**P**	**22 17 49.2**	**+0.3**
	2.1nm,0.5s,baz=1.1,slow=7.6,SNR=53						
ASAR	**Alice Springs**	**59.89**	**186**	P	**P**	**22 18 16.4**	**+1.6**
	1.1nm,0.5s,baz=18,slow=12,SNR=13						
YKA	**Yellowknife Ar**	**65.19**	**29**	P	**P**	**22 18 49.4**	**-0.1**
	0.1nm,0.4s,baz=310,slow=7.5,SNR=5.7						
FINES	**FINESS Array B**	**68.73**	**332**	P	**P**	**22 19 11.0**	**-0.9**
	1.2nm,0.8s,baz=64,slow=4.4,SNR=5.6						
AKASG	**Malin Array Be**	**73.92**	**322**	P	**P**	**22 19 42.6**	**-0.7**
	0.5nm,0.5s,baz=47,slow=5.8,SNR=4.8						
NB2	**NORSAR Subarra**	**74.25**	**337**	P	**P**	**22 19 45.2**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**74.25**	**337**	P	**P**	**22 19 44.6**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=39,slow=6.0,SNR=4.6						
NVAR	**Mina Array Bea**	**76.63**	**52**	P	**P**	**22 20 00.8**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=301,slow=4.6,SNR=4.9						
PDAR	**Pinedale Array**	**79.25**	**44**	P	**P**	**22 20 15.2**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=79,slow=0.8,SNR=4.5						
TXAR	**Lajitas Array**	**91.76**	**51**	P	**P**	**22 21 16.9**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=297,slow=2.5,SNR=11						

IDC 06 22:12:32.0±2.6**, 4°.18S**×**135°.16E, h0km, mb3.3**/1**, mb1 3.6**/5**, mb1mx3.4**/38**, mbtmp3.4**/5**, ML3.1**/4**, Error ellipse: s-maj=80.8km s-min=26.0km az=78.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.09**	**310**	Pn	Pn	22 13 49.0	-0.6
	0.3nm,0.3s,baz=253,slow=19,SNR=2.9						
SIJI				Sn	Sn	22 14 42.2	-7.1
	0.8nm,0.3s,baz=195,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**15.68**	**183**	Pn	Pn	22 16 12.5	-2.0
	0.0nm,0.3s,baz=3.8,slow=13,SNR=4.1						
FITZ	**Fitzroy Crossi**	**16.67**	**213**	Pn	Pn	22 16 26.6	-0.6
	0.1nm,0.3s,baz=33,slow=12,SNR=4.4						
ASAR	**Alice Springs**	**19.41**	**183**	P	Pn	22 17 00.9	0.0
	0.2nm,0.3s,baz=6.5,slow=11,SNR=10.0						
MKAR	**Makanchi Array**	**68.84**	**324**	P	P	22 23 38.5	+0.1
	0.1nm,0.5s,baz=114,slow=7.8,SNR=2.6						

IDC 06 22:17:11.2±4.2**, 15°.80S**×**177°.86W, h0km, mb3.8**/4**, mb1 4.0**/4**, mb1mx3.7**/34**, mbtmp3.8**/4**, Error ellipse: s-maj=188.9km s-min=31.3km az=137.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.13**	**239**	P	P	22 24 49.1	0.0
	1.5nm,0.7s,baz=87,slow=9.1,SNR=2.7						
WRA	**Warramunga Arr**	**45.56**	**257**	P	P	22 25 33.6	+0.2
	0.2nm,0.4s,baz=84,slow=7.0,SNR=13						
ASAR	**Alice Springs**	**45.90**	**252**	P	P	22 25 35.4	-0.6
	1.7nm,0.4s,baz=85,slow=8.4,SNR=23						
ILAR	**Eielson Array**	**83.72**	**13**	P	P	22 29 41.7	0.0
	0.3nm,0.4s,baz=222,slow=5.3,SNR=8.6						

MAN 06 22:29:39.5, 12°.85N×**121°.25E, h16km, mb3.8, ML2.6, MS2.1, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.41**	**198**	eP	Pg	22 29 47.7	-0.2
SJMP				eS	Sb	22 29 54.7	+0.3
BOAC	**Boac**	**0.84**	**44**	eP	Pb	22 29 55.3	-0.4
BOAC				eS	Sn	22 30 08.8	+0.1
OTRP	**Odiongan**	**0.90**	**123**	eP	Pb	22 29 56.5	-0.3
BUSP	**Coron**	**1.33**	**231**	eP	Pn	22 30 03.4	0.0
BUSP				eS	Sb	22 30 21.1	+0.2

IDC 06 22:45:20.0±44.0**, 15°.35S**×**172°.60W, h0km, mb4.2**/3**, mb1 4.4**/3**, mb1mx3.7**/40**, mbtmp4.2**/3**, Error ellipse: s-maj=863.7km s-min=176.8km az=78.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.73**	**240**	P	P	22 53 35.0	-0.3
	0.8nm,0.2s,baz=108,slow=13,SNR=4.8						
WRA	**Warramunga Arr**	**50.61**	**257**	P	P	22 54 21.0	-0.2
	0.7nm,0.5s,baz=92,slow=7.0,SNR=26						
ASAR	**Alice Springs**	**50.86**	**252**	P	P	22 54 23.2	+0.1
	7.1nm,0.5s,baz=89,slow=8.2,SNR=134						

*BUC **06** 22:53:10.1±0.2, 46°.99N×25°.32E, h1km, MD3.1/6, Error ellipse: s-maj=2.7km s-min=2.4km az=24.0*
*SIGU **06** 22:53:10.4±0.1, 47°.0N±0°.9×2°5E±°, h5km, mb1.8/3*
ISC 06 22:53:10.6±1.0**, 46°.97N**±0°.02×**25°.34E**±0°.02**, h7km**±9km**, n58, σ1.s14**/80**, 24C-22D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOSR	**Joseni**	**0.30**	**155**	⇑iP	**Pg**	**22 53 15.8**	**-0.6**
JOSR	**Joseni**	**0.30**	**155**	⇑iP	**Pg**	**22 53 15.8**	**-0.6**
JOSR				iS	**Sg**	**22 53 20.9**	**+0.5**
BIZ	**Bicaz**	**0.53**	**94**	⇑iP	**Pg**	**22 53 20.7**	**-0.1**
BIZ	**Bicaz**	**0.53**	**94**	⇑iP	**Pg**	**22 53 20.7**	**-0.1**
BIZ				iS	**Sg**	**22 53 27.1**	**-0.6**
BURAR	**Bucovina Array**	**0.65**	**353**	⇓iP	**Pg**	**22 53 22.6**	**-0.5**
BURAR	**Bucovina Array**	**0.65**	**353**	⇓iP	**Pg**	**22 53 22.6**	**-0.5**
BURAR				iS	**Sb**	**22 53 32.6**	**-0.9**
ARCR	**ARCALIA**	**0.68**	**280**	⇑iP	**Pg**	**22 53 23.6**	**-0.1**
ARCR	**ARCALIA**	**0.68**	**280**	⇑iP	**Pg**	**22 53 23.6**	**-0.1**
ARCR				iS	**Sb**	**22 53 33.9**	**-0.5**
PRAR	**RASCA**	**0.72**	**57**	⇑iP	**Pb**	**22 53 25.2**	**-0.3**
PRAR	**RASCA**	**0.72**	**57**	⇑iP	**Pb**	**22 53 25.2**	**-0.3**
DOPR	**Dopca**	**1.01**	**178**	⇓iP	**Pn**	**22 53 30.6**	**-0.5**
DOPR	**Dopca**	**1.01**	**178**	⇓iP	**Pn**	**22 53 30.6**	**-0.5**
DOPR				iS	**Sn**	**22 53 45.2**	**-0.4**
MDB	**Medias**	**1.06**	**219**	⇑iP	**Pn**	**22 53 32.3**	**+0.4**
MDB	**Medias**	**1.06**	**219**	⇑iP	**Pn**	**22 53 32.3**	**+0.4**
MDB				iS	**Sn**	**22 53 46.8**	**-0.1**
CJR	**Cluj-Napoca**	**1.22**	**258**	⇓iP	**Pn**	**22 53 33.6**	**-0.5**
CJR	**Cluj-Napoca**	**1.22**	**258**	⇓iP	**Pn**	**22 53 33.6**	**-0.5**
CJR				iS	**Sn**	**22 53 51.3**	**+0.4**
RAKU	**Rahkiv**	**1.32**	**323**	eP	**Pg**	**22 53 36.5**	**+0.6**
RAKU				Pm		22 53 48.9	
RAKU				eS	**Sg**	**22 53 56.4**	**+3.4**
RAKU				Sm		22 54 12.7	
KSV	**Kosov**	**1.35**	**352**	eS	**Sg**	**22 53 56.8**	**+2.7**
NSLU	**Nyzhne Selyshc**	**1.36**	**334**	⇑iP	Pg	22 53 43.4	+6.7
NSLU				Pm		22 53 44.6	
NSLU				eS	Sg	22 54 07.1	+13
NSLU				Sm		22 54 15.0	
CHRU	**Chernivtsi**	**1.38**	**16**	eS	**Sg**	**22 53 54.4**	**-0.6**
BMR	**Baia Mare**	**1.43**	**300**	⇑iP	**Pg**	**22 53 37.8**	**-0.3**
BMR	**Baia Mare**	**1.43**	**300**	⇑iP	**Pg**	**22 53 37.8**	**-0.3**
BMR				iS	**Sg**	**22 53 58.4**	**+1.7**
PLOR	**Plostina**	**1.45**	**141**	⇑iP	**Pg**	**22 53 39.0**	**+0.7**
PLOR	**Plostina**	**1.45**	**141**	⇑iP	**Pg**	**22 53 39.0**	**+0.7**
VRI	**Vrincioaia**	**1.47**	**139**	⇓iP	**Pg**	**22 53 39.5**	**+0.8**
VRI	**Vrincioaia**	**1.47**	**139**	⇓iP	**Pg**	**22 53 39.5**	**+0.8**
VRI				iS	**Sg**	**22 53 59.6**	**+1.8**
IAS	**Iasi**	**1.54**	**81**	⇓iP	**Pb**	**22 53 39.2**	**-0.2**
IAS	**Iasi**	**1.54**	**81**	⇓iP	**Pb**	**22 53 39.2**	**-0.2**
IAS				iS	**Sg**	**22 54 01.5**	**+1.5**
MLR	**Muntele Rosu**	**1.54**	**164**	⇓iP	**Pg**	**22 53 40.6**	**+0.4**
MLR	**Muntele Rosu**	**1.54**	**164**	⇓iP	**Pg**	**22 53 40.6**	**+0.4**
MLR				iS	**Sg**	**22 54 01.7**	**+1.5**
VOIR		**1.55**	**187**	⇑iP	**Pb**	**22 53 39.1**	**-0.5**
VOIR		**1.55**	**187**	⇑iP	**Pb**	**22 53 39.1**	**-0.5**
VOIR				iS	**Sg**	**22 54 01.6**	**+1.2**
ARR	**Arges**	**1.68**	**197**	⇑iP	**Pb**	**22 53 41.6**	**-0.2**
ARR	**Arges**	**1.68**	**197**	⇑iP	**Pb**	**22 53 41.6**	**-0.2**

ARR				iS	Sg	22 54 05.4	+0.8
MTUR	Matau	1.76	186⇓	iP	Pb	22 53 43.3	+0.1
MTUR	Matau	1.76	186⇓	iP	Pb	22 53 43.3	+0.1
KMPD	K-Podol'skiy	1.76	25	eP	Pb	22 53 42.7	-0.5
KMPD				iS	Sg	22 54 05.7	-1.5
DRGR		1.81	265⇓	iP	Pb	22 53 43.3	-0.8
DRGR		1.81	265⇓	iP	Pb	22 53 43.3	-0.8
DRGR				iS	Sg	22 54 08.0	-0.7
LOT	Lotru	1.87	216	S	Sg	22 54 10.4	-0.4
LOT	Lotru	1.87	216	iS	Sg	22 54 10.4	-0.4
KORU	Korolevo	1.90	309	eS	Sb	22 54 10.3	+0.8
DEV	Deva	2.00	238	S	Sb	22 54 13.6	+1.1
DEV	Deva	2.00	238	iS	Sb	22 54 13.6	+1.1
BRIU	Brid	2.08	312	eP	Pb	22 53 47.8	-0.8
NDNU	Novodnistrovsk	2.12	39⇑	iP	Pb	22 53 47.4	-1.9
NDNU				Pm		22 53 50.6	
NDNU				iS	Sb	22 54 14.2	-1.7
NDNU				Sm		22 54 20.8	
TRPA	Tarpa	2.22	302⇓	iP	Pn	22 53 48.2	+0.5
TRPA	Tarpa	2.22	302⇓	iP	Pn	22 53 48.2	+0.5
HORU	Horodok	2.36	18	eP	Pb	22 53 52.4	-1.0
HORU				eS	Sb	22 54 23.4	+0.8
GZR	Gura Zlata	2.38	229⇑	iP	Pb	22 53 51.8	-2.0
GZR	Gura Zlata	2.38	229⇑	iP	Pb	22 53 51.8	-2.0
GZR				iS	Sb	22 54 23.0	-0.3
MILM	Milestii Mici	2.38	90⇓	iP	Pn	22 53 51.1	+1.1
MILM	Milestii Mici	2.38	90⇓	iP	Pn	22 53 51.1	+1.1
MILM				iS	Sb	22 54 21.4	-1.9
MILM	Milestii Mici	2.38	90	P	Pn	22 53 51.1	+1.1
MILM				S	Sb	22 54 21.4	-1.9
SIRR	Siria	2.63	256⇓	iP	Pn	22 53 55.0	+1.6
SIRR	Siria	2.63	256⇓	iP	Pn	22 53 55.0	+1.6
SIRR				iS	Sb	22 54 28.5	-2.0
BZS	Buzias	2.91	244⇑	iP	Pn	22 53 58.7	+1.4
BZS	Buzias	2.91	244⇑	iP	Pn	22 53 58.7	+1.4
BZS				iS	Sb	22 54 35.7	-2.9

MEX 06 22:53:42.4±0.5, 13.52N×92.55W, h50km±999km, MD3.8, 1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.41	11⇓	eP	Pn	22 54 03.7	-2.0
THIG				eS	Sn	22 54 21.1	-2.0
CCIG	Comitan	2.78	8	eP	Pn	22 54 24.1	-0.5
CCIG				iS	Sn	22 54 55.0	-2.0

*NIED **06** 23:00:00, 37.30N×141.90E, h29km, Mw3.6 Best double couple: $M_0$3.30000×10^{14} NP1:ϕ_s295.00000°, δ12.00000°, λ134.00000°. NP2:ϕ_s70.00000°, δ81.00000°, λ81.00000°.*
*JMA **06** 23:00:23.5±0.2, 37.34N×141.92E, h35km±3km, M3.5*
*IDC **06** 23:00:25.6±2.5, 37.23N×141.95E, h45km±25km, mb3.5/12, mb1 3.7/15, mb1mx3.5/47, mbtmp3.7/15, ML2.9/3, MS2.5/2, Ms1 2.5/2, ms1mx2.3/31, Error ellipse: s-maj=19.8km s-min=13.5km az=75.0*
ISC 06 23:00:21.4±1.9, 37.32N±0.05×142.00E±0.06, h13km±11km, n28, σ1.43/35, mb3.8/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.90	274	P	Pg	23 00 38.9	+0.1
JFK				eS	Sg	23 00 49.9	-0.6
ONAJ	Iwakimizuishiy	0.98	258	P	Pb	23 00 40.4	+0.1
ONAJ				S	Sb	23 00 51.6	-1.5
JIKH	Ishinomakikobu	1.08	337	P	Pb	23 00 41.7	-0.2
JMM	Marumori	1.10	300	P	Pb	23 00 42.1	-0.2
JMM				S	Sb	23 00 53.9	-2.7
JIO	Ouri	1.25	336	P	Pn	23 00 44.3	-0.2
JIO				S	Sb	23 00 59.0	-1.7
JFT	Otama	1.34	279	P	Pn	23 00 46.3	+0.5
JFT				S	Sn	23 01 01.9	-1.5
JHO	Hitachi	1.34	239	P	Pn	23 00 45.3	-0.6
JOU	Okura	1.49	315	P	Pn	23 00 48.5	+0.6
JMK	Ichinoseki	1.74	340	P	Pn	23 00 51.9	+0.5
JYS	Shirataka	1.78	301	P	Pn	23 00 52.9	+1.1
JFY	Yanaizu	1.83	274	eS	Sn	23 01 15.0	-0.6
MJAR	Matsushiro Arr	3.13	257	P	Pn	23 01 12.7	+2.2
	1.6nm,0.3s,baz=85,slow=15,SNR=14						
MJAR				S	Sn	23 01 47.9	+0.1
	3.3nm,0.3s,baz=36,slow=8.3,SNR=5.6						
MAT	Matsushiro	3.13	257	P	Pn	23 01 14.2	+3.7
MAT				eS	Sn	23 01 49.9	+2.1
JHJ	Hachijo jima 2	4.56	204	P	Pn	23 01 30.2	+0.1
	8.7nm,0.3s,baz=53,slow=20,SNR=5.9						
JHJ				S	Sn	23 02 19.9	-3.1
	17nm,0.3s,baz=66,slow=22,SNR=6.0						
JHJ				LR	LR	23 03 15.8	
	comp=Z,58nm,20.4s,baz=170,slow=38						
USRK	Ussuriysk Ar.	10.24	315	P	Pn	23 02 50.5	+2.5
	0.1nm,0.3s,baz=132,slow=16,SNR=2.3						
KSRS	Korea Array	11.20	275	LR	LR	23 07 03.9	
	comp=Z,23nm,20.6s,baz=240,slow=36						
SONM	Songino Array	28.02	303	P	P	23 06 12.9	+0.7
	1.0nm,0.6s,baz=104,slow=9.2,SNR=7.8						
ZALV	Zalesovo Beam	42.07	312	P	P	23 08 11.3	-1.4
	1.1nm,0.6s,baz=90,slow=8.1,SNR=6.0						
MKAR	Makanchi Array	44.36	302	P	P	23 08 30.9	-0.5
	1.3nm,0.7s,baz=87,slow=9.6,SNR=16						
ILAR	Eielson Array	49.01	32	P	P	23 09 07.8	+0.3
	0.6nm,0.6s,baz=265,slow=6.1,SNR=12						
WRA	Warramunga Arr	57.41	189	P	P	23 10 09.2	-0.5
	1.3nm,0.6s,baz=6.6,slow=7.5,SNR=17						
ASAR	Alice Springs	61.13	188	P	P	23 10 35.5	+0.1
	0.4nm,0.7s,baz=12,slow=5.7,SNR=3.5						
YKA	Yellowknife Ar	63.33	30	P	P	23 10 50.2	+0.5
	0.3nm,0.7s,baz=298,slow=6.9,SNR=5.0						
FINES	FINESS Array B	68.78	332	P	P	23 11 25.3	+0.5
	1.6nm,0.7s,baz=49,slow=6.3,SNR=3.3						
NOA	NORSAR Array B	74.10	337	P	P	23 11 55.8	-1.2
	0.7nm,0.7s,baz=40,slow=5.6,SNR=3.7						
PDAR	Pinedale Array	77.14	46	P	P	23 12 15.5	+0.6
	0.1nm,0.5s,baz=336,slow=2.0,SNR=2.7						
GERES	GERESS Array B	82.72	328	P	P	23 12 44.7	-0.2
	0.2nm,0.4s,baz=46,slow=7.0,SNR=2.5						
TXAR	Lajitas Array	89.58	53	P	P	23 13 20.0	+1.0
	0.2nm,0.7s,baz=324,slow=2.5,SNR=2.2						

IDC 06 23:02:19.9±2.9, 16.26S×173.25W, h0km, mb3.5/5, mb1 3.9/5, mb1mx3.6/38, mbtmp3.5/5, Error ellipse: s-maj=170.1km s-min=25.5km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.79	257	P	P	23 11 14.8	-0.1
	0.2nm,0.9s,baz=103,slow=9.3,SNR=3.6						
ASAR	Alice Springs	49.98	253	P	P	23 11 15.2	-1.1
	0.5nm,0.7s,baz=89,slow=7.8,SNR=5.0						
NVAR	Mina Array Bea	74.87	42	P	P	23 14 02.6	-0.3
	0.4nm,0.5s,baz=230,slow=8.1,SNR=3.2						
PDAR	Pinedale Array	82.81	42	P	P	23 14 46.1	-0.3
	0.6nm,0.9s,baz=245,slow=6.4,SNR=3.7						
ILAR	Eielson Array	83.26	11	P	P	23 14 46.9	-1.0
	0.3nm,0.5s,baz=224,slow=6.2,SNR=5.9						
BRTR	Keskin Array B	146.91	320	PKPbc	PKPbc	23 22 05.0	+0.2
	0.8nm,0.8s,baz=66,slow=3.0,SNR=4.6						
GERES	GERESS Array B	147.01	352	PKPbc	PKPbc	23 22 04.5	-0.3
	0.6nm,0.8s,baz=29,slow=2.2,SNR=3.1						
DAVOX	Davos/Dischmat	149.46	356	PKPbc	PKiKP	23 22 12.5	0.0
	0.7nm,0.8s,baz=155,slow=3.2,SNR=3.7						

*IDC **06** 23:17:09.6±3.6, 54.19N×159.63W, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.4/69, mbtmp3.6/8, ML2.8/1, Error ellipse: s-maj=87.9km s-min=24.7km az=160.0*
*NEIC **06** 23:17:17.0±0.0, 54.68N×159.83W, h13km, ML3.4(AEIC), After AEIC.*
ISC 06 23:17:14.2±3.2, 54.61N±0.10×159.68W±0.06, h16km±18km, n32, σ1.48/37, mb3.6/7, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	Sand Point	0.87	329	P	Pn	23 17 31.7	0.0
SDPT				S	Sg	23 17 43.0	+0.4
DOL	Dolgoi Island	1.37	294	P	Pb	23 17 39.6	+0.2
DOL				S	Sb	23 17 56.0	-0.7
PVV	Pavlof Volcano	1.44	303	P	Pb	23 17 40.7	+0.2
PS4A	Pavlof South-4	1.46	301	P	Pb	23 17 41.0	+0.1
HAG	Hague Volcano	1.47	300	P	Pb	23 17 41.4	+0.4
DRIA	Deer Island	1.54	285	P	Pb	23 17 41.8	-0.4
DT1	Dutton Round H	1.58	289	P	Pb	23 17 42.4	-0.6
DT1				S	Sb	23 18 02.1	-0.7
VNSS	Veniaminof 8	1.63	4	P	Pb	23 17 44.4	+0.5
VNHG	Veniaminof 1	1.64	10	P	Pb	23 17 44.2	+0.1
CHGN	Chignik	1.84	23	P	Pb	23 17 47.5	+0.1
CHGN				S	Sb	23 18 10.0	-0.2
FALS	False Pass	2.18	278	P	Pn	23 17 51.0	+1.3
FALS				S	Sb	23 18 19.9	+0.1
ANPB	Aniakchak Plen	2.34	19	P	Pb	23 17 54.6	-1.3
ANPK	Aniakchak Peak	2.41	21	P	Pb	23 17 55.9	-1.2
ANNE	Aniakchak Nort	2.48	21	P	Pn	23 17 56.6	+2.6
ANNW	Aniakchak Nort	2.50	19	P	Pb	23 17 57.4	-1.3
SSLN	Shishaldin Nor	2.51	276	P	Pb	23 17 56.8	-2.0
SSBA	Shishaldin	2.58	275	P	Pn	23 17 57.4	+2.1
WESE	West Dahl East	2.86	269	P	Pb	23 18 02.2	-2.6
AKSA	Akutan Strait	3.55	265	P	Pn	23 18 11.4	+2.9
AKLV	Akutan Long Va	3.70	266	P	Pn	23 18 13.1	+2.6
UNV	Unalaska Valle	4.08	262	P	Pn	23 18 17.9	+2.2
MTBL	Makushin Table	4.15	264	P	Pn	23 18 19.5	+2.7
MSW	Makushin Switc	4.22	263	P	Pn	23 18 19.9	+2.2
MREP	Makushin Rep't	4.22	262	P	Pn	23 18 20.2	+2.3
ILAR	Eielson Array	12.04	27	Pn	Pn	23 20 03.0	-1.8
	0.1nm,0.3s,baz=223,slow=13,SNR=3.4						
YKA	Yellowknife Ar	24.34	53	P	P	23 22 31.4	+0.6
	0.3nm,0.7s,baz=268,slow=8.4,SNR=6.1						
PETK	Petropavlovsk-	24.90	284	P	P	23 22 36.5	+0.6
	2.5nm,0.4s,baz=88,slow=12,SNR=19						
SONM	Songino Array	54.95	305	P	P	23 26 44.1	0.0
	0.4nm,0.6s,baz=41,slow=5.9,SNR=3.4						
ARCES	ARCESS Array B	56.11	358	P	P	23 26 51.5	-0.4
	2.1nm,0.8s,baz=23,slow=4.9,SNR=3.0						
KURBB	Kurchatov Arra	64.42	323	P	P	23 27 49.0	0.0
	0.1nm,0.3s,baz=34,slow=6.7,SNR=2.7						
MKAR	Makanchi Array	66.22	318	P	P	23 28 00.9	+0.1
	0.3nm,0.7s,baz=49,slow=4.4,SNR=3.3						
AKASG	Malin Array Be	74.80	354	P	P	23 28 52.4	-0.7
	0.3nm,0.3s,baz=13,slow=6.1,SNR=2.9						

*JMA **06** 23:17:22.6±0.2, 35.45N×142.27E, h60km±5km, M3.0*
*ISCJB **06** 23:17:23.5±2.2, 35.42N±0.05×142.19E±0.07, h31km±17km, mb3.4/6, Error ellipse: s-maj=9.7km s-min=7.9km az=1.8*
*IDC **06** 23:17:41.4±3.3, 34.33N×138.96E, h76km±31km, mb3.1/7, mb1 3.2/8, mb1mx3.0/54, mbtmp3.3/8, Error ellipse: s-maj=32.2km s-min=19.3km az=71.0*
ISC 06 23:17:23.4±3.9, 35.43N±0.06×142.14E±0.10, h15km±24km, n18, σ0.83/24, mb3.5/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	1.08	285	P	Pb	23 17 43.5	-0.3
CHOJ				eS	Sn	23 17 58.4	-0.3
BSO1	Boso 1	1.23	231	P	Pn	23 17 45.2	-0.4
BSO1				eS	Sb	23 18 01.9	+0.5
BSO3	Boso 3	1.47	245	P	Pn	23 17 49.4	+0.2
JHYU	Hitachinakayam	1.55	306	P	Pn	23 17 49.8	-0.8
JHYU				eS	Sn	23 18 09.5	-1.0
JAG	Ashikaga	2.39	295	P	Pn	23 18 01.4	-0.7
JOD2	Odawara 2	2.50	267	P	Pn	23 18 03.1	-0.5
JOD2				eS	Sn	23 18 33.4	-0.4
JFT	Otama	2.54	326	P	Pn	23 18 04.3	+0.1
JFT				S	Sn	23 18 34.3	-0.6
JRY	Ryogami san	2.70	283	P	Pn	23 18 06.7	+0.4
JFNN	Fujinakano	2.83	266	S	Sn	23 18 42.9	+0.8
JYN	Shimob	2.93	272	P	Pn	23 18 09.5	-0.1
JYN				eS	Sn	23 18 45.0	+0.3
JHJ2	Mitsune	3.01	220	S	Sn	23 18 44.6	-1.7
MJAR	Matsushiro Arr	3.37	290	P	Pn	23 18 17.0	+1.4
	1.1nm,0.3s,baz=171,slow=14,SNR=12						
SONM	Songino Array	29.18	306	P	P	23 23 24.7	+0.4
	0.2nm,0.4s,baz=90,slow=10,SNR=2.7						
ZALV	Zalesovo Beam	43.44	314	P	P	23 25 26.5	+0.9
	0.4nm,0.5s,baz=106,slow=9.0,SNR=2.1						
MKAR	Makanchi Array	45.48	304	P	P	23 25 41.4	-0.6
	0.1nm,0.7s,baz=86,slow=11,SNR=2.5						
KURBB	Kurchatov Arra	47.46	309	P	P	23 25 56.2	-1.2
	0.7nm,0.7s,baz=83,slow=7.6,SNR=7.4						
WRA	Warramunga Arr	55.56	189	P	P	23 26 58.2	-0.1
	0.8nm,1.1s,baz=8.1,slow=7.5,SNR=3.0						
ASAR	Alice Springs	59.29	189	P	P	23 27 25.9	+1.2
	0.2nm,0.4s,baz=12,slow=7.7,SNR=2.8						

DDA 06 23:21:14.1, 35.89N×31.34E, h20km±2km, MD3.1, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KORT	Korkueli	1.37	325	iP	Pb	23 21 40.1	+1.0
KORT				iS	Sb	23 22 01.2	+5.0
AKAS	Kas	1.44	284	iP	Pb	23 21 42.9	+2.5
ERMK	Ermenek	1.48	59	iP	Pb	23 21 42.5	+1.5
ERMK				iS	Sb	23 22 02.4	+2.9
LEF	Lefka	1.48	121	iS	Sb	23 22 01.0	+1.7
GULN	MERSIN_Gulnar	1.81	80	iP	Pb	23 21 47.2	+0.6
GULN				iS	Sb	23 22 08.6	-0.3
GOLH	Golhisar	1.96	314	iP	Pb	23 21 49.8	+0.6
GOLH				iS	Sb	23 22 13.8	+0.5
FETY	Fethiye	1.97	293	iP	Pb	23 21 48.2	-1.1
FETY				iS	Sn	23 22 11.0	+0.6
KMER	Konya-Meram	2.05	23	iP	Pb	23 21 51.1	+0.3
KMER				iS	Sb	23 22 14.8	-1.1
BAGO	Egridir - ISPA	2.15	348	iP	Pb	23 21 52.7	+0.4
BAGO				iS	Sb	23 22 17.2	-1.3
KONT	Konya--Tatoy	2.21	21	iP	Pb	23 21 53.1	-0.4
KONT				iS	Sb	23 22 19.0	-1.5
DOGA	KONYA_Doganhis	2.23	7	iP	Pb	23 21 53.3	-0.5
DOGA				iS	Sn	23 22 18.6	+1.4
TAVA	DENIZLI_Tavas	2.51	310	iP	Pb	23 21 56.3	-2.2
TAVA				iS	Sn	23 22 25.2	+1.4
KERG	Konya-Eregli	2.71	55	iP	Pb	23 22 00.9	-1.2
KERG				iS	Sb	23 22 33.0	-1.9

*TIR **06** 23:22:26.4, 40.14N×22.07E, h1km, Md3.9/8*
*MOS **06** 23:22:30.3±1.1, 40.13N×21.78E, h11km, mb4.2/10, Error ellipse: s-maj=4.8km s-min=3.1km az=86.9*
*ISCJB **06** 23:22:30.7±0.3, 40.152N±0.010×21.80E±0.01, h10km±2km, mb4.1/36, MS2.9/1, Error ellipse: s-maj=1.9km s-min=1.4km az=142.2*
*ATH **06** 23:22:30.5, 40.13N×21.80E, h18km±1km, ML3.9/17, Error ellipse: s-maj=1.1km s-min=0.7km az=1.0*
*THE **06** 23:22:30.9, 40.11N×21.78E, h8km±7km, ML3.8/12, Error ellipse: s-maj=7.4km s-min=0.7km az=355.0*
*PDG **06** 23:22:30.9±0.5, 40.11N×21.82E, h12km, ML3.9/9, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
*NEIC **06** 23:22:30.9±0.0, 40.11N×21.78E, h8km, mb4.3/8, MW3.9, ML3.8(THE), Moment Tensor Solution. s16 Moment tensor: Scale 10^{14}Nm; M_{rr}-7.84; $M_{\theta\theta}$6.33; $M_{\phi\phi}$1.51; $M_{r\theta}$-1.36; $M_{\theta\phi}$-1.48; $M_{\phi r}$3.03; Best double couple: $M_0$8.10000×10^{14} NP1:ϕ_s274.00000°, δ38.00000°, λ-112.00000°. NP2:ϕ_s121.00000°, δ55.00000°, λ-73.00000°. Principal axes: T 7.0700, Plg9.0000°, Azm200.0000°; N 1.7100, Plg14.0000°, Azm292.0000°; P -8.7900, Plg74.0000°, Azm78.0000°; After THE.*
NEIC Felt at Kozani.
*BEO **06** 23:22:31.8±0.5, 40.17N×21.87E, h0km, ML4.1/2*
*PRU **06** 23:22:33.4±0.0, 40.12N×21.88E, h0km, M3.9*
*IDC **06** 23:22:35.2±1.2, 40.12N×21.82E, h44km±12km, mb3.8/20, mb1 3.9/30, mb1mx3.7/54, mbtmp3.9/30, ML3.8/10, MS2.9/5, Ms1 2.9/5, ms1mx2.6/36, Error ellipse: s-maj=11.0km s-min=9.8km az=68.0*
ISC 06 23:22:31.2±0.9, 40.12N±0.01×21.82E±0.01, h9km±5km, n434, σ1.39/521, mb4.2/36, 31C-16D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	Kozani	0.19	349	P	Pg	23 22 34.7	-0.6
KZN				AML	AML	23 22 38.7	
	comp=N,86457µm,0.3s						
KZN				S	Sg	23 22 38.7	+0.8
KZN				AML	AML	23 22 39.0	
KZN	Kozani	0.19	349	P	Pg	23 22 34.6	-0.6
KZN				S	Sg	23 22 38.2	+0.3
KZN	Kozani	0.19	349	P	Pg	23 22 34.6	-0.6
KZN				S	Sg	23 22 38.2	+0.3
LIT	Litokhoron	0.52	92	ePg	Pg	23 22 40.9	-0.4
LIT				eSg	Sb	23 22 49.2	-1.0
LIT	Litokhoron	0.52	92	P	Pg	23 22 40.8	-0.5
LIT				S	Sb	23 22 49.1	-1.1
LIT				AML	AML	23 22 53.0	
	comp=N,24569µm,0.6s						
LIT				AML	AML	23 22 54.2	
	comp=E,25964µm,0.7s						
LIT	Litokhoron	0.52	92	P	Pg	23 22 40.7	-0.5
LIT				S	Sb	23 22 50.2	+0.1
LIT	Litokhoron	0.52	92	eP	Pg	23 22 40.9	-0.4
LIT				e		23 22 49.2	
PENT	Pentalofos	0.53	278	P	Pg	23 22 40.1	-1.3
PENT				S	Sg	23 22 47.8	-0.6
PENT				AML	AML	23 22 50.3	
	comp=E,25658µm,0.4s						
PENT				AML	AML	23 22 52.2	
	comp=N,30072µm,0.5s						
PENT	Pentalofos	0.53	278	P	Pg	23 22 40.0	-1.5
PENT				S	Sg	23 22 48.5	+0.1
MEV	Metsovon	0.56	234	P	Pg	23 22 40.6	-1.6
THL	Klokotos Trika	0.58	165	P	Pg	23 22 41.3	-1.1
THL				S	Sg	23 22 50.0	+0.1
THL				AML	AML	23 22 53.2	
	comp=E,18781µm,0.4s						
THL				AML	AML	23 22 53.3	
	comp=N,26035µm,0.6s						
THL	Klokotos Trika	0.58	165	P	Pg	23 22 41.2	-1.2
THL				S	Sg	23 22 49.4	-0.6
LRSO	Larissa Observ	0.63	135	P	Pg	23 22 43.3	-0.2
LRSO				S	Sb	23 22 52.9	-0.5
LRSO				AML	AML	23 22 59.5	
	comp=E,27978µm,0.5s						
LRSO				AML	AML	23 23 00.1	
	comp=N,42101µm,0.6s						
LRSO	Larissa Observ	0.63	135	P	Pg	23 22 43.5	+0.1
LRSO				S	Sb	23 22 53.9	+0.5
NEST	Nestorio	0.66	297	P	Pg	23 22 42.6	-1.3
NEST				S	Sg	23 22 52.4	-0.2
NEST				AML	AML	23 22 59.2	
	comp=E,24961µm,0.4s						
NEST				AML	AML	23 23 00.2	
	comp=N,29056µm,0.5s						
NEST	Nestorio	0.66	297	P	Pg	23 22 42.5	-1.5
NEST				S	Sg	23 22 53.2	+0.6
FNA	Florina	0.74	333	ePg	Pg	23 22 44.5	-1.0
FNA				eSg	Sg	23 22 54.4	-0.8
FNA	Florina	0.74	333	PG	Pg	23 22 43.8	-1.8
FNA				SG	Sg	23 22 54.9	-0.3
FNA	Florina	0.74	333	ePg	Pg	23 22 44.3	-1.3
FNA	Florina	0.74	333	P	Pg	23 22 44.6	-1.0
FNA				S	Sg	23 22 54.6	-0.7
FNA				AML	AML	23 22 57.8	
	comp=N,32640µm,0.6s						
FNA				AML	AML	23 22 59.4	
	comp=E,39692µm,0.3s						
FNA	Florina	0.74	333	P	Pg	23 22 44.3	-1.3
FNA				S	Sg	23 22 54.9	-0.3
FNA	Florina	0.74	333	eP	Pg	23 22 44.3	-1.3
JAN	Janina	0.88	238	P	Pg	23 22 47.0	-1.2
JAN				S	Sb	23 23 00.2	-0.4
JAN	Janina	0.88	238	P	Pg	23 22 46.1	-2.0
JAN				S	Sg	23 22 58.9	-0.6
JAN	Janina	0.88	238	P	Pg	23 22 46.1	-2.0
JAN				S	Sg	23 22 58.9	-0.6
KBN	Korca	0.93	303	P	Pg	23 22 47.4	-1.8
KBN				S	Sb	23 23 02.0	-0.2
KBN	Korca	0.93	303	P	Pg	23 22 47.4	-1.8
KBN				S	Sb	23 23 02.0	-0.2
KBN	Korca	0.93	303	iPN	Pg	23 22 48.0	-1.2
KBN				iSN	Sn	23 23 04.5	+0.3
GRG	Griva	0.94	28	PG	Pg	23 22 46.9	-2.5
GRG				SG	Sg	23 23 01.5	-0.2
GRG	Griva	0.94	28	P	Pg	23 22 48.8	-0.6
GRG				S	Sb	23 23 02.3	-0.2
GRG				AML	AML	23 23 07.3	
	comp=N,11838µm,0.5s						
GRG				AML	AML	23 23 10.6	
	comp=E,9106µm,0.5s						
GRG	Griva	0.94	28	P	Pg	23 22 48.7	-0.7
GRG				S	Sn	23 23 03.7	-0.7
GRG	Griva	0.94	28	P	Pg	23 22 48.7	-0.7
GRG				S	Sn	23 23 03.7	-0.7
BIA	Bitola	0.97	337	P	Pg	23 22 49.3	-0.6
BIA				S	Sn	23 23 04.5	-0.6
THE	Thessaloniki	1.01	59	P	Pg	23 22 50.5	-0.2
THE	Thessaloniki	1.01	59	P	Pg	23 22 50.7	0.0
THE				S	Sn	23 23 05.2	-0.8
THE	Thessaloniki	1.01	59	P	Pg	23 22 50.7	0.0
THE				S	Sn	23 23 05.2	-0.8
HORT	Hortiatis	1.09	64	PG	Pg	23 22 50.3	-1.9
HORT	Hortiatis	1.09	64	P	Pg	23 22 51.7	-0.4
HORT	Hortiatis	1.09	64	P	Pg	23 22 51.8	-0.4
HORT				S	Sn	23 23 08.3	+0.3
FYTO	Fytoko, Volos	1.12	129	P	Pg	23 22 52.5	-0.3
FYTO				S	Sn	23 23 08.7	+0.1
FYTO				AML	AML	23 23 12.8	
	comp=E,2656µm,0.4s						
FYTO				AML	AML	23 23 14.5	
	comp=N,3324µm,0.5s						
MAKR	Makrakomi, Fth	1.13	168	P	Pg	23 22 52.3	-0.7
MAKR	Makrakomi, Fth	1.13	168	P	Pg	23 22 51.9	-1.1
MAKR				S	Sn	23 23 09.4	+0.3
AGG	Agios Georgios	1.17	160	PG	Pb	23 22 51.3	-2.3
AGG	Agios Georgios	1.17	160	ePn	Pb	23 22 53.0	-0.6
AGG				eSn	Sn	23 23 12.3	+2.4
AGG	Agios Georgios	1.17	160	P	Pb	23 22 53.2	-0.5
AGG				S	Sn	23 23 09.7	-0.2
AGG				AML	AML	23 23 13.2	
	comp=E,15192µm,0.5s						
AGG				AML	AML	23 23 17.0	
	comp=N,14494µm,0.6s						
AGG	Agios Georgios	1.17	160	eP	Pb	23 22 53.0	-0.6
AGG				e		23 23 12.3	
EVR	Evrytania	1.20	180	P	Pb	23 22 52.6	-1.6
EVR				S	Sn	23 23 10.5	-0.3
EVR				AML	AML	23 23 13.9	
	comp=N,16476µm,0.5s						
EVR				AML	AML	23 23 14.0	
	comp=E,9875µm,0.6s						
OHR	Ohrid	1.26	322	P	Pn	23 22 53.6	-1.5
PLG	Polygyros	1.27	78	P	Pn	23 22 55.0	-0.3
PLG				S	Sn	23 23 13.1	+0.6
PLG				AML	AML	23 23 15.6	
	comp=E,1701µm,0.5s						
PLG				AML	AML	23 23 16.1	
	comp=N,3176µm,1.0s						
PLG	Polygyros	1.27	78	P	Pn	23 22 54.7	-0.6
IGT	Igoumenitsa	1.29	243	ePg	Pn	23 22 55.0	-0.4
IGT				eSg	Sn	23 23 14.9	+2.1
IGT	Igoumenitsa	1.29	243	P	Pn	23 22 54.5	-0.9
IGT	Igoumenitsa	1.29	243	P	Pn	23 22 55.0	-0.4
XOR	Xorichti	1.30	125	P	Pn	23 22 55.5	-0.1
KNT	Kendrikon	1.32	38	PG	Pn	23 22 54.5	-1.5
KNT	Kendrikon	1.32	38	P	Pn	23 22 55.8	-0.2
KNT	Kendrikon	1.32	38	P	Pn	23 22 55.9	-0.1
VAY	Valandovo	1.33	25	ePn	Pg	23 22 56.9	+0.2
VAY				eSn	Sg	23 23 14.7	+0.8
NEO	Neokhori	1.36	126	P	Pb	23 22 56.6	-0.3
NEO				S	Sg	23 23 15.7	+0.8
NEO				AML	AML	23 23 17.9	
	comp=E,9516µm,0.7s						
NEO				AML	AML	23 23 25.9	
	comp=N,8314µm,0.5s						
SOH	Sokhos	1.36	59	P	Pn	23 22 56.6	+0.1
SOH	Sokhos	1.36	59	P	Pn	23 22 56.4	-0.1
TPE	Tepelena	1.40	278	iPN	Pb	23 22 57.4	-0.1
TPE				iSN	Sg	23 23 21.8	+5.7
SRN	Sarande	1.42	261	iPN	Pb	23 22 57.5	-0.3
SRN				iSN	Sg	23 23 21.6	+4.8
PAIG	Paliouri	1.44	97	P	Pn	23 22 57.3	-0.2
KASA	Kassiopi	1.50	256	P	Pb	23 22 58.8	-0.4
KASA				AML	AML	23 23 23.3	
	comp=N,7231µm,0.5s						
KASA				AML	AML	23 23 25.5	
	comp=E,6545µm,0.4s						
AXAR	Agios Charalam	1.50	154	P	Pg	23 23 00.7	+0.6
PVO	Paravola	1.52	189	P	Pn	23 22 58.4	-0.2
PVO				AML	AML	23 23 28.8	
	comp=E,9290µm,0.6s						
PVO				AML	AML	23 23 29.0	
	comp=N,6777µm,0.5s						
TSLK	Tsoukalades, L	1.58	215	P	Pb	23 23 00.1	-0.5
SKIA	Skiathos	1.59	126	P	Pn	23 22 59.5	-0.2

KEK Kerkira 1.61 256 P Pb 23 23 00.5 -0.6
KEK AML AML 23 23 31.6
comp=N,3176µm,0.5s
KEK AML AML 23 23 37.5
comp=E,4042µm,0.6s
LKD2 Lefkada island 1.61 214 P Pn 23 23 00.2 +0.4
SMIA Simia 1.64 139 P Pn 23 23 00.7 +0.4
OUR Ouranopolis 1.67 82 ePG Pn 23 22 59.7 -1.0
OUR Ouranopolis 1.67 82 P Pg 23 23 02.9 -0.4
OUR Ouranopolis 1.67 82 P Pg 23 23 03.2 -0.1
SRS Serrai 1.68 53 ePn Pn 23 23 01.0 +0.2
SRS Serrai 1.68 53 P Pn 23 23 01.1 +0.2
SRS Serrai 1.68 53 P Pn 23 23 00.7 -0.1
EFP Efpalio 1.69 178 P Pn 23 23 01.5 +0.5
EFP AML AML 23 23 31.1
comp=E,7311µm,0.7s
EFP AML AML 23 23 31.2
comp=N,9624µm,0.8s
ATAL Atalanti 1.71 146 P Pn 23 23 01.3 +0.1
KALE Kalithea 1.75 172 P Pn 23 23 01.9 +0.1
EVGI Lefkada island 1.75 211 P Pn 23 23 02.6 +0.8
TRIZ Trizonia 1.77 173 P Pn 23 23 02.3 +0.3
VLO Vlora 1.81 282 i PN Pg 23 23 06.1 +0.1
VLO i SN Sg 23 23 34.3 +4.9
AOS Alonnisos 1.85 120 ePG Pn 23 23 00.8 -2.4
AOS Alonnisos 1.85 120 P Pn 23 23 02.8 -0.4
SKO Skopje 1.87 351 ePn Pb 23 23 04.7 -0.9
SKO Skopje 1.87 351 P Pn 23 23 04.2 +0.7
PHP Peshkopia 1.88 327 P Pn 23 23 04.4 +0.8
PHP Peshkopia 1.88 327 i PN Pn 23 23 04.4 +0.8
PHP i SN Sg 23 23 32.7 +1.1
LAKA Lakka 1.88 176 P Pn 23 23 04.3 +0.7
TIR Tirane 1.92 310 ePn Pn 23 23 04.9 +0.7
TIR Tirane 1.92 310 ⇑iP Pb 23 23 05.8 -0.7
TIR Tirane 1.92 310 S Sn 23 23 28.8 +0.3
TIR Tirane 1.92 310 P Pn 23 23 04.9 +0.7
TIR S Sn 23 23 28.8 +0.3
TIR Tirane 1.92 310 i PN Pb 23 23 06.2 -0.3
TIR i SN Sg 23 23 35.5 +2.4
MRKA Markates 1.97 135 P Pn 23 23 04.9 +0.1
NVR Nevrokopi 1.98 51 P Pn 23 23 05.5 +0.5
KKB Krupnik 1.99 28 eP Pn 23 23 06.0 +0.9
PROD Prodromos 2.04 155 P Pn 23 23 06.0 +0.2
MMB Musomiste 2.06 44 eP Pn 23 23 06.3 +0.2
RLS Riolos of Patr 2.08 188 P Pb 23 23 08.8 -0.4
KLV Kalavryta, Ach 2.09 173 P Pn 23 23 06.9 +0.4
KVLA Kavala 2.12 67 P Pn 23 23 07.0 +0.1
VLS Valsamata 2.16 207 P Pn 23 23 08.1 +0.6
DRO Drossia 2.17 182 P Pb 23 23 09.8 -0.9
VIL2 Platees 2.22 149 P Pn 23 23 09.6 +1.4
VTN Vitineika 2.26 193 P Pb 23 23 11.2 -1.0
THAS Thassos island 2.27 77 P Pn 23 23 08.4 -0.5
LOUT Loutraki 2.31 157 P Pn 23 23 09.9 +0.3
EREA Eretria 2.36 135 P Pn 23 23 11.0 +0.8
PUK Puka 2.41 323 i PN Pb 23 23 13.1 -1.7
PUK i SN Sg 23 23 47.6 -1.0
SKY Skiros Island 2.45 120 P Pn 23 23 12.0 +0.5
SCTE Santa Cesarea 2.57 270 P Pn 23 23 14.0 +1.0
AMT Artemida-Makis 2.59 182 P Pb 23 23 16.1 -1.8
LIA Limnos Island 2.59 94 P Pn 23 23 13.6 +0.2
BCI Bajram Curri 2.60 330 i PN Pn 23 23 11.9 +1.5
ATH Athens Observa 2.61 145 P Pn 23 23 14.4 +0.8
ATH S Sn 23 23 46.3 +1.0
PTL Penteli 2.61 142 P Pn 23 23 14.1 +0.5
TRIP Tripoli 2.62 172 P Pn 23 23 14.3 +0.6
ATHU Athens Univers 2.64 144 P Pn 23 23 14.4 +0.3
ULC Ulcinj 2.68 314 ⇓iPn Pn 23 23 15.4 +0.8
ULC eSn Sn 23 23 49.4 +2.2
VTS Vitosha 2.68 23 ePn Pn 23 23 15.9 +1.2
VTS Vitosha 2.68 23 ePn Pn 23 23 15.8 +1.2
VTS Vitosha 2.68 23 ⇑iP Pn 23 23 16.0 +1.2
VTS Vitosha 2.68 23 eP Pn 23 23 15.8 +1.1
VTS Vitosha 2.68 23 eP Pn 23 23 16.0 +1.2
BARS Barje 2.69 360 ePn Pn 23 23 15.5 +0.7
RZN Rozhen 2.70 54 eP Pn 23 23 15.9 +0.9
VLY Voula,Athens 2.74 145 P Pn 23 23 15.9 +0.5
VLX Vlachokerasia 2.78 171 P Pn 23 23 16.7 +0.6
DID Didima 2.84 157 P Pn 23 23 16.9 +0.1
PVY Plav 2.84 331 ⇓iPn Pn 23 23 17.6 +0.7
PVY eSn Sn 23 23 53.5 +2.2
SMTH Samothraki Isl 2.86 82 P Pn 23 23 16.9 -0.1
DRME Dracevica, Mon 2.87 317 ⇑iPn Pn 23 23 18.6 +1.5
DRME eSn Sn 23 23 53.5 +1.8
DRME Dracevica, Mon 2.87 317 ePn Pn 23 23 18.3 +1.2
ITM Ithomi 2.94 178 ePG Pn 23 23 17.3 -0.9
ITM Ithomi 2.94 178 ePn Pb 23 23 21.4 -2.4
ITM Ithomi 2.94 178 P Pn 23 23 20.5 +2.4
PLD Plovdiv 2.94 47 ePG Pn 23 23 17.9 -0.3
PLD Plovdiv 2.94 47 P Pn 23 23 20.7 +2.5
PLD S Sn 23 23 56.1 +2.4
PLD Plovdiv 2.94 47 eP Pb 23 23 23.8 -0.1
PDG Podgorica 3.01 321 ⇓iPn Pn 23 23 20.0 +0.9
PDG Podgorica 3.01 321 S Sn 23 23 56.1 +0.9
PDG Podgorica 3.01 321 ePn Pn 23 23 21.1 +2.0
TTG Podgorica 3.01 321 ⇓iPn Pn 23 23 19.9 +0.9
TTG eSn Sn 23 23 57.3 +2.1
TTG Podgorica 3.01 321 ePn Pn 23 23 21.2 +2.1
TTG Podgorica 3.01 321 P Pn 23 23 21.2 +2.1
RDO Rodhopi 3.01 69 ePG Pn 23 23 18.6 -0.5
RDO Rodhopi 3.01 69 P Pn 23 23 19.1 0.0
BUM Brajici-Budva 3.10 316 ⇓iPn Pn 23 23 20.2 -0.2
BUM eSn Sn 23 23 59.1 +1.5
IVA Berane 3.10 333 ⇓iPn Pn 23 23 21.6 +1.1
IVA eSn Sn 23 23 59.7 +1.9
KDZ Kurdzhali 3.13 60 ePG Pn 23 23 19.7 -1.0
KDZ Kurdzhali 3.13 60 P Pn 23 23 19.6 -1.1
KDZ Kurdzhali 3.13 60 eP Pb 23 23 27.1 +0.1
GADA Gvkgeada 3.13 87 ePG Pn 23 23 20.3 -0.4
SELS Selova 3.14 351 ePn Pn 23 23 21.2 +0.3
ZAPS Zavoj 3.21 11 ePn Pn 23 23 23.5 +1.6
PYL PYLOS 3.22 181 P Pn 23 23 23.7 +1.7
KOME Kolasin 3.23 328 ⇓iPn Pn 23 23 23.2 +1.0
KOME eSn Sn 23 23 02.6 +1.8
SIGR SIGRI 3.25 105 ePG Pn 23 23 21.9 -0.4
SIGR SIGRI 3.25 105 P Pn 23 23 22.8 +0.5
CEME Cevo 3.26 319 ⇑iPn Pn 23 23 24.0 +1.4
CEME eSn Sn 23 24 03.2 +1.6
BOZC Bozcaada 3.27 94 ePG Pn 23 23 22.0 -0.6
ALN Alexandroupoli 3.31 75 ePG Pn 23 23 22.1 -1.2
ALN Alexandroupoli 3.31 75 ePn Pn 23 23 23.8 +0.5
ALN Alexandroupoli 3.31 75 P Pn 23 23 23.4 +0.1
ALN Alexandroupoli 3.31 75 eP Pn 23 23 23.8 +0.5
CGL1 Ceglie Messapi 3.36 281 ePn Pn 23 23 25.8 +1.9
ENEZ Enez 3.37 78 ePG Pn 23 23 23.7 -0.3
DYR Agios Nikonas 3.38 173 P Pn 23 23 26.2 +2.0
NKME Niksic 3.41 322 ⇓iPn Pn 23 23 25.5 +0.8
NKME eSn Sn 23 24 06.3 +1.1
HCY Herceg Novi 3.42 314 ⇓iPn Pn 23 23 25.4 +0.7
HCY eSn Sn 23 24 06.9 +1.6
HCY Herceg Novi 3.42 314 ePn Pn 23 23 26.1 +1.4
SJES Sjenica 3.43 337 ePn Pn 23 23 26.5 +1.5
FASA Fasano 3.48 283 ePn Pn 23 23 26.1 +0.6
EZN Ezine 3.48 93 ePG Pn 23 23 25.4 -0.1
EZN Ezine 3.48 93 ⇓iP Pn 23 23 26.7 +1.2
EZN Ezine 3.48 93 P Pn 23 23 25.3 -0.2
TAR1 Taranto 3.49 278 ePn Pn 23 23 26.2 +0.5
BOVS Bovan 3.51 359 ePn Pn 23 23 26.5 +0.5
VLI Veliai 3.51 165 P Pn 23 23 25.8 -0.2
PRK Paraskevi 3.55 103 P Pn 23 23 27.4 +1.0
GELI Tayfur-Gelibol 3.57 84 ePG Pn 23 23 25.8 -1.1
MASS Massafra 3.61 280 ePn Pn 23 23 28.2 +0.9
ERIK Erikli-Kesan 3.63 80 ePG Pn 23 23 27.5 -0.1
IVAS Ivanjica 3.67 341 ePn Pn 23 23 28.4 +0.2
TREB Trebinje 3.68 316 ePn Pn 23 23 29.5 +1.2
PLE Pljevlja 3.68 331 ⇑iPn Pn 23 23 29.9 +1.4
PLE eSn Sn 23 24 13.4 +1.3
PLE P Pn 23 23 31.0 +2.5
NOCI Noci 3.69 282 P Pn 23 23 26.0 -0.1
ZAGS Zajecar 3.70 5 ePn Pn 23 23 29.5 +0.9
BRY Bratogost 3.71 320 ⇑iPn Pn 23 23 29.9 +1.0
BRY eSn Sn 23 24 14.0 +1.2
CHOS Chios island 3.72 116 ePG Pn 23 23 28.2 -0.7
CHOS Chios island 3.72 116 P Pn 23 23 29.8 +0.8
UPM Unac-Piva 3.77 326 ⇑iPn Pn 23 23 30.9 +1.1
UPM eSn Sn 23 24 15.9 +1.5
UPM Unac-Piva 3.77 326 ePn Pn 23 23 33.1 +3.3
LPK Lapseki 3.79 85 ePG Pn 23 23 29.7 -0.1
GRUS Gruza 3.85 348 ePn Pn 23 23 31.5 +0.8
BAI Bari 3.89 286 ePn Pn 23 23 30.9 -0.2
BAI Sn Sn 23 24 15.9 -1.0

SG1 Sgolgore (BA) 3.98 282 ePn Pn 23 23 33.0 +0.5
SG1 Sn Sn 23 24 18.8 -0.6
TIP Timpagrande 4.02 258 ePn Pn 23 23 33.5 +0.5
TIP Timpagrande 4.02 258 ⇑iP Pn 23 23 33.4 +0.4
TIP Timpagrande 4.02 258 S Sn 23 24 21.7 +1.4
DKL Dikili 4.07 103 ePG Pn 23 23 33.3 -0.3
EDRB Edirne 4.11 64 ePG Pn 23 23 34.3 +0.1
STON Ston 4.14 313 ePn Pn 23 23 35.1 +0.5
STON Sn Sn 23 24 23.4 +0.4
BBLS Lazići 4.15 335 ePn Pn 23 23 36.2 +1.3
BBLS Lazići 4.15 335 ePn Pn 23 23 35.4 +0.5
DIVS Divibare 4.20 342 ePn Pn 23 23 36.5 +1.0
DIVS Divibare 4.20 342 ePn Pn 23 23 36.1 +0.6
DIVS Divibare 4.20 342 ePn Pn 23 23 35.7 +0.2
APE Apeiranthos 4.21 135 ePG Pn 23 23 35.4 -0.3
APE Apeiranthos 4.21 135 ⇑iP Pn 23 23 37.4 +1.7
APE Apeiranthos 4.21 135 iP Pn 23 23 38.8 +3.1
KUBS Kucevo 4.29 359 ePn Pn 23 23 36.3 -0.4
VLAD Vladila 4.33 26 ⇑iP Pn 23 23 38.1 +0.9
SBT4 Kumbag-Tekirda 4.42 79 ePG Pn 23 23 38.3 0.0
HAPS Han Pijesak,Bl 4.50 333 ePn Pn 23 23 41.1 +1.4
CUC Castrocucco 4.61 270 ePn Pn 23 23 43.3 +2.2
SRE Strehaia 4.65 12 ⇑iP Pn 23 23 42.0 +0.3
SRE Strehaia 4.65 12 P Pn 23 23 41.9 +0.3
MDVR Moldovita 4.66 359 ⇑iP Pn 23 23 42.3 +0.5
BALB Balikesir 4.69 94 ePG Pn 23 23 42.1 -0.1
TEKS Tekeris 4.74 340 ePn Pn 23 23 43.8 +0.9
HERR Herculane 4.78 5 ⇓iP Pn 23 23 45.1 +1.7
CEL Celeste 4.96 250 ePn Pn 23 23 46.7 +0.7
HUMR Humele 4.99 27 ⇑iP Pn 23 23 47.6 +1.3
FRGS Fruska Gora 5.25 344 ePn Pn 23 23 50.7 +0.8
FRGS Fruska Gora 5.25 344 ⇑iPn Pn 23 23 50.6 +0.7
GZR Gura Zlata 5.32 7 ⇑iP Pn 23 23 51.2 +0.3
GZR Gura Zlata 5.32 7 S Sn 23 24 51.3 -1.0
GZR Gura Zlata 5.32 7 P Pn 23 23 51.1 +0.2
GZR S Sn 23 24 51.2 -1.0
DOB Doboj 5.37 330 ePn Pn 23 23 53.6 +2.1
IDI Anoyia 5.41 152 P Pn 23 23 53.9 +1.8
comp=N,3.3nm,0.3s,baz=15,slow=12,SNR=9.4
IDI S Sn 23 24 53.9 -0.6
comp=N,1.4nm,0.3s,baz=294,slow=20,SNR=2.3
MANT Manisa 5.47 105 ePn Pn 23 23 55.6 +2.4
BZS Buzias 5.49 359 ⇑iP Pn 23 23 53.1 -0.1
BZS Buzias 5.49 359 P Pn 23 23 56.0 +2.8
BZS pmax pmax
comp=Z,15nm,0.8s
LOT Lotru 5.51 14 ePG Pn 23 23 53.8 +0.2
MTUR Matau 5.63 24 ⇑iP Pn 23 23 56.5 +1.3
ARR Arges 5.64 21 ⇓iP Pn 23 23 57.0 +1.7
BLY Banja Luka 5.75 325 ePn Pn 23 23 58.3 +1.5
BLY Banja Luka 5.75 325 ⇑iP Pn 23 23 58.3 +1.5
BLY Banja Luka 5.75 325 S Sn 23 25 04.3 +1.3
BLY Banja Luka 5.75 325 ePn Pn 23 23 58.1 +1.3
VOIR 5.82 23 ⇑iP Pn 23 23 59.0 +1.2
VOIR 5.82 23 S Sn 23 25 05.0 +0.3
VOIR 5.82 23 P Pn 23 23 58.9 +1.2
VOIR S Sn 23 25 05.0 +0.3
ISR Istrita 6.09 33 ⇑iP Pn 23 24 02.3 +0.8
ISR Istrita 6.09 33 P Pn 23 24 05.1 +3.6
ISR pmax pmax
comp=Z,45nm,0.8s
SIRR Siria 6.14 359 ⇑iP Pn 23 24 03.2 +1.0
MLR Muntele Rosu 6.16 28 P Pn 23 24 05.5 +3.0
comp=Z,4.2nm,0.3s,baz=199,slow=5.0,SNR=36
MLR LR LR 23 27 00.1
comp=Z,216nm,21.6s,baz=223,slow=43
MLR Muntele Rosu 6.16 28 ePn Pn 23 24 05.0 +2.4
MLR Muntele Rosu 6.16 28 ⇓iP Pn 23 24 03.8 +1.2
MLR Muntele Rosu 6.16 28 eP Pn 23 24 05.0 +2.4
UDBI Udbina 6.28 316 ePn Pn 23 24 05.3 +1.1
UDBI Sn Sn 23 25 16.8 +0.6
VAE Valguarnera 6.36 248 P Pn 23 24 06.8 +1.7
comp=Z,2.8nm,0.3s,baz=22,slow=19,SNR=3.9
VAE S Sn 23 25 15.0 -2.9
comp=Z,2.8nm,0.3s,baz=14,slow=12,SNR=3.0
DOPR Dopca 6.40 23 ⇑iP Pn 23 24 07.3 +1.6
TLB Topalu 6.41 44 ⇑iP Pn 23 24 07.7 +1.9
TLB Topalu 6.41 44 P Pn 23 24 07.6 +1.8
MORH Mrgy, Hungar 6.52 340 ePn Pn 23 24 07.3 0.0
MORH Mrgy, Hungar 6.52 340 ePn Pn 23 24 07.1 -0.2
MORH Sn Sn 23 25 18.1 -3.6
TIRR Tirgusor 6.53 46 ePn Pn 23 24 06.7 -0.8
TIRR Tirgusor 6.53 46 ⇓iP Pn 23 24 08.9 +1.4
TIRR Tirgusor 6.53 46 eP Pn 23 24 06.7 -0.8
DRGR 6.70 5 ⇓iP Pn 23 24 10.7 +0.8
DRGR 6.70 5 P Pn 23 24 10.6 +0.7
CJR Cluj-Napoca 6.71 11 ⇑iP Pn 23 24 11.5 +1.4
CJR Cluj-Napoca 6.71 11 P Pn 23 24 11.4 +1.4
AQU L'Aquila 6.72 292 ePn Pn 23 24 11.3 +1.1
AQU L'Aquila 6.72 292 eP Pn 23 24 11.3 +1.1
AQU L'Aquila 6.72 292 ePn Pn 23 24 11.4 +1.2
PLOR Plostina 6.73 30 ⇓iP Pn 23 24 11.6 +1.3
PLOR Plostina 6.73 30 P Pn 23 24 11.6 +1.3
VRI Vrincioaia 6.78 30 ⇑iP Pn 23 24 12.0 +1.1
VRI Vrincioaia 6.78 30 P Pn 23 24 12.0 +1.1
NVLJ Novalja 6.79 313 i Pn Pn 23 24 10.8 -0.2
NVLJ Sn Sn 23 25 26.4 -2.1
CFR Carcaliu 6.87 41 ⇑iP Pn 23 24 12.7 +0.6
CFR Carcaliu 6.87 41 P Pn 23 24 12.7 +0.6
ISP Isparta 7.16 106 P Pn 23 24 19.0 +2.8
OZLJ Ozalj 7.20 322 ePn Pn 23 24 16.8 +0.1
BEHE Becsehely 7.33 332 ePn Pn 23 24 22.5 +4.0
TIH Tihany 7.35 338 ePn Pn 23 24 21.0 +2.3
TIH Sn Sn 23 25 41.0 -1.2
CRES Cresnjev 7.36 323 ⇑iPn Pn 23 24 19.2 +0.3
BUD Budapest 7.63 346 ⇑ePn Pn 23 24 24.0 +1.5
BUD Sn Sn 23 25 48.0 -1.1
BUD Budapest 7.63 346 P Pn 23 24 24.0 +1.5
BUD pmax pmax
comp=Z,53nm,0.7s
CEY Cerknica 7.80 318 ePn Pn 23 24 24.0 -1.0
BURAR Bucovina Array 7.88 17 ⇑iP Pn 23 24 27.7 +1.6
BURAR Bucovina Array 7.88 17 P Pn 23 24 27.6 +1.5
BUR04 Bucovina Ar. S 7.88 17 ePn Pn 23 24 27.2 +1.0
BUR08 Bucovina Ar. S 7.91 17 ePn Pn 23 24 27.6 +1.1
PSZ Piszkesteto 7.92 351 ePn Pn 23 24 27.2 +0.7
PSZ Piszkesteto 7.92 351 ⇑iP Pn 23 24 27.8 +1.2
PSZ Piszkesteto 7.92 351 ePn Pn 23 24 27.1 +0.5
PSZ Sn Sn 23 25 57.1 +0.8
PSZ Piszkesteto 7.92 351 eP Pn 23 24 27.2 +0.7
LJI Ljubljana 7.97 320 ePn Pn 23 24 26.6 +2.4
TRI Trieste 8.13 316 ePn Pn 23 24 30.1 +1.7
TRI Trieste 8.13 316 eP Pn 23 24 30.1 +0.7
SOKA Soboth 8.20 325 ePn Pn 23 24 30.8 +0.3
comp=Z,9.6nm,0.8s,SNR=15
SOKA eSn Sn 23 26 01.3 -2.0
comp=Z,1.3nm,0.4s
OBKA Obir 8.29 323 ePn Pn 23 24 32.4 +0.7
comp=Z,1.5nm,0.2s
OBKA eSn Sn 23 26 07.1 +1.5
comp=Z,5.8nm,0.3s
ARSA Arzberg 8.46 329 ePn Pn 23 24 34.3 +0.4
comp=Z,3.5nm,0.5s
VYHS Vyhne 8.64 347 eP Pn 23 24 38.3 +1.9
VYHS e 23 26 10.4
VYHS Vyhne 8.64 347 ePN Pn 23 24 38.2 +1.9
VYHS eSN Sn 23 26 10.4 -3.5
MYKA Terra Mystica 8.81 320 eSn Sn 23 26 19.2 +0.9
comp=Z,2.2nm,0.5s
MODS Modra-Piesok 8.87 340 eP Pn 23 24 41.2 +1.6
MODS e 23 26 13.7
MODS Modra-Piesok 8.87 340 ePN Pn 23 24 41.2 +1.6
MODS eSN Sn 23 26 13.7 -5.9
BRTR Keskin Array B 9.09 89 P Pn 23 24 44.1 +1.4
comp=Z,0.3nm,0.3s,baz=264,slow=12,SNR=10
BRTR Keskin Array B 9.09 89 eP Pn 23 24 44.6 +1.8
LANS Liptovska Anna 9.18 350 eP Pn 23 24 47.5 +3.6
LANS Liptovska Anna 9.18 350 ePN Pn 23 24 47.5 +3.6
VLC Villacollemand 9.40 299 ePn Pn 23 24 46.0 -0.8
MOA Molln 9.45 327 ePn Pn 23 24 49.5 +2.0
comp=Z,0.7nm,0.4s,SNR=4.0
MOA eSn Sn 23 26 36.8 +3.0
comp=Z,1.4nm,0.3s
ABTA Abfaltersbach 9.46 317 ePn Pn 23 24 47.9 +0.1
comp=Z,0.8nm,0.3s
ABTA eSn Sn 23 26 30.6 -3.7
comp=Z,4.9nm,0.4s
VRAC Vranov 9.90 340 P Pn 23 24 54.8 +1.1
comp=Z,0.3nm,0.3s,baz=154,slow=11,SNR=6.8
VRAC LR LR 23 29 35.6
comp=Z,56nm,21.8s,baz=171,slow=42
MORC Moravsky Berou 10.12 344 ePn Pn 23 24 54.0 +0.4

MORC Moravsky Berou 10.12 344 ⇑iP Pn 23 24 58.0 +1.3
MORC Moravsky Berou 10.12 344 eP Pn 23 24 57.1 +0.4
WTTA Wattenberg 10.26 317 ePn Pn 23 25 00.1 +1.4
comp=Z,1.2nm,0.3s
WTTA eSn Sn 23 26 51.4 -2.5
comp=Z,5.6nm,0.4s
WATA Walderalm 10.33 318 ePn Pn 23 25 02.2 +2.4
comp=Z,2.9nm,0.4s,SNR=5.4
SQTA Sankt Quirin 10.45 316 ePn Pn 23 25 02.5 +1.1
comp=Z,3.0nm,0.4s
SQTA eSn Sn 23 26 56.0 -2.6
comp=Z,2.6nm,0.3s
GEA0 GERESS Array S 10.46 329 ePn Pn 23 25 02.6 +1.2
GERES GERESS Array B 10.47 329 P Pn 23 25 02.7 +1.1
comp=Z,0.2nm,0.3s,baz=157,slow=18,SNR=7.8
GERES S Sn 23 26 59.2 +0.3
comp=Z,0.1nm,0.3s,baz=158,slow=24,SNR=3.0
GERES LR LR 23 29 57.4
comp=Z,80nm,21.4s,baz=120,slow=42
MOTA Moosalm 10.59 317 ePn Pn 23 25 03.6 +0.3
comp=Z,3.2nm,0.4s
FETA Feichten 10.59 314 ePn Pn 23 25 04.9 +1.6
comp=Z,1.5nm,0.5s
FETA Sn Sn 23 26 59.6 -2.4
comp=Z,2.6nm,0.7s
FUORN Ofenpass-Fuorn 10.62 311 ePn Pn 23 25 04.0 +0.3
KHC Kasperske Hory 10.74 330 eP Pn 23 25 07.7 +2.4
KHC eX x 23 25 16.8
KHC eS Sn 23 27 05.3 -0.3
KHC Kasperske Hory 10.74 330 eP Pn 23 25 07.7 +2.4
KHC eS Sn 23 27 05.3 -0.3
KEST Kesra 10.78 250 P Pn 23 25 07.2 +1.4
comp=Z,0.4nm,0.3s,baz=353,slow=0.5,SNR=13
KEST LR LR 23 31 03.5
comp=Z,30nm,18.1s,baz=213,slow=47
DAVOX Davos/Dischmat 10.93 311 P Pn 23 25 09.5 +1.5
baz=113,slow=15
DAVOX S Sn 23 27 03.7 -6.7
comp=Z,0.2nm,0.3s,baz=165,slow=20,SNR=2.4
DPC Dobruska-Polom 10.93 341 eP Pn 23 25 12.6 +4.7
DPC Dobruska-Polom 10.93 341 eP Pn 23 25 12.6 +4.7
DAVA Damuels 11.21 314 ePn Pn 23 25 11.7 -0.1
comp=Z,0.8nm,0.2s
AKASG Malin Array Be 11.78 24 P Pn 23 25 20.9 +1.5
comp=Z,0.2nm,0.3s,baz=207,slow=11,SNR=2.8
SENIN Lac Senin/Sane 12.28 305 ePn Pn 23 25 26.7 +0.2
LPL La Plagne 12.31 301 eP Pn 23 25 29.8 +2.9
LPL pmax pmax
comp=Z,32nm,1.8s
ANN Anapa 12.44 63 eP Pn 23 25 20.6 -7.8
ANN pmax pmax
comp=Z,87nm,1.4s
BFO Black Forest 12.67 315 ePn Pn 23 25 31.7 +0.1
BFO Black Forest 12.67 315 eP Pn 23 25 31.7 +0.1
MMAI Mount Meron Ar 13.01 119 P Pn 23 25 36.2 -0.2
comp=Z,0.6nm,0.3s,baz=314,slow=12,SNR=2.3
SSF Saint Saulge 14.95 304 eP P 23 26 09.8 +1.4
SSF pmax pmax
comp=Z,2.0nm,0.6s
AVF Avril sur Loir 14.96 303 eP P 23 26 08.5 +0.1
AVF pmax pmax
comp=Z,4.0nm,0.8s
BGF Bois d'Agland 15.21 301 eP P 23 26 13.1 +1.9
BGF pmax pmax
comp=Z,5.0nm,0.8s
TCF Toulx Ste Croi 15.55 300 eP P 23 26 17.9 +2.9
TCF pmax pmax
comp=Z,9.0nm,1.3s
GIVF Givet 15.57 315 eP P 23 26 17.5 +2.3
GIVF pmax pmax
comp=Z,9.0nm,0.2s
BAIF Baives 15.88 315 eP P 23 26 19.1 +0.5
BAIF pmax pmax
comp=Z,6.0nm,0.8s
KIV Kislovodsk 15.96 69 eP P 23 26 18.6 -1.1
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,44nm,15.0s
VSR Storozhevoye 16.39 42 i P Pn 23 26 22.7 +1.3
VSR pmax pmax
comp=Z,3.0nm,0.9s
ETSF Etsaut 16.98 287 eP P 23 26 33.8 +2.8
ETSF pmax pmax
comp=Z,21nm,1.8s
MFF Saint Martin d 17.21 299 eP P 23 26 35.7 +2.4
MFF pmax pmax
comp=Z,32nm,2.0s
GRR Gorron 18.18 305 eP P 23 26 45.9 +1.9
GRR pmax pmax
comp=Z,42nm,1.9s
VSU Vasula 18.62 8 i P Pn 23 26 49.8 +0.7
VSU pmax pmax
comp=Z,19nm,0.8s
MOS Moscow 18.80 29 eP P 23 26 48.8 -2.0
QUIF Quistinic 19.52 302 eP P 23 26 58.7 -0.1
QUIF pmax pmax
comp=Z,38nm,1.4s
ROSF Rostrenen 19.70 303 eP Pn 23 27 02.5 +0.3
ROSF pmax pmax
comp=Z,21nm,1.2s
ESDC Sonseca Array 19.77 277 P P 23 27 02.2 +0.6
comp=Z,0.2nm,0.3s,baz=79,slow=11,SNR=9.4
HFS Hagfors 20.67 348 P P 23 27 09.9 -1.2
comp=Z,5.1nm,0.7s,baz=171,slow=10,SNR=14
FINES FINESS Array B 21.51 6 P P 23 27 19.7 -0.4
comp=Z,2.4nm,0.6s,baz=174,slow=11,SNR=16
FIA1 FINESS Array S 21.51 6 eP P 23 27 19.0 -1.2
NC602 NORSAR Array S 21.60 346 eP P 23 27 20.1 -1.0
NORES NORESS Array B 21.60 346 P P 23 27 20.2 -1.0
NORES pmax pmax
comp=Z,1.0nm,0.4s
NAO01 NORSAR Array S 21.82 346 eP P 23 27 21.5 -2.1
NC405 NORSAR Array S 21.92 347 eP P 23 27 24.2 -0.5
NB201 NORSAR Array S 21.94 346 eP P 23 27 23.7 -1.2
NB2 NORSAR Subarra 21.94 346 P P 23 27 23.8 -1.1
comp=Z,2.0nm,0.5s,baz=153,slow=10
NOA NORSAR Array B 21.94 346 P P 23 27 23.7 -1.1
comp=Z,0.3nm,0.4s,baz=159,slow=9.8,SNR=14
NOA LR LR 23 36 42.6
comp=Z,41nm,18.1s,baz=15,slow=39
NBO00 NORSAR Array S 22.02 346 eP P 23 27 25.2 -0.5
NC303 NORSAR Array S 22.09 347 eP P 23 27 26.6 +0.2
TAM Tamanrasset 22.11 223 eP P 23 27 28.7 +1.5
comp=Z,2.2nm,0.9s
TAM Tamanrasset 22.11 223 eP P 23 27 28.7 +1.5
TAM pmax pmax
comp=Z,2.0nm,0.9s
NC204 NORSAR Array S 22.25 346 eP P 23 27 27.4 -0.8
MDT Midelt 22.41 259 P P 23 27 29.9 -0.4
comp=Z,1.5nm,0.9s,baz=73,slow=13,SNR=4.4
EKA Eskdalemuir Ar 22.49 321 P P 23 27 30.1 -0.7
comp=Z,3.3nm,0.6s,baz=116,slow=9.6,SNR=13
ESK Eskdalemuir 22.50 321 eP P 23 27 30.6 -0.2
comp=Z,9.6nm,0.8s
ESK Eskdalemuir 22.50 321 eP P 23 27 30.7 -0.2
ESK pmax pmax
comp=Z,10.0nm,0.8s
KLMR Klimovskoe 23.46 22 eP P 23 27 38.4 -2.4
KLMR pmax pmax
comp=Z,14nm,1.5s
KLMR Klimovskoe 23.46 22 eP P 23 27 38.4 -2.4
KLMR AMP 23 27 41.5
comp=Z,14nm,1.6s
PRGR Permogore 25.98 26 eP P 23 28 05.9 +2.0
PRGR pmax pmax
comp=Z,23nm,1.1s
AKTO Aktyubinsk 27.23 56 P P 23 28 15.1 -0.3
comp=Z,0.9nm,0.6s,baz=246,slow=7.4,SNR=4.5
ARCES ARCESS Array B 29.54 3 P P 23 28 34.3 -1.5
comp=Z,1.6nm,0.6s,baz=187,slow=8.6,SNR=7.0
ARCES ARCESS Array B 29.54 3 eP P 23 28 35.0 -0.8
ARCES pmax pmax
comp=Z,2.0nm,0.7s
TOA0 Torodi Ar. Sit 32.17 219 eP P 23 28 59.5 0.0
TORD Torodi Ar. Bea 32.17 219 P P 23 28 58.0 -1.5
comp=Z,2.6nm,0.6s,baz=46,slow=8.5,SNR=27
BORG Borgarnes 34.93 329 iP P 23 29 20.1 -2.9
BRVK Borovoye 35.05 52 eP P 23 29 25.6 +1.4
comp=Z,2.2nm,0.8s
BRVK Borovoye 35.05 52 iP P 23 29 23.9 -0.3
BRVK pmax pmax
comp=Z,2.0nm,0.8s
KK31 Karatay Array 36.12 69 eP P 23 29 34.6 +1.0
KK31 Karatay Array 36.12 69 eP P 23 29 34.6 +1.0

KKAR	Karatay Array	36.12	69	eP	P	23 29 34.9	+1.3
KKAR	Karatay Array	36.12	69	eP	P	23 29 34.9	+1.3
KURBB	Kurchatov Arra	40.28	55	P	P	23 30 07.8	-0.7
	comp=Z,0.4nm,0.7s,baz=288,slow=9.6,SNR=4.5						
KURK	Kurchatov	40.33	55	P	P	23 30 07.8	-1.1
KURK	Kurchatov	40.33	55	i P	P	23 30 08.5	-0.3
KURK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
DBIC	Dimbokro	41.00	223	P	P	23 30 14.2	-0.6
	comp=Z,4.0nm,0.8s,baz=7.6,slow=10,SNR=8.1						
DBIC	Dimbokro	41.00	223	eP	P	23 30 14.6	-0.2
	comp=Z,3.2nm,0.7s						
KSH	Kashi	41.05	73	P	P	23 30 12.5	-2.6
KSH				sP	sP	23 30 20.3	+1.1
KSH				PP	PP	23 31 50.2	+0.6
KSH				S	S	23 35 32.7	-55
KSH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KSH				pmax	pmax		
	comp=Z,260nm,6.0s						
TIC	Toumodi	41.11	223	eP	P	23 30 15.5	-0.2
KIC	Kosan Boka	41.20	222	eP	P	23 30 15.7	-0.7
	comp=Z,8.6nm,0.7s						
LIC	Lamto	41.47	223	eP	P	23 30 17.8	-0.8
	comp=Z,20nm,0.8s						
MAKZ	Makanchi	43.23	60	eP	P	23 30 33.3	+0.6
	comp=Z,1.4nm,0.8s						
MAKZ	Makanchi	43.23	60	eP	P	23 30 33.3	+0.6
MAKZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MK31	Makanchi Array	43.44	60	eP	P	23 30 35.0	+0.5
MK31	Makanchi Array	43.44	60	eP	P	23 30 35.0	+0.5
MKAR	Makanchi Array	43.44	60	P	P	23 30 34.0	-0.5
	comp=Z,2.1nm,0.5s,baz=278,slow=6.8,SNR=23						
MKAR	Makanchi Array	43.44	60	eP	P	23 30 35.0	+0.5
	comp=Z,13nm,0.6s						
MKAR	Makanchi Array	43.44	60	eP	P	23 30 35.0	+0.5
MKAR				pmax	pmax		
	comp=Z,13nm,0.6s						
MK01	Makanchi Array	43.46	60	eP	P	23 30 34.6	+0.1
ZALV	Zalesovo Beam	43.66	50	P	P	23 30 35.2	-0.8
	comp=Z,1.2nm,0.5s,baz=277,slow=9.0,SNR=6.7						
ZALV	Zalesovo Beam	43.66	50	eP	P	23 30 36.2	+0.2
ZALV	Zalesovo Beam	43.66	50	eP	P	23 30 36.2	+0.2
NRS	Narsarsuaq	45.15	321	eP	P	23 30 49.5	+1.7
	comp=Z,48nm,0.5s						
NRS	Narsarsuaq	45.15	321	eP	P	23 30 49.5	+1.7
DGZ	Jazzator, Alta	46.07	55	i P	P	23 30 55.1	-0.4
WMQ	Urumqi	47.95	63	eP	P	23 31 12.0	+1.8
TIXI	Tiksi	57.48	21	i P	P	23 32 23.1	+3.0
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.1s						
SCHQ	Schefferville	57.73	317	P	P	23 32 21.4	-0.7
	comp=Z,4.2nm,0.5s,baz=52,slow=3.4,SNR=10						
GTA	Gaotai	58.03	63	eP	P	23 32 24.9	+0.2
GTA				pP	sP	23 32 29.2	+0.3
GTA				sP	pP	23 32 32.0	+4.3
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	Songino Array	58.46	52	P	P	23 32 26.9	-0.6
	comp=Z,0.2nm,0.5s,baz=304,slow=10,SNR=3.2						
HHC	Hu-ho-hao-te	65.11	57	eP	P	23 33 13.3	+0.8
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,6.7s						
BOSA	Boshof	68.46	177	P	P	23 33 33.6	-0.1
	comp=Z,2.0nm,0.8s,baz=354,slow=9.1,SNR=5.2						
CMAR	Chiang Mai Arr	68.64	83	P	P	23 33 34.4	-0.7
	comp=Z,0.5nm,0.3s,baz=292,slow=4.5,SNR=4.9						
CMAR	Chiang Mai Arr	68.64	83	eP	P	23 33 36.6	+1.5
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YKA	Yellowknife Ar	71.91	340	P	P	23 33 53.7	-0.6
	comp=Z,0.4nm,0.6s,baz=25,slow=6.3,SNR=1.9						
ULM	Lac du Bonnet	74.73	324	P	P	23 34 10.1	-1.1
	comp=Z,1.8nm,0.6s,baz=42,slow=6.8,SNR=4.6						
KS01	Wonju Array Si	77.29	52	eP	P	23 34 24.6	-1.5
KSAR	Wonju Array Be	77.31	52	P	P	23 34 24.2	-2.0
KSAR	Wonju Array Be	77.31	52	P	P	23 34 24.2	-2.0
KSRS	Korea Array	77.33	52	P	P	23 34 24.2	-2.1
	comp=Z,1.6nm,0.7s,baz=313,slow=4.6,SNR=6.1						
CCM	Cathedral Cave	80.97	313	eP	P	23 34 44.7	-1.5
	comp=Z,6.0nm,1.1s						
CCM	Cathedral Cave	80.97	313	eP	P	23 34 44.7	-1.5
CCM				pmax	pmax		
	comp=Z,6.0nm,1.1s						
LRAL	Lakeview Retre	81.92	307	P	P	23 34 50.8	-0.6
	comp=Z,3.7nm,0.7s						
TX31	Lajitas Ar. Si	94.35	315	eP	P	23 35 51.9	+0.2
TXAR	Lajitas Array	94.35	315	P	P	23 35 51.9	+0.3
	comp=Z,0.4nm,0.7s,baz=75,slow=4.0,SNR=4.3						
WRA	Warramunga Arr	119.60	92	PKP	PKPdf	23 41 19.3	-2.5
	comp=Z,0.3nm,0.8s,baz=323,slow=1.5,SNR=3.4						
ASAR	Alice Springs	121.37	96	PKP	PKPdf	23 41 23.1	-2.0
	comp=Z,0.3nm,0.4s,baz=321,slow=2.1,SNR=5.0						

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*ISCJB **06** 23:24:13.0±0.6, 31°.33N±0°.03×103°.67E±0°.06, h13km, mb3.2/7, Error ellipse: s-maj=7.9km s-min=4.9km az=4.4*
*IDC **06** 23:24:13.4±0.9, 31°.47N×104°.42E, h0km, mb3.3/8, mb1 3.5/10, mb1mx3.4/44, mbtmp3.3/10, ML3.3/1, Error ellipse: s-maj=30.8km s-min=16.6km az=56.0*
*BJI **06** 23:24:15.5, 31°.18N×103°.44E, h21km, mb3.5/1, ML3.5/14, Ms3.3/2, Ms7 3.1/2*
ISC 06 23:24:15.2±0.8**, 31°.26N**±0°.04×**103°.63E**±0°.07**, h13**km**, n15, σ2^{s}48**/16**, mb3.3**/7**, 1D, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CD2	Chengdu	0.36	162	⇓i Pg	Pg	23 24 22.0	-0.6
CD2				Sg	Sg	23 24 28.6	+1.1
CD2				smax	smax		
	comp=N,10μm,0.5s						
CD2				smax	smax		
	comp=E,14μm,0.6s						
LZH	Lanzhou	4.82	2	ePg	Pg	23 25 56.4	+8.8
LZH				Sg	Sg	23 26 51.4	+1.4
LZH				smax	smax		
	comp=N,33nm,1.1s						
LZH				smax	smax		
	comp=E,49nm,1.1s						
XAN	Xi'an	5.25	57	Pn	Pn	23 25 34.3	+0.8
XAN				Pg	Pg	23 25 54.7	-1.2
XAN				Sn	Sn	23 26 35.7	+1.7
XAN				Sg	Sg	23 27 05.6	+1.7
XAN				smax	smax		
	comp=E,59nm,0.9s						
XAN				smax	smax		
	comp=E,72nm,0.9s						
XAN				LR	LR		
	comp=E,150nm,7.9s						
XAN				LR	LR		
	comp=E,180nm,7.9s						
XAN				LR	LR		
	comp=E,120nm,8.1s						
GTA	Gaotai	8.71	340	eP	Pn	23 26 21.0	0.0
GTA				pP	Pg	23 26 25.0	-37
GTA				pmax	pmax		
	comp=E,2.0nm,1.0s						
CMAR	Chiang Mai Arr	13.43	200	Pn	Pn	23 27 32.8	+7.1
	baz=3.0,slow=10.0,SNR=6.4						
SONM	Songino Array	16.69	6	Pn	Pn	23 28 05.2	-3.7
	comp=E,0.1nm,0.3s,baz=175,slow=14,SNR=2.8						
WMQ	Urumqi	17.77	319	eP	Pn	23 28 20.1	-2.2
KSRS	Korea Array	20.96	66	P	P	23 28 51.5	-6.4
	comp=E,0.3nm,0.3s,baz=259,slow=10.0,SNR=3.1						
MKAR	Makanchi Array	22.60	319	P	P	23 29 18.9	+3.4
	comp=E,0.5nm,0.8s,baz=127,slow=12,SNR=3.9						
AAK	Ala-Archa	25.78	304	P	P	23 29 51.7	+5.7
	comp=E,0.3nm,0.3s,baz=107,slow=9.1,SNR=2.7						
ZALV	Zalesovo Beam	26.41	335	P	P	23 29 52.7	+1.4
	comp=E,0.2nm,0.4s,baz=150,slow=9.6,SNR=2.1						
KURBB	Kurchatov Arra	26.87	323	P	P	23 29 56.0	+0.5
	comp=E,0.2nm,0.5s,baz=126,slow=9.3,SNR=3.4						
WRA	Warramunga Arr	58.83	146	P	P	23 34 11.7	-1.9
	comp=E,0.7nm,0.7s,baz=327,slow=8.9,SNR=16						
ASAR	Alice Springs	61.83	148	P	P	23 34 33.5	-0.6
	comp=E,0.3nm,0.7s,baz=328,slow=6.8,SNR=3.4						
YKA	Yellowknife Ar	81.66	17	P	P	23 36 30.8	-2.1
	comp=E,0.2nm,0.7s,baz=327,slow=4.7,SNR=3.7						

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*IDC **06** 23:24:38.7±1.6, 13°.35N×91°.39W, h0km, mb3.7/6, mb1 4.0/9, mb1mx3.8/33, mbtmp3.7/9, ML3.5/3, Error ellipse: s-maj=27.5km s-min=16.8km az=138.0*
*MEX **06** 23:24:43.8±0.3, 13°.51N×91°.76W, h9km±810km, MD4.0*
*UCR **06** 23:24:44.9±1.4, 13°.52N×91°.46W, h10km±25km, MD3.8, ML3.7*
ISC 06 23:24:42.8±2.2**, 13°.72N**±0°.09×**91°.59W**±0°.05**, h8**km±12km**, n28, σ1^{s}25**/38**, mb3.8**/6**, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FUG	Fuego 3	1.02	45	eP	Pn	23 25 05.0	+1.4
PCG	Pacaya	1.16	55	eP	Pn	23 25 06.7	+1.1
PCG				eS	Sn	23 25 24.8	+3.0
IXG	Ixpaco	1.19	68	eP	Pb	23 25 05.0	-0.7
IXG				eP	Pg	23 25 06.1	+0.4
THIG		1.35	331	i P	Pn	23 25 07.1	-0.8
THIG				i S	Sn	23 25 25.1	-0.9
NBG	Las Nubes	1.48	54	eP	Pg	23 25 12.0	+0.8
APG	El Apazote	1.68	40	Pg	Pg	23 25 14.5	-0.5
	34nm,0.3s,baz=211,slow=15,SNR=155						
APG				Lg	Lg	23 25 37.8	
	45nm,0.3s,baz=68,slow=20,SNR=8.0						
RTR	El Retiro	1.90	84	eP	Pn	23 25 16.1	+0.6
RTR				eS	Sb	23 25 40.3	-1.3
SBLS	San Blas	1.91	86	eP	Pn	23 25 15.7	-0.2
SBLS				eS	Sb	23 25 39.5	-2.7
SNJE	San Jose	1.93	85	eP	Pn	23 25 15.7	-0.4
BOQS	Boqueron	2.24	89	eP	Pn	23 25 20.3	-0.1
SNET	Serv Nac Est T	2.29	91	eP	Pn	23 25 20.9	0.0
SNET				eS	Sn	23 25 48.4	-0.9
SNET				IAML		23 25 54.0	
	comp=Z,697nm,0.3s						
LFU	La Fuente	2.41	89	eP	Pn	23 25 23.0	+0.5
LFU				eS	Sn	23 25 51.5	-0.7
LFRS	El Faro	2.46	92	eP	Pn	23 25 23.1	-0.1
LFRS				eS	Sn	23 25 53.6	+0.1
LBRS	Las Brisas	2.47	89	eP	Pn	23 25 24.3	+0.9
LBRS				eS	Sn	23 25 54.0	+0.1
CCIG	Comitan	2.60	348	eP	Pn	23 25 25.8	+0.5
CCIG				i S	Sb	23 25 59.5	-2.5
TECA	Tecapa	3.01	94	eP	Pn	23 25 30.6	-0.3
PACA	Pacayal	3.18	94	eP	Pn	23 25 34.3	+1.0
CMIG	Matias Romero	4.62	317	Pn	Pn	23 25 54.1	+1.2
	comp=Z,1.7nm,0.3s,baz=124,slow=9.8,SNR=12						
CMIG				Sn	Sn	23 26 45.8	-0.9
	comp=Z,2.9nm,0.3s,baz=110,slow=4.8,SNR=4.4						
JTS	JuntasAbangare	7.33	117	Pn	Pn	23 26 21.3	-8.9
	comp=Z,0.4nm,0.3s,baz=339,slow=18,SNR=3.3						
JTS				Lg	Lg	23 28 16.4	
	comp=Z,0.3nm,0.3s,baz=321,slow=13,SNR=3.3						
TXAR	Lajitas Array	19.15	326	P	Pn	23 29 09.4	+1.8
	comp=Z,0.1nm,0.3s,baz=156,slow=13,SNR=19						
LPIG	La Paz	20.48	303	P	P	23 29 21.2	+0.1
	comp=Z,32nm,0.3s,baz=127,slow=1.7,SNR=4.4						
TKL	Tuckaleechee C	22.95	16	P	P	23 29 47.2	-0.3
	comp=Z,1.8nm,0.5s,baz=172,slow=12,SNR=8.5						
ANMO	Albuquerque	25.04	330	P	P	23 30 10.0	+2.3
	comp=Z,0.8nm,0.6s,baz=142,slow=9.5,SNR=5.0						
PDAR	Pinedale Array	32.84	335	P	P	23 31 16.8	-0.3
	comp=Z,0.2nm,0.5s,baz=110,slow=7.8,SNR=3.2						
NVAR	Mina Array Bea	34.14	321	P	P	23 31 30.3	+1.8
	comp=Z,1.1nm,0.6s,baz=133,slow=8.1,SNR=6.2						
YKA	Yellowknife Ar	51.39	347	P	P	23 33 46.3	-1.5
	comp=Z,0.6nm,0.6s,baz=152,slow=8.5,SNR=2.1						
ILAR	Eielson Array	63.25	337	P	P	23 35 10.8	-0.7
	comp=Z,1.1nm,1.0s,baz=175,slow=4.3,SNR=7.9						
CMAR	Chiang Mai Arr	146.38	342	PKPbc	PKPdf	23 44 24.6	+0.6
	comp=Z,0.6nm,0.3s,baz=352,slow=4.5,SNR=6.2						

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*IDC **06** 23:47:04.5±1.2, 29°.07N×80°.60E, h0km, mb3.3/5, mb1 3.4/6, mb1mx3.2/40, mbtmp3.3/6, ML3.5/1, Error ellipse: s-maj=43.1km s-min=21.5km az=60.0*
*ISCJB **06** 23:47:07.8±1.2, 29°.1N±0°.2×80°.6E±0°.3, h33km, mb3.2/5, Error ellipse: s-maj=36.2km s-min=18.8km az=159.7*
ISC 06 23:47:09.8±1.4**, 29°.1N**±0°.2×**80°.6E**±0°.3**, h35**km**, n6, σ1^{s}18**/6**, mb3.4**/5**, Nepal-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	17.71	4	P	P	23 51 14.8	+0.6
	0.2nm,0.3s,baz=181,slow=11,SNR=5.8						
KURBB	Kurchatov Arra	21.55	356	P	P	23 51 56.7	+0.7
	0.3nm,0.7s,baz=179,slow=11,SNR=4.8						
ZALV	Zalesovo Beam	25.02	6	P	P	23 52 28.7	-1.6
	0.4nm,0.3s,baz=201,slow=7.7,SNR=2.5						
BRTR	Keskin Array B	39.77	298	P	P	23 54 39.3	-0.1
	0.2nm,0.3s,baz=92,slow=10,SNR=2.9						
WRA	Warramunga Arr	71.16	127	P	P	23 58 24.7	-0.4
	0.3nm,0.8s,baz=326,slow=6.0,SNR=3.2						
ASAR	Alice Springs	73.36	130	P	P	23 58 39.0	+0.8
	0.1nm,0.3s,baz=293,slow=6.5,SNR=3.5						

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*GCMT **07** 00:07:02.0±0.4, 36°.36S±0°.02×99°.32W±0°.03, h21km±1km, MW4.9/78, Moment Tensor Solution. s17,c19; s78,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.48±.15; $M_{\theta\theta}$-0.27±.15; $M_{\phi\phi}$0.74±.13; $M_{r\theta}$1.16±.24; $M_{\theta\phi}$-2.63±.11; $M_{\phi r}$-0.48±.21; Best double couple: $M_0$2.93600×10^{16} NP1:ϕ_s276.00000°, δ90.00000°, λ-156.00000°. NP2: ϕ_s186.00000°, δ66.00000°, λ0.00000°. Principal axes: T 3.2540, Plg17.0000°, Azm49.0000°; N -0.6360, Plg66.0000°, Azm277.0000°; P -2.6180, Plg17.0000°, Azm144.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
IDC 07 00:06:58.5±5.1**, 36°.37S**×**99°.26W, h0**km**, mb3.8**/6**, mb1 4.2**/6**, mb1mx4.0**/17**, mbtmp3.8**/6**, MS3.9**/13**, Ms1 3.9**/13**, ms1mx3.7**/31 **Error ellipse: s-maj=144.1km s-min=29.3km az=23.0, Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	22.83	110	LR	LR	00 18 43.4	
	comp=Z,341nm,20.5s,baz=296,slow=31						
RKT	Rikitea	33.50	283	eLQ	LQ	00 21 15.0	
	425nm,27.5s						
LPAZ	La Paz	34.10	62	P	P	00 13 45.4	-0.3
	7.8nm,1.2s,baz=234,slow=10,SNR=9.5						
LPAZ				LR	LR	00 25 13.9	
	comp=Z,90nm,19.4s,baz=228,slow=32						
CPUP	Villa Florida	36.94	86	P	P	00 14 09.0	-0.3
	2.7nm,1.1s,baz=259,slow=16,SNR=2.9						
CPUP				LR	LR	00 27 57.7	
	comp=Z,86nm,18.2s,baz=244,slow=34						
TBI	Tubuai	44.97	272	eLR	LR	00 27 38.0	
	comp=Z,236nm,27.0s						
TAOE	Nuku Hiva Isla	46.11	296	eLR	LR	00 28 05.3	
	comp=Z,587nm,27.4s						
PPT2	Papeete2	48.01	279	eLR	LR	00 29 00.6	
	comp=Z,140nm,26.0s						
PPT	Papeete	48.02	279	LR	LR	00 31 13.4	
	comp=Z,91nm,18.3s,baz=176,slow=30						
BDFB	Brasilia	49.84	79	P	P	00 15 54.1	+0.4
	1.0nm,0.5s,baz=225,slow=8.6,SNR=3.1						
BDFB				LR	LR	00 35 15.6	
	comp=Z,122nm,18.9s,baz=193,slow=34						
VNDA	Vanda	56.69	195	LR	LR	00 35 01.4	
	comp=Z,131nm,21.4s,baz=138,slow=30						
TXAR	Lajitas Array	65.48	356	P	P	00 17 43.8	+0.4
	0.4nm,0.9s,baz=186,slow=8.2,SNR=3.5						
RPZ	Rata Peaks	65.81	233	LR	LR	00 41 46.7	
	comp=Z,92nm,19.8s,baz=112,slow=32						
TKL	Tuckaleechee C	73.09	13	LR	LR	00 46 26.3	
	comp=Z,51nm,20.2s,baz=215,slow=32						
NVAR	Mina Array Bea	76.48	345	P	P	00 18 50.4	+0.2
	0.5nm,0.8s,baz=172,slow=6.8,SNR=2.1						
NVAR				LR	LR	00 43 11.2	
	comp=Z,123nm,21.8s,baz=307,slow=28						
ELK	Elko	78.13	348	LR	LR	00 45 28.9	
	comp=Z,74nm,21.0s,baz=110,slow=30						
PDAR	Pinedale Array	79.32	352	P	P	00 19 05.2	-0.7
	0.5nm,0.7s,baz=161,slow=5.7,SNR=4.8						
SADO	Sadowa	82.79	14	LR	LR	00 53 27.9	
	comp=Z,64nm,18.3s,baz=312,slow=34						
STKA	Stephens Creek	91.38	228	LR	LR	00 52 09.2	
	comp=Z,97nm,21.3s,baz=197,slow=30						
DBIC	Dimbokro	97.45	87	LR	LR	01 00 20.6	
	comp=Z,66nm,18.4s,baz=144,slow=33						

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*IDC **07** 00:27:58.6±1.1, 33°.01S×178°.95W, h0km, mb4.3/4, mb1 4.4/5, mb1mx4.0/37, mbtmp4.3/5, ML4.3/1, Error ellipse: s-maj=33.4km s-min=28.5km az=54.0*
*ISCJB **07** 00:28:05.0±1.2, 33°.32S±0°.10×179°.4W±0°.2, h35km, mb4.2/4, Error ellipse: s-maj=23.5km s-min=13.6km az=13.3*
ISC 07 00:28:05.1±1.0**, 33°.2S**±0°.1×**179°.2W**±0°.2**, h35**km**, n13, σ1^{s}29**/14**, mb4.2**/4**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	5.85	209	Pn	Pn	00 29 29.3	0.0
	6.8nm,0.3s,baz=23,slow=1.2,SNR=23						
URZ				Sn	Sn	00 30 34.1	-1.1
	10nm,0.3s,baz=171,slow=19,SNR=11						
ASAR	Alice Springs	41.99	271	P	P	00 35 54.1	+1.0
	1.2nm,0.4s,baz=109,slow=7.4,SNR=34						
WRA	Warramunga Arr	43.24	276	P	P	00 36 03.7	+0.5
	1.4nm,0.5s,baz=113,slow=8.0,SNR=31						
WRA				PcP	PcP	00 37 50.0	-2.1
	0.6nm,0.9s,baz=117,slow=2.8,SNR=2.6						
FITZ	Fitzroy Crossi	51.37	273	P	P	00 37 07.0	+0.5
	7.5nm,1.3s,baz=100,slow=6.1,SNR=5.1						
QSPA	South Pole Qui	56.91	180	P	P	00 37 47.8	+1.3
	1.4nm,0.3s,baz=52,slow=3.0,SNR=3.0						
VNA3	Neumayer Olymp	75.58	177	P	P	00 39 46.5	+0.7
VNA2	Neumayer--Watz	76.00	177	P	P	00 39 48.8	+0.6
	baz=171,slow=5.2						
MKAR	Makanchi Array	118.74	309	PKP	PKPdf	00 46 47.4	-1.8
	0.1nm,0.3s,baz=119,slow=1.8,SNR=3.0						
ARCES	ARCESS Array B	141.08	346	PKhKP	PKPpre	00 47 24.5	
	3.0nm,0.9s,baz=29,slow=2.1,SNR=2.3						
FINES	FINESS Array B	147.37	338	PKPbc	PKPdf	00 47 43.1	+1.3
	2.7nm,0.6s,baz=46,slow=4.2,SNR=23						
NB2	NORSAR Subarra	151.33	349	PKP	PKPbc	00 47 53.5	-0.8
	comp=Z,0.8nm,0.5s,baz=17,slow=2.6						
NOA	NORSAR Array B	151.33	349	PKPbc	PKPbc	00 47 53.2	-1.1
	comp=Z,0.9nm,0.8s,baz=20,slow=4.7,SNR=10						
TORD	Torodi Ar. Bea	160.02	183	PKPab	PKPab	00 48 39.3	-1.3
	comp=Z,0.7nm,0.6s,baz=171,slow=3.5,SNR=8.9						

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*IDC **07** 00:41:56.4±1.0, 26°.91N×56°.09E, h0km, mb3.9/20, mb1 4.1/20, mb1mx4.0/50, mbtmp4.0/20, MS3.2/3, Ms1 3.2/3, ms1mx2.7/50, Error ellipse: s-maj=24.1km s-min=15.1km az=4.0*
*NEIC **07** 00:41:57.3±0.3, 26°.84N×56°.16E, h10km, mb4.3/24, ML4.0(THR), MN4.2(TEH), Error ellipse: s-maj=7.3km s-min=4.1km az=166.0*
NEIC Felt at Qeshm, Iran.
*THR **07** 00:41:58.1, 26°.95N×56°.15E, h14km, ML4.0*
*MOS **07** 00:41:59.1±1.1, 26°.91N×56°.20E, h30km, mb4.6/29, Error ellipse: s-maj=7.1km s-min=4.7km az=105.0*
*DSN **07** 00:41:59.7±1.4, 27°.13N×56°.11E, h15km, ML3.9/11, Error ellipse: s-maj=20.6km s-min=7.2km az=68.0*
*TEH **07** 00:41:59.3, 27°.04N×56°.15E, h12km, ML4.2*
*OMAN **07** 00:42:00.5±0.8, 26°.96N×56°.46E, h7km±3km, ml4.0/12, Error ellipse: s-maj=8.7km s-min=6.2km az=323.0*
ISC 07 00:41:59.5±1.0**, 27°.04N**±0°.02×**56°.14E**±0°.04**, h16**km±6km**, n234, σ1^{s}53**/232**, mb4.3**/62**, 18C-6D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GENO	Geno	0.36	5	eSg	Sg	00 42 12.6	+0.3
GENO				ePg	Pg	00 42 06.8	-0.3
GENO				IAMB	IAmb	00 42 15.0	
	comp=Z,0.0nm,0.3s						
NIAN	Nian	0.81	50	ePg	Pg	00 42 14.2	-1.1
NIAN				IAMB	IAmb	00 42 34.4	
	comp=Z,0.0nm,0.2s						
SHME	Shamm	0.98	180	eP	Pn	00 42 18.9	+0.3
	SNR=159						
SHME				S	Sn	00 42 34.2	+1.9
BANOM	Banah	1.12	172	eP	Pg	00 42 21.0	-0.1
	SNR=40						
BANOM	Banah	1.12	172	P	Pg	00 42 20.7	-0.4
	SNR=819						
UMQ	Umm Al-Quwin	1.56	196	eP	Pb	00 42 27.9	-0.2
	SNR=9.8						
UMQ	Umm Al-Quwin	1.56	196	P	Pg	00 42 29.3	-0.3
UMQ				S	Sg	00 42 53.9	+4.0
UMQ	Umm Al-Quwin	1.56	196	ePn	Pg	00 42 29.7	+0.1
MSFE	Esma-Masafi	1.67	179	eP	Pb	00 42 29.8	-0.1
	SNR=76						
MSFE				S	Sg	00 42 53.9	+0.5
MSFE	Esma-Masafi	1.67	179	ePn	Pb	00 42 29.9	0.0
NAZ	Nazwa, Dubai	2.08	192	eP	Pb	00 42 36.0	-0.9
	SNR=27						
NAZ	Nazwa, Dubai	2.08	192	ePn	Pb	00 42 36.2	-0.7
HATD	Hatta, Dubai	2.20	180	eP	Pn	00 42 36.9	+1.5
	SNR=94						
HATD	Hatta, Dubai	2.20	180	P	Pn	00 42 36.8	+1.4
	SNR=16						
HATD	Hatta, Dubai	2.20	180	ePn	Pn	00 42 37.0	+1.5
FAQ	Al Faqa, Dubai	2.33	192	eP	Pb	00 42 39.5	-1.7
	SNR=13						
FAQ	Al Faqa, Dubai	2.33	192	P	Pb	00 42 39.5	-1.7
	SNR=13						
FAQ	Al Faqa, Dubai	2.33	192	ePn	Pb	00 42 39.6	-1.6
ASHO	Ashiyiah	2.34	182	eP	Pb	00 42 39.4	-2.0
	SNR=34						
ASHO	Ashiyiah	2.34	182	P	Pb	00 42 39.4	-2.0
	SNR=34						
ASHO	Ashiyiah	2.34	182	ePn	Pb	00 42 39.5	-1.9
ASUD	Al Ashush, Dub	2.51	197	eP	Pb	00 42 42.6	-1.6
	SNR=34						
ASUD	Al Ashush, Dub	2.51	197	P	Pb	00 42 42.6	-1.6
	SNR=33						
ASUD	Al Ashush, Dub	2.51	197	ePn	Pb	00 42 42.7	-1.5
NGRK	Negar Kerman	2.65	11	ePn	Pn	00 42 44.0	+2.1
NGRK				IAMB	IAmb	00 43 31.7	
	comp=Z,0.0nm,0.3s						
AJN	Ajban	2.67	203	eP	Pb	00 42 44.3	-2.6
	SNR=5.6						
AJN	Ajban	2.67	203	P	Pb	00 42 44.3	-2.6
	SNR=5.6						
JHRM	Jahrom	2.70	303	ePn	Pb	00 42 45.6	-1.8
JHRM				IAMB	IAmb	00 44 03.5	
	comp=Z,0.0nm,0.5s						
SOHO	SOHO	2.91	173	P	Pn	00 42 44.5	-0.7
	SNR=12						
KRBR	Kerman	2.98	10	eAML	AML	00 43 38.0	
	comp=E,419nm,0.7s						
KRBR				ePn	Pn	00 42 48.5	+2.1
KRBR				eSg	Sg	00 43 34.0	-1.5
ALNE	Al Ain	2.99	187	i P	Pn	00 42 48.1	+1.8
	SNR=15						
ALNE	Al Ain	2.99	187	ePn	Pn	00 42 48.3	+2.1
TVBK	TV Kerman	2.99	10	ePn	Pn	00 42 49.3	+2.8
TVBK				IAMB	IAmb	00 43 43.1	
	comp=Z,0.0nm,0.2s						
CHMN	Cheshme madani	3.07	23	ePn	Pn	00 42 50.0	+2.3
CHMN				IAMB	IAmb	00 43 50.8	
	comp=N,0.0nm,0.8s						
KHGB	Koh Gabri	3.34	5	ePn	Pn	00 42 54.2	+2.9
KHGB				IAMB	IAmb	00 43 15.3	
	comp=Z,0.0nm,0.4s						
HOQ	Hoqain	3.60	163	ePn	Pn	00 42 56.1	+1.4
BIDO	Bidbid	3.94	152	ePn	Pn	00 42 59.5	+0.2
SHI	Shiraz	4.11	310	ePn	Pn	00 43 04.1	+2.3
SHI				IAMB	IAmb	00 44 49.1	
	comp=Z,985nm,0.5s						
CHBR	Chabahar	4.16	109	ePn	Pn	00 43 02.6	+0.3
CHBR	Chabahar	4.16	109	ePn	Pn	00 43 02.6	+0.3
WBK	Wadi Bani Khal	5.11	149	P	Pn	00 43 16.1	+0.8
	SNR=9.1						
ISAD	Sadrabad	5.31	337	ePn	Pn	00 43 22.1	+3.7
ISAD				IAMB	IAmb	00 43 28.1	
	comp=Z,2μm,0.2s						
ICHK	Chekchek	5.40	344	ePn	Pn	00 43 22.1	+2.5
ICHK				IAMB	IAmb	00 44 33.4	
	comp=N,445nm,0.4s						
YZKH	Yazd	5.50	346	ePn	Pn	00 43 23.4	+2.5
YZKH	Yazd	5.50	346	ePn	Pn	00 43 23.4	+2.5
JLN	Jalan Bani Buh	5.71	148	P	Pn	00 43 22.8	-0.8
	SNR=9.9						
IRAM	Ramesheh	5.77	326	ePn	Pn	00 43 27.2	+2.5
IRAM				IAMB	IAmb	00 43 33.3	
	comp=Z,928nm,0.2s						
TPRV	Parvadeh(Tabas	5.99	4	ePn	Pn	00 43 29.4	+1.8
TPRV				IAMB	IAmb	00 45 28.7	
	comp=Z,0.0nm,1.8s						
ITEG	Tejag	6.26	21	ePn	Pn	00 43 32.9	+1.5
ITEG				IAMB	IAmb	00 45 31.0	
	comp=Z,584nm,0.9s						
IGAR	Gharneh	6.42	327	ePn	Pn	00 43 36.2	+2.6

IGAR IAMB IAmb 00 43 41.0
comp=Z,2μm,0.2s
ANAR Anarak 6.47 342 *e*Pn **Pn 00 43 36.6 +2.3**
TKDS Koohdasht(Taba 6.61 7 *e*Pn **Pn 00 43 38.3 +2.2**
TKDS IAMB IAmb 00 46 01.0
comp=Z,0.0nm,2.6s
IZEF Zefreh 6.71 331 *e*Pn **Pn 00 43 38.8 +1.2**
IZEF IAMB IAmb 00 43 44.4
comp=Z,673nm,0.6s
ZNGN Zangian 6.84 319 *e*Pn **Pn 00 43 41.7 +2.3**
ROKH ROKH 6.90 321 *e*Pn **Pn 00 43 42.2 +2.0**
ROKH IAMB IAmb 00 43 53.0
comp=Z,0.0nm,0.2s
TNSJ Nastanj 6.92 3 *e*Pn **Pn 00 43 41.8 +1.5**
TNSJ IAMB IAmb 00 45 54.0
comp=Z,0.0nm,1.4s
IPIR Pirpir 7.24 322 *e*Pn **Pn 00 43 47.2 +2.3**
IPIR IAMB IAmb 00 43 59.8
comp=Z,691nm,0.4s
IKLH Kolahrood 7.40 329 *e*Pn **Pn 00 43 49.0 +2.0**
IKLH IAMB IAmb 00 43 55.0
comp=Z,654nm,0.3s
KRSH Karshahi 7.72 334 *e*Pn **Pn 00 43 54.5 +3.1**
KRSH IAMB IAmb 00 44 02.5
comp=Z,0.0nm,0.4s
KHMZ Khomeyn 8.54 323 *e*Pn **Pn 00 44 05.0 +2.2**
KHMZ Khomeyn 8.54 323 *e*Pn **Pn 00 44 05.0 +2.2**
IDMV Damavand 9.21 339 *e*Pn **Pn 00 44 15.3 +3.4**
IDMV IAMB IAmb 00 44 35.5
comp=Z,144nm,0.5s
IKMR Kamar-syah 9.31 316 *e*Pn **Pn 00 44 14.3 +1.4**
IKMR IAMB IAmb 00 44 20.0
comp=Z,0.0nm,0.2s
IALA Alasht 9.45 343 *e*Pn **Pn 00 44 18.5 +3.2**
IALA IAMB IAmb 00 44 26.0
comp=Z,352nm,0.6s
IKFM Kafar-mosalman 9.65 314 *e*Pn **Pn 00 44 18.5 +0.9**
IKFM IAMB IAmb 00 44 22.4
comp=Z,0.0nm,0.2s
HSAM Samen 9.65 320 *e*Pn **Pn 00 44 19.4 +1.4**
IPRN Peran 9.73 342 *e*Pn **Pn 00 44 22.3 +3.4**
IPRN IAMB IAmb 00 44 26.7
comp=Z,631nm,0.4s
IRAZ Razeghan 9.88 329 *e*Pn **Pn 00 44 22.1 +1.0**
IRAZ IAMB IAmb 00 44 26.7
comp=Z,222nm,0.4s
RAYN Ar Rayn 10.24 252 *e*Pn **Pn 00 44 24.9 -0.9**
RAYN *e*Sn **Sn 00 46 16.3 -4.0**
RAYN Ar Rayn 10.24 252 *i* P **Pn 00 44 25.0 -0.9**
SNR=12
RAYN Ar Rayn 10.24 252 *e*P **Pn 00 44 25.0 -0.9**
RAYN *e* 00 46 16.3
IKOM Komasi 10.28 316 *e*Pn **Pn 00 44 27.6 +1.1**
IKOM IAMB IAmb 00 44 32.0
comp=Z,0.0nm,0.6s
IVIS Veis 10.93 315 *e*Pn **Pn 00 44 37.2 +1.9**
KBL Kabul 13.37 53 *e*Pn **Pn 00 45 07.7 -1.1**
KBL Kabul 13.37 53 *e*P **Pn 00 45 07.7 -1.1**
CHGR Chuyangaron 15.92 40 *e*Pn **Pn 00 45 42.8 -0.1**
comp=Z,7.2nm,1.0s
AKT Akhty 15.98 336 *i* P **P 00 45 46.6 -0.6**
AKT pmax pmax
comp=Z,9.0nm,0.5s
GNI Garni 16.14 327 *e*Pn **Pn 00 45 45.0 -0.8**
comp=Z,18nm,1.0s
GNI Garni 16.14 327 *ce*P **P 00 45 49.3 +0.3**
GNI pmax pmax
comp=Z,9.0nm,0.4s
NIL Nilore 16.17 62 *e*Pn **Pn 00 45 45.3 -0.9**
comp=Z,6.0nm,0.8s
NIL Nilore 16.17 62 P **Pn 00 45 45.2 -0.9**
NIL pmax pmax
comp=Z,6.0nm,0.8s
DAMY Dhamar 16.55 224 *e*Pn **Pn 00 45 45.7 -5.6**
comp=Z,10nm,0.5s
BTK Batken 17.81 39 *e*Pn **Pn 00 46 06.3 -0.5**
comp=Z,3.8nm,0.8s
BTK Batken 17.81 39 *e*P **Pn 00 46 06.3 -0.5**
BTK pmax pmax
comp=Z,4.0nm,0.8s
GROC Groznyy 18.18 335 *e*P **P 00 46 14.7 +3.3**
GROC pmax pmax
comp=Z,11nm,0.7s
ZEI Tsey 18.61 331 *e*P **Pn 00 46 18.1 +1.5**
ZEI pmax pmax
comp=Z,10.0nm,0.8s
NCK Nalchik 19.31 331 *i* P **Pn 00 46 26.7 +1.8**
NCK pmax pmax
comp=Z,17nm,0.8s
SFK Sufi-Kurgan 19.38 44 P **P 00 46 25.0 +0.2**
SFK pmax pmax
comp=Z,8.0nm,0.6s
NEY Neytrino 19.50 329 *i* P **Pn 00 46 29.9 +2.6**
NEY pmax pmax
comp=Z,2.0nm,0.7s
KBZ Khabaz 19.80 331 P **Pn 00 46 31.9 +1.2**
comp=Z,0.3nm,0.3s,baz=139,slow=8.3,SNR=19
KK31 Karatay Array 19.84 32 *e*P **P 00 46 29.6 0.0**
KK31 Karatay Array 19.84 32 *e*P **P 00 46 29.6 0.0**
KKAR Karatay Array 19.84 32 *e*P **P 00 46 29.6 0.0**
KKAR Karatay Array 19.84 32 *e*P **P 00 46 29.6 0.0**
ATD Arta Tunnel 19.85 222 LR LR 00 54 54.6
comp=Z,54nm,19.9s,baz=347,slow=39
ARSB Arslanbob 19.88 40 *e*P **P 00 46 29.8 -0.4**
comp=Z,7.7nm,0.6s
SHA1 Shidzhatmaz 19.91 330 *i* P **Pn 00 46 34.8 +2.5**
CUZAR Zara_SIVAS 19.93 315 *i* P **Pn 00 46 35.2 +2.8**
KVAR Kislovodsk Arr 20.07 331 P Pn 00 46 33.4 -0.7
comp=Z,3.4nm,0.6s,baz=81,slow=19,SNR=8.4
KIV Kislovodsk 20.07 331 *e*P Pn 00 46 33.7 -0.4
comp=Z,14nm,0.8s
KIV Kislovodsk 20.07 331 *ce*P Pn 00 46 34.1 0.0
KIV *e* 00 46 50.3
KIV *e*PPP PPP 00 46 57.2
KIV pmax pmax
comp=Z,5.0nm,0.5s
CUALT Altinyayla-SIV 20.25 312 *i* P Pn 00 46 38.5 +2.2
KSH Kashi 20.68 48 P **P 00 46 33.1 -5.8**
KSH PP **PnPn 00 46 53.6 -3.3**
KSH S S 00 50 12.0 -17
KSH SS Sn 00 50 41.7 +7.4
KSH pmax pmax
comp=Z,26nm,1.2s
KSH pmax pmax
comp=Z,240nm,5.7s
KSH LR LR
comp=N,310nm,7.9s
KSH LR LR
comp=E,230nm,5.1s
KSH LR LR
comp=Z,530nm,6.4s
AAK Ala-Archa 21.59 39 P **P 00 46 49.3 +0.5**
comp=Z,6.7nm,0.7s,baz=210,slow=5.5,SNR=14
AAK Ala-Archa 21.59 39 *e*P **P 00 46 48.9 +0.2**
comp=Z,6.3nm,0.7s
AAK Ala-Archa 21.59 39 *ce*P **P 00 46 49.2 +0.5**
AAK pmax pmax
comp=Z,6.0nm,0.9s
NRN Naryn 21.74 44 *e*P **P 00 46 50.3 -0.2**
comp=Z,18nm,0.6s
NRN Naryn 21.74 44 *e*P **P 00 46 50.3 -0.2**
NRN pmax pmax
comp=Z,18nm,0.6s
ABKAR Akbulak array 22.38 7 *e*P **P 00 46 57.0 +0.2**
BR131 Keskin Array S 22.58 310 *e*P **P 00 46 59.6 +0.3**
BRTR Keskin Array B 22.58 310 P **P 00 47 00.2 +0.9**
comp=Z,1.9nm,0.7s,baz=134,slow=14,SNR=14
BRTR LR LR 00 57 56.7
comp=Z,25nm,19.4s,baz=90,slow=42
KDJ Kajisay 22.87 43 *e*P **P 00 47 03.0 +0.6**
comp=Z,14nm,0.8s
KDJ Kajisay 22.87 43 *e*P **P 00 47 03.0 +0.6**
KDJ pmax pmax
comp=Z,14nm,0.8s
OTUK Ortayu 24.66 27 P **P 00 47 20.1 +0.7**
OTUK pmax pmax
comp=Z,5.0nm,0.6s
PDGK Podgornoye 24.95 43 P **P 00 47 22.1 -0.1**
PDGK pmax pmax
comp=Z,7.0nm,0.7s
VRH Novokhopyorsk 26.50 339 *e*P **P 00 47 36.3 +0.3**
VRH pmax pmax
comp=Z,9.0nm,0.5s
VSR Storozhevoye 27.37 336 *e*P **P 00 47 44.1 +0.3**
VSR pmax pmax
comp=Z,5.0nm,0.9s
BRVK Borovoye 28.05 18 *e*P **P 00 47 50.4 +0.5**
comp=Z,2.0nm,0.8s
BRVK Borovoye 28.05 18 *c i*P **P 00 47 49.1 -0.8**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
MAKZ Makanchi 28.36 39 *e*P **P 00 47 53.3 +0.5**
comp=Z,6.8nm,1.4s
MAKZ Makanchi 28.36 39 *e*P **P 00 47 53.3 +0.5**
MAKZ pmax pmax
comp=Z,7.0nm,1.4s
MK01 Makanchi Array 28.52 39 *e*P **P 00 47 54.5 +0.3**
MK31 Makanchi Array 28.53 39 *e*P **P 00 47 55.0 +0.7**
MK31 Makanchi Array 28.53 39 *e*P **P 00 47 55.0 +0.7**
MKAR Makanchi Array 28.53 39 P **P 00 47 54.5 +0.2**
comp=Z,2.6nm,0.6s,baz=224,slow=8.2,SNR=39
MKAR Makanchi Array 28.53 39 *e*P **P 00 47 54.4 +0.2**
comp=Z,25nm,0.5s
MKAR Makanchi Array 28.53 39 *ce*P **P 00 47 54.7 +0.4**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
KURBB Kurchatov Arra 29.09 30 P **P 00 47 59.6 +0.4**
comp=Z,1.8nm,0.8s,baz=229,slow=8.4,SNR=14
KURK Kurchatov 29.20 30 P **P 00 47 59.6 -0.5**
KURK Kurchatov 29.20 30 P **P 00 47 59.6 -0.5**
PLOR Plostina 30.00 317 ⇓ *i*P P 00 48 15.5 +8.2
PLOR Plostina 30.00 317 ⇓ P P 00 48 15.5 +8.2
SRS Serrai 30.20 306 P **P 00 48 10.4 +1.3**
SRS pmax pmax
comp=Z,11nm,1.5s
MLR Muntele Rosu 30.27 315 *e*P **P 00 48 11.0 +1.2**
comp=Z,29nm,2.0s
MLR Muntele Rosu 30.27 315 ⇑ *i*P **P 00 48 13.1 +3.3**
MLR Muntele Rosu 30.27 315 ⇑ P **P 00 48 13.1 +3.3**
SOH Sokhos 30.28 305 P **P 00 48 10.9 +1.0**
SOH pmax pmax
comp=Z,14nm,1.9s
WMQ Urumqi 30.45 48 *e*P **P 00 48 11.8 +0.4**
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,150nm,5.9s
WMQ LR LR
comp=N,100nm,19.1s
WMQ LR LR
comp=E,76nm,24.7s
WMQ LR LR
comp=Z,43nm,16.5s
VOIR 30.81 315 ⇑ *i*P **P 00 48 16.6 +2.1**
VOIR 30.81 315 ⇑ P **P 00 48 16.6 +2.1**
DOPR Dopca 30.83 316 ⇑ *i*P **P 00 48 15.4 +0.7**
ARR Arges 31.04 314 ⇑ *i*P **P 00 48 18.3 +1.7**
AKASG Malin Array Be 31.27 326 P **P 00 48 17.6 -0.9**
comp=Z,2.1nm,0.7s,baz=135,slow=8.4,SNR=8.9
AKBB Malin Array Si 31.27 326 *e*P **P 00 48 18.6 +0.2**
comp=Z,5.4nm,0.9s
AKBB Malin Array Si 31.27 326 *e*P **P 00 48 18.6 +0.2**
AKBB pmax pmax
comp=Z,5.0nm,0.9s
KIEV Kiev 31.27 326 *e*P **P 00 48 18.3 -0.2**
comp=Z,5.7nm,1.0s
KIEV Kiev 31.27 326 ⇑ *i*P **P 00 48 18.4 -0.1**
KIEV Kiev 31.27 326 *i* P **P 00 48 17.9 -0.6**
KIEV pmax pmax
comp=Z,3.0nm,0.8s
AK11 Malin Array Si 31.28 326 *e*P **P 00 48 19.0 +0.5**
OBN Obninsk 31.47 338 *e*P **P 00 48 20.1 0.0**
OBN *e* 00 49 25.4
OBN pmax pmax
comp=Z,4.0nm,0.9s
BURAR Bucovina Array 31.71 319 ⇑ *i*P **P 00 48 23.0 +0.5**
BURAR Bucovina Array 31.71 319 ⇑ P **P 00 48 23.0 +0.5**
FNA Florina 31.72 305 *e*P **P 00 48 23.2 +0.6**
comp=Z,14nm,1.3s
FNA Florina 31.72 305 *e*P **P 00 48 23.2 +0.6**
FNA pmax pmax
comp=Z,14nm,1.3s
BUR04 Bucovina Ar. S 31.72 319 *e*P **P 00 48 22.3 -0.3**
BUR08 Bucovina Ar. S 31.74 319 *e*P **P 00 48 23.3 +0.5**
GZR Gura Zlata 32.24 313 ⇓ *i*P **P 00 48 30.4 +3.2**
MDVR Moldovita 32.71 312 ⇑ *i*P **P 00 48 30.9 -0.4**
DRGR 32.86 316 ⇑ *i*P **P 00 48 33.7 +1.2**
DRGR 32.86 316 ⇑ P **P 00 48 33.7 +1.2**
DGZ Jazzator, Alta 32.99 38 *i* P **P 00 48 33.8 0.0**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
BZS Buzias 33.08 313 P **P 00 48 35.0 +0.6**
BZS pmax pmax
comp=Z,2.0nm,0.9s
SIRR Siria 33.31 314 ⇑ *i*P **P 00 48 37.8 +1.4**
CEI Carei 33.40 317 ⇓ *i*P P 00 48 25.9 -11
UZH Uzhgorod 33.92 319 *e*P **P 00 48 41.0 -0.7**
UZH *e* 00 48 50.6
ZAA0 Zalesovo Array 34.18 30 *e*P **P 00 48 44.1 +0.2**
comp=Z,5.2nm,0.9s
ZALV Zalesovo Beam 34.18 30 P **P 00 48 43.9 0.0**
comp=Z,3.6nm,0.3s,baz=233,slow=9.5,SNR=32
ZALV Zalesovo Beam 34.18 30 *e*P **P 00 48 43.6 -0.2**
KLMR Klimovskoe 35.64 346 *e*P **P 00 48 54.1 -2.3**
KLMR pmax pmax
comp=Z,14nm,1.5s
KLMR Klimovskoe 35.64 346 *e*P **P 00 48 54.1 -2.3**
KLMR AMP 00 49 03.2
comp=Z,14nm,1.4s
LANS Liptovska Anna 35.83 318 *e*P **P 00 48 59.7 +1.5**
LANS Liptovska Anna 35.83 318 *e*P **P 00 48 59.7 +1.5**
VYHS Vyhne 35.95 317 *e*P **P 00 49 00.3 +1.1**
VYHS Vyhne 35.95 317 *e*P **P 00 49 00.3 +1.1**
OJC Ojcow 36.09 320 *e*P **P 00 49 00.5 +0.1**
comp=Z,3.8nm,0.6s
OJC Ojcow 36.09 320 *e*P **P 00 49 00.5 +0.1**
OJC pmax pmax
comp=Z,4.0nm,0.6s
SUW Suwalki 36.22 327 P **P 00 49 01.8 +0.4**
SUW pmax pmax
comp=Z,11nm,1.0s
OKC Ostrava-Krasne 36.89 318 *e*P **P 00 49 07.4 +0.2**
OKC Ostrava-Krasne 36.89 318 *e*P **P 00 49 07.4 +0.2**
MORC Moravsky Berou 37.23 318 *e*P **P 00 49 10.8 +0.6**
comp=Z,11nm,1.7s
MORC Moravsky Berou 37.23 318 *e*P **P 00 49 10.8 +0.6**
MORC pmax pmax
comp=Z,11nm,1.7s
VRAC Vranov 37.62 317 ⇓ *i*P **P 00 49 14.6 +1.1**
VRAC Vranov 37.62 317 ⇓ P **P 00 49 14.6 +1.1**
KRUC Moravsky 37.65 317 P **P 00 49 14.1 +0.4**
KRUC pmax pmax
comp=Z,5.0nm,2.5s
DPC Dobruska-Polom 38.18 318 *e*P **P 00 49 17.4 -0.8**
DPC Dobruska-Polom 38.18 318 *e*P **P 00 49 17.4 -0.8**
GTA Gaotai 38.22 60 *e*P **P 00 49 21.7 +2.9**
GTA pP sP 00 49 25.6 -0.2
GTA sP pP 00 49 28.8 +5.0
GTA pmax pmax
comp=Z,2.0nm,0.8s
MOA Moln 38.59 314 *e*P **P 00 49 22.3 +0.6**
comp=Z,1.5nm,0.7s
KNGR Kungurtug, Tuv 39.20 42 *i* P **P 00 49 28.1 +1.2**
GERES GERESS Array B 39.26 315 P **P 00 49 26.9 -0.4**
comp=Z,0.4nm,0.8s,baz=97,slow=4.2,SNR=3.7
JOF Joensuu 39.42 342 P **P 00 49 28.9 +0.6**
JOF pmax pmax
comp=Z,9.0nm,1.9s
KHC Kasperske Hory 39.42 316 *e*P **P 00 49 29.3 +0.7**
comp=Z,7.2nm,2.0s
KHC Kasperske Hory 39.42 316 *e*P **P 00 49 29.4 +0.8**
KHC *ex* x 00 49 42.5
KHC Kasperske Hory 39.42 316 *e*P **P 00 49 29.3 +0.7**
KHC pmax pmax
comp=Z,7.0nm,2.0s
FIA1 FINESS Array S 39.87 338 *e*P **P 00 49 32.9 +0.8**
FINES FINESS Array B 39.87 338 P **P 00 49 32.5 +0.3**
comp=Z,3.4nm,0.6s,baz=140,slow=9.4,SNR=32
WATA Walderalm 40.21 312 P **P 00 49 35.4 +0.1**
comp=Z,2.0nm,0.7s
SQTA Sankt Quirin 40.42 312 *e*P **P 00 49 37.0 -0.1**
comp=Z,1.9nm,0.4s
MOTA Moosalm 40.52 312 *e*P **P 00 49 38.0 +0.1**
comp=Z,1.1nm,0.5s
FETA Feichten 40.69 312 *e*P **P 00 49 40.0 +0.6**
comp=Z,2.7nm,0.7s
SUF Sumiainen 40.77 339 P **P 00 49 40.7 +1.1**
SUF pmax pmax
comp=Z,19nm,0.7s
FUORN Ofenpass-Fuorn 40.92 311 *e*P **P 00 49 41.2 -0.1**
comp=Z,6.4nm,1.2s
DAVA Damuels 41.32 312 *e*P **P 00 49 44.4 -0.1**
comp=Z,5.9nm,0.8s
SENIN Lac Senin/Sane 42.88 310 *e*P **P 00 49 56.9 -0.4**
comp=Z,11nm,1.5s
LVZ Lovozero 42.89 348 *e*P **P 00 49 57.0 +0.1**
comp=Z,105nm,1.9s
LVZ Lovozero 42.89 348 *e*P **P 00 49 57.0 +0.1**
LVZ pmax pmax
comp=Z,105nm,1.9s
BNI Bardonecchia 43.12 308 *e*P **P 00 49 59.0 -0.2**
comp=Z,21nm,1.7s
BNI Bardonecchia 43.12 308 *e*P **P 00 49 59.0 -0.2**
BNI pmax pmax
comp=Z,21nm,1.7s
SONM Songino Array 44.09 48 P **P 00 50 07.7 +0.8**
comp=Z,0.8nm,0.6s,baz=262,slow=9.4,SNR=8.0
SONA1 Songino Array 44.09 48 *e*P **P 00 50 06.6 -0.4**
NC602 NORSAR Array S 45.10 331 *e*P **P 00 50 14.8 +0.2**
NORES NORESS Array B 45.10 331 P **P 00 50 14.3 -0.3**
NORES pmax pmax
comp=Z,2.0nm,0.3s
NC405 NORSAR Array S 45.20 331 *e*P **P 00 50 15.2 -0.3**
NB2 NORSAR Subarra 45.38 331 P **P 00 50 16.3 -0.7**
comp=Z,0.9nm,0.7s,baz=115,slow=7.9
NB2 NORSAR Subarra 45.38 331 P **P 00 50 16.2 -0.7**
NB2 pmax pmax
comp=Z,9.0nm,0.7s
NOA NORSAR Array B 45.38 331 P **P 00 50 16.4 -0.7**
comp=Z,1.6nm,0.8s,baz=116,slow=7.9,SNR=8.6
ARCES ARCESS Array B 46.12 346 P **P 00 50 23.2 +0.6**
comp=Z,1.4nm,0.4s,baz=146,slow=8.4,SNR=24
HHC Hu-ho-hao-te 47.27 58 *e*P **P 00 50 31.9 -0.3**
HHC pmax pmax
comp=Z,5.0nm,1.1s
ESDC Sonseca Array 50.90 300 P **P 00 50 59.8 -0.2**
comp=Z,0.3nm,0.4s,baz=75,slow=7.2,SNR=12
TOA0 Torodi Ar. Sit 52.59 266 *e*P **P 00 51 11.8 -1.0**
TORD Torodi Ar. Bea 52.59 266 P **P 00 51 11.2 -1.6**
comp=Z,0.8nm,0.5s,baz=50,slow=8.2,SNR=19
SPITS Spitsbergen Ar 54.28 351 LR LR 01 20 21.7
comp=Z,79nm,18.4s,baz=255,slow=42
KSAR Wonju Array Be 60.26 61 P **P 00 52 06.8 -0.4**
KSAR Wonju Array Be 60.26 61 P **P 00 52 06.8 -0.4**
KSRS Korea Array 60.29 61 P **P 00 52 06.8 -0.6**
comp=Z,0.9nm,0.7s,baz=274,slow=7.8,SNR=6.7
KLR Kul'dur 60.88 47 P **P 00 52 11.4 +0.2**
comp=Z,1.3nm,0.8s,baz=260,slow=6.1,SNR=3.6
TULEG Thule 71.35 348 *e*P **P 00 53 18.6 +0.6**
comp=Z,28nm,2.0s
IL1 Eielson Array 86.75 10 *e*P **P 00 54 42.5 0.0**
ILAR Eielson Array 86.75 10 P **P 00 54 42.0 -0.5**
comp=Z,0.4nm,0.7s,baz=319,slow=3.7,SNR=5.6
WRA Warramunga Arr 88.96 113 P **P 00 54 54.1 +0.4**
comp=Z,0.5nm,0.8s,baz=309,slow=4.0,SNR=4.7
SUA Susitna One 89.17 13 *e*P **P 00 54 53.2 -1.0**
comp=Z,58nm,1.8s
GHO Glory Hole Cre 89.22 12 *e*P **P 00 54 50.8 -3.7**
comp=Z,93nm,2.0s
ASAR Alice Springs 90.41 116 P **P 00 55 00.1 -0.4**
comp=Z,0.3nm,0.7s,baz=309,slow=5.7,SNR=3.3
YKA Yellowknife Ar 90.47 356 P **P 00 55 00.7 +0.6**
comp=Z,0.2nm,0.6s,baz=359,slow=4.0,SNR=4.7

IDC 07 00:54:19.7±1.8,1°50N×127°26E,h0km,mb3.8/3, mb1 3.9/4,mb1mx3.5/40,mbtmpg3.8/4,ML3.6/1,Error ellipse: s-maj=109.8km s-min=22.5km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.54**	**185**	P	Pn	00 58 49.9	-0.3
	0.1nm,0.3s,baz=5.3,slow=8.2,SNR=4.8						
WRA	**Warramunga Arr**	**22.41**	**162**	P	P	00 59 20.5	+0.4
	1.6nm,0.4s,baz=340,slow=11,SNR=39						
ASAR	**Alice Springs**	**25.83**	**166**	P	P	00 59 52.2	-0.8
	0.7nm,0.5s,baz=349,slow=7.8,SNR=10						
MKAR	**Makanchi Array**	**59.68**	**326**	P	P	01 04 26.1	0.0
	0.5nm,0.4s,baz=118,slow=8.7,SNR=12						

*ISCJB **07** 00:55:30.8±0.4,6°54S±0°04×104°06E±0°04,h48km, mb4.2/17,MS2.7/1,Error ellipse: s-maj=7.8km s-min=4.4km az=44.9*
*DJA **07** 00:55:33.8±0.5,6°S±3°×10°4E±°,h10km,M4.4/12,mb4.7/3, MLv4.3/12*
*NEIC **07** 00:55:35.3±1.2,6°21S×104°35E,h60km±9km,mb4.4/6, Error ellipse: s-maj=24.3km s-min=6.8km az=221.0*
*IDC **07** 00:55:36.5±4.2,6°22S×104°34E,h71km±36km,mb3.8/13, mb1 4.0/15,mb1mx3.8/41,mbtmp4.2/15,ML4.5/2,MS2.9/1, Ms1 3.1/1,ms1mx2.5/38,Error ellipse: s-maj=34.9km s-min=15.1km az=54.0*

ISC 07 00:55:33.7±0.6,6°38S±0°07×104°20E±0°07,h48km,n61, σ1§28/61,mb4.2/17,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**0.90**	**20**	P	**Pn**	**00 55 49.5**	**-0.6**
KASI				S	**Sn**	**00 56 00.7**	**-1.3**
LWLI	**Liwa**	**1.36**	**354**	P	**Pn**	**00 55 57.1**	**+0.7**
BLSI	**Bandar Lampung**	**1.45**	**46**	P	**Pn**	**00 55 57.7**	**+0.2**
BLSI				S	**Sn**	**00 56 14.9**	**-0.5**
KLI	**Kotabumi**	**1.64**	**24**	P	**Pn**	**00 56 01.9**	**+1.7**
MDSI	**Maura Dua**	**1.88**	**360**	P	**Pn**	**00 56 04.8**	**+1.4**
MDSI				S	**Sn**	**00 56 29.9**	**+3.3**
SBJI	**Serang**	**1.94**	**83**	P	**Pn**	**00 56 05.2**	**+0.9**
MNAI	**Manna**	**2.35**	**328**	*e*Pn	**Pn**	**00 56 10.5**	**+0.6**
MNAI				*e*Sn	**Sn**	**00 56 38.6**	**+1.0**
MNAI	**Manna**	**2.35**	**328**	P	**Pn**	**00 56 11.4**	**+1.5**
SKJI	**Sukabumi**	**2.43**	**105**	P	**Pn**	**00 56 13.4**	**+2.4**
DBJI	**Dramaga**	**2.54**	**94**	P	**Pn**	**00 56 12.9**	**+0.3**
CBJI	**Citeko**	**2.64**	**91**	P	**Pn**	**00 56 17.6**	**+3.7**
LEM	**Lembang**	**3.43**	**98**	P	**Pn**	**00 56 27.1**	**+2.3**
	12nm,0.3s,baz=212,slow=15,SNR=7.7						
LEM				S	**Sn**	**00 57 06.8**	**+2.4**
	8.8nm,0.3s,baz=300,slow=20,SNR=2.5						
CISI	**Cisompet, Garu**	**3.78**	**108**	*e*Pn	**Pn**	**00 56 28.6**	**-1.0**
CISI	**Cisompet, Garu**	**3.78**	**108**	P	**Pn**	**00 56 30.6**	**+1.0**
XMIS	**Christmas Isla**	**4.33**	**161**	*e*Pn	Pn	00 56 32.0	-5.1
XMIS				*e*Sn	Sn	00 57 16.1	-10
PPBI	**Pangkal Pinang**	**4.61**	**25**	P	**Pn**	**00 56 42.9**	**+1.9**
UGM	**Wanagama**	**6.46**	**104**	*e*Pn	**Pn**	**00 57 07.3**	**+0.9**
UGM	**Wanagama**	**6.46**	**104**	P	**Pn**	**00 57 08.4**	**+2.0**
	268nm,1.9s,1.6nm						
PCJI	**Pacitan**	**7.16**	**105**	P	**Pn**	**00 57 17.6**	**+1.7**
	62nm,1.2s,0.6nm						
PWJI	**Pagerwojo**	**7.72**	**103**	P	**Pn**	**00 57 25.4**	**+1.7**
JAGI	**Jajag, Banyuwa**	**10.09**	**103**	*e*Pn	**Pn**	**00 57 55.3**	**-0.9**
BATI	**Baumata**	**19.64**	**102**	P	**P**	**00 59 57.4**	**-1.2**
	5.3nm,0.3s,baz=278,slow=7.1,SNR=2.5						
SOEI	**Soe**	**20.15**	**101**	*e*P	**P**	**01 00 03.4**	**-0.9**
	44nm,0.9s						
CM31	**Chiang Mai Arr**	**25.21**	**348**	*e*P	**P**	**01 00 54.2**	**-1.0**
CMAR	**Chiang Mai Arr**	**25.21**	**348**	P	**P**	**01 00 54.2**	**-1.0**
	0.6nm,0.3s,baz=185,slow=9.1,SNR=6.1						
CMAR				LR	LR	01 11 14.7	
	comp=Z,23nm,18.9s,baz=190,slow=37						
H01W3	**Cape Leeuwin H**	**29.82**	**163**	T	T	01 33 00.8	
	baz=342						
H01W2	**Cape Leeuwin H**	**29.83**	**163**	T	T	01 33 23.9	
	baz=342						
H01W1	**Cape Leeuwin H**	**29.83**	**163**	T	T	01 33 16.1	
	baz=342						
H08S2	**Diego Garcia H**	**31.49**	**266**	T	T	01 35 36.2	
	baz=89						
H08S3	**Diego Garcia H**	**31.50**	**266**	T	T	01 35 36.4	
	baz=89						
H08S1	**Diego Carcia H**	**31.50**	**266**	T	T	01 35 38.7	
	baz=89						
WRA	**Warramunga Arr**	**32.22**	**118**	P	P	**01 01 56.9**	**-0.8**
	1.0nm,0.7s,baz=290,slow=9.9,SNR=6.2						
WR1	**Warramunga Arr**	**32.22**	**118**	*e*P	P	**01 01 56.9**	**-0.8**
	8.8nm,1.5s						
ASAR	**Alice Springs**	**33.33**	**124**	P	P	**01 02 07.2**	**-0.2**
	0.3nm,0.4s,baz=298,slow=7.9,SNR=4.5						
AS31	**Alice Springs**	**33.33**	**124**	*e*P	P	**01 02 07.2**	**-0.2**
	0.8nm,0.9s						
STKA	**Stephens Creek**	**43.14**	**131**	P	P	**01 03 30.5**	**+0.8**
	4.7nm,0.5s,baz=308,slow=8.9,SNR=13						
STKA	**Stephens Creek**	**43.14**	**131**	*e*P	P	**01 03 30.9**	**+1.2**
	1.0nm,0.6s						
KS15	**Wonju Array Si**	**48.88**	**25**	*e*P	P	**01 04 14.9**	**+0.1**
KSRS	**Korea Array**	**48.91**	**25**	P	P	**01 04 14.9**	**-0.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.8nm,0.5s,baz=224,slow=6.8,SNR=3.7						
SONA0	**Songino Array**	**54.01**	**2**	*e*P	**P**	**01 04 52.6**	**-0.6**
SONA0				*e*PcP	**PcP**	**01 05 57.4**	**-0.4**
SONM	**Songino Array**	**54.01**	**2**	P	**P**	**01 04 52.6**	**-0.6**
	1.2nm,0.5s,baz=181,slow=9.3,SNR=12						
SONM				PcP	**PcP**	**01 05 57.4**	**-0.4**
	0.7nm,0.5s,baz=174,slow=4.2,SNR=4.0						
USRK	**Ussuriysk Ar.**	**56.24**	**24**	P	**P**	**01 05 07.8**	**-1.3**
	2.8nm,0.6s,baz=201,slow=6.1,SNR=8.4						
MK01	**Makanchi Array**	**56.37**	**342**	*e*P	**P**	**01 05 09.5**	**-0.6**
MK31	**Makanchi Array**	**56.40**	**342**	*e*P	**P**	**01 05 09.7**	**-0.6**
MK32	**Makanchi Array**	**56.40**	**342**	*e*P	**P**	**01 05 09.7**	**-0.6**
MKAR	**Makanchi Array**	**56.40**	**342**	P	**P**	**01 05 09.7**	**-0.6**
	2.6nm,0.6s,baz=146,slow=8.1,SNR=33						
MKAR	**Makanchi Array**	**56.40**	**342**	*e*P	**P**	**01 05 09.7**	**-0.6**
	17nm,0.6s						
KLR	**Kul'dur**	**60.38**	**20**	P	**P**	**01 05 36.2**	**-1.7**
	1.0nm,0.6s,baz=226,slow=5.9,SNR=7.6						
GEYT	**Alibeck**	**61.47**	**320**	P	**P**	**01 05 45.8**	**+0.1**
	45nm,0.7s,baz=167,slow=7.1,SNR=3.5						
ZAA0	**Zalesovo Array**	**62.27**	**347**	*e*P	**P**	**01 05 49.6**	**-1.0**
	3.1nm,0.8s						
ZALV	**Zalesovo Beam**	**62.27**	**347**	P	**P**	**01 05 49.3**	**-1.4**
	1.7nm,0.3s,baz=160,slow=4.7,SNR=16						
ZAA1	**Zalesovo Array**	**62.28**	**347**	*e*P	**P**	**01 05 49.3**	**-1.4**
ABKAR	**Akbulak array**	**67.47**	**330**	*e*P	**P**	**01 06 24.6**	**0.0**
BR101	**Keskin Array S**	**79.34**	**312**	*e*P	**P**	**01 07 35.2**	**+0.3**
BRTR	**Keskin Array B**	**79.34**	**312**	P	**P**	**01 07 35.2**	**+0.3**
	0.5nm,0.6s,baz=121,slow=8.9,SNR=4.6						
BUR04	**Bucovina Ar. S**	**87.29**	**318**	*e*P	**P**	**01 08 17.4**	**+1.9**
FIA0	**FINESS Array S**	**89.91**	**332**	*e*P	**P**	**01 08 27.9**	**+0.4**
FINES	**FINESS Array B**	**89.91**	**332**	P	**P**	**01 08 27.9**	**+0.4**
	1.6nm,0.9s,baz=98,slow=7.9,SNR=4.4						
ARA0	**ARCESS Array S**	**91.99**	**340**	*e*P	**P**	**01 08 36.4**	**-0.6**
ARCES	**ARCESS Array B**	**91.99**	**340**	P	**P**	**01 08 36.4**	**-0.6**
	3.6nm,1.0s,baz=103,slow=3.9,SNR=3.1						
TXAR	**Lajitas Array**	**145.19**	**46**	PKP	**PKPdf**	**01 15 07.0**	**+0.1**
	0.8nm,0.6s,baz=276,slow=1.1,SNR=13						

IDC 07 01:04:46.9±2.9**, 11°.04S**×**118°.96E, h0km, mb3.1**/1**, mb1 3.8**/4**, mb1mx3.5**/34**, mbtmp3.6**/4**, ML3.1**/3**, MS2.9**/2**, Ms1 2.9**/2**, ms1mx2.7**/10**, Error ellipse: s-maj=224.9km s-min=25.0km az=50.0, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.70**	**80**	LR	LR	01 08 17.1	
	comp=Z,181nm,22.0s,baz=51,slow=45						
FITZ	**Fitzroy Crossi**	**9.54**	**138**	Pn	Pn	01 07 05.0	-0.7
	0.2nm,0.3s,baz=324,slow=11,SNR=13						
FITZ				Sn	Sn	01 08 44.8	-8.9
	0.2nm,0.3s,baz=164,slow=20,SNR=3.9						
FITZ				LR	LR	01 11 37.3	
	comp=Z,56nm,18.0s,baz=182,slow=43						
WRA	**Warramunga Arr**	**17.25**	**123**	P	Pn	01 08 48.4	-1.1
	0.1nm,0.3s,baz=292,slow=13,SNR=3.4						
ASAR	**Alice Springs**	**18.98**	**133**	P	Pn	01 09 11.4	+0.6
	0.1nm,0.3s,baz=314,slow=13,SNR=3.7						
MKAR	**Makanchi Array**	**66.24**	**333**	P	P	01 15 36.7	-0.1
	0.2nm,0.8s,baz=130,slow=7.8,SNR=2.6						

IDC 07 01:16:37.7±2.2**, 18°.33S**×**167°.58E, h0km, mb3.8**/4**, mb1 4.0**/5**, mb1mx3.7**/29**, mbtmp3.7**/5**, ML3.1**/1**, Error ellipse: s-maj=54.1km s-min=34.3km az=131.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.87**	**196**	Pn	Pn	01 17 39.0	+0.4
	1.5nm,0.3s,baz=41,slow=20,SNR=12						
DZM				Sn	Sn	01 18 23.0	-1.9
	3.9nm,0.3s,baz=344,slow=18,SNR=8.6						
WRA	**Warramunga Arr**	**31.42**	**262**	P	P	01 23 00.1	-0.7
	0.2nm,0.4s,baz=94,slow=8.9,SNR=5.0						
ASAR	**Alice Springs**	**31.84**	**255**	P	P	01 23 04.5	-0.1
	0.8nm,0.6s,baz=83,slow=8.9,SNR=9.7						
FITZ	**Fitzroy Crossi**	**39.78**	**264**	P	P	01 24 13.1	+0.4
	2.5nm,0.8s,baz=80,slow=12,SNR=3.9						
ILAR	**Eielson Array**	**89.84**	**18**	P	P	01 29 37.9	-0.1
	1.4nm,1.2s,baz=224,slow=6.3,SNR=4.3						

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*NIED **07** 01:33:00, 36°.80N×144°.20E, h5km, Mw3.4 Best double couple: M₀1.23000×10^14 NP1:φs349.00000°, δ36.00000°, λ-148.00000°. NP2:φs232.00000°, δ72.00000°, λ-58.00000°.*
*IDC **07** 01:33:49.6±2.9, 36°.57N×144°.63E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.3/38, mbtmp3.7/4, ML3.8/2, MS2.2/1, Ms1 2.2/1, ms1mx2.0/28, Error ellipse: s-maj=59.0km s-min=35.5km az=60.0*
*ISCJB **07** 01:33:51.3±0.9, 36°.81N±0°.05×144°.40E±0°.06, h26km, mb3.5/2, Error ellipse: s-maj=7.8km s-min=6.9km az=135.3*
*JMA **07** 01:33:55.1±0.3, 36°.80N×144°.23E, h53km, M3.5*
ISC 07 01:33:52.2±1.4**, 36°.84N**±0°.07×**144°.51E**±0°.10**, h26km, n16,** σ**2°.33**/27**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.83**	**302**	P	**Pn**	**01 34 36.8**	**+1.2**
JIKH				S	**Sn**	**01 35 07.2**	**-1.6**
JIO	**Ouri**	**2.98**	**304**	P	**Pn**	**01 34 38.9**	**+1.2**
JIO				S	**Sn**	**01 35 11.3**	**-1.3**
ONAJ	**Iwakimizuishiy**	**2.98**	**276**	S	**Sn**	**01 35 10.9**	**-1.9**
JMK	**Ichinoseki**	**3.35**	**310**	P	**Pn**	**01 34 44.4**	**+1.6**
JMK				*e*S	**Sn**	**01 35 20.6**	**-1.1**
JFT	**Otama**	**3.40**	**283**	P	**Pn**	**01 34 44.7**	**+1.2**
JFT				*e*S	**Sn**	**01 35 21.8**	**-1.2**
BSO1	**Boso 1**	**3.61**	**234**	P	**Pn**	**01 34 45.8**	**-0.1**
JRY	**Ryogami san**	**4.60**	**261**	P	**Pn**	**01 35 00.2**	**+0.2**
JRY				*e*S	**Sn**	**01 35 49.6**	**-3.0**
JOD2	**Odawara 2**	**4.67**	**252**	P	**Pn**	**01 35 01.5**	**+0.5**
JOD2				*e*S	**Sn**	**01 35 51.2**	**-3.1**
MJAR	**Matsushiro Arr**	**5.07**	**268**	Pn	**Pn**	**01 35 08.3**	**+1.8**
	3.1nm,0.3s,baz=84,slow=8.6,SNR=18						
MJAR				Sn	**Sn**	**01 36 05.0**	**+0.7**
	0.5nm,0.3s,baz=90,slow=25,SNR=2.8						
MJAR				LR	LR	01 37 20.7	
	comp=Z,25nm,21.4s,baz=105,slow=41						
MAT	**Matsushiro**	**5.07**	**268**	P	**Pn**	**01 35 08.5**	**+1.9**
MAT				*e*S	**Sn**	**01 36 02.4**	**-1.9**
JHJ	**Hachijo jima 2**	**5.37**	**228**	Pn	**Pn**	**01 35 09.4**	**-1.3**
	12nm,0.3s,baz=74,slow=18,SNR=4.4						
JHJ				Sn	**Sn**	**01 36 06.5**	**-5.1**
	18nm,0.3s,baz=66,slow=20,SNR=3.4						
JCH	**Churui**	**5.83**	**352**	P	**Pn**	**01 35 17.5**	**+0.6**
JCH				S	**Sn**	**01 36 18.3**	**-4.6**
NEM2	**Nemuro 2**	**6.58**	**8**	P	**Pn**	**01 35 26.5**	**-0.7**
NEM2				*e*S	**Sn**	**01 36 36.7**	**-4.6**
JTKR	**Abashiri--Toko**	**7.13**	**356**	P	**Pn**	**01 35 36.6**	**+1.8**
MKAR	**Makanchi Array**	**46.31**	**303**	P	**P**	**01 42 18.7**	**+3.0**
	0.4nm,0.7s,baz=91,slow=9.7,SNR=4.9						
WRA	**Warramunga Arr**	**57.29**	**191**	P	**P**	**01 43 37.3**	**-0.3**
	0.3nm,0.6s,baz=10,slow=7.6,SNR=4.2						

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*NEIC **07** 01:34:23.7±0.0, 17°.03N×101°.78W, h17km, MD4.0(MEX), After MEX.*
MEX 07 01:34:24.0±0.6**, 17°.04N**×**101°.78W, h16km**±47km**, MD4.0, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.64**	**28**	*e*P	Pg	01 34 34.3	-2.4
ZIIG				*i* S	Sg	01 34 42.1	-3.1
ZIIG	**Zihuatanejo**	**0.64**	**28**	*e*P	Pg	01 34 34.3	-2.4
ZIIG				*i* S	Sg	01 34 42.1	-3.1
CAIG	**El Cayaco**	**1.45**	**89**	*e*P	Pn	01 34 45.5	-4.0
CAIG	**El Cayaco**	**1.45**	**89**	*e*P	Pn	01 34 45.5	-4.0
CAIG				*e*S	Sn	01 35 02.6	-5.6
ACP2	**Acapulco**	**1.82**	**95**	*i* S	Sn	01 35 09.7	-7.7
ARIG	**Puente Sto Nin**	**1.84**	**48**	*e*P	Pn	01 34 52.0	-3.0
ARIG				*e*S	Sn	01 35 13.2	-4.8
ARIG	**Puente Sto Nin**	**1.84**	**48**	*e*P	Pn	01 34 52.0	-3.0
ARIG				*e*S	Sn	01 35 13.2	-4.8
MEIG	**Mezcala**	**2.24**	**66**	*e*P	Pn	01 34 57.7	-2.9
MEIG				*e*S	Sn	01 35 23.9	-4.1
MEIG	**Mezcala**	**2.24**	**66**	*e*P	Pn	01 34 57.7	-2.9
MEIG				*e*S	Sn	01 35 23.9	-4.1
TLIG	**Tlapa**	**3.11**	**80**	*e*Pn	Pn	01 35 10.5	-2.1
TLIG				*e*Sn	Sn	01 35 41.9	-7.6
UNM	**Universidad Na**	**3.36**	**47**	*e*Pn	Pn	01 35 08.8	-7.4
UNM				*e*Sn	Sn	01 35 52.1	-3.9
JRQG	**Juriquilla Cam**	**3.86**	**19**	*e*Pn	Pn	01 35 15.5	-7.5
CJM	**Chamela**	**3.95**	**309**	*e*P	Pn	01 35 21.6	-2.4
CJM	**Chamela**	**3.95**	**309**	*i* P	Pn	01 35 22.1	-1.9
CJM				*e*S	Sn	01 36 06.0	-4.1

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*ISCJB **07** 01:43:42.1±0.3, 41°.35S±0°.03×172°.94E±0°.04, h130km±4km, mb3.8/2, Error ellipse: s-maj=6.4km s-min=3.1km az=41.3*
*WEL **07** 01:43:42.9, 41°S±3°×17°3E±°, h121km±3km*
*IDC **07** 01:43:42.4±2.0, 41°.33S×173°.10E, h115km±18km, mb3.7/2, mb1 4.0/4, mb1mx3.6/30, mbtmp4.2/4, MS2.8/1, Ms1 2.8/1, ms1mx2.4/25, Error ellipse: s-maj=32.2km s-min=23.7km az=148.0*
ISC 07 01:43:43.5±0.8**, 41°.33S**±0°.04×**172°.91E**±0°.04**, h122km**±5km**, n138,** σ**1°.19**/157**, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.37**	**73**	P	**Pn**	**01 44 00.7**	**-0.3**
NNZ				S	**Sn**	**01 44 13.4**	**-0.7**
THZ	**Tophouse**	**0.43**	**180**	P	**Pn**	**01 44 01.6**	**+0.2**
THZ				S	**Sn**	**01 44 14.4**	**-0.5**
QRZ	**Quartz Range**	**0.58**	**330**	P	**Pn**	**01 44 01.3**	**-0.9**
QRZ				S	**Sn**	**01 44 13.4**	**-2.8**
TUWZ	**Tuamarina**	**0.79**	**98**	P	**Pn**	**01 44 04.1**	**+0.4**
TUWZ				S	**Sn**	**01 44 19.3**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.82**	**118**	P	**Pn**	**01 44 04.5**	**+0.4**
DSZ	**Denniston Nort**	**0.93**	**243**	P	**Pn**	**01 44 04.5**	**-0.6**
DSZ				S	**Sn**	**01 44 19.1**	**-2.3**
DUWZ	**D'Urville Isla**	**0.93**	**56**	P	**Pn**	**01 44 05.4**	**+0.4**
DUWZ				S	**Sn**	**01 44 21.1**	**-0.3**
TCW	**Tory Channel**	**1.04**	**84**	P	**Pn**	**01 44 06.6**	**+0.5**
TCW				S	**Sn**	**01 44 23.2**	**+0.1**
CMWZ	**Cape Campbell**	**1.07**	**114**	P	**Pn**	**01 44 07.0**	**+0.7**
KHZ	**Kahutara**	**1.19**	**157**	P	**Pn**	**01 44 08.3**	**+0.8**
KHZ				S	**Sn**	**01 44 25.4**	**-0.4**
BHW	**Baring Head**	**1.48**	**94**	P	**Pn**	**01 44 10.4**	**-0.4**
BHW				S	**Sn**	**01 44 30.8**	**-0.8**
LTZ	**Lake Taylor**	**1.53**	**198**	P	**Pn**	**01 44 12.0**	**+0.6**
KIW	**Kapiti Island**	**1.58**	**74**	P	**Pn**	**01 44 12.0**	**-0.1**
CAW	**Cannon Point**	**1.65**	**83**	P	**Pn**	**01 44 12.5**	**-0.3**
MSWZ	**Moikau Station**	**1.77**	**94**	P	**Pn**	**01 44 13.6**	**-0.6**
INZ	**Inchbonnie**	**1.77**	**217**	P	**Pn**	**01 44 14.3**	**+0.1**
PLWZ	**Palliser**	**1.78**	**99**	P	**Pn**	**01 44 13.8**	**-0.6**
OGWZ	**Otaki Gorge**	**1.79**	**74**	P	**Pn**	**01 44 14.2**	**-0.3**
AMCZ	**Amberley**	**1.86**	**186**	P	**Pn**	**01 44 15.8**	**+0.5**
PAWZ	**Paruwai Farm**	**1.90**	**92**	P	**Pn**	**01 44 15.0**	**-0.8**
PAWZ	**Paruwai Farm**	**1.90**	**92**	P	**Pn**	**01 44 15.2**	**-0.7**
PAWZ				S	**Sn**	**01 44 39.2**	**-1.3**
MTW	**Mount Morrison**	**1.96**	**86**	P	**Pn**	**01 44 15.8**	**-0.8**
HOWZ	**Holdsworth Sta**	**2.02**	**79**	P	**Pn**	**01 44 16.5**	**-0.8**
NMEZ	**Namu Road**	**2.05**	**22**	P	**Pn**	**01 44 18.2**	**+0.5**
TRWZ	**Traveller**	**2.10**	**93**	P	**Pn**	**01 44 17.8**	**-0.4**
TRWZ	**Traveller**	**2.10**	**93**	P	**Pn**	**01 44 17.9**	**-0.4**
TRWZ				S	**Sn**	**01 44 43.5**	**-1.3**
OXZ	**Oxford**	**2.10**	**198**	P	**Pn**	**01 44 17.8**	**-0.5**
MRZ	**Mangatainoka R**	**2.13**	**73**	P	**Pn**	**01 44 17.8**	**-0.9**
OHWZ	**Ohakea**	**2.15**	**59**	P	**Pn**	**01 44 19.2**	**+0.3**
NBEZ	**Newall Road No**	**2.18**	**20**	P	**Pn**	**01 44 19.7**	**+0.3**
LREZ	**Lake Rotokare**	**2.19**	**32**	P	**Pn**	**01 44 20.4**	**+1.0**
KHEZ	**Kahui Hut**	**2.20**	**23**	P	**Pn**	**01 44 19.8**	**+0.2**
WAZ	**Wanganui**	**2.23**	**46**	P	**Pn**	**01 44 20.7**	**+0.7**
CRLZ	**Canterbury Las**	**2.26**	**185**	P	**Pn**	**01 44 20.6**	**+0.4**
TMWZ	**Te Maipa**	**2.26**	**85**	P	**Pn**	**01 44 19.6**	**-0.8**
TMWZ	**Te Maipa**	**2.26**	**85**	P	**Pn**	**01 44 19.3**	**-1.1**
PKE	**Pukeiti**	**2.29**	**22**	P	**Pn**	**01 44 21.1**	**+0.4**
TIWZ	**Tintock**	**2.32**	**77**	P	**Pn**	**01 44 20.1**	**-1.0**
TIWZ	**Tintock**	**2.32**	**77**	P	**Pn**	**01 44 20.8**	**-0.4**
DREZ	**Durham Road**	**2.35**	**25**	P	**Pn**	**01 44 21.6**	**+0.1**
POWZ	**Post Office Ro**	**2.36**	**68**	P	**Pn**	**01 44 20.9**	**-0.8**
WVZ	**Waitaha Valley**	**2.38**	**222**	P	**Pn**	**01 44 21.5**	**-0.2**
MQZ	**McQueen's Vall**	**2.38**	**184**	P	**Pn**	**01 44 21.4**	**-0.5**
PRWZ	**Pori Road**	**2.45**	**73**	P	**Pn**	**01 44 21.9**	**-0.8**
MHEZ	**Mangahewa**	**2.50**	**26**	P	**Pn**	**01 44 23.7**	**+0.3**
CPWZ	**Castlepoint**	**2.52**	**82**	P	**Pn**	**01 44 24.4**	**+0.7**
CPWZ	**Castlepoint**	**2.52**	**82**	P	**Pn**	**01 44 25.0**	**+1.4**
AKCZ	**Akaroa Harbour**	**2.54**	**180**	P	**Pn**	**01 44 24.0**	**+0.1**
BFZ	**Birch Farm**	**2.61**	**77**	P	**Pn**	**01 44 23.6**	**-1.2**
BFZ	**Birch Farm**	**2.61**	**77**	P	**Pn**	**01 44 24.0**	**-0.7**
VRZ	**Vera Road**	**2.62**	**33**	P	**Pn**	**01 44 25.2**	**+0.3**
TSZ	**Takapari Road**	**2.65**	**62**	P	**Pn**	**01 44 24.2**	**-1.1**
DVHZ	**Dannevirke**	**2.68**	**69**	P	**Pn**	**01 44 24.3**	**-1.4**
DVHZ				P	Pn	01 44 31.2	+5.5
RPZ	**Rata Peaks**	**2.75**	**209**	P	**Pn**	**01 44 26.2**	**-0.4**
	77nm,0.3s,baz=271,slow=1.9,SNR=84						
RPZ				S	**Sn**	**01 44 57.3**	**-2.5**
	39nm,0.3s,baz=14,slow=16,SNR=5.4						
RPZ				LR	LR	01 45 31.1	
	comp=Z,166nm,20.7s,baz=70,slow=38						
RPZ	**Rata Peaks**	**2.75**	**209**	P	**Pn**	**01 44 26.0**	**-0.6**
MTVZ	**Mangateitei**	**2.76**	**46**	P	**Pn**	**01 44 26.9**	**+0.1**
PKVZ	**Pokaka**	**2.76**	**43**	P	**Pn**	**01 44 26.7**	**-0.1**
ANWZ	**Angora Road**	**2.84**	**73**	P	**Pn**	**01 44 29.1**	**+1.3**
ANWZ	**Angora Road**	**2.84**	**73**	P	**Pn**	**01 44 28.2**	**+0.5**
TRVZ	**Turoa**	**2.86**	**46**	P	**Pn**	**01 44 28.1**	**-0.2**
PNHZ	**Pukenui**	**2.88**	**62**	P	**Pn**	**01 44 26.8**	**-1.5**
DRZ	**Dome Shelter**	**2.89**	**46**	P	**Pn**	**01 44 30.7**	**+2.0**
FWVZ	**Far West T-bar**	**2.90**	**45**	P	**Pn**	**01 44 28.4**	**-0.3**
WHVZ	**Whangaehu Hut**	**2.90**	**46**	P	**Pn**	**01 44 28.6**	**-0.1**
MOVZ	**Moawhango**	**2.90**	**50**	P	**Pn**	**01 44 27.7**	**-0.9**
COVZ	**Chateau Observ**	**2.93**	**44**	P	**Pn**	**01 44 28.8**	**-0.3**
TUVZ	**Tukino**	**2.94**	**47**	P	**Pn**	**01 44 29.0**	**-0.3**
TUVZ				P	**Pn**	**01 44 29.0**	**-0.3**
WPHZ	**Waipukurau**	**2.97**	**66**	P	**Pn**	**01 44 28.1**	**-1.4**
WPHZ	**Waipukurau**	**2.97**	**66**	P	**Pn**	**01 44 28.4**	**-1.1**
TWVZ	**Taurewa**	**2.97**	**42**	P	**Pn**	**01 44 29.4**	**-0.2**
NGZ	**Ngauruhoe**	**2.98**	**45**	P	**Pn**	**01 44 29.3**	**-0.5**
NGZ				P	**Pn**	**01 44 29.3**	**-0.5**
WTVZ	**West Tongariro**	**3.02**	**44**	P	**Pn**	**01 44 29.8**	**-0.4**
PRHZ	**Porangahau**	**3.02**	**71**	P	**Pn**	**01 44 29.3**	**-0.8**
BHHZ	**Black Hill Sta**	**3.03**	**54**	P	**Pn**	**01 44 29.1**	**-1.2**
KRVZ	**Karewarewa**	**3.06**	**44**	P	**Pn**	**01 44 30.2**	**-0.6**
KRHZ	**Kereru**	**3.13**	**59**	P	**Pn**	**01 44 30.2**	**-1.4**
FOZ	**Fox Glacier**	**3.18**	**225**	P	**Pn**	**01 44 31.6**	**-0.5**
KATZ	**Kakaramea**	**3.18**	**43**	P	**Pn**	**01 44 32.9**	**+0.6**
KATZ				P	**Pn**	**01 44 32.9**	**+0.6**
HIZ	**Hauiti**	**3.19**	**29**	P	**Pn**	**01 44 31.7**	**-0.6**
RITZ	**Rihia Road**	**3.26**	**45**	P	**Pn**	**01 44 33.1**	**-0.2**
PXZ	**Pawanui**	**3.28**	**68**	P	**Pn**	**01 44 32.7**	**-0.8**
PXZ				P	**Pn**	**01 44 32.7**	**-0.8**
PXZ	**Pawanui**	**3.28**	**68**	P	**Pn**	**01 44 32.1**	**-1.4**
KWHZ	**Kaweka Forest**	**3.29**	**56**	P	**Pn**	**01 44 34.4**	**+0.7**
RATZ	**Rangitukua**	**3.30**	**43**	P	**Pn**	**01 44 34.3**	**+0.4**
KAHZ	**Kahuranaki**	**3.39**	**64**	P	**Pn**	**01 44 33.3**	**-1.7**
KAHZ	**Kahuranaki**	**3.39**	**64**	P	**Pn**	**01 44 32.9**	**-2.1**
WATZ	**Wairara**	**3.40**	**41**	P	**Pn**	**01 44 35.5**	**+0.3**
HATZ	**Hinemaiaia**	**3.45**	**46**	P	**Pn**	**01 44 35.3**	**-0.5**
MCHZ	**McNeill Hill**	**3.45**	**58**	P	**Pn**	**01 44 34.8**	**-1.0**
MCHZ				P	**Pn**	**01 44 39.2**	**+3.3**
BKZ	**Black Stump Fm**	**3.49**	**53**	P	**Pn**	**01 44 34.8**	**-1.6**
BKZ				P	**Pn**	**01 44 34.8**	**-1.6**
WHTZ	**Whakaora**	**3.54**	**42**	P	**Pn**	**01 44 37.0**	**-0.2**
KUTZ	**Kaahu Road**	**3.62**	**39**	P	**Pn**	**01 44 38.5**	**+0.5**
TLZ	**Tolley Road**	**3.62**	**35**	P	**Pn**	**01 44 37.6**	**-0.5**
LBZ	**Lake Benmore**	**3.65**	**212**	P	**Pn**	**01 44 37.0**	**-1.5**
ARHZ	**Aropaoanui**	**3.75**	**58**	P	**Pn**	**01 44 39.5**	**-0.2**
WPRZ	**Whakapapatarin**	**3.76**	**43**	P	**Pn**	**01 44 40.1**	**+0.2**
ALRZ	**Allen Road**	**3.82**	**45**	P	**Pn**	**01 44 40.5**	**-0.3**
GRRZ	**Galatos Road**	**3.86**	**41**	P	**Pn**	**01 44 41.1**	**-0.2**
PRRZ	**Plateau Road**	**3.90**	**45**	P	**Pn**	**01 44 43.9**	**+2.2**
MTHZ	**Maungataniwha**	**3.90**	**52**	P	**Pn**	**01 44 39.5**	**-2.3**
HRRZ	**Handcock Road**	**3.92**	**43**	P	**Pn**	**01 44 42.0**	**-0.1**
HSRZ	**Hossack Road**	**3.96**	**42**	P	**Pn**	**01 44 42.1**	**-0.5**
WHHZ	**Waihua**	**4.00**	**57**	P	**Pn**	**01 44 43.0**	**-0.2**
UTU	**Utuhina**	**4.04**	**40**	P	**Pn**	**01 44 42.9**	**-0.8**
ODZ	**Otahua Downs**	**4.07**	**203**	P	**Pn**	**01 44 43.3**	**-0.7**
RRRZ	**Republican Roa**	**4.08**	**44**	P	**Pn**	**01 44 43.3**	**-0.8**
JCZ	**Jackson Bay**	**4.09**	**227**	P	**Pn**	**01 44 43.6**	**-0.8**
NGRZ	**Ngongotaha**	**4.10**	**39**	P	**Pn**	**01 44 44.3**	**-0.2**
TOZ	**Tahuroa Road**	**4.11**	**30**	P	**Pn**	**01 44 43.8**	**-0.8**
MUGZ	**Murupara**	**4.12**	**47**	P	**Pn**	**01 44 43.4**	**-1.3**
RTZ	**Ruatahuna**	**4.14**	**50**	P	**Pn**	**01 44 44.2**	**-0.8**
TARZ	**Mount Tarawera**	**4.15**	**43**	P	**Pn**	**01 44 44.9**	**-0.3**
OMRZ	**Omania**	**4.18**	**41**	P	**Pn**	**01 44 45.0**	**-0.6**
KARZ	**Kaharoa**	**4.19**	**39**	P	**Pn**	**01 44 45.7**	**0.0**
SNGZ	**Shannon Statio**	**4.25**	**55**	P	**Pn**	**01 44 47.2**	**+0.7**
KNZ	**Kokohu**	**4.32**	**59**	P	**Pn**	**01 44 44.7**	**-2.6**
EDRZ	**Edgecumbe**	**4.37**	**44**	P	**Pn**	**01 44 48.1**	**0.0**
MHGZ	**Mahia Peninsul**	**4.40**	**62**	P	**Pn**	**01 44 46.1**	**-2.3**
URZ	**Urewera**	**4.46**	**48**	P	**Pn**	**01 44 46.4**	**-2.8**
	8.6nm,0.3s,baz=248,slow=8.6,SNR=23						
URZ				S	**Sn**	**01 45 35.8**	**-4.4**
	47nm,0.3s,baz=166,slow=23,SNR=18						
URZ	**Urewera**	**4.46**	**48**	P	**Pn**	**01 44 46.5**	**-2.7**
AWAZ	**Awhitu Peninsu**	**4.47**	**18**	P	**Pn**	**01 44 49.7**	**+0.3**
RAGZ	**Rawiri**	**4.47**	**52**	P	**Pn**	**01 44 49.2**	**-0.3**
OPRZ	**Ohinepanea**	**4.48**	**40**	P	**Pn**	**01 44 48.8**	**-0.7**
KBAZ	**Karaka Road Bo**	**4.50**	**21**	P	**Pn**	**01 44 50.1**	**+0.4**
PRGZ	**Paritu Road**	**4.51**	**59**	P	**Pn**	**01 44 47.5**	**-2.4**
WKZ	**Wanaka**	**4.51**	**218**	P	**Pn**	**01 44 48.5**	**-1.4**
MKAZ	**Moumakai**	**4.57**	**23**	P	**Pn**	**01 44 50.8**	**+0.1**
WTAZ	**Waiatarua**	**4.58**	**17**	P	**Pn**	**01 44 51.0**	**+0.2**
MWZ	**Matawai**	**4.65**	**51**	P	**Pn**	**01 44 49.0**	**-2.8**
EAZ	**Earnscleugh**	**4.70**	**213**	P	**Pn**	**01 44 50.9**	**-1.6**
TKGZ	**Te Karaka**	**4.77**	**54**	P	**Pn**	**01 44 50.5**	**-2.9**
RUGZ	**Raukumara Rang**	**4.98**	**49**	P	**Pn**	**01 44 53.3**	**-3.1**
ASAR	**Alice Springs**	**36.94**	**286**	P	**P**	**01 50 41.7**	**+0.8**
	1.5nm,0.6s,baz=126,slow=7.1,SNR=12						
WRA	**Warramunga Arr**	**39.01**	**291**	P	**P**	**01 50 58.5**	**+0.2**
	1.9nm,0.7s,baz=129,slow=7.4,SNR=10.0						
ARCES	**ARCESS Array B**	**147.03**	**340**	PKPbc	**PKPdf**	**02 03 10.1**	**+1.6**
	3.8nm,1.0s,baz=46,slow=2.6,SNR=3.0						
BRTR	**Keskin Array B**	**149.19**	**281**	PKPbc	**PKPdf**	**02 03 16.9**	**+3.7**
	0.6nm,0.7s,baz=128,slow=5.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**150.90**	**198**	PKPbc	**PKPbc**	**02 03 21.6**	**-0.6**
	0.3nm,0.4s,baz=162,slow=3.0,SNR=13						
FINES	**FINESS Array B**	**151.62**	**326**	PKPbc	**PKPbc**	**02 03 22.0**	**-0.4**
	1.4nm,0.8s,baz=45,slow=4.1,SNR=3.8						

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*ISCJB **07** 01:45:57.5±0.8, 5°.82S±0°.07×128°.13E±0°.10, h350km, mb3.7/1, Error ellipse: s-maj=14.3km s-min=7.7km az=24.6*
*IDC **07** 01:45:58.7±1.5, 5°.73S×127°.99E, h369km±21km, mb3.2/1, mb1 3.6/6, mb1mx3.2/35, mbtmp4.4/6, Error ellipse: s-maj=32.5km s-min=17.9km az=87.0*
ISC 07 01:45:57.7±0.9**, 5°.80S**±0°.08×**128°.1E**±0°.1**, h350km, n6,** σ**1°.86**/10**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.83**	**33**	P	**Pn**	**01 47 28.4**	**+1.7**
	3.7nm,0.3s,baz=183,slow=19,SNR=13						
SIJI				S	**S**	**01 48 36.8**	**-1.9**
	6.2nm,0.3s,baz=185,slow=23,SNR=12						
BATI	**Baumata**	**6.20**	**225**	P	**Pn**	**01 47 32.4**	**+1.5**
	36nm,0.3s,baz=106,slow=2.8,SNR=20						
BATI				S	**S**	**01 48 45.1**	**-1.4**
	5.5nm,0.3s,baz=60,slow=16,SNR=2.9						
FITZ	**Fitzroy Crossi**	**12.46**	**191**	P	**P**	**01 48 44.4**	**+0.1**
	0.6nm,0.3s,baz=8.9,slow=9.0,SNR=24						
WRA	**Warramunga Arr**	**15.31**	**157**	P	**P**	**01 49 17.1**	**+1.4**
	1.0nm,0.3s,baz=336,slow=11,SNR=53						
WRA				S	**S**	**01 51 57.5**	**-2.5**
	0.1nm,0.3s,baz=332,slow=19,SNR=4.5						
ASAR	**Alice Springs**	**18.62**	**163**	P	**P**	**01 49 52.6**	**+1.4**
	2.0nm,0.3s,baz=343,slow=12,SNR=92						
ASAR				S	**S**	**01 53 04.2**	**-1.0**
	0.1nm,0.3s,baz=345,slow=25,SNR=4.6						
MKAR	**Makanchi Array**	**66.20**	**327**	P	**P**	**01 56 07.3**	**-1.5**
	0.8nm,0.5s,baz=119,slow=7.9,SNR=16						

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*NIED **07** 01:59:00, 37°.20N×142°.50E, h20km, Mw3.9 Best double couple: M₀6.88000×10^14 NP1:φs40.00000°, δ43.00000°, λ-77.00000°. NP2:φs202.00000°, δ48.00000°, λ-102.00000°.*
*ISCJB **07** 01:59:12.7±1.4, 37°.21N±0°.03×142°.41E±0°.04, h5km±9km, mb3.8/17, Error ellipse: s-maj=5.7km s-min=5.0km az=175.9*
*JMA **07** 01:59:12.3±0.2, 37°.16N×142°.45E, h12km±3km, M4.1*
*IDC **07** 01:59:13.5±0.7, 37°.12N×142°.30E, h0km, mb3.8/15, mb1 3.9/18, mb1mx3.8/35, mbtmp3.7/18, ML3.7/2, MS2.4/2, Ms1 2.4/2, ms1mx2.2/42, Error ellipse: s-maj=18.9km s-min=16.9km az=118.0*
*NEIC **07** 01:59:19.7±0.9, 37°.21N×142°.25E, h41km±7km, mb4.2/2, Error ellipse: s-maj=9.1km s-min=6.6km az=118.0*
ISC 07 01:59:15.1±3.6**, 37°.21N**±0°.05×**142°.25E**±0°.06**, h9km**±22km**, n48,** σ**1°.52**/60**, mb3.9**/17**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.11**	**279**	P	**Pn**	**01 59 35.6**	**-1.3**
JFK				*e*S	**Sb**	**01 59 52.7**	**+1.6**
ONAJ	**Iwakimizuishiy**	**1.17**	**265**	P	**Pn**	**01 59 36.4**	**-1.2**
ONAJ				*e*S	**Sb**	**01 59 53.9**	**+1.2**
JIKH	**Ishinomakikobu**	**1.27**	**331**	P	**Pn**	**01 59 37.3**	**-1.7**
JIKH				*e*S	**Sn**	**01 59 55.0**	**-1.1**
JMM	**Marumori**	**1.33**	**300**	P	**Pn**	**01 59 38.8**	**-1.1**
JMM				*e*S	**Sn**	**01 59 57.7**	**-0.1**
JFFD	**Fukushimafurud**	**1.36**	**266**	P	**Pn**	**01 59 39.5**	**-0.7**
JFFD				*e*S	**Sn**	**01 59 58.9**	**+0.5**
JIO	**Ouri**	**1.44**	**330**	P	**Pn**	**01 59 40.0**	**-1.3**
JIO				*e*S	**Sn**	**01 59 59.8**	**-0.5**
JFT	**Otama**	**1.56**	**282**	P	**Pb**	**01 59 43.1**	**-1.0**
JFT				*e*S	**Sb**	**02 00 05.1**	**+1.2**
JOU	**Okura**	**1.71**	**313**	P	**Pn**	**01 59 44.7**	**-0.4**
JOU				*e*S	**Sn**	**02 00 07.8**	**+0.7**
JMK	**Ichinoseki**	**1.92**	**335**	P	**Pn**	**01 59 47.6**	**-0.4**
JMK				*e*S	**Sn**	**02 00 12.7**	**+0.4**
JYS	**Shirataka**	**2.01**	**301**	P	**Pn**	**01 59 49.5**	**+0.3**
JYK	**Kaneyama**	**2.27**	**319**	P	**Pn**	**01 59 52.5**	**-0.3**
JYK				*e*S	**Sn**	**02 00 22.0**	**+1.1**
JAG	**Ashikaga**	**2.38**	**252**	P	**Pn**	**01 59 53.8**	**-0.5**
JOM	**Ohasama**	**2.39**	**342**	P	**Pn**	**01 59 53.9**	**-0.5**
JOM				*e*S	**Sn**	**02 00 24.3**	**+0.6**
JNS	**Sasagawa**	**2.41**	**286**	P	**Pn**	**01 59 55.5**	**+0.8**
MJAR	**Matsushiro Arr**	**3.31**	**260**	Pn	**Pn**	**02 00 08.3**	**+1.2**
	5.8nm,0.3s,baz=86,slow=14,SNR=27						
MJAR				Sn	**Sn**	**02 00 49.4**	**+2.9**
	4.8nm,0.3s,baz=78,slow=31,SNR=6.2						
MAJO	**Matsushiro**	**3.31**	**260**	*e*Pn	**Pn**	**02 00 09.4**	**+2.3**
MAJO				*e*Sn	Sn	02 00 37.2	-9.4
MAT	**Matsushiro**	**3.31**	**260**	P	**Pn**	**02 00 09.0**	**+1.9**
MAT				*e*S	**Sb**	**02 00 51.9**	**-2.5**
MJB9	**Matsu-Tunnel**	**3.31**	**260**	*e*Pn	**Pn**	**02 00 09.2**	**+2.1**
MJB9				*e*Sn	**Sn**	**02 00 38.7**	**-7.9**
JHJ	**Hachijo jima 2**	**4.55**	**207**	LR	LR	02 01 47.3	
	comp=Z,24nm,20.9s,baz=123,slow=34						
INU	**Inuyama**	**4.62**	**248**	*e*Pn	Pn	02 00 28.9	+3.9
ASAJ	**Asahikawa**	**6.91**	**2**	Pn	**Pn**	**02 00 58.1**	**+1.6**
	1.5nm,0.3s,baz=208,slow=6.6,SNR=4.3						
ASAJ				Sn	**Sn**	**02 02 12.8**	**-2.4**
	0.3nm,0.3s,baz=198,slow=20,SNR=2.0						
USRK	**Ussuriysk Ar.**	**10.46**	**315**	Pn	**Pn**	**02 01 46.1**	**+1.0**
	0.2nm,0.3s,baz=140,slow=13,SNR=3.5						
KSRS	**Korea Array**	**11.41**	**276**	LR	LR	02 05 57.9	
	comp=Z,37nm,20.8s,baz=81,slow=35						
MDJ	**Mudanjiang**	**12.10**	**312**	*e*Pn	**Pn**	**02 02 07.9**	**+0.3**
SEY	**Seymchan**	**26.50**	**10**	P	**P**	**02 04 53.5**	**+1.1**
	1.8nm,0.7s,baz=162,slow=9.0,SNR=4.6						
SONA0	**Songino Array**	**28.25**	**303**	*e*P	**P**	**02 05 09.4**	**+0.8**
SONM	**Songino Array**	**28.25**	**303**	P	**P**	**02 05 09.4**	**+0.8**
	0.9nm,0.5s,baz=99,slow=9.4,SNR=7.1						
ZAA1	**Zalesovo Array**	**42.30**	**312**	*e*P	**P**	**02 07 09.4**	**+0.6**
ZALV	**Zalesovo Beam**	**42.30**	**312**	P	**P**	**02 07 09.4**	**+0.6**
	0.4nm,0.4s,baz=73,slow=7.6,SNR=2.5						
MK01	**Makanchi Array**	**44.59**	**302**	*e*P	**P**	**02 07 28.4**	**+0.8**
MK31	**Makanchi Array**	**44.60**	**302**	*e*P	**P**	**02 07 27.2**	**-0.4**
MK32	**Makanchi Array**	**44.60**	**302**	*e*P	**P**	**02 07 27.6**	**+0.1**
MKAR	**Makanchi Array**	**44.60**	**302**	P	**P**	**02 07 27.6**	**+0.1**
	1.3nm,0.7s,baz=84,slow=9.7,SNR=16						
KURK	**Kurchatov**	**46.35**	**308**	*e*P	**P**	**02 07 41.0**	**-0.4**
	2.6nm,1.0s						
ILAR	**Eielson Array**	**48.99**	**32**	P	**P**	**02 08 01.8**	**+0.1**
	0.7nm,0.7s,baz=276,slow=6.7,SNR=10.0						
INK	**Inuvik**	**53.93**	**27**	P	**P**	**02 08 38.6**	**+0.1**
	0.9nm,0.6s,baz=273,slow=7.8,SNR=4.7						
WR1	**Warramunga Arr**	**57.33**	**189**	*e*P	**P**	**02 09 02.9**	**-0.6**
	3.3nm,0.9s						
WRA	**Warramunga Arr**	**57.33**	**189**	P	**P**	**02 09 02.9**	**-0.6**
	1.0nm,0.7s,baz=6.8,slow=7.4,SNR=14						
ABKAR	**Akbulak array**	**58.34**	**310**	*e*P	**P**	**02 09 10.3**	**0.0**
ASAR	**Alice Springs**	**61.05**	**189**	P	**P**	**02 09 28.1**	**-1.1**
	0.4nm,0.8s,baz=20,slow=6.4,SNR=3.8						
YKA	**Yellowknife Ar**	**63.32**	**30**	P	**P**	**02 09 43.9**	**-0.1**
	0.3nm,0.8s,baz=302,slow=6.6,SNR=5.7						
FIA0	**FINESS Array S**	**68.97**	**332**	*e*P	**P**	**02 10 20.1**	**-0.2**
FINES	**FINESS Array B**	**68.97**	**332**	P	**P**	**02 10 20.1**	**-0.2**

	2.3nm,1.0s,baz=42,slow=8.9,SNR=4.2						
NVAR	Mina Array Bea	74.35	54	P	P	02 10 54.2	+0.9
	0.7nm,0.8s,baz=287,slow=6.0,SNR=4.4						
AKASG	Malin Array Be	74.57	323	P	P	02 10 53.9	-0.3
	0.7nm,0.4s,baz=45,slow=6.3,SNR=5.1						
PDAR	Pinedale Array	77.07	46	P	P	02 11 08.9	0.0
	0.8nm,1.1s,baz=300,slow=2.0,SNR=3.5						
GERES	GERESS Array B	82.92	329	P	P	02 11 40.0	-0.2
	0.5nm,0.6s,baz=51,slow=6.4,SNR=3.8						
TXAR	Lajitas Array	89.48	53	P	P	02 12 13.2	+0.2
	0.2nm,0.6s,baz=318,slow=1.2,SNR=2.8						

*ISCJB **07** 02:02:14.4±0.5, 42°.44N±0°.02×41°.06E±0°.04, h6km±6km, Error ellipse: s-maj=5.1km s-min=3.3km az=141.4*
*ISK **07** 02:02:16.0, 42°.31N×40°.95E, h9km, ML2.5/4*
*MOS **07** 02:02:18.2±0.0, 42°.54N×41°.08E, h10km, MPVA3.8*
ISC 07 02:02:17.1±1.4**, 42°.39N**±0°.03×**41°.03E**±0°.03**, h21**km±5km**, n24, σ0s.60**/45**, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	Batumi	0.93	147	PG	Pb	02 02 33.7	-0.8
BATM				SG	Sb	02 02 46.7	+0.3
BATM	Batumi	0.93	147	P	Pb	02 02 34.3	-0.3
BATM				S	Sn	02 02 47.7	+0.2
DOMR	Dombai	1.00	26	i Pg	Pb	02 02 35.0	-0.9
DOMR				i Sg	Sb	02 02 47.7	-1.1
BCA	Borcka	1.04	155	PG	Pb	02 02 35.6	-0.9
BCA				SG	Sb	02 02 50.0	+0.3
DBOC	Borcka	1.15	155	i P	Pn	02 02 37.4	-0.6
ARXR	Arkhyz	1.19	9	i Pg	Pn	02 02 38.3	-0.3
ARXR				i Sg	Sb	02 02 53.2	-0.8
CHOM	Cayeli-Rize	1.31	189	PN	Pn	02 02 39.8	-0.3
CHOM				SN	Sn	02 02 57.2	+0.3
ARTV	Artvin	1.38	150	i P	Pn	02 02 41.6	+0.3
ARTV				i S	Sn	02 02 59.0	0.0
RPOR	Krasnaya Polya	1.42	337	ePg	Pb	02 02 42.9	-0.1
RPOR				eSg	Sb	02 03 01.3	+0.6
DBAD	Bademkaya	1.46	160	i P	Pn	02 02 42.9	+0.6
DBAD				i S	Sn	02 03 00.4	-0.4
DAGI	Agillar	1.47	153	i P	Pn	02 02 42.9	+0.4
DAGI				i S	Sn	02 03 00.9	-0.2
NEY	Neytrino	1.51	55	ePg	Pn	02 02 43.9	+0.7
NEY				eSg	Sb	02 03 02.8	-0.6
SOC	Sochi	1.53	322	ePg	Pb	02 02 45.0	+0.2
SOC				eSg	Sb	02 03 04.8	+1.0
DDEM	Demirkent	1.59	160	i P	Pn	02 02 44.2	+0.1
DDEM				i S	Sn	02 03 04.2	+0.1
MACK	Trabzon	1.73	214	i P	Pb	02 02 47.6	-0.5
MACK				i S	Sn	02 03 07.5	+0.2
GUZR	Guzeripl'	1.74	338	ePg	Pb	02 02 47.8	-0.5
GUZR				i Sg	Sb	02 03 10.8	+1.1
SHA1	Shidzhatmaz	1.80	41	ePg	Pb	02 02 49.4	-0.1
SHA1				eSg	Sb	02 03 11.6	-0.2
DIGR	Digorskoe uzhe	1.95	74	ePg	Pb	02 02 52.1	0.0
DIGR				ePg	Pb	02 02 52.1	0.0
DIGR				eSg	Sb	02 03 16.0	0.0
DIGR				eSg	Sb	02 03 16.0	0.0
LZRR	Lazarevskoye	1.96	323	ePg	Pb	02 02 51.9	-0.2
LZRR				i Sg	Sb	02 03 16.8	+0.7
AKH	Akhalkalaki	2.08	117	P	Sb	02 03 20.8	+0.9
BAYT	Aydıntepe-Bayb	2.10	199	PN	Pn	02 02 51.2	0.0
ZEI	Tsey	2.16	78	ePg	Pb	02 02 56.4	+0.8
ZEI				eSg	Sb	02 03 22.3	+0.3
ESPY	Espiye-Giresun	2.27	230	PN	Pn	02 02 53.3	0.0
TRLG	Trialeti	2.44	109	P	Sb	02 03 31.9	+1.7

*KRNET **07** 02:07:45.2±0.1, 39°.16N×71°.65E, mb2.5*
ISC 07 02:07:44.1±3.3**, 38°.8N**±0°.2×**71°.46E**±0°.07**, h34**km**, n8, σ1s.37**/18**, 14C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	Batken	1.39	339	⇑iP	Pn	02 08 06.5	-0.7
	baz=25						
BTK				⇑iS	Sn	02 08 21.7	-2.8
	baz=25						
SFK	Sufi-Kurgan	2.02	51	⇓Pn	Pn	02 08 16.6	+0.7
	0.4nm,0.3s						
SFK				⇑Pg	Pb	02 08 19.2	-1.1
	2.9nm,0.4s						
SFK				⇑Sn	Sb	02 08 45.9	+0.8
	11nm,0.3s						
SFK	Sufi-Kurgan	2.02	51	⇑iP	Pn	02 08 16.7	+0.7
	baz=58						
SFK				⇑iS	Sn	02 08 39.4	-0.7
	baz=58						
ARSB	Arslanbob	2.81	24	⇑iP	Pn	02 08 27.6	+0.7
	baz=25						
ARSB				⇑iS	Sn	02 08 58.9	-0.8
	baz=25						
AML	Almayashu	3.77	26	⇑iP	Pn	02 08 41.2	+0.9
	baz=27						
AML				⇑iS	Sn	02 09 22.7	-1.0
	baz=27						
UCH	Uchtor	4.17	33	⇑iP	Pn	02 08 47.1	+1.3
	baz=34						
UCH				⇑iS	Sn	02 09 32.5	-1.1
	baz=34						
EKS2	Erkin-Say	4.28	24	⇓iP	Pn	02 08 47.9	+1.0
	baz=24						
EKS2				⇓iS	Sn	02 09 34.5	-1.2
	baz=24						
KK31	Karatay Array	4.40	351	Pn	Pn	02 08 51.0	+2.5
	0.6nm,0.3s,baz=173,slow=13,SNR=31						
KK31				Pg	Pb	02 09 00.6	-0.1
	0.7nm,0.4s,baz=64,slow=11,SNR=5.0						
KK31				⇑Sn	Sn	02 09 40.1	+1.6
	0.9nm,0.4s,baz=167,slow=22						
KK31				⇑Lg	Lg	02 09 54.5	
	12nm,1.0s,baz=170,slow=29						

*IDC **07** 02:12:03.2±2.4, 7°.90S×117°.68E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.4/28, mbtmp3.4/5, ML2.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/19, Error ellipse: s-maj=157.3km s-min=21.1km az=55.0*
*ISCJB **07** 02:12:06.1±0.6, 7°.90S±0°.05×117°.67E±0°.06, h33km, mb3.6/3, MS3.0/1, Error ellipse: s-maj=8.5km s-min=7.1km az=11.3*
*DJA **07** 02:12:06.8±1.4, 8°S±4°×11°8E±°, h27km±15km, M3.7/12, MLv3.7/12*
ISC 07 02:12:07.7±0.9**, 7°.98S**±0°.06×**117°.68E**±0°.06**, h35**km**, n13, σ1s.69**/15**, mb3.7**/3**, Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	0.85	173	P	Pn	02 12 23.4	+0.3
PLAI				S	Sn	02 12 36.2	+1.8
SRBI	Singaraja	2.44	267	P	Pn	02 12 45.0	-0.1
IGBI	Denpasar	2.64	251	P	Pn	02 12 47.8	0.0
JAGI	Jajag, Banyuwa	3.52	262	P	Pn	02 12 58.9	-1.1
BKSI	Bulukumba	3.59	43	P	Pn	02 13 00.0	-0.9
EDFI	Ende, Flores	4.04	101	P	Pn	02 13 08.0	+0.8
BNSI	Bone	4.30	34	P	Pn	02 13 11.1	+0.4
SPSI	Sidrap Palu	4.50	28	P	Pn	02 13 12.8	-0.6
FITZ	Fitzroy Crossi	12.70	143	Pn	Pn	02 15 06.4	+0.6
	0.1nm,0.3s,baz=328,slow=15,SNR=2.2						
FITZ				Sn	Sn	02 17 20.9	-5.1
	0.1nm,0.3s,baz=193,slow=18,SNR=2.4						
WRA	Warramunga Arr	20.05	128	P	P	02 16 38.1	+0.2
	0.2nm,0.5s,baz=303,slow=13,SNR=3.8						
WRA				LR	LR	02 25 49.7	
	comp=Z,65nm,20.4s,baz=300,slow=41						
ASAR	Alice Springs	22.03	137	P	P	02 17 00.4	+1.1
	0.3nm,0.5s,baz=315,slow=8.9,SNR=4.6						
SONM	Songino Array	56.46	351	P	P	02 21 46.7	+0.5
	0.5nm,0.6s,baz=167,slow=7.1,SNR=4.3						
MKAR	Makanchi Array	62.96	333	P	P	02 22 31.1	+0.3
	0.8nm,0.7s,baz=142,slow=7.3,SNR=11						

*IDC **07** 02:13:16.6±1.4, 1°.06S×127°.05E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/27, mbtmp3.7/4, ML3.3/1, Error ellipse: s-maj=45.8km s-min=23.7km az=60.0*
*DJA **07** 02:13:19.0±0.4, 1°S±3°×12°7E±°, h10km, M3.6/7, mb3.7/2, MLv3.6/7*
*ISCJB **07** 02:13:20.4±0.8, 0°.95S±0°.06×127°.11E±0°.07, h34km, mb4.0/2, Error ellipse: s-maj=10.7km s-min=8.2km az=35.9*
ISC 07 02:13:20.8±1.0**, 1°.03S**±0°.06×**127°.04E**±0°.08**, h34**km**, n8, σ1s.40**/10**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	Sanana	1.46	226	P	Pb	02 13 47.2	-0.2
TNTI	Ternate	1.82	10	P	Pn	02 13 49.0	-0.7
NLAI	Namlea	2.20	178	P	Pn	02 13 56.5	+1.6
NLAI				S	Sb	02 14 24.0	-2.8
SIJI	Sorong	4.23	88	Pn	Pn	02 14 23.7	+0.8
	1.9nm,0.3s,baz=204,slow=20,SNR=6.1						
SIJI				Sn	Sn	02 15 12.0	+0.7
	1.0nm,0.3s,baz=180,slow=20,SNR=3.1						
FAKI	Fak Fak	5.54	110	P	Pn	02 14 40.4	-0.5
WRA	Warramunga Arr	20.11	160	P	P	02 17 51.3	-0.6
	0.6nm,0.5s,baz=342,slow=11,SNR=6.1						
ASAR	Alice Springs	23.47	164	P	P	02 18 27.6	+0.1
	1.9nm,0.7s,baz=340,slow=9.1,SNR=13						
MKAR	Makanchi Array	61.64	327	P	P	02 23 36.4	+1.1
	0.9nm,0.4s,baz=117,slow=8.5,SNR=22						

GUC 07 02:15:36.5±0.6**, 35°.73S**×**73°.45W, h35**km±8km**, ML3.5, 1C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	Chillan	1.41	129	eP	Pn	02 16 00.5	+0.8
CCHI				i S	Sn	02 16 18.0	+0.8
CCHI				IAML		02 16 31.6	
	comp=E,1μm,0.7s						
GO05	Huala	1.44	60	⇑iP	Pn	02 16 00.3	+0.2
GO05				eS	Sn	02 16 18.9	+1.2
TMU	Temuco	3.08	167	eP	Pn	02 16 23.5	+0.9
TMU				IAML		02 17 00.5	
	comp=E,56nm,0.5s						
LMEL	Las Melosas	3.27	56	IAML		02 17 27.7	
	comp=E,86nm,0.5s						
CLCH	Cerro Calan	3.35	47	IAML		02 17 38.1	
	comp=N,188nm,0.6s						
ROCH	El Roble	3.41	37	eP	Pn	02 16 28.6	+1.2
ROCH				eS	Sn	02 17 08.2	+1.4
ROCH				IAML		02 17 35.8	
	comp=N,74nm,0.5s						
FCH	Farellones	3.54	48	eP	Pn	02 16 29.6	+0.3
FCH				eS	Sn	02 17 11.5	+1.4
FCH				IAML		02 17 37.2	
	comp=E,37nm,0.5s						

*ISK **07** 02:28:31.9, 38°.71N×28°.04E, h7km, ML2.0/5*
*ISCJB **07** 02:28:32.3±0.6, 38°.70N±0°.04×28°.05E±0°.05, h4km±11km, Error ellipse: s-maj=6.8km s-min=5.3km az=140.8*
*DDA **07** 02:28:32.5, 38°.72N×28°.06E, h7km±2km, ML2.6*
ISC 07 02:28:32.4±1.0**, 38°.71N**±0°.04×**28°.04E**±0°.03**, h7**km±9km**, n13, σ0s.38**/18**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOMA	Golmarmara-Man	0.10	270	PG	Pg	02 28 34.7	0.0
GOMA				SG	Sg	02 28 36.3	+0.1
AKHS	Akhisar	0.25	314	IAML_P			
	comp=Z,6μm,0.1s						
MANT	Manisa	0.46	118	IAML_P			
	comp=Z,986nm,0.1s						
MANT				i P	Pg	02 28 41.7	+0.3
MANT				i S	Sg	02 28 47.3	-0.1
KULA	Kula-Manisa	0.52	112	PG	Pg	02 28 42.4	-0.1
DEMI	Demirci	0.62	57	IAML_P			
	comp=Z,1μm,0.2s						
DEMI				i P	Pg	02 28 44.6	+0.2
STEP	BALIKESIR_Sava	0.71	339	IAML_P			
	comp=Z,412nm,0.1s						
STEP				i P	Pb	02 28 46.5	-0.8
STEP				i S	Sb	02 28 56.8	-0.5
AYDB	Zeytinkoy-Aydi	0.77	189	PG	Pg	02 28 47.3	+0.1
AYDB				SG	Sb	02 28 58.4	-0.5
BLCB	Balcova	0.85	248	PG	Pg	02 28 48.7	0.0
BLCB				SG	Sb	02 29 00.8	-0.2
BALB	Balikesir	0.94	352	PG	Pb	02 28 50.9	-0.1
DURS	Dursunbey	0.95	21	IAML_P			
	comp=Z,492nm,0.1s						
DURS				i P	Pn	02 28 52.6	+0.3
DURS				i S	Sb	02 29 04.4	+0.2
DKL	Dikili	0.96	293	PG	Pb	02 28 51.2	-0.1
AYVA	Ayvalik	1.21	300	IAML_P			
	comp=Z,236nm,0.2s						
AYVA				i P	Pn	02 28 56.6	+0.8
KCTX	Karacabey (Bur	1.57	9	PN	Pn	02 29 00.9	+0.1

WEL 07 02:35:28.8±1.5**, 35°S**±12°×**18°0E**±1°4**, h216**km±15km**, ML4.3**/16**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.19	199	P	Pn	02 36 21.8	+0.4
MXZ	Matakaoa Point	3.19	199	P	Pn	02 36 21.8	+0.4
WMGZ	Waiomatatini S	3.41	196	P	Pn	02 36 26.0	+2.1
WMGZ	Waiomatatini S	3.41	196	P	Pn	02 36 26.0	+2.1
WMGZ	Waiomatatini S	3.41	196	S	S	02 37 21.3	+14
HAZ	Te Kaha	3.53	204	P	Pn	02 36 24.8	-0.6
HAZ	Te Kaha	3.53	204	P	Pn	02 36 24.8	-0.6
HAZ	Te Kaha	3.53	204	S	S	02 37 24.3	+15
PKGZ	Pakihiroa	3.56	200	P	Pn	02 36 23.9	-1.9
PKGZ	Pakihiroa	3.56	200	P	Pn	02 36 23.9	-1.9
PKGZ	Pakihiroa	3.56	200	S	S	02 37 24.1	+14
PUZ	Puketiti	3.69	197	P	Pn	02 36 25.3	-2.0
PUZ	Puketiti	3.69	197	P	Pn	02 36 25.3	-2.0
PUZ	Puketiti	3.69	197	S	S	02 37 25.5	+12
RUGZ	Raukumara Rang	3.76	204	P	Pn	02 36 28.4	+0.1
RUGZ	Raukumara Rang	3.76	204	P	Pn	02 36 28.4	+0.1
GRZ	Great Barrier	3.80	242	P	Pn	02 36 27.5	-1.2
TWGZ	Tauwhareparae	3.86	200	P	Pn	02 36 31.0	+1.6
TWGZ	Tauwhareparae	3.86	200	P	Pn	02 36 31.0	+1.6
TWGZ	Tauwhareparae	3.86	200	S	S	02 37 30.8	+14
CNGZ	Carnagh Statio	4.09	196	P	Pn	02 36 30.8	-1.4
CNGZ	Carnagh Statio	4.09	196	P	Pn	02 36 30.8	-1.4
OPRZ	Ohinepanea	4.12	216	P	Pn	02 36 32.7	+0.2
OPRZ	Ohinepanea	4.12	216	P	Pn	02 36 32.7	+0.2
MWZ	Matawai	4.14	203	P	Pn	02 36 32.9	+0.1
MWZ	Matawai	4.14	203	P	Pn	02 36 32.9	+0.1
TKGZ	Te Karaka	4.14	200	P	Pn	02 36 33.9	+1.1
TKGZ	Te Karaka	4.14	200	P	Pn	02 36 33.9	+1.1
URZ	Urewera	4.22	208	P	Pn	02 36 33.8	0.0
URZ	Urewera	4.22	208	P	Pn	02 36 33.8	0.0
RAGZ	Rawiri	4.33	204	P	Pn	02 36 33.9	-1.2
RAGZ	Rawiri	4.33	204	P	Pn	02 36 33.9	-1.2
RIGZ	Rimuhau	4.41	199	P	Pn	02 36 37.5	+1.3
MKAZ	Moumakai	4.43	234	P	Pn	02 36 36.6	+0.2
MUGZ	Murupara	4.55	209	P	Pn	02 36 38.5	+0.7
MUGZ	Murupara	4.55	209	P	Pn	02 36 38.5	+0.7
RTZ	Ruatahuna	4.58	207	P	Pn	02 36 38.5	+0.1
RTZ	Ruatahuna	4.58	207	P	Pn	02 36 38.5	+0.1
PRGZ	Paritu Road	4.59	197	P	Pn	02 36 39.1	+0.8
PRGZ	Paritu Road	4.59	197	P	Pn	02 36 39.1	+0.8
TOZ	Tahuroa Road	4.61	225	P	Pn	02 36 43.0	+4.5
SNGZ	Shannon Statio	4.61	203	P	Pn	02 36 39.0	+0.4
SNGZ	Shannon Statio	4.61	203	P	Pn	02 36 39.0	+0.4
PRRZ	Plateau Road	4.72	212	P	Pn	02 36 41.4	+1.4
PRRZ	Plateau Road	4.72	212	P	Pn	02 36 41.4	+1.4
KNZ	Kokohu	4.73	199	P	Pn	02 36 40.2	+0.1
KNZ	Kokohu	4.73	199	P	Pn	02 36 40.2	+0.1
ALRZ	Allen Road	4.80	212	P	Pn	02 36 42.2	+1.2
ALRZ	Allen Road	4.80	212	P	Pn	02 36 42.2	+1.2
MHGZ	Mahia Peninsul	4.80	196	P	Pn	02 36 40.9	-0.1
MHGZ	Mahia Peninsul	4.80	196	P	Pn	02 36 40.9	-0.1
RAHZ	Arahi	4.81	204	P	Pn	02 36 41.7	+0.5
RAHZ	Arahi	4.81	204	P	Pn	02 36 41.7	+0.5
MTHZ	Maungataniwha	4.84	207	P	Pn	02 36 40.7	-0.9
MTHZ	Maungataniwha	4.84	207	P	Pn	02 36 40.7	-0.9
WHHZ	Waihua	4.91	202	P	Pn	02 36 42.5	+0.1
WHHZ	Waihua	4.91	202	P	Pn	02 36 42.5	+0.1
ARHZ	Aropaoanui	5.16	203	P	Pn	02 36 45.8	+0.4
ARHZ	Aropaoanui	5.16	203	P	Pn	02 36 45.8	+0.4
BKZ	Black Stump Fm	5.25	208	P	Pn	02 36 46.6	-0.1
BKZ	Black Stump Fm	5.25	208	P	Pn	02 36 46.6	-0.1
KWHZ	Kaweka Forest	5.50	207	P	Pn	02 36 49.7	-0.2
KWHZ	Kaweka Forest	5.50	207	P	Pn	02 36 49.7	-0.2
GLKZ	Green Lake	5.67	22	S	Pn	02 36 56.2	+4.1
KRHZ	Kereru	5.71	206	P	Pn	02 36 51.9	-0.6
KRHZ	Kereru	5.71	206	P	Pn	02 36 51.9	-0.6

JMA 07 02:40:11.6±0.1**, 32°.65N**×**130°.07E, h17**km±2km**, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHD	Hondo	0.19	163	P	Pg	02 40 16.3	0.0

*ISCJB **07** 02:40:14.9±0.6, 39°.75N±0°.03×141°.86E±0°.08, h66km±3km, mb3.6/6, Error ellipse: s-maj=10.4km s-min=5.1km az=8.4*
*JMA **07** 02:40:16.2, 39°.76N×141°.83E, h58km±1km, M3.3*
JMA Felt I J1.
*IDC **07** 02:40:18.6±2.7, 39°.70N×141°.84E, h92km±22km, mb3.4/6, mb1 3.4/9, mb1mx3.2/48, mbtmp3.6/9, Error ellipse: s-maj=36.7km s-min=19.8km az=84.0*
ISC 07 02:40:15.8±0.9**, 39°.73N**±0°.04×**141°.83E**±0°.07**, h58**km±6km**, n21, σ1s.16**/33**, mb3.6**/6**, 3C-7D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	0.16	183	⇑P	Pn	02 40 25.5	+0.6
MIYJ				S	Sn	02 40 31.9	+0.5
JTH	Tanohata	0.21	7	⇑P	Pn	02 40 25.5	+0.3
JTH				i S	Sn	02 40 32.1	+0.2
JKZ	Kuzumaki	0.46	303	⇓P	Pn	02 40 27.7	+0.4
JKZ				S	Sn	02 40 35.7	+0.1
JKEN	Kujiedanarisaw	0.48	349	P	Pn	02 40 27.6	+0.1
JKEN				S	Sn	02 40 35.7	-0.2
JOM	Ohasama	0.49	238	⇓P	Pn	02 40 28.0	+0.4
JOM				S	Sn	02 40 36.6	+0.5
JANG	Nango	0.68	339	⇓P	Pn	02 40 29.7	-0.1
JANG				S	Sn	02 40 39.2	-0.8
JMK	Ichinoseki	0.91	211	⇓P	Pn	02 40 33.2	+0.5
JMK				S	Sn	02 40 45.5	+0.4
JRG	Rokugo	0.98	250	P	Pn	02 40 33.9	+0.3
JRG				S	Sn	02 40 47.5	+0.8
JAH	Hinai	1.02	297	⇓P	Pn	02 40 34.5	+0.4
JAH				S	Sn	02 40 48.5	+0.9
JTM	Tenmabayashi	1.20	331	⇓P	Pn	02 40 36.5	0.0
JTM				S	Sn	02 40 51.6	-0.3
JIO	Ouri	1.33	196	⇑P	Pn	02 40 38.7	+0.5
JIO				S	Sn	02 40 55.4	+0.5
JYK	Kaneyama	1.40	235	⇓P	Pn	02 40 39.7	+0.5
MJAR	Matsushiro Arr	4.28	223	P	Pn	02 41 22.0	+3.5
	0.7nm,0.3s,baz=32,slow=13,SNR=5.9						
ASAJ	Asahikawa	4.42	7	P	Pn	02 41 23.6	+3.3
	1.0nm,0.3s,baz=180,slow=9.1,SNR=2.7						
ASAJ				S	Sn	02 42 11.4	+1.0
	0.8nm,0.3s,baz=127,slow=20,SNR=2.6						
USRK	Ussuriysk Ar.	8.58	305	P	Pn	02 42 19.7	+2.4
	0.2nm,0.3s,baz=96,slow=13,SNR=5.6						
SONM	Songino Array	26.64	299	P	P	02 45 48.0	-1.1
	0.2nm,0.4s,baz=99,slow=8.9,SNR=3.0						
ZALV	Zalesovo Beam	40.38	310	P	P	02 47 47.9	+0.1
	1.8nm,0.5s,baz=94,slow=8.9,SNR=9.8						
MKAR	Makanchi Array	43.01	300	P	P	02 48 09.0	-0.4
	0.8nm,0.6s,baz=88,slow=10.0,SNR=11						
WRA	Warramunga Arr	59.78	188	P	P	02 50 13.5	-1.4
	0.3nm,0.6s,baz=5.3,slow=7.0,SNR=2.9						
FINES	FINESS Array B	66.58	332	P	P	02 50 59.2	-0.3
	1.4nm,0.8s,baz=44,slow=10,SNR=3.8						
NOA	NORSAR Array B	71.83	337	P	P	02 51 31.2	-0.8
	0.6nm,0.8s,baz=47,slow=5.5,SNR=3.3						

JMA 07 02:40:15.2±0.1**, 32°.65N**×**130°.07E, h17**km±1km**, M0.6, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHD	Hondo	0.19	163	P	Pg	02 40 20.0	+0.1
JHD				S	Sg	02 40 23.2	+0.1
JHD	Hondo	0.19	163	eS	Pg	02 40 19.5	-0.4
NGSJ	Nagasakinomoza	0.23	266	eS	Sg	02 40 24.1	0.0

IDC 07 03:11:59.6±1.3**, 0°.73N**×**126°.75E, h0**km**, mb3.5**/4**, mb1 3.6**/4**, mb1mx3.5**/29**, mbtmp3.5**/4**, Error ellipse: s-maj=136.4km s-min=20.8km az=69.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.85	160	P	P	03 16 53.9	-0.1
	1.5nm,0.9s,baz=338,slow=11,SNR=8.8						
ASAR	Alice Springs	25.23	164	P	P	03 17 27.5	+0.1
	0.5nm,0.8s,baz=345,slow=10,SNR=4.7						
SONM	Songino Array	50.13	342	P	P	03 20 56.4	-0.5
	0.3nm,0.7s,baz=144,slow=8.5,SNR=2.0						
MKAR	Makanchi Array	60.03	326	P	P	03 22 08.6	+0.2
	1.2nm,0.6s,baz=122,slow=8.6,SNR=19						

*PGC **07** 03:33:19.3±0.8, 48°.74N×129°.13W, h10km, mb4.4, MLSn3.6/33, Mw4.5, 239km west of Tofino, Bc Vancouver Island, Canada Region*
*IDC **07** 03:33:19.4±1.0, 48°.75N×129°.01W, h0km, mb3.9/13, mb1 4.1/20, mb1mx3.9/56, mbtmp4.0/20, ML3.7/6, MS3.7/24, Ms1 3.7/24, ms1mx3.5/50, Error ellipse: s-maj=22.2km s-min=11.0km az=45.0*
*ISCJB **07** 03:33:21.6±0.6, 49°.02N±0°.02×128°.68W±0°.03, h5km±4km, mb4.3/40, MS3.7/18, Error ellipse: s-maj=3.7km s-min=2.4km az=140.8*
*GCMT **07** 03:33:21.9±0.5, 48°.72N±0°.03×129°.20W±0°.03, h27km±1km, MW4.8/75, Moment Tensor Solution. s11,c11; s75,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.29±.18; $M_{\theta\theta}$-2.07±.12; $M_{\phi\phi}$2.36±.13; $M_{r\theta}$-0.47±.23; $M_{\theta\phi}$-0.02±.09; $M_{\phi r}$0.23±.19; Best double couple: $M_0$2.28300×10^{16} NP1:ϕ_s136.00000°,δ84.00000°,λ-167.00000°. NP2: ϕ_s44.00000°,δ77.00000°,λ-6.00000°. Principal axes: T 2.3800, Plg5.0000°, Azm269.0000°; N -0.1900, Plg75.0000°, Azm160.0000°; P -2.1860, Plg14.0000°, Azm1.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **07** 03:33:23.9±0.4, 49°.11N×128°.74W, h10km, mb4.4/68, MW4.5(OTT) Error ellipse: s-maj=6.7km s-min=3.2km az=54.0*
NEIC Felt at Courtenay, British Columbia and at Aberdeen, Washington.
ISC 07 03:33:25.5±2.9**, 48°.94N**±0°.04×**128°.79W**±0°.05**, h28**km±22km**, n369, σ1s.61**/409**, mb4.5**/40**, MS3.8**/18**, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMF	NEPTUNE Canada	1.01	192	P	Pn	03 33 33.6	-10
NC89	ODP889	1.31	101	Pn	Pn	03 33 44.7	-3.0
NC27	ODP1027	1.36	149	P	Pn	03 33 41.5	-6.8
EDB	Eliza Dome	1.44	49	Pn	Pn	03 33 47.4	-2.2
EDB				Sn	Sn	03 34 06.6	-1.0
EDB	Eliza Dome	1.44	49	Pn	Pn	03 33 47.4	-2.2
EDB				Sn	Sn	03 34 06.6	-1.0
ETB	Estevan Point	1.54	73	Pn	Pn	03 33 49.2	-1.9
ETB	Estevan Point	1.54	73	Pn	Pn	03 33 49.2	-1.9
PACB	Port Alice, BC	1.72	29	Pn	Pn	03 33 50.8	-2.7
PACB				Sn	Sn	03 34 12.9	-1.6
WOSB	Woss	1.90	49	Pn	Pn	03 33 54.6	-1.4
WOSB				Sn	Sn	03 34 20.1	+1.1
WOSB	Woss	1.90	49	Pn	Pn	03 33 54.6	-1.4
WOSB				Sn	Sn	03 34 20.1	+1.1
TOFB	Tofino	1.91	82	Pn	Pn	03 33 53.5	-2.6
TOFB				Sn	Sn	03 34 17.5	-1.6
PHC	Port Hardy	1.98	26	Pn	Pn	03 33 55.0	-2.0
PHC				Sn	Sn	03 34 19.7	-1.2
PHC	Port Hardy	1.98	26	Pn	Pn	03 33 55.0	-2.0
PHC				Sn	Sn	03 34 19.7	-1.2
GDR	Gold River	1.99	64	Pn	Pn	03 33 55.3	-1.9
GDR				Sn	Sn	03 34 21.1	0.0
GDR	Gold River	1.99	64	Pn	Pn	03 33 55.3	-1.9
GDR				Sn	Sn	03 34 21.1	0.0
TLCB	Telegraph Cove	2.05	37	Pn	Pn	03 33 57.0	-1.1
TLCB				Sn	Sn	03 34 22.6	0.0
B012	Ucluelet	2.14	89	Sn	Sn	03 34 22.8	-2.1
NCRB	Newcastle Ridg	2.31	49	Pn	Pn	03 34 00.9	-0.8
NCRB				Sn	Sn	03 34 29.7	+0.5
NCRB	Newcastle Ridg	2.31	49	Pn	Pn	03 34 00.9	-0.8
NCRB				Sn	Sn	03 34 29.7	+0.5
B928	Bamfield	2.42	91	Pn	Pn	03 33 59.9	-3.1
B928				Sn	Sn	03 34 29.4	-2.2

B928 Bamfield 2.42 91 Pn **Pn** **03 33 59.9 -3.1**
B928 Sn **Sn** **03 34 29.4 -2.2**
MWAB Mount Washingt 2.42 69 Pn **Pn** **03 34 02.0 -1.3**
MWAB Sn **Sn** **03 34 32.4 +0.5**
CBB Campbell River 2.49 63 Pn **Pn** **03 34 03.0 -1.1**
CBB Sn **Sn** **03 34 34.5 +1.0**
CBB Campbell River 2.49 63 Pn **Pn** **03 34 03.0 -1.1**
CBB Sn **Sn** **03 34 34.5 +1.0**
B927 Port Alberni 2.63 82 Pn **Pn** **03 34 03.7 -2.3**
B927 Sn **Sn** **03 34 36.4 -0.5**
B927 Port Alberni 2.63 82 Pn **Pn** **03 34 03.7 -2.3**
B927 Sn **Sn** **03 34 36.4 -0.5**
PFB Port Renfrew 2.90 96 Pn **Pn** **03 34 07.3 -2.5**
PFB Sn **Sn** **03 34 41.0 -2.7**
PFB Port Renfrew 2.90 96 Pn **Pn** **03 34 07.3 -2.5**
PFB Sn **Sn** **03 34 41.0 -2.7**
TXB Texada 2.95 73 Pn **Pn** **03 34 09.5 -1.0**
TXB Texada 2.95 73 Pn **Pn** **03 34 09.5 -1.0**
TXB Sn **Sn** **03 34 46.1 +1.3**
GHNB Nanoose 3.02 81 Pn **Pn** **03 34 10.0 -1.2**
GHNB Sn **Sn** **03 34 46.7 +0.3**
B926 Mesachie Lake 3.08 90 Pn **Pn** **03 34 09.7 -2.4**
B926 Sn **Sn** **03 34 47.1 -0.9**
OFR Olym-F Res Ctr 3.09 107 Sn **Sn** **03 34 48.3 -0.1**
NLLB Nanaimo Lost L 3.17 83 Pn **Pn** **03 34 12.0 -1.5**
NLLB Sn **Sn** **03 34 51.5 +1.2**
BBB Bella Bella 3.28 7 Pn **Pn** **03 34 13.3 -1.6**
252nm,0.3s,baz=201,slow=6.2,SNR=1450
BBB Sn **Sn** **03 34 51.1 -1.8**
69nm,0.3s,baz=280,slow=21,SNR=10
BBB LR LR 03 35 38.6
comp=Z,1µm,18.7s,baz=264,slow=40
BBB Bella Bella 3.28 7 *e*Pn **Pn** **03 34 13.3 -1.6**
BBB *e*Sn **Sn** **03 34 52.6 -0.3**
BBB Bella Bella 3.28 7 Pn **Pn** **03 34 13.4 -1.5**
BBB Sn **Sn** **03 34 51.2 -1.7**
SHB Sechelt 3.29 77 Pn **Pn** **03 34 14.2 -1.0**
SHB Sn **Sn** **03 34 54.8 +1.5**
LZB Mount Lazard 3.30 94 Pn **Pn** **03 34 12.6 -2.7**
LZB Sn **Sn** **03 34 52.6 -1.0**
BPCB Bare Point 3.35 88 Pn **Pn** **03 34 13.8 -2.1**
BPCB Sn **Sn** **03 34 54.9 +0.1**
GOBB Galiano Island 3.48 88 Pn **Pn** **03 34 16.1 -1.6**
B009 North Saanich 3.54 93 Pn **Pn** **03 34 15.9 -2.6**
B009 Sn **Sn** **03 34 58.9 -0.5**
B010 North Saanich 3.54 93 Pn **Pn** **03 34 16.1 -2.4**
B010 Sn **Sn** **03 34 58.3 -1.1**
PGC Sidney 3.54 93 *e*Pn **Pn** **03 34 16.6 -1.9**
PGC Sidney 3.54 93 Pn **Pn** **03 34 16.2 -2.3**
PGC Sn **Sn** **03 34 59.1 -0.3**
PA12 PA12 Sannich 3.54 93 Pn **Pn** **03 34 16.4 -2.2**
B011 North Saanich 3.54 93 Pn **Pn** **03 34 16.2 -2.3**
B011 Sn **Sn** **03 34 59.4 0.0**
BIB Bowen Island 3.63 81 Pn **Pn** **03 34 18.2 -1.5**
BIB Sn **Sn** **03 35 01.4 -0.1**
NLWA Neilton Lookou 3.64 113 *e*Pn **Pn** **03 34 17.9 -2.1**
NLWA *e*S **Sn** **03 34 58.0 -3.9**
VGZ Gonzales 3.66 96 Pn **Pn** **03 34 17.4 -2.8**
VGZ Sn **Sn** **03 34 59.9 -2.4**
BCBC Bella Coola 3.67 20 Pn **Pn** **03 34 20.2 -0.1**
BCBC Sn **Sn** **03 35 04.2 +1.5**
SNB Saturna Island 3.71 90 Pn **Pn** **03 34 18.3 -2.6**
WPB Watts Point 3.72 77 Pn **Pn** **03 34 20.4 -0.7**
WISH Wishkah 3.83 117 Pn **Pn** **03 34 20.8 -1.7**
WISH Sn **Sn** **03 35 03.6 -2.9**
MCW Mount Constitu 3.95 91 Pn **Pn** **03 34 22.5 -1.7**
BLN Blyn Mountain 3.98 101 Pn **Pn** **03 34 22.9 -1.7**
A04D Lummi Island 4.03 91 P **Pn** **03 34 23.9 -1.3**
baz=278
HDW Hoodsport 4.04 106 Pn **Pn** **03 34 24.2 -1.3**
HDW Sn **Sn** **03 35 11.1 -0.8**
D03D Eldon 4.06 108 P **Pn** **03 34 24.7 -1.0**
baz=295
D03D S **Sn** **03 35 11.6 -0.7**
baz=295
BNB Barry Inlet 4.10 334 Pn **Pn** **03 34 22.5 -3.7**
GNW Green Mountain 4.22 107 Pn **Pn** **03 34 25.9 -1.9**
GNW Sn **Sn** **03 35 14.2 -1.8**
CPW Capitol Peak 4.28 115 Pn **Pn** **03 34 26.6 -2.1**
CPW Sn **Sn** **03 35 14.9 -2.8**
VDB Vedder Mountai 4.41 86 Pn **Pn** **03 34 28.9 -1.5**
B05A Bryant 4.49 96 P **Pn** **03 34 30.2 -1.4**
baz=283
B05A S **Sn** **03 35 23.3 +0.5**
baz=283
MBW Mount Baker 4.55 89 Pn **Pn** **03 34 31.5 -1.1**
JCW Jim Creek 4.62 97 Pn **Pn** **03 34 31.7 -1.6**
JCW Sn **Sn** **03 35 24.9 -1.1**
E04D Cinebar 4.83 117 P **Pn** **03 34 35.2 -1.0**
baz=304,SNR=28
RPW Rockport 4.84 93 Pn **Pn** **03 34 35.4 -1.1**
B06A Marblemount 4.85 92 *e*Pn **Pn** **03 34 35.9 -0.7**
B06A Marblemount 4.85 92 Pn **Pn** **03 34 35.2 -1.4**
DIB Dawson Inlet, 4.86 333 *e*Pn **Pn** **03 34 33.4 -3.2**
D05A Enumclaw 4.88 108 *e*Pn **Pn** **03 34 37.2 +0.2**
D05A Enumclaw 4.88 108 Pn **Pn** **03 34 36.7 -0.3**
GPW Glacier Peak 5.15 96 Pn **Pn** **03 34 39.7 -1.2**
LON Longmire 5.18 112 *e*Pn **Pn** **03 34 40.6 -0.6**
LON Longmire 5.18 112 Pn **Pn** **03 34 40.8 -0.4**
LON Sn **Sn** **03 35 37.4 -2.7**
FMW Mount Fremont 5.19 110 Pn **Pn** **03 34 40.9 -0.5**
C06D Leavenworth 5.35 98 P **Pn** **03 34 43.5 0.0**
baz=286,SNR=5.6
RUBB Prince Rupert 5.47 351 Pn **Pn** **03 34 43.3 -1.8**
LTY Liberty 5.69 104 *e*Pn **Pn** **03 34 48.3 +0.1**
LTY Liberty 5.69 104 Pn **Pn** **03 34 47.7 -0.5**
LTY Sn **Sn** **03 35 52.1 -0.5**
COR Corvallis 5.76 137 *e*Pn **Pn** **03 34 50.0 +1.1**
COR *e*S **Sn** **03 35 51.4 -2.7**
F05D White Salmon 5.84 119 P **Pn** **03 34 50.0 -0.1**
baz=306
PNT Penticton 6.04 83 Pn **Pn** **03 34 51.9 -1.0**
H04D Lebanon 6.07 134 P **Pn** **03 34 53.9 +0.7**
baz=320
FSB Fort Saint Jam 6.20 25 Pn **Pn** **03 34 55.4 +0.3**
H04A Detroit Lake 6.21 131 *e*Pn **Pn** **03 34 55.3 0.0**
H04A *e*Sn **Sn** **03 36 01.9 -3.5**
B08A Colville Reser 6.29 92 *e*Pn **Pn** **03 34 56.4 0.0**
B08A Colville Reser 6.29 92 Pn **Pn** **03 34 55.2 -1.2**
G05D Wamic, OR 6.30 123 P **Pn** **03 34 57.1 +0.6**
baz=310,SNR=8.3
I03D Drain, OR 6.45 142 P **Pn** **03 34 59.0 +0.5**
baz=328
E07A Sunnyside 6.48 108 *e*Pn **Pn** **03 34 58.8 -0.1**
G06A Carlson Farm, 6.69 121 *e*Pn **Pn** **03 35 01.4 -0.3**
G06A *e*Sn **Sn** **03 36 16.3 -0.7**
F07A Phinny Hill Vi 6.74 114 *e*Pn **Pn** **03 35 03.5 +1.0**
HAWA Hanford 6.75 109 *e*Pn **Pn** **03 35 02.0 -0.7**
I04A Tendick Farm, 6.78 137 P **Pn** **03 35 04.8 +1.7**
baz=323
D08A Wollman Farm, 6.88 102 *e*Pn **Pn** **03 35 03.1 -1.4**
I05D Terrebonne, OR 6.89 129 P **Pn** **03 35 05.8 +1.2**
baz=316
E08A Dider Farm, El 7.01 107 *e*Pn **Pn** **03 35 05.3 -0.8**
C09A Chrisman Ranch 7.10 95 *e*Pn **Pn** **03 35 06.0 -1.4**
C09A Chrisman Ranch 7.10 95 Pn **Pn** **03 35 05.7 -1.7**
K02D Willamette Mer 7.19 148 P **Pn** **03 35 10.7 +1.9**
baz=333
SLEB Sale Mountain 7.22 68 Pn **Pn** **03 35 09.8 +0.6**
J04D Umpqua Nationa 7.35 138 P **Pn** **03 35 12.3 +1.3**
baz=324
PINE Pine Mountain 7.48 131 *e*Pn **Pn** **03 35 14.9 +2.1**
HUMO Hull Mountain 7.53 145 *e*Pn **Pn** **03 35 15.4 +2.1**
E09A Wood Farm, Sta 7.58 105 *e*Pn **Pn** **03 35 13.1 -0.9**
G08A Pilot Rock 7.63 115 *e*Pn **Pn** **03 35 15.4 +0.5**
L02E Cave Junction 7.69 150 P **Pn** **03 35 17.2 +1.6**
baz=334
J05D Fort Rock, OR 7.71 134 P **Pn** **03 35 17.2 +1.2**
baz=321
NEW Newport 7.77 91 Pn **Pn** **03 35 14.3 -2.3**
0.6nm,0.3s,baz=274,slow=4.5,SNR=16
NEW LR LR 03 38 22.7
comp=Z,1µm,19.3s,baz=275,slow=38
NEW Newport 7.77 91 *e*Pn **Pn** **03 35 15.2 -1.4**
K04D Chiloquin, OR 8.00 139 P **Pn** **03 35 22.5 +2.6**
baz=326
L04D Klamath Falls 8.11 144 P **Pn** **03 35 23.1 +1.7**
baz=329
BMBC Bull Mountain 8.19 27 P **Pn** **03 35 24.4 +1.9**
F10A Beach Ranch, E 8.38 106 *e*Pn **Pn** **03 35 24.9 -0.2**
YBH Yreka Blue Hor 8.38 147 Pn **Pn** **03 35 27.1 +2.1**
0.3nm,0.3s,baz=343,slow=13,SNR=24
YBH LR LR 03 38 20.2
comp=Z,541nm,19.0s,baz=332,slow=36
YBH Yreka Blue Hor 8.38 147 *e*Pn **Pn** **03 35 27.7 +2.6**
M02C Callahan 8.63 149 P **Pn** **03 35 30.7 +2.2**
baz=334,SNR=9.8
M04C Macdoel 8.66 143 P **Pn** **03 35 31.2 +2.2**
baz=329,SNR=8.7
KHMM Horse Mountain 8.82 154 *e*Pn **Pn** **03 35 30.0 -1.2**
BMO Blue Mountains 8.86 113 *e*Pn **Pn** **03 35 31.3 -0.3**
N02D Trinity Center 9.05 149 P **Pn** **03 35 36.9 +2.6**
baz=334,SNR=9.1
J08A Circle Bar Ran 9.07 124 *e*Pn **Pn** **03 35 37.5 +2.8**
MOD Modoc Plateau 9.22 137 *e*Pn **Pn** **03 35 38.4 +1.7**
BSMT Bassoo Peak 9.38 91 P **Pn** **03 35 37.5 -1.4**
WDC Whiskeytown Da 9.46 150 *e*Pn **Pn** **03 35 39.6 -0.2**
DLBC Dease Lake 9.55 356 Pn **Pn** **03 35 42.3 +1.3**
0.5nm,0.3s,baz=172,slow=9.7,SNR=14
DLBC LR LR 03 39 12.8
comp=Z,511nm,19.9s,baz=159,slow=36
DLBC Dease Lake 9.55 356 *e*Pn **Pn** **03 35 41.9 +1.0**
DLBC *e*S **Sn** **03 37 22.8 -4.4**
DLBC Dease Lake 9.55 356 P **Pn** **03 35 41.8 +0.8**
PRDA Priddis 9.56 73 P **Pn** **03 35 42.5 +1.3**
WVOR Wild Horse Val 9.63 129 *e*Pn **Pn** **03 35 43.8 +1.6**
FBMT Ferry Basin 9.72 94 P **Pn** **03 35 42.4 -1.2**
JTMT Jette 9.74 92 *e*Pn **Pn** **03 35 42.3 -1.4**
JTMT Jette 9.74 92 P **Pn** **03 35 42.4 -1.3**
O02D Mt. Diablo Mer 9.75 152 P **Pn** **03 35 44.4 +0.6**
baz=337
WALA Waterton Lakes 9.78 84 *e*Pn **Pn** **03 35 44.0 -0.3**
WALA Waterton Lakes 9.78 84 P **Pn** **03 35 43.6 -0.7**
SWMT Swartz Lake 9.98 93 P **Pn** **03 35 45.9 -1.1**
MSO Missoula 10.20 96 *e*Pn **Pn** **03 35 48.9 -1.1**
SLMT Seeley Lake 10.38 94 P **Pn** **03 35 51.7 -0.8**
FNBB Fort Nelson 10.53 17 P **Pn** **03 35 55.1 +0.7**
FNBB Sn **Sn** **03 37 49.5 -1.9**
MFID Camas Ranch 10.54 117 *e*Pn **Pn** **03 35 55.7 +1.0**
BPMT Black Pine Rid 10.64 98 P **Pn** **03 35 55.9 -0.3**
ELMT Elliston 11.24 96 P **Pn** **03 36 03.4 -0.9**
HLID Hailey 11.31 113 *e*Pn **Pn** **03 36 04.9 -0.3**
HLID *e*S **Sn** **03 38 08.7 -1.9**
DLMT Dillon 11.59 102 *e*Pn **Pn** **03 36 08.4 -0.7**
MCMT McKenzie Canyo 11.65 105 *e*Pn **Pn** **03 36 11.1 +1.1**
BOZ Bozeman (W) 12.13 100 *e*Pn **Pn** **03 36 12.4 -4.0**
WHY Whitehorse 12.25 346 P **Pn** **03 36 20.9 +2.9**
ELK Elko 12.62 125 Pn **Pn** **03 36 25.5 +2.3**
0.2nm,0.3s,baz=311,slow=22,SNR=3.2
EGMT Eagleton 12.67 87 *e*Pn **Pn** **03 36 23.5 -0.2**
YHB Horse Butte 12.75 103 *e*Pn **Pn** **03 36 25.6 +0.6**
HYT Haines Junctio 12.91 341 *e*Pn **Pn** **03 36 29.7 +2.8**
HYT Haines Junctio 12.91 341 P **Pn** **03 36 28.7 +1.7**
YMR Madison River 12.93 103 *e*Pn **Pn** **03 36 29.6 +2.1**
NVAR Mina Array Bea 12.94 140 Pn **Pn** **03 36 30.0 +2.3**
baz=325,slow=11,SNR=1.8
YNR Norris Junctio 13.10 102 *e*Pn **Pn** **03 36 32.8 +3.1**
YFT Old Faithful 13.11 103 *e*Pn **P** **03 36 36.6 -3.2**
YPP Pitchstone Pla 13.21 104 *e*Pn **Pn** **03 36 33.6 +2.3**
YUK5 Granite Creek 13.26 341 P **Pn** **03 36 33.3 +1.5**
IMW Indian Meadow 13.30 106 *e*Pn **Pn** **03 36 34.5 +2.0**
H17A Grant Village 13.30 103 *e*Pn **Pn** **03 36 35.4 +2.8**
HVU Hansel Valley 13.33 116 *e*Pn **Pn** **03 36 35.5 +2.7**
FLWY Flagg Ranch 13.37 104 *e*Pn **Pn** **03 36 35.4 +2.0**
TPAW Teton Pass 13.49 107 *e*Pn **Pn** **03 36 37.2 +2.0**
MOOW Moose Ponds 13.49 106 *e*Pn **Pn** **03 36 37.6 +2.4**
REDW Red Top Meadow 13.62 107 *e*Pn **P** **03 36 41.7 -3.8**
YUK4 Talbot Arm 13.63 340 P **Pn** **03 36 39.1 +2.3**
LOHW Long Hollow 13.65 106 *e*Pn **Pn** **03 36 40.9 +3.6**
BGU Big Grassy Mou 13.72 120 *e*Pn **Pn** **03 36 40.6 +2.4**
AHID Auburn Hatcher 13.78 110 *e*Pn **Pn** **03 36 41.2 +2.2**
SPUT South Promonto 13.81 117 *e*Pn **Pn** **03 36 42.6 +3.1**
RLMT Red Lodge 13.85 99 *e*Pn **Pn** **03 36 40.5 +0.6**
TCUT Toone Canyon 14.54 116 *e*Pn **Pn** **03 36 51.2 +1.6**
CTU Camp Tracy 14.61 118 *e*Pn **Pn** **03 36 51.9 +1.5**
BW06 Boulder Array 14.74 108 *e*Pn **Pn** **03 36 51.4 -0.7**
PD31 Pinedale Array 14.74 108 *e*Pn **Pn** **03 36 54.3 +2.2**
PDAR Pinedale Array 14.74 108 Pn **Pn** **03 36 53.9 +1.8**
0.1nm,0.3s,baz=302,slow=12,SNR=26
PDAR LR LR 03 42 51.1
comp=Z,542nm,19.4s,baz=302,slow=39
PDAR Pinedale Array 14.74 108 *e*Pn **Pn** **03 36 52.7 +0.6**
JLU Jordanelle 14.85 118 *e*Pn **Pn** **03 36 55.4 +1.8**
NLU North Lily Min 14.91 121 *e*Pn **Pn** **03 36 54.9 +0.5**
MPU Maple Canyon 15.12 120 *e*Pn **Pn** **03 36 57.9 +0.7**
6.0nm,0.9s
LAO LASA Array 15.32 90 *e*Pn **Pn** **03 36 59.6 0.0**
26nm,1.1s
YKA Yellowknife Ar 15.71 25 Pn **Pn** **03 37 02.5 -1.9**
0.3nm,0.3s,baz=217,slow=12,SNR=33
YKB5 Yellowknife Ar 15.71 25 *e*Pn **Pn** **03 37 01.3 -3.1**
YKW1 Yellowknife Ar 15.73 25 P **Pn** **03 37 02.0 -2.8**
YKW3 Yellowknife Ar 15.76 25 *e*Pn **Pn** **03 37 03.5 -1.6**
11nm,0.8s
YKW3 Yellowknife Ar 15.76 25 P **Pn** **03 37 03.6 -1.5**
TMUT Trail Mountain 15.85 121 *e*Pn **Pn** **03 37 08.2 +1.5**
4.8nm,0.8s
CCUT Cedar City 15.96 130 *e*Pn **P** **03 37 13.8 +2.3**
7.4nm,1.0s
P17A Butcher Ranch, 16.00 120 *e*Pn **Pn** **03 37 10.1 +1.5**
44nm,1.1s
SZCU Shurtz Canyon 16.07 129 *e*Pn **P** **03 37 13.5 +0.8**
13nm,1.1s
Q16A Castle Valley 16.13 122 *e*Pn **Pn** **03 37 11.9 +1.6**
35nm,1.1s
MTPU Mount Pierson 16.20 126 *e*Pn **P** **03 37 17.2 +2.8**
18nm,1.0s
DAWY Dawson 16.22 343 *e*Pn **Pn** **03 37 11.2 +0.2**
DGMT Dagmar 16.23 82 *e*Pn **Pn** **03 37 10.8 -0.5**
28nm,1.0s
LCMT Little Creek M 16.44 131 *e*Pn **P** **03 37 18.3 +1.6**
20nm,1.1s
PKCU Pink Cliffs 16.58 128 *e*Pn **P** **03 37 19.4 +0.9**
19nm,0.9s
KNB Kanab 16.65 130 *e*Pn **P** **03 37 19.5 +0.5**
6.8nm,1.0s
KDAK Kodiak Island 16.66 311 LR LR 03 41 57.3
comp=Z,238nm,20.1s,baz=132,slow=31
K22A Casper 16.72 104 *e*Pn **Pn** **03 37 18.9 +1.1**
43nm,1.1s
K22A Casper 16.72 104 P **Pn** **03 37 18.6 +0.9**
baz=300
O20A White River Ci 17.05 113 *e*Pn **Pn** **03 37 22.9 +1.0**
O20A White River Ci 17.05 113 P **Pn** **03 37 22.5 +0.6**
baz=309
U15A North Rim 17.37 130 *e*Pn **P** **03 37 27.0 -0.2**
9.3nm,1.1s
FFC Flin Flon 17.49 61 *e*Pn **Pn** **03 37 26.4 -0.7**
104nm,0.8s
PV09 Paradox Valley 17.58 119 *e*Pn **P** **03 37 30.2 +0.8**
PV21 Cone Mtn., Par 17.63 119 *e*Pn **P** **03 37 30.0 0.0**
15nm,0.9s
RSSD Black Hills 17.67 96 *e*Pn **P** **03 37 31.3 +1.0**
22nm,0.8s
W13A Hualapai Mount 17.67 136 *e*Pn **P** **03 37 32.7 +2.3**
5.4nm,1.1s
PV23 Carpenter Ridg 17.68 119 *e*Pn **P** **03 37 31.1 +0.6**
23nm,0.9s
PV10 Paradox Valley 17.71 119 *e*Pn **P** **03 37 32.5 +1.6**
PV14 Lion Creek, Pa 17.73 119 *e*Pn **P** **03 37 31.3 +0.3**
61nm,1.0s
PV20 West Nyswonger 17.78 119 *e*Pn **P** **03 37 32.7 +1.1**
48nm,1.0s
PV19 Morning Glory 17.79 119 *e*Pn **P** **03 37 32.0 +0.3**
75nm,1.2s
PV17 East Wray Mesa 17.83 119 *e*Pn **P** **03 37 32.5 +0.3**
69nm,1.1s
PV16 Nyswonger Mesa 17.83 119 *e*Pn **P** **03 37 32.5 +0.3**
82nm,1.2s
PV11 David Mesa, Pa 17.86 119 *e*Pn **P** **03 37 33.2 +0.7**
113nm,1.1s
PV05 Paradox Valley 17.89 120 *e*Pn **P** **03 37 33.5 +0.8**
PV12 Saucer Basin, 17.89 119 *e*Pn **P** **03 37 33.5 +0.6**
66nm,1.1s
PV03 Paradox Valley 17.91 119 *e*Pn **P** **03 37 33.3 +0.3**
EPYK Eagle Plains 17.96 350 P **Pn** **03 37 33.0 +0.2**
baz=163
PV13 Radium Mtn., P 17.99 119 *e*Pn **P** **03 37 34.4 +0.5**
70nm,1.2s
PV02 Paradox Valley 18.00 119 *e*Pn **P** **03 37 35.2 +1.1**
52nm,1.1s
N23A Red Feather La 18.02 108 *e*Pn **P** **03 37 36.6 +2.3**
18nm,1.1s
N23A Red Feather La 18.02 108 P **P** **03 37 35.8 +1.5**
baz=305
PHWY Pilot Hill 18.10 106 *e*Pn **P** **03 37 35.9 +0.7**
28nm,0.8s
PV01 Paradox Valley 18.15 119 *e*Pn **P** **03 37 36.4 +0.7**
HDA Harding Lake 18.32 334 P **P** **03 37 37.2 +0.1**
baz=139
SMCO Snowmass 18.41 114 *e*P **Pn** **03 37 40.5 +1.6**
9.1nm,1.0s
WUAZ Wupatki 18.55 130 *e*Pn **Pn** **03 37 41.6 +1.3**
12nm,1.0s
IL1 Eielson Array 18.58 335 *e*P **P** **03 37 39.9 -0.1**
ILAR Eielson Array 18.58 335 P **P** **03 37 39.9 -0.1**
0.1nm,0.3s,baz=147,slow=11,SNR=21
ILB Eielson Array 18.58 335 *e*P **P** **03 37 39.9 -0.1**
MVCO Mesa Verde 18.83 121 *e*P **Pn** **03 37 43.9 0.0**
ISCO Idaho Springs 18.86 110 *e*P **Pn** **03 37 44.7 +0.5**
17nm,1.1s
COLA College 18.93 335 *e*P **P** **03 37 43.1 -0.7**
7.1nm,0.9s
POKR Poker Plat Res 19.00 335 P **P** **03 37 44.9 +0.3**
baz=139
MDND Maddock 19.37 82 *e*P **Pn** **03 37 51.1 +1.1**
37nm,1.1s
X16A Lo Mia Camp, P 19.39 132 *e*P **Pn** **03 37 53.0 +2.5**
2.4nm,0.9s
S22A 4UR Ranch, Cre 19.43 117 *e*P **Pn** **03 37 51.8 +0.8**
29nm,1.1s
S22A 4UR Ranch, Cre 19.43 117 P **Pn** **03 37 51.6 +0.6**
baz=313
INK Inuvik 19.57 355 LR LR 03 45 29.2
comp=Z,302nm,20.7s,baz=160,slow=37
INK Inuvik 19.57 355 *e*P **P** **03 37 50.4 -0.3**
3.8nm,0.9s
INK Inuvik 19.57 355 P **P** **03 37 50.7 -0.1**
Q24A Divide 19.65 112 P **Pn** **03 37 54.1 +0.4**
baz=309
KUKN Kugluktuk,NWT 20.16 15 P **P** **03 37 58.0 +0.8**
SDCO Great Sand Dun 20.21 115 *e*P **Pn** 03 37 59.7 -0.7
7.9nm,1.1s
OGNE Ogallal 20.48 103 *e*P **Pn** 03 38 02.6 -0.7
40nm,0.8s
214A Organ Pipe Nat 20.80 139 P **Pn** 03 38 08.3 +1.3
baz=330
SUSD Miller 20.88 91 P **P** **03 38 06.5 +1.3**
baz=294
KSCO Kaye Shedlock' 21.19 108 P **P** **03 38 10.7 +2.0**
baz=307
T25A Trinidad 21.27 115 *e*P **P** **03 38 12.1 +2.4**
24nm,1.1s
T25A Trinidad 21.27 115 P **P** **03 38 11.7 +2.1**
baz=312
ULM Lac du Bonnet 21.29 74 P **P** **03 38 09.2 -0.3**
9.5nm,0.7s,baz=284,slow=12,SNR=19
ULM LR LR 03 46 38.8
comp=Z,563nm,18.6s,baz=280,slow=37
ULM Lac du Bonnet 21.29 74 *e*P **P** **03 38 09.8 +0.3**
57nm,1.0s
ULM Lac du Bonnet 21.29 74 P **P** **03 38 09.6 +0.1**
COLD Coldfoot 21.34 337 P **P** **03 38 10.4 +0.5**
TUC Tucson 21.42 134 *e*P **P** **03 38 12.5 +1.3**
5.2nm,0.9s
IM3 Indian Mountai 21.47 332 *e*P **P** **03 38 10.5 -0.8**
ANMO Albuquerque 21.61 122 P **P** **03 38 14.8 +1.6**
5.8nm,1.0s,baz=319,slow=11,SNR=14
ANMO LR LR 03 47 03.4
comp=Z,70nm,18.7s,baz=310,slow=38
ANMO Albuquerque 21.61 122 *e*P **P** **03 38 14.9 +1.6**
12nm,1.1s
LAZ Ladron 21.63 124 *e*P **P** **03 38 16.3 +2.8**
AGMN Agassiz Nation 21.69 79 *e*P **P** **03 38 14.4 +0.6**
38nm,0.8s
LENM Lemitar 21.90 124 *e*P **P** **03 38 18.9 +2.5**
BNM Barren Site 22.10 124 *e*P **P** **03 38 21.2 +2.6**
FCC Fort Churchill 22.46 51 *e*P **P** **03 38 22.1 +0.1**
15nm,0.8s
FCC Fort Churchill 22.46 51 P **P** **03 38 22.7 +0.7**
ECSD EROS Data Cent 22.71 91 *e*P **P** **03 38 24.6 -0.3**
20nm,1.1s
121A Cookes Peak, D 22.73 128 P **P** **03 38 27.8 +2.5**
baz=323
EPLO Experimental L 22.75 75 P **P** **03 38 24.9 -0.4**
BGNE Belgrade 22.76 98 *e*P **P** **03 38 26.9 +1.5**
36nm,0.8s
BGNE Belgrade 22.76 98 P **P** **03 38 27.1 +1.7**
baz=300
319A Douglas 22.91 133 *e*P **P** **03 38 32.2 +5.1**
8.8nm,0.9s
CBKS Cedar Bluff 23.13 105 *e*P **P** **03 38 30.6 +1.4**
40nm,1.2s
SOLO Sioux Lookout 23.73 73 P **P** **03 38 35.5 +0.6**
ATKO Atikokan Iron 24.30 76 P **P** **03 38 41.1 +0.8**
MSTX Muleshoe 24.41 118 *e*P **P** **03 38 44.0 +2.5**
8.9nm,1.1s
MSTX Muleshoe 24.41 118 P **P** **03 38 42.6 +1.1**
baz=316
AMTX Amarillo 24.42 115 *e*P **P** **03 38 42.0 +0.4**
7.0nm,0.9s
F37A Hinrichs Farm, 24.57 84 P **P** **03 38 44.2 +1.4**
baz=291
EYMN Ely 24.61 78 *e*P **P** **03 38 44.5 +1.4**
48nm,0.9s
SPMN Marine on St. 24.64 85 *e*P **P** **03 38 46.2 +2.8**
30nm,1.0s
SPMN Marine on St. 24.64 85 P **P** **03 38 43.9 +0.5**
baz=292
MNTX Cornudas Mount 24.64 126 *e*P **P** **03 38 47.8 +4.2**
1.8nm,0.9s
KSU1 Kansas State U 24.98 101 *e*P **P** **03 38 48.7 +2.2**
16nm,0.8s
F38A Pierce - Schro 24.98 83 P **P** **03 38 48.2 +1.7**
baz=291
G38A Ridgeland 25.28 84 P **P** **03 38 49.7 +0.5**
baz=292
F39A Loretta 25.62 82 P **P** **03 38 52.8 +0.5**
baz=291
G39A Holcombe 25.69 84 P **P** **03 38 53.8 +0.9**
baz=292
E39A Mellen 25.70 81 P **P** **03 38 53.5 +0.5**
baz=290
TBO Thunder Bay 25.75 76 P **P** **03 38 54.8 +1.4**
H39A Augusta 25.84 85 P **P** **03 38 55.2 +0.9**
baz=293
I39A Houston 26.02 87 P **P** **03 38 57.1 +1.2**
baz=295
J39A Decorah 26.11 88 P **P** **03 38 57.4 +0.6**
baz=296
WMOK Wichita Mounta 26.27 111 *e*P **P** **03 38 59.7 +1.4**
7.1nm,0.9s
G40A Rib Lake 26.33 83 *e*P **P** **03 39 01.2 +2.5**
12nm,0.8s
L39A Vinton 26.46 91 P **P** **03 39 00.5 +0.6**
baz=298
H41A Junction City 26.94 84 *e*P **P** **03 39 04.4 +0.2**
11nm,0.8s
H41A Junction City 26.94 84 P **P** **03 39 05.4 +1.2**
baz=294
L40A Anamosa 27.00 90 *e*P **P** **03 39 05.5 +0.8**
29nm,0.8s
L40A Anamosa 27.00 90 P **P** **03 39 05.3 +0.6**
baz=298
GTO Geraldton 27.02 72 P **P** **03 39 05.9 +1.1**
I41A Arkdale 27.02 86 *e*P **P** **03 39 04.9 0.0**
11nm,0.8s
M40A Post Highland 27.12 92 P **P** **03 39 07.2 +1.3**
baz=299
JFWS Jewell Farm 27.26 88 *e*P **P** **03 39 11.4 +4.3**
26nm,0.8s
N40A Mertquake, Sal 27.33 93 P **P** **03 39 08.8 +1.1**
baz=300
TX31 Lajitas Ar. Si 27.41 126 *e*P **P** **03 39 11.1 +2.4**
TXAR Lajitas Array 27.41 126 P **P** **03 39 08.3 -0.4**
0.5nm,0.8s,baz=331,slow=7.3,SNR=2.5
TXAR LR LR 03 52 06.2
comp=Z,38nm,18.8s,baz=0.0,slow=41
PNPO Pukaskwa Natio 27.76 74 P **P** **03 39 11.6 +0.1**
N41A Harden Midland 27.90 93 P **P** **03 39 13.3 +0.5**
baz=300
O41A Passleys Farm, 28.18 94 P **P** **03 39 16.3 +0.9**
baz=301
P41A Barry, Barry 28.29 95 P **P** **03 39 17.3 +1.0**
baz=302
N42A Yates City 28.38 92 P **P** **03 39 18.2 +1.1**
baz=300
Q41A Truxton 28.56 96 P **P** **03 39 19.9 +1.1**
baz=303
LPIG La Paz 28.74 143 LR LR 03 49 11.9
comp=Z,97nm,19.0s,baz=338,slow=33
R41A Rosebud 28.82 97 P **P** **03 39 22.2 +1.1**
baz=304

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
S41A	**Jillco Farms,**	**28.99**	**99**	P	**P**	**03 39 22.5**	**-0.1**
	baz=305						
U40A	**Yellville**	**28.99**	**102**	P	**P**	**03 39 23.3**	**+0.7**
	baz=308						
HDIL	**Hopedale**	**29.00**	**92**	*e*P	**P**	**03 39 23.8**	**+1.1**
	21nm,0.7s						
Q42A	**Golden Eagle**	**29.04**	**96**	P	**P**	**03 39 23.7**	**+0.7**
	baz=303						
T41A	**Mountain View**	**29.29**	**100**	P	**P**	**03 39 26.0**	**+0.8**
	baz=306						
RES	**Resolute Bay**	**29.52**	**18**	LR	LR	03 51 54.0	
	comp=Z,225nm,18.7s,baz=356,slow=38						
Q43A	**New Douglas**	**29.57**	**95**	P	**P**	**03 39 28.9**	**+1.1**
	baz=303						
U41A	**Viola**	**29.60**	**101**	P	**P**	**03 39 28.9**	**+0.9**
	baz=307						
V41A	**Mountainview**	**29.79**	**102**	P	**P**	**03 39 30.1**	**+0.4**
	baz=308						
H46A	**Fife Lake**	**29.88**	**82**	P	**P**	**03 39 31.0**	**+0.6**
	baz=295						
KAPO	**Kapuskasing**	**29.89**	**71**	P	**P**	**03 39 30.5**	**+0.1**
S43A	**Fulton Ridge,**	**30.09**	**98**	P	**P**	**03 39 33.8**	**+1.5**
	baz=305						
J46A	**Howard City**	**30.10**	**84**	P	**P**	**03 39 32.9**	**+0.6**
	baz=296						
W41B	**Gary Mavity, V**	**30.10**	**103**	P	**P**	**03 39 33.6**	**+1.2**
	baz=309						
V42A	**Cord**	**30.27**	**102**	P	**P**	**03 39 34.1**	**+0.2**
	baz=308						
J47A	**Sunmer**	**30.68**	**84**	P	**P**	**03 39 38.2**	**+0.7**
	baz=297						
Y41A	**Eaglette Beard**	**30.69**	**106**	P	**P**	**03 39 37.9**	**+0.3**
	baz=311						
KILO	**Kirkland Lake**	**31.93**	**72**	P	**P**	**03 39 49.8**	**+1.4**
OXF	**Oxford**	**32.34**	**102**	*e*P	**P**	**03 39 51.9**	**-0.2**
	17nm,0.9s						
VABQ	**Val Des Bois**	**35.50**	**74**	P	**P**	**03 40 19.9**	**+0.4**
GAC	**Glen Almond**	**35.67**	**75**	P	**P**	**03 40 19.9**	**-1.0**
V53A	**Saluda**	**35.95**	**94**	*e*P	**P**	**03 40 22.9**	**-0.6**
	11nm,0.9s						
SCHQ	**Schefferville**	**37.58**	**57**	P	**P**	**03 40 37.5**	**+0.4**
	13nm,1.0s,baz=285,slow=11,SNR=3.6						
SCHQ				LR	LR	03 56 51.2	
	comp=Z,250nm,18.8s,baz=323,slow=37						
MOQ	**Mont Orford**	**37.88**	**73**	*e*P	**P**	**03 40 41.0**	**+1.1**
MOQ	**Mont Orford**	**37.88**	**73**	P	**P**	**03 40 40.5**	**+0.7**
SEY	**Seymchan**	**43.37**	**319**	P	**P**	**03 41 27.1**	**+2.3**
	2.0nm,0.8s,baz=78,slow=7.0,SNR=5.6						
PETK	**Petropavlovsk-**	**44.55**	**305**	LR	LR	03 57 54.1	
	comp=Z,49nm,20.4s,baz=74,slow=33						
TIXI	**Tiksi**	**48.05**	**335**	P	**P**	**03 42 00.4**	**-1.3**
	2.5nm,0.7s,baz=63,slow=2.3,SNR=8.8						
USRK	**Ussuriysk Ar.**	**63.49**	**307**	LR	LR	04 12 00.1	
	comp=Z,28nm,18.2s,baz=57,slow=37						
MJAR	**Matsushiro Arr**	**65.30**	**298**	LR	LR	04 07 51.8	
	comp=Z,19nm,21.8s,baz=280,slow=32						
NOA	**NORSAR Array B**	**65.74**	**20**	P	**P**	**03 44 07.1**	**-0.1**
	0.4nm,0.7s,baz=334,slow=6.3,SNR=3.1						
NOA				LR	LR	04 10 41.1	
	comp=Z,58nm,18.3s,baz=355,slow=34						
FINES	**FINESS Array B**	**68.13**	**13**	P	**P**	**03 44 21.8**	**-0.4**
	1.1nm,0.8s,baz=333,slow=5.2,SNR=2.5						
SONM	**Songino Array**	**72.43**	**325**	LR	LR	04 15 55.4	
	comp=Z,76nm,21.5s,baz=356,slow=35						
ZALV	**Zalesovo Beam**	**73.63**	**340**	P	**P**	**03 44 54.1**	**-1.7**
	0.6nm,0.5s,baz=7.1,slow=6.5,SNR=3.5						
ZALV				LR	LR	04 23 02.5	
	comp=Z,44nm,18.3s,baz=70,slow=40						
HHC	**Hu-ho-hao-te**	**75.97**	**317**	*e*P	**P**	**03 45 10.1**	**+0.4**
HHC				pmax	pmax		
	comp=Z,19nm,1.2s						
GERES	**GERESS Array B**	**77.36**	**24**	P	**P**	**03 45 18.0**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=335,slow=4.3,SNR=3.9						
GERES				LR	LR	04 23 20.3	
	comp=Z,49nm,18.3s,baz=322,slow=39						
KURK	**Kurchatov**	**77.98**	**343**	P	**P**	**03 45 20.1**	**-0.6**
KURBB	**Kurchatov Arra**	**78.09**	**343**	P	**P**	**03 45 20.1**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=17,slow=5.3,SNR=6.2						
ESDC	**Sonseca Array**	**79.20**	**40**	P	**P**	**03 45 27.6**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=323,slow=5.9,SNR=2.8						
ES19	**SONSECA Array**	**79.20**	**40**	*e*P	**P**	**03 45 27.4**	**-0.3**
MK31	**Makanchi Array**	**80.89**	**339**	*e*P	**P**	**03 45 35.4**	**-1.3**
MKAR	**Makanchi Array**	**80.89**	**339**	P	**P**	**03 45 34.7**	**-2.0**
	comp=Z,0.8nm,0.7s,baz=19,slow=4.4,SNR=7.2						
MKAR				LR	LR	04 23 15.1	
	comp=Z,45nm,19.2s,baz=16,slow=37						
MKAR	**Makanchi Array**	**80.89**	**339**	*e*P	**P**	**03 45 35.4**	**-1.3**
	comp=Z,8.7nm,0.8s						
MK01	**Makanchi Array**	**80.92**	**339**	*e*P	**P**	**03 45 35.1**	**-1.7**
MAKZ	**Makanchi**	**80.95**	**339**	*e*P	**P**	**03 45 35.9**	**-1.1**
	comp=Z,7.3nm,1.0s						
WMQ	**Urumqi**	**82.24**	**334**	*e*P	**P**	**03 45 46.0**	**+2.1**
WMQ				LR	LR		
	comp=N,99nm,31.1s						
WMQ				LR	LR		
	comp=E,72nm,20.7s						
WMQ				LR	LR		
	comp=Z,110nm,29.1s						
LPAZ	**La Paz**	**84.22**	**123**	P	**P**	**03 45 53.6**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=6.0,slow=4.8,SNR=3.5						
LPAZ				LR	LR	04 24 46.1	
	comp=Z,28nm,21.9s,baz=2.0,slow=37						
AAK	**Ala-Archa**	**86.53**	**343**	P	**P**	**03 46 04.9**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=323,slow=5.1,SNR=2.0						
GEYT	**Alibeck**	**93.29**	**355**	LR	LR	04 33 45.3	
	comp=Z,32nm,18.1s,baz=195,slow=39						
BDFB	**Brasilia**	**95.72**	**107**	LR	LR	04 33 47.6	
	comp=Z,45nm,19.4s,baz=162,slow=38						
HOPE	**Hope Point**	**128.65**	**131**	*e*PKPdf	**PKPdf**	**03 52 32.1**	**+3.4**

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*MAN **07** 03:33:28.4, 8.°95N×126.°49E, h10km, mb4.7, ML3.5, MS3.4*
*IDC **07** 03:33:33.8±2.6, 8.°91N×126.°18E, h83km±24km, mb3.7/20, mb1 3.9/20, mb1mx3.7/53, mbtmp4.0/20, MS3.2/4, Ms1 3.2/4, ms1mx2.7/43, Error ellipse: s-maj=26.6km s-min=11.2km az=76.0*
ISC 07 03:33:26.0±1.3, **8.°97N**±0.°03×**126.°50E**±0.°05, **h18**km±5km, **n48,** σ1§**19**/58, **mb4.2**/28, **4C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.80**	**190**⇑	*i*P	**Pn**	**03 33 44.2**	**+1.8**
BIPH				*i* S	**Sn**	**03 33 53.7**	**-0.1**
BUTP	**Butuan**	**0.87**	**270**	*e*P	**Pn**	**03 33 44.5**	**+1.2**
BUTP				*e*S	**Sn**	**03 33 56.6**	**+1.0**
SCPH	**Surigao**	**1.28**	**309**⇑	*e*P	**Pg**	**03 33 51.2**	**+0.5**
SCPH				*e*S	**Sg**	**03 34 07.4**	**-0.2**
BUKP	**Musuan**	**1.79**	**233**	*e*P	**Pb**	**03 33 59.1**	**+0.8**
BUKP				*e*S	**Sg**	**03 34 22.5**	**-1.3**
CGP	**Cagayan de Oro**	**1.86**	**254**⇑	*e*P	**Pb**	**03 33 59.4**	**-0.1**
CGP				*e*S	**Sb**	**03 34 24.2**	**+1.8**
MSLP	**Maasin**	**1.99**	**306**	*e*P	**Pb**	**03 34 02.0**	**+0.4**
MSLP				*e*S	**Sg**	**03 34 30.1**	**+0.1**
MATI	**Mati**	**2.03**	**187**	*e*P	**Pb**	**03 34 03.0**	**+0.6**
MATI				*e*S	**Sb**	**03 34 27.6**	**+0.3**
DAV	**Davao City (W)**	**2.10**	**206**	P	**Pg**	**03 34 05.9**	**-0.5**
	148nm,0.3s,baz=44,slow=5.2,SNR=4.0						
DAV				S	**Sb**	**03 34 28.1**	**-1.3**
	112nm,0.3s,baz=17,slow=17,SNR=4.4						
DAV				LR	LR	03 35 13.9	
	comp=Z,470nm,18.9s,baz=349,slow=52						
PLP	**Palo**	**2.64**	**326**⇓	*e*P	**Pb**	**03 34 11.9**	**-1.0**
PLP				*e*S	**Sb**	**03 34 44.3**	**-0.7**
TBP	**Tagbilaran**	**2.70**	**286**	*e*P	**Pb**	**03 34 14.8**	**+1.0**
TBP				*e*S	**Sb**	**03 34 46.9**	**+0.3**
LLP	**Lapu-Lapu**	**2.83**	**298**	*e*P	**Pb**	**03 34 14.6**	**-1.5**
LLP				*e*S	Sn	03 34 15.2	-29
DCPH	**Dipolog City**	**3.13**	**263**⇑	*i*P	**Pb**	**03 34 18.9**	**-2.4**
DCPH				*e*S	**Sn**	**03 34 52.9**	**+1.3**
PAGZ	**Pagadian**	**3.28**	**250**	*e*P	**Pn**	**03 34 19.8**	**+3.3**
PAGZ				*e*S	**Sn**	**03 34 52.7**	**-2.4**
GUIM	**Jordan**	**4.19**	**293**	*e*P	**Pn**	**03 34 31.7**	**+2.7**
GUIM				*e*S	Sn	03 34 38.1	-39
RCP	**Roxas**	**4.50**	**305**⇓	*e*P	Pn	03 34 38.8	+5.4
FITZ	**Fitzroy Crossi**	**26.91**	**182**	P	**P**	**03 39 06.9**	**+0.6**
	2.6nm,0.3s,baz=6.1,slow=11,SNR=47						
KSRS	**Korea Array**	**28.38**	**2**	LR	LR	03 51 00.9	
	comp=Z,15nm,20.4s,baz=113,slow=37						
MJAR	**Matsushiro Arr**	**29.43**	**19**	LR	LR	03 51 18.9	
	comp=Z,14nm,19.6s,baz=95,slow=36						
WRA	**Warramunga Arr**	**29.75**	**165**	P	**P**	**03 39 31.1**	**-0.6**
	0.5nm,0.5s,baz=346,slow=7.9,SNR=11						
WRA				PcP	**PcP**	**03 42 35.1**	**-0.4**
	0.5nm,0.9s,baz=341,slow=2.3,SNR=3.3						
ASAR	**Alice Springs**	**33.24**	**168**	P	**P**	**03 40 02.4**	**0.0**
	0.8nm,0.5s,baz=346,slow=7.2,SNR=13						
ASAR				PcP	**PcP**	**03 42 44.7**	**-0.1**
	0.4nm,0.5s,baz=354,slow=2.5,SNR=5.3						
USRK	**Ussuriysk Ar.**	**35.42**	**7**	P	**P**	**03 40 22.4**	**+1.4**
	2.8nm,0.8s,baz=193,slow=8.8,SNR=7.1						
KLR	**Kul'dur**	**40.37**	**5**	P	**P**	**03 41 03.7**	**+1.0**
	0.8nm,0.4s,baz=193,slow=6.7,SNR=5.8						
ODAN	**Odare**	**41.02**	**301**	*e*P	**P**	**03 41 09.1**	**+0.3**
	25nm,0.7s						
RAMN	**Ramite**	**41.72**	**301**	*e*P	**P**	**03 41 14.8**	**+0.3**
	7.6nm,0.7s						
JIRN	**Jiri**	**42.29**	**301**	*e*P	**P**	**03 41 19.2**	**-0.1**
	7.7nm,0.3s						
SONM	**Songino Array**	**42.30**	**340**	P	**P**	**03 41 19.5**	**+0.7**
	0.2nm,0.5s,baz=168,slow=7.4,SNR=3.1						
GUN	**Gumba**	**42.63**	**302**	*e*P	**P**	**03 41 22.0**	**0.0**
	9.9nm,0.5s						
PKIN	**Phulchoki**	**42.93**	**301**	*e*P	**P**	**03 41 24.4**	**0.0**
	4.3nm,0.4s						
STKA	**Stephens Creek**	**43.11**	**161**	P	**P**	**03 41 26.1**	**+0.7**
	1.4nm,0.4s,baz=342,slow=9.8,SNR=6.0						
KOLN	**Koldanda**	**44.51**	**301**	*e*P	**P**	**03 41 36.7**	**-0.4**
	16nm,0.8s						
DANN	**Dangsing**	**44.54**	**301**	*e*P	**P**	**03 41 36.6**	**-0.8**
	14nm,0.7s						
PYUN	**Piuthan**	**45.12**	**301**	*e*P	**P**	**03 41 41.8**	**-0.1**
	15nm,0.9s						
MKAR	**Makanchi Array**	**53.19**	**323**	P	**P**	**03 42 42.5**	**-0.7**
	1.7nm,0.5s,baz=119,slow=8.1,SNR=31						
MKAR				PcP	**PcP**	**03 43 50.3**	**-0.8**
	0.9nm,0.7s,baz=113,slow=4.0,SNR=5.4						
ZALV	**Zalesovo Beam**	**55.87**	**332**	P	**P**	**03 43 00.7**	**-1.7**
	0.7nm,0.4s,baz=128,slow=6.0,SNR=4.8						
KURBB	**Kurchatov Arra**	**57.26**	**326**	P	**P**	**03 43 11.7**	**-0.8**
	1.8nm,0.4s,baz=124,slow=7.0,SNR=26						
KDAK	**Kodiak Island**	**77.62**	**33**	P	**P**	**03 45 23.1**	**+2.1**
	7.4nm,0.8s,baz=346,slow=4.2,SNR=3.3						
KBZ	**Khabaz**	**79.25**	**313**	P	**P**	**03 45 29.6**	**-0.8**
	0.5nm,0.5s,baz=102,slow=9.3,SNR=3.0						
ILAR	**Eielson Array**	**80.50**	**26**	P	**P**	**03 45 37.0**	**+0.2**
	0.6nm,0.6s,baz=244,slow=4.6,SNR=9.7						
ASF	**Jabal al Asfar**	**84.95**	**302**	LR	LR	04 27 22.4	
	comp=Z,132nm,21.5s,baz=324,slow=38						
INK	**Inuvik**	**85.40**	**22**	P	**P**	**03 46 02.8**	**+0.7**
	0.7nm,0.7s,baz=329,slow=2.1,SNR=3.4						
ARCES	**ARCESS Array B**	**85.48**	**340**	P	**P**	**03 46 02.2**	**-0.3**
	3.7nm,0.9s,baz=66,slow=5.9,SNR=6.1						
BRTR	**Keskin Array B**	**86.52**	**309**	P	**P**	**03 46 06.5**	**-2.0**
	0.2nm,0.4s,baz=107,slow=4.7,SNR=5.3						
FINES	**FINESS Array B**	**87.13**	**332**	P	**P**	**03 46 09.4**	**-1.4**
	2.0nm,0.9s,baz=82,slow=5.9,SNR=6.1						
AKASG	**Malin Array Be**	**87.70**	**321**	P	**P**	**03 46 11.9**	**-1.9**
	0.6nm,0.5s,baz=65,slow=4.9,SNR=2.9						
VNDA	**Vanda**	**88.62**	**173**	P	**P**	**03 46 17.6**	**+0.1**
	1.0nm,0.8s,baz=318,slow=4.7,SNR=6.5						
HFS	**Hagfors**	**93.30**	**332**	LR	LR	04 30 23.9	
	comp=Z,12nm,20.5s,baz=74,slow=37						
YKA	**Yellowknife Ar**	**94.84**	**24**	P	**P**	**03 46 47.6**	**+0.9**
	0.2nm,0.6s,baz=302,slow=4.6,SNR=5.2						
TORD	**Torodi Ar. Bea**	**120.95**	**291**	PKP	**PKPdf**	**03 52 17.5**	**-1.0**
	0.2nm,0.3s,baz=74,slow=3.5,SNR=3.0						

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*KRSC **07** 03:37:46.7±0.6, 54.°26N×160.°69E, h75km±11km, ML4.4, FELT [III] at GMS Kronoki.*
*ISCJB **07** 03:37:47.2±0.3, 54.°24N±0.°02×160.°72E±0.°06, h88km±3km, mb3.7/16, Error ellipse: s-maj=6.6km s-min=2.1km az=25.7*
*MOS **07** 03:37:48.0±0.6, 54.°27N×160.°65E, h51km, mb4.0/7, Error ellipse: s-maj=12.2km s-min=3.8km az=80.2*
*IDC **07** 03:37:48.8±2.2, 54.°50N×160.°21E, h96km±22km, mb3.4/13, mb1 3.7/14, mb1mx3.4/62, mbtmp3.7/14, MS2.8/1, Ms1 2.8/1, ms1mx2.3/29, Error ellipse: s-maj=22.3km s-min=12.7km az=146.0*
ISC 07 03:37:47.2±0.7, **54.°25N**±0.°02×**160.°66E**±0.°04, **h77**km±6km, **n107,** σ1§**74**/180, **mb3.7**/16, **Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.69**	**64**	*e*P	**Pn**	**03 38 02.9**	**+0.5**
MKZ				*e*S	**Sn**	**03 38 14.4**	**+0.6**
MKZ	**Mys Kozlova**	**0.69**	**64**	PN	**Pn**	**03 38 02.9**	**+0.5**
MKZ				S	**Sn**	**03 38 14.4**	**+0.6**
KII	**Karymskiy**	**0.75**	**254**	*e*P	**Pn**	**03 38 03.6**	**+0.5**
KII				*e*S	**Sn**	**03 38 16.4**	**+1.4**
KII	**Karymskiy**	**0.75**	**254**	PN	**Pn**	**03 38 03.6**	**+0.5**
KII				S	**Sn**	**03 38 16.4**	**+1.4**
KZV	**Kizimen**	**0.89**	**346**	*e*P	**Pn**	**03 38 05.2**	**+0.4**
KZV				*e*S	**Sn**	**03 38 18.4**	**+0.4**
KZV	**Kizimen**	**0.89**	**346**	PN	**Pn**	**03 38 05.2**	**+0.4**
KZV				S	**Sn**	**03 38 18.4**	**+0.4**
TUMD	**Tumrok D**	**0.96**	**351**	*i* P	**Pn**	**03 38 05.6**	**0.0**
TUMD				*i* S	**Sn**	**03 38 19.3**	**0.0**
TUMR	**Tumrok**	**1.07**	**344**	*e*P	**Pn**	**03 38 07.7**	**+0.7**
TUMR				*e*S	**Sn**	**03 38 22.8**	**+0.9**
TUMR	**Tumrok**	**1.07**	**344**	PN	**Pn**	**03 38 07.7**	**+0.7**
TUMR				S	**Sn**	**03 38 22.8**	**+0.9**
SPN	**Mys Shipunski**	**1.22**	**198**	*e*P	**Pn**	**03 38 09.1**	**+0.4**
SPN				*e*S	**Sn**	**03 38 25.3**	**+0.5**
SPN	**Mys Shipunski**	**1.22**	**198**	PN	**Pn**	**03 38 09.1**	**+0.4**
SPN				S	**Sn**	**03 38 25.3**	**+0.5**
NLC	**Nalytchevo**	**1.34**	**216**	*e*P	**Pn**	**03 38 11.0**	**+0.8**
NLC				*e*S	**Sn**	**03 38 29.0**	**+1.5**
NLC	**Nalytchevo**	**1.34**	**216**	PN	**Pn**	**03 38 11.0**	**+0.8**
NLC				S	**Sn**	**03 38 29.0**	**+1.5**
SDLR	**Sedlovina**	**1.44**	**228**	*e*P	**Pn**	**03 38 12.5**	**+0.9**
SDLR				*e*S	**Sn**	**03 38 31.6**	**+1.5**
SDLR	**Sedlovina**	**1.44**	**228**	PN	**Pn**	**03 38 12.5**	**+0.9**
SDLR				S	**Sn**	**03 38 31.6**	**+1.5**
SMAR	**Somma**	**1.48**	**229**	*e*P	**Pn**	**03 38 13.4**	**+1.1**
SMAR				*e*S	**Sn**	**03 38 32.9**	**+1.6**
SMAR	**Somma**	**1.48**	**229**	PN	**Pn**	**03 38 13.4**	**+1.1**
SMAR				S	**Sn**	**03 38 32.9**	**+1.6**
KRX	**Arik**	**1.49**	**234**	*e*P	**Pn**	**03 38 13.3**	**+0.9**
KRX				*e*S	**Sn**	**03 38 33.0**	**+1.6**
KRX	**Arik**	**1.49**	**234**	PN	**Pn**	**03 38 13.3**	**+0.9**
KRX				S	**Sn**	**03 38 33.0**	**+1.6**
AVH	**Avacha**	**1.51**	**230**	*e*P	**Pn**	**03 38 14.0**	**+1.5**
AVH				*e*S	**Sn**	**03 38 34.4**	**+2.7**
AVH	**Avacha**	**1.51**	**230**	PN	**Pn**	**03 38 14.0**	**+1.5**
AVH				S	**Sn**	**03 38 34.4**	**+2.7**
UGLR	**Uglovaya**	**1.51**	**227**	*e*P	**Pn**	**03 38 13.8**	**+1.2**
UGLR	**Uglovaya**	**1.51**	**227**	PN	**Pn**	**03 38 13.8**	**+1.2**
KOK	**Koryaka**	**1.54**	**232**	*e*P	**Pn**	**03 38 14.2**	**+1.3**
KOK				*e*S	**Sn**	**03 38 33.5**	**+1.1**
KOK	**Koryaka**	**1.54**	**232**	PN	**Pn**	**03 38 14.2**	**+1.3**
KOK				S	**Sn**	**03 38 33.5**	**+1.1**
BZMR	**Bezymyannaya**	**1.69**	**357**	*e*P	**Pn**	**03 38 16.3**	**+1.4**
BZMR				*e*S	**Sn**	**03 38 37.7**	**+1.7**
BZMR	**Bezymyannaya**	**1.69**	**357**	PN	**Pn**	**03 38 16.3**	**+1.4**
BZMR				S	**Sn**	**03 38 37.7**	**+1.7**
BZGR	**Bezymyannyi-Gr**	**1.69**	**1**	*e*P	**Pn**	**03 38 16.7**	**+1.8**
BZGR				*e*S	**Sn**	**03 38 38.2**	**+2.2**
BZGR	**Bezymyannyi-Gr**	**1.69**	**1**	PN	**Pn**	**03 38 16.7**	**+1.8**
BZGR				S	**Sn**	**03 38 38.2**	**+2.2**
GNL	**Ganaly**	**1.70**	**252**	*e*P	**Pn**	**03 38 16.0**	**+0.9**
GNL				*e*S	**Sn**	**03 38 37.3**	**+1.1**
GNL	**Ganaly**	**1.70**	**252**	PN	**Pn**	**03 38 16.0**	**+0.9**
GNL				S	**Sn**	**03 38 37.3**	**+1.1**
KIRR	**Kirishev**	**1.71**	**354**	*e*P	**Pn**	**03 38 16.1**	**+0.8**
KIRR	**Kirishev**	**1.71**	**354**	PN	**Pn**	**03 38 16.1**	**+0.8**
PET	**Petropavlovsk**	**1.72**	**225**	*e*P	**Pn**	**03 38 16.3**	**+1.2**
PET				*e*S	**Sn**	**03 38 37.8**	**+1.4**
PET	**Petropavlovsk**	**1.72**	**225**	PN	**Pn**	**03 38 16.3**	**+1.2**
PET				S	**Sn**	**03 38 37.8**	**+1.4**
BZWR	**Bezymyannyi-We**	**1.72**	**357**	*e*P	**Pn**	**03 38 17.3**	**+2.0**
BZWR				*e*S	**Sn**	**03 38 40.0**	**+3.3**
BZWR	**Bezymyannyi-We**	**1.72**	**357**	PN	**Pn**	**03 38 17.3**	**+2.0**
BZWR				S	**Sn**	**03 38 40.0**	**+3.3**
KPT	**Kopyto**	**1.74**	**352**	*e*P	**Pn**	**03 38 16.4**	**+0.9**
KPT	**Kopyto**	**1.74**	**352**	PN	**Pn**	**03 38 16.4**	**+0.9**
ZLN	**Zelenaya**	**1.77**	**3**	*e*P	**Pn**	**03 38 17.4**	**+1.4**
ZLN				*e*S	**Sn**	**03 38 40.2**	**+2.4**
ZLN	**Zelenaya**	**1.77**	**3**	PN	**Pn**	**03 38 17.4**	**+1.4**
ZLN				S	**Sn**	**03 38 40.2**	**+2.4**
LGNR	**Loginova**	**1.83**	**0**	*e*P	**Pn**	**03 38 18.6**	**+1.6**
LGNR				*e*S	**Sn**	**03 38 42.3**	**+2.7**
LGNR	**Loginova**	**1.83**	**0**	PN	**Pn**	**03 38 18.6**	**+1.6**
LGNR				S	**Sn**	**03 38 42.3**	**+2.7**
KOZ	**Kozyrevsk**	**1.86**	**346**	*e*P	**Pn**	**03 38 17.7**	**+0.6**
KOZ				*e*S	**Sn**	**03 38 40.8**	**+0.9**
KOZ	**Kozyrevsk**	**1.86**	**346**	PN	**Pn**	**03 38 17.7**	**+0.6**
KOZ				S	**Sn**	**03 38 40.8**	**+0.9**
CIRR	**Tsirk**	**1.87**	**1**	*e*P	**Pn**	**03 38 18.8**	**+1.5**
CIRR				*e*S	**Sn**	**03 38 42.2**	**+2.0**
CIRR	**Tsirk**	**1.87**	**1**	PN	**Pn**	**03 38 18.8**	**+1.5**
CIRR				S	**Sn**	**03 38 42.2**	**+2.0**
KRSR	**Krestovskiy**	**1.97**	**358**	*e*P	**Pn**	**03 38 19.9**	**+1.3**
KRSR	**Krestovskiy**	**1.97**	**358**	PN	**Pn**	**03 38 19.9**	**+1.3**
ESO	**Esso**	**2.02**	**327**	*e*P	**Pn**	**03 38 19.4**	**+0.2**
ESO				*e*S	**Sn**	**03 38 44.1**	**+0.5**
ESO	**Esso**	**2.02**	**327**	PN	**Pn**	**03 38 19.4**	**+0.2**
ESO				S	**Sn**	**03 38 44.1**	**+0.5**
KLY	**Klyuchi**	**2.06**	**360**	*e*P	**Pn**	**03 38 20.8**	**+1.0**
KLY				*e*S	**Sn**	**03 38 46.7**	**+2.1**
KLY	**Klyuchi**	**2.06**	**360**	PN	**Pn**	**03 38 20.8**	**+1.0**
KLY				S	**Sn**	**03 38 46.7**	**+2.1**
KRMR	**Karymshinskiy**	**2.08**	**228**	*e*P	**Pn**	**03 38 22.3**	**+2.4**
KRMR				*e*S	**Sn**	**03 38 48.3**	**+3.4**
KRMR	**Karymshinskiy**	**2.08**	**228**	PN	**Pn**	**03 38 22.3**	**+2.4**
KRMR				S	**Sn**	**03 38 48.3**	**+3.4**
PETK	**Petropavlovsk-**	**2.10**	**238**	P	**Pn**	**03 38 21.3**	**+1.0**
	7.1nm,0.3s,baz=74,slow=17,SNR=120						
PETK				S	**Sn**	**03 38 46.4**	**+0.8**
	12nm,0.3s,baz=60,slow=22,SNR=8.6						
PETK				LR	LR	03 39 27.8	
	comp=Z,33nm,21.0s,baz=55,slow=49						
SRDR	**Sredinnyy**	**2.14**	**346**	*e*P	**Pn**	**03 38 20.9**	**+0.1**
SRDR				*e*S	**Sn**	**03 38 46.9**	**+0.4**
SRDR	**Sredinnyy**	**2.14**	**346**	PN	**Pn**	**03 38 20.9**	**+0.1**
SRDR				S	**Sn**	**03 38 46.9**	**+0.4**
RUS	**Russkaya**	**2.23**	**216**	*i* P	**Pn**	**03 38 23.1**	**+1.1**
RUS				*e*S	**Sn**	**03 38 49.3**	**+0.6**
RUS	**Russkaya**	**2.23**	**216**	PN	**Pn**	**03 38 23.1**	**+1.1**
RUS				S	**Sn**	**03 38 49.3**	**+0.6**
MTVR	**Mutnovka**	**2.31**	**221**	*e*P	**Pn**	**03 38 25.0**	**+1.7**
MTVR				*e*S	**Sn**	**03 38 53.0**	**+2.1**
MTVR	**Mutnovka**	**2.31**	**221**	PN	**Pn**	**03 38 25.0**	**+1.7**
MTVR				S	**Sn**	**03 38 53.0**	**+2.1**
KBTR	**Krutoberegovo**	**2.32**	**31**	*e*P	**Pn**	**03 38 23.3**	**+0.2**
KBTR				*e*S	**Sn**	**03 38 51.1**	**+0.4**
KBTR	**Krutoberegovo**	**2.32**	**31**	PN	**Pn**	**03 38 23.3**	**+0.2**
KBTR				S	**Sn**	**03 38 51.1**	**+0.4**
KBG	**Krutoberegovo**	**2.32**	**29**	*e*P	**Pn**	**03 38 25.1**	**+1.9**
KBG				*e*S	**Sn**	**03 38 52.9**	**+2.1**
KBG	**Krutoberegovo**	**2.32**	**29**	PN	**Pn**	**03 38 25.1**	**+1.9**
KBG				S	**Sn**	**03 38 52.9**	**+2.1**
BDR	**Baidarnaya**	**2.34**	**7**	*e*P	**Pn**	**03 38 24.8**	**+1.2**
BDR				*e*S	**Sn**	**03 38 54.1**	**+2.7**
BDR	**Baidarnaya**	**2.34**	**7**	PN	**Pn**	**03 38 24.8**	**+1.2**
BDR				S	**Sn**	**03 38 54.1**	**+2.7**
SMKR	**Semkarok**	**2.38**	**11**	*e*P	**Pn**	**03 38 25.4**	**+1.3**
SMKR				*e*S	**Sn**	**03 38 54.9**	**+2.6**
SMKR	**Semkarok**	**2.38**	**11**	PN	**Pn**	**03 38 25.4**	**+1.3**
SMKR				S	**Sn**	**03 38 54.9**	**+2.6**
SRKR	**Sorokina**	**2.42**	**7**	*e*P	**Pn**	**03 38 25.6**	**+0.9**
SRKR				*e*S	**Sn**	**03 38 55.4**	**+2.0**
SRKR	**Sorokina**	**2.42**	**7**	PN	**Pn**	**03 38 25.6**	**+0.9**
SRKR				S	**Sn**	**03 38 55.4**	**+2.0**
APC	**Apacha**	**2.48**	**239**	*e*P	**Pn**	**03 38 27.6**	**+2.3**
APC	**Apacha**	**2.48**	**239**	PN	**Pn**	**03 38 27.6**	**+2.3**
KDTR	**Khodutka, Kamc**	**2.90**	**214**	*e*P	**Pn**	**03 38 32.0**	**+0.9**
KDTR				*e*S	**Sn**	**03 39 06.4**	**+1.5**
KDTR	**Khodutka, Kamc**	**2.90**	**214**	PN	**Pn**	**03 38 32.0**	**+0.9**
KDTR				S	**Sn**	**03 39 06.4**	**+1.5**
PAU	**Pauzhetka**	**3.64**	**221**	*e*P	**Pn**	**03 38 45.2**	**+4.2**
PAU				*e*S	**Sn**	**03 39 26.3**	**+3.5**
PAU	**Pauzhetka**	**3.64**	**221**	PN	**Pn**	**03 38 45.2**	**+4.2**
PAU				S	**Sn**	**03 39 26.3**	**+3.5**
SKR	**Severo-Kuril's**	**4.53**	**220**	S	**Sn**	**03 39 48.3**	**+3.8**
PALN	**Palana**	**4.86**	**356**	P	**Pn**	**03 39 01.3**	**+3.6**
PALN	**Palana**	**4.86**	**356**	PN	**Pn**	**03 39 01.3**	**+3.6**
OSSR	**Ossora**	**5.18**	**14**	*e*P	**Pn**	**03 39 04.7**	**+2.7**
OSSR				*e*S	**Sn**	**03 40 04.0**	**+3.7**
OSSR	**Ossora**	**5.18**	**14**	PN	**Pn**	**03 39 04.7**	**+2.7**
OSSR				S	**Sn**	**03 40 04.0**	**+3.7**
TILK	**Tilichiki**	**6.88**	**23**	*e*P	**Pn**	**03 39 27.7**	**+2.5**
TILK				*e*S	**Sn**	**03 40 43.2**	**+1.4**
TILK	**Tilichiki**	**6.88**	**23**	PN	**Pn**	**03 39 27.7**	**+2.5**
MA2	**Magadan**	**7.60**	**319**	P	**Pn**	**03 39 36.2**	**+1.2**
	0.4nm,0.3s,baz=133,slow=10.0,SNR=5.3						
MA2				LR	LR	03 42 35.2	
	comp=Z,64nm,18.6s,baz=89,slow=40						
MA2	**Magadan**	**7.60**	**319**	*i* PN	**Pn**	**03 39 35.7**	**+0.7**
BILL	**Bilibino**	**14.09**	**9**	*e*P	**Pn**	**03 41 04.0**	**+1.3**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KLR	**Kul'dur**	**18.52**	**266**	P	**P**	**03 41 57.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=90,slow=11,SNR=3.2						
KLR	**Kul'dur**	**18.52**	**266**	*i* P	**P**	**03 41 57.3**	**+0.1**
MJAR	**Matsushiro Arr**	**23.54**	**230**	P	**P**	**03 42 51.2**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=12,slow=9.7,SNR=3.5						
ILAR	**Eielson Array**	**27.76**	**47**	P	**P**	**03 43 27.2**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=266,slow=9.1,SNR=15						
ILAR	**Eielson Array**	**27.76**	**47**	*e*P	**P**	**03 43 27.8**	**-0.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**32.75**	**39**	P	**P**	**03 44 11.8**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=257,slow=6.3,SNR=7.0						
XAN	**Xi'an**	**41.16**	**262**	P	**P**	**03 45 21.8**	**-2.0**
XAN				pP	pP	03 45 29.8	-13
XAN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
YKA	**Yellowknife Ar**	**42.08**	**44**	P	**P**	**03 45 30.4**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=300,slow=7.6,SNR=10						
YKA				PcP	**PcP**	**03 47 22.3**	**-1.8**
	comp=Z,0.1nm,0.5s,baz=299,slow=3.4,SNR=4.0						
KURK	**Kurchatov**	**47.41**	**301**	*i* P	**P**	**03 46 15.0**	**+1.6**
KURK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
KURBB	**Kurchatov Arra**	**47.52**	**301**	P	**P**	**03 46 10.9**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=56,slow=8.1,SNR=3.7						
KURBB				pP	**pP**	**03 46 32.9**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=54,slow=8.3,SNR=3.4						
MKAR	**Makanchi Array**	**47.96**	**295**	P	**P**	**03 46 15.4**	**-2.4**
	comp=Z,0.3nm,0.6s,baz=62,slow=7.7,SNR=2.9						
NVAR	**Mina Array Bea**	**55.04**	**71**	P	**P**	**03 47 12.3**	**+1.4**
	comp=Z,2.2nm,0.7s,baz=297,slow=7.4,SNR=13						
PDAR	**Pinedale Array**	**56.67**	**62**	P	**P**	**03 47 23.1**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=324,slow=2.0,SNR=8.3						
ULM	**Lac du Bonnet**	**57.78**	**48**	P	**P**	**03 47 29.9**	**0.0**
	comp=Z,1.6nm,0.8s,baz=304,slow=3.6,SNR=3.3						
NOA	**NORSAR Array B**	**62.52**	**344**	P	**P**	**03 47 59.0**	**-3.2**
	comp=Z,0.1nm,0.4s,baz=13,slow=5.8,SNR=2.4						
KIV	**Kislovodsk**	**68.82**	**317**	*e*P	**P**	**03 48 43.6**	**+0.6**
KIV				*e*		03 51 16.9	
KIV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TXAR	**Lajitas Array**	**69.88**	**68**	P	**P**	**03 48 50.5**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=294,slow=4.9,SNR=26						
WRA	**Warramunga Arr**	**77.28**	**205**	P	**P**	**03 49 31.9**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=22,slow=6.1,SNR=4.3						
ASAR	**Alice Springs**	**80.96**	**205**	P	**P**	**03 49 52.9**	**0.0**
	comp=Z,0.3nm,0.4s,baz=16,slow=4.9,SNR=3.6						

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*IDC **07** 03:38:15.6±1.3, 30.°75N×50.°10E, h0km, mb3.6/11, mb1 3.8/14, mb1mx3.7/53, mbtmp3.7/14, ML3.4/3, MS2.7/1, Ms1 2.7/1, ms1mx2.2/42, Error ellipse: s-maj=28.5km s-min=19.0km az=4.0*
*TEH **07** 03:38:16.6, 30.°61N×50.°16E, h10km, ML3.7*
*ISCJB **07** 03:38:17.5±0.4, 30.°51N±0.°04×50.°11E±0.°04, h25km, mb3.6/12, Error ellipse: s-maj=6.9km s-min=3.9km az=44.2*
*THR **07** 03:38:18.6, 30.°71N×50.°19E, h15km, ML3.6*
ISC 07 03:38:18.4±0.7, **30.°54N**±0.°08×**50.°19E**±0.°07, **h25**km, **n55,** σ1§**74**/57, **mb3.5**/12, **2C-1D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROKH	**ROKH**	**1.94**	**22**	*e*Pn	**Pn**	**03 38 51.0**	**+1.0**
ROKH				IAMB	IAmb	03 39 20.1	
	comp=Z,0.0nm,0.5s						
SHGR	**Shooshtar-Gavs**	**1.97**	**323**	*e*AML	AML	03 39 21.6	
	comp=N,572nm,0.6s						
SHGR				*e*Pn	**Pn**	**03 38 51.3**	**+1.2**
SHGR				*e*Sg	**Sb**	**03 39 16.4**	**-1.2**
SHGR				*e*AML	AML	03 39 22.4	
	comp=E,557nm,0.4s						
SHI	**Shiraz**	**2.20**	**113**	*e*Pn	**Pb**	**03 38 56.3**	**-1.3**
SHI				IAMB	IAmb	03 39 38.8	
	comp=Z,2μm,0.4s						
IRAM	**Ramesheh**	**2.27**	**55**	*e*Pn	**Pn**	**03 38 56.6**	**+2.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
IRAM				IAMB	IAmb	03 39 30.4	
	comp=Z,5µm,0.3s						
IGAR	Gharneh	2.44	40	*e*Pn	Pn	03 38 58.8	+1.9
IGAR				IAMB	IAmb	03 39 36.5	
	comp=Z,2µm,0.4s						
IZEF	Zefreh	2.98	37	IAMB	IAmb	03 39 16.7	
	comp=Z,918nm,0.3s						
IZEF				*e*Pn	Pn	03 39 05.7	+1.5
IKLH	Kolahrood	3.01	23	IAMB	IAmb	03 39 57.8	
	comp=Z,1µm,0.5s						
IKLH				*e*Pn	Pn	03 39 06.1	+1.3
KHMZ	Khomeyn	3.20	357	*e*Pn	Pn	03 39 08.6	+1.3
KHMZ	Khomeyn	3.20	357	*e*Pn	Pn	03 39 08.6	+1.3
ISAD	Sadrabad	3.29	64	*e*Pn	Pn	03 39 11.2	+2.6
ISAD				IAMB	IAmb	03 39 23.3	
	comp=Z,2µm,0.4s						
IKMR	Kamar-syah	3.35	333	*e*Pn	Pn	03 39 08.9	-0.2
IKMR				IAMB	IAmb	03 40 12.7	
	comp=Z,0.0nm,0.4s						
IKFM	Kafar-mosalman	3.58	327	*e*Pn	Pn	03 39 14.2	+1.9
IKFM				IAMB	IAmb	03 40 23.5	
	comp=E,0.0nm,0.6s						
HSAM	Samen	3.90	340	*e*Pn	Pn	03 39 17.1	+0.1
HSAM				IAMB	IAmb	03 40 35.0	
	comp=Z,0.0nm,1.4s						
ICHK	Chekchek	3.99	64	*e*Pn	Pn	03 39 20.1	+2.0
ICHK				IAMB	IAmb	03 40 11.1	
	comp=Z,1µm,0.5s						
ASAO	Ashtian	4.00	358	*e*Pn	Pn	03 39 19.3	+1.0
ASAO	Ashtian	4.00	358	*e*Pn	Pn	03 39 19.3	+1.0
ANAR	Anarak	4.01	48	*e*Pn	Pn	03 39 19.9	+1.6
YZKH	Yazd	4.19	63	*e*Pn	Pn	03 39 23.0	+2.2
YZKH	Yazd	4.19	63	*e*Pn	Pn	03 39 23.0	+2.2
IKOM	Komasi	4.28	329	*e*Pn	Pn	03 39 23.4	+1.3
IKOM				IAMB	IAmb	03 40 52.7	
	comp=Z,0.0nm,0.8s						
HAGD	Aghdareh	4.37	349	*e*Pn	Pn	03 39 24.5	+1.2
HAGD				IAMB	IAmb	03 40 17.7	
	comp=Z,0.0nm,0.3s						
IGHG	Ghaleghazi	4.87	322	*e*Pn	Pn	03 39 30.9	+0.7
IGHG				IAMB	IAmb	03 40 49.4	
	comp=Z,507nm,0.5s						
IVIS	Veis	4.88	326	*e*Pn	Pn	03 39 30.9	+0.6
IVIS				IAMB	IAmb	03 40 33.7	
	comp=Z,372nm,0.3s						
HKZM	Kohzaman	4.95	348	*e*Pn	Pn	03 39 31.3	-0.1
KHGB	Koh Gabri	5.43	90	*e*Pn	Pn	03 39 40.6	+2.7
KHGB				IAMB	IAmb	03 40 47.5	
	comp=E,0.0nm,0.3s						
TPRV	Parvadeh(Tabas	6.06	64	*e*Pn	Pn	03 39 48.3	+1.8
GENO	Geno	6.10	119	*e*Pn	Pn	03 39 50.5	+3.4
GENO				IAMB	IAmb	03 41 09.1	
	comp=N,0.0nm,0.3s						
NIAN	Nian	6.53	115	*e*Pn	Pn	03 39 55.0	+2.2
NIAN				IAMB	IAmb	03 41 16.1	
	comp=Z,0.0nm,0.2s						
TKDS	Koohdasht(Taba	6.63	61	*e*Pn	Pn	03 39 55.7	+1.3
NAZ	Nazwa, Dubai	7.35	137	*e*Pn	Pn	03 40 06.8	+2.7
MSFE	Esma-Masafi	7.38	133	*e*Pn	Pn	03 40 06.6	+2.0
ASUD	Al Ashush, Dub	7.45	141	*e*Pn	Pn	03 40 08.8	+3.4
HATD	Hatta, Dubai	7.75	136	*e*Pn	Pn	03 40 12.5	+2.9
ASHO	Ashiyiah	7.81	137	*e*Pn	Pn	03 40 13.4	+2.9
ALNE	Al Ain	8.13	141	*e*Pn	Pn	03 40 16.9	+2.0
GEYT	Alibeck	9.87	40	Pn	Pn	03 40 40.1	+1.4
	comp=Z,0.6nm,0.3s,baz=239,slow=13,SNR=4.2						
GEYT				LR	LR	03 44 28.2	
	comp=Z,44nm,20.1s,baz=20,slow=38						
WSAR	Wadi Sarin	10.46	132	Pn	Pn	03 40 47.8	+0.9
	comp=Z,1.0nm,0.3s,baz=355,slow=12,SNR=10						
WSAR				Sn	Sn	03 42 39.7	-3.6
	comp=Z,0.4nm,0.3s,baz=6.0,slow=19,SNR=3.4						
KBZ	Khabaz	14.39	338	Pn	Pn	03 41 42.6	+2.3
	comp=Z,0.0nm,0.3s,baz=156,slow=10.0,SNR=2.2						
KVAR	Kislovodsk Arr	14.65	338	Pn	Pn	03 41 43.8	-0.3
	baz=174,slow=10,SNR=3.4						
IDI	Anoyia	21.74	289	P	P	03 43 07.4	-0.6
	comp=Z,35nm,1.2s,baz=98,slow=18,SNR=2.1						
VOIR		24.64	314	⇓*i*P	P	03 43 37.8	+0.8
ARR	Arges	24.87	314	⇑*i*P	P	03 43 39.8	+0.8
AKASG	Malin Array Be	25.51	328	P	P	03 43 43.6	-1.1
	comp=Z,0.2nm,0.3s,baz=135,slow=9.2,SNR=3.9						
BURAR	Bucovina Array	25.65	319	⇑*i*P	P	03 43 47.1	+1.0
KURBB	Kurchatov Arra	29.14	38	P	P	03 44 18.4	+1.2
	comp=Z,0.6nm,0.6s,baz=241,slow=9.6,SNR=3.4						
MKAR	Makanchi Array	29.60	48	P	P	03 44 22.4	+1.0
	comp=Z,0.5nm,0.7s,baz=234,slow=8.0,SNR=3.1						
ZALV	Zalesovo Beam	34.16	37	P	P	03 45 00.6	-0.7
	comp=Z,1.1nm,0.7s,baz=242,slow=9.3,SNR=4.6						
CLL	Collm	34.41	318	*e*P	P	03 45 04.0	+0.5
FINES	FINESS Array B	34.74	340	P	P	03 45 04.5	-1.7
	comp=Z,1.7nm,0.8s,baz=145,slow=8.5,SNR=4.2						
NOA	NORSAR Array B	39.82	331	P	P	03 45 47.8	-1.6
	comp=Z,0.3nm,0.6s,baz=125,slow=7.0,SNR=2.4						
GTA	Gaotai	41.18	64	*e*P	P	03 45 59.6	-1.4
GTA				pP	pP	03 46 03.5	-5.2
GTA				sP	sP	03 46 06.1	-5.7
GTA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM	Songino Array	45.82	51	P	P	03 46 38.5	+0.2
	comp=Z,0.1nm,0.3s,baz=258,slow=7.2,SNR=2.2						
TORD	Torodi Ar. Bea	47.84	260	P	P	03 46 55.9	+1.5
	comp=Z,0.3nm,0.6s,baz=53,slow=8.3,SNR=4.6						
ILAR	Eielson Array	84.07	7	P	P	03 50 46.4	-0.2
	comp=Z,0.4nm,0.8s,baz=319,slow=4.0,SNR=4.3						
YKA	Yellowknife Ar	86.49	353	P	P	03 50 58.7	+0.1
	comp=Z,0.4nm,0.9s,baz=12,slow=5.6,SNR=6.9						

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*IDC **07** 03:42:48.7±0.8, 0°.90N×127°.04E, h0km, mb4.0/8, mb1 4.1/10, mb1mx3.8/41, mbtmp4.0/10, ML3.4/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/38, Error ellipse: s-maj=44.9km s-min=15.3km az=69.0*

*DJA **07** 03:42:51.6±0.8, 1°N±4°×12°7E±°, h10km, M4.0/7, mb4.3/1, MLv3.9/7*

*NEIC **07** 03:42:51.3±1.1, 0°.91N×127°.24E, h19km±7km, mb3.8/2, Error ellipse: s-maj=15.2km s-min=7.0km az=68.0*

NEIC Felt [III] at Jailolo.

ISC 07 03:42:50.5±1.7**, 0°.91N**±0°.07×**127°.17E**±0°.05**, h13**km±11km**, n30, σ1s18**/32**, mb4.0**/10**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	0.24	124	*e*Pg	Pb	03 42 56.5	-0.2
TNTI				*e*Sg	Sb	03 42 60.0	-0.8
TNTI	Ternate	0.24	124	P	Pb	03 42 56.5	-0.2
TNTI				S	Sg	03 42 59.3	+0.2
SANI	Sanana	3.17	202	P	Pn	03 43 43.0	+3.0
SANI				S	Sb	03 44 23.4	-1.8
KMSI	Cibinong	3.21	264	P	Pb	03 43 46.2	-1.2
NLAI	Namlea	4.12	181	P	Pn	03 43 55.0	+1.8
SIJI	Sorong	4.46	113	Pn	Pn	03 43 59.7	+1.8
	1.6nm,0.3s,baz=323,slow=14,SNR=6.6						
SIJI				LR	LR	03 45 53.0	
	comp=Z,204nm,18.9s,baz=47,slow=40						
LUWI	Luwuk	4.80	246	*e*Pn	Pn	03 44 02.1	-0.5
FAKI	Fak Fak	6.34	127	*e*Pn	Pn	03 44 20.9	-2.9
JAY	Jayapura	13.95	104	LR	LR	03 52 08.2	
	comp=Z,66nm,18.2s,baz=160,slow=40						
FITZ	Fitzroy Crossi	18.95	184	P	Pn	03 47 12.8	+0.7
	0.1nm,0.3s,baz=6.4,slow=11,SNR=2.9						
WRAB	Tennant Creek	21.87	162	*e*P	P	03 47 43.8	+0.5
	7.1nm,1.1s						
WR1	Warramunga Arr	21.88	162	*e*P	P	03 47 43.5	+0.2
WRA	Warramunga Arr	21.88	162	P	P	03 47 43.5	+0.2
	4.0nm,0.7s,baz=341,slow=11,SNR=28						
WB2	Warramunga Arr	21.88	162	*e*P	P	03 47 42.3	-1.1
AS31	Alice Springs	25.29	165	*e*P	P	03 48 17.4	+0.6
	1.4nm,0.8s						
ASAR	Alice Springs	25.29	165	P	P	03 48 16.9	0.0
	4.1nm,0.8s,baz=343,slow=10,SNR=31						
AS01	Alice Springs	25.30	165	*e*P	P	03 48 16.7	-0.2
KSAR	Wonju Array Be	36.36	1	P	P	03 49 54.8	+0.4
KSRS	Korea Array	36.38	1	P	P	03 49 54.7	+0.3
	1.0nm,0.7s,baz=172,slow=9.4,SNR=3.6						
SONA0	Songino Array	50.10	342	*e*P	P	03 51 44.9	-0.5
SONM	Songino Array	50.10	342	P	P	03 51 44.9	-0.5
	1.0nm,0.7s,baz=156,slow=9.0,SNR=8.4						
MK01	Makanchi Array	60.10	326	*e*P	P	03 52 58.6	+1.0
MK31	Makanchi Array	60.12	326	*e*P	P	03 52 57.3	-0.5
MK32	Makanchi Array	60.12	326	*e*P	P	03 52 57.8	0.0
MKAR	Makanchi Array	60.12	326	P	P	03 52 57.8	0.0
	1.9nm,0.7s,baz=124,slow=8.3,SNR=23						
ZALV	Zalesovo Beam	63.29	334	P	P	03 53 20.5	+1.6
	0.8nm,0.6s,baz=115,slow=6.8,SNR=4.1						
ZAA1	Zalesovo Array	63.29	334	*e*P	P	03 53 20.5	+1.6
KURBB	Kurchatov Arra	64.34	328	P	P	03 53 25.5	-0.4
	1.0nm,0.5s,baz=126,slow=6.3,SNR=13						
KURK	Kurchatov	64.35	328	P	P	03 53 25.5	-0.4
AKTO	Aktyubinsk	76.14	322	P	P	03 54 37.5	-0.7
	0.6nm,0.6s,baz=117,slow=2.3,SNR=2.5						

IDC 07 03:46:53.1±2.1**, 1°.41N**×**127°.76E, h0**km**, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.5**/32**, mbtmp3.6**/4**, Error ellipse: s-maj=198.0km s-min=22.0km az=68.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.18	163	P	P	03 51 49.3	-1.7
	1.2nm,0.8s,baz=342,slow=11,SNR=4.7						
ASAR	Alice Springs	25.63	167	P	P	03 52 25.9	+1.3
	0.8nm,0.8s,baz=347,slow=10,SNR=6.4						
MKAR	Makanchi Array	60.04	326	P	P	03 57 02.2	+0.4
	0.7nm,0.7s,baz=126,slow=8.4,SNR=7.7						
KURBB	Kurchatov Arra	64.23	328	P	P	03 57 29.3	-0.6
	0.4nm,0.6s,baz=127,slow=6.1,SNR=5.1						

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*ISCJB **07** 04:18:14.8±0.8, 6°.67S±0°.06×130°.02E±0°.09, h146km, mb3.4/2, Error ellipse: s-maj=12.0km s-min=9.0km az=4.6*

*IDC **07** 04:18:15.7±2.2, 6°.61S×130°.15E, h135km±24km, mb3.2/2, mb1 3.4/7, mb1mx3.2/35, mbtmp3.8/7, Error ellipse: s-maj=39.4km s-min=19.4km az=94.0*

ISC 07 04:18:14.9±0.8**, 6°.69S**±0°.06×**130°.1E**±0°.1**, h146**km**, n7, σ3s41**/12**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	5.90	11	P	Pn	04 19 40.2	-0.1
	2.2nm,0.3s,baz=184,slow=19,SNR=45						
SIJI				S	Sn	04 20 41.6	-5.3
	3.0nm,0.3s,baz=262,slow=23,SNR=8.5						
BATI	Baumata	7.28	241	P	Pn	04 20 00.3	+1.6
	7.5nm,0.3s,baz=66,slow=1.7,SNR=3.6						
BATI				S	Sn	04 21 17.9	-2.3
	3.4nm,0.3s,baz=87,slow=13,SNR=1.6						
FITZ	Fitzroy Crossi	12.15	201	P	Pn	04 21 04.3	+1.0
	0.3nm,0.3s,baz=29,slow=13,SNR=16						
FITZ				S	Sn	04 23 11.2	-6.4
	1.4nm,0.3s,baz=269,slow=21,SNR=11						
WRA	Warramunga Arr	13.79	163	P	Pn	04 21 26.8	+2.3
	0.5nm,0.3s,baz=349,slow=13,SNR=15						
WRA				S	Sn	04 23 54.1	-3.1
	0.6nm,0.3s,baz=336,slow=22,SNR=8.6						
ASAR	Alice Springs	17.26	168	P	Pn	04 22 10.1	+2.8
	0.2nm,0.3s,baz=345,slow=9.9,SNR=13						
ASAR				S	S	04 25 19.2	+0.2
	0.2nm,0.3s,baz=314,slow=19,SNR=5.1						
SONM	Songino Array	58.19	341	P	P	04 27 54.8	+1.0
	0.1nm,0.3s,baz=148,slow=8.5,SNR=2.1						
MKAR	Makanchi Array	68.04	327	P	P	04 29 00.4	+1.8
	0.7nm,0.5s,baz=121,slow=7.5,SNR=13						

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*IDC **07** 04:20:23.4±1.3, 45°.11N×6°.18E, h0km, mb3.4/5, mb1 3.7/10, mb1mx3.5/46, mbtmp3.6/10, ML4.2/6, MS3.2/2, Ms1 3.2/2, ms1mx2.5/35, Error ellipse: s-maj=31.8km s-min=14.6km az=145.0*

*ROM **07** 04:20:23.9±0.2, 44°.770N±0°.007×6°.64E±0°.02, h10km±1km, ML3.6/44*

*GEN **07** 04:20:24.0, 44°.77N×6°.60E, h7km±2km, Ml3.6*

*LDG **07** 04:20:24.1±0.0, 44°.77N×6°.64E, h7km, Md3.7/4, Ml4.0/62, Error ellipse: s-maj=1.0km s-min=0.8km az=58.0*

*NEIC **07** 04:20:24.1±0.0, 44°.77N×6°.64E, h7km, ML3.5(ROM), ML4.1(LDG), After LDG.*

NEIC Felt in the Briancon-Embrun area. Also felt at Bardonecchia, Italy.

*ZUR **07** 04:20:24.6, 44°.79N×6°.69E, h9km±1km, MLh3.5/14, Error ellipse: s-maj=3.3km s-min=1.7km az=37.0*

*ISCJB **07** 04:20:24.6±0.2, 44°.78N±0°.01×6°.66E±0°.02, h19km±2km, mb3.5/3, MS3.5/1, Error ellipse: s-maj=1.9km s-min=1.9km az=23.0*

*PRU **07** 04:20:25.2±0.0, 44°.76N×6°.55E, h0km*

*STR **07** 04:20:25.7±0.2, 45°N±1°×°±°, h5km, M4.3/6, mB6.8/1, mb4.7/4, MLv4.1/6, Mw(mB)6.7/1*

*BGS **07** 04:20:27.6±0.8, 45°.00N×6°.47E, h5km, ML4.1, ML4.1*

ISC 07 04:20:24.1±0.7**, 44°.76N**±0°.01×**6°.62E**±0°.01**, h16**km±4km**, n297, σ2s41**/498**, mb3.5**/3**, 10C-3D, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBDF	Montbardon	0.12	107	*e*Pg	Pg	04 20 26.6	-1.3
	SNR=1.0						
MBDF				*e*Sg	Sg	04 20 28.3	-2.2
	21µm,0.2s						
MBDF	Montbardon	0.12	107	*e*Pg	Pg	04 20 26.6	-1.3
MBDF				*e*Sg	Sg	04 20 28.3	-2.2
RRL	Rocca Remolon	0.20	38	P	Pg	04 20 28.4	-0.8
RRL				S	Sg	04 20 31.4	-1.2
RRL	Rocca Remolon	0.20	38	P	Pg	04 20 28.4	-0.8
RRL				S	Sg	04 20 31.3	-1.2
RRL				AML	AML		
	comp=E,29000µm,0.5s						
RRL				AML	AML		
	comp=N,29900µm,0.5s						
RRL				AML	AML		
	comp=E,29000µm,0.5s						
RRL				AML	AML		
	comp=N,29900µm,0.5s						
RRL				AML	AML		
	comp=E,29000µm,0.5s						
RRL				AML	AML		
	comp=N,29900µm,0.5s						
RRL				AML	AML		
	comp=E,29000µm,0.5s						
RRL				AML	AML		
	comp=N,29900µm,0.5s						
BNI	Bardonecchia	0.29	9	*e*Pg	Pg	04 20 29.9	-0.6
BNI	Bardonecchia	0.29	9	⇓Pg	Pg	04 20 29.9	-0.6
BNI	Bardonecchia	0.29	9	P	Pg	04 20 29.9	-0.6
BNI				S	Sg	04 20 34.1	-0.9
BNI				AML	AML		
	comp=E,7510µm,0.4s						
BNI				AML	AML		
	comp=N,4935µm,0.6s						
BNI				AML	AML		
	comp=E,9695µm,0.4s						
BNI				AML	AML		
	comp=N,5700µm,0.5s						
BNI				AML	AML		
	comp=E,7510µm,0.4s						
BNI				AML	AML		
	comp=N,4935µm,0.6s						
BNI				AML	AML		
	comp=E,9695µm,0.4s						
BNI				AML	AML		
	comp=N,5700µm,0.5s						
BNI				AML	AML		
	comp=E,7510µm,0.4s						
BNI				AML	AML		
	comp=N,4935µm,0.6s						
BNI				AML	AML		
	comp=E,9695µm,0.4s						
BNI				AML	AML		
	comp=N,5700µm,0.5s						
BNI				AML	AML		
	comp=E,9695µm,0.4s						
BNI				AML	AML		
	comp=E,7510µm,0.4s						
BNI				AML	AML		
	comp=N,5700µm,0.5s						
BNI				AML	AML		
	comp=N,4935µm,0.6s						
SURF	Saint Ours	0.31	153	Pg	Pg	04 20 30.3	-0.6
SURF				Sg	Sg	04 20 34.1	-1.4
PZZ	Stroppo	0.44	125	P	Pg	04 20 32.2	-0.9
PZZ				S	Sg	04 20 38.8	-0.3
PZZ	Stroppo	0.44	125	P	Pg	04 20 32.2	-0.9
PZZ				S	Sg	04 20 38.6	-0.5
PZZ				AML	AML		
	comp=E,20650µm,0.6s						
PZZ				AML	AML		
	comp=N,28500µm,0.5s						
PZZ				AML	AML		
	comp=E,20650µm,0.6s						
PZZ				AML	AML		
	comp=N,28500µm,0.5s						
PZZ				AML	AML		
	comp=E,20650µm,0.6s						
PZZ				AML	AML		
	comp=N,28500µm,0.5s						
PZZ				AML	AML		
	comp=E,20650µm,0.6s						
PZZ				AML	AML		
	comp=N,28500µm,0.5s						
BHB	Bricherasio	0.47	80	P	Pg	04 20 33.1	-0.4
BHB				S	Sg	04 20 38.9	-1.0
BHB	Bricherasio	0.47	80	P	Pg	04 20 33.1	-0.4
BHB				S	Sg	04 20 38.9	-1.0
BHB				AML	AML		
	comp=E,7095µm,0.2s						
BHB				AML	AML		
	comp=N,6920µm,0.3s						
BHB				AML	AML		
	comp=E,7095µm,0.2s						
BHB				AML	AML		
	comp=N,6920µm,0.3s						
BHB				AML	AML		
	comp=E,7095µm,0.2s						
BHB				AML	AML		
	comp=N,6920µm,0.3s						
BHB				AML	AML		
	comp=N,6920µm,0.3s						
BHB				AML	AML		
	comp=E,7095µm,0.2s						
DOI	San Damiano	0.52	119	⇑Pg	Pg	04 20 33.7	-0.8
DOI	San Damiano	0.52	119	P	Pg	04 20 33.6	-0.8
DOI				S	Sg	04 20 41.3	-0.2
DOI				AML	AML		
	comp=E,26200µm,0.3s						
DOI				AML	AML		
	comp=N,22800µm,0.2s						
DOI				AML	AML		
	comp=E,26200µm,0.3s						
DOI				AML	AML		
	comp=N,22800µm,0.2s						
DOI				AML	AML		
	comp=N,22800µm,0.2s						
DOI				AML	AML		
	comp=E,26200µm,0.3s						
ORIF	Oris-en-Rattie	0.55	287	*e*Pg	Pg	04 20 34.6	-0.4
	SNR=1.0						
ORIF				*e*Sg	Sg	04 20 41.6	-0.7
	comp=E,3µm,0.3s						
ORIF	Oris-en-Rattie	0.55	287	*e*Pg	Pg	04 20 34.6	-0.4
ORIF				*e*Sg	Sg	04 20 41.6	-0.7
ORIF	Oris-en-Rattie	0.55	287	Pg	Pb	04 20 36.4	+1.1
ORIF				Sg	Sb	04 20 45.0	+2.1
ORIF	Oris-en-Rattie	0.55	287	P	Pg	04 20 34.5	-0.4
ORIF				AML	AML		
	comp=E,4730µm,1.1s						
ORIF				AML	AML		
	comp=N,3990µm,0.8s						
ORIF				AML	AML		
	comp=E,4730µm,1.1s						
ORIF				AML	AML		
	comp=N,3990µm,0.8s						
ORIF				AML	AML		
	comp=N,3990µm,0.8s						
ORIF				AML	AML		
	comp=E,4730µm,1.1s						
RSP	Reno Superiore	0.60	50	P	Pg	04 20 35.6	-0.5
RSP				S	Sg	04 20 43.5	-0.7
RSP	Reno Superiore	0.60	50	P	Pg	04 20 35.5	-0.5
RSP				S	Sg	04 20 44.0	-0.1
RSP				AML	AML		
	comp=E,5140µm,0.2s						
RSP				AML	AML		
	comp=N,4965µm,0.7s						
RSP				AML	AML		
	comp=E,5140µm,0.2s						
RSP				AML	AML		
	comp=N,4965µm,0.7s						
RSP				AML	AML		
	comp=E,5140µm,0.2s						
RSP				AML	AML		
	comp=N,4965µm,0.7s						
RSP				AML	AML		
	comp=N,4965µm,0.7s						
RSP				AML	AML		
	comp=E,5140µm,0.2s						
ISO	Isola	0.66	151	Pg	Pg	04 20 36.6	-0.5
ISO				Sg	Sg	04 20 45.4	-0.3
OGDI	Digne	0.69	199	Pg	Pn	04 20 38.9	-0.3
STV	Sant Anna di V	0.72	135	P	Pg	04 20 37.4	-0.9
STV				S	Sg	04 20 47.2	-0.7
STV	Sant Anna di V	0.72	135	P	Pg	04 20 37.5	-0.9
STV				AML	AML		
	comp=E,3260µm,0.4s						
STV				AML	AML		
	comp=N,3500µm,0.4s						
STV				AML	AML		
	comp=E,3260µm,0.4s						
STV				AML	AML		
	comp=N,3500µm,0.4s						
STV				AML	AML		
	comp=E,3260µm,0.4s						
STV				AML	AML		
	comp=N,3500µm,0.4s						
STV				AML	AML		
	comp=N,3500µm,0.4s						
STV				AML	AML		
	comp=E,3260µm,0.4s						
LPG	La Plagne	0.74	7	*e*Pg	Pg	04 20 38.3	-0.4
	SNR=1.0						
LPG				*e*Sg	Sg	04 20 48.2	-0.4
	comp=E,2µm,0.3s,SNR=1.0						
LPG				*e*Sn	Sn	04 20 51.0	-0.3
	comp=E,3µm,0.4s						
LPG	La Plagne	0.74	7	*e*Pg	Pg	04 20 38.3	-0.4
LPG				*e*Sg	Sg	04 20 48.2	-0.4
LPG				*e*Sn	Sn	04 20 51.0	-0.3
LPL	La Plagne	0.76	6	*e*Pg	Pg	04 20 38.6	-0.4
	SNR=1.0						
LPL				*e*Sg	Sg	04 20 48.9	-0.2
	comp=E,858nm,0.3s,SNR=1.0						
LPL				*e*Sn	Sn	04 20 51.2	-0.4
	comp=E,3µm,0.4s						
LPL	La Plagne	0.76	6	*e*Pg	Pg	04 20 38.6	-0.4
LPL				*e*Sg	Sg	04 20 48.9	-0.2
LPL				*e*Sn	Sn	04 20 51.2	-0.4
ENR	Entracque	0.79	133	P	Pg	04 20 38.5	-0.9
ENR				S	Sb	04 20 49.6	-0.2
ENR	Entracque	0.79	133	P	Pg	04 20 38.5	-0.9
ENR				S	Sb	04 20 49.5	-0.3
ENR				AML	AML		
	comp=E,7230µm,0.6s						
ENR				AML	AML		
	comp=N,9050µm,0.3s						
ENR				AML	AML		
	comp=E,7230µm,0.6s						
ENR				AML	AML		
	comp=N,9050µm,0.3s						
ENR				AML	AML		
	comp=E,7230µm,0.6s						
ENR				AML	AML		
	comp=N,9050µm,0.3s						
ENR				AML	AML		
	comp=N,9050µm,0.3s						
ENR				AML	AML		
	comp=E,7230µm,0.6s						
LSD	Lago del Serru	0.79	28	P	Pg	04 20 39.0	-0.6
LSD				S	Sg	04 20 49.4	-0.7
LSD	Lago del Serru	0.79	28	P	Pg	04 20 39.0	-0.6
LSD				S	Sg	04 20 49.3	-0.7
LSD				AML	AML		
	comp=E,6245µm,0.3s						
LSD				AML	AML		
	comp=N,3330µm,0.3s						
LSD				AML	AML		
	comp=E,6245µm,0.3s						
LSD				AML	AML		
	comp=N,3330µm,0.3s						
LSD				AML	AML		
	comp=E,6245µm,0.3s						
LSD				AML	AML		
	comp=N,3330µm,0.3s						
LSD				AML	AML		
	comp=E,6245µm,0.3s						
LSD				AML	AML		
	comp=N,3330µm,0.3s						
RSL	Roselend	0.93	0	Pg	Pg	04 20 42.9	+0.8
RSL	Roselend	0.93	0	Pg	Pb	04 20 41.6	-0.3

OG26 St.-Nazaire-De 0.95 259 Pg **Pn 04 20 43.8 +0.9**
SAOF Saorge 1.03 139 P **Pb 04 20 43.2 -0.3**
SAOF S **Sg 04 20 56.9 -0.5**
SAOF AML AML
comp=E,3765µm,0.8s
SAOF AML AML
comp=N,3455µm,0.5s
SAOF AML AML
comp=E,3765µm,0.8s
SAOF AML AML
comp=N,3455µm,0.5s
SAOF AML AML
comp=E,3765µm,0.8s
SAOF AML AML
comp=N,3455µm,0.5s
CALF Calern 1.03 168 Pg **Pn 04 20 44.0 0.0**
MRGE Morge 1.06 17 P **Pb 04 20 43.8 -0.3**
MRGE AML AML
comp=E,2405µm,0.6s
MRGE AML AML
comp=N,3650µm,0.6s
MRGE AML AML
comp=E,2405µm,0.6s
MRGE AML AML
comp=N,3650µm,0.6s
MRGE AML AML
comp=N,3650µm,0.6s
MRGE AML AML
comp=E,2405µm,0.6s
SBF Sospel 1.07 146 *e*Pn **Pb 04 20 44.4 +0.1**
SNR=1.0
SBF Sospel 1.07 146 *e*P **Pg 04 20 45.7 +0.8**
SBF *e*Sg **Sg 04 20 58.2 -0.7**
comp=E,4µm,0.4s,SNR=1.0
SBF Sospel 1.07 146 *e*Pn **Pb 04 20 44.4 +0.1**
SBF *e*Sg **Sg 04 20 58.2 -0.7**
ESCA l'Escarene 1.08 149 Pg **Pn 04 20 44.7 +0.2**
ESCA Sg **Sn 04 20 58.9 -0.2**
CIRO Champorcher 1.08 38 Pg **Pb 04 20 44.4 -0.1**
CIRO Champorcher 1.08 38 P **Pb 04 20 44.4 -0.1**
CIRO AML AML
comp=E,2425µm,0.3s
CIRO AML AML
comp=N,2150µm,1.6s
CIRO AML AML
comp=E,2425µm,0.3s
CIRO AML AML
comp=N,2150µm,1.6s
CIRO AML AML
comp=E,2425µm,0.3s
CIRO AML AML
comp=N,2150µm,1.6s
SMRF Simiane la Rot 1.08 224 *e*Pg **Pg 04 20 45.9 +0.9**
SMRF Simiane la Rot 1.08 224 *e*P **Pg 04 20 46.6 +1.6**
SMRF *e*Sg **Sb 04 20 59.3 +1.0**
comp=N,919nm,0.3s,SNR=1.0
SMRF Simiane la Rot 1.08 224 *e*Pg **Pg 04 20 45.9 +0.9**
SMRF *e*Sg **Sb 04 20 59.3 +1.0**
TRAV Traversella 1.10 46 ⇑Pg **Pb 04 20 44.4 -0.4**
TRAV Traversella 1.10 46 P **Pb 04 20 44.4 -0.4**
TRAV AML AML
comp=E,3345µm,1.3s
TRAV AML AML
comp=N,2765µm,0.3s
TRAV AML AML
comp=E,3345µm,1.3s
TRAV AML AML
comp=N,2765µm,0.3s
TRAV AML AML
comp=N,2765µm,0.3s
TRAV AML AML
comp=E,3345µm,1.3s
BSTF la Bastide-des 1.12 219 Pg **Pg 04 20 47.8 +2.0**
REMY Saint-Rhmy-en 1.14 19 AML AML
comp=N,4965µm,0.7s
REMY AML AML
comp=E,2960µm,0.6s
REMY AML AML
comp=E,2955µm,0.6s
REMY AML AML
comp=N,4965µm,0.7s
REMY AML AML
comp=N,4965µm,0.7s
REMY AML AML
comp=E,2955µm,0.6s
REVF Revere 1.16 152 Pg **Pb 04 20 46.0 +0.3**
MON Monaco 1.18 150 Pg **Pg 04 20 46.6 -0.3**
FRF La Foret Royal 1.20 179 *e*Pg **Pb 04 20 46.8 +0.4**
FRF La Foret Royal 1.20 179 *e*P **Pg 04 20 48.1 +0.8**
FRF *e*Sn **Sb 04 21 01.4 -0.3**
SNR=1.0
FRF *e*Sg **Sg 04 21 02.9 0.0**
comp=E,1µm,0.2s
FRF La Foret Royal 1.20 179 *e*Pg **Pb 04 20 46.8 +0.4**
FRF *e*Sn **Sb 04 21 01.4 -0.3**
FRF *e*Sg **Sg 04 21 02.9 0.0**
NEGI Seborga 1.20 139 P **Pb 04 20 46.6 +0.1**
NEGI AML AML
comp=E,3875µm,0.9s
NEGI AML AML
comp=N,4360µm,0.3s
NEGI AML AML
comp=E,3875µm,0.9s
NEGI AML AML
comp=N,4360µm,0.3s
NEGI AML AML
comp=N,4360µm,0.3s
NEGI AML AML
comp=E,3875µm,0.9s
RORO Rocca Rossa 1.23 121 P **Pn 04 20 46.3 -0.2**
RORO AML AML
comp=E,2605µm,1.5s
RORO AML AML
comp=N,2425µm,0.4s
RORO AML AML
comp=E,2605µm,1.5s
RORO AML AML
comp=N,2425µm,0.4s
RORO AML AML
comp=N,2425µm,0.4s
RORO AML AML
comp=E,2605µm,1.5s
ROTM Rocchetta Tana 1.24 85 P **Pg 04 20 47.7 -0.3**
ROTM AML AML
comp=E,8930µm,1.1s
ROTM AML AML
comp=N,10265µm,0.5s
ROTM AML AML
comp=E,8930µm,1.1s
ROTM AML AML
comp=N,10265µm,0.5s
ROTM AML AML
comp=N,10265µm,0.5s
ROTM AML AML
comp=E,8930µm,1.1s
IMI Imperia 1.25 132 P **Pn 04 20 47.0 +0.1**
IMI AML AML
comp=E,7910µm,0.3s
IMI AML AML
comp=N,7315µm,0.3s
ARTF Artigues 1.31 207 Pg **Pg 04 20 49.6 +0.2**
QLNO Quiliano 1.31 109 P **Pn 04 20 47.9 +0.1**
QLNO AML AML
comp=E,2155µm,0.9s
QLNO AML AML
comp=N,2235µm,0.4s
QLNO AML AML
comp=E,2155µm,0.9s
QLNO AML AML
comp=N,2235µm,0.4s
QLNO AML AML
comp=E,2155µm,0.9s
QLNO AML AML
comp=N,2235µm,0.4s
FINB Finale Ligure 1.36 115 P **Pb 04 20 48.8 -0.3**
FINB AML AML
comp=E,2400µm,0.7s
FINB AML AML
comp=N,2045µm,0.4s
FINB AML AML
comp=E,2400µm,0.7s
FINB AML AML
comp=N,2045µm,0.4s
FINB AML AML
comp=E,2400µm,0.7s
FINB AML AML
comp=N,2045µm,0.4s
VIVF Saint-Julien-l 1.39 275 *e*Pg **Pb 04 20 50.7 +1.1**
VIVF *e*Sn **Sn 04 21 06.2 -0.6**
SNR=1.0
VIVF *e*Sg **Sb 04 21 08.9 +1.8**
comp=N,1µm,0.3s
VIVF Saint-Julien-l 1.39 275 *e*Pg **Pb 04 20 50.7 +1.1**
VIVF *e*Sn **Sn 04 21 06.2 -0.6**
VIVF *e*Sg **Sb 04 21 08.9 +1.8**
PCP Piancastagn 1.40 98 P **Pb 04 20 49.6 -0.2**
PCP AML AML
comp=E,1605µm,0.4s
PCP AML AML
comp=N,2015µm,0.9s
PCP AML AML
comp=E,1605µm,0.4s
PCP AML AML
comp=N,2015µm,0.9s
PCP AML AML
comp=N,2015µm,0.9s
PCP AML AML
comp=E,1605µm,0.4s
SALAN Lac Salanfe 1.41 10 Pn **Pb 04 20 50.6 +0.5**
SATI Passo dei Sala 1.42 38 Pn **Pn 04 20 50.3 +0.7**
SATI Passo dei Sala 1.42 38 P **Pn 04 20 50.4 +0.7**
SATI AML AML
comp=E,1905µm,0.7s
SATI AML AML
comp=N,1455µm,0.5s
SATI AML AML
comp=E,1905µm,0.7s
SATI AML AML
comp=N,1455µm,0.5s
SATI AML AML
comp=N,1455µm,0.5s
SATI AML AML
comp=E,1905µm,0.7s
LMR La Mourre 1.43 183 *e*P **Pb 04 20 50.9 +0.6**
LMR La Mourre 1.43 183 *e*Pg **Pg 04 20 51.4 -0.2**
LMR *e*Sn **Sn 04 21 06.7 -1.0**
SNR=1.0
LMR *e*Sg **Sg 04 21 09.9 -0.3**
comp=E,1µm,0.3s
LMR La Mourre 1.43 183 *e*P **Pb 04 20 50.9 +0.6**
LMR *e*Pg **Pg 04 20 51.4 -0.2**
LMR *e*Sn **Sn 04 21 06.7 -1.0**
LMR *e*Sg **Sg 04 21 09.9 -0.3**
DIX Grande Dixence 1.43 23 Pn **Pn 04 20 50.4 +0.8**
DIX Grande Dixence 1.43 23 P **Pn 04 20 50.5 +0.8**
DIX AML AML
comp=E,928µm,0.9s
DIX AML AML
comp=N,980µm,1.1s
DIX AML AML
comp=E,928µm,0.9s
DIX AML AML
comp=N,980µm,1.1s
DIX AML AML
comp=E,928µm,0.9s
DIX AML AML
comp=N,980µm,1.1s
OG35 Corcelles 1.48 331 Pn **Pb 04 20 52.4 +1.1**
OG35 Corcelles 1.48 331 ⇑Pn **Pb 04 20 52.3 +1.1**
GRYON Gryon 1.53 13 Pn **Pb 04 20 52.8 +0.7**
SSB Saint Sauveur 1.56 290 *e*Pn **Pb 04 20 52.9 +0.4**
SSB *e*Sn **Sn 04 21 11.7 +0.7**
ARBF Arbois 1.57 217 Pg **Pg 04 20 55.7 +1.4**
MMK Mattmark 1.60 36 ⇑Pn **Pb 04 20 53.4 -0.1**
MMK Mattmark 1.60 36 P **Pb 04 20 53.4 -0.1**
MMK AML AML
comp=E,854µm,0.5s
MMK AML AML
comp=N,1014µm,1.6s
MMK AML AML
comp=E,854µm,0.5s
MMK AML AML
comp=N,1014µm,1.6s
MMK AML AML
comp=N,1014µm,1.6s
MMK AML AML
comp=E,854µm,0.5s
SENIN Lac Senin/Sane 1.67 16 *e*Pn **Pb 04 20 55.2 +0.6**
GIMEL St. Georges / 1.79 352 ⇓Pn **Pb 04 20 56.9 +0.3**
GIMEL St. Georges / 1.79 352 AML AML
comp=E,852µm,0.8s
GIMEL AML AML
comp=E,852µm,0.8s
GIMEL AML AML
comp=N,616µm,0.9s
GIMEL AML AML
comp=N,616µm,0.9s
CABF La Chapelle 1.89 349 *e*P **Pb 04 20 58.1 -0.1**
CABF La Chapelle 1.89 349 *e*Pg **Pg 04 21 00.3 -0.1**
SNR=1.0
CABF *e*Sg **Sb 04 21 23.8 +2.2**
comp=N,483nm,0.5s
CABF La Chapelle 1.89 349 *e*P **Pb 04 20 58.1 -0.1**
CABF *e*Pg **Pg 04 21 00.3 -0.1**
CABF *e*Sg **Sb 04 21 23.8 +2.2**
FIESA Fiescheralp 1.98 32 Pn **Pb 04 21 00.5 +0.6**
ASEAF Site Antares, 1.99 190 Pn **Pb 04 20 59.2 -0.5**
TRBF Trabuc cave 2.01 252 Pn **Pb 04 20 59.7 -0.6**
WIMIS Wimmis 2.03 20 ⇓Pn **Pb 04 21 01.0 +0.4**
MUGIO Muggio 2.07 55 P **Pn 04 20 59.2 +1.1**
MUGIO AML AML
comp=E,581µm,0.6s
MUGIO AML AML
comp=N,670µm,0.5s
MUGIO AML AML
comp=E,581µm,0.6s
MUGIO AML AML
comp=N,670µm,0.5s
LASF Ste Croix 2.09 252 *e*P **Pn 04 20 59.7 +1.2**
LASF Ste Croix 2.09 252 *e*Pg **Pb 04 21 03.7 +2.1**
LASF *e*Sn **Sn 04 21 23.0 -1.1**
comp=N,163nm,0.3s,SNR=1.0
LASF *e*Sg **Sg 04 21 31.1 -0.3**
comp=N,101nm,0.3s
LASF Ste Croix 2.09 252 *e*P **Pn 04 20 59.7 +1.2**
LASF *e*Pg **Pb 04 21 03.7 +2.1**
LASF *e*Sn **Sn 04 21 23.0 -1.1**
LASF *e*Sg **Sg 04 21 31.1 -0.3**
MSSA Maissana 2.12 101 P **Pn 04 21 00.2 +1.2**
MSSA AML AML
comp=E,333µm,0.9s
MSSA AML AML
comp=N,366µm,0.6s
MSSA AML AML
comp=E,333µm,0.9s
MSSA AML AML
comp=N,366µm,0.6s
FUSIO Fusio 2.22 40 P **Pn 04 21 02.3 +1.9**
FUSIO AML AML
comp=E,509µm,0.8s
FUSIO AML AML
comp=N,700µm,1.6s
FUSIO AML AML
comp=E,509µm,0.8s
FUSIO AML AML
comp=N,700µm,1.6s
PLMA Palmaria, Port 2.42 106 P **Pn 04 21 04.3 +1.3**
PLMA AML AML
comp=E,508µm,0.9s
PLMA AML AML
comp=N,462µm,0.7s
PLMA AML AML
comp=N,462µm,0.7s
PLMA AML AML
comp=E,508µm,0.9s
BNALP Bannalp 2.46 30 AML AML
comp=N,690µm,1.2s
BNALP AML AML
comp=E,945µm,0.7s
BNALP AML AML
comp=N,690µm,1.2s
BNALP AML AML
comp=E,945µm,0.7s
TUE Stuetta 2.57 47 *e*Pn **Pn 04 21 07.8 +2.5**
LOMF Lomont 2.59 3 Pn **Pn 04 21 07.5 +2.1**
SMF Signal de Mont 2.71 315 *e*P **Pn 04 21 09.2 +2.3**
SMF Signal de Mont 2.71 315 *e*Pg **Pg 04 21 15.6 -0.4**
SMF *e*Sn **Sn 04 21 37.6 -1.7**
SMF *e*Sg **Sb 04 21 49.3 +4.2**
comp=E,320nm,0.3s
SMF Signal de Mont 2.71 315 *e*P **Pn 04 21 09.2 +2.3**
SMF *e*Pg **Pg 04 21 15.6 -0.4**
SMF *e*Sn **Sn 04 21 37.6 -1.7**
SMF *e*Sg **Sb 04 21 49.3 +4.2**
PYM Petit Puy Mans 2.73 293 Pn **Pn 04 21 09.0 +1.6**
VLC Villacollemand 2.77 101 *e*Pn **Pn 04 21 10.0 +2.2**
VLC *e*Sn **Sn 04 21 43.0 +2.2**
AGO Saint Agoulin 2.77 299 Pn **Pn 04 21 09.7 +1.8**
PGF Pioggiola 2.81 141 *e*P **Pn 04 21 09.9 +1.5**
PGF *e*Sn **Sn 04 21 39.6 -2.3**
comp=E,189nm,0.3s,SNR=1.0
PGF Pioggiola 2.81 141 *e*P **Pn 04 21 09.9 +1.5**
PGF *e*Sn **Sn 04 21 39.6 -2.3**
PGF Pioggiola 2.81 141 P **Pn 04 21 09.4 +1.0**
PGF AML AML
comp=E,400µm,1.1s
PGF AML AML
comp=N,369µm,1.0s
PGF AML AML
comp=N,369µm,1.0s
PGF AML AML
comp=E,400µm,1.1s
MAIM Mastiano 2.91 106 P **Pn 04 21 10.6 +1.0**
MAIM AML AML
comp=E,264µm,1.0s
MAIM AML AML
comp=N,226µm,0.4s
MAIM AML AML
comp=N,226µm,0.4s
MAIM AML AML
comp=E,264µm,1.0s
MAGA Magasa 3.01 69 P **Pn 04 21 12.4 +1.2**
MAGA AML AML
comp=E,1400µm,0.7s
MAGA AML AML
comp=N,869µm,0.5s
MAGA AML AML
comp=E,1400µm,0.7s
MAGA AML AML
comp=N,869µm,0.5s
DAVOX Davos/Dischmat 3.05 47 Pn **Pn 04 21 14.9 +3.1**
comp=N,7.6nm,0.3s,baz=254,slow=4.4,SNR=80
DAVOX Sn **Sn 04 21 50.7 +2.7**
comp=N,7.0nm,0.3s,baz=321,slow=15,SNR=3.8
DAVOX Lg Lg 04 22 00.2
comp=N,14nm,0.3s,baz=133,slow=22,SNR=5.5
DAVOX Davos/Dischmat 3.05 47 P **Pn 04 21 14.6 +2.8**
DAVOX AML AML
comp=E,238µm,1.2s
DAVOX AML AML
comp=N,300µm,0.5s
DAVOX AML AML
comp=E,238µm,1.2s
DAVOX AML AML
comp=N,300µm,0.5s
POPM Popiglio 3.05 102 AML AML
comp=N,241µm,1.5s
POPM AML AML
comp=E,268µm,0.8s
POPM AML AML
comp=N,241µm,1.5s
POPM AML AML
comp=E,268µm,0.8s
AVF Avril sur Loir 3.06 313 *e*P **Pn 04 21 13.8 +2.1**
AVF Avril sur Loir 3.06 313 *e*Pg **Pb 04 21 21.1 +3.1**
AVF *e*Sn **Sn 04 21 46.0 -1.9**
AVF *e*Sg **Sg 04 22 00.2 -2.0**
comp=E,364nm,0.5s
AVF Avril sur Loir 3.06 313 *e*P **Pn 04 21 13.8 +2.1**
AVF *e*Pg **Pb 04 21 21.1 +3.1**
AVF *e*Sn **Sn 04 21 46.0 -1.9**
AVF *e*Sg **Sg 04 22 00.2 -2.0**
HINF Hinteralfeld 3.06 3 *e*P **Pn 04 21 13.2 +1.4**
HINF Hinteralfeld 3.06 3 *e*Pg **Pb 04 21 20.8 +2.6**
SNR=1.0
HINF *e*Sn **Sn 04 21 46.0 -2.1**
comp=E,44nm,0.3s,SNR=1.0
HINF *e*Sg **Sg 04 22 00.6 -1.8**
comp=E,157nm,0.5s,SNR=1.0
HINF Hinteralfeld 3.06 3 *e*P **Pn 04 21 13.2 +1.4**
HINF *e*Pg **Pb 04 21 20.8 +2.6**
HINF *e*Sn **Sn 04 21 46.0 -2.1**
HINF *e*Sg **Sg 04 22 00.6 -1.8**
MOF Molkenrain 3.11 6 Pn **Pn 04 21 14.2 +1.6**
BRMO Bormio 3.15 56 P **Pn 04 21 15.3 +2.3**
BRMO AML AML
comp=E,130µm,0.8s
BRMO AML AML
comp=N,98µm,1.0s
BRMO AML AML
comp=E,130µm,0.8s
BRMO AML AML
comp=N,98µm,1.0s
LOR Lormes 3.16 324 *e*P **Pn 04 21 15.3 +2.2**
baz=143
LOR Lormes 3.16 324 *e*Pg **Pg 04 21 23.6 -1.0**
comp=N,175nm,0.7s,baz=146,SNR=1.0
LOR *e*Sn **Sn 04 21 48.2 -2.3**
comp=N,131nm,0.5s,baz=149
LOR *e*Sg **Sb 04 22 02.6 +4.5**
comp=N,203nm,0.4s,baz=147
LOR Lormes 3.16 324 *e*P **Pn 04 21 15.3 +2.2**
LOR *e*Pg **Pg 04 21 23.6 -1.0**
LOR *e*Sn **Sn 04 21 48.2 -2.3**
LOR *e*Sg **Sb 04 22 02.6 +4.5**
LOR Lormes 3.16 324 Pn **Pn 04 21 15.3 +2.2**
FUORN Ofenpass-Fuorn 3.16 53 *e*Pn **Pn 04 21 16.3 +2.9**
FUORN Ofenpass-Fuorn 3.16 53 AML AML
comp=E,200µm,0.7s
FUORN AML AML
comp=E,200µm,0.7s
FUORN AML AML
comp=N,212µm,0.7s
FUORN AML AML
comp=N,212µm,0.7s
SSF Saint Saulge 3.16 318 *e*P **Pn 04 21 15.6 +2.4**
SSF Saint Saulge 3.16 318 *e*Pg **Pg 04 21 23.3 -1.4**
SSF *e*Sn **Sn 04 21 47.9 -2.6**
comp=N,90nm,0.4s
SSF *e*Sg **Sb 04 22 02.5 +4.3**
comp=N,299nm,0.5s,SNR=1.0
SSF Saint Saulge 3.16 318 *e*P **Pn 04 21 15.6 +2.4**
SSF *e*Pg **Pg 04 21 23.3 -1.4**
SSF *e*Sn **Sn 04 21 47.9 -2.6**
SSF *e*Sg **Sb 04 22 02.5 +4.3**
BGF Bois d'Agland 3.20 306 *e*P **Pn 04 21 16.1 +2.5**
BGF Bois d'Agland 3.20 306 *e*Pg **Pg 04 21 24.4 -0.9**
BGF *e*Sn **Sn 04 21 48.5 -2.9**
BGF *e*Sg **Sb 04 22 04.0 +4.9**
comp=N,979nm,0.4s
BGF Bois d'Agland 3.20 306 *e*P **Pn 04 21 16.1 +2.5**
BGF *e*Pg **Pg 04 21 24.4 -0.9**
BGF *e*Sn **Sn 04 21 48.5 -2.9**
BGF *e*Sg **Sb 04 22 04.0 +4.9**
CAF Calviac 3.24 275 *e*P **Pn 04 21 16.7 +2.4**
CAF *e*Sn **Sn 04 21 50.0 -2.5**
comp=N,106nm,0.5s,SNR=1.0
CAF *e*Sg **Sg 04 22 06.6 -1.6**
comp=N,304nm,0.7s,SNR=1.0
CAF Calviac 3.24 275 *e*P **Pn 04 21 16.7 +2.4**
CAF *e*Sn **Sn 04 21 50.0 -2.5**
CAF *e*Sg **Sg 04 22 06.6 -1.6**
HAU Haudompre 3.25 357 *e*P **Pn 04 21 16.0 +1.6**
HAU Haudompre 3.25 357 *e*Pg **Pg 04 21 25.0 -1.4**
SNR=1.0
HAU *e*Sn **Sn 04 21 50.0 -2.8**
comp=N,139nm,0.4s
HAU *e*Sg **Sb 04 22 05.4 +4.7**
comp=N,156nm,0.4s,SNR=1.0
HAU Haudompre 3.25 357 *e*P **Pn 04 21 16.0 +1.6**
HAU *e*Pg **Pg 04 21 25.0 -1.4**
HAU *e*Sn **Sn 04 21 50.0 -2.8**
HAU *e*Sg **Sb 04 22 05.4 +4.7**
SMPL Sampolo 3.30 143 AML AML
comp=E,14100µm,0.7s
SMPL AML AML
comp=E,14100µm,0.7s
SMPL AML AML
comp=N,13000µm,0.4s
SMPL AML AML
comp=N,13000µm,0.4s
KIZ Kirchzarten 3.32 15 Pn **Pn 04 21 16.7 +1.4**
MOSI Grossmontoni 3.32 55 AML AML
comp=E,625µm,0.8s
MOSI AML AML
comp=N,761µm,0.6s
MOSI AML AML

comp=N,761µm,0.6s
MOSI AML AML

comp=E,625µm,0.8s
DAVA Damuels 3.40 41 *e*Pn **Pb 04 21 20.7 -3.3**
comp=E,22nm,0.3s,SNR=22
DAVA *e*Sn **Sb 04 22 03.2 -1.9**

comp=E,76nm,0.3s
TCF Toulx Ste Croi 3.45 298 *e*P **Pn 04 21 19.7 +2.5**
TCF *e*Sn **Sn 04 21 55.9 -1.8**

comp=E,89nm,0.4s,SNR=1.0
TCF *e*Sg **Sg 04 22 12.8 -2.2**

comp=E,124nm,0.5s
TCF Toulx Ste Croi 3.45 298 *e*P **Pn 04 21 19.7 +2.5**
TCF *e*Sn **Sn 04 21 55.9 -1.8**
TCF *e*Sg **Sg 04 22 12.8 -2.2**
MTLF Montolieu 3.47 247 *e*P **Pn 04 21 19.3 +1.9**
MTLF Montolieu 3.47 247 *e*Pg **Pb 04 21 28.6 +3.4**
SNR=1.0
MTLF *e*Sn **Sn 04 21 55.9 -2.3**

comp=E,27nm,0.2s
MTLF *e*Sg **Sg 04 22 13.3 -2.3**

comp=E,37nm,0.4s
MTLF Montolieu 3.47 247 *e*P **Pn 04 21 19.3 +1.9**
MTLF *e*Pg **Pb 04 21 28.6 +3.4**
MTLF *e*Sn **Sn 04 21 55.9 -2.3**
MTLF *e*Sg **Sg 04 22 13.3 -2.3**
MTLF Montolieu 3.47 247 Pn **Pn 04 21 19.3 +1.9**
ECH Echery 3.48 6 *e*Pn **Pn 04 21 18.9 +1.4**
ECH Echery 3.48 6 Pn **Pn 04 21 18.9 +1.4**
THEF They Montfort 3.50 353 Pn **Pn 04 21 19.7 +2.0**
SJAF Saint Jean de 3.54 231 Pn **Pn 04 21 19.3 +1.0**
CSNT Castellina Chi 3.60 109 AML AML
comp=N,130µm,0.5s
CSNT AML AML

comp=E,91µm,0.4s
CSNT AML AML

comp=N,130µm,0.5s
CSNT AML AML

comp=E,91µm,0.4s
SFTF Sexfontaines 3.61 343 *e*P **Pn 04 21 21.7 +2.3**
baz=151
SFTF *e*Sn **Sn 04 21 59.4 -2.3**

comp=E,117nm,0.4s
SFTF *e*Sg **Sg 04 22 17.3 -2.8**

comp=E,154nm,0.4s,baz=158
SFTF Sexfontaines 3.61 343 *e*P **Pn 04 21 21.7 +2.3**
SFTF *e*Sn **Sn 04 21 59.4 -2.3**
SFTF *e*Sg **Sg 04 22 17.3 -2.8**
RJF Les Rejaudoux 3.66 280 *e*P **Pn 04 21 22.8 +2.9**
RJF *e*Sn **Sn 04 22 00.2 -2.5**
RJF *e*Sg **Sg 04 22 19.5 -2.0**

comp=E,113nm,0.4s
RJF Les Rejaudoux 3.66 280 *e*P **Pn 04 21 22.8 +2.9**
RJF *e*Sn **Sn 04 22 00.2 -2.5**
RJF *e*Sg **Sg 04 22 19.5 -2.0**
FETA Feichten 3.66 50 *e*Pn **Pn 04 21 24.1 +4.0**
comp=E,11nm,0.3s,SNR=21
FETA *e*Sn **Sb 04 22 09.7 -2.8**

comp=E,95nm,0.8s
CDF Champ du Feu 3.68 7 *e*P **Pn 04 21 21.5 +1.1**
CDF Champ du Feu 3.68 7 *e*Pg **Pg 04 21 32.8 -1.8**
SNR=1.0
CDF *e*Sn **Sn 04 22 01.8 -1.6**
CDF *e*Sg **Sb 04 22 17.6 +4.4**

comp=E,85nm,0.5s,SNR=1.0
CDF Champ du Feu 3.68 7 *e*P **Pn 04 21 21.5 +1.1**
CDF *e*Pg **Pg 04 21 32.8 -1.8**
CDF *e*Sn **Sn 04 22 01.8 -1.6**
CDF *e*Sg **Sb 04 22 17.6 +4.4**
WLS Welschbruch 3.69 8 Pn **Pn 04 21 21.8 +1.4**
HYF Humbligny 3.74 314 *e*P **Pn 04 21 24.0 +2.9**
HYF Humbligny 3.74 314 *e*Pg **Pb 04 21 33.1 +3.4**
HYF *e*Sn **Sn 04 22 02.0 -2.7**
HYF *e*Sg **Sg 04 22 21.3 -2.8**
HYF Humbligny 3.74 314 *e*P **Pn 04 21 24.0 +2.9**
HYF *e*Pg **Pb 04 21 33.1 +3.4**
HYF *e*Sn **Sn 04 22 02.0 -2.7**
HYF *e*Sg **Sg 04 22 21.3 -2.8**
BFO Black Forest 3.76 18 *e*Pn **Pn 04 21 22.4 +1.0**
ABSI Aberstueckl 3.84 57 AML AML
comp=N,378µm,0.8s
ABSI AML AML

comp=E,366µm,0.7s
ABSI AML AML

comp=N,378µm,0.8s
ABSI AML AML

comp=E,366µm,0.7s
PAGF Fort de Pagny 3.84 351 *e*P **Pn 04 21 24.9 +2.4**
baz=172
PAGF Fort de Pagny 3.84 351 *e*Pg **Pg 04 21 35.5 -2.2**
baz=172
PAGF *e*Sn **Sn 04 22 04.2 -3.2**

baz=176
PAGF *e*Sg **Sg 04 22 25.5 -2.0**

comp=E,336nm,0.7s,baz=168
PAGF Fort de Pagny 3.84 351 *e*P **Pn 04 21 24.9 +2.4**
PAGF *e*Pg **Pg 04 21 35.5 -2.2**
PAGF *e*Sn **Sn 04 22 04.2 -3.2**
PAGF *e*Sg **Sg 04 22 25.5 -2.0**
CARF Carcanieres 3.85 240 Pn **Pn 04 21 24.4 +1.6**
OPP Oppenau 3.89 16 Pn **Pn 04 21 24.0 +0.9**
MONQ Montcuq 3.89 266 Pn **Pn 04 21 25.9 +2.7**
MEZF Maizieres J'vi 3.90 345 *e*P **Pn 04 21 25.7 +2.5**
baz=168
MEZF Maizieres J'vi 3.90 345 *e*Pg **Pg 04 21 36.4 -2.3**
baz=156
MEZF *e*Sn **Sn 04 22 06.0 -2.5**

comp=E,81nm,0.4s,baz=162
MEZF *e*Sg **Sg 04 22 25.8 -3.3**

comp=E,96nm,0.4s,baz=161,SNR=1.0
MEZF Maizieres J'vi 3.90 345 *e*P **Pn 04 21 25.7 +2.5**
MEZF *e*Pg **Pg 04 21 36.4 -2.3**
MEZF *e*Sn **Sn 04 22 06.0 -2.5**
MEZF *e*Sg **Sg 04 22 25.8 -3.3**
RETA Reutte 3.97 45 *e*Pn Pn 04 21 28.7 +4.4
comp=E,14nm,0.3s,SNR=12
RETA *e*Sn **Sn 04 22 16.1 +5.6**

comp=E,14nm,0.3s
SQTA Sankt Quirin 4.04 51 *e*Pn **Pn 04 21 29.0 +3.7**
comp=E,14nm,0.2s,SNR=40
SQTA *e*Sn **Sn 04 22 16.9 +4.6**

comp=E,49nm,0.4s
MOTA Moosalm 4.05 49 *i* Pn **Pn 04 21 28.8 +3.2**
comp=E,20nm,0.2s,SNR=37
VALF Valcebollere 4.09 236 Pn **Pn 04 21 28.3 +2.2**
AGOR Agordo 4.11 66 AML AML
comp=N,172µm,0.4s
AGOR AML AML

comp=E,156µm,1.5s
AGOR AML AML

comp=E,156µm,1.5s
AGOR AML AML

comp=N,172µm,0.4s
CAFI Castiglion Fio 4.12 108 AML AML
comp=N,65µm,0.7s
CAFI AML AML

comp=E,78µm,0.6s
CAFI AML AML

comp=N,65µm,0.7s
CAFI AML AML

comp=E,78µm,0.6s
LFF La Frestale 4.18 275 *e*P **Pn 04 21 30.0 +2.8**
LFF *e*Sn **Sn 04 22 12.9 -2.7**
LFF *e*Sg **Sg 04 22 35.7 -2.6**

comp=E,239nm,0.5s
LFF La Frestale 4.18 275 *e*P **Pn 04 21 30.0 +2.8**
LFF *e*Sn **Sn 04 22 12.9 -2.7**
LFF *e*Sg **Sg 04 22 35.7 -2.6**
WTTA Wattenberg 4.30 53 *i* Pn **Pn 04 21 32.5 +3.5**
comp=E,40nm,0.3s,SNR=23
WTTA *e*Sn **Sn 04 22 23.4 +4.5**

comp=E,45nm,0.5s
WATA Walderalm 4.31 52 *i* Pn **Pn 04 21 32.2 +3.2**
comp=E,18nm,0.2s,SNR=24
MLS Moulis 4.38 248 Pn **Pn 04 21 32.0 +2.1**
STU Stuttgart 4.39 23 *e*Pn **Pn 04 21 33.9 +3.9**
CLF Chambon-Foret 4.44 319 *e*Pn **Pn 04 21 33.9 +3.2**
ABTA Abfaltersbach 4.58 62 *e*Pn **Pn 04 21 35.0 +2.2**
comp=E,14nm,0.4s,SNR=13
ABTA *e*Sn **Sn 04 22 28.7 +3.1**

comp=E,75nm,0.9s
EPF Esparros 4.85 251 *e*Pn **Pn 04 21 35.9 -0.6**
EPF Esparros 4.85 251 *e*P **Pn 04 21 39.9 +3.4**
EPF Esparros 4.85 251 *e*Pg **Pg 04 21 54.0 -3.0**
SNR=1.0
EPF *e*Sn **Sn 04 22 28.4 -3.9**
EPF *e*Sg **Sg 04 22 56.8 -3.1**

comp=E,22nm,0.4s
EPF Esparros 4.85 251 *e*Pn **Pn 04 21 35.9 -0.6**
EPF *e*Pg **Pg 04 21 54.0 -3.0**
EPF *e*Sn **Sn 04 22 28.4 -3.9**
EPF *e*Sg **Sg 04 22 56.8 -3.1**
WLF Walferdange 4.92 356 *e*Pn **Pn 04 21 40.4 +3.1**
MFF Saint Martin d 5.08 294 *e*P **Pn 04 21 42.2 +2.7**
MFF *e*Sn **Sn 04 22 34.5 -3.4**

comp=E,59nm,0.5s
MFF *e*Sg **Sg 04 23 03.2 -4.0**

comp=E,121nm,0.7s
MFF Saint Martin d 5.08 294 *e*P **Pn 04 21 42.2 +2.7**
MFF *e*Sn **Sn 04 22 34.5 -3.4**
MFF *e*Sg **Sg 04 23 03.2 -4.0**
TRI Trieste 5.14 77 *e*Pn **Pn 04 21 43.0 +2.7**
ABH Alteburg 5.16 7 Pn **Pn 04 21 42.1 +1.4**
MYKA Terra Mystica 5.26 67 *e*Pn **Pn 04 21 44.7 +2.6**
comp=E,9.7nm,0.3s
GIVF Givet 5.48 348 *e*P **Pn 04 21 47.4 +2.4**
GIVF *e*Sn **Sn 04 22 43.3 -4.3**

comp=E,32nm,0.6s
GIVF *e*Sg **Sg 04 23 16.2 -3.7**

comp=E,85nm,0.7s
GIVF Givet 5.48 348 *e*P **Pn 04 21 47.4 +2.4**
GIVF *e*Sn **Sn 04 22 43.3 -4.3**
GIVF *e*Sg **Sg 04 23 16.2 -3.7**
AQU L'Aquila 5.49 114 *e*Pn **Pn** 04 21 51.8 +6.7
AQU L'Aquila 5.49 114 *e*Pn **Pn** 04 21 51.6 +6.4
ETSF Etsaut 5.51 253 *e*P **Pn** 04 21 50.5 +5.0
ETSF *e*Sn **Sn 04 22 44.8 -3.8**

comp=E,16nm,0.4s
ETSF *e*Sg **Sg 04 23 17.2 -3.8**

comp=E,22nm,0.5s
ETSF Etsaut 5.51 253 *e*P **Pn** 04 21 50.5 +5.0
ETSF *e*Sn **Sn 04 22 44.8 -3.8**
ETSF *e*Sg **Sg 04 23 17.2 -3.8**
BAIF Baives 5.55 344 *e*P **Pn 04 21 48.3 +2.4**
BAIF *e*Sn **Sn 04 22 44.4 -4.9**

comp=E,12nm,0.3s
BAIF *e*Sg **Sg 04 23 16.7 -5.3**

comp=E,37nm,0.5s
BAIF Baives 5.55 344 *e*P **Pn 04 21 48.3 +2.4**
BAIF *e*Sn **Sn 04 22 44.4 -4.9**
BAIF *e*Sg **Sg 04 23 16.7 -5.3**
CEY Cerknica 5.60 77 *e*Pn **Pn 04 21 47.9 +1.2**
LJU Ljubljana 5.72 74 *e*Pn **Pn 04 21 50.9 +2.6**
OBKA Obir 5.83 70 *e*Pn **Pn 04 21 52.3 +2.3**
comp=E,8.5nm,0.4s
GRFO Grafenberg 5.84 31 *e*Pn **Pn 04 21 49.2 -0.8**
GRFO *e*Pg **Pg 04 22 14.9 -1.0**
GRA1 Grafenberg Arr 5.85 31 *e*Pn **Pn 04 21 49.3 -0.8**
GRA1 *e*Pg **Pg 04 22 14.5 -1.4**
NVLJ Novalja 5.89 89 *e*Pn **Pn 04 21 51.2 +0.6**
NVLJ Sn **Sn 04 22 57.1 -0.7**
SJPF Ste Jean 5.90 257 *e*Pn **Pn 04 21 49.9 -0.8**
SJPF Ste Jean 5.90 257 *e*P **Pn 04 21 52.3 +1.6**
SJPF *e*Sn **Sn 04 22 53.9 -4.0**

comp=E,8.2nm,0.4s,SNR=1.0
SJPF *e*Sg **Sg 04 23 29.1 -4.2**

comp=E,15nm,0.5s
SJPF Ste Jean 5.90 257 *e*P **Pn 04 21 52.3 +1.6**
SJPF *e*Sg **Sg 04 23 29.1 -4.2**
LDF La Druitiere 6.01 312 *e*P **Pn 04 21 54.7 +2.4**
LDF *e*Sn **Sn 04 22 56.6 -4.2**

comp=E,24nm,0.5s,SNR=1.0
LDF *e*Sg **Sg 04 23 32.0 -5.0**

comp=E,57nm,0.6s
LDF La Druitiere 6.01 312 *e*P **Pn 04 21 54.7 +2.4**
LDF *e*Sn **Sn 04 22 56.6 -4.2**
LDF *e*Sg **Sg 04 23 32.0 -5.0**
HGN Heimansgroeve 6.03 356 *e*P **Pn 04 21 54.3 +1.9**
HGN *e*S **Sg 04 23 40.1 +2.8**
EALK Alkurruntz 6.06 258 Pn **Pn 04 21 55.3 +2.3**
MOA Molln 6.13 57 *e*Pn **Pn 04 21 56.3 +2.3**
comp=E,11nm,0.3s,SNR=16
MOA *e*Sn **Sn 04 23 05.5 +1.7**

comp=E,20nm,0.4s
SOKA Soboth 6.20 69 *e*Pn **Pn 04 21 57.0 +2.0**
comp=E,2.8nm,0.3s
GRR Gorron 6.30 308 *e*P **Pn 04 21 58.6 +2.4**
GRR *e*Sn **Sn 04 23 04.0 -3.8**

comp=E,17nm,0.3s
GRR *e*Sg **Sg 04 23 41.5 -4.7**

comp=E,44nm,0.5s
GRR Gorron 6.30 308 *e*P **Pn 04 21 58.6 +2.4**
GRR *e*Sn **Sn 04 23 04.0 -3.8**
GRR *e*Sg **Sg 04 23 41.5 -4.7**
FLN La Foliniere 6.31 312 *e*P **Pn 04 21 58.6 +2.3**
baz=136
FLN *e*Sn **Sn 04 23 02.8 -5.2**

comp=E,33nm,0.5s,SNR=1.0
FLN *e*Sg **Sg 04 23 42.6 -3.8**

comp=E,46nm,0.5s
FLN La Foliniere 6.31 312 *e*P **Pn 04 21 58.6 +2.3**
FLN *e*Sn **Sn 04 23 02.8 -5.2**
FLN *e*Sg **Sg 04 23 42.6 -3.8**
CRES Cresnjev 6.33 77 *e*Pn **Pn 04 21 57.8 +1.1**
GERES GERESS Array B 6.35 47 Pn **Pn 04 21 59.3 +2.2**
comp=E,9.4nm,0.3s,baz=231,slow=13,SNR=285
GERES Sn **Sn 04 23 08.2 -1.0**

comp=E,2.3nm,0.3s,baz=234,slow=23,SNR=3.0
KHC Kasperske Hory 6.47 45 *e*Pn **Pn 04 22 01.0 +2.4**
KHC Kasperske Hory 6.47 45 *e*PN **Pn 04 22 01.4 +2.8**
KHC *e*SN **Sn 04 23 13.7 +1.7**
UDBI Udbina 6.53 89 *e*Pn **Pn 04 22 01.0 +1.5**
UDBI Sn **Sn 04 23 13.9 +0.2**
ARSA Arzberg 6.69 65 *e*Pn **Pn 04 22 03.3 +1.8**
comp=E,12nm,0.5s,SNR=5.9
NKC Novy Kostel 6.75 34 *e*SN **Sn 04 23 21.0 +2.1**
CONA Conrad Observa 7.14 60 *i* Pn **Pn 04 22 10.8 +3.0**
comp=E,9.8nm,0.3s,SNR=12
CONA *e*Sn **Sn 04 23 29.3 +0.7**

comp=E,3.9nm,0.4s
SGMF Saint Gilles 7.23 302 *e*Pn **Pn 04 22 10.7 +1.7**
SGMF *e*Sg **Sg 04 24 10.0 -5.9**

comp=E,32nm,0.6s
SGMF Saint Gilles 7.23 302 *e*Pn **Pn 04 22 10.7 +1.7**
SGMF *e*Sg **Sg 04 24 10.0 -5.9**
JSA Saint Aubin 7.46 310 *e*P **Pn 04 22 14.1 +1.9**
JSA IAML 04 24 31.4

comp=E,14nm,0.7s
JSA IAML 04 24 34.5

comp=N,14nm,0.5s
JSA Saint Aubin 7.46 310 Pn **Pn 04 22 14.0 +1.9**
QUIF Quistinic 7.47 298 *e*Pn **Pn 04 22 13.6 +1.3**
QUIF *e*Sg **Sg 04 24 17.0 -6.6**

comp=N,12nm,0.4s
QUIF Quistinic 7.47 298 *e*Pn **Pn 04 22 13.6 +1.3**
QUIF *e*Sg **Sg 04 24 17.0 -6.6**
PRU Pruhonice 7.50 43 *e*PN **Pn 04 22 15.0 +2.3**
PRU *ex* x 04 24 28.7
BLY Banja Luka 7.53 86 *e*Pn **Pn 04 22 15.7 +2.6**
BLY *e*Sn **Sn 04 23 39.4 +1.4**
BLY Banja Luka 7.53 86⇑ *i*P **Pn 04 22 14.1 +1.0**
BLY Banja Luka 7.53 86 S **Sn 04 23 36.0 -2.0**
BLY Banja Luka 7.53 86 *e*Pn **Pn 04 22 13.1 0.0**
TREC Trest 7.57 50 *e*PN **Pn 04 22 15.3 +1.6**
TREC *e*SN **Sn 04 23 38.5 -0.6**
GOPC GO Pecny, Ondr 7.57 44 *e*PN **Pn 04 22 15.5 +1.8**
GOPC *e*SN **Sn 04 23 38.2 -1.0**
GOPC *ex* x 04 23 54.0
ROSF Rostrenen 7.70 301 *e*Pn **Pn 04 22 16.2 +0.8**
ROSF *e*Sn **Sn 04 23 36.4 -5.8**
ROSF *e*Sg Sb 04 24 25.6 +17

comp=N,44nm,0.7s
ROSF Rostrenen 7.70 301 *e*Pn **Pn 04 22 16.2 +0.8**
ROSF *e*Sn **Sn 04 23 36.4 -5.8**
ROSF *e*Sg Sb 04 24 25.6 +17
ROSF Rostrenen 7.70 301 Pn **Pn 04 22 17.5 +2.1**
CLL Collm 7.82 31 *e*Pn **Pn 04 22 17.0 -0.1**
CLL *e*Pg Pb 04 22 49.0 +10
CLL *e* 04 22 55.0
CLL *e* 04 23 00.0
CLL *e*Sn Sn 04 23 23.0 -22
CLL *e*Sg Sb 04 24 39.0 +27

comp=Z,20nm,1.0s
BRG Berggiesshubel 7.85 36 PN **Pn 04 22 19.1 +1.6**
BRG PG Pb 04 22 52.0 +12
BRG SG **Sn 04 23 43.7 -2.3**

comp=Z,11nm,1.0s
KRUC Moravsky 7.96 54 *e*PN **Pn 04 22 20.8 +1.8**
MODS Modra-Piesok 8.19 60 *e*PN **Pn 04 22 22.6 +0.4**
MODS *e*SN **Sn 04 23 56.5 +2.2**
VRAC Vranov 8.19 53 Pn **Pn 04 22 23.8 +1.5**
comp=Z,3.9nm,0.3s,baz=251,slow=12,SNR=15
VRAC Sn **Sn 04 23 53.1 -1.3**

comp=Z,0.7nm,0.3s,baz=175,slow=18,SNR=1.8
VRAC Lg Lg 04 24 52.0

baz=5.5,slow=23,SNR=0.9
VRAC Vranov 8.19 53⇑ *i*P **Pn 04 22 24.4 +2.2**
VRAC Vranov 8.19 53 S **Sn 04 23 52.7 -1.7**
VRAC Vranov 8.19 53 *e*PN **Pn 04 22 23.5 +1.3**
STON Ston 8.24 99 *e*Pn **Pn 04 22 23.8 +1.0**
STON Sn **Sn 04 23 54.2 -1.2**
SMOL Smolenice 8.33 59 *e*PN **Pn 04 22 27.5 +3.3**
SMOL *e*SN **Sn 04 23 55.7 -2.1**
UPC Upice 8.56 44 *e*PN **Pn 04 22 28.9 +1.7**
UPC *e*SN **Sn 04 24 04.0 +0.6**
MORH Mrgy, Hungar 8.58 76 *e*Pn **Pn 04 22 27.7 +0.2**
DPC Dobruska-Polom 8.62 46 *e*PN **Pn 04 22 30.0 +1.9**
DPC *e*SN **Sn 04 24 05.6 +0.7**
DPC *ex* x 04 24 13.0
KRLC Kraliky 8.70 49 *e*PN **Pn 04 22 31.3 +2.1**
KRLC *ex* x 04 22 40.5
KRLC *e*SN **Sn 04 24 08.1 +1.1**
MORC Moravsky Berou 8.96 52 *e*Pn **Pn 04 22 33.7 +0.9**
MORC Moravsky Berou 8.96 52⇑ *i*P **Pn 04 22 34.2 +1.4**
MORC Moravsky Berou 8.96 52 S **Sn 04 24 10.9 -2.4**
MORC Moravsky Berou 8.96 52 *e*PN **Pn 04 22 33.7 +0.9**
STRD Stroud 9.14 323 *e*P **Pn 04 22 36.8 +1.7**
VYHS Vyhne 9.20 62 *e*PN **Pn 04 22 37.8 +1.8**
VYHS *e*SN **Sn 04 24 17.4 -1.7**
KEST Kesra 9.26 166 Pn **Pn** 04 22 43.1 +6.2
comp=Z,0.2nm,0.3s,baz=304,slow=5.5,SNR=4.9
KEST Sn **Sn 04 24 20.8 +0.1**

comp=Z,0.1nm,0.3s,baz=352,slow=5.9,SNR=2.5
KEST LR LR 04 25 59.8

comp=Z,68nm,18.9s,baz=347,slow=35
OKC Ostrava-Krasne 9.33 53 *e*PN **Pn 04 22 39.7 +1.9**
OKC *ex* x 04 22 46.9
ESDC Sonseca Array 9.35 241 Pn **Pn 04 22 39.5 +1.3**
comp=Z,0.6nm,0.3s,baz=56,slow=14,SNR=14
ESDC Sn **Sn 04 24 20.2 -2.7**

comp=Z,0.3nm,0.3s,baz=51,slow=24,SNR=3.9
MONM Monmouth 9.46 322 *e*P **Pn 04 22 41.5 +1.9**
MONM IAML 04 24 33.6

comp=N,14nm,0.5s
MONM IAML 04 24 35.3

comp=E,10.0nm,0.5s
CWF Charnwood Fore 9.54 330 *e*P **Pn 04 22 41.4 +0.8**
CWF *e*S **Sn 04 24 20.4 -7.0**
CWF IAML 04 24 30.7

comp=N,4.9nm,0.4s
CWF IAML 04 24 31.2

comp=E,8.1nm,0.8s
MCH1 Michaelchurch 9.65 322 *e*P **Pn 04 22 43.3 +1.1**
MCH1 *e*S **Sn 04 24 22.9 -7.3**
MCH1 IAML 04 24 32.3

comp=N,6.8nm,0.5s
MCH1 IAML 04 24 36.3

comp=E,9.6nm,0.5s
PAB San Pablo 9.66 241 *e*Pn **Pn 04 22 44.9 +2.4**
PAB *e*Sn **Sn 04 24 31.4 +0.8**
PSZ Piszkesteto 9.71 66⇑ *i*P **Pn 04 22 45.0 +1.9**
LANS Liptovska Anna 9.82 59 *e*PN **Pn 04 22 47.7 +3.1**
HLM1 Long Mynd 9.98 324 *e*P **Pn 04 22 48.1 +1.4**
HLM1 *e*S **Sn 04 24 31.0 -7.2**
HLM1 IAML 04 24 36.7

comp=E,10nm,0.4s
HLM1 IAML 04 24 40.6

comp=N,0.7nm,0.2s
FOEL Foel Wylfa 10.39 325 *e*P **Pn 04 22 54.5 +2.2**
HPK Haverah Park 10.65 333 *e*P **Pn 04 22 57.6 +1.8**
HPK *e*S **Sn 04 24 47.5 -7.2**
HPK IAML 04 24 54.3

comp=E,17nm,0.6s
HPK IAML 04 24 55.5

comp=N,16nm,0.3s
DRGR 11.43 74⇑ *i*P **Pn 04 23 09.4 +2.8**
TRPA Tarpa 11.49 67⇑ *i*P **Pn 04 23 09.4 +2.0**
EDMD Edmundbyers 11.49 334 *e*P **Pn 04 23 09.1 +1.7**
EDMD *e*S **Sn 04 25 07.8 -7.5**
EKA Eskdalemuir Ar 12.29 333 Pn **Pn 04 23 18.0 -0.2**
baz=139,slow=14,SNR=20
EKA Sn **Sn 04 25 28.7 -6.1**

baz=142,slow=24,SNR=4.5
AKASG Malin Array Be 16.30 61 Pn **P 04 24 14.6 -0.4**
comp=N,0.3nm,0.3s,baz=251,slow=11,SNR=3.0
FIA0 FINESS Array S 20.25 28 *e*P **P 04 24 58.9 +0.5**
FINES FINESS Array B 20.25 28 P **P 04 24 58.9 +0.5**
comp=N,1.4nm,0.7s,baz=230,slow=8.3,SNR=2.4
BR101 Keskin Array S 20.58 95 *e*P Pn 04 25 07.8 +3.2
BRTR Keskin Array B 20.58 95 P Pn 04 25 07.8 +3.2
comp=N,0.7nm,0.7s,baz=294,slow=8.0,SNR=6.1
ZALV Zalesovo Beam 49.30 50 P **P 04 29 12.2 +0.4**
comp=N,0.4nm,0.4s,baz=278,slow=9.9,SNR=2.4
MKAR Makanchi Array 50.88 59 P **P 04 29 24.9 +0.9**
comp=N,0.4nm,0.6s,baz=286,slow=5.4,SNR=2.8
MKAR LR LR 04 52 52.5

comp=N,46nm,18.5s,baz=346,slow=38
YKA Yellowknife Ar 63.25 334 P **P 04 30 49.6 -1.6**
comp=N,0.1nm,0.5s,baz=48,slow=6.8,SNR=1.7

ROM 07 04:21:58.0±0.1, **43°.614N**±0°.002×**12°.331E**±0°.003, **h6**km±1km, **Md1.2, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARC	**Parchiule**	**0.07**	**297**	P	Pg	04 22 00.0	+0.3
PARC				S	Sg	04 22 01.4	+0.4
PARC				AML	AML		
	comp=E,125µm,0.4s						
PARC				AML	AML		
	comp=N,123µm,0.5s						
PARC				AML	AML		
	comp=E,125µm,0.4s						
PARC				AML	AML		
	comp=N,123µm,0.5s						
PARC				END			
PARC				END			
BADI	**Badiali**	**0.12**	**211**	P	Pg	04 22 00.9	+0.4
BADI				S	Sg	04 22 03.0	+0.8
BADI				END			
BADI				END			
ATPC	**Poggio Castell**	**0.16**	**145**	P	Pg	04 22 01.9	+0.6
NARO	**Abbazia di Nar**	**0.18**	**91**	P	Pg	04 22 02.1	+0.5
NARO				S	Sg	04 22 05.2	+1.2

*IDC **07** 04:34:53.3±1.5, 35°.48N×140°.48E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.3/31, mbtmp3.4/4, ML2.9/2, MS2.1/1, Ms1 2.1/1, ms1mx1.9/16, Error ellipse: s-maj=38.1km s-min=26.3km az=82.0*
*ISCJB **07** 04:34:55.5±0.9, 35°.73N±0°.05×140°.81E±0°.10, h50km±5km, mb3.3/3, Error ellipse: s-maj=13.5km s-min=8.1km az=164.3*
*JMA **07** 04:34:55.3±0.2, 35°.71N×140°.74E, h51km±2km, M2.8*
ISC 07 04:34:56.9±1.2, **35°.70N**±0°.05×**140°.81E**±0°.08, **h42**km±7km, **n14**, **σ1°.78/19**, **mb3.6/3**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.04**	**85**	P	Pn	04 35 03.2	-0.4
CHOJ				S	Sn	04 35 09.4	+1.1
JSMT	**Sammumatsuo**	**0.30**	**259**	P	Pn	04 35 04.5	-0.8
JSMT				S	Sn	04 35 11.5	+0.3
JIHU	**Itakohorinouch**	**0.35**	**319**	P	Pn	04 35 05.2	-0.7
JCN	**Nagara**	**0.57**	**241**	P	Pn	04 35 07.4	-1.2
JCN				S	Sn	04 35 16.5	-0.5
JYT	**Yasato**	**0.73**	**317**	P	Pn	04 35 08.6	-2.1
JYT				S	Sn	04 35 18.9	-1.8
BSO4	**Boso 4**	**0.81**	**209**	P	Pn	04 35 10.7	-1.0
BSO3	**Boso 3**	**0.93**	**195**	P	Pn	04 35 12.2	-1.0
BSO1	**Boso 1**	**1.05**	**172**	P	Pn	04 35 14.3	-0.4
MJAR	**Matsushiro Arr**	**2.27**	**293**	Pn	Pn	04 35 30.7	-1.1
	1.1nm,0.3s,baz=116,slow=7.9,SNR=4.4						
MJAR				Sn	Sn	04 36 02.6	+4.0
	3.0nm,0.3s,baz=136,slow=15,SNR=4.8						
MJAR				LR	LR	04 36 36.6	
	comp=Z,47nm,21.9s,baz=340,slow=49						
MAT	**Matsushiro**	**2.27**	**293**	P	Pn	04 35 32.9	+1.0
JHJ	**Hachijo jima 2**	**2.71**	**199**	Pn	Pn	04 35 35.1	-2.8

	29nm,0.3s,baz=47,slow=19,SNR=2.1						
JHJ				Sn	**Sn**	**04 36 12.2**	**+2.7**
	20nm,0.3s,baz=82,slow=22,SNR=1.8						
MKAR	**Makanchi Array**	**44.43**	**303**	P	**P**	**04 43 03.9**	**+0.4**
	0.1nm,0.4s,baz=90,slow=8.2,SNR=1.8						
ILAR	**Eielson Array**	**50.88**	**32**	P	P	04 43 58.4	+5.2
	0.7nm,1.1s,baz=278,slow=6.2,SNR=3.2						
WRA	**Warramunga Arr**	**55.68**	**187**	P	**P**	**04 44 28.9**	**0.0**
	0.7nm,1.1s,baz=5.4,slow=7.4,SNR=1.7						

*SJA **07** 05:06:49.9±0.4, 32°.91S×72°.62W, h10km, ML4.5, MW4.2*
*GUC **07** 05:06:54.8±0.5, 32°.92S×72°.08W, h28km±3km, ML4.6*
*IDC **07** 05:06:54.6±0.7, 32°.90S×71°.82W, h0km, mb4.3/10, mb1 4.3/14, mb1mx4.2/23, mbtmp4.2/14, ML3.9/4, MS3.8/6, Ms1 3.8/6, ms1mx3.5/15, Error ellipse: s-maj=24.4km s-min=19.4km az=75.0*
*ISCJB **07** 05:06:55.1±0.9, 32°.93S±0°.03×72°.16W±0°.03, h15km±5km, mb4.5/32, Error ellipse: s-maj=5.3km s-min=3.9km az=37.2*
*VAO **07** 05:06:55.9±0.4, 32°.89S×72°.14W, h10km, mb4.5*
*NEIC **07** 05:06:58.0±1.1, 32°.91S×71°.89W, h22km±7km, mb4.8/22, ML4.6(GUC), Error ellipse: s-maj=8.1km s-min=4.0km az=81.0*
NEIC Felt [III] at Quillota, Quilpue, Valparaiso, Vina del Mar and Zapallar; [II] at San Antonio.
ISC 07 05:06:54.5±0.6**, 32°.96S**±0°.04×**72°.10W**±0°.04**, h3**km±3km**, h4**km**:pP-P, n130, σ1§13**/161**, mb4.8**/32**, 3C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.91**	**91**	*e*Pg	**Pb**	**05 07 13.3**	**+0.3**
ROC1				*e*Sg	**Sb**	**05 07 26.4**	**+0.8**
ROCH	**El Roble**	**0.91**	**91**	*e*P	**Pb**	**05 07 12.5**	**-0.6**
ROCH				*i* S	**Sb**	**05 07 25.8**	**+0.1**
ROCH				IAML		05 07 28.0	
	comp=E,31μm,0.5s						
PEL	**Peldehue**	**1.20**	**99**	*e*Pn	**Pb**	**05 07 17.8**	**-0.1**
PEL				*e*Sn	**Sn**	**05 07 34.9**	**-0.1**
PEL	**Peldehue**	**1.20**	**99**	*e*P	**Pg**	**05 07 16.9**	**-0.7**
PEL				*e*S	**Sb**	**05 07 33.9**	**0.0**
PEL				IAML		05 07 39.7	
	comp=E,21μm,0.5s						
CLCH	**Cerro Calan**	**1.38**	**109**	*e*P	**Pn**	**05 07 20.2**	**-0.5**
CLCH				*e*S	**Sn**	**05 07 39.0**	**-0.5**
CLCH				IAML		05 07 42.7	
	comp=E,18μm,0.3s						
FCH	**Farellones**	**1.56**	**104**	*e*P	**Pn**	**05 07 23.4**	**-0.1**
FCH				*e*S	**Sg**	**05 07 44.9**	**+0.3**
FCH				IAML		05 07 52.2	
	comp=E,10μm,0.3s						
LMEL	**Las Melosas**	**1.81**	**120**	*e*P	**Pn**	**05 07 27.0**	**+0.2**
LMEL				*e*S	**Sb**	**05 07 51.6**	**0.0**
LMEL				IAML		05 07 59.2	
	comp=N,17μm,0.6s						
CMCH	**Combarbala**	**2.01**	**28**	*e*P	**Pn**	**05 07 30.3**	**+0.9**
GO05	**Huala**	**2.05**	**176**	*e*Pn	**Pn**	**05 07 29.4**	**-0.5**
GO05	**Huala**	**2.05**	**176**⇑	*i*P	**Pn**	**05 07 30.4**	**+0.5**
AUSP	**Uspallata**	**2.40**	**73**	*e*P	**Pb**	**05 07 38.0**	**-0.6**
RTLS	**Leoncito**	**2.64**	**65**	*e*P	**Pb**	**05 07 41.5**	**-1.1**
RTLS				IAML		05 08 33.3	
	comp=Z,1μm,0.5s						
ARCO	**CERRO ARCO**	**2.66**	**88**	*e*P	**Pb**	**05 07 41.9**	**-1.0**
ARCO				IAML		05 07 47.3	
	comp=Z,1μm,0.5s						
ARCO				*e*S	**Sg**	**05 08 20.2**	**0.0**
AAGR	**Agrelo**	**2.75**	**93**	*e*P	**Pb**	**05 07 43.1**	**-1.2**
AAGR				*e*S	**Sg**	**05 08 22.4**	**-0.4**
ASAL	**Salagasta**	**2.77**	**83**	*e*P	**Pb**	**05 07 43.1**	**-1.6**
ASAL				*e*S	**Sg**	**05 08 22.5**	**-1.1**
GO04	**Tololo Observa**	**2.99**	**22**	*e*Pn	**Pn**	**05 07 41.3**	**-1.7**
GO04	**Tololo Observa**	**2.99**	**22**⇑	*i*P	**Pn**	**05 07 43.5**	**+0.5**
GO04				*e*S	**Sn**	**05 08 19.9**	**+0.3**
AVIZ	**Vizcacheras**	**3.04**	**101**	*e*P	**Pb**	**05 07 47.4**	**-2.0**
LSCH	**La Serena**	**3.13**	**14**	*e*P	**Pn**	**05 07 44.7**	**0.0**
RTCV	**Cerro Valdivia**	**3.20**	**71**	*e*P	**Pb**	**05 07 48.9**	**-3.1**
ACCO	**Cerro Coronel**	**3.50**	**48**	*e*P	**Pn**	**05 07 52.0**	**+1.8**
ACCO				*e*S	**Sb**	**05 08 38.7**	**-1.6**
RFA	**San Rafael**	**3.52**	**122**	*e*P	**Pn**	**05 07 53.2**	**+3.0**
AROD	**Rodeo**	**3.57**	**39**	*e*P	**Pn**	**05 07 53.0**	**+1.8**
AMOG	**MOGNA**	**3.67**	**58**	*e*P	**Pn**	**05 07 54.8**	**+2.6**
LCO	**Las Campanas**	**4.11**	**17**	*e*Pn	**Pn**	**05 07 57.5**	**-1.0**
LCO	**Las Campanas**	**4.11**	**17**⇑	*i*P	**Pn**	**05 07 58.6**	**+0.1**
LCO				*i* S	**Sn**	**05 08 47.2**	**-0.1**
LCO	**Las Campanas**	**4.11**	**17**	*e*P	**Pn**	**05 07 59.6**	**+1.0**
ACAN	**Cantantal**	**4.20**	**82**	*e*P	**Pn**	**05 08 03.1**	**+3.7**
APLL	**PUNTA DE LOS L**	**5.39**	**63**	*e*P	**Pn**	**05 08 19.2**	**+3.4**
GO03	**Copiap**	**5.58**	**17**	*e*Pn	**Pn**	**05 08 18.6**	**+0.1**
GO06	**Curarrehue**	**6.63**	**176**	*e*Pn	**Pn**	**05 08 35.2**	**+2.3**
PLCA	**Paso Flores**	**7.86**	**171**	Pn	**Pn**	**05 08 51.1**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=355,slow=10,SNR=16						
PLCA				Sn	**Sn**	**05 10 15.3**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=12,slow=23,SNR=1.7						
PLCA				Lg	Lg	05 10 58.5	
	comp=Z,0.1nm,0.3s,baz=44,slow=12,SNR=1.9						
PLCA				LR	LR	05 12 10.4	
	comp=Z,391nm,19.5s,baz=8.5,slow=40						
PLCA	**Paso Flores**	**7.86**	**171**	*e*P	**Pn**	**05 08 52.0**	**+2.3**
GO02	**Mina Guanaco**	**8.07**	**16**	*e*Pn	**Pn**	**05 08 53.2**	**+0.3**
PB10	**IPOC Station P**	**9.51**	**9**	*e*Pn	**Pn**	**05 09 13.3**	**+1.0**
TRQA	**Tornquist**	**9.69**	**124**	*e*Pn	**Pn**	**05 09 16.1**	**+1.3**
LVC	**Limon Verde**	**10.69**	**16**	Pn	**Pn**	**05 09 27.0**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=190,slow=7.6,SNR=5.1						
LVC				Sn	Sn	05 11 38.5	+9.2
	comp=Z,0.8nm,0.3s,baz=137,slow=23,SNR=1.4						
LVC				Lg	Lg	05 11 56.7	
	comp=Z,0.3nm,0.3s,baz=64,slow=22,SNR=9.9						
LVC				LR	LR	05 13 35.2	
	comp=Z,432nm,19.5s,baz=210,slow=38						
PB04	**IPOC Station P**	**10.72**	**10**	*e*Pn	**Pn**	**05 09 28.1**	**-1.1**
PB11	**IPOC Station P**	**13.32**	**10**	*e*Pn	**Pn**	**05 10 07.8**	**+3.0**
GO01	**Chusmiza**	**13.49**	**12**	*e*Pn	**Pn**	**05 10 08.2**	**+0.9**
MNMC	**Minye Minye**	**13.95**	**10**	*e*Pn	**Pn**	**05 10 13.8**	**+0.4**
CPUP	**Villa Florida**	**14.43**	**67**	Pn	**Pn**	**05 10 17.3**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=246,slow=20,SNR=2.2						
CPUP				Sn	**Sn**	**05 13 00.7**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=228,slow=19,SNR=3.0						
CPUP				Lg	Lg	05 13 59.1	
	comp=Z,0.5nm,0.3s,baz=329,slow=2.5,SNR=3.7						
CPUP				LR	LR	05 16 15.8	
	comp=Z,482nm,18.9s,baz=237,slow=40						
CPUP	**Villa Florida**	**14.43**	**67**	*e*Pn	**Pn**	**05 10 16.7**	**-3.0**
CPUP				Sn	**Sn**	**05 13 00.7**	**+0.4**
CPUP	**Villa Florida**	**14.43**	**67**	*e*P	**Pn**	**05 10 21.5**	**+1.8**
PLTB	**Pedras Altas**	**15.68**	**91**	*e*P	**P**	**05 10 38.5**	**-2.1**
CPSB	**Cacapava Do Su**	**16.09**	**86**	*e*P	**P**	**05 10 43.6**	**-1.5**
LPAZ	**La Paz**	**16.98**	**13**	Pn	**Pn**	**05 10 54.3**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=180,slow=8.0,SNR=23						
LPAZ	**La Paz**	**16.98**	**13**	*e*Pn	**Pn**	**05 10 54.4**	**+0.6**
	comp=Z,10nm,1.1s						
CNLB	**Canela**	**18.54**	**84**	*e*P	**Pn**	**05 11 13.7**	**+1.3**
AQDB	**Aquidauana**	**19.18**	**54**	*e*P	**Pn**	**05 11 21.2**	**+1.0**
TRCB	**Terra Rica**	**19.93**	**64**	*e*P	**P**	**05 11 27.8**	**+0.2**
TER01	**Tubaro-SC**	**20.22**	**83**	*e*P	**P**	**05 11 30.9**	**+0.3**
FRTB	**Fartura**	**22.02**	**70**	*e*P	**P**	**05 11 50.0**	**-0.2**
USHA	**Ushuaia**	**22.02**	**174**	P	**P**	**05 11 50.7**	**+0.9**
	comp=Z,11nm,1.0s,baz=346,slow=4.0,SNR=3.2						
SPB	**Sao Paulo**	**23.59**	**73**	*e*P	**P**	**05 12 06.8**	**+0.3**
	comp=Z,34nm,1.0s						
RCLB	**Rio Claro- Sao**	**24.10**	**70**	*e*P	**P**	**05 12 10.3**	**-1.2**
IPMB	**Ipameri, GO**	**26.13**	**61**	*e*P	**P**	**05 12 28.7**	**-1.3**
BSCB	**Bom Sucesso**	**27.02**	**71**	*e*P	**P**	**05 12 37.3**	**-0.8**
PMNB	**Patos De Minas**	**27.11**	**64**	*e*P	**P**	**05 12 38.9**	**0.0**
VAS01	**Vassouras-RJ**	**27.45**	**74**	*e*P	**P**	**05 12 42.8**	**+1.1**
BDFB	**Brasilia**	**27.80**	**57**	P	**P**	**05 12 43.3**	**-1.8**
	comp=Z,6.8nm,0.6s,baz=228,slow=5.5,SNR=20						
BDFB				LR	LR	05 24 31.0	
	comp=Z,185nm,21.3s,baz=241,slow=38						
DUB01	**Friburgo-RJ**	**28.41**	**75**	*e*P	**P**	**05 12 50.3**	**-0.1**
CAM01	**Campos-RJ**	**29.11**	**75**	*e*P	**P**	**05 12 56.9**	**+0.2**
MCI6	**Montes Claros**	**30.09**	**65**	*e*P	**P**	**05 13 05.6**	**+0.2**
MCI9	**Montes Claros**	**30.15**	**64**	*e*P	**P**	**05 13 05.6**	**-0.4**
PTGA	**Pitinga**	**34.03**	**22**	*e*P	**P**	**05 13 38.3**	**-1.5**
	comp=Z,11nm,0.9s						
PTGA	**Pitinga**	**34.03**	**22**	*e*P	**P**	**05 13 40.3**	**+0.4**
SDV	**Santo Domingo**	**41.63**	**2**	*e*P	**P**	**05 14 44.1**	**-0.2**
QSPA	**South Pole Qui**	**57.27**	**180**	*e*P	**P**	**05 16 44.1**	**+1.0**
	comp=Z,7.1nm,0.9s						
X48A	**Hartselle**	**68.51**	**347**	*e*P	**P**	**05 17 58.6**	**+0.5**
	comp=Z,7.3nm,1.0s						
LTX	**Lajitas**	**68.81**	**331**	*e*P	**P**	**05 18 01.7**	**+1.5**
TXAR	**Lajitas Array**	**68.81**	**331**	P	**P**	**05 18 01.7**	**+1.5**
	comp=Z,0.8nm,0.7s,baz=149,slow=8.1,SNR=11						
TX31	**Lajitas Ar. Si**	**68.81**	**331**	*e*P	**P**	**05 18 00.7**	**+0.6**
WHTX	**Lake Whitney,**	**68.90**	**337**	*e*P	**P**	**05 18 01.9**	**+1.4**
	comp=Z,16nm,1.5s						
W50A	**Signal Mountai**	**68.93**	**348**	*e*P	**P**	**05 18 00.9**	**+0.2**
	comp=Z,10.0nm,1.1s						
V53A	**Saluda**	**69.01**	**351**	*e*P	**P**	**05 18 01.4**	**+0.2**
	comp=Z,13nm,1.5s						
SWET	**Sewanee**	**69.05**	**348**	*e*P	**P**	**05 18 01.7**	**+0.3**
	comp=Z,19nm,1.7s						
TKL	**Tuckaleechee C**	**69.13**	**350**	*e*P	**P**	**05 18 02.2**	**+0.3**
	comp=Z,13nm,1.4s						
V48A	**Smith Brothers**	**69.72**	**347**	*e*P	**P**	**05 18 06.1**	**+0.5**
	comp=Z,13nm,1.1s						
WVT	**Waverly**	**70.29**	**347**	*e*P	**P**	**05 18 09.6**	**+0.6**
	comp=Z,10nm,0.9s						
W39A	**Magazine**	**70.78**	**341**	*e*P	**P**	**05 18 12.7**	**+0.7**
	comp=Z,5.5nm,0.9s						
MNTX	**Cornudas Mount**	**71.58**	**330**	*e*P	**P**	**05 18 17.5**	**+0.4**
	comp=Z,3.1nm,0.9s						
MSTX	**Muleshoe**	**72.56**	**334**	*e*P	**P**	**05 18 24.0**	**+1.1**
	comp=Z,7.2nm,0.9s						
CCM	**Cathedral Cave**	**72.87**	**344**	*e*P	**P**	**05 18 25.1**	**+0.6**
	comp=Z,20nm,1.4s						
MAW	**Mawson**	**74.19**	**164**	LR	LR	05 53 31.1	
	comp=Z,169nm,18.1s,baz=259,slow=38						
LIC	**Lamto**	**74.49**	**72**	*e*P	**P**	**05 18 34.6**	**-0.1**
	comp=Z,34nm,1.2s						
TIC	**Toumodi**	**74.75**	**71**	*e*P	**P**	**05 18 36.1**	**-0.1**
KIC	**Kosan Boka**	**74.80**	**72**	*e*P	**P**	**05 18 36.4**	**-0.1**
	comp=Z,17nm,0.9s						
DBIC	**Dimbokro**	**74.89**	**72**	P	**P**	**05 18 36.9**	**-0.1**
	comp=Z,3.6nm,0.6s,baz=212,slow=7.1,SNR=12						
DBIC				LR	LR	05 52 03.9	
	comp=Z,40nm,18.1s,baz=132,slow=36						
DBIC	**Dimbokro**	**74.89**	**72**	*e*P	**P**	**05 18 36.5**	**-0.5**
	comp=Z,3.9nm,0.6s						
DBIC	**Dimbokro**	**74.89**	**72**	*e*P	**P**	**05 18 37.1**	**+0.1**
SUR	**Sutherland**	**75.37**	**119**	*e*P	**P**	**05 18 39.9**	**+0.1**
	comp=Z,45nm,1.6s						
T25A	**Trinidad**	**75.98**	**334**	*e*P	**P**	**05 18 44.3**	**+1.4**
	comp=Z,20nm,1.6s						
X16A	**Lo Mia Camp, P**	**76.54**	**327**	*e*P	**P**	**05 18 46.6**	**+0.4**
	comp=Z,3.7nm,1.1s						
SMCO	**Snowmass**	**78.73**	**333**	*e*P	**P**	**05 18 59.2**	**+0.6**
	comp=Z,5.2nm,1.1s						
ECSD	**EROS Data Cent**	**79.55**	**342**	*e*P	**P**	**05 19 02.9**	**+0.5**
	comp=Z,4.6nm,0.7s						
BOSA	**Boshof**	**80.60**	**118**	P	**P**	**05 19 09.0**	**+0.1**
	comp=Z,4.4nm,0.7s,baz=237,slow=4.6,SNR=9.3						
BOSA	**Boshof**	**80.60**	**118**	*e*P	**P**	**05 19 09.5**	**+0.6**
LBTB	**Lobatse**	**82.78**	**115**	*e*P	**P**	**05 19 20.0**	**-0.5**
PDAR	**Pinedale Array**	**82.81**	**333**	P	**P**	**05 19 20.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=122,slow=6.7,SNR=3.8						
NV01	**Mina Array Sit**	**83.00**	**325**	*e*P	**P**	**05 19 22.1**	**+0.8**
NVAR	**Mina Array Bea**	**83.00**	**325**	P	**P**	**05 19 23.5**	**+2.3**
	comp=Z,0.7nm,0.6s,baz=170,slow=6.8,SNR=5.2						
SNZO	**South Karori**	**83.88**	**224**	*e*P	**P**	**05 19 26.5**	**+0.8**
TOA0	**Torodi Ar. Sit**	**83.90**	**70**	*e*P	**P**	**05 19 25.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**83.90**	**70**	P	**P**	**05 19 24.6**	**-1.5**
	comp=Z,5.5nm,0.9s,baz=280,slow=4.8,SNR=24						
TOA1	**Torodi Ar. Sit**	**83.90**	**70**	*e*P	**P**	**05 19 24.6**	**-1.5**
ULM	**Lac du Bonnet**	**85.48**	**345**	P	**P**	**05 19 32.9**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=142,slow=5.8,SNR=3.7						
ESDC	**Sonseca Array**	**95.89**	**46**	P	**P**	**05 20 22.1**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=259,slow=4.5,SNR=3.6						
YKA	**Yellowknife Ar**	**101.06**	**341**	P	**Pdif**	**05 20 45.0**	**0.0**
	comp=Z,0.2nm,0.7s,baz=142,slow=4.8,SNR=4.3						
WR1	**Warramunga Arr**	**121.64**	**209**	*e*PKPdf	**PKPdf**	**05 25 50.2**	**-0.1**
WRA	**Warramunga Arr**	**121.64**	**209**	PKP	**PKPdf**	**05 25 50.2**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=155,slow=1.7,SNR=3.3						
KEV	**Kevo**	**123.64**	**24**	*e*P	**PKiKP**	**05 25 52.9**	**+0.2**
BRVK	**Borovoye**	**146.47**	**42**	*e*PKPdf	**PKPbc**	**05 26 36.1**	**-0.5**
CHGR	**Chuyangaron**	**148.24**	**69**	*e*PKPdf	**PKPdf**	**05 26 38.5**	**-0.2**
KK31	**Karatay Array**	**149.08**	**60**	*e*PKPdf	**PKPdf**	**05 26 40.7**	**+0.8**
KKAR	**Karatay Array**	**149.08**	**60**	*e*PKPdf	**PKPdf**	**05 26 41.1**	**+1.2**
NIL	**Nilore**	**151.11**	**79**	*e*PKPbc	**PKiKP**	**05 26 49.4**	**-0.3**
AAK	**Ala-Archa**	**152.04**	**60**	*e*PKPbc	**PKiKP**	**05 26 51.9**	**+0.4**
AAK				*e*PKPab	**pPKPab**	**05 27 01.0**	**-0.2**
NRN	**Naryn**	**153.33**	**62**	*e*PKPdf	**PKPdf**	**05 26 47.8**	**+1.0**
NRN				*e*PKPbc	**sPKPbc**	**05 26 55.8**	**+0.8**
NRN				*e*PKPab	**pPKPab**	**05 27 06.7**	**-0.1**
ZAA1	**Zalesovo Array**	**153.37**	**31**	*e*PKPdf	**PKPdf**	**05 26 45.6**	**-0.4**
ZAA1				*e*PKPbc	**sPKPbc**	**05 26 54.1**	**0.0**
ZAA1				*e*PKPab	**pPKPab**	**05 27 05.8**	**-0.3**
ZAA0	**Zalesovo Array**	**153.37**	**31**	*e*PKPdf	**PKPdf**	**05 26 46.3**	**+0.3**
ZAA0				*e*PKPbc	**sPKPbc**	**05 26 54.1**	**0.0**
ZAA0				*e*PKPab	**sPKPab**	**05 27 07.1**	**+0.9**
ZALV	**Zalesovo Beam**	**153.37**	**31**	PKP	**PKPdf**	**05 26 45.6**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=294,slow=1.5,SNR=4.8						
ZALV				PKPbc	**sPKPbc**	**05 26 54.1**	**0.0**
	comp=Z,3.5nm,0.8s,baz=298,slow=4.3,SNR=15						
ZALV				PKPab	**pPKPab**	**05 27 05.8**	**-0.3**
	comp=Z,3.3nm,0.8s,baz=300,slow=5.8,SNR=8.8						
ZALV	**Zalesovo Beam**	**153.37**	**31**	*e*PKPdf	**PKPdf**	**05 26 46.2**	**+0.2**
ZALV				*e*PKPbc	**sPKPbc**	**05 26 54.0**	**-0.1**
ZALV				*e*PKPab	**sPKPab**	**05 27 06.7**	**+0.5**
MK31	**Makanchi Array**	**156.11**	**47**	*e*PKPdf	**PKPdf**	**05 26 50.9**	**+0.8**
MK31				*e*PKPab	**pPKPab**	**05 27 18.0**	**-0.1**
MK32	**Makanchi Array**	**156.11**	**47**	*e*PKPdf	**PKPdf**	**05 26 49.7**	**-0.3**
MK32				*e*PKPab	**PKPab**	**05 27 17.1**	**-0.5**
MKAR	**Makanchi Array**	**156.11**	**47**	PKP	**PKPdf**	**05 26 49.7**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=270,slow=0.4,SNR=2.6						
MKAR				PKPab	**PKPab**	**05 27 17.1**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=295,slow=4.4,SNR=16						
MKAR	**Makanchi Array**	**156.11**	**47**	*e*PKPdf	**PKPdf**	**05 26 51.0**	**+0.9**
MKAR				*e*PKPab	**pPKPab**	**05 27 18.0**	**-0.1**
MK01	**Makanchi Array**	**156.12**	**47**	*e*PKPdf	**PKPdf**	**05 26 49.9**	**-0.2**
MK01				*e*PKPab	**pPKPab**	**05 27 18.0**	**-0.2**
SONA0	**Songino Array**	**165.10**	**4**	*e*PKPab	**PKPab**	**05 27 56.2**	**-0.6**
SONM	**Songino Array**	**165.10**	**4**	PKPab	**PKPab**	**05 27 56.2**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=359,slow=0.8,SNR=3.6						

*ISCJB **07** 05:12:16.9±0.5, 41°.55N±0°.04×142°.05E±0°.06, h76km±4km, mb3.4/8, Error ellipse: s-maj=8.6km s-min=6.0km az=34.4*
*JMA **07** 05:12:17.9±0.1, 41°.57N×142°.06E, h63km±3km, M3.1*
*IDC **07** 05:12:19.1±5.1, 41°.61N×142°.26E, h86km±44km, mb3.2/8, mb1 3.4/9, mb1mx3.2/26, mbtmp3.5/9, MS2.4/1, Ms1 2.4/1, ms1mx2.1/17, Error ellipse: s-maj=31.7km s-min=24.0km az=79.0*
ISC 07 05:12:17.5±0.9**, 41°.55N**±0°.05×**142°.09E**±0°.05**, h67**km±8km**, n25, σ0§91**/32**, mb3.5**/8**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAHD	**Aomorihigashid**	**0.63**	**243**	P	**Pn**	**05 12 31.9**	**+0.5**
JAHD				*e*S	**Sn**	**05 12 42.1**	**+0.6**
JARK	**Aomorirokkasho**	**0.77**	**225**	P	**Pn**	**05 12 33.0**	**+0.1**
JARK				*e*S	**Sn**	**05 12 44.0**	**-0.3**
JOT	**Ohata**	**0.80**	**258**	P	**Pn**	**05 12 33.4**	**+0.1**
JOT				*e*S	**Sn**	**05 12 44.9**	**0.0**
JKB	**Kayabe**	**0.86**	**293**	P	**Pn**	**05 12 33.6**	**-0.4**
JKB				*e*S	**Sn**	**05 12 45.9**	**-0.3**
JNBK	**Urakawa-nobuka**	**0.88**	**34**	P	**Pn**	**05 12 34.2**	**-0.1**
JEM	**Erimo**	**0.93**	**60**	P	**Pn**	**05 12 35.0**	**+0.1**
JIAM	**Iburiatsuma**	**1.08**	**354**	P	**Pn**	**05 12 38.1**	**+1.3**
JTM	**Tenmabayashi**	**1.08**	**226**	P	**Pn**	**05 12 37.5**	**+0.6**
JTM				*e*S	**Sn**	**05 12 51.7**	**+0.4**
JNB	**Noboribetsu**	**1.20**	**320**	P	**Pn**	**05 12 38.1**	**-0.3**
JNB				*e*S	**Sn**	**05 12 53.1**	**-1.0**
JBT2	**Biratori 2**	**1.24**	**9**	P	**Pn**	**05 12 39.5**	**+0.5**
JBT2				*e*S	**Sn**	**05 12 56.3**	**+1.3**
JSR	**Shiriuchi**	**1.25**	**270**	P	**Pn**	**05 12 39.5**	**+0.5**
JANG	**Nango**	**1.25**	**200**	P	**Pn**	**05 12 39.7**	**+0.6**
JYM2	**Yakumo 2**	**1.40**	**294**	P	**Pn**	**05 12 41.5**	**+0.5**
JCH	**Churui**	**1.43**	**41**	P	**Pn**	**05 12 42.5**	**+1.1**
JOSM	**Okushiri--Mats**	**2.02**	**286**	P	**Pn**	**05 12 49.0**	**-0.3**
JOSM				*e*S	**Sn**	**05 13 12.8**	**-0.8**
USRK	**Ussuriysk Ar.**	**7.87**	**293**	P	**Pn**	**05 14 12.3**	**+3.0**
	0.2nm,0.3s,baz=98,slow=9.3,SNR=5.3						
KSRS	**Korea Array**	**11.68**	**254**	LR	LR	05 19 06.9	
	comp=Z,19nm,19.9s,baz=275,slow=34						
SONM	**Songino Array**	**25.97**	**296**	P	**P**	**05 17 44.9**	**+1.1**
	0.3nm,0.5s,baz=97,slow=7.5,SNR=3.1						
ZALV	**Zalesovo Beam**	**39.39**	**308**	P	**P**	**05 19 39.6**	**-0.8**
	0.6nm,0.6s,baz=96,slow=8.1,SNR=3.3						
MKAR	**Makanchi Array**	**42.30**	**298**	P	**P**	**05 20 05.0**	**+0.4**
	0.6nm,0.8s,baz=79,slow=9.0,SNR=3.4						
ILAR	**Eielson Array**	**45.44**	**35**	P	**P**	**05 20 28.0**	**-1.3**
	1.0nm,1.1s,baz=266,slow=7.2,SNR=4.6						
WRA	**Warramunga Arr**	**61.60**	**188**	P	**P**	**05 22 28.0**	**0.0**
	0.4nm,0.9s,baz=7.0,slow=7.6,SNR=2.9						
FINES	**FINESS Array B**	**65.08**	**332**	P	**P**	**05 22 50.4**	**-0.1**
	0.6nm,0.6s,baz=35,slow=7.6,SNR=4.3						
NOA	**NORSAR Array B**	**70.23**	**337**	P	**P**	**05 23 22.0**	**-1.1**
	0.4nm,0.8s,baz=35,slow=4.3,SNR=2.8						
AKASG	**Malin Array Be**	**71.06**	**322**	P	**P**	**05 23 28.4**	**+0.2**
	0.3nm,0.5s,baz=37,slow=6.1,SNR=2.4						

IDC 07 05:21:03.2±2.1**, 7°.39S**×**127°.79E, h0**km**, mb3.6**/2**, mb1 3.5**/4**, mb1mx3.4**/28**, mbtmp3.4**/4**, ML2.8**/2**, Error ellipse: s-maj=310.1km s-min=30.4km az=65.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.00**	**154**	Pn	Pn	05 24 21.9	-1.1
	0.0nm,0.3s,baz=326,slow=12,SNR=3.2						
WRA				Sn	Sn	05 26 48.6	-11
	0.1nm,0.3s,baz=332,slow=23,SNR=4.5						
ASAR	**Alice Springs**	**17.21**	**161**	P	P	05 25 06.2	-0.7
	0.1nm,0.3s,baz=347,slow=12,SNR=4.6						
MKAR	**Makanchi Array**	**67.37**	**328**	P	P	05 32 00.0	-0.3
	0.4nm,0.7s,baz=124,slow=7.6,SNR=4.3						
KURBB	**Kurchatov Arra**	**71.71**	**329**	P	P	05 32 27.4	+0.3
	0.3nm,0.3s,baz=123,slow=6.9,SNR=3.1						

*MAN **07** 05:22:56.0, 9°.98N×126°.01E, h15km, mb4.6, ML3.5, MS3.4*
*IDC **07** 05:23:28.4±3.4, 5°.43N×126°.76E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/39, mbtmp3.2/3, Error ellipse: s-maj=300.5km s-min=30.2km az=66.0*
ISC 07 05:22:57.2±1.2**, 9°.97N**±0°.05×**126°.0E**±0°.1**, h62**km±12km**, n11, σ1§97**/18**, 2C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.51**	**248**⇓	*e*P	**Pn**	**05 23 08.1**	**-1.3**
SCPH				*e*S	**Sn**	**05 23 17.9**	**-0.4**
BUTP	**Butuan**	**1.05**	**199**	*e*P	**Pn**	**05 23 14.8**	**-1.2**
BUTP				*e*S	**Sn**	**05 23 32.2**	**+2.2**
MSLP	**Maasin**	**1.10**	**278**	*e*P	**Pn**	**05 23 16.5**	**-0.2**
MSLP				*e*S	**Sn**	**05 23 32.8**	**+1.6**
PLP	**Palo**	**1.53**	**321**⇑	*e*P	**Pn**	**05 23 22.5**	**+0.1**
PLP				*e*S	**Sn**	**05 23 44.5**	**+3.1**
BESP	**Borongan**	**1.70**	**342**	*e*P	**Pn**	**05 23 24.6**	**-0.1**
BESP				*e*S	**Sn**	**05 23 47.4**	**+1.9**
BIPH	**Bislig**	**1.82**	**168**⇓	*i*P	**Pn**	**05 23 28.9**	**+2.6**
BIPH				*i* S	**Sn**	**05 23 49.3**	**+1.0**
BUKP	**Musuan**	**2.26**	**203**	*e*P	**Pn**	**05 23 34.1**	**+1.7**
BUKP				*e*S	**Sn**	**05 24 01.4**	**+2.2**
RCP	**Roxas**	**3.54**	**297**⇑	*e*P	**Pn**	**05 23 52.0**	**+2.2**
WRA	**Warramunga Arr**	**30.85**	**165**	P	**P**	**05 29 05.9**	**-1.9**
	0.4nm,0.9s,baz=344,slow=9.3,SNR=1.4						
ASAR	**Alice Springs**	**34.32**	**167**	P	**P**	**05 29 36.8**	**-1.3**
	0.2nm,0.3s,baz=344,slow=7.6,SNR=4.9						
MKAR	**Makanchi Array**	**52.08**	**323**	P	**PcP**	**05 33 10.3**	**-2.1**
	0.1nm,0.5s,baz=119,slow=8.9,SNR=1.5						

*ISCJB **07** 05:31:31.0±0.7, 17°.8S±0°.2×178°.7W±0°.2, h579km, mb3.7/12, Error ellipse: s-maj=29.7km s-min=13.7km az=145.9*
*IDC **07** 05:31:34.1±4.1, 17°.80S×178°.75W, h603km±50km, mb3.1/11, mb1 3.4/12, mb1mx3.2/41, mbtmp4.1/12, Error ellipse: s-maj=24.9km s-min=19.8km az=132.0*
ISC 07 05:31:32.0±0.8**, 17°.8S**±0°.2×**178°.7W**±0°.2**, h579**km**, n14, σ0§94**/16**, mb3.5**/12**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.65**	**251**	P	**P**	**05 34 39.1**	**+1.4**
	1.0nm,0.3s,baz=168,slow=21,SNR=10						
CTA	**Charters Tower**	**33.24**	**260**	P	**P**	**05 37 22.1**	**-0.6**
	5.1nm,0.8s,baz=76,slow=6.4,SNR=4.0						
STKA	**Stephens Creek**	**38.49**	**241**	P	**P**	**05 38 05.8**	**+0.1**
	7.1nm,0.5s,baz=94,slow=11,SNR=26						
WRA	**Warramunga Arr**	**44.43**	**259**	P	**P**	**05 38 51.9**	**-0.9**
	2.7nm,0.5s,baz=92,slow=7.0,SNR=74						
WRA				PcP	**PcP**	**05 40 23.7**	**0.0**
	0.7nm,0.7s,baz=95,slow=3.1,SNR=3.8						
ASAR	**Alice Springs**	**44.61**	**254**	P	**P**	**05 38 53.9**	**-0.2**
	42nm,0.5s,baz=89,slow=8.2,SNR=558						
ASAR				PcP	**PcP**	**05 40 23.1**	**-1.2**
	1.1nm,0.6s,baz=103,slow=3.9,SNR=4.6						
VNDA	**Vanda**	**60.56**	**185**	P	**P**	**05 40 46.8**	**+0.1**
	0.3nm,0.6s,baz=356,slow=6.8,SNR=3.9						
KSRS	**Korea Array**	**74.45**	**318**	P	**P**	**05 42 13.1**	**+1.1**
	0.6nm,0.4s,baz=125,slow=5.2,SNR=2.7						
NVAR	**Mina Array Bea**	**79.48**	**44**	P	**P**	**05 42 40.4**	**+0.7**
	0.8nm,0.7s,baz=223,slow=5.4,SNR=5.3						
ILAR	**Eielson Array**	**85.81**	**13**	P	**P**	**05 43 10.0**	**-0.4**
	0.4nm,0.4s,baz=222,slow=4.8,SNR=13						
TXAR	**Lajitas Array**	**86.12**	**58**	P	**P**	**05 43 13.6**	**+0.7**
	0.8nm,0.8s,baz=220,slow=6.1,SNR=8.3						
PDAR	**Pinedale Array**	**87.41**	**44**	P	**P**	**05 43 19.5**	**+0.7**
	0.5nm,0.6s,baz=229,slow=3.7,SNR=6.4						
INK	**Inuvik**	**91.82**	**15**	P	**P**	**05 43 37.7**	**-0.6**
	1.1nm,0.9s,baz=271,slow=30,SNR=6.9						
YKA	**Yellowknife Ar**	**94.31**	**25**	P	**P**	**05 43 49.1**	**-0.7**
	0.1nm,0.7s,baz=248,slow=3.3,SNR=3.1						
BRTR	**Keskin Array B**	**144.53**	**315**	PKP	**PKPdf**	**05 50 01.8**	**-1.8**
	1.1nm,0.9s,baz=54,slow=2.5,SNR=3.6						

*IDC **07** 05:32:41.3±0.6, 28°.19N×94°.21E, h0km, mb3.7/19, mb1 3.9/20, mb1mx3.8/58, mbtmp3.8/20, ML4.5/2, MS3.2/5, Ms1 3.3/5, ms1mx2.8/44, Error ellipse: s-maj=20.3km s-min=12.5km az=50.0*
*NEIC **07** 05:32:42.8±0.3, 28°.22N×94°.24E, h10km, mb4.2/10, Error ellipse: s-maj=7.4km s-min=4.6km az=64.0*
NEIC Felt at Dibrugarh and Ziro.
*BJI **07** 05:32:42.5, 27°.99N×94°.34E, h15km, mb4.3/12, mB4.4/4, ML4.0/4, Ms3.8/11, Ms7 3.6/12*
*NDI **07** 05:32:43.3±2.4, 28°.30N×94°.24E, h10km, ML4.3, mb4.2(NEIC)*
*ISCJB **07** 05:32:45.0±0.5, 28°.24N±0°.03×94°.15E±0°.02, h40km±6km, mb3.9/23, MS3.3/4, Error ellipse: s-maj=5.7km s-min=3.4km az=10.6*
ISC 07 05:32:45.4±0.8**, 28°.21N**±0°.04×**94°.13E**±0°.03**, h26**km±6km**, n93, σ1§42**/114**, mb3.8**/23**, MS3.4**/4**, 1C, Eastern Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZIRO	**ZIRO**	**0.72**	**200**	*e*P	**Pb**	**05 32 59.0**	**-0.5**
ZIRO				*e*S	**Sn**	**05 33 10.3**	**0.0**
DIBR	**DIBRUGARH**	**1.01**	**137**	*e*P	**Pn**	**05 33 02.8**	**-1.1**
DIBR				*e*S	**Sb**	**05 33 17.0**	**-0.2**
JORH	**JORHAT**	**1.46**	**176**	*e*P	**Pb**	**05 33 12.0**	**+0.1**
JORH				*e*S	**Sb**	**05 33 32.3**	**+2.2**
JORH				IAML		05 33 35.6	
	comp=N,13μm,0.2s						
JORH				IAML		05 33 35.6	
	comp=E,12μm,0.2s						
LKP	**Lekhapani**	**1.75**	**119**	*e*P	**Pn**	**05 33 13.7**	**-0.4**
LKP				*e*S	**Sn**	**05 33 35.0**	**-0.6**
MOKO	**MOKOCHONG**	**1.91**	**169**	*e*P	**Pn**	**05 33 17.3**	**+0.9**
MOKO				*e*S	**Sb**	**05 33 43.5**	**+0.4**
MOKO				IAML		05 33 47.6	
	comp=N,8μm,0.4s						
MOKO				IAML		05 33 48.7	
	comp=E,9μm,0.3s						
TEZP	**TEZPUR**	**1.98**	**217**	*e*P	**Pb**	**05 33 20.8**	**+0.1**
TEZP				*e*S	**Sb**	**05 33 46.7**	**+1.8**
TAWA	**Tawang**	**2.09**	**254**	*e*P	**Pn**	**05 33 21.1**	**+2.0**
KOHI	**KOHIMA**	**2.48**	**180**	*e*P	**Pn**	**05 33 24.9**	**+0.7**
KOHI				*e*S	**Sb**	**05 33 56.9**	**-2.6**
KOHI				IAML		05 34 07.5	
	comp=N,2μm,0.2s						
KOHI				IAML		05 34 07.7	
	comp=E,2μm,0.3s						
GUWA	**GUWAHATI**	**2.96**	**228**	*e*P	**Pn**	**05 33 33.8**	**+3.2**
GUWA				*e*S	**Sn**	**05 34 08.4**	**+3.1**
LSA	**Lhasa**	**3.00**	**300**	*e*Pn	**Pn**	**05 33 32.6**	**+0.9**
LSA				*e*Sn	**Sn**	**05 34 10.3**	**+3.2**
SHL	**Shillong**	**3.31**	**218**	*e*Pn	**Pn**	**05 33 36.9**	**+1.2**
SHL				*e*Sn	**Sn**	**05 34 16.4**	**+2.2**
SHL	**Shillong**	**3.31**	**218**	*e*P	**Pn**	**05 33 38.3**	**+2.7**
SHL				*e*S	**Sn**	**05 34 15.0**	**+0.8**
IMP	**Imphal**	**3.37**	**183**	*e*P	**Pn**	**05 33 37.2**	**+0.9**
GTK	**Tadong**	**4.97**	**261**	*e*P	**Pn**	**05 33 58.1**	**-0.4**
AGT	**Agartala**	**5.02**	**212**	*e*S	**Sn**	**05 34 56.5**	**+0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SAIH	**SAIHA**	**5.79**	**191**	eP	**Pn**	**05 34 11.0**	**+1.3**
SAIH				eS	**Sn**	**05 35 13.4**	**-1.9**
SAIH				IAML		05 35 24.2	
	comp=N,111nm,0.4s						
SAIH				IAML		05 35 24.9	
	comp=E,152nm,0.3s						
BRDH	**Bariadhala**	**5.95**	**203**	Pn	**Pn**	**05 34 09.4**	**-2.3**
	comp=E,24nm,0.3s,baz=252,slow=18,SNR=2.0						
BRDH				Sn	**Sn**	**05 35 18.7**	**-0.4**
	comp=E,50nm,0.3s,baz=194,slow=20,SNR=4.1						
BRDH				Lg	Lg	05 35 40.4	
	comp=E,58nm,0.3s,baz=110,slow=24,SNR=8.6						
ODAN	**Odare**	**6.13**	**259**	ePn	**Pn**	**05 34 16.9**	**+2.4**
ODAN				eSn	**Sn**	**05 35 26.8**	**+2.9**
	comp=E,128nm,0.3s						
RAMN	**Ramite**	**6.80**	**261**	ePn	**Pn**	**05 34 25.6**	**+1.9**
RAMN				eSn	**Sn**	**05 35 42.8**	**+2.4**
	comp=E,122nm,0.3s						
JIRN	**Jiri**	**7.04**	**267**	ePn	**Pn**	**05 34 28.8**	**+1.6**
JIRN				eSn	**Sn**	**05 35 47.4**	**+0.8**
GUN	**Gumba**	**7.29**	**270**	ePn	**Pn**	**05 34 31.8**	**+1.2**
PKIN	**Phulchoki**	**7.75**	**267**	ePn	**Pn**	**05 34 37.8**	**+1.0**
PKIN				eSn	**Sn**	**05 36 03.3**	**-0.6**
	comp=E,37nm,0.2s						
KKN	**Kakani**	**7.83**	**269**	ePn	**Pn**	**05 34 39.1**	**+1.2**
KKN				eSn	**Sn**	**05 36 06.2**	**+0.4**
	comp=E,43nm,0.2s						
DMN	**Daman**	**8.00**	**268**	ePn	**Pn**	**05 34 41.4**	**+1.1**
DMN				eSn	**Sn**	**05 36 10.0**	**-0.1**
	comp=E,37nm,0.4s						
KMI	**Kunming**	**8.29**	**110**	P	**Pn**	**05 34 45.3**	**+1.1**
KMI				pmax	pmax		
	comp=E,88nm,4.9s						
KMI				LR	LR		
	comp=E,350nm,4.2s						
KMI				LR	LR		
	comp=E,220nm,3.8s						
KMI				LR	LR		
	comp=E,440nm,12.3s						
DANN	**Dangsing**	**9.14**	**273**	ePn	**Pn**	**05 34 56.6**	**+0.7**
DANN				eSn	**Sn**	**05 36 35.0**	**-3.1**
	comp=E,40nm,0.3s						
KOLN	**Koldanda**	**9.32**	**270**	ePn	**Pn**	**05 34 58.8**	**+0.6**
KOLN				eSn	**Sn**	**05 36 40.2**	**-2.1**
	comp=E,18nm,0.2s						
PYUN	**Piuthan**	**9.83**	**272**	ePn	**Pn**	**05 35 05.0**	**-0.3**
PYUN				eSn	**Sn**	**05 36 52.1**	**-2.8**
	comp=E,47nm,0.4s						
CHTO	**Chiang Mai**	**10.34**	**154**	ePn	**Pn**	**05 35 11.4**	**-0.7**
CHTO	**Chiang Mai**	**10.34**	**154**	P	Pn	05 35 19.8	+7.7
	comp=E,34nm,1.7s						
CMMT	**Chiang Mai**	**10.34**	**154**	P	Pn	05 35 19.7	+7.6
	comp=E,7.2nm,2.1s						
CM31	**Chiang Mai Arr**	**10.66**	**154**	ePn	**Pn**	**05 35 15.0**	**-1.5**
CMAR	**Chiang Mai Arr**	**10.66**	**154**	Pn	**Pn**	**05 35 16.3**	**-0.2**
	comp=E,0.7nm,0.3s,baz=327,slow=12,SNR=11						
CMAR				LR	LR	05 39 56.4	
	comp=E,78nm,19.2s,baz=360,slow=41						
CM01	**Chiang Mai Arr**	**10.70**	**154**	ePn	**Pn**	**05 35 16.0**	**-1.1**
GYA	**Guiyang**	**11.28**	**96**	⇑iP	**Pn**	**05 35 26.4**	**+1.3**
GYA				PP	**PnPn**	**05 35 35.0**	**+2.2**
GYA				S	**Sn**	**05 37 31.2**	**+0.8**
GYA				SS	**SnSn**	**05 37 45.5**	**+3.2**
GYA				LR	LR		
	comp=E,320nm,15.0s						
GYA				LR	LR		
	comp=E,310nm,13.6s						
GYA				LR	LR		
	comp=E,210nm,14.6s						
GTA	**Gaotai**	**12.13**	**21**	eP	P	05 35 43.0	-6.1
GTA				pP	Pn	05 35 47.4	+11
GTA				sP		05 35 50.0	
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GTA	**Gaotai**	**12.13**	**21**	eP	**Pn**	**05 35 37.6**	**+1.0**
GTA				pP	P	05 35 42.2	-6.9
GTA				sP		05 35 44.6	
GTA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
JBP	**Jabalpur**	**13.70**	**252**	ex	**S**	**05 38 47.2**	**-4.5**
XAN	**Xi'an**	**13.94**	**62**	P	**Pn**	**05 35 59.9**	**-1.3**
XAN				pP	P	05 36 06.7	-2.4
XAN				LR	LR		
	comp=Z,160nm,11.3s						
XAN				LR	LR		
	comp=Z,200nm,14.1s						
NGP	**Nagpur**	**15.39**	**246**	eP	**Pn**	**05 36 19.4**	**-1.5**
NGP				eS	Sn	05 38 58.5	-12
WMQ	**Urumqi**	**16.42**	**343**	eP	**P**	**05 36 37.8**	**+1.2**
WMQ				pP	Pn	05 36 39.2	+5.2
WMQ				sP	pP	05 36 42.2	-1.9
WMQ				PP	**sP**	**05 36 46.9**	**-0.9**
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
WMQ				LR	LR		
	comp=Z,66nm,14.1s						
WMQ				LR	LR		
	comp=Z,100nm,17.9s						
WMQ				LR	LR		
	comp=Z,60nm,17.1s						
NIL	**Nilore**	**18.70**	**292**	eP	**P**	**05 37 00.8**	**-1.0**
	comp=Z,5.3nm,0.8s						
KSH	**Kashi**	**18.79**	**312**	P	**Pn**	**05 37 04.1**	**+0.6**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.3s						
HHC	**Hu-ho-hao-te**	**19.07**	**44**	eP	**P**	**05 37 06.3**	**+0.3**
HHC				pmax	pmax		
	comp=Z,19nm,1.1s						
MK01	**Makanchi Array**	**20.73**	**337**	eP	**P**	**05 37 23.1**	**-0.7**
MK31	**Makanchi Array**	**20.75**	**337**	eP	**P**	**05 37 23.4**	**-0.7**
MK32	**Makanchi Array**	**20.75**	**337**	eP	**P**	**05 37 24.0**	**-0.1**
MKAR	**Makanchi Array**	**20.75**	**337**	P	**P**	**05 37 24.0**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=142,slow=13,SNR=14						
MKAR	**Makanchi Array**	**20.75**	**337**	eP	**P**	**05 37 23.6**	**-0.5**
	comp=Z,18nm,0.3s						
MAKZ	**Makanchi**	**20.87**	**336**	eP	**P**	**05 37 25.2**	**-0.2**
	comp=Z,2.6nm,0.8s						
AAK	**Ala-Archa**	**21.45**	**317**	P	**P**	**05 37 32.8**	**+1.0**
	comp=Z,1.0nm,0.4s,baz=153,slow=9.0,SNR=3.7						
AAK	**Ala-Archa**	**21.45**	**317**	eP	**P**	**05 37 32.8**	**+1.0**
	comp=Z,7.0nm,1.0s						
SONA0	**Songino Array**	**21.80**	**23**	eP	**P**	**05 37 34.1**	**-1.4**
SONM	**Songino Array**	**21.80**	**23**	P	**P**	**05 37 34.1**	**-1.4**
	comp=Z,2.2nm,0.6s,baz=207,slow=12,SNR=12						
SONA1	**Songino Array**	**21.81**	**23**	eP	**P**	**05 37 33.7**	**-1.9**
ULN	**Ulaanbaatar**	**22.05**	**24**	eP	**P**	**05 37 36.5**	**-1.7**
	comp=Z,5.1nm,0.9s						
KBL	**Kabul**	**22.30**	**293**	eP	**P**	**05 37 42.7**	**+1.6**
	comp=Z,11nm,0.6s						
GAR	**Garm**	**22.50**	**305**	eP	**P**	**05 37 44.2**	**+1.1**
BTK	**Batken**	**22.56**	**308**	eP	**P**	**05 37 44.7**	**+1.1**
	comp=Z,7.7nm,0.8s						
CHGR	**Chuyangaron**	**23.23**	**303**	eP	**P**	**05 37 50.4**	**-0.2**
KURBB	**Kurchatov Arra**	**25.32**	**336**	P	**P**	**05 38 10.2**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=147,slow=9.4,SNR=12						
KURK	**Kurchatov**	**25.36**	**337**	eP	**P**	**05 38 10.2**	**0.0**
ZALV	**Zalesovo Beam**	**26.61**	**348**	P	**P**	**05 38 22.5**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=163,slow=10,SNR=2.7						
ZALV	**Zalesovo Beam**	**26.61**	**348**	eP	**P**	**05 38 22.0**	**+0.6**
ZAA1	**Zalesovo Array**	**26.61**	**348**	eP	**P**	**05 38 22.5**	**+1.0**
KSRS	**Korea Array**	**29.73**	**63**	P	**P**	**05 38 47.4**	**-2.0**
	comp=Z,0.5nm,0.4s,baz=254,slow=7.5,SNR=3.2						
KSRS				LR	LR	05 52 11.4	
	comp=Z,19nm,18.5s,baz=276,slow=40						
KKM	**Kota Kinabalu**	**30.40**	**132**	eP	**P**	**05 38 55.3**	**-0.4**
	comp=Z,6.4nm,1.1s						
JNU	**Nakatsue**	**31.88**	**72**	LR	LR	05 53 26.8	
	comp=Z,88nm,21.8s,baz=106,slow=39						
ABKAR	**Akbulak array**	**33.53**	**318**	eP	**P**	**05 39 23.4**	**+0.6**
KLR	**Kul'dur**	**35.58**	**43**	LR	LR	05 55 47.6	
	comp=Z,71nm,19.2s,baz=84,slow=39						
MAJO	**Matsushiro**	**37.88**	**66**	eP	**P**	**05 40 00.4**	**+0.1**
MJAR	**Matsushiro Arr**	**37.88**	**66**	P	**P**	**05 40 00.4**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=265,slow=7.2,SNR=3.0						
BR101	**Keskin Array S**	**50.61**	**300**	eP	**P**	**05 41 43.4**	**+1.1**
BRTR	**Keskin Array B**	**50.61**	**300**	P	**P**	**05 41 43.4**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=106,slow=6.5,SNR=3.5						
AKASG	**Malin Array Be**	**53.06**	**314**	P	**P**	**05 41 59.9**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=80,slow=6.2,SNR=3.3						
FIA0	**FINESS Array S**	**55.19**	**327**	eP	**P**	**05 42 16.4**	**+0.8**
FINES	**FINESS Array B**	**55.19**	**327**	P	**P**	**05 42 16.4**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=64,slow=4.4,SNR=6.5						
WR1	**Warramunga Arr**	**61.66**	**136**	eP	**P**	**05 43 00.9**	**-0.4**
	comp=Z,6.3nm,0.8s						
WRA	**Warramunga Arr**	**61.66**	**136**	P	**P**	**05 43 00.9**	**-0.4**
	comp=Z,4.1nm,0.7s,baz=325,slow=7.5,SNR=32						
NB2	**NORSAR Subarra**	**62.37**	**327**	P	**P**	**05 43 05.5**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=82,slow=6.5						
NB200	**NORSAR Array S**	**62.37**	**327**	eP	**P**	**05 43 05.8**	**+0.3**
NOA	**NORSAR Array B**	**62.37**	**327**	P	**P**	**05 43 05.8**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=82,slow=6.4,SNR=4.0						
NOA				LR	LR	06 12 23.7	
	comp=Z,27nm,18.0s,baz=340,slow=38						
GEC2	**GERESS Array S**	**63.26**	**313**	eP	**P**	**05 43 12.5**	**+0.8**
	comp=Z,1.5nm,0.8s						
GERES	**GERESS Array B**	**63.26**	**313**	P	**P**	**05 43 12.5**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=79,slow=5.1,SNR=3.7						
ASAR	**Alice Springs**	**64.26**	**139**	P	**P**	**05 43 18.6**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=325,slow=6.8,SNR=18						
CTA	**Charters Tower**	**69.59**	**128**	P	**P**	**05 43 52.0**	**-0.5**
	comp=Z,2.7nm,0.7s,baz=284,slow=19,SNR=2.8						
ILAR	**Eielson Array**	**76.02**	**23**	P	**P**	**05 44 30.2**	**+0.2**
	comp=Z,0.4nm,1.0s,baz=292,slow=5.1,SNR=2.7						
ESDC	**Sonseca Array**	**78.28**	**309**	P	**P**	**05 44 43.8**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=52,slow=4.0,SNR=2.7						
TOA1	**Torodi Ar. Sit**	**86.00**	**283**	eP	**P**	**05 45 22.8**	**-1.2**
TORD	**Torodi Ar. Bea**	**86.00**	**283**	P	**P**	**05 45 22.8**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=72,slow=3.8,SNR=4.9						
YKA	**Yellowknife Ar**	**86.72**	**13**	P	**P**	**05 45 26.3**	**-0.4**
	comp=Z,0.1nm,0.6s,baz=334,slow=4.7,SNR=4.1						
YKB5	**Yellowknife Ar**	**86.72**	**13**	eP	**P**	**05 45 26.2**	**-0.5**
LPAZ	**La Paz**	**159.77**	**302**	PKP	**PKPdf**	**05 52 42.7**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=47,slow=3.9,SNR=1.9						

DJA 07 05:35:51.4±0.8**,9°S**±14°×**11°0E**±°**,h54**km±41km**,M3.6**/7**,**
MLv3.6/7**,Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.19**	**49**	P	Pn	05 36 11.6	-0.2
UGM				S	Sn	05 36 27.8	+0.8
CMJI	**Cimerak**	**1.47**	**308**	P	Pn	05 36 15.8	+0.2
WOJI	**Wonogiri, Jawa**	**1.55**	**56**	P	Pn	05 36 16.8	+0.2
WOJI				S	Sn	05 36 36.0	+0.3
PCJI	**Pacitan**	**1.62**	**72**	P	Pn	05 36 17.3	-0.3
SMRI	**Semarang**	**1.83**	**26**	P	Pn	05 36 20.2	-0.3
CISI	**Cisompet, Garu**	**2.12**	**302**	P	Pn	05 36 24.7	+0.2
CISI				S	Sn	05 36 49.8	+0.1
NGJI	**Ngawi**	**2.25**	**54**	P	Pn	05 36 26.4	+0.1
PWJI	**Pagerwojo**	**2.26**	**73**	P	Pn	05 36 25.4	-1.0

IDC 07 05:38:08.0±1.4**,3°.93S**×**136°.75E,h0**km**,mb3.5**/2**,**
mb1 3.8/5**,mb1mx3.6**/33**,mbtmp3.7**/5**,ML3.7**/3**,Error ellipse: s-maj=41.6km s-min=28.8km az=90.0,Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.19**	**71**	Pn	Pn	05 39 13.6	+0.3
	1.0nm,0.3s,baz=258,slow=19,SNR=6.1						
JAY				Sn	Sn	05 39 53.2	-10
	1.5nm,0.3s,baz=95,slow=21,SNR=1.5						
WRA	**Warramunga Arr**	**16.09**	**188**	Pn	Pn	05 41 56.9	+1.1
	0.5nm,0.3s,baz=12,slow=12,SNR=20						
ASAR	**Alice Springs**	**19.82**	**188**	P	P	05 42 39.9	-0.5
	0.5nm,0.3s,baz=16,slow=10,SNR=20						
MKAR	**Makanchi Array**	**69.57**	**323**	P	P	05 49 19.3	+0.4
	0.1nm,0.4s,baz=121,slow=5.1,SNR=2.3						
BVAR	**Borovoye Array**	**79.19**	**326**	P	P	05 50 14.5	-0.3
	0.4nm,0.6s,baz=103,slow=6.2						

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*SJA **07** 05:49:29.6±0.4, 32°.89S×71°.97W, h2km±6km, ML3.2, MW3.4*
*GUC **07** 05:49:31.0±0.5, 32°.82S×71°.92W, h41km±3km, ML3.6*
ISC 07 05:49:28.6±2.4**,32°.87S**±0°.07×**72°.0W**±0°.1**,h4**km±14km**,n20,**
σ**1s.36**/27**,4C-3D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.86**	**97**	eP	**Pb**	**05 49 46.2**	**-0.1**
ROC1				eS	**Sb**	**05 49 58.9**	**+0.6**
ROCH	**El Roble**	**0.87**	**97**	⇓iP	**Pn**	**05 49 46.8**	**-1.0**
ROCH				i S	**Sb**	**05 49 59.0**	**+0.6**
ROCH				IAML		05 50 00.2	
	comp=E,2µm,0.6s						
PEL	**Peldehue**	**1.17**	**104**	eP	**Pg**	**05 49 51.8**	**+0.9**
PEL				eS	**Sn**	**05 50 08.4**	**+0.3**
PEL	**Peldehue**	**1.17**	**104**	⇑iP	**Pg**	**05 49 51.6**	**+0.7**
PEL				i S	**Sb**	**05 50 06.6**	**-0.2**
PEL				IAML		05 50 14.3	
	comp=N,2µm,0.3s						
CLCH	**Cerro Calan**	**1.36**	**113**	⇓iP	**Pg**	**05 49 54.7**	**0.0**
CLCH				i S	**Sg**	**05 50 12.7**	**+0.3**
CLCH				IAML		05 50 18.9	
	comp=E,1µm,0.4s						
FCH	**Farellones**	**1.53**	**108**	⇓iP	**Pb**	**05 49 57.5**	**-0.2**
FCH				i S	**Sb**	**05 50 17.9**	**+0.3**
FCH				IAML		05 50 23.4	
	comp=N,995nm,0.3s						
LMEL	**Las Melosas**	**1.82**	**123**	⇑iP	**Pb**	**05 50 01.6**	**-0.9**
LMEL				i S	**Sb**	**05 50 25.1**	**-0.6**
LMEL				IAML		05 50 30.8	
	comp=N,1µm,0.2s						
CMCH	**Combarbala**	**1.91**	**28**	eP	**Pb**	**05 50 03.1**	**-0.8**
AUSP	**Uspallata**	**2.33**	**75**	eP	**Pb**	**05 50 11.6**	**+0.4**
AUSP				eS	**Sb**	**05 50 42.3**	**+1.8**
RTLS	**Leoncito**	**2.55**	**66**	eP	**Pb**	**05 50 14.9**	**-0.2**
RTLS				IAML		05 51 04.6	
	comp=Z,92nm,0.3s						
ARCO	**CERRO ARCO**	**2.61**	**90**	eP	**Pb**	**05 50 14.9**	**-1.1**
ARCO				IAML		05 50 19.5	
	comp=Z,154nm,0.3s						
AAGR	**Agrelo**	**2.70**	**95**	eP	**Pb**	**05 50 16.3**	**-1.3**
ASAL	**Salagasta**	**2.71**	**85**	eP	**Pb**	**05 50 16.0**	**-1.7**
GO04	**Tololo Observa**	**2.89**	**22**	⇑iP	**Pn**	**05 50 16.9**	**+1.3**
GO04				IAML		05 51 07.4	
	comp=E,867nm,0.4s						
LSCH	**La Serena**	**3.03**	**13**	eP	**Pn**	**05 50 18.0**	**+0.7**
RTCV	**Cerro Valdivia**	**3.12**	**72**	eP	**Pb**	**05 50 22.3**	**-2.3**
AROD	**Rodeo**	**3.47**	**40**	eP	**Pb**	**05 50 28.3**	**-2.5**
AMOG	**MOGNA**	**3.57**	**58**	eP	**Pb**	**05 50 28.7**	**-3.7**
LCO	**Las Campanas**	**4.01**	**17**	⇑iP	**Pn**	**05 50 32.0**	**+0.9**
LCO				IAML		05 51 42.8	
	comp=E,92nm,0.3s						
AGUA	**GUANDACOL**	**4.54**	**43**	eP	Pn	05 50 42.8	+4.6

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*NIED **07** 05:55:00, 35°.70N×141°.10E, h8km, Mw3.6 Best double couple: M0 3.29000×10^14 NP1:φs146.00000°, δ43.00000°, λ-119.00000°. NP2:φs4.00000°, δ54.00000°, λ-65.00000°.*
*ISCJB **07** 05:55:30.8±1.1, 35°.74N±0°.04×141°.12E±0°.06, h9km±5km, mb3.4/4, Error ellipse: s-maj=8.7km s-min=6.5km az=158.5*
*JMA **07** 05:55:32.6±0.2, 35°.72N×141°.01E, h13km±1km, M3.8*
JMA Felt I J1.
*IDC **07** 05:55:39.5±2.6, 35°.74N×140°.52E, h81km±24km, mb3.1/4, mb1 3.3/6, mb1mx3.1/39, mbtmp3.4/6, MS2.2/2, Ms1 2.2/2, ms1mx2.1/13, Error ellipse: s-maj=33.6km s-min=20.2km az=71.0*
ISC 07 05:55:31.4±1.3**,35°.74N**±0°.04×**141°.05E**±0°.07**,h17**km±7km**,**
n18,σ**1s.02**/25**,mb3.4**/4**,2C-1D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.16**	**256**	⇑P	**Pg**	**05 55 35.8**	**+0.1**
CHOJ				S	**Sg**	**05 55 37.9**	**-0.6**
JIHU	**Itakohorinouch**	**0.48**	**298**	P	**Pb**	**05 55 42.3**	**+0.9**
JIHU				S	**Sb**	**05 55 48.9**	**+0.7**
JSMT	**Sammumatsuo**	**0.50**	**259**	P	**Pg**	**05 55 41.8**	**+0.4**
JSMT				S	**Sb**	**05 55 49.5**	**+0.8**
JHYU	**Hitachinakayam**	**0.71**	**328**	P	**Pn**	**05 55 46.5**	**-0.1**
JHYU				S	**Sb**	**05 55 55.9**	**+1.2**
JCN	**Nagara**	**0.76**	**245**	⇑P	**Pn**	**05 55 47.3**	**-0.1**
JCN				S	**Sb**	**05 55 57.9**	**+1.6**
JYT	**Yasato**	**0.85**	**305**	P	**Pg**	**05 55 47.9**	**0.0**
JYT				S	**Sb**	**05 55 58.7**	**-0.1**
BSO4	**Boso 4**	**0.95**	**218**	P	**Pn**	**05 55 50.7**	**+0.8**
JHO	**Hitachi**	**0.95**	**336**	⇓P	**Pn**	**05 55 50.1**	**+0.1**
BSO3	**Boso 3**	**1.04**	**205**	P	**Pn**	**05 55 51.3**	**+0.4**
BSO1	**Boso 1**	**1.09**	**183**	P	**Pn**	**05 55 51.1**	**-0.3**
MJAR	**Matsushiro Arr**	**2.43**	**290**	P	**Pn**	**05 56 10.9**	**+0.4**
	4.2nm,0.3s,baz=116,slow=3.7,SNR=16						
MJAR				LR	LR	05 56 39.8	
	comp=Z,34nm,20.1s,baz=110,slow=30						
MJAR				S	**Sb**	**05 56 43.3**	**-1.3**
	7.4nm,0.3s,baz=128,slow=14,SNR=5.0						
MAT	**Matsushiro**	**2.44**	**290**	P	**Pn**	**05 56 11.5**	**+1.0**
MAT				eS	**Sb**	**05 56 44.1**	**-0.5**
JHJ	**Hachijo jima 2**	**2.82**	**202**	P	**Pb**	**05 56 21.2**	**-0.1**
	11nm,0.3s,baz=17,slow=11,SNR=1.5						
KSRS	**Korea Array**	**10.69**	**283**	LR	LR	06 02 12.0	
	comp=Z,17nm,18.1s,baz=52,slow=38						
SONM	**Songino Array**	**28.29**	**306**	P	**P**	**06 01 22.8**	**-1.2**
	0.1nm,0.3s,baz=111,slow=8.2,SNR=2.2						
MKAR	**Makanchi Array**	**44.57**	**303**	P	**P**	**06 03 40.2**	**-2.2**
	0.5nm,0.6s,baz=89,slow=8.5,SNR=6.1						
ILAR	**Eielson Array**	**50.74**	**32**	P	**P**	**06 04 32.3**	**+2.3**
	0.4nm,1.1s,baz=266,slow=6.1,SNR=2.8						
WRA	**Warramunga Arr**	**55.74**	**188**	P	**P**	**06 05 07.1**	**-0.2**
	0.7nm,0.8s,baz=2.2,slow=7.0,SNR=6.8						

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*DDA **07** 05:56:46.3, 35°.72N×28°.09E, h12km±1km, ML3.4*
*ATH **07** 05:56:47.8, 35°.81N×28°.26E, h12km±4km, ML2.4/1, Error ellipse: s-maj=10.7km s-min=1.7km az=294.0*
*ISK **07** 05:56:47.9, 35°.89N×28°.18E, h5km, ML2.9/15*
ISC 07 05:56:47.7±1.3**,35°.80N**±0°.04×**28°.17E**±0°.03**,h7**km±11km**,**
n36,σ**1s.28**/45**,Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.42**	**355**	PG	**Pg**	**05 56 54.7**	**-1.2**
ARG				SG	**Sg**	**05 57 01.4**	**0.0**
ARG	**Arkhangelos**	**0.42**	**355**	P	**Pg**	**05 56 56.1**	**+0.2**
ARG				S	**Sg**	**05 57 02.2**	**+0.8**
ARG				AML	AML	05 57 03.9	
	comp=N,1349µm,0.2s						
ARG				AML	AML	05 57 06.3	
	comp=E,1468µm,0.2s						
ARG	**Arkhangelos**	**0.42**	**355**	P	**Pg**	**05 56 56.2**	**+0.3**
ARG				S	**Sg**	**05 57 01.9**	**+0.5**
KARP	**Karpathos**	**0.86**	**253**	P	**Pn**	**05 57 05.5**	**-0.7**
KARP	**Karpathos**	**0.86**	**253**	P	**Pn**	**05 57 05.5**	**-0.7**
DATC	**Datca-Mugla**	**1.04**	**337**	PG	**Pg**	**05 57 07.8**	**0.0**
DAT	**Datca**	**1.04**	**333**	PG	**Pb**	**05 57 07.8**	**-0.4**
DAT				SG	**Sb**	**05 57 22.2**	**+0.1**
DAT	**Datca**	**1.04**	**333**	IAML_P			
	comp=Z,1µm,0.1s						
DAT				i P	**Pn**	**05 57 09.5**	**+0.6**
DALY	**Dalyan (Mula)**	**1.09**	**21**	PG	**Pb**	**05 57 08.1**	**-0.8**
DALY	**Dalyan (Mula)**	**1.09**	**21**	IAML_P			
	comp=Z,3µm,0.3s						
DALY				i P	**Pb**	**05 57 08.2**	**-0.7**
DALY				i S	**Sn**	**05 57 26.1**	**+1.5**
FETY	**Fethiye**	**1.12**	**41**	PG	**Pb**	**05 57 08.8**	**-0.6**
FETY				SG	**Sn**	**05 57 24.6**	**-0.8**
TURN	**Turunc**	**1.13**	**18**	PG	**Pb**	**05 57 06.2**	**-3.3**
AKAS	**Kas**	**1.24**	**69**	PN	**Pg**	**05 57 11.5**	**-0.1**
AKAS	**Kas**	**1.24**	**69**	IAML_P			
	comp=Z,3µm,0.2s						
AKAS				i P	**Pg**	**05 57 12.6**	**+1.0**
BDRM	**Kayabasi**	**1.39**	**335**	IAML_P			
	comp=Z,4µm,0.4s						
BDRM				i P	**Pg**	**05 57 14.6**	**+0.2**
BDRM				i S	**Sg**	**05 57 33.9**	**+1.3**
BODT	**Bodrum**	**1.44**	**331**	PN	**Pb**	**05 57 14.9**	**0.0**
BODT	**Bodrum**	**1.44**	**331**	P	**Pb**	**05 57 14.8**	**-0.1**
MLSB	**Milas**	**1.53**	**348**	PN	**Pg**	**05 57 16.6**	**-0.4**
ELL	**Elmali**	**1.70**	**56**	PN	**Pb**	**05 57 19.1**	**-0.2**
ZKR	**Zakros**	**1.73**	**247**	PN	**Pg**	**05 57 21.5**	**+0.5**
ZKR	**Zakros**	**1.73**	**247**	P	**Pg**	**05 57 21.0**	**+0.1**
TAVA	**DENIZLI_Tavas**	**1.77**	**20**	IAML_P			
	comp=Z,2µm,0.2s						
TAVA				i P	**Pg**	**05 57 20.8**	**-0.8**
TAVA				i S	**Sg**	**05 57 48.0**	**+3.4**
GOLH	**Golhisar**	**1.82**	**38**	IAML_P			
	comp=Z,1µm,0.2s						
GOLH				i P	**Pg**	**05 57 21.7**	**-1.0**
AYDN	**Tasoluk**	**1.87**	**353**	IAML_P			
	comp=Z,2µm,0.3s						
AYDN				i P	**Pb**	**05 57 22.0**	**-0.3**
GCAM	**G?zelcaml?**	**2.04**	**339**	PN	**Pb**	**05 57 23.9**	**-1.2**
GCAM	**G?zelcaml?**	**2.04**	**339**	IAML_P			
	comp=Z,564nm,0.2s						
GCAM				i P	**Pb**	**05 57 24.1**	**-1.0**
KORT	**Korkueli**	**2.13**	**55**	PN	**Pb**	**05 57 25.5**	**-1.2**
KORT	**Korkueli**	**2.13**	**55**	i P	**Pb**	**05 57 26.8**	**+0.1**
KORT				i S	**Sg**	**05 57 55.2**	**-1.1**
NPS	**Neapolis**	**2.15**	**256**	P	**Pb**	**05 57 26.2**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**2.15**	**354**	PN	**Pb**	**05 57 25.3**	**-1.9**
LAST	**Lasithi**	**2.29**	**255**	P	**Pb**	**05 57 29.2**	**-0.1**
DGB	**zmir**	**2.47**	**336**	IAML_P			
	comp=Z,786nm,0.1s						
DGB				i P	**Pn**	**05 57 29.5**	**+1.1**
APE	**Apeiranthos**	**2.48**	**302**	PN	**Pb**	**05 57 30.3**	**-2.3**
KULA	**Kula-Manisa**	**2.74**	**8**	PN	**Pn**	**05 57 33.6**	**+1.4**
URLA	**Izmir**	**2.85**	**334**	PN	**Pn**	**05 57 34.4**	**+0.8**
DEMI	**Demirci**	**3.27**	**8**	IAML_P			
	comp=Z,408nm,0.2s						
DEMI				i P	**Pb**	**05 57 42.5**	**-3.6**

KRSC 07 06:11:53.5±1.0**,49°.68N**×**156°.22E,h111**km±11km**,ML3.8,**
Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.01**	**356**	eP	Pn	06 12 15.5	+0.8
SKR				eS	Sn	06 12 32.4	+1.6
PAU	**Pauzhetka**	**1.83**	**12**	eP	Pn	06 12 25.3	+1.0
PAU				eS	Sn	06 12 49.1	+1.3
KDTR	**Khodutka, Kamc**	**2.44**	**28**	eP	Pn	06 12 34.1	+2.1
KDTR				eS	Sn	06 13 03.8	+2.2
MTVR	**Mutnovka**	**3.07**	**23**	eP	Pn	06 12 43.0	+2.6
MTVR				eS	Sn	06 13 19.3	+2.6
KRMR	**Karymshinskiy**	**3.37**	**20**	eS	Sn	06 13 25.6	+1.9
KOK	**Koryaka**	**3.92**	**22**	eP	Pn	06 12 54.7	+3.0
SDLR	**Sedlovina**	**3.97**	**24**	eP	Pn	06 12 54.7	+2.3
GNL	**Ganaly**	**4.16**	**14**	eP	Pn	06 12 57.0	+2.0
SPN	**Mys Shipunski**	**4.17**	**33**	eS	Sn	06 13 43.9	+1.2
KBTR	**Krutoberegovo**	**7.65**	**29**	eP	Pn	06 13 44.2	+2.1

IDC 07 06:19:30.7±2.3**,28°.55S**×**177°.38W,h0**km**,mb3.7**/3**,**
mb1 3.9/3**,mb1mx3.7**/17**,mbtmp3.7**/3**,MS2.8**/1**,Ms1 2.8**/1**,**
ms1mx2.7/20**,Error ellipse: s-maj=60.0km s-min=22.0km az=114.0,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.84**	**214**	Pn	Pn	06 19 50.2	+0.4
	243nm,0.3s,baz=90,slow=7.3,SNR=5.3						
RAO				Sn	Sn	06 20 02.5	-0.4
	1µm,0.3s,baz=106,slow=20,SNR=10						
DZM	**Mont Dzumac**	**15.98**	**290**	LR	LR	06 27 54.8	
	comp=Z,40nm,21.0s,baz=22,slow=32						
STKA	**Stephens Creek**	**35.46**	**254**	P	P	06 26 29.8	+0.9
	1.1nm,0.6s,baz=100,slow=6.1,SNR=3.0						
ASAR	**Alice Springs**	**43.78**	**265**	P	P	06 27 37.7	-0.7
	0.4nm,0.6s,baz=98,slow=8.1,SNR=5.5						
WRA	**Warramunga Arr**	**44.60**	**270**	P	P	06 27 44.9	-0.1
	0.4nm,0.3s,baz=109,slow=8.1,SNR=16						
NOA	**NORSAR Array B**	**147.00**	**352**	PKPbc	PKPbc	06 39 13.9	-0.9
	0.4nm,0.5s,baz=11,slow=4.5,SNR=2.0						
AKASG	**Malin Array Be**	**150.13**	**325**	PKPbc	PKPbc	06 39 22.4	-0.7
	0.4nm,0.5s,baz=44,slow=3.4,SNR=2.0						

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*MOS **07** 06:28:11.7±1.5, 49°.73N×157°.10E, h16km, mb4.2/1, Error ellipse: s-maj=58.4km s-min=12.0km az=87.3*
KRSC 07 06:28:11.7±1.4**,49°.73N**×**157°.10E,h16**km±21km**,ML4.0,**
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.15**	**327**	eP	Pn	06 28 32.1	-0.8
SKR				eS	Sb	06 28 46.8	-0.8
SKR	**Severo-Kuril's**	**1.15**	**327**	ePN	Pn	06 28 32.0	-0.9
SKR				eS	Sb	06 28 46.8	-0.8
SKR				smax	smax		
	comp=N,129nm,0.6s						
SKR				smax	smax		
	comp=E,130nm,0.2s						
PAU	**Pauzhetka**	**1.75**	**354**	eP	Pb	06 28 42.7	-0.7
PAU				eS	Sb	06 29 05.0	-0.1
PAU	**Pauzhetka**	**1.75**	**354**	PN	Pb	06 28 42.7	-0.7
PAU				S	Sb	06 29 05.0	-0.1
KDTR	**Khodutka, Kamc**	**2.17**	**16**	eS	Sb	06 29 17.0	-0.2

MTVR	**Mutnovka**	**2.84**	**14**	*e*P	Pb	06 28 59.3	-2.7
MTVR				*e*S	Sn	06 29 33.2	+2.8
MTVR	**Mutnovka**	**2.84**	**14**	PN	Pb	06 28 59.3	-2.7
MTVR				S	Sn	06 29 33.2	+2.8
RUS	**Russkaya**	**2.85**	**18**	*e*P	Pn	06 28 58.6	+2.2
RUS				*e*S	Sn	06 29 32.0	+1.6
RUS	**Russkaya**	**2.85**	**18**	PN	Pn	06 28 58.6	+2.2
RUS				S	Sn	06 29 32.0	+1.6
KRMR	**Karymshinskiy**	**3.17**	**11**	*e*S	Sb	06 29 42.2	-3.8
PET	**Petropavlovsk**	**3.44**	**16**	*e*S	Sn	06 29 49.2	+4.3
KOK	**Koryaka**	**3.70**	**14**	*e*P	Pb	06 29 12.6	-4.0
KOK	**Koryaka**	**3.70**	**14**	PN	Pb	06 29 12.6	-4.0
SDLR	**Sedlovina**	**3.73**	**17**	*e*P	Pn	06 29 11.1	+2.6
SDLR	**Sedlovina**	**3.73**	**17**	PN	Pn	06 29 11.1	+2.6
KRX	**Arik**	**3.76**	**14**	*e*S	Sn	06 29 58.0	+4.9
GNL	**Ganaly**	**4.01**	**7**	*e*P	Pn	06 29 16.2	+3.8
GNL	**Ganaly**	**4.01**	**7**	PN	Pn	06 29 16.2	+3.8

NIED ***07*** *06:49:00, 24.°50N×122.°90E, h71km, Mw5.1 Best double couple: $M_0$4.55000×10^{16} NP1:ϕ_s144.00000°, δ44.00000°, λ47.00000°. NP2:ϕ_s16.00000°, δ59.00000°, λ123.00000°.*

MOS ***07*** *06:49:05.1±1.0, 24.°62N×122.°94E, h76km, mb5.0/62, Error ellipse: s-maj=6.9km s-min=4.4km az=102.0*

ISCJB ***07*** *06:49:05.7±0.1, 24.°51N±0.°01×122.°87E±0.°01, h81km±1km, mb5.0/243, Error ellipse: s-maj=1.9km s-min=1.5km az=155.9*

BJI ***07*** *06:49:05.1, 24.°48N×122.°89E, h74km, mb4.8/64, mB4.8/50, Ms4.7/62, Ms7 4.4/36*

NEIC ***07*** *06:49:06.8±0.3, 24.°57N×122.°87E, h78km±3km, mb5.1/145, ML5.6(TAP), Error ellipse: s-maj=3.6km s-min=2.8km az=107.0*

NEIC Felt at Taipei. Also felt at Ishigaki, Ryukyu Islands. Recorded [2 TAP] in Hualien, Taitung and Yilan; [1 TAP] in Changhua, Chiayi, Nantou, Taipei, Taoyuan and Yunlin, Taiwan. Recorded [3 JMA] on Iriomote-jima and Yonaguni-jima, Ryukyu Islands.

ASIES ***07*** *06:49:06.4, 24.°38N×122.°96E, h64km, MW4.8*

TAP ***07*** *06:49:06.7, 24.°48N×122.°84E, h69km, ML5.7, B*

JMA ***07*** *06:49:06.5±0.1, 24.°45N×122.°82E, h72km±1km, M5.4*

JMA Felt III J1.

GCMT ***07*** *06:49:07.8±0.2, 24.°54N±0.°01×122.°80E±0.°01, h70km±1km, MW5.1/109, Moment Tensor Solution. s72,c89; s109,c168; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.52±.13; $M_{\theta\theta}$1.88±.12; $M_{\phi\phi}$-5.40±.11; $M_{r\theta}$-2.76±.08; $M_{\theta\phi}$1.71±.12; $M_{\phi r}$1.57±.09; Best double couple: $M_0$5.93200×10^{16} NP1:ϕ_s318.00000°, δ66.00000°, λ53.00000°. NP2:ϕ_s199.00000°, δ43.00000°, λ143.00000°. Principal axes: T 5.5850, Plg54.0000°, Azm182.0000°; N 0.6940, Plg33.0000°, Azm335.0000°; P -6.2790, Plg13.0000°, Azm74.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

IDC ***07*** *06:49:07.5±1.2, 24.°62N×122.°90E, h86km±10km, mb4.6/31, mb1 4.8/37, mb1mx4.7/41, mbtmp5.0/37, MS3.9/29, Ms1 3.9/29, ms1mx3.8/41 Error ellipse: s-maj=11.2km s-min=7.6km az=74.0*

ISC 07 06:49:07.0±0.4**, 24.°48N**±0.°02×**122.°87E**±0.°02**, h81**km±3km**, h81**km**:pP-P, n712, σ1.°61**/891**, mb5.1**/255**, 32C-143D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.07**	**114**	P	**Pn**	**06 49 17.1**	**-1.5**
JYNG				S	**Sn**	**06 49 24.7**	**-2.5**
YOJ	**Yonaguni jima**	**0.13**	**99**	*e*Pn	**Pn**	**06 49 17.3**	**-1.4**
YOJ				*e*Sn	**Sn**	**06 49 23.6**	**-3.8**
YOJ	**Yonaguni jima**	**0.13**	**99**	⇑P	**Pn**	**06 49 17.3**	**-1.4**
	baz=96						
YOJ				S	**Sn**	**06 49 24.8**	**-2.6**
	baz=96						
YOJ	**Yonaguni jima**	**0.13**	**99**	*e*P	**Pn**	**06 49 17.3**	**-1.4**
YOJ				*e*		06 49 23.6	
YOJ	**Yonaguni jima**	**0.13**	**99**	⇑P	**Pn**	**06 49 17.2**	**-1.6**
YOJ				S	**Sn**	**06 49 24.5**	**-2.9**
EOS1	**EOS1**	**0.68**	**276**	⇓P	**Pn**	**06 49 21.4**	**-1.1**
	baz=276						
EOS1				S	**Sn**	**06 49 32.5**	**-1.6**
	baz=276						
IRIF	**Iriomote-Funau**	**0.80**	**100**	⇓P	**Pn**	**06 49 23.1**	**-0.7**
IRIF				*i* S	**Sn**	**06 49 35.5**	**-0.9**
EGS		**0.93**	**293**	⇓*i*P	**Pn**	**06 49 24.4**	**-1.0**
	baz=286						
TWC	**Suao**	**0.94**	**278**	⇓*i*P	**Pn**	**06 49 24.1**	**-1.3**
	baz=285						
TWC				*i* S	**Sn**	**06 49 36.5**	**-2.7**
	baz=285						
HATJ	**Hateruma jima**	**0.95**	**116**	⇓P	**Pn**	**06 49 25.4**	**-0.2**
HATJ				S	**Sn**	**06 49 39.1**	**-0.4**
TWB1	**Santiao Chiao**	**0.96**	**303**	⇓*i*P	**Pn**	**06 49 24.2**	**-1.5**
	baz=304						
TWB1				*e*S	**Sn**	**06 49 36.0**	**-3.6**
	baz=304						
NTC	**Toucheng**	**1.02**	**292**	⇓*e*P	**Pn**	**06 49 25.3**	**-1.1**
	baz=292						
NTC				*e*S	**Sn**	**06 49 39.1**	**-1.7**
	baz=292						
NANB	**Nanao**	**1.02**	**267**	⇓P	**Pn**	**06 49 25.2**	**-1.2**
	baz=271						
NANB				*e*S	**Sn**	**06 49 39.3**	**-1.6**
	baz=271						
ENA	**Nanau**	**1.03**	**267**	⇓P	**Pn**	**06 49 25.2**	**-1.3**
	baz=271						
ENA				*e*S	**Sn**	**06 49 39.3**	**-1.8**
	baz=271						
ILA	**Ilan**	**1.06**	**286**	⇓*i*P	**Pn**	**06 49 26.0**	**-0.9**
	baz=286						
ILA				S	**Sn**	**06 49 40.3**	**-1.5**
	baz=286						
JKRS	**Kuro-shima**	**1.07**	**103**	⇓P	**Pn**	**06 49 26.8**	**-0.2**
JKRS				S	**Sn**	**06 49 42.2**	**+0.3**
TIPB	**Shuangxi**	**1.07**	**297**	⇓P	**Pn**	**06 49 26.1**	**-0.9**
	baz=297						
TIPB				*e*S	**Sn**	**06 49 38.9**	**-3.1**
	baz=297						
TWE	**Neicheng**	**1.12**	**282**	⇓*i*P	**Pn**	**06 49 26.8**	**-0.8**
	baz=286						
TWE				S	**Sn**	**06 49 40.2**	**-2.8**
	baz=286						
NWF	**Wu-fen Shan**	**1.15**	**301**	⇓*i*P	**Pn**	**06 49 27.4**	**-0.7**
	baz=293						
WFSB	**Wu-fen Shan**	**1.15**	**301**	⇓P	**Pn**	**06 49 27.3**	**-0.7**
	baz=293						
WFSB				*e*S	**Sn**	**06 49 42.1**	**-1.6**
	baz=293						
SLBB	**Yuanshan**	**1.16**	**284**	⇓P	**Pn**	**06 49 27.6**	**-0.5**
	baz=290						
SLBB				S	**Sn**	**06 49 42.2**	**-1.7**
	baz=290						
JIJ	**Ishigaki jima**	**1.17**	**96**	⇓P	**Pn**	**06 49 27.5**	**-0.7**
JIJ				S	**Sn**	**06 49 42.7**	**-1.4**
ENTT	**Nioudou**	**1.20**	**278**	⇓*i*P	**Pn**	**06 49 27.9**	**-0.7**
	baz=284						
ENTT				*e*S	**Sn**	**06 49 44.5**	**-0.3**
	baz=284						
NACB	**Ninganchiao**	**1.20**	**255**	*e*Pn	**Pn**	**06 49 27.4**	**-1.2**
NACB				*e*Sn	**Sn**	**06 49 44.1**	**-0.8**
NACB	**Ninganchiao**	**1.20**	**255**	⇓P	**Pn**	**06 49 27.4**	**-1.2**
	baz=254						
NACB				S	**Sn**	**06 49 42.1**	**-2.8**
	baz=254						
TWD	**Chiawan**	**1.23**	**251**	⇓*i*P	**Pn**	**06 49 27.7**	**-1.3**
	baz=250						
TWD				S	**Sn**	**06 49 42.8**	**-2.6**
	baz=250						
HWA	**Hwalien**	**1.26**	**247**	⇓P	**Pn**	**06 49 28.4**	**-1.0**
	baz=246						
TWA	**Mucha**	**1.27**	**293**	⇓*i*P	**Pn**	**06 49 29.0**	**-0.5**
	baz=293						
TWA				S	**Sn**	**06 49 44.8**	**-1.6**
	baz=293						
NWLT	**Wulai**	**1.28**	**284**	⇓P	**Pn**	**06 49 29.1**	**-0.5**
	baz=283						
NWLT				*e*S	**Sn**	**06 49 44.5**	**-2.2**
	baz=283						
ENLB	**Shoufeng**	**1.29**	**244**	⇓P	**Pn**	**06 49 28.8**	**-1.0**
	baz=234						
ENLB				S	**Sn**	**06 49 44.9**	**-2.0**
	baz=234						
JISG	**Ishigakijimahi**	**1.32**	**85**	P	**Pn**	**06 49 29.5**	**-0.6**
JISG				S	**Sn**	**06 49 46.8**	**-0.6**
YM07	**YM07**	**1.33**	**302**	⇓P	**Pn**	**06 49 29.8**	**-0.5**
	baz=295						
YM07				S	**Sn**	**06 49 46.4**	**-1.4**
	baz=295						
TATO	**Taipei**	**1.35**	**292**	*e*Pn	**Pn**	**06 49 29.8**	**-0.6**
TATO				*e*Sn	**Sn**	**06 49 46.2**	**-1.9**
TATO	**Taipei**	**1.35**	**292**	⇓P	**Pn**	**06 49 29.9**	**-0.6**
	baz=291						
TATO				S	**Sn**	**06 49 46.1**	**-1.9**
	baz=291						
PCYT	**Pengchaiyu**	**1.35**	**328**	⇓*i*P	**Pn**	**06 49 30.7**	**+0.1**
	baz=321						
PCYT				*e*S	**Sn**	**06 49 47.3**	**-0.9**
	baz=321						
YM01	**YM01**	**1.35**	**299**	⇓*e*P	**Pn**	**06 49 31.1**	**+0.5**
	baz=291						
YM01				*e*S	**Sn**	**06 49 47.7**	**-0.6**
	baz=291						
NNSB	**Datong**	**1.36**	**268**	⇓P	**Pn**	**06 49 30.1**	**-0.6**
	baz=258						
NNSB				S	**Sn**	**06 49 46.1**	**-2.4**
	baz=258						
YM08	**YM08**	**1.36**	**301**	⇓P	**Pn**	**06 49 29.9**	**-0.8**
	baz=293						
YM08				S	**Sn**	**06 49 45.3**	**-3.1**
	baz=293						
YM11	**YM11**	**1.36**	**300**	⇓P	**Pn**	**06 49 30.2**	**-0.5**
	baz=292						
YM11				S	**Sn**	**06 49 47.2**	**-1.3**
	baz=292						
NNS	**Nan Shan**	**1.36**	**269**	⇓*i*P	**Pn**	**06 49 30.2**	**-0.6**
	baz=258						
YM05	**YM05**	**1.37**	**300**	⇓P	**Pn**	**06 49 30.2**	**-0.6**
	baz=292						
YM05				*e*S	**Sn**	**06 49 47.2**	**-1.5**
	baz=292						
YHNB	**Yeheng**	**1.37**	**278**	*e*Pn	**Pn**	**06 49 30.7**	**-0.2**
YHNB				*e*Sn	**Sn**	**06 49 48.0**	**-0.9**
YHNB	**Yeheng**	**1.37**	**278**	⇓P	**Pn**	**06 49 30.7**	**-0.2**
	baz=278						
YHNB				S	**Sn**	**06 49 47.3**	**-1.5**
	baz=278						
YM04	**YM04**	**1.38**	**299**	⇓P	**Pn**	**06 49 30.4**	**-0.6**
	baz=292						
YM04				S	**Sn**	**06 49 46.5**	**-2.4**
	baz=292						
NSK	**Sanguang**	**1.39**	**278**	⇓*i*P	**Pn**	**06 49 30.9**	**-0.2**
	baz=278						
NSK				S	**Sn**	**06 49 47.3**	**-1.9**
	baz=278						
TWY	**Chenhua**	**1.40**	**305**	⇓*i*P	**Pn**	**06 49 31.1**	**0.0**
	baz=297						
TWY				S	**Sn**	**06 49 48.3**	**-1.0**
	baz=297						
TWS1	**Kuangyinshan**	**1.46**	**295**	⇓*i*P	**Pn**	**06 49 31.6**	**-0.3**
	baz=295						
TWS1				*e*S	**Sn**	**06 49 50.1**	**-0.5**
	baz=295						
NTST	**Danshui**	**1.46**	**298**	⇓P	**Pn**	**06 49 31.6**	**-0.2**
	baz=298						
NTST				*e*S	**Sn**	**06 49 50.4**	**-0.2**
	baz=298						
ESL	**Shilin**	**1.47**	**243**	⇓*i*P	**Pn**	**06 49 30.6**	**-1.5**
	baz=234						
ESL				*e*S	**Sn**	**06 49 48.4**	**-2.6**
	baz=234						
WHF	**Hehuan Shan**	**1.50**	**257**	⇓*i*P	**Pn**	**06 49 31.9**	**-1.0**
	baz=248						
WLTB	**Daxi**	**1.52**	**284**	⇓P	**Pn**	**06 49 32.6**	**-0.1**
	baz=292						
WLTB				*e*S	**Sn**	**06 49 51.1**	**-0.9**
	baz=292						
TWT	**Tachien**	**1.56**	**262**	⇓*i*P	**Pn**	**06 49 33.3**	**-0.1**
	baz=261						
TWT				*e*S	**Sn**	**06 49 51.1**	**-2.2**
	baz=261						
TDCB	**Techi**	**1.58**	**262**	⇓P	**Pn**	**06 49 33.1**	**-0.5**
	baz=261						
TDCB				*e*S	**Sn**	**06 49 50.2**	**-3.4**
	baz=261						
CHGB	**Renai**	**1.60**	**255**	⇓P	**Pn**	**06 49 33.4**	**-0.6**
	baz=245						
CHGB				S	**Sn**	**06 49 52.9**	**-1.5**
	baz=245						
NCU	**National Centr**	**1.61**	**288**	⇓*i*P	**Pn**	**06 49 33.5**	**-0.2**
	baz=295						
NCU				*e*S	**Sn**	**06 49 54.6**	**+0.6**
	baz=295						
NCUH	**Zhongli**	**1.61**	**288**	*e*P	**Pn**	**06 49 33.5**	**-0.4**
	baz=288						
NCUH				*e*S	**Sn**	**06 49 53.6**	**-0.5**
	baz=288						
HGSD	**Ruisui**	**1.65**	**234**	⇓P	**Pn**	**06 49 33.0**	**-1.4**
	baz=232						
HGSD				S	**Sn**	**06 49 51.8**	**-3.3**
	baz=232						
JTJ	**Tarama**	**1.68**	**84**	⇓P	**Pn**	**06 49 34.7**	**0.0**
JTJ				*e*S	**Sn**	**06 49 54.7**	**-1.0**
LIOB	**Emei**	**1.70**	**276**	⇓P	**Pn**	**06 49 34.9**	**-0.1**
	baz=275						
LIOB				*e*S	**Sn**	**06 49 55.2**	**-1.0**
	baz=275						
NSTT	**Nanjuang**	**1.71**	**275**	⇓P	**Pn**	**06 49 35.1**	**-0.1**
	baz=275						
EHY	**Hungye**	**1.72**	**236**	⇓*i*P	**Pn**	**06 49 33.9**	**-1.4**
	baz=243						
EHY				*e*S	**Sn**	**06 49 53.0**	**-3.7**
	baz=243						
VWDT	**VWDT**	**1.74**	**246**	⇓P	**Pn**	**06 49 35.0**	**-0.5**
	baz=244						
VWDT				*e*S	**Sn**	**06 49 53.1**	**-4.0**
	baz=244						
SBCB	**Hsinchu**	**1.74**	**281**	⇓P	**Pn**	**06 49 35.4**	**-0.2**
	baz=280						
SBCB				*e*S	**Sn**	**06 49 56.8**	**-0.5**
	baz=280						
HSN	**Hsinchu**	**1.76**	**281**	*e*P	**Pn**	**06 49 35.2**	**-0.6**
	baz=282						
YULB	**Yu-li**	**1.80**	**233**	*e*Pn	**Pn**	**06 49 35.2**	**-1.2**
YULB				*e*Sn	**Sn**	**06 49 57.8**	**-0.9**
YULB	**Yu-li**	**1.80**	**233**	⇓P	**Pn**	**06 49 35.2**	**-1.2**
	baz=242						
YULB				S	**Sn**	**06 49 55.2**	**-3.4**
	baz=242						
TWF1	**Yuli**	**1.83**	**232**	⇓*i*P	**Pn**	**06 49 35.8**	**-1.0**
	baz=242						
TWF1				*e*S	**Sn**	**06 49 56.3**	**-2.9**
	baz=242						
SSLB	**Suanglung**	**1.88**	**249**	*e*Pn	**Pn**	**06 49 37.0**	**-0.5**
SSLB				*e*Sn	**Sn**	**06 49 59.5**	**-1.1**
SSLB	**Suanglung**	**1.88**	**249**	⇓P	**Pn**	**06 49 37.0**	**-0.5**
	baz=247						
SSLB				S	**Sn**	**06 49 57.5**	**-3.1**
	baz=247						
NMLH	**Miaoli**	**1.90**	**272**	⇓P	**Pn**	**06 49 37.8**	**+0.2**
	baz=272						
SMLT	**Sun Moon Lake**	**1.90**	**252**	⇓*i*P	**Pn**	**06 49 37.5**	**-0.2**
	baz=244						
SMLT				S	**Sn**	**06 49 59.4**	**-1.6**
	baz=244						
TWQ1	**Liyutan**	**1.92**	**266**	⇓P	**Pn**	**06 49 38.1**	**+0.2**
	baz=265						
TWQ1				*e*S	**Sn**	**06 50 01.2**	**-0.2**
	baz=265						
NSY	**Sanyi**	**1.92**	**268**	⇓P	**Pn**	**06 49 38.3**	**+0.4**
	baz=268						
TYC	**Yuchr**	**1.93**	**253**	⇓*i*P	**Pn**	**06 49 37.9**	**-0.1**
	baz=245						
TYC				S	**Sn**	**06 50 00.2**	**-1.3**
	baz=245						
CHKT	**Chengkung**	**1.95**	**225**	⇓*i*P	**Pn**	**06 49 36.5**	**-1.8**
	baz=224						
CHKT				*e*S	**Sn**	**06 49 58.0**	**-4.1**
	baz=224						
PTSB	**Yuanli**	**1.97**	**269**	⇓P	**Pn**	**06 49 38.6**	**0.0**
	baz=268						
PTSB				*e*S	**Sn**	**06 50 02.5**	**-0.2**
	baz=268						
YUS	**Yu-Shan**	**2.01**	**241**	⇓*i*P	**Pn**	**06 49 39.2**	**-0.5**
	baz=231						
YUS				*e*S	**Sn**	**06 50 01.1**	**-3.3**
	baz=231						
TCU	**Taichung**	**2.03**	**261**	⇓P	**Pn**	**06 49 39.9**	**+0.5**
	baz=272						
TCU				*e*S	**Sn**	**06 50 04.6**	**+0.6**
	baz=272						
WJS	**Zhushan**	**2.06**	**252**	⇓*i*P	**Pn**	**06 49 40.8**	**+1.0**
	baz=246						
WJS				*e*S	**Sn**	**06 50 05.5**	**+0.6**
	baz=246						
WNT	**Mingjian**	**2.08**	**254**	⇓*i*P	**Pn**	**06 49 40.9**	**+0.8**
	baz=252						
WNT				*e*S	**Sn**	**06 50 06.5**	**+1.2**
	baz=252						
JIRB	**Irabujima**	**2.12**	**80**	P	**Pn**	**06 49 40.5**	**-0.1**
JIRB				*e*S	**Sn**	**06 50 06.4**	**+0.2**
ELDTW	**Lidau**	**2.13**	**233**	⇓*i*P	**Pn**	**06 49 39.7**	**-1.1**
	baz=232						
ELDTW				*e*S	**Sn**	**06 50 03.6**	**-3.0**
	baz=232						
WCHH	**Zhanghua**	**2.15**	**260**	⇓P	**Pn**	**06 49 41.0**	**+0.1**
	baz=269						
CHN5	**Tsauling**	**2.19**	**247**	⇓*i*P	**Pn**	**06 49 42.1**	**+0.5**
	baz=237						
CHN5				*e*S	**Sn**	**06 50 08.3**	**+0.3**
	baz=237						
JIKM	**Ikemajima**	**2.21**	**78**	P	**Pn**	**06 49 41.8**	**+0.1**
JIKM				S	**Sn**	**06 50 09.1**	**+0.9**
JMJ	**Miyako jima 2**	**2.23**	**81**	*e*P	**Pn**	**06 49 42.1**	**+0.1**
	baz=82						
JMJ				*e*S	**Sn**	**06 50 07.9**	**-0.9**
	baz=82						
JMJ	**Miyako jima 2**	**2.23**	**81**	⇓P	**Pn**	**06 49 42.2**	**+0.1**
JMJ				*e*S	**Sn**	**06 50 10.3**	**+1.5**
WGK	**Gukeng**	**2.25**	**250**	⇓*i*P	**Pn**	**06 49 43.3**	**+0.9**
	baz=248						
WGK				*e*S	**Sn**	**06 50 09.9**	**+0.5**
	baz=248						
WDLH	**Douliu**	**2.27**	**250**	⇓*i*P	**Pn**	**06 49 43.7**	**+1.1**
	baz=248						
WDLH				*e*S	**Sn**	**06 50 11.9**	**+2.0**
	baz=248						
JOGS	**Gusukube**	**2.33**	**83**	⇓P	**Pn**	**06 49 44.0**	**+0.7**
JOGS				S	**Sn**	**06 50 12.5**	**+1.4**
TWGBT	**Beinan**	**2.33**	**225**	⇓P	**Pn**	**06 49 42.0**	**-1.4**
	baz=232						
TWGBT				*e*S	**Sn**	**06 50 07.3**	**-4.0**
	baz=232						
TWG	**Pinlang**	**2.33**	**225**	*e*Pn	**Pn**	**06 49 42.0**	**-1.4**
TWG				*e*Sn	**Sn**	**06 50 09.4**	**-2.0**
TWG	**Pinlang**	**2.33**	**225**	⇓*i*P	**Pn**	**06 49 42.1**	**-1.4**
	baz=232						
TWG				*e*S	**Sn**	**06 50 07.5**	**-3.9**
	baz=232						
TTN	**Taitung**	**2.34**	**223**	*e*P	**Pn**	**06 49 42.3**	**-1.1**
	baz=222						
TTN				*e*S	**Sn**	**06 50 09.4**	**-1.9**
	baz=222						
STYT	**Tauyuan**	**2.34**	**236**	⇓*i*P	**Pn**	**06 49 43.9**	**+0.3**
	baz=235						
STYT				*e*S	**Sn**	**06 50 10.6**	**-1.0**
	baz=235						
TPUB	**Ta-pu**	**2.36**	**241**	*e*Pn	**Pn**	**06 49 44.5**	**+0.6**
TPUB				*e*Sn	**Sn**	**06 50 11.3**	**-0.7**
TPUB	**Ta-pu**	**2.36**	**241**	⇓P	**Pn**	**06 49 44.4**	**+0.5**
	baz=234						
TPUB				S	**Sn**	**06 50 11.5**	**-0.6**
	baz=234						
RLNB	**Erlin**	**2.37**	**256**	⇓P	**Pn**	**06 49 44.1**	**+0.3**
	baz=254						
RLNB				*e*S	**Sn**	**06 50 11.2**	**-0.9**
	baz=254						
CHN4	**Tsaushan**	**2.37**	**242**	⇓*i*P	**Pn**	**06 49 44.6**	**+0.7**
	baz=235						
CHN4				S	**Sn**	**06 50 12.8**	**+0.6**
	baz=235						
CHN2	**Minshiung**	**2.39**	**247**	⇓*i*P	**Pn**	**06 49 45.3**	**+1.2**
	baz=245						
CHN2				*e*S	**Sn**	**06 50 13.9**	**+1.4**
	baz=245						
WTP	**Ta-pu**	**2.40**	**240**	⇓*i*P	**Pn**	**06 49 45.1**	**+0.7**
	baz=238						
WTP				S	**Sn**	**06 50 13.6**	**+0.5**
	baz=238						
CHY	**Chiayi**	**2.44**	**247**	*e*P	**Pn**	**06 49 45.3**	**+0.4**
	baz=245						
CHY				*e*S	**Sn**	**06 50 14.8**	**+0.9**
	baz=245						
WTCT	**Ta-ch'eng**	**2.44**	**256**	⇓P	**Pn**	**06 49 44.9**	**0.0**
	baz=254						
WTCT				*e*S	**Sn**	**06 50 12.4**	**-1.5**
	baz=254						
TWK	**Hsinying**	**2.49**	**241**	⇓*i*P	**Pn**	**06 49 46.1**	**+0.5**
	baz=240						
TWK				S	**Sn**	**06 50 15.6**	**+0.3**
	baz=240						
CHN1	**Nanshi**	**2.50**	**239**	⇓*i*P	**Pn**	**06 49 46.4**	**+0.6**
	baz=238						
CHN1				*e*S	**Sn**	**06 50 16.2**	**+0.7**
	baz=238						
WMLT	**Mailiao**	**2.51**	**255**	*e*P	**Pn**	**06 49 45.4**	**-0.4**
	baz=253						
WMLT				*e*S	**Sn**	**06 50 15.8**	**+0.2**
	baz=253						
SGST	**Jiashian**	**2.52**	**237**	⇓*i*P	**Pn**	**06 49 47.1**	**+1.2**
	baz=235						
SGST				S	**Sn**	**06 50 16.2**	**+0.5**
	baz=235						
SLGT	**Liugui**	**2.52**	**234**	⇓*e*P	**Pn**	**06 49 46.8**	**+0.8**
	baz=243						
WLGB	**Puzi**	**2.56**	**247**	⇓P	**Pn**	**06 49 47.0**	**+0.6**
	baz=235						
WLGB				*e*S	**Sn**	**06 50 15.8**	**-0.8**
	baz=235						
WSF	**Szhu**	**2.56**	**251**	*e*P	**Pn**	**06 49 46.5**	**0.0**
	baz=261						
WSF				S	**Sn**	**06 50 17.4**	**+0.6**
	baz=261						
ECL	**Taimali**	**2.57**	**224**	⇓*i*P	**Pn**	**06 49 45.0**	**-1.6**
	baz=230						
ECL				*e*S	**Sn**	**06 50 12.4**	**-4.7**
	baz=230						
CHN8	**Yiju**	**2.68**	**246**	P	**Pn**	**06 49 48.3**	**+0.2**
	baz=234						
CHN8				*e*S	**Sn**	**06 50 19.2**	**-0.5**
	baz=234						
SSD	**Sandimen**	**2.68**	**230**	⇓P	**Pn**	**06 49 47.9**	**-0.2**
	baz=227						
SSD				*e*S	**Sn**	**06 50 20.4**	**+0.6**
	baz=227						
CHN3	**Shinhua**	**2.69**	**239**	⇓P	**Pn**	**06 49 49.4**	**+1.2**
	baz=249						
CHN3				*e*S	**Sn**	**06 50 21.7**	**+1.9**
	baz=249						
LAY	**Lan-yu**	**2.72**	**207**	⇓*i*P	**Pn**	**06 49 46.2**	**-2.4**
	baz=207						
MASBT	**Mashibuluo**	**2.77**	**228**	⇓P	**Pn**	**06 49 49.1**	**-0.2**
	baz=222						
MASBT				*e*S	**Sn**	**06 50 19.6**	**-2.2**
	baz=222						
TAW	**Tawu**	**2.79**	**221**	*e*P	**Pn**	**06 49 47.7**	**-1.8**
	baz=227						
TWM1	**Shoushan**	**2.79**	**234**	⇓P	**Pn**	**06 49 51.2**	**+1.7**
	baz=234						
EAST	**Anshuo**	**2.80**	**222**	⇓*i*P	**Pn**	**06 49 48.5**	**-1.3**
	baz=227						
EAST				*e*S	**Sn**	**06 50 19.9**	**-2.6**
	baz=227						
SGLT	**Jiouru**	**2.80**	**232**	⇓P	**Pn**	**06 49 51.5**	**+1.8**
	baz=230						
SGLT				*e*S	**Sn**	**06 50 26.2**	**+3.8**
	baz=230						
TAI1	**Yung-k'ang**	**2.81**	**240**	⇓P	**Pn**	**06 49 50.7**	**+0.8**
	baz=247						
TAI1				*e*S	**Sn**	**06 50 22.3**	**-0.5**
	baz=247						
SCZT	**Fangliau**	**2.95**	**225**	⇓*i*P	**Pn**	**06 49 51.5**	**-0.2**
	baz=221						
SCZT				*e*S	**Sn**	**06 50 26.8**	**+0.7**
	baz=221						
PTTC	**Pingtan**	**2.99**	**290**	⇓*e*P	**Pn**	**06 49 51.4**	**-0.9**
	baz=290						
KAU	**Kaohsiung**	**3.03**	**231**	*e*P	**Pn**	**06 49 53.6**	**+0.8**
	baz=231						
WLCH	**Liuqiu**	**3.12**	**228**	⇓*e*P	**Pn**	**06 49 56.1**	**+2.1**
	baz=239						
MATB	**Ma-tsu**	**3.12**	**303**	⇓*e*P	**Pn**	**06 49 53.6**	**-0.5**
	baz=302						
TWP	**Hsiaoliuchiu**	**3.13**	**228**	⇓*e*P	**Pn**	**06 49 56.1**	**+1.9**
	baz=239						
TSEB	**Hengchuen, Pin**	**3.15**	**216**	P	**Pn**	**06 49 54.5**	**+0.1**
	baz=224						
TSEB				*e*S	**Sn**	**06 50 30.4**	**-0.5**
	baz=224						
HEN	**Hengchun**	**3.15**	**219**	*e*P	**Pn**	**06 49 53.9**	**-0.5**

baz=218
HEN eS Sn 06 50 30.1 -0.9
baz=218
VWUC VWUC 3.15 280⇓eP Pn 06 49 53.5 -0.9
baz=269
TWKBT Hengchun 3.16 217 ⇓P Pn 06 49 53.8 -0.8
baz=217
TWKBT eS Sn 06 50 29.3 -2.0
baz=217
TWK1 Hengchun 3.16 217 P Pn 06 49 54.5 -0.2
baz=217
TWK1 eS Sn 06 50 29.5 -1.8
baz=217
PNG Penghu 3.17 254⇓iP Pn 06 49 53.6 -1.0
baz=251
PNG eS Sn 06 50 29.0 -2.3
baz=251
PHUB P'eng-hu 3.17 253 ⇓P Pn 06 49 53.6 -1.1
baz=251
PHUB S Sn 06 50 29.2 -2.2
baz=251
WDGT Dungji 3.18 248⇓iP Pn 06 49 54.5 -0.3
baz=246
WDGT S Sn 06 50 30.0 -1.7
baz=246
VCHM Qimei 3.40 249 ⇓P Pn 06 49 57.2 -0.5
baz=246
VCHM S Sn 06 50 34.0 -3.0
baz=246
XPSS Dashiqiu 3.43 316⇓eP Pn 06 49 57.6 -0.6
baz=316
PTMZ Houxiangcun 3.45 280⇓eP Pn 06 49 57.6 -0.9
baz=269
LYJJ Jianjiangzhen 3.48 307⇓eP Pn 06 49 58.5 -0.5
baz=307
MHZQ Yeshan 3.83 296⇓eP Pn 06 50 02.9 -0.8
baz=286
QZH Quanzhou 3.92 278⇓iP Pn 06 50 03.8 -1.1
QZH S Sn 06 50 45.6 -4.1
QZH smax smax
comp=N,1μm,1.0s
QZH smax smax
comp=E,870nm,0.8s
KNM Kinmen 4.04 270⇓eP Pn 06 50 07.0 +0.5
baz=268
KNMB Chin-men Tao 4.08 271⇓eP Pn 06 50 05.8 -1.4
baz=269
BBP Basco 4.11 192 eP Pn 06 50 04.3 -3.2
BBP eS Sn 06 50 47.3 -7.1
AXDP Jialang 4.48 276⇓eP Pn 06 50 11.8 -0.7
baz=274
ZPLA Ao Xicun 4.71 264⇓eP Pn 06 50 14.5 -1.1
baz=261
ZPLA eS Sn 06 51 04.5 -4.5
baz=261
ZZJH Jiuhuzhen 4.77 271⇓eP Pn 06 50 15.2 -1.3
baz=268
JOW Kunigami 5.41 63 P Pn 06 50 24.0 -1.2
755nm,0.3s,baz=214,slow=9.3,SNR=1456
JOW S Sn 06 51 22.8 -3.3
baz=113,slow=21,SNR=0.8
JOW Kunigami 5.41 63 ePn Pn 06 50 23.9 -1.3
JOW eSn Sn 06 51 23.0 -3.2
JOW Kunigami 5.41 63⇓eP Pn 06 50 24.1 -1.1
baz=62
SGCP Mt. Cagua 6.26 187 eP Pn 06 50 35.4 -1.4
SGCP eS Sn 06 51 42.7 -4.2
JTK Tokunoshima 6.38 58 ⇓P Pn 06 50 36.4 -2.0
SSE Sheshan 6.75 348 P Pn 06 50 43.9 +0.4
SSE S Sn 06 52 00.8 +1.9
SSE pmax pmax
comp=Z,150nm,0.7s
SSE LR LR
comp=N,600nm,9.0s
SSE LR LR
comp=E,2μm,7.1s
APYP Conner 6.76 193 eP Pn 06 50 42.7 -1.0
APYP eS Sn 06 51 55.4 -3.8
JAMN Amaminishikomi 6.78 55 ⇓P Pn 06 50 41.6 -2.3
VDOS Pratas Island 6.81 238 eP Pn 06 50 44.5 +0.2
baz=236
CVP Callao Caves 6.82 188⇓eP Pn 06 50 43.6 -0.8
CVP i S Sn 06 51 43.4 -17
ABRA Dolores 7.09 197 eP Pn 06 50 47.5 -0.7
ABRA eS Sn 06 52 02.6 -4.7
PALP Palanan 7.39 183 eP Pn 06 50 51.1 -1.2
PALP eS Sn 06 52 09.5 -5.2
NJ2 Nanjing 8.33 336 eP Pn 06 51 04.6 -0.4
NJ2 S Sn 06 52 35.6 -1.8
NJ2 pmax pmax
comp=Z,130nm,0.7s
NJ2 smax smax
comp=N,330nm,1.0s
NJ2 smax smax
comp=E,670nm,1.1s
NJ2 LR LR
comp=N,4μm,7.0s
NJ2 LR LR
comp=E,6μm,12.6s
NJ2 LR LR
comp=Z,1μm,7.8s
BOLP Bolinao 8.52 200 eP Pn 06 51 07.2 -0.5
BOLP eS Sn 06 52 40.4 -1.9
SMPP San Manuel, Pa 8.54 194 eP Pn 06 51 06.7 -1.3
SMPP eS Sn 06 52 34.7 -8.1
GZH Guangzhou 8.83 263 P Pn 06 51 06.6 -5.4
GZH S Sn 06 52 30.5 -19
GZH smax smax
comp=N,470nm,0.8s
GZH smax smax
comp=E,710nm,1.1s
MCO Taipa Grande 8.88 257 P Pn 06 51 12.0 -0.5
JSJ Shimokoshiki 9.37 39 P Pn 06 51 19.9 +0.6
WHN Wuhan 9.68 310 ⇑P Pn 06 51 22.8 -0.6
WHN S Sn 06 53 07.4 -2.9
WHN LR LR
comp=E,4μm,6.0s
POLP Polillo Island 9.74 185 eP Pn 06 51 25.0 +0.6
POLP eS Sn 06 53 00.9 -11
NGSJ Nagasakinomoza 10.15 35 P Pn 06 51 32.5 +2.7
TGY Tagaytay City 10.49 190 P Pn 06 51 36.5 +1.9
comp=E,51nm,0.3s,baz=30,slow=4.5,SNR=7.0
TGY S Sn 06 53 30.0 -0.4
comp=E,66nm,0.3s,baz=303,slow=11,SNR=4.0
TGY LR LR 06 55 55.8
comp=E,555nm,18.3s,baz=64,slow=38
GQP Guinayangan 10.53 182⇓eP Pn 06 51 36.9 +1.7
GQP eS Sn 06 52 56.1 -35
PVCP Virac 10.90 173 eP Pn 06 51 37.3 -2.9
PVCP eS Sn 06 53 26.8 -14
LUBP Lubang 10.97 194 eP Pn 06 51 39.0 -2.2
JNU Nakatsue 11.10 37 P Pn 06 51 43.4 +0.5
comp=E,3.2nm,0.3s,baz=210,slow=7.8,SNR=24
JNU S Sn 06 53 50.5 +5.3
comp=E,0.3nm,0.3s,baz=230,slow=18,SNR=0.8
JNU Nakatsue 11.10 37 ePn Pn 06 51 41.5 -1.4
TIA Tai'an 12.70 338 P Pn 06 52 07.1 +2.7
TIA pmax pmax
comp=E,16nm,1.5s
TIA LR LR
comp=E,360nm,3.9s
TIA LR LR
comp=E,780nm,4.4s
RCP Roxas 12.85 181⇑eP Pn 06 52 09.2 +2.6
ENH Enshi 13.21 299 ePn Pn 06 52 13.0 +1.6
QIZ Qiongzhong 13.26 248 P Pn 06 52 12.6 +0.5
QIZ sP P 06 52 35.6 +17
QIZ S Sn 06 54 39.6 +1.8
QIZ pmax pmax
comp=E,58nm,1.0s
QIZ LR LR
comp=E,920nm,6.5s
QIZ LR LR
comp=E,660nm,10.9s
QIZ Qiongzhong 13.26 248 ePn Pn 06 52 13.1 +1.0
QIZ eSn Sn 06 54 36.8 -1.0
KS15 Wonju Array Si 13.61 17 ePn Pn 06 52 18.5 +1.9
KSRS Korea Array 13.63 17 P Pn 06 52 19.4 +2.5
comp=E,2.3nm,0.3s,baz=197,slow=12,SNR=87
KSRS S Sn 06 54 52.5 +6.0
comp=E,0.2nm,0.3s,baz=204,slow=27,SNR=2.3
KSRS Lg Lg 06 56 16.7
comp=E,0.2nm,0.3s,baz=201,slow=26,SNR=3.1
KSRS LR LR 06 57 40.7
comp=E,781nm,20.8s,baz=197,slow=38
KSRS ScP ScP 07 01 01.5 -1.0
comp=E,0.1nm,0.3s,baz=192,slow=4.2,SNR=5.3
KS01 Wonju Array Si 13.65 17 ePn Pn 06 52 18.5 +1.5
DL2 Dalian 14.42 356 P P 06 52 35.8 +4.2
DL2 pP Pn 06 52 46.4 +19
DL2 S S 06 55 19.6 -0.8
DL2 pmax pmax
comp=Z,42nm,0.7s
DL2 pmax pmax
comp=Z,250nm,8.1s
DL2 LR LR
comp=N,1μm,11.6s
DL2 LR LR
comp=E,770nm,11.5s
DL2 LR LR
comp=Z,1μm,11.9s
GYA Guiyang 14.77 281⇓iP Pn 06 52 33.2 +1.4
GYA pP P 06 52 44.5 +8.8
GYA sP 06 52 56.0
GYA S Sn 06 55 15.0 +0.5
GYA sS S 06 55 33.2 +5.1
GYA SS 06 55 35.4
GYA pmax pmax
comp=Z,40nm,0.9s
GYA pmax pmax
comp=Z,270nm,5.6s
GYA LR LR
comp=Z,2μm,6.0s
GYA LR LR
comp=Z,740nm,8.8s
GYA LR LR
comp=Z,860nm,9.6s
XAN Xi'an 15.44 311 P P 06 52 42.7 -0.3
XAN pP pP 06 52 52.8 -6.0
XAN S Sn 06 55 27.8 -2.8
XAN pmax pmax
comp=Z,140nm,1.4s
XAN pmax pmax
comp=Z,430nm,3.6s
XAN LR LR
comp=Z,1μm,10.6s
DCPH Dipolog City 15.82 178⇓eP P 06 52 49.8 +2.6
TIY Taiyuan 15.91 328 eP P 06 52 51.3 +3.0
TIY sP sP 06 53 13.5 -0.9
TIY S Sn 06 55 46.0 +4.0
TIY pmax pmax
comp=Z,49nm,1.2s
TIY pmax pmax
comp=Z,350nm,3.5s
TIY LR LR
comp=Z,990nm,6.6s
TIY LR LR
comp=Z,930nm,6.1s
TIY LR LR
comp=Z,1μm,4.7s
INU Inuyama 16.34 45 ePn Pn 06 52 52.0 +0.5
comp=Z,62nm,0.9s
BJT Baijiatuau 16.49 342 ePn P 06 52 53.9 -0.6
comp=Z,63nm,1.1s
BJT Baijiatuau 16.49 342 eP P 06 52 53.9 -0.6
BJT pmax pmax
comp=Z,63nm,1.1s
BJI Beijing 16.50 342⇑iP P 06 52 55.2 +0.5
BJI pmax pmax
comp=Z,16nm,1.2s
BJI LR LR
comp=Z,400nm,4.3s
PAGZ Pagadian 16.55 178 eP P 06 52 55.0 -0.4
BUKP Musuan 16.64 172 eP P 06 52 56.9 +0.4
JHJ Hachijo jima 2 17.12 56 P P 06 53 01.4 -0.2
comp=Z,52nm,0.3s,baz=212,slow=9.6,SNR=8.0
JHJ2 Mitsune 17.15 56 ePn P 06 53 05.0 +3.2
comp=Z,919nm,1.1s
CBIJ Chichi jima 17.59 77 ePn Pn 06 53 07.0 +0.1
comp=Z,268nm,0.5s
CBIJ eSn Sn 06 56 19.3 -3.2
JCJ Chichijima 17.59 77 P Pn 06 53 07.6 +0.7
MAJO Matsushiro 17.84 44 eP P 06 53 08.3 -1.2
comp=Z,26nm,1.0s
MAJO Matsushiro 17.84 44 eP P 06 53 08.3 -1.2
MAJO pmax pmax
comp=Z,27nm,1.0s
MAT Matsushiro 17.84 44 P P 06 53 08.2 -1.3
MAT eS S 06 56 34.2 +4.8
MJAR Matsushiro Arr 17.84 44 P P 06 53 08.3 -1.1
comp=Z,2.0nm,0.3s,baz=242,slow=12,SNR=19
MJAR LR LR 07 00 16.3
comp=Z,808nm,20.7s,baz=230,slow=38
MJAR ScP ScP 07 01 10.1 -0.4
comp=Z,0.2nm,0.3s,baz=244,slow=5.4,SNR=6.1
MJB9 Matsu-Tunnel 17.84 44 eP P 06 53 08.3 -1.1
comp=Z,27nm,1.0s
SKMP Bagumbayan, Su 17.93 175 eP Pn 06 53 11.6 +0.5
CD2 Chengdu 18.09 295 ⇑P Pn 06 53 13.2 +0.3
CD2 pP pP 06 53 28.0 -0.3
CD2 sP sP 06 53 37.5 -1.1
CD2 S Sn 06 56 34.3 -0.2
CD2 pmax pmax
comp=Z,110nm,0.6s
CD2 pmax pmax
comp=Z,300nm,5.2s
CD2 LR LR
comp=Z,1μm,7.2s
CD2 LR LR
comp=Z,1μm,6.6s
KMI Kunming 18.29 276 P Pn 06 53 18.8 +3.2
KMI pP pP 06 53 29.9 -0.8
KMI sP sP 06 53 34.2 -6.7
KMI S Sn 06 56 41.2 +1.5
KMI sS sS 06 56 57.2 -8.6
KMI pmax pmax
comp=Z,26nm,1.4s
KMI pmax pmax
comp=Z,180nm,6.2s
KMI LR LR
comp=Z,2μm,15.6s
KMI LR LR
comp=Z,700nm,15.3s
KMI LR LR
comp=Z,1μm,19.3s
KDM Kudat 18.40 199 P Pn 06 53 18.6 +1.9
HHC Hu-ho-hao-te 18.86 333 eP Pn 06 53 24.5 +2.3
HHC pP pP 06 53 38.3 +1.6
HHC sP sP 06 53 48.7 +1.8
HHC S S 06 56 49.1 -1.8
HHC SS SnSn 06 57 17.3 +8.5
HHC pmax pmax
comp=Z,24nm,1.2s
HHC pmax pmax
comp=Z,150nm,5.5s
HHC LR LR
comp=Z,560nm,7.5s
HHC LR LR
comp=Z,800nm,9.4s
SKNT Sakolnakorn 19.17 251 P Pn 06 53 29.6 +3.7
comp=Z,14nm,1.1s
MSHR Mys Shultsa 19.31 19⇓eP P 06 53 25.6 +0.1
CN2 Changchun 19.39 6 ⇓P Pn 06 53 28.6 +0.3
CN2 eS Sn 06 57 06.4 +1.0
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,490nm,10.0s
CN2 LR LR
comp=Z,1μm,10.0s
CN2 LR LR
comp=Z,720nm,11.0s
KKM Kota Kinabalu 19.41 200 eP Pn 06 53 28.8 -0.1
comp=Z,452nm,1.0s
KKM Kota Kinabalu 19.41 200 P Pn 06 53 29.1 +0.2
NONG Nongkai 19.45 255 P Pn 06 53 33.2 +4.0
comp=Z,1.3nm,1.0s
VLA Vladivostok 20.02 20⇑eP P 06 53 32.8 -0.4
VLA pmax pmax
comp=Z,9.0nm,0.6s
LZH Lanzhou 20.05 310 eP P 06 53 35.0 +1.1
LZH pP pP 06 53 51.0 +1.2
LZH sP sP 06 53 58.8 -1.2
LZH eS S 06 57 08.5 -6.4
LZH SS SnSn 06 57 39.6 +1.7
LZH pmax pmax
comp=Z,38nm,1.2s
LZH pmax pmax
comp=Z,260nm,6.0s
LZH LR LR
comp=Z,1μm,10.6s
LZH LR LR
comp=Z,2μm,12.5s
MDJ Mudanjiang 20.82 14 P P 06 53 41.8 0.0
MDJ pP pP 06 53 56.8 -1.0
MDJ sP sP 06 54 06.3 -1.5
MDJ S S 06 57 31.3 +1.8
MDJ sS sS 06 57 56.5 +0.3
MDJ SS SnSn 06 57 58.0 +1.6
MDJ pmax pmax
comp=Z,30nm,0.7s
MDJ LR LR
comp=Z,870nm,16.7s
MDJ LR LR
comp=Z,2μm,13.5s
MDJ LR LR
comp=Z,1μm,17.5s
MDJ Mudanjiang 20.82 14 eP P 06 53 41.9 +0.1
comp=Z,66nm,1.0s
USA0B Ussuriysk Arra 21.03 19 eP P 06 53 43.6 -0.6
comp=Z,52nm,1.1s
USRK Ussuriysk Ar. 21.03 19 P P 06 53 43.4 -0.7
comp=Z,30nm,0.6s,baz=206,slow=9.8,SNR=82
USRK ScP ScP 07 01 14.5 -3.1
comp=Z,2.1nm,0.8s,baz=96,slow=1.9,SNR=5.2
USRK LR LR 07 02 58.5
comp=Z,381nm,19.7s,baz=184,slow=40
CHAI Chaiyaphum 21.36 250 P P 06 53 50.3 +2.5
comp=Z,20nm,0.8s,comp=Z,178nm
PBKT Sadao Pong 21.95 253 P P 06 53 57.3 +3.2
comp=Z,57nm,1.6s,comp=Z,1μm
SRAK Srakaew 22.22 246 P P 06 53 54.7 -2.4
CMMT Chiang Mai 22.93 260 P P 06 54 06.0 +1.5
comp=Z,34nm,0.8s,comp=Z,964nm
CHTO Chiang Mai 22.93 260 eP P 06 54 05.6 +1.1
comp=Z,26nm,0.9s
CHTO Chiang Mai 22.93 260 eP P 06 54 05.6 +1.1
CHTO pmax pmax
comp=Z,26nm,0.9s
CHTO Chiang Mai 22.93 260 P P 06 54 06.1 +1.6
comp=Z,151nm,0.9s,comp=Z,4μm
CM01 Chiang Mai Arr 23.04 259 eP P 06 54 05.4 -0.2
CMAR Chiang Mai Arr 23.04 260 P P 06 54 06.1 +0.5
comp=Z,8.2nm,0.8s,baz=61,slow=8.4,SNR=18
CMAR PcP PcP 06 57 53.3 +0.8
comp=Z,1.3nm,0.3s,baz=18,slow=1.0,SNR=5.1
CMAR ScP ScP 07 01 24.1 +0.9
comp=Z,1.3nm,0.3s,baz=40,slow=0.6,SNR=5.5
CMAR LR LR 07 03 11.5
comp=Z,558nm,20.5s,baz=85,slow=37
TEY Ternei 23.34 25⇑eP P 06 54 04.9 -3.2
TEY e 06 54 26.2
TEY pmax pmax
comp=Z,20nm,1.5s
TEY pmax pmax
comp=Z,30nm,1.0s
UTHA Uthaitani 23.70 252 P P 06 54 15.3 +3.6
comp=Z,5.3nm,1.1s
KMSI Cibinong 23.79 177 P P 06 54 13.9 +1.5
comp=Z,458nm,1.2s,comp=Z,17μm
MRSI Marisa 23.88 182 P P 06 54 15.6 +2.4
comp=Z,247nm,0.7s,comp=Z,3μm
UMPA Umpang Tak 23.94 254 P P 06 54 17.6 +3.7
comp=Z,11nm,1.1s
TNTI Ternate 23.97 169 eP P 06 54 15.4 +1.3
comp=Z,343nm,0.8s
TNTI Ternate 23.97 169 P P 06 54 16.7 +2.7
comp=Z,497nm,0.9s,comp=Z,5μm
MPSI Mapaga 24.18 187 P P 06 54 16.9 +1.0
comp=Z,33nm,0.9s,comp=Z,684nm
SBUM Sibu 24.20 207 eP P 06 54 16.6 +0.5
comp=Z,211nm,1.1s
SBUM Sibu 24.20 207 P P 06 54 17.0 +0.9
ERM Erimo 24.26 39 eP P 06 54 14.2 -2.3
comp=Z,56nm,0.9s
ERM Erimo 24.26 39 eP P 06 54 14.2 -2.3
ERM pmax pmax
comp=Z,56nm,0.9s
GTA Gaotai 24.48 313 ⇓P P 06 54 18.4 -0.3
GTA pP pP 06 54 37.2 +0.3
GTA sP sP 06 54 45.9 -0.5
GTA PcP PcP 06 57 56.9 +1.5
GTA S S 06 58 30.2 -3.2
GTA sS sS 06 58 59.8 -5.4
GTA SS SnSn 06 59 30.8 +4.7
GTA ScP ScP 07 01 27.0 +0.1
GTA pmax pmax
comp=Z,9.0nm,1.1s
GTA pmax pmax
comp=Z,110nm,6.4s
GTA LR LR
comp=Z,910nm,15.9s
GTA LR LR
comp=Z,700nm,19.0s
SRDT SRDT 24.52 250 P P 06 54 24.5 +5.4
comp=Z,20nm,1.3s
PHET Kaeng Krachan 24.80 247 P P 06 54 30.3 +8.7
HIA Hailar 24.86 355 eP P 06 54 22.0 +0.1
comp=Z,55nm,1.1s
HIA Hailar 24.86 355 eP P 06 54 22.0 +0.1
HIA pmax pmax
comp=Z,55nm,1.1s
ASAJ Asahikawa 25.36 35 P P 06 54 24.2 -2.2
comp=Z,28nm,0.4s,baz=137,slow=1.4,SNR=22
ASAJ Asahikawa 25.36 35 eP P 06 54 24.7 -1.8
comp=Z,38nm,0.5s
LUWI Luwuk 25.37 180 eP P 06 54 25.9 -0.8
comp=Z,435nm,0.9s
LUWI Luwuk 25.37 180 P P 06 54 26.2 -0.6
comp=Z,523nm,1.0s,comp=Z,8μm
KLR Kul'dur 25.67 14 P P 06 54 28.8 -0.4
comp=Z,40nm,0.7s,baz=225,slow=5.9,SNR=92
KLR Kul'dur 25.67 14 dP P 06 54 28.2 -1.0
KSM Kuching 25.90 210 eP P 06 54 31.3 -0.3
comp=Z,206nm,1.0s
KSM Kuching 25.90 210 P P 06 54 32.6 +1.0
MTKI Muara Teweh, K 26.43 198 P P 06 54 37.6 +1.2
comp=Z,278nm,0.9s
SIJI Sorong 26.48 161 P P 06 54 36.8 -0.1
comp=Z,32nm,0.6s,baz=260,slow=2.6,SNR=12
SIJI LR LR 07 04 16.8
comp=Z,94nm,21.8s,baz=280,slow=34
ULN Ulaanbaatar 26.50 336 eP P 06 54 37.7 +0.8
comp=Z,30nm,1.1s
ULN Ulaanbaatar 26.50 336 dP P 06 54 36.0 -0.9
ULN pmax pmax
comp=Z,14nm,1.7s
SANI Sanana 26.55 173 P P 06 54 37.4 0.0
comp=Z,402nm,0.8s,comp=Z,3μm
STKI Sintang 26.66 206 P P 06 54 40.1 +1.6
comp=Z,124nm,0.7s,comp=Z,18μm
SONA0 Songino Array 26.72 335 eP P 06 54 38.5 -0.4
SONM Songino Array 26.72 335 P P 06 54 38.5 -0.4
comp=Z,14nm,1.0s,baz=148,slow=8.9,SNR=47
SONM ScP ScP 07 01 32.0 -1.2
comp=Z,1.8nm,0.8s,baz=143,slow=3.6,SNR=7.0
SONM LR LR 07 06 31.4
comp=Z,405nm,18.1s,baz=147,slow=39
SONA1 Songino Array 26.73 335 eP P 06 54 38.0 -0.9
YSS Yuzh-Sakhalins 27.48 30 eP P 06 54 44.5 -0.9
comp=Z,33nm,0.9s
YSS Yuzh-Sakhalins 27.48 30 eP P 06 54 44.2 -1.3
YSS e 06 54 59.9
YSS e*SP pwP 06 55 08.9 +2.7
YSS e 06 55 33.7
YSS ePPP PPP 06 55 53.4
YSS eS S 06 59 15.2 -5.0
YSS pmax pmax
comp=Z,20nm,0.7s
YSS MLR MLR
comp=Z,600nm,15.0s
YSS MLR MLR
comp=N,700nm,14.0s
TTSI Tana Toraja 27.52 187 P P 06 54 47.9 +1.8
comp=N,58nm,1.2s,comp=N,869nm
NLAI Namlea 27.86 171 P P 06 54 50.9 +1.8
comp=N,698nm,0.8s,comp=N,5μm
SHL Shillong 28.07 279 eP P 06 54 51.7 +0.5
comp=N,71nm,1.1s
SHL Shillong 28.07 279 eP P 06 54 51.7 +0.5
SHL pmax pmax
comp=Z,71nm,1.1s
RKPI Ransiki, Papua 28.07 155 P P 06 54 53.0 +1.9
SPSI Sidrap Palu 28.44 187 P P 06 54 54.6 +0.3
comp=Z,31nm,1.2s

BRDH Bariadhala 28.65 273 P **P** **06 54 56.4 +0.2**
comp=Z,44nm,0.3s,baz=74,slow=12,SNR=4.6
LSA Lhasa 28.66 287 *eP* **P** **06 54 58.6 +1.8**
comp=Z,15nm,0.9s
LSA Lhasa 28.66 287 *eP* **P** **06 54 58.6 +1.8**
LSA pmax pmax
comp=Z,15nm,0.9s
FAKI Fak Fak 28.72 160 *eP* **P** **06 54 57.5 +0.7**
comp=Z,160nm,0.9s
FAKI Fak Fak 28.72 160 P **P** **06 54 57.0 +0.2**
comp=Z,185nm,1.1s,comp=Z,2µm
IPM Ipoh 28.94 230 *eP* **P** **06 54 59.5 +0.6**
comp=Z,22nm,1.1s
MYKOM Kota Tinggi 29.10 222 *eP* **P** **06 55 01.2 +1.0**
comp=Z,21nm,1.0s
MYKOM Kota Tinggi 29.10 222 P **P** **06 55 01.4 +1.2**
SRPI Serui, Papua 29.24 152 P **P** **06 55 02.0 +0.6**
comp=Z,192nm,0.4s
ZEA Zeya 29.40 5 *eP* **P** **06 55 02.0 -0.5**
ZEA *e* 07 05 32.0
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=N,72nm,1.2s
ZEA pmax pmax
comp=Z,92nm,1.2s
ZEA MLR MLR
comp=Z,500nm,14.0s
ZEA MLR MLR
comp=N,400nm,12.0s
ZAK Zakamensk 29.99 335 *eP* **P** **06 55 05.8 -2.1**
ZAK *e* 07 01 41.8
ZAK pmax pmax
comp=Z,8.0nm,1.4s
PPBI Pangkal Pinang 31.07 214 P **P** **06 55 18.1 +0.5**
comp=Z,33nm,0.9s,comp=Z,3µm
PSI Prapat 31.60 231 LR LR 07 07 24.2
comp=Z,428nm,21.5s,baz=89,slow=34
PSI Prapat 31.60 231 *eP* **P** **06 55 23.2 +0.8**
comp=Z,18nm,1.0s
PSI Prapat 31.60 231 *eP* **P** **06 55 23.3 +0.8**
PSI pmax pmax
comp=Z,18nm,1.0s
RGRI Rengat 31.71 222 P **P** **06 55 24.7 +1.5**
comp=Z,348nm,0.5s
MOY Mondy 31.89 334 *eP* **P**
MOY pmax pmax **06 55 23.4 -1.2**
comp=Z,26nm,1.9s
JAY Jayapura 31.95 145 LR LR 07 05 28.4
comp=Z,432nm,21.6s,slow=31
JMBI JAMBI 31.97 218 P **P** **06 55 28.2 +2.7**
comp=Z,2µm,0.4s
BKNI Bangkinang 31.99 225 *eP* **P** **06 55 26.8 +1.1**
comp=Z,96nm,0.4s
BKNI Bangkinang 31.99 225 P **P** **06 55 27.2 +1.5**
comp=Z,100nm,0.4s,comp=Z,12µm
ODAN Odare 32.00 282 *eP* **P** **06 55 26.9 +0.8**
comp=Z,42nm,0.8s
PMBI Palembang 32.43 215 P **P** **06 55 31.8 +2.3**
MNSI Mandailing Nat 32.60 227 P **P** **06 55 31.7 +0.7**
comp=Z,67nm,0.9s,comp=Z,8µm
RAMN Ramite 32.70 282 *eP* **P** **06 55 33.0 +0.8**
comp=Z,20nm,0.6s
MMRI Maumere 32.92 181 *eP* **P** **06 55 34.4 +0.6**
comp=Z,323nm,0.8s
MMRI Maumere 32.92 181 P **P** **06 55 35.0 +1.2**
comp=Z,532nm,1.2s,comp=Z,5µm
PPI Padang Panjang 33.00 225 P **P** **06 55 35.9 +1.4**
JIRN Jiri 33.02 284 *eP* **P** **06 55 36.1 +1.0**
comp=Z,66nm,1.0s
EDFI Ende, Flores 33.05 182 P **P** **06 55 35.2 +0.2**
comp=Z,450nm,0.9s,comp=Z,4µm
GUN Gumba 33.29 284 *eP* **P** **06 55 38.2 +0.8**
comp=Z,108nm,1.1s
SAUI Saumlaki 33.30 165 *eP* **P** **06 55 37.6 +0.5**
comp=Z,295nm,0.8s
SAUI Saumlaki 33.30 165 P **P** **06 55 37.0 -0.1**
comp=Z,414nm,0.8s
PDSI Padang 33.31 224 P **P** **06 55 37.7 +0.4**
NGJI Ngawi 33.55 201 P **P** **06 55 41.7 +2.4**
comp=Z,124nm,0.9s
GSI Gunungsitoli 33.60 231 *eP* **P** **06 55 40.0 +0.2**
comp=Z,22nm,0.8s
KRJI Kerinci 33.62 221 P **P** **06 55 41.8 +1.8**
comp=Z,212nm,1.1s
KKN Kakani 33.82 284 *eP* **P** **06 55 42.4 +0.5**
comp=Z,36nm,0.8s
LHSI Lahat 33.85 216 P **P** **06 55 43.5 +1.6**
comp=Z,116nm,0.8s
DMN Daman 33.99 284 *eP* **P** **06 55 44.2 +0.8**
comp=Z,28nm,0.7s
MASI Maura Aman, Be 34.00 219 P **P** **06 55 45.5 +2.2**
comp=Z,320nm,0.9s
KLI Kotabumi 34.03 213 P **P** **06 55 45.2 +1.7**
KLI pmax pmax
comp=Z,160nm,0.7s
KLI Kotabumi 34.03 213 P **P** **06 55 44.6 +1.1**
comp=Z,160nm,0.7s
SOEI Soe 34.06 178 *eP* **P** **06 55 42.7 -1.1**
comp=Z,85nm,0.8s
SOEI Soe 34.06 178 P **P** **06 55 42.7 -1.1**
comp=Z,115nm,1.2s
MDSI Maura Dua 34.06 215 P **P** **06 55 44.8 +1.1**
comp=Z,93nm,0.9s
WOJI Wonogiri, Jawa 34.17 201 P **P** **06 55 45.8 +1.1**
comp=Z,108nm,0.9s
BLSI Bandar Lampung 34.28 212 P **P** **06 55 47.9 +2.3**
UGM Wanagama 34.38 202 *eP* **P** **06 55 44.6 -1.8**
comp=Z,145nm,1.1s
BATI Baumata 34.49 179 LR LR 07 10 06.5
comp=Z,139nm,21.6s,baz=316,slow=36
BATI Baumata 34.49 179 P **P** **06 55 46.3 -1.1**
comp=Z,108nm,0.9s
LEM Lembang 34.49 207 P **P** **06 55 49.8 +2.2**
LEM pmax pmax
comp=Z,54nm,0.9s
LEM Lembang 34.49 207 P **P** **06 55 49.9 +2.3**
comp=Z,858nm,0.9s
SBJI Serang 34.52 210 P **P** **06 55 48.8 +1.1**
comp=Z,258nm,1.1s
WMQ Urumqi 34.57 313 *eP* **P** **06 55 51.3 +3.3**
WMQ pP pP 06 56 07.2 +0.5
WMQ sP sP 06 56 18.7 +2.7
WMQ PcP **PcP** **06 58 22.5 +1.5**
WMQ S **S** **07 01 11.7 +0.5**
WMQ pmax pmax
comp=Z,23nm,1.1s
WMQ pmax pmax
comp=Z,210nm,7.7s
WMQ LR LR
comp=Z,1µm,18.7s
WMQ LR LR
comp=Z,480nm,15.9s
LWLI Liwa 34.57 214 P **P** **06 55 49.1 +0.8**
comp=Z,121nm,0.8s
MNAI Manna 34.61 217 *eP* **P** **06 55 45.7 -2.8**
comp=Z,255nm,0.8s
MNAI Manna 34.61 217 P **P** **06 55 49.6 +1.1**
comp=Z,356nm,1.1s
DBJI Dramaga 34.62 209 P **P** **06 55 51.1 +2.5**
comp=Z,107nm,0.5s
KASI Kota Agung 34.78 213 P **P** **06 55 50.0 0.0**
comp=Z,125nm,1.0s
HVS Khovu-Aksy 34.79 327⇓ *eP* **P** **06 55 52.0 +2.2**
HVS pmax pmax
comp=Z,19nm,1.1s
CISI Cisompet, Garu 35.07 207 *eP* **P** **06 55 51.3 -1.1**
comp=Z,149nm,0.3s
DANN Dangsing 35.13 285 *eP* **P** **06 55 54.1 +0.8**
comp=Z,72nm,1.1s
KOLN Koldanda 35.31 284 *eP* **P** **06 55 55.2 +0.5**
comp=Z,52nm,1.0s
PYUN Piuthan 35.83 285 *eP* **P** **06 55 59.7 +0.6**
comp=Z,53nm,0.9s
DGZ Jazzator, Alta 37.30 322⇑ *eP* **P** **06 56 11.3 -0.1**
DGZ pmax pmax
comp=Z,1.0nm,0.7s
YAK Yakutsk 37.82 5 *eP* **P** **06 56 13.4 -1.9**
YAK *e**PP **pP** **06 56 31.6 -2.4**
YAK *e* 06 58 26.7
YAK *eS* **S** **07 01 58.9 -1.2**
YAK pmax pmax
comp=Z,40nm,1.0s
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK smax smax
comp=N,67nm,3.3s
YAK smax smax
comp=E,90nm,3.2s
YAK MLR MLR
comp=Z,440nm,24.0s
YAK MLR MLR
comp=E,337nm,17.0s
YAK MLR MLR
comp=N,647nm,24.0s
PEA0B Petropavlovsk- 38.77 33 *eP* **P** **06 56 22.1 -1.3**
comp=N,38nm,1.1s
PETK Petropavlovsk- 38.77 33 P **P** **06 56 21.4 -2.1**
comp=N,4.0nm,0.5s,baz=229,slow=4.2,SNR=38
PETK LR LR 07 12 26.2
comp=N,346nm,20.6s,baz=229,slow=36
PETK Petropavlovsk- 38.77 33 *eP* **P** **06 56 21.6 -1.8**
PETK Petropavlovsk- 38.77 33 *eP* **P** **06 56 21.6 -1.8**
PEA1 Petropavlovsk- 38.77 33 *eP* **P** **06 56 21.4 -2.1**
MK01 Makanchi Array 39.19 315 *eP* **P** **06 56 27.0 -0.1**
PET Petropavlovsk 39.20 34 *eP* **P** **06 56 25.4 -1.6**
comp=N,27nm,0.7s
PET Petropavlovsk 39.20 34⇓ *iP* **P** **06 56 25.7 -1.3**
PET pmax pmax
comp=Z,26nm,1.0s
MK31 Makanchi Array 39.20 315 *eP* **P** **06 56 26.5 -0.7**
MK31 Makanchi Array 39.20 315 *eP* **P** **06 56 26.5 -0.7**
MK32 Makanchi Array 39.20 315 *eP* **P** **06 56 26.8 -0.5**
MK32 *e*PcP **PcP** **06 58 33.8 -1.2**
MKAR Makanchi Array 39.20 315 P **P** **06 56 26.8 -0.5**
comp=Z,3.6nm,0.5s,baz=100,slow=9.1,SNR=54
MKAR PcP **PcP** **06 58 33.8 -1.2**
comp=Z,2.7nm,0.6s,baz=113,slow=4.4,SNR=3.4
MKAR ScP **ScP** **07 02 15.7 -0.5**
comp=Z,2.5nm,0.7s,baz=98,slow=5.2,SNR=8.1
MKAR Makanchi Array 39.20 315 *eP* **P** **06 56 26.5 -0.7**
comp=Z,56nm,0.9s
MKAR *e*S **S** **07 02 15.9 -5.6**
MAKZ Makanchi 39.41 315 *eP* **P** **06 56 28.2 -0.7**
comp=Z,19nm,1.0s
MAKZ Makanchi 39.41 315 *eP* **P** **06 56 28.2 -0.7**
MAKZ pmax pmax
comp=Z,19nm,1.0s
PDGK Podgornoye 40.09 309 P **P** **06 56 34.8 0.0**
PDGK pmax pmax
comp=Z,32nm,1.0s
RABL Rabaul 40.31 131 *eP* **P** **06 56 37.3 +0.6**
comp=Z,122nm,0.8s
WAKE Wake Island 40.83 88 *eP* **P** **06 56 39.9 -1.1**
comp=Z,346nm,0.6s
ZAA0 Zalesovo Array 40.84 326 *eP* **P** **06 56 39.2 -1.4**
comp=Z,26nm,1.1s
ZALV Zalesovo Beam 40.84 326 P **P** **06 56 39.1 -1.5**
comp=Z,2.9nm,0.4s,baz=120,slow=8.3,SNR=19
ZALV PcP **PcP** **06 58 39.8 -0.2**
comp=Z,2.0nm,0.6s,baz=124,slow=3.6,SNR=2.5
ZALV ScP **ScP** **07 02 20.8 -1.6**
comp=Z,2.6nm,0.8s,baz=116,slow=3.4,SNR=6.3
ZALV LR LR 07 14 52.9
comp=Z,146nm,19.6s,baz=72,slow=38
ZALV Zalesovo Beam 40.84 326 *eP* **P** **06 56 38.7 -1.9**
ZAA1 Zalesovo Array 40.84 326 *eP* **P** **06 56 39.1 -1.5**
PMG Port Moresby 41.19 142 LR LR 07 13 25.3
comp=Z,127nm,20.4s,baz=327,slow=35
PMG Port Moresby 41.19 142 *eP* **P** **06 56 44.3 +0.4**
comp=Z,126nm,0.9s
PMG Port Moresby 41.19 142 *eP* **P** **06 56 44.3 +0.4**
PMG pmax pmax
comp=Z,126nm,0.9s
KDJ Kajisay 41.51 307 *eP* **P** **06 56 47.0 +0.5**
comp=Z,25nm,1.0s
KDJ Kajisay 41.51 307 *eP* **P** **06 56 47.0 +0.5**
KDJ pmax pmax
comp=Z,25nm,1.0s
HYB Hyderabad 41.84 269 *i* P **P** **06 56 50.5 +1.2**
KSH Kashi 42.03 302 P **P** **06 56 53.3 +2.6**
KSH pP pP 06 57 11.8 +1.6
KSH sP sP 06 57 19.4 0.0
KSH S **S** **07 03 06.0 +2.0**
KSH sS sS 07 03 41.0 +3.9
KSH pmax pmax
comp=Z,16nm,0.6s
KSH pmax pmax
comp=Z,370nm,5.6s
KSH LR LR
comp=Z,520nm,14.3s
NVS Novosibirsk 42.09 327 *i* P **P** **06 56 51.4 +0.6**
FITZ Fitzroy Crossi 42.41 176 P **P** **06 56 53.8 +0.1**
comp=Z,110nm,0.9s,baz=10.0,slow=7.9,SNR=12
FITZ PcP **PcP** **06 58 45.6 +0.1**
comp=Z,8.7nm,0.6s,baz=0.0,slow=7.1,SNR=3.4
FITZ LR LR 07 18 33.7
comp=Z,28nm,18.1s,baz=11,slow=42
FITZ Fitzroy Crossi 42.41 176 *eP* **P** **06 56 54.0 +0.3**
comp=Z,137nm,1.0s
TKM2 Tokmak 2 42.80 307 P **P** **06 56 57.5 +0.5**
SNR=14
KURK Kurchatov 42.86 319 *eP* **P** **06 56 56.5 -0.6**
comp=Z,16nm,1.1s
KURK Kurchatov 42.86 319 *c iP* **P** **06 56 55.8 -1.3**
KURK pmax pmax
comp=Z,15nm,1.7s
COEN Coen 43.04 150 *eP* **P** **06 57 00.8 +1.9**
comp=Z,282nm,1.1s
SEY Seymchan 43.18 19⇑ *iP* **P** **06 56 58.5 -1.0**
KBK Karagaybulak 43.23 307 P **P** **06 57 00.9 +0.5**
SNR=6.2
CHMS Chumysh 43.42 307 P **P** **06 57 02.4 +0.6**
SNR=5.0
UCH Uchtor 43.48 306 P **P** **06 57 03.9 +1.1**
SNR=15
AAK Ala-Archa 43.55 307 *eP* **P** **06 57 01.7 -1.3**
comp=Z,10.0nm,1.0s
AAK Ala-Archa 43.55 307⇑ *eP* **P** **06 57 02.3 -0.7**
AAK pmax pmax
comp=Z,3.0nm,0.8s
PALK Pallekele 43.80 254 LR LR 07 15 25.2
comp=Z,194nm,21.2s,baz=114,slow=36
SFK Sufi-Kurgan 43.98 303 P **P** **06 57 07.6 +1.1**
SFK pmax pmax
comp=Z,18nm,0.9s
AML Almayashu 44.07 306 P **P** **06 57 07.6 +0.1**
SNR=5.6
MBWA Marble Bar 45.47 184 *eP* **P** **06 57 18.1 -0.1**
comp=Z,115nm,0.8s
WRAB Tennant Creek 45.54 165 *eP* **P** **06 57 19.9 +1.1**
comp=Z,495nm,0.9s
WRAB Tennant Creek 45.54 165 *eP* **P** **06 57 19.9 +1.1**
WRAB pmax pmax
comp=Z,495nm,0.9s
WR1 Warramunga Arr 45.55 165 *eP* **P** **06 57 19.9 +1.1**
comp=Z,529nm,0.8s
WR1 *e*PcP **PcP** **06 58 56.7 +0.4**
WRA Warramunga Arr 45.55 165 P **P** **06 57 19.9 +1.1**
comp=Z,455nm,0.7s,baz=347,slow=8.7,SNR=726
WRA PcP **PcP** **06 58 56.7 +0.4**
comp=Z,6.9nm,0.7s,baz=345,slow=4.3,SNR=2.2
WRA LR LR 07 21 40.2
comp=Z,17nm,18.9s,baz=220,slow=43
WRA Warramunga Arr 45.55 165 P **P** **06 57 19.9 +1.1**
WRA 06 58 56.7
WRA pmax pmax
comp=Z,441nm,0.8s
WB2 Warramunga Arr 45.55 165 *eP* **P** **06 57 20.2 +1.3**
OTUK Ortayu 46.08 314 P **P** **06 57 22.9 +0.1**
OTUK pmax pmax
comp=Z,32nm,1.2s
GAR Garm 46.37 301 *eP* **P** **06 57 24.4 -1.0**
comp=Z,71nm,1.0s
GAR Garm 46.37 301 *eP* **P** **06 57 24.4 -1.0**
GAR pmax pmax
comp=Z,71nm,1.0s
KK31 Karatay Array 46.52 307 *eP* **P** **06 57 25.1 -1.2**
KK31 Karatay Array 46.52 307 *eP* **P** **06 57 25.1 -1.2**
KKAR Karatay Array 46.52 307 *eP* **P** **06 57 26.2 -0.1**
KKAR Karatay Array 46.52 307 *eP* **P** **06 57 26.2 -0.1**
CHGR Chuyangaron 47.27 301 *eP* **P** **06 57 32.3 0.0**
comp=Z,40nm,0.9s
TIXI Tiksi 47.32 3 *eP* **P** **06 57 30.9 -1.2**
comp=Z,14nm,0.8s
TIXI Tiksi 47.32 3⇓ *iP* **P** **06 57 30.8 -1.3**
TIXI pmax pmax
comp=Z,15nm,0.8s
KBL Kabul 47.43 295 P **P** **06 57 34.3 +0.5**
KBL pmax pmax
comp=Z,48nm,1.0s
GIRL Giralia 47.59 191 *eP* **P** **06 57 35.9 +1.1**
comp=Z,111nm,1.1s
BRVK Borovoye 48.49 320 *eP* **P** **06 57 40.6 -0.8**
comp=Z,12nm,1.0s
BRVK Borovoye 48.49 320⇓ *iP* **P** **06 57 40.7 -0.8**
BRVK pmax pmax
comp=Z,7.0nm,1.2s
AS31 Alice Springs 49.04 167 *eP* **P** **06 57 47.1 +1.1**
comp=Z,37nm,0.7s
ASAR Alice Springs 49.05 167 P **P** **06 57 47.5 +1.4**
comp=Z,91nm,0.8s,baz=347,slow=9.7,SNR=871
ASAR PcP **PcP** **06 59 08.6 -0.1**
comp=Z,5.2nm,0.5s,baz=350,slow=4.7,SNR=2.0
ASAR ScP **ScP** **07 02 56.0 -0.6**
comp=Z,1.6nm,0.9s,baz=357,slow=3.7,SNR=4.3
AS01 Alice Springs 49.05 167 *eP* **P** **06 57 47.8 +1.7**
CTA Charters Tower 49.81 151 P **P** **06 57 53.5 +1.7**
comp=Z,80nm,1.1s,baz=329,slow=9.4,SNR=23
CTAO Charters Tower 49.81 151 *eP* **P** **06 57 53.8 +1.9**
comp=Z,127nm,1.1s
CTAO Charters Tower 49.81 151 *eP* **P** **06 57 53.8 +1.9**
CTAO pmax pmax
comp=Z,127nm,1.1s
BILL Bilibino 50.89 19 *ceP* **P** **06 57 58.2 -1.2**
BILL *i* 06 59 12.0
BILL pmax pmax
comp=Z,8.0nm,1.3s
BILL MLR MLR
comp=Z,284nm,18.0s
ADK Adak 52.99 42 *eP* **P** **06 58 14.8 -0.4**
comp=Z,48nm,1.0s
ADK Adak 52.99 42 *eP* **P** **06 58 14.8 -0.4**
ADK pmax pmax
comp=Z,48nm,1.0s
MORW Morawa 53.65 187 *eP* **P** **06 58 20.2 0.0**
comp=Z,40nm,0.8s
ABKAR Akbulak array 54.34 314 *eP* **P** **06 58 25.0 -0.2**
ATKA Atka Island 54.55 42 *eP* **P** **06 58 26.1 -0.5**
comp=Z,73nm,1.1s
SVE Sverdlovsk 54.72 323⇑ *eP* **P** **06 58 27.1 -0.7**
SVE pmax pmax
comp=Z,16nm,1.0s
FORT Forrest 55.17 175 *eP* **P** **06 58 32.8 +1.5**
comp=Z,245nm,0.8s
ARU Arti 55.80 323 *eP* **P** **06 58 34.5 -1.0**
comp=Z,11nm,0.9s
ARU Arti 55.80 323 *c iP* **P** **06 58 35.2 -0.3**
ARU *PP **pP** **06 58 53.8 -1.9**
ARU 06 59 33.5
ARU 07 00 37.8
ARU S **S** **07 06 18.0 +1.8**
ARU SS **SS** **07 10 05.2 +2.7**
ARU pmax pmax
comp=Z,5.0nm,0.5s
GEYT Alibeck 55.97 300 P **P** **06 58 38.0 +0.9**
comp=Z,7.4nm,0.7s,baz=82,slow=3.1,SNR=6.7
GEYT LR LR 07 26 16.5
comp=Z,178nm,21.9s,baz=110,slow=40
EIDS Eidsvold 56.58 149 *eP* **P** **06 58 42.7 +1.2**
comp=Z,31nm,0.6s
NWAO Narrogin (SRO) 57.34 186 P **P** **06 58 47.2 +0.6**
comp=Z,79nm,0.8s,baz=248,slow=7.0,SNR=56
GAMB Gambell 57.48 29 *eP* **P** **06 58 47.3 -0.1**
comp=Z,7.7nm,1.2s
NIKH Nikolski High 57.85 42 *eP* **P** **06 58 47.3 -2.8**
comp=Z,76nm,0.8s
BBOO Buckleboo 58.34 167 *eP* **P** **06 58 54.8 +1.1**
comp=Z,96nm,0.9s
STKA Stephens Creek 58.83 161 P **P** **06 58 58.2 +1.1**
comp=Z,46nm,0.5s,baz=346,slow=6.2,SNR=178
STKA Stephens Creek 58.83 161 *eP* **P** **06 58 58.2 +1.1**
comp=Z,11nm,0.6s
STKA Stephens Creek 58.83 161 *eP* **P** **06 58 58.3 +1.2**
STKA pmax pmax
comp=Z,11nm,0.6s
UNV Unalaska Valle 59.27 41 *eP* **P** **06 58 58.2 -1.7**
comp=Z,21nm,0.9s
AKUT Akutan 59.70 40 *eP* **P** **06 59 01.8 -1.1**
comp=Z,58nm,1.0s
ANM Nome 60.34 28 *eP* **P** **06 59 07.0 -0.1**
comp=Z,5.9nm,0.8s
ANM Nome 60.34 28 *eP* **P** **06 59 07.0 -0.1**
ANM pmax pmax
comp=Z,6.0nm,0.8s
ARMA Armidale 61.16 152 *eP* **P** **06 59 14.8 +1.6**
comp=Z,46nm,1.0s
SDPT Sand Point 62.72 39 *eP* **P** **06 59 22.1 -1.1**
comp=Z,155nm,1.1s
DZM Mont Dzumac 62.72 134 P **P** **06 59 24.5 +0.7**
comp=Z,13nm,0.6s,baz=268,slow=5.9,SNR=7.9
DZM Mont Dzumac 62.72 134 *eS* S 07 07 57.6 +11
comp=Z,85nm,22.9s
DZM Mont Dzumac 62.72 134 *eLR* LR 07 18 11.1
comp=Z,492nm,24.7s
DZM Mont Dzumac 62.72 134 *eP* **P** **06 59 24.8 +1.0**
comp=Z,18nm,0.7s
PRGR Permogore 62.73 328 *eP* **P** **06 59 21.2 -2.0**
PRGR pmax pmax
comp=Z,14nm,0.7s
CAN Canberra 64.42 156 *eP* **P** **06 59 36.7 +2.0**
comp=Z,29nm,0.7s
CAN Canberra 64.42 156 *eP* **P** **06 59 36.7 +2.0**
CAN pmax pmax
comp=Z,29nm,0.7s
SVW2 Sparrevohn 64.83 32 *eP* **P** **06 59 37.9 +0.8**
comp=Z,17nm,1.2s
IM3 Indian Mountai 65.23 27 *eP* **P** **06 59 39.9 +0.3**
TOO Toolangi 65.29 160 *eP* **P** **06 59 42.1 +1.8**
comp=Z,38nm,0.6s
TOO Toolangi 65.29 160 *eP* **P** **06 59 42.1 +1.8**
TOO pmax pmax
comp=Z,38nm,0.6s
KLMR Klimovskoe 65.73 328 *eP* **P** **06 59 40.6 -2.3**
KLMR pmax pmax
comp=Z,16nm,1.3s
KLMR Klimovskoe 65.73 328 *eP* **P** **06 59 40.7 -2.2**
KLMR AMP 06 59 43.1
comp=Z,16nm,1.2s
VRH Novokhopyorsk 65.89 317 *eP* **P** **06 59 43.8 -0.2**
VRH pmax pmax
comp=Z,10.0nm,1.3s
GNI Garni 65.90 305 LR LR 07 31 20.0
comp=Z,75nm,20.3s,baz=88,slow=38
ZEI Tsey 65.97 308 *eP* **P** **06 59 44.2 -0.8**
ZEI pmax pmax
comp=Z,3.0nm,0.5s
PPLA Purkeypile 66.23 30 *eP* **P** **06 59 46.7 +0.5**
comp=Z,19nm,1.0s
RSO Redoubt South 66.28 33 *eP* **P** **06 59 48.2 +1.5**
OHAK Old Harbor 66.49 36 *eP* **P** **06 59 48.0 +0.3**
comp=Z,55nm,1.2s
KBZ Khabaz 66.49 309 P **P** **06 59 48.3 +0.3**
comp=Z,3.1nm,0.8s,baz=168,slow=2.5,SNR=7.3
KBZ LR LR 07 31 26.8
comp=Z,120nm,21.4s,baz=72,slow=38
COLD Coldfoot 66.51 25 *eP* **P** **06 59 47.4 -0.4**
comp=Z,3.8nm,0.8s
MLY Manley 66.58 27 *eP* **P** **06 59 48.8 +0.4**
comp=Z,12nm,1.1s
KVAR Kislovodsk Arr 66.59 309 LR LR 07 30 33.3
comp=Z,150nm,20.5s,baz=146,slow=37
KIV Kislovodsk 66.59 309⇑ *iP* **P** **06 59 49.8 +0.9**
KIV *i* 07 00 07.3
KIV *e* 07 00 18.4
KIV *e* 07 02 13.0
KIV *e*PPP PPP 07 03 49.7
KIV *eS* **S** **07 08 34.6 +0.8**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,128nm,20.0s
KDAK Kodiak Island 66.77 35 *eP* **P** **06 59 50.0 +0.5**
comp=Z,33nm,1.1s
KDAK Kodiak Island 66.77 35 *i* P **P** **06 59 49.6 0.0**
TRF Thorofare Moun 67.00 29 *eP* **P** **06 59 51.9 +0.7**
comp=Z,13nm,1.1s
SUA Susitna One 67.10 31 *eP* **P** **06 59 51.9 +0.1**
comp=Z,24nm,1.0s
BRLK Bradley Lake 67.32 33 *eP* **P** **06 59 52.8 -0.3**
comp=Z,39nm,1.1s
LPSR Galich'ya Gora 67.34 319 *eP* **P** **06 59 53.0 -0.3**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
APA Apatity 67.43 335⇓ *iP* P 06 59 44.6 -9.0
APA pmax pmax
comp=Z,6.0nm,1.1s

APA MLR MLR
comp=Z,900nm,11.6s
VSR Storozhevoye 67.47 317 ⇓*i*P **P 06 59 53.4 -0.7**
VSR pmax pmax
comp=Z,16nm,1.2s
MCK McKinley 67.55 29 *e*P **P 06 59 53.2 -1.3**
comp=Z,16nm,1.1s
MCK McKinley 67.55 29 *e*P **P 06 59 53.2 -1.3**
MCK pmax pmax
comp=Z,16nm,1.1s
MDM Murphy Dome 67.64 27 *e*P **P 06 59 55.5 +0.4**
comp=Z,22nm,1.1s
RND Reindeer 67.64 29 *e*P **P 06 59 55.1 0.0**
comp=Z,22nm,0.8s
RND Reindeer 67.64 29 *e*P **P 06 59 55.1 0.0**
RND pmax pmax
comp=Z,22nm,0.8s
RC01 Rabbit Creek A 67.65 32 *e*P **P 06 59 56.1 +1.0**
comp=Z,29nm,1.2s
WRH Wood River Hil 67.79 28 *e*P **P 06 59 56.6 +0.7**
comp=Z,22nm,1.2s
TCOL CIGO, UAF Yank 67.81 27 P **P 06 59 57.2 +1.2**
baz=280
COLA College 67.82 27 P **P 06 59 56.8 +0.8**
COLA pmax pmax
comp=Z,9.0nm,2.0s
PMR Palmer 67.84 31 *e*P **P 06 59 56.1 -0.1**
comp=Z,10nm,1.0s
PMR Palmer 67.84 31 *e*P **P 06 59 56.1 -0.1**
PMR pmax pmax
comp=Z,10.0nm,1.0s
GHO Glory Hole Cre 67.91 31 *e*P **P 06 59 57.0 +0.1**
comp=Z,20nm,1.0s
POKR Poker Flat Res 67.95 27 P **P 06 59 57.8 +0.9**
baz=281
SEW Seward 67.97 33 *e*P **P 06 59 57.1 0.0**
comp=Z,45nm,1.2s
SML Sawmill 68.18 31 *e*P **P 06 59 59.0 +0.6**
comp=Z,23nm,1.1s
SML Sawmill 68.18 31 *e*P **P 06 59 59.0 +0.6**
SML pmax pmax
comp=Z,23nm,1.1s
KNK Knik Glacier 68.19 31 *e*P **P 06 59 59.0 +0.5**
comp=Z,37nm,1.1s
OBN Obninsk 68.22 322 LR LR 07 31 10.2
comp=Z,34nm,18.9s,baz=58,slow=37
OBN Obninsk 68.22 322 ⇑*e*P **P 06 59 58.6 -0.1**
OBN *i* 07 00 20.6
OBN *e*S **S 07 08 48.0 -4.6**
OBN pmax pmax
comp=Z,3.0nm,0.6s
OBN MLR MLR
comp=Z,117nm,19.0s
IL1 Eielson Array 68.24 27 *e*P **P 06 59 57.8 -1.0**
ILAR Eielson Array 68.24 27 P **P 06 59 57.6 -1.1**
comp=Z,1.5nm,0.4s,baz=269,slow=4.6,SNR=45
ILAR PKPPKP **P'P'df 07 28 12.4 -6.0**
comp=Z,1.1nm,0.9s,baz=97,slow=2.5,SNR=5.8
ILAR LR LR 07 31 46.0
comp=Z,94nm,19.5s,baz=293,slow=38
ILB Eielson Array 68.24 27 *e*P **P 06 59 57.9 -0.9**
HDA Harding Lake 68.29 28 *e*P **P 06 59 58.0 -1.0**
comp=Z,14nm,1.0s
HDA Harding Lake 68.29 28 P **P 06 59 58.2 -0.8**
baz=281
DHY Denali Highway 68.36 29 *e*P **P 06 59 59.3 -0.4**
comp=Z,11nm,1.1s
SCM Sheep Creek Mo 68.64 31 *e*P **P 07 00 01.7 +0.3**
comp=Z,50nm,1.2s
SCM Sheep Creek Mo 68.64 31 *e*P **P 07 00 01.7 +0.3**
SCM pmax pmax
comp=Z,50nm,1.2s
PRP Porcupine Dome 68.66 27 *e*P **P 07 00 00.9 -0.6**
comp=Z,4.3nm,0.7s
RIDG Independ'e Rid 69.33 28 *e*P **P 07 00 04.7 -0.9**
comp=Z,20nm,1.1s
KLU Klutina 69.37 31 *e*P **P 07 00 05.0 -1.0**
comp=Z,24nm,1.2s
SPA0 Spitsbergen Ar 69.52 348 *e*P **P 07 00 05.2 -1.3**
SCRK Sand Creek 69.65 28 *e*P **P 07 00 07.3 -0.3**
comp=Z,5.8nm,0.7s
EYAK Cordova Ski Ar 69.67 32 *e*P **P 07 00 08.7 +1.1**
comp=Z,47nm,1.2s
DOT Dot Lake 69.69 28 *e*P **P 07 00 07.9 +0.1**
comp=Z,8.5nm,0.9s
ARA0 ARCESS Array S 69.84 338 *e*P **P 07 00 08.1 -0.5**
ARCES ARCESS Array B 69.84 338 P **P 07 00 08.1 -0.5**
comp=Z,5.1nm,0.8s,baz=72,slow=5.9,SNR=10
ARCES ARCESS Array B 69.84 338 *e*P **P 07 00 08.9 +0.4**
ARCES ARCESS Array B 69.84 338 *e*P **P 07 00 09.0 +0.4**
KBS Kingsbay 70.04 349 *e*P **P 07 00 09.8 +0.2**
comp=Z,28nm,1.0s
KBS Kingsbay 70.04 349 *e*P **P 07 00 09.8 +0.2**
KBS pmax pmax
comp=Z,28nm,1.0s
ANN Anapa 70.06 311 *e*P **P 07 00 10.2 -0.1**
ANN pmax pmax
comp=Z,82nm,1.3s
DAWY Dawson 71.57 27 *e*P **P 07 00 19.5 +0.3**
comp=Z,1nm,0.7s
EPYK Eagle Plains 71.89 25 *e*P **P 07 00 20.7 -0.4**
comp=Z,9.9nm,0.6s
EPYK Eagle Plains 71.89 25 P **P 07 00 21.1 -0.1**
baz=290
FIA1 FINESS Array S 71.96 330 *e*P **P 07 00 20.8 -0.7**
FIA0 FINESS Array S 71.96 330 *e*P **P 07 00 20.8 -0.7**
FIA0 FINESS Array S 71.96 330 *e*P **P 07 00 20.8 -0.7**
FINES FINESS Array B 71.96 330 P **P 07 00 20.8 -0.7**
comp=Z,3.7nm,0.5s,baz=57,slow=5.4,SNR=35
FINES LR LR 07 35 35.0
comp=Z,211nm,19.2s,baz=75,slow=39
FINES FINESS Array B 71.96 330 *i*P **P 07 00 21.2 -0.3**
FINES pmax pmax
comp=Z,4.0nm,0.5s
INK Inuvik 72.37 22 *e*P **P 07 00 23.6 -0.2**
comp=Z,9.4nm,0.9s
INK Inuvik 72.37 22 *e*P **P 07 00 23.6 -0.2**
INK pmax pmax
comp=Z,9.0nm,0.9s
VSU Vasula 72.58 327 *e*P **P 07 00 25.3 +0.1**
VSU lAmb lAmb 07 00 26.5
comp=Z,39nm,0.3s
IDID Didziasalis 73.59 324 *e*P **P 07 00 31.3 0.0**
IDID lAmb lAmb 07 00 35.8
comp=Z,4.6nm,0.9s
AKASG Malin Array Be 73.67 319 P **P 07 00 30.1 -1.7**
comp=Z,0.8nm,0.4s,baz=59,slow=6.3,SNR=8.7
AKASG Malin Array Be 73.67 319 *ce*P **P 07 00 31.5 -0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 73.67 319 *e*P **P 07 00 30.4 -1.4**
comp=Z,10.0nm,1.1s
KIEV Kiev 73.68 319 *e*P **P 07 00 30.2 -1.6**
comp=Z,5.3nm,0.9s
KIEV Kiev 73.68 319 ⇑*i*P **P 07 00 31.9 0.0**
KIEV Kiev 73.68 319 ⇑*e*P **P 07 00 31.2 -0.7**
KIEV pmax pmax
comp=Z,17nm,2.6s
NACGM Naroch 73.70 323 *e* P 07 00 48.0 +16
BR101 Keskin Array S 74.23 307 *e*P **P 07 00 35.1 -0.4**
BR131 Keskin Array S 74.23 307 *e*P **P 07 00 36.1 +0.6**
BRTR Keskin Array B 74.23 307 P **P 07 00 35.1 -0.4**
comp=Z,2.8nm,0.8s,baz=89,slow=6.8,SNR=12
BRTR LR LR 07 38 42.8
comp=Z,49nm,18.7s,baz=80,slow=40
BRTR Keskin Array B 74.23 307 *ce*P **P 07 00 35.9 +0.4**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
WHY Whitehorse 74.72 30 *e*P **P 07 00 38.8 +0.8**
comp=Z,17nm,1.0s
PABE Paberze 75.01 324 *e*P **P 07 00 38.9 -0.6**
PABE lAmb lAmb 07 00 41.7
comp=Z,32nm,0.4s
CFR Carcaliu 76.22 313 ⇓*i*P **P 07 00 50.8 +4.2**
CFR Carcaliu 76.22 313 ⇓*e*P **P 07 00 50.8 +4.2**
VRI Vrincioaia 76.90 314 ⇓*i*P **P 07 00 50.4 -0.1**
VRI Vrincioaia 76.90 314 ⇓*e*P **P 07 00 50.4 -0.1**
BIZ Bicaz 76.90 316 ⇑*i*P **P 07 00 50.7 +0.2**
PLOR Plostina 76.95 315 ⇑*i*P **P 07 00 53.0 +2.2**
PLOR Plostina 76.95 315 ⇑*e*P **P 07 00 53.0 +2.2**
BURAR Bucovina Array 77.21 317 ⇓*i*P **P 07 00 52.4 +0.1**
BURAR Bucovina Array 77.21 317 ⇓*e*P **P 07 00 52.4 +0.1**
BUR04 Bucovina Ar. S 77.21 317 *e*P **P 07 00 52.4 0.0**
MLR Muntele Rosu 77.55 314 *e*P **P 07 00 54.9 +0.6**
comp=Z,12nm,1.1s
MLR Muntele Rosu 77.55 314 ⇑*i*P **P 07 00 54.5 +0.2**
MLR Muntele Rosu 77.55 314 *e*P **P 07 00 54.9 +0.6**
MLR pmax pmax
comp=Z,12nm,1.1s
DOPR Dopca 77.73 315 ⇑*i*P **P 07 00 55.3 +0.2**
DLBC Dease Lake 77.90 31 *e*P **P 07 00 55.3 -0.6**
comp=Z,8.3nm,0.8s
WIAZ Waiheke Island 78.35 140 P P 07 01 06.1 +7.6
NC405 NORSAR Array S 78.43 332 *e*P **P 07 00 57.7 -1.0**
ARR Arges 78.45 315 ⇑*i*P **P 07 00 59.8 +0.6**
HUMR Humele 78.55 314 ⇑*i*P **P 07 00 59.3 -0.4**
NB2 NORSAR Subarra 78.67 333 P **P 07 00 59.5 -0.6**
comp=Z,2.5nm,0.5s,baz=54,slow=6.2
NB2 NORSAR Subarra 78.67 333 P **P 07 00 57.0 -3.1**
NB2 pmax pmax
comp=Z,2.0nm,0.5s
NB200 NORSAR Array S 78.67 333 *e*P **P 07 00 58.9 -1.2**
NOA NORSAR Array B 78.67 333 P **P 07 00 58.9 -1.2**
comp=Z,2.1nm,0.5s,baz=52,slow=5.8,SNR=21
NOA LR LR 07 38 37.6
comp=Z,128nm,20.7s,baz=75,slow=38
NC204 NORSAR Array S 78.74 333 *e*P **P 07 01 00.1 -0.4**
DRGR 79.11 316 ⇑*i*P **P 07 01 03.4 +0.6**
DRGR 79.11 316 ⇑P **P 07 01 03.4 +0.6**
HIZ Hauiti 79.36 141 P **P 07 01 07.0 +3.0**
OJC Ojcow 79.43 320 *e*P **P 07 01 05.2 +0.8**
OJC Ojcow 79.43 320 *e*P **P 07 01 05.2 +0.8**
NIE Niedzica 79.48 320 *e*P **P 07 01 06.3 +1.6**
NIE Niedzica 79.48 320 *e*P **P 07 01 06.3 +1.6**
KRVZ Karewarewa 80.20 141 P **P 07 01 05.6 -3.1**
MOVZ Moawhango 80.48 141 P **P 07 01 11.0 +0.9**
URZ Urewera 80.50 140 P **P 07 01 10.5 +0.3**
comp=Z,16nm,0.5s,baz=243,slow=3.3,SNR=22
URZ Urewera 80.50 140 *e*P **P 07 01 10.4 +0.3**
comp=Z,40nm,1.1s
URZ Urewera 80.50 140 P **P 07 01 10.5 +0.3**
VTS Vitosha 80.50 312 *e*P **P 07 01 10.6 0.0**
comp=Z,8.1nm,0.9s
VTS Vitosha 80.50 312 ⇑*i*P **P 07 01 10.3 -0.2**
VTS Vitosha 80.50 312 *e*P **P 07 01 10.6 0.0**
VTS pmax pmax
comp=Z,8.0nm,0.9s
HAZ Te Kaha 80.57 139 P **P 07 01 11.2 +0.7**
RUGZ Raukumara Rang 80.64 139 P **P 07 01 11.3 +0.2**
BKZ Black Stump Fm 80.74 141 *e*P **P 07 01 12.0 +0.5**
comp=Z,32nm,0.9s
BKZ Black Stump Fm 80.74 141 P **P 07 01 12.0 +0.5**
VYHS Vyhne 80.75 319 *e*P **P 07 01 12.5 +1.0**
VYHS *e* 07 01 32.0
VYHS pmax pmax
comp=Z,6.0nm,1.0s
VYHS Vyhne 80.75 319 *e*P **P 07 01 12.5 +1.0**
VYHS *ep*P **pP 07 01 32.0 -0.9**
MWZ Matawai 80.80 139 P **P 07 01 12.4 +0.6**
MORC Moravsky Berou 80.93 321 ⇓*i*P pP 07 01 33.7 -0.2
LTZ Lake Taylor 80.93 146 *e*P **P 07 01 14.0 +1.6**
comp=Z,89nm,1.2s
RPZ Rata Peaks 80.98 147 P **P 07 01 13.3 +0.7**
comp=Z,177nm,0.8s,baz=283,slow=2.1,SNR=41
LBZ Lake Benmore 81.05 148 *e*P **P 07 01 14.6 +1.7**
comp=Z,36nm,0.7s
TKGZ Te Karaka 81.06 139 P **P 07 01 14.1 +1.0**
PUZ Puketiti 81.06 139 P **P 07 01 14.2 +1.0**
KSP Ksiaz 81.15 322 *e*P **P 07 01 14.7 +1.1**
KSP Ksiaz 81.15 322 *e*P **P 07 01 14.7 +1.1**
RIGZ Rimuhau 81.18 140 P **P 07 01 14.9 +1.1**
OXZ Oxford 81.20 146 *e*P **P 07 01 14.3 +0.6**
comp=Z,35nm,0.6s
KHZ Kahutara 81.33 145 *e*P **P 07 01 15.3 +0.8**
comp=Z,117nm,0.9s
DPC Dobruska-Polom 81.36 322 *e*P **P 07 01 16.5 +1.7**
DPC *e*PCP **PcP 07 01 22.1 +1.4**
DPC *ep*P **pP 07 01 38.2 +2.0**
DPC Dobruska-Polom 81.36 322 *e*P **P 07 01 16.5 +1.7**
DPC *e* 07 01 38.2
YKW3 Yellowknife Ar 82.05 23 *e*P **P 07 01 18.1 +0.1**
comp=Z,7.7nm,0.8s
YKA Yellowknife Ar 82.09 23 P **P 07 01 18.0 -0.3**
comp=Z,4.3nm,0.6s,baz=303,slow=5.0,SNR=78
YKA PKKPbc **PKKPbc 07 19 45.0 -2.9**
comp=Z,1.1nm,0.5s,baz=132,slow=2.4,SNR=42
YKB5 Yellowknife Ar 82.09 23 *e*P **P 07 01 17.3 -1.0**
BRG Berggiesshubel 82.44 323 *e*P **P 07 01 21.8 +1.4**
comp=Z,3.6nm,0.8s
BRG Berggiesshubel 82.44 323 *e*P **P 07 01 21.8 +1.4**
BRG pmax pmax
comp=Z,11nm,0.8s
CLL Collm 82.73 323 *e*P **P 07 01 22.0 +0.1**
CLL *i* 07 01 28.2
comp=Z,7.0nm,1.0s
CLL Collm 82.73 323 *e*P **P 07 01 20.0 -1.9**
CONA Conrad Observa 82.78 320 *e*P **P 07 01 20.9 -1.4**
comp=Z,2.5nm,0.8s
ARSA Arzberg 83.30 319 *e*P **P 07 01 23.8 -1.1**
comp=Z,1.6nm,0.6s
KHC Kasperske Hory 83.51 321 *e*P **P 07 01 25.5 -0.5**
KHC *ep*P **pP 07 01 46.0 -1.5**
KHC Kasperske Hory 83.51 321 *e*P **P 07 01 25.5 -0.5**
KHC *e* 07 01 46.0
GEC2 GERESS Array S 83.58 321 *e*P **P 07 01 25.8 -0.6**
comp=Z,5.5nm,0.9s
GEC2 GERESS Array S 83.58 321 *e*P **P 07 01 25.8 -0.6**
GEC2 pmax pmax
comp=Z,6.0nm,0.9s
GERES GERESS Array B 83.58 321 P **P 07 01 26.3 -0.1**
comp=Z,1.0nm,0.5s,baz=72,slow=4.3,SNR=11
GERES LR LR 07 39 47.7
comp=Z,104nm,20.2s,baz=74,slow=36
GEA0 GERESS Array S 83.59 321 *e*P **P 07 01 26.1 -0.3**
MOA Molln 83.75 320 P **P 07 01 27.1 -0.1**
comp=Z,3.1nm,0.9s
SOKA Soboth 83.88 319 *e*P **P 07 01 28.3 +0.3**
comp=Z,3.9nm,0.7s
PDKS Podkum 84.20 318 *e*P **P 07 01 28.9 -0.7**
OBKA Obir 84.25 319 *e*P **P 07 01 30.1 +0.2**
comp=Z,8.2nm,1.2s
GBRS Gornja Briga 84.57 318 *i*P **P 07 01 31.0 -0.4**
MYKA Terra Mystica 84.73 319 *e*P **P 07 01 32.0 -0.3**
comp=Z,4.2nm,1.0s
ABTA Abfaltersbach 85.34 320 *e*P **P 07 01 34.7 -0.7**
comp=Z,4.5nm,1.1s
MOTA Moosalm 85.85 321 *e*P **P 07 01 37.6 -0.4**
comp=Z,4.3nm,1.1s
KMBO Kilima Mbogo 86.47 267 P **P 07 01 42.2 +0.5**
comp=Z,1.0nm,0.3s,baz=8,7,slow=4.3,SNR=7.3
KMBO Kilima Mbogo 86.47 267 *ce*P **P 07 01 43.0 +1.3**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
D03D Eldon 87.04 38 P **P 07 01 45.3 +1.8**
baz=304
B05A Bryant 87.19 37 P **P 07 01 46.0 +1.7**
baz=304
D05A Enumclaw 87.86 38 *e*P **P 07 01 49.5 +2.1**
comp=Z,33nm,0.9s
C06D Leavenworth 88.05 37 P **P 07 01 49.5 +1.1**
baz=305
LTY Liberty 88.56 38 *e*P **P 07 01 52.0 +1.1**
comp=Z,9.9nm,0.8s
B08A Colville Reser 88.64 36 *e*P **P 07 01 52.6 +1.4**
comp=Z,21nm,0.8s
G05D Wamic, OR 89.35 39 P **P 07 01 56.5 +1.9**
baz=305
E07A Sunnyside 89.42 38 *e*P **P 07 01 54.4 -0.5**
comp=Z,33nm,1.0s
C09A Chrisman Ranch 89.55 36 *e*P **P 07 01 57.0 +1.5**
comp=Z,23nm,1.1s
D08A Wollman Farm, 89.64 37 *e*P **P 07 01 57.6 +1.7**
comp=Z,18nm,0.8s
HAWA Hanford 89.70 38 *e*P **P 07 01 56.4 +0.3**
comp=Z,17nm,0.9s
F07A Phinny Hill Vi 89.77 38 *e*P **P 07 01 55.3 -1.2**
comp=Z,21nm,1.0s
I05D Terrebonne, OR 89.85 40 P **P 07 01 58.6 +1.6**
baz=305
NEW Newport 89.88 35 *e*P **P 07 01 56.4 -0.7**
comp=Z,17nm,0.7s
NEW Newport 89.88 35 *e*P **P 07 01 56.4 -0.7**
NEW pmax pmax
comp=Z,17nm,0.7s
NEW Newport 89.88 35 P **P 07 01 58.4 +1.4**
baz=308
E08A Dider Farm, El 89.90 38 *e*P **P 07 01 56.7 -0.4**
comp=Z,9.3nm,0.7s
J04D Umpqua Nationa 90.02 41 P **P 07 01 59.9 +1.8**
baz=304
E09A Wood Farm, Sta 90.39 37 *e*P **P 07 01 58.4 -1.0**
comp=Z,22nm,1.0s
PINE Pine Mountain 90.40 41 *e*P **P 07 01 59.0 -0.7**
comp=Z,24nm,1.1s
L04D Klamath Falls 90.47 42 P **P 07 02 01.4 +1.3**
baz=304
J05D Fort Rock, OR 90.52 41 P **P 07 02 02.1 +1.8**
baz=305
G08A Pilot Rock 90.67 38 *e*P **P 07 01 58.4 -2.6**
comp=Z,5.8nm,1.1s
M04C Macdoel 91.01 43 P **P 07 02 04.0 +1.4**
baz=305
WALA Waterton Lakes 91.03 33 *e*P **P 07 02 02.2 -0.2**
comp=Z,20nm,1.1s
F10A Beach Ranch, E 91.23 37 *e*P **P 07 02 03.6 +0.2**
comp=Z,8.0nm,0.8s
WDC Whiskeytown Da 91.25 44 *e*P **P 07 02 03.8 +0.3**
comp=Z,4.6nm,0.8s
WDC Whiskeytown Da 91.25 44 *e*P **P 07 02 03.8 +0.3**
WDC pmax pmax
comp=Z,5.0nm,0.8s
FCC Fort Churchill 91.59 18 *e*P **P 07 02 04.3 -0.4**
comp=Z,12nm,1.1s
FCC Fort Churchill 91.59 18 *e*P **P 07 02 04.3 -0.4**
FCC pmax pmax
comp=Z,12nm,1.1s
BMO Blue Mountains 91.87 38 *e*P **P 07 02 05.5 -0.9**
comp=Z,7.4nm,0.8s
BMO Blue Mountains 91.87 38 *e*P **P 07 02 05.5 -0.9**
BMO pmax pmax
comp=Z,7.0nm,0.8s
MOD Modoc Plateau 91.88 42 *e*P **P 07 02 04.8 -1.8**
comp=Z,12nm,0.9s
J08A Circle Bar Ran 92.11 40 *e*P **P 07 02 07.5 -0.1**
comp=Z,15nm,0.9s
FFC Flin Flon 92.24 24 *e*P **P 07 02 07.3 -0.5**
comp=Z,15nm,1.1s
FFC Flin Flon 92.24 24 *i*P **P 07 02 08.3 +0.5**
MSO Missoula 92.46 35 *e*P **P 07 02 08.9 -0.2**
comp=Z,6.5nm,0.9s
MSO Missoula 92.46 35 P **P 07 02 10.1 +0.9**
baz=310
ORV Oroville 92.48 44 *e*P **P 07 02 09.4 +0.1**
comp=Z,9.2nm,1.1s
WVOR Wild Horse Val 92.56 41 *e*P **P 07 02 09.3 -0.4**
comp=Z,9.0nm,0.9s
WVOR Wild Horse Val 92.56 41 *e*P **P 07 02 09.3 -0.4**
WVOR pmax pmax
comp=Z,9.0nm,0.9s
BEKR Beckworth 93.02 43 *e*P **P 07 02 11.4 -0.6**
comp=Z,7.3nm,0.8s
KEST Kesra 93.23 312 P **P 07 02 11.9 -1.0**
comp=Z,5.0nm,0.8s,baz=304,slow=6.7,SNR=4.4
HRY Holter Researc 93.63 34 *e*P **P 07 02 14.9 +0.4**
EGMT Eagleton 93.78 32 P **P 07 02 15.7 +0.6**
baz=314
DLMT Dillon 94.12 36 *e*P **P 07 02 16.2 -0.7**
comp=Z,6.9nm,0.8s
YERR Yerington 94.24 44 *e*P **P 07 02 18.9 +1.3**
comp=Z,4.7nm,0.9s
HLID Hailey 94.30 38 *e*P **P 07 02 15.6 -2.2**
comp=Z,5.0nm,0.9s
HLID Hailey 94.30 38 P **P 07 02 19.6 +1.8**
baz=310
MCMT McKenzie Canyo 94.34 36 *e*P **P 07 02 14.3 -3.7**
WAKR Walker 94.40 44 *e*P **P 07 02 16.3 -2.1**
comp=Z,6.6nm,0.8s
BOZ Bozeman (W) 94.47 35 *e*P **P 07 02 16.4 -2.1**
comp=Z,2.2nm,0.8s
BOZ Bozeman (W) 94.47 35 *e*P **P 07 02 16.4 -2.1**
BOZ pmax pmax
comp=Z,2.0nm,0.8s
BOZ Bozeman (W) 94.47 35 P **P 07 02 19.5 +1.0**
baz=312
KVN Kaiserville 94.92 43 *e*P **P 07 02 19.3 -1.4**
comp=Z,5.8nm,0.8s
KVN Kaiserville 94.92 43 *e*P **P 07 02 19.3 -1.4**
KVN pmax pmax
comp=Z,6.0nm,0.8s
PPT Papeete 94.97 107 LR LR 07 35 49.8
comp=Z,75nm,21.9s,baz=214,slow=30
PPT2 Papeete2 94.97 107 *e*LR LR 07 33 11.2
comp=Z,227nm,25.8s
NV01 Mina Array Sit 95.16 44 *e*P **P 07 02 20.4 -1.5**
NVAR Mina Array Bea 95.16 44 P **P 07 02 22.5 +0.7**
comp=Z,5.3nm,0.7s,baz=305,slow=5.1,SNR=24
NV11 Mina Array Sit 95.25 44 *e*P **P 07 02 22.7 +0.5**
comp=Z,0.2nm,0.8s
ELK Elko 95.61 40 *e*P **P 07 02 21.5 -2.4**
ELK Elko 95.61 40 *e*P **P 07 02 21.5 -2.4**
RLMT Red Lodge 96.02 34 *e*P **P 07 02 25.2 -0.4**
comp=Z,4.8nm,1.1s
RLMT Red Lodge 96.02 34 P **P 07 02 27.2 +1.6**
baz=314
R11A Troy Canyon, C 96.90 42 *e*P **P 07 02 28.8 -0.9**
comp=Z,2.2nm,0.9s
R11A Troy Canyon, C 96.90 42 P **P 07 02 30.6 +0.9**
baz=309
DAC Darwin (Calif) 96.90 45 P **P 07 02 33.1 +3.3**
DAC pmax pmax
comp=Z,9.0nm,1.0s
MPMC Manual Prospec 97.10 45 P Pdif 07 02 31.6 +0.8
baz=307
FURC Furnace Creek, 97.26 45 P Pdif 07 02 32.1 +0.9
baz=308
TPNV Topopah Spring 97.35 44 P Pdif 07 02 32.7 +0.9
baz=308
TBI Tubuai 97.37 112 *e*LR LR 07 33 57.5
comp=Z,129nm,32.2s
PDAR Pinedale Array 97.49 36 P **P 07 02 31.6 -0.7**
comp=Z,0.6nm,0.6s,baz=62,slow=0.4,SNR=5.9
PDAR PP **PP 07 06 30.7 +1.0**
comp=Z,0.7nm,0.9s,baz=336,slow=3.3,SNR=3.7
PDAR LR LR 07 48 39.2
comp=Z,37nm,19.7s,baz=353,slow=37
ULM Lac du Bonnet 98.06 24 PKKPbc PKKPbc 07 19 04.6 -3.4
comp=Z,1.4nm,0.6s,baz=72,slow=4.6,SNR=4.1
ULM LR LR 07 50 23.0
comp=Z,55nm,18.2s,baz=98,slow=38
SCHQ Schefferville 100.57 6 PKKPbc PKKPbc 07 18 58.2 -3.0
comp=Z,1.5nm,0.5s,baz=220,slow=6.0,SNR=4.1
VNDA Vanda 104.37 172 Pdiff **Pdif 07 03 01.8 +0.1**
comp=Z,0.9nm,1.0s,baz=306,slow=4.9,SNR=2.3
VNDA PKiKP **PKiKP 07 07 17.2 -0.4**
comp=Z,2.5nm,0.9s,baz=323,slow=7.5,SNR=4.6
VNDA PP **PP 07 07 24.8 +3.4**
comp=Z,2.7nm,0.8s,baz=322,slow=8.0,SNR=7.2
TXAR Lajitas Array 110.27 43 Pdiff **Pdif 07 03 30.9 +1.5**
comp=Z,0.4nm,0.8s,baz=302,slow=3.5,SNR=3.9
TXAR PKiKP **PKiKP 07 07 29.2 -1.0**
comp=Z,0.3nm,0.5s,baz=221,slow=1.2,SNR=7.4
TXAR PP **PP 07 08 03.4 -1.5**
comp=Z,0.6nm,0.9s,baz=287,slow=3.5,SNR=3.4
TXAR PKKPab **PKKPab 07 18 42.0 -2.5**
comp=Z,0.4nm,0.7s,baz=141,slow=9.0,SNR=5.2
TOA1 Torodi Ar. Sit 111.49 296 *e*PKiKP **PKiKP 07 07 31.7 -1.0**
TOA1 *e*PKKPbc **PKKPbc 07 18 24.7 -2.0**
TOA1 *e*PKKPab **PKKPab 07 18 38.5 +0.3**
TORD Torodi Ar. Bea 111.49 296 PKiKP **PKiKP 07 07 31.7 -1.0**
comp=Z,0.4nm,0.6s,baz=25,slow=3.5,SNR=4.4
TORD PKKPbc **PKKPbc 07 18 24.7 -2.0**
comp=Z,0.5nm,0.6s,baz=228,slow=2.6,SNR=5.4
TORD PKKPab **PKKPab 07 18 38.5 +0.4**
comp=Z,2.2nm,0.7s,baz=259,slow=4.1,SNR=11
QSPA South Pole Qui 114.27 180 PKP PKPdf 07 07 36.4 -0.1
comp=Z,2.2nm,0.6s,baz=290,slow=1.4,SNR=6.8
QSPA PP **PP 07 08 34.4 +1.0**
comp=Z,10nm,0.9s,baz=328,slow=2.0,SNR=9.3
NVL N'lazarevskaya 119.82 201 *e*PKiKP **PKPdf 07 07 47.0 0.0**
NVL pmax pmax
comp=Z,5.0nm,0.7s
DBIC Dimbokro 120.41 294 PKP **PKPdf 07 07 49.2 -0.6**
comp=Z,1.4nm,0.6s,baz=281,slow=3.0,SNR=4.0
DBIC PKPab **PKKPab 07 17 57.7 -1.1**
comp=Z,2.7nm,0.5s,baz=196,slow=3.3,SNR=10
DBIC Dimbokro 120.41 294 *e*PKPdf **PKPdf 07 07 49.0 -0.9**
SDV Santo Domingo 144.31 23 *e*PKPdf PKPbc 07 08 33.1 -0.1
ROSC El Rosal 146.39 32 PKPbc **PKPdf 07 08 38.4 -0.3**
comp=Z,4.6nm,0.5s,baz=108,slow=8.8,SNR=7.7
ROSC El Rosal 146.39 32 *e*PKPdf **PKPdf 07 08 39.2 +0.6**
OTAV Otavalo 147.89 43 *e*PKPdf **PKPdf 07 08 41.4 +0.2**
OTAV Otavalo 147.89 43 *e*PKiKP **PKPdf 07 08 41.4 +0.2**
PTGA Pitinga 156.23 7 PKP **PKPdf 07 08 53.3 +0.2**
comp=Z,0.8nm,0.3s,baz=328,slow=22,SNR=1.5
PTGA PKPab **PKPab 07 09 19.3 -1.7**
comp=Z,1.1nm,0.3s,baz=339,slow=22,SNR=1.8
PLCA Paso Flores 160.28 148 PKP **PKPdf 07 08 56.1 -1.1**
comp=Z,2.2nm,0.9s,baz=246,slow=20,SNR=1.9

PLCA				PKPab	**PKPab**	**07 09 37.9**	**-0.2**
	comp=Z,6.4nm,0.7s,baz=264,slow=4.1,SNR=10.0						
PLCA	**Paso Flores**	**160.28**	**148**	*e*PKPab	**PKPab**	**07 09 39.5**	**+1.5**
GO04	**Tololo Observa**	**166.60**	**118**	*e*PKPab	**PKPab**	**07 10 06.8**	**+0.3**
LPAZ	**La Paz**	**166.86**	**54**	PKP	**PKPdf**	**07 09 04.2**	**-0.6**
	comp=Z,3.5nm,1.1s,baz=313,slow=3.0,SNR=6.9						
LPAZ				PKPab	**PKPab**	**07 10 07.6**	**-0.7**
	comp=Z,3.4nm,0.8s,baz=347,slow=4.9,SNR=7.2						
LPAZ	**La Paz**	**166.86**	**54**	*e*PKPab	**PKPab**	**07 10 07.8**	**-0.5**
BDFB	**Brasilia**	**167.73**	**314**	PKP	**PKPdf**	**07 09 04.6**	**-0.1**
	comp=Z,3.9nm,1.0s,baz=144,slow=7.2,SNR=4.3						
BDFB				PKPab	**PKPab**	**07 10 10.1**	**-1.4**
	comp=Z,1.2nm,0.6s,baz=300,slow=7.5,SNR=3.6						
CPUP	**Villa Florida**	**178.15**	**174**	PKP	**PKPdf**	**07 09 07.2**	**-1.4**
	comp=Z,1.0nm,0.7s,baz=324,slow=8.6,SNR=3.1						
CPUP				PKPab	PKPab	07 10 57.6	
	comp=Z,9.1nm,0.9s,baz=173,slow=2.6,SNR=18						

*JMA **07** 06:56:21.8±0.1, 24°.48N×122°.84E, h70km±1km, M2.9*
*ISCJB **07** 06:56:22.1±0.4, 24°.41N±0°.03×122°.82E±0°.02, h65km±5km, Error ellipse: s-maj=5.0km s-min=2.9km az=178.3*
*TAP **07** 06:56:22.4, 24°.42N×122°.79E, h60km±1km, ML3.4, C*
ISC 07 06:56:22.4±1.3**, 24°.43N**±0°.05×**122°.83E**±0°.03**, h65**km±8km**, n67, σ0s.62**/103**, 2D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.11**	**76**	P	**Pn**	**06 56 32.1**	**0.0**
JYNG				S	**Sn**	**06 56 39.5**	**+0.4**
YOJ	**Yonaguni jima**	**0.17**	**78**	*i* P	**Pn**	**06 56 32.2**	**0.0**
	baz=75						
YOJ				S	**Sn**	**06 56 39.3**	**-0.2**
	baz=75						
YOJ	**Yonaguni jima**	**0.17**	**78**	P	**Pn**	**06 56 32.3**	**0.0**
YOJ				S	**Sn**	**06 56 39.6**	**+0.1**
EOS1	**EOS1**	**0.65**	**281**	⇓*i*P	**Pn**	**06 56 36.4**	**+0.1**
	baz=282						
EOS1				*e*S	**Sn**	**06 56 46.5**	**0.0**
	baz=282						
IRIF	**Iriomote-Funau**	**0.83**	**96**	P	**Pn**	**06 56 38.1**	**-0.4**
IRIF				S	**Sn**	**06 56 50.4**	**0.0**
TWC	**Suao**	**0.91**	**282**	⇓*i*P	**Pn**	**06 56 39.1**	**-0.3**
	baz=282						
TWC				*e*S	**Sn**	**06 56 51.7**	**-0.5**
	baz=282						
TWB1	**Santiao Chiao**	**0.96**	**307**	*e*P	**Pn**	**06 56 40.1**	**0.0**
	baz=309						
TWB1				*e*S	**Sn**	**06 56 53.2**	**0.0**
	baz=309						
HATJ	**Hateruma jima**	**0.96**	**112**	P	**Pn**	**06 56 40.7**	**+0.5**
HATJ				*e*S	**Sn**	**06 56 54.8**	**+1.4**
NANB	**Nanao**	**0.98**	**270**	P	**Pn**	**06 56 40.2**	**-0.1**
	baz=270						
NANB				*e*S	**Sn**	**06 56 53.7**	**0.0**
	baz=270						
ENA	**Nanau**	**0.99**	**270**	*e*P	**Pn**	**06 56 40.4**	**-0.1**
	baz=270						
NTC	**Toucheng**	**1.00**	**295**	*e*P	**Pn**	**06 56 40.5**	**-0.2**
	baz=296						
ILA	**Ilan**	**1.04**	**289**	*e*P	**Pn**	**06 56 41.8**	**+0.7**
	baz=290						
TIPB	**Shuangxi**	**1.06**	**301**	*e*P	**Pn**	**06 56 41.1**	**-0.4**
	baz=302						
JKRS	**Kuro-shima**	**1.09**	**100**	P	**Pn**	**06 56 41.9**	**+0.1**
JKRS				S	**Sn**	**06 56 57.0**	**+0.7**
TWE	**Neicheng**	**1.10**	**286**	*e*P	**Pn**	**06 56 41.6**	**-0.2**
	baz=286						
TWE				*e*S	**Sn**	**06 56 55.9**	**-0.5**
	baz=286						
SLBB	**Yuanshan**	**1.13**	**287**	*e*P	**Pn**	**06 56 42.5**	**+0.2**
	baz=287						
NWF	**Wu-fen Shan**	**1.15**	**304**	*e*P	**Pn**	**06 56 42.6**	**-0.1**
	baz=305						
WFSB	**Wu-fen Shan**	**1.15**	**304**	*e*P	**Pn**	**06 56 41.4**	**-1.1**
	baz=305						
NACB	**Ninganchiao**	**1.15**	**258**	*e*P	**Pn**	**06 56 42.2**	**-0.4**
	baz=257						
NACB				*e*S	**Sn**	**06 56 57.0**	**-0.6**
	baz=257						
ENTT	**Nioudou**	**1.17**	**281**	*e*P	**Pn**	**06 56 43.2**	**+0.4**
	baz=281						
ENTT				*e*S	**Sn**	**06 56 57.7**	**-0.4**
	baz=281						
TWD	**Chiawan**	**1.18**	**253**	P	**Pn**	**06 56 42.6**	**-0.3**
	baz=252						
TWD				*e*S	**Sn**	**06 56 58.2**	**0.0**
	baz=252						
JIJ	**Ishigaki jima**	**1.20**	**93**	P	**Pn**	**06 56 42.7**	**-0.5**
JIJ				S	**Sn**	**06 56 58.0**	**-0.8**
ENLB	**Shoufeng**	**1.23**	**245**	P	**Pn**	**06 56 43.9**	**+0.2**
	baz=244						
ENLB				*e*S	**Sn**	**06 56 59.4**	**-0.2**
	baz=244						
NWLT	**Wulai**	**1.25**	**286**	*e*P	**Pn**	**06 56 44.2**	**+0.2**
	baz=287						
TWA	**Mucha**	**1.26**	**296**	*e*P	**Pn**	**06 56 42.7**	**-1.3**
	baz=297						
NNSB	**Datong**	**1.32**	**270**	P	**Pn**	**06 56 45.0**	**+0.1**
	baz=270						
NNS	**Nan Shan**	**1.32**	**271**	*e*P	**Pn**	**06 56 45.2**	**+0.2**
	baz=270						
YM07	**YM07**	**1.33**	**305**	*e*P	**Pn**	**06 56 44.9**	**0.0**
	baz=305						
TATO	**Taipei**	**1.33**	**295**	*e*P	**Pn**	**06 56 45.4**	**+0.4**
	baz=295						
YHNB	**Yeheng**	**1.34**	**281**	*e*P	**Pn**	**06 56 45.7**	**+0.5**
	baz=281						
YHNB				*e*S	**Sn**	**06 57 02.1**	**-0.2**
	baz=281						
YM01	**YM01**	**1.35**	**302**	*e*P	**Pn**	**06 56 45.9**	**+0.6**
	baz=303						
YM11	**YM11**	**1.36**	**303**	*e*P	**Pn**	**06 56 46.1**	**+0.8**
	baz=304						
YM08	**YM08**	**1.36**	**304**	*e*P	**Pn**	**06 56 46.0**	**+0.7**
	baz=305						
JISG	**Ishigakijimahi**	**1.36**	**83**	P	**Pn**	**06 56 44.5**	**-0.8**
NSK	**Sanguang**	**1.36**	**281**	*e*P	**Pn**	**06 56 46.0**	**+0.6**
	baz=281						
YM04	**YM04**	**1.38**	**302**	*e*P	**Pn**	**06 56 45.6**	**0.0**
	baz=302						
TWS1	**Kuangyinshan**	**1.45**	**298**	*e*P	**Pn**	**06 56 46.9**	**+0.4**
	baz=298						
TWS1				*e*S	**Sn**	**06 57 04.3**	**-0.3**
	baz=298						
WHF	**Hehuan Shan**	**1.45**	**259**	P	**Pn**	**06 56 46.7**	**-0.3**
	baz=258						
WHF				*e*S	**Sn**	**06 57 04.2**	**-1.2**
	baz=258						
TWT	**Tachien**	**1.52**	**264**	*e*P	**Pn**	**06 56 48.6**	**+1.0**
	baz=263						
TWT				*e*S	**Sn**	**06 57 06.0**	**-0.5**
	baz=263						
TDCB	**Techi**	**1.53**	**264**	*e*P	**Pn**	**06 56 48.0**	**+0.2**
	baz=263						
TDCB				*e*S	**Sn**	**06 57 06.7**	**-0.1**
	baz=263						
CHGB	**Renai**	**1.55**	**257**	*e*P	**Pn**	**06 56 48.2**	**+0.2**
	baz=256						
CHGB				*e*S	**Sn**	**06 57 07.3**	**-0.2**
	baz=256						
HGSD	**Ruisui**	**1.58**	**234**	*e*P	**Pn**	**06 56 48.1**	**-0.2**
	baz=233						
EHY	**Hungye**	**1.65**	**237**	*e*P	**Pn**	**06 56 49.2**	**0.0**
	baz=235						
LIOB	**Emei**	**1.66**	**278**	*e*P	**Pn**	**06 56 49.8**	**+0.4**
	baz=278						
VWDT	**VWDT**	**1.68**	**247**	*e*P	**Pn**	**06 56 50.2**	**+0.6**
	baz=246						
VWDT				*e*S	**Sn**	**06 57 10.3**	**+0.1**
	baz=246						
JTJ	**Tarama**	**1.72**	**82**	P	**Pn**	**06 56 49.8**	**-0.3**
JTJ				*e*S	**Sn**	**06 57 11.3**	**+0.1**
YULB	**Yu-li**	**1.74**	**234**	*e*P	**Pn**	**06 56 50.2**	**-0.2**
	baz=233						
TWF1	**Yuli**	**1.76**	**233**	P	**Pn**	**06 56 50.6**	**-0.1**
	baz=231						
TWF1				*e*S	**Sn**	**06 57 11.9**	**-0.3**
	baz=231						
SSLB	**Suanglung**	**1.82**	**250**	*e*P	**Pn**	**06 56 52.1**	**+0.5**
	baz=249						
SMLT	**Sun Moon Lake**	**1.84**	**253**	P	**Pn**	**06 56 52.7**	**+0.9**
	baz=252						
SMLT				*e*S	**Sn**	**06 57 14.6**	**+0.3**
	baz=252						
TYC	**Yuchr**	**1.87**	**254**	P	**Pn**	**06 56 53.0**	**+0.8**
	baz=253						
TYC				*e*S	**Sn**	**06 57 15.4**	**+0.6**
	baz=253						
TWQ1	**Liyutan**	**1.87**	**268**	*e*P	**Pn**	**06 56 53.0**	**+0.8**
	baz=267						
CHKT	**Chengkung**	**1.88**	**226**	*e*P	**Pn**	**06 56 51.6**	**-0.7**
	baz=224						
CHKT				*e*S	**Sn**	**06 57 13.6**	**-1.4**
	baz=224						
WJS	**Zhushan**	**2.01**	**253**	*e*P	**Pn**	**06 56 55.9**	**+1.8**
	baz=252						
ALS	**Alishan**	**2.06**	**244**	*e*P	**Pn**	**06 56 55.4**	**+0.3**
	baz=243						
ALS				*e*S	**Sn**	**06 57 18.4**	**-1.5**
	baz=243						
ELDTW	**Lidau**	**2.06**	**234**	*e*P	**Pn**	**06 56 54.8**	**-0.1**
	baz=232						
ELDTW				*e*S	**Sn**	**06 57 18.9**	**-0.8**
	baz=232						
CHN5	**Tsauling**	**2.13**	**248**	*e*P	**Pn**	**06 56 56.8**	**+1.0**
	baz=247						
CHN5				*e*S	**Sn**	**06 57 21.1**	**-0.1**
	baz=247						
TWGBT	**Beinan**	**2.26**	**225**	*e*P	**Pn**	**06 56 57.4**	**-0.2**
	baz=224						
TWGBT				*e*S	**Sn**	**06 57 23.9**	**-0.5**
	baz=224						
TWG	**Pinlang**	**2.27**	**226**	*e*P	**Pn**	**06 56 57.1**	**-0.5**
	baz=224						
TWG				*e*S	**Sn**	**06 57 23.5**	**-0.9**
	baz=224						
TPUB	**Ta-pu**	**2.30**	**241**	*e*P	**Pn**	**06 56 58.8**	**+0.7**
	baz=240						
CHN4	**Tsaushan**	**2.31**	**243**	*e*P	**Pn**	**06 56 58.8**	**+0.7**
	baz=242						
WTP	**Ta-pu**	**2.34**	**240**	*e*P	**Pn**	**06 56 59.5**	**+0.9**
	baz=239						
CHN1	**Nanshi**	**2.44**	**240**	*e*P	**Pn**	**06 57 01.1**	**+1.1**
	baz=239						
CHN1				*e*S	**Sn**	**06 57 29.1**	**+0.4**
	baz=239						
SGST	**Jiashian**	**2.45**	**237**	*e*P	**Pn**	**06 57 01.1**	**+1.0**
	baz=236						
SGST				*e*S	**Sn**	**06 57 29.0**	**0.0**
	baz=236						
SLGT	**Liugui**	**2.45**	**235**	*e*P	**Pn**	**06 57 01.4**	**+1.3**
	baz=234						
SLGT				*e*S	**Sn**	**06 57 28.4**	**-0.6**
	baz=234						
SSD	**Sandimen**	**2.62**	**231**	*e*P	**Pn**	**06 57 03.3**	**+1.0**
	baz=229						
MASBT	**Mashibuluo**	**2.70**	**229**	*e*P	**Pn**	**06 57 04.0**	**+0.6**
	baz=227						

NDI 07 07:06:45.7±1.9**, 28°.15N**×**94°.33E, h10**km**, ML4.2, Eastern Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZIRO	**ZIRO**	**0.75**	**214**	*e*P	Pg	07 06 58.6	-1.6
ZIRO				*e*S	Sg	07 07 09.9	-0.2
DIBR	**DIBRUGARH**	**0.86**	**143**	*e*P	Pg	07 07 01.6	-0.6
DIBR				*e*S	Sb	07 07 14.6	+0.4
DIBR				IAML		07 07 21.0	
	comp=N,14μm,0.3s						
DIBR				IAML		07 07 21.1	
	comp=E,22μm,0.2s						
JORH	**JORHAT**	**1.41**	**183**	*e*P	Pn	07 07 11.5	+0.1
JORH				*e*S	Sg	07 07 31.2	+0.2
LKP	**Lekhapani**	**1.58**	**121**	*e*P	Pn	07 07 13.6	-0.1
LKP				*e*S	Sb	07 07 34.9	0.0
MOKO	**MOKOCHONG**	**1.83**	**175**	*e*P	Pn	07 07 18.4	+1.0
MOKO				*e*S	Sn	07 07 41.5	+0.8
TEZP	**TEZPUR**	**2.04**	**222**	*e*P	Pn	07 07 20.8	+0.6
TEZP				*e*S	Sn	07 07 47.0	+1.3
TEZP				IAML		07 07 49.0	
	comp=E,988nm,0.1s						
TEZP				IAML		07 07 49.0	
	comp=N,1μm,0.1s						
TAWA	**Tawang**	**2.25**	**256**	*e*P	Pn	07 07 23.9	+0.7
TAWA				*e*S	Sn	07 07 50.4	-0.9
KOHI	**KOHIMA**	**2.43**	**185**	*e*P	Pn	07 07 26.4	+0.7
GUWA	**GUWAHATI**	**3.05**	**231**	*e*P	Pn	07 07 33.5	-0.6
GUWA				*e*S	Sn	07 08 09.7	-1.0
IMP	**Imphal**	**3.33**	**186**	*e*P	Pn	07 07 38.0	+0.2
IMP				*e*S	Sn	07 08 17.6	+0.1
SHL	**Shillong**	**3.38**	**221**	*e*P	Pn	07 07 37.1	-1.6
GTK	**Tadong**	**5.14**	**262**	*e*P	Pn	07 08 03.3	+0.4
GTK				*e*S	Sn	07 08 59.9	-2.5

IDC 07 07:07:55.0±2.1**, 0°.73N**×**126°.62E, h0**km**, mb3.5**/4**, mb1 3.6**/4**, mb1mx3.4**/36**, mbtmp3.5**/4**, Error ellipse: s-maj=244.8km s-min=21.5km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.89**	**160**	P	P	07 12 48.7	-1.1
	0.7nm,0.7s,baz=338,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**25.26**	**164**	P	P	07 13 23.9	+0.8
	0.7nm,0.7s,baz=340,slow=9.9,SNR=4.6						
MKAR	**Makanchi Array**	**59.96**	**326**	P	P	07 18 03.4	+0.2
	0.8nm,0.8s,baz=124,slow=8.6,SNR=6.8						
KURBB	**Kurchatov Arra**	**64.20**	**328**	P	P	07 18 31.3	-0.3
	0.4nm,0.5s,baz=125,slow=7.0,SNR=4.1						

*BJI **07** 07:19:52.5, 27°.97N×94°.33E, h15km, mb3.8/2, ML3.7/3*
*NDI **07** 07:19:54.7±2.1, 28°.29N×94°.40E, h10km, ML4.1*
*ISCJB **07** 07:19:55.3±0.8, 28°.30N±0°.05×94°.34E±0°.05, h20km, Error ellipse: s-maj=7.6km s-min=5.6km az=19.7*
ISC 07 07:19:54.9±1.3**, 28°.31N**±0°.07×**94°.41E**±0°.06**, h20**km**, n13, σ1s.73**/23**, Eastern Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DIBR	**DIBRUGARH**	**0.95**	**152**	*e*P	**Pb**	**07 20 11.2**	**-1.5**
DIBR				*e*S	**Sn**	**07 20 26.7**	**+0.6**
JORH	**JORHAT**	**1.57**	**185**	*e*P	**Pn**	**07 20 21.8**	**+0.2**
JORH				*e*S	**Sb**	**07 20 43.0**	**+0.3**
LKP	**Lekhapani**	**1.60**	**127**	*e*P	**Pb**	**07 20 23.7**	**-0.2**
LKP				*e*S	**Sb**	**07 20 45.4**	**+1.7**
LKP				IAML		07 20 50.1	
	comp=N,5μm,0.2s						
LKP				IAML		07 20 50.6	
	comp=E,4μm,0.2s						
TEZP	**TEZPUR**	**2.22**	**221**	*e*P	**Pn**	**07 20 30.8**	**+0.2**
TAWA	**Tawang**	**2.36**	**253**	*e*P	**Pn**	**07 20 33.9**	**+1.0**
KOHI	**KOHIMA**	**2.60**	**186**	*e*P	**Pn**	**07 20 37.0**	**+1.0**
KOHI				*e*S	**Sn**	**07 21 08.6**	**+1.6**
KOHI				IAML		07 21 14.7	
	comp=E,1μm,0.3s						
KOHI				IAML		07 21 15.5	
	comp=N,1μm,0.4s						
GUWA	**GUWAHATI**	**3.21**	**230**	*e*P	**Pn**	**07 20 45.8**	**+1.5**
GUWA				*e*S	**Sn**	**07 21 22.7**	**+0.8**
IMP	**Imphal**	**3.49**	**187**	*e*P	**Pn**	**07 20 48.6**	**+0.4**
IMP				*e*S	**Sn**	**07 21 27.6**	**-1.4**
SHL	**Shillong**	**3.55**	**220**	*e*P	**Pn**	**07 20 52.1**	**+3.0**
SHL				*e*S	**Sn**	**07 21 30.8**	**+0.3**
TURI	**Tura**	**4.56**	**234**	*e*P	**Pn**	**07 21 04.7**	**+1.8**
TURI				*e*S	**Sn**	**07 21 57.1**	**+1.8**
GTK	**Tadong**	**5.24**	**260**	*e*P	**Pn**	**07 21 13.2**	**+0.9**
GTK				*e*S	**Sn**	**07 22 08.8**	**-3.4**
SAIH	**SAIHA**	**5.94**	**193**	*e*P	**Pn**	**07 21 21.8**	**-0.1**
SAIH				*e*S	**Sn**	**07 22 25.5**	**-4.0**
WMQ	**Urumqi**	**16.39**	**343**	*e*P	**P**	**07 23 45.7**	**-0.8**

*ISCJB **07** 07:20:27.0±0.5, 49°.91N±0°.02×78°.67E±0°.08, h0km, Error ellipse: s-maj=7.3km s-min=3.2km az=176.3*
*NNC **07** 07:20:30.2±0.5, 50°.04N×78°.76E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=5.1km s-min=2.2km az=69.0, Suspected Mining explosion.*
*IDC **07** 07:20:30.6±1.2, 50°.05N×78°.69E, h0km, mb1 3.1/2, mb1mx2.9/33, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=21.2km s-min=6.4km az=70.0*
ISC 07 07:20:29.9±0.8**, 49°.98N**±0°.03×**78°.66E**±0°.06**, h0**km**, n26, σ1s.11**/38**, 22C-10D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.61**	**352**	⇓P	**Pg**	**07 20 41.1**	**-0.6**
KUR07				⇓S	**Sg**	**07 20 49.9**	**+0.2**
KUR06	**Kurchatov Arra**	**0.63**	**352**	⇑P	**Pg**	**07 20 41.4**	**-0.6**
KUR06				⇑S	**Sg**	**07 20 49.9**	**-0.3**
KUR14	**Kurchatov Arra**	**0.64**	**356**	⇑P	**Pg**	**07 20 41.5**	**-0.7**
KUR14				⇓S	**Sg**	**07 20 49.8**	**-0.7**
KUR15	**Kurchatov Arra**	**0.65**	**355**	⇑P	**Pg**	**07 20 41.6**	**-0.7**
KUR15				⇑S	**Sg**	**07 20 51.0**	**+0.3**
KURBB	**Kurchatov Arra**	**0.65**	**353**	Pg	**Pg**	**07 20 41.5**	**-1.0**
	3.6nm,0.3s,baz=167,slow=17,SNR=230						
KURBB				Lg	Lg	07 20 50.6	
	4.7nm,0.3s,baz=178,slow=29,SNR=62						
KURBB	**Kurchatov Arra**	**0.65**	**353**	⇑P	**Pg**	**07 20 41.6**	**-0.8**
	18nm,0.3s						
KURBB				⇑S	**Sg**	**07 20 50.4**	**-0.5**
	160nm,0.6s						
KUR16	**Kurchatov Arra**	**0.66**	**351**	⇓P	**Pg**	**07 20 41.8**	**-0.7**
KUR16				⇓S	**Sg**	**07 20 50.7**	**-0.4**
KUR17	**Kurchatov Arra**	**0.67**	**350**	⇓P	**Pg**	**07 20 42.0**	**-0.7**
KUR17				⇑S	**Sg**	**07 20 51.4**	**+0.1**
KUR05	**Kurchatov Arra**	**0.67**	**353**	⇑P	**Pg**	**07 20 42.0**	**-0.8**
KUR05				⇑S	**Sg**	**07 20 50.5**	**-1.1**
KUR04	**Kurchatov Arra**	**0.69**	**354**	⇑P	**Pg**	**07 20 42.4**	**-0.8**
KUR04				⇓S	**Sg**	**07 20 51.3**	**-0.8**
KURK	**Kurchatov**	**0.74**	**358**	⇑P	**Pg**	**07 20 43.1**	**-1.0**
	7.4nm,0.3s						
KURK				⇑S	**Sg**	**07 20 53.1**	**-0.6**
	46nm,0.7s						
SEM	**Semipalatinsk**	**1.11**	**66**	S	**Sg**	**07 21 04.3**	**-1.3**
	78nm,0.3s						
MAKZ	**Makanchi**	**3.87**	**144**	⇑Pn	**Pn**	**07 21 32.4**	**+1.8**
	0.2nm,0.2s						
MAKZ				⇑Pg	**Pb**	**07 21 38.7**	**-0.2**
	1.5nm,0.5s						
MAKZ				⇓Lg	Lg	07 22 27.4	
	4.8nm,0.6s						
MK31	**Makanchi Array**	**4.00**	**141**	Pn	**Pn**	**07 21 34.1**	**+1.7**
	0.2nm,0.2s,baz=321,slow=10.0,SNR=22						
MK31				⇓Pg	**Pb**	**07 21 41.8**	**+0.6**
	0.4nm,0.2s,baz=322,slow=14,SNR=15						
MK31				⇑Lg	Lg	07 22 33.9	
	8.0nm,0.6s						
MKAR	**Makanchi Array**	**4.00**	**141**	Pn	**Pn**	**07 21 34.0**	**+1.5**
	0.5nm,0.3s,baz=327,slow=11,SNR=31						
MKAR				Pg	**Pb**	**07 21 41.8**	**+0.6**
	1.1nm,0.3s,baz=326,slow=16,SNR=20						
MKAR				Lg	Lg	07 22 36.3	
	2.6nm,0.3s,baz=329,slow=26,SNR=11						
OTUK	**Ortayu**	**4.50**	**250**	⇑Pn	**Pn**	**07 21 40.8**	**+1.5**
	1.4nm,0.3s						
OTUK				⇑Lg	Lg	07 22 52.3	
	6.3nm,0.5s						
ZAA0	**Zalesovo Array**	**5.51**	**41**	⇓Pn	**Pn**	**07 21 54.0**	**+0.9**
	1.9nm,0.5s						
ZALV	**Zalesovo Beam**	**5.51**	**41**	Pn	**Pn**	**07 21 54.3**	**+1.2**
	1.3nm,0.3s,baz=232,slow=14,SNR=16						
ZALV				Lg	Lg	07 23 25.4	
	0.4nm,0.3s,baz=232,slow=27,SNR=4.7						
I46RU	**ZALESOVO INFRA**	**5.51**	**41**	*i*		07 51 10.0	
	baz=219,slow=349,SNR=1.1						
DJR	**Jarkent**	**5.70**	**172**	Pg	**Pg**	**07 22 17.4**	**-1.6**
	1.1nm,0.3s						
DJR				Lg	Lg	07 23 27.2	
	3.0nm,0.7s						
ARXS	**Arharly**	**5.79**	**186**	Pg	**Pg**	**07 22 19.8**	**-1.0**
	1.9nm,0.3s						
ARXS				Lg	Lg	07 23 31.6	
	4.8nm,0.4s						
BVA0	**Borovoye Array**	**6.00**	**304**	⇑Pn	**Pn**	**07 22 01.7**	**+1.9**
	6.7nm,1.8s,baz=120,slow=14,SNR=4.8						
BRVK	**Borovoye**	**6.07**	**304**	⇑Pn	**Pn**	**07 22 02.1**	**+1.3**
	3.0nm,1.4s						
BRVK				⇑Sn	**Sn**	**07 23 08.4**	**-2.6**
	1.9nm,0.6s						
BRVK				⇑Lg	Lg	07 23 36.5	
	3.0nm,0.8s						
CHKK	**Chushkaly**	**6.23**	**191**	Pg	**Pg**	**07 22 28.5**	**-0.7**
	0.9nm,0.1s						
CHKK				Lg	Lg	07 23 46.0	
	6.9nm,0.6s						
KUU	**Kurty**	**6.29**	**195**	Pg	**Pg**	**07 22 29.1**	**-1.3**
	0.5nm,0.1s						
KUU				Lg	Lg	07 23 46.7	
	8.5nm,0.5s						
AAK	**Ala-Archa**	**7.88**	**203**	Lg	Lg	07 24 44.2	
	0.2nm,0.3s,baz=225,slow=21,SNR=3.7						

*ISK **07** 07:20:45.8, 36°.63N×36°.21E, h19km, ML2.2/4*
*DDA **07** 07:20:46.3, 36°.65N×36°.26E, h24km±1km, ML2.7*
ISC 07 07:20:45.2±1.3**, 36°.66N**±0°.04×**36°.22E**±0°.03**, h9**km±11km**, n12, σ0s.83**/20**, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TAHT	**Tahtakopru-Hat**	**0.28**	**186**	PG	**Pb**	**07 20 52.1**	**-0.3**
TAHT				SG	**Sb**	**07 20 56.6**	**-0.6**
KUZU	**Kuzuini**	**0.69**	**80**	IAML_P			
	comp=Z,3μm,0.2s						
KUZU				*i* P	**Pb**	**07 20 59.6**	**+0.1**
KUZU				*i* S	**Sn**	**07 21 11.7**	**-0.4**
KOZT	**Kozan**	**0.88**	**339**	PG	**Pn**	**07 21 03.6**	**-0.2**
KOZT				SG	**Sn**	**07 21 16.7**	**0.0**
ANDN	**Andirin**	**0.93**	**6**	IAML_P			
	comp=Z,650nm,0.2s						
ANDN				*i* P	**Pn**	**07 21 05.2**	**+0.7**
GAZ	**Gaziantep**	**0.94**	**57**	PG	**Pn**	**07 21 04.8**	**+0.1**
GAZ				SG	**Sn**	**07 21 18.7**	**+0.4**
KMRS	**Kahramanmaras**	**1.01**	**32**	PG	**Pn**	**07 21 05.7**	**+0.2**
GZT	**Gaziantep**	**1.28**	**57**	IAML_P			
	comp=Z,707nm,0.1s						
GZT				*i* P	**Pg**	**07 21 10.8**	**+1.0**
GZT				*i* S	**Sn**	**07 21 28.2**	**+1.5**
SAIM	**ADANA**	**1.32**	**355**	IAML_P			
	comp=Z,422nm,0.2s						
SAIM				*i* P	**Pg**	**07 21 11.3**	**+0.8**
ELBS	**KAHRAMANMARAS**	**1.82**	**23**	IAML_P			
	comp=Z,101nm,0.2s						
ELBS				*e*P	**Pg**	**07 21 19.6**	**-0.4**
KERG	**Konya-Eregli**	**1.84**	**295**	IAML_P			
	comp=Z,80nm,0.3s						
KERG				*i* P	**Pg**	**07 21 20.2**	**-0.3**
KERG				*i* S	**Sg**	**07 21 45.7**	**+1.3**
SURC	**SANLIURFA_SURC**	**1.93**	**83**	*i* P	**Pg**	**07 21 22.9**	**+0.7**
SURC				*i* S	**Sg**	**07 21 46.0**	**-1.2**
AKCD	**Akcadag**	**2.12**	**39**	IAML_P			
	comp=Z,185nm,0.2s						
AKCD				*i* P	**Pb**	**07 21 22.7**	**-1.2**
AKCD				*i* S	**Sg**	**07 21 52.6**	**-0.8**

IDC 07 07:26:32.4±3.8**, 6°.02S**×**133°.12E, h0**km**, mb3.7**/1**, mb1 3.9**/3**, mb1mx3.5**/20**, mbtmp3.7**/3**, ML3.6**/2**, Error ellipse: s-maj=197.4km s-min=20.2km az=80.0, Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.89**	**175**	Pn	Pn	07 29 51.4	+0.7
	0.3nm,0.3s,baz=354,slow=13,SNR=13						
WRA				Sn	Sn	07 32 25.6	-0.1
	0.2nm,0.3s,baz=2.9,slow=23,SNR=4.7						
ASAR	**Alice Springs**	**17.56**	**178**	P	P	07 30 40.6	+0.7
	0.2nm,0.3s,baz=7.4,slow=11,SNR=12						
ASAR				S	Sn	07 33 55.2	+0.1
	0.1nm,0.3s,baz=358,slow=27,SNR=3.1						
MKAR	**Makanchi Array**	**69.16**	**325**	P	P	07 37 40.6	-0.2
	0.4nm,0.5s,baz=117,slow=7.2,SNR=4.5						

MEX 07 07:29:21.3±0.4**, 16°.30N**×**98°.26W, h11**km±2km**, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.16**	**56**	*i* P	Pg	07 29 24.3	-0.6
PNIG				*i* S	Sg	07 29 27.1	-0.3
TLIG	**Tlapa**	**1.28**	**347**	*e*P	Pn	07 29 40.8	-4.5
TLIG				*i* S	Sb	07 29 58.2	-4.0
VHO	**Vista Hermosa**	**1.65**	**62**	*i* P	Pn	07 29 47.5	-2.9
VHO				*i* S	Sn	07 30 06.8	-5.0

IDC 07 07:33:38.3±1.1**, 7°.52S**×**128°.67E, h0**km**, mb3.9**/4**, mb1 4.0**/6**, mb1mx3.8**/21**, mbtmp3.9**/6**, ML4.4**/2**, Error ellipse: s-maj=212.6km s-min=20.5km az=66.0, Banda**

Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.52**	**157**	Pn	Pn	07 36 50.5	-1.0
	2.3nm,0.3s,baz=324,slow=13,SNR=42						
WRA				Sn	Sn	07 39 11.1	-12
	1.4nm,0.3s,baz=339,slow=23,SNR=5.7						
ASAR	**Alice Springs**	**16.82**	**163**	Pn	Pn	07 37 35.4	-0.1
	0.8nm,0.3s,baz=339,slow=9.4,SNR=26						
ASAR				Sn	Sn	07 40 35.2	-8.0
	0.7nm,0.3s,baz=343,slow=24,SNR=7.7						
STKA	**Stephens Creek**	**27.07**	**155**	P	P	07 39 23.1	+0.3
	0.8nm,0.4s,baz=343,slow=12,SNR=6.6						
SONM	**Songino Array**	**58.52**	**343**	P	P	07 43 36.8	+0.1
	0.4nm,0.8s,baz=151,slow=6.3,SNR=3.0						
MKAR	**Makanchi Array**	**67.94**	**328**	P	P	07 44 39.4	+0.3
	1.7nm,0.4s,baz=124,slow=8.2,SNR=58						
ZALV	**Zalesovo Beam**	**71.47**	**334**	P	P	07 45 00.1	-0.5
	0.3nm,0.4s,baz=117,slow=5.5,SNR=3.5						

MEX 07 07:53:57.0±0.5**, 15.°93N×98.°85W, h17**km±7km**, MD3.9, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.83**	**56**	*i* P	Pb	07 54 09.8	-3.2
PNIG				*i* S	Sb	07 54 20.4	-3.6
TLIG	**Tlapa**	**1.65**	**9**	*e*P	Pn	07 54 21.8	-3.5
TLIG				*e*S	Sn	07 54 41.5	-4.7
CAIG	**El Cayaco**	**1.76**	**309**	*i* P	Pn	07 54 23.1	-3.7
CAIG				*i* S	Sn	07 54 44.2	-4.5
VHO	**Vista Hermosa**	**2.33**	**60**	*e*P	Pn	07 54 32.4	-2.3
VHO				*i* S	Sn	07 54 59.0	-4.1
VHO				*e*S	Sb	07 54 59.1	-8.1

*SJA **07** 08:13:32.4±0.3, 29.°31S×71.°48W, h58km±2km, ML4.3, MW4.0*
*ISCJB **07** 08:13:34.0±0.6, 29.°40S±0.°02×71.°47W±0.°06, h46km±6km, mb4.3/11, Error ellipse: s-maj=9.1km s-min=3.4km az=1.2*
*GUC **07** 08:13:36.4±0.7, 29.°56S×71.°06W, h41km±3km, ML4.2*
*NEIC **07** 08:13:36.0±0.0, 29.°56S×71.°04W, h36km, mb4.4/4, ML4.1(GUC), After GUC.*
NEIC Felt [III] at Coquimbo, La Higuera and La Serena; [II] at Paiguano and Vicuna.
*IDC **07** 08:13:42.7±2.9, 29.°11S×70.°71W, h86km±23km, mb3.7/6, mb1 3.8/10, mb1mx3.6/28, mbtmp3.9/10, MS3.0/2, Ms1 3.0/2, ms1mx2.8/22, Error ellipse: s-maj=30.6km s-min=23.1km az=56.0*
ISC 07 08:13:34.6±1.5**, 29.°49S**±0.°03×**71.°34W**±0.°06**, h30**km±10km**, n66,** σ1s**76**/88**, mb4.2**/11**, 2C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.43**	**169**	⇑*i*P	**Pn**	**08 13 46.0**	**+1.2**
LSCH				*i* S	**Sn**	**08 13 53.5**	**+1.9**
LSCH				IAML		08 13 54.4	
	comp=E,16μm,0.4s						
LCO	**Las Campanas**	**0.73**	**50**	*e*Pn	**Pb**	**08 13 50.4**	**+1.4**
LCO				*e*Sn	**Sn**	**08 14 00.7**	**+1.2**
LCO	**Las Campanas**	**0.73**	**50**	*e*P	**Pn**	**08 13 48.5**	**-0.7**
LCO				*e*S	**Sn**	**08 14 00.2**	**+0.7**
LCO	**Las Campanas**	**0.73**	**50**	⇓*i*P	**Pb**	**08 13 50.4**	**+1.4**
LCO				*i* S	**Sn**	**08 14 00.5**	**+1.1**
LCO				IAML		08 14 02.8	
	comp=E,11μm,0.4s						
GO04	**Tololo Observa**	**0.83**	**146**	*e*Pn	**Pn**	**08 13 51.0**	**+0.4**
GO04				*e*Sn	**Sn**	**08 14 01.5**	**-0.4**
GO04	**Tololo Observa**	**0.83**	**146**	⇓*i*P	**Pn**	**08 13 50.9**	**+0.4**
GO04				*i* S	**Sn**	**08 14 01.3**	**-0.6**
CMCH	**Combarbala**	**1.71**	**170**	*e*P	**Pn**	**08 14 03.3**	**+0.8**
CMCH				*i* S	**Sn**	**08 14 23.0**	**-0.4**
AROD	**Rodeo**	**1.76**	**113**	*e*P	**Pb**	**08 14 05.5**	**-0.9**
ACDV	**Cuesta del Vie**	**2.04**	**110**	*e*P	**Pn**	**08 14 09.1**	**+1.9**
ACCO	**Cerro Coronel**	**2.26**	**120**	*e*P	**Pn**	**08 14 12.8**	**+2.6**
AMOG	**MOGNA**	**2.86**	**121**	*e*P	**Pn**	**08 14 20.8**	**+2.5**
RTLS	**Leoncito**	**2.90**	**143**	*e*P	**Pn**	**08 14 22.2**	**+3.2**
RTLS				IAML		08 15 09.4	
	comp=Z,949nm,0.4s						
RTLL	**Cerro Villicun**	**3.08**	**127**	IAML		08 15 22.3	
	comp=N,1μm,0.5s						
AUSP	**Uspallata**	**3.20**	**149**	*e*P	**Pn**	**08 14 26.5**	**+3.2**
AUSP				*e*S	**Sb**	**08 15 06.4**	**-3.3**
RTCV	**Cerro Valdivia**	**3.38**	**135**	*e*P	**Pn**	**08 14 28.4**	**+3.0**
RTCV				*e*S	**Sn**	**08 15 09.5**	**+4.9**
ROCH	**El Roble**	**3.49**	**175**	*e*P	**Pn**	**08 14 28.4**	**+1.3**
ROCH				IAML		08 15 33.7	
	comp=N,1μm,0.4s						
ROC1	**El Roble**	**3.49**	**176**	*e*Pn	**Pn**	**08 14 28.9**	**+1.8**
ROC1				*e*Sn	**Sn**	**08 15 07.1**	**-0.5**
ROC1	**El Roble**	**3.49**	**176**	*e*P	**Pn**	**08 14 29.6**	**+2.4**
PEL	**Peldehue**	**3.69**	**171**	*e*Pn	**Pn**	**08 14 31.7**	**+2.0**
PEL				*e*Sn	**Sn**	**08 15 11.8**	**-0.4**
PEL	**Peldehue**	**3.69**	**171**	⇑*i*P	**Pn**	**08 14 31.7**	**+2.0**
PEL				*i* S	**Sn**	**08 15 14.9**	**+2.7**
PEL				IAML		08 15 28.6	
	comp=N,698nm,0.2s						
ACLC	**CERRO LA CRUZ**	**3.83**	**90**	*e*P	**Pn**	**08 14 33.4**	**+1.7**
ACLC				*e*S	**Sn**	**08 15 18.5**	**+2.7**
ARCO	**CERRO ARCO**	**3.93**	**149**	*e*P	**Pn**	**08 14 35.7**	**+2.6**
ARCO				IAML		08 15 36.3	
	comp=Z,301nm,0.5s						
AAGR	**Agrelo**	**4.18**	**150**	*e*P	**Pn**	**08 14 39.3**	**+2.8**
APLL	**PUNTA DE LOS L**	**4.27**	**103**	*e*P	**Pn**	**08 14 39.8**	**+2.1**
LMEL	**Las Melosas**	**4.46**	**168**	*e*P	**Pn**	**08 14 43.1**	**+2.8**
LMEL				*i* S	**Sn**	**08 15 32.5**	**+1.3**
ACAN	**Cantantal**	**4.52**	**129**	*e*P	**Pn**	**08 14 43.6**	**+2.5**
GO02	**Mina Guanaco**	**4.58**	**20**	*e*Pn	**Pn**	**08 14 43.1**	**+1.0**
GO02				*e*Sn	**Sn**	**08 15 34.1**	**-0.4**
GO05	**Huala**	**5.53**	**185**	*e*Pn	**Pn**	**08 14 54.4**	**-0.6**
GO05				*e*Sn	**Sn**	**08 15 54.6**	**-3.0**
PB10	**IPOC Station P**	**5.99**	**7**	*e*Pn	**Pn**	**08 15 01.9**	**+0.6**
PB10				*e*Sn	**Sn**	**08 16 08.4**	**-0.5**
LVC	**Limon Verde**	**7.19**	**18**	P	**Pn**	**08 15 18.0**	**0.0**
	comp=Z,0.4nm,0.3s,baz=197,slow=10,SNR=3.8						
LVC				S	**Sn**	**08 16 38.1**	**-0.7**
	comp=Z,3.1nm,0.3s,baz=121,slow=13,SNR=2.3						
LVC				LR	LR	08 18 05.2	
	comp=Z,160nm,21.1s,baz=184,slow=39						
LVC	**Limon Verde**	**7.19**	**18**	*e*Pn	**Pn**	**08 15 18.2**	**+0.2**
LVC				*e*Sn	**Sn**	**08 16 37.1**	**-1.7**
PB04	**IPOC Station P**	**7.20**	**9**	*e*Pn	**Pn**	**08 15 18.3**	**+0.2**
PB04				*e*Sn	**Sn**	**08 16 38.1**	**-0.9**
PB01	**IPOC Station P**	**8.57**	**12**	*e*Pn	**Pn**	**08 15 35.6**	**-1.2**
PB01				*e*Sn	**Sn**	**08 17 10.8**	**-1.8**
MNMC	**Minye Minye**	**10.43**	**9**	*e*Pn	**Pn**	**08 16 02.1**	**-0.4**
MNMC				*e*Sn	**Sn**	**08 17 59.0**	**+0.5**
PLCA	**Paso Flores**	**11.24**	**177**	P	Pn	08 16 25.5	+12
	comp=Z,0.2nm,0.3s,baz=346,slow=9.8,SNR=5.7						
TRQA	**Tornquist**	**11.56**	**140**	*e*Pn	**Pn**	**08 16 17.4**	**-0.2**
CPUP	**Villa Florida**	**12.78**	**79**	P	**Pn**	**08 16 33.0**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=245,slow=14,SNR=2.3						
CPUP				S	**Sn**	**08 18 51.8**	**-3.8**
	comp=Z,0.2nm,0.3s,baz=322,slow=1.5,SNR=1.7						
CPUP	**Villa Florida**	**12.78**	**79**	*e*Pn	**Pn**	**08 16 33.4**	**-0.9**
LPAZ	**La Paz**	**13.46**	**13**	P	**Pn**	**08 16 47.5**	**+3.3**
	comp=Z,0.2nm,0.3s,baz=212,slow=5.2,SNR=18						
LPAZ				LR	LR	08 22 27.0	
	comp=Z,45nm,19.0s,baz=92,slow=40						
LPAZ	**La Paz**	**13.46**	**13**	*e*Pn	**Pn**	**08 16 46.7**	**+2.5**
SIV	**San Ignacio**	**16.42**	**37**	P	**Pn**	**08 17 21.4**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=225,slow=10,SNR=20						
PMSA	**Palmer Station**	**35.60**	**175**	*e*P	**P**	**08 20 29.6**	**+0.4**
	comp=Z,36nm,1.0s						
LGNH	**Logne**	**47.73**	**358**	*e*P	**P**	**08 22 09.1**	**+0.3**
	comp=Z,98nm,1.1s						
QSPA	**South Pole Qui**	**60.74**	**180**	*e*P	**P**	**08 23 43.4**	**+0.1**
	comp=Z,4.4nm,1.1s						
TXAR	**Lajitas Array**	**66.13**	**329**	P	**P**	**08 24 20.6**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=155,slow=9.1,SNR=9.4						
DBIC	**Dimbokro**	**73.20**	**72**	P	**P**	**08 25 00.9**	**-2.1**
	comp=Z,1.4nm,0.6s,baz=221,slow=9.3,SNR=3.1						
X16A	**Lo Mia Camp, P**	**73.99**	**326**	*e*P	**P**	**08 25 10.2**	**+2.7**
	comp=Z,2.9nm,1.0s						
SMCO	**Snowmass**	**75.95**	**332**	*e*P	**P**	**08 25 21.3**	**+2.2**
	comp=Z,4.7nm,1.1s						
PDAR	**Pinedale Array**	**80.03**	**332**	P	**P**	**08 25 42.2**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=139,slow=4.8,SNR=3.8						
BOSA	**Boshof**	**81.65**	**118**	P	**P**	**08 25 49.7**	**-0.7**
	comp=Z,3.5nm,0.9s,baz=284,slow=6.4,SNR=4.8						
TOA0	**Torodi Ar. Sit**	**82.12**	**70**	*e*P	**P**	**08 25 51.9**	**-0.9**
TORD	**Torodi Ar. Bea**	**82.12**	**70**	P	**P**	**08 25 50.4**	**-2.4**
	comp=Z,1.6nm,0.6s,baz=224,slow=4.0,SNR=11						
YKA	**Yellowknife Ar**	**97.99**	**341**	P	**P**	**08 27 07.1**	**-0.2**
	comp=Z,0.2nm,0.8s,baz=131,slow=4.3,SNR=5.1						
SUW	**Suwalki**	**115.84**	**41**	*e*PKPdf	**PKPdf**	**08 32 16.2**	**+2.5**
CHGR	**Chuyangaron**	**146.24**	**64**	*e*PKPdf	**PKPbc**	**08 33 12.3**	**0.0**
KK31	**Karatay Array**	**146.68**	**55**	*e*PKPdf	**PKPbc**	**08 33 13.2**	**-0.2**
KKAR	**Karatay Array**	**146.68**	**55**	*e*PKPdf	**PKPbc**	**08 33 13.2**	**-0.2**
GAR	**Garm**	**147.12**	**63**	*e*PKPdf	**PKPbc**	**08 33 14.2**	**-0.7**
ARSB	**Arslanbob**	**148.82**	**58**	*e*PKPbc	**PKPbc**	**08 33 20.1**	**+0.7**
KURK	**Kurchatov**	**149.07**	**38**	*e*PKPbc	**PKPbc**	**08 33 19.9**	**+0.4**
AAK	**Ala-Archa**	**149.63**	**55**	*e*PKPbc	**PKPbc**	**08 33 22.1**	**+0.7**
ZALV	**Zalesovo Beam**	**150.04**	**29**	PKPbc	**PKPbc**	**08 33 21.9**	**+0.1**
	comp=Z,12nm,0.9s,baz=291,slow=3.7,SNR=38						
NRN	**Naryn**	**151.02**	**57**	*e*PKPbc	**PKPbc**	**08 33 25.6**	**+0.6**
MK31	**Makanchi Array**	**153.19**	**43**	*e*PKPbc	**PKPbc**	**08 33 29.5**	**+0.1**
MKAR	**Makanchi Array**	**153.19**	**43**	PKPbc	**PKPbc**	**08 33 29.1**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=317,slow=2.2,SNR=11						
MK01	**Makanchi Array**	**153.21**	**43**	*e*PKPbc	**PKPbc**	**08 33 29.1**	**-0.2**
MK01				*e*PKPab	**PKPab**	**08 33 41.4**	**+0.2**

*THE **07** 08:29:12.6, 34.°64N×25.°32E, h0km±1km, ML3.2/8, Error ellipse: s-maj=1.9km s-min=0.7km az=166.0*
*ATH **07** 08:29:12.8, 34.°67N×25.°29E, h26km±1km, ML3.1/7, Error ellipse: s-maj=2.3km s-min=0.9km az=352.0*
*IDC **07** 08:29:13.1±1.9, 34.°70N×25.°39E, h42km±16km, mb3.4/5, mb1 3.6/8, mb1mx3.2/44, mbtmp3.6/8, ML3.8/3, Error ellipse: s-maj=25.7km s-min=20.4km az=65.0*
ISC 07 08:29:13.1±1.2**, 34.°67N**±0.°05×**25.°33E**±0.°03**, h31**km±8km**, n42,** σ1s**42**/61**, mb3.5**/5**, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.50**	**14**	P	**Pb**	**08 29 23.1**	**-0.5**
LAST				S	**Sb**	**08 29 31.1**	**+0.3**
LAST				AML	AML	08 29 34.5	
	comp=E,1985μm,0.6s						
LAST				AML	AML	08 29 34.5	
	comp=N,3998μm,0.7s						
LAST	**Lasithi**	**0.50**	**14**	P	**Pb**	**08 29 23.1**	**-0.5**
LAST				S	**Sn**	**08 29 32.0**	**+0.2**
SIVA	**Sivas**	**0.55**	**309**	P	**Pb**	**08 29 23.6**	**-0.8**
SIVA				S	**Sb**	**08 29 31.5**	**-0.6**
SIVA				AML	AML	08 29 36.3	
	comp=N,12891μm,0.5s						
SIVA				AML	AML	08 29 39.8	
	comp=E,23364μm,0.6s						
SIVA	**Sivas**	**0.55**	**309**	P	**Pb**	**08 29 23.5**	**-0.8**
SIVA				S	**Sn**	**08 29 33.0**	**+0.2**
NPS	**Neapolis**	**0.63**	**22**	P	**Pb**	**08 29 25.8**	**+0.1**
NPS				S	**Sn**	**08 29 35.2**	**+0.3**
NPS				AML	AML	08 29 42.0	
	comp=N,1789μm,0.5s						
NPS				AML	AML	08 29 44.5	
	comp=E,2642μm,0.5s						
NPS	**Neapolis**	**0.63**	**22**	P	**Pb**	**08 29 25.8**	**+0.1**
NPS				S	**Sn**	**08 29 36.2**	**+1.3**
KSTL	**Kastelli Herak**	**0.66**	**341**	P	**Pb**	**08 29 23.9**	**-2.3**
KSTL				S	**Sb**	**08 29 32.8**	**-2.4**
IACM	**Heraklion**	**0.67**	**341**	P	**Pb**	**08 29 26.3**	**0.0**
IACM	**Heraklion**	**0.67**	**341**	P	**Pn**	**08 29 26.9**	**+0.6**
IACM				S	**Sn**	**08 29 37.9**	**+2.2**
IDI	**Anoyia**	**0.71**	**330**	P	**Pb**	**08 29 26.6**	**-0.5**
	comp=E,38nm,0.3s,baz=173,slow=8.8,SNR=122						
IDI				S	**Sn**	**08 29 38.3**	**+1.4**
	comp=E,84nm,0.3s,baz=107,slow=19,SNR=18						
IDI				LR	LR	08 29 57.3	
	comp=E,112nm,18.6s,baz=90,slow=62						
STIA	**Sitia Lasithi**	**0.82**	**50**	P	**Pb**	**08 29 28.8**	**0.0**
STIA				S	**Sn**	**08 29 42.4**	**+2.9**
ZKR	**Zakros**	**0.85**	**59**	P	**Pn**	**08 29 29.8**	**+0.9**
ZKR				S	**Sn**	**08 29 42.5**	**+2.2**
ZKR				AML	AML	08 29 49.5	
	comp=E,2034μm,0.5s						
ZKR				AML	AML	08 29 55.6	
	comp=N,827μm,0.8s						
ZKR	**Zakros**	**0.85**	**59**	P	**Pb**	**08 29 29.4**	**0.0**
ZKR				S	**Sn**	**08 29 42.6**	**+2.2**
PRNS	**Prines Rethymn**	**0.97**	**316**	P	**Pb**	**08 29 31.7**	**+0.4**
PRNS				S	**Sn**	**08 29 46.7**	**+3.5**
GVD	**Gavdhos**	**1.04**	**279**	P	**Pn**	**08 29 32.0**	**+0.6**
GVD				S	**Sn**	**08 29 46.4**	**+1.6**
GVD				AML	AML	08 29 54.1	
	comp=E,3449μm,0.3s						
GVD				AML	AML	08 29 58.4	
	comp=N,3923μm,0.4s						
GVD	**Gavdhos**	**1.04**	**279**	P	**Pb**	**08 29 32.6**	**+0.2**
GVD				S	**Sn**	**08 29 47.6**	**+2.7**
VAM	**Vamos**	**1.18**	**309**	P	**Pb**	**08 29 34.9**	**-0.1**
VAM				S	**Sb**	**08 29 51.0**	**+1.2**
VAM				AML	AML	08 30 01.8	
	comp=N,1759μm,0.4s						
VAM				AML	AML	08 30 04.2	
	comp=E,2407μm,0.5s						
VAM	**Vamos**	**1.18**	**309**	P	**Pb**	**08 29 34.8**	**-0.1**
VAM				S	**Sb**	**08 29 51.8**	**+2.0**
IMMV	**Iera Moni Meta**	**1.36**	**306**	P	**Pb**	**08 29 37.8**	**0.0**
IMMV				S	**Sb**	**08 29 56.3**	**+1.4**
IMMV				AML	AML	08 30 09.2	
	comp=N,1692μm,0.5s						
IMMV				AML	AML	08 30 12.1	
	comp=E,1626μm,0.5s						
IMMV	**Iera Moni Meta**	**1.36**	**306**	P	**Pb**	**08 29 37.9**	**0.0**
IMMV				S	**Sb**	**08 29 57.2**	**+2.4**
THR6	**Thira Island,**	**1.68**	**2**	P	**Pb**	**08 29 42.4**	**-0.9**
ANAF	**Anafi Island**	**1.72**	**12**	P	**Pb**	**08 29 43.0**	**-1.0**
KARP	**Karpathos**	**1.74**	**59**	P	**Pb**	**08 29 44.2**	**-0.1**
KARP	**Karpathos**	**1.74**	**59**	P	**Pb**	**08 29 44.7**	**+0.4**
THR5	**Thira Island,**	**1.74**	**0**	P	**Pb**	**08 29 43.8**	**-0.5**
THR2	**Thira island,**	**1.77**	**3**	P	**Pn**	**08 29 43.3**	**+1.7**
ANKY	**Antikythira Is**	**2.04**	**306**	P	**Pb**	**08 29 47.9**	**-1.5**
IOSP	**Ios island**	**2.04**	**359**	P	**Pn**	**08 29 47.3**	**+2.0**
AMGA	**Amorgos Island**	**2.20**	**12**	P	**Pn**	**08 29 49.7**	**+2.3**
VLI	**Veliai**	**2.82**	**317**	P	**Pn**	**08 29 56.8**	**+0.8**
DID	**Didima**	**3.29**	**330**	P	**Pn**	**08 30 03.1**	**+0.5**
ITM	**Ithomi**	**3.73**	**313**	P	**Pn**	**08 30 09.4**	**+1.0**
AMT	**Artemida-Makis**	**4.09**	**315**	P	**Pn**	**08 30 15.4**	**+2.0**
EIL	**Elat**	**9.56**	**119**	P	**Pn**	**08 31 27.6**	**-0.9**
	comp=E,0.4nm,0.3s,baz=344,slow=15,SNR=2.5						
AKASG	**Malin Array Be**	**16.27**	**9**	P	**Pn**	**08 32 59.7**	**+0.6**
	comp=E,1.5nm,0.3s,baz=199,slow=10,SNR=4.7						
KBZ	**Khabaz**	**16.32**	**51**	P	**P**	**08 33 03.6**	**+1.2**
	comp=E,0.1nm,0.3s,baz=236,slow=9.0,SNR=6.0						
GERES	**GERESS Array B**	**16.58**	**332**	P	**Pn**	**08 33 03.3**	**+0.2**
	comp=E,0.1nm,0.3s,baz=142,slow=16,SNR=2.9						
FINES	**FINESS Array B**	**26.79**	**1**	P	**P**	**08 34 47.3**	**-2.6**
	comp=E,0.6nm,0.4s,baz=169,slow=11,SNR=4.5						
TORD	**Torodi Ar. Bea**	**30.29**	**231**	P	**P**	**08 35 21.1**	**-0.4**
	comp=E,0.3nm,0.4s,baz=31,slow=9.9,SNR=6.5						
ARCES	**ARCESS Array B**	**34.91**	**0**	P	**P**	**08 35 59.6**	**-1.9**
	comp=E,2.0nm,0.9s,baz=186,slow=8.2,SNR=5.3						
MKAR	**Makanchi Array**	**43.93**	**56**	P	**P**	**08 37 16.0**	**-0.9**
	comp=E,0.2nm,0.4s,baz=272,slow=6.8,SNR=3.9						
YKA	**Yellowknife Ar**	**77.95**	**342**	P	**P**	**08 41 06.5**	**-1.2**
	comp=E,0.1nm,0.4s,baz=35,slow=5.3,SNR=2.7						

*ISCJB **07** 08:39:49.3±0.6, 73.°16N±0.°05×7.°7E±0.°2, h10km, mb3.3/6, MS3.0/4, Error ellipse: s-maj=8.5km s-min=5.8km az=145.2*
*IDC **07** 08:39:49.2±0.9, 73.°06N×6.°90E, h0km, mb3.4/6, mb1 3.7/11, mb1mx3.5/44, mbtmp3.5/11, ML3.1/5, MS3.1/8, Ms1 3.1/8, ms1mx2.8/37, Error ellipse: s-maj=20.4km s-min=12.7km az=58.0*
*BER **07** 08:39:52.5±2.1, 73.°17N×6.°87E, h10km, ML2.3, Confirmed Earthquake*
ISC 07 08:39:50.8±0.8**, 73.°17N**±0.°08×**7.°41E**±0.°09**, h10**km**, n31,** σ1s**25**/29**, mb3.5**/6**, MS3.1**/4**, Greenland Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BJO	**Bjornoya**	**3.56**	**62**	*e*P	**Pn**	**08 40 46.1**	**+0.2**
HSPB	**Hornsund (broa**	**4.38**	**25**	*e*P	**Pn**	**08 40 56.9**	**-0.3**
TRO	**Tromso**	**5.11**	**128**	*e*P	**Pn**	**08 41 08.5**	**+1.2**
JMIC	**Jan Mayen**	**5.37**	**254**	LR	LR	08 42 46.3	
	comp=Z,86nm,18.8s,baz=64,slow=34						
LOF	**Lofoten**	**5.46**	**155**	*e*P	**Pn**	**08 41 13.6**	**+1.6**
SPA0	**Spitsbergen Ar**	**5.50**	**20**	*e*P	**Pn**	**08 41 12.8**	**+0.2**
SPITS	**Spitsbergen Ar**	**5.50**	**20**	Pn	**Pn**	**08 41 12.9**	**+0.4**
	baz=170,slow=14,SNR=9.9						
HAMF	**Hammerfest**	**5.66**	**109**	*e*P	**Pn**	**08 41 15.5**	**+0.7**
HAMF				*e*S	**Sn**	**08 42 17.9**	**-1.8**
HAMF				IAML		08 42 23.5	
	comp=Z,9.7nm,0.7s						
STEI	**Steigen**	**5.87**	**150**	*e*P	**Pn**	**08 41 17.6**	**-0.1**
KBS	**Kingsbay**	**5.89**	**9**	*e*P	**Pn**	**08 41 18.3**	**+0.4**
KIF	**Kilpisjarvi**	**6.03**	**127**	*e*P	**Pn**	**08 41 20.9**	**+1.1**
KTK1	**Kautokeino**	**6.61**	**121**	*e*P	**Pn**	**08 41 29.9**	**+2.1**
ARCES	**ARCESS Array B**	**6.83**	**113**	Pn	**Pn**	**08 41 30.9**	**0.0**
	comp=Z,1.2nm,0.3s,baz=321,slow=11,SNR=43						
ARCES				Sn	**Sn**	**08 42 47.5**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=311,slow=20,SNR=4.1						
ARE0	**ARCESS Array S**	**6.83**	**113**	*e*P	**Pn**	**08 41 32.7**	**+1.9**
ARE0				*e*S	**Sn**	**08 42 46.5**	**-2.1**
KONS	**Konsvik**	**6.98**	**161**	*e*P	**Pn**	**08 41 32.8**	**-0.1**
KONS				*e*S	Sn	08 42 44.8	-7.4
KONS				IAML		08 42 49.8	
	comp=Z,2.8nm,0.5s						
KEV	**Kevo**	**7.10**	**109**	*e*P	**Pn**	**08 41 34.8**	**+0.3**
KEV				*e*S	**Sn**	**08 42 53.4**	**-1.8**
HEF	**Hetta**	**7.16**	**124**	*e*P	**Pn**	**08 41 37.2**	**+1.8**
NOA	**NORSAR Array B**	**12.27**	**171**	Pn	Pn	08 42 43.4	-2.0
	comp=Z,0.0nm,0.3s,baz=350,slow=13,SNR=3.3						
NOA				LR	LR	08 46 51.2	
	comp=Z,74nm,18.0s,baz=10.0,slow=35						
HFS	**Hagfors**	**13.31**	**166**	Pn	**Pn**	**08 42 57.8**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=0.0,slow=11,SNR=7.0						
FINES	**FINESS Array B**	**13.70**	**139**	Pn	**Pn**	**08 43 04.5**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=19,slow=12,SNR=6.5						
FINES				LR	LR	08 48 18.4	
	comp=Z,67nm,18.5s,baz=1.5,slow=37						
SFJD	**Kangerlussuaq**	**19.90**	**282**	LR	LR	08 50 37.0	
	comp=Z,57nm,21.1s,baz=54,slow=33						
VRAC	**Vranov**	**24.29**	**165**	LR	LR	08 53 54.4	
	comp=Z,32nm,19.8s,baz=1.0,slow=35						
AKASG	**Malin Array Be**	**24.46**	**145**	P	**P**	**08 45 09.8**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=345,slow=9.9,SNR=4.4						
GERES	**GERESS Array B**	**24.57**	**170**	P	**P**	**08 45 11.1**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=8.6,slow=9.9,SNR=5.9						
RES	**Resolute Bay**	**25.08**	**322**	LR	LR	08 55 05.3	
	comp=Z,60nm,19.1s,baz=146,slow=36						
MLR	**Muntele Rosu**	**29.04**	**153**	LR	LR	08 56 56.1	
	comp=Z,46nm,18.6s,baz=166,slow=35						
KBZ	**Khabaz**	**33.81**	**131**	LR	LR	09 00 04.9	
	comp=Z,43nm,20.9s,baz=321,slow=36						
YKA	**Yellowknife Ar**	**39.14**	**321**	P	**P**	**08 47 16.9**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=21,slow=9.2,SNR=5.6						
YKA				PcP	**PcP**	**08 49 26.3**	**-0.6**
	comp=Z,0.1nm,0.6s,baz=12,slow=2.6,SNR=4.1						
ILAR	**Eielson Array**	**41.25**	**344**	P	**P**	**08 47 35.4**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=8.5,slow=7.3,SNR=6.2						
MKAR	**Makanchi Array**	**41.65**	**87**	P	**P**	**08 47 41.2**	**+2.5**
	comp=Z,0.1nm,0.6s,baz=350,slow=6.8,SNR=2.7						
TORD	**Torodi Ar. Bea**	**60.09**	**186**	P	**P**	**08 49 57.5**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=354,slow=7.8,SNR=3.9						

*SJA **07** 08:53:36.1±1.1, 23.°92S×66.°77W, h222km±6km, ML2.4, MW2.9*
*ISCJB **07** 08:53:37.3±0.8, 23.°89S±0.°04×66.°84W±0.°04, h208km±9km, Error ellipse: s-maj=8.1km s-min=4.7km az=36.9*
*GUC **07** 08:53:38.9±0.6, 23.°71S×67.°32W, h247km±13km, ML3.4*
ISC 07 08:53:36.2±2.1**, 23.°89S**±0.°05×**66.°80W**±0.°05**, h219**km±18km**, n32,** σ1s**13**/59**, 7C-2D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.44**	**125**	*i* P	**Pn**	**08 54 12.1**	**+0.8**
SLA				*i* S	**S**	**08 54 38.7**	**+0.1**
SLA				IAML		08 54 41.1	
	comp=Z,8.5nm,0.6s						
HJA	**Humahuaca**	**1.44**	**62**	*i* P	**Pn**	**08 54 12.0**	**+0.3**
HJA				IAML		08 54 13.2	
	comp=Z,18nm,0.5s						
AZAP	**Zapla**	**1.61**	**102**	*i* P	**Pn**	**08 54 13.1**	**+0.1**
AZAP				IAML		08 54 13.4	
	comp=Z,20nm,0.6s						
AZAP				*e*S	**S**	**08 54 41.0**	**-0.4**
YJA	**Yavi**	**2.08**	**35**	*i* P	**Pn**	**08 54 18.6**	**+1.0**
YJA				IAML		08 54 19.4	
	comp=Z,5.4nm,0.6s						
LVC	**Limon Verde**	**2.33**	**303**	*i* P	**Pn**	**08 54 21.2**	**+1.2**
LVC				*i* S	**S**	**08 54 54.1**	**+0.3**
FSA	**Cafayete**	**2.33**	**162**	*i* P	**Pn**	**08 54 20.1**	**+0.3**
FSA				IAML		08 54 20.8	
	comp=Z,10nm,0.7s						
FSA				*i* S	**S**	**08 54 52.2**	**-1.4**
PB15	**IPOC Station P**	**2.55**	**285**	*e*P	**Pn**	**08 54 23.5**	**+1.3**
PB15				*e*S	**S**	**08 54 57.5**	**-0.2**
PB15	**IPOC Station P**	**2.55**	**285**	⇑*i*P	**Pn**	**08 54 23.3**	**+1.1**
PB15				*i* S	**S**	**08 54 57.3**	**-0.4**
PB06	**IPOC Station P**	**2.81**	**294**	*i* P	**Pn**	**08 54 26.2**	**+1.1**
PB06				*e*S	**S**	**08 55 02.7**	**-0.2**
PB06	**IPOC Station P**	**2.81**	**294**	⇑*i*P	**Pn**	**08 54 26.1**	**+1.1**
PB06				*i* S	**S**	**08 55 02.1**	**-0.8**
PB06				IAML		08 55 03.7	
	comp=N,103nm,0.1s						
GO02	**Mina Guanaco**	**2.84**	**243**	*i* P	**Pn**	**08 54 26.7**	**+1.3**
GO02				*i* S	**S**	**08 55 03.8**	**+0.1**
GO02				IAML		08 55 06.3	
	comp=N,76nm,0.1s						
PB09	**IPOC Station P**	**3.07**	**312**	*e*P	**Pn**	**08 54 29.6**	**+1.6**
PB09				*e*S	**S**	**08 55 08.6**	**+0.3**
PB09	**IPOC Station P**	**3.07**	**312**	*e*P	**Pn**	**08 54 29.4**	**+1.4**
PB09				*i* S	**S**	**08 55 07.6**	**-0.7**
PB09				IAML		08 55 11.9	
	comp=E,28nm,0.5s						
PB03	**IPOC Station P**	**3.29**	**303**	*i* P	**Pn**	**08 54 31.2**	**+0.8**
PB03				*e*S	**S**	**08 55 10.7**	**-2.0**
PB03	**IPOC Station P**	**3.29**	**303**	⇑*i*P	**Pn**	**08 54 31.2**	**+0.8**
PB03				*i* S	**S**	**08 55 11.2**	**-1.5**
PB03				IAML		08 55 13.8	
	comp=E,64nm,0.1s						
PB05	**IPOC Station P**	**3.30**	**288**	*e*P	**Pn**	**08 54 31.4**	**+0.9**
PB05				*e*S	**S**	**08 55 11.4**	**-1.4**
PB04	**IPOC Station P**	**3.46**	**296**	*i* P	**Pn**	**08 54 33.3**	**+0.9**
PB04				*e*S	**S**	**08 55 15.8**	**-0.4**
PB04	**IPOC Station P**	**3.46**	**296**	⇑*i*P	**Pn**	**08 54 33.3**	**+0.9**
PB04				*i* S	**S**	**08 55 14.4**	**-1.8**
PB10	**IPOC Station P**	**3.46**	**276**	*e*P	**Pn**	**08 54 33.3**	**+1.0**
PB10				*e*S	**S**	**08 55 15.5**	**-0.6**
PB10	**IPOC Station P**	**3.46**	**276**	⇑*i*P	**Pn**	**08 54 33.1**	**+0.8**
PB10				*i* S	**S**	**08 55 14.2**	**-2.0**
PB07	**IPOC Station P**	**3.58**	**306**	*e*P	**Pn**	**08 54 34.5**	**+0.6**
PB07				*e*S	**S**	**08 55 17.0**	**-1.8**
PB07	**IPOC Station P**	**3.58**	**306**	⇑*i*P	**Pn**	**08 54 34.4**	**+0.6**
PB07				*i* S	**S**	**08 55 16.7**	**-2.1**
PB01	**IPOC Station P**	**3.77**	**318**	*i* P	**Pn**	**08 54 36.8**	**+0.7**
PB01				*i* S	**S**	**08 55 21.9**	**-1.1**
PB01	**IPOC Station P**	**3.77**	**318**	⇓*i*P	**Pn**	**08 54 36.7**	**+0.6**
PB01				*i* S	**S**	**08 55 21.4**	**-1.6**
PB02	**IPOC Station P**	**3.84**	**311**	*i* P	**Pn**	**08 54 37.4**	**+0.5**
PB02				*i* S	**S**	**08 55 22.9**	**-1.7**
PB02	**IPOC Station P**	**3.84**	**311**	⇑*i*P	**Pn**	**08 54 37.5**	**+0.5**
PB02				*i* S	**S**	**08 55 22.1**	**-2.4**
PB08	**IPOC Station P**	**4.33**	**329**	*e*P	**Pn**	**08 54 44.6**	**+1.4**
PB08				*e*S	**S**	**08 55 36.0**	**+0.3**
PB08	**IPOC Station P**	**4.33**	**329**	⇓*i*P	**Pn**	**08 54 44.5**	**+1.3**
PB08				*e*S	**S**	**08 55 35.2**	**-0.5**
PB11	**IPOC Station P**	**4.89**	**327**	*e*P	**Pn**	**08 54 49.6**	**-0.4**
MNMCX	**Minye Minye**	**5.41**	**331**	*e*P	**Pn**	**08 54 58.0**	**+1.3**
MNMCX				*e*S	**S**	**08 55 59.0**	**-1.1**
PB16	**IPOC Station P**	**6.08**	**335**	*e*P	**Pn**	**08 55 06.2**	**+0.7**
APLL	**PUNTA DE LOS L**	**6.48**	**178**	*e*P	**Pn**	**08 55 10.0**	**0.0**
APLL				IAML		08 55 11.0	
	comp=Z,5.8nm,0.2s						
APLL				*e*S	S	08 56 20.3	-4.2

*IDC **07** 09:00:46.0±0.7, 17.°83N×119.°80E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.8/37, mbtmp3.8/11, ML4.4/1, MS3.1/2, Ms1 3.2/2, ms1mx2.6/43, Error ellipse: s-maj=31.9km s-min=16.2km az=71.0*
*ISCJB **07** 09:00:48.1±2.2, 17.°72N±0.°04×119.°42E±0.°05, h25km±16km, mb4.0/16, MS3.3/1, Error ellipse: s-maj=9.2km s-min=5.7km az=150.8*
*MAN **07** 09:00:50.7, 17.°60N×119.°52E, h23km, mb4.8, ML3.7, MS3.6*
*NEIC **07** 09:00:50.7±0.4, 17.°76N×119.°73E, mb4.4/6, Error ellipse: s-maj=11.3km s-min=7.8km az=86.0*
ISC 07 09:00:49.7±0.7**, 17.°71N**±0.°05×**119.°50E**±0.°05**, h24**km±4km**,**

n39,σ1§07/55,mb4.0/16,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.16**	**93**	*e*P	**Pn**	**09 01 09.9**	**-0.5**
ABRA				*e*S	**Sn**	**09 01 27.0**	**+1.5**
BOLP	**Bolinao**	**1.38**	**163**	*e*P	**Pn**	**09 01 13.3**	**-0.1**
BOLP				*e*S	**Sn**	**09 01 29.3**	**-1.6**
APYP	**Conner**	**1.67**	**84**	*e*P	**Pn**	**09 01 18.0**	**+0.6**
APYP				*e*S	**Sb**	**09 01 39.6**	**-0.7**
SMPP	**San Manuel, Pa**	**1.92**	**144**	*e*P	**Pn**	**09 01 20.8**	**0.0**
SMPP				*e*S	**Sn**	**09 01 43.9**	**-0.4**
CVP	**Callao Caves**	**2.21**	**90**	*e*P	**Pn**	**09 01 25.8**	**+0.8**
CVP				*i* S	**Sb**	**09 01 57.4**	**+1.4**
CAUP	**Cauayan**	**2.34**	**109**	*e*P	**Pb**	**09 01 29.8**	**-1.5**
CAUP				*e*S	**Sb**	**09 02 02.2**	**+2.5**
TPUB	**Ta-pu**	**5.67**	**11**	*e*Pn	**Pn**	**09 02 11.7**	**-0.8**
YULB	**Yu-li**	**5.90**	**16**	*e*Pn	**Pn**	**09 02 16.5**	**+0.8**
YHNB	**Yeheng**	**7.15**	**14**	*e*Pn	**Pn**	**09 02 32.0**	**-0.9**
CM31	**Chiang Mai Arr**	**19.56**	**275**	*e*P	**Pn**	**09 05 20.1**	**+2.7**
CMAR	**Chiang Mai Arr**	**19.56**	**275**	P	**Pn**	**09 05 20.1**	**+2.7**
	0.5nm,0.3s,baz=93,slow=10.0,SNR=3.2						
CMAR				LR	LR	09 12 27.6	
	comp=Z,38nm,18.8s,baz=170,slow=35						
KS15	**Wonju Array Si**	**21.00**	**19**	*e*P	**P**	**09 05 30.8**	**-0.6**
KSAR	**Wonju Array Be**	**21.00**	**19**	P	**P**	**09 05 30.8**	**-0.6**
KSRS	**Korea Array**	**21.02**	**19**	P	**P**	**09 05 30.8**	**-0.9**
	2.4nm,0.8s,baz=202,slow=11,SNR=8.5						
SONA0	**Songino Array**	**31.91**	**343**	*e*P	**P**	**09 07 13.0**	**-0.5**
SONM	**Songino Array**	**31.91**	**343**	P	**P**	**09 07 13.0**	**-0.5**
	0.5nm,0.6s,baz=164,slow=9.8,SNR=4.5						
WR1	**Warramunga Arr**	**40.15**	**158**	*e*P	**P**	**09 08 23.3**	**-0.8**
	3.3nm,0.8s						
WR1				*e*PcP	**PcP**	**09 10 28.9**	**+0.6**
WRA	**Warramunga Arr**	**40.15**	**158**	P	**P**	**09 08 23.3**	**-0.8**
	1.2nm,0.8s,baz=340,slow=8.5,SNR=7.8						
WRA				PcP	**PcP**	**09 10 28.9**	**+0.5**
	0.2nm,0.6s,baz=344,slow=3.3,SNR=3.9						
MK32	**Makanchi Array**	**42.16**	**322**	*e*P	**P**	**09 08 41.3**	**+0.9**
MK32				*e*PcP	**PcP**	**09 10 34.4**	**-0.1**
MKAR	**Makanchi Array**	**42.16**	**322**	P	**P**	**09 08 41.3**	**+0.9**
	1.1nm,0.8s,baz=121,slow=9.5,SNR=9.3						
MKAR				PcP	**PcP**	**09 10 34.4**	**-0.1**
	1.1nm,0.7s,baz=109,slow=3.1,SNR=11						
MKAR	**Makanchi Array**	**42.16**	**322**	*e*P	**P**	**09 08 41.5**	**+1.0**
MKAR				*e*pP	**pwP**	**09 08 50.6**	**+0.2**
MKAR				PcP	**PcP**	**09 10 34.4**	**-0.1**
AS31	**Alice Springs**	**43.46**	**161**	*e*P	**P**	**09 08 51.5**	**+0.3**
	0.9nm,0.7s						
AS31				*e*PP	**PcP**	**09 10 39.2**	**+0.1**
ASAR	**Alice Springs**	**43.46**	**161**	P	**P**	**09 08 51.5**	**+0.3**
	2.3nm,0.8s,baz=341,slow=7.5,SNR=24						
ASAR				PcP	**PcP**	**09 10 39.2**	**+0.1**
	0.3nm,0.8s,baz=330,slow=3.1,SNR=3.0						
KURK	**Kurchatov**	**46.25**	**325**	*e*P	**P**	**09 09 13.5**	**+0.5**
KURK				*e*pP	**pwP**	**09 09 23.0**	**-0.1**
GAR	**Garm**	**47.55**	**307**	*e*P	**P**	**09 09 24.2**	**+0.6**
	9.3nm,1.1s						
BRVK	**Borovoye**	**51.92**	**325**	*e*P	**P**	**09 09 56.9**	**+0.5**
	2.7nm,0.6s						
BRVK				*e*pP	**pwP**	**09 10 06.3**	**-0.3**
STKA	**Stephens Creek**	**53.66**	**157**	P	**P**	**09 10 10.1**	**+0.6**
	1.2nm,0.8s,baz=315,slow=7.1,SNR=2.7						
GEYT	**Alibeck**	**56.90**	**304**	LR	LR	09 35 26.5	
	comp=Z,24nm,19.4s,baz=40,slow=36						
ABKAR	**Akbulak array**	**56.99**	**318**	*e*P	**P**	**09 10 33.6**	**+0.3**
ABKAR				*e*pP	**sP**	**09 10 42.5**	**+0.1**
MLY	**Manley**	**74.01**	**26**	*e*P	**P**	**09 12 24.3**	**+1.0**
	3.3nm,0.8s						
BPAW	**Bear Paw Mtn.**	**74.03**	**27**	*e*P	**P**	**09 12 23.8**	**+0.5**
	13nm,1.0s						
ILAR	**Eielson Array**	**75.68**	**26**	P	**P**	**09 12 30.5**	**-2.3**
	0.4nm,0.7s,baz=280,slow=5.4,SNR=5.1						
ILB	**Eielson Array**	**75.68**	**26**	*e*P	**P**	**09 12 30.6**	**-2.3**
NB200	**NORSAR Array S**	**83.19**	**332**	*e*P	**P**	**09 13 12.3**	**-1.6**
NOA	**NORSAR Array B**	**83.19**	**332**	P	**P**	**09 13 12.3**	**-1.6**
	0.4nm,0.6s,baz=95,slow=5.4,SNR=2.9						
GERES	**GERESS Array B**	**86.82**	**320**	P	**P**	**09 13 32.3**	**-0.1**
	0.5nm,0.5s,baz=64,slow=4.5,SNR=3.5						
YKA	**Yellowknife Ar**	**89.53**	**22**	P	**P**	**09 13 44.9**	**+0.1**
	0.7nm,0.6s,baz=313,slow=4.5,SNR=28						
YKB5	**Yellowknife Ar**	**89.53**	**22**	*e*P	**P**	**09 13 44.9**	**+0.1**
TXAR	**Lajitas Array**	**117.37**	**42**	PKP	**PKPdf**	**09 19 33.6**	**-0.5**
	0.2nm,0.6s,baz=288,slow=0.9,SNR=3.4						

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*ISCJB **07** 09:10:11.0±0.3, 44.77N±0.01×6.58E±0.02, h0km±3km, Error ellipse: s-maj=2.6km s-min=2.1km az=158.6*
*ROM **07** 09:10:11.5±0.3, 44.77N±0.01×6.62E±0.02, h8km±1km, ML2.1/17*
*GEN **07** 09:10:12.2, 44.77N×6.62E, h6km±2km, Ml2.0*
*STR **07** 09:10:12.3±0.3, 45°N±2°×°±°, h5km, M2.5/7, MLv2.5/7*
*LDG **07** 09:10:12.2±0.0, 44.77N×6.63E, h6km, Md2.9/2, Ml2.8/17, Error ellipse: s-maj=1.0km s-min=0.7km az=56.0*
ISC 07 09:10:11.7±1.0**, 44.74N**±0.01×**6.59E**±0.02**, h3**km±10km**, n68,** σ1§**21**/103**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.13**	**94**	*e*Pg	**Pg**	**09 10 14.6**	**+0.3**
MBDF				*e*Sg	**Sg**	**09 10 16.1**	**0.0**
	802nm,0.2s						
RRL	**Rocca Remolon**	**0.23**	**38**	P	**Pg**	**09 10 16.4**	**0.0**
RRL				S	**Sg**	**09 10 19.4**	**+0.1**
RRL	**Rocca Remolon**	**0.23**	**38**	P	**Pg**	**09 10 16.3**	**0.0**
RRL				S	**Sg**	**09 10 19.5**	**+0.1**
RRL				AML	AML		
	comp=E,1060µm,0.6s						
RRL				AML	AML		
	comp=N,862µm,0.6s						
RRL				AML	AML		
	comp=E,1060µm,0.6s						
RRL				AML	AML		
	comp=N,862µm,0.6s						
RRL				AML	AML		
	comp=E,1060µm,0.6s						
RRL				AML	AML		
	comp=N,862µm,0.6s						
OGAG	**Argentiere**	**0.28**	**187**	Pg	**Pg**	**09 10 13.6**	**-3.6**
OGAG				Sg	**Sg**	**09 10 14.9**	**-6.0**
BNI	**Bardonecchia**	**0.32**	**11**	P	**Pg**	**09 10 17.9**	**-0.1**
BNI				S	**Sg**	**09 10 22.1**	**-0.1**
BNI				AML	AML		
	comp=E,331µm,0.4s						
BNI				AML	AML		
	comp=N,208µm,0.3s						
BNI				AML	AML		
	comp=E,331µm,0.4s						
BNI				AML	AML		
	comp=N,208µm,0.3s						
BNI				AML	AML		
	comp=E,331µm,0.4s						
BNI				AML	AML		
	comp=N,208µm,0.3s						
PZZ	**Stroppo**	**0.44**	**121**	P	**Pg**	**09 10 20.5**	**+0.3**
PZZ				S	**Sg**	**09 10 26.6**	**+0.7**
PZZ	**Stroppo**	**0.44**	**121**	P	**Pg**	**09 10 20.4**	**+0.3**
PZZ				S	**Sg**	**09 10 26.6**	**+0.7**
PZZ				AML	AML		
	comp=E,670µm,1.3s						
PZZ				AML	AML		
	comp=N,892µm,0.5s						
PZZ				AML	AML		
	comp=E,670µm,1.3s						
PZZ				AML	AML		
	comp=N,892µm,0.5s						
BHB	**Bricherasio**	**0.49**	**77**	P	**Pg**	**09 10 21.2**	**0.0**
BHB				S	**Sg**	**09 10 26.9**	**-0.7**
BHB	**Bricherasio**	**0.49**	**77**	P	**Pg**	**09 10 21.2**	**0.0**
BHB				S	**Sg**	**09 10 27.4**	**-0.1**
BHB				AML	AML		
	comp=E,191µm,0.4s						
BHB				AML	AML		
	comp=N,210µm,0.4s						
BHB				AML	AML		
	comp=E,192µm,0.4s						
BHB				AML	AML		
	comp=N,210µm,0.4s						
BHB				AML	AML		
	comp=N,210µm,0.4s						
BHB				AML	AML		
	comp=E,192µm,0.4s						
DOI	**San Damiano**	**0.52**	**116**	P	**Pg**	**09 10 21.7**	**0.0**
DOI				S	**Sg**	**09 10 29.1**	**+0.5**
DOI				AML	AML		
	comp=E,803µm,0.3s						
DOI				AML	AML		
	comp=N,497µm,0.3s						
DOI				AML	AML		
	comp=E,803µm,0.3s						
DOI				AML	AML		
	comp=N,497µm,0.3s						
ORIF	**Oris-en-Rattie**	**0.54**	**290**	*e*Pg	**Pg**	**09 10 22.5**	**+0.5**
ORIF				*e*Sg	**Sg**	**09 10 29.5**	**+0.5**
	comp=N,61nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.54**	**290**	Pg	**Pg**	**09 10 22.6**	**+0.6**
ORIF	**Oris-en-Rattie**	**0.54**	**290**	P	**Pg**	**09 10 22.6**	**+0.6**
ORIF				S	**Sg**	**09 10 29.8**	**+0.8**
RSP	**Reno Superiore**	**0.63**	**49**	P	**Pg**	**09 10 23.9**	**0.0**
RSP				S	**Sg**	**09 10 31.6**	**-0.5**
RSP	**Reno Superiore**	**0.63**	**49**	P	**Pg**	**09 10 23.8**	**-0.1**
RSP				AML	AML		
	comp=E,170µm,0.4s						
RSP				AML	AML		
	comp=N,158µm,0.4s						
RSP				AML	AML		
	comp=E,170µm,0.4s						
RSP				AML	AML		
	comp=N,158µm,0.4s						
RSP				AML	AML		
	comp=E,170µm,0.4s						
RSP				AML	AML		
	comp=N,158µm,0.4s						
ISO	**Isola**	**0.64**	**149**	Pg	**Pg**	**09 10 24.6**	**+0.6**
ISO				Sg	**Sg**	**09 10 33.1**	**+0.7**
OGDI	**Digne**	**0.66**	**198**	Pg	**Pb**	**09 10 25.8**	**-0.1**
STV	**Sant Anna di V**	**0.72**	**133**	P	**Pg**	**09 10 25.8**	**+0.3**
STV				S	**Sg**	**09 10 35.6**	**+0.7**
STV	**Sant Anna di V**	**0.72**	**133**	P	**Pg**	**09 10 25.6**	**+0.1**
STV				S	**Sg**	**09 10 35.9**	**+1.0**
STV				AML	AML		
	comp=E,87µm,1.2s						
STV				AML	AML		
	comp=N,89µm,0.6s						
STV				AML	AML		
	comp=E,87µm,1.2s						
STV				AML	AML		
	comp=N,89µm,0.6s						
STV				AML	AML		
	comp=E,87µm,1.2s						
STV				AML	AML		
	comp=N,89µm,0.6s						
LPG	**La Plagne**	**0.77**	**9**	*e*Pg	**Pg**	**09 10 26.2**	**-0.3**
LPG				*e*Sg	**Sg**	**09 10 35.9**	**-0.6**
LPG				*e*Sn	**Sb**	**09 10 38.9**	**0.0**
	comp=N,63nm,0.3s						
ENR	**Entracque**	**0.78**	**130**	P	**Pg**	**09 10 26.9**	**+0.2**
ENR				S	**Sg**	**09 10 37.2**	**+0.3**
ENR	**Entracque**	**0.78**	**130**	P	**Pg**	**09 10 26.8**	**+0.1**
ENR				AML	AML		
	comp=E,204µm,0.6s						
ENR				AML	AML		
	comp=N,250µm,0.6s						
ENR				AML	AML		
	comp=E,204µm,0.6s						
ENR				AML	AML		
	comp=N,250µm,0.6s						
ENR				AML	AML		
	comp=N,250µm,0.6s						
ENR				AML	AML		
	comp=E,204µm,0.6s						
LPL	**La Plagne**	**0.79**	**7**	*e*Pg	**Pg**	**09 10 26.7**	**-0.1**
LPL				*e*Sg	**Sg**	**09 10 36.7**	**-0.3**
LPL				*e*Sn	**Sb**	**09 10 39.1**	**-0.2**
	comp=E,58nm,0.3s						
LSD	**Lago del Serru**	**0.82**	**28**	P	**Pg**	**09 10 27.0**	**-0.4**
LSD				S	**Sg**	**09 10 37.4**	**-0.7**
LSD	**Lago del Serru**	**0.82**	**28**	P	**Pg**	**09 10 27.0**	**-0.4**
LSD				AML	AML		
	comp=E,193µm,0.3s						
LSD				AML	AML		
	comp=N,135µm,0.8s						
LSD				AML	AML		
	comp=E,193µm,0.3s						
LSD				AML	AML		
	comp=N,135µm,0.8s						
LSD				AML	AML		
	comp=N,135µm,0.8s						
LSD				AML	AML		
	comp=E,193µm,0.3s						
MVIF	**Mont Vial**	**0.93**	**154**	Pn	**Pg**	**09 10 30.1**	**+0.6**
RSL	**Roselend**	**0.95**	**2**	Pg	**Pg**	**09 10 30.4**	**+0.4**
MLYF	**Mely**	**0.95**	**219**	Pg	**Pg**	**09 10 30.9**	**+0.9**
MONC	**Moncucco Torin**	**1.01**	**70**	AML	AML		
	comp=E,206µm,0.4s						
MONC				AML	AML		
	comp=N,204µm,1.4s						
MONC				AML	AML		
	comp=N,204µm,1.4s						
MONC				AML	AML		
	comp=E,206µm,0.4s						
CALF	**Calern**	**1.01**	**166**	Pn	**Pg**	**09 10 32.0**	**+0.9**
SAOF	**Saorge**	**1.02**	**137**	P	**Pg**	**09 10 31.5**	**+0.2**
SAOF				AML	AML		
	comp=E,97µm,1.2s						
SAOF				AML	AML		
	comp=N,88µm,0.4s						
SAOF				AML	AML		
	comp=N,88µm,0.4s						
SAOF				AML	AML		
	comp=E,97µm,1.2s						
SMRF	**Simiane la Rot**	**1.05**	**224**	*e*Pg	**Pn**	**09 10 33.9**	**+0.5**
SMRF	**Simiane la Rot**	**1.05**	**224**	*e*P	**Pn**	**09 10 34.6**	**+1.2**
SMRF				*e*Sg	**Sb**	**09 10 47.9**	**+1.2**
	comp=E,32nm,0.3s						
SBF	**Sospel**	**1.06**	**145**	*e*Pg	**Pg**	**09 10 32.4**	**+0.3**
SBF				*e*Sg	**Sg**	**09 10 46.1**	**+0.2**
	comp=E,86nm,0.3s						
ESCA	**l'Escarene**	**1.07**	**148**	Pn	**Pg**	**09 10 32.1**	**0.0**
MRGE	**Morge**	**1.09**	**18**	P	**Pg**	**09 10 31.9**	**-0.6**
MRGE				AML	AML		
	comp=E,80µm,0.6s						
MRGE				AML	AML		
	comp=N,88µm,0.5s						
MRGE				AML	AML		
	comp=E,80µm,0.6s						
MRGE				AML	AML		
	comp=N,88µm,0.5s						
CIRO	**Champorcher**	**1.11**	**38**	P	**Pg**	**09 10 32.4**	**-0.6**
TRAV	**Traversella**	**1.13**	**46**	P	**Pg**	**09 10 32.6**	**-0.8**
TRAV				AML	AML		
	comp=E,80µm,1.3s						
TRAV				AML	AML		
	comp=N,78µm,0.6s						
TRAV				AML	AML		
	comp=E,80µm,1.3s						
TRAV				AML	AML		
	comp=N,78µm,0.6s						
FRF	**La Foret Royal**	**1.18**	**178**	*e*Pg	**Pg**	**09 10 34.8**	**+0.6**
FRF	**La Foret Royal**	**1.18**	**178**	*e*P	**Pn**	**09 10 36.1**	**+1.1**
FRF				*e*Sg	**Sb**	**09 10 50.9**	**+0.6**
	comp=N,49nm,0.2s						
NEGI	**Seborga**	**1.20**	**138**	P	**Pg**	**09 10 34.8**	**+0.2**
NEGI				AML	AML		
	comp=E,117µm,0.9s						
NEGI				AML	AML		
	comp=N,112µm,0.4s						
NEGI				AML	AML		
	comp=N,112µm,0.4s						
NEGI				AML	AML		
	comp=E,117µm,0.9s						
QLNO	**Quiliano**	**1.32**	**108**	P	**Pn**	**09 10 36.5**	**-0.6**
VIVF	**Saint-Julien-l**	**1.37**	**276**	*e*Pg	**Pg**	**09 10 38.6**	**+0.6**
VIVF				*e*Sg	**Sn**	**09 10 56.8**	**+0.4**
	comp=E,31nm,0.3s						
LMR	**La Mourre**	**1.40**	**182**	*e*P	**Pb**	**09 10 38.9**	**+0.4**
LMR	**La Mourre**	**1.40**	**182**	*e*Pg	**Pg**	**09 10 39.4**	**+0.8**
LMR				*e*Sg	**Sg**	**09 10 58.0**	**+1.2**
	comp=E,31nm,0.3s						
PCP	**Piancastagn**	**1.41**	**97**	P	**Pn**	**09 10 37.7**	**-0.6**
PCP				AML	AML		
	comp=E,67µm,1.6s						
PCP				AML	AML		
	comp=N,64µm,1.5s						
PCP				AML	AML		
	comp=N,64µm,1.5s						
PCP				AML	AML		
	comp=E,67µm,1.6s						
OG35	**Corcelles**	**1.49**	**332**	Pn	**Pn**	**09 10 38.8**	**-0.7**
OG35				Sn	**Sg**	**09 10 59.8**	**+0.1**
MMK	**Mattmark**	**1.63**	**36**	AML	AML		
	comp=N,34µm,0.5s						
MMK				AML	AML		
	comp=E,31µm,1.6s						
MMK				AML	AML		
	comp=N,34µm,0.5s						
MMK				AML	AML		
	comp=E,31µm,1.6s						
CABF	**La Chapelle**	**1.91**	**350**	*e*P	**Pn**	**09 10 46.0**	**+0.8**
CABF	**La Chapelle**	**1.91**	**350**	*e*Pg	**Pg**	**09 10 48.3**	**0.0**
CABF				*e*Sg	**Sb**	**09 11 11.9**	**+0.4**
	comp=E,20nm,0.5s						
LASF	**Ste Croix**	**2.07**	**252**	*e*P	**Pn**	**09 10 47.5**	**+0.2**
LASF	**Ste Croix**	**2.07**	**252**	*e*Pg	**Pg**	**09 10 51.5**	**+0.2**
LASF				*e*Sn	**Sn**	**09 11 11.0**	**-2.6**
	comp=E,2.9nm,0.2s						
SMF	**Signal de Mont**	**2.71**	**316**	*e*P	**Pn**	**09 10 57.4**	**+1.2**
SMF	**Signal de Mont**	**2.71**	**316**	*e*Pg	**Pg**	**09 11 03.2**	**-0.5**
SMF				*e*Sg	**Sg**	**09 11 37.6**	**-1.2**
	comp=E,9.1nm,0.2s						
PGF	**Pioggiola**	**2.80**	**141**	*e*Sn	**Sn**	**09 11 27.6**	**-4.2**
	comp=E,2.8nm,0.2s						
AVF	**Avril sur Loir**	**3.06**	**313**	*e*P	**Pn**	**09 11 01.7**	**+0.8**
AVF	**Avril sur Loir**	**3.06**	**313**	*e*Pg	**Pg**	**09 11 09.0**	**-1.3**
AVF				*e*Sg	**Sg**	**09 11 48.0**	**-1.9**
	comp=E,3.4nm,0.2s						
HINF	**Hinteralfeld**	**3.09**	**3**	*e*P	**Pn**	**09 11 01.0**	**-0.4**
HINF	**Hinteralfeld**	**3.09**	**3**	*e*Pg	**Pb**	**09 11 08.8**	**+1.5**
HINF				*e*Sg	**Sg**	**09 11 48.7**	**-2.1**
	comp=E,4.3nm,0.3s						
LOR	**Lormes**	**3.17**	**324**	*e*P	**Pn**	**09 11 03.4**	**+1.0**
	baz=141						
LOR	**Lormes**	**3.17**	**324**	*e*Pg	**Pg**	**09 11 11.9**	**-0.5**
	baz=138						
LOR				*e*Sg	**Sb**	**09 11 50.4**	**+2.8**
	comp=E,3.8nm,0.2s,baz=154						
SSF	**Saint Saulge**	**3.17**	**318**	*e*P	**Pn**	**09 11 03.7**	**+1.3**
SSF	**Saint Saulge**	**3.17**	**318**	*e*Pg	**Pg**	**09 11 11.5**	**-0.9**
SSF				*e*Sg	**Sb**	**09 11 50.5**	**+2.9**
	comp=E,7.9nm,0.4s						
BGF	**Bois d'Agland**	**3.19**	**306**	*e*P	**Pn**	**09 11 04.1**	**+1.3**
BGF	**Bois d'Agland**	**3.19**	**306**	*e*Pg	**Pg**	**09 11 12.0**	**-0.9**
BGF				*e*Sg	**Sg**	**09 11 52.0**	**-2.3**
	comp=E,30nm,0.4s						
CAF	**Calviac**	**3.23**	**275**	*e*P	**Pn**	**09 11 04.6**	**+1.4**
CAF				*e*Sg	**Sg**	**09 11 54.5**	**-0.8**
	comp=E,2.5nm,0.3s						
TCF	**Toulx Ste Croi**	**3.45**	**298**	*e*Sg	**Sg**	**09 12 00.8**	**-1.6**
	comp=E,2.3nm,0.3s						
RJF	**Les Rejaudoux**	**3.64**	**281**	*e*Sg	**Sg**	**09 12 07.4**	**-1.2**
	comp=E,3.8nm,0.4s						

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*IDC **07** 09:25:49.4±0.7, 54.03N×164.15E, h0km, mb3.8/20, mb1 4.0/21, mb1mx3.9/43, mbtmp3.8/21, ML3.4/1, MS2.9/4, Ms1 2.9/4, ms1mx2.6/43, Error ellipse: s-maj=21.4km s-min=12.5km az=159.0*
*ISCJB **07** 09:25:50.3±0.3, 54.04N±0.03×164.10E±0.04, h16km, mb3.9/26, MS2.9/2, Error ellipse: s-maj=4.4km s-min=3.0km az=159.9*
*KRSC **07** 09:25:50.8±1.5, 54.04N×164.08E, h65km±28km, ML4.3*
*MOS **07** 09:25:52.3±0.9, 54.05N×164.14E, h34km, mb4.4/7, Error ellipse: s-maj=7.0km s-min=5.1km az=112.4*
*NEIC **07** 09:25:52.5±2.2, 54.03N×164.14E, h20km±14km, mb4.2/10, Error ellipse: s-maj=7.4km s-min=3.5km az=166.0*
ISC 07 09:25:51.9±0.5**, 54.04N**±0.04×**164.14E**±0.05**, h16**km**, n143,** σ1§**00**/167**, mb4.1**/26**, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.50**	**291**	*e*P	**Pn**	**09 26 17.3**	**-0.8**
MKZ				*e*S	**Sn**	**09 26 36.2**	**-1.1**
MKZ	**Mys Kozlova**	**1.50**	**291**	PN	**Pn**	**09 26 17.3**	**-0.8**
MKZ				S	**Sn**	**09 26 36.2**	**-1.1**
KBTR	**Krutoberegovo**	**2.30**	**341**	*e*P	**Pn**	**09 26 26.9**	**-2.2**
KBTR				*e*S	**Sn**	**09 26 53.9**	**-3.2**
KBTR	**Krutoberegovo**	**2.30**	**341**	PN	**Pn**	**09 26 26.9**	**-2.2**
KBTR				S	**Sn**	**09 26 53.9**	**-3.2**
KBG	**Krutoberegovo**	**2.37**	**340**	*e*P	**Pn**	**09 26 27.7**	**-2.3**
KBG				*e*S	**Sn**	**09 26 57.2**	**-1.5**
KBG	**Krutoberegovo**	**2.37**	**340**	PN	**Pn**	**09 26 27.7**	**-2.3**
KBG				S	**Sn**	**09 26 57.2**	**-1.5**
TUMD	**Tumrok D**	**2.47**	**300**	*e*P	**Pn**	**09 26 31.0**	**-0.4**
TUMD				*e*S	**Sn**	**09 27 00.8**	**-0.4**
KZV	**Kizimen**	**2.48**	**297**	*e*P	**Pn**	**09 26 31.5**	**-0.2**
KZV				*e*S	**Sn**	**09 27 01.0**	**-0.8**
KZV	**Kizimen**	**2.48**	**297**	PN	**Pn**	**09 26 31.5**	**-0.2**
KZV				S	**Sn**	**09 27 01.0**	**-0.8**
SPN	**Mys Shipunski**	**2.63**	**251**	*e*P	**Pn**	**09 26 32.5**	**-1.1**
SPN				*e*S	**Sn**	**09 27 01.6**	**-3.5**
SPN	**Mys Shipunski**	**2.63**	**251**	PN	**Pn**	**09 26 32.5**	**-1.1**
TUMR	**Tumrok**	**2.63**	**300**	*e*P	**Pn**	**09 26 33.9**	**+0.1**
TUMR	**Tumrok**	**2.63**	**300**	PN	**Pn**	**09 26 31.0**	**-2.8**
BZGR	**Bezymyannyi-Gr**	**2.75**	**315**	*e*P	**Pn**	**09 26 35.5**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**2.75**	**315**	PN	**Pn**	**09 26 35.5**	**+0.1**
ZLN	**Zelenaya**	**2.76**	**317**	*e*P	**Pn**	**09 26 35.5**	**0.0**
ZLN	**Zelenaya**	**2.76**	**317**	PN	**Pn**	**09 26 35.5**	**0.0**
KII	**Karymskiy**	**2.76**	**272**	*e*P	**Pn**	**09 26 34.9**	**-0.6**
KII				*e*S	**Sn**	**09 27 06.8**	**-1.8**
KII	**Karymskiy**	**2.76**	**272**	PN	**Pn**	**09 26 34.9**	**-0.6**
KII				S	**Sn**	**09 27 06.8**	**-1.8**
BZWR	**Bezymyannyi-We**	**2.85**	**314**	*e*P	**Pn**	**09 26 36.8**	**0.0**
BZWR	**Bezymyannyi-We**	**2.85**	**314**	PN	**Pn**	**09 26 36.8**	**0.0**
CIRR	**Tsirk**	**2.85**	**318**	*e*P	**Pn**	**09 26 37.0**	**+0.2**
CIRR	**Tsirk**	**2.85**	**318**	PN	**Pn**	**09 26 37.0**	**+0.2**
LGNR	**Loginova**	**2.85**	**317**	*e*P	**Pn**	**09 26 37.2**	**+0.3**
LGNR	**Loginova**	**2.85**	**317**	PN	**Pn**	**09 26 37.2**	**+0.3**
SMKR	**Semkarok**	**2.97**	**330**	*e*P	**Pn**	**09 26 37.6**	**-0.8**
SMKR	**Semkarok**	**2.97**	**330**	PN	**Pn**	**09 26 37.6**	**-0.8**
NLC	**Nalytchevo**	**2.98**	**255**	*e*S	**Sn**	**09 27 11.1**	**-2.7**
KRSR	**Krestovskiy**	**3.00**	**318**	*e*P	**Pn**	**09 26 38.4**	**-0.3**
KRSR	**Krestovskiy**	**3.00**	**318**	PN	**Pn**	**09 26 38.4**	**-0.3**
KLY	**Klyuchi**	**3.03**	**320**	*e*P	**Pn**	**09 26 37.7**	**-1.4**
KLY	**Klyuchi**	**3.03**	**320**	PN	**Pn**	**09 26 37.7**	**-1.4**
BDR	**Baidarnaya**	**3.04**	**328**	*e*P	**Pn**	**09 26 38.9**	**-0.4**
BDR	**Baidarnaya**	**3.04**	**328**	PN	**Pn**	**09 26 38.9**	**-0.4**
SRKR	**Sorokina**	**3.12**	**328**	*e*P	**Pn**	**09 26 40.1**	**-0.3**
SRKR	**Sorokina**	**3.12**	**328**	PN	**Pn**	**09 26 40.1**	**-0.3**
KOZ	**Kozyrevsk**	**3.18**	**311**	*e*P	**Pn**	**09 26 41.5**	**+0.3**
KOZ	**Kozyrevsk**	**3.18**	**311**	PN	**Pn**	**09 26 41.5**	**+0.3**
SDLR	**Sedlovina**	**3.22**	**258**	*e*P	**Pn**	**09 26 41.2**	**-0.6**
SDLR				*e*S	**Sn**	**09 27 17.8**	**-2.0**
SDLR	**Sedlovina**	**3.22**	**258**	PN	**Pn**	**09 26 41.2**	**-0.6**
SDLR				S	**Sn**	**09 27 17.8**	**-2.0**
SMAR	**Somma**	**3.27**	**258**	*e*P	**Pn**	**09 26 41.9**	**-0.7**
SMAR	**Somma**	**3.27**	**258**	PN	**Pn**	**09 26 41.9**	**-0.7**
UGLR	**Uglovaya**	**3.27**	**257**	*e*P	**Pn**	**09 26 42.2**	**-0.3**
UGLR				*e*S	**Sn**	**09 27 20.1**	**-1.0**
UGLR	**Uglovaya**	**3.27**	**257**	PN	**Pn**	**09 26 42.2**	**-0.3**
UGLR				S	**Sn**	**09 27 20.1**	**-1.0**
AVH	**Avacha**	**3.30**	**259**	*e*P	**Pn**	**09 26 42.8**	**-0.1**
AVH	**Avacha**	**3.30**	**259**	PN	**Pn**	**09 26 42.8**	**-0.1**
KRX	**Arik**	**3.33**	**260**	*e*P	**Pn**	**09 26 43.0**	**-0.4**
KRX				*e*S	**Sn**	**09 27 20.7**	**-2.0**
KRX	**Arik**	**3.33**	**260**	PN	**Pn**	**09 26 43.0**	**-0.4**
KRX				S	**Sn**	**09 27 20.7**	**-2.0**
KOK	**Koryaka**	**3.36**	**259**	*e*P	**Pn**	**09 26 43.2**	**-0.5**
KOK	**Koryaka**	**3.36**	**259**	PN	**Pn**	**09 26 43.2**	**-0.5**
PET	**Petropavlovsk**	**3.43**	**255**	*e*Pn	**Pn**	**09 26 44.5**	**-0.1**
PET	**Petropavlovsk**	**3.43**	**255**	*e*P	**Pn**	**09 26 44.7**	**+0.2**
PET	**Petropavlovsk**	**3.43**	**255**	*e*PN	**Pn**	**09 26 44.8**	**+0.2**
ESO	**Esso**	**3.66**	**303**	*e*P	**Pn**	**09 26 47.5**	**-0.3**
ESO				*e*S	**Sn**	**09 27 28.9**	**-1.7**
ESO	**Esso**	**3.66**	**303**	PN	**Pn**	**09 26 47.5**	**-0.3**
ESO				S	**Sn**	**09 27 28.9**	**-1.7**
GNL	**Ganaly**	**3.68**	**267**	*e*P	**Pn**	**09 26 48.8**	**+0.6**
GNL	**Ganaly**	**3.68**	**267**	PN	**Pn**	**09 26 48.8**	**+0.6**
RUS	**Russkaya**	**3.74**	**247**	*e*P	**Pn**	**09 26 48.5**	**-0.4**
RUS	**Russkaya**	**3.74**	**247**	PN	**Pn**	**09 26 48.5**	**-0.4**
KRMR	**Karymshinskiy**	**3.79**	**254**	*e*P	**Pn**	**09 26 49.3**	**-0.2**
KRMR	**Karymshinskiy**	**3.79**	**254**	PN	**Pn**	**09 26 49.3**	**-0.2**
MTVR	**Mutnovka**	**3.90**	**249**	*e*P	**Pn**	**09 26 50.8**	**-0.4**
MTVR				*e*S	**Sn**	**09 27 34.1**	**-2.6**
MTVR	**Mutnovka**	**3.90**	**249**	PN	**Pn**	**09 26 50.8**	**-0.4**
PEA1	**Petropavlovsk-**	**3.95**	**259**	*e*Pn	**Pn**	**09 26 52.1**	**+0.4**
PEA1				*e*Sn	**Sn**	**09 27 38.1**	**+0.5**
PETK	**Petropavlovsk-**	**3.95**	**259**	Pn	**Pn**	**09 26 52.1**	**+0.4**
	13nm,0.3s,baz=90,slow=19,SNR=187						
PETK				Sn	**Sn**	**09 27 38.1**	**+0.4**
	9.8nm,0.3s,baz=285,slow=21,SNR=8.3						
PETK				LR	LR	09 28 38.2	
	comp=Z,118nm,20.2s,baz=79,slow=43						

APC	Apacha	4.32	258	eP	Pn	09 26 57.5	+0.8
APC	Apacha	4.32	258	PN	Pn	09 26 57.5	+0.8
OSSR	Ossora	5.26	354	eP	Pn	09 27 10.5	+0.8
OSSR	Ossora	5.26	354	PN	Pn	09 27 10.5	+0.8
SMY	Shemya	6.11	98	ePn	Pn	09 27 19.9	-1.4
SMY	Shemya	6.11	98	ePN	Pn	09 27 19.9	-1.4
TILK	Tilichiki	6.52	9	eP	Pn	09 27 27.7	+0.8
TILK	Tilichiki	6.52	9	PN	Pn	09 27 27.7	+0.8
MA2	Magadan	9.19	313	LR	LR	09 32 23.7	
	comp=Z,51nm,18.0s,baz=94,slow=43						
UNV	Unalaska Valle	17.23	79	ePn	P	09 29 53.2	+0.1
	10nm,1.0s						
ANM	Nome	18.59	43	eP	Pn	09 30 08.7	+0.5
	4.4nm,1.2s						
ANM	Nome	18.59	43	eP	Pn	09 30 08.7	+0.5
ANM				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KLR	Kul'dur	20.56	270	P	P	09 30 29.3	-0.2
	comp=Z,1.3nm,0.6s,baz=50,slow=8.7,SNR=5.9						
KLR				LR	LR	09 38 13.8	
	comp=Z,30nm,21.6s,baz=68,slow=36						
USRK	Ussuriysk Ar.	23.04	258	P	P	09 30 54.7	-1.4
	comp=Z,1.7nm,0.7s,baz=43,slow=11,SNR=7.0						
TIXI	Tiksi	23.30	332	P	P	09 30 59.2	+0.7
	comp=Z,4.8nm,0.7s,baz=108,slow=9.1,SNR=12						
TIXI	Tiksi	23.30	332	eP	P	09 30 59.2	+0.7
TIXI				eP	P	09 30 59.5	+1.0
IM3	Indian Mountai	23.67	43	eP	P	09 31 02.9	+0.6
RSO	Redoubt South	23.82	57	eP	P	09 31 04.8	+0.8
MJAR	Matsushiro Arr	25.05	236	P	P	09 31 16.1	+0.9
	comp=Z,3.2nm,0.8s,baz=28,slow=6.5,SNR=7.1						
MAJO	Matsushiro	25.05	236	eP	P	09 31 16.1	+0.9
MAJO	Matsushiro	25.05	236	eP	P	09 31 16.1	+0.9
MAT	Matsushiro	25.05	236	P	P	09 31 15.7	+0.5
ILAR	Eielson Array	26.43	47	P	P	09 31 27.1	-0.3
	comp=Z,0.6nm,0.7s,baz=248,slow=7.8,SNR=7.1						
ILB	Eielson Array	26.43	47	eP	P	09 31 27.1	-0.3
DAWY	Dawson	29.71	48	eP	P	09 31 56.3	-0.5
	comp=Z,0.7nm,0.9s						
KSRS	Korea Array	29.80	251	P	P	09 31 59.1	+1.3
	comp=Z,1.1nm,0.6s,baz=38,slow=9.4,SNR=3.7						
KS15	Wonju Array Si	29.84	251	eP	P	09 31 59.1	+1.0
KSAR	Wonju Array Be	29.84	251	P	P	09 31 59.1	+1.0
KSAR	Wonju Array Be	29.84	251	P	P	09 31 59.1	+1.0
SONA0	Songino Array	36.02	284	eP	P	09 32 52.2	+0.1
SONM	Songino Array	36.02	284	P	P	09 32 52.2	+0.2
	comp=Z,0.3nm,0.6s,baz=53,slow=8.7,SNR=3.1						
SONM				LR	LR	09 47 24.1	
	comp=Z,38nm,18.1s,baz=166,slow=36						
YKA	Yellowknife Ar	40.81	45	P	P	09 33 31.8	-0.2
	comp=Z,0.1nm,0.6s,baz=297,slow=7.7,SNR=3.2						
YKB5	Yellowknife Ar	40.81	45	eP	P	09 33 31.3	-0.7
ZAA1	Zalesovo Array	44.27	304	eP	P	09 33 59.8	-0.5
ZALV	Zalesovo Beam	44.28	304	P	P	09 33 59.8	-0.5
	comp=Z,0.4nm,0.6s,baz=53,slow=7.4,SNR=2.2						
KURK	Kurchatov	49.26	303	eP	P	09 34 38.9	-0.4
	comp=Z,2.8nm,0.6s						
KURK	Kurchatov	49.26	303	eP	P	09 34 38.9	-0.4
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MK31	Makanchi Array	49.89	297	eP	P	09 34 43.9	-0.3
MK31	Makanchi Array	49.89	297	eP	P	09 34 43.9	-0.3
MK32	Makanchi Array	49.89	297	eP	P	09 34 44.1	-0.1
MKAR	Makanchi Array	49.89	297	P	P	09 34 44.1	-0.1
	comp=Z,1.6nm,0.7s,baz=58,slow=8.1,SNR=20						
MKAR	Makanchi Array	49.89	297	eP	P	09 34 44.0	-0.2
	comp=Z,13nm,0.6s						
MKAR	Makanchi Array	49.89	297	eP	P	09 34 44.0	-0.2
MKAR				pmax	pmax		
	comp=Z,13nm,0.6s						
MK01	Makanchi Array	49.90	297	eP	P	09 34 44.0	-0.3
MAKZ	Makanchi	50.05	297	eP	P	09 34 45.5	+0.1
	comp=Z,1.4nm,0.9s						
MAKZ	Makanchi	50.05	297	eP	P	09 34 45.5	+0.1
MAKZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRVK	Borovoye	51.69	310	eP	P	09 34 58.0	+0.4
	comp=Z,3.3nm,0.8s						
BRVK	Borovoye	51.69	310	eP	P	09 34 58.0	+0.4
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NVAR	Mina Array Bea	53.16	73	P	P	09 35 09.1	+0.1
	comp=Z,0.7nm,0.7s,baz=297,slow=6.9,SNR=4.4						
PD31	Pinedale Array	54.95	64	eP	P	09 35 22.3	+0.3
PDAR	Pinedale Array	54.95	64	P	P	09 35 22.3	+0.3
	comp=Z,1.2nm,1.0s,baz=294,slow=4.7,SNR=5.3						
KKAR	Karatay Array	58.50	301	eP	P	09 35 47.1	+0.2
KKAR	Karatay Array	58.50	301	eP	P	09 35 47.2	+0.2
ABKAR	Akbulak array	58.98	312	eP	P	09 35 50.8	+0.5
FIA0	FINESS Array S	60.17	338	eP	P	09 35 58.0	-0.2
FIA0	FINESS Array S	60.17	338	eP	P	09 35 58.0	-0.2
FINES	FINESS Array B	60.17	338	P	P	09 35 58.0	-0.2
	comp=Z,1.8nm,0.7s,baz=47,slow=11,SNR=5.1						
FINES	FINESS Array B	60.17	338	P	P	09 35 58.0	-0.2
BTK	Batken	60.56	298	eP	P	09 36 01.7	+0.3
	comp=Z,2.6nm,0.7s						
BTK	Batken	60.56	298	eP	P	09 36 01.7	+0.3
BTK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR	Chiang Mai Arr	60.72	261	P	P	09 36 04.0	+1.4
	comp=Z,1.9nm,0.5s,baz=26,slow=7.4,SNR=7.1						
CHGR	Chuyangaron	62.47	298	eP	P	09 36 14.8	+0.6
NB2	NORSAR Subarra	63.27	346	P	P	09 36 18.9	-0.2
	comp=Z,1.3nm,0.9s,baz=17,slow=6.9						
NB200	NORSAR Array S	63.27	346	eP	P	09 36 18.9	-0.2
NOA	NORSAR Array B	63.27	346	P	P	09 36 18.9	-0.2
	comp=Z,1.5nm,0.8s,baz=18,slow=6.9,SNR=4.9						
LTX	Lajitas	68.05	70	eP	P	09 36 50.9	+0.4
LTX	Lajitas	68.05	70	eP	P	09 36 50.9	+0.4
TX31	Lajitas Ar. Si	68.05	70	eP	P	09 36 50.9	+0.3
TX31				eP	P	09 36 51.1	+0.6
TXAR	Lajitas Array	68.05	70	P	P	09 36 50.9	+0.4
	comp=Z,1.1nm,0.7s,baz=301,slow=4.4,SNR=15						
AKASG	Malin Array Be	69.00	331	P	P	09 36 55.0	-1.0
	comp=Z,2.0nm,0.7s,baz=28,slow=6.4,SNR=4.2						
AKASG	Malin Array Be	69.00	331	P	P	09 36 55.0	-1.0
KIV	Kislovodsk	70.35	319	eP	P	09 37 05.1	+0.5
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GEC2	GERESS Array S	74.50	340	eP	P	09 37 29.5	+0.3
	comp=Z,1.8nm,0.7s						
GEC2	GERESS Array S	74.50	340	eP	P	09 37 29.5	+0.3
GEC2				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES	GERESS Array B	74.50	340	P	P	09 37 30.2	+1.0
	comp=Z,0.3nm,0.3s,baz=38,slow=6.6,SNR=3.4						
WR1	Warramunga Arr	78.01	209	eP	P	09 37 48.3	-0.9
	comp=Z,2.2nm,0.9s						
WRA	Warramunga Arr	78.01	209	P	P	09 37 48.3	-0.9
	comp=Z,0.3nm,0.6s,baz=24,slow=6.1,SNR=3.5						
ASAR	Alice Springs	81.67	208	P	P	09 38 08.4	-0.7
	comp=Z,0.5nm,0.8s,baz=19,slow=4.1,SNR=4.2						

IDC 07 09:41:11.9±1.2, 2°.19S×138°.95E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.5/22, mbtmp3.5/5, ML3.6/1, Error ellipse: s-maj=26.5km s-min=24.7km az=18.0
ISCJB 07 09:41:14.6±1.0, 2°.3S±0°.1×138°.87E±0°.08, h29km, mb3.4/4, Error ellipse: s-maj=19.3km s-min=11.3km az=174.6
ISC 07 09:41:16.0±1.1, 2°.2S±0°.1×139°.06E±0°.09, h29km, n6, σ1s.27/7, mb3.5/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAY	Jayapura	1.67	100	Pn	Pb	09 41 45.5	-0.6
	11nm,0.3s,baz=270,slow=23,SNR=41						
JAY				Sn	Sb	09 42 07.6	+0.9
	9.5nm,0.3s,baz=251,slow=14,SNR=8.7						
WRA	Warramunga Arr	18.19	194	P	Pn	09 45 25.7	-1.0
	0.2nm,0.3s,baz=14,slow=12,SNR=6.9						
ASAR	Alice Springs	21.88	193	P	P	09 46 06.7	-0.1
	0.7nm,0.8s,baz=23,slow=11,SNR=8.9						
MKAR	Makanchi Array	69.63	322	P	P	09 52 23.8	+1.0
	0.3nm,0.6s,baz=115,slow=7.8,SNR=3.9						
VNDA	Vanda	76.22	175	P	P	09 53 02.4	+1.2
	0.9nm,1.1s,baz=338,slow=6.5,SNR=2.0						
ILAR	Eielson Array	85.26	24	P	P	09 53 48.4	-1.3
	0.2nm,0.7s,baz=255,slow=3.5,SNR=3.4						

MEX 07 09:43:34.4±0.4, 16°.05N×98°.75W, h16km±858km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.69	61	iP	Pg	09 43 45.5	-2.5
PNIG				eS	Sg	09 43 54.3	-2.8
TLIG	Tlapa	1.51	7	eP	Pn	09 43 57.7	-3.2
TLIG				eS	Sn	09 44 15.2	-5.1
CAIG	El Cayaco	1.76	304	iP	Pn	09 44 00.5	-3.7
CAIG				eS	Sn	09 44 21.5	-4.6
VHO	Vista Hermosa	2.19	62	iP	Pn	09 44 08.1	-2.2
VHO				eS	Sn	09 44 32.4	-4.7

TAP 07 09:49:34.0, 24°.40N×122°.83E, h67km±1km, ML2.6, C
ISCJB 07 09:49:34.2±0.5, 24°.39N±0°.04×122°.84E±0°.02, h67km±6km, Error ellipse: s-maj=7.4km s-min=3.3km az=178.6
JMA 07 09:49:34.0±0.1, 24°.41N×122°.84E, h69km±1km, M2.0
ISC 07 09:49:34.6±1.4, 24°.41N±0°.06×122°.84E±0°.03, h65km±8km, n40, σ0s.62/62, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.10	69	P	Pn	09 49 44.2	-0.1
JYNG				S	Sn	09 49 51.7	+0.4
YOJ	Yonaguni jima	0.16	73	eP	Pn	09 49 44.4	-0.1
	baz=66						
YOJ				eS	Sn	09 49 52.0	+0.3
	baz=66						
YOJ	Yonaguni jima	0.16	73	P	Pn	09 49 44.4	-0.1
YOJ				S	Sn	09 49 51.8	+0.1
EOS1	EOS1	0.66	282	eP	Pn	09 49 48.3	-0.4
	baz=283						
EOS1				eS	Sn	09 49 59.3	+0.2
	baz=283						
IRIF	Iriomote-Funau	0.82	95	P	Pn	09 49 50.3	-0.3
IRIF				S	Sn	09 50 02.7	+0.4
TWC	Suao	0.92	282	eP	Pn	09 49 51.1	-0.8
	baz=283						
TWC				eS	Sn	09 50 04.5	-0.2
	baz=283						
NANB	Nanao	0.99	271	eP	Pn	09 49 52.3	-0.5
	baz=271						
NANB				eS	Sn	09 50 07.4	+1.1
	baz=271						
ENA	Nanau	1.00	271	eP	Pn	09 49 53.5	+0.6
	baz=271						
ENA				eS	Sn	09 50 07.0	+0.5
	baz=271						
NTC	Toucheng	1.02	296	eS	Sn	09 50 06.3	-0.6
	baz=296						
TIPB	Shuangxi	1.08	301	eP	Pn	09 49 53.2	-0.7
	baz=302						
TIPB				eS	Sn	09 50 08.8	+0.6
	baz=302						
JKRS	Kuro-shima	1.08	99	P	Pn	09 49 54.0	+0.1
JKRS				S	Sn	09 50 09.1	+0.8
TWE	Neicheng	1.11	286	eP	Pn	09 49 54.2	-0.1
	baz=286						
SLBB	Yuanshan	1.15	287	eP	Pn	09 49 54.7	-0.2
	baz=288						
NACB	Ninganchiao	1.16	258	eP	Pn	09 49 54.5	-0.4
	baz=258						
NACB				eS	Sn	09 50 09.2	-0.9
	baz=258						
ENTT	Nioudou	1.18	281	eP	Pn	09 49 55.3	0.0
	baz=281						
TWD	Chiawan	1.18	254	eS	Sn	09 50 10.2	-0.4
	baz=254						
JIJ	Ishigaki jima	1.19	92	P	Pn	09 49 55.0	-0.3
JIJ				S	Sn	09 50 10.1	-0.7
ENLB	Shoufeng	1.24	246	eS	Sn	09 50 12.4	+0.5
	baz=246						
NWLT	Wulai	1.27	287	eP	Pn	09 49 56.8	+0.4
	baz=287						
NNSB	Datong	1.33	271	eP	Pn	09 49 57.1	-0.2
	baz=271						
NNSB				eS	Sn	09 50 13.9	-0.4
	baz=271						
YM07	YM07	1.34	305	eP	Pn	09 49 57.1	-0.3
	baz=305						
JISG	Ishigakijimahi	1.35	82	P	Pn	09 49 56.8	-0.6
JISG				S	Sn	09 50 15.1	+0.5
YHNB	Yeheng	1.36	281	eP	Pn	09 49 57.9	+0.3
	baz=281						
YHNB				eS	Sn	09 50 15.0	+0.1
	baz=281						
YM11	YM11	1.37	303	eP	Pn	09 49 57.9	+0.1
	baz=303						
NSK	Sanguang	1.37	281	eP	Pn	09 49 58.2	+0.4
	baz=281						
NSK				eS	Sn	09 50 15.5	+0.3
	baz=281						
YM04	YM04	1.40	302	eP	Pn	09 49 57.9	-0.2
	baz=302						
WHF	Hehuan Shan	1.46	260	eS	Sn	09 50 16.2	-1.7
	baz=259						
TDCB	Techi	1.54	264	eP	Pn	09 50 00.5	+0.4
	baz=264						
TDCB				eS	Sn	09 50 19.2	-0.2
	baz=264						
CHGB	Renai	1.56	257	eP	Pn	09 50 00.8	+0.3
	baz=257						
CHGB				eS	Sn	09 50 19.7	-0.3
	baz=257						
HGSD	Ruisui	1.59	235	eP	Pn	09 50 01.4	+0.8
	baz=234						
LIOB	Emei	1.68	278	eP	Pn	09 50 02.8	+0.9
	baz=278						
VWDT	VWDT	1.69	247	eP	Pn	09 50 00.8	-1.1
	baz=247						
VWDT				eS	Sn	09 50 22.3	-0.3
	baz=247						
NSTT	Nanjuang	1.69	278	eP	Pn	09 50 02.6	+0.7
	baz=277						
YULB	Yu-li	1.74	235	eP	Pn	09 50 02.5	-0.1
	baz=234						
YULB				eS	Sn	09 50 22.6	-1.3
	baz=234						
SSLB	Suanglung	1.83	250	eP	Pn	09 50 05.1	+1.2
	baz=250						
SSLB				eS	Sn	09 50 26.0	-0.2
	baz=250						
TYC	Yuchr	1.88	255	eP	Pn	09 50 05.8	+1.3
	baz=254						
TYC				eS	Sn	09 50 27.5	+0.2
	baz=254						
TWGBT	Beinan	2.27	226	eS	Sn	09 50 36.0	-0.7
	baz=225						
TWG	Pinlang	2.27	226	eS	Sn	09 50 36.0	-0.8
	baz=225						
TPUB	Ta-pu	2.31	242	eP	Pn	09 50 11.3	+1.0
	baz=241						
TWK	Hsinying	2.44	243	eP	Pn	09 50 12.8	+0.6
	baz=242						

IDC 07 09:53:56.3±3.1, 4°.41S×133°.06E, h0km, mb3.3/1, mb1 3.9/5, mb1mx3.5/28, mbtmp3.7/5, ML3.6/4, Error ellipse: s-maj=123.8km s-min=23.4km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	3.95	333	Pn	Pn	09 54 56.7	-1.6
	0.5nm,0.3s,baz=252,slow=20,SNR=3.1						
SIJI				Sn	Sn	09 55 44.8	-0.6
	2.9nm,0.3s,baz=197,slow=19,SNR=5.0						
FITZ	Fitzroy Crossi	15.42	208	Pn	Pn	09 57 35.5	+0.2
	0.6nm,0.3s,baz=29,slow=13,SNR=5.1						
FITZ				Sn	Sn	10 00 21.1	-5.8
	0.4nm,0.3s,baz=212,slow=18,SNR=3.2						
WRA	Warramunga Arr	15.49	176	Pn	Pn	09 57 34.4	-1.8
	0.2nm,0.3s,baz=356,slow=13,SNR=4.0						
WRA				Sn	Sn	10 00 23.5	-5.1
	0.2nm,0.3s,baz=358,slow=24,SNR=4.5						
ASAR	Alice Springs	19.16	178	P	P	09 58 21.4	-0.1
	0.3nm,0.3s,baz=3.7,slow=10,SNR=8.5						
MKAR	Makanchi Array	67.81	325	P	P	10 04 57.2	+1.0
	0.1nm,0.4s,baz=119,slow=8.6,SNR=1.6						

MEX 07 09:58:38.2±0.6, 14°.59N×93°.28W, h26km±81km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		1.03	72	eP	Pn	09 58 54.9	-2.0
THIG				iS	Sb	09 59 06.9	-3.6
CCIG	Comitan	2.01	33	eP	Pn	09 59 09.0	-1.7
CCIG				iS	Sn	09 59 31.9	-3.1
CMIG	Matias Romero	2.93	328	eP	Pn	09 59 20.6	-2.6
CMIG				iS	Sn	09 59 54.7	-2.8

ISCJB 07 10:19:32.4±0.5, 27°.96S±0°.02×67°.15W±0°.04, h164km±7km, Error ellipse: s-maj=6.1km s-min=3.3km az=16.7
SJA 07 10:19:32.6±1.0, 27°.98S×67°.08W, h162km±5km, ML3.6, MW3.6
GUC 07 10:19:32.8±0.4, 27°.96S×67°.20W, h164km±55km, ML4.5
ISC 07 10:19:32.5±1.5, 27°.97S±0°.04×67°.13W±0°.05, h168km±16km, n40, σ0s.98/61, 2C-1D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CYA	Choya	1.26	112	iP	Pn	10 20 01.8	+0.5
CYA				iS	Sn	10 20 21.6	-1.9
ACLC	CERRO LA CRUZ	1.46	174	iP	Pn	10 20 04.1	+0.9
ACLC				eS	Sn	10 20 26.0	-1.1
AGUA	GUANDACOL	1.93	218	iP	Pn	10 20 09.2	+1.1
AGUA				eS	Sn	10 20 36.7	+1.1
FSA	Cafayete	2.12	29	iP	Pn	10 20 10.9	+0.6
FSA				iS	Sn	10 20 38.5	-1.0
APLL	PUNTA DE LOS L	2.47	168	iP	Pn	10 20 15.1	+0.8
APLL				iS	Sn	10 20 45.6	-1.1
APLL				IAML		10 20 47.1	
	comp=Z,214nm,0.6s						
ACDV	Cuesta del Vie	2.80	218	iP	Pn	10 20 19.7	+1.3
ACDV				eS	Sn	10 20 53.4	-0.6
AROD	Rodeo	3.00	223	iP	Pn	10 20 22.3	+1.4
AROD				eS	Sn	10 20 59.5	+0.9
ACCO	Cerro Coronel	3.11	213	iP	Pn	10 20 23.4	+1.1
ACCO				eS	Sn	10 21 01.8	+0.8
AMOG	MOGNA	3.19	202	iP	Pn	10 20 23.8	+0.8
AMOG				iS	Sn	10 21 02.9	+0.5
LCO	Las Campanas	3.31	251	iP	Pn	10 20 25.1	+0.4
LCO				iS	Sn	10 21 04.6	-0.8
LCO	Las Campanas	3.31	251	⇑iP	Pn	10 20 25.1	+0.3
LCO				iS	Sn	10 21 04.4	-1.0
LCO				IAML		10 21 05.5	
	comp=N,611nm,0.6s						
RTLL	Cerro Villicun	3.55	199	iP	Pn	10 20 28.4	+0.9
RTLL				IAML		10 20 28.7	
	comp=Z,134nm,0.4s						
RTLL				eS	Sn	10 21 09.4	-1.1
SLA	San Lorenzo	3.55	25	iP	Pn	10 20 28.7	+1.0
SLA				iS	Sn	10 21 11.2	+0.6
GO02	Mina Guanaco	3.56	321	⇓iP	Pn	10 20 28.5	+0.5
GO02				eS	Sn	10 21 10.5	-0.6
CFA	Coronel Fontan	3.75	195	iP	Pn	10 20 30.8	+0.7
CFA				eS	Sn	10 21 13.9	-1.1
ZON	Zonda	3.81	200	iP	Pn	10 20 31.7	+0.9
ZON				eS	Sn	10 21 16.2	-0.2
ZON				IAML		10 21 17.4	
	comp=Z,60nm,0.4s						
GO04	Tololo Observa	3.89	235	⇑iP	Pn	10 20 32.2	+0.1
GO04				iS	Sn	10 21 17.7	-0.9
TCA	Tanti	4.01	147	iP	Pn	10 20 34.2	+0.7
TCA				iS	Sn	10 21 19.0	-2.2
TCA				IAML		10 21 21.5	
	comp=Z,80nm,0.4s						
RTCV	Cerro Valdivia	4.07	197	eP	Pn	10 20 34.9	+0.8
LSCH	La Serena	4.09	241	eP	Pn	10 20 33.8	-0.6
LSCH				eS	Sn	10 21 20.6	-2.2
AZAP	Zapla	4.17	27	iP	Pn	10 20 35.9	+0.2
AZAP				IAML		10 20 36.5	
	comp=Z,38nm,0.3s						
RTLS	Leoncito	4.26	206	eP	Pn	10 20 37.6	+0.8
RTLS				IAML		10 20 38.9	
	comp=Z,46nm,0.2s						
RTLS				eS	Sn	10 21 26.5	-0.6
ACAN	Cantantal	4.29	181	iP	Pn	10 20 38.2	+1.2
MRA	San Martin	4.60	165	eP	Pn	10 20 41.7	+0.6
MRA				eS	Sn	10 21 25.7	-9.1
MRA				IAML		10 21 36.7	
	comp=Z,72nm,0.4s						
CMCH	Combarbala	4.64	226	eP	Pn	10 20 41.5	-0.2
AUSP	Uspallata	4.67	204	eP	Pn	10 20 43.0	+0.8
ASAL	Salagasta	4.84	197	eP	Pn	10 20 44.9	+0.7
ASAL				eS	Sn	10 21 39.6	-0.7
HJA	Humahuaca	4.99	18	iP	Pn	10 20 47.6	+1.1
ARCO	CERRO ARCO	5.10	197	iP	Pn	10 20 48.4	+0.7
ARCO				IAML		10 20 49.2	
	comp=Z,41nm,0.3s						
PB15	IPOC Station P	5.19	335	iP	Pn	10 20 49.6	+0.6
AAGR	Agrelo	5.31	196	iP	Pn	10 20 51.7	+1.4
PB10	IPOC Station P	5.41	324	iP	Pn	10 20 51.1	-0.5
PB06	IPOC Station P	5.69	337	iP	Pn	10 20 55.6	+0.2
PB05	IPOC Station P	5.80	331	eP	Pn	10 20 56.3	-0.7
YJA	Yavi	5.95	15	iP	Pn	10 21 00.8	+1.6
PB04	IPOC Station P	6.24	333	eP	Pn	10 21 01.8	-1.0
PB03	IPOC Station P	6.36	337	eP	Pn	10 21 03.8	-0.5
PB07	IPOC Station P	6.70	337	iP	Pn	10 21 08.0	-0.9
PB02	IPOC Station P	7.08	339	iP	Pn	10 21 12.7	-1.1
PB01	IPOC Station P	7.22	342	iP	Pn	10 21 16.2	+0.5

MEX 07 10:24:13.0±0.6, 17°.16N×100°.10W, h43km±11km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.20	235	iP	Pn	10 24 18.9	-1.7
CAIG				iS	Sn	10 24 24.1	-1.8
ACP2	Acapulco	0.35	145	eP	Pn	10 24 20.3	-1.7
ACP2				eS	Sn	10 24 27.0	-1.4
MEIG	Mezcala	0.88	31	iP	Pn	10 24 27.0	-2.1
MEIG				eS	Sn	10 24 37.9	-2.9
ARIG	Puente Sto Nin	1.14	348	iP	Pn	10 24 31.1	-1.4
ARIG				iS	Sn	10 24 44.6	-2.3
PLIG	Platanillo	1.35	25	eP	Pn	10 24 34.5	-1.0
PLIG				iS	Sn	10 24 49.1	-3.1
TLIG	Tlapa	1.51	75	iP	Pn	10 24 35.7	-2.0
TLIG				iS	Sn	10 24 53.6	-2.7

ISCJB 07 10:37:04.6±0.9, 43°.44N±0°.06×146°.21E±0°.06, h88km±6km, Error ellipse: s-maj=10.6km s-min=5.2km az=147.4
MOS 07 10:37:04.5±1.6, 43°.31N×146°.28E, h82km, mb4.3/1, Error ellipse: s-maj=54.3km s-min=24.9km az=89.1
SKHL 07 10:37:04.5±0.6, 43°.35N×146°.21E, h85km±1km, mb4.5/5, msh5.9/6
JMA 07 10:37:05.2±0.1, 43°.42N×146°.19E, h88km±1km, M3.5
ISC 07 10:37:05.1±1.6, 43°.43N±0°.06×146°.23E±0°.05, h85km±9km, n23, σ0s.50/44, 10D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.36	261	P	Pn	10 37 18.7	+0.4
NEM2				eS	Sn	10 37 28.7	+0.6
GLVR	Golovnino	0.60	302	⇓iP	Pn	10 37 20.0	-0.2
GLVR				AMB	AMB	10 37 20.9	
	140nm,0.2s						
GLVR				AMB	AMB	10 37 20.9	
	320nm,0.2s						
GLVR				AMB	AMB	10 37 20.9	
	3μm,0.2s						
GLVR				iS	Sn	10 37 32.0	+0.5
GLVR				A	A	10 37 33.0	
	5μm,0.2s						
GLVR				A	A	10 37 33.0	
	4μm,0.2s						
GLVR	Golovnino	0.60	302	⇓iPN	Pn	10 37 20.6	+0.4
GLVR				iS	Sn	10 37 32.5	+1.0
GLVR				pmax	pmax		
	comp=N,143nm,0.1s						
GLVR				pmax	pmax		
	comp=E,322nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,3μm,0.1s						
GLVR				smax	smax		
	comp=N,5μm,0.2s						
GLVR				smax	smax		
	comp=E,4μm,0.2s						
SHO	Shikotan	0.62	44	⇓iP	Pn	10 37 20.0	-0.4
SHO				AMB	AMB	10 37 20.0	
	comp=E,10.0nm,0.2s						
SHO				AMB	AMB	10 37 20.0	
	comp=E,300nm,0.2s						
SHO				iS	Sn	10 37 31.0	-0.8
SHO				A	A	10 37 32.0	
	comp=E,3μm,0.2s						
SHO				A	A	10 37 32.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=E,1µm,0.2s						
SHO	**Shikotan**	**0.62**	**44**	d iPN	**Pn**	**10 37 20.4**	**0.0**
SHO				i S	**Sn**	**10 37 31.9**	**+0.1**
SHO				pmax	pmax		
	comp=N,5.0nm,0.2s						
SHO				pmax	pmax		
	comp=E,10.0nm,0.2s						
SHO				pmax	pmax		
	comp=Z,32nm,0.2s						
SHO				smax	smax		
	comp=N,3µm,0.2s						
SHO				smax	smax		
	comp=E,1µm,0.2s						
GRPR	**Tuman**	**0.66**	**330**	⇓iP	**Pn**	**10 37 20.0**	**-0.7**
GRPR				AMB	AMB	10 37 20.0	
	comp=E,170nm,0.2s						
GRPR				AMB	AMB	10 37 20.0	
	comp=E,130nm,0.2s						
GRPR				AMB	AMB	10 37 20.0	
	comp=E,700nm,0.2s						
GRPR				i S	**Sn**	**10 37 32.0**	**-0.4**
GRPR				A	A	10 37 34.0	
	comp=E,1µm,0.2s						
GRPR				A	A	10 37 34.0	
	comp=E,980nm,0.2s						
GRPR	**Tuman**	**0.66**	**330**	⇓iPN	**Pn**	**10 37 20.4**	**-0.3**
GRPR				i S	**Sn**	**10 37 32.4**	**0.0**
GRPR				pmax	pmax		
	comp=N,165nm,0.1s						
GRPR				pmax	pmax		
	comp=E,127nm,0.1s						
GRPR				pmax	pmax		
	comp=Z,699nm,0.1s						
GRPR				smax	smax		
	comp=N,1µm,0.2s						
GRPR				smax	smax		
	comp=E,984nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.67**	**337**	⇓iP	**Pn**	**10 37 20.0**	**-0.8**
YUK				AMB	AMB	10 37 21.0	
	comp=E,80nm,0.1s						
YUK				AMB	AMB	10 37 21.0	
	comp=E,550nm,0.1s						
YUK				AMB	AMB	10 37 21.0	
	comp=E,600nm,0.1s						
YUK				i S	**Sn**	**10 37 32.0**	**-0.5**
YUK				A	A	10 37 34.0	
	comp=E,880nm,0.2s						
YUK				A	A	10 37 34.0	
	comp=E,600nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.67**	**337**	d iPN	**Pn**	**10 37 20.6**	**-0.2**
YUK				i S	**Sn**	**10 37 32.7**	**+0.2**
YUK				pmax	pmax		
	comp=N,77nm,0.1s						
YUK				pmax	pmax		
	comp=E,547nm,0.1s						
YUK				pmax	pmax		
	comp=Z,595nm,0.1s						
YUK				smax	smax		
	comp=E,595nm,0.1s						
YUK				smax	smax		
	comp=N,882nm,0.2s						
LAGR	**Lagunnoye**	**0.71**	**333**	⇓iP	**Pn**	**10 37 21.0**	**-0.2**
LAGR				AMB	AMB	10 37 21.0	
	comp=N,70nm,0.1s						
LAGR				AMB	AMB	10 37 21.0	
	comp=N,60nm,0.1s						
LAGR				AMB	AMB	10 37 21.0	
	comp=N,780nm,0.1s						
LAGR				i S	**Sn**	**10 37 33.0**	**-0.2**
LAGR				A	A	10 37 34.0	
	comp=N,850nm,0.1s						
LAGR				A	A	10 37 34.0	
	comp=N,1µm,0.1s						
LAGR	**Lagunnoye**	**0.71**	**333**	d iPN	**Pn**	**10 37 21.2**	**0.0**
LAGR				i S	**Sn**	**10 37 33.2**	**0.0**
LAGR				pmax	pmax		
	comp=N,69nm,0.1s						
LAGR				pmax	pmax		
	comp=E,59nm,0.1s						
LAGR				pmax	pmax		
	comp=Z,775nm,0.1s						
LAGR				smax	smax		
	comp=N,848nm,0.1s						
LAGR				smax	smax		
	comp=E,1µm,0.1s						
JKHN	**Kushirohamanak**	**0.85**	**247**	P	**Pn**	**10 37 23.1**	**+0.4**
JRA	**Rausu**	**0.95**	**303**	P	**Pn**	**10 37 24.1**	**+0.2**
JRA				eS	**Sn**	**10 37 38.4**	**+0.5**
JNK	**Nakash**	**1.11**	**279**	P	**Pn**	**10 37 25.4**	**-0.3**
JNK				eS	**Sn**	**10 37 40.1**	**-1.1**
JAK	**Akkeshi**	**1.20**	**250**	P	**Pn**	**10 37 26.7**	**-0.1**
JAK				eS	**Sn**	**10 37 43.0**	**-0.1**
JTKR	**Abashiri--Toko**	**1.77**	**289**	P	**Pn**	**10 37 34.1**	**+0.1**
JTKR				eS	**Sn**	**10 37 55.6**	**-0.5**
JAR	**Ashorobuto**	**1.80**	**267**	P	**Pn**	**10 37 34.7**	**+0.3**
JAR				eS	**Sn**	**10 37 57.1**	**+0.3**
JOB	**Onbets**	**1.83**	**254**	P	**Pn**	**10 37 35.1**	**+0.3**
JOB				eS	**Sn**	**10 37 57.3**	**-0.1**
KUR	**Kuril'sk**	**2.16**	**32**	eP	**Pn**	**10 37 39.0**	**-0.1**
KUR				i S	**Sn**	**10 38 05.0**	**-0.2**
KUR				A	A	10 38 06.0	
	comp=E,150nm,0.3s						
KUR				A	A	10 38 06.0	
	comp=E,330nm,0.3s						
KUR	**Kuril'sk**	**2.16**	**32**	ePN	**Pn**	**10 37 39.9**	**+0.8**
KUR				i S	**Sn**	**10 38 05.4**	**+0.2**
KUR				smax	smax		
	comp=N,146nm,0.5s						
KUR				smax	smax		
	comp=E,110nm,0.3s						
JMP	**Maruseppu**	**2.16**	**287**	P	**Pn**	**10 37 39.3**	**+0.1**
JMP				eS	**Sn**	**10 38 04.8**	**-0.5**
JCH	**Churui**	**2.25**	**250**	P	**Pn**	**10 37 40.2**	**-0.2**
JCH				eS	**Sn**	**10 38 06.4**	**-1.1**
YSS	**Yuzh-Sakhalins**	**4.30**	**326**	eP	**Pn**	**10 38 08.8**	**+0.8**
YSS				AMB	AMB	10 38 11.9	
	comp=E,20nm,1.0s						

IDC 07 10:54:42.6±1.7**, 4°.25N**×**122°.04E, h0**km**, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.5**/49**, mbtmp3.8**/3**, Error ellipse: s-maj=227.4km s-min=24.0km az=62.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.91**	**154**	P	P	11 00 25.2	-0.5
	0.4nm,0.3s,baz=332,slow=10,SNR=34						
ASAR	**Alice Springs**	**30.06**	**158**	P	P	11 00 54.3	+0.5
	0.5nm,0.3s,baz=336,slow=8.0,SNR=18						
MKAR	**Makanchi Array**	**54.53**	**327**	P	P	11 04 12.3	-0.1
	0.4nm,0.4s,baz=120,slow=7.8,SNR=11						

HEL 07 11:04:18.0±0.1**, 62°.72N**×**27°.64E, h0**km**, ML1.5, Explosion, Finland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SUF	**Sumiainen**	**0.69**	**271**	PG	Pg	11 04 29.9	-1.2
SUF				SG	Sg	11 04 39.1	-0.9
KAF	**Kangasniemi**	**0.87**	**226**	PG	Pg	11 04 33.8	-0.8
	baz=43						
KEF	**Keuruu**	**1.40**	**248**	PG	Pn	11 04 43.1	-1.7
FIA0	**FINESS Array S**	**1.48**	**211**	PG	Pn	11 04 44.6	-1.2
	baz=25						
FIA0				SN	Sn	11 05 08.3	+2.5
JOF	**Joensuu**	**1.70**	**82**	PG	Pn	11 04 48.3	-0.6
JOF				SN	Sg	11 05 13.4	+0.9
OUF	**Merijarvi**	**2.10**	**323**	PG	Pb	11 04 56.1	-0.8
OUF				MSG		11 05 20.5	
	comp=Z,1.7nm,0.2s						
OUF				SG	Sn	11 05 22.3	+1.1
VAF	**Ylistaro**	**2.30**	**280**	MSG		11 05 26.1	
	comp=Z,2.1nm,0.2s						
VAF				SG	Sb	11 05 29.0	-0.2
PVF	**Pernaja**	**2.34**	**202**	MSG		11 05 27.2	
	comp=Z,2.0nm,0.2s						
OUL	**Oulu**	**2.50**	**343**	SG	Sb	11 05 33.8	-1.1
BURU	**Burvik**	**3.36**	**307**	SG	Sb	11 06 01.2	+1.5
MTSE	**Matsula**	**4.44**	**207**	PB	Pb	11 05 33.9	-2.8

*EST **07** 11:04:28.8±0.1, 59°.25N×27°.76E, h0km, ML1.3(HEL), Explosion*

LVSN 07 11:04:30.2±0.8**, 59°.20N**×**27°.75E, h0**km±11km**, ML1.7,**

Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.91**	**216**	eP	Pg	11 04 46.1	-1.5
VSU				eS	Sg	11 04 58.0	-1.4
VSU				AML	AML	11 05 05.7	
	comp=Z,23nm,0.2s						
VSU				AML	AML	11 05 08.4	
	comp=E,54nm,0.3s						
VSU				AML	AML	11 05 12.8	
	comp=N,45nm,0.5s						
VSU	**Vasula**	**0.91**	**216**	eP	Pg	11 04 45.9	-1.7
ARBE	**Arbavere**	**0.94**	**285**	eP	Pg	11 04 45.5	-2.6
VJF	**Virojoki**	**1.34**	**356**	eP	Pg	11 04 51.9	-4.1
VJF				eS	Sg	11 05 08.5	-4.9
PVF	**Pernaja**	**1.65**	**326**	ePG	Pn	11 04 57.9	-2.5
PVF				eS	Sn	11 05 18.2	-4.0
PVF				MSG		11 05 19.3	
	comp=Z,2.0nm,0.1s						
PVF	**Pernaja**	**1.65**	**326**	PB	Pn	11 04 57.8	-2.6
MEF	**Metsahovi**	**1.98**	**302**	eP	Pn	11 05 04.0	-0.9
MEF				AML	AML	11 05 04.5	
	comp=E,9.1nm,0.2s						
MEF				AML	AML	11 05 05.3	
	comp=Z,5.8nm,0.2s						
MEF				eS	Sn	11 05 28.9	-1.6
MEF				AML	AML	11 05 30.5	
	comp=N,9.3nm,0.2s						
MEF	**Metsahovi**	**1.98**	**302**	PN	Pn	11 05 04.0	-1.0
MEF	**Metsahovi**	**1.98**	**302**	ePG	Pn	11 05 04.0	-1.0
MEF				eSG	Sn	11 05 28.8	-1.6
MEF				MSG		11 05 29.9	
	comp=Z,2.1nm,0.1s						
NUR	**Nurmijrvi**	**2.04**	**311**	ePG	Pn	11 05 04.9	-0.8
NUR				eSB	Sn	11 05 29.9	-2.1
MTSE	**Matsula**	**2.10**	**258**	eP	Pn	11 05 06.1	-0.4
MTSE				eS	Sn	11 05 32.3	-0.9
MTSE	**Matsula**	**2.10**	**258**	eSB	Sn	11 05 32.7	-0.6
FIA0	**FINESS Array S**	**2.40**	**340**	ePB	Pn	11 05 09.8	-0.8
FIA0				eS	Sn	11 05 37.7	-3.0
FIA0				eSG	Sb	11 05 41.0	-3.2
FIA0				MSG		11 05 42.3	
	comp=Z,0.9nm,0.1s						
FIA1	**FINESS Array S**	**2.40**	**340**	eS	Sn	11 05 37.6	-3.1
KAF	**Kangasniemi**	**3.01**	**347**	eSG	Sb	11 05 59.1	-2.6
KAF				MSG		11 05 59.4	
	comp=Z,0.7nm,0.1s						
RAF	**Rauma**	**3.51**	**304**	eP	Pn	11 05 25.0	-0.9
RAF	**Rauma**	**3.51**	**304**	eP	Pn	11 05 25.1	-0.8
JOF	**Joensuu**	**4.11**	**23**	eP	Pn	11 05 33.2	-0.9

IDC 07 11:05:42.5±5.2**, 4°.49S**×**137°.96E, h74**km±61km**, mb3.7**/1**, mb1 3.6**/4**, mb1mx3.2**/32**, mbtmp3.7**/4**, ML3.4**/3**, Error ellipse: s-maj=120.3km s-min=37.3km az=125.0, Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.37**	**55**	P	Pn	11 06 32.5	-0.3
	1.0nm,0.3s,baz=210,slow=13,SNR=12						
JAY				S	Sn	11 07 04.3	-7.5
	0.7nm,0.3s,baz=139,slow=20,SNR=2.1						
WRA	**Warramunga Arr**	**15.76**	**193**	P	Pn	11 09 21.3	+1.1
	0.2nm,0.3s,baz=17,slow=13,SNR=14						
WRA				S	Sn	11 12 12.7	-1.5
	0.1nm,0.3s,baz=12,slow=29,SNR=3.2						
ASAR	**Alice Springs**	**19.47**	**191**	P	P	11 10 02.7	-0.8
	0.2nm,0.3s,baz=9.2,slow=9.2,SNR=20						
STKA	**Stephens Creek**	**27.46**	**173**	P	P	11 11 22.2	+0.5
	1.6nm,0.7s,baz=333,slow=6.8,SNR=4.3						

*IDC **07** 11:17:17.7±0.7, 18°.27S×175°.24W, h0km, mb4.3/14, mb1 4.5/14, mb1mx4.3/37, mbtmp4.3/14, Error ellipse: s-maj=27.3km s-min=17.6km az=139.0*
*ISCJB **07** 11:17:43.5±0.3, 18°.54S±0°.07×175°.44W±0°.05, h238km, mb4.1/41, Error ellipse: s-maj=10.3km s-min=6.8km az=163.0*
*NEIC **07** 11:17:43.6±1.2, 18°.56S×175°.39W, h228km±12km, mb4.3/30, Error ellipse: s-maj=11.6km s-min=5.9km az=143.0*
ISC 07 11:17:44.8±0.5**, 18°.58S**±0°.09×**175°.38W**±0°.08**, h238**km**, n57, σ1ˢ03**/60**, mb4.1**/41**, 1C, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.18**	**96**	ePn	**Pn**	**11 19 01.8**	**-0.7**
NIUE				eS	**S**	**11 20 05.2**	**+1.0**
URZ	**Urewera**	**20.67**	**197**	P	**P**	**11 22 02.3**	**-4.4**
	10nm,0.9s,baz=243,slow=2.3,SNR=3.1						
URZ				S	**S**	**11 25 44.1**	**+1.0**
	22nm,1.1s,baz=184,slow=14,SNR=5.3						
URZ	**Urewera**	**20.67**	**197**	eP	**P**	**11 22 04.2**	**-2.5**
	59nm,1.5s						
URZ				S	**S**	**11 25 44.1**	**+1.0**
BKZ	**Black Stump Fm**	**21.69**	**197**	eP	**P**	**11 22 15.2**	**-1.7**
	57nm,1.5s						
LTZ	**Lake Taylor**	**26.30**	**201**	eP	**P**	**11 22 59.8**	**+1.2**
	26nm,1.1s						
WB2	**Warramunga Arr**	**47.34**	**260**	eP	**P**	**11 25 54.9**	**-0.4**
	20nm,1.4s						
WRAB	**Tennant Creek**	**47.34**	**260**	eP	**P**	**11 25 54.6**	**-0.6**
	10.0nm,1.4s						
WR1	**Warramunga Arr**	**47.35**	**260**	eP	**P**	**11 25 55.6**	**+0.3**
	10nm,1.0s						
WRA	**Warramunga Arr**	**47.35**	**260**	P	**P**	**11 25 55.6**	**+0.2**
	3.4nm,0.5s,baz=97,slow=6.1,SNR=73						
AS31	**Alice Springs**	**47.39**	**255**	eP	**P**	**11 25 56.0**	**+0.4**
	1.6nm,0.8s						
ASAR	**Alice Springs**	**47.39**	**255**	P	**P**	**11 25 56.0**	**+0.4**
	6.4nm,0.7s,baz=89,slow=8.5,SNR=86						
SIJI	**Sorong**	**55.20**	**282**	P	**P**	**11 26 54.1**	**+0.5**
	15nm,0.6s,baz=147,slow=19,SNR=6.2						
FITZ	**Fitzroy Crossi**	**55.76**	**260**	P	**P**	**11 26 57.9**	**+0.4**
	1.4nm,0.5s,baz=53,slow=4.7,SNR=6.0						
FITZ	**Fitzroy Crossi**	**55.76**	**260**	eP	**P**	**11 26 56.8**	**-0.6**
	23nm,1.5s						
VNDA	**Vanda**	**60.04**	**186**	P	**P**	**11 27 28.1**	**+1.9**
	0.7nm,0.7s,baz=63,slow=14,SNR=5.2						
VNDA	**Vanda**	**60.04**	**186**	eP	**P**	**11 27 26.3**	**+0.1**
MJAR	**Matsushiro Arr**	**70.19**	**322**	P	**P**	**11 28 31.4**	**-0.6**
	2.6nm,0.8s,baz=163,slow=6.5,SNR=6.9						
MAJO	**Matsushiro**	**70.19**	**322**	eP	**P**	**11 28 31.4**	**-0.6**
QSPA	**South Pole Qui**	**71.48**	**180**	eP	**P**	**11 28 40.0**	**+0.5**
	5.2nm,1.0s						
KMRM	**Mail Ridge**	**75.72**	**38**	eP	**P**	**11 29 04.5**	**+0.2**
	10nm,0.9s						
KSRS	**Korea Array**	**77.14**	**317**	P	**P**	**11 29 13.5**	**+1.3**
	1.4nm,0.8s,baz=131,slow=5.9,SNR=5.3						
KSAR	**Wonju Array Be**	**77.16**	**317**	P	**P**	**11 29 13.5**	**+1.2**
YERR	**Yerington**	**77.67**	**41**	eP	**P**	**11 29 15.6**	**+0.2**
	2.5nm,0.9s						
NV01	**Mina Array Sit**	**77.94**	**42**	eP	**P**	**11 29 17.4**	**+0.5**
NVAR	**Mina Array Bea**	**77.94**	**42**	P	**P**	**11 29 17.4**	**+0.5**
	2.2nm,0.7s,baz=223,slow=8.9,SNR=16						
KVN	**Kaiserville**	**78.43**	**42**	eP	**P**	**11 29 19.4**	**-0.2**
	2.1nm,0.7s						
U15A	**North Rim**	**80.85**	**47**	eP	**P**	**11 29 32.7**	**0.0**
	4.7nm,1.1s						
F10A	**Beach Ranch, E**	**82.99**	**37**	eP	**P**	**11 29 42.9**	**-0.5**
	2.2nm,0.9s						
TMUT	**Trail Mountain**	**83.06**	**45**	eP	**P**	**11 29 44.3**	**+0.1**
	10.0nm,1.3s						
SCM	**Sheep Creek Mo**	**83.20**	**13**	eP	**P**	**11 29 43.6**	**-0.5**
	21nm,1.2s						
PPLA	**Purkeypile**	**83.24**	**10**	eP	**P**	**11 29 43.8**	**-0.6**
	22nm,1.4s						
ANM	**Nome**	**83.24**	**4**	eP	**P**	**11 29 43.1**	**-1.0**
	5.0nm,1.3s						
HLID	**Hailey**	**83.27**	**40**	eP	**P**	**11 29 45.0**	**0.0**
	1.4nm,0.6s						
HVU	**Hansel Valley**	**83.33**	**42**	eP	**P**	**11 29 45.0**	**-0.4**
	2.0nm,0.7s						
MNTX	**Cornudas Mount**	**83.63**	**54**	eP	**P**	**11 29 47.3**	**+0.4**
	7.6nm,1.3s						
TCUT	**Toone Canyon**	**83.86**	**43**	eP	**P**	**11 29 48.2**	**+0.1**
	6.9nm,0.8s						
LTX	**Lajitas**	**83.94**	**56**	eP	**P**	**11 29 50.0**	**+1.3**
TXAR	**Lajitas Array**	**83.94**	**56**	P	**P**	**11 29 50.0**	**+1.3**
	1.2nm,1.0s,baz=219,slow=5.8,SNR=8.7						
PV14	**Lion Creek, Pa**	**84.08**	**46**	eP	**P**	**11 29 48.2**	**-1.1**
	4.1nm,1.0s						
RND	**Reindeer**	**84.31**	**12**	eP	**P**	**11 29 48.8**	**-0.8**
	7.1nm,0.8s						
MCK	**McKinley**	**84.59**	**11**	eP	**P**	**11 29 49.7**	**-1.3**
	9.3nm,1.1s						
WRH	**Wood River Hil**	**85.42**	**11**	eP	**P**	**11 29 54.5**	**-0.6**
	11nm,1.1s						
MLY	**Manley**	**85.46**	**10**	eP	**P**	**11 29 54.1**	**-1.2**
	9.6nm,1.6s						
MDM	**Murphy Dome**	**85.84**	**11**	eP	**P**	**11 29 56.3**	**-0.8**
	13nm,1.2s						
ILAR	**Eielson Array**	**85.92**	**12**	P	**P**	**11 29 56.9**	**-0.7**
	1.9nm,0.9s,baz=226,slow=6.2,SNR=22						
ILB	**Eielson Array**	**85.92**	**12**	eP	**P**	**11 29 56.9**	**-0.7**
DAWY	**Dawson**	**86.96**	**15**	eP	**P**	**11 30 02.4**	**-0.2**
	2.6nm,0.8s						
ABTX	**Abilene, Hawle**	**88.44**	**55**	eP	**P**	**11 30 10.1**	**-0.2**
	4.3nm,0.6s						
INK	**Inuvik**	**91.80**	**14**	P	**P**	**11 30 24.9**	**-0.2**
	2.0nm,0.9s,baz=232,slow=3.6,SNR=6.9						
INK	**Inuvik**	**91.80**	**14**	eP	**P**	**11 30 24.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**91.83**	**289**	P	**P**	**11 30 27.4**	**+1.0**
	0.5nm,0.3s,baz=105,slow=2.8,SNR=6.4						
YKA	**Yellowknife Ar**	**93.75**	**24**	P	**P**	**11 30 33.6**	**-0.5**
	0.6nm,0.8s,baz=242,slow=4.5,SNR=8.1						
YKB5	**Yellowknife Ar**	**93.75**	**24**	eP	**P**	**11 30 33.9**	**-0.3**
MKAR	**Makanchi Array**	**111.68**	**314**	PKiKP	**PKiKP**	**11 35 49.8**	**-1.3**
	0.2nm,0.4s,baz=70,slow=4.1,SNR=3.6						
CLL	**Collm**	**146.68**	**350**	⇑iPKPbc	**PKPbc**	**11 36 58.3**	**0.0**
	comp=Z,7.0nm,1.2s						
BRTR	**Keskin Array B**	**147.28**	**316**	PKPbc	**PKPbc**	**11 37 00.5**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=144,slow=5.5,SNR=4.5						
GERES	**GERESS Array B**	**148.93**	**348**	PKPbc	**PKPbc**	**11 37 04.5**	**0.0**
	comp=Z,0.6nm,0.6s,baz=23,slow=5.3,SNR=6.6						

IDC 07 11:38:02.5±2.0**, 0°.97N**×**127°.23E, h0**km**, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.4**/38**, mbtmp3.5**/3**, Error ellipse: s-maj=167.5km s-min=24.6km az=66.0, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.92**	**162**	P	P	11 42 56.6	-1.0
	0.7nm,0.5s,baz=341,slow=11,SNR=7.8						
ASAR	**Alice Springs**	**25.33**	**166**	P	P	11 43 32.0	+0.8
	0.6nm,0.7s,baz=338,slow=9.0,SNR=8.6						
MKAR	**Makanchi Array**	**60.10**	**326**	P	P	11 48 11.6	-0.1
	0.5nm,0.5s,baz=122,slow=8.6,SNR=9.7						

*ISCJB **07** 11:40:44.7±0.3, 38°.73N±0°.01×27°.51E±0°.02, h6km±2km, Error ellipse: s-maj=2.1km s-min=2.0km az=39.8*
*ISK **07** 11:40:44.6, 38°.73N×27°.52E, h11km, ML3.9/31*
*ATH **07** 11:40:45.5, 38°.70N×27°.51E, h34km±4km, ML3.7/4, Error ellipse: s-maj=5.5km s-min=1.5km az=245.0*
*NEIC **07** 11:40:45.0±0.0, 38°.72N×27°.53E, h24km, ML3.9(ISK), ML4.0(DDA), After DDA.*
*DDA **07** 11:40:45.7, 38°.72N×27°.51E, h31km±4km, MW3.8*
*THE **07** 11:40:46.1, 38°.70N×27°.51E, h6km±1km, ML3.5/7, Error ellipse: s-maj=1.7km s-min=0.6km az=231.0*
ISC 07 11:40:45.3±0.9**, 38°.71N**±0°.02×**27°.52E**±0°.01**, h11**km±8km**, n144, σ0ˢ92**/183**, 21C-7D, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.28**	**53**	PG	**Pg**	**11 40 51.1**	**0.0**
AKHS	**Akhisar**	**0.28**	**53**	i S	**Sg**	**11 40 54.9**	**-0.1**
GOMA	**Golmarmara-Man**	**0.31**	**90**	PG	**Pg**	**11 40 51.4**	**-0.1**
GOMA				SG	**Sg**	**11 40 56.5**	**+0.9**
BLCB	**Balcova**	**0.49**	**230**	PG	**Pg**	**11 40 55.1**	**+0.1**
BLCB				SG	**Sb**	**11 41 02.8**	**-0.5**
DKL	**Dikili**	**0.60**	**307**	PG	**Pg**	**11 40 56.6**	**-0.5**
FOCM	**Foa**	**0.62**	**271**	PG	**Pg**	**11 40 57.0**	**-0.3**
STEP	**BALIKESIR_Sava**	**0.69**	**13**	⇑iP	**Pg**	**11 40 58.3**	**-0.3**
STEP				i S	**Sb**	**11 41 08.7**	**-0.2**
STEP				IAML		11 41 11.0	
	comp=N,3µm,0.7s						
STEP				IAML		11 41 13.0	
	comp=E,3µm,0.4s						
KRBN	**Karaburun**	**0.77**	**262**	PG	**Pg**	**11 41 00.1**	**0.0**
GMLD	**Gumuldur**	**0.79**	**217**	PG	**Pg**	**11 41 00.9**	**+0.4**
URLA	**Izmir**	**0.81**	**245**	PG	**Pg**	**11 41 00.6**	**-0.3**
URLA	**Izmir**	**0.81**	**245**	⇑iP	**Pb**	**11 41 01.5**	**+0.2**
URLA				i S	**Sg**	**11 41 11.9**	**+0.5**
URLA				IAML		11 41 17.0	
	comp=E,717nm,0.3s						
URLA				IAML		11 41 19.0	
	comp=N,633nm,0.3s						
AYDB	**Zeytinkoy-Aydi**	**0.81**	**159**	PG	**Pg**	**11 41 00.9**	**-0.1**
DGB	**zmir**	**0.82**	**218**	⇑iP	**Pb**	**11 41 01.8**	**+0.1**
DGB				i S	**Sb**	**11 41 13.1**	**+0.3**
DGB				IAML		11 41 15.0	
	comp=E,1µm,0.3s						
DGB				IAML		11 41 18.0	
	comp=N,1µm,0.5s						
MANT	**Manisa**	**0.84**	**105**	ePg	**Pg**	**11 41 00.9**	**-0.6**
MANT				eSg	**Sg**	**11 41 12.8**	**+0.4**
MANT	**Manisa**	**0.84**	**105**	⇑iP	**Pg**	**11 41 01.6**	**+0.1**
MANT				i S	**Sb**	**11 41 13.1**	**-0.3**
MANT				IAML		11 41 15.0	
	comp=E,3µm,0.3s						
MANT				IAML		11 41 15.0	
	comp=N,3µm,0.3s						
AYVA	**Ayvalik**	**0.89**	**313**	⇓iP	**Pg**	**11 41 02.3**	**-0.1**
AYVA				i S	**Sb**	**11 41 14.7**	**+0.2**
AYVA				IAML		11 41 17.0	
	comp=N,6µm,0.5s						
AYVA				IAML		11 41 17.0	
	comp=E,2µm,0.7s						
KULA	**Kula-Manisa**	**0.91**	**102**	PG	**Pg**	**11 41 02.4**	**-0.5**
BALB	**Balikesir**	**0.97**	**16**	PG	**Pg**	**11 41 03.4**	**-0.6**
DEMI	**Demirci**	**0.99**	**70**	⇑iP	**Pg**	**11 41 04.0**	**-0.3**
DEMI				i S	**Sg**	**11 41 16.5**	**-0.8**
DEMI				IAML		11 41 21.0	
	comp=E,4µm,0.3s						
DEMI				IAML		11 41 22.0	
	comp=N,2µm,0.4s						
GCAM	**G?zelcaml?**	**1.03**	**193**	PG	**Pb**	**11 41 05.1**	**-0.1**
GCAM	**G?zelcaml?**	**1.03**	**193**	i P	**Pn**	**11 41 05.5**	**-0.2**
GCAM				i S	**Sg**	**11 41 19.1**	**+0.6**
GCAM				IAML		11 41 23.0	
	comp=N,1µm,0.8s						
GCAM				IAML		11 41 23.0	
	comp=E,1µm,0.4s						
GCAM				IAML		11 41 23.0	
	comp=Z,775nm,0.7s						
BALY	**Balya**	**1.03**	**4**	⇑iP	**Pb**	**11 41 04.8**	**-0.5**
BALY				i S	**Sb**	**11 41 18.5**	**-0.4**
BALY				IAML		11 41 21.0	
	comp=E,2µm,0.8s						
BALY				IAML		11 41 21.0	
	comp=N,5µm,0.9s						
AYDN	**Tasoluk**	**1.08**	**165**	⇓iP	**Pn**	**11 41 06.9**	**+0.4**
AYDN				i S	**Sn**	**11 41 20.9**	**-0.6**
AYDN				IAML		11 41 23.0	
	comp=E,4µm,0.4s						
AYDN				IAML		11 41 24.0	
	comp=N,3µm,0.4s						
PRK	**Paraskevi**	**1.11**	**299**	P	**Pb**	**11 41 06.6**	**0.0**
PRK				S	**Sn**	**11 41 22.0**	**-0.2**
PRK				AML	AML	11 41 24.9	
	comp=E,13617µm,0.4s						
PRK				AML	AML	11 41 25.8	
	comp=N,12550µm,0.5s						
PRK	**Paraskevi**	**1.11**	**299**	P	**Pg**	**11 41 07.2**	**+0.5**
PRK				S	**Sn**	**11 41 22.3**	**0.0**
SMG	**Samos**	**1.13**	**209**	P	**Pb**	**11 41 06.3**	**-0.6**
SMG				S	**Sg**	**11 41 21.9**	**0.0**
SMG				AML	AML	11 41 24.8	
	comp=N,4963µm,0.4s						
SMG				AML	AML	11 41 25.3	
	comp=E,3854µm,0.4s						
SMG	**Samos**	**1.13**	**209**	P	**Pb**	**11 41 06.1**	**-0.8**
SMG				S	**Sn**	**11 41 23.2**	**+0.5**
DURS	**Dursunbey**	**1.16**	**39**	⇓iP	**Pg**	**11 41 07.7**	**+0.1**
DURS				i S	**Sn**	**11 41 24.1**	**+0.6**
DURS				IAML		11 41 26.0	
	comp=E,2µm,0.6s						
DURS				IAML		11 41 30.0	
	comp=N,1µm,0.4s						
CHOS	**Chios island**	**1.20**	**255**	PN	**Pn**	**11 41 07.7**	**-0.4**
CHOS				SN	**Sn**	**11 41 25.1**	**+0.7**
CHOS	**Chios island**	**1.20**	**255**	P	**Pn**	**11 41 08.0**	**-0.1**
CHOS				S	**Sn**	**11 41 24.5**	**+0.1**
CHOS				AML	AML	11 41 27.9	
	comp=E,8636µm,0.5s						
CHOS				AML	AML	11 41 27.9	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=N,6571μm,0.4s						
CHOS	**Chios island**	**1.20**	**255**	P	**Pn**	**11 41 07.9**	**-0.2**
CHOS				S	**Sn**	**11 41 25.0**	**+0.7**
DST	**Dursunbey**	**1.24**	**43**	PN	**Pn**	**11 41 08.2**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**1.28**	**324**	⇑iP	**Pn**	**11 41 08.9**	**-0.3**
BAYC				i S	**Sb**	**11 41 25.3**	**-0.8**
BAYC				IAML		11 41 28.0	
	comp=E,2μm,0.3s						
BAYC				IAML		11 41 28.0	
	comp=N,2μm,0.3s						
GONE	**Gonen-Balikesi**	**1.34**	**5**	PN	**Pn**	**11 41 09.7**	**-0.4**
SHAP	**Saphane-Kutahy**	**1.36**	**76**	PN	**Pn**	**11 41 10.4**	**0.0**
SIGR	**SIGRI**	**1.40**	**292**	PN	**Pn**	**11 41 09.6**	**-1.1**
SIGR	**SIGRI**	**1.40**	**292**	P	**Pn**	**11 41 10.2**	**-0.5**
SIGR				S	**Sn**	**11 41 28.5**	**-0.7**
SIGR				AML	AML	11 41 33.1	
	comp=N,2233μm,0.5s						
SIGR				AML	AML	11 41 34.8	
	comp=E,2253μm,0.4s						
SIGR	**SIGRI**	**1.40**	**292**	P	**Pn**	**11 41 10.2**	**-0.5**
SIGR				S	**Sg**	**11 41 30.4**	**+0.2**
MLSB	**Milas**	**1.42**	**172**	PN	**Pb**	**11 41 11.9**	**0.0**
EZN	**Ezine**	**1.45**	**321**	S	**Sn**	**11 41 30.5**	**-0.1**
EZN	**Ezine**	**1.45**	**321**	P	**Pn**	**11 41 11.2**	**-0.4**
EZN				S	**Sb**	**11 41 31.1**	**+0.2**
GEDZ	**Gediz**	**1.51**	**76**	PN	**Pn**	**11 41 12.7**	**+0.3**
DENT	**Denizli**	**1.52**	**128**	PN	**Pb**	**11 41 13.1**	**-0.5**
GDZ	**Gediz**	**1.57**	**75**	⇑iP	**Pb**	**11 41 14.9**	**+0.3**
GDZ				i S	**Sg**	**11 41 36.4**	**+0.4**
GDZ				IAML		11 41 39.0	
	comp=E,184nm,0.3s						
GDZ				IAML		11 41 42.0	
	comp=N,213nm,0.6s						
KHAL	**Karahalli**	**1.58**	**102**	⇓iP	**Pb**	**11 41 15.1**	**+0.5**
KHAL				i S	**Sg**	**11 41 36.1**	**0.0**
KHAL				IAML		11 41 38.0	
	comp=N,523nm,0.4s						
KHAL				IAML		11 41 38.0	
	comp=E,552nm,0.3s						
BOZC	**Bozcaada**	**1.61**	**315**	PN	**Pn**	**11 41 13.5**	**-0.2**
BOZC	**Bozcaada**	**1.61**	**315**	eP	**Pn**	**11 41 13.3**	**-0.4**
BOZC				i S	**Sn**	**11 41 33.9**	**-0.6**
BOZC				IAML		11 41 40.0	
	comp=N,508nm,0.7s						
BOZC				IAML		11 41 41.0	
	comp=E,537nm,0.3s						
KHL	**Karahalli**	**1.61**	**103**	PN	**Pn**	**11 41 14.5**	**+0.6**
BDRM	**Kayabasi**	**1.64**	**182**	eP	**Pn**	**11 41 14.2**	**+0.1**
BODT	**Bodrum**	**1.65**	**186**	PN	**Pn**	**11 41 13.9**	**-0.4**
BODT	**Bodrum**	**1.65**	**186**	P	**Pn**	**11 41 13.9**	**-0.4**
BODT				S	**Sn**	**11 41 35.8**	**+0.3**
TAVA	**DENIZLI_Tavas**	**1.65**	**138**	i P	**Pb**	**11 41 15.5**	**-0.4**
TAVA				i S	**Sb**	**11 41 37.2**	**+0.5**
TAVA				IAML		11 41 42.0	
	comp=E,259nm,0.6s						
TAVA				IAML		11 41 42.0	
	comp=N,221nm,0.6s						
EDC	**Edincik**	**1.66**	**9**	PN	**Pn**	**11 41 13.9**	**-0.5**
KCTX	**Karacabey (Bur**	**1.69**	**22**	PN	**Pn**	**11 41 13.7**	**-1.1**
KRBG	**Karabiga-Canak**	**1.69**	**354**	PN	**Pn**	**11 41 14.5**	**-0.4**
ORLT	**Orhaneli**	**1.71**	**38**	PN	**Pn**	**11 41 14.7**	**-0.4**
LPK	**Lapseki**	**1.77**	**341**	PN	**Pn**	**11 41 15.8**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.87**	**335**	PN	**Pn**	**11 41 17.4**	**+0.1**
GADA	**Gvkgeada**	**1.94**	**320**	PN	**Pn**	**11 41 18.1**	**-0.2**
GADA	**Gvkgeada**	**1.94**	**320**	P	**Pn**	**11 41 18.4**	**+0.1**
GADA				S	**Sn**	**11 41 43.2**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.97**	**32**	PN	**Pn**	**11 41 17.9**	**-0.7**
DAT	**Datca**	**1.97**	**179**	PN	**Pn**	**11 41 19.7**	**+0.9**
DAT	**Datca**	**1.97**	**179**	eP	**Pb**	**11 41 21.7**	**+0.3**
DAT				i S	**Sg**	**11 41 49.7**	**+0.9**
TURN	**Turunc**	**2.02**	**155**	PN	**Pn**	**11 41 19.3**	**0.0**
TURN	**Turunc**	**2.02**	**155**	i P	**Pn**	**11 41 19.7**	**+0.4**
TURN				i S	**Sn**	**11 41 44.6**	**+0.1**
TURN				IAML		11 41 57.0	
	comp=E,305nm,0.9s						
TURN				IAML		11 41 58.0	
	comp=N,497nm,0.5s						
IGD	**Bursa**	**2.03**	**39**	i P	**Pn**	**11 41 19.3**	**-0.1**
IGD				i S	**Sb**	**11 41 46.8**	**-0.6**
IGD				IAML		11 41 53.0	
	comp=N,175nm,0.4s						
IGD				IAML		11 41 55.0	
	comp=E,350nm,0.4s						
DALY	**Dalyan (Mula)**	**2.09**	**154**	PN	**Pn**	**11 41 20.6**	**+0.3**
DALY	**Dalyan (Mula)**	**2.09**	**154**	i P	**Pn**	**11 41 20.4**	**+0.2**
KZIL	**AFYON_Kizioren**	**2.10**	**101**	i P	**Pb**	**11 41 22.8**	**-0.7**
KZIL				i S	**Sb**	**11 41 48.8**	**-0.9**
KZIL				IAML		11 42 01.0	
	comp=E,211nm,0.8s						
KZIL				IAML		11 42 06.0	
	comp=N,260nm,1.0s						
ERIK	**Erikli-Kesan**	**2.11**	**339**	PN	**Pn**	**11 41 20.5**	**-0.1**
SBT4	**Kumbag-Tekirda**	**2.12**	**0**	PN	**Pn**	**11 41 20.8**	**+0.2**
ARMT	**Armutlu**	**2.12**	**29**	PN	**Pn**	**11 41 20.2**	**-0.6**
GEMT	**Gemlik**	**2.15**	**36**	PN	**Pn**	**11 41 20.6**	**-0.6**
LIA	**Limnos Island**	**2.17**	**304**	P	**Pn**	**11 41 21.4**	**0.0**
LIA	**Limnos Island**	**2.17**	**304**	P	**Pn**	**11 41 21.6**	**+0.2**
LIA				S	**Sn**	**11 41 48.9**	**+0.6**
GOLH	**Golhisar**	**2.18**	**132**	i P	**Pn**	**11 41 22.7**	**+1.1**
GOLH				i S	**Sb**	**11 41 52.2**	**+0.3**
GOLH				IAML		11 42 09.0	
	comp=E,227nm,0.7s						
GOLH				IAML		11 42 09.0	
	comp=N,177nm,0.6s						
SBT5	**Esenkoy-Cinarc**	**2.19**	**28**	PN	**Pn**	**11 41 21.5**	**-0.1**
KESN	**Edirne-Kesan**	**2.21**	**343**	i P	**Pn**	**11 41 22.2**	**-0.2**
KESN				i S	**Sn**	**11 41 51.1**	**+1.2**
KESN				IAML		11 41 56.0	
	comp=N,566nm,0.5s						
KESN				IAML		11 42 00.0	
	comp=E,580nm,0.3s						
BRDR	**BURDUR-Merkez**	**2.24**	**116**	i P	**Pn**	**11 41 22.5**	**0.0**
AMGA	**Amorgos Island**	**2.27**	**215**	P	**Pn**	**11 41 22.3**	**-0.5**
AMGA	**Amorgos Island**	**2.27**	**215**	P	**Pn**	**11 41 23.4**	**+0.5**
ENEZ	**Enez**	**2.29**	**333**	PN	**Pn**	**11 41 23.4**	**+0.4**
SMTH	**Samothraki Isl**	**2.34**	**319**	P	**Pn**	**11 41 23.8**	**0.0**
SMTH	**Samothraki Isl**	**2.34**	**319**	P	**Pn**	**11 41 23.9**	**+0.1**
FETY	**Fethiye**	**2.41**	**149**	PN	**Pn**	**11 41 25.4**	**+0.7**
FETY	**Fethiye**	**2.41**	**149**	P	**Pn**	**11 41 25.8**	**+1.1**
FETY	**Fethiye**	**2.41**	**149**	i P	**Pn**	**11 41 25.6**	**+0.9**
ALN	**Alexandroupoli**	**2.47**	**333**	PN	**Pn**	**11 41 25.7**	**+0.3**
ALN	**Alexandroupoli**	**2.47**	**333**	ePn	**Pn**	**11 41 24.7**	**-0.8**
ALN	**Alexandroupoli**	**2.47**	**333**	P	**Pn**	**11 41 25.8**	**+0.3**
ALN	**Alexandroupoli**	**2.47**	**333**	P	**Pn**	**11 41 25.8**	**+0.3**
ALN				S	**Sn**	**11 41 57.0**	**+1.4**
BUY	**Buyukada**	**2.47**	**29**	i P	**Pn**	**11 41 24.5**	**-1.0**
ISP	**Isparta**	**2.52**	**110**	ePn	**Pn**	**11 41 25.6**	**-0.7**
ISP	**Isparta**	**2.52**	**110**	⇑iP	**Pg**	**11 41 34.7**	**+1.1**
ISP	**Isparta**	**2.52**	**110**	P	**Pn**	**11 41 26.5**	**+0.2**
ARG	**Arkhangelos**	**2.53**	**169**	PN	**Pn**	**11 41 27.0**	**+0.6**
ARG	**Arkhangelos**	**2.53**	**169**	P	**Pn**	**11 41 26.9**	**+0.6**
ARG	**Arkhangelos**	**2.53**	**169**	P	**Pn**	**11 41 26.9**	**+0.6**
ARG				S	**Sn**	**11 41 57.4**	**+0.2**
BORA	**Eskisehir**	**2.56**	**62**	eP	**Pn**	**11 41 26.8**	**-0.1**
BAGO	**Egridir - ISPA**	**2.67**	**105**	eP	**Pb**	**11 41 31.8**	**-1.4**
GEYV	**SAKARYA_Geyve**	**2.78**	**49**	i P	**Pn**	**11 41 29.5**	**-0.3**
KLYT	**Kilyos**	**2.80**	**24**	⇑iP	**Pb**	**11 41 35.8**	**+0.5**
CTYL	**Yalikoy Yolu**	**2.83**	**12**	⇑iP	**Pb**	**11 41 36.2**	**+0.4**
SANT	**Santorini**	**2.85**	**216**	ePn	**Pn**	**11 41 30.7**	**-0.1**
RDO	**Rodhopi**	**2.88**	**329**	P	**Pn**	**11 41 31.5**	**+0.4**
RDO	**Rodhopi**	**2.88**	**329**	P	**Pn**	**11 41 31.5**	**+0.4**
THAS	**Thassos island**	**2.88**	**312**	P	**Pn**	**11 41 31.0**	**-0.2**
SILT	**Sile**	**2.94**	**33**	⇑iP	**Pb**	**11 41 38.3**	**+0.6**
AKAS	**Kas**	**2.97**	**146**	eP	**Pn**	**11 41 34.4**	**+1.8**
KAND	**Kocaeli-Kandir**	**3.15**	**40**	i P	**Pn**	**11 41 35.6**	**+0.8**
BTAS	**Taskesti**	**3.27**	**54**	eP	**Pn**	**11 41 36.1**	**-0.5**
SAHE	**Sakarya_HENDEK**	**3.34**	**49**	i P	**Pn**	**11 41 37.4**	**-0.2**
KDZ	**Kurdzhali**	**3.35**	**332**	eP	**Sn**	**11 42 19.7**	**+2.1**
DIM	**Dimitrovgrad**	**3.67**	**336**	eP	**Sn**	**11 42 20.9**	**-4.4**
RZN	**Rozhen**	**3.67**	**325**	eP	**Sn**	**11 42 26.0**	**+0.3**
JMB	**Yambol**	**3.82**	**350**	eP	**Sn**	**11 42 32.0**	**+2.9**
NVR	**Nevrokopi**	**3.86**	**314**	P	**Pn**	**11 41 45.0**	**+0.3**
NVR	**Nevrokopi**	**3.86**	**314**	P	**Pn**	**11 41 45.0**	**+0.3**
AGG	**Agios Georgios**	**4.07**	**276**	ePn	**Pn**	**11 41 46.8**	**-0.8**
LIT	**Litokhoron**	**4.14**	**291**	ePn	**Pn**	**11 41 47.8**	**-0.7**
ITM	**Ithomi**	**4.68**	**253**	ePn	**Pn**	**11 41 56.8**	**+0.9**
BR131	**Keskin Array S**	**4.86**	**76**	ePn	**Pn**	**11 41 58.5**	**0.0**
STIP	**Stip**	**5.06**	**308**	⇓iP	**Pn**	**11 42 00.7**	**-0.4**
VTS	**Vitosha**	**5.08**	**321**	ePn	**Pn**	**11 42 01.3**	**-0.3**
VTS	**Vitosha**	**5.08**	**321**	⇑iP	**Pn**	**11 42 02.6**	**+1.0**
FNA	**Florina**	**5.17**	**296**	ePn	**Pn**	**11 42 02.1**	**-0.6**
ILGA	**Ilgaz**	**5.31**	**62**	ePn	**Pn**	**11 42 02.8**	**-2.0**
TIRR	**Tirgusor**	**5.79**	**6**	ePn	**Pn**	**11 42 10.7**	**-0.4**
CFR	**Carcaliu**	**6.48**	**4**	⇑iP	**Pn**	**11 42 24.9**	**+4.3**
MLR	**Muntele Rosu**	**6.88**	**351**	ePn	**Pn**	**11 42 25.4**	**-0.8**
MLR	**Muntele Rosu**	**6.88**	**351**	⇓iP	**Pn**	**11 42 28.5**	**+2.2**
PLOR	**Plostina**	**7.17**	**355**	⇑iP	**Pn**	**11 42 33.8**	**+3.7**
VRI	**Vrincioaia**	**7.18**	**356**	⇓iP	**Pn**	**11 42 33.2**	**+2.9**
HERR	**Herculane**	**7.25**	**330**	⇑iP	**Pn**	**11 42 32.3**	**+1.1**
DOPR	**Dopca**	**7.43**	**348**	⇑iP	**Pn**	**11 42 35.8**	**+2.2**
GZR	**Gura Zlata**	**7.56**	**334**	⇑iP	**Pn**	**11 42 36.0**	**+0.5**
DIVS	**Divibare**	**7.81**	**316**	ePn	**Pn**	**11 42 37.7**	**-1.3**
BZS	**Buzias**	**8.18**	**329**	⇑iP	**Pn**	**11 42 44.2**	**+0.3**
DRGR		**8.82**	**338**	⇑iP	**Pn**	**11 42 54.7**	**+1.9**
BURAR	**Bucovina Array**	**9.06**	**350**	⇑iP	**Pn**	**11 42 58.7**	**+2.6**
BUR04	**Bucovina Ar. S**	**9.07**	**350**	ePn	**Pn**	**11 42 55.7**	**-0.5**
BUR08	**Bucovina Ar. S**	**9.09**	**350**	ePn	**Pn**	**11 42 55.3**	**-1.3**
KIEV	**Kiev**	**12.05**	**5**	ePn	**Pn**	**11 43 35.3**	**-1.6**
AKBB	**Malin Array Si**	**12.05**	**5**	ePn	**Pn**	**11 43 35.9**	**-1.1**

ISCJB ***07*** *11:48:59.7±0.7, 8°.33S±0°.05×107°.76E±0°.06, h35km, mb3.6/6, MS2.8/1, Error ellipse: s-maj=9.4km s-min=6.0km az=138.9*
DJA ***07*** *11:48:59.5±0.5, 8°S±4°×10°8E±°, h10km, M4.3/12, mb4.3/1, MLv4.4/12*
IDC ***07*** *11:49:02.3±5.2, 8°.26S×107°.50E, h68km±37km, mb3.4/7, mb1 3.5/7, mb1mx3.3/39, mbtmp3.7/7, MS2.9/1, Ms1 3.1/1, ms1mx2.5/22, Error ellipse: s-maj=74.8km s-min=13.8km az=58.0*
ISC 07 11:49:00.3±0.9**, 8°.26S**±0°.08×**107°.75E**±0°.07**, h35km, n24, σ1s.59**/22**, mb3.7**/6**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.70**	**5**	P	**Pn**	**11 49 13.0**	**-0.8**
CISI				S	**Sn**	**11 49 22.9**	**-0.5**
CMJI	**Cimerak**	**0.84**	**56**	P	**Pn**	**11 49 15.6**	**0.0**
CMJI				S	**Sn**	**11 49 26.7**	**0.0**
LEM	**Lembang**	**1.43**	**355**	P	**Pn**	**11 49 25.8**	**+1.9**
	246nm,0.3s,baz=165,slow=8.6,SNR=53						
LEM				S	**Sn**	**11 49 44.6**	**+3.1**
	132nm,0.3s,baz=350,slow=22,SNR=13						
LEM				LR	LR	11 50 03.4	
	comp=Z,158nm,20.9s,baz=220,slow=43						
LEM	**Lembang**	**1.43**	**355**	P	**Pn**	**11 49 25.3**	**+1.4**
SKJI	**Sukabumi**	**1.72**	**316**	P	**Pn**	**11 49 28.3**	**+0.6**
DBJI	**Dramaga**	**1.96**	**330**	P	**Pn**	**11 49 33.1**	**+2.0**
UGM	**Wanagama**	**2.77**	**83**	P	**Pn**	**11 49 42.8**	**+0.6**
SMRI	**Semarang**	**2.92**	**66**	P	**Pn**	**11 49 46.8**	**+2.5**
PCJI	**Pacitan**	**3.39**	**89**	P	**Pn**	**11 49 52.0**	**+1.3**
PWJI	**Pagerwojo**	**4.02**	**87**	P	**Pn**	**11 50 00.4**	**+1.0**
KASI	**Kota Agung**	**4.22**	**310**	P	**Pn**	**11 50 04.0**	**+1.9**
JAGI	**Jajag, Banyuwa**	**6.34**	**92**	P	**Pn**	**11 50 32.8**	**+1.5**
FITZ	**Fitzroy Crossi**	**19.96**	**121**	P	**Pn**	**11 53 31.4**	**0.0**
	4.2nm,0.7s,baz=172,slow=2.6,SNR=6.1						
CMAR	**Chiang Mai Arr**	**27.93**	**342**	LR	LR	12 07 31.9	
	comp=Z,26nm,19.7s,baz=202,slow=40						
WRA	**Warramunga Arr**	**28.23**	**117**	P	**P**	**11 54 50.6**	**+0.4**
	0.9nm,0.5s,baz=288,slow=11,SNR=13						
ASAR	**Alice Springs**	**29.36**	**124**	P	**P**	**11 55 00.2**	**0.0**
	0.2nm,0.8s,baz=307,slow=9.2,SNR=4.1						
H08S2	**Diego Garcia H**	**34.92**	**268**	T	T	12 33 01.2	
	baz=92,slow=76,SNR=55						
H08S3	**Diego Garcia H**	**34.93**	**268**	T	T	12 33 02.0	
	baz=92,slow=76,SNR=44						
H08S1	**Diego Carcia H**	**34.94**	**268**	T	T	12 33 02.6	
	baz=92,slow=76,SNR=36						
STKA	**Stephens Creek**	**39.25**	**132**	P	**P**	**11 56 26.7**	**+1.0**
	2.3nm,0.5s,baz=308,slow=9.2,SNR=11						
SONM	**Songino Array**	**55.86**	**359**	P	**P**	**11 58 32.9**	**-1.5**
	0.2nm,0.4s,baz=169,slow=8.4,SNR=2.2						
MKAR	**Makanchi Array**	**59.32**	**340**	P	**P**	**11 58 56.6**	**-2.0**
	0.3nm,0.5s,baz=157,slow=8.4,SNR=7.5						
ZALV	**Zalesovo Beam**	**64.93**	**345**	P	**P**	**11 59 33.9**	**-2.2**
	0.3nm,0.3s,baz=152,slow=4.9,SNR=2.5						
TXAR	**Lajitas Array**	**143.81**	**50**	PKP	PKPbc	12 08 30.1	-0.2
	0.4nm,0.8s,baz=266,slow=3.8,SNR=3.7						

MAN 07 11:58:42.2, 13°.74N×122°.75E, h30km, mb4.6, ML3.4, MS3.3, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**0.34**	**300**	⇑iP	Pb	11 58 48.1	-2.1
GQP				i S	Sb	11 58 53.4	-2.2
AUQP	**San Andres**	**0.42**	**189**	eP	Pn	11 58 52.1	-0.1
AUQP				eS	Sn	11 59 01.1	+2.2
BOAC	**Boac**	**0.92**	**253**	eP	Pb	11 58 59.6	-0.1
BOAC				eS	Sb	11 59 14.2	+2.7
POLP	**Polilio Island**	**1.26**	**322**	eP	Pn	11 59 03.0	-0.8
POLP				eS	Sn	11 59 20.1	+0.4
PVCP	**Virac**	**1.38**	**96**	eP	Pn	11 59 05.4	0.0
PVCP				eS	Sn	11 59 23.3	+0.6
OTRP	**Odiongan**	**1.54**	**207**	eP	Pb	11 59 10.0	-0.2
OTRP				eS	Sn	11 59 26.7	+0.1
SJMP	**San Jose**	**2.03**	**232**	eP	Pb	11 59 17.8	-0.7
SJMP				eS	Sb	11 59 46.5	+3.2
BALP	**Baler**	**2.29**	**331**	eP	Pn	11 59 20.1	+2.1

IDC 07 12:18:55.4±4.1**, 14°.60S**×**174°.40W, h0km, mb3.7**/3**, mb1 4.0**/3**, mb1mx3.6**/26**, mbtmp3.7**/3**, Error ellipse: s-maj=193.5km s-min=34.0km az=139.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.09**	**256**	P	P	12 27 45.3	+0.2
	0.4nm,0.6s,baz=90,slow=6.9,SNR=14						
WRA				PcP	PcP	12 29 09.0	+0.1
	0.2nm,0.7s,baz=93,slow=5.7,SNR=2.2						
ASAR	**Alice Springs**	**49.45**	**251**	P	P	12 27 47.0	-0.7
	1.0nm,0.4s,baz=88,slow=7.5,SNR=34						
ILAR	**Eielson Array**	**81.85**	**12**	P	P	12 31 16.1	0.0
	0.6nm,1.1s,baz=214,slow=7.6,SNR=3.7						

ISCJB ***07*** *12:36:06.2±1.6, 5°.5S±0°.3×151°.7E±0°.3, h45km, mb3.7/5, MS2.7/1, Error ellipse: s-maj=63.7km s-min=12.4km az=39.3*
IDC ***07*** *12:36:12.3±5.8, 5°.72S×151°.88E, h93km±46km, mb3.5/5, mb1 3.7/6, mb1mx3.3/48, mbtmp3.8/6, MS2.8/1, Ms1 2.8/1, ms1mx2.3/26, Error ellipse: s-maj=67.6km s-min=27.6km az=115.0*
ISC 07 12:36:07.4±1.8**, 5°.5S**±0°.3×**151°.9E**±0°.4**, h45km, n8, σ1s.46**/8**, mb3.7**/5**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.08**	**231**	P	**Pn**	**12 37 37.0**	**+2.2**
	1.8nm,0.3s,baz=40,slow=10,SNR=6.0						
PMG				S	**Sn**	**12 38 41.9**	**-1.3**
	1.3nm,0.3s,baz=307,slow=20,SNR=3.3						
DZM	**Mont Dzumac**	**21.62**	**141**	LR	LR	12 47 33.6	
	comp=Z,30nm,21.9s,baz=322,slow=32						
WRA	**Warramunga Arr**	**22.30**	**228**	P	**P**	**12 41 00.5**	**-0.7**
	1.5nm,0.7s,baz=54,slow=9.8,SNR=14						
ASAR	**Alice Springs**	**25.02**	**222**	P	**P**	**12 41 27.4**	**0.0**
	3.7nm,0.8s,baz=59,slow=8.4,SNR=42						
FITZ	**Fitzroy Crossi**	**28.54**	**242**	P	**P**	**12 41 57.3**	**-1.8**
	2.1nm,0.5s,baz=86,slow=10,SNR=5.3						
SONM	**Songino Array**	**66.48**	**328**	P	**P**	**12 46 53.2**	**+0.7**
	0.4nm,0.5s,baz=148,slow=5.7,SNR=3.1						
ILAR	**Eielson Array**	**83.17**	**22**	P	**P**	**12 48 27.9**	**-0.5**
	0.3nm,0.8s,baz=248,slow=5.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**149.69**	**287**	PKPbc	**PKPbc**	**12 55 53.5**	**+0.1**
	1.1nm,0.6s,baz=54,slow=3.8,SNR=6.4						

IDC ***07*** *12:41:36.3±0.9, 26°.95N×56°.16E, h0km, mb3.6/10, mb1 3.8/11, mb1mx3.6/55, mbtmp3.6/11, ML3.7/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/32, Error ellipse: s-maj=22.8km s-min=20.2km az=41.0*
ISCJB ***07*** *12:41:38.1±0.4, 27°.10N±0°.03×56°.38E±0°.09, h10km, mb3.6/10, MS2.5/1, Error ellipse: s-maj=11.3km s-min=4.0km az=2.7*
TEH ***07*** *12:41:38.8, 27°.04N×56°.14E, h10km, ML3.5*
OMAN ***07*** *12:41:39.4±1.1, 27°.01N×56°.48E, h10km, ml3.7/6, Error ellipse: s-maj=39.3km s-min=7.8km az=105.0*
DSN ***07*** *12:41:40.1±0.7, 27°.01N×56°.44E, h15km, ML3.5/7, Error ellipse: s-maj=19.0km s-min=4.5km az=98.0*
ISC 07 12:41:38.4±0.6**, 27°.04N**±0°.03×**56°.38E**±0°.07**, h10km, n37, σ1s.20**/39**, mb3.5**/10**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.40**	**333**	ePg	**Pg**	**12 41 46.0**	**-0.5**
GENO				IAMB	IAmb	12 41 53.6	
	comp=Z,0.0nm,0.3s						
NIAN	**Nian**	**0.66**	**38**	ePg	**Pn**	**12 41 54.4**	**+0.5**
SHME	**Shamm**	**1.01**	**192**	eP	**Pb**	**12 41 58.2**	**+0.2**
	SNR=56						
SHME				S	**Sn**	**12 42 12.9**	**-0.1**
BANOM	**Banah**	**1.11**	**184**	eP	**Pn**	**12 42 00.0**	**-0.1**
	SNR=106						
BANOM				S	**Sn**	**12 42 15.9**	**+0.3**
BANOM	**Banah**	**1.11**	**184**	P	**Pn**	**12 42 00.3**	**+0.1**
	SNR=164						
UMQ	**Umm Al-Quwin**	**1.64**	**203**	P	**Pb**	**12 42 08.5**	**-0.2**
UMQ	**Umm Al-Quwin**	**1.64**	**203**	ePg	**Pg**	**12 42 09.8**	**-0.1**
MSFE	**Esma-Masafi**	**1.68**	**187**	eP	**Pb**	**12 42 09.0**	**-0.6**
	SNR=51						
MSFE	**Esma-Masafi**	**1.68**	**187**	ePn	**Pb**	**12 42 09.0**	**-0.6**
NAZ	**Nazwa, Dubai**	**2.14**	**198**	ePn	**Pn**	**12 42 15.8**	**+1.5**
HATD	**Hatta, Dubai**	**2.21**	**186**	ePn	**Pn**	**12 42 16.5**	**+1.2**
ASHO	**Ashiyiah**	**2.36**	**187**	eP	**Pn**	**12 42 18.7**	**+1.4**
	SNR=44						
ASHO	**Ashiyiah**	**2.36**	**187**	P	**Pn**	**12 42 18.6**	**+1.3**
	SNR=9.8						
FAQ	**Al Faqa, Dubai**	**2.39**	**197**	eP	**Pn**	**12 42 18.7**	**+1.0**
	SNR=12						
FAQ	**Al Faqa, Dubai**	**2.39**	**197**	ePn	**Pn**	**12 42 19.0**	**+1.3**
ASUD	**Al Ashush, Dub**	**2.58**	**202**	eP	**Pn**	**12 42 21.8**	**+1.5**
	SNR=6.5						
ASUD	**Al Ashush, Dub**	**2.58**	**202**	P	**Pn**	**12 42 21.8**	**+1.5**
	SNR=6.5						
ASUD	**Al Ashush, Dub**	**2.58**	**202**	ePn	**Pn**	**12 42 22.1**	**+1.8**
CHMN	**Cheshme madani**	**2.99**	**20**	ePn	**Pb**	**12 42 30.6**	**-1.5**
CHMN				IAMB	IAmb	12 43 11.3	
	comp=Z,0.0nm,0.4s						
ALNE	**Al Ain**	**3.02**	**191**	P	**Pn**	**12 42 27.3**	**+0.9**
ALNE	**Al Ain**	**3.02**	**191**	ePn	**Pn**	**12 42 27.6**	**+1.2**
KHGB	**Koh Gabri**	**3.33**	**2**	ePn	**Pn**	**12 42 33.0**	**+2.2**
KHGB				IAMB	IAmb	12 43 32.1	
	comp=Z,0.0nm,0.7s						
WSAR	**Wadi Sarin**	**4.30**	**151**	Pn	**Pn**	**12 42 45.2**	**+1.2**
	comp=Z,3.9nm,0.3s,baz=318,slow=7.2,SNR=36						
WSAR				Sn	**Sn**	**12 43 32.9**	**-1.3**
	comp=Z,5.5nm,0.3s,baz=176,slow=19,SNR=9.5						
IMEH	**Mehriz**	**4.60**	**341**	ePn	**Pn**	**12 42 50.7**	**+2.4**
IMEH				IAMB	IAmb	12 44 34.6	
	comp=Z,471nm,0.5s						
IRAM	**Ramesheh**	**5.89**	**325**	ePn	**Pn**	**12 43 06.6**	**+0.6**
IRAM				IAMB	IAmb	12 44 27.6	
	comp=Z,209nm,0.4s						
ANAR	**Anarak**	**6.54**	**340**	ePn	**Pn**	**12 43 15.5**	**+0.6**
ATD	**Arta Tunnel**	**20.00**	**222**	LR	LR	12 54 52.9	
	comp=Z,22nm,20.2s,baz=119,slow=40						
AAK	**Ala-Archa**	**21.45**	**39**	P	**P**	**12 46 28.1**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=187,slow=8.1,SNR=3.2						
BRTR	**Keskin Array B**	**22.74**	**310**	P	**P**	**12 46 39.1**	**-1.7**
	comp=Z,0.7nm,0.5s,baz=137,slow=14,SNR=4.3						
MKAR	**Makanchi Array**	**28.39**	**39**	P	**P**	**12 47 33.8**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=222,slow=9.1,SNR=6.4						
ZALV	**Zalesovo Beam**	**34.08**	**30**	P	**P**	**12 48 23.4**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=224,slow=8.3,SNR=4.2						
FINES	**FINESS Array B**	**39.95**	**338**	P	**P**	**12 49 12.1**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=140,slow=9.5,SNR=8.5						
SONM	**Songino Array**	**43.92**	**48**	P	**P**	**12 49 46.9**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=264,slow=7.2,SNR=2.9						
TORD	**Torodi Ar. Bea**	**52.81**	**266**	P	**P**	**12 50 52.0**	**-2.4**
	comp=Z,1.1nm,0.5s,baz=70,slow=7.4,SNR=9.1						
WRA	**Warramunga Arr**	**88.76**	**113**	P	**P**	**12 54 32.8**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=313,slow=4.0,SNR=4.9						
ASAR	**Alice Springs**	**90.22**	**116**	P	**P**	**12 54 39.3**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=308,slow=4.5,SNR=5.4						
YKA	**Yellowknife Ar**	**90.49**	**356**	P	**P**	**12 54 40.9**	**+0.7**
	comp=Z,0.2nm,0.9s,baz=8.2,slow=5.0,SNR=4.2						

MAN 07 12:42:41.2, 5°.93N×125°.91E, h120km, mb4.1, ML2.9, MS2.6, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.26**	**310**	eP	Pn	12 42 58.9	+0.9
DDMP				eS	Sn	12 43 15.3	+4.6
GSPH	**General Santos**	**0.97**	**279**	⇓iP	Pn	12 43 06.1	+3.0
GSPH				i S	Sn	12 43 24.6	+5.0
MATI	**Mati**	**1.06**	**19**	eP	Pn	12 43 04.5	+0.6
MATI				eS	Sn	12 43 22.0	+0.9
SKMP	**Bagumbayan, Su**	**1.48**	**293**	eP	Pn	12 43 08.7	+0.3
SKMP				eS	Sn	12 43 30.8	+1.6
BUKP	**Musuan**	**2.11**	**336**	eP	Pn	12 43 17.3	+1.1
BUKP				eS	Sn	12 43 43.3	+0.4

TEH ***07*** *12:42:55.8, 33°.38N×56°.98E, h10km, ML3.1*
THR ***07*** *12:42:56.1, 33°.43N×57°.04E, h14km, ML2.9*
ISCJB ***07*** *12:42:57.7±0.6, 33°.42N±0°.06×56°.98E±0°.06, h16km, Error ellipse: s-maj=8.3km s-min=7.4km az=23.2*
ISC 07 12:42:56.7±1.0**, 33°.38N**±0°.04×**56°.99E**±0°.04**, h16km, n16, σ1s.83**/16**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKDS	**Koohdasht(Taba**	**0.26**	**25**	ePg	**Pg**	**12 43 00.6**	**-2.0**
TKDS				IAMB	IAmb	12 43 06.8	
	comp=Z,0.0nm,0.3s						
TABS	**Tabas**	**0.29**	**22**	ePg	**Pg**	**12 43 01.2**	**-1.9**
TPRV	**Parvadeh(Tabas**	**0.43**	**216**	IAMB	IAmb	12 43 17.2	
	comp=Z,0.0nm,0.2s						
TPRV				ePg	**Pg**	**12 43 04.7**	**-0.8**
TNSJ	**Nastanj**	**0.67**	**332**	IAMB	IAmb	12 43 36.1	
	comp=Z,0.0nm,0.3s						
TNSJ				ePg	**Pb**	**12 43 09.5**	**-0.6**
ITEG	**Tejag**	**1.55**	**107**	ePn	**Pb**	**12 43 25.3**	**+0.1**
ITEG				IAMB	IAmb	12 43 54.4	
	comp=N,8μm,0.3s						
IKOO	**Kooshah**	**1.94**	**119**	ePn	**Pb**	**12 43 31.2**	**-0.7**
IKOO				IAMB	IAmb	12 44 02.7	
	comp=Z,2μm,0.3s						
YZKH	**Yazd**	**2.24**	**245**	eAML	AML	12 44 11.5	
	comp=N,63nm,0.5s						
YZKH				eAML	AML	12 44 19.9	
	comp=E,91nm,0.6s						
YZKH	**Yazd**	**2.24**	**245**	ePn	**Pb**	**12 43 36.0**	**-1.0**
YZKH				eSg	**Sg**	**12 44 08.5**	**-0.4**
IDAH	**Dahanechah**	**2.50**	**104**	ePn	**Pb**	**12 43 39.3**	**-2.1**
IDAH				IAMB	IAmb	12 44 32.2	
	comp=N,884nm,0.4s						
SHRO	**Shahrood**	**2.73**	**343**	ePn	**Pn**	**12 43 41.5**	**+1.5**
SBZV	**Sabzevar**	**3.05**	**9**	ePn	**Pn**	**12 43 46.4**	**+1.9**
SBZV				IAMB	IAmb	12 44 46.3	
	comp=Z,0.0nm,0.8s						
IANJ	**Anjilo**	**3.29**	**310**	ePn	**Pn**	**12 43 49.5**	**+1.7**
IANJ				IAMB	IAmb	12 44 51.5	
	comp=Z,500nm,0.5s						
IKRD	**Kardeh**	**3.62**	**20**	ePn	**Pb**	**12 44 00.3**	**-0.2**
IKRD				IAMB	IAmb	12 44 01.2	
	comp=Z,178nm,0.2s						
JRKH	**Jarkhoshk**	**3.75**	**47**	ePn	**Pn**	**12 43 56.7**	**+2.6**
JRKH				IAMB	IAmb	12 43 57.8	
	comp=Z,0.0nm,0.1s						
IMYA	**Miami**	**3.91**	**40**	ePn	**Pn**	**12 43 59.4**	**+3.1**
IMYA				IAMB	IAmb	12 44 10.8	
	comp=Z,116nm,0.4s						
IFIR	**Firoozkooh**	**4.16**	**304**	ePn	**Pn**	**12 44 01.8**	**+1.9**
IFIR				IAMB	IAmb	12 44 23.1	
	comp=Z,268nm,0.3s						

NEIC ***07*** *12:55:50.7±0.0, 16°.69N×96°.24W, h5km, MD4.1(MEX), After MEX.*
MEX 07 12:55:51.5±0.8**, 16°.69N**×**96°.24W, h46km**±12km**, MD4.1, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.61**	**309**	eP	Pn	12 56 02.5	-1.6
VHO				eS	Sn	12 56 11.2	-2.0
VHO	**Vista Hermosa**	**0.61**	**309**	eP	Pn	12 56 02.5	-1.6
VHO				eS	Sn	12 56 11.2	-2.0
HUIG	**Huatulco**	**0.92**	**172**	eP	Pn	12 56 07.1	-1.1
HUIG				eS	Sn	12 56 18.6	-1.7
HUIG	**Huatulco**	**0.92**	**172**	eP	Pn	12 56 07.1	-1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HUIG				eS	Sn	12 56 18.6	-1.7
CMIG	**Matias Romero**	**1.36**	**73**	eP	Pn	12 56 11.8	-2.2
CMIG				i S	Sn	12 56 28.9	-2.0
CMIG	**Matias Romero**	**1.36**	**73**	eP	Pn	12 56 11.8	-2.2
CMIG				i S	Sn	12 56 28.9	-2.0
PNIG	**Pinotepa**	**1.83**	**261**	eP	Pn	12 56 17.7	-2.9
PNIG	**Pinotepa**	**1.83**	**261**	i P	Pn	12 56 17.8	-2.8
PNIG				i S	Sn	12 56 40.4	-2.3
TLIG	**Tlapa**	**2.39**	**292**	eP	Pn	12 56 26.7	-1.6
TLIG				i S	Sn	12 57 04.2	+7.7
TLIG	**Tlapa**	**2.39**	**292**	eP	Pn	12 56 26.7	-1.6
TLIG				i S	Sn	12 56 54.6	-1.9

IDC 07 13:01:16.1±5.1**, 21°.71N×145°.49E, h43**km±47km**, mb3.0**/4**, mb1 3.3**/5**, mb1mx3.1**/42**, mbtmp3.4**/5**, ML3.7**/1**, Error ellipse: s-maj=50.5km s-min=21.6km az=91.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**6.15**	**331**	P	Pn	13 02 45.8	+1.3
	1.9nm,0.3s,baz=311,slow=20,SNR=2.5						
JCJ				S	Sn	13 03 53.0	-0.6
	3.8nm,0.3s,baz=294,slow=19,SNR=4.0						
WRA	**Warramunga Arr**	**42.81**	**196**	P	P	13 09 09.4	-0.5
	0.7nm,0.8s,baz=17,slow=8.6,SNR=5.3						
ASAR	**Alice Springs**	**46.49**	**195**	P	P	13 09 39.0	-0.3
	0.2nm,0.7s,baz=9.7,slow=8.0,SNR=4.5						
MKAR	**Makanchi Array**	**56.27**	**312**	P	P	13 10 52.7	+0.4
	0.2nm,0.5s,baz=86,slow=7.6,SNR=3.2						
YKA	**Yellowknife Ar**	**75.44**	**28**	P	P	13 12 55.1	-0.1
	0.1nm,0.5s,baz=288,slow=5.8,SNR=2.9						

*IDC **07** 13:18:16.9±1.0, 32°.94N×48°.71E, h0km, mb3.7/11, mb1 3.9/12, mb1mx3.6/35, mbtmp3.7/12, ML3.9/1, Error ellipse: s-maj=26.2km s-min=20.6km az=3.0*
*TEH **07** 13:18:18.4, 33°.09N×48°.78E, h5km, ML3.7*
*ISCJB **07** 13:18:19.9±0.5, 33°.04N±0°.05×48°.66E±0°.05, h19km, mb3.6/11, Error ellipse: s-maj=7.1km s-min=4.8km az=31.3*
*THR **07** 13:18:19.8, 33°.08N×49°.00E, h14km, ML3.6*
ISC 07 13:18:20.0±0.7**, 33°.00N**±0°.05×**48°.66E**±0°.05**, h19**km**, n46, σ1§57**/45**, mb3.7**/10**, Western Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IKMR	**Kamar-syah**	**0.57**	**335**	ePg	**Pb**	**13 18 29.6**	**-1.7**
IKMR				IAMB	IAmb	13 18 41.7	
	comp=Z,0.0nm,0.1s						
IKFM	**Kafar-mosalman**	**0.86**	**308**	ePg	**Pn**	**13 18 36.5**	**-0.6**
IKFM				IAMB	IAmb	13 18 53.9	
	comp=Z,0.0nm,0.2s						
SHGR	**Shooshtar-Gavs**	**0.89**	**173**	eAML	AML	13 18 58.3	
	comp=N,2µm,0.4s						
SHGR				ePg	**Pn**	**13 18 38.1**	**+0.6**
SHGR				eAML	AML	13 19 01.9	
	comp=E,1µm,0.4s						
HSAM	**Samen**	**1.21**	**358**	ePg	**Pn**	**13 18 40.1**	**-2.1**
HSAM				IAMB	IAmb	13 18 58.0	
	comp=Z,0.0nm,0.3s						
KHMZ	**Khomeyn**	**1.31**	**55**	ePg	Pn	13 18 39.4	-4.1
KHMZ	**Khomeyn**	**1.31**	**55**	ePg	Pn	13 18 39.4	-4.1
IKOM	**Komasi**	**1.52**	**321**	ePn	**Pb**	**13 18 47.8**	**+0.1**
IKOM				eSg	**Sg**	**13 19 13.5**	**+4.3**
IKOM				IAMB	IAmb	13 19 17.8	
	comp=Z,0.0nm,0.4s						
HAGD	**Aghdareh**	**1.86**	**12**	ePn	**Pn**	**13 18 50.1**	**-1.0**
HAGD				IAMB	IAmb	13 19 20.3	
	comp=Z,0.0nm,0.5s						
IPIR	**Pirpir**	**1.90**	**99**	ePn	**Pn**	**13 18 53.5**	**+1.8**
IPIR				IAMB	IAmb	13 19 22.4	
	comp=Z,8µm,0.7s						
ASAO	**Ashtian**	**1.92**	**36**	ePg	**Pn**	**13 18 50.7**	**-1.2**
ZNGN	**Zangian**	**2.05**	**115**	ePn	**Pn**	**13 18 54.4**	**+0.7**
ZNGN				IAMB	IAmb	13 19 28.8	
	comp=Z,0.0nm,0.6s						
ROKH	**ROKH**	**2.10**	**107**	ePn	**Pn**	**13 18 56.1**	**+1.7**
ROKH				IAMB	IAmb	13 19 31.4	
	comp=Z,0.0nm,1.0s						
IVIS	**Veis**	**2.15**	**316**	ePn	**Pb**	**13 18 58.3**	**0.0**
IVIS				IAMB	IAmb	13 19 38.1	
	comp=Z,3µm,0.4s						
SNGE	**Sanandaj**	**2.36**	**333**	ePn	**Pb**	**13 19 01.6**	**-0.4**
SNGE	**Sanandaj**	**2.36**	**333**	ePn	**Pb**	**13 19 01.6**	**-0.4**
SNGE				eSg	**Sg**	**13 19 35.9**	**0.0**
HKZM	**Kohzaman**	**2.38**	**5**	ePn	**Pn**	**13 18 59.7**	**+1.4**
HKZM				IAMB	IAmb	13 19 06.8	
	comp=Z,0.0nm,0.4s						
IKLH	**Kolahrood**	**2.47**	**82**	ePn	**Pn**	**13 19 00.7**	**+1.3**
IKLH				IAMB	IAmb	13 19 41.6	
	comp=Z,5µm,0.8s						
IRAZ	**Razeghan**	**2.62**	**23**	IAMB	IAmb	13 19 10.0	
	comp=Z,7µm,0.5s						
IRAZ				ePn	**Pn**	**13 19 04.4**	**+2.9**
IGAR	**Gharneh**	**2.91**	**101**	IAMB	IAmb	13 19 14.9	
	comp=Z,2µm,0.2s						
IGAR				ePn	**Pn**	**13 19 06.4**	**+0.9**
KRSH	**Karshahi**	**3.06**	**71**	IAMB	IAmb	13 19 57.7	
	comp=Z,0.0nm,0.6s						
KRSH				ePn	**Pn**	**13 19 08.2**	**+0.7**
IZEF	**Zefreh**	**3.08**	**91**	IAMB	IAmb	13 19 19.0	
	comp=Z,2µm,0.6s						
IZEF				ePn	**Pn**	**13 19 08.3**	**+0.4**
IMHD	**Mahdasht**	**3.15**	**31**	ePn	**Pn**	**13 19 10.1**	**+1.4**
IMHD				IAMB	IAmb	13 19 58.9	
	comp=Z,2µm,0.5s						
IRAM	**Ramesheh**	**3.36**	**110**	ePn	**Pn**	**13 19 12.5**	**+0.8**
IRAM				IAMB	IAmb	13 20 15.5	
	comp=Z,1µm,0.7s						
IDMV	**Damavand**	**3.79**	**46**	ePn	**Pn**	**13 19 18.5**	**+0.8**
IDMV				IAMB	IAmb	13 19 32.8	
	comp=Z,1µm,0.6s						
ANAR	**Anarak**	**4.25**	**86**	ePn	**Pn**	**13 19 25.1**	**+1.2**
ILAS	**Lasjerd**	**4.28**	**55**	ePn	**Pn**	**13 19 25.1**	**+0.7**
ILAS				IAMB	IAmb	13 19 45.7	
	comp=Z,706nm,0.5s						
IFIR	**Firoozkooh**	**4.29**	**51**	ePn	**Pn**	**13 19 25.5**	**+1.0**
IFIR				IAMB	IAmb	13 20 49.9	
	comp=E,1µm,0.7s						
IPRN	**Peran**	**4.43**	**42**	ePn	**Pn**	**13 19 28.5**	**+2.2**
IPRN				IAMB	IAmb	13 19 44.5	
	comp=Z,1µm,0.6s						
IALA	**Alasht**	**4.60**	**47**	ePn	**Pn**	**13 19 30.1**	**+1.3**
IALA				IAMB	IAmb	13 19 52.6	
	comp=Z,936nm,0.3s						
ISHM	**Shahmirzad**	**4.74**	**52**	ePn	**Pn**	**13 19 32.6**	**+1.9**
ISHM				IAMB	IAmb	13 19 46.5	
	comp=Z,2µm,0.7s						
ICHK	**Chekchek**	**4.90**	**97**	ePn	**Pn**	**13 19 35.8**	**+2.9**
ICHK				IAMB	IAmb	13 20 01.1	
	comp=Z,464nm,0.5s						
IBST	**Bostanabad**	**4.91**	**343**	ePn	**Pn**	**13 19 35.0**	**+2.0**
IBST				IAMB	IAmb	13 19 54.2	
	comp=Z,220nm,0.4s						
IANJ	**Anjilo**	**5.00**	**59**	ePn	**Pn**	**13 19 34.1**	**-0.1**
IANJ				IAMB	IAmb	13 19 56.1	
	comp=Z,496nm,0.7s						
WSAR	**Wadi Sarin**	**13.10**	**135**	Pn	**Pn**	**13 21 22.5**	**-2.6**
	comp=Z,0.6nm,0.3s,baz=330,slow=14,SNR=5.6						
IDI	**Anoyia**	**19.80**	**283**	P	**Pn**	**13 22 52.5**	**+1.5**
	comp=Z,3.8nm,0.3s,baz=102,slow=6.8,SNR=22						
MLR	**Muntele Rosu**	**21.48**	**312**	P	**P**	**13 23 09.7**	**+2.1**
	comp=Z,2.9nm,0.9s,baz=172,slow=14,SNR=3.2						
KURBB	**Kurchatov Arra**	**28.11**	**42**	P	**P**	**13 24 10.7**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=250,slow=9.4,SNR=3.1						
MKAR	**Makanchi Array**	**29.00**	**52**	P	**P**	**13 24 19.0**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=246,slow=8.6,SNR=9.8						
FINES	**FINESS Array B**	**31.99**	**340**	P	**P**	**13 24 44.2**	**-0.4**
	comp=Z,1.2nm,0.9s,baz=190,slow=7.7,SNR=3.5						
ZALV	**Zalesovo Beam**	**33.04**	**40**	P	**P**	**13 24 55.5**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=235,slow=8.3,SNR=3.0						
NOA	**NORSAR Array B**	**37.04**	**331**	P	**P**	**13 25 27.5**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=122,slow=8.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**47.07**	**257**	P	**P**	**13 26 51.6**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=67,slow=7.1,SNR=16						
ILAR	**Eielson Array**	**81.79**	**7**	P	**P**	**13 30 36.7**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=269,slow=2.4,SNR=5.0						
YKA	**Yellowknife Ar**	**83.89**	**352**	P	**P**	**13 30 47.1**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=12,slow=5.4,SNR=7.7						
WRA	**Warramunga Arr**	**97.13**	**109**	P	Pdif	13 31 51.8	+0.3
	comp=Z,0.2nm,0.8s,baz=320,slow=4.0,SNR=3.0						
ASAR	**Alice Springs**	**98.77**	**112**	P	**P**	**13 31 56.4**	**-2.3**

comp=Z,0.1nm,0.4s,baz=307,slow=4.9,SNR=3.3

*NIED **07** 13:27:00, 40°.90N×145°.10E, h8km, Mw3.6 Best double couple: M0 3.12000×10^14 NP1:φs150.00000°, δ24.00000°, λ-111.00000°. NP2:φs353.00000°, δ68.00000°, λ-81.00000°.*
JMA 07 13:27:41.4±0.2**, 40°.93N×145°.09E, h65**km±2km**, M3.6, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.81**	**307**	P	Pn	13 28 11.1	+0.7
JEM				eS	Sn	13 28 31.1	-1.3
JTHR	**Tokachihiroo**	**1.91**	**316**	P	Pn	13 28 12.6	+0.9
JTHR				S	Sn	13 28 33.7	-1.0
JAK	**Akkeshi**	**2.08**	**352**	P	Pn	13 28 14.7	+0.6
JAK				eS	Sn	13 28 38.4	-0.6
JCH	**Churui**	**2.12**	**323**	P	Pn	13 28 15.5	+0.9
JCH				S	Sn	13 28 39.0	-0.9
JKHN	**Kushirohamanak**	**2.15**	**1**	P	Pn	13 28 16.0	+1.0
JKHN				S	Sn	13 28 40.8	+0.2
JOB	**Onbets**	**2.18**	**335**	P	Pn	13 28 16.5	+1.1
JOB				eS	Sn	13 28 41.9	+0.6
JNBK	**Urakawa-nobuka**	**2.21**	**308**	P	Pn	13 28 17.3	+1.5
JNBK				S	Sn	13 28 42.8	+0.8
NEM2	**Nemuro 2**	**2.48**	**11**	P	Pn	13 28 20.2	+0.8
NEM2				S	Sn	13 28 48.3	-0.3
JAR	**Ashorobuto**	**2.56**	**338**	P	Pn	13 28 21.1	+0.6
JAR				eS	Sn	13 28 50.1	-0.5
JNK	**Nakash**	**2.67**	**354**	P	Pn	13 28 22.2	+0.2
JNK				eS	Sn	13 28 51.4	-1.8
JBT2	**Biratori 2**	**2.75**	**313**	eS	Sn	13 28 56.9	+1.8
JANG	**Nango**	**2.78**	**260**	P	Pn	13 28 23.1	-0.4
JFR	**Furan**	**2.91**	**321**	P	Pn	13 28 22.7	-2.5
JFR				S	Sn	13 28 57.8	-1.2
JIAM	**Iburiatsuma**	**2.91**	**307**	eS	Sn	13 29 01.6	+2.5
JTM	**Tenmabayashi**	**3.05**	**269**	P	Pn	13 28 28.0	+0.8
JTM				eS	Sn	13 29 00.2	-2.4
JOT	**Ohata**	**3.08**	**280**	P	Pn	13 28 28.4	+0.7
JOT				S	Sn	13 29 01.1	-2.2
JTKR	**Abashiri--Toko**	**3.16**	**344**	P	Pn	13 28 30.4	+1.7
JTKR				eS	Sn	13 29 05.5	+0.3
JKB	**Kayabe**	**3.20**	**289**	P	Pn	13 28 30.4	+1.2
JKB				S	Sn	13 29 04.9	-1.2
JOM	**Ohasama**	**3.25**	**245**	P	Pn	13 28 30.4	+0.4
JOM				eS	Sn	13 29 05.8	-1.7
JEW	**Eniwo**	**3.32**	**306**	P	Pn	13 28 33.4	+2.5
JEW				S	Sn	13 29 10.0	+0.9
JKK2	**Kamakawa 2**	**3.41**	**330**	P	Pn	13 28 33.6	+1.4
JKK2				eS	Sn	13 29 14.0	+2.6

*ISCJB **07** 13:37:29.3±1.4, 34°.72S±0°.09×178°.9W±0°.2, h33km, mb4.1/4, MS4.1/1, Error ellipse: s-maj=28.8km s-min=7.6km az=20.7*
*WEL **07** 13:37:30.5±1.4, 35°S±36°×17°9W±3°6, h5km, ML4.7/9*
*IDC **07** 13:37:36.9±2.8, 34°.67S×179°.52E, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.8/29, mbtmp4.0/3, ML3.6/1, MS4.0/1, Ms1 4.0/1, ms1mx2.9/23, Error ellipse: s-maj=61.1km s-min=44.1km az=113.0*
*NEIC **07** 13:37:39.2±1.2, 34°.81S×179°.91E, h35km, mb4.3/2, Error ellipse: s-maj=34.6km s-min=13.1km az=111.0*
ISC 07 13:37:33.2±2.2**, 34°.8S**±0°.2×**179°.0W**±0°.3**, h35**km**, n23, σ1§85**/29**, mb3.9**/4**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.51**	**218**	ePn	**Pn**	**13 38 24.6**	**-0.8**
MXZ	**Matakaoa Point**	**3.51**	**218**	P	**Pn**	**13 38 24.9**	**-0.4**
MXZ				S	**Sn**	**13 39 06.2**	**+0.6**
WMGZ	**Waiomatatini S**	**3.66**	**214**	P	**Pn**	**13 38 27.4**	**0.0**
WMGZ				S	**Sn**	**13 39 12.5**	**+3.1**
PKGZ	**Pakihiroa**	**3.88**	**217**	P	**Pn**	**13 38 30.3**	**-0.1**
PKGZ				S	**Sn**	**13 39 16.8**	**+2.0**
HAZ	**Te Kaha**	**3.93**	**221**	P	**Pn**	**13 38 31.0**	**-0.1**
HAZ				S	**Sn**	**13 39 19.8**	**+3.8**
PUZ	**Puketiti**	**3.94**	**214**	P	**Pn**	**13 38 29.7**	**-1.5**
PUZ				S	**Sn**	**13 39 16.2**	**-0.1**
RUGZ	**Raukumara Rang**	**4.14**	**220**	P	**Pn**	**13 38 33.7**	**-0.4**
TWGZ	**Tauwhareparae**	**4.15**	**215**	P	**Pn**	**13 38 33.9**	**-0.3**
TWGZ				S	**Sn**	**13 39 22.7**	**+1.1**
CNGZ	**Carnagh Statio**	**4.30**	**211**	P	**Pn**	**13 38 35.8**	**-0.4**
TKGZ	**Te Karaka**	**4.43**	**214**	P	**Pn**	**13 38 37.2**	**-0.7**
MWZ	**Matawai**	**4.50**	**218**	P	**Pn**	**13 38 38.0**	**-0.9**
MWZ				S	**Sn**	**13 39 30.6**	**+0.6**
URZ	**Urewera**	**4.66**	**221**	Pn	**Pn**	**13 38 39.9**	**-1.2**
	3.4nm,0.3s,baz=286,slow=2.6,SNR=35						
URZ				Sn	**Sn**	**13 39 34.1**	**+0.1**
	4.1nm,0.3s,baz=36,slow=23,SNR=7.2						
RIGZ	**Rimuhau**	**4.68**	**213**	P	**Pn**	**13 38 40.7**	**-0.8**
RAO	**Raoul Island**	**5.62**	**10**	ePn	Pn	13 39 00.9	+6.6
BKZ	**Black Stump Fm**	**5.66**	**219**	ePn	**Pn**	**13 38 52.2**	**-2.6**
BFZ	**Birch Farm**	**6.97**	**211**	ePn	**Pn**	**13 39 08.8**	**-4.0**
AS31	**Alice Springs**	**42.25**	**272**	eP	**P**	**13 45 21.3**	**-2.0**
	4.1nm,1.9s						
ASAR	**Alice Springs**	**42.25**	**272**	P	**P**	**13 45 21.9**	**-1.4**
	1.5nm,0.6s,baz=114,slow=7.8,SNR=36						
WR1	**Warramunga Arr**	**43.64**	**277**	eP	**P**	**13 45 33.1**	**-1.5**
	41nm,1.9s						
WRA	**Warramunga Arr**	**43.64**	**277**	P	**P**	**13 45 33.1**	**-1.5**
	1.6nm,0.6s,baz=117,slow=7.7,SNR=22						
GUMO	**Guam**	**59.12**	**318**	LR	LR	14 08 35.7	
	comp=Z,152nm,21.5s,baz=315,slow=32						
FIA0	**FINESS Array S**	**148.94**	**337**	ePKPbc	**PKPab**	**13 57 23.7**	**+3.1**
FINES	**FINESS Array B**	**148.94**	**337**	PKPbc	**PKPab**	**13 57 23.7**	**+3.1**
	1.1nm,0.8s,baz=27,slow=6.4,SNR=3.4						

*IDC **07** 13:47:56.1±1.1, 14°.18N×146°.96E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.6/40, mbtmp3.7/8, ML3.8/1, Error ellipse: s-maj=31.4km s-min=20.1km az=107.0*
*ISCJB **07** 13:47:59.0±0.9, 14°.2N±0°.1×147°.0E±0°.1, h33km, mb3.8/7, Error ellipse: s-maj=20.4km s-min=11.5km az=148.7*
ISC 07 13:48:01.2±1.1**, 14°.2N**±0°.2×**147°.0E**±0°.1**, h35**km**, n9, σ0§66**/10**, mb3.8**/7**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.11**	**255**	Pn	**Pn**	**13 48 33.6**	**-0.5**
	28nm,0.3s,baz=79,slow=2.7,SNR=9.7						
GUMO				Sn	**Sn**	**13 48 59.8**	**+0.6**
	39nm,0.3s,baz=331,slow=23,SNR=5.8						
WRA	**Warramunga Arr**	**36.09**	**200**	P	**P**	**13 54 60.0**	**+0.1**
	0.9nm,0.8s,baz=22,slow=9.4,SNR=4.2						
ASAR	**Alice Springs**	**39.70**	**199**	P	**P**	**13 55 30.2**	**-0.2**
	0.3nm,0.9s,baz=22,slow=10,SNR=2.8						
SONM	**Songino Array**	**47.47**	**324**	P	**P**	**13 56 33.1**	**+0.3**
	0.4nm,0.6s,baz=129,slow=7.6,SNR=4.0						
ZALV	**Zalesovo Beam**	**62.36**	**324**	P	**P**	**13 58 19.3**	**-0.9**
	0.9nm,0.6s,baz=100,slow=5.9,SNR=5.7						
MKAR	**Makanchi Array**	**62.51**	**316**	P	**P**	**13 58 21.9**	**+0.5**
	0.5nm,0.5s,baz=88,slow=8.7,SNR=7.4						
ILAR	**Eielson Array**	**67.19**	**25**	P	**P**	**13 58 52.0**	**+0.5**
	0.6nm,1.0s,baz=258,slow=5.4,SNR=4.6						
FINES	**FINESS Array B**	**91.50**	**336**	P	**P**	**14 01 03.3**	**-0.7**
	1.0nm,0.6s,baz=57,slow=7.0,SNR=5.1						
DBIC	**Dimbokro**	**145.22**	**305**	PKPbc	**PKPdf**	**14 07 37.0**	**+0.7**
	1.0nm,0.5s,baz=353,slow=2.9,SNR=3.5						

*NIED **07** 13:53:00, 37°.90N×142°.50E, h32km, Mw4.7 Best double couple: M0 1.28000×10^16 NP1:φs263.00000°, δ39.00000°, λ53.00000°. NP2:φs126.00000°, δ59.00000°, λ116.00000°.*
*BJI **07** 13:53:45.9, 37°.76N×142°.70E, h47km, mb4.8/67, mB5.0/43, Ms4.3/59, Ms7 4.1/54*
*ISCJB **07** 13:53:47.5±0.4, 37°.85N±0°.02×142°.43E±0°.02, h40km±3km, mb4.9/283, MS4.1/31, Error ellipse: s-maj=4.0km s-min=2.9km az=152.6*
*JMA **07** 13:53:47.6±0.1, 37°.86N×142°.45E, h41km±2km, M4.9*
JMA Felt III J1.
*MOS **07** 13:53:48.0±0.9, 38°.14N×142°.40E, h34km, mb5.1/90, Error ellipse: s-maj=5.9km s-min=3.8km az=98.6*
*IDC **07** 13:53:48.3±3.2, 37°.87N×142°.46E, h33km±24km, mb4.5/27, mb1 4.7/35, mb1mx4.7/47, mbtmp4.7/35, ML4.2/7, MS3.9/24, Ms1 3.9/24, ms1mx3.8/35, Error ellipse: s-maj=13.5km s-min=9.6km az=106.0*
*NEIC **07** 13:53:49.5±0.4, 37°.83N×142°.37E, h47km±3km, mb4.9/197, Error ellipse: s-maj=3.3km s-min=2.3km az=145.0*
NEIC Felt at Fukushima, Ishinomaki and Sendai. Recorded [3 JMA] in Miyagi.
*GCMT **07** 13:53:49.5±0.4, 37°.82N±0°.02×142°.45E±0°.03, h35km±1km, MW4.9/61, Moment Tensor Solution. s27,c32; s61,c78; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr2.42±.17; Mθθ-2.44±.10; Mφφ0.01±.10; Mrθ0.33±.11; Mθφ0.06±.07; Mφr-0.95±.11; Best double couple: M0 2.61900×10^16 NP1:φs110.00000°, δ52.00000°, λ114.00000°. NP2: φs254.00000°, δ44.00000°, λ62.00000°. Principal axes: T 2.7700, Plg71.0000°, Azm80.0000°; N -0.3040, Plg19.0000°, Azm275.0000°; P -2.4690, Plg4.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 13:53:47.3±0.5**, 37°.90N**±0°.04×**142°.52E**±0°.03**, h29**km±3km**, h29**km**:pP-P, n633, σ1§32**/671**, mb4.9**/302**, MS4.1**/33**, 44C-38D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.93**	**297**	P	**Pn**	**13 54 04.0**	**-0.3**
JIKH				S	**Sb**	**13 54 15.6**	**-1.2**
JIO	**Ouri**	**1.08**	**301**	⇓P	**Pn**	**13 54 06.5**	**+0.1**
JIO				S	**Sn**	**13 54 19.6**	**-0.7**
JKMT	**Kesennumamotoy**	**1.23**	**318**	P	**Pn**	**13 54 08.7**	**+0.3**
JKMT				S	**Sn**	**13 54 23.8**	**-0.2**
JMM	**Marumori**	**1.37**	**269**	⇓P	**Pn**	**13 54 10.0**	**-0.4**
JMM				S	**Sn**	**13 54 26.0**	**-1.5**
JFK	**Kawauchi**	**1.41**	**248**	⇓P	**Pn**	**13 54 10.2**	**-0.8**
JFK				S	**Sn**	**13 54 26.5**	**-2.1**
JMK	**Ichinoseki**	**1.47**	**316**	⇓P	**Pn**	**13 54 12.2**	**+0.5**
JMK				eS	**Sn**	**13 54 30.4**	**+0.5**
JOU	**Okura**	**1.54**	**288**	⇓P	**Pn**	**13 54 13.2**	**+0.5**
JOU				S	**Sn**	**13 54 32.1**	**+0.4**
JFT	**Otama**	**1.77**	**258**	⇓P	**Pn**	**13 54 16.5**	**+0.5**
JFT				S	**Sn**	**13 54 37.0**	**-0.5**
JOM	**Ohasama**	**1.84**	**329**	⇓P	**Pn**	**13 54 17.7**	**+0.8**
JOM				eS	**Sn**	**13 54 40.3**	**+1.0**
JYS	**Shirataka**	**1.96**	**280**	⇓P	**Pn**	**13 54 19.1**	**+0.5**
JYS				eS	**Sn**	**13 54 43.2**	**+0.9**
JYK	**Kaneyama**	**1.98**	**302**	⇓P	**Pn**	**13 54 19.6**	**+0.8**
JYK				eS	**Sn**	**13 54 43.6**	**+1.0**
JNS	**Sasagawa**	**2.54**	**269**	⇓P	**Pn**	**13 54 27.2**	**+0.8**
JNS				eS	**Sn**	**13 54 56.7**	**+0.4**
JANG	**Nango**	**2.59**	**343**	⇓P	**Pn**	**13 54 27.3**	**+0.1**
JAW	**Awa shima**	**2.64**	**283**	⇓P	**Pn**	**13 54 29.0**	**+1.2**
JAG	**Ashikaga**	**2.86**	**240**	P	**Pn**	**13 54 30.9**	**0.0**
MJAR	**Matsushiro Arr**	**3.70**	**250**	Pn	**Pn**	**13 54 43.1**	**+0.6**
	25nm,0.3s,baz=73,slow=11,SNR=186						
MJAR				Sn	**Sn**	**13 55 27.7**	**+2.7**
	5.1nm,0.3s,baz=70,slow=16,SNR=2.8						
MJAR				LR	LR	13 56 24.5	
	comp=Z,3µm,19.8s,baz=85,slow=43						
MAJO	**Matsushiro**	**3.70**	**250**	ePn	**Pn**	**13 54 43.8**	**+1.4**
MAJO	**Matsushiro**	**3.70**	**250**	eP	**Pn**	**13 54 43.8**	**+1.4**
MAT	**Matsushiro**	**3.70**	**250**	P	**Pn**	**13 54 43.9**	**+1.4**
MAT				eS	**Sn**	**13 55 28.0**	**+2.9**
MJB9	**Matsu-Tunnel**	**3.70**	**250**	ePn	**Pn**	**13 54 43.7**	**+1.3**
ERM	**Erimo**	**4.14**	**7**	ePn	**Pn**	**13 54 48.5**	**0.0**
ERM	**Erimo**	**4.14**	**7**	d iP	**Pn**	**13 54 48.3**	**-0.2**
ERM				pmax	pmax		
	comp=Z,168nm,1.0s						
INU	**Inuyama**	**5.11**	**242**	ePn	**Pn**	**13 55 02.4**	**+0.6**
JHJ2	**Mitsune**	**5.26**	**206**	ePn	**Pn**	**13 55 01.7**	**-2.2**
JHJ	**Hachijo jima 2**	**5.26**	**206**	Pn	**Pn**	**13 55 02.8**	**-1.2**
	comp=Z,445nm,0.3s,baz=333,slow=17,SNR=151						
JHJ				Sn	**Sn**	**13 55 59.1**	**-4.5**
	comp=Z,624nm,0.3s,baz=73,slow=23,SNR=8.5						
JHJ				LR	LR	13 56 26.4	
	comp=Z,329nm,20.0s,baz=65,slow=30						
ASAJ	**Asahikawa**	**6.21**	**1**	Pn	**Pn**	**13 55 17.7**	**+0.8**
	comp=Z,20nm,0.3s,baz=207,slow=16,SNR=137						
ASAJ				Sn	**Sn**	**13 56 26.4**	**-0.6**
	comp=Z,9.5nm,0.3s,baz=326,slow=32,SNR=3.9						
ASAJ	**Asahikawa**	**6.21**	**1**	ePn	**Pn**	**13 55 17.3**	**+0.4**
ASAJ				Sn	**Sn**	**13 56 26.4**	**-0.6**
GLVR	**Golovnino**	**6.26**	**20**	⇑iP	**Pn**	**13 55 16.7**	**-0.9**
GLVR				i S	**Sn**	**13 56 23.2**	**-4.9**
GLVR				pmax	pmax		
	comp=Z,551nm,0.5s						
GLVR				pmax	pmax		
	comp=E,339nm,0.2s						
GLVR				pmax	pmax		
	comp=N,421nm,0.3s						
GLVR				smax	smax		
	comp=N,3µm,0.2s						
GLVR				smax	smax		
	comp=E,4µm,0.4s						
GRPR	**Tuman**	**6.57**	**21**	⇑iP	**Pn**	**13 55 20.5**	**-1.3**
GRPR				i S	**Sn**	**13 56 29.7**	**-5.9**
GRPR				pmax	pmax		
	comp=N,163nm,0.2s						
GRPR				pmax	pmax		
	comp=E,278nm,0.2s						
GRPR				pmax	pmax		
	comp=Z,1µm,0.2s						
GRPR				smax	smax		
	comp=N,4µm,0.4s						
GRPR				smax	smax		
	comp=E,2µm,0.2s						
LAGR	**Lagunnoye**	**6.63**	**21**	⇑iP	**Pn**	**13 55 21.8**	**-0.8**
LAGR				i S	**Sn**	**13 56 32.3**	**-4.8**
LAGR				pmax	pmax		
	comp=Z,1µm,0.6s						
LAGR				pmax	pmax		
	comp=N,427nm,0.2s						
LAGR				pmax	pmax		
	comp=E,376nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**6.63**	**21**	d iP	**Pn**	**13 55 21.3**	**-1.4**
YUK				i S	**Sn**	**13 56 31.8**	**-5.4**
YUK				pmax	pmax		
	comp=N,306nm,0.2s						
YUK				pmax	pmax		
	comp=E,376nm,0.2s						
YUK				pmax	pmax		
	comp=Z,1µm,0.2s						
YUK				MLR	MLR		
	comp=Z,617nm,14.0s						
SHO	**Shikotan**	**6.80**	**27**	c iP	**Pn**	**13 55 23.5**	**-1.5**
SHO				i S	**Sn**	**13 56 34.6**	**-6.8**
SHO				pmax	pmax		
	comp=E,127nm,0.3s						
SHO				pmax	pmax		
	comp=Z,155nm,0.3s						
SHO				pmax	pmax		
	comp=N,53nm,0.2s						
KUR	**Kuril'sk**	**8.35**	**27**	⇓iP	**Pn**	**13 55 46.7**	**+0.5**
KUR				i S	**Sn**	**13 57 14.7**	**-4.8**
KUR				pmax	pmax		
	comp=Z,159nm,0.5s						
KUR				pmax	pmax		
	comp=E,66nm,0.3s						
KUR				pmax	pmax		
	comp=N,56nm,0.2s						
KUR				smax	smax		
	comp=N,471nm,0.3s						
KUR				smax	smax		
	comp=E,290nm,0.5s						
TEY	**Ternei**	**8.40**	**330**	⇑eP	**Pn**	**13 55 51.4**	**+4.5**
TEY				eS	**Sn**	**13 57 21.7**	**+1.0**
TEY				pmax	pmax		
	comp=E,20nm,0.7s						
TEY				pmax	pmax		
	comp=N,20nm,0.5s						
TEY				pmax	pmax		
	comp=Z,30nm,0.6s						
TEY				smax	smax		
	comp=E,20nm,1.1s						
YSS	**Yuzh-Sakhalins**	**9.05**	**1**	⇑eP	**Pn**	**13 55 56.6**	**+0.7**
YSS				eS	**Sn**	**13 57 32.3**	**-4.4**
YSS				pmax	pmax		
	comp=Z,110nm,0.9s						
YSS				MLR	MLR		
	comp=E,1µm,13.0s						
YSS				MLR	MLR		
	comp=Z,800nm,13.0s						
YSS				MLR	MLR		
	comp=N,600nm,15.0s						
MSHR	**Mys Shultsa**	**9.87**	**302**	⇑eP	**Pn**	**13 56 06.8**	**-0.2**
USA0B	**Ussuriysk Arra**	**10.14**	**312**	ePn	**Pn**	**13 56 12.4**	**+1.6**
USRK	**Ussuriysk Ar.**	**10.14**	**312**	Pn	**Pn**	**13 56 12.1**	**+1.3**
	comp=N,2.2nm,0.3s,baz=146,slow=14,SNR=27						
USRK				LR	LR	13 59 55.9	

comp=N,681nm,18.7s,baz=128,slow=36
JNU Nakatsue 10.62 247 Pn **Pn 13 56 18.5 +1.1**
comp=N,2.3nm,0.3s,baz=60,slow=6.0,SNR=54
JNU Nakatsue 10.62 247 *e*Pn **Pn 13 56 16.9 -0.5**
CBIJ Chichi jima 10.78 182 *e*Pn **Pn 13 56 15.7 -3.9**
CBIJ Sn Sn 13 58 06.5 -13
JCJ Chichijima 10.78 182 Pn **Pn 13 56 15.9 -3.6**
comp=N,63nm,0.3s,baz=350,slow=10.0,SNR=41
JCJ Sn Sn 13 58 06.5 -13
comp=N,34nm,0.3s,baz=78,slow=19,SNR=6.1
KSRS Korea Array 11.58 272 Pn **Pn 13 56 34.2 +3.7**
comp=N,0.5nm,0.3s,baz=88,slow=14,SNR=54
KSRS LR LR 14 00 39.0
comp=N,775nm,20.3s,baz=94,slow=36
KS01 Wonju Array Si 11.60 272 *e*Pn **Pn 13 56 32.1 +1.3**
KS15 Wonju Array Si 11.61 272 *e*Pn **Pn 13 56 32.7 +1.7**
KSAR Wonju Array Be 11.61 272 Pn **Pn 13 56 34.2 +3.3**
KSAR Wonju Array Be 11.61 272 P **Pn 13 56 34.3 +3.3**
MDJ Mudanjiang 11.81 309 P **Pn 13 56 36.3 +2.6**
MDJ pP 13 56 44.1
MDJ sP 13 56 51.6
MDJ S **Sn 13 58 45.3 +0.9**
MDJ sS 13 58 59.2
MDJ pmax pmax
comp=N,19nm,1.1s
MDJ pmax pmax
comp=N,300nm,3.3s
MDJ LR LR
comp=N,590nm,13.9s
MDJ LR LR
comp=N,690nm,17.1s
MDJ LR LR
comp=N,980nm,17.9s
MDJ Mudanjiang 11.81 309 *e*Pn **Pn 13 56 33.8 +0.1**
TJN Taejon 12.19 267⇑ *e*P **Pn 13 56 40.4 +1.5**
TYV Tymovskoe 12.96 0 *e*P **Pn 13 56 48.6 -0.7**
TYV *e* 13 59 05.9
TYV pmax pmax
comp=Z,27nm,0.9s
TYV MLR MLR
comp=Z,2μm,15.0s
GRNR Gornyy 13.58 343 *e*P **Pn 13 56 58.0 +0.2**
GRNR pmax pmax
comp=Z,13nm,1.0s
KLR Kul'dur 13.74 329 Pn **Pn 13 56 59.8 -0.2**
comp=Z,0.9nm,0.3s,baz=136,slow=12,SNR=14
KLR LR LR 14 02 24.2
comp=Z,818nm,19.4s,baz=142,slow=38
KLR Kul'dur 13.74 329⇑ *e*P **Pn 13 56 59.2 -0.8**
CN2 Changchun 14.20 300 *e*P **P 13 57 12.4 -0.9**
CN2 *e*S **S 13 59 55.8 -7.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,350nm,15.0s
CN2 LR LR
comp=Z,490nm,15.0s
CN2 LR LR
comp=Z,840nm,16.0s
NKL Nikolayevsk 15.31 356 *e*P **Pn 13 57 18.8 -2.3**
NKL pmax pmax
comp=Z,17nm,1.0s
NKL MLR MLR
comp=Z,1μm,15.0s
JOW Kunigami 16.31 232 Pn **Pn 13 57 32.9 -1.2**
comp=Z,1.4nm,0.3s,baz=74,slow=15,SNR=3.7
JOW LR LR 14 03 50.9
comp=Z,302nm,19.5s,baz=70,slow=37
JOW Kunigami 16.31 232 *e*Pn **Pn 13 57 32.8 -1.4**
comp=Z,134nm,1.5s
DL2 Dalian 16.41 280 P **P 13 57 37.4 -0.5**
DL2 S **Sn 14 00 39.7 +3.2**
DL2 pmax pmax
comp=Z,58nm,1.1s
DL2 pmax pmax
comp=Z,230nm,4.0s
DL2 LR LR
comp=Z,260nm,12.7s
DL2 LR LR
comp=Z,380nm,17.3s
DL2 LR LR
comp=Z,470nm,25.0s
PEA0B Petropavlovsk- 18.50 30 *e*P **P 13 58 00.1 -0.8**
comp=Z,176nm,1.5s
PETK Petropavlovsk- 18.50 30 P **P 13 58 00.1 -0.8**
comp=Z,0.3nm,0.3s,baz=194,slow=12,SNR=8.2
PETK LR LR 14 04 46.0
comp=Z,371nm,21.5s,baz=217,slow=35
PETK Petropavlovsk- 18.50 30 *e*P **P 13 58 00.3 -0.6**
PET Petropavlovsk 18.82 31 *e*P Pn 13 58 17.1 +12
PET pmax pmax
comp=Z,200nm,15.9s
PET pmax pmax
comp=Z,37nm,0.9s
PET MLR MLR
comp=Z,500nm,20.0s
ZEA Zeya 19.02 331 *e*P **P 13 58 04.8 -1.8**
ZEA pmax pmax
comp=N,39nm,0.6s
ZEA pmax pmax
comp=E,20nm,0.6s
ZEA pmax pmax
comp=Z,56nm,0.8s
ZEA MLR MLR
comp=N,500nm,14.0s
ZEA MLR MLR
comp=Z,700nm,14.0s
ZEA MLR MLR
comp=E,400nm,15.0s
HIA Hailar 19.95 312 *e*P **P 13 58 14.1 -2.7**
comp=E,7.9nm,0.4s
HIA Hailar 19.95 312 *e*P **P 13 58 14.1 -2.7**
HIA pmax pmax
comp=Z,8.0nm,0.4s
NJ2 Nanjing 20.23 260 *e*P **P 13 58 19.2 -0.7**
NJ2 pmax pmax
comp=Z,41nm,1.0s
NJ2 LR LR
comp=Z,340nm,16.8s
NJ2 LR LR
comp=Z,660nm,16.3s
NJ2 LR LR
comp=Z,680nm,17.9s
TIA Tai'an 20.32 273 P **P 13 58 18.6 -2.4**
TIA pmax pmax
comp=Z,6.0nm,0.8s
TIA LR LR
comp=Z,100nm,14.0s
TIA LR LR
comp=Z,65nm,9.3s
TIA LR LR
comp=Z,130nm,10.8s
BJI Beijing 20.57 284 *e*P **P 13 58 21.2 -2.4**
BJI pmax pmax
comp=Z,12nm,0.7s
BJT Baijiatuau 20.58 284 *e*P **P 13 58 21.1 -2.6**
comp=Z,23nm,0.7s
BJT Baijiatuau 20.58 284 *e*P **P 13 58 21.1 -2.6**
BJT pmax pmax
comp=Z,23nm,0.7s
YHNB Yeheng 22.31 240 *e*P **P 13 58 41.3 -1.2**
comp=Z,336nm,2.0s
MA2 Magadan 22.33 11 P **P 13 58 43.2 +0.8**
comp=Z,28nm,0.8s,baz=196,slow=9.8,SNR=12
MA2 Magadan 22.33 11 *de*P **P 13 58 43.6 +1.2**
MA2 pmax pmax
comp=Z,47nm,1.3s
SSLB Suanglung 23.18 239 *e*P **P 13 58 49.0 -2.6**
comp=Z,26nm,0.9s
YULB Yu-li 23.22 238 *e*P **P 13 58 49.1 -2.8**
comp=Z,20nm,0.8s
TPUB Ta-pu 23.73 238 *e*P **P 13 58 53.8 -3.1**
comp=Z,77nm,1.0s
TWG Pinlang 23.76 237 *e*P **P 13 58 54.4 -2.8**
comp=Z,163nm,0.9s
HHC Hu-ho-hao-te 24.05 287 *e*P **P 13 58 58.4 -1.5**
HHC pP sP 13 59 10.0 -1.6
HHC S **S 14 03 07.7 -7.7**
HHC pmax pmax
comp=Z,23nm,1.2s
HHC pmax pmax
comp=Z,120nm,5.5s
HHC LR LR
comp=Z,1μm,13.9s
HHC LR LR
comp=Z,1μm,14.1s
HHC LR LR
comp=Z,1μm,14.3s
WHN Wuhan 24.36 261 P **P 13 59 02.2 -0.5**
WHN S **S 14 03 23.8 +3.5**
WHN LR LR
comp=Z,710nm,14.1s
WHN LR LR
comp=Z,1μm,14.5s
WHN LR LR
comp=Z,1μm,14.0s
YAK Yakutsk 25.43 346 *e*P **P 13 59 11.7 -0.4**
YAK *e**PP **sP 13 59 24.8 +1.0**
YAK *e* 13 59 47.0
YAK *e*S **S 14 03 35.7 -1.2**
YAK pmax pmax
comp=Z,63nm,0.9s
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,54nm,1.1s
YAK pmax pmax
comp=N,78nm,1.8s
YAK pmax pmax
comp=E,81nm,1.6s
YAK smax smax
comp=N,110nm,1.6s
YAK smax smax
comp=E,103nm,1.8s
YAK MLR MLR
comp=Z,378nm,17.0s
YAK MLR MLR
comp=N,329nm,16.0s
YAK MLR MLR
comp=E,277nm,16.0s
SEY Seymchan 25.78 10 P **P 13 59 17.3 +2.0**
comp=E,34nm,0.9s,baz=190,slow=8.1,SNR=61
SEY Seymchan 25.78 10‖ *i*P **P 13 59 17.4 +2.2**
BOD Bodaibo 27.29 326 *e*P **P 13 59 28.3 -0.6**
BOD pmax pmax
comp=Z,23nm,1.6s
XAN Xi'an 27.38 272 P **P 13 59 29.8 -0.3**
XAN pP sP 13 59 41.1 -0.7
XAN sP pP 13 59 47.0 +8.7
XAN pmax pmax
comp=Z,18nm,0.6s
XAN pmax pmax
comp=Z,150nm,4.7s
XAN LR LR
comp=Z,260nm,14.7s
ULN Ulaanbaatar 27.62 303 *e*P **P 13 59 33.1 +0.9**
comp=Z,9.5nm,1.1s
ULN Ulaanbaatar 27.62 303*c i*P **P 13 59 33.4 +1.2**
ULN pmax pmax
comp=Z,8.0nm,1.3s
H11N2 WAKE ISLAND Hy 27.86 124 T T 14 28 51.6
baz=314
H11N1 WAKE ISLAND Hy 27.87 124 T T 14 28 53.0
baz=314
H11N3 WAKE ISLAND Hy 27.88 124 T T 14 28 53.2
baz=314
SONA1 Songino Array 28.05 302 *e*P **P 13 59 37.0 +1.0**
SONM Songino Array 28.05 302 P **P 13 59 37.1 +1.0**
comp=Z,3.9nm,0.6s,baz=111,slow=8.5,SNR=32
SONM PcP **PcP 14 02 50.2 +0.1**
comp=Z,1.4nm,0.7s,baz=126,slow=3.9,SNR=4.3
SONM LR LR 14 11 11.1
comp=Z,267nm,18.5s,baz=64,slow=37
ENH Enshi 28.29 264 *e*P **P 13 59 37.3 -0.9**
comp=Z,50nm,0.9s
H11S1 WAKE ISLAND Hy 28.62 126 T T 14 29 52.2
baz=317
H11S3 WAKE ISLAND Hy 28.62 126 T T 14 29 54.4
baz=317
H11S2 WAKE ISLAND Hy 28.63 126 T T 14 29 57.6
baz=317
ZAK Zakamensk 30.44 307 *e*P **P 13 59 56.6 -0.6**
ZAK pmax pmax
comp=Z,8.0nm,0.9s
LZH Lanzhou 30.80 279 P **P 14 00 01.8 +1.2**
LZH pP sP 14 00 12.1 -0.2
LZH sP pP 14 00 17.9 +9.1
LZH S **S 14 05 05.0 +2.7**
LZH sS sS 14 05 18.8 +2.6
LZH SS **SnSn 14 06 42.4 +0.4**
LZH pmax pmax
comp=Z,26nm,1.4s
LZH pmax pmax
comp=Z,85nm,4.6s
LZH LR LR
comp=Z,1μm,15.2s
LZH LR LR
comp=Z,1μm,17.4s
LZH LR LR
comp=Z,2μm,18.7s
GYA Guiyang 32.24 260⇑ *i*P **P 14 00 12.3 -0.9**
GYA pP sP 14 00 27.7 +2.7
GYA sP pP 14 00 32.8 +11
GYA PP **PnPn 14 01 21.0 +1.2**
GYA S **S 14 05 21.4 -3.4**
GYA sS sS 14 05 43.8 +5.1
GYA SS **SnSn 14 07 16.0 -1.1**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.4s
GYA LR LR
comp=Z,530nm,16.8s
GYA LR LR
comp=Z,500nm,17.0s
GYA LR LR
comp=Z,520nm,17.2s
CD2 Chengdu 32.56 269 *e*P **P 14 00 14.5 -1.4**
CD2 S **S 14 05 26.0 -3.6**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,190nm,6.4s
CD2 LR LR
comp=Z,390nm,11.5s
CD2 LR LR
comp=Z,300nm,12.3s
BILL Bilibino 32.95 16⇓ *e*P **P 14 00 19.8 +0.9**
BILL *i* 14 00 26.4
BILL pmax pmax
comp=Z,11nm,1.0s
BILL MLR MLR
comp=Z,141nm,18.0s
GTA Gaotai 33.16 286⇑ P **P 14 00 21.3 +0.1**
GTA pP sP 14 00 33.4 +0.4
GTA sP pP 14 00 38.4 +8.9
GTA PcP **PcP 14 03 04.8 +1.1**
GTA S **S 14 05 36.3 -2.7**
GTA sS sS 14 05 58.1 +5.1
GTA SS **SnSn 14 07 40.0 +0.7**
GTA ScS **ScS 14 10 44.4 -2.0**
GTA pmax pmax
comp=Z,2.0nm,0.8s
GTA pmax pmax
comp=Z,95nm,8.6s
GTA LR LR
comp=Z,210nm,20.6s
GTA LR LR
comp=Z,260nm,20.9s
GTA LR LR
comp=Z,490nm,19.4s
QIZ Qiongzhong 34.09 246 P **P 14 00 29.9 +0.6**
QIZ S **S 14 05 50.7 -2.6**
QIZ LR LR
comp=Z,170nm,3.9s
QIZ LR LR
comp=Z,250nm,3.8s
QIZ LR LR
comp=Z,180nm,3.9s
TIXI Tiksi 34.55 352 P **P 14 00 33.1 +0.4**
comp=Z,3.3nm,0.6s,baz=142,slow=5.4,SNR=8.3
TIXI Tiksi 34.55 352‖ *e*P **P 14 00 32.8 +0.1**
TIXI pmax pmax
comp=Z,3.0nm,0.7s
KMI Kunming 35.97 261 P **P 14 00 46.0 +0.3**
KMI pP pP 14 00 54.2 +0.1
KMI sP sP 14 00 59.5 +2.0
KMI S **S 14 06 20.3 -2.3**
KMI sS sS 14 06 38.4 +1.8
KMI SS **SnSn 14 08 48.1 +0.4**
KMI pmax pmax
comp=Z,31nm,1.2s
KMI pmax pmax
comp=Z,120nm,4.2s
KMI LR LR
comp=Z,210nm,17.3s
KMI LR LR
comp=Z,280nm,17.6s
KMI LR LR
comp=Z,270nm,24.0s
NONG Nongkai 39.62 251 P **P 14 01 19.4 +3.0**
comp=Z,0.7nm,0.7s
SIJI Sorong 39.95 198 P **P 14 01 19.0 -0.1**
comp=Z,15nm,0.9s,baz=19,slow=3.2,SNR=5.0
DGZ Jazzator, Alta 40.61 305*c i*P **P 14 01 25.6 +1.2**
DGZ pmax pmax
comp=Z,16nm,0.9s
WMQ Urumqi 41.24 296 *e*P **P 14 01 28.1 -1.5**
WMQ pP sP 14 01 40.4 -1.1
WMQ sP pP 14 01 50.1 +12
WMQ SS SS 14 10 41.1 -4.0
WMQ pmax pmax
comp=Z,35nm,0.9s
WMQ pmax pmax
comp=Z,13nm,3.7s
WMQ LR LR
comp=Z,350nm,18.9s
WMQ LR LR
comp=Z,200nm,28.5s
WMQ LR LR
comp=Z,380nm,28.5s
UTTA Uttaradit 41.77 253 P P 14 01 41.2 +7.1
MRSI Marisa 41.78 212 P **P 14 01 33.4 -0.8**
CHAI Chaiyaphum 41.83 250 P P 14 01 39.9 +5.3
comp=Z,4.6nm,0.8s
ZAA0 Zalesovo Array 41.99 312 *e*P **P 14 01 35.9 +0.3**
comp=Z,20nm,1.0s
ZALV Zalesovo Beam 41.99 312 P **P 14 01 35.5 0.0**
comp=Z,20nm,0.9s,baz=88,slow=7.1,SNR=56
ZALV PcP **PcP 14 03 30.4 +0.2**
comp=Z,11nm,0.8s,baz=104,slow=3.0,SNR=7.0
ZALV LR LR 14 19 38.1
comp=Z,172nm,18.6s,baz=68,slow=37
LAMP Lampang 42.00 255 P P 14 01 46.5 +10
PBKT Sadao Pong 42.17 251 P P 14 01 45.9 +8.5
RDOG Red Dog Mine 42.34 27 *e*P **P 14 01 40.0 +1.9**
comp=Z,28nm,1.1s
CMMT Chiang Mai 42.36 256 P **P 14 01 39.6 +0.7**
comp=Z,9.4nm,0.7s
CHTO Chiang Mai 42.36 256 *e*P **P 14 01 39.4 +0.5**
comp=Z,5.9nm,0.7s
CHTO Chiang Mai 42.36 256 *e*P **P 14 01 39.4 +0.5**
CHTO pmax pmax
comp=Z,6.0nm,0.7s
CHTO Chiang Mai 42.36 256 P **P 14 01 39.6 +0.7**
comp=Z,42nm,0.7s
CMAR Chiang Mai Arr 42.57 255 P **P 14 01 41.0 +0.3**
comp=Z,2.0nm,0.6s,baz=47,slow=6.7,SNR=20
CMAR PcP **PcP 14 03 33.8 +1.0**
comp=Z,1.7nm,0.7s,baz=14,slow=2.8,SNR=5.6
CMAR LR LR 14 21 44.8
comp=Z,150nm,19.2s,baz=58,slow=39
CM01 Chiang Mai Arr 42.58 255 *e*P **P 14 01 40.2 -0.5**
SANI Sanana 42.59 205 P **P 14 01 40.0 -0.8**
NVS Novosibirsk 42.89 313‖ *i*P **P 14 01 43.4 +0.6**
NVS *i* 14 03 33.7
NVS pmax pmax
comp=Z,10.0nm,0.4s
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS pmax pmax
comp=E,6.0nm,0.7s
SRAK Srakaew 43.01 247 P P 14 01 55.2 +11
LSA Lhasa 43.01 275 *e*P **P 14 01 44.9 +0.2**
comp=E,7.8nm,0.7s
LSA Lhasa 43.01 275 *e*P **P 14 01 44.9 +0.2**
LSA pmax pmax
comp=Z,8.0nm,0.7s
UMPA Umpang Tak 43.98 253 P P 14 01 57.2 +5.1
comp=Z,2.7nm,1.2s
SVW2 Sparrevohn 44.30 38 *e*P **P 14 01 56.5 +2.3**
comp=Z,86nm,1.7s
MK01 Makanchi Array 44.41 302 *e*P **P 14 01 54.4 -0.8**
MK31 Makanchi Array 44.41 302 *e*P **P 14 01 54.8 -0.5**
MK31 Makanchi Array 44.41 302 *e*P **P 14 01 54.8 -0.5**
MKAR Makanchi Array 44.41 302 P **P 14 01 55.4 +0.1**
comp=Z,2.9nm,0.5s,baz=87,slow=9.9,SNR=44
MKAR LR LR 14 20 58.4
comp=Z,120nm,18.4s,baz=74,slow=37
MKAR Makanchi Array 44.41 302 *e*P **P 14 01 54.8 -0.4**
comp=Z,56nm,0.6s
MAKZ Makanchi 44.62 302 *e*P **P 14 01 56.4 -0.5**
comp=Z,9.0nm,0.8s
MAKZ Makanchi 44.62 302 *e*P **P 14 01 56.4 -0.5**
MAKZ pmax pmax
comp=Z,9.0nm,0.8s
IM3 Indian Mountai 45.46 31 *e*P **P 14 02 04.3 +1.0**
PHET Kaeng Krachan 45.50 249 P **P 14 02 05.4 +1.3**
comp=Z,5.3nm,0.6s,comp=Z,115nm
RSO Redoubt South 45.68 39 *e*P **P 14 02 06.7 +1.4**
KDAK Kodiak Island 45.87 43 *i* P **P 14 02 07.5 +1.0**
CAST Castle Rocks 46.02 35 *e*P **P 14 02 09.6 +1.9**
comp=Z,7.4nm,0.8s
KURK Kurchatov 46.10 308 *e*P **P 14 02 08.1 -0.4**
comp=Z,34nm,0.7s
KURK Kurchatov 46.10 308*c i*P **P 14 02 08.5 0.0**
KURK pmax pmax
comp=Z,48nm,1.0s
MLY Manley 46.65 32 *e*P **P 14 02 14.4 +1.7**
comp=Z,16nm,0.8s
MLY *e*PcP **PcP 14 03 47.3 +1.3**
TRF Thorofare Moun 46.82 35 *e*P **P 14 02 16.2 +2.0**
comp=Z,12nm,0.9s
COLD Coldfoot 46.97 29 *e*P **P 14 02 16.2 +1.1**
comp=Z,18nm,1.7s
PDGK Podgornoye 47.15 297 P **P 14 02 17.1 0.0**
PDGK pmax pmax
comp=Z,17nm,0.7s
MCK McKinley 47.42 34 *e*P **P 14 02 19.6 +0.9**
comp=Z,14nm,0.8s
MCK McKinley 47.42 34 *e*P **P 14 02 19.6 +0.9**
MCK pmax pmax
comp=Z,14nm,0.8s
RND Reindeer 47.47 35 *e*P **P 14 02 20.3 +1.2**
comp=Z,17nm,0.9s
RND Reindeer 47.47 35 *e*P **P 14 02 20.3 +1.2**
RND pmax pmax
comp=Z,17nm,0.9s
GHO Glory Hole Cre 47.50 37 *e*P **P 14 02 20.4 +1.0**
comp=Z,26nm,0.8s
MDM Murphy Dome 47.72 33 *e*P **P 14 02 22.7 +1.7**
comp=Z,23nm,0.9s
SML Sawmill 47.77 37 *e*P **P 14 02 23.0 +1.5**
comp=Z,23nm,0.8s
SML Sawmill 47.77 37 *e*P **P 14 02 23.0 +1.5**
SML pmax pmax
comp=Z,23nm,0.8s
WRH Wood River Hil 47.78 33 *e*P **P 14 02 22.3 +0.9**
comp=Z,22nm,0.8s
JIRN Jiri 47.82 275 *e*P **P 14 02 22.3 -0.4**
comp=Z,49nm,0.6s
RAMN Ramite 47.82 274 *e*P **P 14 02 22.3 -0.3**
comp=Z,32nm,0.6s
COLA College 47.88 33 *e*P **P 14 02 23.6 +1.4**
comp=Z,11nm,0.6s
COLA College 47.88 33 *e*P **P 14 02 23.6 +1.4**
COLA pmax pmax
comp=Z,11nm,0.6s
GUN Gumba 47.95 275 *e*P **P 14 02 23.5 -0.2**
comp=Z,39nm,0.3s
DHY Denali Highway 48.15 35 *e*P **P 14 02 25.3 +0.7**
DHY *e*PcP **PcP 14 03 52.8 +1.3**
HDA Harding Lake 48.28 33 *e*P **P 14 02 26.3 +0.9**
comp=Z,12nm,0.7s
IL1 Eielson Array 48.29 33 *e*P **P 14 02 26.1 +0.7**
ILAR Eielson Array 48.29 33 P **P 14 02 26.3 +0.9**
comp=Z,11nm,0.7s,baz=264,slow=6.1,SNR=171
ILAR LR LR 14 24 20.4
comp=Z,61nm,19.8s,baz=277,slow=38
ILB Eielson Array 48.29 33 *e*P **P 14 02 25.8 +0.4**
PKI Pulchoki 48.48 275 *e*P **P 14 02 27.7 0.0**
comp=Z,11nm,0.5s
KKN Kakani 48.48 276 *e*P **P 14 02 28.0 +0.4**
comp=Z,42nm,0.7s

PKIN **Phulchoki** 48.48 275 *eP* P 14 02 27.6 -0.1
comp=Z,6.7nm,0.3s
FYU **Fort Yukon** 48.92 30 *eP* P 14 02 32.5 +2.4
comp=Z,19nm,0.9s
KDJ **Kajisay** 49.13 297 *eP* P 14 02 33.4 +1.0
comp=Z,7.4nm,0.8s
KDJ **Kajisay** 49.13 297 *eP* P 14 02 33.4 +1.0
KDJ pmax pmax
comp=Z,7.0nm,0.8s
DANN **Dangsing** 49.42 277 *eP* P 14 02 35.6 +0.7
comp=Z,107nm,0.6s
DOT **Dot Lake** 49.60 34 *eP* P 14 02 36.1 +0.6
comp=Z,59nm,1.8s
SCRK **Sand Creek** 49.60 34 *eP* P 14 02 36.3 +0.7
comp=Z,11nm,0.7s
BMRM **Bremner River** 49.64 38 *eP* P 14 02 37.6 +1.7
comp=Z,20nm,0.8s
PKDT **Phuket** 49.80 245 P P 14 02 39.6 +2.0
KOLN **Koldanda** 49.81 277 *eP* P 14 02 38.2 +0.4
comp=Z,18nm,0.6s
PYUN **Piuthan** 50.13 277 *eP* P 14 02 41.1 +0.8
comp=Z,106nm,1.0s
NRN **Naryn** 50.19 296 *eP* P 14 02 40.8 +0.2
comp=Z,4.8nm,0.8s
NRN **Naryn** 50.19 296 *eP* P 14 02 40.8 +0.2
NRN pmax pmax
comp=Z,5.0nm,0.8s
OTUK **Ortayu** 50.64 306 P P 14 02 43.7 +0.1
OTUK pmax pmax
comp=Z,9.0nm,1.1s
BRVK **Borovoye** 50.70 312 *eP* P 14 02 44.0 +0.1
comp=Z,14nm,1.0s
BRVK **Borovoye** 50.70 312 *eP* P 14 02 44.0 +0.1
BRVK pmax pmax
comp=Z,14nm,1.0s
FRU **Bishkek** 50.71 298 *eP* P 14 03 00.0 +16
AAK **Ala-Archa** 50.86 298 *eP* P 14 02 45.2 -0.3
comp=Z,5.5nm,0.6s
AAK **Ala-Archa** 50.86 298 *c iP* P 14 02 45.5 0.0
AAK pmax pmax
comp=Z,9.0nm,2.5s
KSH **Kashi** 50.86 294 P P 14 02 50.2 +4.7
KSH pP sP 14 03 02.9 +5.4
KSH PP **PP** 14 04 45.4 +3.7
KSH PcS **PcS** 14 07 59.5 0.0
KSH S **S** 14 10 02.4 +2.5
KSH ScS **ScS** 14 12 35.8 +1.6
KSH pmax pmax
comp=Z,16nm,1.0s
KSH pmax pmax
comp=Z,180nm,5.6s
KSH LR LR
comp=Z,480nm,13.6s
KSH LR LR
comp=Z,270nm,6.5s
KSH LR LR
comp=Z,360nm,12.8s
DAWY **Dawson** 51.60 33 *eP* P 14 02 51.7 +1.1
comp=Z,31nm,1.9s
SFK **Sufi-Kurgan** 52.46 295 P P 14 02 58.1 +0.5
SFK pmax pmax
comp=Z,18nm,0.7s
HYT **Haines Junctio** 53.08 37 *eP* P 14 03 04.1 +2.4
comp=Z,30nm,0.9s
RGRI **Rengat** 53.08 234 P P 14 03 01.9 -0.2
comp=Z,137nm,0.5s,comp=Z,39µm
INK **Inuvik** 53.22 27 *eP* P 14 03 03.8 +1.4
comp=Z,8.6nm,0.7s
INK **Inuvik** 53.22 27 *eP* P 14 03 03.8 +1.4
INK pmax pmax
comp=Z,9.0nm,0.7s
KK31 **Karatay Array** 53.46 300 *eP* P 14 03 03.9 -0.7
KK31 **Karatay Array** 53.46 300 *eP* P 14 03 03.9 -0.7
KKAR **Karatay Array** 53.46 300 *eP* P 14 03 04.0 -0.6
KKAR **Karatay Array** 53.46 300 *eP* P 14 03 04.0 -0.6
WHY **Whitehorse** 54.37 37 *eP* P 14 03 13.0 +1.8
comp=Z,19nm,1.2s
SKAG **Skagway** 54.47 38 *eP* P 14 03 13.8 +2.1
comp=Z,21nm,1.2s
GSI **Gunungsitoli** 55.00 240 *eP* P 14 03 16.0 -0.1
comp=Z,51nm,1.0s
GSI **Gunungsitoli** 55.00 240 P P 14 03 15.9 -0.2
SVE **Sverdlovsk** 55.09 318 *ceP* P 14 03 17.3 +1.1
SVE pmax pmax
comp=Z,34nm,0.9s
MDSI **Maura Dua** 55.17 229 P P 14 03 16.4 -0.9
NIL **Nilore** 55.18 288 *eP* P 14 03 17.2 -0.1
comp=Z,20nm,0.8s
NIL **Nilore** 55.18 288 *eP* P 14 03 17.3 -0.1
NIL pmax pmax
comp=Z,20nm,0.8s
ARU **Arti** 56.30 318 *eP* P 14 03 24.8 -0.2
comp=Z,25nm,0.7s
ARU **Arti** 56.30 318 *c iP* P 14 03 25.1 +0.2
ARU *PP **sP** 14 03 35.7 -1.3
ARU 14 04 20.7
ARU 14 05 30.3
ARU S **S** 14 11 15.0 +2.1
ARU pmax pmax
comp=Z,25nm,0.7s
DLBC **Dease Lake** 57.40 39 *eP* P 14 03 34.9 +2.1
comp=Z,18nm,1.0s
FITZ **Fitzroy Crossi** 57.92 199 P P 14 03 37.0 +0.3
comp=Z,6.4nm,0.8s,baz=24,slow=6.7,SNR=13
KBL **Kabul** 57.93 291 *eP* P 14 03 36.4 -0.7
comp=Z,24nm,1.0s
KBL **Kabul** 57.93 291 *eP* P 14 03 36.4 -0.7
KBL pmax pmax
comp=Z,25nm,1.0s
WRAB **Tennant Creek** 58.03 189 *eP* P 14 03 37.1 -0.4
comp=Z,41nm,1.0s
WRAB **Tennant Creek** 58.03 189 *deP* P 14 03 37.2 -0.3
WRAB pmax pmax
comp=Z,13nm,0.8s
WB2 **Warramunga Arr** 58.04 189 *eP* P 14 03 36.7 -0.9
WRA **Warramunga Arr** 58.04 189 P P 14 03 37.1 -0.5
comp=Z,13nm,0.6s,baz=6.8,slow=7.3,SNR=168
WRA **Warramunga Arr** 58.04 189 P P 14 03 37.1 -0.5
WRA pmax pmax
comp=Z,14nm,0.6s
ABKAR **Akbulak array** 58.06 310 *eP* P 14 03 36.8 -0.7
HYB **Hyderabad** 59.11 269 *i P* P 14 03 45.5 +0.2
SPITS **Spitsbergen Ar** 59.85 349 LR LR 14 31 11.1
comp=Z,83nm,20.0s,baz=40,slow=38
PRGR **Permogore** 60.52 327 *eP* P 14 03 54.5 +0.2
PRGR pmax pmax
comp=Z,15nm,0.9s
RES **Resolute Bay** 61.54 15 LR LR 14 35 07.4
comp=Z,53nm,18.2s,baz=225,slow=40
RES **Resolute Bay** 61.54 15 *eP* P 14 04 01.5 +0.5
comp=Z,22nm,0.9s
RES **Resolute Bay** 61.54 15 *eP* P 14 04 01.5 +0.5
RES pmax pmax
comp=Z,22nm,0.9s
AS01 **Alice Springs** 61.76 189 *eP* P 14 04 02.6 -0.5
AS31 **Alice Springs** 61.77 189 *eP* P 14 04 02.7 -0.4
comp=Z,5.5nm,0.8s
ASAR **Alice Springs** 61.77 189 P P 14 04 03.0 -0.2
comp=Z,5.8nm,0.7s,baz=13,slow=6.3,SNR=103
ASAR LR LR 14 29 45.6
comp=Z,96nm,21.8s,baz=354,slow=35
ASAR PKP2bc 14 33 24.1
comp=Z,1.2nm,0.9s,baz=160,slow=3.1,SNR=6.7
MBWA **Marble Bar** 62.53 204 *eP* P 14 04 08.0 -0.3
comp=Z,46nm,0.8s
YKW3 **Yellowknife Ar** 62.58 31 *eP* P 14 04 08.4 +0.2
comp=Z,19nm,1.5s
YKA **Yellowknife Ar** 62.62 31 P P 14 04 09.2 +0.8
comp=Z,5.0nm,0.7s,baz=302,slow=6.7,SNR=90
YKA PKP2ab 14 33 23.8
comp=Z,0.3nm,0.8s,baz=155,slow=1.7,SNR=3.1
YKB5 **Yellowknife Ar** 62.62 31 *eP* P 14 04 08.4 0.0
KLMR **Klimovskoe** 63.50 328 *eP* P 14 04 12.9 -1.4
KLMR *e* 14 06 32.5
KLMR pmax pmax
comp=Z,12nm,1.0s
KLMR **Klimovskoe** 63.50 328 *eP* P 14 04 12.9 -1.4
KLMR AMP 14 04 15.2
comp=Z,12nm,1.0s
KLMR *ePP **PP** 14 06 32.6 -1.0
ARCES **ARCESS Array B** 63.50 340 P P 14 04 14.6 +0.5
comp=Z,3.1nm,0.6s,baz=52,slow=7.9,SNR=17
DZM **Mont Dzumac** 63.75 155 *e* LR LR 14 23 18.7
comp=Z,287nm,21.9s
TULEG **Thule** 64.13 8 *eP* P 14 04 18.0 -0.1
comp=Z,20nm,0.7s

GEYT **Alibeck** 64.19 299 P P 14 04 19.6 +0.3
comp=Z,142nm,0.9s,baz=25,slow=3.9,SNR=14
GYA0B **ALIBECK ARRAY** 64.19 299 *eP* P 14 04 18.8 -0.5
comp=Z,7.6nm,0.7s
MSF **Maaselka** 64.63 335 P P 14 04 23.5 +1.8
MSF pmax pmax
comp=Z,27nm,1.8s
JOF **Joensuu** 65.61 332 P P 14 04 29.0 +0.9
JOF pmax pmax
comp=Z,20nm,1.2s
OUL **Oulu** 66.18 336 P P 14 04 33.3 +1.7
OUL pmax pmax
comp=Z,23nm,1.0s
MOS **Moscow** 67.08 324 *eP* P 14 04 36.3 -1.2
MOS *e* 14 04 44.7
MOS pmax pmax
comp=Z,43nm,0.9s
VRH **Novokhopyorsk** 67.53 318 *eP* P 14 04 39.8 -0.7
VRH pmax pmax
comp=Z,10.0nm,0.6s
B08A **Colville Reser** 67.60 46 *eP* P 14 04 41.9 +0.8
comp=Z,15nm,1.1s
OBN **Obninsk** 67.93 323 LR LR 14 38 06.7
comp=Z,21nm,18.4s,baz=74,slow=39
OBN **Obninsk** 67.93 323 *ceP* P 14 04 42.8 -0.1
OBN pmax pmax
comp=Z,23nm,1.3s
OBN MLR MLR
comp=Z,134nm,15.0s
LPSR **Galich'ya Gora** 68.20 320 *eP* P 14 04 44.4 -0.3
LPSR pmax pmax
comp=Z,20nm,0.7s
FIA1 **FINESS Array S** 68.46 332 *eP* P 14 04 45.9 -0.2
comp=Z,26nm,0.8s
FINES **FINESS Array B** 68.46 332 P P 14 04 46.4 +0.3
comp=Z,22nm,0.7s,baz=54,slow=7.8,SNR=56
FINES LR LR 14 36 42.1
comp=Z,98nm,18.8s,baz=24,slow=38
C09A **Chrisman Ranch** 68.50 46 *eP* P 14 04 47.6 +0.9
comp=Z,15nm,1.0s
D08A **Wollman Farm,** 68.54 47 *eP* P 14 04 47.9 +0.9
comp=Z,43nm,1.9s
VSR **Storozhevoye** 68.86 319 *eP* P 14 04 48.4 -0.4
VSR pmax pmax
comp=Z,10.0nm,0.6s
NEW **Newport** 68.90 45 *eP* P 14 04 49.7 +0.5
comp=Z,14nm,1.1s
NEW **Newport** 68.90 45 *eP* P 14 04 49.7 +0.5
NEW pmax pmax
comp=Z,14nm,1.1s
PINE **Pine Mountain** 69.11 50 *eP* P 14 04 51.7 +0.9
comp=Z,27nm,0.8s
YBH **Yreka Blue Hor** 69.12 53 *eP* P 14 04 52.3 +1.6
comp=Z,14nm,1.2s
STKA **Stephens Creek** 69.42 181 P P 14 04 52.6 +0.2
comp=Z,2.0nm,0.5s,baz=343,slow=6.3,SNR=6.4
STKA **Stephens Creek** 69.42 181 *eP* P 14 04 52.1 -0.2
comp=Z,1.2nm,0.8s
FORT **Fort Yukon** 69.65 193 *eP* P 14 04 53.5 -0.3
comp=Z,35nm,0.8s
SUMG **Summit** 69.82 0 *eP* P 14 04 55.8 +0.9
comp=Z,23nm,0.8s
SUMG **Summit** 69.82 0 *i P* P 14 04 56.0 +1.1
comp=Z,54nm,0.7s
SUMG **Summit** 69.82 0 *i P* P 14 04 56.0 +1.1
SUMG pmax pmax
comp=Z,54nm,0.7s
LGD **Lagodekhi** 70.01 308 P P 14 04 55.9 -0.3
LGD **Lagodekhi** 70.01 308 *eP* P 14 04 55.9 -0.3
VSU **Vasula** 70.16 330 ⇓ *iP* P 14 04 57.3 +0.6
VSU pmax pmax
comp=Z,52nm,1.0s
VSU **Vasula** 70.16 330 *eP* P 14 04 56.7 +0.1
VSU IAmb IAmb 14 04 57.6
comp=Z,60nm,0.9s
GOF **Gofitskoye** 70.17 312 *eP* P 14 04 57.0 -0.1
GOF pmax pmax
comp=Z,30nm,0.7s
WALA **Waterton Lakes** 70.21 43 *eP* P 14 04 58.4 +1.1
comp=Z,12nm,0.8s
MOD **Modoc Plateau** 70.53 52 *eP* P 14 05 00.9 +1.3
comp=Z,7.4nm,0.8s
BMO **Blue Mountains** 70.70 48 *eP* P 14 05 01.5 +1.1
comp=Z,8.3nm,1.0s
NCK **Nalchik** 70.72 310 ⇑ *iP* P 14 05 01.4 +0.9
NCK pmax pmax
comp=Z,10.0nm,0.9s
JTMT **Jette** 70.76 44 *eP* P 14 05 02.0 +1.2
comp=Z,10nm,1.0s
J08A **Circle Bar Ran** 70.84 50 *eP* P 14 05 02.5 +1.2
comp=Z,17nm,1.1s
ZEI **Tsey** 70.93 310 *eP* P 14 05 00.8 -1.2
ZEI pmax pmax
comp=Z,6.0nm,0.6s
KIV **Kislovodsk** 71.00 311 *eP* P 14 05 01.1 -1.1
comp=Z,33nm,0.8s
KIV **Kislovodsk** 71.00 311 *d iP* P 14 05 03.3 +1.0
KIV *e* 14 05 14.3
KIV *e* 14 05 25.1
KIV *e* 14 07 38.0
KIV *ePPP PPP 14 09 18.7
KIV pmax pmax
comp=Z,46nm,1.0s
KBZ **Khabaz** 71.01 311 P P 14 05 03.1 +1.0
comp=Z,16nm,0.9s,baz=70,slow=3.6,SNR=23
WVOR **Wild Horse Val** 71.27 51 *eP* P 14 05 05.2 +1.3
comp=Z,6.9nm,0.9s
WVOR **Wild Horse Val** 71.27 51 *eP* P 14 05 05.2 +1.3
WVOR pmax pmax
comp=Z,7.0nm,0.9s
SCO **Scoresbysund** 71.34 355 *eP* P 14 05 04.3 +0.6
comp=Z,9.2nm,0.9s
SCO **Scoresbysund** 71.34 355 *i P* P 14 05 04.3 +0.6
comp=Z,9.4nm,0.9s
SCO **Scoresbysund** 71.34 355 *i P* P 14 05 04.3 +0.6
SCO pmax pmax
comp=Z,9.0nm,0.9s
NEY **Neytrino** 71.38 311 ⇑ *eP* P 14 05 04.8 +0.1
NEY pmax pmax
comp=Z,3.0nm,0.9s
MSO **Missoula** 71.48 45 *eP* P 14 05 05.7 +0.5
comp=Z,5.6nm,1.0s
BEKR **Beckworth** 71.64 54 *eP* P 14 05 07.2 +0.9
comp=Z,11nm,0.8s
GNI **Garni** 71.89 307 ⇑ *eP* P 14 05 08.3 +0.5
GNI pmax pmax
comp=Z,112nm,1.5s
IZAR **Zarasai** 72.15 328 *eP* P 14 05 09.5 +0.7
IZAR IAmb IAmb 14 05 11.5
comp=Z,6.0nm,0.7s
IDID **Didziasalis** 72.23 327 *eP* P 14 05 10.0 +0.7
IDID IAmb IAmb 14 05 11.1
comp=Z,9.9nm,0.6s
ISAL **Salakas** 72.32 328 *eP* P 14 05 10.5 +0.6
ISAL IAmb IAmb 14 05 11.8
comp=Z,14nm,0.7s
MFID **Camas Ranch** 72.39 48 *eP* P 14 05 11.9 +1.2
comp=Z,8.6nm,0.9s
IIGN **Ignalina** 72.43 328 *eP* P 14 05 11.1 +0.6
IIGN IAmb IAmb 14 05 12.4
comp=Z,12nm,0.7s
SLIT **Slitere, Latvi** 72.46 331 *eP* P 14 05 09.9 -0.7
SLIT IAmb IAmb 14 05 11.0
comp=Z,85nm,0.6s
FFC **Flin Flon** 72.50 33 *eP* P 14 05 11.6 +0.6
comp=Z,23nm,0.8s
FFC **Flin Flon** 72.50 33 *i P* P 14 05 12.1 +1.1
CMB **Columbia Colle** 72.65 55 *eP* P 14 05 13.0 +0.8
comp=Z,12nm,1.1s
CMB **Columbia Colle** 72.65 55 *eP* P 14 05 13.0 +0.8
CMB pmax pmax
comp=Z,12nm,1.1s
HRY **Holter Researc** 72.72 44 *eP* P 14 05 13.5 +0.9
FCC **Fort Churchill** 72.83 27 *eP* P 14 05 13.1 +0.3
comp=Z,17nm,1.0s
FCC **Fort Churchill** 72.83 27 *eP* P 14 05 13.1 +0.3
FCC pmax pmax
comp=Z,17nm,1.0s
YERR **Yerington** 72.85 54 *eP* P 14 05 14.6 +1.0
comp=Z,10.0nm,1.0s
LRM **Limekiln Ridge** 72.91 45 *eP* P 14 05 15.2 +1.3
WAKR **Walker** 73.00 54 *eP* P 14 05 15.6 +1.1
comp=Z,5.7nm,0.9s
EGMT **Eagleton** 73.04 42 *eP* P 14 05 14.4 0.0
comp=Z,15nm,0.8s
DLMT **Dillon** 73.11 45 *eP* P 14 05 15.6 +0.7

comp=Z,9.3nm,0.8s
HLID **Hailey** 73.14 48 *eP* P 14 05 16.4 +1.2
comp=Z,6.0nm,0.9s
PABE **Paberze** 73.27 329 *eP* P 14 05 15.9 +0.5
PABE IAmb IAmb 14 05 17.0
comp=Z,44nm,0.8s
BOZ **Bozeman (W)** 73.51 45 *eP* P 14 05 18.2 +0.9
comp=Z,12nm,0.9s
BOZ **Bozeman (W)** 73.51 45 *eP* P 14 05 18.2 +0.9
BOZ pmax pmax
comp=Z,12nm,0.9s
NC405 **NORSAR Array S** 73.52 337 *eP* P 14 05 17.2 +0.3
KVN **Kaiserville** 73.53 53 *eP* P 14 05 18.6 +1.0
comp=Z,18nm,1.2s
NC204 **NORSAR Array S** 73.68 338 *eP* P 14 05 18.2 +0.4
NB201 **NORSAR Array S** 73.70 338 *eP* P 14 05 18.3 +0.3
NB2 **NORSAR Subarra** 73.73 338 P P 14 05 18.2 +0.1
comp=Z,5.5nm,0.6s,baz=39,slow=6.2
NOA **NORSAR Array B** 73.73 339 P P 14 05 18.5 +0.4
comp=Z,9.8nm,0.7s,baz=38,slow=5.9,SNR=34
NOA LR LR 14 43 03.1
comp=Z,111nm,19.6s,baz=40,slow=40
NV01 **Mina Array Sit** 73.77 54 *eP* P 14 05 20.1 +1.0
NVAR **Mina Array Bea** 73.77 54 P P 14 05 20.6 +1.6
comp=Z,6.0nm,0.8s,baz=285,slow=5.9,SNR=32
NV11 **Mina Array Sit** 73.86 54 *eP* P 14 05 20.8 +1.3
comp=Z,1.6nm,1.7s
QLMT **Earthquake Lak** 74.09 45 *eP* P 14 05 21.5 +0.7
AKASG **Malin Array Be** 74.15 323 P P 14 05 20.5 -0.2
comp=Z,16nm,0.6s,baz=46,slow=6.0,SNR=50
AKASG LR LR 14 40 43.3
comp=Z,94nm,19.6s,baz=305,slow=38
AKASG **Malin Array Be** 74.15 323 *i* P P 14 05 20.7 0.0
AKASG pmax pmax
comp=Z,14nm,0.6s
AKBB **Malin Array Si** 74.15 323 *eP* P 14 05 20.3 -0.4
comp=Z,21nm,0.8s
AKBB **Malin Array Si** 74.15 323 *eP* P 14 05 20.3 -0.4
AKBB pmax pmax
comp=Z,21nm,0.8s
KIEV **Kiev** 74.16 323 *eP* P 14 05 20.4 -0.4
comp=Z,21nm,0.8s
KIEV **Kiev** 74.16 323 ⇓ *iP* P 14 05 21.1 +0.3
KIEV **Kiev** 74.16 323 *c iP* P 14 05 20.7 -0.1
KIEV pmax pmax
comp=Z,22nm,1.0s
AK11 **Malin Array Si** 74.19 323 *eP* P 14 05 20.4 -0.6
YHB **Horse Butte** 74.27 45 *eP* P 14 05 22.7 +0.9
comp=Z,13nm,0.9s
ELK **Elko** 74.32 50 *eP* P 14 05 23.5 +1.3
comp=Z,3.4nm,0.8s
ELK **Elko** 74.32 50 *eP* P 14 05 23.5 +1.3
ELK pmax pmax
comp=Z,3.0nm,0.8s
YMR **Madison River** 74.45 45 *eP* P 14 05 24.2 +1.3
comp=Z,8.1nm,0.8s
GCMT **Greycliff** 74.47 44 *eP* P 14 05 24.1 +1.2
YNR **Norris Junctio** 74.58 45 *eP* P 14 05 24.6 +0.9
comp=Z,6.5nm,0.9s
YFT **Old Faithful** 74.66 45 *eP* P 14 05 26.6 +2.5
comp=Z,12nm,0.9s
YPP **Pitchstone Pla** 74.78 45 *eP* P 14 05 27.1 +2.1
comp=Z,6.4nm,0.9s
LKWY **Lake** 74.83 45 *eP* P 14 05 25.9 +0.8
comp=Z,9.5nm,1.0s
LKWY **Lake** 74.83 45 *eP* P 14 05 25.9 +0.8
LKWY pmax pmax
comp=Z,10.0nm,1.0s
H17A **Grant Village** 74.84 45 *eP* P 14 05 27.7 +2.5
comp=Z,20nm,0.8s
IMW **Indian Meadow** 74.94 46 *eP* P 14 05 27.2 +1.4
comp=Z,14nm,0.8s
SFJD **Kangerlussuaq** 74.95 5 LR LR 14 39 08.4
comp=Z,121nm,21.9s,baz=351,slow=36
FLWY **Flagg Ranch** 74.96 46 *eP* P 14 05 27.1 +1.2
comp=Z,13nm,1.0s
RLMT **Red Lodge** 75.11 44 *eP* P 14 05 28.0 +1.3
comp=Z,5.8nm,0.9s
MOOW **Moose Ponds** 75.14 46 *eP* P 14 05 28.5 +1.5
comp=Z,7.9nm,0.9s
HVU **Hansel Valley** 75.18 48 *eP* P 14 05 28.2 +1.1
comp=Z,9.3nm,0.9s
HVU **Hansel Valley** 75.18 48 *eP* P 14 05 28.2 +1.1
HVU pmax pmax
comp=Z,9.0nm,0.9s
TPAW **Teton Pass** 75.19 46 *eP* P 14 05 28.5 +1.3
comp=Z,9.5nm,0.8s
LOHW **Long Hollow** 75.31 46 *eP* P 14 05 28.9 +1.0
comp=Z,8.7nm,1.2s
SNOW **Snow King Moun** 75.31 46 *eP* P 14 05 29.6 +1.6
comp=Z,9.3nm,0.8s
REDW **Red Top Meadow** 75.32 46 *eP* P 14 05 29.1 +1.1
comp=Z,10nm,1.0s
DAC **Darwin (Calif)** 75.49 55 *eP* P 14 05 29.2 +0.2
comp=Z,12nm,1.4s
DAC **Darwin (Calif)** 75.49 55 *eP* P 14 05 29.2 +0.2
DAC pmax pmax
comp=Z,12nm,1.4s
R11A **Troy Canyon, C** 75.54 53 *eP* P 14 05 30.3 +1.0
comp=Z,16nm,1.4s
BGU **Big Grassy Mou** 75.55 49 *eP* P 14 05 30.4 +1.2
comp=Z,5.5nm,1.1s
DGMT **Dagmar** 75.61 39 *eP* P 14 05 29.8 +0.5
comp=Z,21nm,0.8s
SPUT **South Promonto** 75.66 49 *eP* P 14 05 30.1 +0.3
comp=Z,6.6nm,1.2s
LAO **LASA Array** 75.75 41 *eP* P 14 05 30.9 +0.8
comp=Z,19nm,0.9s
TPNV **Topopah Spring** 75.95 54 *eP* P 14 05 32.6 +1.0
comp=Z,8.6nm,0.9s
TPNV **Topopah Spring** 75.95 54 *eP* P 14 05 32.6 +1.0
TPNV pmax pmax
comp=Z,9.0nm,0.9s
DUG **Dugway, Tooele** 76.12 50 *eP* P 14 05 33.6 +1.1
comp=Z,13nm,1.0s
DUG **Dugway, Tooele** 76.12 50 *eP* P 14 05 33.6 +1.1
DUG pmax pmax
comp=Z,13nm,1.0s
TCUT **Toone Canyon** 76.39 48 *eP* P 14 05 35.0 +0.9
comp=Z,15nm,0.9s
BW06 **Boulder Array** 76.43 46 *eP* P 14 05 34.9 +0.6
comp=Z,6.8nm,0.8s
PD31 **Pinedale Array** 76.43 46 *eP* P 14 05 34.8 +0.5
PDAR **Pinedale Array** 76.43 46 P P 14 05 35.1 +0.8
comp=Z,5.1nm,0.6s,baz=262,slow=1.9,SNR=56
PDAR **Pinedale Array** 76.43 46 *eP* P 14 05 34.9 +0.5
CTU **Camp Tracy** 76.45 49 *eP* P 14 05 35.5 +1.1
comp=Z,6.3nm,0.9s
PSUT **Pine Spring** 76.51 52 *eP* P 14 05 35.9 +1.1
comp=Z,7.3nm,1.0s
JLU **Jordanelle** 76.69 49 *eP* P 14 05 37.2 +1.3
comp=Z,9.1nm,1.0s
NLU **North Lily Min** 76.72 50 *eP* P 14 05 37.0 +1.1
comp=Z,7.6nm,0.9s
SHPR **Sheep Range** 76.92 54 *eP* P 14 05 38.2 +1.2
comp=Z,8.1nm,1.0s
MPU **Maple Canyon** 76.95 49 *eP* P 14 05 38.4 +1.1
comp=Z,11nm,0.9s
BSD **Bornholm Skovb** 77.10 332 *i P* P 14 05 37.2 -0.3
comp=Z,30nm,0.9s
BSD **Bornholm Skovb** 77.10 332 *i P* P 14 05 37.2 -0.3
BSD pmax pmax
comp=Z,30nm,0.9s
LVV **L'vov** 77.20 324 *eP* P 14 05 38.5 +0.3
CCUT **Cedar City** 77.42 52 *eP* P 14 05 41.2 +1.2
comp=Z,6.3nm,0.9s
MSU **Marysvale** 77.55 51 *eP* P 14 05 42.1 +1.4
MSU **Marysvale** 77.55 51 *eP* P 14 05 42.1 +1.4
SZCU **Shurtz Canyon** 77.56 52 *eP* P 14 05 42.0 +1.3
comp=Z,5.2nm,0.9s
TMUT **Trail Mountain** 77.65 50 *eP* P 14 05 42.5 +1.1
comp=Z,8.4nm,1.2s
P17A **Butcher Ranch,** 77.82 49 *eP* P 14 05 43.0 +0.9
comp=Z,18nm,1.0s
LCMT **Little Creek M** 77.82 53 *eP* P 14 05 43.5 +1.3
comp=Z,8.7nm,0.9s
MTPU **Mount Pierson** 77.84 51 *eP* P 14 05 44.1 +1.7
comp=Z,9.5nm,0.9s
PRAR **RASCA** 77.86 321 ⇑ *iP* P 14 05 42.7 +0.8
Q16A **Castle Valley** 77.91 50 *eP* P 14 05 43.9 +1.2
comp=Z,15nm,1.4s
KWP **Kalwaria Pacla** 77.94 325 *eP* P 14 05 43.4 +1.0
KWP **Kalwaria Pacla** 77.94 325 *eP* P 14 05 43.4 +1.0
KNB **Kanab** 78.08 52 *eP* P 14 05 45.0 +1.4
comp=Z,25nm,1.4s
BUR08 **Bucovina Ar. S** 78.16 322 *eP* P 14 05 44.0 +0.2
BUR04 **Bucovina Ar. S** 78.18 322 *eP* P 14 05 43.8 0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BURAR	Bucovina Array	78.18	322	⇑iP	P	14 05 44.5	+0.7
BURAR	Bucovina Array	78.18	322	P	P	14 05 44.5	+0.7
BIZ	Bicaz	78.21	321	⇑iP	P	14 05 44.5	+0.6
K22A	Casper	78.22	45	eP	P	14 05 44.8	+0.6
	comp=Z,13nm,1.0s						
ULM	Lac du Bonnet	78.30	34	P	P	14 05 44.7	+0.4
	comp=Z,9.3nm,0.8s,baz=315,slow=7.3,SNR=14						
ULM	Lac du Bonnet	78.30	34	eP	P	14 05 44.3	0.0
	comp=Z,15nm,0.9s						
CFR	Carcaliu	78.38	319	⇓iP	P	14 05 45.2	+0.4
CFR	Carcaliu	78.38	319	P	P	14 05 45.1	+0.3
ODBI	Odobesti	78.54	320	⇑iP	P	14 05 46.5	+0.8
RSSD	Black Hills	78.60	42	eP	P	14 05 46.5	+0.1
	comp=Z,9.3nm,0.8s						
RSSD	Black Hills	78.60	42	eP	P	14 05 46.5	+0.1
RSSD				pmax	pmax		
	comp=Z,9.0nm,0.8s						
W13A	Hualapai Mount	78.60	54	eP	P	14 05 47.5	+1.0
	comp=Z,4.9nm,1.0s						
VRI	Vrincioaia	78.64	320	⇓iP	P	14 05 47.3	+1.0
VRI	Vrincioaia	78.64	320	P	P	14 05 47.3	+1.0
PLOR	Plostina	78.69	320	⇑iP	P	14 05 48.0	+1.4
PLOR	Plostina	78.69	320	P	P	14 05 47.9	+1.4
U15A	North Rim	78.78	53	eP	P	14 05 49.0	+1.4
	comp=Z,7.1nm,0.8s						
OJC	Ojcow	78.81	327	eP	P	14 05 48.0	+0.9
OJC	Ojcow	78.81	327	eP	P	14 05 47.3	+0.2
	comp=Z,26nm,0.9s						
OJC	Ojcow	78.81	327	eP	P	14 05 48.0	+0.9
TLB	Topalu	78.83	318	⇓iP	P	14 05 48.2	+0.9
TLB	Topalu	78.83	318	P	P	14 05 48.1	+0.8
UZH	Uzhgorod	78.84	324	eP	P	14 05 48.3	+1.0
UZH				e		14 05 52.6	
UZH				e		14 06 04.2	
O20A	White River Ci	78.88	48	eP	P	14 05 48.5	+0.6
	comp=Z,11nm,1.0s						
BRTR	Keskin Array B	78.94	312	P	P	14 05 48.6	+0.4
	comp=Z,3.4nm,0.8s,baz=83,slow=5.1,SNR=11						
BRTR				LR	LR	14 45 27.8	
	comp=Z,44nm,18.8s,baz=34,slow=39						
BRTR	Keskin Array B	78.94	312	i P	P	14 05 48.7	+0.5
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCR	ARCALIA	78.97	322	⇑iP	P	14 05 49.5	+1.4
Y12C	Blythe	79.02	56	eP	P	14 05 49.4	+0.8
	comp=Z,7.2nm,0.9s						
TRPA	Tarpa	79.09	324	⇑iP	P	14 05 49.7	+1.0
PGOR	Pogoanele	79.16	319	⇓iP	P	14 05 49.3	+0.2
NIE	Niedzica	79.18	326	eP	P	14 05 50.2	+1.0
NIE	Niedzica	79.18	326	eP	P	14 05 50.2	+1.0
DOPR	Dopca	79.24	321	⇑iP	P	14 05 51.2	+1.6
ISR	Istrita	79.24	320	⇓iP	P	14 05 50.4	+0.7
ISR	Istrita	79.24	320	P	P	14 05 50.3	+0.6
MLR	Muntele Rosu	79.29	320	LR	LR	14 43 35.2	
	comp=Z,210nm,19.5s,baz=49,slow=38						
MLR	Muntele Rosu	79.29	320	eP	P	14 05 49.9	-0.1
	comp=Z,12nm,1.0s						
MLR	Muntele Rosu	79.29	320	⇑iP	P	14 05 50.8	+0.8
MLR	Muntele Rosu	79.29	320	eP	P	14 05 49.9	-0.1
MLR				pmax	pmax		
	comp=Z,12nm,1.0s						
PV09	Paradox Valley	79.41	49	eP	P	14 05 52.1	+1.1
PV21	Cone Mtn., Par	79.46	49	eP	P	14 05 52.4	+1.1
	comp=Z,14nm,0.7s						
PV23	Carpenter Ridg	79.51	49	eP	P	14 05 52.6	+1.1
	comp=Z,14nm,0.7s						
PV10	Paradox Valley	79.54	49	eP	P	14 05 52.8	+1.1
SECR		79.55	320	⇓iP	P	14 05 52.0	+0.7
PV14	Lion Creek, Pa	79.56	49	eP	P	14 05 52.6	+0.8
	comp=Z,31nm,1.1s						
CJR	Cluj-Napoca	79.60	322	⇑iP	P	14 05 53.0	+1.4
CJR	Cluj-Napoca	79.60	322	P	P	14 05 52.9	+1.4
PV20	West Nyswonger	79.61	49	eP	P	14 05 52.9	+0.9
	comp=Z,23nm,0.8s						
PV19	Morning Glory	79.62	49	eP	P	14 05 53.0	+0.9
	comp=Z,19nm,0.9s						
PV17	East Wray Mesa	79.65	49	eP	P	14 05 53.1	+0.9
	comp=Z,30nm,1.0s						
PV16	Nyswonger Mesa	79.66	49	eP	P	14 05 53.3	+1.0
	comp=Z,11nm,0.8s						
BSEG	Bad Segeberg	79.69	334	eL	L	14 41 47.2	
	comp=Z,172nm,20.7s						
PV11	David Mesa, Pa	79.69	49	eP	P	14 05 53.3	+0.9
	comp=Z,56nm,1.5s						
PV05	Paradox Valley	79.70	50	eP	P	14 05 53.3	+0.8
N23A	Red Feather La	79.70	46	eP	P	14 05 53.8	+1.3
	comp=Z,14nm,0.9s						
PHWY	Pilot Hill	79.71	45	eP	P	14 05 52.9	+0.3
	comp=Z,19nm,1.7s						
PV12	Saucer Basin,	79.72	49	eP	P	14 05 53.5	+0.9
	comp=Z,8.7nm,0.8s						
AGMN	Agassiz Nation	79.72	35	eP	P	14 05 52.0	-0.1
	comp=Z,11nm,0.8s						
PV03	Paradox Valley	79.74	49	eP	P	14 05 53.2	+0.5
LANS	Liptovska Anna	79.74	326	eP	P	14 05 53.6	+1.3
LANS	Liptovska Anna	79.74	326	eP	P	14 05 53.6	+1.3
PV13	Radium Mtn., P	79.81	49	eP	P	14 05 54.0	+0.9
	comp=Z,21nm,0.9s						
KSP	Ksiaz	79.83	329	eP	P	14 05 53.5	+0.8
KSP	Ksiaz	79.83	329	eP	P	14 05 53.5	+0.8
PV02	Paradox Valley	79.83	49	eP	P	14 05 54.1	+0.8
	comp=Z,9.3nm,0.8s						
WUAZ	Wupatki	79.94	53	eP	P	14 05 54.8	+1.0
	comp=Z,12nm,0.9s						
DRGR		79.97	323	⇓iP	P	14 05 54.5	+0.9
DRGR		79.97	323	P	P	14 05 54.5	+0.9
PV01	Paradox Valley	79.98	49	eP	P	14 05 54.4	+0.3
ARR	Arges	80.04	321	⇑iP	P	14 05 55.6	+1.6
MORC	Moravsky Berou	80.11	327	eP	P	14 05 54.1	-0.2
	comp=Z,15nm,1.0s						
MORC	Moravsky Berou	80.11	327	⇑iP	P	14 05 55.0	+0.7
MORC	Moravsky Berou	80.11	327	eP	P	14 05 54.1	-0.2
MORC				pmax	pmax		
	comp=Z,15nm,1.0s						
MORC	Moravsky Berou	80.11	327	eP	P	14 05 54.8	+0.5
MORC				e		14 06 08.1	
DPC	Dobruska-Polom	80.19	328	eP	P	14 05 56.2	+1.5
DPC				epP	sP	14 06 08.3	+1.3
DPC				esP	pP	14 06 15.4	+12
DPC	Dobruska-Polom	80.19	328	eP	P	14 05 56.2	+1.5
DPC				e		14 06 08.3	
DPC				e		14 06 15.4	
UPC	Upice	80.20	329	eP	P	14 05 56.0	+1.3
UPC				AMS	AMS	14 46 30.0	
	comp=Z,200nm,17.1s						
UPC	Upice	80.20	329	eP	P	14 05 56.0	+1.3
UPC				MLR	MLR		
	comp=Z,200nm,17.1s						
KRLC	Kraliky	80.21	328	eP	P	14 05 55.4	+0.6
KRLC				epP	sP	14 06 05.9	-1.2
KRLC	Kraliky	80.21	328	eP	P	14 05 55.4	+0.6
KRLC				e		14 06 05.9	
SMCO	Snowmass	80.24	48	eP	P	14 05 56.0	+0.3
	comp=Z,5.3nm,1.0s						
PSZ	Piszkesteto	80.46	325	eP	P	14 05 55.8	-0.5
	comp=Z,24nm,1.1s						
PSZ	Piszkesteto	80.46	325	⇓iP	P	14 05 57.6	+1.3
PSZ	Piszkesteto	80.46	325	eP	P	14 05 55.8	-0.5
PSZ				pmax	pmax		
	comp=Z,24nm,1.1s						
PSZ	Piszkesteto	80.46	325	⇑eP	P	14 05 56.1	-0.2
VYHS	Vyhne	80.51	326	eP	P	14 05 57.3	+0.9
VYHS				e		14 06 10.7	
VYHS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
VYHS	Vyhne	80.51	326	eP	P	14 05 57.3	+0.9
VYHS				e		14 06 10.7	
X16A	Lo Mia Camp, P	80.59	54	eP	P	14 05 58.0	+0.6
	comp=Z,9.6nm,0.9s						
ISCO	Idaho Springs	80.62	46	eP	P	14 05 58.8	+1.2
	comp=Z,4.9nm,0.9s						
ISCO	Idaho Springs	80.62	46	P	P	14 05 58.7	+1.2
ISCO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MVCO	Mesa Verde	80.62	50	eP	P	14 05 58.5	+1.0
	comp=Z,9.9nm,1.0s						
JAVC	Velka Javorina	80.75	327	eP	P	14 05 59.4	+1.6
JAVC				e		14 06 12.5	
BRG	Berggiesshubel	80.75	330	eP	P	14 05 57.9	+0.2
	comp=Z,9.4nm,0.9s						
BRG				e		14 06 07.1	
	comp=Z,8.2nm,1.1s						
BRG	Berggiesshubel	80.75	330	eP	P	14 05 58.2	+0.6
	comp=Z,9.3nm,0.9s,baz=36,slow=5.2						
BRG	Berggiesshubel	80.75	330	eP	P	14 05 57.9	+0.2
BRG				e		14 06 07.1	
BRG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PVCC	Panska Ves	80.77	329	eP	P	14 05 59.1	+1.3
PVCC				esP	sP	14 06 17.8	+7.7
PVCC	Panska Ves	80.77	329	eP	P	14 05 59.1	+1.3
PVCC				e		14 06 17.8	
CLL	Collm	80.78	331	eP	P	14 05 57.9	+0.1
	comp=Z,15nm,0.9s						
CLL	Collm	80.78	331	eP	P	14 05 58.2	+0.4
	comp=Z,17nm,1.0s,baz=36,slow=5.2						
CLL	Collm	80.78	331	⇑iP	P	14 05 58.0	+0.2
	comp=Z,17nm,1.0s						
CLL				i pP	sP	14 06 10.4	+0.3
	comp=Z,23nm,1.1s						
CLL	Collm	80.78	331	⇑iP	P	14 05 58.0	+0.2
CLL				i *PP	sP	14 06 10.4	+0.3
CLL				pmax	pmax		
	comp=Z,34nm,1.0s						
VRAC	Vranov	80.87	328	⇑iP	P	14 05 59.4	+1.1
VRAC	Vranov	80.87	328	P	P	14 05 59.4	+1.1
VRAC	Vranov	80.87	328	eP	P	14 05 59.3	+1.0
VRAC				e		14 06 12.2	
NRDL	Niedersach Rie	80.92	333	eP	P	14 05 59.0	+0.5
	comp=Z,4.9nm,0.8s,baz=36,slow=5.2						
GZR	Gura Zlata	80.94	322	⇑iP	P	14 05 58.8	-0.1
GZR	Gura Zlata	80.94	322	P	P	14 05 58.8	-0.1
FBE	Freiberg	80.95	330	eP	P	14 05 59.5	+0.8
	comp=Z,20nm,1.1s,baz=36,slow=5.2						
RETH	Rethem/Aller,	80.99	333	eP	P	14 05 59.4	+0.6
	comp=Z,17nm,1.3s,baz=36,slow=5.2						
ASSE	Asse, Remlinge	81.01	332	eP	P	14 05 59.6	+0.7
	comp=Z,6.7nm,0.9s,baz=36,slow=5.2						
SMOL	Smolenice	81.11	327	P	P	14 06 01.3	+1.7
VLAD	Vladila	81.12	320	⇓iP	P	14 05 59.8	+0.1
PHSR	Pinarhisar	81.13	317	⇑iP	P	14 06 00.7	+0.9
RAYN	Ar Rayn	81.14	293	eP	P	14 05 59.5	-0.8
	comp=Z,6.3nm,0.8s						
RAYN	Ar Rayn	81.14	293	eP	P	14 05 59.5	-0.8
RAYN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KRUC	Moravsky	81.14	327	eP	P	14 06 00.5	+0.7
KRUC				e		14 06 13.4	
GOPC	GO Pecny, Ondr	81.16	329	eP	P	14 06 01.0	+1.1
GOPC				epP	sP	14 06 14.1	+1.9
GOPC				AMS	AMS	14 51 20.0	
	comp=Z,200nm,20.1s						
GOPC	GO Pecny, Ondr	81.16	329	eP	P	14 06 01.0	+1.1
GOPC				e		14 06 14.1	
GOPC				MLR	MLR		
	comp=Z,200nm,20.1s						
PRU	Pruhonice	81.20	329	eP	P	14 06 01.3	+1.2
PRU				esP	sP	14 06 19.9	+7.5
PRU	Pruhonice	81.20	329	eP	P	14 06 01.3	+1.2
PRU				e		14 06 19.9	
SRO	Srobarova	81.25	326	eP	P	14 06 01.7	+1.4
SRO	Srobarova	81.25	326	eP	P	14 06 01.7	+1.4
S22A	4UR Ranch, Cre	81.27	49	eP	P	14 06 02.2	+1.1
	comp=Z,8.1nm,1.0s						
MODS	Modra-Piesok	81.29	327	eP	P	14 06 00.8	+0.2
MODS				pmax	pmax		
	comp=Z,14nm,1.2s						
MODS	Modra-Piesok	81.29	327	eP	P	14 06 00.8	+0.2
NEUB	Neuenburg	81.33	331	eP	P	14 06 01.2	+0.5
	comp=Z,21nm,1.1s,baz=36,slow=5.2						
BZS	Buzias	81.34	322	⇑iP	P	14 06 01.0	+0.1
TREC	Trest	81.35	328	eP	P	14 06 01.8	+0.9
TREC	Trest	81.35	328	eP	P	14 06 01.8	+0.9
CLZ	Clausthal	81.35	332	eP	P	14 06 01.6	+0.7
	comp=Z,16nm,1.0s,baz=36,slow=5.2						
Q24A	Divide	81.44	47	eP	P	14 06 03.0	+1.0
	comp=Z,4.4nm,0.9s						
HERR	Herculane	81.48	322	⇑iP	P	14 06 02.0	+0.3
GUNZ	Gunzen	81.79	330	eP	P	14 06 03.9	+0.6
	comp=Z,8.4nm,0.9s,baz=36,slow=5.2						
WERN	Wernitzgruen	81.83	330	eP	P	14 06 04.2	+0.8
	comp=Z,9.2nm,1.1s,baz=36,slow=5.2						
MOX	Moxa	81.84	331	eP	P	14 06 04.0	+0.5
	comp=Z,12nm,1.3s,baz=36,slow=5.2						
MOX				eL	L	14 45 20.5	
	comp=Z,94nm,20.2s						
MDVR	Moldovita	81.90	322	⇑iP	P	14 06 04.0	+0.1
SDCO	Great Sand Dun	82.06	48	eP	P	14 06 06.0	+0.8
	comp=Z,6.2nm,1.0s						
SOP	Sopron	82.13	326	P	P	14 06 06.8	+1.8
CONA	Conrad Observa	82.24	327	i P	P	14 06 06.6	+0.9
	comp=Z,9.0nm,0.9s						
KHC	Kasperske Hory	82.26	329	eP	P	14 06 05.6	-0.2
	comp=Z,5.8nm,1.1s						
KHC	Kasperske Hory	82.26	329	eP	P	14 06 06.5	+0.8
KHC				ePCP	PcP	14 06 10.9	-0.1
KHC	Kasperske Hory	82.26	329	eP	P	14 06 05.6	-0.2
KHC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MORH	Mrgy, Hungar	82.30	324	eP	P	14 06 18.0	+12
TUC	Tucson	82.36	55	eP	P	14 06 07.5	+0.9
	comp=Z,19nm,1.8s						
TUC	Tucson	82.36	55	eP	P	14 06 07.5	+0.9
TUC				pmax	pmax		
	comp=Z,19nm,1.8s						
GEC2	GERESS Array S	82.44	329	eP	P	14 06 06.6	-0.1
	comp=Z,4.7nm,0.8s						
GEC2	GERESS Array S	82.44	329	eP	P	14 06 07.1	+0.3
	comp=Z,6.3nm,1.1s,baz=36,slow=5.2						
GEC2				eL	L	14 47 35.0	
	comp=Z,165nm,18.0s						
GEC2	GERESS Array S	82.44	329	eP	P	14 06 06.6	-0.1
GEC2				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GERES	GERESS Array B	82.44	329	P	P	14 06 07.0	+0.3
	comp=Z,2.4nm,0.5s,baz=35,slow=4.9,SNR=21						
GERES				LR	LR	14 45 15.6	
	comp=Z,118nm,20.2s,baz=22,slow=37						
GEA0	GERESS Array S	82.44	329	eP	P	14 06 06.3	-0.5
WET	Wettzell	82.54	329	eP	P	14 06 08.0	+0.9
	comp=Z,8.5nm,1.1s,baz=36,slow=5.2						
WET				eL	L	14 45 17.6	
	comp=Z,167nm,19.2s						
ESK	Eskdalemuir	82.63	341	i P	P	14 06 10.1	+2.6
ECSD	EROS Data Cent	82.69	39	eP	P	14 06 08.3	+0.2
	comp=Z,12nm,0.8s						
VTS	Vitosha	82.74	320	eP	P	14 06 08.9	+0.4
	comp=Z,17nm,0.8s						
VTS	Vitosha	82.74	320	⇓iP	P	14 06 09.1	+0.6
VTS	Vitosha	82.74	320	eP	P	14 06 08.9	+0.4
VTS				pmax	pmax		
	comp=Z,17nm,0.8s						
GRF	Grafenberg Arr	82.76	331	eP	P	14 06 09.2	+0.9
	comp=Z,16nm,0.9s,baz=36,slow=5.2						
GRF				eL	L	14 45 59.8	
	comp=Z,110nm,20.4s						
ARSA	Arzberg	82.91	327	i P	P	14 06 09.7	+0.6
	comp=Z,3.6nm,0.7s						
E38A	The Farm, Brul	82.93	34	eP	P	14 06 09.1	-0.1
	comp=Z,25nm,0.7s						
MOA	Molln	82.98	328	i P	P	14 06 10.0	+0.6
	comp=Z,8.8nm,1.1s						
T25A	Trinidad	83.11	48	eP	P	14 06 11.3	+0.7
	comp=Z,8.9nm,0.8s						
LAZ	Ladron	83.30	51	eP	P	14 06 13.0	+1.4
ANMO	Albuquerque	83.36	51	eP	P	14 06 12.3	+0.4
	comp=Z,12nm,1.1s						
ANMO	Albuquerque	83.36	51	deP	P	14 06 13.8	+1.9
ANMO				pmax	pmax		
	comp=Z,14nm,1.3s						
TNS	Taunus Mts	83.38	332	eL	L	14 51 44.6	
	comp=Z,137nm,18.0s						
SPMN	Marine on St.	83.41	36	eP	P	14 06 11.8	+0.1
	comp=Z,16nm,1.0s						
LENM	Lemitar	83.56	51	eP	P	14 06 13.5	+0.5
SOKA	Soboth	83.56	327	i P	P	14 06 12.7	+0.1
	comp=Z,11nm,0.8s						
BGNE	Belgrade	83.59	41	eP	P	14 06 12.7	-0.1
	comp=Z,32nm,0.9s						
RJOB	Jochberg	83.68	329	eP	P	14 06 14.3	+1.1
	comp=Z,14nm,0.9s,baz=36,slow=5.2						
PMOR	Pomariorio Ree	83.72	114	eT	T	15 38 24.6	
	comp=Z,10.0nm,0.2s						
BNM	Barren Site	83.78	51	eP	P	14 06 15.0	+0.9
OBKA	Obir	83.91	327	i P	P	14 06 14.1	-0.3
	comp=Z,4.0nm,0.7s						
MEM	Membach	83.93	334	⇑P	P	14 06 14.3	0.0
319A	Douglas	83.94	55	eP	P	14 06 15.6	+0.7
	comp=Z,16nm,0.9s						
FUR	Furstenfeldbru	83.96	330	eL	L	14 46 41.1	
	comp=Z,176nm,20.0s						
MYKA	Terra Mystica	84.20	327	eP	P	14 06 15.4	-0.4
	comp=Z,5.2nm,0.7s						
PPT2	Papeete2	84.25	117	eLR	LR	14 32 57.8	
	comp=Z,159nm,24.5s						
SCHQ	Schefferville	84.26	17	P	P	14 06 16.3	+0.4
	comp=Z,8.4nm,0.8s,baz=324,slow=3.7,SNR=5.8						
G40A	Rib Lake	84.56	34	eP	P	14 06 17.8	+0.2
	comp=Z,18nm,0.8s						
ABTA	Abfaltersbach	84.59	328	i P	P	14 06 17.9	+0.1
	comp=Z,5.5nm,1.1s						
CBKS	Cedar Bluff	84.60	44	eP	P	14 06 18.2	+0.2
	comp=Z,12nm,0.9s						
CBKS	Cedar Bluff	84.60	44	eP	P	14 06 18.2	+0.2
CBKS				pmax	pmax		
	comp=Z,13nm,0.9s						
MOTA	Moosalm	84.69	329	i P	P	14 06 18.3	-0.1
	comp=Z,3.7nm,0.7s						
RETA	Reutte	84.71	329	i PcP	P	14 06 18.8	+0.4
	comp=Z,9.6nm,0.8s						
SQTA	Sankt Quirin	84.75	329	i PcP	P	14 06 18.9	+0.3
	comp=Z,4.7nm,0.7s						
PDG	Podgorica	84.84	322	⇓iP	P	14 06 19.0	0.0
DOU	Dourbes	84.85	334	⇓P	P	14 06 17.8	-1.2
DOU				⇓pP	sP	14 06 31.2	0.0
	comp=Z,8.8nm,1.8s						
LIT	Litokhoron	84.91	318	eP	P	14 06 19.3	-0.1
	comp=Z,24nm,0.8s						
LIT	Litokhoron	84.91	318	eP	P	14 06 19.3	-0.1
LIT				pmax	pmax		
	comp=Z,24nm,0.8s						
BFO	Black Forest	84.98	331	eP	P	14 06 19.6	-0.1
	comp=Z,17nm,1.0s						
BFO	Black Forest	84.98	331	eP	P	14 06 19.9	+0.3
	comp=Z,15nm,1.0s,baz=36,slow=5.2						
BFO				eL	L	14 48 46.2	
	comp=Z,105nm,19.8s						
BFO	Black Forest	84.98	331	i P	P	14 06 20.3	+0.6
I39A	Houston	85.05	36	eP	P	14 06 20.0	-0.1
	comp=Z,21nm,0.7s						
FETA	Feichten	85.10	329	i PcP	P	14 06 20.7	+0.2
	comp=Z,12nm,1.2s						
DAVA	Damuels	85.23	330	i P	P	14 06 20.3	-0.8
	comp=Z,18nm,1.0s						
ECH	Echery	85.51	332	eP	P	14 06 21.8	-0.5
	comp=Z,9.9nm,1.0s						
ECH	Echery	85.51	332	eP	P	14 06 21.8	-0.5
ECH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
FUORN	Ofenpass-Fuorn	85.61	329	eP	P	14 06 23.1	-0.1
	comp=Z,20nm,0.8s						
KSU1	Kansas State U	86.08	42	eP	P	14 06 25.4	+0.1
	comp=Z,16nm,0.6s						
MNTX	Cornudas Mount	86.20	52	eP	P	14 06 26.7	+0.6
	comp=Z,5.4nm,0.9s						
AMTX	Amarillo	86.26	48	eP	P	14 06 26.8	+0.4
	comp=Z,23nm,0.9s						
WMOK	Wichita Mounta	88.05	46	eP	P	14 06 35.3	+0.3
	comp=Z,8.0nm,0.8s						
WMOK	Wichita Mounta	88.05	46	eP	P	14 06 35.3	+0.3
WMOK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TBI	Tubuai	88.22	121	eT	T	15 44 06.0	
	comp=Z,20nm,0.3s						
M44A	Midewin, Midew	88.58	36	eP	P	14 06 37.7	+0.4
	comp=Z,36nm,0.9s						
TX31	Lajitas Ar. Si	88.90	53	eP	P	14 06 39.7	+0.6
TXAR	Lajitas Array	88.90	53	P	P	14 06 40.1	+1.0
	comp=Z,4.4nm,0.8s,baz=297,slow=3.2,SNR=45						
P42A	Winchester	88.90	38	eP	P	14 06 39.0	+0.2
	comp=Z,32nm,0.9s						
ABTX	Abilene, Hawle	89.06	48	eP	P	14 06 40.0	+0.2
	comp=Z,18nm,1.1s						
HHAR	Hobbs	89.59	42	eP	P	14 06 41.9	-0.3
	comp=Z,7.3nm,0.9s						
CCM	Cathedral Cave	89.64	40	eP	P	14 06 42.2	0.0
	comp=Z,24nm,1.0s						
CCM	Cathedral Cave	89.64	40	eP	P	14 06 42.3	0.0
CCM				pmax	pmax		
	comp=Z,24nm,1.0s						
JCT	Junction City	90.49	50	eP	P	14 06 46.5	0.0
	comp=Z,8.2nm,0.8s						
JCT	Junction City	90.49	50	eP	P	14 06 46.5	0.0
JCT				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WHTX	Lake Whitney,	90.79	47	eP	P	14 06 47.1	-0.7
	comp=Z,24nm,0.8s						
MIAR	Mount Ida	91.09	43	eP	P	14 06 49.4	+0.3
	comp=Z,16nm,0.9s						
MIAR	Mount Ida	91.09	43	eP	P	14 06 49.4	+0.3
MIAR				pmax	pmax		
	comp=Z,16nm,0.9s						
W41B	Gary Mavity, V	91.32	42	eP	P	14 06 49.8	-0.4
	comp=Z,29nm,1.5s						
Q51A	Peebles	92.61	34	eP	P	14 06 56.2	+0.1
	comp=Z,15nm,0.8s						
ESDC	Sonseca Array	96.90	335	P	P	14 07 16.0	+0.2
	comp=Z,0.3nm,0.5s,baz=5.8,slow=4.9,SNR=4.0						
ESDC				LR	LR	14 55 49.1	
	comp=Z,83nm,18.4s,baz=270,slow=38						
VNDA	Vanda	115.76	175	PKP	PKPdf	14 12 25.3	-0.1
	comp=Z,1.3nm,0.7s,baz=308,slow=5.8,SNR=7.9						
TORD	Torodi Ar. Bea	117.33	316	PKP	PKPdf	14 12 29.4	-1.0
	comp=Z,0.7nm,0.8s,baz=9.5,slow=1.9,SNR=4.4						
SDV	Santo Domingo	124.10	41	ePKPdf	PKPdf	14 12 43.2	-0.4
DBIC	Dimbokro	126.25	318	PKP	PKPdf	14 12 46.3	-1.2
	comp=Z,2.5nm,0.7s,baz=353,slow=4.0,SNR=5.1						
QSPA	South Pole Qui	127.64	180	ePKPdf	PKPdf	14 12 47.8	-0.8
NNA	Nana	136.44	64	i PKIKP	PKPdf	14 13 07.8	+1.0
LPAZ	La Paz	145.50	60	PKPbc	PKPab	14 13 24.2	+0.2
	comp=Z,24nm,0.8s,baz=336,slow=3.6,SNR=88						
LPAZ	La Paz	145.50	60	ePKPdf	PKPdf	14 13 23.8	+0.1
MNMC	Minye Minye	146.38	65	ePKPdf	PKPbc	14 13 26.1	+0.1
PB11	IPOC Station P	146.74	66	ePKPdf	PKPbc	14 13 26.3	-0.6
GO01	Chusmiza	147.02	66	ePKPdf	PKPdf	14 13 26.6	+0.5
PB01	IPOC Station P	147.67	68	ePKPdf	PKPdf	14 13 27.9	+1.3
PB04	IPOC Station P	147.96	70	ePKPbc	PKPbc	14 13 30.4	+0.2
LVC	Limon Verde	149.05	70	ePKPdf	PKPdf	14 13 31.0	+1.9
LVC	Limon Verde	149.05	70	ePKIKP	PKPdf	14 13 31.0	+1.9
GO02	Mina Guanaco	149.98	74	ePKPbc	PKPbc	14 13 35.9	+0.5
LCO	Las Campanas	151.02	82	ePKPbc	PKPbc	14 13 38.3	+0.5
LCO	Las Campanas	151.02	82	ePKIKP	PKPbc	14 13 38.3	+0.5
GO04	Tololo Observa	151.44	84	ePKPbc	PKPbc	14 13 38.5	-0.2
PLCA	Paso Flores	154.34	107	PKPbc	PKiKP	14 13 45.4	+0.8
	comp=Z,2.0nm,0.7s,baz=38,slow=3.0,SNR=4.2						
PLCA				PKPab	PKPab	14 14 00.4	+1.6
	comp=Z,4.7nm,0.7s,baz=299,slow=4.5,SNR=8.1						
BDFB	Brasilia	155.95	26	PKPab	PKPab	14 14 06.7	+0.5
	comp=Z,2.9nm,0.6s,baz=304,slow=3.6,SNR=3.7						
CPUP	Villa Florida	159.66	61	PKPab	PKPab	14 14 22.2	+0.3
	comp=Z,2.8nm,0.9s,baz=291,slow=7.3,SNR=5.2						

*SFS **07** 14:19:19.0, 32°.51N×7°.22W, ML3.5, KHOURIBGA (MARRUECOS)*

*MDD **07** 14:19:23.2±7.6, 32°.89N×6°.96W, h0km, mb3.2/2, Error ellipse: s-maj=77.6km s-min=46.4km az=82.0, PRXIMO SIN SOLUCIN*

ISC 07 14:19:22.1±3.9, **32°.8N**±0°.2×**7°.7W**±0°.1, **h10km, n5,** σ**1s.39**/8, **Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AVE	Averroes	0.56	23	eP	Pn	14 19 36.0	-0.3
AVE				eS	Sn	14 19 55.0	+9.3
IFR	Ifrane	2.26	70	eP	Pb	14 20 03.2	0.0
IFR				eS	Sg	14 20 35.7	+0.8
EGRO	El Granado	4.75	2	S	Sn	14 21 31.0	+2.1
	2.2nm,0.5s,SNR=7.9						
EMIN	Mina Concepcio	5.05	9	P	Pn	14 20 37.8	0.0
	0.5nm,0.5s,SNR=7.9						
EMIN				S	Sn	14 21 35.9	-0.3
	1.4nm,0.4s,SNR=5.9						
ECAB	El Cabril	5.60	19	P	Pn	14 20 45.0	-0.5
	0.9nm,0.5s,SNR=7.9						
ECAB				S	Sn	14 21 47.9	-2.0
	1.2nm,0.4s,SNR=7.9						

IDC 07 14:42:55.9±2.0, **2°.08N×125°.97E, h0km, mb3.1**/3, **mb1 3.3**/3, **mb1mx3.2**/41, **mbtmp3.1**/3, **MS3.4**/1, **Ms1 3.4**/1, **ms1mx2.5**/12, **Error ellipse: s-maj=171.4km s-min=25.0km az=65.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.37**	**160**	P	P	14 48 06.1	-0.3
	0.4nm,0.5s,baz=338,slow=10,SNR=10.0						
ASAR	**Alice Springs**	**26.73**	**164**	P	P	14 48 37.5	+0.2
	0.2nm,0.5s,baz=344,slow=7.7,SNR=4.3						
BRDH	**Bariadhala**	**39.10**	**304**	LR	LR	15 08 47.3	
	comp=Z,50nm,19.1s,baz=26,slow=40						
MKAR	**Makanchi Array**	**58.48**	**326**	P	P	14 52 53.9	0.0
	0.1nm,0.4s,baz=111,slow=6.3,SNR=2.7						

*IDC **07** 14:51:30.7±1.6, 35°.77N×141°.06E, h0km, mb3.4/4, mb1 3.5/7, mb1mx3.4/52, mbtmp3.5/7, ML3.4/3, MS2.6/4, Ms1 2.6/4, ms1mx2.4/32, Error ellipse: s-maj=40.8km s-min=18.9km az=75.0*

*ISCJB **07** 14:51:36.7±0.8, 35°.77N±0°.05×140°.81E±0°.09, h57km±4km, mb3.4/4, Error ellipse: s-maj=13.3km s-min=7.1km az=161.0*

*JMA **07** 14:51:37.8±0.2, 35°.75N×140°.68E, h49km±2km, M2.9*

ISC 07 14:51:37.9±1.0, **35°.78N**±0°.05×**140°.78E**±0°.08, **h49**km±7km, **n19**, σ**0s83**/22, **mb3.4**/4, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.10**	**140**	P	**Pn**	**14 51 45.7**	**+0.2**
CHOJ				*e*S	**Sn**	**14 51 51.4**	**+0.5**
JIHU	**Itakohorinouch**	**0.28**	**312**	P	**Pn**	**14 51 47.0**	**+0.4**
JIHU				*e*S	**Sn**	**14 51 54.0**	**+1.1**
JSMT	**Sammumatsuo**	**0.30**	**243**	P	**Pn**	**14 51 46.5**	**-0.4**
JSMT				*e*S	**Sn**	**14 51 53.5**	**+0.2**
JCN	**Nagara**	**0.59**	**233**	P	**Pn**	**14 51 49.9**	**-0.3**
JYT	**Yasato**	**0.65**	**313**	P	**Pn**	**14 51 50.4**	**-0.5**
JYT				*e*S	**Sn**	**14 51 59.2**	**-1.1**
JHO	**Hitachi**	**0.84**	**348**	P	**Pn**	**14 51 54.1**	**+0.6**
BSO4	**Boso 4**	**0.87**	**205**	P	**Pn**	**14 51 53.1**	**-0.6**
BSO3	**Boso 3**	**1.00**	**193**	P	**Pn**	**14 51 55.0**	**-0.3**
MJAR	**Matsushiro Arr**	**2.21**	**291**	Pn	**Pn**	**14 52 12.8**	**+0.6**
	7.7nm,0.3s,baz=36,slow=9.2,SNR=88						
MJAR				LR	LR	14 53 11.4	
	comp=Z,87nm,19.4s,baz=110,slow=42						
MAT	**Matsushiro**	**2.21**	**291**	P	**Pn**	**14 52 13.1**	**+0.9**
MAT				*e*S	**Sn**	**14 52 38.7**	**+0.3**
JHJ	**Hachijo jima 2**	**2.78**	**197**	Pn	**Pn**	**14 52 19.4**	**-0.5**
	16nm,0.3s,baz=138,slow=21,SNR=9.1						
JHJ				Sn	**Sn**	**14 52 52.8**	**+0.6**
	27nm,0.3s,baz=111,slow=23,SNR=8.0						
ASAJ	**Asahikawa**	**8.44**	**9**	Pn	**Pn**	**14 53 35.3**	**-2.2**
	0.4nm,0.3s,baz=223,slow=10,SNR=6.9						
JNU	**Nakatsue**	**8.60**	**255**	LR	LR	14 57 17.8	
	comp=Z,54nm,21.2s,baz=120,slow=39						
KSRS	**Korea Array**	**10.47**	**283**	LR	LR	14 58 10.1	
	comp=Z,20nm,19.0s,baz=95,slow=37						
KLR	**Kul'dur**	**14.98**	**337**	LR	LR	15 00 09.4	
	comp=Z,33nm,18.2s,baz=59,slow=34						
SONM	**Songino Array**	**28.08**	**306**	P	**P**	**14 57 25.4**	**+0.5**
	0.3nm,0.5s,baz=108,slow=10,SNR=2.7						
MKAR	**Makanchi Array**	**44.36**	**303**	P	**P**	**14 59 43.5**	**+0.2**
	0.3nm,0.6s,baz=87,slow=9.9,SNR=5.5						
WRA	**Warramunga Arr**	**55.75**	**187**	P	**P**	**15 01 09.3**	**-0.4**
	0.2nm,0.3s,baz=1.0,slow=7.4,SNR=13						
ASAR	**Alice Springs**	**59.48**	**187**	P	**P**	**15 01 35.2**	**-0.7**
	0.5nm,1.1s,baz=16,slow=11,SNR=8.3						

IDC 07 14:57:04.3±1.9, **3°.91N**×**124°.41E**, **h0**km, **mb3.4**/4, **mb1 3.6**/4, **mb1mx3.3**/49, **mbtmp3.4**/4, **Error ellipse: s-maj=149.9km s-min=23.5km az=67.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.91**	**177**	P	P	15 01 59.5	+0.2
	1.3nm,0.7s,baz=14,slow=12,SNR=3.3						
WRA	**Warramunga Arr**	**25.64**	**158**	P	P	15 02 36.1	+0.3
	0.2nm,0.3s,baz=337,slow=9.6,SNR=17						
ASAR	**Alice Springs**	**28.93**	**162**	P	P	15 03 05.0	-0.5
	0.1nm,0.3s,baz=337,slow=7.5,SNR=5.8						
MKAR	**Makanchi Array**	**56.10**	**326**	P	P	15 06 45.5	-0.1
	0.3nm,0.3s,baz=123,slow=7.9,SNR=9.0						

IDC 07 15:00:54.6±18.0, **0°.83N**×**126°.65E**, **h140**km±181km, **mb3.0**/3, **mb1 3.3**/4, **mb1mx3.0**/45, **mbtmp3.5**/4, **ML3.2**/1, **Error ellipse: s-maj=112.8km s-min=36.9km az=60.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.84**	**183**	P	Pn	15 05 05.4	-0.5
	0.1nm,0.3s,baz=17,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**21.98**	**160**	P	P	15 05 36.3	-1.2
	0.6nm,0.5s,baz=335,slow=11,SNR=16						
ASAR	**Alice Springs**	**25.35**	**164**	P	P	15 06 09.0	+0.2
	0.6nm,0.4s,baz=347,slow=12,SNR=17						
MKAR	**Makanchi Array**	**59.89**	**326**	P	P	15 10 45.7	-0.1
	0.1nm,0.5s,baz=130,slow=5.9,SNR=2.6						

*ISCJB **07** 15:07:33.9±0.6, 55°.35N±0°.04×134°.92W±0°.10, h9km, mb3.7/4, Error ellipse: s-maj=8.8km s-min=4.6km az=148.5*

*NEIC **07** 15:07:35.5±0.0, 55°.38N×134°.81W, h20km, ML4.0(AEIC), After AEIC.*

*IDC **07** 15:07:35.3±1.0, 55°.30N×134°.84W, h0km, mb3.8/5, mb1 4.0/12, mb1mx3.7/45, mbtmp3.8/12, ML3.6/7, MS3.0/5, Ms1 3.0/5, ms1mx2.7/39, Error ellipse: s-maj=17.2km s-min=9.9km az=60.0*

ISC 07 15:07:35.4±0.7, **55°.35N**±0°.05×**134°.92W**±0°.06, **h9**km, **n22**, σ**2s10**/28, **mb3.7**/4, **Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	**Craig**	**1.03**	**83**	P	**Pg**	**15 07 53.7**	**-1.5**
CRAG				S	**Sg**	**15 08 06.3**	**-2.3**
SIT	**Sitka**	**1.73**	**353**	P	**Pn**	**15 08 04.2**	**-1.4**
SIT				S	**Sn**	**15 08 24.8**	**-2.9**
WRAK	**Wrangell Islan**	**1.80**	**52**	*e*Pn	**Pn**	**15 08 04.9**	**-1.7**
NDB	**Naden**	**1.81**	**140**	P	**Pn**	**15 08 05.1**	**-1.7**
MASB	**Masset**	**2.15**	**127**	P	**Pn**	**15 08 09.8**	**-1.6**
H02S1	**DAWSON INLET T**	**2.59**	**145**	Pn	**Pn**	**15 08 16.2**	**-1.2**
H02S1				Sn	**Sn**	**15 08 48.3**	**-0.6**
JIS	**Juneau Island**	**2.95**	**6**	P	**Pn**	**15 08 22.8**	**+0.5**
JIS				S	**Sn**	**15 08 53.6**	**-4.3**
BESE	**Bessie Mountai**	**3.24**	**1**	P	**Pn**	**15 08 25.9**	**-0.6**
DLBC	**Dease Lake**	**4.10**	**39**	Pn	**Pn**	**15 08 38.0**	**-0.2**
	1.4nm,0.3s,baz=203,slow=7.8,SNR=25						
DLBC				Pg	**Pb**	**15 08 48.7**	**+1.0**
	3.1nm,0.3s,baz=201,slow=16,SNR=15						
DLBC				Lg	Lg	15 09 41.1	
	18nm,0.3s,baz=356,slow=6.1,SNR=10						
BBB	**Bella Bella**	**5.13**	**125**	Pn	**Pn**	**15 08 50.8**	**-1.6**
	8.1nm,0.3s,baz=314,slow=8.0,SNR=62						
BBB				Sn	**Sn**	**15 09 48.0**	**-3.7**
	47nm,0.3s,baz=99,slow=17,SNR=23						
BBB				Lg	Lg	15 10 12.8	
	32nm,0.3s,baz=242,slow=9.2,SNR=5.9						
BBB				LR	LR	15 10 43.0	
	comp=Z,167nm,21.8s,baz=81,slow=37						
DAWY	**Dawson**	**9.03**	**347**	*e*Pn	**Pn**	**15 09 47.0**	**+1.2**
	4.4nm,0.7s						
KDAK	**Kodiak Island**	**10.04**	**291**	Pn	**Pn**	**15 09 58.8**	**-0.9**
	1.6nm,0.3s,baz=77,slow=8.9,SNR=12						
KDAK				Sn	**Sn**	**15 11 48.1**	**-4.3**
	baz=308,slow=19,SNR=2.0						
KDAK				LR	LR	15 12 48.8	
	comp=Z,99nm,19.8s,baz=114,slow=31						
ILAR	**Eielson Array**	**11.16**	**333**	Pn	**Pn**	**15 10 16.6**	**+1.7**
	0.3nm,0.3s,baz=155,slow=13,SNR=35						
ILAR				LR	LR	15 14 48.2	
	comp=Z,93nm,21.6s,baz=186,slow=39						
YKA	**Yellowknife Ar**	**12.66**	**47**	Pn	**Pn**	**15 10 36.6**	**+1.2**
	0.2nm,0.3s,baz=232,slow=12,SNR=13						
YKA				Lg	Lg	15 14 11.5	
	0.1nm,0.3s,baz=240,slow=30,SNR=4.5						
INK	**Inuvik**	**13.02**	**2**	Pn	**Pn**	**15 10 43.0**	**+2.7**
	0.1nm,0.3s,baz=183,slow=11,SNR=4.6						
NEW	**Newport**	**13.08**	**115**	Pn	**Pn**	**15 10 42.3**	**+1.0**
	0.2nm,0.3s,baz=43,slow=19,SNR=2.5						
NEW				Lg	Lg	15 14 22.3	
	0.1nm,0.3s,baz=45,slow=8.1,SNR=4.1						
NEW				LR	LR	15 14 48.9	
	comp=Z,32nm,18.4s,baz=302,slow=33						
ELK	**Elko**	**19.56**	**130**	P	**Pn**	**15 12 05.5**	**+0.6**
	0.0nm,0.3s,baz=333,slow=11,SNR=3.3						
ELK				LR	LR	15 20 39.6	
	comp=Z,40nm,18.1s,baz=318,slow=40						
PDAR	**Pinedale Array**	**20.71**	**117**	P	Pn	15 12 18.0	-0.4
	4.8nm,0.9s,baz=314,slow=5.8,SNR=18						
RES	**Resolute Bay**	**24.83**	**24**	P	**P**	**15 12 59.2**	**+1.8**
	1.5nm,0.8s,baz=239,slow=12,SNR=6.4						
TXAR	**Lajitas Array**	**34.27**	**126**	P	**P**	**15 14 24.1**	**+2.3**
	0.6nm,0.6s,baz=325,slow=7.0,SNR=7.9						
ZALV	**Zalesovo Beam**	**66.27**	**336**	P	**P**	**15 18 24.9**	**+1.5**
	0.8nm,0.5s,baz=28,slow=6.7,SNR=4.5						
ESDC	**Sonseca Array**	**76.53**	**37**	P	**P**	**15 19 26.6**	**+1.0**
	0.4nm,0.5s,baz=323,slow=5.4,SNR=4.4						

IDC 07 15:16:47.3±2.2, **1°.01N**×**127°.43E**, **h0**km, **mb3.1**/3, **mb1 3.3**/3, **mb1mx3.2**/34, **mbtmp3.2**/3, **Error ellipse: s-maj=162.0km s-min=27.1km az=66.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.90**	**162**	P	P	15 21 43.1	+0.8
	0.5nm,0.7s,baz=342,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**25.33**	**166**	P	P	15 22 15.4	-0.6
	0.2nm,0.5s,baz=353,slow=15,SNR=3.2						
MKAR	**Makanchi Array**	**60.17**	**326**	P	P	15 26 57.0	0.0
	0.2nm,0.5s,baz=124,slow=8.3,SNR=4.3						

*IDC **07** 15:23:53.1±9.5, 12°.06S×165°.70E, h76km±69km, mb3.6/5, mb1 3.7/6, mb1mx3.5/31, mbtmp4.0/6, ML4.4/1, MS3.0/5, Ms1 3.0/5, ms1mx2.8/31, Error ellipse: s-maj=66.4km s-min=29.4km az=105.0*

ISC 07 15:23:47.8±1.3, **12°.2S**±0°.2×**166°.0E**±0°.2, **h35**km, **n11**, σ**2s05**/10, **mb3.8**/6, **MS3.3**/3, **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.55**	**294**	P	**Pn**	**15 25 24.0**	**+2.3**
	9.6nm,0.3s,baz=226,slow=2.9,SNR=4.9						
HNR				S	**Sn**	**15 26 33.3**	**-1.9**
	4.4nm,0.3s,baz=229,slow=15,SNR=1.7						
HNR				LR	LR	15 27 24.7	
	comp=Z,62nm,18.8s,baz=136,slow=34						
DZM	**Mont Dzumac**	**9.83**	**178**	LR	LR	15 29 27.6	
	comp=Z,41nm,19.1s,baz=222,slow=34						
PMG	**Port Moresby**	**18.71**	**277**	LR	LR	15 34 56.5	
	comp=Z,48nm,20.8s,baz=278,slow=36						
RAO	**Raoul Island**	**22.63**	**141**	LR	LR	15 36 15.6	
	comp=Z,773nm,21.4s,baz=196,slow=32						
STKA	**Stephens Creek**	**29.80**	**225**	LR	LR	15 41 33.4	
	comp=Z,61nm,18.7s,baz=26,slow=36						
WRA	**Warramunga Arr**	**31.34**	**252**	P	**P**	**15 30 03.8**	**-1.5**
	0.6nm,0.9s,baz=85,slow=9.4,SNR=3.8						
WRA				PcP	**PcP**	**15 32 58.6**	**-0.3**
	0.3nm,0.7s,baz=77,slow=2.6,SNR=3.9						
ASAR	**Alice Springs**	**32.52**	**245**	P	**P**	**15 30 14.7**	**-1.0**
	0.5nm,0.7s,baz=70,slow=8.8,SNR=7.0						
ASAR				PcP	**PcP**	**15 33 01.9**	**-0.1**
	0.4nm,0.7s,baz=70,slow=2.6,SNR=6.6						
ASAR				LR	LR	15 42 26.9	
	comp=Z,50nm,19.2s,baz=167,slow=34						
USRK	**Ussuriysk Ar.**	**64.08**	**333**	P	**P**	**15 34 15.4**	**-2.8**
	1.6nm,0.8s,baz=120,slow=10,SNR=2.9						
CMAR	**Chiang Mai Arr**	**72.80**	**294**	P	**P**	**15 35 16.3**	**+2.9**
	0.3nm,0.3s,baz=141,slow=4.6,SNR=2.9						
SONM	**Songino Array**	**79.73**	**324**	P	**P**	**15 35 52.2**	**-0.1**
	0.8nm,0.7s,baz=141,slow=7.1,SNR=4.6						
MKAR	**Makanchi Array**	**94.52**	**317**	P	**P**	**15 37 05.5**	**+0.7**
	1.1nm,0.7s,baz=98,slow=6.0,SNR=12						

IDC 07 15:48:45.7±4.7, **12°.23S**×**167°.07E**, **h0**km, **mb3.8**/3, **mb1 3.9**/3, **mb1mx3.5**/52, **mbtmp3.7**/3, **Error ellipse: s-maj=207.1km s-min=38.2km az=137.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**33.45**	**245**	P	P	15 55 26.8	0.0
	0.3nm,0.6s,baz=73,slow=9.7,SNR=7.5						
ILAR	**Eielson Array**	**84.23**	**18**	P	P	16 01 18.9	+0.1
	0.8nm,0.5s,baz=231,slow=6.5,SNR=6.3						
MKAR	**Makanchi Array**	**95.27**	**317**	P	P	16 02 11.2	-0.4
	0.3nm,0.6s,baz=89,slow=6.1,SNR=3.6						

*MAN **07** 15:56:27.9, 15°.46N×119°.65E, h26km, mb4.8, ML3.7, MS3.7*

*IDC **07** 15:56:34.6±2.0, 15°.50N×120°.33E, h99km±19km, mb3.2/7, mb1 3.4/7, mb1mx3.2/50, mbtmp3.5/7, MS2.8/4, Ms1 2.9/4, ms1mx2.6/18, Error ellipse: s-maj=42.4km s-min=16.5km az=60.0*

ISC 07 15:56:27.5±1.5, **15°.46N**±0°.03×**119°.87E**±0°.07, **h32**km±12km, **n25**, σ**2s49**/35, **mb3.6**/6, **MS2.5**/3, **Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.32**	**8**	*e*P	**Pn**	**15 56 38.3**	**+2.4**
SCZP				*e*S	**Sn**	**15 56 43.0**	**+1.5**
BOLP	**Bolinao**	**0.92**	**3**	*e*P	**Pn**	**15 56 45.4**	**+1.2**
BOLP				*e*S	**Sn**	**15 56 55.9**	**-0.5**
SMPP	**San Manuel, Pa**	**1.05**	**49**	*e*P	**Pb**	**15 56 47.7**	**+0.6**
SMPP				*e*S	**Sn**	**15 56 55.7**	**-3.7**
BALP	**Baler**	**1.67**	**80**	*e*P	**Pb**	**15 56 57.7**	**0.0**
BALP				*e*S	**Sn**	**15 57 11.5**	**-3.4**
TGY	**Tagaytay City**	**1.70**	**142**	P	**Pb**	**15 57 01.2**	**+3.1**
	141nm,0.3s,baz=295,slow=4.3,SNR=14						
POLP	**Polilio Island**	**2.13**	**110**	*e*P	**Pb**	**15 57 04.6**	**-0.8**
POLP				*e*S	**Sb**	**15 57 33.5**	**+2.0**
ABRA	**Dolores**	**2.33**	**20**	*e*P	**Pn**	**15 57 05.3**	**+1.8**
ABRA				*e*S	**Sb**	**15 57 36.0**	**-1.1**
CAUP	**Cauayan**	**2.39**	**52**	*e*P	**Pb**	**15 57 07.4**	**-2.5**
CAUP				*e*S	**Sb**	**15 57 39.2**	**+0.1**
APYP	**Conner**	**2.73**	**29**	*e*P	**Pb**	**15 57 12.9**	**-2.8**
APYP				*e*S	**Sn**	**15 57 44.0**	**+2.9**
BOAC	**Boac**	**2.76**	**136**	*e*P	**Pb**	**15 57 14.6**	**-1.6**
BOAC				*e*S	**Sn**	**15 57 42.9**	**+1.2**
PALP	**Palanan**	**2.93**	**57**	*e*P	**Pb**	**15 57 17.8**	**-1.3**
PALP				*e*S	**Sb**	**15 57 53.5**	**-1.0**
GQP	**Guinayangan**	**2.94**	**121**	*e*P	**Pb**	**15 57 20.9**	**+1.7**
SJMP	**San Jose**	**3.22**	**158**	*e*P	**Pb**	**15 57 22.2**	**-1.7**
SJMP				*e*S	**Sb**	**15 57 58.7**	**-4.0**
BUSP	**Coron**	**3.45**	**175**	*e*P	**Pn**	**15 57 23.2**	**+4.3**
BUSP				*e*S	**Sn**	**15 57 52.3**	**-6.4**
ENPP	**El Nido**	**4.25**	**186**	*e*P	**Pn**	**15 57 33.0**	**+3.0**
ENPP				*e*S	**Sn**	**15 58 15.6**	**-2.8**
DAV	**Davao City (W)**	**10.04**	**145**	LR	LR	16 04 11.1	
	comp=Z,43nm,19.4s,baz=158,slow=46						
JNU	**Nakatsue**	**20.23**	**28**	LR	LR	16 08 26.8	
	comp=Z,23nm,20.1s,baz=132,slow=36						
CMAR	**Chiang Mai Arr**	**20.23**	**281**	P	Pn	16 01 06.5	+4.4
	0.5nm,0.5s,baz=97,slow=8.0,SNR=5.7						
CMAR				LR	LR	16 09 05.9	
	comp=Z,61nm,19.3s,baz=142,slow=36						
KSRS	**Korea Array**	**23.05**	**17**	LR	LR	16 10 37.5	
	comp=Z,17nm,21.5s,baz=226,slow=37						
SONM	**Songino Array**	**34.16**	**344**	P	**P**	**16 03 09.1**	**-0.6**
	0.4nm,0.5s,baz=171,slow=10,SNR=4.5						
WRA	**Warramunga Arr**	**37.95**	**158**	P	**P**	**16 03 41.2**	**-1.0**
	0.8nm,0.7s,baz=329,slow=10,SNR=7.8						
ASAR	**Alice Springs**	**41.23**	**160**	P	**P**	**16 04 08.5**	**-1.1**
	0.4nm,0.3s,baz=338,slow=6.8,SNR=18						
MKAR	**Makanchi Array**	**44.15**	**323**	P	**P**	**16 04 35.1**	**+2.0**
	0.5nm,0.7s,baz=125,slow=8.6,SNR=5.1						
MKAR				PcP	**PcP**	**16 06 18.9**	**+1.2**
	0.4nm,0.7s,baz=114,slow=2.9,SNR=4.6						
FINES	**FINESS Array B**	**78.37**	**331**	P	**P**	**16 08 25.1**	**+0.6**
	0.6nm,0.7s,baz=39,slow=9.0,SNR=3.8						
YKA	**Yellowknife Ar**	**91.47**	**22**	P	**P**	**16 09 29.2**	**-1.2**
	0.1nm,0.5s,baz=312,slow=4.0,SNR=3.4						

IDC 07 16:20:09.5±7.2, **16°.12S**×**178°.67W**, **h0**km, **mb3.3**/3, **mb1 3.6**/3, **mb1mx3.4**/29, **mbtmp3.3**/3, **Error ellipse: s-maj=318.8km s-min=36.4km az=141.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.74**	**258**	P	P	16 28 25.0	-0.1
	0.1nm,0.3s,baz=92,slow=7.9,SNR=4.5						
ASAR	**Alice Springs**	**45.06**	**253**	P	P	16 28 27.5	-0.1
	0.2nm,0.4s,baz=89,slow=9.5,SNR=23						
ILAR	**Eielson Array**	**84.21**	**13**	P	P	16 32 42.4	-0.1
	0.1nm,0.4s,baz=221,slow=6.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	**177.03**	**187**	PKPab	PKPab	16 42 07.2	+1.1
	0.2nm,0.4s,baz=156,slow=2.5,SNR=4.5						

*IDC **07** 16:22:22.6±3.0, 36°.80S×177°.84E, h182km±22km, mb3.8/4, mb1 4.0/4, mb1mx3.6/25, mbtmp4.3/4, MS3.5/1, Ms1 3.5/1, ms1mx2.7/25, Error ellipse: s-maj=53.4km s-min=25.4km az=34.0*

*NEIC **07** 16:22:23.4±1.5, 36°.77S×177°.62E, h182km±12km, mb4.5/4, Error ellipse: s-maj=30.4km s-min=20.4km az=212.0*

*ISCJB **07** 16:22:24.3±0.6, 37°.08S±0°.04×177°.49E±0°.07, h209km±3km, mb4.0/7, Error ellipse: s-maj=9.2km s-min=5.4km az=152.8*

*WEL **07** 16:22:24.8, 37°S±5°×17°8E±°, h184km±5km*

ISC 07 16:22:25.7±0.8, **37°.10S**±0°.05×**177°.44E**±0°.06, **h202**km±5km, **n181**, σ**1s48**/187, **mb4.2**/7, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.71**	**157**	P	**Pn**	**16 22 52.1**	**-1.7**
HAZ				S	**S**	**16 23 12.5**	**-3.4**
MXZ	**Matakaoa Point**	**0.83**	**124**	*e*Pn	**Pn**	**16 22 51.8**	**-2.7**
MXZ	**Matakaoa Point**	**0.83**	**124**	P	**Pn**	**16 22 52.2**	**-2.3**
MXZ				S	**S**	**16 23 13.4**	**-3.4**
WHRZ	**Whale Island**	**0.84**	**206**	P	**Pn**	**16 22 55.7**	**+1.1**
RUGZ	**Raukumara Rang**	**0.89**	**168**	P	**Pn**	**16 22 53.3**	**-1.7**
RUGZ				S	**S**	**16 23 15.0**	**-2.8**
PKGZ	**Pakihiroa**	**0.94**	**147**	P	**Pn**	**16 22 54.0**	**-1.2**
PKGZ				S	**S**	**16 23 16.2**	**-2.0**
MYRZ	**Mayor Island**	**0.97**	**259**	P	**Pn**	**16 22 54.4**	**-1.0**
OPRZ	**Ohinepanea**	**1.02**	**223**	P	**Pn**	**16 22 55.2**	**-0.5**
WMGZ	**Waiomatatini S**	**1.06**	**133**	P	**Pn**	**16 22 54.6**	**-1.4**
WMGZ				S	**S**	**16 23 17.5**	**-1.9**
MARZ	**Manawahe**	**1.07**	**214**	P	**Pn**	**16 22 56.1**	**0.0**
TGRZ	**Tauranga**	**1.13**	**236**	P	**Pn**	**16 22 56.1**	**-0.3**
EDRZ	**Edgecumbe**	**1.15**	**209**	P	**Pn**	**16 22 57.2**	**+0.5**
TWGZ	**Tauwhareparae**	**1.16**	**158**	P	**Pn**	**16 22 56.9**	**+0.2**
PUZ	**Puketiti**	**1.17**	**146**	P	**Pn**	**16 22 55.9**	**-0.9**
PUZ				S	**S**	**16 23 19.1**	**-1.8**
URZ	**Urewera**	**1.19**	**193**	P	**Pn**	**16 22 56.8**	**-0.1**
	78nm,0.3s,baz=258,slow=5.4,SNR=602						
URZ				S	**S**	**16 23 20.6**	**-0.5**
	354nm,0.3s,baz=38,slow=21,SNR=76						
URZ	**Urewera**	**1.19**	**193**	P	**Pn**	**16 22 56.7**	**-0.1**
MWZ	**Matawai**	**1.24**	**177**	P	**Pn**	**16 22 57.2**	**-0.1**
MWZ				S	**S**	**16 23 21.6**	**-0.2**
OMRZ	**Omania**	**1.32**	**220**	P	**Pn**	**16 22 58.5**	**+0.5**
KARZ	**Kaharoa**	**1.32**	**225**	P	**Pn**	**16 22 58.5**	**+0.5**
TARZ	**Mount Tarawera**	**1.36**	**213**	P	**Pn**	**16 22 59.5**	**+1.1**
TKGZ	**Te Karaka**	**1.38**	**166**	P	**Pn**	**16 22 58.6**	**+0.2**
RAGZ	**Rawiri**	**1.40**	**181**	P	**Pn**	**16 22 59.2**	**+0.5**
KMRZ	**Kaimai**	**1.41**	**237**	P	**Pn**	**16 22 58.9**	**+0.2**
NGRZ	**Ngongotaha**	**1.41**	**224**	P	**Pn**	**16 22 59.8**	**+1.1**
KUZ	**Kuaotunu**	**1.42**	**284**	P	**Pn**	**16 22 56.7**	**-2.1**
HLRZ	**Highlands Stat**	**1.44**	**216**	P	**Pn**	**16 23 00.0**	**+1.0**
RRRZ	**Republican Roa**	**1.44**	**210**	P	**Pn**	**16 22 59.8**	**+0.8**
UTU	**Utuhina**	**1.46**	**222**	P	**Pn**	**16 23 00.5**	**+1.3**
MUGZ	**Murupara**	**1.48**	**201**	P	**Pn**	**16 22 59.7**	**+0.4**
CNGZ	**Carnagh Statio**	**1.51**	**156**	P	**Pn**	**16 23 00.0**	**+0.5**
HSRZ	**Hossack Road**	**1.54**	**218**	P	**Pn**	**16 23 01.3**	**+1.5**
RTZ	**Ruatahuna**	**1.56**	**193**	P	**Pn**	**16 23 00.2**	**+0.1**
HRRZ	**Handcock Road**	**1.58**	**215**	P	**Pn**	**16 23 01.3**	**+1.0**
PRRZ	**Plateau Road**	**1.63**	**210**	P	**Pn**	**16 23 01.6**	**+1.0**
RIGZ	**Rimuhau**	**1.63**	**171**	P	**Pn**	**16 23 01.1**	**+0.5**
GRRZ	**Galatos Road**	**1.64**	**220**	P	**Pn**	**16 23 02.1**	**+1.4**
TOZ	**Tahuroa Road**	**1.67**	**247**	P	**Pn**	**16 23 01.6**	**+0.7**
SNGZ	**Shannon Statio**	**1.68**	**183**	P	**Pn**	**16 23 01.9**	**+0.7**
ALRZ	**Allen Road**	**1.70**	**210**	P	**Pn**	**16 23 02.5**	**+1.1**
WPRZ	**Whakapapatarin**	**1.74**	**215**	P	**Pn**	**16 23 03.2**	**+1.5**
GRZ	**Great Barrier**	**1.80**	**297**	P	**Pn**	**16 22 59.6**	**-2.7**
MTHZ	**Maungataniwha**	**1.81**	**195**	P	**Pn**	**16 23 02.8**	**+0.4**
MKAZ	**Moumakai**	**1.82**	**269**	P	**Pn**	**16 23 02.1**	**-0.4**
RAHZ	**Arahi**	**1.84**	**189**	P	**Pn**	**16 23 03.6**	**+1.0**
PRGZ	**Paritu Road**	**1.86**	**169**	P	**Pn**	**16 23 03.2**	**+0.4**
WIAZ	**Waiheke Island**	**1.87**	**279**	P	**Pn**	**16 23 01.9**	**-1.0**
KUTZ	**Kaahu Road**	**1.89**	**222**	P	**Pn**	**16 23 04.9**	**+1.8**
MRHZ	**Matea Rd**	**1.91**	**205**	P	**Pn**	**16 23 04.2**	**+0.8**
KNZ	**Kokohu**	**1.93**	**175**	P	**Pn**	**16 23 04.0**	**+0.5**
TLZ	**Tolley Road**	**1.94**	**230**	P	**Pn**	**16 23 05.4**	**+1.6**
WHHZ	**Waihua**	**1.98**	**185**	P	**Pn**	**16 23 05.1**	**+1.0**
ETAZ	**East Tamaki Re**	**2.01**	**273**	P	**Pn**	**16 23 04.1**	**-0.3**
KBAZ	**Karaka Road Bo**	**2.04**	**269**	P	**Pn**	**16 23 05.0**	**+0.3**
NMHZ	**Naumai**	**2.06**	**194**	P	**Pn**	**16 23 06.5**	**+1.6**
MBAZ	**Motutapu North**	**2.06**	**278**	P	**Pn**	**16 23 04.1**	**-0.8**
MHGZ	**Mahia Peninsul**	**2.08**	**170**	P	**Pn**	**16 23 05.9**	**+0.8**
WATZ	**Wairara**	**2.10**	**219**	P	**Pn**	**16 23 07.1**	**+1.8**
ABAZ	**Army Bay**	**2.15**	**283**	P	**Pn**	**16 23 04.8**	**-1.0**
EPAZ	**Eden Park BICE**	**2.17**	**275**	P	**Pn**	**16 23 05.8**	**-0.2**
HBAZ	**Herne Bay Bore**	**2.18**	**276**	P	**Pn**	**16 23 05.9**	**-0.2**
ARHZ	**Aropaoanui**	**2.19**	**189**	P	**Pn**	**16 23 07.3**	**+1.1**
BKZ	**Black Stump Fm**	**2.20**	**200**	*e*Pn	**Pn**	**16 23 06.6**	**+0.3**
BKZ	**Black Stump Fm**	**2.20**	**200**	P	**Pn**	**16 23 06.9**	**+0.5**
RATZ	**Rangitukua**	**2.20**	**216**	P	**Pn**	**16 23 08.3**	**+1.9**
AWAZ	**Awhitu Peninsu**	**2.24**	**270**	P	**Pn**	**16 23 06.7**	**0.0**
RITZ	**Rihia Road**	**2.25**	**213**	P	**Pn**	**16 23 08.4**	**+1.5**
WTAZ	**Waiatarua**	**2.30**	**273**	P	**Pn**	**16 23 07.4**	**-0.1**
RVAZ	**Riverhead Bore**	**2.31**	**277**	P	**Pn**	**16 23 07.1**	**-0.5**
MCHZ	**McNeill Hill**	**2.42**	**194**	P	**Pn**	**16 23 09.8**	**+1.2**
KWHZ	**Kaweka Forest**	**2.46**	**199**	P	**Pn**	**16 23 10.1**	**+0.9**
HIZ	**Hauiti**	**2.49**	**235**	*e*Pn	**Pn**	**16 23 11.4**	**+1.9**
HIZ	**Hauiti**	**2.49**	**235**	P	**Pn**	**16 23 11.6**	**+2.1**
TWVZ	**Taurewa**	**2.52**	**218**	P	**Pn**	**16 23 11.3**	**+1.3**
NGZ	**Ngauruhoe**	**2.53**	**214**	P	**Pn**	**16 23 11.7**	**+1.6**
CKHZ	**Cape Kidnapper**	**2.57**	**186**	P	**Pn**	**16 23 11.3**	**+0.9**
COVZ	**Chateau Observ**	**2.58**	**215**	P	**Pn**	**16 23 12.5**	**+1.9**
FWVZ	**Far West T-bar**	**2.62**	**214**	P	**Pn**	**16 23 12.6**	**+1.5**
BHHZ	**Black Hill Sta**	**2.62**	**204**	P	**Pn**	**16 23 11.6**	**+0.5**
WHVZ	**Whangaehu Hut**	**2.62**	**213**	P	**Pn**	**16 23 12.5**	**+1.3**
TRVZ	**Turoa**	**2.66**	**214**	P	**Pn**	**16 23 12.6**	**+1.0**
MOVZ	**Moawhango**	**2.66**	**209**	P	**Pn**	**16 23 11.9**	**+0.4**
KAHZ	**Kahuranaki**	**2.73**	**189**	P	**Pn**	**16 23 13.2**	**+1.0**
PKVZ	**Pokaka**	**2.74**	**216**	P	**Pn**	**16 23 13.4**	**+1.1**
WCZ	**Waipu Caves**	**2.75**	**294**	P	**Pn**	**16 23 10.3**	**-2.2**
MTVZ	**Mangateitei**	**2.76**	**214**	P	**Pn**	**16 23 14.0**	**+1.4**
VRZ	**Vera Road**	**2.93**	**225**	P	**Pn**	**16 23 16.6**	**+2.1**
PXZ	**Pawanui**	**2.96**	**189**	P	**Pn**	**16 23 15.5**	**+0.6**
PNHZ	**Pukenui**	**2.98**	**199**	P	**Pn**	**16 23 15.5**	**+0.4**
WPHZ	**Waipukurau**	**3.06**	**194**	P	**Pn**	**16 23 16.5**	**+0.4**
WPHZ	**Waipukurau**	**3.06**	**194**	P	**S**	**16 23 56.4**	**+1.4**
TSZ	**Takapari Road**	**3.17**	**201**	P	**Pn**	**16 23 17.5**	**+0.1**
PRHZ	**Porangahau**	**3.23**	**191**	P	**Pn**	**16 23 18.7**	**+0.7**
WAZ	**Wanganui**	**3.28**	**215**	P	**Pn**	**16 23 19.8**	**+1.1**
DVHZ	**Dannevirke**	**3.35**	**197**	P	**Pn**	**16 23 18.3**	**-1.2**
DVHZ	**Dannevirke**	**3.35**	**197**	P	**S**	**16 23 59.4**	**-1.7**
LREZ	**Lake Rotokare**	**3.36**	**224**	P	Pn	16 23 24.0	+4.5
ANWZ	**Angora Road**	**3.44**	**192**	P	**Pn**	**16 23 21.0**	**+0.4**
ANWZ	**Angora Road**	**3.44**	**192**	P	**S**	**16 24 01.4**	**-1.7**
KHEZ	**Kahui Hut**	**3.48**	**230**	P	**Pn**	**16 23 23.8**	**+2.7**
POWZ	**Post Office Ro**	**3.54**	**201**	P	**Pn**	**16 23 22.0**	**+0.2**
POWZ	**Post Office Ro**	**3.54**	**201**	P	**S**	**16 24 07.8**	**+2.5**
OUZ	**Omahuta**	**3.63**	**300**	*e*Pn	**Pn**	**16 23 20.3**	**-2.7**
OUZ	**Omahuta**	**3.63**	**300**	P	**Pn**	**16 23 20.5**	**-2.4**
PRWZ	**Pori Road**	**3.64**	**198**	P	**Pn**	**16 23 23.5**	**+0.6**
PRWZ	**Pori Road**	**3.64**	**198**	P	**S**	**16 24 05.8**	**-1.6**
BFZ	**Birch Farm**	**3.70**	**194**	*e*Pn	**Pn**	**16 23 23.7**	**0.0**
BFZ	**Birch Farm**	**3.70**	**194**	P	**Pn**	**16 23 23.8**	**+0.1**
BFZ	**Birch Farm**	**3.70**	**194**	P	**S**	**16 24 07.7**	**-1.1**
MRZ	**Mangatainoka R**	**3.84**	**202**	P	**Pn**	**16 23 25.2**	**-0.3**
TIWZ	**Tintock**	**3.87**	**198**	P	**Pn**	**16 23 25.9**	**+0.1**
TIWZ	**Tintock**	**3.87**	**198**	P	**S**	**16 24 14.6**	**+1.9**
CPWZ	**Castlepoint**	**3.93**	**194**	P	**Pn**	**16 23 27.2**	**+0.7**
CPWZ	**Castlepoint**	**3.93**	**194**	P	**S**	**16 24 12.3**	**-1.5**
HOWZ	**Holdsworth Sta**	**4.08**	**201**	P	**Pn**	**16 23 27.9**	**-0.5**
HOWZ	**Holdsworth Sta**	**4.08**	**201**	P	**S**	**16 24 17.5**	**+0.1**
OGWZ	**Otaki Gorge**	**4.11**	**205**	P	**Pn**	**16 23 28.5**	**-0.3**
TMWZ	**Te Maipa**	**4.18**	**196**	P	**Pn**	**16 23 29.6**	**-0.2**
TMWZ	**Te Maipa**	**4.18**	**196**	P	**S**	**16 24 18.5**	**-1.1**
KIW	**Kapiti Island**	**4.24**	**207**	P	**Pn**	**16 23 29.8**	**-0.6**
KIW	**Kapiti Island**	**4.24**	**207**	P	**S**	**16 24 21.2**	**+0.2**
MTW	**Mount Morrison**	**4.33**	**200**	P	**Pn**	**16 23 30.7**	**-0.8**
MTW	**Mount Morrison**	**4.33**	**200**	P	**S**	**16 24 18.8**	**-4.1**
CAW	**Cannon Point**	**4.41**	**204**	P	**Pn**	**16 23 31.9**	**-0.7**
TRWZ	**Traveller**	**4.50**	**197**	P	**Pn**	**16 23 33.3**	**-0.4**
PAWZ	**Paruwai Farm**	**4.55**	**199**	P	**Pn**	**16 23 33.5**	**-0.9**
DUWZ	**D'Urville Isla**	**4.60**	**215**	P	**Pn**	**16 23 34.1**	**-0.9**
MSWZ	**Moikau Station**	**4.63**	**201**	P	**Pn**	**16 23 34.4**	**-1.0**
SNZO	**South Karori**	**4.71**	**206**	*e*Pn	**Pn**	**16 23 35.3**	**-1.0**
BHW	**Baring Head**	**4.74**	**204**	P	**Pn**	**16 23 35.6**	**-1.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PLWZ	**Palliser**	**4.78**	**200**	P	**Pn**	**16 23 36.1**	**-1.1**
TCW	**Tory Channel**	**4.79**	**210**	P	**Pn**	**16 23 36.1**	**-1.2**
TUWZ	**Tuamarina**	**5.11**	**211**	P	**Pn**	**16 23 40.0**	**-1.4**
NNZ	**Nelson**	**5.18**	**216**	P	**Pn**	**16 23 41.3**	**-1.0**
CMWZ	**Cape Campbell**	**5.27**	**207**	P	**Pn**	**16 23 40.5**	**-3.0**
QRZ	**Quartz Range**	**5.34**	**224**	P	**Pn**	**16 23 42.8**	**-1.5**
BSWZ	**Blackbirch Sta**	**5.37**	**210**	P	**Pn**	**16 23 44.1**	**-0.7**
THZ	**Tophouse**	**5.83**	**216**	*e*Pn	**Pn**	**16 23 49.4**	**-1.3**
THZ	**Tophouse**	**5.83**	**216**	P	**Pn**	**16 23 49.4**	**-1.3**
KHZ	**Kahutara**	**6.10**	**208**	*e*Pn	**Pn**	**16 23 52.7**	**-1.4**
KHZ	**Kahutara**	**6.10**	**208**	P	**Pn**	**16 23 52.8**	**-1.4**
DSZ	**Denniston Nort**	**6.37**	**221**	P	**Pn**	**16 23 57.4**	**-0.2**
LTZ	**Lake Taylor**	**6.93**	**213**	*e*Pn	**Pn**	**16 24 03.5**	**-1.3**
LTZ	**Lake Taylor**	**6.93**	**213**	P	**Pn**	**16 24 03.8**	**-1.0**
AMCZ	**Amberley**	**7.09**	**210**	P	**Pn**	**16 24 05.5**	**-1.5**
INZ	**Inchbonnie**	**7.26**	**217**	P	**Pn**	**16 24 07.0**	**-2.3**
CRLZ	**Canterbury Las**	**7.44**	**208**	*e*Pn	**Pn**	**16 24 09.4**	**-2.1**
CRLZ	**Canterbury Las**	**7.44**	**208**	P	**Pn**	**16 24 09.5**	**-2.0**
OXZ	**Oxford**	**7.47**	**212**	*e*Pn	**Pn**	**16 24 09.2**	**-2.7**
OXZ	**Oxford**	**7.47**	**212**	P	**Pn**	**16 24 09.3**	**-2.6**
MQZ	**McQueen's Vall**	**7.54**	**207**	*e*Pn	**Pn**	**16 24 10.5**	**-2.3**
MQZ	**McQueen's Vall**	**7.54**	**207**	P	**Pn**	**16 24 10.2**	**-2.6**
AKCZ	**Akaroa Harbour**	**7.59**	**206**	P	**Pn**	**16 24 12.3**	**-1.2**
WVZ	**Waitaha Valley**	**7.87**	**219**	P	**Pn**	**16 24 15.3**	**-1.9**
RPZ	**Rata Peaks**	**8.21**	**214**	P	**Pn**	**16 24 20.2**	**-1.4**
	4.0nm,0.3s,baz=316,slow=1.5,SNR=13						
RPZ				S	**S**	**16 25 47.0**	**-6.9**
	6.1nm,0.3s,baz=69,slow=4.0,SNR=17						
RPZ	**Rata Peaks**	**8.21**	**214**	P	**Pn**	**16 24 20.1**	**-1.4**
FOZ	**Fox Glacier**	**8.67**	**220**	*e*Pn	**Pn**	**16 24 25.4**	**-2.1**
FOZ	**Fox Glacier**	**8.67**	**220**	P	**Pn**	**16 24 25.5**	**-1.9**
LBZ	**Lake Benmore**	**9.12**	**215**	*e*Pn	**Pn**	**16 24 31.8**	**-1.6**
ODZ	**Otahua Downs**	**9.45**	**211**	*e*Pn	**Pn**	**16 24 36.8**	**-0.8**
ODZ	**Otahua Downs**	**9.45**	**211**	P	**Pn**	**16 24 36.3**	**-1.3**
WKZ	**Wanaka**	**10.00**	**217**	*e*Pn	**Pn**	**16 24 42.5**	**-2.3**
TUZ	**Tuapeka**	**10.60**	**211**	P	**Pn**	**16 24 51.8**	**-0.7**
MLZ	**Mavora Lakes**	**10.83**	**217**	*e*Pn	**Pn**	**16 24 55.2**	**-0.3**
LHI	**Lord Howe Isla**	**16.16**	**285**	*e*P	**P**	**16 25 59.8**	**-1.4**
	138nm,1.6s						
CTA	**Charters Tower**	**32.01**	**293**	P	**P**	**16 28 34.2**	**+1.0**
	4.1nm,0.7s,baz=129,slow=8.1,SNR=3.2						
AS01	**Alice Springs**	**39.50**	**277**	*e*P	**P**	**16 29 37.5**	**+0.6**
AS31	**Alice Springs**	**39.54**	**277**	*e*P	**P**	**16 29 38.0**	**+0.9**
	2.0nm,0.6s						
ASAR	**Alice Springs**	**39.54**	**277**	P	**P**	**16 29 38.1**	**+1.0**
	5.1nm,0.7s,baz=122,slow=8.1,SNR=117						
WR1	**Warramunga Arr**	**41.16**	**282**	*e*P	**P**	**16 29 51.0**	**+0.5**
	32nm,1.8s						
WRA	**Warramunga Arr**	**41.16**	**282**	P	**P**	**16 29 51.0**	**+0.5**
	3.3nm,0.6s,baz=119,slow=7.9,SNR=64						
QSPA	**South Pole Qui**	**53.03**	**180**	*e*P	P	16 31 27.1	+5.5
	11nm,1.4s						
GUMO	**Guam**	**59.00**	**322**	LR	LR	16 55 07.8	
	comp=Z,42nm,21.5s,baz=100,slow=33						
CMAR	**Chiang Mai Arr**	**92.16**	**291**	P	**P**	**16 35 13.4**	**+1.0**
	0.5nm,0.8s,baz=158,slow=3.9,SNR=4.9						
ARA0	**ARCESS Array S**	**144.13**	**344**	*e*PKPdf	**PKPab**	**16 41 33.3**	**-1.1**
ARCES	**ARCESS Array B**	**144.13**	**344**	PKP	**PKPab**	**16 41 33.3**	**-1.1**
	5.2nm,1.1s,baz=51,slow=3.6,SNR=4.5						
FIA0	**FINESS Array S**	**149.76**	**333**	*e*PKPdf	**PKPdf**	**16 41 48.1**	**+2.4**
FINES	**FINESS Array B**	**149.76**	**333**	PKPbc	**PKPdf**	**16 41 48.1**	**+2.4**
	1.1nm,0.6s,baz=29,slow=4.4,SNR=8.8						
BR101	**Keskin Array S**	**151.63**	**287**	*e*PKPbc	**PKPbc**	**16 41 55.9**	**-0.1**
BRTR	**Keskin Array B**	**151.63**	**287**	PKPbc	**PKPbc**	**16 41 55.8**	**-0.1**
	0.6nm,0.7s,baz=138,slow=6.7,SNR=3.2						
TORD	**Torodi Ar. Bea**	**155.85**	**190**	PKPab	**PKPab**	**16 42 24.7**	**+1.1**
	0.6nm,0.5s,baz=175,slow=3.1,SNR=11						
TOA1	**Torodi Ar. Sit**	**155.85**	**190**	*e*PKPab	**PKPab**	**16 42 24.7**	**+1.1**

JMA 07 16:27:46.2±0.2**, 39°.04N**×**144°.19E, h59**km**, M3.7, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.92**	**287**	P	Pn	16 28 17.3	+0.8
OFUJ	**Ofunato**	**1.96**	**272**	P	Pn	16 28 17.9	+0.8
OFUJ				*e*S	Sn	16 28 41.0	+0.4
JTH	**Tanohata**	**2.01**	**297**	P	Pn	16 28 18.6	+0.8
JOM	**Ohasama**	**2.29**	**282**	P	Pn	16 28 22.8	+1.2
JOM				*e*S	Sn	16 28 50.0	+1.4
JMK	**Ichinoseki**	**2.32**	**269**	P	Pn	16 28 23.0	+1.1
JMK				*e*S	Sn	16 28 50.0	+0.8
JANG	**Nango**	**2.46**	**304**	P	Pn	16 28 24.1	+0.3
JYK	**Kaneyama**	**2.99**	**269**	P	Pn	16 28 32.8	+1.7
JYK				*e*S	Sn	16 29 07.4	+1.7
JOT	**Ohata**	**3.35**	**315**	P	Pn	16 28 37.1	+1.0
JFT	**Otama**	**3.39**	**245**	P	Pn	16 28 37.5	+0.8
JNBK	**Urakawa-nobuka**	**3.42**	**342**	P	Pn	16 28 37.4	+0.5
JNBK				*e*S	Sn	16 29 16.3	+0.1
JRY	**Ryogami san**	**5.17**	**236**	P	Pn	16 29 01.2	+0.1
MAT	**Matsushiro**	**5.35**	**244**	P	Pn	16 29 05.4	+1.9
MAT				*e*S	Sn	16 30 05.9	+2.0

*SOME **07** 16:43:51.7, 41°.80N×82°.98E, h15km*

*NNC **07** 16:43:56.4±1.4, 42°.02N×82°.86E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=11.5km s-min=6.9km az=149.0*

ISC 07 16:43:57.6±2.3**, 42°.02N**±0°.09×**82°.77E**±0°.08**, h10**km**, n30, σ2ˢ.11**/49**, 5C-2D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.28**	**309**	Pg	**Pb**	**16 44 38.4**	**-0.5**
	4.4nm,0.2s						
KTMS				Lg	Lg	16 45 12.1	
	69nm,0.3s						
KTMS	**Ketmen**	**2.28**	**309**	*e*P	**Pb**	**16 44 38.4**	**-0.5**
	4.4nm,0.2s						
KTMS				*e*S	**Sg**	**16 45 12.1**	**+1.3**
	69nm,0.3s						
SHLS	**Shalkode**	**2.69**	**296**	*e*P	**Pn**	**16 44 40.1**	**-0.9**
	20nm,0.2s						
SHLS				*e*S	**Sn**	**16 45 15.6**	**+1.7**
	165nm,0.6s						
PDGK	**Podgornoye**	**2.75**	**299**	⇓Pn	**Pn**	**16 44 43.5**	**+1.7**
	7.5nm,0.7s						
PDGK				⇑Lg	Lg	16 45 20.7	
	27nm,0.6s						
UZB	**Uzynbulak**	**2.99**	**293**	*e*P	**Pb**	**16 44 48.0**	**-3.0**
	1.9nm,0.4s						
UZB				*e*S	**Sb**	**16 45 29.0**	**+1.4**
	28nm,0.6s						
DJR	**Jarkent**	**3.18**	**318**	Pg	**Pb**	**16 44 54.2**	**+0.1**
	1.0nm,0.3s						
DJR				Lg	Lg	16 45 39.1	
	10nm,0.7s						
DJR	**Jarkent**	**3.18**	**318**	*e*P	**Pb**	**16 44 54.2**	**+0.1**
	1.0nm,0.3s						
DJR				*e*S	**Sg**	**16 45 39.1**	**-0.5**
	10nm,0.7s						
SATY	**Saty**	**3.39**	**289**	Pg	**Pb**	**16 44 59.1**	**+1.3**
SATY				Lg	Lg	16 45 46.9	
SATY	**Saty**	**3.39**	**289**	*e*P	**Pb**	**16 44 58.3**	**+0.5**
	16nm,0.6s						
SATY				*e*S	**Sg**	**16 45 46.9**	**+0.5**
	22nm,0.4s						
KURS	**Kuram**	**3.69**	**295**	*e*P	**Pb**	**16 45 05.5**	**+2.6**
	5.8nm,0.7s						
KURS				*e*S	**Sg**	**16 45 58.4**	**+2.3**
	9.5nm,0.7s						
MNBS	**Baschi**	**3.81**	**304**	Pg	**Pb**	**16 45 06.2**	**+1.3**
	2.7nm,0.4s						
MNBS	**Baschi**	**3.81**	**304**	*e*P	**Pb**	**16 45 04.0**	**-0.9**
	2.7nm,0.4s						
MNBS				*e*S	**Sg**	**16 45 56.1**	**-3.7**
	14nm,0.3s						
KAPS	**Kapalarasan**	**4.10**	**324**	Pg	**Pb**	**16 45 12.4**	**+2.6**
	5.3nm,0.6s						
KAPS				Lg	Lg	16 46 10.8	
	16nm,0.6s						
KAPS	**Kapalarasan**	**4.10**	**324**	*e*P	**Pb**	**16 45 12.4**	**+2.6**
	5.3nm,0.6s						
KAPS				*e*S	**Sg**	**16 46 10.8**	**+1.7**
	16nm,0.6s						
ARXS	**Arharly**	**4.23**	**303**	Pg	**Pb**	**16 45 14.2**	**+2.1**
	5.0nm,0.6s						
ARXS				Lg	Lg	16 46 14.7	
	16nm,0.6s						
ARXS	**Arharly**	**4.23**	**303**	*e*P	**Pb**	**16 45 14.2**	**+2.1**
	5.0nm,0.6s						
ARXS				*e*S	**Sg**	**16 46 13.8**	**+0.4**
	21nm,0.8s						
MDOK	**Medeo**	**4.38**	**287**	Pg	**Pb**	**16 45 17.9**	**+3.3**
	3.0nm,0.4s						
MDOK	**Medeo**	**4.38**	**287**	*e*P	**Pb**	**16 45 17.9**	**+3.3**
	4.2nm,0.6s						
MDOK				*e*S	**Sg**	**16 46 20.4**	**+2.3**
	8.9nm,0.7s						
TNSS	**Tian-Shan**	**4.42**	**285**	*e*P	**Pb**	**16 45 16.7**	**+1.2**
	4.2nm,0.5s						
TNSS				*e*S	**Sg**	**16 46 18.0**	**-1.6**
	9.9nm,0.5s						
CHKK	**Chushkaly**	**4.62**	**295**	*e*P	**Pb**	**16 45 20.5**	**+1.7**
	1.1nm,0.4s						
CHKK				*e*S	**Sg**	**16 46 24.4**	**-1.6**
	7.5nm,0.3s						
IZV	**Izvestkoviy**	**4.66**	**285**	Pg	**Pb**	**16 45 22.5**	**+3.0**
	4.4nm,0.8s						
IZV				Lg	Lg	16 46 26.8	
	9.0nm,0.4s						
IZV	**Izvestkoviy**	**4.66**	**285**	*e*P	**Pb**	**16 45 20.3**	**+0.8**
	4.4nm,0.8s						
IZV				*e*S	**Sg**	**16 46 24.2**	**-3.0**
	9.0nm,0.4s						
MK31	**Makanchi Array**	**4.79**	**356**	Pn	**Pn**	**16 45 09.8**	**+0.1**
	0.1nm,0.1s,baz=193,slow=12,SNR=27						
MK31				⇑Pg	**Pb**	**16 45 23.0**	**+1.5**
	3.2nm,0.6s,baz=166,slow=16,SNR=13						
MK31				⇑Lg	Lg	16 46 27.5	
	19nm,0.8s,baz=172,slow=25						
MAKZ	**Makanchi**	**4.82**	**354**	⇑Pn	**Pn**	**16 45 10.4**	**+0.2**
	0.4nm,0.2s						
MAKZ				⇑Pg	**Pg**	**16 45 26.8**	**-3.0**
	1.5nm,0.4s						
MAKZ				⇓Sn	**Sn**	**16 46 07.0**	**+1.0**
	3.5nm,0.8s						
KUU	**Kurty**	**5.08**	**294**	Pg	**Pg**	**16 45 31.6**	**-3.2**
	0.8nm,0.3s						
KUU	**Kurty**	**5.08**	**294**	*e*P	**Pg**	**16 45 31.6**	**-3.2**
	0.8nm,0.3s						
KUU				*e*S	**Sg**	**16 46 43.0**	**+2.5**
	9.0nm,0.6s						
KST	**Kastek**	**5.13**	**284**	Pg	**Pb**	**16 45 30.2**	**+2.7**
	4.0nm,0.8s						
KST				Lg	Lg	16 46 40.7	
	6.7nm,0.8s						
KST	**Kastek**	**5.13**	**284**	*e*P	**Pb**	**16 45 30.2**	**+2.7**
	4.0nm,0.8s						
KST				*e*S	**Sg**	**16 46 40.7**	**-1.6**
	6.7nm,0.8s						
DGS	**Degeres**	**5.30**	**286**	Pg	**Pb**	**16 45 33.1**	**+2.7**
DGS				Lg	Lg	16 46 45.9	
DGS	**Degeres**	**5.30**	**286**	*e*P	**Pb**	**16 45 33.1**	**+2.7**
DGS				*e*S	**Sg**	**16 46 45.9**	**-2.0**

IDC 07 16:43:57.6±6.4**, 2°.61N**×**128°.22E, h68**km±68km**, mb2.9**/3**, mb1 3.1**/4**, mb1mx3.0**/36**, mbtmp3.2**/4**, Error ellipse: s-maj=92.9km s-min=26.0km az=72.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.60**	**139**	P	Pn	16 45 05.9	+1.1
	baz=197,slow=19						
SIJI				S	Sn	16 45 57.0	0.0
	0.8nm,0.3s,baz=253,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	**23.20**	**165**	P	P	16 48 59.7	+0.9
	0.5nm,0.6s,baz=345,slow=10,SNR=9.4						
ASAR	**Alice Springs**	**26.69**	**168**	P	P	16 49 29.8	-0.8
	0.2nm,0.8s,baz=348,slow=7.3,SNR=3.6						
MKAR	**Makanchi Array**	**59.32**	**325**	P	P	16 53 51.6	-0.9
	0.2nm,0.4s,baz=124,slow=7.4,SNR=4.6						
MKAR				PcP	PcP	16 54 40.8	+0.8
	0.3nm,0.8s,baz=134,slow=4.2,SNR=2.3						

IDC 07 16:48:44.4±1.3**, 2°.89S**×**139°.13E, h0**km**, mb3.4**/3**, mb1 3.8**/4**, mb1mx3.5**/24**, mbtmp3.6**/4**, ML3.9**/1**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx2.5**/14**, Error ellipse: s-maj=32.1km s-min=23.4km az=130.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.62**	**77**	Pn	Pn	16 49 14.3	0.0
	10nm,0.3s,baz=214,slow=9.7,SNR=38						
JAY				Sn	Sn	16 49 33.3	-2.6
	27nm,0.3s,baz=97,slow=20,SNR=14						
WRA	**Warramunga Arr**	**17.58**	**195**	P	Pn	16 52 49.9	-1.2
	0.4nm,0.3s,baz=16,slow=13,SNR=25						
FITZ	**Fitzroy Crossi**	**20.08**	**220**	P	P	16 53 19.9	+0.3
	0.9nm,0.4s,baz=42,slow=9.6,SNR=6.4						
FITZ				LR	LR	17 01 54.4	
	comp=Z,62nm,18.5s,baz=42,slow=39						
ASAR	**Alice Springs**	**21.26**	**193**	P	P	16 53 32.7	+0.2
	1.4nm,0.5s,baz=23,slow=9.3,SNR=33						
ASAR				S	Sn	16 57 33.9	-2.6
	0.8nm,0.8s,baz=18,slow=24,SNR=4.2						
MKAR	**Makanchi Array**	**70.19**	**322**	P	P	16 59 59.2	0.0
	0.1nm,0.4s,baz=117,slow=5.0,SNR=3.1						

*NIED **07** 17:20:00, 38°.40N×142°.20E, h47km, Mw3.4 Best double couple: M₀1.67000×10¹⁴ NP1:φs341.00000°, δ22.00000°, λ-170.00000°. NP2:φs242.00000°, δ86.00000°, λ-68.00000°.*

*IDC **07** 17:20:30.1±2.2, 38°.58N×142°.72E, h0km, mb3.4/3, mb1 3.4/4, mb1mx3.2/42, mbtmp3.3/4, ML2.5/1, MS3.0/2, Ms1 3.0/2, ms1mx2.3/26, Error ellipse: s-maj=47.6km s-min=31.0km az=77.0*

*ISCJB **07** 17:20:35.6±1.6, 38°.40N±0°.05×142°.2E±0°.1, h31km±7km, mb3.4/3, Error ellipse: s-maj=14.5km s-min=8.0km az=7.0*

*JMA **07** 17:20:36.8±0.1, 38°.43N×142°.16E, h35km±1km, M3.7*

ISC 07 17:20:36.7±2.4**, 38°.43N**±0°.05×**142°.2E**±0°.1**, h29**km±13km**, n16, σ1ˢ.04**/22**, mb3.5**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.55**	**258**	P	**Pb**	**17 20 47.9**	**0.0**
JIKH				*e*S	**Sb**	**17 20 55.4**	**-0.2**
JIO	**Ouri**	**0.63**	**273**	P	**Pb**	**17 20 49.3**	**+0.1**
JIO				*e*S	**Sb**	**17 20 57.8**	**0.0**
JKMT	**Kesennumamotoy**	**0.66**	**306**	P	**Pb**	**17 20 49.7**	**+0.1**
JKMT				*e*S	**Sb**	**17 20 58.7**	**+0.3**
OFUJ	**Ofunato**	**0.75**	**330**	P	**Pb**	**17 20 50.9**	**-0.4**
OFUJ				*e*S	**Sb**	**17 21 00.8**	**-0.4**
JMK	**Ichinoseki**	**0.90**	**306**	P	**Pb**	**17 20 53.3**	**-0.4**
JMK				*e*S	**Sb**	**17 21 05.1**	**-0.2**
JOU	**Okura**	**1.17**	**267**	P	**Pn**	**17 20 57.4**	**+0.3**
JMM	**Marumori**	**1.21**	**243**	P	**Pn**	**17 20 57.3**	**-0.3**
JMM				*e*S	**Sn**	**17 21 12.3**	**-0.7**
JOM	**Ohasama**	**1.24**	**327**	P	**Pn**	**17 20 58.4**	**+0.4**
JOM				*e*S	**Sn**	**17 21 14.2**	**+0.4**
JYK	**Kaneyama**	**1.49**	**290**	P	**Pn**	**17 21 01.9**	**+0.5**
JRG	**Rokugo**	**1.53**	**310**	P	**Pn**	**17 21 02.9**	**+0.9**
MJAR	**Matsushiro Arr**	**3.66**	**240**	Pn	**Pn**	**17 21 34.8**	**+3.5**
	0.3nm,0.3s,baz=56,slow=10,SNR=4.5						
MJAR				Sn	**Sb**	**17 22 22.6**	**-2.0**
	0.5nm,0.3s,baz=9.6,slow=37,SNR=3.3						
USRK	**Ussuriysk Ar.**	**9.57**	**310**	LR	LR	17 26 05.3	
	comp=Z,40nm,19.5s,baz=88,slow=34						
JOW	**Kunigami**	**16.42**	**229**	LR	LR	17 30 19.5	
	comp=Z,109nm,20.9s,baz=122,slow=35						
ZALV	**Zalesovo Beam**	**41.42**	**311**	P	**P**	**17 28 19.7**	**-0.6**
	0.5nm,0.4s,baz=104,slow=6.1,SNR=3.3						
MKAR	**Makanchi Array**	**43.89**	**301**	P	**P**	**17 28 40.9**	**+0.4**
	0.3nm,0.7s,baz=79,slow=7.5,SNR=3.6						
WRA	**Warramunga Arr**	**58.52**	**189**	P	**P**	**17 30 29.7**	**-0.6**
	0.4nm,0.8s,baz=7.0,slow=6.9,SNR=5.8						

*ISK **07** 17:23:26.4, 37°.36N×37°.16E, h4km, ML2.0/5*

*ISCJB **07** 17:23:27.6±0.9, 37°.34N±0°.06×37°.12E±0°.07, h4km±12km, Error ellipse: s-maj=12.4km s-min=6.2km az=40.0*

*DDA **07** 17:23:27.4, 37°.29N×37°.11E, h7km±1km, ML2.5*

ISC 07 17:23:27.3±1.2**, 37°.35N**±0°.05×**37°.11E**±0°.05**, h7**km±11km**, n11, σ0ˢ.37**/13**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.19**	**155**	PG	**Pg**	**17 23 30.8**	**-0.4**
GAZ				SG	**Sg**	**17 23 34.1**	**+0.3**
KMRS	**Kahramanmaras**	**0.23**	**313**	PG	**Pg**	**17 23 31.9**	**0.0**
KUZU	**Kuzuini**	**0.57**	**183**	*i* P	**Pb**	**17 23 39.7**	**-0.1**
ANDN	**Andirin**	**0.65**	**291**	IAML_P			
	comp=Z,467nm,0.1s						
ANDN				*i* P	**Pb**	**17 23 40.8**	**-0.3**
ELBS	**KAHRAMANMARAS**	**0.98**	**1**	*i* P	**Pn**	**17 23 47.7**	**0.0**
SAIM	**ADANA**	**1.03**	**308**	IAML_P			
	comp=Z,433nm,0.1s						
SAIM				*i* P	**Pn**	**17 23 48.5**	**+0.2**
KOZT	**Kozan**	**1.03**	**278**	PG	**Pb**	**17 23 47.8**	**+0.2**
KOZT				SG	**Sn**	**17 24 02.8**	**-0.2**
TAHT	**Tahtakopru-Hat**	**1.22**	**218**	PN	**Pn**	**17 23 51.0**	**+0.1**
SURC	**SANLIURFA_SURC**	**1.29**	**111**	*i* P	**Pn**	**17 23 51.9**	**+0.1**
URFA	**Urfa**	**1.36**	**86**	PN	**Pg**	**17 23 52.9**	**-0.6**
SANL	**SANLIURFA_Merk**	**1.51**	**96**	IAML_P			
	comp=Z,394nm,0.2s						
SANL				*i* P	**Pg**	**17 23 56.8**	**+0.6**

*SJA **07** 18:13:09.9±0.9, 32°.56S×72°.61W, h31km±451km, ML3.5, MW3.5*

*GUC **07** 18:13:13.6±0.6, 32°.85S×71°.95W, h26km±4km, ML3.4*

ISC 07 18:13:08.9±2.0**, 32°.94S**±0°.05×**72°.24W**±0°.07**, h6**km±12km**, n15, σ0ˢ.90**/28**, 1C-3D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROC1	**El Roble**	**1.03**	**92**	*e*P	**Pn**	**18 13 29.9**	**-0.3**
ROC1				*e*S	**Sg**	**18 13 42.2**	**0.0**
ROCH	**El Roble**	**1.04**	**92**	⇓*i*P	**Pn**	**18 13 29.8**	**-0.4**
ROCH				*e*S	**Sg**	**18 13 41.7**	**-0.6**
ROCH				IAML		18 13 43.5	
	comp=E,2μm,0.4s						
PEL	**Peldehue**	**1.32**	**99**	*e*P	**Pg**	**18 13 34.8**	**+0.5**
PEL				*e*S	**Sb**	**18 13 50.0**	**-1.5**
PEL	**Peldehue**	**1.32**	**99**	⇑*e*P	**Pb**	**18 13 34.2**	**+0.1**
PEL				*e*S	**Sb**	**18 13 49.9**	**-1.6**
PEL				IAML		18 13 57.6	
	comp=E,2μm,0.3s						
CLCH	**Cerro Calan**	**1.50**	**108**	⇓*i*P	**Pg**	**18 13 37.8**	**+0.1**
CLCH				*e*S	**Sn**	**18 13 56.2**	**-0.2**
CLCH				IAML		18 14 02.4	
	comp=N,1μm,0.4s						
FCH	**Farellones**	**1.68**	**104**	⇓*e*P	**Pb**	**18 13 40.5**	**+0.1**
FCH				*e*S	**Sb**	**18 14 01.7**	**-0.3**
FCH				IAML		18 14 06.3	
	comp=N,1μm,0.2s						
LMEL	**Las Melosas**	**1.93**	**118**	*e*P	**Pb**	**18 13 44.8**	**+0.1**
LMEL				*e*S	**Sb**	**18 14 09.1**	**0.0**
LMEL				IAML		18 14 15.7	
	comp=N,1μm,0.3s						
CMCH	**Combarbala**	**2.05**	**31**	*e*P	**Pb**	**18 13 46.3**	**-0.3**
CMCH				*e*S	**Sn**	**18 14 10.8**	**+0.8**
GO05	**Huala**	**2.08**	**173**	*e*P	**Pb**	**18 13 46.3**	**-0.8**
GO05				*i* S	**Sg**	**18 14 17.0**	**+1.3**
GO05				IAML		18 14 26.8	
	comp=N,224nm,0.3s						
AUSP	**Uspallata**	**2.52**	**74**	*e*P	**Pb**	**18 13 54.6**	**0.0**
AUSP				*e*S	**Sb**	**18 14 27.8**	**+1.9**
RTLS	**Leoncito**	**2.74**	**66**	*e*P	**Pb**	**18 13 57.7**	**-0.8**
RTLS				*e*S	**Sg**	**18 14 36.0**	**-1.0**
RTLS				IAML		18 14 39.1	
	comp=Z,122nm,0.4s						
ARCO	**CERRO ARCO**	**2.79**	**89**	*e*P	**Pb**	**18 14 00.3**	**+1.1**
ARCO				IAML		18 14 01.7	
	comp=Z,161nm,0.4s						
AAGR	**Agrelo**	**2.87**	**94**	*e*P	**Pb**	**18 14 01.2**	**+0.5**
AAGR				*e*S	**Sg**	**18 14 40.7**	**-0.5**
ASAL	**Salagasta**	**2.89**	**84**	*e*P	**Pb**	**18 14 01.2**	**+0.2**
ASAL				*e*S	**Sb**	**18 14 38.6**	**+2.0**
RTCV	**Cerro Valdivia**	**3.31**	**72**	*e*P	**Pb**	**18 14 07.8**	**-0.3**

*THR **07** 18:16:51.9, 29°.82N×57°.64E, h18km, ML3.3*

*TEH **07** 18:16:51.5, 30°.00N×57°.60E, h5km, ML3.7*

ISC 07 18:16:52.4±1.2**, 29°.89N**±0°.06×**57°.61E**±0°.06**, h11**km±7km**, n25, σ1ˢ.38**/24**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHMN	**Cheshme madani**	**0.07**	**245**	*e*Pg	**Pg**	**18 16 54.8**	**-0.3**
CHMN				*e*Sg	**Sg**	**18 16 57.6**	**+0.5**
CHMN				IAMB	IAmb	18 16 57.8	
	comp=Z,0.0nm,0.1s						
KRBR	**Kerman**	**0.75**	**277**	*e*AML	AML	18 17 22.6	
	comp=E,1μm,0.3s						
KRBR				*e*AML	AML	18 17 27.1	
	comp=N,1μm,0.4s						
KRBR	**Kerman**	**0.75**	**277**	*e*Pg	**Pb**	**18 17 07.2**	**-0.3**
KRBR				*e*Sg	**Sb**	**18 17 17.9**	**+0.1**
TVBK	**TV Kerman**	**0.75**	**277**	IAMB	IAmb	18 17 19.8	
	comp=Z,0.0nm,0.1s						
TVBK				*e*Pg	**Pb**	**18 17 07.4**	**-0.2**
NGRK	**Negar Kerman**	**0.81**	**252**	*e*Sg	**Sn**	**18 17 21.0**	**-1.2**
NGRK				*e*Pg	**Pb**	**18 17 08.7**	**+0.1**
NGRK				IAMB	IAmb	18 17 22.1	
	comp=Z,0.0nm,0.1s						
KHGB	**Koh Gabri**	**1.10**	**296**	*e*Pg	**Pg**	**18 17 12.8**	**-0.7**
KHGB				IAMB	IAmb	18 17 32.1	
	comp=Z,0.0nm,0.2s						
NIAN	**Nian**	**2.42**	**197**	*e*Pn	**Pb**	**18 17 36.1**	**+0.1**
NIAN				IAMB	IAmb	18 18 14.2	
	comp=Z,0.0nm,0.6s						
GENO	**Geno**	**2.79**	**207**	*e*Pn	**Pb**	**18 17 40.7**	**-1.6**
GENO				IAMB	IAmb	18 18 26.0	
	comp=Z,0.0nm,0.3s						
IKOO	**Kooshah**	**2.79**	**25**	*e*Pn	**Pn**	**18 17 38.3**	**+1.1**
IKOO				IAMB	IAmb	18 17 44.1	
	comp=Z,4μm,0.3s						
ITEG	**Tejag**	**3.15**	**18**	*e*Pn	**Pn**	**18 17 41.8**	**-0.3**
ITEG				IAMB	IAmb	18 18 35.5	
	comp=Z,2μm,0.6s						
TPRV	**Parvadeh(Tabas**	**3.23**	**346**	*e*Pn	**Pn**	**18 17 43.7**	**+0.6**
TPRV				IAMB	IAmb	18 18 39.6	
	comp=Z,0.0nm,0.6s						
IDAH	**Dahanechah**	**3.43**	**34**	IAMB	IAmb	18 18 56.0	
	comp=Z,1μm,0.6s						
YZKH	**Yazd**	**3.59**	**315**	*e*Pn	**Pn**	**18 17 50.2**	**+2.1**
YZKH	**Yazd**	**3.59**	**315**	*e*AML	AML	18 18 50.6	
	comp=N,46nm,0.4s						
YZKH	**Yazd**	**3.59**	**315**	*e*Pn	**Pn**	**18 17 50.2**	**+2.1**
YZKH				*e*Sg	**Sg**	**18 18 46.1**	**-1.7**
ICHK	**Chekchek**	**3.62**	**311**	IAMB	IAmb	18 18 52.6	
	comp=Z,1μm,0.6s						
IMON	**Monand**	**3.73**	**28**	*e*Pn	**Pn**	**18 17 51.2**	**+1.1**
IMON				IAMB	IAmb	18 19 04.1	
	comp=E,4μm,0.4s						
TKDS	**Koohdasht(Taba**	**3.73**	**354**	*e*Pn	**Pn**	**18 17 50.5**	**+0.4**
TKDS				IAMB	IAmb	18 18 59.2	
	comp=Z,0.0nm,0.5s						
TABS	**Tabas**	**3.77**	**354**	*e*Pn	**Pn**	**18 17 52.4**	**+1.9**
TABS	**Tabas**	**3.77**	**354**	*e*AML	AML	18 19 03.6	
	comp=N,44nm,0.6s						
TABS	**Tabas**	**3.77**	**354**	*e*Pn	**Pn**	**18 17 52.4**	**+1.9**
TNSJ	**Nastanj**	**4.15**	**348**	*e*Pn	**Pn**	**18 17 56.3**	**+0.6**
TNSJ				IAMB	IAmb	18 19 11.7	
	comp=Z,0.0nm,0.4s						
SHRT	**Shahrakht**	**4.38**	**31**	*e*Pn	**Pn**	**18 18 00.4**	**+1.5**
SHRT	**Shahrakht**	**4.38**	**31**	*e*Pn	**Pn**	**18 18 00.4**	**+1.5**
ANAR	**Anarak**	**4.67**	**316**	*e*Pn	**Pn**	**18 18 05.5**	**+2.6**

MEX 07 18:17:52.5±0.4**, 14°.58N**×**92°.99W, h20**km±66km**, MD3.6, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		**0.78**	**65**	*e*P	Pb	18 18 05.2	-2.1
THIG				*i* S	Sb	18 18 14.9	-2.5
CCIG	**Comitan**	**1.89**	**26**	*e*P	Pn	18 18 21.1	-2.7
CCIG				*e*S	Sn	18 18 43.3	-3.8

*ISCJB **07** 18:22:54.6±1.0, 19°.28N±0°.05×65°.27W±0°.03, h5km±7km, Error ellipse: s-maj=8.8km s-min=4.7km az=9.9*

*NEIC **07** 18:22:57.9±0.0, 19°.21N×65°.22W, h5km, MD3.6(RSPR), After RSPR.*

*RSPR **07** 18:22:57.9, 19°.21N×65°.22W, h5km±1km, MD3.6/14*

ISC 07 18:22:55.9±2.0**, 19°.22N**±0°.08×**65°.22W**±0°.03**, h15**km±11km**, n54, σ0ˢ.47**/70**, 15C-18D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.90**	**164**	⇓*e*P	**Pn**	**18 23 13.9**	**-0.2**
STVI	**Saint Thomas**	**0.90**	**164**	⇓*e*P	**Pn**	**18 23 14.0**	**0.0**
STVI				*e*S	**Sn**	**18 23 26.8**	**0.0**
STVI	**Saint Thomas**	**0.90**	**164**	*e*Pg	**Pn**	**18 23 13.9**	**-0.2**
STVI	**Saint Thomas**	**0.90**	**164**	⇓*e*P	**Pn**	**18 23 13.9**	**-0.2**
STVI				*e*S	**Sb**	**18 23 26.0**	**+0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CUPR	Culebra, Puert	0.91	184	⇓eP	Pn	18 23 14.0	-0.2
CUPR	Culebra, Puert	0.91	184	eS	Sb	18 23 26.2	+0.8
CUPR	Culebra, Puert	0.91	184	ePg	Pb	18 23 13.9	+0.5
CUPR				eSg	Sb	18 23 26.2	+0.8
ABV	Anegada	0.97	120	⇑eP	Pn	18 23 14.7	-0.3
ABV	Anegada	0.97	120	eS	Sn	18 23 28.1	-0.4
ABV	Anegada	0.97	120	⇑eP	Pn	18 23 14.7	-0.3
ABV				eS	Sn	18 23 28.1	-0.4
ABVI	Anegada Island	0.97	120	ePg	Pn	18 23 14.7	-0.3
ABVI				eS	Sn	18 23 28.1	-0.4
CBYP	Canovanas	1.12	213	⇓eP	Pb	18 23 16.5	-0.5
CBYP	Canovanas	1.12	213	⇓eP	Pb	18 23 16.6	-0.4
CBYP	Canovanas	1.12	213	⇓eP	Pb	18 23 16.5	-0.5
MTP	Monte Pirata	1.16	196	⇓eP	Pn	18 23 17.8	+0.2
MTP	Monte Pirata	1.16	196	eS	Sb	18 23 33.3	+0.7
MTP	Monte Pirata	1.16	196	eSg	Sb	18 23 33.3	+0.7
MTP	Monte Pirata	1.16	196	⇓eP	Pn	18 23 17.8	+0.2
MTP				eS	Sb	18 23 33.3	+0.7
HUMP	Col San Antoni	1.23	209	⇓eP	Pn	18 23 18.3	-0.2
HUMP				eS	Sb	18 23 34.6	+0.1
HUMP	Col San Antoni	1.23	209	⇓eP	Pn	18 23 18.2	-0.4
HUMP	Col San Antoni	1.23	209	eS	Sb	18 23 34.8	+0.2
HUMP	Col San Antoni	1.23	209	⇓eP	Pn	18 23 18.2	-0.4
HUMP				eS	Sb	18 23 34.6	+0.1
SJG	San Juan	1.42	219	⇑eP	Pn	18 23 20.8	-0.2
SJG	San Juan	1.42	219	eS	Sn	18 23 38.6	-0.9
SJG	San Juan	1.42	219	ePn	Pn	18 23 20.6	-0.5
SJG				eSn	Sn	18 23 38.6	-0.9
SJG	San Juan	1.42	219	⇑eP	Pn	18 23 20.8	-0.2
SJG				eS	Sn	18 23 38.6	-0.9
EMPR	Esperanza - Ma	1.45	239	⇑eP	Pn	18 23 22.0	+0.5
EMPR	Esperanza - Ma	1.45	239	eS	Sn	18 23 40.2	0.0
EMPR	Esperanza - Ma	1.45	239	ePn	Pn	18 23 21.9	+0.4
EMPR				eSn	Sn	18 23 40.2	0.0
CDVI	St. Croix	1.53	164	⇑eP	Pg	18 23 24.8	-0.4
CDVI				eS	Sg	18 23 45.5	+0.4
CDVI	St. Croix	1.53	164	⇑eP	Pg	18 23 24.9	-0.4
CDVI	St. Croix	1.53	164	ePn	Pg	18 23 24.9	-0.4
CDVI				eSn	Sg	18 23 45.5	+0.4
CDVI	St. Croix	1.53	164	⇑eP	Pg	18 23 24.8	-0.4
CDVI				eS	Sg	18 23 45.5	+0.4
CELP	Cerrillos	1.72	229	⇓iP	Pn	18 23 25.5	+0.2
CELP	Cerrillos	1.72	229	ePn	Pn	18 23 25.5	+0.2
CELP	Cerrillos	1.72	229	⇓iP	Pn	18 23 25.5	+0.2
OBIP	Obispado Ponce	1.76	228	⇓iP	Pn	18 23 26.0	+0.2
OBIP	Obispado Ponce	1.76	228	eS	Sn	18 23 47.6	-0.4
OBIP	Obispado Ponce	1.76	228	ePn	Pn	18 23 26.0	+0.2
OBIP				eS	Sn	18 23 47.6	-0.4
OBIP	Obispado Ponce	1.76	228	⇓iP	Pn	18 23 26.0	+0.2
OBIP				eS	Sn	18 23 47.6	-0.4
AGPR	Aguadilla, PR	1.94	248	⇑eP	Pn	18 23 28.6	+0.2
AGPR	Aguadilla, PR	1.94	248	⇑eP	Pn	18 23 28.6	+0.2
AGPR	Aguadilla, PR	1.94	248	⇑eP	Pn	18 23 28.6	+0.2
AGP	Aguadilla	1.99	246	ePn	Pn	18 23 28.6	-0.5
GBPR	Guanica, Bosqu	2.00	232	⇓eP	Pn	18 23 30.0	+0.8
GBPR	Guanica, Bosqu	2.00	232	ePn	Pn	18 23 30.0	+0.8
GBPR	Guanica, Bosqu	2.00	232	⇓eP	Pn	18 23 30.0	+0.8
MPR	Mayaguez	2.08	241	ePn	Pn	18 23 30.6	+0.4
CRPR	Cabo Rojo, PR	2.16	236	⇑eP	Pn	18 23 31.6	+0.3
CRPR	Cabo Rojo, PR	2.16	236	ePn	Pn	18 23 31.6	+0.3
CRPR	Cabo Rojo, PR	2.16	236	⇑eP	Pn	18 23 31.6	+0.3
IDE	Isla Desecheo	2.29	249	⇑eP	Pn	18 23 33.7	+0.6
IDE	Isla Desecheo	2.29	249	⇑eP	Pn	18 23 33.7	+0.6
SMRT	St. Maarten	2.35	120	ePn	Pn	18 23 34.6	+0.7

*ISCJB **07** 18:24:12.7±0.5, 42°.92N±0°.02×77°.20E±0°.03, h7km±3km, Error ellipse: s-maj=3.7km s-min=3.0km az=145.0*
*NNC **07** 18:24:12.6±0.3, 42°.93N×77°.20E, h0km, mb2.3, mpv2.6, Error ellipse: s-maj=2.8km s-min=1.6km az=174.0*
*KRNET **07** 18:24:13.3±0.1, 42°.90N×77°.17E, h28km, mb1.9*
ISC 07 18:24:12.8±1.0**, 42°.92N**±0°.03**×77°.19E**±0°.02**, h10**km±8km**, n31, σ0s.57**/58**, 16C-11D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	Tian-Shan	0.21	303	P	Pg	18 24 17.4	+0.1
	22nm,0.1s						
TNSS				S	Sg	18 24 21.0	+0.4
	14nm,0.1s						
MDOK	Medeo	0.26	337	P	Pg	18 24 17.9	-0.3
	1.4nm,0.2s						
MDOK				⇑S	Sg	18 24 21.3	-0.6
	24nm,0.6s						
MDOK	Medeo	0.26	337	Pg	Pg	18 24 18.2	0.0
	9.6nm,0.1s						
MDOK				Lg	Lg	18 24 22.1	
	16nm,0.2s						
KOTS	Kotyrbulak	0.32	350	P	Pg	18 24 19.3	0.0
	4.9nm,0.2s						
KOTS				S	Sg	18 24 24.0	+0.5
	38nm,0.4s						
IZV	Izvestkoviy	0.44	286	P	Pg	18 24 21.6	+0.1
	5.7nm,0.2s						
IZV				S	Sg	18 24 28.0	+0.8
	23nm,0.5s						
MTBS	Maitube	0.60	291	P	Pg	18 24 24.5	+0.2
MTBS				S	Sg	18 24 32.7	+0.5
KDJ	Kajisay	0.79	180	⇑iP	Pb	18 24 28.4	-0.3
	baz=79						
KDJ				⇑iS	Sb	18 24 39.0	-0.6
	baz=79						
KTBS	Karatobe	0.87	335	P	Pg	18 24 29.3	-0.3
	2.9nm,0.2s						
KTBS				S	Sg	18 24 41.2	+0.2
	8.2nm,0.2s						
SATY	Saty	0.90	81	P	Pg	18 24 30.5	+0.3
	2.4nm,0.1s						
SATY				S	Sg	18 24 41.6	-0.4
	13nm,0.1s						
KST	Kastek	0.91	278	P	Pg	18 24 30.3	0.0
	1.5nm,0.1s						
KST				S	Sg	18 24 42.2	+0.1
	4.4nm,0.3s						
CHKK	Chushkaly	0.94	351	P	Pb	18 24 30.6	-0.7
	2.6nm,0.1s						
CHKK				S	Sb	18 24 42.7	-1.2
	14nm,0.2s						
ULHL	Ulahol	0.97	226	⇓iP	Pb	18 24 31.1	-0.8
	baz=26						
ULHL				⇓iS	Sb	18 24 43.9	-1.0
	baz=26						
BOOM	Boomskoye usch	1.02	245	⇓iP	Pb	18 24 32.0	-0.6
	baz=46						
BOOM				⇓iS	Sb	18 24 45.2	-0.9
	baz=46						
DGS	Degeres	1.09	288	P	Pb	18 24 33.2	-0.6
	1.4nm,0.2s						
DGS				S	Sb	18 24 47.7	-0.4
	4.9nm,0.2s						
KUU	Kurty	1.15	328	P	Pb	18 24 34.3	-0.6
	1.4nm,0.2s						
KUU				S	Sb	18 24 49.5	-0.4
	6.2nm,0.2s						
TKM2	Tokmak 2	1.17	271	⇑P	Pg	18 24 35.5	+0.3
	0.3nm,0.3s						
TKM2				⇑S	Sg	18 24 50.6	+0.1
	0.9nm,0.2s						
TKM2	Tokmak 2	1.17	271	⇑iP	Pb	18 24 34.6	-0.7
	baz=71						
TKM2				⇑iS	Sb	18 24 50.2	-0.4
	baz=71						
ARXS	Arharly	1.37	20	P	Pn	18 24 38.2	0.0
	4.0nm,0.3s						
ARXS				S	Sb	18 24 56.3	0.0
	2.9nm,0.2s						
MNBS	Baschi	1.46	37	P	Pb	18 24 39.6	-0.5
	1.1nm,0.2s						
MNBS				S	Sb	18 24 58.4	-0.4
	3.3nm,0.3s						
KBK	Karagaybulak	1.67	262	⇑iP	Pb	18 24 42.8	-1.0
	baz=62						
KBK				⇑iS	Sb	18 25 04.7	-0.3
	baz=62						
NRN	Naryn	1.73	211	⇑iP	Pb	18 24 43.9	-0.9
	baz=11						
NRN				⇑iS	Sb	18 25 06.0	-0.8
	baz=11						
PDGK	Podgornoye	1.73	76	P	Pb	18 24 44.1	-0.7
	0.4nm,0.3s						
PDGK				S	Sb	18 25 06.9	+0.2
	0.9nm,0.2s						
PDGK	Podgornoye	1.73	76	⇓Pn	Pb	18 24 44.2	-0.6
	2.3nm,1.0s						
PDGK				⇓Sn	Sb	18 25 06.7	0.0
	1.6nm,0.5s						
PDGK	Podgornoye	1.73	76	⇑iP	Pb	18 24 44.1	-0.7
	baz=75						
PDGK				⇑iS	Sb	18 25 06.5	-0.2
	baz=75						
SGDS	Sogindy	1.95	287	P	Pb	18 24 48.3	-0.1
	1.0nm,0.2s						
SGDS				S	Sb	18 25 13.6	+0.8
	4.2nm,0.2s						
USP	Ospenovka	2.00	281	⇓iP	Pn	18 24 47.4	+0.7
	baz=81						
USP				⇓iS	Sn	18 25 12.2	+0.3
	baz=81						
AAK	Ala-Archa	2.00	263	⇑Pn	Pb	18 24 49.0	-0.4
	5.9nm,1.6s						
AAK				⇓Sn	Sb	18 25 15.2	+0.6
	2.7nm,1.0s						
AAK	Ala-Archa	2.00	263	⇓iP	Pn	18 24 47.5	+0.6
	baz=63						
AAK				⇓iS	Sn	18 25 12.4	+0.3
	baz=63						
ARLS	Aral	2.37	244	⇑iP	Pn	18 24 52.9	+0.9
	baz=45						
ARLS				⇑iS	Sn	18 25 20.9	-0.3
	baz=45						
KTMS	Ketmen	2.37	76	Pg	Pb	18 24 56.8	+1.1
	0.5nm,0.1s						
KTMS				Lg	Lg	18 25 26.9	
	3.2nm,0.2s						
KAPS	Kapalarasan	2.83	33	Lg	Lg	18 25 40.1	

*DDA **07** 18:25:15.4, 40°.23N×31°.71E, h7km±4km, ML2.0*
*ISCJB **07** 18:25:16.8±0.7, 40°.10N±0°.06×31°.66E±0°.05, h3km±8km, Error ellipse: s-maj=10.0km s-min=5.1km az=19.2*
*ISK **07** 18:25:16.6, 40°.06N×31°.60E, h12km, ML2.5/5*
ISC 07 18:25:15.4±1.4**, 40°.16N**±0°.04**×31°.66E**±0°.03**, h3**km±13km**, n12, σ0s.90**/17**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDUB	Mudurnu	0.47	312	PG	Pb	18 25 26.8	+0.3
MDUB				SG	Sb	18 25 35.4	+1.5
SVRH	Sivrihisar-ESK	0.72	188	PG	Pg	18 25 29.7	+0.5
BCAM	Yenicaga	0.72	25	IAML_P			
	comp=Z,694nm,0.4s						
BCAM				iP	Pg	18 25 29.5	+0.1
BCAM				iS	Sg	18 25 37.0	-1.7
LOD	Lodumlu	0.89	107	PG	Pn	18 25 34.4	-0.6
GULT	Gulveren	0.92	288	PG	Pb	18 25 34.2	+0.1
ANTO	Ankara	0.92	108	PG	Pn	18 25 35.9	+0.5
ANTO				SG	Sn	18 25 47.9	-1.3
BORA	Eskisehir	0.97	254	PG	Pg	18 25 34.0	0.0
BORA	Eskisehir	0.97	254	IAML_P			
	comp=Z,485nm,0.3s						
BORA				iP	Pn	18 25 35.3	-0.7
BORA				iS	Sn	18 25 50.4	+0.1
BBAL	Bala	1.28	118	IAML_P			
	comp=Z,81nm,0.2s						
BBAL				iP	Pg	18 25 41.1	+1.1
AFSR	Afar-Bala (An	1.30	123	PN	Pb	18 25 40.6	0.0
AFSR				SN	Sn	18 25 58.8	+0.2
KBUK	KARABUK-Merkez	1.30	34	iP	Pg	18 25 41.3	+0.9
KKUL	Konya-Kulu	1.39	135	IAML_P			
	comp=Z,69nm,0.3s						
KKUL				iP	Pb	18 25 41.8	-0.3

*BJI **07** 18:40:00.2, 0°.13N×120°.39E, h22km, mb4.5/10, mB4.8/4, Ms4.3/1, Ms7 4.2/2*
*IDC **07** 18:40:00.0±0.5, 0°.34N×119°.78E, h0km, mb4.2/18, mb1 4.3/19, mb1mx4.2/40, mbtmp4.2/19, ML4.0/1, MS3.6/13, Ms1 3.6/13, ms1mx3.4/35, Error ellipse: s-maj=24.4km s-min=11.2km az=66.0*
*DJA **07** 18:40:02.7±0.3, 0°N±3°×11°9E±°, h10km, M4.7/9, mb4.7/2, mB5.2/1, MLv4.7/9, Mw(mB)4.6/1*
*NEIC **07** 18:40:02.9±3.3, 0°.29N×119°.74E, h20km±21km, mb4.8/16, Error ellipse: s-maj=8.6km s-min=4.7km az=58.0*
*ISCJB **07** 18:40:03.6±0.2, 0°.31N±0°.03×119°.60E±0°.03, h34km, mb4.4/38, MS3.6/10, Error ellipse: s-maj=4.5km s-min=4.2km az=36.6*
ISC 07 18:40:05.2±0.4**, 0°.29N**±0°.05**×119°.57E**±0°.03**, h34**km**, n98, σ1s.50**/96**, mb4.5**/47**, MS3.6**/10**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	Mapaga	0.34	81	P	Pb	18 40 11.5	-2.0
MPSI				S	Sn	18 40 17.3	-1.6
PCI	Palu	1.22	167	P	Pn	18 40 25.9	+0.1
PCI				S	Sb	18 40 43.4	+0.3
SGKI	Sangatta, Kali	2.12	248	P	Pn	18 40 37.0	-1.2
MRSI	Marisa	2.38	85	P	Pn	18 40 42.5	+0.7
SMKI	Samarinda	2.47	253	P	Pn	18 40 42.1	-0.9
SMKI				S	Sn	18 41 12.8	+0.9
BKB	Balikpapan	3.08	240	P	Pn	18 40 50.5	-0.9
BKB				S	Sn	18 41 27.1	0.0
TTSI	Tana Toraja	3.32	176	P	Pn	18 40 56.8	+2.1
LUWI	Luwuk	3.47	112	ePg	Pn	18 41 00.4	+3.6
LUWI	Luwuk	3.47	112	P	Pn	18 41 00.1	+3.3
SPSI	Sidrap Palu	4.23	177	P	Pn	18 41 09.1	+1.9
KMSI	Cibinong	4.42	86	P	Pn	18 41 12.0	+2.1
BNSI	Bone	4.69	173	P	Pn	18 41 15.2	+1.7
MTKI	Muara Teweh, K	4.83	255	P	Pn	18 41 14.7	-0.8
KBKI	Kotabaru	4.92	224	P	Pn	18 41 16.6	-0.2
KDI	Kendari	5.21	144	P	Pn	18 41 22.2	+1.5
	73nm,0.8s,2μm0.4nm						
BKSI	Bulukumba	5.60	174	P	Pn	18 41 28.3	+2.2
KKM	Kota Kinabalu	6.62	330	ePn	Pn	18 41 39.5	-0.8
DAV	Davao City (W)	9.02	42	LR	LR	18 46 28.7	
	comp=Z,529nm,18.5s,baz=266,slow=44						
BATI	Baumata	11.19	159	LR	LR	18 48 03.4	
	comp=Z,406nm,18.6s,baz=250,slow=43						
LEM	Lembang	13.86	239	LR	LR	18 48 36.3	
	comp=Z,196nm,20.7s,baz=88,slow=37						
FITZ	Fitzroy Crossi	19.22	162	P	P	18 44 25.5	-1.0
	0.4nm,0.3s,baz=340,slow=7.5,SNR=10						
FITZ				LR	LR	18 53 57.2	
	comp=Z,83nm,18.6s,baz=344,slow=44						
PSI	Prapat	20.78	277	P	Pn	18 44 53.7	+7.5
	4.1nm,0.6s,baz=174,slow=0.9,SNR=4.0						
PSI				LR	LR	18 52 56.4	
	comp=Z,223nm,19.4s,baz=91,slow=37						
PSI	Prapat	20.78	277	eP	Pn	18 44 48.0	+1.7
	13nm,1.0s						
GSI	Gunungsitoli	22.01	273	eP	P	18 44 58.7	+1.9
	24nm,0.8s						
CHAI	Chaiyaphum	23.27	313	P	P	18 45 12.0	+2.0
WRA	Warramunga Arr	24.77	145	P	P	18 45 22.9	-1.1
	7.9nm,1.0s,baz=336,slow=9.4,SNR=38						
WR1	Warramunga Arr	24.77	145	eP	P	18 45 22.9	-1.1
	22nm,1.4s						
WB2	Warramunga Arr	24.78	145	eP	P	18 45 21.0	-3.1
UTHA	Uthaitani	25.00	308	P	P	18 45 34.2	+8.1
	4.1nm,0.7s						
UTTA	Uttaradit	25.51	314	P	P	18 45 38.5	+7.9
	3.9nm,0.8s						
UMPA	Umpang Tak	25.83	309	P	P	18 45 40.7	+7.0
	6.8nm,1.0s						
CM01	Chiang Mai Arr	27.10	313	eP	P	18 45 46.0	+1.0
CM01				epP	pP	18 45 51.2	-3.0
CM01				ePcP	PcP	18 49 06.3	+0.6
CM31	Chiang Mai Arr	27.14	313	eP	P	18 45 46.1	+0.7
CMAR	Chiang Mai Arr	27.14	313	P	P	18 45 46.1	+0.7
	0.9nm,0.7s,baz=136,slow=7.6,SNR=12						
CMAR				PcP	PcP	18 49 06.5	+0.8
	1.6nm,0.9s,baz=178,slow=2.0,SNR=10						
CMAR				LR	LR	18 58 55.6	
	comp=Z,76nm,18.2s,baz=128,slow=42						
CMMT	Chiang Mai	27.36	313	P	P	18 45 55.4	+8.0
	5.8nm,2.1s						
CHTO	Chiang Mai	27.36	313	P	P	18 45 55.8	+8.4
	26nm,2.1s						
AS31	Alice Springs	27.58	151	eP	P	18 45 47.5	-1.9
	1.6nm,1.2s						
ASAR	Alice Springs	27.59	151	P	P	18 45 48.8	-0.7
	1.1nm,0.6s,baz=326,slow=8.4,SNR=26						
ASAR				PcP	PcP	18 49 06.3	-0.4
	0.3nm,0.6s,baz=307,slow=0.6,SNR=4.4						
ASAR				LR	LR	18 56 59.5	
	comp=Z,136nm,19.1s,baz=300,slow=37						
PMG	Port Moresby	29.11	110	P	P	18 46 01.4	-1.6
	11nm,0.6s,baz=301,slow=12,SNR=5.7						
RABL	Rabaul	32.87	98	eP	P	18 46 35.5	-0.8
	118nm,1.4s						
NWAO	Narrogin (SRO)	33.11	184	P	P	18 46 38.5	+0.5
	7.5nm,0.9s,baz=239,slow=10,SNR=4.0						
KSRS	Korea Array	37.78	11	PcP	PcP	18 49 34.1	-0.4
	2.0nm,0.9s,baz=192,slow=3.6,SNR=4.8						
KSRS				LR	LR	19 03 40.7	
	comp=Z,81nm,20.1s,baz=186,slow=38						
STKA	Stephens Creek	38.18	149	P	P	18 47 21.0	-0.7
	5.3nm,0.8s,baz=324,slow=11,SNR=7.6						
STKA				LR	LR	19 05 40.3	
	comp=Z,75nm,18.4s,baz=259,slow=40						
STKA	Stephens Creek	38.18	149	eP	P	18 47 21.9	+0.3
	2.1nm,1.0s						
MAJO	Matsushiro	40.00	24	eP	P	18 47 35.4	-1.5
MJAR	Matsushiro Arr	40.00	24	P	P	18 47 35.4	-1.5
	2.1nm,0.7s,baz=204,slow=9.9,SNR=5.4						
JIRN	Jiri	42.01	313	eP	P	18 47 55.0	+1.0
	54nm,1.1s						
GUN	Gumba	42.38	313	eP	P	18 47 57.8	+0.9
	35nm,0.8s						
PKI	Pulchoki	42.53	313	eP	P	18 47 58.7	+0.5
	19nm,0.8s						
PKIN	Phulchoki	42.55	313	eP	P	18 47 58.6	+0.4
	14nm,0.8s						
KKN	Kakani	42.75	313	eP	P	18 48 00.7	+0.9
	16nm,0.9s						
DMN	Daman	42.78	312	eP	P	18 48 01.3	+1.2
	29nm,1.0s						
GTA	Gaotai	42.92	337	eP	P	18 48 03.0	+2.1
GTA				pP	pP	18 48 09.4	-1.0
GTA				sP	pwP	18 48 12.7	-0.1
GTA				PcP	PcP	18 49 53.3	+2.0
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,93nm,6.8s						
GTA				LR	LR		
	comp=Z,130nm,18.4s						
KOLN	Koldanda	43.99	311	eP	P	18 48 10.9	+1.1
	18nm,0.7s						
DANN	Dangsing	44.18	312	eP	P	18 48 11.5	+0.1
	31nm,0.6s						
PYUN	Piuthan	44.62	311	eP	P	18 48 15.7	+0.9
	56nm,0.9s						
USRK	Ussuriysk Ar.	45.10	13	P	P	18 48 17.5	-0.6
	2.0nm,0.8s,baz=174,slow=8.0,SNR=5.5						
SONA0	Songino Array	48.72	348	eP	P	18 48 46.9	+0.3
SONM	Songino Array	48.72	348	P	P	18 48 46.9	+0.3
	0.5nm,0.8s,baz=170,slow=8.5,SNR=3.6						
SONM				LR	LR	19 10 28.6	
	comp=Z,73nm,20.2s,baz=188,slow=38						
KLR	Kul'dur	49.87	10	P	P	18 48 54.3	-0.8
	1.6nm,0.7s,baz=214,slow=7.3,SNR=5.8						
MK01	Makanchi Array	56.59	330	eP	P	18 49 45.4	+0.8
MK31	Makanchi Array	56.61	330	eP	P	18 49 46.0	+1.2
MK32	Makanchi Array	56.61	330	eP	P	18 49 45.7	+0.9
MKAR	Makanchi Array	56.61	330	P	P	18 49 45.7	+0.9
	1.3nm,0.7s,baz=130,slow=8.8,SNR=16						
MKAR				LR	LR	19 17 50.6	
	comp=Z,45nm,18.3s,baz=76,slow=40						
MKAR	Makanchi Array	56.61	330	eP	P	18 49 46.0	+1.2
	42nm,0.8s						
MAKZ	Makanchi	56.78	330	eP	P	18 49 46.7	+0.7
	3.9nm,0.8s						
KBL	Kabul	58.15	311	eP	P	18 49 56.0	-0.1
	21nm,1.1s						
AAK	Ala-Archa	58.37	322	eP	P	18 49 59.1	+1.6
	5.7nm,0.6s						
ZAA0	Zalesovo Array	60.68	337	eP	P	18 50 12.5	-0.4
	8.1nm,0.8s						
ZALV	Zalesovo Beam	60.68	337	P	P	18 50 12.9	0.0
	1.4nm,0.6s,baz=123,slow=5.5,SNR=7.6						
ZALV	Zalesovo Beam	60.68	337	eP	P	18 50 12.3	-0.6
ZAA1	Zalesovo Array	60.68	337	eP	P	18 50 12.9	0.0
KURK	Kurchatov	61.05	332	eP	P	18 50 16.4	+0.9
	17nm,0.9s						
KK31	Karatay Array	61.09	321	eP	P	18 50 16.9	+0.9
KKAR	Karatay Array	61.09	321	eP	P	18 50 13.3	-2.7
PETK	Petropavlovsk-	61.43	25	P	P	18 50 17.3	-0.8
	6.0nm,0.8s,baz=210,slow=3.5,SNR=4.2						
PEA1	Petropavlovsk-	61.44	25	eP	P	18 50 17.3	-0.8
RPZ	Rata Peaks	63.38	141	P	P	18 50 30.9	-0.4
	19nm,0.8s,baz=278,slow=5.0,SNR=6.9						
BRVK	Borovoye	66.57	330	eP	P	18 50 51.4	-0.4
	7.7nm,1.1s						
GEYT	Alibeck	67.61	311	P	P	18 50 59.7	+1.0
	0.9nm,0.6s,baz=123,slow=7.3,SNR=5.5						
ABKAR	Akbulak array	70.42	323	eP	P	18 51 16.4	+0.4
ARU	Arti	74.13	330	eP	P	18 51 38.0	0.0
	6.3nm,0.8s						
KBZ	Khabaz	80.18	314	P	P	18 52 14.6	+2.4
	1.2nm,0.9s,baz=98,slow=7.1,SNR=2.3						
VNDA	Vanda	81.02	171	P	P	18 52 16.3	+0.2
	2.9nm,0.7s,baz=315,slow=5.4,SNR=16						
VNDA	Vanda	81.02	171	eP	P	18 52 15.0	-1.1
	3.9nm,0.8s						
KMBO	Kilima Mbogo	82.32	269	LR	LR	19 26 24.9	
	comp=Z,37nm,18.8s,baz=93,slow=34						
RDOG	Red Dog Mine	85.08	22	eP	P	18 52 38.3	+1.0
	19nm,1.2s						
BR101	Keskin Array S	86.68	310	eP	P	18 52 45.6	-0.3
BRTR	Keskin Array B	86.68	310	P	P	18 52 45.6	-0.3
	1.5nm,0.9s,baz=146,slow=4.6,SNR=4.3						
MLY	Manley	89.61	25	eP	P	18 52 59.0	-0.3
	4.1nm,0.9s						
ILAR	Eielson Array	91.26	25	P	P	18 53 04.5	-2.3
	0.6nm,0.8s,baz=264,slow=4.3,SNR=6.5						
NOA	NORSAR Array B	98.56	332	LR	LR	19 40 25.0	
	comp=Z,17nm,18.0s,baz=295,slow=37						
YKA	Yellowknife Ar	105.51	23	Pdiff	Pdif	18 54 10.7	-0.5
	0.1nm,0.5s,baz=295,slow=4.5,SNR=4.1						
TORD	Torodi Ar. Bea	117.02	285	PKP	PKPdf	18 58 46.1	-1.4
	0.8nm,0.9s,baz=8.1,slow=3.1,SNR=4.8						
TOA1	Torodi Ar. Sit	117.02	285	ePKPdf	PKPdf	18 58 46.1	-1.4
TXAR	Lajitas Array	129.33	51	PKP	PKPdf	18 59 11.2	+0.2
	0.3nm,0.8s,baz=250,slow=1.8,SNR=3.4						
BDFB	Brasilia	160.43	218	PKP	PKPdf	19 00 02.4	-0.2
	1.6nm,0.5s,baz=264,slow=4.2,SNR=3.6						
LPAZ	La Paz	162.38	155	PKP	PKPdf	19 00 05.8	+0.5
	1.2nm,0.8s,baz=215,slow=1.2,SNR=5.2						

IDC 07 18:40:23.5±2.1**, 29°.78S×176°.71W, h0**km**, mb3.6**/2**, mb1 3.9**/2**, mb1mx3.5**/33**, mbtmp3.6**/2**, MS2.8**/1**, Ms1 2.8**/1**, ms1mx2.5**/22**, Error ellipse: s-maj=75.3km s-min=38.7km az=14.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.18	296	Pn	Pn	18 40 47.3	+0.1
	229nm,0.3s,baz=102,slow=14,SNR=15						
RAO				LR	LR	18 40 56.2	
	comp=Z,138nm,21.4s,baz=296,slow=28						
RAO				Sn	Sg	18 40 58.5	-2.9
	1μm,0.3s,baz=344,slow=20,SNR=14						
RAR	Rarotonga	17.49	65	LR	LR	18 51 12.4	
	comp=Z,28nm,18.5s,baz=155,slow=37						
ASAR	Alice Springs	44.27	266	P	P	18 48 34.7	-0.4
	0.6nm,0.6s,baz=104,slow=7.2,SNR=5.1						
WRA	Warramunga Arr	45.20	271	P	P	18 48 42.6	0.0
	0.4nm,0.3s,baz=109,slow=8.1,SNR=14						
FINES	FINESS Array B	144.94	341	PKP	PKPab	19 00 00.7	-0.5
	1.7nm,0.8s,baz=29,slow=3.2,SNR=3.4						
AKASG	Malin Array Be	151.47	324	PKPbc	PKPbc	19 00 19.4	+0.3
	0.2nm,0.4s,baz=48,slow=2.9,SNR=4.2						

IDC 07 18:42:17.3±3.1**, 28°.60S×176°.98W, h0**km**, mb3.6**/2**, mb1 3.9**/2**, mb1mx3.6**/26**, mbtmp3.6**/2**, MS3.0**/1**, Ms1 3.0**/1**, ms1mx2.6**/22**, Error ellipse: s-maj=95.4km s-min=35.1km az=133.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.05	231	Pn	Pn	18 42 39.2	-0.1
	466nm,0.3s,baz=90,slow=20,SNR=3.4						
RAO				Sn	Sg	18 42 50.2	-0.8
	1μm,0.3s,baz=108,slow=20,SNR=6.6						
RPZ	Rata Peaks	17.89	209	LR	LR	18 52 22.3	
	comp=Z,54nm,20.7s,baz=284,slow=34						
ASAR	Alice Springs	44.13	265	P	P	18 50 27.6	-0.2
	0.3nm,0.4s,baz=100,slow=8.0,SNR=4.6						
WRA	Warramunga Arr	44.95	270	P	P	18 50 34.3	0.0
	0.4nm,0.3s,baz=109,slow=8.1,SNR=8.7						
FINES	FINESS Array B	143.74	341	PKP	PKPdf	19 01 53.0	-0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	2.0nm,1.1s,baz=132,slow=2.1,SNR=2.6						
AKASG	**Malin Array Be**	**150.37**	**325**	PKPbc	PKPbc	19 02 09.9	-0.4
	1.0nm,0.6s,baz=53,slow=3.1,SNR=4.0						

*MOS **07** 18:56:31.9±1.8, 53.°27N×108.°52E, h10km, mb4.4/1, Error ellipse: s-maj=14.6km s-min=9.0km az=57.5*

BYKL 07 18:56:31.9±0.2**, 53.°28N×108.°53E, h13**km±3km**, 7C-7D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXMB	**Maximikha**	**0.13**	**97**	⇑*i*Pg	Pg	18 56 35.3	0.0
MXMB				*e*Sg	Sg	18 56 37.4	-0.3
KELR	**Kotokel**	**0.59**	**208**	⇓*i*Pg	Pg	18 56 42.7	-0.7
KELR				*e*Sg	Sg	18 56 51.0	-0.2
OGRR	**Ongureny**	**0.67**	**303**	⇑*i*Pg	Pg	18 56 45.0	+0.1
	356nm,0.4s						
OGRR				⇓*i*Pg	Pg	18 56 45.0	+0.1
	422nm,0.4s						
OGRR				⇑*i*Pg	Pg	18 56 45.0	+0.1
	524nm,0.4s						
OGRR				*e*Sg	Sg	18 56 53.7	0.0
OGRR				*e*Sb	Sn	18 56 59.9	+2.5
OGRR				Pmax			
	363nm,0.3s						
OGRR				max			
	730nm,0.4s						
OGRR	**Ongureny**	**0.67**	**303**	⇑*i*PG	Pg	18 56 45.0	+0.1
OGRR				*e*		18 56 53.6	
OGRR				pmax	pmax		
	comp=Z,365nm,0.3s						
OGRR				smax	smax		
	comp=E,648nm,0.2s						
SYVR	**Suvo**	**0.96**	**66**	⇑*i*Pg	Pb	18 56 49.5	-0.8
SYVR				*i*		18 56 50.3	
SYVR				*e*Pb	Pn	18 56 52.0	+1.0
SYVR				*e*		18 56 55.3	
SYVR				*i* Sg	Sb	18 57 02.9	0.0
SYVR				*e*Sb	Sn	18 57 07.5	+3.0
SYVR				max			
	comp=E,171nm,0.1s						
SYVR				max			
	comp=E,2µm,0.4s						
SYVR	**Suvo**	**0.96**	**66**	⇑*i*PG	Pb	18 56 49.5	-0.8
SYVR				*e*		18 57 02.8	
SYVR				pmax	pmax		
	comp=Z,176nm,0.1s						
SYVR				smax	smax		
	comp=N,2µm,0.3s						
TRTB	**Turuntaevo**	**1.19**	**208**	*i* Pg	Pn	18 56 53.4	-0.8
TRTB				*e*		18 56 55.2	
TRTB				*e*		18 56 57.9	
TRTB				*e*Sg	Sb	18 57 09.0	-0.5
TRTB				*e*Sb	Sn	18 57 12.1	+1.9
TRG	**Tyrgan**	**1.42**	**249**	⇑*i*Pg	Pn	18 56 56.7	-0.7
TRG				*e*Pb	Pb	18 56 58.1	-0.1
TRG				*e*Sg	Sn	18 57 15.3	-0.6
TRG				*e*Sb	Sg	18 57 17.0	-0.5
TRG				max			
	comp=N,265nm,0.1s						
TRG				max			
	comp=N,2µm,0.6s						
TRG	**Tyrgan**	**1.42**	**249**	*e*PG	Pn	18 56 56.8	-0.6
TRG				*e*		18 57 15.3	
TRG				pmax	pmax		
	comp=Z,266nm,0.2s						
TRG				smax	smax		
	comp=N,1µm,0.4s						
UUDB	**Ulan-Yde**	**1.51**	**201**	⇓*i*Pg	Pb	18 56 59.4	-0.4
UUDB				*e*Sg	Sb	18 57 19.6	+0.7
UUDB				*e*Sb	Sg	18 57 21.4	+0.9
UUDB				Pmax			
	comp=N,335nm,0.4s						
UUDB				max			
	comp=N,1µm,0.7s						
KAB	**Kabansk**	**1.68**	**224**	*e*Pg	Pb	18 57 02.6	-0.1
KAB				*e*Sg	Sg	18 57 25.0	-0.9
KAB				Pmax			
	comp=N,178nm,0.3s						
KAB				Smax			
	comp=N,3µm,0.7s						
KAB	**Kabansk**	**1.68**	**224**	*e*PN	Pb	18 57 02.8	+0.1
KAB				*e*		18 57 25.1	
KAB				pmax	pmax		
	comp=Z,170nm,0.3s						
KAB				smax	smax		
	comp=N,3µm,0.6s						
STDB	**Stepnoy Dvoret**	**1.72**	**231**	*e*Pn	Pb	18 57 02.6	-0.8
STDB				*e*Pg	Pg	18 57 04.0	-0.9
STDB				*e*Sg	Sg	18 57 27.8	+0.5
HRMR	**Khuramsha**	**1.92**	**211**	*e*Pn	Pb	18 57 05.6	-1.1
HRMR				*i* Pg	Pn	18 57 06.4	+2.2
HRMR				*e*Sg	Sg	18 57 32.4	-1.0
HRMR				Pmax			
	comp=N,516nm,0.2s						
HRMR				Smax			
	comp=N,3µm,0.4s						
YLYR	**Ulyunkhan**	**2.23**	**43**	*i* Pn	Pn	18 57 09.5	+1.0
YLYR				⇓*e*Pg	Pb	18 57 11.5	-0.5
YLYR				*e*Sg	Sg	18 57 41.7	-1.7
YLYR				Pmax			
	comp=N,162nm,0.3s						
YLYR				Smax			
	comp=N,319nm,0.6s						
YLYR	**Ulyunkhan**	**2.23**	**43**	⇓*i*PN	Pn	18 57 09.5	+1.0
YLYR				*e*		18 57 11.4	
YLYR				*e*S	Sn	18 57 35.5	-0.4
BGT	**Bolshoye Golou**	**2.27**	**238**	*e*Pn	Pn	18 57 09.2	+0.1
BGT				*e*Pg	Pb	18 57 12.6	-0.1
BGT				*e*Sg	Sb	18 57 41.8	+1.2
NIZ	**Nizh Angarsk**	**2.57**	**13**	*e*Pn	Pn	18 57 14.4	+1.2
NIZ				*e*Pg	Pb	18 57 17.9	+0.1
NIZ				*e*Sn	Sn	18 57 43.5	-0.8
NIZ				*e*Sg	Sb	18 57 49.8	+0.5
NIZ				*e*SgSg	Sg	18 57 52.6	-1.8
NIZ				Pmax			
	comp=N,120nm,0.4s						
NIZ				max			
	comp=N,331nm,0.4s						
NIZ	**Nizh Angarsk**	**2.57**	**13**	*e*PN	Pn	18 57 14.4	+1.2
NIZ				*e*		18 57 17.9	
NIZ				*e*S	Sn	18 57 46.7	+2.4
NIZ				*e*		18 57 52.8	
NIZ				pmax	pmax		
	comp=Z,120nm,0.6s						
NIZ				smax	smax		
	comp=N,332nm,0.4s						
LSTR	**Listvyanka**	**2.66**	**239**	*i* Pn	Pn	18 57 14.8	+0.3
LSTR				⇓*e*Pg	Pb	18 57 18.9	-0.5
LSTR				*e*Sn	Sn	18 57 46.0	-0.6
LSTR				*e*Sg	Sb	18 57 53.0	+1.0
LSTR				Pmax			
	comp=N,33nm,0.6s						
LSTR				Smax			
	comp=N,261nm,0.9s						
IRK	**Irkutsk**	**2.79**	**250**	*e*PN	Pb	18 57 22.0	+0.5
IRK				*e*S	Sn	18 57 48.2	-1.5
IRK				*e*		18 57 56.6	
IRK				pmax	pmax		
	comp=Z,59nm,0.3s						
IRK				smax	smax		
	comp=N,688nm,1.1s						
KMO	**Kumora**	**3.04**	**30**	*e*Pn	Pn	18 57 20.7	+1.0
KMO				⇓*e*Pg	Pb	18 57 25.9	+0.1
KMO				*e*		18 57 26.7	
KMO				*e*Sg	Sg	18 58 07.2	-2.3
KMO				Pmax			
	comp=N,184nm,0.6s						
KMO				Smax			
	comp=N,230nm,1.0s						
KMO	**Kumora**	**3.04**	**30**	*e*PN	Pn	18 57 19.1	-0.6
KMO				*e*		18 57 25.9	
KMO				*e*S	Sn	18 57 57.4	+1.5
KMO				*e*		18 58 07.4	
KMO				pmax	pmax		
	comp=Z,185nm,0.6s						
KMO				smax	smax		
	comp=N,230nm,0.9s						
CIT	**Chita**	**3.31**	**110**	*e*	Pn	18 57 24.4	+1.0
CIT				*e*Pg	Pb	18 57 29.3	-1.1
CIT				*e*Sg	Sb	18 58 13.8	+3.2
CIT				Pmax			
	comp=N,75nm,0.2s						
CIT				Smax			
	comp=N,423nm,0.2s						
CIT	**Chita**	**3.31**	**110**	*e*PN	Pn	18 57 23.3	-0.1
CIT				*e*		18 57 33.7	
CIT				*e*		18 58 13.8	
CIT				pmax	pmax		
	comp=Z,87nm,0.8s						
CIT				smax	smax		
	comp=E,226nm,1.3s						
UKT	**Uakit**	**3.71**	**51**	*e*Pn	Pn	18 57 30.2	+1.2
UKT				*e*Pg	Pb	18 57 37.1	-0.2
UKT				*e*Sn	Sn	18 58 09.7	-2.9
UKT				*e*Sg	Sg	18 58 27.1	-3.9
UKT				Pmax			
	comp=E,45nm,0.7s						
UKT				Smax			
	comp=E,153nm,0.6s						
ARS	**Arshan**	**3.96**	**252**	*e*Pn	Pn	18 57 33.1	+0.7
ARS				*e*Pg	Pb	18 57 42.3	+0.7
ARS				*e*Sg	Sb	18 58 34.0	+4.5
ARS				Pmax			
	comp=E,42nm,0.3s						
ARS				Smax			
	comp=E,613nm,0.6s						
ARS	**Arshan**	**3.96**	**252**	*e*PN	Pn	18 57 33.9	+1.5
ARS				*e*		18 57 43.3	
ARS				*e*		18 58 33.3	
ARS				pmax	pmax		
	comp=Z,36nm,0.2s						
ARS				smax	smax		
	comp=N,611nm,0.6s						
KPC	**Khapcheranga**	**4.31**	**145**	*e*Pn	Pn	18 57 37.2	0.0
KPC				*e*Pg	Pb	18 57 49.6	+2.0
KPC				*e*Sn	Sn	18 58 26.9	-0.5
KPC				*e*Sg	Sb	18 58 44.8	+5.3
KPC				Pmax			
	comp=N,26nm,0.9s						
KPC				Smax			
	comp=N,217nm,1.2s						
KPC	**Khapcheranga**	**4.31**	**145**	*e*PN	Pn	18 57 37.2	0.0
KPC				*e*		18 57 49.8	
KPC				*e*S	Sn	18 58 27.4	0.0
KPC				*e*		18 58 44.9	
KPC				pmax	pmax		
	comp=Z,20nm,0.3s						
KPC				smax	smax		
	comp=E,218nm,1.4s						
ZAK	**Zakamensk**	**4.36**	**230**	*e*PN	Pb	18 57 49.4	+1.0
ZAK				*e*		18 58 47.0	
ZAK				pmax	pmax		
	comp=Z,17nm,0.4s						
ZAK				smax	smax		
	comp=N,93nm,0.6s						
MOY	**Mondy**	**4.88**	**254**	*e*Pn	Pn	18 57 47.9	+2.8
MOY				*e*Pg	Pb	18 57 57.7	+0.4
MOY				*e*Sn	Sn	18 58 41.9	+0.4
MOY				*e*Sg	Sb	18 59 02.2	+6.3
MOY				Pmax			
	comp=N,18nm,1.0s						
MOY				Smax			
	comp=N,197nm,1.0s						
MOY	**Mondy**	**4.88**	**254**	*e*PN	Pn	18 57 47.3	+2.2
MOY				*e*		18 57 57.6	
MOY				*e*S	Sn	18 58 42.5	+1.0
MOY				*e*		18 59 02.0	
MOY				pmax	pmax		
	comp=Z,19nm,0.7s						
MOY				smax	smax		
	comp=N,199nm,0.8s						
ORL	**Orlik**	**5.33**	**265**	*e*PN	Pn	18 57 53.4	+2.2
ORL				*e*		18 58 07.6	
ORL				*e*S	Sn	18 58 50.5	-2.0
BOD	**Bodaibo**	**5.51**	**32**	*e*Pn	Pn	18 57 53.6	+0.1
BOD				*e*Pg	Pb	18 58 09.4	+1.6
BOD				*e*Sg	Sg	18 59 22.6	-5.9
BOD				Pmax			
	comp=N,9.0nm,1.0s						
BOD				Smax			
	comp=N,41nm,0.6s						
BOD	**Bodaibo**	**5.51**	**32**	*e*PN	Pn	18 57 53.4	-0.1
BOD				*e*		18 58 09.7	
BOD				*e*		18 59 22.5	
BOD				pmax	pmax		
	comp=Z,21nm,0.8s						
BOD				smax	smax		
	comp=N,41nm,0.6s						
CRS	**Chara**	**6.66**	**53**	*e*Pg	Pb	18 58 31.0	+3.5
CRS				*e*Sg	Sg	18 59 57.7	-7.8
CRS				Pmax			
	comp=N,18nm,1.0s						
CRS				Smax			
	comp=N,68nm,0.6s						
TUP	**Tupik**	**6.86**	**76**	*e*Sg	Sg	19 00 04.4	-7.4
TUP				Smax			
	comp=N,295nm,1.4s						
TUP	**Tupik**	**6.86**	**76**	*e*PN	Pn	18 58 12.8	+0.7
TUP				*e*		18 58 34.8	
TUP				*e*S	Sn	18 59 28.7	-1.2
TUP				*e*		19 00 04.1	
TUP				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TUP				smax	smax		
	comp=N,253nm,1.0s						

IDC 07 18:58:05.8±4.1**, 23.°08S×178.°50W, h0**km**, mb4.2**/3**, mb1 4.4**/3**, mb1mx3.8**/23**, mbtmp4.2**/3**, Error ellipse: s-maj=171.6km s-min=43.8km az=145.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.31**	**247**	P	P	19 05 10.8	-0.5
	1.0nm,0.4s,baz=86,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**43.53**	**259**	P	P	19 06 11.3	-0.3
	0.8nm,0.3s,baz=95,slow=7.9,SNR=65						
WRA	**Warramunga Arr**	**43.84**	**265**	P	P	19 06 14.5	+0.4
	2.8nm,0.4s,baz=101,slow=8.2,SNR=69						
AKASG	**Malin Array Be**	**145.00**	**329**	PKPbc	PKPdf	19 17 44.5	-0.3
	0.9nm,0.5s,baz=44,slow=4.3,SNR=4.4						
BRTR	**Keskin Array B**	**148.16**	**309**	PKPbc	PKPdf	19 17 52.4	+1.6
	0.9nm,0.8s,baz=110,slow=3.5,SNR=3.3						

IDC 07 19:23:46.5±2.6**, 6.°54S×129.°93E, h150**km±36km**, mb3.0**/1**, mb1 3.1**/5**, mb1mx2.9**/44**, mbtmp3.5**/5**, Error ellipse: s-maj=59.7km s-min=20.5km az=90.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.79**	**13**	P	Pn	19 25 10.6	+0.1
	0.5nm,0.3s,baz=151,slow=19,SNR=10						
SIJI				S	Sn	19 26 11.8	-4.4
	1.7nm,0.3s,baz=195,slow=21,SNR=12						
FITZ	**Fitzroy Crossi**	**12.22**	**200**	P	Pn	19 26 35.5	-0.3
	0.1nm,0.3s,baz=16,slow=9.7,SNR=7.7						
FITZ				S	Sn	19 28 42.2	-8.8
	0.1nm,0.3s,baz=60,slow=20,SNR=5.0						
WRA	**Warramunga Arr**	**13.99**	**163**	P	Pn	19 26 58.0	-0.4
	0.1nm,0.3s,baz=343,slow=12,SNR=7.9						
WRA				S	Sn	19 29 25.1	-8.5
	0.1nm,0.3s,baz=335,slow=22,SNR=6.3						
ASAR	**Alice Springs**	**17.45**	**168**	P	Pn	19 27 40.5	-0.4
	0.1nm,0.3s,baz=344,slow=9.7,SNR=11						
ASAR				S	S	19 30 50.6	-3.3
	0.0nm,0.3s,baz=355,slow=9.3,SNR=4.2						
MKAR	**Makanchi Array**	**67.81**	**327**	P	P	19 34 28.3	0.0
	0.2nm,0.4s,baz=127,slow=6.2,SNR=4.8						

IDC 07 20:05:40.2±17.0**, 23.°63S×174.°81W, h0**km**, mb4.2**/5**, mb1 4.4**/5**, mb1mx3.9**/38**, mbtmp4.2**/5**, Error ellipse: s-maj=325.9km s-min=141.1km az=83.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.23**	**268**	P	P	20 12 46.1	+0.9
	2.5nm,0.3s,baz=92,slow=10,SNR=5.8						
STKA	**Stephens Creek**	**39.23**	**248**	P	P	20 13 09.8	-0.7
	1.4nm,0.7s,baz=86,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**46.76**	**259**	P	P	20 14 10.9	-0.7
	0.7nm,0.3s,baz=101,slow=6.7,SNR=40						
WRA	**Warramunga Arr**	**47.16**	**264**	P	P	20 14 14.3	-0.5
	1.8nm,0.3s,baz=101,slow=8.2,SNR=46						
FITZ	**Fitzroy Crossi**	**55.58**	**264**	P	P	20 15 18.6	+0.6
	3.1nm,0.9s,baz=111,slow=8.7,SNR=5.4						

IDC 07 20:08:53.1±3.0**, 49.°72S×118.°42E, h0**km**, mb3.9**/2**, mb1 4.2**/3**, mb1mx3.8**/37**, mbtmp4.1**/3**, ML2.2**/1**, Error ellipse: s-maj=123.9km s-min=46.1km az=96.0, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.14**	**346**	T	T	20 27 39.6	
	baz=170,slow=73,SNR=6.8						
H01W1	**Cape Leeuwin H**	**15.14**	**346**	T	T	20 27 40.0	
	baz=170,slow=73,SNR=7.2						
H01W3	**Cape Leeuwin H**	**15.16**	**346**	T	T	20 27 35.5	
	baz=170,slow=73,SNR=12						
NWAO	**Narrogin (SRO)**	**16.80**	**357**	Pn	Pn	20 12 50.0	+0.4
	0.4nm,0.3s,baz=48,slow=14,SNR=6.4						
ASAR	**Alice Springs**	**28.70**	**31**	P	P	20 14 51.9	+0.1
	1.0nm,0.7s,baz=201,slow=8.0,SNR=16						
WRA	**Warramunga Arr**	**32.31**	**29**	P	P	20 15 23.5	-0.3
	1.1nm,0.6s,baz=200,slow=8.6,SNR=8.0						
PDAR	**Pinedale Array**	**146.58**	**83**	PKPbc	PKPbc	20 28 35.8	-0.3
	0.5nm,0.8s,baz=236,slow=2.7,SNR=4.8						
YKA	**Yellowknife Ar**	**148.76**	**46**	PKPbc	PKPbc	20 28 40.1	-0.9
	0.5nm,0.6s,baz=273,slow=2.1,SNR=10.0						

IDC 07 20:13:02.9±4.3**, 19.°10S×169.°59E, h223**km±55km**, mb3.5**/3**, mb1 3.6**/4**, mb1mx3.2**/42**, mbtmp3.9**/4**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.5**/22**, Error ellipse: s-maj=137.3km s-min=30.3km az=156.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.18**	**224**	P	Pn	20 14 07.8	0.0
	0.8nm,0.3s,baz=35,slow=18,SNR=8.2						
ASAR	**Alice Springs**	**33.48**	**256**	P	P	20 19 20.8	-0.6
	1.2nm,0.6s,baz=85,slow=9.1,SNR=24						
ASAR				LR	LR	20 32 40.2	
	comp=Z,50nm,18.3s,baz=116,slow=35						
FITZ	**Fitzroy Crossi**	**41.59**	**264**	P	P	20 20 30.1	+0.7
	4.5nm,1.0s,baz=100,slow=6.1,SNR=4.2						
ILAR	**Eielson Array**	**90.00**	**17**	P	P	20 25 36.5	-0.1
	0.5nm,0.8s,baz=227,slow=4.8,SNR=3.9						
ARCES	**ARCESS Array B**	**125.01**	**345**	PKP	PKPdf	20 31 35.5	-0.4
	7.4nm,1.1s,baz=45,slow=1.5,SNR=6.4						

IDC 07 20:13:55.3±1.7**, 3.°00N×126.°50E, h0**km**, mb3.5**/4**, mb1 3.8**/5**, mb1mx3.5**/42**, mbtmp3.6**/5**, ML3.5**/1**, Error ellipse: s-maj=68.6km s-min=24.5km az=64.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.13**	**129**	Pn	Pn	20 15 28.2	+1.0
	1.3nm,0.3s,baz=341,slow=22,SNR=5.0						
FITZ	**Fitzroy Crossi**	**20.98**	**182**	P	Pn	20 18 41.8	-1.0
	1.1nm,0.7s,baz=18,slow=10,SNR=6.9						
WRA	**Warramunga Arr**	**24.07**	**162**	P	P	20 19 11.8	-0.7
	0.7nm,0.5s,baz=340,slow=11,SNR=25						
ASAR	**Alice Springs**	**27.47**	**165**	P	P	20 19 43.5	+0.1
	0.1nm,0.3s,baz=345,slow=11,SNR=4.2						
MKAR	**Makanchi Array**	**58.02**	**326**	P	P	20 23 49.4	-0.6
	0.1nm,0.3s,baz=123,slow=6.7,SNR=4.2						

*IDC **07** 20:16:52.2±1.6, 0.°44S×132.°04E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.5/39, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=25.8km s-min=14.3km az=152.0*

*DJA **07** 20:16:58.8±0.4, 1.°S±8.°×13.°2E±.°, h10km, M3.8/5, MLv3.8/5*

*ISCJB **07** 20:16:59.6±0.9, 0.°9S±0.°1×131.°70E±0.°05, h35km, mb3.6/2, Error ellipse: s-maj=17.7km s-min=6.4km az=9.9*

ISC 07 20:16:58.9±1.2**, 0.°7S**±0.°1×**131.°67E**±0.°05**, h35**km**, n9, σ0.s99**/11**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**0.43**	**251**	Pg	**Pn**	**20 17 09.5**	**+0.9**
	65nm,0.3s,baz=66,slow=20,SNR=950						
SIJI				Lg	Lg	20 17 21.4	
	528nm,0.3s,baz=174,slow=19,SNR=107						
SWI	**Sorong**	**0.44**	**252**	P	**Pn**	**20 17 09.6**	**+0.9**
SWI				S	**Sn**	**20 17 16.2**	**+0.8**
FAKI	**Fak Fak**	**2.25**	**165**	P	**Pn**	**20 17 33.5**	**-0.2**
RKPI	**Ransiki, Papua**	**2.62**	**107**	P	**Pn**	**20 17 39.6**	**+0.8**
RKPI				S	**Sn**	**20 18 10.7**	**+1.3**
BNDI	**Bandanaira**	**4.17**	**205**	P	**Pn**	**20 18 00.1**	**+0.1**
SRPI	**Serui, Papua**	**4.71**	**104**	P	**Pn**	**20 18 07.8**	**+0.3**
WRA	**Warramunga Arr**	**19.28**	**172**	P	**Pn**	**20 21 21.3**	**-0.7**
	0.2nm,0.3s,baz=354,slow=11,SNR=9.0						
ASAR	**Alice Springs**	**22.91**	**175**	P	**P**	**20 22 00.5**	**+0.5**
	1.5nm,0.6s,baz=356,slow=8.9,SNR=15						
MKAR	**Makanchi Array**	**64.02**	**325**	P	**P**	**20 27 27.6**	**-1.5**
	0.4nm,0.6s,baz=114,slow=7.9,SNR=5.9						

*ISCJB **07** 20:34:29.8±0.7, 47.°2S±0.°1×33.°1E±0.°4, h10km, mb4.3/10, MS3.6/7, Error ellipse: s-maj=40.3km s-min=9.7km az=161.8*

*NEIC **07** 20:34:30.8±0.7, 47.°19S×33.°34E, h10km, mb4.8/6, Error ellipse: s-maj=39.9km s-min=10.1km az=71.0*

*IDC **07** 20:34:30.2±0.9, 47.°20S×33.°06E, h0km, mb4.2/8, mb1 4.3/10, mb1mx4.0/34, mbtmp4.2/10, ML3.7/2, MS3.6/9, Ms1 3.6/9, ms1mx3.3/28, Error ellipse: s-maj=49.2km s-min=15.1km az=73.0*

ISC 07 20:34:31.1±0.9**, 47.°1S**±0.°1×**33.°4E**±0.°3**, h10**km**, n28, σ1.s40**/22**, mb4.5**/10**, MS3.5**/7**, 2D, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.56**	**322**	P	**Pn**	**20 38 35.2**	**-0.9**
	0.2nm,0.3s,baz=152,slow=7.5,SNR=3.8						
SUR				S	Sn	20 41 38.1	-14
	0.2nm,0.3s,baz=194,slow=8.3,SNR=2.8						
SUR				LR	LR	20 43 27.8	
	comp=Z,313nm,20.7s,baz=154,slow=31						
BOSA	**Boshof**	**19.52**	**338**	P	**P**	**20 38 59.3**	**+0.6**
	0.2nm,0.3s,baz=153,slow=14,SNR=5.5						
BOSA				LR	LR	20 45 05.2	
	comp=Z,142nm,20.1s,baz=158,slow=32						
SYO	**Syowa Base**	**22.18**	**174**	⇓*e*P	**P**	**20 39 26.4**	**-0.5**
SYO	**Syowa Base**	**22.18**	**174**	⇓*e*P	**P**	**20 39 30.6**	**+3.7**
LBTB	**Lobatse**	**22.91**	**342**	P	**P**	**20 39 36.1**	**+1.0**
	5.2nm,0.8s,baz=155,slow=6.7,SNR=6.0						
LBTB				LR	LR	20 46 59.2	
	comp=Z,185nm,20.0s,baz=165,slow=33						
LBTB	**Lobatse**	**22.91**	**342**	*e*P	**P**	**20 39 35.2**	**+0.1**
	65nm,2.0s						
MAW	**Mawson**	**25.52**	**154**	P	**P**	**20 40 00.8**	**+1.5**
	7.5nm,0.7s,baz=293,slow=12,SNR=4.6						
MAW				LR	LR	20 47 29.6	
	comp=Z,68nm,20.4s,baz=346,slow=30						
MAW	**Mawson**	**25.52**	**154**	*e*P	**P**	**20 39 56.8**	**-2.5**
	41nm,1.8s						
MATP	**Matopo**	**26.91**	**350**	P	**P**	**20 40 14.3**	**+1.9**
	1.7nm,0.8s,baz=192,slow=9.3,SNR=4.4						
MATP				LR	LR	20 49 28.7	
	comp=Z,60nm,18.3s,baz=184,slow=33						
QSPA	**South Pole Qui**	**43.11**	**180**	P	**P**	**20 42 30.6**	**-0.6**
	6.2nm,0.7s,baz=259,slow=3.5,SNR=19						
QSPA	**South Pole Qui**	**43.11**	**180**	*e*P	**P**	**20 42 29.9**	**-1.3**
	7.8nm,0.8s						
KMBO	**Kilima Mbogo**	**45.92**	**5**	LR	LR	21 02 07.4	
	comp=Z,46nm,18.1s,baz=100,slow=36						
VNDA	**Vanda**	**51.65**	**167**	P	**P**	**20 43 37.2**	**-0.1**
	4.2nm,0.7s,baz=247,slow=7.1,SNR=29						
VNDA				LR	LR	21 05 45.2	
	comp=Z,84nm,18.1s,baz=202,slow=36						
VNDA	**Vanda**	**51.65**	**167**	*e*P	**P**	**20 43 36.5**	**-0.8**
SBA	**Scott Base**	**52.09**	**169**	*e*P	**P**	**20 43 41.5**	**+0.9**
	5.8nm,0.9s						
H10S2	**ASCENSION HYDR**	**55.64**	**297**	T	T	21 44 00.9	
	baz=141,slow=74						
H10S1	**ASCENSION HYDR**	**55.66**	**297**	T	T	21 43 58.6	
	baz=141,slow=74						
H10S3	**ASCENSION HYDR**	**55.66**	**297**	T	T	21 44 01.9	
	baz=141						
NWAO	**Narrogin (SRO)**	**62.83**	**110**	LR	LR	21 04 54.8	
	comp=Z,81nm,21.6s,baz=75,slow=29						
DBIC	**Dimbokro**	**63.34**	**317**	P	**P**	**20 45 00.4**	**0.0**
	4.0nm,0.9s,baz=160,slow=6.6,SNR=5.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**63.34**	**317**	*e*P	**P**	**20 45 00.4**	**0.0**
	9.3nm,1.1s						
TOA0	**Torodi Ar. Sit**	**66.35**	**326**	*e*P	**P**	**20 45 19.9**	**0.0**
	16nm,1.9s						
TORD	**Torodi Ar. Bea**	**66.35**	**326**	P	**P**	**20 45 20.7**	**+0.7**
	1.5nm,0.9s,baz=161,slow=7.1,SNR=5.8						
TOA1	**Torodi Ar. Sit**	**66.36**	**326**	*e*P	**P**	**20 45 20.7**	**+0.7**
CPUP	**Villa Florida**	**71.66**	**251**	P	**P**	**20 45 53.1**	**+0.1**
	0.7nm,0.6s,baz=101,slow=5.2,SNR=1.6						
KEST	**Kesra**	**85.24**	**341**	LR	LR	21 25 30.4	
	comp=Z,47nm,19.3s,baz=276,slow=36						
PDAR	**Pinedale Array**	**153.57**	**274**	PKPbc	**PKPbc**	**20 54 30.1**	**+0.5**
	0.2nm,0.7s,baz=116,slow=3.1,SNR=2.1						
YKA	**Yellowknife Ar**	**156.31**	**322**	PKPab	**PKPab**	**20 54 50.9**	**-2.2**
	0.2nm,0.7s,baz=55,slow=3.0,SNR=3.9						

*ISCJB **07** 20:48:18.4±0.7, 23°.01S±0°.09×66°.73W±0°.07, h200km, mb3.1/1, Error ellipse: s-maj=13.1km s-min=8.0km az=30.7*
*SJA **07** 20:48:19.2±0.7, 23°.09S×66°.72W, h191km±13km, ML2.8, MW2.5*
*IDC **07** 20:48:21.1±10.0, 22°.79S×66°.55W, h208km±70km, mb3.0/1, mb1 3.1/3, mb1mx2.9/25, mbtmp3.6/3, Error ellipse: s-maj=113.6km s-min=40.1km az=26.0*
ISC 07 20:48:18.6±1.1, **23°.00S**±0°.09×**66°.77W**±0°.07, **h200**km, **n10**, σ0.s56/12, **Jujuy Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.27**	**100**	*e*P	**Pn**	**20 48 51.0**	**+0.2**
YJA	**Yavi**	**1.42**	**55**	*e*P	**Pn**	**20 48 53.0**	**+0.8**
YJA				IAML		20 48 53.6	
	comp=Z,60nm,0.6s						
AZAP	**Zapla**	**1.98**	**128**	*e*P	**Pn**	**20 48 57.1**	**-0.2**
AZAP				IAML		20 48 57.6	
	comp=Z,37nm,0.6s						
LVC	**Limon Verde**	**2.01**	**281**	*e*P	**Pn**	**20 48 58.2**	**+0.5**
LVC				*e*S	**Sn**	**20 49 28.2**	**+0.3**
ALOL	**LOMAS DE OLMED**	**2.69**	**108**	*e*P	**Pn**	**20 49 04.6**	**-0.1**
PB01	**IPOC Station P**	**3.19**	**307**	*e*P	**Pn**	**20 49 09.9**	**-0.7**
LPAZ	**La Paz**	**6.80**	**349**	P	**Pn**	**20 49 57.2**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=169,slow=10,SNR=7.2						
LPAZ				S	**Sn**	**20 51 14.2**	**-0.5**
	baz=287,slow=14,SNR=3.4						
BDFB	**Brasilia**	**19.14**	**71**	P	**P**	**20 52 26.4**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=237,slow=17,SNR=3.4						
TORD	**Torodi Ar. Bea**	**76.01**	**69**	P	**P**	**20 59 44.2**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=256,slow=6.1,SNR=4.6						
MKAR	**Makanchi Array**	**145.62**	**39**	PKPbc	**PKPdf**	**21 07 33.7**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=324,slow=2.6,SNR=3.6						

IDC 07 20:48:51.1±3.6, **31°.26S**×**178°.82W**, **h0**km, **mb3.4**/2, **mb1 3.6**/2, **mb1mx3.5**/41, **mbtmp3.4**/2, **Error ellipse: s-maj=207.4km s-min=45.0km az=164.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.37**	**268**	P	P	20 56 47.3	0.0
	0.2nm,0.4s,baz=110,slow=8.1,SNR=4.0						
WRA	**Warramunga Arr**	**43.44**	**273**	P	P	20 56 55.7	-0.3
	0.3nm,0.6s,baz=111,slow=8.1,SNR=4.9						
KURBB	**Kurchatov Arra**	**121.17**	**313**	PKP	PKPdf	21 07 45.3	-0.1
	0.6nm,0.2s,baz=101,slow=2.2,SNR=4.4						
BVAR	**Borovoye Array**	**126.52**	**315**	PKP	PKPdf	21 07 54.5	-1.2
	0.3nm,0.5s,baz=132,slow=2.1,SNR=5.8						
FINES	**FINESS Array B**	**145.70**	**339**	PKPbc	PKPbc	21 08 31.0	-0.1
	1.3nm,0.3s,baz=47,slow=4.3,SNR=26						

IDC 07 20:52:46.4±2.2, **31°.83N**×**85°.03E**, **h0**km, **mb3.2**/3, **mb1 3.5**/6, **mb1mx3.2**/50, **mbtmp3.2**/6, **ML3.2**/2, **Error ellipse: s-maj=69.0km s-min=23.6km az=74.0, Xizang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.10**	**353**	Pn	Pn	20 56 21.5	+0.6
	baz=179,slow=9.9,SNR=1.7						
CMAR	**Chiang Mai Arr**	**18.30**	**133**	P	P	20 57 02.5	+0.4
	0.1nm,0.3s,baz=323,slow=11,SNR=15						
KURBB	**Kurchatov Arra**	**19.39**	**347**	P	P	20 57 13.5	-0.3
	0.0nm,0.3s,baz=167,slow=11,SNR=6.4						
SONM	**Songino Array**	**22.79**	**39**	P	P	20 57 50.6	-0.1
	0.2nm,0.8s,baz=219,slow=11,SNR=2.2						
WRA	**Warramunga Arr**	**69.87**	**131**	P	P	21 03 58.9	-0.4
	0.4nm,0.9s,baz=328,slow=6.1,SNR=3.4						
ASAR	**Alice Springs**	**72.31**	**134**	P	P	21 04 14.2	+0.2
	0.2nm,0.5s,baz=315,slow=5.9,SNR=5.1						

WEL 07 20:57:15.8, 38°S±3°×**17°6E**±°, **h196**km±4km, **North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TGRZ	**Tauranga**	**0.12**	**25**	P	Pn	20 57 41.4	-0.2
KARZ	**Kaharoa**	**0.19**	**169**	P	Pn	20 57 41.6	0.0
KMRZ	**Kaimai**	**0.20**	**266**	P	Pn	20 57 41.7	0.0
OPRZ	**Ohinepanea**	**0.28**	**92**	P	Pn	20 57 41.4	-0.3
OMRZ	**Omania**	**0.30**	**153**	P	Pn	20 57 41.9	0.0
HSRZ	**Hossack Road**	**0.48**	**176**	P	Pn	20 57 42.8	+0.5
GRRZ	**Galatos Road**	**0.52**	**188**	P	Pn	20 57 42.6	+0.1
TOZ	**Tahuroa Road**	**0.56**	**280**	P	Pn	20 57 42.7	+0.1
RRRZ	**Republican Roa**	**0.56**	**154**	P	Pn	20 57 43.1	+0.4
PRRZ	**Plateau Road**	**0.68**	**167**	P	Pn	20 57 43.4	+0.1
WPRZ	**Whakapapatarin**	**0.69**	**182**	P	Pn	20 57 43.5	+0.2
TLZ	**Tolley Road**	**0.72**	**226**	P	Pn	20 57 43.6	+0.1
ALRZ	**Allen Road**	**0.74**	**171**	P	Pn	20 57 43.8	+0.3
MUGZ	**Murupara**	**0.79**	**145**	P	Pn	20 57 43.5	-0.2
MUGZ				S	Sn	20 58 04.7	-0.8
URZ	**Urewera**	**0.84**	**121**	P	Pn	20 57 43.6	-0.5
URZ				S	Sn	20 58 04.5	-1.4
RTZ	**Ruatahuna**	**0.99**	**142**	P	Pn	20 57 45.1	-0.1
RTZ				S	Sn	20 58 06.8	-1.2
MRHZ	**Matea Rd**	**1.01**	**170**	P	Pn	20 57 45.1	-0.1
MRHZ				S	Sn	20 58 06.5	-1.8
RATZ	**Rangitukua**	**1.08**	**198**	P	Pn	20 57 46.0	+0.2
MKAZ	**Moumakai**	**1.10**	**311**	P	Pn	20 57 46.0	+0.2
MKAZ				S	Sn	20 58 09.5	+0.5
MTHZ	**Maungataniwha**	**1.14**	**154**	P	Pn	20 57 46.2	0.0
MTHZ				S	Sn	20 58 08.7	-1.1
MTHZ	**Maungataniwha**	**1.14**	**154**	P	Sn	20 58 08.7	-1.1
KUZ	**Kuaotunu**	**1.15**	**341**	P	Pn	20 57 46.1	-0.1
MWZ	**Matawai**	**1.16**	**116**	P	Pn	20 57 46.0	-0.3
RAGZ	**Rawiri**	**1.17**	**125**	P	Pn	20 57 46.6	+0.2
RAGZ	**Rawiri**	**1.17**	**125**	P	Sn	20 58 09.4	-0.8
RUGZ	**Raukumara Rang**	**1.18**	**97**	P	Pn	20 57 45.5	-1.0
RUGZ				S	Sn	20 58 07.8	-2.5
HAZ	**Te Kaha**	**1.26**	**87**	P	Pn	20 57 46.6	-0.4
HIZ	**Hauiti**	**1.26**	**237**	P	Pn	20 57 47.1	+0.1
RAHZ	**Arahi**	**1.29**	**147**	P	Pn	20 57 47.8	+0.5
SNGZ	**Shannon Statio**	**1.30**	**137**	P	Pn	20 57 47.7	+0.2
KRVZ	**Karewarewa**	**1.33**	**199**	P	Pn	20 57 48.0	+0.2
NMHZ	**Naumai**	**1.35**	**159**	P	Pn	20 57 48.8	+0.9
BKZ	**Black Stump Fm**	**1.35**	**170**	P	Pn	20 57 47.5	-0.4
TWVZ	**Taurewa**	**1.37**	**206**	P	Pn	20 57 48.1	0.0
NGZ	**Ngauruhoe**	**1.42**	**199**	P	Pn	20 57 49.1	+0.5
TKGZ	**Te Karaka**	**1.44**	**115**	P	Pn	20 57 48.6	+0.1
TKGZ	**Te Karaka**	**1.44**	**115**	P	Sn	20 58 14.1	+0.2
TWGZ	**Tauwhareparae**	**1.45**	**104**	P	Pn	20 57 49.0	+0.3
TWGZ	**Tauwhareparae**	**1.45**	**104**	P	Sn	20 58 14.4	+0.2
COVZ	**Chateau Observ**	**1.46**	**200**	P	Pn	20 57 48.7	-0.1
WHHZ	**Waihua**	**1.48**	**147**	P	Pn	20 57 50.0	+1.0
WHHZ	**Waihua**	**1.48**	**147**	P	Sn	20 58 07.6	-7.2
PKGZ	**Pakihiroa**	**1.49**	**93**	P	Pn	20 57 49.1	0.0
RIGZ	**Rimuhau**	**1.51**	**126**	P	Pn	20 57 49.5	+0.3
WHVZ	**Whangaehu Hut**	**1.52**	**198**	P	Pn	20 57 49.5	-0.1
TRVZ	**Turoa**	**1.55**	**199**	P	Pn	20 57 49.8	0.0
ARHZ	**Aropaoanui**	**1.56**	**157**	P	Pn	20 57 50.0	+0.4
KWHZ	**Kaweka Forest**	**1.60**	**174**	P	Pn	20 57 50.0	0.0
PKVZ	**Pokaka**	**1.60**	**204**	P	Pn	20 57 49.9	-0.2
MOVZ	**Moawhango**	**1.61**	**192**	P	Pn	20 57 49.5	-0.7
PUZ	**Puketiti**	**1.65**	**99**	P	Pn	20 57 50.1	-0.3
MTVZ	**Mangateitei**	**1.65**	**200**	P	Pn	20 57 50.1	-0.4
MCHZ	**McNeill Hill**	**1.66**	**167**	P	Pn	20 57 51.2	+0.7
BHHZ	**Black Hill Sta**	**1.66**	**184**	P	Pn	20 57 50.0	-0.6
KNZ	**Kokohu**	**1.66**	**136**	P	Pn	20 57 50.6	+0.1
KNZ	**Kokohu**	**1.66**	**136**	P	Sn	20 58 13.6	-4.0
MXZ	**Matakaoa Point**	**1.69**	**81**	P	Pn	20 57 51.0	+0.1
CNGZ	**Carnagh Statio**	**1.71**	**113**	P	Pn	20 57 52.0	+0.9
PRGZ	**Paritu Road**	**1.71**	**130**	P	Pn	20 57 51.2	+0.1
PRGZ	**Paritu Road**	**1.71**	**130**	P	Sn	20 58 13.0	-5.7
VRZ	**Vera Road**	**1.71**	**221**	P	Pn	20 57 51.5	+0.5
WMGZ	**Waiomatatini S**	**1.75**	**90**	P	Pn	20 57 51.4	-0.1
MHGZ	**Mahia Peninsul**	**1.88**	**135**	P	Pn	20 57 53.0	+0.3
MHGZ	**Mahia Peninsul**	**1.88**	**135**	P	Sn	20 58 16.6	-5.0
CKHZ	**Cape Kidnapper**	**1.95**	**160**	P	Pn	20 57 53.6	+0.2
KAHZ	**Kahuranaki**	**2.03**	**165**	P	Pn	20 57 54.3	-0.1
PNHZ	**Pukenui**	**2.08**	**180**	P	Pn	20 57 54.2	-0.6
WAZ	**Wanganui**	**2.14**	**206**	P	Pn	20 57 54.9	-0.5
LREZ	**Lake Rotokare**	**2.15**	**220**	P	Pn	20 57 56.5	+1.0
TSZ	**Takapari Road**	**2.23**	**185**	P	Pn	20 57 55.5	-0.9
WPHZ	**Waipukurau**	**2.24**	**175**	P	Pn	20 57 55.9	-0.6
WPHZ	**Waipukurau**	**2.24**	**175**	P	Sn	20 58 24.5	-3.8
KHEZ	**Kahui Hut**	**2.25**	**229**	P	Pn	20 57 57.5	+0.8
PXZ	**Pawanui**	**2.25**	**167**	P	Pn	20 57 56.2	-0.5
PXZ	**Pawanui**	**2.25**	**167**	P	Sn	20 58 21.5	-7.2
PRHZ	**Porangahau**	**2.45**	**172**	P	Pn	20 57 58.2	-0.6
DVHZ	**Dannevirke**	**2.46**	**181**	P	Pn	20 57 57.3	-1.7
POWZ	**Post Office Ro**	**2.58**	**187**	P	Pn	20 57 59.0	-1.3
ANWZ	**Angora Road**	**2.63**	**175**	P	Pn	20 57 59.9	-0.9
PRWZ	**Pori Road**	**2.72**	**184**	P	Pn	20 58 00.7	-1.2
BFZ	**Birch Farm**	**2.84**	**179**	P	Pn	20 58 01.8	-1.5
MRZ	**Mangatainoka R**	**2.86**	**189**	P	Pn	20 58 01.7	-1.9
TIWZ	**Tintock**	**2.95**	**185**	P	Pn	20 58 03.2	-1.4
CPWZ	**Castlepoint**	**3.07**	**180**	P	Pn	20 58 04.9	-1.1
OGWZ	**Otaki Gorge**	**3.08**	**195**	P	Pn	20 58 04.3	-1.8
HOWZ	**Holdsworth Sta**	**3.11**	**190**	P	Pn	20 58 04.3	-2.2
KIW	**Kapiti Island**	**3.19**	**198**	P	Pn	20 58 05.0	-2.3
TMWZ	**Te Maipa**	**3.28**	**184**	P	Pn	20 58 06.6	-1.9
MTW	**Mount Morrison**	**3.36**	**189**	P	Pn	20 58 06.9	-2.7
CAW	**Cannon Point**	**3.38**	**195**	P	Pn	20 58 07.7	-2.1
DUWZ	**D'Urville Isla**	**3.45**	**210**	P	Pn	20 58 08.1	-2.5
TRWZ	**Traveller**	**3.58**	**186**	P	Pn	20 58 09.9	-2.3
PAWZ	**Paruwai Farm**	**3.59**	**189**	P	Pn	20 58 09.6	-2.8
MSWZ	**Moikau Station**	**3.65**	**191**	P	Pn	20 58 10.1	-3.0
TCW	**Tory Channel**	**3.69**	**203**	P	Pn	20 58 11.0	-2.5
BHW	**Baring Head**	**3.71**	**196**	P	Pn	20 58 10.9	-2.9
PLWZ	**Palliser**	**3.80**	**191**	P	Pn	20 58 11.8	-3.2
NNZ	**Nelson**	**4.02**	**212**	P	Pn	20 58 14.9	-2.7
QRZ	**Quartz Range**	**4.13**	**222**	P	Pn	20 58 16.4	-2.6
BSWZ	**Blackbirch Sta**	**4.27**	**204**	P	Pn	20 58 18.4	-2.3
THZ	**Tophouse**	**4.67**	**212**	P	Pn	20 58 23.0	-2.9
KHZ	**Kahutara**	**5.01**	**203**	P	Pn	20 58 27.0	-3.1
LTZ	**Lake Taylor**	**5.78**	**210**	P	Pn	20 58 36.7	-3.5
INZ	**Inchbonnie**	**6.09**	**215**	P	Pn	20 58 41.0	-3.1
MQZ	**McQueen's Vall**	**6.45**	**204**	P	Pn	20 58 44.5	-4.3
RPZ	**Rata Peaks**	**7.05**	**212**	P	Pn	20 58 52.8	-3.8
ODZ	**Otahua Downs**	**8.32**	**208**	P	Pn	20 59 09.5	-3.7

MAN 07 21:07:04.0, 7°.99N×**126°.19E, h33**km, **mb4.6, ML3.5, MS3.3, 1C, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.03**	**176**	*e*P	Pn	21 07 22.1	-0.2
MATI				*e*S	Sb	21 07 44.5	+7.8
BUKP	**Musuan**	**1.12**	**265**	*e*P	Pn	21 07 24.1	+0.6
BUKP				*e*S	Sn	21 07 37.5	-0.2
BUTP	**Butuan**	**1.13**	**330**	*e*P	Pn	21 07 23.7	+0.2
BUTP				*e*S	Sn	21 07 36.9	-1.0
CGP	**Cagayan de Oro**	**1.55**	**288**	⇑*e*P	Pb	21 07 31.3	-0.9
CGP				*e*S	Sb	21 07 50.0	-1.5

*SOME **07** 21:20:32.9, 40°.22N×77°.67E, h5km*
*KRNET **07** 21:20:35.7±0.1, 40°.31N×77°.55E, mb3.0*
*NNC **07** 21:20:37.0±0.9, 40°.40N×77°.67E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=7.5km s-min=5.8km az=126.0*
ISC 07 21:20:31.7±1.9, **40°.22N**±0°.07×**77°.63E**±0°.04, **h12**km±16km, **n62**, σ1.s52/93, **21C-12D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.73**	**315**	⇓*i*P	**Pg**	**21 21 06.0**	**+1.1**
	baz=14						
NRN				⇓*i*S	**Sg**	**21 21 29.2**	**+1.9**
	baz=14						
KDJ	**Kajisay**	**1.93**	**350**	⇓*i*P	**Pg**	**21 21 10.5**	**+1.7**
	baz=52						
KDJ				⇓*i*S	**Sg**	**21 21 35.3**	**+1.4**
	baz=52						
ULHL	**Ulahol**	**2.27**	**333**	P	**Pg**	**21 21 15.7**	**+0.4**
	SNR=37						
ULHL	**Ulahol**	**2.27**	**333**	⇑*i*P	**Pg**	**21 21 15.2**	**-0.1**
	baz=34						
ULHL				⇑*i*S	**Sg**	**21 21 44.2**	**-0.6**
	baz=34						
PRZ	**Przheval'sk**	**2.33**	**14**	⇓*i*P	**Pg**	**21 21 16.6**	**+0.2**
	baz=16						
PRZ				⇓*i*S	**Sg**	**21 21 47.0**	**+0.4**
	baz=16						
KZA	**Kyzart**	**2.58**	**317**	P	**Pg**	**21 21 20.9**	**-0.2**
	SNR=23						
BOOM	**Boomskoye usch**	**2.60**	**331**	⇓*i*P	**Pb**	**21 21 19.6**	**+1.3**
	baz=32						
BOOM				⇓*i*S	**Sb**	**21 21 52.4**	**+2.2**
	baz=32						
TNSS	**Tian-Shan**	**2.86**	**350**	Pg	**Pg**	**21 21 25.3**	**-1.1**
	16nm,0.4s						
TNSS				Lg	Lg	21 22 03.5	
	32nm,0.5s						
TNSS	**Tian-Shan**	**2.86**	**350**	*e*P	**Pg**	**21 21 25.3**	**-1.1**
	16nm,0.4s						
TNSS				*e*S	**Sg**	**21 22 03.5**	**0.0**
	32nm,0.5s						
SATY	**Saty**	**2.89**	**11**	Pg	**Pg**	**21 21 26.1**	**-1.0**
	19nm,0.8s						
SATY				Lg	Lg	21 22 04.6	
	26nm,0.3s						
SATY	**Saty**	**2.89**	**11**	*e*P	**Pg**	**21 21 26.1**	**-1.0**
	19nm,0.8s						
SATY				*e*S	**Sg**	**21 22 04.6**	**0.0**
	26nm,0.3s						
IZV	**Izvestkoviy**	**2.91**	**345**	Pg	**Pg**	**21 21 26.8**	**-0.6**
	4.3nm,0.4s						
IZV				Lg	Lg	21 22 05.8	
	92nm,0.7s						
IZV	**Izvestkoviy**	**2.91**	**345**	*e*P	**Pg**	**21 21 26.8**	**-0.6**
	4.3nm,0.4s						
IZV				*e*S	**Sg**	**21 22 05.8**	**+0.6**
	92nm,0.7s						
MDOK	**Medeo**	**2.97**	**352**	⇑Pn	**Pb**	**21 21 25.3**	**+0.6**
	9.8nm,0.5s						
MDOK				Lg	Lg	21 22 05.5	
	78nm,0.6s						
MDOK	**Medeo**	**2.97**	**352**	Pg	**Pg**	**21 21 27.9**	**-0.6**
	13nm,0.6s						
MDOK				Lg	Lg	21 22 07.8	
	86nm,0.7s						
MDOK	**Medeo**	**2.97**	**352**	*e*P	**Pg**	**21 21 27.9**	**-0.6**
	13nm,0.6s						
MDOK				*e*S	**Sg**	**21 22 07.8**	**+0.8**
	86nm,0.7s						
ARLS	**Aral**	**2.99**	**304**	⇑*i*P	**Pb**	**21 21 25.9**	**+1.0**
	baz=4.0						
ARLS				⇑*i*S	**Sb**	**21 22 01.6**	**+0.1**
	baz=4.0						
AAA	**Alma-Ata**	**3.03**	**350**	*e*P	**Pg**	**21 21 29.1**	**-0.7**
	23nm,0.3s						
AAA				*e*S	**Sg**	**21 22 09.4**	**+0.4**
	94nm,0.5s						
KNDC	**Almaty**	**3.03**	**351**	⇑Pn	**Pg**	**21 21 29.8**	**+0.1**
	11nm,0.8s						
KNDC				⇑Lg	Lg	21 22 09.9	
	122nm,0.7s						
KOTS	**Kotyrbulak**	**3.03**	**353**	Pg	**Pg**	**21 21 29.1**	**-0.7**
	6.1nm,0.3s						
KOTS				Lg	Lg	21 22 10.0	
	55nm,0.5s						
KOTS	**Kotyrbulak**	**3.03**	**353**	*e*P	**Pg**	**21 21 29.1**	**-0.7**
	6.1nm,0.3s						
KOTS				*e*S	**Sg**	**21 22 10.0**	**+0.9**
	55nm,0.5s						
MTBS	**Maitube**	**3.04**	**343**	Pg	**Pg**	**21 21 28.9**	**-1.0**
	9.4nm,0.2s						
MTBS				Lg	Lg	21 22 09.4	
	18nm,0.3s						
MTBS	**Maitube**	**3.04**	**343**	*e*P	**Pg**	**21 21 28.9**	**-1.0**
	9.4nm,0.2s						
MTBS				*e*S	**Sg**	**21 22 09.4**	**+0.1**
	18nm,0.3s						
KST	**Kastek**	**3.08**	**337**	Pg	**Pg**	**21 21 29.3**	**-1.4**
	4.6nm,0.5s						
KST				Lg	Lg	21 22 10.2	
	27nm,0.3s						
KST	**Kastek**	**3.08**	**337**	*e*P	**Pg**	**21 21 29.3**	**-1.4**
	4.6nm,0.5s						
KST				*e*S	**Sg**	**21 22 10.2**	**-0.5**
	27nm,0.3s						
UCH	**Uchtor**	**3.09**	**311**	P	**Pb**	**21 21 27.5**	**+0.7**
	SNR=6.3						
TKM2	**Tokmak 2**	**3.10**	**331**	P	**Pb**	**21 21 27.6**	**+0.8**
	SNR=10.0						
TKM2	**Tokmak 2**	**3.10**	**331**	⇑Pn	**Pb**	**21 21 27.5**	**+0.7**
	1.8nm,0.4s						
TKM2				⇑Pg	**Pg**	**21 21 30.6**	**-0.4**
	3.2nm,0.3s						
TKM2				⇑Lg	Lg	21 22 11.4	
	26nm,0.7s						
UZB	**Uzynbulak**	**3.10**	**19**	Pg	**Pg**	**21 21 29.4**	**-1.7**
	6.1nm,0.4s						
UZB				Lg	Lg	21 22 10.0	
	11nm,0.4s						
UZB	**Uzynbulak**	**3.10**	**19**	*e*P	**Pg**	**21 21 29.4**	**-1.7**
	6.1nm,0.4s						
UZB				*e*S	**Sg**	**21 22 09.9**	**-1.4**
	11nm,0.4s						
KBK	**Karagaybulak**	**3.16**	**321**	P	**Pb**	**21 21 29.0**	**+1.1**
	SNR=6.3						
KBK	**Karagaybulak**	**3.16**	**321**	⇑*i*P	**Pb**	**21 21 27.5**	**-0.3**
	baz=21						
KBK				⇑*i*S	**Sb**	**21 22 05.4**	**-0.9**
	baz=21						
SFK	**Sufi-Kurgan**	**3.17**	**268**	⇓Pn	**Pb**	**21 21 28.6**	**+0.6**
	1.2nm,0.4s						
SFK				⇑Lg	Lg	21 22 10.0	
	7.7nm,0.4s						
SFK	**Sufi-Kurgan**	**3.17**	**268**	⇑*i*P	**Pb**	**21 21 28.8**	**+0.7**
	baz=66						
SFK				⇑*i*S	**Sb**	**21 22 07.1**	**+0.3**
	baz=66						
SHLS	**Shalkode**	**3.24**	**25**	Pg	**Pg**	**21 21 34.9**	**+1.2**
	9.4nm,0.5s						
SHLS				Lg	Lg	21 22 19.2	
	35nm,0.5s						
SHLS	**Shalkode**	**3.24**	**25**	*e*P	**Pg**	**21 21 34.9**	**+1.2**
	9.4nm,0.5s						
SHLS				*e*S	**Sg**	**21 22 19.2**	**+3.5**
	35nm,0.5s						
KURS	**Kuram**	**3.29**	**7**	Pg	**Pg**	**21 21 33.1**	**-1.5**
	5.3nm,0.4s						
KURS				Lg	Lg	21 22 16.3	
	20nm,0.6s						
KURS	**Kuram**	**3.29**	**7**	*e*P	**Pg**	**21 21 33.1**	**-1.5**
	5.3nm,0.4s						
KURS				*e*S	**Sg**	**21 22 16.3**	**-0.9**
	20nm,0.6s						
DGS	**Degeres**	**3.32**	**336**	Pg	**Pg**	**21 21 33.9**	**-1.3**
	3.6nm,0.5s						
DGS				Lg	Lg	21 22 17.9	
	21nm,0.5s						
DGS	**Degeres**	**3.32**	**336**	*e*P	**Pg**	**21 21 34.0**	**-1.3**
	3.6nm,0.5s						
DGS				*e*S	**Sg**	**21 22 17.9**	**-0.4**
	21nm,0.5s						
AAK	**Ala-Archa**	**3.37**	**317**	⇓Pn	**Pb**	**21 21 31.2**	**-0.2**
	4.0nm,0.8s						
AAK				⇑Lg	Lg	21 22 19.4	
	34nm,0.8s						
AAK	**Ala-Archa**	**3.37**	**317**	⇑*i*P	**Pb**	**21 21 30.6**	**-0.9**
	baz=16						
AAK				⇑*i*S	**Sb**	**21 22 10.7**	**-1.8**
	baz=16						
PDGK	**Podgornoye**	**3.40**	**24**	Pg	**Pb**	**21 21 34.6**	**+2.7**
	4.7nm,0.6s						
PDGK				Lg	Lg	21 22 19.2	
	12nm,0.7s						
PDGK	**Podgornoye**	**3.40**	**24**	⇑Pn	**Pb**	**21 21 29.8**	**-2.1**
	6.5nm,0.5s						
PDGK				⇓Lg	Lg	21 22 13.8	
	35nm,0.7s						
PDGK	**Podgornoye**	**3.40**	**24**	⇑*i*P	**Pb**	**21 21 31.6**	**-0.4**
	baz=25						
PDGK				⇑*i*S	**Sb**	**21 22 12.9**	**-0.4**
	baz=25						
CHMS	**Chumysh**	**3.51**	**323**	P	**Sg**	**21 22 23.0**	**-1.4**
	SNR=7.6						
KTBS	**Karatobe**	**3.56**	**349**	Pg	**Pg**	**21 21 37.8**	**-2.0**
	3.5nm,0.4s						
KTBS				Lg	Lg	21 22 24.8	
	17nm,0.6s						
KTBS	**Karatobe**	**3.56**	**349**	*e*P	**Pg**	**21 21 37.8**	**-2.0**
	3.5nm,0.4s						
KTBS				*e*S	**Sg**	**21 22 24.8**	**-1.0**
	17nm,0.6s						
CHKK	**Chushkaly**	**3.66**	**353**	Pg	**Pg**	**21 21 40.0**	**-1.8**
	5.3nm,0.5s						
CHKK				Lg	Lg	21 22 28.0	
	26nm,0.2s						
CHKK	**Chushkaly**	**3.66**	**353**	*e*P	**Pg**	**21 21 40.0**	**-1.8**
	5.3nm,0.5s						
CHKK				*e*S	**Sg**	**21 22 28.0**	**-1.2**
	26nm,0.2s						
KUU	**Kurty**	**3.79**	**346**	Pg	**Pb**	**21 21 41.6**	**+3.0**
	1.4nm,0.4s						
KUU				Lg	Lg	21 22 31.0	
	8.9nm,0.6s						
KUU	**Kurty**	**3.79**	**346**	*e*P	**Pb**	**21 21 41.6**	**+3.0**
	1.4nm,0.4s						
KUU				*e*S	**Sg**	**21 22 31.0**	**-2.3**
	8.9nm,0.6s						
USP	**Ospenovka**	**3.84**	**323**	P	**Pg**	**21 21 44.2**	**-1.0**
	SNR=11						
MNBS	**Baschi**	**3.90**	**8**	Pg	**Pb**	**21 21 43.3**	**+3.0**
MNBS				Lg	Lg	21 22 34.4	
MNBS	**Baschi**	**3.90**	**8**	*e*P	**Pb**	**21 21 43.3**	**+3.0**
	2.6nm,0.4s						
MNBS				*e*S	**Sg**	**21 22 34.4**	**-2.3**
	20nm,0.9s						
SGDS	**Sogindy**	**3.93**	**326**	Pg	**Pg**	**21 21 45.0**	**-1.8**
	12nm,0.5s						
SGDS				Lg	Lg	21 22 36.7	
	9.0nm,0.8s						
ARXS	**Arharly**	**3.99**	**2**	Pg	**Pb**	**21 21 45.4**	**+3.4**
	10nm,0.8s						
ARXS				Lg	Lg	21 22 37.6	
	39nm,0.7s						
ARXS	**Arharly**	**3.99**	**2**	*e*P	**Pb**	**21 21 45.4**	**+3.4**
	10nm,0.8s						
ARXS				*e*S	**Sg**	**21 22 37.6**	**-2.1**
	39nm,0.7s						
MRKS	**Merke**	**4.16**	**309**	Pg	**Pg**	**21 21 50.1**	**-1.2**
	2.0nm,0.4s						
MRKS	**Merke**	**4.16**	**309**	*e*P	**Pg**	**21 21 50.1**	**-1.2**
	2.0nm,0.4s						
MRKS				*e*S	**Sg**	**21 22 45.7**	**+0.6**
	4.7nm,0.4s						
DJR	**Jarkent**	**4.41**	**21**	*e*P	**Pg**	**21 21 53.6**	**-2.5**
	1.3nm,0.3s						
DJR				⇓*i*S	**Sg**	**21 22 51.2**	**-2.0**
	3.3nm,0.4s						
KAPS	**Kapalarasan**	**5.22**	**14**	*e*P	**Pg**	**21 22 09.1**	**-2.4**
	1.3nm,0.4s						
KAPS				*e*S	**Sg**	**21 23 18.1**	**-0.9**
	4.9nm,0.7s						

*IDC **07** 21:22:49.5±1.6, 6°.16S×151°.13E, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.7/27, mbtmp3.8/7, ML1.3/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/29, Error ellipse: s-maj=61.3km s-min=22.4km az=119.0*
*ISCJB **07** 21:22:55.1±0.9, 6°.2S±0°.1×150°.8E±0°.1, h43km, mb3.6/6, MS3.1/1, Error ellipse: s-maj=21.2km s-min=10.3km az=147.9*
ISC 07 21:22:56.8±1.0, **6°.1S**±0°.1×**150°.8E**±0°.1, **h43**km, **n10**, σ0.s99/10, **mb3.7**/6, **New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.90**	**227**	Pn	**Pn**	**21 24 09.3**	**+1.3**
	0.7nm,0.3s,baz=70,slow=12,SNR=3.7						
PMG				Sn	**Sn**	**21 25 03.0**	**-0.4**
	1.5nm,0.3s,baz=45,slow=14,SNR=2.5						
HNR	**Honiara**	**9.66**	**111**	*e*P	**Pn**	**21 25 14.0**	**+0.6**
HNR				*e*S		21 25 20.0	
WRA	**Warramunga Arr**	**21.12**	**228**	P	**P**	**21 27 37.9**	**-0.2**
	2.2nm,0.7s,baz=50,slow=10,SNR=17						
ASAR	**Alice Springs**	**23.88**	**221**	P	**P**	**21 28 06.4**	**-0.3**
	1.6nm,0.5s,baz=56,slow=9.0,SNR=23						
STKA	**Stephens Creek**	**27.08**	**197**	P	**P**	**21 28 33.5**	**-2.0**
	0.7nm,0.3s,baz=11,slow=10,SNR=3.2						

FITZ	**Fitzroy Crossi** 4.2nm,0.9s,baz=84,slow=9.2,SNR=5.0	**27.30**	**242**	P	**P**	**21 28 38.2**	**+0.5**
JHJ	**Hachijo jima 2** comp=Z,28nm,21.6s,baz=118,slow=32	**40.35**	**346**	LR	LR	21 44 19.6	
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=71,slow=5.7,SNR=2.3	**79.98**	**320**	P	**P**	**21 35 02.0**	**+0.3**
ILAR	**Eielson Array** 0.5nm,0.9s,baz=246,slow=5.0,SNR=5.7	**84.08**	**22**	P	**P**	**21 35 22.4**	**-0.5**
TORD	**Torodi Ar. Bea** 0.3nm,0.5s,baz=87,slow=2.5,SNR=4.8	**148.76**	**285**	PKPbc	**PKPbc**	**21 42 40.4**	**-0.3**

*SOME **07** 21:34:35.4,41.82N×76.62E,h15km*
*KRNET **07** 21:34:35.9±0.1,41.88N×76.62E,h19km,mb2.0*
*NNC **07** 21:34:37.2±0.6,41.96N×76.60E,h0km,mb2.6,mpv2.8,*
Error ellipse: s-maj=3.9km s-min=2.3km az=169.0
*KNET **07** 21:34:38.0±0.7,41.91N×76.46E,h9km±3km,ml1.7, Error ellipse: s-maj=4.5km s-min=3.5km az=137.0*

ISC 07 21:34:36.7±1.1,41.91N±0.03×76.60E±0.02,h10km±9km, n70,σ1s05/118,32C-25D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ULHL	**Ulahol** 12nm,0.1s,SNR=140	**0.43**	**322**	⇓P		**Pg**	**21 34 45.2**	**0.0**
ULHL				⇓S		**Sg**	**21 34 51.8**	**+0.9**
ULHL	**Ulahol** baz=23	**0.43**	**322**	⇑*i*P		**Pg**	**21 34 45.0**	**-0.2**
ULHL				⇑*i*S		**Sg**	**21 34 51.4**	**+0.5**
KDJ	**Kajisay** baz=60	**0.49**	**63**	⇓*i*P		**Pg**	**21 34 45.5**	**-0.8**
KDJ				⇓*i*S		**Sg**	**21 34 52.2**	**-0.6**
NRN	**Naryn** baz=27	**0.65**	**223**	⇑*i*P		**Pg**	**21 34 48.6**	**-0.8**
NRN				⇑*i*S		**Sg**	**21 34 57.9**	**-0.1**
BOOM	**Boomskoye usch** baz=21	**0.76**	**320**	⇑*i*P		**Pg**	**21 34 50.9**	**-0.5**
BOOM				⇑*i*S		**Sg**	**21 35 02.0**	**+0.6**
KZA	**Kyzart** 1.5nm,0.1s,SNR=14	**1.02**	**280**	⇓P		**Pb**	**21 34 56.0**	**-0.7**
KZA				⇑S		**Sb**	**21 35 09.5**	**-0.8**
KZA	**Kyzart** baz=81	**1.02**	**280**	⇑*i*P		**Pb**	**21 34 55.4**	**-1.3**
KZA				⇑*i*S		**Sb**	**21 35 09.2**	**-1.0**
IZV	**Izvestkoviy** 2.3nm,0.1s	**1.13**	**1**	P		**Pb**	**21 34 57.6**	**-0.8**
IZV				S		**Sb**	**21 35 13.2**	**+0.1**
IZV	**Izvestkoviy** 2.3nm,0.1s	**1.13**	**1**	⇓*e*P		**Pb**	**21 34 57.6**	**-0.8**
IZV				*e*S		**Sb**	**21 35 13.2**	**+0.1**
TNSS	**Tian-Shan** 3.4nm,0.1s	**1.16**	**13**	P		**Pb**	**21 34 57.9**	**-1.1**
TNSS				S		**Sb**	**21 35 14.0**	**-0.3**
TNSS	**Tian-Shan** 3.4nm,0.1s	**1.16**	**13**	⇓*e*P		**Pb**	**21 34 58.0**	**-1.1**
TNSS				*e*S		**Sb**	**21 35 14.0**	**-0.3**
KST	**Kastek** 4.0nm,0.2s	**1.23**	**338**	P		**Pn**	**21 34 59.7**	**-0.4**
KST				S		**Sn**	**21 35 16.6**	**-0.2**
KST	**Kastek** 4.0nm,0.2s	**1.23**	**338**	⇑*e*P		**Pn**	**21 34 59.7**	**-0.4**
KST				*e*S		**Sn**	**21 35 16.6**	**-0.2**
MTBS	**Maitube** 3.6nm,0.2s	**1.23**	**354**	P		**Pn**	**21 34 59.2**	**-0.8**
MTBS				S		**Sb**	**21 35 15.9**	**-0.1**
MTBS	**Maitube** 3.6nm,0.2s	**1.23**	**354**	⇓*e*P		**Pn**	**21 34 59.3**	**-0.7**
MTBS				*e*S		**Sb**	**21 35 15.9**	**-0.1**
TKM2	**Tokmak 2** 1.8nm,0.1s,SNR=24	**1.25**	**324**	⇓P		**Pn**	**21 35 00.2**	**-0.2**
TKM2				⇓S		**Sg**	**21 35 17.7**	**+0.6**
TKM2	**Tokmak 2** 0.9nm,0.6s	**1.25**	**324**	⇑P		**Pn**	**21 35 00.1**	**-0.3**
TKM2				⇑S		**Sn**	**21 35 17.2**	**-0.3**
TKM2	**Tokmak 2** baz=24	**1.25**	**324**	⇑*i*P		**Pn**	**21 34 59.5**	**-1.0**
TKM2				⇑*i*S		**Sb**	**21 35 17.0**	**+0.1**
MDOK	**Medeo** 1.3nm,0.3s	**1.30**	**15**	P		**Pn**	**21 35 00.3**	**-0.7**
MDOK				⇑S		**Sb**	**21 35 17.6**	**-0.5**
MDOK	**Medeo** 4.3nm,0.2s	**1.30**	**15**	Pg		**Pn**	**21 35 00.3**	**-0.7**
MDOK				Lg	Lg	21 35 17.9		
MDOK	**Medeo** 4.3nm,0.2s	**1.30**	**15**	⇑*e*P		**Pn**	**21 35 00.4**	**-0.7**
MDOK				*e*S		**Sn**	**21 35 17.9**	**-0.6**
AAA	**Alma-Ata** 11nm,0.2s	**1.32**	**10**	*e*P		**Pb**	**21 35 01.5**	**-0.2**
AAA				*e*S		**Sg**	**21 35 19.7**	**+0.4**
KNDC	**Almaty** 2.2nm,0.3s	**1.34**	**12**	⇓P		**Pb**	**21 35 01.7**	**-0.2**
KNDC				⇓S		**Sn**	**21 35 19.4**	**0.0**
KOTS	**Kotyrbulak** 3.8nm,0.1s	**1.38**	**16**	P		**Pn**	**21 35 02.0**	**-0.2**
KOTS				S		**Sb**	**21 35 20.6**	**+0.2**
KOTS	**Kotyrbulak** 3.8nm,0.1s	**1.38**	**16**	⇓*e*P		**Pn**	**21 35 02.0**	**-0.2**
KOTS				*e*S		**Sb**	**21 35 20.6**	**+0.2**
KBK	**Karagaybulak** 1.2nm,0.1s,SNR=8.2	**1.43**	**302**	⇑P		**Pb**	**21 35 04.1**	**+0.5**
KBK				⇓S		**Sg**	**21 35 23.7**	**+0.8**
KBK	**Karagaybulak** baz=3.0	**1.43**	**302**	⇑*i*P		**Pn**	**21 35 02.8**	**-0.1**
KBK				⇑*i*S		**Sb**	**21 35 22.0**	**0.0**
PRZ	**Przheval'sk** baz=65	**1.46**	**66**	⇑*i*P		**Pn**	**21 35 03.2**	**-0.1**
PRZ				⇑*i*S		**Sg**	**21 35 23.2**	**-0.5**
DGS	**Degeres** 2.5nm,0.1s	**1.47**	**336**	P		**Pb**	**21 35 04.1**	**-0.1**
DGS				S		**Sb**	**21 35 23.5**	**+0.7**
DGS	**Degeres** 2.5nm,0.1s	**1.47**	**336**	*e*P		**Pb**	**21 35 04.1**	**-0.1**
DGS				*e*S		**Sb**	**21 35 23.5**	**+0.7**
UCH	**Uchtor** baz=83	**1.58**	**282**	⇑*i*P		**Pn**	**21 35 05.3**	**+0.1**
UCH				⇑*i*S		**Sb**	**21 35 26.6**	**0.0**
ARLS	**Aral** baz=70	**1.70**	**269**	⇑*i*P		**Pn**	**21 35 07.0**	**+0.5**
ARLS				⇑*i*S		**Sb**	**21 35 29.4**	**-0.2**
FRU1	**Bishkek** baz=3.0	**1.71**	**302**	⇓*i*P		**Pn**	**21 35 07.6**	**+0.9**
FRU1				⇓*i*S		**Sb**	**21 35 30.5**	**+0.6**
AAK	**Ala-Archa** 1.9nm,0.2s	**1.72**	**296**	⇑P		**Pb**	**21 35 09.1**	**+0.5**
AAK	**Ala-Archa** 1.3nm,0.6s	**1.72**	**296**	⇑P		**Pb**	**21 35 09.0**	**+0.5**
AAK				⇓S		**Sb**	**21 35 30.9**	**+0.6**
AAK	**Ala-Archa** baz=96	**1.72**	**296**	⇑*i*P		**Pb**	**21 35 07.9**	**-0.6**
AAK				⇑*i*S		**Sb**	**21 35 30.9**	**+0.6**
CHMS	**Chumysh** baz=10.0	**1.75**	**309**	⇑*i*P		**Pn**	**21 35 07.9**	**+0.8**
CHMS				⇑*i*S		**Sb**	**21 35 31.5**	**+0.6**
SATY	**Saty** 5.9nm,0.1s	**1.77**	**49**	P		**Pb**	**21 35 08.2**	**-1.0**
SATY				S		**Sb**	**21 35 31.4**	**-0.1**
SATY	**Saty** 5.9nm,0.1s	**1.77**	**49**	⇓*e*P		**Pb**	**21 35 08.2**	**-1.0**
SATY				*e*S		**Sb**	**21 35 31.4**	**-0.1**
KTBS	**Karatobe** 12nm,0.3s	**1.80**	**2**	S		**Sg**	**21 35 34.1**	**-0.6**
KTBS	**Karatobe** 2.6nm,0.2s	**1.80**	**2**	*e*P		**Pb**	**21 35 09.6**	**-0.2**
KTBS				*e*S		**Sg**	**21 35 34.1**	**-0.6**
KURS	**Kuram** 7.9nm,0.5s	**1.96**	**36**	S		**Sb**	**21 35 37.6**	**+0.5**
KURS	**Kuram** 1.2nm,0.2s	**1.96**	**36**	*e*P		**Pb**	**21 35 12.2**	**-0.3**
KURS				*e*S		**Sb**	**21 35 37.6**	**+0.5**
CHKK	**Chushkaly** 2.2nm,0.2s	**1.97**	**8**	Pg		**Pb**	**21 35 12.4**	**-0.2**
CHKK				Lg	Lg	21 35 38.7		
CHKK	**Chushkaly** 2.2nm,0.2s	**1.97**	**8**	*e*P		**Pb**	**21 35 12.4**	**-0.2**
CHKK				*e*S		**Sg**	**21 35 38.7**	**-1.3**
KUU	**Kurty** 1.4nm,0.2s	**1.99**	**355**	Pg		**Pb**	**21 35 12.9**	**-0.1**
KUU				Lg	Lg	21 35 39.6		
KUU	**Kurty** 1.4nm,0.2s	**1.99**	**355**	*e*P		**Pb**	**21 35 12.9**	**-0.1**
KUU				*e*S		**Sg**	**21 35 39.6**	**-1.2**
USP	**Ospenovka** 0.9nm,0.1s,SNR=6.4	**2.06**	**312**	⇓P		**Pb**	**21 35 14.4**	**+0.2**
USP	**Ospenovka** baz=12	**2.06**	**312**	⇓*i*P		**Pn**	**21 35 12.3**	**+0.9**
USP				⇓*i*S		**Sb**	**21 35 38.9**	**-1.0**
SGDS	**Sogindy** 1.7nm,0.2s	**2.12**	**317**	Pg		**Pb**	**21 35 16.2**	**+1.0**
SGDS				Lg	Lg	21 35 44.5		
UZB	**Uzynbulak** 1.3nm,0.2s	**2.18**	**55**	Pg		**Pb**	**21 35 15.6**	**-0.7**
UZB				Lg	Lg	21 35 43.5		
UZB	**Uzynbulak** 1.3nm,0.2s	**2.18**	**55**	*e*P		**Pb**	**21 35 15.6**	**-0.7**
UZB				*e*S		**Sb**	**21 35 43.5**	**0.0**
SHLS	**Shalkode** 1.0nm,0.2s	**2.46**	**59**	Pg		**Pg**	**21 35 25.7**	**+1.9**
SHLS				Lg	Lg	21 36 00.9		
SHLS	**Shalkode** 1.0nm,0.2s	**2.46**	**59**	*e*P		**Pg**	**21 35 25.7**	**+1.9**
SHLS				*e*S		**Sg**	**21 36 00.8**	**+5.1**
ARXS	**Arharly** 1.3nm,0.1s	**2.47**	**21**	Pg		**Pb**	**21 35 21.6**	**+0.3**
ARXS				Lg	Lg	21 35 53.9		
ARXS	**Arharly** 1.3nm,0.1s	**2.47**	**21**	*e*P		**Pb**	**21 35 21.6**	**+0.3**
ARXS				*e*S		**Sb**	**21 35 53.9**	**+2.0**
MNBS	**Baschi** 1.3nm,0.3s	**2.54**	**31**	Pg		**Pb**	**21 35 22.4**	**-0.1**
MNBS				Lg	Lg	21 35 55.0		
MNBS	**Baschi** 1.3nm,0.3s	**2.54**	**31**	*e*P		**Pb**	**21 35 22.4**	**-0.1**
MNBS				*e*S		**Sb**	**21 35 55.0**	**+1.1**
PDGK	**Podgornoye** 4.6nm,1.3s	**2.56**	**55**	Lg	Lg	21 35 54.3		
PDGK	**Podgornoye** 3.8nm,0.5s	**2.56**	**55**	⇓Pn		**Pn**	**21 35 14.1**	**-4.3**
PDGK				⇑Sn		**Sb**	**21 35 54.3**	**-0.2**
MRKS	**Merke** 2.8nm,0.4s	**2.63**	**290**	Pg		**Pb**	**21 35 25.6**	**+1.5**
MRKS				Lg	Lg	21 36 00.4		
MRKS	**Merke** 2.8nm,0.4s	**2.63**	**290**	*e*P		**Pb**	**21 35 25.6**	**+1.5**
MRKS				*e*S		**Sg**	**21 36 00.4**	**-1.0**
SFK	**Sufi-Kurgan** 0.2nm,0.5s	**3.01**	**232**	⇓Pn		**Pb**	**21 35 31.3**	**+0.8**
SFK				⇓Lg	Lg	21 36 12.2		
KTMS	**Ketmen** 1.0nm,0.5s	**3.17**	**60**	Lg	Lg	21 36 13.0		
KTMS	**Ketmen** 0.4nm,0.1s	**3.17**	**60**	*e*P		**Pb**	**21 35 32.8**	**-0.3**
KTMS				*e*S		**Sb**	**21 36 12.8**	**+0.9**
DJR	**Jarkent** 2.7nm,0.7s	**3.37**	**43**	Lg	Lg	21 36 19.9		
DJR	**Jarkent** 0.3nm,0.2s	**3.37**	**43**	*e*P		**Pb**	**21 35 36.9**	**+0.4**
DJR				*e*S		**Sb**	**21 36 19.9**	**+2.3**
BTLS	**Baital** 1.9nm,0.5s	**3.64**	**330**	Lg	Lg	21 36 29.9		
BTLS	**Baital** 0.8nm,0.2s	**3.64**	**330**	*e*P		**Pb**	**21 35 42.8**	**+1.7**
BTLS				*e*S		**Sg**	**21 36 29.9**	**-3.6**
KAPS	**Kapalarasan** 2.7nm,0.5s	**3.93**	**30**	*e*P		**Pb**	**21 35 46.3**	**+0.2**
KAPS				⇓*i*S		**Sb**	**21 36 36.1**	**+2.5**

*ISK **07** 21:42:55.7,40.42N×25.81E,h7km,ML2.1/5*
*ATH **07** 21:42:57.7,40.41N×25.93E,h8km±3km,ML1.5/1,Error ellipse: s-maj=3.4km s-min=0.7km az=279.0*
*DDA **07** 21:42:59.9,40.35N×26.15E,h10km±2km,ML2.5*

ISC 07 21:42:57.4±1.0,40.40N±0.02×25.93E±0.02,h8km±9km, n22,σ0s81/35,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.21**	**186**		PG	**Pg**	**21 43 00.9**	**-0.8**
GADA					SG	**Sg**	**21 43 04.9**	**+0.3**
SMTH	**Samothraki Isl** comp=E,247μm,0.1s	**0.31**	**283**		P	**Pg**	**21 43 03.7**	**+0.1**
SMTH					S	**Sg**	**21 43 08.3**	**+0.5**
SMTH	comp=N,241μm,0.1s				AML	AML	21 43 08.7	
SMTH					AML	AML	21 43 09.5	
ENEZ	**Enez**	**0.38**	**27**		PG	**Pg**	**21 43 04.3**	**-0.5**
ENEZ					SG	**Sg**	**21 43 10.6**	**+0.8**
GELI	**Tayfur-Gelibol**	**0.42**	**90**		PG	**Pg**	**21 43 05.9**	**+0.3**
ALN	**Alexandroupoli**	**0.50**	**10**		PG	**Pg**	**21 43 06.1**	**-1.1**
ALN	**Alexandroupoli**	**0.50**	**10**		P	**Pg**	**21 43 07.1**	**-0.1**
ALN					S	**Sg**	**21 43 14.4**	**+0.6**
ERIK	**Erikli-Kesan**	**0.52**	**59**		PG	**Pg**	**21 43 07.3**	**-0.3**
BOZC	**Bozcaada**	**0.57**	**170**		PG	**Pg**	**21 43 07.9**	**-0.5**
BOZC	**Bozcaada**	**0.57**	**170**	*i*	P	**Pg**	**21 43 05.9**	**-2.5**
KESN	**Edirne-Kesan** comp=Z,277nm,0.1s	**0.71**	**53**		IAML_P			
KESN				*i*	P	**Pb**	**21 43 13.0**	**+0.7**
KESN				*i*	S	**Sg**	**21 43 21.5**	**+0.9**
LIA	**Limnos Island**	**0.76**	**229**		P	**Pg**	**21 43 12.3**	**+0.3**
LIA					S	**Pg**	**21 43 23.0**	**+1.0**
RDO	**Rodhopi**	**0.80**	**339**		PG	**Pg**	**21 43 10.6**	**-2.3**
RDO	**Rodhopi**	**0.80**	**339**		P	**Pg**	**21 43 12.8**	**-0.1**
RDO					S	**Sb**	**21 43 24.1**	**-0.5**
BAYC	**CANAKKALE_Bayr** comp=Z,454nm,0.1s	**0.81**	**144**		IAML_P			
BAYC				*i*	P	**Pb**	**21 43 13.9**	**+0.1**
BAYC				*i*	S	**Sg**	**21 43 23.6**	**-0.1**
THAS	**Thassos island**	**0.94**	**283**		P	**Pg**	**21 43 15.8**	**+0.2**
THAS					S	**Sb**	**21 43 28.5**	**-0.1**
PRK	**Paraskevi**	**1.18**	**167**		P	**Pb**	**21 43 20.1**	**0.0**
PRK					S	**Sn**	**21 43 36.5**	**0.0**
SIGR	**SIGRI**	**1.19**	**183**		P	**Pb**	**21 43 19.9**	**-0.3**
SIGR					S	**Sg**	**21 43 36.5**	**+0.8**
KAVA	**Kavala**	**1.23**	**299**		P	**Pn**	**21 43 20.9**	**0.0**
KAVA					S	**Sn**	**21 43 37.7**	**+0.1**
AYVA	**Ayvalik** comp=Z,117nm,0.1s	**1.24**	**151**		IAML_P			
AYVA				*i*	P	**Pg**	**21 43 22.2**	**+1.0**
AYVA				*i*	S	**Sb**	**21 43 37.4**	**+0.3**
OUR	**Ouranopolis**	**1.49**	**268**		P	**Pb**	**21 43 25.5**	**+0.2**
EDRB	**Edirne**	**1.57**	**23**		PN	**Pn**	**21 43 25.0**	**-0.6**
SRS	**Serrai**	**1.91**	**293**		P	**Pb**	**21 43 32.6**	**+0.1**

*ISCJB **07** 22:14:35.6±0.9,6.67S±0.06×130.02E±0.08,h146km, mb3.3/1,Error ellipse: s-maj=11.5km s-min=8.9km az=174.2*
*IDC **07** 22:14:35.9±1.7,6.57S×130.00E,h128km±20km,mb3.1/1, mb1 3.4/5,mb1mx3.1/36,mbtmp3.8/5,Error ellipse: s-maj=28.8km s-min=13.1km az=112.0*

ISC 07 22:14:35.5±0.9,6.74S±0.06×130.1E±0.1,h146km,n6, σ3s40/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SIJI	**Sorong** 1.2nm,0.3s,baz=3.1,slow=2.7,SNR=16	**5.94**	**11**	P		**Pn**	**22 16 01.7**	**+0.4**
SIJI				S		**Sn**	**22 17 04.4**	**-4.1**
BATI	**Baumata** 4.2nm,0.3s,baz=146,slow=3.6,SNR=4.1	**7.27**	**241**	P		**Pn**	**22 16 20.6**	**+1.4**
BATI				S		**Sn**	**22 17 39.4**	**-1.2**
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=16,slow=11,SNR=16	**12.12**	**201**	P		**Pn**	**22 17 24.3**	**+0.9**
FITZ				S		**Sn**	**22 19 31.4**	**-6.0**
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=347,slow=13,SNR=20	**13.75**	**163**	P		**Pn**	**22 17 46.6**	**+2.1**
WRA				S		**Sn**	**22 20 14.4**	**-2.3**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=350,slow=10,SNR=9.9	**17.22**	**168**	P		**Pn**	**22 18 32.1**	**+4.8**
ASAR				S		**S**	**22 21 37.1**	**-1.6**
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=114,slow=7.8,SNR=3.6	**68.08**	**327**	P		**P**	**22 25 20.3**	**+0.9**

MEX 07 22:18:53.8±0.5,14.80N×92.58W,h101km±16km,MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
THIG		**0.32**	**71**	*e*P		Pn	22 19 08.0	-0.6
THIG				*i* S		Sn	22 19 17.9	-1.7
CCIG	**Comitan**	**1.53**	**16**	*e*P		Pn	22 19 19.0	-1.7
CCIG				*i* S		Sn	22 19 39.8	-1.2

MAN 07 22:22:37.3,17.25N×122.80E,h24km,mb4.3,ML3.1, MS2.8,1C,Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.40**	**243**	*e*P		Pn	22 22 47.4	-0.2
PALP				*e*S		Sn	22 22 55.3	+0.9
CVP	**Callao Caves**	**1.03**	**296**	⇑*i*P		Pn	22 22 54.9	-1.5
CVP				*i* S		Sb	22 23 08.3	-1.5
SGCP	**Mt. Cagua**	**1.22**	**324**	*e*P		Pn	22 22 57.5	-1.4
SGCP				*e*S		Sn	22 23 09.0	-5.6
APYP	**Conner**	**1.60**	**293**	*e*P		Pn	22 23 04.6	+0.4
APYP				*e*S		Sn	22 23 24.6	+0.4
ABRA	**Dolores**	**2.03**	**282**	*e*P		Pn	22 23 11.3	+1.3
ABRA				*e*S		Sn	22 23 36.2	+1.5

*DDA **07** 22:26:23.3,39.89N×39.64E,h7km±2km,ML2.9*
*ISK **07** 22:26:23.9,39.91N×39.64E,h5km,ML2.5/6*

ISC 07 22:26:23.8±1.1,39.89N±0.04×39.62E±0.03,h10km±10km, n17,σ1s09/22,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
EUZM	**Uzumlu** comp=Z,46μm,0.1s	**0.19**	**161**		IAML_P			
EUZM				*i*	P	**Pg**	**22 26 28.7**	**+0.8**
KELT	**Kelkit** comp=Z,11μm,0.1s	**0.38**	**313**		IAML_P			
KELT				*i*	P	**Pb**	**22 26 32.5**	**-0.3**
KELT				*i*	S	**Sb**	**22 26 37.8**	**-1.1**
GUMT	**Gumushane**	**0.58**	**350**		PG	**Pb**	**22 26 35.4**	**-0.8**
BAYB	**BAYBURT** comp=Z,5μm,0.2s	**0.61**	**53**		IAML_P			
BAYB				*i*	P	**Pg**	**22 26 35.7**	**-0.2**
BAYB				*i*	S	**Sb**	**22 26 44.7**	**-0.9**
BAYT	**Aydıntepe-Bayb**	**0.65**	**38**		PG	**Pb**	**22 26 36.5**	**-0.8**
BAYT					SG	**Sg**	**22 26 44.9**	**0.0**
TNCL	**Tunceli-Merkez** comp=Z,153nm,0.1s	**0.77**	**184**		IAML_P			
TNCL				*i*	P	**Pn**	**22 26 41.6**	**+0.7**
REFA	**Refahiye_ERZN** comp=Z,1μm,0.3s	**0.82**	**234**		IAML_P			
REFA				*i*	P	**Pg**	**22 26 36.8**	**-2.8**
ILIC	**ilic-Erzincan**	**0.92**	**242**		PG	**Pg**	**22 26 41.9**	**+0.4**
PTK	**Pertek**	**1.01**	**190**		PG	**Pn**	**22 26 44.3**	**+0.1**
ECAT	**Cat-ERZURUM**	**1.08**	**105**	*i*	P	**Pg**	**22 26 43.8**	**-0.8**
ECAT				*i*	S	**Sn**	**22 27 00.9**	**+0.4**
BGOL	**Bingol** comp=Z,173nm,0.1s	**1.21**	**137**		IAML_P			
BGOL				*i*	P	**Pg**	**22 26 46.5**	**-0.6**
CUZAR	**Zara_SIVAS**	**1.42**	**271**	*i*	P	**Pb**	**22 26 50.6**	**+0.1**
BNGL	**BINGOL**	**1.51**	**128**	*i*	P	**Pb**	**22 26 52.0**	**0.0**
CUKAN	**kangal_SIVAS**	**1.76**	**252**	*i*	P	**Pg**	**22 26 57.4**	**-0.2**
SVSK	**Karacayir**	**2.02**	**272**		PN	**Pb**	**22 26 59.9**	**-0.6**
SVSK					SN	**Sb**	**22 27 25.9**	**+0.2**
BCA	**Borcka**	**2.18**	**44**		PN	**Pn**	**22 27 01.5**	**+1.3**
TOKT	**Tokat**	**2.40**	**281**		PN	**Pn**	**22 27 05.4**	**+2.2**

*ISCJB **07** 22:50:19.7±0.4,44.93N±0.02×15.41E±0.02,h1km±2km, Error ellipse: s-maj=3.2km s-min=1.8km az=33.3*
*ROM **07** 22:50:20.2±0.8,44.94N±0.05×15.56E±0.07,h10km, ML3.0/4*
*LDG **07** 22:50:20.2±0.4,44.95N×15.50E,h2km,Ml3.2/7,Error ellipse: s-maj=8.6km s-min=6.5km az=133.0*
*SAR **07** 22:50:21.2±0.4,44.91N×15.32E,h3km±2km,ML2.9/1*
*BEO **07** 22:50:22.2±0.5,45.00N×15.41E,h10km±3km,ML2.7/7*
*PRU **07** 22:50:23.2±0.0,45.00N×15.38E,h2km*

ISC 07 22:50:20.4±1.1,44.94N±0.02×15.39E±0.02,h6km±9km, n112,σ1s58/178,8C-3D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
UDBI	**Udbina**	**0.49**	**147**	*e*Pg		**Pg**	**22 50 29.8**	**-0.1**
UDBI					Sg	**Sb**	**22 50 37.9**	**-1.1**
NVLJ	**Novalja**	**0.53**	**225**	*e*Pg		**Pg**	**22 50 29.7**	**-0.9**
NVLJ					Sg	**Sg**	**22 50 36.7**	**-0.7**
BOJS	**Bojanci**	**0.57**	**350**	*e*Pg		**Pg**	**22 50 31.4**	**0.0**
BOJS				*e*Sg		**Sg**	**22 50 39.9**	**+1.0**
BOJS	**Bojanci** comp=Z,227nm,0.4s	**0.57**	**350**	*i* Pg		**Pg**	**22 50 31.0**	**-0.4**
BOJS				*e*Sg		**Sg**	**22 50 39.5**	**+0.7**
OZLJ	**Ozalj**	**0.68**	**4**	*i* Pg		**Pg**	**22 50 33.8**	**+0.4**
OZLJ					Sg	**Sg**	**22 50 43.3**	**+1.1**
GBRS	**Gornja Briga** comp=Z,163nm,0.5s	**0.72**	**325**	*i* Pg		**Pg**	**22 50 34.2**	**-0.1**
GBRS				*e*Sg		**Sg**	**22 50 44.3**	**+0.7**
CRES	**Cresnjev** comp=Z,168nm,0.4s	**0.89**	**3**	*e*Pg		**Pg**	**22 50 37.3**	**-0.1**
CRES				*e*Sg		**Sb**	**22 50 51.4**	**+1.0**
CRES	**Cresnjev**	**0.89**	**3**	⇑*i*Pg		**Pg**	**22 50 37.0**	**-0.4**
CRES				*e*Sg		**Sb**	**22 50 50.8**	**+0.4**
KNDS	**Knezji Dol** comp=Z,66nm,0.3s	**0.93**	**310**	*i* Pg		**Pg**	**22 50 37.2**	**-1.0**
KNDS				*e*Sg		**Sn**	**22 50 53.5**	**-0.3**
GCIS	**Gornji Cirnik** comp=Z,85nm,0.4s	**0.94**	**10**	*i* Pg		**Pg**	**22 50 38.6**	**+0.1**
GCIS				*e*Sg		**Sn**	**22 50 53.7**	**-0.3**
VISS	**Visnje**	**0.95**	**336**	*e*Pg		**Pg**	**22 50 37.9**	**-0.7**
LEGS	**Legarje**	**1.01**	**357**	*e*Pg		**Pg**	**22 50 39.5**	**-0.3**
LEGS				*e*Sg		**Sb**	**22 50 54.5**	**+0.6**
CEY	**Cerknica**	**1.05**	**320**	*e*Pg		**Pg**	**22 50 40.1**	**-0.5**
CEY				*e*Sg		**Sg**	**22 50 54.7**	**+0.5**
CEY	**Cerknica** comp=Z,143nm,0.4s	**1.05**	**320**	*e*Pg		**Pg**	**22 50 39.9**	**-0.6**
CEY				*e*Sg		**Sb**	**22 50 55.4**	**+0.3**
CEY	**Cerknica**	**1.05**	**320**	⇑*i*Pg		**Pg**	**22 50 40.1**	**-0.5**

CEY				eSg	Sg	22 50 54.3	+0.1
MRAK	Mrakovica	1.07	86	ePg	Pg	22 50 41.3	+0.4
MRAK				eSg	Sn	22 50 57.4	+0.1
GOLS	Golise	1.08	9	ePn	Pg	22 50 41.5	+0.3
	comp=Z,171nm,0.4s						
SKDS	Skadanscina	1.15	302	ePn	Pg	22 50 41.8	-0.6
	comp=Z,136nm,0.4s						
PDKS	Podkum	1.16	346	ePn	Pg	22 50 42.4	-0.1
	comp=Z,61nm,0.2s						
GBAS	Gorenja Brezov	1.20	326	ePn	Pg	22 50 43.3	-0.1
	comp=Z,37nm,0.2s						
DOBS	Dobrina	1.21	2	ePn	Pn	22 50 44.4	+0.4
VNDS	Vrh nad Dolski	1.26	337	ePn	Pg	22 50 44.0	-0.6
LJU	Ljubljana	1.26	331	ePg	Pg	22 50 44.4	-0.2
LJU				eSg	Sb	22 51 01.6	+0.5
LJU	Ljubljana	1.26	331	⇓iPg	Pg	22 50 44.2	-0.4
LJU				eSg	Sb	22 51 01.2	+0.1
LJU	Ljubljana	1.26	331	P	Pg	22 50 44.4	-0.2
LJU				S	Sb	22 51 01.6	+0.5
BLY	Banja Luka	1.29	98	ePg	Pn	22 50 45.1	+0.2
BLY				eSg	Sn	22 51 02.8	+0.3
BLY	Banja Luka	1.29	98	⇑iP	Pn	22 50 44.3	-0.6
BLY				S	Sn	22 51 02.8	+0.3
BLY	Banja Luka	1.29	98	ePg	Pn	22 50 44.8	-0.1
BLY				eSg	Sn	22 51 03.0	+0.5
JAVS	Javornik	1.34	316	ePn	Pn	22 50 44.7	-1.0
JAVS				eSn	Sn	22 51 05.5	+1.6
	comp=Z,171nm,0.4s						
TRI	Trieste	1.38	304	P	Pn	22 50 46.5	+0.2
TRI				S	Sn	22 51 06.2	+1.4
TRI				AML	AML		
	comp=E,309µm,0.9s						
TRI				AML	AML		
	comp=N,264µm,0.5s						
TRI				AML	AML		
	comp=E,309µm,0.9s						
TRI				AML	AML		
	comp=N,264µm,0.5s						
CRNS	Crni Vrh	1.39	325	i Pn	Pg	22 50 47.3	+0.2
	comp=Z,44nm,0.2s						
MOZS	Mozjanca	1.51	334	ePn	Pb	22 50 49.0	+0.2
VOJS	Vojsko	1.52	316	ePn	Pb	22 50 48.9	-0.2
SABO	M.te Sabotino	1.64	310	P	Pb	22 50 50.6	-0.4
SABO				S	Sg	22 51 13.9	+1.0
SABO				AML	AML		
	comp=E,616µm,1.0s						
SABO				AML	AML		
	comp=N,927µm,0.5s						
SABO				AML	AML		
	comp=E,616µm,1.0s						
SABO				AML	AML		
	comp=N,927µm,0.5s						
OBKA	Obir	1.68	340	ePn	Pb	22 50 51.8	0.0
	comp=N,20nm,0.3s,SNR=12						
OBKA				Sn	Sb	22 51 13.6	+0.4
	comp=N,94nm,0.6s						
CADS	Cadrg	1.74	318	i Pn	Pb	22 50 52.6	-0.1
CADS				eSn	Sg	22 51 16.5	+0.3
SOKA	Soboth	1.76	352	ePn	Pb	22 50 52.7	-0.4
	comp=N,15nm,0.3s,SNR=14						
SOKA				eSn	Sb	22 51 15.5	+0.1
	comp=N,33nm,0.5s						
BEHE	Becsehely	1.81	32	ePn	Pn	22 50 53.1	+0.9
BEHE				Sn	Sn	22 51 16.1	+0.6
BEHE	Becsehely	1.81	32	ePn	Pb	22 50 53.9	-0.1
BEHE				eSn	Sg	22 51 18.3	-0.3
ROBS	Robic	1.86	315	ePn	Pb	22 50 54.0	-0.7
DOB	Doboj	1.94	95	ePn	Pb	22 50 55.3	-0.8
DOB				eSn	Sb	22 51 20.5	0.0
PTCC	Patocco-Chiusa	2.05	316	P	Pb	22 50 56.9	-1.2
PTCC				AML	AML		
	comp=E,130µm,0.4s						
PTCC				AML	AML		
	comp=N,128µm,0.7s						
PTCC				AML	AML		
	comp=E,130µm,0.4s						
PTCC				AML	AML		
	comp=N,128µm,0.7s						
MYKA	Terra Mystica	2.09	325	ePn	Pb	22 50 57.9	-0.8
	comp=N,7.3nm,0.3s						
MYKA				Sn	Sb	22 51 24.4	-0.5
	comp=N,26nm,0.5s						
STAL	STALIGIAL	2.30	306	P	Pn	22 50 59.2	+0.3
STAL				AML	AML		
	comp=E,300µm,0.8s						
STAL				AML	AML		
	comp=N,232µm,0.7s						
STAL				AML	AML		
	comp=N,232µm,0.7s						
STAL				AML	AML		
	comp=E,300µm,0.8s						
ARSA	Arzberg	2.31	2	ePn	Pn	22 50 59.8	+0.7
ARSA	Arzberg	2.31	2	ePn	Pn	22 50 59.7	+0.7
	comp=E,3.9nm,0.3s						
MORH	Mrgy, Hungar	2.61	60	ePn	Pn	22 51 05.3	+2.1
MORH				eSn	Sb	22 51 38.2	-1.8
MORH	Mrgy, Hungar	2.61	60	ePn	Pn	22 51 03.0	-0.1
MORH				i P	Pn	22 51 03.1	-0.1
MORH				Sn	Sn	22 51 36.1	+0.8
TIH	Tihany	2.62	41	ePn	Pn	22 51 03.1	-0.2
TIH				Sn	Sn	22 51 34.1	-1.4
STON	Ston	2.66	140	i Pn	Pb	22 51 07.3	-1.0
STON				Sn	Sb	22 51 41.8	+0.6
HAPS	Han Pijesak,BI	2.68	107	ePn	Pn	22 51 05.9	+1.6
HAPS	Han Pijesak,BI	2.68	107	ePn	Pn	22 51 06.1	+1.8
HAPS				eSn	Sn	22 51 39.7	+2.6
ABTA	Abfaltersbach	2.71	313	ePn	Pn	22 51 05.8	+1.2
	comp=E,5.0nm,0.4s						
ABTA				Sn	Sn	22 51 39.2	+1.6
	comp=E,3.8nm,0.3s						
SOP	Sopron	2.86	16	ePn	Pn	22 51 07.1	+0.5
SOP				Sn	Sn	22 51 42.0	+0.7
TEKS	Tekeris	2.97	96	eSn	Sn	22 51 44.7	+0.6
CONA	Conrad Observa	3.01	6	i Pn	Pn	22 51 09.6	+0.9
	comp=E,6.6nm,0.2s,SNR=10.0						
MOA	Molln	3.01	345	ePn	Pn	22 51 09.9	+1.2
MOA				eSn	Sn	22 51 44.2	-0.9
MOA	Molln	3.01	345	i Pn	Pn	22 51 10.5	+1.8
	comp=E,2.8nm,0.2s						
MOA				i Sn	Sn	22 51 47.5	+2.4
	comp=E,7.0nm,0.3s						
BRY	Bratogost	3.05	131	eSn	Sn	22 51 47.1	+0.8
BBLS	Lazići	3.07	109	ePn	Pn	22 51 10.7	+1.2
BBLS	Lazići	3.07	109	ePn	Pn	22 51 11.2	+1.7
BBLS				eSn	Sn	22 51 48.8	+2.2
TREB	Trebinje	3.08	135	ePn	Pn	22 51 11.5	+1.8
TREB				eSn	Sn	22 51 48.2	+1.3
FRGS	Fruska Gora	3.14	84	ePn	Pn	22 51 11.8	+1.4
FRGS				eSg	Sg	22 52 01.4	+0.3
FRGS	Fruska Gora	3.14	84	ePn	Pn	22 51 12.0	+1.6
FRGS				eSn	Sn	22 51 50.2	+2.0
DIVS	Divibare	3.39	103	ePn	Pn	22 51 14.4	+0.4
DIVS				eSg	Sg	22 52 10.6	+1.2
DIVS	Divibare	3.39	103	ePn	Pn	22 51 15.9	+1.9
DIVS				eSn	Sn	22 51 56.7	+2.1
WTTA	Wattenberg	3.50	313	i Pn	Pn	22 51 18.4	+2.9
	comp=E,2.6nm,0.2s						
WTTA				i Sn	Sn	22 51 59.5	+2.2
	comp=E,4.7nm,0.4s						
WATA	Walderalm	3.58	313	i Pn	Pn	22 51 19.2	+2.6
	comp=E,4.6nm,0.2s						
WATA				i Sn	Sn	22 52 01.1	+1.9
	comp=E,4.8nm,0.3s						
TRUS	Trudelj	3.65	100	ePn	Pn	22 51 19.6	+2.1
MODS	Modra-Piesok	3.67	20	ePN	Pn	22 51 16.9	-0.8
IVAS	Ivanjica	3.68	110	ePn	Pn	22 51 18.8	+0.9
SQTA	Sankt Quirin	3.70	310	i Pn	Pn	22 51 20.8	+2.5
	comp=E,1.7nm,0.2s						
SQTA				i Sn	Sn	22 52 05.5	+3.3
	comp=E,4.7nm,0.4s						
SJES	Sjenica	3.70	115	ePn	Pn	22 51 20.5	+2.3
MOTA	Moosalm	3.83	310	i Pn	Pn	22 51 22.2	+2.1
	comp=E,2.3nm,0.3s						
MOTA				i Sn	Sn	22 52 08.1	+2.6
	comp=E,5.3nm,0.5s						
SMOL	Smolenice	3.84	21	ePN	Pn	22 51 20.3	+0.3
FETA	Feichten	3.86	304	i Pn	Pn	22 51 22.5	+2.0
	comp=E,1.6nm,0.5s						
FETA				i Sn	Sn	22 52 09.5	+3.2
	comp=E,1.1nm,0.2s						
RETA	Reutte	4.10	310	i Pn	Pn	22 51 26.0	+2.2
	comp=E,0.9nm,0.2s						
RETA				i Sn	Sn	22 52 14.7	+2.6
	comp=E,3.7nm,0.3s						
KRUC	Moravsky	4.18	9	ePN	Pn	22 51 25.5	+0.8
KRUC				eSN	Sn	22 52 11.4	-2.5
JAVC	Velka Javorina	4.22	21	ePN	Pn	22 51 26.7	+1.4
VYHS	Vyhne	4.27	32	ePN	Pn	22 51 26.2	+0.2
VYHS				eSN	Sn	22 52 15.7	-0.4
PSZ	Piszkesteto	4.31	45	⇓iP	Pn	22 51 26.9	+0.4
PSZ	Piszkesteto	4.31	45	ePn	Pn	22 51 26.0	-0.5
PSZ				Sn	Sn	22 52 14.1	-3.0
KHC	Kasperske Hory	4.37	344	ePN	Pn	22 51 29.1	+1.7
KHC				ex	x	22 51 36.4	
KHC				eSN	Sn	22 52 18.2	-0.5
BZS	Buzias	4.44	79	⇑iP	Pn	22 51 29.1	+0.8
BZS	Buzias	4.44	79	S	Sn	22 52 19.6	-0.8
VRAC	Vranov	4.45	10	⇑iP	Pn	22 51 29.3	+0.9
VRAC	Vranov	4.45	10	ePN	Pn	22 51 28.8	+0.4
SELS	Selova	4.47	111	ePn	Pn	22 51 29.0	+0.3
MDVR	Moldovita	4.50	90	⇑iP	Pn	22 51 29.8	+0.7
MDVR	Moldovita	4.50	90	S	Sn	22 52 21.1	-0.6
BOVS	Bovan	4.71	104	ePn	Pn	22 51 32.7	+0.6
GOPC	GO Pecny, Ondr	4.99	355	ePN	Pn	22 51 37.7	+1.8
MORC	Moravsky Berou	5.05	16	⇓iP	Pn	22 51 39.2	+2.4
MORC	Moravsky Berou	5.05	16	ePN	Pn	22 51 39.1	+2.3
PRU	Pruhonice	5.08	354	ePN	Pn	22 51 39.4	+2.3
PRU				eSN	Sn	22 52 35.2	-0.9
BARS	Barje	5.10	112	ePn	Pn	22 51 38.5	+1.1
GZR	Gura Zlata	5.24	82	⇑iP	Pn	22 51 41.4	+2.1
GZR	Gura Zlata	5.24	82	S	Sn	22 52 40.0	-0.1
DRGR		5.43	67	⇑iP	Pn	22 51 42.7	+0.7
DRGR		5.43	67	S	Sn	22 52 44.0	-0.9
BRG	Berggiesshubel	6.02	351	SG	Sg	22 53 34.7	+1.2
	comp=E,4.1nm,0.5s						
LPG	La Plagne	6.13	278	ePn	Pn	22 51 52.6	+0.8
LPG				eSn	Sn	22 53 01.8	-0.6
	comp=E,9.4nm,0.8s						
MBDF	Montbardon	6.14	271	ePn	Pn	22 51 50.8	-0.9
MBDF				eSn	Sn	22 52 59.2	-3.1
	comp=E,10nm,1.0s						
LPL	La Plagne	6.14	278	ePn	Pn	22 51 50.3	-1.6
LPL				eSn	Sn	22 53 00.4	-2.2
	comp=E,3.7nm,0.7s						
FRF	La Foret Royal	6.43	261	ePn	Pn	22 51 56.0	+0.3
CLL	Collm	6.57	347	ePn	Pn	22 51 59.0	+1.5
CLL				eSn	Sn	22 52 55.0	-18
CLL				e		22 53 10.0	
CLL				eSg	Sg	22 53 46.0	-5.2
	comp=Z,6.0nm,1.0s						
HINF	Hinteralfeld	6.57	299	ePn	Pn	22 51 57.0	-0.6
HINF				eSn	Sn	22 53 10.9	-1.9
	comp=Z,4.2nm,0.5s						
CDF	Champ du Feu	6.58	305	ePn	Pn	22 51 56.8	-0.9
LMR	La Mourre	6.59	259	ePn	Pn	22 51 57.2	-0.6
LMR				eSn	Sn	22 53 04.7	-8.6
	comp=Z,31nm,1.5s						
ORIF	Oris-en-Rattie	6.75	273	ePn	Pn	22 52 00.8	+0.6
ORIF				eSn	Sn	22 53 12.4	-5.0
	comp=Z,10nm,0.9s						
HAU	Haudompre	6.96	299	ePn	Pn	22 52 00.4	-2.5
HAU				eSn	Sn	22 53 17.2	-5.1
	comp=Z,21nm,1.2s						
LOR	Lormes	8.35	290	ePn	Pn	22 52 20.2	-1.7
	baz=116						

ROM 07 23:03:23.9±0.5, 44.°62N±0.°05×15.°30E±0.°07, h10km, ML3.3/8
LDG 07 23:03:26.7±0.1, 45.°05N×15.°46E, h2km, Ml3.4/9, Error ellipse: s-maj=4.1km s-min=2.8km az=161.0
SAR 07 23:03:26.1±0.4, 44.°90N×15.°34E, h7km±2km, ML3.0/1
BEO 07 23:03:26.3±0.6, 44.°91N×15.°35E, h5km±3km, ML2.9/6
PRU 07 23:03:28.2±0.0, 45.°02N×15.°43E, h3km
ISC 07 23:03:25.2±1.1, 44.°90N±0.°02×15.°40E±0.°02, h6km±9km, n118, σ1.°60/185, 8C-3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDBI	Udbina	0.45	145	ePg	Pb	23 03 34.7	-0.9
UDBI				Sg	Sb	23 03 43.2	+0.5
NVLJ	Novalja	0.51	228	ePg	Pg	23 03 34.8	-0.2
NVLJ				Sg	Sb	23 03 42.3	-1.8
BOJS	Bojanci	0.61	350	ePg	Pg	23 03 36.6	-0.4
BOJS				eSg	Sg	23 03 45.4	+0.5
BOJS	Bojanci	0.61	350	ePg	Pg	23 03 36.0	-1.0
BOJS				eSg	Sg	23 03 44.9	-0.1
	comp=Z,185nm,0.2s						
OZLJ	Ozalj	0.71	4	i Pg	Pg	23 03 38.9	0.0
OZLJ				Sg	Sg	23 03 48.3	0.0
GBRS	Gornja Briga	0.76	327	ePg	Pg	23 03 39.3	-0.4
CRES	Cresnjev	0.93	2	i Pg	Pg	23 03 42.6	-0.3
CRES				eSg	Sg	23 03 55.3	+0.3
	comp=Z,208nm,0.3s						
CRES	Cresnjev	0.93	2	⇓iPg	Pg	23 03 42.5	-0.5
CRES				eSg	Sg	23 03 55.4	+0.4
KNDS	Knezji Dol	0.96	311	ePg	Pg	23 03 42.4	-1.2
KNDS				eSg	Sb	23 03 57.3	+0.1
	comp=Z,98nm,0.3s						
GCIS	Gornji Cirnik	0.98	9	i Pg	Pg	23 03 43.7	-0.2
	comp=Z,69nm,0.3s						
VISS	Visnje	0.98	336	ePg	Pg	23 03 43.0	-1.1
LEGS	Legarje	1.05	357	ePg	Pg	23 03 45.0	-0.3
CEY	Cerknica	1.08	321	ePg	Pg	23 03 45.3	-0.7
CEY				eSg	Sb	23 04 00.6	-0.2
CEY	Cerknica	1.08	321	ePg	Pg	23 03 45.0	-1.0
	comp=Z,234nm,0.6s						
CEY	Cerknica	1.08	321	ePg	Pg	23 03 45.0	-1.0
CEY				eSg	Sg	23 03 59.8	-0.3
GOLS	Golise	1.12	8	ePg	Pb	23 03 47.0	0.0
	comp=Z,130nm,0.3s						
PDKS	Podkum	1.19	346	i Pg	Pg	23 03 47.6	-0.5
PDKS				eSg	Sn	23 04 05.6	+0.5
GBAS	Gorenja Brezov	1.23	327	ePg	Pn	23 03 49.3	+0.3
DOBS	Dobrina	1.25	2	ePg	Pn	23 03 49.5	+0.2
BLY	Banja Luka	1.28	96	ePg	Pg	23 03 49.3	-0.4
BLY				eSg	Sn	23 04 08.4	+1.4
BLY	Banja Luka	1.28	96	⇑iP	Pg	23 03 49.2	-0.4
BLY				S	Sg	23 04 05.3	-0.9
BLY	Banja Luka	1.28	96	⇑iPg	Pg	23 03 49.2	-0.4
BLY				eSg	Sn	23 04 08.3	+1.3
LJU	Ljubljana	1.30	332	ePg	Pg	23 03 49.5	-0.6
LJU				eSg	Sb	23 04 07.5	+0.6
LJU	Ljubljana	1.30	332	⇑iPg	Pg	23 03 49.5	-0.6
LJU				eSg	Sb	23 04 07.2	+0.3
LJU	Ljubljana	1.30	332	P	Pb	23 03 51.2	+1.2
VNDS	Vrh nad Dolski	1.30	338	ePg	Pg	23 03 49.2	-0.9
	comp=Z,47nm,0.3s						
TRI	Trieste	1.41	305	P	Pn	23 03 50.9	-0.5
TRI				S	Sn	23 04 11.9	+1.6
TRI				AML	AML		
	comp=E,508µm,1.3s						
TRI				AML	AML		
	comp=N,359µm,0.4s						
TRI				AML	AML		
	comp=E,508µm,1.3s						
TRI				AML	AML		
	comp=N,359µm,0.4s						
TRI				AML	AML		
	comp=E,508µm,1.3s						
TRI				AML	AML		
	comp=N,359µm,0.4s						
CRNS	Crni Vrh	1.43	326	i Pn	Pg	23 03 52.3	-0.2
CRNS				eSn	Sn	23 04 12.3	+1.5
	comp=Z,93nm,0.2s						
MOZS	Mozjanca	1.55	335	ePn	Pb	23 03 54.2	-0.1
MOZS				eSn	Sg	23 04 15.3	+0.4
	comp=Z,42nm,0.2s						
VOJS	Vojsko	1.56	317	ePn	Pn	23 03 53.9	+0.3
VOJS				eSn	Sg	23 04 16.5	+1.3
KOGS	Kog	1.66	21	ePn	Pn	23 03 55.1	+0.3
KOGS				eSn	Sg	23 04 18.8	+0.4
	comp=Z,72nm,0.3s						
SABO	M.te Sabotino	1.67	311	P	Pb	23 03 55.9	-0.4
SABO				S	Sg	23 04 19.2	+0.5
OBKA	Obir	1.71	340	ePn	Pb	23 03 57.0	-0.2
	comp=Z,24nm,0.2s,SNR=13						
OBKA				eSn	Sg	23 04 20.3	0.0
	comp=Z,79nm,0.4s						
PERS	Pernice	1.75	354	ePn	Pn	23 03 56.7	+0.6
	comp=Z,48nm,0.3s						
CADS	Cadrg	1.77	319	ePn	Pb	23 03 57.6	-0.5
CADS				eSn	Sg	23 04 22.4	+0.4
SOKA	Soboth	1.79	352	ePn	Pb	23 03 58.1	-0.5
	comp=Z,11nm,0.3s,SNR=13						
SOKA				eSn	Sb	23 04 21.7	+0.3
	comp=Z,46nm,0.5s						
BEHE	Becsehely	1.84	31	ePn	Pn	23 03 58.0	+0.7
BEHE				eSn	Sb	23 04 22.6	+0.1
BEHE	Becsehely	1.84	31	ePn	Pn	23 03 57.1	-0.3
BEHE				eSg	Sg	23 04 28.0	+3.7
DOB	Doboj	1.93	94	ePn	Pb	23 04 00.0	-0.7
DOB				eSn	Sb	23 04 25.1	+0.1
PTCC	Patocco-Chiusa	2.08	317	P	Pb	23 04 02.1	-1.3
PTCC				S	Sb	23 04 30.4	+0.9
PTCC				AML	AML		
	comp=E,134µm,0.5s						
PTCC				AML	AML		
	comp=N,100µm,0.3s						
PTCC				AML	AML		
	comp=E,214µm,0.4s						
PTCC				AML	AML		
	comp=N,180µm,1.0s						
PTCC				AML	AML		
	comp=E,214µm,0.4s						
PTCC				AML	AML		
	comp=N,180µm,1.0s						
GEPF	Gemona	2.10	312	P	Pn	23 04 01.6	+0.7
GEPF				AML	AML		
	comp=E,71µm,0.3s						
GEPF				AML	AML		
	comp=N,67µm,0.5s						
GEPF				AML	AML		
	comp=E,336µm,0.7s						
GEPF				AML	AML		
	comp=N,338µm,0.8s						
GEPF				AML	AML		
	comp=N,338µm,0.8s						
GEPF				AML	AML		
	comp=E,336µm,0.7s						
ACOM	Acomizza, Ital	2.11	322	P	Pn	23 04 02.6	+1.3
ACOM				S	Sb	23 04 30.4	-0.2
ACOM				AML	AML		
	comp=E,485µm,0.3s						
ACOM				AML	AML		
	comp=N,375µm,0.4s						
ACOM				AML	AML		
	comp=E,485µm,0.3s						
ACOM				AML	AML		
	comp=N,375µm,0.4s						
MYKA	Terra Mystica	2.12	325	ePn	Pb	23 04 03.5	-0.7
	comp=N,6.1nm,0.2s						
MYKA				eSn	Sn	23 04 29.6	+1.5
	comp=N,18nm,0.3s						
STAL	STALIGIAL	2.33	307	P	Pn	23 04 04.3	+0.2
STAL				AML	AML		
	comp=E,124µm,0.4s						
STAL				AML	AML		
	comp=N,118µm,0.3s						
STAL				AML	AML		
	comp=E,490µm,0.8s						
STAL				AML	AML		
	comp=N,298µm,0.3s						
STAL				AML	AML		
	comp=E,490µm,0.8s						
STAL				AML	AML		
	comp=N,298µm,0.3s						
ARSA	Arzberg	2.35	2	ePn	Pn	23 04 05.0	+0.6
ARSA	Arzberg	2.35	2	ePn	Pn	23 04 05.0	+0.6
	comp=N,2.8nm,0.2s						
STON	Ston	2.62	140	i Pn	Pb	23 04 12.5	-0.1
STON				Sn	Sb	23 04 44.4	-0.6
MORH	Mrgy, Hungar	2.63	59	eSn	Sn	23 04 41.8	+1.4
MORH	Mrgy, Hungar	2.63	59	ePn	Pn	23 04 08.0	-0.1
MORH				Sn	Sn	23 04 42.0	+1.7
MORH				eSg	Sg	23 04 51.1	+1.5
HAPS	Han Pijesak,BI	2.67	107	ePn	Pn	23 04 09.8	+1.0
HAPS	Han Pijesak,BI	2.67	107	ePn	Pn	23 04 09.8	+1.0
HAPS				eSn	Sn	23 04 42.8	+1.3
ABTA	Abfaltersbach	2.74	313	ePn	Pn	23 04 10.8	+1.1
	comp=N,1.9nm,0.2s						
ABTA				eSn	Sn	23 04 45.8	+2.6
	comp=N,62nm,0.7s						
SOP	Sopron	2.90	16	ePn	Pn	23 04 13.0	+1.2
SOP				Sn	Sn	23 04 44.1	-2.9
SOP				eSg	Sg	23 05 00.1	+1.9
TEKS	Tekeris	2.96	95	ePn	Pn	23 04 13.8	+1.0
CONA	Conrad Observa	3.04	6	i Pn	Pn	23 04 15.0	+1.0
	comp=N,7.0nm,0.2s,SNR=8.9						
CONA				i Sn	Sn	23 04 51.7	+0.9
	comp=N,5.0nm,0.3s						
BBLS	Lazići	3.05	108	ePn	Pn	23 04 15.3	+1.3
BBLS	Lazići	3.05	108	ePn	Pn	23 04 15.9	+1.9
BBLS				eSn	Sn	23 04 52.6	+1.7
MOA	Molln	3.05	345	ePn	Pn	23 04 14.9	+0.9
MOA				eSn	Sn	23 04 51.8	+0.9
MOA	Molln	3.05	345	i Pn	Pn	23 04 15.7	+1.7
	comp=N,1.6nm,0.2s						
MOA				i Sn	Sn	23 04 52.9	+2.1
	comp=N,12nm,0.4s						
TREB	Trebinje	3.05	135	ePn	Pn	23 04 14.9	+0.9
TREB				eSn	Sn	23 04 52.3	+1.4
RISI	Rein	3.09	313	P	Pn	23 04 16.0	+1.3
RISI				AML	AML		
	comp=E,367µm,0.5s						
RISI				AML	AML		
	comp=N,375µm,0.4s						
RISI				AML	AML		
	comp=N,375µm,0.4s						
RISI				AML	AML		
	comp=E,367µm,0.5s						
FRGS	Fruska Gora	3.13	84	ePn	Pn	23 04 15.9	+0.7
FRGS				eSg	Sg	23 05 07.6	+1.7
FRGS	Fruska Gora	3.13	84	ePn	Pn	23 04 16.5	+1.3
FRGS				eSn	Sn	23 04 54.2	+1.3
DIVS	Divibare	3.38	102	ePn	Pn	23 04 20.8	+2.2
DIVS				eSn	Sn	23 05 00.6	+1.5
DIVS	Divibare	3.38	102	ePn	Pn	23 04 19.9	+1.3
DIVS				eSn	Sn	23 04 59.8	+0.7
ABSI	Aberstueckl	3.39	304	AML	AML		
	comp=N,391µm,0.6s						
ABSI				AML	AML		
	comp=E,230µm,0.6s						
ABSI				AML	AML		
	comp=E,230µm,0.6s						
ABSI				AML	AML		
	comp=N,391µm,0.6s						
ROSI	Rosskopf	3.44	307	AML	AML		
	comp=N,145µm,0.6s						
ROSI				AML	AML		
	comp=E,184µm,0.6s						
ROSI				AML	AML		
	comp=N,145µm,0.6s						
ROSI				AML	AML		
	comp=E,184µm,0.6s						
WTTA	Wattenberg	3.53	313	i Pn	Pn	23 04 22.4	+1.7
	comp=E,3.3nm,0.2s						
WTTA				i Sn	Sn	23 05 04.5	+1.7
	comp=E,13nm,0.6s						
BUD	Budapest	3.60	43	ePn	Pn	23 04 21.0	-0.6
BUD				Sn	Sn	23 05 01.0	-3.4
WATA	Walderalm	3.61	314	i Pn	Pn	23 04 23.7	+1.9
	comp=E,4.1nm,0.3s						
WATA				i Sn	Sn	23 05 07.0	+2.3
	comp=E,4.2nm,0.3s						
TRUS	Trudelj	3.64	99	ePn	Pn	23 04 23.0	+0.9
IVAS	Ivanjica	3.66	110	ePn	Pn	23 04 24.0	+1.6
SJES	Sjenica	3.68	115	ePn	Pn	23 04 24.3	+1.6
MODS	Modra-Piesok	3.71	20	ePN	Pn	23 04 22.4	-0.6
MODS				eSN	Sn	23 05 05.6	-1.4
MODS				eLG	Lg	23 05 25.1	
SQTA	Sankt Quirin	3.73	310	i Pn	Pn	23 04 25.9	+2.5
	comp=E,1.6nm,0.2s						
SQTA				eSn	Sn	23 05 11.1	+3.4
	comp=E,7.6nm,0.5s						
PDG	Podgorica	3.73	130	⇑iP	Pb	23 04 28.8	-2.7
PDG	Podgorica	3.73	130	S	Sb	23 05 14.2	-2.7
MOTA	Moosalm	3.86	311	i Pn	Pn	23 04 27.4	+2.1
	comp=E,2.8nm,0.4s						
MOTA				i Sn	Sn	23 05 13.2	+2.2
	comp=E,7.0nm,0.4s						
SMOL	Smolenice	3.87	20	ePN	Pn	23 04 25.9	+0.6
FETA	Feichten	3.89	305	ePn	Pn	23 04 27.3	+1.7
	comp=E,1.7nm,0.3s						
FETA				eSn	Sn	23 05 15.5	+3.8
	comp=E,4.2nm,0.4s						
BANR	Banloc	4.08	81	⇓iP	Pn	23 04 30.4	+2.2
BANR	Banloc	4.08	81	S	Sn	23 05 15.2	-1.1
KRUC	Moravsky	4.22	9	ePN	Pn	23 04 30.4	+0.4
KRUC				eSN	Sn	23 05 17.7	-1.8
JAVC	Velka Javorina	4.25	21	ePN	Pn	23 04 31.8	+1.2

VYHS	Vyhne	4.30	32	ePN	Pn	23 04 31.8	+0.6
VYHS				eSN	Sn	23 05 20.3	-1.3
VYHS				eLG	Lg	23 05 27.6	
PSZ	Piszkesteto	4.33	44	ePn	Pn	23 04 31.0	-0.6
PSZ				Sn	Sn	23 05 23.1	+0.6
KHC	Kasperske Hory	4.41	344	ePN	Pn	23 04 33.9	+1.2
KHC				eSN	Sn	23 05 22.9	-1.5
BZS	Buzias	4.45	79	⇑iP	Pn	23 04 35.4	+2.3
BZS	Buzias	4.45	79	S	Sn	23 05 23.7	-1.5
SELS	Selova	4.45	110	ePn	Pn	23 04 34.7	+1.5
VRAC	Vranov	4.48	10	⇑iP	Pn	23 04 34.6	+0.9
VRAC	Vranov	4.48	10	ePN	Pn	23 04 33.9	+0.2
MDVR	Moldovita	4.49	89	⇑iP	Pn	23 04 35.9	+2.1
MDVR	Moldovita	4.49	89	S	Sn	23 05 27.8	+1.4
BOVS	Bovan	4.70	103	ePn	Pn	23 04 38.4	+1.8
GOPC	GO Pecny, Ondr	5.03	355	ePN	Pn	23 04 43.1	+1.9
GOPC				ex	x	23 04 50.6	
GOPC				eSN	Sn	23 05 37.7	-2.0
BARS	Barje	5.08	112	ePn	Pn	23 04 43.4	+1.5
MORC	Moravsky Berou	5.09	16	⇓iP	Pn	23 04 43.8	+1.8
PRU	Pruhonice	5.12	354	ePN	Pn	23 04 43.7	+1.3
PRU				eSN	Sn	23 05 39.7	-2.2
PRU				ex	x	23 05 54.4	
PGF	Pioggiola	5.20	245	ePn	Pn	23 04 44.7	+1.0
DRGR		5.44	67	⇑iP	Pn	23 04 48.6	+1.7
DRGR		5.44	67	S	Sn	23 05 47.6	-2.3
ZAPS	Zavoj	5.46	105	ePn	Pn	23 04 48.8	+1.7
SBF	Sospel	5.80	262	ePn	Pn	23 04 52.6	+0.7
SBF				eSn	Sn	23 05 56.9	-1.9
	comp=E,29nm,1.0s						
BRG	Berggiesshubel	6.05	351	SG	Sg	23 06 41.8	+2.3
	comp=E,2.9nm,0.6s						
LPG	La Plagne	6.14	279	ePn	Pn	23 04 58.9	+2.2
LPG				eSn	Sn	23 06 01.4	-6.0
	comp=E,10nm,0.7s						
LPG				eS	Sb	23 06 13.7	-13
MBDF	Montbardon	6.14	271	ePn	Pn	23 04 56.8	+0.2
MBDF				eSn	Sn	23 06 04.6	-2.7
	comp=E,4.5nm,0.6s						
LPL	La Plagne	6.16	279	ePn	Pn	23 04 58.9	+2.0
LPL				eSn	Sn	23 06 02.6	-5.1
	comp=E,11nm,1.0s						
LPL				eS	Sb	23 06 14.2	-13
FRF	La Foret Royal	6.43	261	ePn	Pn	23 05 00.3	-0.1
FRF				eSn	Sn	23 06 12.3	-1.9
	comp=E,18nm,1.1s						
LMR	La Mourre	6.59	259	ePn	Pn	23 05 02.8	+0.2
LMR				eSn	Sn	23 06 15.3	-2.7
	comp=E,70nm,1.8s						
HINF	Hinteralfeld	6.59	299	ePn	Pn	23 05 02.3	-0.4
HINF				eSn	Sn	23 06 13.2	-5.0
	comp=E,8.3nm,0.6s						
CLL	Collm	6.61	347	eSn	Sn	23 06 00.0	-18
CLL				e		23 06 11.0	
CLL				eSg	Sg	23 06 55.0	-2.2
	comp=Z,6.0nm,0.8s						
CABF	La Chapelle	6.74	288	ePn	Pn	23 05 04.3	-0.4
ORIF	Oris-en-Rattie	6.76	273	ePn	Pn	23 05 06.8	+1.7
ORIF				eSn	Sn	23 06 19.7	-2.7
	comp=Z,14nm,0.9s						
HAU	Haudompre	6.98	300	ePn	Pn	23 05 07.0	-1.0
HAU				eSn	Sn	23 06 22.0	-5.7
	comp=Z,13nm,0.9s						
SMRF	Simiane la Rot	7.10	266	ePn	Pn	23 05 11.2	+1.6
SMF	Signal de Mont	8.27	286	ePn	Pn	23 05 24.7	-1.0
LOR	Lormes	8.37	291	ePn	Pn	23 05 26.3	-0.7

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*IDC **07** 23:03:27.1±9.1, 35°.45N×71°.43E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.3/48, mbtmp3.6/6, ML2.9/2, Error ellipse: s-maj=158.3km s-min=39.0km az=161.0*

*NNC **07** 23:03:46.6±5.1, 36°.94N×70°.65E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=44.8km s-min=31.7km az=162.0*

*KNET **07** 23:04:05.7±1.8, 38°.21N×72°.20E, h0km, ml3.0, Error ellipse: s-maj=19.7km s-min=16.9km az=54.0*

ISC 07 23:03:48.3±2.1**, 36°.7N**±0°.2×**71°.0E**±0°.1**, h100km, n21, σ1.s19**/24**, mb3.9**/3**, 2C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.86	30	⇓P	Pn	23 04 46.4	+0.6
	6.2nm,0.4s						
SFK				⇑S	Sn	23 05 33.4	+3.1
	7.3nm,0.3s						
SFK	Sufi-Kurgan	3.86	30	Pg	Pn	23 04 46.4	+0.6
	7.6nm,0.4s						
SFK				Lg	Lg	23 05 33.0	
	12nm,0.3s						
IUG	Iuzhnay	5.50	353	Pg	Pn	23 05 07.9	+0.1
	6.3nm,0.3s						
IUG				Lg	Lg	23 06 10.6	
	20nm,0.5s						
AML	Almayashu	5.82	20	P	Pn	23 05 12.2	-0.3
	SNR=22						
UCH	Uchtor	6.16	25	P	Pn	23 05 16.8	-0.3
	SNR=7.7						
KZA	Kyzart	6.31	30	P	Pn	23 05 18.1	-0.9
	SNR=10						
EKS2	Erkin-Say	6.33	19	P	Pn	23 05 19.6	+0.3
	SNR=5.1						
KK31	Karatay Array	6.41	357	P	Pn	23 05 20.5	+0.4
	7.5nm,0.4s,baz=177,slow=13,SNR=65						
KK31				⇓S	Sn	23 06 30.4	-1.4
	7.8nm,0.6s						
AAK	Ala-Archa	6.52	23	P	Pn	23 05 21.9	+0.1
	SNR=15						
AAK	Ala-Archa	6.52	23	⇓P	Pn	23 05 21.7	-0.1
	4.9nm,0.3s						
AAK				⇑S	Sn	23 06 34.5	-0.2
	6.3nm,1.0s						
KBK	Karagaybulak	6.69	26	P	Pn	23 05 24.5	+0.4
	SNR=6.0						
CHMS	Chumysh	6.93	24	P	Pn	23 05 27.0	-0.2
	SNR=5.8						
USP	Ospenovka	7.09	21	P	Pn	23 05 29.3	-0.2
	SNR=26						
TKM2	Tokmak 2	7.16	28	P	Pn	23 05 29.8	-0.7
	SNR=8.5						
MKAR	Makanchi Array	13.14	36	Pn	Pn	23 06 48.4	-2.5
	0.0nm,0.3s,baz=218,slow=12,SNR=3.1						
AB31	Akbulak array	14.91	331	⇓P	Pn	23 07 13.1	-0.6
	0.2nm,0.3s,baz=151,slow=12,SNR=4.7						
AKTO	Aktyubinsk	16.61	330	P	P	23 07 37.1	+1.4
	0.1nm,0.3s,baz=125,slow=14,SNR=4.7						
ZALV	Zalesovo Beam	19.74	25	P	P	23 08 07.7	-2.2
	1.0nm,0.4s,baz=225,slow=12,SNR=6.8						
FINES	FINESS Array B	37.32	326	P	P	23 10 50.9	+0.4
	1.5nm,0.9s,baz=113,slow=11,SNR=3.1						
ARCES	ARCESS Array B	40.96	338	P	P	23 11 21.9	+1.1
	2.8nm,1.0s,baz=118,slow=9.6,SNR=3.3						
NOA	NORSAR Array B	44.22	323	P	P	23 11 47.3	+0.1
	0.6nm,0.8s,baz=97,slow=7.8,SNR=2.9						

IDC 07 23:03:49.7±3.8**, 7°.06S**×**143°.96E, h0km, mb3.6**/3**, mb1 3.8**/5**, mb1mx3.6**/27**, mbtmp3.6**/5**, ML3.1**/2**, Error ellipse: s-maj=89.6km s-min=31.0km az=99.0, Near south coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.85	215	Pn	Pn	23 07 34.7	+0.4
	0.1nm,0.3s,baz=35,slow=12,SNR=4.3						
WRA				Lg	Lg	23 12 07.7	
	0.1nm,0.3s,baz=36,slow=27,SNR=4.1						
ASAR	Alice Springs	19.13	209	P	P	23 08 14.8	+0.2
	0.1nm,0.3s,baz=36,slow=10,SNR=16						
ASAR				Lg	Lg	23 14 02.8	
	0.0nm,0.3s,baz=30,slow=30,SNR=2.7						
FITZ	Fitzroy Crossi	20.95	237	P	P	23 08 33.1	-1.4
	2.1nm,0.7s,baz=69,slow=8.6,SNR=3.4						
CMAR	Chiang Mai Arr	51.13	300	P	P	23 12 56.2	+1.4
	0.5nm,0.3s,baz=104,slow=4.8,SNR=5.2						
MKAR	Makanchi Array	76.41	322	P	P	23 15 40.4	-0.8
	0.3nm,0.7s,baz=99,slow=7.5,SNR=3.7						

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*IDC **07** 23:25:28.1±0.7, 31°.21N×139°.48E, h0km, mb3.8/18, mb1 4.0/22, mb1mx3.9/43, mbtmp3.8/22, ML2.9/4, MS3.4/2, Ms1 3.4/2, ms1mx2.7/35, Error ellipse: s-maj=19.1km s-min=16.3km az=123.0*

*ISCJB **07** 23:25:30.8±0.3, 31°.26N±0°.04×139°.56E±0°.07, h33km, mb4.0/25, Error ellipse: s-maj=9.1km s-min=4.7km az=156.9*

*NEIC **07** 23:25:32.7±0.5, 31°.19N×139°.48E, h35km, mb4.7/4, Error ellipse: s-maj=12.8km s-min=9.0km az=79.0*

ISC 07 23:25:33.7±0.5**, 31°.31N**±0°.06×**139°.56E**±0°.08**, h35km, n54, σ1.s74**/47**, mb4.0**/25**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.81	7	ePn	Pn	23 26 00.1	-2.2
JHJ	Hachijo jima 2	1.81	6	Pn	Pn	23 26 00.3	-2.1
	8.9nm,0.3s,baz=228,slow=23,SNR=4.0						
CBIJ	Chichi jima	4.79	151	ePn	Pn	23 26 39.7	-3.6
CBIJ				Sn	Sn	23 27 36.1	-1.4
JCJ	Chichijima	4.79	151	Pn	Pn	23 26 45.2	+1.9
	2.8nm,0.3s,baz=294,slow=20,SNR=2.4						
JCJ				Sn	Sn	23 27 36.1	-1.4
	4.4nm,0.3s,baz=317,slow=19,SNR=2.0						
MJAR	Matsushiro Arr	5.34	348	Pn	Pn	23 26 49.9	-1.0
	0.9nm,0.3s,baz=159,slow=11,SNR=12						
MAJO	Matsushiro	5.34	348	ePn	Pn	23 26 50.8	-0.1
MAT	Matsushiro	5.34	348	P	Pn	23 26 49.0	-1.9
MJB9	Matsu-Tunnel	5.34	348	ePn	Pn	23 26 50.3	-0.6
JNU	Nakatsue	7.58	286	Pn	Pn	23 27 20.6	-1.0
	0.1nm,0.3s,baz=217,slow=20,SNR=2.4						
KSRS	Korea Array	11.40	306	Pn	Pn	23 28 17.6	+3.7
	0.1nm,0.3s,baz=119,slow=11,SNR=3.7						
KSAR	Wonju Array Be	11.42	306	Pn	Pn	23 28 17.6	+3.4
USRK	Ussuriysk Ar.	14.18	337	Pn	Pn	23 28 51.0	-0.9
	0.1nm,0.3s,baz=151,slow=39,SNR=2.8						
GUMO	Guam	18.30	163	LR	LR	23 35 49.0	
	comp=Z,119nm,18.3s,baz=78,slow=34						
KLR	Kul'dur	18.85	344	P	Pn	23 29 51.1	-0.1
	0.1nm,0.3s,baz=134,slow=10,SNR=4.0						
KLR				LR	LR	23 36 13.6	
	comp=Z,115nm,21.5s,baz=151,slow=34						
BJT	Baijiatuau	20.85	301	eP	Pn	23 30 13.5	-1.6
	33nm,1.1s						
PEA0B	Petropavlovsk-	25.45	26	eP	P	23 30 58.4	+0.3
H11S3	WAKE ISLAND Hy	27.63	111	T	T	23 59 48.9	
	baz=305						
H11S1	WAKE ISLAND Hy	27.63	111	T	T	23 59 49.4	
	baz=305						
H11S2	WAKE ISLAND Hy	27.65	111	T	T	23 59 50.2	
	baz=305						
SONA0	Songino Array	30.13	313	eP	P	23 31 40.0	-0.3
SONM	Songino Array	30.13	313	P	P	23 31 40.0	-0.3
	0.5nm,1.1s,baz=107,slow=4.8,SNR=2.3						
LAMP	Lampang	38.18	260	P	P	23 32 59.6	+10
	5.3nm,0.9s,0.0nm						
CMMT	Chiang Mai	38.63	261	P	P	23 32 55.3	+1.5
	20nm,1.0s,0.1nm						
CHTO	Chiang Mai	38.63	261	P	P	23 32 55.4	+1.5
	88nm,1.1s,0.3nm						
SUKH	Sukhothai	38.67	259	P	P	23 33 06.2	+12
	4.2nm,1.2s,0.0nm						
CMAR	Chiang Mai Arr	38.79	261	P	P	23 32 55.2	0.0
	1.0nm,0.4s,baz=51,slow=7.5,SNR=10						
ZALV	Zalesovo Beam	44.83	317	P	P	23 33 44.4	+0.3
	0.4nm,0.5s,baz=83,slow=4.8,SNR=2.3						
ZAA1	Zalesovo Array	44.83	317	eP	P	23 33 44.4	+0.3
MK01	Makanchi Array	46.07	307	eP	P	23 33 51.2	-2.9
MK31	Makanchi Array	46.08	307	eP	P	23 33 51.8	-2.4
MK32	Makanchi Array	46.08	307	eP	P	23 33 51.9	-2.3
MKAR	Makanchi Array	46.08	307	P	P	23 33 51.9	-2.3
	0.4nm,0.7s,baz=88,slow=9.5,SNR=4.7						
PSI	Prapat	47.64	242	P	P	23 34 05.8	-1.0
	1.6nm,0.4s,baz=0.3,slow=11,SNR=2.9						
KURK	Kurchatov	48.44	312	P	P	23 34 10.8	-1.5
KURBB	Kurchatov Arra	48.49	312	P	P	23 34 10.8	-2.0
	0.4nm,0.7s,baz=92,slow=7.3,SNR=2.8						
GSI	Gunungsitoli	49.63	241	eP	P	23 34 18.8	-3.1
	32nm,1.1s						
WRAB	Tennant Creek	51.20	186	eP	P	23 34 28.7	-4.9
	8.2nm,0.8s						
WR1	Warramunga Arr	51.21	186	eP	P	23 34 31.2	-2.5
	1.4nm,1.0s						
WRA	Warramunga Arr	51.21	186	P	P	23 34 31.2	-2.5
	0.7nm,0.9s,baz=6.2,slow=7.8,SNR=4.0						
ASAR	Alice Springs	54.93	186	P	P	23 35 00.7	-0.5
	0.2nm,0.4s,baz=18,slow=13,SNR=2.7						
ILAR	Eielson Array	55.17	30	P	P	23 35 02.5	0.0
	1.2nm,0.9s,baz=244,slow=5.2,SNR=9.5						
INK	Inuvik	60.19	25	P	P	23 35 37.9	+0.4
	1.0nm,0.6s,baz=299,slow=5.9,SNR=4.4						
YKA	Yellowknife Ar	69.54	28	P	P	23 36 39.6	+1.1
	0.8nm,0.7s,baz=296,slow=6.0,SNR=12						
FIA0	FINESS Array S	73.16	333	eP	P	23 37 01.6	+1.2
FINES	FINESS Array B	73.16	333	P	P	23 37 01.6	+1.2
	1.4nm,0.8s,baz=65,slow=8.0,SNR=3.8						
KBZ	Khabaz	73.49	311	P	P	23 37 03.1	+0.5
	4.2nm,0.9s,baz=332,slow=0.5,SNR=5.1						
AKASG	Malin Array Be	77.88	322	P	P	23 37 27.4	-0.3
	2.9nm,0.9s,baz=52,slow=6.2,SNR=6.9						
NB200	NORSAR Array S	78.85	337	eP	P	23 37 34.4	+1.5
NOA	NORSAR Array B	78.85	337	P	P	23 37 34.4	+1.5
	0.4nm,0.8s,baz=43,slow=5.4,SNR=3.4						
NVAR	Mina Array Bea	79.70	51	P	P	23 37 40.3	+2.0
	0.1nm,0.3s,baz=252,slow=1.8,SNR=2.5						
PDAR	Pinedale Array	82.81	44	P	P	23 37 56.1	+1.5
	0.2nm,0.7s,baz=58,slow=2.2,SNR=2.2						
CLL	Collm	85.26	330	e(P)	P	23 38 09.0	+2.3
TXAR	Lajitas Array	94.85	51	P	P	23 38 53.6	+1.2
	0.5nm,0.7s,baz=260,slow=4.4,SNR=5.7						
LPAZ	La Paz	150.69	66	PKPbc	PKPbc	23 45 21.3	-2.1
	0.8nm,0.8s,baz=315,slow=7.1,SNR=3.4						

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*NIED **07** 23:31:00, 35°.20N×141°.90E, h20km, Mw4.4 Best double couple: Mo4.56000×10^15 NP1:φs228.00000°, δ35.00000°, λ142.00000°. NP2:φs351.00000°, δ69.00000°, λ61.00000°.*

*IDC **07** 23:31:03.3±0.6, 35°.25N×141°.55E, h0km, mb3.9/18, mb1 4.1/23, mb1mx4.0/49, mbtmp3.9/23, ML3.5/5, MS3.4/6, Ms1 3.5/6, ms1mx3.1/33, Error ellipse: s-maj=17.1km s-min=14.9km az=86.0*

*JMA **07** 23:31:04.0±0.3, 35°.17N×141°.86E, h63km±3km, M3.6*

*ISCJB **07** 23:31:04.1±0.3, 35°.15N±0°.04×141°.77E±0°.04, h25km, mb4.0/31, MS3.3/3, Error ellipse: s-maj=5.5km s-min=4.9km az=172.7*

*NEIC **07** 23:31:08.4±0.4, 35°.32N×141°.60E, h35km, mb4.3/5, Error ellipse: s-maj=8.4km s-min=8.0km az=39.0*

*MOS **07** 23:31:10.5±1.1, 35°.76N×141°.49E, h43km, mb4.4/12, Error ellipse: s-maj=11.8km s-min=6.8km az=117.4*

ISC 07 23:31:06.4±0.5**, 35°.22N**±0°.05×**141°.65E**±0°.06**, h25km, n95, σ1.s49**/98**, mb4.2**/38**, MS3.5**/3**, 9C-3D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	Boso 1	0.79	225	P	Pb	23 31 20.9	-0.2
CHOJ	Chosi	0.81	307	P	Pn	23 31 22.0	-0.2
CHOJ				eS	Sn	23 31 35.5	+2.1
BSO3	Boso 3	1.02	247	P	Pn	23 31 25.0	+0.1
JKUC	kamogawauchiur	1.19	268	P	Pn	23 31 27.4	0.0
JIM2	Oshima 3	1.89	255	P	Pn	23 31 36.5	-0.6
JIM2				eS	Sn	23 32 00.5	+0.4
JOD2	Odawara 2	2.10	272	P	Pn	23 31 39.5	-0.5
JOD2				eS	Sb	23 32 06.7	-2.7
JMKN	Mikurajimanish	2.15	233	eS	Sn	23 32 06.8	+0.2
JHJ	Hachijo jima 2	2.60	217	Sn	Sn	23 32 11.5	-6.2
	98nm,0.3s,baz=249,slow=22,SNR=4.4						
JHJ				LR	LR	23 32 58.4	
	comp=Z,261nm,21.7s,baz=216,slow=45						
MJAR	Matsushiro Arr	3.09	296	Pn	Pn	23 31 53.7	+0.1
	5.2nm,0.3s,baz=103,slow=13,SNR=39						
MAJO	Matsushiro	3.10	296	ePn	Pn	23 31 53.2	-0.5
MAJO	Matsushiro	3.10	296	d iP	Pn	23 31 55.1	+1.4
MAT	Matsushiro	3.10	296	P	Pn	23 31 55.1	+1.4
MAT				eS	Sb	23 32 33.9	-4.2
MJB9	Matsu-Tunnel	3.10	296	ePn	Pn	23 31 53.2	-0.5
INU	Inuyama	3.79	273	ePn	Pn	23 32 03.1	-0.2
ERM	Erimo	6.89	9	ePn	Pn	23 32 43.7	-2.1
ERM				eSn	Sn	23 34 00.3	-3.0
ERM	Erimo	6.89	9	⇑eP	Pn	23 32 44.0	-1.7
CBIJ	Chichi jima	8.11	177	Pn	Pn	23 32 59.9	-2.6
CBIJ				Sn	Sn	23 34 26.2	-7.2
JCJ	Chichijima	8.11	177	Pn	Pn	23 32 59.9	-2.6
	5.4nm,0.3s,baz=244,slow=18,SNR=3.0						
JCJ				Sn	Sn	23 34 26.2	-7.2
	13nm,0.3s,baz=288,slow=22,SNR=6.8						
ASAJ	Asahikawa	8.92	4	Pn	Pn	23 33 11.1	-2.5
	3.6nm,0.3s,baz=197,slow=9.1,SNR=15						
ASAJ				Sn	Sn	23 34 49.9	-3.3
	1.2nm,0.3s,baz=138,slow=28,SNR=9.1						
JNU	Nakatsue	9.17	260	Pn	Pn	23 33 17.7	+0.6
	0.2nm,0.3s,baz=337,slow=11,SNR=3.1						
KSRS	Korea Array	11.30	285	Pn	Pn	23 33 48.3	+2.2
	0.2nm,0.3s,baz=99,slow=15,SNR=3.5						
KSRS				LR	LR	23 38 11.2	
	comp=Z,419nm,19.9s,baz=80,slow=38						
KS15	Wonju Array Si	11.33	285	ePn	Pn	23 33 48.3	+1.8
KSAR	Wonju Array Be	11.33	285	Pn	Pn	23 33 48.3	+1.7
KSAR	Wonju Array Be	11.33	285	P	Pn	23 33 48.3	+1.7
USRK	Ussuriysk Ar.	11.65	323	Pn	Pn	23 33 49.4	-1.5
	0.4nm,0.3s,baz=140,slow=13,SNR=9.7						
USRK				LR	LR	23 38 29.7	
	comp=Z,423nm,18.2s,baz=147,slow=39						
YSS	Yuzh-Sakhalins	11.76	4	P	Pn	23 33 50.2	-2.2
KLR	Kul'dur	15.79	336	Pn	Pn	23 34 44.2	-2.7
	0.2nm,0.3s,baz=184,slow=9.2,SNR=4.7						
ZEA	Zeya	21.10	336	eP	P	23 35 48.2	-0.7
ZEA				pmax	pmax		
	comp=Z,15nm,0.8s						
PETK	Petropavlovsk-	21.18	27	LR	LR	23 45 21.6	
	comp=Z,45nm,19.4s,baz=208,slow=40						
MA2	Magadan	25.09	11	⇑eP	P	23 36 30.0	+1.2
MA2				pmax	pmax		
	comp=Z,9.0nm,1.1s						
H11S1	WAKE ISLAND Hy	27.74	120	T	T	00 06 51.4	
	baz=308						
H11S3	WAKE ISLAND Hy	27.74	120	T	T	00 06 27.5	
	baz=308						
H11S2	WAKE ISLAND Hy	27.76	120	T	T	00 06 51.4	
	baz=308						
ULN	Ulaanbaatar	28.57	307	eP	P	23 37 01.8	+1.5
	comp=Z,1.6nm,0.8s						
ULN	Ulaanbaatar	28.57	307	⇑eP	P	23 37 00.7	+0.3
ULN				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SONA0	Songino Array	28.99	307	eP	P	23 37 05.3	+1.1
SONM	Songino Array	28.99	307	P	P	23 37 05.3	+1.1
	comp=Z,1.4nm,0.7s,baz=105,slow=7.8,SNR=9.3						
BOD	Bodaibo	29.18	329	eP	P	23 37 06.4	+0.9
BOD				pmax	pmax		
	comp=Z,11nm,1.5s						
KNGR	Kungurtug, Tuv	35.23	310	⇑eP	P	23 37 58.7	0.0
BILL	Bilibino	35.72	16	⇑eP	P	23 38 03.6	+1.1
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
TIXI	Tiksi	37.11	353	⇑eP	P	23 38 13.7	-0.7
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CMAR	Chiang Mai Arr	41.26	258	P	P	23 38 48.3	-1.4
	comp=Z,0.4nm,0.5s,baz=53,slow=7.8,SNR=4.2						
CMAR				LR	LR	23 59 09.3	
	comp=Z,75nm,18.6s,baz=55,slow=41						
DGZ	Jazzator, Alta	41.63	308	ceP	P	23 38 53.2	+0.6
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZAA1	Zalesovo Array	43.30	314	eP	P	23 39 06.0	+0.1
ZAA1				ePP	PcP	23 40 54.7	+0.3
ZALV	Zalesovo Beam	43.30	314	P	P	23 39 06.0	+0.1
	comp=Z,1.5nm,0.5s,baz=107,slow=7.4,SNR=6.2						
ZALV				PcP	PcP	23 40 54.7	+0.3
	comp=Z,0.6nm,0.4s,baz=116,slow=3.4,SNR=2.8						
NVS	Novosibirsk	44.25	315	eP	P	23 39 14.6	+1.1
MK01	Makanchi Array	45.26	304	eP	P	23 39 21.9	+0.1
MK31	Makanchi Array	45.27	304	eP	P	23 39 20.1	-1.7
MK31	Makanchi Array	45.27	304	eP	P	23 39 20.1	-1.7
MK32	Makanchi Array	45.27	304	eP	P	23 39 21.9	+0.2
MKAR	Makanchi Array	45.27	304	P	P	23 39 21.9	+0.2
	comp=Z,0.9nm,0.7s,baz=87,slow=9.2,SNR=10						
MKAR				LR	LR	00 00 45.8	
	comp=Z,54nm,18.5s,baz=75,slow=40						
MKAR	Makanchi Array	45.27	304	P	P	23 39 22.0	+0.2
KURK	Kurchatov	47.22	309	P	P	23 39 36.3	-0.7
KURK	Kurchatov	47.22	309	⇓eP	P	23 39 38.6	+1.6
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KURBB	Kurchatov Arra	47.29	309	P	P	23 39 36.3	-1.2
	comp=Z,4.3nm,0.8s,baz=85,slow=7.9,SNR=19						
RAMN	Ramite	47.35	276	eP	P	23 39 38.4	-0.3
	comp=Z,18nm,0.7s						
JIRN	Jiri	47.40	277	eP	P	23 39 38.9	-0.3
	comp=Z,24nm,0.8s						
GUN	Gumba	47.55	277	eP	P	23 39 40.2	-0.2
PKIN	Phulchoki	48.08	277	eP	P	23 39 43.7	-0.7
	comp=Z,4.0nm,0.6s						
KKN	Kakani	48.09	278	eP	P	23 39 43.9	-0.5
	comp=Z,15nm,1.0s						
DANN	Dangsing	49.10	279	eP	P	23 39 52.6	+0.4
	comp=Z,16nm,0.8s						
KOLN	Koldanda	49.46	278	eP	P	23 39 55.1	+0.2
	comp=Z,20nm,1.2s						
PYUN	Piuthan	49.82	279	eP	P	23 39 57.5	-0.1
	comp=Z,38nm,1.2s						
ILAR	Eielson Array	50.93	32	P	P	23 40 05.7	+0.4
	comp=Z,0.4nm,0.7s,baz=258,slow=5.4,SNR=5.0						
BRVK	Borovoye	52.01	313	⇑eP	P	23 40 13.9	+0.5
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FITZ	Fitzroy Crossi	55.16	199	P	P	23 40 37.3	+0.5
	comp=Z,5.6nm,1.1s,baz=355,slow=12,SNR=2.4						
WB2	Warramunga Arr	55.29	188	eP	P	23 40 37.6	-0.2
WR1	Warramunga Arr	55.29	188	eP	P	23 40 38.1	+0.3
	comp=Z,8.5nm,1.1s						
WRA	Warramunga Arr	55.29	188	P	P	23 40 38.1	+0.3
	comp=Z,1.2nm,0.5s,baz=4.7,slow=7.8,SNR=20						
ARU	Arti	57.85	319	eP	P	23 40 55.6	-0.1
	comp=Z,7.3nm,1.1s						
ARU	Arti	57.85	319	eP	P	23 40 55.6	-0.1
ARU				pmax	pmax		
	comp=Z,7.0nm,1.1s						
AS31	Alice Springs	59.02	188	eP	P	23 41 05.6	+1.5
	comp=Z,0.8nm,0.8s						
ASAR	Alice Springs	59.02	188	P	P	23 41 05.6	+1.4
	comp=Z,0.7nm,0.7s,baz=16,slow=12,SNR=8.7						
PALK	Pallekele	62.18	259	i P	P	23 41 29.1	+3.0
YKA	Yellowknife Ar	65.28	30	P	P	23 41 45.3	-0.4
	comp=Z,0.1nm,0.4s,baz=295,slow=5.8,SNR=2.6						
FIA0	FINESS Array S	70.51	333	eP	P	23 42 19.9	+1.3
FIA0	FINESS Array S	70.51	333	eP	P	23 42 19.9	+1.3
FINES	FINESS Array B	70.51	333	P	P	23 42 19.9	+1.3
	comp=Z,2.4nm,0.9s,baz=78,slow=7.3,SNR=3.1						
KBZ	Khabaz	72.24	311	P	P	23 42 29.7	+0.3
	comp=Z,3.4nm,1.0s,baz=56,slow=3.6,SNR=3.1						
AKASG	Malin Array Be	75.85	323	P	P	23 42 50.6	+0.3
	comp=Z,1.1nm,0.5s,baz=47,slow=6.1,SNR=8.5						
AKASG	Malin Array Be	75.85	323	ceP	P	23 42 50.5	+0.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKBB	Malin Array Si	75.85	323	eP	P	23 42 50.6	+0.3
	comp=Z,2.5nm,0.8s						
AKBB	Malin Array Si	75.85	323	eP	P	23 42 50.6	+0.3
AKBB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NVAR	Mina Array Bea	75.92	53	P	P	23 42 53.2	+1.9
	comp=Z,0.6nm,0.8s,baz=286,slow=6.1,SNR=3.8						
NV01	Mina Array Sit	75.93	53	eP	P	23 42 51.9	+0.6
NB200	NORSAR Array S	75.94	338	eP	P	23 42 51.1	+0.4
NOA	NORSAR Array B	75.94	338	P	P	23 42 51.1	+0.4
	comp=Z,1.1nm,0.9s,baz=42,slow=5.4,SNR=2.8						
PDAR	Pinedale Array	78.80	45	P	P	23 43 10.5	+3.1
	comp=Z,0.4nm,0.7s,baz=279,slow=2.4,SNR=3.0						
BR101	Keskin Array S	80.20	312	eP	P	23 43 16.0	+1.1
BRTR	Keskin Array B	80.20	312	P	P	23 43 16.0	+1.1
	comp=Z,0.9nm,0.8s,baz=26,slow=10,SNR=3.1						
CLL	Collm	82.77	330	eP	P	23 43 28.0	-0.1
CLL	Collm	82.77	330	eP	P	23 43 28.0	-0.1
GERES	GERESS Array B	84.36	328	P	P	23 43 35.7	-0.7
	comp=Z,0.4nm,0.5s,baz=38,slow=5.0,SNR=4.7						
ANMO	Albuquerque	85.61	50	⇓eP	P	23 43 50.6	+7.5
ANMO				pmax	pmax		
	comp=Z,6.0nm,1.7s						
LPAZ	La Paz	147.41	62	PKPbc	PKPbc	23 50 49.6	+0.3
	comp=Z,0.9nm,0.6s,baz=26,slow=9.7,SNR=5.1						

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*IDC **07** 23:38:53.6±5.8, 8°.29S×118°.37E, h87km±58km, mb3.0/2, mb1 3.4/5, mb1mx3.2/31, mbtmp3.6/5, ML3.7/3, MS3.8/1, Ms1 3.8/1, ms1mx2.6/14, Error ellipse: s-maj=59.7km s-min=31.4km az=56.0*

*ISCJB **07** 23:38:58.3±0.5, 8°.78S±0°.07×118°.34E±0°.04, h150km, mb3.1/1, Error ellipse: s-maj=10.5km s-min=5.4km az=15.5*

*DJA **07** 23:39:00.8±0.3, 9°S±6°×11°8E±°, h102km±5km, M4.1/12, mb4.0/2, MLv4.2/12*

ISC 07 23:38:58.5±0.9**, 8°.77S**±0°.07×**118°.34E**±0°.05**, h150km, n19, σ2.s13**/23**, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	0.56	264	P	Pn	23 39 19.3	-0.9
PLAI				S	Sn	23 39 31.8	-4.8
WSI	Waingapu	2.13	115	P	Pn	23 39 36.2	+1.0
BASI	Baing, Sumba	2.63	123	P	Pn	23 39 41.1	-0.2
DNP	Denpasar	3.10	271	P	Pn	23 39 47.7	+0.6
IGBI	Denpasar	3.16	269	P	Pn	23 39 48.8	+0.9
IGBI				S	Sn	23 40 26.6	+0.5
SRBI	Singaraja	3.17	282	P	Pn	23 39 49.5	+1.5
EDFI	Ende, Flores	3.31	90	P	Pn	23 39 50.9	+0.9
BKSI	Bulukumba	3.86	27	P	Pn	23 39 56.0	-0.9
JAGI	Jajag, Banyuwa	4.15	274	P	Pn	23 40 00.7	-0.1
SPSI	Sidrap Palu	4.98	17	P	Pn	23 40 12.8	+1.1
BATI	Baumata	5.44	106	P	Pn	23 40 15.6	-2.3
	8.2nm,0.3s,baz=329,slow=5.9,SNR=7.6						
BATI				S	Sn	23 41 16.2	-3.6
	7.2nm,0.3s,baz=256,slow=4.2,SNR=2.8						
BATI	Baumata	5.44	106	P	Pn	23 40 18.9	+1.1
SOEI	Soe	5.93	100	P	Pn	23 40 27.0	+2.5
	42nm,1.3s,0.3nm						
PWJI	Pagerwojo	6.51	276	P	Pn	23 40 33.7	+1.6
FITZ	Fitzroy Crossi	11.67	143	P	Pn	23 41 40.9	+0.3
	0.2nm,0.3s,baz=336,slow=14,SNR=4.8						
FITZ				S	Sn	23 43 46.4	-3.3
	0.6nm,0.3s,baz=181,slow=19,SNR=10						
WRA	Warramunga Arr	19.05	127	P	Pn	23 43 12.0	+0.3
	0.2nm,0.3s,baz=303,slow=12,SNR=9.9						
WRA				S	S	23 46 39.4	+1.7
	0.1nm,0.3s,baz=304,slow=25,SNR=3.5						
ASAR	Alice Springs	21.01	137	P	P	23 43 34.3	+3.9
	0.8nm,0.5s,baz=309,slow=9.5,SNR=15						
CTA	Charters Tower	29.23	116	LR	LR	23 57 16.3	
	comp=Z,200nm,21.9s,baz=48,slow=38						
MKAR	Makanchi Array	63.96	333	P	P	23 49 14.7	-1.0
	0.1nm,0.3s,baz=144,slow=6.5,SNR=3.2						

UCR 07 23:50:39.4±2.4, 8.39N×82.79W, h24km±4km, MD3.5, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	Volcan	0.41	13	eP	Pb	23 50 48.4	+0.2
BRU2				eS	Sn	23 50 55.9	-1.0
EDSV	San Vito	0.46	337	eP	Pb	23 50 49.4	+0.3
EDSV				eS	Sn	23 50 58.3	+0.1
PTJ1	Puerto Jimnez	0.53	285	eP	Pb	23 50 49.3	-0.8
PTJ1				eS	Sb	23 50 57.5	+0.1
EDPN	Palmar Norte	0.87	310	eP	Pb	23 50 54.6	-1.3
EDPN				eS	Sb	23 51 06.8	-0.3
EDBA	Buenos Aires	0.90	328	eP	Pb	23 50 55.7	-0.7
DRK0	Durika	0.97	332	eP	Pn	23 50 56.2	-1.5
DRK0				eS	Sb	23 51 10.6	+0.2
EDLM	Las Mercedes	1.18	318	eP	Pn	23 50 59.0	-1.5
EDDO	Dominical	1.36	309	eP	Pn	23 51 02.2	-0.7
EDDO				eS	Sb	23 51 21.8	+0.5
URSC	Urasca	1.73	326	eP	Pn	23 51 07.8	-0.4
LCR2	La Lucha 2	1.80	318	eP	Pn	23 51 08.0	-1.2
LCR2				eS	Sb	23 51 33.6	-0.5
HDC	Heredia	2.07	321	eP	Pn	23 51 12.5	-0.2
HDC				eS	Sb	23 51 40.3	-1.3
PNME	Penonome	2.44	88	eP	Pn	23 51 17.7	0.0
PNME				eS	Sn	23 51 47.8	+1.1
AZU	Azuero	2.56	103	eP	Pn	23 51 20.6	+1.2
AZU				eS	Sn	23 51 48.7	-1.0
ARE1	Arenal 1	2.80	317	eP	Pn	23 51 24.2	+1.4
JTS	JuntasAbangare	2.85	312	eP	Pn	23 51 23.6	+0.2
JTS				eS	Sn	23 51 56.7	-0.3
ZANG	Zanguenga, Cho	2.94	79	eP	Pn	23 51 25.5	+0.9
BCIP	Isla Barro Col	3.01	75	eP	Pn	23 51 26.2	+0.6
BCIP				eS	Sn	23 51 58.8	-2.2

*NIED **07** 23:55:00, 35.20N×141.90E, h14km, Mw4.6 Best double couple: M0 1.00000×10^16 NP1:φs199.00000°, δ39.00000°, λ96.00000°. NP2:φs11.00000°, δ52.00000°, λ85.00000°.*
*BJI **07** 23:55:17.3, 35.18N×141.83E, h8km, mb4.4/38, mB4.8/27, Ms4.5/33, Ms7 4.4/29*
*IDC **07** 23:55:19.7±0.6, 35.18N×141.59E, h0km, mb4.1/20, mb1 4.3/27, mb1mx4.2/39, mbtmp4.1/27, ML3.8/5, MS4.0/24, Ms1 4.0/24, ms1mx3.8/45, Error ellipse: s-maj=15.5km s-min=13.9km az=101.0*
*JMA **07** 23:55:20.4±0.3, 35.17N×141.90E, h59km±4km, M3.8*
*ISCJB **07** 23:55:21.3±0.3, 35.23N±0.03×141.81E±0.04, h29km, mb4.3/60, MS4.2/29, Error ellipse: s-maj=5.4km s-min=3.9km az=45.0*
*MOS **07** 23:55:22.6±1.2, 35.31N×141.78E, h33km, mb4.8/26, Error ellipse: s-maj=9.2km s-min=5.1km az=113.0*
*NEIC **07** 23:55:23.0±2.2, 35.19N×141.62E, h21km±14km, mb4.5/17, Error ellipse: s-maj=9.3km s-min=7.0km az=138.0*
ISC 07 23:55:23.3±0.4, 35.17N±0.04×141.81E±0.04, h29km, n175, σ2.04/191, mb4.5/70, MS4.2/29, 11C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.86	233	P	Pn	23 55 37.5	-1.4
CHOJ	Chosi	0.94	304	P	Pn	23 55 38.7	-1.8
CHOJ				eS	Sn	23 55 52.0	-1.0
BSO3	Boso 3	1.13	251	P	Pn	23 55 41.7	-1.2
JSMT	Sammumatsuo	1.21	293	P	Pn	23 55 42.8	-1.4
BSO4	Boso 4	1.22	262	P	Pn	23 55 43.4	-0.9
BSO4				eS	Sn	23 56 00.0	+0.1
JKUC	kamogawauchiur	1.32	270	P	Pn	23 55 44.1	-1.7
JIM2	Oshima 3	2.01	258	P	Pn	23 55 52.5	-2.8
JIM2				eS	Sn	23 56 17.7	-1.7
JHJ	Hachijo jima 2	2.65	220	Pn	Pn	23 56 03.2	-0.8
	64nm,0.3s,baz=252,slow=24,SNR=2.3						
JHJ				Sn	Sn	23 56 32.2	-3.1
	192nm,0.3s,baz=1.3,slow=19,SNR=7.9						
MJAR	Matsushiro Arr	3.23	296	Pn	Pn	23 56 11.0	-1.0
	5.0nm,0.3s,baz=99,slow=11,SNR=51						
MJAR				Sn	Sn	23 56 45.8	-3.8
	4.1nm,0.3s,baz=129,slow=49,SNR=4.4						
MJAR				LR	LR	23 57 33.9	
	comp=Z,2µm,20.9s,baz=115,slow=44						
MAJO	Matsushiro	3.23	296	ePn	Pn	23 56 11.7	-0.3
MAJO	Matsushiro	3.23	296c	iP	Pn	23 56 11.4	-0.7
MAT	Matsushiro	3.23	296	P	Pn	23 56 11.5	-0.6
MAT				S	Sb	23 56 53.8	-5.1
MJB9	Matsu-Tunnel	3.24	296	ePn	Pn	23 56 12.0	-0.1
INU	Inuyama	3.93	274	ePn	Pn	23 56 21.7	+0.1
ERM	Erimo	6.91	8	ePn	Pn	23 57 01.0	-1.5
ERM				eS	Sn	23 58 18.6	-1.6
ERM	Erimo	6.91	8⇑	eP	Pn	23 57 01.3	-1.2
JCJ	Chichijima	8.06	178	Pn	Pn	23 57 16.9	-1.5
	14nm,0.3s,baz=102,slow=23,SNR=6.7						
JCJ				Sn	Sn	23 58 43.0	-5.5
	15nm,0.3s,baz=80,slow=23,SNR=7.6						
ASAJ	Asahikawa	8.95	4	Pn	Pn	23 57 29.1	-1.4
	4.2nm,0.3s,baz=228,slow=11,SNR=14						
ASAJ				Sn	Sn	23 59 05.4	-4.9
	0.9nm,0.3s,baz=86,slow=28,SNR=3.7						
ASAJ				LR	LR	00 01 46.3	
	comp=Z,1µm,19.8s,baz=182,slow=43						
ASAJ	Asahikawa	8.95	4	Pn	Pn	23 57 29.1	-1.4
ASAJ				eSn	Sn	23 59 09.4	-0.9
JNU	Nakatsue	9.29	260	Pn	Pn	23 57 34.3	-1.0
	0.4nm,0.3s,baz=78,slow=9.0,SNR=5.8						
JNU				LR	LR	00 01 33.0	
	comp=Z,738nm,19.3s,baz=58,slow=41						
YUK	Yuzh-Kuril'sk	9.38	18	P	Pn	23 57 35.3	-1.1
YUK				eS	Sn	23 59 16.2	-4.7
YUK				pmax	pmax		
	comp=Z,76nm,1.2s						
YUK				pmax	pmax		
	comp=N,40nm,0.6s						
YUK				pmax	pmax		
	comp=E,30nm,0.6s						
YUK				MLR	MLR		
	comp=Z,844nm,16.0s						
SHO	Shikotan	9.51	23	P	Pn	23 57 36.1	-2.0
SHO				eS	Sn	23 59 17.6	-6.4
SHO				pmax	pmax		
	comp=Z,19nm,0.6s						
SHO				MLR	MLR		
	comp=N,660nm,17.0s						
SHO				MLR	MLR		
	comp=Z,563nm,17.0s						
SHO				MLR	MLR		
	comp=E,423nm,13.0s						
VLA	Vladivostok	11.05	319c	eP	Pn	23 57 59.4	+0.1
KUR	Kuril'sk	11.06	23	P	Pn	23 57 58.4	-0.9
KUR				S	Sn	23 59 57.2	-4.7
KUR				pmax	pmax		
	comp=Z,63nm,0.8s						
MSHR	Mys Shultsa	11.11	315⇓	eP	Pn	23 57 59.7	-0.4
KSRS	Korea Array	11.44	286	Pn	Pn	23 58 06.7	+2.1
	comp=Z,0.3nm,0.3s,baz=104,slow=15,SNR=6.9						
KSRS				LR	LR	00 02 47.3	
	comp=Z,2µm,18.6s,baz=90,slow=40						
KSRS	Korea Array	11.44	286	P	Pn	23 58 06.7	+2.1
KSRS				MLR	MLR		
	comp=Z,2µm,18.6s						
KSAR	Wonju Array Be	11.46	285	Pn	Pn	23 58 06.7	+1.7
KSAR	Wonju Array Be	11.46	285	P	Pn	23 58 06.7	+1.7
USA0B	Ussuriysk Arra	11.76	323	ePn	Pn	23 58 08.6	-0.4
USRK	Ussuriysk Ar.	11.76	323	Pn	Pn	23 58 08.6	-0.4
	comp=Z,0.4nm,0.3s,baz=132,slow=12,SNR=19						
USRK				LR	LR	00 02 46.1	
	comp=Z,1µm,18.8s,baz=129,slow=38						
YSS	Yuzh-Sakhalins	11.79	3⇑	eP	Pn	23 58 08.0	-1.4
YSS				eS	Sn	00 00 12.5	-7.4
YSS				MLR	MLR		
	comp=Z,900nm,13.0s						
YSS				MLR	MLR		
	comp=N,1µm,17.0s						
MDJ	Mudanjiang	13.29	319	P	Pn	23 58 30.0	+0.1
MDJ				pmax	pmax		
	comp=N,3.0nm,0.5s						
MDJ				pmax	pmax		
	comp=N,320nm,3.6s						
KLR	Kul'dur	15.88	335	Pn	Pn	23 59 02.3	-2.3
	comp=N,0.1nm,0.3s,baz=159,slow=8.7,SNR=4.5						
KLR	Kul'dur	15.88	335⇑	eP	Pn	23 59 05.6	+1.0
SSE	Sheshan	17.74	263	P	P	23 59 28.6	-0.2
SSE				pmax	pmax		
	comp=N,32nm,0.7s						
SSE				pmax	pmax		
	comp=N,85nm,3.6s						
SSE				LR	LR		
	comp=N,240nm,23.3s						
SSE				LR	LR		
	comp=N,710nm,15.1s						
NJ2	Nanjing	19.37	267	eP	P	23 59 45.9	-0.7
NJ2				pmax	pmax		
	comp=N,16nm,0.5s						
NJ2				LR	LR		
	comp=N,640nm,18.8s						
NJ2				LR	LR		
	comp=N,730nm,15.7s						
NJ2				LR	LR		
	comp=N,1µm,16.3s						
BJT	Baijiatuau	20.86	291	eP	P	23 59 59.8	-3.0
	comp=N,1.0nm,0.4s						
BJT	Baijiatuau	20.86	291	eP	P	23 59 59.8	-3.0
BJT				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PETK	Petropavlovsk-	21.16	27	LR	LR	00 09 00.8	
	comp=Z,125nm,20.7s,baz=213,slow=39						
ZEA	Zeya	21.20	336	eP	P	00 00 03.6	-2.7
ZEA				eS	Sn	00 04 06.0	-1.9
ZEA				pmax	pmax		
	comp=Z,23nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,700nm,16.0s						
ZEA				MLR	MLR		
	comp=E,500nm,13.0s						
ZEA				MLR	MLR		
	comp=N,500nm,14.0s						
HIA	Hailar	21.47	318	eP	P	00 00 09.0	-0.3
HIA	Hailar	21.47	318	eP	P	00 00 09.0	-0.3
WHN	Wuhan	23.49	266	eP	P	00 00 32.0	+1.4
WHN				LR	LR		
	comp=N,1µm,13.3s						
WHN				LR	LR		
	comp=N,3µm,18.1s						
WHN				LR	LR		
	comp=N,2µm,16.3s						
HHC	Hu-ho-hao-te	24.43	292	eP	P	00 00 39.3	-0.1
HHC				S	S	00 04 54.6	-3.0
HHC				SS	SnSn	00 05 48.0	+5.6
HHC				pmax	pmax		
	comp=N,15nm,1.1s						
HHC				pmax	pmax		
	comp=N,86nm,5.2s						
HHC				LR	LR		
	comp=N,550nm,14.5s						
HHC				LR	LR		
	comp=N,280nm,13.3s						
HHC				LR	LR		
	comp=N,600nm,14.5s						
MA2	Magadan	25.11	11	P	P	00 00 45.0	-0.3
	comp=N,7.0nm,0.7s,baz=202,slow=11,SNR=5.3						
MA2	Magadan	25.11	11⇓	eP	P	00 00 46.5	+1.2
MA2				pmax	pmax		
	comp=Z,7.0nm,0.7s						
XAN	Xi'an	27.03	277	P	P	00 01 12.2	+9.2
XAN				pP	pwP	00 01 20.2	+5.1
XAN				PP	PP	00 02 07.8	+3.5
XAN				S	S	00 06 10.3	+31
XAN				SS	ScP	00 07 54.3	-7.7
XAN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
XAN				pmax	pmax		
	comp=Z,82nm,5.5s						
XAN				LR	LR		
	comp=N,680nm,13.4s						
XAN				LR	LR		
	comp=E,650nm,14.4s						
XAN				LR	LR		
	comp=Z,940nm,14.4s						
H11S1	WAKE ISLAND Hy	27.61	120	T	T	00 30 26.8	
	baz=311						
H11S3	WAKE ISLAND Hy	27.61	121	T	T	00 30 22.0	
	baz=311						
H11S2	WAKE ISLAND Hy	27.62	121	T	T	00 30 22.5	
	baz=311						
YAK	Yakutsk	27.95	348	eP	P	00 01 08.9	-1.9
YAK				e*PP	pP	00 01 15.7	-2.2
YAK				e		00 01 53.3	
YAK				e		00 04 21.6	
YAK				eS	S	00 05 49.8	-2.9
YAK				e*SS	pS	00 06 01.8	+1.1
YAK				e		00 11 54.8	
YAK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,93nm,3.5s						
YAK				pmax	pmax		
	comp=E,24nm,1.8s						
YAK				pmax	pmax		
	comp=N,81nm,3.6s						
YAK				smax	smax		
	comp=N,65nm,3.5s						
YAK				pmax	pmax		
	comp=N,204nm,20.0s						
YAK				MLR	MLR		
	comp=Z,268nm,17.0s						
YAK				MLR	MLR		
	comp=N,146nm,15.0s						
YAK				MLR	MLR		
	comp=E,253nm,16.0s						
ULN	Ulaanbaatar	28.70	307	eP	P	00 01 17.3	-0.6
	comp=E,7.1nm,1.1s						
ULN	Ulaanbaatar	28.70	307⇑	eP	P	00 01 18.1	+0.2
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONA1	Songino Array	29.12	307	eP	P	00 01 21.6	0.0
SONM	Songino Array	29.12	307	P	P	00 01 21.5	-0.2
	comp=Z,7.3nm,1.1s,baz=109,slow=8.1,SNR=23						
SONM				LR	LR	00 14 22.2	
	comp=Z,301nm,19.5s,baz=92,slow=39						
BOD	Bodaibo	29.28	329	eP	P	00 01 22.4	-0.3
BOD				pmax	pmax		
	comp=Z,25nm,1.6s						
LZH	Lanzhou	30.75	283	eP	P	00 01 35.1	-1.1
LZH				pP	pP	00 01 40.5	-3.1
LZH				sP	sP	00 01 44.4	-1.9
LZH				eS	S	00 06 44.5	+6.9
LZH				SS	SnSn	00 08 16.6	-0.3
LZH				pmax	pmax		
	comp=Z,24nm,1.1s						
LZH				pmax	pmax		
	comp=Z,170nm,5.7s						
LZH				LR	LR		
	comp=Z,660nm,13.6s						
LZH				LR	LR		
	comp=Z,1µm,14.6s						
LZH				LR	LR		
	comp=Z,1µm,16.5s						
ZAK	Zakamensk	31.70	311	eP	P	00 01 43.6	-0.7
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
CD2	Chengdu	32.05	273	eP	P	00 01 45.8	-1.8
MOY	Mondy	33.41	312	eP	P	00 01 59.5	+0.2
GTA	Gaotai	33.46	290	⇑P	P	00 02 00.2	+0.3
GTA				pP	pP	00 02 05.6	-1.7
GTA				sP	sP	00 02 08.8	-1.3
GTA				S	S	00 07 19.5	-0.2
GTA				sS	pS	00 07 28.7	-0.1
GTA				SS	SnSn	00 09 22.4	-0.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,59nm,6.8s						
GTA				LR	LR		
	comp=Z,310nm,15.2s						
GTA				LR	LR		
	comp=Z,320nm,18.4s						
GTA				LR	LR		
	comp=Z,450nm,18.1s						
KMI	Kunming	35.05	264	P	P	00 02 13.0	-0.9
KMI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KMI				LR	LR		
	comp=Z,580nm,15.1s						
KMI				LR	LR		
	comp=Z,710nm,15.4s						
KMI				LR	LR		
	comp=Z,930nm,14.8s						
KNGR	Kungurtug, Tuv	35.35	310⇓	eP	P	00 02 16.4	+0.3
BILL	Bilibino	35.72	15⇓	eP	P	00 02 19.4	+0.5
BILL				pmax	pmax		
	comp=Z,2.0nm,1.3s						
TIXI	Tiksi	37.17	353⇓	iP	P	00 02 31.4	+0.2
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CHAI	Chaiyaphum	40.40	252	P	P	00 02 58.1	-0.9
	comp=Z,4.1nm,1.0s						
PBKT	Sadao Pong	40.81	254	eP	P	00 03 01.0	-1.3
	comp=Z,6.5nm,1.0s						
PBKT	Sadao Pong	40.81	254	P	P	00 03 01.2	-1.1
CMAR	Chiang Mai Arr	41.38	258	P	P	00 03 05.0	-2.0
	comp=Z,1.1nm,0.6s,baz=46,slow=7.0,SNR=8.5						
CMAR				LR	LR	00 20 41.1	
	comp=Z,101nm,18.4s,baz=51,slow=37						
SRAK	Srakaew	41.48	250	P	P	00 03 03.7	-4.2
	comp=Z,32nm,0.9s						
DGZ	Jazzator, Alta	41.76	308c	eP	P	00 03 10.2	+0.2
DGZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WMQ	Urumqi	41.99	299	P	P	00 03 13.0	+1.1
WMQ				pP	pP	00 03 16.9	-2.2
WMQ				sP	pwP	00 03 22.5	-2.7
WMQ				pmax	pmax		
	comp=Z,16nm,1.7s						
WMQ				pmax	pmax		
	comp=Z,270nm,5.3s						
WMQ				LR	LR		
	comp=Z,440nm,23.1s						
WMQ				LR	LR		
	comp=Z,190nm,18.9s						
WMQ				LR	LR		
	comp=Z,210nm,21.1s						
ZAA0	Zalesovo Array	43.42	314	eP	P	00 03 22.8	-0.4
	comp=Z,2.5nm,0.6s						
ZALV	Zalesovo Beam	43.42	314	P	P	00 03 22.9	-0.3
	comp=Z,2.5nm,0.5s,baz=95,slow=7.3,SNR=9.7						
ZALV				PcP	PcP	00 05 11.5	+0.4
	comp=Z,1.1nm,0.6s,baz=88,slow=2.2,SNR=3.0						
ZALV				LR	LR	00 20 37.9	
	comp=Z,101nm,18.3s,baz=70,slow=35						
PHET	Kaeng Krachan	44.01	250	P	P	00 03 28.3	-0.1
	comp=Z,5.0nm,0.9s						
NVS	Novosibirsk	44.37	315	eP	P	00 03 29.7	-1.1
NVS				e		00 03 41.7	
NVS				pmax	pmax		
	comp=Z,10.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.6s						
MK01	Makanchi Array	45.40	304	eP	P	00 03 38.6	-0.6
MK31	Makanchi Array	45.40	304	eP	P	00 03 39.0	-0.2
MK31	Makanchi Array	45.40	304	eP	P	00 03 39.0	-0.2
MKAR	Makanchi Array	45.40	304	P	P	00 03 39.0	-0.2
	comp=E,1.9nm,0.7s,baz=85,slow=9.3,SNR=14						
MKAR				LR	LR	00 25 02.7	
	comp=E,137nm,18.5s,baz=84,slow=39						
MKAR	Makanchi Array	45.40	304	eP	P	00 03 39.0	-0.2
	comp=E,16nm,0.8s						
MKAR	Makanchi Array	45.40	304	eP	P	00 03 39.0	-0.2
MKAR				pmax	pmax		
	comp=Z,16nm,0.8s						
MAKZ	Makanchi	45.61	304	eP	P	00 03 40.4	-0.4
	comp=Z,2.2nm,0.9s						
MAKZ	Makanchi	45.61	304	eP	P	00 03 40.4	-0.4
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KRAB	Krabi	47.30	246	P	P	00 03 42.0	-12
KURK	Kurchatov	47.35	310	eP	P	00 03 53.1	-1.2
	comp=Z,14nm,0.8s						
KURK	Kurchatov	47.35	310c	eP	P	00 03 53.3	-1.0
KURK				pmax	pmax		
	comp=Z,13nm,1.0s						
RAMN	Ramite	47.49	276	eP	P	00 03 55.1	-1.0
	comp=Z,36nm,0.7s						
JIRN	Jiri	47.54	277	eP	P	00 03 56.1	-0.5
	comp=Z,72nm,1.0s						
GUN	Gumba	47.69	278	eP	P	00 03 57.0	-0.8
	comp=Z,16nm,0.7s						
PKIN	Phulchoki	48.22	277	eP	P	00 04 00.5	-1.2
	comp=Z,7.9nm,0.7s						
KKN	Kakani	48.23	278	eP	P	00 04 01.0	-0.7
	comp=Z,17nm,1.0s						
DMN	Daman	48.44	278	eP	P	00 04 02.6	-0.8
DANN	Dangsing	49.23	279	eP	P	00 04 09.3	-0.3
	comp=Z,41nm,0.9s						
KOLN	Koldanda	49.60	278	eP	P	00 04 11.7	-0.6
	comp=Z,57nm,1.5s						
PYUN	Piuthan	49.96	279	eP	P	00 04 14.5	-0.5
	comp=Z,78nm,1.2s						
ILAR	Eielson Array	50.90	32	P	P	00 04 22.6	+1.2
	comp=Z,1.0nm,1.0s,baz=268,slow=6.6,SNR=6.2						
KSH	Kashi	51.48	296	P	P	00 04 30.1	+3.9
KSH				sP	pwP	00 04 40.4	+0.9
KSH				PcP	PcP	00 05 44.4	+4.1
KSH				PP	PP	00 06 27.0	+3.6
KSH				PcS	PcS	00 09 42.2	+4.0
KSH				S	S	00 11 49.6	+5.0
KSH				sS	sS	00 12 00.0	+2.2
KSH				pmax	pmax		
	comp=Z,12nm,1.1s						
KSH				pmax	pmax		
	comp=Z,280nm,6.9s						
KSH				LR	LR		
	comp=Z,190nm,9.6s						
KSH				LR	LR		
	comp=Z,170nm,7.0s						
KSH				LR	LR		
	comp=Z,520nm,15.2s						
BRVK	Borovoye	52.13	314⇑	eP	P	00 04 31.4	+0.7
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KK31	Karatay Array	54.35	301	eP	P	00 04 46.8	-0.5
KK31	Karatay Array	54.35	301	eP	P	00 04 46.8	-0.5
KKAR	Karatay Array	54.35	301	eP	P	00 04 46.6	-0.6
KKAR	Karatay Array	54.35	301	eP	P	00 04 46.6	-0.6
WRAB	Tennant Creek	55.26	189	eP	P	00 04 52.8	-1.1
WRAB	Tennant Creek	55.26	189⇑	eP	P	00 04 54.2	+0.3
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WB2	Warramunga Arr	55.27	189	eP	P	00 04 53.8	-0.2
WRA	Warramunga Arr	55.27	189	P	P	00 04 53.8	-0.2
	comp=Z,2.3nm,0.5s,baz=5.0,slow=7.8,SNR=27						
WRA	Warramunga Arr	55.27	189	i P	P	00 04 53.7	-0.2
WRA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NIL	Nilore	55.52	290	eP	P	00 04 55.5	-0.4
NIL	Nilore	55.52	290	eP	P	00 04 55.5	-0.4
INK	Inuvik	55.90	27	P	P	00 04 59.7	+1.8
	comp=Z,1.1nm,0.9s,baz=211,slow=5.9,SNR=2.4						

SVE	Sverdlovsk	56.76	319	*e*P	P	00 05 05.0	+0.7
ARU	Arti	57.97	319	*e*P	P	00 05 12.4	-0.4
	comp=Z,14nm,1.1s						
ARU	Arti	57.97	319	*d i*P	P	00 05 13.0	+0.2
ARU						00 07 18.7	
ARU				S	S	00 13 15.3	+4.2
ARU				SS	SS	00 17 07.0	+5.2
ARU				pmax	pmax		
	comp=Z,15nm,1.1s						
ASAR	Alice Springs	59.00	188	P	P	00 05 21.5	+1.2
	comp=Z,0.8nm,0.7s,baz=17,slow=12,SNR=9.4						
ABKAR	Akbulak array	59.39	311	*e*P	P	00 05 21.8	-1.0
DZM	Mont Dzumac	61.54	154	*e*LR	LR	00 24 09.5	
	comp=Z,142nm,21.2s						
GEYT	Alibeck	65.03	300	P	P	00 06 00.5	-0.4
	comp=Z,7.1nm,0.6s,baz=3.9,slow=6.5,SNR=5.4						
GEYT				LR	LR	00 37 15.6	
	comp=Z,150nm,18.0s,baz=35,slow=39						
YKA	Yellowknife Ar	65.25	30	P	P	00 06 03.7	+1.9
	comp=Z,0.4nm,0.8s,baz=301,slow=6.7,SNR=4.4						
STKA	Stephens Creek	66.70	180	LR	LR	00 37 11.7	
	comp=Z,55nm,18.1s,baz=25,slow=38						
VRH	Novokhopyorsk	69.18	318	*e*P	P	00 06 25.6	-1.3
VRH				pmax	pmax		
	comp=Z,9.0nm,0.9s						
OBN	Obninsk	69.78	324	⇓*e*P	P	00 06 30.5	0.0
OBN				pmax	pmax		
	comp=Z,18nm,1.6s						
LPSR	Galich'ya Gora	69.94	321	*e*P	P	00 06 31.4	-0.1
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VSR	Storozhevoye	70.55	319	*d i*P	P	00 06 35.0	-0.3
VSR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
FINES	FINESS Array B	70.61	333	P	P	00 06 35.7	+0.2
	comp=Z,2.6nm,0.9s,baz=99,slow=6.0,SNR=5.0						
FINES				LR	LR	00 41 10.2	
	comp=Z,223nm,18.1s,baz=38,slow=39						
FINES	FINESS Array B	70.61	333	*i* P	P	00 06 36.2	+0.7
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBZ	Khabaz	72.36	311	P	P	00 06 47.1	+0.7
	comp=Z,3.4nm,1.0s,baz=270,slow=20,SNR=3.2						
RAO	Raoul Island	74.49	144	LR	LR	00 31 26.6	
	comp=Z,244nm,21.9s,baz=276,slow=29						
NVAR	Mina Array Bea	75.84	53	P	P	00 07 09.8	+2.7
	comp=Z,0.7nm,0.8s,baz=286,slow=6.4,SNR=4.6						
AKASG	Malin Array Be	75.97	323	P	P	00 07 07.1	-0.2
	comp=Z,3.4nm,0.6s,baz=47,slow=6.0,SNR=17						
AKASG				LR	LR	00 43 54.8	
	comp=Z,276nm,18.1s,baz=30,slow=38						
AKBB	Malin Array Si	75.97	323	*e*P	P	00 07 07.0	-0.3
	comp=Z,6.0nm,0.8s						
AKBB	Malin Array Si	75.97	323	*e*P	P	00 07 07.0	-0.3
AKBB				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KIEV	Kiev	75.98	323	*e*P	P	00 07 06.6	-0.7
	comp=Z,5.9nm,0.8s						
KIEV	Kiev	75.98	323	*e*P	P	00 07 06.6	-0.7
KIEV				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AK11	Malin Array Si	76.01	323	*e*P	P	00 07 06.7	-0.8
NB2	NORSAR Subarra	76.02	338	P	P	00 07 07.7	+0.2
	comp=Z,1.0nm,0.7s,baz=41,slow=5.9						
NOA	NORSAR Array B	76.02	338	P	P	00 07 07.9	+0.4
	comp=Z,3.0nm,1.0s,baz=40,slow=5.7,SNR=6.2						
NOA				LR	LR	00 44 00.4	
	comp=Z,188nm,19.3s,baz=35,slow=38						
PDAR	Pinedale Array	78.74	45	P	P	00 07 25.3	+2.0
	comp=Z,0.5nm,0.8s,baz=270,slow=4.5,SNR=2.3						
RAR	Rarotonga	78.81	126	LR	LR	00 41 11.6	
	comp=Z,40nm,19.2s,baz=278,slow=35						
BORG	Borgarnes	79.53	353	LR	LR	00 44 29.8	
	comp=Z,66nm,19.7s,baz=335,slow=37						
BUR04	Bucovina Ar. S	79.97	322	*e*P	P	00 07 30.2	+0.4
URZ	Urewera	80.05	152	LR	LR	00 38 39.5	
	comp=Z,77nm,20.8s,baz=323,slow=32						
BRTR	Keskin Array B	80.33	312	P	P	00 07 32.2	+0.4
	comp=Z,1.6nm,0.8s,baz=90,slow=2.9,SNR=6.4						
BRTR				LR	LR	00 49 02.4	
	comp=Z,40nm,18.1s,baz=64,slow=40						
UZH	Uzhgorod	80.72	324	*e*P	P	00 07 33.4	-0.2
UZH				*e*		00 07 39.3	
OJC	Ojcow	80.76	327	*e*P	P	00 07 34.5	+0.7
	comp=Z,2.4nm,0.8s						
OJC	Ojcow	80.76	327	*e*P	P	00 07 34.5	+0.7
OJC				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MLR	Muntele Rosu	81.01	320	LR	LR	00 47 31.4	
	comp=Z,160nm,18.3s,baz=57,slow=39						
RAYN	Ar Rayn	81.67	293	*e*P	P	00 07 38.7	-0.5
	comp=Z,5.0nm,0.8s						
RAYN	Ar Rayn	81.67	293	*e*P	P	00 07 38.7	-0.5
RAYN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PV10	Paradox Valley	81.76	49	*e*P	P	00 07 43.6	+3.9
PV14	Lion Creek, Pa	81.77	49	*e*P	P	00 07 43.4	+3.6
	comp=Z,3.9nm,0.7s						
JAVC	Velka Javorina	82.71	327	*e*P	P	00 07 46.1	+1.9
VRAC	Vranov	82.86	327	LR	LR	00 46 19.8	
	comp=Z,113nm,19.3s,baz=27,slow=37						
VRAC	Vranov	82.86	327	*e*P	P	00 07 45.6	+0.7
CLL	Collm	82.87	330	*e*P	P	00 07 45.4	+0.5
	comp=Z,4.9nm,0.9s						
CLL	Collm	82.87	330	*i* P	P	00 07 44.9	0.0
	comp=Z,4.0nm,0.9s						
CLL				*e*sP	sP	00 07 56.0	+0.8
CLL	Collm	82.87	330	*i* P	P	00 07 44.9	0.0
CLL				*e*		00 07 56.0	
CLL				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KRUC	Moravsky	83.13	327	*e*P	P	00 07 46.1	-0.2
PPT	Papeete	83.51	117	LR	LR	00 38 53.0	
	comp=Z,52nm,19.6s,baz=232,slow=31						
PPT2	Papeete2	83.53	117	*e*LR	LR	00 34 06.5	
	comp=Z,109nm,27.5s						
CONA	Conrad Observa	84.21	327	*i* PcP	P	00 07 53.8	+1.9
	comp=Z,11nm,1.8s						
KHC	Kasperske Hory	84.30	329	*e*P	P	00 07 53.1	+0.8
	comp=Z,1.1nm,0.8s						
KHC	Kasperske Hory	84.30	329	*e*P	P	00 07 53.1	+0.8
KHC				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VTS	Vitosha	84.43	319	*e*P	P	00 07 54.4	+1.1
	comp=Z,7.4nm,0.8s						
VTS	Vitosha	84.43	319	*e*P	P	00 07 54.4	+1.1
VTS				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GERES	GERESS Array B	84.46	329	P	P	00 07 53.4	+0.1
	comp=Z,1.1nm,0.7s,baz=28,slow=6.0,SNR=11						
ARSA	Arzberg	84.87	327	*i* P	P	00 07 55.6	+0.4
	comp=Z,3.7nm,1.0s						
SOKA	Soboth	85.52	326	*i* PcP	P	00 07 59.6	+1.1
	comp=Z,12nm,1.4s						
FUORN	Ofenpass-Fuorn	87.65	329	*e*P	P	00 08 09.9	+0.7
	comp=Z,4.1nm,1.1s						
TX31	Lajitas Ar. Si	90.99	53	*e*P	P	00 08 27.1	+2.0
TXAR	Lajitas Array	90.99	53	P	P	00 08 27.3	+2.3
	comp=Z,0.6nm,1.0s,baz=282,slow=5.9,SNR=4.1						
ESDC	Sonseca Array	99.10	334	LR	LR	00 58 26.3	
	comp=Z,106nm,19.6s,baz=40,slow=38						
LPAZ	La Paz	147.31	63	PKPbc	PKPab	00 15 07.0	-0.1
	comp=Z,2.9nm,0.8s,baz=262,slow=4.9,SNR=6.8						
LPAZ	La Paz	147.31	63	PKP2	PKPab	00 15 07.0	-0.1

WEL 07 23:56:58.2, **38°S**±5°×**17°9E**±°, **h62**km±10km, **ML3.5**/16, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	0.85	273	P	Pn	23 57 14.6	+0.3
WMGZ				S	Sn	23 57 27.0	+0.8
MXZ	Matakaoa Point	0.98	287	P	Pn	23 57 15.9	-0.1
MXZ				S	Sn	23 57 29.1	-0.1
PUZ	Puketiti	0.99	257	P	Pn	23 57 16.7	+0.5
PUZ				S	Sn	23 57 29.8	+0.3
PKGZ	Pakihiroa	1.11	268	P	Pn	23 57 18.2	+0.3
PKGZ				S	Sn	23 57 32.8	+0.4
CNGZ	Carnagh Statio	1.18	238	P	Pn	23 57 20.1	+1.5
TWGZ	Tauwhareparae	1.23	255	P	Pn	23 57 20.5	+1.1
TWGZ				S	Sn	23 57 36.9	+1.8
HAZ	Te Kaha	1.35	274	P	Pn	23 57 21.4	+0.6
HAZ				S	Sn	23 57 38.0	+0.1
RUGZ	Raukumara Rang	1.43	265	P	Pn	23 57 22.6	+0.5
MWZ	Matawai	1.61	252	P	Pn	23 57 25.1	+0.6
MWZ				S	Sn	23 57 45.1	+0.8
PRGZ	Paritu Road	1.64	229	P	Pn	23 57 26.0	+1.2
URZ	Urewera	1.91	257	P	Pn	23 57 29.7	+1.2
URZ				S	Sn	23 57 52.6	+1.2
WHRZ	Whale Island	1.98	269	P	Pn	23 57 30.8	+1.3
WHHZ	Waihua	2.14	235	P	Pn	23 57 32.9	+1.3
MUGZ	Murupara	2.22	253	P	Pn	23 57 33.8	+1.0
MTHZ	Maungataniwha	2.30	244	P	Pn	23 57 34.8	+1.1
OPRZ	Ohinepanea	2.32	270	P	Pn	23 57 34.4	+0.5
ARHZ	Aropaoanui	2.40	234	P	Pn	23 57 36.8	+1.7
BKZ	Black Stump Fm	2.68	240	P	Pn	23 57 40.1	+1.1
BHHZ	Black Hill Sta	3.13	238	P	Pn	23 57 46.4	+1.3
MKAZ	Moumakai	3.52	281	P	Pn	23 57 51.0	+0.6
MRZ	Mangatainoka R	4.12	226	P	Pn	23 57 58.1	-0.5
OUZ	Omahuta	5.42	297	P	Pn	23 58 18.2	+1.8

*IDC **08** 00:33:46.9±4.7, 21.°07S×176.°69W, h351km±47km, mb3.4/8, mb1 3.6/10, mb1mx3.3/28, mbtmp4.2/10, Error ellipse: s-maj=22.4km s-min=15.4km az=94.0*
ISC 08 00:33:33.4±1.1, **21.°0S**±0.°1×**176.°4W**±0.°2, **h219**km, **n11**, σ**1^{s}75**/12, **mb3.6**/8, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	16.01	263	P	Pn	00 37 09.8	+2.7
	1.9nm,0.3s,baz=231,slow=20,SNR=22						
URZ	Urewera	18.09	197	P	Pn	00 37 32.7	+1.4
	2.5nm,0.3s,baz=342,slow=1.2,SNR=11						
URZ				S	S	00 40 41.6	-2.8
	0.3nm,0.3s,baz=100,slow=17,SNR=2.0						
RPZ	Rata Peaks	24.94	202	P	P	00 38 38.4	+1.8
	9.4nm,0.6s,baz=34,slow=7.3,SNR=2.2						
CTA	Charters Tower	34.95	265	P	P	00 40 04.8	0.0
	1.5nm,0.3s,baz=68,slow=5.4,SNR=3.5						
STKA	Stephens Creek	38.94	245	P	P	00 40 37.8	-0.5
	1.0nm,0.5s,baz=66,slow=12,SNR=2.4						
JAY	Jayapura	45.64	288	P	P	00 41 31.9	-0.6
	8.0nm,0.5s,baz=249,slow=24,SNR=4.2						
ASAR	Alice Springs	45.87	257	P	P	00 41 33.6	-0.6
	0.7nm,0.4s,baz=92,slow=8.3,SNR=14						
WRA	Warramunga Arr	46.03	262	P	P	00 41 34.0	-1.4
	0.3nm,0.3s,baz=95,slow=7.9,SNR=7.3						
NVAR	Mina Array Bea	80.37	43	P	P	00 45 21.7	+1.0
	0.2nm,0.4s,baz=233,slow=8.9,SNR=2.4						
ILAR	Eielson Array	88.48	12	P	P	00 46 00.1	-0.3
	0.3nm,0.7s,baz=225,slow=6.2,SNR=4.1						
GERES	GERESS Array B	151.07	346	PKPbc	PKPbc	00 52 58.6	-1.8
	0.3nm,0.4s,baz=126,slow=1.7,SNR=4.8						

IDC 08 00:44:06.3±1.5, **5.°48S**×**153.°65E**, **h0**km, **mb3.4**/4, **mb1 3.6**/4, **mb1mx3.4**/28, **mbtmp3.5**/4, **Error ellipse: s-maj=41.8km s-min=35.7km az=64.0**, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	20.62	144	P	P	00 48 47.7	+0.2
	4.8nm,0.6s,baz=271,slow=8.2,SNR=7.7						
WRA	Warramunga Arr	23.65	231	P	P	00 49 20.3	+0.6
	0.5nm,1.0s,baz=56,slow=10,SNR=2.0						
WRA				PcP	PcP	00 53 04.1	-0.5
	0.3nm,0.7s,baz=53,slow=2.9,SNR=2.0						
ASAR	Alice Springs	26.24	224	P	P	00 49 43.3	-0.1
	0.9nm,1.0s,baz=47,slow=10,SNR=3.1						
ASAR				PcP	PcP	00 53 09.4	-0.9
	0.3nm,0.5s,baz=48,slow=2.8,SNR=2.2						
MKAR	Makanchi Array	81.39	319	P	P	00 56 25.9	+0.7
	0.1nm,0.2s,baz=115,slow=5.2,SNR=1.1						
TORD	Torodi Ar. Bea	151.32	287	PKPbc	PKPbc	01 04 02.2	-0.9
	0.6nm,1.0s,baz=97,slow=1.4,SNR=2.7						

IDC 08 00:48:46.1±1.3, **15.°22N**×**44.°80W**, **h0**km, **mb3.8**/4, **mb1 4.0**/4, **mb1mx3.5**/31, **mbtmp3.8**/4, **MS3.5**/9, **Ms1 3.6**/9, **ms1mx3.3**/26, **Error ellipse: s-maj=35.1km s-min=32.3km az=145.0**, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDFB	Brasilia	30.83	186	P	P	00 55 04.1	-0.1
	1.5nm,0.6s,baz=4.1,slow=14,SNR=3.1						
BDFB				LR	LR	01 07 21.9	
	comp=Z,73nm,18.1s,baz=179,slow=36						
LPAZ	La Paz	38.87	217	P	P	00 56 14.2	0.0
	1.5nm,0.9s,baz=30,slow=8.7,SNR=5.2						
LPAZ				LR	LR	01 12 01.5	
	comp=Z,59nm,18.8s,baz=22,slow=36						
DBIC	Dimbokro	40.06	98	LR	LR	01 09 14.3	
	comp=Z,86nm,21.7s,baz=302,slow=31						
TORD	Torodi Ar. Bea	45.06	87	P	P	00 57 04.2	-0.1
	1.4nm,1.0s,baz=283,slow=7.9,SNR=5.4						
TORD				LR	LR	01 14 48.6	
	comp=Z,101nm,18.6s,baz=295,slow=35						
KEST	Kesra	52.28	56	LR	LR	01 18 11.9	
	comp=Z,48nm,19.2s,baz=292,slow=34						
TXAR	Lajitas Array	55.74	295	LR	LR	01 20 38.2	
	comp=Z,34nm,21.1s,baz=0.0,slow=34						
PLCA	Paso Flores	60.59	202	LR	LR	01 24 58.8	
	comp=Z,69nm,19.4s,baz=294,slow=36						
NOA	NORSAR Array B	60.62	28	LR	LR	01 21 03.7	
	comp=Z,25nm,18.2s,baz=340,slow=32						
PDAR	Pinedale Array	61.34	311	P	P	00 59 04.1	-0.1
	0.4nm,0.7s,baz=61,slow=10,SNR=5.3						
PDAR				LR	LR	01 26 09.3	
	comp=Z,42nm,18.4s,baz=49,slow=37						

*ISCJB **08** 00:49:52.3±0.8, 31.°31N±0.°09×116.°15W±0.°06, h9km±12km, Error ellipse: s-maj=16.3km s-min=4.0km az=28.8*
*ECX **08** 00:49:53.0±0.6, 31.°28N×116.°14W, h5km, MD2.8, ML3.1, Fault plane solution: NP1:φs186.67000°, δ60.00000°, λ0.00000°.*
*MEX **08** 00:49:54.5±0.5, 31.°45N×115.°79W, h58km, MD3.8*
ISC 08 00:49:52.8±1.2, **31.°40N**±0.°09×**116.°06W**±0.°07, **h7**km±13km, **n11**, σ**0^{s}50**/20, **4C**, **Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ECNX	Esteban Cantu	0.52	299	⇑*e*P	Pg	00 50 02.8	-0.1
ECNX				*e*S	Sg	00 50 10.0	+0.3
SPIG	San Pedro Mart	0.62	125	*i* P	Pg	00 50 05.6	+0.7
SPIG				*e*S	Sg	00 50 14.0	+0.9
SPX	San Pedro Mart	0.63	125	*e*P	Pg	00 50 04.4	-0.5
SPX				*e*S	Sg	00 50 12.8	-0.4
SPX	San Pedro Mart	0.63	125	⇑*e*P	Pg	00 50 04.6	-0.3
SPX				*e*S	Sg	00 50 12.9	-0.3
SPX				*e*		00 50 14.2	
SPX				IAML		00 50 14.2	
	comp=E,653nm,0.3s						
PBX	Punta Banda	0.66	301	⇑*e*P	Pg	00 50 05.0	-0.5
PBX				*e*S	Sg	00 50 14.0	0.0
ECBX	El Chinero	0.87	85	*e*P	Pn	00 50 11.8	+0.3
ECBX				*e*S	Sn	00 50 24.5	0.0
CBX	Cerro Bola	1.04	331	*i* P	Pg	00 50 13.1	+0.3
CBX				*i* S	Sg	00 50 26.9	+0.6
CBX	Cerro Bola	1.04	331	*e*P	Pg	00 50 13.0	+0.3
CBX				*e*S	Sb	00 50 27.4	+0.2
CBX				IAML		00 50 30.2	
	comp=E,498nm,0.3s						
CBX				⇑*e*		00 50 30.2	
RMX	La Rumorosa	1.20	359	*e*P	Pb	00 50 15.4	-0.6
RMX				*e*S	Sn	00 50 32.3	-0.5
BAR	Barrett	1.37	338	*e*P	Pg	00 50 18.6	-0.6
EML	El Monte Cty P	1.62	336	*e*P	Pn	00 50 22.4	+0.5

*DDA **08** 00:59:38.4, 35.°86N×28.°20E, h4km±2km, ML2.9*
*ATH **08** 00:59:39.0, 35.°86N×28.°22E, h15km±1km, ML2.6/3, Error ellipse: s-maj=2.1km s-min=0.9km az=11.0*
*ISK **08** 00:59:38.0, 35.°91N×28.°19E, h5km, ML2.9/10*
ISC 08 00:59:38.1±1.2, **35.°89N**±0.°03×**28.°17E**±0.°02, **h5**km±10km, **n39**, σ**1^{s}12**/51, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.33	354	PG	Pg	00 59 44.9	+0.4
ARG				SG	Sb	00 59 50.5	-1.5
ARG	Arkhangelos	0.33	354	P	Pb	00 59 46.1	-0.3
ARG				S	Sb	00 59 51.8	-0.2
ARG				AML	AML	00 59 52.3	
	comp=N,1640µm,0.5s						
ARG				AML	AML	00 59 59.8	
	comp=E,1591µm,0.4s						
KARP	Karpathos	0.89	248	P	Pn	00 59 56.5	-0.7
KARP				S	Sn	01 00 09.1	-1.3
KARP				AML	AML	01 00 18.8	
	comp=E,1119µm,0.5s						
KARP				AML	AML	01 00 19.1	
	comp=N,840µm,0.5s						
DATC	Datca-Mugla	0.96	335	PG	Pb	00 59 57.3	+0.2
DAT	Datca	0.96	331	PG	Pn	00 59 58.2	-0.1
DAT				SG	Sn	01 00 12.3	-0.1
DAT	Datca	0.96	331	IAML_P			
	comp=Z,1µm,0.2s						
DALY	Dalyan (Mula)	1.01	23	PG	Pb	00 59 57.7	-0.2
DALY	Dalyan (Mula)	1.01	23	IAML_P			
	comp=Z,1µm,0.2s						
DALY				*i* P	Pn	00 59 58.5	-0.3
TURN	Turunc	1.04	20	PG	Pg	00 59 55.9	-2.2
TURN	Turunc	1.04	20	IAML_P			
	comp=Z,2µm,0.2s						
TURN				*i* P	Pg	00 59 56.7	-1.3
TURN				*i* S	Sg	01 00 10.4	-1.3
FETY	Fethiye	1.05	45	PG	Pb	00 59 58.9	+0.2
FETY				SG	Sn	01 00 14.1	-0.4
FETY	Fethiye	1.05	45	IAML_P			
	comp=Z,2µm,0.3s						
FETY				*i* P	Pn	00 59 59.5	0.0
FETY				*i* S	Sn	01 00 14.3	-0.1
KSL	Kastellorizon	1.18	77	P	Pg	01 00 00.6	0.0
KSL				S	Sb	01 00 16.6	+0.2
AKAS	Kas	1.22	73	PN	Pg	01 00 01.3	-0.1
AKAS	Kas	1.22	73	IAML_P			
	comp=Z,1µm,0.5s						
AKAS				*i* P	Pg	01 00 01.3	-0.1
AKAS				*i* S	Sn	01 00 19.9	+1.2
BDRM	Kayabasi	1.31	334	IAML_P			
	comp=Z,5µm,0.4s						
BDRM				*i* P	Pb	01 00 04.9	+1.8
BDRM				*i* S	Sn	01 00 21.6	+0.7
BODT	Bodrum	1.36	330	PN	Pg	01 00 04.0	-0.1
MLSB	Milas	1.44	348	PN	Pg	01 00 05.5	-0.1
ELL	Elmali	1.65	58	PN	Pg	01 00 09.5	-0.2
TAVA	DENIZLI_Tavas	1.69	21	IAML_P			
	comp=Z,729nm,0.2s						
TAVA				*i* P	Pg	01 00 10.4	0.0
TAVA				*i* S	Sg	01 00 35.6	+3.4
GOLH	Golhisar	1.75	39	IAML_P			
	comp=Z,933nm,0.3s						
GOLH				*i* P	Pg	01 00 11.2	-0.5
ZKR	Zakros	1.77	245	PN	Pg	01 00 11.4	-0.5
ZKR	Zakros	1.77	245	P	Pg	01 00 12.0	0.0
ZKR				S	Sg	01 00 35.4	+0.5
ZKR				AML	AML	01 00 43.5	
	comp=N,173µm,0.5s						
ZKR				AML	AML	01 00 43.8	
	comp=E,313µm,0.8s						
AYDN	Tasoluk	1.78	353	IAML_P			
	comp=Z,2µm,0.4s						
AYDN				*i* P	Pb	01 00 11.4	+0.1
GCAM	G?zelcaml?	1.96	338	PN	Pb	01 00 14.0	-0.1
GCAM	G?zelcaml?	1.96	338	IAML_P			
	comp=Z,329nm,0.1s						
GCAM				*i* P	Pb	01 00 13.9	-0.3
ANAF	Anafi Island	1.99	284	P	Pb	01 00 14.7	0.0
ANAF				S	Sg	01 00 41.7	-0.4
AMGA	Amorgos Island	2.06	298	P	Pb	01 00 15.9	0.0
AYDB	Zeytinkoy-Aydi	2.07	354	PN	Pb	01 00 15.4	-0.7
KORT	Korkueli	2.08	57	PN	Pb	01 00 15.2	-1.2
KORT	Korkueli	2.08	57	IAML_P			
	comp=Z,154nm,0.3s						
KORT				*i* P	Pb	01 00 16.6	+0.2
NPS	Neapolis	2.17	254	P	Pb	01 00 17.7	-0.2
LAST	Lasithi	2.31	252	P	Pb	01 00 19.1	-1.1
DGB	zmir	2.39	335	IAML_P			
	comp=Z,155nm,0.1s						
DGB				*i* P	Pb	01 00 19.9	-1.6
APE	Apeiranthos	2.43	300	PN	Pn	01 00 19.7	+1.3
APE	Apeiranthos	2.43	300	P	Pb	01 00 20.9	-1.3
IOSP	Ios island	2.47	291	P	Pb	01 00 21.4	-1.5
KULA	Kula-Manisa	2.65	8	PN	Pb	01 00 23.8	-2.2
VLI	Veliai	4.30	283	P	Pn	01 00 47.6	+3.5

*THR **08** 01:01:09.6, 37.°15N×54.°40E, h14km, ML3.0*
*TEH **08** 01:01:10.3, 37.°16N×54.°48E, h13km, ML3.2*
*ISCJB **08** 01:01:11.2±0.4, 37.°30N±0.°04×54.°30E±0.°04, h30km, Error ellipse: s-maj=6.0km s-min=3.0km az=37.3*
*AZER **08** 01:01:13.6±1.0, 37.°19N×53.°92E, h4km, ml3.2/5, Error ellipse: s-maj=14.7km s-min=8.2km az=33.0*
ISC 08 01:01:12.2±1.1, **37.°26N**±0.°05×**54.°38E**±0.°04, **h30**km, **n34**, σ**1^{s}06**/44, **12C-11D**, **Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IKIA	Kiasar	1.19	208	*e*Pg	Pn	01 01 32.2	-0.8
IKIA				IAMB	IAmb	01 01 51.3	
	comp=Z,2µm,0.4s						
MRVT	Maraveh tapeh	1.42	73	*e*AML	AML	01 01 58.8	
	comp=N,242nm,0.4s						
MRVT				*e*Pg	Pn	01 01 36.0	+0.1
MRVT				*e*Sg	Sb	01 01 55.5	-0.3
ISHM	Shahmirzad	1.69	212	*e*Pn	Pn	01 01 41.0	+1.0
ISHM				IAMB	IAmb	01 02 05.6	
	comp=Z,6µm,0.4s						
IALA	Alasht	1.72	228	IAMB	IAmb	01 02 07.4	
	comp=Z,10µm,0.2s						
SHRO	Shahrood	1.82	134	*e*Pn	Pn	01 01 41.3	-0.3
SHRO	Shahrood	1.82	134	*e*Pn	Pn	01 01 41.3	-0.3
IANJ	Anjilo	1.83	192	*e*Pn	Pn	01 01 42.1	+0.3
IANJ				IAMB	IAmb	01 02 07.5	
	comp=Z,4µm,0.3s						
IPRN	Peran	1.93	239	*e*Pn	Pn	01 01 44.2	+1.1
IPRN				IAMB	IAmb	01 02 18.2	
	comp=N,9µm,0.2s						
IFIR	Firoozkooh	2.08	220	*e*Pn	Pn	01 01 46.8	+1.5
IFIR				IAMB	IAmb	01 02 17.4	
	comp=Z,3µm,0.3s						
ILAS	Lasjerd	2.20	212	*e*Pn	Pn	01 01 48.4	+1.5
ILAS				IAMB	IAmb	01 02 22.1	
	comp=Z,1µm,0.5s						
BJRD	Bojnurd	2.45	79	*e*Pn	Pn	01 01 51.4	+1.2
BJRD	Bojnurd	2.45	79	*e*Pn	Pn	01 01 51.4	+1.2
IDMV	Damavand	2.53	229	*e*Pn	Pn	01 01 53.5	+2.0
IDMV				IAMB	IAmb	01 02 31.5	
	comp=Z,801nm,0.3s						
SBZV	Sabzevar	2.73	108	*e*Pn	Pn	01 01 54.4	+0.2
SBZV				IAMB	IAmb	01 02 01.3	
	comp=Z,0.0nm,0.5s						
TNSJ	Nastanj	3.75	150	*e*Pn	Pn	01 02 08.4	+0.2
TNSJ				IAMB	IAmb	01 03 06.9	
	comp=Z,0.0nm,0.8s						
IRAZ	Razeghan	4.04	244	IAMB	IAmb	01 03 24.7	
	comp=Z,293nm,0.4s						
ANAR	Anarak	4.09	188	*e*Pn	Pn	01 02 12.9	0.0
ANAR				IAMB	IAmb	01 03 25.7	
	comp=Z,0.0nm,0.6s						
TABS	Tabas	4.24	147	*e*Pn	Pn	01 02 14.3	-0.5
TABS	Tabas	4.24	147	*e*Pn	Pn	01 02 14.3	-0.5
TKDS	Koohdasht(Taba	4.27	148	*e*Pn	Pn	01 02 15.1	-0.2
TKDS				IAMB	IAmb	01 03 18.0	
	comp=Z,0.0nm,1.2s						
ASTR	Astara	4.61	288	⇓P	Pn	01 02 19.3	-0.5
	SNR=5.8						
ASTR				⇓S	Sn	01 03 10.5	-1.8
TPRV	Parvadeh(Tabas	4.62	155	*e*Pn	Pn	01 02 20.3	+0.2
LKRN	Lenkeran, Azer	4.66	290	P	Pn	01 02 19.5	-1.0
	SNR=5.7						
LKRN				⇓S	Sn	01 03 12.0	-1.5
LRK	Lerik	4.97	288	⇑P	Pn	01 02 24.7	-0.3
LRK				⇑S	Sn	01 03 21.6	+0.1
GLBA	Clilabad	5.11	295	⇑P	Pn	01 02 26.6	-0.1
	SNR=4.3						
GLBA				⇑S	Sn	01 03 23.8	-1.0
ATGJ	Altiaghaj	5.56	312	⇑P	Pn	01 02 35.0	+2.0
ATGJ				⇓S	Sn	01 03 36.4	+0.5
SIZA	Siyzn	5.72	314	⇑S	Sn	01 03 42.1	+2.4
PQL	Pirkuli	5.72	310	⇑P	Pn	01 02 37.0	+1.7
PQL				⇓S	Sn	01 03 40.8	+0.9
IML	Ismayilli	5.98	308	⇓P	Pn	01 02 39.6	+0.9
IML				⇓S	Sn	01 03 45.1	-1.0
XNQ	Khinaliq	6.23	311	⇑P	Pn	01 02 42.8	+0.5
QBL	Gabala	6.28	308	⇑P	Pn	01 02 43.7	+0.8
QBL				⇑S	Sn	01 03 53.5	-0.1
SEKA	Sheki	6.83	307	⇓P	Pn	01 02 51.0	+0.6

	SNR=4.5						
SEKA				⇑S	**Sn**	**01 04 06.3**	**-0.8**
ZKTA	**Zakatala**	**7.43**	**308**	⇓P	**Pn**	**01 03 00.0**	**+1.5**
	SNR=5.9						
ZKTA				⇑S	**Sn**	**01 04 21.6**	**-0.2**
GDB	**GEDABAY**	**7.56**	**300**	⇓P	**Pn**	**01 03 00.4**	**0.0**
GDB				⇓S	**Sn**	**01 04 23.3**	**-1.8**

*IDC **08** 01:11:10.8±3.8, 32.°01N×85.°83E, h0^{km}, mb3.1/2, mb1 3.7/5, mb1mx3.3/46, mbtmp3.5/5, ML3.5/3, MS3.2/2, Ms1 3.2/2, ms1mx2.6/18, Error ellipse: s-maj=81.2km s-min=31.1km az=60.0*

*ISCJB **08** 01:11:15.4±0.7, 32.°26N±0.°05×86.°2E±0.°2, h33^{km}, mb3.1/2, MS3.1/2, Error ellipse: s-maj=18.5km s-min=7.3km az=5.1*

ISC 08 01:11:17.3±1.0**, 32.°22N**±0.°08×**86.°2E**±0.°1**, h35^{km}, n16, σ1.s03**/14**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	**Gumba**	**4.31**	**184**	*e*P	**Pn**	**01 12 21.3**	**+0.6**
	37nm,0.4s						
DANN	**Dangsing**	**4.40**	**209**	*e*P	**Pn**	**01 12 22.8**	**+0.9**
	24nm,0.4s						
KKN	**Kakani**	**4.49**	**191**	*e*P	**Pn**	**01 12 23.4**	**+0.3**
	23nm,0.4s						
JIRN	**Jiri**	**4.55**	**180**	*e*P	**Pn**	**01 12 25.1**	**+1.1**
	47nm,0.3s						
PKIN	**Phulchoki**	**4.68**	**189**	*e*P	**Pn**	**01 12 26.3**	**+0.5**
	23nm,0.3s						
DMN	**Daman**	**4.70**	**192**	*e*P	**Pn**	**01 12 26.3**	**+0.3**
	31nm,0.4s						
PYUN	**Piuthan**	**4.96**	**215**	*e*P	**Pn**	**01 12 29.7**	**+0.1**
	21nm,0.5s						
KOLN	**Koldanda**	**4.98**	**208**	*e*P	**Pn**	**01 12 30.2**	**+0.4**
	11nm,0.6s						
RAMN	**Ramite**	**5.27**	**176**	*e*P	**Pn**	**01 12 33.2**	**-0.6**
	46nm,0.5s						
MKAR	**Makanchi Array**	**14.86**	**349**	Pn	**Pn**	**01 14 44.0**	**-0.8**
	0.0nm,0.3s,baz=163,slow=14,SNR=4.1						
CMAR	**Chiang Mai Arr**	**17.88**	**137**	P	**Pn**	**01 15 21.9**	**-1.5**
	0.4nm,0.3s,baz=326,slow=12,SNR=3.4						
KURBB	**Kurchatov Arra**	**19.24**	**345**	P	**P**	**01 15 37.4**	**-1.1**
	0.1nm,0.3s,baz=155,slow=10,SNR=3.5						
ZALV	**Zalesovo Beam**	**21.74**	**358**	P	**P**	**01 16 05.9**	**+0.5**
	0.5nm,0.6s,baz=186,slow=10,SNR=3.4						
SONM	**Songino Array**	**21.86**	**39**	P	**P**	**01 16 09.0**	**+2.1**
	0.3nm,0.3s,baz=243,slow=9.4,SNR=2.6						
BVAR	**Borovoye Array**	**23.72**	**336**	LR	LR	01 27 22.0	
	comp=Z,49nm,18.1s,baz=7.5,slow=41						
AKTO	**Aktyubinsk**	**27.66**	**319**	LR	LR	01 28 39.6	
	comp=Z,58nm,19.0s,baz=113,slow=38						

IDC 08 01:14:42.4±1.9**, 7.°63S**×**128.°42E, h0^{km}, mb3.1**/1**, mb1 3.8**/5**, mb1mx3.5**/38**, mbtmp3.6**/5**, ML3.6**/4**, Error ellipse: s-maj=50.8km s-min=27.3km az=78.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.35**	**241**	Pn	Pn	01 16 05.0	+1.3
	4.5nm,0.3s,baz=348,slow=19,SNR=2.8						
BATI				Sn	Sn	01 17 04.0	-2.2
	6.8nm,0.3s,baz=120,slow=20,SNR=3.7						
FITZ	**Fitzroy Crossi**	**10.75**	**194**	Pn	Pn	01 17 16.9	-0.9
	0.3nm,0.3s,baz=13,slow=11,SNR=4.1						
FITZ				Sn	Sn	01 19 06.3	-13
	0.6nm,0.3s,baz=354,slow=18,SNR=4.3						
WRA	**Warramunga Arr**	**13.52**	**155**	Pn	Pn	01 17 55.8	+0.1
	0.3nm,0.3s,baz=324,slow=13,SNR=19						
WRA				Sn	Sn	01 20 15.2	-12
	1.7nm,0.3s,baz=333,slow=22,SNR=12						
ASAR	**Alice Springs**	**16.79**	**162**	Pn	Pn	01 18 39.4	+0.2
	0.1nm,0.3s,baz=339,slow=10,SNR=4.5						
ASAR				Sn	Sn	01 21 33.1	-13
	0.2nm,0.3s,baz=316,slow=20,SNR=4.3						
MKAR	**Makanchi Array**	**67.90**	**328**	P	P	01 25 42.8	-0.1
	0.1nm,0.5s,baz=128,slow=7.5,SNR=3.8						

MEX 08 01:18:10.3±0.4**, 15.°98N**×**98.°34W, h2^{km}**±3^{km}**, MD3.7, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.46**	**26**	*i* P	Pg	01 18 18.8	-0.4
PNIG				*i* S	Sg	01 18 25.6	+0.5
TLIG	**Tlapa**	**1.59**	**352**	*i* P	Pn	01 18 35.7	-4.0
TLIG				*i* S	Sn	01 18 56.6	-4.3
VHO	**Vista Hermosa**	**1.89**	**54**	*i* P	Pn	01 18 40.1	-3.6
VHO				*i* S	Sn	01 19 04.4	-3.8

*ISCJB **08** 01:24:49.3±0.4, 37.°60S±0.°03×176.°43E±0.°05, h225^{km}±3^{km}, mb3.6/3, Error ellipse: s-maj=6.4km s-min=5.1km az=157.0*

*WEL **08** 01:24:50.5, 37.°S±3.°×17.°7E±.°, h210^{km}±4^{km}*

*IDC **08** 01:24:50.5±0.7, 37.°85S×176.°26E, h203^{km}±7^{km}, mb3.5/3, mb1 3.7/4, mb1mx3.4/23, mbtmp4.1/4, Error ellipse: s-maj=22.9km s-min=20.4km az=172.0*

ISC 08 01:24:50.5±0.9**, 37.°66S**±0.°06×**176.°40E**±0.°06**, h219^{km}**±6^{km}**, n148, σ1.s39**/158**, mb3.6**/3**, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	**Tauranga**	**0.13**	**239**	P	**Pn**	**01 25 18.1**	**-0.9**
OPRZ	**Ohinepanea**	**0.22**	**147**	P	**Pn**	**01 25 18.1**	**-1.1**
KARZ	**Kaharoa**	**0.38**	**199**	P	**Pn**	**01 25 19.2**	**-0.3**
MARZ	**Manawahe**	**0.39**	**147**	P	**Pn**	**01 25 19.1**	**-0.5**
MARZ				S	**S**	**01 25 42.6**	**+0.2**
MYRZ	**Mayor Island**	**0.40**	**341**	P	**Pn**	**01 25 18.5**	**-1.2**
KMRZ	**Kaimai**	**0.41**	**243**	P	**Pn**	**01 25 19.2**	**-0.4**
OMRZ	**Omania**	**0.45**	**183**	P	**Pn**	**01 25 19.6**	**-0.1**
WHRZ	**Whale Island**	**0.49**	**113**	P	**Pn**	**01 25 19.6**	**-0.2**
TARZ	**Mount Tarawera**	**0.58**	**172**	P	**Pn**	**01 25 20.7**	**+0.4**
HSRZ	**Hossack Road**	**0.66**	**191**	P	**Pn**	**01 25 21.4**	**+0.9**
RRRZ	**Republican Roa**	**0.68**	**173**	P	**Pn**	**01 25 20.7**	**+0.1**
TOZ	**Tahuroa Road**	**0.72**	**264**	P	**Pn**	**01 25 20.6**	**-0.1**
GRRZ	**Galatos Road**	**0.73**	**198**	P	**Pn**	**01 25 21.7**	**+0.9**
HRRZ	**Handcock Road**	**0.73**	**187**	P	**Pn**	**01 25 21.5**	**+0.7**
URZ	**Urewera**	**0.82**	**137**	P	**Pn**	**01 25 20.2**	**-0.9**
	55nm,0.3s,baz=277,slow=4.2,SNR=418						
URZ				S	**S**	**01 25 42.1**	**-3.1**
	70nm,0.3s,baz=252,slow=4.7,SNR=21						
URZ	**Urewera**	**0.82**	**137**	P	**Pn**	**01 25 20.3**	**-0.9**
URZ				S	**S**	**01 25 42.7**	**-2.5**
PRRZ	**Plateau Road**	**0.84**	**181**	P	**Pn**	**01 25 21.8**	**+0.4**
MUGZ	**Murupara**	**0.87**	**161**	P	**Pn**	**01 25 21.4**	**-0.1**
MUGZ				S	**S**	**01 25 44.4**	**-1.4**
WPRZ	**Whakapapatarin**	**0.88**	**192**	P	**Pn**	**01 25 22.5**	**+0.9**
ALRZ	**Allen Road**	**0.90**	**183**	P	**Pn**	**01 25 22.3**	**+0.6**
TLZ	**Tolley Road**	**0.96**	**225**	P	**Pn**	**01 25 22.1**	**0.0**
RUGZ	**Raukumara Rang**	**1.05**	**107**	P	**Pn**	**01 25 20.6**	**-2.2**
RUGZ				S	**S**	**01 25 43.5**	**-4.4**
RTZ	**Ruatahuna**	**1.06**	**155**	P	**Pn**	**01 25 22.6**	**-0.1**
RTZ				S	**S**	**01 25 47.2**	**-0.8**
KUZ	**Kuaotunu**	**1.06**	**329**	P	**Pn**	**01 25 20.7**	**-2.0**
WHTZ	**Whakaora**	**1.06**	**199**	P	**Pn**	**01 25 24.2**	**+1.4**
HAZ	**Te Kaha**	**1.10**	**95**	P	**Pn**	**01 25 20.9**	**-2.0**
HAZ				S	**S**	**01 25 44.0**	**-4.0**
MWZ	**Matawai**	**1.11**	**127**	P	**Pn**	**01 25 22.1**	**-1.0**
MKAZ	**Moumakai**	**1.13**	**299**	P	**Pn**	**01 25 22.3**	**-0.8**
RAGZ	**Rawiri**	**1.16**	**137**	P	**Pn**	**01 25 23.3**	**-0.1**
RAGZ				S	**S**	**01 25 48.0**	**-1.1**
MRHZ	**Matea Rd**	**1.17**	**179**	P	**Pn**	**01 25 24.0**	**+0.5**
MRHZ				S	**S**	**01 25 49.3**	**0.0**
WATZ	**Wairara**	**1.17**	**207**	P	**Pn**	**01 25 24.8**	**+1.4**
MTHZ	**Maungataniwha**	**1.24**	**164**	P	**Pn**	**01 25 24.2**	**+0.3**
RATZ	**Rangitukua**	**1.30**	**202**	P	**Pn**	**01 25 25.5**	**+1.1**
KBAZ	**Karaka Road Bo**	**1.33**	**295**	P	**Pn**	**01 25 24.2**	**-0.4**
WIAZ	**Waiheke Island**	**1.33**	**310**	P	**Pn**	**01 25 23.4**	**-1.3**
SNGZ	**Shannon Statio**	**1.34**	**147**	P	**Pn**	**01 25 24.9**	**+0.3**
PKGZ	**Pakihiroa**	**1.35**	**100**	P	**Pn**	**01 25 23.6**	**-1.2**
TWGZ	**Tauwhareparae**	**1.35**	**113**	P	**Pn**	**01 25 24.9**	**+0.1**
TWGZ				S	**S**	**01 25 50.8**	**-0.6**
RAHZ	**Arahi**	**1.36**	**157**	P	**Pn**	**01 25 25.6**	**+0.8**
ETAZ	**East Tamaki Re**	**1.37**	**301**	P	**Pn**	**01 25 24.2**	**-0.8**
TKGZ	**Te Karaka**	**1.38**	**125**	P	**Pn**	**01 25 24.5**	**-0.4**
RITZ	**Rihia Road**	**1.38**	**198**	P	**Pn**	**01 25 26.6**	**+1.6**
KATZ	**Kakaramea**	**1.43**	**203**	P	**Pn**	**01 25 27.6**	**+2.1**
NMHZ	**Naumai**	**1.47**	**168**	P	**Pn**	**01 25 27.1**	**+1.3**
HIZ	**Hauiti**	**1.49**	**235**	P	**Pn**	**01 25 27.2**	**+1.4**
MBAZ	**Motutapu North**	**1.50**	**306**	P	**Pn**	**01 25 25.0**	**-0.9**
RIGZ	**Rimuhau**	**1.50**	**135**	P	**Pn**	**01 25 26.3**	**+0.3**
BKZ	**Black Stump Fm**	**1.50**	**177**	P	**Pn**	**01 25 26.4**	**+0.4**
MXZ	**Matakaoa Point**	**1.52**	**87**	P	**Pn**	**01 25 24.2**	**-1.9**
AWAZ	**Awhitu Peninsu**	**1.52**	**292**	P	**Pn**	**01 25 25.5**	**-0.7**
PUZ	**Puketiti**	**1.52**	**106**	P	**Pn**	**01 25 25.0**	**-1.2**
EPAZ	**Eden Park BICE**	**1.54**	**300**	P	**Pn**	**01 25 25.5**	**-0.8**
KRVZ	**Karewarewa**	**1.55**	**202**	P	**Pn**	**01 25 27.8**	**+1.3**
WHHZ	**Waihua**	**1.56**	**155**	P	**Pn**	**01 25 27.1**	**+0.7**
HBAZ	**Herne Bay Bore**	**1.56**	**301**	P	**Pn**	**01 25 25.5**	**-0.9**
WTVZ	**West Tongariro**	**1.59**	**203**	P	**Pn**	**01 25 28.0**	**+1.2**
GRZ	**Great Barrier**	**1.60**	**331**	P	**Pn**	**01 25 24.7**	**-2.1**
TWVZ	**Taurewa**	**1.60**	**208**	P	**Pn**	**01 25 28.2**	**+1.3**
WMGZ	**Waiomatatini S**	**1.60**	**96**	P	**Pn**	**01 25 25.5**	**-1.3**
WTAZ	**Waiatarua**	**1.63**	**296**	P	**Pn**	**01 25 26.5**	**-0.6**
NGZ	**Ngauruhoe**	**1.64**	**202**	P	**Pn**	**01 25 29.0**	**+1.7**
ABAZ	**Army Bay**	**1.64**	**310**	P	**Pn**	**01 25 26.3**	**-0.9**
CNGZ	**Carnagh Statio**	**1.65**	**121**	P	**Pn**	**01 25 27.5**	**+0.3**
ARHZ	**Aropaoanui**	**1.67**	**164**	P	**Pn**	**01 25 28.4**	**+1.0**
KNZ	**Kokohu**	**1.69**	**144**	P	**Pn**	**01 25 27.8**	**+0.3**
RVAZ	**Riverhead Bore**	**1.71**	**301**	P	**Pn**	**01 25 26.7**	**-1.0**
TUVZ	**Tukino**	**1.71**	**200**	P	**Pn**	**01 25 29.3**	**+1.3**
PRGZ	**Paritu Road**	**1.72**	**138**	P	**Pn**	**01 25 28.0**	**+0.1**
FWVZ	**Far West T-bar**	**1.73**	**202**	P	**Pn**	**01 25 29.6**	**+1.4**
WHVZ	**Whangaehu Hut**	**1.74**	**201**	P	**Pn**	**01 25 29.5**	**+1.2**
KWHZ	**Kaweka Forest**	**1.76**	**179**	P	**Pn**	**01 25 29.3**	**+1.0**
TRVZ	**Turoa**	**1.77**	**202**	P	**Pn**	**01 25 29.8**	**+1.2**
MCHZ	**McNeill Hill**	**1.80**	**173**	P	**Pn**	**01 25 29.9**	**+1.4**
MOVZ	**Moawhango**	**1.82**	**196**	P	**Pn**	**01 25 29.4**	**+0.6**
PKVZ	**Pokaka**	**1.83**	**207**	P	**Pn**	**01 25 30.2**	**+1.3**
BHHZ	**Black Hill Sta**	**1.85**	**188**	P	**Pn**	**01 25 29.7**	**+0.6**
MTVZ	**Mangateitei**	**1.87**	**203**	P	**Pn**	**01 25 30.5**	**+1.2**
MHGZ	**Mahia Peninsul**	**1.90**	**142**	P	**Pn**	**01 25 30.0**	**+0.5**
VRZ	**Vera Road**	**1.95**	**221**	P	**Pn**	**01 25 32.2**	**+2.2**
CKHZ	**Cape Kidnapper**	**2.06**	**165**	P	**Pn**	**01 25 32.1**	**+1.0**
MHEZ	**Mangahewa**	**2.16**	**229**	P	**Pn**	**01 25 35.0**	**+3.0**
KAHZ	**Kahuranaki**	**2.16**	**170**	P	**Pn**	**01 25 33.2**	**+1.1**
PNHZ	**Pukenui**	**2.26**	**184**	P	**Pn**	**01 25 33.8**	**+0.7**
DREZ	**Durham Road**	**2.31**	**228**	P	**Pn**	**01 25 36.3**	**+2.8**
WAZ	**Wanganui**	**2.37**	**207**	P	**Pn**	**01 25 35.7**	**+1.5**
WCZ	**Waipu Caves**	**2.38**	**316**	P	**Pn**	**01 25 33.1**	**-1.4**
LREZ	**Lake Rotokare**	**2.38**	**220**	P	**Pn**	**01 25 36.6**	**+2.2**
PXZ	**Pawanui**	**2.39**	**172**	P	**Pn**	**01 25 35.1**	**+0.7**
WPHZ	**Waipukurau**	**2.40**	**179**	P	**Pn**	**01 25 35.2**	**+0.6**
TSZ	**Takapari Road**	**2.42**	**188**	P	**Pn**	**01 25 35.5**	**+0.7**
PREZ	**Palmer Road**	**2.43**	**226**	P	Pn	01 25 38.6	+3.7
PKE	**Pukeiti**	**2.44**	**230**	P	**Pn**	**01 25 37.8**	**+2.8**
KHEZ	**Kahui Hut**	**2.48**	**228**	P	**Pn**	**01 25 38.3**	**+2.8**
NBEZ	**Newall Road No**	**2.56**	**230**	P	**Pn**	**01 25 39.0**	**+2.8**
PRHZ	**Porangahau**	**2.61**	**176**	P	**Pn**	**01 25 37.5**	**+0.7**
DVHZ	**Dannevirke**	**2.64**	**184**	P	**Pn**	**01 25 37.6**	**+0.4**
NMEZ	**Namu Road**	**2.64**	**228**	P	**Pn**	**01 25 40.4**	**+3.2**
OHWZ	**Ohakea**	**2.68**	**198**	P	**Pn**	**01 25 38.9**	**+1.4**
POWZ	**Post Office Ro**	**2.77**	**190**	P	**Pn**	**01 25 39.0**	**+0.4**
ANWZ	**Angora Road**	**2.80**	**179**	P	**Pn**	**01 25 39.4**	**+0.6**
PRWZ	**Pori Road**	**2.91**	**186**	P	**Pn**	**01 25 40.7**	**+0.6**
BFZ	**Birch Farm**	**3.02**	**182**	P	**Pn**	**01 25 41.5**	**+0.1**
MRZ	**Mangatainoka R**	**3.06**	**192**	P	**Pn**	**01 25 41.8**	**0.0**
TIWZ	**Tintock**	**3.14**	**187**	P	**Pn**	**01 25 43.2**	**+0.4**
CPWZ	**Castlepoint**	**3.25**	**183**	P	**Pn**	**01 25 44.7**	**+0.7**
OGWZ	**Otaki Gorge**	**3.29**	**197**	P	**Pn**	**01 25 44.6**	**+0.1**
HOWZ	**Holdsworth Sta**	**3.31**	**192**	P	**Pn**	**01 25 44.4**	**-0.3**
OUZ	**Omahuta**	**3.32**	**316**	P	**Pn**	**01 25 43.4**	**-1.5**
KIW	**Kapiti Island**	**3.40**	**199**	P	**Pn**	**01 25 45.6**	**-0.2**
TMWZ	**Te Maipa**	**3.46**	**186**	P	**Pn**	**01 25 46.2**	**-0.3**
MTW	**Mount Morrison**	**3.56**	**191**	P	**Pn**	**01 25 47.1**	**-0.6**
CAW	**Cannon Point**	**3.59**	**196**	P	**Pn**	**01 25 47.9**	**-0.2**
DUWZ	**D'Urville Isla**	**3.68**	**211**	P	**Pn**	**01 25 48.7**	**-0.4**
TRWZ	**Traveller**	**3.77**	**188**	P	**Pn**	**01 25 49.9**	**-0.3**
PAWZ	**Paruwai Farm**	**3.79**	**191**	P	**Pn**	**01 25 49.7**	**-0.7**
MSWZ	**Moikau Station**	**3.85**	**193**	P	**Pn**	**01 25 50.4**	**-0.8**
TCW	**Tory Channel**	**3.91**	**204**	P	**Pn**	**01 25 51.3**	**-0.5**
BHW	**Baring Head**	**3.93**	**197**	P	**Pn**	**01 25 51.4**	**-0.6**
PLWZ	**Palliser**	**4.00**	**192**	P	**Pn**	**01 25 52.2**	**-0.8**
TUWZ	**Tuamarina**	**4.22**	**206**	P	**Pn**	**01 25 55.1**	**-0.5**
NNZ	**Nelson**	**4.25**	**212**	P	**Pn**	**01 25 55.1**	**-1.0**
QRZ	**Quartz Range**	**4.36**	**222**	P	**Pn**	**01 25 57.2**	**-0.2**
BSWZ	**Blackbirch Sta**	**4.49**	**205**	P	**Pn**	**01 25 58.5**	**-0.5**
THZ	**Tophouse**	**4.91**	**212**	P	**Pn**	**01 26 03.6**	**-0.6**
KHZ	**Kahutara**	**5.23**	**204**	P	**Pn**	**01 26 07.5**	**-0.7**
DSZ	**Denniston Nort**	**5.41**	**220**	P	**Pn**	**01 26 09.4**	**-1.1**
LTZ	**Lake Taylor**	**6.01**	**210**	P	**Pn**	**01 26 17.2**	**-1.0**
AMCZ	**Amberley**	**6.21**	**206**	P	**Pn**	**01 26 19.5**	**-1.1**
INZ	**Inchbonnie**	**6.32**	**215**	P	**Pn**	**01 26 20.9**	**-1.1**
OXZ	**Oxford**	**6.56**	**209**	P	**Pn**	**01 26 23.4**	**-1.8**
MQZ	**McQueen's Vall**	**6.68**	**204**	P	**Pn**	**01 26 24.6**	**-2.0**
AKCZ	**Akaroa Harbour**	**6.75**	**202**	P	**Pn**	**01 26 26.5**	**-1.0**
RPZ	**Rata Peaks**	**7.29**	**212**	P	**Pn**	**01 26 32.4**	**-2.0**
	3.8nm,0.3s,baz=38,slow=0.9,SNR=15						
RPZ				S	**S**	**01 27 51.4**	**-6.0**
	4.7nm,0.3s,baz=127,slow=22,SNR=12						
RPZ	**Rata Peaks**	**7.29**	**212**	P	**Pn**	**01 26 33.1**	**-1.4**
FOZ	**Fox Glacier**	**7.71**	**218**	P	**Pn**	**01 26 38.8**	**-1.1**
LBZ	**Lake Benmore**	**8.20**	**213**	P	**Pn**	**01 26 44.9**	**-1.3**
ODZ	**Otahua Downs**	**8.55**	**209**	P	**Pn**	**01 26 50.0**	**-0.7**
JCZ	**Jackson Bay**	**8.62**	**220**	P	**Pn**	**01 26 49.6**	**-2.1**
WKZ	**Wanaka**	**9.06**	**215**	P	**Pn**	**01 26 55.6**	**-1.7**
TUZ	**Tuapeka**	**9.70**	**209**	P	**Pn**	**01 27 05.6**	**+0.1**
MLZ	**Mavora Lakes**	**9.89**	**216**	P	**Pn**	**01 27 08.2**	**+0.3**
ASAR	**Alice Springs**	**38.80**	**279**	P	**P**	**01 31 55.1**	**+0.9**
	0.8nm,0.5s,baz=119,slow=8.1,SNR=13						
WRA	**Warramunga Arr**	**40.48**	**284**	P	**P**	**01 32 08.7**	**+0.5**
	1.0nm,0.4s,baz=121,slow=7.9,SNR=29						
VNA3	**Neumayer Olymp**	**71.31**	**178**	P	**P**	**01 35 47.0**	**+1.3**
VNA2	**Neumayer--Watz**	**71.69**	**179**	P	**P**	**01 35 49.4**	**+1.4**
	baz=179,slow=5.1						
VNA1	**Neumayer--Stat**	**71.94**	**178**	P	**P**	**01 35 50.7**	**+1.3**
PLCA	**Paso Flores**	**80.83**	**135**	P	**P**	**01 36 41.9**	**+1.9**
	2.1nm,0.8s,baz=225,slow=19,SNR=3.8						
TORD	**Torodi Ar. Bea**	**155.14**	**192**	PKPab	**PKPab**	**01 44 43.0**	**-0.4**
	0.4nm,0.9s,baz=162,slow=2.1,SNR=3.2						

*IDC **08** 01:46:20.4±6.0, 52.°78N×176.°10W, h131^{km}±60^{km}, mb3.1/2, mb1 3.5/4, mb1mx3.0/44, mbtmp3.7/4, Error ellipse: s-maj=100.7km s-min=33.5km az=110.0*

*ISCJB **08** 01:46:33.8±0.6, 53.°0N±0.°3×174.°7W±0.°2, h210^{km}±16^{km}, mb3.1/2, Error ellipse: s-maj=53.3km s-min=11.4km az=164.5*

*NEIC **08** 01:46:36.8±0.0, 52.°52N×174.°67W, h201^{km}, ML2.6(AEIC), After AEIC.*

ISC 08 01:46:34.5±0.9**, 53.°0N**±0.°3×**174.°6W**±0.°1**, h209^{km}**±17^{km}**, n18, σ0.s86**/24**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWE	**Korovin West**	**0.62**	**159**	P	**Pn**	**01 47 04.4**	**+1.2**
KOKL	**Mount Kliuchef**	**0.68**	**158**	P	**Pn**	**01 47 04.9**	**+1.5**
ATKA	**Atka Island**	**0.79**	**161**	P	**Pn**	**01 47 04.1**	**+0.2**
ATKA				S	**Sn**	**01 47 26.4**	**-0.2**
GSIG	**Igitkin Island**	**1.25**	**220**	P	**Pn**	**01 47 07.1**	**+0.2**
GSMY	**Great Sitkin M**	**1.26**	**225**	P	**Pn**	**01 47 07.5**	**+0.4**
GSTD	**Great Sitkin T**	**1.29**	**227**	P	**Pn**	**01 47 07.9**	**+0.6**
GSTD				S	**Sn**	**01 47 32.0**	**-0.8**
ETKA	**Kagalaska Isla**	**1.54**	**226**	P	**Pn**	**01 47 09.6**	**+0.2**
ETKA				S	**Sn**	**01 47 35.8**	**-0.6**
ADAG	**Mount Adagdak**	**1.55**	**232**	P	**Pn**	**01 47 10.3**	**+0.9**
ADK	**Adak**	**1.65**	**231**	P	**Pn**	**01 47 10.8**	**+0.5**
ADK				S	**Sn**	**01 47 37.4**	**-0.7**
KIRH	**Kanaga Island**	**1.84**	**236**	P	**Pn**	**01 47 13.0**	**+0.9**
KIWB	**Kanaga Island**	**1.90**	**236**	P	**Pn**	**01 47 13.2**	**+0.6**
KIMD	**Kanaga Island**	**2.00**	**235**	P	**Pn**	**01 47 13.9**	**+0.4**
KIMD				S	**Sn**	**01 47 42.6**	**-1.4**
TAFP	**Tanaga Falls P**	**2.31**	**244**	P	**Pn**	**01 47 18.0**	**+1.1**
TAFP				S	**Sn**	**01 47 50.0**	**+0.1**
TASE	**Tanaga Southea**	**2.37**	**243**	P	**Pn**	**01 47 18.9**	**+1.3**
KDAK	**Kodiak Island**	**13.41**	**60**	P	**Pn**	**01 49 35.8**	**-0.6**
	2.2nm,0.3s,baz=261,slow=13,SNR=24						
ILAR	**Eielson Array**	**18.40**	**39**	P	**P**	**01 50 33.2**	**-0.5**
	0.1nm,0.3s,baz=243,slow=11,SNR=6.7						
ILAR				S		01 54 02.8	
	0.1nm,0.3s,baz=340,slow=20,SNR=6.9						
YKA	**Yellowknife Ar**	**32.27**	**49**	P	**P**	**01 52 42.6**	**-0.3**
	0.2nm,0.4s,baz=284,slow=8.4,SNR=7.5						
PDAR	**Pinedale Array**	**43.41**	**76**	P	**P**	**01 54 17.2**	**+0.7**
	0.6nm,0.5s,baz=319,slow=2.6,SNR=8.4						

*ISCJB **08** 01:52:40.3±0.7, 22.°02S±0.°03×68.°81W±0.°08, h116^{km}±6^{km}, mb3.4/3, Error ellipse: s-maj=13.0km s-min=5.6km az=3.5*

*GUC **08** 01:52:40.6±0.6, 22.°00S×68.°79W, h104^{km}±3^{km}, ML3.2*

*IDC **08** 01:53:06.5±7.6, 19.°75S×67.°22W, h252^{km}±47^{km}, mb2.9/3, mb1 3.2/4, mb1mx3.0/22, mbtmp3.4/4, Error ellipse: s-maj=108.6km s-min=33.6km az=22.0*

ISC 08 01:52:40.6±1.0**, 22.°02S**±0.°04×**68.°79W**±0.°09**, h109^{km}**±8^{km}**, n18, σ0.s69**/29**, mb3.5**/3**, 11C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.48**	**297**	⇑*i*P	**Pn**	**01 52 57.6**	**+0.1**
PB09				*i* S	**Sn**	**01 53 09.9**	**-0.1**
PB09				IAML		01 53 11.5	
	comp=N,1μm,0.6s						
LVC	**Limon Verde**	**0.60**	**191**	*e*P	**Pn**	**01 52 58.4**	**-0.2**
LVC				*e*S	**Sn**	**01 53 11.6**	**-0.3**
PB03	**IPOC Station P**	**0.90**	**268**	⇑*i*P	**Pn**	**01 53 00.9**	**0.0**
PB03				*i* S	**Sn**	**01 53 16.2**	**0.0**
PB03				IAML		01 53 17.4	
	comp=N,1μm,0.1s						
PB06	**IPOC Station P**	**1.00**	**227**	⇑*i*P	**Pn**	**01 53 02.4**	**+0.5**
PB06				*e*S	**Sn**	**01 53 18.8**	**+0.9**
PB06				IAML		01 53 20.4	
	comp=N,674nm,0.1s						
PB07	**IPOC Station P**	**1.06**	**286**	⇑*i*P	**Pn**	**01 53 02.8**	**+0.2**
PB07				*i* S	**Sn**	**01 53 19.3**	**+0.1**
PB07				IAML		01 53 19.7	
	comp=N,1μm,0.3s						
PB01	**IPOC Station P**	**1.17**	**326**	⇑*e*P	**Pn**	**01 53 03.5**	**-0.2**
PB01				*i* S	**Sn**	**01 53 21.1**	**0.0**
PB01				IAML		01 53 22.1	
	comp=N,534nm,0.3s						
PB02	**IPOC Station P**	**1.25**	**304**	⇑*e*P	**Pn**	**01 53 04.5**	**0.0**
PB02				*e*S	**Sn**	**01 53 22.4**	**-0.2**
PB02				IAML		01 53 23.8	
	comp=E,635nm,0.6s						
PB04	**IPOC Station P**	**1.30**	**256**	⇑*e*P	**Pn**	**01 53 05.5**	**+0.2**
PB04				*e*S	**Sn**	**01 53 24.4**	**+0.5**
PB04				IAML		01 53 28.4	
	comp=N,430nm,0.1s						
PB15	**IPOC Station P**	**1.34**	**208**	⇑*e*P	**Pn**	**01 53 06.4**	**+0.6**
PB15				*e*S	**Sn**	**01 53 26.0**	**+1.3**
PB05	**IPOC Station P**	**1.55**	**237**	⇑*e*P	**Pn**	**01 53 08.4**	**+0.3**
PB05				IAML		01 53 33.1	
	comp=E,170nm,0.5s						
PB08	**IPOC Station P**	**1.90**	**349**	⇑*e*P	**Pn**	**01 53 13.3**	**+0.6**
PB08				*e*S	**Sn**	**01 53 38.2**	**+1.1**
PB08				IAML		01 53 40.9	
	comp=E,124nm,0.1s						
PB10	**IPOC Station P**	**2.21**	**227**	*e*P	**Pn**	**01 53 16.9**	**+0.7**
GO01	**Chusmiza**	**2.37**	**351**	*e*P	**Pn**	**01 53 19.5**	**+0.6**
GO01				*i* S	**Sn**	**01 53 49.0**	**+1.0**
PB11	**IPOC Station P**	**2.39**	**340**	⇑*i*P	**Pn**	**01 53 18.3**	**-0.5**
PB11				*i* S	**Sn**	**01 53 48.2**	**+0.2**
LPAZ	**La Paz**	**5.74**	**6**	P	**Pn**	**01 54 05.3**	**+1.3**
	comp=E,0.3nm,0.3s,baz=169,slow=8.6,SNR=8.3						
LPAZ				S	Sn	01 54 53.6	-15
	comp=E,0.1nm,0.3s,baz=76,slow=4.2,SNR=2.6						
TXAR	**Lajitas Array**	**61.12**	**325**	P	P	02 02 49.4	+5.8
	comp=E,0.3nm,0.4s,baz=148,slow=5.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**77.42**	**70**	P	**P**	**02 04 22.8**	**-1.6**
	comp=E,0.2nm,0.5s,baz=259,slow=6.3,SNR=4.3						
YKA	**Yellowknife Ar**	**91.71**	**341**	P	**P**	**02 05 35.5**	**+0.2**
	comp=E,0.2nm,0.7s,baz=126,slow=4.7,SNR=3.7						

*IDC **08** 01:57:58.8±1.4, 11.°48S×165.°54E, h0^{km}, mb3.7/6, mb1 3.9/7, mb1mx3.7/32, mbtmp3.7/7, ML3.4/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/27, Error ellipse: s-maj=46.2km s-min=25.9km az=127.0*

*ISCJB **08** 01:58:00.8±0.9, 11.°6S±0.°1×165.°5E±0.°2, h24^{km}, mb3.6/6, Error ellipse: s-maj=28.3km s-min=17.9km az=6.7*

ISC 08 01:58:02.6±1.0**, 11.°5S**±0.°1×**165.°5E**±0.°2**, h24^{km}, n8, σ1.s05**/7**, mb3.6**/6**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.86**	**290**	LR	LR	02 01 28.7	
	comp=Z,83nm,19.6s,baz=170,slow=36						
DZM	**Mont Dzumac**	**10.57**	**175**	Pn	**Pn**	**02 00 33.1**	**+0.4**
	0.3nm,0.3s,baz=333,slow=24,SNR=6.5						
WRA	**Warramunga Arr**	**31.14**	**250**	P	**P**	**02 04 19.2**	**-0.6**
	1.9nm,0.8s,baz=80,slow=9.3,SNR=8.1						
ASAR	**Alice Springs**	**32.41**	**244**	P	**P**	**02 04 30.3**	**-0.7**
	0.4nm,0.8s,baz=83,slow=7.7,SNR=3.7						
SONM	**Songino Array**	**78.89**	**324**	P	**P**	**02 10 05.0**	**+0.9**
	0.2nm,0.3s,baz=123,slow=5.3,SNR=2.5						
ILAR	**Eielson Array**	**83.99**	**19**	P	**P**	**02 10 30.9**	**+0.4**
	0.3nm,0.6s,baz=236,slow=5.1,SNR=6.0						
MKAR	**Makanchi Array**	**93.69**	**317**	P	**P**	**02 11 17.9**	**+0.6**
	0.3nm,0.6s,baz=99,slow=7.5,SNR=4.0						
YKA	**Yellowknife Ar**	**95.45**	**27**	P	**P**	**02 11 23.5**	**-1.4**
	0.1nm,0.5s,baz=257,slow=4.3,SNR=3.3						

*NNC **08** 02:08:37.1±2.3, 39.°27N×72.°53E, h8^{km}±20^{km}, mb2.9, mpv2.4, Error ellipse: s-maj=21.7km s-min=15.9km az=153.0*

*KRNET **08** 02:08:38.2±0.1, 39.°31N×72.°43E, mb2.4*

ISC 08 02:08:36.7±2.6**, 39.°3N**±0.°1×**72.°51E**±0.°06**, h7^{km}**±16^{km}**, n9, σ1.s97**/17**, 9C-9D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.05**	**47**	⇓P	**Pg**	**02 08 57.5**	**+0.6**
	0.6nm,0.2s						
SFK				⇓S	**Sb**	**02 09 12.1**	**+0.6**
	6.2nm,0.3s						
SFK	**Sufi-Kurgan**	**1.05**	**47**	⇓*i*P	**Pn**	**02 08 58.0**	**-0.1**
	baz=49						
SFK				⇓*i*S	**Sn**	**02 09 12.8**	**-0.4**
	baz=49						
BTK	**Batken**	**1.51**	**301**	⇓*i*P	**Pn**	**02 09 04.3**	**0.0**
	baz=2.0						
BTK				⇓*i*S	**Sn**	**02 09 24.0**	**-0.3**
	baz=2.0						
ARSB	**Arslanbob**	**2.06**	**10**	⇑*i*P	**Pb**	**02 09 14.2**	**-0.3**
	baz=12						
ARSB				⇑*i*S	**Sb**	**02 09 41.0**	**+0.6**
	baz=12						
ARLS	**Aral**	**2.92**	**28**	⇓*i*P	**Pn**	**02 09 26.5**	**+2.9**
	baz=29						
ARLS				⇓*i*S	**Sb**	**02 10 03.0**	**-2.0**
	baz=29						
AML	**Almayashu**	**2.98**	**17**	⇑*i*P	**Pb**	**02 09 28.5**	**-1.8**
	baz=18						
AML				⇑*i*S	**Sb**	**02 10 05.7**	**-1.3**
	baz=18						
UCH	**Uchtor**	**3.30**	**27**	⇑*i*P	**Pb**	**02 09 32.9**	**-3.0**
	baz=28						
UCH				⇑*i*S	**Sb**	**02 10 13.1**	**-3.4**
	baz=28						
AAK	**Ala-Archa**	**3.67**	**24**	⇑Pg	**Pb**	**02 09 44.1**	**+2.3**
	2.1nm,0.8s						
AAK				⇓Lg	Lg	02 10 34.0	
	1.8nm,0.7s						
KK31	**Karatay Array**	**4.09**	**339**	Pn	**Pn**	**02 09 39.8**	**+0.1**
	0.4nm,0.6s,baz=145,slow=12,SNR=5.1						
KK31				⇑Sn	**Sn**	**02 10 30.4**	**+2.5**
	0.6nm,0.5s						
KK31				⇑Lg	Lg	02 10 47.8	
	0.5nm,0.5s						

*IDC **08** 02:30:11.5±2.4, 3.°61S×102.°81E, h0^{km}, mb3.6/6, mb1 3.7/6, mb1mx3.6/42, mbtmp3.6/6, Error ellipse: s-maj=84.5km s-min=20.8km az=56.0*

*ISCJB **08** 02:30:14.3±1.0, 4.°3S±0.°1×101.°95E±0.°09, h65^{km}, mb3.7/6, Error ellipse: s-maj=20.9km s-min=8.2km az=34.0*

*DJA **08** 02:30:15.0±1.3, 4.°S±9.°×10.°2E±.°, h32^{km}±15^{km}, M3.7/9, MLv3.7/9*

ISC 08 02:30:16.1±1.2**, 4.°3S**±0.°1×**102.°00E**±0.°09**, h65^{km}, n14, σ1.s03**/13**, mb3.7**/6**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.96**	**95**	P	**Pn**	**02 30 31.9**	**-1.9**
MASI	**Maura Aman, Be**	**1.16**	**12**	P	**Pn**	**02 30 34.6**	**-1.9**
LHSI	**Lahat**	**1.59**	**73**	P	**Pn**	**02 30 42.3**	**+0.2**
MDSI	**Maura Dua**	**2.19**	**95**	P	**Pn**	**02 30 49.7**	**-0.4**
KRJI	**Kerinci**	**2.24**	**346**	P	**Pn**	**02 30 51.5**	**+0.5**
PPSI	**Pulau Pagai**	**2.49**	**307**	P	**Pn**	**02 30 53.4**	**-0.9**
PDSI	**Padang**	**3.69**	**335**	P	**Pn**	**02 31 10.2**	**-0.4**
SISI	**Saibi**	**4.13**	**315**	P	**Pn**	**02 31 15.8**	**-0.9**
WRA	**Warramunga Arr**	**35.13**	**119**	P	**P**	**02 37 04.1**	**+0.3**

	0.2nm,0.4s,baz=297,slow=11,SNR=10						
ASAR	**Alice Springs**	**36.31**	**125**	P	**P**	**02 37 14.7**	**+0.9**
	0.2nm,0.3s,baz=303,slow=8.1,SNR=3.5						
KSRS	**Korea Array**	**48.03**	**28**	P	P	02 38 43.6	-5.2
	0.5nm,0.4s,baz=234,slow=10,SNR=3.1						
SONM	**Songino Array**	**52.04**	**4**	P	**P**	**02 39 19.4**	**+0.2**
	0.2nm,0.4s,baz=195,slow=8.4,SNR=2.1						
MKAR	**Makanchi Array**	**53.76**	**343**	P	**P**	**02 39 32.2**	**+0.4**
	0.8nm,0.5s,baz=152,slow=8.6,SNR=17						
ZALV	**Zalesovo Beam**	**59.78**	**348**	P	**P**	**02 40 14.2**	**-0.1**
	0.7nm,0.5s,baz=163,slow=6.5,SNR=4.6						

IDC 08 02:44:07.7±1.6**, 2°.88S×129°.27E, h0km, mb3.6**/2**, mb1 3.8**/4**, mb1mx3.5**/46**, mbtmp3.6**/4**, ML3.5**/2**, MS3.5**/1**, Ms1 3.5**/1**, ms1mx2.5**/34**, Error ellipse: s-maj=47.0km s-min=26.0km az=86.0, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.82**	**45**	Pn	Pn	02 44 53.9	-0.2
	8.9nm,0.3s,baz=67,slow=14,SNR=91						
SIJI				Sn	Sn	02 45 24.4	-4.5
	5.7nm,0.3s,baz=226,slow=13,SNR=4.0						
WRA	**Warramunga Arr**	**17.66**	**164**	P	Pn	02 48 13.7	-1.7
	0.2nm,0.3s,baz=344,slow=12,SNR=21						
ASAR	**Alice Springs**	**21.14**	**168**	P	P	02 48 55.4	+0.8
	3.3nm,0.8s,baz=341,slow=9.8,SNR=23						
MJAR	**Matsushiro Arr**	**40.10**	**11**	LR	LR	03 06 55.8	
	comp=Z,74nm,21.9s,baz=240,slow=34						
MKAR	**Makanchi Array**	**64.42**	**326**	P	P	02 54 45.9	+0.1
	0.2nm,0.5s,baz=121,slow=8.2,SNR=3.8						

IDC 08 02:47:15.8±6.9**, 7°.03S×156°.31E, h192km**±53km**, mb3.2**/5**, mb1 3.4**/6**, mb1mx3.2**/42**, mbtmp3.8**/6**, Error ellipse: s-maj=63.1km s-min=27.3km az=118.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.36**	**255**	P	Pn	02 49 28.8	+1.8
	2.2nm,0.3s,baz=260,slow=18,SNR=2.9						
PMG				S	Sn	02 51 13.6	+1.9
	1.7nm,0.3s,baz=336,slow=20,SNR=3.5						
WRA	**Warramunga Arr**	**24.89**	**237**	P	P	02 52 20.9	-0.4
	1.4nm,0.4s,baz=62,slow=9.0,SNR=13						
WRA				PcP	PcP	02 55 53.1	+1.1
	0.2nm,0.3s,baz=58,slow=3.0,SNR=5.7						
ASAR	**Alice Springs**	**27.14**	**230**	P	P	02 52 40.6	-0.8
	0.5nm,0.7s,baz=59,slow=9.1,SNR=3.7						
ASAR				PcP	PcP	02 55 58.5	+1.3
	0.3nm,0.5s,baz=83,slow=2.7,SNR=3.6						
FITZ	**Fitzroy Crossi**	**31.84**	**247**	P	P	02 53 21.9	-1.0
	3.5nm,1.0s,baz=51,slow=6.9,SNR=13						
ILAR	**Eielson Array**	**82.93**	**21**	P	P	02 59 17.7	-1.2
	0.2nm,0.5s,baz=244,slow=5.2,SNR=4.2						
MKAR	**Makanchi Array**	**84.29**	**318**	P	P	02 59 26.8	+0.5
	0.4nm,0.7s,baz=93,slow=7.2,SNR=7.2						
TORD	**Torodi Ar. Bea**	**154.29**	**286**	PKPbc	PKPbc	03 06 53.9	-0.5
	0.2nm,0.6s,baz=52,slow=3.2,SNR=2.3						

*IDC **08** 02:51:43.2±0.4, 19°.22N×121°.21E, h0km, mb4.3/28, mb1 4.4/31, mb1mx4.4/51, mbtmp4.4/31, ML4.2/3, MS3.9/23, Ms1 3.9/23, ms1mx3.6/59, Error ellipse: s-maj=15.5km s-min=10.6km az=71.0*

*NEIC **08** 02:51:45.9±1.7, 19°.20N×121°.25E, h18km±10km, mb4.6/51, Error ellipse: s-maj=4.5km s-min=3.1km az=90.0*

*ISCJB **08** 02:51:47.4±0.1, 19°.38N±0°.02×121°.21E±0°.03, h33km, mb4.5/91, MS4.0/32, Error ellipse: s-maj=4.1km s-min=2.4km az=175.5*

*BJI **08** 02:51:47.2, 19°.62N×120°.94E, h6km, mb4.4/44, mB4.8/32, ML4.5/1, Ms4.3/38, Ms7 4.1/37*

*MAN **08** 02:51:48.2, 19°.26N×121°.14E, h11km, mb5.1, ML4.1, MS4.1*

*MOS **08** 02:51:49.5±1.2, 19°.28N×121°.29E, h61km, mb4.7/30, Error ellipse: s-maj=9.9km s-min=5.4km az=111.0*

ISC 08 02:51:47.9±0.7**, 19°.31N**±0°.02×**121°.20E**±0°.04**, h28**km±5km**, n269,** σ1s.**70**/304**, mb4.5**/94**, MS4.0**/33**, 24C-9D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**1.33**	**32**⇓	*e*P	**Pb**	**02 52 12.6**	**+0.3**
BBP				*e*S	**Sb**	**02 52 32.5**	**+3.6**
SGCP	**Mt. Cagua**	**1.33**	**143**	*e*P	**Pb**	**02 52 11.9**	**-0.3**
SGCP				*e*S	**Sb**	**02 52 31.1**	**+2.2**
APYP	**Conner**	**1.44**	**178**	*e*P	**Pn**	**02 52 12.5**	**+0.2**
APYP				*e*S	**Sb**	**02 52 32.8**	**+0.7**
CVP	**Callao Caves**	**1.71**	**160**⇓	*i*P	**Pn**	**02 52 17.2**	**+1.4**
CVP				*i* S	**Sb**	**02 52 40.0**	**+0.3**
ABRA	**Dolores**	**1.72**	**196**	*e*P	**Pn**	**02 52 16.1**	**+0.1**
ABRA				*e*S	**Sb**	**02 52 39.4**	**-0.7**
CAUP	**Cauayan**	**2.43**	**166**	*e*P	**Pb**	**02 52 30.7**	**-0.3**
PALP	**Palanan**	**2.52**	**152**	*e*P	**Pn**	**02 52 29.6**	**+2.6**
PALP				*e*S	**Sb**	**02 53 05.1**	**+1.9**
BOLP	**Bolinao**	**3.16**	**203**	*e*P	**Pn**	**02 52 37.5**	**+1.6**
BOLP				*e*S	**Sb**	**02 53 22.4**	**+0.8**
SMPP	**San Manuel, Pa**	**3.19**	**189**	*e*P	**Pn**	**02 52 37.5**	**+1.3**
SMPP				*e*S	**Sb**	**02 53 19.5**	**-2.8**
TWG	**Pinlang**	**3.49**	**358**	*e*Pn	**Pn**	**02 52 40.7**	**+0.3**
TWG				*e*Sn	**Sn**	**02 53 18.3**	**-2.5**
BALP	**Baler**	**3.57**	**174**	*e*P	**Pn**	**02 52 43.8**	**+2.3**
BALP				*e*S	**Sb**	**02 53 32.3**	**-1.1**
SCZP	**Santa Cruz**	**3.73**	**200**	*e*P	**Pn**	**02 52 47.9**	**+4.2**
SCZP				*e*S	**Sb**	**02 53 39.7**	**+1.9**
TPUB	**Ta-pu**	**4.00**	**352**	*e*Pn	**Pn**	**02 52 46.7**	**-0.8**
TPUB				*e*Sn	**Sn**	**02 53 29.7**	**-3.8**
YULB	**Yu-li**	**4.06**	**1**	*e*Pn	**Pn**	**02 52 49.8**	**+1.6**
SSLB	**Suanglung**	**4.46**	**357**	*e*Pn	**Pn**	**02 52 53.9**	**+0.2**
SSLB				*e*Sn	**Sn**	**02 53 40.5**	**-4.3**
POLP	**Polilio Island**	**4.61**	**171**	*e*P	**Pn**	**02 52 58.8**	**+3.0**
POLP				*e*S	**Sn**	**02 53 53.9**	**+5.4**
NACB	**Ninganchiao**	**4.85**	**4**	*e*Pn	**Pn**	**02 53 01.3**	**+2.2**
TGY	**Tagaytay City**	**5.19**	**183**	Pn	Pn	02 53 09.9	+6.1
	105nm,0.3s,baz=287,slow=2.3,SNR=7.3						
YHNB	**Yeheng**	**5.33**	**2**	*e*Pn	**Pn**	**02 53 07.5**	**+1.7**
YHNB				*e*Sn	**Sn**	**02 54 06.3**	**-0.1**
YOJ	**Yonaguni jima**	**5.39**	**18**	*e*Pn	**Pn**	**02 53 06.9**	**+0.4**
YOJ	**Yonaguni jima**	**5.39**	**18**	*e*P	**Pn**	**02 53 06.9**	**+0.4**
GQP	**Guinayangan**	**5.51**	**167**⇑	*e*P	**Pn**	**02 53 10.7**	**+2.5**
GQP				*e*S	**Sn**	**02 54 14.5**	**+3.9**
LUBP	**Lubang**	**5.62**	**190**	*e*P	**Pn**	**02 53 14.3**	**+4.6**
LUBP				*e*S	Sb	02 54 23.0	-9.4
QZH	**Quanzhou**	**6.10**	**337**	*e*Pn	**Pn**	**02 53 13.8**	**-2.5**
QZH				Sn	**Sn**	**02 54 19.9**	**-5.3**
QZH				LR	LR		
	comp=Z,1μm,17.5s						
MCO	**Taipa Grande**	**7.68**	**293**	P	**Pn**	**02 53 35.0**	**-3.0**
GZH	**Guangzhou**	**8.24**	**298**	P	**Pn**	**02 53 41.4**	**-4.2**
GZH				LR	LR		
	comp=N,980nm,13.9s						
GZH				LR	LR		
	comp=E,990nm,13.5s						
JOW	**Kunigami**	**9.92**	**40**	Pn	**Pn**	**02 54 10.2**	**+1.6**
	8.9nm,0.3s,baz=140,slow=16,SNR=13						
JOW	**Kunigami**	**9.92**	**40**	*e*Pn	**Pn**	**02 54 06.3**	**-2.3**
QIZ	**Qiongzhong**	**10.74**	**270**	P	**Pn**	**02 54 19.3**	**-0.7**
QIZ				S	**Sn**	**02 56 21.3**	**+2.0**
QIZ				pmax	pmax		
	comp=Z,42nm,0.7s						
QIZ				LR	LR		
	comp=N,140nm,4.0s						
QIZ				LR	LR		
	comp=E,760nm,12.8s						
QIZ				LR	LR		
	comp=Z,890nm,14.3s						
QIZ	**Qiongzhong**	**10.74**	**270**	*e*Pn	**Pn**	**02 54 16.1**	**-3.8**
	28nm,0.7s						
QIZ				*e*Sn	Sn	02 56 07.7	-12
DAV	**Davao City (W)**	**12.89**	**160**	LR	LR	03 00 42.8	
	comp=Z,720nm,18.2s,baz=12,slow=42						
KKM	**Kota Kinabalu**	**14.05**	**201**	*e*Pn	**Pn**	**02 55 02.3**	**-3.1**
GYA	**Guiyang**	**15.16**	**301**	P	**Pn**	**02 55 21.8**	**+1.5**
GYA				PP	**pwP**	**02 55 34.2**	**-0.4**
GYA				S	**Sn**	**02 58 11.0**	**+3.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GYA				pmax	pmax		
	comp=Z,110nm,4.2s						
GYA				LR	LR		
	comp=N,310nm,10.4s						
GYA				LR	LR		
	comp=E,280nm,11.2s						
GYA				LR	LR		
	comp=Z,320nm,10.6s						
JNU	**Nakatsue**	**16.25**	**30**	Pn	**Pn**	**02 55 35.0**	**+0.8**
	0.4nm,0.3s,baz=148,slow=4.2,SNR=4.6						
JNU				LR	LR	03 02 14.2	
	comp=Z,110nm,20.2s,baz=122,slow=39						
JNU	**Nakatsue**	**16.25**	**30**	*e*Pn	**Pn**	**02 55 35.3**	**+1.0**
	28nm,0.9s						
TJN	**Taejon**	**17.84**	**16**⇑	*e*P	**Pn**	**02 55 52.4**	**-1.8**
KMI	**Kunming**	**18.04**	**292**	P	**P**	**02 55 59.0**	**+1.8**
KMI				pP	pP	02 56 02.5	-1.7
KMI				sP	pwP	02 56 03.8	-3.0
KMI				S	**Sn**	**02 59 19.7**	**+2.2**
KMI				pmax	pmax		
	comp=Z,14nm,0.6s						
KMI				pmax	pmax		
	comp=Z,170nm,3.2s						
KMI				LR	LR		
	comp=N,420nm,12.1s						
KMI				LR	LR		
	comp=E,730nm,13.3s						
KMI				LR	LR		
	comp=Z,700nm,16.4s						
XAN	**Xi'an**	**18.29**	**326**	P	**Pn**	**02 56 00.3**	**+0.5**
XAN				S	**Sn**	**02 59 24.8**	**+1.5**
XAN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,150nm,3.8s						
XAN				LR	LR		
	comp=N,450nm,14.9s						
XAN				LR	LR		
	comp=E,380nm,15.4s						
XAN				LR	LR		
	comp=Z,530nm,13.4s						
CHAI	**Chaiyaphum**	**18.63**	**263**	P	**Pn**	**02 56 04.2**	**+0.3**
SBUM	**Sibu**	**18.92**	**209**	*e*P	**P**	**02 56 05.2**	**-1.5**
	16nm,1.0s						
KS15	**Wonju Array Si**	**18.98**	**17**	*e*P	**Pn**	**02 56 08.2**	**+0.1**
KSAR	**Wonju Array Be**	**18.98**	**17**	P	**Pn**	**02 56 07.8**	**-0.3**
KSAR	**Wonju Array Be**	**18.98**	**17**	P	**Pn**	**02 56 07.8**	**-0.3**
KSRS	**Korea Array**	**19.01**	**17**	P	**P**	**02 56 07.8**	**+0.4**
	0.8nm,0.3s,baz=196,slow=11,SNR=17						
KSRS				LR	LR	03 04 40.4	
	comp=Z,334nm,19.4s,baz=200,slow=41						
KS01	**Wonju Array Si**	**19.02**	**17**	*e*P	**P**	**02 56 07.8**	**+0.2**
PBKT	**Sadao Pong**	**19.44**	**265**	*e*P	**Pn**	**02 56 13.3**	**-0.4**
	10nm,1.1s						
PBKT	**Sadao Pong**	**19.44**	**265**	P	**Pn**	**02 56 14.7**	**+1.0**
	12nm,1.2s						
CD2	**Chengdu**	**19.54**	**310**	*e*P	**Pn**	**02 56 14.5**	**-0.3**
UTTA	**Uttaradit**	**19.64**	**269**	P	**P**	**02 56 15.1**	**+0.5**
	2.9nm,0.7s						
SUKH	**Sukhothai**	**20.55**	**268**	P	Pn	02 56 28.5	+1.7
	3.6nm,1.1s						
KSM	**Kuching**	**20.69**	**212**	*e*P	**P**	**02 56 25.0**	**-1.0**
	23nm,1.0s						
CBIJ	**Chichi jima**	**20.76**	**64**	*e*P	**P**	**02 56 27.2**	**+0.4**
	74nm,0.8s						
JCJ	**Chichijima**	**20.76**	**64**	P	**P**	**02 56 27.2**	**+0.4**
	52nm,0.6s,baz=292,slow=23,SNR=5.4						
CMMT	**Chiang Mai**	**21.04**	**272**	P	**P**	**02 56 30.1**	**+0.3**
	18nm,1.1s						
CHTO	**Chiang Mai**	**21.05**	**272**	*e*P	**P**	**02 56 29.4**	**-0.4**
	9.5nm,0.8s						
CHTO	**Chiang Mai**	**21.05**	**272**	*e*P	**P**	**02 56 29.4**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CHTO	**Chiang Mai**	**21.05**	**272**	P	**P**	**02 56 30.2**	**+0.3**
	comp=Z,68nm,0.9s						
CM01	**Chiang Mai Arr**	**21.07**	**271**	*e*P	**P**	**02 56 30.5**	**+0.3**
CM31	**Chiang Mai Arr**	**21.08**	**271**	*e*P	**P**	**02 56 29.8**	**-0.5**
CM31				*e*S	Sn	03 00 37.0	+6.3
CMAR	**Chiang Mai Arr**	**21.08**	**271**	P	**P**	**02 56 30.3**	**+0.1**
	comp=Z,6.0nm,0.8s,baz=73,slow=9.8,SNR=21						
CMAR				PcP	**PcP**	**03 00 36.9**	**+0.7**
	comp=Z,1.8nm,0.4s,baz=48,slow=1.1,SNR=7.4						
CMAR				LR	LR	03 04 39.9	
	comp=Z,127nm,18.7s,baz=86,slow=37						
UTHA	**Uthaitani**	**21.09**	**263**	P	**P**	**02 56 31.2**	**+0.9**
BJI	**Beijing**	**21.11**	**349**	P	**P**	**02 56 33.1**	**+2.8**
BJI				pmax	pmax		
	comp=Z,15nm,1.2s						
BJI				LR	LR		
	comp=Z,330nm,16.5s						
BJI				LR	LR		
	comp=Z,250nm,17.8s						
BJI				LR	LR		
	comp=Z,180nm,18.1s						
INU	**Inuyama**	**21.23**	**38**	*e*P	**P**	**02 56 31.3**	**-0.3**
	comp=Z,32nm,0.7s						
JHJ	**Hachijo jima 2**	**21.56**	**47**	LR	LR	03 03 52.4	
	comp=Z,193nm,19.1s,baz=355,slow=34						
SIJI	**Sorong**	**22.36**	**153**	P	**P**	**02 56 43.6**	**-0.3**
	comp=Z,14nm,0.6s,baz=22,slow=4.4,SNR=10						
LZH	**Lanzhou**	**22.64**	**321**	*e*P	**P**	**02 56 47.2**	**+0.2**
LZH				pP	pP	02 56 51.3	-2.6
LZH				sP	sP	02 56 53.3	-4.3
LZH				*e*S	**S**	**03 00 49.0**	**-4.5**
LZH				sS	pS	03 00 55.8	-6.1
LZH				pmax	pmax		
	comp=Z,35nm,1.0s						
LZH				pmax	pmax		
	comp=Z,240nm,5.4s						
LZH				LR	LR		
	comp=Z,2μm,14.1s						
LZH				LR	LR		
	comp=Z,680nm,13.0s						
LZH				LR	LR		
	comp=Z,3μm,14.9s						
MAJO	**Matsushiro**	**22.75**	**38**	*e*P	**P**	**02 56 47.6**	**-0.3**
MAJO	**Matsushiro**	**22.75**	**38**⇓	*e*P	**P**	**02 56 48.7**	**+0.7**
MAT	**Matsushiro**	**22.75**	**38**	P	**P**	**02 56 47.9**	**-0.1**
MAT				*e*S	**S**	**03 00 46.6**	**-8.5**
MJAR	**Matsushiro Arr**	**22.75**	**38**	P	**P**	**02 56 47.6**	**-0.4**
	comp=Z,4.2nm,0.8s,baz=226,slow=9.0,SNR=9.3						
HHC	**Hu-ho-hao-te**	**23.00**	**341**	*e*P	**P**	**02 56 53.6**	**+3.0**
HHC				S	**S**	**03 01 02.4**	**+3.0**
HHC				pmax	pmax		
	comp=Z,25nm,0.9s						
HHC				pmax	pmax		
	comp=Z,220nm,5.2s						
HHC				LR	LR		
	comp=Z,660nm,14.9s						
HHC				LR	LR		
	comp=Z,290nm,13.8s						
HHC				LR	LR		
	comp=Z,730nm,19.0s						
SPSI	**Sidrap Palu**	**23.17**	**184**	P	**P**	**02 56 53.8**	**+1.4**
BTO	**Baotou**	**23.29**	**338**	*e*P	**P**	**02 57 00.3**	**+6.8**
GUMO	**Guam**	**23.39**	**100**	LR	LR	03 04 01.3	
	comp=Z,246nm,21.5s,baz=170,slow=32						
CN2	**Changchun**	**24.68**	**7**	*e*P	**P**	**02 57 07.9**	**+1.5**
CN2				*e*S	**S**	**03 01 27.2**	**+0.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,200nm,16.0s						
CN2				LR	LR		
	comp=Z,300nm,16.0s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
USRK	**Ussuriysk Ar.**	**26.41**	**18**	P	**P**	**02 57 22.4**	**+0.4**
	comp=Z,6.4nm,0.7s,baz=201,slow=7.7,SNR=13						
USRK				LR	LR	03 08 54.3	
	comp=Z,150nm,19.7s,baz=194,slow=39						
GTA	**Gaotai**	**27.24**	**322**	*e*P	**P**	**02 57 26.1**	**-3.7**
GTA				S	**S**	**03 02 03.0**	**-4.3**
GTA				sS	pS	03 02 09.9	-5.5
GTA				SS	**SnSn**	**03 03 17.8**	**+1.5**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,86nm,6.3s						
GTA				LR	LR		
	comp=Z,170nm,16.2s						
GTA				LR	LR		
	comp=Z,230nm,16.8s						
GTA				LR	LR		
	comp=Z,390nm,14.6s						
PSI	**Prapat**	**27.27**	**236**	LR	LR	03 07 52.3	
	comp=Z,167nm,20.2s,baz=282,slow=36						
BRDH	**Bariadhala**	**27.78**	**282**	LR	LR	03 10 23.8	
	comp=Z,526nm,18.3s,baz=119,slow=40						
JAY	**Jayapura**	**28.95**	**136**	LR	LR	03 07 10.7	
	comp=Z,225nm,21.4s,slow=32						
ASAJ	**Asahikawa**	**30.52**	**31**	LR	LR	03 10 40.4	
	comp=Z,150nm,19.7s,baz=316,slow=37						
ULN	**Ulaanbaatar**	**30.72**	**341**	*e*P	**P**	**02 58 04.3**	**+3.6**
	comp=Z,2.7nm,0.8s						
ULN	**Ulaanbaatar**	**30.72**	**341**⇑	*e*P	**P**	**02 58 01.6**	**+0.9**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONA0	**Songino Array**	**30.90**	**340**	*e*P	**P**	**02 58 03.1**	**+0.9**
SONM	**Songino Array**	**30.90**	**340**	P	**P**	**02 58 03.1**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=161,slow=10,SNR=6.8						
SONM				LR	LR	03 11 45.3	
	comp=Z,419nm,18.3s,baz=182,slow=39						
SONA1	**Songino Array**	**30.90**	**340**	*e*P	**P**	**02 58 01.6**	**-0.7**
KLR	**Kul'dur**	**31.03**	**13**	P	**P**	**02 58 03.1**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=221,slow=7.4,SNR=7.1						
KLR				PcP	**PcP**	**03 00 58.9**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=196,slow=4.8,SNR=5.0						
RAMN	**Ramite**	**32.64**	**290**	*e*P	**P**	**02 58 18.4**	**+0.5**
	comp=Z,20nm,0.6s						
YSS	**Yuzh-Sakhalins**	**32.73**	**28**	*e*P	P	02 58 13.1	-5.0
YSS				*e*		02 58 28.9	
YSS				pmax	pmax		
	comp=Z,10.0nm,1.4s						
YSS				MLR	MLR		
	comp=N,100nm,16.0s						
YSS				MLR	MLR		
	comp=Z,200nm,16.0s						
JIRN	**Jiri**	**33.08**	**291**	*e*P	**P**	**02 58 22.0**	**+0.1**
GUN	**Gumba**	**33.38**	**292**	*e*P	**P**	**02 58 24.7**	**+0.1**
	comp=Z,18nm,0.7s						
ZEA	**Zeya**	**34.68**	**6**	*e*P	P	02 58 42.8	+7.8
ZEA				pmax	pmax		
	comp=Z,23nm,1.0s						
ZEA				MLR	MLR		
	comp=N,200nm,15.0s						
ZEA				MLR	MLR		
	comp=Z,600nm,15.0s						
DANN	**Dangsing**	**35.30**	**292**	*e*P	**P**	**02 58 40.6**	**-0.4**
	comp=Z,9.9nm,0.6s						
KOLN	**Koldanda**	**35.38**	**291**	*e*P	**P**	**02 58 41.4**	**-0.2**
	comp=Z,6.7nm,0.6s						
PYUN	**Piuthan**	**35.95**	**291**	*e*P	**P**	**02 58 46.3**	**-0.2**
	comp=Z,8.0nm,0.7s						
MOY	**Mondy**	**35.98**	**339**	*e*P	**P**	**02 58 50.3**	**+3.9**
WMQ	**Urumqi**	**37.17**	**319**	*e*P	**P**	**02 58 59.3**	**+2.7**
WMQ				pP	pP	02 59 03.4	-1.2
WMQ				pmax	pmax		
	comp=Z,19nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,210nm,8.1s						
WMQ				LR	LR		
	comp=Z,940nm,24.1s						
WMQ				LR	LR		
	comp=Z,480nm,18.6s						
WMQ				LR	LR		
	comp=Z,400nm,24.0s						
FITZ	**Fitzroy Crossi**	**37.43**	**173**	PcP	**PcP**	**03 01 17.2**	**-0.2**
	comp=Z,5.1nm,0.7s,baz=347,slow=6.0,SNR=8.3						
FITZ	**Fitzroy Crossi**	**37.43**	**173**	*e*P	**P**	**02 58 56.0**	**-2.9**
	comp=Z,6.5nm,0.8s						
FITZ				*e*PcP	**PcP**	**03 01 17.2**	**-0.2**
COEN	**Coen**	**39.51**	**145**	*e*P	**P**	**02 59 14.3**	**-2.1**
	comp=Z,4.1nm,0.8s						
MBWA	**Marble Bar**	**40.25**	**182**	*e*P	**P**	**02 59 20.8**	**-1.7**
	comp=Z,15nm,0.8s						
DGZ	**Jazzator, Alta**	**40.56**	**326***c*	*i*P	**P**	**02 59 26.2**	**+1.2**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRAB	**Tennant Creek**	**41.08**	**161**	*e*P	**P**	**02 59 27.1**	**-2.2**
	comp=Z,5.8nm,0.8s						
WRAB	**Tennant Creek**	**41.08**	**161**⇓	*i*P	**P**	**02 59 26.6**	**-2.8**
WRAB				pmax	pmax		
	comp=Z,38nm,2.9s						
WR1	**Warramunga Arr**	**41.08**	**161**	*e*P	**P**	**02 59 26.6**	**-2.8**
	comp=Z,6.5nm,0.7s						
WR1				*e*PcP	**PcP**	**03 01 28.7**	**-0.2**
WRA	**Warramunga Arr**	**41.08**	**161**	P	**P**	**02 59 26.6**	**-2.8**
	comp=Z,3.9nm,0.5s,baz=343,slow=9.0,SNR=65						
WRA				PcP	**PcP**	**03 01 28.7**	**-0.2**
	comp=Z,4.5nm,0.7s,baz=342,slow=3.5,SNR=13						
WB2	**Warramunga Arr**	**41.09**	**161**	*e*P	**P**	**02 59 27.1**	**-2.4**
	comp=Z,5.8nm,0.7s						
MK01	**Makanchi Array**	**41.93**	**320**	*e*P	**P**	**02 59 37.1**	**+0.9**
MK31	**Makanchi Array**	**41.95**	**320**	*e*P	**P**	**02 59 37.2**	**+1.0**
MK31	**Makanchi Array**	**41.95**	**320**	*e*P	**P**	**02 59 37.3**	**+1.0**
MK32	**Makanchi Array**	**41.95**	**320**	*e*P	**P**	**02 59 37.3**	**+1.0**
MK32				*e*PcP	**PcP**	**03 01 31.1**	**-0.3**
MKAR	**Makanchi Array**	**41.95**	**320**	P	**P**	**02 59 37.3**	**+1.0**
	comp=Z,2.8nm,0.6s,baz=118,slow=9.4,SNR=35						
MKAR				PcP	**PcP**	**03 01 31.1**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=120,slow=4.0,SNR=2.0						
MKAR				LR	LR	03 18 11.8	
	comp=Z,115nm,18.8s,baz=110,slow=38						
MKAR	**Makanchi Array**	**41.95**	**320**	*e*P	**P**	**02 59 37.3**	**+1.0**
	comp=Z,22nm,0.6s						
MKAR				PcP	**PcP**	**03 01 31.1**	**-0.3**
MKAR	**Makanchi Array**	**41.95**	**320**	*e*P	**P**	**02 59 37.3**	**+1.0**
MKAR						03 01 31.1	
MKAR				pmax	pmax		
	comp=Z,23nm,0.6s						
MAKZ	**Makanchi**	**42.15**	**320**	*e*P	**P**	**02 59 39.2**	**+1.3**
	comp=Z,2.6nm,0.8s						
MAKZ	**Makanchi**	**42.15**	**320**	*e*P	**P**	**02 59 39.2**	**+1.3**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GIRL	**Giralia**	**42.25**	**190**	*e*P	**P**	**02 59 38.4**	**-0.6**
	comp=Z,53nm,0.9s						
KSH	**Kashi**	**43.71**	**307**	P	**P**	**02 59 54.5**	**+3.6**
KSH				pP	pP	02 59 59.5	+0.7
KSH				PP	**PcP**	**03 01 35.4**	**-2.2**
KSH				PcS	**PcS**	**03 05 32.8**	**+2.3**
KSH				S	**S**	**03 06 25.8**	**+6.4**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,120nm,5.6s						
KSH				LR	LR		
	comp=Z,140nm,6.4s						
KSH				LR	LR		
	comp=Z,110nm,10.2s						
KSH				LR	LR		
	comp=Z,700nm,13.8s						
PETK	**Petropavlovsk-**	**43.95**	**31**	P	**P**	**02 59 51.9**	**-0.4**
	comp=Z,9.3nm,0.9s,baz=210,slow=8.6,SNR=3.9						
PETK				LR	LR	03 19 45.5	
	comp=Z,56nm,18.4s,baz=171,slow=38						
PEA1	**Petropavlovsk-**	**43.95**	**31**	*e*P	**P**	**02 59 51.9**	**-0.5**
NRN	**Naryn**	**44.19**	**310**	*e*P	**P**	**02 59 53.3**	**-1.6**
	comp=Z,2.5nm,0.9s						
NRN	**Naryn**	**44.19**	**310**	*e*P	**P**	**02 59 53.3**	**-1.6**
NRN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZAA0	**Zalesovo Array**	**44.39**	**330**	*e*P	**P**	**02 59 55.4**	**-0.5**
	comp=Z,2.2nm,0.8s						
ZALV	**Zalesovo Beam**	**44.39**	**330**	P	**P**	**02 59 56.4**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=122,slow=7.5,SNR=4.9						
ZALV				PcP	**PP**	**03 01 40.1**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=76,slow=6.1,SNR=2.0						
ZALV				LR	LR	03 19 33.7	
	comp=Z,202nm,18.0s,baz=72,slow=38						
ZALV	**Zalesovo Beam**	**44.39**	**330**	*e*P	**P**	**02 59 55.1**	**-0.8**
ZALV				PcP	**PP**	**03 01 40.1**	**+0.5**
ZAA1	**Zalesovo Array**	**44.39**	**330**	*e*P	**P**	**02 59 56.4**	**+0.5**
ZAA1				*e*PcP	**PP**	**03 01 40.1**	**+0.5**
AS31	**Alice Springs**	**44.48**	**163**	*e*P	**P**	**02 59 55.5**	**-1.4**
	comp=Z,2.9nm,0.5s						
AS31				*e*PP	**PcP**	**03 01 39.8**	**-0.4**
ASAR	**Alice Springs**	**44.48**	**163**	P	**P**	**02 59 55.0**	**-2.0**
	comp=Z,4.0nm,0.5s,baz=346,slow=7.0,SNR=74						
ASAR				PcP	**PcP**	**03 01 39.8**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=346,slow=3.3,SNR=5.6						
AS01	**Alice Springs**	**44.49**	**163**	*e*P	**P**	**02 59 54.8**	**-2.2**
AS01				*e*PP	**PcP**	**03 01 39.5**	**-0.7**
NIL	**Nilore**	**44.85**	**299**	*e*P	**P**	**03 00 00.4**	**+0.5**
	comp=Z,10nm,0.8s						
NIL	**Nilore**	**44.85**	**299**	*e*P	**P**	**03 00 00.4**	**+0.5**
NIL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
AAK	**Ala-Archa**	**45.59**	**311**	P	**P**	**03 00 06.2**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=97,slow=7.9,SNR=4.2						
AAK				PcP	**PcP**	**03 01 43.7**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=53,slow=5.1,SNR=2.7						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KURK	Kurchatov	45.91	323	eP	P	03 00 08.0	0.0
	comp=Z,4.4nm,0.8s						
KURK	Kurchatov	45.91	323	eP	P	03 00 08.0	0.0
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURBB	Kurchatov Arra	45.91	323	P	P	03 00 08.7	+0.6
	comp=Z,3.5nm,0.6s,baz=120,slow=7.9,SNR=47						
BTK	Batken	47.71	307	eP	P	03 00 24.0	+1.6
	comp=Z,2.7nm,0.8s						
BTK	Batken	47.71	307	eP	P	03 00 24.0	+1.6
BTK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GAR	Garm	47.91	305	eP	P	03 00 25.1	+1.1
	comp=Z,8.4nm,0.6s						
GAR	Garm	47.91	305	eP	P	03 00 25.1	+1.1
GAR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MORW	Morawa	48.36	186	eP	P	03 00 26.4	-0.9
	comp=Z,22nm,0.8s						
SEY	Seymchan	48.55	18	⇑eP	P	03 00 27.9	-0.5
OTUK	Ortayu	48.72	318	P	P	03 00 32.3	+2.3
OTUK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CHGR	Chuyangaron	48.75	305	eP	P	03 00 31.6	+1.1
	comp=Z,8.4nm,0.7s						
FORT	Forrest	50.24	172	eP	P	03 00 40.8	-0.8
	comp=Z,44nm,0.7s						
BVAR	Borovoye Array	51.51	323	P	P	03 00 51.6	+0.6
	comp=Z,1.0nm,0.6s,baz=92,slow=7.9,SNR=6.5						
BVAR				PcP	PcP	03 02 04.4	-0.6
	comp=Z,1.3nm,0.6s,baz=83,slow=3.6,SNR=4.8						
BRVK	Borovoye	51.58	323	eP	P	03 00 52.9	+1.4
	comp=Z,4.3nm,0.8s						
BRVK	Borovoye	51.58	323	⇑iP	P	03 00 52.7	+1.2
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NWAO	Narrogin (SRO)	52.08	184	eP	P	03 00 54.6	-0.8
	comp=Z,20nm,0.7s						
NWAO	Narrogin (SRO)	52.08	184	eP	P	03 00 54.6	-0.8
NWAO				pmax	pmax		
	comp=Z,20nm,0.7s						
TIXI	Tiksi	52.53	3	P	P	03 00 57.7	-0.7
	comp=Z,6.6nm,0.8s,baz=157,slow=4.4,SNR=20						
TIXI	Tiksi	52.53	3	⇓iP	P	03 00 57.9	-0.4
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
EIDS	Eidsvold	53.08	146	eP	P	03 01 01.6	-1.4
	comp=Z,4.2nm,0.8s						
BBOO	Buckleboo	53.74	164	eP	P	03 01 07.2	-0.5
	comp=Z,48nm,0.7s						
STKA	Stephens Creek	54.52	159	P	P	03 01 12.3	-1.1
	comp=Z,5.9nm,0.6s,baz=358,slow=9.0,SNR=11						
STKA	Stephens Creek	54.52	159	eP	P	03 01 12.8	-0.6
	comp=Z,1.2nm,0.7s						
STKA	Stephens Creek	54.52	159	eP	P	03 01 12.9	-0.6
STKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BILL	Bilibino	56.26	19	eP	P	03 01 25.4	-0.1
BILL				e		03 02 23.1	
BILL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BILL				MLR	MLR		
	comp=Z,98nm,17.0s						
ABKAR	Akbulak array	56.91	317	eP	P	03 01 31.4	+0.9
ARMA	Armidale	57.46	149	eP	P	03 01 34.4	-0.3
	comp=Z,5.3nm,0.8s						
SVE	Sverdlovsk	58.01	326	eP	P	03 01 39.5	+1.4
AKTO	Aktyubinsk	58.32	318	P	P	03 01 40.9	+0.5
	comp=Z,2.9nm,0.8s,baz=96,slow=6.3,SNR=15						
AKTO				LR	LR	03 29 48.8	
	comp=Z,71nm,18.5s,baz=111,slow=39						
ARU	Arti	59.04	325	eP	P	03 01 45.3	0.0
	comp=Z,9.1nm,0.4s						
ARU	Arti	59.04	325	d iP	P	03 01 45.7	+0.5
ARU						03 03 54.5	
ARU				S	S	03 09 56.1	+6.0
ARU				SS	SS	03 13 46.9	+2.9
ARU				pmax	pmax		
	comp=Z,9.0nm,1.0s						
DZM	Mont Dzumac	60.40	131	eLR	LR	03 19 38.0	
	comp=Z,937nm,29.5s						
CAN	Canberra	60.40	154	eP	P	03 01 54.6	-0.3
CAN	Canberra	60.40	154	eP	P	03 01 54.6	-0.3
TOO	Toolangi	61.03	158	eP	P	03 01 59.3	+0.2
	comp=Z,10nm,0.7s						
TOO	Toolangi	61.03	158	eP	P	03 01 59.3	+0.2
TOO				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ANM	Nome	65.61	27	eP	P	03 02 30.0	+0.9
ANM	Nome	65.61	27	eP	P	03 02 30.0	+0.9
PRGR	Permogore	66.35	330	eP	P	03 02 33.2	-0.6
PRGR				pmax	pmax		
	comp=Z,11nm,1.0s						
TAU	Tasmania Unive	66.42	159	eP	P	03 02 33.2	-1.3
	comp=Z,38nm,1.1s						
TAU	Tasmania Unive	66.42	159	eP	P	03 02 33.2	-1.3
TAU				pmax	pmax		
	comp=Z,38nm,1.1s						
KBZ	Khabaz	68.58	310	LR	LR	03 36 49.8	
	comp=Z,109nm,18.2s,baz=52,slow=39						
VRH	Novokhopyorsk	68.65	318	eP	P	03 02 47.8	-0.8
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KIV	Kislovodsk	68.70	311	eP	P	03 02 47.8	-1.4
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
KIV				MLR	MLR		
	comp=Z,78nm,17.0s						
KLMR	Klimovskoe	69.30	329	eP	P	03 02 50.5	-1.9
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KLMR	Klimovskoe	69.30	329	eP	P	03 02 50.5	-1.9
KLMR				AMP		03 02 53.2	
	comp=Z,10.0nm,1.1s						
RAYN	Ar Rayn	69.84	289	eP	P	03 02 55.7	-0.9
	comp=Z,2.8nm,0.9s						
RAYN	Ar Rayn	69.84	289	eP	P	03 02 55.7	-0.9
RAYN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
OBN	Obninsk	71.35	323	eP	P	03 03 04.4	-0.7
OBN				e		03 03 25.7	
OBN				e		03 05 43.8	
OBN				ePPP	PPP	03 07 20.6	
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,104nm,16.0s						
CAST	Castle Rocks	71.46	28	eP	P	03 03 06.7	+1.1
	comp=Z,6.6nm,0.8s						
PPLA	Purkeypile	71.47	29	eP	P	03 03 06.1	+0.2
	comp=Z,8.0nm,1.0s						
MLY	Manley	71.86	27	eP	P	03 03 09.3	+1.1
	comp=Z,4.8nm,0.9s						
KDAK	Kodiak Island	71.88	34	iP	P	03 03 08.6	+0.4
MDM	Murphy Dome	72.93	26	eP	P	03 03 15.4	+0.9
	comp=Z,5.9nm,0.8s						
IL1	Eielson Array	73.53	27	eP	P	03 03 16.5	-1.4
ILAR	Eielson Array	73.53	27	P	P	03 03 16.9	-1.1
	comp=Z,1.2nm,0.7s,baz=267,slow=4.9,SNR=14						
ILB	Eielson Array	73.53	27	eP	P	03 03 18.0	0.0
ARA0	ARCESS Array S	74.05	339	eP	P	03 03 21.0	+0.1
ARCES	ARCESS Array B	74.05	339	P	P	03 03 21.0	+0.1
	comp=Z,2.9nm,0.6s,baz=64,slow=8.7,SNR=12						
SCRK	Sand Creek	74.92	27	eP	P	03 03 26.5	+0.2
	comp=Z,2.1nm,0.6s						
FIA0	FINESS Array S	75.66	330	eP	P	03 03 29.9	-0.4
FIA0	FINESS Array S	75.66	330	eP	P	03 03 29.9	-0.4
FINES	FINESS Array B	75.66	330	P	P	03 03 29.9	-0.4
	comp=Z,2.4nm,0.7s,baz=174,slow=3.6,SNR=6.1						
FINES				LR	LR	03 40 58.5	
	comp=Z,111nm,19.4s,baz=74,slow=39						
FINES	FINESS Array B	75.66	330	iP	P	03 03 33.0	+2.7
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BR101	Keskin Array S	76.10	307	eP	P	03 03 33.0	-0.5
BRTR	Keskin Array B	76.10	307	P	P	03 03 33.0	-0.5
	comp=Z,0.7nm,0.9s,baz=135,slow=3.5,SNR=4.4						
BRTR				LR	LR	03 42 21.5	
	comp=Z,39nm,18.4s,baz=69,slow=40						
BRTR	Keskin Array B	76.10	307	iP	P	03 03 34.0	+0.5
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AKASG	Malin Array Be	76.53	319	P	P	03 03 34.2	-1.3
	comp=Z,1.7nm,0.7s,baz=65,slow=5.8,SNR=6.1						
AKASG	Malin Array Be	76.53	319	iP	P	03 03 34.5	-1.0
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKBB	Malin Array Si	76.53	319	eP	P	03 03 34.2	-1.3
	comp=Z,3.5nm,0.8s						
AKBB	Malin Array Si	76.53	319	eP	P	03 03 34.2	-1.3
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KIEV	Kiev	76.54	319	⇑iP	P	03 03 34.4	-1.1
KIEV	Kiev	76.54	319	⇑eP	P	03 03 34.0	-1.5
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
DAWY	Dawson	76.86	26	eP	P	03 03 37.8	+0.6
	comp=Z,3.5nm,0.8s						
EPYK	Eagle Plains	77.22	24	eP	P	03 03 39.2	0.0
	comp=Z,7.2nm,0.8s						
RPZ	Rata Peaks	77.58	145	P	P	03 03 41.5	+0.2
	comp=Z,19nm,0.8s,baz=338,slow=8.3,SNR=6.5						
INK	Inuvik	77.72	22	eP	P	03 03 42.0	+0.2
	comp=Z,4.6nm,0.9s						
INK				ePcP	pP	03 03 50.9	+0.6
INK	Inuvik	77.72	22	eP	P	03 03 42.0	+0.2
INK				e		03 03 50.9	
INK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CFR	Carcaliu	78.66	314	⇓iP	P	03 03 46.4	-1.1
CFR	Carcaliu	78.66	314	⇓P	P	03 03 46.4	-1.1
GIRR	Girov	79.25	316	⇑iP	P	03 03 49.5	-1.3
VRI	Vrincioaia	79.42	315	⇑iP	P	03 03 49.9	-1.8
VRI	Vrincioaia	79.42	315	⇑P	P	03 03 49.9	-1.8
BURAR	Bucovina Array	79.90	317	⇑iP	P	03 03 53.5	-0.9
BURAR	Bucovina Array	79.90	317	⇑P	P	03 03 53.5	-0.9
MLR	Muntele Rosu	80.05	315	⇑iP	P	03 03 55.3	0.0
MLR	Muntele Rosu	80.05	315	⇑P	P	03 03 55.3	0.0
DRGR		81.78	317	⇑iP	P	03 04 04.3	-0.1
DRGR		81.78	317	⇑P	P	03 04 04.3	-0.1
HFS	Hagfors	81.81	331	LR	LR	03 43 03.3	
	comp=Z,150nm,18.1s,baz=50,slow=38						
DEV	Deva	81.95	316	⇑iP	P	03 04 05.0	-0.2
DEV	Deva	81.95	316	⇑P	P	03 04 05.0	-0.2
NIE	Niedzica	82.40	320	eP	P	03 04 08.1	+0.5
NIE	Niedzica	82.40	320	eP	P	03 04 08.1	+0.5
OJC	Ojcow	82.42	321	eP	P	03 04 07.6	0.0
	comp=Z,4.7nm,0.8s						
NB2	NORSAR Subarra	82.53	333	P	P	03 04 06.9	-1.1
	comp=Z,2.0nm,0.8s,baz=64,slow=5.6						
NB200	NORSAR Array S	82.53	333	eP	P	03 04 06.7	-1.3
NOA	NORSAR Array B	82.53	333	P	P	03 04 06.7	-1.3
	comp=Z,1.1nm,0.7s,baz=64,slow=5.2,SNR=6.1						
NOA				LR	LR	03 43 56.4	
	comp=Z,178nm,19.3s,baz=65,slow=38						
VTS	Vitosha	82.84	313	⇑iP	P	03 04 09.9	-0.2
VTS	Vitosha	82.84	313	⇑P	P	03 04 09.9	-0.2
MDVR	Moldovita	83.11	315	⇓iP	P	03 04 11.2	-0.2
RES	Resolute Bay	83.44	9	eP	P	03 04 12.9	+0.5
	comp=Z,11nm,0.8s						
RES	Resolute Bay	83.44	9	eP	P	03 04 12.9	+0.5
RES				pmax	pmax		
	comp=Z,11nm,0.8s						
VYHS	Vyhne	83.63	319	eP	P	03 04 14.4	+0.5
TULEG	Thule	84.16	2	eP	P	03 04 16.5	+0.4
	comp=Z,6.4nm,0.8s						
JAVC	Velka Javorina	84.21	320	eP	P	03 04 18.0	+1.1
KSP	Ksiaz	84.25	322	eP	P	03 04 17.4	+0.4
KSP	Ksiaz	84.25	322	eP	P	03 04 17.4	+0.4
DPC	Dobruska-Polom	84.43	322	eP	P	03 04 18.5	+0.5
DPC	Dobruska-Polom	84.43	322	eP	P	03 04 18.5	+0.5
KMBO	Kilima Mbogo	84.66	267	P	P	03 04 19.1	-0.9
	comp=Z,2.1nm,0.9s,baz=78,slow=6.7,SNR=4.5						
KMBO	Kilima Mbogo	84.66	267	iP	P	03 04 20.5	+0.4
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
VRAC	Vranov	84.68	320	⇑iP	P	03 04 20.3	+1.0
VRAC	Vranov	84.68	320	⇑P	P	03 04 20.3	+1.0
VRAC	Vranov	84.68	320	eP	P	03 04 19.2	-0.1
KRUC	Moravsky	84.90	320	eP	P	03 04 20.1	-0.3
TREC	Trest	85.35	321	eP	P	03 04 22.9	+0.3
TREC	Trest	85.35	321	eP	P	03 04 22.9	+0.3
CLL	Collm	85.94	323	iP	P	03 04 25.2	-0.3
CLL				Lm	MLR	03 48 00.0	
	comp=Z,100nm,18.7s						
CLL	Collm	85.94	323	iP	P	03 04 25.2	-0.3
BLY	Banja Luka	86.12	316	⇑iP	P	03 04 27.0	+0.5
GEC2	GERESS Array S	86.61	321	eP	P	03 04 29.6	+0.6
	comp=Z,2.6nm,1.0s						
GEC2	GERESS Array S	86.61	321	eP	P	03 04 29.6	+0.6
GEC2				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GERES	GERESS Array B	86.61	321	P	P	03 04 29.6	+0.6
	comp=Z,0.3nm,0.4s,baz=69,slow=6.4,SNR=6.2						
GERES				LR	LR	03 43 30.5	
	comp=Z,27nm,21.8s,baz=78,slow=36						
YKW3	Yellowknife Ar	87.39	23	eP	P	03 04 32.6	+0.3
	comp=Z,17nm,0.7s						
YKA	Yellowknife Ar	87.44	23	P	P	03 04 32.7	+0.2
	comp=Z,13nm,0.7s,baz=311,slow=4.6,SNR=267						
YKB5	Yellowknife Ar	87.44	23	eP	P	03 04 32.1	-0.4
PPT2	Papeete2	94.96	107	eLR	LR	03 35 47.7	
	comp=Z,88nm,25.2s						
VNDA	Vanda	99.50	172	P	Pdif	03 05 26.8	-0.8
	comp=Z,0.7nm,0.7s,baz=291,slow=7.0,SNR=4.6						
VNDA				LR	LR	03 52 55.8	
	comp=Z,28nm,18.7s,baz=233,slow=37						
NV01	Mina Array Sit	99.96	43	ePdif	Pdif	03 05 30.6	-0.3
NVAR	Mina Array Bea	99.96	43	P	Pdif	03 05 30.6	-0.3
	comp=Z,0.5nm,0.5s,baz=286,slow=5.4,SNR=4.9						
TXAR	Lajitas Array	115.10	43	PKP	PKPdf	03 10 27.7	+0.4
	comp=Z,1.6nm,0.6s,baz=260,slow=0.6,SNR=11						
JCT	Junction City	116.70	39	ePKPdf	PKiKP	03 10 30.7	+0.5
JCT	Junction City	116.70	39	ePKIKP	PKiKP	03 10 30.7	+0.5
LNIG	Linares	120.86	44	ePKPdf	PKPdf	03 10 37.8	-0.5
ROSC	El Rosal	151.55	34	PKPbc	PKiKP	03 11 42.0	+0.6
	comp=Z,12nm,0.6s,baz=154,slow=1.7,SNR=15						
ROSC	El Rosal	151.55	34	ePKPbc	PKiKP	03 11 42.0	+0.6

IDC ***08*** *02:58:30.6±0.8, 21.°84S×169.°65E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.1/33, mbtmp4.1/9, ML3.2/1, MS3.6/2, Ms1 3.5/2, ms1mx2.8/38, Error ellipse: s-maj=33.5km s-min=22.4km az=156.0*

ISCJB ***08*** *02:58:33.4±0.6, 21.°9S±0.°1×169.°49E±0.°06, h25km, mb4.2/12, MS3.6/2, Error ellipse: s-maj=18.3km s-min=7.9km az=179.9*

NEIC ***08*** *02:58:36.4±0.6, 21.°76S×169.°49E, h35km, mb4.7/5, Error ellipse: s-maj=23.6km s-min=9.9km az=162.0*

ISC 08 02:58:34.9±0.7**, 21.°8S**±0.°2×**169.°48E**±0.°08**, h25km, n32, σ1.s18**/35**, mb4.1**/12**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.38	283	ePn	Pn	02 58 57.6	-1.0
MARNC				eSn	Sn	02 59 16.4	+0.3
DZM	Mont Dzumac	2.83	264	Pn	Pn	02 59 18.5	-0.1
	3.1nm,0.3s,baz=122,slow=6.5,SNR=79						
DZM				Sn	Sn	02 59 51.1	-0.9
	12nm,0.3s,baz=159,slow=12,SNR=7.9						
ONTNC	Ouen Toro	2.85	259	ePn	Pn	02 59 19.5	+0.7
ONTNC				eSn	Sn	02 59 48.7	-3.6
STKA	Stephens Creek	26.76	242	LR	LR	03 14 06.3	
	comp=Z,96nm,18.0s,baz=21,slow=35						
AS31	Alice Springs	32.81	260	eP	P	03 05 06.8	+0.2
	1.0nm,0.7s						
ASAR	Alice Springs	32.81	260	P	P	03 05 06.8	+0.2
	2.2nm,0.8s,baz=80,slow=8.9,SNR=16						
WB2	Warramunga Arr	32.83	267	eP	P	03 05 07.3	+0.5
WR1	Warramunga Arr	32.84	267	eP	P	03 05 06.3	-0.6
	11nm,1.3s						
WR1				ePcP	PcP	03 07 51.5	0.0
WRA	Warramunga Arr	32.84	267	P	P	03 05 06.3	-0.6
	0.6nm,0.7s,baz=98,slow=8.4,SNR=4.8						
WRA				PcP	PcP	03 07 51.5	0.0
	0.5nm,1.0s,baz=88,slow=2.2,SNR=3.7						
FORT	Forrest	38.02	248	eP	P	03 05 52.0	+0.8
	7.4nm,0.7s						
FITZ	Fitzroy Crossi	41.27	267	P	P	03 06 19.8	+1.4
	7.6nm,1.1s,baz=60,slow=9.6,SNR=3.8						
FITZ	Fitzroy Crossi	41.27	267	eP	P	03 06 19.8	+1.4
	22nm,1.4s						
MBWA	Marble Bar	46.13	261	eP	P	03 06 58.8	+1.2
	25nm,1.4s						
VNDA	Vanda	55.90	182	P	P	03 08 09.4	-0.8
	0.8nm,0.9s,baz=18,slow=7.7,SNR=2.8						
CM31	Chiang Mai Arr	79.76	295	eP	P	03 10 43.2	+2.0
CMAR	Chiang Mai Arr	79.76	295	P	P	03 10 43.2	+2.0
	1.8nm,0.3s,baz=116,slow=3.1,SNR=5.2						
SONA0	Songino Array	89.39	323	eP	P	03 11 29.8	+0.4
SONM	Songino Array	89.39	323	P	P	03 11 29.8	+0.4
	0.5nm,0.8s,baz=123,slow=5.3,SNR=3.5						
NV01	Mina Array Sit	90.32	48	eP	P	03 11 33.7	-0.4
NVAR	Mina Array Bea	90.32	48	P	P	03 11 33.7	-0.4
	0.6nm,0.5s,baz=227,slow=7.6,SNR=5.2						
ILAR	Eielson Array	92.59	17	P	P	03 11 41.5	-2.3
	0.4nm,0.5s,baz=240,slow=5.1,SNR=8.9						
ILB	Eielson Array	92.59	17	eP	P	03 11 41.5	-2.3
ELK	Elko	93.47	47	LR	LR	03 46 45.2	
	comp=Z,27nm,18.4s,baz=316,slow=31						
ARA0	ARCESS Array S	127.58	345	ePKPdf	PKPdf	03 17 36.8	-0.3
ARCES	ARCESS Array B	127.58	345	PKP	PKPdf	03 17 36.8	-0.3
	3.2nm,0.9s,baz=64,slow=2.8,SNR=10						
FIA0	FINESS Array S	133.02	337	ePKPdf	PKPdf	03 17 48.6	+1.0
FINES	FINESS Array B	133.02	337	PKP	PKPdf	03 17 48.6	+1.0
	1.5nm,0.8s,baz=20,slow=4.4,SNR=4.2						
CLL	Collm	145.31	334	ePKPbc	PKPab	03 18 10.0	-0.2
EKA	Eskdalemuir Ar	146.05	352	PKPbc	PKPdf	03 18 11.2	-0.3
	1.7nm,0.4s,baz=356,slow=2.5,SNR=15						
GEC2	GERESS Array S	146.82	330	ePKPdf	PKPbc	03 18 14.9	0.0
GERES	GERESS Array B	146.82	330	PKPbc	PKPbc	03 18 14.9	0.0
	0.8nm,0.5s,baz=26,slow=3.4,SNR=10						
DAVOX	Davos/Dischmat	150.08	331	PKPbc	PKPbc	03 18 23.7	+0.1

ISCJB ***08*** *03:11:24.8±0.4, 50.°26N±0.°03×18.°73E±0.°02, h0km, Error ellipse: s-maj=4.2km s-min=2.1km az=9.7*

PRU ***08*** *03:11:26.7±0.0, 50.°26N×18.°78E, h0km*

IPEC ***08*** *03:11:26.8±0.2, 50.°25N×18.°82E, h0km, ML2.1/3, Error ellipse: s-maj=2.4km s-min=1.1km az=165.0*

VIE ***08*** *03:11:29.9±1.3, 49.°85N×18.°83E, h0km, mb1.9/3, ml2.6/4, Error ellipse: s-maj=9.6km s-min=8.0km az=22.0 42 km E of Ostrava Suspected Mining induced.*

ISC 08 03:11:26.3±0.8**, 50.°18N**±0.°03×**18.°79E**±0.°02**, h0km, n36, σ0.s67**/63**, 6C-1D, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHZP	Chorzow	0.17	50	ePg	Pg	03 11 29.5	0.0
CHZP				eSg	Sg	03 11 31.5	-0.1
OKC	Ostrava-Krasne	0.54	230	ePG	Pb	03 11 39.0	+0.4
OKC				eSG	Sb	03 11 46.6	-0.3
	comp=Z,28nm,0.5s						
OJC	Ojcow	0.65	86	ePg	Pg	03 11 38.8	+0.1
OJC				eSg	Sg	03 11 47.5	+0.4
MORC	Moravsky Berou	0.90	244	⇑iP	Pb	03 11 45.0	+0.1
MORC				S	Sb	03 11 57.6	+0.2
MORC	Moravsky Berou	0.90	244	ePG	Pb	03 11 45.0	+0.1
MORC				eSG	Sb	03 11 56.6	-0.8
MORC	Moravsky Berou	0.90	244	ePg	Pb	03 11 44.9	+0.1
	baz=60						
MORC				eSg	Sb	03 11 56.6	-0.8
	24nm,0.3s,baz=60						
LANS	Liptovska Anna	1.12	157	ePG	Pn	03 11 49.7	+0.4
LANS				eSG	Sn	03 12 05.8	+0.3
NIE	Niedzica	1.24	128	ePg	Pb	03 11 50.8	+0.2
NIE				eSg	Sn	03 12 08.3	0.0
KRLC	Kraliky	1.30	266	ePG	Pg	03 11 51.1	0.0
KRLC				eSG	Sg	03 12 08.3	+0.4
	comp=Z,6.8nm,0.3s						
JAVC	Velka Javorina	1.51	209	ePN	Pg	03 11 55.5	+0.2
DPC	Dobruska-Polom	1.59	277	ePG	Pn	03 11 55.7	-0.1
DPC				eSG	Sg	03 12 17.6	+0.2
	comp=Z,22nm,0.4s						
VRAC	Vranov	1.67	239	⇑iP	Pg	03 11 58.5	+0.2
VRAC				S	Sg	03 12 20.4	+0.4
VRAC	Vranov	1.67	239	ePN	Pb	03 11 58.1	+0.2
VRAC				eSG	Sg	03 12 21.0	+1.0
VRAC	Vranov	1.67	239	ePn	Pb	03 11 58.1	+0.2
	baz=56						
VRAC				eSg	Sg	03 12 20.9	+1.0
	20nm,0.3s,baz=56						
VYHS	Vyhne	1.69	179	ePN	Pn	03 11 57.6	+0.5
VYHS				eSN	Sb	03 12 20.5	+0.4
VYHS				eLG	Lg	03 12 23.6	
KSP	Ksiaz	1.73	293	ePg	Pg	03 11 59.3	-0.1
KSP				eSg	Sg	03 12 22.1	+0.4
UPC	Upice	1.81	281	ePG	Pb	03 11 59.9	-0.4
UPC				eSG	Sg	03 12 24.9	+0.5
	comp=Z,8.4nm,0.4s						
KRUC	Moravsky	1.92	235	ePN	Pb	03 12 01.7	-0.4
KRUC				eSG	Sg	03 12 28.7	+0.8
KRUC	Moravsky	1.92	235	ePn	Pb	03 12 01.6	-0.5
	baz=52						
KRUC				eSg	Sg	03 12 28.6	+0.7
	9.5nm,0.3s,baz=52						
TREC	Trest	2.32	249	ePG	Pb	03 12 08.3	-0.7
TREC				eSG	Sg	03 12 40.6	-0.2
	comp=Z,15nm,0.5s						
GOPC	GO Pecny, Ondr	2.60	266	ePG	Pb	03 12 13.7	0.0
GOPC				eSG	Sg	03 12 48.7	-0.9
	comp=Z,8.0nm,0.4s						
PVCC	Panska Ves	2.73	279	ePG	Pb	03 12 15.4	-0.5
PVCC				eSG	Sg	03 12 53.7	-0.1
	comp=Z,17nm,0.3s						
PRU	Pruhonice	2.74	268	ePG	Pb	03 12 17.0	+0.8
PRU				eSG	Sg	03 12 54.1	-0.3
	comp=Z,4.9nm,0.3s						
PRA	Prague	2.81	269	ePG	Pb	03 12 18.6	+1.4
CONA	Conrad Observa	2.97	222	ePg	Pg	03 12 22.0	-1.1
	0.5nm,0.3s						
CONA				eSn	Sn	03 12 51.4	+0.3
	1.6nm,0.3s						
BRG	Berggiesshubel	3.17	284	PG	Pg	03 12 25.8	-1.2
BRG				SG	Sg	03 13 08.3	+0.2
	8.9nm,0.5s						
KHC	Kasperske Hory	3.55	255	ePN	Pn	03 12 24.5	+1.9
KHC				ePG	Pb	03 12 30.8	+0.9
KHC				eSG	Sg	03 13 20.6	+0.4
	comp=Z,6.7nm,0.4s						
MOA	Molln	3.79	234	Sg	Sg	03 13 28.0	+0.1
	3.4nm,0.4s						
CLL	Collm	3.84	289	ePg	Pg	03 12 40.0	+0.1
CLL				eSg	Sg	03 13 30.0	+0.3
	comp=Z,5.0nm,0.8s						
NKC	Novy Kostel	4.08	273	eSG	Sg	03 13 35.9	-1.2
	comp=Z,4.7nm,0.4s						
DRGR		4.28	141	⇑iP	Pn	03 12 33.4	+0.7
DRGR		4.28	141	S	Sn	03 13 21.7	-1.6
BZS	Buzias	4.95	156	⇑iP	Pn	03 12 41.3	-0.5
BURAR	Bucovina Array	4.96	119	⇑iP	Pn	03 12 42.7	+0.7
GZR	Gura Zlata	5.49	149	⇑iP	Pn	03 12 48.8	-0.6
MDVR	Moldovita	5.76	159	⇓iP	Pn	03 12 51.4	-1.6

IDC ***08*** *03:21:21.0±1.0, 2.°84S×119.°85E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.8/42, mbtmp4.1/6, MS3.4/9, Ms1 3.4/9, ms1mx3.1/37, Error ellipse: s-maj=52.4km s-min=18.6km az=55.0*

DJA ***08*** *03:21:25.6±0.3, 3°S±3°×12°0E±°, h10km, M4.8/13, mb5.4/1, MLv4.5/13*

ISC 08 03:21:23.1±1.2**, 2.°87S**±0.°06×**119.°75E**±0.°07**, h11km**±8km**, n29, σ1.s94**/22**, mb4.3**/8**, MS3.4**/7**, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TTSI	Tana Toraja	0.18	159	P	Pg	03 21 26.6	-0.5
TTSI				S	Sg	03 21 30.3	+0.5
SPSI	Sidrap Palu	1.08	179	P	Pb	03 21 42.8	-1.1
BNSI	Bone	1.56	167	P	Pb	03 21 51.4	-0.6
PCI	Palu	1.96	2	P	Pn	03 21 57.7	+1.4
BKSI	Bulukumba	2.46	171	P	Pn	03 22 04.9	+1.7
KDI	Kendari	3.06	111	P	Pn	03 22 13.6	+2.2
MPSI	Mapaga	3.19	3	P	Pn	03 22 13.3	0.0
BKB	Balikpapan	3.27	299	P	Pb	03 22 19.9	-1.4
LUWI	Luwuk	3.52	59	P	Pn	03 22 19.9	+2.1
KBKI	Kotabaru	3.61	263	P	Pn	03 22 21.6	+2.6
MRSI	Marisa	3.98	33	P	Pn	03 22 26.4	+2.2
MTKI	Muara Teweh, K	5.22	291	P	Pn	03 22 45.8	+4.6
JAGI	Jajag, Banyuwa	7.87	225	P	Pn	03 23 19.4	+1.7
BATI	Baumata	8.26	152	LR	LR	03 27 05.3	
	comp=Z,296nm,19.8s,baz=16,slow=42						
DAV	Davao City (W)	11.46	30	LR	LR	03 29 31.9	
	comp=Z,89nm,18.3s,baz=161,slow=43						
PSI	Prapat	21.57	285	P	P	03 26 13.4	+0.3
	1.8nm,0.5s,baz=360,slow=13,SNR=2.1						
PSI				LR	LR	03 36 21.2	
	comp=Z,74nm,18.1s,baz=112,slow=42						
WRA	Warramunga Arr	22.15	141	P	P	03 26 18.0	-1.2
	4.1nm,0.8s,baz=317,slow=11,SNR=19						
WRA				LR	LR	03 36 35.1	
	comp=Z,58nm,18.7s,baz=285,slow=41						
ASAR	Alice Springs	24.79	148	P	P	03 26 45.0	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	8.6nm,1.1s,baz=327,slow=7.9,SNR=22						
LAMP	**Lampang**	**29.06**	**318**	P	**P**	**03 27 20.9**	**-2.9**
CMAR	**Chiang Mai Arr**	**29.48**	**317**	LR	LR	03 42 09.7	
	comp=Z,84nm,18.9s,baz=137,slow=42						
CHTO	**Chiang Mai**	**29.73**	**317**	P	P	03 27 35.5	+5.8
	36nm,0.8s						
STKA	**Stephens Creek**	**35.42**	**147**	LR	LR	03 42 29.5	
	comp=Z,84nm,19.7s,baz=12,slow=36						
KSRS	**Korea Array**	**40.83**	**10**	LR	LR	03 46 10.1	
	comp=Z,51nm,18.9s,baz=196,slow=36						
GTA	**Gaotai**	**45.90**	**338**	*e*P	**P**	**03 29 47.6**	**+1.6**
GTA				pP	pP	03 29 51.3	+1.2
GTA				sP	sP	03 29 54.0	+2.5
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SONM	**Songino Array**	**51.84**	**349**	P	**P**	**03 30 31.5**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=169,slow=8.8,SNR=6.8						
KLR	**Kul'dur**	**52.93**	**10**	LR	LR	03 55 27.9	
	comp=Z,31nm,18.2s,baz=236,slow=39						
MKAR	**Makanchi Array**	**59.44**	**331**	P	**P**	**03 31 26.1**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=133,slow=7.7,SNR=13						
ZALV	**Zalesovo Beam**	**63.65**	**338**	P	**P**	**03 31 52.8**	**-1.4**
	comp=Z,1.6nm,0.7s,baz=132,slow=7.1,SNR=4.7						
MA2	**Magadan**	**66.87**	**17**	LR	LR	04 00 40.9	
	comp=Z,20nm,18.4s,baz=159,slow=35						

*ISCJB **08** 03:21:33.7±0.4, 24°.83N±0°.02×122°.03E±0°.02, h3km±4km, Error ellipse: s-maj=3.8km s-min=3.4km az=167.5*
*TAP **08** 03:21:33.4, 24°.84N×121°.98E, h6km, ML3.1, B*
*JMA **08** 03:21:34.2±0.1, 24°.84N×121°.91E, h37km, M2.7*
ISC 08 03:21:34.0±0.9**, 24°.85N**±0°.02×**122°.00E**±0°.02**, h10**km±6km**, n62, σ0ˢ.53**/77**, 9C-1D, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EGS		**0.06**	**263**	⇓*i*P	**Pg**	**03 21 35.9**	**-0.2**
	baz=282						
NTC	**Toucheng**	**0.15**	**271**	⇑*i*P	**Pg**	**03 21 37.1**	**-0.2**
	baz=277						
NTC				S	**Sg**	**03 21 39.8**	**+0.1**
	baz=277						
TWB1	**Santiao Chiao**	**0.16**	**358**	⇑*i*P	**Pg**	**03 21 37.8**	**+0.3**
	baz=4.0						
TWB1				*i* S	**Sg**	**03 21 40.3**	**+0.5**
	baz=4.0						
TIPB	**Shuangxi**	**0.20**	**308**	⇑P	**Pg**	**03 21 38.4**	**+0.3**
	baz=313						
TIPB				*e*S	**Sg**	**03 21 41.4**	**+0.4**
	baz=313						
ILA	**Ilan**	**0.24**	**249**	*e*P	**Pg**	**03 21 39.0**	**+0.1**
	baz=251						
TWC	**Suao**	**0.28**	**209**	⇑P	**Pg**	**03 21 39.2**	**-0.4**
	baz=206						
TWC				*e*S	**Sg**	**03 21 42.4**	**-0.9**
	baz=206						
NWF	**Wu-fen Shan**	**0.29**	**318**	⇑P	**Pb**	**03 21 40.5**	**-0.8**
	baz=322						
NWF				*e*S	**Sb**	**03 21 45.2**	**-1.1**
	baz=322						
WFSB	**Wu-fen Shan**	**0.29**	**318**	⇑*e*P	**Pb**	**03 21 40.5**	**-0.8**
	baz=322						
WFSB				*e*S	**Sb**	**03 21 45.2**	**-1.0**
	baz=322						
EOS1	**EOS1**	**0.33**	**158**	*e*P	**Pg**	**03 21 40.9**	**+0.4**
	baz=155						
TWE	**Neicheng**	**0.33**	**246**	⇑P	**Pg**	**03 21 40.3**	**-0.2**
	baz=246						
SLBB	**Yuanshan**	**0.34**	**253**	*e*P	**Pg**	**03 21 40.7**	**-0.1**
	baz=255						
TWA	**Mucha**	**0.39**	**289**	P	**Pg**	**03 21 42.1**	**+0.3**
	baz=291						
TWA				*e*S	**Sb**	**03 21 48.1**	**-1.1**
	baz=291						
ENTT	**Nioudou**	**0.44**	**242**	P	**Pg**	**03 21 42.6**	**-0.1**
	baz=242						
NWLT	**Wulai**	**0.45**	**261**	*e*P	**Pg**	**03 21 42.6**	**-0.2**
	baz=262						
YM07	**YM07**	**0.47**	**314**	⇑*e*P	**Pb**	**03 21 44.1**	**-0.3**
	baz=315						
TATO	**Taipei**	**0.48**	**285**	P	**Pg**	**03 21 43.6**	**+0.3**
	baz=287						
ENA	**Nanau**	**0.48**	**209**	*e*P	**Pg**	**03 21 43.4**	**0.0**
	baz=207						
TAP	**Taipei**	**0.48**	**293**	*e*P	**Pb**	**03 21 44.4**	**-0.1**
	baz=295						
TAP				*e*S	**Sb**	**03 21 50.8**	**-0.8**
	baz=295						
YM01	**YM01**	**0.48**	**307**	⇑*e*P	**Pb**	**03 21 45.4**	**+0.8**
	baz=309						
YM11	**YM11**	**0.49**	**309**	*e*P	**Pb**	**03 21 44.6**	**-0.2**
	baz=311						
YM08	**YM08**	**0.50**	**312**	*e*P	**Pb**	**03 21 44.3**	**-0.5**
	baz=314						
YM05	**YM05**	**0.50**	**309**	*e*P	**Pb**	**03 21 44.6**	**-0.3**
	baz=310						
YM04	**YM04**	**0.51**	**306**	*e*P	**Pb**	**03 21 44.8**	**-0.3**
	baz=308						
TWY	**Chenhua**	**0.55**	**320**	*e*P	**Pb**	**03 21 45.7**	**0.0**
	baz=322						
TWS1	**Kuangyinshan**	**0.58**	**295**	*e*P	**Pb**	**03 21 46.4**	**+0.2**
	baz=297						
NTST	**Danshui**	**0.58**	**302**	*e*P	**Pb**	**03 21 46.5**	**+0.2**
	baz=304						
YHNB	**Yeheng**	**0.59**	**252**	*e*P	**Pg**	**03 21 45.0**	**-0.5**
	baz=253						
NSK	**Sanguang**	**0.60**	**253**	*e*P	**Pg**	**03 21 45.1**	**-0.6**
	baz=254						
NSK				*e*S	**Sb**	**03 21 55.9**	**+0.6**
	baz=254						
WLTB	**Daxi**	**0.67**	**270**	*e*P	**Pb**	**03 21 47.9**	**0.0**
	baz=271						
WLTB				*e*S	**Sb**	**03 21 57.6**	**+0.3**
	baz=271						
NNS	**Nan Shan**	**0.70**	**234**	*e*P	**Pg**	**03 21 48.0**	**+0.5**
	baz=234						
NNSB	**Datong**	**0.70**	**233**	*e*P	**Pg**	**03 21 47.5**	**0.0**
	baz=233						
NCUH	**Zhongli**	**0.74**	**279**	*e*P	**Pb**	**03 21 49.6**	**+0.5**
	baz=280						
NACB	**Ninganchiao**	**0.77**	**208**	*e*P	**Pg**	**03 21 48.4**	**-0.4**
	baz=208						
NACB				*e*S	**Sg**	**03 21 58.3**	**-0.5**
	baz=208						
PCYT	**Pengchaiyu**	**0.78**	**5**	*e*P	**Pb**	**03 21 49.9**	**+0.3**
	baz=6.0						
TWD	**Chiawan**	**0.85**	**205**	*e*P	**Pg**	**03 21 50.1**	**-0.3**
	baz=204						
LIOB	**Emei**	**0.91**	**257**	*e*P	**Pb**	**03 21 51.9**	**0.0**
	baz=257						
LIOB				*e*S	**Sn**	**03 22 05.9**	**-0.2**
	baz=257						
SBCB	**Hsinchu**	**0.92**	**267**	*e*P	**Pb**	**03 21 52.3**	**+0.3**
	baz=267						
NSTT	**Nanjuang**	**0.93**	**257**	P	**Pb**	**03 21 52.1**	**0.0**
	baz=257						
NSTT				*e*S	**Sn**	**03 22 06.3**	**-0.2**
	baz=257						
WHF	**Hehuan Shan**	**0.97**	**224**	*e*P	**Pg**	**03 21 52.3**	**-0.4**
	baz=223						
YOJ	**Yonaguni jima**	**1.00**	**113**	*e*P	**Pg**	**03 21 53.6**	**+0.3**
	baz=111						
YOJ	**Yonaguni jima**	**1.00**	**113**	P	**Pg**	**03 21 53.3**	**0.0**
YOJ				*e*S	**Sg**	**03 22 06.8**	**+0.5**
CHGB	**Renai**	**1.09**	**224**	*e*P	**Pg**	**03 21 55.0**	**+0.1**
	baz=223						
NMLH	**Miaoli**	**1.14**	**254**	*e*P	**Pn**	**03 21 56.7**	**+0.7**
	baz=254						
NMLH				*e*S	**Sn**	**03 22 13.7**	**+2.0**
	baz=254						
ESL	**Shilin**	**1.15**	**206**	*e*P	**Pb**	**03 21 55.3**	**-0.7**
	baz=205						
NSY	**Sanyi**	**1.20**	**249**	*e*P	**Pg**	**03 21 57.1**	**0.0**
	baz=249						
TWQ1	**Liyutan**	**1.22**	**246**	*e*P	**Pg**	**03 21 57.5**	**+0.1**
	baz=246						
VWDT	**VWDT**	**1.34**	**216**	*e*P	**Pn**	**03 21 59.2**	**+0.4**
	baz=215						
TYC	**Yuchr**	**1.40**	**228**	*e*P	**Pg**	**03 22 01.2**	**+0.3**
	baz=227						
HGSD	**Ruisui**	**1.45**	**201**	*e*P	**Pb**	**03 22 01.7**	**+0.7**
	baz=200						
EHY	**Hungye**	**1.47**	**205**	*e*P	**Pn**	**03 22 00.9**	**+0.4**
	baz=204						
YULB	**Yu-li**	**1.59**	**204**	*e*P	**Pb**	**03 22 03.4**	**0.0**
	baz=203						
TWF1	**Yuli**	**1.62**	**203**	*e*P	**Pb**	**03 22 04.4**	**+0.4**
	baz=202						
IRIF	**Iriomote-Funau**	**1.66**	**108**	P	**Pn**	**03 22 02.3**	**-0.8**
JKRS	**Kuro-shima**	**1.93**	**108**	P	**Pn**	**03 22 06.6**	**-0.3**
CHN4	**Tsaushan**	**1.97**	**221**	*e*P	**Pb**	**03 22 09.6**	**-0.3**
	baz=220						
JIJ	**Ishigaki jima**	**2.02**	**104**	P	**Pn**	**03 22 07.9**	**-0.1**
WTP	**Ta-pu**	**2.04**	**219**	*e*P	**Pn**	**03 22 08.5**	**+0.2**
	baz=218						
CHN1	**Nanshi**	**2.13**	**219**	*e*P	**Pn**	**03 22 10.3**	**+0.6**
	baz=218						
MATB	**Ma-tsu**	**2.26**	**305**	*e*P	**Pn**	**03 22 12.2**	**+0.8**
	baz=305						
VWUC	**VWUC**	**2.31**	**274**	*e*P	**Pn**	**03 22 11.5**	**-0.6**
	baz=273						
LYJJ	**Jianjiangzhen**	**2.63**	**310**	*e*P	**Pn**	**03 22 16.4**	**-0.1**
	baz=310						
XPSS	**Dashiqiu**	**2.63**	**322**	*e*P	**Pn**	**03 22 16.1**	**-0.4**
	baz=322						

*ISCJB **08** 03:32:34.7±0.7, 6°.05S±0°.05×128°.85E±0°.08, h264km, mb3.4/3, Error ellipse: s-maj=11.4km s-min=6.9km az=9.5*
*IDC **08** 03:32:37.1±1.5, 6°.00S×128°.83E, h274km±16km, mb3.2/3, mb1 3.7/8, mb1mx3.2/44, mbtmp4.3/8, Error ellipse: s-maj=29.0km s-min=15.0km az=80.0*
ISC 08 03:32:34.6±0.8**, 6°.15S**±0°.07×**129°.0E**±0°.1**, h264**km**, n8, σ2ˢ.35**/12**, mb3.3**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.71**	**23**	P	**Pn**	**03 34 01.3**	**+1.8**
	2.6nm,0.3s,baz=223,slow=22,SNR=16						
SIJI				S	**S**	**03 35 03.6**	**-3.9**
	16nm,0.3s,baz=232,slow=23,SNR=23						
BATI	**Baumata**	**6.66**	**232**	P	**Pn**	**03 34 13.5**	**+2.3**
	35nm,0.3s,baz=53,slow=5.1,SNR=18						
BATI				S	**S**	**03 35 25.7**	**-3.2**
	3.9nm,0.3s,baz=143,slow=5.1,SNR=1.7						
FITZ	**Fitzroy Crossi**	**12.32**	**195**	P	**P**	**03 35 23.5**	**-0.5**
	0.7nm,0.3s,baz=23,slow=13,SNR=41						
FITZ				S	**S**	**03 37 36.5**	**-2.6**
	0.1nm,0.3s,baz=22,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	**14.65**	**160**	P	Pn	03 35 53.4	+3.3
	1.2nm,0.3s,baz=339,slow=12,SNR=64						
WRA				S	**S**	**03 38 29.8**	**-1.8**
	0.3nm,0.3s,baz=343,slow=22,SNR=6.7						
ASAR	**Alice Springs**	**18.03**	**165**	P	**Pn**	**03 36 31.4**	**+1.4**
	6.4nm,0.3s,baz=347,slow=11,SNR=320						
ASAR				S	**S**	**03 39 41.3**	**+1.6**
	0.3nm,0.3s,baz=346,slow=21,SNR=14						
ASAR				ScP	**ScP**	**03 43 58.0**	**-0.6**
	0.1nm,0.3s,baz=3.1,slow=1.5,SNR=4.3						
STKA	**Stephens Creek**	**28.16**	**157**	P	P	03 38 06.6	+3.8
	1.8nm,0.5s,baz=333,slow=7.9,SNR=4.0						
MKAR	**Makanchi Array**	**66.99**	**327**	P	**P**	**03 42 59.9**	**+0.7**
	0.2nm,0.3s,baz=116,slow=8.2,SNR=6.6						
KURBB	**Kurchatov Arra**	**71.29**	**329**	P	**P**	**03 43 25.1**	**-0.3**
	0.3nm,0.4s,baz=128,slow=4.7,SNR=3.2						

*PGC **08** 03:34:02.1±4.0, 48°.94N×129°.73W, h10km, MLSn3.3/25, Mw3.9/25, 256km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **08** 03:34:02.1±1.5, 49°.03N×129°.82W, h0km, mb3.8/4, mb1 3.9/13, mb1mx3.7/58, mbtmp3.7/13, ML3.3/9, MS3.6/14, Ms1 3.6/14, ms1mx3.3/45, Error ellipse: s-maj=27.7km s-min=11.8km az=62.0*
*NEIC **08** 03:34:09.4±0.5, 49°.45N×129°.04W, h10km, mb4.1/44, MW3.9(OTT), Error ellipse: s-maj=7.1km s-min=3.7km az=67.0*
ISC 08 03:34:07.4±2.3**, 49°.36N**±0°.05×**129°.19W**±0°.06**, h2**km±14km**, n167, σ1ˢ.88**/178**, MS3.7**/6**, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEMF	**NEPTUNE Canada**	**1.41**	**178**	P	Pn	03 34 20.4	-13
KEMF				S	Sn	03 34 33.8	-19
EDB	**Eliza Dome**	**1.44**	**68**	Pn	**Pn**	**03 34 32.7**	**-1.7**
EDB				Sn	**Sg**	**03 34 54.9**	**+1.4**
EDB	**Eliza Dome**	**1.44**	**68**	Pn	**Pn**	**03 34 32.7**	**-1.7**
EDB				Sn	**Sg**	**03 34 54.9**	**+1.4**
PACB	**Port Alice, BC**	**1.54**	**45**	Pn	**Pn**	**03 34 34.7**	**-1.0**
PACB				Sn	**Sg**	**03 34 58.1**	**+1.4**
NC89	**ODP889**	**1.69**	**113**	Pn	Pn	03 34 32.8	-4.8
ETB	**Estevan Point**	**1.73**	**88**	Pn	**Pn**	**03 34 36.1**	**-2.3**
ETB	**Estevan Point**	**1.73**	**88**	Pn	**Pn**	**03 34 36.1**	**-2.3**
PHC	**Port Hardy**	**1.76**	**39**	Pn	**Pn**	**03 34 38.4**	**-0.4**
PHC				Sn	**Sg**	**03 35 04.4**	**+0.5**
PHC	**Port Hardy**	**1.76**	**39**	Pn	**Pn**	**03 34 38.4**	**-0.4**
PHC				Sn	**Sg**	**03 35 04.4**	**+0.5**
WOSB	**Woss**	**1.88**	**64**	Pn	**Pn**	**03 34 40.0**	**-0.5**
WOSB	**Woss**	**1.88**	**64**	Pn	**Pn**	**03 34 40.0**	**-0.5**
TLCB	**Telegraph Cove**	**1.93**	**51**	Pn	**Pn**	**03 34 41.1**	**0.0**
TLCB				Sn	**Sg**	**03 35 08.7**	**-0.6**
GDR	**Gold River**	**2.10**	**77**	Pn	**Pn**	**03 34 41.9**	**-1.5**
GDR	**Gold River**	**2.10**	**77**	Pn	**Pn**	**03 34 41.9**	**-1.5**
TOFB	**Tofino**	**2.16**	**94**	Pn	**Pn**	**03 34 41.5**	**-2.7**
NCRB	**Newcastle Ridg**	**2.28**	**62**	Pn	**Pn**	**03 34 46.1**	**+0.1**
NCRB	**Newcastle Ridg**	**2.28**	**62**	Pn	**Pn**	**03 34 46.1**	**+0.1**
MWAB	**Mount Washingt**	**2.56**	**80**	Pn	**Pn**	**03 34 48.7**	**-1.2**
MWAB				Sn	**Sb**	**03 35 23.6**	**-2.3**
CBB	**Campbell River**	**2.57**	**73**	Pn	**Pn**	**03 34 49.8**	**-0.2**
CBB				Sn	**Sb**	**03 35 24.8**	**-1.3**
CBB	**Campbell River**	**2.57**	**73**	Pn	**Pn**	**03 34 49.8**	**-0.2**
CBB				Sn	**Sb**	**03 35 24.8**	**-1.3**
B928	**Bamfield**	**2.71**	**100**	Pn	**Pn**	**03 34 49.5**	**-2.3**
B928				Sn	**Sn**	**03 35 22.7**	**-2.5**
B928	**Bamfield**	**2.71**	**100**	Pn	**Pn**	**03 34 49.5**	**-2.3**
B928				Sn	**Sn**	**03 35 22.7**	**-2.5**
B927	**Port Alberni**	**2.87**	**91**	Pn	**Pn**	**03 34 50.9**	**-3.1**
B927	**Port Alberni**	**2.87**	**91**	Pn	**Pn**	**03 34 50.9**	**-3.1**
BBB	**Bella Bella**	**2.91**	**13**	Pn	**Pn**	**03 34 53.4**	**-1.2**
	4.5nm,0.3s,baz=214,slow=14,SNR=24						
BBB				LR	LR	03 36 04.9	
	comp=Z,268nm,20.9s,baz=196,slow=37						
BBB	**Bella Bella**	**2.91**	**13**	*e*Pn	**Pn**	**03 34 53.4**	**-1.2**
BBB				Sn	**Sn**	**03 35 26.9**	**-3.2**
BBB	**Bella Bella**	**2.91**	**13**	Pn	**Pn**	**03 34 53.8**	**-0.8**
BBB				Sn	**Sn**	**03 35 26.9**	**-3.2**
TXB	**Texada**	**3.11**	**82**	Pn	**Pn**	**03 34 56.4**	**-1.0**
TXB	**Texada**	**3.11**	**82**	Pn	**Pn**	**03 34 56.4**	**-1.0**
PFB	**Port Renfrew**	**3.23**	**102**	Pn	**Pn**	**03 34 56.1**	**-2.9**
PFB	**Port Renfrew**	**3.23**	**102**	Pn	**Pn**	**03 34 56.1**	**-2.9**
GHNB	**Nanoose**	**3.24**	**89**	Pn	**Pn**	**03 34 58.3**	**-0.8**
YOUB	**Youbou, Lake C**	**3.27**	**96**	Pn	**Pn**	**03 34 57.7**	**-1.9**
YOUB				Sn	**Sn**	**03 35 38.3**	**-0.7**
YOUB	**Youbou, Lake C**	**3.27**	**96**	Pn	**Pn**	**03 34 57.7**	**-1.9**
YOUB				Sn	**Sn**	**03 35 38.3**	**-0.7**
B926	**Mesachie Lake**	**3.37**	**97**	Pn	**Pn**	**03 34 58.6**	**-2.3**
B926				Sn	**Sn**	**03 35 40.9**	**-0.5**
BCBC	**Bella Coola**	**3.39**	**26**	Pn	**Pn**	**03 35 01.9**	**+0.7**
NLLB	**Nanaimo Lost L**	**3.41**	**90**	Pn	**Pn**	**03 35 00.6**	**-0.8**
NLLB				Sn	**Sn**	**03 35 40.8**	**-1.5**
NLLB	**Nanaimo Lost L**	**3.41**	**90**	Pn	**Pn**	**03 35 00.6**	**-0.8**
NLLB				Sn	**Sn**	**03 35 40.8**	**-1.5**
SHB	**Sechelt**	**3.47**	**84**	Pn	**Pn**	**03 35 01.9**	**-0.6**
SHB				Sn	**Sn**	**03 35 44.9**	**+0.8**
SHB	**Sechelt**	**3.47**	**84**	Pn	**Pn**	**03 35 01.9**	**-0.6**
SHB				Sn	**Sn**	**03 35 44.9**	**+0.8**
LZB	**Mount Lazard**	**3.61**	**100**	Pn	**Pn**	**03 35 02.4**	**-1.9**
LZB				Sn	**Sn**	**03 35 44.8**	**-2.7**
LZB	**Mount Lazard**	**3.61**	**100**	Pn	**Pn**	**03 35 02.4**	**-1.9**
LZB				Sn	**Sn**	**03 35 44.8**	**-2.7**
GOBB	**Galiano Island**	**3.75**	**94**	Pn	**Pn**	**03 35 02.5**	**-3.6**
GOBB	**Galiano Island**	**3.75**	**94**	Pn	**Pn**	**03 35 02.5**	**-3.6**
B010	**North Saanich**	**3.84**	**98**	Pn	**Pn**	**03 35 05.8**	**-1.6**
B010				Sn	**Sn**	**03 35 50.4**	**-2.7**
B011	**North Saanich**	**3.84**	**98**	Sn	**Sn**	**03 35 52.5**	**-0.6**
VGZ	**Gonzales**	**3.98**	**102**	Pn	**Pn**	**03 35 08.4**	**-1.0**
VGZ	**Gonzales**	**3.98**	**102**	Pn	**Pn**	**03 35 08.4**	**-1.0**
SNB	**Saturna Island**	**4.00**	**96**	Pn	**Pn**	**03 35 08.1**	**-1.5**
SNB	**Saturna Island**	**4.00**	**96**	Pn	**Pn**	**03 35 08.1**	**-1.5**
MCW	**Mount Constitu**	**4.24**	**97**	Pn	**Pn**	**03 35 11.9**	**-1.0**
MCW	**Mount Constitu**	**4.24**	**97**	Pn	**Pn**	**03 35 11.9**	**-1.0**
VDB	**Vedder Mountai**	**4.66**	**91**	Pn	**Pn**	**03 35 17.7**	**-0.9**
VDB	**Vedder Mountai**	**4.66**	**91**	Pn	**Pn**	**03 35 17.7**	**-0.9**
RPW	**Rockport**	**5.14**	**97**	Pn	**Pn**	**03 35 24.0**	**-1.3**
RPW	**Rockport**	**5.14**	**97**	Pn	**Pn**	**03 35 24.0**	**-1.3**
FMW	**Mount Fremont**	**5.58**	**113**	Pn	**Pn**	**03 35 29.6**	**-2.0**
FMW	**Mount Fremont**	**5.58**	**113**	Pn	**Pn**	**03 35 29.6**	**-2.0**
FSB	**Fort Saint Jam**	**5.94**	**29**	Pn	**Pn**	**03 35 37.5**	**+1.2**
FSB	**Fort Saint Jam**	**5.94**	**29**	Pn	**Pn**	**03 35 37.5**	**+1.2**
PNT	**Penticton**	**6.25**	**87**	Pn	**Pn**	**03 35 40.1**	**-0.5**
PNT	**Penticton**	**6.25**	**87**	Pn	**Pn**	**03 35 40.1**	**-0.5**
C09A	**Chrisman Ranch**	**7.41**	**98**	*e*Pn	**Pn**	**03 35 56.8**	**+0.4**
E09A	**Wood Farm, Sta**	**7.94**	**107**	*e*Pn	**Pn**	**03 36 05.2**	**+1.5**
E09A				*e*Sn	**Sn**	**03 37 37.5**	**+3.4**
BMBC	**Bull Mountain**	**7.95**	**30**	Pn	**Pn**	**03 36 06.8**	**+3.0**
BMBC	**Bull Mountain**	**7.95**	**30**	Pn	**Pn**	**03 36 06.8**	**+3.0**
NEW	**Newport**	**8.04**	**93**	Pn	**Pn**	**03 36 05.1**	**0.0**
	0.5nm,0.3s,baz=292,slow=15,SNR=4.7						
NEW				LR	LR	03 39 18.8	
	comp=Z,613nm,18.7s,baz=273,slow=38						
L04D	**Klamath Falls**	**8.61**	**144**	P	**Pn**	**03 36 13.1**	**+0.1**
	baz=329						
YBH	**Yreka Blue Hor**	**8.88**	**147**	Pn	**Pn**	**03 36 13.9**	**-2.7**
	0.2nm,0.3s,baz=343,slow=12,SNR=15						
YBH				LR	LR	03 39 15.7	
	comp=Z,434nm,20.2s,baz=337,slow=36						
YBH	**Yreka Blue Hor**	**8.88**	**147**	*e*Pn	**Pn**	**03 36 16.5**	**-0.1**
DLBC	**Dease Lake**	**9.11**	**357**	Pn	**Pn**	**03 36 21.7**	**+1.9**
	0.1nm,0.3s,baz=184,slow=19,SNR=2.2						
DLBC				LR	LR	03 39 50.9	
	comp=Z,598nm,21.2s,baz=180,slow=37						
M02C	**Callahan**	**9.12**	**148**	P	**Pn**	**03 36 19.0**	**-1.0**
	baz=334						
M04C	**Macdoel**	**9.16**	**143**	P	**Pn**	**03 36 19.5**	**-1.1**
	baz=329						
J08A	**Circle Bar Ran**	**9.53**	**125**	*e*Pn	Pn	03 36 31.2	+5.6
N02D	**Trinity Center**	**9.55**	**149**	P	**Pn**	**03 36 24.9**	**-1.0**
	baz=334						
MOD	**Modoc Plateau**	**9.71**	**137**	*e*Pn	**Pn**	**03 36 28.4**	**+0.4**
WDC	**Whiskeytown Da**	**9.96**	**149**	*e*Pn	**Pn**	**03 36 30.7**	**-0.7**
WVOR	**Wild Horse Val**	**10.09**	**129**	*e*Pn	**Pn**	**03 36 35.5**	**+2.2**
O03E	**Paynes Creek**	**10.46**	**147**	P	**Pn**	**03 36 38.4**	**0.0**
	baz=333						
ORV	**Oroville**	**11.23**	**148**	*e*Pn	**Pn**	**03 36 47.5**	**-1.2**
BEKR	**Beckworth**	**11.38**	**143**	*e*Pn	**Pn**	**03 36 52.0**	**+1.0**
HLID	**Hailey**	**11.71**	**114**	*e*Pn	Pn	03 37 04.7	+9.1
PAHR	**Pah Rah Range**	**11.91**	**140**	*e*Pn	**Pn**	**03 37 00.1**	**+1.9**
AFDM	**Forest Hills D**	**11.96**	**147**	*e*Pn	**Pn**	**03 36 59.9**	**+1.1**
BMN	**Battle Mountai**	**12.30**	**132**	*e*Pn	**Pn**	**03 37 07.4**	**+3.8**
YERR	**Yerington**	**12.58**	**142**	*e*Pn	**Pn**	**03 37 07.8**	**+0.3**
KVN	**Kaiserville**	**13.00**	**138**	*e*Pn	**Pn**	**03 37 15.1**	**+1.9**
ELK	**Elko**	**13.07**	**126**	Pn	**Pn**	**03 37 15.7**	**+1.4**
	0.1nm,0.3s,baz=299,slow=13,SNR=2.2						
RYN	**Ryan**	**13.18**	**141**	*e*Pn	**Pn**	**03 37 17.7**	**+2.2**
NV01	**Mina Array Sit**	**13.44**	**140**	*e*Pn	**Pn**	**03 37 19.4**	**+0.3**
NVAR	**Mina Array Bea**	**13.44**	**140**	Pn	**Pn**	**03 37 16.4**	**-2.7**
	0.1nm,0.3s,baz=332,slow=15,SNR=5.1						
NV11	**Mina Array Sit**	**13.49**	**140**	*e*Pn	**Pn**	**03 37 20.8**	**+0.9**
MOOW	**Moose Ponds**	**13.86**	**107**	*e*Pn	**P**	**03 37 35.0**	**+1.5**
REDW	**Red Top Meadow**	**13.99**	**108**	*e*P	**P**	**03 37 36.9**	**+2.0**
LOHW	**Long Hollow**	**14.02**	**107**	*e*P	**P**	**03 37 37.1**	**+1.9**
AHID	**Auburn Hatcher**	**14.16**	**111**	*e*P	**P**	**03 37 38.9**	**+2.1**
R11A	**Troy Canyon, C**	**14.72**	**133**	P	**Pn**	**03 37 38.2**	**+1.6**
	baz=323						
BW06	**Boulder Array**	**15.11**	**108**	*e*Pn	**P**	**03 37 50.5**	**+3.1**
	8.6nm,1.3s						
PD31	**Pinedale Array**	**15.11**	**108**	*e*Pn	**Pn**	**03 37 43.1**	**+1.2**
PDAR	**Pinedale Array**	**15.11**	**108**	Pn	**Pn**	**03 37 43.1**	**+1.2**
	0.0nm,0.3s,baz=309,slow=9.4,SNR=5.3						
PDAR				LR	LR	03 43 37.7	
	comp=Z,148nm,20.9s,baz=304,slow=37						
PDAR	**Pinedale Array**	**15.11**	**108**	*e*Pn	**P**	**03 37 46.8**	**-0.6**
JLU	**Jordanelle**	**15.27**	**118**	*e*Pn	**P**	**03 37 51.7**	**+2.5**
	11nm,1.4s						
NLU	**North Lily Min**	**15.35**	**121**	*e*Pn	**P**	**03 37 51.0**	**+0.9**
	3.3nm,1.0s						
PSUT	**Pine Spring**	**15.43**	**129**	*e*Pn	**P**	**03 37 53.2**	**+2.3**
	3.9nm,1.1s						
YKA	**Yellowknife Ar**	**15.43**	**26**	Pn	**Pn**	**03 37 44.9**	**-0.9**
	0.1nm,0.3s,baz=216,slow=12,SNR=10						
YKA				LR	LR	03 44 00.2	
	comp=Z,19nm,19.4s,baz=220,slow=38						
YKB5	**Yellowknife Ar**	**15.43**	**26**	*e*Pn	**Pn**	**03 37 44.9**	**-0.9**
TPNV	**Topopah Spring**	**15.56**	**138**	*e*Pn	**P**	**03 37 53.6**	**+1.3**
	11nm,1.1s						
DAC	**Darwin (Calif)**	**15.57**	**143**	*e*Pn	**P**	**03 37 52.1**	**-0.4**
	9.1nm,1.1s						
LAO	**LASA Array**	**15.58**	**91**	*e*Pn	**P**	**03 37 54.1**	**+1.8**
	14nm,1.0s						
DAWY	**Dawson**	**15.74**	**343**	*e*Pn	**Pn**	**03 37 50.9**	**+1.0**
	14nm,1.4s						
ISA	**Isabella, Lake**	**15.78**	**146**	*e*Pn	**Pn**	**03 37 52.3**	**+1.7**
	6.5nm,1.1s						
ISA	**Isabella, Lake**	**15.78**	**146**	P	**Pn**	**03 37 51.7**	**+1.0**
	baz=334						
MPMC	**Manual Prospec**	**15.80**	**143**	P	**Pn**	**03 37 51.7**	**+0.7**
	baz=332						
KDAK	**Kodiak Island**	**16.18**	**310**	LR	LR	03 42 16.7	
	comp=Z,243nm,18.6s,baz=116,slow=31						
LRMC	**Laurel Mtn Rad**	**16.24**	**144**	P	**Pn**	**03 37 57.1**	**+0.5**
	baz=333						
CCUT	**Cedar City**	**16.43**	**130**	*e*Pn	**P**	**03 38 04.2**	**+2.1**
	9.7nm,1.4s						
P17A	**Butcher Ranch,**	**16.43**	**120**	*e*Pn	**P**	**03 38 05.6**	**+3.6**
	8.6nm,1.2s						
DGMT	**Dagmar**	**16.43**	**84**	*e*Pn	**P**	**03 38 01.1**	**-0.7**
	44nm,1.4s						
Q16A	**Castle Valley**	**16.58**	**122**	*e*Pn	**P**	**03 38 06.8**	**+3.2**
	5.8nm,0.9s						
MTPU	**Mount Pierson**	**16.66**	**126**	*e*Pn	**P**	**03 38 07.8**	**+3.0**
	10nm,1.4s						
GSC	**Goldstone, Bar**	**16.73**	**142**	*e*Pn	**Pn**	**03 38 04.6**	**+1.7**
	14nm,1.4s						
GSC	**Goldstone, Bar**	**16.73**	**142**	P	**Pn**	**03 38 03.5**	**+0.7**
	baz=331						
LCMT	**Little Creek M**	**16.91**	**131**	*e*Pn	**P**	**03 38 09.2**	**+1.9**
	10.0nm,1.4s						
K22A	**Casper**	**17.08**	**105**	*e*Pn	**P**	**03 38 10.1**	**+1.0**
	24nm,1.4s						
KNB	**Kanab**	**17.12**	**130**	*e*Pn	**P**	**03 38 11.9**	**+2.4**
	12nm,1.3s						
O20A	**White River Ci**	**17.45**	**114**	*e*Pn	**P**	**03 38 17.4**	**+4.0**
	8.7nm,0.9s						
FFC	**Flin Flon**	**17.52**	**62**	*e*Pn	**P**	**03 38 13.6**	**-0.1**
	25nm,1.0s						
U15A	**North Rim**	**17.84**	**130**	*e*Pn	**P**	**03 38 20.9**	**+3.2**
	6.3nm,1.0s						
RSSD	**Black Hills**	**17.98**	**97**	*e*Pn	**P**	**03 38 20.3**	**+1.2**
	13nm,1.1s						
PV09	**Paradox Valley**	**18.01**	**120**	*e*Pn	**P**	**03 38 21.9**	**+2.3**
PV21	**Cone Mtn., Par**	**18.06**	**119**	*e*Pn	**P**	**03 38 21.7**	**+1.7**
	9.7nm,1.0s						
IL1	**Eielson Array**	**18.09**	**335**	*e*Pn	**Pn**	**03 38 19.1**	**-0.4**
ILAR	**Eielson Array**	**18.09**	**335**	P	**Pn**	**03 38 17.4**	**-2.1**
	0.0nm,0.3s,baz=145,slow=12,SNR=9.0						
ILB	**Eielson Array**	**18.09**	**335**	*e*Pn	**Pn**	**03 38 17.4**	**-2.1**
ILB				*e*Sn	**S**	**03 41 55.5**	**+7.8**
PV23	**Carpenter Ridg**	**18.11**	**119**	*e*Pn	**P**	**03 38 22.0**	**+1.3**
	57nm,1.4s						
PV14	**Lion Creek, Pa**	**18.16**	**120**	*e*Pn	**P**	**03 38 21.6**	**+0.4**
	42nm,1.2s						
PV20	**West Nyswonger**	**18.21**	**120**	*e*Pn	**P**	**03 38 23.1**	**+1.4**
	21nm,1.1s						
PV19	**Morning Glory**	**18.23**	**120**	*e*Pn	**Pn**	**03 38 21.5**	**0.0**
	46nm,1.4s						
PV17	**East Wray Mesa**	**18.26**	**120**	*e*P	**Pn**	**03 38 22.0**	**0.0**
	37nm,1.3s						
PV16	**Nyswonger Mesa**	**18.26**	**120**	*e*P	**Pn**	**03 38 22.1**	**+0.1**
	34nm,1.3s						
PV11	**David Mesa, Pa**	**18.30**	**120**	*e*P	**P**	**03 38 23.2**	**+0.6**
	25nm,1.0s						
PV12	**Saucer Basin,**	**18.32**	**119**	*e*P	**P**	**03 38 23.6**	**+0.6**
	38nm,1.3s						
PFO	**Pinyon Flats O**	**18.36**	**144**	LR	LR	03 45 28.9	
	comp=Z,331nm,18.7s,baz=328,slow=37						
PV13	**Radium Mtn., P**	**18.42**	**120**	*e*P	**Pn**	**03 38 23.9**	**-0.1**
	37nm,1.3s						
COLA	**College**	**18.43**	**334**	*e*P	**P**	**03 38 20.2**	**-3.5**
	48nm,1.9s						
PV02	**Paradox Valley**	**18.44**	**120**	*e*P	**P**	**03 38 24.9**	**+0.7**
	15nm,1.1s						
MDM	**Murphy Dome**	**18.61**	**334**	*e*P	**P**	**03 38 24.8**	**-0.8**
	38nm,1.4s						
SMCO	**Snowmass**	**18.82**	**114**	*e*P	**Pn**	**03 38 33.1**	**+4.1**
	4.1nm,1.1s						
FYU	**Fort Yukon**	**19.13**	**340**	*e*P	**Pn**	**03 38 32.7**	**+0.7**
	22nm,1.1s						
INK	**Inuvik**	**19.13**	**355**	LR	LR	03 46 02.7	
	comp=Z,310nm,20.5s,baz=131,slow=37						
INK	**Inuvik**	**19.13**	**355**	*e*P	**Pn**	**03 38 32.2**	**+0.1**
	10nm,1.2s						
MVCO	**Mesa Verde**	**19.27**	**121**	*e*P	**Pn**	**03 38 36.2**	**+1.9**
	26nm,1.5s						
MLY	**Manley**	**19.40**	**332**	*e*P	**P**	**03 38 34.3**	**-0.1**
	61nm,0.3s						

SDCO	Great Sand Dun	20.63	115	eP	Pn	03 38 51.4	+1.0
	6.0nm,1.2s						
ULM	Lac du Bonnet	21.42	75	P	P	03 38 57.8	+1.4
	24nm,0.8s,baz=284,slow=11,SNR=25						
ULM				LR	LR	03 47 34.9	
	comp=Z,369nm,19.4s,baz=306,slow=37						
ULM	Lac du Bonnet	21.42	75	eP	P	03 38 58.4	+2.0
	34nm,0.9s						
ANMO	Albuquerque	22.05	122	P	P	03 39 02.2	-1.2
	3.4nm,0.9s,baz=318,slow=9.6,SNR=13						
ANMO	Albuquerque	22.05	122	eP	P	03 39 03.7	+0.3
	4.6nm,0.9s						
FCC	Fort Churchill	22.40	52	eP	P	03 39 06.9	+0.2
	13nm,1.0s						
SPMN	Marine on St.	24.86	86	eP	P	03 39 32.1	+1.1
	42nm,1.5s						
TXAR	Lajitas Array	27.87	126	P	P	03 39 53.5	-5.0
	0.5nm,0.8s,baz=316,slow=6.4,SNR=2.4						
LPIG	La Paz	29.24	143	LR	LR	03 51 46.0	
	comp=Z,64nm,18.3s,baz=34,slow=36						
SCHQ	Schefferville	37.56	57	LR	LR	03 55 39.9	
	comp=Z,317nm,19.1s,baz=332,slow=34						
KSRS	Korea Array	70.00	304	LR	LR	04 15 09.8	
	comp=Z,16nm,18.2s,baz=25,slow=35						
ZALV	Zalesovo Beam	73.15	340	LR	LR	04 19 54.6	
	comp=Z,32nm,19.3s,baz=68,slow=38						
MK32	Makanchi Array	80.41	339	eP	P	03 46 14.8	-5.3
MKAR	Makanchi Array	80.41	339	P	P	03 46 14.8	-5.3
	0.3nm,0.7s,baz=20,slow=4.6,SNR=3.4						
MKAR				LR	LR	04 26 33.0	
	comp=Z,31nm,18.3s,baz=12,slow=39						

IDC 08 03:42:18.9±4.0, 31°.34N×131°.66E, h0km, mb3.8/3, mb1 3.7/5, mb1mx3.4/59, mbtmp3.6/5, ML3.5/2, MS2.3/1, Ms1 2.3/1, ms1mx2.1/39, Error ellipse: s-maj=67.1km s-min=39.7km az=157.0

ISCJB 08 03:42:29.0±0.7, 32°.04N±0°.04×131°.80E±0°.05, h33km, mb3.6/3, Error ellipse: s-maj=7.1km s-min=4.3km az=137.6

JMA 08 03:42:29.5±0.1, 32°.07N×131°.74E, h36km±1km, M3.2 Broadband fault plane solution: P waves. NP1: φs214.00000°, δ89.00000°, λ-100.00000°. NP2: φs119.00000°, δ10.00000°, λ-6.00000°. Principal axes: T Plg43.0000°, Azm314.0000°; N Plg10.0000°, Azm214.0000°; P Plg45.0000°, Azm114.0000°;

ISC 08 03:42:28.0±1.2, 31°.98N±0°.08×131°.78E±0°.05, h33km, n16, σ1s11/23, mb3.6/3, 3C-4D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTSN	Tsuno	0.35	319	⇓P	Pb	03 42 36.6	+0.2
JTSN				S	Sb	03 42 42.1	-0.1
JHHC	Hyugahichiya	0.47	346	⇓P	Pn	03 42 38.3	-0.2
JHHC				eS	Sn	03 42 44.9	-0.8
JTZ	Takazaki	0.59	262	⇓P	Pn	03 42 40.7	+0.6
JTZ				eS	Sn	03 42 49.6	+1.0
JNAR	Kushima--Naru	0.63	224	⇑P	Pn	03 42 42.8	+2.3
JNAR				eS	Sn	03 42 52.7	+3.3
JKIT	Kitakata	0.70	337	P	Pn	03 42 41.7	+0.1
JKIT				eS	Sn	03 42 51.0	-0.2
JZO	Okuchi	1.01	279	⇑P	Pb	03 42 47.0	-0.1
JZO				S	Sb	03 43 00.2	+0.1
JUS	Usuki	1.08	359	⇑P	Pn	03 42 47.8	+1.0
JUS				eS	Sn	03 43 01.8	+1.1
JTO	Tosashimizu	1.23	44	⇓P	Pn	03 42 49.1	+0.2
JTO				S	Sn	03 43 04.1	-0.3
JNU	Nakatsue	1.37	326	Pn	Pn	03 42 52.1	+1.3
	25nm,0.3s,baz=176,slow=5.4,SNR=144						
JNU				Sn	Sn	03 43 09.7	+1.9
	86nm,0.3s,baz=266,slow=16,SNR=23						
UWA2	Uwa jima 2	1.42	30	P	Pn	03 42 51.8	+0.2
UWA2				S	Sn	03 43 08.6	-0.5
JHJ	Hachijo jima 2	6.85	78	LR	LR	03 46 40.8	
	comp=Z,25nm,20.3s,baz=90,slow=37						
MJAR	Matsushiro Arr	7.00	48	Pn	Pn	03 44 10.9	+2.7
	1.0nm,0.3s,baz=247,slow=14,SNR=9.9						
KLR	Kul'dur	17.23	360	P	P	03 46 28.8	+1.5
	0.1nm,0.3s,baz=171,slow=10,SNR=4.8						
SONM	Songino Array	24.93	317	P	P	03 47 48.2	-0.1
	1.2nm,0.8s,baz=129,slow=9.1,SNR=6.1						
MKAR	Makanchi Array	40.33	306	P	P	03 50 00.9	-1.5
	0.4nm,0.6s,baz=93,slow=8.7,SNR=5.1						
FINES	FINESS Array B	69.40	330	P	P	03 53 30.6	-1.7
	2.1nm,1.0s,baz=73,slow=11,SNR=4.2						

NNC 08 03:44:16.4±2.9, 37°.11N×71°.11E, h161km±41km, mb2.8, mpv3.8, Error ellipse: s-maj=30.7km s-min=20.3km az=47.0

IDC 08 03:44:21.1±8.3, 37°.65N×70°.83E, h196km±58km, mb3.3/2, mb1 3.1/6, mb1mx2.8/45, mbtmp3.7/6, Error ellipse: s-maj=89.0km s-min=49.7km az=166.0

ISC 08 03:44:13.0±2.1, 37°.0N±0°.1×71°.0E±0°.1, h150km, n16, σ1s91/16, 5C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.62	32	⇑P	Pn	03 45 09.7	+1.2
	15nm,0.2s						
SFK				⇓S	Sn	03 45 52.6	+1.0
	23nm,0.2s						
KK31	Karatay Array	6.16	356	⇑P	Pn	03 45 43.9	+2.2
	3.2nm,0.5s,baz=185,slow=16,SNR=20						
KK31				⇓S	Sn	03 46 52.3	+1.1
	11nm,0.5s						
AAK	Ala-Archa	6.27	24	P	Pn	03 45 44.2	+0.8
	2.4nm,0.3s,baz=168,slow=6.1,SNR=30						
AAK				S	Sn	03 46 51.2	-3.0
	0.7nm,0.3s,baz=155,slow=17,SNR=5.0						
AAK	Ala-Archa	6.27	24	⇓P	Pn	03 45 43.6	+0.2
	2.0nm,0.3s						
AAK				⇑S	Sn	03 46 53.1	-1.1
	10.0nm,0.8s						
MK31	Makanchi Array	12.91	37	⇓P	Pn	03 47 13.6	+2.7
	0.5nm,0.6s,baz=208,slow=9.7,SNR=6.4						
MKAR	Makanchi Array	12.91	37	P	Pn	03 47 13.3	+2.4
	0.1nm,0.3s,baz=213,slow=11,SNR=6.0						
PYUN	Piuthan	13.40	128	eP	Pn	03 47 08.1	-9.4
	3.1nm,0.3s						
DANN	Dangsing	13.72	125	eP	Pn	03 47 12.8	-8.9
	3.6nm,0.2s						
KOLN	Koldanda	14.01	127	eP	Pn	03 47 16.6	-8.7
	3.2nm,0.2s						
KURBB	Kurchatov Arra	14.69	19	P	Pn	03 47 33.5	+0.2
	0.1nm,0.3s,baz=207,slow=11,SNR=4.6						
AB31	Akbulak array	14.70	330	⇑P	Pn	03 47 35.6	+2.0
	0.3nm,0.3s,baz=141,slow=12,SNR=19						
AB31				⇑S	Sn	03 50 15.5	-1.1
	1.0nm,0.6s,baz=155,slow=23,SNR=3.6						
PKIN	Phulchoki	15.32	124	eP	Pn	03 47 34.0	-7.6
	5.8nm,0.4s						
JIRN	Jiri	15.80	122	eP	Pn	03 47 40.2	-7.5
ZALV	Zalesovo Beam	19.50	25	P	P	03 48 26.1	-2.1
	0.3nm,0.3s,baz=222,slow=12,SNR=6.6						
HFS	Hagfors	42.73	322	P	P	03 51 53.5	-1.4
	5.7nm,1.1s,baz=113,slow=11,SNR=4.9						
NOA	NORSAR Array B	44.03	323	P	P	03 52 03.6	-1.9
	0.2nm,0.5s,baz=99,slow=8.0,SNR=2.5						

WEL 08 03:54:10.3±1.3, 37°S±18°×18°0E±1°6, h12km, ML3.6/10, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.46	232	P	Pn	03 54 35.8	-0.6
MXZ				S	Sn	03 54 54.7	-0.8
WMGZ	Waiomatatini S	1.56	223	P	Pn	03 54 38.3	+0.3
WMGZ				S	Sb	03 54 59.4	+0.4
PKGZ	Pakihiroa	1.81	227	P	Pn	03 54 41.3	0.0
PKGZ				S	Sn	03 55 04.6	+0.4
PUZ	Puketiti	1.83	220	P	Pn	03 54 41.5	-0.2
PUZ				S	Sn	03 55 05.1	+0.2
HAZ	Te Kaha	1.91	235	P	Pn	03 54 43.2	+0.5
HAZ				S	Sb	03 55 08.4	-0.5
RUGZ	Raukumara Rang	2.10	231	P	Pn	03 54 45.7	+0.3
CNGZ	Carnagh Statio	2.19	214	P	Pn	03 54 47.0	+0.5
MWZ	Matawai	2.42	226	P	Pn	03 54 49.4	-0.4
MWZ				S	Sn	03 55 19.1	-0.3
URZ	Urewera	2.63	232	P	Pn	03 54 52.2	-0.4
PRGZ	Paritu Road	2.69	213	P	Pn	03 54 53.2	-0.3
MUGZ	Murupara	2.98	232	P	Pn	03 54 56.5	-0.9
MTHZ	Maungataniwha	3.17	226	P	Pn	03 54 59.9	-0.2
BKZ	Black Stump Fm	3.58	225	P	Pn	03 55 05.1	-0.7

PGC 08 03:58:50.2±14.0, 48°.93N×129°.58W, h10km, MLSn3.0/6, Mw3.6/6, 251km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMF	NEPTUNE Canada	1.03	162	P	Pb	03 59 07.9	-2.0
KEMF				S	Sg	03 59 20.1	-3.2
PACB	Port Alice, BC	2.03	41	Pn	Pn	03 59 22.8	-1.7
PACB				Sn	Sn	03 59 45.2	-4.6
PHC	Port Hardy	2.26	37	Pn	Pn	03 59 25.3	-2.3
PHC				Sn	Sn	03 59 51.8	-3.7
WOSB	Woss	2.32	57	Pn	Pn	03 59 27.6	-0.9
TLCB	Telegraph Cove	2.41	47	Pn	Pn	03 59 28.1	-1.5
TLCB				Sn	Sn	03 59 55.9	-3.3
GDR	Gold River	2.47	68	Pn	Pn	03 59 29.2	-1.2
NCRB	Newcastle Ridg	2.72	56	Pn	Pn	03 59 33.2	-1.0
NCRB				Sn	Sn	04 00 04.9	-2.3
TXB	Texada	3.45	75	Pn	Pn	03 59 44.2	+0.2

SVSA 08 04:03:31.6±1.1, 37°.45N×24°.60W, h5km, MD3.7, ML2.1, Error ellipse: s-maj=10.0km s-min=2.9km az=80.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BART	Pico Bartolome	0.56	306	eP	Pg	04 03 40.7	-1.6
BART				eS	Sg	04 03 47.8	-1.7
BART				A	A	04 03 49.3	
	59nm,0.2s						
PSMN	Pico do Norte,	0.58	220	eP	Pg	04 03 41.5	-1.2
PSMN				eS	Sg	04 03 48.7	-1.6
PSMN				A	A	04 03 49.4	
	13nm,0.1s						
PSMA	Santa Maria	0.62	223	eP	Pg	04 03 42.0	-1.5
PSMA				eS	Sg	04 03 49.9	-1.6
PSMA				A	A	04 03 50.5	
	41nm,0.2s						
CMLA	Cha da Macela	0.80	293	eS	Sg	04 03 54.7	-2.5
CMLA				A	A	04 03 57.9	
	50nm,0.2s						
GRON	Grota Negra	0.80	293	eP	Pg	04 03 43.3	-3.7
GRON				eS	Sg	04 03 51.7	-5.8
GRON				A	A	04 03 54.3	
	10nm,0.2s						
PDA	Ponta Delgada	0.89	290	eP	Pg	04 03 46.3	-2.4
PDA				eS	Sg	04 03 56.7	-3.6
PDA				A	A	04 03 59.2	
	26nm,0.2s						
PSET	Sete Cidades	0.96	293	eP	Pg	04 03 47.0	-3.1
PSET				eS	Sg	04 03 58.5	-4.0
PSET				A	A	04 04 00.5	
	29nm,0.3s						

ISCJB 08 04:04:21.9±0.4, 30°.04N±0°.04×51°.81E±0°.05, h8km, mb3.6/15, MS3.6/2, Error ellipse: s-maj=7.3km s-min=4.4km az=140.2

THR 08 04:04:24.9, 30°.29N×51°.93E, h14km, ML3.6

TEH 08 04:04:24.1, 30°.14N×52°.00E, h19km, ML3.7

IDC 08 04:04:24.0±2.0, 30°.38N×51°.66E, h0km, mb3.6/11, mb1 3.7/12, mb1mx3.5/39, mbtmp3.6/12, ML3.5/1, MS3.3/4, Ms1 3.3/4, ms1mx2.8/39, Error ellipse: s-maj=44.9km s-min=21.1km az=167.0

ISC 08 04:04:23.9±0.7, 30°.20N±0°.06×51°.93E±0°.05, h8km, n51, σ1s52/49, mb3.8/15, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	Kazeroun	0.42	190	ePg	Pg	04 04 32.5	+0.2
IKAZ				IAMB	IAmb	04 04 44.2	
	comp=Z,99μm,0.4s						
SHI	Shiraz	0.76	137	ePg	Pg	04 04 36.8	-1.7
SHI				IAMB	IAmb	04 04 54.4	
	comp=Z,36μm,0.4s						
IPAR	Pars	1.04	110	ePg	Pg	04 04 41.1	-2.8
IPAR				IAMB	IAmb	04 05 07.7	
	comp=Z,15μm,0.6s						
IRAM	Ramesheh	1.65	14	ePn	Pn	04 04 52.3	-1.1
IRAM				IAMB	IAmb	04 05 23.6	
	comp=Z,14μm,0.7s						
ZNGN	Zangian	2.12	335	ePn	Pb	04 05 01.9	-0.9
IGAR	Gharneh	2.20	3	ePn	Pb	04 05 02.9	-1.2
IGAR				IAMB	IAmb	04 05 38.7	
	comp=Z,4μm,0.6s						
ROKH	ROKH	2.27	341	ePn	Pn	04 05 03.6	+1.6
ROKH				IAMB	IAmb	04 05 57.5	
	comp=Z,0.0nm,1.2s						
IPIR	Pirpir	2.63	341	ePn	Pn	04 05 08.8	+1.8
IPIR				IAMB	IAmb	04 06 10.2	
	comp=Z,3μm,0.9s						
IZEF	Zefreh	2.71	7	IAMB	IAmb	04 05 20.1	
	comp=Z,1μm,0.4s						
IZEF				ePn	Pn	04 05 09.8	+1.8
ICHK	Chekchek	2.94	46	ePn	Pn	04 05 13.0	+1.8
ICHK				IAMB	IAmb	04 05 22.0	
	comp=Z,2μm,0.6s						
IKLH	Kolahrood	3.12	355	ePn	Pn	04 05 15.5	+1.8
IKLH				IAMB	IAmb	04 05 23.6	
	comp=Z,2μm,0.6s						
YZKH	Yazd	3.16	46	ePn	Pn	04 05 15.8	+1.8
YZKH	Yazd	3.16	46	ePn	Pn	04 05 15.8	+1.8
YZKH				eSg	Sb	04 06 01.5	+2.5
ANAR	Anarak	3.35	27	ePn	Pn	04 05 18.4	+1.6
KRSH	Karshahi	3.76	3	ePn	Pn	04 05 23.5	+1.1
KRSH				IAMB	IAmb	04 06 31.8	
	comp=Z,0.0nm,1.0s						
KHMZ	Khomeyn	3.91	335	ePn	Pn	04 05 25.7	+1.3
KHMZ	Khomeyn	3.91	335	ePn	Pn	04 05 25.7	+1.3
KHGB	Koh Gabri	3.94	86	ePn	Pn	04 05 27.6	+2.7
KHGB				IAMB	IAmb	04 06 32.2	
	comp=N,0.0nm,1.0s						
GHVR	GHOM	4.30	353	eAML	AML	04 06 20.7	
	comp=N,63nm,0.4s						
GHVR				eAML	AML	04 06 21.1	
	comp=E,83nm,0.6s						
ASAO	Ashtian	4.62	340	ePn	Pn	04 05 35.5	+1.2
ASAO	Ashtian	4.62	340	ePn	Pn	04 05 35.5	+1.2
GENO	Geno	4.66	126	ePn	Pn	04 05 34.0	-0.7
GENO				IAMB	IAmb	04 08 00.3	
	comp=Z,0.0nm,1.7s						
IKFM	Kafar-mosalman	4.80	315	ePn	Pn	04 05 38.0	+1.5
IKFM				IAMB	IAmb	04 07 33.1	
	comp=Z,0.0nm,1.4s						
HSAM	Samen	4.89	326	ePn	Pn	04 05 39.0	+1.0
HSAM				IAMB	IAmb	04 07 24.5	
	comp=N,0.0nm,2.4s						
TPRV	Parvadeh(Tabas	4.94	54	ePn	Pn	04 05 39.8	+1.2
IKOM	Komasi	5.45	318	ePn	Pn	04 05 46.0	+0.4
IKOM				IAMB	IAmb	04 08 01.6	
	comp=Z,0.0nm,1.6s						
TNSJ	Nastanj	5.47	45	ePn	Pn	04 05 47.2	+1.4
TKDS	Koohdasht(Taba	5.58	51	ePn	Pn	04 05 48.9	+1.6
MSFE	Esma-Masafi	6.11	141	ePn	Pn	04 05 54.3	-0.2
MDH	Madha	6.23	141	ePn	Pn	04 05 56.0	-0.2
ASUD	Al Ashush, Dub	6.32	151	ePn	Pn	04 05 57.2	-0.2
FAQ	Al Faqa, Dubai	6.33	148	ePn	Pn	04 05 56.2	-1.4
ASHO	Ashiyiah	6.61	145	ePn	Pn	04 06 01.8	+0.4
GEYT	Alibeck	9.26	32	LR	LR	04 10 43.4	
	comp=Z,108nm,18.5s,baz=225,slow=41						
BRTR	Keskin Array B	17.72	307	P	Pn	04 08 30.8	-0.4
	comp=Z,0.2nm,0.3s,baz=301,slow=32,SNR=8.0						
BRTR				LR	LR	04 17 33.2	
	comp=Z,32nm,19.4s,baz=116,slow=45						
AAK	Ala-Archa	21.92	49	P	P	04 09 20.8	+3.0
	comp=Z,1.2nm,0.6s,baz=214,slow=15,SNR=1.9						
AKASG	Malin Array Be	26.60	327	P	P	04 10 00.9	-1.6
	comp=Z,0.4nm,0.3s,baz=129,slow=43,SNR=4.9						
KURBB	Kurchatov Arra	28.49	37	P	P	04 10 19.2	-0.3
	comp=Z,0.2nm,0.3s,baz=237,slow=8.7,SNR=3.0						
MKAR	Makanchi Array	28.73	46	P	P	04 10 22.4	+0.6
	comp=Z,0.3nm,0.5s,baz=240,slow=9.6,SNR=7.5						
ZALV	Zalesovo Beam	33.55	36	P	P	04 11 05.7	+1.7
	comp=Z,0.5nm,0.4s,baz=250,slow=10,SNR=3.8						
SQTA	Sankt Quirin	35.56	310	iP	P	04 11 20.4	-1.3
	comp=Z,1.8nm,0.6s						
FINES	FINESS Array B	35.58	339	P	P	04 11 19.9	-1.6
	comp=Z,0.9nm,0.6s,baz=154,slow=11,SNR=5.5						
MOTA	Moosalm	35.66	310	iP	P	04 11 21.4	-1.2
	comp=Z,0.5nm,0.2s						
FETA	Feichten	35.83	310	eP	P	04 11 23.2	-0.9
	comp=Z,1.2nm,0.5s						
DAVA	Damuels	36.46	310	iP	P	04 11 28.2	-1.2
	comp=Z,1.7nm,0.4s						
NOA	NORSAR Array B	40.83	331	P	P	04 12 04.5	-1.4
	comp=Z,0.1nm,0.5s,baz=130,slow=6.3,SNR=2.9						
NOA				LR	LR	04 28 49.4	
	comp=Z,45nm,18.9s,baz=25,slow=36						
ARCES	ARCESS Array B	42.17	347	P	P	04 12 16.0	-0.7
	comp=Z,1.6nm,0.9s,baz=150,slow=9.3,SNR=2.8						
TORD	Torodi Ar. Bea	49.26	261	P	P	04 13 12.4	-1.0
	comp=Z,1.0nm,0.8s,baz=44,slow=7.8,SNR=7.0						
PETK	Petropavlovsk-	75.08	37	LR	LR	04 53 11.9	
	comp=Z,58nm,19.5s,baz=123,slow=39						
ILAR	Eielson Array	84.20	8	P	P	04 16 57.6	+2.0
	comp=Z,0.1nm,0.6s,baz=337,slow=7.3,SNR=3.5						
YKA	Yellowknife Ar	87.00	354	P	P	04 17 11.6	+2.2
	comp=Z,0.2nm,0.6s,baz=12,slow=5.2,SNR=3.7						

ISCJB 08 04:14:08.3±0.8, 3°.48S±0°.06×140°.1E±0°.1, h10km, mb3.0/1, Error ellipse: s-maj=16.4km s-min=6.2km az=25.0

IDC 08 04:14:09.1±1.4, 3°.41S×140°.21E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/26, mbtmp3.5/4, ML3.9/2, Error ellipse: s-maj=40.4km s-min=10.9km az=122.0

DJA 08 04:14:11.3±1.9, 3°S±9°×14°0E±°, h10km, M4.0/2, MLv4.0/2

ISC 08 04:14:09.1±1.0, 3°.46S±0°.08×140°.1E±0°.1, h10km, n10, σ3s69/11, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	0.86	2	P	Pn	04 14 26.6	-0.7
GENI				S	Sb	04 14 37.4	-0.3
JAY	Jayapura	1.09	31	Pg	Pn	04 14 29.3	-1.2
	41nm,0.3s,baz=247,slow=19,SNR=164						
JAY				Lg	Lg	04 14 41.5	
	64nm,0.3s,baz=180,slow=20,SNR=16						
JAY	Jayapura	1.09	31	P	Pn	04 14 29.3	-1.2
JAY				S	Sb	04 14 42.7	-1.8
SRPI	Serui, Papua	4.20	292	P	Pn	04 15 07.0	-6.3
BAKI	Biak	4.62	299	P	Pn	04 15 10.4	-8.6
SIJI	Sorong	9.23	286	Pn	Pn	04 16 22.8	+0.3
	1.5nm,0.3s,baz=108,slow=20,SNR=3.1						
WRA	Warramunga Arr	17.34	199	P	Pn	04 18 11.8	+0.4
	0.4nm,0.3s,baz=24,slow=12,SNR=12						
WRA				S	Sn	04 21 14.8	-10
	0.1nm,0.3s,baz=15,slow=22,SNR=3.7						
FITZ	Fitzroy Crossi	20.34	223	P	P	04 18 46.1	+0.4
	3.8nm,1.0s,baz=45,slow=11,SNR=9.3						
FITZ				S	S	04 22 24.8	-9.1
	2.2nm,0.8s,baz=49,slow=20,SNR=2.6						
ASAR	Alice Springs	20.98	196	P	P	04 18 56.3	+3.6
	0.8nm,0.4s,baz=28,slow=10,SNR=12						
MKAR	Makanchi Array	71.25	322	P	P	04 25 31.3	+2.6
	0.1nm,0.5s,baz=103,slow=6.2,SNR=2.6						

IDC 08 04:21:48.9±7.4, 18°.83S×177°.58W, h595km±83km, mb3.1/6, mb1 3.3/6, mb1mx3.0/29, mbtmp4.1/6, Error ellipse: s-maj=47.5km s-min=26.5km az=121.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.88	242	P	P	04 28 25.6	+0.7
	1.1nm,0.4s,baz=54,slow=11,SNR=3.2						
JAY	Jayapura	43.92	287	P	P	04 29 04.6	-0.1
	8.0nm,0.6s,baz=122,slow=9.5,SNR=3.5						
WRA	Warramunga Arr	45.24	260	P	P	04 29 14.3	-0.5
	1.8nm,0.4s,baz=97,slow=7.4,SNR=47						
WRA				PcP	PcP	04 30 41.7	-0.2
	0.5nm,0.7s,baz=96,slow=3.2,SNR=3.1						
ASAR	Alice Springs	45.30	255	P	P	04 29 15.0	-0.2
	4.5nm,0.7s,baz=89,slow=7.6,SNR=36						
ASAR				PcP	PcP	04 30 42.2	+0.1
	0.3nm,0.5s,baz=90,slow=3.4,SNR=3.1						
MAW	Mawson	83.26	200	P	P	04 33 13.2	-0.4
	14nm,0.5s,baz=121,slow=11,SNR=24						
ILAR	Eielson Array	86.61	13	P	P	04 33 29.3	-0.3
	0.1nm,0.5s,baz=216,slow=4.5,SNR=4.1						
PDAR	Pinedale Array	87.48	43	P	P	04 33 34.8	+0.2
	0.2nm,0.5s,baz=243,slow=6.0,SNR=2.7						

IDC 08 04:26:46.5±7.8, 30°.88S×178°.98W, h120km±60km, mb3.9/4, mb1 4.0/5, mb1mx3.6/30, mbtmp4.2/5, Error ellipse: s-maj=64.7km s-min=27.3km az=41.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	8.04	203	P	Pn	04 28 40.5	+0.1
	0.2nm,0.3s,baz=280,slow=7.4,SNR=4.5						
URZ				S	Sn	04 30 02.2	-7.4
	1.2nm,0.3s,baz=260,slow=10,SNR=6.5						
STKA	Stephens Creek	33.55	258	P	P	04 33 15.4	+0.4
	2.0nm,0.6s,baz=108,slow=12,SNR=3.9						
ASAR	Alice Springs	42.24	268	P	P	04 34 27.8	-0.4
	1.5nm,0.5s,baz=104,slow=7.6,SNR=22						
WRA	Warramunga Arr	43.27	273	P	P	04 34 36.2	-0.2
	3.5nm,0.3s,baz=111,slow=8.1,SNR=111						
QSPA	South Pole Qui	59.24	180	P	P	04 36 34.9	-0.1
	1.2nm,0.4s,baz=115,slow=2.3,SNR=8.0						
FINES	FINESS Array B	145.29	339	PKPbc	PKPdf	04 46 08.7	-0.6
	0.9nm,0.5s,baz=64,slow=4.4,SNR=6.5						

NIED 08 04:38:00, 35°.20N×140°.30E, h95km, Mw3.8 Best double couple: $M_0$4.88000×10^{14} NP1: φs196.00000°, δ43.00000°, λ-134.00000°. NP2: φs68.00000°, δ61.00000°, λ-57.00000°.

ISCJB 08 04:38:30.0±0.4, 35°.18N±0°.04×140°.19E±0°.05, h109km±3km, mb3.7/9, Error ellipse: s-maj=8.1km s-min=6.0km az=138.6

JMA 08 04:38:30.1±0.2, 35°.22N×140°.21E, h107km±2km, M3.9

JMA Felt I J1.

IDC 08 04:38:30.8±1.3, 35°.17N×140°.27E, h99km±13km, mb3.5/9, mb1 3.7/12, mb1mx3.5/47, mbtmp3.8/12, MS2.0/1, Ms1 2.0/1, ms1mx1.9/36, Error ellipse: s-maj=23.6km s-min=6.6km az=71.0

ISC 08 04:38:31.1±0.7, 35°.17N±0°.05×140°.18E±0°.05, h103km±5km, n33, σ1s03/41, mb3.7/9, 3C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKUC	kamogawauchiur	0.02	113	P	Pn	04 38 44.8	-0.5
KTR	Katsuura	0.12	100	⇓P	Pn	04 38 45.0	-0.4
KTR				S	Sn	04 38 55.7	-0.4
BSO4	Boso 4	0.22	143	⇓P	Pn	04 38 45.6	0.0
BSO4				eS	Sn	04 38 57.8	+1.4
JCN	Nagara	0.25	5	P	Pn	04 38 46.0	+0.2
JCN				S	Sn	04 38 57.8	+1.0
TATJ	Tateyama 2	0.27	240	⇓P	Pn	04 38 46.3	+0.4
BSO3	Boso 3	0.46	143	⇓P	Pn	04 38 46.6	+0.1
BSO3				S	Sn	04 38 59.7	+1.5
JIM2	Oshima 3	0.76	234	⇓P	Pn	04 38 49.0	-0.3
JIM2				S	Sn	04 39 02.6	-0.4
BSO1	Boso 1	0.83	128	P	Pn	04 38 49.2	-0.2
JOD2	Odawara 2	0.90	276	⇓P	Pn	04 38 50.0	-0.6
JOD2				S	Sn	04 39 04.3	-1.1
JIZS	Izushimoda	1.16	248	⇓P	Pn	04 38 53.6	+0.2
JIZS				S	Sn	04 39 10.9	+0.6
JFNN	Fujinakano	1.22	272	P	Pn	04 38 54.5	+0.3
JFNN				S	Sn	04 39 12.3	+0.7
JRY	Ryogami san	1.34	310	⇑P	Pn	04 38 55.3	-0.3
JMKN	Mikurajimanish	1.36	201	⇓P	Pn	04 38 56.1	+0.3
JYN	Shimob	1.38	284	⇑P	Pn	04 38 56.0	0.0
JAG	Ashikaga	1.39	335	⇑P	Pn	04 38 55.0	-1.1
JHJ	Hachijo jima 2	2.07	189	P	Pn	04 39 05.2	+0.6
	72nm,0.3s,baz=118,slow=21,SNR=6.7						
JHJ				S	Sn	04 39 30.5	+0.2
	328nm,0.3s,baz=75,slow=23,SNR=21						
MJAR	Matsushiro Arr	2.11	311	P	Pn	04 39 04.8	-0.4
	57nm,0.3s,baz=159,slow=12,SNR=179						
MJAR				S	Sn	04 39 31.6	+0.4
	27nm,0.3s,baz=136,slow=24,SNR=7.8						
MJAR				LR	LR	04 39 38.8	
	comp=Z,32nm,18.9s,baz=20,slow=32						
MAT	Matsushiro	2.11	311	P	Pn	04 39 05.0	-0.1
MAT				S	Sn	04 39 31.6	+0.4

JCJ	Chichijima	8.23	167	P	Pn	04 40 24.1	-3.6
	13nm,0.3s,baz=112,slow=23,SNR=9.2						
USRK	Ussuriysk Ar.	11.00	328	P	Pn	04 41 04.7	-0.4
	0.1nm,0.3s,baz=146,slow=15,SNR=3.7						
KLR	Kul'dur	15.36	339	P	Pn	04 41 59.5	-2.5
	0.2nm,0.3s,baz=171,slow=9.8,SNR=4.3						
H11S3	WAKE ISLAND Hy	28.77	118	T	T	05 14 47.1	
	baz=309						
H11S1	WAKE ISLAND Hy	28.77	118	T	T	05 14 50.0	
	baz=309						
H11S2	WAKE ISLAND Hy	28.79	118	T	T	05 14 44.0	
	baz=309						
MKAR	Makanchi Array	44.29	304	P	P	04 46 32.9	+2.5
	0.9nm,0.6s,baz=86,slow=10,SNR=13						
ILAR	Eielson Array	51.60	32	P	P	04 47 25.4	-1.0
	0.6nm,0.8s,baz=264,slow=4.9,SNR=5.6						
WRA	Warramunga Arr	55.09	187	P	P	04 47 51.7	-0.7
	0.5nm,0.4s,baz=2.8,slow=7.5,SNR=18						
ARCES	ARCESS Array B	65.39	339	P	P	04 49 02.1	0.0
	1.8nm,0.9s,baz=50,slow=8.4,SNR=4.4						
YKA	Yellowknife Ar	65.92	29	P	P	04 49 05.6	0.0
	0.4nm,0.7s,baz=297,slow=6.5,SNR=8.2						
FINES	FINESS Array B	69.99	332	P	P	04 49 31.1	0.0
	5.8nm,1.2s,baz=58,slow=5.0,SNR=5.9						
AKASG	Malin Array Be	75.15	322	P	P	04 50 01.6	-0.3
	0.4nm,0.4s,baz=49,slow=5.5,SNR=3.0						
NVAR	Mina Array Bea	76.91	52	P	P	04 50 13.3	+0.9
	0.5nm,0.5s,baz=290,slow=5.9,SNR=6.1						
PDAR	Pinedale Array	79.69	45	P	P	04 50 28.1	+0.4
	0.2nm,0.5s,baz=297,slow=1.4,SNR=3.5						

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*NIED **08** 04:47:00, 36°.20N×141°.10E, h38^{km}, Mw3.6 Best double couple: $M_0$2.47000×10^{14} NP1:ϕ_s18.00000°, δ38.00000°, λ-59.00000°. NP2:ϕ_s160.00000°, δ58.00000°, λ-112.00000°.*

JMA 08 04:47:26.7±0.1**, 36°.14N×140°.96E, h36**^{km}±1^{km}**, M3.6, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	Hitachinakayam	0.36	304	P	Pn	04 47 35.3	+0.1
JHYU				S	Sn	04 47 41.0	-0.8
JIHU	Itakohorinouch	0.39	244	P	Pn	04 47 36.2	+0.6
JIHU				S	Sn	04 47 43.1	+0.9
CHOJ	Chosi	0.44	191	P	Pn	04 47 36.3	-0.1
CHOJ				S	Sn	04 47 42.8	-0.5
JHO	Hitachi	0.57	326	P	Pn	04 47 38.1	-0.3
JYT	Yasato	0.63	278	P	Pn	04 47 39.0	-0.2
JYT				S	Sn	04 47 47.2	-0.7
ONAJ	Iwakimizuishiy	0.97	352	P	Pn	04 47 43.7	-0.1
JFK	Kawauchi	1.23	357	P	Pn	04 47 47.1	-0.2
JAG	Ashikaga	1.25	284	P	Pn	04 47 48.0	+0.4
JAG				S	Sn	04 48 03.3	+0.1
MAT	Matsushiro	2.26	281	P	Pn	04 48 03.5	+2.0
MAT				S	Sn	04 48 31.2	+3.1

IDC 08 04:48:50.6±33.0**, 18°.61S×177°.51W, h561**^{km}±402^{km}**, mb3.1**/4**, mb1 3.3**/4**, mb1mx2.9**/39**, mbtmp4.0**/4**, Error ellipse: s-maj=292.3km s-min=109.9km az=145.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.35	260	P	P	04 56 19.2	-0.2
	1.3nm,0.4s,baz=96,slow=8.1,SNR=81						
ASAR	Alice Springs	45.43	255	P	P	04 56 20.1	0.0
	3.0nm,0.7s,baz=90,slow=7.6,SNR=29						
FITZ	Fitzroy Crossi	53.76	261	P	P	04 57 21.0	-0.2
	0.7nm,0.3s,baz=99,slow=6.4,SNR=11						
ILAR	Eielson Array	86.38	13	P	P	05 00 33.2	-0.1
	0.3nm,0.8s,baz=220,slow=5.2,SNR=3.6						

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*JMA **08** 05:00:13.3±0.1, 22°.76N×121°.03E, h20^{km}±1^{km}, M3.9*
*ISCJB **08** 05:00:15.8±0.4, 22°.77N±0°.01×121°.10E±0°.02, h13^{km}±3^{km}, Error ellipse: s-maj=2.7km s-min=2.1km az=38.0*
*TAP **08** 05:00:15.8, 22°.83N×121°.04E, h9^{km}, ML3.9, B*
ISC 08 05:00:15.3±0.7**, 22°.79N**±0°.02×**121°.07E**±0°.02**, h20**^{km}±2^{km}**, n113, σ1s18**/165**, 11C-17D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGBT	Beinan	0.03	18	⇑P	Pg	05 00 17.9	-0.8
	baz=100						
TWGBT				S	Sg	05 00 19.2	-2.0
	baz=100						
TWG	Pinlang	0.03	3	⇑iP	Pg	05 00 17.9	-0.8
	baz=100						
TWG				iS	Sg	05 00 19.2	-1.9
	baz=100						
TTN	Taitung	0.08	118	⇓iP	Pb	05 00 19.7	+0.7
	baz=124						
TTN				iS	Sb	05 00 23.1	+1.6
	baz=124						
ECL	Taimali	0.22	209	⇑iP	Pb	05 00 20.8	+0.3
	baz=206						
ECL				S	Sb	05 00 24.2	+0.2
	baz=206						
ELDTW	Lidau	0.40	353	⇓iP	Pb	05 00 23.2	-0.6
	baz=358						
ELDTW				S	Sg	05 00 27.7	-1.8
	baz=358						
SSD	Sandimen	0.41	264	⇑iP	Pb	05 00 23.6	-0.2
	baz=258						
SSD				iS	Sb	05 00 28.1	-1.5
	baz=258						
CHKT	Chengkung	0.41	42	⇑P	Pb	05 00 24.2	+0.3
	baz=49						
CHKT				eS	Sb	05 00 30.7	+1.0
	baz=49						
SLGT	Liugui	0.44	297	⇓eP	Pb	05 00 24.1	-0.3
	baz=288						
MASBT	Mashibuluo	0.44	246	⇑P	Pb	05 00 24.5	+0.1
	baz=234						
MASBT				S	Sb	05 00 29.9	-0.7
	baz=234						
EAST	Anshuo	0.46	207	⇑iP	Pn	05 00 25.3	-1.4
	baz=210						
EAST				iS	Sb	05 00 31.7	+0.6
	baz=210						
TAW	Tawu	0.46	201	P	Pn	05 00 25.4	-1.3
	baz=204						
TAW				S	Sb	05 00 31.8	+0.6
	baz=204						
STYT	Tauyuan	0.47	322	⇓iP	Pb	05 00 24.7	-0.2
	baz=323						
STYT				S	Sb	05 00 30.2	-1.2
	baz=323						
SGST	Jiashian	0.54	303	⇓iP	Pn	05 00 26.6	-1.2
	baz=301						
SGST				S	Sb	05 00 33.4	+0.1
	baz=301						
SGLT	Jiouru	0.54	263	eP	Pn	05 00 26.9	-0.9
	baz=258						
SGLT				S	Sn	05 00 34.4	-1.9
	baz=258						
SCZT	Fangliau	0.59	225	⇑iP	Pn	05 00 27.5	-1.0
	baz=225						
SCZT				eS	Sb	05 00 35.3	+0.5
	baz=225						
TWF1	Yuli	0.60	20	P	Pb	05 00 27.3	+0.2
	baz=14						
TWF1				eS	Sg	05 00 34.5	-0.8
	baz=14						
TWM1	Shoushan	0.60	273	⇑P	Pn	05 00 28.7	0.0
	baz=269						
WTP	Ta-pu	0.62	317	⇓iP	Pn	05 00 28.1	-0.9
	baz=320						
WTP				S	Sb	05 00 36.5	+0.8
	baz=320						
YULB	Yu-li	0.63	19	eP	Pb	05 00 27.6	-0.1
	baz=13						
YULB				eS	Sg	05 00 35.5	-0.9
	baz=13						
CHN1	Nanshi	0.64	308	⇓iP	Pn	05 00 28.9	-0.3
	baz=310						
CHN1				S	Sn	05 00 38.2	-0.6
	baz=310						
TPUB	Ta-pu	0.65	321	⇓P	Pn	05 00 28.6	-0.8
	baz=326						
TPUB				S	Sb	05 00 37.1	+0.6
	baz=326						
YUS	Yu-Shan	0.70	351	⇓iP	Pb	05 00 28.9	-0.3
	baz=2.0						
YUS				eS	Sg	05 00 37.2	-1.7
	baz=2.0						
CHN3	Shinhua	0.71	294	eP	Pn	05 00 31.5	+1.3
	baz=292						
CHN4	Tsaushan	0.71	322	⇓iP	Pn	05 00 29.9	-0.3
	baz=331						
CHN4				eS	Sn	05 00 39.5	-1.0
	baz=331						
TWK	Hsinying	0.72	312	⇓iP	Pn	05 00 30.2	-0.1
	baz=327						
TWK				eS	Sn	05 00 40.3	-0.5
	baz=327						
KAU	Kaohsiung	0.74	253	eP	Pn	05 00 32.8	+2.2
	baz=248						
EHY	Hungye	0.75	18	eP	Pb	05 00 29.6	0.0
	baz=12						
EHY				eS	Sg	05 00 39.1	-1.0
	baz=12						
ALS	Alishan	0.76	341	⇓iP	Pb	05 00 30.1	+0.1
	baz=343						
ALS				S	Sb	05 00 40.0	0.0
	baz=343						
HGSD	Ruisui	0.77	25	eP	Pn	05 00 31.1	0.0
	baz=16						
HGSD				S	Sn	05 00 42.1	0.0
	baz=16						
WLCH	Liuqiu	0.78	236	eP	Pn	05 00 33.7	+2.6
	baz=222						
TWP	Hsiaoliuchiu	0.79	236	eP	Pn	05 00 33.1	+1.8
	baz=222						
HEN	Hengchun	0.84	202	eP	Pn	05 00 33.3	+1.3
	baz=187						
LAY	Lan-yu	0.87	149	eP	Pb	05 00 31.4	-0.3
	baz=148						
TWK1	Hengchun	0.88	196	eP	Pn	05 00 33.5	+1.0
	baz=181						
CHN5	Tsauling	0.88	336	⇓iP	Pn	05 00 32.6	0.0
	baz=336						
CHN5				eS	Sn	05 00 45.1	+0.2
	baz=336						
TWKBT	Hengchun	0.88	196	eP	Pn	05 00 32.7	+0.2
	baz=182						
TWKBT				eS	Sn	05 00 47.0	+2.3
	baz=182						
SCLT	Jiali	0.89	295	eP	Pn	05 00 32.7	0.0
	baz=307						
SCLT				eS	Sn	05 00 48.1	+3.0
	baz=307						
TSEB	Hengchuen, Pin	0.90	190	eP	Pn	05 00 34.0	+1.2
	baz=177						
CHN2	Minshiung	0.92	323	eP	Pn	05 00 34.1	+1.0
	baz=323						
CHN2				eS	Sn	05 00 47.1	+1.4
	baz=323						
CHY	Chiayi	0.92	320	eP	Pn	05 00 33.9	+0.8
	baz=332						
CHY				eS	Sn	05 00 46.0	+0.2
	baz=332						
VWDT	VWDT	0.96	4	⇓P	Pg	05 00 33.1	-0.9
	baz=12						
CHN8	Yiju	0.96	305	eP	Pn	05 00 35.1	+1.4
	baz=318						
CHN8				eS	Sn	05 00 49.4	+2.5
	baz=318						
WLGB	Puzi	0.98	314	eP	Pn	05 00 34.5	+0.6
	baz=314						
WLGB				eS	Sn	05 00 50.0	+2.6
	baz=314						
SSLB	Suanglung	1.00	354	⇓P	Pg	05 00 33.7	-1.0
	baz=358						
SSLB				eS	Sn	05 00 48.2	+0.5
	baz=358						
WGK	Gukeng	1.01	332	⇓P	Pn	05 00 35.7	+1.4
	baz=333						
WGK				eS	Sn	05 00 49.9	+2.0
	baz=333						
WDLH	Douliu	1.02	331	eP	Pn	05 00 35.9	+1.5
	baz=333						
ESL	Shilin	1.07	18	eP	Pb	05 00 35.1	0.0
	baz=22						
WJS	Zhushan	1.07	343	eP	Pg	05 00 36.9	+0.7
	baz=344						
WJS				eS	Sn	05 00 52.7	+3.1
	baz=344						
SMLT	Sun Moon Lake	1.10	352	eP	Pg	05 00 36.4	-0.2
SMLT				eS	Sn	05 00 52.4	+2.0
TYC	Yuchr	1.12	350	⇑P	Pg	05 00 37.0	-0.1
	baz=5.0						
TYC				S	Sn	05 00 53.6	+2.8
	baz=5.0						
WNT	Mingjian	1.14	342	⇓P	Pg	05 00 37.8	+0.4
	baz=343						
WNT				S	Sn	05 00 54.2	+3.1
	baz=343						
WSF	Szhu	1.15	317	eP	Pg	05 00 37.5	-0.1
	baz=317						
WSF				eS	Sn	05 00 52.5	+1.1
	baz=317						
ENLB	Shoufeng	1.21	24	eP	Pn	05 00 37.1	0.0
	baz=41						
CHGB	Renai	1.27	4	eP	Pb	05 00 38.2	-0.4
	baz=12						
CHGB				eS	Sg	05 00 56.8	+0.3
	baz=12						
RLNB	Erlin	1.27	329	eP	Pg	05 00 39.4	-0.6
	baz=331						
HWA	Hwalien	1.28	22	eP	Pg	05 00 39.2	-0.8
	baz=47						
WTCT	Ta-ch'eng	1.29	326	eP	Pg	05 00 39.2	-1.0
	baz=328						
WHF	Hehuan Shan	1.36	8	eP	Pn	05 00 39.6	+0.1
	baz=22						
WCHH	Zhanghua	1.37	340	eP	Pg	05 00 41.4	-0.3
	baz=324						
TWD	Chiawan	1.37	21	eP	Pn	05 00 39.5	+0.2
	baz=40						
WDGT	Dungji	1.38	290	eP	Pg	05 00 40.6	-1.3
	baz=289						
TCU	Taichung	1.40	345	eP	Pg	05 00 41.9	-0.4
	baz=335						
TDCB	Techi	1.46	3	eP	Pg	05 00 42.6	-0.9
	baz=18						
NACB	Ninganchiao	1.46	19	eP	Pn	05 00 40.8	+0.3
	baz=39						
TWT	Tachien	1.46	4	eP	Pg	05 00 43.0	-0.5
	baz=18						
PHUB	P'eng-hu	1.56	298	eP	Pb	05 00 42.9	-0.5
	baz=297						
PHUB				eS	Sn	05 01 01.2	-0.2
	baz=297						
VCHM	Qimei	1.57	286	eP	Pb	05 00 43.0	-0.6
	baz=285						
VCHM				eS	Sb	05 01 02.6	-0.4
	baz=285						
TWQ1	Liyutan	1.57	350	⇑P	Pg	05 00 45.1	-0.5
	baz=334						
TWQ1				eS	Sg	05 01 07.6	+1.5
	baz=334						
NSY	Sanyi	1.64	350	eP	Pg	05 00 46.0	-0.9
	baz=334						
NSY				eS	Sg	05 01 09.6	+1.2
	baz=334						
NNSB	Datong	1.66	10	eP	Pg	05 00 46.1	-1.1
	baz=10.0						
NNSB				eS	Sg	05 01 07.7	-1.1
	baz=10.0						
NNS	Nan Shan	1.67	10	eP	Pg	05 00 46.6	-0.8
	baz=10.0						
NNS				eS	Sg	05 01 07.7	-1.4
	baz=10.0						
PTSB	Yuanli	1.68	349	eP	Pg	05 00 46.9	-0.8
	baz=350						
PTSB				eS	Sg	05 01 09.7	+0.1
	baz=350						
NMLH	Miaoli	1.76	352	eP	Pg	05 00 48.1	-1.0
	baz=337						
NSTT	Nanjuang	1.83	358	eP	Pg	05 00 48.9	-1.7
	baz=344						
NSTT				eS	Sg	05 01 13.6	-0.8
	baz=344						
LIOB	Emei	1.85	358	eP	Pg	05 00 49.1	-1.8
	baz=344						
YHNB	Yeheng	1.89	8	eP	Pg	05 00 50.7	-1.0
	baz=13						
NSK	Sanguang	1.90	8	eP	Pg	05 00 50.5	-1.3
	baz=13						
ENTT	Nioudou	1.90	14	eP	Pg	05 00 50.1	-1.7
	baz=36						
TWC	Suao	1.94	21	eP	Pb	05 00 50.2	+0.1
	baz=41						
SBCB	Hsinchu	1.99	358	eP	Pb	05 00 51.2	+0.3
	baz=5.0						
TWE	Neicheng	2.00	16	eP	Pb	05 00 51.4	+0.5
	baz=38						
EOS1	EOS1	2.00	29	eP	Pb	05 00 49.7	-1.2
	baz=49						
SLBB	Yuanshan	2.02	15	eP	Pb	05 00 52.1	+0.7
	baz=38						
WLTB	Daxi	2.06	5	eP	Pg	05 00 54.4	-0.5
	baz=19						
TATO	Taipei	2.21	10	eP	Pb	05 00 55.0	+0.5
	baz=34						
TWA	Mucha	2.23	12	eP	Pg	05 00 56.2	-1.9
	baz=32						
TIPB	Shuangxi	2.28	18	eP	Pb	05 00 54.1	-1.6
	baz=38						
TWS1	Kuangyinshan	2.32	8	eP	Pb	05 00 57.5	+1.0
	baz=13						
NWF	Wu-fen Shan	2.36	16	eP	Pb	05 00 55.9	-1.3
	baz=39						
TWB1	Santiao Chiao	2.36	21	eP	Pb	05 00 56.0	-1.1
	baz=45						
WFSB	Wu-fen Shan	2.36	16	eP	Pb	05 00 55.4	-1.7
	baz=39						
YM04	YM04	2.39	10	eP	Pb	05 00 56.9	-0.7
	baz=359						
YM05	YM05	2.41	11	eP	Pb	05 00 58.0	0.0
	baz=359						
YM11	YM11	2.41	11	eP	Pb	05 00 58.1	+0.1
	baz=359						
YM08	YM08	2.43	11	eP	Pb	05 00 57.5	-0.9
	baz=360						
YOJ	Yonaguni jima	2.44	47	eP	Pn	05 00 54.9	+1.0
	baz=53						
VWUC	VWUC	2.65	326	eP	Pn	05 00 58.3	+1.5
	baz=328						
HATJ	Hateruma jima	2.81	63	P	Pn	05 00 59.4	+0.3
HATJ				S	Sn	05 01 31.8	-0.6
PTMZ	Houxiangcun	2.86	322	eP	Pn	05 01 01.6	+1.8
	baz=324						
IRIF	Iriomote-Funau	2.88	57	P	Pn	05 01 00.7	+0.6
IRIF				eS	Sn	05 01 35.9	+1.7
KNM	Kinmen	2.91	304	eP	Pb	05 01 03.4	-3.1
	baz=304						
KNMB	Chin-men Tao	2.97	305	eP	Pn	05 01 02.5	+1.2
	baz=306						
JKRS	Kuro-shima	3.06	61	P	Pn	05 01 03.2	+0.7
JKRS				eS	Sn	05 01 39.2	+0.7
JIJ	Ishigaki jima	3.22	60	P	Pn	05 01 05.2	+0.4
JIJ				eS	Sn	05 01 41.6	-1.0
ZPLA	Ao Xicun	3.25	291	eP	Pn	05 01 07.0	+1.8
	baz=292						
JISG	Ishigakijimahi	3.47	58	P	Pn	05 01 08.2	+0.1
JISG				eS	Sn	05 01 47.6	-1.0
MATB	Ma-tsu	3.50	343	eP	Pn	05 01 09.9	+1.3
	baz=345						
AXDP	Jialang	3.53	307	eP	Pn	05 01 10.1	+1.1
	baz=309						
ZZJH	Jiuhuzhen	3.57	299	eP	Pn	05 01 11.1	+1.6
	baz=300						
MHZQ	Yeshan	3.78	331	eP	Pn	05 01 14.0	+1.6
	baz=334						
JTJ	Tarama	3.80	60	P	Pn	05 01 12.9	+0.2
JTJ				S	Sn	05 01 57.8	+0.9
LYJJ	Jianjiangzhen	3.93	343	eP	Pn	05 01 15.9	+1.4
	baz=346						
XPSS	Dashiqiu	4.20	349	eP	Pn	05 01 19.6	+1.4
	baz=352						

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*JMA **08** 05:07:05.1±0.1, 38°.09N×142°.02E, h47^{km}±1^{km}, M3.9*
JMA Felt I J1.
*IDC **08** 05:07:06.9±3.2, 38°.06N×141°.96E, h67^{km}±30^{km}, mb3.0/4, mb1 3.3/7, mb1mx3.1/40, mbtmp3.4/7, ML3.0/3, Error ellipse: s-maj=35.6km s-min=20.9km az=117.0*
ISC 08 05:07:00.8±1.7**, 38°.01N**±0°.04×**142°.20E**±0°.06**, h15**^{km}±10^{km}**, n24, σ1s49**/37**, mb3.3**/4**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.65	298	P	Pn	05 07 16.1	+0.7
JIKH				S	Sb	05 07 23.7	+1.1
JIO	Ouri	0.80	304	P	Pn	05 07 18.0	+0.5
JIO				S	Sb	05 07 27.2	+0.2
JKMT	Kesennumamotoy	0.98	325	P	Pb	05 07 20.6	+1.2
JKMT				S	Sg	05 07 31.7	-0.9
JMM	Marumori	1.12	263	P	Pn	05 07 22.6	+0.8
JMM				S	Sg	05 07 35.6	-1.4
JMK	Ichinoseki	1.21	321	P	Pb	05 07 24.0	+0.6
JMK				S	Sb	05 07 37.7	-1.1
JFK	Kawauchi	1.23	239	P	Pg	05 07 24.8	+0.3
JFK				S	Sb	05 07 39.0	-0.3
JOU	Okura	1.26	287	P	Pb	05 07 24.7	+0.5
JOU				S	Sb	05 07 38.9	-1.3
JFT	Otama	1.55	252	P	Pb	05 07 30.0	+0.8
JFT				S	Sn	05 07 48.3	+0.6
JOM	Ohasama	1.62	334	P	Pn	05 07 30.1	+1.3
JOM				S	Sn	05 07 48.9	-0.5
JYS	Shirataka	1.69	278	P	Pn	05 07 31.0	+1.3
JYS				S	Sn	05 07 50.7	-0.4
JYK	Kaneyama	1.70	303	P	Pn	05 07 30.9	+1.0
JYK				S	Sn	05 07 50.3	-1.1
JRG	Rokugo	1.85	319	P	Pn	05 07 33.2	+1.4
JRG				S	Sn	05 07 55.8	+0.9
JYA	Atsumi	2.04	287	P	Pn	05 07 35.4	+0.9
JYA				S	Sn	05 08 00.8	+1.2
MJAR	Matsushiro Arr	3.50	246	P	Pn	05 07 57.5	+2.9
	0.9nm,0.3s,baz=60,slow=9.5,SNR=3.8						
MJAR				S	Sb	05 08 44.6	-0.1
	0.9nm,0.3s,baz=92,slow=34,SNR=3.2						
MAT	Matsushiro	3.50	246	P	Pb	05 07 59.8	-2.6
MAT				eS	Sn	05 08 35.4	-0.4
ASAJ	Asahikawa	6.11	3	P	Pn	05 08 32.4	+2.0
	0.6nm,0.3s,baz=155,slow=14,SNR=2.7						
ASAJ				S	Sn	05 09 35.2	-4.7
	0.2nm,0.3s,baz=167,slow=16,SNR=2.2						
USRK	Ussuriysk Ar.	9.87	312	P	Pn	05 09 24.0	+2.0
	0.4nm,0.3s,baz=114,slow=14,SNR=6.2						
H11S1	WAKE ISLAND Hy	28.89	125	T	T	05 44 09.9	
	baz=318,slow=76,SNR=15						
H11S3	WAKE ISLAND Hy	28.89	125	T	T	05 44 07.9	
	baz=318,slow=76,SNR=22						
H11S2	WAKE ISLAND Hy	28.91	125	T	T	05 44 11.2	
	baz=318,slow=76,SNR=11						
MKAR	Makanchi Array	44.13	301	P	P	05 15 06.8	-1.7
	0.2nm,0.6s,baz=93,slow=5.8,SNR=3.5						
ILAR	Eielson Array	48.34	33	P	P	05 15 42.7	+1.5
	0.1nm,0.6s,baz=272,slow=6.9,SNR=3.1						
WRA	Warramunga Arr	58.12	189	P	P	05 16 53.2	-0.4
	0.3nm,0.6s,baz=6.3,slow=7.5,SNR=4.4						
PDAR	Pinedale Array	76.54	46	P	P	05 18 50.3	-0.2
	0.4nm,0.7s,baz=289,slow=2.8,SNR=3.7						

MEX 08 05:15:52.2±0.5**, 16°.34N×98°.82W, h12**^{km}±5^{km}**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.67	86	eP	Pg	05 16 03.3	-1.9
PNIG				iS	Sg	05 16 12.9	-1.2
TLIG	Tlapa	1.24	11	eP	Pn	05 16 11.8	-3.8
TLIG				eS	Sb	05 16 27.3	-4.4
CAIG	El Cayaco	1.55	297	eP	Pn	05 16 16.5	-3.2
CAIG				iS	Sn	05 16 34.7	-5.1
VHO	Vista Hermosa	2.13	70	iP	Pn	05 16 25.6	-2.3
VHO				iS	Sn	05 16 50.2	-4.2

IDC 08 05:33:43.2±1.0**, 46°.19N×154°.20E, h0**^{km}**, mb3.5**/5**, mb1 3.8**/6**, mb1mx3.5**/31**, mbtmp3.5**/6**, ML2.6**/1**, MS2.8**/1**, Ms1 2.8**/1**, ms1mx2.2**/42**, Error ellipse: s-maj=55.7km s-min=22.6km az=110.0, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	7.29	17	Pn	Pn	05 35 31.9	+1.1
	0.5nm,0.3s,baz=176,slow=9.6,SNR=4.6						
MA2	Magadan	13.57	353	LR	LR	05 41 52.9	
	comp=Z,37nm,18.5s,baz=274,slow=36						
YKA	Yellowknife Ar	50.92	37	P	P	05 42 45.3	-0.4
	0.1nm,0.6s,baz=296,slow=7.2,SNR=3.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	68.23	200	P	P	05 44 45.5	0.0
	0.6nm,0.9s,baz=21,slow=7.3,SNR=3.6						
NOA	NORSAR Array B	69.00	342	P	P	05 44 49.8	-0.1
	0.6nm,0.8s,baz=28,slow=6.6,SNR=2.5						
ASAR	Alice Springs	71.92	200	P	P	05 45 08.4	+0.3
	0.1nm,0.4s,baz=9.2,slow=5.6,SNR=4.4						
TXAR	Lajitas Array	77.11	61	P	P	05 45 38.6	0.0
	0.3nm,0.5s,baz=305,slow=4.4,SNR=3.9						

MAN 08 05:42:03.4, 8.44°N×126.15°E, h17km, mb4.2, ML3.0, MS2.6, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.33	140	⇑eP	Pg	05 42 09.4	-1.0
BUTP	Butuan	0.74	316	eP	Pb	05 42 17.7	-0.2
BUTP				eS	Sn	05 42 30.1	0.0
BUKP	Musuan	1.21	243	eP	Pn	05 42 24.7	-0.9
BUKP				eS	Sg	05 42 42.7	0.0
CGP	Cagayan de Oro	1.44	271	⇑eP	Pn	05 42 28.3	-0.4
CGP				eS	Sn	05 42 47.0	-0.2
SCPH	Surigao	1.49	334	⇑eP	Pn	05 42 29.5	+0.1

*NSSC **08** 06:04:57.9±1.7, 38.38°N×38.77°E, h0km±999km, ML4.0*
*IDC **08** 06:05:06.9±0.7, 37.81°N×37.98°E, h0km, mb4.0/17, mb1 4.0/26, mb1mx3.9/43, mbtmp3.9/26, ML3.5/9, MS3.6/18, Ms1 3.6/18, ms1mx3.4/39, Error ellipse: s-maj=12.5km s-min=9.4km az=169.0*
*DDA **08** 06:05:06.8, 37.94°N×37.98°E, h15km±1km, ML4.7*
*ISK **08** 06:05:06.8, 37.87°N×37.98°E, h5km, ML4.7/23*
*NEIC **08** 06:05:06.7±0.0, 37.87°N×37.99°E, h5km, mb4.4/25, ML4.7(DDA), ML4.7(ISK), After ISK.*
NEIC Felt at Akcadag.
*ISCJB **08** 06:05:07.8±0.5, 37.88°N±0.01×37.98°E±0.02, h8km±3km, mb4.2/46, MS3.6/16, Error ellipse: s-maj=2.5km s-min=2.3km az=13.4*
*MOS **08** 06:05:07.2±1.0, 37.88°N×37.96°E, h8km, mb4.2/25, Error ellipse: s-maj=6.5km s-min=4.1km az=85.6*
*MED_RC **08** 06:05:07.0±1.0, 37.93°N×37.96°E, h14km±5km, MW4.3/10, Moment Tensor Solution.Mantle waves: s10,c11; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.94±1.36; $M_{\theta\theta}$-3.01±.94; $M_{\phi\phi}$3.94±.74; $M_{r\theta}$0.00±1.51; $M_{\theta\phi}$0.78±.75; $M_{\phi r}$0.17±.58; Best double couple: $M_0$3.56000×10^{15} NP1:ϕ_s321.00000°, δ89.00000°, λ178.00000°. NP2:ϕ_s51.00000°, δ88.00000°, λ1.00000°. Principal axes: T 4.0300, Plg2.0000°, Azm276.0000°; N -0.9400, Plg88.0000°, Azm112.0000°; P -3.1000, Plg1.0000°, Azm6.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*GII **08** 06:05:10.1±0.0, 37.92°N×37.96°E, h14km*

ISC 08 06:05:08.9±0.9**, 37.88°N**±0.02×**37.94°E**±0.02**, h8**km±6km**, n252, σ1s48**/287**, mb4.3**/46**, MS3.4**/16**, 24C-13D, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKCD	Akcadag	0.42	358	IAML_P			
	comp=Z,731µm,0.3s						
AKCD				⇓iP	Pg	06 05 15.1	-2.0
AKCD				iS	Sg	06 05 21.8	-0.8
ATAB	Bozova	0.49	145	⇓iP	Pg	06 05 18.3	-0.1
ATAB				iS	Sg	06 05 25.8	+0.9
ELBS	KAHRAMANMARAS	0.78	305	⇑iP	Pg	06 05 21.6	-2.2
ELBS				iS	Sg	06 05 33.6	-0.4
URFA	Urfa	0.82	122	PG	Pg	06 05 23.3	-1.4
URFA				SG	Sg	06 05 34.7	-0.7
KMRS	Kahramanmaras	0.91	246	PG	Pg	06 05 24.7	-1.6
KMRS				SG	Sb	06 05 38.9	-0.1
GAZ	Gaziantep	0.91	220	PG	Pg	06 05 25.5	-0.9
SANL	SANLIURFA_Merk	1.09	130	IAML_P			
	comp=Z,125µm,0.3s						
SANL				⇑iP	Pg	06 05 29.3	-0.6
SANL				iS	Sg	06 05 43.7	-0.3
SURC	SANLIURFA_SURC	1.13	152	IAML_P			
	comp=Z,54µm,0.4s						
SURC				⇓iP	Pg	06 05 30.0	-0.5
SURC				iS	Sb	06 05 45.8	+0.3
ANDN	Andirin	1.30	257	IAML_P			
	comp=Z,51µm,0.1s						
ANDN				⇓iP	Pn	06 05 32.7	-0.7
ANDN				iS	Sn	06 05 52.4	+1.4
KUZU	Kuzuini	1.30	212	IAML_P			
	comp=Z,290µm,0.3s						
KUZU				⇓iP	Pn	06 05 32.2	-1.2
KUZU				iS	Sn	06 05 53.1	+2.2
SAIM	ADANA	1.47	274	IAML_P			
	comp=Z,68µm,0.2s						
SAIM				⇑iP	Pn	06 05 34.2	-1.5
SAIM				iS	Sg	06 05 59.3	+3.1
CUKAN	kangal_SIVAS	1.48	346	⇓iP	Pn	06 05 33.5	-2.4
CUKAN				iS	Sn	06 05 54.8	-0.8
PTK	Pertek	1.53	48	PN	Pn	06 05 35.6	-1.0
ILIC	ilic-Erzincan	1.65	17	PN	Pn	06 05 37.6	-0.6
REFA	Refahiye_ERZN	1.65	23	⇓iP	Pg	06 05 44.2	+3.8
REFA				iS	Sg	06 06 11.1	+9.3
CUALT	Altinyayla-SIV	1.68	327	⇑iP	Pn	06 05 38.6	0.0
CUALT				iS	Sg	06 06 02.7	-0.1
KOZT	Kozan	1.72	257	PN	Pn	06 05 39.3	+0.2
KOZT				SN	Sg	06 06 04.0	-0.2
DIYA	Diyarbakir	1.73	88	IAML_P			
	comp=Z,58µm,0.2s						
DIYA				⇑iP	Pn	06 05 38.7	-0.5
DIYA				iS	Sg	06 06 04.0	-0.4
DYBB	Diyarbakir	1.74	87	PN	Pn	06 05 38.9	-0.5
TNCL	Tunceli-Merkez	1.76	45	⇓iP	Pb	06 05 40.4	-1.1
TNCL				iS	Sg	06 06 06.6	+1.1
BNN	Bunyan	1.91	301	PN	Pn	06 05 41.8	0.0
BNN				SN	Sb	06 06 07.8	-0.3
CUZAR	Zara_SIVAS	2.01	356	⇓iP	Pn	06 05 43.3	0.0
CUZAR				iS	Sg	06 06 13.4	-0.2
CUSAR	Sarkisla-SIVAS	2.03	320	⇓iP	Pn	06 05 44.2	+0.7
CUSAR				iS	Sg	06 06 12.9	-1.3
MAZI	Mazidag	2.03	101	PN	Pn	06 05 42.7	-0.8
TAHT	Tahtakopru-Hat	2.05	224	PN	Pn	06 05 43.7	+0.1
SCER	sogukcermik	2.08	343	⇓iP	Pn	06 05 44.9	+0.7
SCER				iS	Sg	06 06 14.2	-1.5
SVSK	Karacayir	2.17	340	PN	Pn	06 05 45.3	+0.1
EUZM	Uzumlu	2.29	36	⇓iP	Pn	06 05 47.8	+0.8
EUZM				iS	Sg	06 06 23.0	+0.7
MARD	Mardin	2.32	103	⇑iP	Pn	06 05 46.4	-1.1
MARD				iS	Sb	06 06 20.9	+0.9
KARA	Karaisali	2.37	256	PN	Pn	06 05 48.8	+0.7
BGOL	Bingol	2.41	62	⇑iP	Pn	06 05 47.3	-1.4
BGOL				iS	Sg	06 06 28.6	+2.2
KELT	Kelkit	2.49	24	⇓iP	Pn	06 05 49.8	-0.1
KELT				iS	Sn	06 06 21.3	+0.8
RSDY	Resadiye-TOKAT	2.56	349	PN	Pn	06 05 51.3	+0.6
GULE	Gulek	2.58	258	iP	Pn	06 05 51.4	+0.4
GULE				iS	Sg	06 06 38.1	+6.3
SVAN	Silvan-Diyarba	2.59	83	PN	Pn	06 05 50.4	-0.7
SVAN	Silvan-Diyarba	2.59	83	IAML_P			
	comp=Z,8µm,0.4s						
SVAN				⇑iP	Pn	06 05 50.1	-1.0
SVAN				iS	Sg	06 06 29.5	-2.5
AVNS	Nevsehir-Avano	2.60	292	iP	Pn	06 05 52.2	+0.9
AVNS				iS	Sg	06 06 32.7	+0.2
BTMN	Batman	2.63	89	IAML_P			
	comp=Z,3µm,0.4s						
BTMN				iP	Pn	06 05 51.6	-0.1
BTMN				iS	Sb	06 06 28.7	-0.2
NIG	Nigde	2.64	276	PN	Pn	06 05 52.7	+0.7
TOKT	Tokat	2.67	336	PN	Pn	06 05 52.6	+0.4
YOZ	Yozgat	2.70	311	PN	Pn	06 05 53.1	+0.4
KARO	Karliova-Bingo	2.83	59	PN	Pn	06 05 54.3	-0.1
MERS	Mersin	2.90	251	PN	Pn	06 05 55.7	+0.3
ECAT	Cat-ERZURUM	2.93	53	⇑iP	Pn	06 05 56.8	+0.8
ECAT				iS	Sg	06 06 48.3	+5.2
BAYB	BAYBURT	2.98	36	iP	Pn	06 05 57.2	+0.5
BAYB				iS	Sb	06 06 40.5	+1.4
BAYT	Aydıntepe-Bayb	3.04	34	PN	Pn	06 05 57.6	+0.2
KERG	Konya-Eregli	3.06	262	iP	Pn	06 05 58.8	+1.2
KERG				iS	Sg	06 06 49.0	+1.7
ORDU	Ordu-Boztepe	3.11	359	iP	Pn	06 05 58.3	+0.1
ORDU				iS	Sb	06 06 43.5	+1.0
CDAG	Cicekdag	3.29	303	iP	Pn	06 06 01.6	+0.8
CDAG				iS	Sb	06 06 46.5	-1.2
GURO	Guroymak-BITLI	3.29	77	PN	Pn	06 06 00.3	-0.5
COAL	Corum-Alaca	3.31	317	iP	Pn	06 06 02.9	+1.9
COAL				iS	Sg	06 06 53.5	-1.5
KIZK	Mersin	3.34	246	iP	Pn	06 06 02.5	+1.2
AKSY	AKSARAY - Alti	3.38	284	iP	Pn	06 06 02.7	+0.8
AKSY				iS	Sg	06 06 55.1	-2.3
KTUT	Trabzon	3.41	24	PN	Pn	06 06 02.3	0.0
KTUT	Trabzon	3.41	24	⇑iP	Sb	06 06 56.6	+5.5
CORM	Corum	3.45	313	PN	Pn	06 06 04.4	+1.4
SIRN	Sırnak	3.57	95	iP	Pn	06 06 04.1	-0.5
SIRT	Sirnak	3.59	95	PN	Pn	06 06 05.1	+0.2
SIRT	Sirnak	3.59	95	ePn	Pn	06 06 03.9	-1.0
HAVZ	Havza	3.63	332	iP	Pn	06 06 06.6	+1.2
KOPR	Koprukoy-ERZUR	3.71	54	PN	Pn	06 06 06.9	+0.3
MLAZ	Malazgirt-MUS	3.83	69	PN	Pn	06 06 08.3	+0.1
BR101	Keskin Array S	3.83	300	ePn	Pn	06 06 09.3	+1.1
BR131	Keskin Array S	3.83	300	ePn	Pn	06 06 09.2	+1.0
BRTR	Keskin Array B	3.83	300	Pn	Pn	06 06 09.3	+1.0
	comp=Z,3.7nm,0.3s,baz=148,slow=17,SNR=80						
BRTR				Lg	Lg	06 07 09.7	
	comp=Z,8.0nm,0.3s,baz=115,slow=30,SNR=5.8						
BRTR				LR	LR	06 07 39.0	
	comp=Z,336nm,19.2s,baz=118,slow=39						
AKDM	Akdamar-Van	4.00	82	PN	Pn	06 06 10.8	+0.2
ANTO	Ankara	4.48	298	ePn	Pn	06 06 18.6	+1.6
ANTO	Ankara	4.48	298	eP	Pn	06 06 18.7	+1.6
BR231	Keskin MP Arra	4.48	298	ePn	Pn	06 06 18.0	+0.9
QASN	Qassioun	4.54	198	eP	Pn	06 06 18.9	+0.9
QASN				eS	Sn	06 07 15.0	+4.0
QASN				AML	AML	06 07 42.3	
	comp=E,823nm,0.6s						
QASN				AML	AML	06 07 49.6	
	comp=N,696nm,0.6s						
ILGA	Ilgaz	4.55	315	ePn	Pn	06 06 19.0	+0.8
TOTH	TOTAH	4.67	196	eP	Pn	06 06 19.9	+0.1
TOTH				eS	Sn	06 07 19.6	+5.5
TOTH				AML	AML	06 07 52.2	
	comp=E,332nm,0.8s						
TOTH				AML	AML	06 07 58.0	
	comp=N,224nm,0.6s						
CSS	Mathiatis	4.72	233	ePn	Pn	06 06 21.2	+0.9
CSS	Mathiatis	4.72	233	Pn	Pn	06 06 21.5	+1.2
BRBR	Barbar	4.74	201	eP	Pn	06 06 21.0	+0.2
BRBR				eS	Sn	06 07 22.2	+6.1
BRBR				AML	AML	06 07 50.1	
	comp=E,286nm,0.5s						
BRBR				AML	AML	06 08 01.5	
	comp=N,287nm,0.6s						
KARS	Kars	4.84	54	ePn	Pn	06 06 22.3	+0.2
KARS	Kars	4.84	54	eP	Pn	06 06 22.3	+0.2
NATI	Neve Ativ	4.94	202	Pn	Pn	06 06 24.8	+1.4
KSDI	Kefar Szold	5.03	202	Pn	Pn	06 06 26.0	+1.4
MMA0B	Mount Meron ar	5.28	204	Pn	Pn	06 06 29.3	+1.3
MMAI	Mount Meron Ar	5.28	204	Pn	Pn	06 06 28.4	+0.3
	comp=N,9.1nm,0.3s,baz=55,slow=13,SNR=20						
MMAI				Lg	Lg	06 07 55.0	
	comp=N,6.8nm,0.3s,baz=350,slow=20,SNR=2.2						
MMAI				LR	LR	06 08 50.8	
	comp=N,928nm,19.4s,baz=5.0,slow=43						
HNTI	Hanita	5.29	206	Pn	Pn	06 06 29.7	+1.5
AKH	Akhalkalaki	5.55	49	ePn	Pn	06 06 33.5	+1.6
AKH	Akhalkalaki	5.55	49	⇑iP	Pg	06 06 57.2	+2.0
AKH	Akhalkalaki	5.55	49	eP	Pn	06 06 33.5	+1.6
BLGI	Bet Lehem HaGe	5.60	204	Pn	Pn	06 06 34.0	+1.6
ASF	Jabal al Asfar	5.76	189	Pn	Pn	06 06 34.6	-0.1
	comp=N,2.2nm,0.3s,baz=112,slow=19,SNR=15						
ASF				Lg	Lg	06 08 08.6	
	comp=N,5.7nm,0.3s,baz=79,slow=4.1,SNR=3.3						
GNI	Garni	5.76	65	Pn	Pn	06 06 35.5	+0.8
	comp=N,2.1nm,0.3s,baz=286,slow=4.6,SNR=7.9						
GNI	Garni	5.76	65	ePn	Pn	06 06 35.5	+0.8
GNI				ePn	Pn	06 06 36.0	+1.3
GNI	Garni	5.76	65	iP	Pn	06 06 34.6	-0.2
OFRI	\`Ofer	5.78	206	Pn	Pn	06 06 36.6	+1.7
MMLI	Mount Malkishu	5.81	202	Pn	Pn	06 06 36.7	+1.4
HMDT	Nahal Hemdat	5.95	200	Pn	Pn	06 06 38.9	+1.7
DOMR	Dombai	6.09	26	iP	Pn	06 06 37.5	-1.8
SLTI	Sal'it	6.11	204	Pn	Pn	06 06 41.0	+1.6
TBLG	Delisi	6.50	52	ePn	Pn	06 06 45.9	+1.2
TBLG	Delisi	6.50	52	eP	Pn	06 06 45.9	+1.2
DSI	Dead Sea	6.64	199	Pn	Pn	06 06 47.6	+1.0
ZEI	Tsey	6.69	41	eP	Pn	06 06 52.4	+4.8
ZEI				pmax	pmax		
	comp=Z,15nm,1.1s						
SHA1	Shidzhatmaz	6.86	30	P	Pn	06 06 50.7	+0.8
KBZ	Khabaz	6.95	31	Pn	Pn	06 06 52.2	+1.3
	comp=Z,0.1nm,0.3s,baz=210,slow=20,SNR=3.2						
KIV	Kislovodsk	7.05	29	ePn	Pn	06 06 54.3	+1.9
KIV	Kislovodsk	7.05	29	eP	Pn	06 06 51.1	-1.3
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KVAR	Kislovodsk Arr	7.06	29	Pn	Pn	06 06 55.7	+3.2
	baz=73,slow=19,SNR=2.1						
KVAR				Lg	Lg	06 09 06.3	
	baz=270,slow=22,SNR=3.2						
NCK	Nalchik	7.07	36	iP	Pn	06 06 53.5	+0.9
PYA1	Pyatigorsk	7.30	31	iP	Pn	06 06 56.7	+0.9
KLYT	Kilyos	7.66	299	⇑iP	Pn	06 07 02.0	+1.4
KLYT				S	Pb	06 07 24.7	+2.9
EIL	Elat	8.55	198	Lg	Lg	06 09 52.0	
	comp=Z,1.2nm,0.3s,baz=344,slow=18,SNR=2.8						
EIL				LR	LR	06 10 56.0	
	comp=Z,954nm,18.8s,baz=10,slow=41						
MAK	Makhachkala	8.88	52	eP	Pn	06 07 14.7	-2.7
MAK				eS	Sn	06 08 55.7	-2.0
MAK				pmax	pmax		
	comp=Z,173nm,1.0s						
MAK				MLR	MLR		
	comp=Z,1µm,15.0s						
CFR	Carcaliu	10.35	318	⇑iP	Pn	06 07 39.7	+2.2
CFR	Carcaliu	10.35	318	P	Pn	06 07 37.7	+0.2
IDI	Anoyia	10.81	260	ePn	Pn	06 07 42.8	-1.1
VRI	Vrincioaia	11.55	317	⇑iP	Pn	06 07 55.8	+1.9
VRI	Vrincioaia	11.55	317	P	Pn	06 07 55.8	+1.9
PLOR	Plostina	11.58	317	⇑iP	Pn	06 07 57.2	+2.8
PLOR	Plostina	11.58	317	P	Pn	06 07 57.1	+2.7
VTS	Vitosha	12.20	297	⇑iP	Pn	06 08 03.8	+0.8
DOPR	Dopca	12.35	315	⇑iP	Pn	06 08 07.3	+2.4
BIZ	Bicaz	12.58	320	⇑iP	Pn	06 08 09.3	+1.3
VSR	Storozhevoye	13.37	3	eP	Pn	06 08 20.0	+1.3
VSR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BURAR	Bucovina Array	13.48	320	⇑iP	Pn	06 08 21.0	+0.6
BURAR	Bucovina Array	13.48	320	P	Pn	06 08 20.9	+0.6
BUR04	Bucovina Ar. S	13.48	320	ePn	Pn	06 08 20.3	-0.1
BUR08	Bucovina Ar. S	13.51	320	ePn	Pn	06 08 20.9	+0.2
GZR	Gura Zlata	13.59	308	⇑iP	Pn	06 08 22.4	+0.5
GZR	Gura Zlata	13.59	308	P	Pn	06 08 22.4	+0.5
VRH	Novokhopyorsk	13.59	10	eP	Pn	06 08 22.6	+0.8
VRH				pmax	pmax		
	comp=Z,4.0nm,0.4s						
AK11	Malin Array Si	14.24	337	ePn	Pn	06 08 31.7	+1.0
KIEV	Kiev	14.24	337	ePn	Pn	06 08 30.9	+0.2
KIEV	Kiev	14.24	337	⇑iP	Pn	06 08 31.9	+1.2
KIEV	Kiev	14.24	337	iP	Pn	06 08 30.0	-0.7
KIEV				pmax	pmax		
	comp=Z,7.0nm,1.2s						
AKASG	Malin Array Be	14.24	337	Pn	Pn	06 08 30.4	-0.3
	comp=Z,0.4nm,0.3s,baz=145,slow=12,SNR=12						
AKBB	Malin Array Si	14.24	337	ePn	Pn	06 08 31.5	+0.8
AKBB	Malin Array Si	14.24	337	eP	Pn	06 08 31.5	+0.8
DRGR		14.34	313	⇑iP	Pn	06 08 33.9	+1.8
LPSR	Galich'ya Gora	14.74	2	eP	Pn	06 08 38.9	+1.4
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GEYT	Alibeck	15.93	84	Pn	Pn	06 08 52.8	-0.6
	comp=Z,0.3nm,0.3s,baz=260,slow=15,SNR=8.3						
GEYT				LR	LR	06 16 48.5	
	comp=Z,97nm,20.6s,baz=345,slow=44						
GYA0B	ALIBECK ARRAY	15.93	84	ePn	Pn	06 08 53.3	0.0
	comp=Z,14nm,1.1s						
KWP	Kalwaria Pacla	16.06	322	P	Pn	06 08 56.5	+1.6
BLY	Banja Luka	17.01	300	ePn	P	06 09 08.0	-0.9
	comp=Z,4.4nm,0.9s						
NIE	Niedzica	17.16	318	P	P	06 09 11.0	+0.5
OBN	Obninsk	17.27	357	Pn	Pn	06 09 09.9	-0.2
	comp=Z,0.4nm,0.3s,baz=179,slow=7.4,SNR=3.2						
OBN	Obninsk	17.27	357	ePn	Pn	06 09 09.9	-0.2
	comp=Z,13nm,0.5s						
OBN	Obninsk	17.27	357	eP	Pn	06 09 09.2	-0.9
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,141nm,18.0s						
CUC	Castrocucco	17.34	284	ePn	Pn	06 09 10.3	-0.9
	comp=Z,25nm,1.1s						
VYHS	Vyhne	17.46	313	eP	P	06 09 16.5	+2.6
MOS	Moscow	17.87	359	eP	Pn	06 09 15.4	-2.2
MOS				eS	Sn	06 12 38.4	+1.6
MOS				pmax	pmax		
	comp=Z,80nm,1.5s						
AKTO	Aktyubinsk	19.03	42	P	P	06 09 30.4	-0.7
	comp=Z,0.3nm,0.3s,baz=231,slow=14,SNR=11						
AKTO				LR	LR	06 18 45.0	
	comp=Z,177nm,18.6s,baz=229,slow=43						
SUW	Suwalki	19.06	333	eP	P	06 09 31.2	-0.1
	comp=Z,47nm,1.1s						
SUW	Suwalki	19.06	333	eP	P	06 09 31.2	-0.1
SUW				pmax	pmax		
	comp=Z,47nm,1.1s						
ABKAR	Akbulak array	19.51	47	eP	P	06 09 36.2	-0.1
PRU	Pruhonice	20.65	313	eP	P	06 09 49.2	+0.4
PRU	Pruhonice	20.65	313	eP	P	06 09 49.2	+0.4
GEA0	GERESS Array S	20.66	310	eP	P	06 09 49.2	+0.2
GEC2	GERESS Array S	20.66	310	eP	P	06 09 48.8	-0.3
	comp=Z,4.7nm,1.1s						
GEC2	GERESS Array S	20.66	310	eP	P	06 09 48.8	-0.3
GEC2				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GERES	GERESS Array B	20.66	310	P	P	06 09 48.8	-0.3
	comp=Z,1.8nm,0.8s,baz=112,slow=11,SNR=10						
KHC	Kasperske Hory	20.85	310	eP	Pn	06 09 53.4	-0.1
KHC				ex	x	06 10 08.4	
KHC	Kasperske Hory	20.85	310	eP	Pn	06 09 53.4	-0.1
KHC				e		06 10 08.4	
VSU	Vasula	21.85	344	iP	P	06 10 01.4	-0.2
VSU				pmax	pmax		
	comp=Z,42nm,1.0s						
CLL	Collm	22.13	315	e(sP)	sP	06 10 07.0	-1.5
DAVOX	Davos/Dischmat	22.48	302	LR	LR	06 18 58.7	
	comp=Z,99nm,21.2s,slow=37						
WSAR	Wadi Sarin	22.96	124	P	P	06 10 11.4	-2.2
	comp=Z,3.7nm,0.8s,baz=302,slow=9.5,SNR=2.1						
WSAR				LR	LR	06 20 36.7	
	comp=Z,113nm,18.0s,baz=300,slow=41						
KEST	Kesra	22.96	273	P	P	06 10 12.9	-0.8
	comp=Z,11nm,1.0s,baz=355,slow=13,SNR=7.8						
KEST	Kesra	22.96	273	eP	P	06 10 13.6	-0.1
	comp=Z,15nm,1.0s						
KLMR	Klimovskoe	23.02	2	eP	P	06 10 13.9	0.0
KLMR				pmax	pmax		
	comp=Z,34nm,1.1s						
KLMR	Klimovskoe	23.02	2	eP	P	06 10 14.0	0.0
KLMR				AMP		06 10 16.9	
	comp=Z,34nm,1.1s						
ARU	Arti	23.10	30	eP	P	06 10 14.7	-0.2
	comp=Z,7.4nm,0.9s						
ARU	Arti	23.10	30	P	P	06 10 14.5	-0.4
ARU						06 10 39.8	
ARU				S	S	06 14 27.6	+1.5
ARU				SS	SnSn	06 15 02.2	+3.7
BFO	Black Forest	23.87	305	ceP	P	06 10 26.8	+4.1
SENIN	Lac Senin/Sane	24.14	300	eP	P	06 10 25.9	+0.5
	comp=Z,2.7nm,0.8s						
SVE	Sverdlovsk	24.21	31	eP	P	06 10 25.2	-0.5
SVE				pmax	pmax		
	comp=Z,19nm,1.3s						
PRGR	Permogore	24.26	9	eP	P	06 10 24.4	-1.7
PRGR				pmax	pmax		
	comp=Z,15nm,0.6s						
BNI	Bardonecchia	24.39	297	eP	P	06 10 28.2	+0.6
	comp=Z,11nm,1.0s						
BNI	Bardonecchia	24.39	297	eP	P	06 10 28.3	+0.6
BNI				pmax	pmax		
	comp=Z,11nm,1.0s						
CHGR	Chuyangaron	24.47	78	eP	P	06 10 28.4	0.0
	comp=Z,8.2nm,0.8s						
ECH	Echery	24.60	305	eP	P	06 10 30.4	+1.0
	comp=Z,9.1nm,1.0s						
FIA0	FINESS Array S	24.73	346	eP	P	06 10 30.2	-0.1
FIA0	FINESS Array S	24.73	346	eP	P	06 10 30.2	-0.1
FINES	FINESS Array B	24.73	346	P	P	06 10 30.2	-0.1
	comp=Z,3.0nm,0.6s,baz=151,slow=8.7,SNR=13						
FINES				LR	LR	06 22 30.8	
	comp=Z,126nm,18.4s,baz=136,slow=42						
FINES	FINESS Array B	24.73	346	ceP	P	06 10 31.7	+1.4
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FIA1	FINESS Array S	24.73	346	eP	P	06 10 31.1	+0.7
KKAR	Karatay Array	25.22	68	eP	P	06 10 35.5	+0.5
KBL	Kabul	25.26	88	eP	P	06 10 35.1	-0.6
	comp=Z,6.6nm,1.1s						
KBL	Kabul	25.26	88	eP	P	06 10 35.1	-0.6
KBL				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GAR	Garm	25.32	77	eP	P	06 10 37.2	+1.1
	comp=Z,30nm,1.0s						
GAR	Garm	25.32	77	eP	P	06 10 37.2	+1.1
GAR				pmax	pmax		
	comp=Z,30nm,1.0s						
JOF	Joensuu	25.40	353	P	P	06 10 37.0	+0.6
BTK	Batken	25.58	75	eP	P	06 10 38.6	+0.2
	comp=Z,13nm,1.1s						
BTK	Batken	25.58	75	eP	P	06 10 38.6	+0.2
BTK				pmax	pmax		
	comp=Z,13nm,1.1s						
ATD	Arta Tunnel	26.60	169	LR	LR	06 21 13.6	
	comp=Z,109nm,18.5s,baz=342,slow=36						
OTUK	Ortayu	26.98	56	P	P	06 10 51.1	+0.2
BRVK	Borovoye	27.00	45	eP	P	06 10 50.7	-0.2
	comp=Z,2.1nm,0.8s						
BRVK	Borovoye	27.00	45	iP	P	06 10 50.8	-0.2
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BVAR	Borovoye Array	27.05	45	P	P	06 10 51.7	+0.3
	comp=Z,1.4nm,0.7s,baz=241,slow=8.0,SNR=7.3						
BVAR				LR	LR	06 23 06.1	
	comp=Z,103nm,21.4s,baz=266,slow=40						
HFS	Hagfors	27.07	333	P	P	06 10 51.8	+0.2
	comp=Z,3.9nm,1.0s,baz=152,slow=19,SNR=2.8						
HFS				LR	LR	06 24 08.2	
	comp=Z,112nm,19.3s,baz=142,slow=42						
HFS	Hagfors	27.07	333	P	P	06 10 51.8	+0.2
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HFS				MLR	MLR		
	comp=Z,112nm,19.3s						
ARSB	Arslanbob	27.11	72	eP	P	06 10 52.6	+0.3
	comp=Z,9.9nm,1.1s						
SFK	Sufi-Kurgan	27.63	74	P	P	06 10 57.3	+0.2
AAK	Ala-Archa	28.15	69	iP	P	06 11 00.9	-0.7
AAK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
NB200	NORSAR Array S	28.59	333	eP	P	06 11 05.3	+0.2
NOA	NORSAR Array B	28.59	333	P	P	06 11 05.3	+0.2
	comp=Z,1.4nm,1.0s,baz=133,slow=8.5,SNR=2.6						
NOA				LR	LR	06 23 32.2	
	comp=Z,41nm,18.1s,baz=135,slow=39						
NIL	Nilore	28.85	88	eP	P	06 11 08.5	+0.7
	comp=Z,6.8nm,0.9s						
NIL	Nilore	28.85	88	eP	P	06 11 08.5	+0.7
NIL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
NRN	Naryn	29.36	71	eP	P	06 11 11.1	-1.5
	comp=Z,3.9nm,1.0s						
NRN	Naryn	29.36	71	eP	P	06 11 11.1	-1.5
NRN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KSH	Kashi	29.59	75	P	P	06 11 13.7	-0.7
KSH				pP	sP	06 11 17.3	-1.3
KSH				PcP	PcP	06 14 20.2	+1.1
KSH				S	S	06 16 06.1	-3.6
KSH				sS	sS	06 16 13.5	-0.9
KSH				SS	SnSn	06 17 31.3	-6.1
KSH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,260nm,5.4s						
KSH				LR	LR		
	comp=N,170nm,4.3s						
KSH				LR	LR		
	comp=E,140nm,6.4s						
KSH				LR	LR		
	comp=Z,310nm,10.6s						
KURK	Kurchatov	31.41	53	iP	P	06 11 30.1	-0.1
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TAM	Tamanrasset	31.57	251	eP	P	06 11 32.4	+0.3
	comp=Z,7.7nm,1.1s						
TAM	Tamanrasset	31.57	251	eP	P	06 11 32.4	+0.3
TAM				pmax	pmax		

comp=Z,8.0nm,1.1s
ARA0 ARCESS Array S 32.42 352 *e*P **P 06 11 38.4 -0.5**
ARCES ARCESS Array B 32.42 352 P **P 06 11 38.4 -0.5**
comp=Z,2.5nm,0.9s,baz=112,slow=1.3,SNR=5.7
ESDC Sonseca Array 32.51 286 P **P 06 11 39.2 -0.8**
comp=Z,0.3nm,0.6s,baz=80,slow=9.2,SNR=5.2
ESDC LR LR 06 25 26.0
comp=Z,37nm,18.3s,baz=25,slow=37
EKA Eskdalemuir Ar 32.59 316 P **P 06 11 41.8 +1.2**
comp=Z,0.9nm,0.6s,baz=121,slow=6.3,SNR=3.8
MK31 Makanchi Array 33.59 60 *e*P **P 06 11 49.9 +0.5**
MK31 Makanchi Array 33.59 60 *e*P **P 06 11 49.9 +0.5**
MK32 Makanchi Array 33.59 60 *e*P **P 06 11 49.9 +0.5**
MKAR Makanchi Array 33.59 60 P **P 06 11 49.9 +0.5**
comp=Z,1.6nm,0.6s,baz=271,slow=7.7,SNR=21
MKAR Makanchi Array 33.59 60 *e*P **P 06 11 49.9 +0.5**
comp=Z,14nm,0.6s
MK01 Makanchi Array 33.60 60 *e*P **P 06 11 50.0 +0.6**
NVS Novosibirsk 34.84 46 *e*P P 06 11 49.4 -11
ZALV Zalesovo Beam 35.62 48 P **P 06 12 07.0 +0.2**
comp=Z,0.8nm,0.6s,baz=256,slow=8.0,SNR=3.9
ZALV LR LR 06 28 42.3
comp=Z,74nm,20.3s,baz=250,slow=40
ZAA1 Zalesovo Array 35.62 48 *e*P **P 06 12 07.0 +0.2**
DGZ Jazzator, Alta 36.99 55 *i* P **P 06 12 18.6 -0.2**
DGZ pmax pmax
comp=Z,1.0nm,1.3s
WMQ Urumqi 37.64 65 *e*P **P 06 12 26.4 +2.2**
WMQ LR LR
comp=N,290nm,24.9s
WMQ LR LR
comp=E,120nm,21.1s
WMQ LR LR
comp=Z,110nm,15.5s
KMBO Kilima Mbogo 38.82 181 LR LR 06 27 51.8
comp=Z,63nm,19.0s,baz=91,slow=35
TOA1 Torodi Ar. Sit 40.55 242 *e*P **P 06 12 47.6 -1.1**
TOA0 Torodi Ar. Sit 40.55 242 *e*P **P 06 12 48.4 -0.4**
TOA0 *e*P **P 06 12 49.4 +0.6**
TORD Torodi Ar. Bea 40.55 242 P **P 06 12 47.6 -1.1**
comp=Z,1.6nm,0.9s,baz=14,slow=11,SNR=10
GTA Gaotai 47.50 68 *e*P **P 06 13 44.8 +0.3**
GTA pP sP 06 13 49.3 +0.5
GTA sP pP 06 13 51.9 +4.3
GTA S **S 06 20 40.1 +0.6**
GTA sS sS 06 20 48.6 +4.0
GTA Gaotai 47.50 68 SS SS 06 24 03.6 -3.4
GTA pmax pmax
comp=Z,2.0nm,0.8s
GTA pmax pmax
comp=Z,100nm,6.2s
GTA LR LR
comp=N,100nm,15.9s
GTA LR LR
comp=E,88nm,17.1s
GTA LR LR
comp=Z,120nm,17.5s
SONM Songino Array 49.64 55 LR LR 06 37 40.4
comp=Z,236nm,18.8s,baz=187,slow=39
DBIC Dimbokro 49.66 242 P **P 06 14 00.1 -1.1**
comp=Z,3.9nm,0.8s,baz=40,slow=7.2,SNR=5.0
DBIC Dimbokro 49.66 242 *e*P **P 06 14 00.1 -1.1**
comp=Z,5.3nm,0.9s
TIC Toumodi 49.79 242 *e*P **P 06 14 00.9 -1.4**
KIC Kosan Boka 49.80 242 *e*P **P 06 14 01.4 -0.9**
comp=Z,46nm,1.5s
LIC Lamto 50.09 242 *e*P **P 06 14 03.0 -1.5**
comp=Z,37nm,1.3s
LZH Lanzhou 51.67 70 *e*P **P 06 14 16.4 0.0**
LZH pP sP 06 14 20.6 -0.1
LZH sP pP 06 14 23.9 +4.4
BOD Bodaibo 51.80 41 *e*P **P 06 14 15.5 -1.3**
BOD pmax pmax
comp=Z,5.0nm,0.8s
CMAR Chiang Mai Arr 56.19 92 P **P 06 14 47.0 -2.4**
comp=Z,0.9nm,0.3s,baz=295,slow=8.4,SNR=5.2
NJ2 Nanjing 64.59 68 *e*P **P 06 15 46.6 -0.2**
NJ2 pmax pmax
comp=Z,15nm,0.5s
BOSA Boshof 67.20 192 LR LR 06 47 12.6
comp=Z,102nm,18.4s,baz=29,slow=38
BILL Bilibino 67.55 19 *e*P **P 06 16 07.1 +1.9**
BILL *e* 06 18 34.2
BILL *e*PPP PPP 06 20 09.5
BILL pmax pmax
comp=Z,2.0nm,1.0s
KSRS Korea Array 68.26 59 LR LR 06 49 29.0
comp=Z,71nm,18.2s,baz=308,slow=39
COLD Coldfoot 75.03 3 *e*P **P 06 16 52.4 +1.9**
comp=Z,6.5nm,1.2s
MLY Manley 77.20 4 *e*P **P 06 17 02.6 -0.3**
comp=Z,5.8nm,1.0s
YKA Yellowknife Ar 77.56 347 P **P 06 17 04.7 -0.1**
comp=Z,1.1nm,0.8s,baz=21,slow=5.1,SNR=9.0
YKB5 Yellowknife Ar 77.56 347 *e*P **P 06 17 04.7 -0.1**
ILAR Eielson Array 77.62 2 P **P 06 17 05.5 +0.3**
comp=Z,0.8nm,0.8s,baz=301,slow=2.2,SNR=7.3
ILB Eielson Array 77.62 2 *e*P **P 06 17 05.5 +0.3**
SCRK Sand Creek 78.47 1 *e*P **P 06 17 10.7 +0.7**
comp=Z,2.8nm,0.8s
BOZ Bozeman (W) 92.50 339 P **P 06 18 17.5 -3.1**

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*NSSC **08** 06:14:54.7±1.3, 38.°34N×38.°94E, h0km±999km, ML3.8*
*NEIC **08** 06:15:04.0±0.0, 37.°86N×37.°94E, h5km, mb4.1/6, ML4.4(DDA), ML4.4(ISK), After ISK.*
*MED_RC **08** 06:15:04.0±0.8, 37.°92N×37.°96E, h21km±4km, MW4.4/11, Moment Tensor Solution.Mantle waves: s11,c11; Duration: 1.s0 Moment tensor: Scale 10^{15}Nm; M_{rr}1.85±.74; $M_{\theta\theta}$-5.97±1.00; $M_{\phi\phi}$4.12±.55; $M_{r\theta}$0.70±.89; $M_{\theta\phi}$2.84±.78; $M_{\phi r}$-0.50±.39; Best double couple: $M_0$5.84000×10^{15} NP1:ϕ_s150.00000°, δ90.00000°, λ172.00000°. NP2:ϕ_s240.00000°, δ82.00000°, λ0.00000°. Principal axes: T 4.9000, Plg6.0000°, Azm104.0000°; N 1.8900, Plg82.0000°, Azm327.0000°; P -6.7900, Plg5.0000°, Azm195.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*IDC **08** 06:15:04.6±1.0, 37.°86N×37.°91E, h0km, mb3.7/8, mb1 3.8/14, mb1mx3.6/38, mbtmp3.7/14, ML3.5/7, MS3.4/11, Ms1 3.4/11, ms1mx3.1/48 Error ellipse: s-maj=16.9km s-min=13.0km az=168.0*
*ISK **08** 06:15:04.7, 37.°86N×37.°96E, h9km, ML4.3/34*
*DDA **08** 06:15:05.0, 37.°91N×37.°93E, h8km±2km, MW4.3*
*GII **08** 06:15:08.1±0.0, 37.°92N×37.°96E, h15km*
ISC 08 06:15:06.5±1.1**, 37.°86N**±0.°02**×37.°94E**±0.°02**, h8**km±7km**,**
n143, σ1.s68/171**, mb4.0**/10**, MS3.1**/5**, 7C-9D, Turkey**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AKCD Akcadag 0.44 358 *i* S **Sg 06 15 18.1 -2.8**
AKCD IAML 06 15 19.0
comp=E,24μm,0.5s
AKCD IAML 06 15 19.0
comp=N,26μm,0.4s
ATAB Bozova 0.48 144⇓*i*P **Pg 06 15 15.9 +0.1**
ATAB *i* S **Sg 06 15 23.0 +1.0**
ELBS KAHRAMANMARAS 0.79 306⇑*i*P **Pb 06 15 19.5 -3.1**
ELBS IAML 06 15 30.0
comp=N,24μm,0.5s
ELBS IAML 06 15 30.0
comp=E,28μm,0.5s
ELBS *i* S **Sb 06 15 30.8 -2.7**
URFA Urfa 0.81 120 PG **Pb 06 15 20.7 -2.2**
URFA SG **Sb 06 15 32.7 -1.3**
GAZ Gaziantep 0.90 221 PG **Pb 06 15 22.5 -1.8**
KMRS Kahramanmaras 0.90 247 PG **Pb 06 15 21.9 -2.4**
KMRS SG **Sb 06 15 35.6 -0.8**
SANL SANLIURFA_Merk 1.08 129⇑*i*P **Pb 06 15 26.5 -0.8**
SANL *i* S **Sb 06 15 40.4 -1.2**
SANL IAML 06 15 44.0
comp=E,9μm,1.3s
SANL IAML 06 15 48.0
comp=N,8μm,0.4s
SURC SANLIURFA_SURC 1.11 151⇓*i*P **Pn 06 15 27.6 -0.8**
SURC *i* S **Sb 06 15 42.6 +0.1**
SURC *i* S **Sb 06 15 44.0 +1.4**
SURC IAML 06 15 44.0
comp=N,6μm,0.8s
SURC IAML 06 15 45.0
comp=E,6μm,0.4s
KUZU Kuzuini 1.28 213⇓*i*P **Pn 06 15 29.1 -1.6**
KUZU *i* S **Sg 06 15 50.0 +2.2**
KUZU IAML 06 15 52.0
comp=N,8μm,0.4s
KUZU IAML 06 15 56.0
comp=E,5μm,0.5s
ANDN Andirin 1.30 258⇑*i*P **Pn 06 15 29.9 -1.1**
ANDN *i* S **Sb 06 15 48.5 +0.6**
ANDN IAML 06 15 51.0
comp=E,3μm,0.5s
ANDN IAML 06 15 52.0
comp=N,4μm,0.6s
SAIM ADANA 1.48 275⇑*i*P **Pn 06 15 31.2 -2.2**
SAIM *i* S **Sb 06 15 53.4 +0.3**
SAIM IAML 06 15 59.0
comp=N,4μm,0.3s
SAIM IAML 06 15 59.0
comp=E,3μm,0.3s
CUKAN kangal_SIVAS 1.51 346⇓*i*P **Pn 06 15 30.1 -3.9**
CUKAN *i* S **Sn 06 15 51.4 -2.3**
CUKAN IAML 06 15 57.0
comp=N,1μm,0.4s
CUKAN IAML 06 15 59.0
comp=E,1μm,0.5s
PTK Pertek 1.54 47 PN **Pn 06 15 32.9 -1.5**
ILIC ilic-Erzincan 1.67 17 PN **Pn 06 15 34.8 -1.3**
REFA Refahiye_ERZN 1.67 22⇓*i*P **Pg 06 15 42.6 +4.1**
REFA *i* S **Sg 06 16 08.1 +8.0**
REFA IAML 06 16 16.0
comp=N,367nm,0.9s
REFA IAML 06 16 24.0
comp=E,476nm,1.7s
REFA IVMs_BB IVMs_BB 06 16 57.0
comp=Z,3μm,3.2s
CUALT Altinyayla-SIV 1.70 327⇓*i*P **Pn 06 15 36.8 +0.3**
CUALT *i* S **Sb 06 15 59.5 0.0**
CUALT IAML 06 16 04.0
comp=E,3μm,0.9s
CUALT IAML 06 16 06.0
comp=N,3μm,1.0s
KOZT Kozan 1.72 258 PN **Pn 06 15 36.1 -0.6**
DIYA Diyarbakir 1.72 87⇑*i*P **Pn 06 15 35.0 -1.8**
DIYA *i* S **Sb 06 15 59.5 -0.8**
DIYA IAML 06 16 09.0
comp=N,6μm,0.8s
DIYA IAML 06 16 11.0
comp=E,6μm,0.9s
DYBB Diyarbakir 1.74 86 PN **Pn 06 15 35.3 -1.7**
TNCL Tunceli-Merkez 1.78 44⇑*i*P **Pn 06 15 38.7 +1.1**
TNCL *i* S **Sg 06 16 03.9 +0.3**
TNCL IAML 06 16 07.0
comp=N,2μm,0.8s
TNCL IAML 06 16 10.0
comp=E,3μm,0.9s
BNN Bunyan 1.93 302 PN **Pn 06 15 38.9 -0.7**
MAZI Mazidag 2.03 100 PN **Pn 06 15 38.7 -2.3**
CUZAR Zara_SIVAS 2.03 356⇓*i*P **Pn 06 15 40.1 -1.0**
CUZAR *i* S **Sb 06 16 09.9 +0.6**
CUZAR IAML 06 16 13.0
comp=N,1μm,1.1s
CUZAR IAML 06 16 15.0
comp=E,1μm,1.0s
TAHT Tahtakopru-Hat 2.04 224 PN **Pn 06 15 40.4 -0.7**
CUSAR Sarkisla-SIVAS 2.05 320 *i* P **Pn 06 15 41.5 +0.1**
CUSAR *i* S **Sb 06 16 10.6 +0.8**
CUSAR IAML 06 16 13.0
comp=N,2μm,0.6s
CUSAR IAML 06 16 15.0
comp=E,2μm,1.4s
SCER sogukcermik 2.10 343⇓*i*P **Pn 06 15 41.6 -0.5**
SCER *i* S **Sb 06 16 10.7 -0.6**
SCER IAML 06 16 18.0
comp=E,1μm,1.2s
SCER IVMs_BB IVMs_BB 06 16 20.0
comp=Z,5μm,3.3s
SCER IAML 06 16 26.0
comp=N,1μm,0.9s
SVSK Karacayir 2.19 341 PN **Pn 06 15 42.4 -0.7**
EUZM Uzumlu 2.30 36 *i* P **Pn 06 15 45.9 +1.1**
EUZM *i* S **Sb 06 16 18.4 +1.4**
EUZM IAML 06 16 26.0
comp=E,693nm,1.2s
EUZM IAML 06 16 41.0
comp=N,314nm,1.7s
MARD Mardin 2.32 103⇑*i*P **Pn 06 15 43.6 -1.4**
MARD *i* S **Sb 06 16 15.9 -1.4**
MARD IAML 06 16 28.0
comp=E,3μm,0.5s
MARD IAML 06 16 30.0
comp=N,4μm,0.8s
KARA Karaisali 2.37 256 PN **Pn 06 15 44.7 -0.9**
BGOL Bingol 2.42 61 *e*P **Pn 06 15 45.5 -1.0**
BGOL IAML 06 16 37.0
comp=N,675nm,1.4s
BGOL IAML 06 16 37.0
comp=E,739nm,1.4s
BGOL IVMs_BB IVMs_BB 06 16 59.0
comp=Z,6μm,4.5s
KELT Kelkit 2.51 24⇓*i*P **Pn 06 15 46.4 -1.3**
KELT *i* S **Sn 06 16 19.9 +1.3**
KELT IAML 06 16 39.0
comp=N,414nm,1.6s
KELT IAML 06 16 39.0
comp=E,581nm,1.2s
GULE Gulek 2.58 258 *i* P **Pn 06 15 47.1 -1.6**
GULE *i* S **Sb 06 16 24.3 -0.7**
GULE IAML 06 16 43.0
comp=E,1μm,1.5s
GULE IAML 06 16 55.0
comp=N,658nm,1.1s
GULE IVMs_BB IVMs_BB 06 17 04.0
comp=Z,5μm,3.3s
RSDY Resadiye-TOKAT 2.58 350 PN **Pn 06 15 48.1 -0.5**
SVAN Silvan-Diyarba 2.59 82 PN **Pn 06 15 46.6 -2.1**
SVAN Silvan-Diyarba 2.59 82 *e*P **Pn 06 15 46.7 -2.0**
SVAN *i* S **Sb 06 16 24.9 -0.2**
AVNS Nevsehir-Avano 2.61 292 *i* P **Pn 06 15 49.7 +0.6**
AVNS *i* S **Sg 06 16 30.5 0.0**
AVNS IAML 06 16 39.0
comp=E,552nm,1.5s
AVNS IAML 06 16 40.0
comp=N,671nm,0.9s
AVNS IVMs_BB IVMs_BB 06 17 02.0
comp=Z,3μm,4.3s
NIG Nigde 2.65 277 PN **Pn 06 15 49.1 -0.6**
TOKT Tokat 2.69 337 PN **Pn 06 15 49.0 -1.1**
TOKA Tokat 2.71 336 *e*P **Pn 06 15 49.6 -0.8**
TOKA IVMs_BB IVMs_BB 06 17 06.0
comp=Z,4μm,5.0s
YOZ Yozgat 2.72 312 PN **Pn 06 15 50.2 -0.3**
KARO Karliova-Bingo 2.83 58 PN **Pn 06 15 51.5 -0.7**
MERS Mersin 2.90 251 PN **Pn 06 15 52.7 -0.3**
ECAT Cat-ERZURUM 2.94 53 *i* P **Pn 06 15 53.8 +0.1**
ECAT *i* S **Sg 06 16 42.3 +1.2**
ECAT IVMs_BB IVMs_BB 06 17 02.0
comp=Z,2μm,6.4s
ERBA Erbaa 2.97 342 *i* P **Pn 06 15 53.2 -0.7**
ERBA IVMs_BB IVMs_BB 06 17 37.0
comp=Z,1μm,3.6s
BAYB BAYBURT 3.00 36 *i* P **Pn 06 15 55.7 +1.2**
BAYB *i* S **Sg 06 16 42.2 -0.7**
BAYB IAML 06 16 57.0
comp=N,342nm,1.5s
BAYB IAML 06 17 00.0
comp=E,283nm,1.5s
BAYB IVMs_BB IVMs_BB 06 17 01.0
comp=Z,3μm,4.7s
BAYT Aydıntepe-Bayb 3.06 33 PN **Pn 06 15 54.7 -0.5**
KERG Konya-Eregli 3.06 263 *i* P **Pn 06 15 55.5 +0.3**
KERG IVMs_BB IVMs_BB 06 17 07.0
comp=Z,2μm,5.3s
ORDU Ordu-Boztepe 3.13 359 *e*P **Pn 06 15 55.8 -0.3**
ORDU *i* S **Sb 06 16 43.3 +2.6**
ORDU IVMs_BB IVMs_BB 06 17 04.0
comp=Z,3μm,3.4s
GURO Guroymak-BITLI 3.29 77 PN **Pn 06 15 57.0 -1.5**
CDAG Cicekdag 3.30 303 *i* P **Pn 06 15 58.6 0.0**
CDAG *i* S **Sn 06 16 41.6 +3.5**
CDAG IAML 06 17 01.0
comp=N,332nm,1.2s
CDAG IAML 06 17 04.0
comp=E,222nm,1.5s
CDAG IVMs_BB IVMs_BB 06 17 29.0
comp=Z,2μm,5.0s
COAL Corum-Alaca 3.32 317 *i* P **Pn 06 15 58.8 -0.1**
COAL *i* S **Sn 06 16 40.5 +1.9**
COAL IVMs_BB IVMs_BB 06 17 29.0
comp=Z,2μm,5.6s
KIZK Mersin 3.33 247 PN **Pn 06 15 59.1 +0.3**
AKSY AKSARAY - Alti 3.39 285 *i* P **Pn 06 15 59.3 -0.4**
AKSY *i* S **Sg 06 16 54.2 -1.0**
AKSY IVMs_BB IVMs_BB 06 17 16.0
comp=Z,1μm,3.7s
YAYX Yaylak 3.42 290 PN **Pn 06 16 00.2 0.0**
CORM Corum 3.47 313 PN **Pn 06 16 01.1 +0.2**
SULT Sultanhani-AKS 3.51 277 PN **Pn 06 16 01.5 +0.1**
SIRN Sırnak 3.56 94 *i* P **Pn 06 16 00.2 -1.9**
SIRN *i* S **Sg 06 16 57.8 -3.2**
SIRT Sirnak 3.58 94 PN **Pn 06 16 00.4 -2.0**
SIRT Sirnak 3.58 94 *e*Pn **Pn 06 16 00.9 -1.5**
SERE Sereflikochisa 3.61 289 PN **Pn 06 16 02.8 0.0**
KAMT Kaman 3.64 296 PN **Pn 06 16 03.2 0.0**
KEBE Keben-Mersin 3.66 249 PN **Pn 06 16 03.2 -0.2**
KOPR Koprukoy-ERZUR 3.72 54 PN **Pn 06 16 04.6 +0.2**
IKL Isikli 3.77 246 PN **Pn 06 16 03.3 -1.5**
MLAZ Malazgirt-MUS 3.83 69 PN **Pn 06 16 05.8 -0.1**
BR131 Keskin Array S 3.85 300 *e*Pn **Pn 06 16 06.4 +0.3**
BRTR Keskin Array B 3.85 300 Pn **Pn 06 16 06.0 0.0**
comp=Z,2.4nm,0.3s,baz=117,slow=8.4,SNR=56
BRTR Lg Lg 06 17 07.2
comp=Z,5.1nm,0.3s,baz=128,slow=32,SNR=6.5
BRTR LR LR 06 17 36.3
comp=Z,270nm,19.5s,baz=114,slow=40
TEVE Tevekalti-Mers 3.86 250 PN **Pn 06 16 06.6 +0.4**
AKKU Akkuyu-Mersin 3.90 246 PN **Pn 06 16 06.8 +0.1**
AKDM Akdamar-Van 4.00 82 PN **Pn 06 16 07.9 -0.3**
GEVA Gevas 4.06 82 *e*P **Pn 06 16 10.2 +1.2**
BBAL Bala 4.13 296 *i* P **Pn 06 16 13.8 +3.9**
KKUL Konya-Kulu 4.16 290 *i* P **Pn 06 16 12.9 +2.7**
ERMK Ermenek 4.19 255 *i* P Pn 06 16 15.4 +4.6
DBAD Bademkaya 4.29 41 *i* P **Pn 06 16 11.7 -0.4**
AGRB Hanur-Agry 4.31 65 PN **Pn 06 16 12.3 -0.1**
VANB Van 4.35 79 PN **Pn 06 16 13.1 +0.1**
ANTO Ankara 4.49 298 *e*Pn **Pn 06 16 15.9 +1.0**
BR231 Keskin MP Arra 4.50 298 *e*Pn **Pn 06 16 16.1 +1.1**
QASN Qassioun 4.52 198 *e*P **Pn 06 16 15.8 +0.5**
QASN *e*S **Sn 06 17 12.9 +4.8**
QASN AML AML 06 17 45.5
comp=N,436nm,0.6s
QASN AML AML 06 17 54.3
comp=E,576nm,0.6s
ILGA Ilgaz 4.57 316 *e*Pn **Pn 06 16 16.8 +0.7**
TOTH TOTAH 4.65 196 *e*P **Pn 06 16 16.4 -0.6**
TOTH *e*S **Sn 06 17 16.6 +5.4**
TOTH AML AML 06 17 49.0
comp=E,196nm,0.8s
TOTH AML AML 06 18 01.3
comp=N,122nm,0.8s
CSS Mathiatis 4.71 234 *e*Pn **Pn 06 16 16.8 -1.0**
CSS Mathiatis 4.71 234 Pn **Pn 06 16 18.5 +0.7**
BRBR Barbar 4.72 201 *e*P **Pn 06 16 18.7 +0.5**
BRBR *e*S **Sn 06 17 19.0 +5.8**
BRBR AML AML 06 17 49.8
comp=N,190nm,0.7s
BRBR AML AML 06 17 52.6
comp=E,254nm,0.8s
KARS Kars 4.85 54 *e*Pn **Pn 06 16 21.4 +1.5**
NATI Neve Ativ 4.92 202 Pn **Pn 06 16 23.0 +2.3**
KSDI Kefar Szold 5.01 202 Pn **Pn 06 16 24.2 +2.3**
KEPZ Antalya-Kepez 5.14 261 *i* P **Pn 06 16 25.4 +1.7**
KSHT Keshet 5.17 200 Pn **Pn 06 16 26.3 +2.2**
EAK Akyaka 5.22 55 *i* P Pb 06 16 43.3 +5.2
MMA0B Mount Meron ar 5.25 204 Pn **Pn 06 16 26.8 +1.4**
MMAI Mount Meron Ar 5.25 204 Pn **Pn 06 16 26.4 +1.1**
comp=E,4.2nm,0.3s,baz=66,slow=16,SNR=8.3
MMAI LR LR 06 18 38.5
comp=E,666nm,20.9s,baz=5.0,slow=41
HNTI Hanita 5.27 206 Pn **Pn 06 16 27.8 +2.3**
AKH Akhalkalaki 5.56 49 *e*Pn **Pn 06 16 29.9 +0.3**
BLGI Bet Lehem HaGe 5.58 205 Pn **Pn 06 16 31.9 +2.1**
ASF Jabal al Asfar 5.73 189 Pn **Pn 06 16 31.3 -0.7**
comp=E,1.3nm,0.3s,baz=343,slow=8.1,SNR=7.6
ASF Lg Lg 06 18 05.9
comp=E,3.9nm,0.3s,baz=114,slow=18,SNR=3.1
GNI Garni 5.77 65 *e*Pn **Pn 06 16 34.2 +1.7**
MMLI Mount Malkishu 5.79 202 Pn **Pn 06 16 34.8 +2.2**
HMDT Nahal Hemdat 5.93 200 Pn **Pn 06 16 37.5 +2.9**
AMAZ Amatzia 6.78 202 Pn **Pn 06 16 48.5 +2.2**
KBZ Khabaz 6.97 31 Pn **Pn 06 16 51.4 +2.6**
comp=E,0.2nm,0.3s,baz=137,slow=3.4,SNR=4.4
KBZ LR LR 06 20 05.7
comp=E,185nm,18.6s,baz=236,slow=43
KVAR Kislovodsk Arr 7.08 29 Lg Lg 06 19 04.2
baz=325,slow=10,SNR=3.4
EIL Elat 8.54 198 Lg Lg 06 19 48.3
comp=E,0.5nm,0.3s,baz=31,slow=18,SNR=3.2
EIL LR LR 06 20 52.6
comp=E,839nm,18.1s,baz=40,slow=41
KARP Karpathos 8.96 258 *e*Pn **Pn 06 17 16.4 +0.3**
IDI Anoyia 10.81 260 *e*Pn **Pn 06 17 39.5 -2.0**
BUR04 Bucovina Ar. S 13.50 320 *e*Pn **Pn 06 18 18.8 +0.5**
BUR08 Bucovina Ar. S 13.52 320 *e*Pn **Pn 06 18 20.1 +1.4**
AK11 Malin Array Si 14.26 337 *e*Pn **Pn 06 18 28.1 -0.5**
KIEV Kiev 14.26 337 *e*Pn **Pn 06 18 27.7 -0.9**
AKASG Malin Array Be 14.27 337 Pn **Pn 06 18 27.5 -1.1**
comp=E,0.3nm,0.3s,baz=144,slow=12,SNR=9.0
AKBB Malin Array Si 14.27 337 *e*Pn **Pn 06 18 28.1 -0.5**
DIVS Divibare 14.91 300 *e*Pn **Pn 06 18 38.1 +0.5**
comp=E,5.7nm,1.1s
GEYT Alibeck 15.93 84 Pn **Pn 06 18 49.8 -1.1**
comp=E,0.5nm,0.3s,baz=285,slow=12,SNR=6.3
GEYT LR LR 06 25 40.9
comp=E,96nm,18.1s,baz=340,slow=40
GYA0B ALIBECK ARRAY 15.93 84 *e*Pn **Pn 06 18 49.1 -1.8**
comp=E,11nm,1.1s
CUC Castrocucco 17.35 284 *e*Pn **Pn 06 19 09.6 +0.7**
comp=E,9.3nm,0.9s
AKTO Aktyubinsk 19.05 42 P **P 06 19 28.0 -0.9**
comp=E,0.2nm,0.3s,baz=234,slow=16,SNR=6.7
AKTO LR LR 06 28 11.8
comp=E,80nm,19.4s,baz=233,slow=41
SUW Suwalki 19.08 333 *e*P **P 06 19 29.2 +0.1**
comp=E,35nm,1.0s
VRAC Vranov 19.17 313 LR LR 06 28 17.3
comp=E,116nm,19.8s,baz=119,slow=41
ABKAR Akbulak array 19.52 47 *e*P **P 06 19 33.5 -0.5**
GEA0 GERESS Array S 20.68 310 *e*P **P 06 19 46.4 -0.4**
GERES GERESS Array B 20.68 310 P **P 06 19 44.9 -2.0**
comp=E,0.6nm,0.6s,baz=109,slow=12,SNR=5.0
WSAR Wadi Sarin 22.94 124 LR LR 06 30 20.8
comp=E,55nm,21.7s,baz=295,slow=40
KEST Kesra 22.96 273 P **P 06 20 11.1 -0.3**
comp=E,8.5nm,1.0s,baz=352,slow=15,SNR=6.5
BNI Bardonecchia 24.40 297 *e*P **P 06 20 25.9 +0.5**
comp=E,2.9nm,0.8s
FIA1 FINESS Array S 24.75 346 *e*P **P 06 20 27.6 -0.5**
FIA1 *e*P **P 06 20 27.9 -0.2**
FINES FINESS Array B 24.75 346 P **P 06 20 27.4 -0.7**
comp=E,2.8nm,0.8s,baz=141,slow=12,SNR=9.2
KK31 Karatay Array 25.22 68 *e*P **P 06 20 32.0 -0.7**
KKAR Karatay Array 25.22 68 *e*P **P 06 20 32.0 -0.6**
BTK Batken 25.58 75 *e*P **P 06 20 36.3 +0.3**
comp=E,4.9nm,1.0s
ATD Arta Tunnel 26.58 169 LR LR 06 31 18.7
comp=E,55nm,18.2s,baz=342,slow=37
BVAR Borovoye Array 27.06 45 P **P 06 20 47.6 -1.6**
comp=E,0.5nm,0.5s,baz=107,slow=4.8,SNR=3.9
NOA NORSAR Array B 28.61 333 P **P 06 21 03.3 +0.3**
comp=E,0.8nm,0.9s,baz=138,slow=7.5,SNR=3.4
NOA LR LR 06 32 07.5
comp=E,34nm,18.6s,baz=140,slow=36
MK31 Makanchi Array 33.60 60 *e*P **P 06 21 46.6 -0.4**
MKAR Makanchi Array 33.60 60 P **P 06 21 47.0 -0.1**
comp=E,0.8nm,0.7s,baz=276,slow=6.9,SNR=8.6
MKAR Makanchi Array 33.60 60 *e*P **P 06 21 46.8 -0.2**
comp=E,7.7nm,0.6s
MK01 Makanchi Array 33.60 60 *e*P **P 06 21 47.1 0.0**
WMQ Urumqi 37.64 65 *e*P **P 06 22 23.4 +1.5**
TORD Torodi Ar. Bea 40.54 242 P **P 06 22 44.6 -1.7**
comp=E,0.8nm,0.9s,baz=10,slow=8.9,SNR=5.6
GTA Gaotai 47.51 68 *e*P **P 06 23 43.1 +0.9**
GTA pP pP 06 23 47.6 +2.2
GTA sP sP 06 23 50.2 +3.6
GTA S **S 06 30 37.6 +0.4**
GTA pmax pmax
comp=Z,2.0nm,0.8s
GTA pmax pmax
comp=Z,69nm,5.4s
GTA LR LR
comp=N,80nm,16.2s
GTA LR LR

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,110nm,15.9s						
GTA				LR	LR		
	comp=Z,89nm,17.8s						
TIXI	**Tiksi**	**54.86**	**23**	LR	LR	06 49 54.0	
	comp=Z,54nm,18.2s,baz=314,slow=38						
YKA	**Yellowknife Ar**	**77.58**	**347**	P	**P**	**06 27 02.3**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=19,slow=5.0,SNR=8.5						

UCR 08 06:24:27.3±2.3, 8°.41N×82°.81W, h26km±4km, MD3.6, 1C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.40**	**17**	⇓iP	Pb	06 24 36.0	-0.2
BRU2				eS	Sn	06 24 43.7	-0.7
EDSV	**San Vito**	**0.44**	**339**	eP	Pb	06 24 36.8	+0.1
EDSV				eS	Sn	06 24 45.8	+0.5
PTJ1	**Puerto Jimnez**	**0.51**	**285**	eP	Pb	06 24 36.7	-0.9
PTJ1				eS	Sb	06 24 45.4	+0.7
EDPN	**Palmar Norte**	**0.85**	**311**	eP	Pb	06 24 42.0	-1.4
EDPN				eS	Sb	06 24 54.7	+0.3
EDBA	**Buenos Aires**	**0.88**	**329**	eP	Pb	06 24 43.2	-0.9
DRK0	**Durika**	**0.95**	**333**	⇑iP	Pb	06 24 45.7	+0.4
DRK0				eS	Sb	06 24 57.9	+0.2
EDLM	**Las Mercedes**	**1.16**	**318**	eP	Pn	06 24 46.6	-1.4
EDDO	**Dominical**	**1.34**	**309**	eP	Pn	06 24 49.7	-0.6
EDDO				eS	Sb	06 25 09.1	+0.5
URSC	**Urasca**	**1.71**	**326**	eP	Pn	06 24 55.2	-0.4
LCR2	**La Lucha 2**	**1.78**	**319**	eP	Pn	06 24 55.5	-1.1
HDC	**Heredia**	**2.04**	**321**	eP	Pn	06 24 59.2	-0.9
HDC				eS	Sb	06 25 27.4	-1.5
AZU	**Azuero**	**2.58**	**103**	eP	Pn	06 25 08.0	+0.6
AZU				eS	Sn	06 25 38.7	+0.6
ARE1	**Arenal 1**	**2.78**	**317**	eP	Pn	06 25 11.5	+1.3
JTS	**JuntasAbangare**	**2.83**	**312**	eP	Pn	06 25 11.0	+0.2
JTS				eS	Sn	06 25 43.9	-0.2

*DDA **08** 06:42:38.5, 37°.94N×37°.94E, h7km±2km, ML3.0*
*ISK **08** 06:42:38.1, 37°.91N×37°.95E, h6km, ML2.5/6*
ISC 08 06:42:38.7±1.2, 37°.92N±0°.03×37°.96E±0°.03, h6km±12km, n16, σ0s67/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.38**	**355**	IAML_P			
	comp=Z,9μm,0.1s						
AKCD				iP	**Pg**	**06 42 46.6**	**+0.5**
ATAB	**Bozova**	**0.52**	**149**	IAML_P			
	comp=Z,5μm,0.2s						
ATAB				iP	**Pb**	**06 42 50.0**	**-0.4**
ELBS	**KAHRAMANMARAS**	**0.77**	**302**	IAML_P			
	comp=Z,564nm,0.2s						
ELBS				iP	**Pg**	**06 42 52.2**	**-1.3**
ELBS				iS	**Sg**	**06 43 03.3**	**-0.2**
URFA	**Urfa**	**0.83**	**125**	PG	**Pg**	**06 42 54.6**	**-0.1**
URFA				SG	**Sb**	**06 43 06.7**	**-0.4**
KMRS	**Kahramanmaras**	**0.94**	**244**	PG	**Pg**	**06 42 56.3**	**-0.4**
KMRS				SG	**Sg**	**06 43 09.6**	**+0.7**
GAZ	**Gaziantep**	**0.95**	**219**	PG	**Pg**	**06 42 56.7**	**-0.4**
GAZ				SG	**Sb**	**06 43 10.4**	**-0.2**
SANL	**SANLIURFA_Merk**	**1.11**	**132**	iP	**Pn**	**06 43 00.7**	**-0.1**
SANL				iS	**Sg**	**06 43 14.1**	**-0.2**
SURC	**SANLIURFA_SURC**	**1.16**	**153**	IAML_P			
	comp=Z,488nm,0.1s						
SURC				iP	**Pn**	**06 43 02.3**	**+0.8**
SURC				iS	**Sb**	**06 43 16.8**	**+0.3**
ANDN	**Andirin**	**1.32**	**256**	iP	**Pn**	**06 43 03.8**	**-0.1**
ANDN				iS	**Sn**	**06 43 22.6**	**+0.7**
KUZU	**Kuzuini**	**1.34**	**212**	iP	**Pn**	**06 43 04.3**	**+0.3**
CUKAN	**kangal_SIVAS**	**1.45**	**345**	iP	**Pg**	**06 43 06.1**	**-0.4**
CUKAN				iS	**Sb**	**06 43 24.3**	**-0.6**
PTK	**Pertek**	**1.49**	**49**	PN	**Pn**	**06 43 06.1**	**-0.1**
SAIM	**ADANA**	**1.49**	**273**	IAML_P			
	comp=Z,1μm,0.2s						
SAIM				iP	**Pg**	**06 43 07.6**	**+0.3**
ILIC	**ilic-Erzincan**	**1.60**	**17**	PN	**Pn**	**06 43 07.9**	**+0.2**
CUALT	**Altinyayla-SIV**	**1.65**	**325**	iP	**Pb**	**06 43 09.1**	**-0.6**
CUALT				iS	**Sg**	**06 43 33.8**	**+2.0**
MAZI	**Mazidag**	**2.02**	**102**	PN	**Pn**	**06 43 13.6**	**+0.1**

*DDA **08** 06:45:53.9, 37°.92N×37°.95E, h7km±4km, ML2.9*
*ISK **08** 06:45:54.8, 37°.81N×37°.94E, h22km, ML2.1/5*
ISC 08 06:45:54.7±1.3, 37°.91N±0°.04×37°.97E±0°.03, h5km±12km, n13, σ0s71/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.39**	**354**	IAML_P			
	comp=Z,8μm,0.1s						
AKCD				iP	**Pg**	**06 46 01.8**	**-0.4**
ATAB	**Bozova**	**0.51**	**150**	IAML_P			
	comp=Z,2μm,0.1s						
ATAB				iP	**Pg**	**06 46 04.5**	**+0.1**
ELBS	**KAHRAMANMARAS**	**0.78**	**302**	IAML_P			
	comp=Z,274nm,0.3s						
ELBS				iP	**Pg**	**06 46 08.3**	**-1.3**
ELBS				iS	**Sg**	**06 46 20.5**	**+0.7**
URFA	**Urfa**	**0.82**	**125**	PG	**Pg**	**06 46 10.1**	**-0.3**
URFA				SG	**Sb**	**06 46 22.7**	**-0.1**
KMRS	**Kahramanmaras**	**0.94**	**245**	PG	**Pg**	**06 46 11.7**	**-1.0**
KMRS				SG	**Sg**	**06 46 25.2**	**+0.2**
GAZ	**Gaziantep**	**0.95**	**220**	PG	**Pg**	**06 46 12.5**	**-0.5**
SANL	**SANLIURFA_Merk**	**1.09**	**132**	IAML_P			
	comp=Z,1μm,0.2s						
SANL				iP	**Pn**	**06 46 16.4**	**-0.2**
SANL				iS	**Sn**	**06 46 30.7**	**-1.4**
SURC	**SANLIURFA_SURC**	**1.15**	**154**	IAML_P			
	comp=Z,254nm,0.1s						
SURC				iP	**Pn**	**06 46 17.7**	**+0.3**
SURC				iS	**Sn**	**06 46 33.3**	**-0.2**
ANDN	**Andirin**	**1.33**	**256**	IAML_P			
	comp=Z,744nm,0.1s						
ANDN				iP	**Pn**	**06 46 20.3**	**+0.3**
ANDN				iS	**Sb**	**06 46 38.7**	**+1.1**
KUZU	**Kuzuini**	**1.34**	**213**	iP	**Pn**	**06 46 19.7**	**-0.4**
KUZU				iS	**Sn**	**06 46 38.1**	**-0.2**
PTK	**Pertek**	**1.48**	**48**	PN	**Pn**	**06 46 22.1**	**-0.1**
SAIM	**ADANA**	**1.50**	**273**	IAML_P			
	comp=Z,578nm,0.2s						
SAIM				iP	**Pb**	**06 46 23.5**	**+0.6**
ILIC	**ilic-Erzincan**	**1.61**	**17**	PN	**Pn**	**06 46 24.3**	**+0.5**

*IDC **08** 06:46:38.0±0.8, 56°.60S×25°.57W, h0km, mb4.3/6, mb1 4.4/6, mb1mx4.1/25, mbtmp4.3/6, MS3.5/7, Ms1 3.5/7, ms1mx3.3/19, Error ellipse: s-maj=36.6km s-min=20.4km az=72.0*
*NEIC **08** 06:46:39.3±0.4, 56°.61S×25°.56W, h10km, mb4.2/1, Error ellipse: s-maj=15.8km s-min=10.4km az=41.0*
*ISCJB **08** 06:46:41.2±0.6, 56°.59S±0°.10×25°.8W±0°.2, h29km, mb4.1/1, MS3.5/7, Error ellipse: s-maj=21.1km s-min=9.0km az=145.4*
ISC 08 06:46:42.1±0.8, 56°.7S±0°.1×25°.7W±0°.2, h29km, n26, σ0s75/20, MS3.4/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.60**	**287**	ePn	**Pn**	**06 48 16.4**	**-0.6**
VNA1	**Neumayer--Stat**	**15.90**	**159**	P	**P**	**06 50 27.1**	**+0.3**
VNA3	**Neumayer Olymp**	**16.12**	**161**	P	**P**	**06 50 28.3**	**-1.0**
VNA2	**Neumayer--Watz**	**16.30**	**158**	P	**P**	**06 50 29.9**	**-1.3**
	baz=332,slow=13						
USHA	**Ushuaia**	**23.86**	**256**	LR	LR	06 58 49.4	
	comp=Z,74nm,20.2s,baz=86,slow=31						
PLCA	**Paso Flores**	**32.94**	**280**	LR	LR	07 06 36.9	
	comp=Z,51nm,19.3s,baz=201,slow=36						
QSPA	**South Pole Qui**	**33.58**	**180**	P	**P**	**06 53 18.9**	**-0.4**
	5.0nm,0.5s,baz=203,slow=1.0,SNR=42						
CPUP	**Villa Florida**	**37.86**	**310**	P	**P**	**06 53 55.8**	**-0.3**
	2.9nm,0.7s,baz=146,slow=6.6,SNR=9.5						
CPUP				LR	LR	07 09 08.6	
	comp=Z,39nm,19.1s,baz=147,slow=36						
CPUP	**Villa Florida**	**37.86**	**310**	eP	**P**	**06 53 55.8**	**-0.3**
	5.5nm,1.1s						
SUR	**Sutherland**	**40.00**	**73**	LR	LR	07 06 10.3	
	comp=Z,262nm,21.2s,baz=190,slow=29						
BOSA	**Boshof**	**45.31**	**74**	LR	LR	07 12 15.3	
	comp=Z,100nm,18.3s,baz=208,slow=34						
VNDA	**Vanda**	**45.99**	**182**	P	**P**	**06 55 03.5**	**+1.6**
	2.0nm,0.7s,baz=182,slow=6.7,SNR=17						
LVC	**Limon Verde**	**46.35**	**299**	eP	**P**	**06 55 06.6**	**+0.8**
	9.3nm,0.6s						
PB01	**IPOC Station P**	**47.96**	**299**	eP	**P**	**06 55 18.4**	**+0.4**
	9.3nm,0.7s						
LBTB	**Lobatse**	**48.39**	**71**	LR	LR	07 14 22.4	
	comp=Z,62nm,18.2s,baz=200,slow=34						
MNMC	**Minye Minye**	**49.65**	**301**	eP	**P**	**06 55 31.7**	**+0.5**
	23nm,0.9s						
LPAZ	**La Paz**	**51.43**	**304**	P	**P**	**06 55 45.9**	**+0.8**
	6.9nm,0.6s,baz=156,slow=6.6,SNR=38						
LPAZ				LR	LR	07 20 31.7	
	comp=Z,31nm,18.1s,baz=118,slow=40						
LPAZ	**La Paz**	**51.43**	**304**	eP	**P**	**06 55 45.8**	**+0.7**
TORD	**Torodi Ar. Bea**	**73.19**	**28**	P	**P**	**06 58 10.2**	**+0.3**
	0.3nm,0.4s,baz=200,slow=6.7,SNR=3.2						
TOA1	**Torodi Ar. Sit**	**73.20**	**28**	eP	**P**	**06 58 10.2**	**+0.2**
ASAR	**Alice Springs**	**98.13**	**161**	P	Pdif	07 00 17.8	+1.8
	0.6nm,0.9s,baz=185,slow=7.0,SNR=3.1						
YKA	**Yellowknife Ar**	**137.20**	**317**	PKP	**PKPdf**	**07 06 00.8**	**0.0**
	0.4nm,0.6s,baz=125,slow=2.3,SNR=10.0						
YKB5	**Yellowknife Ar**	**137.20**	**317**	ePKPdf	**PKPdf**	**07 06 00.1**	**-0.7**
SONA0	**Songino Array**	**149.92**	**86**	ePKPbc	**PKPbc**	**07 06 28.1**	**-0.5**
SONM	**Songino Array**	**149.92**	**86**	PKPbc	**PKPbc**	**07 06 28.1**	**-0.5**
	0.7nm,0.5s,baz=227,slow=2.6,SNR=6.1						
ILAR	**Eielson Array**	**151.16**	**311**	PKPbc	**PKPbc**	**07 06 30.6**	**-0.2**
	2.6nm,0.9s,baz=113,slow=2.1,SNR=8.9						

*IDC **08** 07:04:11.5±1.0, 56°.50S×25°.36W, h0km, mb4.1/4, mb1 4.3/4, mb1mx4.0/26, mbtmp4.1/4, MS3.2/2, Ms1 3.2/2, ms1mx2.9/17, Error ellipse: s-maj=38.1km s-min=26.9km az=63.0*
*NEIC **08** 07:04:12.6±0.7, 56°.49S×25°.30W, h10km, mb4.7/9, Error ellipse: s-maj=18.7km s-min=12.8km az=179.0*
*ISCJB **08** 07:04:13.7±0.9, 56°.5S±0°.2×25°.4W±0°.2, h29km, mb4.4/10, MS3.1/2, Error ellipse: s-maj=22.6km s-min=15.2km az=179.7*
ISC 08 07:04:15.6±0.9, 56°.5S±0°.2×25°.3W±0°.1, h29km, n22, σ0s63/20, mb4.6/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.73**	**285**	ePn	**Pn**	**07 05 53.2**	**+1.0**
EFI	**East Falkland**	**19.68**	**270**	eP	**P**	**07 08 42.0**	**+0.1**
	33nm,1.1s						
USHA	**Ushuaia**	**24.08**	**256**	LR	LR	07 17 34.4	
	comp=Z,48nm,20.1s,baz=106,slow=33						
CPUP	**Villa Florida**	**37.89**	**309**	P	**P**	**07 11 29.7**	**-0.2**
	2.4nm,0.6s,baz=133,slow=7.5,SNR=9.3						
CPUP	**Villa Florida**	**37.89**	**309**	eP	**P**	**07 11 29.1**	**-0.8**
	2.2nm,0.6s						
GO02	**Mina Guanaco**	**44.62**	**296**	eP	**P**	**07 12 24.5**	**-1.0**
	4.4nm,0.6s						
BOSA	**Boshof**	**45.09**	**74**	LR	LR	07 27 17.4	
	comp=Z,37nm,19.8s,baz=208,slow=31						
VNDA	**Vanda**	**46.18**	**182**	P	**P**	**07 12 37.1**	**+0.2**
	1.0nm,0.6s,baz=189,slow=6.5,SNR=12						
VNDA	**Vanda**	**46.18**	**182**	eP	**P**	**07 12 36.6**	**-0.3**
LVC	**Limon Verde**	**46.42**	**298**	eP	**P**	**07 12 39.2**	**-0.6**
	7.4nm,0.8s						
PB01	**IPOC Station P**	**48.03**	**299**	eP	**P**	**07 12 51.4**	**-0.7**
	6.5nm,0.8s						
GO01	**Chusmiza**	**49.06**	**300**	eP	**P**	**07 12 59.6**	**-0.9**
	11nm,0.8s						
MNMC	**Minye Minye**	**49.71**	**300**	eP	**P**	**07 13 05.2**	**0.0**
	14nm,0.7s						
LPAZ	**La Paz**	**51.48**	**303**	P	**P**	**07 13 19.6**	**+0.6**
	7.7nm,0.8s,baz=153,slow=5.1,SNR=27						
LPAZ	**La Paz**	**51.48**	**303**	eP	**P**	**07 13 18.9**	**0.0**
	10nm,0.9s						
TOA0	**Torodi Ar. Sit**	**72.95**	**28**	eP	**P**	**07 15 41.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**72.95**	**28**	P	**P**	**07 15 42.9**	**+0.8**
	0.4nm,0.7s,baz=191,slow=6.9,SNR=3.1						
TOA1	**Torodi Ar. Sit**	**72.95**	**28**	eP	**P**	**07 15 42.9**	**+0.8**
SDV	**Santo Domingo**	**75.06**	**313**	eP	**P**	**07 15 54.2**	**-0.4**
	3.4nm,0.9s						
YKA	**Yellowknife Ar**	**137.20**	**317**	PKP	**PKPdf**	**07 23 34.4**	**+0.1**
	0.4nm,0.7s,baz=125,slow=2.1,SNR=6.6						
SONM	**Songino Array**	**149.72**	**86**	PKPbc	**PKPbc**	**07 24 01.8**	**+0.2**
	0.6nm,0.6s,baz=211,slow=3.2,SNR=4.5						
ILAR	**Eielson Array**	**151.19**	**311**	PKPbc	**PKPbc**	**07 24 04.6**	**+0.2**
	1.4nm,0.8s,baz=143,slow=3.5,SNR=11						

IDC 08 07:11:08.3±5.9, 4°.08N×123°.07E, h594km±93km, mb2.9/6, mb1 3.0/6, mb1mx2.7/48, mbtmp3.9/6, Error ellipse: s-maj=135.7km s-min=22.3km az=69.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.32**	**156**	P	P	07 15 57.9	-0.7
	2.0nm,0.3s,baz=336,slow=9.7,SNR=39						
ASAR	**Alice Springs**	**29.53**	**160**	P	P	07 16 27.3	+0.8
	0.7nm,0.3s,baz=333,slow=8.4,SNR=21						
SONM	**Songino Array**	**45.89**	**344**	P	P	07 18 39.0	+0.1
	0.2nm,0.4s,baz=166,slow=9.2,SNR=4.4						
MKAR	**Makanchi Array**	**55.23**	**327**	P	P	07 19 46.5	0.0
	1.2nm,0.5s,baz=125,slow=7.6,SNR=10						
MKAR				PcP	PcP	07 20 38.3	0.0
	0.6nm,0.5s,baz=128,slow=3.8,SNR=5.5						
BVAR	**Borovoye Array**	**65.06**	**328**	P	P	07 20 51.4	+0.1
	0.3nm,0.4s,baz=138,slow=10,SNR=3.6						
AKTO	**Aktyubinsk**	**71.13**	**322**	P	P	07 21 27.4	-0.6
	0.4nm,0.3s,baz=82,slow=7.4,SNR=4.7						

MEX 08 07:27:16.4±0.4, 16°.26N×98°.21W, h10km±2km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.15**	**32**	iP	Pg	07 27 19.2	-0.6
PNIG				iS	Sg	07 27 22.1	-0.2
TLIG	**Tlapa**	**1.34**	**345**	eP	Pn	07 27 37.5	-3.8
TLIG				iS	Sb	07 27 54.0	-4.9
VHO	**Vista Hermosa**	**1.63**	**60**	iP	Pn	07 27 41.5	-3.9
VHO				eS	Sn	07 28 01.9	-4.6

*SOME **08** 07:45:20.5, 51°.48N×81°.83E, h0km*
*IDC **08** 07:45:22.4±1.4, 51°.37N×81°.98E, h0km, mb1 2.1/3, mb1mx2.1/58, mbtmp2.1/3, ML1.8/3, Error ellipse: s-maj=15.9km s-min=13.4km az=129.0*
*NNC **08** 07:45:24.3±1.4, 51°.29N×81°.81E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=11.6km s-min=7.3km az=16.0, Suspected Mining explosion.*
ISC 08 07:45:17.4±1.0, 51°.76N±0°.06×81°.82E±0°.05, h0km, n13, σ1s37/17, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEM	**Semipalatinsk**	**1.68**	**217**	P	**Pn**	**07 45 48.3**	**0.0**
	18nm,0.2s						
SEM				S	**Sn**	**07 46 08.4**	**-2.3**
	42nm,0.4s						
SEM	**Semipalatinsk**	**1.68**	**217**	eP	**Pn**	**07 45 48.1**	**-0.2**
	6.9nm,0.1s						
SEM				eS	**Sn**	**07 46 07.9**	**-2.8**
	18nm,0.3s						
KURK	**Kurchatov**	**2.27**	**244**	⇑Pn	**Pg**	**07 46 01.3**	**+0.3**
	3.0nm,0.6s						
KURK				⇑Lg	Lg	07 46 29.5	
	18nm,0.6s						
KURBB	**Kurchatov Arra**	**2.37**	**242**	Pn	**Pb**	**07 46 01.7**	**+0.8**
	0.2nm,0.3s,baz=72,slow=18,SNR=12						
KURBB				Lg	Lg	07 46 33.7	
	0.3nm,0.3s,baz=72,slow=32,SNR=8.2						
KURBB	**Kurchatov Arra**	**2.37**	**242**	⇑Pn	**Pg**	**07 46 02.4**	**-0.4**
	2.1nm,0.3s						
KURBB				⇓Lg	Lg	07 46 32.9	
	28nm,0.7s						
I46RU	**ZALESOVO INFRA**	**2.84**	**39**	i		08 02 50.0	
	baz=212,slow=352,SNR=3.2						
ZALV	**Zalesovo Beam**	**2.84**	**39**	Pn	**Pg**	**07 46 11.9**	**0.0**
	0.2nm,0.3s,baz=217,slow=16,SNR=3.8						
ZALV				Sn	**Sg**	**07 46 48.4**	**-0.3**
	0.4nm,0.3s,baz=210,slow=24,SNR=5.1						
ZALV				Lg	Lg	07 47 00.3	
	0.6nm,0.3s,baz=214,slow=23,SNR=4.1						
ZSN	**Zaisan**	**4.75**	**154**	Pg	**Pb**	**07 46 41.5**	**0.0**
	1.4nm,0.3s						
ZSN				Lg	Lg	07 47 40.1	
	1.5nm,0.4s						
ZSN	**Zaisan**	**4.75**	**154**	eP	**Pb**	**07 46 41.5**	**0.0**
	1.3nm,0.3s						
ZSN				eS	**Sb**	**07 47 40.1**	**+0.9**
	1.9nm,0.5s						
MAKZ	**Makanchi**	**4.96**	**179**	⇑Pg	**Pb**	**07 46 45.4**	**+0.2**
	2.0nm,0.9s						
MAKZ				⇑Lg	Lg	07 47 47.9	
	4.4nm,0.8s						
MK31	**Makanchi Array**	**4.99**	**176**	⇓Pn	**Pn**	**07 46 34.0**	**+0.5**
	0.5nm,0.6s,baz=5.8,slow=10,SNR=7.6						
MK31				⇓Pg	**Pb**	**07 46 45.0**	**-0.6**
	0.6nm,0.6s,baz=7.3,slow=13,SNR=6.2						
MK31				⇓Lg	Lg	07 47 46.6	
	2.0nm,0.6s,baz=9.7,slow=26,SNR=4.6						
MKAR	**Makanchi Array**	**4.99**	**176**	Pn	**Pn**	**07 46 34.4**	**+0.9**
	0.1nm,0.3s,baz=352,slow=11,SNR=5.7						
MKAR				Sn	Sn	07 47 19.9	-12
	0.2nm,0.3s,baz=13,slow=19,SNR=4.6						
MKAR				Lg	Lg	07 47 46.0	
	0.5nm,0.3s,baz=4.4,slow=26,SNR=9.7						
KAPS	**Kapalarasan**	**6.69**	**195**	Pg	**Pb**	**07 47 17.7**	**+3.2**
	1.1nm,0.6s						
KAPS				Lg	Lg	07 48 41.3	
	2.0nm,0.5s						

*NIED **08** 07:51:00, 40°.10N×142°.50E, h38km, Mw5.5 Best double couple: Mo1.83000×10^{17} NP1:φs181.00000°, δ18.00000°, λ67.00000°. NP2:φs25.00000°, δ73.00000°, λ97.00000°.*
*BJI **08** 07:51:24.4, 40°.04N×142°.78E, h33km, mb5.2/73, mB5.4/57, Ms5.2/86, Ms7 5.1/77*
*MOS **08** 07:51:29.5±0.9, 40°.20N×142°.34E, h45km, mb5.7/134, MS5.0/45, Error ellipse: s-maj=5.3km s-min=3.6km az=97.8*
*ISCJB **08** 07:51:30.4±0.2, 40°.16N±0°.02×142°.33E±0°.02, h47km±1km, mb5.3/457, MS5.0/82, Error ellipse: s-maj=2.8km s-min=1.9km az=150.0*
*NEIC **08** 07:51:30.3±0.1, 40°.13N×142°.31E, h35km, mb5.4/296, MW5.4, Error ellipse: s-maj=2.6km s-min=1.6km az=150.0, Moment Tensor Solution. s63 Moment tensor: Scale 10^{17}Nm; Mrr1.10; Mθθ0.08; Mφφ-1.18; Mrθ0.36; Mθφ-0.82; Mφr1.10; Best double couple: Mo1.80000×10^{17} NP1: φs218.00000°, δ26.00000°, λ107.00000°. NP2: φs19.00000°, δ66.00000°, λ82.00000°. Principal axes: T 1.5500, Plg68.0000°, Azm273.0000°; N 0.4600, Plg7.0000°, Azm22.0000°; P -2.0100, Plg20.0000°, Azm115.0000°;*
NEIC Felt [III] at Misawa. Also felt at Kitakami and in Aomori, Hachinohe, Morioka and Sendai. Recorded [3 JMA] in Aomori and Iwate.
*JMA **08** 07:51:30.3±0.1, 40°.12N×142°.44E, h34km±1km, M5.4 Broadband fault plane solution: P waves. NP1: φs16.00000°, δ59.00000°, λ94.00000°. NP2:φs188.00000°, δ31.00000°, λ83.00000°. Principal axes: T Plg76.0000°, Azm298.0000°; N Plg3.0000°, Azm194.0000°; P Plg14.0000°, Azm103.0000°;*
JMA Felt III J1.
*IDC **08** 07:51:32.9±1.4, 40°.11N×142°.39E, h59km±12km, mb4.7/40, mb1 4.8/47, mb1mx4.8/55, mbtmp5.0/47, MS4.8/37, Ms1 4.8/37, ms1mx4.8/44 Error ellipse: s-maj=11.2km s-min=7.4km az=115.0*
*GCMT **08** 07:51:33.3±0.1, 40°.18N±0°.01×142°.51E±0°.01, h44km, MW5.5/123, Moment Tensor Solution. s109,c202; s123,c238; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; Mrr1.57±.03; Mθθ0.05±.02; Mφφ-1.62±.02; Mrθ0.73±.02; Mθφ-0.35±.02; Mφr1.26±.03; Best double couple: Mo2.19000×10^{17} NP1:φs24.00000°, δ66.00000°, λ101.00000°. NP2:φs178.00000°, δ26.00000°, λ67.00000°. Principal axes: T 2.1700, Plg67.0000°, Azm314.0000°; N 0.0410, Plg10.0000°, Azm200.0000°; P -2.2090, Plg20.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 08 07:51:30.9±0.3, 40°.15N±0°.03×142°.41E±0°.03, h44km±2km, h43km:pP-P, n1325, σ1s44/1436, mb5.4/494, MS5.0/86, 125C-63D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.47**	**244**	P	**Pn**	**07 51 40.2**	**-1.2**
JTH				S	**Sn**	**07 51 47.9**	**-0.9**
JKEN	**Kujiedanarisaw**	**0.54**	**276**	P	**Pn**	**07 51 41.6**	**-0.7**
JKEN				S	**Sn**	**07 51 49.3**	**-1.1**
JANG	**Nango**	**0.72**	**288**	⇓P	**Pn**	**07 51 44.3**	**-0.4**
JANG				S	**Sn**	**07 51 54.2**	**-0.5**
MIYJ	**Miyakonagasawa**	**0.73**	**219**	⇓P	**Pn**	**07 51 43.8**	**-1.0**
MIYJ				S	**Sn**	**07 51 53.2**	**-1.6**
JKZ	**Kuzumaki**	**0.85**	**259**	⇓P	**Pn**	**07 51 46.3**	**-0.1**
JKZ				S	**Sn**	**07 51 57.6**	**-0.1**
JOM	**Ohasama**	**1.09**	**232**	⇓P	**Pn**	**07 51 49.7**	**-0.1**
JOM				S	**Sn**	**07 52 03.8**	**+0.1**
JARK	**Aomorirokkasho**	**1.17**	**317**	P	**Pn**	**07 51 51.1**	**+0.3**
JARK				S	**Sn**	**07 52 06.3**	**+0.7**
JTM	**Tenmabayashi**	**1.21**	**302**	⇓P	**Pn**	**07 51 51.8**	**+0.5**
JTM				S	**Sn**	**07 52 07.8**	**+1.3**
OFUJ	**Ofunato**	**1.21**	**209**	⇓P	**Pn**	**07 51 50.9**	**-0.4**
OFUJ				eS	**Sn**	**07 52 06.5**	**-0.1**
JAH	**Hinai**	**1.36**	**272**	⇓P	**Pn**	**07 51 54.1**	**+0.7**
JAH				S	**Sn**	**07 52 11.7**	**+1.5**
JMK	**Ichinoseki**	**1.51**	**218**	⇓P	**Pn**	**07 51 55.5**	**+0.1**
JRG	**Rokugo**	**1.56**	**242**	⇓P	**Pn**	**07 51 56.3**	**+0.1**
JOT	**Ohata**	**1.61**	**320**	⇓P	**Pn**	**07 51 57.3**	**+0.5**
JSI2	**Shiura 2**	**1.77**	**301**	⇓P	**Pn**	**07 52 00.0**	**+1.0**
JYW	**Yuwa**	**1.80**	**251**	⇓P	**Pn**	**07 52 00.5**	**+1.1**
JIW	**Iwasaki**	**1.89**	**284**	⇓P	**Pn**	**07 52 01.8**	**+1.1**
ERM	**Erimo**	**1.95**	**17**	ePn	**Pn**	**07 52 01.1**	**-0.4**
ERM	**Erimo**	**1.95**	**17**	ceP	**Pn**	**07 52 01.9**	**+0.5**
ERM				pmax	pmax		
	comp=Z,1μm,1.3s						
JYK	**Kaneyama**	**2.01**	**233**	⇓P	**Pn**	**07 52 02.6**	**+0.3**
JKB	**Kayabe**	**2.03**	**329**	⇓P	**Pn**	**07 52 03.3**	**+0.8**
JCH	**Churui**	**2.57**	**16**	⇑P	**Pn**	**07 52 10.3**	**+0.4**
JOSM	**Okushiri--Mats**	**2.94**	**312**	⇓P	**Pn**	**07 52 15.6**	**+0.5**
JAR	**Ashorobuto**	**3.31**	**17**	⇑P	**Pn**	**07 52 19.8**	**-0.3**
JKK2	**Kamakawa 2**	**3.73**	**4**	P	**Pn**	**07 52 26.8**	**+0.9**
JIZZ	**Izumozaki**	**3.90**	**229**	P	**Pn**	**07 52 31.2**	**+3.0**
JMP	**Maruseppu**	**3.92**	**10**	⇑P	**Pn**	**07 52 28.9**	**+0.4**
ASAJ	**Asahikawa**	**3.97**	**2**	P	**Pn**	**07 52 30.4**	**+1.2**
	comp=Z,30nm,0.3s,baz=213,slow=16,SNR=54						
ASAJ				S	**Sn**	**07 53 19.6**	**+5.2**
	comp=Z,115nm,0.3s,baz=101,slow=32,SNR=5.5						
ASAJ				LR	LR	07 54 30.8	
	comp=Z,28μm,21.7s,baz=196,slow=44						
ASAJ	**Asahikawa**	**3.97**	**2**	ePn	**Pn**	**07 52 29.1**	**-0.1**
ASAJ				eSn	**Sn**	**07 53 12.5**	**-1.9**
ASAJ	**Asahikawa**	**3.97**	**2**	⇑P	**Pn**	**07 52 30.2**	**+1.0**
JTKR	**Abashiri--Toko**	**3.98**	**16**	⇑P	**Pn**	**07 52 29.2**	**-0.1**
JKT	**Katashina**	**4.19**	**217**	⇑P	**Pn**	**07 52 34.8**	**+2.5**
GLVR	**Golovnino**	**4.27**	**32**	eP	**Pn**	**07 52 32.7**	**-0.6**
GLVR				iS	**Sn**	**07 53 19.1**	**-2.7**
GLVR				pmax	pmax		
	comp=Z,2μm,0.5s						
GLVR				pmax	pmax		
	comp=E,733nm,0.2s						
GLVR				pmax	pmax		
	comp=N,741nm,0.3s						
GLVR				smax	smax		
	comp=E,8μm,0.7s						
GLVR				smax	smax		
	comp=N,6μm,0.4s						
JAG	**Ashikaga**	**4.39**	**213**	⇑P	**Pn**	**07 52 36.2**	**+1.3**
GRPR	**Tuman**	**4.58**	**32**	eP	**Pn**	**07 52 36.8**	**-0.8**
GRPR				iS	**Sn**	**07 53 26.4**	**-3.1**
GRPR				pmax	pmax		
	comp=N,396nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,1μm,0.3s						
GRPR				pmax	pmax		
	comp=E,1μm,0.4s						
GRPR				smax	smax		
	comp=N,3μm,0.3s						
GRPR				smax	smax		
	comp=E,8μm,0.3s						
LAGR	**Lagunnoye**	**4.64**	**32**	eP	**Pn**	**07 52 38.7**	**+0.3**
LAGR				iS	**Sn**	**07 53 29.7**	**-1.3**
LAGR				pmax	pmax		
	comp=E,2μm,0.4s						
LAGR				pmax	pmax		
	comp=Z,2μm,0.4s						

LAGR pmax pmax
comp=N,1μm,0.3s
LAGR smax smax
comp=N,8μm,0.7s
LAGR smax smax
comp=E,12μm,0.5s
JGK Kuni 4.65 221 P **Pn** **07 52 41.3 +2.7**
YUK Yuzh-Kuril'sk 4.66 32 *e*P **Pn** **07 52 38.0 -0.6**
YUK *i* S **Sn** **07 53 28.4 -2.9**
YUK pmax pmax
comp=Z,1μm,0.6s
YUK pmax pmax
comp=N,1μm,0.4s
YUK pmax pmax
comp=E,710nm,0.2s
YUK smax smax
comp=N,9μm,0.4s
YUK smax smax
comp=E,9.0nm,0.4s
YUK MLR MLR
comp=Z,9μm,16.0s
YUK MLR MLR
comp=N,8μm,14.0s
MJAR Matsushiro Arr 4.89 224 P **Pn** **07 52 43.9 +2.0**
comp=N,47nm,0.3s,baz=30,slow=13,SNR=482
MJAR LR LR 07 54 52.8
comp=N,17μm,20.6s,baz=40,slow=41
MJB9 Matsu-Tunnel 4.89 224 *e*Pn **Pn** **07 52 42.8 +1.0**
MAJO Matsushiro 4.89 224 *e*Pn **Pn** **07 52 42.8 +1.0**
MAJO Matsushiro 4.89 224*c i*P **Pn** **07 52 44.2 +2.4**
MAT Matsushiro 4.89 224 P **Pn** **07 52 44.3 +2.5**
MAT *e*S **Sn** **07 53 36.5 -0.6**
MAT Matsushiro 4.89 224 P **Pn** **07 52 44.3 +2.5**
SHO Shikotan 4.97 40 *e*P **Pn** **07 52 40.4 -2.4**
SHO *e*S **Sn** **07 53 32.6 -6.3**
SHO pmax pmax
comp=Z,372nm,0.4s
SHO pmax pmax
comp=E,255nm,0.5s
SHO pmax pmax
comp=N,361nm,0.3s
SHO smax smax
comp=E,4μm,0.5s
SHO smax smax
comp=N,3μm,0.2s
SHO MLR MLR
comp=Z,6μm,15.0s
SHO MLR MLR
comp=E,10μm,19.0s
SHO MLR MLR
comp=N,6μm,18.0s
JRY Ryogami san 4.97 215 ⇑P **Pn** **07 52 44.0 +1.0**
JYN Shimob 5.56 215 P **Pn** **07 52 52.4 +1.3**
JGN Niukaw 5.61 227 P **Pn** **07 52 54.7 +2.9**
INU Inuyama 6.42 223 *e*Pn **Pn** **07 53 02.9 +0.1**
KUR Kuril'sk 6.48 37*de*P **Pn** **07 53 03.2 -0.4**
KUR *i* S **Sn** **07 54 13.4 -2.7**
KUR pmax pmax
comp=Z,701nm,0.8s
KUR pmax pmax
comp=E,227nm,0.5s
KUR pmax pmax
comp=N,198nm,0.7s
KUR pmax pmax
comp=Z,4μm,2.2s
KUR smax smax
comp=N,1μm,0.7s
KUR smax smax
comp=E,804nm,0.3s
KUR smax smax
comp=N,8μm,1.4s
KUR smax smax
comp=E,2μm,1.2s
KUR MLR MLR
comp=Z,8μm,17.0s
TEY Ternei 6.50 321⇑ *e*P **Pn** **07 53 05.6 +1.8**
TEY *e*S **Sn** **07 54 24.5 +7.9**
TEY pmax pmax
comp=Z,40nm,0.9s
TEY pmax pmax
comp=E,30nm,0.4s
TEY pmax pmax
comp=N,40nm,0.5s
TEY MLR MLR
comp=E,6μm,19.0s
TEY MLR MLR
comp=N,8μm,16.0s
TEY MLR MLR
comp=Z,15μm,16.0s
YSS Yuzh-Sakhalins 6.81 2 *e*Pn **Pn** **07 53 07.2 -0.9**
YSS Yuzh-Sakhalins 6.81 2*α i*P **Pn** **07 53 09.4 +1.3**
YSS *e*S **Sn** **07 54 24.1 -0.1**
YSS pmax pmax
comp=N,280nm,0.9s
YSS pmax pmax
comp=Z,280nm,0.9s
YSS pmax pmax
comp=Z,1μm,3.8s
YSS pmax pmax
comp=N,800nm,3.6s
YSS smax smax
comp=E,2μm,2.5s
YSS smax smax
comp=N,1μm,2.0s
YSS MLR MLR
comp=Z,8μm,16.0s
YSS MLR MLR
comp=N,6μm,16.0s
JHJ Hachijo jima 2 7.33 198 P **Pn** **07 53 17.5 +2.2**
comp=N,63nm,0.3s,baz=243,slow=22,SNR=4.1
JHJ2 Mitsune 7.33 197 *e*Pn **Pn** **07 53 14.5 -0.8**
JAD Aida 8.36 234 P **Pn** **07 53 32.3 +2.9**
VLA Vladivostok 8.42 294 *i* P **Pn** **07 53 33.0 +2.7**
USA0B Ussuriysk Arra 8.73 301 *e*Pn **Pn** **07 53 36.1 +1.6**
USRK Ussuriysk Ar. 8.73 301 P **Pn** **07 53 37.9 +3.4**
comp=N,5.0nm,0.3s,baz=110,slow=15,SNR=91
USRK LR LR 07 56 54.5
comp=N,14μm,18.7s,baz=115,slow=37
MSHR Mys Shultsa 8.81 290 *i* P **Pn** **07 53 38.9 +3.4**
UGL Uglegorsk 8.93 359 *e*P **Pn** **07 53 37.4 +0.2**
UGL S **Sn** **07 55 12.1 -4.3**
UGL pmax pmax
comp=E,58nm,0.9s
UGL pmax pmax
comp=Z,66nm,0.9s
UGL smax smax
comp=E,149nm,1.0s
UGL smax smax
comp=N,2μm,5.8s
UGL MLR MLR
comp=N,9μm,17.0s
UGL MLR MLR
comp=E,6μm,17.0s
MDJ Mudanjiang 10.48 299 P **Pn** **07 54 01.7 +3.3**
MDJ S **Sn** **07 55 58.9 +4.5**
MDJ SS **SnSn** **07 56 10.0 +3.8**
MDJ pmax pmax
comp=E,98nm,1.0s
MDJ pmax pmax
comp=E,1μm,3.1s
MDJ LR LR
comp=E,8μm,14.1s
MDJ LR LR
comp=E,9μm,18.2s
MDJ LR LR
comp=E,17μm,18.8s
MDJ Mudanjiang 10.48 299 *e*Pn **Pn** **07 53 58.5 +0.1**
TYV Tymovskoe 10.72 1 *e*P **Pn** **07 54 02.2 +0.6**
TYV *e*S **Sn** **07 56 01.8 +1.7**
TYV pmax pmax
comp=Z,700nm,6.3s
TYV pmax pmax
comp=Z,69nm,0.8s
TYV smax smax
comp=E,1μm,6.6s
TYV smax smax
comp=E,29nm,1.2s
TYV MLR MLR
comp=N,9μm,16.0s
TYV MLR MLR
comp=Z,10μm,16.0s
GRNR Gornyy 11.42 340 *e*P **Pn** **07 54 11.9 +0.7**
GRNR pmax pmax
comp=Z,21nm,1.0s
JNU Nakatsue 11.61 236 P **Pn** **07 54 14.9 +0.9**
comp=Z,1.5nm,0.3s,baz=53,slow=2.8,SNR=16

JNU LR LR 07 59 17.9
comp=Z,6μm,18.3s,baz=46,slow=40
JNU Nakatsue 11.61 236 *e*Pn **Pn** **07 54 13.3 -0.7**
KSRS Korea Array 11.62 261 P **Pn** **07 54 17.4 +3.3**
comp=Z,1.1nm,0.3s,baz=79,slow=12,SNR=31
KSRS LR LR 07 58 30.2
comp=Z,10μm,18.5s,baz=79,slow=36
KSRS ScP **ScP** **08 03 29.9 -1.3**
comp=Z,0.2nm,0.3s,baz=328,slow=1.6,SNR=4.5
KSRS Korea Array 11.62 261 P **Pn** **07 54 17.4 +3.3**
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSRS MLR MLR
comp=Z,10μm,18.5s
KS01 Wonju Array Si 11.64 261 *e*Pn **Pn** **07 54 13.5 -0.8**
KS15 Wonju Array Si 11.65 261 *e*Pn **Pn** **07 54 14.7 +0.2**
KSAR Wonju Array Be 11.65 261 P **Pn** **07 54 17.4 +2.9**
KSAR Wonju Array Be 11.65 261 P **Pn** **07 54 17.4 +2.9**
KLR Kul'dur 11.82 324 P **Pn** **07 54 18.4 +1.6**
comp=Z,0.5nm,0.3s,baz=130,slow=13,SNR=48
KLR LR LR 07 59 05.1
comp=Z,10μm,18.0s,baz=139,slow=38
KLR Kul'dur 11.82 324*c i*P **Pn** **07 54 17.3 +0.6**
TJN Taejon 12.41 257*ce*P **Pn** **07 54 27.6 +2.8**
CBIJ Chichi jima 13.02 181 *e*Pn **Pn** **07 54 31.6 -1.7**
CBIJ *e*Sn **Sn** **07 56 52.0 -4.6**
JCJ Chichijima 13.02 181 P **Pn** **07 54 31.6 -1.6**
comp=Z,12nm,0.3s,baz=81,slow=22,SNR=8.9
JCJ S Sn 07 56 44.6 -12
comp=Z,9.3nm,0.3s,baz=177,slow=8.5,SNR=3.8
NKL Nikolayevsk 13.06 355 *e*P **Pn** **07 54 34.0 +0.4**
NKL *e*S **Sn** **07 56 57.0 -0.3**
NKL pmax pmax
comp=Z,47nm,1.0s
NKL pmax pmax
comp=N,800nm,7.0s
NKL pmax pmax
comp=Z,1μm,6.0s
NKL smax smax
comp=E,1μm,13.0s
NKL MLR MLR
comp=N,2μm,16.0s
NKL MLR MLR
comp=E,3μm,16.0s
NKL MLR MLR
comp=Z,2μm,13.0s
CN2 Changchun 13.14 292 *e*P **Pn** **07 54 38.0 +3.3**
CN2 *e*S **Sn** **07 57 01.9 +2.5**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,400nm,8.0s
CN2 LR LR
comp=Z,3μm,20.0s
CN2 LR LR
comp=Z,6μm,20.0s
CN2 LR LR
comp=Z,7μm,21.0s
SKR Severo-Kuril's 14.24 38 *e*P **Pn** **07 54 49.9 +0.2**
SKR pmax pmax
comp=Z,2μm,4.1s
SKR MLR MLR
comp=Z,4μm,17.0s
SKR MLR MLR
comp=Z,6μm,17.0s
SNY Shenyang 14.33 283 ⇑P **Pn** **07 54 53.3 +2.4**
SNY S **Sn** **07 57 37.1 +8.8**
SNY pmax pmax
comp=Z,33nm,1.3s
SNY pmax pmax
comp=Z,410nm,4.8s
SNY LR LR
comp=Z,3μm,17.2s
SNY LR LR
comp=Z,7μm,18.1s
SNY LR LR
comp=Z,11μm,20.6s
DL2 Dalian 16.09 272⇑ *i*P **Pn** **07 55 14.0 +0.1**
DL2 sP **pP** **07 55 24.1 -2.9**
DL2 S **Sn** **07 58 12.5 +1.4**
DL2 SS **SnSn** **07 58 32.2 +8.1**
DL2 pmax pmax
comp=Z,93nm,0.9s
DL2 pmax pmax
comp=Z,810nm,3.6s
DL2 LR LR
comp=Z,1μm,18.8s
DL2 LR LR
comp=Z,2μm,24.8s
DL2 LR LR
comp=Z,4μm,27.1s
PEA0B Petropavlovsk- 16.63 34 *e*Pn **Pn** **07 55 19.6 -1.1**
comp=Z,58nm,1.0s
PETK Petropavlovsk- 16.63 34 P **Pn** **07 55 19.2 -1.4**
comp=Z,0.5nm,0.3s,baz=216,slow=8.9,SNR=9.1
PETK LR LR 08 02 14.2
comp=Z,2μm,18.3s,baz=219,slow=38
PETK Petropavlovsk- 16.63 34 *e*Pn **Pn** **07 55 20.3 -0.4**
PETK Petropavlovsk- 16.63 34 *e*P **Pn** **07 55 20.3 -0.4**
PEA1 Petropavlovsk- 16.64 34 *e*Pn **Pn** **07 55 19.2 -1.5**
ZEA Zeya 17.04 328 *e*P **Pn** **07 55 22.8 -2.9**
ZEA *e*S **Sn** **07 58 28.0 -5.9**
ZEA pmax pmax
comp=Z,500nm,4.0s
ZEA pmax pmax
comp=N,400nm,5.0s
ZEA pmax pmax
comp=N,120nm,1.0s
ZEA pmax pmax
comp=E,59nm,1.0s
ZEA pmax pmax
comp=Z,230nm,1.0s
ZEA smax smax
comp=E,400nm,7.0s
ZEA MLR MLR
comp=Z,8μm,16.0s
ZEA MLR MLR
comp=N,5μm,15.0s
HIA Hailar 18.45 307 *e*P **P** **07 55 40.0 -2.8**
comp=N,56nm,1.0s
HIA Hailar 18.45 307 *e*P **P** **07 55 40.0 -2.8**
HIA pmax pmax
comp=Z,55nm,1.0s
SSE Sheshan 19.44 249 P **P** **07 55 53.0 -0.6**
SSE S **S** **07 59 28.2 -2.8**
SSE pmax pmax
comp=Z,14nm,0.7s
SSE LR LR
comp=Z,980nm,15.2s
SSE LR LR
comp=Z,900nm,17.3s
SSE Sheshan 19.44 249 *e*P **P** **07 55 51.3 -2.3**
comp=Z,219nm,0.9s
BJI Beijing 20.05 278⇑ *i*P **P** **07 55 58.6 -1.6**
BJI S **S** **07 59 37.8 -5.4**
BJI pmax pmax
comp=Z,44nm,0.9s
BJI LR LR
comp=Z,2μm,16.1s
BJI LR LR
comp=Z,3μm,19.9s
BJT Baijiatuau 20.06 278 *e*P **P** **07 55 58.4 -2.0**
comp=Z,75nm,1.0s
BJT Baijiatuau 20.06 278 *e*P **P** **07 55 58.4 -2.0**
BJT pmax pmax
comp=Z,75nm,1.0s
MA2 Magadan 20.15 12 P **P** **07 56 00.5 -0.6**
comp=Z,31nm,0.7s,baz=196,slow=9.4,SNR=17
MA2 Magadan 20.15 12 *e*P **P** **07 55 59.8 -1.3**
MA2 Magadan 20.15 12*ce*P **P** **07 56 00.7 -0.4**
MA2 pmax pmax
comp=Z,59nm,1.0s
TIA Tai'an 20.24 267 P **P** **07 56 01.3 -1.0**
TIA S **S** **07 59 40.0 -7.0**
TIA pmax pmax
comp=Z,16nm,1.0s
TIA pmax pmax
comp=Z,130nm,3.5s
TIA LR LR
comp=Z,920nm,17.9s
TIA LR LR
comp=Z,3μm,17.6s
TIA LR LR
comp=Z,4μm,18.3s
NJ2 Nanjing 20.64 254 *e*P **P** **07 56 07.0 +0.4**
NJ2 S **S** **07 59 56.2 +1.4**

NJ2 pmax pmax
comp=Z,93nm,0.9s
NJ2 LR LR
comp=Z,2μm,16.3s
NJ2 LR LR
comp=Z,4μm,16.3s
NJ2 LR LR
comp=Z,4μm,17.9s
CIT Chita 23.11 311 *e*P **P** **07 56 33.7 +0.8**
CIT *e* 07 56 49.0
CIT *e* 07 56 57.7
CIT pmax pmax
comp=Z,589nm,1.2s
YAK Yakutsk 23.24 345*ce*P **P** **07 56 31.2 -2.7**
YAK *e**PP **pP** **07 56 39.3 -5.3**
YAK *e* 08 00 18.7
YAK *e*S **S** **08 00 34.8 -7.8**
YAK *e**SS sS 08 00 50.3 -11
YAK *e* 08 07 43.2
YAK pmax pmax
comp=N,123nm,1.2s
YAK pmax pmax
comp=Z,235nm,0.8s
YAK pmax pmax
comp=E,40nm,0.9s
YAK smax smax
comp=E,579nm,2.3s
YAK smax smax
comp=N,1μm,2.9s
YAK MLR MLR
comp=Z,2μm,14.0s
YAK MLR MLR
comp=E,1μm,16.0s
YAK MLR MLR
comp=N,1μm,13.0s
TIY Taiyuan 23.40 274 *e*P **P** **07 56 38.5 +2.7**
TIY S **S** **08 00 43.1 -2.7**
TIY SS **SnSn** **08 01 30.0 +6.3**
TIY pmax pmax
comp=N,33nm,0.5s
TIY pmax pmax
comp=N,210nm,4.4s
TIY LR LR
comp=N,450nm,13.4s
TIY LR LR
comp=N,4μm,24.1s
TIY LR LR
comp=N,3μm,22.2s
HHC Hu-ho-hao-te 23.41 282 *e*P **P** **07 56 33.1 -2.9**
HHC sP pP 07 56 46.1 -0.9
HHC S **S** **08 00 41.6 -4.5**
HHC pmax pmax
comp=N,34nm,1.1s
HHC pmax pmax
comp=N,140nm,5.2s
HHC LR LR
comp=N,1μm,15.1s
HHC LR LR
comp=N,6μm,19.7s
HHC LR LR
comp=N,7μm,19.7s
YHNB Yeheng 23.44 235 *e*P **P** **07 56 34.7 -1.7**
comp=N,278nm,1.9s
SEY Seymchan 23.59 11 P **P** **07 56 37.2 -0.1**
comp=N,82nm,0.9s,baz=207,slow=8.0,SNR=46
SEY Seymchan 23.59 11*ce*P **P** **07 56 35.9 -1.4**
NACB Ninganchiao 23.67 234 *e*P **P** **07 56 37.1 -1.3**
comp=N,56nm,1.1s
SSLB Suanglung 24.35 234 *e*P **P** **07 56 42.7 -2.0**
comp=N,108nm,1.6s
YULB Yu-li 24.42 233 *e*P **P** **07 56 44.2 -1.2**
comp=N,32nm,0.9s
BTO Baotou 24.61 282 *e*P **P** **07 56 44.2 -2.9**
BTO S **S** **08 00 55.3 -10**
WHN Wuhan 24.73 256 ⇑P **P** **07 56 47.3 -0.8**
WHN S **S** **08 01 06.1 -1.0**
WHN LR LR
comp=N,6μm,18.8s
WHN LR LR
comp=N,7μm,16.0s
WHN LR LR
comp=N,11μm,18.7s
TPUB Ta-pu 24.90 234 *e*P **P** **07 56 48.2 -1.5**
comp=N,181nm,1.5s
TWG Pinlang 24.99 233 *e*P **P** **07 56 49.5 -1.0**
comp=N,214nm,0.8s
QZH Quanzhou 25.05 240⇑ *i*P **P** **07 56 49.3 -1.8**
QZH S **S** **08 01 07.2 -5.2**
QZH pmax pmax
comp=N,490nm,5.0s
QZH LR LR
comp=N,2μm,20.5s
QZH LR LR
comp=N,880nm,19.9s
QZH LR LR
comp=N,2μm,15.0s
BOD Bodaibo 25.40 324 *e*P **P** **07 56 53.4 -0.5**
BOD pmax pmax
comp=Z,191nm,1.0s
ULN Ulaanbaatar 26.40 299 *e*P **P** **07 57 02.5 -0.8**
comp=Z,31nm,0.9s
ULN Ulaanbaatar 26.40 299*c i*P **P** **07 57 02.7 -0.6**
ULN pmax pmax
comp=Z,35nm,0.9s
ULN Ulaanbaatar 26.40 299 P **P** **07 57 03.1 -0.2**
SNR=14
ULN P **P** **07 57 03.1 -0.2**
SNR=14
GUMO Guam 26.55 175 LR LR 08 06 27.9
comp=Z,2μm,21.7s,baz=12,slow=34
SONA1 Songino Array 26.83 299 *e*P **P** **07 57 06.5 -0.7**
SONA0 Songino Array 26.84 299 *e*P **P** **07 57 07.1 -0.1**
SONM Songino Array 26.84 299 P **P** **07 57 07.1 -0.1**
comp=Z,24nm,0.7s,baz=100,slow=8.3,SNR=106
SONM LR LR 08 08 20.0
comp=Z,6μm,18.8s,baz=100,slow=38
XAN Xi'an 27.29 268 P **P** **07 57 09.9 -1.4**
XAN PP **PnPn** **07 58 01.9 +5.4**
XAN S **S** **08 01 51.4 +3.6**
XAN pmax pmax
comp=Z,14nm,1.0s
XAN pmax pmax
comp=Z,330nm,7.7s
XAN LR LR
comp=Z,770nm,15.8s
XAN LR LR
comp=Z,3μm,16.3s
XAN LR LR
comp=Z,3μm,16.3s
XAN Xi'an 27.29 268 *e*P **P** **07 57 09.3 -2.0**
comp=Z,17nm,0.8s
XAN Xi'an 27.29 268 *e*P **P** **07 57 09.3 -2.0**
XAN pmax pmax
comp=Z,17nm,0.8s
ENH Enshi 28.51 260 *e*P **P** **07 57 20.6 -1.6**
comp=Z,46nm,0.8s
IRK Irkutsk 28.70 308 *e*P **P** **07 57 23.0 -0.6**
IRK pmax pmax
comp=Z,90nm,1.4s
ZAK Zakamensk 29.07 304 *e*P **P** **07 57 26.5 -0.6**
ZAK pmax pmax
comp=Z,70nm,1.3s
GZH Guangzhou 29.85 244 P **P** **07 57 30.0 -4.0**
GZH S **S** **08 02 20.3 -7.7**
GZH LR LR
comp=Z,2μm,14.1s
GZH LR LR
comp=Z,2μm,14.1s
LZH Lanzhou 30.45 275 *e*P **P** **07 57 38.5 -1.0**
LZH pP pP 07 57 51.8 +0.7
LZH sP sP 07 57 56.2 -0.1
LZH PP **PnPn** **07 58 40.9 +1.7**
LZH *e*S **S** **08 02 34.5 -3.2**
LZH sS sS 08 02 57.0 +0.1
LZH SS **ScP** **08 04 24.5 +7.6**
LZH pmax pmax
comp=Z,74nm,1.1s
LZH pmax pmax
comp=Z,490nm,5.4s
LZH LR LR
comp=Z,3μm,14.6s
LZH LR LR
comp=Z,3μm,14.9s
LZH LR LR
comp=Z,5μm,15.7s
MOY Mondy 30.63 306 *e*P **P** **07 57 41.1 +0.2**

MOY pmax pmax
comp=Z,94nm,1.1s
BILL Bilibino 30.82 17 *e*P **P 07 57 41.9 -0.3**
comp=Z,32nm,0.9s
BILL Bilibino 30.82 17*c e*P **P 07 57 41.9 -0.3**
BILL *e* 07 58 42.3
BILL *e* 08 00 39.2
BILL pmax pmax
comp=Z,29nm,1.0s
BILL MLR MLR
comp=Z,3μm,20.0s
TIXI Tiksi 32.31 352 P **P 07 57 54.7 -0.5**
comp=Z,16nm,0.8s,baz=145,slow=6.5,SNR=22
TIXI Tiksi 32.31 352 *e*P **P 07 57 54.2 -1.0**
comp=Z,28nm,1.0s
TIXI Tiksi 32.31 352*c i*P **P 07 57 54.5 -0.7**
TIXI pmax pmax
comp=Z,12nm,0.8s
GTA Gaotai 32.52 283 ⇑P **P 07 57 57.4 -0.2**
GTA pP pP 07 58 07.0 -2.3
GTA sP sP 07 58 11.3 -3.1
GTA PP **PnPn 07 59 07.2 +1.3**
GTA PcP **PcP 08 00 44.8 +1.2**
GTA S **S 08 03 08.3 -1.5**
GTA ScP **ScP 08 04 24.8 +1.0**
GTA PcS **PcS 08 04 29.6 +0.9**
GTA SS **SnSn 08 05 05.0 -1.1**
GTA pmax pmax
comp=Z,12nm,1.0s
GTA pmax pmax
comp=Z,300nm,8.1s
GTA LR LR
comp=Z,2μm,19.4s
GTA LR LR
comp=Z,5μm,18.7s
GTA LR LR
comp=Z,8μm,19.0s
CD2 Chengdu 32.57 266 P **P 07 57 56.6 -1.4**
CD2 pP pP 07 58 07.2 -2.5
CD2 sP sP 07 58 12.1 -2.8
CD2 PP **PP 07 59 10.1 -2.0**
CD2 S **S 08 03 06.7 -3.9**
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 pmax pmax
comp=Z,330nm,5.6s
CD2 LR LR
comp=Z,3μm,20.4s
CD2 LR LR
comp=Z,3μm,21.4s
CD2 LR LR
comp=Z,3μm,19.9s
GYA Guiyang 32.62 256 ⇑*i*P **P 07 57 58.0 -0.6**
GYA pP pP 07 58 11.4 +1.1
GYA sP sP 07 58 16.9 +1.5
GYA PP **PnPn 07 59 08.6 +1.3**
GYA S **S 08 03 08.6 -3.0**
GYA sS sS 08 03 30.0 -0.9
GYA SS **SnSn 08 05 07.8 -1.0**
GYA pmax pmax
comp=Z,50nm,0.7s
GYA pmax pmax
comp=Z,150nm,6.2s
GYA LR LR
comp=Z,1μm,17.6s
GYA LR LR
comp=Z,3μm,21.9s
GYA LR LR
comp=Z,4μm,21.0s
QIZ Qiongzhong 34.99 243 P **P 07 58 20.5 +1.4**
QIZ S **S 08 03 51.0 +2.9**
QIZ LR LR
comp=Z,1μm,21.6s
GAMB Gambell 35.67 33 *e*P **P 07 58 24.5 +0.1**
comp=Z,42nm,1.7s
DAV Davao City (W) 36.23 209 LR LR 08 16 10.9
comp=Z,1μm,18.0s,baz=44,slow=41
KMI Kunming 36.29 258 P **P 07 58 30.3 -0.2**
KMI pP pP 07 58 42.3 0.0
KMI sP sP 07 58 47.4 0.0
KMI PP **PnPn 07 59 52.4 -0.8**
KMI S **S 08 04 04.1 -4.4**
KMI sS sS 08 04 27.2 -0.7
KMI SS **SnSn 08 06 31.4 -6.6**
KMI pmax pmax
comp=Z,46nm,1.3s
KMI pmax pmax
comp=Z,510nm,4.8s
KMI LR LR
comp=Z,3μm,16.9s
KMI LR LR
comp=Z,3μm,16.7s
KMI LR LR
comp=Z,4μm,17.4s
KMI Kunming 36.29 258 *e*P **P 07 58 29.2 -1.3**
comp=Z,64nm,1.0s
KMI Kunming 36.29 258 *e*P **P 07 58 29.2 -1.3**
KMI pmax pmax
comp=Z,64nm,1.0s
ANM Nome 38.55 33 *e*P **P 07 58 48.6 -0.3**
comp=Z,38nm,1.0s
ANM Nome 38.55 33 *e*P **P 07 58 48.6 -0.3**
ANM pmax pmax
comp=Z,38nm,1.0s
DGZ Jazzator, Alta 39.28 303*c i*P **P 07 58 56.5 +1.1**
DGZ pmax pmax
comp=Z,178nm,0.8s
WMQ Urumqi 40.22 294 P **P 07 59 03.9 +0.8**
WMQ pP pP 07 59 16.1 +1.1
WMQ PP **PP 08 00 35.4 -0.7**
WMQ ScP **ScP 08 04 51.4 -0.6**
WMQ S **S 08 05 07.3 +0.2**
WMQ pmax pmax
comp=Z,190nm,1.3s
WMQ LR LR
comp=Z,2μm,15.5s
WMQ LR LR
comp=Z,2μm,21.3s
WMQ LR LR
comp=Z,3μm,31.1s
WMQ Urumqi 40.22 294 *e*P **P 07 59 02.8 -0.3**
comp=Z,180nm,1.4s
WMQ Urumqi 40.22 294 *e*P **P 07 59 02.8 -0.3**
WMQ pmax pmax
comp=Z,180nm,1.4s
NONG Nongkai 40.32 249 P **P 07 59 04.6 +0.5**
comp=Z,1.5nm,1.0s,comp=Z,42nm
RDOG Red Dog Mine 40.39 28 *e*P **P 07 59 04.4 +0.2**
comp=Z,35nm,1.1s
SKNT Sakolnakorn 40.45 246 P **P 07 59 06.0 +0.8**
comp=Z,27nm,1.4s,comp=Z,788nm
ZAA0 Zalesovo Array 40.46 310 *e*P **P 07 59 04.7 -0.3**
comp=Z,59nm,1.0s
ZAA1 Zalesovo Array 40.46 310 *e*P **P 07 59 04.9 0.0**
ZALV Zalesovo Beam 40.46 310 P **P 07 59 04.9 0.0**
comp=Z,49nm,0.9s,baz=90,slow=7.4,SNR=132
ZALV LR LR 08 16 42.2
comp=Z,4μm,18.9s,baz=74,slow=37
ZALV Zalesovo Beam 40.46 310 *e*P **P 07 59 04.5 -0.4**
KKM Kota Kinabalu 41.31 222 *e*P **P 07 59 11.8 -0.6**
comp=Z,52nm,1.4s
KKM Kota Kinabalu 41.31 222 P **P 07 59 13.6 +1.2**
NVS Novosibirsk 41.32 311 *e*P **P 07 59 12.5 +0.6**
NVS *e*S **S 08 05 23.8 +0.8**
NVS pmax pmax
comp=N,7.0nm,1.1s
NVS pmax pmax
comp=Z,49nm,1.1s
NVS pmax pmax
comp=E,37nm,1.2s
NVS smax smax
comp=N,9.0nm,1.7s
NVS smax smax
comp=E,33nm,2.0s
ZSN Zaisan 41.34 300*c i*P **P 07 59 11.6 -0.7**
ZSN *e*S **S 08 05 25.9 +2.3**
ZSN pmax pmax
comp=Z,318nm,1.0s
ZSN MLR MLR
comp=Z,601nm,17.0s
ZSN Zaisan 41.34 300 ⇑*i*P **P 07 59 11.6 -0.7**
comp=Z,318nm,1.0s
ZSN *e*S **S 08 05 25.9 +2.3**
comp=Z,124nm,5.7s
ZSN *e*LRM MLR 08 16 41.9
comp=Z,601nm,17.1s

TSM Tawau 42.00 218 P **P 07 59 19.3 +1.4**
SIJI Sorong 42.07 197 P **P 07 59 18.7 +0.2**
comp=Z,10nm,0.8s,baz=16,slow=11,SNR=6.5
UTTA Uttaradit 42.39 251 P **P 07 59 21.5 +0.4**
comp=Z,20nm,1.1s,comp=Z,137nm
JAY Jayapura 42.48 183 LR LR 08 19 43.1
comp=Z,249nm,18.0s,baz=358,slow=40
LAMP Lampang 42.56 252 P **P 07 59 23.4 +0.9**
comp=Z,26nm,1.0s,comp=Z,295nm
CHAI Chaiyaphum 42.58 247 P **P 07 59 22.8 +0.1**
comp=Z,26nm,1.0s
SVW2 Sparrevohn 42.60 39 *e*P **P 07 59 22.7 +0.3**
comp=Z,67nm,1.4s
LSA Lhasa 42.78 272 *e*P **P 07 59 24.7 -0.1**
comp=Z,41nm,1.1s
PBKT Sadao Pong 42.86 249 *e*P **P 07 59 23.7 -1.2**
comp=Z,52nm,1.1s
PBKT Sadao Pong 42.86 249 P **P 07 59 25.2 +0.3**
comp=Z,44nm,1.4s,comp=Z,924nm
CMMT Chiang Mai 42.88 253 P **P 07 59 25.4 +0.3**
comp=Z,48nm,1.1s,comp=Z,815nm
CHTO Chiang Mai 42.88 253 *e*P **P 07 59 24.3 -0.8**
comp=Z,46nm,1.0s
CHTO Chiang Mai 42.88 253 *e*P **P 07 59 24.3 -0.8**
CHTO pmax pmax
comp=Z,46nm,1.0s
CHTO Chiang Mai 42.88 253 P **P 07 59 25.5 +0.4**
SNR=19
CHTO Chiang Mai 42.88 253 P **P 07 59 25.5 +0.4**
comp=Z,210nm,1.1s,comp=Z,3μm
CHTO Chiang Mai 42.88 253 *e*P **P 07 59 25.6 +0.4**
CM31 Chiang Mai Arr 43.10 253 *e*P **P 07 59 27.0 0.0**
CM31 Chiang Mai Arr 43.10 253 P **P 07 59 27.9 +1.0**
SNR=6.8
CMAR Chiang Mai Arr 43.10 253 P **P 07 59 27.4 +0.5**
comp=Z,11nm,0.9s,baz=48,slow=6.9,SNR=47
CMAR LR LR 08 17 52.5
comp=Z,488nm,20.5s,baz=50,slow=37
CM01 Chiang Mai Arr 43.11 253 *e*P **P 07 59 26.7 -0.3**
MK01 Makanchi Array 43.20 299 *e*P **P 07 59 26.9 -0.5**
MK31 Makanchi Array 43.20 300 *e*P **P 07 59 27.6 +0.1**
MK31 Makanchi Array 43.20 300 *e*P **P 07 59 27.6 +0.1**
MK32 Makanchi Array 43.20 300 *e*P **P 07 59 27.7 +0.2**
MKAR Makanchi Array 43.20 300 P **P 07 59 27.7 +0.2**
comp=Z,16nm,0.6s,baz=85,slow=10,SNR=152
MKAR LR LR 08 18 18.1
comp=Z,3μm,20.0s,baz=76,slow=37
MKAR Makanchi Array 43.20 300 *e*P **P 07 59 27.6 +0.1**
comp=Z,335nm,0.8s
SUKH Sukhothai 43.23 251 P **P 07 59 28.7 +0.8**
comp=Z,20nm,1.1s
MAKZ Makanchi 43.40 300 *e*P **P 07 59 29.1 0.0**
comp=Z,47nm,0.8s
MAKZ Makanchi 43.40 300 *e*P **P 07 59 29.1 0.0**
MAKZ pmax pmax
comp=Z,47nm,0.8s
IM3 Indian Mountai 43.59 32 *e*P **P 07 59 30.5 +0.2**
SEM Semipalatinsk 43.73 305*c i*P **P 07 59 29.9 -2.0**
SEM *e*S **S 08 05 56.5 -2.6**
SEM pmax pmax
comp=Z,646nm,1.4s
SEM MLR MLR
comp=Z,1μm,21.0s
SEM Semipalatinsk 43.73 305 ⇑*i*P **P 07 59 30.0 -2.0**
comp=Z,646nm,1.4s
SEM ⇑*e*S **S 08 05 56.6 -2.6**
comp=Z,414nm,1.8s
SEM *e*LRM MLR 08 17 29.6
comp=Z,1μm,21.4s
SRAK Srakaew 43.83 245 P **P 07 59 30.2 -2.6**
comp=Z,265nm,1.1s,comp=Z,2μm
FAKI Fak Fak 43.86 195 *e*P **P 07 59 32.2 -0.8**
comp=Z,40nm,0.9s
OHAK Old Harbor 43.97 45 *e*P **P 07 59 33.5 +0.2**
comp=Z,150nm,1.4s
RSO Redoubt South 44.00 40 *e*P **P 07 59 34.5 +0.6**
PPLA Purkeypile 44.19 37 *e*P **P 07 59 36.5 +1.2**
comp=Z,294nm,2.0s
CAST Castle Rocks 44.23 36 *e*P **P 07 59 35.9 +0.4**
comp=Z,39nm,0.9s
KDAK Kodiak Island 44.29 44 P **P 07 59 37.1 +1.2**
comp=Z,11nm,0.6s,baz=253,slow=4.6,SNR=11
KDAK Kodiak Island 44.29 44 *e*P **P 07 59 36.4 +0.5**
comp=Z,173nm,1.4s
KDAK Kodiak Island 44.29 44 *i*P **P 07 59 36.7 +0.7**
SHL Shillong 44.30 267 *e*P **P 07 59 35.9 -0.8**
comp=Z,58nm,1.2s
SHL Shillong 44.30 267 *e*P **P 07 59 35.9 -0.8**
SHL pmax pmax
comp=Z,58nm,1.2s
SHL Shillong 44.30 267 *e*P **P 07 59 36.8 +0.1**
SHL IAmb IAmb 07 59 41.1
comp=Z,2μm,4.8s
UMPA Umpang Tak 44.61 250 P **P 07 59 41.3 +2.2**
comp=Z,26nm,1.1s,comp=Z,1μm
UTHA Uthaitani 44.62 249 P **P 07 59 40.3 +1.2**
comp=Z,11nm,0.9s,comp=Z,96nm
KURK Kurchatov 44.69 306 *e*P **P 07 59 39.0 -0.2**
comp=Z,192nm,0.8s
KURK Kurchatov 44.69 306*c i*P **P 07 59 39.1 -0.2**
KURK pmax pmax
comp=Z,211nm,0.9s
KURK Kurchatov 44.69 306 P **P 07 59 39.4 +0.1**
SNR=85
KURK P **P 07 59 39.4 +0.1**
SNR=85
BPAW Bear Paw Mtn. 44.71 35 *e*P **P 07 59 39.8 +0.5**
comp=Z,19nm,0.8s
LUWI Luwuk 44.75 209 *e*P **P 07 59 39.6 -0.5**
comp=Z,159nm,0.4s
KURBB Kurchatov Arra 44.76 306 P **P 07 59 39.9 +0.1**
comp=Z,172nm,0.8s,baz=81,slow=8.6,SNR=334
MLY Manley 44.81 34 *e*P **P 07 59 40.5 +0.4**
comp=Z,44nm,1.2s
SUA Susitna One 44.92 39 *e*P **P 07 59 42.2 +1.1**
comp=Z,49nm,0.9s
BRLK Bradley Lake 44.98 41 *e*P **P 07 59 42.2 +0.7**
comp=Z,53nm,1.1s
TRF Thorofare Moun 45.04 36 *e*P **P 07 59 43.2 +1.1**
comp=Z,29nm,1.0s
COLD Coldfoot 45.06 31 *e*P **P 07 59 43.5 +1.5**
comp=Z,28nm,1.1s
BWN Browne 45.38 35 *e*P **P 07 59 46.1 +1.6**
comp=Z,151nm,1.0s
PATY Pattaya 45.41 245 P **P 07 59 47.0 +1.6**
comp=Z,12nm,0.8s,comp=Z,1μm
RC01 Rabbit Creek A 45.43 39 *e*P **P 07 59 46.0 +0.9**
comp=Z,107nm,1.5s
MCK McKinley 45.63 35 *e*P **P 07 59 47.7 +1.1**
comp=Z,43nm,1.1s
SRDT SRDT 45.66 248 P **P 07 59 48.0 +0.6**
comp=Z,38nm,1.2s,comp=Z,5μm
PMR Palmer 45.68 38 *e*P **P 07 59 47.6 +0.6**
comp=Z,37nm,1.0s
PMR Palmer 45.68 38 *e*P **P 07 59 47.6 +0.6**
PMR pmax pmax
comp=Z,37nm,1.0s
RND Reindeer 45.68 36 *e*P **P 07 59 47.7 +0.6**
comp=Z,126nm,1.7s
RND Reindeer 45.68 36 *e*P **P 07 59 47.7 +0.6**
RND pmax pmax
comp=Z,126nm,1.7s
GHO Glory Hole Cre 45.77 38 *e*P **P 07 59 48.6 +0.8**
comp=Z,122nm,1.3s
MDM Murphy Dome 45.88 34 *e*P **P 07 59 49.7 +1.1**
comp=Z,40nm,1.0s
WRH Wood River Hil 45.96 34 *e*P **P 07 59 50.1 +0.9**
comp=Z,25nm,0.8s
KNK Knik Glacier 46.02 39 *e*P **P 07 59 50.8 +1.1**
comp=Z,187nm,1.8s
TCOL CIGO, UAF Yank 46.04 34 P P 07 59 57.8 +8.1
baz=273,SNR=7.3
SML Sawmill 46.04 38 *e*P **P 07 59 51.0 +1.1**
comp=Z,56nm,0.8s
SML Sawmill 46.04 38 *e*P **P 07 59 51.0 +1.1**
SML pmax pmax
comp=Z,56nm,0.8s
COLA College 46.05 34 *e*P **P 07 59 51.2 +1.4**
comp=Z,48nm,0.8s
COLA College 46.05 34 *e*P **P 07 59 51.2 +1.4**
COLA pmax pmax
comp=Z,48nm,0.8s
COLA College 46.05 34 *e*P **P 07 59 51.5 +1.7**
BRDH Bariadhala 46.06 264 P **P 07 59 51.6 +1.1**
comp=Z,70nm,0.3s,baz=77,slow=10,SNR=10
PDGK Podgornoye 46.07 296 P **P 07 59 50.4 -0.1**
PDGK pmax pmax
comp=Z,51nm,1.2s
SHLS Shalkode 46.15 295*c i*P **P 07 59 47.4 -3.7**
SHLS pmax pmax
comp=Z,343nm,0.9s
SHLS MLR MLR
comp=Z,2μm,18.0s
SHLS Shalkode 46.15 295 ⇑*i*P **P 07 59 47.4 -3.7**
comp=Z,343nm,0.9s
SHLS *e*LRM MLR 08 19 55.5
comp=Z,2μm,17.7s
POKR Poker Flat Res 46.21 33 P **P 07 59 53.1 +2.0**
baz=273,SNR=16
PHET Kaeng Krachan 46.28 246 P **P 07 59 53.2 +0.9**
comp=Z,29nm,0.7s,comp=Z,251nm
TDK Taldyqorghan 46.30 298*d i*P **P 07 59 51.5 -0.6**
TDK pmax pmax
comp=Z,1μm,1.3s
TDK MLR MLR
comp=Z,3μm,18.0s
TDK Taldyqorghan 46.30 298 ⇓*i*P **P 07 59 51.6 -0.6**
comp=Z,1μm,1.3s
TDK *e*LRM MLR 08 19 27.5
comp=Z,3μm,17.9s
DHY Denali Highway 46.37 36 *e*P **P 07 59 53.6 +1.0**
comp=Z,38nm,0.9s
SBUM Sibu 46.43 224 P **P 07 59 53.9 +0.5**
UZB Uzunbulak 46.46 295*d i*P **P 07 59 51.4 -2.1**
UZB *e*S **S 08 06 37.4 -1.1**
UZB pmax pmax
comp=Z,316nm,1.9s
UZB MLR MLR
comp=Z,1μm,20.0s
UZB Uzunbulak 46.46 295 ⇓*i*P **P 07 59 51.5 -2.1**
comp=Z,316nm,1.9s
UZB *e*S **S 08 06 37.5 -1.1**
comp=Z,130nm,4.7s
UZB *e*LRM MLR 08 20 02.7
comp=Z,1μm,20.2s
HDA Harding Lake 46.46 34 *e*P **P 07 59 53.7 +0.6**
comp=Z,23nm,0.8s
HDA Harding Lake 46.46 34 P **P 07 59 54.2 +1.1**
baz=274,SNR=7.7
ILAR Eielson Array 46.46 34 P **P 07 59 54.1 +1.0**
comp=Z,11nm,0.7s,baz=267,slow=6.0,SNR=95
ILAR LR LR 08 22 04.0
comp=Z,504nm,19.0s,baz=280,slow=39
ILB Eielson Array 46.46 34 *e*P **P 07 59 54.1 +1.0**
IL1 Eielson Array 46.46 34 *e*P **P 07 59 53.7 +0.6**
SCM Sheep Creek Mo 46.51 38 *e*P **P 07 59 54.4 +0.7**
comp=Z,49nm,1.0s
SCM Sheep Creek Mo 46.51 38 *e*P **P 07 59 54.4 +0.7**
SCM pmax pmax
comp=Z,49nm,1.0s
KPKS Kokpek 46.59 296*d e*P **P 07 59 52.7 -1.8**
KPKS pmax pmax
comp=Z,626nm,1.7s
KPKS MLR MLR
comp=Z,2μm,17.0s
KPKS Kokpek 46.59 296 ⇓*e*P **P 07 59 52.8 -1.8**
comp=Z,626nm,1.7s
KPKS *e*LRM MLR 08 20 08.8
comp=Z,2μm,17.2s
ZHN Zhinishke 46.85 296*c i*P **P 07 59 55.4 -1.2**
ZHN pmax pmax
comp=Z,270nm,1.8s
ZHN MLR MLR
comp=Z,1μm,18.0s
ZHN Zhinishke 46.85 296 ⇑*i*P **P 07 59 55.5 -1.2**
comp=Z,270nm,1.8s
ZHN *e*LRM MLR 08 20 18.4
comp=Z,1μm,17.9s
SATY Saty 46.91 296 *e*P **P 07 59 55.4 -1.7**
SATY pmax pmax
comp=Z,421nm,1.5s
SATY MLR MLR
comp=Z,664nm,12.0s
SATY Saty 46.91 296 *e*P **P 07 59 55.5 -1.7**
comp=Z,421nm,1.5s
SATY *e*LRM MLR 08 20 30.3
comp=Z,664nm,11.6s
PRP Porcupine Dome 46.99 33 *e*P **P 07 59 57.9 +0.5**
comp=Z,53nm,0.8s
FYU Fort Yukon 47.03 31 *e*P **P 07 59 58.5 +1.0**
comp=Z,524nm,2.0s
ODAN Odare 47.07 271 *e*P **P 07 59 59.1 +0.5**
comp=Z,175nm,1.1s
PRZ Przheval'sk 47.11 295 *e*P **P 07 59 58.6 -0.1**
comp=Z,76nm,1.0s
PRZ Przheval'sk 47.11 295 *e*P **P 07 59 58.6 -0.1**
PRZ pmax pmax
comp=Z,76nm,1.0s
KLU Klutina 47.22 38 *e*P **P 08 00 00.1 +0.9**
comp=Z,38nm,1.0s
PAX Paxson 47.25 36 *e*P **P 08 00 00.8 +1.4**
comp=Z,15nm,1.0s
PAX Paxson 47.25 36 *e*P **P 08 00 00.8 +1.4**
PAX pmax pmax
comp=Z,15nm,1.0s
DIV Divide 47.34 39 *e*P **P 08 00 01.2 +1.1**
comp=Z,122nm,1.3s
RIDG Independ'e Rid 47.44 35 *e*P **P 08 00 01.9 +1.0**
comp=Z,65nm,1.4s
JIRN Jiri 47.58 273 *e*P **P 08 00 03.3 +0.5**
comp=Z,249nm,0.8s
RAMN Ramite 47.62 272 *e*P **P 08 00 03.2 +0.2**
comp=Z,326nm,1.0s
GUN Gumba 47.69 273 *e*P **P 08 00 04.0 +0.4**
comp=Z,467nm,0.9s
SCRK Sand Creek 47.79 35 *e*P **P 08 00 04.1 +0.5**
comp=Z,36nm,1.0s
DOT Dot Lake 47.80 35 *e*P **P 08 00 04.3 +0.7**
comp=Z,18nm,0.8s
MDOK Medeo 47.81 296*d i*P **P 08 00 03.3 -0.8**
MDOK pmax pmax
comp=Z,256nm,1.4s
MDOK MLR MLR
comp=Z,2μm,19.0s
MDOK Medeo 47.81 296 ⇓*i*P **P 08 00 03.3 -0.8**
comp=Z,256nm,1.4s
MDOK *e*LRM MLR 08 20 51.1
comp=Z,2μm,18.9s
AAA Alma-Ata 47.89 296 *e*P **P 08 00 02.9 -1.7**
AAA pmax pmax
comp=Z,189nm,0.5s
AAA MLR MLR
comp=Z,669nm,19.0s
AAA Alma-Ata 47.89 296 *e*P **P 08 00 03.0 -1.7**
comp=Z,189nm,0.5s
AAA *e*LRM MLR 08 20 51.8
comp=Z,670nm,18.9s
BMRM Bremner River 47.93 39 *e*P **P 08 00 05.2 +0.6**
comp=Z,55nm,1.0s
KUU Kurty 48.05 297*c i*P **P 08 00 04.3 -1.5**
KUU pmax pmax
comp=Z,276nm,1.1s
KUU MLR MLR
comp=Z,658nm,17.0s
KUU Kurty 48.05 297 ⇑*i*P **P 08 00 04.3 -1.5**
comp=Z,276nm,1.1s
KUU *e*LRM MLR 08 20 46.5
comp=Z,658nm,17.5s
KDJ Kajisay 48.08 295 *e*P **P 08 00 06.7 +0.5**
comp=Z,61nm,1.1s
KDJ Kajisay 48.08 295 *e*P **P 08 00 06.7 +0.5**
KDJ pmax pmax
comp=Z,61nm,1.1s
KKN Kakani 48.21 274 *e*P **P 08 00 07.9 +0.4**
comp=Z,374nm,0.9s
PKI Pulchoki 48.22 273 *e*P **P 08 00 07.7 0.0**
comp=Z,189nm,1.1s
PKIN Phulchoki 48.23 273 *e*P **P 08 00 07.6 -0.1**
comp=Z,168nm,1.2s
KSM Kuching 48.28 225 *e*P **P 08 00 07.9 +0.1**
comp=Z,57nm,1.4s
KSM Kuching 48.28 225 P **P 08 00 08.4 +0.7**
DMN Daman 48.43 273 *e*P **P 08 00 09.5 +0.3**
comp=Z,360nm,1.2s
ULHL Ulahol 48.69 295 P **P 08 00 11.9 +0.9**
SNR=5.4
TKM2 Tokmak 2 48.90 296 P **P 08 00 13.4 +0.9**
SNR=86
DANN Dangsing 49.09 275 *e*P **P 08 00 15.0 +0.7**
comp=Z,540nm,0.7s
BRVK Borovoye 49.15 311 *e*P **P 08 00 14.5 +0.4**
comp=Z,54nm,0.8s
BRVK Borovoye 49.15 311 *e*P **P 08 00 14.5 +0.4**
BRVK pmax pmax

comp=Z,54nm,0.8s
BRVK Borovoye 49.15 311 P P 08 00 14.6 +0.5
SNR=23
BRVK P P 08 00 14.6 +0.5
SNR=23
NRN Naryn 49.15 294 *e*P **P 08 00 14.9 +0.2**
comp=Z,35nm,1.1s
BTLS Baital 49.21 299*c i*P **P 08 00 12.7 -1.9**
BTLS pmax pmax
comp=Z,218nm,1.3s
BTLS Baital 49.21 299⇑*i*P **P 08 00 12.8 -1.9**
comp=Z,218nm,1.3s
OTUK Ortayu 49.29 304 P **P 08 00 15.3 +0.1**
OTUK pmax pmax
comp=Z,44nm,1.1s
KBK Karagaybulak 49.44 296 P **P 08 00 17.4 +0.7**
SNR=70
KZA Kyzart 49.44 295 P **P 08 00 18.3 +1.4**
SNR=19
CHMS Chumysh 49.45 297 P **P 08 00 16.3 -0.2**
SNR=9.7
KTGM Kuala Trenggan 49.45 236 P **P 08 00 18.2 +1.4**
PMG Port Moresby 49.50 174 LR LR 08 18 28.2
comp=Z,332nm,21.9s,baz=344,slow=33
KOLN Koldanda 49.51 275 *e*P **P 08 00 17.7 +0.3**
comp=Z,337nm,1.1s
USP Ospenovka 49.52 297 P **P 08 00 17.4 +0.3**
SNR=27
FRU Bishkek 49.60 297 *e*P **P 08 00 17.0 -0.7**
FRU *e* 08 01 33.0
FRU *e*S **S 08 07 14.0 -8.8**
FRU *e* 08 07 26.0
FRU pmax pmax
comp=Z,140nm,2.0s
FRU1 Bishkek 49.60 297 *e*P **P 08 00 18.1 +0.4**
comp=Z,61nm,0.9s
FRU1 Bishkek 49.60 297 *e*P **P 08 00 18.2 +0.4**
FRU1 pmax pmax
comp=Z,61nm,0.9s
SKLT Songkhla 49.71 240 P **P 08 00 20.3 +1.6**
comp=Z,61nm,1.2s,comp=Z,864nm
AAK Ala-Archa 49.75 296 P **P 08 00 19.3 +0.3**
comp=Z,18nm,0.7s,baz=82,slow=6.1,SNR=35
AAK Ala-Archa 49.75 296 P **P 08 00 19.3 +0.3**
SNR=21
AAK Ala-Archa 49.75 296 *e*P **P 08 00 19.0 0.0**
comp=Z,27nm,0.9s
AAK Ala-Archa 49.75 296 *i* P **P 08 00 19.3 +0.3**
SNR=6.5
AAK Ala-Archa 49.75 296*c i*P **P 08 00 19.1 0.0**
AAK pmax pmax
comp=Z,23nm,1.0s
AAK Ala-Archa 49.75 296 P **P 08 00 19.4 +0.3**
SNR=16
AAK P **P 08 00 19.4 +0.3**
SNR=16
DAWY Dawson 49.78 34 *e*P **P 08 00 19.8 +1.0**
comp=Z,51nm,1.9s
PYUN Piuthan 49.80 275 *e*P **P 08 00 20.1 +0.4**
comp=Z,470nm,1.1s
TRTT Trang 49.84 242 P **P 08 00 21.1 +1.3**
comp=Z,14nm,1.2s
BOK Bokaro 49.84 269 *e*P **P 08 00 18.8 -0.9**
BOK IAmb IAmb 08 00 20.6
comp=Z,58nm,1.5s
UCH Uchtor 49.89 296 P **P 08 00 21.1 +0.7**
SNR=18
KRAB Krabi 49.90 242 P **P 08 00 21.1 +0.9**
comp=Z,96nm,0.8s,comp=Z,11μm
KSH Kashi 49.91 292 P **P 08 00 22.8 +2.6**
KSH pP pP 08 00 32.6 +0.3
KSH sP sP 08 00 36.7 -0.6
KSH PP **PP 08 02 19.6 +4.5**
KSH PcS **PcS 08 05 37.1 0.0**
KSH S **S 08 07 26.8 -0.6**
KSH sS sS 08 07 49.8 +2.4
KSH pmax pmax
comp=Z,75nm,1.1s
KSH pmax pmax
comp=Z,920nm,5.9s
KSH LR LR
comp=Z,2μm,14.5s
KSH LR LR
comp=Z,1μm,13.8s
KSH LR LR
comp=Z,4μm,15.9s
EKS2 Erkin-Say 50.24 297 P **P 08 00 23.1 +0.4**
SNR=18
EPYK Eagle Plains 50.45 31 *e*P **P 08 00 24.7 +0.9**
comp=Z,62nm,0.8s
EPYK Eagle Plains 50.45 31 P **P 08 00 25.5 +1.7**
baz=281
AML Almayashu 50.49 296 P **P 08 00 25.9 +0.9**
SNR=55
PKDT Phuket 50.72 243 P **P 08 00 27.6 +1.2**
comp=Z,12nm,0.4s,comp=Z,5μm
KULM Kulim 51.09 238 *e*P **P 08 00 29.1 -0.1**
comp=Z,57nm,1.0s
KULM Kulim 51.09 238 P **P 08 00 30.2 +1.1**
INK Inuvik 51.27 28 P **P 08 00 31.3 +1.5**
comp=Z,20nm,0.8s,baz=295,slow=7.5,SNR=38
INK Inuvik 51.27 28 *e*P **P 08 00 31.1 +1.3**
comp=Z,39nm,0.8s
ARSB Arslanbob 51.30 295 *e*P **P 08 00 31.2 +0.5**
comp=Z,111nm,0.8s
HYT Haines Junctio 51.35 38 *e*P **P 08 00 32.2 +1.4**
comp=Z,110nm,1.0s
IPM Ipoh 51.45 237 *e*P **P 08 00 31.9 0.0**
comp=Z,31nm,0.9s
IPM Ipoh 51.45 237 P **P 08 00 32.2 +0.3**
SFK Sufi-Kurgan 51.45 294 P **P 08 00 31.9 -0.1**
SFK pmax pmax
comp=Z,86nm,1.0s
MYKOM Kota Tinggi 51.76 232 P **P 08 00 35.8 +1.6**
DZA Taraz 51.82 298 *e*P **P 08 00 33.7 -0.7**
DZA MLR MLR
comp=Z,1μm,18.0s
DZA Taraz 51.82 298 *e*P **P 08 00 33.7 -0.7**
comp=Z,1μm,0.7s
DZA *e*LRM MLR 08 23 06.2
comp=Z,1μm,18.4s
BWNR Bhubaneshwar 51.87 265 *ex* P 08 00 27.9 -7.1
BWNR IAmb IAmb 08 00 29.6
comp=Z,98nm,0.2s
KGM Kluang 51.90 233 P **P 08 00 36.4 +1.1**
PBA Port Blair 52.05 251 *e*P P 08 00 35.1 -1.3
KK31 Karatay Array 52.29 298 *e*P **P 08 00 37.5 -0.4**
KK31 Karatay Array 52.29 298 *e*P **P 08 00 37.5 -0.4**
KKAR Karatay Array 52.29 298 *e*P **P 08 00 37.6 -0.3**
KKAR Karatay Array 52.29 298 *e*P **P 08 00 37.6 -0.3**
SOEI Soe 52.42 203 *e*P **P 08 00 38.7 -0.4**
comp=Z,106nm,1.1s
DDI Dehra Dun 52.45 281 *e*P **P 08 00 39.0 -0.3**
DDI IAmb IAmb 08 00 44.1
comp=Z,1μm,3.1s
WHY Whitehorse 52.64 38 *e*P **P 08 00 41.4 +1.1**
comp=Z,138nm,1.9s
SMLA Simla 52.73 282 *e*P **P 08 00 40.6 -0.6**
DHRM DHARAMSHALA 52.84 284 *e*P **P 08 00 42.1 -0.3**
IUG Iuzhnay 52.99 297*c i*P **P 08 00 42.0 -1.2**
IUG pmax pmax
comp=Z,691nm,1.3s
IUG MLR MLR
comp=Z,804nm,18.0s
IUG Iuzhnay 52.99 297⇑*i*P **P 08 00 42.1 -1.2**
comp=Z,691nm,1.3s
IUG *e*LRM MLR 08 23 49.9
comp=Z,804nm,18.1s
BATI Baumata 53.03 203 P **P 08 00 44.7 +1.2**
comp=Z,27nm,0.5s,baz=153,slow=20,SNR=3.6
BATI LR LR 08 20 58.5
comp=Z,413nm,21.7s,baz=26,slow=33
CHM Chimkent 53.22 298*d i*P **P 08 00 44.6 -0.1**
CHM pmax pmax
comp=Z,1μm,1.0s
CHM MLR MLR
comp=Z,422nm,15.0s
CHM Chimkent 53.22 298⇓*i*P **P 08 00 44.6 -0.1**
comp=Z,1μm,1.0s
CHM *e*LRM MLR 08 25 07.0
comp=Z,422nm,14.6s
BTK Batken 53.31 295 *e*P **P 08 00 45.5 -0.1**
comp=Z,75nm,1.4s
BTK Batken 53.31 295 *e*P **P 08 00 45.5 -0.1**
BTK pmax pmax
comp=Z,75nm,1.4s
SVE Sverdlovsk 53.36 317*d i*P **P 08 00 46.6 +1.1**
SVE pmax pmax
comp=Z,234nm,1.0s
SVE MLR MLR
comp=E,4μm,16.0s
SVE MLR MLR
comp=Z,6μm,16.0s
KIP Kipapa 53.49 92 *i* P **P 08 00 44.4 -2.6**
KIP pmax pmax
comp=Z,71nm,1.2s
COEN Coen 53.83 179 *e*P **P 08 00 49.9 +0.5**
comp=Z,26nm,1.0s
PSI Prapat 54.08 238 P **P 08 00 51.9 +0.5**
comp=Z,32nm,0.9s,baz=360,slow=3.3,SNR=10
PSI Prapat 54.08 238 *e*P **P 08 00 51.6 +0.1**
comp=Z,43nm,1.0s
GAR Garm 54.12 294 *e*P **P 08 00 50.9 -0.6**
comp=Z,130nm,1.2s
GAR Garm 54.12 294 *e*P **P 08 00 50.9 -0.6**
GAR pmax pmax
comp=Z,130nm,1.2s
CMBY CAMPBELL BAY 54.40 246 *ex* P 08 00 46.8 -6.9
NIL Nilore 54.43 287 *e*P **P 08 00 54.6 +0.8**
comp=Z,138nm,0.9s
NIL Nilore 54.43 287 *e*P **P 08 00 54.6 +0.8**
NIL pmax pmax
comp=Z,138nm,0.9s
ARU Arti 54.58 317 *e*P **P 08 00 54.8 +0.3**
comp=Z,204nm,1.0s
ARU Arti 54.58 317*c i*P **P 08 00 55.0 +0.6**
ARU *PP **sP 08 01 11.2 -0.5**
ARU 08 01 54.4
ARU 08 02 56.7
ARU S **S 08 08 33.0 +2.5**
ARU SS **SS 08 12 11.3 -1.7**
ARU pmax pmax
comp=Z,226nm,1.0s
ARU MLR MLR
comp=Z,5μm,16.0s
CHGR Chuyangaron 55.08 294 *e*P **P 08 00 58.1 -0.3**
DLBC Dease Lake 55.71 39 *e*P **P 08 01 03.9 +1.3**
comp=Z,44nm,1.3s
GSI Gunungsitoli 56.09 238 *e*P **P 08 01 05.9 +0.1**
comp=Z,78nm,1.0s
NGP Nagpur 56.55 270 *e*P **P 08 01 08.4 -0.7**
NGP IAmb IAmb 08 01 09.8
comp=Z,34nm,0.8s
ABKAR Akbulak array 56.56 309 *e*P **P 08 01 08.6 -0.2**
BHPL Bhopal 56.63 274 *e*P **P 08 01 09.1 -0.5**
BHPL IAmb IAmb 08 01 10.4
comp=Z,36nm,0.8s
LEM Lembang 56.69 223 P **P 08 01 10.6 +0.4**
comp=Z,26nm,0.6s,baz=256,slow=22,SNR=5.6
KBL Kabul 57.07 290 *e*P **P 08 01 12.4 -0.5**
comp=Z,202nm,1.0s
KBL Kabul 57.07 290 *e*P **P 08 01 12.4 -0.5**
KBL pmax pmax
comp=Z,202nm,1.0s
SPA0 Spitsbergen Ar 57.63 349 *e*P **P 08 01 16.3 +0.4**
KBS Kingsbay 57.73 350 *i* P **P 08 01 17.6 +1.0**
KBS pmax pmax
comp=Z,238nm,1.1s
PRGR Permogore 58.60 326⇑*i*P **P 08 01 23.4 +0.5**
PRGR *e*SS **sS 08 09 49.3 +5.3**
PRGR pmax pmax
comp=Z,129nm,0.9s
HYB Hyderabad 59.10 267 *i* P **P 08 01 26.0 -1.1**
comp=Z,50nm,1.0s
HYB Hyderabad 59.10 267 *e*P **P 08 01 26.6 -0.5**
HYB IAmb IAmb 08 01 27.5
comp=Z,23nm,0.5s
RES Resolute Bay 59.39 15 *e*P **P 08 01 28.3 +0.1**
comp=Z,31nm,0.8s
RES Resolute Bay 59.39 15 *e*P **P 08 01 28.3 +0.1**
RES pmax pmax
comp=Z,31nm,0.8s
LVZ Lovozero 59.60 335 *e*P **P 08 01 29.7 -0.1**
comp=Z,45nm,1.2s
LVZ Lovozero 59.60 335 *e*P **P 08 01 29.7 -0.1**
LVZ pmax pmax
comp=Z,45nm,1.2s
FITZ Fitzroy Crossi 60.02 198 P **P 08 01 33.5 +0.4**
comp=Z,12nm,0.8s,baz=14,slow=6.5,SNR=20
FITZ LR LR 08 29 40.7
comp=Z,129nm,18.4s,baz=4.5,slow=38
FITZ Fitzroy Crossi 60.02 198 *e*P **P 08 01 33.0 -0.1**
comp=Z,39nm,1.1s
APA Apatity 60.18 335⇓*i*P **P 08 01 32.9 -0.8**
APA pmax pmax
comp=Z,29nm,1.0s
APA MLR MLR
comp=Z,1μm,17.0s
WRAB Tennant Creek 60.24 189 *e*P **P 08 01 33.9 -0.8**
comp=Z,29nm,0.8s
WRAB Tennant Creek 60.24 189 *i* P **P 08 01 33.3 -1.3**
WRAB pmax pmax
comp=Z,23nm,0.9s
WB2 Warramunga Arr 60.25 189 *e*P **P 08 01 33.8 -0.9**
WR1 Warramunga Arr 60.25 189 *e*P **P 08 01 33.8 -0.9**
comp=Z,27nm,0.8s
WRA Warramunga Arr 60.25 189 P **P 08 01 33.8 -0.9**
comp=Z,13nm,0.7s,baz=6.3,slow=7.0,SNR=128
WRA LR LR 08 27 24.9
comp=Z,313nm,21.6s,baz=10.0,slow=36
WRA PKPPKP P'P'df 08 31 06.3 +14
comp=Z,2.1nm,0.9s,baz=210,slow=2.0,SNR=7.9
WRA Warramunga Arr 60.25 189 P **P 08 01 33.8 -0.9**
WRA pmax pmax
comp=Z,14nm,0.7s
WRA MLR MLR
comp=Z,313nm,21.6s
MDRS Chennai 60.46 262 *e*P **P 08 01 36.0 -0.4**
YKW3 Yellowknife Ar 60.70 31 *e*P **P 08 01 37.6 +0.3**
comp=Z,18nm,1.1s
YKA Yellowknife Ar 60.73 31 P **P 08 01 38.1 +0.6**
comp=Z,6.2nm,0.8s,baz=301,slow=6.7,SNR=70
YKA PKPPKP **P'P'df 08 31 08.7 +6.5**
comp=Z,0.2nm,0.8s,baz=143,slow=2.1,SNR=4.0
YKA LR LR 08 31 10.0
comp=Z,22nm,19.3s,baz=306,slow=39
YKB5 Yellowknife Ar 60.73 31 *e*P **P 08 01 37.1 -0.4**
KEV Kevo 60.82 339 *e*P **P 08 01 37.7 -0.3**
comp=Z,42nm,1.0s
KEV Kevo 60.82 339 *e*P **P 08 01 37.7 -0.3**
KEV pmax pmax
comp=Z,42nm,1.0s
KEV Kevo 60.82 339 *e*P **P 08 01 37.9 -0.1**
HAMF Hammerfest 61.14 340 *e*P **P 08 01 40.2 0.0**
ARA0 ARCESS Array S 61.37 339 *e*P **P 08 01 42.2 +0.4**
ARCES ARCESS Array B 61.37 339 P **P 08 01 42.2 +0.4**
comp=Z,17nm,0.8s,baz=50,slow=8.0,SNR=26
ARCES LR LR 08 33 03.6
comp=Z,47nm,18.1s,baz=48,slow=41
ARE0 ARCESS Array S 61.37 339 *e*P **P 08 01 42.2 +0.5**
comp=Z,2.0nm,1.1s
ARE0 ARCESS Array S 61.37 339 *e*P **P 08 01 42.3 +0.5**
KLMR Klimovskoe 61.56 327 *e*P **P 08 01 40.7 -2.4**
KLMR *e* 08 03 56.8
KLMR pmax pmax
comp=Z,131nm,1.3s
KLMR Klimovskoe 61.56 327 *e*P **P 08 01 40.7 -2.4**
KLMR AMP 08 01 45.2
comp=Z,131nm,1.2s
KLMR *ePP **PP 08 03 56.8 -1.7**
TULEG Thule 61.91 8 *e*P **P 08 01 44.7 -0.6**
comp=Z,43nm,0.9s
POO Poona 62.05 271 *e*P **P 08 01 46.4 -0.8**
KTK1 Kautokeino 62.32 339 *e*P **P 08 01 48.0 -0.3**
KTK1 IAmb IAmb 08 01 50.2
comp=Z,30nm,1.1s
KTK1 *e*S **S 08 10 07.6 -3.4**
BHJ Bhuj 62.54 278 *e*P **P 08 01 50.1 -0.3**
TRO Tromso 63.03 341 *e*P **P 08 01 52.9 +0.1**
GEYT Alibeck 63.04 298 P **P 08 01 53.7 +0.2**
comp=Z,84nm,1.0s,baz=29,slow=3.4,SNR=85
GEYT LR LR 08 31 11.0
comp=Z,810nm,18.6s,baz=65,slow=38
GYA0B ALIBECK ARRAY 63.04 298 *e*P **P 08 01 53.7 +0.2**
comp=Z,94nm,1.1s
PALK Pallekele 63.82 257 P **P 08 01 58.7 -0.3**
comp=Z,6.0nm,0.8s,baz=118,slow=4.0,SNR=4.0
GOA Goa 63.88 269 *e*P **P 08 01 59.3 +0.1**
AS01 Alice Springs 63.97 189 *e*P **P 08 01 59.1 -0.5**
AS31 Alice Springs 63.98 189 *e*P **P 08 01 59.6 -0.1**
comp=Z,3.7nm,0.7s
ASAR Alice Springs 63.98 189 P **P 08 01 59.5 -0.2**
comp=Z,10nm,1.0s,baz=7.3,slow=5.3,SNR=47
ASAR LR LR 08 29 28.5
comp=Z,650nm,21.9s,baz=11,slow=36
ASAR PKPPKP P'P'df 08 31 04.0 +18
comp=Z,0.8nm,0.9s,baz=170,slow=2.9,SNR=3.2
NLWA Neilton Lookou 64.06 49 *e*P **P 08 02 01.5 +1.4**
comp=Z,186nm,1.9s
D03D Eidon 64.43 48 P **P 08 02 04.3 +1.8**
baz=302
MBWA Marble Bar 64.55 203 *e*P **P 08 02 02.8 -0.7**
comp=Z,37nm,1.1s
B05A Bryant 64.61 47 P **P 08 02 05.5 +1.9**
baz=302
B06A Marblemount 64.81 47 *e*P **P 08 02 06.2 +1.3**
comp=Z,41nm,1.4s
STEI Steigen 65.19 341 *e*P **P 08 02 07.7 +0.6**
STEI IAmb IAmb 08 02 08.6
comp=Z,38nm,1.1s
STEI IAMs_20 IAMs_20 08 11 11.1
comp=Z,930nm,4.7s
MOS Moscow 65.23 323 *e*P **P 08 02 05.1 -2.4**
MOS *e* 08 02 16.1
MOS *e* 08 04 37.6
MOS *e*S S 08 11 08.5 +21
MOS pmax pmax
comp=Z,171nm,1.3s
MOS MLR MLR
comp=Z,2μm,16.0s
D05A Enumclaw 65.25 48 *e*P **P 08 02 08.8 +0.9**
comp=Z,73nm,1.4s
E04D Cinebar 65.26 49 P **P 08 02 10.0 +2.1**
baz=303
LON Longmire 65.59 49 *e*P **P 08 02 10.8 +0.7**
comp=Z,69nm,1.9s
LON Longmire 65.59 49 *e*P **P 08 02 10.8 +0.7**
LON pmax pmax
comp=Z,69nm,1.9s
EIDS Eidsvold 65.68 171 *e*P **P 08 02 11.4 +0.7**
comp=Z,14nm,0.8s
EIDS *e*pP **pP 08 02 24.1 +1.1**
VRH Novokhopyorsk 65.81 317 *e*P **P 08 02 10.6 -0.7**
VRH pmax pmax
comp=Z,140nm,1.0s
VRH MLR MLR
comp=Z,4μm,16.0s
DZM Mont Dzumac 65.83 156 *e*P P 08 02 25.8 +14
comp=Z,165nm,1.3s
DZM *e*S S 08 11 06.7 +11
comp=Z,395nm,27.4s
DZM Mont Dzumac 65.83 156 *e*LR LR 08 22 13.7
comp=Z,2μm,22.6s
DZM Mont Dzumac 65.83 156 *e*P **P 08 02 12.5 +0.7**
comp=Z,71nm,1.2s
DZM *e*pP **sP 08 02 28.7 -0.4**
TRD Trivandrum 65.83 260 *e*P **P 08 02 12.2 +0.2**
PUL Pulkovo 65.92 329 *i* P **P 08 02 11.9 0.0**
PUL pmax pmax
comp=Z,111nm,1.1s
LTY Liberty 65.96 48 *e*P **P 08 02 13.2 +0.7**
comp=Z,22nm,1.1s
OBN Obninsk 66.08 323 *e*P **P 08 02 12.7 -0.3**
comp=Z,88nm,0.9s
OBN Obninsk 66.08 323⇑*i*P **P 08 02 13.2 +0.2**
OBN Obninsk 66.08 323*c i*P **P 08 02 13.0 0.0**
OBN *e* 08 02 44.8
OBN *e* 08 04 39.0
OBN *e*PPP PPP 08 06 13.5
OBN pmax pmax
comp=Z,128nm,1.1s
OBN MLR MLR
comp=Z,2μm,16.0s
B08A Colville Reser 66.10 46 *e*P **P 08 02 13.7 +0.4**
comp=Z,28nm,1.1s
LPSR Galich'ya Gora 66.43 320 *e*P **P 08 02 15.3 0.0**
LPSR pmax pmax
comp=Z,200nm,1.0s
LPSR MLR MLR
comp=Z,270nm,7.0s
FIA1 FINESS Array S 66.43 332 *e*P **P 08 02 14.8 -0.3**
comp=Z,89nm,1.0s
FIA0 FINESS Array S 66.43 332 *e*P **P 08 02 15.3 +0.2**
FIA0 FINESS Array S 66.43 332 *e*P **P 08 02 15.3 +0.2**
FINES FINESS Array B 66.43 332 P **P 08 02 15.3 +0.2**
comp=Z,42nm,0.9s,baz=48,slow=8.5,SNR=56
FINES LR LR 08 33 34.9
comp=Z,2μm,19.5s,baz=44,slow=38
H04A Detroit Lake 66.51 51 *e*P **P 08 02 16.5 +0.5**
MOR8 Moi Rana 66.72 340 *e*P **P 08 02 15.4 -1.6**
E07A Sunnyside 66.82 48 *e*P **P 08 02 18.8 +0.8**
comp=Z,66nm,1.6s
I04A Tendick Farm, 66.87 52 P **P 08 02 20.2 +1.9**
baz=304
C09A Chrisman Ranch 67.00 46 *e*P **P 08 02 19.8 +0.7**
comp=Z,66nm,1.5s
D08A Wollman Farm, 67.06 47 *e*P **P 08 02 20.0 +0.6**
comp=Z,19nm,1.0s
HAWA Hanford 67.09 48 *e*P **P 08 02 20.4 +0.7**
comp=Z,65nm,1.7s
G06A Carlson Farm, 67.11 50 *e*P **P 08 02 20.9 +1.0**
comp=Z,70nm,1.8s
G06A *e*pP **pP 08 02 32.6 +0.4**
VSR Storozhevoye 67.12 318*c i*P **P 08 02 19.6 -0.1**
VSR pmax pmax
comp=Z,158nm,1.0s
F07A Phinny Hill Vi 67.15 49 *e*P **P 08 02 20.4 +0.4**
comp=Z,73nm,1.5s
F07A *e*pP **pP 08 02 31.4 -1.0**
MAK Makhachkala 67.17 307 *e*P **P 08 02 20.0 -0.2**
MAK *e*S **S 08 11 13.5 +2.1**
MAK pmax pmax
comp=Z,262nm,1.1s
HUMO Hull Mountain 67.20 53 *e*P **P 08 02 21.4 +1.0**
comp=Z,60nm,1.8s
HUMO *e*pP **pP 08 02 34.7 +1.9**
I05D Terrebonne, OR 67.20 51 P **P 08 02 22.0 +1.5**
baz=304
E08A Dider Farm, El 67.31 48 *e*P **P 08 02 21.3 +0.3**
comp=Z,68nm,1.6s
J04D Umpqua Nationa 67.36 52 P **P 08 02 23.1 +1.5**
baz=304
NEW Newport 67.37 45 *e*P **P 08 02 22.4 +1.0**
comp=Z,64nm,1.5s
NEW Newport 67.37 45 *e*P **P 08 02 22.4 +1.0**
NEW pmax pmax
comp=Z,64nm,1.5s
SUMG Summit 67.57 0 *e*P **P 08 02 23.6 +0.8**
comp=Z,57nm,1.0s
SUMG Summit 67.57 0 *i* P **P 08 02 23.9 +1.2**
comp=Z,151nm,1.0s
SUMG Summit 67.57 0 *i* P **P 08 02 23.9 +1.2**
SUMG pmax pmax
comp=Z,150nm,1.0s
PINE Pine Mountain 67.75 51 *e*P **P 08 02 24.9 +0.8**
comp=Z,142nm,1.8s
E09A Wood Farm, Sta 67.81 47 *e*P **P 08 02 25.5 +1.3**
L04D Klamath Falls 67.82 53 P **P 08 02 26.1 +1.6**
baz=305
YBH Yreka Blue Hor 67.84 54 *e*P **P 08 02 25.9 +1.3**
comp=Z,51nm,1.6s
YBH Yreka Blue Hor 67.84 54 *e*P **P 08 02 25.9 +1.3**
YBH pmax pmax
comp=Z,51nm,1.6s
J05D Fort Rock, OR 67.86 52 P **P 08 02 26.6 +1.8**
baz=305
AKT Akhty 67.87 306 *i* P **P 08 02 25.0 +0.2**
AKT pmax pmax
comp=Z,120nm,1.0s
M02C Callahan 67.95 54 P **P 08 02 28.0 +2.7**
baz=305
G08A Pilot Rock 68.05 49 *e*P **P 08 02 26.9 +1.0**
comp=Z,16nm,1.4s
GROC Groznyy 68.07 308 *e*P P 08 02 31.2 +5.4
GROC *e* 08 05 00.4
GROC pmax pmax
comp=Z,81nm,1.2s
VSU Vasula 68.17 329*c i*P **P 08 02 26.4 +0.2**
VSU pmax pmax
comp=Z,182nm,1.0s
VSU Vasula 68.17 329 *e*P **P 08 02 26.5 +0.2**
VSU IAmb IAmb 08 02 27.4
comp=Z,204nm,1.1s
N02D Trinity Center 68.28 54 P **P 08 02 29.6 +2.2**
baz=305
M04C Macdoel 68.35 53 P **P 08 02 29.6 +1.8**
baz=305
WDC Whiskeytown Da 68.61 55 *e*P **P 08 02 30.7 +1.5**

comp=Z,22nm,1.2s
WDC epP sP 08 02 44.7 -1.8
WDC Whiskeytown Da 68.61 55 eP **P 08 02 30.7 +1.5**
WDC e*PP **sP 08 02 44.7 -1.8**
WDC pmax pmax
comp=Z,23nm,1.2s
GOF Gofitskoye 68.62 311⇑iP **P 08 02 30.0 +0.8**
GOF pmax pmax
comp=Z,210nm,1.0s
WALA Waterton Lakes 68.62 43 eP **P 08 02 30.1 +0.7**
comp=Z,85nm,1.6s
F10A Beach Ranch, E 68.64 47 eP **P 08 02 30.8 +1.3**
comp=Z,16nm,1.0s
F10A epP **pP 08 02 42.2 +0.3**
NSS Namsos 68.65 339 eP **P 08 02 29.7 +0.6**
NSS IAmb IAmb 08 02 30.6
comp=Z,28nm,1.1s
O02D Mt. Diablo Mer 68.68 55 P **P 08 02 32.1 +2.3**
baz=305
MNCY Minicoy 68.97 263 eP **P 08 02 32.4 +0.6**
SCO Scoresbysund 69.10 354 eP **P 08 02 32.3 +0.6**
comp=Z,111nm,1.9s
SCO Scoresbysund 69.10 354 i P **P 08 02 32.7 +0.9**
comp=Z,17nm,1.1s
SCO Scoresbysund 69.10 354 i P **P 08 02 32.7 +0.9**
SCO pmax pmax
comp=Z,17nm,1.1s
PYA1 Pyatigorsk 69.17 310 i P **P 08 02 32.8 +0.1**
NCK Nalchik 69.21 310 i P **P 08 02 33.0 0.0**
NCK pmax pmax
comp=Z,94nm,1.0s
JTMT Jette 69.22 45 eP **P 08 02 34.4 +1.2**
comp=Z,32nm,1.1s
MOD Modoc Plateau 69.22 52 eP **P 08 02 34.4 +1.1**
comp=Z,7.5nm,0.8s
O03E Paynes Creek 69.23 54 P **P 08 02 35.0 +1.8**
baz=306
BMO Blue Mountains 69.26 48 eP **P 08 02 34.4 +1.0**
comp=Z,23nm,1.4s
BMO Blue Mountains 69.26 48 eP **P 08 02 34.4 +1.0**
BMO pmax pmax
comp=Z,23nm,1.4s
ZEI Tsey 69.44 309 eP **P 08 02 30.6 -4.1**
ZEI pmax pmax
comp=Z,71nm,1.0s
J08A Circle Bar Ran 69.46 50 eP **P 08 02 35.6 +0.9**
comp=Z,48nm,1.5s
KIV Kislovodsk 69.47 311 eP **P 08 02 35.3 +0.6**
comp=Z,239nm,1.0s
KIV Kislovodsk 69.47 311 eP **P 08 02 35.5 +0.8**
KIV e 08 02 59.1
KIV eS **S 08 11 39.3 +0.4**
KIV pmax pmax
comp=Z,285nm,1.1s
KIV pmax pmax
comp=Z,153nm,3.7s
KIV MLR MLR
comp=Z,2µm,17.0s
KBZ Khabaz 69.48 310 P **P 08 02 35.5 +0.9**
comp=Z,60nm,0.9s,baz=45,slow=3.5,SNR=52
KBZ LR LR 08 35 35.8
comp=Z,1µm,20.6s,baz=40,slow=38
TBLG Delisi 69.56 308 eP **P 08 02 35.7 +0.5**
comp=Z,94nm,1.1s
TBLG Delisi 69.56 308 eP **P 08 02 35.7 +0.5**
TBLG pmax pmax
comp=Z,94nm,1.1s
SHA1 Shidzhatmaz 69.61 310 i P **P 08 02 36.6 +0.8**
ORV Oroville 69.85 55 eP **P 08 02 38.4 +1.4**
comp=Z,36nm,1.5s
ORV Oroville 69.85 55 eP **P 08 02 38.4 +1.4**
ORV pmax pmax
comp=Z,36nm,1.5s
WVOR Wild Horse Val 69.91 51 eP **P 08 02 38.8 +1.3**
comp=Z,70nm,1.8s
WVOR Wild Horse Val 69.91 51 eP **P 08 02 38.8 +1.3**
WVOR pmax pmax
comp=Z,70nm,1.8s
MSO Missoula 69.96 45 eP **P 08 02 38.7 +1.0**
comp=Z,40nm,1.4s
IZAR Zarasai 70.21 327 eP **P 08 02 39.6 +0.7**
IZAR IAmb IAmb 08 02 41.1
comp=Z,25nm,1.0s
IDID Didziasalis 70.30 327 eP **P 08 02 40.2 +0.8**
IDID IAmb IAmb 08 02 41.8
comp=Z,35nm,0.9s
BEKR Beckworth 70.38 54 eP **P 08 02 41.6 +1.2**
comp=Z,46nm,1.5s
ISAL Salakas 70.38 327 eP **P 08 02 40.7 +0.8**
ISAL IAmb IAmb 08 02 42.3
comp=Z,54nm,0.9s
DOMR Dombai 70.48 310 i P **P 08 02 41.8 +0.8**
DOMR pmax pmax
comp=Z,69nm,1.0s
GNI Garni 70.48 306 eP **P 08 02 41.4 +0.3**
comp=Z,105nm,1.1s
GNI Garni 70.48 306 i P **P 08 02 41.9 +0.8**
SNR=12
GNI Garni 70.48 306 i P **P 08 02 40.5 -0.6**
GNI pmax pmax
comp=Z,91nm,1.2s
GNI Garni 70.48 306 P **P 08 02 42.6 +1.5**
SNR=6.7
GNI P **P 08 02 42.6 +1.5**
SNR=6.7
IIGN Ignalina 70.49 327 eP **P 08 02 41.6 +1.0**
IIGN IAmb IAmb 08 02 43.0
comp=Z,45nm,0.9s
AKH Akhalkalaki 70.50 308 eP **P 08 02 41.5 +0.3**
comp=Z,46nm,1.0s
AKH Akhalkalaki 70.50 308⇓iP **P 08 02 42.6 +1.4**
AKH Akhalkalaki 70.50 308 eP **P 08 02 41.5 +0.3**
AKH pmax pmax
comp=Z,46nm,1.0s
AFDM Forest Hills D 70.54 55 eP **P 08 02 41.9 +0.7**
comp=Z,21nm,1.4s
NACGM Naroch 70.56 326 eP **P 08 02 41.0 0.0**
NACGM PM 08 02 42.0
comp=Z,0.4nm,1.0s
NACGM eLQ LQ 08 32 18.0
NACGM eLR LR 08 34 08.0
NACGM LRM MLR 08 35 54.0
comp=Z,2.9nm,18.0s
FFC Flin Flon 70.67 34 eP **P 08 02 42.0 +0.3**
comp=Z,55nm,1.3s
FFC Flin Flon 70.67 34 eP **P 08 02 42.0 +0.3**
FFC pmax pmax
comp=Z,55nm,1.3s
WSAR Wadi Sarin 70.83 285 P **P 08 02 43.8 +0.5**
comp=Z,16nm,0.9s,baz=101,slow=4.8,SNR=7.6
FCC Fort Churchill 70.87 27 eP **P 08 02 43.3 +0.5**
comp=Z,94nm,1.3s
FCC Fort Churchill 70.87 27 eP **P 08 02 43.3 +0.5**
FCC pmax pmax
comp=Z,94nm,1.3s
JLN Jalan Bani Buh 70.89 283 P **P 08 02 43.9 +0.3**
SNR=9.2
BANOM Banah 70.97 288 i P **P 08 02 44.9 +0.8**
SNR=10
MFID Camas Ranch 70.97 49 eP **P 08 02 44.1 +0.1**
comp=Z,55nm,1.6s
SHME Shamm 71.01 288 i P **P 08 02 44.6 +0.2**
SNR=12
BIDO Bidbid 71.04 285 P **P 08 02 45.9 +1.5**
SNR=8.1
PAHR Pah Rah Range 71.08 54 eP **P 08 02 45.9 +1.2**
comp=Z,56nm,1.6s
HRY Holter Researc 71.17 44 eP **P 08 02 46.1 +1.0**
KARS Kars 71.22 308 eP **P 08 02 46.6 +1.1**
comp=Z,224nm,1.0s
KARS Kars 71.22 308 eP **P 08 02 46.6 +1.1**
KARS pmax pmax
comp=Z,224nm,1.0s
PABE Paberze 71.31 328 eP **P 08 02 46.1 +0.6**
PABE IAmb IAmb 08 02 47.6
comp=Z,164nm,1.1s
MDH Madha 71.34 288 P **P 08 02 46.1 -0.2**
MSFE Esma-Masafi 71.40 288 i P **P 08 02 46.8 0.0**
SNR=10.0
MOL Molde 71.41 340 eP **P 08 02 45.7 -0.3**
SOC Sochi 71.41 312 eP P 08 02 41.3 -5.1
SOC e*PP pP 08 03 00.5 +1.5
SOC e 08 05 20.2
SOC ePPP PPP 08 07 06.3
SOC eS **S 08 11 54.6 -6.7**
SOC MLR MLR

comp=Z,1µm,19.0s
NC405 NORSAR Array S 71.41 337 eP **P 08 02 46.5 +0.4**
NC303 NORSAR Array S 71.43 337 eP **P 08 02 46.5 +0.3**
DOMB Dombas 71.43 339 eP **P 08 02 46.7 +0.5**
EGMT Eagleton 71.43 42 eP **P 08 02 47.5 +0.9**
comp=Z,45nm,1.0s
CMB Columbia Colle 71.45 56 eP **P 08 02 47.7 +0.9**
comp=Z,32nm,1.4s
NC204 NORSAR Array S 71.56 338 eP **P 08 02 47.3 +0.2**
NB201 NORSAR Array S 71.59 337 eP **P 08 02 47.5 +0.2**
DLMT Dillon 71.60 46 eP **P 08 02 48.4 +0.7**
comp=Z,59nm,1.3s
YERR Yerington 71.60 54 eP **P 08 02 48.4 +0.5**
comp=Z,94nm,1.8s
BCA Borcka 71.60 309⇑iP **P 08 02 48.0 +0.4**
UOSS Minazif 71.62 287 eP **P 08 02 47.4 -0.6**
comp=Z,82nm,1.0s
NB2 NORSAR Subarra 71.62 337 P **P 08 02 47.4 0.0**
comp=Z,73nm,1.1s,baz=37,slow=6.2
NB2 NORSAR Subarra 71.62 337 P **P 08 02 44.7 -2.7**
NB2 pmax pmax
comp=Z,73nm,1.2s
NB2 NORSAR Subarra 71.62 337 P **P 08 02 47.4 0.0**
baz=37,slow=6.2
NB200 NORSAR Array S 71.62 337 eP **P 08 02 47.6 +0.2**
NOA NORSAR Array B 71.62 337 P **P 08 02 47.6 +0.2**
comp=Z,32nm,1.0s,baz=37,slow=6.0,SNR=62
NOA LR LR 08 36 59.2
comp=Z,2µm,21.9s,baz=35,slow=38
STKA Stephens Creek 71.67 181 P **P 08 02 47.2 -0.6**
comp=Z,2.5nm,0.9s,baz=320,slow=11,SNR=3.5
STKA LR LR 08 31 37.6
comp=Z,302nm,21.9s,baz=15,slow=34
STKA Stephens Creek 71.67 181 eP **P 08 02 47.8 -0.1**
comp=Z,1.2nm,0.7s
STKA Stephens Creek 71.67 181 eP **P 08 02 47.8 -0.1**
HLID Hailey 71.70 48 eP **P 08 02 49.7 +1.3**
comp=Z,26nm,1.4s
HATD Hatta, Dubai 71.74 287 i P **P 08 02 49.1 +0.4**
SNR=19
HATD Hatta, Dubai 71.74 287 P **P 08 02 49.5 +0.8**
SNR=8.2
NBO00 NORSAR Array S 71.76 337 eP **P 08 02 48.3 +0.1**
WAKR Walker 71.76 55 eP **P 08 02 49.5 +0.6**
comp=Z,38nm,1.7s
NC602 NORSAR Array S 71.77 337 eP **P 08 02 48.1 -0.1**
NC602 NORSAR Array S 71.77 337 eP **P 08 02 47.3 -0.9**
NC602 IAmb IAmb 08 02 59.0
comp=Z,84nm,0.8s
NORES NORESS Array B 71.77 337 P **P 08 02 50.0 +1.8**
SOHO SOHO 71.85 286 P **P 08 02 49.7 +0.3**
SNR=11
SOHO P **P 08 02 49.7 +0.3**
SNR=11
NAO01 NORSAR Array S 71.87 337 eP **P 08 02 48.9 0.0**
ASHO Ashiyiah 71.88 287 i P **P 08 02 49.7 +0.1**
SNR=16
ASHO Ashiyiah 71.88 287 P **P 08 02 50.0 +0.4**
SNR=7.4
BOZ Bozeman (W) 71.98 45 eP **P 08 02 50.5 +0.5**
comp=Z,36nm,1.1s
BOZ Bozeman (W) 71.98 45 eP **P 08 02 50.5 +0.5**
BOZ pmax pmax
comp=Z,36nm,1.1s
FAQ Al Faqa, Dubai 72.18 288 i P **P 08 02 51.0 -0.3**
SNR=7.4
RYN Ryan 72.26 54 eP **P 08 02 53.1 +1.3**
comp=Z,45nm,1.7s
KVN Kaiserville 72.27 54 eP **P 08 02 52.8 +0.9**
comp=Z,74nm,1.6s
KVN Kaiserville 72.27 54 eP **P 08 02 52.8 +0.9**
KVN pmax pmax
comp=Z,74nm,1.6s
AKASG Malin Array Be 72.32 322 P **P 08 02 51.9 +0.1**
comp=Z,11nm,0.5s,baz=43,slow=6.5,SNR=93
AKASG LR LR 08 37 53.0
comp=Z,1µm,19.6s,baz=30,slow=38
AKBB Malin Array Si 72.32 322 eP **P 08 02 51.8 +0.1**
comp=Z,89nm,1.0s
KIEV Kiev 72.33 322 eP **P 08 02 51.8 0.0**
comp=Z,95nm,1.1s
KIEV Kiev 72.33 322⇑iP **P 08 02 51.8 0.0**
KIEV Kiev 72.33 322 i P **P 08 02 51.8 0.0**
SNR=7.3
KIEV Kiev 72.33 322c iP **P 08 02 51.3 -0.5**
KIEV pmax pmax
comp=Z,81nm,1.1s
AK11 Malin Array Si 72.36 322 eP **P 08 02 51.6 -0.3**
ASUD Al Ashush, Dub 72.44 288 i P **P 08 02 53.3 +0.4**
SNR=7.9
ALNE Al Ain 72.47 287 i P **P 08 02 52.9 -0.2**
SNR=11
NV01 Mina Array Sit 72.52 54 eP **P 08 02 54.2 +0.8**
NVAR Mina Array Bea 72.52 54 P **P 08 02 54.3 +0.9**
comp=Z,2.2nm,0.7s,baz=282,slow=5.9,SNR=14
NVAR LR LR 08 30 37.5
comp=Z,194nm,20.3s,baz=290,slow=32
OMMB Old Mammoth Mi 72.58 55 epP pP 08 03 04.7 -1.7
NV11 Mina Array Sit 72.61 54 eP **P 08 02 54.5 +0.6**
comp=Z,4.1nm,1.8s
MHTO MHTO 72.66 283 P **P 08 02 54.5 +0.3**
SNR=43
MHTO P **P 08 02 54.5 +0.3**
SNR=43
MLAC Mammoth, Mammo 72.67 55 P **P 08 02 56.9 +2.5**
baz=308
SUW Suwalki 72.69 327 eP **P 08 02 53.9 +0.1**
SUW Suwalki 72.69 327 eP **P 08 02 54.0 +0.1**
comp=Z,97nm,1.1s
SUW Suwalki 72.69 327 eP **P 08 02 54.0 +0.1**
SUW pmax pmax
comp=Z,97nm,1.1s
SFJD Kangerlussuaq 72.72 5 i P **P 08 02 53.4 -0.4**
comp=Z,26nm,0.9s
SFJD Kangerlussuaq 72.72 5 i P **P 08 02 53.4 -0.4**
SFJD pmax pmax
comp=Z,26nm,0.9s
SFJD Kangerlussuaq 72.72 5 eP **P 08 02 55.0 +1.2**
YHB Horse Butte 72.75 46 eP **P 08 02 55.5 +0.8**
comp=Z,24nm,1.0s
PAGB Antelope Grade 72.92 58 epP pP 08 03 09.7 +1.6
YMR Madison River 72.93 46 eP **P 08 02 56.0 +0.2**
comp=Z,116nm,1.9s
HYA Hoyanger 72.94 339 eP **P 08 02 55.9 +0.7**
HYA IAmb IAmb 08 02 58.4
comp=Z,44nm,1.2s
HYA eS **S 08 12 20.8 +2.6**
ELK Elko 72.96 51 eP **P 08 02 55.9 -0.1**
comp=Z,7.0nm,0.9s
ELK Elko 72.96 51 eP **P 08 02 55.9 -0.1**
ELK pmax pmax
comp=Z,7.0nm,0.9s
YNR Norris Junctio 73.06 45 eP **P 08 02 56.6 0.0**
comp=Z,32nm,1.3s
YFT Old Faithful 73.14 46 eP **P 08 02 57.7 +0.7**
comp=Z,22nm,1.1s
KONO Kongsberg 73.22 337 eP **P 08 02 56.9 0.0**
comp=Z,29nm,1.1s
KONO Kongsberg 73.22 337 eP **P 08 02 56.9 0.0**
KONO pmax pmax
comp=Z,29nm,1.1s
YPP Pitchstone Pla 73.28 46 eP **P 08 02 58.7 +0.8**
comp=Z,24nm,1.3s
YPP epP **pP 08 03 12.2 +1.9**
H17A Grant Village 73.32 46 eP **P 08 02 59.2 +1.1**
comp=Z,62nm,1.3s
H17A Grant Village 73.32 46 P **P 08 03 00.7 +2.6**
baz=310
SUE Sulen 73.41 340 eP **P 08 02 58.9 +1.0**
IMW Indian Meadow 73.44 46 eP **P 08 02 59.8 +0.9**
comp=Z,57nm,1.5s
FLWY Flagg Ranch 73.45 46 eP **P 08 02 59.9 +1.0**
comp=Z,84nm,1.5s
KLNR Kaliningrad 73.46 329 i P **P 08 02 58.3 -0.1**
KLNR pmax pmax
comp=Z,146nm,1.1s
RLMT Red Lodge 73.56 44 eP **P 08 03 00.0 +0.6**
comp=Z,82nm,1.7s
RLMT epP **pP 08 03 13.0 +1.0**
VES Vestal, Richgr 73.60 57 P **P 08 03 00.9 +1.3**
baz=308
DQM DQM 73.62 282 P **P 08 02 59.8 -0.1**
SNR=6.4
DQM P **P 08 02 59.8 -0.1**
SNR=6.4
MOOW Moose Ponds 73.64 46 eP **P 08 03 00.9 +0.9**
comp=Z,59nm,1.5s

SIM Simferopol' 73.66 315ceP **P 08 02 59.6 -0.2**
SIM eS SKSac 08 12 51.0 -12
SIM pmax pmax
comp=Z,62nm,1.1s
TPAW Teton Pass 73.70 47 eP **P 08 03 00.8 +0.4**
comp=Z,65nm,1.5s
PKM Mcpherson Peak 73.71 58 P **P 08 03 01.4 +0.9**
baz=308
HVU Hansel Valley 73.76 49 eP **P 08 03 01.4 +0.8**
comp=Z,11nm,1.0s
HVU Hansel Valley 73.76 49 eP **P 08 03 01.4 +0.8**
HVU pmax pmax
comp=Z,11nm,1.0s
ASK Askoy 73.78 339 eP **P 08 03 00.3 +0.2**
ASK eS **S 08 12 29.8 +2.1**
ASK IAmb IAmb 08 12 58.5
LOHW Long Hollow 73.81 46 eP **P 08 03 02.2 +1.3**
comp=Z,74nm,1.9s
LOHW epP **pP 08 03 11.5 -2.0**
BER Bergen 73.82 339 eP **P 08 03 01.2 +0.8**
BER IAmb IAmb 08 03 01.6
comp=Z,38nm,1.0s
BER IAMs_20 IAMs_20 08 13 53.9
comp=Z,1µm,4.6s
SNOW Snow King Moun 73.82 47 eP **P 08 03 02.2 +1.1**
comp=Z,19nm,1.0s
REDW Red Top Meadow 73.83 47 eP **P 08 03 02.1 +0.9**
comp=Z,52nm,1.5s
ODD1 Odda 73.86 339 eP **P 08 03 01.6 +0.9**
ODD1 IAmb IAmb 08 03 01.9
comp=Z,54nm,1.2s
CWC Cottonwood Cre 73.88 56 P **P 08 03 02.4 +1.0**
baz=308
DGMT Dagmar 73.93 39 eP **P 08 03 02.3 +1.0**
comp=Z,67nm,1.3s
DGMT epP **pP 08 03 14.8 +1.0**
ISA Isabella, Lake 74.10 57 eP **P 08 03 03.7 +1.1**
comp=Z,12nm,1.3s
ISA epP **PcP 08 03 16.3 -1.3**
ISA Isabella, Lake 74.10 57 eP **P 08 03 03.7 +1.1**
ISA e*PP **PcP 08 03 16.3 -1.3**
ISA pmax pmax
comp=Z,12nm,1.3s
ISA Isabella, Lake 74.10 57 P **P 08 03 03.7 +1.1**
baz=308
LAO LASA Array 74.12 42 eP **P 08 03 04.0 +1.5**
comp=Z,148nm,1.6s
BGU Big Grassy Mou 74.15 50 eP **P 08 03 04.2 +1.3**
comp=Z,15nm,1.3s
SPUT South Promonto 74.24 49 eP **P 08 03 04.8 +1.3**
comp=Z,38nm,1.6s
R11A Troy Canyon, C 74.25 53 eP **P 08 03 04.5 +1.0**
comp=Z,42nm,1.5s
R11A Troy Canyon, C 74.25 53 P **P 08 03 05.0 +1.4**
baz=309,SNR=5.5
DAC Darwin (Calif) 74.28 56 eP **P 08 03 04.9 +1.1**
comp=Z,14nm,1.2s
DAC Darwin (Calif) 74.28 56 eP **P 08 03 04.9 +1.1**
DAC pmax pmax
comp=Z,14nm,1.2s
MPMC Manual Prospec 74.49 56 P **P 08 03 06.4 +1.4**
baz=309
FURC Furnace Creek, 74.63 55 P **P 08 03 07.3 +1.7**
baz=309
TPNV Topopah Spring 74.71 55 eP **P 08 03 07.5 +1.3**
comp=Z,38nm,1.2s
TPNV Topopah Spring 74.71 55 eP **P 08 03 07.5 +1.3**
TPNV pmax pmax
comp=Z,38nm,1.2s
TPNV Topopah Spring 74.71 55 P **P 08 03 07.6 +1.3**
baz=309,SNR=7.1
DUG Dugway, Tooele 74.74 50 eP **P 08 03 07.5 +1.1**
comp=Z,18nm,1.1s
DUG Dugway, Tooele 74.74 50 eP **P 08 03 07.5 +1.1**
DUG pmax pmax
comp=Z,18nm,1.1s
KMY Karmoy 74.83 339 eP **P 08 03 07.5 +1.2**
KMY IAmb IAmb 08 03 09.8
comp=Z,48nm,1.3s
EDW2 Edwards Air Fo 74.89 57 P **P 08 03 08.7 +1.5**
baz=309
BW06 Boulder Array 74.94 46 eP **P 08 03 08.1 +0.5**
comp=Z,47nm,1.6s
PD31 Pinedale Array 74.94 46 eP **P 08 03 08.2 +0.6**
PDAR Pinedale Array 74.94 46 P **P 08 03 08.3 +0.8**
comp=Z,1.3nm,0.5s,baz=34,slow=0.3,SNR=19
PDAR Pinedale Array 74.94 46 eP **P 08 03 08.0 +0.4**
TCUT Toone Canyon 74.97 49 eP **P 08 03 08.6 +0.8**
comp=Z,165nm,2.0s
SNART Snartemo 75.00 337 eP **P 08 03 08.3 +1.0**
SNART IAmb IAmb 08 03 08.4
comp=Z,22nm,1.1s
KIS Kishinev 75.04 320⇑iP **P 08 03 06.5 -1.2**
comp=Z,180nm,1.4s
KIS epP **sP 08 03 24.0 -1.2**
KIS eL L 08 31 48.0
KIS LRM MLR 08 38 58.0
comp=Z,2µm,20.0s
KIS Kishinev 75.04 320⇑iP **P 08 03 06.5 -1.2**
KIS e*PP **sP 08 03 24.0 -1.2**
KIS e 08 03 29.5
KIS pmax pmax
comp=Z,180nm,1.4s
KIS MLR MLR
comp=Z,2µm,20.0s
CTU Camp Tracy 75.05 49 eP **P 08 03 09.2 +1.1**
comp=Z,21nm,1.4s
CTU epP **pP 08 03 20.1 -0.6**
PSUT Pine Spring 75.18 52 eP **P 08 03 09.7 +0.7**
comp=Z,12nm,1.0s
BEL Belsk 75.27 327 eP **P 08 03 10.8 +1.8**
BEL Belsk 75.27 327 eP **P 08 03 10.8 +1.8**
JLU Jordanelle 75.28 49 eP **P 08 03 10.5 +0.9**
comp=Z,37nm,1.7s
LVV L'vov 75.33 324 eP **P 08 03 09.8 +0.4**
LVV MLR MLR
comp=N,600nm,15.0s
LVV MLR MLR
comp=E,1µm,15.0s
LVV MLR MLR
comp=Z,1µm,16.0s
NLU North Lily Min 75.33 50 eP **P 08 03 10.8 +0.9**
comp=Z,17nm,1.1s
CUKAN kangal_SIVAS 75.41 309 i P **P 08 03 11.2 +1.0**
BFSC Mount Baldy Ra 75.51 57 P **P 08 03 12.4 +1.6**
baz=309
IAS Iasi 75.52 320⇓iP **P 08 03 11.1 +0.6**
IAS Iasi 75.52 320 ⇓P **P 08 03 11.1 +0.6**
MPU Maple Canyon 75.55 50 eP **P 08 03 12.2 +1.1**
comp=Z,12nm,1.0s
SHPR Sheep Range 75.67 54 eP **P 08 03 13.0 +1.3**
comp=Z,20nm,1.2s
HEC Hector,Ludlow 75.99 56 P **P 08 03 14.5 +1.0**
baz=309
PRAR RASCA 76.05 321⇑iP **P 08 03 14.5 +0.9**
KWP Kalwaria Pacla 76.06 324 eP **P 08 03 14.7 +1.2**
KWP Kalwaria Pacla 76.06 324 eP **P 08 03 13.6 0.0**
comp=Z,1µm,1.1s
KWP Kalwaria Pacla 76.06 324 eP **P 08 03 14.7 +1.2**
CCUT Cedar City 76.11 53 eP **P 08 03 15.2 +0.9**
comp=Z,28nm,1.5s
MSU Marysvale 76.20 51 eP **P 08 03 15.9 +1.0**
MSU epP **pP 08 03 28.9 +1.4**
MURC Murrieta 76.21 58 P **P 08 03 18.0 +3.2**
baz=309
SZCU Shurtz Canyon 76.25 52 eP **P 08 03 15.5 +0.4**
comp=Z,15nm,1.2s
TMUT Trail Mountain 76.27 50 ePcP **PcP 08 03 31.3 +4.2**
TLCR 76.28 318⇑iP **P 08 03 15.3 +0.4**
TLCR 76.28 318 ⇑P **P 08 03 15.3 +0.4**
BUR08 Bucovina Ar. S 76.34 322 eP **P 08 03 15.4 +0.1**
NWAO Narrogin (SRO) 76.35 202 P **P 08 03 14.8 -0.4**
comp=Z,11nm,1.0s,baz=239,slow=3.7,SNR=6.9
BUR04 Bucovina Ar. S 76.36 322 eP **P 08 03 15.4 0.0**
BURAR Bucovina Array 76.36 322⇑iP **P 08 03 16.0 +0.6**
BURAR Bucovina Array 76.36 322 ⇑P **P 08 03 16.0 +0.6**
BIZ Bicaz 76.41 321⇑iP **P 08 03 16.7 +1.1**
P17A Butcher Ranch, 76.43 50 eP **P 08 03 16.2 +0.2**
comp=Z,30nm,1.2s
ILGA Ilgaz 76.45 313 eP **P 08 03 16.4 +0.2**
comp=Z,128nm,1.2s
GMRC Granite Mounta 76.45 56 P **P 08 03 17.1 +0.9**
baz=310
ULM Lac du Bonnet 76.48 34 P **P 08 03 15.8 -0.1**
comp=Z,5.0nm,0.8s,baz=298,slow=7.2,SNR=7.4
ULM LR LR 08 39 08.9

comp=Z,228nm,18.4s,baz=319,slow=37
ULM Lac du Bonnet 76.48 34 *e*P **P 08 03 16.7 +0.8**
comp=Z,58nm,1.5s
ULM Lac du Bonnet 76.48 34 *e*P **P 08 03 16.7 +0.8**
ULM pmax pmax
comp=Z,58nm,1.5s
MTPU Mount Pierson 76.50 52 *e*P **P 08 03 17.4 +0.7**
comp=Z,13nm,1.1s
LCMT Little Creek M 76.53 53 *e*P **P 08 03 17.4 +0.8**
comp=Z,28nm,1.4s
Q16A Castle Valley 76.54 50 *e*P **P 08 03 17.3 +0.6**
comp=Z,47nm,1.7s
Q16A *e*PcP **sP 08 03 31.8 -2.3**
MDND Maddock 76.56 38 *e*P **P 08 03 17.4 +1.0**
comp=Z,144nm,1.3s
MDND *e*pP **pP 08 03 29.9 +1.0**
MDND Maddock 76.56 38 P **P 08 03 17.1 +0.6**
baz=316
CFR Carcaliu 76.64 318⇑*i*P **P 08 03 17.4 +0.5**
CFR Carcaliu 76.64 318⇑P **P 08 03 17.4 +0.5**
K22A Casper 76.69 45 *e*P **P 08 03 17.9 +0.4**
comp=Z,133nm,1.8s
K22A Casper 76.69 45 P **P 08 03 18.5 +1.0**
baz=313
ODBI Odobesti 76.77 319⇑*i*P **P 08 03 19.7 +2.1**
KNB Kanab 76.78 53 *e*P **P 08 03 19.0 +0.9**
comp=Z,52nm,1.5s
KNB Kanab 76.78 53 *e*P **P 08 03 19.0 +0.9**
KNB pmax pmax
comp=Z,52nm,1.5s
VRI Vrincioaia 76.86 320⇑*i*P **P 08 03 19.1 +0.9**
VRI Vrincioaia 76.86 320⇑P **P 08 03 19.2 +1.0**
OJC Ojcow 76.89 326 *e*P **P 08 03 19.1 +0.8**
OJC Ojcow 76.89 326 *e*P **P 08 03 18.8 +0.6**
comp=Z,80nm,1.1s
OJC Ojcow 76.89 326 *e*P **P 08 03 19.1 +0.8**
PLOR Plostina 76.91 320⇑*i*P **P 08 03 19.5 +1.1**
PLOR Plostina 76.91 320⇑P **P 08 03 19.6 +1.1**
RWWY Rawlins 76.96 46 *e*P **P 08 03 19.8 +0.7**
comp=Z,70nm,1.6s
RWWY *e*pP **pP 08 03 32.1 +0.4**
UZH Uzhgorod 76.97 324 *e*P **P 08 03 18.5 -0.2**
UZH *e* 08 03 27.0
UZH *i* 08 03 30.6
RSSD Black Hills 77.00 43 *e*P **P 08 03 19.8 +0.5**
comp=Z,122nm,1.9s
RSSD Black Hills 77.00 43 *e*P **P 08 03 19.8 +0.5**
RSSD pmax pmax
comp=Z,122nm,1.9s
TLB Topalu 77.10 318⇓*i*P **P 08 03 20.3 +0.8**
TLB Topalu 77.10 318 ⇓P **P 08 03 20.3 +0.8**
ARCR ARCALIA 77.14 322⇓*i*P **P 08 03 21.7 +2.0**
IRM Iron Mountain 77.17 56 P **P 08 03 21.3 +1.1**
baz=310
TRPA Tarpa 77.23 323⇑*i*P **P 08 03 21.3 +1.2**
TRPA Tarpa 77.23 323⇑*e*P **P 08 03 21.0 +0.9**
NIE Niedzica 77.28 325 *e*P **P 08 03 21.7 +1.2**
NIE Niedzica 77.28 325 *e*P **P 08 03 21.7 +1.2**
BC3 Big Chuckawall 77.30 57 P **P 08 03 21.9 +0.9**
baz=310
W13A Hualapai Mount 77.36 55 *e*P **P 08 03 22.3 +0.8**
comp=Z,8.5nm,0.9s
BR101 Keskin Array S 77.37 312 *e*P **P 08 03 21.9 +0.6**
BR131 Keskin Array S 77.37 312 *e*P **P 08 03 21.5 +0.2**
BR131 Keskin Array S 77.37 312 P **P 08 03 22.2 +0.8**
SNR=9.9
BRTR Keskin Array B 77.38 312 P **P 08 03 21.9 +0.6**
comp=Z,25nm,1.0s,baz=72,slow=4.0,SNR=42
BRTR PP **PP 08 06 16.1 +0.6**
comp=Z,2.5nm,0.8s,baz=64,slow=2.9,SNR=4.5
BRTR LR LR 08 42 52.5
comp=Z,568nm,19.6s,baz=44,slow=40
BRTR Keskin Array B 77.38 312 *i* P **P 08 03 21.8 +0.5**
BRTR pmax pmax
comp=Z,25nm,1.0s
PGOR Pogoanele 77.41 319⇑*i*P **P 08 03 23.1 +1.9**
O20A White River Ci 77.43 48 *e*P **P 08 03 22.3 +0.6**
comp=Z,20nm,1.0s
O20A White River Ci 77.43 48 P **P 08 03 22.1 +0.4**
baz=312
DOPR Dopca 77.45 320⇑*i*P **P 08 03 23.1 +1.6**
ISR Istrita 77.48 319⇑*i*P **P 08 03 23.2 +1.5**
ISR Istrita 77.48 319⇑P **P 08 03 23.2 +1.5**
U15A North Rim 77.49 53 *e*P **P 08 03 23.1 +0.9**
comp=Z,28nm,1.2s
MLR Muntele Rosu 77.52 320 *e*P **P 08 03 22.8 +0.8**
comp=Z,70nm,1.5s
MLR Muntele Rosu 77.52 320 *e*P **P 08 03 22.8 +0.8**
MLR pmax pmax
comp=Z,70nm,1.5s
ICOR Ion Corvin 77.55 318⇑*i*P **P 08 03 23.4 +1.4**
RUE Ruedersdorf 77.56 331 *e*P **P 08 03 22.7 +0.8**
comp=Z,113nm,1.7s,baz=35,slow=5.4
BSEG Bad Segeberg 77.64 333 *e*P **P 08 03 23.1 +0.8**
comp=Z,46nm,1.1s,baz=35,slow=5.4
ANTO Ankara 77.76 312 *e*P **P 08 03 24.1 +0.7**
comp=Z,109nm,1.1s
ANTO Ankara 77.76 312⇑*i*P **P 08 03 23.9 +0.5**
ANTO Ankara 77.76 312 *e*P **P 08 03 24.1 +0.7**
ANTO pmax pmax
comp=Z,109nm,1.1s
ANTO Ankara 77.76 312 P **P 08 03 24.7 +1.3**
SNR=7.8
ANTO P **P 08 03 24.7 +1.3**
SNR=7.8
ANTO Ankara 77.76 312 *e*P **P 08 03 24.7 +1.3**
CJR Cluj-Napoca 77.77 322⇑*i*P **P 08 03 24.6 +1.3**
CJR Cluj-Napoca 77.77 322⇑P **P 08 03 24.6 +1.3**
SECR 77.78 319⇑*i*P **P 08 03 24.8 +1.5**
BR231 Keskin MP Arra 77.79 312 *e*P **P 08 03 23.8 +0.2**
Y12C Blythe 77.83 56 *e*P **P 08 03 24.6 +0.8**
comp=Z,28nm,1.3s
Y12C Blythe 77.83 56 P **P 08 03 25.7 +1.9**
baz=310
LANS Liptovska Anna 77.84 326 *e*P **P 08 03 25.2 +1.6**
KSP Ksiaz 77.87 328 *e*P **P 08 03 24.6 +0.8**
KSP *e*S **SKSac 08 13 37.2 +3.3**
KSP Ksiaz 77.87 328 *e*P **P 08 03 24.5 +0.8**
KSP *e*S **SKSac 08 13 37.2 +3.3**
OKC Ostrava-Krasne 77.88 327 *e*P **P 08 03 25.3 +1.5**
OKC AMS AMS 08 40 20.0
comp=Z,2μm,19.7s
OKC Ostrava-Krasne 77.88 327 *e*P **P 08 03 25.3 +1.5**
OKC MLR MLR
comp=Z,2μm,19.7s
AGMN Agassiz Nation 77.94 36 *e*P **P 08 03 25.6 +1.4**
comp=Z,44nm,1.3s
AGMN *e*PcP **pP 08 03 36.0 -0.7**
PV09 Paradox Valley 78.01 50 *e*P **P 08 03 26.6 +1.4**
PV21 Cone Mtn., Par 78.06 49 *e*P **P 08 03 26.0 +0.7**
comp=Z,28nm,1.1s
LTVH Ltavrtes, Hu 78.07 323⇑*e*P **P 08 03 25.1 +0.3**
PV23 Carpenter Ridg 78.11 50 *e*P **P 08 03 26.2 +0.6**
comp=Z,139nm,2.0s
DRGR 78.13 322⇑*i*P **P 08 03 25.9 +0.6**
DRGR 78.13 322⇑P **P 08 03 25.9 +0.6**
PV10 Paradox Valley 78.15 50 *e*P **P 08 03 26.7 +0.9**
PV14 Lion Creek, Pa 78.16 50 *e*P **P 08 03 26.9 +1.1**
comp=Z,40nm,1.2s
MORC Moravsky Berou 78.18 327 *e*P **P 08 03 25.8 +0.3**
comp=Z,49nm,1.1s
MORC Moravsky Berou 78.18 327⇓*i*P **P 08 03 26.4 +0.9**
MORC Moravsky Berou 78.18 327 ⇓P **P 08 03 26.4 +0.9**
MORC Moravsky Berou 78.18 327⇑P **P 08 03 26.4 +0.9**
PHWY Pilot Hill 78.19 45 *e*P **P 08 03 26.9 +0.9**
comp=Z,33nm,1.3s
PHWY *e*pP **pP 08 03 39.6 +1.0**
N23A Red Feather La 78.20 46 *e*P **P 08 03 27.2 +1.1**
comp=Z,58nm,1.5s
N23A *e*pP **pP 08 03 39.6 +1.0**
N23A Red Feather La 78.20 46 P **P 08 03 28.4 +2.3**
baz=313
PV20 West Nyswonger 78.21 50 *e*P **P 08 03 27.2 +1.1**
comp=Z,57nm,1.4s
PV19 Morning Glory 78.22 50 *e*P **P 08 03 27.6 +1.4**
comp=Z,30nm,1.1s
DPC Dobruska-Polom 78.24 328 *e*P **P 08 03 27.1 +1.3**
DPC AMS AMS 08 40 20.0
comp=Z,2μm,17.5s
DPC Dobruska-Polom 78.24 328 *e*P **P 08 03 27.1 +1.3**
DPC MLR MLR
comp=Z,2μm,17.5s
UPC Upice 78.24 328 *e*P **P 08 03 27.0 +1.2**
UPC *e*sP **sP 08 03 43.3 -0.1**
UPC AMS AMS 08 40 30.0
comp=Z,2μm,17.6s
UPC Upice 78.24 328 *e*P **P 08 03 27.0 +1.2**
UPC *e* 08 03 43.3
UPC MLR MLR
comp=Z,2μm,17.6s
ARR Arges 78.25 320⇓*i*P **P 08 03 27.7 +1.7**
PV17 East Wray Mesa 78.26 50 *e*P **P 08 03 27.5 +1.1**
comp=Z,70nm,1.5s
KRLC Kraliky 78.26 328 *e*P **P 08 03 25.9 -0.1**
KRLC Kraliky 78.26 328 *e*P **P 08 03 25.9 -0.1**
PV16 Nyswonger Mesa 78.26 50 *e*P **P 08 03 27.4 +1.0**
comp=Z,95nm,1.8s
PV11 David Mesa, Pa 78.30 50 *e*P **P 08 03 27.6 +1.0**
comp=Z,37nm,1.1s
PV05 Paradox Valley 78.31 50 *e*P **P 08 03 27.8 +1.1**
PV05 *e*pP **PcP 08 03 37.2 +1.2**
PV12 Saucer Basin, 78.32 50 *e*P **P 08 03 28.0 +1.3**
comp=Z,114nm,1.9s
PV03 Paradox Valley 78.34 50 *e*P **P 08 03 27.4 +0.6**
PV13 Radium Mtn., P 78.42 50 *e*P **P 08 03 28.1 +0.8**
comp=Z,64nm,1.5s
PV02 Paradox Valley 78.44 50 *e*P **P 08 03 28.4 +1.0**
comp=Z,50nm,1.7s
PSZ Piszkesteto 78.58 325 *e*P **P 08 03 28.6 +0.8**
comp=Z,52nm,1.1s
PSZ Piszkesteto 78.58 325⇑*i*P **P 08 03 28.9 +1.1**
PSZ Piszkesteto 78.58 325⇑*e*P **P 08 03 28.0 +0.3**
PSZ Piszkesteto 78.58 325 ⇑P **P 08 03 28.9 +1.1**
PV01 Paradox Valley 78.58 50 *e*P **P 08 03 29.1 +0.9**
VYHS Vyhne 78.61 326 *e*P **P 08 03 28.9 +1.1**
WUAZ Wupatki 78.65 53 *e*P **P 08 03 29.6 +1.1**
comp=Z,18nm,1.0s
WUAZ Wupatki 78.65 53 P **P 08 03 30.1 +1.6**
baz=312,SNR=5.3
HUMR Humele 78.68 320⇑*i*P **P 08 03 28.8 +0.5**
BRG Berggiesshubel 78.77 330 *e*P **P 08 03 29.1 +0.4**
comp=Z,36nm,1.4s
BRG *e* 08 03 42.5
comp=Z,18nm,1.1s
BRG *e* 08 03 50.6
comp=Z,19nm,1.2s
BRG S **SKSac 08 13 41.0 +0.7**
comp=N,904nm,17.9s
comp=E,775nm,17.5s
comp=Z,1μm,19.1s
BRG Berggiesshubel 78.77 330 *e*P **P 08 03 29.2 +0.5**
comp=Z,36nm,1.4s,baz=35,slow=5.4
BRG Berggiesshubel 78.77 330 *e*P **P 08 03 29.1 +0.5**
BRG *e* 08 03 42.5
BRG *e* 08 03 50.6
BRG S **SKSac 08 13 41.0 +0.7**
BRG pmax pmax
comp=Z,36nm,1.4s
BRG MLR MLR
comp=N,904nm,17.9s
BRG MLR MLR
comp=E,775nm,17.5s
BRG MLR MLR
comp=Z,1μm,19.1s
CLL Collm 78.78 330 *e*P **P 08 03 28.8 0.0**
comp=Z,30nm,1.0s
CLL Collm 78.78 330 *e*P **P 08 03 29.0 +0.2**
comp=Z,42nm,1.1s,baz=35,slow=5.4
CLL Collm 78.78 330⇑*i*P **P 08 03 28.9 +0.2**
comp=Z,42nm,1.1s
CLL *i* pP **pP 08 03 42.1 +0.6**
CLL *e* 08 03 50.0
CLL *e* 08 06 12.0
CLL *e*PP **PP 08 06 25.0 -1.7**
CLL *e*PPP PPP 08 08 13.0
CLL *e*S **S 08 13 24.0 +1.0**
CLL *e*PS **PnS 08 14 12.0 +2.9**
CLL *e* 08 19 30.0
CLL *e* 08 22 54.0
CLL LmH 08 39 00.0
comp=N,600nm,20.6s
CLL LmH 08 39 00.0
comp=E,2μm,20.1s
CLL Collm 78.78 330⇑*i*P **P 08 03 28.9 +0.2**
CLL *i* *PP **pP 08 03 42.1 +0.6**
CLL *e*S **S 08 13 16.0 -7.0**
CLL pmax pmax
comp=Z,4.0nm,1.1s
SMCO Snowmass 78.80 48 *e*P **P 08 03 30.1 +0.5**
comp=Z,26nm,1.4s
PVCC Panska Ves 78.80 329 *e*P **P 08 03 29.8 +1.0**
PVCC AMS AMS 08 41 00.0
comp=Z,2μm,17.9s
PVCC Panska Ves 78.80 329 *e*P **P 08 03 29.8 +1.0**
PVCC MLR MLR
comp=Z,2μm,17.9s
JAVC Velka Javorina 78.83 326⇑*i*P **P 08 03 31.0 +1.9**
NRDL Niedersach Rie 78.89 333 *e*P **P 08 03 29.9 +0.7**
comp=Z,30nm,1.3s,baz=35,slow=5.4
RRH Rhenigidale 78.92 344 *e*P **P 08 03 29.9 +0.6**
VRAC Vranov 78.93 327⇑*i*P **P 08 03 28.8 +1.2**
VRAC Vranov 78.93 327 ⇑P **P 08 03 30.8 +1.2**
VRAC Vranov 78.93 327⇑*i*P **P 08 03 30.5 +0.9**
RETH Rethem/Aller, 78.95 333 *e*P **P 08 03 30.2 +0.7**
comp=Z,55nm,1.3s,baz=35,slow=5.4
113A Mohawk Valley, 78.95 56 *e*pP pP 08 03 44.7 +2.1
FBE Freiberg 78.96 330 *e*P **P 08 03 30.5 +0.8**
comp=Z,47nm,1.2s,baz=35,slow=5.4
ASSE Asse, Remlinge 78.98 332 *e*P **P 08 03 30.4 +0.7**
comp=Z,42nm,1.4s,baz=35,slow=5.4
KAC Achnashellach 79.00 343 *e*P **P 08 03 30.5 +0.7**
SIRR Siria 79.01 323⇓*i*P **P 08 03 31.0 +0.9**
ZIMR 79.12 319⇓*i*P **P 08 03 27.6 -3.1**
ZIMR 79.12 319 ⇓P **P 08 03 27.6 -3.1**
GZR Gura Zlata 79.13 321⇑*i*P **P 08 03 31.5 +0.7**
GZR Gura Zlata 79.13 321 ⇑P **P 08 03 31.5 +0.7**
ISCO Idaho Springs 79.14 47 *e*P **P 08 03 32.7 +1.4**
comp=Z,107nm,1.9s
ISCO Idaho Springs 79.14 47 *e*P **P 08 03 32.7 +1.4**
ISCO pmax pmax
comp=Z,107nm,1.9s
GOPC GO Pecny, Ondr 79.19 329 *e*P **P 08 03 32.2 +1.1**
GOPC AMS AMS 08 40 50.0
comp=Z,2μm,19.0s
GOPC GO Pecny, Ondr 79.19 329 *e*P **P 08 03 32.2 +1.1**
GOPC MLR MLR
comp=Z,2μm,19.0s
KRUC Moravsky 79.21 327 P **P 08 03 32.1 +1.0**
KRUC Moravsky 79.21 327⇑*i*P **P 08 03 31.9 +0.8**
PRA Prague 79.21 329 AMS AMS 08 41 00.0
comp=Z,2μm,19.9s
KPL Plockton 79.23 343 *e*P **P 08 03 31.7 +0.7**
KPL IAmb IAmb 08 03 32.9
comp=Z,74nm,1.2s
PRU Pruhonice 79.23 329 *e*P **P 08 03 32.2 +1.0**
PRU *ex* x 08 03 35.5
PRU AMS AMS 08 41 10.0
comp=Z,2μm,16.7s
PRU Pruhonice 79.23 329 *e*P **P 08 03 32.2 +1.0**
PRU *e* 08 03 35.5
PRU MLR MLR
comp=Z,2μm,16.7s
MVCO Mesa Verde 79.25 50 *e*P **P 08 03 32.6 +0.8**
comp=Z,17nm,1.1s
MVCO *e*pP **pP 08 03 46.7 +2.3**
BUD Budapest 79.29 325 *e*P **P 08 03 33.0 +1.5**
CLZ Clausthal 79.32 332 *e*P **P 08 03 32.6 +0.8**
comp=Z,53nm,1.3s,baz=35,slow=5.4
NEUB Neuenburg 79.33 331 *e*P **P 08 03 32.1 +0.4**
comp=Z,41nm,1.1s,baz=35,slow=5.4
X16A Lo Mia Camp, P 79.33 54 *e*P **P 08 03 33.5 +1.2**
comp=Z,15nm,1.1s
X16A *e*pP **pP 08 03 46.1 +1.2**
VLAD Vladila 79.35 320⇑*i*P **P 08 03 32.5 +0.5**
MODS Modra-Piesok 79.37 326 *e*P **P 08 03 32.3 +0.3**
TREC Trest 79.40 328 *e*P **P 08 03 33.2 +1.0**
TREC AMS AMS 08 41 10.0
comp=Z,2μm,19.4s
TREC Trest 79.40 328 *e*P **P 08 03 33.2 +1.0**
TREC MLR MLR
comp=Z,2μm,19.4s
PHSR Pinarhisar 79.44 316⇑*i*P **P 08 03 33.6 +1.1**
BZS Buzias 79.51 322⇓*i*P **P 08 03 32.9 +0.1**
BZS Buzias 79.51 322 ⇓P **P 08 03 32.9 +0.1**
INVG Invergeldie, C 79.69 342 *e*P **P 08 03 34.0 +0.5**
TANN Tannenbergstha 79.70 330 *e*P **P 08 03 34.5 +0.6**
comp=Z,48nm,1.4s,baz=35,slow=5.4
GTTG Gvttingen 79.71 332 *e*P **P 08 03 34.4 +0.6**
comp=Z,57nm,1.2s,baz=35,slow=5.4
DGAR Diego Garcia 79.73 251 *i* P **P 08 03 35.3 +0.9**
DGAR pmax pmax
comp=Z,68nm,1.1s
PLN Plauen 79.77 330 *e*P **P 08 03 34.8 +0.7**
comp=Z,26nm,1.3s,baz=35,slow=5.4
ESY Stoneypath 79.79 341 *e*P **P 08 03 34.6 +0.5**
GUNZ Gunzen 79.80 330 *e*P **P 08 03 35.1 +0.8**
comp=Z,33nm,1.4s,baz=35,slow=5.4
MOX Moxa 79.84 331 *e*P **P 08 03 35.1 +0.6**
comp=Z,32nm,1.3s,baz=35,slow=5.4
MOX *e*L L 08 41 37.2
comp=Z,938nm,21.2s
MOX Moxa 79.84 331 P **P 08 03 35.2 +0.6**
WERN Wernitzgruen 79.84 330 *e*P **P 08 03 35.4 +0.8**
comp=Z,22nm,1.1s,baz=35,slow=5.4
IBBN Ibbenburen 79.86 334 *e*P **P 08 03 35.0 +0.5**
comp=Z,43nm,1.1s,baz=35,slow=5.4
S22A 4UR Ranch, Cre 79.86 49 *e*P **P 08 03 36.1 +0.8**
comp=Z,46nm,1.6s
S22A 4UR Ranch, Cre 79.86 49 P **P 08 03 36.7 +1.5**
baz=313
NKC Novy Kostel 79.86 330 *e*P **P 08 03 36.0 +1.4**
NKC AMS AMS 08 39 30.0
comp=Z,1μm,27.1s
NKC Novy Kostel 79.86 330 *e*P **P 08 03 36.0 +1.4**
NKC MLR MLR
comp=Z,1μm,27.1s
PUNG Punghina 79.87 321⇑*i*P **P 08 03 35.4 +0.6**
W18A Petrified Fore 79.91 52 P **P 08 03 37.4 +1.9**
baz=312
EAB Aberfoyle 79.97 342 *e*P **P 08 03 35.8 +0.7**
Q24A Divide 79.97 47 P **P 08 03 36.1 +0.2**
baz=314
MDVR Moldovita 80.09 322⇓*i*P **P 08 03 36.2 +0.2**
LAWE Loch Awe, Argy 80.16 342 *e*P **P 08 03 36.8 +0.7**
LAWE IAmb IAmb 08 03 37.2
comp=Z,52nm,1.2s
MANZ Manzenberg 80.19 330 *e*P **P 08 03 37.2 +0.8**
baz=35,slow=5.4
RAYN Ar Rayn 80.20 292 *e*P **P 08 03 36.9 -0.1**
comp=Z,31nm,1.1s
RAYN Ar Rayn 80.20 292 *i* P **P 08 03 36.8 -0.1**
SNR=24
RAYN Ar Rayn 80.20 292 *e*P **P 08 03 36.9 -0.1**
RAYN pmax pmax
comp=Z,41nm,1.1s
SOP Sopron 80.21 326⇑*e*P **P 08 03 38.0 +1.5**
TIH Tihany 80.23 325⇑*e*P **P 08 03 36.1 -0.6**
OGNE Ogallala 80.28 44 *e*P **P 08 03 37.3 +0.1**
comp=Z,171nm,1.5s
UBBA Unterbreizbach 80.30 332 *e*P **P 08 03 37.3 +0.5**
comp=Z,30nm,1.6s,baz=35,slow=5.4
KHC Kasperske Hory 80.30 329 *e*P **P 08 03 37.3 +0.3**
comp=Z,17nm,1.1s
KHC Kasperske Hory 80.30 329 *e*P **P 08 03 38.1 +1.0**
KHC *ex* x 08 03 41.0
KHC AMS AMS 08 41 30.0
comp=Z,2μm,17.7s
KHC Kasperske Hory 80.30 329 *e*P **P 08 03 38.1 +1.0**
KHC MLR MLR
comp=Z,2μm,17.7s
CONA Conrad Observa 80.31 327 *i* P **P 08 03 38.5 +1.3**
comp=Z,32nm,1.0s,SNR=20
MORH Mrgy, Hungar 80.43 324⇑*e*P **P 08 03 37.1 -0.6**
MORH Mrgy, Hungar 80.43 324⇑P **P 08 03 37.8 +0.1**
GEC2 GERESS Array S 80.47 328 *e*P **P 08 03 38.0 -0.1**
comp=Z,18nm,1.1s
GEC2 GERESS Array S 80.47 328 *e*P **P 08 03 38.5 +0.4**
comp=Z,21nm,1.1s,baz=35,slow=5.4
GEC2 GERESS Array S 80.47 328 *e*P **P 08 03 38.0 -0.1**
GEC2 pmax pmax
comp=Z,18nm,1.1s
GERES GERESS Array B 80.47 328 P **P 08 03 38.5 +0.4**
comp=Z,6.9nm,0.8s,baz=36,slow=5.0,SNR=42
GERES LR LR 08 42 27.3
comp=Z,2μm,20.0s,baz=36,slow=38
GEA0 GERESS Array S 80.48 328 *e*P **P 08 03 38.0 -0.1**
ESK Eskdalemuir 80.48 341 *e*P **P 08 03 38.5 +0.6**
ESK IAmb IAmb 08 03 38.9
comp=Z,28nm,1.1s
KDZ Kurdzhali 80.53 317 *i* P P 08 03 44.7 +6.3
WET Wettzell 80.56 329 *e*P **P 08 03 39.4 +0.9**
comp=Z,37nm,1.2s,baz=35,slow=5.4
WET Wettzell 80.56 329 P **P 08 03 39.4 +0.9**
SDCO Great Sand Dun 80.62 48 *e*P **P 08 03 40.0 +0.7**
comp=Z,16nm,1.3s
FRGS Fruska Gora 80.70 323⇑*i*P **P 08 03 39.8 +0.5**
ALN Alexandroupoli 80.75 317 *e*P **P 08 03 39.7 +0.2**
comp=Z,37nm,1.3s
ALN Alexandroupoli 80.75 317 P **P 08 03 40.5 +1.0**
ALN pmax pmax
comp=Z,37nm,1.2s
BUG Bochum–Univer 80.75 333 *e*P **P 08 03 39.7 +0.4**
comp=Z,38nm,1.2s,baz=35,slow=5.4
GRA1 Grafenberg Arr 80.76 330 *e*P **P 08 03 39.4 -0.1**
comp=Z,50nm,1.0s
GRF Grafenberg Arr 80.76 330 *e*P **P 08 03 40.6 +1.1**
comp=Z,77nm,1.2s,baz=35,slow=5.4
GRF *e*L L 08 41 44.5
comp=Z,735nm,21.9s
GRF Grafenberg Arr 80.76 330 *e*P **P 08 03 39.4 -0.1**
GRF pmax pmax
comp=Z,50nm,1.0s
GRFO Grafenberg 80.76 330 *e*P **P 08 03 39.5 0.0**
comp=Z,46nm,1.0s
GRFO Grafenberg 80.76 330 *e*P **P 08 03 39.5 0.0**
GRFO pmax pmax
comp=Z,46nm,1.0s
VTS Vitosha 80.97 319 *e*P **P 08 03 40.6 -0.3**
comp=Z,51nm,0.9s
VTS Vitosha 80.97 319⇓*i*P **P 08 03 41.8 +0.8**
VTS Vitosha 80.97 319 ⇓P **P 08 03 41.8 +0.8**
VTS Vitosha 80.97 319 *i* P **P 08 03 42.4 +1.4**
ARSA Arzberg 80.98 327 *i* P **P 08 03 41.7 +1.0**
comp=Z,22nm,1.3s,SNR=10
ECSD EROS Data Cent 81.00 39 *e*P **P 08 03 40.9 0.0**
comp=Z,76nm,1.7s
MOA Molln 81.04 328 *i* P **P 08 03 41.8 +0.8**
comp=Z,19nm,1.1s,SNR=6.2
BEHE Becsehely 81.06 325 *e*P **P 08 03 41.0 -0.1**
MANT Manisa 81.09 313 *e*P **P 08 03 41.9 +0.1**
comp=Z,133nm,1.1s
E38A The Farm, Brul 81.12 34 P **P 08 03 41.3 -0.2**
baz=321
TUC Tucson 81.14 55 *e*P **P 08 03 42.4 +0.5**
comp=Z,24nm,1.4s
TUC *e*pP **pP 08 03 55.2 +0.6**
TUC Tucson 81.14 55 *e*P **P 08 03 42.4 +0.5**
TUC *e**PP **pP 08 03 55.2 +0.6**
TUC pmax pmax
comp=Z,24nm,1.4s
GRC1 Grafenberg Arr 81.21 330 P **P 08 03 42.8 +0.9**
TNS Taunus Mts 81.35 332 *e*P **P 08 03 43.2 +0.6**
comp=Z,35nm,1.4s,baz=35,slow=5.4
EZN Ezine 81.37 316⇑*i*P **P 08 03 44.0 +1.1**
EZN Ezine 81.37 316 ⇑P **P 08 03 44.0 +1.1**
CLGH Cloghs, Cushen 81.40 342 *e*P **P 08 03 43.7 +1.0**
CLGH IAmb IAmb 08 03 44.6
comp=Z,57nm,1.0s
DIVS Divibare 81.41 322 *e*P **P 08 03 43.3 +0.1**
comp=Z,32nm,1.2s
DIVS Divibare 81.41 322⇑*i*P **P 08 03 43.4 +0.2**
MMB Musomiste 81.45 318 *i* P **P 08 03 44.6 +1.3**
F38A Pierce - Schro 81.48 35 P **P 08 03 44.1 +0.7**
baz=321
AHRW Bad Neuenahr-A 81.57 333 *e*P **P 08 03 44.4 +0.7**
comp=Z,33nm,1.1s,baz=35,slow=5.4
KKB Krupnik 81.57 319 *i* P **P 08 03 45.0 +1.0**
PERS Pernice 81.64 326 *e*P **P 08 03 45.0 +0.7**
SPMN Marine on St. 81.64 36 P **P 08 03 44.7 +0.5**
baz=321
SOKA Soboth 81.64 326 *i* P **P 08 03 45.0 +0.7**
comp=Z,76nm,1.2s,SNR=26
T25A Trinidad 81.66 48 *e*P **P 08 03 45.3 +0.5**
comp=Z,79nm,1.6s
T25A Trinidad 81.66 48 P **P 08 03 45.9 +1.1**
baz=315
RJOB Jochberg 81.72 328 *e*P **P 08 03 45.7 +1.0**
comp=Z,37nm,1.1s,baz=35,slow=5.4
E39A Mellen 81.73 34 P **P 08 03 45.1 +0.4**
baz=322
LBWR Ladybower, Pea 81.81 339 *e*P **P 08 03 45.5 +0.5**
LBWR IAmb IAmb 08 03 48.6
comp=Z,84nm,1.0s
BBLS Lazići 81.87 322⇑*i*P **P 08 03 46.4 +0.8**
MEM Membach 81.88 334 P **P 08 03 46.2 +0.8**
MEM Membach 81.88 334 ⇑P **P 08 03 45.5 +0.1**

HAPS Han Pijesak,Bl 81.91 323 eP P 08 03 45.8 0.0
F39A Loretta 81.94 34 P P 08 03 46.2 +0.4
baz=322
E40A Wakefield 81.96 34 P P 08 03 46.5 +0.6
baz=322
BGNE Belgrade 81.96 41 eP P 08 03 46.4 +0.3
comp=Z,88nm,1.1s
BGNE Belgrade 81.96 41 P P 08 03 46.7 +0.6
baz=318
LAZ Ladron 81.97 51 epP pP 08 04 00.3 +1.2
FUR Furstenfeldbru 81.98 329 eP P 08 03 46.8 +0.8
comp=Z,63nm,1.0s,baz=35,slow=5.4
OBKA Obir 81.98 327 iP P 08 03 46.4 +0.3
comp=Z,19nm,1.0s,SNR=5.7
ANMO Albuquerque 82.00 51 eP P 08 03 46.9 +0.3
comp=Z,31nm,1.3s
ANMO Albuquerque 82.00 51 diP P 08 03 46.2 -0.4
ANMO pmax pmax
comp=Z,7.0nm,1.0s
KBA Koelnbreinsper 82.03 328 eP P 08 03 47.2 +0.7
comp=Z,51nm,1.0s
CRES Cresnjev 82.13 326⇑ iP P 08 03 46.8 0.0
SCHQ Schefferville 82.13 17 P P 08 03 47.4 +0.7
comp=Z,5.0nm,0.4s,baz=317,slow=6.2,SNR=11
SCHQ LR LR 08 41 55.6
comp=Z,654nm,21.9s,baz=328,slow=37
SCHQ Schefferville 82.13 17 eP P 08 03 47.6 +0.9
comp=Z,21nm,0.8s
SCHQ epP pP 08 04 00.6 +1.3
GMM Mts of Mourne 82.13 342 eP P 08 03 47.1 +0.5
STIP Stip 82.15 319 iP P 08 03 46.7 -0.3
BLY Banja Luka 82.21 324 eP P 08 03 47.3 +0.1
comp=Z,17nm,1.0s
BLY Banja Luka 82.21 324⇑ iP P 08 03 47.5 +0.3
BLY Banja Luka 82.21 324⇑ iP P 08 03 47.5 +0.3
VAY Valandovo 82.23 319 iP P 08 03 48.2 +0.8
MYKA Terra Mystica 82.27 327 iP P 08 03 47.6 0.0
comp=Z,23nm,1.1s,SNR=10.0
UCC Uccle 82.27 335 ⇑P P 08 03 47.3 -0.1
STU Stuttgart 82.28 331 eP P 08 03 47.7 +0.2
comp=Z,44nm,1.0s
STU Stuttgart 82.28 331 eP P 08 03 48.0 +0.5
comp=Z,53nm,1.1s,baz=35,slow=5.4
STU Stuttgart 82.28 331 eP P 08 03 47.7 +0.2
STU pmax pmax
comp=Z,44nm,1.0s
PLE Pljevlja 82.28 322⇓ iP P 08 03 48.0 +0.2
SKO Skopje 82.31 320 iP P 08 03 49.1 +1.2
E41A Kenton 82.34 33 P P 08 03 48.3 +0.4
baz=323
LJU Ljubljana 82.36 326⇑ iP P 08 03 47.7 -0.3
IVA Berane 82.39 321⇓ iP P 08 03 48.6 +0.3
VISS Visnje 82.42 326 eP P 08 03 48.3 0.0
BOJS Bojanci 82.47 326 eP P 08 03 48.7 +0.1
WATA Walderalm 82.54 329 iP P 08 03 49.4 +0.3
comp=Z,38nm,1.1s,SNR=7.2
SNF Seneffe 82.54 335 ⇑P P 08 03 48.0 -0.8
KOME Kolasin 82.59 321⇓ iP P 08 03 48.7 -0.7
WLF Walferdange 82.63 333 eP P 08 03 50.2 +0.9
baz=35,slow=5.4
WLF Walferdange 82.63 333 ⇓P P 08 03 49.8 +0.5
ABTA Abfaltersbach 82.64 328 iP P 08 03 49.2 -0.3
comp=Z,24nm,1.1s,SNR=7.6
CEY Cerknica 82.64 326⇑ iP P 08 03 49.3 -0.2
FOEL Foel Wylfa 82.67 340 eP P 08 03 50.1 +0.7
FOEL IAmb IAmb 08 03 52.3
comp=Z,61nm,0.9s
JAVS Javornik 82.67 326 iP P 08 03 49.4 -0.4
MOTA Moosalm 82.72 329 iP P 08 03 50.5 +0.4
comp=Z,36nm,1.0s,SNR=15
RETA Reutte 82.73 329 iP P 08 03 50.8 +0.8
comp=Z,38nm,1.1s,SNR=15
SQTA Sankt Quirin 82.78 329 iP P 08 03 50.9 +0.6
comp=Z,39nm,1.3s,SNR=11
DOU Dourbes 82.79 334 ⇑P P 08 03 50.2 +0.1
DOU ⇑pP pP 08 04 01.6 -1.2
121A Cookes Peak, D 82.86 53 P P 08 03 52.5 +1.5
baz=314
KRUS Krusevo 82.86 320 iP P 08 03 51.6 +0.8
NKY Niksic 82.86 322⇓ iP P 08 03 51.9 +1.1
NKME Niksic 82.92 322⇓ iP P 08 03 50.9 -0.1
TRI Trieste 82.95 327 P P 08 03 50.6 -0.4
TRI pmax pmax
comp=Z,36nm,1.0s
BAIF Baives 82.95 334 eP P 08 03 50.9 -0.1
BAIF pmax pmax
comp=Z,23nm,1.2s
BFO Black Forest 82.97 331 eP P 08 03 51.3 +0.1
comp=Z,32nm,1.2s
BFO Black Forest 82.97 331 eP P 08 03 51.7 +0.5
comp=Z,37nm,1.2s,baz=35,slow=5.4
BFO Black Forest 82.97 331 iP P 08 03 51.5 +0.4
BRY Bratogost 83.01 322⇓ iP P 08 03 51.2 -0.4
BRY Bratogost 83.01 322⇑ iP P 08 03 51.3 -0.4
PDG Podgorica 83.03 321⇓ iP P 08 03 51.9 +0.4
PDG Podgorica 83.03 321⇑ iP P 08 03 51.9 +0.4
TTG Podgorica 83.03 321⇓ iP P 08 03 51.4 -0.1
TTG Podgorica 83.03 321 eP P 08 03 51.5 -0.1
comp=Z,93nm,1.1s
TTG Podgorica 83.03 321 eP P 08 03 51.5 -0.1
TTG pmax pmax
comp=Z,93nm,1.1s
CBKS Cedar Bluff 83.04 44 eP P 08 03 51.6 -0.1
comp=Z,59nm,1.3s
CBKS epP pP 08 04 04.3 -0.1
CBKS Cedar Bluff 83.04 44 eP P 08 03 51.6 -0.1
CBKS e*PP pP 08 04 04.3 -0.1
CBKS pmax pmax
comp=Z,59nm,1.3s
BIA Bitola 83.08 319 iP P 08 03 52.8 +0.9
CEME Cevo 83.10 322⇓ iP P 08 03 50.8 -1.2
FETA Feichten 83.13 329 iP P 08 03 52.8 +0.6
comp=Z,26nm,1.1s,SNR=12
LIT Litokhoron 83.18 318 eP P 08 03 52.5 +0.1
comp=Z,67nm,1.1s
LIT Litokhoron 83.18 318 eP P 08 03 52.5 +0.1
LIT pmax pmax
comp=Z,67nm,1.1s
H40A Chili 83.19 35 P P 08 03 52.3 0.0
baz=322
FNA Florina 83.23 319 eP P 08 03 52.5 -0.2
comp=Z,53nm,1.3s
FNA Florina 83.23 319 eP P 08 03 52.5 -0.2
FNA pmax pmax
comp=Z,53nm,1.3s
TREB Trebinje 83.24 322 eP P 08 03 51.7 -0.9
DAVA Damuels 83.24 330 iP P 08 03 53.3 +0.5
comp=Z,44nm,1.1s,SNR=12
DRME Dracevica, Mon 83.25 321⇓ iP P 08 03 53.1 +0.4
DRME Dracevica, Mon 83.25 321⇑ iP P 08 03 53.1 +0.4
OHR Ohrid 83.28 320 iP P 08 03 53.2 +0.3
CDF Champ du Feu 83.28 332 eP P 08 03 52.8 -0.1
CDF pmax pmax
comp=Z,25nm,1.1s
BUM Brajici-Budva 83.30 321⇓ iP P 08 03 52.6 -0.4
SLE Schleitheim 83.38 331 P P 08 03 53.9 +0.6
HCY Herceg Novi 83.38 322⇓ iP P 08 03 53.5 +0.1
HCY Herceg Novi 83.38 322 eP P 08 03 52.6 -0.8
ULC Ulcinj 83.39 321⇓ iP P 08 03 53.5 0.0
MCH1 Michaelchurch 83.42 339 eP P 08 03 53.9 +0.6
MCH1 IAmb IAmb 08 03 55.6
comp=Z,37nm,0.9s
ECH Echery 83.49 332 eP P 08 03 53.6 -0.3
comp=Z,18nm,1.0s
ECH Echery 83.49 332 eP P 08 03 53.6 -0.3
ECH pmax pmax
comp=Z,18nm,1.0s
J39A Decorah 83.61 37 P P 08 03 54.3 -0.2
baz=322
FUORN Ofenpass-Fuorn 83.64 329 eP P 08 03 55.0 +0.1
comp=Z,98nm,1.1s
HINF Hinteralfeld 83.94 332 eP P 08 03 55.4 -0.8
HINF pmax pmax
comp=Z,33nm,1.7s
HAU Haudompre 83.96 332 eP P 08 03 56.0 -0.3
HAU pmax pmax
comp=Z,16nm,1.1s
D46A Sault St. Mari 83.96 30 P P 08 03 56.5 +0.2
baz=326
SCIA State Center 84.01 38 eP P 08 03 57.2 +0.6
comp=Z,93nm,1.4s
K39A Oelwein 84.01 37 P P 08 03 56.6 0.0
baz=321
TUE Stuetta 84.12 329 eP P 08 03 57.6 +0.3
comp=Z,28nm,0.9s

K40A Colesburg 84.36 37 P P 08 03 58.5 +0.2
baz=322
L39A Vinton 84.42 37 P P 08 03 59.0 +0.4
baz=321
KSU1 Kansas State U 84.47 42 eP P 08 03 59.1 +0.1
comp=Z,78nm,1.8s
KSU1 epP pP 08 04 12.0 +0.4
PMOR Pomariorio Ree 84.73 114 eT T 09 37 11.1
comp=Z,37nm,0.2s
AMTX Amarillo 84.82 48 eP P 08 04 01.9 +0.9
comp=Z,73nm,1.5s
AMTX epP pP 08 04 14.8 +1.2
L40A Anamosa 84.82 37 P P 08 04 00.7 0.0
baz=322
M39A Webster 84.84 38 P P 08 04 01.0 +0.2
baz=321
MSTX Muleshoe 84.85 49 eP P 08 04 02.3 +1.2
comp=Z,58nm,1.5s
MSTX Muleshoe 84.85 49 P P 08 04 02.0 +0.9
baz=316
MNTX Cornudas Mount 84.90 52 eP P 08 04 02.3 +1.0
comp=Z,32nm,1.5s
SENIN Lac Senin/Sane 85.00 331 eP P 08 04 01.5 -0.2
comp=Z,22nm,0.9s
J43A Natural Harves 85.03 35 P P 08 04 02.1 +0.4
baz=324
K42A Prairie Point, 85.11 35 P P 08 04 02.4 +0.3
baz=323
L41A Preston 85.15 37 P P 08 04 02.6 +0.3
baz=322
GDL2 Guadalupe Moun 85.16 51 eP P 08 04 03.9 +1.1
M40A Post Highland 85.20 38 P P 08 04 02.7 +0.1
baz=322
CABF La Chapelle 85.24 331 eP P 08 04 02.9 +0.1
CABF pmax pmax
comp=Z,47nm,1.5s
PPT Papeete 85.35 117 LR LR 08 35 05.4
comp=Z,1µm,20.0s,baz=338,slow=31
CLF Chambon-Foret 85.35 334 eP P 08 04 03.5 +0.3
comp=Z,35nm,1.1s
PPT2 Papeete2 85.36 117 eS S 08 14 43.8 +12
comp=Z,272nm,26.5s
PPT2 Papeete2 85.36 117 eLR LR 08 31 00.7
comp=Z,3µm,22.5s,baz=314
PPT2 Papeete2 85.36 117 eT T 09 38 08.3
comp=Z,14nm,0.3s
PAE Pae 85.41 118 eT T 09 38 11.0
comp=Z,2.2nm,0.3s
IDI Anoyia 85.44 313 eP P 08 04 03.4 -0.6
comp=Z,232nm,1.6s
H46A Fife Lake 85.44 32 P P 08 04 04.4 +0.6
baz=326
LOR Lormes 85.47 333 eP P 08 04 03.8 -0.1
LOR pmax pmax
comp=Z,50nm,1.0s
N40A Mertquake, Sal 85.58 38 P P 08 04 04.9 +0.4
baz=322
L42A Oliver, Polo 85.58 36 P P 08 04 04.3 -0.2
baz=323
FLN La Foliniere 85.58 336 eP P 08 04 04.3 0.0
FLN pmax pmax
comp=Z,55nm,1.4s
LDF La Druitiere 85.62 336 eP P 08 04 05.1 +0.6
LDF pmax pmax
comp=Z,79nm,1.8s
ITM Ithomi 85.65 316 eP P 08 04 04.5 -0.4
comp=Z,70nm,1.0s
M41A Milan 85.68 37 P P 08 04 05.2 +0.2
baz=322
SSF Saint Saulge 85.77 333 eP P 08 04 05.4 +0.1
SSF pmax pmax
comp=Z,31nm,1.0s
H47A Mio 85.80 31 P P 08 04 06.0 +0.5
baz=326
I46A Reed City 85.84 32 P P 08 04 06.7 +0.9
baz=325
LPL La Plagne 85.92 330 eP P 08 04 06.5 +0.1
LPL pmax pmax
comp=Z,35nm,1.0s
LPG La Plagne 85.93 330 eP P 08 04 06.7 +0.2
LPG pmax pmax
comp=Z,41nm,1.1s
SMF Signal de Mont 86.01 333 eP P 08 04 06.7 +0.1
SMF pmax pmax
comp=Z,58nm,1.2s
AVF Avril sur Loir 86.06 333 eP P 08 04 06.9 +0.2
AVF pmax pmax
comp=Z,87nm,1.1s
N41A Harden Midland 86.06 38 P P 08 04 07.8 +0.9
baz=322
TAOE Nuku Hiva Isla 86.19 105 eLR LR 08 31 34.3
comp=Z,2µm,21.7s,baz=321
BNI Bardonecchia 86.33 330 eP P 08 04 08.3 0.0
comp=Z,14nm,0.9s
BNI Bardonecchia 86.33 330 eP P 08 04 08.3 0.0
BNI pmax pmax
comp=Z,14nm,0.9s
N42A Yates City 86.34 37 P P 08 04 08.8 +0.6
baz=323
M43A Waltham Townsh 86.35 36 P P 08 04 07.9 -0.4
baz=323
BGF Bois d'Agland 86.43 333 eP P 08 04 08.7 +0.1
O41A Passleys Farm, 86.51 38 P P 08 04 09.5 +0.4
baz=322
WMOK Wichita Mounta 86.55 46 eP P 08 04 10.3 +0.8
comp=Z,33nm,1.4s
WMOK epP pP 08 04 21.9 -0.3
WMOK Wichita Mounta 86.55 46 eP P 08 04 10.3 +0.8
WMOK e*PP pP 08 04 21.9 -0.3
WMOK pmax pmax
comp=Z,33nm,1.4s
MBDF Montbardon 86.57 330 eP P 08 04 08.9 -0.6
MBDF pmax pmax
comp=Z,5.0nm,0.7s
SGMF Saint Gilles 86.66 337 eP P 08 04 10.1 +0.4
J47A Sunmer 86.67 33 P P 08 04 11.0 +1.1
baz=326
DAMY Dhamar 86.73 286 eP P 08 04 11.0 0.0
comp=Z,43nm,1.2s
ORIF Oris-en-Rattie 86.75 331 eP P 08 04 10.4 +0.1
ORIF pmax pmax
comp=Z,17nm,1.1s
P41A Barry, Barry 86.77 38 P P 08 04 10.6 +0.2
baz=322
ROSF Rostrenen 86.79 338 eP P 08 04 10.9 +0.6
ROSF pmax pmax
comp=Z,54nm,1.0s
TCF Toulx Ste Croi 86.89 334 eP P 08 04 11.2 +0.3
HDIL Hopedale 86.90 37 eP P 08 04 11.5 +0.5
comp=Z,65nm,1.3s
SSB Saint Sauveur 86.94 332 eP P 08 04 11.4 +0.2
comp=Z,12nm,0.9s
SSB Saint Sauveur 86.94 332 eP P 08 04 11.4 +0.2
SSB pmax pmax
comp=Z,12nm,0.9s
P42A Winchester 87.18 38 P P 08 04 12.2 -0.2
baz=322
VIVF Saint-Julien-l 87.25 331 eP P 08 04 12.9 +0.2
VIVF pmax pmax
comp=Z,18nm,1.2s
Q41A Truxton 87.26 39 P P 08 04 13.5 +0.7
baz=322,SNR=6.5
TUL1 Leonard 87.30 44 epP pP 08 04 25.4 -0.4
TUL1 Leonard 87.30 44 P P 08 04 13.6 +0.6
baz=320
K48A Perry 87.32 32 P P 08 04 13.5 +0.5
baz=326
P43A Skaggs, Pawnee 87.53 37 P P 08 04 14.5 +0.5
baz=323
L47A Sherwood 87.56 33 P P 08 04 14.6 +0.5
baz=326
O44A Mansfield 87.60 37 P P 08 04 14.6 +0.2
baz=324
K49A Clarkson 87.61 32 P P 08 04 15.9 +1.5
baz=327
LTX Lajitas 87.61 53 eP P 08 04 15.6 +0.8
LTX Lajitas 87.61 53 eP P 08 04 15.6 +0.8
TX31 Lajitas Ar. Si 87.61 53 eP P 08 04 15.5 +0.7
TXAR Lajitas Array 87.61 53 P P 08 04 15.6 +0.8
comp=Z,2.0nm,0.8s,baz=282,slow=3.5,SNR=13
TXAR LR LR 08 43 14.0
comp=Z,177nm,19.4s,baz=0.0,slow=35
ABTX Abilene, Hawle 87.62 48 epP pP 08 04 27.8 +0.4
ABTX Abilene, Hawle 87.62 48 P P 08 04 15.4 +0.7
baz=318
Q42A Golden Eagle 87.63 39 P P 08 04 15.3 +0.8
baz=322

R41A Rosebud 87.70 39 P P 08 04 15.4 +0.5
baz=322,SNR=8.3
L48A N Adams 87.91 33 P P 08 04 16.4 +0.5
baz=326
CCM Cathedral Cave 87.96 40 eP P 08 04 16.4 +0.2
comp=Z,38nm,1.1s
CCM Cathedral Cave 87.96 40 eP P 08 04 16.4 +0.2
CCM pmax pmax
comp=Z,38nm,1.1s
RJF Les Rejaudoux 87.98 334 eP P 08 04 16.6 +0.5
RJF pmax pmax
comp=Z,30nm,1.2s
HHAR Hobbs 87.98 42 eP P 08 04 16.5 +0.2
comp=Z,75nm,1.9s
Q43A New Douglas 88.00 38 P P 08 04 17.3 +0.9
baz=323
R42A Luebbering 88.00 39 P P 08 04 16.8 +0.5
baz=322
SFIN Lafayette 88.04 36 P P 08 04 17.1 +0.6
baz=324
L49A Milan 88.04 32 P P 08 04 17.0 +0.6
baz=327
HPIG 88.06 56 epP pP 08 04 31.7 +1.8
S41A Jillco Farms, 88.08 40 P P 08 04 16.7 -0.1
baz=322
CAF Calviac 88.12 333 eP P 08 04 17.6 +0.7
CAF pmax pmax
comp=Z,33nm,1.2s
N47A Urbana 88.25 34 P P 08 04 18.0 +0.6
baz=325
Q44A Meyer Farm, Va 88.35 38 eP P 08 04 18.6 +0.7
comp=Z,52nm,1.4s
Q44A Meyer Farm, Va 88.35 38 P P 08 04 18.7 +0.7
baz=323
S42A Caledonia 88.40 39 P P 08 04 19.0 +0.7
baz=322,SNR=9.3
R43A Red Bud 88.42 39 P P 08 04 19.1 +0.8
baz=323
P45A Graceland, Par 88.44 36 P P 08 04 18.6 +0.2
baz=324
U40A Yellville 88.48 42 P P 08 04 19.1 +0.4
baz=321,SNR=12
L50A Kingsville 88.49 32 P P 08 04 19.9 +1.3
baz=327
T41A Mountain View 88.49 40 P P 08 04 18.9 +0.2
baz=322
N48A Decatur 88.55 34 P P 08 04 19.6 +0.7
baz=326
O47A Sheridan 88.56 35 P P 08 04 19.3 +0.3
baz=325
LFF La Frestale 88.56 334 eP P 08 04 19.6 +0.7
P46A Rosedale 88.61 36 P P 08 04 20.5 +1.3
baz=324,SNR=6.1
Q45A Warren Harvey, 88.76 37 P P 08 04 20.9 +1.0
baz=324
T42A Van Buren 88.84 40 eP P 08 04 20.8 +0.5
comp=Z,53nm,1.4s
T42A Van Buren 88.84 40 P P 08 04 20.9 +0.5
baz=322,SNR=5.1
N49A Columbus Grove 88.86 33 eP P 08 04 21.3 +1.0
comp=Z,31nm,1.1s
N49A Columbus Grove 88.86 33 P P 08 04 21.1 +0.7
baz=326
W39A Magazine 88.90 43 epP pP 08 04 33.1 -0.3
W39A Magazine 88.90 43 P P 08 04 21.2 +0.6
baz=321
S43A Fulton Ridge, 88.91 39 P P 08 04 21.0 +0.4
baz=323
OLIL Olney 88.91 37 eP P 08 04 21.6 +1.0
comp=Z,64nm,1.3s
U41A Viola 88.96 41 P P 08 04 21.5 +0.6
baz=322
O48A Farmland 88.99 34 P P 08 04 21.5 +0.5
baz=326
JCT Junction City 89.10 50 eP P 08 04 22.1 +0.3
comp=Z,88nm,2.0s
JCT epP pP 08 04 32.7 -1.8
JCT Junction City 89.10 50 eP P 08 04 22.1 +0.3
JCT e*PP pP 08 04 32.7 -1.8
JCT pmax pmax
comp=Z,88nm,2.0s
P47A Martinsville 89.13 36 P P 08 04 22.1 +0.4
baz=325
R45A Skylar, Fairfi 89.18 38 P P 08 04 22.6 +0.7
baz=324
T43A Greenville 89.19 40 P P 08 04 22.4 +0.4
baz=323
S44A Carbondale 89.20 38 P P 08 04 22.9 +0.9
baz=323,SNR=6.0
SIUC Southern Illin 89.20 38 eP P 08 04 22.5 +0.5
comp=Z,57nm,1.1s
VAE Valguarnera 89.22 321 LR LR 08 48 10.7
comp=Z,719nm,21.6s,baz=92,slow=38
V41A Mountainview 89.28 41 P P 08 04 22.6 +0.1
baz=323,SNR=6.6
U42A Revenden 89.30 41 P P 08 04 23.4 +0.9
baz=322
WHTX Lake Whitney, 89.33 47 epP pP 08 04 35.9 +0.3
WHTX Lake Whitney, 89.33 47 P P 08 04 23.5 +0.8
baz=319
BATG Bathurst New B 89.34 19 eP P 08 04 22.4 -0.1
comp=Z,90nm,1.8s
M51A Elyria 89.34 32 P P 08 04 23.6 +1.0
baz=328
O49A Covington 89.40 34 P P 08 04 23.4 +0.5
baz=326
MTLF Montolieu 89.45 332 eP P 08 04 23.5 +0.4
MTLF pmax pmax
comp=Z,8.0nm,0.9s
TBI Tubuai 89.46 121 eS S 08 15 21.3 +11
comp=Z,403nm,28.2s
TBI Tubuai 89.46 121 eLR LR 08 32 43.2
comp=Z,1µm,26.8s,baz=317
TBI Tubuai 89.46 121 eT T 09 43 11.2
comp=Z,34nm,0.3s
MIAR Mount Ida 89.51 43 eP P 08 04 24.4 +0.9
comp=Z,50nm,1.3s
MIAR Mount Ida 89.51 43 eP P 08 04 24.4 +0.9
MIAR pmax pmax
comp=Z,50nm,1.3s
MIAR Mount Ida 89.51 43 P P 08 04 24.7 +1.2
baz=321,SNR=5.4
Q47A Bedord North L 89.51 36 P P 08 04 24.2 +0.8
baz=325,SNR=6.3
P48A Milroy 89.53 35 P P 08 04 23.6 +0.1
baz=326
S45A Carrier Mills 89.54 38 P P 08 04 24.1 +0.6
baz=324
WHAR Wooly Hollow 89.60 42 eP P 08 04 24.8 +0.9
comp=Z,80nm,1.4s
V42A Cord 89.65 41 P P 08 04 24.4 +0.2
baz=322
W41B Gary Mavity, V 89.71 42 eP P 08 04 24.7 +0.3
comp=Z,34nm,1.3s
W41B Gary Mavity, V 89.71 42 P P 08 04 24.8 +0.3
baz=322
O50A Cable 89.74 33 P P 08 04 25.6 +1.1
baz=327,SNR=6.4
P49A Miami Univ. Ec 89.78 35 P P 08 04 25.2 +0.6
baz=326
PARMO Parma 89.78 39 eP P 08 04 24.6 -0.1
comp=Z,119nm,1.4s
Q48A North Vernon 89.83 36 P P 08 04 25.3 +0.4
baz=325
ATD Arta Tunnel 89.84 285 P P 08 04 26.2 +0.8
comp=Z,19nm,1.0s,baz=72,slow=8.1,SNR=6.2
ATD Arta Tunnel 89.84 285 eP P 08 04 25.3 -0.2
comp=Z,27nm,1.1s
ACSO Alum Creek Sta 89.94 33 eP P 08 04 25.8 +0.3
comp=Z,33nm,1.0s
S46A Don Dixon Farm 89.94 38 P P 08 04 26.4 +0.9
baz=324
X40A Basin Creek Fa 89.94 43 P P 08 04 26.7 +1.2
baz=321
UALR University of 89.97 42 epP pP 08 04 41.2 +2.7
R47A Wooly Knot Far 89.99 36 P P 08 04 26.3 +0.6
baz=325
P50A Jamestown 90.11 34 P P 08 04 26.9 +0.6
baz=327
Q49A Aurora 90.14 35 P P 08 04 27.2 +0.8
baz=326
WCI Wyandotte Cave 90.15 36 eP P 08 04 27.1 +0.6
comp=Z,18nm,1.0s
WCI Wyandotte Cave 90.15 36 eP P 08 04 27.1 +0.6
WCI pmax pmax
comp=Z,18nm,1.0s
O51A Pataskala 90.17 33 P P 08 04 27.4 +0.9
baz=327

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
M54A	Oil Creek Stat	90.19	30	P	P	08 04 27.3	+0.7
	baz=329						
R48A	Northridge Ran	90.20	36	P	P	08 04 27.2	+0.5
	baz=325						
U44B	Burton Farm, H	90.24	39	P	P	08 04 28.3	+1.4
	baz=323						
T46A	Princeton	90.37	38	P	P	08 04 28.9	+1.4
	baz=324,SNR=6.3						
WLAR	White Oak Lake	90.41	43	eP	P	08 04 28.7	+1.0
	comp=Z,63nm,1.2s						
U45A	Rockin P Farm,	90.51	39	P	P	08 04 29.2	+1.0
	baz=324						
N54A	Moraine State	90.53	31	P	P	08 04 29.3	+1.1
	baz=329						
P51A	Williamsport	90.53	33	P	P	08 04 28.7	+0.5
	baz=327						
O53A	New Philadelph	90.65	32	P	P	08 04 29.1	+0.4
	baz=328						
S48A	Wiedeman Farm,	90.72	36	P	P	08 04 29.8	+0.7
	baz=325						
Q51A	Peebles	90.79	34	P	P	08 04 29.7	+0.2
	baz=327						
P52A	Corning	90.79	33	P	P	08 04 29.4	-0.1
	baz=328						
X43A	Marvell	90.92	41	P	P	08 04 30.9	+0.8
	baz=322						
833A	Chaparral WMA,	90.92	51	epP	pP	08 04 46.2	+3.2
S49A	Springfield	90.97	36	P	P	08 04 30.7	+0.5
	baz=326						
R50A	Paris	90.98	35	P	P	08 04 31.2	+0.8
	baz=326						
Y42A	Garnett, Star	90.99	42	P	P	08 04 31.6	+1.2
	baz=322						
T48A	Bowling Green	91.02	37	P	P	08 04 31.0	+0.5
	baz=325						
N55A	Marion Center	91.08	30	P	P	08 04 32.2	+1.4
	baz=330						
WVT	Waverly	91.14	38	eP	P	08 04 31.4	+0.3
	comp=Z,16nm,1.2s						
WVT	Waverly	91.14	38	eP	P	08 04 31.4	+0.3
WVT				pmax	pmax		
	comp=Z,16nm,1.2s						
U47A	Clarksville	91.14	38	P	P	08 04 32.2	+1.1
	baz=324						
W45A	Hickory Valley	91.26	40	P	P	08 04 32.5	+0.9
	baz=323						
V46A	Holladay	91.26	39	P	P	08 04 31.9	+0.3
	baz=324						
T49A	Edmonton	91.42	36	P	P	08 04 33.2	+0.8
	baz=326						
U48A	Cassie Pea, Po	91.44	37	P	P	08 04 33.1	+0.6
	baz=325						
S50A	Richmond	91.45	35	P	P	08 04 33.1	+0.6
	baz=326						
V47A	Nunnelly	91.53	38	P	P	08 04 33.0	+0.1
	baz=324						
OXF	Oxford	91.66	40	eP	P	08 04 34.4	+0.9
	comp=Z,102nm,1.4s						
OXF				epP	pP	08 04 48.0	+1.7
OXF	Oxford	91.66	40	eP	P	08 04 34.4	+0.9
OXF				e*PP	pP	08 04 48.0	+1.7
OXF				pmax	pmax		
	comp=Z,102nm,1.4s						
X45A	UM Field Stati	91.74	41	P	P	08 04 34.6	+0.7
	baz=323						
U49A	Red Boiling Sp	91.79	37	P	P	08 04 35.0	+1.0
	baz=325						
T50A	Nancy	91.80	36	P	P	08 04 34.3	+0.2
	baz=326						
P55A	Reedsville	91.84	31	P	P	08 04 35.8	+1.5
	baz=329						
V48A	Smith Brothers	91.93	38	epP	pP	08 04 48.8	+1.2
V48A	Smith Brothers	91.93	38	P	P	08 04 35.2	+0.4
	baz=325						
W47A	Westpoint	91.96	39	P	P	08 04 34.9	0.0
	baz=324						
Y45A	Yeager Farm, C	92.11	41	P	P	08 04 36.9	+1.3
	baz=323						
N59A	State Game Lan	92.15	28	epP	pP	08 04 49.4	+0.8
	comp=Z,41nm,1.4s						
N59A	State Game Lan	92.15	28	P	P	08 04 35.2	-0.5
	baz=332						
U50A	Jamestown	92.30	36	P	P	08 04 36.5	0.0
	baz=326						
W48A	Pulaski	92.37	38	P	P	08 04 36.8	0.0
	baz=325						
Y46A	Houston	92.44	41	P	P	08 04 37.7	+0.6
	baz=323						
W49A	Belvidere	92.70	38	P	P	08 04 38.6	+0.3
	baz=325						
Y47A	UCPARC, Winfie	92.92	40	P	P	08 04 39.8	+0.4
	baz=324						
244A	Avery, Jackson	92.97	43	P	P	08 04 40.3	+0.7
	baz=322						
U52A	Thorn Hill	92.98	35	P	P	08 04 40.3	+0.7
	baz=327						
KEST	Kesra	93.01	323	LR	LR	08 50 50.1	
	comp=Z,1μm,21.7s,baz=342,slow=38						
V51A	Loudon	93.03	36	P	P	08 04 40.6	+0.8
	baz=326						
W50A	Signal Mountai	93.08	37	P	P	08 04 40.3	+0.1
	baz=326						
X49A	Woodville	93.17	38	P	P	08 04 40.7	+0.2
	baz=325						
Y48A	Jasper	93.25	39	P	P	08 04 40.5	-0.3
	baz=324						
V52A	Sevierville	93.33	36	epP	pP	08 04 57.4	+3.3
U53A	Fall Branch	93.35	35	P	P	08 04 41.5	+0.2
	baz=327						
Z47A	Carrollton	93.38	40	P	P	08 04 42.2	+0.7
	baz=324						
LNIG	Linares	93.39	53	epP	pP	08 04 55.5	+1.0
147A	Livingston	93.70	41	epP	pP	08 04 58.1	+2.4
W53A	Cullowhee	94.09	36	P	P	08 04 44.9	+0.1
	baz=327						
Y51A	Rockmart	94.27	38	P	P	08 04 46.3	+0.7
	baz=326						
149A	Jones	94.50	40	P	P	08 04 47.7	+1.1
	baz=325						
X53A	Estanollee	94.58	36	P	P	08 04 48.1	+1.1
	baz=327						
ES19	SONSECA Array	94.79	335	eP	P	08 04 47.7	-0.2
ESDC	Sonseca Array	94.83	335	P	P	08 04 47.5	-0.6
	comp=Z,1.9nm,0.7s,baz=23,slow=3.6,SNR=9.1						
ESDC				PP	PP	08 08 39.1	+2.9
	comp=Z,3.1nm,0.9s,baz=17,slow=8.1,SNR=6.1						
ESDC				LR	LR	08 52 55.6	
	comp=Z,788nm,18.8s,baz=45,slow=39						
250A	Grady	95.26	40	epP	pP	08 05 04.4	+1.5
Y54A	Tignall	95.39	36	P	P	08 04 51.3	+0.6
	baz=327						
RKT	Rikitea	99.21	112	eSS	SS	08 23 32.7	+6.5
	comp=Z,254nm,28.5s						
RKT	Rikitea	99.21	112	eLR	LR	08 37 26.5	
	comp=Z,1μm,22.8s						
KMBO	Kilima Mbogo	102.30	279	P	Pdif	08 05 22.0	-0.2
	comp=Z,0.9nm,0.3s,baz=207,slow=4.9,SNR=4.5						
TOA1	Torodi Ar. Sit	115.64	317	ePKPdf	PKiKP	08 10 06.8	-1.9
TOA0	Torodi Ar. Sit	115.64	317	ePKPdf	PKiKP	08 10 07.3	-1.5
TORD	Torodi Ar. Bea	115.64	317	PKP	PKiKP	08 10 06.8	-1.9
	comp=Z,1.1nm,0.8s,baz=17,slow=2.1,SNR=5.7						
TORD				PP	PP	08 11 04.0	-6.7
	comp=Z,3.8nm,1.0s,baz=12,slow=10,SNR=8.4						
SDV	Santo Domingo	122.44	40	ePKPdf	PKPdf	08 10 21.9	-0.2
SDV	Santo Domingo	122.44	40	eP	PKiKP	08 10 22.4	+0.1
DBIC	Dimbokro	124.50	319	PKP	PKPdf	08 10 25.5	-0.3
	comp=Z,3.0nm,0.7s,baz=109,slow=3.8,SNR=4.3						
DBIC				PP	PP	08 12 10.3	-1.1
	comp=Z,8.4nm,1.1s,baz=13,slow=8.7,SNR=4.1						
DBIC	Dimbokro	124.50	319	ePKPdf	PKPdf	08 10 25.6	-0.2
DBIC	Dimbokro	124.50	319	eP	PKiKP	08 10 27.9	+1.8
LBTB	Lobatse	125.72	266	ePKPdf	PKPdf	08 10 27.9	0.0
LBTB	Lobatse	125.72	266	ePKIKP	PKPdf	08 10 27.9	0.0
BOSA	Boshof	127.85	262	PKP	PKPdf	08 10 31.7	-0.2
	comp=Z,4.9nm,1.0s,baz=30,slow=8.4,SNR=3.8						
SYO	Syowa Base	131.33	208⇓	epPdiff	pPdif	08 07 44.6	+2.0
SYO	Syowa Base	131.33	208⇓	esPdiff	sPdif	08 07 49.0	+1.7
LPAZ	La Paz	144.39	57	PKP	PKPbc	08 11 02.1	+0.2
	comp=Z,2.5nm,0.8s,baz=33,slow=4.2,SNR=8.8						
LPAZ	La Paz	144.39	57	ePKIKP	PKPbc	08 11 02.2	+0.3
LPAZ	La Paz	144.39	57	eP	PKPdf	08 11 05.0	+1.6
MNMC	Minye Minye	145.46	62	ePKPdf	PKPdf	08 11 04.7	0.0
VNA2	Neumayer--Watz	145.52	197	P	PKPbc	08 11 03.2	0.0
VNA3	Neumayer Olymp	145.77	196	P	PKPdf	08 11 03.4	0.0
RCBR	Riachuelo	145.80	357	ePKPdf	PKPbc	08 11 05.5	-0.2
RCBR	Riachuelo	145.80	357	ePKP2	PKPbc	08 11 05.5	-0.2
PB11	IPOC Station P	145.85	63	ePKPdf	PKPbc	08 11 06.0	+0.1
VNA1	Neumayer--Stat	145.92	197	P	PKPab	08 11 05.0	+0.1
GO01	Chusmiza	146.10	62	ePKPdf	PKPbc	08 11 07.0	-0.1
PB01	IPOC Station P	146.84	64	ePKPdf	PKPbc	08 11 08.1	-0.6
LVC	Limon Verde	148.27	66	ePKPdf	PKPdf	08 11 10.2	+0.7
LVC	Limon Verde	148.27	66	ePKIKP	PKPdf	08 11 10.2	+0.7
LVC	Limon Verde	148.27	66	eP	PKPbc	08 11 11.8	-1.2
GO02	Mina Guanaco	149.39	71	ePKPbc	PKiKP	08 11 16.4	-0.4
LCO	Las Campanas	150.72	78	ePKPbc	PKiKP	08 11 19.7	+0.4
LCO	Las Campanas	150.72	78	ePKIKP	PKiKP	08 11 19.7	+0.4
LCO	Las Campanas	150.72	78	eP	PKPdf	08 11 14.6	+1.5
PMSA	Palmer Station	150.97	157	eP	PKPbc	08 11 14.9	-2.8
SALV	Santo Antonio	151.15	38	eP	PKPdf	08 11 15.5	+1.7
GO04	Tololo Observa	151.23	80	ePKPbc	PKiKP	08 11 20.5	+0.2
BDFB	Brasilia	153.94	23	PKPbc	PKiKP	08 11 26.5	+0.4
	comp=Z,6.2nm,1.0s,baz=193,slow=3.7,SNR=5.6						
BDFB				PKPab	PKPab	08 11 39.7	+0.4
	comp=Z,2.1nm,0.6s,baz=332,slow=7.4,SNR=4.9						
PLCA	Paso Flores	154.98	102	PKPbc	PKiKP	08 11 28.6	+1.1
	comp=Z,2.8nm,0.8s,baz=175,slow=3.8,SNR=4.1						
PLCA				PKPab	PKPab	08 11 43.5	+0.3
	comp=Z,5.1nm,1.0s,baz=260,slow=5.9,SNR=3.5						
PLCA	Paso Flores	154.98	102	ePKPdf	PKPdf	08 11 21.2	+2.5
PLCA	Paso Flores	154.98	102	ePKIKP	PKPdf	08 11 21.2	+2.5
PLCA	Paso Flores	154.98	102	eP	PKPdf	08 11 19.9	+1.2
AQDB	Aquidauana	155.01	44	eP	PKPdf	08 11 23.1	+3.8
MCI9	Montes Claros	156.00	15	eP	PKPdf	08 11 23.5	+2.7
IPMB	Ipameri, GO	156.08	26	eP	PKPdf	08 11 23.9	+3.1
CPUP	Villa Florida	158.56	56	PKPab	PKPab	08 11 58.8	0.0
	comp=Z,2.1nm,1.0s,baz=314,slow=5.0,SNR=3.7						
ALF01	Guarapari-ES	160.35	9	eP	PKPdf	08 11 27.9	+2.1
RCLB	Rio Claro- Sao	160.41	28	eP	PKPdf	08 11 29.2	+3.2
ITAB	Concordia	162.36	48	eP	PKPdf	08 11 31.0	+3.2
TIJ01	Guaruva-PR	162.40	36	eP	PKPdf	08 11 31.6	+3.5

*NEIC **08** 07:57:18.0±0.0, 15°.88N×97°.28W, h10km, mb4.1/16, MD4.0(MEX), After MEX.*

MEX 08 07:57:18.4±0.5, 15°.88N×97°.28W, h10km±2km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PANG	Puerto Angel	0.80	105	eP	Pg	07 57 31.7	-2.3
PANG				eS	Sg	07 57 42.5	-2.0
PNIG	Pinotepa	0.96	302	eP	Pg	07 57 34.2	-2.7
PNIG				eS	Sg	07 57 45.9	-3.5
HUIG	Huatulco	1.13	96	eP	Pb	07 57 36.5	-3.6
HUIG				i S	Sb	07 57 50.5	-4.4
OXBJ	Oaxaca	1.29	24	eS	Sb	07 57 54.8	-4.9
VHO	Vista Hermosa	1.29	24	eP	Pn	07 57 39.0	-3.7
VHO				eS	Sb	07 57 54.8	-4.9
TLIG	Tlapa	2.08	324	ePn	Pn	07 57 51.1	-2.3
TLIG				eSn	Sn	07 58 19.9	+0.5
TLIG	Tlapa	2.08	324	eP	Pn	07 57 50.0	-3.4
TLIG				eS	Sn	07 58 15.1	-4.3
CMIG	Matias Romero	2.59	62	eP	Pn	07 57 57.6	-2.7
CMIG				eS	Sn	07 58 28.2	-3.8
CAIG	El Cayaco	3.09	292	i P	Pn	07 58 04.7	-2.6
CAIG				i S	Sn	07 58 40.5	-3.8
UNM	Universidad Na	3.88	332	ePn	Pn	07 58 16.8	-1.5
LVIG	Laguna Verde	3.91	12	ePn	Pn	07 58 17.1	-1.3
CCIG	Comitan	4.96	85	ePn	Pn	07 58 32.1	-1.0
MOIG	Morelia	5.30	316	ePn	Pn	07 58 37.3	-0.6
TEIG	Tepich	9.59	62	ePn	Pn	07 59 34.5	-2.0
TEIG				eSn	Sn	08 01 19.2	-5.2
MIAR	Mount Ida	18.88	9	eP	P	08 01 37.9	-1.0
	7.7nm,0.9s						
250A	Grady	18.90	30	eP	P	08 01 38.6	-0.5
	34nm,1.5s						
LRAL	Lakeview Retre	19.45	27	eP	P	08 01 44.5	-0.7
	9.8nm,1.3s						
W41B	Gary Mavity, V	19.73	12	eP	P	08 01 47.0	-1.3
	4.1nm,1.1s						
WHAR	Wooly Hollow	19.84	12	eP	P	08 01 48.8	-0.6
	15nm,1.4s						
OXF	Oxford	19.85	19	eP	P	08 01 48.4	-1.2
	20nm,1.3s						
Y49A	Blount Mountai	20.41	27	eP	P	08 01 51.8	-3.8
	20nm,1.3s						
LAZ	Ladron	20.46	336	eP	P	08 01 52.9	-3.6
T42A	Van Buren	21.77	13	eP	P	08 02 09.0	-1.2
	3.8nm,0.9s						
SWET	Sewanee	21.77	26	eP	P	08 02 06.1	-4.3
	8.7nm,0.7s						
WVT	Waverly	21.85	21	eP	P	08 02 08.6	-2.6
	14nm,1.5s						
T25A	Trinidad	22.10	345	eP	P	08 02 12.7	-1.4
	8.1nm,0.9s						
X16A	Lo Mia Camp, P	22.42	328	eP	P	08 02 15.4	-2.1
	5.0nm,1.3s						
HODGE	Hodges	22.73	34	eP	P	08 02 17.4	-3.1
	5.6nm,1.0s						
SDCO	Great Sand Dun	22.96	343	eP	P	08 02 20.3	-3.0
	6.5nm,1.4s						
WUAZ	Wupatki	23.26	330	eP	P	08 02 25.2	-1.1
	6.4nm,1.0s						
MVCO	Mesa Verde	23.45	337	eP	P	08 02 28.1	-0.2
	7.6nm,1.0s						

*ISCJB **08** 08:05:01.1±0.3, 4°.14N±0°.03×127°.97E±0°.06, h150km, mb4.4/24, Error ellipse: s-maj=8.4km s-min=3.7km az=155.7*
*MAN **08** 08:05:02.6, 4°.18N×127°.61E, h0km, mb4.5, ML3.4, MS3.2*
*NEIC **08** 08:05:03.5±0.7, 4°.09N×127°.86E, h162km±7km, mb4.6/15, Error ellipse: s-maj=11.1km s-min=4.3km az=80.0*
*IDC **08** 08:05:04.3±1.1, 4°.08N×127°.91E, h166km±12km, mb4.0/13, mb1 4.1/15, mb1mx3.8/39, mbtmp4.5/15, MS4.0/4, Ms1 4.0/4, ms1mx3.4/43, Error ellipse: s-maj=20.3km s-min=7.3km az=74.0*

ISC 08 08:05:02.8±0.5, 4°.09N±0°.05×127°.87E±0°.09, h150km, n53, σ1s.34/57, mb4.4/24, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	2.93	313	eP	Pn	08 05 49.8	+0.4
DDMP				eS	Sn	08 06 25.5	+0.1
TNTI	Ternate	3.34	189	ePn	Pn	08 05 56.4	+1.8
TNTI				eSn	Sn	08 06 37.1	+2.5
DAV	Davao City (W)	3.73	322	P	Pn	08 06 02.8	+3.1
	107nm,0.3s,baz=188,slow=9.9,SNR=3.7						
DAV				S	Sn	08 06 47.5	+3.7
	114nm,0.3s,baz=345,slow=19,SNR=4.1						
DAV	Davao City (W)	3.73	322	ePn	Pn	08 06 00.2	+0.6
DAV				eSn	Sn	08 06 46.3	+2.6
SKMP	Bagumbayan, Su	4.10	306	eP	Pn	08 06 04.3	0.0
SKMP				eS	Sn	08 06 50.5	-1.7
BIPH	Bislig	4.33	340⇑	eP	Pn	08 06 05.8	-1.6
BIPH				eS	Sn	08 06 50.5	-7.3
BUKP	Musuan	4.68	324	eP	Pn	08 06 12.1	0.0
BUKP				eS	Sn	08 07 05.8	-0.3
BUTP	Butuan	5.33	335	eP	Pn	08 06 22.5	+1.7
BUTP				eS	Sn	08 07 24.7	+3.2
PAGZ	Pagadian	5.82	310	eP	Pn	08 06 29.5	+2.3
SIJI	Sorong	5.99	145	P	Pn	08 06 31.5	+2.1
	13nm,0.3s,baz=332,slow=8.1,SNR=31						
SIJI				S	Sn	08 07 38.3	+1.1
	16nm,0.3s,baz=20,slow=23,SNR=22						
LUWI	Luwuk	7.21	225	ePn	Pn	08 06 46.0	+0.3
FAKI	Fak Fak	8.23	148	ePn	Pn	08 07 00.4	+1.1
FITZ	Fitzroy Crossi	22.16	186	P	P	08 09 45.8	-1.0
	8.7nm,0.8s,baz=5.0,slow=8.3,SNR=18						
FITZ	Fitzroy Crossi	22.16	186	eP	P	08 09 45.6	-1.2
	15nm,1.1s						
JOW	Kunigami	22.61	1	LR	LR	08 21 10.7	
	comp=Z,184nm,18.3s,baz=110,slow=43						
COEN	Coen	23.50	140	eP	P	08 09 58.8	-0.6
	4.9nm,0.8s						
WRAB	Tennant Creek	24.71	165	eP	P	08 10 09.5	-0.8
	38nm,0.5s						
WR1	Warramunga Arr	24.72	165	eP	P	08 10 10.1	-0.3
	31nm,0.6s						
WRA	Warramunga Arr	24.72	165	P	P	08 10 10.1	-0.3
	35nm,0.8s,baz=341,slow=10,SNR=152						
WB2	Warramunga Arr	24.72	165	eP	P	08 10 09.8	-0.6
MBWA	Marble Bar	26.33	197	eP	P	08 10 24.0	-1.0
	2.1nm,1.1s						
AS31	Alice Springs	28.21	168	eP	P	08 10 41.2	-0.5
	1.6nm,0.8s						
ASAR	Alice Springs	28.21	168	P	P	08 10 41.6	-0.1
	1.8nm,0.4s,baz=352,slow=7.6,SNR=46						
AS01	Alice Springs	28.22	168	eP	P	08 10 41.0	-0.8
PSI	Prapat	28.92	268	LR	LR	08 24 21.1	
	comp=Z,392nm,19.5s,baz=89,slow=40						
CTA	Charters Tower	30.06	144	LR	LR	08 24 24.8	
	comp=Z,388nm,21.9s,baz=351,slow=39						
KSAR	Wonju Array Be	33.19	0	P	P	08 11 24.6	-0.7
KSRS	Korea Array	33.20	0	P	P	08 11 24.6	-0.8
	2.4nm,0.6s,baz=179,slow=9.5,SNR=8.1						
MJAR	Matsushiro Arr	33.66	15	P	P	08 11 27.4	-2.1
	2.1nm,0.6s,baz=184,slow=10,SNR=9.7						
MAJO	Matsushiro	33.67	15	eP	P	08 11 27.4	-2.1
FORT	Forrest	34.68	180	eP	P	08 11 37.6	-0.5
	28nm,0.6s						
BBOO	Buckleboo	37.52	169	eP	P	08 12 01.1	-1.2
	4.5nm,0.6s						
STKA	Stephens Creek	38.08	161	P	P	08 12 07.1	0.0
	12nm,0.4s,baz=337,slow=8.4,SNR=36						
STKA	Stephens Creek	38.08	161	eP	P	08 12 07.0	0.0
	4.1nm,0.9s						
NWAO	Narrogin (SRO)	38.17	195	P	P	08 12 07.6	-0.3
	5.9nm,0.5s,baz=260,slow=8.9,SNR=8.5						
USRK	Ussuriysk Ar.	40.11	5	P	P	08 12 22.9	-0.8
	2.3nm,0.4s,baz=180,slow=8.1,SNR=13						
ARMA	Armidale	41.16	148	eP	P	08 12 32.9	+0.2
	20nm,0.7s						
ASAJ	Asahikawa	41.92	16	P	P	08 12 38.9	+0.3
	5.4nm,0.5s,baz=233,slow=9.6,SNR=5.8						
ASAJ	Asahikawa	41.92	16	eP	P	08 12 38.2	-0.5
	12nm,1.1s						
KLR	Kul'dur	45.09	4	P	P	08 13 04.5	+0.6
	2.2nm,0.5s,baz=179,slow=9.3,SNR=8.5						
SONA0	Songino Array	47.33	340	eP	P	08 13 22.4	+0.9
SONM	Songino Array	47.33	340	P	P	08 13 22.4	+0.9
	0.4nm,0.5s,baz=148,slow=8.7,SNR=4.9						
PEA0B	Petropavlovsk-	54.67	22	eP	P	08 14 16.0	-0.1
	33nm,1.1s						
PETK	Petropavlovsk-	54.67	22	P	P	08 14 17.2	+1.0
	32nm,1.3s,baz=189,slow=6.0,SNR=5.8						
PETK	Petropavlovsk-	54.67	22	eP	P	08 14 15.7	-0.4
PEA1	Petropavlovsk-	54.68	22	eP	P	08 14 17.2	+1.0
MK31	Makanchi Array	57.91	325	eP	P	08 14 38.7	-0.5
MK32	Makanchi Array	57.91	325	eP	P	08 14 39.1	-0.2
MKAR	Makanchi Array	57.91	325	P	P	08 14 39.1	-0.2
	1.1nm,0.4s,baz=114,slow=8.0,SNR=28						
MKAR	Makanchi Array	57.91	325	eP	P	08 14 38.6	-0.7
	9.2nm,0.6s						
KURK	Kurchatov	62.05	327	eP	P	08 15 06.5	-0.9
	2.1nm,0.7s						
BKZ	Black Stump Fm	62.10	139	eP	P	08 15 06.7	-1.3
	17nm,1.1s						
VNDA	Vanda	83.64	173	LR	LR	08 53 51.8	
	comp=Z,103nm,20.4s,baz=345,slow=35						

*SOME **08** 08:06:33.3, 40°.93N×78°.28E, h5km*
*KRNET **08** 08:06:33.5±0.1, 40°.95N×78°.50E, h26km, mb2.9*
*NNC **08** 08:06:36.3±1.9, 40°.97N×78°.24E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=13.3km s-min=9.0km az=175.0*

ISC 08 08:06:36.8±2.6, 41°.02N±0°.08×78°.23E±0°.04, h4km±14km, n42, σ1s.36/68, 23C-9D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KDJ	Kajisay	1.36	325	⇑ iP	Pn	08 07 02.0	-0.7
	baz=20						
KDJ				⇑ iS	Sg	08 07 22.8	+2.3
	baz=20						
PRZ	Przheval'sk	1.47	5	⇑ iP	Pn	08 07 01.5	-2.7
	baz=58						
PRZ				⇑ iS	Sn	08 07 22.3	-1.6
	baz=58						
NRN	Naryn	1.73	284	⇓ iP	Pb	08 07 09.0	-0.4
	baz=85						
NRN				⇓ iS	Sg	08 07 35.3	+2.8
	baz=85						
ULHL	Ulahol	1.93	310	⇑ iP	Pb	08 07 11.5	-1.1
	baz=8.0						
ULHL				⇑ iS	Sg	08 07 39.0	+0.2
	baz=8.0						
SATY	Saty	2.04	4	Pg	Pb	08 07 14.0	-0.5
	36nm,0.4s						
SATY				Lg	Lg	08 07 43.9	
	61nm,0.5s						
SATY	Saty	2.04	4	⇑ iP	Pb	08 07 14.0	-0.5
	24nm,0.5s						
SATY				⇓ iS	Sg	08 07 43.9	+1.5
	69nm,0.3s						
UZB	Uzynbulak	2.20	15	eP	Pb	08 07 15.7	-1.6
	4.5nm,0.2s						
UZB				eS	Sb	08 07 46.5	+1.5
	30nm,0.5s						
TNSS	Tian-Shan	2.23	335	Pg	Pb	08 07 17.4	-0.5
	25nm,0.6s						
TNSS				Lg	Lg	08 07 49.4	
	48nm,0.5s						
TNSS	Tian-Shan	2.23	335	⇑ iP	Pb	08 07 17.4	-0.5
	18nm,0.4s						
TNSS				eS	Sg	08 07 49.4	+0.9
	50nm,0.5s						
BOOM	Boomskoye usch	2.25	311	⇑ iP	Pn	08 07 16.1	+1.1
	baz=10.0						
BOOM				⇑ iS	Sb	08 07 46.9	+0.4
	baz=10.0						
MDOK	Medeo	2.31	338	⇓ Pn	Pb	08 07 18.3	-0.9
	16nm,0.5s						
MDOK				⇓ Sn	Sb	08 07 49.2	+1.0
	33nm,0.6s						
MDOK	Medeo	2.31	338	Pg	Pb	08 07 18.7	-0.4
	22nm,0.5s						
MDOK				Lg	Lg	08 07 51.5	
	38nm,0.6s						
MDOK	Medeo	2.31	338	eP	Pb	08 07 18.8	-0.4
	22nm,0.5s						
MDOK				⇓ iS	Sg	08 07 51.5	+0.4
	38nm,0.6s						
SHLS	Shalkode	2.32	23	eP	Pb	08 07 19.8	+0.5
	6.9nm,0.2s						
SHLS				eS	Sg	08 07 53.4	+2.0
	60nm,0.6s						
KURS	Kuram	2.46	359	Pg	Pb	08 07 21.6	-0.1
	24nm,0.5s						
KURS				Lg	Lg	08 07 56.9	
	34nm,0.5s						
KURS	Kuram	2.46	359	eP	Pb	08 07 21.6	-0.1
	24nm,0.5s						
KURS				⇓ eS	Sg	08 07 56.9	+1.0
	34nm,0.5s						
KZA	Kyzart	2.47	296	⇑ iP	Pb	08 07 19.6	-2.4
	baz=96						
KZA				⇑ iS	Sb	08 07 52.9	-0.1
	baz=96						
PDGK	Podgornoye	2.49	22	⇓ Pn	Pn	08 07 19.4	+1.2
	14nm,0.8s						
PDGK				⇑ Sn	Sb	08 07 53.1	0.0
	38nm,0.6s						
PDGK	Podgornoye	2.49	22	⇑ iP	Pn	08 07 16.4	-1.8
	baz=17						
PDGK				⇑ iS	Sn	08 07 48.1	-0.9
	baz=17						
MTBS	Maitube	2.50	328	Pg	Pb	08 07 21.7	-0.6
	11nm,0.2s						
MTBS				Lg	Lg	08 07 56.4	
	24nm,0.3s						
MTBS	Maitube	2.50	328	eP	Pb	08 07 21.7	-0.6
	11nm,0.2s						
MTBS				eS	Sg	08 07 56.4	-0.6
	24nm,0.3s						
KST	Kastek	2.63	321	Pg	Pb	08 07 24.0	-0.6
	12nm,0.7s						
KST				Lg	Lg	08 08 01.1	
	24nm,0.8s						
KST	Kastek	2.63	321	eP	Pb	08 07 24.0	-0.6
	12nm,0.7s						
KST				eS	Sg	08 08 01.1	-0.3
	24nm,0.8s						
TKM2	Tokmak 2	2.73	315	⇑ Pn	Pb	08 07 24.8	-1.5
	3.6nm,0.5s						
TKM2				⇑ Lg	Lg	08 08 05.8	
	17nm,0.7s						
TKM2	Tokmak 2	2.73	315	⇑ iP	Pn	08 07 23.0	+1.4
	baz=13						
TKM2				⇑ iS	Sb	08 07 58.7	-1.5
	baz=13						
KTMS	Ketmen	2.89	32	Pg	Pb	08 07 27.8	-1.2
	4.9nm,0.2s						
KTMS				Lg	Lg	08 08 07.2	
	26nm,0.5s						
KTMS	Ketmen	2.89	32	eP	Pb	08 07 27.8	-1.2

	4.9nm,0.2s						
KTMS				eS	Sb	08 08 07.2	+2.5
	26nm,0.5s						
KTBS	Karatobe	2.92	337	Pg	Pb	08 07 28.9	-0.6
	8.1nm,0.8s						
KTBS				Lg	Lg	08 08 09.2	
	18nm,0.4s						
KTBS	Karatobe	2.92	337	eP	Pb	08 07 28.9	-0.6
	8.1nm,0.8s						
KTBS				eS	Sg	08 08 09.2	-1.4
	18nm,0.4s						
CHKK	Chushkaly	2.98	342	Pg	Pb	08 07 30.4	0.0
	6.9nm,0.5s						
CHKK				Lg	Lg	08 08 11.9	
	56nm,0.3s						
CHKK	Chushkaly	2.98	342	eP	Pb	08 07 30.4	0.0
	6.9nm,0.5s						
CHKK				⇑iS	Sg	08 08 11.9	-0.4
	56nm,0.3s						
MNBS	Baschi	3.06	2	Pg	Pb	08 07 31.2	-0.6
	5.2nm,0.5s						
MNBS				Lg	Lg	08 08 13.1	
	25nm,0.6s						
MNBS	Baschi	3.06	2	eP	Pb	08 07 31.2	-0.6
	5.2nm,0.5s						
MNBS				eS	Sg	08 08 13.1	-1.9
	25nm,0.6s						
KUU	Kurty	3.19	335	Pg	Pb	08 07 33.7	-0.3
	5.9nm,0.6s						
KUU				Lg	Lg	08 08 17.6	
	26nm,0.7s						
KUU	Kurty	3.19	335	eP	Pb	08 07 33.7	-0.3
	5.9nm,0.6s						
KUU				eS	Sg	08 08 17.6	-1.7
	26nm,0.7s						
ARXS	Arharly	3.20	355	Pg	Pb	08 07 33.6	-0.7
	7.7nm,0.7s						
ARXS				Lg	Lg	08 08 17.2	
	30nm,0.5s						
ARXS	Arharly	3.20	355	eP	Pb	08 07 33.6	-0.7
	7.7nm,0.7s						
ARXS				eS	Sb	08 08 17.2	+3.6
	30nm,0.5s						
DJR	Jarkent	3.50	19	Pg	Pb	08 07 38.9	-0.4
	1.5nm,0.4s						
DJR				Lg	Lg	08 08 26.3	
	8.3nm,0.5s						
DJR	Jarkent	3.50	19	eP	Pb	08 07 38.9	-0.4
	1.5nm,0.4s						
DJR				⇓iS	Sg	08 08 26.3	-3.0
	8.3nm,0.5s						
KAPS	Kapalarasan	4.34	11	Pg	Pb	08 07 55.1	+1.5
	2.2nm,0.3s						
KAPS				Lg	Lg	08 08 54.5	
	6.6nm,0.4s						
KAPS	Kapalarasan	4.34	11	eP	Pb	08 07 55.1	+1.5
	2.2nm,0.3s						
KAPS				⇑iS	Sg	08 08 54.5	-1.7
	6.6nm,0.4s						
MK31	Makanchi Array	6.47	26	⇑Sn	Sn	08 09 29.4	+2.3
	0.7nm,0.6s						
MK31				⇑Lg	Lg	08 10 02.8	
	1.4nm,0.6s						

*MAN **08** 08:07:50.5, 6°.80N×127°.40E, h9km, mb4.4, ML3.2, MS3.0*
*IDC **08** 08:08:00.9±5.3, 6°.94N×126°.96E, h76km±47km, mb3.3/4, mb1 3.4/4, mb1mx3.1/37, mbtmp3.5/4, Error ellipse: s-maj=62.1km s-min=21.4km az=66.0*
ISC 08 08:07:54.1±1.5**, 6°.96N**±0°.06×**127°.13E**±0°.07**, h19**km±5km**,**
n11, σ0^{s}86/17**, mb3.6**/4**, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.86	269	eP	Pg	08 08 10.9	-0.2
MATI				eS	Sb	08 08 21.3	-0.4
BIPH	Bislig	1.44	328	⇑eP	Pg	08 08 21.4	-0.5
BIPH				eS	Sg	08 08 40.4	-0.3
DAV	Davao City (W)	1.54	274	P	Pg	08 08 23.7	-0.2
	124nm,0.3s,baz=84,slow=17,SNR=4.2						
DAV				S	Sb	08 08 42.3	+1.1
	86nm,0.3s,baz=247,slow=18,SNR=5.9						
DDMP	Don Marcelino,	1.64	239	eP	Pb	08 08 23.6	-0.2
DDMP				eS	Sb	08 08 44.0	-0.1
BUKP	Musuan	2.24	294	eP	Pb	08 08 34.3	+0.2
BUKP				eS	Sg	08 09 06.6	+0.1
BUTP	Butuan	2.49	323	eP	Pg	08 08 42.5	+0.4
BUTP				eS	Sg	08 09 15.5	+1.0
CGP	Cagayan de Oro	2.83	302	eP	Pb	08 08 43.1	-1.0
FITZ	Fitzroy Crossi	24.94	183	P	P	08 13 16.8	+0.4
	1.6nm,0.7s,baz=4.7,slow=13,SNR=3.3						
WRA	Warramunga Arr	27.66	165	P	P	08 13 43.2	+2.3
	0.2nm,0.3s,baz=340,slow=11,SNR=4.4						
ASAR	Alice Springs	31.15	168	P	P	08 14 11.5	-0.4
	0.2nm,0.3s,baz=341,slow=6.9,SNR=3.3						
MKAR	Makanchi Array	55.17	324	P	P	08 17 25.4	-0.2
	0.5nm,0.4s,baz=118,slow=6.9,SNR=4.5						

*MAN **08** 08:14:38.2, 6°.92N×127°.17E, h1km, mb4.7, ML3.6, MS3.5*
*ISCJB **08** 08:14:44.3±0.8, 6°.84N±0°.04×126°.94E±0°.07, h75km±7km, mb4.1/28, Error ellipse: s-maj=11.2km s-min=5.9km az=165.3*
*NEIC **08** 08:14:46.1±0.8, 6°.85N×126°.78E, h76km±7km, mb4.2/16, Error ellipse: s-maj=8.2km s-min=4.3km az=76.0*
*IDC **08** 08:14:46.3±1.8, 6°.83N×126°.93E, h74km±17km, mb3.8/14, mb1 3.9/15, mb1mx3.8/36, mbtmp4.1/15, MS3.7/1, Ms1 3.7/1, ms1mx3.0/38, Error ellipse: s-maj=21.1km s-min=10.8km az=72.0*
ISC 08 08:14:44.1±1.1**, 6°.84N**±0°.04×**126°.98E**±0°.07**, h56**km±10km**,**
n64, σ1^{s}98/73**, mb4.2**/28**, 3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.72	278	eP	Pn	08 14 55.8	-2.6
MATI				eS	Sn	08 15 06.3	-2.6
DAV	Davao City (W)	1.41	279	P	Pn	08 15 07.9	+0.4
	170nm,0.3s,baz=66,slow=3.3,SNR=31						
DAV				S	Sn	08 15 27.4	+2.4
	190nm,0.3s,baz=245,slow=19,SNR=11						
DAV	Davao City (W)	1.41	279	ePn	Pn	08 15 08.0	+0.5
DAV				eSn	Sn	08 15 26.0	+0.9
DDMP	Don Marcelino,	1.46	240	eP	Pn	08 15 08.4	+0.2
DDMP				eS	Sn	08 15 29.6	+3.4
BIPH	Bislig	1.47	335	⇓eP	Pn	08 15 06.5	-1.8
BIPH				eS	Sn	08 15 22.8	-3.6
GSPH	General Santos	2.15	250	⇓iP	Pn	08 15 18.0	+0.3
BUKP	Musuan	2.16	299	eP	Pn	08 15 18.5	+0.7
BUKP				eS	Sn	08 15 51.4	+7.9
SKMP	Bagumbayan, Su	2.44	263	eP	Pn	08 15 22.1	+0.6
BUTP	Butuan	2.51	328	eP	Pn	08 15 24.5	+2.1
BUTP				eS	Sn	08 16 00.6	+8.8
CGP	Cagayan de Oro	2.77	305	⇓eP	Pn	08 15 27.6	+1.5
CGP				eS	Sn	08 16 02.2	+3.7
PAGZ	Pagadian	3.71	286	eP	Pn	08 15 40.6	+1.8
DCPH	Dipolog City	3.99	296	eP	Pn	08 15 57.1	+14
TNTI	Ternate	6.04	176	ePn	Pn	08 16 12.6	+1.7
SIJI	Sorong	8.77	151	P	Pn	08 16 48.7	+0.3
	2.6nm,0.3s,baz=3.7,slow=9.5,SNR=7.8						
SBUM	Sibu	15.34	254	ePn	Pn	08 18 16.8	-0.5
	4.1nm,0.7s						
CBIJ	Chichi jima	24.79	34	eP	P	08 20 01.1	+0.2
	61nm,1.1s						
FITZ	Fitzroy Crossi	24.82	183	P	P	08 20 02.3	+1.2
	5.6nm,1.1s,baz=9.5,slow=9.4,SNR=11						
FITZ	Fitzroy Crossi	24.82	183	eP	P	08 20 01.2	+0.1
COEN	Coen	26.18	142	eP	P	08 20 15.1	+1.5
	8.7nm,1.1s						
JNU	Nakatsue	26.40	7	P	P	08 20 16.5	+1.1
	9.4nm,0.9s,baz=63,slow=5.1,SNR=5.5						
JNU	Nakatsue	26.40	7	eP	P	08 20 14.8	-0.7
	14nm,1.0s						
WRAB	Tennant Creek	27.58	165	eP	P	08 20 26.5	+0.4
	2.9nm,0.9s						
WR1	Warramunga Arr	27.58	165	eP	P	08 20 26.9	+0.7
	1.9nm,0.6s						
WRA	Warramunga Arr	27.58	165	P	P	08 20 26.9	+0.7
	0.6nm,0.3s,baz=340,slow=11,SNR=25						
WB2	Warramunga Arr	27.59	165	eP	P	08 20 26.8	+0.6
MBWA	Marble Bar	28.72	194	eP	P	08 20 37.0	+0.7
	10nm,1.1s						
KSRS	Korea Array	30.48	1	LR	LR	08 32 06.7	
	comp=Z,158nm,21.0s,baz=121,slow=34						
AS31	Alice Springs	31.07	168	eP	P	08 20 57.5	+0.5
	0.9nm,0.9s						
ASAR	Alice Springs	31.07	168	P	P	08 20 57.0	0.0
	0.6nm,0.3s,baz=340,slow=7.4,SNR=20						
ASAR				PcP	PcP	08 23 51.6	-0.1
	0.7nm,0.5s,baz=339,slow=2.2,SNR=7.2						
MAJO	Matsushiro	31.29	18	eP	P	08 20 58.6	-0.3
MJAR	Matsushiro Arr	31.29	18	P	P	08 20 58.6	-0.3
	1.4nm,0.6s,baz=306,slow=5.6,SNR=5.1						
FORT	Forrest	37.42	178	eP	P	08 21 52.2	+0.3
	15nm,0.8s						
USRK	Ussuriysk Ar.	37.47	6	P	P	08 21 53.4	+1.3
	3.1nm,0.8s,baz=202,slow=8.2,SNR=6.6						
BRDH	Bariadhala	37.48	299	eP	P	08 21 48.4	-4.2
BBOO	Buckleboo	40.37	168	eP	P	08 22 16.7	+0.2
	3.4nm,0.6s						
NWAO	Narrogin (SRO)	40.62	193	eP	P	08 22 18.9	+0.3
	13nm,1.0s						
STKA	Stephens Creek	40.95	161	P	P	08 22 22.5	+1.1
	1.9nm,0.4s,baz=337,slow=7.6,SNR=7.3						
STKA	Stephens Creek	40.95	161	eP	P	08 22 21.7	+0.3
	0.8nm,0.9s						
SONA0	Songino Array	44.46	340	eP	P	08 22 50.4	+0.6
SONM	Songino Array	44.46	340	P	P	08 22 50.4	+0.6
	0.2nm,0.5s,baz=163,slow=9.3,SNR=2.9						
SONM				PcP	PcP	08 24 31.8	-0.7
	0.5nm,0.7s,baz=156,slow=4.8,SNR=3.6						
PETK	Petropavlovsk-	52.48	23	P	P	08 23 52.8	+1.6
	2.3nm,0.5s,baz=201,slow=4.4,SNR=7.9						
PEA1	Petropavlovsk-	52.48	23	eP	P	08 23 52.8	+1.6
MK01	Makanchi Array	55.16	324	eP	P	08 24 09.6	-1.3
MK01				ePcP	PcP	08 25 11.7	+0.1
MK31	Makanchi Array	55.18	324	eP	P	08 24 09.7	-1.4
MK32	Makanchi Array	55.18	324	eP	P	08 24 10.4	-0.7
MKAR	Makanchi Array	55.18	324	P	P	08 24 10.4	-0.7
	1.0nm,0.5s,baz=120,slow=8.3,SNR=16						
MKAR	Makanchi Array	55.18	324	eP	P	08 24 09.7	-1.4
	10nm,0.9s						
KK31	Karatay Array	61.16	316	eP	P	08 24 52.0	-1.0
KKAR	Karatay Array	61.16	316	eP	P	08 24 52.0	-1.0
ABKAR	Akbulak array	69.93	320	eP	P	08 25 47.7	-1.7
IM3	Indian Mountai	79.42	24	eP	P	08 26 44.4	+0.4
RAYN	Ar Rayn	79.51	293	eP	P	08 26 43.7	-1.8
	3.4nm,0.8s						
CAST	Castle Rocks	79.86	27	eP	P	08 26 47.4	+0.9
	3.4nm,0.9s						
MLY	Manley	80.57	25	eP	P	08 26 50.9	+0.6
	2.5nm,0.8s						
TRF	Thorofare Moun	80.67	27	eP	P	08 26 51.4	+0.3
	4.9nm,1.1s						
MCK	McKinley	81.28	27	eP	P	08 26 54.5	+0.4
	8.5nm,0.9s						
MDM	Murphy Dome	81.64	25	eP	P	08 26 56.4	+0.4
ILAR	Eielson Array	82.20	26	P	P	08 26 59.0	0.0
	0.9nm,0.6s,baz=232,slow=5.3,SNR=14						
ILB	Eielson Array	82.20	26	eP	P	08 26 58.6	-0.3
BR101	Keskin Array S	88.24	310	eP	P	08 27 28.8	-1.0
BRTR	Keskin Array B	88.24	310	P	P	08 27 28.8	-1.0
	1.4nm,0.8s,baz=102,slow=3.2,SNR=4.7						
AKASG	Malin Array Be	89.65	321	P	P	08 27 35.1	-0.8
	0.3nm,0.3s,baz=72,slow=4.9,SNR=3.1						
YKA	Yellowknife Ar	96.58	24	P	P	08 28 07.7	+0.1
	0.4nm,0.7s,baz=298,slow=4.7,SNR=7.8						
TORD	Torodi Ar. Bea	122.14	290	PKP	PKPdf	08 33 33.1	-0.4
	0.2nm,0.4s,baz=29,slow=3.4,SNR=3.5						

*ISCJB **08** 08:20:22.7±0.5, 39°.42N±0°.02×25°.84E±0°.04, h7km±5km, Error ellipse: s-maj=5.8km s-min=3.8km az=171.8*
*ISK **08** 08:20:22.0, 39°.40N×25°.86E, h9km, ML2.5/6*
*ATH **08** 08:20:23.2, 39°.41N×25°.82E, h13km±5km, ML2.1/2, Error ellipse: s-maj=5.2km s-min=0.9km az=165.0*
ISC 08 08:20:22.8±0.9**, 39°.41N**±0°.02×**25°.83E**±0°.03**, h12**km±9km**,**
n23, σ0^{s}66/30**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	SIGRI	0.20	173	PG	Pg	08 20 25.8	-1.2
SIGR				SG	Sg	08 20 29.7	-0.2
SIGR	SIGRI	0.20	173	P	Pg	08 20 27.6	+0.6
SIGR				S	Sg	08 20 30.8	+0.9
SIGR				AML	AML	08 20 31.3	
	comp=E,1526μm,0.2s						
SIGR				AML	AML	08 20 32.6	
	comp=N,1449μm,0.3s						
GPNR	Gulpinar-Canak	0.24	78	PG	Pg	08 20 27.2	-0.6
PRK	Paraskevi	0.38	115	P	Pg	08 20 31.1	+0.8
PRK				S	Sg	08 20 36.7	+1.2
PRK				AML	AML	08 20 37.2	
	comp=E,929μm,0.3s						
PRK				AML	AML	08 20 37.6	
	comp=N,668μm,0.4s						
BOZC	Bozcaada	0.47	22	PG	Pg	08 20 31.9	-0.1
BOZC				SG	Sg	08 20 38.6	+0.4
EZN	Ezine	0.57	43	PG	Pg	08 20 33.6	-0.3
EZN				SG	Sg	08 20 40.9	-0.5
LIA	Limnos Island	0.70	315	P	Pg	08 20 36.5	+0.2
LIA				S	Sb	08 20 46.5	0.0
GADA	Gvkgeada	0.79	4	PG	Pg	08 20 37.6	-0.4
DKL	Dikili	0.90	111	PG	Pg	08 20 40.3	+0.1
CHOS	Chios island	1.03	170	PG	Pb	08 20 42.3	-0.4
CHOS	Chios island	1.03	170	P	Pb	08 20 42.8	+0.1
CHOS				S	Sg	08 20 56.9	+0.7
SMTH	Samothraki Isl	1.09	348	P	Pb	08 20 43.6	0.0
GELI	Tayfur-Gelibol	1.11	27	PN	Pb	08 20 43.6	-0.3
SKY	Skiros Island	1.12	242	P	Pg	08 20 44.7	+0.3
LPK	Lapseki	1.20	36	PN	Pn	08 20 44.8	-0.7
URLA	Izmir	1.21	150	PN	Pn	08 20 45.4	-0.1
URLA	Izmir	1.21	150	iP	Pn	08 20 43.8	-1.8
ERIK	Erikli-Kesan	1.37	22	PN	Pn	08 20 47.6	-0.1
BALY	Balya	1.43	76	iP	Pb	08 20 49.6	+0.3
STEP	BALIKESIR_Sava	1.47	91	iP	Pb	08 20 50.5	+0.4
THAS	Thassos island	1.47	325	P	Pg	08 20 50.9	-0.1
ALN	Alexandroupoli	1.50	6	P	Pb	08 20 51.0	+0.4
KESN	Edirne-Kesan	1.56	25	iP	Pn	08 20 51.5	+0.7

*BJI **08** 08:29:37.9, 4°.83S×142°.16E, h117km, mb4.7/15, mB4.9/11*
*ISCJB **08** 08:29:39.0±0.3, 4°.15S±0°.03×142°.13E±0°.04, h109km, mb4.5/36, Error ellipse: s-maj=5.9km s-min=4.5km az=178.4*
*NEIC **08** 08:29:41.7±0.5, 4°.13S×142°.04E, h124km±4km, mb4.6/27, Error ellipse: s-maj=4.8km s-min=3.7km az=106.0*
*IDC **08** 08:29:42.1±0.6, 4°.08S×141°.98E, h125km±5km, mb4.1/9, mb1 4.3/15, mb1mx4.0/36, mbtmp4.7/15, Error ellipse: s-maj=15.0km s-min=9.0km az=58.0*
*DJA **08** 08:29:42.7±0.5, 4°S±9°×14°2E±°, h101km±9km, M4.8/6, mB5.3/1, mb4.7/6, MLv5.0/4, Mw(mB)4.8/1*
ISC 08 08:29:41.1±0.4**, 4°.24S**±0°.05×**142°.06E**±0°.06**, h109**km**, n78,**
σ1^{s}71/90**, mb4.7**/35**, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	2.18	322	P	Pn	08 30 16.9	+0.4
	19nm,0.3s,baz=162,slow=7.9,SNR=60						
JAY				S	Sn	08 30 41.9	-1.6
	34nm,0.3s,baz=293,slow=23,SNR=13						
JAY	Jayapura	2.18	322	P	Pn	08 30 16.6	+0.1
JAY				S	Sn	08 30 43.5	0.0
GENI	Genyem	2.50	311	P	Pn	08 30 22.5	+2.0
GENI				S	Sn	08 30 53.9	+3.2
MANU	Manus Island	5.73	68	ePn	Pn	08 31 04.3	+0.4
SRPI	Serui, Papua	6.27	292	P	Pn	08 31 11.6	+0.5
PMG	Port Moresby	7.21	136	P	Pn	08 31 26.1	+2.2
	8.0nm,0.3s,baz=68,slow=3.3,SNR=18						
PMG	Port Moresby	7.21	136	ePn	Pn	08 31 25.6	+1.7
COEN	Coen	9.72	174	ePn	Pn	08 31 58.8	+0.9
FAKI	Fak Fak	9.88	277	ePn	Pn	08 31 59.7	-0.4
FAKI				eSn	Sn	08 33 47.1	-2.1
FAKI	Fak Fak	9.88	277	P	Pn	08 32 01.0	+0.9
SIJI	Sorong	11.29	287	P	Pn	08 32 18.5	-0.7
	2.9nm,0.3s,baz=276,slow=10,SNR=17						
WRAB	Tennant Creek	17.31	205	eP	P	08 33 36.0	+0.2
	31nm,0.9s						
WRAB				eS	Sn	08 36 45.3	-3.7
WB2	Warramunga Arr	17.32	205	eP	P	08 33 36.0	+0.1
WR1	Warramunga Arr	17.32	205	eP	P	08 33 36.2	+0.2
	33nm,0.8s						
WR1				eS	Sn	08 36 50.0	+0.7
WRA	Warramunga Arr	17.32	205	P	P	08 33 36.2	+0.2
	2.5nm,0.3s,baz=24,slow=12,SNR=95						
WRA				S	Sn	08 36 50.0	+0.7
	baz=20,slow=22,SNR=12						
SOEI	Soe	18.48	252	eP	Pn	08 33 49.5	-0.8
	250nm,0.8s						
SOEI	Soe	18.48	252	P	Pn	08 33 51.1	+0.8
HNR	Honiara	18.49	107	P	Pn	08 33 49.7	-0.6
	12nm,0.3s,baz=309,slow=3.7,SNR=4.9						
BATI	Baumata	19.18	251	P	P	08 33 56.6	+0.2
	20nm,0.3s,baz=192,slow=1.2,SNR=7.9						
BATI	Baumata	19.18	251	P	Pn	08 33 59.3	+0.9
KDI	Kendari	19.39	270	P	Pn	08 34 04.5	+3.6
EDFI	Ende, Flores	20.72	256	P	Pn	08 34 14.8	-1.7
AS01	Alice Springs	20.83	201	eP	P	08 34 14.4	+0.2
AS31	Alice Springs	20.85	201	eP	P	08 34 14.9	+0.5
	2.4nm,0.7s						
AS31				eS	S	08 37 57.9	-3.2
ASAR	Alice Springs	20.85	201	P	P	08 34 15.2	+0.7
	6.6nm,0.6s,baz=28,slow=12,SNR=51						
ASAR				S	S	08 37 59.2	-1.8
	3.9nm,0.9s,baz=21,slow=22,SNR=6.2						
FITZ	Fitzroy Crossi	21.16	228	P	P	08 34 17.6	0.0
	39nm,0.7s,baz=45,slow=11,SNR=48						
FITZ	Fitzroy Crossi	21.16	228	eP	P	08 34 17.7	0.0
	34nm,0.6s						
TTSI	Tana Toraja	22.22	272	P	P	08 34 32.3	+3.3
EIDS	Eidsvold	22.72	158	eP	P	08 34 34.3	+0.3
	12nm,1.0s						
MBWA	Marble Bar	27.44	230	eP	P	08 35 16.9	0.0
	26nm,1.0s						
STKA	Stephens Creek	27.49	181	P	P	08 35 17.7	+0.4
	2.0nm,0.7s,baz=329,slow=6.8,SNR=3.5						
STKA	Stephens Creek	27.49	181	eP	P	08 35 17.5	+0.2
	1.4nm,1.2s						
FORT	Forrest	29.51	205	eP	P	08 35 35.9	+0.7
	26nm,0.8s						
DZM	Mont Dzumac	29.54	129	P	P	08 35 36.8	+1.1
	5.6nm,0.7s,baz=298,slow=17,SNR=4.5						
DZM	Mont Dzumac	29.54	129	eP	P	08 35 36.2	+0.5
	18nm,1.3s						
CAN	Canberra	31.59	169	eP	P	08 35 54.0	+0.5
	14nm,1.2s						
MORW	Morawa	34.90	222	eP	P	08 36 22.6	+0.2
	19nm,0.8s						
NJ2	Nanjing	42.31	330	eP	P	08 37 25.9	+1.7
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
URZ	Urewera	46.53	141	eP	P	08 37 57.6	-0.1
	32nm,1.4s						
BKZ	Black Stump Fm	46.71	143	eP	P	08 37 59.4	+0.2
	35nm,1.4s						
KMI	Kunming	48.06	309	P	P	08 38 08.6	-1.5
KMI				pmax	pmax		
	comp=Z,14nm,1.1s						
HHC	Hu-ho-hao-te	52.84	331	eP	P	08 38 49.6	+3.9
HHC				pmax	pmax		
	comp=Z,20nm,0.8s						
HHC				pmax	pmax		
	comp=Z,79nm,4.3s						
LZH	Lanzhou	53.73	322	eP	P	08 38 52.4	+0.1
LZH				pP	pP	08 39 22.8	+4.3
LZH				sP	sP	08 39 37.5	+6.9
LZH				pmax	pmax		
	comp=Z,12nm,1.3s						
LZH				LR	LR		
	comp=N,340nm,14.4s						
LZH				LR	LR		
	comp=E,260nm,15.2s						
LZH				LR	LR		
	comp=Z,350nm,15.2s						
GTA	Gaotai	58.30	322	eP	P	08 39 25.3	+0.5
GTA				pP	sP	08 39 57.1	-6.2
GTA				sP	PcP	08 40 08.7	-6.1
GTA				S	S	08 47 16.2	-2.7
GTA				sS	sS	08 48 08.4	+4.0
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,86nm,7.5s						
GTA				LR	LR		
	comp=N,120nm,17.1s						
GTA				LR	LR		
	comp=E,120nm,17.1s						
GTA				LR	LR		
	comp=Z,200nm,15.9s						
PETK	Petropavlovsk-	58.64	11	P	P	08 39 26.0	-0.7
	2.0nm,0.5s,baz=169,slow=8.8,SNR=3.4						
PEA1	Petropavlovsk-	58.65	11	eP	P	08 39 26.0	-0.7
WMQ	Urumqi	68.29	321	eP	P	08 40 33.2	+2.6
MK32	Makanchi Array	73.05	322	eP	P	08 40 57.3	-2.0
MKAR	Makanchi Array	73.05	322	P	P	08 40 57.3	-2.0
	0.4nm,0.7s,baz=90,slow=11,SNR=5.5						
MKAR				pP	pP	08 41 29.0	+2.1
	2.5nm,0.8s,baz=116,slow=7.0,SNR=9.5						
MKAR				sP	sP	08 41 42.7	+4.1
	2.9nm,0.9s,baz=114,slow=8.1,SNR=5.4						
MKAR	Makanchi Array	73.05	322	eP	P	08 40 57.5	-1.8
	6.7nm,0.9s						
MAKZ	Makanchi	73.25	322	eP	P	08 40 59.6	-0.9
	3.5nm,1.5s						
VNDA	Vanda	73.99	176	P	P	08 41 04.0	-0.3
	0.9nm,0.6s,baz=314,slow=6.4,SNR=7.1						
VNDA	Vanda	73.99	176	eP	P	08 41 03.6	-0.7
	1.9nm,0.9s						
KSH	Kashi	74.56	313	P	P	08 41 09.0	+0.5
KSH				pP	sP	08 41 41.2	-6.6
KSH				S	SKiKP	08 50 27.2	+3.2
KSH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KSH				pmax	pmax		
	comp=Z,250nm,7.5s						
KSH				LR	LR		
	comp=N,87nm,5.4s						
KSH				LR	LR		
	comp=E,120nm,10.2s						
KSH				LR	LR		
	comp=Z,270nm,6.2s						
KURK	Kurchatov	76.89	324	eP	P	08 41 19.5	-1.8
KURBB	Kurchatov Arra	76.91	324	P	P	08 41 19.5	-1.9
	0.1nm,0.3s,baz=122,slow=5.1,SNR=2.8						
KURBB				pP	pP	08 41 51.9	+2.7
	0.9nm,0.8s,baz=112,slow=5.3,SNR=3.7						
BTK	Batken	78.52	312	eP	P	08 41 26.8	-3.9
	4.4nm,0.6s						
SVW2	Sparrevohn	80.76	26	eP	P	08 41 41.4	-0.8
	8.6nm,1.0s						
RSO	Redoubt South	81.75	27	eP	P	08 41 45.9	-1.9
MAW	Mawson	81.98	202	P	P	08 41 48.7	+0.2
	16nm,1.0s,baz=100,slow=6.1,SNR=3.8						
BRLK	Bradley Lake	82.34	28	eP	P	08 41 48.9	-1.7
	33nm,1.3s						
CAST	Castle Rocks	83.23	24	eP	P	08 41 53.0	-2.1
	9.3nm,1.4s						
RC01	Rabbit Creek A	83.36	27	eP	P	08 41 54.1	-1.7
	11nm,0.7s						
IM3	Indian Mountai	83.65	22	eP	P	08 41 55.3	-1.9
MLY	Manley	84.41	23	eP	P	08 41 59.0	-2.2
	9.0nm,1.3s						
RND	Reindeer	84.57	25	eP	P	08 42 00.3	-1.8
	16nm,1.0s						
MCK	McKinley	84.66	25	eP	P	08 42 00.4	-2.0
	20nm,1.2s						
WRH	Wood River Hil	85.26	24	eP	P	08 42 03.0	-2.4
	9.7nm,1.1s						
QSPA	South Pole Qui	85.71	180	eP	P	08 42 06.8	-1.0
	8.1nm,0.9s						
IL1	Eielson Array	85.85	24	eP	P	08 42 06.0	-2.3
ILAR	Eielson Array	85.85	24	P	P	08 42 05.8	-2.4
	3.0nm,0.7s,baz=259,slow=4.6,SNR=36						
ILAR				pP	pP	08 42 38.6	+2.1
	2.0nm,0.7s,baz=258,slow=4.6,SNR=6.5						
ILB	Eielson Array	85.85	24	eP	P	08 42 06.0	-2.3
FYU	Fort Yukon	87.07	22	eP	P	08 42 12.7	-1.5
	5.2nm,0.8s						
DAWY	Dawson	88.80	26	eP	P	08 42 20.9	-1.6
	5.7nm,0.8s						
YKA	Yellowknife Ar	99.90	27	P	Pdif	08 43 10.9	-2.4
	0.3nm,0.8s,baz=280,slow=5.0,SNR=3.7						
ROSC	El Rosal	143.74	88	PKP	PKPbc	08 49 02.5	-0.4
	4.3nm,0.4s,baz=168,slow=21,SNR=5.0						
LPAZ	La Paz	143.84	125	PKP	PKPdf	08 49 04.0	-1.3
	2.0nm,0.4s,baz=1.9,slow=1.4,SNR=12						
DBIC	Dimbokro	146.98	276	PKPbc	PKPbc	08 49 11.7	-0.5
	4.4nm,0.7s,baz=74,slow=5.1,SNR=5.8						

IDC 08 08:40:38.3±3.2**, 54°.11N**×**87°.23E, h0**km**, mb1 2.8**/2**, mb1mx2.7**/46**, mbtmp2.8**/2**, ML2.4**/2**, Error ellipse: s-maj=30.2km s-min=18.3km az=53.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**264**	*i*		08 50 30.0	
	baz=84,slow=343,SNR=4.2						
ZALV	**Zalesovo Beam**	**1.43**	**264**	Pg	Pn	08 41 03.5	-1.9
	2.3nm,0.3s,baz=85,slow=16,SNR=28						
ZALV				Lg	Lg	08 41 23.9	
	1.1nm,0.3s,baz=83,slow=25,SNR=7.7						
KURBB	**Kurchatov Arra**	**6.37**	**240**	Pn	Pn	08 42 14.3	+1.0
	0.1nm,0.3s,baz=54,slow=13,SNR=4.2						
MKAR	**Makanchi Array**	**7.97**	**205**	Pn	Pn	08 42 36.7	+1.3
	0.1nm,0.3s,baz=28,slow=14,SNR=3.5						

*ISCJB **08** 09:03:43.9±0.9, 14°0N±0°1×144°6E±0°2, h144km, mb3.4/8, Error ellipse: s-maj=33.7km s-min=18.3km az=178.4*
*IDC **08** 09:03:49.6±0.5, 13°97N×144°69E, h184km±5km, mb3.1/8, mb1 3.3/8, mb1mx3.1/44, mbtmp3.6/8, Error ellipse: s-maj=32.7km s-min=16.6km az=86.0*
ISC 08 09:03:45.3±1.0**, 14°0N**±0°2×**144°8E**±0°3**, h144**km**, n9, σ0ˢ80**/8**, mb3.3**/8**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.42**	**165**	P	Pn	09 04 15.6	+10
	119nm,0.3s,baz=164,slow=2.3,SNR=40						
GUMO				S	Sn	09 04 35.0	+14
	150nm,0.3s,baz=349,slow=23,SNR=30						
WRA	**Warramunga Arr**	**35.25**	**197**	P	**P**	**09 10 26.2**	**0.0**
	0.2nm,0.4s,baz=7.6,slow=9.6,SNR=12						
ASAR	**Alice Springs**	**38.91**	**196**	P	**P**	**09 10 57.4**	**+0.2**
	0.4nm,0.9s,baz=7.3,slow=14,SNR=4.1						
SONM	**Songino Array**	**46.34**	**325**	P	**P**	**09 11 58.3**	**+1.3**
	0.3nm,0.5s,baz=144,slow=6.7,SNR=2.8						
MKAR	**Makanchi Array**	**61.13**	**316**	P	**P**	**09 13 43.9**	**-0.6**
	0.5nm,0.5s,baz=92,slow=8.0,SNR=7.7						
KURBB	**Kurchatov Arra**	**64.25**	**320**	P	**P**	**09 14 04.1**	**-0.9**
	1.2nm,0.5s,baz=103,slow=6.6,SNR=7.4						
BVAR	**Borovoye Array**	**69.54**	**322**	P	**P**	**09 14 38.0**	**-0.5**
	0.9nm,0.4s,baz=102,slow=7.5,SNR=7.5						
YKA	**Yellowknife Ar**	**82.55**	**27**	P	**P**	**09 15 51.6**	**-0.2**
	0.1nm,0.3s,baz=286,slow=5.1,SNR=5.1						
NVAR	**Mina Array Bea**	**86.75**	**51**	P	**P**	**09 16 14.0**	**+0.2**
	0.2nm,0.4s,baz=263,slow=7.5,SNR=3.6						

*NIED **08** 09:08:00, 22°80N×123°10E, h5km, Mw4.2 Best double couple: M₀1.89000×10¹⁵ NP1:φs293.00000°, δ57.00000°, λ-40.00000°. NP2:φs47.00000°, δ58.00000°, λ-140.00000°.*
*IDC **08** 09:08:27.8±0.8, 22°84N×123°31E, h0km, mb3.8/14, mb1 4.0/17, mb1mx3.9/46, mbtmp3.9/17, ML3.6/3, MS3.5/4, Ms1 3.5/4, ms1mx3.0/50, Error ellipse: s-maj=21.2km s-min=16.8km az=82.0*
*NEIC **08** 09:08:29.6±0.5, 22°87N×123°16E, h10km, mb4.5/5, Error ellipse: s-maj=8.2km s-min=7.6km az=188.0*
*ISCJB **08** 09:08:29.7±1.2, 22°85N±0°03×123°23E±0°03, h22km±9km, mb3.9/19, MS3.5/3, Error ellipse: s-maj=6.0km s-min=3.9km az=146.4*
*BJI **08** 09:08:29.3, 22°65N×123°18E, h20km, mb4.0/15, mB4.5/6, Ms4.0/5, Ms7 3.8/5*
*JMA **08** 09:08:30.4±0.3, 22°81N×123°15E, h52km, M4.3*
ISC 08 09:08:28.3±2.7**, 22°83N**±0°06×**123°20E**±0°04**, h3**km±17km**, n63,** σ**1ˢ69**/79**, mb3.8**/19**, MS3.6**/3**, Southeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.34**	**24**	P	**Pn**	**09 08 54.0**	**0.0**
HATJ				S	**Sg**	**09 09 10.2**	**-1.3**
IRIF	**Iriomote-Funau**	**1.58**	**18**	P	**Pn**	**09 08 57.3**	**+0.1**
IRIF				*e*S	**Sn**	**09 09 16.1**	**-2.1**
JKRS	**Kuro-shima**	**1.59**	**28**	P	**Pn**	**09 08 57.7**	**+0.3**
JKRS				S	**Sn**	**09 09 16.2**	**-2.2**
JYNG	**Yonagunijimaku**	**1.63**	**352**	P	**Pn**	**09 08 58.1**	**+0.1**
JYNG				*e*S	**Sn**	**09 09 17.7**	**-1.9**
YOJ	**Yonaguni jima**	**1.64**	**354**	*e*Pn	**Pn**	**09 08 58.1**	**0.0**
YOJ				*e*Sn	**Sn**	**09 09 18.1**	**-1.5**
YOJ	**Yonaguni jima**	**1.64**	**354**	P	**Pn**	**09 08 58.2**	**+0.2**
YOJ				*e*S	**Sn**	**09 09 18.2**	**-1.5**
JIJ	**Ishigaki jima**	**1.76**	**29**	P	**Pn**	**09 08 59.6**	**-0.1**
JIJ				S	**Sn**	**09 09 19.6**	**-3.0**
YULB	**Yu-li**	**1.84**	**288**	*e*Pn	**Pn**	**09 08 59.4**	**-1.5**
TWG	**Pinlang**	**1.96**	**270**	*e*Pn	**Pn**	**09 09 01.1**	**-1.4**
TWG				*e*Sn	**Sn**	**09 09 22.9**	**-4.8**
NACB	**Ninganchiao**	**1.99**	**313**	*e*Pn	**Pn**	**09 09 01.9**	**-1.0**
NACB				*e*Sn	Sn	09 09 19.4	-9.0
JISG	**Ishigakijimahi**	**2.03**	**30**	P	**Pn**	**09 09 03.0**	**-0.4**
JISG				*e*S	**Sn**	**09 09 26.0**	**-3.3**
JTJ	**Tarama**	**2.27**	**37**	P	**Pn**	**09 09 06.7**	**-0.1**
JTJ				S	**Sn**	**09 09 33.1**	**-2.2**
SSLB	**Suanglung**	**2.27**	**295**	*e*Pn	**Pn**	**09 09 06.1**	**-0.8**
SSLB				*e*Sn	Sn	09 09 26.8	-8.7
TPUB	**Ta-pu**	**2.41**	**282**	*e*Pn	**Pn**	**09 09 09.4**	**+0.7**
TPUB				*e*Sn	**Sn**	**09 09 37.6**	**-1.3**
YHNB	**Yeheng**	**2.48**	**318**	*e*Pn	**Pn**	**09 09 10.0**	**+0.3**
YHNB				*e*Sn	**Sn**	**09 09 38.4**	**-2.2**
TATO	**Taipei**	**2.65**	**324**	*e*Pn	**Pn**	**09 09 13.3**	**+1.3**
TATO				*e*Sn	**Sn**	**09 09 44.0**	**-0.7**
JIRB	**Irabujima**	**2.69**	**42**	P	**Pn**	**09 09 12.1**	**-0.4**
JIRB				*e*S	**Sn**	**09 09 42.8**	**-2.8**
JMJ	**Miyako jima 2**	**2.75**	**44**	*e*S	**Sn**	**09 09 45.1**	**-2.2**
JOGS	**Gusukube**	**2.79**	**46**	*e*S	**Sn**	**09 09 46.3**	**-1.8**
JIKM	**Ikemajima**	**2.81**	**42**	*e*S	**Sn**	**09 09 46.5**	**-2.0**
QZH	**Quanzhou**	**4.71**	**297**	*e*Pn	**Pn**	**09 09 40.5**	**+0.1**
QZH				Sn	**Sn**	**09 10 30.8**	**-4.8**
JOW	**Kunigami**	**6.09**	**48**	Pn	**Pn**	**09 10 00.0**	**+0.7**
	2.0nm,0.3s,baz=120,slow=26,SNR=5.1						
JOW				Sn	Sn	09 11 03.8	-5.9
	4.9nm,0.3s,baz=107,slow=19,SNR=3.8						
JOW	**Kunigami**	**6.09**	**48**	*e*Pn	**Pn**	**09 09 58.8**	**-0.6**
JOW				*e*Sn	**Sn**	**09 11 04.2**	**-5.5**
KS15	**Wonju Array Si**	**15.12**	**14**	*e*Pn	**Pn**	**09 12 01.8**	**-1.1**
KSRS	**Korea Array**	**15.13**	**15**	Pn	**Pn**	**09 12 01.8**	**-1.3**
	0.4nm,0.3s,baz=187,slow=12,SNR=20						
KSRS				LR	LR	09 18 28.0	
	comp=Z,86nm,18.5s,baz=190,slow=40						
BJI	**Beijing**	**18.16**	**342**	P	**P**	**09 12 45.3**	**+3.4**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KMI	**Kunming**	**18.84**	**281**	P	**P**	**09 12 47.4**	**-2.3**
KMI				pmax	pmax		
	comp=Z,20nm,0.9s						
MAJO	**Matsushiro**	**18.86**	**40**	*e*P	**P**	**09 12 49.3**	**-0.3**
MAT	**Matsushiro**	**18.86**	**40**	P	**P**	**09 12 51.4**	**+1.8**
MJAR	**Matsushiro Arr**	**18.86**	**40**	P	**P**	**09 12 50.8**	**+1.1**
	0.6nm,0.3s,baz=232,slow=9.7,SNR=22						
USRK	**Ussuriysk Ar.**	**22.51**	**17**	P	**P**	**09 13 28.0**	**-1.2**
	1.5nm,0.9s,baz=184,slow=14,SNR=3.1						
CMAR	**Chiang Mai Arr**	**23.10**	**264**	P	**P**	**09 13 37.2**	**+1.6**
	0.7nm,0.3s,baz=62,slow=8.1,SNR=4.8						
CMAR				LR	LR	09 23 19.9	
	comp=Z,59nm,18.0s,baz=18,slow=38						
FAKI	**Fak Fak**	**27.07**	**160**	*e*P	**P**	**09 14 12.6**	**+0.3**
KLR	**Kul'dur**	**27.20**	**12**	P	**P**	**09 14 13.0**	**-0.2**
	1.1nm,0.7s,baz=247,slow=4.6,SNR=4.4						
KULM	**Kulim**	**27.89**	**235**	*e*P	**P**	**09 14 19.1**	**-0.6**
	14nm,1.1s						
SONA0	**Songino Array**	**28.34**	**336**	*e*P	**P**	**09 14 23.3**	**-0.4**
SONM	**Songino Array**	**28.34**	**336**	P	**P**	**09 14 23.3**	**-0.4**
	3.0nm,0.8s,baz=147,slow=9.4,SNR=13						
SONM				LR	LR	09 26 59.7	
	comp=Z,130nm,18.4s,baz=21,slow=39						
SONA1	**Songino Array**	**28.35**	**336**	*e*P	**P**	**09 14 23.9**	**+0.2**
WMQ	**Urumqi**	**35.92**	**314**	*e*P	**P**	**09 15 32.1**	**+2.0**
MK32	**Makanchi Array**	**40.59**	**316**	*e*P	**P**	**09 16 10.3**	**+1.0**
MKAR	**Makanchi Array**	**40.59**	**316**	P	**P**	**09 16 10.3**	**+1.0**
	1.1nm,0.8s,baz=102,slow=9.3,SNR=12						
MKAR	**Makanchi Array**	**40.59**	**316**	*e*P	**P**	**09 16 07.9**	**-1.4**
	7.8nm,0.8s						
ZALV	**Zalesovo Beam**	**42.38**	**327**	P	**P**	**09 16 23.8**	**-0.1**
	1.2nm,0.6s,baz=130,slow=10,SNR=5.9						
ZALV	**Zalesovo Beam**	**42.38**	**327**	*e*P	**P**	**09 16 22.9**	**-0.9**
ZAA1	**Zalesovo Array**	**42.39**	**327**	*e*P	**P**	**09 16 23.8**	**-0.1**
WR1	**Warramunga Arr**	**43.88**	**165**	*e*P	**P**	**09 16 36.6**	**+0.3**
	7.6nm,1.1s						
WRA	**Warramunga Arr**	**43.88**	**165**	P	**P**	**09 16 36.6**	**+0.3**
	1.2nm,0.9s,baz=346,slow=8.8,SNR=2.8						
WB2	**Warramunga Arr**	**43.88**	**165**	*e*P	**P**	**09 16 38.3**	**+2.0**
	1.4nm,0.8s						
KURK	**Kurchatov**	**44.31**	**320**	*e*P	**P**	**09 16 40.4**	**+0.9**
KURBB	**Kurchatov Arra**	**44.33**	**320**	P	**P**	**09 16 40.4**	**+0.7**
	0.4nm,0.4s,baz=113,slow=8.3,SNR=4.8						
ASAR	**Alice Springs**	**47.37**	**167**	P	**P**	**09 17 02.9**	**-1.0**
	0.5nm,0.8s,baz=17,slow=7.7,SNR=3.0						
GAR	**Garm**	**47.50**	**303**	*e*P	**P**	**09 17 05.6**	**+0.6**
	15nm,1.2s						
TIXI	**Tiksi**	**48.95**	**2**	LR	LR	09 40 13.7	
	comp=Z,84nm,18.4s,baz=160,slow=39						
BVAR	**Borovoye Array**	**49.89**	**321**	P	**P**	**09 17 23.5**	**+0.5**
	0.4nm,0.5s,baz=88,slow=7.4,SNR=3.2						
BVAR				PcP	**PcP**	**09 18 42.8**	**-0.6**
	0.3nm,0.4s,baz=132,slow=2.2,SNR=4.0						
GSTR	**Great Sitkin T**	**54.42**	**41**	*e*P	**P**	**09 17 57.9**	**+1.1**
ABKAR	**Akbulak array**	**55.71**	**315**	*e*P	**P**	**09 18 07.9**	**+1.8**
GEYT	**Alibeck**	**57.08**	**301**	P	**P**	**09 18 17.8**	**+1.7**
	6.8nm,0.4s,baz=169,slow=3.0,SNR=4.3						
FIA0	**FINESS Array S**	**73.54**	**330**	*e*P	**P**	**09 20 02.7**	**+0.3**
FINES	**FINESS Array B**	**73.54**	**330**	P	**P**	**09 20 02.7**	**+0.3**
	2.7nm,0.9s,baz=45,slow=11,SNR=4.4						
NB200	**NORSAR Array S**	**80.28**	**333**	*e*P	**P**	**09 20 39.1**	**-1.3**
NOA	**NORSAR Array B**	**80.28**	**333**	P	**P**	**09 20 39.1**	**-1.3**
	0.8nm,0.8s,baz=64,slow=5.0,SNR=2.6						
YKA	**Yellowknife Ar**	**83.49**	**23**	P	**P**	**09 20 56.7**	**-0.5**
	0.5nm,0.8s,baz=307,slow=4.9,SNR=10						
GERES	**GERESS Array B**	**85.06**	**321**	P	**P**	**09 21 06.0**	**+0.3**
	0.6nm,0.7s,baz=86,slow=5.5,SNR=5.1						

*IDC **08** 09:08:38.8±3.7, 5°63S×150°87E, h44km±33km, mb4.0/15, mb1 4.2/17, mb1mx4.0/44, mbtmp4.3/17, ML3.2/2, MS3.5/7, Ms1 3.5/7, ms1mx3.2/39, Error ellipse: s-maj=28.4km s-min=16.7km az=97.0*
*ISCJB **08** 09:08:39.2±0.5, 5°71S±0°06×150°85E±0°09, h65km, mb4.1/21, Error ellipse: s-maj=14.2km s-min=5.6km az=27.1*
*NEIC **08** 09:08:40.1±0.8, 5°70S×150°90E, h58km±8km, mb4.3/12, Error ellipse: s-maj=11.1km s-min=5.7km az=118.0*
ISC 08 09:08:40.9±0.5**, 5°67S**±0°08×**150°9E**±0°1**, h65**km**, n56,** σ**1ˢ50**/60**, mb4.1**/21**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.92**	**40**	*e*Pn	**Pn**	**09 09 11.1**	**-0.4**
PMG	**Port Moresby**	**5.26**	**225**	P	**Pn**	**09 09 55.0**	**-1.9**
	9.2nm,0.3s,baz=40,slow=16,SNR=18						
PMG				S	**Sn**	**09 10 54.4**	**-1.9**
	33nm,0.3s,baz=193,slow=18,SNR=9.6						
PMG				LR	LR	09 11 47.9	
	comp=Z,368nm,20.9s,baz=17,slow=36						
PMG	**Port Moresby**	**5.26**	**225**	*e*Pn	**Pn**	**09 09 56.3**	**-0.7**
PMG				*e*Sn	**Sn**	**09 10 54.4**	**-1.9**
COEN	**Coen**	**11.22**	**222**	*e*Pn	**Pn**	**09 11 16.6**	**-2.0**
CTA	**Charters Tower**	**15.04**	**197**	P	**Pn**	**09 12 10.3**	**+0.6**
	0.4nm,0.3s,baz=25,slow=14,SNR=4.7						
EIDS	**Eidsvold**	**19.59**	**180**	*e*P	**P**	**09 13 02.4**	**-1.5**
	12nm,1.0s						
MTN	**Manton Dam**	**20.77**	**249**	*e*P	**P**	**09 13 16.8**	**0.0**
	27nm,0.8s						
WRAB	**Tennant Creek**	**21.46**	**227**	*e*P	**P**	**09 13 23.2**	**-0.9**
	16nm,1.1s						
WB2	**Warramunga Arr**	**21.46**	**227**	*e*P	**P**	**09 13 23.4**	**-0.8**
WR1	**Warramunga Arr**	**21.47**	**227**	*e*P	**P**	**09 13 23.2**	**-1.1**
	11nm,0.6s						
WR1				*e*S	Sn	09 17 25.9	-4.7
WRA	**Warramunga Arr**	**21.47**	**227**	P	**P**	**09 13 23.2**	**-1.1**
	5.1nm,0.6s,baz=53,slow=10,SNR=76						
WRA				PcP	**PcP**	**09 17 25.9**	**+0.5**
	1.9nm,0.6s,baz=47,slow=2.0,SNR=7.7						
WRA				LR	LR	09 22 01.9	
	comp=Z,58nm,19.0s,baz=115,slow=37						
DZM	**Mont Dzumac**	**22.17**	**139**	LR	LR	09 21 16.0	
	comp=Z,188nm,18.7s,baz=214,slow=34						
AS01	**Alice Springs**	**24.23**	**221**	*e*P	**P**	**09 13 51.6**	**-0.2**
AS31	**Alice Springs**	**24.26**	**221**	*e*P	**P**	**09 13 51.8**	**-0.3**
	2.5nm,0.5s						
AS31				*e*S	**S**	**09 18 12.7**	**+6.1**
ASAR	**Alice Springs**	**24.26**	**221**	P	**P**	**09 13 51.6**	**-0.5**
	5.7nm,0.8s,baz=56,slow=9.2,SNR=89						
ASAR				S	**S**	**09 18 12.7**	**+6.1**
	1.5nm,0.9s,baz=40,slow=19,SNR=4.2						
STKA	**Stephens Creek**	**27.50**	**197**	P	**P**	**09 14 21.9**	**+0.6**
	3.8nm,0.8s,baz=6.4,slow=8.9,SNR=5.3						
STKA				LR	LR	09 24 34.0	
	comp=Z,110nm,19.9s,baz=20,slow=35						
STKA	**Stephens Creek**	**27.50**	**197**	*e*P	**P**	**09 14 20.1**	**-1.2**
	1.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**27.59**	**241**	P	**P**	**09 14 21.9**	**-0.4**
	3.6nm,0.5s,baz=48,slow=6.3,SNR=12						
FITZ				LR	LR	09 26 37.6	
	comp=Z,73nm,20.6s,baz=36,slow=39						
FITZ	**Fitzroy Crossi**	**27.59**	**241**	*e*P	**P**	**09 14 22.0**	**-0.4**
	6.0nm,0.8s						
RPZ	**Rata Peaks**	**41.84**	**158**	LR	LR	09 30 59.1	
	comp=Z,118nm,20.5s,baz=341,slow=32						
JNU	**Nakatsue**	**43.01**	**335**	P	**P**	**09 16 33.8**	**-0.3**
	8.2nm,0.8s,baz=134,slow=1.1,SNR=6.2						
JNU	**Nakatsue**	**43.01**	**335**	*e*P	**P**	**09 16 32.5**	**-1.7**
	9.1nm,0.8s						
KSRS	**Korea Array**	**47.96**	**335**	P	**P**	**09 17 14.1**	**+1.0**
	2.5nm,0.8s,baz=160,slow=9.1,SNR=7.4						
KSAR	**Wonju Array Be**	**47.96**	**335**	P	**P**	**09 17 14.1**	**+0.9**
KULM	**Kulim**	**51.35**	**281**	*e*P	**P**	**09 17 39.7**	**+0.3**
	3.7nm,0.7s						
KLR	**Kul'dur**	**57.17**	**345**	P	**P**	**09 18 20.9**	**-0.2**
	1.3nm,0.8s,baz=158,slow=2.1,SNR=4.1						
PETK	**Petropavlovsk-**	**58.83**	**5**	P	**P**	**09 18 31.9**	**-0.7**
	7.5nm,1.0s,baz=158,slow=7.6,SNR=4.5						
PEA1	**Petropavlovsk-**	**58.84**	**5**	*e*P	**P**	**09 18 31.9**	**-0.7**
SONA0	**Songino Array**	**66.07**	**329**	*e*P	**P**	**09 19 21.7**	**+0.5**
SONM	**Songino Array**	**66.07**	**329**	P	**P**	**09 19 21.7**	**+0.5**
	1.1nm,0.6s,baz=144,slow=3.9,SNR=7.2						
MK01	**Makanchi Array**	**79.73**	**319**	*e*P	**P**	**09 20 42.6**	**+0.7**
MK31	**Makanchi Array**	**79.75**	**319**	*e*P	**P**	**09 20 41.2**	**-0.8**
MK32	**Makanchi Array**	**79.75**	**319**	*e*P	**P**	**09 20 41.9**	**-0.1**
MKAR	**Makanchi Array**	**79.75**	**319**	P	**P**	**09 20 41.9**	**-0.1**
	0.5nm,0.5s,baz=104,slow=6.6,SNR=8.7						
MKAR	**Makanchi Array**	**79.75**	**319**	*e*P	**P**	**09 20 44.0**	**+2.0**
	8.7nm,1.0s						
MAKZ	**Makanchi**	**79.95**	**319**	*e*P	**P**	**09 20 43.8**	**+0.7**
	1.9nm,0.9s						
ZALV	**Zalesovo Beam**	**80.83**	**327**	P	**P**	**09 20 47.5**	**-0.2**
	0.8nm,0.4s,baz=116,slow=5.2,SNR=5.2						
ZALV	**Zalesovo Beam**	**80.83**	**327**	*e*P	**P**	**09 20 48.1**	**+0.5**
ZAA1	**Zalesovo Array**	**80.83**	**327**	*e*P	**P**	**09 20 47.5**	**-0.2**
KURK	**Kurchatov**	**83.30**	**322**	*e*P	**P**	**09 21 00.9**	**+0.3**
KURBB	**Kurchatov Arra**	**83.32**	**322**	P	**P**	**09 21 00.2**	**-0.5**
	2.2nm,1.0s,baz=111,slow=4.0,SNR=6.9						
ILAR	**Eielson Array**	**83.67**	**22**	P	**P**	**09 21 00.4**	**-1.8**
	1.2nm,0.8s,baz=253,slow=5.3,SNR=9.6						
ILB	**Eielson Array**	**83.67**	**22**	*e*P	**P**	**09 21 04.0**	**+1.8**
AAK	**Ala-Archa**	**83.90**	**314**	P	**P**	**09 21 03.8**	**-0.3**
	1.1nm,0.5s,baz=147,slow=10,SNR=3.5						
AAK				LR	LR	09 58 46.9	
	comp=Z,43nm,18.4s,baz=148,slow=36						
QSPA	**South Pole Qui**	**84.30**	**180**	*e*P	**P**	**09 21 05.0**	**-0.7**
	3.6nm,0.8s						
NV01	**Mina Array Sit**	**94.09**	**52**	*e*P	**P**	**09 21 52.2**	**-0.7**
NVAR	**Mina Array Bea**	**94.09**	**52**	P	**P**	**09 21 53.7**	**+0.8**
	3.0nm,0.8s,baz=253,slow=6.4,SNR=20						
PD31	**Pinedale Array**	**100.82**	**48**	*e*Pdif	**Pdif**	**09 22 22.4**	**-0.7**
PDAR	**Pinedale Array**	**100.82**	**48**	P	**Pdif**	**09 22 22.6**	**-0.5**
	0.4nm,0.7s,baz=221,slow=2.1,SNR=4.7						
GERES	**GERESS Array B**	**123.78**	**327**	PKP	**PKPdf**	**09 27 32.3**	**+0.6**
	0.5nm,0.4s,baz=50,slow=2.1,SNR=5.0						
SDV	**Santo Domingo**	**138.68**	**83**	PKP	**PKPdf**	**09 28 01.2**	**+0.3**
	3.2nm,0.7s,baz=267,slow=1.6,SNR=5.0						
SIV	**San Ignacio**	**141.72**	**125**	PKP	**PKPdf**	**09 28 08.3**	**+2.1**
	1.0nm,0.7s,baz=256,slow=9.7,SNR=3.5						
PTGA	**Pitinga**	**148.52**	**101**	PKPbc	**PKPbc**	**09 28 21.7**	**+0.2**
	11nm,0.7s,baz=258,slow=2.6,SNR=15						
PTGA	**Pitinga**	**148.52**	**101**	*e*PKPdf	**PKPdf**	**09 28 18.2**	**+0.3**
PTGA				*e*PKPbc	**PKPbc**	**09 28 21.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**148.76**	**286**	PKPbc	**PKPbc**	**09 28 21.4**	**-0.7**
	9.6nm,0.6s,baz=55,slow=2.7,SNR=50						
TOA1	**Torodi Ar. Sit**	**148.76**	**286**	*e*PKPbc	**PKPbc**	**09 28 21.4**	**-0.7**

*IDC **08** 09:16:26.8±1.8, 7°06N×127°29E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/51, mbtmp3.5/4, Error ellipse: s-maj=39.8km s-min=20.9km az=44.0*
*ISCJB **08** 09:16:28.5±2.1, 6°88N±0°07×127°28E±0°07, h15km±16km, mb3.5/4, Error ellipse: s-maj=13.3km s-min=10.1km az=146.3*
*MAN **08** 09:16:34.6, 7°01N×126°81E, h21km, mb4.5, ML3.4, MS3.2*
ISC 08 09:16:29.8±4.2**, 6°89N**±0°07×**127°18E**±0°09**, h15**km±27km**, n10,** σ**1ˢ52**/14**, mb3.5**/4**, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.92**	**274**	*e*P	**Pb**	**09 16 46.4**	**-1.1**
MATI				*e*S	**Sb**	**09 16 56.7**	**-2.7**
BIPH	**Bislig**	**1.52**	**328**	⇑*e*P	**Pn**	**09 16 56.9**	**+0.3**
BIPH				*e*S	**Sn**	**09 17 15.8**	**-0.3**
DAV	**Davao City (W)**	**1.60**	**277**	Pn	**Pb**	**09 16 58.8**	**-0.2**
	92nm,0.3s,baz=75,slow=4.1,SNR=6.6						
DAV				Sn	**Sb**	**09 17 20.2**	**+1.1**
	81nm,0.3s,baz=247,slow=21,SNR=8.1						
DDMP	**Don Marcelino,**	**1.65**	**242**	*e*P	**Pn**	**09 16 58.9**	**+0.5**
DDMP				*e*S	**Sn**	**09 17 19.4**	**0.0**
BUKP	**Musuan**	**2.32**	**295**	*e*P	**Pn**	**09 17 09.4**	**+1.8**
BUKP				*e*S	**Sb**	**09 17 42.1**	**+2.2**
BUTP	**Butuan**	**2.58**	**323**	*e*P	Sg	09 17 51.6	-1.2
FITZ	**Fitzroy Crossi**	**24.88**	**183**	P	**P**	**09 21 53.3**	**+1.2**
	3.9nm,1.0s,baz=5.7,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**27.58**	**165**	P	**P**	**09 22 16.4**	**-0.2**
	0.2nm,0.5s,baz=341,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**31.07**	**168**	P	**P**	**09 22 48.1**	**+0.5**
	0.2nm,0.3s,baz=339,slow=7.2,SNR=6.8						
MKAR	**Makanchi Array**	**55.26**	**324**	P	**P**	**09 26 00.9**	**-1.7**
	0.2nm,0.4s,baz=116,slow=6.7,SNR=5.6						

*AZER **08** 09:19:40.6±1.3, 38°50N×42°91E, h11km, ml3.4/6, Error ellipse: s-maj=14.1km s-min=7.9km az=12.0*
*NSSP **08** 09:19:42.3, 38°53N×43°63E, h6km, Ms3.6*
*ISK **08** 09:19:43.4, 38°69N×43°29E, h5km, ML3.6/15*
*DDA **08** 09:19:44.2, 38°69N×43°32E, h20km±1km, ML3.9*
ISC 08 09:19:45.8±0.8**, 38°69N**±0°02×**43°30E**±0°02**, h14**km±7km**, n49,** σ**1ˢ11**/65**, 11C-7D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.12**	**142**	PG	**Pg**	**09 19 48.9**	**-0.3**
TVAN	**Van**	**0.18**	**152**	⇑*i*P	**Pg**	**09 19 49.8**	**-0.3**
TVAN				*i* S	**Sg**	**09 19 53.3**	**+0.2**
ERCV	**ERCIS-VAN**	**0.33**	**5**	PG	**Pg**	**09 19 50.7**	**-2.0**
ERCV				SG	**Sg**	**09 19 57.2**	**-0.2**
VMUR	**Van-Muradiye**	**0.37**	**35**	⇑*i*P	**Pg**	**09 19 52.4**	**-1.0**
VMUR				*i* S	**Sg**	**09 19 58.4**	**0.0**
GEVA	**Gevas**	**0.42**	**207**	IAML_P			
	comp=Z,66µm,0.2s						
GEVA				⇓*i*P	**Pg**	**09 19 53.5**	**-0.7**
GEVA				*i* S	**Sg**	**09 19 59.6**	**-0.3**
AKDM	**Akdamar-Van**	**0.44**	**215**	PG	**Pg**	**09 19 52.9**	**-1.6**
ADCV	**BITLIS_Adilcev**	**0.47**	**285**	⇓*i*P	**Pg**	**09 19 54.0**	**-1.0**
ADCV				*i* S	**Sg**	**09 20 01.6**	**+0.3**
CLDR	**Caldiran**	**0.66**	**46**	PG	**Pg**	**09 19 56.8**	**-2.0**
CLDR				SG	**Sb**	**09 20 08.5**	**-0.1**
CLDR	**Caldiran**	**0.66**	**46**	IAML_P			
	comp=Z,60µm,0.2s						
CLDR				⇑*i*P	**Pg**	**09 19 57.2**	**-1.6**
CLDR				*i* S	**Sb**	**09 20 08.4**	**-0.2**
MLAZ	**Malazgirt-MUS**	**0.74**	**308**	PG	**Pg**	**09 19 58.6**	**-1.6**
TUTA	**Tutak**	**0.81**	**332**	*i* P	**Pg**	**09 20 00.2**	**-1.3**
DYDN	**Diyadin**	**0.91**	**19**	*i* P	**Pg**	**09 20 01.5**	**-1.9**
AGRB	**Hanur-Agry**	**0.92**	**345**	PG	**Pg**	**09 20 01.8**	**-1.8**
GURO	**Guroymak-BITLI**	**1.00**	**263**	PG	**Pg**	**09 20 03.5**	**-1.6**
SRTM	**Siirt_Merkez**	**1.29**	**238**	IAML_P			
	comp=Z,20µm,0.3s						
SRTM				*i* P	**Pb**	**09 20 09.8**	**-0.1**
SRTM				*i* S	**Sn**	**09 20 28.0**	**+1.4**
IGDI	**IGDIR**	**1.33**	**27**	*i* P	**Pg**	**09 20 09.2**	**-2.1**
EATA	**Eleskirt**	**1.33**	**332**	IAML_P			
	comp=Z,11µm,0.3s						
EATA				*i* P	**Pg**	**09 20 09.3**	**-2.2**
EATA				*i* S	**Sg**	**09 20 28.8**	**0.0**
YOVA	**Hakkari_Yksek**	**1.35**	**144**	IAML_P			
	comp=Z,7µm,0.2s						
YOVA				*i* P	**Pg**	**09 20 09.3**	**-2.4**
SIRT	**Sirnak**	**1.36**	**210**	PN	**Pg**	**09 20 10.5**	**-1.5**
SIRN	**Sırnak**	**1.38**	**211**	IAML_P			
	comp=Z,10µm,0.2s						
SIRN				*i* P	**Pb**	**09 20 11.6**	**+0.2**
CUKT	**Cukurca**	**1.46**	**170**	PN	**Pn**	**09 20 11.7**	**-0.2**
CUKT	**Cukurca**	**1.46**	**170**	*i* P	**Pg**	**09 20 12.4**	**-1.5**
TASB	**TASBURUN-IGDIR**	**1.49**	**29**	PN	**Pn**	**09 20 11.7**	**-0.5**
HYR	**Heyderabad**	**1.59**	**49**	⇓P	**Pn**	**09 20 13.9**	**+0.3**
HYR				⇓S	**Sg**	**09 20 37.9**	**+1.0**
BNGL	**BINGOL**	**1.70**	**280**	*i* P	**Pn**	**09 20 16.6**	**+1.3**
KOPR	**Koprukoy-ERZUR**	**1.72**	**320**	PN	**Pn**	**09 20 16.2**	**+0.7**
HOMI	**Horasan**	**1.73**	**322**	IAML_P			
	comp=Z,10µm,0.3s						
HOMI				*i* P	**Pn**	**09 20 17.2**	**+1.4**
SVAN	**Silvan-Diyarba**	**1.73**	**253**	PN	**Pn**	**09 20 16.1**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.73**	**253**	*i* P	**Pn**	**09 20 16.2**	**+0.6**
SVAN				*i* S	**Sg**	**09 20 40.6**	**-1.0**
NAX	**Nakhchivan**	**1.78**	**73**	⇑P	**Pn**	**09 20 17.1**	**+0.8**
NAX				⇓S	**Sg**	**09 20 44.5**	**+1.4**
BTMN	**Batman**	**1.78**	**244**	IAML_P			
	comp=Z,5µm,0.3s						
BTMN				*i* P	**Pb**	**09 20 17.7**	**-0.6**
GNI	**Garni**	**1.84**	**37**	PN	**Pn**	**09 20 17.0**	**-0.2**
GNI	**Garni**	**1.84**	**37**	⇑*i*P	**Pn**	**09 20 17.8**	**+0.7**
GNI				⇑*i*S	**Sb**	**09 20 43.0**	**+0.7**
KARO	**Karliova-Bingo**	**1.86**	**290**	PN	**Pn**	**09 20 18.4**	**+0.9**
SBZ	**Shahbuz**	**1.89**	**67**	⇓P	**Pn**	**09 20 18.2**	**+0.3**
SBZ				⇑S	**Sg**	**09 20 47.1**	**+0.4**
KARS	**Kars**	**1.95**	**355**	PN	**Pn**	**09 20 19.5**	**+0.9**
EAK	**Akyaka**	**2.01**	**7**	*i* P	**Pb**	**09 20 23.1**	**+0.8**
ECAT	**Cat-ERZURUM**	**2.03**	**298**	*i* P	**Pn**	**09 20 21.0**	**+1.2**
ORD	**Ordubad**	**2.12**	**83**	⇑P	**Pn**	**09 20 21.1**	**+0.1**
ORD				⇑S	**Sb**	**09 20 51.1**	**+0.8**
MARD	**Mardin**	**2.42**	**236**	IAML_P			
	comp=Z,4µm,0.3s						
MARD				*i* P	**Pn**	**09 20 25.7**	**+0.7**
DDEM	**Demirkent**	**2.50**	**332**	IAML_P			
	comp=Z,2µm,0.3s						
DDEM				*i* P	**Pb**	**09 20 31.5**	**+0.9**
MAZI	**Mazidag**	**2.56**	**242**	PN	**Pn**	**09 20 26.6**	**-0.5**
DYBB	**Diyarbakir**	**2.59**	**255**	PN	**Pn**	**09 20 28.6**	**+1.2**
DBAD	**Bademkaya**	**2.64**	**333**	*i* P	**Pn**	**09 20 29.2**	**+1.1**
GDB	**GEDABAY**	**2.78**	**42**	⇑P	**Pn**	**09 20 30.0**	**-0.1**
GDB				⇑S	**Sb**	**09 21 09.7**	**+0.4**
QZX	**Qazax, Azerbai**	**2.86**	**33**	⇓P	**Pn**	**09 20 31.0**	**0.0**
BAYT	**Aydıntepe-Bayb**	**2.98**	**306**	PN	**Pn**	**09 20 33.9**	**+1.1**
BCA	**Borcka**	**3.04**	**336**	PN	**Pn**	**09 20 34.9**	**+1.4**
PTK	**Pertek**	**3.06**	**275**	PN	**Pn**	**09 20 34.4**	**+0.4**

NEIC 08 09:21:11.8±0.0**, 51°44N**×**179°59E, h12**km**, ML3.5**(AEIC)**, After AEIC., Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.19**	**252**	P	Pb	09 21 17.1	-0.1
AMKA				S	Sg	09 21 20.6	+1.7
CERAA	**Semis' Rag'd T**	**0.47**	**7**	P	Pb	09 21 21.7	-0.4
CEAP	**Semis' Anvil P**	**0.56**	**359**	P	Pg	09 21 23.2	+0.3
LSPA	**Little Sitkin**	**0.82**	**310**	*e*Pn	Pb	09 21 27.9	-0.1
LSPA				*e*Sn	Sb	09 21 39.6	+0.5
LSSA	**Little Sitkin**	**0.84**	**308**	P	Pg	09 21 28.1	0.0
LSNW	**Little Sitkin**	**0.86**	**309**	P	Pg	09 21 28.1	-0.2
TASE	**Tanaga Southea**	**1.53**	**74**	*e*Pn	Pn	09 21 38.7	-0.3
TAFP	**Tanaga Falls P**	**1.58**	**72**	*e*Pn	Pn	09 21 39.0	-0.6
TAFP				*e*Sn	Sb	09 22 00.6	-0.3
KIMD	**Kanaga Island**	**2.00**	**79**	P	Pn	09 21 45.2	-0.3
KIWB	**Kanaga Island**	**2.07**	**77**	*e*Pn	Pn	09 21 45.8	-0.5
KIWB				*e*Sn	Sn	09 22 10.9	-1.2
ADK	**Adak**	**2.36**	**78**	*e*Pn	Pn	09 21 49.8	-0.6
ADK				*e*Sn	Sn	09 22 18.3	-1.0
ETKA	**Kagalaska Isla**	**2.53**	**79**	*e*Pn	Pn	09 21 52.5	-0.2
ETKA				*e*Sn	Sn	09 22 22.8	-0.6
GSTR	**Great Sitkin T**	**2.78**	**75**	*e*Pn	Pn	09 21 57.4	+1.2
GSTR				*e*Sn	Sn	09 22 27.1	-2.5
SMY	**Shemya**	**3.63**	**293**	*e*Pn	Pn	09 22 07.0	-0.7
SMY				*e*Sn	Sn	09 22 46.8	-3.6
ATKA	**Atka Island**	**3.93**	**76**	*e*Pn	Pn	09 22 11.8	-0.1
ATKA				*e*Sn	Sn	09 22 58.8	+0.9

*ISCJB **08** 09:23:35.9±0.5, 2°09S±0°04×77°03W±0°06, h150km, mb3.5/6, Error ellipse: s-maj=8.2km s-min=5.7km az=171.5*
*IDC **08** 09:23:36.0±6.3, 2°06S×77°06W, h177km±76km, mb3.4/6, mb1 3.5/9, mb1mx3.2/48, mbtmp3.9/9, Error ellipse: s-maj=71.8km s-min=19.2km az=42.0*
*IGQ **08** 09:23:36.2±0.9, 2°S±8°×7°7W±1°1, h143km, MLv3.6*

ISC 08 09:23:33.9±0.7**, 2°.09S**±0°.05×**77°.02W**±0°.07**, h150km, n42, σ2s.32**/46**, mb3.7**/6**, 2D, Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APUY	**Puyo**	**1.16**	**303**	P	**Pn**	**09 24 02.3**	**+2.1**
PUYO	**Puyo, Santa Ro**	**1.16**	**301**	P	**Pn**	**09 24 02.6**	**+2.3**
ATEN	**Tena**	**1.33**	**324**	P	**Pn**	**09 24 03.9**	**+2.1**
ARDO	**Archidona, Ten**	**1.34**	**324**	P	**Pn**	**09 24 03.9**	**+2.0**
BPAT	**Tungurahua Vol**	**1.52**	**292**	P	**Pn**	**09 24 05.5**	**+1.3**
PAT1	**Patacocha**	**1.53**	**292**	P	**Pn**	**09 24 06.1**	**+1.8**
BULB	**Ulba Tungurahu**	**1.53**	**295**	P	**Pn**	**09 24 05.7**	**+1.6**
BULB				S	**Sn**	**09 24 28.0**	**+0.7**
BRUN	**Tungurahua Vol**	**1.54**	**296**	P	**Pn**	**09 24 06.0**	**+1.7**
BRUN				S	**Sn**	**09 24 28.3**	**+0.9**
ARRY	**Arrayan**	**1.54**	**292**	P	**Pn**	**09 24 05.8**	**+1.5**
RUN5	**Runtun**	**1.55**	**296**	P	**Pn**	**09 24 06.0**	**+1.6**
RETU	**Refugio**	**1.56**	**294**	P	**Pn**	**09 24 06.1**	**+1.5**
BMAS	**Trigal station**	**1.57**	**292**	P	**Pn**	**09 24 06.0**	**+1.4**
POND	**Pondoa**	**1.57**	**295**	P	**Pn**	**09 24 06.1**	**+1.4**
JUI6	**Juive**	**1.59**	**295**	P	**Pn**	**09 24 06.4**	**+1.7**
BBIL	**Ulba Tungurahu**	**1.59**	**293**	P	**Pn**	**09 24 06.5**	**+1.6**
PISA	**Pisayambo**	**1.70**	**307**	P	**Pn**	**09 24 08.1**	**+1.9**
ARIO	**Riobamba**	**1.73**	**284**	P	**Pn**	**09 24 08.1**	**+1.8**
BTAM	**Cotopaxi Volca**	**1.96**	**316**	P	**Pn**	**09 24 11.5**	**+2.3**
ANTI	**Antisana**	**1.99**	**325**	P	**Pn**	**09 24 11.8**	**+2.3**
BVC2	**Cotopaxi Volca**	**1.99**	**316**	P	**Pn**	**09 24 12.6**	**+3.2**
BREF	**Cotopaxi Volca**	**2.00**	**315**	P	**Pn**	**09 24 13.6**	**+3.9**
BNAS	**Cotopaxi Volca**	**2.02**	**314**	P	**Pn**	**09 24 13.5**	**+3.6**
NAS2	**Nasa**	**2.04**	**315**	P	**Pn**	**09 24 13.0**	**+3.0**
PITA	**Cotopaxi Volc**	**2.07**	**317**	P	**Pn**	**09 24 13.6**	**+3.2**
LAV4	**Lava4-Reventad**	**2.07**	**343**	P	**Pn**	**09 24 12.3**	**+2.1**
CONE	**Cono NE Rev Vo**	**2.10**	**343**	P	**Pn**	**09 24 12.9**	**+2.3**
COHC	**Cochancay**	**2.26**	**260**	P	**Pn**	**09 24 12.4**	**+0.3**
CUIC	**Cuicocha-Domo**	**2.73**	**331**	P	**Pn**	**09 24 20.2**	**+1.9**
URCU	**Urcuqui**	**2.80**	**334**	P	**Pn**	**09 24 21.3**	**+2.1**
PTLC	**Puerto Leguiza**	**3.16**	**45**	⇓*i*P	**Pn**	**09 24 24.9**	**+1.5**
PTLC				*i*		09 24 45.9	
	comp=N,46nm,0.4s						
FLOC	**Florencia**	**3.90**	**21**	⇓*i*P	**Pn**	**09 24 35.5**	**+2.6**
FLOC				*i*		09 25 23.4	
	comp=N,17nm,0.7s						
POPC	**Popayan, Colom**	**4.61**	**4**	*e*P	**Pn**	**09 24 45.5**	**+3.0**
POPC				*i*		09 25 04.3	
	comp=N,3.2nm,0.4s						
ATAH	**Atahualpa**	**5.20**	**195**	P	**Pn**	**09 24 54.0**	**+3.7**
	comp=N,3.6nm,0.3s,baz=18,slow=8.0,SNR=22						
ATAH				S	**Sn**	**09 25 52.8**	**+2.8**
	comp=N,5.3nm,0.3s,baz=208,slow=22,SNR=15						
NNA	**Nana**	**9.84**	**179**	P	**Pn**	**09 25 55.0**	**+3.1**
	comp=N,1.0nm,0.3s,baz=350,slow=16,SNR=2.0						
NNA				S	**Sn**	**09 27 36.7**	**-4.2**
	comp=N,3.8nm,0.3s,baz=233,slow=18,SNR=6.8						
LPAZ	**La Paz**	**16.61**	**149**	P	**Pn**	**09 27 20.7**	**+1.9**
	comp=N,0.1nm,0.3s,baz=349,slow=12,SNR=2.8						
TXAR	**Lajitas Array**	**40.33**	**323**	P	**P**	**09 30 56.9**	**-0.1**
	comp=N,0.1nm,0.5s,baz=135,slow=8.4,SNR=2.2						
ANMO	**Albuquerque**	**46.02**	**326**	P	**P**	**09 31 42.3**	**-0.5**
	comp=N,1.3nm,0.5s,baz=134,slow=9.3,SNR=7.1						
ULM	**Lac du Bonnet**	**54.59**	**345**	P	**P**	**09 32 44.1**	**-2.5**
	comp=N,2.4nm,0.5s,baz=156,slow=8.3,SNR=7.6						
YKA	**Yellowknife Ar**	**70.39**	**343**	P	**P**	**09 34 29.7**	**-1.5**
	comp=N,0.5nm,0.8s,baz=140,slow=6.2,SNR=8.9						
TORD	**Torodi Ar. Bea**	**79.50**	**76**	P	**P**	**09 35 23.5**	**-1.1**
	comp=N,0.4nm,0.3s,baz=277,slow=5.6,SNR=12						
EKA	**Eskdalemuir Ar**	**82.59**	**34**	P	**P**	**09 35 39.9**	**-0.2**
	comp=N,0.9nm,0.6s,baz=249,slow=2.3,SNR=4.5						
WRA	**Warramunga Arr**	**142.23**	**233**	PKP	**PKPdf**	**09 42 46.1**	**-3.4**
	comp=N,0.3nm,0.7s,baz=121,slow=2.9,SNR=4.4						

*ISCJB **08** 09:38:19.7±0.6, 13°.70N±0°.06×120°.57E±0°.08, h121km±5km, Error ellipse: s-maj=12.9km s-min=9.2km az=179.0*

*MAN **08** 09:38:20.9, 13°.75N×120°.49E, h87km, mb4.4, ML3.2, MS3.0*

*IDC **08** 09:38:20.4±0.7, 13°.79N×120°.90E, h115km±6km, mb3.3/9, mb1 3.4/9, mb1mx3.2/56, mbtmp3.6/9, Error ellipse: s-maj=40.0km s-min=14.0km az=63.0*

ISC 08 09:38:20.6±0.8**, 13°.72N**±0°.06×**120°.56E**±0°.08**, h114**km±7km**, n16, σ1s.06**/23**, 1C, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.53**	**44**	P	**Pn**	**09 38 38.4**	**+0.3**
	191nm,0.3s,baz=193,slow=2.7,SNR=8.6						
TGY				S	**Sn**	**09 38 51.0**	**-0.3**
	1µm,0.3s,baz=323,slow=23,SNR=67						
TGY	**Tagaytay City**	**0.53**	**44**	*e*P	**Pn**	**09 38 37.1**	**-1.0**
TGY				*i* S	**Sn**	**09 38 50.0**	**-1.3**
BOAC	**Boac**	**1.28**	**102**	*e*P	**Pn**	**09 38 45.4**	**+0.4**
BOAC				*e*S	**Sn**	**09 39 03.8**	**+0.2**
SJMP	**San Jose**	**1.37**	**156**	*e*P	**Pn**	**09 38 46.6**	**+0.5**
SJMP				*e*S	**Sn**	**09 39 05.7**	**+0.4**
BUSP	**Coron**	**1.74**	**192**	*e*P	**Pn**	**09 38 50.5**	**0.0**
BUSP				*e*S	**Sn**	**09 39 12.8**	**-0.6**
GQP	**Guinayangan**	**1.85**	**84**	⇑*e*P	**Pn**	**09 38 53.3**	**+1.5**
OTRP	**Odiongan**	**1.96**	**133**	*e*P	**Pn**	**09 38 54.0**	**+0.7**
OTRP				*e*S	**Sn**	**09 39 17.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**21.29**	**286**	P	**P**	**09 43 00.8**	**+2.6**
	0.6nm,0.4s,baz=86,slow=7.4,SNR=4.5						
SONM	**Songino Array**	**36.00**	**344**	P	**P**	**09 45 10.9**	**+0.2**
	1.1nm,0.8s,baz=161,slow=9.8,SNR=6.7						
WRA	**Warramunga Arr**	**36.10**	**158**	P	**P**	**09 45 10.1**	**-1.6**
	0.3nm,0.8s,baz=340,slow=9.8,SNR=2.9						
ASAR	**Alice Springs**	**39.38**	**161**	P	**P**	**09 45 39.0**	**-0.3**
	0.2nm,0.6s,baz=335,slow=7.8,SNR=6.2						
ASAR				pP	**pP**	**09 46 05.8**	**+0.8**
	0.3nm,0.6s,baz=342,slow=6.2,SNR=5.5						
MKAR	**Makanchi Array**	**45.93**	**324**	P	**P**	**09 46 32.8**	**+0.8**
	0.9nm,0.5s,baz=127,slow=9.3,SNR=6.4						
STKA	**Stephens Creek**	**49.62**	**156**	P	**P**	**09 46 59.6**	**-0.9**
	1.2nm,0.5s,baz=297,slow=9.0,SNR=3.0						
KURBB	**Kurchatov Arra**	**50.09**	**326**	P	**P**	**09 47 04.5**	**+0.6**
	2.4nm,0.8s,baz=131,slow=8.0,SNR=15						
BVAR	**Borovoye Array**	**55.68**	**326**	P	**P**	**09 47 45.4**	**+0.5**
	0.5nm,0.5s,baz=96,slow=8.8,SNR=4.3						
YKA	**Yellowknife Ar**	**92.81**	**22**	P	**P**	**09 51 18.4**	**-1.7**
	0.1nm,0.9s,baz=306,slow=7.3,SNR=2.8						

*NNC **08** 09:41:36.0±2.5, 53°.61N×86°.82E, h0km±21km, mb3.0, mpv2.9, Error ellipse: s-maj=23.3km s-min=13.5km az=42.0, Suspected Mining explosion.*

IDC 08 09:41:35.6±2.5**, 53°.65N**×**86°.88E, h0**km**, mb1 3.0**/2**, mb1mx2.9**/58**, mbtmp3.0**/2**, ML2.6**/2**, 5C-3D, Error ellipse: s-maj=23.3km s-min=12.9km az=72.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.26**	**285**	*i*		09 50 40.0	
	baz=103,slow=351,SNR=1.9						
ZAA0	**Zalesovo Array**	**1.26**	**285**	⇑P	Pg	09 41 59.0	-0.7
	6.1nm,0.7s						
ZAA0				⇓S	Sb	09 42 16.5	-0.4
	14nm,0.8s						
ZALV	**Zalesovo Beam**	**1.26**	**285**	Pg	Pg	09 41 58.9	-0.9
	1.4nm,0.3s,baz=99,slow=16,SNR=27						
ZALV				Lg	Lg	09 42 16.6	
	2.0nm,0.3s,baz=106,slow=19,SNR=6.4						
KURK	**Kurchatov**	**5.87**	**243**	⇑Lg	Lg	09 44 41.3	
	3.9nm,0.7s						
KURBB	**Kurchatov Arra**	**5.96**	**243**	Pn	Pn	09 43 05.9	+0.8
	0.1nm,0.3s,baz=60,slow=14,SNR=5.6						
KURBB				Lg	Lg	09 44 43.3	
	0.1nm,0.3s,baz=60,slow=32,SNR=5.4						
KURBB	**Kurchatov Arra**	**5.96**	**243**	⇑Pn	Pn	09 43 06.8	+1.7
	0.9nm,0.5s						
KURBB				⇓Lg	Lg	09 44 45.2	
	8.9nm,0.7s						
MK31	**Makanchi Array**	**7.46**	**205**	Pn	Pn	09 43 27.3	+1.6
	0.3nm,0.6s,baz=28,slow=12,SNR=9.8						
MK31				⇓Sn	Sn	09 44 50.1	-0.9
	0.3nm,0.5s,baz=27,slow=24,SNR=6.0						
MK31				Lg	Lg	09 45 30.7	
	2.3nm,0.9s,baz=32,slow=30,SNR=4.1						
MKAR	**Makanchi Array**	**7.46**	**205**	Pn	Pn	09 43 27.3	+1.6
	0.2nm,0.3s,baz=28,slow=13,SNR=12						
MKAR				Sn	Sn	09 44 50.1	-0.9
	0.2nm,0.3s,baz=27,slow=26,SNR=6.9						
MKAR				Lg	Lg	09 45 32.5	
	0.1nm,0.3s,baz=18,slow=29,SNR=7.9						
MAKZ	**Makanchi**	**7.53**	**207**	⇑Sn	Sn	09 44 52.2	-0.4
	1.1nm,0.6s						
MAKZ				⇑Lg	Lg	09 45 36.1	
	3.0nm,1.1s						

*ISCJB **08** 09:48:13.8±0.5, 75°.84N±0°.04×8°.6E±0°.2, h10km, mb3.4/8, MS3.5/16, Error ellipse: s-maj=7.7km s-min=5.1km az=13.3*

*IDC **08** 09:48:14.3±0.7, 75°.78N×8°.23E, h0km, mb3.4/8, mb1 3.7/12, mb1mx3.5/44, mbtmp3.6/12, ML3.3/3, MS3.5/22, Ms1 3.5/22, ms1mx3.4/38, Error ellipse: s-maj=15.0km s-min=9.9km az=67.0*

*BER **08** 09:48:16.1±2.5, 75°.81N×7°.58E, h26km±58km, ML2.4, ML3.4(NAO), Confirmed Earthquake*

*IEPN **08** 09:48:17.0, 76°.29N×5°.85E, h15km, station ZFI2 has station magnitude of 3.07*

*NAO **08** 09:48:18.4±4.7, 75°.83N×8°.33E, h33km±89km, ML3.4*

ISC 08 09:48:15.4±0.7**, 75°.86N**±0°.06×**8°.66E**±0°.07**, h10**km**, n49, σ1s.99**/44**, mb3.3**/8**, MS3.5**/16**, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**1.99**	**51**	*e*P	**Pn**	**09 48 49.6**	**+0.6**
HSPB				*e*S	**Sn**	**09 49 13.1**	**-0.7**
HSPB				IAML		09 49 15.7	
	comp=Z,20nm,0.4s						
BRBA	**Barentsburg A**	**2.54**	**27**	Pn	**Pn**	**09 48 56.4**	**-0.2**
BRBA				Sn	**Sn**	**09 49 27.4**	**-0.1**
BRBA	**Barentsburg A**	**2.54**	**27**	Pn	**Pn**	**09 48 56.4**	**-0.2**
BRBA				Sn	**Sn**	**09 49 27.4**	**-0.1**
SPA0	**Spitsbergen Ar**	**2.91**	**33**	Pn	**Pn**	**09 49 02.2**	**+0.6**
	baz=230,slow=16						
SPA0				Sn	**Sn**	**09 49 35.6**	**-0.9**
	baz=211,slow=28						
SPA0	**Spitsbergen Ar**	**2.91**	**33**	Pn	**Pn**	**09 49 02.2**	**+0.6**
	baz=230,slow=16						
SPA0				*e*S	**Sn**	**09 49 35.9**	**-0.7**
SPITS	**Spitsbergen Ar**	**2.91**	**33**	Pn	**Pn**	**09 49 02.3**	**+0.6**
	baz=182,slow=12,SNR=29						
SPITS				Sn	**Sn**	**09 49 36.2**	**-0.4**
	baz=210,slow=21,SNR=7.8						
SPITS				LR	LR	09 50 33.1	
	comp=Z,140nm,21.5s,baz=20,slow=46						
KBS	**Kingsbay**	**3.16**	**12**	Pn	**Pn**	**09 49 03.6**	**-1.6**
KBS	**Kingsbay**	**3.16**	**12**	*e*P	**Pn**	**09 49 03.7**	**-1.4**
KBS				*e*S	**Sn**	**09 49 38.3**	**-4.6**
KBS	**Kingsbay**	**3.16**	**12**	*e*P	**Pn**	**09 49 03.7**	**-1.4**
KBS				IAML		09 49 45.7	
	comp=Z,14nm,0.4s						
HOPEN	**Hopen**	**3.97**	**73**	*e*P	**Pn**	**09 49 18.2**	**+1.9**
HOPEN				*e*S	**Sn**	**09 50 03.5**	**+0.8**
HOPEN				IAML		09 50 05.8	
	comp=Z,67nm,0.3s						
ARA0	**ARCESS Array S**	**8.06**	**133**	Pn	**Pn**	**09 50 12.0**	**-0.3**
	baz=331,slow=14						
ARA0				Sn	**Sn**	**09 51 38.3**	**-5.0**
	baz=331,slow=22						
ARA0	**ARCESS Array S**	**8.06**	**133**	Pn	**Pn**	**09 50 12.0**	**-0.3**
	baz=331,slow=14						
ARA0				Sn	**Sn**	**09 51 38.3**	**-5.0**
	baz=331,slow=22						
ARCES	**ARCESS Array B**	**8.06**	**133**	Pn	**Pn**	**09 50 11.2**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=328,slow=12,SNR=19						
ARCES				Sn	**Sn**	**09 51 38.5**	**-4.9**
	comp=Z,1.1nm,0.3s,baz=334,slow=20,SNR=7.9						
KTK1	**Kautokeino**	**8.14**	**140**	*e*P	**Pn**	**09 50 15.6**	**+2.1**
ZFI2	**Zemlya Franca-**	**9.10**	**40**	*e*P	**Pn**	**09 50 27.2**	**+0.7**
	comp=Z,1µm,1.0s						
ZFI2				*e*S	**Sn**	**09 52 04.9**	**-3.8**
SCO	**Scoresbysund**	**10.25**	**254**	*i* P	Pn	09 50 34.9	-7.4
SCO				*i*		09 52 13.2	
APA0	**Apatity Array**	**11.14**	**125**	Pn	**Pn**	**09 50 56.3**	**+1.8**
	baz=342,slow=22						
APA0	**Apatity Array**	**11.14**	**125**	Pn	**Pn**	**09 50 56.3**	**+1.8**
	baz=342,slow=22						
SUMG	**Summit**	**12.92**	**279**	*i* P	Pn	09 51 11.7	-7.4
	comp=Z,38nm,1.0s						
BORG	**Borgarnes**	**14.77**	**237**	LR	LR	09 55 35.3	
	comp=Z,85nm,21.8s,baz=132,slow=30						
NOA	**NORSAR Array B**	**14.92**	**175**	LR	LR	09 56 52.9	
	comp=Z,138nm,18.5s,baz=340,slow=35						
FIA0	**FINESS Array S**	**15.68**	**148**	Pn	**Pn**	**09 51 55.4**	**-0.7**
FIA0	**FINESS Array S**	**15.68**	**148**	Pn	**Pn**	**09 51 55.4**	**-0.7**
FINES	**FINESS Array B**	**15.68**	**148**	Pn	**Pn**	**09 51 54.7**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=343,slow=12,SNR=3.9						
FINES				LR	LR	09 57 57.9	
	comp=Z,162nm,20.5s,baz=352,slow=37						
HFS	**Hagfors**	**15.90**	**171**	Pn	**Pn**	**09 51 58.9**	**-0.1**
	comp=Z,0.0nm,0.3s,baz=38,slow=7.3,SNR=2.5						
HFS				LR	LR	09 57 00.7	
	comp=Z,126nm,19.6s,baz=24,slow=33						
KLMR	**Klimovskoe**	**18.46**	**128**	*e*Pn	**P**	**09 52 30.0**	**-0.9**
KLMR				AMP		09 52 32.9	
	comp=Z,9.0nm,1.0s						
SFJD	**Kangerlussuaq**	**19.84**	**275**	LR	LR	09 59 56.9	
	comp=Z,139nm,18.5s,baz=122,slow=36						
RES	**Resolute Bay**	**23.20**	**319**	P	**P**	**09 53 21.4**	**-0.3**
	comp=Z,0.8nm,1.1s,baz=42,slow=18,SNR=2.1						
OBN	**Obninsk**	**23.34**	**137**	LR	LR	10 02 53.1	
	comp=Z,15nm,18.3s,baz=358,slow=38						
AKASG	**Malin Array Be**	**26.57**	**150**	LR	LR	10 04 01.7	
	comp=Z,130nm,18.9s,baz=340,slow=36						
FRB	**Frobisher Bay**	**26.82**	**286**	LR	LR	10 04 12.4	
	comp=Z,276nm,18.1s,baz=96,slow=36						
VRAC	**Vranov**	**26.85**	**168**	LR	LR	10 03 44.6	
	comp=Z,60nm,21.2s,baz=316,slow=35						
GERES	**GERESS Array B**	**27.20**	**173**	P	**P**	**09 53 59.8**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=358,slow=12,SNR=4.1						
TIXI	**Tiksi**	**28.33**	**35**	LR	LR	10 04 53.1	
	comp=Z,68nm,18.9s,baz=288,slow=35						
AKTO	**Aktyubinsk**	**32.05**	**114**	LR	LR	10 08 25.7	
	comp=Z,88nm,18.0s,baz=1.2,slow=38						
ZALV	**Zalesovo Beam**	**35.25**	**84**	LR	LR	10 13 36.4	
	comp=Z,67nm,18.5s,baz=44,slow=43						
KBZ	**Khabaz**	**35.41**	**135**	LR	LR	10 09 53.8	
	comp=Z,101nm,21.6s,baz=317,slow=37						
KURBB	**Kurchatov Arra**	**36.76**	**92**	P	**P**	**09 55 23.9**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=326,slow=8.1,SNR=2.8						
YKA	**Yellowknife Ar**	**37.26**	**320**	P	**P**	**09 55 25.0**	**-1.6**
	comp=Z,0.4nm,0.9s,baz=18,slow=8.5,SNR=6.2						
YKA				PcP	**PcP**	**09 57 45.8**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=21,slow=2.1,SNR=4.1						
BRTR	**Keskin Array B**	**37.92**	**148**	LR	LR	10 12 30.7	
	comp=Z,60nm,18.5s,baz=256,slow=38						
ILAR	**Eielson Array**	**38.75**	**344**	P	**P**	**09 55 41.6**	**+2.5**
	comp=Z,0.5nm,1.0s,baz=20,slow=7.2,SNR=4.2						
MKAR	**Makanchi Array**	**41.25**	**91**	P	**P**	**09 56 02.9**	**+2.7**
	comp=Z,0.5nm,0.8s,baz=359,slow=5.8,SNR=4.3						
MKAR				LR	LR	10 16 02.0	
	comp=Z,113nm,20.9s,baz=334,slow=40						
GEYT	**Alibeck**	**43.97**	**120**	LR	LR	10 16 45.1	
	comp=Z,90nm,18.8s,baz=350,slow=39						
ULM	**Lac du Bonnet**	**45.28**	**299**	LR	LR	10 15 15.7	
	comp=Z,154nm,18.6s,baz=99,slow=36						
PDAR	**Pinedale Array**	**55.23**	**308**	P	**P**	**09 57 49.0**	**+0.7**
	comp=Z,0.9nm,1.0s,baz=46,slow=8.5,SNR=3.7						
PDAR				LR	LR	10 21 12.4	
	comp=Z,118nm,20.7s,baz=36,slow=36						
KSRS	**Korea Array**	**60.57**	**53**	LR	LR	10 28 23.9	
	comp=Z,25nm,18.1s,baz=356,slow=40						
TORD	**Torodi Ar. Bea**	**62.82**	**188**	P	**P**	**09 58 40.0**	**-0.9**
	comp=Z,1.9nm,1.0s,baz=8.8,slow=7.5,SNR=7.8						
TORD				LR	LR	10 26 19.1	
	comp=Z,106nm,18.4s,baz=320,slow=36						
TXAR	**Lajitas Array**	**66.99**	**299**	LR	LR	10 28 41.5	
	comp=Z,67nm,18.5s,baz=0.0,slow=36						
ASAR	**Alice Springs**	**121.13**	**61**	PKP	**PKPdf**	**10 07 07.0**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=9.1,slow=2.3,SNR=3.8						

*DDA **08** 10:31:20.5, 37°.93N×37°.97E, h8km±2km, ML3.6*

*ISK **08** 10:31:20.2, 37°.93N×37°.96E, h5km, ML3.2/12*

ISC 08 10:31:21.2±1.1**, 37°.92N**±0°.02×**37°.96E**±0°.02**, h9**km±11km**, n30, σ1s.59**/44**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.38**	**356**	IAML_P			
	comp=Z,26µm,0.1s						
AKCD				*i* P	**Pg**	**10 31 28.0**	**-0.7**
ATAB	**Bozova**	**0.52**	**149**	IAML_P			
	comp=Z,47µm,0.2s						
ATAB				*i* P	**Pb**	**10 31 31.3**	**-1.3**
GZT	**Gaziantep**	**0.64**	**209**	IAML_P			
	comp=Z,5µm,0.1s						
GZT				*i* P	**Pb**	**10 31 33.7**	**-1.0**
GZT				*i* S	**Sb**	**10 31 42.7**	**-1.1**
ELBS	**KAHRAMANMARAS_**	**0.77**	**302**	*i* P	**Pb**	**10 31 35.9**	**-1.0**
ELBS				*i* S	**Sb**	**10 31 47.9**	**+0.5**
URFA	**Urfa**	**0.83**	**124**	PG	**Pb**	**10 31 36.9**	**-1.0**
URFA				SG	**Sn**	**10 31 50.9**	**-0.8**
KMRS	**Kahramanmaras**	**0.93**	**244**	PG	**Pb**	**10 31 38.8**	**-0.8**
GAZ	**Gaziantep**	**0.95**	**219**	PG	**Pb**	**10 31 39.5**	**-0.4**
SANL	**SANLIURFA_Merk**	**1.11**	**132**	*i* P	**Pn**	**10 31 42.5**	**-0.4**
SANL				*i* S	**Sb**	**10 31 57.2**	**+0.1**
ANDN	**Andirin**	**1.32**	**256**	*i* P	**Pg**	**10 31 45.9**	**-0.7**
ANDN				*i* S	**Sn**	**10 32 04.8**	**+1.1**
KUZU	**Kuzuini**	**1.34**	**212**	*i* P	**Pg**	**10 31 47.2**	**+0.2**
KUZU				*i* S	**Sg**	**10 32 03.8**	**-0.5**
CUKAN	**kangal_SIVAS**	**1.45**	**345**	*i* P	**Pg**	**10 31 48.2**	**-0.9**
CUKAN				*i* S	**Sg**	**10 32 07.8**	**-0.1**
SAIM	**ADANA**	**1.48**	**273**	*i* P	**Pg**	**10 31 49.0**	**-0.7**
SAIM				*i* S	**Sg**	**10 32 11.4**	**+2.5**
PTK	**Pertek**	**1.49**	**49**	PN	**Pb**	**10 31 48.4**	**-0.8**
ILIC	**ilic-Erzincan**	**1.61**	**17**	PN	**Pb**	**10 31 50.6**	**-0.5**
CUALT	**Altinyayla-SIV**	**1.65**	**325**	*i* P	**Pg**	**10 31 52.8**	**-0.2**
CUALT				*i* S	**Sg**	**10 32 16.0**	**+1.7**
DIYA	**Diyarbakir**	**1.71**	**89**	*e*P	**Pg**	**10 31 53.6**	**-0.4**
DIYA				*i* S	**Sg**	**10 32 15.4**	**-0.8**
DYBB	**Diyarbakir**	**1.73**	**88**	PN	**Pg**	**10 31 53.1**	**-1.2**
TNCL	**Tunceli-Merkez**	**1.73**	**46**	*i* P	**Pg**	**10 31 56.7**	**+2.4**
TNCL				*i* S	**Sg**	**10 32 21.4**	**+4.7**
KOZT	**Kozan**	**1.75**	**256**	PN	**Pb**	**10 31 53.3**	**-0.1**
CUZAR	**Zara_SIVAS**	**1.97**	**356**	*i* P	**Pg**	**10 31 57.8**	**-1.3**
CUZAR				*i* S	**Sg**	**10 32 25.3**	**+0.5**
CUSAR	**Sarkisla-SIVAS**	**2.01**	**319**	*e*P	**Pg**	**10 31 58.4**	**-1.4**
CUSAR				*i* S	**Sg**	**10 32 27.3**	**+1.3**
MAZI	**Mazidag**	**2.03**	**102**	PN	**Pb**	**10 31 56.7**	**-1.6**
SVSK	**Karacayir**	**2.13**	**340**	PN	**Pb**	**10 31 58.5**	**-1.5**
KELT	**Kelkit**	**2.45**	**24**	*i* P	**Pn**	**10 32 02.6**	**+1.1**
KELT				*i* S	**Sb**	**10 32 33.7**	**-2.2**
RSDY	**Resadiye-TOKAT**	**2.52**	**349**	PN	**Pb**	**10 32 04.2**	**-2.6**
SVAN	**Silvan-Diyarba**	**2.57**	**84**	PN	**Pb**	**10 32 05.2**	**-2.3**
TOKT	**Tokat**	**2.64**	**336**	PN	**Pb**	**10 32 06.1**	**-2.6**
GURO	**Guroymak-BITLI**	**3.27**	**78**	PN	**Pn**	**10 32 14.7**	**+1.9**
SIRT	**Sirnak**	**3.58**	**95**	PN	**Pn**	**10 32 19.6**	**+2.6**
AKDM	**Akdamar-Van**	**3.98**	**83**	PN	**Pn**	**10 32 24.5**	**+1.9**

*DDA **08** 10:33:45.2, 42°.22N×41°.07E, h6km±3km, ML3.1*

*MOS **08** 10:33:47.6±0.0, 42°.57N×41°.12E, h12km, MPVA3.5*

ISC 08 10:33:44.2±1.4**, 42°.38N**±0°.03×**41°.08E**±0°.06**, h7**km±12km**, n11, σ0s.80**/20**, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.91**	**149**	P	**Pb**	**10 34 02.5**	**+0.3**
BATM				S	**Sn**	**10 34 16.1**	**-0.6**
DOMR	**Dombai**	**0.99**	**24**	*i* Pg	**Pg**	**10 34 03.2**	**-0.1**
DOMR				*i* Sg	**Sg**	**10 34 15.9**	**-0.4**
DBOC	**Borcka**	**1.13**	**157**	*i* P	**Pg**	**10 34 05.9**	**+0.1**
DBOC				*i* S	**Sn**	**10 34 21.6**	**-0.6**
ARXR	**Arkhyz**	**1.19**	**7**	*e*Pg	**Pg**	**10 34 06.7**	**-0.3**
ARXR				*e*Sg	**Sg**	**10 34 21.6**	**-0.8**
ARTV	**Artvin**	**1.36**	**152**	*i* P	**Pn**	**10 34 09.8**	**0.0**
ARTV				*i* S	**Sb**	**10 34 26.6**	**-1.1**
DBAD	**Bademkaya**	**1.44**	**161**	IAML_P			
	comp=Z,891nm,0.1s						
DBAD				*i* P	**Pn**	**10 34 10.0**	**-0.8**
EPOS	**Posof**	**1.51**	**125**	*i* P	**Pb**	**10 34 12.7**	**0.0**
EPOS				*i* S	**Sg**	**10 34 33.9**	**+1.0**
GUZR	**Guzeripl'**	**1.76**	**337**	*i* Pg	**Pb**	**10 34 17.5**	**+0.7**
GUZR				*e*Sg	**Sn**	**10 34 38.5**	**+0.6**
SHA1	**Shidzhatmaz**	**1.78**	**40**	*e*Pg	**Pb**	**10 34 17.3**	**0.0**
SHA1				*i* Sg	**Sb**	**10 34 40.0**	**0.0**
LZRR	**Lazarevskoye**	**1.99**	**322**	*e*Pg	**Pb**	**10 34 21.0**	**+0.3**
LZRR				*e*Sg	**Sb**	**10 34 46.2**	**+0.6**
AKH	**Akhalkalaki**	**2.05**	**118**	P	**Sb**	**10 34 49.7**	**+2.1**

ISC 08 10:36:47.0±2.1**, 49°.8N**±0°.1×**18°.53E**±0°.06**, h0**km**, n6, σ0s.73**/10**, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**0.64**	**270**	*e*PG	**Pg**	**10 36 59.7**	**+0.4**
LANS	**Liptovska Anna**	**0.88**	**136**	*e*PG	**Pg**	**10 37 03.6**	**-0.3**
LANS				*e*SG	**Sg**	**10 37 16.2**	**+0.9**
JAVC	**Velka Javorina**	**1.08**	**212**	*e*PG	**Pg**	**10 37 08.2**	**+0.5**
VYHS	**Vyhne**	**1.31**	**171**	*e*PN	**Pg**	**10 37 11.0**	**-1.0**
VYHS				*e*SN	**Sb**	**10 37 30.6**	**+0.9**
VRAC	**Vranov**	**1.35**	**250**	*e*PG	**Pg**	**10 37 12.2**	**-0.6**
VRAC				*e*SG	**Sg**	**10 37 30.1**	**-0.2**
KRUC	**Moravsky**	**1.57**	**243**	*e*PG	**Pn**	**10 37 15.7**	**-0.4**
KRUC				*e*SG	**Sn**	**10 37 37.1**	**0.0**

*SOME **08** 10:47:34.7, 39°.22N×71°.98E, h5km*

*IDC **08** 10:47:37.6±0.5, 39°.30N×71°.95E, h0km, mb4.4/22, mb1 4.6/29, mb1mx4.4/47, mbtmp4.5/29, ML4.1/7, MS3.7/12, Ms1 3.7/12, ms1mx3.3/51, Error ellipse: s-maj=11.6km s-min=9.2km az=150.0*

*ISCJB **08** 10:47:38.8±0.2, 39°.34N±0°.02×71°.91E±0°.02, h10km, mb4.5/108, MS3.7/14, Error ellipse: s-maj=2.9km s-min=2.1km az=152.7*

*KRNET **08** 10:47:38.3±0.1, 39°.39N×71°.92E, mb4.7*

*NNC **08** 10:47:38.9±1.2, 39°.43N×71°.97E, h2km±7km, mb5.1, mpv4.7, Error ellipse: s-maj=9.7km s-min=4.4km az=0.0*

*MOS **08** 10:47:40.5±1.4, 39°.53N×71°.91E, h15km, mb4.8/67, Error ellipse: s-maj=5.0km s-min=3.9km az=104.7*

MOS Felt (IV) at Zhekendi, Karamyk, Kara-Teyit; (III-IV) at Daraut-Kurgan; (III) at Kyzyl-Kiya; (II-III) at Batken.

*BJI **08** 10:47:40.4, 39°.68N×71°.99E, h10km, mb4.5/32, mB4.7/23, ML4.6/2, Ms4.1/21, Ms7 3.8/19*

*NEIC **08** 10:47:44.2±0.5, 39°.42N×71°.85E, h36km±5km, mb4.6/45, Error ellipse: s-maj=6.1km s-min=4.6km az=169.0*

ISC 08 10:47:39.6±0.6**, 39°.39N**±0°.03×**71°.90E**±0°.02**, h7**km±3km**, n392, σ2s.20**/436**, mb4.6**/109**, MS3.7**/14**, 60C-32D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BTK	**Batken**	**1.07**	**309**	*e*Pg	**Pg**	**10 47 58.8**	**-1.3**
BTK				*e*Sn	**Sg**	**10 48 09.9**	**-4.1**
BTK	**Batken**	**1.07**	**309**	*e*PG	**Pg**	**10 47 58.8**	**-1.3**
BTK				*e*		10 48 09.9	
BTK	**Batken**	**1.07**	**309**	⇓*i*P	**Pg**	**10 47 58.8**	**-1.3**
	baz=9.0						
BTK				⇓*i*S	**Sg**	**10 48 13.9**	**-0.1**
	baz=9.0						
GAR	**Garm**	**1.29**	**253**	*e*Pn	**Pn**	**10 48 02.8**	**-1.3**
GAR				*e*Sn	**Sb**	**10 48 15.2**	**-5.8**
GAR	**Garm**	**1.29**	**253**	*e*PG	**Pn**	**10 48 02.8**	**-1.3**
SFK	**Sufi-Kurgan**	**1.39**	**63**	⇓P	**Pn**	**10 48 03.2**	**-2.4**
	244nm,0.5s						
SFK				⇓S	**Sb**	**10 48 21.2**	**-2.8**
	845nm,0.5s						
SFK	**Sufi-Kurgan**	**1.39**	**63**	Pg	**Pn**	**10 48 03.9**	**-1.7**
	119nm,0.3s						
SFK				Lg	Lg	10 48 25.3	
	633nm,0.3s						
SFK	**Sufi-Kurgan**	**1.39**	**63**	PG	**Pn**	**10 48 03.2**	**-2.4**
SFK				S	**Sb**	**10 48 21.2**	**-2.8**
SFK				pmax	pmax		
	comp=Z,244nm,0.5s						
SFK				smax	smax		
	comp=N,845nm,0.5s						
SFK	**Sufi-Kurgan**	**1.39**	**63**	⇑*i*P	**Pn**	**10 48 03.8**	**-1.8**
	baz=62						
SFK				⇑*i*S	**Sb**	**10 48 23.1**	**-0.9**
	baz=62						
ARSB	**Arslanbob**	**2.10**	**23**	*e*Pn	**Pn**	**10 48 16.8**	**+1.4**
ARSB				*e*Sn	**Sn**	**10 48 41.4**	**-0.4**
ARSB	**Arslanbob**	**2.10**	**23**	⇓*i*P	**Pn**	**10 48 15.9**	**+0.5**
	baz=22						
ARSB				⇓*i*S	**Sb**	**10 48 43.9**	**-0.6**
	baz=22						
CHGR	**Chuyangaron**	**2.25**	**252**	*e*Pn	**Pb**	**10 48 20.1**	**-0.6**
ARK	**Arkit**	**2.41**	**1**	⇑*e*P	**Pn**	**10 48 20.1**	**+0.6**
	baz=1.0						
ARK				⇑*i*S	**Sb**	**10 48 51.1**	**-2.1**
	baz=1.0						
AML	**Almayashu**	**3.06**	**26**	P	**Pn**	**10 48 31.0**	**+2.2**
	SNR=518						
AML	**Almayashu**	**3.06**	**26**	⇓*i*P	**Pn**	**10 48 29.8**	**+1.0**

baz=26
AML ⇓*i*S **Sn** **10 49 07.2 +1.4**
baz=26
ARLS **Aral** **3.08** **36**⇑*e*P **Pn** **10 48 29.7 +0.8**
baz=36
ARLS ⇑*i*S **Sn** **10 49 07.1 +1.1**
baz=36
IUG **Iuzhnay** **3.10** **333** Pg **Pb** **10 48 34.1 -1.0**
comp=N,908nm,0.8s
IUG Lg Lg 10 49 17.1
comp=N,1μm,0.8s
IUG **Iuzhnay** **3.10** **333** *e*P **Pb** **10 48 34.1 -1.0**
comp=N,908nm,0.8s
IUG *e*S **Sg** **10 49 17.1 -2.1**
comp=N,1μm,0.8s
KSH **Kashi** **3.16** **86** Pn **Pn** **10 48 27.6 -2.3**
KSH Sn **Sn** **10 49 00.8 -7.0**
CHM **Chimkent** **3.41** **330** *e*P **Pb** **10 48 41.6 +1.4**
comp=N,425nm,0.2s
CHM *e*S **Sg** **10 49 29.5 +0.5**
comp=N,2μm,0.5s
UCH **Uchtor** **3.46** **34** P **Pn** **10 48 36.7 +2.4**
SNR=202
UCH **Uchtor** **3.46** **34**⇓*e*P **Pn** **10 48 35.6 +1.3**
baz=34
UCH ⇓*i*S **Sn** **10 49 17.1 +1.3**
baz=34
MRKS **Merke** **3.50** **16** Pg **Pb** **10 48 39.6 -2.4**
comp=N,198nm,0.5s
MRKS Lg Lg 10 49 25.6
comp=N,342nm,0.6s
MRKS **Merke** **3.50** **16** *e*P **Pb** **10 48 39.6 -2.4**
comp=N,198nm,0.5s
MRKS *e*S **Sb** **10 49 25.6 +0.9**
comp=N,342nm,0.6s
DZA **Taraz** **3.53** **353** *e*P **Pb** **10 48 42.9 +0.6**
comp=N,738nm,0.5s
DZA *e*S **Sg** **10 49 32.2 -0.7**
comp=N,921nm,0.4s
EKS2 **Erkin-Say** **3.56** **23** P **Pn** **10 48 38.2 +2.8**
SNR=157
EKS2 **Erkin-Say** **3.56** **23**⇑*e*P **Pn** **10 48 36.6 +1.2**
baz=23
EKS2 ⇑*e*S **Sn** **10 49 18.6 +0.7**
baz=23
KZA **Kyzart** **3.70** **42** P **Pn** **10 48 40.4 +2.8**
SNR=261
KZA **Kyzart** **3.70** **42**⇑*i*P **Pn** **10 48 38.8 +1.2**
baz=42
KZA ⇑*i*S **Sn** **10 49 22.6 +1.0**
baz=42
NRN **Naryn** **3.74** **56** *e*Pn **Pn** **10 48 40.3 +2.3**
NRN **Naryn** **3.74** **56** *e*PN **Pn** **10 48 40.3 +2.3**
NRN **Naryn** **3.74** **56**⇑*i*P **Pn** **10 48 38.6 +0.6**
baz=55
NRN ⇑*i*S **Sn** **10 49 22.6 +0.2**
baz=55
AAK **Ala-Archa** **3.79** **30** Pn **Pn** **10 48 40.7 +2.1**
comp=N,54nm,0.3s,baz=190,slow=5.9,SNR=195
AAK Sn **Sb** **10 49 28.6 -4.6**
comp=N,28nm,0.3s,baz=337,slow=22,SNR=6.4
AAK LR LR 10 50 22.5
comp=N,738nm,18.8s,baz=198,slow=43
AAK **Ala-Archa** **3.79** **30** P **Pn** **10 48 41.5 +2.9**
SNR=189
AAK **Ala-Archa** **3.79** **30** Pg **Pb** **10 48 45.0 -1.9**
comp=N,309nm,0.9s
AAK ⇑Lg Lg 10 49 38.5
comp=N,727nm,1.0s
AAK **Ala-Archa** **3.79** **30** *i* PN **Pn** **10 48 40.5 +1.9**
AAK **Ala-Archa** **3.79** **30**⇑*e*P **Pn** **10 48 40.0 +1.4**
baz=30
AAK ⇑*i*S **Sn** **10 49 24.6 +1.0**
baz=30
KK31 **Karatay Array** **3.85** **345** *e*Pn **Pn** **10 48 42.0 +2.6**
KK31 **Karatay Array** **3.85** **345** ⇑Pn **Pn** **10 48 39.5 +0.1**
comp=N,18nm,0.3s
KK31 ⇑Pg **Pb** **10 48 50.1 +2.2**
comp=N,506nm,0.7s
KK31 ⇓Lg Lg 10 49 41.7
comp=N,408nm,0.6s
KK31 **Karatay Array** **3.85** **345** PN **Pn** **10 48 39.4 +0.1**
KK31 pmax pmax
comp=Z,17nm,0.3s
KKAR **Karatay Array** **3.85** **345** *e*Pn **Pn** **10 48 42.0 +2.6**
FRU1 **Bishkek** **3.99** **30** *e*Pn **Pn** **10 48 41.8 +0.5**
FRU1 **Bishkek** **3.99** **30** *e*PN **Pn** **10 48 41.8 +0.5**
FRU1 **Bishkek** **3.99** **30**⇑*i*P **Pn** **10 48 41.5 +0.2**
baz=30
FRU1 ⇑*e*S **Sn** **10 49 29.0 +0.7**
baz=30
KBK **Karagaybulak** **4.00** **34** P **Pn** **10 48 44.8 +3.4**
SNR=174
KBK **Karagaybulak** **4.00** **34**⇑*i*P **Pn** **10 48 42.9 +1.5**
baz=34
KBK ⇑*i*S **Sn** **10 49 29.4 +0.8**
baz=34
CHMS **Chumysh** **4.20** **30** P **Pn** **10 48 47.1 +3.0**
SNR=210
CHMS **Chumysh** **4.20** **30**⇓*e*P **Pn** **10 48 45.3 +1.2**
baz=30
CHMS ⇓*i*S **Sn** **10 49 34.0 +0.6**
baz=30
USP **Ospenovka** **4.34** **26** P **Pn** **10 48 48.6 +2.6**
SNR=55
USP **Ospenovka** **4.34** **26**⇑*e*P **Pn** **10 48 47.1 +1.1**
baz=26
USP ⇑*i*S **Sn** **10 49 37.6 +0.7**
baz=26
ULHL **Ulahol** **4.36** **48** P **Pn** **10 48 49.3 +2.8**
SNR=38
ULHL **Ulahol** **4.36** **48**⇑*e*P **Pn** **10 48 47.4 +1.0**
baz=48
ULHL ⇑*i*S **Sn** **10 49 38.3 +0.7**
baz=48
TKM2 **Tokmak 2** **4.50** **37** P **Pn** **10 48 51.2 +2.8**
SNR=50
TKM2 **Tokmak 2** **4.50** **37** ⇑Pn **Pn** **10 48 49.8 +1.4**
comp=Z,82nm,0.5s
TKM2 ⇑Pg **Pb** **10 49 01.0 +1.9**
comp=Z,281nm,0.9s
TKM2 ⇑Lg Lg 10 50 00.8
comp=Z,296nm,0.9s
TKM2 **Tokmak 2** **4.50** **37** PN **Pn** **10 48 49.8 +1.4**
TKM2 pmax pmax
comp=Z,82nm,0.5s
SGDS **Sogindy** **4.55** **26** Pg **Pb** **10 48 59.9 +0.1**
comp=Z,186nm,1.4s
SGDS Lg Lg 10 50 01.5
comp=Z,262nm,1.1s
KST **Kastek** **4.77** **39** Pg **Pb** **10 49 04.7 +1.2**
comp=Z,96nm,0.6s
KST Lg Lg 10 50 09.0
comp=Z,286nm,1.0s
KST **Kastek** **4.77** **39** *e*P **Pb** **10 49 04.7 +1.2**
comp=Z,96nm,0.6s
KST *e*S **Sg** **10 50 09.0 -3.7**
comp=Z,286nm,1.0s
DGS **Degeres** **4.83** **36** Pg **Pb** **10 49 06.5 +1.9**
comp=Z,100nm,0.7s
DGS Lg Lg 10 50 12.4
comp=Z,212nm,0.6s
DGS **Degeres** **4.83** **36** *e*P **Pb** **10 49 06.5 +1.9**
comp=Z,100nm,0.7s
DGS *e*S **Sg** **10 50 12.4 -2.3**
comp=Z,212nm,0.6s
KDJ **Kajisay** **4.86** **54** *e*Pn **Pn** **10 48 57.6 +4.4**
KDJ **Kajisay** **4.86** **54** *e*PN **Pn** **10 48 57.6 +4.4**
IZV **Izvestkoviy** **5.09** **43** Pg **Pb** **10 49 10.4 +1.3**
comp=Z,84nm,0.9s
IZV Lg Lg 10 50 19.0
comp=Z,144nm,0.8s
IZV **Izvestkoviy** **5.09** **43** *e*P **Pb** **10 49 10.4 +1.3**
comp=Z,84nm,0.9s
IZV *e*S **Sg** **10 50 19.0 -4.1**
comp=Z,144nm,0.8s
TNSS **Tian-Shan** **5.27** **45** Pg **Pb** **10 49 15.6 +3.3**
comp=Z,94nm,0.6s
TNSS Lg Lg 10 50 27.7
comp=Z,144nm,0.8s
TNSS **Tian-Shan** **5.27** **45** *e*P **Pb** **10 49 15.6 +3.3**
comp=Z,94nm,0.6s
TNSS *e*S **Sg** **10 50 27.7 -1.2**
comp=Z,144nm,0.8s
KBL **Kabul** **5.35** **206** *e*Pn **Pn** **10 49 04.1 +4.0**
KBL **Kabul** **5.35** **206** *e*PN **Pn** **10 49 04.1 +4.0**
AAA **Alma-Ata** **5.37** **43** Pg **Pb** **10 49 18.0 +4.2**
comp=Z,43nm,0.2s
AAA Lg Lg 10 50 31.3
comp=Z,305nm,0.8s
AAA **Alma-Ata** **5.37** **43** *e*PG **Pg** **10 49 23.1 +0.6**
AAA pmax pmax
comp=Z,96nm,0.6s
AAA **Alma-Ata** **5.37** **43** *e*P **Pb** **10 49 18.0 +4.2**
comp=Z,43nm,0.2s
AAA *e*S **Sg** **10 50 31.3 -0.7**
comp=Z,305nm,0.8s
KNDC **Almaty** **5.40** **43** ⇑Pg **Pb** **10 49 14.3 0.0**
KNDC ⇓Lg Lg 10 50 30.3
MDOK **Medeo** **5.41** **44** ⇓Pn **Pn** **10 49 01.3 +0.5**
comp=Z,38nm,0.7s
MDOK ⇓Pg **Pb** **10 49 17.3 +2.8**
comp=Z,197nm,1.6s
MDOK ⇓Lg Lg 10 50 29.2
comp=Z,438nm,1.3s
KOTS **Kotyrbulak** **5.49** **44** Pg **Pb** **10 49 18.4 +2.5**
comp=Z,35nm,0.4s
KOTS Lg Lg 10 50 32.6
comp=Z,202nm,1.0s
KOTS **Kotyrbulak** **5.49** **44** *e*P **Pb** **10 49 18.4 +2.5**
comp=Z,35nm,0.4s
KOTS *e*S **Sg** **10 50 32.6 -3.3**
comp=Z,202nm,1.0s
CEP **Cherat** **5.55** **180** P **Pn** **10 49 06.8 +4.0**
KUU **Kurty** **5.60** **35** Pg **Pb** **10 49 19.3 +1.7**
comp=Z,43nm,0.6s
KUU Lg Lg 10 50 34.1
comp=Z,236nm,1.2s
KUU **Kurty** **5.60** **35** *e*P **Pb** **10 49 19.3 +1.7**
comp=Z,43nm,0.6s
KUU *e*S **Sg** **10 50 34.1 -5.2**
comp=Z,236nm,1.2s
KTBS **Karatobe** **5.62** **38** Pg **Pb** **10 49 19.0 +1.0**
KTBS Lg Lg 10 50 33.6
KTBS **Karatobe** **5.62** **38** *e*P **Pb** **10 49 19.0 +1.0**
comp=Z,24nm,0.5s
KTBS *e*S **Sg** **10 50 33.6 -6.3**
comp=Z,205nm,0.8s
CHCP **Chirah Chowk** **5.82** **169** P **Pn** **10 49 11.2 +4.8**
NIL **Nilore** **5.83** **169** *e*Pn **Pn** **10 49 10.5 +4.0**
NIL **Nilore** **5.83** **169** *e*PN **Pn** **10 49 10.5 +4.0**
CHKK **Chushkaly** **5.87** **39** Pg **Pb** **10 49 23.1 +0.9**
comp=Z,20nm,0.5s
CHKK Lg Lg 10 50 41.3
comp=Z,136nm,0.7s
CHKK **Chushkaly** **5.87** **39** *e*P **Pb** **10 49 23.1 +0.9**
comp=Z,20nm,0.5s
CHKK *e*S **Sg** **10 50 41.3 -6.8**
comp=Z,136nm,0.7s
SATY **Saty** **6.12** **51** Pg **Pb** **10 49 29.1 +2.4**
comp=Z,109nm,0.8s
SATY **Saty** **6.12** **51** *e*P **Pb** **10 49 29.1 +2.4**
comp=Z,109nm,0.8s
SATY *e*S **Sg** **10 50 50.9 -5.4**
comp=Z,234nm,1.0s
THW **Thamme Wali** **6.58** **181** P **Pn** **10 49 19.4 +2.6**
PDGK **Podgornoye** **6.94** **53** ⇓Pn **Pn** **10 49 21.4 -0.3**
comp=Z,42nm,0.9s
PDGK ⇓Pg **Pb** **10 49 45.1 +4.6**
comp=Z,63nm,1.2s
PDGK ⇓Lg Lg 10 51 18.2
comp=Z,249nm,1.1s
PDGK **Podgornoye** **6.94** **53** PN **Pn** **10 49 21.4 -0.3**
PDGK pmax pmax
comp=Z,42nm,0.9s
DHRM **DHARAMSHALA** **7.97** **152** *e*P **Pn** **10 49 38.3 +2.3**
DHRM *e*S **Sn** **10 50 59.5 -7.0**
DHRM IAML 10 51 15.0
comp=N,202nm,0.1s
DHRM IAML 10 51 15.0
comp=E,386nm,0.8s
OTUK **Ortayu** **8.86** **2** ⇑Pn **Pn** **10 49 48.5 +0.5**
comp=E,20nm,1.1s
OTUK ⇓Lg Lg 10 52 20.7
comp=E,145nm,0.9s
OTUK **Ortayu** **8.86** **2** P **Pn** **10 49 48.5 +0.5**
OTUK pmax pmax
comp=Z,20nm,1.1s
SMLA **Simla** **9.30** **151** *e*P **Pn** **10 49 54.8 +0.8**
SMLA *e*S **Sn** **10 51 31.9 -7.0**
SMLA IAML 10 52 48.7
comp=E,53nm,1.4s
SMLA IAML 10 52 49.1
comp=N,2μm,1.4s
DDI **Dehra Dun** **10.36** **149** *e*P **Pn** **10 50 09.1 +0.4**
MAKZ **Makanchi** **10.45** **42** *e*Pn **Pn** **10 50 13.1 +3.3**
MAKZ **Makanchi** **10.45** **42** *e*P **Pn** **10 50 13.1 +3.3**
MK01 **Makanchi Array** **10.59** **42** *e*Pn **Pn** **10 50 15.1 +3.3**
MK31 **Makanchi Array** **10.60** **42** *e*Pn **Pn** **10 50 15.3 +3.4**
MK31 **Makanchi Array** **10.60** **42** Pn **Pn** **10 50 11.9 +0.1**
comp=N,14nm,0.9s,baz=231,slow=13,SNR=30
MK31 ⇑Lg Lg 10 53 13.4
comp=N,29nm,1.0s
MK31 **Makanchi Array** **10.60** **42** *e*P **Pn** **10 50 15.3 +3.4**
MK32 **Makanchi Array** **10.60** **42** *e*Pn **Pn** **10 50 14.4 +2.5**
MKAR **Makanchi Array** **10.60** **42** Pn **Pn** **10 50 14.4 +2.5**
comp=N,0.4nm,0.3s,baz=233,slow=13,SNR=31
MKAR Lg Lg 10 52 52.5
comp=N,0.2nm,0.3s,baz=236,slow=24,SNR=2.5
MKAR LR LR 10 53 35.5
comp=N,28nm,21.0s,baz=229,slow=34
MKAR **Makanchi Array** **10.60** **42** *e*Pn **Pn** **10 50 15.3 +3.4**
MKAR **Makanchi Array** **10.60** **42** *i* P **Pn** **10 50 15.5 +3.6**
MKAR pmax pmax
comp=Z,10.0nm,0.8s
GEYT **Alibeck** **10.88** **267** Pn **Pn** **10 50 15.7 0.0**
comp=Z,2.8nm,0.3s,baz=92,slow=8.9,SNR=40
GEYT Sn **Sn** **10 52 14.4 -3.2**
comp=Z,2.0nm,0.3s,baz=109,slow=20,SNR=4.2
GYA0B **ALIBECK ARRAY** **10.88** **267** *e*Pn **Pn** **10 50 15.0 -0.7**
GYA0B **ALIBECK ARRAY** **10.88** **267** ⇓Pn **Pn** **10 50 16.5 +0.8**
comp=Z,48nm,0.8s
GYA0B ⇓Sn **Sn** **10 52 21.4 +3.7**
comp=Z,96nm,0.7s
NDI **New Delhi** **11.55** **156** *e*P **Pn** **10 50 25.0 +0.1**
NDI *e*S Sn 10 52 24.0 -10
KURBB **Kurchatov Arra** **12.17** **20** Pn **Pn** **10 50 32.0 -1.2**
comp=Z,0.6nm,0.3s,baz=213,slow=12,SNR=40
KURBB Lg Lg 10 53 52.6
comp=Z,0.2nm,0.3s,baz=212,slow=17,SNR=4.3
KURBB **Kurchatov Arra** **12.17** **20** ⇑Pn **Pn** **10 50 31.9 -1.4**
comp=Z,32nm,0.7s
KURBB ⇑Lg Lg 10 54 04.7
comp=Z,149nm,1.3s
KURK **Kurchatov** **12.28** **20** *e*Pn **Pn** **10 50 33.5 -1.2**
KURK **Kurchatov** **12.28** **20** ⇑Pn **Pn** **10 50 32.9 -1.8**
comp=Z,19nm,0.9s
KURK ⇑Lg Lg 10 54 11.1
comp=Z,70nm,1.0s
KURK **Kurchatov** **12.28** **20**⇑*i*P **Pn** **10 50 33.3 -1.4**
KURK pmax pmax
comp=Z,27nm,1.0s
WMQ **Urumqi** **12.62** **64** P **Pn** **10 50 41.5 +1.9**
WMQ pP 10 50 46.4
WMQ pmax pmax
comp=Z,28nm,1.1s
WMQ pmax pmax
comp=Z,330nm,3.7s
WMQ LR LR
comp=Z,290nm,25.1s
WMQ LR LR
comp=Z,170nm,15.3s
WMQ **Urumqi** **12.62** **64** *e*Pn **Pn** **10 50 41.8 +2.2**
WMQ **Urumqi** **12.62** **64** *e*P **Pn** **10 50 41.8 +2.2**
AB31 **Akbulak array** **13.04** **323** P **Pn** **10 50 42.9 -2.3**
comp=Z,69nm,0.9s,baz=127,slow=12,SNR=443
AB31 **Akbulak array** **13.04** **323** P **Pn** **10 50 42.9 -2.3**
AB31 S **Sn** **10 53 02.7 -7.7**
AB31 pmax pmax
comp=Z,69nm,1.0s
AB31 smax smax
comp=N,36nm,0.7s
ABKAR **Akbulak array** **13.04** **323** *e*Pn **Pn** **10 50 42.6 -2.6**
BVA0 **Borovoye Array** **13.68** **356** P **Pn** **10 50 51.7 -2.1**
comp=N,20nm,0.6s,baz=169,slow=14,SNR=24
BVA0 **Borovoye Array** **13.68** **356** P **Pn** **10 50 51.7 -2.1**
BVA0 pmax pmax
comp=Z,20nm,0.6s
BVAR **Borovoye Array** **13.68** **356** Pn **Pn** **10 50 51.9 -1.9**
comp=Z,0.8nm,0.3s,baz=165,slow=12,SNR=30
BVAR Lg Lg 10 54 49.5
comp=Z,0.2nm,0.3s,baz=154,slow=24,SNR=2.8
BVAR LR LR 10 56 29.0
comp=Z,537nm,19.6s,baz=176,slow=39
BRVK **Borovoye** **13.72** **356** *e*Pn **Pn** **10 50 52.4 -1.9**
BRVK **Borovoye** **13.72** **356** ⇓P **Pn** **10 50 52.2 -2.2**
comp=Z,22nm,0.7s
BRVK **Borovoye** **13.72** **356** *i* P **Pn** **10 50 52.2 -2.2**
BRVK pmax pmax
comp=Z,10.0nm,0.9s
PYUN **Piuthan** **14.54** **137** *e*P Pn 10 51 00.8 -5.2
comp=Z,82nm,0.6s
AKTO **Aktyubinsk** **14.76** **323** Pn **Pn** **10 51 06.6 -2.0**
comp=Z,2.1nm,0.3s,baz=135,slow=14,SNR=61
AKTO Sn **Sn** **10 53 45.8 -6.5**
comp=Z,0.4nm,0.3s,baz=168,slow=20,SNR=4.2
AKTO LR LR 10 57 32.5
comp=Z,333nm,21.4s,baz=136,slow=40
AKTO **Aktyubinsk** **14.76** **323** ⇑P **Pn** **10 51 06.6 -2.0**
comp=Z,67nm,0.8s
DANN **Dangsing** **14.76** **135** *e*P Pn 10 51 03.6 -5.4
comp=Z,176nm,1.0s
DGZ **Jazzator, Alta** **15.10** **42***d* *i*P **Pn** **10 51 15.5 +2.1**
DGZ pmax pmax
comp=Z,14nm,0.8s
KOLN **Koldanda** **15.13** **136** *e*P **Pn** **10 51 08.0 -5.9**
KKN **Kakani** **16.05** **132** *e*P **Pn** **10 51 20.9 -5.0**
comp=Z,78nm,0.5s
DMN **Daman** **16.09** **133** *e*P **Pn** **10 51 21.6 -4.9**
comp=Z,67nm,0.9s
PKIN **Phulchoki** **16.27** **132** *e*P **Pn** **10 51 22.6 -6.3**
comp=Z,53nm,0.7s
PKI **Pulchoki** **16.29** **132** *e*P **Pn** **10 51 24.2 -4.9**
comp=Z,98nm,0.9s
GUN **Gumba** **16.30** **130** *e*P **Pn** **10 51 23.9 -5.5**
comp=Z,81nm,0.9s
JIRN **Jiri** **16.67** **130** *e*P **Pn** **10 51 28.7 -5.4**
comp=Z,105nm,0.9s
BHPL **Bhopal** **16.77** **162** *e*P **Pn** **10 51 34.5 -0.5**
ZAA0 **Zalesovo Array** **17.01** **27** *e*Pn **Pn** **10 51 37.0 -0.7**
comp=Z,22nm,1.0s
ZAA0 **Zalesovo Array** **17.01** **27** ⇑Pn **Pn** **10 51 38.4 +0.6**
comp=Z,22nm,0.8s
ZALV **Zalesovo Beam** **17.01** **27** P **Pn** **10 51 36.0 -1.8**
comp=Z,2.0nm,0.3s,baz=213,slow=9.7,SNR=29
ZALV Lg Lg 10 56 31.1
comp=Z,0.1nm,0.3s,baz=224,slow=18,SNR=2.2
ZALV LR LR 10 58 43.4
comp=Z,120nm,19.7s,baz=250,slow=39
ZAA1 **Zalesovo Array** **17.01** **27** *e*Pn **Pn** **10 51 36.0 -1.8**
NVS **Novosibirsk** **17.24** **23** *e*P **Pn** **10 51 40.4 -0.3**
RAMN **Ramite** **17.45** **131** *e*P **Pn** **10 51 37.9 -5.8**
comp=Z,49nm,0.6s
LSA **Lhasa** **18.54** **116** *e*P **P** **10 51 57.7 +0.4**
comp=Z,5.8nm,0.4s
LSA **Lhasa** **18.54** **116** *e*P **P** **10 51 57.7 +0.4**
LSA pmax pmax
comp=Z,6.0nm,0.4s
SVE **Sverdlovsk** **18.95** **341**⇓*e*P **P** **10 52 00.7 -0.4**
SVE pmax pmax
comp=Z,33nm,1.2s
NGP **Nagpur** **19.19** **159** *e*P **Pn** **10 52 05.6 +0.8**
ARU **Arti** **19.19** **337** *e*P **Pn** **10 52 04.5 0.0**
comp=Z,34nm,1.1s
ARU **Arti** **19.19** **337***c* *i*P **Pn** **10 52 04.6 0.0**
ARU S **S** **10 55 41.6 +0.4**
ARU pmax pmax
comp=Z,44nm,1.3s
ARU MLR MLR
comp=Z,429nm,20.0s
HVS **Khovu-Aksy** **19.24** **45** *i* P **Pn** **10 52 06.2 +0.8**
HVS pmax pmax
comp=Z,21nm,0.9s
BOK **Bokaro** **19.55** **139** *e*P **P** **10 52 06.9 -0.9**
GROC **Groznyy** **19.95** **289** *e*P **P** **10 52 12.8 +0.7**
GROC pmax pmax
comp=Z,81nm,1.2s
POO **Poona** **20.86** **175** *e*P Pn 10 52 24.5 -0.1
GNI **Garni** **20.86** **281** *e*P **P** **10 52 22.8 +0.6**
comp=Z,76nm,1.0s
GNI **Garni** **20.86** **281** *e*P **P** **10 52 22.8 +0.6**
GNI pmax pmax
comp=Z,75nm,1.0s
KNGR **Kungurtug, Tuv** **21.20** **50** *i* P **P** **10 52 26.7 +1.0**
ZEI **Tsey** **21.33** **288** *e*P **P** **10 52 27.2 -0.1**
ZEI pmax pmax
comp=Z,13nm,0.8s
GTA **Gaotai** **21.55** **81** *e*P **P** **10 52 31.6 +2.1**
GTA pP sP 10 52 36.2 +1.8
GTA sP pP 10 52 38.7 +5.9
GTA S **S** **10 56 30.4 +1.8**
GTA sS pS 10 56 35.7 -0.1
GTA pmax pmax
comp=Z,9.0nm,1.2s
GTA pmax pmax
comp=Z,74nm,7.1s
GTA LR LR
comp=Z,170nm,10.2s
GTA LR LR
comp=Z,220nm,10.5s
GTA LR LR
comp=Z,270nm,10.2s
AKH **Akhalkalaki** **21.69** **284** *e*P **P** **10 52 33.0 +1.9**
comp=Z,41nm,1.0s
AKH **Akhalkalaki** **21.69** **284**⇑*i*P **P** **10 52 33.3 +2.2**
AKH **Akhalkalaki** **21.69** **284** *e*P **P** **10 52 33.0 +1.9**
AKH pmax pmax
comp=Z,41nm,1.0s
SHL **Shillong** **21.71** **123** *e*P **P** **10 52 33.4 +1.9**
comp=Z,33nm,1.1s
SHL **Shillong** **21.71** **123** *e*P **P** **10 52 33.4 +1.9**
SHL pmax pmax
comp=Z,33nm,1.1s
SHL **Shillong** **21.71** **123** *e*P **P** **10 52 32.4 +0.9**
SHL *e*S **S** **10 56 28.0 -4.1**
GOF **Gofitskoye** **22.04** **294** *e*P **P** **10 52 35.1 +0.4**
GOF pmax pmax
comp=Z,80nm,1.3s
KARS **Kars** **22.07** **282** *e*P **P** **10 52 35.6 +0.4**
comp=Z,111nm,0.9s
KARS **Kars** **22.07** **282** *e*P **P** **10 52 35.6 +0.4**
KARS pmax pmax
comp=Z,111nm,0.9s
KBZ **Khabaz** **22.07** **291** P **P** **10 52 34.3 -0.7**
comp=Z,7.0nm,0.8s,baz=123,slow=11,SNR=9.4
KBZ LR LR 11 03 11.9
comp=Z,78nm,18.0s,baz=73,slow=42
KVAR **Kislovodsk Arr** **22.23** **291** P **P** **10 52 36.3 -0.5**
comp=Z,2.8nm,0.3s,baz=27,slow=1.5,SNR=4.2
KIV **Kislovodsk** **22.23** **291** *e*P **P** **10 52 37.8 +1.0**
comp=Z,16nm,0.8s
KIV **Kislovodsk** **22.23** **291** *e*P **P** **10 52 38.8 +2.0**
KIV pmax pmax
comp=Z,55nm,1.1s
KIV MLR MLR
comp=Z,76nm,14.0s
HYB **Hyderabad** **22.65** **163** *i* P **P** **10 52 43.0 +1.6**
SIRT **Sirnak** **23.11** **275** *e*P **P** **10 52 45.8 -0.3**
comp=Z,22nm,0.6s
MOY **Mondy** **23.62** **49** *e*P **P** **10 52 51.9 +0.7**
MOY pmax pmax
comp=Z,22nm,2.1s
BRDH **Bariadhala** **23.66** **129** LR LR 11 04 35.8
comp=Z,205nm,19.3s,baz=288,slow=43
VRH **Novokhopyorsk** **24.11** **309** *e*P **P** **10 52 57.0 +1.3**
VRH pmax pmax
comp=Z,30nm,0.8s
ZAK **Zakamensk** **24.62** **53** *e*P **P** **10 53 00.5 -0.1**
ZAK pmax pmax
comp=Z,5.0nm,0.8s
LZH **Lanzhou** **25.41** **87** *e*P **P** **10 53 14.7 +6.8**
LZH pP sP 10 53 20.1 +7.5
LZH sP pP 10 53 23.0 +12
LZH pmax pmax
comp=Z,29nm,1.5s
LZH LR LR
comp=N,440nm,12.5s
LZH LR LR
comp=E,480nm,13.3s
LZH LR LR
comp=Z,300nm,14.1s
VSR **Storozhevoye** **25.66** **308** *e*P **P** **10 53 09.8 0.0**
VSR pmax pmax
comp=Z,10.0nm,0.6s
LPSR **Galich'ya Gora** **26.18** **311** *e*P **P** **10 53 15.8 +1.3**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
SONA0 **Songino Array** **26.19** **60** *e*P **P** **10 53 15.0 +0.2**
SONM **Songino Array** **26.19** **60** P **P** **10 53 15.0 +0.2**
comp=Z,3.5nm,1.0s,baz=266,slow=9.2,SNR=13

SONM	Songino Array	26.19	60	P	P	10 53 15.0	+0.2
SONM				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONA1	Songino Array	26.20	60	eP	P	10 53 15.2	+0.3
ULN	Ulaanbaatar	26.63	60	eP	P	10 53 19.3	+0.4
	comp=Z,11nm,1.1s						
ULN	Ulaanbaatar	26.63	60	ceP	P	10 53 19.6	+0.8
ULN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CD2	Chengdu	27.28	98	eP	P	10 53 27.0	+2.3
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
RAYN	Ar Rayn	27.38	243	eP	P	10 53 25.6	0.0
	comp=Z,9.6nm,1.1s						
RAYN	Ar Rayn	27.38	243	eP	P	10 53 25.6	0.0
RAYN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PRGR	Permogore	27.48	333	eP	P	10 53 26.1	0.0
PRGR				e*SP	pP	10 53 30.6	+1.5
PRGR				pmax	pmax		
	comp=Z,30nm,1.3s						
OBN	Obninsk	28.29	315⇓	eP	P	10 53 34.5	+1.1
OBN				ePPP	PPP	10 54 28.7	
OBN				pmax	pmax		
	comp=Z,11nm,0.9s						
OBN				MLR	MLR		
	comp=Z,183nm,15.0s						
SIM	Simferopol'	28.36	294	deP	P	10 53 37.2	+3.0
SIM				eS	S	10 58 25.6	+4.5
SIM				pmax	pmax		
	comp=Z,28nm,0.8s						
BR101	Keskin Array S	29.35	283	eP	P	10 53 43.9	+0.7
BR131	Keskin Array S	29.35	283	eP	P	10 53 43.9	+0.7
BRTR	Keskin Array B	29.35	283	P	P	10 53 43.9	+0.7
	comp=Z,8.3nm,0.9s,baz=89,slow=6.5,SNR=17						
BRTR	Keskin Array B	29.35	283	iP	P	10 53 47.4	+4.2
BRTR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KLMR	Klimovskoe	29.37	328	eP	P	10 53 41.0	-1.8
KLMR				pmax	pmax		
	comp=Z,12nm,1.2s						
KLMR	Klimovskoe	29.37	328	eP	P	10 53 41.1	-1.8
KLMR				AMP		10 53 48.2	
	comp=Z,12nm,1.2s						
ANTO	Ankara	29.96	284	P	P	10 53 51.9	+3.4
ANTO				pmax	pmax		
	comp=Z,18nm,1.3s						
HHC	Hu-ho-hao-te	30.19	74	eP	P	10 53 53.0	+2.4
HHC				pmax	pmax		
	comp=Z,20nm,0.9s						
HHC				pmax	pmax		
	comp=Z,98nm,5.2s						
CMAR	Chiang Mai Arr	31.35	124	LR	LR	11 08 45.0	
	comp=Z,65nm,21.2s,baz=315,slow=40						
CMAR	Chiang Mai Arr	31.35	124	iP	P	10 54 05.5	+4.7
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKASG	Malin Array Be	31.78	305	P	P	10 54 03.8	-0.5
	comp=Z,1.1nm,0.4s,baz=76,slow=8.2,SNR=6.6						
AKASG	Malin Array Be	31.78	305	iP	P	10 54 06.9	+2.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKBB	Malin Array Si	31.78	305	eP	P	10 54 04.1	-0.2
	comp=Z,5.9nm,0.7s						
AKBB	Malin Array Si	31.78	305	eP	P	10 54 04.1	-0.2
AKBB				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KIEV	Kiev	31.79	305	eP	P	10 54 04.1	-0.3
	comp=Z,5.7nm,0.7s						
KIEV	Kiev	31.79	305⇑	iP	P	10 54 05.2	+0.8
KIEV	Kiev	31.79	305	iP	P	10 54 07.4	+3.0
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AK11	Malin Array Si	31.81	305	eP	P	10 54 04.7	+0.1
ISP	Isparta	32.17	281	eP	P	10 54 07.8	-0.3
	comp=Z,9.5nm,0.9s						
ISP	Isparta	32.17	281	eP	P	10 54 07.8	-0.3
ISP				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CFR	Carcaliu	32.58	295⇓	iP	P	10 54 12.9	+1.5
CFR	Carcaliu	32.58	295	P	P	10 54 14.0	+2.6
CFR				pmax	pmax		
	comp=Z,18nm,1.3s						
BOD	Bodaibo	32.69	42	eP	P	10 54 12.5	+0.2
BOD				pmax	pmax		
	comp=Z,18nm,1.0s						
IAS	Iasi	32.83	298⇑	iP	P	10 54 17.4	+3.8
ICOR	Ion Corvin	32.93	293⇑	iP	P	10 54 15.4	+0.9
TESR	Tescani	33.50	297⇑	iP	P	10 54 09.7	-10
VRI	Vrincioaia	33.50	296⇑	iP	P	10 54 20.4	+0.9
VRI	Vrincioaia	33.50	296	P	P	10 54 20.4	+0.9
PLOR	Plostina	33.55	296⇑	iP	P	10 54 22.0	+1.9
PLOR	Plostina	33.55	296	P	P	10 54 21.9	+1.9
JOF	Joensuu	33.77	328	P	P	10 54 22.5	+0.9
JOF				pmax	pmax		
	comp=Z,18nm,0.8s						
BIZ	Bicaz	33.84	298⇑	iP	P	10 54 24.6	+2.2
PBKT	Sadao Pong	34.04	124	P	P	10 54 29.4	+5.0
	comp=Z,5.1nm,1.2s,comp=Z,1μm						
MLR	Muntele Rosu	34.08	296	eP	P	10 54 25.2	+0.5
	comp=Z,20nm,1.1s						
MLR	Muntele Rosu	34.08	296⇑	iP	P	10 54 27.2	+2.5
MLR	Muntele Rosu	34.08	296	eP	P	10 54 25.2	+0.5
MLR				pmax	pmax		
	comp=Z,20nm,1.1s						
BURAR	Bucovina Array	34.40	299⇓	iP	P	10 54 29.0	+1.6
BURAR	Bucovina Array	34.40	299	P	P	10 54 29.0	+1.6
BUR04	Bucovina Ar. S	34.40	299	eP	P	10 54 27.9	+0.5
BUR08	Bucovina Ar. S	34.41	299	eP	P	10 54 27.6	+0.1
DOPR	Dopca	34.42	296⇑	iP	P	10 54 28.3	+0.8
ALN	Alexandroupoli	34.78	288	P	P	10 54 34.5	+3.9
ALN				pmax	pmax		
	comp=Z,9.0nm,1.6s						
ARR	Arges	35.01	296⇑	iP	P	10 54 34.2	+1.5
ARCR	ARCALIA	35.02	299⇑	iP	P	10 54 34.8	+2.1
APA	Apatity	35.27	336⇓	iP	P	10 54 22.4	-12
APA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
APA				MLR	MLR		
	comp=Z,500nm,13.0s						
FIA1	FINESS Array S	35.53	324	eP	P	10 54 37.6	+0.7
FIA0	FINESS Array S	35.53	324	eP	P	10 54 37.2	+0.4
FIA0	FINESS Array S	35.53	324	eP	P	10 54 37.2	+0.4
FINES	FINESS Array B	35.53	324	P	P	10 54 37.2	+0.4
	comp=Z,8.9nm,0.7s,baz=113,slow=9.1,SNR=35						
FINES				LR	LR	11 09 21.0	
	comp=Z,148nm,18.5s,baz=82,slow=37						
FINES	FINESS Array B	35.53	324	iP	P	10 54 37.7	+0.9
FINES				pmax	pmax		
	comp=Z,9.0nm,0.6s						
SKNT	Sakolnakorn	35.74	120	P	P	10 54 43.7	+4.6
SUF	Sumiainen	35.89	326	P	P	10 54 41.6	+1.7
SUF				pmax	pmax		
	comp=Z,24nm,1.1s						
MSF	Maaselka	35.95	332	P	P	10 54 40.8	+0.4
MSF				pmax	pmax		
	comp=Z,25nm,3.0s						
KWP	Kalwaria Pacla	35.95	303	P	P	10 54 42.3	+1.7
KWP				pmax	pmax		
	comp=Z,19nm,1.1s						
TRPA	Tarpa	36.16	301⇑	iP	P	10 54 44.1	+1.7
DRGR		36.17	298⇑	iP	P	10 54 44.0	+1.4
DRGR		36.17	298	P	P	10 54 44.0	+1.4
DRGR				pmax	pmax		
	comp=Z,15nm,1.1s						
SRS	Serrai	36.53	289	P	P	10 54 47.0	+1.3
SRS				pmax	pmax		
	comp=Z,11nm,0.8s						
HERR	Herculane	36.64	295⇑	iP	P	10 54 47.8	+1.3
OUL	Oulu	36.82	329	P	P	10 54 48.5	+0.7
OUL				pmax	pmax		
	comp=Z,15nm,1.7s						
SIRR	Siria	36.96	298⇑	iP	P	10 54 51.3	+2.0
KNT	Kendrikon	37.03	289	P	P	10 54 52.1	+2.1
KNT				pmax	pmax		
	comp=Z,14nm,2.4s						
BZS	Buzias	37.08	296	P	P	10 54 52.0	+1.7
BZS				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MDVR	Moldovita	37.15	295⇓	iP	P	10 54 52.2	+1.3
VAF	Ylistaro	37.51	325	P	P	10 54 54.7	+1.0
VAF				pmax	pmax		
	comp=Z,19nm,1.1s						
SGF	Sodankyl	37.52	333	P	P	10 54 54.2	+0.5
NIE	Niedzica	37.53	303	P	P	10 54 56.2	+2.1
NIE				pmax	pmax		
	comp=Z,6.0nm,1.5s						
LIT	Litokhoron	37.60	287	eP	P	10 54 56.0	+1.2
	comp=Z,9.7nm,0.9s						
LIT	Litokhoron	37.60	287	eP	P	10 54 56.0	+1.2
LIT				pmax	pmax		
	comp=Z,10.0nm,0.9s						
OJC	Ojcow	37.80	304	eP	P	10 54 57.3	+1.0
	comp=Z,11nm,1.0s						
OJC	Ojcow	37.80	304	eP	P	10 54 57.3	+1.0
OJC				pmax	pmax		
	comp=Z,11nm,1.0s						
PSZ	Piszkesteto	37.95	300	eP	P	10 54 59.0	+1.3
	comp=Z,4.9nm,1.0s						
PSZ	Piszkesteto	37.95	300	eP	P	10 54 59.0	+1.3
PSZ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NJ2	Nanjing	38.47	86	eP	P	10 55 04.3	+2.1
NJ2				pmax	pmax		
	comp=Z,7.0nm,1.0s						
DIVS	Divibare	38.48	294	eP	P	10 55 03.2	+1.0
	comp=Z,13nm,0.8s						
VYHS	Vyhne	38.58	302	eP	P	10 55 05.1	+2.1
ARA0	ARCESS Array S	38.77	336	eP	P	10 55 04.7	+0.4
ARCES	ARCESS Array B	38.77	336	P	P	10 55 04.7	+0.4
	comp=Z,8.3nm,0.7s,baz=112,slow=9.3,SNR=22						
ARCES	ARCESS Array B	38.77	336	eP	P	10 55 05.4	+1.1
MORH	Mrgy, Hungar	39.04	298	eP	P	10 55 09.1	+2.3
MORC	Moravsky Berou	39.28	304	eP	P	10 55 10.2	+1.3
	comp=Z,4.1nm,0.9s						
MORC	Moravsky Berou	39.28	304⇑	iP	P	10 55 10.1	+1.2
MORC	Moravsky Berou	39.28	304	eP	P	10 55 10.2	+1.3
MORC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MORC	Moravsky Berou	39.28	304	eP	P	10 55 09.9	+1.0
JAVC	Velka Javorina	39.31	302	eP	P	10 55 11.4	+2.3
PDG	Podgorica	39.38	292⇑	iP	P	10 55 11.7	+2.0
TTG	Podgorica	39.38	292	eP	P	10 55 11.6	+2.0
	comp=Z,18nm,1.0s						
TTG	Podgorica	39.38	292	eP	P	10 55 11.6	+2.0
TTG				pmax	pmax		
	comp=Z,18nm,1.0s						
VRAC	Vranov	39.95	303	LR	LR	11 13 53.8	
	comp=Z,93nm,20.2s,baz=25,slow=39						
VRAC	Vranov	39.95	303⇑	iP	P	10 55 16.4	+2.0
VRAC	Vranov	39.95	303	P	P	10 55 16.3	+1.9
VRAC				pmax	pmax		
	comp=Z,9.0nm,1.3s						
VRAC	Vranov	39.95	303	eP	P	10 55 15.4	+1.0
DPC	Dobruska-Polom	40.01	305	eP	P	10 55 18.4	+3.5
DPC	Dobruska-Polom	40.01	305	eP	P	10 55 18.4	+3.5
KRUC	Moravsky	40.11	303	P	P	10 55 16.7	+1.0
KRUC				pmax	pmax		
	comp=Z,10.0nm,1.7s						
KRUC	Moravsky	40.11	303	eP	P	10 55 16.5	+0.8
UPC	Upice	40.19	305	eP	P	10 55 19.4	+3.1
UPC	Upice	40.19	305	eP	P	10 55 19.4	+3.1
CONA	Conrad Observa	40.63	301	eP	P	10 55 20.1	0.0
	comp=Z,23nm,1.7s						
ARSA	Arzberg	40.97	300	iP	P	10 55 24.5	+1.6
	comp=Z,3.2nm,0.7s						
YAK	Yakutsk	41.22	37	eP	P	10 55 23.8	-0.9
YAK				e*PP	sP	10 55 30.1	+0.6
YAK				eS	S	11 01 39.4	+1.1
YAK				e		11 05 23.1	
YAK				pmax	pmax		
	comp=Z,34nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,11nm,1.1s						
YAK				smax	smax		
	comp=E,122nm,3.8s						
YAK				smax	smax		
	comp=N,68nm,3.8s						
YAK				MLR	MLR		
	comp=Z,67nm,17.0s						
YAK				MLR	MLR		
	comp=E,101nm,18.0s						
YAK				MLR	MLR		
	comp=N,108nm,27.0s						
SOKA	Soboth	41.41	299	iP	P	10 55 27.4	+0.9
	comp=N,13nm,1.1s						
BRG	Berggiesshubel	41.45	306	eP	P	10 55 27.8	+1.0
	comp=N,11nm,1.5s						
BRG				e		10 57 30.0	
	comp=N,5.3nm,0.9s						
BRG	Berggiesshubel	41.45	306	eP	P	10 55 27.8	+1.0
BRG				e		10 57 30.0	
BRG				pmax	pmax		
	comp=Z,11nm,1.5s						
BRG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MOA	Molln	41.70	301	eP	P	10 55 29.6	+0.7
	comp=Z,6.2nm,1.2s						
GEC2	GERESS Array S	41.90	303	eP	P	10 55 30.4	-0.1
	comp=Z,9.3nm,1.1s						
GEC2	GERESS Array S	41.90	303	eP	P	10 55 30.5	-0.1
GEC2				pmax	pmax		
	comp=Z,9.0nm,1.1s						
GERES	GERESS Array B	41.90	303	P	P	10 55 31.4	+0.9
	comp=Z,1.5nm,0.5s,baz=60,slow=7.9,SNR=13						
GEA0	GERESS Array S	41.90	303	eP	P	10 55 31.1	+0.6
KHC	Kasperske Hory	41.94	303	eP	P	10 55 31.5	+0.8
	comp=Z,2.2nm,0.9s						
KHC	Kasperske Hory	41.94	303	eP	P	10 55 32.5	+1.7
KHC	Kasperske Hory	41.94	303	eP	P	10 55 32.5	+1.7
CLL	Collm	41.99	307	eP	P	10 55 31.0	-0.1
	comp=Z,6.0nm,0.6s						
CLL	Collm	41.99	307	iP	P	10 55 33.0	+1.9
	comp=Z,7.0nm,0.7s						
CLL				i pPP		10 57 15.6	
	comp=Z,10.0nm,1.1s						
CLL				e		10 57 21.0	
CLL	Collm	41.99	307	iP	P	10 55 33.0	+1.9
CLL				pmax	pmax		
	comp=Z,42nm,0.7s						
NC405	NORSAR Array S	42.30	321	eP	P	10 55 35.1	+1.6
MYKA	Terra Mystica	42.36	300	iP	P	10 55 34.9	+0.6
	comp=Z,7.3nm,0.9s						
WET	Wettzell	42.39	303	P	P	10 55 38.1	+3.6
NC303	NORSAR Array S	42.47	321	eP	P	10 55 36.4	+1.5
NB201	NORSAR Array S	42.50	321	eP	P	10 55 36.6	+1.4
CUC	Castrocucco	42.54	289	eP	P	10 55 36.4	+0.5
	comp=Z,15nm,0.9s						
NB2	NORSAR Subarra	42.54	321	P	P	10 55 36.0	+0.5
	comp=Z,2.1nm,0.6s,baz=92,slow=8.6						
NB2	NORSAR Subarra	42.54	321	P	P	10 55 34.5	-1.1
NB2				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NB200	NORSAR Array S	42.54	321	eP	P	10 55 35.5	0.0
NOA	NORSAR Array B	42.54	321	P	P	10 55 35.5	0.0
	comp=Z,4.6nm,0.7s,baz=91,slow=8.0,SNR=16						
NOA				LR	LR	11 14 05.2	
	comp=Z,128nm,19.2s,baz=305,slow=37						
NAO01	NORSAR Array S	42.69	321	eP	P	10 55 37.7	+0.9
NBO00	NORSAR Array S	42.75	321	eP	P	10 55 37.7	+0.5
NC204	NORSAR Array S	42.77	321	eP	P	10 55 38.3	+0.9
TIXI	Tiksi	42.84	23	ceP	P	10 55 37.0	-0.7
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KLR	Kul'dur	42.91	56	iP	P	10 55 40.0	+1.3
GRF	Grafenberg Arr	43.36	304	eP	P	10 55 44.1	+1.8
	comp=Z,22nm,1.4s,baz=85,slow=6.9						
MOTA	Moosalm	43.90	301	eP	P	10 55 46.6	-0.3
	comp=Z,3.7nm,0.7s						
PSI	Prapat	43.93	139	LR	LR	11 16 43.9	
	comp=Z,96nm,18.1s,baz=90,slow=40						
GSI	Gunungsitoli	44.56	142	eP	P	10 55 51.7	-0.5
	comp=Z,19nm,0.6s						
FUORN	Ofenpass-Fuorn	44.63	300	eP	P	10 55 52.7	-0.2
	comp=Z,3.3nm,0.8s						
DAVA	Damuels	44.73	301	eP	P	10 55 53.7	+0.2
	comp=Z,23nm,1.4s						
DAVOX	Davos/Dischmat	44.84	301	LR	LR	11 16 52.7	
	comp=Z,92nm,20.2s,baz=79,slow=39						
BFO	Black Forest	45.50	303	iP	P	10 56 03.1	+3.6
SENIN	Lac Senin/Sane	46.67	301	eP	P	10 56 09.4	+0.5
	comp=Z,8.0nm,1.0s						
BNI	Bardonecchia	47.46	299	eP	P	10 56 16.0	+0.9
	comp=Z,9.7nm,1.1s						
BNI	Bardonecchia	47.46	299	eP	P	10 56 16.0	+0.9
BNI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KEST	Kesra	48.84	286	P	P	10 56 24.9	-0.9
	comp=Z,5.5nm,0.7s,baz=350,slow=3.4,SNR=6.6						
KEST	Kesra	48.84	286	eP	P	10 56 25.3	-0.5
	comp=Z,8.1nm,1.0s						
MAJO	Matsushiro	51.29	71	eP	P	10 56 41.6	-2.6
MAJO	Matsushiro	51.29	71	eP	P	10 56 41.6	-2.6
MAT	Matsushiro	51.29	71	P	P	10 56 43.2	-1.0
MJAR	Matsushiro Arr	51.29	71	P	P	10 56 41.6	-2.7
	comp=Z,4.3nm,1.0s,baz=283,slow=11,SNR=3.4						
BILL	Bilibino	55.71	27	eP	P	10 57 14.9	-1.3
BILL				e		10 58 18.0	
BILL				e		10 59 21.1	
BILL				ePPP	PPP	11 00 30.2	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ES19	SONSECA Array	56.71	297	eP	P	10 57 23.3	-0.6
ESDC	Sonseca Array	56.77	297	P	P	10 57 22.6	-1.7
	comp=Z,2.5nm,0.8s,baz=50,slow=7.2,SNR=12						
SUMG	Summit	58.57	341	eP	P	10 57 38.3	+1.4
	comp=Z,10.0nm,0.9s						
SUMG	Summit	58.57	341	iP	P	10 57 38.0	+1.1
SUMG	Summit	58.57	341	eP	P	10 57 38.3	+1.4
SUMG				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MDT	Midelt	60.45	290	P	P	10 57 49.3	-0.8
	comp=Z,2.3nm,0.8s,baz=50,slow=5.5						
JAGI	Jajag, Banyuwa	61.65	131	eP	P	10 57 59.0	+0.8
	comp=Z,45nm,0.8s						
GAMB	Gambell	65.60	26	eP	P	10 58 23.5	-0.1
	comp=Z,3.6nm,1.1s						
RES	Resolute Bay	65.87	356	eP	P	10 58 25.7	+0.4
	comp=Z,2.6nm,0.9s						
RES	Resolute Bay	65.87	356	eP	P	10 58 25.7	+0.4
RES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TOA1	Torodi Ar. Sit	66.51	268	eP	P	10 58 28.0	-2.3
TOA0	Torodi Ar. Sit	66.51	268	eP	P	10 58 29.7	-0.6
TORD	Torodi Ar. Bea	66.51	268	P	P	10 58 28.0	-2.3
	comp=Z,9.6nm,0.9s,baz=49,slow=5.7,SNR=44						
ANM	Nome	67.10	23	eP	P	10 58 33.8	+0.5
	comp=Z,3.9nm,1.0s						
ANM	Nome	67.10	23	eP	P	10 58 33.8	+0.5
ANM				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SOEI	Soe	68.90	123	eP	P	10 58 40.6	-4.8
	comp=Z,86nm,0.9s						
COLD	Coldfoot	69.00	16	eP	P	10 58 44.5	-0.7
	comp=Z,5.2nm,0.9s						
IM3	Indian Mountai	69.21	18	eP	P	10 58 45.9	-0.6
FAKI	Fak Fak	69.46	112	eP	P	10 58 48.7	-0.1
	comp=Z,7.8nm,0.9s						
INK	Inuvik	70.94	10	eP	P	10 58 57.3	+0.3
	comp=Z,9.3nm,0.8s						
INK	Inuvik	70.94	10	eP	P	10 58 57.3	+0.3
INK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
COLA	College	71.51	17	P	P	10 59 03.8	+3.3
COLA				pmax	pmax		
	comp=Z,16nm,1.0s						
CAST	Castle Rocks	71.72	19	eP	P	10 59 03.3	+1.3
	comp=Z,9.4nm,1.0s						
IL1	Eielson Array	71.81	16	eP	P	10 59 01.9	-0.5
ILAR	Eielson Array	71.81	16	P	P	10 59 01.4	-1.0
	comp=Z,4.3nm,0.9s,baz=317,slow=4.9,SNR=19						
SCRK	Sand Creek	73.13	16	eP	P	10 59 10.8	+0.4
	comp=Z,6.1nm,1.0s						
DAWY	Dawson	73.95	14	eP	P	10 59 15.1	-0.1
	comp=Z,6.5nm,1.0s						
DBIC	Dimbokro	75.56	267	P	P	10 59 24.6	-0.7
	comp=Z,4.4nm,1.0s,baz=26,slow=9.5,SNR=4.6						
FITZ	Fitzroy Crossi	76.07	128	P	P	10 59 27.4	-0.5
	comp=Z,3.3nm,1.0s,baz=321,slow=6.5,SNR=4.0						
FITZ	Fitzroy Crossi	76.07	128	eP	P	10 59 28.5	+0.7
	comp=Z,0.7nm,0.6s						
YKW3	Yellowknife Ar	78.26	3	eP	P	10 59 39.9	+0.2
	comp=Z,5.1nm,0.9s						
YKA	Yellowknife Ar	78.33	3	P	P	10 59 39.7	-0.3
	comp=Z,3.4nm,0.7s,baz=350,slow=5.6,SNR=38						
YKB5	Yellowknife Ar	78.33	3	eP	P	10 59 39.9	-0.2
SCHQ	Schefferville	79.72	337	P	P	10 59 49.4	+1.6
	comp=Z,3.8nm,0.8s,baz=52,slow=5.7,SNR=4.0						
FCC	Fort Churchill	81.51	353	eP	P	10 59 57.8	+0.5
	comp=Z,2.9nm,0.7s						
FCC	Fort Churchill	81.51	353	eP	P	10 59 57.8	+0.5
FCC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRA	Warramunga Arr	82.94	123	P	P	11 00 04.0	-1.3
	comp=Z,3.3nm,0.7s,baz=324,slow=4.9,SNR=22						
WR1	Warramunga Arr	82.94	123	eP	P	11 00 04.0	-1.3
	comp=Z,5.4nm,0.8s						
WB2	Warramunga Arr	82.94	123	eP	P	11 00 04.4	-0.9
AS31	Alice Springs	85.34	126	eP	P	11 00 17.2	-0.3
	comp=Z,0.8nm,0.6s						
ASAR	Alice Springs	85.34	126	P	P	11 00 16.4	-1.1
	comp=Z,2.4nm,0.6s,baz=314,slow=4.8,SNR=18						
AS01	Alice Springs	85.37	126	eP	P	11 00 16.7	-0.9
FFC	Flin Flon	86.11	356	iP	P	11 00 21.9	+1.0
ULM	Lac du Bonnet	90.09	352	P	P	11 00 39.1	-1.0
	comp=Z,2.8nm,0.9s,baz=9.2,slow=1.9,SNR=4.2						
QSPA	South Pole Qui	129.18	180	PKP	PKPdf	11 06 46.4	-1.1
	comp=Z,0.7nm,0.6s,baz=272,slow=20,SNR=9.0						
CPUP	Villa Florida	135.94	271	PKP	PKPdf	11 07 00.6	-0.8
	comp=Z,1.3nm,0.6s,baz=23,slow=2.7,SNR=4.3						
CPUP	Villa Florida	135.94	271	ePKIKP	PKPdf	11 07 00.7	-0.7
PLCA	Paso Flores	151.37	255	PKPbc	PKPbc	11 07 33.6	-0.2
	comp=Z,5.5nm,1.0s,baz=146,slow=3.1,SNR=5.9						
PLCA	Paso Flores	151.37	255	ePKPdf	PKPdf	11 07 26.7	-1.1
PLCA				ePKPbc	PKiKP	11 07 34.5	+0.1
PLCA				ePKPab	sPKPbc	11 07 39.7	+0.8
PLCA	Paso Flores	151.37	255	ePKIKP	PKPdf	11 07 26.7	-1.1
PLCA				e		11 07 34.5	
PLCA				e		11 07 39.7	

*IDC **08** 10:53:46.6±1.1, 39.25N×72.11E, h0km, mb3.5/6, mb1 3.8/10, mb1mx3.6/51, mbtmp3.7/10, ML3.3/4, Error ellipse: s-maj=21.8km s-min=16.4km az=118.0*

*KRNET **08** 10:53:47.9±0.1, 39.27N×71.88E, mb3.8*

*NNC **08** 10:54:01.8±8.1, 40.05N×72.01E, h15km±33km, mb3.9, mpv3.5, Error ellipse: s-maj=54.4km s-min=16.2km az=177.0*

ISC 08 10:53:47.6±3.5**, 39.3N**±0.1×**71.88E**±0.06**, h3**km±22km**, n32,** σ**2.07**/39**, mb3.5**/6**, 18C-9D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	Batken	1.15	315⇓	iP	Pb	10 54 08.3	-2.0
	baz=14						
BTK			⇓	iS	Sb	10 54 23.9	-1.9
	baz=14						
SFK	Sufi-Kurgan	1.47	58⇑	iP	Pn	10 54 14.5	-0.8
	baz=59						
SFK			⇑	iS	Sn	10 54 33.6	-1.5
	baz=59						
ARSB	Arslanbob	2.24	22⇑	iP	Pn	10 54 25.6	-0.2
	baz=22						
ARSB			⇑	iS	Sn	10 54 54.1	0.0
	baz=22						
ARK	Arkit	2.55	1⇓	iP	Pn	10 54 30.1	+0.1
	baz=2.0						
ARK			⇓	iS	Sn	10 55 01.1	-0.6
	baz=2.0						
AML	Almayashu	3.19	25	P	Pb	10 54 43.0	-2.2
	SNR=46						
AML	Almayashu	3.19	25⇓	iP	Pn	10 54 40.1	+0.9
	baz=25						
AML			⇓	iS	Sn	10 55 18.2	+0.2
	baz=25						
ARLS	Aral	3.21	35⇑	iP	Pn	10 54 39.8	+0.7
	baz=35						
ARLS			⇑	iS	Sn	10 55 17.5	-0.4
	baz=35						
UCH	Uchtor	3.59	33	P	Pn	10 54 47.3	+2.7
	SNR=35						
UCH	Uchtor	3.59	33⇑	iP	Pn	10 54 45.8	+1.2
	baz=33						
UCH			⇑	iS	Sn	10 55 27.8	+0.1
	baz=33						
EKS2	Erkin-Say	3.70	22	P	Pn	10 54 49.0	+3.1
	SNR=16						
EKS2	Erkin-Say	3.70	22⇑	eP	Pn	10 54 47.3	+1.4
	baz=22						
EKS2			⇑	iS	Sn	10 55 30.0	-0.1
	baz=22						
KZA	Kyzart	3.82	41	P	Pn	10 54 50.7	+3.0
	SNR=20						

KZA	Kyzart	3.82	41	⇓iP	Pn	10 54 49.2	+1.5
	baz=41						
KZA				⇓iS	Sn	10 55 33.7	+0.4
	baz=41						
NRN	Naryn	3.83	54	⇑eP	Pn	10 54 47.9	+0.1
	baz=54						
NRN				⇑iS	Sn	10 55 32.9	-0.7
	baz=54						
AAK	Ala-Archa	3.92	29	Pn	Pn	10 54 50.5	+1.5
	6.1nm,0.3s,baz=173,slow=7.8,SNR=17						
AAK				Sn	Sn	10 55 38.1	+2.5
	4.5nm,0.3s,baz=150,slow=20,SNR=2.6						
AAK	Ala-Archa	3.92	29	P	Pn	10 54 53.2	+4.2
	SNR=15						
AAK	Ala-Archa	3.92	29	⇓Pn	Pn	10 54 52.7	+3.8
AAK				⇑Lg	Lg	10 55 42.1	
	31nm,0.6s						
KK31	Karatay Array	3.99	345	⇑Pn	Pn	10 54 51.5	+1.7
	8.4nm,0.4s,baz=162,slow=12,SNR=59						
KK31				⇑Pg	Pb	10 55 01.3	+2.7
	14nm,0.8s,baz=165,slow=16,SNR=14						
KK31				⇑Lg	Lg	10 55 47.2	
	20nm,0.6s,baz=162,slow=30,SNR=5.2						
KBK	Karagaybulak	4.12	33	P	Pn	10 54 55.1	+3.4
	SNR=7.4						
CHMS	Chumysh	4.33	29	P	Pn	10 54 57.0	+2.6
	SNR=11						
ULHL	Ulahol	4.46	46	P	Pn	10 54 60.0	+3.5
	SNR=6.9						
USP	Ospenovka	4.47	25	P	Pn	10 54 58.6	+2.1
	SNR=37						
TKM2	Tokmak 2	4.62	36	⇑Pn	Pn	10 55 01.2	+2.6
TKM2				⇑Lg	Lg	10 56 06.6	
	12nm,0.6s						
BVAR	Borovoye Array	13.82	356	Pn	Pn	10 57 02.2	-2.1
	0.1nm,0.3s,baz=162,slow=12,SNR=2.1						
AKTO	Aktyubinsk	14.87	323	Pn	Pn	10 57 16.3	-2.4
	0.2nm,0.3s,baz=145,slow=12,SNR=3.0						
ZALV	Zalesovo Beam	17.14	27	P	Pn	10 57 47.2	-0.9
	0.1nm,0.3s,baz=219,slow=10,SNR=2.0						
FINES	FINESS Array B	35.64	324	P	P	11 00 47.5	+1.0
	1.0nm,0.5s,baz=134,slow=8.1,SNR=5.4						
NOA	NORSAR Array B	42.64	321	P	P	11 01 45.8	+0.7
	0.1nm,0.3s,baz=100,slow=7.4,SNR=2.4						
TORD	Torodi Ar. Bea	66.50	268	P	P	11 04 38.1	-0.8
	0.9nm,0.9s,baz=36,slow=5.9,SNR=4.0						
YKA	Yellowknife Ar	78.47	3	P	P	11 05 49.3	-0.2
	0.2nm,0.5s,baz=349,slow=5.4,SNR=6.2						
WRA	Warramunga Arr	82.87	123	P	P	11 06 13.0	-0.7
	0.3nm,0.8s,baz=323,slow=4.6,SNR=3.6						
ASAR	Alice Springs	85.27	126	P	P	11 06 24.9	-1.0
	0.3nm,0.8s,baz=309,slow=4.7,SNR=3.0						

*ISK **08** 10:55:26.8, 38.°66N×43.°18E, h5km, ML2.3/5*
*DDA **08** 10:55:28.0, 38.°62N×43.°21E, h7km±3km, ML2.7*
ISC 08 10:55:27.7±1.1**, 38.°66N**±0.°03×**43.°18E**±0.°04**, h11**km±12km**, n10,** σ**0.s20**/14**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VANB	Van	0.18	111	PG	Pg	10 55 31.6	0.0
TVAN	Van	0.22	126	iP	Pg	10 55 32.4	0.0
TVAN				iS	Sg	10 55 35.8	+0.1
GEVA	Gevas	0.36	195	IAML_P			
	comp=Z,2μm,0.1s						
GEVA				iP	Pb	10 55 36.0	-0.2
GEVA				iS	Sb	10 55 42.1	+0.2
AKDM	Akdamar-Van	0.36	205	PG	Pg	10 55 35.1	+0.1
AKDM				SG	Sb	10 55 41.9	-0.2
ADCV	BITLIS_Adilcev	0.38	293	iP	Pb	10 55 36.6	0.0
VMUR	Van-Muradiye	0.45	43	IAML_P			
	comp=Z,430nm,0.1s						
VMUR				iP	Pb	10 55 37.7	-0.1
VMUR				iS	Sb	10 55 45.1	+0.4
MLAZ	Malazgirt-MUS	0.69	315	PG	Pg	10 55 40.9	-0.1
CLDR	Caldiran	0.76	50	PG	Pb	10 55 42.8	-0.2
GURO	Guroymak-BITLI	0.90	263	PG	Pg	10 55 45.1	0.0
AGRB	Hanur-Agry	0.93	351	PG	Pg	10 55 45.5	-0.1

*DDA **08** 11:10:07.9, 37.°91N×37.°94E, h7km±3km, ML3.0*
*ISK **08** 11:10:07.1, 37.°96N×37.°96E, h5km, ML2.5/7*
ISC 08 11:10:07.9±1.3**, 37.°92N**±0.°03×**37.°97E**±0.°03**, h9**km±11km**, n17,** σ**0.s75**/25**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKCD	Akcadag	0.38	355	IAML_P			
	comp=Z,7μm,0.1s						
AKCD				iP	Pb	11 10 15.9	-1.0
ATAB	Bozova	0.52	150	IAML_P			
	comp=Z,10μm,0.2s						
ATAB				iP	Pg	11 10 18.3	+0.3
GZT	Gaziantep	0.65	210	IAML_P			
	comp=Z,1μm,0.1s						
GZT				iP	Pb	11 10 20.8	-0.6
GZT				iS	Sb	11 10 29.9	-0.7
ELBS	KAHRAMANMARAS	0.77	302	iP	Pg	11 10 22.5	-0.3
ELBS				iS	Sb	11 10 34.5	+0.3
URFA	Urfa	0.83	125	PG	Pb	11 10 24.3	-0.2
URFA				SG	Sn	11 10 37.8	-0.4
KMRS	Kahramanmaras	0.94	244	PG	Pg	11 10 25.7	-0.3
GAZ	Gaziantep	0.96	219	PG	Pn	11 10 27.5	-0.1
GAZ				SG	Sn	11 10 41.9	+0.5
SANL	SANLIURFA_Merk	1.10	132	iP	Pn	11 10 29.6	+0.1
SANL				iS	Sn	11 10 46.2	+1.2
ANDN	Andirin	1.33	256	IAML_P			
	comp=Z,1μm,0.1s						
ANDN				iP	Pn	11 10 32.5	-0.2
ANDN				iS	Sn	11 10 51.7	+1.2
KUZU	Kuzuini	1.35	212	iP	Pg	11 10 34.9	+1.2
KUZU				iS	Sn	11 10 51.4	+0.5
CUKAN	kangal_SIVAS	1.45	344	eP	Pg	11 10 36.7	+1.0
CUKAN				iS	Sg	11 10 55.3	+0.8
PTK	Pertek	1.48	49	PN	Pg	11 10 36.1	-0.3
SAIM	ADANA	1.49	273	eP	Pn	11 10 34.4	-0.6
ILIC	ilic-Erzincan	1.60	17	PN	Pb	11 10 37.4	-0.3
KOZT	Kozan	1.75	256	PN	Pb	11 10 39.8	-0.4
MAZI	Mazidag	2.02	102	PN	Pb	11 10 43.9	-1.0
TAHT	Tahtakopru-Hat	2.10	223	PN	Pb	11 10 44.9	-1.2

*NEIC **08** 11:12:03.2±0.0, 16.°36N×98.°64W, h1km, MD4.0(MEX), After MEX.*
MEX 08 11:12:03.5±0.3**, 16.°34N×98.°63W, h5**km**, MD4.0, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.49	84	ePg	Pg	11 12 12.3	-0.6
PNIG				eSg	Sg	11 12 19.4	+0.2
PNIG	Pinotepa	0.49	84	eP	Pg	11 12 12.3	-0.6
PNIG				eS	Sg	11 12 19.4	+0.2
TLIG	Tlapa	1.22	3	ePg	Pg	11 12 23.2	-3.7
TLIG				eSg	Sg	11 12 38.8	-3.9
TLIG	Tlapa	1.22	3	eP	Pg	11 12 23.3	-3.5
TLIG				eS	Sg	11 12 38.8	-3.8
ACP2	Acapulco	1.31	294	eP	Pn	11 12 24.6	-4.0
ACP2				eS	Sg	11 12 41.1	-4.7
CAIG	El Cayaco	1.72	294	ePn	Pn	11 12 28.8	-5.3
CAIG				eSn	Sn	11 12 46.3	-10
CAIG	El Cayaco	1.72	294	eP	Pn	11 12 30.8	-3.3
CAIG				iS	Sn	11 12 52.0	-4.4
VHO	Vista Hermosa	1.96	68	ePn	Pn	11 12 34.8	-2.8
VHO				eSn	Sn	11 12 59.5	-3.2
VHO	Vista Hermosa	1.96	68	eP	Pn	11 12 34.8	-2.8
VHO				iS	Sn	11 12 57.9	-4.8
UNM	Universidad Na	3.02	350	ePn	Pn	11 12 51.2	-1.0
UNM				eSn	Sn	11 13 27.4	-1.5
LVIG	Laguna Verde	3.97	32	ePn	Pn	11 12 60.0	-5.1
LVIG				eSn	Sn	11 13 51.5	-0.4
MOIG	Morelia	4.12	324	ePn	Pn	11 13 06.6	-0.7
MOIG				eSg	Sb	11 14 10.7	+4.0

*IDC **08** 11:13:02.4±0.9, 3.°93N×126.°39E, h0km, mb3.7/9, mb1 3.9/10, mb1mx3.7/50, mbtmp3.7/10, ML4.1/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/45, Error ellipse: s-maj=45.8km s-min=15.4km az=67.0*
*ISCJB **08** 11:13:06.0±0.5, 4.°03N±0.°10×126.°6E±0.°1, h45km, mb3.8/12, MS2.8/1, Error ellipse: s-maj=24.2km s-min=6.5km az=148.5*
*NEIC **08** 11:13:07.5±0.4, 3.°96N×126.°46E, h35km, mb4.3/4, Error ellipse: s-maj=28.7km s-min=6.6km az=70.0*
ISC 08 11:13:08.4±0.8**, 3.°9N**±0.°1×**126.°5E**±0.°2**, h45**km**, n21,** σ**0.s80**/21**, mb3.8**/12**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	6.72	135	Pn	Pn	11 14 44.1	-0.5
	3.5nm,0.3s,baz=306,slow=22,SNR=9.3						
SIJI				Sn	Sn	11 16 00.1	+0.1
	0.8nm,0.3s,baz=253,slow=19,SNR=6.1						
FITZ	Fitzroy Crossi	21.89	182	P	P	11 17 57.6	-0.2
	3.1nm,0.9s,baz=24,slow=16,SNR=2.4						
FITZ	Fitzroy Crossi	21.89	182	eP	P	11 17 59.2	+1.4
	41nm,1.7s						
WRAB	Tennant Creek	24.92	162	eP	P	11 18 28.5	+0.9
	6.9nm,0.9s						
WR1	Warramunga Arr	24.93	162	eP	P	11 18 27.8	+0.2
	6.8nm,1.0s						
WRA	Warramunga Arr	24.93	162	P	P	11 18 27.8	+0.2
	1.4nm,0.7s,baz=342,slow=9.7,SNR=14						
WB2	Warramunga Arr	24.93	162	eP	P	11 18 28.6	+1.0
	11nm,1.2s						
ASAR	Alice Springs	28.35	166	P	P	11 18 58.6	+0.3
	0.3nm,0.5s,baz=340,slow=7.0,SNR=6.3						
AS01	Alice Springs	28.36	166	eP	P	11 18 58.2	-0.3
CMAR	Chiang Mai Arr	30.59	300	P	P	11 19 18.5	+0.2
	0.3nm,0.3s,baz=106,slow=6.7,SNR=3.0						
JHJ	Hachijo jima 2	31.59	22	LR	LR	11 37 06.7	
	comp=Z,17nm,18.0s,baz=92,slow=46						
KLR	Kul'dur	45.37	5	P	P	11 21 23.6	+1.4
	1.3nm,0.8s,baz=185,slow=12,SNR=5.0						
SONA0	Songino Array	47.05	342	eP	P	11 21 35.4	-0.3
SONM	Songino Array	47.05	342	P	P	11 21 35.4	-0.3
	0.3nm,0.6s,baz=163,slow=9.7,SNR=2.8						
MK01	Makanchi Array	57.26	325	eP	P	11 22 51.4	-0.1
MK32	Makanchi Array	57.28	325	eP	P	11 22 51.1	-0.5
MKAR	Makanchi Array	57.28	325	P	P	11 22 51.1	-0.5
	0.5nm,0.5s,baz=123,slow=7.9,SNR=8.5						
ZALV	Zalesovo Beam	60.32	333	P	P	11 23 11.2	-1.3
	0.3nm,0.4s,baz=119,slow=8.3,SNR=2.5						
ZAA1	Zalesovo Array	60.32	333	eP	P	11 23 11.2	-1.3
KURBB	Kurchatov Arra	61.46	327	P	P	11 23 19.5	-0.8
	1.1nm,0.6s,baz=125,slow=6.2,SNR=9.0						
KURK	Kurchatov	61.46	328	eP	P	11 23 19.5	-0.8

*NIED **08** 11:19:00, 34.°50N×132.°40E, h20km, Mw3.5 Best double couple: M₀1.89000×10^14 NP1:φs307.00000°, δ82.00000°, λ6.00000°. NP2:φs216.00000°, δ84.00000°, λ172.00000°.*
JMA 08 11:19:32.7, 34.°46N×132.°42E, h25km**, M3.6, 5C-3D Broadband fault plane solution: P waves. NP1:** φs216.00000°, δ67.00000°, λ-153.00000°. **NP2:** φs115.00000°, δ65.00000°, λ-26.00000°. **Principal axes:** T Plg1.0000°, Azm345.0000°; N Plg55.0000°, Azm254.0000°; P Plg35.0000°, Azm76.0000°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHT	Toyohira	0.20	0	⇑P	Pb	11 19 38.4	-0.1
JHT				S	Sb	11 19 42.3	0.0
JHM	Kurahashi	0.33	164	⇑P	Pb	11 19 39.9	-0.3
JHM				S	Sb	11 19 44.9	-0.4
JHIK	Hikimi	0.41	280	⇓P	Pb	11 19 41.3	-0.2
JHIK				S	Sb	11 19 47.4	-0.1
JGT2	ShimaneMisato	0.61	7	⇑P	Pb	11 19 44.3	-0.4
JGT2				S	Sb	11 19 52.6	-0.3
JJG	Jouge	0.63	73	⇓P	Pb	11 19 44.8	-0.4
JJG				S	Sb	11 19 53.8	+0.1
JHS	Saijyo	0.79	47	⇓P	Pb	11 19 47.3	-0.5
JHS				S	Sb	11 19 57.9	-0.1
JET	Tanbara	0.86	142	⇑P	Pb	11 19 48.1	-0.8
JET				S	Sb	11 19 59.7	-0.3
JNA	Nagahama	0.90	177	⇑P	Pb	11 19 49.1	-0.6
JNA				S	Sb	11 20 01.0	-0.3

*MAN **08** 11:20:33.0, 6.°72N×126.°97E, h5km, mb4.8, ML3.7, MS3.7*
*ISCJB **08** 11:20:34.6±0.8, 6.°90N±0.°04×127.°05E±0.°07, h62km±8km, mb4.0/21, Error ellipse: s-maj=11.4km s-min=5.8km az=162.7*
*NEIC **08** 11:20:37.9±0.7, 6.°85N×126.°88E, h75km±7km, mb4.1/6, Error ellipse: s-maj=12.5km s-min=5.2km az=70.0*
*IDC **08** 11:20:38.5±1.7, 6.°84N×126.°85E, h81km±17km, mb3.8/15, mb1 3.9/15, mb1mx3.6/49, mbtmp4.1/15, MS3.7/1, Ms1 3.7/1, ms1mx2.5/41, Error ellipse: s-maj=22.3km s-min=11.2km az=73.0*
ISC 08 11:20:34.8±1.1**, 6.°83N**±0.°05×**127.°09E**±0.°07**, h44**km±11km**, n53,** σ**1.s69**/60**, mb3.9**/21**, 2C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	0.83	278	eP	Pn	11 20 47.6	-2.5
MATI				eS	Sn	11 20 57.9	-3.4
DAV	Davao City (W)	1.52	279	P	Pn	11 21 00.4	+1.0
	173nm,0.3s,baz=71,slow=2.2,SNR=32						
DAV				S	Sn	11 21 18.1	+0.1
	96nm,0.3s,baz=253,slow=16,SNR=7.1						
DAV	Davao City (W)	1.52	279	ePn	Pn	11 20 60.0	+0.5
DAV				eSn	Sn	11 21 18.1	+0.1
BIPH	Bislig	1.53	332	⇑eP	Pn	11 20 57.9	-1.7
BIPH				eS	Sn	11 21 15.5	-2.8
DDMP	Don Marcelino,	1.54	242	eP	Pn	11 21 00.3	+0.4
DDMP				eS	Sn	11 21 21.1	+2.4
GSPH	General Santos	2.25	251	⇑iP	Pn	11 21 08.7	-0.9
BUKP	Musuan	2.26	298	eP	Pn	11 21 10.2	+0.4
BUKP				eS	Sn	11 21 38.9	+2.4
SKMP	Bagumbayan, Su	2.54	263	eP	Pn	11 21 13.8	+0.2
BUTP	Butuan	2.58	326	eP	Pn	11 21 16.4	+2.3
BUTP				eS	Sn	11 21 49.1	+5.0
PAGZ	Pagadian	3.81	286	eP	Pn	11 21 32.7	+1.7
MSLP	Maasin	3.96	326	eP	Pn	11 21 38.6	+5.6
TNTI	Ternate	6.02	177	ePn	Pn	11 22 06.5	+5.1
SIJI	Sorong	8.71	151	P	Pn	11 22 40.1	+1.8
	1.4nm,0.3s,baz=14,slow=18,SNR=7.6						
SIJI				S	Sn	11 24 10.7	-4.5
	0.8nm,0.3s,baz=232,slow=12,SNR=3.0						
FAKI	Fak Fak	10.97	152	ePn	Pn	11 23 11.1	+1.9
SBUM	Sibu	15.44	254	epP	pP	11 24 28.0	+4.7
MTN	Manton Dam	19.95	168	eP	Pn	11 25 05.9	+0.6
	11nm,1.0s						
FITZ	Fitzroy Crossi	24.81	183	P	P	11 25 53.5	+0.6
	3.5nm,0.9s,baz=1.3,slow=5.5,SNR=10						
FITZ	Fitzroy Crossi	24.81	183	eP	P	11 25 54.0	+1.1
	5.5nm,1.1s						
PMG	Port Moresby	25.69	129	P	P	11 26 01.9	+0.8
	9.4nm,0.7s,baz=285,slow=12,SNR=3.0						
WRAB	Tennant Creek	27.54	165	eP	P	11 26 18.0	+0.4
	2.0nm,0.8s						
WR1	Warramunga Arr	27.54	165	eP	P	11 26 18.0	+0.4
	2.7nm,0.9s						
WR1				ePcP	PcP	11 29 35.5	+0.4
WRA	Warramunga Arr	27.54	165	P	P	11 26 18.0	+0.4
	0.8nm,0.5s,baz=342,slow=11,SNR=27						
WRA				PcP	PcP	11 29 35.5	+0.4
	0.3nm,0.6s,baz=346,slow=2.5,SNR=5.0						
WB2	Warramunga Arr	27.55	165	eP	P	11 26 17.4	-0.3
AS31	Alice Springs	31.03	168	eP	P	11 26 49.1	+0.5
	0.4nm,0.9s						
ASAR	Alice Springs	31.03	168	P	P	11 26 49.3	+0.7
	0.3nm,0.3s,baz=342,slow=7.5,SNR=17						
ASAR				PcP	PcP	11 29 43.8	-0.1
	0.5nm,0.6s,baz=351,slow=2.3,SNR=8.8						
AS01	Alice Springs	31.04	168	eP	P	11 26 48.8	+0.1
MAJO	Matsushiro	31.28	17	eP	P	11 26 50.4	-0.2
MJAR	Matsushiro Arr	31.28	17	P	P	11 26 50.4	-0.2
	1.1nm,0.6s,baz=164,slow=5.1,SNR=3.9						
FORT	Forrest	37.40	179	eP	P	11 27 45.0	+1.3
	11nm,0.8s						
ASAJ	Asahikawa	39.55	18	P	P	11 28 02.7	+1.2
	5.0nm,0.6s,baz=196,slow=9.2,SNR=5.5						
BBOO	Buckleboo	40.33	168	eP	P	11 28 09.3	+1.1
	7.1nm,1.0s						
STKA	Stephens Creek	40.90	161	P	P	11 28 13.8	+0.9
	0.6nm,0.3s,baz=353,slow=5.6,SNR=3.5						
STKA	Stephens Creek	40.90	161	eP	P	11 28 14.2	+1.3
PETK	Petropavlovsk-	52.45	23	P	P	11 29 44.6	+1.6
	3.9nm,0.7s,baz=186,slow=6.1,SNR=6.3						
PETK	Petropavlovsk-	52.45	23	eP	P	11 29 45.0	+2.0
PEA1	Petropavlovsk-	52.45	23	eP	P	11 29 44.6	+1.6
MK01	Makanchi Array	55.23	324	eP	P	11 30 02.2	-1.4
MK31	Makanchi Array	55.25	324	eP	P	11 30 02.5	-1.2
MK32	Makanchi Array	55.25	324	eP	P	11 30 02.0	-1.6
MKAR	Makanchi Array	55.25	324	P	P	11 30 02.0	-1.6
	0.7nm,0.4s,baz=112,slow=6.8,SNR=14						
MKAR	Makanchi Array	55.25	324	eP	P	11 30 02.4	-1.2
MAKZ	Makanchi	55.44	324	eP	P	11 30 03.8	-1.3
	0.3nm,0.6s						
AAK	Ala-Archa	58.34	316	LR	LR	11 56 14.9	
	comp=Z,66nm,19.0s,baz=84,slow=37						
SEY	Seymchan	58.95	13	P	P	11 30 29.9	+0.5
	5.1nm,0.4s,baz=180,slow=20,SNR=13						
KURK	Kurchatov	59.35	326	eP	P	11 30 30.1	-2.3
KURBB	Kurchatov Arra	59.36	326	P	P	11 30 30.1	-2.4
	0.6nm,0.6s,baz=124,slow=6.1,SNR=7.4						
AKTO	Aktyubinsk	71.48	321	P	P	11 31 49.0	-1.9
	0.8nm,0.5s,baz=98,slow=9.0,SNR=4.2						
ILAR	Eielson Array	82.17	26	P	P	11 32 50.2	-0.7
	0.5nm,0.6s,baz=264,slow=4.8,SNR=13						
ARA0	ARCESS Array S	87.68	340	eP	P	11 33 17.1	-1.4
ARCES	ARCESS Array B	87.68	340	P	P	11 33 17.1	-1.4
	2.4nm,0.9s,baz=88,slow=6.4,SNR=2.7						
YKA	Yellowknife Ar	96.55	24	P	P	11 33 59.7	+0.1
	0.2nm,0.6s,baz=299,slow=4.6,SNR=4.8						
TORD	Torodi Ar. Bea	122.24	290	PKP	PKPdf	11 39 24.3	-1.7
	0.5nm,0.9s,baz=103,slow=2.1,SNR=3.0						
TOA1	Torodi Ar. Sit	122.25	290	ePKPdf	PKPdf	11 39 24.3	-1.7

*IDC **08** 11:26:44.8±0.6, 10.°26S×120.°26E, h0km, mb4.4/14, mb1 4.5/18, mb1mx4.4/36, mbtmp4.5/18, ML4.6/4, MS3.6/12, Ms1 3.6/12, ms1mx3.4/38, Error ellipse: s-maj=21.3km s-min=12.9km az=65.0*
*ISCJB **08** 11:26:46.4±0.2, 10.°50S±0.°03×120.°19E±0.°03, h30km, mb4.5/32, MS3.7/11, Error ellipse: s-maj=4.4km s-min=3.9km az=31.6*
*DJA **08** 11:26:48.9±0.8, 10.°S±7.°×12.°0E±.°, h13km±4km, M4.8/13, mb5.1/4, mB5.0/1, MLv4.7/13, Mw(mB)4.3/1*
*NEIC **08** 11:26:49.1±0.7, 10.°43S×120.°21E, h38km±8km, mb4.4/20, Error ellipse: s-maj=9.0km s-min=6.5km az=215.0*
ISC 08 11:26:48.0±0.3**, 10.°52S**±0.°04×**120.°18E**±0.°04**, h30**km**, n107,** σ**2.s37**/119**, mb4.6**/32**, MS3.7**/12**, 2D, Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BASI	Baing, Sumba	0.49	52	P	Pb	11 26 58.2	-0.1
BASI				S	Sb	11 27 04.7	-0.6
WSI	Waingapu	0.85	8	P	Pb	11 27 04.3	-0.1
EDFI	Ende, Flores	2.30	40	P	Pn	11 27 24.7	+0.6
MMRI	Maumere	2.76	47	ePn	Pn	11 27 30.9	+0.7
MMRI				eSn	Sn	11 28 02.1	-0.5
MMRI	Maumere	2.76	47	P	Pn	11 27 31.5	+1.3
PLAI	Plampang	2.91	305	P	Pn	11 27 34.6	+2.3
BATI	Baumata	3.44	85	Pn	Pn	11 27 42.2	+2.6
	98nm,0.3s,baz=301,slow=2.3,SNR=43						
BATI				Sn	Sn	11 28 20.8	+1.4
	136nm,0.3s,baz=350,slow=17,SNR=10						
BATI	Baumata	3.44	85	P	Pn	11 27 42.2	+2.6
BATI				S	Sn	11 28 22.5	+3.1
SOEI	Soe	4.09	80	ePn	Pn	11 27 51.2	+2.5
SOEI	Soe	4.09	80	P	Pn	11 27 51.5	+2.8
BKSI	Bulukumba	5.17	359	P	Pn	11 28 04.7	+1.4
IGBI	Denpasar	5.25	288	P	Pn	11 28 06.0	+1.6
JAGI	Jajag, Banyuwa	6.29	288	ePn	Pn	11 28 20.5	+1.7
JAGI				eSn	Sn	11 29 24.5	-5.2
JAGI	Jajag, Banyuwa	6.29	288	P	Pn	11 28 21.3	+2.5
FITZ	Fitzroy Crossi	9.20	146	Pn	Pn	11 28 59.8	+1.0
	3.5nm,0.3s,baz=347,slow=8.7,SNR=52						
FITZ				Sn	Sn	11 30 35.1	-6.3
	10nm,0.3s,baz=340,slow=12,SNR=12						
FITZ				LR	LR	11 33 11.3	
	comp=Z,165nm,19.7s,baz=316,slow=41						
FITZ	Fitzroy Crossi	9.20	146	ePn	Pn	11 29 00.0	+1.2
FITZ				eSn	Sn	11 30 37.7	-3.7
UGM	Wanagama	9.88	284	ePn	Pn	11 29 09.3	+1.2
UGM				eSn	Sn	11 30 53.6	-4.5
MBWA	Marble Bar	10.59	182	ePn	Pn	11 29 19.2	+1.4
MBWA				eSn	Sn	11 31 08.4	-6.9
MTN	Manton Dam	10.97	103	ePn	Pn	11 29 22.1	-1.0
MTN				eSn	Sn	11 31 16.7	-8.1
CISI	Cisompet, Garu	12.56	283	ePn	Pn	11 29 44.7	-0.2
LEM	Lembang	12.95	285	Pn	Pn	11 29 51.5	+1.2
	3.0nm,0.3s,baz=156,slow=20,SNR=2.5						
GIRL	Giralia	13.33	205	ePn	Pn	11 29 56.4	+1.1
GIRL				eSn	Sn	11 32 18.7	-3.8
FAKI	Fak Fak	14.16	59	ePn	Pn	11 30 03.6	-3.1
FAKI				eSn	Sn	11 32 40.9	-1.9
SIJI	Sorong	14.61	50	Pn	Pn	11 30 10.3	-2.5
	3.6nm,0.3s,baz=240,slow=7.2,SNR=27						
SIJI				Sn	Sn	11 32 51.1	-2.7
	0.3nm,0.3s,baz=252,slow=20,SNR=2.3						
WR1	Warramunga Arr	16.55	126	ePn	Pn	11 30 36.5	-1.6
	12nm,1.0s						
WRA	Warramunga Arr	16.55	126	Pn	Pn	11 30 36.5	-1.6
	0.9nm,0.3s,baz=297,slow=13,SNR=42						
WRA				Sn	Sn	11 33 26.7	-14
	1.3nm,0.3s,baz=292,slow=24,SNR=8.9						
WRAB	Tennant Creek	16.55	126	ePn	Pn	11 30 37.2	-0.9
	8.8nm,0.6s						
WB2	Warramunga Arr	16.56	126	ePn	Pn	11 30 36.8	-1.4
	11nm,0.9s						
WC3	Warramunga Arr	16.59	126	ePn	Pn	11 30 37.9	-0.7
	13nm,1.1s						
AS31	Alice Springs	18.50	137	eP	Pn	11 31 03.9	+1.7
	3.3nm,0.5s						
ASAR	Alice Springs	18.50	137	P	Pn	11 31 03.8	+1.6
	1.5nm,0.3s,baz=314,slow=12,SNR=97						
ASAR				S	Sn	11 34 15.0	-13
	0.6nm,0.3s,baz=315,slow=23,SNR=8.3						
ASAR				LR	LR	11 38 53.6	
	comp=Z,184nm,20.2s,baz=309,slow=39						
AS01	Alice Springs	18.53	137	eP	Pn	11 31 04.3	+1.8
MORW	Morawa	18.86	191	eP	Pn	11 31 09.1	+2.6
	11nm,0.8s						
FORT	Forrest	21.45	161	eP	P	11 31 34.7	+0.8
	25nm,0.8s						
JAY	Jayapura	21.87	70	P	P	11 31 37.2	-1.4
	23nm,0.8s,baz=288,slow=2.3,SNR=5.0						
NWAO	Narrogin (SRO)	22.46	187	P	P	11 31 47.5	+2.6
	14nm,1.0s,baz=300,slow=20,SNR=3.4						
NWAO				S	S	11 35 45.4	-4.3
	3.8nm,0.5s,baz=331,slow=19,SNR=5.3						
NWAO				LR	LR	11 41 31.9	
	comp=Z,194nm,18.9s,baz=240,slow=39						
NWAO	Narrogin (SRO)	22.46	187	eP	P	11 31 44.5	-0.3
	21nm,1.0s						
NWAO				eS	S	11 35 45.4	-4.3
COEN	Coen	22.72	101	eP	P	11 31 49.4	+1.7
	23nm,0.7s						
BBOO	Buckleboo	26.57	149	eP	P	11 32 25.6	+2.1
	6.2nm,0.8s						
PMG	Port Moresby	26.59	90	LR	LR	11 46 01.6	
	comp=Z,193nm,18.1s,baz=266,slow=44						
PMG	Port Moresby	26.59	90	eP	P	11 32 23.6	-0.3
	9.9nm,0.9s						
CTA	Charters Tower	26.85	114	P	P	11 32 28.3	+2.1
	7.1nm,0.9s,baz=281,slow=14,SNR=6.8						
CTAO	Charters Tower	26.85	114	eP	P	11 32 29.4	+3.2
	9.1nm,0.9s						
STKA	Stephens Creek	29.04	140	P	P	11 32 48.0	+2.3
	2.4nm,0.5s,baz=327,slow=9.8,SNR=7.0						
STKA	Stephens Creek	29.04	140	eP	P	11 32 45.0	-0.7
	1.4nm,1.0s						
SRAK	Srakaew	30.30	323	P	P	11 32 54.5	-2.4
CHAI	Chaiyaphum	31.84	325	P	P	11 33 13.2	+2.7
	3.2nm,1.0s						
EIDS	Eidsvold	32.79	121	eP	P	11 33 19.2	+0.4
PBKT	Sadao Pong	32.95	325	eP	P	11 33 18.9	-1.3
	6.7nm,0.9s						
PBKT	Sadao Pong	32.95	325	P	P	11 33 21.4	+1.2
	7.3nm,0.7s						
UTHA	Uthaitani	33.06	321	P	P	11 33 22.6	+1.4
	3.7nm,0.7s						
UTTA	Uttaradit	34.13	325	P	P	11 33 33.4	+3.0
	2.2nm,0.7s						
CMAR	Chiang Mai Arr	35.62	324	P	P	11 33 44.2	+0.9
	2.3nm,0.7s,baz=151,slow=6.8,SNR=9.9						
CMAR				PcP	PcP	11 36 14.5	+2.7
	0.5nm,0.4s,baz=185,slow=3.4,SNR=3.3						
CMAR				LR	LR	11 49 58.8	
	comp=Z,149nm,19.2s,baz=163,slow=39						
HNR	Honiara	39.16	92	LR	LR	11 51 51.3	
	comp=Z,108nm,19.6s,baz=224,slow=38						
PALK	Pallekele	43.10	293	LR	LR	11 53 12.1	
	comp=Z,92nm,19.9s,baz=117,slow=37						
JNU	Nakatsue	44.58	13	LR	LR	11 52 11.8	

	comp=Z,27nm,21.3s,baz=219,slow=34						
XAN	**Xi'an**	**45.59**	**347**	P	**P**	**11 35 04.5**	**-1.0**
XAN				pP	pP	11 35 09.8	-4.6
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
H08S2	**Diego Garcia H**	**47.15**	**269**	T	T	12 25 47.2	
	baz=96,slow=76,SNR=18						
H08S3	**Diego Garcia H**	**47.16**	**269**	T	T	12 25 43.3	
	baz=96,slow=76,SNR=44						
H08S1	**Diego Carcia H**	**47.16**	**269**	T	T	12 25 43.9	
	baz=96,slow=76,SNR=21						
KSRS	**Korea Array**	**48.27**	**8**	P	**P**	**11 35 24.9**	**-1.4**
	comp=Z,1.5nm,0.6s,baz=187,slow=9.6,SNR=5.8						
KSRS				LR	LR	11 57 51.8	
	comp=Z,32nm,19.0s,baz=219,slow=39						
MJAR	**Matsushiro Arr**	**49.79**	**19**	P	**P**	**11 35 34.4**	**-3.7**
	comp=Z,5.1nm,1.0s,baz=195,slow=9.1,SNR=7.6						
MAJO	**Matsushiro**	**49.79**	**19**	*e*P	**P**	**11 35 34.4**	**-3.7**
HHC	**Hu-ho-hao-te**	**51.73**	**352**	*e*P	**P**	**11 35 56.5**	**+3.8**
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
HHC				pmax	pmax		
	comp=Z,41nm,6.1s						
GTA	**Gaotai**	**53.17**	**340**	*e*P	**P**	**11 36 03.6**	**+0.2**
GTA				pP	pP	11 36 12.2	-0.3
GTA				sP	sP	11 36 15.9	-0.1
GTA				S	**S**	**11 43 33.2**	**+0.8**
GTA				sS	sS	11 43 48.9	+1.5
GTA	**Gaotai**	**53.17**	**340**	SS	**SS**	**11 47 13.4**	**+0.9**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,120nm,7.0s						
GTA				LR	LR		
	comp=N,96nm,16.2s						
GTA				LR	LR		
	comp=E,65nm,16.2s						
GTA				LR	LR		
	comp=Z,140nm,15.2s						
USRK	**Ussuriysk Ar.**	**55.51**	**10**	P	**P**	**11 36 18.9**	**-1.3**
	comp=Z,1.5nm,0.5s,baz=186,slow=6.9,SNR=7.4						
BKZ	**Black Stump Fm**	**57.44**	**130**	*e*P	**P**	**11 36 36.9**	**+2.6**
	comp=Z,12nm,0.9s						
ASAJ	**Asahikawa**	**58.07**	**19**	P	**P**	**11 36 38.0**	**-0.4**
	comp=Z,8.2nm,0.8s,baz=296,slow=7.8,SNR=4.5						
ASAJ				LR	LR	12 02 49.0	
	comp=Z,42nm,19.3s,baz=292,slow=37						
ULN	**Ulaanbaatar**	**59.29**	**350**	*e*P	**P**	**11 36 47.6**	**+0.6**
	comp=Z,4.2nm,0.9s						
SONA0	**Songino Array**	**59.38**	**349**	*e*P	**P**	**11 36 47.6**	**0.0**
SONM	**Songino Array**	**59.38**	**349**	P	**P**	**11 36 47.6**	**0.0**
	comp=Z,5.8nm,0.8s,baz=164,slow=8.9,SNR=41						
SONA1	**Songino Array**	**59.38**	**349**	*e*P	**P**	**11 36 47.5**	**-0.2**
WMQ	**Urumqi**	**61.62**	**334**	*e*P	**P**	**11 37 04.2**	**+1.2**
KSH	**Kashi**	**64.51**	**323**	P	**P**	**11 37 21.6**	**-0.7**
KSH				sP	sP	11 37 38.6	+4.2
KSH				PcP	**PcP**	**11 38 00.0**	**+3.7**
KSH				S	**S**	**11 45 51.8**	**-8.0**
KSH				sS	pS	11 46 11.6	+0.5
KSH				pmax	pmax		
	comp=Z,21nm,0.6s						
KSH				pmax	pmax		
	comp=Z,160nm,5.8s						
KSH				LR	LR		
	comp=N,120nm,10.6s						
KSH				LR	LR		
	comp=E,110nm,9.3s						
KSH				LR	LR		
	comp=Z,180nm,6.9s						
MK01	**Makanchi Array**	**66.31**	**333**	*e*P	**P**	**11 37 33.5**	**-0.2**
MK31	**Makanchi Array**	**66.33**	**333**	*e*P	**P**	**11 37 34.0**	**+0.2**
MK32	**Makanchi Array**	**66.33**	**333**	*e*P	**P**	**11 37 33.6**	**-0.2**
MKAR	**Makanchi Array**	**66.33**	**333**	P	**P**	**11 37 33.6**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=142,slow=7.3,SNR=33						
MKAR	**Makanchi Array**	**66.33**	**333**	*e*P	**P**	**11 37 33.8**	**0.0**
	comp=Z,18nm,0.7s						
AAK	**Ala-Archa**	**67.39**	**325**	*e*P	**P**	**11 37 40.0**	**-0.8**
	comp=Z,2.8nm,0.8s						
VNDA	**Vanda**	**70.31**	**171**	P	**P**	**11 38 01.4**	**+3.2**
	comp=Z,1.5nm,1.0s,baz=306,slow=5.2,SNR=4.1						
VNDA	**Vanda**	**70.31**	**171**	*e*P	**P**	**11 37 59.4**	**+1.1**
KURK	**Kurchatov**	**70.87**	**333**	*e*P	**P**	**11 37 58.7**	**-3.3**
	comp=Z,5.2nm,0.9s						
ZAA0	**Zalesovo Array**	**70.87**	**339**	*e*P	**P**	**11 38 01.6**	**-0.3**
	comp=Z,4.5nm,0.9s						
ZALV	**Zalesovo Beam**	**70.87**	**339**	P	**P**	**11 38 00.6**	**-1.3**
	comp=Z,3.1nm,0.5s,baz=149,slow=4.9,SNR=14						
ZALV	**Zalesovo Beam**	**70.87**	**339**	*e*P	**P**	**11 37 59.2**	**-2.7**
ZAA1	**Zalesovo Array**	**70.87**	**339**	*e*P	**P**	**11 38 00.6**	**-1.3**
PETK	**Petropavlovsk-**	**71.00**	**23**	P	**P**	**11 38 03.3**	**+0.6**
	comp=Z,3.0nm,0.6s,baz=188,slow=7.0,SNR=3.0						
PEA1	**Petropavlovsk-**	**71.01**	**23**	*e*P	**P**	**11 38 03.3**	**+0.5**
GEYT	**Alibeck**	**75.33**	**314**	P	**P**	**11 38 28.6**	**-0.1**
	comp=Z,7.3nm,0.6s,baz=143,slow=5.2,SNR=2.5						
GEYT				LR	LR	12 16 08.5	
	comp=Z,49nm,19.4s,baz=5.0,slow=39						
SYO	**Syowa Base**	**76.87**	**201**	⇓*e*P	**P**	**11 38 38.4**	**+1.5**
SYO	**Syowa Base**	**76.87**	**201**	⇓*e*PcP	**PcP**	**11 38 49.0**	**+1.1**
ABKAR	**Akbulak array**	**79.47**	**325**	*e*P	**P**	**11 38 53.1**	**+1.5**
BOSA	**Boshof**	**89.30**	**241**	LR	LR	12 14 20.9	
	comp=Z,60nm,19.9s,baz=186,slow=32						
YKA	**Yellowknife Ar**	**115.08**	**25**	PKP	**PKPdf**	**11 45 26.6**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=309,slow=1.8,SNR=3.6						
TOA0	**Torodi Ar. Sit**	**119.86**	**279**	*e*PKPdf	**PKPdf**	**11 45 36.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**119.86**	**279**	PKP	**PKiKP**	**11 45 37.2**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=46,slow=2.0,SNR=6.7						
TOA1	**Torodi Ar. Sit**	**119.87**	**279**	*e*PKPdf	**PKiKP**	**11 45 37.2**	**+0.7**
PHWY	**Pilot Hill**	**129.59**	**44**	*e*PKPdf	**PKPdf**	**11 45 51.9**	**-2.8**
P51A	**Williamsport**	**144.51**	**32**	*e*PKPdf	**PKPab**	**11 46 20.0**	**-0.2**
Q51A	**Peebles**	**144.69**	**33**	*e*PKPdf	**PKPdf**	**11 46 22.1**	**-0.1**
X48A	**Hartselle**	**145.56**	**42**	*e*PKPdf	**PKPdf**	**11 46 23.9**	**0.0**
TKL	**Tuckaleechee C**	**146.84**	**37**	PKPbc	**PKPab**	**11 46 28.5**	**-0.7**
	comp=Z,7.1nm,0.7s,baz=290,slow=15,SNR=9.9						
TKL	**Tuckaleechee C**	**146.84**	**37**	*e*PKPbc	**PKPbc**	**11 46 27.5**	**-0.3**
NNA	**Nana**	**151.96**	**142**	PKPbc	**PKiKP**	**11 46 43.0**	**+1.3**
	comp=Z,4.0nm,0.4s,baz=212,slow=13,SNR=4.0						
LPAZ	**La Paz**	**152.12**	**163**	PKPbc	**PKiKP**	**11 46 45.5**	**+2.8**
	comp=Z,3.9nm,1.0s,baz=154,slow=2.4,SNR=6.8						
LPAZ				PKPab	**sPKPbc**	**11 46 55.0**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=247,slow=0.3,SNR=5.0						

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*IDC **08** 11:40:19.9±3.7, 14°08N×92°35W, h0km, mb3.4/3, mb1 3.7/6, mb1mx3.5/39, mbtmp3.3/6, ML3.0/3, MS3.6/1, Ms1 3.6/1, ms1mx2.5/25, Error ellipse: s-maj=80.7km s-min=30.5km az=9.0*

*MEX **08** 11:40:20.4±1.1, 13°88N×91°87W, h91km±74km, MD4.0*

ISC 08 11:40:25.3±1.5**, 14°0N**±0°1×**92°42W**±0°07**, h46**km**, n10,** σ**1ˢ66**/13**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.89**	**10**	*i* P	**Pn**	**11 40 40.0**	**-1.5**
THIG				*i* S	**Sn**	**11 40 55.7**	**+2.3**
APG	**El Apazote**	**2.13**	**63**	Pn	**Pn**	**11 40 56.6**	**-2.1**
	4.5nm,0.3s,baz=246,slow=10.0,SNR=66						
APG				Sn	**Sn**	**11 41 24.4**	**+0.3**
	7.9nm,0.3s,baz=313,slow=14,SNR=5.8						
CCIG	**Comitan**	**2.26**	**7**	*e*P	**Pn**	**11 41 00.6**	**+0.2**
CCIG				*i* S	**Sn**	**11 41 25.6**	**-1.7**
CMIG	**Matias Romero**	**3.86**	**322**	Pn	**Pn**	**11 41 20.9**	**-1.3**
	0.9nm,0.3s,baz=146,slow=10,SNR=12						
CMIG				Sn	**Sn**	**11 42 04.4**	**-2.1**
	1.7nm,0.3s,baz=113,slow=14,SNR=5.9						
CMIG				Lg	Lg	11 42 20.6	
	4.7nm,0.3s,baz=226,slow=15,SNR=5.1						
TXAR	**Lajitas Array**	**18.45**	**327**	P	**Pn**	**11 44 37.5**	**-0.4**
	0.0nm,0.3s,baz=139,slow=14,SNR=3.2						
PCRV	**Puerto La Cruz**	**27.43**	**95**	LR	LR	11 58 13.0	
	comp=Z,124nm,21.3s,baz=349,slow=39						
NVAR	**Mina Array Bea**	**33.40**	**321**	P	**P**	**11 47 02.2**	**+2.4**
	0.1nm,0.5s,baz=156,slow=6.9,SNR=2.2						
YKA	**Yellowknife Ar**	**50.91**	**347**	P	**P**	**11 49 21.1**	**-0.5**
	0.7nm,0.6s,baz=152,slow=7.4,SNR=14						
ILAR	**Eielson Array**	**62.66**	**337**	P	**P**	**11 50 45.4**	**+0.4**
	0.2nm,0.7s,baz=116,slow=4.5,SNR=4.1						
CMAR	**Chiang Mai Arr**	**145.84**	**341**	PKPbc	**PKPab**	**12 00 01.2**	**+0.3**
	0.5nm,0.3s,baz=320,slow=2.4,SNR=4.4						

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*IDC **08** 11:41:34.9±1.5, 24°27N×94°22E, h0km, mb3.5/5, mb1 3.7/7, mb1mx3.5/52, mbtmp3.6/7, ML3.7/2, Error ellipse: s-maj=35.4km s-min=28.0km az=104.0*

ISC 08 11:41:41.7±0.9**, 24°11N**±0°09×**94°09E**±0°08**, h75**km**, n14,** σ**2ˢ18**/11**, mb3.2**/5**, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.48**	**306**	*e*PN	**Pn**	**11 42 20.0**	**-0.1**
SHL				*e*SN	**Sn**	**11 42 47.0**	**-2.4**
BRDH	**Bariadhala**	**2.66**	**238**	Pn	**Pn**	**11 42 22.1**	**-0.3**
	30nm,0.3s,baz=72,slow=13,SNR=7.3						
BRDH				Sn	**Sn**	**11 42 53.2**	**-0.5**
	31nm,0.3s,baz=258,slow=18,SNR=4.3						
CMAR	**Chiang Mai Arr**	**7.22**	**140**	Pn	**Pn**	**11 43 22.4**	**-2.2**
	0.2nm,0.3s,baz=315,slow=15,SNR=2.5						
CMAR				Lg	Lg	11 45 14.2	
	0.4nm,0.3s,baz=315,slow=28,SNR=3.0						
RAMN	**Ramite**	**7.33**	**294**	*e*P	Pn	11 43 22.8	-3.6
	26nm,0.6s						
GUN	**Gumba**	**8.30**	**299**	*e*P	**Pn**	**11 43 36.1**	**-3.6**
	11nm,0.4s						
PKIN	**Phulchoki**	**8.56**	**296**	*e*P	Pn	11 43 38.4	-4.7
	7.3nm,0.4s						
KOLN	**Koldanda**	**10.12**	**293**	*e*P	Pn	11 43 58.3	-6.1
	5.8nm,0.3s						
DANN	**Dangsing**	**10.19**	**297**	*e*P	Pn	11 43 59.9	-5.5
	6.7nm,0.4s						
PYUN	**Piuthan**	**10.74**	**294**	*e*P	Pn	11 44 06.1	-6.7
	12nm,0.7s						
MKAR	**Makanchi Array**	**24.54**	**340**	P	**P**	**11 46 55.5**	**+1.3**
	0.5nm,0.6s,baz=148,slow=9.1,SNR=7.2						
SONM	**Songino Array**	**25.62**	**19**	P	**P**	**11 47 04.1**	**-0.1**
	0.3nm,0.4s,baz=201,slow=8.8,SNR=3.8						
ZALV	**Zalesovo Beam**	**30.60**	**349**	P	**P**	**11 47 49.9**	**+1.5**
	0.4nm,0.3s,baz=147,slow=6.9,SNR=3.6						
GERES	**GERESS Array B**	**66.06**	**315**	P	**P**	**11 52 22.8**	**+2.0**
	0.4nm,0.7s,baz=105,slow=11,SNR=2.3						
ILAR	**Eielson Array**	**79.81**	**22**	P	**P**	**11 53 44.1**	**+2.5**
	0.2nm,0.6s,baz=305,slow=5.5,SNR=3.8						

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*IDC **08** 11:43:24.1±1.2, 34°80S×179°46W, h0km, mb4.2/5, mb1 4.3/6, mb1mx4.0/41, mbtmp4.2/6, ML3.8/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/36, Error ellipse: s-maj=37.1km s-min=27.8km az=88.0*

*ISCJB **08** 11:43:26.3±0.8, 35°09S±0°05×179°2W±0°1, h43km, mb4.3/9, MS3.4/3, Error ellipse: s-maj=14.3km s-min=5.6km az=18.8*

*WEL **08** 11:43:26.5±1.1, 35°S±10°×17°9W±1°3, h33km, ML4.5/21*

*NEIC **08** 11:43:29.2±0.9, 35°14S×179°48W, h35km, mb4.8/3, Error ellipse: s-maj=20.1km s-min=10.2km az=108.0*

ISC 08 11:43:29.5±1.0**, 35°21S**±0°07×**179°2W**±0°1**, h43**km**, n54,** σ**2ˢ22**/67**, mb4.8**/9**, MS3.5**/3**, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.09**	**220**	*e*Pn	**Pn**	**11 44 15.2**	**-0.5**
MXZ				*e*Sn	**Sn**	**11 44 53.9**	**+2.4**
MXZ	**Matakaoa Point**	**3.09**	**220**	P	**Pn**	**11 44 15.3**	**-0.5**
MXZ				S	**Sn**	**11 44 53.6**	**+2.1**
WMGZ	**Waiomatatini S**	**3.24**	**216**	P	**Pn**	**11 44 18.0**	**+0.2**
PKGZ	**Pakihiroa**	**3.46**	**219**	P	**Pn**	**11 44 20.6**	**-0.3**
PKGZ				S	**Sn**	**11 45 03.9**	**+3.2**
PUZ	**Puketiti**	**3.51**	**215**	P	**Pn**	**11 44 20.8**	**-0.8**
PUZ				S	**Sn**	**11 45 03.8**	**+1.8**
HAZ	**Te Kaha**	**3.52**	**223**	P	**Pn**	**11 44 21.9**	**+0.3**
HAZ				S	**Sn**	**11 45 06.4**	**+4.5**
RUGZ	**Raukumara Rang**	**3.73**	**221**	P	**Pn**	**11 44 24.7**	**+0.1**
TWGZ	**Tauwhareparae**	**3.73**	**217**	P	**Pn**	**11 44 25.5**	**+0.9**
TWGZ				S	**Sn**	**11 45 10.6**	**+3.3**
CNGZ	**Carnagh Statio**	**3.88**	**212**	P	**Pn**	**11 44 26.9**	**+0.4**
TKGZ	**Te Karaka**	**4.00**	**215**	P	**Pn**	**11 44 27.5**	**-0.7**
TKGZ				S	**Sn**	**11 45 15.9**	**+2.1**
MWZ	**Matawai**	**4.08**	**219**	P	**Pn**	**11 44 28.9**	**-0.5**
URZ	**Urewera**	**4.25**	**223**	Pn	**Pn**	**11 44 31.0**	**-0.7**
	4.5nm,0.3s,baz=32,slow=9.7,SNR=49						
URZ				Sn	**Sn**	**11 45 21.7**	**+1.8**
	12nm,0.3s,baz=343,slow=19,SNR=17						
URZ	**Urewera**	**4.25**	**223**	P	**Pn**	**11 44 31.0**	**-0.7**
URZ				S	**Sn**	**11 45 22.3**	**+2.3**
RIGZ	**Rimuhau**	**4.25**	**214**	P	**Pn**	**11 44 31.7**	**-0.1**
RAGZ	**Rawiri**	**4.26**	**219**	P	**Pn**	**11 44 31.3**	**-0.6**
PRGZ	**Paritu Road**	**4.38**	**211**	P	**Pn**	**11 44 32.8**	**-0.7**
KUZ	**Kuaotunu**	**4.39**	**248**	P	**Pn**	**11 44 33.8**	**+0.2**
TGRZ	**Tauranga**	**4.44**	**234**	P	**Pn**	**11 44 34.3**	**0.0**
SNGZ	**Shannon Statio**	**4.52**	**217**	P	**Pn**	**11 44 35.4**	**0.0**
MHGZ	**Mahia Peninsul**	**4.56**	**210**	P	**Pn**	**11 44 35.4**	**-0.6**
RTZ	**Ruatahuna**	**4.58**	**221**	P	**Pn**	**11 44 37.4**	**+1.1**
MUGZ	**Murupara**	**4.59**	**224**	P	**Pn**	**11 44 35.6**	**-0.8**
RAHZ	**Arahi**	**4.75**	**218**	P	**Pn**	**11 44 39.5**	**+0.9**
MTHZ	**Maungataniwha**	**4.82**	**220**	P	**Pn**	**11 44 39.9**	**+0.3**
WIAZ	**Waiheke Island**	**4.86**	**249**	P	**Pn**	**11 44 40.8**	**+0.7**
MKAZ	**Moumakai**	**4.94**	**246**	P	**Pn**	**11 44 41.9**	**+0.7**
TOZ	**Tahuroa Road**	**4.96**	**238**	P	**Pn**	**11 44 41.6**	**+0.2**
NMHZ	**Naumai**	**5.02**	**218**	P	**Pn**	**11 44 42.2**	**-0.2**
MRHZ	**Matea Rd**	**5.04**	**223**	P	**Pn**	**11 44 42.0**	**-0.6**
BKZ	**Black Stump Fm**	**5.24**	**220**	*e*Pn	**Pn**	**11 44 43.4**	**-2.0**
BKZ				*e*Sn	**Sn**	**11 45 46.4**	**+2.0**
WCZ	**Waipu Caves**	**5.31**	**260**	P	**Pn**	**11 44 47.2**	**+0.9**
HIZ	**Hauiti**	**5.79**	**234**	*e*Pn	**Pn**	**11 44 52.8**	**-0.1**
OUZ	**Omahuta**	**5.90**	**268**	*e*Pn	**Pn**	**11 44 52.1**	**-2.2**
BFZ	**Birch Farm**	**6.54**	**212**	*e*Pn	**Pn**	**11 45 00.0**	**-3.1**
SNZO	**South Karori**	**7.75**	**216**	*e*Pn	**Pn**	**11 45 17.2**	**-2.5**
SNZO				*e*Sn	**Sn**	**11 46 41.3**	**-4.8**
THZ	**Tophouse**	**9.00**	**221**	*e*Pn	**Pn**	**11 45 37.3**	**+0.4**
THZ				*e*Sn	**Sn**	**11 47 10.6**	**-6.5**
KHZ	**Kahutara**	**9.16**	**216**	*e*Pn	**Pn**	**11 45 36.7**	**-2.2**
KHZ				*e*Sn	**Sn**	**11 47 12.0**	**-8.6**
RPZ	**Rata Peaks**	**11.35**	**219**	Pn	**Pn**	**11 46 06.1**	**-2.8**
	0.6nm,0.3s,baz=63,slow=14,SNR=3.4						
RPZ				Sn	Sn	11 48 04.1	-10
	1.0nm,0.3s,baz=43,slow=22,SNR=9.5						
STKA	**Stephens Creek**	**32.70**	**264**	LR	LR	12 03 54.2	
	comp=Z,41nm,18.1s,baz=202,slow=38						
AS01	**Alice Springs**	**42.05**	**273**	*e*P	**P**	**11 51 16.0**	**-1.1**
AS31	**Alice Springs**	**42.08**	**273**	*e*P	**P**	**11 51 14.7**	**-2.7**
	0.7nm,0.6s						
AS31				*e*PcP	**PcP**	**11 53 10.4**	**-1.3**
ASAR	**Alice Springs**	**42.08**	**273**	P	**P**	**11 51 16.2**	**-1.2**
	1.6nm,0.8s,baz=117,slow=7.2,SNR=23						
ASAR				PcP	**PcP**	**11 53 10.4**	**-1.3**
	0.2nm,0.6s,baz=114,slow=4.2,SNR=2.5						
ASAR				LR	LR	12 09 31.6	
	comp=Z,61nm,18.8s,baz=121,slow=38						
WB2	**Warramunga Arr**	**43.50**	**278**	*e*P	**P**	**11 51 27.4**	**-1.4**
	31nm,1.8s						
WRAB	**Tennant Creek**	**43.50**	**278**	*e*P	**P**	**11 51 26.6**	**-2.4**
	28nm,1.6s						
WR1	**Warramunga Arr**	**43.51**	**278**	*e*P	**P**	**11 51 27.3**	**-1.7**
	46nm,1.8s						
WRA	**Warramunga Arr**	**43.51**	**278**	P	**P**	**11 51 27.3**	**-1.7**
	0.8nm,0.4s,baz=117,slow=7.7,SNR=20						
FITZ	**Fitzroy Crossi**	**51.52**	**274**	LR	LR	12 14 52.9	
	comp=Z,52nm,18.1s,baz=190,slow=37						
QSPA	**South Pole Qui**	**54.92**	**180**	P	**P**	**11 52 58.0**	**+2.3**
	0.5nm,0.8s,baz=14,slow=4.2,SNR=3.3						
MAW	**Mawson**	**67.47**	**202**	P	**P**	**11 54 25.0**	**+4.6**
	7.3nm,0.7s,baz=131,slow=11,SNR=3.3						
PETK	**Petropavlovsk-**	**90.22**	**346**	P	**P**	**11 56 24.8**	**-0.1**
	6.3nm,0.9s,baz=142,slow=7.3,SNR=2.7						
PEA1	**Petropavlovsk-**	**90.22**	**346**	*e*P	**P**	**11 56 24.8**	**-0.1**
FIA0	**FINESS Array S**	**149.22**	**336**	*e*PKPdf	**PKPbc**	**12 03 11.6**	**-0.9**
FINES	**FINESS Array B**	**149.22**	**336**	PKPbc	**PKPbc**	**12 03 11.6**	**-0.9**
	2.9nm,0.9s,baz=54,slow=2.4,SNR=4.9						
AKASG	**Malin Array Be**	**154.28**	**316**	PKPbc	**PKPbc**	**12 03 24.2**	**-0.3**
	0.6nm,0.5s,baz=71,slow=2.1,SNR=6.1						

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*ISCJB **08** 11:51:53.5±0.4, 51°91N±0°03×105°15E±0°03, h4km±3km, mb3.8/13, MS3.3/5, Error ellipse: s-maj=5.5km s-min=2.5km az=162.2*

*IDC **08** 11:51:53.6±0.7, 51°84N×105°20E, h0km, mb3.8/10, mb1 3.9/13, mb1mx3.7/38, mbtmp3.7/13, ML2.9/4, MS3.3/6, Ms1 3.3/6, ms1mx2.9/59, Error ellipse: s-maj=18.9km s-min=13.3km az=80.0*

*MOS **08** 11:51:54.9±1.1, 51°83N×105°23E, h13km, mb4.1/10, Error ellipse: s-maj=9.3km s-min=6.7km az=65.6*

MOS Felt (III-IV) at Irkutsk; (III) at Elantsy.

*BYKL **08** 11:51:56.2±0.2, 51°85N×105°16E, h16km±3km, FELT I=IV MSK at Listvyanka,Bolshoye Goloustnoye; III-IV at Maloye Goloustnoye,Patrony,Milovidy,Irkutsk,Khomutovo; III at Molodezhniy, Pivovarikha,Shelekhov,Yelantsy; II-III at Gusinoozersk,Angarsk.*

ISC 08 11:51:56.4±0.9**, 51°87N**±0°03×**105°20E**±0°02**, h15**km±6km**, n72,** σ**1ˢ74**/114**, mb3.9**/13**, MS3.4**/5**, 8C-8D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGT	**Bolshoye Golou**	**0.21**	**36**	⇓*i*Pg	**Pb**	**11 52 02.1**	**0.0**
BGT				*e*Sg	**Sb**	**11 52 05.4**	**-0.5**
LSTR	**Listvyanka**	**0.23**	**270**	⇓*i*Pg	**Pg**	**11 52 01.3**	**-0.2**
LSTR				Pmax		11 52 01.6	
	6µm,0.1s						
LSTR				*e*Sg	**Sg**	**11 52 04.6**	**-0.4**
LSTR				Smax		11 52 05.0	
	10µm,0.1s						
LSTR	**Listvyanka**	**0.23**	**270**	⇓*i*PG	**Pg**	**11 52 01.4**	**-0.1**
LSTR				*e*S	**Sg**	**11 52 04.6**	**-0.4**
IRK	**Irkutsk**	**0.69**	**303**	⇑*e*Pg	**Pg**	**11 52 09.6**	**-0.2**
IRK				Pmax		11 52 10.7	
	2µm,0.3s						
IRK				*e*Sg	**Sg**	**11 52 18.5**	**-0.4**
IRK				Smax		11 52 19.0	
	27µm,0.3s						
IRK	**Irkutsk**	**0.69**	**303**	⇑*i*PG	**Pg**	**11 52 09.7**	**-0.1**
IRK				*e*		11 52 18.4	
IRK				pmax	pmax		
	comp=Z,1µm,0.1s						
IRK				smax	smax		
	comp=E,24µm,0.4s						
KAB	**Kabansk**	**0.92**	**78**	*e*Pg	**Pn**	**11 52 14.6**	**-0.2**
KAB				Pmax		11 52 15.2	
	comp=E,1µm,0.4s						
KAB				*e*Sg	**Sn**	**11 52 27.5**	**-0.2**
KAB				*e*Sb	**Sg**	**11 52 29.0**	**+2.9**
KAB				max		11 52 29.3	
	comp=E,14µm,70.0s						
KAB	**Kabansk**	**0.92**	**78**	⇓*i*PG	**Pn**	**11 52 14.6**	**-0.2**
KAB				*e*		11 52 27.1	
KAB				pmax	pmax		
	comp=Z,1µm,0.5s						
KAB				smax	smax		
	comp=N,5µm,0.8s						
TLY	**Talaya**	**0.99**	**260**	⇓*i*Pg	**Pb**	**11 52 13.9**	**-1.3**
TLY				Pmax		11 52 16.5	
	comp=N,253nm,0.1s						
TLY				*e*Sg	**Sb**	**11 52 26.2**	**-1.9**
TLY				*e*Sb	**Sn**	**11 52 29.9**	**+0.4**
TLY				max		11 52 30.3	
	comp=N,4µm,0.3s						
TLY	**Talaya**	**0.99**	**260**	*e*PG	**Pg**	**11 52 15.5**	**0.0**
HRMR	**Khuramsha**	**1.11**	**102**	⇓*i*Pg	**Pn**	**11 52 17.5**	**0.0**
HRMR				*i* Sg	**Sn**	**11 52 33.0**	**+0.3**
TRG	**Tyrgan**	**1.13**	**38**	*e*Pg	**Pb**	**11 52 17.6**	**-0.2**
TRG				Pmax		11 52 20.3	
	comp=N,1µm,0.3s						
TRG				*i* Sg	**Sn**	**11 52 33.0**	**-0.2**
TRG				Smax		11 52 35.9	
	comp=N,21µm,0.4s						
TRG	**Tyrgan**	**1.13**	**38**	⇑*i*PG	**Pb**	**11 52 17.8**	**0.0**
TRG				*e*		11 52 33.0	
TRG				pmax	pmax		
	comp=Z,1µm,0.1s						
TRG				smax	smax		
	comp=N,17µm,0.2s						
ZRHB	**Zarechye**	**1.38**	**59**	*e*Pg	**Pb**	**11 52 22.0**	**+0.1**
ZRHB				*e*Pb	**Pg**	**11 52 22.6**	**-0.3**
ZRHB				*e*Sg	**Sg**	**11 52 40.9**	**0.0**
ZRHB				*e*Sb	**Sb**	**11 52 42.3**	**+2.9**
UUDB	**Ulan-Yde**	**1.52**	**89**	⇓*i*Pg	**Pn**	**11 52 23.4**	**+0.2**
UUDB				*e*Pb	**Pb**	**11 52 24.6**	**+0.2**
UUDB				max		11 52 25.0	
	comp=N,754nm,0.6s						
UUDB				*e*Sg	**Sb**	**11 52 43.8**	**+0.3**
UUDB				*e*Sb	**Sg**	**11 52 45.5**	**0.0**
UUDB				max		11 52 45.8	
	comp=N,5µm,0.7s						
TRTB	**Turuntaevo**	**1.54**	**76**	⇑*i*Pg	**Pn**	**11 52 23.9**	**+0.5**
TRTB				*e*		11 52 25.5	
TRTB				*e*Sg	**Sb**	**11 52 44.5**	**+0.5**
TRTB				*e*Sb	**Sg**	**11 52 46.1**	**+0.1**
ARS	**Arshan**	**1.72**	**273**	⇑*i*Pg	**Pn**	**11 52 26.5**	**+0.6**
ARS				*e*		11 52 28.7	
ARS				max		11 52 32.8	
	comp=N,419nm,0.5s						
ARS				*e*Sg	**Sn**	**11 52 48.5**	**+0.8**
ARS				*e*		11 52 51.3	
ARS				max		11 52 53.3	
	comp=N,4µm,0.3s						
ARS	**Arshan**	**1.72**	**273**	⇑*i*PN	**Pn**	**11 52 26.5**	**+0.6**
ARS				*e*		11 52 48.4	
ARS				pmax	pmax		
	comp=Z,398nm,0.3s						
ARS				smax	smax		
	comp=E,4µm,0.4s						
ZAK	**Zakamensk**	**1.92**	**220**	*e*PN	**Pn**	**11 52 28.8**	**+0.1**
ZAK				*e*		11 52 30.2	
ZAK				*e*		11 52 55.2	
ZAK				pmax	pmax		
	comp=Z,210nm,0.2s						
ZAK				smax	smax		
	comp=N,2µm,0.4s						
KELR	**Kotokel**	**1.98**	**62**	*e*Pn	**Pn**	**11 52 29.9**	**+0.5**
KELR				*e*Pg	**Pb**	**11 52 31.9**	**-0.2**
KELR				*e*Sn	**Sn**	**11 52 54.6**	**+0.7**
KELR				*e*Sg	**Sg**	**11 52 58.4**	**-1.6**
OGRR	**Ongureny**	**2.29**	**38**	*e*Pn	**Pb**	**11 52 35.9**	**-1.6**
OGRR				*e*Pg	**Pg**	**11 52 38.4**	**-2.0**
OGRR				*e*		11 52 40.7	
OGRR				max		11 52 44.6	
	comp=N,270nm,0.2s						
OGRR				*e*Sg	**Sg**	**11 53 08.5**	**-1.6**
OGRR				Smax		11 53 12.4	
	comp=N,3µm,0.8s						
OGRR	**Ongureny**	**2.29**	**38**	*e*PN	**Pb**	**11 52 36.2**	**-1.3**
OGRR				*e*		11 52 39.1	
OGRR				*e*		11 53 08.6	
OGRR				pmax	pmax		
	comp=Z,256nm,0.3s						
OGRR				smax	smax		
	comp=E,3µm,0.7s						
MXMB	**Maximikha**	**2.57**	**56**	*e*Pn	**Pn**	**11 52 38.8**	**+1.3**
MXMB				*e*Pg	**Pb**	**11 52 43.5**	**+1.3**
MXMB				*e*Sn	**Sn**	**11 53 09.7**	**+1.1**
MXMB				*e*Sg	**Sg**	**11 53 17.7**	**-1.3**
MOY	**Mondy**	**2.62**	**267**	*e*Pn	**Pn**	**11 52 39.3**	**+0.9**
MOY				*e*Pg	**Pb**	**11 52 42.1**	**-1.1**
MOY				*e*PgPg	Pg	11 52 55.9	+9.2
MOY				max		11 52 57.9	
	comp=E,242nm,0.8s						
MOY				*e*Sg	**Sb**	**11 53 16.8**	**+1.5**
MOY				Smax		11 53 19.5	
	comp=E,2µm,1.0s						
MOY	**Mondy**	**2.62**	**267**	*e*PN	**Pb**	**11 52 42.0**	**-1.1**
MOY				*e*		11 53 15.9	
MOY				pmax	pmax		
	comp=Z,116nm,0.4s						
MOY				smax	smax		
	comp=N,2µm,0.7s						
ORL	**Orlik**	**3.39**	**284**	*e*Pn	**Pn**	**11 52 50.4**	**+1.6**
ORL				⇑*e*Pg	**Pb**	**11 52 54.7**	**-1.5**
ORL				*e*		11 52 57.5	
ORL				Pmax		11 52 57.8	
	comp=N,90nm,0.3s						
ORL				*e*Sg	**Sb**	**11 53 38.6**	**+1.4**
ORL				Smax		11 53 42.3	
	comp=N,799nm,1.2s						
SYVR	**Suvo**	**3.42**	**57**	*e*Pn	**Pn**	**11 52 50.0**	**+0.9**
SYVR				*e*Pg	**Pb**	**11 52 57.8**	**+1.1**
SYVR				Pmax		11 52 59.1	
	comp=N,63nm,0.6s						
SYVR				*e*Sn	**Sn**	**11 53 29.4**	**0.0**
SYVR				*e*Sg	**Sg**	**11 53 43.8**	**-2.3**
SYVR				Smax		11 53 51.9	
	comp=N,315nm,0.6s						
SYVR	**Suvo**	**3.42**	**57**	*e*PN	**Pn**	**11 52 50.1**	**+0.9**
SYVR				*e*		11 52 58.1	
SYVR				*e*		11 53 43.1	
SYVR				pmax	pmax		
	comp=Z,66nm,0.5s						
SYVR				smax	smax		
	comp=E,302nm,0.6s						
SONM	**Songino Array**	**4.11**	**169**	Pn	**Pn**	**11 52 59.2**	**+0.3**
	comp=E,3.1nm,0.3s,baz=339,slow=14,SNR=54						
SONM				Pg	**Pb**	**11 53 08.2**	**-0.3**
	comp=E,42nm,0.3s,baz=342,slow=16,SNR=87						
SONM				Lg	Lg	11 54 02.7	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=E,196nm,0.3s,baz=349,slow=30,SNR=23						
SONM				LR	LR	11 54 54.8	
	comp=E,236nm,19.6s,baz=260,slow=44						
ULN	Ulaanbaatar	4.18	163	*i* PN	Pn	11 52 59.7	-0.1
YLYR	Ulyunkhan	4.67	47	*e*Pn	Pn	11 53 07.2	+0.9
YLYR				⇓*e*Pg	Pb	11 53 20.7	+2.8
YLYR				Pmax		11 53 26.4	
	comp=E,25nm,0.6s						
YLYR				*e*Sg	Sg	11 54 21.3	-4.8
YLYR				Smax		11 54 29.0	
	comp=E,351nm,0.6s						
YLYR	Ulyunkhan	4.67	47	*e*PN	Pn	11 53 07.1	+0.8
YLYR				*e*		11 53 20.3	
YLYR				*e*S	Sn	11 54 01.0	+0.8
YLYR				*e*		11 54 21.4	
YLYR				pmax	pmax		
	comp=Z,24nm,0.4s						
YLYR				smax	smax		
	comp=N,356nm,0.7s						
NIZ	Nizh Angarsk	4.68	32	*e*Pn	Pn	11 53 07.2	+0.7
NIZ				*e*Pg	Pb	11 53 20.6	+2.5
NIZ				Pmax		11 53 24.7	
	comp=N,84nm,0.5s						
NIZ				*e*Sn	Sn	11 53 59.2	-1.3
NIZ				*e*Sg	Sg	11 54 21.2	-5.3
NIZ				Smax		11 54 28.2	
	comp=N,626nm,0.9s						
NIZ	Nizh Angarsk	4.68	32	*e*PN	Pn	11 53 07.1	+0.6
NIZ				*e*		11 53 21.7	
NIZ				*e*S	Sn	11 54 00.6	+0.1
NIZ				*e*		11 54 21.4	
NIZ				pmax	pmax		
	comp=Z,84nm,0.5s						
NIZ				smax	smax		
	comp=N,523nm,0.5s						
KNGR	Kungurtug, Tuv	4.99	258	*i* PN	Pn	11 53 09.5	-1.4
KPC	Khapcheranga	5.04	113	*e*Pn	Pn	11 53 10.6	-0.9
KPC				*e*Pg	Pb	11 53 26.8	+2.5
KPC				Pmax		11 53 31.4	
	comp=N,37nm,0.7s						
KPC				*e*Sg	Sg	11 54 33.0	-5.1
KPC				Smax		11 54 37.9	
	comp=N,407nm,1.3s						
KPC	Khapcheranga	5.04	113	*e*PN	Pn	11 53 10.6	-0.9
KPC				*e*		11 53 25.2	
KPC				*e*		11 54 32.9	
KPC				pmax	pmax		
	comp=Z,38nm,0.4s						
KPC				smax	smax		
	comp=E,407nm,1.2s						
KMO	Kumora	5.36	39	*e*Pn	Pn	11 53 16.7	+0.8
KMO				*e*Pg	Pb	11 53 33.8	+4.1
KMO				Pmax		11 53 37.8	
	comp=E,40nm,0.4s						
KMO				*e*Sg	Sg	11 54 43.5	-4.9
KMO				Smax		11 54 51.7	
	comp=E,557nm,1.0s						
KMO	Kumora	5.36	39	*e*PN	Pn	11 53 17.0	+1.1
KMO				*e*		11 53 33.0	
KMO				*e*		11 54 43.5	
KMO				pmax	pmax		
	comp=Z,39nm,0.4s						
KMO				smax	smax		
	comp=N,556nm,1.1s						
UKT	Uakit	6.18	51	*e*Pn	Pn	11 53 28.6	+1.5
UKT				*e*Pg	Pb	11 53 48.0	+4.3
UKT				Pmax		11 54 18.1	
	comp=N,15nm,0.6s						
UKT				*e*Sg	Sg	11 55 08.8	-5.7
UKT				Smax		11 55 31.3	
	comp=N,148nm,1.0s						
NLYR	Nelyaty	7.70	49	*e*	Pb	11 54 12.7	+3.1
NLYR				*e*Sg	Sb	11 55 55.7	+15
NLYR				Smax		11 56 23.5	
	comp=N,156nm,0.9s						
BOD	Bodaibo	7.83	37	*e*PN	Pn	11 53 49.6	0.0
BOD				*e*		11 54 15.4	
BOD				pmax	pmax		
	comp=Z,17nm,0.7s						
TUP	Tupik	9.23	68	*e*Sg	Sn	11 56 42.7	+50
TUP				Smax		11 56 52.1	
	comp=Z,153nm,1.4s						
DGZ	Jazzator, Alta	11.46	266	*i* P	Pn	11 54 40.7	+1.2
ZALV	Zalesovo Beam	12.48	288	Pn	Pn	11 54 50.8	-2.5
	comp=Z,0.2nm,0.3s,baz=84,slow=15,SNR=2.8						
ZALV				Lg	Lg	11 58 15.1	
	comp=Z,0.1nm,0.3s,baz=91,slow=27,SNR=3.7						
ZALV				LR	LR	11 59 43.6	
	comp=Z,88nm,20.6s,baz=68,slow=38						
MKAR	Makanchi Array	15.75	260	Pn	Pn	11 55 35.7	-1.9
	comp=Z,0.0nm,0.3s,baz=76,slow=12,SNR=2.3						
MKAR				Lg	Lg	12 00 09.4	
	comp=Z,0.0nm,0.3s,baz=82,slow=20,SNR=2.5						
KURK	Kurchatov	16.64	277	*i* P	Pn	11 55 48.4	-0.5
KURK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KURBB	Kurchatov Arra	16.72	276	Pn	Pn	11 55 49.5	-0.4
	comp=Z,0.1nm,0.3s,baz=81,slow=11,SNR=5.1						
KURBB				Lg	Lg	12 00 41.1	
	comp=Z,0.0nm,0.3s,baz=67,slow=32,SNR=5.4						
KLR	Kul'dur	17.04	88	Lg	Lg	12 00 55.7	
	comp=Z,0.1nm,0.3s,baz=238,slow=9.5,SNR=3.5						
KLR	Kul'dur	17.04	88	*i* P	P	11 55 55.1	-0.6
BRVK	Borovoye	21.19	287	*i* P	P	11 56 41.6	+0.5
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KSRS	Korea Array	21.53	123	LR	LR	12 06 28.7	
	comp=Z,13nm,21.8s,baz=30,slow=41						
TIXI	Tiksi	22.47	19	P	P	11 56 53.5	-1.1
	comp=Z,1.4nm,0.3s,baz=243,slow=7.5,SNR=7.5						
TIXI				Lg	Lg	12 03 34.1	
	comp=Z,8.6nm,1.1s,baz=164,slow=22,SNR=5.9						
TIXI	Tiksi	22.47	19	*i* P	P	11 56 54.1	-0.5
TIXI				pmax	pmax		
	comp=Z,13nm,2.5s						
AAK	Ala-Archa	22.65	258	LR	LR	12 06 14.4	
	comp=Z,95nm,18.2s,baz=85,slow=38						
AAK	Ala-Archa	22.65	258	*i* P	P	11 56 55.6	-1.4
AAK				pmax	pmax		
	comp=Z,8.0nm,3.1s						
BILL	Bilibino	32.88	37	*e*P	P	11 58 31.3	+2.0
BILL				*e*		11 59 40.4	
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,55nm,15.0s						
CMAR	Chiang Mai Arr	33.70	191	P	P	11 58 36.7	-0.2
	comp=Z,0.5nm,0.3s,baz=354,slow=9.2,SNR=6.4						
CMAR	Chiang Mai Arr	33.70	191	*i* P	P	11 58 39.2	+2.2
OBN	Obninsk	39.47	303	*e*P	P	11 59 27.7	+2.0
OBN				*e*		12 00 54.9	
OBN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
FINES	FINESS Array B	41.90	315	P	P	11 59 44.7	-1.0
	comp=Z,0.9nm,0.6s,baz=90,slow=9.5,SNR=5.5						
FINES	FINESS Array B	41.90	315	*i* P	P	11 59 46.5	+0.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	Malin Array Be	45.49	300	*ce*P	P	12 00 18.8	+4.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
JMIC	Jan Mayen	48.73	336	LR	LR	12 24 26.6	
	comp=Z,76nm,18.3s,baz=155,slow=40						
ILAR	Eielson Array	51.16	32	P	P	12 00 59.7	+1.4
	comp=Z,0.2nm,0.7s,baz=302,slow=4.6,SNR=3.2						
INK	Inuvik	52.51	24	P	P	12 01 07.5	-0.7
	comp=Z,1.8nm,0.8s,baz=220,slow=22,SNR=3.7						
INK	Inuvik	52.51	24	P	P	12 01 07.5	-0.7
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LEM	Lembang	58.50	177	LR	LR	12 29 10.1	
	comp=Z,70nm,18.1s,baz=225,slow=38						
YKA	Yellowknife Ar	61.72	20	P	P	12 02 13.3	-0.2
	comp=Z,0.3nm,0.6s,baz=332,slow=6.6,SNR=7.5						
WRA	Warramunga Arr	75.91	152	P	P	12 03 41.5	-0.8
	comp=Z,0.8nm,0.6s,baz=346,slow=6.3,SNR=10						
ASAR	Alice Springs	79.31	153	P	P	12 04 00.9	-0.3
	comp=Z,1.1nm,0.6s,baz=349,slow=5.8,SNR=19						
TORD	Torodi Ar. Bea	87.92	289	P	P	12 04 45.2	-0.5
	comp=Z,0.4nm,0.8s,baz=21,slow=4.9,SNR=2.4						
STKA	Stephens Creek	89.30	150	P	P	12 04 49.8	-1.8
	comp=Z,1.0nm,0.6s,baz=277,slow=7.9,SNR=3.2						

NNC 08 11:54:00.4±11.0**,37°.08N**×**69°.37E,h0**km**,mb3.6,mpv3.2, 5D,Error ellipse: s-maj=156.5km s-min=77.9km az=152.0,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	4.37	47	⇓P	Pn	11 55 08.3	+0.1
	3.2nm,0.3s						
SFK				⇓S	Sn	11 56 02.7	+2.6
	2.5nm,0.3s						
KK31	Karatay Array	6.08	8	⇓P	Pn	11 55 33.5	+2.0
	0.4nm,0.3s,baz=190,slow=12,SNR=11						
AAK	Ala-Archa	6.81	34	⇓P	Pn	11 55 39.1	-2.6
	1.4nm,0.7s						
AAK				⇓S	Sn	11 56 59.0	-1.0
	1.8nm,0.7s						

IDC 08 12:09:19.5±1.9**,9°.62S**×**124°.24E,h0**km**,mb3.2**/1**, mb1 3.4**/4**,mb1mx3.3**/36**,mbtmp3.3**/4**,ML3.1**/3**,Error ellipse: s-maj=30.9km s-min=22.9km az=122.0,Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	0.81	224	Pn	Pn	12 09 37.9	-0.3
	25nm,0.3s,baz=104,slow=1.6,SNR=16						
BATI				Sn	Sn	12 09 52.0	+1.0
	11nm,0.3s,baz=132,slow=19,SNR=6.1						
FITZ	Fitzroy Crossi	8.54	171	Pn	Pn	12 11 25.2	+0.8
	0.3nm,0.3s,baz=348,slow=9.5,SNR=18						
FITZ				Sn	Sn	12 12 55.5	-6.0
	0.2nm,0.3s,baz=307,slow=20,SNR=2.8						
WRA	Warramunga Arr	14.16	138	Pn	Pn	12 12 41.1	-0.4
	0.1nm,0.3s,baz=317,slow=14,SNR=12						
WRA				Sn	Sn	12 15 07.5	-12
	0.0nm,0.3s,baz=310,slow=25,SNR=3.0						
ASAR	Alice Springs	16.75	148	Pn	Pn	12 13 15.7	0.0
	0.1nm,0.3s,baz=320,slow=12,SNR=6.3						
MKAR	Makanchi Array	67.46	330	P	P	12 20 17.5	+0.3
	0.2nm,0.6s,baz=123,slow=5.3,SNR=2.1						

*NIED **08** 12:11:00,36°.90N×141°.40E,h5km,Mw3.5 Best double couple: Mo1.69000×10^14 NP1:φs18.00000°,δ25.00000°, λ-97.00000°. NP2:φs205.00000°,δ66.00000°, λ-87.00000°.*

*ISCJB **08** 12:11:13.9±1.2,36°.96N±0°.04×141°.42E±0°.06,h16km±8km, mb3.3/5,MS3.7/1,Error ellipse: s-maj=9.4km s-min=5.9km az=36.9*

*IDC **08** 12:11:13.8±1.4,37°.08N×141°.36E,h0km,mb3.4/5, mb1 3.5/8,mb1mx3.4/54,mbtmp3.4/8,ML3.1/3,MS2.7/3, Ms1 2.7/3,ms1mx2.5/24,Error ellipse: s-maj=31.2km s-min=22.7km az=103.0*

*JMA **08** 12:11:14.5±0.1,36°.92N×141°.36E,h29km±1km,M3.5*

ISC 08 12:11:13.2±1.8**,36°.98N**±0°.05×**141°.42E**±0°.06**,h4**km±10km**, n22,**σ1s**36**/28**,mb3.5**/5**,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.51	284	P	Pb	12 11 24.2	-0.6
ONAJ				S	Sb	12 11 31.6	-1.0
JFK	Kawauchi	0.58	312	P	Pb	12 11 26.0	0.0
JFK				S	Sb	12 11 33.9	-0.7
JFFD	Fukushimafurud	0.69	280	P	Pg	12 11 27.0	+0.4
JFFD				S	Sg	12 11 35.9	+0.3
JHO	Hitachi	0.77	242	P	Pg	12 11 27.8	-0.3
JHO				S	Sg	12 11 37.7	-0.4
JMM	Marumori	1.02	331	P	Pn	12 11 33.2	-1.0
JMM				S	Sb	12 11 46.5	-0.6
JFT	Otama	1.02	302	P	Pg	12 11 32.9	+0.1
JFT				S	Sb	12 11 46.7	-0.4
JFY	Yanaizu	1.43	288	P	Pn	12 11 39.2	-0.8
JFY				S	Sn	12 11 57.3	-2.0
JIO	Ouri	1.48	358	P	Pb	12 11 40.3	-0.9
JIO				S	Sb	12 11 59.1	-1.2
MJAR	Matsushiro Arr	2.61	261	Pn	Pn	12 11 56.1	-0.1
	4.3nm,0.3s,baz=90,slow=14,SNR=30						
MJAR				Sn	Sn	12 12 28.1	-0.3
	5.7nm,0.3s,baz=83,slow=16,SNR=4.3						
MAT	Matsushiro	2.62	261	P	Pn	12 11 57.6	+1.4
MAT				S	Sn	12 12 27.7	-0.7
JHJ	Hachijo jima 2	4.08	200	Pn	Pn	12 12 17.4	+1.1
	5.7nm,0.3s,baz=72,slow=20,SNR=6.6						
JHJ				Sn	Sn	12 13 00.1	-4.3
	5.5nm,0.3s,baz=79,slow=19,SNR=2.7						
JHJ				LR	LR	12 13 34.7	
	comp=Z,33nm,20.2s,baz=89,slow=34						
ASAJ	Asahikawa	7.19	7	Pn	Pn	12 13 00.7	+1.6
	0.2nm,0.3s,baz=217,slow=20,SNR=2.9						
KSRS	Korea Array	10.78	277	LR	LR	12 17 56.6	
	comp=Z,15nm,21.7s,baz=15,slow=38						
SONM	Songino Array	27.82	304	P	P	12 17 04.6	+1.0
	0.2nm,0.7s,baz=103,slow=8.6,SNR=3.4						
H11S1	WAKE ISLAND Hy	28.83	123	T	T	12 47 24.7	
	baz=315,slow=76,SNR=92						
H11S3	WAKE ISLAND Hy	28.83	123	T	T	12 47 22.6	
	baz=315,slow=76,SNR=80						
H11S2	WAKE ISLAND Hy	28.84	123	T	T	12 47 25.4	
	baz=315,slow=76,SNR=62						
ZALV	Zalesovo Beam	41.95	312	P	P	12 19 05.1	+0.2
	0.6nm,0.5s,baz=93,slow=7.2,SNR=2.1						
MKAR	Makanchi Array	44.15	302	P	P	12 19 22.9	+0.1
	0.5nm,0.7s,baz=86,slow=9.4,SNR=3.1						
ILAR	Eielson Array	49.54	32	P	P	12 20 04.4	-0.3
	0.3nm,0.8s,baz=272,slow=6.2,SNR=4.5						
WRA	Warramunga Arr	57.01	188	P	P	12 21 02.9	+2.8
	0.2nm,0.3s,baz=5.5,slow=7.4,SNR=4.9						
MMAI	Mount Meron Ar	82.00	305	LR	LR	13 03 35.1	
	comp=Z,34nm,18.4s,baz=65,slow=38						

*IDC **08** 12:14:12.9±1.6,10°.50S×119°.92E,h0km,mb3.7/3, mb1 3.7/6,mb1mx3.5/34,mbtmp3.6/6,ML3.5/3,Error ellipse: s-maj=60.3km s-min=21.9km az=53.0*

ISC 08 12:14:18.2±1.2**,10°.4S**±0°.1×**120°.60E**±0°.10**,h31**km**,n10, **σ**3s97**/10**,mb3.7**/3**,Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	3.02	86	Pn	Pb	12 15 11.4	+0.1
	7.7nm,0.3s,baz=334,slow=0.9,SNR=5.9						
BATI				Sn	Sb	12 15 49.4	+1.6
	13nm,0.3s,baz=171,slow=5.0,SNR=6.1						
FITZ	Fitzroy Crossi	9.06	148	Pn	Pn	12 16 27.9	+0.9
	0.3nm,0.3s,baz=324,slow=14,SNR=19						
FITZ				Sn	Sn	12 18 04.5	-3.4
	0.8nm,0.3s,baz=357,slow=22,SNR=8.9						
WRA	Warramunga Arr	16.28	127	Pn	Pn	12 18 06.0	+1.3
	0.1nm,0.3s,baz=297,slow=13,SNR=8.2						
WRA				Sn	Sn	12 20 56.2	-8.3
	0.1nm,0.3s,baz=292,slow=20,SNR=3.9						
ASAR	Alice Springs	18.29	138	P	Pn	12 18 32.0	+2.3
	0.1nm,0.3s,baz=312,slow=12,SNR=6.9						
STKA	Stephens Creek	28.86	141	P	P	12 20 17.9	+3.9
	2.9nm,1.0s,baz=293,slow=15,SNR=3.0						
H08S2	Diego Garcia H	47.56	269	T	T	13 13 11.7	
	baz=98						
H08S3	Diego Garcia H	47.57	269	T	T	13 13 12.4	
	baz=98						
H08S1	Diego Carcia H	47.58	269	T	T	13 13 15.1	
	baz=98						
SONM	Songino Array	59.36	349	P	P	12 24 16.5	-1.0
	0.3nm,0.5s,baz=153,slow=7.6,SNR=4.0						
MKAR	Makanchi Array	66.44	332	P	P	12 25 02.4	-2.1
	0.2nm,0.5s,baz=144,slow=5.7,SNR=4.6						

*ISCJB **08** 12:23:28.4±0.7,55°.41N±0°.02×134°.80W±0°.05,h9km±5km, mb2.9/1,Error ellipse: s-maj=5.2km s-min=2.7km az=147.8*

*IDC **08** 12:23:29.6±1.3,55°.36N×134°.77W,h0km,mb3.0/1, mb1 3.4/6,mb1mx3.2/39,mbtmp3.3/6,ML2.9/5,Error ellipse: s-maj=21.8km s-min=13.4km az=53.0*

*NEIC **08** 12:23:31.3±0.0,55°.39N×134°.79W,h20km,ML4.0(OTT), After AEIC.*

*PGC **08** 12:23:31.6±3.2,55°.29N×134°.78W,h10km,ML4.0/9, 198km Sse of Sitka, Ak Southeastern Alaska*

ISC 08 12:23:30.0±1.8**,55°.39N**±0°.04×**134°.73W**±0°.05**,h7**km±12km**, n68,**σ**1s69**/104**,Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRAG	Craig	0.92	85	*e*Pg	Pn	12 23 49.1	-0.3
CRAG				*e*Sg	Sg	12 24 00.3	+0.7
WRAK	Wrangell Islan	1.69	52	*e*Pn	Pb	12 24 01.8	+0.3
WRAK				*e*Sn	Sn	12 24 22.5	+0.6
SIT	Sitka	1.70	349	*e*Pn	Pn	12 23 59.4	-0.7
SIT				*e*Sn	Sn	12 24 20.4	-1.7
NDB	Naden	1.78	143	P	Pn	12 24 01.1	-0.1
NDB				S	Sb	12 24 25.7	+0.2
NDB	Naden	1.78	143	Pn	Pn	12 24 00.9	-0.3
MASB	Masset	2.09	130	*e*Pn	Pn	12 24 02.5	-3.0
MASB	Masset	2.09	130	Pn	Pn	12 24 02.5	-3.0
DIB	Dawson Inlet,	2.56	148	*e*Pn	Pn	12 24 12.1	+0.2
DIB				*e*Sn	Sn	12 24 41.1	-2.3
DIB	Dawson Inlet,	2.56	148	Pn	Pn	12 24 11.5	-0.4
DIB				Sn	Sn	12 24 41.9	-1.5
DIB				Sg	Sb	12 24 48.9	+0.9
H02S1	DAWSON INLET T	2.56	148	Pn	Pn	12 24 11.7	-0.2
H02S1				Sn	Sn	12 24 40.5	-2.9
MOBC	Moresby Island	2.78	143	*e*Pn	Pn	12 24 14.9	-0.1
MOBC				*e*Sn	Sn	12 24 47.7	-1.1
MOBC				*e*Sg	Sb	12 24 55.5	+1.3
MOBC	Moresby Island	2.78	143	Pn	Pn	12 24 14.9	-0.1
MOBC				Sn	Sn	12 24 47.7	-1.1
MOBC				Sg	Sb	12 24 55.5	+1.3
RUBB	Prince Rupert	2.80	111	*e*Pn	Pn	12 24 15.6	+0.4
RUBB				*e*Sg	Sg	12 24 59.6	-0.4
RUBB	Prince Rupert	2.80	111	Pn	Pn	12 24 15.6	+0.4
RUBB				Sg	Sg	12 24 59.6	-0.4
JIS	Juneau Island	2.90	4	*e*Pn	Pn	12 24 17.2	+0.7
JIS				*e*Sn	Sn	12 24 50.6	-0.9
HG1B	Mitchell Dam	2.90	147	Pn	Pn	12 24 16.4	-0.2
HG1B				Sg	Sb	12 24 59.8	+2.1
BESE	Bessie Mountai	3.19	359	*e*Pn	Pn	12 24 21.3	+0.6
BESE				*e*Sn	Sn	12 24 56.9	-2.2
BESE	Bessie Mountai	3.19	359	Pn	Pn	12 24 21.4	+0.7
BESE				Sg	Sg	12 25 13.3	+0.7
BNB	Barry Inlet	3.33	147	*e*Pn	Pn	12 24 22.5	-0.1
BNB	Barry Inlet	3.33	147	Pn	Pn	12 24 22.5	-0.1
DLBC	Dease Lake	3.99	38	Pn	Pn	12 24 32.8	+1.1
	0.5nm,0.3s,baz=202,slow=16,SNR=20						
DLBC				Sn	Sn	12 25 19.4	+0.6
	2.7nm,0.3s,baz=204,slow=20,SNR=4.9						
DLBC				Lg	Lg	12 25 33.6	
	3.3nm,0.3s,baz=244,slow=13,SNR=4.0						
DLBC	Dease Lake	3.99	38	*e*Pn	Pn	12 24 32.8	+1.1
DLBC				*e*Sn	Sn	12 25 17.6	-1.1
DLBC	Dease Lake	3.99	38	Pn	Pn	12 24 33.2	+1.5
DLBC				Sg	Sg	12 25 39.1	+0.9
SKAG	Skagway	4.09	356	*e*Pn	Pn	12 24 34.9	+1.9
PLBC	Pleasant Camp	4.17	348	Pn	Pn	12 24 35.7	+1.7
PLBC				Sn	Sn	12 25 23.7	+0.7
PLBC				Sg	Sg	12 25 43.7	-0.1
PNL	Peninsula	4.97	332	Pn	Pn	12 24 45.8	+0.8
BBB	Bella Bella	5.07	127	Pn	Pn	12 24 46.5	+0.1
	2.0nm,0.3s,baz=319,slow=5.6,SNR=26						
BBB				Sn	Sn	12 25 43.5	-1.7
	5.7nm,0.3s,baz=17,slow=5.9,SNR=8.0						
BBB				Lg	Lg	12 26 07.2	
	3.2nm,0.3s,baz=321,slow=18,SNR=3.9						
BBB	Bella Bella	5.07	127	*e*Pn	Pn	12 24 46.5	+0.1
BBB				*e*Sn	Sn	12 25 44.0	-1.2
BBB	Bella Bella	5.07	127	Pn	Pn	12 24 46.5	+0.1
BBB				Sn	Sn	12 25 43.6	-1.7
BBB				Sg	Sg	12 26 10.3	-2.5
WHY	Whitehorse	5.28	359	*e*Pn	Pn	12 24 50.5	+1.1
WHY				*e*Sn	Sn	12 25 48.3	-2.2
WHY	Whitehorse	5.28	359	Pn	Pn	12 24 50.7	+1.2
PCA	Pinnacle	5.56	330	*e*Pn	Pn	12 24 55.2	+1.9
PCA				*e*Sn	Sn	12 25 56.3	-1.1
PCA	Pinnacle	5.56	330	Pn	Pn	12 24 54.9	+1.6
HYT	Haines Junctio	5.64	346	*e*Pn	Pn	12 24 57.0	+2.7
HYT	Haines Junctio	5.64	346	Pn	Pn	12 24 56.5	+2.2
HYT				Sg	Sg	12 26 28.9	-2.1
YUK6	Outpost Mounta	5.89	342	Sn	Sn	12 26 05.1	-0.5
YUK5	Granite Creek	5.99	345	Pn	Pn	12 25 01.3	+2.2
FSB	Fort Saint Jam	6.07	94	Pn	Pn	12 25 02.4	+2.2
YUK4	Talbot Arm	6.31	343	Pn	Pn	12 25 06.5	+2.9
PHC	Port Hardy	6.43	134	Sn	Sn	12 26 15.2	-3.5
TLCB	Telegraph Cove	6.80	132	Pn	Pn	12 25 11.6	+1.4
BMBC	Bull Mountain	7.15	80	Sg	Sg	12 27 16.7	-2.6
WOSB	Woss	7.21	133	Pn	Pn	12 25 16.3	+0.5
NCRB	Newcastle Ridg	7.25	130	Pn	Pn	12 25 17.7	+1.3
FNBB	Fort Nelson	7.28	56	Pn	Pn	12 25 22.5	+5.8
FNBB				Sg	Sg	12 27 19.4	-3.9
BMRM	Bremner River	7.64	321	*e*Pn	Pn	12 25 18.2	-3.5
BMRM				*e*Sn	Sn	12 26 46.7	-1.8
KLU	Klutina	8.46	321	*e*Pn	Pn	12 25 35.7	+2.7
DAWY	Dawson	9.01	347	*e*Pn	Pn	12 25 42.9	+2.5
DAWY				*e*Sn	Sn	12 27 20.7	-1.3
DAWY	Dawson	9.01	347	Pn	Pn	12 25 41.4	+1.0
DAWY				Sn	Sn	12 27 19.9	-2.1
DAWY				Sg		12 28 16.0	
SEW	Seward	9.17	307	*e*Pn	Pn	12 25 41.9	-0.6
SCM	Sheep Creek Mo	9.20	320	*e*Pn	Pn	12 25 42.7	-0.4
KNK	Knik Glacier	9.38	316	*e*Pn	Pn	12 25 46.8	+1.3
KNK				*e*Sn	Sn	12 27 26.2	-5.0
SML	Sawmill	9.56	318	*e*Pn	Pn	12 25 49.3	+1.3
SML				*e*Sn	Sn	12 27 34.4	-1.2
BRLK	Bradley Lake	9.71	303	*e*Pn	Pn	12 25 48.8	-1.2
RC01	Rabbit Creek A	9.74	312	*e*Pn	Pn	12 25 50.7	+0.3
PMR	Palmer	9.75	315	*e*Pn	Pn	12 25 50.3	-0.3
PMR				*e*Sn	Sn	12 27 37.5	-2.7
GHO	Glory Hole Cre	9.77	317	*e*Pn	Pn	12 25 51.9	+1.0
KDAK	Kodiak Island	10.13	291	Pn	Pn	12 25 54.6	-1.2
	0.7nm,0.3s,baz=92,slow=13,SNR=10						
KDAK	Kodiak Island	10.13	291	*e*Pn	Pn	12 25 54.9	-0.8
RND	Reindeer	10.76	324	*e*Pn	Pn	12 26 01.4	-3.0
ILAR	Eielson Array	11.17	332	Pn	Pn	12 26 09.4	-0.5
	0.1nm,0.3s,baz=148,slow=12,SNR=10						
TRF	Thorofare Moun	11.28	322	*e*Pn	Pn	12 26 13.6	+1.9
PPLA	Purkeypile	11.66	317	*e*Pn	Pn	12 26 17.8	+1.0
CAST	Castle Rocks	11.91	319	*e*Pn	Pn	12 26 19.1	-1.0
BPAW	Bear Paw Mtn.	11.93	324	*e*Pn	Pn	12 26 21.1	+0.7
YKA	Yellowknife Ar	12.55	47	Pn	Pn	12 26 28.6	-0.2
	0.0nm,0.3s,baz=237,slow=12,SNR=2.9						
HLID	Hailey	17.65	124	*e*Pn	P	12 27 41.2	+3.7
	6.6nm,1.8s						
MKAR	Makanchi Array	73.51	334	P	P	12 35 05.2	+2.0
	0.1nm,0.7s,baz=20,slow=4.6,SNR=2.2						

*IDC **08** 12:40:21.2±1.9,52°.30N×132°.54W,h0km,mb3.3/2, mb1 3.4/7,mb1mx3.2/61,mbtmp3.1/7,ML2.9/5,Error ellipse: s-maj=31.5km s-min=18.2km az=54.0*

*PGC **08** 12:40:23.0±0.1,52°.44N×132°.48W,h27km,ML3.5/11, 100km southwest of Sandspit, Bc Haida Gwaii Region*

ISC 08 12:40:22.2±1.8**,52°.46N**±0°.05×**132°.40W**±0°.06**,h4**km±11km**, n25,**σ**1s16**/35**,Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNB	Barry Inlet	0.41	73	P	Pb	12 40 32.8	+0.7
BNB				S	Sb	12 40 39.2	+0.4
HG1B	Mitchell Dam	0.51	18	P	Pb	12 40 33.7	0.0
HG1B				S	Sb	12 40 41.5	+0.1
HG3B	Hotspring	0.59	78	P	Pb	12 40 35.4	+0.3
HG3B				S	Sb	12 40 44.3	+0.4
MOBC	Moresby Island	0.74	20	P	Pb	12 40 37.5	-0.2
MOBC				S	Sb	12 40 47.9	-0.2
DIB	Dawson Inlet,	0.75	356	P	Pg	12 40 36.8	+0.2
DIB				S	Sg	12 40 47.3	+1.0
H02S1	DAWSON INLET T	0.75	356	Pn	Pg	12 40 37.0	+0.4
H02S1				Sn	Sg	12 40 44.2	-2.1
HG4B	Hotspring	0.75	102	P	Pg	12 40 37.4	+0.7
HG4B				S	Sb	12 40 47.4	-1.1
NDB	Naden	1.54	348	P	Pn	12 40 48.4	-2.1
MASB	Masset	1.58	8	P	Pb	12 40 51.5	-0.4
RUBB	Prince Rupert	2.27	34	Pn	Pn	12 40 59.9	-0.6
RUBB				Sg	Sg	12 41 33.7	-1.4
BBB	Bella Bella	2.64	94	Pn	Pn	12 41 04.8	-0.8
	2.8nm,0.3s,baz=288,slow=11,SNR=33						
BBB				Sn	Sn	12 41 36.4	-1.7
	11nm,0.3s,baz=250,slow=20,SNR=4.7						
BBB	Bella Bella	2.64	94	Pn	Pn	12 41 04.6	-1.0
BBB				Sg	Sg	12 41 45.3	-1.7
PHC	Port Hardy	3.56	118	Pn	Pn	12 41 16.8	-1.4
PACB	Port Alice, BC	3.67	121	Pn	Pn	12 41 19.2	-0.6
TLCB	Telegraph Cove	3.97	117	Pn	Pn	12 41 23.2	-0.6
WOSB	Woss	4.32	120	Pn	Pn	12 41 28.6	-0.1
NCRB	Newcastle Ridg	4.47	115	Pn	Pn	12 41 30.1	-0.7
FSB	Fort Saint Jam	5.23	64	Pn	Pn	12 41 40.8	-0.4
DLBC	Dease Lake	6.14	12	Pn	Pn	12 41 56.8	+3.0

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.3nm,0.3s,baz=184,slow=13,SNR=5.7						
DLBC				Lg	Lg	12 43 29.6	
	0.2nm,0.3s,baz=228,slow=17,SNR=3.7						
DLBC	**Dease Lake**	**6.14**	**12**	Pn	**Pn**	**12 41 56.2**	**+2.4**
YKA	**Yellowknife Ar**	**13.83**	**36**	Pn	**Pn**	**12 43 38.7**	**-0.1**
	0.0nm,0.3s,baz=226,slow=12,SNR=6.0						
ILAR	**Eielson Array**	**14.42**	**334**	Pn	**Pn**	**12 43 47.1**	**+0.2**
	0.0nm,0.3s,baz=147,slow=9.9,SNR=2.9						
NVAR	**Mina Array Bea**	**17.11**	**139**	P	**Pn**	**12 44 22.9**	**+0.4**
	0.1nm,0.3s,baz=329,slow=12,SNR=2.3						
TXAR	**Lajitas Array**	**31.34**	**126**	P	**P**	**12 46 44.5**	**+0.7**
	0.3nm,0.8s,baz=332,slow=7.4,SNR=2.3						
MKAR	**Makanchi Array**	**76.77**	**336**	P	**P**	**12 52 14.1**	**-0.5**
	0.3nm,0.7s,baz=31,slow=4.4,SNR=3.6						

IDC 08 12:51:53.6±14.0**,15.04N×104.92W,h0km,mb3.2**/2**, mb1 3.7**/3**,mb1mx3.5**/37**,mbtmp3.2**/3**,ML3.0**/1**,MS2.9**/1**, Ms1 2.9**/1**,ms1mx2.5**/14**,Error ellipse: s-maj=398.0km s-min=106.2km az=119.0,Off coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	**6.85**	**304**	T	T	13 00 02.1	
	SNR=29						
LPIG	**La Paz**	**10.35**	**331**	LR	LR	12 56 58.8	
	comp=Z,73nm,19.8s,baz=134,slow=30						
TXAR	**Lajitas Array**	**14.27**	**4**	Pn	Pn	12 55 19.1	+1.8
	0.0nm,0.3s,baz=175,slow=12,SNR=6.9						
YKA	**Yellowknife Ar**	**47.89**	**354**	P	P	13 00 33.2	0.0
	0.2nm,0.8s,baz=168,slow=7.3,SNR=4.2						
ILAR	**Eielson Array**	**57.26**	**340**	P	P	13 01 42.5	-0.2
	0.3nm,0.9s,baz=155,slow=7.0,SNR=2.8						

*IDC **08** 12:55:16.2±1.2,31.01N×84.83E,h0km,mb3.2/6, mb1 3.5/8,mb1mx3.3/53,mbtmp3.3/8,ML3.6/2,Error ellipse: s-maj=40.0km s-min=20.1km az=63.0*

*ISCJB **08** 12:55:19.2±1.0,31.0N±0.1×84.8E±0.2,h33km,mb3.5/6, Error ellipse: s-maj=31.0km s-min=13.3km az=153.2*

ISC 08 12:55:21.3±1.2**,31.1N**±0.2×**84.9E**±0.2**,h35km,n9,**σ**1.04**/9**, mb3.5**/6**,Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.83**	**353**	Pn	**Pn**	**12 59 00.7**	**-0.7**
	0.0nm,0.3s,baz=176,slow=11,SNR=2.5						
CMAR	**Chiang Mai Arr**	**17.89**	**131**	P	**Pn**	**12 59 26.6**	**-0.8**
	0.3nm,0.3s,baz=319,slow=12,SNR=14						
KURBB	**Kurchatov Arra**	**20.10**	**348**	P	**P**	**12 59 50.5**	**-1.3**
	0.6nm,0.7s,baz=163,slow=10,SNR=4.7						
ZALV	**Zalesovo Beam**	**22.86**	**360**	P	**P**	**13 00 23.0**	**+1.5**
	0.4nm,0.4s,baz=198,slow=8.6,SNR=3.3						
SONM	**Songino Array**	**23.46**	**38**	P	**P**	**13 00 28.3**	**+0.6**
	0.4nm,0.8s,baz=235,slow=5.1,SNR=3.9						
KEST	**Kesra**	**61.77**	**297**	P	**P**	**13 05 37.1**	**+0.4**
	5.8nm,0.5s,baz=85,slow=6.3,SNR=4.2						
WRA	**Warramunga Arr**	**69.48**	**130**	P	**P**	**13 06 26.5**	**+0.1**
	0.3nm,0.6s,baz=326,slow=6.6,SNR=5.8						
ASAR	**Alice Springs**	**71.89**	**133**	P	**P**	**13 06 41.8**	**+0.7**
	0.3nm,0.5s,baz=322,slow=6.3,SNR=6.7						
YKA	**Yellowknife Ar**	**85.45**	**9**	P	**P**	**13 07 54.6**	**-0.4**
	0.1nm,0.4s,baz=348,slow=5.0,SNR=2.9						

*IDC **08** 12:57:44.3±3.3,35.12S×179.30W,h0km,mb3.9/2, mb1 4.1/3,mb1mx3.8/34,mbtmp3.8/3,ML3.4/1,MS2.7/1, Ms1 2.7/1,ms1mx2.4/31,Error ellipse: s-maj=76.3km s-min=36.9km az=123.0*

*ISCJB **08** 12:57:45.5±1.2,35.25S±0.09×178.9W±0.2,h35km, mb3.7/2,Error ellipse: s-maj=23.2km s-min=8.2km az=28.7*

*WEL **08** 12:57:47.2±1.1,35°S±12°×17°9W±1°5,h33km,ML4.2/14*

ISC 08 12:57:46.8±1.9**,35.3S**±0.1×**178.8W**±0.2**,h35km,n22,** σ**0.79**/31**,East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.24**	**224**	P	**Pn**	**12 58 34.9**	**-0.4**
MXZ				S	**Sn**	**12 59 11.8**	**-0.8**
WMGZ	**Waiomatatini S**	**3.37**	**220**	P	**Pn**	**12 58 37.6**	**+0.7**
WMGZ				S	**Sn**	**12 59 17.0**	**+1.3**
PKGZ	**Pakihiroa**	**3.60**	**223**	P	**Pn**	**12 58 39.9**	**-0.3**
PKGZ				S	**Sn**	**12 59 21.6**	**+0.1**
PUZ	**Puketiti**	**3.64**	**219**	P	**Pn**	**12 58 40.4**	**-0.3**
PUZ				S	**Sn**	**12 59 22.2**	**-0.3**
HAZ	**Te Kaha**	**3.68**	**227**	P	**Pn**	**12 58 41.4**	**+0.2**
HAZ				S	**Sn**	**12 59 25.3**	**+2.0**
TWGZ	**Tauwhareparae**	**3.86**	**220**	P	**Pn**	**12 58 44.2**	**+0.4**
TWGZ				S	**Sn**	**12 59 28.7**	**+0.7**
RUGZ	**Raukumara Rang**	**3.88**	**225**	P	**Pn**	**12 58 44.2**	**+0.1**
CNGZ	**Carnagh Statio**	**3.98**	**216**	P	**Pn**	**12 58 45.7**	**+0.3**
TKGZ	**Te Karaka**	**4.13**	**219**	P	**Pn**	**12 58 47.3**	**-0.1**
TKGZ				S	**Sn**	**12 59 34.0**	**-0.4**
MWZ	**Matawai**	**4.22**	**223**	P	**Pn**	**12 58 48.3**	**-0.5**
MWZ				S	**Sn**	**12 59 36.6**	**-0.2**
RIGZ	**Rimuhau**	**4.38**	**217**	P	**Pn**	**12 58 51.0**	**+0.2**
URZ	**Urewera**	**4.41**	**226**	Pn	**Pn**	**12 58 50.7**	**-0.6**
	2.0nm,0.3s,baz=36,slow=8.7,SNR=24						
URZ				Sn	**Sn**	**12 59 40.2**	**-1.2**
	3.1nm,0.3s,baz=9.5,slow=18,SNR=11						
URZ				LR	LR	13 00 40.3	
	comp=Z,92nm,19.6s,baz=53,slow=41						
URZ	**Urewera**	**4.41**	**226**	P	**Pn**	**12 58 50.6**	**-0.6**
PRGZ	**Paritu Road**	**4.49**	**215**	P	**Pn**	**12 58 52.5**	**+0.2**
OPRZ	**Ohinepanea**	**4.51**	**234**	P	**Pn**	**12 58 52.4**	**-0.2**
KUZ	**Kuaotunu**	**4.65**	**250**	P	**Pn**	**12 58 54.0**	**-0.5**
MHGZ	**Mahia Peninsul**	**4.66**	**213**	P	**Pn**	**12 58 55.4**	**+0.6**
MUGZ	**Murupara**	**4.75**	**226**	P	**Pn**	**12 58 55.1**	**-0.9**
MKAZ	**Moumakai**	**5.18**	**248**	P	**Pn**	**12 59 03.9**	**+2.0**
ASAR	**Alice Springs**	**42.38**	**273**	P	**P**	**13 05 37.7**	**-0.3**
	0.9nm,0.4s,baz=117,slow=7.3,SNR=29						
WRA	**Warramunga Arr**	**43.81**	**278**	P	**P**	**13 05 48.6**	**-0.9**
	0.7nm,0.5s,baz=118,slow=7.7,SNR=15						
FINES	**FINESS Array B**	**149.40**	**337**	PKPbc	**PKiKP**	**13 17 33.0**	**+0.7**
	4.9nm,1.1s,baz=46,slow=4.0,SNR=3.8						

*ISCJB **08** 13:01:02.9±0.8,52.5N±0.1×63.02E±0.10,h0km,mb3.5/1, Error ellipse: s-maj=16.4km s-min=5.2km az=155.0*

*IDC **08** 13:01:04.2±1.1,52.44N×63.00E,h0km,mb3.3/1, mb1 3.1/3,mb1mx2.9/59,mbtmp3.0/3,ML2.4/2,Error ellipse: s-maj=32.5km s-min=8.1km az=160.0*

*NNC **08** 13:01:05.7±1.7,52.34N×63.03E,h0km±9km,mb3.2, mpv2.8,Error ellipse: s-maj=34.1km s-min=5.6km az=149.0,Suspected Mining explosion.*

ISC 08 13:01:04.8±1.0**,52.5N**±0.1×**62.98E**±0.06**,h0km,n9,** σ**1.08**/13**,4C-6D,Western Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	**3.72**	**239**	Pn	**Pn**	**13 02 03.8**	**+0.3**
	0.2nm,0.3s,baz=101,slow=10,SNR=2.1						
AKTO				Pg	**Pb**	**13 02 11.6**	**+0.2**
	0.4nm,0.3s,baz=55,slow=14,SNR=3.7						
AKTO				Sn	**Sn**	**13 02 47.6**	**-0.3**
	0.2nm,0.3s,baz=107,slow=16,SNR=1.7						
AKTO				Lg	Lg	13 02 60.0	
	0.6nm,0.3s,baz=169,slow=20,SNR=8.8						
AKTO	**Aktyubinsk**	**3.72**	**239**	⇓Pg	**Pb**	**13 02 12.1**	**+0.7**
	3.2nm,0.9s						
AKTO				⇑Lg	Lg	13 03 01.0	
	5.5nm,0.7s						
I31KZ	**AKTYUBINSK INF**	**3.73**	**238**	*i*		13 23 30.0	
	baz=52,slow=336,SNR=0.5						
AB31	**Akbulak array**	**3.76**	**212**	⇓Pn	**Pn**	**13 02 04.9**	**+0.9**
AB31				⇑Pg	**Pb**	**13 02 12.7**	**+0.7**
	0.3nm,0.3s						
AB31				⇑Sn	**Sn**	**13 02 48.1**	**-0.8**
	0.5nm,0.3s						
AB31				⇓Lg	Lg	13 03 00.4	
	5.0nm,0.5s						
BRVK	**Borovoye**	**4.47**	**80**	⇑Pg	**Pg**	**13 02 28.7**	**-1.8**
	1.2nm,0.5s						
BRVK				⇓Lg	Lg	13 03 28.0	
	2.7nm,0.7s						
BVA0	**Borovoye Array**	**4.53**	**80**	⇓Pg	**Pb**	**13 02 27.0**	**+1.8**
	2.0nm,0.9s,baz=271,slow=11,SNR=13						
BVA0				Sn	**Sn**	**13 03 09.4**	**+1.3**
	1.3nm,0.6s,baz=72,slow=42,SNR=5.5						
BVA0				⇓Lg	Lg	13 03 28.5	
	3.7nm,1.0s,baz=266,slow=30,SNR=3.6						
BVAR	**Borovoye Array**	**4.53**	**80**	Pn	**Pn**	**13 02 13.8**	**-0.9**
	0.4nm,0.3s,baz=270,slow=12,SNR=10						
BVAR				Sn	**Sn**	**13 03 08.1**	**+0.1**
	0.4nm,0.3s,baz=225,slow=38,SNR=4.1						
BVAR				Lg	Lg	13 03 29.1	
	0.5nm,0.3s,baz=267,slow=30,SNR=2.7						
I46RU	**ZALESOVO INFRA**	**13.16**	**75**	*i*		14 19 50.0	
	baz=266,slow=374,SNR=1.4						
FINES	**FINESS Array B**	**21.75**	**309**	P	**P**	**13 05 57.8**	**+0.3**
	1.7nm,0.8s,baz=104,slow=12,SNR=6.1						

*IDC **08** 13:20:23.9±1.5,55.16N×135.41W,h0km,mb3.4/4, mb1 3.6/5,mb1mx3.4/34,mbtmp3.4/5,ML2.9/1,Error ellipse: s-maj=34.0km s-min=22.0km az=50.0*

*NEIC **08** 13:20:24.7±0.0,55.37N×134.88W,h20km,ML3.4(AEIC), ML3.7(OTT),After AEIC.*

*PGC **08** 13:20:25.5±9.0,55.29N×134.71W,h10km,ML3.7/9, 199km Sse of Sitka, Ak Southeastern Alaska*

ISC 08 13:20:24.1±2.0**,55.36N**±0.04×**134.78W**±0.06**,h2km**±12km**, n41,**σ**1.71**/61**,Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRAG	**Craig**	**0.95**	**83**	P	**Pg**	**13 20 43.0**	**+0.6**
CRAG				S	**Sb**	**13 20 56.2**	**-0.1**
SIT	**Sitka**	**1.73**	**350**	P	**Pn**	**13 20 53.3**	**-1.9**
SIT				S	**Sn**	**13 21 13.9**	**-3.9**
NDB	**Naden**	**1.77**	**142**	Pn	**Pn**	**13 20 54.9**	**-0.8**
NDB				Sn	**Sn**	**13 21 18.1**	**-0.5**
MASB	**Masset**	**2.09**	**129**	Pn	**Pb**	**13 21 03.0**	**+0.3**
DIB	**Dawson Inlet,**	**2.55**	**147**	Pn	**Pn**	**13 21 05.5**	**-0.9**
DIB				Sg	**Sb**	**13 21 41.2**	**-0.9**
H02S1	**DAWSON INLET T**	**2.55**	**147**	Pn	**Pn**	**13 21 05.5**	**-0.8**
H02S1				Sn	**Sn**	**13 21 35.8**	**-2.0**
H02S1				Lg	Lg	13 21 42.1	
	SNR=507						
MOBC	**Moresby Island**	**2.76**	**142**	Pn	**Pn**	**13 21 08.8**	**-0.6**
MOBC				Sg	**Sb**	**13 21 49.2**	**+0.7**
RUBB	**Prince Rupert**	**2.82**	**110**	Pn	**Pn**	**13 21 09.6**	**-0.5**
RUBB				Sg	**Sb**	**13 21 52.0**	**+2.1**
HG1B	**Mitchell Dam**	**2.88**	**146**	Pn	**Pn**	**13 21 10.2**	**-0.8**
HG1B				Sg	**Sb**	**13 21 51.9**	**0.0**
JIS	**Juneau Island**	**2.94**	**4**	P	**Pn**	**13 21 12.2**	**+0.5**
JIS				S	**Sn**	**13 21 46.4**	**-1.0**
BESE	**Bessie Mountai**	**3.23**	**359**	Pn	**Pn**	**13 21 15.5**	**-0.3**
BESE				Sn	**Sn**	**13 21 53.9**	**-0.9**
BNB	**Barry Inlet**	**3.31**	**146**	P	**Pn**	**13 21 16.4**	**-0.5**
BNB	**Barry Inlet**	**3.31**	**146**	Pn	**Pn**	**13 21 15.8**	**-1.2**
BNB				Sg	**Sb**	**13 22 05.8**	**+1.6**
HG3B	**Hotspring**	**3.41**	**143**	Pn	**Pn**	**13 21 18.4**	**+0.2**
HG3B				Sg	**Sb**	**13 22 08.2**	**+1.1**
HG4B	**Hotspring**	**3.73**	**144**	Pn	**Pn**	**13 21 23.1**	**+0.4**
HG4B				Sg	**Sb**	**13 22 18.3**	**+2.0**
DLBC	**Dease Lake**	**4.04**	**38**	P	**Pn**	**13 21 27.4**	**+0.5**
DLBC	**Dease Lake**	**4.04**	**38**	Pn	**Pn**	**13 21 27.5**	**+0.5**
DLBC				Sg	**Sg**	**13 22 32.4**	**-1.4**
PLBC	**Pleasant Camp**	**4.20**	**349**	P	**Pn**	**13 21 29.5**	**+0.5**
PLBC	**Pleasant Camp**	**4.20**	**349**	Pn	**Pn**	**13 21 29.2**	**+0.1**
PNL	**Peninsula**	**4.99**	**332**	Pn	**Pn**	**13 21 39.5**	**-0.4**
BBB	**Bella Bella**	**5.07**	**126**	P	**Pn**	**13 21 41.3**	**+0.3**
BBB				S	**Sn**	**13 22 37.1**	**-2.9**
BBB	**Bella Bella**	**5.07**	**126**	Pn	**Pn**	**13 21 41.7**	**+0.7**
BBB				Sn	**Sn**	**13 22 37.2**	**-2.9**
WHY	**Whitehorse**	**5.32**	**359**	P	**Pn**	**13 21 44.8**	**+0.2**
WHY	**Whitehorse**	**5.32**	**359**	Pn	**Pn**	**13 21 44.7**	**+0.2**
WHY				Sn	**Sn**	**13 22 44.3**	**-2.0**
WHY				Sg	**Sg**	**13 23 13.1**	**-1.7**
YUK7	**Dusty Glacier**	**5.49**	**342**	Pn	**Pn**	**13 21 45.1**	**-1.8**
YUK7				Sn	**Sn**	**13 22 48.0**	**-2.6**
PCA	**Pinnacle**	**5.58**	**331**	P	**Pn**	**13 21 49.1**	**+0.9**
HYT	**Haines Junctio**	**5.67**	**346**	Pn	**Pn**	**13 21 50.8**	**+1.4**
YUK6	**Outpost Mounta**	**5.91**	**343**	Pn	**Pn**	**13 21 52.7**	**-0.2**
YUK6				Sn	**Sn**	**13 22 59.5**	**-1.7**
YUK5	**Granite Creek**	**6.01**	**346**	Pn	**Pn**	**13 21 55.3**	**+1.1**
FSB	**Fort Saint Jam**	**6.09**	**94**	Pn	**Pn**	**13 21 55.8**	**+0.7**
YUK4	**Talbot Arm**	**6.34**	**343**	Pn	**Pn**	**13 22 00.9**	**+2.3**
PACB	**Port Alice, BC**	**6.61**	**135**	Sn	**Sn**	**13 23 12.3**	**-5.7**
TLCB	**Telegraph Cove**	**6.80**	**132**	Pn	**Pn**	**13 22 05.4**	**+0.7**
BMBC	**Bull Mountain**	**7.19**	**79**	Sg	**Sg**	**13 24 13.0**	**-1.7**
FNBB	**Fort Nelson**	**7.32**	**56**	Pn	**Pn**	**13 22 14.8**	**+2.8**
FNBB				Sg	**Sg**	**13 24 15.4**	**-3.5**
DAWY	**Dawson**	**9.04**	**347**	Pn	**Pn**	**13 22 36.7**	**+1.2**
DAWY				Sg	Sn	13 25 07.8	+50
YKA	**Yellowknife Ar**	**12.60**	**47**	Pn	**Pn**	**13 23 26.8**	**+2.8**
	0.1nm,0.3s,baz=241,slow=12,SNR=5.9						
PDAR	**Pinedale Array**	**20.64**	**117**	P	Pn	13 25 08.2	+1.0
	0.4nm,0.7s,baz=306,slow=6.8,SNR=4.3						
TXAR	**Lajitas Array**	**34.21**	**127**	P	**P**	**13 27 13.5**	**+2.5**
	0.2nm,0.6s,baz=338,slow=6.8,SNR=2.1						
ZALV	**Zalesovo Beam**	**66.29**	**336**	P	**P**	**13 31 13.5**	**+0.2**
	0.8nm,0.6s,baz=17,slow=6.6,SNR=3.7						
MKAR	**Makanchi Array**	**73.53**	**334**	P	**P**	**13 31 58.3**	**+0.3**
	0.4nm,0.6s,baz=40,slow=6.4,SNR=6.2						

MAN 08 13:26:37.2,8.58N×125.84E,h69km,mb3.5,ML2.2,MS1.6, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.44**	**331**	*e*P	Pn	13 26 51.2	+1.8
BUTP				*e*S	Sn	13 27 01.9	+3.6
BIPH	**Bislig**	**0.65**	**127**	⇑*e*P	Pn	13 26 52.5	+1.0
BIPH				*e*S	Sn	13 27 03.2	+1.2
BUKP	**Musuan**	**1.03**	**228**	*e*P	Pn	13 26 56.9	+0.7
BUKP				*e*S	Sn	13 27 27.9	+18

*ISCJB **08** 13:33:46.3±0.8,10.59S±0.09×161.7E±0.1,h61km, mb3.6/7,Error ellipse: s-maj=19.2km s-min=8.6km az=142.6*

*IDC **08** 13:33:52.9±2.4,10.47S×161.38E,h102km±17km,mb3.4/7, mb1 3.6/8,mb1mx3.5/36,mbtmp3.8/8,Error ellipse: s-maj=26.7km s-min=20.6km az=75.0*

ISC 08 13:33:47.4±0.8**,10.6S**±0.1×**161.7E**±0.1**,h61km,n10,** σ**1.69**/12**,mb3.6**/7**,Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.10**	**303**	P	**Pn**	**13 34 22.4**	**+2.2**
	54nm,0.3s,baz=164,slow=7.0,SNR=36						
HNR				S	**Sn**	**13 34 44.9**	**-0.4**
	73nm,0.3s,baz=172,slow=22,SNR=21						
HNR	**Honiara**	**2.10**	**303**	*e*S	**Sn**	**13 34 46.0**	**+0.7**
DZM	**Mont Dzumac**	**12.28**	**159**	P	**P**	**13 36 47.8**	**-2.1**
	0.5nm,0.3s,baz=38,slow=5.9,SNR=14						
DZM				S	**Sn**	**13 38 58.2**	**+3.4**
	0.1nm,0.3s,baz=324,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	**27.98**	**247**	P	**P**	**13 39 32.4**	**-0.2**
	0.3nm,0.6s,baz=77,slow=9.1,SNR=5.1						
ASAR	**Alice Springs**	**29.53**	**240**	P	**P**	**13 39 45.5**	**-0.9**
	0.5nm,1.0s,baz=63,slow=9.9,SNR=3.5						
CMAR	**Chiang Mai Arr**	**68.33**	**295**	P	**P**	**13 44 41.2**	**-1.6**
	0.5nm,0.6s,baz=132,slow=5.9,SNR=4.1						
SONM	**Songino Array**	**76.00**	**325**	P	**P**	**13 45 28.1**	**-0.1**
	1.7nm,0.7s,baz=144,slow=6.5,SNR=8.2						
ILAR	**Eielson Array**	**84.37**	**20**	P	**P**	**13 46 13.3**	**+0.6**
	0.4nm,0.8s,baz=235,slow=4.7,SNR=4.4						
MKAR	**Makanchi Array**	**90.51**	**318**	P	**P**	**13 46 41.9**	**-0.8**
	0.6nm,0.5s,baz=95,slow=6.5,SNR=9.6						
YKA	**Yellowknife Ar**	**96.39**	**28**	P	**P**	**13 47 09.9**	**+0.6**
	0.1nm,0.5s,baz=261,slow=4.0,SNR=3.3						

*SJA **08** 13:38:19.7±0.9,24.26S×67.19W,h194km±9km,ML2.5, MW2.2*

*ISCJB **08** 13:38:20.3±0.7,24.19S±0.06×67.27W±0.05,h191km±9km, mb3.1/1,Error ellipse: s-maj=10.1km s-min=5.8km az=29.6*

*GUC **08** 13:38:22.6±0.6,24.07S×67.64W,h210km±8km,ML4.1*

*IDC **08** 13:38:26.2±11.0,23.66S×66.47W,h194km±86km,mb2.9/1, mb1 3.2/2,mb1mx2.9/17,mbtmp3.6/2,Error ellipse: s-maj=138.6km s-min=87.4km az=57.0*

ISC 08 13:38:20.6±1.1**,24.19S**±0.06×**67.22W**±0.05**,h187km**±9km**, n35,**σ**1.23**/58**,2C,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.65**	**109**	*i* P	**Pn**	**13 38 55.0**	**+0.3**
SLA				IAML		13 38 55.9	
	comp=Z,53nm,0.7s						
HJA	**Humahuaca**	**1.92**	**60**	*i* P	**Pn**	**13 38 58.2**	**+0.4**
HJA				IAML		13 39 00.4	
	comp=Z,16nm,0.4s						
AZAP	**Zapla**	**1.96**	**91**	*i* P	**Pn**	**13 38 58.0**	**0.0**
AZAP				IAML		13 38 59.1	
	comp=Z,44nm,0.4s						
FSA	**Cafayete**	**2.21**	**150**	*i* P	**Pn**	**13 39 00.5**	**-0.1**
FSA				IAML		13 39 00.8	
	comp=Z,18nm,0.4s						
LVC	**Limon Verde**	**2.22**	**315**	*i* P	**Pn**	**13 39 02.0**	**+1.1**
LVC				*e*S	**Sn**	**13 39 33.0**	**+0.9**
LVC	**Limon Verde**	**2.22**	**315**	*e*P	**Pn**	**13 39 02.0**	**+1.1**
LVC				*i* S	**Sn**	**13 39 32.2**	**0.0**
PB15	**IPOC Station P**	**2.29**	**295**	*e*P	**Pn**	**13 39 02.5**	**+1.0**
PB15				*e*S	**Sn**	**13 39 33.3**	**0.0**
PB15	**IPOC Station P**	**2.29**	**295**	⇑*e*P	**Pn**	**13 39 02.5**	**+1.0**
PB15				*e*S	**Sn**	**13 39 32.8**	**-0.5**
PB15				IAML		13 39 36.2	
	comp=E,2μm,0.2s						
YJA	**Yavi**	**2.55**	**38**	*i* P	**Pn**	**13 39 05.9**	**+1.2**
YJA				IAML		13 39 06.9	
	comp=Z,3.1nm,0.6s						
PB06	**IPOC Station P**	**2.62**	**304**	*i* P	**Pn**	**13 39 06.2**	**+0.9**
PB06				*e*S	**Sn**	**13 39 39.5**	**-0.6**
PB06	**IPOC Station P**	**2.62**	**304**	⇑*e*P	**Pn**	**13 39 06.2**	**+0.9**
PB06				*e*S	**Sn**	**13 39 39.3**	**-0.8**
PB06				IAML		13 39 40.2	
	comp=N,549nm,0.2s						
PB14	**IPOC Station P**	**2.94**	**261**	*e*S	**Sn**	**13 39 45.0**	**-2.0**
ALOL	**LOMAS DE OLMED**	**2.98**	**83**	*i* P	**Pn**	**13 39 09.4**	**0.0**
PB09	**IPOC Station P**	**3.03**	**322**	*e*P	**Pn**	**13 39 11.8**	**+1.6**
PB09				*i* S	**Sn**	**13 39 49.5**	**+0.7**
PB09	**IPOC Station P**	**3.03**	**322**	*e*P	**Pn**	**13 39 11.8**	**+1.6**
PB09				*e*S	**Sn**	**13 39 48.9**	**+0.1**
PB05	**IPOC Station P**	**3.05**	**295**	*e*P	**Pn**	**13 39 10.8**	**+0.5**
PB05				*i* S	**Sn**	**13 39 47.6**	**-1.5**
PB05	**IPOC Station P**	**3.05**	**295**	*e*P	**Pn**	**13 39 10.7**	**+0.5**
PB05				*e*S	**Sn**	**13 39 46.8**	**-2.3**
PB05				IAML		13 39 50.9	
	comp=N,204nm,0.4s						
PB10	**IPOC Station P**	**3.13**	**282**	*e*P	**Pn**	**13 39 11.8**	**+0.7**
PB10				*e*S	**Sn**	**13 39 49.1**	**-1.6**
PB10	**IPOC Station P**	**3.13**	**282**	*e*P	**Pn**	**13 39 11.7**	**+0.6**
PB10				*e*S	**Sn**	**13 39 48.6**	**-2.0**
PB03	**IPOC Station P**	**3.17**	**312**	*e*P	**Pn**	**13 39 12.4**	**+0.6**
PB03				*e*S	**Sn**	**13 39 50.9**	**-0.7**
PB03	**IPOC Station P**	**3.17**	**312**	*e*P	**Pn**	**13 39 12.3**	**+0.6**
PB03				*i* S	**Sn**	**13 39 50.2**	**-1.5**
PB04	**IPOC Station P**	**3.27**	**304**	*e*P	**Pn**	**13 39 13.7**	**+0.7**
PB04				*e*S	**Sn**	**13 39 52.5**	**-1.5**
PB04	**IPOC Station P**	**3.27**	**304**	*e*P	**Pn**	**13 39 13.9**	**+0.8**
PB04				*e*S	**Sn**	**13 39 52.3**	**-1.7**
PB04				IAML		13 39 55.0	
	comp=N,206nm,0.2s						
PB07	**IPOC Station P**	**3.48**	**314**	*e*P	**Pn**	**13 39 16.1**	**+0.5**
PB07				*e*S	**Sn**	**13 39 57.2**	**-1.3**
PB07	**IPOC Station P**	**3.48**	**314**	*e*P	**Pn**	**13 39 16.1**	**+0.5**
PB07				*i* S	**Sn**	**13 39 56.8**	**-1.8**
PB01	**IPOC Station P**	**3.77**	**326**	*e*P	**Pn**	**13 39 19.4**	**+0.1**
PB01				*e*S	**Sn**	**13 40 03.1**	**-2.0**
PB01	**IPOC Station P**	**3.77**	**326**	*e*P	**Pn**	**13 39 19.3**	**+0.1**
PB01				*e*S	**Sn**	**13 40 03.4**	**-1.7**
PB02	**IPOC Station P**	**3.78**	**319**	*e*P	**Pn**	**13 39 19.4**	**+0.1**
PB02				*e*S	**Sn**	**13 40 03.4**	**-1.9**
PB02	**IPOC Station P**	**3.78**	**319**	*e*P	**Pn**	**13 39 19.4**	**+0.1**
PB02				*e*S	**Sn**	**13 40 03.4**	**-1.9**
PB08	**IPOC Station P**	**4.42**	**336**	*e*P	**Pn**	**13 39 28.8**	**+1.2**
PB11	**IPOC Station P**	**4.96**	**332**	*e*P	**Pn**	**13 39 33.5**	**-0.8**
MNMCX	**Minye Minye**	**5.50**	**336**	*e*P	**Pn**	**13 39 42.8**	**+1.2**
LPAZ	**La Paz**	**7.91**	**354**	P	**Pn**	**13 40 13.6**	**+0.2**
	comp=N,0.9nm,0.3s,baz=173,slow=9.6,SNR=14						
LPAZ				S	**Sn**	**13 41 39.2**	**-3.5**
	comp=N,0.1nm,0.3s,baz=162,slow=13,SNR=1.8						
TORD	**Torodi Ar. Bea**	**76.82**	**69**	P	**P**	**13 49 52.4**	**+0.3**
	comp=N,0.2nm,0.4s,baz=224,slow=6.0,SNR=2.5						
MKAR	**Makanchi Array**	**146.80**	**40**	PKPbc	**PKPbc**	**13 57 42.0**	**+1.5**
	comp=N,0.3nm,0.6s,baz=275,slow=4.5,SNR=4.0						

IDC 08 13:38:50.5±2.0**,0.76N×126.47E,h0km,mb3.0**/3**, mb1 3.2**/3**,mb1mx3.1**/34**,mbtmp3.0**/3**,Error ellipse: s-maj=174.6km s-min=25.2km az=65.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.97**	**160**	P	P	13 43 45.3	-0.9
	0.5nm,1.0s,baz=338,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**25.33**	**164**	P	P	13 44 19.9	+0.7
	0.1nm,0.3s,baz=345,slow=12,SNR=6.7						
MKAR	**Makanchi Array**	**59.85**	**326**	P	P	13 48 57.9	-0.1
	0.1nm,0.3s,baz=124,slow=7.3,SNR=2.9						

IDC 08 13:41:54.4±2.1**,0.87N×126.83E,h0km,mb3.0**/3**, mb1 3.2**/3**,mb1mx3.1**/34**,mbtmp3.0**/3**,Error ellipse: s-maj=178.4km s-min=25.7km az=66.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.96**	**161**	P	P	13 46 48.8	-1.1
	0.7nm,1.1s,baz=339,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**25.34**	**165**	P	P	13 47 24.0	+0.8
	0.3nm,0.8s,baz=346,slow=11,SNR=4.9						
MKAR	**Makanchi Array**	**59.96**	**326**	P	P	13 52 02.5	-0.1
	0.1nm,0.5s,baz=120,slow=8.5,SNR=2.9						

*BGR **08** 14:15:55.0±0.0,38.91N×25.89E,h33km,mb5.3*

*BJI **08** 14:16:06.4,39.87N×25.48E,h5km,mb5.5/74,mB5.8/49, Ms5.9/91,Ms7 5.8/81*

*ISCJB **08** 14:16:07.3±0.2,39.683N±0.007×25.514E±0.008, h8km±1km,mb5.7/416,MS5.8/576,Error ellipse: s-maj=1.3km s-min=1.0km az=27.4*

*GII **08** 14:16:07.8±0.0,39.66N×25.54E,h10km*

*IDC **08** 14:16:07.2±0.4,39.67N×25.57E,h0km,mb5.3/31, mb1 5.4/43,mb1mx5.3/47,mbtmp5.3/43,ML4.5/10, MS5.4/41,Ms1 5.4/41,ms1mx5.4/46,Error ellipse: s-maj=8.8km s-min=7.8km az=27.0*

*ISK **08** 14:16:07.2,39.65N×25.50E,h8km,ML6.2/32*

*MED_RC **08** 14:16:08.0±0.2,39.65N×25.60E,h10km,MW5.8/27, Moment Tensor Solution. Body waves: s5,c5;Mantle waves: s27,c64; Duration: 2.0 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.99±.14; $M_{\theta\theta}$6.82±.13; $M_{\phi\phi}$-4.83±.12; $M_{r\theta}$-1.60±.47; $M_{\theta\phi}$-3.64±.12; $M_{\phi r}$-0.78±.45; Best double couple: $M_0$7.13000×10^{17} NP1:ϕ_s62.00000°,δ84.00000°, λ-163.00000°. NP2:ϕ_s331.00000°,δ73.00000°, λ-6.00000°. Principal axes: T 8.0400, Plg8.0000°, Azm195.0000°; N -1.8200, Plg72.0000°, Azm81.0000°; P -6.2200, Plg16.0000°, Azm288.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s.*

*MOS **08** 14:16:08.1±1.0,39.70N×25.56E,h15km,mb5.9/95, MS5.7/110 Error ellipse: s-maj=3.3km s-min=2.3km az=107.2*

*ATH **08** 14:16:08.3,39.67N×25.56E,h31km,ML5.8/19,Error ellipse: s-maj=0.9km s-min=0.6km az=81.0*

*THE **08** 14:16:08.8,39.67N×25.55E,h8km,ML5.9/8,Error ellipse: s-maj=0.9km s-min=0.4km az=87.0*

*BEO **08** 14:16:08.9±0.5,39.69N×25.62E,h0km,ML5.9/5*

*PDG **08** 14:16:08.3±0.6,39.65N×25.55E,h18km±1km,MD5.2/6, ML5.2/10,Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*

*NEIC **08** 14:16:09.0±0.4,39.66N×25.54E,h13km±2km,mb5.7/296, MS5.8/299,MW5.7,MW5.7,MW5.7,ML5.8(ATH), ML5.9(THE),ML6.2(ISK),Error ellipse: s-maj=1.8km s-min=1.6km az=206.0,Moment Tensor Solution. s25 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.01; $M_{\theta\theta}$4.42; $M_{\phi\phi}$-4.41; $M_{r\theta}$0.18; $M_{\theta\phi}$-2.55; $M_{\phi r}$-1.20; Best double couple: $M_0$5.20000×10^{17} NP1:ϕ_s330.00000°,δ86.00000°, λ-12.00000°. NP2:ϕ_s61.00000°,δ78.00000°, λ-175.00000°. Principal axes: T 5.1500, Plg5.0000°, Azm16.0000°; N 0.1700, Plg77.0000°, Azm130.0000°; P -5.3300, Plg12.0000°, Azm284.0000°; Moment Tensor Solution. s37 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.12; $M_{\theta\theta}$4.44; $M_{\phi\phi}$-3.32; $M_{r\theta}$0.18; $M_{\theta\phi}$-2.14; $M_{\phi r}$-0.69; Best double couple: $M_0$4.60000×10^{17} NP1:ϕ_s60.00000°,*

δ79.00000°,λ-174.00000°. NP2:φs329.00000°, δ84.00000°,λ-11.00000°. Principal axes: T 5.0100, Plg3.0000°, Azm15.0000°; N -1.0000, Plg77.0000°, Azm119.0000°; P -4.0100, Plg12.0000°, Azm284.0000°;

NEIC Felt [V] at Mytilini and [IV] at Kavala, Greece. Felt [III] at Arnavutkoy, Bursa and Izmir; [II] at Esenyurt and Istanbul, Turkey. Felt [II] at Sofia, Bulgaria. Felt in parts of Bulgaria, Greece, Romania, Serbia and Turkey.

*JSO **08** 14:16:09.1±0.2,40°N±2°×2°6E±°,h10km,M5.9/31, mb5.8/31,Mjma5.8/27,MLv6.1/13*

*DDA **08** 14:16:09.4,39°68N×25°67E,h23km±4km,MW5.6*

*NEIC **08** 14:16:09.0±0.0,39°56N×25°57E,h11km,Moment Tensor Solution. s24 Moment tensor: Scale 10^17Nm; Mrr0.23; Mθθ3.78; Mφφ-4.01; Mrθ1.63; Mθφ-2.01; Mφr0.57; Best double couple: M0 4.70000×10^17 NP1:φs58.00000°, δ85.00000°,λ159.00000°. NP2:φs150.00000°,δ69.00000°, λ5.00000°. Principal axes: T 4.7400, Plg18.0000°, Azm11.0000°; N -0.0600, Plg68.0000°, Azm225.0000°; P -4.6800, Plg11.0000°, Azm105.0000°;*

*ROM **08** 14:16:09.0,39°64N×25°55E,h11km,Mw5.8*

*GCMT **08** 14:16:11.0±0.1,39°62N±0°01×25°61E±0°01,h15km, MW5.8/140,Moment Tensor Solution. s129,c233; s140,c404; Duration: 2s0 Moment tensor: Scale 10^17 Nm; Mrr-1.76±.05; Mθθ6.46±.06; Mφφ-4.70±.06; Mrθ-0.78±.12; Mθφ-3.50±.05; Mφr-0.16±.11; Best double couple: M0 6.63100×10^17 NP1:φs61.00000°,δ89.00000°, λ-173.00000°. NP2:φs331.00000°,δ83.00000°, λ-1.00000°. Principal axes: T 7.5210, Plg4.0000°, Azm196.0000°; N -1.7800, Plg83.0000°, Azm67.0000°; P -5.7410, Plg5.0000°, Azm286.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 08 14:16:09.6±0.4**,39°67N**±0°01×**25°54E**±0°01**,h11**km±2km**, h12**km**:pP-P,n2319,**σ**1s62**/2338**,mb5.8**/451**,MS5.8**/606**, 119C-134D,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIA	Limnos Island	0.36	310	P	Pg	14 16 16.1	-0.6
LIA				S	Sg	14 16 21.1	-0.3
LIA	Limnos Island	0.36	310	P	Pg	14 16 16.6	-0.1
LIA				S	Sb	14 16 22.7	-0.8
LIA				AML	AML	14 16 23.9	
LIA				AML	AML	14 16 26.1	
LIA	Limnos Island	0.36	310	P	Pg	14 16 16.6	-0.1
BOZC	Bozcaada	0.43	66	PG	Pg	14 16 16.9	-1.2
BOZC	Bozcaada	0.43	66	iS	Sg	14 16 22.3	-1.6
EFSA	Agios Efstrati	0.44	253	P	Pb	14 16 19.1	-0.3
EFSA				S	Sb	14 16 26.4	+0.4
EFSA				AML	AML	14 16 27.1	
EFSA				AML	AML	14 16 30.1	
GPNR	Gulpinar-Canak	0.51	115	PG	Pg	14 16 17.9	-1.6
GPNR				SG	Sg	14 16 25.8	-0.4
SIGR	SIGRI	0.52	152	PG	Pg	14 16 17.8	-1.9
SIGR				SG	Sg	14 16 25.5	-1.1
SIGR	SIGRI	0.52	152	ePg	Pg	14 16 18.8	-0.9
SIGR				eSg	Sg	14 16 26.9	+0.3
SIGR	SIGRI	0.52	152	P	Pg	14 16 18.6	-1.1
SIGR				S	Sg	14 16 26.6	0.0
SIGR				AML	AML	14 16 28.9	
SIGR				AML	AML	14 16 28.9	
SIGR	SIGRI	0.52	152	P	Pg	14 16 18.8	-0.9
SIGR				S	Sg	14 16 26.9	+0.3
GADA	Gvkgeada	0.59	28	PG	Pg	14 16 19.6	-1.5
GADA	Gvkgeada	0.59	28	ePg	Pg	14 16 19.7	-1.4
GADA	Gvkgeada	0.59	28	P	Pg	14 16 19.7	-1.4
GADA				S	Sg	14 16 27.9	-1.0
GOKC	Gokceada-Canak	0.61	29	PG	Pg	14 16 20.2	-1.2
GOKC				SG	Sg	14 16 29.5	+0.1
EZN	Ezine	0.63	75	PG	Pg	14 16 20.4	-1.4
EZN	Ezine	0.63	75	ePg	Pg	14 16 20.2	-1.6
EZN	Ezine	0.63	75	⇑iP	Pg	14 16 20.3	-1.6
EZN	Ezine	0.63	75	P	Pg	14 16 20.2	-1.6
EZN				S	Sg	14 16 28.5	-1.5
EZN	Ezine	0.63	75	eP	Pg	14 16 20.2	-1.6
PRK	Paraskevi	0.71	126	P	Pg	14 16 23.1	-0.3
PRK				S	Sg	14 16 32.5	0.0
PRK				AML	AML	14 16 37.3	
PRK				AML	AML	14 16 37.8	
PRK	Paraskevi	0.71	126	P	Pg	14 16 23.0	-0.3
PRK				S	Sb	14 16 33.8	+0.2
PRK	Paraskevi	0.71	126	P	Pg	14 16 23.0	-0.3
PRK				S	Sb	14 16 33.8	+0.2
BAYC	CANAKKALE_Bayr	0.78	84	⇓iP	Pg	14 16 23.0	-1.7
BAYC				iS	Sg	14 16 33.2	-1.7
SMTH	Samothraki Isl	0.80	360	ePg	Pg	14 16 24.3	-0.8
SMTH				eSn	Sb	14 16 36.3	-0.1
SMTH	Samothraki Isl	0.80	360	P	Pg	14 16 24.2	-0.9
SMTH				S	Sb	14 16 36.3	-0.1
SMTH				AML	AML	14 16 37.9	
SMTH				AML	AML	14 16 38.2	
SMTH	Samothraki Isl	0.80	360	P	Pg	14 16 24.3	-0.8
SMTH				S	Sb	14 16 36.3	-0.1
AYVA	Ayvalik	0.96	112	⇓iP	Pg	14 16 26.4	-1.7
AYVA				iS	Sg	14 16 39.8	-0.8
AYVA				IAML		14 16 41.0	
	comp=N,574μm,0.6s						
AYVA				IAML		14 16 42.0	
	comp=E,495μm,0.8s						
AYVA				IAML_P			
GELI	Tayfur-Gelibol	1.02	44	PG	Pg	14 16 27.5	-1.8
SKY	Skiros Island	1.10	224	ePg	Pb	14 16 29.5	-1.1
SKY	Skiros Island	1.10	224	P	Pb	14 16 29.4	-1.1
SKY				S	Sb	14 16 44.3	-0.7
SKY				AML	AML	14 16 45.9	
SKY				AML	AML	14 16 46.6	
SKY	Skiros Island	1.10	224	P	Pb	14 16 29.5	-1.1
SKY				S	Sb	14 16 44.0	-1.0
PSRA	Psara	1.12	179	P	Pb	14 16 30.2	-0.8
PSRA				S	Sb	14 16 45.3	-0.3
PSRA				AML	AML	14 16 49.6	
PSRA				AML	AML	14 16 50.4	
THAS	Thassos island	1.13	326	P	Pb	14 16 29.8	-1.2
THAS				S	Sb	14 16 44.6	-1.1
THAS	Thassos island	1.13	326	P	Pb	14 16 29.7	-1.4
THAS				S	Sg	14 16 46.0	0.0
ENEZ	Enez	1.17	24	PN	Pb	14 16 30.4	-1.4
LPK	Lapseki	1.17	53	PN	Pb	14 16 30.6	-1.3
DKL	Dikili	1.22	119	PN	Pn	14 16 31.0	-1.5
ERIK	Erikli-Kesan	1.25	36	PN	Pn	14 16 31.4	-1.6
ALN	Alexandroupoli	1.29	17	PN	Pn	14 16 31.9	-1.5
ALN	Alexandroupoli	1.29	17	ePn	Pn	14 16 32.0	-1.5
ALN				eSn	Sb	14 16 50.1	-0.3
ALN	Alexandroupoli	1.29	17	P	Pn	14 16 31.6	-1.9
ALN				S	Sb	14 16 48.9	-1.5
ALN				AML	AML	14 16 57.3	
ALN				AML	AML	14 16 58.0	
ALN	Alexandroupoli	1.29	17	P	Pn	14 16 31.6	-1.9
ALN				S	Sb	14 16 50.1	-0.3
ALN	Alexandroupoli	1.29	17	eP	Pn	14 16 32.0	-1.5
ALN				e		14 16 50.1	
FOCM	Foa	1.33	135	PN	Pn	14 16 32.4	-1.7
KRBN	Karaburun	1.33	143	PN	Pn	14 16 32.5	-1.6
CHOS	Chios island	1.34	162	PN	Pn	14 16 32.2	-2.1
CHOS	Chios island	1.34	162	P	Pn	14 16 32.8	-1.5
CHOS				S	Sb	14 16 51.1	-0.9
CHOS				AML	AML	14 16 56.9	
CHOS				AML	AML	14 16 57.5	
CHOS	Chios island	1.34	162	P	Pn	14 16 32.8	-1.5
CHOS				S	Sb	14 16 51.1	-0.9
OUR	Ouranopolis	1.37	300	PN	Pb	14 16 35.4	+0.2
OUR	Ouranopolis	1.37	300	ePn	Pb	14 16 35.4	+0.2
OUR	Ouranopolis	1.37	300	P	Pb	14 16 35.4	+0.2
OUR				S	Sb	14 16 51.1	-1.5
AOS	Alonnisos	1.38	249	PN	Pn	14 16 32.6	-2.1
AOS	Alonnisos	1.38	249	ePn	Pn	14 16 33.5	-1.2
AOS				eSn	Sg	14 16 54.4	+0.5
AOS	Alonnisos	1.38	249	P	Pn	14 16 33.8	-0.9
AOS				S	Sn	14 16 51.7	-1.2
AOS				AML	AML	14 16 55.9	
AOS				AML	AML	14 17 02.2	
AOS	Alonnisos	1.38	249	P	Pn	14 16 33.5	-1.2
AOS				S	Sn	14 16 52.9	0.0
ALNA	Alonissos	1.40	249	P	Pn	14 16 33.9	-1.1
ALNA				S	Sn	14 16 53.0	-0.3
ALNA				AML	AML	14 17 02.1	
ALNA				AML	AML	14 17 02.8	
KESN	Edirne-Kesan	1.45	37	⇑iP	Pn	14 16 34.4	-1.7
KESN				iS	Sn	14 16 54.9	-0.4
KESN				IAML		14 16 57.0	
	comp=E,450μm,0.9s						
KESN				IAML		14 17 01.0	
	comp=N,324μm,0.6s						
PAIG	Paliouri	1.45	281	ePn	Pn	14 16 34.5	-1.3
PAIG				eSn	Sb	14 16 55.2	+0.1
PAIG	Paliouri	1.45	281	P	Pn	14 16 34.6	-1.2
PAIG				S	Sn	14 16 53.2	-1.6
PAIG	Paliouri	1.45	281	P	Pn	14 16 34.5	-1.3
PAIG				S	Sb	14 16 55.2	+0.1
PAIG	Paliouri	1.45	281	eP	Pn	14 16 34.5	-1.3
PAIG				e		14 16 55.2	
RDO	Rodhopi	1.48	0	PN	Pn	14 16 34.8	-1.3
RDO	Rodhopi	1.48	0	ePn	Pn	14 16 34.4	-1.7
RDO	Rodhopi	1.48	0	P	Pn	14 16 34.8	-1.3
RDO				AML	AML	14 16 56.8	
RDO				AML	AML	14 17 07.2	
RDO	Rodhopi	1.48	0	P	Pn	14 16 34.4	-1.7
RDO				S	Sn	14 16 54.6	-0.8
KRBG	Karabiga-Canak	1.53	61	PN	Pn	14 16 36.0	-0.9
KAVA	Kavala	1.54	330	ePn	Pn	14 16 35.5	-1.5
KAVA	Kavala	1.54	330	P	Pn	14 16 35.7	-1.3
KAVA				S	Sn	14 16 55.6	-1.4
KAVA	Kavala	1.54	330	P	Pn	14 16 35.5	-1.5
KVLA	Kavala	1.54	326	P	Pn	14 16 35.8	-1.3
KVLA				AML	AML	14 17 01.6	
KVLA				AML	AML	14 17 01.8	
URLA	Izmir	1.54	147	PN	Pn	14 16 35.4	-1.7
URLA	Izmir	1.54	147	⇑iP	Pn	14 16 36.7	-0.4
URLA				iS	Sn	14 16 55.1	-2.0
URLA				IAML		14 17 10.0	
	comp=N,58μm,0.7s						
URLA				IAML		14 17 19.0	
	comp=E,43μm,1.7s						
BALY	Balya	1.61	87	⇑iP	Pn	14 16 37.9	0.0
BALY				iS	Sn	14 16 58.0	-0.7
BALY				IAML		14 17 00.0	
	comp=E,177μm,0.6s						
BALY				IAML		14 17 06.0	
	comp=N,210μm,0.9s						
KNL	Balıkesir	1.64	68	⇑iP	Pn	14 16 37.9	-0.5
KNL				iS	Sb	14 17 00.8	+0.2
KNL				IAML		14 17 01.0	
	comp=N,296μm,1.2s						
KNL				IAML		14 17 01.0	
	comp=E,288μm,0.8s						
SKIA	Skiathos	1.68	253	P	Pn	14 16 37.5	-1.4
GONE	Gonen-Balikesi	1.70	76	PN	Pn	14 16 38.2	-0.9
STEP	BALIKESIR_Sava	1.71	99	⇓iP	Pn	14 16 39.8	+0.4
STEP				iS	Sn	14 17 01.6	+0.3
STEP				IAML		14 17 12.0	
	comp=N,260μm,1.3s						
STEP				IAML		14 17 16.0	
	comp=E,220μm,1.2s						
BLCB	Balcova	1.74	137	PN	Pn	14 16 38.3	-1.4
PLG	Polygyros	1.75	294	P	Pn	14 16 39.1	-0.8
PLG				AML	AML	14 17 12.7	
PLG				AML	AML	14 17 16.0	
PLG	Polygyros	1.75	294	P	Pn	14 16 38.6	-1.4
PLG				S	Sb	14 17 04.5	+0.7
PLG	Polygyros	1.75	294	P	Pn	14 16 38.6	-1.4
PLG				S	Sb	14 17 04.5	+0.7
EREA	Eretria	1.77	226	P	Pn	14 16 38.5	-1.6
MRKA	Markates	1.79	238	P	Pn	14 16 38.9	-1.6
BALB	Balikesir	1.81	90	PN	Pn	14 16 39.7	-1.0
NEO	Neokhori	1.83	259	P	Pn	14 16 39.7	-1.2
NEO				AML	AML	14 17 10.0	
NEO				AML	AML	14 17 11.3	
NEO	Neokhori	1.83	259	P	Pn	14 16 39.5	-1.4
XOR	Xorichti	1.84	261	P	Pn	14 16 39.6	-1.5
XOR				AML	AML	14 17 12.3	
XOR				AML	AML	14 17 12.8	
XOR	Xorichti	1.84	261	P	Pn	14 16 39.5	-1.6
XOR				S	Sb	14 17 05.8	-0.5
EDC	Edincik	1.91	68	PN	Pn	14 16 41.5	-0.6
GMLD	Gumuldur	1.92	145	PN	Pn	14 16 41.1	-1.1
SBT4	Kumbag-Tekirda	1.92	52	PN	Pn	14 16 41.2	-0.8
DGB	zmir	1.93	147	⇑iP	Pn	14 16 41.8	-0.4
DGB				iS	Sb	14 17 09.2	+0.5
DGB				IAML		14 17 13.0	
	comp=N,43μm,0.6s						
DGB				IAML		14 17 16.0	
	comp=E,26μm,0.6s						
AKS	Akhisar	1.93	113	PN	Pn	14 16 41.5	-0.9
AKHS	Akhisar	1.94	113	⇓iP	Pn	14 16 41.4	-1.0
AKHS				iS	Sg	14 17 12.0	+0.2
AKHS				IAML		14 17 15.0	
	comp=E,53μm,1.3s						
SMIA	Simia	1.97	247	P	Pn	14 16 41.8	-1.1
KDZ	Kurdzhali	1.98	357	PN	Pn	14 16 41.7	-1.4
TKR	Tekirdag	2.02	49	PN	Pn	14 16 42.6	-1.0
DION	Dionisos Attik	2.02	219	P	Pn	14 16 41.9	-1.7
FYTO	Fytoko, Volos	2.02	263	ePn	Pn	14 16 42.2	-1.4
FYTO	Fytoko, Volos	2.02	263	P	Pn	14 16 42.2	-1.4
SOH	Sokhos	2.03	305	ePn	Pn	14 16 43.0	-0.8
SOH	Sokhos	2.03	305	P	Pn	14 16 43.2	-0.5
SOH	Sokhos	2.03	305	P	Pn	14 16 43.0	-0.8
SOH	Sokhos	2.03	305	eP	Pn	14 16 43.0	-0.8
SRS	Serrai	2.07	315	ePn	Pn	14 16 43.7	-0.6
SRS				eSn	Sb	14 17 12.5	-0.5
SRS	Serrai	2.07	315	ePn	Pn	14 16 43.1	-1.2
SRS	Serrai	2.07	315	P	Pn	14 16 43.5	-0.8
SRS	Serrai	2.07	315	P	Pn	14 16 43.1	-1.2
SRS	Serrai	2.07	315	eP	Pn	14 16 43.1	-1.2
PTL	Penteli	2.08	219	ePn	Pn	14 16 42.7	-1.7
PTL	Penteli	2.08	219	P	Pn	14 16 42.6	-1.7
PTL	Penteli	2.08	219	P	Pn	14 16 42.7	-1.7
GOMA	Golmarmara-Man	2.08	117	PN	Pn	14 16 43.7	-0.7
HORT	Hortiatis	2.09	297	PN	Pn	14 16 42.8	-1.8
HORT	Hortiatis	2.09	297	P	Pn	14 16 43.9	-0.7
HORT	Hortiatis	2.09	297	P	Pn	14 16 43.5	-1.1
HORT				S	Sn	14 17 10.2	-0.4
NVR	Nevrokopi	2.11	323	P	Pn	14 16 44.0	-0.8
NVR				AML	AML	14 17 27.2	
NVR				AML	AML	14 17 31.5	
NVR	Nevrokopi	2.11	323	P	Pn	14 16 43.9	-1.0
TNSA	Tinos	2.15	188	P	Pn	14 16 44.2	-1.1
TNSA				S	Sn	14 17 10.4	-1.5
ATAL	Atalanti	2.19	244	ePn	Pn	14 16 44.5	-1.3
ATAL	Atalanti	2.19	244	P	Pn	14 16 44.5	-1.3
THE	Thessaloniki	2.19	297	ePn	Pn	14 16 45.3	-0.7
THE	Thessaloniki	2.19	297	P	Pn	14 16 45.5	-0.4
THE	Thessaloniki	2.19	297	P	Pn	14 16 45.3	-0.7
THE	Thessaloniki	2.19	297	eP	Pn	14 16 45.3	-0.7
SMG	Samos	2.21	152	P	Pn	14 16 44.9	-1.2
SMG				AML	AML	14 17 22.2	
SMG				AML	AML	14 17 22.8	
SMG	Samos	2.21	152	P	Pn	14 16 44.5	-1.6
ATH	Athens Observa	2.21	221	P	Pn	14 16 44.8	-1.4
ATH	Athens Observa	2.21	221	P	Pn	14 16 44.6	-1.6
LKR	Lokris	2.22	244	P	Pn	14 16 43.5	-2.8
CRLT	Corlu	2.23	48	PN	Pn	14 16 45.6	-0.8
KCTX	Karacabey (Bur	2.25	74	PN	Pn	14 16 46.1	-0.6
VLY	Voula,Athens	2.27	217	ePn	Pn	14 16 45.2	-1.8
VLY	Voula,Athens	2.27	217	P	Pn	14 16 45.3	-1.7
VLY				AML	AML	14 17 21.6	
VLY				AML	AML	14 17 25.2	
VLY	Voula,Athens	2.27	217	P	Pn	14 16 45.2	-1.8
DURS	Dursunbey	2.27	91	⇓iP	Pn	14 16 46.5	-0.6
DURS				iS	Sn	14 17 14.4	-0.7
DURS				IAML		14 17 15.0	
	comp=E,91μm,0.5s						
DURS				IAML		14 17 22.0	
	comp=N,79μm,0.6s						
VILL	Villia	2.29	230	P	Pn	14 16 45.8	-1.6
EDRB	Edirne	2.36	22	PN	Pn	14 16 47.4	-0.9
GCAM	G?zelcaml?	2.37	145	PN	Pn	14 16 47.4	-1.0
GCAM	G?zelcaml?	2.37	145	⇑iP	Pn	14 16 47.2	-1.2
GCAM				iS	Sb	14 17 23.2	+1.7
GCAM				IAML		14 17 26.0	
	comp=N,31μm,1.0s						
GCAM				IAML		14 17 33.0	
	comp=E,27μm,0.6s						
DIM	Dimitrovgrad	2.38	360	P	Pn	14 16 47.7	-0.8
DST	Dursunbey	2.38	91	PN	Pn	14 16 47.9	-0.7
LIT	Litokhoron	2.38	281	ePn	Pn	14 16 47.6	-1.0
LIT	Litokhoron	2.38	281	P	Pn	14 16 47.7	-1.0
LIT	Litokhoron	2.38	281	P	Pn	14 16 46.7	-1.9
LIT	Litokhoron	2.38	281	eP	Pn	14 16 47.6	-1.0
AXAR	Agios Charalam	2.41	249	ePn	Pn	14 16 50.2	+1.2
AXAR	Agios Charalam	2.41	249	P	Pn	14 16 50.2	+1.2
LRSO	Larissa Observ	2.43	271	P	Pn	14 16 49.0	-0.2
LRSO	Larissa Observ	2.43	271	P	Pn	14 16 48.6	-0.6
PHSR	Pinarhisar	2.48	37	PN	Pn	14 16 48.9	-0.9
PHSR	Pinarhisar	2.48	37	⇑iP	Pn	14 16 48.3	-1.5
KNT	Kendrikon	2.51	307	PN	Pn	14 16 49.2	-1.1
KNT	Kendrikon	2.51	307	P	Pn	14 16 50.2	-0.1
KNT	Kendrikon	2.51	307	P	Pn	14 16 49.8	-0.5
KNT	Kendrikon	2.51	307	P	Pn	14 16 49.6	-0.7
PLD	Plovdiv	2.52	346	ePn	Pn	14 16 51.3	+0.9
PLD				eSn	Sn	14 17 22.5	+1.5
PLD	Plovdiv	2.52	346	PN	Pn	14 16 49.9	-0.5
AYDB	Zeytinkoy-Aydi	2.52	132	PN	Pn	14 16 49.1	-1.4
DEMI	Demirci	2.54	103	⇓iP	Pn	14 16 51.5	+0.7
DEMI				iS	Sg	14 17 29.7	-1.6
DEMI				IAML		14 17 32.0	
	comp=E,89μm,0.9s						
DEMI				IAML		14 17 33.0	
	comp=N,75μm,1.4s						
DEMI				IAML_P			
SLVT	Silivri	2.57	52	PN	Pn	14 16 50.8	-0.3
AGG	Agios Georgios	2.57	256	PN	Pn	14 16 49.9	-1.3
AGG	Agios Georgios	2.57	256	ePn	Pn	14 16 50.1	-1.1
AGG	Agios Georgios	2.57	256	P	Pn	14 16 50.3	-0.9
AGG	Agios Georgios	2.57	256	P	Pn	14 16 50.1	-1.1
LTK	Loutraki	2.59	232	ePn	Pn	14 16 50.0	-1.5
LTK	Loutraki	2.59	232	P	Pn	14 16 50.2	-1.3
LTK	Loutraki	2.59	232	P	Pn	14 16 50.0	-1.5
APE	Apeiranthos	2.59	180	PN	Pn	14 16 49.8	-1.7
APE	Apeiranthos	2.59	180	ePn	Pn	14 16 49.1	-2.4
APE	Apeiranthos	2.59	180	P	Pn	14 16 49.3	-2.2
APE	Apeiranthos	2.59	180	⇑iP	Pn	14 16 49.6	-1.9
APE	Apeiranthos	2.59	180	P	Pn	14 16 49.1	-2.4
APE	Apeiranthos	2.59	180	c iP	Pn	14 16 49.3	-2.2
LOUT	Loutraki	2.61	231	P	Pn	14 16 50.3	-1.4
ORLT	Orhaneli	2.61	81	PN	Pn	14 16 51.4	-0.4
MANT	Manisa	2.63	116	ePn	Pn	14 16 51.7	-0.4
MANT	Manisa	2.63	116	⇓iP	Pn	14 16 52.8	+0.6
MANT				iS	Sb	14 17 31.1	+1.9
MANT				IAML		14 17 35.0	
	comp=N,23μm,0.7s						
MANT				IAML		14 17 38.0	
	comp=E,23μm,0.8s						
ELBA	Catalca	2.66	55	⇑iP	Pn	14 16 50.5	-1.9
ELBA				iS	Sb	14 17 28.1	-1.7
ELBA				IAML		14 17 35.0	
	comp=E,22μm,1.6s						
ELBA				IAML		14 17 44.0	
	comp=N,15μm,0.7s						
MDNY	Mudanya-Bursa	2.66	74	PN	Pn	14 16 52.3	-0.1
KULA	Kula-Manisa	2.69	114	PN	Pn	14 16 51.7	-1.2
AYDN	Tasoluk	2.72	137	⇑iP	Pn	14 16 52.4	-0.8
AYDN				iS	Sb	14 17 31.2	-0.3
AYDN				IAML		14 17 51.0	
	comp=N,22μm,1.9s						
AYDN				IAML		14 17 55.0	
	comp=E,20μm,1.5s						
MAKR	Makrakomi, Fth	2.72	257	ePn	Pn	14 16 53.0	-0.2
MAKR	Makrakomi, Fth	2.72	257	P	Pn	14 16 53.0	-0.2
GRG	Griva	2.72	299	PN	Pn	14 16 51.9	-1.4
GRG	Griva	2.72	299	ePn	Pn	14 16 53.0	-0.3
GRG	Griva	2.72	299	P	Pn	14 16 52.9	-0.4
GRG	Griva	2.72	299	P	Pn	14 16 53.0	-0.3
GRG	Griva	2.72	299	eP	Pn	14 16 53.0	-0.3
THL	Klokotos Trika	2.72	269	P	Pn	14 16 52.6	-0.7
THL	Klokotos Trika	2.72	269	P	Pn	14 16 52.4	-0.8
SBT5	Esenkoy-Cinarc	2.74	68	PN	Pn	14 16 52.6	-0.8
CTKS	Kestanelik-??a	2.75	54	PN	Pn	14 16 53.2	-0.5
CTYL	Yalikoy Yolu	2.77	48	PN	Pn	14 16 52.8	-1.0
CTYL	Yalikoy Yolu	2.77	48	⇓iP	Pn	14 16 52.6	-1.2
KIYI	Yalıkoy-Catalc	2.78	48	PN	Pn	14 16 53.6	-0.4
VAY	Valandovo	2.80	307	ePn	Pn	14 16 56.2	+1.9
VAY				eSg	Sg	14 17 39.5	-0.1
VAY	Valandovo	2.80	307	ePn	Pn	14 16 54.0	-0.3
VAY	Valandovo	2.80	307	P	Pn	14 16 54.0	-0.3
VAY	Valandovo	2.80	307	⇓iPn	Pn	14 16 54.1	-0.3
VAY	Valandovo	2.80	307	eP	Pn	14 16 54.0	-0.3
DID	Didima	2.81	221	ePn	Pn	14 16 52.7	-1.8
DID	Didima	2.81	221	P	Pn	14 16 52.7	-1.8
DID	Didima	2.81	221	P	Pn	14 16 52.7	-1.8
AMGA	Amorgos Island	2.85	174	P	Pn	14 16 53.4	-1.6
AMGA	Amorgos Island	2.85	174	P	Pn	14 16 53.0	-1.9
IGD	Bursa	2.88	77	iP	Pn	14 16 54.1	-1.2
IGD				iS	Sb	14 17 37.6	+1.5
IGD				IAML		14 17 43.0	
	comp=N,49μm,0.9s						
IGD				IAML		14 17 43.0	
	comp=E,47μm,0.8s						
YKAV	Yalikavak-Bodr	2.88	151	PN	Pn	14 16 54.5	-1.0
JMB	Yambol	2.91	15	ePn	Pn	14 16 56.0	+0.2
JMB				eSn	Sn	14 17 31.8	+1.1
JMB	Yambol	2.91	15	PN	Pn	14 16 55.8	+0.1
SHAP	Saphane-Kutahy	2.93	102	PN	Pn	14 16 55.7	-0.5
KALE	Kalithea	2.94	245	ePn	Pn	14 16 55.2	-1.1
KALE	Kalithea	2.94	245	P	Pn	14 16 55.2	-1.1
IOSP	Ios island	2.95	184	P	Pn	14 16 54.3	-2.1
IOSP	Ios island	2.95	184	P	Pn	14 16 54.0	-2.3
MLSB	Milas	2.95	143	PN	Pn	14 16 55.3	-1.1
BODT	Bodrum	2.95	151	PN	Pn	14 16 55.4	-1.0
BODT	Bodrum	2.95	151	ePn	Pn	14 16 55.4	-1.0
BODT	Bodrum	2.95	151	P	Pn	14 16 55.4	-1.0
KZN	Kozani	2.96	284	P	Pn	14 16 56.7	+0.1
KZN	Kozani	2.96	284	P	Pn	14 16 56.5	-0.1
KZN	Kozani	2.96	284	P	Pn	14 16 56.5	-0.1
BUY	Buyukada	2.98	66	⇑iP	Pn	14 16 55.0	-1.8
BUY				iS	Sb	14 17 41.8	+2.7
BUY				IAML		14 17 50.0	
	comp=E,75μm,1.0s						
BUY				IAML		14 17 52.0	
	comp=N,95μm,1.4s						
SERG	Sergoula	2.99	246	P	Pn	14 16 55.8	-1.1
EVR	Evrytania	2.99	257	P	Pn	14 16 56.7	-0.3
TRIZ	Trizonia	3.00	245	P	Pn	14 16 56.0	-1.0
BDRM	Kayabasi	3.00	149	⇑iP	Pn	14 16 56.0	-1.0
BDRM				iS	Sn	14 17 35.6	+2.6
BDRM				IAML		14 17 52.0	
	comp=N,9μm,0.7s						
BDRM				IAML		14 18 07.0	
	comp=E,7μm,1.5s						
ALIK	Aliki, Aigiali	3.02	243	P	Pn	14 16 57.3	0.0
ISK	Istanbul-Kandi	3.03	61	PN	Pn	14 16 56.7	-0.8
KAVV	Kandilli-Istan	3.03	61	PN	Pn	14 16 57.2	-0.3
GUR	Goura	3.04	236	ePn	Pn	14 16 56.5	-1.2
GUR	Goura	3.04	236	P	Pn	14 16 56.5	-1.2
MHLA	Plaka, Milos I	3.05	197	P	Pn	14 16 55.8	-1.9
GEDZ	Gediz	3.07	100	PN	Pn	14 16 57.4	-0.6
YLV	Yalova	3.08	72	PN	Pn	14 16 58.0	-0.1
EFP	Efpalio	3.09	247	P	Pn	14 16 57.4	-0.8
IZI	Iznik	3.10	76	PN	Pn	14 16 58.0	-0.4
KLV	Kalavryta, Ach	3.10	240	P	Pn	14 16 57.3	-1.2
KLV	Kalavryta, Ach	3.10	240	P	Pn	14 16 57.3	-1.2
MHLO	Agia Marina, M	3.10	197	P	Pn	14 16 56.8	-1.7
MHLO	Agia Marina, M	3.10	197	P	Pn	14 16 56.6	-1.9
KLYT	Kilyos	3.11	58	PN	Pn	14 16 58.4	-0.1
KLYT	Kilyos	3.11	58	⇑iP	Pn	14 16 57.1	-1.4
GDZ	Gediz	3.11	99	⇓iP	Pn	14 16 58.4	-0.3
GDZ				iS	Sb	14 17 45.6	+2.6
GDZ				IAML		14 17 50.0	
	comp=E,8μm,0.6s						
GDZ				IAML		14 18 00.0	
	comp=N,15μm,1.5s						
LAKA	Lakka	3.12	244	ePn	Pn	14 16 57.9	-0.8
LAKA	Lakka	3.12	244	P	Pn	14 16 57.9	-0.8
THR2	Thira island,	3.22	181	ePn	Pn	14 16 58.3	-1.8
THR2	Thira island,	3.22	181	P	Pn	14 16 58.2	-1.8
THR2	Thira island,	3.22	181	P	Pn	14 16 58.3	-1.8
THT2	Imerovigli	3.23	182	P	Pn	14 16 59.2	-1.0
THT2	Imerovigli	3.23	182	P	Pn	14 16 59.2	-1.0
SAP3	Santorini-Thir	3.23	183	P	Pn	14 16 58.2	-2.0
UPR	University Cam	3.23	246	P	Pn	14 17 00.8	+0.5
THR7	Fira-Santorini	3.24	182	P	Pn	14 16 58.7	-1.7
THR5	Thira Island,	3.25	183	P	Pn	14 16 58.7	-1.7
THR5	Thira Island,	3.25	183	P	Pn	14 16 58.6	-1.9
SAP2K	Karterados	3.25	181	P	Pn	14 16 58.4	-2.1
STIP	Stip	3.25	310	⇓iPn	Pn	14 16 58.9	-1.7
THR3	Thira Island,	3.25	182	ePn	Pn	14 16 59.0	-1.5
THR3	Thira Island,	3.25	182	P	Pn	14 16 58.8	-1.7
THR3	Thira Island,	3.25	182	P	Pn	14 16 59.0	-1.5
THR8	Santorini-Mono	3.26	181	P	Pn	14 16 58.9	-1.7

PVO	**Paravola**	**3.29**	**253**	P	**Pn**	**14 17 01.2**	**+0.2**
SANT	**Santorini**	**3.29**	**181**	PN	**Pn**	**14 16 59.8**	**-1.3**
SANT	**Santorini**	**3.29**	**181**	*e*Pn	**Pn**	**14 16 59.1**	**-2.0**
SANT	**Santorini**	**3.29**	**181**	P	**Pn**	**14 16 59.2**	**-1.9**
SANT	**Santorini**	**3.29**	**181**	⇑*i*P	**Pn**	**14 16 59.1**	**-2.0**
SANT	**Santorini**	**3.29**	**181**	P	**Pn**	**14 16 59.2**	**-1.9**
THR6	**Thira Island,**	**3.31**	**182**	*e*Pn	**Pn**	**14 16 59.6**	**-1.7**
THR6	**Thira Island,**	**3.31**	**182**	P	**Pn**	**14 16 59.7**	**-1.7**
THR6	**Thira Island,**	**3.31**	**182**	P	**Pn**	**14 16 59.6**	**-1.7**
ANAF	**Anafi Island**	**3.31**	**177**	P	**Pn**	**14 16 59.7**	**-1.6**
ANAF	**Anafi Island**	**3.31**	**177**	P	**Pn**	**14 16 59.5**	**-1.8**
DENT	**Denizli**	**3.34**	**124**	PN	**Pn**	**14 17 00.9**	**-0.8**
KHAL	**Karahalli**	**3.34**	**112**	⇓*i*P	**Pn**	**14 17 02.7**	**+0.9**
KHAL				*i* S	**Sg**	**14 17 56.5**	**-0.4**
KHAL				IAML		14 18 06.0	
	comp=E,15μm,1.7s						
KHAL				IAML		14 18 09.0	
	comp=N,24μm,1.3s						
DAT	**Datca**	**3.35**	**151**	PN	**Pn**	**14 17 00.9**	**-1.0**
DAT	**Datca**	**3.35**	**151**	⇑*i*P	**Pn**	**14 17 01.7**	**-0.3**
DAT				*i* S	**Sb**	**14 17 47.9**	**-1.8**
DAT				IAML		14 18 15.0	
	comp=N,5μm,2.0s						
DAT				IAML		14 18 23.0	
	comp=E,4μm,1.3s						
DATC	**Datca-Mugla**	**3.35**	**149**	PN	**Pn**	**14 17 01.0**	**-0.9**
CAVI	**Cavuskoy**	**3.35**	**79**	PN	**Pn**	**14 17 01.6**	**-0.3**
FNA	**Florina**	**3.38**	**291**	*e*Pn	**Pn**	**14 17 02.5**	**+0.2**
FNA	**Florina**	**3.38**	**291**	*e*Pn	**Pn**	**14 17 02.3**	**0.0**
FNA	**Florina**	**3.38**	**291**	P	**Pn**	**14 17 01.2**	**-1.1**
FNA	**Florina**	**3.38**	**291**	*e*P	**Pn**	**14 17 02.3**	**0.0**
VLX	**Vlachokerasia**	**3.38**	**228**	*e*Pn	**Pn**	**14 17 01.4**	**-0.9**
VLX	**Vlachokerasia**	**3.38**	**228**	P	**Pn**	**14 17 01.4**	**-0.9**
KHL	**Karahalli**	**3.38**	**112**	PN	**Pn**	**14 17 01.9**	**-0.5**
VTS	**Vitosha**	**3.41**	**330**	*e*Pn	**Pn**	**14 17 03.2**	**+0.4**
VTS				*e*Sg	**Sg**	**14 17 57.7**	**-1.4**
VTS	**Vitosha**	**3.41**	**330**	*e*Pn	**Pn**	**14 17 03.1**	**+0.3**
VTS	**Vitosha**	**3.41**	**330**	⇓*i*P	**Pn**	**14 17 03.2**	**+0.4**
VTS	**Vitosha**	**3.41**	**330**	P	**Pn**	**14 17 03.1**	**+0.3**
VTS	**Vitosha**	**3.41**	**330**	*e*P	**Pn**	**14 17 03.1**	**+0.3**
PENT	**Pentalofos**	**3.42**	**280**	P	**Pn**	**14 17 03.1**	**+0.1**
PENT	**Pentalofos**	**3.42**	**280**	P	**Pn**	**14 17 03.0**	**0.0**
TAVA	**DENIZLI_Tavas**	**3.44**	**129**	⇑*i*P	**Pn**	**14 17 03.8**	**+0.6**
TAVA				*i* S	**Sg**	**14 17 56.5**	**-3.6**
TAVA				IAML		14 18 10.0	
	comp=E,8μm,0.9s						
TAVA				IAML		14 18 13.0	
	comp=N,10μm,1.6s						
DRO	**Drossia**	**3.44**	**241**	P	**Pn**	**14 17 02.6**	**-0.6**
SILT	**Sile**	**3.47**	**63**	PN	**Pn**	**14 17 03.1**	**-0.4**
SILT	**Sile**	**3.47**	**63**	⇑*i*P	**Pn**	**14 17 03.2**	**-0.3**
BIA	**Bitola**	**3.49**	**294**	*e*Pn	**Pn**	**14 17 05.3**	**+1.4**
BIA	**Bitola**	**3.49**	**294**	P	**Pn**	**14 17 05.3**	**+1.4**
BIA	**Bitola**	**3.49**	**294**	*i* Pn	**Pn**	**14 17 04.9**	**+1.1**
NEST	**Nestorio**	**3.52**	**284**	P	**Pn**	**14 17 04.5**	**+0.1**
RLS	**Riolos of Patr**	**3.56**	**244**	P	**Pn**	**14 17 05.5**	**+0.8**
VLI	**Veliai**	**3.59**	**216**	*e*Pn	**Pn**	**14 17 03.4**	**-1.7**
VLI	**Veliai**	**3.59**	**216**	P	**Pn**	**14 17 03.4**	**-1.7**
JAN	**Janina**	**3.62**	**271**	*e*Pn	**Pn**	**14 17 06.2**	**+0.6**
JAN	**Janina**	**3.62**	**271**	P	**Pn**	**14 17 06.2**	**+0.6**
JAN	**Janina**	**3.62**	**271**	*e*P	**Pn**	**14 17 06.2**	**+0.6**
AMT	**Artemida-Makis**	**3.68**	**236**	P	**Pn**	**14 17 06.6**	**+0.2**
KRUS	**Krusevo**	**3.68**	**299**	⇓*e*Pn	**Pn**	**14 17 06.8**	**+0.2**
TURN	**Turunc**	**3.69**	**138**	⇑*i*P	**Pn**	**14 17 04.3**	**-2.2**
TURN				*i* S	**Sb**	**14 18 02.1**	**+2.7**
TURN				IAML		14 18 17.0	
	comp=N,9μm,1.7s						
TURN				IAML		14 18 24.0	
	comp=E,8μm,1.9s						
GPA	**Golpazari**	**3.72**	**79**	PN	**Pn**	**14 17 06.9**	**-0.1**
GEYV	**SAKARYA_Geyve**	**3.74**	**76**	⇑*i*P	**Pn**	**14 17 07.7**	**+0.5**
GEYV				*i* S	**Sb**	**14 18 04.8**	**+3.8**
GEYV				IAML		14 18 22.0	
	comp=E,60μm,1.2s						
GEYV				IAML		14 18 22.0	
	comp=N,61μm,1.8s						
DALY	**Dalyan (Mula)**	**3.76**	**138**	⇑*i*P	**Pn**	**14 17 08.0**	**+0.5**
DALY				*i* S	**Sb**	**14 18 00.4**	**-1.0**
DALY				IAML		14 18 23.0	
	comp=E,11μm,2.0s						
DALY				IAML		14 18 23.0	
	comp=N,19μm,1.4s						
ITM	**Ithomi**	**3.77**	**230**	*e*Pn	**Pn**	**14 17 07.7**	**+0.1**
ITM	**Ithomi**	**3.77**	**230**	P	**Pn**	**14 17 07.7**	**+0.1**
BORA	**Eskisehir**	**3.79**	**85**	PN	**Pn**	**14 17 07.8**	**-0.3**
BORA	**Eskisehir**	**3.79**	**85**	⇓*i*P	**Pn**	**14 17 08.8**	**+0.8**
BORA				*i* S	**Sg**	**14 18 08.4**	**-3.0**
BORA				IAML		14 18 11.0	
	comp=N,22μm,1.5s						
BORA				IAML		14 18 24.0	
	comp=E,8μm,0.6s						
SAUV	**Serdivan-Sakar**	**3.82**	**72**	PN	**Pn**	**14 17 08.3**	**0.0**
KAND	**Kocaeli-Kandir**	**3.83**	**67**	⇓*i*P	**Pn**	**14 17 09.5**	**+1.1**
KAND				*i* S	**Sb**	**14 18 07.8**	**+4.3**
DYR	**Agios Nikonas**	**3.84**	**222**	P	**Pn**	**14 17 08.2**	**-0.5**
KZIL	**AFYON_Kizioren**	**3.85**	**110**	⇓*i*P	**Pn**	**14 17 09.3**	**+0.4**
KZIL				*i* S	**Sg**	**14 18 12.8**	**-0.6**
SKO	**Skopje**	**3.87**	**308**	*e*Pn	**Pn**	**14 17 09.5**	**+0.6**
SKO	**Skopje**	**3.87**	**308**	*e*Pn	**Pn**	**14 17 09.6**	**+0.6**
SKO	**Skopje**	**3.87**	**308**	P	**Pn**	**14 17 09.6**	**+0.6**
SKO	**Skopje**	**3.87**	**308**	⇓*i*Pn	**Pn**	**14 17 09.6**	**+0.6**
SKO	**Skopje**	**3.87**	**308**	*e*P	**Pn**	**14 17 09.6**	**+0.6**
LKD2	**Lefkada island**	**3.89**	**259**	P	**Pn**	**14 17 11.6**	**+2.3**
OHR	**Ohrid**	**3.90**	**293**	⇓*i*Pn	**Pn**	**14 17 10.0**	**+0.6**
GULT	**Gulveren**	**3.90**	**77**	PN	**Pn**	**14 17 10.1**	**+0.7**
KYTH	**Kithira**	**3.93**	**211**	*e*Pn	**Pn**	**14 17 08.4**	**-1.4**
KYTH	**Kithira**	**3.93**	**211**	P	**Pn**	**14 17 08.4**	**-1.4**
EVGI	**Lefkada island**	**3.94**	**256**	P	**Pn**	**14 17 11.9**	**+2.0**
KTHR	**Kythira**	**3.95**	**211**	P	**Pn**	**14 17 08.8**	**-1.3**
GOLH	**Golhisar**	**3.98**	**126**	⇓*i*P	**Pn**	**14 17 12.5**	**+1.8**
GOLH				*i* S	**Sg**	**14 18 15.5**	**-2.0**
ZIMR		**3.99**	**358**	⇑*i*P	**Pn**	**14 17 10.6**	**0.0**
ARG	**Arkhangelos**	**4.01**	**148**	*e*Pn	**Pn**	**14 17 10.2**	**-0.7**
ARG	**Arkhangelos**	**4.01**	**148**	P	**Pn**	**14 17 10.2**	**-0.7**
ARG	**Arkhangelos**	**4.01**	**148**	*e*P	**Pn**	**14 17 10.2**	**-0.7**
IGT	**Igoumenitsa**	**4.02**	**270**	*e*Pn	**Pn**	**14 17 13.3**	**+2.2**
IGT	**Igoumenitsa**	**4.02**	**270**	*e*Pn	**Pn**	**14 17 12.4**	**+1.3**
IGT	**Igoumenitsa**	**4.02**	**270**	P	**Pn**	**14 17 12.4**	**+1.3**
IGT	**Igoumenitsa**	**4.02**	**270**	*e*P	**Pn**	**14 17 12.4**	**+1.3**
BRDR	**BURDUR-Merkez**	**4.05**	**118**	⇓*i*P	**Pn**	**14 17 12.6**	**+1.0**
BRDR				*i* S	**Sg**	**14 18 18.1**	**-1.6**
SHUT	**Suhut-Afyon**	**4.06**	**104**	PN	**Pn**	**14 17 11.5**	**-0.2**
PYL	**PYLOS**	**4.07**	**228**	*e*Pn	**Pn**	**14 17 12.2**	**+0.4**
PYL	**PYLOS**	**4.07**	**228**	P	**Pn**	**14 17 12.2**	**+0.4**
FETY	**Fethiye**	**4.12**	**136**	*e*Pn	**Pn**	**14 17 13.1**	**+0.6**
FETY	**Fethiye**	**4.12**	**136**	P	**Pn**	**14 17 13.1**	**+0.6**
FETY	**Fethiye**	**4.12**	**136**	*i* P	**Pn**	**14 17 13.0**	**+0.6**
FETY				*i* S	**Sg**	**14 18 17.1**	**-4.9**
VLS	**Valsamata**	**4.14**	**250**	P	**Pn**	**14 17 13.5**	**+0.8**
ANKY	**Antikythira Is**	**4.19**	**206**	*e*Pn	**Pn**	**14 17 12.1**	**-1.3**
ANKY	**Antikythira Is**	**4.19**	**206**	P	**Pn**	**14 17 12.1**	**-1.3**
ZAPS	**Zavoj**	**4.21**	**330**	*e*Pn	**Pn**	**14 17 15.7**	**+2.0**
BARS	**Barje**	**4.21**	**319**	*e*Pn	**Pn**	**14 17 14.4**	**+0.6**
BARS				*e*Sg	**Sg**	**14 18 23.5**	**-1.4**
SAHE	**Sakarya_HENDEK**	**4.24**	**72**	*i* P	**Pn**	**14 17 12.1**	**-2.0**
SAHE				*i* S	**Sb**	**14 18 20.2**	**+5.0**
SRN	**Sarande**	**4.27**	**275**	*e*Pn	**Pn**	**14 17 16.2**	**+1.7**
SRN	**Sarande**	**4.27**	**275**	P	**Pn**	**14 17 16.2**	**+1.7**
BTAS	**Taskesti**	**4.28**	**76**	*i* P	**Pn**	**14 17 15.8**	**+1.0**
BTAS				*i* S	**Sb**	**14 18 19.8**	**+3.2**
TPE	**Tepelena**	**4.29**	**280**	*e*Pn	**Pn**	**14 17 16.6**	**+1.8**
TPE	**Tepelena**	**4.29**	**280**	P	**Pn**	**14 17 16.6**	**+1.8**
BOLV	**Bolvadin**	**4.31**	**101**	*i* P	**Pn**	**14 17 16.7**	**+1.5**
BOLV				*i* S	**Sg**	**14 18 24.4**	**-3.6**
ISP	**Isparta**	**4.31**	**114**	*e*Pn	**Pn**	**14 17 14.6**	**-0.6**
ISP	**Isparta**	**4.31**	**114**	⇑*i*P	**Pn**	**14 17 15.0**	**-0.2**
ISP	**Isparta**	**4.31**	**114**	P	**Pn**	**14 17 14.6**	**-0.6**
ISP	**Isparta**	**4.31**	**114**	*e*P	**Pn**	**14 17 14.6**	**-0.6**
ISP	**Isparta**	**4.31**	**114**	Pn	**Pn**	**14 17 14.4**	**-0.8**
KARP	**Karpathos**	**4.31**	**162**	*e*Pn	**Pn**	**14 17 13.7**	**-1.4**
PHP	**Peshkopia**	**4.37**	**299**	*e*Pn	**Pn**	**14 17 16.8**	**+0.9**
PHP	**Peshkopia**	**4.37**	**299**	P	**Pn**	**14 17 16.8**	**+0.9**
PHP	**Peshkopia**	**4.37**	**299**	*e*P	**Pn**	**14 17 16.8**	**+0.9**
IMMV	**Iera Moni Meta**	**4.38**	**197**	P	**Pn**	**14 17 16.7**	**+0.7**
VAM	**Vamos**	**4.38**	**194**	P	**Pn**	**14 17 14.7**	**-1.4**
VAM	**Vamos**	**4.38**	**194**	P	**Pn**	**14 17 14.7**	**-1.4**
NPS	**Neapolis**	**4.40**	**179**	P	**Pn**	**14 17 14.9**	**-1.4**
VLAD	**Vladila**	**4.41**	**349**	⇑*i*P	**Pn**	**14 17 17.1**	**+0.7**
KEK	**Kerkira**	**4.43**	**272**	P	**Pn**	**14 17 18.0**	**+1.3**
BAGO	**Egridir - ISPA**	**4.43**	**111**	*i* P	**Pn**	**14 17 17.3**	**+0.5**
BAGO				*i* S	**Sg**	**14 18 35.9**	**+4.1**
LAST	**Lasithi**	**4.50**	**181**	*e*Pn	**Pn**	**14 17 16.0**	**-1.7**
LAST	**Lasithi**	**4.50**	**181**	P	**Pn**	**14 17 16.0**	**-1.7**
SGRR	**Singureni**	**4.56**	**4**	⇓*i*P	**Pn**	**14 17 17.6**	**-0.9**
ZKR	**Zakros**	**4.58**	**173**	*e*Pn	**Pn**	**14 17 17.2**	**-1.5**
ZKR	**Zakros**	**4.58**	**173**	P	**Pn**	**14 17 17.2**	**-1.5**
KORT	**Korkueli**	**4.63**	**124**	⇑*i*P	**Pn**	**14 17 21.6**	**+2.1**
KORT				*i* S	**Sg**	**14 18 38.0**	**-0.1**
TIR	**Tirane**	**4.64**	**293**	*e*Pn	**Pn**	**14 17 21.7**	**+2.1**
TIR	**Tirane**	**4.64**	**293**	*e*Pn	**Pn**	**14 17 21.4**	**+1.9**
TIR	**Tirane**	**4.64**	**293**	⇓*i*P	**Pn**	**14 17 20.2**	**+0.6**
TIR	**Tirane**	**4.64**	**293**	P	**Pn**	**14 17 22.0**	**+2.4**
TIR	**Tirane**	**4.64**	**293**	*e*P	**Pn**	**14 17 21.4**	**+1.9**
RASA	**Rasa**	**4.70**	**14**	⇑*i*P	**Pn**	**14 17 19.7**	**-0.7**
AKAS	**Kas**	**4.70**	**136**	⇑*i*P	**Pn**	**14 17 22.6**	**+2.0**
AKAS				*i* S	**Sg**	**14 18 38.5**	**-2.0**
KSL	**Kastellorizon**	**4.75**	**136**	*e*Pn	**Pn**	**14 17 22.2**	**+1.1**
KSL	**Kastellorizon**	**4.75**	**136**	P	**Pn**	**14 17 22.2**	**+1.1**
ICOR	**Ion Corvin**	**4.75**	**20**	⇑*i*P	**Pn**	**14 17 20.5**	**-0.7**
ZAGS	**Zajecar**	**4.82**	**330**	*e*Pn	**Pn**	**14 17 22.2**	**+0.1**
CRAR	**CRAIOVA**	**4.83**	**345**	⇑*i*P	**Pn**	**14 17 23.0**	**+0.8**
SELS	**Selova**	**4.86**	**318**	*e*Pn	**Pn**	**14 17 22.4**	**-0.2**
HUMR	**Humele**	**4.87**	**355**	⇓*i*P	**Pn**	**14 17 21.9**	**-0.9**
BOVS	**Bovan**	**4.89**	**325**	*e*Pn	**Pn**	**14 17 22.9**	**-0.2**
LEHL	**Lehliu**	**4.90**	**11**	⇑*i*P	**Pn**	**14 17 22.5**	**-0.6**
GVD	**Gavdhos**	**4.96**	**194**	*e*Pn	**Pn**	**14 17 24.6**	**+0.6**
GVD	**Gavdhos**	**4.96**	**194**	P	**Pn**	**14 17 24.6**	**+0.6**
MFTR	**Murfatlar**	**4.99**	**25**	⇑*i*P	**Pn**	**14 17 24.3**	**-0.1**
PUNG	**Punghina**	**5.00**	**338**	⇑*i*P	**Pn**	**14 17 24.1**	**-0.4**
DOGA	**KONYA_Doganhis**	**5.03**	**106**	⇓*i*P	**Pn**	**14 17 26.9**	**+1.8**
DOGA				*i* S	**Sg**	**14 18 54.2**	**+3.1**
SULR		**5.04**	**6**	⇑*i*P	**Pn**	**14 17 26.0**	**+1.0**
BCAM	**Yenicaga**	**5.13**	**75**	*i* P	**Pn**	**14 17 26.0**	**-0.3**
BCAM				*i* S	**Sg**	**14 18 49.7**	**-4.4**
PVY	**Plav**	**5.13**	**307**	⇑*i*Pn	**Pn**	**14 17 26.9**	**+0.5**
PVY				*e*Sn	**Sn**	**14 18 24.2**	**-1.4**
GOLR		**5.19**	**355**	⇓*i*P	**Pn**	**14 17 27.4**	**+0.3**
TIRR	**Tirgusor**	**5.24**	**23**	*e*Pn	**Pn**	**14 17 26.5**	**-1.4**
TIRR	**Tirgusor**	**5.24**	**23**	*e*P	**Pn**	**14 17 26.5**	**-1.4**
TLB	**Topalu**	**5.25**	**20**	⇑*i*P	**Pn**	**14 17 27.1**	**-0.9**
TLB	**Topalu**	**5.25**	**20**	P	**Pn**	**14 17 27.1**	**-0.9**
SRE	**Strehaia**	**5.28**	**342**	⇓*i*P	**Pn**	**14 17 28.3**	**-0.2**
SRE	**Strehaia**	**5.28**	**342**	P	**Pn**	**14 17 28.2**	**-0.2**
ULC	**Ulcinj**	**5.30**	**298**	⇓*i*Pn	**Pn**	**14 17 28.5**	**-0.1**
ULC				*e*Sn	**Sn**	**14 18 28.1**	**-1.5**
IVA	**Berane**	**5.32**	**309**	⇑*i*Pn	**Pn**	**14 17 29.6**	**+0.6**
IVA				*e*Sn	**Sn**	**14 18 29.4**	**-1.0**
HARR	**Harsova**	**5.32**	**19**	⇓*i*P	**Pn**	**14 17 28.1**	**-0.9**
PGOR	**Pogoanele**	**5.34**	**11**	⇓*i*P	**Pn**	**14 17 29.7**	**+0.5**
SECR		**5.38**	**4**	⇓*i*P	**Pn**	**14 17 30.5**	**+0.8**
DRME	**Dracevica, Mon**	**5.43**	**300**	⇓*i*Pn	**Pn**	**14 17 31.9**	**+1.5**
DRME				*e*Sn	**Sn**	**14 18 32.0**	**-0.9**
DRME	**Dracevica, Mon**	**5.43**	**300**	⇓*i*Pn	**Pn**	**14 17 32.5**	**+2.1**
DJES	**Djerdap**	**5.47**	**337**	*e*Pn	**Pn**	**14 17 31.4**	**+0.3**
PDG	**Podgorica**	**5.49**	**302**	*e*Pn	**Pn**	**14 17 33.1**	**+1.8**
PDG	**Podgorica**	**5.49**	**302**	⇓*i*P	**Pn**	**14 17 31.8**	**+0.5**
PDG	**Podgorica**	**5.49**	**302**	⇓*i*Pn	**Pn**	**14 17 33.1**	**+1.8**
TTG	**Podgorica**	**5.49**	**302**	⇓*i*Pn	**Pn**	**14 17 32.2**	**+0.9**
TTG				*e*Sn	**Sn**	**14 18 33.4**	**-1.0**
TTG	**Podgorica**	**5.49**	**302**	*e*Pn	**Pn**	**14 17 32.8**	**+1.5**
TTG	**Podgorica**	**5.49**	**302**	P	**Pn**	**14 17 32.8**	**+1.5**
ISR	**Istrita**	**5.50**	**7**	⇑*i*P	**Pn**	**14 17 31.9**	**+0.5**
ISR	**Istrita**	**5.50**	**7**	P	**Pn**	**14 17 32.3**	**+0.9**
ISR				pmax	pmax		
	comp=Z,8μm,1.1s						
SJES	**Sjenica**	**5.51**	**312**	*e*Pn	**Pn**	**14 17 32.4**	**+0.8**
KOME	**Kolasin**	**5.54**	**307**	⇓*i*Pn	**Pn**	**14 17 32.6**	**+0.6**
KOME				*e*Sn	**Sn**	**14 18 34.4**	**-1.4**
KUBS	**Kucevo**	**5.54**	**330**	*e*Pn	**Pn**	**14 17 31.3**	**-0.7**
GRUS	**Gruza**	**5.55**	**321**	*e*Pn	**Pn**	**14 17 31.7**	**-0.3**
MTUR	**Matau**	**5.57**	**357**	⇑*i*P	**Pn**	**14 17 33.4**	**+1.0**
BR231	**Keskin MP Arra**	**5.58**	**86**	*e*Pn	**Pn**	**14 17 32.1**	**-0.5**
ANTO	**Ankara**	**5.59**	**86**	*e*Pn	**Pn**	**14 17 32.6**	**-0.2**
ANTO	**Ankara**	**5.59**	**86**	⇓*i*P	**Pn**	**14 17 32.5**	**-0.2**
ANTO	**Ankara**	**5.59**	**86**	*e*P	**Pn**	**14 17 32.6**	**-0.2**
ANTO	**Ankara**	**5.59**	**86**	*e*P	**Pn**	**14 17 32.6**	**-0.2**
SVIS	**Svilajnac**	**5.61**	**326**	*e*Pn	**Pn**	**14 17 32.2**	**-0.7**
IVAS	**Ivanjica**	**5.62**	**316**	*e*Pn	**Pn**	**14 17 32.9**	**-0.1**
BUM	**Brajici-Budva**	**5.67**	**300**	⇓*i*Pn	**Pn**	**14 17 31.6**	**-2.3**
BUM				*e*Sn	**Sn**	**14 18 37.5**	**-1.5**
HERR	**Herculane**	**5.70**	**337**	⇓*i*P	**Pn**	**14 17 33.4**	**-0.7**
ARR	**Arges**	**5.74**	**354**	⇓*i*P	**Pn**	**14 17 34.0**	**-0.7**
CEME	**Cevo**	**5.77**	**302**	⇑*i*Pn	**Pn**	**14 17 35.6**	**+0.5**
CEME				*e*Sn	**Sn**	**14 18 40.4**	**-0.9**
VOIR		**5.78**	**357**	⇑*i*P	**Pn**	**14 17 34.7**	**-0.6**
VOIR		**5.78**	**357**	P	**Pn**	**14 17 34.2**	**-1.1**
VOIR				pmax	pmax		
	comp=Z,5μm,0.9s						
GRER		**5.81**	**10**	⇑*i*P	**Pn**	**14 17 36.4**	**+0.8**
MLR	**Muntele Rosu**	**5.83**	**3**	Pn	**Pn**	**14 17 36.2**	**+0.2**
	comp=Z,41nm,0.3s,baz=194,slow=5.9,SNR=186						
MLR				Lg	Lg	14 19 15.6	
	comp=Z,39nm,0.3s,baz=222,slow=6.9,SNR=3.3						
MLR				LR	LR	14 20 23.3	
	comp=Z,106μm,18.4s,baz=163,slow=44						
MLR	**Muntele Rosu**	**5.83**	**3**	⇑*i*P	**Pn**	**14 17 36.3**	**+0.2**
MLR	**Muntele Rosu**	**5.83**	**3**	*e*P	**Pn**	**14 17 36.4**	**+0.4**
CFR	**Carcaliu**	**5.83**	**18**	⇑*i*P	**Pn**	**14 17 35.0**	**-0.9**
CFR	**Carcaliu**	**5.83**	**18**	P	**Pn**	**14 17 34.5**	**-1.4**
CFR				pmax	pmax		
	comp=Z,4μm,1.5s						
MDVR	**Moldovita**	**5.84**	**332**	⇓*i*P	**Pn**	**14 17 36.2**	**0.0**
NKY	**Niksic**	**5.85**	**305**	⇑*i*Pn	**Pn**	**14 17 36.5**	**+0.2**
NKY				*e*Sn	**Sn**	**14 18 41.5**	**-1.8**
NKME	**Niksic**	**5.85**	**304**	⇓*i*Pn	**Pn**	**14 17 36.4**	**+0.1**
NKME				*e*Sn	**Sn**	**14 18 41.5**	**-1.8**
PLE	**Pljevlja**	**5.89**	**310**	⇓*i*Pn	**Pn**	**14 17 36.9**	**0.0**
PLE				*e*Sn	**Sn**	**14 18 43.3**	**-1.1**
LOT	**Lotru**	**5.92**	**348**	⇑*i*P	**Pn**	**14 17 37.0**	**-0.3**
TRUS	**Trudelj**	**5.95**	**322**	*e*Pn	**Pn**	**14 17 37.2**	**-0.3**
HCY	**Herceg Novi**	**6.00**	**300**	⇓*i*Pn	**Pn**	**14 17 38.8**	**+0.5**
HCY				*e*Sn	**Sn**	**14 18 46.0**	**-1.0**
HCY	**Herceg Novi**	**6.00**	**300**	⇓*i*Pn	**Pn**	**14 17 39.5**	**+1.2**
TLCR		**6.02**	**23**	⇑*i*P	**Pn**	**14 17 38.4**	**-0.2**
DIVS	**Divibare**	**6.06**	**319**	*e*Pn	**Pn**	**14 17 38.7**	**-0.5**
DIVS	**Divibare**	**6.06**	**319**	*e*Pn	**Pn**	**14 17 38.6**	**-0.6**
DIVS	**Divibare**	**6.06**	**319**	⇓*i*Pn	**Pn**	**14 17 38.5**	**-0.6**
GZR	**Gura Zlata**	**6.07**	**341**	⇓*i*P	**Pn**	**14 17 38.6**	**-0.8**
GZR	**Gura Zlata**	**6.07**	**341**	P	**Pn**	**14 17 38.5**	**-0.8**
UPM	**Unac-Piva**	**6.11**	**307**	⇑*i*Pn	**Pn**	**14 17 40.0**	**+0.1**
UPM				*e*Sn	**Sn**	**14 18 48.6**	**-1.3**
UPM	**Unac-Piva**	**6.11**	**307**	*e*Pn	**Pn**	**14 17 41.2**	**+1.3**
GIUM	**Giurgiulesti**	**6.14**	**18**	⇑*i*P	**Pn**	**14 17 40.7**	**+0.6**
PETR	**Petresti**	**6.18**	**11**	⇓*i*P	**Pn**	**14 17 41.4**	**+0.7**
BRY	**Bratogost**	**6.18**	**304**	⇓*i*Pn	**Pn**	**14 17 41.6**	**+0.7**
BRY				*e*Sn	**Sn**	**14 18 50.4**	**-1.2**
BRY	**Bratogost**	**6.18**	**304**	⇓*i*Pn	**Pn**	**14 17 42.7**	**+1.8**
ODBI	**Odobesti**	**6.19**	**10**	⇑*i*P	**Pn**	**14 17 41.9**	**+1.0**
BBLS	**Lazići**	**6.21**	**314**	*e*Pn	**Pn**	**14 17 41.6**	**+0.3**
BBLS	**Lazići**	**6.21**	**314**	⇓*i*Pn	**Pn**	**14 17 41.4**	**+0.1**
TREB	**Trebinje**	**6.22**	**302**	*e*Pn	**Pn**	**14 17 42.4**	**+1.1**
PLOR	**Plostina**	**6.23**	**7**	⇑*i*P	**Pn**	**14 17 42.2**	**+0.7**
PLOR	**Plostina**	**6.23**	**7**	P	**Pn**	**14 17 42.1**	**+0.6**
BR131	**Keskin Array S**	**6.25**	**87**	*e*Pn	**Pn**	**14 17 41.8**	**0.0**
BR131	**Keskin Array S**	**6.25**	**87**	P	**Pn**	**14 17 41.9**	**0.0**
	SNR=114						
BR131				S	**Sn**	**14 18 50.9**	**-2.4**
BRTR	**Keskin Array B**	**6.25**	**87**	Pn	**Pn**	**14 17 41.8**	**0.0**
	comp=Z,123nm,0.3s,baz=255,slow=11,SNR=903						
BRTR				Pg	Pg	14 18 04.0	-5.2
	comp=Z,38nm,0.3s,baz=260,slow=15,SNR=17						
BRTR				Sn	**Sn**	**14 18 50.7**	**-2.6**
	comp=Z,57nm,0.3s,baz=280,slow=25,SNR=4.1						
BRTR				Lg	Lg	14 19 28.2	
	comp=Z,27nm,0.3s,baz=273,slow=26,SNR=11						
BRTR				LR	LR	14 20 39.8	
	comp=Z,15μm,19.3s,baz=260,slow=44						
BRTR	**Keskin Array B**	**6.25**	**87**	*ce*P	**Pn**	**14 17 41.7**	**0.0**
BRTR				pmax	pmax		
	comp=Z,328nm,0.3s						
CGL1	**Ceglie Messapi**	**6.25**	**282**	*e*P	**Pn**	**14 17 40.4**	**-1.4**
VRI	**Vrincioaia**	**6.26**	**8**	⇑*i*P	**Pn**	**14 17 42.3**	**+0.5**
VRI	**Vrincioaia**	**6.26**	**8**	P	**Pn**	**14 17 42.3**	**+0.5**
DOPR	**Dopca**	**6.30**	**359**	⇑*i*P	**Pn**	**14 17 42.2**	**-0.2**
BEO	**Beograd**	**6.37**	**325**	*e*Pn	**Pn**	**14 17 44.4**	**+1.1**
FASA	**Fasano**	**6.37**	**283**	*e*P	**Pn**	**14 17 43.0**	**-0.3**
TAR1	**Taranto**	**6.39**	**280**	⇓*i*P	**Pn**	**14 17 43.3**	**-0.3**
MASS	**Massafra**	**6.50**	**281**	*e*P	**Pn**	**14 17 44.4**	**-0.8**
DEV	**Deva**	**6.51**	**344**	⇑*i*P	**Pn**	**14 17 45.1**	**-0.1**
DEV	**Deva**	**6.51**	**344**	P	**Pn**	**14 17 44.9**	**-0.3**
MDB	**Medias**	**6.53**	**353**	⇓*i*P	**Pn**	**14 17 46.7**	**+1.2**
BANR	**Banloc**	**6.57**	**332**	⇓*i*P	**Pn**	**14 17 45.9**	**-0.2**
HAPS	**Han Pijesak,BI**	**6.61**	**314**	⇓*i*Pn	**Pn**	**14 17 46.4**	**-0.3**
BZS	**Buzias**	**6.61**	**335**	*e*Pn	**Pn**	**14 17 46.1**	**-0.5**
BZS	**Buzias**	**6.61**	**335**	⇑*i*P	**Pn**	**14 17 45.9**	**-0.7**
BZS	**Buzias**	**6.61**	**335**	P	**Pn**	**14 17 45.3**	**-1.3**
BZS				pmax	pmax		
	comp=Z,2μm,0.9s						
TEKS	**Tekeris**	**6.61**	**319**	*e*Pn	**Pn**	**14 17 45.9**	**-0.8**
STON	**Ston**	**6.71**	**301**	P	**Pn**	**14 17 48.6**	**+0.6**
BAI	**Bari**	**6.76**	**285**	*e*P	**Pn**	**14 17 48.6**	**-0.1**
BIR	**Birlad**	**6.77**	**12**	⇓*i*P	**Pn**	**14 17 48.6**	**-0.2**
TIP	**Timpagrande**	**6.81**	**269**	*e*Pn	**Pn**	**14 17 49.2**	**-0.3**
TIP	**Timpagrande**	**6.81**	**269**	⇓*i*P	**Pn**	**14 17 49.0**	**-0.5**
TIP	**Timpagrande**	**6.81**	**269**	P	**Pn**	**14 17 49.2**	**-0.3**
BZK	**Bozkurt**	**6.82**	**68**	⇑*i*P	**Pn**	**14 17 49.0**	**-0.5**
MATE	**Matera**	**6.84**	**281**	⇓*i*P	**Pn**	**14 17 49.6**	**-0.1**
TIM	**Timisoara**	**6.85**	**334**	⇓*i*P	**Pn**	**14 17 50.2**	**+0.3**
SG1	**Sgolgore (BA)**	**6.88**	**283**	*e*P	**Pn**	**14 17 50.2**	**-0.1**
FRGS	**Fruska Gora**	**6.93**	**324**	*e*Pn	**Pn**	**14 17 50.2**	**-0.9**
FRGS	**Fruska Gora**	**6.93**	**324**	⇓*i*Pn	**Pn**	**14 17 49.6**	**-1.5**
ORI	**Oriolo Calabro**	**7.00**	**276**	P	**Pn**	**14 17 52.7**	**+0.6**
ORI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
LEOM	**Leova**	**7.08**	**15**	⇑*i*P	**Pn**	**14 17 52.6**	**-0.5**
LEOM	**Leova**	**7.08**	**15**	P	**Pn**	**14 17 52.6**	**-0.5**
AKMC	**Akamas**	**7.12**	**128**	P	**Pn**	**14 17 54.1**	**+0.4**
GRI	**Girifalco**	**7.13**	**266**	P	**Pn**	**14 17 54.0**	**+0.2**
GRI				pmax	pmax		
	comp=Z,5.0nm,1.2s						
SIRR	**Siria**	**7.18**	**338**	⇓*i*P	**Pn**	**14 17 54.5**	**0.0**
CJR	**Cluj-Napoca**	**7.18**	**349**	⇑*i*P	**Pn**	**14 17 54.2**	**-0.3**
CJR	**Cluj-Napoca**	**7.18**	**349**	P	**Pn**	**14 17 54.1**	**-0.4**
ALFC	**Alefka**	**7.20**	**127**	P	**Pn**	**14 17 54.9**	**+0.1**
ALFC				S	**Sn**	**14 19 16.7**	**+0.1**
PPCY	**Paphos**	**7.23**	**129**	P	**Pn**	**14 17 55.6**	**+0.5**
BIZ	**Bicaz**	**7.28**	**3**	⇑*i*P	**Pn**	**14 17 55.8**	**0.0**
LEF	**Lefka**	**7.41**	**126**	⇓*i*P	**Pn**	**14 17 56.6**	**-1.0**
DRGR		**7.41**	**345**	⇑*i*P	**Pn**	**14 17 57.5**	**-0.2**
ARCR	**ARCALIA**	**7.46**	**354**	⇓*i*P	**Pn**	**14 17 58.4**	**0.0**
DOB	**Doboj**	**7.49**	**315**	*e*Pn	**Pn**	**14 17 58.9**	**+0.2**
CUC	**Castrocucco**	**7.49**	**276**	*e*Pn	**Pn**	**14 17 59.6**	**+0.8**
SOI	**Samo**	**7.57**	**261**	P	**Pn**	**14 17 59.4**	**-0.4**
SOI				pmax	pmax		
	comp=Z,2.0nm,1.3s						
MAMC	**Mammari**	**7.58**	**124**	P	**Pn**	**14 18 00.5**	**+0.5**
SZAC	**Souni**	**7.64**	**128**	P	**Pn**	**14 18 01.6**	**+0.8**
SZAC				S	**Sn**	**14 19 26.9**	**-0.5**
CEL	**Celeste**	**7.64**	**262**	*e*Pn	**Pn**	**14 18 00.5**	**-0.4**
DIKM	**Dikmen**	**7.65**	**72**	⇓*i*P	**Pn**	**14 18 00.6**	**-0.3**
IAS	**Iasi**	**7.67**	**10**	⇑*i*P	**Pn**	**14 18 00.2**	**-0.9**
KIS	**Kishinev**	**7.71**	**17**	*i* P	**Pn**	**14 17 59.0**	**-2.7**
KIS				*i* S	**Sn**	**14 19 27.0**	**-1.9**
KIS				LRM	MLR	14 23 08.0	
	comp=Z,36μm,10.0s						
KIS	**Kishinev**	**7.71**	**17**	α*i*P	**Pn**	**14 17 59.0**	**-2.7**
KIS				*i* S	**Sn**	**14 19 27.0**	**-1.9**
KIS				pmax	pmax		
	comp=Z,10μm,2.0s						
KIS				pmax	pmax		
	comp=Z,7μm,8.0s						
KIS				MLR	MLR		
	comp=N,58μm,9.0s						
KIS				MLR	MLR		
	comp=E,41μm,9.0s						
KIS				MLR	MLR		
	comp=Z,32μm,9.0s						
KIS				MLR	MLR		
	comp=Z,36μm,10.0s						
PRAR	**RASCA**	**7.71**	**4**	⇓*i*P	**Pn**	**14 18 02.5**	**+0.8**
SEV	**Sevastopol'**	**7.76**	**48**	*e*P	**Pn**	**14 17 59.6**	**-2.8**
SEV				*e*S	**Sn**	**14 19 24.2**	**-6.1**
CSS	**Mathiatis**	**7.78**	**125**	*e*Pn	**Pn**	**14 18 01.8**	**-1.1**
CSS	**Mathiatis**	**7.78**	**125**	P	**Pn**	**14 18 02.9**	**+0.1**
CSS	**Mathiatis**	**7.78**	**125**	P	**Pn**	**14 18 03.5**	**+0.7**
	comp=Z,148nm,0.9s,comp=Z,0.6nm						
CSS	**Mathiatis**	**7.78**	**125**	Pn	**Pn**	**14 18 01.6**	**-1.2**
BURAR	**Bucovina Array**	**7.95**	**358**	⇑*i*P	**Pn**	**14 18 04.9**	**-0.2**
BURAR	**Bucovina Array**	**7.95**	**358**	P	**Pn**	**14 18 04.9**	**-0.2**
BUR04	**Bucovina Ar. S**	**7.95**	**358**	*e*Pn	**Pn**	**14 18 05.5**	**+0.4**
BUR08	**Bucovina Ar. S**	**7.98**	**358**	*e*Pn	**Pn**	**14 18 06.3**	**+0.8**
BLY	**Banja Luka**	**8.01**	**312**	*e*Pn	**Pn**	**14 18 06.4**	**+0.5**
BLY	**Banja Luka**	**8.01**	**312**	⇓*i*P	**Pn**	**14 18 06.8**	**+0.9**
BLY	**Banja Luka**	**8.01**	**312**	⇓*i*Pn	**Pn**	**14 18 06.5**	**+0.6**
YAL	**Yalta**	**8.02**	**50**	*e*P	**Pn**	**14 18 02.7**	**-3.2**
YAL				*e*S	**Sn**	**14 19 30.1**	**-6.4**
BMR	**Baia Mare**	**8.14**	**350**	⇑*i*P	**Pn**	**14 18 08.2**	**+0.6**
LTVH	**Ltavrtes, Hu**	**8.15**	**342**	*e*Pn	Pn	14 18 18.1	+10
LTVH				*e*Sg	**Sg**	**14 20 37.0**	**+6.0**
SIM	**Simferopol'**	**8.26**	**48**	*ce*P	**Pn**	**14 18 07.2**	**-2.1**
SIM				*e*S	**Sn**	**14 19 44.6**	**+2.1**
SIM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SIM				MLR	MLR		
	comp=Z,36μm,14.0s						
MORH	**Mrgy, Hungar**	**8.27**	**325**	⇓*i*Pn	**Pn**	**14 18 08.1**	**-1.2**
MORH	**Mrgy, Hungar**	**8.27**	**325**	*e*Pn	**Pn**	**14 18 09.0**	**-0.3**
ALU	**Alushta**	**8.27**	**50**	*e*P	**Pn**	**14 18 04.7**	**-4.7**
MRAK	**Mrakovica**	**8.33**	**313**	*e*Pn	**Pn**	**14 18 07.3**	**-3.0**
KSV	**Kosov**	**8.65**	**358**	P	**Pn**	**14 18 15.6**	**+1.0**
TRPA	**Tarpa**	**8.73**	**347**	⇓*i*P	**Pn**	**14 18 15.5**	**-0.2**
TRPA	**Tarpa**	**8.73**	**347**	*e*Pn	**Pn**	**14 18 15.1**	**-0.6**
TRPA				*e*Sg	**Sg**	**14 20 53.1**	**+3.5**
UDBI	**Udbina**	**8.74**	**307**	P	**Pn**	**14 18 17.4**	**+1.6**
SUDU	**Sudak**	**8.74**	**50**	*e*P	**Pn**	**14 18 14.8**	**-1.0**
SUDU				*e*S	**Sn**	**14 19 53.0**	**-1.3**
VAE	**Valguarnera**	**8.98**	**259**	Pn	**Pn**	**14 18 19.4**	**+0.1**
	comp=Z,10nm,0.3s,baz=94,slow=1.3,SNR=16						
VAE				Sn	**Sn**	**14 19 57.1**	**-3.3**
	comp=Z,8.5nm,0.3s,baz=180,slow=20,SNR=2.5						
FEO	**Feodosiya**	**9.04**	**51**	*e*P	**Pn**	**14 18 20.1**	**+0.1**
FEO				*e*S	**Sn**	**14 19 57.4**	**-4.3**
TIH	**Tihany**	**9.12**	**325**	*e*Pn	**Pn**	**14 18 21.1**	**0.0**
BUD	**Budapest**	**9.13**	**331**	*e*Pn	**Pn**	**14 18 21.1**	**-0.1**
PSZ	**Piszkesteto**	**9.20**	**336**	*e*Pn	**Pn**	**14 18 20.6**	**-1.6**
PSZ	**Piszkesteto**	**9.20**	**336**	⇑*i*P	**Pn**	**14 18 21.7**	**-0.5**
PSZ	**Piszkesteto**	**9.20**	**336**	*e*P	**Pn**	**14 18 20.6**	**-1.6**
PSZ	**Piszkesteto**	**9.20**	**336**	*e*Pn	**Pn**	**14 18 22.0**	**-0.2**
PSZ				*e*Sg	Sn	14 20 47.1	+41
UZH	**Uzhgorod**	**9.26**	**347**	⇓*i*P	**Pn**	**14 18 25.0**	**+2.1**
UZH				*e*S	**Sn**	**14 20 10.3**	**+3.3**
UZH				MLR	MLR		
	comp=N,9μm,14.0s						
UZH				MLR	MLR		
	comp=Z,6μm,14.0s						
NVLJ	**Novalja**	**9.31**	**305**	P	**Pn**	**14 18 23.4**	**-0.2**
BEHE	**Becsehely**	**9.34**	**320**	⇓*i*Pn	**Pn**	**14 18 23.7**	**-0.4**
BEHE	**Becsehely**	**9.34**	**320**	*e*Pn	**Pn**	**14 18 24.0**	**-0.1**
OZLJ	**Ozalj**	**9.50**	**312**	P	**Pn**	**14 18 26.1**	**-0.1**
WDD	**Wied Dalam**	**9.52**	**250**	*e*Pn	**Pn**	**14 18 24.4**	**-2.2**
MORS	**Morshin**	**9.54**	**353**	P	**Pn**	**14 18 28.4**	**+1.7**
BOJS	**Bojanci**	**9.56**	**311**	*e*Pn	**Pn**	**14 18 27.7**	**+0.5**
HORU	**Horodok**	**9.56**	**4**	P	**Pn**	**14 18 27.1**	**-0.1**
CRES	**Cresnjev**	**9.63**	**313**	⇓*i*Pn	**Pn**	**14 18 27.8**	**-0.3**
SRO	**Srobarova**	**9.67**	**330**	*e*PN	**Pn**	**14 18 29.9**	**+1.3**
KERU	**Kerch**	**9.84**	**51**	*e*P	**Pn**	**14 18 32.9**	**+2.0**
CLTB	**Caltabellotta**	**9.87**	**262**	*e*Pn	**Pn**	**14 18 31.3**	**-0.1**
VISS	**Visnje**	**9.97**	**311**	*e*Pn	**Pn**	**14 18 32.9**	**+0.2**
VYHS	**Vyhne**	**10.05**	**334**	*e*PN	**Pn**	**14 18 33.3**	**-0.5**
KWP	**Kalwaria Pacla**	**10.16**	**350**	*e*Pn	**Pn**	**14 18 35.8**	**+0.4**
KWP				*e*		14 18 39.7	
KWP				LME		14 22 16.2	
	comp=Z,256μm,17.9s						
KWP	**Kalwaria Pacla**	**10.16**	**350**	*e*Pn	**Pn**	**14 18 35.7**	**+0.4**
KWP	**Kalwaria Pacla**	**10.16**	**350**	*e*P	**Pn**	**14 18 35.8**	**+0.4**
KWP				MLR	MLR		
	comp=E,256μm,17.9s						
HNTI	**Hanita**	**10.17**	**127**	Pn	**Pn**	**14 18 33.3**	**-2.2**
CEY	**Cerknica**	**10.18**	**310**	⇓*i*Pn	**Pn**	**14 18 35.7**	**+0.1**
ANN	**Anapa**	**10.20**	**56**	*e*P	**Pn**	**14 18 34.0**	**-1.8**
ANN				*e*S	**Sn**	**14 20 27.3**	**-2.8**
ANN				pmax	pmax		
	comp=Z,389nm,1.6s						
ANN				MLR	MLR		
	comp=N,25μm,14.0s						
ANN				MLR	MLR		
	comp=E,3μm,14.0s						
ANN				MLR	MLR		
	comp=Z,18μm,14.0s						
LVV	**L'vov**	**10.21**	**354**	*e*P	**Pn**	**14 18 36.7**	**+0.8**
LVV				*e*S	**Sn**	**14 20 32.2**	**+1.9**
LVV				MLR	MLR		
	comp=Z,29μm,10.0s						
KOLL	**Kolacno**	**10.27**	**332**	*e*PN	**Pn**	**14 18 36.6**	**-0.2**

LJU Ljubljana 10.29 312 ⇓*i* Pn Pn 14 18 36.9 -0.2
PERS Pernice 10.31 316 *i* Pn Pn 14 18 37.8 +0.3
SOP Sopron 10.31 324 P Pn 14 18 38.0 +0.6
SOP pmax pmax
comp=Z,257nm,0.8s
SOP Sopron 10.31 324 *e*Pn Pn 14 18 40.0 +2.6
MMA0B Mount Meron ar 10.36 127 Pn Pn 14 18 36.0 -2.1
MMAI Mount Meron Ar 10.36 127 Pn Pn 14 18 36.6 -1.5
comp=Z,53nm,0.3s,baz=321,slow=12,SNR=134
MMAI Sn Sn 14 20 26.5 -7.8
comp=Z,8.8nm,0.3s,baz=315,slow=24,SNR=3.4
MMAI LR LR 14 23 34.3
comp=Z,25µm,18.4s,baz=280,slow=43
OFRI `Ofer 10.38 130 Pn Pn 14 18 37.1 -1.3
SOKA Soboth 10.38 316 *e*Pn Pn 14 18 38.0 -0.5
comp=Z,71nm,0.8s,SNR=86
SOKA Sn Sn 14 20 37.1 +2.3
comp=Z,40nm,0.5s
KSDI Kefar Szold 10.40 125 P Pn 14 18 37.0 -1.6
comp=Z,575nm,0.9s
KSDI Kefar Szold 10.40 125 Pn Pn 14 18 37.0 -1.6
KSDI Sn Sn 14 20 33.4 -1.8
NATI Neve Ativ 10.40 125 Pn Pn 14 18 37.1 -1.6
BLGI Bet Lehem HaGe 10.42 129 Pn Pn 14 18 37.5 -1.5
LANS Liptovska Anna 10.42 337 *e*PN Pn 14 18 40.3 +1.4
NIE Niedzica 10.44 341 *e*Pn Pn 14 18 39.5 +0.4
NIE *e* 14 18 45.6
NIE LMZ LR 14 21 59.7
comp=Z,14µm,27.3s
NIE Niedzica 10.44 341 *e*P Pn 14 18 39.5 +0.4
NIE MLR MLR
comp=Z,14µm,27.0s
BRBR Barbar 10.44 123 *e*P Pn 14 18 38.3 -1.1
JAVS Javornik 10.47 310 *e*Pn Pn 14 18 40.0 +0.3
ARSA Arzberg 10.50 319 *e*Pn Pn 14 18 39.8 -0.2
comp=Z,104nm,0.7s,SNR=82
ARSA *e*Sn Sn 14 20 38.5 +1.0
comp=Z,46nm,0.6s
MODS Modra-Piesok 10.53 328 *e*PN Pn 14 18 38.6 -1.8
OBKA Obir 10.54 314 *e*Pn Pn 14 18 41.6 +0.9
comp=Z,68nm,0.7s,SNR=32
TRI Trieste 10.56 309 *e*Pn Pn 14 18 40.0 -0.7
TRI Trieste 10.56 309 *e*P Pn 14 18 40.0 -0.7
QASN Qassioun 10.58 122 *e*P Pn 14 18 40.8 -0.4
SMOL Smolenice 10.59 329 P Pn 14 18 41.5 +0.4
SMOL Smolenice 10.59 329 *e*PN Pn 14 18 41.1 0.0
SLTI Sal'it 10.68 131 Pn Pn 14 18 41.0 -1.5
MMLI Mount Malkishu 10.77 129 P Pn 14 18 45.8 +2.1
comp=Z,414nm,1.5s
MMLI Mount Malkishu 10.77 129 Pn Pn 14 18 42.8 -0.9
JAVC Velka Javorina 10.78 331 *e*PN Pn 14 18 44.9 +1.1
TOTH TOTAH 10.79 122 *e*P Pn 14 18 44.1 +0.2
CONA Conrad Observa 10.81 323 *e*Pn Pn 14 18 44.1 -0.2
comp=Z,67nm,0.7s,SNR=70
CONA Sn Sn 14 20 46.2 +0.9
comp=Z,85nm,0.8s
MYKA Terra Mystica 11.12 313 *e*Pn Pn 14 18 49.0 +0.5
comp=Z,71nm,0.6s,SNR=40
AMAZ Amatzia 11.14 134 P Pn 14 18 51.3 +2.5
comp=Z,397nm,1.4s
AMAZ Amatzia 11.14 134 Pn Pn 14 18 47.5 -1.3
OJC Ojcow 11.30 341 *e*Pn Pn 14 18 51.4 +0.5
OJC *e* 14 18 54.9
OJC LMZ LR 14 22 28.6
comp=Z,23µm,27.7s
OJC Ojcow 11.30 341 *e*Pn Pn 14 18 50.6 -0.3
OJC Ojcow 11.30 341 *e*P Pn 14 18 51.4 +0.5
OJC MLR MLR
comp=Z,23µm,27.0s
SOC Sochi 11.31 65 *e*P Pn 14 18 51.8 +0.8
SOC *e* 14 20 57.4
SOC pmax pmax
comp=Z,46nm,0.8s
SOC MLR MLR
comp=Z,12µm,13.0s
KIEV Kiev 11.32 12 *e*Pn Pn 14 18 48.1 -3.1
KIEV Kiev 11.32 12 *i* P Pn 14 18 49.1 -2.1
SNR=32
KIEV Kiev 11.32 12 *e*P Pn 14 18 48.1 -3.1
AKASG Malin Array Be 11.33 12 Pn Pn 14 18 49.2 -2.1
comp=Z,16nm,0.3s,baz=196,slow=13,SNR=48
AKASG Sn Sn 14 20 48.6 -9.3
comp=Z,17nm,0.3s,baz=198,slow=24,SNR=3.0
AKASG Lg Lg 14 22 08.5
baz=184,slow=28,SNR=4.2
AKASG LR LR 14 23 56.4
comp=Z,12µm,18.4s,baz=190,slow=41
KZIT Kziot 11.34 138 P Pn 14 18 51.1 -0.5
comp=Z,800nm,1.0s
KZIT Kziot 11.34 138 Pn Pn 14 18 50.3 -1.3
DSI Dead Sea 11.37 132 Pn Pn 14 18 52.0 +0.1
YTIR Yattir 11.38 134 Pn Pn 14 18 50.9 -1.2
KRUC Moravsky 11.44 328 P Pn 14 18 52.0 -0.8
KRUC pmax pmax
comp=Z,113nm,1.0s
KRUC Moravsky 11.44 328 *e*PN Pn 14 18 51.5 -1.3
OKC Ostrava-Krasne 11.44 335 *e*P Pn 14 18 55.8 +3.0
OKC *ex* x 14 18 58.1
OKC *ex* x 14 19 04.4
OKC AMS AMS 14 23 50.0
comp=Z,74µm,12.8s
OKC Ostrava-Krasne 11.44 335 *e*P Pn 14 18 55.8 +3.0
OKC MLR MLR
comp=Z,74µm,12.8s
MOA Molln 11.54 319 *e*Pn Pn 14 18 54.6 +0.5
comp=Z,82nm,0.8s,SNR=84
MOA Sn Sn 14 21 05.7 +2.8
comp=Z,61nm,0.8s
KBA Koelnbreinsper 11.55 314 P Pn 14 18 53.2 -1.3
KBA Koelnbreinsper 11.55 314 *e*Pn Pn 14 18 56.3 +1.9
comp=Z,112nm,0.5s,SNR=30
VRAC Vranov 11.55 329 Pn Pn 14 18 55.3 +1.0
comp=Z,0.7nm,0.3s,baz=148,slow=14,SNR=25
VRAC LR LR 14 23 36.5
comp=Z,24µm,20.1s,baz=143,slow=39
VRAC Vranov 11.55 329 ⇓*i* P Pn 14 18 54.5 +0.1
VRAC Vranov 11.55 329 *e*PN Pn 14 18 53.2 -1.2
MZDA Masada 11.55 133 Pn Pn 14 18 53.2 -1.2
MORC Moravsky Berou 11.59 333 *e*Pn Pn 14 18 54.3 -0.6
MORC Moravsky Berou 11.59 333 ⇑*i* P Pn 14 18 55.3 +0.4
MORC Moravsky Berou 11.59 333 *e*P Pn 14 18 54.3 -0.6
MORC Moravsky Berou 11.59 333 *e*PN Pn 14 18 53.7 -1.2
WALJ Wala 11.62 131 P Pn 14 18 55.0 -0.4
comp=Z,353nm,0.7s
RAC Raciborz 11.64 336 *e*P Pn 14 18 56.7 +1.2
RAC *e*S Sn 14 21 08.8 +3.5
RAC MLR MLR
comp=Z,82µm,15.1s
RMNI Mount Ramon 11.78 137 Pn Pn 14 18 55.6 -2.0
ABTA Abfaltersbach 11.84 311 *e*Pn Pn 14 18 58.3 -0.1
comp=Z,110nm,0.7s,SNR=160
CGRP Cima Grappa 11.84 306 ⇓*i*Pg Pn 14 18 57.0 -1.6
ASF Jabal al Asfar 11.86 126 Pn Pn 14 18 58.9 +0.2
comp=Z,3.8nm,0.3s,baz=259,slow=9.6,SNR=23
ASF Sn Sn 14 21 11.0 +0.1
comp=Z,1.7nm,0.3s,baz=49,slow=20,SNR=2.5
ASF LR LR 14 23 59.8
comp=Z,16µm,21.3s,baz=261,slow=40
ASF Jabal al Asfar 11.86 126 P Pn 14 18 59.0 +0.3
comp=Z,146nm,1.2s
TREC Trest 11.99 327 *e*P Pn 14 19 02.5 +2.1
TREC *ex* x 14 19 12.0
TREC AMS AMS 14 24 10.0
comp=Z,64µm,11.2s
TREC Trest 11.99 327 *e*P Pn 14 19 02.5 +2.1
TREC MLR MLR
comp=Z,64µm,11.2s
ZFRI Zfri 12.03 136 Pn Pn 14 18 59.6 -1.4
PRNI Paran 12.10 137 Pn Pn 14 19 00.2 -1.7
KRLC Kraliky 12.11 332 *e*P Pn 14 19 03.5 +1.5
KRLC *ex* x 14 19 08.2
KRLC *ex* x 14 19 13.8
KRLC AMS AMS 14 23 40.0
comp=Z,15µm,14.4s
KRLC Kraliky 12.11 332 *e*P Pn 14 19 03.5 +1.5
KRLC MLR MLR
comp=Z,15µm,14.4s
JDRJ Daraweish 12.16 134 P Pn 14 19 05.3 +2.4
comp=Z,324nm,1.5s
RISI Rein 12.20 311 ⇓*i*Pg Pn 14 19 03.0 -0.4
RJOB Jochberg 12.24 315 *e*Pn Pn 14 19 04.0 +0.2
comp=Z,347nm,1.3s
HRFI Mount Harif 12.37 138 P Pn 14 19 06.2 +0.6
comp=Z,409nm,1.1s
HRFI Mount Harif 12.37 138 Pn Pn 14 19 03.8 -1.8
KOSI Kohlern 12.37 308 ⇓*i*Pg Pn 14 19 04.3 -1.4
GEC2 GERESS Array S 12.48 321 *e*Pn Pn 14 19 07.8 +0.7
comp=Z,1µm,2.3s
GERES GERESS Array B 12.48 321 Pn Pn 14 19 07.1 -0.1
comp=Z,0.2nm,0.3s,baz=129,slow=11,SNR=61
GERES Lg Lg 14 22 46.8
baz=132,slow=28,SNR=3.1
GERES LR LR 14 23 35.6
comp=Z,13µm,18.2s,baz=137,slow=36
MBRI Mt Berech 12.50 139 Pn Pn 14 19 06.0 -1.5
DPC Dobruska-Polom 12.50 332 *e*P Pn 14 19 08.1 +0.7
DPC *ex* x 14 19 10.3
DPC *ex* x 14 19 19.8
DPC AMS AMS 14 23 50.0
comp=Z,47µm,14.9s
DPC Dobruska-Polom 12.50 332 *e*P Pn 14 19 08.1 +0.7
DPC MLR MLR
comp=Z,47µm,14.9s
ABSI Aberstueckl 12.54 309 ⇓*i*Pg Pn 14 19 07.3 -0.7
ROSI Rosskopf 12.58 310 ⇓*i*Pg Pn 14 19 08.2 -0.4
DOMR Dombai 12.60 68 *i* P Pn 14 19 09.8 +1.0
BEL Belsk 12.61 346 *e*P Pn 14 19 11.1 +2.4
BEL LME 14 23 47.2
comp=Z,197µm,16.8s
BEL Belsk 12.61 346 *e*P Pn 14 19 11.1 +2.4
BEL MLR MLR
comp=E,197µm,16.8s
EIL Elat 12.62 139 Pn Pn 14 19 07.8 -1.2
comp=E,9.3nm,0.3s,baz=7.7,slow=5.2,SNR=29
EIL Sn Sn 14 21 18.4 -11
comp=E,3.7nm,0.3s,baz=303,slow=17,SNR=2.3
EIL LR LR 14 26 10.0
comp=E,10µm,19.4s,baz=341,slow=48
EIL Elat 12.62 139 P Pn 14 19 07.6 -1.4
comp=E,231nm,1.0s
EIL Elat 12.62 139 Pn Pn 14 19 07.2 -1.8
EIL Elat 12.62 139 Pn Pn 14 19 07.3 -1.8
WATA Walderalm 12.69 312 *e*Pn Pn 14 19 11.7 +1.6
comp=E,72nm,0.5s,SNR=40
MABI Malga Bissina 12.73 305 ⇓*i* Pn Pn 14 19 09.2 -1.4
KHC Kasperske Hory 12.74 322 *e*Pn Pn 14 19 10.0 -0.6
KHC Kasperske Hory 12.74 322 *e*P Pn 14 19 10.9 +0.3
KHC *ex* x 14 19 15.4
KHC *ex* x 14 19 22.4
KHC AMS AMS 14 24 10.0
comp=E,47µm,13.3s
KHC Kasperske Hory 12.74 322 *e*P Pn 14 19 10.9 +0.3
KHC MLR MLR
comp=Z,47µm,13.3s
UPC Upice 12.74 331 *e*P Pn 14 19 13.5 +2.9
UPC *ex* x 14 19 21.2
UPC AMS AMS 14 23 50.0
comp=Z,42µm,13.7s
UPC Upice 12.74 331 *e*P Pn 14 19 13.5 +2.9
UPC MLR MLR
comp=Z,42µm,13.7s
GOPC GO Pecny, Ondr 12.76 327 *e*P Pn 14 19 10.5 -0.4
GOPC *ex* x 14 19 13.0
GOPC *ex* x 14 19 21.3
GOPC AMS AMS 14 24 10.0
comp=Z,54µm,12.7s
GOPC GO Pecny, Ondr 12.76 327 *e*P Pn 14 19 10.5 -0.4
GOPC MLR MLR
comp=Z,54µm,12.7s
SQTA Sankt Quirin 12.85 311 *e*Pn Pn 14 19 13.1 +1.0
comp=Z,34nm,0.6s,SNR=62
KSP Ksiaz 12.92 333 *e*P Pn 14 19 13.8 +0.8
KSP LMZ LR 14 24 09.3
comp=Z,73µm,15.6s
KSP Ksiaz 12.92 333 *e*P Pn 14 19 13.8 +0.8
KSP MLR MLR
comp=Z,73µm,15.6s
PRU Pruhonice 12.92 327 *e*P Pn 14 19 16.7 +3.7
PRU *ex* x 14 19 24.7
PRU AMS AMS 14 24 20.0
comp=Z,52µm,13.9s
PRU Pruhonice 12.92 327 *e*P Pn 14 19 16.7 +3.7
PRU MLR MLR
comp=Z,52µm,13.9s
MOSI Grossmontoni 12.95 307 ⇑*i*Pg Pn 14 19 14.5 +0.8
MOTA Moosalm 12.97 311 *e*Pn Pn 14 19 14.9 +1.0
comp=Z,97nm,0.6s,SNR=68
PRA Prague 13.03 327 *e*P Pn 14 19 18.6 +4.1
PRA AMS AMS 14 24 20.0
comp=Z,51µm,13.9s
PRA Prague 13.03 327 *e*P Pn 14 19 18.6 +4.1
PRA MLR MLR
comp=Z,51µm,13.9s
FETA Feichten 13.03 309 *e*Pn Pn 14 19 14.9 +0.2
comp=Z,107nm,0.7s,SNR=79
WET Wettzell 13.08 321 *e*Pn Pn 14 19 15.5 +0.2
comp=Z,369nm,1.5s
WET Wettzell 13.08 321 P Pn 14 19 15.0 -0.3
WET pmax pmax
comp=Z,194nm,1.4s
FUORN Ofenpass-Fuorn 13.13 307 *e*Pn Pn 14 19 15.0 -1.1
TAMR Tamra 13.16 264 *e*Pn Pn 14 19 14.9 -1.5
RETA Reutte 13.24 311 *e*Pn Pn 14 19 17.0 -0.5
comp=Z,40nm,0.7s,SNR=20
FUR Furstenfeldbru 13.32 314 *e*Pn Pn 14 19 17.8 -0.7
comp=Z,322nm,1.1s
PVCC Panska Ves 13.32 328 *e*P Pn 14 19 20.0 +1.5
PVCC *ex* x 14 19 23.3
PVCC AMS AMS 14 25 00.0
comp=Z,42µm,10.0s
PVCC Panska Ves 13.32 328 *e*P Pn 14 19 20.0 +1.5
PVCC MLR MLR
comp=Z,42µm,10.0s
KEST Kesra 13.41 258 Pn Pn 14 19 19.7 -0.1
comp=Z,2.2nm,0.3s,baz=10.0,slow=4.1,SNR=52
KEST LR LR 14 25 09.7
comp=Z,17µm,20.9s,baz=9.5,slow=40
KEST Kesra 13.41 258 *e*Pn Pn 14 19 20.1 +0.3
SHA1 Shidzhatmaz 13.42 67 *i* P Pn 14 19 19.4 -0.7
DAVOX Davos/Dischmat 13.44 307 Pn Pn 14 19 20.0 -0.3
comp=Z,6.1nm,0.3s,baz=136,slow=13,SNR=93
DAVOX LR LR 14 24 38.3
comp=Z,44µm,18.7s,baz=112,slow=38
DAVOX Davos/Dischmat 13.44 307 P Pn 14 19 20.0 -0.3
DAVOX pmax pmax
comp=Z,6.0nm,0.3s
DAVOX MLR MLR
comp=Z,44µm,18.7s
DAVOX Davos/Dischmat 13.44 307 ⇓*i* Pn Pn 14 19 20.0 -0.3
KIV Kislovodsk 13.49 66 *e*Pn Pn 14 19 19.4 -1.5
KIV Kislovodsk 13.49 66 *e*P Pn 14 19 18.6 -2.3
KIV *e*S Sn 14 21 49.4 -1.4
KIV pmax pmax
comp=Z,57nm,1.0s
KIV MLR MLR
comp=Z,6µm,11.0s
KVAR Kislovodsk Arr 13.49 66 Pn Pn 14 19 19.5 -1.4
baz=90,slow=20,SNR=6.4
KVAR Sn Sn 14 21 49.7 -1.2
baz=294,slow=6.9,SNR=4.0
KBZ Khabaz 13.59 67 Pn Pn 14 19 21.2 -1.0
comp=Z,0.2nm,0.3s,baz=274,slow=11,SNR=9.1
TUE Stuetta 13.64 305 *e*Pn Pn 14 19 21.7 -1.4
DAVA Damuels 13.67 309 *e*Pn Pn 14 19 22.4 -1.0
comp=Z,97nm,0.8s,SNR=34
UBR Ueberruh 13.72 311 *e*Pn Pn 14 19 23.6 -0.5
comp=Z,363nm,1.1s
PYA1 Pyatigorsk 13.80 66 *i* P Pn 14 19 25.8 +0.7
BRG Berggiesshubel 13.84 328 *e*P Pn 14 19 25.1 -0.5
comp=Z,94nm,1.7s
BRG *i* PP PnPn 14 19 32.1 -1.4
comp=Z,420nm,1.8s
BRG S Sn 14 21 49.0 -10
comp=N,75µm,17.8s
comp=E,111µm,17.6s
comp=Z,33µm,10.9s
BRG Berggiesshubel 13.84 328 *e*Pn Pn 14 19 25.1 -0.5
comp=Z,2µm,2.8s
BRG Berggiesshubel 13.84 328 *e*P Pn 14 19 25.1 -0.5
BRG pmax pmax
comp=Z,94nm,1.7s
BRG MLR MLR
comp=N,75µm,17.8s
BRG MLR MLR
comp=E,111µm,17.6s
BRG MLR MLR
comp=Z,33µm,10.9s
PLONS Plons/SG 13.86 307 ⇓*i* Pn Pn 14 19 25.7 -0.3
PANIX Pigniu (Panix) 13.93 306 ⇓*i* Pn Pn 14 19 26.8 -0.2
GOF Gofitskoye 14.01 62 *e*P Pn 14 19 28.2 +0.3
GOF pmax pmax
comp=Z,230nm,1.2s
MANZ Manzenberg 14.02 322 *e*Pn Pn 14 19 27.5 -0.5
NKC Novy Kostel 14.03 323 *e*P P 14 19 32.4 -3.7
NKC *ex* x 14 19 38.5
NKC AMS AMS 14 25 40.0
comp=Z,47µm,10.9s
NKC Novy Kostel 14.03 323 *e*P P 14 19 32.4 -3.7
NKC MLR MLR
comp=Z,47µm,10.9s
NCK Nalchik 14.04 68 *i* P Pn 14 19 30.2 +1.8
WERN Wernitzgruen 14.10 323 *e*Pn Pn 14 19 28.3 -0.8
comp=Z,214nm,0.9s
FBE Freiberg 14.12 327 *e*Pn Pn 14 19 29.0 -0.4
comp=Z,344nm,1.5s
SBF Sospel 14.14 293 *e*P Pn 14 19 30.0 +0.2
SBF pmax pmax
comp=Z,261nm,0.8s
TANN Tannenbergstha 14.15 324 *e*Pn Pn 14 19 28.8 -1.0
comp=Z,373nm,1.5s
ZEI Tsey 14.17 71 *e*P Pn 14 19 31.9 +1.6
ZEI pmax pmax
comp=Z,312nm,1.0s
ZEI MLR MLR
comp=Z,8µm,10.0s
GUNZ Gunzen 14.17 323 *e*Pn Pn 14 19 29.2 -1.0
comp=Z,130nm,1.0s
GRF Grafenberg Arr 14.26 319 *e*Pn Pn 14 19 30.1 -1.3
comp=Z,572nm,1.7s
GRF Grafenberg Arr 14.26 319 P Pn 14 19 32.4 +1.0
GRF pmax pmax
comp=Z,153nm,1.0s
GRFO Grafenberg 14.26 319 *e*Pn Pn 14 19 29.1 -2.3
GRFO Grafenberg 14.26 319 *e*P Pn 14 19 29.1 -2.3
PLN Plauen 14.34 323 *e*Pn Pn 14 19 31.4 -1.0
comp=Z,172nm,1.0s
BNALP Bannalp 14.38 306 ⇓*i* Pn Pn 14 19 32.7 -0.4
FIESA Fiescheralp 14.41 304 ⇑*i* Pn Pn 14 19 31.9 -1.7
SUW Suwalki 14.44 354 *e*P Pn 14 19 35.4 +1.6
SUW LME 14 24 42.8
comp=Z,143µm,18.1s
SUW Suwalki 14.44 354 *e*Pn Pn 14 19 32.1 -1.7
SUW Suwalki 14.44 354 *e*P Pn 14 19 35.4 +1.6
SUW MLR MLR
comp=E,143µm,18.1s
HASLI Hasliberg/Brie 14.51 305 ⇓*i* Pn Pn 14 19 34.1 -0.7
CLL Collm 14.56 327 *e*Pn Pn 14 19 33.6 -1.8
CLL Collm 14.56 327 *e*Pn Pn 14 19 34.7 -0.7
comp=E,479nm,1.6s
CLL Collm 14.56 327 *e*P Pn 14 19 35.0 -0.4
comp=Z,137nm,1.1s
CLL *e*PP P 14 19 41.0 -1.0
CLL *e* 14 19 49.0
CLL *e* 14 20 42.0
CLL LmH 14 24 00.0
comp=N,61µm,20.0s
CLL LmH 14 24 00.0
comp=E,82µm,19.3s
CLL Lmax 14 25 00.0
CLL Collm 14.56 327 *e*P Pn 14 19 35.0 -0.4
CLL pmax pmax
comp=Z,7.0nm,1.1s
CMAH Djebel Manchou 14.58 264 P Pn 14 19 36.9 +1.1
ABSA Djebel Ababsia 14.64 262 P Pn 14 19 37.8 +1.1
LKBD2 Leukerbad 2 14.69 303 ⇑*i* Pn Pn 14 19 36.6 -0.8
MOX Moxa 14.70 323 *e*Pn Pn 14 19 36.3 -1.0
comp=Z,300nm,1.3s
LKBD Leukerbad 14.71 303 ⇓*i* Pn Pn 14 19 37.1 -0.4
TBLG Delisi 14.71 76 *e*Pn Pn 14 19 37.5 -0.1
TBLG Delisi 14.71 76 P Pn 14 19 37.5 -0.1
DIX Grande Dixence 14.74 302 ⇓*i* Pn Pn 14 19 37.0 -1.2
GKP Gorka Klasztor 14.74 340 *e*P Pn 14 19 38.6 +0.7
GKP LMZ LR 14 24 49.4
comp=Z,23µm,21.6s
GKP Gorka Klasztor 14.74 340 *e*P Pn 14 19 38.6 +0.7
GKP MLR MLR
comp=Z,23µm,21.6s
STU Stuttgart 14.81 313 *e*Pn Pn 14 19 36.7 -2.2
STU Stuttgart 14.81 313 *e*Pn Pn 14 19 37.1 -1.8
comp=Z,561nm,0.8s
STU Stuttgart 14.81 313 *e*P Pn 14 19 36.7 -2.2
MRGE Morge 14.87 300 ⇓*i* Pn Pn 14 19 39.2 -0.6
SENIN Lac Senin/Sane 14.91 303 *e*Pn Pn 14 19 39.2 -1.2
SENIN Lac Senin/Sane 14.91 303 ⇓*i* Pn Pn 14 19 39.4 -1.0
MICGM Minsk 14.93 5 ⇑*i* P Pn 14 19 34.0 -6.3
MICGM PM 14 19 39.0
comp=N,3.6nm,2.0s
MICGM PM 14 19 39.0
comp=Z,4.0nm,1.8s
MICGM PM 14 19 39.0
comp=E,0.3nm,2.0s
MICGM *e*PP PnPn 14 19 54.0 +5.7
MICGM *e*S Sn 14 22 16.0 -10
MICGM *e*SS SnSn 14 22 33.0 -5.2
MICGM *e*LQ LQ 14 24 08.0
MICGM LQM 14 25 26.0
comp=E,76nm,10.0s
MICGM LQM 14 25 28.0
comp=E,79nm,12.0s
MICGM *e*LR LR 14 25 50.0
MICGM LRM MLR 14 26 00.0
comp=Z,69nm,8.0s
MICGM LRM MLR 14 26 02.0
comp=N,50nm,9.0s
MICGM LRM MLR 14 26 04.0
comp=E,38nm,8.0s
MICGM LRM MLR 14 26 18.0
comp=Z,14nm,8.0s
MNK Minsk 14.93 5 ⇓*i* P Pn 14 19 34.0 -6.3
MNK *e*S Sn 14 22 16.0 -10
MNK pmax pmax
comp=N,4µm,2.0s
MNK pmax pmax
comp=E,340nm,2.0s
MNK pmax pmax
comp=Z,4µm,1.8s
MNK MLR MLR
comp=Z,69µm,8.0s
MNK MLR MLR
comp=N,50nm,9.0s
MNK MLR MLR
comp=E,38µm,8.0s
MNK MLR MLR
comp=Z,15µm,8.0s
BNI Bardonecchia 14.93 297 *e*Pn Pn 14 19 38.6 -2.1
BNI Bardonecchia 14.93 297 *e*P Pn 14 19 38.6 -2.1
VSR Storozhevoye 14.96 35 *e*P Pn 14 19 37.3 -3.6
VSR pmax pmax
comp=Z,360nm,0.8s
VSR MLR MLR
comp=Z,49µm,14.0s
CAEH 'Ain El Ouahch 14.97 265 P Pn 14 19 42.8 +1.7
GRYON Gryon 14.99 302 ⇑*i* Pn Pn 14 19 41.0 -0.5
NEUB Neuenburg 15.02 325 *e*Pn Pn 14 19 41.0 -0.6
comp=Z,411nm,1.1s
BFO Black Forest 15.08 311 *e*Pn Pn 14 19 40.4 -2.2
comp=Z,179nm,0.8s
BFO Black Forest 15.08 311 *e*Pn Pn 14 19 41.1 -1.4
comp=Z,206nm,0.8s
BFO Black Forest 15.08 311 *i* P Pn 14 19 41.6 -1.0
RUE Ruedersdorf 15.16 332 *e*P Pn 14 19 41.8 -1.7
RUE IAmb IAmb 14 19 53.5
comp=Z,341nm,1.0s
CKFL Kef-Lekhel 15.18 264 P Pn 14 19 44.8 +0.8
NACGM Naroch 15.27 3 *e*P Pn 14 19 39.0 -5.9
NACGM *e*P Pn 14 19 39.0 -5.9
NACGM *e*S Sn 14 22 24.0 -10
NACGM *e*SS S 14 22 50.0 -0.5
NACGM *e*LQ LQ 14 23 36.0
NACGM *e*LR LR 14 24 17.0
NACGM LRM MLR 14 26 06.0
comp=Z,72nm,10.0s
VORR Voronezh 15.31 34 *e*P Pn 14 19 40.0 -5.5
VORR pmax pmax
comp=Z,350nm,1.6s
KLNR Kaliningrad 15.37 348 *i* P Pn 14 19 46.4 +0.2
CASM Ain Smara 15.40 263 P Pn 14 19 48.7 +1.8
UBBA Unterbreizbach 15.59 321 *e*Pn Pn 14 19 48.0 -1.0
comp=Z,1µm,2.8s
GROC Groznyy 15.60 70 *e*P Pn 14 19 49.5 +0.2
GROC *e*S Sn 14 22 43.1 +1.1
GROC pmax pmax
comp=Z,572nm,1.6s
BRANT Les Verrieres 15.64 304 ⇓*i* Pn Pn 14 19 48.6 -1.4
IDID Didziasalis 15.68 3 *e*P Pn 14 19 45.8 -4.4

IDID IAmb IAmb 14 19 52.5
comp=Z,385nm,0.9s
IIGN Ignalina 15.70 1 *e*P **Pn 14 19 46.4 -4.1**
IIGN IAmb IAmb 14 19 52.2
comp=Z,379nm,0.9s
ECH Echery 15.73 309 *e*Pn **Pn 14 19 48.9 -2.1**
comp=Z,195nm,1.1s
ECH Echery 15.73 309 *e*P **Pn 14 19 48.9 -2.1**
ECH pmax pmax
comp=Z,195nm,1.1s
DFRA Djebel Bou Aff 15.79 265 P **Pn 14 19 53.6 +1.7**
BTLR Botlikh 15.86 72 *i* P **Pn 14 19 54.3 +1.5**
PABE Paberze 15.88 357 *e*P **Pn 14 19 50.8 -2.1**
PABE IAmb IAmb 14 19 57.0
comp=Z,2µm,1.1s
LPSR Galich'ya Gora 15.88 31 *e*P **Pn 14 19 49.3 -3.6**
LPSR pmax pmax
comp=Z,460nm,0.8s
ISAL Salakas 15.92 1 *e*P **Pn 14 19 48.0 -5.3**
ISAL IAmb IAmb 14 19 54.8
comp=Z,242nm,0.8s
TNS Taunus Mts 16.02 317 *e*Pn **Pn 14 19 53.3 -1.4**
comp=Z,541nm,1.1s
GTTG Gvttingen 16.08 323 *e*Pn **Pn 14 19 55.4 0.0**
comp=Z,632nm,1.3s
CLZ Clausthal 16.09 324 *e*Pn **Pn 14 19 55.5 -0.1**
comp=Z,363nm,1.5s
IZAR Zarasai 16.10 1 *e*P **Pn 14 19 50.4 -5.3**
IZAR IAmb IAmb 14 19 57.0
comp=Z,220nm,0.9s
VRH Novokhopyorsk 16.15 39 *e*P **Pn 14 19 56.2 -0.1**
VRH pmax pmax
comp=Z,910nm,1.2s
VRH MLR MLR
comp=Z,35µm,18.0s
ASSE Asse, Remlinge 16.16 325 *e*Pn **Pn 14 19 55.6 -0.7**
comp=Z,932nm,2.2s
CKHR Kef el Ahmar 16.23 263 P **Pn 14 19 59.2 +1.6**
SET Setif 16.26 264 P **Pn 14 19 59.0 +1.0**
MAHO Mahon 16.35 278⇓*i*P **Pn 14 19 57.2 -1.8**
MAHO *e*S **Sn 14 23 03.6 +3.2**
GNBR Gunib 16.39 74 *i* P **P 14 20 03.1 +0.7**
SSB Saint Sauveur 16.46 297 *e*Pn **Pn 14 19 57.9 -2.5**
comp=Z,60nm,0.8s
SSB Saint Sauveur 16.46 297 *e*P **Pn 14 19 57.9 -2.5**
SSB pmax pmax
comp=Z,60nm,0.8s
PBUR Paburg 16.54 353 *e*P **Pn 14 19 57.9 -3.4**
NRDL Niedersach Rie 16.66 325 *e*Pn **Pn 14 20 02.7 0.0**
comp=Z,688nm,1.7s
MAK Makhachkala 16.82 72 *e*P **Pn 14 20 02.3 -2.7**
MAK *e*S **Sn 14 23 09.9 -1.8**
MAK pmax pmax
comp=Z,287nm,1.1s
MAK MLR MLR
comp=Z,17µm,15.0s
AHRW Bad Neuenahr-A 16.92 316 *e*Pn **Pn 14 20 05.7 -0.4**
comp=Z,202nm,1.2s
AKT Akhty 16.95 77 *i* P **P 14 20 11.7 +3.0**
WLF Walferdange 16.98 312 *e*Pn **Pn 14 20 05.7 -1.3**
comp=Z,1µm,1.1s
WLF Walferdange 16.98 312 *e*P **Pn 14 20 05.7 -1.3**
WLF pmax pmax
comp=Z,1µm,1.1s
WLF Walferdange 16.98 312 ⇑P **P 14 20 08.8 -0.1**
comp=Z,343nm,2.2s
RGN Rugen 17.01 335 *e*Pn **Pn 14 20 06.6 -0.6**
comp=Z,2µm,1.6s
RGN Rugen 17.01 335 *e*P **Pn 14 20 04.7 -2.5**
RGN IAmb IAmb 14 20 13.5
comp=Z,605nm,1.1s
BSD Bornholm Skovb 17.01 339 *i* P **Pn 14 20 06.2 -1.1**
comp=Z,313nm,1.0s
BSD Bornholm Skovb 17.01 339 *i* P **Pn 14 20 06.2 -1.1**
BSD pmax pmax
comp=Z,310nm,1.0s
OBN Obninsk 17.13 22 P **Pn 14 20 05.6 -3.1**
comp=Z,0.9nm,0.3s,baz=182,slow=20,SNR=18
OBN LR LR 14 27 51.3
comp=Z,2µm,18.2s,baz=206,slow=41
OBN Obninsk 17.13 22 *e*Pn **Pn 14 20 04.0 -4.7**
comp=Z,656nm,1.0s
OBN Obninsk 17.13 22⇑*i*P **Pn 14 20 03.6 -5.1**
OBN Obninsk 17.13 22*c i*P **Pn 14 20 03.4 -5.3**
OBN *e*S **Sn 14 23 19.3 +0.3**
OBN pmax pmax
comp=Z,300nm,1.0s
OBN MLR MLR
comp=Z,29µm,15.0s
RETH Rethem/Aller, 17.16 325 *e*Pn **Pn 14 20 09.2 +0.2**
SMF Signal de Mont 17.27 301 *e*P **Pn 14 20 09.9 -0.7**
SMF pmax pmax
comp=Z,1µm,2.0s
BUG Bochum–Univer 17.33 319 *e*Pn **Pn 14 20 10.8 -0.4**
comp=Z,935nm,1.9s
LOR Lormes 17.44 303 *e*P **Pn 14 20 11.2 -1.5**
LOR pmax pmax
comp=Z,1µm,2.3s
AKET Djebel Ketaf 17.47 265 P **P 14 20 14.0 -0.5**
MEM Membach 17.54 315 *e*P **Pn 14 20 14.1 +0.2**
MEM Membach 17.54 315 ⇑P **P 14 20 14.9 0.0**
ABMS Boumerdes 17.57 267 P **P 14 20 15.0 -0.4**
SSF Saint Saulge 17.61 302 *e*P **Pn 14 20 14.5 -0.3**
SSF pmax pmax
comp=Z,871nm,2.0s
BSEG Bad Segeberg 17.61 329 *e*Pn **Pn 14 20 13.5 -1.3**
comp=Z,1µm,1.6s
IBBN Ibbenburen 17.61 322 *e*Pn **P 14 20 15.5 -0.3**
comp=Z,817nm,1.6s
AVF Avril sur Loir 17.63 301 *e*P **Pn 14 20 13.8 -1.3**
AVF pmax pmax
comp=Z,232nm,1.0s
HGN Heimansgroeve 17.66 315 *e*P **Pn 14 20 15.2 -0.2**
comp=Z,1µm,2.2s
HGN *e*S **Sn 14 23 33.4 +1.6**
HGN *e*L L 14 27 35.8
comp=Z,17µm,18.0s
ADJB Djebel Djouab 17.78 266 P **Pn 14 20 17.2 +0.1**
BEBN Eben Emael 17.81 315 ⇑P **P 14 20 18.7 +0.7**
WTSB Winterswijk 17.87 320 *e*P **P 14 20 21.1 +2.5**
comp=Z,1µm,2.4s
ABA Alger-Bouzarea 17.90 268 P **Pn 14 20 18.3 -0.2**
MOS Moscow 17.97 23 *e*P **Pn 14 20 14.5 -4.7**
MOS *e*S **Sn 14 23 39.3 -0.2**
MOS pmax pmax
comp=Z,1µm,1.0s
MOS pmax pmax
comp=N,746nm,1.1s
MOS pmax pmax
comp=E,483nm,1.2s
MOS MLR MLR
comp=N,20µm,14.0s
MOS MLR MLR
comp=E,16µm,14.0s
MOS MLR MLR
comp=Z,29µm,14.0s
DOU Dourbes 18.08 312 ⇑P **P 14 20 21.6 +0.7**
comp=Z,94nm,0.9s
SLIT Slitere, Latvi 18.10 354 *e*P **Pn 14 20 16.8 -3.9**
SLIT IAmb IAmb 14 20 23.6
comp=Z,11µm,1.4s
CAF Calviac 18.12 294 *e*P **P 14 20 22.1 +0.6**
CAF pmax pmax
comp=Z,445nm,1.1s
EMHD Djebel Mahouad 18.14 266 P **Pn 14 20 20.9 -0.7**
COP Copenhagen 18.24 336 *i* P **Pn 14 20 22.3 -0.2**
comp=Z,767nm,1.2s
COP Copenhagen 18.24 336 *i* P **Pn 14 20 22.3 -0.2**
COP pmax pmax
comp=Z,770nm,1.2s
TCF Toulx Ste Croi 18.27 299 *e*P **Pn 14 20 22.4 -0.6**
SNF Seneffe 18.44 313 ⇑P **Pn 14 20 26.1 +1.1**
comp=Z,166nm,1.0s
WIT Witteveen 18.45 322 P **P 14 20 24.8 -0.2**
UCC Uccle 18.54 314 *e*P **P 14 20 25.9 -0.1**
comp=Z,358nm,1.1s
UCC Uccle 18.54 314 *e*P **P 14 20 25.9 -0.1**
UCC pmax pmax
comp=Z,358nm,1.1s
UCC Uccle 18.54 314 ⇓P **Pn 14 20 26.5 +0.3**
VSU Vasula 18.83 2*ce*P **P 14 20 25.4 -3.7**
VSU pmax pmax
comp=Z,4µm,2.5s
VSU Vasula 18.83 2 *e*P **P 14 20 23.4 -5.7**
VSU IAmb IAmb 14 20 34.0
comp=Z,7µm,1.4s

EBNR Beni Rached 19.21 267 P **Pn 14 20 35.8 +1.3**
EANR 'Ain N'Sour 19.64 267 P **P 14 20 37.8 -0.5**
ETRT Tiaret 19.67 265 P **P 14 20 38.9 +0.2**
MUD Monsted U'grnd 19.95 333 *i* P **P 14 20 41.7 +0.3**
comp=Z,987nm,1.8s
MUD Monsted U'grnd 19.95 333 *i* P **P 14 20 41.7 +0.3**
MUD pmax pmax
comp=Z,990nm,1.8s
OKGL Djebel Kef Gue 19.97 267 P **Pn 14 20 46.0 +2.5**
OJGS Djebel Guires 20.06 266 P Pn 14 20 47.0 +2.4
PUL Pulkovo 20.34 7*ce*P **P 14 20 44.4 -1.2**
PUL pmax pmax
comp=Z,465nm,0.8s
PUL MLR MLR
comp=Z,30µm,18.0s
PUL Pulkovo 20.34 7 *e*P **P 14 20 43.0 -2.6**
PUL IAmb IAmb 14 20 54.7
comp=Z,765nm,0.8s
FLN La Foliniere 20.66 305 *e*P **P 14 20 48.8 -0.4**
FLN pmax pmax
comp=Z,198nm,0.9s
GRR Gorron 20.80 303 *e*P **P 14 20 51.0 +0.3**
GRR pmax pmax
comp=Z,274nm,0.9s
ODJA Bouhanifia 20.81 266 P **P 14 20 52.0 +1.0**
CART Cartagena 20.81 273 *e*P **P 14 20 49.2 -1.7**
comp=Z,150nm,0.8s
CART LR LR
comp=Z,7µm,22.0s
CART Cartagena 20.81 273⇓*i*P **P 14 20 49.0 -1.9**
CART *i* S Sn 14 24 49.2 +1.0
USTO Oran 20.98 267 P **P 14 20 50.0 -2.8**
OTSS Djebel Tessala 21.32 266 P **P 14 20 56.8 +0.3**
WACR West Acre 21.49 316 *e*P **P 14 20 56.2 -1.9**
WACR IAmb IAmb 14 21 02.4
comp=Z,284nm,0.9s
WACR IAMs_20 IAMs_20 14 28 47.3
comp=Z,33µm,14.2s
HOMB Homborsund 21.60 335 *e*P **P 14 20 59.1 -0.1**
HFS Hagfors 21.79 344 P **P 14 20 59.7 -1.6**
comp=Z,144nm,0.9s,baz=142,slow=7.5,SNR=25
HFS LR LR 14 30 31.1
comp=Z,26µm,20.0s,baz=160,slow=40
FINES FINESS Array B 21.80 1 P **P 14 20 59.8 -1.5**
comp=Z,103nm,0.9s,baz=160,slow=6.1,SNR=60
FINES LR LR 14 30 18.5
comp=Z,29µm,19.4s,baz=182,slow=39
FINES FINESS Array B 21.80 1 *i* P **P 14 20 59.7 -1.7**
FINES pmax pmax
comp=Z,103nm,0.9s
JSA Saint Aubin 21.85 305 *e*P **P 14 21 01.3 -0.6**
JSA IAmb IAmb 14 21 03.5
comp=Z,179nm,1.0s
JSA IAMs_20 IAMs_20 14 30 20.0
comp=Z,45µm,10.5s
UCM Universidad Co 22.02 281⇓*i*P **P 14 21 02.7 -1.3**
UCM *i* S Sn 14 25 15.9 -1.4
SNART Snartemo 22.09 334 *e*P **P 14 21 05.0 +0.6**
OSL Oslo 22.33 340 *e*P **P 14 21 05.0 -2.0**
ROSF Rostrenen 22.36 302 *e*P **P 14 21 06.4 -1.0**
ROSF pmax pmax
comp=Z,207nm,0.8s
SWN1 Swindon 22.36 311 *e*P **P 14 21 06.4 -1.0**
SWN1 IAmb IAmb 14 21 09.4
comp=Z,1µm,1.5s
KONO Kongsberg 22.39 339 *e*P **P 14 21 05.7 -2.0**
comp=Z,627nm,1.0s
KONO LR LR
comp=Z,19µm,20.0s
KONO Kongsberg 22.39 339 *e*P **P 14 21 05.7 -2.0**
KONO pmax pmax
comp=Z,627nm,1.0s
KONO MLR MLR
comp=Z,19µm,20.0s
KONO Kongsberg 22.39 339 *e*P **P 14 21 06.0 -1.7**
CWF Charnwood Fore 22.56 314 *e*P **P 14 21 08.5 -1.0**
CWF IAmb IAmb 14 21 12.3
comp=Z,585nm,1.7s
CWF IAMs_20 IAMs_20 14 29 30.1
comp=Z,24µm,14.4s
BATH Bath 22.64 311 *e*P **P 14 21 09.9 -0.5**
STRD Stroud 22.66 311 *e*P **P 14 21 09.4 -1.3**
STRD IAMs_20 IAMs_20 14 30 29.6
comp=Z,36µm,12.3s
ESDC Sonseca Array 22.67 280 P **P 14 21 09.2 -1.6**
comp=Z,14nm,0.6s,baz=75,slow=9.8,SNR=53
ESDC LR LR 14 29 57.6
comp=Z,6µm,20.0s,baz=75,slow=37
NORES NORESS Array B 22.82 342 P **P 14 21 12.0 -0.2**
NORES pmax pmax
comp=Z,141nm,1.0s
OLDB Oldbury-Upon-S 22.85 311 *e*P **P 14 21 10.8 -1.8**
OLDB IAmb IAmb 14 21 16.9
comp=Z,214nm,0.9s
KLMR Klimovskoe 22.92 18*c i*P **P 14 21 11.1 -2.1**
KLMR pmax pmax
comp=Z,1µm,1.4s
KLMR Klimovskoe 22.92 18⇑*i*P **P 14 21 11.1 -2.1**
KLMR *i* P **P 14 21 11.1 -2.1**
KLMR *i* P **P 14 21 11.1 -2.1**
KLMR AMP 14 21 28.6
comp=Z,1µm,1.4s
MELI Melilla 22.97 268⇓*i*P **P 14 21 12.1 -1.9**
MELI *i* S **S 14 25 26.1 +2.0**
PAB San Pablo 22.98 279 *e*P **P 14 21 12.4 -1.8**
comp=Z,618nm,1.6s
PAB LR LR
comp=Z,9µm,18.0s
PAB San Pablo 22.98 279 *e*P **P 14 21 12.4 -1.8**
PAB pmax pmax
comp=Z,619nm,1.6s
PAB MLR MLR
comp=Z,9µm,18.0s
GDLE Glaisdale, N Y 23.06 319 *e*P **P 14 21 13.3 -1.4**
GDLE IAMs_20 IAMs_20 14 31 27.8
comp=Z,25µm,16.9s
MONM Monmouth 23.06 311 *e*P **P 14 21 13.7 -1.1**
MONM IAmb IAmb 14 21 20.3
comp=Z,508nm,0.9s
MONM IAMs_20 IAMs_20 14 31 09.8
comp=Z,29µm,11.3s
LBWR Ladybower, Pea 23.07 316 *e*P **P 14 21 13.6 -1.3**
LBWR IAmb IAmb 14 21 16.3
comp=Z,361nm,1.1s
LBWR IAMs_20 IAMs_20 14 30 40.6
comp=Z,21µm,13.3s
NA001 NORSAR Array S 23.07 342 *e*P **P 14 21 13.3 -1.5**
NB2 NORSAR Subarra 23.16 342 P **P 14 21 14.2 -1.6**
comp=Z,2µm,1.7s,baz=151,slow=11
NB2 NORSAR Subarra 23.16 342 P **P 14 21 14.2 -1.6**
baz=151,slow=11
NOA NORSAR Array B 23.16 342 P **P 14 21 13.6 -2.3**
comp=Z,72nm,0.9s,baz=124,slow=10,SNR=87
NOA LR LR 14 31 23.9
comp=Z,13µm,20.6s,baz=145,slow=40
BLS5 Blasjo 23.17 335 *e*P **P 14 21 14.8 -1.1**
STNC Stoke 23.20 315 *e*P **P 14 21 15.1 -1.1**
STNC IAmb IAmb 14 21 18.9
comp=Z,1µm,1.3s
STNC IAMs_20 IAMs_20 14 29 57.4
comp=Z,21µm,14.1s
MCH1 Michaelchurch 23.23 312 *e*P **P 14 21 15.3 -1.2**
MCH1 IAmb IAmb 14 21 17.7
comp=Z,316nm,1.1s
MCH1 IAMs_20 IAMs_20 14 30 48.2
comp=Z,29µm,12.6s
HPK Haverah Park 23.26 317 *e*P **P 14 21 15.5 -1.3**
HPK IAmb IAmb 14 21 18.7
comp=Z,894nm,1.6s
HPK IAMs_20 IAMs_20 14 30 07.4
comp=Z,23µm,13.1s
DYA Yadsworthy 23.29 307 *e*P **P 14 21 15.9 -1.2**
DYA IAMs_20 IAMs_20 14 31 56.3
comp=Z,17µm,11.6s
RAYN Ar Rayn 23.33 128 *e*P **P 14 21 18.0 +0.1**
comp=Z,743nm,1.6s
RAYN LR LR
comp=Z,8µm,19.0s
RAYN Ar Rayn 23.33 128 *i* P **P 14 21 18.7 +0.9**
SNR=141
RAYN Ar Rayn 23.33 128 *e*P **P 14 21 18.0 +0.1**
RAYN pmax pmax
comp=Z,743nm,1.6s
RAYN MLR MLR
comp=Z,8µm,19.0s
HLM1 Long Mynd 23.35 313 *e*P **P 14 21 16.7 -1.1**

HLM1 IAmb IAmb 14 21 23.0
comp=Z,137nm,0.9s
HLM1 IAMs_20 IAMs_20 14 31 21.3
comp=Z,9µm,11.3s
KMY Karmoy 23.42 333 *e*P **P 14 21 17.7 -0.6**
ODD1 Odda 23.49 336 *e*P **P 14 21 18.7 -0.5**
FOEL Foel Wylfa 23.67 313 *e*P **P 14 21 20.3 -0.6**
EMAL Malaga-Limoner 23.67 273⇓*i*P **P 14 21 19.1 -2.0**
EMAL *i* S **S 14 25 32.8 -2.9**
HTL Hartland 23.78 308 *e*P **P 14 21 20.8 -1.2**
EDMD Edmundbyers 23.84 319 *e*P **P 14 21 21.2 -1.3**
EDMD IAmb IAmb 14 21 27.4
comp=Z,245nm,0.8s
EDMD IAMs_20 IAMs_20 14 32 08.0
comp=Z,24µm,15.0s
TAM Tamanrasset 23.91 231 *e*P **P 14 21 24.0 +0.3**
comp=Z,535nm,1.6s
TAM Tamanrasset 23.91 231 *e*P **P 14 21 24.0 +0.3**
TAM pmax pmax
comp=Z,535nm,1.6s
LLW Llanuwchllyn 23.92 313 *e*P **P 14 21 22.6 -0.7**
CCA1 Carnmenellis 24.02 306 *e*P **P 14 21 23.6 -0.7**
CCA1 IAmb IAmb 14 21 25.3
comp=Z,540nm,1.6s
CCA1 IAMs_20 IAMs_20 14 32 00.6
comp=Z,31µm,13.8s
RSBS Rosebush, Pemb 24.23 310 *e*P **P 14 21 25.4 -0.8**
RSBS IAmb IAmb 14 21 27.1
comp=Z,106nm,1.2s
RSBS IAMs_20 IAMs_20 14 32 07.3
comp=Z,14µm,12.6s
BER Bergen 24.27 335 *e*P **P 14 21 25.6 -0.9**
YLL Llanberis 24.31 314 *e*P **P 14 21 25.3 -1.6**
KESW Keswick, Cumbr 24.32 317 *e*P **P 14 21 26.3 -0.7**
KESW IAmb IAmb 14 21 27.9
comp=Z,410nm,1.3s
KESW IAMs_20 IAMs_20 14 31 57.3
comp=Z,24µm,13.4s
LIJA Lijar 24.38 273 *i* P **P 14 21 25.5 -2.4**
ASK Askoy 24.39 335 *e*P **P 14 21 28.2 +0.7**
PBRG Braganca 24.48 285⇓*e*P **P 14 21 28.1 -0.5**
comp=Z,324nm,1.6s
PBRG *e*S **S 14 25 50.2 +1.5**
WME Myndd Eilian 24.48 314 *e*P **P 14 21 27.7 -0.8**
WLF1 Llynfaes 24.49 314 *e*P **P 14 21 26.5 -2.0**
WLF1 IAmb IAmb 14 21 29.4
comp=Z,1µm,2.0s
WLF1 IAMs_20 IAMs_20 14 30 41.1
comp=Z,39µm,13.6s
YRC Rhoscolyn 24.57 314 *e*P **P 14 21 27.3 -2.0**
WPS Cemaes, Angles 24.59 314 *e*P **P 14 21 28.1 -1.3**
WPS IAmb IAmb 14 21 30.5
comp=Z,935nm,2.1s
BHH Howats Hill 24.60 318 *e*P **P 14 21 28.4 -1.2**
HY Hoyanger 24.61 337 *e*P **P 14 21 30.5 +0.9**
CEU Ceuta 24.66 271⇓*i*P **P 14 21 27.8 -2.4**
CEU *i* S **S 14 25 52.2 +0.8**
ALJ Aljibe 24.68 273 *e*P **P 14 21 29.2 -1.2**
EKA Eskdalemuir Ar 24.68 319 P **P 14 21 29.5 -0.8**
comp=Z,59nm,0.7s,baz=108,slow=9.3,SNR=143
EKA Eskdalemuir Ar 24.68 319 P **P 14 21 29.5 -0.8**
EKA pmax pmax
comp=Z,58nm,0.7s
ESY Stoneypath 24.69 321 *e*P **P 14 21 29.2 -1.1**
ESK Eskdalemuir 24.70 319 *e*P **P 14 21 29.2 -1.2**
comp=Z,1µm,1.8s
ESK LR LR
comp=Z,7µm,20.0s
ESK Eskdalemuir 24.70 319 *e*P **P 14 21 29.5 -0.9**
ESK IAmb IAmb 14 21 32.2
comp=Z,1µm,1.8s
ESK IAMs_20 IAMs_20 14 32 30.3
comp=Z,17µm,12.3s
ESK Eskdalemuir 24.70 319 *i* P **P 14 21 30.3 -0.1**
MVO Moncorvo 24.77 284⇓*e*P **P 14 21 30.7 -0.6**
comp=Z,220nm,0.8s
MVO *e*S **S 14 25 54.6 +1.2**
MVO *e*LQ LQ 14 30 41.3
MVO *e*LR LR 14 32 15.6
comp=Z,4µm,18.0s
GIBL Gibalbin 24.84 274 *e*P **P 14 21 30.8 -1.2**
IOMK Kirk Michael 24.95 316 *e*P **P 14 21 32.2 -0.5**
IOMK IAmb IAmb 14 21 35.2
comp=Z,689nm,1.6s
IOMK IAMs_20 IAMs_20 14 32 04.1
comp=Z,19µm,11.1s
SUE Sulen 24.97 336 *e*P **P 14 21 33.5 +0.8**
WIM Isle of Man 24.97 315 *e*P **P 14 21 31.8 -1.1**
EDI Edinburgh 24.97 320 *e*P **P 14 21 32.2 -0.6**
EDI IAmb IAmb 14 21 35.0
comp=Z,601nm,1.3s
CNIL Conil 25.04 273 *i* P **P 14 21 33.0 -0.7**
SFS San Fernando 25.13 273 *i* P **P 14 21 32.6 -1.9**
SFS *i* S **S 14 25 59.8 +0.7**
DRUM Mains of Drumt 25.13 323 *e*P **P 14 21 32.8 -1.5**
DRUM IAMs_20 IAMs_20 14 34 03.3
comp=Z,25µm,12.6s
AKTO Aktyubinsk 25.15 54 P **P 14 21 34.5 -0.1**
comp=Z,87nm,1.0s,baz=259,slow=9.9,SNR=75
AKTO LR LR 14 33 48.3
comp=Z,10µm,19.2s,baz=263,slow=42
MDT Midelt 25.18 264 P **P 14 21 35.6 +0.5**
comp=Z,80nm,0.9s,baz=89,slow=10,SNR=121
MDT LR LR 14 32 14.1
comp=Z,6µm,21.4s,baz=73,slow=38
EDU Dundee 25.19 322 *e*P **P 14 21 33.9 -1.0**
AKN Aaknes 25.20 339 *e*P **P 14 21 36.7 +1.7**
PRGR Permogore 25.21 23⇓*i*P **P 14 21 33.9 -1.0**
PRGR pmax pmax
comp=Z,627nm,0.9s
MTE Manteigas 25.26 282⇓*e*P **P 14 21 35.5 -0.3**
comp=Z,183nm,1.3s
MTE *e*S **S 14 26 04.8 +3.5**
MTE *e*LQ LQ 14 31 23.9
MTE *e*LR LR 14 31 50.6
comp=Z,11µm,20.0s
MTE Manteigas 25.26 282 *e*P **P 14 21 34.7 -1.0**
comp=Z,257nm,1.2s
PVRL Vila Real 25.27 284 *e*P **P 14 21 36.0 +0.2**
comp=Z,77nm,1.1s
PVRL *e*S **S 14 26 09.8 +8.5**
IFR Ifrane 25.30 266⇓*i*P **P 14 21 37.1 +0.8**
IFR *i* S **S 14 26 11.9 +10**
PCBR Castelo Branco 25.31 281 *e*P **P 14 21 35.7 -0.4**
comp=Z,188nm,1.1s
PCBR *e*S S 14 26 13.9 +12
POLO Lamas de Olo 25.31 285 *e*P **P 14 21 36.0 -0.2**
POLO *e*S **S 14 26 03.9 +1.7**
POLO *e*LQ LQ 14 30 45.5
POLO *e*LR LR 14 32 04.7
comp=Z,2µm,16.0s
PMRV Marv??o 25.32 280⇓*e*P **P 14 21 36.2 0.0**
comp=Z,173nm,1.1s
PMRV *e*S **S 14 26 05.9 +3.8**
PMRV *e*LQ LQ 14 30 21.7
PMRV *e*LR LR 14 32 36.1
comp=Z,9µm,18.0s
TBLU Trondheim 25.32 344 *e*P **P 14 21 38.0 +2.0**
GEYT Alibeck 25.38 83 P **P 14 21 36.5 -0.3**
comp=Z,123nm,0.9s,baz=298,slow=6.6,SNR=71
GEYT LR LR 14 34 06.9
comp=Z,7µm,20.4s,baz=300,slow=43
MOL Molde 25.38 341 *e*P **P 14 21 37.0 +0.5**
PCAB Cabril 25.44 286 *e*P **P 14 21 35.8 -1.6**
comp=Z,302nm,1.4s
PVIS Viseu 25.48 283 *e*P **P 14 21 37.3 -0.4**
comp=Z,172nm,1.9s
PVIS *e*S **S 14 26 06.4 +1.7**
IWEX Carrickbyrne, 25.55 311 *e*P **P 14 21 36.5 -1.6**
IWEX *e*S S 14 26 17.5 +12
MME1 Meikle Cairn 25.56 323 *e*P **P 14 21 36.6 -1.6**
PGBU Glenifferbraes 25.57 319 *e*P **P 14 21 37.1 -1.1**
PGBU IAmb IAmb 14 21 41.0
comp=Z,308nm,1.2s
PGBU IAMs_20 IAMs_20 14 33 58.5
comp=Z,21µm,13.3s
PESTR Estremoz 25.58 279⇓*e*P **P 14 21 37.5 -1.1**
comp=Z,137nm,1.1s
PESTR Estremoz 25.58 279 *e*P **P 14 21 37.4 -1.3**
comp=Z,68nm,1.1s
PESTR LR LR
comp=Z,4µm,20.0s
DSB Dublin 25.59 313 *e*P **P 14 21 37.3 -1.2**
DSB *e*S **S 14 26 16.8 +11**
DSB Dublin 25.59 313 *e*P **P 14 21 37.7 -0.8**

comp=Z,191nm,1.2s
DSB LR LR

comp=Z,17µm,19.0s
PGAV Gavieira, Arco 25.59 286 *e*P **P 14 21 37.4 -1.4**
comp=Z,313nm,1.6s
PGAV *e*S **S 14 26 16.8 +10**
PGAV *e*LQ LQ 14 30 29.6
PGAV *e*LR LR 14 31 26.4

comp=Z,9µm,16.0s
INVG Invergeldie, C 25.64 321 *e*P **P 14 21 37.8 -1.1**
INVG IAMs_20 IAMs_20 14 33 26.9

comp=Z,35µm,14.0s
EAB Aberfoyle 25.67 320 *e*P **P 14 21 38.5 -0.7**
MCD Coleburn Disti 25.84 323 *e*P **P 14 21 39.5 -1.2**
PTO Porto 25.95 284 *e*P **P 14 21 42.5 +0.6**
comp=Z,253nm,1.5s
EVO Evora 25.98 278⇓*e*P **P 14 21 43.1 +0.9**
comp=Z,117nm,1.3s
EVO *e*S S 14 26 23.8 +11
EVO Evora 25.98 278 *i*P **P 14 21 43.8 +1.6**
EVO *i*S S 14 26 24.2 +12
PBEJ Beja 25.99 277⇓*e*P **P 14 21 42.8 +0.5**
comp=Z,164nm,3.0s
PBEJ *e*S S 14 26 25.3 +13
PVAQ Vaqueiros 26.03 276⇓*i*P **P 14 21 42.0 -0.7**
comp=Z,338nm,1.3s
PVAQ *e*S **S 14 26 10.4 -3.0**
PVAQ *e*LQ LQ 14 26 23.6
PVAQ *e*LQ LQ 14 32 27.4
PVAQ *e*LR LR 14 33 50.8

comp=Z,5µm,16.0s
PCAS Casmilo, Conde 26.04 282⇓*e*P **P 14 21 42.4 -0.4**
comp=Z,227nm,1.6s
PCAS *e*S S 14 26 24.9 +11
PTOM Tomar 26.05 281 *e*P **P 14 21 44.0 +1.1**
comp=Z,289nm,1.3s
PTOM *e*S S 14 26 27.6 +14
CLGH Cloghs, Cushen 26.11 317 *e*P **P 14 21 42.8 -0.4**
CLGH IAMs_20 IAMs_20 14 32 40.0

comp=Z,15µm,14.9s
NSS Namsos 26.14 347 *e*P **P 14 21 42.6 -0.8**
ABKAR Akbulak array 26.16 57 *e*P **P 14 21 42.7 -1.0**
LAWE Loch Awe, Argy 26.23 320 *e*P **P 14 21 43.5 -0.7**
LAWE IAmb IAmb 14 21 46.4

comp=Z,248nm,1.5s
LAWE IAMs_20 IAMs_20 14 33 26.3

comp=Z,23µm,16.3s
PBDV Barranco-do-Ve 26.24 275⇓*e*P **P 14 21 44.2 -0.4**
comp=Z,420nm,1.2s
PBDV *e*S **S 14 26 16.3 -0.4**
MLA1 Latheron 26.27 325 *e*P **P 14 21 43.8 -0.8**
ALMR Almeirim 26.27 280 *e*P **P 14 21 43.7 -1.2**
ALMR *e*S **S 14 26 17.7 +0.5**
ALMR AMS AMS 14 33 57.2

comp=N,14µm,18.4s
ALMR Almeirim 26.27 280 *e*P **P 14 21 43.7 -1.2**
ALMR *e*S **S 14 26 17.7 +0.5**
MDO Dochfour 26.28 322 *e*P **P 14 21 43.2 -1.5**
MESJ Messejana 26.30 277 *e*P **P 14 21 44.0 -1.1**
MESJ *e*S **S 14 26 17.9 +0.2**
MESJ AMS AMS 14 33 29.9

comp=N,12µm,17.7s
MESJ Messejana 26.30 277⇓*e*P **P 14 21 44.6 -0.5**
comp=N,198nm,1.1s
MESJ *e*S **S 14 26 24.0 +6.3**
SAN1 Sandwick 26.38 329 *e*P **P 14 21 44.7 -0.8**
LRW Lerwick 26.43 330 *e*P **P 14 21 45.1 -0.9**
LRW IAmb IAmb 14 21 46.7

comp=Z,317nm,1.1s
LRW IAMs_20 IAMs_20 14 35 29.4

comp=Z,21µm,14.5s
PNCL Nicolau / Gran 26.47 278⇓*e*P **P 14 21 46.0 -0.7**
comp=Z,251nm,1.4s
PNCL *e*S **S 14 26 27.3 +6.9**
BIGH Upper Bighouse 26.61 325 *e*P **P 14 21 46.5 -1.2**
BIGH IAmb IAmb 14 21 50.5

comp=Z,494nm,1.8s
BIGH IAMs_20 IAMs_20 14 34 54.8

comp=Z,25µm,15.2s
KAC Achnashellach 26.75 322 *e*P **P 14 21 47.4 -1.6**
PTEO Sao Teotonio 26.77 276 *e*P **P 14 21 48.9 -0.4**
comp=Z,269nm,1.5s
PTEO *e*S S 14 26 37.0 +12
MORF Marmelete 26.77 276 *e*P **P 14 21 48.3 -1.2**
MORF *e*S **S 14 26 25.3 +0.1**
MORF AMS AMS 14 33 37.7

comp=N,9µm,19.4s
MORF Marmelete 26.77 276⇓*e*P **P 14 21 49.0 -0.5**
comp=N,177nm,1.3s
MORF *e*S **S 14 26 34.8 +10**
LIS Lisbon 26.80 279 *e*P **P 14 21 48.4 -1.3**
LIS *e*S **S 14 26 25.7 +0.1**
LIS AMS AMS 14 34 13.8

comp=N,17µm,16.7s
PMST Lisbon--Monsan 26.83 279 *e*P **P 14 21 49.9 0.0**
comp=N,283nm,1.4s
PMST *e*S **S 14 26 32.5 +6.6**
KPL Plockton 26.84 322 *e*P **P 14 21 48.6 -1.2**
KPL IAmb IAmb 14 21 49.8

comp=Z,93nm,1.0s
IDGL Inch Island, C 26.85 316 *e*P **P 14 21 48.6 -1.2**
IDGL *e*S S 14 26 40.3 +14
PMAFR Mafra 26.85 280 *e*P **P 14 21 50.7 +0.6**
PMAFR *e*S **S 14 26 30.9 +4.5**
PFVI Vila Bisbo 26.95 276 *e*P **P 14 21 50.1 -0.9**
comp=Z,371nm,1.3s
PFVI *e*S **S 14 26 38.0 +10**
PFVI Vila Bisbo 26.95 276 *e*P **P 14 21 50.1 -0.9**
comp=Z,253nm,1.1s
RSC Scourie 27.11 324 *e*P **P 14 21 50.9 -1.3**
AVE Averroes 27.14 267⇓*i*P **P 14 21 53.0 +0.2**
AVE *i*S S 14 26 53.8 +23
MOR8 Moi Rana 27.29 350 *e*P **P 14 21 53.1 -0.7**
ARU Arti 27.36 41 *e*P **P 14 21 53.2 -1.2**
comp=Z,495nm,1.1s
ARU LR LR

comp=Z,21µm,22.0s
ARU Arti 27.36 41 P **P 14 21 54.0 -0.4**
ARU 14 22 35.8
ARU PPP PPP 14 22 48.3
ARU S **S 14 26 35.0 +1.1**
ARU SS **SnSn 14 27 43.1 +0.5**
ARU MLR MLR

comp=Z,23µm,15.0s
IGLA Glengowla, Co 27.36 312 *e*P P 14 21 42.9 -12
IGLA *e*S S 14 26 50.9 +17
RRH Rhenigidale 27.61 322 *e*P **P 14 21 55.5 -1.1**
STOK Stokkvaagen 27.64 349 *e*P **P 14 22 00.4 +3.6**
KONS Konsvik 27.78 349 *e*P **P 14 21 58.1 0.0**
APA Apatity 28.29 6⇑*i*P **P 14 22 05.8 +3.1**
APA *i*S **S 14 26 48.0 -0.5**
APA pmax pmax

comp=Z,70nm,1.0s
APA MLR MLR

comp=Z,34µm,13.0s
SVE Sverdlovsk 28.57 41⇑*e*P **P 14 22 05.0 -0.2**
SVE *e*S **S 14 26 53.9 +0.9**
SVE *e* 14 28 16.5
SVE pmax pmax

comp=Z,399nm,1.5s
SVE MLR MLR

comp=E,20µm,14.0s
SVE MLR MLR

comp=Z,23µm,13.0s
SVE MLR MLR

comp=N,11µm,10.0s
LVZ Lovozero 28.73 7 *e*P **P 14 22 05.5 -1.1**
comp=N,480nm,1.1s
LVZ LR LR

comp=Z,9µm,20.0s
LVZ Lovozero 28.73 7*ce*P **P 14 22 04.8 -1.8**
LVZ pmax pmax

comp=Z,3.0nm,0.7s
LVZ MLR MLR

comp=Z,57µm,17.0s
UMQ Umm Al-Quwin 28.88 110 P **P 14 22 10.4 +2.1**
SNR=7.8
STEI Steigen 28.88 352 *e*P **P 14 22 07.7 -0.2**
SHME Shamm 28.92 109 *i*P **P 14 22 08.9 +0.2**
SNR=8.1
AJN Ajban 28.97 112 *i*P **P 14 22 09.5 +0.3**
SNR=8.8
AJN Ajban 28.97 112 P **P 14 22 10.3 +1.2**
SNR=6.9
AJN S **S 14 27 02.0 +2.0**

BANOM Banah 29.11 109 *i*P **P 14 22 10.0 -0.4**
SNR=9.5
BANOM Banah 29.11 109 P P 14 22 15.7 +5.3
SNR=6.5
ASUD Al Ashush, Dub 29.18 112 *i*P **P 14 22 11.7 +0.7**
SNR=20
ASUD Al Ashush, Dub 29.18 112 P **P 14 22 12.0 +1.0**
SNR=10
ASUD S **S 14 27 04.0 +0.8**
NAZ Nazwa, Dubai 29.20 111 *i*P **P 14 22 11.6 +0.4**
SNR=24
NAZ Nazwa, Dubai 29.20 111 P **P 14 22 11.2 0.0**
SNR=14
NAZ S **S 14 27 08.4 +4.8**
FAQ Al Faqa, Dubai 29.30 111 *i*P **P 14 22 12.1 +0.1**
SNR=18
FAQ Al Faqa, Dubai 29.30 111 P **P 14 22 12.1 +0.1**
SNR=11
MSFE Esma-Masafi 29.34 110 *i*P **P 14 22 13.0 +0.5**
SNR=6.7
KTK1 Kautokeino 29.43 358 *e*P **P 14 22 12.6 -0.2**
MDH Madha 29.47 110 *i*P **P 14 22 14.1 +0.5**
SNR=6.3
MDH Madha 29.47 110 P **P 14 22 13.1 -0.5**
SNR=8.1
HATD Hatta, Dubai 29.64 111 *i*P **P 14 22 14.9 -0.1**
SNR=42
HATD Hatta, Dubai 29.64 111 P **P 14 22 14.2 -0.9**
SNR=24
HATD S **S 14 27 11.8 +1.4**
ASHO Ashiyiah 29.67 111 *i*P **P 14 22 15.2 -0.2**
SNR=77
ASHO Ashiyiah 29.67 111 P **P 14 22 15.2 -0.2**
SNR=37
ASHO S **S 14 27 13.6 +2.6**
ALNE Al Ain 29.83 112 *i*P **P 14 22 17.0 +0.2**
SNR=29
ARCES ACCESS Array B 29.93 360 P **P 14 22 16.4 -0.8**
comp=Z,82nm,0.8s,baz=188,slow=7.1,SNR=46
ARCES LR LR 14 35 09.6

comp=Z,1µm,18.6s,baz=178,slow=38
ARE0 ARCESS Array S 29.93 360 *e*P **P 14 22 17.0 -0.2**
DAMY Dhamar 29.98 141 *e*P **P 14 22 19.9 +1.4**
comp=Z,468nm,1.4s
DAMY LR LR

comp=Z,3µm,18.0s
KEV Kevo 30.16 1 *e*P **P 14 22 19.4 +0.2**
comp=Z,179nm,1.0s
KEV LR LR

comp=Z,26µm,19.0s
KEV Kevo 30.16 1 *e*P **P 14 22 19.4 +0.2**
KEV pmax pmax

comp=Z,179nm,1.0s
KEV MLR MLR

comp=Z,26µm,19.0s
KEV Kevo 30.16 1 *e*P **P 14 22 19.7 +0.5**
TRO Tromso 30.23 355 *e*P **P 14 22 20.4 +0.6**
SOHO SOHO 30.35 111 P **P 14 22 21.0 -0.3**
SNR=60
SOHO S **S 14 27 24.5 +3.0**
ARQ Araqi 30.83 113 P **P 14 22 26.1 +0.4**
SNR=23
DESE Dese 31.07 152 *i*P **P 14 22 32.7 +4.6**
DESE *i*S **S 14 27 41.7 +8.2**
DESE Dese 31.07 152 *i*P **P 14 22 32.7 +4.6**
DESE *i*S **S 14 27 41.7 +8.2**
DESE Dese 31.07 152 *i*P **P 14 22 32.7 +4.6**
DESE *i*S **S 14 27 41.7 +8.2**
HOQ Hoqain 31.25 111 P **P 14 22 30.7 +1.4**
SNR=16
BSY Bisya 31.69 113 P **P 14 22 34.5 +1.3**
SNR=18
BIDO Bidbid 31.87 111 P **P 14 22 35.5 +0.7**
SNR=30
ATD Arta Tunnel 31.95 147 *e*P **P 14 22 35.1 -0.5**
comp=Z,184nm,1.5s
ATD LR LR

comp=Z,2µm,19.0s
ATD Arta Tunnel 31.95 147 *e*P **P 14 22 38.8 +3.2**
ATD *e*S S 14 28 02.7 +16
ATD Arta Tunnel 31.95 147 *e*P **P 14 22 38.8 +3.2**
ATD *e*S S 14 28 02.7 +16
SMDO Samad 32.10 111 P **P 14 22 37.6 +0.6**
SNR=24
WSAR Wadi Sarin 32.41 110 P **P 14 22 39.5 0.0**
SNR=26
WSAR S **S 14 27 56.4 +2.6**
ANKE Ethiopia-Afar 32.52 153 *i*P **P 14 22 45.5 +4.5**
ANKE *i*S S 14 28 08.5 +12
ANKE Ethiopia-Afar 32.52 153 *i*P **P 14 22 45.5 +4.5**
ANKE *i*S S 14 28 08.5 +12
ANKE Ethiopia-Afar 32.52 153 *i*P **P 14 22 45.5 +4.5**
ANKE *i*S S 14 28 08.5 +12
JMDO Jabal Madar 32.57 112 P **P 14 22 41.6 +0.6**
SNR=24
WHFO Wadi Hawf 32.66 123 P **P 14 22 42.6 +0.8**
SNR=9.7
AAE Adis Abeba 32.72 155⇑*e*P **P 14 22 45.3 +2.7**
AAE *e*S **S 14 28 06.7 +7.4**
AAE Adis Abeba 32.72 155⇑*e*P **P 14 22 45.3 +2.7**
AAE *e*S **S 14 28 02.7 +3.4**
AAE Adis Abeba 32.72 155 *i*P **P 14 22 44.1 +1.5**
AAE *i*S **S 14 28 03.6 +4.3**
ABTO Aybut 32.77 125 P **P 14 22 43.8 +1.0**
SNR=17
FURI Furi 32.82 156 PFAKE 14 22 50.0 +6.5
FURI LR LR

comp=Z,8µm,18.0s
FURI Furi 32.82 156⇑*e*P **P 14 22 46.7 +3.2**
FURI Furi 32.82 156⇑*e*P **P 14 22 46.7 +3.2**
FURI *e*S S 14 28 20.4 +20
WBK Wadi Bani Khal 33.04 111 P **P 14 22 46.9 +1.8**
SNR=10
CHM Chimkent 33.09 71 *e*P **P 14 22 46.1 +0.8**
CHM pmax pmax

comp=Z,1µm,1.8s
CHM MLR MLR

comp=Z,1µm,17.0s
CHM Chimkent 33.09 71 *e*P **P 14 22 46.2 +0.8**
comp=Z,1µm,1.8s
CHM LRM MLR 14 39 52.4

comp=Z,1µm,16.6s
BRVK Borovoye 33.09 51 *e*P **P 14 22 44.5 -0.6**
comp=Z,173nm,1.1s
BRVK LR LR

comp=Z,5µm,19.0s
BRVK Borovoye 33.09 51*c i*P **P 14 22 44.6 -0.6**
BRVK pmax pmax

comp=Z,111nm,1.1s
BRVK Borovoye 33.09 51 P **P 14 22 45.9 +0.7**
SNR=92
RBK Rabkut 33.24 123 P **P 14 22 47.4 +0.5**
SNR=12
MHTO MHTO 33.37 114 P **P 14 22 47.7 -0.2**
SNR=54
IUG Iuzhnay 33.44 71*d i*P **P 14 22 47.7 -0.7**
IUG pmax pmax

comp=Z,2µm,1.5s
IUG MLR MLR

comp=Z,1µm,16.0s
IUG Iuzhnay 33.44 71⇓*e*P **P 14 22 47.8 -0.7**
comp=Z,2µm,1.5s
IUG LRM MLR 14 38 07.1

comp=Z,1µm,15.6s
DMTO DMTO 33.57 122 P **P 14 22 48.7 -1.0**
SNR=12
KKAR Karatay Array 33.61 69 *e*P **P 14 22 49.1 -0.8**
KKAR Karatay Array 33.61 69 *e*P **P 14 22 49.1 -0.8**
JLN Jalan Bani Buh 33.65 111 P **P 14 22 49.8 -0.5**
SNR=74
TOC1 Torodi Ar. Sit 33.73 225 PFAKE 14 23 00.0 +8.9
TOC1 LR LR

comp=Z,8µm,18.0s
TOC2 Torodi Ar. Sit 33.73 225 PFAKE 14 23 00.0 +8.9
TOC2 LR LR

comp=Z,7µm,18.0s
TOB2 Torodi Ar. Sit 33.74 225 PFAKE 14 23 00.0 +8.8
TOB2 LR LR

comp=Z,5µm,20.0s
TOC3 Torodi Ar. Sit 33.75 225 PFAKE 14 23 00.0 +8.7
TOC3 LR LR

comp=Z,7µm,18.0s
TOC7 Torodi Ar. Sit 33.75 225 PFAKE 14 23 00.0 +8.7
TOC7 LR LR

comp=Z,5µm,20.0s
TOA2 Torodi Ar. Sit 33.75 225 PFAKE 14 23 00.0 +8.7
TOA2 LR LR

comp=Z,5µm,20.0s
TOA0 Torodi Ar. Sit 33.76 225 PFAKE 14 23 00.0 +8.7
TOA0 LR LR

comp=Z,7µm,18.0s
TOA0 Torodi Ar. Sit 33.76 225 P **P 14 22 51.3 0.0**
SNR=54
TORD Torodi Ar. Bea 33.76 225 P **P 14 22 49.5 -1.8**
comp=Z,41nm,0.8s,baz=355,slow=8.0,SNR=125
TORD LR LR 14 38 53.4

comp=Z,5µm,18.5s,baz=355,slow=40
TOB3 Torodi Ar. Sit 33.76 225 PFAKE 14 23 00.0 +8.7
TOB3 LR LR

comp=Z,7µm,18.0s
TOB5 Torodi Ar. Sit 33.76 225 PFAKE 14 23 00.0 +8.7
TOB5 LR LR

comp=Z,6µm,18.0s
TOA3 Torodi Ar. Sit 33.76 225 PFAKE 14 23 00.0 +8.6
TOA3 LR LR

comp=Z,5µm,20.0s
TOB4 Torodi Ar. Sit 33.77 225 PFAKE 14 23 00.0 +8.6
TOB4 LR LR

comp=Z,6µm,18.0s
DQM DQM 33.77 116 P **P 14 22 51.4 0.0**
SNR=19
TOC4 Torodi Ar. Sit 33.77 225 PFAKE 14 23 00.0 +8.5
TOC4 LR LR

comp=Z,6µm,19.0s
TOC5 Torodi Ar. Sit 33.78 225 PFAKE 14 23 00.0 +8.5
TOC5 LR LR

comp=Z,8µm,18.0s
DZA Taraz 34.24 69 *e*P **P 14 22 55.0 -0.3**
DZA pmax pmax

comp=Z,948nm,1.4s
DZA MLR MLR

comp=Z,4µm,19.0s
DZA Taraz 34.24 69 *e*P **P 14 22 55.0 -0.3**
comp=Z,948nm,1.4s
DZA LRM MLR 14 39 21.9

comp=Z,4µm,19.4s
KBL Kabul 34.82 84 *e*P **P 14 22 58.0 -2.6**
comp=Z,51nm,0.9s
KBL LR LR

comp=Z,8µm,22.0s
KBL Kabul 34.82 84 *e*P **P 14 22 58.0 -2.6**
KBL pmax pmax

comp=Z,51nm,0.9s
KBL MLR MLR

comp=Z,8µm,22.0s
EKS2 Erkin-Say 36.05 69 P **P 14 23 11.9 +0.8**
SNR=88
AML Almayashu 36.10 70 P **P 14 23 16.3 +4.4**
SNR=35
MACI Morro de la Ar 36.38 265 *e*P **P 14 23 13.2 -1.0**
comp=Z,287nm,1.3s
USP Ospenovka 36.45 68 P **P 14 23 14.9 +0.5**
SNR=42
AAK Ala-Archa 36.57 69 P **P 14 23 17.3 +1.7**
SNR=76
AAK Ala-Archa 36.57 69 *e*P **P 14 23 15.3 -0.3**
comp=Z,762nm,1.8s
AAK LR LR

comp=Z,5µm,20.0s
AAK Ala-Archa 36.57 69 *i*P **P 14 23 15.9 +0.3**
SNR=197
AAK Ala-Archa 36.57 69*ce*P **P 14 23 16.3 +0.7**
AAK pmax pmax

comp=Z,343nm,1.7s
AAK Ala-Archa 36.57 69 P **P 14 23 16.2 +0.7**
SNR=152
FRU Bishkek 36.62 69⇓*e*P **P 14 23 18.0 +2.2**
FRU pmax pmax

comp=Z,1µm,2.1s
FRU MLR MLR

comp=E,2µm,14.0s
FRU1 Bishkek 36.63 69 *e*P **P 14 23 16.8 +0.8**
comp=E,1µm,1.5s
FRU1 LR LR

comp=Z,4µm,20.0s
FRU1 Bishkek 36.63 69 *e*P **P 14 23 16.8 +0.8**
FRU1 pmax pmax

comp=Z,1µm,1.5s
FRU1 MLR MLR

comp=Z,4µm,20.0s
UCH Uchtor 36.68 70 P **P 14 23 17.4 +0.6**
SNR=51
CHMS Chumysh 36.68 68 P **P 14 23 17.6 +1.3**
SNR=58
BORG Borgarnes 36.80 328 *e*P **P 14 23 18.6 +1.6**
comp=Z,506nm,1.4s
BORG LR LR

comp=Z,10µm,18.0s
BORG Borgarnes 36.80 328 *e*P **P 14 23 18.6 +1.6**
BORG pmax pmax

comp=Z,506nm,1.4s
BORG MLR MLR

comp=Z,10µm,18.0s
KBK Karagaybulak 36.90 69 P **P 14 23 20.4 +2.1**
SNR=53
KZA Kyzart 37.24 70 P **P 14 23 23.2 +1.6**
SNR=83
TKM2 Tokmak 2 37.31 68 P **P 14 23 22.2 +0.3**
SNR=35
KUU Kurty 37.63 67*d i*P **P 14 23 24.7 +0.3**
KUU *e* 14 24 54.4
KUU *e*S **S 14 29 15.4 +1.5**
KUU pmax pmax

comp=Z,2µm,1.5s
KUU pmax pmax

comp=Z,1µm,1.8s
KUU smax smax

comp=N,1µm,4.3s
KUU MLR MLR

comp=Z,1µm,17.0s
KUU Kurty 37.63 67⇓*i*P **P 14 23 24.7 +0.3**
comp=Z,2µm,1.5s
KUU ⇓*e*PP **PnPn 14 24 54.4 +3.3**
KUU comp=Z,1µm,1.8s ⇑*e*S **S 14 29 15.4 +1.5**
KUU comp=Z,1µm,4.2s LRM MLR 14 40 28.9

comp=Z,1µm,17.4s
ULHL Ulahol 37.92 69 P **P 14 23 31.8 +4.6**
SNR=56
NRN Naryn 37.95 71 *e*P **P 14 23 27.5 0.0**
comp=Z,547nm,1.5s
NRN LR LR

comp=Z,11µm,22.0s
NRN Naryn 37.95 71 *e*P **P 14 23 27.5 0.0**
NRN pmax pmax

comp=Z,547nm,1.5s
NRN MLR MLR

comp=Z,11µm,22.0s
AAA Alma-Ata 38.19 68*c i*P **P 14 23 30.2 +1.0**
AAA *e* 14 25 00.5
AAA pmax pmax

comp=Z,776nm,1.6s
AAA pmax pmax

comp=Z,974nm,1.8s
AAA MLR MLR

comp=Z,1µm,22.0s
AAA Alma-Ata 38.19 68⇑*e*P **P 14 23 30.2 +1.0**
comp=Z,776nm,1.6s
AAA ⇓*e*PP **PnPn 14 25 00.5 +2.7**
AAA comp=Z,974nm,1.8s ⇓*i*S S 14 29 34.4 +12
comp=Z,1µm,5.6s
AAA LRM MLR 14 42 16.7

comp=Z,1µm,22.3s
KURK Kurchatov 38.23 55 *e*P **P 14 23 27.9 -1.4**
comp=Z,468nm,1.4s
KURK LR LR

comp=Z,6µm,19.0s
KURK Kurchatov 38.23 55*ce*P **P 14 23 29.1 -0.2**
KURK pmax pmax

comp=Z,480nm,1.7s
KURK MLR MLR

comp=Z,7µm,19.0s
KURK Kurchatov 38.23 55 P **P 14 23 29.6 +0.3**
SNR=129
MDOK Medeo 38.29 68*c i*P **P 14 23 30.1 0.0**
MDOK *e* 14 24 59.7
MDOK pmax pmax

comp=Z,1µm,1.6s
MDOK MLR MLR

comp=Z,3µm,18.0s
MDOK Medeo 38.29 68⇑*i*P **P 14 23 30.1 0.0**

comp=Z,1µm,1.6s
MDOK *e*PP **PnPn** **14 24 59.8 +0.6**
comp=Z,1µm,1.4s
MDOK *e*S **S** **14 29 32.9 +8.7**
comp=Z,1µm,6.0s
MDOK LRM MLR 14 42 05.4
comp=Z,3µm,17.9s
KSH Kashi 38.44 74 P **P** **14 23 30.4 -1.0**
KSH pP pP 14 23 34.7 -0.1
KSH sP sP 14 23 37.3 +1.1
KSH PcP **PcP** **14 25 43.3 -1.2**
KSH S **S** **14 29 22.3 -4.2**
KSH sS pS 14 29 30.4 +0.1
KSH SS **SnSn** **14 32 01.7 -11**
KSH ScS **ScS** **14 33 36.3 -6.2**
KSH pmax pmax
comp=Z,61nm,1.1s
KSH LR LR
comp=Z,6µm,14.6s
KSH LR LR
comp=Z,7µm,16.3s
KSH LR LR
comp=Z,6µm,18.2s
KDJ Kajisay 38.63 69 *e*P **P** **14 23 35.0 +2.1**
comp=Z,604nm,1.8s
KDJ LR LR
comp=Z,7µm,22.0s
KDJ Kajisay 38.63 69 *e*P **P** **14 23 35.1 +2.1**
KDJ pmax pmax
comp=Z,604nm,1.8s
KDJ MLR MLR
comp=Z,7µm,22.0s
SPA0 Spitsbergen Ar 38.81 357 *e*P **P** **14 23 34.7 +0.8**
TDK Taldyqorghan 38.87 64*ce*P **P** **14 23 34.5 -0.2**
TDK *i* 14 25 04.5
TDK MLR MLR
comp=Z,7µm,18.0s
TDK Taldyqorghan 38.87 64 *e*P **P** **14 23 34.6 -0.2**
comp=Z,2µm,1.5s
TDK ⇑*i*PP **PP** **14 25 04.5 +0.9**
comp=Z,5µm,1.5s
TDK LRM MLR 14 41 45.1
comp=Z,7µm,17.7s
SCO Scoresbysund 39.28 337 *e*P **P** **14 23 38.2 +0.4**
comp=Z,101nm,0.9s
SCO LR LR
comp=Z,9µm,20.0s
SCO Scoresbysund 39.28 337 *i* P **P** **14 23 39.1 +1.3**
SCO Scoresbysund 39.28 337 *i* P **P** **14 23 39.1 +1.3**
SATY Saty 39.28 67*de*P **P** **14 23 38.7 +0.3**
SATY *e* 14 25 13.0
SATY MLR MLR
comp=Z,2µm,13.0s
SATY Saty 39.28 67⇓*e*P **P** **14 23 38.8 +0.3**
comp=Z,4µm,1.4s
SATY *e*PP **PnPn** **14 25 13.1 +2.0**
comp=Z,3µm,1.6s
SATY LRM MLR 14 42 49.0
comp=Z,2µm,13.2s
SEM Semipalatinsk 39.29 56*ce*P **P** **14 23 38.3 -0.2**
SEM *e* 14 25 09.7
SEM *i* S **S** **14 29 39.8 +0.5**
SEM smax smax
comp=N,4µm,3.0s
SEM MLR MLR
comp=Z,4µm,16.0s
SEM Semipalatinsk 39.29 56 *e*P **P** **14 23 38.4 -0.2**
comp=Z,2µm,1.3s
SEM ⇑*e*PP **PnPn** **14 25 09.8 -1.4**
comp=Z,587nm,1.9s
SEM ⇑*i*S **S** **14 29 39.8 +0.5**
comp=Z,4µm,3.0s
SEM *e*LRM MLR 14 42 19.3
comp=Z,4µm,16.5s
PSMN Pico do Norte, 39.36 283 *e*LQ LQ 14 32 38.5
PSMN *e*LR LR 14 35 14.7
comp=Z,4µm,22.0s
KPKS Kokpek 39.39 67*c i*P **P** **14 23 39.4 +0.2**
KPKS *e* 14 25 12.3
KPKS pmax pmax
comp=Z,859nm,1.5s
KPKS pmax pmax
comp=Z,2µm,2.5s
KPKS MLR MLR
comp=Z,3µm,16.0s
KPKS Kokpek 39.39 67⇑*i*P **P** **14 23 39.5 +0.2**
comp=Z,859nm,1.5s
KPKS ⇓*e*PP **PnPn** **14 25 12.4 +0.1**
comp=Z,2µm,2.5s
KPKS LRM MLR 14 42 38.5
comp=Z,3µm,16.0s
PRZ Przheval'sk 39.42 68 *e*P **P** **14 23 40.0 +0.4**
comp=Z,324nm,1.3s
PRZ LR LR
comp=Z,4µm,19.0s
PRZ Przheval'sk 39.42 68 *e*P **P** **14 23 40.0 +0.4**
PRZ pmax pmax
comp=Z,324nm,1.3s
PRZ MLR MLR
comp=Z,4µm,19.0s
CMLA Cha da Macela 39.45 284 *e*LR LR 14 34 50.8
comp=Z,4µm,18.0s
CMLA Cha da Macela 39.45 284 PFAKE 14 23 50.0 +10
CMLA LR LR
comp=Z,5µm,20.0s
PSET Sete Cidades 39.58 284 *e*LR LR 14 35 40.4
comp=Z,4µm,18.0s
KBS Kingsbay 39.75 356 *e*P **P** **14 23 41.6 -0.1**
comp=Z,324nm,1.4s
KBS LR LR
comp=Z,21µm,20.0s
KBS Kingsbay 39.75 356*ce*P **P** **14 23 41.8 +0.1**
KBS pmax pmax
comp=Z,854nm,1.3s
KBS MLR MLR
comp=Z,82µm,19.0s
KBS Kingsbay 39.75 356 *e*P **P** **14 23 42.4 +0.7**
SHLS Shalkode 40.01 67*de*P **P** **14 23 46.9 +2.4**
SHLS *e* 14 25 24.9
SHLS pmax pmax
comp=Z,1µm,1.5s
SHLS pmax pmax
comp=Z,2µm,1.4s
SHLS MLR MLR
comp=Z,2µm,15.0s
SHLS Shalkode 40.01 67⇓*e*P **P** **14 23 47.0 +2.4**
comp=Z,1µm,1.5s
SHLS *e*PP **PnPn** **14 25 24.9 +5.2**
comp=Z,2µm,1.4s
SHLS *i* LRM MLR 14 42 27.1
comp=Z,2µm,15.2s
MBAR Mbarara 40.36 172 PFAKE 14 24 00.0 +12
MBAR LR LR
comp=Z,7µm,20.0s
MBAR Mbarara 40.36 172*c i*P **P** **14 23 47.5 -0.1**
MBAR pmax pmax
comp=Z,73nm,1.1s
MBAR MLR MLR
comp=Z,7µm,17.0s
NVS Novosibirsk 40.78 48 *e*P **P** **14 23 51.6 +1.1**
NVS *e*S **S** **14 30 01.4 +0.5**
NVS pmax pmax
comp=Z,616nm,1.5s
NVS pmax pmax
comp=N,104nm,1.6s
NVS pmax pmax
comp=E,181nm,1.3s
NVS smax smax
comp=E,192nm,2.4s
PGRA Graciosa 40.87 287 *e*LR LR 14 36 26.7
comp=E,3µm,20.0s
MAKZ Makanchi 40.96 61 *e*P **P** **14 23 51.3 -0.9**
comp=E,172nm,1.1s
MAKZ LR LR
comp=Z,10µm,19.0s
MAKZ Makanchi 40.96 61 *e*P **P** **14 23 51.3 -0.9**
MAKZ pmax pmax
comp=Z,172nm,1.1s
MAKZ MLR MLR
comp=Z,10µm,19.0s
ROSA Rosais 41.16 286 *e*LR LR 14 36 26.7
comp=Z,3µm,22.0s
MKAR Makanchi Array 41.17 61 P **P** **14 23 53.7 -0.2**
comp=Z,130nm,0.7s,baz=283,slow=5.6,SNR=251
MKAR LR LR 14 43 25.6
comp=Z,10µm,19.3s,baz=268,slow=40
MKAR Makanchi Array 41.17 61 *e*P **P** **14 23 53.2 -0.7**
comp=Z,914nm,0.8s
MKAR Makanchi Array 41.17 61 *e*P **P** **14 23 53.2 -0.7**
MKAR pmax pmax
comp=Z,914nm,0.8s
ZAA0 Zalesovo Array 41.76 50 PFAKE 14 24 10.0 +11
ZAA0 LR LR
comp=Z,5µm,19.0s
ZALV Zalesovo Beam 41.76 50 P **P** **14 23 58.2 -0.4**
comp=Z,88nm,0.7s,baz=273,slow=8.9,SNR=77
ZALV LR LR 14 43 49.8
comp=Z,5µm,19.3s,baz=283,slow=40
KMBO Kilima Mbogo 41.99 162 P **P** **14 24 01.4 +0.3**
comp=Z,15nm,0.9s,baz=350,slow=9.4,SNR=27
KMBO LR LR 14 41 21.8
comp=Z,3µm,21.6s,baz=339,slow=36
KMBO Kilima Mbogo 41.99 162 *e*P **P** **14 23 59.9 -1.2**
comp=Z,94nm,1.8s
KMBO Kilima Mbogo 41.99 162 *i* P **P** **14 24 03.8 +2.7**
SNR=18
KMBO Kilima Mbogo 41.99 162 *e*P **P** **14 24 01.9 +0.8**
KMBO *e*S S 14 30 31.4 +11
NAI Nairobi 42.03 163 PFAKE 14 24 10.0 +8.6
NAI LR LR
comp=Z,4µm,18.0s
DBIC Dimbokro 42.72 228 P **P** **14 24 06.5 -0.3**
comp=Z,120nm,0.8s,baz=16,slow=9.5,SNR=174
DBIC LR LR 14 45 23.0
comp=Z,5µm,18.1s,baz=14,slow=41
DBIC Dimbokro 42.72 228 *e*P **P** **14 24 06.0 -0.8**
comp=Z,207nm,1.1s
DBIC Dimbokro 42.72 228 *e*P **P** **14 24 06.5 -0.3**
TIC Toumodi 42.83 228 *e*P **P** **14 24 06.8 -0.9**
KIC Kosan Boka 42.91 227 *e*P **P** **14 24 07.0 -1.3**
comp=Z,289nm,0.9s
H07S1 FLORES T-PHASE 43.13 289 *e*LR LR 14 37 28.4
LIC Lamto 43.18 228 *e*P **P** **14 24 09.2 -1.3**
comp=Z,733nm,1.1s
ANGG Ammassalik, Gr 43.70 328 PFAKE 14 24 20.0 +5.9
ANGG LR LR
comp=Z,11µm,19.0s
SUMG Summit 44.91 337 *e*P **P** **14 24 24.3 +0.1**
comp=Z,122nm,1.0s
SUMG LR LR
comp=Z,13µm,18.0s
SUMG Summit 44.91 337 *i* P **P** **14 24 25.8 +1.6**
comp=Z,327nm,1.0s
SUMG Summit 44.91 337 *i* P **P** **14 24 25.8 +1.6**
SUMG pmax pmax
comp=Z,330nm,1.0s
WMQ Urumqi 45.60 64 P **P** **14 24 31.2 +1.4**
WMQ pP sP 14 24 34.8 +0.2
WMQ sP pP 14 24 40.3 +7.1
WMQ PP **PP** **14 26 21.4 +5.1**
WMQ S **S** **14 31 15.6 +3.5**
WMQ SS **ScS** **14 34 29.3 +3.2**
WMQ pmax pmax
comp=Z,620nm,1.3s
WMQ LR LR
comp=Z,31µm,22.7s
WMQ LR LR
comp=Z,15µm,19.3s
WMQ LR LR
comp=Z,14µm,17.5s
WMQ Urumqi 45.60 64 *e*P **P** **14 24 30.1 +0.3**
comp=Z,289nm,1.1s
WMQ LR LR
comp=Z,10µm,18.0s
WMQ Urumqi 45.60 64 *e*P **P** **14 24 30.1 +0.3**
WMQ pmax pmax
comp=Z,289nm,1.1s
WMQ MLR MLR
comp=Z,10µm,18.0s
NRS Narsarsuaq 47.30 321 PFAKE 14 24 50.0 +7.3
NRS LR LR
comp=Z,13µm,19.0s
HVS Khovu-Aksy 47.58 52 *i* P **P** **14 24 44.2 -1.0**
HVS pmax pmax
comp=Z,31nm,0.8s
HVS MLR MLR
comp=Z,14µm,15.0s
PYUN Piuthan 48.34 85 *e*P **P** **14 24 50.6 -0.9**
comp=Z,1µm,1.6s
IVI Ivigtut 48.61 322 PFAKE 14 25 00.0 +7.2
IVI LR LR
comp=Z,12µm,18.0s
DANN Dangsing 48.81 85 *e*P **P** **14 24 54.8 -0.4**
comp=Z,1µm,1.5s
ILULI Ilulissat 48.89 333 PFAKE 14 25 10.0 +15
ILULI LR LR
comp=Z,6µm,22.0s
ILULI Ilulissat 48.89 333 *i* P **P** **14 24 55.7 +0.9**
comp=Z,9µm,19.0s
ILULI Ilulissat 48.89 333 *i* P **P** **14 24 55.7 +0.9**
ILULI MLR MLR
comp=Z,9µm,19.0s
SFJD Kangerlussuaq 48.91 330 PFAKE 14 25 10.0 +15
SFJD LR LR
comp=Z,9µm,20.0s
SFJD Kangerlussuaq 48.91 330 *i* P **P** **14 24 54.5 -0.6**
SFJD Kangerlussuaq 48.91 330 *i* P **P** **14 24 54.5 -0.6**
SFJD Kangerlussuaq 48.91 330 *e*P **P** **14 24 55.4 +0.3**
NGP Nagpur 48.97 96⇓*e*P **P** **14 24 56.3 +0.1**
NGP *e*S **S** **14 32 03.7 +3.4**
KOLN Koldanda 48.97 85 *e*P **P** **14 24 55.4 -0.9**
comp=Z,1µm,1.7s
DMN Daman 50.21 85 *e*P **P** **14 25 05.5 -0.4**
comp=Z,1µm,1.6s
KKN Kakani 50.25 84 *e*P **P** **14 25 05.7 -0.4**
comp=Z,500nm,1.5s
KULLO Kullorsuaq 50.31 340 *i* P **P** **14 25 06.4 +0.8**
comp=Z,176nm,1.0s
comp=Z,8µm,16.0s
KULLO Kullorsuaq 50.31 340 *i* P **P** **14 25 06.4 +0.8**
KULLO pmax pmax
comp=Z,180nm,1.0s
KULLO MLR MLR
comp=Z,8µm,16.0s
PKIN Phulchoki 50.45 85 *e*P **P** **14 25 06.9 -0.8**
comp=Z,673nm,1.6s
PKI Pulchoki 50.46 85 *e*P **P** **14 25 07.4 -0.4**
comp=Z,717nm,1.6s
GUN Gumba 50.65 84 *e*P **P** **14 25 08.7 -0.6**
comp=Z,884nm,1.4s
HYB Hyderabad 50.77 100 *i* P **P** **14 25 09.0 -0.9**
HYB *e*S **S** **14 32 24.0 -1.6**
JIRN Jiri 51.01 84 *e*P **P** **14 25 11.7 -0.4**
comp=Z,1µm,1.5s
RAMN Ramite 51.69 85 *e*P **P** **14 25 16.0 -1.0**
comp=Z,482nm,1.2s
MOY Mondy 51.82 50 *e*P **P** **14 25 18.1 +0.6**
MOY pmax pmax
comp=Z,378nm,2.1s
MNCI Minicoy 52.64 113 PFAKE 14 25 30.0 +6.2
MNCI LR LR
comp=Z,10µm,18.0s
TULEG Thule 52.82 343 *e*P **P** **14 25 23.7 -0.7**
comp=Z,448nm,1.1s
TULEG LR LR
comp=Z,10µm,20.0s
IRK Irkutsk 53.55 49 *e*P **P** **14 25 31.4 +1.2**
IRK *e*S **S** **14 33 07.5 +4.6**
IRK pmax pmax
comp=Z,619nm,2.7s
ZAK Zakamensk 53.61 51 *e*P **P** **14 25 30.8 +0.1**
ZAK pmax pmax
comp=Z,162nm,1.4s
LSA Lhasa 53.79 79 *e*P **P** **14 25 32.0 -0.8**
comp=Z,445nm,1.5s
LSA LR LR
comp=Z,4µm,20.0s
LSA Lhasa 53.79 79 *e*P **P** **14 25 32.0 -0.8**
LSA pmax pmax
comp=Z,445nm,1.5s
LSA MLR MLR
comp=Z,4µm,20.0s
LSZ Lusaka 54.71 177 *e*P **P** **14 25 38.6 -0.4**
comp=Z,56nm,1.1s
LSZ LR LR
comp=Z,5µm,21.0s
LSZ Lusaka 54.71 177 *e*P **P** **14 25 38.6 -0.4**
LSZ pmax pmax
comp=Z,56nm,1.1s
LSZ MLR MLR
comp=Z,5µm,21.0s
GTA Gaotai 55.66 65 ⇑P **P** **14 25 45.2 -0.6**
GTA pP pP 14 25 49.7 +0.3
GTA sP sP 14 25 52.5 +1.8
GTA PP **PP** **14 27 51.3 +1.4**
GTA S **S** **14 33 29.0 -3.0**
GTA sS sS 14 33 37.0 -0.7
GTA SS **SS** **14 37 14.1 -2.7**
GTA pmax pmax
comp=Z,740nm,7.9s
GTA LR LR
comp=Z,7µm,18.7s
GTA LR LR
comp=Z,4µm,20.0s
GTA LR LR
comp=Z,8µm,19.0s
SHL Shillong 56.45 83 *e*P **P** **14 25 50.5 -1.3**
comp=Z,789nm,1.4s
SHL LR LR
comp=Z,5µm,19.0s
SHL Shillong 56.45 83 *e*P **P** **14 25 50.5 -1.3**
SHL pmax pmax
comp=Z,789nm,1.4s
SHL MLR MLR
comp=Z,5µm,19.0s
SHL Shillong 56.45 83 *e*P **P** **14 25 50.0 -1.7**
SHL *i* S **S** **14 33 40.0 -2.9**
SONM Songino Array 56.46 53 P **P** **14 25 51.4 0.0**
comp=Z,46nm,1.2s,baz=286,slow=8.6,SNR=44
SONM LR LR 14 52 59.9
comp=Z,6µm,20.4s,baz=298,slow=39
BOD Bodaibo 56.76 40 *e*P **P** **14 25 52.3 -0.9**
BOD pmax pmax
comp=Z,119nm,1.7s
ULN Ulaanbaatar 56.86 53 *e*P **P** **14 25 53.9 -0.4**
comp=Z,161nm,1.2s
ULN LR LR
comp=Z,6µm,21.0s
ULN Ulaanbaatar 56.86 53*ce*P **P** **14 25 54.1 -0.2**
ULN pmax pmax
comp=Z,76nm,0.8s
ULN MLR MLR
comp=Z,5µm,20.0s
TIXI Tiksi 56.86 22*ce*P **P** **14 25 53.4 -0.3**
TIXI pmax pmax
comp=Z,68nm,2.5s
TIXI MLR MLR
comp=Z,15µm,16.0s
DRLN Deer Lake 57.21 309 *e*P **P** **14 25 55.4 -1.2**
comp=Z,219nm,1.4s
PALK Pallekele 58.84 108 *e*P **P** **14 26 07.8 -0.7**
comp=Z,688nm,1.5s
PALK LR LR
comp=Z,5µm,20.0s
PALK Pallekele 58.84 108 *i* P **P** **14 26 09.1 +0.6**
SNR=14
PALK Pallekele 58.84 108 *e*P **P** **14 26 07.8 -0.7**
PALK pmax pmax
comp=Z,688nm,1.5s
PALK MLR MLR
comp=Z,5µm,20.0s
CIT Chita 58.91 46 *e*P **P** **14 26 12.2 +3.7**
CIT pmax pmax
comp=Z,307nm,2.0s
TSUM Tsumeb 59.03 189 *e*P **P** **14 26 08.8 -0.9**
comp=Z,45nm,1.1s
TSUM LR LR
comp=Z,5µm,19.0s
RES Resolute Bay 59.40 345 LR LR 14 53 02.9
comp=Z,6µm,18.4s,baz=50,slow=37
RES Resolute Bay 59.40 345 *e*P **P** **14 26 11.1 -0.3**
comp=Z,59nm,1.0s
RES Resolute Bay 59.40 345 *e*P **P** **14 26 11.1 -0.3**
RES pmax pmax
comp=Z,59nm,1.0s
SCHQ Schefferville 59.99 318 P **P** **14 26 15.1 -0.8**
comp=Z,45nm,0.8s,baz=65,slow=5.8,SNR=30
SCHQ LR LR 14 51 16.3
comp=Z,3µm,19.4s,baz=63,slow=35
LZH Lanzhou 60.03 66 *e*P **P** **14 26 16.9 +0.3**
LZH pP pP 14 26 20.1 0.0
LZH sP sP 14 26 21.4 -0.1
LZH PP **PP** **14 28 32.1 +3.4**
LZH *e*S **S** **14 34 31.4 +2.1**
LZH sS sS 14 34 40.6 +5.4
LZH SS **SS** **14 38 26.5 +0.9**
LZH pmax pmax
comp=Z,130nm,1.0s
LZH pmax pmax
comp=Z,580nm,5.2s
LZH LR LR
comp=Z,11µm,17.4s
LZH LR LR
comp=Z,10µm,16.0s
LZH LR LR
comp=Z,13µm,18.4s
ASCN Ascension 60.04 227 PFAKE 14 26 30.0 +13
ASCN LR LR
comp=Z,4µm,22.0s
GBN Guysborough 61.36 307 PFAKE 14 26 40.0 +15
GBN LR LR
comp=Z,5µm,18.0s
ABPO Ambohimpanom 61.80 157 *e*P **P** **14 26 28.7 +0.1**
comp=Z,36nm,1.1s
ABPO LR LR
comp=Z,2µm,20.0s
ABPO Ambohimpanom 61.80 157 *e*P **P** **14 26 28.7 +0.1**
ABPO pmax pmax
comp=Z,36nm,1.1s
ABPO MLR MLR
comp=Z,2µm,20.0s
YAK Yakutsk 61.85 31 *e*P **P** **14 26 30.7 +2.4**
YAK *e* 14 27 04.4
YAK *e* 14 28 43.3
YAK *e*PPP PPP 14 30 09.2
YAK *e*S **S** **14 34 56.5 +5.1**
YAK *e*'SS sS 14 35 12.4 +15
YAK *e* 14 36 13.8
YAK *e*SSS SSS 14 41 36.5
YAK pmax pmax
comp=Z,40nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=Z,181nm,3.0s
YAK pmax pmax
comp=N,82nm,2.3s
YAK pmax pmax
comp=E,127nm,2.5s
YAK smax smax
comp=N,393nm,4.8s
YAK smax smax
comp=E,277nm,3.2s
YAK MLR MLR
comp=Z,9µm,18.0s
YAK MLR MLR
comp=N,3µm,15.0s
YAK MLR MLR
comp=E,7µm,15.0s
BTO Baotou 62.05 59 *e*P **P** **14 26 30.8 +0.6**
SHEL Horse Pasture 62.56 214 *i* P P 14 26 40.4 +6.8
CD2 Chengdu 62.59 71 P **P** **14 26 33.0 -0.8**
CD2 pP pP 14 26 37.2 -0.2
CD2 PP **PP** **14 28 50.4 -0.9**
CD2 PcS **PcS** **14 31 13.5 -2.8**
CD2 S **S** **14 35 00.5 -1.2**
CD2 SS **SS** **14 39 05.6 0.0**
CD2 pmax pmax
comp=E,150nm,0.8s
CD2 pmax pmax
comp=E,1µm,3.6s
CD2 LR LR
comp=E,4µm,21.9s
CD2 LR LR
comp=E,5µm,17.4s
CD2 LR LR
comp=E,4µm,16.4s
HHC Hu-ho-hao-te 62.95 58 *e*P **P** **14 26 36.2 0.0**
HHC pP sP 14 26 40.8 -0.3
HHC S **S** **14 35 04.0 -2.1**
HHC sS pS 14 35 09.3 -1.2
HHC pmax pmax
comp=E,66nm,0.9s
HHC pmax pmax
comp=E,420nm,5.2s
HHC LR LR
comp=E,7µm,15.5s

HHC LR LR
comp=E,6µm,15.3s
HHC LR LR
comp=E,7µm,16.9s
BATG Bathurst New B 63.19 310 *e*P **P 14 26 37.2 -0.4**
comp=E,93nm,1.2s
HIA Hailar 63.68 47 *e*P **P 14 26 39.8 -1.0**
comp=E,8.5nm,1.5s
HIA LR LR
comp=E,8µm,19.0s
HIA Hailar 63.68 47 *e*P **P 14 26 39.8 -1.0**
HIA pmax pmax
comp=Z,8.0nm,1.5s
HIA MLR MLR
comp=Z,8µm,19.0s
DGAR Diego Garcia 63.81 126 PFAKE 14 26 50.0 +8.1
DGAR LR LR
comp=Z,3µm,20.0s
DGAR Diego Garcia 63.81 126 *i* P **P 14 26 42.5 +0.6**
DGAR pmax pmax
comp=Z,183nm,1.6s
DGAR MLR MLR
comp=Z,3µm,19.0s
LBTB Lobatse 64.35 180 *e*P **P 14 26 45.2 -0.2**
comp=Z,58nm,1.0s
LBTB Lobatse 64.35 180 *e*P **P 14 26 45.2 -0.2**
LBTB pmax pmax
comp=Z,58nm,1.0s
XAN Xi'an 64.65 66 P **P 14 26 47.1 -0.4**
XAN S **S 14 35 32.1 +4.7**
XAN SS **SS 14 39 43.3 +5.6**
XAN pmax pmax
comp=Z,260nm,3.8s
XAN LR LR
comp=Z,3µm,23.0s
XAN LR LR
comp=Z,4µm,16.3s
XAN LR LR
comp=Z,5µm,19.2s
XAN Xi'an 64.65 66 *e*P **P 14 26 46.8 -0.7**
XAN pmax pmax
comp=Z,706nm,1.4s
XAN LR LR
comp=Z,7µm,22.0s
XAN Xi'an 64.65 66 *e*P **P 14 26 46.8 -0.7**
XAN pmax pmax
comp=Z,706nm,1.4s
XAN MLR MLR
comp=Z,7µm,22.0s
PQI Presque Isle 64.65 310 *e*P **P 14 26 45.3 -1.9**
comp=Z,161nm,1.6s
GGN Saint George 64.77 309 PFAKE 14 27 00.0 +12
GGN LR LR
comp=Z,6µm,20.0s
KMI Kunming 64.95 77 P **P 14 26 49.4 -0.3**
KMI pP pP 14 26 52.6 -0.7
KMI sP sP 14 26 53.7 -0.9
KMI PP **PP 14 29 14.4 +2.0**
KMI S **S 14 35 29.5 -2.1**
KMI SKS **ScS 14 36 45.5 +0.5**
KMI SS **SS 14 39 46.9 +3.9**
KMI pmax pmax
comp=Z,44nm,1.0s
KMI pmax pmax
comp=Z,200nm,3.1s
KMI LR LR
comp=Z,3µm,21.9s
KMI LR LR
comp=Z,1µm,21.9s
KMI LR LR
comp=Z,4µm,25.2s
KMI Kunming 64.95 77 PFAKE 14 27 00.0 +10
KMI LR LR
comp=Z,2µm,22.0s
PBA Port Blair 65.13 95 *e*P P 14 26 47.6 -3.1
comp=Z,1µm,1.4s
PBA LR LR
comp=Z,6µm,21.0s
TIY Taiyuan 65.14 61 *e*P **P 14 26 51.2 +0.6**
TIY pP **sP 14 27 01.7 +6.2**
TIY S **S 14 35 31.6 -1.7**
TIY SS **SS 14 39 41.4 -3.7**
TIY pmax pmax
comp=Z,89nm,0.6s
TIY pmax pmax
comp=Z,680nm,4.0s
TIY LR LR
comp=Z,2µm,11.6s
TIY LR LR
comp=Z,4µm,14.8s
TIY LR LR
comp=Z,5µm,18.7s
ZEA Zeya 65.27 40 *e*P **P 14 26 54.2 +3.1**
ZEA *e*S **S 14 35 37.0 +2.8**
ZEA *e*SS **SS 14 39 44.0 -2.2**
ZEA pmax pmax
comp=N,64nm,1.8s
ZEA pmax pmax
comp=Z,160nm,1.8s
ZEA smax smax
comp=N,1µm,16.0s
ZEA MLR MLR
comp=E,8µm,15.0s
ZEA MLR MLR
comp=Z,10µm,15.0s
ZEA MLR MLR
comp=N,5µm,13.0s
CHTO Chiang Mai 65.63 85 *e*P **P 14 26 52.2 -1.7**
comp=N,362nm,1.2s
CHTO LR LR
comp=Z,800nm,21.0s
CHTO Chiang Mai 65.63 85 *e*P **P 14 26 52.2 -1.7**
CHTO pmax pmax
comp=Z,362nm,1.2s
CHTO MLR MLR
comp=Z,800nm,21.0s
CHTO Chiang Mai 65.63 85 P **P 14 26 53.1 -0.8**
comp=Z,1µm,1.4s,comp=Z,18µm
CHTO Chiang Mai 65.63 85 *e*P **P 14 26 52.9 -1.1**
CMMT Chiang Mai 65.64 85 P **P 14 26 53.0 -1.0**
comp=Z,289nm,1.4s,comp=Z,4µm
CM31 Chiang Mai Arr 65.84 86 P **P 14 26 54.5 -0.7**
SNR=117
CMAR Chiang Mai Arr 65.84 86 P **P 14 26 54.3 -1.0**
comp=Z,91nm,0.9s,baz=302,slow=7.5,SNR=175
CMAR LR LR 15 01 54.2
comp=Z,2µm,21.1s,baz=302,slow=42
PKME Peaks-Kenny Pk 66.16 310 PFAKE 14 27 10.0 +13
PKME LR LR
comp=Z,7µm,19.0s
LAMP Lampang 66.33 85 P **P 14 26 58.7 +0.3**
comp=Z,117nm,1.2s,comp=Z,1µm
BJI Beijing 66.37 57⇑ *i*P **P 14 27 01.6 +3.2**
BJI S **S 14 35 49.7 +1.6**
BJI pmax pmax
comp=Z,93nm,1.7s
BJI LR LR
comp=Z,5µm,22.8s
BJI LR LR
comp=Z,4µm,22.2s
BJT Baijiatuau 66.38 57 *e*P **P 14 26 55.3 -3.1**
comp=Z,311nm,1.5s
BJT LR LR
comp=Z,9µm,18.0s
BJT Baijiatuau 66.38 57 *e*P **P 14 26 55.3 -3.1**
BJT pmax pmax
comp=Z,311nm,1.5s
BJT MLR MLR
comp=Z,9µm,18.0s
CHGQ Chibougamau 66.47 316 P **P 14 26 58.5 -0.4**
baz=56,SNR=15
RER Riviere de l'E 66.77 149 *e*P **P 14 27 00.1 -1.0**
comp=Z,99nm,0.9s
SUKH Sukhothai 66.94 86 P **P 14 27 02.5 +0.2**
comp=Z,101nm,1.1s,comp=Z,1µm
LATQ La Tuque 67.01 313 P **P 14 27 02.0 -0.3**
baz=56,SNR=5.7
ENH Enshi 67.09 69 *e*P **P 14 27 02.5 -0.7**
comp=Z,428nm,1.0s
ENH LR LR
comp=Z,4µm,20.0s
UMPA Umpang Tak 67.10 88 P **P 14 27 04.1 +0.7**
comp=Z,59nm,1.5s,comp=Z,666nm
GYA Guiyang 67.14 74⇓ *i*P **P 14 27 02.9 -0.8**
GYA PP **PP 14 29 33.0 +1.6**
GYA S **S 14 35 54.8 -3.3**
GYA SKS **SKSac 14 36 57.5 -3.8**
GYA SS **SS 14 40 16.0 -0.8**
GYA pmax pmax
comp=Z,40nm,0.9s
GYA pmax pmax
comp=Z,430nm,4.4s
GYA LR LR
comp=Z,4µm,22.1s
GYA LR LR
comp=Z,3µm,22.4s
GYA LR LR
comp=Z,3µm,19.2s
UTTA Uttaradit 67.50 85 P **P 14 27 05.6 -0.2**
comp=Z,59nm,1.2s,comp=Z,584nm
MOQ Mont Orford 67.87 311 *e*P **P 14 27 07.4 -0.6**
BOSA Boshof 67.93 180 P **P 14 27 08.6 +0.2**
comp=Z,17nm,0.8s,baz=351,slow=7.1,SNR=22
BOSA Boshof 67.93 180 *e*P **P 14 27 07.4 -0.9**
comp=Z,66nm,1.3s
BOSA Boshof 67.93 180 *e*P **P 14 27 09.2 +0.8**
UTHA Uthaitani 67.93 88 P **P 14 27 08.6 0.0**
comp=Z,86nm,1.3s,comp=Z,920nm
MATQ Matagami 68.29 317 P **P 14 27 10.1 -0.3**
baz=54,SNR=24
LSQQ Lebel-sur-Quev 68.36 316 P **P 14 27 11.0 +0.2**
baz=54
SRDT SRDT 68.41 89 P **P 14 27 11.5 -0.1**
comp=Z,355nm,1.7s,comp=Z,5µm
PBKT Sadao Pong 68.51 86 *e*P **P 14 27 11.6 -0.6**
PBKT Sadao Pong 68.51 86 P **P 14 27 12.1 -0.1**
comp=Z,226nm,1.3s,comp=Z,4µm
BILL Bilibino 68.63 15 *ce*P **P 14 27 11.2 -1.0**
BILL *e* 14 27 33.7
BILL *e* 14 29 43.0
BILL *e*PPP PPP 14 31 21.6
BILL *e*SS SS 14 40 40.6 +2.9
BILL pmax pmax
comp=Z,56nm,2.5s
BILL MLR MLR
comp=Z,7µm,20.0s
FRNY Flat Rock 68.92 311 *e*P **P 14 27 14.0 -0.4**
comp=Z,81nm,1.5s
FRNY LR LR
comp=Z,5µm,19.0s
HRV Adam Dziewonsk 69.05 308 PFAKE 14 27 30.0 +15
HRV LR LR
comp=Z,6µm,19.0s
TIA Tai'an 69.10 60 P **P 14 27 15.2 -0.5**
TIA S **S 14 36 19.9 -1.1**
TIA sS **sS 14 36 32.6 +5.7**
TIA pmax pmax
comp=Z,11nm,0.8s
TIA pmax pmax
comp=Z,240nm,4.1s
TIA LR LR
comp=Z,1µm,22.0s
TIA LR LR
comp=Z,2µm,28.2s
TIA LR LR
comp=Z,980nm,26.5s
SEY Seymchan 69.29 23 *ce*P **P 14 27 15.9 -0.5**
NONG Nongkai 69.30 83 P **P 14 27 16.7 -0.4**
comp=Z,6.0nm,1.4s,comp=Z,178nm
LONY Lake Ozonia 69.62 311 *e*P **P 14 27 18.0 -0.8**
comp=Z,21nm,0.4s
LONY LR LR
comp=Z,6µm,18.0s
LONY Lake Ozonia 69.62 311 P **P 14 27 19.2 +0.4**
baz=54,SNR=7.6
PHET Kaeng Krachan 69.67 90 P **P 14 27 19.6 +0.1**
comp=Z,49nm,1.3s,comp=Z,560nm
CHAI Chaiyaphum 69.69 86 P **P 14 27 19.4 -0.2**
comp=Z,95nm,1.3s,comp=Z,923nm
NCB Newcomb 69.79 311 PFAKE 14 27 30.0 +10
NCB LR LR
comp=Z,4µm,20.0s
ACCN Adirondack Com 69.81 310 PFAKE 14 27 30.0 +10
ACCN LR LR
comp=Z,6µm,18.0s
FCC Fort Churchill 69.89 331 *e*P **P 14 27 19.4 -0.7**
comp=Z,116nm,1.2s
FCC LR LR
comp=Z,6µm,20.0s
FCC Fort Churchill 69.89 331 *e*P **P 14 27 19.4 -0.7**
FCC pmax pmax
comp=Z,116nm,1.2s
FCC MLR MLR
comp=Z,6µm,20.0s
F55A Otter Lake 69.92 313 P **P 14 27 20.9 +0.3**
baz=54,SNR=6.1
CN2 Changchun 69.98 49 *e*P **P 14 27 24.2 +3.2**
CN2 PP **PP 14 30 00.9 +5.6**
CN2 *e*S **S 14 36 28.5 -2.6**
CN2 pmax pmax
comp=Z,70nm,1.7s
CN2 pmax pmax
comp=Z,500nm,3.0s
CN2 LR LR
comp=Z,4µm,20.0s
CN2 LR LR
comp=Z,6µm,20.0s
CN2 LR LR
comp=Z,7µm,15.0s
SNY Shenyang 70.02 52⇓ P **P 14 27 23.6 +2.4**
SNY pmax pmax
comp=Z,71nm,1.9s
SNY pmax pmax
comp=Z,620nm,3.6s
SNY LR LR
comp=Z,9µm,18.8s
SNY LR LR
comp=Z,6µm,16.1s
SNY LR LR
comp=Z,12µm,17.2s
E54A Lac Daplat, Po 70.02 314 P **P 14 27 21.2 0.0**
baz=53,SNR=8.3
KLR Kul'dur 70.19 42 *i* P **P 14 27 21.4 -0.8**
E53A Dumoine, Ponti 70.32 314 P **P 14 27 23.2 +0.1**
baz=53
D52A ZEK Kipawa Sen 70.37 315 P **P 14 27 23.2 -0.1**
baz=53
WHN Wuhan 70.41 66⇓ P **P 14 27 27.2 +3.4**
WHN S **S 14 36 38.9 +2.4**
WHN LR LR
comp=Z,2µm,10.1s
WHN LR LR
comp=Z,4µm,12.4s
WHN LR LR
comp=Z,8µm,24.6s
G55A Calabogie 70.47 313 P **P 14 27 24.0 +0.1**
baz=53
DL2 Dalian 70.50 55⇑ *i*P **P 14 27 25.5 +1.3**
DL2 S **S 14 36 39.2 +1.9**
DL2 pmax pmax
comp=Z,69nm,1.2s
DL2 pmax pmax
comp=Z,490nm,4.6s
DL2 LR LR
comp=Z,5µm,20.4s
DL2 LR LR
comp=Z,2µm,15.3s
DL2 LR LR
comp=Z,5µm,16.7s
SKNT Sakolnakorn 70.58 84 P **P 14 27 25.0 -0.1**
comp=Z,157nm,1.4s,comp=Z,2µm
H56A Elgin 70.60 312 P **P 14 27 25.5 +0.8**
baz=53
PATY Pattaya 70.62 89 P **P 14 27 25.5 +0.2**
comp=Z,37nm,1.3s,comp=Z,2µm
ALGO Algonquin Park 70.79 314 P **P 14 27 25.5 -0.4**
baz=52,SNR=7.8
PLVO Plevna 70.80 313 *e*P **P 14 27 26.3 +0.3**
comp=Z,124nm,1.2s
PLVO Plevna 70.80 313 P **P 14 27 26.8 +0.8**
baz=53,SNR=9.9
D51A Lot 18 Range I 70.82 316 P **P 14 27 26.0 -0.1**
baz=52,SNR=18
SRAK Srakaew 70.86 87 P **P 14 27 29.7 +2.9**
comp=Z,588nm,1.3s,comp=Z,7µm
E52A Mattawa 70.92 315 P **P 14 27 26.9 +0.2**
baz=52
H55A Tweed 71.16 313 P **P 14 27 28.3 +0.2**
baz=53
INK Inuvik 71.20 352 LR LR 14 59 40.3
comp=Z,4µm,21.9s,baz=14,slow=37
INK Inuvik 71.20 352 *e*P **P 14 27 25.1 -2.9**
comp=Z,37nm,1.1s
INK Inuvik 71.20 352 *e*P **P 14 27 25.1 -2.9**
INK pmax pmax
comp=Z,37nm,1.1s
E51A G1948 Merrick 71.23 315 P **P 14 27 28.6 0.0**
baz=52,SNR=5.2
BANO Bancroft 71.29 313 P **P 14 27 30.4 +1.4**
baz=52,SNR=5.1
MA2 Magadan 71.30 26 LR LR 14 59 55.1
comp=Z,516nm,21.1s,baz=314,slow=37
MA2 Magadan 71.30 26 *ce*P **P 14 27 28.6 -0.1**
MA2 pmax pmax
comp=Z,62nm,1.3s
MA2 MLR MLR
comp=Z,10µm,16.0s
PAL Palisades 71.36 308 PFAKE 14 27 40.0 +11
PAL LR LR
comp=Z,5µm,22.0s
GRNR Gornyy 71.55 39 *e*P **P 14 27 30.0 -0.5**
GRNR *e* 14 30 04.0
GRNR pmax pmax
comp=Z,21nm,1.0s
F52A Sundridge 71.59 315 P **P 14 27 31.6 +0.8**
baz=52
G53A Haliburton 71.62 314 P **P 14 27 31.2 +0.2**
baz=52
I55A Frankford 71.64 312 P **P 14 27 31.4 +0.3**
baz=52
ODNJ Ogdensburg 71.73 308 PFAKE 14 27 40.0 +8.3
ODNJ LR LR
comp=Z,5µm,21.0s
PKDT Phuket 71.77 95 P **P 14 27 34.8 +2.6**
comp=Z,60nm,1.6s,comp=Z,1µm
SUR Sutherland 71.82 184 *e*P **P 14 27 31.5 -0.8**
comp=Z,42nm,0.9s
SUR LR LR
comp=Z,8µm,18.0s
F51A Arnstein 71.83 315 P **P 14 27 32.9 +0.7**
baz=52,SNR=8.3
MDJ Mudanjiang 71.87 47 PFAKE 14 27 40.0 +7.5
MDJ LR LR
comp=Z,7µm,22.0s
BINY Binghamton 71.89 310 *e*P **P 14 27 31.5 -1.1**
comp=Z,227nm,2.0s
BINY LR LR
comp=Z,6µm,20.0s
NKL Nikolayevsk 71.94 35 *e*P **P 14 27 31.0 -1.7**
NKL *e* 14 27 48.2
NKL *e*S **S 14 36 55.0 +1.5**
NKL *e* 14 44 43.0
NKL pmax pmax
comp=Z,900nm,4.0s
NKL pmax pmax
comp=Z,290nm,2.0s
NKL smax smax
comp=E,1µm,14.0s
NKL MLR MLR
comp=E,6µm,13.0s
NKL MLR MLR
comp=Z,10µm,14.0s
BRNJ Basking Ridge 71.95 308 PFAKE 14 27 40.0 +7.0
BRNJ LR LR
comp=Z,4µm,22.0s
E50A Wahnapitae 71.97 316 P **P 14 27 33.8 +0.8**
baz=51,SNR=7.2
D48A Paudash Townsh 72.07 317 P **P 14 27 33.7 +0.1**
baz=51
SADO Sadowa 72.13 314 *e*P **P 14 27 33.4 -0.6**
comp=Z,377nm,1.9s
KSPA Keystone Colle 72.14 309 PFAKE 14 27 50.0 +16
KSPA LR LR
comp=Z,7µm,18.0s
RCBR Riachuelo 72.36 246 *e*P **P 14 27 35.5 -0.3**
comp=Z,72nm,1.1s
RCBR LR LR
comp=Z,4µm,20.0s
RCBR Riachuelo 72.36 246 *e*P **P 14 27 35.5 -0.3**
RCBR pmax pmax
comp=Z,73nm,1.1s
RCBR MLR MLR
comp=Z,4µm,20.0s
RCBR Riachuelo 72.36 246 *e*P **P 14 27 36.9 +1.1**
RDOG Red Dog Mine 72.41 3 *e*P **P 14 27 35.4 +0.1**
comp=Z,158nm,1.6s
RDOG LR LR
comp=Z,4µm,22.0s
N59A State Game Lan 72.53 309 *e*P **P 14 27 36.2 -0.3**
comp=Z,53nm,1.1s
N59A LR LR
comp=Z,5µm,20.0s
N59A State Game Lan 72.53 309 P **P 14 27 37.0 +0.4**
baz=52
NJ2 Nanjing 72.67 63 *e*P **P 14 27 37.0 -0.4**
NJ2 pP **pP 14 27 40.8 -0.2**
NJ2 sP **sP 14 27 42.4 0.0**
NJ2 S **S 14 37 02.7 +0.2**
NJ2 sS **SKiKP 14 37 10.3 -1.3**
NJ2 SS **SS 14 41 45.1 +3.8**
NJ2 pmax pmax
comp=Z,21nm,1.1s
NJ2 LR LR
comp=Z,3µm,23.4s
NJ2 LR LR
comp=Z,4µm,19.7s
NJ2 LR LR
comp=Z,3µm,22.6s
MMNY Mt. Morris Dam 72.68 311 *e*P **P 14 27 37.1 -0.2**
comp=Z,82nm,1.2s
MMNY LR LR
comp=Z,7µm,18.0s
E48A Lockeyer 72.70 316 P **P 14 27 37.9 +0.5**
baz=50,SNR=6.5
K55A Perry 72.78 311 P **P 14 27 37.9 -0.1**
baz=52
D47A Chapleau 72.83 317 P **P 14 27 38.2 0.0**
baz=50,SNR=6.0
TRTT Trang 72.85 94 P **P 14 27 38.5 -0.2**
comp=Z,88nm,1.8s,comp=Z,2µm
F49A Sandfield 73.09 316 P **P 14 27 40.2 +0.5**
baz=50,SNR=5.9
I52A Shelburne 73.14 314 P **P 14 27 40.9 +0.8**
baz=51
YKW3 Yellowknife Ar 73.20 342 PFAKE 14 27 50.0 +10
YKW3 LR LR
comp=Z,5µm,20.0s
YKA Yellowknife Ar 73.26 342 P **P 14 27 39.9 -0.5**
comp=Z,8.4nm,0.8s,baz=33,slow=5.5,SNR=123
YKA LR LR 14 59 35.4
comp=Z,458nm,19.5s,baz=33,slow=36
E47A Iron Bridge 73.31 317 P **P 14 27 41.5 +0.6**
baz=50,SNR=6.7
F48A Evansville 73.36 316 P **P 14 27 42.0 +0.7**
baz=50
COLD Coldfoot 73.38 358 *e*P **P 14 27 41.5 +0.4**
comp=Z,28nm,0.9s
COLD LR LR
comp=Z,4µm,22.0s
EPYK Eagle Plains 73.41 353 P **P 14 27 41.0 -0.3**
baz=14
D46A Sault St. Mari 73.42 318 P **P 14 27 42.0 +0.3**
baz=49,SNR=14
MVL Millersville 73.45 308 *e*P **P 14 27 41.7 -0.2**
comp=Z,55nm,1.2s
MVL LR LR
comp=Z,4µm,21.0s
USRK Ussuriysk Ar. 73.47 46 P **P 14 27 41.6 -0.4**
comp=Z,9.8nm,0.9s,baz=289,slow=5.8,SNR=19
USRK LR LR 15 06 15.1
comp=Z,3µm,18.7s,baz=306,slow=41
PAGS Pennsylvania G 73.53 309 *e*P **P 14 27 41.8 -0.6**
comp=Z,31nm,1.1s
PAGS LR LR
comp=Z,4µm,21.0s
I51A Listowel 73.78 314 P **P 14 27 44.1 +0.3**
baz=50,SNR=5.2
TPTI 73.82 99 P **P 14 27 43.0 -1.4**
QIZ Qiongzhong 73.83 79 P **P 14 27 43.0 -1.5**
QIZ PP **PP 14 30 27.1 -1.9**
QIZ S **S 14 37 14.9 -1.1**
QIZ pmax pmax
comp=Z,17nm,1.1s
QIZ LR LR
comp=Z,1µm,12.2s
QIZ LR LR
comp=Z,2µm,19.2s
QIZ LR LR
comp=Z,2µm,19.1s
QIZ Qiongzhong 73.83 79 *e*P **P 14 27 44.0 -0.5**
comp=Z,480nm,1.3s

QIZ LR LR
comp=Z,2µm,22.0s
J52A Paris 73.83 313 P **P** **14 27 43.6 -0.5**
baz=50
FYU Fort Yukon 73.86 356 *e*P **P** **14 27 44.6 +0.8**
comp=Z,230nm,1.6s
FYU LR LR
comp=Z,4µm,21.0s
E46A Sault Ste Mari 73.90 317 P **P** **14 27 44.8 +0.3**
baz=49,SNR=9.0
SSPA Standing Stone 73.97 310 *e*P **P** **14 27 44.8 -0.2**
comp=Z,66nm,1.0s
SSPA LR LR
comp=Z,8µm,18.0s
SKLT Songkhla 73.98 94 P **P** **14 27 48.2 +2.8**
comp=Z,165nm,1.6s,comp=Z,3µm
GZH Guangzhou 74.03 73 P **P** **14 27 46.2 +0.6**
GZH S **S** **14 37 22.6 +4.4**
GZH LR LR
comp=Z,4µm,14.9s
GZH LR LR
comp=Z,2µm,14.9s
VLA Vladivostok 74.10 47 *i* P **P** **14 27 45.2 -0.5**
VLA pmax pmax
comp=Z,49nm,1.3s
VLA MLR MLR
comp=Z,2µm,15.0s
KCSI Kotacane, Aceh 74.11 99 P **P** **14 27 43.8 -2.3**
SDMD Soldier's Deli 74.11 308 *e*P **P** **14 27 45.3 -0.5**
comp=Z,25nm,0.9s
SDMD LR LR
comp=Z,2µm,22.0s
K52A Tillsonburg 74.26 313 P **P** **14 27 47.4 +0.7**
baz=50
ERPA Erie 74.27 312 *e*P **P** **14 27 45.5 -1.2**
comp=Z,196nm,1.3s
ERPA LR LR
comp=Z,6µm,21.0s
E45A Wooded Hills, 74.36 318 P **P** **14 27 47.8 +0.6**
baz=48,SNR=5.4
TYV Tymovskoe 74.40 36 *e*P **P** **14 27 46.8 -0.5**
TYV *e*S **S** **14 37 23.0 +1.5**
TYV pmax pmax
comp=Z,400nm,5.6s
TYV pmax pmax
comp=Z,12nm,1.4s
TYV smax smax
comp=E,600nm,6.7s
TYV MLR MLR
comp=Z,5µm,16.0s
G47A Hillman 74.45 316 P **P** **14 27 48.1 +0.4**
baz=49
M54A Oil Creek Stat 74.47 311 *e*P **P** **14 27 47.8 -0.1**
comp=Z,96nm,1.1s
M54A LR LR
comp=Z,5µm,20.0s
M54A Oil Creek Stat 74.47 311 P **P** **14 27 48.2 +0.3**
baz=50,SNR=7.4
H48A Harrisville 74.47 316 P **P** **14 27 47.5 -0.3**
baz=49
F46A Macinaw City C 74.53 317 P **P** **14 27 47.7 -0.4**
baz=49
N55A Marion Center 74.53 310 P **P** **14 27 48.3 0.0**
baz=51,SNR=7.8
E44A Grand Marais A 74.57 318 P **P** **14 27 48.8 +0.4**
baz=48
O56A Blue Knob Stat 74.61 310 *e*P **P** **14 27 48.5 -0.3**
comp=Z,72nm,1.2s
O56A LR LR
comp=Z,7µm,19.0s
O56A Blue Knob Stat 74.61 310 P **P** **14 27 48.8 0.0**
baz=51,SNR=6.8
ALLY Alegheny Colle 74.66 312 PFAKE 14 28 00.0 +11
ALLY LR LR
comp=Z,5µm,19.0s
IM3 Indian Mountai 74.68 360 *e*P **P** **14 27 48.4 -0.3**
I49A Point Hope 74.69 315 P **P** **14 27 49.0 -0.1**
baz=49
TSI Tuntungan 74.72 98 P **P** **14 27 50.6 +0.9**
K51A Iona Station 74.75 313 P **P** **14 27 49.9 +0.4**
baz=50
SSE Sheshan 74.84 62 P **P** **14 27 48.6 -1.5**
SSE S **S** **14 37 24.8 -2.2**
SSE pmax pmax
comp=Z,8.0nm,0.5s
SSE pmax pmax
comp=Z,150nm,3.0s
SSE LR LR
comp=Z,2µm,17.0s
SSE LR LR
comp=Z,2µm,19.5s
SSE Sheshan 74.84 62 PFAKE 14 28 00.0 +10
SSE LR LR
comp=Z,4µm,21.0s
G46A Petoskey 74.89 317 P **P** **14 27 50.2 0.0**
baz=48
F45A CMU Biological 74.99 317 P **P** **14 27 50.0 -0.8**
baz=48
N54A Moraine State 75.00 311 *e*P **P** **14 27 50.7 -0.3**
comp=Z,86nm,1.0s
N54A LR LR
comp=Z,7µm,18.0s
N54A Moraine State 75.00 311 P **P** **14 27 51.1 +0.1**
baz=50,SNR=10
I48A Sherman Twp 75.01 315 P **P** **14 27 50.5 -0.4**
baz=49
GLMI Grayling 75.08 316 PFAKE 14 28 00.0 +8.6
GLMI LR LR
comp=Z,5µm,21.0s
O55A Ligonier 75.08 310 P **P** **14 27 51.9 +0.4**
baz=50,SNR=13
CBN Corbin Frederi 75.18 307 PFAKE 14 28 00.0 +8.0
CBN LR LR
comp=Z,5µm,22.0s
KULM Kulim 75.19 95 P **P** **14 27 54.0 +1.6**
J49A Marlette 75.24 314 P **P** **14 27 52.0 -0.3**
baz=49
F44A Big Bay de Noc 75.26 318 P **P** **14 27 51.8 -0.6**
baz=48,SNR=9.4
E43A Lone Tree Farm 75.29 319 *e*P **P** **14 27 52.2 -0.3**
comp=Z,71nm,1.0s
E43A LR LR
comp=Z,7µm,19.0s
E43A Lone Tree Farm 75.29 319 P **P** **14 27 52.0 -0.5**
baz=47,SNR=7.3
KSAR Wonju Array Be 75.31 53 P **P** **14 27 51.9 -0.9**
KSAR Wonju Array Be 75.31 53 P **P** **14 27 51.9 -0.9**
KSRS Korea Array 75.33 53 P **P** **14 27 51.9 -1.0**
comp=Z,12nm,0.7s,baz=311,slow=5.2,SNR=36
KSRS LR LR 15 06 45.5
comp=Z,2µm,20.1s,baz=308,slow=40
K50A Casco 75.34 314 P **P** **14 27 52.7 -0.2**
baz=49
GSI Gunungsitoli 75.38 101 *e*P **P** **14 27 52.4 -1.2**
comp=Z,460nm,1.8s
GSI LR LR
comp=Z,3µm,18.0s
GSI Gunungsitoli 75.38 101 P **P** **14 27 53.8 +0.3**
POKR Poker Flat Res 75.41 357 P **P** **14 27 53.4 +0.5**
baz=5.6,SNR=29
PSI Prapat 75.45 99 P **P** **14 27 53.5 -0.5**
comp=Z,30nm,0.8s,baz=357,slow=1.6,SNR=14
PSI Prapat 75.45 99 *e*P **P** **14 27 52.7 -1.3**
comp=Z,460nm,1.8s
PSI LR LR
comp=Z,2µm,22.0s
G45A Suttons Bay 75.49 317 P **P** **14 27 53.8 0.0**
baz=48
I47A Gladwin 75.56 316 P **P** **14 27 54.2 +0.1**
baz=48
H46A Fife Lake 75.58 316 P **P** **14 27 53.9 -0.3**
baz=48,SNR=11
MDM Murphy Dome 75.59 357 *e*P **P** **14 27 54.0 0.0**
comp=Z,57nm,0.8s
MDM LR LR
comp=Z,4µm,22.0s
MLY Manley 75.60 358 *e*P **P** **14 27 54.3 +0.3**
comp=Z,65nm,1.2s
MLY LR LR
comp=Z,3µm,21.0s
N53A Lisbon 75.60 311 P **P** **14 27 55.4 +0.9**
baz=50,SNR=5.3
D41A Chassel 75.61 320 PFAKE 14 28 10.0 +16
D41A LR LR
comp=Z,5µm,19.0s
D41A Chassel 75.61 320 P **P** **14 27 54.6 +0.3**
baz=47,SNR=8.9

R58B Mineral 75.64 307 P **P** **14 27 54.1 -0.6**
baz=51
TJN Taejon 75.65 55 *i* P **P** **14 27 52.3 -2.5**
COLA College 75.67 357 *e*P **P** **14 27 53.9 -0.4**
comp=Z,34nm,0.8s
COLA LR LR
comp=Z,4µm,22.0s
COLA College 75.67 357 *e*P **P** **14 27 53.9 -0.4**
COLA pmax pmax
comp=Z,34nm,0.8s
COLA MLR MLR
comp=Z,4µm,22.0s
COLA College 75.67 357 *e*P **P** **14 27 55.0 +0.7**
TCOL CIGO, UAF Yank 75.67 357 P **P** **14 27 55.3 +1.0**
baz=5.2,SNR=6.4
E42A Champion 75.72 319 P **P** **14 27 54.4 -0.6**
baz=47,SNR=9.0
IL1 Eielson Array 75.73 357 *e*P **P** **14 27 53.8 -1.0**
ILAR Eielson Array 75.73 357 P **P** **14 27 54.2 -0.4**
comp=Z,7.2nm,0.9s,baz=354,slow=4.5,SNR=46
ILAR LR LR 15 00 49.5
comp=Z,3µm,21.9s,baz=12,slow=35
ILB Eielson Array 75.73 357 *e*P **P** **14 27 54.3 -0.4**
O54A Avella 75.73 311 P **P** **14 27 55.0 -0.2**
baz=50
F43A Flat Rock, Esc 75.75 318 P **P** **14 27 54.8 -0.3**
baz=47,SNR=6.9
ANM Nome 75.75 5 *e*P **P** **14 27 54.6 -0.2**
comp=Z,56nm,1.0s
ANM LR LR
comp=Z,5µm,21.0s
ANM Nome 75.75 5 *e*P **P** **14 27 54.6 -0.2**
ANM pmax pmax
comp=Z,56nm,1.0s
ANM MLR MLR
comp=Z,5µm,21.0s
MCWV Mont Chateau 75.75 310 *e*P **P** **14 27 55.2 -0.1**
comp=Z,62nm,1.3s
MCWV LR LR
comp=Z,4µm,19.0s
MCWV Mont Chateau 75.75 310 P **P** **14 27 55.3 0.0**
baz=50,SNR=5.2
FFC Flin Flon 75.81 332 *e*P **P** **14 27 54.7 -0.7**
comp=Z,125nm,1.3s
FFC LR LR
comp=Z,6µm,19.0s
FFC Flin Flon 75.81 332 *i* P **P** **14 27 55.3 0.0**
P55A Reedsville 75.84 310 P **P** **14 27 55.8 0.0**
baz=50,SNR=7.2
DAWY Dawson 75.92 353 *e*P **P** **14 27 55.6 -0.2**
comp=Z,72nm,1.0s
DAWY LR LR
comp=Z,3µm,18.0s
L50A Kingsville 75.92 313 P **P** **14 27 55.9 -0.3**
baz=49
H45A Beulah 75.97 317 P **P** **14 27 56.4 0.0**
baz=48
GAMB Gambell 75.99 8 *e*P **P** **14 27 55.7 -0.5**
comp=Z,40nm,1.4s
WRH Wood River Hil 76.08 357 *e*P **P** **14 27 56.4 -0.3**
comp=Z,76nm,0.9s
WRH LR LR
comp=Z,4µm,21.0s
HDA Harding Lake 76.09 357 *e*P **P** **14 27 56.2 -0.6**
comp=Z,58nm,0.8s
HDA LR LR
comp=Z,4µm,22.0s
HDA Harding Lake 76.09 357 P **P** **14 27 56.6 -0.2**
baz=6.0,SNR=38
I46A Reed City 76.11 316 P **P** **14 27 57.3 0.0**
baz=48,SNR=7.2
K48A Perry 76.15 314 P **P** **14 27 57.3 -0.2**
baz=48,SNR=5.5
O53A New Philadelph 76.18 311 P **P** **14 27 57.4 -0.3**
baz=50,SNR=6.5
E41A Kenton 76.22 320 P **P** **14 27 57.3 -0.5**
baz=46,SNR=11
AAM Ann Arbor 76.23 314 *e*P **P** **14 27 57.7 -0.2**
AAM Ann Arbor 76.23 314 *e*P **P** **14 27 57.7 -0.2**
J47A Sunmer 76.25 315 P **P** **14 27 58.6 +0.5**
baz=48
F42A Maple Grove Fa 76.29 319 P **P** **14 27 58.3 0.0**
baz=47
Q55A Buckhannon 76.32 309 P **P** **14 27 58.7 +0.1**
baz=50
SCRK Sand Creek 76.36 355 *e*P **P** **14 27 58.7 +0.2**
comp=Z,70nm,1.2s
SCRK LR LR
comp=Z,4µm,22.0s
G43A Wallace 76.40 318 *e*P **P** **14 27 58.6 -0.2**
comp=Z,130nm,1.3s
G43A LR LR
comp=Z,7µm,21.0s
G43A Wallace 76.40 318 P **P** **14 27 58.9 0.0**
baz=47,SNR=9.2
N51A Ashland 76.41 312 *e*P **P** **14 27 58.2 -0.9**
comp=Z,77nm,1.1s
N51A LR LR
comp=Z,5µm,18.0s
N51A Ashland 76.41 312 P **P** **14 27 58.8 -0.2**
baz=49
EYMN Ely 76.42 322 *e*P **P** **14 27 58.3 -0.6**
comp=Z,139nm,1.5s
EYMN LR LR
comp=Z,5µm,20.0s
EYMN Ely 76.42 322 P **P** **14 27 58.5 -0.5**
baz=45,SNR=12
I45A Fountain 76.47 316 P **P** **14 27 59.4 +0.1**
baz=47
M50A Fremont 76.47 313 PFAKE 14 28 10.0 +11
M50A LR LR
comp=Z,6µm,21.0s
M50A Fremont 76.47 313 P **P** **14 27 58.7 -0.7**
baz=49
BPAW Bear Paw Mtn. 76.53 358 *e*P **P** **14 27 58.7 -0.7**
comp=Z,35nm,0.8s
BPAW LR LR
comp=Z,3µm,22.0s
COWI Conover 76.56 319 *e*P **P** **14 27 58.9 -0.9**
comp=Z,84nm,0.9s
COWI LR LR
comp=Z,4µm,20.0s
J46A Howard City 76.62 316 P **P** **14 28 00.0 -0.1**
baz=48
O52A Adamsville 76.63 311 *e*P **P** **14 27 58.7 -1.6**
comp=Z,108nm,1.1s
O52A LR LR
comp=Z,5µm,20.0s
O52A Adamsville 76.63 311 P **P** **14 27 59.7 -0.6**
baz=49,SNR=7.3
RIDG Independ'e Rid 76.65 356 *e*P **P** **14 28 00.3 +0.2**
comp=Z,94nm,1.2s
RIDG LR LR
comp=Z,4µm,22.0s
DOT Dot Lake 76.69 355 *e*P **P** **14 28 00.4 +0.1**
comp=Z,34nm,0.8s
DOT LR LR
comp=Z,4µm,22.0s
E40A Wakefield 76.70 320 P **P** **14 28 00.3 -0.2**
baz=46,SNR=20
K47A Vermontville 76.72 315 P **P** **14 28 00.3 -0.5**
baz=48,SNR=7.3
QZH Quanzhou 76.74 69 P **P** **14 28 03.7 +2.6**
QZH S **S** **14 37 51.1 +2.9**
QZH pmax pmax
comp=Z,68nm,1.9s
QZH LR LR
comp=Z,3µm,18.9s
QZH LR LR
comp=Z,1µm,14.7s
QZH LR LR
comp=Z,2µm,15.6s
ULM Lac du Bonnet 76.75 326 P **P** **14 28 00.1 -0.7**
comp=Z,89nm,1.0s,baz=37,slow=5.3,SNR=88
ULM LR LR 15 02 15.4
comp=Z,8µm,18.4s,baz=42,slow=36
P53A Whipple 76.78 310 *e*P **P** **14 28 00.6 -0.5**
comp=Z,120nm,1.2s
P53A LR LR
comp=Z,6µm,18.0s
P53A Whipple 76.78 310 P **P** **14 28 01.2 +0.1**
baz=49,SNR=8.9
F41A Three Lakes 76.79 319 *e*P **P** **14 28 00.5 -0.6**
comp=Z,74nm,1.0s
F41A LR LR
comp=Z,6µm,18.0s
F41A Three Lakes 76.79 319 P **P** **14 28 00.7 -0.5**
baz=46,SNR=16

G42A Mountain 76.79 318 *e*P **P** **14 28 00.9 -0.3**
comp=Z,114nm,1.1s
G42A LR LR
comp=Z,7µm,21.0s
G42A Mountain 76.79 318 P **P** **14 28 01.1 0.0**
baz=46,SNR=10.0
MCK McKinley 76.85 357 *e*P **P** **14 28 00.6 -0.5**
comp=Z,128nm,1.2s
MCK LR LR
comp=Z,4µm,22.0s
MCK McKinley 76.85 357 *e*P **P** **14 28 00.6 -0.5**
MCK pmax pmax
comp=Z,129nm,1.2s
MCK MLR MLR
comp=Z,4µm,22.0s
L48A N Adams 76.90 314 P **P** **14 28 01.5 -0.2**
baz=48
ANWB Willy Bob 76.93 282 PFAKE 14 28 10.0 +7.7
ANWB LR LR
comp=Z,1µm,20.0s
N50A Nevada 76.95 312 P **P** **14 28 01.6 -0.5**
baz=48
M49A Liberty Center 76.95 313 P **P** **14 28 02.1 0.0**
baz=48
J45A Montague 76.96 316 P **P** **14 28 02.0 0.0**
baz=47
H43A Windswept, Lux 76.98 318 *e*P **P** **14 28 01.9 -0.3**
comp=Z,97nm,1.0s
H43A LR LR
comp=Z,6µm,18.0s
H43A Windswept, Lux 76.98 318 P **P** **14 28 02.5 +0.3**
baz=47,SNR=6.8
O51A Pataskala 77.05 312 P **P** **14 28 02.5 -0.1**
baz=49,SNR=12
E39A Mellen 77.07 320 P **P** **14 28 02.1 -0.6**
baz=45,SNR=27
KTGM Kuala Trenggan 77.07 94 P **P** **14 28 05.4 +2.3**
P52A Corning 77.11 311 P **P** **14 28 02.2 -0.9**
baz=49
K46A Dorr 77.14 315 P **P** **14 28 02.7 -0.4**
baz=47
TRF Thorofare Moun 77.17 358 *e*P **P** **14 28 03.0 -0.1**
comp=Z,75nm,1.2s
TRF LR LR
comp=Z,3µm,21.0s
RND Reindeer 77.17 357 *e*P **P** **14 28 01.9 -1.1**
comp=Z,162nm,1.8s
RND LR LR
comp=Z,4µm,21.0s
RND Reindeer 77.17 357 *e*P **P** **14 28 01.9 -1.1**
RND pmax pmax
comp=Z,162nm,1.8s
RND MLR MLR
comp=Z,4µm,21.0s
F40A Park Falls 77.18 320 P **P** **14 28 02.8 -0.6**
baz=45,SNR=14
G41A Antigo 77.20 319 P **P** **14 28 03.0 -0.4**
baz=46,SNR=5.3
ACSO Alum Creek Sta 77.21 312 *e*P **P** **14 28 02.3 -1.3**
comp=Z,82nm,1.2s
ACSO LR LR
comp=Z,5µm,21.0s
YSS Yuzh-Sakhalins 77.21 39 ⇓ *i* P **P** **14 28 04.0 +0.6**
YSS *e**SP **sP** **14 28 08.1 -0.3**
YSS *e* 14 28 16.6
YSS *e*PPP PPP 14 32 48.5
YSS *e*S **S** **14 37 51.5 -1.2**
YSS *e*PS **PnS** **14 38 27.0 -4.2**
YSS pmax pmax
comp=Z,30nm,0.8s
YSS pmax pmax
comp=N,10.0nm,1.0s
YSS pmax pmax
comp=E,10.0nm,0.7s
YSS MLR MLR
comp=N,5µm,15.0s
YSS MLR MLR
comp=E,7µm,15.0s
YSS MLR MLR
comp=Z,6µm,15.0s
FRIM Kepong 77.23 96 P **P** **14 28 06.3 +2.3**
MNSI Mandailing Nat 77.23 100 P **P** **14 28 02.6 -1.4**
CAST Castle Rocks 77.24 359 *e*P **P** **14 28 03.1 -0.2**
comp=Z,58nm,0.9s
CAST LR LR
comp=Z,3µm,18.0s
L47A Sherwood 77.30 314 P **P** **14 28 03.1 -0.9**
baz=48
H42A Shiocton 77.35 318 *e*P **P** **14 28 03.5 -0.8**
comp=Z,56nm,0.9s
H42A LR LR
comp=Z,7µm,22.0s
H42A Shiocton 77.35 318 P **P** **14 28 03.8 -0.4**
baz=46
M48A Edgerton 77.36 314 PFAKE 14 28 20.0 +16
M48A LR LR
comp=Z,4µm,21.0s
M48A Edgerton 77.36 314 P **P** **14 28 03.2 -1.2**
baz=48
CNNC Cliffs of the 77.38 305 PFAKE 14 28 20.0 +15
CNNC LR LR
comp=Z,6µm,21.0s
E38A The Farm, Brul 77.40 321 *e*P **P** **14 28 03.3 -1.2**
comp=Z,50nm,0.9s
E38A The Farm, Brul 77.40 321 P **P** **14 28 04.0 -0.5**
baz=45,SNR=10
N49A Columbus Grove 77.44 313 *e*P **P** **14 28 03.8 -1.0**
comp=Z,72nm,1.1s
N49A LR LR
comp=Z,6µm,19.0s
N49A Columbus Grove 77.44 313 P **P** **14 28 04.5 -0.3**
baz=48,SNR=6.9
DHY Denali Highway 77.44 357 *e*P **P** **14 28 04.0 -0.6**
comp=Z,69nm,0.9s
DHY LR LR
comp=Z,4µm,21.0s
PAX Paxson 77.45 356 PFAKE 14 28 20.0 +15
PAX LR LR
comp=Z,2µm,20.0s
F39A Loretta 77.58 320 P **P** **14 28 04.8 -0.7**
baz=45,SNR=17
I43A Langenfeld Bro 77.58 317 P **P** **14 28 04.7 -0.9**
baz=46,SNR=11
O50A Cable 77.63 312 P **P** **14 28 05.7 -0.3**
baz=48,SNR=7.3
Q52A Bidwell 77.63 311 P **P** **14 28 05.1 -0.8**
baz=49,SNR=5.3
SMRT St. Maarten 77.67 283 PFAKE 14 28 20.0 +14
SMRT LR LR
comp=Z,2µm,21.0s
G40A Rib Lake 77.67 319 *e*P **P** **14 28 05.1 -1.0**
comp=Z,70nm,1.0s
G40A LR LR
comp=Z,5µm,20.0s
G40A Rib Lake 77.67 319 P **P** **14 28 05.7 -0.4**
baz=45,SNR=17
BLA Blacksburg 77.67 308 PFAKE 14 28 20.0 +14
BLA LR LR
comp=Z,4µm,20.0s
P51A Williamsport 77.75 311 PFAKE 14 28 20.0 +13
P51A LR LR
comp=Z,6µm,18.0s
PPLA Purkeypile 77.76 359 *e*P **P** **14 28 06.6 +0.2**
comp=Z,56nm,0.8s
PPLA LR LR
comp=Z,3µm,20.0s
H41A Junction City 77.85 319 *e*P **P** **14 28 05.8 -1.3**
comp=Z,64nm,1.0s
H41A LR LR
comp=Z,7µm,21.0s
H41A Junction City 77.85 319 P **P** **14 28 06.6 -0.5**
baz=46,SNR=11
L46A Eue Claire 77.88 315 P **P** **14 28 07.1 -0.1**
baz=47
SEUS St. Eustatius 77.94 283 PFAKE 14 28 20.0 +12
SEUS LR LR
comp=Z,2µm,21.0s
M47A Cromwell 77.95 314 P **P** **14 28 07.3 -0.3**
baz=47,SNR=5.6
N48A Decatur 77.95 313 P **P** **14 28 07.0 -0.7**
baz=48,SNR=9.1
I42A Draeger Farm, 77.98 318 *e*P **P** **14 28 06.7 -1.1**
comp=Z,59nm,1.0s
I42A LR LR
comp=Z,6µm,20.0s
I42A Draeger Farm, 77.98 318 P **P** **14 28 06.9 -0.9**
baz=46,SNR=8.5

O49A	**Covington**	**78.01**	**313**	*e*P	**P**	**14 28 06.8**	**-1.2**
	comp=Z,92nm,1.0s						
O49A				LR	LR		
	comp=Z,7µm,21.0s						
O49A	**Covington**	**78.01**	**313**	P	**P**	**14 28 07.5**	**-0.5**
	baz=48,SNR=7.7						
F38A	**Pierce - Schro**	**78.02**	**321**	P	**P**	**14 28 07.8**	**-0.2**
	baz=44,SNR=19						
SABA	**Saba**	**78.06**	**283**	PFAKE		14 28 20.0	+11
SABA				LR	LR		
	comp=Z,2µm,20.0s						
J43A	**Natural Harves**	**78.07**	**317**	P	**P**	**14 28 08.2**	**-0.1**
	baz=46,SNR=9.2						
P50A	**Jamestown**	**78.09**	**312**	P	**P**	**14 28 07.5**	**-1.1**
	baz=48,SNR=5.3						
G39A	**Holcombe**	**78.14**	**320**	P	**P**	**14 28 08.0**	**-0.7**
	baz=45,SNR=25						
AGMN	**Agassiz Nation**	**78.19**	**324**	*e*P	**P**	**14 28 07.7**	**-1.2**
	comp=Z,70nm,1.2s						
AGMN				LR	LR		
	comp=Z,7µm,20.0s						
AGMN	**Agassiz Nation**	**78.19**	**324**	P	**P**	**14 28 08.1**	**-0.7**
	baz=42,SNR=20						
ABVI	**Anegada Island**	**78.19**	**284**	PFAKE		14 28 20.0	+11
ABVI				LR	LR		
	comp=Z,2µm,21.0s						
Q51A	**Peebles**	**78.22**	**311**	*e*P	**P**	**14 28 08.3**	**-0.9**
	comp=Z,86nm,0.9s						
Q51A				LR	LR		
	comp=Z,5µm,20.0s						
Q51A	**Peebles**	**78.22**	**311**	P	**P**	**14 28 08.5**	**-0.8**
	baz=48,SNR=8.2						
H40A	**Chili**	**78.22**	**319**	P	**P**	**14 28 08.8**	**-0.3**
	baz=45,SNR=12						
SISI	**Saibi**	**78.24**	**102**	P	**P**	**14 28 12.7**	**+3.1**
N47A	**Urbana**	**78.31**	**314**	P	**P**	**14 28 08.5**	**-1.2**
	baz=47,SNR=9.3						
M46A	**Old House Fiel**	**78.32**	**315**	*e*P	**P**	**14 28 08.8**	**-0.9**
	comp=Z,65nm,1.0s						
M46A				LR	LR		
	comp=Z,5µm,19.0s						
M46A	**Old House Fiel**	**78.32**	**315**	P	**P**	**14 28 09.0**	**-0.7**
	baz=47						
I41A	**Arkdale**	**78.36**	**318**	*e*P	**P**	**14 28 08.8**	**-1.0**
	comp=Z,58nm,1.0s						
I41A	**Arkdale**	**78.36**	**318**	P	**P**	**14 28 09.4**	**-0.5**
	baz=45,SNR=5.7						
O48A	**Farmland**	**78.43**	**313**	P	**P**	**14 28 09.3**	**-1.1**
	baz=47						
J42A	**Columbus**	**78.49**	**317**	P	**P**	**14 28 10.3**	**-0.3**
	baz=46,SNR=10.0						
K43A	**Burlington**	**78.50**	**317**	*e*P	**P**	**14 28 09.8**	**-0.9**
	comp=Z,109nm,1.0s						
K43A				LR	LR		
	comp=Z,6µm,20.0s						
K43A	**Burlington**	**78.50**	**317**	P	**P**	**14 28 10.6**	**-0.1**
	baz=46,SNR=6.7						
F37A	**Hinrichs Farm,**	**78.55**	**321**	P	**P**	**14 28 10.4**	**-0.5**
	baz=44,SNR=7.4						
G38A	**Ridgeland**	**78.57**	**320**	P	**P**	**14 28 10.2**	**-0.9**
	baz=44,SNR=14						
H39A	**Augusta**	**78.63**	**320**	P	**P**	**14 28 11.4**	**0.0**
	baz=44,SNR=9.2						
L44A	**Lake County Fo**	**78.64**	**316**	P	**P**	**14 28 11.0**	**-0.4**
	baz=46						
BKNI	**Bangkinang**	**78.65**	**99**	PFAKE		14 28 20.0	+8.1
BKNI				LR	LR		
	comp=Z,3µm,19.0s						
BKNI	**Bangkinang**	**78.65**	**99**	P	**P**	**14 28 11.3**	**-0.6**
PPI	**Padang Panjang**	**78.67**	**100**	P	**P**	**14 28 11.6**	**-0.4**
P49A	**Miami Univ. Ec**	**78.67**	**312**	P	**P**	**14 28 10.5**	**-1.2**
	baz=48						
SCM	**Sheep Creek Mo**	**78.68**	**357**	*e*P	**P**	**14 28 11.4**	**0.0**
	comp=Z,198nm,1.2s						
SCM				LR	LR		
	comp=Z,3µm,21.0s						
WHY	**Whitehorse**	**78.74**	**350**	*e*P	**P**	**14 28 12.0**	**+0.1**
	comp=Z,24nm,1.0s						
SML	**Sawmill**	**78.75**	**357**	*e*P	**P**	**14 28 11.9**	**+0.1**
	comp=Z,147nm,1.3s						
SML				LR	LR		
	comp=Z,3µm,22.0s						
PEA0B	**Petropavlovsk-**	**78.76**	**27**	PFAKE		14 28 20.0	+8.1
PEA0B				LR	LR		
	comp=Z,8µm,22.0s						
PETK	**Petropavlovsk-**	**78.76**	**27**	P	**P**	**14 28 11.2**	**-0.7**
	comp=Z,7.6nm,0.9s,baz=275,slow=5.2,SNR=3.4						
PETK				LR	LR	15 04 58.5	
	comp=Z,8µm,22.0s,baz=309,slow=37						
GHO	**Glory Hole Cre**	**78.81**	**357**	*e*P	**P**	**14 28 12.3**	**+0.1**
	comp=Z,104nm,1.0s						
GHO				LR	LR		
	comp=Z,3µm,21.0s						
R51A	**Hillsboro**	**78.84**	**311**	P	**P**	**14 28 12.2**	**-0.5**
	baz=48,SNR=5.7						
I40A	**Norwalk**	**78.86**	**319**	P	**P**	**14 28 12.5**	**-0.2**
	baz=45,SNR=7.7						
N46A	**Monticello**	**78.88**	**314**	P	**P**	**14 28 12.5**	**-0.3**
	baz=47,SNR=9.6						
HYT	**Haines Junctio**	**78.90**	**352**	*e*P	**P**	**14 28 12.9**	**+0.2**
	comp=Z,95nm,1.3s						
HYT				LR	LR		
	comp=Z,4µm,22.0s						
YHNB	**Yeheng**	**78.90**	**67**	PFAKE		14 28 20.0	+6.7
YHNB				LR	LR		
	comp=Z,2µm,21.0s						
J41A	**Loganville**	**78.92**	**318**	P	**P**	**14 28 12.7**	**-0.3**
	baz=45,SNR=21						
KLU	**Klutina**	**78.95**	**356**	*e*P	**P**	**14 28 13.0**	**+0.1**
	comp=Z,53nm,1.2s						
KLU				LR	LR		
	comp=Z,4µm,20.0s						
K42A	**Prairie Point,**	**78.98**	**317**	P	**P**	**14 28 12.9**	**-0.4**
	baz=45,SNR=6.1						
SPMN	**Marine on St.**	**79.00**	**321**	*e*P	**P**	**14 28 12.7**	**-0.7**
	comp=Z,113nm,1.3s						
SPMN				LR	LR		
	comp=Z,6µm,21.0s						
SPMN	**Marine on St.**	**79.00**	**321**	P	**P**	**14 28 13.2**	**-0.2**
	baz=44,SNR=14						
PMR	**Palmer**	**79.00**	**357**	*e*P	**P**	**14 28 13.1**	**+0.1**
	comp=Z,189nm,1.5s						
PMR				LR	LR		
	comp=Z,3µm,22.0s						
PMR	**Palmer**	**79.00**	**357**	*e*P	**P**	**14 28 13.1**	**+0.1**
PMR				pmax	pmax		
	comp=Z,189nm,1.5s						
PMR				MLR	MLR		
	comp=Z,3µm,22.0s						
PDSI	**Padang**	**79.01**	**100**	P	**P**	**14 28 13.5**	**-0.4**
O47A	**Sheridan**	**79.02**	**314**	P	**P**	**14 28 12.9**	**-0.7**
	baz=47,SNR=7.9						
L43A	**Garden Prairie**	**79.08**	**316**	P	**P**	**14 28 13.6**	**-0.3**
	baz=46,SNR=9.0						
P48A	**Milroy**	**79.12**	**313**	P	**P**	**14 28 13.0**	**-1.2**
	baz=47,SNR=7.0						
Q49A	**Aurora**	**79.13**	**312**	P	**P**	**14 28 13.3**	**-1.0**
	baz=47						
H38A	**Maiden Rock**	**79.13**	**320**	P	**P**	**14 28 13.9**	**-0.3**
	baz=44,SNR=9.0						
SSLB	**Suanglung**	**79.15**	**68**	PFAKE		14 28 30.0	+15
SSLB				LR	LR		
	comp=Z,3µm,20.0s						
ASAJ	**Asahikawa**	**79.16**	**41**	PFAKE		14 28 20.0	+5.7
ASAJ				LR	LR		
	comp=Z,7µm,18.0s						
SUA	**Susitna One**	**79.17**	**358**	*e*P	**P**	**14 28 14.1**	**-0.1**
	comp=Z,79nm,0.8s						
SUA				LR	LR		
	comp=Z,3µm,22.0s						
TPUB	**Ta-pu**	**79.22**	**69**	PFAKE		14 28 30.0	+15
TPUB				LR	LR		
	comp=Z,2µm,22.0s						
M44A	**Midewin, Midew**	**79.25**	**315**	PFAKE		14 28 30.0	+15
M44A				LR	LR		
	comp=Z,4µm,19.0s						
M44A	**Midewin, Midew**	**79.25**	**315**	P	**P**	**14 28 14.3**	**-0.5**
	baz=46						
J40A	**Soldiers Grove**	**79.27**	**318**	P	**P**	**14 28 14.3**	**-0.6**
	baz=45,SNR=14						
T52A	**Hallie**	**79.28**	**310**	P	**P**	**14 28 15.7**	**+0.5**
	baz=48						
R50A	**Paris**	**79.29**	**311**	P	**P**	**14 28 14.6**	**-0.5**
	baz=48,SNR=5.1						
S51A	**Beattyville**	**79.29**	**310**	*e*P	**P**	**14 28 14.0**	**-1.2**
	comp=Z,24nm,0.9s						
S51A				LR	LR		
	comp=Z,6µm,19.0s						
S51A	**Beattyville**	**79.29**	**310**	P	**P**	**14 28 14.2**	**-1.0**
	baz=48						
DIV	**Divide**	**79.30**	**356**	*e*P	**P**	**14 28 14.6**	**-0.3**
	comp=Z,34nm,1.0s						
DIV				LR	LR		
	comp=Z,4µm,22.0s						
KGM	**Kluang**	**79.31**	**96**	P	**P**	**14 28 19.5**	**+3.9**
N45A	**Kentland**	**79.34**	**315**	P	**P**	**14 28 14.3**	**-1.0**
	baz=46						
I39A	**Houston**	**79.34**	**319**	*e*P	**P**	**14 28 14.0**	**-1.3**
	comp=Z,29nm,0.8s						
I39A				LR	LR		
	comp=Z,7µm,19.0s						
I39A	**Houston**	**79.34**	**319**	P	**P**	**14 28 14.4**	**-0.9**
	baz=44,SNR=7.0						
JFWS	**Jewell Farm**	**79.36**	**318**	*e*P	**P**	**14 28 14.1**	**-1.3**
	comp=Z,64nm,0.9s						
JFWS				LR	LR		
	comp=Z,6µm,19.0s						
JFWS	**Jewell Farm**	**79.36**	**318**	*e*P	**P**	**14 28 14.1**	**-1.3**
JFWS				pmax	pmax		
	comp=Z,64nm,0.9s						
JFWS				MLR	MLR		
	comp=Z,6µm,19.0s						
JFWS	**Jewell Farm**	**79.36**	**318**	P	**P**	**14 28 14.6**	**-0.8**
	baz=45,SNR=9.2						
NACB	**Ninganchiao**	**79.37**	**68**	PFAKE		14 28 30.0	+14
NACB				LR	LR		
	comp=Z,4µm,20.0s						
BMRM	**Bremner River**	**79.39**	**355**	*e*P	**P**	**14 28 15.2**	**-0.1**
	comp=Z,138nm,1.4s						
BMRM				LR	LR		
	comp=Z,3µm,22.0s						
SFIN	**Lafayette**	**79.43**	**314**	*e*P	**P**	**14 28 14.8**	**-1.1**
	comp=Z,56nm,1.0s						
SFIN				LR	LR		
	comp=Z,5µm,22.0s						
SFIN	**Lafayette**	**79.43**	**314**	P	**P**	**14 28 14.8**	**-1.1**
	baz=46,SNR=7.7						
MTP	**Monte Pirata**	**79.49**	**285**	PFAKE		14 28 30.0	+13
MTP				LR	LR		
	comp=Z,1µm,21.0s						
RC01	**Rabbit Creek A**	**79.52**	**358**	*e*P	**P**	**14 28 15.9**	**-0.1**
	comp=Z,107nm,0.9s						
RC01				LR	LR		
	comp=Z,3µm,20.0s						
U53A	**Fall Branch**	**79.53**	**309**	P	**P**	**14 28 16.9**	**+0.4**
	baz=48						
P47A	**Martinsville**	**79.58**	**313**	P	**P**	**14 28 16.2**	**-0.5**
	baz=47,SNR=7.3						
SVW2	**Sparrevohn**	**79.58**	**1**	*e*P	**P**	**14 28 16.5**	**+0.2**
	comp=Z,46nm,1.0s						
SVW2				LR	LR		
	comp=Z,2µm,22.0s						
KMSC	**Kings Mountain**	**79.59**	**307**	*e*P	**P**	**14 28 16.5**	**-0.3**
	comp=Z,25nm,1.0s						
KMSC				LR	LR		
	comp=Z,3µm,20.0s						
KMSC	**Kings Mountain**	**79.59**	**307**	P	**P**	**14 28 16.4**	**-0.3**
	baz=49						
K41A	**Shullsburg**	**79.60**	**318**	P	**P**	**14 28 14.9**	**-1.9**
	baz=45						
YULB	**Yu-li**	**79.64**	**68**	PFAKE		14 28 30.0	+13
YULB				LR	LR		
	comp=Z,4µm,21.0s						
Q48A	**North Vernon**	**79.66**	**312**	P	**P**	**14 28 16.8**	**-0.3**
	baz=47,SNR=8.2						
HUMP	**Col San Antoni**	**79.69**	**285**	PFAKE		14 28 30.0	+12
HUMP				LR	LR		
	comp=Z,1µm,20.0s						
L42A	**Oliver, Polo**	**79.69**	**317**	*e*P	**P**	**14 28 16.6**	**-0.7**
	comp=Z,102nm,1.0s						
L42A				LR	LR		
	comp=Z,5µm,20.0s						
L42A	**Oliver, Polo**	**79.69**	**317**	P	**P**	**14 28 16.7**	**-0.5**
	baz=45,SNR=17						
M43A	**Waltham Townsh**	**79.72**	**316**	P	**P**	**14 28 17.2**	**-0.2**
	baz=46,SNR=8.9						
N44A	**Piper City**	**79.72**	**315**	P	**P**	**14 28 16.3**	**-1.1**
	baz=46						
S50A	**Richmond**	**79.74**	**311**	P	**P**	**14 28 17.5**	**0.0**
	baz=47						
SDSI	**Sungai Dareh**	**79.75**	**100**	P	**P**	**14 28 16.9**	**-1.0**
R49A	**Shelbyville**	**79.77**	**312**	P	**P**	**14 28 17.2**	**-0.5**
	baz=47,SNR=6.2						
J39A	**Decorah**	**79.81**	**319**	P	**P**	**14 28 16.9**	**-0.9**
	baz=44,SNR=23						
MYKOM	**Kota Tinggi**	**79.86**	**96**	P	**P**	**14 28 22.3**	**+3.7**
EYAK	**Cordova Ski Ar**	**79.88**	**356**	PFAKE		14 28 30.0	+12
EYAK				LR	LR		
	comp=Z,5µm,21.0s						
SJG	**San Juan**	**79.93**	**285**	PFAKE		14 28 30.0	+11
SJG				LR	LR		
	comp=Z,2µm,22.0s						
BLO	**Bloomington**	**79.94**	**313**	*e*P	**P**	**14 28 17.3**	**-1.3**
	comp=Z,88nm,0.9s						
BLO				LR	LR		
	comp=Z,5µm,18.0s						
BLO	**Bloomington**	**79.94**	**313**	*e*P	**P**	**14 28 17.3**	**-1.3**
BLO				pmax	pmax		
	comp=Z,89nm,0.9s						
BLO				MLR	MLR		
	comp=Z,5µm,18.0s						
T51A	**Gray**	**79.95**	**310**	P	**P**	**14 28 18.2**	**-0.5**
	baz=48						
JNU	**Nakatsue**	**79.96**	**55**	*e*P	**P**	**14 28 17.3**	**-1.6**
	comp=Z,126nm,1.2s						
JNU				LR	LR		
	comp=Z,5µm,18.0s						
SKAG	**Skagway**	**79.97**	**350**	PFAKE		14 28 30.0	+12
SKAG				LR	LR		
	comp=Z,5µm,19.0s						
K40A	**Colesburg**	**79.97**	**318**	P	**P**	**14 28 18.1**	**-0.6**
	baz=44						
U52A	**Thorn Hill**	**79.99**	**309**	P	**P**	**14 28 18.1**	**-0.9**
	baz=48						
TZTN	**Tazewell**	**80.00**	**309**	*e*P	**P**	**14 28 18.9**	**-0.2**
	comp=Z,47nm,1.4s						
TZTN				LR	LR		
	comp=Z,4µm,19.0s						
P46A	**Rosedale**	**80.02**	**314**	P	**P**	**14 28 17.7**	**-1.3**
	baz=46						
Q47A	**Bedord North L**	**80.05**	**313**	P	**P**	**14 28 18.2**	**-1.1**
	baz=46						
RGRI	**Rengat**	**80.07**	**99**	P	**P**	**14 28 19.0**	**-0.7**
L41A	**Preston**	**80.08**	**317**	P	**P**	**14 28 18.5**	**-0.9**
	baz=45,SNR=18						
PAULI	**Pauline**	**80.09**	**307**	*e*P	**P**	**14 28 18.5**	**-1.0**
	comp=Z,29nm,0.9s						
PAULI				LR	LR		
	comp=Z,4µm,21.0s						
R48A	**Northridge Ran**	**80.10**	**312**	P	**P**	**14 28 18.7**	**-0.8**
	baz=47						
JSC	**Jenkinsville**	**80.11**	**306**	PFAKE		14 28 30.0	+10
JSC				LR	LR		
	comp=Z,4µm,19.0s						
M42A	**Sheffield**	**80.13**	**316**	P	**P**	**14 28 19.1**	**-0.5**
	baz=45						
V53A	**Saluda**	**80.14**	**308**	PFAKE		14 28 30.0	+10
V53A				LR	LR		
	comp=Z,5µm,21.0s						
SKR	**Severo-Kuril's**	**80.15**	**29**	*e*P	**P**	**14 28 21.7**	**+2.2**
SKR				MLR	MLR		
	comp=Z,6µm,16.0s						
SKR				MLR	MLR		
	comp=Z,6µm,16.0s						
DLBC	**Dease Lake**	**80.15**	**347**	*e*P	**P**	**14 28 17.9**	**-1.6**
	comp=Z,30nm,1.0s						
DLBC				LR	LR		
	comp=Z,6µm,19.0s						
MDND	**Maddock**	**80.17**	**326**	*e*P	**P**	**14 28 18.9**	**-0.9**
	comp=Z,359nm,1.3s						
MDND				LR	LR		
	comp=Z,7µm,18.0s						
MDND	**Maddock**	**80.17**	**326**	P	**P**	**14 28 19.7**	**-0.1**
	baz=40,SNR=10						
N43A	**Stutzman Famil**	**80.18**	**316**	P	**P**	**14 28 19.1**	**-0.8**
	baz=45						
S49A	**Springfield**	**80.18**	**311**	P	**P**	**14 28 19.1**	**-0.9**
	baz=47,SNR=6.3						
YOJ	**Yonaguni jima**	**80.19**	**66**	PFAKE		14 28 30.0	+10
YOJ				LR	LR		
	comp=Z,3µm,19.0s						
NHSC	**New Hope**	**80.20**	**305**	PFAKE		14 28 30.0	+10
NHSC				LR	LR		
	comp=Z,5µm,19.0s						
RSO	**Redoubt South**	**80.21**	**359**	*e*P	**P**	**14 28 19.4**	**-0.5**
OBIP	**Obispado Ponce**	**80.31**	**285**	PFAKE		14 28 30.0	+9.1
OBIP				LR	LR		
	comp=Z,1µm,19.0s						
O44A	**Mansfield**	**80.35**	**315**	P	**P**	**14 28 20.1**	**-0.7**
	baz=46						
K39A	**Oelwein**	**80.35**	**318**	P	**P**	**14 28 19.4**	**-1.4**
	baz=44,SNR=17						
P45A	**Graceland, Par**	**80.38**	**314**	*e*P	**P**	**14 28 19.9**	**-1.1**
	comp=Z,63nm,0.9s						
P45A				LR	LR		
	comp=Z,4µm,18.0s						
P45A	**Graceland, Par**	**80.38**	**314**	P	**P**	**14 28 20.4**	**-0.5**
	baz=46,SNR=8.4						
U51A	**La Follette**	**80.39**	**310**	P	**P**	**14 28 20.8**	**-0.4**
	baz=47,SNR=12						
T50A	**Nancy**	**80.44**	**310**	P	**P**	**14 28 21.0**	**-0.4**
	baz=47,SNR=12						
WCI	**Wyandotte Cave**	**80.46**	**312**	*e*P	**P**	**14 28 20.1**	**-1.3**
	comp=Z,55nm,0.9s						
WCI				LR	LR		
	comp=Z,5µm,21.0s						
WCI	**Wyandotte Cave**	**80.46**	**312**	*e*P	**P**	**14 28 20.1**	**-1.3**
WCI				pmax	pmax		
	comp=Z,55nm,0.9s						
WCI				MLR	MLR		
	comp=Z,5µm,21.0s						
L40A	**Anamosa**	**80.47**	**318**	*e*P	**P**	**14 28 20.2**	**-1.2**
	comp=Z,186nm,1.2s						
L40A				LR	LR		
	comp=Z,7µm,19.0s						
L40A	**Anamosa**	**80.47**	**318**	P	**P**	**14 28 20.5**	**-0.9**
	baz=44,SNR=26						
V52A	**Sevierville**	**80.50**	**309**	*e*P	**P**	**14 28 20.7**	**-1.1**
	comp=Z,35nm,1.3s						
V52A				LR	LR		
	comp=Z,5µm,22.0s						
V52A	**Sevierville**	**80.50**	**309**	P	**P**	**14 28 21.3**	**-0.4**
	baz=48						
SEW	**Seward**	**80.50**	**357**	*e*P	**P**	**14 28 21.0**	**-0.2**
	comp=Z,252nm,1.7s						
HDIL	**Hopedale**	**80.51**	**315**	*e*P	**P**	**14 28 21.1**	**-0.6**
	comp=Z,113nm,1.1s						
HDIL				LR	LR		
	comp=Z,5µm,19.0s						
HDIL	**Hopedale**	**80.51**	**315**	P	**P**	**14 28 20.4**	**-1.3**
	baz=45,SNR=6.5						
KRJI	**Kerinci**	**80.53**	**101**	P	**P**	**14 28 22.6**	**+0.4**
R47A	**Wooly Knot Far**	**80.55**	**312**	P	**P**	**14 28 21.5**	**-0.4**
	baz=46,SNR=9.1						
M41A	**Milan**	**80.60**	**317**	P	**P**	**14 28 21.3**	**-0.9**
	baz=44,SNR=6.7						
MPR	**Mayaguez**	**80.61**	**286**	PFAKE		14 28 30.0	+7.5
MPR				LR	LR		
	comp=Z,2µm,20.0s						
BG3	**Lake Jocassee**	**80.66**	**308**	*e*P	**P**	**14 28 23.9**	**+1.3**
	comp=Z,54nm,1.5s						
BG3				LR	LR		
	comp=Z,4µm,19.0s						
W53A	**Cullowhee**	**80.69**	**308**	P	**P**	**14 28 23.5**	**+0.6**
	baz=48						
CRPR	**Cabo Rojo, PR**	**80.71**	**286**	PFAKE		14 28 30.0	+6.9
CRPR				LR	LR		
	comp=Z,2µm,19.0s						
O43A	**Sugar Creek Fa**	**80.71**	**315**	P	**P**	**14 28 22.0**	**-0.8**
	baz=45						
S48A	**Wiedeman Farm,**	**80.72**	**312**	P	**P**	**14 28 22.2**	**-0.6**
	baz=46,SNR=8.3						
N42A	**Yates City**	**80.72**	**316**	P	**P**	**14 28 22.4**	**-0.4**
	baz=45,SNR=8.5						
TKL	**Tuckaleechee C**	**80.73**	**309**	*e*P	**P**	**14 28 21.4**	**-1.5**
	comp=Z,63nm,1.3s						
TKL				LR	LR		
	comp=Z,6µm,22.0s						
TKL	**Tuckaleechee C**	**80.73**	**309**	*e*P	**P**	**14 28 21.4**	**-1.5**
TKL				pmax	pmax		
	comp=Z,63nm,1.3s						
TKL				MLR	MLR		
	comp=Z,6µm,22.0s						
BESE	**Bessie Mountai**	**80.75**	**350**	PFAKE		14 28 30.0	+7.3
BESE				LR	LR		
	comp=Z,4µm,20.0s						
HODGE	**Hodges**	**80.76**	**307**	PFAKE		14 28 30.0	+6.9
HODGE				LR	LR		
	comp=Z,4µm,20.0s						
T49A	**Edmonton**	**80.79**	**311**	*e*P	**P**	**14 28 21.7**	**-1.5**
	comp=Z,56nm,1.2s						
T49A				LR	LR		
	comp=Z,5µm,20.0s						
T49A	**Edmonton**	**80.79**	**311**	P	**P**	**14 28 22.9**	**-0.3**
	baz=47,SNR=9.4						
L39A	**Vinton**	**80.83**	**318**	P	**P**	**14 28 22.3**	**-1.1**
	baz=44,SNR=25						
YUK	**Yuzh-Kuril'sk**	**80.83**	**39**	*e*P	P	14 28 14.1	-9.2
YUK				*e*		14 31 27.3	
YUK				PPP	PPP	14 33 14.1	
YUK				*e*S	**S**	**14 38 30.6**	**-0.7**
YUK				*e*SS	**SS**	**14 43 47.1**	**+3.4**
YUK				*e*SSS	SSS	14 47 05.8	
YUK				pmax	pmax		
	comp=Z,255nm,1.6s						
YUK				pmax	pmax		
	comp=N,217nm,1.9s						
YUK				pmax	pmax		
	comp=E,58nm,1.4s						
YUK				MLR	MLR		
	comp=Z,4µm,18.0s						
YUK				MLR	MLR		
	comp=N,4µm,15.0s						
U50A	**Jamestown**	**80.85**	**310**	P	**P**	**14 28 23.4**	**-0.2**
	baz=47,SNR=9.1						
BRLK	**Bradley Lake**	**80.88**	**358**	*e*P	**P**	**14 28 22.9**	**-0.5**
	comp=N,158nm,1.3s						
BRLK				LR	LR		
	comp=Z,4µm,20.0s						
TPRI	**Tanjung Pinang**	**80.94**	**96**	P	**P**	**14 28 27.3**	**+3.0**
ERM	**Erimo**	**80.95**	**42**	PFAKE		14 28 30.0	+6.0
ERM				LR	LR		
	comp=Z,9µm,18.0s						
ERM	**Erimo**	**80.95**	**42**	*i* P	**P**	**14 28 23.5**	**-0.5**
ERM				pmax	pmax		
	comp=Z,46nm,1.1s						
ERM				MLR	MLR		
	comp=Z,8µm,17.0s						
V51A	**Loudon**	**80.98**	**309**	*e*P	**P**	**14 28 23.3**	**-0.9**
	comp=Z,184nm,1.8s						
V51A				LR	LR		
	comp=Z,4µm,20.0s						
V51A	**Loudon**	**80.98**	**309**	P	**P**	**14 28 24.9**	**+0.6**
	baz=47,SNR=5.4						
JIS	**Juneau Island**	**80.98**	**349**	PFAKE		14 28 30.0	+6.2
JIS				LR	LR		
	comp=Z,6µm,20.0s						
Q45A	**Warren Harvey,**	**81.05**	**314**	P	**P**	**14 28 24.1**	**-0.4**
	baz=46,SNR=12						
M40A	**Post Highland**	**81.09**	**317**	P	**P**	**14 28 24.1**	**-0.7**
	baz=44,SNR=9.3						
OLIL	**Olney**	**81.13**	**314**	*e*P	**P**	**14 28 23.9**	**-1.1**
	comp=Z,105nm,1.1s						
OLIL				LR	LR		
	comp=Z,6µm,18.0s						
O42A	**Bath**	**81.19**	**316**	P	**P**	**14 28 24.7**	**-0.6**
	baz=45						
W52A	**Murphy**	**81.20**	**309**	PFAKE		14 28 40.0	+14
W52A				LR	LR		
	comp=Z,5µm,21.0s						
X53A	**Estanollee**	**81.22**	**308**	P	**P**	**14 28 25.5**	**-0.1**
	baz=48						
S47A	**Hartford**	**81.23**	**312**	P	**P**	**14 28 24.4**	**-1.2**
	baz=46,SNR=8.4						
N41A	**Harden Midland**	**81.24**	**316**	*e*P	**P**	**14 28 24.5**	**-1.0**
	comp=Z,105nm,1.0s						
N41A				LR	LR		
	comp=Z,4µm,18.0s						
N41A	**Harden Midland**	**81.24**	**316**	P	**P**	**14 28 24.6**	**-1.0**
	baz=44,SNR=15						
Y54A	**Tignall**	**81.27**	**307**	P	**P**	**14 28 25.5**	**-0.4**
	baz=48						
P43A	**Skaggs, Pawnee**	**81.28**	**315**	P	**P**	**14 28 25.5**	**-0.3**
	baz=45,SNR=8.9						
T48A	**Bowling Green**	**81.29**	**311**	P	**P**	**14 28 25.4**	**-0.5**
	baz=46,SNR=20						
CPCT	**Cooper Cave**	**81.32**	**309**	*e*P	**P**	**14 28 25.4**	**-0.6**
	comp=Z,54nm,1.0s						
CPCT				LR	LR		
	comp=Z,3µm,19.0s						
U49A	**Red Boiling Sp**	**81.34**	**311**	P	**P**	**14 28 25.6**	**-0.5**
	baz=46,SNR=22						

M39A Webster 81.38 318 P P 14 28 25.3 -1.0
baz=44,SNR=20
USIN University of 81.42 313 eP P 14 28 25.4 -1.2
comp=Z,84nm,1.1s
GRTK Grand Turk 81.47 291 PFAKE 14 28 40.0 +13
GRTK LR LR
comp=Z,2µm,19.0s
257A Skidaway Islan 81.49 305 PFAKE 14 28 40.0 +13
257A LR LR
comp=Z,4µm,21.0s
N40A Mertquake, Sal 81.50 317 P P 14 28 26.1 -0.9
baz=44,SNR=14
X52A Dahlonega 81.51 308 P P 14 28 26.8 -0.3
baz=47,SNR=6.5
V50A Pikevile 81.51 310 P P 14 28 27.0 -0.1
baz=47,SNR=13
Q44A Meyer Farm, Va 81.52 314 P P 14 28 26.7 -0.4
baz=45,SNR=12
R45A Skylar, Fairfi 81.54 313 P P 14 28 26.7 -0.5
baz=45,SNR=11
DGMT Dagmar 81.59 329 eP P 14 28 26.9 -0.5
comp=Z,292nm,1.8s
DGMT LR LR
comp=Z,4µm,18.0s
DGMT Dagmar 81.59 329 P P 14 28 29.1 +1.7
baz=37,SNR=7.5
SCIA State Center 81.61 319 eP P 14 28 26.6 -0.9
comp=Z,71nm,1.0s
SCIA LR LR
comp=Z,7µm,21.0s
S46A Don Dixon Farm 81.65 313 P P 14 28 26.0 -1.8
baz=46
W51A Cleveland 81.66 309 P P 14 28 28.1 +0.2
baz=47,SNR=8.6
O41A Passleys Farm, 81.68 316 P P 14 28 27.1 -0.8
baz=44,SNR=14
P42A Winchester 81.77 315 eP P 14 28 27.4 -1.0
comp=Z,77nm,1.3s
P42A LR LR
comp=Z,5µm,20.0s
P42A Winchester 81.77 315 P P 14 28 26.9 -1.5
baz=44,SNR=10
T47A Sharon Grove 81.78 312 eP P 14 28 27.8 -0.7
comp=Z,57nm,0.9s
T47A Sharon Grove 81.78 312 P P 14 28 28.0 -0.5
baz=46
U48A Cassie Pea, Po 81.78 311 P P 14 28 27.9 -0.6
baz=46,SNR=14
Z54A Sparta 81.79 307 P P 14 28 28.4 -0.2
baz=48
Y53A Monroe 81.83 307 P P 14 28 28.7 -0.1
baz=47
Q43A New Douglas 81.87 315 P P 14 28 28.9 -0.1
baz=45,SNR=7.6
JMBI JAMBI 81.89 99 P P 14 28 31.3 +1.9
V49A McMinnville 81.92 310 P P 14 28 28.9 -0.4
baz=46,SNR=7.7
ECSD EROS Data Cent 81.94 322 eP P 14 28 28.6 -0.7
comp=Z,40nm,0.8s
ECSD LR LR
comp=Z,4µm,21.0s
ECSD EROS Data Cent 81.94 322 P P 14 28 28.5 -0.7
baz=41,SNR=34
W50A Signal Mountai 81.96 309 eP P 14 28 28.7 -0.8
comp=Z,94nm,1.1s
W50A LR LR
comp=Z,6µm,21.0s
W50A Signal Mountai 81.96 309 P P 14 28 29.4 -0.2
baz=47,SNR=9.9
GOGA Godfrey 82.06 307 eP P 14 28 28.2 -1.8
comp=Z,38nm,1.1s
GOGA LR LR
comp=Z,5µm,20.0s
GOGA Godfrey 82.06 307 eP P 14 28 28.2 -1.8
GOGA pmax pmax
comp=Z,38nm,1.1s
GOGA MLR MLR
comp=Z,5µm,20.0s
P41A Barry, Barry 82.09 316 P P 14 28 29.4 -0.7
baz=44,SNR=11
MJB9 Matsu-Tunnel 82.10 49 PFAKE 14 28 40.0 +10
MJB9 LR LR
comp=Z,5µm,20.0s
MAJO Matsushiro 82.11 49 eP P 14 28 28.3 -1.9
comp=Z,53nm,1.2s
MAJO LR LR
comp=Z,4µm,20.0s
MAJO Matsushiro 82.11 49 *i* P P 14 28 29.4 -0.8
MAJO pmax pmax
comp=Z,28nm,1.1s
MAJO MLR MLR
comp=Z,4µm,19.0s
MAJO Matsushiro 82.11 49 eP P 14 28 31.1 +0.8
MAT Matsushiro 82.11 49 P P 14 28 29.4 -0.8
MAT S S 14 38 45.0 +0.1
MJAR Matsushiro Arr 82.11 49 P P 14 28 29.5 -0.7
comp=Z,23nm,1.1s,baz=306,slow=4.4,SNR=16
MJAR LR LR 15 09 01.5
comp=Z,4µm,18.4s,baz=0.0,slow=39
Y52A Lilburn 82.11 308 eP P 14 28 29.7 -0.6
comp=Z,60nm,1.0s
Y52A LR LR
comp=Z,4µm,18.0s
Y52A Lilburn 82.11 308 P P 14 28 30.2 -0.1
baz=47,SNR=6.5
X51A Calhoun 82.12 309 eP P 14 28 28.8 -1.5
comp=Z,48nm,1.0s
X51A LR LR
comp=Z,3µm,19.0s
X51A Calhoun 82.12 309 P P 14 28 29.6 -0.8
baz=47
S45A Carrier Mills 82.14 313 P P 14 28 29.0 -1.3
baz=45
T46A Princeton 82.20 312 P P 14 28 29.1 -1.6
baz=46
Z53A Monticello 82.21 307 P P 14 28 29.8 -1.0
baz=47
INU Inuyama 82.23 50 PFAKE 14 28 40.0 +9.1
INU LR LR
comp=Z,3µm,18.0s
U47A Clarksville 82.27 311 P P 14 28 30.2 -0.9
baz=46,SNR=16
SWET Sewanee 82.32 310 eP P 14 28 29.4 -2.0
comp=Z,68nm,1.6s
SWET LR LR
comp=Z,5µm,19.0s
JOW Kunigami 82.33 62 P P 14 28 31.0 -0.6
comp=Z,135nm,0.9s,baz=297,slow=9.3,SNR=9.3
JOW Kunigami 82.33 62 P P 14 28 31.0 -0.6
JOW LR LR
comp=Z,3µm,20.0s
Q42A Golden Eagle 82.35 315 P P 14 28 31.0 -0.5
baz=44,SNR=13
154A Montrose 82.37 306 PFAKE 14 28 40.0 +8.3
154A LR LR
comp=Z,3µm,19.0s
SLM Saint Louis 82.39 315 eP P 14 28 30.7 -1.0
comp=Z,92nm,1.0s
SLM LR LR
comp=Z,5µm,22.0s
SLM Saint Louis 82.39 315 eP P 14 28 30.7 -1.0
SLM pmax pmax
comp=Z,92nm,1.0s
SLM MLR MLR
comp=Z,5µm,22.0s
255A Hazlehurst 82.44 305 PFAKE 14 28 40.0 +8.0
255A LR LR
comp=Z,5µm,20.0s
WRAK Wrangell Islan 82.46 348 eP P 14 28 33.7 +2.1
comp=Z,68nm,1.1s
R43A Red Bud 82.47 314 P P 14 28 31.5 -0.6
baz=44,SNR=8.8
SIUC Southern Illin 82.47 313 eP P 14 28 31.0 -1.1
comp=Z,73nm,1.1s
SIUC LR LR
comp=Z,5µm,18.0s
V48A Smith Brothers 82.48 311 eP P 14 28 30.3 -1.9
comp=Z,38nm,1.1s
V48A LR LR
comp=Z,5µm,22.0s
V48A Smith Brothers 82.48 311 P P 14 28 30.8 -1.4
baz=46,SNR=7.6
SUSD Miller 82.50 323 P P 14 28 32.0 -0.2
baz=40,SNR=11
SDD Santo Domingo 82.50 288 PFAKE 14 28 40.0 +7.5
SDD LR LR
comp=Z,2µm,21.0s
S44A Carbondale 82.51 313 P P 14 28 31.6 -0.7
baz=45,SNR=8.0
W49A Belvidere 82.58 310 P P 14 28 31.9 -0.9
baz=46,SNR=8.6
SPIA Saint Paul Isl 82.60 9 PFAKE 14 28 40.0 +7.6
SPIA LR LR
comp=Z,5µm,21.0s
T45A Paducah 82.64 313 PFAKE 14 28 40.0 +7.0
T45A LR LR
comp=Z,6µm,18.0s
X50B Fort Payne 82.67 309 P P 14 28 32.5 -0.7
baz=46
Y51A Rockmart 82.70 308 P P 14 28 33.0 -0.4
baz=47,SNR=11
Q41A Truxton 82.70 315 P P 14 28 32.5 -0.8
baz=44,SNR=22
Z52A Williamson 82.79 307 P P 14 28 33.4 -0.5
baz=47
WVT Waverly 82.80 311 eP P 14 28 32.3 -1.5
comp=Z,56nm,1.4s
WVT LR LR
comp=Z,6µm,18.0s
WVT Waverly 82.80 311 eP P 14 28 32.3 -1.5
WVT pmax pmax
comp=Z,56nm,1.4s
WVT MLR MLR
comp=Z,6µm,18.0s
V47A Nunnelly 82.83 311 P P 14 28 32.5 -1.5
baz=46,SNR=8.3
U46A Springville 82.84 312 P P 14 28 33.2 -0.9
baz=45
KDAK Kodiak Island 82.90 359 eP P 14 28 33.6 -0.3
comp=Z,117nm,1.1s
KDAK LR LR
comp=Z,4µm,22.0s
KDAK Kodiak Island 82.90 359 *i* P P 14 28 34.7 +0.8
R42A Luebbering 82.95 315 P P 14 28 34.2 -0.4
baz=44,SNR=6.1
456A Hilliard 82.95 304 PFAKE 14 28 50.0 +15
456A LR LR
comp=Z,4µm,20.0s
FVM French Village 82.95 314 PFAKE 14 28 50.0 +15
FVM LR LR
comp=Z,5µm,19.0s
W48A Pulaski 82.96 310 P P 14 28 33.8 -0.9
baz=46,SNR=9.0
X49A Woodville 83.04 309 P P 14 28 34.6 -0.5
baz=46,SNR=10
S43A Fulton Ridge, 83.05 314 P P 14 28 34.3 -0.8
baz=44,SNR=24
Y50A Piedmont 83.11 309 P P 14 28 34.6 -1.0
baz=46
T44A Benton 83.13 313 P P 14 28 34.5 -1.0
baz=45
Z51A Franklin 83.17 308 P P 14 28 34.9 -0.9
baz=46
SDDR Presa de Saban 83.18 289 eP P 14 28 35.3 -0.8
comp=Z,64nm,0.9s
SDDR LR LR
comp=Z,2µm,19.0s
V46A Holladay 83.19 311 P P 14 28 34.9 -1.0
baz=45,SNR=6.0
LHSI Lahat 83.21 101 P P 14 28 35.2 -1.0
R41A Rosebud 83.25 315 P P 14 28 35.4 -0.8
baz=44,SNR=31
W47A Westpoint 83.27 311 P P 14 28 35.0 -1.4
baz=46
S42A Caledonia 83.31 314 P P 14 28 35.3 -1.2
baz=44,SNR=6.9
152A Waverly Hall 83.33 307 eP P 14 28 35.9 -0.7
comp=Z,36nm,0.9s
152A LR LR
comp=Z,5µm,18.0s
152A Waverly Hall 83.33 307 P P 14 28 36.5 -0.1
baz=47,SNR=6.2
658A Bunnell 83.33 303 PFAKE 14 28 50.0 +13
658A LR LR
comp=Z,3µm,18.0s
CCM Cathedral Cave 83.35 315 eP P 14 28 35.9 -0.8
comp=Z,72nm,1.2s
CCM LR LR
comp=Z,7µm,22.0s
CCM Cathedral Cave 83.35 315 eP P 14 28 35.9 -0.8
CCM pmax pmax
comp=Z,72nm,1.2s
CCM MLR MLR
comp=Z,7µm,22.0s
253A Americus 83.38 306 PFAKE 14 28 50.0 +13
253A LR LR
comp=Z,3µm,22.0s
TIGA Tifton 83.46 306 PFAKE 14 28 50.0 +13
TIGA LR LR
comp=Z,3µm,19.0s
X48A Hartselle 83.51 310 eP P 14 28 36.2 -1.3
comp=Z,204nm,2.0s
X48A LR LR
comp=Z,5µm,21.0s
X48A Hartselle 83.51 310 P P 14 28 36.4 -1.2
baz=46,SNR=9.3
PARMO Parma 83.52 313 PFAKE 14 28 50.0 +12
PARMO LR LR
comp=Z,4µm,18.0s
T43A Greenville 83.52 314 P P 14 28 37.0 -0.6
baz=44,SNR=10
U44B Burton Farm, H 83.52 313 P P 14 28 35.5 -2.1
baz=45
GLAT Glass 83.53 312 PFAKE 14 28 50.0 +12
GLAT LR LR
comp=Z,5µm,18.0s
Y49A Blount Mountai 83.54 309 eP P 14 28 36.5 -1.2
comp=Z,143nm,1.8s
Y49A LR LR
comp=Z,6µm,18.0s
Y49A Blount Mountai 83.54 309 P P 14 28 37.0 -0.8
baz=46,SNR=5.3
PMBI Palemleng 83.58 99 P P 14 28 39.3 +1.1
U44A Portageville 83.59 313 P P 14 28 38.3 +0.3
baz=44
PVMO Portageville 83.67 313 PFAKE 14 28 50.0 +12
PVMO LR LR
comp=Z,5µm,19.0s
PLAL Pickwick Lake 83.74 311 eP P 14 28 37.0 -1.7
comp=Z,110nm,1.5s
PLAL LR LR
comp=Z,6µm,21.0s
151A Opelika 83.80 307 P P 14 28 38.3 -0.8
baz=46
252A Lumpkin 83.80 307 P P 14 28 38.1 -0.9
baz=47
W46A Michie 83.81 311 P P 14 28 37.4 -1.7
baz=45
HALT Halls 83.82 312 PFAKE 14 28 50.0 +11
HALT LR LR
comp=Z,4µm,19.0s
LAO LASA Array 83.84 329 eP P 14 28 38.9 -0.2
comp=Z,327nm,1.3s
LAO LR LR
comp=Z,4µm,20.0s
LAO LASA Array 83.84 329 P P 14 28 39.8 +0.6
baz=35,SNR=41
X47A Russelville 83.94 310 P P 14 28 37.7 -2.1
baz=45
Y48A Jasper 83.95 310 P P 14 28 39.3 -0.6
baz=46
555A McAlpin 83.96 304 PFAKE 14 28 50.0 +10
555A LR LR
comp=Z,3µm,21.0s
S41A Jillco Farms, 83.97 315 P P 14 28 39.5 -0.3
baz=44,SNR=38
T42A Van Buren 84.01 314 eP P 14 28 39.2 -0.8
comp=Z,88nm,1.3s
T42A LR LR
comp=Z,5µm,19.0s
T42A Van Buren 84.01 314 P P 14 28 39.5 -0.5
baz=44,SNR=22
Z49A Columbiana 84.07 309 P P 14 28 40.0 -0.4
baz=46,SNR=9.3
EGMT Eagleton 84.09 332 eP P 14 28 40.1 -0.3
comp=Z,262nm,1.3s
EGMT LR LR
comp=Z,6µm,21.0s
EGMT Eagleton 84.09 332 P P 14 28 40.5 +0.2
baz=33,SNR=34
MDSI Maura Dua 84.14 101 P P 14 28 39.4 -1.6
PPBI Pangkal Pinang 84.14 98 P P 14 28 41.2 +0.2
251A Midway 84.15 307 P P 14 28 39.5 -1.3
baz=46
GNAR Gosnell 84.17 313 PFAKE 14 28 50.0 +9.1
GNAR LR LR
comp=Z,5µm,18.0s
150A Eclectic 84.17 308 P P 14 28 40.9 -0.1
baz=46,SNR=7.6
656A Willston 84.19 303 PFAKE 14 28 50.0 +8.9
656A LR LR
comp=Z,4µm,20.0s
W45A Hickory Valley 84.26 312 P P 14 28 40.5 -0.9
baz=45
352A Blakely 84.27 306 PFAKE 14 28 50.0 +8.5
352A LR LR
comp=Z,3µm,18.0s
DWPF Disney Wildern 84.32 302 PFAKE 14 28 50.0 +8.2
DWPF LR LR
comp=Z,3µm,18.0s
DWPF Disney Wildern 84.32 302 eP P 14 28 45.0 +3.2
060A Indiantown 84.33 300 PFAKE 14 28 50.0 +8.2
060A LR LR
comp=Z,3µm,19.0s
CHGN Chignik 84.34 2 PFAKE 14 28 50.0 +8.7
CHGN LR LR
comp=Z,2µm,19.0s
X46A Booneville 84.34 311 P P 14 28 40.0 -1.8
baz=45
Y47A UCPARC, Winfie 84.37 310 P P 14 28 40.2 -1.7
baz=45
T41A Mountain View 84.37 314 P P 14 28 41.8 -0.1
baz=44,SNR=43
LWLI Liwa 84.39 101 P P 14 28 44.5 +2.1
BGNE Belgrade 84.44 321 eP P 14 28 41.4 -0.8
comp=Z,278nm,0.9s
BGNE LR LR
comp=Z,8µm,18.0s
BGNE Belgrade 84.44 321 P P 14 28 42.0 -0.2
baz=40,SNR=20
LRAL Lakeview Retre 84.46 309 eP P 14 28 41.6 -0.8
comp=Z,114nm,1.1s
LRAL LR LR
comp=Z,5µm,19.0s
LRAL Lakeview Retre 84.46 309 P P 14 28 41.9 -0.5
baz=46,SNR=19
Z48A Northport 84.56 309 P P 14 28 41.0 -1.9
baz=45
U42A Revenden 84.58 314 P P 14 28 42.6 -0.3
baz=44,SNR=25
149A Jones 84.64 308 P P 14 28 43.0 -0.3
baz=46,SNR=8.3
WALA Waterton Lakes 84.66 335 eP P 14 28 42.2 -1.1
comp=Z,90nm,1.3s
JANB Januaria 84.68 246 eP P 14 28 43.8 +0.1
MET Memphis--Engin 84.72 312 PFAKE 14 28 50.0 +6.3
MET LR LR
comp=Z,4µm,21.0s
250A Grady 84.75 308 eP P 14 28 43.4 -0.5
comp=Z,110nm,1.1s
250A LR LR
comp=Z,4µm,21.0s
250A Grady 84.75 308 P P 14 28 43.2 -0.8
baz=46
HBAR Harrisburg 84.82 313 PFAKE 14 28 50.0 +5.8
HBAR LR LR
comp=Z,5µm,19.0s
351A Pinckard 84.83 307 P P 14 28 43.1 -1.2
baz=46
OXF Oxford 84.85 311 eP P 14 28 42.7 -1.7
comp=Z,68nm,1.1s
OXF LR LR
comp=Z,4µm,19.0s
OXF Oxford 84.85 311 eP P 14 28 42.7 -1.7
OXF pmax pmax
comp=Z,69nm,1.1s
OXF MLR MLR
comp=Z,4µm,19.0s
059A Moore Haven 84.89 301 PFAKE 14 28 50.0 +5.3
059A LR LR
comp=Z,2µm,20.0s
BSFB Barra de Sao F 84.90 241 eP P 14 28 45.4 +0.7
RIB01 Linhares ES 84.94 240 eP P 14 28 45.6 +0.7
U41A Viola 84.96 314 P P 14 28 45.1 +0.2
baz=43,SNR=16
Y46A Houston 84.97 310 P P 14 28 43.9 -1.1
baz=45,SNR=19
RSSD Black Hills 85.01 326 eP P 14 28 44.2 -1.1
comp=Z,59nm,1.0s
RSSD LR LR
comp=Z,8µm,20.0s
RSSD Black Hills 85.01 326 eP P 14 28 44.2 -1.1
RSSD pmax pmax
comp=Z,59nm,1.0s
RSSD MLR MLR
comp=Z,8µm,20.0s
KSM Kuching 85.03 92 P P 14 28 47.4 +1.8
SJMB Sao Joao De Ma 85.04 241 eP P 14 28 45.3 -0.1
KASI Kota Agung 85.05 101 P P 14 28 47.0 +1.4
V42A Cord 85.06 313 P P 14 28 45.0 -0.3
baz=44,SNR=17
148A Greensboro 85.08 309 P P 14 28 44.7 -0.8
baz=45
957A Wimauma 85.14 302 PFAKE 14 29 00.0 +14
957A LR LR
comp=Z,3µm,18.0s
SDPT Sand Point 85.21 3 PFAKE 14 29 00.0 +14
SDPT LR LR
comp=Z,3µm,21.0s
249A Camden 85.28 308 P P 14 28 46.1 -0.4
baz=46,SNR=7.2
GTBY Guantanamo Bay 85.34 292 PFAKE 14 29 00.0 +13
GTBY LR LR
comp=Z,2µm,20.0s
451A Vernon 85.37 306 PFAKE 14 29 00.0 +13
451A LR LR
comp=Z,2µm,19.0s
Y45A Yeager Farm, C 85.39 311 P P 14 28 46.0 -1.0
baz=44,SNR=6.1
KSU1 Kansas State U 85.42 319 eP P 14 28 45.8 -1.4
comp=Z,151nm,1.4s
KSU1 LR LR
comp=Z,7µm,21.0s
KSU1 Kansas State U 85.42 319 P P 14 28 46.6 -0.6
baz=41,SNR=9.5
061Z Ochoppi 85.47 300 PFAKE 14 29 00.0 +12
061Z LR LR
comp=Z,2µm,20.0s
U40A Yellville 85.47 315 P P 14 28 47.1 -0.4
baz=43,SNR=17
147A Livingston 85.48 309 eP P 14 28 44.9 -2.6
comp=Z,79nm,1.3s
147A LR LR
comp=Z,5µm,18.0s
147A Livingston 85.48 309 P P 14 28 44.9 -2.6
baz=45
V41A Mountainview 85.50 314 P P 14 28 47.0 -0.7
baz=43,SNR=29
MCI8 Montes Claros 85.50 244 eP P 14 28 48.4 +0.6
MCI9 Montes Claros 85.51 244 eP P 14 28 48.5 +0.6
MCI7 Montes Claros 85.51 244 eP P 14 28 48.5 +0.6
BLSI Bandar Lampung 85.51 101 P P 14 28 46.7 -1.2
FALS False Pass 85.53 5 PFAKE 14 29 00.0 +13
FALS LR LR
comp=Z,4µm,21.0s
248A Dixon Mills 85.57 309 P P 14 28 46.9 -1.1
baz=45
MCI6 Montes Claros 85.58 244 eP P 14 28 48.9 +0.7
X43A Marvell 85.69 312 PFAKE 14 29 00.0 +11
X43A LR LR
comp=Z,3µm,20.0s
349A Repton 85.75 308 P P 14 28 48.1 -0.8
baz=45
BRAL Brewton 85.80 307 PFAKE 14 29 00.0 +11
BRAL LR LR
comp=Z,4µm,22.0s
Z45A Winona 85.83 311 PFAKE 14 29 00.0 +11
Z45A LR LR
comp=Z,6µm,20.0s
Z45A Winona 85.83 311 P P 14 28 47.9 -1.3
baz=44
SBUM Sibu 85.89 90 P P 14 28 51.7 +1.8
GCMT Greycliff 85.93 330 eP P 14 28 47.5 -2.2
WHAR Wooly Hollow 85.93 314 eP P 14 28 48.8 -1.0
comp=Z,139nm,1.3s
WHAR LR LR
comp=Z,5µm,18.0s
HRY Holter Researc 85.95 332 eP P 14 28 47.8 -2.0
146A Union 85.97 310 PFAKE 14 29 00.0 +10
146A LR LR
comp=Z,5µm,22.0s

W41B Gary Mavity, V 86.00 313 *eP* **P 14 28 49.1 -1.0**
comp=Z,93nm,1.3s
W41B LR LR
comp=Z,5µm,20.0s
W41B Gary Mavity, V 86.00 313 P **P 14 28 49.6 -0.5**
baz=43,SNR=15
AKUT Akutan 86.06 7 PFAKE 14 29 00.0 +10
AKUT LR LR
comp=Z,3µm,20.0s
BTM Bintulu 86.09 89 P **P 14 28 52.9 +2.1**
X42A Stuttgart 86.09 313 P **P 14 28 49.9 -0.7**
baz=43
HHAR Hobbs 86.12 315 *eP* **P 14 28 49.0 -1.7**
comp=Z,73nm,1.2s
HHAR LR LR
comp=Z,4µm,20.0s
247A Quitman 86.12 309 P **P 14 28 50.2 -0.5**
baz=45
348A Jackson 86.14 308 PFAKE 14 29 00.0 +9.1
348A LR LR
comp=Z,7µm,21.0s
Y43A Makayla and Ka 86.16 312 P **P 14 28 50.4 -0.5**
baz=44
UNV Unalaska Valle 86.28 7 PFAKE 14 29 00.0 +8.9
UNV LR LR
comp=Z,4µm,19.0s
RLMT Red Lodge 86.33 330 *eP* **P 14 28 51.1 -0.8**
comp=Z,296nm,1.8s
RLMT LR LR
comp=Z,4µm,19.0s
RLMT Red Lodge 86.33 330 P **P 14 28 52.2 +0.3**
baz=33,SNR=45
UALR University of 86.34 313 *eP* **P 14 28 50.4 -1.3**
comp=Z,52nm,1.0s
UALR LR LR
comp=Z,6µm,20.0s
NEW Newport 86.39 336 *eP* **P 14 28 50.8 -1.1**
comp=Z,117nm,1.4s
NEW LR LR
comp=Z,5µm,20.0s
NEW Newport 86.39 336 *eP* **P 14 28 50.8 -1.1**
NEW pmax pmax
comp=Z,117nm,1.4s
NEW MLR MLR
comp=Z,5µm,20.0s
145A Houston Renfro 86.51 310 P **P 14 28 51.8 -0.9**
baz=44
MSO Missoula 86.60 333 *eP* **P 14 28 51.8 -1.2**
comp=Z,90nm,1.2s
MSO LR LR
comp=Z,7µm,19.0s
MSO Missoula 86.60 333 P **P 14 28 52.5 -0.5**
baz=30,SNR=40
KDM Kudat 86.63 84 P **P 14 28 55.6 +2.1**
OGNE Ogallala 86.64 323 *eP* **P 14 28 51.8 -1.5**
comp=Z,257nm,1.9s
OGNE LR LR
comp=Z,6µm,22.0s
OGNE Ogallala 86.64 323 P **P 14 28 52.5 -0.8**
baz=38,SNR=5.3
Y42A Garnett, Star 86.70 312 P **P 14 28 53.0 -0.6**
baz=43
KKM Kota Kinabalu 86.71 85 P **P 14 28 56.1 +2.1**
X40A Basin Creek Fa 86.82 313 *eP* **P 14 28 53.3 -0.9**
comp=Z,37nm,1.1s
X40A LR LR
comp=Z,5µm,19.0s
X40A Basin Creek Fa 86.82 313 P **P 14 28 53.8 -0.3**
baz=43,SNR=9.8
STKI Sintang 86.83 93 P **P 14 28 55.9 +1.5**
BOZ Bozeman (W) 86.83 331 *eP* **P 14 28 53.4 -0.8**
comp=Z,104nm,1.3s
BOZ LR LR
comp=Z,4µm,20.0s
BOZ Bozeman (W) 86.83 331 *eP* **P 14 28 53.4 -0.8**
BOZ pmax pmax
comp=Z,104nm,1.3s
BOZ MLR MLR
comp=Z,4µm,20.0s
BOZ Bozeman (W) 86.83 331 P **P 14 28 54.4 +0.2**
baz=32,SNR=52
W39A Magazine 86.83 314 *eP* **P 14 28 53.3 -0.9**
comp=Z,106nm,1.4s
W39A LR LR
comp=Z,5µm,19.0s
W39A Magazine 86.83 314 P **P 14 28 53.8 -0.4**
baz=42,SNR=9.2
NIKH Nikolski High 86.89 9 PFAKE 14 29 00.0 +5.9
NIKH LR LR
comp=Z,3µm,20.0s
245A Little AP, Sta 86.90 310 P **P 14 28 54.5 -0.1**
baz=44
B08A Colville Reser 86.98 337 *eP* **P 14 28 54.0 -0.7**
comp=Z,13nm,1.0s
B08A LR LR
comp=Z,7µm,19.0s
PTGA Pitinga 86.99 267 *eP* **P 14 28 54.1 -1.1**
comp=Z,92nm,1.4s
PTGA LR LR
comp=Z,1µm,18.0s
PTGA Pitinga 86.99 267 *eP* **P 14 28 55.4 +0.1**
TNG Tangerang 87.09 100 P **P 14 28 57.5 +1.8**
346A Big Creek Wild 87.10 309 PFAKE 14 29 10.0 +14
346A LR LR
comp=Z,7µm,19.0s
VBMS Vicksburg 87.14 310 PFAKE 14 29 10.0 +14
VBMS LR LR
comp=Z,6µm,21.0s
Y41A Eaglette Beard 87.14 313 P **P 14 28 54.9 -0.8**
baz=43
C09A Chrisman Ranch 87.16 337 *eP* **P 14 28 54.7 -0.9**
comp=Z,120nm,1.3s
C09A LR LR
comp=Z,6µm,18.0s
MIAR Mount Ida 87.20 314 *eP* **P 14 28 55.2 -0.7**
comp=Z,95nm,1.1s
MIAR LR LR
comp=Z,6µm,18.0s
MIAR Mount Ida 87.20 314 *eP* **P 14 28 55.3 -0.7**
MIAR pmax pmax
comp=Z,95nm,1.1s
MIAR MLR MLR
comp=Z,6µm,18.0s
MIAR Mount Ida 87.20 314 P **P 14 28 55.9 -0.1**
baz=42,SNR=21
CBKS Cedar Bluff 87.21 320 *eP* **P 14 28 55.4 -0.7**
CBKS LR LR
comp=Z,6µm,18.0s
CBKS Cedar Bluff 87.21 320 *eP* **P 14 28 55.4 -0.7**
CBKS MLR MLR
comp=Z,6µm,18.0s
CBKS Cedar Bluff 87.21 320 P **P 14 28 55.4 -0.7**
baz=39,SNR=7.6
YNR Norris Junctio 87.22 330 *eP* **P 14 28 58.1 +1.9**
YNR LR LR
comp=Z,5µm,20.0s
LKWY Lake 87.24 330 PFAKE 14 29 10.0 +14
LKWY LR LR
comp=Z,12µm,20.0s
K22A Casper 87.27 327 *eP* **P 14 28 54.6 -1.8**
comp=Z,54nm,0.9s
K22A LR LR
comp=Z,8µm,19.0s
K22A Casper 87.27 327 P **P 14 28 55.0 -1.4**
baz=35,SNR=19
244A Avery, Jackson 87.36 310 P **P 14 28 55.8 -1.0**
baz=44
YMR Madison River 87.37 331 *eP* **P 14 28 56.5 -0.4**
comp=Z,189nm,1.6s
YMR LR LR
comp=Z,5µm,21.0s
DLMT Dillon 87.38 332 *eP* **P 14 28 56.2 -0.7**
comp=Z,162nm,1.4s
DLMT LR LR
comp=Z,6µm,18.0s
YHB Horse Butte 87.38 331 *eP* **P 14 28 56.6 -0.4**
comp=Z,87nm,1.4s
YHB LR LR
comp=Z,6µm,18.0s
TUL1 Leonard 87.39 316 *eP* **P 14 28 55.8 -1.1**
comp=Z,285nm,1.9s
TUL1 LR LR
comp=Z,5µm,18.0s
TUL1 Leonard 87.39 316 P **P 14 28 56.5 -0.4**
baz=41,SNR=6.1
DBJI Dramaga 87.42 101 P **P 14 28 58.0 +0.7**
H17A Grant Village 87.45 330 *eP* **P 14 28 57.7 +0.3**
comp=Z,103nm,1.4s
H17A LR LR
comp=Z,11µm,19.0s
H17A Grant Village 87.45 330 P **P 14 28 58.8 +1.4**
baz=32,SNR=31
B06A Marblemount 87.45 339 PFAKE 14 29 10.0 +13
B06A LR LR
comp=Z,6µm,18.0s
SKJI Sukabumi 87.56 101 P **P 14 28 58.6 +0.7**
YPP Pitchstone Pla 87.64 330 *eP* **P 14 28 58.6 +0.3**
comp=Z,242nm,1.8s
YPP LR LR
comp=Z,7µm,20.0s
Z41A Richland Creek 87.71 312 PFAKE 14 29 10.0 +12
Z41A LR LR
comp=Z,3µm,18.0s
FLWY Flagg Ranch 87.76 330 *eP* **P 14 28 58.4 -0.4**
comp=Z,316nm,1.8s
FLWY LR LR
comp=Z,4µm,19.0s
PGC Sidney 87.87 340 PFAKE 14 29 10.0 +11
PGC LR LR
comp=Z,5µm,22.0s
PHWY Pilot Hill 87.91 325 *eP* **P 14 28 58.6 -1.1**
comp=Z,76nm,0.9s
PHWY LR LR
comp=Z,5µm,18.0s
MOOW Moose Ponds 88.06 330 *eP* **P 14 28 59.7 -0.6**
comp=Z,56nm,1.5s
MOOW LR LR
comp=Z,5µm,19.0s
LOHW Long Hollow 88.12 330 *eP* **P 14 28 59.7 -0.8**
comp=Z,41nm,1.5s
LOHW LR LR
comp=Z,5µm,19.0s
MTDJ Mount Denham 88.18 292 PFAKE 14 29 10.0 +8.9
MTDJ LR LR
comp=Z,2µm,21.0s
DUB01 Friburgo-RJ 88.19 239 *eP* **P 14 29 01.5 +0.7**
LEM Lembang 88.25 100 P **P 14 29 01.3 -0.1**
comp=Z,28nm,0.9s,baz=248,slow=3.4,SNR=13
LEM Lembang 88.25 100 P **P 14 29 01.3 -0.1**
LEM pmax pmax
comp=Z,39nm,1.1s
LEM Lembang 88.25 100 P **P 14 29 00.2 -1.2**
E09A Wood Farm, Sta 88.26 336 *eP* **P 14 29 00.8 0.0**
E09A LR LR
comp=Z,4µm,20.0s
SNOW Snow King Moun 88.31 330 PFAKE 14 29 10.0 +8.5
SNOW LR LR
comp=Z,6µm,19.0s
RWWY Rawlins 88.34 327 PFAKE 14 29 10.0 +8.3
RWWY LR LR
comp=Z,9µm,19.0s
TPAW Teton Pass 88.36 330 *eP* **P 14 29 01.1 -0.6**
comp=Z,38nm,1.4s
TPAW LR LR
comp=Z,5µm,18.0s
LTY Liberty 88.36 338 PFAKE 14 29 10.0 +8.6
LTY LR LR
comp=Z,6µm,18.0s
BW06 Boulder Array 88.42 329 *eP* **P 14 28 59.9 -2.2**
BW06 LR LR
comp=Z,7µm,19.0s
BW06 Boulder Array 88.42 329 P **P 14 29 00.6 -1.4**
baz=33,SNR=13
PD31 Pinedale Array 88.42 329 *eP* **P 14 29 00.1 -1.9**
PDAR Pinedale Array 88.42 329 P **P 14 29 00.8 -1.2**
comp=Z,5.1nm,0.8s,baz=55,slow=4.4,SNR=46
PDAR PP **PP 14 32 32.0 +3.1**
comp=Z,4.5nm,1.0s,baz=40,slow=7.2,SNR=3.4
PDAR LR LR 15 09 15.3
comp=Z,4µm,20.4s,baz=38,slow=36
PDAR Pinedale Array 88.42 329 *eP* **P 14 28 59.9 -2.1**
PDAR PP **PP 14 32 32.0 +3.1**
REDW Red Top Meadow 88.43 330 *eP* **P 14 29 00.7 -1.4**
comp=Z,97nm,1.9s
REDW LR LR
comp=Z,6µm,19.0s
F10A Beach Ranch, E 88.45 335 *eP* **P 14 29 00.7 -1.1**
comp=Z,37nm,1.1s
F10A LR LR
comp=Z,4µm,18.0s
N23A Red Feather La 88.45 325 *eP* **P 14 29 01.2 -1.1**
comp=Z,82nm,1.1s
N23A LR LR
comp=Z,6µm,18.0s
N23A Red Feather La 88.45 325 P **P 14 29 01.7 -0.5**
baz=35,SNR=37
KSCO Kaye Shedlock' 88.45 322 *eP* **P 14 29 01.3 -0.8**
comp=Z,101nm,1.0s
KSCO LR LR
comp=Z,4µm,18.0s
KSCO Kaye Shedlock' 88.45 322 P **P 14 29 01.7 -0.4**
baz=37,SNR=6.6
PMNB Patos De Minas 88.53 244 *eP* **P 14 29 03.0 +0.5**
JCJI Jatiwangi 88.53 100 P **P 14 29 05.1 +2.5**
E08A Dider Farm, El 88.57 336 *eP* **P 14 29 01.9 -0.4**
comp=Z,37nm,1.1s
E08A LR LR
comp=Z,7µm,18.0s
E07A Sunnyside 88.75 337 *eP* **P 14 29 03.0 -0.2**
comp=Z,92nm,2.0s
E07A LR LR
comp=Z,5µm,19.0s
HAWA Hanford 88.80 337 *eP* **P 14 29 03.4 0.0**
comp=Z,29nm,0.9s
HAWA LR LR
comp=Z,5µm,19.0s
D05A Enumclaw 88.81 339 PFAKE 14 29 10.0 +6.6
D05A LR LR
comp=Z,6µm,18.0s
CISI Cisompet, Garu 88.87 101 *eP* **P 14 29 02.6 -1.6**
comp=Z,1µm,1.7s
CISI LR LR
comp=Z,2µm,20.0s
CISI Cisompet, Garu 88.87 101 P **P 14 29 03.4 -0.8**
AHID Auburn Hatcher 89.03 330 PFAKE 14 29 20.0 +15
AHID LR LR
comp=Z,4µm,21.0s
VAS01 Vassouras-RJ 89.04 240 *eP* **P 14 29 05.8 +1.1**
BSCB Bom Sucesso 89.06 242 *eP* **P 14 29 05.4 +0.4**
SDV Santo Domingo 89.11 281 *eP* **P 14 29 04.5 -1.1**
comp=Z,76nm,1.4s
SDV LR LR
comp=Z,1µm,20.0s
SDV Santo Domingo 89.11 281 *eP* **P 14 29 05.1 -0.5**
XMIS Christmas Isla 89.12 104 PFAKE 14 29 20.0 +15
XMIS LR LR
comp=Z,2µm,19.0s
NLWA Neilton Lookou 89.14 340 PFAKE 14 29 20.0 +15
NLWA LR LR
comp=Z,7µm,22.0s
LON Longmire 89.15 338 PFAKE 14 29 20.0 +15
LON LR LR
comp=Z,7µm,20.0s
ISCO Idaho Springs 89.19 325 *eP* **P 14 29 04.6 -1.2**
comp=Z,47nm,1.0s
ISCO LR LR
comp=Z,6µm,19.0s
ISCO Idaho Springs 89.19 325 *eP* **P 14 29 04.6 -1.2**
ISCO pmax pmax
comp=Z,47nm,1.0s
ISCO MLR MLR
comp=Z,6µm,19.0s
ISCO Idaho Springs 89.19 325 P **P 14 29 05.0 -0.7**
baz=35,SNR=26
F07A Phinny Hill Vi 89.37 337 *eP* **P 14 29 05.8 -0.3**
comp=Z,54nm,1.3s
F07A LR LR
comp=Z,7µm,18.0s
IPMB Ipameri, GO 89.40 246 *eP* **P 14 29 07.2 +0.6**
BMO Blue Mountains 89.46 335 *eP* **P 14 29 05.1 -1.6**
comp=Z,32nm,1.1s
BMO LR LR
comp=Z,5µm,20.0s
BMO Blue Mountains 89.46 335 *eP* **P 14 29 05.1 -1.6**
BMO pmax pmax
comp=Z,33nm,1.1s
BMO MLR MLR
comp=Z,5µm,20.0s
CMJI Cimerak 89.49 100 P **P 14 29 08.1 +1.0**
HLID Hailey 89.59 332 *eP* **P 14 29 06.5 -0.9**
HLID LR LR
comp=Z,6µm,18.0s
HLID Hailey 89.59 332 P **P 14 29 07.1 -0.3**
baz=30,SNR=13
G08A Pilot Rock 89.61 336 *eP* **P 14 29 06.4 -1.0**
comp=Z,24nm,1.4s
G08A LR LR
comp=Z,7µm,18.0s
Q24A Divide 89.66 324 *eP* **P 14 29 06.7 -1.3**
comp=Z,134nm,1.6s
Q24A LR LR
comp=Z,5µm,18.0s
Q24A Divide 89.66 324 P **P 14 29 07.0 -1.0**
baz=36,SNR=19
NATX Nacogdoches 89.87 313 *eP* **P 14 29 08.8 +0.2**
comp=Z,69nm,1.0s
NATX LR LR
comp=Z,3µm,19.0s
WMOK Wichita Mounta 89.87 317 *eP* **P 14 29 07.5 -1.2**
WMOK LR LR
comp=Z,4µm,19.0s
WMOK Wichita Mounta 89.87 317 *eP* **P 14 29 07.5 -1.2**
WMOK MLR MLR
comp=Z,4µm,19.0s
WMOK Wichita Mounta 89.87 317 P **P 14 29 08.1 -0.6**
baz=40,SNR=30
O20A White River Ci 90.07 326 *eP* **P 14 29 08.2 -1.5**
comp=Z,59nm,1.3s
O20A White River Ci 90.07 326 P **P 14 29 08.9 -0.8**
baz=34,SNR=9.1
MTKI Muara Teweh, K 90.10 91 P **P 14 29 11.6 +1.6**
G06A Carlson Farm, 90.18 337 *eP* **P 14 29 08.8 -1.1**
comp=Z,101nm,1.8s
G06A LR LR
comp=Z,6µm,19.0s
SMCO Snowmass 90.31 325 *eP* **P 14 29 09.3 -1.8**
comp=Z,35nm,1.3s
SMCO LR LR
comp=Z,6µm,19.0s
HVU Hansel Valley 90.52 330 *eP* **P 14 29 10.3 -1.4**
comp=Z,103nm,1.8s
HVU LR LR
comp=Z,4µm,22.0s
HVU Hansel Valley 90.52 330 *eP* **P 14 29 10.3 -1.4**
HVU pmax pmax
comp=Z,103nm,1.8s
HVU MLR MLR
comp=Z,4µm,22.0s
TCUT Toone Canyon 90.55 329 *eP* **P 14 29 10.5 -1.6**
comp=Z,106nm,1.9s
TCUT LR LR
comp=Z,8µm,19.0s
T25A Trinidad 90.79 322 *eP* **P 14 29 11.8 -1.4**
comp=Z,56nm,0.9s
T25A LR LR
comp=Z,4µm,18.0s
T25A Trinidad 90.79 322 P **P 14 29 12.4 -0.8**
baz=36,SNR=33
SPUT South Promonto 90.80 330 *eP* **P 14 29 12.1 -1.0**
comp=Z,86nm,1.9s
SPUT LR LR
comp=Z,3µm,21.0s
SDCO Great Sand Dun 90.81 323 *eP* **P 14 29 11.5 -1.9**
comp=Z,58nm,1.2s
SDCO LR LR
comp=Z,5µm,18.0s
SDCO Great Sand Dun 90.81 323 P **P 14 29 11.8 -1.5**
baz=36,SNR=53
I07A Izee 90.87 336 PFAKE 14 29 20.0 +6.7
I07A LR LR
comp=Z,4µm,22.0s
JLU Jordanelle 91.01 329 *eP* **P 14 29 13.0 -1.2**
comp=Z,53nm,1.5s
JLU LR LR
comp=Z,6µm,18.0s
CTU Camp Tracy 91.05 329 *eP* **P 14 29 13.0 -1.3**
comp=Z,23nm,1.1s
CTU LR LR
comp=Z,4µm,20.0s
J08A Circle Bar Ran 91.18 335 *eP* **P 14 29 13.6 -1.1**
comp=Z,36nm,1.5s
J08A LR LR
comp=Z,5µm,20.0s
AMTX Amarillo 91.25 319 *eP* **P 14 29 13.3 -1.9**
comp=Z,12nm,1.0s
AMTX LR LR
comp=Z,6µm,18.0s
WHTX Lake Whitney, 91.26 315 *eP* **P 14 29 13.6 -1.5**
comp=Z,34nm,0.8s
WHTX LR LR
comp=Z,4µm,18.0s
WHTX Lake Whitney, 91.26 315 P **P 14 29 14.9 -0.2**
baz=40,SNR=7.6
P18A Preston Nutter 91.34 327 *eP* **P 14 29 14.1 -1.7**
P18A LR LR
comp=Z,7µm,19.0s
BGU Big Grassy Mou 91.35 330 *eP* **P 14 29 14.5 -1.1**
comp=Z,30nm,1.2s
BGU LR LR
comp=Z,3µm,20.0s
S22A 4UR Ranch, Cre 91.42 324 *eP* **P 14 29 15.0 -1.1**
comp=Z,37nm,0.9s
S22A LR LR
comp=Z,6µm,22.0s
S22A 4UR Ranch, Cre 91.42 324 P **P 14 29 15.5 -0.7**
baz=35,SNR=46
COR Corvallis 91.56 338 PFAKE 14 29 30.0 +14
COR LR LR
comp=Z,4µm,20.0s
MPU Maple Canyon 91.58 329 *eP* **P 14 29 15.5 -1.3**
comp=Z,63nm,1.6s
MPU LR LR
comp=Z,6µm,19.0s
PINE Pine Mountain 91.58 336 *eP* **P 14 29 16.1 -0.6**
comp=Z,212nm,1.9s
PINE LR LR
comp=Z,4µm,20.0s
P17A Butcher Ranch, 91.67 328 PFAKE 14 29 30.0 +13
P17A LR LR
comp=Z,6µm,19.0s
BB19B Bebedouro 91.68 244 *eP* **P 14 29 17.1 0.0**
PV21 Cone Mtn., Par 91.69 326 *eP* **P 14 29 16.1 -1.2**
PV21 LR LR
comp=Z,4µm,19.0s
PV23 Carpenter Ridg 91.80 326 *eP* **P 14 29 16.4 -1.4**
comp=Z,51nm,1.1s
PV23 LR LR
comp=Z,5µm,18.0s
NLU North Lily Min 91.81 329 *eP* **P 14 29 16.4 -1.4**
comp=Z,16nm,1.2s
NLU LR LR
comp=Z,6µm,20.0s
PV09 Paradox Valley 91.81 326 *eP* **P 14 29 16.8 -1.2**
PV12 Saucer Basin, 91.82 326 *eP* **P 14 29 16.8 -1.1**
comp=Z,85nm,1.3s
PV11 David Mesa, Pa 91.87 326 *eP* **P 14 29 16.9 -1.2**
comp=Z,113nm,1.5s
PV11 LR LR
comp=Z,4µm,21.0s
PV14 Lion Creek, Pa 91.87 326 *eP* **P 14 29 16.7 -1.5**
comp=Z,91nm,1.5s
PV14 LR LR
comp=Z,5µm,19.0s
PV01 Paradox Valley 91.87 325 *eP* **P 14 29 16.9 -1.3**
PV20 West Nyswonger 91.87 326 *eP* **P 14 29 16.8 -1.3**
comp=Z,82nm,1.5s
PV20 LR LR
comp=Z,4µm,18.0s
PV10 Paradox Valley 91.87 326 *eP* **P 14 29 17.0 -1.3**
PV16 Nyswonger Mesa 91.88 326 *eP* **P 14 29 16.8 -1.4**
comp=Z,85nm,1.5s
PV16 LR LR
comp=Z,4µm,19.0s
PV02 Paradox Valley 91.88 326 *eP* **P 14 29 16.8 -1.5**
comp=Z,58nm,1.4s
PV03 Paradox Valley 91.89 326 *eP* **P 14 29 16.9 -1.4**
DUG Dugway, Tooele 91.89 329 *eP* **P 14 29 16.8 -1.4**
comp=Z,20nm,1.0s
DUG LR LR
comp=Z,4µm,20.0s
DUG Dugway, Tooele 91.89 329 *eP* **P 14 29 16.8 -1.4**
DUG pmax pmax
comp=Z,20nm,1.0s
DUG MLR MLR
comp=Z,4µm,20.0s
DUG Dugway, Tooele 91.89 329 P **P 14 29 17.3 -0.9**
baz=31,SNR=21
RCLB Rio Claro- Sao 91.90 242 *eP* **P 14 29 19.1 +1.0**
PV19 Morning Glory 91.91 326 *eP* **P 14 29 17.0 -1.3**
comp=Z,65nm,1.5s
PV19 LR LR
comp=Z,4µm,18.0s

PV17 **East Wray Mesa** 91.92 326 eP P 14 29 17.2 -1.2
comp=Z,88nm,1.3s
PV17 LR LR
comp=Z,5μm,21.0s
ABTX **Abilene, Hawle** 91.96 316 eP P 14 29 16.7 -1.7
comp=Z,33nm,1.0s
ABTX LR LR
comp=Z,4μm,18.0s
ABTX **Abilene, Hawle** 91.96 316 P P 14 29 17.8 -0.6
baz=39,SNR=6.3
PV13 **Radium Mtn., P** 91.96 326 eP P 14 29 17.2 -1.4
comp=Z,60nm,1.4s
PV13 LR LR
comp=Z,4μm,19.0s
TMUT **Trail Mountain** 92.02 328 eP P 14 29 17.4 -1.5
comp=Z,23nm,1.3s
TMUT LR LR
comp=Z,6μm,18.0s
I04A **Tendick Farm,** 92.02 337 P P 14 29 17.8 -0.7
baz=24
WVOR **Wild Horse Val** 92.06 334 eP P 14 29 17.5 -1.3
comp=Z,91nm,1.9s
WVOR LR LR
comp=Z,6μm,20.0s
WVOR **Wild Horse Val** 92.06 334 eP P 14 29 17.5 -1.3
WVOR pmax pmax
comp=Z,91nm,1.9s
WVOR MLR MLR
comp=Z,6μm,20.0s
ITRB **Iturama** 92.06 246 eP P 14 29 20.2 +1.3
J05D **Fort Rock, OR** 92.13 336 P P 14 29 19.5 +0.4
baz=25,SNR=5.1
PV05 **Paradox Valley** 92.15 326 eP P 14 29 17.7 -1.8
435B **Jarrell** 92.25 314 eP P 14 29 18.6 -1.1
comp=Z,49nm,1.1s
435B LR LR
comp=Z,6μm,19.0s
435B **Jarrell** 92.25 314 P P 14 29 19.4 -0.3
baz=40
Q16A **Castle Valley** 92.32 328 eP P 14 29 18.4 -1.8
Q16A LR LR
comp=Z,5μm,19.0s
ELK **Elko** 92.35 331 eP P 14 29 18.9 -1.4
comp=Z,65nm,1.5s
ELK LR LR
comp=Z,4μm,19.0s
ELK **Elko** 92.35 331 eP P 14 29 18.9 -1.4
ELK pmax pmax
comp=Z,65nm,1.5s
ELK MLR MLR
comp=Z,4μm,19.0s
MSTX **Muleshoe** 92.52 319 eP P 14 29 19.4 -1.7
comp=Z,54nm,1.8s
MSTX LR LR
comp=Z,5μm,20.0s
MVCO **Mesa Verde** 92.61 325 eP P 14 29 19.9 -1.7
comp=Z,60nm,1.5s
MVCO LR LR
comp=Z,6μm,19.0s
SPB **Sao Paulo** 92.62 241 PFAKE 14 29 30.0 +8.7
SPB LR LR
comp=Z,4μm,21.0s
MSU **Marysvale** 93.08 328 eP P 14 29 21.6 -2.1
MSU **Marysvale** 93.08 328 eP P 14 29 21.7 -2.1
MOD **Modoc Plateau** 93.08 335 eP P 14 29 22.6 -1.0
comp=Z,37nm,1.1s
MOD LR LR
comp=Z,5μm,20.0s
TCRU **Three Creeks R** 93.11 328 PFAKE 14 29 30.0 +6.1
TCRU LR LR
comp=Z,7μm,18.0s
DAV **Davao City (W)** 93.20 78 PFAKE 14 29 30.0 +5.6
DAV LR LR
comp=Z,2μm,21.0s
HUMO **Hull Mountain** 93.27 337 eP P 14 29 22.9 -1.4
comp=Z,67nm,1.8s
HUMO LR LR
comp=Z,4μm,20.0s
BMN **Battle Mountai** 93.34 332 PFAKE 14 29 40.0 +15
BMN LR LR
comp=Z,5μm,19.0s
L04D **Klamath Falls** 93.42 337 P P 14 29 24.7 -0.4
baz=24,SNR=11
MTPU **Mount Pierson** 93.48 328 eP P 14 29 24.4 -1.3
comp=Z,39nm,1.4s
MTPU LR LR
comp=Z,6μm,20.0s
ANMO **Albuquerque** 93.54 322 eP P 14 29 24.7 -1.1
comp=Z,15nm,1.0s
ANMO LR LR
comp=Z,6μm,22.0s
ANMO **Albuquerque** 93.54 322 ceP P 14 29 24.8 -1.1
ANMO pmax pmax
comp=Z,10.0nm,1.0s
ANMO MLR MLR
comp=Z,10μm,20.0s
M04C **Macdoel** 93.68 336 P P 14 29 27.7 +1.4
baz=25,SNR=8.3
JCT **Junction City** 93.70 315 eP P 14 29 24.9 -1.6
comp=Z,20nm,1.1s
JCT LR LR
comp=Z,3μm,18.0s
JCT **Junction City** 93.70 315 eP P 14 29 24.9 -1.6
JCT pmax pmax
comp=Z,20nm,1.1s
JCT MLR MLR
comp=Z,3μm,18.0s
PSUT **Pine Spring** 93.73 329 eP P 14 29 26.3 -0.4
PSUT LR LR
comp=Z,3μm,20.0s
FRTB **Fartura** 93.91 243 eP P 14 29 28.6 +1.2
PKCU **Pink Cliffs** 94.04 328 eP P 14 29 27.3 -1.0
comp=Z,29nm,1.1s
PKCU LR LR
comp=Z,4μm,19.0s
SZCU **Shurtz Canyon** 94.23 328 eP P 14 29 28.4 -0.7
comp=Z,7.2nm,1.0s
SZCU LR LR
comp=Z,6μm,19.0s
TEIG **Tepich** 94.25 301 PFAKE 14 29 40.0 +11
TEIG LR LR
comp=Z,3μm,19.0s
BNM **Barren Site** 94.27 322 eP P 14 29 28.1 -1.2
JAGI **Jajag, Banyuwa** 94.28 97 PFAKE 14 29 40.0 +11
JAGI LR LR
comp=Z,2μm,21.0s
LAZ **Ladron** 94.30 322 eP P 14 29 28.6 -0.8
CCUT **Cedar City** 94.38 328 eP P 14 29 28.5 -1.2
comp=Z,32nm,1.8s
CCUT LR LR
comp=Z,8μm,18.0s
LENM **Lemitar** 94.42 322 eP P 14 29 28.8 -1.1
ROSC **El Rosal** 94.50 280 LR LR 15 10 35.6
comp=Z,803nm,19.7s,baz=58,slow=35
ROSC **El Rosal** 94.50 280 PFAKE 14 29 40.0 +9.2
ROSC LR LR
comp=Z,800nm,19.0s
R11A **Troy Canyon, C** 94.57 330 eP P 14 29 29.7 -0.9
comp=Z,50nm,1.9s
R11A LR LR
comp=Z,4μm,20.0s
R11A **Troy Canyon, C** 94.57 330 P P 14 29 30.5 0.0
baz=29,SNR=12
KNB **Kanab** 94.62 328 PFAKE 14 29 40.0 +9.2
KNB LR LR
comp=Z,4μm,19.0s
N02D **Trinity Center** 94.68 336 P P 14 29 31.4 +0.6
baz=24
MYIG **Mrida** 94.70 302 PFAKE 14 29 40.0 +8.8
MYIG LR LR
comp=Z,3μm,20.0s
PAHR **Pah Rah Range** 94.75 334 eP P 14 29 30.8 -0.5
comp=Z,76nm,1.9s
PAHR LR LR
comp=Z,6μm,19.0s
LCMT **Little Creek M** 94.80 328 eP P 14 29 32.3 +0.8
LCMT LR LR
comp=Z,5μm,19.0s
KVN **Kaiserville** 94.88 332 eP P 14 29 30.9 -1.0
comp=Z,22nm,1.1s
KVN LR LR
comp=Z,4μm,20.0s
KVN **Kaiserville** 94.88 332 eP P 14 29 30.9 -1.0
KVN pmax pmax
comp=Z,22nm,1.1s
KVN MLR MLR
comp=Z,4μm,20.0s

KVTX **Kingsville** 94.88 312 PFAKE 14 29 40.0 +8.1
KVTX LR LR
comp=Z,4μm,20.0s
W18A **Petrified Fore** 94.90 325 PFAKE 14 29 40.0 +7.9
W18A LR LR
comp=Z,6μm,19.0s
U15A **North Rim** 94.90 327 eP P 14 29 30.1 -2.1
comp=Z,39nm,1.8s
U15A LR LR
comp=Z,4μm,19.0s
BEKR **Beckworth** 94.93 334 eP P 14 29 30.5 -1.7
comp=Z,35nm,1.5s
BEKR LR LR
comp=Z,5μm,19.0s
WDC **Whiskeytown Da** 94.99 336 PFAKE 14 29 40.0 +7.8
WDC LR LR
comp=Z,4μm,20.0s
KHMM **Horse Mountain** 95.08 337 PFAKE 14 29 40.0 +7.2
KHMM LR LR
comp=Z,4μm,19.0s
833A **Chaparral WMA,** 95.14 313 PFAKE 14 29 40.0 +6.9
833A LR LR
comp=Z,4μm,19.0s
JCC **Jacoby Creek,** 95.23 337 PFAKE 14 29 40.0 +6.8
JCC LR LR
comp=Z,4μm,18.0s
WUAZ **Wupatki** 95.29 326 eP P 14 29 32.4 -1.5
WUAZ LR LR
comp=Z,3μm,19.0s
WUAZ **Wupatki** 95.29 326 P P 14 29 33.7 -0.1
baz=32,SNR=12
YERR **Yerington** 95.34 333 eP P 14 29 33.0 -1.0
comp=Z,64nm,1.5s
RYN **Ryan** 95.41 332 eP P 14 29 33.4 -0.9
comp=Z,9.7nm,1.0s
RYN LR LR
comp=Z,5μm,22.0s
NV11 **Mina Array Sit** 95.45 332 eP P 14 29 33.6 -0.9
comp=Z,1.0nm,0.9s
NV01 **Mina Array Sit** 95.50 332 eP P 14 29 33.8 -1.0
NVAR **Mina Array Bea** 95.50 332 P P 14 29 34.6 -0.3
comp=Z,6.1nm,0.8s,baz=42,slow=3.5,SNR=39
NVAR PP PP 14 33 23.5 -1.2
comp=Z,2.5nm,1.1s,baz=38,slow=5.6,SNR=4.4
NVAR LR LR 15 14 46.3
comp=Z,4μm,18.1s,baz=32,slow=37
ORV **Oroville** 95.59 335 eP P 14 29 34.1 -0.8
comp=Z,36nm,1.4s
ORV LR LR
comp=Z,5μm,20.0s
ORV **Oroville** 95.59 335 eP P 14 29 34.1 -0.8
ORV pmax pmax
comp=Z,36nm,1.4s
ORV MLR MLR
comp=Z,5μm,20.0s
RUBR **Rubicon Trail** 95.59 334 PFAKE 14 29 50.0 +15
RUBR LR LR
comp=Z,6μm,20.0s
MNTX **Cornudas Mount** 95.65 320 eP P 14 29 33.8 -1.6
comp=Z,18nm,1.0s
MNTX LR LR
comp=Z,7μm,19.0s
MNTX **Cornudas Mount** 95.65 320 P P 14 29 34.0 -1.4
baz=36,SNR=21
KMRM **Mail Ridge** 95.68 337 eP P 14 29 35.2 -0.2
comp=Z,108nm,1.4s
KMRM LR LR
comp=Z,8μm,18.0s
WAKR **Walker** 95.84 333 eP P 14 29 36.7 +0.3
comp=Z,30nm,1.4s
WAKR LR LR
comp=Z,6μm,20.0s
AFDM **Forest Hills D** 95.96 334 eP P 14 29 36.0 -0.7
comp=Z,32nm,1.5s
AFDM LR LR
comp=Z,4μm,19.0s
SHPR **Sheep Range** 96.01 329 eP P 14 29 38.7 +1.5
SHPR LR LR
comp=Z,6μm,19.0s
TPNV **Topopah Spring** 96.04 330 PFAKE 14 29 50.0 +13
TPNV LR LR
comp=Z,4μm,18.0s
KCPM **Cahto Peak** 96.13 337 PFAKE 14 29 50.0 +12
KCPM LR LR
comp=Z,6μm,19.0s
121A **Cookes Peak, D** 96.15 322 P P 14 29 37.3 -0.6
baz=34,SNR=7.0
EPT **El Paso** 96.15 320 PFAKE 14 29 50.0 +12
EPT LR LR
comp=Z,5μm,20.0s
LUWI **Luwuk** 96.24 86 PFAKE 14 29 50.0 +12
LUWI LR LR
comp=Z,800nm,22.0s
X16A **Lo Mia Camp, P** 96.25 325 eP P 14 29 36.8 -1.5
comp=Z,14nm,0.9s
X16A LR LR
comp=Z,3μm,20.0s
AQDB **Aquidauana** 96.36 249 eP P 14 29 39.4 +0.8
MLAC **Mammoth, Mammo** 96.41 332 P P 14 29 38.7 -0.3
baz=27
PTGB **Pitanga** 96.53 243 eP P 14 29 41.0 +1.6
CMB **Columbia Colle** 96.59 334 PFAKE 14 29 50.0 +10
CMB LR LR
comp=Z,5μm,20.0s
HOPS **Hopland Field** 96.61 336 PFAKE 14 29 50.0 +10
HOPS LR LR
comp=Z,3μm,21.0s
TX31 **Lajitas Ar. Si** 96.67 317 eP P 14 29 38.7 -1.4
TXAR **Lajitas Array** 96.67 317 P P 14 29 39.5 -0.7
comp=Z,8.9nm,0.8s,baz=68,slow=3.7,SNR=57
TXAR LR LR 15 12 05.7
comp=Z,3μm,21.5s,baz=0.0,slow=35
GDXM **Geysers** 96.69 336 PFAKE 14 29 50.0 +10
GDXM LR LR
comp=Z,8μm,20.0s
FURC **Furnace Creek,** 96.70 330 P P 14 29 39.2 -0.8
baz=28
W13A **Hualapai Mount** 96.71 328 PFAKE 14 29 50.0 +10
W13A LR LR
comp=Z,5μm,20.0s
TER01 **Tubaro-SC** 97.04 239 eP Pdif 14 29 42.7 +1.1
DAC **Darwin (Calif)** 97.15 331 eP P 14 29 41.4 -0.9
comp=Z,12nm,1.4s
DAC LR LR
comp=Z,4μm,19.0s
DAC **Darwin (Calif)** 97.15 331 eP P 14 29 41.4 -0.9
DAC pmax pmax
comp=Z,12nm,1.4s
DAC MLR MLR
comp=Z,4μm,19.0s
CWC **Cottonwood Cre** 97.19 331 P P 14 29 41.0 -1.5
baz=27
LDFC **Landfair** 97.22 328 PFAKE 14 29 50.0 +7.3
LDFC LR LR
comp=Z,6μm,21.0s
MPMC **Manual Prospec** 97.30 331 P P 14 29 41.9 -1.2
baz=28
MCCM **Marconi Confer** 97.32 335 PFAKE 14 29 50.0 +7.2
MCCM LR LR
comp=Z,4μm,20.0s
SIV **San Ignacio** 97.48 256 PP PP 14 33 37.5 -3.8
comp=Z,3.1nm,1.0s,baz=86,slow=13,SNR=3.5
GSC **Goldstone, Bar** 97.70 330 PFAKE 14 30 00.0 +15
GSC LR LR
comp=Z,5μm,19.0s
TUC **Tucson** 97.73 324 eP P 14 29 44.8 -0.1
TUC LR LR
comp=Z,6μm,20.0s
TUC **Tucson** 97.73 324 eP P 14 29 44.8 -0.1
TUC MLR MLR
comp=Z,6μm,20.0s
LNIG **Linares** 97.81 311 PFAKE 14 30 00.0 +15
LNIG LR LR
comp=Z,2μm,19.0s
319A **Douglas** 97.81 322 PFAKE 14 30 00.0 +15
319A LR LR
comp=Z,6μm,18.0s
ISA **Isabella, Lake** 98.02 331 eP P 14 29 45.8 -0.3
comp=Z,34nm,0.3s
ISA LR LR
comp=Z,3μm,20.0s
ISA **Isabella, Lake** 98.02 331 eP P 14 29 45.8 -0.3
ISA pmax pmax
comp=Z,34nm,0.3s
ISA MLR MLR
comp=Z,3μm,20.0s
ISA **Isabella, Lake** 98.02 331 P P 14 29 45.4 -0.7
baz=27,SNR=14

SAO **San Andreas Ge** 98.10 334 PFAKE 14 30 00.0 +14
SAO LR LR
comp=Z,5μm,20.0s
Y12C **Blythe** 98.13 327 PFAKE 14 30 00.0 +13
Y12C LR LR
comp=Z,4μm,18.0s
HDC **Heredia** 98.39 290 PFAKE 14 30 00.0 +12
HDC LR LR
comp=Z,2μm,20.0s
EDW2 **Edwards Air Fo** 98.53 330 P Pdif 14 29 48.8 +0.4
baz=28
PAGB **Antelope Grade** 98.61 332 PFAKE 14 30 00.0 +11
PAGB LR LR
comp=Z,4μm,22.0s
113A **Mohawk Valley,** 98.66 326 PFAKE 14 30 00.0 +11
113A LR LR
comp=Z,4μm,20.0s
JTS **JuntasAbangare** 98.80 291 PFAKE 14 30 00.0 +10
JTS LR LR
comp=Z,1μm,20.0s
GLA **Glamis** 98.86 327 PFAKE 14 30 00.0 +10
GLA LR LR
comp=Z,5μm,20.0s
OSI **Osito Audit: C** 99.04 331 PFAKE 14 30 00.0 +9.3
OSI LR LR
comp=Z,5μm,19.0s
XPFO **Pion Flat** 99.05 329 PFAKE 14 30 00.0 +9.2
XPFO LR LR
comp=Z,4μm,20.0s
PFO **Pinyon Flats O** 99.05 329 PFAKE 14 30 00.0 +9.2
PFO LR LR
comp=Z,4μm,20.0s
MWC **Mount Wilson** 99.14 330 PFAKE 14 30 00.0 +8.7
MWC LR LR
comp=Z,3μm,18.0s
PASC **Pasadena Art C** 99.23 330 PFAKE 14 30 00.0 +8.5
PASC LR LR
comp=Z,3μm,20.0s
CCIG **Comitan** 99.62 300 PFAKE 14 30 00.0 +6.3
CCIG LR LR
comp=Z,3μm,21.0s
LVIG **Laguna Verde** 99.88 306 PFAKE 14 30 00.0 +5.5
LVIG LR LR
comp=Z,1μm,21.0s
CPE **Camp Elliot** 99.94 329 PFAKE 14 30 10.0 +15
CPE LR LR
comp=Z,4μm,20.0s
BAR **Barrett** 99.95 328 PFAKE 14 30 10.0 +15
BAR LR LR
comp=Z,3μm,22.0s
HSIG 100.57 322 PFAKE 14 30 10.0 +12
HSIG LR LR
comp=Z,4μm,18.0s
OTAV **Otavalo** 100.60 279 PFAKE 14 30 10.0 +12
OTAV LR LR
comp=Z,1μm,21.0s
ZAIG **Zacatecas** 101.24 312 PFAKE 14 30 10.0 +9.0
ZAIG LR LR
comp=Z,4μm,18.0s
UNM **Universidad Na** 101.88 308 PFAKE 14 30 10.0 +6.2
UNM LR LR
comp=Z,900nm,19.0s
SRIG **Santa Rosalia** 102.61 322 PFAKE 14 30 20.0 +13
SRIG LR LR
comp=Z,3μm,18.0s
SIJI **Sorong** 102.64 81 P Pdif 14 30 06.3 -0.6
comp=Z,4.7nm,0.7s,baz=323,slow=3.9,SNR=12
MOIG **Morelia** 102.83 309 PFAKE 14 30 20.0 +12
MOIG LR LR
comp=Z,2μm,22.0s
TLIG **Tlapa** 102.84 306 PFAKE 14 30 20.0 +12
TLIG LR LR
comp=Z,2μm,19.0s
SOEI **Soe** 102.86 92 PFAKE 14 30 20.0 +12
SOEI LR LR
comp=Z,2μm,22.0s
SLBS **Sierra La Lagu** 104.51 318 PFAKE 14 30 30.0 +15
SLBS LR LR
comp=Z,3μm,18.0s
MNMC **Minye Minye** 105.81 258 PFAKE 14 34 40.0 +6.1
MNMC LR LR
comp=Z,1μm,20.0s
GO01 **Chusmiza** 105.83 257 PFAKE 14 34 40.0 +5.8
GO01 LR LR
comp=Z,2μm,21.0s
PB11 **IPOC Station P** 106.23 258 PFAKE 14 34 50.0 +15
PB11 LR LR
comp=Z,2μm,20.0s
MBWA **Marble Bar** 106.31 104 PFAKE 14 34 50.0 +16
MBWA LR LR
comp=Z,2μm,21.0s
PB01 **IPOC Station P** 106.86 256 PFAKE 14 34 50.0 +14
PB01 LR LR
comp=Z,2μm,20.0s
NNA **Nana** 107.05 268 PFAKE 14 34 50.0 +14
NNA LR LR
comp=Z,1μm,18.0s
PB04 **IPOC Station P** 108.12 256 PFAKE 14 34 50.0 +12
PB04 LR LR
comp=Z,2μm,22.0s
MORW **Morawa** 108.25 113 PFAKE 14 34 50.0 +12
MORW LR LR
comp=Z,2μm,22.0s
SYO **Syowa Base** 108.86 175↑ eX Pdif 14 30 42.0 +8.9
PB10 **IPOC Station P** 109.11 255 PFAKE 14 34 50.0 +10
PB10 LR LR
comp=Z,2μm,21.0s
GO03 **Copiap** 111.21 251 PFAKE 14 34 50.0 +6.5
GO03 LR LR
comp=Z,2μm,20.0s
NWAO **Narrogin (SRO)** 111.30 116 PFAKE 14 34 50.0 +6.6
NWAO LR LR
comp=Z,1μm,20.0s
LCO **Las Campanas** 112.35 250 PFAKE 14 35 00.0 +14
LCO LR LR
comp=Z,2μm,21.0s
GO04 **Tololo Observa** 113.06 249 PFAKE 14 35 00.0 +13
GO04 LR LR
comp=Z,3μm,20.0s
PEL **Peldehue** 114.59 247 PFAKE 14 35 00.0 +10
PEL LR LR
comp=Z,4μm,21.0s
GO05 **Huala** 116.45 245 PFAKE 14 35 00.0 +6.7
GO05 LR LR
comp=Z,4μm,21.0s
WRA **Warramunga Arr** 116.72 94 PKP PKPdf 14 34 51.5 -2.7
comp=Z,1.8nm,0.9s,baz=320,slow=1.9,SNR=14
WRA PKKPab PKKPab 14 45 22.9 -1.6
comp=Z,1.3nm,1.1s,baz=123,slow=4.4,SNR=5.5
WB2 **Warramunga Arr** 116.73 94 ePKPdf PKPdf 14 34 53.0 -1.2
FORT **Forrest** 117.89 108 PFAKE 14 35 10.0 +14
FORT LR LR
comp=Z,2μm,22.0s
PLCA **Paso Flores** 118.39 239 PKP PKPdf 14 34 55.7 -1.2
comp=Z,3.1nm,0.9s,baz=206,slow=4.6,SNR=3.9
GO06 **Curarrehue** 118.44 241 PFAKE 14 35 10.0 +13
GO06 LR LR
comp=Z,3μm,20.0s
AS31 **Alice Springs** 118.47 98 ePKPdf PKPdf 14 34 55.4 -2.2
ASAR **Alice Springs** 118.47 98 PKP PKPdf 14 34 55.8 -1.8
comp=Z,5.2nm,0.8s,baz=322,slow=1.5,SNR=53
ASAR PKKPab PKKPbc 14 45 13.9 +0.4
comp=Z,1.0nm,0.9s,baz=124,slow=4.7,SNR=5.8
AS01 **Alice Springs** 118.51 98 ePKPdf PKPdf 14 34 55.1 -2.5
COEN **Coen** 120.00 83 PFAKE 14 35 10.0 +9.3
COEN LR LR
comp=Z,800nm,21.0s
PMG **Port Moresby** 120.17 76 PFAKE 14 35 10.0 +8.9
PMG LR LR
comp=Z,900nm,21.0s
NPOC **North of Pu'u** 121.25 1 PFAKE 14 35 10.0 +6.7
NPOC LR LR
comp=Z,3μm,21.0s
CASY **Casey** 123.66 151 PFAKE 14 35 20.0 +14
CASY LR LR
comp=Z,1μm,19.0s
BBOO **Buckleboo** 124.80 106 PFAKE 14 35 20.0 +10
BBOO LR LR
comp=Z,2μm,22.0s
CTA **Charters Tower** 125.99 87 PKP PKPdf 14 35 12.2 +0.1
comp=Z,14nm,0.9s,baz=245,slow=1.9,SNR=10
CTAO **Charters Tower** 125.99 87 ePKPdf PKPdf 14 35 10.6 -1.4
CTAO LR LR
comp=Z,1μm,20.0s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CTAO	Charters Tower	125.99	87	ePKIKP	PKPdf	14 35 10.6	-1.4
CTAO				MLR	MLR		
	comp=Z,1µm,20.0s						
STKA	Stephens Creek	128.51	102	PKP	PKPdf	14 35 16.8	+0.3
	comp=Z,4.4nm,0.8s,baz=232,slow=4.3,SNR=4.8						
QSPA	South Pole Qui	129.51	180	ePKPdf	PKPdf	14 35 15.4	-2.0
QSPA				LR	LR		
	comp=Z,2µm,19.0s						
HNR	Honiara	129.53	66	PFAKE		14 35 30.0	+10
HNR				LR	LR		
	comp=Z,1µm,20.0s						
EIDS	Eidsvold	132.60	90	PFAKE		14 35 40.0	+14
EIDS				LR	LR		
	comp=Z,1µm,22.0s						
TOO	Toolangi	133.81	107	PFAKE		14 35 40.0	+12
TOO				LR	LR		
	comp=Z,2µm,21.0s						
ARMA	Armidale	135.49	95	PFAKE		14 35 40.0	+8.6
ARMA				LR	LR		
	comp=Z,2µm,21.0s						
VNDA	Vanda	137.90	167	PKP	PKPdf	14 35 33.5	+0.7
	comp=Z,3.3nm,1.0s,baz=290,slow=6.0,SNR=7.1						
DZM	Mont Dzumac	142.49	74	eLR	LR	15 22 21.0	
	comp=Z,2µm,24.1s						
TAOE	Nuku Hiva Isla	146.75	334	eLR	LR	15 24 03.3	
	comp=Z,2µm,26.1s						
RKT	Rikitea	156.65	309	eSS	SS	14 59 54.8	-8.8
	comp=Z,494nm,29.0s						
RKT	Rikitea	156.65	309	eLR	LR	15 28 37.0	
	comp=Z,1µm,24.2s						
PPT2	Papeete2	157.59	348	eSS	SS	15 00 13.3	+1.0
	comp=Z,828nm,29.0s						
PPT2	Papeete2	157.59	348	eLR	LR	15 29 08.0	
	comp=Z,2µm,21.2s						
URZ	Urewera	157.89	95	ePKPab	PKPab	14 36 37.7	-1.5
TBI	Tubuai	163.19	344	eSS	SS	15 01 13.6	+2.6
	comp=Z,743nm,35.8s						
TBI	Tubuai	163.19	344	eLR	LR	15 31 53.6	
	comp=Z,4µm,24.8s						

BER 08 14:17:12.1±0.8, 58°.23N×6°.32E, h0^{km}, ML1.5, Explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNART	Snartemo	0.48	77	eP	Pg	14 17 20.4	-0.9
KMY	Karmoy	1.13	331	eP	Pg	14 17 31.8	-1.9
KMY				eS	Sg	14 17 46.8	-1.6
KMY				IAML		14 17 49.9	
	comp=Z,21nm,0.4s						
HOMB	Homborsund	1.16	87	eP	Pg	14 17 33.1	-1.1
ODD1	Odda	1.69	5	eP	Pn	14 17 41.0	-1.9
ODD1				eS	Sn	14 18 02.1	-3.2
ODD1				IAML		14 18 04.4	
	comp=Z,13nm,0.3s						
KONO	Kongsberg	2.21	49	eP	Pn	14 17 47.9	-2.1
KONO				eS	Sn	14 18 14.6	-3.6
KONO				IAML		14 18 21.4	
	comp=Z,3.3nm,0.4s						
ASK	Askoy	2.33	346	eS	Sn	14 18 18.2	-2.7
ASK				IAML		14 18 25.9	
	comp=Z,5.1nm,0.2s						
SUE	Sulen	2.94	345	eS	Sn	14 18 32.8	-3.1

DDA 08 14:22:43.0, 39°.79N×26°.07E, h9^{km}±3^{km}, ML2.6, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.06	343	IAML_P			
	comp=Z,8µm,0.1s						
BAYC	CANAKKALE_Bayr	0.37	97	IAML_P			
	comp=Z,2µm,0.1s						
BAYC				iP	Pb	14 22 51.0	-0.7
BAYC				iS	Sb	14 23 02.2	+4.6
AYVA	Ayvalik	0.68	135	IAML_P			
	comp=Z,1µm,0.2s						
AYVA				iP	Pg	14 22 56.4	+0.4
AYVA				iS	Sn	14 23 09.2	-0.2
KESN	Edirne-Kesan	1.14	24	IAML_P			
	comp=Z,319nm,0.1s						
KESN				iP	Pg	14 23 04.3	-0.6

*ISCJB **08** 14:23:06.6±0.6, 39°.69N±0°.03×25°.58E±0°.05, h4^{km}±7^{km}, Error ellipse: s-maj=6.9km s-min=3.7km az=148.6*
*THE **08** 14:23:06.9, 39°.66N×25°.52E, h4^{km}±2^{km}, ML3.0/4, Error ellipse: s-maj=4.0km s-min=0.9km az=46.0*
*ATH **08** 14:23:06.6, 39°.70N×25°.58E, h17^{km}±3^{km}, ML3.4/2, Error ellipse: s-maj=3.0km s-min=1.0km az=213.0*
ISC 08 14:23:06.8±1.0, **39°.69N**±0°.03×**25°.57E**±0°.04, **h11**^{km}±10^{km}, **n16, σ0^s.37**/26, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.36	304	P	Pg	14 23 13.9	-0.1
LIA				S	Sg	14 23 19.6	+0.8
LIA	Limnos Island	0.36	304	P	Pg	14 23 13.9	-0.1
LIA				S	Sg	14 23 19.3	+0.4
EFSA	Agios Efstrati	0.48	251	P	Pb	14 23 16.9	-0.2
EFSA				S	Sg	14 23 22.6	+0.2
SIGR	SIGRI	0.53	156	P	Pg	14 23 16.6	-0.5
SIGR				S	Sg	14 23 24.1	0.0
SIGR				AML	AML	14 23 24.6	
	comp=E,9199µm,0.3s						
SIGR				AML	AML	14 23 24.8	
	comp=N,12560µm,0.3s						
SIGR	SIGRI	0.53	156	P	Pg	14 23 16.6	-0.5
SIGR				S	Sg	14 23 23.9	-0.2
PRK	Paraskevi	0.70	129	P	Pg	14 23 20.5	+0.2
PRK				S	Sg	14 23 29.8	+0.3
PRK				AML	AML	14 23 34.2	
	comp=N,6880µm,0.5s						
PRK				AML	AML	14 23 36.0	
	comp=E,5422µm,0.4s						
PRK	Paraskevi	0.70	129	P	Pb	14 23 20.8	-0.2
PRK				S	Sb	14 23 31.4	+0.8
SMTH	Samothraki Isl	0.78	358	P	Pg	14 23 21.8	0.0
SMTH				S	Sb	14 23 32.8	-0.1
SMTH	Samothraki Isl	0.78	358	P	Pg	14 23 21.5	-0.3
THAS	Thassos island	1.12	325	P	Pb	14 23 27.4	-0.8
PSRA	Psara	1.15	180	P	Pn	14 23 28.8	0.0
ALN	Alexandroupoli	1.25	17	P	Pn	14 23 30.1	-0.1
CHOS	Chios island	1.36	164	P	Pb	14 23 32.2	-0.1
CHOS	Chios island	1.36	164	P	Pb	14 23 32.1	-0.1
CHOS				S	Sn	14 23 49.9	+0.2
OUR	Ouranopolis	1.38	298	P	Pb	14 23 32.6	0.0
KAVA	Kavala	1.53	328	P	Pb	14 23 35.3	+0.1
KAVA				S	Sg	14 23 56.2	0.0

*DDA **08** 14:28:28.2, 39°.72N×25°.61E, h7^{km}±3^{km}, ML3.3*
*ATH **08** 14:28:28.5, 39°.71N×25°.60E, h27^{km}±1^{km}, ML2.7/4, Error ellipse: s-maj=2.1km s-min=1.2km az=215.0*
*ISK **08** 14:28:28.7, 39°.71N×25°.66E, h10^{km}, ML3.3/15*
*ISCJB **08** 14:28:29.3±0.3, 39°.70N±0°.02×25°.60E±0°.03, h18^{km}±5^{km}, Error ellipse: s-maj=4.3km s-min=3.1km az=35.6*
*THE **08** 14:28:29.1, 39°.70N×25°.58E, h7^{km}±1^{km}, ML2.5/4, Error ellipse: s-maj=1.9km s-min=0.6km az=230.0*
ISC 08 14:28:28.8±1.0, **39°.71N**±0°.02×**25°.61E**±0°.02, **h11**^{km}±9^{km}, **n52, σ0^s.42**/69, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.37	68	IAML_P			
	comp=Z,26µm,0.1s						
BOZC				iP	Pg	14 28 36.1	-0.1
LIA	Limnos Island	0.38	300	P	Pg	14 28 36.7	+0.3
LIA				S	Sg	14 28 42.3	+0.9
LIA				AML	AML	14 28 43.0	
	comp=E,2217µm,0.2s						
LIA				AML	AML	14 28 44.0	
	comp=N,1560µm,0.3s						
LIA	Limnos Island	0.38	300	P	Pg	14 28 36.7	+0.3
LIA				S	Sg	14 28 41.4	-0.1
GPNR	Gulpinar-Canak	0.48	122	PG	Pg	14 28 37.8	-0.4
GPNR				SG	Sg	14 28 44.7	+0.2
EFSA	Agios Efstrati	0.51	251	P	Pb	14 28 39.7	0.0
EFSA				S	Sb	14 28 46.9	-0.2
SIGR	SIGRI	0.53	159	P	Pg	14 28 38.6	-0.6
SIGR				S	Sg	14 28 46.3	0.0
SIGR				AML	AML	14 28 46.8	
	comp=E,1807µm,0.3s						
SIGR				AML	AML	14 28 46.9	
	comp=N,2840µm,0.6s						
SIGR	SIGRI	0.53	159	P	Pg	14 28 38.6	-0.6
SIGR				S	Sg	14 28 46.4	+0.2
GADA	Gvkgeada	0.53	25	PG	Pg	14 28 39.3	+0.1
GOKC	Gokceada-Canak	0.55	26	PG	Pg	14 28 39.7	+0.2
EZN	Ezine	0.56	78	PG	Pg	14 28 39.4	-0.5
EZN				SG	Sg	14 28 47.1	-0.2
PRK	Paraskevi	0.69	132	P	Pb	14 28 42.8	0.0
PRK				S	Sb	14 28 52.3	0.0
PRK				AML	AML	14 28 54.0	
	comp=E,1284µm,0.6s						
PRK				AML	AML	14 28 56.2	
	comp=N,1895µm,0.3s						
PRK	Paraskevi	0.69	132	P	Pb	14 28 42.8	0.0
PRK				S	Sb	14 28 52.8	+0.5
BAYC	CANAKKALE_Bayr	0.72	87	iP	Pg	14 28 42.2	-0.6
BAYC				iS	Sb	14 28 53.2	-0.2
SMTH	Samothraki Isl	0.77	356	P	Pb	14 28 43.9	-0.3
SMTH				S	Sb	14 28 54.5	-0.1
SMTH	Samothraki Isl	0.77	356	P	Pb	14 28 43.9	-0.3
SMTH				S	Sb	14 28 54.5	-0.1
AYVA	Ayvalik	0.93	115	iP	Pn	14 28 47.6	-0.1
AYVA				iS	Sb	14 29 00.0	+0.9
GELI	Tayfur-Gelibol	0.96	44	PG	Pg	14 28 46.9	-0.4
LPK	Lapseki	1.11	53	PG	Pb	14 28 49.3	-0.7
ENEZ	Enez	1.11	22	PN	Pb	14 28 49.9	-0.1
THAS	Thassos island	1.13	323	P	Pb	14 28 50.1	-0.2
THAS				S	Sn	14 29 06.2	+0.2
THAS				AML	AML	14 29 07.6	
	comp=N,955µm,0.2s						
THAS				AML	AML	14 29 08.5	
	comp=E,543µm,0.3s						
THAS	Thassos island	1.13	323	P	Pb	14 28 50.1	-0.2
PSRA	Psara	1.16	182	P	Pb	14 28 50.9	-0.1
ERIK	Erikli-Kesan	1.19	35	PN	Pb	14 28 50.9	-0.4
DKL	Dikili	1.19	122	PN	Pb	14 28 51.1	-0.2
ALN	Alexandroupoli	1.23	16	P	Pn	14 28 52.1	+0.1
ALN				S	Sn	14 29 08.8	+0.2
ALN	Alexandroupoli	1.23	16	P	Pn	14 28 52.1	+0.1
ALN				S	Sn	14 29 08.7	+0.1
FOCM	Foa	1.32	138	PN	Pb	14 28 53.5	-0.1
CHOS	Chios island	1.36	165	P	Pb	14 28 54.4	+0.1
CHOS	Chios island	1.36	165	P	Pn	14 28 54.1	+0.3
KESN	Edirne-Kesan	1.39	36	iP	Pn	14 28 54.7	+0.3
OUR	Ouranopolis	1.40	297	P	Pb	14 28 54.9	0.0
RDO	Rodhopi	1.44	358	P	Pn	14 28 54.6	-0.2
RDO	Rodhopi	1.44	358	P	Pn	14 28 54.7	-0.1
KRBG	Karabiga-Canak	1.47	62	PN	Pn	14 28 55.3	+0.1
PAIG	Paliouri	1.50	279	P	Pn	14 28 54.8	-0.9
PAIG	Paliouri	1.50	279	P	Pn	14 28 54.9	-0.7
KAVA	Kavala	1.54	327	P	Pn	14 28 55.3	-0.8
KVLA	Kavala	1.54	323	P	Pn	14 28 55.6	-0.6
URLA	Izmir	1.55	150	IAML_P			
	comp=Z,1µm,0.2s						
URLA				iP	Pg	14 28 58.4	-0.2
BALY	Balya	1.55	88	IAML_P			
	comp=Z,2µm,0.1s						
BALY				iP	Pn	14 28 56.2	-0.2
KNL	Balıkesir	1.58	68	iP	Pn	14 28 57.0	+0.3
GONE	Gonen-Balikesi	1.63	77	PN	Pn	14 28 57.6	+0.1
STEP	BALIKESIR_Sava	1.66	101	IAML_P			
	comp=Z,2µm,0.3s						
STEP				iP	Pb	14 28 58.8	-0.7
STEP				iS	Sg	14 29 23.0	+0.6
BALB	Balikesir	1.75	91	PN	Pn	14 28 59.0	-0.1
PLG	Polygyros	1.79	293	P	Pn	14 28 59.9	+0.3
EDC	Edincik	1.84	69	PN	Pn	14 29 01.1	+0.7
SBT4	Kumbag-Tekirda	1.85	52	PN	Pn	14 29 01.4	+1.1
SOH	Sokhos	2.05	304	P	Pn	14 29 03.3	0.0
SRS	Serrai	2.09	313	P	Pn	14 29 03.6	-0.1
NVR	Nevrokopi	2.11	322	P	Pn	14 29 03.8	-0.3
KCTX	Karacabey (Bur	2.18	74	PN	Pn	14 29 05.2	+0.1
KULA	Kula-Manisa	2.66	116	PN	Pn	14 29 12.5	+0.9

*ATH **08** 14:32:43.3, 39°.81N×25°.46E, h18^{km}±11^{km}, ML2.8/4, Error ellipse: s-maj=11.6km s-min=1.7km az=248.0*
*DDA **08** 14:32:48.2, 39°.59N×25°.82E, h8^{km}±4^{km}, ML3.7*
*BEO **08** 14:33:01.0±1.8, 40°.61N×25°.26E, h8^{km}±6^{km}, ML2.7/2*
ISC 08 14:32:43.3±0.9, **39°.77N**±0°.03×**25°.31E**±0°.03, **h31**^{km}±6^{km}, **n33, σ1^s.92**/38, **2C-1D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.16	324	P	Pb	14 32 48.7	-0.5
LIA				S	Sb	14 32 53.2	0.0
LIA				AML	AML	14 33 05.7	
	comp=N,3246µm,0.3s						
LIA				AML	AML	14 33 07.3	
	comp=E,2979µm,0.4s						
LIA	Limnos Island	0.16	324	P	Pb	14 32 48.7	-0.5
LIA				S	Sb	14 32 53.9	+0.7
EFSA	Agios Efstrati	0.33	228	P	Pb	14 32 51.5	+0.3
EFSA				S	Sn	14 32 58.5	+0.8
EFSA				AML	AML	14 33 05.9	
	comp=E,4438µm,0.6s						
EFSA				AML	AML	14 33 07.5	
	comp=N,3873µm,0.3s						
BOZC	Bozcaada	0.58	82	IAML_P			
	comp=N,28µm,0.1s						
BOZC				iP	Pb	14 32 54.8	-0.2
SIGR	SIGRI	0.70	142	P	Pb	14 32 57.3	+0.3
SIGR				S	Sb	14 33 05.5	-0.8
SIGR				AML	AML	14 33 05.9	
	comp=N,10530µm,0.4s						
SIGR				AML	AML	14 33 05.9	
	comp=E,10306µm,0.3s						
SIGR	SIGRI	0.70	142	P	Pb	14 32 50.5	-6.5
SMTH	Samothraki Isl	0.73	14	P	Pb	14 32 56.3	-1.2
SMTH				AML	AML	14 33 07.6	
	comp=E,347µm,0.1s						
SMTH				AML	AML	14 33 09.3	
	comp=N,471µm,0.1s						
SMTH	Samothraki Isl	0.73	14	P	Pb	14 32 56.3	-1.2
THAS	Thassos island	0.95	332	P	Pb	14 33 02.8	+1.5
AYVA	Ayvalik	1.16	113	iP	Pb	14 33 06.7	+1.9
AYVA				iS	Sb	14 33 20.9	+1.4
ALN	Alexandroupoli	1.26	26	P	Pn	14 33 04.4	-0.4
ALN	Alexandroupoli	1.26	26	P	Pn	14 33 04.2	-0.6
KESN	Edirne-Kesan	1.49	44	iP	Pb	14 33 11.0	+0.4
KESN				iS	Sb	14 33 33.2	+3.9
CHOS	Chios island	1.49	157	P	Pn	14 33 06.6	-1.5
URLA	Izmir	1.73	144	iP	Pb	14 33 15.1	+0.8
URLA				iS	Sb	14 33 35.0	-0.6
KNL	Balıkesir	1.78	73	IAML_P			
	comp=Z,3µm,0.3s						
KNL				iP	Pb	14 33 17.7	+2.6
KNL				iS	Sb	14 33 37.9	+0.8
SRS	Serrai	1.88	316	ePg	Pb	14 33 25.1	+8.1
SRS				eSg	Sb	14 33 44.3	+4.2
STEP	BALIKESIR_Sava	1.90	101	IAML_P			
	comp=Z,6µm,0.1s						
STEP				iP	Pb	14 33 16.2	-1.1
STEP				iS	Sn	14 33 37.2	+0.6
DGB	zmir	2.11	144	eP	Pn	14 33 18.7	+2.3
AKHS	Akhisar	2.14	114	IAML_P			
	comp=Z,3µm,0.2s						
AKHS				iP	Pb	14 33 20.1	-1.2
AKHS				iS	Sn	14 33 38.7	-3.6
DURS	Dursunbey	2.45	93	IAML_P			
	comp=Z,2µm,0.3s						
DURS				iP	Pb	14 33 25.8	-0.9
VAY	Valandovo	2.60	308	ePn	Pb	14 33 37.2	+8.0
VAY				eSn	Sb	14 34 03.9	+3.2
DEMI	Demirci	2.74	104	IAML_P			
	comp=Z,2µm,0.1s						
DEMI				iP	Pb	14 33 29.6	-2.0
BARS	Barje	4.03	320	ePn	Pb	14 33 53.9	+0.4
ZAPS	Zavoj	4.04	331	ePn	Pb	14 33 52.2	-1.5
ZAGS	Zajecar	4.65	331	ePn	Pb	14 34 01.4	-2.7
SELS	Selova	4.67	319	ePn	Pb	14 34 03.1	-1.3
BOVS	Bovan	4.71	326	ePn	Pb	14 34 02.7	-2.4
IVAS	Ivanjica	5.42	316	ePn	Pb	14 34 13.6	-3.6
MLR	Muntele Rosu	5.74	4	⇑iP	Pb	14 34 15.8	-6.9
DIVS	Divibare	5.87	319	ePn	Pb	14 34 19.7	-5.2
GZR	Gura Zlata	5.93	342	⇑iP	Pb	14 34 21.0	-4.8
VRI	Vrincioaia	6.19	9	⇓iP	Pb	14 34 24.1	-6.1

ISK 08 14:33:05.1, 39°.69N×25°.66E, h5^{km}, ML3.6/17, Aegean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EZN	Ezine	0.53	75	PG	Pb	14 33 16.9	0.0
EZN				SG	Sb	14 33 25.1	+0.2
GADA	Gvkgeada	0.53	20	PG	Pb	14 33 16.9	-0.1
GOKC	Gokceada-Canak	0.55	21	PG	Pb	14 33 16.6	-0.6
GELI	Tayfur-Gelibol	0.94	41	PG	Pb	14 33 24.2	+0.2
LPK	Lapseki	1.09	51	PN	Pn	14 33 26.8	-0.2
ENEZ	Enez	1.11	20	PN	Pn	14 33 27.4	+0.1
DKL	Dikili	1.15	122	PN	Pn	14 33 28.1	+0.3
ERIK	Erikli-Kesan	1.18	33	PN	Pn	14 33 28.5	+0.3
ERIK				SN	Sn	14 33 45.9	+1.2
FOCM	Foa	1.28	139	PN	Pb	14 33 30.1	+0.4
KRBG	Karabiga-Canak	1.44	60	PN	Pg	14 33 33.5	+0.8
AOS	Alonnisos	1.47	250	PN	Pg	14 33 34.1	+0.8
GONE	Gonen-Balikesi	1.60	76	PN	Pg	14 33 36.0	+0.2
GONE				SN	Sg	14 33 57.6	+1.1
BALB	Balikesir	1.71	91	PN	Pb	14 33 36.6	-0.5
EDC	Edincik	1.81	68	PN	Pb	14 33 39.1	+0.3
SBT4	Kumbag-Tekirda	1.83	51	PN	Pb	14 33 39.1	+0.1
KCTX	Karacabey (Bur	2.15	74	PN	Pb	14 33 43.6	-0.9
EDRB	Edirne	2.31	21	PN	Pb	14 33 45.5	-1.7
ARMT	Armutlu	2.61	69	PN	Pn	14 33 50.1	+2.2
CTKS	Kestanelik-??a	2.67	54	PN	Pn	14 33 50.7	+2.0
ISK	Istanbul-Kandi	2.94	61	PN	Pn	14 33 54.8	+2.4
YLV	Yalova	2.98	72	PN	Pn	14 33 55.0	+1.9

*DDA **08** 14:34:22.1, 39°.65N×25°.50E, h7^{km}±5^{km}, ML3.8*
*ISK **08** 14:34:23.2, 39°.67N×25°.51E, h8^{km}, ML3.4/12*
*ISCJB **08** 14:34:24.2±0.4, 39°.67N±0°.02×25°.57E±0°.02, h6^{km}±3^{km}, Error ellipse: s-maj=3.1km s-min=2.8km az=38.2*
*THE **08** 14:34:24.6, 39°.67N×25°.54E, h8^{km}±1^{km}, ML2.9/7, Error ellipse: s-maj=1.7km s-min=0.6km az=245.0*
*ATH **08** 14:34:24.2, 39°.67N×25°.57E, h13^{km}±4^{km}, ML2.9/6, Error ellipse: s-maj=4.6km s-min=1.0km az=129.0*
ISC 08 14:34:24.4±0.9, **39°.67N**±0°.02×**25°.55E**±0°.02, **h14**^{km}±8^{km}, **n55, σ0^s.50**/80, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.37	309	P	Pg	14 34 32.0	+0.2
LIA				S	Sg	14 34 37.2	+0.3
LIA				AML	AML	14 34 37.4	
	comp=N,3448µm,0.3s						
LIA				AML	AML	14 34 37.7	
	comp=E,3252µm,0.1s						
LIA	Limnos Island	0.37	309	P	Pg	14 34 32.0	+0.2
LIA				S	Sg	14 34 37.0	+0.1
BOZC	Bozcaada	0.42	66	iP	Pg	14 34 32.7	-0.2
BOZC				iS	Sg	14 34 38.9	+0.3
EFSA	Agios Efstrati	0.46	254	P	Pb	14 34 34.5	+0.3
EFSA				S	Sb	14 34 40.7	-0.1
GPNR	Gulpinar-Canak	0.50	115	PG	Pg	14 34 33.7	-0.5
SIGR	SIGRI	0.51	153	PG	Pg	14 34 33.9	-0.7
SIGR	SIGRI	0.51	153	P	Pg	14 34 34.1	-0.5
SIGR				S	Sg	14 34 41.5	+0.1
SIGR				AML	AML	14 34 42.3	
	comp=N,8196µm,0.5s						
SIGR				AML	AML	14 34 42.4	
	comp=E,7472µm,0.4s						
SIGR	SIGRI	0.51	153	P	Pg	14 34 34.2	-0.4
SIGR				S	Sg	14 34 41.7	+0.3
GADA	Gvkgeada	0.58	27	PG	Pg	14 34 35.5	-0.4
GOKC	Gokceada-Canak	0.60	28	PG	Pg	14 34 35.9	-0.3
EZN	Ezine	0.61	75	PG	Pg	14 34 36.1	-0.4
PRK	Paraskevi	0.70	127	P	Pg	14 34 38.0	0.0
PRK				S	Sg	14 34 47.6	+0.3
PRK				AML	AML	14 34 52.1	
	comp=N,3268µm,0.4s						
PRK				AML	AML	14 34 52.3	
	comp=E,3394µm,0.5s						
PRK	Paraskevi	0.70	127	P	Pb	14 34 38.7	+0.3
PRK				S	Sb	14 34 48.8	+1.0
BAYC	CANAKKALE_Bayr	0.77	84	IAML_P			
	comp=Z,13µm,0.1s						
BAYC				iP	Pg	14 34 38.3	-1.1
BAYC				iS	Sg	14 34 49.5	0.0
SMTH	Samothraki Isl	0.80	359	P	Pg	14 34 39.8	-0.1
SMTH				S	Sb	14 34 51.0	+0.1
SMTH				AML	AML	14 34 52.7	
	comp=N,1115µm,0.3s						
SMTH				AML	AML	14 34 53.4	
	comp=E,1532µm,0.4s						
SMTH	Samothraki Isl	0.80	359	P	Pg	14 34 39.9	-0.1
SMTH				S	Sb	14 34 51.0	+0.1
AYVA	Ayvalik	0.95	112	iP	Pb	14 34 42.5	-0.2
AYVA				iS	Sn	14 34 56.5	-0.1
GELI	Tayfur-Gelibol	1.01	44	PG	Pb	14 34 43.2	-0.6
SKY	Skiros Island	1.11	225	P	Pb	14 34 44.7	-0.7
SKY				S	Sb	14 34 59.9	+0.2
SKY	Skiros Island	1.11	225	P	Pb	14 34 44.7	-0.7
PSRA	Psara	1.13	180	P	Pn	14 34 45.9	+0.2
THAS	Thassos island	1.13	326	P	Pb	14 34 45.1	-0.7
THAS				S	Sn	14 35 01.4	+0.2
THAS				AML	AML	14 35 02.8	
	comp=N,1746µm,0.5s						
THAS				AML	AML	14 35 03.0	
	comp=E,1207µm,0.2s						
THAS	Thassos island	1.13	326	P	Pb	14 34 45.1	-0.7
THAS				S	Sn	14 35 01.5	+0.3
ENEZ	Enez	1.16	23	PN	Pn	14 34 46.1	-0.1
LPK	Lapseki	1.16	52	PN	Pn	14 34 45.7	-0.6
DKL	Dikili	1.21	119	PN	Pb	14 34 47.2	+0.2
ERIK	Erikli-Kesan	1.24	36	PN	Pn	14 34 47.1	-0.2
ALN	Alexandroupoli	1.28	17	PN	Pn	14 34 48.0	0.0
ALN	Alexandroupoli	1.28	17	P	Pn	14 34 47.8	-0.1
ALN				S	Sg	14 35 05.5	-0.3
ALN	Alexandroupoli	1.28	17	P	Pn	14 34 47.9	0.0
ALN				S	Sn	14 35 05.3	+0.4
FOCM	Foa	1.32	136	PN	Pb	14 34 48.9	-0.1
CHOS	Chios island	1.34	163	PN	Pn	14 34 49.0	+0.2
CHOS	Chios island	1.34	163	P	Pn	14 34 48.8	0.0
CHOS	Chios island	1.34	163	P	Pn	14 34 48.7	0.0
CHOS				S	Sn	14 35 07.0	+0.6
OUR	Ouranopolis	1.38	299	PN	Pn	14 34 48.9	-0.3
OUR	Ouranopolis	1.38	299	P	Pg	14 34 50.9	0.0
AOS	Alonnisos	1.39	249	PN	Pn	14 34 49.1	-0.3
AOS	Alonnisos	1.39	249	P	Pg	14 34 50.6	-0.5
AOS				S	Sg	14 35 09.7	+0.5
AOS				AML	AML	14 35 10.6	
	comp=E,593µm,0.5s						
AOS				AML	AML	14 35 12.1	
	comp=N,629µm,0.4s						
AOS	Alonnisos	1.39	249	P	Pg	14 34 50.6	-0.5
KESN	Edirne-Kesan	1.44	36	IAML_P			
	comp=Z,814nm,0.1s						
KESN				iP	Pn	14 34 50.8	+0.3
KESN				iS	Sb	14 35 10.2	+0.6
PAIG	Paliouri	1.47	281	P	Pb	14 34 51.5	0.0
RDO	Rodhopi	1.48	360	PN	Pn	14 34 50.4	-0.2
RDO	Rodhopi	1.48	360	P	Pb	14 34 51.5	-0.1
RDO	Rodhopi	1.48	360	P	Pb	14 34 51.2	-0.4
KRBG	Karabiga-Canak	1.52	61	PN	Pb	14 34 51.9	-0.5
URLA	Izmir	1.54	148	iP	Pn	14 34 51.1	-0.4
URLA				iS	Sn	14 35 09.6	-1.6
KAVA	Kavala	1.55	329	P	Pn	14 34 51.1	-0.4
KNL	Balıkesir	1.63	68	IAML_P			
	comp=Z,7µm,0.1s						
KNL				iP	Pb	14 34 53.9	-0.3
KNL				iS	Sb	14 35 15.9	+1.2
GONE	Gonen-Balikesi	1.68	76	PN	Pb	14 34 55.2	0.0
STEP	BALIKESIR_Sava	1.70	99	iP	Pb	14 34 55.0	-0.4
STEP				iS	Sb	14 35 18.0	+1.3
PLG	Polygyros	1.77	294	P	Pb	14 34 57.3	+0.7
EDC	Edincik	1.90	68	PN	Pn	14 34 57.1	+0.7
DGB	zmir	1.92	147	iP	Pn	14 34 57.2	+0.5
DGB				iS	Sb	14 35 23.6	+0.7
AKHS	Akhisar	1.92	114	iP	Pn	14 34 56.0	-0.7
AKHS				iS	Sg	14 35 27.1	+0.8
DURS	Dursunbey	2.26	91	eP	Sn	14 35 28.4	-0.6

*ISCJB **08** 14:36:14.4±0.7, 23°.70N±0°.02×122°.53E±0°.02, h13^{km}±5^{km}, Error ellipse: s-maj=3.5km s-min=2.5km az=138.0*
*JMA **08** 14:36:15.1±0.2, 23°.75N×122°.50E, h24^{km}±3^{km}, M2.5*
*TAP **08** 14:36:15.3, 23°.77N×122°.57E, h28^{km}±1^{km}, ML3.0, C*

ISC 08 14:36:14.6±0.9, 23.72N±0.03×122.52E±0.02, h20km±10km, n71, σ0s.58/122, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.82	28	P	Pb	14 36 30.1	-0.2
JYNG				eS	Sb	14 36 41.2	+0.3
YOJ	Yonaguni jima	0.86	31	eP	Pb	14 36 30.8	-0.2
	baz=29						
YOJ				eS	Sb	14 36 41.2	-0.9
	baz=29						
YOJ	Yonaguni jima	0.86	31	P	Pb	14 36 30.9	0.0
YOJ				eS	Sb	14 36 41.8	-0.3
ENLB	Shoufeng	0.86	282	i P	Pb	14 36 31.1	+0.2
	baz=276						
ENLB				S	Sn	14 36 43.4	-0.3
	baz=276						
EOS1	EOS1	0.90	336	eP	Pn	14 36 32.4	+0.2
	baz=315						
EOS1				eS	Sn	14 36 45.1	+0.6
	baz=315						
TWD	Chiawan	0.92	293	i P	Pb	14 36 31.6	-0.3
	baz=275						
NACB	Ninganchiao	0.96	298	eP	Pb	14 36 32.2	-0.4
	baz=280						
NACB				eS	Sb	14 36 44.5	-0.5
	baz=280						
NANB	Nanao	1.00	315	eP	Pn	14 36 33.6	+0.1
	baz=308						
NANB				eS	Sn	14 36 47.3	+0.3
	baz=308						
ESL	Shilin	1.00	276	P	Pb	14 36 32.7	-0.6
	baz=257						
ESL				eS	Sb	14 36 45.8	-0.3
	baz=257						
ENA	Nanau	1.00	315	P	Pn	14 36 33.7	+0.1
	baz=308						
ENA				eS	Sn	14 36 47.5	+0.4
	baz=308						
HGSD	Ruisui	1.03	258	eP	Pb	14 36 33.7	-0.2
	baz=253						
HGSD				eS	Sb	14 36 46.7	-0.3
	baz=253						
TWC	Suao	1.08	325	eP	Pn	14 36 34.5	-0.1
	baz=319						
TWC				eS	Sb	14 36 48.4	+0.1
	baz=319						
EHY	Hungye	1.12	259	P	Pb	14 36 35.5	+0.1
	baz=255						
EHY				S	Sb	14 36 49.7	+0.2
	baz=255						
YULB	Yu-li	1.17	254	eP	Pb	14 36 36.1	-0.1
	baz=250						
YULB				eS	Sb	14 36 51.1	+0.1
	baz=250						
TWF1	Yuli	1.18	252	eP	Pb	14 36 36.6	+0.2
	baz=248						
TWF1				eS	Sn	14 36 51.7	+0.1
	baz=248						
WHF	Hehuan Shan	1.23	290	P	Pn	14 36 36.7	-0.4
	baz=272						
WHF				eS	Sb	14 36 52.9	-0.1
	baz=272						
CHKT	Chengkung	1.23	240	eS	Sb	14 36 51.6	-1.0
	baz=237						
NNSB	Datong	1.26	304	eP	Pn	14 36 37.2	0.0
	baz=298						
NNSB				eS	Sb	14 36 53.2	-0.4
	baz=298						
IRIF	Iriomote-Funau	1.26	61	P	Pb	14 36 37.8	+0.1
IRIF				eS	Sb	14 36 53.8	+0.3
ENTT	Nioudou	1.27	317	eP	Pb	14 36 37.8	0.0
	baz=296						
ENTT				eS	Sb	14 36 55.6	+1.9
	baz=296						
TWE	Neicheng	1.27	322	P	Pb	14 36 37.8	0.0
	baz=317						
VWDT	VWDT	1.27	272	eP	Pb	14 36 37.5	-0.3
	baz=266						
VWDT				eS	Sn	14 36 53.1	-0.5
	baz=266						
NNS	Nan Shan	1.27	305	P	Pn	14 36 37.6	+0.2
	baz=298						
NNS				eS	Sn	14 36 53.7	-0.3
	baz=298						
CHGB	Renai	1.28	286	eP	Pn	14 36 37.6	0.0
	baz=270						
CHGB				eS	Sn	14 36 53.5	-0.8
	baz=270						
NTC	Toucheng	1.30	331	eP	Pb	14 36 39.0	+0.7
	baz=326						
SLBB	Yuanshan	1.31	322	P	Pb	14 36 38.7	+0.1
	baz=316						
SLBB				eS	Sb	14 36 55.6	+0.6
	baz=316						
TDCB	Techi	1.36	293	eP	Pn	14 36 38.8	+0.2
	baz=278						
TWB1	Santiao Chiao	1.37	339	eP	Pn	14 36 39.0	+0.3
	baz=334						
TIPB	Shuangxi	1.40	333	eP	Pn	14 36 39.3	+0.2
	baz=326						
TIPB				eS	Sb	14 36 57.7	+0.1
	baz=326						
NWLT	Wulai	1.41	319	eP	Pb	14 36 39.9	-0.3
	baz=313						
YHNB	Yeheng	1.41	312	eP	Pn	14 36 39.8	+0.5
	baz=305						
YHNB				eS	Sb	14 36 57.9	-0.1
	baz=305						
NSK	Sanguang	1.43	312	eP	Pn	14 36 40.0	+0.5
	baz=305						
NSK				eS	Sb	14 36 58.2	-0.2
	baz=305						
SSLB	Suanglung	1.44	273	eP	Pn	14 36 39.9	+0.3
	baz=267						
SSLB				eS	Sn	14 36 57.8	-0.2
	baz=267						
JKRS	Kuro-shima	1.45	69	eS	Sb	14 36 59.2	+0.2
ELDTW	Lidau	1.48	249	P	Pn	14 36 40.5	+0.2
	baz=245						
ELDTW				eS	Sn	14 36 58.2	-0.9
	baz=245						
SMLT	Sun Moon Lake	1.50	277	eP	Pn	14 36 41.1	+0.6
	baz=271						
SMLT				eS	Sn	14 36 59.6	+0.1
	baz=271						
NWF	Wu-fen Shan	1.51	333	eP	Pn	14 36 40.6	0.0
	baz=326						
NWF				eS	Sn	14 37 00.1	+0.4
	baz=326						
WFSB	Wu-fen Shan	1.51	333	eP	Pn	14 36 40.6	+0.1
	baz=326						
WFSB				eS	Sn	14 36 59.6	+0.1
	baz=326						
TYC	Yuchr	1.54	277	eP	Pn	14 36 41.6	+0.7
	baz=273						
TATO	Taipei	1.57	323	eP	Pb	14 36 42.6	-0.4
	baz=317						
TWGBT	Beinan	1.60	236	eP	Pn	14 36 42.1	+0.3
	baz=224						
TWGBT				eS	Sn	14 37 01.1	-0.8
	baz=224						
TWG	Pinlang	1.61	236	eP	Pn	14 36 42.3	+0.4
	baz=224						
TWG				eS	Sn	14 37 01.6	-0.5
	baz=224						
JIJ	Ishigaki jima	1.61	66	P	Pb	14 36 43.0	-0.7
JIJ				S	Sb	14 37 03.4	-0.2
WJS	Zhushan	1.65	274	eP	Pb	14 36 44.0	-0.3
	baz=270						
LIOB	Emei	1.66	304	eP	Pb	14 36 44.5	0.0
	baz=299						
NSTT	Nanjuang	1.66	303	eP	Pb	14 36 44.4	-0.1
	baz=285						
NSTT				eS	Sb	14 37 04.5	-0.6
	baz=285						
WNT	Mingjian	1.69	276	eP	Pb	14 36 45.7	+0.7
	baz=268						
WNT				eS	Sb	14 37 07.1	+1.1
	baz=268						
CHN5	Tsauling	1.70	266	P	Pb	14 36 45.1	-0.1
	baz=261						
CHN5				eS	Sb	14 37 05.9	-0.3
	baz=261						
STYT	Tauyuan	1.71	252	P	Pb	14 36 44.6	-0.9
	baz=247						
STYT				eS	Sn	14 37 05.6	+0.8
	baz=247						
TWQ1	Liyutan	1.72	292	P	Pb	14 36 45.4	-0.1
	baz=285						
TWQ1				eS	Sb	14 37 07.5	+0.8
	baz=285						
TPUB	Ta-pu	1.79	257	eP	Pb	14 36 46.5	-0.3
	baz=252						
TPUB				eS	Sb	14 37 08.5	-0.3
	baz=252						
WGK	Gukeng	1.80	269	eS	Sb	14 37 09.1	+0.1
	baz=263						
CHN4	Tsaushan	1.81	259	eP	Pb	14 36 46.9	-0.2
	baz=254						
CHN4				eS	Sb	14 37 10.1	+0.7
	baz=254						
WTP	Ta-pu	1.82	255	eP	Pb	14 36 46.9	-0.3
	baz=250						
WTP				eS	Sb	14 37 09.9	+0.4
	baz=250						
WDLH	Douliu	1.82	269	eP	Pb	14 36 47.8	+0.5
	baz=263						
WDLH				eS	Sb	14 37 10.3	+0.6
	baz=263						
ECL	Taimali	1.83	233	eP	Pn	14 36 45.5	+0.6
	baz=241						
ECL				eS	Sn	14 37 06.8	-0.7
	baz=241						
JISG	Ishigakijimahi	1.85	62	P	Pn	14 36 46.0	+0.8
SLGT	Liugui	1.87	248	eP	Pb	14 36 47.7	-0.4
	baz=238						
SLGT				eS	Sb	14 37 11.1	0.0
	baz=238						
SGST	Jiashian	1.89	251	eP	Pb	14 36 48.1	-0.4
	baz=246						
SGST				eS	Sb	14 37 12.5	+0.7
	baz=246						
CHN1	Nanshi	1.91	254	eP	Pb	14 36 48.4	-0.3
	baz=250						
CHN1				eS	Sb	14 37 12.6	+0.4
	baz=250						
TWK	Hsinying	1.92	257	eP	Pb	14 36 48.5	-0.5
	baz=251						
TWK				eS	Sb	14 37 12.6	0.0
	baz=251						
RLNB	Erlin	1.99	275	eS	Sb	14 37 15.1	+0.6
	baz=258						
SSD	Sandimen	1.99	241	eP	Pb	14 36 49.1	-1.1
	baz=233						
SSD				eS	Sn	14 37 11.0	-0.6
	baz=233						
EAST	Anshuo	2.04	230	eP	Pn	14 36 48.4	+0.6
	baz=238						
MASBT	Mashibuluo	2.06	238	eP	Pn	14 36 49.5	+1.4
	baz=229						
MASBT				eS	Sn	14 37 14.0	+0.8
	baz=229						
CHN8	Yiju	2.15	261	eS	Sb	14 37 18.7	-0.6
	baz=254						
SCZT	Fangliau	2.21	233	eS	Sn	14 37 16.8	0.0
	baz=231						
PHUB	P'eng-hu	2.72	266	eS	Sn	14 37 30.7	+1.3
	baz=250						
VWUC	VWUC	3.08	295	eP	Pn	14 37 02.6	+0.5
	baz=273						
VWUC				eS	Sn	14 37 35.9	-2.4
	baz=273						
PTMZ	Houxiangcun	3.37	294	eP	Pn	14 37 06.1	0.0
	baz=271						
PTMZ				eS	Sn	14 37 43.6	-2.0
	baz=271						
KNMB	Chin-men Tao	3.85	282	eP	Pn	14 37 12.9	+0.2
	baz=275						

ATH 08 14:37:08.8, 39.68N×25.57E, h30km±1km, ML2.4/3, Error ellipse: s-maj=2.3km s-min=1.2km az=246.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.37	307	P	Pb	14 37 17.0	-0.2
LIA				S	Sb	14 37 22.2	-0.7
LIA				AML	AML	14 37 22.8	
	comp=E,511μm,0.2s						
LIA				AML	AML	14 37 23.0	
	comp=N,1018μm,0.3s						
EFSA	Agios Efstrati	0.47	253	P	Pn	14 37 19.7	+0.3
EFSA				S	Sb	14 37 26.0	+0.6
SIGR	SIGRI	0.52	154	P	Pb	14 37 19.1	-0.3
SIGR				S	Sb	14 37 26.6	-0.2
SIGR				AML	AML	14 37 26.7	
	comp=E,989μm,0.3s						
SIGR				AML	AML	14 37 27.2	
	comp=N,1288μm,0.3s						
PRK	Paraskevi	0.70	128	P	Pn	14 37 23.4	+0.9
PRK				S	Sn	14 37 32.9	+0.5
PRK				AML	AML	14 37 36.6	
	comp=N,772μm,0.3s						
PRK				AML	AML	14 37 37.2	
	comp=E,648μm,0.5s						
SMTH	Samothraki Isl	0.79	358	P	Pb	14 37 24.6	+0.5
SMTH				S	Sn	14 37 36.0	+1.2
THAS	Thassos island	1.13	325	P	Pb	14 37 30.0	+0.3
THAS				S	Sb	14 37 45.4	+1.4
PSRA	Psara	1.14	180	P	Pb	14 37 30.9	+1.2
ALN	Alexandroupoli	1.27	17	P	Pb	14 37 32.9	+0.8
CHOS	Chios island	1.34	163	P	Pb	14 37 32.9	-0.5
CHOS				S	Sb	14 37 50.5	+0.2
RDO	Rodhopi	1.47	359	P	Pb	14 37 34.8	-0.6

ISCJB 08 14:37:50.2±0.9, 39.70N±0.03×25.56E±0.05, h2km±5km, Error ellipse: s-maj=6.2km s-min=5.3km az=1.4
ISK 08 14:37:50.3, 39.66N×25.60E, h8km, ML3.1/12
DDA 08 14:37:51.3, 39.77N×25.64E, h7km±4km, ML3.5
ISC 08 14:37:50.3±1.3, 39.69N±0.03×25.54E±0.04, h9km±10km, n27, σ0s.59/37, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.42	69	IAML_P			
	comp=Z,17μm,0.2s						
BOZC				i P	Pb	14 37 59.6	-0.3
BOZC				i S	Sg	14 38 04.3	+0.1
GPNR	Gulpinar-Canak	0.51	117	PG	Pg	14 38 00.7	+0.4
GPNR				SG	Sg	14 38 06.7	-0.3
SIGR	SIGRI	0.54	153	PG	Pg	14 37 59.6	-1.1
GADA	Gvkgeada	0.57	29	PG	Pb	14 38 02.2	-0.3
GOKC	Gokceada-Canak	0.59	29	PG	Pb	14 38 02.6	-0.2
EZN	Ezine	0.62	77	PG	Pg	14 38 02.4	+0.1
EZN				SG	Sg	14 38 10.1	-0.3
BAYC	CANAKKALE_Bayr	0.78	86	IAML_P			
	comp=Z,10μm,0.1s						
BAYC				i P	Pb	14 38 05.8	-0.3
BAYC				i S	Sg	14 38 15.5	0.0
AYVA	Ayvalik	0.97	113	IAML_P			
	comp=Z,2μm,0.1s						
AYVA				i P	Pn	14 38 09.9	-0.2
AYVA				i S	Sn	14 38 24.0	+0.1
GELI	Tayfur-Gelibol	1.01	45	PG	Pb	14 38 09.8	-0.1
ENEZ	Enez	1.15	24	PN	Pn	14 38 12.7	+0.2
LPK	Lapseki	1.16	53	PN	Pg	14 38 12.5	-0.1
DKL	Dikili	1.22	120	PN	Pg	14 38 14.0	+0.2
ERIK	Erikli-Kesan	1.23	37	PN	Pb	14 38 13.7	-0.1
ALN	Alexandroupoli	1.27	18	PN	Pn	14 38 13.8	-0.4
FOCM	Foa	1.34	136	PN	Pb	14 38 15.5	-0.1
CHOS	Chios island	1.36	163	PN	Pn	14 38 15.5	-0.1
AOS	Alonnisos	1.39	249	PN	Pg	14 38 17.2	+0.3
KESN	Edirne-Kesan	1.43	37	IAML_P			
	comp=Z,608nm,0.2s						
KESN				i P	Pg	14 38 17.7	-0.1
KESN				i S	Sg	14 38 37.0	+0.5
KRBG	Karabiga-Canak	1.52	62	PN	Pb	14 38 18.2	-0.5
URLA	Izmir	1.56	148	eP	Pg	14 38 21.1	+0.9
URLA				i S	Sg	14 38 40.8	+0.3
KNL	Balıkesir	1.63	69	IAML_P			
	comp=Z,3μm,0.3s						
KNL				eP	Pn	14 38 19.7	+0.5
KNL				i S	Sb	14 38 41.7	+0.4
GONE	Gonen-Balikesi	1.69	77	PN	Pn	14 38 20.1	+0.1
STEP	BALIKESIR_Sava	1.71	100	eP	Pb	14 38 21.1	-0.9
STEP				i S	Sn	14 38 40.4	-2.0
BALB	Balikesir	1.81	91	PN	Pn	14 38 21.9	+0.3
EDC	Edincik	1.90	69	PN	Pn	14 38 23.5	+0.6
AKHS	Akhisar	1.94	114	i P	Pn	14 38 24.5	+1.0
AKHS				i S	Sg	14 38 53.6	+0.9
DURS	Dursunbey	2.27	91	i P	Pn	14 38 21.3	-6.8
DURS				i S	Sn	14 38 56.7	+0.5

ISCJB 08 14:39:24.7±0.4, 42.02N±0.03×20.11E±0.03, h8km±4km, Error ellipse: s-maj=5.2km s-min=2.7km az=41.7
PDG 08 14:39:24.2±0.2, 42.01N×20.17E, h10km, ML2.6/10, Error ellipse: s-maj=0.5km s-min=0.5km az=90.0
SKO 08 14:39:25.5, 41.98N×19.92E, h0km, M1.8, ML2.3
SAR 08 14:39:25.8±0.9, 42.09N×20.15E, h5km±4km, ML2.3/6
ISC 08 14:39:25.2±1.1, 42.02N±0.03×20.09E±0.03, h8km±9km, n30, σ1s.22/58, 12C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	Plav	0.58	351	⇓iPg	Pg	14 39 35.6	-0.9
PVY				eSg	Sb	14 39 45.2	-1.0
ULC	Ulcinj	0.63	265	⇑iPg	Pg	14 39 37.4	0.0
ULC				eSg	Sb	14 39 48.3	+0.8
DRME	Dracevica, Mon	0.69	284	⇑iPg	Pg	14 39 38.4	-0.1
DRME				eSg	Sb	14 39 49.9	+0.7
DRME	Dracevica, Mon	0.69	284	⇑iPg	Pg	14 39 38.5	-0.1
DRME				eSg	Sg	14 39 49.1	+1.5
PDG	Podgorica	0.74	304	⇑iPg	Pg	14 39 38.5	-1.0
PDG				eSg	Sg	14 39 49.7	+0.6
TTG	Podgorica	0.74	304	⇓iPg	Pg	14 39 38.9	-0.6
TTG				eSg	Sb	14 39 51.3	+0.7
BEY	Berane	0.86	350	ePg	Pg	14 39 41.4	-0.4
IVA	Berane	0.86	350	⇓iPg	Pg	14 39 40.9	-0.9
IVA				eSg	Sb	14 39 54.5	+0.3
BUM	Brajici-Budva	0.93	288	⇑iPg	Pg	14 39 39.1	-4.0
BUM				eSg	Sg	14 39 54.9	-0.3
KOME	Kolasin	0.93	333	⇑iPg	Pg	14 39 42.0	-1.1
KOME				eSg	Sn	14 39 57.3	-0.9
SKO	Skopje	1.01	92	ePg	Pn	14 39 46.1	+0.4
SKO				i Sg	Sn	14 40 00.7	+0.7
CEME	Cevo	1.01	302	⇓iPg	Pb	14 39 43.8	-1.3
CEME				eSg	Sn	14 40 01.1	+0.9
OHR	Ohrid	1.05	149	ePg	Pg	14 39 43.5	-2.0
OHR				i Sg	Sn	14 40 00.9	-0.3
OHR				eLg	Lg	14 40 02.0	
	comp=E,38nm,0.5s						
OHR				eLg	Lg	14 40 04.0	
	comp=N,43nm,0.5s						
KRUS	Krusevo	1.09	126	ePg	Pn	14 39 47.5	+0.7
KRUS				i Sg	Sn	14 40 03.3	+1.2
NKME	Niksic	1.12	312	⇑iPg	Pb	14 39 45.6	-1.3
NKME				eSg	Sn	14 40 04.2	+1.3
NKY	Niksic	1.13	315	⇓iPg	Pb	14 39 46.2	-0.9
NKY				eSg	Sn	14 40 05.0	+1.8
HCY	Herceg Novi	1.26	290	⇑iPg	Pn	14 39 48.4	-0.7
HCY				eSg	Sg	14 40 09.3	+3.6
HCY	Herceg Novi	1.26	290	⇑iPg	Pn	14 39 48.3	-0.8
HCY				eSg	Sb	14 40 06.2	+0.7
PLE	Pljevlja	1.41	339	⇑iPg	Pn	14 39 50.8	-0.4
PLE				eSg	Sg	14 40 12.8	+2.3
BRY	Bratogost	1.44	308	⇑iPg	Pb	14 39 52.1	-0.3
BRY				eSg	Sg	14 40 14.3	+2.6
BRY	Bratogost	1.44	308	ePg	Pb	14 39 52.3	-0.1
BRY				eSg	Sb	14 40 11.3	+0.3
TREB	Trebinje	1.46	299	ePn	Pb	14 39 52.7	0.0
TREB				eSn	Sg	14 40 13.0	+0.7
UPM	Unac-Piva	1.47	324	⇑iPg	Pb	14 39 52.3	-0.6
UPM				eSg	Sg	14 40 14.9	+2.4
UPM	Unac-Piva	1.47	324	ePg	Pn	14 39 51.5	-0.7
UPM				eSg	Sn	14 40 11.4	-0.2
FNA	Florina	1.57	141	ePg	Pg	14 39 54.8	-0.6
FNA				i Sg	Sg	14 40 16.1	+0.3
BBLS	Lazići	1.91	345	ePn	Pn	14 39 58.6	+0.5
BBLS				eSn	Sn	14 40 22.0	-0.4
STON	Ston	1.96	296	ePn	Pb	14 40 00.4	-0.7
STON				Sn	Sg	14 40 28.5	+0.2
GRG	Griva	2.04	121	ePg	Pg	14 40 04.0	-0.3
DIVS	Divibare	2.08	358	ePn	Pn	14 39 59.8	-0.6
DIVS				eSn	Sn	14 40 26.1	-0.4
HAPS	Han Pijesak,Bl	2.23	338	ePn	Pn	14 40 02.9	+0.4
HAPS				eSn	Sn	14 40 29.4	-0.8

PGC 08 14:42:34.4±1.7, 48.93N×129.73W, h10km, MLSn3.1/23, Mw3.7/23, 257km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region
ISCJB 08 14:42:35.6±0.7, 49.11N±0.04×129.43W±0.06, h10km, mb4.0/2, Error ellipse: s-maj=6.7km s-min=5.0km az=139.1
IDC 08 14:42:36.5±2.3, 49.20N×129.43W, h0km, mb3.9/2, mb1 3.8/9, mb1mx3.5/43, mbtmp3.6/9, ML3.3/7, Error ellipse: s-maj=34.2km s-min=13.0km az=68.0
ISC 08 14:42:36.6±1.4, 49.14N±0.07×129.50W±0.09, h10km, n45, σ1s.25/59, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMF	NEPTUNE Canada	1.22	167	P	Pn	14 42 52.8	-6.7
KEMF				S	Sb	14 43 05.8	-9.5
EDB	Eliza Dome	1.72	64	Pn	Pn	14 43 05.2	-1.4
EDB				Sn	Sn	14 43 27.4	-1.1
PACB	Port Alice, BC	1.84	44	Pn	Pn	14 43 07.3	-0.9
PACB				Sn	Sn	14 43 30.8	-0.7
ETB	Estevan Point	1.96	82	Pn	Pn	14 43 08.8	-1.0
ETB				Sn	Sn	14 43 32.6	-1.8
PHC	Port Hardy	2.06	40	Pn	Pn	14 43 11.0	-0.3
PHC				Sn	Sn	14 43 36.9	-0.1
WOSB	Woss	2.16	61	Pn	Pn	14 43 12.3	-0.5
TLCB	Telegraph Cove	2.23	50	Pn	Pn	14 43 13.3	-0.2
TLCB				Sn	Sn	14 43 41.1	0.0
GDR	Gold River	2.35	73	Pn	Pn	14 43 14.8	-0.5
TOFB	Tofino	2.36	88	Pn	Pn	14 43 13.6	-1.8
TOFB				Sn	Sn	14 43 43.0	-1.4
NCRB	Newcastle Ridg	2.57	59	Pn	Pn	14 43 18.6	+0.2
CBB	Campbell River	2.84	70	Pn	Pn	14 43 21.4	-0.5
CBB				Sn	Sn	14 43 57.3	+1.1
B928	Bamfield	2.89	94	Pn	Pn	14 43 20.8	-1.8
B928				Sn	Sn	14 43 55.9	-1.5
B927	Port Alberni	3.08	87	Pn	Pn	14 43 24.5	-0.7
BBB	Bella Bella	3.17	16	Pn	Pn	14 43 25.9	-0.7
	2.8nm,0.3s,baz=238,slow=8.3,SNR=25						
BBB				Sn	Sn	14 44 02.6	-1.9
	3.6nm,0.3s,baz=269,slow=22,SNR=4.7						
BBB	Bella Bella	3.17	16	Pn	Pn	14 43 26.5	-0.1
BBB				Sn	Sn	14 44 01.9	-2.5
TXB	Texada	3.35	79	Pn	Pn	14 43 28.9	-0.2
PFB	Port Renfrew	3.39	98	Pn	Pn	14 43 28.6	-1.0
PFB				Sn	Sn	14 44 08.0	-1.9
GHNB	Nanoose	3.46	85	Pn	Pn	14 43 30.6	+0.2
GHNB				Sn	Sn	14 44 11.6	+0.3
B926	Mesachie Lake	3.55	93	Pn	Pn	14 43 31.1	-0.6
B926				Sn	Sn	14 44 11.6	-2.2
NLLB	Nanaimo Lost L	3.62	87	Pn	Pn	14 43 33.3	+0.6
NLLB				Sn	Sn	14 44 15.7	+0.3
BCBC	Bella Coola	3.68	27	Pn	Pn	14 43 35.1	+1.7
SHB	Sechelt	3.71	81	Pn	Pn	14 43 34.1	+0.2
LZB	Mount Lazard	3.79	96	Pn	Pn	14 43 33.9	-1.1
LZB				Sn	Sn	14 44 18.3	-1.4
GOBB	Galiano Island	3.95	90	Pn	Pn	14 43 37.6	+0.4
B009	North Saanich	4.02	95	Pn	Pn	14 43 38.0	-0.2
B010	North Saanich	4.02	95	Pn	Pn	14 43 37.5	-0.6
PGC	Sidney	4.02	95	Pn	Pn	14 43 37.4	-0.8
PA12	PA12 Sannich	4.02	95	Pn	Pn	14 43 37.6	-0.6
VGZ	Gonzales	4.15	98	Pn	Pn	14 43 39.6	-0.4
SNB	Saturna Island	4.19	93	Pn	Pn	14 43 39.4	-1.2
MCW	Mount Constitu	4.42	93	Pn	Pn	14 43 44.5	+0.7
VDB	Vedder Mountai	4.87	89	Pn	Pn	14 43 50.0	+0.2
RPW	Rockport	5.33	94	Pn	Pn	14 43 56.4	+0.2
LON	Longmire	5.70	112	Pn	Pn	14 44 01.5	+0.2
FSB	Fort Saint Jam	6.23	29	Pn	Pn	14 44 10.0	+1.4
PNT	Penticton	6.48	85	Pn	Pn	14 44 12.2	+0.2
NEW	Newport	8.24	91	Pn	Pn	14 44 36.8	+0.7
	0.2nm,0.3s,baz=278,slow=15,SNR=3.7						
BMBC	Bull Mountain	8.24	30	Pn	Pn	14 44 39.3	+3.1
YBH	Yreka Blue Hor	8.81	145	Pn	Pn	14 44 47.2	+3.1
	0.0nm,0.3s,baz=333,slow=16,SNR=6.9						
PDAR	Pinedale Array	15.24	107	Pn	Pn	14 46 14.3	+2.3
	0.1nm,0.3s,baz=309,slow=9.4,SNR=4.1						
YKA	Yellowknife Ar	15.72	26	Pn	Pn	14 46 15.8	-2.0
	0.1nm,0.3s,baz=217,slow=13,SNR=7.2						
ILAR	Eielson Array	18.20	336	P	P	14 46 49.0	-0.3
	0.0nm,0.3s,baz=151,slow=11,SNR=4.8						
INK	Inuvik	19.33	355	P	Pn	14 47 02.8	+0.1
	0.1nm,0.3s,baz=153,slow=11,SNR=3.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ULM	**Lac du Bonnet**	**21.68**	**74**	P	**P**	**14 47 28.8**	**+1.6**
	18nm,0.9s,baz=287,slow=11,SNR=21						
ANMO	**Albuquerque**	**22.11**	**121**	P	**P**	**14 47 33.1**	**+0.9**
	1.7nm,0.9s,baz=342,slow=8.6,SNR=4.2						

*ISK **08** 14:45:19.3, 39.°62N×25.°39E, h7km, ML3.8/19*
*DDA **08** 14:45:20.4, 39.°66N×25.°50E, h7km±5km, ML3.5*
*ISCJB **08** 14:45:21.7±0.5, 39.°67N±0.°02×25.°55E±0.°03, h9km±4km, Error ellipse: s-maj=4.1km s-min=2.9km az=142.3*
*ATH **08** 14:45:21.4, 39.°67N×25.°52E, h28km±1km, ML3.1/5, Error ellipse: s-maj=1.9km s-min=1.2km az=260.0*
*THE **08** 14:45:22.3, 39.°67N×25.°54E, h10km±1km, ML3.1/5, Error ellipse: s-maj=2.1km s-min=0.8km az=248.0*
ISC 08 14:45:21.6±1.1**, 39.°66N**±0.°02×**25.°53E**±0.°02**, h11**km±10km**, n73, σ1.°37**/85**, 14C-3D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.36**	**312**	P	**Pb**	**14 45 29.5**	**-0.5**
LIA				S	**Sb**	**14 45 34.6**	**-1.0**
LIA				AML	AML	14 45 35.2	
	comp=E,5998µm,0.4s						
LIA				AML	AML	14 45 35.7	
	comp=N,5861µm,0.2s						
LIA	**Limnos Island**	**0.36**	**312**	P	**Pb**	**14 45 29.7**	**-0.3**
LIA				S	**Sb**	**14 45 34.6**	**-1.0**
EFSA	**Agios Efstrati**	**0.43**	**255**	P	**Pb**	**14 45 31.4**	**+0.1**
EFSA				S	**Sb**	**14 45 38.1**	**+0.4**
EFSA				AML	AML	14 45 39.7	
	comp=N,7229µm,0.2s						
EFSA				AML	AML	14 45 40.8	
	comp=E,11779µm,0.3s						
BOZC	**Bozcaada**	**0.45**	**65**	IAML_P			
	comp=Z,58µm,0.2s						
BOZC				*i* P	**Pg**	**14 45 30.4**	**0.0**
GPNR	**Gulpinar-Canak**	**0.51**	**113**	PG	**Pg**	**14 45 31.6**	**+0.1**
SIGR	**SIGRI**	**0.51**	**150**	PG	**Pg**	**14 45 30.2**	**-1.4**
SIGR				SG	**Sg**	**14 45 38.2**	**-0.2**
SIGR	**SIGRI**	**0.51**	**150**	P	**Pg**	**14 45 31.8**	**+0.1**
SIGR				S	**Sb**	**14 45 39.7**	**-0.3**
SIGR				AML	AML	14 45 40.0	
	comp=E,10532µm,0.4s						
SIGR				AML	AML	14 45 40.1	
	comp=N,14835µm,0.6s						
SIGR	**SIGRI**	**0.51**	**150**	P	**Pg**	**14 45 31.9**	**+0.3**
SIGR				S	**Sg**	**14 45 39.4**	**+1.0**
GADA	**Gvkgeada**	**0.60**	**28**	PG	**Pb**	**14 45 33.4**	**-0.8**
GOKC	**Gokceada-Canak**	**0.62**	**29**	PG	**Pb**	**14 45 33.7**	**-0.7**
EZN	**Ezine**	**0.64**	**74**	PG	**Pg**	**14 45 33.7**	**-0.3**
PRK	**Paraskevi**	**0.71**	**125**	P	**Pb**	**14 45 36.5**	**+0.6**
BAYC	**CANAKKALE_Bayr**	**0.79**	**84**	*i* P	**Pb**	**14 45 37.7**	**+0.4**
BAYC				*i* S	**Sb**	**14 45 47.5**	**-0.5**
SMTH	**Samothraki Isl**	**0.81**	**0**	P	**Pb**	**14 45 37.7**	**-0.1**
SMTH				S	**Sb**	**14 45 48.0**	**-0.7**
SMTH				AML	AML	14 45 51.7	
	comp=E,1971µm,0.4s						
SMTH				AML	AML	14 45 52.4	
	comp=N,2183µm,0.2s						
SMTH	**Samothraki Isl**	**0.81**	**0**	P	**Pb**	**14 45 37.7**	**-0.1**
SMTH				S	**Sb**	**14 45 48.6**	**-0.1**
AYVA	**Ayvalik**	**0.96**	**111**	*i* P	**Pb**	**14 45 40.4**	**+0.1**
AYVA				*i* S	**Sn**	**14 45 54.3**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.04**	**44**	PN	**Pg**	**14 45 41.1**	**-0.5**
SKY	**Skiros Island**	**1.09**	**225**	P	**Pb**	**14 45 41.8**	**-0.6**
PSRA	**Psara**	**1.11**	**179**	P	**Pn**	**14 45 43.7**	**+0.6**
THAS	**Thassos island**	**1.13**	**327**	P	**Pb**	**14 45 42.4**	**-0.8**
THAS				S	**Sn**	**14 45 58.1**	**-0.8**
THAS				AML	AML	14 46 00.2	
	comp=E,1348µm,0.2s						
THAS				AML	AML	14 46 01.9	
	comp=N,1465µm,0.2s						
THAS	**Thassos island**	**1.13**	**327**	P	**Pb**	**14 45 42.8**	**-0.4**
ENEZ	**Enez**	**1.18**	**24**	PN	**Pn**	**14 45 43.7**	**-0.3**
LPK	**Lapseki**	**1.19**	**53**	PN	**Pb**	**14 45 43.6**	**-0.5**
DKL	**Dikili**	**1.22**	**118**	PN	**Pn**	**14 45 44.5**	**0.0**
ERIK	**Erikli-Kesan**	**1.26**	**36**	PN	**Pb**	**14 45 45.0**	**-0.4**
ALN	**Alexandroupoli**	**1.30**	**18**	PN	**Pn**	**14 45 45.2**	**-0.5**
ALN	**Alexandroupoli**	**1.30**	**18**	P	**Pb**	**14 45 45.6**	**-0.4**
ALN	**Alexandroupoli**	**1.30**	**18**	P	**Pg**	**14 45 46.0**	**-0.6**
ALN				S	**Sb**	**14 46 02.1**	**-0.6**
FOCM	**Foa**	**1.33**	**135**	PN	**Pn**	**14 45 45.7**	**-0.3**
KRBN	**Karaburun**	**1.33**	**143**	PN	**Pn**	**14 45 45.7**	**-0.3**
CHOS	**Chios island**	**1.33**	**162**	PN	**Pn**	**14 45 44.5**	**-1.7**
CHOS	**Chios island**	**1.33**	**162**	P	**Pn**	**14 45 46.0**	**-0.2**
CHOS				S	**Sg**	**14 46 04.8**	**+0.3**
AOS	**Alonnisos**	**1.37**	**250**	P	**Pn**	**14 45 46.4**	**-0.2**
OUR	**Ouranopolis**	**1.37**	**300**	P	**Pn**	**14 45 46.1**	**-0.5**
PAIG	**Paliouri**	**1.45**	**281**	P	**Pn**	**14 45 47.7**	**0.0**
KESN	**Edirne-Kesan**	**1.46**	**37**	*i* P	**Pn**	**14 45 48.3**	**0.0**
RDO	**Rodhopi**	**1.49**	**0**	PN	**Pn**	**14 45 46.5**	**-1.7**
RDO	**Rodhopi**	**1.49**	**0**	P	**Pn**	**14 45 47.8**	**-0.4**
RDO	**Rodhopi**	**1.49**	**0**	P	**Pn**	**14 45 48.0**	**-0.2**
URLA	**Izmir**	**1.54**	**147**	PN	**Pn**	**14 45 48.3**	**-0.7**
URLA	**Izmir**	**1.54**	**147**	IAML_P			
	comp=Z,6µm,0.2s						
URLA				*i* P	**Pn**	**14 45 49.5**	**+0.5**
KRBG	**Karabiga-Canak**	**1.54**	**61**	PN	**Pb**	**14 45 49.8**	**-0.4**
KAVA	**Kavala**	**1.55**	**330**	P	**Pn**	**14 45 48.8**	**-0.2**
KAVA	**Kavala**	**1.55**	**330**	P	**Pn**	**14 45 48.8**	**-0.2**
KVLA	**Kavala**	**1.55**	**326**	P	**Pn**	**14 45 48.9**	**-0.1**
KNL	**Balıkesir**	**1.65**	**68**	*i* P	**Pb**	**14 45 52.4**	**+0.4**
GONE	**Gonen-Balikesi**	**1.71**	**76**	PN	**Pb**	**14 45 52.1**	**-0.8**
STEP	**BALIKESIR_Sava**	**1.72**	**99**	*i* P	**Pb**	**14 45 52.6**	**-0.6**
BALB	**Balikesir**	**1.82**	**90**	PN	**Pn**	**14 45 53.6**	**+0.9**
EDC	**Edincik**	**1.92**	**68**	PN	**Pn**	**14 45 55.2**	**+1.0**
SBT4	**Kumbag-Tekirda**	**1.93**	**52**	PN	**Pb**	**14 45 55.4**	**-1.3**
AKS	**Akhisar**	**1.94**	**113**	PN	**Pn**	**14 45 54.5**	**+0.1**
AKHS	**Akhisar**	**1.94**	**113**	IAML_P			
	comp=Z,1µm,0.2s						
AKHS				*i* P	**Pn**	**14 45 55.4**	**+0.9**
TKR	**Tekirdag**	**2.03**	**48**	PN	**Pn**	**14 45 56.6**	**+0.9**
KCTX	**Karacabey (Bur**	**2.26**	**73**	PN	**Pn**	**14 45 59.7**	**+0.9**
DST	**Dursunbey**	**2.39**	**90**	PN	**Pn**	**14 46 01.5**	**+0.8**
VTS	**Vitosha**	**3.42**	**330**	⇑ *i*P	**Pb**	**14 46 20.1**	**-2.1**
ICOR	**Ion Corvin**	**4.77**	**20**	⇑ *i*P	**Pn**	**14 46 33.2**	**-0.1**
TIRR	**Tirgusor**	**5.26**	**23**	⇑ *i*P	**Pn**	**14 46 40.2**	**+0.2**
TLB	**Topalu**	**5.27**	**20**	⇑ *i*P	**Pn**	**14 46 40.5**	**+0.3**
SRE	**Strehaia**	**5.29**	**342**	⇑ *i*P	**Pn**	**14 46 44.5**	**+4.0**
HERR	**Herculane**	**5.71**	**337**	⇓ *i*P	**Pn**	**14 46 49.6**	**+3.4**
ARR	**Arges**	**5.75**	**354**	⇓ *i*P	**Pn**	**14 46 49.8**	**+3.0**
VOIR		**5.79**	**357**	⇑ *i*P	**Pn**	**14 46 49.2**	**+1.8**
MLR	**Muntele Rosu**	**5.84**	**3**	⇑ *i*P	**Pn**	**14 46 50.1**	**+1.9**
MDVR	**Moldovita**	**5.85**	**332**	⇑ *i*P	**Pn**	**14 46 52.3**	**+4.0**
LOT	**Lotru**	**5.93**	**348**	⇑ *i*P	**Pn**	**14 46 53.2**	**+3.8**
GZR	**Gura Zlata**	**6.08**	**341**	⇑ *i*P	**Pn**	**14 46 55.5**	**+4.1**
PLOR	**Plostina**	**6.25**	**7**	⇑ *i*P	**Pn**	**14 46 54.0**	**+0.3**
VRI	**Vrincioaia**	**6.27**	**8**	⇑ *i*P	**Pn**	**14 46 55.1**	**+1.1**
BZS	**Buzias**	**6.62**	**335**	⇑ *i*P	**Pn**	**14 47 02.6**	**+3.9**
SIRR	**Siria**	**7.19**	**338**	⇓ *i*P	Pn	14 47 11.1	+4.5
DRGR		**7.42**	**345**	⇑ *i*P	**Pn**	**14 47 13.5**	**+3.7**

*DDA **08** 14:46:07.0, 39.°76N×25.°68E, h7km±1km, ML3.6*
ISC 08 14:46:06.6±2.8**, 39.°75N**±0.°07×**25.°7E**±0.°1**, h10**km±18km**, n6, σ0.°75**/10**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.32**	**72**	IAML_P			
	comp=Z,35µm,0.2s						
GADA	**Gvkgeada**	**0.48**	**23**	*e*PG	**Pb**	**14 46 17.1**	**-0.1**
GADA				*e*SG	**Sb**	**14 46 24.8**	**+0.4**
EZN	**Ezine**	**0.52**	**81**	*e*PG	**Pg**	**14 46 16.9**	**+0.1**
EZN				*e*SG	**Sb**	**14 46 24.4**	**-1.1**
BAYC	**CANAKKALE_Bayr**	**0.69**	**90**	*i* P	**Pg**	**14 46 20.2**	**+0.3**
BAYC				*i* S	**Sb**	**14 46 30.3**	**0.0**
AYVA	**Ayvalik**	**0.91**	**118**	*i* P	**Pg**	**14 46 24.3**	**+0.1**
AYVA				*i* S	**Sb**	**14 46 37.8**	**+1.1**
DKL	**Dikili**	**1.18**	**124**	*e*PG	**Pg**	**14 46 28.6**	**-0.7**
DKL				*e*SG	**Sb**	**14 46 44.7**	**+0.3**

*ISCJB **08** 14:46:33.5±0.2, 55.°99N±0.°02×135.°50W±0.°05, h14km, mb4.0/17, Error ellipse: s-maj=4.4km s-min=2.0km az=142.8*
*AEIC **08** 14:46:34.0, 56.°04N×135.°38W, h10km, ML4.0, MB4.3(NEIC), ML4.3(OTT)*
*NEIC **08** 14:46:34.0±0.0, 56.°04N×135.°38W, h10km, mb4.3/10, ML4.0(AEIC), ML4.3(OTT), MW4.6(OTT), After AEIC.*
*IDC **08** 14:46:34.6±0.7, 56.°06N×135.°53W, h0km, mb3.8/13, mb1 4.2/20, mb1mx4.0/46, mbtmp4.0/20, ML3.9/7, Error ellipse: s-maj=12.3km s-min=9.1km az=42.0*
*PGC **08** 14:46:35.3±2.3, 56.°00N×135.°33W, h10km, ML4.3/11, Mw4.6, 116km south of Sitka, Ak Southeastern Alaska*
ISC 08 14:46:36.1±0.5**, 56.°05N**±0.°03×**135.°40W**±0.°04**, h14**km**, n164, σ2.°13**/193**, mb4.1**/18**, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIT	**Sitka**	**1.01**	**2**	P	**Pb**	**14 46 53.2**	**-2.1**
SIT				S	**Sb**	**14 47 06.5**	**-1.9**
CRAG	**Craig**	**1.42**	**113**	P	**Pn**	**14 46 58.8**	**-2.5**
CRAG				S	**Sn**	**14 47 19.1**	**-0.6**
WRAK	**Wrangell Islan**	**1.75**	**77**	*e*Pn	**Pn**	**14 47 04.6**	**-1.3**
JIS	**Juneau Island**	**2.30**	**14**	P	**Pn**	**14 47 12.6**	**-0.9**
JIS				S	**Sn**	**14 47 42.5**	**+1.0**
NDB	**Naden**	**2.53**	**145**	P	**Pn**	**14 47 15.1**	**-1.7**
NDB	**Naden**	**2.53**	**145**	Pn	**Pn**	**14 47 14.7**	**-2.1**
BESE	**Bessie Mountai**	**2.55**	**6**	P	**Pn**	**14 47 16.3**	**-0.7**
BESE				S	**Sn**	**14 47 48.4**	**+0.5**
BESE	**Bessie Mountai**	**2.55**	**6**	Pn	**Pn**	**14 47 16.4**	**-0.7**
BESE				Sn	**Sn**	**14 47 48.4**	**+0.5**
MASB	**Masset**	**2.82**	**135**	P	**Pn**	**14 47 19.8**	**-0.8**
MASB	**Masset**	**2.82**	**135**	Pn	**Pn**	**14 47 19.8**	**-0.8**
DIB	**Dawson Inlet,**	**3.32**	**148**	Pn	**Pn**	**14 47 25.7**	**-1.8**
DIB				Sn	**Sn**	**14 48 02.8**	**-4.0**
H02S1	**DAWSON INLET T**	**3.32**	**148**	Pn	**Pn**	**14 47 26.0**	**-1.6**
H02S1				Sn	**Sn**	**14 48 03.0**	**-3.7**
SKAG	**Skagway**	**3.42**	**1**	P	**Pn**	**14 47 29.0**	**+0.1**
RUBB	**Prince Rupert**	**3.42**	**118**	Pn	**Pn**	**14 47 27.2**	**-1.7**
RUBB				Sg	**Sb**	**14 48 19.3**	**+1.6**
PLBC	**Pleasant Camp**	**3.45**	**352**	P	**Pn**	**14 47 28.7**	**-0.6**
PLBC				S	**Sn**	**14 48 11.5**	**+1.4**
PLBC	**Pleasant Camp**	**3.45**	**352**	Pn	**Pn**	**14 47 28.8**	**-0.6**
MOBC	**Moresby Island**	**3.53**	**144**	Pn	**Pn**	**14 47 28.4**	**-2.1**
MOBC				Sn	**Sn**	**14 48 09.5**	**-2.5**
HG1B	**Mitchell Dam**	**3.66**	**147**	Pn	**Pn**	**14 47 30.4**	**-1.8**
HG1B				Sn	**Sn**	**14 48 10.5**	**-4.5**
HG1B				Sg	**Sb**	**14 48 27.5**	**+2.9**
DLBC	**Dease Lake**	**3.78**	**48**	Pn	**Pn**	**14 47 33.8**	**-0.1**
	6.1nm,0.3s,baz=220,slow=8.0,SNR=304						
DLBC				Pg	**Pb**	**14 47 43.5**	**+1.1**
	12nm,0.3s,baz=229,slow=15,SNR=20						
DLBC				Sn	**Sn**	**14 48 16.6**	**-1.5**
	19nm,0.3s,baz=189,slow=7.7,SNR=6.2						
DLBC				Lg	Lg	14 48 31.9	
	14nm,0.3s,baz=243,slow=18,SNR=6.2						
DLBC	**Dease Lake**	**3.78**	**48**	P	**Pn**	**14 47 33.8**	**-0.1**
DLBC				S	**Sn**	**14 48 16.9**	**-1.1**
DLBC	**Dease Lake**	**3.78**	**48**	Pn	**Pn**	**14 47 33.6**	**-0.3**
DLBC				Sn	**Sn**	**14 48 16.6**	**-1.5**
DLBC				Sg	**Sb**	**14 48 31.5**	**+3.5**
BNB	**Barry Inlet**	**4.09**	**147**	P	**Pn**	**14 47 36.0**	**-2.1**
BNB	**Barry Inlet**	**4.09**	**147**	Pn	**Pn**	**14 47 35.8**	**-2.3**
HG3B	**Hotspring**	**4.18**	**145**	Pn	**Pn**	**14 47 36.9**	**-2.5**
HG3B				Sn	**Sn**	**14 48 23.5**	**-4.4**
HG3B				Sg	**Sb**	**14 48 42.9**	**+3.2**
PNL	**Peninsula**	**4.21**	**331**	P	**Pn**	**14 47 38.4**	**-1.3**
PNL	**Peninsula**	**4.21**	**331**	Pn	**Pn**	**14 47 39.0**	**-0.8**
HG4B	**Hotspring**	**4.50**	**145**	Pn	**Pn**	**14 47 42.7**	**-1.1**
HG4B				Sn	**Sn**	**14 48 31.9**	**-4.0**
HG4B				Sg	**Sb**	**14 48 52.8**	**+3.9**
BCPM	**Bancas Point**	**4.51**	**332**	P	**Pn**	**14 47 44.0**	**+0.1**
WHY	**Whitehorse**	**4.63**	**3**	P	**Pn**	**14 47 45.6**	**0.0**
WHY				S	**Sn**	**14 48 38.2**	**-1.0**
WHY	**Whitehorse**	**4.63**	**3**	Pn	**Pn**	**14 47 45.5**	**-0.2**
WHY				Sn	**Sn**	**14 48 36.6**	**-2.6**
WHY				Sg	**Sb**	**14 48 59.6**	**+6.9**
YUK7	**Dusty Glacier**	**4.72**	**343**	P	**Pn**	**14 47 46.2**	**-0.7**
YUK7	**Dusty Glacier**	**4.72**	**343**	Pn	**Pn**	**14 47 46.8**	**-0.1**
YUK7				Sn	**Sn**	**14 48 41.2**	**-0.3**
PCA	**Pinnacle**	**4.80**	**330**	P	**Pn**	**14 47 48.0**	**0.0**
HYT	**Haines Junctio**	**4.91**	**348**	P	**Pn**	**14 47 50.1**	**+0.6**
HYT	**Haines Junctio**	**4.91**	**348**	Pn	**Pn**	**14 47 49.5**	**0.0**
SAMH	**Samovar Hills**	**4.99**	**327**	P	**Pn**	**14 47 50.9**	**+0.4**
YUK6	**Outpost Mounta**	**5.15**	**344**	P	**Pn**	**14 47 52.6**	**-0.2**
YUK6	**Outpost Mounta**	**5.15**	**344**	Pn	**Pn**	**14 47 52.5**	**-0.4**
YUK5	**Granite Creek**	**5.25**	**347**	P	**Pn**	**14 47 55.0**	**+0.8**
YUK5	**Granite Creek**	**5.25**	**347**	Pn	**Pn**	**14 47 54.6**	**+0.3**
MESA	**MESA**	**5.40**	**323**	P	**Pn**	**14 47 56.2**	**0.0**
YUK4	**Talbot Arm**	**5.57**	**344**	P	**Pn**	**14 48 00.4**	**+1.8**
YUK4	**Talbot Arm**	**5.57**	**344**	Pn	**Pn**	**14 48 00.0**	**+1.4**
KULT	**Kultieth River**	**5.72**	**320**	P	**Pn**	**14 47 59.5**	**-1.1**
BBB	**Bella Bella**	**5.78**	**129**	Pn	**Pn**	**14 48 01.3**	**0.0**
	7.3nm,0.3s,baz=322,slow=16,SNR=20						
BBB				Sn	**Sn**	**14 49 05.2**	**-2.0**
	5.7nm,0.3s,baz=97,slow=18,SNR=12						
BBB				Lg	Lg	14 49 35.5	
	4.4nm,0.3s,baz=258,slow=14,SNR=5.3						
BBB	**Bella Bella**	**5.78**	**129**	P	**Pn**	**14 48 00.5**	**-0.7**
BBB	**Bella Bella**	**5.78**	**129**	Pn	**Pn**	**14 48 00.5**	**-0.7**
BBB				Sn	**Sn**	**14 49 04.2**	**-3.0**
BCBC	**Bella Coola**	**6.27**	**122**	Pn	**Pn**	**14 48 08.0**	**0.0**
FSB	**Fort Saint Jam**	**6.53**	**99**	Pn	**Pn**	**14 48 10.9**	**-0.7**
BMRM	**Bremner River**	**6.89**	**319**	*e*Pn	**Pn**	**14 48 17.9**	**+1.3**
EYAK	**Cordova Ski Ar**	**7.07**	**314**	*e*Pn	**Pn**	**14 48 21.1**	**+2.1**
PHC	**Port Hardy**	**7.17**	**135**	Sn	**Sn**	**14 49 38.5**	**-2.9**
FNBB	**Fort Nelson**	**7.26**	**62**	Pn	**Pn**	**14 48 22.3**	**+0.6**
FNBB				Sg	**Sg**	**14 50 21.1**	**-7.8**
PACB	**Port Alice, BC**	**7.36**	**137**	Sn	**Sn**	**14 49 43.3**	**-2.8**
DIV	**Divide**	**7.43**	**318**	*e*Pn	**Pn**	**14 48 27.2**	**+3.2**
BMBC	**Bull Mountain**	**7.44**	**85**	Pn	**Pn**	**14 48 23.7**	**-0.4**
BMBC				Sg	**Sg**	**14 50 27.7**	**-6.7**
TLCB	**Telegraph Cove**	**7.53**	**133**	Pn	**Pn**	**14 48 24.2**	**-1.1**
TLCB				Sn	**Sn**	**14 49 44.2**	**-6.2**
KLU	**Klutina**	**7.72**	**319**	*e*Pn	**Pn**	**14 48 26.7**	**-1.3**
BCA3	**Beaver Creek A**	**7.74**	**338**	P	**Pn**	**14 48 27.7**	**-0.6**
WOSB	**Woss**	**7.94**	**134**	Pn	**Pn**	**14 48 28.4**	**-2.6**
DAWY	**Dawson**	**8.28**	**348**	P	**Pn**	**14 48 35.7**	**0.0**
DAWY	**Dawson**	**8.28**	**348**	Pn	**Pn**	**14 48 35.7**	**0.0**
DAWY				Sg	**Sg**	**14 50 55.3**	**-6.2**
SCM	**Sheep Creek Mo**	**8.45**	**318**	*e*Pn	**Pn**	**14 48 38.4**	**+0.4**
SEW	**Seward**	**8.47**	**304**	*e*Pn	**Pn**	**14 48 38.5**	**+0.4**
PAX	**Paxson**	**8.61**	**328**	*e*Pn	**Pn**	**14 48 41.3**	**+1.1**
DOT	**Dot Lake**	**8.77**	**334**	*e*Pn	**Pn**	**14 48 42.5**	**+0.2**
DOT	**Dot Lake**	**8.77**	**334**	Pn	**Pn**	**14 48 42.1**	**-0.2**
SML	**Sawmill**	**8.82**	**316**	*e*Pn	**Pn**	**14 48 43.2**	**+0.2**
PMR	**Palmer**	**9.02**	**314**	*e*Pn	**Pn**	**14 48 46.1**	**+0.4**
RC01	**Rabbit Creek A**	**9.02**	**310**	*e*Pn	**Pn**	**14 48 44.7**	**-1.1**
SCRK	**Sand Creek**	**9.03**	**335**	P	**Pn**	**14 48 45.5**	**-0.4**
GHO	**Glory Hole Cre**	**9.03**	**315**	*e*Pn	**Pn**	**14 48 44.3**	**-1.7**
BRLK	**Bradley Lake**	**9.04**	**301**	*e*Pn	**Pn**	**14 48 43.3**	**-2.7**
RIDG	**Independ'e Rid**	**9.04**	**332**	*e*Pn	**Pn**	**14 48 46.6**	**+0.5**
DHY	**Denali Highway**	**9.29**	**324**	*e*Pn	**Pn**	**14 48 50.5**	**+1.0**
KDAK	**Kodiak Island**	**9.55**	**288**	Pn	**Pn**	**14 48 49.9**	**-3.1**
	1.7nm,0.3s,baz=71,slow=7.7,SNR=16						
KDAK				Sn	**Sn**	**14 50 33.3**	**-6.7**
	0.2nm,0.3s,baz=253,slow=19,SNR=2.9						
SUA	**Susitna One**	**9.63**	**311**	*e*Pn	**Pn**	**14 48 52.9**	**-1.2**
OHAK	**Old Harbor**	**9.92**	**284**	*e*Pn	**Pn**	**14 48 56.3**	**-1.7**
RND	**Reindeer**	**10.01**	**323**	*e*Pn	**Pn**	**14 48 59.6**	**+0.3**
HDA	**Harding Lake**	**10.14**	**330**	*e*Pn	**Pn**	**14 49 01.4**	**+0.4**
HDA	**Harding Lake**	**10.14**	**330**	P	**Pn**	**14 49 01.8**	**+0.7**
	baz=140						
RSO	**Redoubt South**	**10.14**	**303**	*e*Pn	**Pn**	**14 49 03.0**	**+1.7**
SKT	**Skwentna**	**10.20**	**312**	*e*Pn	**Pn**	**14 49 02.7**	**+0.8**
MCK	**McKinley**	**10.25**	**324**	*e*Pn	**Pn**	**14 49 03.5**	**+1.0**
EPYK	**Eagle Plains**	**10.38**	**357**	P	**Pn**	**14 49 05.1**	**+0.8**
	baz=176						
IL1	**Eielson Array**	**10.41**	**332**	*e*Pn	**Pn**	**14 49 04.8**	**+0.1**
ILAR	**Eielson Array**	**10.41**	**332**	Pn	**Pn**	**14 49 03.5**	**-1.2**
	0.3nm,0.3s,baz=157,slow=12,SNR=39						
ILB	**Eielson Array**	**10.41**	**332**	*e*Pn	**Pn**	**14 49 04.4**	**-0.3**
WRH	**Wood River Hil**	**10.51**	**329**	*e*Pn	**Pn**	**14 49 06.7**	**+0.6**
TRF	**Thorofare Moun**	**10.53**	**321**	*e*Pn	**Pn**	**14 49 07.2**	**+0.6**
COLA	**College**	**10.75**	**330**	*e*Pn	**Pn**	**14 49 09.9**	**+0.6**
POKR	**Poker Plat Res**	**10.82**	**332**	P	**Pn**	**14 49 11.8**	**+1.4**
	baz=142						
MDM	**Murphy Dome**	**10.92**	**330**	*e*Pn	**Pn**	**14 49 11.8**	**+0.1**
PPLA	**Purkeypile**	**10.92**	**316**	*e*Pn	**Pn**	**14 49 12.2**	**+0.3**
CAST	**Castle Rocks**	**11.17**	**318**	*e*Pn	**Pn**	**14 49 16.2**	**+1.1**
BPAW	**Bear Paw Mtn.**	**11.18**	**323**	*e*Pn	**Pn**	**14 49 15.0**	**-0.3**
B05A	**Bryant**	**11.28**	**128**	P	**Pn**	**14 49 20.1**	**+3.4**
	baz=319						
SLEB	**Sale Mountain**	**11.35**	**108**	Sg		14 52 29.4	
FYU	**Fort Yukon**	**11.54**	**340**	*e*Pn	**Pn**	**14 49 20.9**	**+0.8**
SVW2	**Sparrevohn**	**11.66**	**304**	*e*Pn	**Pn**	**14 49 20.5**	**-1.3**
MLY	**Manley**	**11.71**	**326**	*e*Pn	**Pn**	**14 49 23.7**	**+1.1**
INK	**Inuvik**	**12.33**	**3**	Pn	**Pn**	**14 49 32.2**	**+1.3**
	1.5nm,0.3s,baz=149,slow=27,SNR=47						
INK				Sn	**Sn**	**14 51 40.9**	**-7.1**
	0.2nm,0.3s,baz=138,slow=12,SNR=3.8						
INK				Lg	Lg	14 53 06.0	
	0.1nm,0.3s,baz=65,slow=32,SNR=5.4						
INK	**Inuvik**	**12.33**	**3**	*e*Pn	**Pn**	**14 49 31.7**	**+0.7**
INK				Sn	**Sn**	**14 51 40.9**	**-7.1**
INK				Lg	Lg	14 53 06.0	
INK	**Inuvik**	**12.33**	**3**	Pn	**Pn**	**14 49 31.1**	**+0.1**
YKA	**Yellowknife Ar**	**12.40**	**50**	Pn	**Pn**	**14 49 30.8**	**-1.1**
	0.3nm,0.3s,baz=250,slow=12,SNR=29						
YKA				Lg	Lg	14 53 04.2	
	0.1nm,0.3s,baz=242,slow=28,SNR=4.6						
YKB5	**Yellowknife Ar**	**12.40**	**50**	*e*Pn	**Pn**	**14 49 29.5**	**-2.4**
YKW3	**Yellowknife Ar**	**12.42**	**50**	*e*Pn	**Pn**	**14 49 31.9**	**-0.3**
YKW3	**Yellowknife Ar**	**12.42**	**50**	Pn	**Pn**	**14 49 31.9**	**-0.3**
YKW1	**Yellowknife Ar**	**12.44**	**50**	Pn	**Pn**	**14 49 32.0**	**-0.4**
LTY	**Liberty**	**12.67**	**128**	*e*Pn	**Pn**	**14 49 38.5**	**+2.7**
COLD	**Coldfoot**	**13.18**	**334**	*e*Pn	**Pn**	**14 49 43.0**	**+0.4**
COLD	**Coldfoot**	**13.18**	**334**	Pn	**Pn**	**14 49 42.7**	**+0.1**
IM3	**Indian Mountai**	**13.29**	**326**	*e*Pn	**Pn**	**14 49 44.7**	**+0.7**
NEW	**Newport**	**13.63**	**117**	Pn	**Pn**	**14 49 50.5**	**+1.7**
	0.1nm,0.3s,baz=325,slow=16,SNR=2.3						
NEW				Lg	Lg	14 53 48.8	
	baz=104,slow=4.1,SNR=4.6						
NEW	**Newport**	**13.63**	**117**	P	**Pn**	**14 49 53.0**	**+4.2**
	baz=312						
WALA	**Waterton Lakes**	**14.79**	**109**	*e*Pn	**P**	**14 50 12.0**	**+1.3**
HUMO	**Hull Mountain**	**15.68**	**144**	*e*Pn	**P**	**14 50 20.2**	**-0.2**
	22nm,1.5s						
MSO	**Missoula**	**16.19**	**116**	*e*Pn	**Pn**	**14 50 24.2**	**+1.1**
MSO	**Missoula**	**16.19**	**116**	P	**Pn**	**14 50 25.5**	**+2.4**
	baz=313						
BOZ	**Bozeman (W)**	**18.21**	**115**	*e*Pn	**P**	**14 50 50.1**	**+1.6**
	8.1nm,0.8s						
BOZ	**Bozeman (W)**	**18.21**	**115**	P	**P**	**14 50 50.9**	**+2.3**
	baz=314						
HLID	**Hailey**	**18.34**	**124**	P	**P**	**14 50 52.7**	**+2.7**
	baz=320						
YHB	**Horse Butte**	**19.02**	**116**	*e*P	**P**	**14 50 57.3**	**-0.3**
	8.4nm,1.1s						
RLMT	**Red Lodge**	**19.75**	**113**	P	**Pn**	**14 51 08.4**	**+1.4**
	baz=313						
ELK	**Elko**	**20.22**	**131**	P	Pn	14 51 13.1	+0.4
	0.6nm,0.7s,baz=354,slow=10.0,SNR=3.8						
NVAR	**Mina Array Bea**	**21.00**	**140**	P	**P**	**14 51 21.4**	**+2.3**
	2.3nm,0.9s,baz=316,slow=10,SNR=9.9						
NV11	**Mina Array Sit**	**21.06**	**140**	*e*P	**P**	**14 51 21.4**	**+1.8**
	0.5nm,1.1s						
BW06	**Boulder Array**	**21.27**	**118**	P	**P**	**14 51 23.8**	**+1.8**
	baz=318						
PD31	**Pinedale Array**	**21.27**	**118**	*e*P	**P**	**14 51 23.4**	**+1.3**
PDAR	**Pinedale Array**	**21.27**	**118**	P	**P**	**14 51 24.5**	**+2.4**
	1.6nm,0.9s,baz=310,slow=5.0,SNR=7.9						
PDAR	**Pinedale Array**	**21.27**	**118**	*e*P	**P**	**14 51 24.3**	**+2.2**
FCC	**Fort Churchill**	**22.17**	**66**	*e*P	**P**	**14 51 32.1**	**+0.9**
	18nm,1.5s						
FCC	**Fort Churchill**	**22.17**	**66**	P	**P**	**14 51 31.9**	**+0.7**
CWC	**Cottonwood Cre**	**22.86**	**142**	P	**P**	**14 51 41.0**	**+2.0**
	baz=335						
TPNV	**Topopah Spring**	**23.07**	**138**	*e*P	**P**	**14 51 42.6**	**+1.4**
	6.8nm,1.0s						
TPNV	**Topopah Spring**	**23.07**	**138**	P	**P**	**14 51 43.2**	**+2.0**
	baz=332						
RSSD	**Black Hills**	**23.18**	**108**	*e*P	**P**	**14 51 43.1**	**+0.9**
	26nm,1.8s						
RES	**Resolute Bay**	**24.30**	**25**	P	**P**	**14 51 54.1**	**+1.6**
	7.6nm,0.8s,baz=244,slow=11,SNR=26						
RES	**Resolute Bay**	**24.30**	**25**	*e*P	**P**	**14 51 54.3**	**+1.8**
	9.5nm,0.8s						
RES	**Resolute Bay**	**24.30**	**25**	P	**P**	**14 51 54.1**	**+1.6**
BFSC	**Mount Baldy Ra**	**25.00**	**143**	P	**P**	**14 52 02.5**	**+3.1**
	baz=336						
ECSD	**EROS Data Cent**	**27.47**	**100**	P	**P**	**14 52 22.2**	**+0.7**
	baz=310						
F38A	**Pierce - Schro**	**28.73**	**92**	P	**P**	**14 52 35.0**	**+2.3**
	baz=307						
TXAR	**Lajitas Array**	**34.91**	**127**	P	**P**	**14 53 28.4**	**+1.3**
	0.5nm,0.8s,baz=327,slow=9.7,SNR=3.4						
SUMG	**Summit**	**39.75**	**28**	*e*P	**P**	**14 54 09.6**	**+1.5**
	11nm,1.0s						
SUMG	**Summit**	**39.75**	**28**	*i* P	**P**	**14 54 10.0**	**+1.9**
	31nm,1.0s						
H11S1	**WAKE ISLAND Hy**	**57.03**	**253**	T	T	15 58 12.8	
	baz=36,slow=74,SNR=89						
H11S2	**WAKE ISLAND Hy**	**57.05**	**253**	T	T	15 58 16.9	
	baz=36,slow=74,SNR=32						
H11S3	**WAKE ISLAND Hy**	**57.05**	**253**	T	T	15 58 15.3	
	baz=36,slow=74,SNR=207						
NOA	**NORSAR Array B**	**60.32**	**18**	P	**P**	**14 56 45.1**	**+1.3**
	1.3nm,0.9s,baz=340,slow=7.0,SNR=3.5						
SONM	**Songino Array**	**64.34**	**319**	P	**P**	**14 57 12.8**	**+1.8**
	1.2nm,1.0s,baz=54,slow=7.7,SNR=6.0						
ZALV	**Zalesovo Beam**	**65.51**	**335**	P	**P**	**14 57 18.8**	**+0.4**
	1.2nm,0.7s,baz=30,slow=3.9,SNR=5.0						
GERES	**GERESS Array B**	**72.34**	**21**	P	**P**	**14 58 01.9**	**+0.8**
	0.6nm,0.7s,baz=352,slow=8.1,SNR=5.1						
MK31	**Makanchi Array**	**72.76**	**334**	*e*P	**P**	**14 58 03.7**	**+0.3**
MKAR	**Makanchi Array**	**72.76**	**334**	P	**P**	**14 58 03.6**	**+0.2**
	1.8nm,0.7s,baz=41,slow=5.7,SNR=20						
MKAR	**Makanchi Array**	**72.76**	**334**	*e*P	**P**	**14 58 03.7**	**+0.2**
	12nm,0.6s						
MK01	**Makanchi Array**	**72.78**	**334**	*e*P	**P**	**14 58 03.6**	**+0.1**
MAKZ	**Makanchi**	**72.82**	**334**	*e*P	**P**	**14 58 03.6**	**-0.2**
	2.8nm,0.8s						
AKASG	**Malin Array Be**	**72.85**	**10**	P	**P**	**14 58 03.6**	**-0.3**
	1.4nm,0.6s,baz=353,slow=5.8,SNR=6.8						
WMQ	**Urumqi**	**74.06**	**329**	*e*P	**P**	**14 58 11.2**	**0.0**
ABKAR	**Akbulak array**	**74.28**	**350**	*e*P	**P**	**14 58 12.7**	**+0.4**
ES19	**SONSECA Array**	**76.12**	**37**	*e*P	**P**	**14 58 24.1**	**+0.9**
ESDC	**Sonseca Array**	**76.13**	**37**	P	**P**	**14 58 23.8**	**+0.6**
	0.5nm,0.6s,baz=326,slow=5.4,SNR=7.3						
CMAR	**Chiang Mai Arr**	**92.86**	**309**	P	**P**	**14 59 49.5**	**+1.1**
	0.4nm,0.5s,baz=359,slow=5.3,SNR=4.9						

*ATH **08** 14:48:41.8, 39.°69N×25.°63E, h19km±7km, ML2.4/4, Error ellipse: s-maj=7.7km s-min=1.0km az=237.0*
*ISCJB **08** 14:48:42.5±0.6, 39.°69N±0.°04×25.°59E±0.°04, h17km±21km, Error ellipse: s-maj=7.3km s-min=5.1km az=31.4*
*DDA **08** 14:48:47.3, 39.°80N×26.°14E, h7km±3km, ML2.9*
ISC 08 14:48:42.0±1.0**, 39.°70N**±0.°03×**25.°63E**±0.°04**, h17**km±10km**, n14, σ0.°45**/19**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.35**	**66**	IAML_P			
	comp=Z,6µm,0.1s						
BOZC				*i* P	**Pb**	**14 48 50.2**	**+0.3**
LIA	**Limnos Island**	**0.40**	**300**	P	**Pg**	**14 48 49.7**	**-0.5**
LIA				S	**Sg**	**14 48 56.0**	**+0.2**
LIA				AML	AML	14 48 56.6	
	comp=N,480µm,0.2s						
LIA				AML	AML	14 48 58.4	
	comp=E,479µm,0.2s						
SIGR	**SIGRI**	**0.51**	**160**	P	**Pg**	**14 48 51.7**	**-0.5**
SIGR				S	**Sg**	**14 48 59.4**	**+0.3**
SIGR				AML	AML	14 49 00.0	
	comp=N,1661µm,0.3s						
SIGR				AML	AML	14 49 00.1	
	comp=E,1403µm,0.4s						
EFSA	**Agios Efstrati**	**0.52**	**253**	P	**Pg**	**14 48 52.6**	**+0.2**
EFSA				S	**Sg**	**14 48 59.5**	**+0.1**
EFSA				AML	AML	14 49 00.0	
	comp=N,1261µm,0.2s						
EFSA				AML	AML	14 49 00.2	
	comp=E,1797µm,0.2s						
PRK	**Paraskevi**	**0.67**	**132**	P	**Pg**	**14 48 54.6**	**-0.5**
BAYC	**CANAKKALE_Bayr**	**0.71**	**86**	IAML_P			
	comp=Z,5µm,0.2s						
BAYC				*i* P	**Pb**	**14 48 56.3**	**+0.4**
BAYC				*i* S	**Sn**	**14 49 07.0**	**-0.9**
SMTH	**Samothraki Isl**	**0.78**	**354**	P	**Pb**	**14 48 57.2**	**+0.1**
SMTH				AML	AML	14 49 10.3	
	comp=E,358µm,0.2s						
SMTH				AML	AML	14 49 10.5	
	comp=N,739µm,0.2s						
AYVA	**Ayvalik**	**0.91**	**115**	IAML_P			
	comp=Z,1µm,0.1s						
AYVA				*i* P	**Pn**	**14 49 00.7**	**+0.7**
AYVA				*i* S	**Sn**	**14 49 12.7**	**+0.1**
THAS	**Thassos island**	**1.15**	**323**	P	**Pn**	**14 49 03.0**	**-0.3**
PSRA	**Psara**	**1.15**	**183**	P	**Pg**	**14 49 04.0**	**-0.3**
ALN	**Alexandroupoli**	**1.24**	**15**	P	**Pb**	**14 49 05.4**	**+0.3**
CHOS	**Chios island**	**1.35**	**166**	P	**Pb**	**14 49 06.8**	**0.0**
KESN	**Edirne-Kesan**	**1.38**	**35**	IAML_P			

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,630nm,0.1s						
KESN				*i* P	Pg	14 49 08.8	0.0
BALY	**Balya**	**1.53**	**88**	IAML_P			
	comp=Z,627nm,0.1s						
BALY				*i* P	Pg	14 49 10.9	-0.6

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*ISCJB **08** 14:48:54.1±0.5, 39°.71N±0°.02×25°.65E±0°.04, h5km±4km, Error ellipse: s-maj=4.6km s-min=3.5km az=169.5*
*THE **08** 14:48:54.3, 39°.71N×25°.65E, h4km±2km, ML2.8/5, Error ellipse: s-maj=2.7km s-min=0.7km az=306.0*
*ISK **08** 14:48:54.0, 39°.70N×25°.68E, h8km, ML3.3/12*
ISC 08 14:48:53.9±1.2**, 39°.72N**±0°.02×**25°.70E**±0°.04**, h5**km±11km**, n24, σ0s59**/37**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.30**	**66**	PG	**Pb**	**14 49 01.2**	**-0.6**
GPNR	**Gulpinar-Canak**	**0.43**	**128**	PG	**Pb**	**14 49 03.2**	**-0.8**
GPNR				SG	**Sb**	**14 49 09.3**	**-1.4**
LIA	**Limnos Island**	**0.43**	**294**	P	**Pg**	**14 49 02.2**	**-0.1**
LIA				S	**Sg**	**14 49 07.7**	**-0.2**
GADA	**Gvkgeada**	**0.49**	**18**	PG	**Pb**	**14 49 04.6**	**-0.5**
EZN	**Ezine**	**0.50**	**78**	PG	**Pb**	**14 49 05.1**	**0.0**
EZN				SG	**Sb**	**14 49 12.0**	**-0.7**
SIGR	**SIGRI**	**0.52**	**166**	P	**Pg**	**14 49 04.5**	**+0.6**
SIGR				S	**Sg**	**14 49 11.7**	**+1.0**
SMTH	**Samothraki Isl**	**0.76**	**350**	P	**Pg**	**14 49 08.0**	**-0.5**
SMTH				S	**Sb**	**14 49 20.1**	**-0.3**
SMTH	**Samothraki Isl**	**0.76**	**350**	S	**Pg**	**14 49 08.4**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.90**	**41**	PG	**Pn**	**14 49 12.7**	**-0.6**
GELI				SG	**Sb**	**14 49 25.4**	**+1.0**
LPK	**Lapseki**	**1.04**	**51**	PG	**Pn**	**14 49 14.9**	**-0.4**
LPK				SG	**Sn**	**14 49 30.1**	**-0.2**
ENEZ	**Enez**	**1.07**	**19**	PN	**Pb**	**14 49 14.9**	**-0.1**
ENEZ				SN	**Sn**	**14 49 31.1**	**+0.1**
ERIK	**Erikli-Kesan**	**1.14**	**33**	PN	**Pn**	**14 49 17.1**	**+0.6**
ERIK				SN	**Sn**	**14 49 33.3**	**+0.8**
DKL	**Dikili**	**1.14**	**124**	PN	**Pn**	**14 49 16.4**	**-0.1**
THAS	**Thassos island**	**1.16**	**320**	P	**Pg**	**14 49 16.2**	**+0.1**
ALN	**Alexandroupoli**	**1.21**	**13**	PN	**Pn**	**14 49 18.0**	**+0.5**
ALN	**Alexandroupoli**	**1.21**	**13**	P	**Pb**	**14 49 17.2**	**-0.1**
ALN				S	**Sn**	**14 49 34.1**	**-0.1**
FOCM	**Foa**	**1.29**	**141**	PN	**Pg**	**14 49 18.5**	**-0.1**
FOCM				SN	**Sn**	**14 49 36.7**	**+0.5**
CHOS	**Chios island**	**1.36**	**168**	PN	**Pn**	**14 49 19.1**	**-0.6**
CHOS	**Chios island**	**1.36**	**168**	P	**Pn**	**14 49 19.6**	**-0.1**
CHOS				S	**Sb**	**14 49 37.8**	**+0.1**
KRBG	**Karabiga-Canak**	**1.40**	**61**	PN	**Pg**	**14 49 21.1**	**+0.3**
KRBG				SN	**Sn**	**14 49 40.4**	**+1.4**
RDO	**Rodhopi**	**1.43**	**355**	PN	**Pg**	**14 49 21.2**	**-0.1**
AOS	**Alonnisos**	**1.51**	**249**	PN	**Pn**	**14 49 22.0**	**+0.3**
GONE	**Gonen-Balikesi**	**1.56**	**77**	PN	**Pb**	**14 49 23.2**	**-0.2**
BALB	**Balikesir**	**1.69**	**92**	PN	**Pb**	**14 49 24.9**	**-0.5**

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*DDA **08** 14:51:49.9, 39°.85N×25°.61E, h9km±4km, ML3.7*
*THE **08** 14:51:50.7, 39°.60N×25°.43E, h30km±2km, ML2.9/5, Error ellipse: s-maj=5.8km s-min=1.2km az=243.0*
*ISK **08** 14:51:50.7, 39°.70N×25°.64E, h10km, ML3.5/19*
*ATH **08** 14:51:50.8, 39°.70N×25°.63E, h28km±1km, ML3.1/7, Error ellipse: s-maj=1.9km s-min=1.0km az=243.0*
ISC 08 14:51:50.6±1.0**, 39°.69N**±0°.02×**25°.62E**±0°.02**, h24**km±9km**, n54, σ1s00**/73**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.37**	**65**	PG	**Pb**	**14 51 58.5**	**-0.2**
BOZC				SG	**Sb**	**14 52 03.8**	**-0.3**
BOZC	**Bozcaada**	**0.37**	**65**	IAML_P			
	comp=Z,53μm,0.1s						
BOZC				*i* P	**Pb**	**14 51 59.0**	**+0.3**
LIA	**Limnos Island**	**0.40**	**302**	P	**Pb**	**14 51 59.4**	**+0.3**
LIA				S	**Sb**	**14 52 05.5**	**+0.7**
LIA				AML	AML	14 52 09.6	
	comp=N,3882μm,0.4s						
LIA				AML	AML	14 52 09.7	
	comp=E,3452μm,0.3s						
LIA	**Limnos Island**	**0.40**	**302**	P	**Pb**	**14 51 59.3**	**+0.3**
LIA				S	**Sb**	**14 52 04.6**	**-0.2**
GPNR	**Gulpinar-Canak**	**0.46**	**120**	PG	**Pb**	**14 51 59.8**	**-0.3**
EFSA	**Agios Efstrati**	**0.51**	**253**	P	**Pn**	**14 52 02.4**	**0.0**
EFSA				S	**Sn**	**14 52 09.4**	**-0.9**
EFSA				AML	AML	14 52 09.9	
	comp=N,5062μm,0.3s						
EFSA				AML	AML	14 52 10.4	
	comp=E,6180μm,0.2s						
SIGR	**SIGRI**	**0.51**	**159**	PG	**Pb**	**14 52 01.1**	**+0.1**
SIGR				SG	**Sb**	**14 52 07.1**	**-0.8**
SIGR	**SIGRI**	**0.51**	**159**	P	**Pb**	**14 52 01.0**	**+0.1**
SIGR				S	**Sb**	**14 52 08.5**	**+0.6**
SIGR				AML	AML	14 52 09.3	
	comp=E,13156μm,0.5s						
SIGR				AML	AML	14 52 09.4	
	comp=N,18216μm,0.6s						
SIGR	**SIGRI**	**0.51**	**159**	P	**Pb**	**14 52 00.4**	**-0.5**
SIGR				S	**Sb**	**14 52 08.8**	**+0.9**
GADA	**Gvkgeada**	**0.55**	**23**	PG	**Pb**	**14 52 01.7**	**+0.1**
GOKC	**Gokceada-Canak**	**0.56**	**24**	PG	**Pb**	**14 52 02.0**	**+0.1**
GOKC				SG	**Sb**	**14 52 10.1**	**+0.6**
EZN	**Ezine**	**0.56**	**75**	PG	**Pb**	**14 52 01.9**	**0.0**
EZN				SG	**Sb**	**14 52 09.6**	**+0.1**
PRK	**Paraskevi**	**0.67**	**131**	P	**Pn**	**14 52 04.3**	**-0.3**
PRK				S	**Sn**	**14 52 14.2**	**-0.2**
PRK				AML	AML	14 52 17.9	
	comp=N,3694μm,0.2s						
PRK				AML	AML	14 52 19.0	
	comp=E,2805μm,0.3s						
PRK	**Paraskevi**	**0.67**	**131**	P	**Pn**	**14 52 05.1**	**+0.4**
PRK				S	**Sn**	**14 52 14.3**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**0.72**	**85**	*i* P	**Pn**	**14 52 05.8**	**+0.5**
BAYC				*i* S	**Sn**	**14 52 15.4**	**-0.3**
SMTH	**Samothraki Isl**	**0.79**	**355**	P	**Pn**	**14 52 06.3**	**-0.1**
SMTH				S	**Sn**	**14 52 17.0**	**-0.3**
SMTH				AML	AML	14 52 19.2	
	comp=E,1482μm,0.3s						
SMTH				AML	AML	14 52 19.3	
	comp=N,2052μm,0.3s						
SMTH	**Samothraki Isl**	**0.79**	**355**	P	**Pn**	**14 52 06.2**	**-0.1**
SMTH				S	**Sn**	**14 52 17.2**	**-0.1**
AYVA	**Ayvalik**	**0.91**	**114**	*i* P	**Pb**	**14 52 09.1**	**+1.4**
GELI	**Tayfur-Gelibol**	**0.97**	**43**	PG	**Pb**	**14 52 09.2**	**+0.5**
LPK	**Lapseki**	**1.11**	**52**	PN	**Pb**	**14 52 12.3**	**+1.1**
ENEZ	**Enez**	**1.13**	**21**	PN	**Pb**	**14 52 12.4**	**+1.0**
PSRA	**Psara**	**1.14**	**182**	P	**Pb**	**14 52 13.1**	**+1.4**
THAS	**Thassos island**	**1.15**	**323**	P	**Pb**	**14 52 12.4**	**+0.6**
THAS				S	**Sb**	**14 52 27.6**	**+1.3**
THAS				AML	AML	14 52 29.9	
	comp=N,1553μm,0.3s						
THAS				AML	AML	14 52 30.3	
	comp=E,1594μm,0.4s						
DKL	**Dikili**	**1.17**	**121**	PN	**Pb**	**14 52 13.4**	**+1.2**
DKL				SN	**Sb**	**14 52 30.1**	**+3.1**
ERIK	**Erikli-Kesan**	**1.20**	**35**	PN	**Pb**	**14 52 13.4**	**+0.7**
ALN	**Alexandroupoli**	**1.25**	**15**	PN	**Pb**	**14 52 14.7**	**+1.1**
ALN	**Alexandroupoli**	**1.25**	**15**	P	**Pb**	**14 52 14.4**	**+0.8**
ALN				S	**Sb**	**14 52 31.5**	**+2.2**
ALN	**Alexandroupoli**	**1.25**	**15**	P	**Pb**	**14 52 14.3**	**+0.7**
ALN				S	**Sb**	**14 52 30.9**	**+1.6**
CHOS	**Chios island**	**1.34**	**165**	PN	**Pb**	**14 52 16.4**	**+1.2**
CHOS	**Chios island**	**1.34**	**165**	P	**Pb**	**14 52 15.8**	**+0.6**
CHOS				S	**Sb**	**14 52 33.5**	**+1.6**
CHOS				AML	AML	14 52 37.1	
	comp=N,1986μm,0.5s						
CHOS				AML	AML	14 52 37.9	
	comp=E,3352μm,0.6s						
CHOS	**Chios island**	**1.34**	**165**	P	**Pn**	**14 52 11.8**	**-2.2**
KESN	**Edirne-Kesan**	**1.40**	**35**	IAML_P			
	comp=Z,946nm,0.2s						
KESN				*i* P	**Pn**	**14 52 14.1**	**-1.0**
AOS	**Alonnisos**	**1.44**	**250**	PN	**Pb**	**14 52 17.8**	**+1.0**
RDO	**Rodhopi**	**1.46**	**358**	PN	**Pb**	**14 52 17.6**	**+0.5**
RDO	**Rodhopi**	**1.46**	**358**	P	**Pb**	**14 52 16.7**	**-0.4**
KRBG	**Karabiga-Canak**	**1.47**	**61**	PN	**Pb**	**14 52 17.8**	**+0.5**
URLA	**Izmir**	**1.53**	**150**	PN	**Pb**	**14 52 19.0**	**+0.7**
BALY	**Balya**	**1.55**	**87**	IAML_P			
	comp=Z,5μm,0.2s						
BALY				*i* P	**Pb**	**14 52 19.8**	**+1.1**
KAVA	**Kavala**	**1.56**	**328**	P	**Pb**	**14 52 18.4**	**-0.4**
KVLA	**Kavala**	**1.56**	**323**	P	**Pb**	**14 52 18.5**	**-0.4**
KNL	**Balıkesir**	**1.58**	**68**	IAML_P			
	comp=Z,7μm,0.4s						
KNL				*i* P	**Pb**	**14 52 19.5**	**+0.4**
GONE	**Gonen-Balikesi**	**1.63**	**77**	PN	**Pb**	**14 52 19.9**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.66**	**100**	IAML_P			
	comp=Z,5μm,0.2s						
STEP				*i* P	**Pb**	**14 52 21.9**	**+1.4**
BLCB	**Balcova**	**1.71**	**139**	PN	**Pb**	**14 52 21.5**	**+0.2**
BALB	**Balikesir**	**1.75**	**91**	PN	**Pb**	**14 52 21.6**	**-0.4**
SBT4	**Kumbag-Tekirda**	**1.86**	**52**	PN	**Pb**	**14 52 22.5**	**-1.3**
AKHS	**Akhisar**	**1.89**	**115**	*i* P	**Pb**	**14 52 24.2**	**-0.2**
TKR	**Tekirdag**	**1.96**	**48**	PN	**Pb**	**14 52 24.9**	**-0.8**
KDZ	**Kurdzhali**	**1.97**	**356**	PN	**Pb**	**14 52 24.8**	**-1.0**
HORT	**Hortiatis**	**2.13**	**296**	PN	**Pb**	**14 52 27.5**	**-1.1**
KCTX	**Karacabey (Bur**	**2.18**	**74**	PN	**Pb**	**14 52 28.0**	**-1.5**
DURS	**Dursunbey**	**2.21**	**91**	IAML_P			
	comp=Z,922nm,0.2s						
DURS				*i* P	**Pb**	**14 52 28.7**	**-1.2**
DST	**Dursunbey**	**2.32**	**91**	PN	**Pb**	**14 52 29.9**	**-1.9**
AYDB	**Zeytinkoy-Aydi**	**2.48**	**134**	PN	**Pb**	**14 52 32.2**	**-2.5**

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*DDA **08** 14:56:39.0, 39°.69N×25°.40E, h17km±1km, ML3.6*
*ATH **08** 14:56:42.0, 39°.70N×25°.61E, h28km±1km, ML3.4/7, Error ellipse: s-maj=1.7km s-min=1.1km az=69.0*
*ISCJB **08** 14:56:42.3±0.4, 39°.71N±0°.02×25°.61E±0°.02, h7km±3km, Error ellipse: s-maj=2.6km s-min=2.4km az=36.5*
*THE **08** 14:56:42.5, 39°.71N×25°.63E, h9km±1km, ML3.1/9, Error ellipse: s-maj=1.3km s-min=0.5km az=72.0*
*ISK **08** 14:56:42.1, 39°.70N×25°.65E, h5km, ML3.7/36*
ISC 08 14:56:42.4±1.0**, 39°.69N**±0°.02×**25°.61E**±0°.02**, h10**km±8km**, n107, σ0s83**/135**, 7C-3D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.37**	**66**	PG	**Pg**	**14 56 49.5**	**-0.2**
BOZC				SG	**Sg**	**14 56 54.9**	**+0.3**
BOZC	**Bozcaada**	**0.37**	**66**	*i* P	**Pb**	**14 56 50.4**	**-0.7**
LIA	**Limnos Island**	**0.39**	**302**	P	**Pg**	**14 56 50.6**	**+0.4**
LIA				S	**Sg**	**14 56 56.2**	**+1.0**
LIA				AML	AML	14 57 00.8	
	comp=N,7461μm,0.4s						
LIA				AML	AML	14 57 01.3	
	comp=E,6548μm,0.4s						
LIA	**Limnos Island**	**0.39**	**302**	P	**Pg**	**14 56 50.5**	**+0.4**
LIA				S	**Sg**	**14 56 55.8**	**+0.5**
GPNR	**Gulpinar-Canak**	**0.47**	**120**	PG	**Pg**	**14 56 51.2**	**-0.3**
EFSA	**Agios Efstrati**	**0.51**	**253**	P	**Pb**	**14 56 53.6**	**+0.2**
EFSA				S	**Sb**	**14 57 00.6**	**-0.3**
EFSA				AML	AML	14 57 01.2	
	comp=N,8811μm,0.3s						
EFSA				AML	AML	14 57 01.6	
	comp=E,10556μm,0.2s						
SIGR	**SIGRI**	**0.52**	**159**	PG	**Pg**	**14 56 52.5**	**+0.1**
SIGR				SG	**Sg**	**14 56 58.4**	**-0.8**
SIGR	**SIGRI**	**0.52**	**159**	P	**Pg**	**14 56 52.2**	**-0.3**
SIGR				S	**Sg**	**14 56 59.7**	**+0.6**
SIGR				AML	AML	14 57 00.5	
	comp=E,21324μm,0.5s						
SIGR				AML	AML	14 57 00.6	
	comp=N,29971μm,0.6s						
SIGR	**SIGRI**	**0.52**	**159**	P	**Pg**	**14 56 52.1**	**-0.3**
SIGR				S	**Sg**	**14 57 00.0**	**+0.8**
GADA	**Gvkgeada**	**0.55**	**24**	PG	**Pg**	**14 56 52.9**	**-0.1**
GADA	**Gvkgeada**	**0.55**	**24**	P	**Pg**	**14 56 52.8**	**-0.2**
GADA				S	**Sg**	**14 57 00.1**	**-0.1**
GOKC	**Gokceada-Canak**	**0.56**	**25**	PG	**Pg**	**14 56 53.4**	**+0.1**
EZN	**Ezine**	**0.56**	**76**	PG	**Pg**	**14 56 53.1**	**-0.3**
EZN				SG	**Sg**	**14 57 00.5**	**-0.2**
EZN	**Ezine**	**0.56**	**76**	P	**Pg**	**14 56 53.0**	**-0.3**
EZN				S	**Sg**	**14 57 00.6**	**-0.2**
PRK	**Paraskevi**	**0.68**	**131**	P	**Pb**	**14 56 56.4**	**+0.1**
PRK				S	**Sb**	**14 57 05.4**	**-0.3**
PRK				AML	AML	14 57 08.9	
	comp=E,4924μm,0.6s						
PRK				AML	AML	14 57 09.8	
	comp=N,4804μm,0.4s						
PRK	**Paraskevi**	**0.68**	**131**	P	**Pb**	**14 56 56.4**	**+0.1**
PRK				S	**Sb**	**14 57 05.9**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**0.72**	**86**	*i* P	**Pb**	**14 56 57.0**	**-0.1**
BAYC				*i* S	**Sg**	**14 57 06.2**	**+0.4**
SMTH	**Samothraki Isl**	**0.78**	**355**	P	**Pg**	**14 56 57.4**	**-0.1**
SMTH				S	**Sb**	**14 57 08.4**	**-0.4**
SMTH				AML	AML	14 57 10.1	
	comp=N,3884μm,0.5s						
SMTH				AML	AML	14 57 10.4	
	comp=E,2372μm,0.2s						
SMTH	**Samothraki Isl**	**0.78**	**355**	P	**Pg**	**14 56 57.4**	**-0.1**
SMTH				S	**Sg**	**14 57 07.7**	**0.0**
AYVA	**Ayvalik**	**0.92**	**114**	*i* P	**Pg**	**14 57 00.2**	**+0.2**
AYVA				*i* S	**Sn**	**14 57 14.6**	**0.0**
GELI	**Tayfur-Gelibol**	**0.97**	**43**	PG	**Pg**	**14 57 00.5**	**-0.5**
LPK	**Lapseki**	**1.11**	**52**	PN	**Pb**	**14 57 03.2**	**-0.6**
ENEZ	**Enez**	**1.12**	**21**	PN	**Pb**	**14 57 03.4**	**-0.5**
ENEZ				SN	**Sn**	**14 57 19.4**	**-0.3**
THAS	**Thassos island**	**1.14**	**323**	P	**Pb**	**14 57 03.8**	**-0.5**
THAS				S	**Sg**	**14 57 19.2**	**0.0**
THAS				AML	AML	14 57 21.5	
	comp=E,2599μm,0.4s						
THAS				AML	AML	14 57 21.7	
	comp=N,2290μm,0.2s						
THAS	**Thassos island**	**1.14**	**323**	P	**Pb**	**14 57 03.0**	**-1.3**
THAS				S	**Sg**	**14 57 19.4**	**+0.2**
PSRA	**Psara**	**1.15**	**182**	P	**Pb**	**14 57 04.2**	**-0.1**
PSRA				S	**Sn**	**14 57 20.4**	**+0.1**
SKY	**Skiros Island**	**1.16**	**226**	P	**Pb**	**14 57 03.5**	**-1.0**
SKY	**Skiros Island**	**1.16**	**226**	P	**Pb**	**14 57 03.5**	**-1.0**
DKL	**Dikili**	**1.18**	**121**	PN	**Pb**	**14 57 04.8**	**0.0**
ERIK	**Erikli-Kesan**	**1.20**	**35**	PN	**Pb**	**14 57 04.5**	**-0.7**
ERIK				SN	**Sg**	**14 57 20.9**	**0.0**
ALN	**Alexandroupoli**	**1.25**	**15**	PN	**Pn**	**14 57 05.5**	**-0.4**
ALN	**Alexandroupoli**	**1.25**	**15**	P	**Pn**	**14 57 05.3**	**-0.7**
ALN				S	**Sg**	**14 57 22.3**	**-0.3**
ALN	**Alexandroupoli**	**1.25**	**15**	P	**Pn**	**14 57 04.9**	**-1.0**
ALN				S	**Sb**	**14 57 21.6**	**-0.6**
FOCM	**Foa**	**1.31**	**138**	PN	**Pn**	**14 57 06.6**	**-0.1**
CHOS	**Chios island**	**1.35**	**165**	PN	**Pn**	**14 57 07.6**	**+0.2**
CHOS	**Chios island**	**1.35**	**165**	P	**Pn**	**14 57 06.6**	**-0.8**
CHOS				S	**Sb**	**14 57 25.2**	**0.0**
CHOS				AML	AML	14 57 27.2	
	comp=N,3332μm,0.5s						
CHOS				AML	AML	14 57 29.1	
	comp=E,5274μm,0.6s						
CHOS	**Chios island**	**1.35**	**165**	P	**Pn**	**14 57 06.5**	**-0.8**
CHOS				S	**Sn**	**14 57 25.8**	**+0.4**
KESN	**Edirne-Kesan**	**1.40**	**35**	*i* P	**Pn**	**14 57 08.2**	**-0.2**
OUR	**Ouranopolis**	**1.41**	**298**	PN	**Pg**	**14 57 09.3**	**-0.1**
OUR	**Ouranopolis**	**1.41**	**298**	P	**Pn**	**14 57 08.4**	**+0.2**
AOS	**Alonnisos**	**1.44**	**249**	PN	**Pg**	**14 57 10.6**	**+0.6**
AOS	**Alonnisos**	**1.44**	**249**	P	**Pb**	**14 57 09.2**	**-0.1**
AOS	**Alonnisos**	**1.44**	**249**	P	**Pn**	**14 57 09.0**	**+0.4**
AOS				S	**Sg**	**14 57 28.7**	**0.0**
RDO	**Rodhopi**	**1.45**	**358**	PN	**Pb**	**14 57 09.5**	**-0.1**
RDO	**Rodhopi**	**1.45**	**358**	P	**Pn**	**14 57 08.2**	**-0.6**
RDO	**Rodhopi**	**1.45**	**358**	P	**Pn**	**14 57 08.0**	**-0.8**
KRBG	**Karabiga-Canak**	**1.47**	**61**	PN	**Pn**	**14 57 09.3**	**+0.3**
KRBG				SN	**Sg**	**14 57 29.1**	**-0.6**
PAIG	**Paliouri**	**1.51**	**280**	P	**Pn**	**14 57 08.5**	**-1.0**
PAIG	**Paliouri**	**1.51**	**280**	P	**Pn**	**14 57 08.4**	**-1.1**
PAIG				S	**Sb**	**14 57 29.9**	**+0.2**
URLA	**Izmir**	**1.53**	**150**	PN	**Pn**	**14 57 10.1**	**+0.2**
URLA	**Izmir**	**1.53**	**150**	IAML_P			
	comp=Z,5μm,0.2s						
URLA				*i* P	**Pn**	**14 57 09.8**	**0.0**
BALY	**Balya**	**1.55**	**88**	IAML_P			
	comp=Z,6μm,0.2s						
BALY				*i* P	**Pn**	**14 57 10.4**	**+0.3**
KAVA	**Kavala**	**1.55**	**328**	P	**Pn**	**14 57 09.5**	**-0.6**
KAVA	**Kavala**	**1.55**	**328**	P	**Pn**	**14 57 09.1**	**-1.0**
KVLA	**Kavala**	**1.56**	**323**	P	**Pn**	**14 57 09.7**	**-0.5**
KNL	**Balıkesir**	**1.58**	**68**	*i* P	**Pb**	**14 57 11.7**	**0.0**
GONE	**Gonen-Balikesi**	**1.63**	**77**	PN	**Pn**	**14 57 11.8**	**+0.6**
BLCB	**Balcova**	**1.71**	**139**	PN	**Pb**	**14 57 13.7**	**-0.3**
BALB	**Balikesir**	**1.75**	**91**	PN	**Pn**	**14 57 13.3**	**+0.5**
PLG	**Polygyros**	**1.80**	**293**	P	**Pn**	**14 57 12.9**	**-0.7**
EREA	**Eretria**	**1.82**	**226**	P	**Pn**	**14 57 12.8**	**-1.1**
EDC	**Edincik**	**1.85**	**69**	PN	**Pb**	**14 57 15.4**	**-0.9**
SBT4	**Kumbag-Tekirda**	**1.86**	**52**	PN	**Pb**	**14 57 15.8**	**-0.6**
NEO	**Neokhori**	**1.89**	**259**	P	**Pn**	**14 57 14.3**	**-0.5**
AKHS	**Akhisar**	**1.89**	**115**	IAML_P			
	comp=Z,7μm,0.1s						
AKHS				*i* P	**Pn**	**14 57 15.3**	**+0.6**
AKS	**Akhisar**	**1.89**	**115**	PN	**Pn**	**14 57 14.8**	**0.0**
DGB	**zmir**	**1.91**	**148**	IAML_P			
	comp=Z,478nm,0.2s						
DGB				*i* P	**Pn**	**14 57 16.0**	**+0.9**
TKR	**Tekirdag**	**1.96**	**48**	PN	**Pb**	**14 57 16.9**	**-1.3**
KDZ	**Kurdzhali**	**1.96**	**356**	PN	**Pn**	**14 57 16.7**	**+0.9**
SOH	**Sokhos**	**2.06**	**304**	P	**Pn**	**14 57 17.0**	**-0.2**
SRS	**Serrai**	**2.10**	**313**	P	**Pn**	**14 57 17.3**	**-0.4**
NVR	**Nevrokopi**	**2.13**	**322**	P	**Pn**	**14 57 17.4**	**-0.7**
NVR	**Nevrokopi**	**2.13**	**322**	P	**Pn**	**14 57 17.3**	**-0.7**
HORT	**Hortiatis**	**2.13**	**296**	PN	**Pn**	**14 57 18.8**	**+0.7**
KCTX	**Karacabey (Bur**	**2.18**	**74**	PN	**Pn**	**14 57 19.8**	**+1.0**
DURS	**Dursunbey**	**2.21**	**91**	IAML_P			
	comp=Z,2μm,0.2s						
DURS				*i* P	**Pn**	**14 57 19.6**	**+0.4**
EDRB	**Edirne**	**2.32**	**21**	PN	**Pn**	**14 57 22.1**	**+1.4**
DST	**Dursunbey**	**2.32**	**91**	PN	**Pn**	**14 57 22.1**	**+1.3**
GCAM	**G?zelcaml?**	**2.36**	**147**	PN	**Pn**	**14 57 22.8**	**+1.6**
PHSR	**Pinarhisar**	**2.42**	**36**	PN	**Pn**	**14 57 22.8**	**+0.7**
PHSR	**Pinarhisar**	**2.42**	**36**	⇓*i* P	**Pb**	**14 57 25.1**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**2.49**	**134**	PN	**Pn**	**14 57 23.8**	**+0.7**
SLVT	**Silivri**	**2.51**	**51**	PN	**Pn**	**14 57 24.4**	**+1.2**
PLD	**Plovdiv**	**2.51**	**344**	PN	**Pn**	**14 57 25.1**	**+1.8**
KNT	**Kendrikon**	**2.54**	**306**	PN	**Pn**	**14 57 25.3**	**+1.6**
MANT	**Manisa**	**2.59**	**117**	IAML_P			
	comp=Z,827nm,0.2s						
MANT				*i* P	**Pn**	**14 57 25.6**	**+1.0**
MDNY	**Mudanya-Bursa**	**2.60**	**74**	PN	**Pn**	**14 57 25.7**	**+1.2**
APE	**Apeiranthos**	**2.62**	**181**	PN	**Pn**	**14 57 26.5**	**+1.7**
ARMT	**Armutlu**	**2.64**	**70**	PN	**Pn**	**14 57 25.5**	**+0.4**
KULA	**Kula-Manisa**	**2.65**	**115**	PN	**Pn**	**14 57 25.7**	**+0.5**
SBT5	**Esenkoy-Cinarc**	**2.67**	**68**	PN	**Pn**	**14 57 27.4**	**+1.9**
CTKS	**Kestanelik-??a**	**2.69**	**54**	PN	**Pn**	**14 57 26.5**	**+0.7**
GRG	**Griva**	**2.76**	**298**	P	**Pn**	**14 57 27.3**	**+0.5**
BODT	**Bodrum**	**2.94**	**153**	PN	**Pb**	**14 57 32.4**	**-2.6**
ISK	**Istanbul-Kandi**	**2.97**	**61**	PN	**Pn**	**14 57 30.7**	**+1.1**
KAVV	**Kandilli-Istan**	**2.97**	**61**	PN	**Pn**	**14 57 29.9**	**+0.3**
YLV	**Yalova**	**3.01**	**72**	PN	**Pn**	**14 57 31.4**	**+1.1**
CAVI	**Cavuskoy**	**3.29**	**80**	PN	**Pn**	**14 57 35.0**	**+1.0**
ARR	**Arges**	**5.72**	**353**	⇑*i* P	**Pn**	**14 58 09.3**	**+1.9**
VOIR		**5.76**	**356**	⇓*i* P	**Pn**	**14 58 08.8**	**+0.8**
MLR	**Muntele Rosu**	**5.80**	**2**	⇓*i* P	**Pn**	**14 58 10.9**	**+2.3**
GZR	**Gura Zlata**	**6.07**	**341**	⇑*i* P	**Pn**	**14 58 12.4**	**+0.1**
PLOR	**Plostina**	**6.20**	**7**	⇑*i* P	**Pn**	**14 58 16.6**	**+2.5**
VRI	**Vrincioaia**	**6.23**	**7**	⇑*i* P	**Pn**	**14 58 16.3**	**+1.9**
DOPR	**Dopca**	**6.28**	**359**	⇑*i* P	**Pn**	**14 58 15.9**	**+0.9**
SIRR	**Siria**	**7.18**	**338**	⇑*i* P	**Pn**	**14 58 27.8**	**+0.3**
DRGR		**7.41**	**344**	⇑*i* P	**Pn**	**14 58 32.3**	**+1.7**

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*DDA **08** 14:58:18.2, 39°.68N×25°.59E, h25km, ML3.5*
*ISK **08** 14:58:18.9, 39°.70N×25°.63E, h5km, ML3.6/22*
*ISCJB **08** 14:58:19.5±0.5, 39°.72N±0°.02×25°.62E±0°.03, h4km±4km, Error ellipse: s-maj=4.1km s-min=3.3km az=137.9*
*THE **08** 14:58:19.8, 39°.73N×25°.62E, h6km±2km, ML3.0/7, Error ellipse: s-maj=2.6km s-min=0.7km az=33.0*
ISC 08 14:58:19.4±1.1**, 39°.71N**±0°.02×**25°.62E**±0°.02**, h9**km±10km**, n51, σ0s75**/64**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.36**	**68**	PG	**Pg**	**14 58 26.6**	**+0.1**
BOZC				SG	**Sg**	**14 58 32.1**	**+0.8**
BOZC	**Bozcaada**	**0.36**	**68**	*i* P	**Pb**	**14 58 27.1**	**-0.9**
LIA	**Limnos Island**	**0.39**	**300**	P	**Pg**	**14 58 27.2**	**+0.2**
LIA				S	**Sg**	**14 58 32.2**	**+0.1**
GPNR	**Gulpinar-Canak**	**0.47**	**122**	PG	**Pg**	**14 58 28.2**	**-0.4**
GADA	**Gvkgeada**	**0.53**	**24**	PG	**Pg**	**14 58 29.8**	**+0.1**
GADA	**Gvkgeada**	**0.53**	**24**	P	**Pb**	**14 58 30.0**	**-0.9**
GADA				S	**Sb**	**14 58 37.6**	**-1.0**
GOKC	**Gokceada-Canak**	**0.54**	**25**	PG	**Pg**	**14 58 30.0**	**+0.1**
GOKC				SG	**Sb**	**14 58 38.3**	**-0.8**
EZN	**Ezine**	**0.56**	**78**	PG	**Pg**	**14 58 30.3**	**+0.1**
EZN				SG	**Sg**	**14 58 37.8**	**+0.2**
EZN	**Ezine**	**0.56**	**78**	P	**Pg**	**14 58 29.9**	**-0.3**
EZN				S	**Sg**	**14 58 37.7**	**+0.2**
PRK	**Paraskevi**	**0.69**	**132**	P	**Pb**	**14 58 33.3**	**-0.3**
PRK				S	**Sb**	**14 58 43.0**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**0.72**	**87**	*i* P	**Pg**	**14 58 33.1**	**-0.1**
BAYC				*i* S	**Sb**	**14 58 43.2**	**-0.9**
SMTH	**Samothraki Isl**	**0.76**	**355**	P	**Pg**	**14 58 34.2**	**0.0**
SMTH				S	**Sb**	**14 58 45.2**	**-0.3**
AYVA	**Ayvalik**	**0.92**	**115**	IAML_P			
	comp=Z,4μm,0.2s						
AYVA				*i* P	**Pb**	**14 58 37.1**	**-0.4**
GELI	**Tayfur-Gelibol**	**0.95**	**43**	PG	**Pg**	**14 58 37.3**	**-0.4**
LPK	**Lapseki**	**1.10**	**53**	PN	**Pb**	**14 58 40.5**	**-0.1**
ENEZ	**Enez**	**1.10**	**22**	PN	**Pn**	**14 58 40.9**	**-0.2**
THAS	**Thassos island**	**1.13**	**323**	P	**Pg**	**14 58 40.8**	**-0.3**
THAS				S	**Sb**	**14 58 56.0**	**0.0**
ERIK	**Erikli-Kesan**	**1.18**	**35**	PN	**Pg**	**14 58 41.5**	**-0.6**
DKL	**Dikili**	**1.18**	**122**	PN	**Pn**	**14 58 42.1**	**-0.1**
ALN	**Alexandroupoli**	**1.23**	**15**	PN	**Pn**	**14 58 43.1**	**+0.2**
ALN	**Alexandroupoli**	**1.23**	**15**	P	**Pg**	**14 58 42.4**	**-0.7**
ALN				S	**Sb**	**14 58 59.1**	**+0.2**
FOCM	**Foa**	**1.32**	**139**	PN	**Pg**	**14 58 44.2**	**-0.5**
CHOS	**Chios island**	**1.36**	**165**	PN	**Pg**	**14 58 45.1**	**-0.5**
CHOS	**Chios island**	**1.36**	**165**	P	**Pg**	**14 58 45.1**	**-0.5**
CHOS				S	**Sn**	**14 59 03.7**	**+0.7**
KESN	**Edirne-Kesan**	**1.38**	**36**	IAML_P			
	comp=Z,2μm,0.2s						
KESN				*i* P	**Pn**	**14 58 45.0**	**-0.3**
OUR	**Ouranopolis**	**1.40**	**297**	PN	**Pg**	**14 58 46.4**	**0.0**
RDO	**Rodhopi**	**1.44**	**358**	PN	**Pg**	**14 58 46.4**	**-0.6**
AOS	**Alonnisos**	**1.45**	**249**	PN	**Pb**	**14 58 46.1**	**-0.5**
AOS	**Alonnisos**	**1.45**	**249**	P	**Pg**	**14 58 47.0**	**-0.2**
AOS				S	**Sg**	**14 59 05.9**	**-0.1**
KRBG	**Karabiga-Canak**	**1.46**	**62**	PN	**Pn**	**14 58 46.1**	**+0.1**
BALY	**Balya**	**1.54**	**88**	IAML_P			
	comp=Z,5μm,0.2s						
BALY				*i* P	**Pb**	**14 58 47.9**	**-0.3**
URLA	**Izmir**	**1.55**	**150**	PN	**Pb**	**14 58 48.1**	**-0.2**
URLA	**Izmir**	**1.55**	**150**	IAML_P			
	comp=Z,3μm,0.3s						
URLA				*i* P	**Pn**	**14 58 46.9**	**-0.3**
KNL	**Balıkesir**	**1.57**	**68**	*i* P	**Pb**	**14 58 48.4**	**-0.2**
GONE	**Gonen-Balikesi**	**1.63**	**77**	PN	**Pn**	**14 58 48.2**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.66**	**101**	IAML_P			
	comp=Z,5μm,0.3s						
STEP				*i* P	**Pb**	**14 58 49.3**	**-0.9**
BLCB	**Balcova**	**1.73**	**140**	PN	**Pb**	**14 58 51.1**	**-0.2**
BALB	**Balikesir**	**1.75**	**92**	PN	**Pb**	**14 58 50.8**	**-0.9**
EDC	**Edincik**	**1.84**	**69**	PN	**Pb**	**14 58 52.3**	**-0.9**
SBT4	**Kumbag-Tekirda**	**1.84**	**52**	PN	**Pb**	**14 58 52.5**	**-0.7**
AKHS	**Akhisar**	**1.89**	**115**	IAML_P			
	comp=Z,3μm,0.1s						
AKHS				*i* P	**Pn**	**14 58 52.2**	**+0.2**
KCTX	**Karacabey (Bur**	**2.18**	**74**	PN	**Pn**	**14 58 56.8**	**+0.9**
DURS	**Dursunbey**	**2.21**	**92**	IAML_P			
	comp=Z,1μm,0.2s						
DURS				*i* P	**Pn**	**14 58 56.7**	**+0.4**
EDRB	**Edirne**	**2.30**	**21**	PN	**Pn**	**14 58 58.8**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**2.50**	**134**	PN	**Pn**	**14 59 01.8**	**+1.4**
MDNY	**Mudanya-Bursa**	**2.59**	**74**	PN	**Pn**	**14 59 03.4**	**+1.8**
ARMT	**Armutlu**	**2.63**	**70**	PN	**Pn**	**14 59 03.4**	**+1.3**
SBT5	**Esenkoy-Cinarc**	**2.66**	**69**	PN	**Pn**	**14 59 04.6**	**+2.1**
ISK	**Istanbul-Kandi**	**2.96**	**62**	PN	**Pn**	**14 59 08.2**	**+1.6**
KAVV	**Kandilli-Istan**	**2.96**	**62**	PN	**Pn**	**14 59 07.9**	**+1.3**
YLV	**Yalova**	**3.00**	**72**	PN	**Pn**	**14 59 09.1**	**+1.8**

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*DDA **08** 15:00:39.6, 39°.66N×25°.66E, h32km±1km, ML3.7*
*ATH **08** 15:00:39.8, 39°.70N×25°.65E, h28km±1km, ML3.0/5, Error ellipse: s-maj=1.9km s-min=0.9km az=214.0*
*ISK **08** 15:00:39.6, 39°.70N×25°.60E, h6km, ML3.5/20*
*ISCJB **08** 15:00:40.3±0.4, 39°.70N±0°.02×25°.62E±0°.02, h8km±3km, Error ellipse: s-maj=2.9km s-min=2.6km az=33.9*
*THE **08** 15:00:40.5, 39°.70N×25°.63E, h10km±1km, ML2.9/7, Error ellipse: s-maj=1.2km s-min=0.5km az=78.0*
ISC 08 15:00:40.5±0.9**, 39°.70N**±0°.02×**25°.62E**±0°.02**, h12**km±8km**, n69, σ0s65**/96**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.36**	**67**	PG	**Pg**	**15 00 47.4**	**-0.4**
BOZC				SG	**Sg**	**15 00 52.9**	**+0.2**
BOZC	**Bozcaada**	**0.36**	**67**	IAML_P			
	comp=Z,32μm,0.1s						
BOZC				*i* P	**Pg**	**15 00 48.0**	**+0.2**
LIA	**Limnos Island**	**0.39**	**301**	P	**Pg**	**15 00 48.5**	**+0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIA				AML	AML	15 00 58.6	
	comp=N,3428μm,0.4s						
LIA				AML	AML	15 00 59.4	
	comp=E,3812μm,0.4s						
LIA	Limnos Island	0.39	301	P	Pg	15 00 48.5	+0.3
LIA				S	Sg	15 00 53.8	+0.3
GPNR	Gulpinar-Canak	0.47	121	PG	Pg	15 00 49.3	-0.4
EFSA	Agios Efstrati	0.51	252	P	Pb	15 00 51.7	+0.3
EFSA				S	Sb	15 00 59.0	+0.2
EFSA				AML	AML	15 01 00.4	
	comp=N,3965μm,0.3s						
EFSA				AML	AML	15 01 03.7	
	comp=E,5823μm,0.6s						
SIGR	SIGRI	0.52	159	P	Pg	15 00 50.2	-0.5
SIGR				S	Sg	15 00 58.2	+0.5
SIGR	SIGRI	0.52	159	P	Pg	15 00 50.2	-0.5
SIGR				S	Sg	15 00 58.0	+0.4
GADA	Gvkgeada	0.54	24	PG	Pg	15 00 50.9	-0.1
GADA	Gvkgeada	0.54	24	P	Pg	15 00 50.8	-0.2
GADA				S	Sg	15 00 58.5	+0.4
GOKC	Gokceada-Canak	0.55	25	PG	Pg	15 00 51.2	-0.1
EZN	Ezine	0.56	77	PG	Pg	15 00 51.1	-0.4
EZN				SG	Sg	15 00 58.5	-0.4
EZN	Ezine	0.56	77	P	Pg	15 00 51.0	-0.4
EZN				S	Sg	15 00 58.5	-0.4
PRK	Paraskevi	0.68	132	P	Pg	15 00 53.6	-0.1
PRK				S	Sg	15 01 02.6	0.0
PRK				AML	AML	15 01 06.6	
	comp=E,2955μm,0.6s						
PRK				AML	AML	15 01 07.8	
	comp=N,3100μm,0.4s						
PRK	Paraskevi	0.68	132	P	Pb	15 00 54.4	+0.1
PRK				S	Sb	15 01 03.4	-0.2
BAYC	CANAKKALE_Bayr	0.72	86	IAML_P			
	comp=Z,12μm,0.1s						
BAYC				*i* P	Pg	15 00 54.1	-0.3
BAYC				*i* S	Sg	15 01 03.5	-0.4
SMTH	Samothraki Isl	0.77	355	P	Pg	15 00 55.5	-0.1
SMTH				S	Sb	15 01 06.2	-0.2
SMTH				AML	AML	15 01 08.4	
	comp=N,1988μm,0.4s						
SMTH				AML	AML	15 01 08.4	
	comp=E,1608μm,0.4s						
SMTH	Samothraki Isl	0.77	355	P	Pg	15 00 55.4	-0.1
SMTH				S	Sb	15 01 06.6	+0.2
AYVA	Ayvalik	0.92	115	IAML_P			
	comp=Z,4μm,0.1s						
AYVA				*i* P	Pg	15 00 58.2	0.0
AYVA				*i* S	Sn	15 01 12.5	+0.3
GELI	Tayfur-Gelibol	0.96	43	PG	Pg	15 00 58.0	-1.0
GELI				SG	Sn	15 01 12.7	-0.6
LPK	Lapseki	1.11	52	PN	Pb	15 01 01.3	-0.2
LPK				SN	Sn	15 01 17.3	+0.3
ENEZ	Enez	1.11	21	PN	Pb	15 01 01.5	-0.2
THAS	Thassos island	1.14	323	P	Pb	15 01 01.4	-0.7
THAS				S	Sg	15 01 17.3	+0.1
THAS				AML	AML	15 01 18.3	
	comp=E,1229μm,0.4s						
THAS				AML	AML	15 01 19.7	
	comp=N,1190μm,0.3s						
THAS	Thassos island	1.14	323	P	Pb	15 01 01.7	-0.4
THAS				S	Sg	15 01 17.3	+0.1
PSRA	Psara	1.16	182	P	Pn	15 01 02.5	0.0
SKY	Skiros Island	1.17	226	P	Pb	15 01 01.8	-0.8
DKL	Dikili	1.18	122	PN	Pb	15 01 02.8	0.0
ERIK	Erikli-Kesan	1.19	35	PN	Pn	15 01 02.8	-0.1
ALN	Alexandroupoli	1.24	15	PN	Pn	15 01 03.4	-0.2
ALN	Alexandroupoli	1.24	15	P	Pn	15 01 03.0	-0.6
ALN	Alexandroupoli	1.24	15	P	Pn	15 01 03.1	-0.6
ALN				S	Sn	15 01 20.2	-0.1
FOCM	Foa	1.31	138	PN	Pb	15 01 04.9	-0.1
CHOS	Chios island	1.35	165	PN	Pb	15 01 05.8	0.0
CHOS	Chios island	1.35	165	P	Pn	15 01 04.7	-0.6
CHOS	Chios island	1.35	165	P	Pn	15 01 04.6	-0.6
CHOS				S	Sb	15 01 23.1	0.0
KESN	Edirne-Kesan	1.39	36	IAML_P			
	comp=Z,705nm,0.1s						
KESN				*i* P	Pn	15 01 05.7	-0.4
KESN				*i* S	Sn	15 01 24.7	+0.2
OUR	Ouranopolis	1.41	297	PN	Pn	15 01 05.8	-0.1
AOS	Alonnisos	1.45	249	PN	Pn	15 01 06.9	+0.4
RDO	Rodhopi	1.45	358	PN	Pn	15 01 05.9	-0.5
RDO	Rodhopi	1.45	358	P	Pn	15 01 06.1	-0.3
RDO	Rodhopi	1.45	358	P	Pn	15 01 06.0	-0.5
KRBG	Karabiga-Canak	1.46	61	PN	Pb	15 01 07.2	-0.5
PAIG	Paliouri	1.51	279	P	Pn	15 01 06.6	-0.7
URLA	Izmir	1.54	150	PN	Pn	15 01 08.3	+0.5
URLA	Izmir	1.54	150	*i* P	Pn	15 01 07.4	-0.4
URLA				*i* S	Sn	15 01 26.9	-0.8
BALY	Balya	1.54	88	IAML_P			
	comp=Z,2μm,0.2s						
BALY				*i* P	Pb	15 01 08.9	-0.2
BALY				*i* S	Sb	15 01 28.7	+0.1
KAVA	Kavala	1.55	327	P	Pn	15 01 07.4	-0.4
KNL	Balıkesir	1.57	68	IAML_P			
	comp=Z,6μm,0.3s						
KNL				*i* P	Pb	15 01 09.6	0.0
KNL				*i* S	Sg	15 01 30.9	-0.2
GONE	Gonen-Balikesi	1.63	77	PN	Pn	15 01 09.5	+0.5
STEP	BALIKESIR_Sava	1.66	101	IAML_P			
	comp=Z,4μm,0.2s						
STEP				*i* P	Pn	15 01 09.5	+0.1
STEP				*i* S	Sb	15 01 31.3	-0.5
BLCB	Balcova	1.72	139	PN	Pb	15 01 11.5	-0.5
BALB	Balikesir	1.75	91	PN	Pn	15 01 10.8	+0.2
PLG	Polygyros	1.80	293	P	Pb	15 01 12.7	-0.7
EDC	Edincik	1.84	69	PN	Pb	15 01 13.5	-0.6
SBT4	Kumbag-Tekirda	1.85	52	PN	Pn	15 01 12.8	+0.9
AKHS	Akhisar	1.89	115	IAML_P			
	comp=Z,3μm,0.2s						
AKHS				*i* P	Pn	15 01 12.5	-0.1
AKHS				*i* S	Sn	15 01 35.5	-0.9
NVR	Nevrokopi	2.12	322	P	Pn	15 01 15.2	-0.6
HORT	Hortiatis	2.13	296	PN	Pn	15 01 16.7	+0.8
KCTX	Karacabey (Bur	2.18	74	PN	Pn	15 01 17.5	+0.9
DURS	Dursunbey	2.21	92	IAML_P			
	comp=Z,735nm,0.2s						
DURS				*i* P	Pn	15 01 17.8	+0.8
DURS				*i* S	Sn	15 01 45.0	+0.7
EDRB	Edirne	2.31	21	PN	Pn	15 01 20.1	+1.8
DEMI	Demirci	2.49	104	*i* P	Pn	15 01 22.7	+1.8
AYDB	Zeytinkoy-Aydi	2.49	134	PN	Pn	15 01 22.2	+1.2
ARMT	Armutlu	2.63	70	PN	Pn	15 01 24.4	+1.6
SBT5	Esenkoy-Cinarc	2.67	69	PN	Pn	15 01 24.6	+1.4
VAY	Valandovo	2.83	306	*e*Pn	Pb	15 01 30.8	-0.2
YLV	Yalova	3.01	72	PN	Pn	15 01 29.8	+1.8
STIP	Stip	3.28	308	*e*Pn	Pn	15 01 31.6	-0.1
KRUS	Krusevo	3.72	298	*e*Pn	Pn	15 01 40.3	+2.5

*DDA **08** 15:02:12.7, 39.°72N×25.°65E, h7km±2km, ML3.5*
*ISK **08** 15:02:12.3, 39.°67N×25.°61E, h5km, ML3.0/12*
*ISCJB **08** 15:02:13.3±0.4, 39.°69N±0.°02×25.°61E±0.°02, h8km±3km, Error ellipse: s-maj=3.2km s-min=3.0km az=24.8*
*ATH **08** 15:02:13.0, 39.°70N×25.°59E, h28km±1km, ML2.8/4, Error ellipse: s-maj=2.2km s-min=1.1km az=235.0*
ISC 08 15:02:12.9±1.1**, 39.°70N**±0.°02×**25.°60E**±0.°02**, h9**km±9km**, n37, σ0s48**/58**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.38	67	PG	Pg	15 02 20.8	+0.5
BOZC				SG	Sg	15 02 25.9	+0.6
BOZC	Bozcaada	0.38	67	*i* P	Pb	15 02 21.5	-0.2
LIA	Limnos Island	0.38	302	P	Pb	15 02 21.6	-0.3
LIA				S	Sb	15 02 27.2	-0.6
LIA				AML	AML	15 02 27.6	
	comp=E,1693μm,0.3s						
LIA				AML	AML	15 02 31.8	
	comp=N,1574μm,0.5s						
GPNR	Gulpinar-Canak	0.47	120	PG	Pg	15 02 22.3	+0.2
EFSA	Agios Efstrati	0.50	252	P	Pb	15 02 23.9	+0.1
EFSA				S	Sb	15 02 31.6	+0.4
EFSA				AML	AML	15 02 33.3	
	comp=N,2882μm,0.2s						
EFSA				AML	AML	15 02 33.3	
	comp=E,3575μm,0.2s						
SIGR	SIGRI	0.52	158	PG	Pg	15 02 22.5	-0.5
SIGR				SG	Sg	15 02 29.2	-0.7
SIGR	SIGRI	0.52	158	P	Pg	15 02 23.4	+0.3
SIGR				S	Sb	15 02 31.1	-0.7
SIGR				AML	AML	15 02 31.3	
	comp=E,2249μm,0.5s						
SIGR				AML	AML	15 02 31.6	
	comp=N,3322μm,0.6s						
GADA	Gvkgeada	0.54	25	PG	Pb	15 02 24.0	-0.6
GADA				SG	Sb	15 02 32.3	-0.2
EZN	Ezine	0.57	77	PG	Pg	15 02 24.2	+0.2
EZN				SG	Sg	15 02 31.9	+0.4
PRK	Paraskevi	0.69	131	P	Pb	15 02 27.3	+0.3
PRK				S	Sb	15 02 37.2	+0.7
BAYC	CANAKKALE_Bayr	0.73	86	*i* P	Pb	15 02 27.3	-0.5
BAYC				*i* S	Sb	15 02 37.2	-0.6
SMTH	Samothraki Isl	0.78	356	P	Pb	15 02 28.4	-0.1
SMTH				S	Sb	15 02 39.4	+0.2
AYVA	Ayvalik	0.93	114	IAML_P			
	comp=Z,3μm,0.1s						
AYVA				*i* P	Pg	15 02 30.3	-0.4
AYVA				*i* S	Sb	15 02 43.5	+0.1
GELI	Tayfur-Gelibol	0.97	43	PG	Pb	15 02 31.6	-0.3
GELI				SG	Sn	15 02 45.9	-0.6
LPK	Lapseki	1.12	52	PN	Pg	15 02 34.1	-0.3
LPK				SN	Sn	15 02 50.8	+0.6
ENEZ	Enez	1.12	22	PN	Pb	15 02 34.4	-0.1
ENEZ				SN	Sn	15 02 50.3	0.0
THAS	Thassos island	1.14	324	P	Pb	15 02 34.6	-0.1
THAS				AML	AML	15 02 52.3	
	comp=N,848μm,0.2s						
THAS				AML	AML	15 02 53.2	
	comp=E,593μm,0.4s						
PSRA	Psara	1.15	182	P	Pn	15 02 35.3	+0.1
DKL	Dikili	1.19	121	PN	Pg	15 02 35.1	-0.6
DKL				SN	Sn	15 02 52.1	+0.3
ERIK	Erikli-Kesan	1.20	35	PN	Pn	15 02 36.0	+0.2
ALN	Alexandroupoli	1.25	16	PN	Pn	15 02 36.5	0.0
ALN	Alexandroupoli	1.25	16	P	Pb	15 02 35.9	-0.7
CHOS	Chios island	1.35	165	PN	Pn	15 02 38.3	+0.3
CHOS	Chios island	1.35	165	P	Pn	15 02 37.8	-0.2
KESN	Edirne-Kesan	1.40	36	IAML_P			
	comp=Z,1μm,0.1s						
KESN				*i* P	Pn	15 02 38.7	-0.2
KESN				*i* S	Sn	15 02 59.0	+1.3
OUR	Ouranopolis	1.40	298	PN	Pb	15 02 39.3	+0.1
AOS	Alonnisos	1.43	249	PN	Pb	15 02 39.7	-0.1
AOS				SN	Sg	15 02 59.5	+0.5
RDO	Rodhopi	1.45	358	P	Pn	15 02 39.3	0.0
KRBG	Karabiga-Canak	1.48	61	PN	Pb	15 02 40.4	-0.1
PAIG	Paliouri	1.50	279	P	Pn	15 02 39.5	-0.4
URLA	Izmir	1.54	150	PN	Pn	15 02 41.0	+0.4
URLA	Izmir	1.54	150	*i* P	Pn	15 02 39.5	-1.0
URLA				*i* S	Sn	15 03 00.8	+0.1
BALY	Balya	1.56	88	IAML_P			
	comp=Z,2μm,0.3s						
BALY				*i* P	Pn	15 02 41.2	+0.4
BALY				*i* S	Sb	15 03 01.9	+0.3
GONE	Gonen-Balikesi	1.64	77	PN	Pb	15 02 42.7	-0.6
STEP	BALIKESIR_Sava	1.67	100	*i* P	Pn	15 02 41.5	-0.8
STEP				*i* S	Sg	15 03 06.1	-0.3
BALB	Balikesir	1.76	91	PN	Pn	15 02 44.0	+0.5
AKHS	Akhisar	1.90	115	*i* P	Pn	15 02 46.0	+0.5
AKHS				*i* S	Sb	15 03 12.1	+0.5

*ATH **08** 15:12:49.5, 39.°72N×25.°62E, h24km±9km, ML2.9/3, Error ellipse: s-maj=9.5km s-min=1.3km az=251.0*
*ISCJB **08** 15:12:50.1±0.5, 39.°72N±0.°03×25.°62E±0.°03, h2km±19km, Error ellipse: s-maj=4.9km s-min=3.9km az=30.4*
*THE **08** 15:12:50.1, 39.°72N×25.°62E, h3km±30km, ML2.8/4, Error ellipse: s-maj=30.0km s-min=0.7km az=253.0*
*DDA **08** 15:12:51.2, 39.°76N×25.°70E, h7km±1km, ML3.0*
ISC 08 15:12:50.2±1.0**, 39.°71N**±0.°03×**25.°62E**±0.°03**, h10**km±14km**, n14, σ0s40**/27**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.36	68	IAML_P			
	comp=Z,12μm,0.2s						
BOZC				*i* P	Pg	15 12 57.4	0.0
LIA	Limnos Island	0.39	299	P	Pg	15 12 57.7	-0.2
LIA				S	Sg	15 13 03.1	+0.1
LIA				AML	AML	15 13 04.1	
	comp=N,790μm,0.1s						
LIA				AML	AML	15 13 05.1	
	comp=E,1316μm,0.2s						
LIA	Limnos Island	0.39	299	P	Pg	15 12 57.6	-0.3
LIA				S	Sg	15 13 02.7	-0.3
EFSA	Agios Efstrati	0.52	251	P	Pg	15 13 00.6	+0.2
EFSA				S	Sg	15 13 07.8	+0.6
EFSA				AML	AML	15 13 08.3	
	comp=N,2952μm,0.3s						
EFSA				AML	AML	15 13 09.3	
	comp=E,3188μm,0.2s						
GADA	Gvkgeada	0.52	24	P	Pg	15 13 00.2	-0.3
GADA				S	Sg	15 13 08.0	+0.6
SIGR	SIGRI	0.53	160	P	Pg	15 12 59.8	-0.8
SIGR				S	Sg	15 13 07.8	+0.2
SIGR				AML	AML	15 13 08.1	
	comp=E,11227μm,0.5s						
SIGR				AML	AML	15 13 08.1	
	comp=N,12339μm,0.4s						
SIGR	SIGRI	0.53	160	P	Pg	15 13 00.0	-0.6
SIGR				S	Sg	15 13 07.7	+0.1
EZN	Ezine	0.55	78	P	Pg	15 13 00.6	-0.4
EZN				S	Sg	15 13 08.3	0.0
PRK	Paraskevi	0.69	133	P	Pg	15 13 03.7	+0.2
PRK				S	Sb	15 13 13.3	-0.4
PRK	Paraskevi	0.69	133	P	Pb	15 13 04.0	-0.2
PRK				S	Sg	15 13 13.2	+0.7
BAYC	CANAKKALE_Bayr	0.71	87	*i* P	Pb	15 13 04.6	-0.1
BAYC				*i* S	Sb	15 13 14.6	0.0
SMTH	Samothraki Isl	0.76	355	P	Pg	15 13 04.8	-0.2
SMTH				S	Sg	15 13 15.1	+0.1
SMTH	Samothraki Isl	0.76	355	P	Pg	15 13 04.8	-0.2
SMTH				S	Sg	15 13 15.0	+0.1
AYVA	Ayvalik	0.92	116	*i* P	Pb	15 13 08.5	+0.2
AYVA				*i* S	Sb	15 13 21.1	+0.6

*ISCJB **08** 15:33:08.6±1.4, 22.°7N±0.°1×12.°2W±0.°2, h10km, mb3.8/3, Error ellipse: s-maj=26.4km s-min=8.4km az=150.4*
*IDC **08** 15:33:09.8±3.5, 22.°75N×12.°03W, h0km, mb3.9/3, mb1 3.9/5, mb1mx3.6/30, mbtmp3.8/5, ML3.5/2, Error ellipse: s-maj=80.2km s-min=27.4km az=65.0*
*NEIC **08** 15:33:10.4±1.5, 22.°72N×12.°16W, h10km, mb4.2/2, Error ellipse: s-maj=34.9km s-min=9.3km az=76.0*
ISC 08 15:33:10.2±1.9**, 22.°7N**±0.°1×**12.°2W**±0.°2**, h10**km**, n18, σ0s66**/15**, mb3.8**/3**, 1C, Mauritania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWA	Kowa	11.27	135	*e*Pn	Pn	15 35 45.2	-6.2
MDT	Midelt	12.10	32	Lg	Lg	15 39 22.1	
	0.1nm,0.3s,baz=7.5,slow=8.4,SNR=2.3						
I11CV	MAIO ISLAND IN	12.75	236	*i*		16 57 20.0	
	baz=53,slow=311,SNR=1.7						
TOA1	Torodi Ar. Sit	16.28	123	*e*Pn	Pn	15 36 59.1	+0.1
TOA1				*e*Sn	Sn	15 39 59.9	+0.1
TORD	Torodi Ar. Bea	16.28	123	Pn	Pn	15 36 59.1	0.0
	0.2nm,0.3s,baz=305,slow=11,SNR=6.2						
TORD				Sn	Sn	15 39 59.9	0.0
	0.1nm,0.3s,baz=315,slow=24,SNR=3.1						
TORD				Lg	Lg	15 41 42.3	
	0.1nm,0.3s,baz=324,slow=32,SNR=2.2						
I17CI	DIMBOKRO INFRA	17.45	155	*i*		17 26 40.0	
	baz=334,slow=314,SNR=2.4						
DBIC	Dimbokro	17.45	155	P	Pn	15 37 13.6	-0.3
	0.2nm,0.3s,baz=327,slow=15,SNR=3.2						
DBIC	Dimbokro	17.45	155	*e*Pn	Pn	15 37 13.2	-0.7
	16nm,1.4s						
CART	Cartagena	17.69	31	*e*Pn	Pn	15 37 16.0	-0.7
	52nm,1.5s						
I48TN	KESRA INFRASON	22.81	50	*i*		17 57 20.0	
	baz=237,slow=312,SNR=0.6						
GEC2	GERESS Array S	33.19	32	*e*P	P	15 39 46.6	-0.5
GERES	GERESS Array B	33.19	32	P	P	15 39 46.6	-0.5
	0.4nm,0.7s,baz=232,slow=9.6,SNR=3.9						
BURAR	Bucovina Array	38.85	41⇑	*i*P	P	15 40 36.5	+0.9
BUR08	Bucovina Ar. S	38.85	41	*e*P	P	15 40 35.3	-0.3
FIA0	FINESS Array S	46.77	24	*e*P	P	15 41 39.3	-0.2
FINES	FINESS Array B	46.77	24	P	P	15 41 39.3	-0.2
	4.3nm,1.1s,baz=222,slow=7.7,SNR=5.5						
MK32	Makanchi Array	76.75	45	*e*P	P	15 45 03.1	+1.1
MKAR	Makanchi Array	76.75	45	P	P	15 45 03.1	+1.1
	0.4nm,0.5s,baz=297,slow=5.2,SNR=8.3						

*ISCJB **08** 15:38:37.7±0.4, 39.°70N±0.°02×25.°59E±0.°02, h8km±3km, Error ellipse: s-maj=3.0km s-min=2.6km az=21.7*
*DDA **08** 15:38:37.6, 39.°69N×25.°65E, h26km±1km, ML3.9*
*ATH **08** 15:38:37.4, 39.°70N×25.°60E, h30km±1km, ML3.4/8, Error ellipse: s-maj=1.8km s-min=1.1km az=73.0, ML Amplitudes are expressed in micrometres All distances are expressed in km*
*ISK **08** 15:38:37.5, 39.°70N×25.°63E, h5km, ML3.8/25*
*THE **08** 15:38:38.0, 39.°70N×25.°63E, h12km±1km, ML3.2/8, Error ellipse: s-maj=1.6km s-min=0.7km az=92.0*
ISC 08 15:38:37.4±0.9**, 39.°67N**±0.°02×**25.°59E**±0.°02**, h16**km±8km**, n85, σ1s28**/105**, 7C-5D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.39	307	P	Pb	15 38 46.0	+0.1
LIA				S	Sb	15 38 51.8	+0.2
LIA				AML	AML	15 38 51.9	
	comp=E,4458μm,0.3s						
LIA				AML	AML	15 38 52.0	
	comp=N,4550μm,0.2s						
LIA	Limnos Island	0.39	307	P	Pb	15 38 46.0	+0.1
LIA				S	Sb	15 38 51.4	-0.2
BOZC	Bozcaada	0.40	64	PG	Pg	15 38 45.2	-0.4
BOZC				SG	Sg	15 38 50.3	-0.8
BOZC	Bozcaada	0.40	64	IAML_P			
	comp=Z,102μm,0.1s						
BOZC				*i* P	Pg	15 38 45.4	-0.2
GPNR	Gulpinar-Canak	0.47	116	PG	Pg	15 38 47.0	+0.1
EFSA	Agios Efstrati	0.48	255	P	Pn	15 38 49.0	-0.5
EFSA				S	Sn	15 38 55.9	-1.7
EFSA				AML	AML	15 38 56.5	
	comp=N,11298μm,0.3s						
EFSA				AML	AML	15 38 57.9	
	comp=E,12582μm,0.3s						
SIGR	SIGRI	0.50	155	P	Pg	15 38 47.8	+0.4
SIGR				S	Sn	15 38 55.7	-2.4
SIGR				AML	AML	15 38 56.1	
	comp=N,29856μm,0.5s						
SIGR				AML	AML	15 38 56.1	
	comp=E,28211μm,0.5s						
SIGR	SIGRI	0.50	155	P	Pg	15 38 47.8	+0.4
SIGR				S	Sb	15 38 55.4	+0.6
GADA	Gvkgeada	0.58	25	PG	Pb	15 38 48.3	-0.8
GADA				SG	Sb	15 38 56.2	-0.9
GADA	Gvkgeada	0.58	25	P	Pb	15 38 48.4	-0.7
GADA				S	Sb	15 38 56.0	-1.1
GOKC	Gokceada-Canak	0.59	25	PG	Pb	15 38 48.5	-0.9
EZN	Ezine	0.59	74	PG	Pb	15 38 48.6	-0.8
EZN	Ezine	0.59	74	P	Pb	15 38 48.6	-0.8
EZN				S	Sb	15 38 56.1	-1.4
PRK	Paraskevi	0.68	128	P	Pn	15 38 51.9	-0.4
PRK				S	Sn	15 39 01.8	-0.7
PRK				AML	AML	15 39 05.2	
	comp=N,13109μm,0.3s						
PRK				AML	AML	15 39 05.7	
	comp=E,14007μm,0.3s						
PRK	Paraskevi	0.68	128	P	Pn	15 38 51.4	-0.9
PRK				S	Sn	15 39 01.1	-1.4
BAYC	CANAKKALE_Bayr	0.74	84	*i* P	Pb	15 38 52.0	0.0
BAYC				*i* S	Sg	15 39 02.6	+0.8
SMTH	Samothraki Isl	0.81	357	P	Pb	15 38 52.9	-0.1
SMTH				S	Sb	15 39 03.1	-0.5
SMTH				AML	AML	15 39 05.7	
	comp=E,3268μm,0.4s						
SMTH				AML	AML	15 39 06.3	
	comp=N,2230μm,0.2s						
SMTH	Samothraki Isl	0.81	357	P	Pb	15 38 52.8	-0.2
AYVA	Ayvalik	0.93	112	*i* P	Pg	15 38 55.8	+0.4
AYVA				*i* S	Sn	15 39 10.2	+1.5
GELI	Tayfur-Gelibol	1.00	43	PG	Pb	15 38 56.1	-0.2
PSRA	Psara	1.12	181	P	Pg	15 38 59.7	+0.6
SKY	Skiros Island	1.13	226	P	Pg	15 38 58.7	-0.5
SKY				S	Sg	15 39 13.3	-0.6
SKY				AML	AML	15 39 16.3	
	comp=E,5564μm,0.2s						
SKY				AML	AML	15 39 17.4	
	comp=N,3671μm,0.2s						
SKY	Skiros Island	1.13	226	P	Pg	15 38 58.9	-0.3
SKY				S	Sg	15 39 15.5	+1.6
LPK	Lapseki	1.15	52	PN	Pn	15 38 58.6	-0.1
THAS	Thassos island	1.15	325	P	Pg	15 38 59.1	-0.5
THAS				S	Sn	15 39 13.4	-0.8
THAS				AML	AML	15 39 16.2	
	comp=N,3107μm,0.3s						
THAS				AML	AML	15 39 16.3	
	comp=E,3456μm,0.4s						
THAS	Thassos island	1.15	325	P	Pg	15 38 59.1	-0.5
THAS				S	Sn	15 39 13.9	-0.3
ENEZ	Enez	1.15	22	PN	Pb	15 38 58.8	-0.1
DKL	Dikili	1.18	120	PN	Pg	15 39 00.4	+0.2
ERIK	Erikli-Kesan	1.23	35	PN	Pb	15 39 00.4	+0.2
ALN	Alexandroupoli	1.28	16	P	Pn	15 39 00.4	-0.2
ALN	Alexandroupoli	1.28	16	P	Pn	15 39 00.3	-0.3
ALN				S	Sb	15 39 17.6	+0.3
FOCM	Foa	1.30	137	PN	Pg	15 39 02.9	+0.4
CHOS	Chios island	1.33	164	P	Pb	15 39 01.7	-0.2
CHOS	Chios island	1.33	164	P	Pb	15 39 01.8	-0.2
AOS	Alonnisos	1.41	250	P	Pb	15 39 03.0	-0.3
AOS				AML	AML	15 39 27.1	
	comp=E,1365μm,0.7s						
AOS				AML	AML	15 39 27.6	
	comp=N,1092μm,0.5s						
KESN	Edirne-Kesan	1.43	36	IAML_P			
	comp=Z,2μm,0.1s						
KESN				*i* P	Pn	15 39 03.2	+0.2
KESN				*i* S	Sg	15 39 23.5	-0.2
RDO	Rodhopi	1.48	359	P	Pn	15 39 03.5	+0.2
RDO	Rodhopi	1.48	359	P	Pn	15 39 03.5	+0.2
PAIG	Paliouri	1.49	281	P	Pb	15 39 03.8	-0.9
PAIG	Paliouri	1.49	281	P	Pb	15 39 04.0	-0.7
PAIG				S	Sg	15 39 25.7	+0.2
KRBG	Karabiga-Canak	1.50	61	PN	Pb	15 39 04.8	-0.1
URLA	Izmir	1.52	149	PN	Pb	15 39 05.4	+0.1
URLA	Izmir	1.52	149	IAML_P			
	comp=Z,4μm,0.2s						
URLA				*i* P	Pb	15 39 04.6	-0.6
KAVA	Kavala	1.56	329	P	Pb	15 39 04.9	-1.0
KAVA	Kavala	1.56	329	P	Pb	15 39 04.9	-1.0
KAVA				S	Sn	15 39 23.7	-0.7
KVLA	Kavala	1.57	325	P	Pb	15 39 04.9	-1.1
KNL	Balıkesir	1.61	67	IAML_P			
	comp=Z,8μm,0.4s						
KNL				*i* P	Pg	15 39 07.9	-0.5
KNL				*i* S	Sb	15 39 28.1	+1.4
GONE	Gonen-Balikesi	1.66	76	PN	Pb	15 39 06.9	-0.7
STEP	BALIKESIR_Sava	1.67	99	IAML_P			
	comp=Z,3μm,0.2s						
STEP				*i* P	Pb	15 39 07.2	-0.6
BLCB	Balcova	1.71	138	PN	Pb	15 39 08.7	+0.3
BALB	Balikesir	1.77	90	PN	Pn	15 39 08.1	+0.8
PLG	Polygyros	1.79	294	P	Pb	15 39 08.7	-1.1
PLG	Polygyros	1.79	294	P	Pb	15 39 08.6	-1.2
EDC	Edincik	1.88	68	PN	Pb	15 39 10.6	-0.7
SBT4	Kumbag-Tekirda	1.89	51	PN	Pb	15 39 10.5	-0.9
AKHS	Akhisar	1.90	114	IAML_P			
	comp=Z,4μm,0.1s						
AKHS				*i* P	Pb	15 39 10.3	-1.4
SOH	Sokhos	2.06	305	P	Pb	15 39 12.4	-2.1
SRS	Serrai	2.10	314	P	Pn	15 39 12.3	+0.4
NVR	Nevrokopi	2.13	323	P	Pn	15 39 13.2	+0.8
KCTX	Karacabey (Bur	2.21	73	PN	Pb	15 39 15.2	-1.8
DURS	Dursunbey	2.23	91	IAML_P			
	comp=Z,2μm,0.2s						
DURS				*i* P	Pb	15 39 15.7	-1.7
DST	Dursunbey	2.34	91	PN	Pb	15 39 17.4	-1.9
GCAM	G?zelcaml?	2.35	146	PN	Pb	15 39 17.9	-1.4
EDRB	Edirne	2.35	22	PN	Pb	15 39 17.2	-2.1
PHSR	Pinarhisar	2.45	36⇑	*i*P	Pb	15 39 20.5	-0.6
AYDB	Zeytinkoy-Aydi	2.49	133	PN	Pb	15 39 20.2	-1.6
SLVT	Silivri	2.54	51	PN	Pn	15 39 19.8	+1.9
MDNY	Mudanya-Bursa	2.63	73	PN	Pb	15 39 21.6	-2.5
ARMT	Armutlu	2.67	69	PN	Pn	15 39 21.8	+2.1
SBT5	Esenkoy-Cinarc	2.70	68	PN	Pn	15 39 22.2	+2.1
CTKS	Kestanelik-??a	2.73	54	PN	Pn	15 39 21.1	+0.7
VAY	Valandovo	2.83	307	*i* Pn	Pg	15 39 31.3	-0.4
STIP	Stip	3.29	309	*i* Pn	Pn	15 39 28.4	+0.2
VTS	Vitosha	3.43	329⇓	*i*P	Pn	15 39 32.3	+2.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KRUS	**Krusevo**	**3.72**	**299**	*i* Pn	**Pn**	**15 39 36.2**	**+2.0**
HERR	**Herculane**	**5.72**	**337**	⇓*i*P	**Pn**	**15 40 04.7**	**+3.1**
VOIR		**5.78**	**356**	⇑*i*P	**Pn**	**15 40 06.9**	**+4.4**
MLR	**Muntele Rosu**	**5.83**	**2**	⇑*i*P	Pn	15 40 07.7	+4.5
MDVR	**Moldovita**	**5.86**	**332**	⇓*i*P	**Pn**	**15 40 05.4**	**+1.8**
GZR	**Gura Zlata**	**6.09**	**341**	⇓*i*P	**Pn**	**15 40 07.9**	**+1.2**
PLOR	**Plostina**	**6.23**	**7**	⇓*i*P	**Pn**	**15 40 13.0**	**+4.3**
VRI	**Vrincioaia**	**6.25**	**7**	⇑*i*P	Pn	15 40 14.2	+5.2
DOPR	**Dopca**	**6.30**	**359**	⇑*i*P	Pn	15 40 14.7	+5.1
SIRR	**Siria**	**7.20**	**338**	⇑*i*P	**Pn**	**15 40 24.6**	**+2.7**
DRGR		**7.42**	**345**	⇑*i*P	**Pn**	**15 40 28.4**	**+3.3**

MEX 08 15:42:32.3±0.4**, 14.29N×92.25W, h66**km±15km**, MD3.8, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.62**	**359**	*i* P	Pn	15 42 44.9	-1.1
THIG				*i* S	Sn	15 42 54.1	-2.0
CCIG	**Comitan**	**1.99**	**3**	*i* P	Pn	15 43 06.0	+2.1
CCIG				*i* S	Sn	15 43 26.0	-1.9

*ISCJB **08** 15:45:29.6±0.5, 6.55S±0.03×131.13E±0.06, h62km, mb3.6/1, Error ellipse: s-maj=8.3km s-min=4.9km az=3.2*
*IDC **08** 15:45:31.2±2.6, 6.55S×131.11E, h61km±31km, mb3.3/1, mb1 4.3/5, mb1mx3.6/32, mbtmp4.3/5, ML4.6/5, Error ellipse: s-maj=46.2km s-min=23.4km az=91.0*
*DJA **08** 15:45:34.3±1.0, 6°S±2°×13°1E±°, h24km±8km, M4.8/7, mB5.8/4, mb4.6/4, MLv4.7/7, Mw(mB)5.3/4*
ISC 08 15:45:30.1±0.8**, 6.63S**±0.05×**131.11E**±0.07**, h62**km**, n13, σ3.02**/21**, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.36**	**172**	P	Pn	15 46 02.4	+9.5
SAUI				S	Sn	15 46 26.4	+16
BNDI	**Bandanaira**	**2.41**	**330**	P	**Pn**	**15 46 08.5**	**+1.3**
BNDI				S	**Sn**	**15 46 34.3**	**-1.3**
FAKI	**Fak Fak**	**3.85**	**17**	P	**Pn**	**15 46 28.5**	**+1.6**
FAKI				S	**Sn**	**15 47 09.4**	**-1.6**
SIJI	**Sorong**	**5.72**	**2**	P	**Pn**	**15 46 52.4**	**-0.1**
	67nm,0.3s,baz=331,slow=22,SNR=448						
SIJI				S	**Sn**	**15 47 49.7**	**-7.2**
	10nm,0.3s,baz=306,slow=23,SNR=7.2						
SWI	**Sorong**	**5.73**	**1**	P	**Pn**	**15 46 52.4**	**-0.2**
RKPI	**Ransiki, Papua**	**5.93**	**31**	P	**Pn**	**15 46 58.5**	**+3.1**
	88nm,0.7s,11μm1.2nm						
RKPI				S	**Sn**	**15 48 01.7**	**-0.3**
	88nm,0.7s,11μm1.2nm						
SANI	**Sanana**	**6.84**	**311**	P	**Pn**	**15 47 09.6**	**+1.8**
	15nm,0.5s,0.1nm						
SANI				S	**Sn**	**15 48 23.6**	**-0.7**
	15nm,0.5s,0.1nm						
SOEI	**Soe**	**7.46**	**245**	P	**Pn**	**15 47 20.6**	**+4.3**
SOEI				S	Sn	15 48 48.2	+8.6
BATI	**Baumata**	**8.18**	**244**	P	**Pn**	**15 47 29.4**	**+3.1**
	4.6nm,0.3s,baz=103,slow=5.1,SNR=5.7						
BATI				S	**Sn**	**15 48 56.1**	**-1.2**
	9.5nm,0.3s,baz=222,slow=21,SNR=7.5						
FITZ	**Fitzroy Crossi**	**12.59**	**205**	P	**Pn**	**15 48 27.1**	**+0.7**
	2.5nm,0.3s,baz=27,slow=13,SNR=87						
FITZ				S	**Sn**	**15 50 38.9**	**-6.1**
	2.6nm,0.3s,baz=93,slow=22,SNR=8.6						
WRA	**Warramunga Arr**	**13.60**	**167**	P	**Pn**	**15 48 41.0**	**+0.8**
	2.1nm,0.3s,baz=348,slow=13,SNR=118						
WRA				S	**Sn**	**15 51 05.9**	**-3.8**
	2.0nm,0.3s,baz=353,slow=22,SNR=6.5						
ASAR	**Alice Springs**	**17.15**	**171**	P	**P**	**15 49 28.9**	**+2.4**
	1.3nm,0.3s,baz=343,slow=9.9,SNR=126						
ASAR				S	**Sn**	**15 52 34.6**	**-1.2**
	0.4nm,0.3s,baz=355,slow=26,SNR=5.7						
MKAR	**Makanchi Array**	**68.53**	**326**	P	**P**	**15 56 26.8**	**+0.7**
	0.3nm,0.5s,baz=112,slow=7.9,SNR=5.1						

*IDC **08** 15:50:02.5±1.1, 15.16N×105.33W, h0km, mb3.8/7, mb1 4.2/10, mb1mx4.0/33, mbtmp3.9/10, ML3.6/3, MS4.2/17, Ms1 4.2/17, ms1mx4.0/29, Error ellipse: s-maj=45.8km s-min=18.0km az=62.0*
*GCMT **08** 15:50:05.9±0.5, 15.44N±0.02×105.39W±0.03, h19km±1km, MW5.0/84, Moment Tensor Solution. s16,c17; s84,c117; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.47±.18; $M_{\theta\theta}$0.75±.15; $M_{\phi\phi}$-0.27±.17; $M_{r\theta}$-0.78±.33; $M_{\theta\phi}$-3.54±.13; $M_{\phi r}$1.35±.34; Best double couple: $M_0$3.85500×10^{16} NP1:ϕ_s356.00000°, δ86.00000°, λ20.00000°. NP2: ϕ_s265.00000°, δ70.00000°, λ175.00000°. Principal axes: T 4.2730, Plg17.0000°, Azm222.0000°; N -0.8360, Plg69.0000°, Azm8.0000°; P -3.4380, Plg11.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*ISCJB **08** 15:50:07.5±0.8, 15.33N±0.08×105.01W±0.08, h33km, mb4.2/32, MS4.2/12 Error ellipse: s-maj=12.4km s-min=9.7km az=35.7*
*NEIC **08** 15:50:09.9±1.7, 15.32N×105.05W, h43km±13km, mb4.3/45, Error ellipse: s-maj=17.2km s-min=8.7km az=47.0*
ISC 08 15:50:08.6±0.9**, 15.3N**±0.1×**104.9W**±0.1**, h35**km**, n92, σ1.16**/77**, mb4.3**/33**, MS4.2**/12**, Off coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOIG	**Morelia**	**5.67**	**39**	*e*Pn	**Pn**	**15 51 30.9**	**+0.2**
H06E1	**SOCORRO T-PHAS**	**6.72**	**302**	T	T	15 58 05.8	
	SNR=36						
ZAIG	**Zacatecas**	**7.81**	**16**	*e*Pn	**Pn**	**15 51 59.4**	**-0.6**
SLBS	**Sierra La Lagu**	**9.63**	**331**	*e*Pn	**Pn**	**15 52 24.8**	**0.0**
CMIG	**Matias Romero**	**9.83**	**78**	LR	LR	15 55 45.8	
	comp=Z,670nm,19.2s,baz=256,slow=34						
LPIG	**La Paz**	**10.15**	**331**	LR	LR	15 55 21.8	
	comp=Z,3μm,18.8s,baz=155,slow=32						
LNIG	**Linares**	**10.89**	**27**	*e*Pn	**Pn**	**15 52 42.3**	**+0.3**
APG	**El Apazote**	**13.98**	**89**	Pn	**P**	**15 53 29.2**	**-2.8**
	0.2nm,0.3s,baz=277,slow=11,SNR=3.2						
APG				LR	LR	15 57 54.6	
	comp=Z,464nm,20.6s,baz=276,slow=33						
833A	**Chaparral WMA,**	**13.99**	**21**	*e*Pn	**Pn**	**15 53 25.4**	**+1.1**
TX31	**Lajitas Ar. Si**	**14.07**	**5**	*e*Pn	**Pn**	**15 53 25.8**	**+0.3**
TXAR	**Lajitas Array**	**14.07**	**5**	Pn	**Pn**	**15 53 26.5**	**+1.0**
	0.1nm,0.3s,baz=184,slow=15,SNR=19						
TXAR				LR	LR	15 57 59.8	
	comp=Z,557nm,19.6s,baz=0.0,slow=34						
JCT	**Junction City**	**15.88**	**16**	*e*Pn	**Pn**	**15 53 50.2**	**+0.7**
	36nm,1.3s						
MNTX	**Cornudas Mount**	**16.38**	**359**	*e*Pn	**Pn**	**15 53 56.0**	**+0.1**
	17nm,1.5s						
EPT	**El Paso**	**16.51**	**355**	*e*Pn	**P**	**15 53 58.9**	**-1.1**
	14nm,0.4s						
319A	**Douglas**	**16.54**	**347**	*e*Pn	**Pn**	**15 53 57.9**	**-0.1**
	29nm,1.3s						
435B	**Jarrell**	**16.87**	**22**	*e*Pn	**Pn**	**15 54 01.9**	**-0.1**
	14nm,0.9s						
GDL2	**Guadalupe Moun**	**16.88**	**2**	*e*Pn	**P**	**15 54 03.1**	**-1.0**
TUC	**Tucson**	**17.80**	**344**	*e*Pn	**P**	**15 54 13.8**	**-0.4**
	4.4nm,0.9s						
ABTX	**Abilene, Hawle**	**17.95**	**15**	*e*Pn	**Pn**	**15 54 14.7**	**-0.8**
	25nm,1.3s						
WHTX	**Lake Whitney,**	**18.01**	**21**	*e*Pn	**P**	**15 54 17.0**	**+0.6**
	52nm,1.7s						
MSTX	**Muleshoe**	**18.74**	**6**	*e*P	**Pn**	**15 54 25.2**	**0.0**
	19nm,1.3s						
BNM	**Barren Site**	**18.88**	**356**	*e*P	**P**	**15 54 26.0**	**-0.3**
NATX	**Nacogdoches**	**18.92**	**28**	*e*P	**Pn**	**15 54 27.3**	**0.0**
	31nm,1.1s						
LENM	**Lemitar**	**18.93**	**355**	*e*P	**P**	**15 54 26.6**	**-0.1**
LPM	**Los Pinos Moun**	**19.04**	**356**	*e*P	**P**	**15 54 28.1**	**+0.1**
LAZ	**Ladron**	**19.17**	**354**	*e*P	**P**	**15 54 28.9**	**-0.5**
113A	**Mohawk Valley,**	**19.20**	**337**	*e*P	**Pn**	**15 54 30.4**	**-0.2**
	29nm,1.7s						
ANMO	**Albuquerque**	**19.66**	**356**	P	**P**	**15 54 34.6**	**-0.1**
	0.1nm,0.3s,baz=196,slow=7.4,SNR=2.1						
ANMO				LR	LR	16 01 05.1	
	comp=Z,363nm,18.1s,baz=6.5,slow=34						
ANMO	**Albuquerque**	**19.66**	**356**	*e*P	**P**	**15 54 34.6**	**-0.1**
	4.9nm,0.8s						
AMTX	**Amarillo**	**19.77**	**8**	*e*P	**P**	**15 54 35.3**	**-0.5**
	13nm,0.8s						
GLA	**Glamis**	**19.87**	**335**	*e*P	**Pn**	**15 54 38.0**	**-0.6**
	7.6nm,0.8s						
X16A	**Lo Mia Camp, P**	**19.97**	**344**	*e*P	**P**	**15 54 38.8**	**+0.8**
	4.6nm,0.8s						
JTS	**JuntasAbangare**	**20.10**	**102**	LR	LR	16 00 43.6	
	comp=Z,709nm,20.6s,baz=351,slow=31						
WMOK	**Wichita Mounta**	**20.18**	**15**	*e*P	**P**	**15 54 40.2**	**0.0**
	18nm,1.3s						
W18A	**Petrified Fore**	**20.25**	**349**	*e*P	**P**	**15 54 41.5**	**+0.4**
	22nm,1.5s						
WUAZ	**Wupatki**	**20.99**	**345**	*e*P	**P**	**15 54 49.0**	**-0.2**
	16nm,1.1s						
PFO	**Pinyon Flats O**	**21.05**	**332**	P	**P**	**15 54 49.0**	**-0.8**
	4.4nm,0.9s,baz=180,slow=6.1,SNR=3.3						
PFO				LR	LR	16 01 39.6	
	comp=Z,2μm,20.4s,baz=158,slow=33						
W13A	**Hualapai Mount**	**21.34**	**339**	*e*P	**P**	**15 54 52.7**	**-0.2**
	6.9nm,1.2s						
T25A	**Trinidad**	**21.81**	**1**	*e*P	**P**	**15 54 57.8**	**-0.1**
	14nm,1.2s						
MVCO	**Mesa Verde**	**22.10**	**352**	*e*P	**P**	**15 55 02.3**	**+1.2**
	35nm,1.8s						
SDCO	**Great Sand Dun**	**22.41**	**359**	*e*P	**P**	**15 55 04.8**	**+0.3**
	6.6nm,1.1s						
S22A	**4UR Ranch, Cre**	**22.47**	**356**	*e*P	**P**	**15 55 05.1**	**-0.1**
	6.0nm,0.9s						
PV05	**Paradox Valley**	**23.04**	**352**	*e*P	**P**	**15 55 10.3**	**-0.7**
PV13	**Radium Mtn., P**	**23.08**	**352**	*e*P	**P**	**15 55 10.5**	**-0.9**
	18nm,1.0s						
PV02	**Paradox Valley**	**23.11**	**352**	*e*P	**P**	**15 55 10.6**	**-1.2**
	11nm,0.9s						
PV03	**Paradox Valley**	**23.18**	**352**	*e*P	**P**	**15 55 10.6**	**-1.8**
PV17	**East Wray Mesa**	**23.21**	**352**	*e*P	**P**	**15 55 10.3**	**-2.5**
	13nm,0.8s						
PV11	**David Mesa, Pa**	**23.22**	**352**	*e*P	**P**	**15 55 11.2**	**-1.7**
	15nm,1.0s						
PV12	**Saucer Basin,**	**23.23**	**352**	*e*P	**P**	**15 55 11.4**	**-1.6**
	12nm,0.8s						
PV16	**Nyswonger Mesa**	**23.24**	**352**	*e*P	**P**	**15 55 12.2**	**-0.8**
	11nm,0.9s						
PV19	**Morning Glory**	**23.25**	**352**	*e*P	**P**	**15 55 12.2**	**-0.9**
	14nm,0.9s						
PV20	**West Nyswonger**	**23.28**	**352**	*e*P	**P**	**15 55 12.2**	**-1.2**
	9.1nm,0.8s						
PV14	**Lion Creek, Pa**	**23.32**	**352**	*e*P	**P**	**15 55 13.0**	**-0.8**
	15nm,0.9s						
PV10	**Paradox Valley**	**23.32**	**352**	*e*P	**P**	**15 55 12.1**	**-1.8**
PV23	**Carpenter Ridg**	**23.39**	**352**	*e*P	**P**	**15 55 13.3**	**-1.2**
	14nm,0.9s						
PV09	**Paradox Valley**	**23.45**	**352**	*e*P	**P**	**15 55 14.0**	**-1.2**
PV21	**Cone Mtn., Par**	**23.49**	**352**	*e*P	**P**	**15 55 16.3**	**+0.8**
	7.7nm,0.8s						
MTPU	**Mount Pierson**	**23.59**	**346**	*e*P	**P**	**15 55 17.7**	**+1.1**
	15nm,1.3s						
ISCO	**Idaho Springs**	**24.47**	**359**	*e*P	**P**	**15 55 25.5**	**+0.8**
	7.2nm,1.3s						
P17A	**Butcher Ranch,**	**24.66**	**349**	*e*P	**P**	**15 55 27.1**	**+0.8**
	9.9nm,0.9s						
NVAR	**Mina Array Bea**	**25.93**	**335**	P	**P**	**15 55 36.3**	**-1.5**
	0.9nm,0.9s,baz=156,slow=6.9,SNR=4.8						
TCUT	**Toone Canyon**	**26.38**	**349**	*e*P	**P**	**15 55 41.5**	**-0.4**
	8.8nm,0.9s						
ELK	**Elko**	**26.94**	**343**	LR	LR	16 05 04.3	
	comp=Z,285nm,19.2s,baz=162,slow=34						
PD31	**Pinedale Array**	**27.71**	**353**	*e*P	**P**	**15 55 55.0**	**+1.1**
PDAR	**Pinedale Array**	**27.71**	**353**	P	**P**	**15 55 53.6**	**-0.3**
	1.4nm,0.8s,baz=169,slow=8.9,SNR=10						
PDAR	**Pinedale Array**	**27.71**	**353**	*e*P	**P**	**15 55 53.3**	**-0.6**
TKL	**Tuckaleechee C**	**27.78**	**39**	LR	LR	16 07 19.4	
	comp=Z,343nm,22.0s,baz=248,slow=37						
REDW	**Red Top Meadow**	**28.47**	**351**	*e*P	**P**	**15 56 01.1**	**+0.5**
	43nm,2.0s						
LOHW	**Long Hollow**	**28.68**	**351**	*e*P	**P**	**15 56 03.1**	**+0.6**
	7.7nm,1.0s						
MOOW	**Moose Ponds**	**28.83**	**351**	*e*P	**P**	**15 56 05.3**	**+1.5**
	2.6nm,0.8s						
YBH	**Yreka Blue Hor**	**30.54**	**333**	LR	LR	16 07 42.8	
	comp=Z,420nm,20.1s,baz=158,slow=35						
BOZ	**Bozeman (W)**	**30.77**	**351**	*e*P	**P**	**15 56 23.9**	**+2.9**
	16nm,1.7s						
ROSC	**El Rosal**	**31.82**	**106**	LR	LR	16 06 20.6	
	comp=Z,313nm,21.1s,baz=223,slow=30						
AGMN	**Agassiz Nation**	**33.80**	**11**	*e*P	**P**	**15 56 48.3**	**+1.1**
	8.9nm,0.9s						
ULM	**Lac du Bonnet**	**35.67**	**10**	LR	LR	16 11 59.3	
	comp=Z,589nm,18.4s,baz=205,slow=37						
FFC	**Flin Flon**	**39.46**	**3**	*e*P	**P**	**15 57 37.3**	**+1.9**
	5.2nm,0.9s						
YKA	**Yellowknife Ar**	**47.68**	**354**	P	**P**	**15 58 39.5**	**-1.8**
	0.8nm,0.9s,baz=167,slow=7.3,SNR=28						
YKB5	**Yellowknife Ar**	**47.68**	**354**	*e*P	**P**	**15 58 44.1**	**+2.8**
LPAZ	**La Paz**	**47.98**	**129**	P	**P**	**15 58 46.6**	**+1.5**
	4.0nm,1.0s,baz=318,slow=7.8,SNR=6.2						
LPAZ				LR	LR	16 16 26.4	
	comp=Z,723nm,22.0s,baz=320,slow=33						
LPAZ	**La Paz**	**47.98**	**129**	*e*P	**P**	**15 58 47.2**	**+2.1**
	6.0nm,0.9s						
IL1	**Eielson Array**	**57.06**	**340**	*e*P	**P**	**15 59 48.7**	**-2.3**
ILAR	**Eielson Array**	**57.06**	**340**	P	**P**	**15 59 49.6**	**-1.3**
	1.5nm,0.8s,baz=140,slow=7.7,SNR=11						
CPUP	**Villa Florida**	**62.05**	**131**	P	**P**	**16 00 25.8**	**-0.1**
	2.1nm,1.1s,baz=283,slow=3.9,SNR=4.0						
CPUP				LR	LR	16 26 53.1	
	comp=Z,215nm,18.4s,baz=274,slow=36						
H11S1	**WAKE ISLAND Hy**	**83.76**	**287**	T	T	17 34 34.4	
	baz=75						
H11S2	**WAKE ISLAND Hy**	**83.76**	**287**	T	T	17 34 40.3	
	baz=75						
H11S3	**WAKE ISLAND Hy**	**83.78**	**287**	T	T	17 34 35.8	
	baz=75						
NOA	**NORSAR Array B**	**88.78**	**26**	LR	LR	16 44 11.2	
	comp=Z,60nm,19.5s,baz=330,slow=36						
FINES	**FINESS Array B**	**94.31**	**21**	LR	LR	16 45 51.1	
	comp=Z,256nm,18.8s,baz=345,slow=35						
GERES	**GERESS Array B**	**96.28**	**36**	LR	LR	16 47 33.2	
	comp=Z,125nm,19.3s,baz=295,slow=36						
WRA	**Warramunga Arr**	**123.54**	**256**	PKP	**PKPdf**	**16 09 01.5**	**-1.7**
	0.4nm,0.9s,baz=77,slow=2.8,SNR=3.0						
ASAR	**Alice Springs**	**124.21**	**252**	PKP	**PKPdf**	**16 09 03.5**	**-1.0**
	0.3nm,0.9s,baz=117,slow=3.2,SNR=2.9						
CMAR	**Chiang Mai Arr**	**139.07**	**324**	PKP	**PKPdf**	**16 09 34.0**	**+1.4**
	0.4nm,0.4s,baz=356,slow=1.5,SNR=5.1						

*ISK **08** 16:10:14.6, 39.65N×25.58E, h5km, ML3.6/24*
*ISCJB **08** 16:10:15.5±0.4, 39.67N±0.02×25.59E±0.02, h7km±3km, Error ellipse: s-maj=3.0km s-min=2.6km az=38.3*
*DDA **08** 16:10:15.4, 39.66N×25.66E, h23km±1km, ML3.5*
*THE **08** 16:10:15.5, 39.68N×25.57E, h7km±1km, ML3.2/8, Error ellipse: s-maj=1.8km s-min=0.7km az=242.0*
*ATH **08** 16:10:15.2, 39.68N×25.57E, h29km±1km, ML3.3/6, Error ellipse: s-maj=2.1km s-min=1.2km az=60.0*
ISC 08 16:10:14.0±1.1**, 39.71N**±0.02×**25.61E**±0.02**, h5**km±10km**, n78, σ0.96**/96**, 3C-5D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.37**	**68**	PG	**Pb**	**16 10 23.3**	**+0.3**
BOZC				SG	**Sb**	**16 10 28.8**	**-0.3**
BOZC	**Bozcaada**	**0.37**	**68**	IAML_P			
	comp=Z,23μm,0.2s						
BOZC				*i* P	**Pb**	**16 10 23.5**	**+0.4**
LIA	**Limnos Island**	**0.38**	**300**	P	**Pb**	**16 10 23.1**	**-0.1**
LIA				S	**Sb**	**16 10 29.1**	**-0.4**
LIA				AML	AML	16 10 33.1	
	comp=E,3772μm,0.4s						
LIA				AML	AML	16 10 35.6	
	comp=N,4745μm,0.4s						
LIA	**Limnos Island**	**0.38**	**300**	P	**Pb**	**16 10 23.2**	**-0.1**
LIA				S	**Sb**	**16 10 28.3**	**-1.2**
GPNR	**Gulpinar-Canak**	**0.47**	**121**	PG	**Pb**	**16 10 24.8**	**0.0**
GPNR				SG	**Sb**	**16 10 32.1**	**0.0**
EFSA	**Agios Efstrati**	**0.51**	**251**	P	**Pb**	**16 10 26.2**	**+0.8**
EFSA				S	**Sb**	**16 10 32.8**	**-0.2**
EFSA				AML	AML	16 10 34.8	
	comp=E,11881μm,0.7s						
EFSA				AML	AML	16 10 34.8	
	comp=N,7438μm,0.3s						
SIGR	**SIGRI**	**0.53**	**159**	PG	**Pg**	**16 10 24.6**	**+0.5**
SIGR				SG	**Sg**	**16 10 31.4**	**+0.4**
SIGR	**SIGRI**	**0.53**	**159**	P	**Pb**	**16 10 25.4**	**-0.3**
SIGR				S	**Sb**	**16 10 33.2**	**-0.5**
SIGR				AML	AML	16 10 33.2	
	comp=E,16245μm,0.3s						
SIGR				AML	AML	16 10 33.8	
	comp=N,23732μm,0.3s						
SIGR	**SIGRI**	**0.53**	**159**	P	**Pb**	**16 10 25.3**	**-0.4**
SIGR				S	**Sb**	**16 10 32.9**	**-0.7**
GADA	**Gvkgeada**	**0.53**	**24**	PG	**Pn**	**16 10 26.5**	**-1.8**
GOKC	**Gokceada-Canak**	**0.55**	**25**	PG	**Pn**	**16 10 27.3**	**-1.2**
EZN	**Ezine**	**0.56**	**77**	PG	**Pb**	**16 10 26.7**	**+0.3**
EZN	**Ezine**	**0.56**	**77**	S	**Sb**	**16 10 34.8**	**+0.1**
EZN	**Ezine**	**0.56**	**77**	P	**Pb**	**16 10 26.6**	**+0.2**
EZN				S	**Sb**	**16 10 34.8**	**+0.1**
PRK	**Paraskevi**	**0.69**	**132**	P	**Pn**	**16 10 29.8**	**-0.6**
PRK				S	**Sn**	**16 10 40.4**	**-1.0**
PRK				AML	AML	16 10 43.2	
	comp=N,14949μm,0.4s						
PRK				AML	AML	16 10 44.9	
	comp=E,9772μm,0.4s						
PRK	**Paraskevi**	**0.69**	**132**	P	**Pn**	**16 10 29.8**	**-0.6**
PRK				S	**Sb**	**16 10 39.2**	**+1.0**
BAYC	**CANAKKALE_Bayr**	**0.72**	**87**	*i* P	**Pn**	**16 10 29.9**	**-1.0**
BAYC				*i* S	**Sb**	**16 10 39.3**	**0.0**
SMTH	**Samothraki Isl**	**0.77**	**355**	P	**Pn**	**16 10 30.7**	**-0.8**
SMTH	**Samothraki Isl**	**0.77**	**355**	P	**Pn**	**16 10 30.7**	**-0.8**
SMTH				S	**Sn**	**16 10 42.1**	**-1.4**
AYVA	**Ayvalik**	**0.92**	**115**	*i* P	**Pn**	**16 10 33.1**	**-0.6**
AYVA				*i* S	**Sn**	**16 10 46.8**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.96**	**43**	PG	**Pn**	**16 10 34.4**	**+0.3**
LPK	**Lapseki**	**1.11**	**53**	PN	**Pn**	**16 10 36.6**	**+0.4**
ENEZ	**Enez**	**1.11**	**22**	PN	**Pn**	**16 10 37.2**	**+1.0**
THAS	**Thassos island**	**1.13**	**323**	P	**Pn**	**16 10 36.5**	**+0.1**
THAS	**Thassos island**	**1.13**	**323**	P	**Pn**	**16 10 37.0**	**+0.5**
THAS				S	**Sn**	**16 10 52.3**	**-0.1**
PSRA	**Psara**	**1.16**	**182**	P	**Pn**	**16 10 37.2**	**+0.3**
SKY	**Skiros Island**	**1.17**	**225**	P	**Pg**	**16 10 36.3**	**-0.1**
SKY	**Skiros Island**	**1.17**	**225**	P	**Pg**	**16 10 36.3**	**-0.1**
SKY				S	**Sg**	**16 10 51.8**	**+0.3**
DKL	**Dikili**	**1.19**	**122**	PN	**Pn**	**16 10 37.7**	**+0.5**
ERIK	**Erikli-Kesan**	**1.19**	**35**	PN	**Pn**	**16 10 38.2**	**+1.0**
ALN	**Alexandroupoli**	**1.24**	**15**	PN	**Pn**	**16 10 40.0**	**+2.1**
ALN	**Alexandroupoli**	**1.24**	**15**	P	**Pn**	**16 10 39.0**	**+1.1**
ALN				S	**Sn**	**16 10 55.7**	**+0.7**
FOCM	**Foa**	**1.32**	**138**	PN	**Pg**	**16 10 40.0**	**+0.7**
CHOS	**Chios island**	**1.36**	**165**	PN	**Pg**	**16 10 40.3**	**+0.2**
CHOS				SN	**Sn**	**16 10 59.0**	**+0.8**
CHOS	**Chios island**	**1.36**	**165**	P	**Pn**	**16 10 39.6**	**-0.2**
CHOS				S	**Sb**	**16 10 57.8**	**+0.1**
CHOS				AML	AML	16 11 01.8	
	comp=N,1781μm,0.3s						
CHOS				AML	AML	16 11 03.4	
	comp=E,3344μm,0.6s						
CHOS	**Chios island**	**1.36**	**165**	P	**Pn**	**16 10 39.5**	**-0.2**
CHOS				S	**Sn**	**16 10 59.0**	**+0.8**
KESN	**Edirne-Kesan**	**1.39**	**36**	IAML_P			
	comp=Z,1μm,0.2s						
KESN				*i* P	**Pb**	**16 10 41.9**	**+1.3**
KESN				*i* S	**Sn**	**16 11 01.5**	**+2.2**
OUR	**Ouranopolis**	**1.40**	**297**	PN	**Pg**	**16 10 41.3**	**+0.5**
OUR	**Ouranopolis**	**1.40**	**297**	P	**Pg**	**16 10 41.0**	**+0.1**
OUR				S	**Sg**	**16 10 59.7**	**+0.7**
OUR				AML	AML	16 11 04.0	
	comp=E,594μm,0.3s						
OUR				AML	AML	16 11 05.9	
	comp=N,872μm,0.4s						
RDO	**Rodhopi**	**1.44**	**358**	PN	**Pg**	**16 10 43.0**	**+1.4**
RDO	**Rodhopi**	**1.44**	**358**	P	**Pg**	**16 10 41.6**	**0.0**
RDO	**Rodhopi**	**1.44**	**358**	P	**Pg**	**16 10 41.1**	**-0.5**
AOS	**Alonnisos**	**1.44**	**249**	PN	**Pb**	**16 10 41.2**	**-0.1**
AOS	**Alonnisos**	**1.44**	**249**	P	**Pn**	**16 10 40.4**	**-0.4**
KRBG	**Karabiga-Canak**	**1.47**	**62**	PN	**Pg**	**16 10 42.7**	**+0.6**
PAIG	**Paliouri**	**1.50**	**279**	P	**Pn**	**16 10 41.5**	**-0.2**
PAIG	**Paliouri**	**1.50**	**279**	P	**Pn**	**16 10 41.4**	**-0.2**
KAVA	**Kavala**	**1.54**	**327**	P	**Pg**	**16 10 42.7**	**-0.8**
URLA	**Izmir**	**1.55**	**150**	PN	**Pn**	**16 10 42.5**	**+0.3**
URLA	**Izmir**	**1.55**	**150**	*i* P	**Pb**	**16 10 43.0**	**-0.2**
KNL	**Balıkesir**	**1.58**	**68**	*i* P	**Pg**	**16 10 45.2**	**+1.0**
KNL				*i* S	**Sg**	**16 11 05.0**	**+0.4**
GONE	**Gonen-Balikesi**	**1.63**	**77**	PN	**Pg**	**16 10 44.9**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.66**	**101**	IAML_P			
	comp=Z,10μm,0.3s						
STEP				*i* P	**Pg**	**16 10 45.1**	**-0.7**
BLCB	**Balcova**	**1.73**	**139**	PN	**Pb**	**16 10 45.8**	**-0.4**
BALB	**Balikesir**	**1.75**	**91**	PN	**Pb**	**16 10 46.1**	**-0.5**
EDC	**Edincik**	**1.84**	**69**	PN	**Pg**	**16 10 48.8**	**-0.5**
SBT4	**Kumbag-Tekirda**	**1.85**	**52**	PN	**Pg**	**16 10 49.2**	**-0.3**
AKHS	**Akhisar**	**1.90**	**115**	*i* P	**Pb**	**16 10 48.5**	**-0.6**
TKR	**Tekirdag**	**1.95**	**48**	PN	**Pb**	**16 10 49.9**	**-0.1**
HORT	**Hortiatis**	**2.12**	**296**	PN	**Pb**	**16 10 51.7**	**-1.3**
KCTX	**Karacabey (Bur**	**2.18**	**74**	PN	**Pb**	**16 10 53.1**	**-0.9**
DURS	**Dursunbey**	**2.21**	**92**	IAML_P			
	comp=Z,2μm,0.3s						
DURS				*i* P	**Pb**	**16 10 53.0**	**-1.5**
EDRB	**Edirne**	**2.31**	**22**	PN	**Pb**	**16 10 55.4**	**-0.7**
PHSR	**Pinarhisar**	**2.41**	**36**	⇓*i*P	**Pg**	**16 10 58.6**	**-1.6**
SLVT	**Silivri**	**2.50**	**52**	PN	**Pb**	**16 10 57.4**	**-2.0**
AYDB	**Zeytinkoy-Aydi**	**2.50**	**134**	PN	**Pb**	**16 10 57.5**	**-2.0**
ARMT	**Armutlu**	**2.64**	**70**	PN	**Pb**	**16 10 59.6**	**-2.1**
SBT5	**Esenkoy-Cinarc**	**2.67**	**69**	PN	**Pb**	**16 10 59.9**	**-2.3**
VAY	**Valandovo**	**2.83**	**306**	*i* Pn	**Pb**	**16 11 04.0**	**-0.9**
BODT	**Bodrum**	**2.96**	**153**	PN	**Pn**	**16 11 02.2**	**+0.6**
STIP	**Stip**	**3.27**	**308**	*i* Pn	**Pn**	**16 11 06.7**	**+0.7**
VTS	**Vitosha**	**3.41**	**329**	⇑*i*P	**Pb**	**16 11 13.0**	**-1.9**
HERR	**Herculane**	**5.69**	**336**	⇓*i*P	Pn	16 11 43.3	+4.2
VOIR		**5.74**	**356**	⇓*i*P	Pn	16 11 44.3	+4.3
MDVR	**Moldovita**	**5.84**	**332**	⇓*i*P	Pn	16 11 45.5	+4.3
GZR	**Gura Zlata**	**6.06**	**341**	⇑*i*P	Pn	16 11 48.6	+4.3
PLOR	**Plostina**	**6.19**	**7**	⇓*i*P	**Pn**	**16 11 49.6**	**+3.5**
BZS	**Buzias**	**6.60**	**335**	⇑*i*P	Pn	16 11 55.9	+4.3

*ATH **08** 16:12:24.5, 39.70N×25.61E, h27km±2km, ML2.8/4, Error ellipse: s-maj=3.2km s-min=1.2km az=236.0*
*ISCJB **08** 16:12:25.5±0.5, 39.70N±0.03×25.63E±0.05, h17km±8km, Error ellipse: s-maj=6.1km s-min=4.1km az=156.5*
*THE **08** 16:12:25.2, 39.71N×25.63E, h7km±1km, ML2.7/7, Error ellipse: s-maj=1.7km s-min=0.6km az=3.0*
ISC 08 16:12:24.8±1.0**, 39.70N**±0.02×**25.62E**±0.03**, h17**km±9km**, n19, σ0.44**/32**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.39**	**300**	P	**Pb**	**16 12 33.1**	**-0.1**
LIA				S	**Sb**	**16 12 38.8**	**-0.1**
LIA				AML	AML	16 12 39.0	
	comp=N,2053μm,0.3s						
LIA				AML	AML	16 12 39.2	
	comp=E,1557μm,0.2s						
LIA	**Limnos Island**	**0.39**	**300**	P	**Pb**	**16 12 33.1**	**-0.1**
LIA				S	**Sb**	**16 12 38.8**	**-0.1**
EFSA	**Agios Efstrati**	**0.51**	**252**	P	**Pb**	**16 12 36.2**	**+0.8**
SIGR	**SIGRI**	**0.53**	**159**	P	**Pg**	**16 12 34.8**	**-0.4**
SIGR				S	**Sg**	**16 12 42.6**	**+0.2**
SIGR				AML	AML	16 12 43.1	
	comp=E,2628μm,0.4s						
SIGR				AML	AML	16 12 43.1	
	comp=N,3819μm,0.5s						
SIGR	**SIGRI**	**0.53**	**159**	P	**Pg**	**16 12 34.9**	**-0.4**
SIGR				S	**Sg**	**16 12 42.6**	**+0.2**
GADA	**Gvkgeada**	**0.53**	**24**	P	**Pg**	**16 12 35.3**	**-0.2**
GADA				S	**Sg**	**16 12 42.5**	**-0.1**
EZN	**Ezine**	**0.56**	**77**	P	**Pg**	**16 12 35.5**	**-0.5**
EZN				S	**Sg**	**16 12 43.2**	**-0.2**
PRK	**Paraskevi**	**0.68**	**132**	P	**Pb**	**16 12 38.9**	**+0.6**
PRK				S	**Sb**	**16 12 48.5**	**+1.1**
PRK				AML	AML	16 12 52.3	
	comp=E,2176μm,0.5s						
PRK				AML	AML	16 12 53.8	
	comp=N,2223μm,0.4s						
PRK	**Paraskevi**	**0.68**	**132**	P	**Pb**	**16 12 39.0**	**+0.7**
PRK				S	**Sn**	**16 12 49.0**	**-1.0**
SMTH	**Samothraki Isl**	**0.77**	**355**	P	**Pg**	**16 12 39.9**	**0.0**
SMTH				S	**Sg**	**16 12 50.2**	**+0.1**
SMTH				AML	AML	16 12 52.7	
	comp=N,1663μm,0.3s						
SMTH				AML	AML	16 12 53.1	
	comp=E,1304μm,0.4s						
SMTH	**Samothraki Isl**	**0.77**	**355**	P	**Pg**	**16 12 39.9**	**0.0**
SMTH				S	**Sg**	**16 12 50.6**	**+0.5**
THAS	**Thassos island**	**1.13**	**323**	P	**Pn**	**16 12 45.9**	**-0.1**
THAS	**Thassos island**	**1.13**	**323**	P	**Pb**	**16 12 46.2**	**+0.2**
THAS				S	**Sg**	**16 13 02.1**	**+0.5**
PSRA	**Psara**	**1.16**	**182**	P	**Pg**	**16 12 47.2**	**-0.1**
ALN	**Alexandroupoli**	**1.24**	**15**	P	**Pb**	**16 12 47.9**	**+0.2**
ALN	**Alexandroupoli**	**1.24**	**15**	P	**Pb**	**16 12 48.0**	**+0.2**
ALN				S	**Sg**	**16 13 05.0**	**+0.2**
CHOS	**Chios island**	**1.36**	**165**	P	**Pn**	**16 12 49.0**	**-0.2**
CHOS	**Chios island**	**1.36**	**165**	P	**Pn**	**16 12 49.2**	**0.0**
CHOS				S	**Sg**	**16 13 08.3**	**-0.5**
RDO	**Rodhopi**	**1.44**	**358**	P	**Pn**	**16 12 50.3**	**+0.1**

*IDC **08** 16:14:12.9±2.6, 2°.13N×93°.25E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.5/29, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=65.8km s-min=27.9km az=53.0*
*ISCJB **08** 16:14:16.8±1.4, 2°.2N±0°.1×93°.33E±0°.09, h33km, mb3.6/3, Error ellipse: s-maj=21.0km s-min=10.5km az=27.8*
*DJA **08** 16:14:22.8±1.7, 2°N±10°×9°4E±2°8, h23km±45km, M4.0/6, mb4.2/3, mB5.0/1, MLv3.9/6, Mw(mB)4.3/1*
ISC 08 16:14:18.5±1.6, **2°.2N**±0°.1×**93°.4E**±0°.1, **h35**km, **n11**, σ**1s.48**/13, **mb3.6**/3, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	2.98	85	P	Pn	16 15 04.4	+1.1
SNSI				S	Sn	16 15 37.0	-0.8
TPTI		3.97	74	P	Pn	16 15 17.8	+0.9
GSI	Gunungsitoli	4.30	102	P	Pn	16 15 23.2	+1.6
GSI				S	Sn	16 16 09.1	-1.5
KCSI	Kotacane, Aceh	4.61	73	P	Pn	16 15 28.1	+2.3
LHMI	Lhok Sumawe	4.70	50	P	Pn	16 15 28.8	+1.9
PSI	Prapat	5.60	83	Pn	Pn	16 15 40.0	+0.5
	1.9nm,0.3s,baz=0.5,slow=1.6,SNR=7.4						
MNSI	Mandailing Nat	6.37	102	P	Pn	16 15 51.7	+1.7
CMAR	Chiang Mai Arr	17.09	18	Pn	Pn	16 18 13.4	-1.4
	baz=211,slow=14,SNR=8.1						
MKAR	Makanchi Array	45.48	349	P	P	16 22 34.2	-0.2
	0.8nm,0.4s,baz=172,slow=8.4,SNR=16						
WRA	Warramunga Arr	45.82	121	P	P	16 22 37.1	-0.4
	1.0nm,1.2s,baz=301,slow=8.6,SNR=6.2						
SONM	Songino Array	46.86	12	P	P	16 22 45.4	0.0
	0.3nm,0.5s,baz=203,slow=6.4,SNR=4.1						

*DDA **08** 16:17:40.6, 39°.79N×25°.60E, h7km±3km, ML2.5*
*ATH **08** 16:17:40.8, 39°.71N×25°.62E, h21km±5km, ML2.4/2, Error ellipse: s-maj=5.9km s-min=1.2km az=237.0*
*ISK **08** 16:17:40.1, 39°.68N×25°.64E, h13km, ML2.3/7*
*THE **08** 16:17:40.7, 39°.70N×25°.60E, h12km±5km, ML1.9/3, Error ellipse: s-maj=5.5km s-min=0.5km az=246.0*
*ISCJB **08** 16:17:41.2±0.4, 39°.71N±0°.03×25°.61E±0°.03, h18km±8km, Error ellipse: s-maj=4.5km s-min=4.0km az=38.3*
ISC 08 16:17:40.8±0.9, **39°.70N**±0°.02×**25°.62E**±0°.02, **h14**km±8km, **n31**, σ**0s.30**/47, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.36	67	PG	Pg	16 17 47.9	-0.2
BOZC				SG	Sg	16 17 53.2	+0.1
BOZC	Bozcaada	0.36	67	IAML_P			
	comp=Z,3μm,0.2s						
BOZC				i P	Pg	16 17 48.3	+0.2
LIA	Limnos Island	0.39	300	P	Pg	16 17 48.7	0.0
LIA				S	Sg	16 17 54.5	+0.6
LIA	Limnos Island	0.39	300	P	Pg	16 17 48.5	-0.1
LIA				S	Sg	16 17 54.0	+0.1
EFSA	Agios Efstrati	0.51	252	P	Pb	16 17 51.8	+0.2
EFSA				S	Sb	16 17 58.8	-0.1
SIGR	SIGRI	0.52	160	PG	Pg	16 17 50.4	-0.7
SIGR				SG	Sg	16 17 57.9	-0.2
SIGR	SIGRI	0.52	160	P	Pg	16 17 50.8	-0.3
SIGR				S	Sg	16 17 58.1	0.0
SIGR				AML	AML	16 17 58.7	
	comp=E,1701μm,0.5s						
SIGR				AML	AML	16 17 58.8	
	comp=N,2114μm,0.4s						
SIGR	SIGRI	0.52	160	P	Pg	16 17 50.8	-0.3
SIGR				S	Sg	16 17 58.5	+0.4
GADA	Gvkgeada	0.53	24	PG	Pg	16 17 51.2	-0.1
GADA	Gvkgeada	0.53	24	P	Pg	16 17 51.2	-0.1
GADA				S	Sb	16 17 59.5	+0.1
EZN	Ezine	0.56	77	PG	Pg	16 17 51.3	-0.5
EZN				SG	Sg	16 17 59.2	+0.1
EZN	Ezine	0.56	77	P	Pg	16 17 51.6	-0.2
EZN				S	Sg	16 17 59.3	+0.1
PRK	Paraskevi	0.68	132	P	Pb	16 17 55.0	+0.5
PRK				S	Sg	16 18 03.3	+0.3
PRK				AML	AML	16 18 07.6	
	comp=E,468μm,0.4s						
PRK				AML	AML	16 18 07.9	
	comp=N,436μm,0.3s						
PRK	Paraskevi	0.68	132	P	Pb	16 17 54.9	+0.5
BAYC	CANAKKALE_Bayr	0.72	87	i P	Pb	16 17 55.1	0.0
BAYC				i S	Sb	16 18 05.0	+0.3
SMTH	Samothraki Isl	0.77	355	P	Pb	16 17 55.8	-0.1
SMTH				S	Sb	16 18 06.2	-0.1
SMTH	Samothraki Isl	0.77	355	P	Pg	16 17 55.6	-0.2
SMTH				S	Sb	16 18 06.4	+0.1
AYVA	Ayvalik	0.92	115	i P	Pn	16 17 59.0	-0.2
AYVA				i S	Sn	16 18 12.8	+0.6
GELI	Tayfur-Gelibol	0.95	43	PG	Pb	16 17 58.9	-0.2
LPK	Lapseki	1.10	52	PN	Pb	16 18 01.5	-0.1
THAS	Thassos island	1.14	323	P	Pb	16 18 02.0	-0.2
DKL	Dikili	1.18	122	PN	Pn	16 18 02.8	0.0
ERIK	Erikli-Kesan	1.18	35	PN	Pn	16 18 02.8	-0.1
ALN	Alexandroupoli	1.24	15	PN	Pn	16 18 03.1	-0.5
ALN	Alexandroupoli	1.24	15	P	Pn	16 18 03.5	-0.1
CHOS	Chios island	1.36	165	PN	Pn	16 18 04.9	-0.5
CHOS	Chios island	1.36	165	P	Pb	16 18 06.2	+0.1
KESN	Edirne-Kesan	1.38	36	IAML_P			
	comp=Z,89nm,0.2s						
KESN				i P	Pb	16 18 06.8	+0.1
KESN				i S	Sn	16 18 24.1	-0.2
RDO	Rodhopi	1.44	358	PN	Pn	16 18 06.8	+0.3
RDO	Rodhopi	1.44	358	P	Pg	16 18 08.2	-0.4
KRBG	Karabiga-Canak	1.46	61	PN	Pn	16 18 06.9	+0.2

*ISK **08** 16:19:32.9, 39°.68N×25°.63E, h10km, ML2.5/10*
*ISCJB **08** 16:19:34.0±0.5, 39°.70N±0°.02×25°.62E±0°.04, h16km±8km, Error ellipse: s-maj=5.1km s-min=4.0km az=160.9*
*THE **08** 16:19:33.7, 39°.70N×25°.62E, h9km±1km, ML2.1/4, Error ellipse: s-maj=1.1km s-min=0.5km az=210.0*
*ATH **08** 16:19:33.0, 39°.69N×25°.56E, h29km±1km, ML2.3/4, Error ellipse: s-maj=2.7km s-min=1.0km az=246.0*
ISC 08 16:19:33.3±1.0, **39°.69N**±0°.02×**25°.63E**±0°.03, **h15**km±9km, **n34**, σ**0s.36**/49, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.36	64	PG	Pg	16 19 40.6	-0.1
BOZC				SG	Sg	16 19 46.3	+0.5
LIA	Limnos Island	0.40	302	P	Pb	16 19 41.7	-0.4
LIA				S	Sg	16 19 46.7	-0.3
LIA				AML	AML	16 19 48.0	
	comp=N,482μm,0.1s						
LIA				AML	AML	16 19 49.4	
	comp=E,376μm,0.1s						
LIA	Limnos Island	0.40	302	P	Pb	16 19 41.6	-0.6
LIA				S	Sg	16 19 46.9	-0.2
SIGR	SIGRI	0.51	160	PG	Pg	16 19 43.3	0.0
SIGR				SG	Sb	16 19 50.6	-0.4
SIGR	SIGRI	0.51	160	P	Pb	16 19 43.7	-0.2
SIGR				S	Sb	16 19 51.3	+0.3
SIGR				AML	AML	16 19 52.1	
	comp=E,1959μm,0.5s						
SIGR				AML	AML	16 19 52.3	
	comp=N,2209μm,0.4s						
SIGR	SIGRI	0.51	160	P	Pb	16 19 43.6	-0.3
SIGR				S	Sb	16 19 51.2	+0.2
EFSA	Agios Efstrati	0.52	254	P	Pb	16 19 44.7	+0.6
GADA	Gvkgeada	0.55	22	PG	Pg	16 19 44.1	0.0
GADA	Gvkgeada	0.55	22	P	Pg	16 19 44.2	+0.1
GADA				S	Sg	16 19 51.2	-0.2
EZN	Ezine	0.55	75	PG	Pb	16 19 44.5	-0.2
EZN				SG	Sb	16 19 52.4	0.0
EZN	Ezine	0.55	75	P	Pb	16 19 44.5	-0.2
EZN				S	Sb	16 19 52.4	0.0
GOKC	Gokceada-Canak	0.56	23	PG	Pb	16 19 44.7	-0.1
PRK	Paraskevi	0.66	131	P	Pn	16 19 47.6	-0.5
PRK				S	Sn	16 19 57.6	-0.6
PRK				AML	AML	16 20 01.0	
	comp=N,999μm,0.3s						
PRK				AML	AML	16 20 03.2	
	comp=E,931μm,0.5s						
PRK	Paraskevi	0.66	131	P	Pn	16 19 47.8	-0.3
PRK				S	Sb	16 19 56.2	+0.6
SMTH	Samothraki Isl	0.79	354	P	Pb	16 19 48.7	-0.1
SMTH				S	Sb	16 19 59.5	+0.3
SMTH				AML	AML	16 20 01.4	
	comp=E,244μm,0.3s						
SMTH				AML	AML	16 20 02.0	
	comp=N,253μm,0.1s						
SMTH	Samothraki Isl	0.79	354	P	Pg	16 19 48.5	-0.2
SMTH				S	Sb	16 19 59.5	+0.3
GELI	Tayfur-Gelibol	0.96	42	PG	Pb	16 19 52.0	+0.3
LPK	Lapseki	1.11	51	PN	Pg	16 19 54.4	-0.3
ENEZ	Enez	1.12	21	PN	Pg	16 19 54.7	-0.3
PSRA	Psara	1.14	183	P	Pn	16 19 55.3	+0.5
THAS	Thassos island	1.15	323	P	Pb	16 19 54.9	-0.1
DKL	Dikili	1.16	121	PN	Pg	16 19 55.7	-0.1
ERIK	Erikli-Kesan	1.19	34	PN	Pn	16 19 55.9	+0.4
ALN	Alexandroupoli	1.25	15	PN	Pb	16 19 56.9	+0.3
ALN	Alexandroupoli	1.25	15	P	Pn	16 19 56.5	+0.2
ALN				S	Sg	16 20 13.2	-0.5
ALN	Alexandroupoli	1.25	15	P	Pn	16 19 56.2	-0.1
ALN				S	Sb	16 20 13.0	+0.5
CHOS	Chios island	1.34	166	PN	Pb	16 19 58.3	+0.1
CHOS	Chios island	1.34	166	P	Pn	16 19 57.7	+0.1
CHOS	Chios island	1.34	166	P	Pn	16 19 57.6	+0.1
OUR	Ouranopolis	1.42	298	PN	Pb	16 19 59.6	+0.1
RDO	Rodhopi	1.46	357	PN	Pn	16 19 59.6	+0.5
RDO	Rodhopi	1.46	357	P	Pn	16 19 59.3	+0.2
KRBG	Karabiga-Canak	1.46	61	PN	Pb	16 20 00.7	+0.5
URLA	Izmir	1.52	150	PN	Pn	16 20 00.8	+0.8

*ISK **08** 16:26:31.6, 39°.69N×25°.59E, h8km, ML2.6/8*
*ISCJB **08** 16:26:32.7±0.5, 39°.70N±0°.02×25°.62E±0°.03, h7km±4km, Error ellipse: s-maj=4.3km s-min=3.8km az=149.8*
*DDA **08** 16:26:32.8, 39°.74N×25°.66E, h6km±4km, ML3.0*
*ATH **08** 16:26:32.6, 39°.70N×25°.61E, h23km±2km, ML2.1/4, Error ellipse: s-maj=2.0km s-min=0.9km az=160.0*
*THE **08** 16:26:33.0, 39°.71N×25°.65E, h5km±2km, ML1.8/4, Error ellipse: s-maj=2.5km s-min=0.4km az=190.0*
ISC 08 16:26:32.9±0.9, **39°.70N**±0°.02×**25°.63E**±0°.02, **h15**km±8km, **n38**, σ**0s.38**/54, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.35	66	PG	Pg	16 26 40.1	-0.1
BOZC				SG	Sg	16 26 45.5	+0.4
BOZC	Bozcaada	0.35	66	IAML_P			
	comp=Z,9μm,0.1s						
BOZC				i P	Pg	16 26 40.3	+0.1
LIA	Limnos Island	0.40	300	P	Pg	16 26 41.1	+0.1
LIA				S	Sg	16 26 46.8	+0.3
LIA				AML	AML	16 26 53.8	
	comp=E,296μm,0.4s						
LIA				AML	AML	16 26 54.4	
	comp=N,267μm,0.3s						
LIA	Limnos Island	0.40	300	P	Pg	16 26 41.1	+0.1
LIA				S	Sg	16 26 46.9	+0.4
SIGR	SIGRI	0.51	160	PG	Pg	16 26 41.5	-1.6
SIGR				SG	Sg	16 26 50.1	+0.1
SIGR	SIGRI	0.51	160	P	Pg	16 26 42.9	-0.3
SIGR				S	Sg	16 26 50.5	+0.5
SIGR				AML	AML	16 26 51.1	
	comp=E,1181μm,0.6s						
SIGR				AML	AML	16 26 51.1	
	comp=N,1347μm,0.5s						
SIGR	SIGRI	0.51	160	P	Pg	16 26 42.8	-0.3
SIGR				S	Sg	16 26 50.5	+0.5
GADA	Gvkgeada	0.54	22	PG	Pg	16 26 42.9	-0.6
GADA	Gvkgeada	0.54	22	P	Pg	16 26 43.2	-0.3
GADA				S	Sg	16 26 50.6	-0.1
EZN	Ezine	0.55	76	PG	Pg	16 26 43.4	-0.4
EZN				SG	Sg	16 26 51.2	+0.1
EZN	Ezine	0.55	76	P	Pg	16 26 43.4	-0.4
EZN				S	Sg	16 26 51.0	-0.1
PRK	Paraskevi	0.67	132	P	Pb	16 26 46.3	0.0
PRK				S	Sb	16 26 56.1	+0.7
PRK				AML	AML	16 27 00.1	
	comp=E,405μm,0.5s						
PRK				AML	AML	16 27 00.3	
	comp=N,492μm,0.3s						
PRK	Paraskevi	0.67	132	P	Pb	16 26 46.8	+0.5
BAYC	CANAKKALE_Bayr	0.71	86	IAML_P			
	comp=Z,2μm,0.1s						
BAYC				i P	Pg	16 26 46.8	+0.1
BAYC				i S	Sb	16 26 56.9	+0.3
SMTH	Samothraki Isl	0.78	354	P	Pg	16 26 48.0	-0.1
SMTH				S	Sg	16 26 58.5	+0.1
SMTH				AML	AML	16 27 00.5	
	comp=E,143μm,0.2s						
SMTH				AML	AML	16 27 00.6	
	comp=N,238μm,0.4s						
SMTH	Samothraki Isl	0.78	354	P	Pg	16 26 47.9	-0.1
SMTH				S	Sb	16 26 58.6	0.0
AYVA	Ayvalik	0.91	115	IAML_P			
	comp=Z,765nm,0.1s						
AYVA				i P	Pn	16 26 51.4	+0.2
AYVA				i S	Sn	16 27 04.0	0.0
GELI	Tayfur-Gelibol	0.95	42	PG	Pb	16 26 50.9	-0.3
LPK	Lapseki	1.10	52	PN	Pg	16 26 54.1	0.0
ENEZ	Enez	1.11	21	PN	Pb	16 26 53.3	-0.6
THAS	Thassos island	1.15	323	P	Pb	16 26 54.5	0.0
SKY	Skiros Island	1.17	226	P	Pn	16 26 54.3	-0.6
ERIK	Erikli-Kesan	1.18	34	PN	Pn	16 26 54.9	-0.1
ALN	Alexandroupoli	1.24	15	PN	Pb	16 26 56.1	0.0
ALN	Alexandroupoli	1.24	15	P	Pb	16 26 56.1	0.0
ALN	Alexandroupoli	1.24	15	P	Pn	16 26 55.9	+0.1
ALN				S	Sg	16 27 13.1	+0.1
CHOS	Chios island	1.35	166	PN	Pn	16 26 57.3	0.0
CHOS	Chios island	1.35	166	P	Pb	16 26 58.1	+0.1
KESN	Edirne-Kesan	1.38	35	IAML_P			
	comp=Z,202nm,0.2s						
KESN				i P	Pb	16 26 58.7	-0.1
KESN				i S	Sg	16 27 17.2	-0.5
OUR	Ouranopolis	1.42	297	PN	Pn	16 26 57.8	-0.4
OUR	Ouranopolis	1.42	297	P	Pb	16 26 59.2	0.0
RDO	Rodhopi	1.45	357	PN	Pn	16 26 58.5	-0.2
RDO	Rodhopi	1.45	357	P	Pn	16 26 59.2	+0.5
RDO	Rodhopi	1.45	357	P	Pn	16 26 58.8	+0.1
KRBG	Karabiga-Canak	1.46	61	PN	Pb	16 26 59.8	0.0
PAIG	Paliouri	1.52	279	P	Pb	16 27 00.7	-0.2
KAVA	Kavala	1.56	327	P	Pn	16 27 00.4	+0.3
STEP	BALIKESIR_Sava	1.64	101	IAML_P			
	comp=Z,928nm,0.2s						
STEP				i P	Pb	16 27 02.7	-0.3

*MAN **08** 16:33:57.9, 15°.07N×123°.30E, h14km, mb5.4, ML4.4, MS4.6*
MAN INTENSITY II - GUINAYANGAN QUEZON.
*ISCJB **08** 16:33:59.6±0.6, 15°.06N±0°.03×123°.35E±0°.04, h36km±6km, mb4.1/14, MS4.3/3, Error ellipse: s-maj=7.1km s-min=4.0km az=159.3*
*IDC **08** 16:34:06.8±3.9, 14°.79N×123°.31E, h100km±34km, mb3.7/11, mb1 3.9/11, mb1mx3.6/33, mbtmp4.0/11, MS3.7/5, Ms1 3.7/5, ms1mx3.2/37, Error ellipse: s-maj=36.0km s-min=12.6km az=62.0*
ISC 08 16:33:57.9±2.0, **15°.03N**±0°.03×**123°.36E**±0°.04, **h17**km±13km, **n52**, σ**1s.50**/65, **mb4.2**/18, **MS4.4**/3, **2C-2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
POLP	Polilio Island	1.40	258	eP	Pn	16 34 21.6	-1.1
POLP				eS	Sn	16 34 40.2	-0.6
GQP	Guinayangan	1.42	218	⇓ iP	Pn	16 34 22.1	-0.9
GQP				i S	Sn	16 34 40.2	-1.1
PVCP	Virac	1.62	151	eP	Pn	16 34 25.7	0.0
PVCP				eS	Sb	16 34 48.6	+0.9
AUQP	San Andres	1.82	201	eP	Pb	16 34 30.6	-0.2
AUQP				eS	Sg	16 34 57.8	+1.2
BALP	Baler	1.86	293	eP	Pn	16 34 27.6	-1.3
BALP				eS	Sn	16 34 51.4	-0.6
BOAC	Boac	2.14	223	eP	Pn	16 34 33.8	+0.9
BOAC				eS	Sn	16 35 01.4	+2.3
PALP	Palanan	2.21	336	eP	Pn	16 34 34.2	+0.4
PALP				eS	Sn	16 34 60.0	-0.8
CAUP	Cauayan	2.41	322	eP	Pn	16 34 37.1	+0.6
CAUP				eS	Sn	16 35 06.7	+1.1
TGY	Tagaytay City	2.52	249	P	Pb	16 34 42.8	+0.1
	198nm,0.3s,baz=260,slow=5.0,SNR=20						
TGY				S	Sb	16 35 14.8	+1.4
	347nm,0.3s,baz=301,slow=20,SNR=16						
TGY				LR	LR	16 35 36.2	
	comp=Z,264nm,21.8s,baz=148,slow=37						
TGY	Tagaytay City	2.52	249	eP	Pn	16 34 35.7	-2.4
MMPH	Masbate	2.67	174	⇓ iP	Pb	16 34 44.7	-0.6
MMPH				i S	Sb	16 35 19.3	+1.5
SMPP	San Manuel, Pa	2.81	294	eP	Pn	16 34 41.9	-0.2
SMPP				eS	Sn	16 35 15.8	+0.2
CNP	Catarman	2.81	153	eP	Pn	16 34 44.6	+2.5
CNP				eS	Sg	16 35 25.8	-2.5
OTRP	Odiongan	2.95	206	eP	Pn	16 34 44.9	+0.9
OTRP				eS	Sb	16 35 26.5	+0.6
CVP	Callao Caves	3.04	331	⇑ iP	Pn	16 34 47.4	+2.2
CVP				i S	Sn	16 35 24.3	+3.1
SJMP	San Jose	3.35	221	eP	Pn	16 34 51.6	+2.0
SJMP				eS	Sn	16 35 32.8	+3.8
SCZP	Santa Cruz	3.40	283	eP	Pn	16 34 50.1	-0.2
SCZP				eS	Sn	16 35 33.7	+3.5
SGCP	Mt. Cagua	3.43	339	eP	Pn	16 34 51.6	+1.0
SGCP				eS	Sn	16 35 29.8	-1.1
RCP	Roxas	3.50	190	⇑ eP	Pn	16 34 53.4	+1.8
BOLP	Bolinao	3.58	292	eP	Pn	16 34 53.8	+1.1
ABRA	Dolores	3.63	316	eP	Pn	16 34 55.8	+2.4
ABRA				eS	Sn	16 35 36.4	+0.5
OCLP	Ormoc	4.14	163	eP	Pn	16 35 02.6	+2.2
BUSP	Coron	4.30	226	eP	Pn	16 35 03.2	+0.6
DAV	Davao City (W)	8.21	164	LR	LR	16 40 03.7	
	comp=Z,176nm,19.0s,baz=16,slow=45						
CMAR	Chiang Mai Arr	23.62	282	P	P	16 39 08.5	+0.2
	5.9nm,1.0s,baz=93,slow=7.7,SNR=38						
CMMT	Chiang Mai	23.64	283	P	P	16 39 09.5	+0.9
	4.0nm,1.4s						
CHTO	Chiang Mai	23.65	283	P	P	16 39 09.6	+1.0
	18nm,1.4s						
SONM	Songino Array	35.60	340	P	P	16 40 56.6	+1.9
	2.0nm,0.6s,baz=160,slow=9.8,SNR=19						
RAMN	Ramite	36.18	295	eP	P	16 41 00.7	+0.6
	8.3nm,0.5s						
WRA	Warramunga Arr	36.40	162	P	P	16 40 58.6	-3.0
	1.3nm,0.4s,baz=346,slow=8.9,SNR=43						
JIRN	Jiri	36.68	296	eP	P	16 41 05.1	+0.6
GUN	Gumba	37.00	297	eP	P	16 41 07.5	+0.3
	9.5nm,0.7s						
KKN	Kakani	37.50	296	eP	P	16 41 12.1	+0.8
DANN	Dangsing	38.92	297	eP	P	16 41 23.5	+0.1
	11nm,0.7s						
KOLN	Koldanda	38.95	296	eP	P	16 41 23.5	0.0
PYUN	Piuthan	39.54	296	eP	P	16 41 28.8	+0.3
	7.6nm,0.9s						
ASAR	Alice Springs	39.82	165	P	P	16 41 29.0	-1.5
	0.8nm,0.3s,baz=340,slow=7.6,SNR=49						
ASAR				PcP	PcP	16 43 34.5	-2.0
	0.8nm,0.6s,baz=338,slow=2.7,SNR=8.2						
H11S3	WAKE ISLAND Hy	41.56	79	T	T	17 25 48.7	
	baz=271						
H11S1	WAKE ISLAND Hy	41.58	79	T	T	17 25 49.0	
	baz=271						
H11S2	WAKE ISLAND Hy	41.58	79	T	T	17 25 51.5	
	baz=271						
MKAR	Makanchi Array	46.55	322	P	P	16 42 26.1	+1.5
	1.0nm,0.6s,baz=120,slow=9.5,SNR=12						
MKAR				PcP	PcP	16 43 57.4	-1.4
	0.5nm,0.7s,baz=103,slow=3.9,SNR=3.9						
ZALV	Zalesovo Beam	49.11	331	P	P	16 42 45.3	+1.0
	1.1nm,0.6s,baz=120,slow=8.0,SNR=6.5						
STKA	Stephens Creek	49.81	160	P	P	16 42 48.7	-1.3
	1.6nm,0.7s,baz=318,slow=11,SNR=3.4						
GEYT	Alibeck	61.46	305	P	P	16 44 11.8	-2.0
	2.9nm,0.8s,baz=151,slow=3.4,SNR=5.7						
ARCES	ARCESS Array B	78.76	339	P	P	16 45 60.0	+0.7
	3.7nm,0.8s,baz=69,slow=6.6,SNR=7.7						
FINES	FINESS Array B	80.37	331	P	P	16 46 07.6	-0.5
	1.6nm,0.6s,baz=46,slow=5.5,SNR=8.3						
AKASG	Malin Array Be	81.10	320	LR	LR	17 25 17.9	
	comp=Z,84nm,21.3s,baz=280,slow=38						
NB2	NORSAR Subarra	87.25	333	P	P	16 46 43.7	+0.3
	comp=Z,0.5nm,0.6s,baz=66,slow=4.8						
NOA	NORSAR Array B	87.25	333	P	P	16 46 43.3	-0.2
	comp=Z,0.8nm,0.6s,baz=63,slow=4.9,SNR=4.7						
VRAC	Vranov	89.28	321	LR	LR	17 31 18.3	
	comp=Z,139nm,18.3s,baz=340,slow=38						
YKA	Yellowknife Ar	90.56	23	P	P	16 46 58.8	-0.1
	comp=Z,0.1nm,0.5s,baz=301,slow=4.9,SNR=3.6						
VAE	Valguarnera	95.36	311	LR	LR	17 35 40.1	
	comp=Z,117nm,19.8s,baz=173,slow=39						

*ISCJB **08** 17:00:51.6±0.3, 6°.88N±0°.03×73°.09W±0°.04, h156km±3km, mb3.8/10, Error ellipse: s-maj=6.5km s-min=4.0km az=28.9*
*IDC **08** 17:00:53.2±1.3, 6°.79N×73°.02W, h162km±12km, mb3.6/10, mb1 3.9/14, mb1mx3.6/32, mbtmp4.2/14, Error ellipse: s-maj=19.4km s-min=16.1km az=143.0*
*RSNC **08** 17:00:53.2±1.2, 6°.86N×73°.12W, h150km±5km, ML4.4, Mw4.6*
ISC 08 17:00:52.4±0.7, **6°.87N**±0°.04×**73°.09W**±0°.05, **h151**km±5km, **n48**, σ**0s.83**/64, **mb3.8**/12, **4C-6D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BARC	Barichara	0.29	198	i P	Pn	17 01 13.8	+0.3
BARC				eS	Sn	17 01 29.0	-0.4
BARC				i		17 01 29.7	
	comp=Z,3μm,0.3s						
BRRC	Barranca, Sant	0.66	291	⇑ iP	Pn	17 01 15.5	+0.7
BRRC				eS	Sn	17 01 32.2	+0.4
BRRC				i		17 01 33.1	
	comp=E,7μm,0.3s						
RUSC	La Rusia	0.97	179	⇑ iP	Pn	17 01 17.7	+0.1
RUSC				eS	Sn	17 01 36.4	-0.5
RUSC				i		17 01 38.1	
	comp=N,3μm,0.4s						
OCAC	Ocana	1.38	351	eP	Pn	17 01 21.8	+0.8
OCAC				eS	Sn	17 01 43.1	+0.1
OCAC				i		17 01 46.6	
	comp=N,6μm,0.2s						
PTBC	PUERTO BERRIO,	1.39	256	⇓ iP	Pn	17 01 20.3	-0.7
PTBC				eS	Sn	17 01 41.7	-1.2
PTBC				i		17 01 43.0	
	comp=N,3μm,0.6s						
ZARC	Zaragoza, Cauc	1.86	290	eP	Pn	17 01 26.2	+0.2
ZARC				eS	Sn	17 01 51.5	-0.2
ZARC				i		17 01 57.5	
	comp=N,3μm,0.4s						
NORC	Norcasia	2.19	234	⇓ iP	Pn	17 01 29.6	-0.4
NORC				eS	Sn	17 01 57.9	-0.9
NORC				i		17 02 09.1	
	comp=N,996nm,0.2s						
CHIC	Chingaza	2.31	196	⇓ iP	Pn	17 01 31.9	+0.2
CHIC				eS	Sn	17 02 01.1	-1.0
CHIC				i		17 02 04.4	
	comp=N,2μm,0.5s						
ROSC	El Rosal	2.36	211	P	Pn	17 01 33.6	+1.4
	comp=N,119nm,0.3s,baz=357,slow=5.3,SNR=74						
ROSC				S	Sn	17 02 02.3	-0.6
	comp=N,70nm,0.3s,baz=102,slow=15,SNR=9.6						
ROSC	El Rosal	2.36	211	eP	Pn	17 01 33.6	+1.4
ROSC				eS	Sn	17 02 03.2	+0.3
ROSC				i		17 02 08.4	
	comp=Z,2μm,0.5s						
HELC	Santa Helena	2.51	255	eP	Pn	17 01 33.9	-0.2
HELC				eS	Sn	17 02 05.7	-0.5
HELC				i		17 02 11.8	
	comp=N,866nm,0.5s						
UREC	San Jos de Ur	2.57	290	eP	Pn	17 01 33.8	-0.7
UREC				i		17 02 16.4	
	comp=N,2μm,0.3s						
VILC	Villavicencio,	2.80	192	eP	Pn	17 01 37.3	-0.2
VILC				eS	Sn	17 02 12.0	-0.4
VILC				i		17 02 20.1	
	comp=E,3μm,0.5s						
RREF	El Recreo	2.98	229	eP	Pn	17 01 40.3	+0.1
RREF				eS	Sn	17 02 17.4	+0.4
RREF				i		17 02 22.1	
	comp=Z,521nm,0.5s						
CODC	Agustn Codazz	3.07	354	⇓ iP	Pn	17 01 41.1	+0.4
CODC				eS	Sn	17 02 18.1	0.0
DBBC	Dabeiba	3.10	273	i P	Pn	17 01 41.4	+0.3
DBBC				i		17 02 26.0	
	comp=Z,648nm,0.4s						
SDV	Santo Domingo	3.15	50	P	Pn	17 01 43.3	+1.3
	comp=Z,119nm,0.3s,baz=190,slow=3.3,SNR=132						
SDV				S	Sn	17 02 20.2	-0.2
	comp=Z,171nm,0.3s,baz=270,slow=20,SNR=33						
SDV	Santo Domingo	3.15	50	⇓ iP	Pn	17 01 43.2	+1.3
TOLC	Tolima	3.17	224	eP	Pn	17 01 42.6	+0.2
TOLC				i		17 02 28.5	
	comp=Z,361nm,0.4s						

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
ANIL	Santa Ana	3.30	224	⇑iP	Pn	17 01 45.4	+1.5
ANIL				eS	Sn	17 02 25.0	+1.2
ANIL				i		17 02 32.9	
	comp=N,1µm,0.5s						
SJCC	San Jacinto, C	3.65	326	eP	Pn	17 01 48.1	-0.1
SJCC				i		17 02 32.6	
	comp=N,524nm,0.4s						
PLMC	San Jos del P	3.73	239	eP	Pn	17 01 49.7	+0.5
PLMC				i		17 01 51.4	
	comp=Z,602nm,0.3s						
YOTC	Yotoco, Valle	4.32	229	iP	Pn	17 01 56.1	-0.9
SMRC	Santa Marta, M	4.41	345	eP	Pn	17 01 58.3	+0.2
SMRC				i		17 02 48.1	
	comp=N,214nm,0.2s						
BETC	Betania	4.77	209	eP	Pn	17 02 01.6	-1.3
MARP	Paez Belalcaza	4.91	216	eP	Pn	17 02 04.4	-0.5
URIC	Uribia, Colomb	4.92	13	eP	Pn	17 02 04.0	-0.8
MALC	Bahia Malaga	5.09	236	eP	Pn	17 02 08.2	+1.2
MALC				i		17 02 10.3	
	comp=Z,173nm,0.4s						
POPC	Popayan, Colom	5.59	220	⇓iP	Pn	17 02 13.5	-0.4
FLOC	Florencia	5.84	206	⇑iP	Pn	17 02 16.7	-0.3
PCRV	Puerto La Cruz	8.99	68	P	Pn	17 02 58.3	-0.7
	comp=Z,2.1nm,0.3s,baz=228,slow=6.1,SNR=5.3						
PCRV				S	Sn	17 04 36.6	-2.3
	comp=Z,1.1nm,0.3s,baz=100,slow=18,SNR=3.5						
APG	El Apazote	18.86	297	P	Pn	17 05 02.3	-1.3
	comp=Z,0.3nm,0.3s,baz=72,slow=13,SNR=2.3						
LPAZ	La Paz	23.53	168	pP	pP	17 06 21.0	+2.0
	comp=Z,1.7nm,0.6s,baz=352,slow=12,SNR=4.1						
SIV	San Ignacio	25.64	152	pP	pP	17 06 38.5	-1.4
	comp=Z,1.2nm,0.6s,baz=330,slow=12,SNR=4.9						
TXAR	Lajitas Array	36.45	312	P	P	17 07 44.0	+1.0
	comp=Z,1.5nm,0.6s,baz=133,slow=7.6,SNR=14						
TXAR				PcP	PcP	17 10 05.0	+1.1
	comp=Z,0.5nm,0.6s,baz=145,slow=5.4,SNR=5.0						
ULM	Lac du Bonnet	47.25	340	P	P	17 09 09.8	-0.3
	comp=Z,3.5nm,0.5s,baz=163,slow=6.0,SNR=7.5						
PDAR	Pinedale Array	48.05	324	P	P	17 09 17.4	+0.7
	comp=Z,1.0nm,0.6s,baz=123,slow=8.7,SNR=9.4						
SCHQ	Schefferville	48.09	5	P	P	17 09 17.6	+1.0
	comp=Z,7.6nm,0.5s,baz=191,slow=6.9,SNR=19						
NVAR	Mina Array Bea	51.47	315	P	P	17 09 43.7	+1.0
	comp=Z,0.7nm,0.6s,baz=125,slow=7.2,SNR=7.4						
YBH	Yreka Blue Hor	55.92	317	P	P	17 10 13.9	-1.0
	comp=Z,1.2nm,0.6s,baz=167,slow=1.8,SNR=5.9						
YKA	Yellowknife Ar	63.23	340	P	P	17 11 04.5	+0.2
	comp=Z,2.3nm,0.6s,baz=132,slow=6.7,SNR=64						
ILAR	Eielson Array	76.93	335	P	P	17 12 27.9	0.0
	comp=Z,0.4nm,0.7s,baz=102,slow=5.2,SNR=6.0						
NOA	NORSAR Array B	81.27	29	P	P	17 12 51.8	+0.2
	comp=Z,0.3nm,0.5s,baz=269,slow=7.3,SNR=2.2						
ARCES	ARCESS Array B	86.62	20	P	P	17 13 17.9	-0.5
	comp=Z,3.3nm,1.0s,baz=282,slow=4.5,SNR=4.9						
MKAR	Makanchi Array	122.27	20	PKP	PKPdf	17 19 28.9	-0.8
	comp=Z,0.1nm,0.3s,baz=308,slow=1.6,SNR=6.0						
SONM	Songino Array	125.53	0	PKP	PKPdf	17 19 36.1	+0.1
	comp=Z,0.2nm,0.4s,baz=48,slow=2.4,SNR=3.6						
ASAR	Alice Springs	149.16	234	PKPbc	PKPbc	17 20 22.6	-1.3
	comp=Z,2.0nm,0.7s,baz=116,slow=3.6,SNR=14						
WRA	Warramunga Arr	150.38	241	PKPbc	PKPbc	17 20 25.9	-1.0
	comp=Z,1.5nm,0.4s,baz=108,slow=2.6,SNR=65						

*ISCJB **08** 17:02:01.1±0.9, 36°.54N±0°.05×70°.5E±0°.1, h213km, Error ellipse: s-maj=12.9km s-min=5.8km az=167.2*
*NNC **08** 17:02:06.5±3.0, 36°.96N×70°.33E, h203km±42km, mb2.4, mpv3.3, Error ellipse: s-maj=30.8km s-min=25.3km az=54.0*
ISC 08 17:02:01.8±1.3**, 36°.60N**±0°.09×**70°.5E**±0°.1**, h213**km**, n16, σ1s.32**/20**, 5C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	4.15	34	⇓P	Pn	17 03 07.1	+1.0
	1.6nm,0.2s						
SFK				⇑S	S	17 03 57.0	+0.6
	18nm,0.4s						
KK31	Karatay Array	6.50	0	⇓P	Pn	17 03 36.5	+0.9
	0.4nm,0.3s,baz=197,slow=17,SNR=8.6						
KK31				S	S	17 04 45.9	-4.1
	1.6nm,0.3s,baz=194,slow=17,SNR=9.2						
AAK	Ala-Archa	6.77	26	⇑P	Pn	17 03 40.4	+1.2
	1.4nm,0.7s						
AAK				⇑S	S	17 04 56.1	-0.6
	9.2nm,0.6s						
TKM2	Tokmak 2	7.43	30	⇑P	Pn	17 03 48.9	+1.1
	1.7nm,0.4s						
TKM2				⇓S	S	17 05 11.0	-1.3
	2.3nm,0.6s						
PYUN	Piuthan	13.53	125	eP	Pn	17 05 04.3	-1.3
	6.2nm,0.3s						
DANN	Dangsing	13.88	123	eP	Pn	17 05 09.2	-0.8
	7.3nm,0.3s						
KOLN	Koldanda	14.15	125	eP	Pn	17 05 12.4	-0.9
	4.1nm,0.3s						
AB31	Akbulak array	14.81	332	⇓P	P	17 05 22.6	+1.1
	0.7nm,0.6s						
DMN	Daman	15.27	122	eP	Pn	17 05 26.2	-0.8
	3.7nm,0.3s						
KKN	Kakani	15.27	121	eP	Pn	17 05 26.5	-0.5
	9.1nm,0.5s						
PKIN	Phulchoki	15.49	121	eP	Pn	17 05 29.9	+0.3
	4.0nm,0.3s						
PKI	Pulchoki	15.50	121	eP	Pn	17 05 29.9	+0.1
	14nm,0.5s						
GUN	Gumba	15.62	119	eP	P	17 05 30.6	-0.4
	9.9nm,0.6s						
JIRN	Jiri	15.98	119	eP	Pn	17 05 35.6	-0.1
	25nm,0.4s						
AKTO	Aktyubinsk	16.50	331	⇑P	Pn	17 05 41.3	+0.1
	2.2nm,0.8s						
RAMN	Ramite	16.71	121	eP	Pn	17 05 43.8	-0.4
	7.7nm,0.4s						

*ISCJB **08** 17:03:29.8±0.5, 39°.66N±0°.02×25°.54E±0°.03, h8km±4km, Error ellipse: s-maj=4.4km s-min=3.3km az=143.4*
*ATH **08** 17:03:29.6, 39°.68N×25°.55E, h27km±2km, ML2.5/4, Error ellipse: s-maj=3.2km s-min=1.3km az=234.0*
*ISK **08** 17:03:29.0, 39°.64N×25°.55E, h12km, ML2.8/11*
*THE **08** 17:03:30.3, 39°.68N×25°.55E, h7km±2km, ML2.3/6, Error ellipse: s-maj=2.6km s-min=0.8km az=215.0*
*DDA **08** 17:03:30.1, 39°.71N×25°.58E, h7km±2km, ML2.9*
ISC 08 17:03:30.1±0.9**, 39°.67N**±0°.02×**25°.55E**±0°.02**, h14**km±9km**, n40, σ0s.51**/59**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LIA	Limnos Island	0.36	309	P	Pg	17 03 37.6	+0.2
LIA				S	Sg	17 03 42.9	+0.5
LIA				AML	AML	17 03 43.2	
	comp=E,1601µm,0.3s						
LIA				AML	AML	17 03 43.4	
	comp=N,1102µm,0.2s						
LIA	Limnos Island	0.36	309	P	Pg	17 03 37.8	+0.4
LIA				S	Sg	17 03 42.6	+0.2
BOZC	Bozcaada	0.42	66	PG	Pg	17 03 38.3	-0.2
BOZC				SG	Sg	17 03 44.6	+0.3
BOZC	Bozcaada	0.42	66	iP	Pg	17 03 38.6	+0.1
EFSA	Agios Efstrati	0.45	254	P	Pb	17 03 40.2	+0.3
GPNR	Gulpinar-Canak	0.50	115	PG	Pg	17 03 39.7	-0.2
SIGR	SIGRI	0.52	153	PG	Pg	17 03 38.4	-1.8
SIGR				SG	Sg	17 03 46.6	-0.5
SIGR	SIGRI	0.52	153	P	Pg	17 03 40.0	-0.3
SIGR				S	Sg	17 03 47.6	+0.5
SIGR				AML	AML	17 03 48.3	
	comp=E,1606µm,0.5s						
SIGR				AML	AML	17 03 48.3	
	comp=N,1961µm,0.4s						
SIGR	SIGRI	0.52	153	P	Pg	17 03 39.9	-0.3
SIGR				S	Sg	17 03 47.5	+0.5
GADA	Gvkgeada	0.59	27	PG	Pg	17 03 41.3	-0.3
GADA	Gvkgeada	0.59	27	P	Pg	17 03 41.5	-0.1
GADA				S	Sb	17 03 49.6	-0.7
EZN	Ezine	0.62	75	PG	Pg	17 03 41.9	-0.2
EZN				SG	Sg	17 03 50.4	+0.1
EZN	Ezine	0.62	75	P	Pg	17 03 41.9	-0.2
EZN				S	Sg	17 03 50.3	0.0
PRK	Paraskevi	0.70	127	P	Pb	17 03 44.5	+0.4
PRK				S	Sb	17 03 54.2	+0.6
PRK				AML	AML	17 03 57.0	
	comp=E,1092µm,0.3s						
PRK				AML	AML	17 03 57.8	
	comp=N,914µm,0.4s						
PRK	Paraskevi	0.70	127	P	Pb	17 03 44.5	+0.4
PRK				S	Sb	17 03 54.9	+1.3
BAYC	CANAKKALE_Bayr	0.77	84	iP	Pb	17 03 45.4	+0.1
BAYC				iS	Sb	17 03 55.9	+0.2
SMTH	Samothraki Isl	0.80	359	P	Pg	17 03 45.4	-0.2
SMTH				S	Sb	17 03 57.0	+0.5
SMTH				AML	AML	17 03 59.6	
	comp=E,241µm,0.3s						
SMTH				AML	AML	17 04 00.5	
	comp=N,346µm,0.3s						
SMTH	Samothraki Isl	0.80	359	P	Pb	17 03 45.6	-0.2
SMTH				S	Sb	17 03 57.4	+0.9
AYVA	Ayvalik	0.95	112	iP	Pb	17 03 48.8	+0.4
AYVA				iS	Sn	17 04 03.0	+0.6
GELI	Tayfur-Gelibol	1.02	44	PG	Pb	17 03 49.3	-0.2
PSRA	Psara	1.13	179	P	Pb	17 03 51.5	+0.2
THAS	Thassos island	1.13	326	P	Pb	17 03 50.7	-0.7
THAS	Thassos island	1.13	326	P	Pb	17 03 50.8	-0.6
THAS				S	Sb	17 04 06.1	+0.1
ENEZ	Enez	1.16	23	PN	Pn	17 03 52.1	+0.2
LPK	Lapseki	1.17	53	PN	Pn	17 03 52.1	+0.1
DKL	Dikili	1.21	119	PN	Pn	17 03 52.6	0.0
ERIK	Erikli-Kesan	1.24	36	PN	Pn	17 03 52.9	-0.1
ALN	Alexandroupoli	1.28	17	PN	Pn	17 03 52.9	-0.7
ALN	Alexandroupoli	1.28	17	P	Pn	17 03 53.2	-0.4
ALN				S	Sg	17 04 11.3	-0.2
CHOS	Chios island	1.34	163	PN	Pn	17 03 53.4	-1.1
CHOS	Chios island	1.34	163	P	Pn	17 03 53.8	-0.6
OUR	Ouranopolis	1.38	299	PN	Pb	17 03 55.7	+0.1
KESN	Edirne-Kesan	1.44	36	IAML_P			
	comp=Z,235nm,0.2s						
KESN				iP	Pb	17 03 56.8	-0.1
KESN				iS	Sg	17 04 17.0	+0.4
RDO	Rodhopi	1.48	360	PN	Pn	17 03 55.7	-0.6
RDO	Rodhopi	1.48	360	P	Pn	17 03 55.8	-0.4
RDO	Rodhopi	1.48	360	P	Pn	17 03 56.0	-0.3
KRBG	Karabiga-Canak	1.52	61	PN	Pn	17 03 57.0	+0.1
URLA	Izmir	1.54	148	PN	Pn	17 03 56.6	-0.6
BALY	Balya	1.60	87	IAML_P			
	comp=Z,831nm,0.2s						
BALY				iP	Pb	17 03 59.2	-0.2
BALY				iS	Sb	17 04 19.6	+0.1
STEP	BALIKESIR_Sava	1.70	99	IAML_P			
	comp=Z,610nm,0.2s						
STEP				iP	Pb	17 04 00.7	-0.5

*DDA **08** 17:17:14.4, 39°.73N×25°.53E, h7km±3km, ML3.2*
*ATH **08** 17:17:14.8, 39°.69N×25°.55E, h29km±1km, ML2.5/6, Error ellipse: s-maj=1.6km s-min=1.0km az=246.0*
*ISK **08** 17:17:14.9, 39°.65N×25°.59E, h8km, ML2.9/13*
*ISCJB **08** 17:17:15.3±0.4, 39°.68N±0°.02×25°.56E±0°.03, h7km±4km, Error ellipse: s-maj=3.6km s-min=3.2km az=38.4*
*THE **08** 17:17:15.7, 39°.70N×25°.58E, h7km±2km, ML2.4/6, Error ellipse: s-maj=2.7km s-min=0.7km az=219.0*
ISC 08 17:17:15.1±1.0**, 39°.68N**±0°.02×**25°.55E**±0°.02**, h10**km±9km**, n45, σ0s.50**/67**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LIA	Limnos Island	0.35	308	P	Pb	17 17 22.9	-0.6
LIA				S	Sg	17 17 28.0	+1.2
LIA				AML	AML	17 17 28.5	
	comp=E,1071µm,0.3s						
LIA				AML	AML	17 17 30.6	
	comp=N,661µm,0.2s						
LIA	Limnos Island	0.35	308	P	Pb	17 17 23.0	-0.6
LIA				S	Sb	17 17 28.2	-1.0
BOZC	Bozcaada	0.42	68	PG	Pg	17 17 23.3	-0.1
BOZC				SG	Sg	17 17 29.3	+0.3
BOZC	Bozcaada	0.42	68	iP	Pg	17 17 23.7	+0.3
EFSA	Agios Efstrati	0.45	252	P	Pb	17 17 25.7	+0.5
EFSA				S	Sb	17 17 32.0	0.0
GPNR	Gulpinar-Canak	0.51	116	PG	Pg	17 17 24.9	-0.1
SIGR	SIGRI	0.53	153	PG	Pg	17 17 24.9	-0.5
SIGR				SG	Sg	17 17 31.7	-0.6
SIGR	SIGRI	0.53	153	P	Pg	17 17 25.4	-0.1
SIGR				S	Sg	17 17 32.6	+0.3
SIGR				AML	AML	17 17 33.4	
	comp=E,2256µm,0.3s						
SIGR				AML	AML	17 17 33.7	
	comp=N,2461µm,0.4s						
SIGR	SIGRI	0.53	153	P	Pg	17 17 25.3	-0.1
SIGR				S	Sg	17 17 33.1	+0.8
GADA	Gvkgeada	0.58	28	PG	Pb	17 17 26.9	-0.5
GADA	Gvkgeada	0.58	28	P	Pg	17 17 26.5	+0.2
EZN	Ezine	0.62	76	PG	Pg	17 17 26.8	-0.3
EZN				SG	Sg	17 17 35.4	+0.2
EZN	Ezine	0.62	76	P	Pg	17 17 26.8	-0.3
EZN				S	Sg	17 17 34.8	-0.4
PRK	Paraskevi	0.71	128	P	Pb	17 17 29.5	-0.2
PRK				S	Sb	17 17 39.8	+0.3
PRK				AML	AML	17 17 43.2	
	comp=N,1815µm,0.4s						
PRK				AML	AML	17 17 43.8	
	comp=E,1745µm,0.3s						
PRK	Paraskevi	0.71	128	P	Pb	17 17 29.8	+0.2
PRK				S	Sb	17 17 40.1	+0.6
BAYC	CANAKKALE_Bayr	0.78	85	iP	Pb	17 17 30.4	-0.4
BAYC				iS	Sb	17 17 40.7	-0.6
SMTH	Samothraki Isl	0.79	359	P	Pb	17 17 30.7	-0.2
SMTH				S	Sb	17 17 41.3	-0.4
SMTH				AML	AML	17 17 44.5	
	comp=E,502µm,0.4s						
SMTH				AML	AML	17 17 44.6	
	comp=N,599µm,0.3s						
SMTH	Samothraki Isl	0.79	359	P	Pg	17 17 30.4	0.0
SMTH				S	Sb	17 17 41.7	0.0
AYVA	Ayvalik	0.96	112	IAML_P			
	comp=Z,2µm,0.1s						
AYVA				iP	Pg	17 17 33.3	-0.3
AYVA				iS	Sn	17 17 48.6	+0.1
GELI	Tayfur-Gelibol	1.01	45	PG	Pg	17 17 34.4	-0.2
SKY	Skiros Island	1.11	224	P	Pg	17 17 35.8	-0.7
THAS	Thassos island	1.12	326	P	Pg	17 17 36.2	-0.5
THAS				S	Sb	17 17 51.7	+0.4
THAS				AML	AML	17 17 53.6	
	comp=E,271µm,0.3s						
THAS				AML	AML	17 17 55.1	
	comp=N,290µm,0.3s						
THAS	Thassos island	1.12	326	P	Pg	17 17 36.4	-0.3
THAS				S	Sb	17 17 52.1	+0.9
PSRA	Psara	1.14	179	P	Pg	17 17 36.6	-0.5
ENEZ	Enez	1.15	24	PN	Pg	17 17 36.8	-0.5
LPK	Lapseki	1.16	53	PN	Pn	17 17 37.7	+0.2
DKL	Dikili	1.22	120	PN	Pg	17 17 37.9	-0.6
ERIK	Erikli-Kesan	1.23	37	PN	Pn	17 17 38.9	+0.4
ALN	Alexandroupoli	1.27	17	PN	Pn	17 17 39.0	0.0
ALN	Alexandroupoli	1.27	17	P	Pn	17 17 39.0	0.0
ALN				S	Sg	17 17 54.9	-1.2
ALN				AML	AML	17 17 58.4	
	comp=E,188µm,0.4s						
ALN				AML	AML	17 17 59.1	
	comp=N,136µm,0.4s						
ALN	Alexandroupoli	1.27	17	P	Pn	17 17 38.5	-0.5
ALN				S	Sb	17 17 55.8	+0.1
CHOS	Chios island	1.35	163	PN	Pn	17 17 40.0	-0.2
CHOS	Chios island	1.35	163	P	Pn	17 17 39.5	-0.7
CHOS				S	Sb	17 17 57.7	-0.3
OUR	Ouranopolis	1.37	299	PN	Pg	17 17 41.7	+0.3
AOS	Alonnisos	1.39	249	PN	Pb	17 17 41.7	+0.5
KESN	Edirne-Kesan	1.44	37	IAML_P			
	comp=Z,183nm,0.2s						
KESN				iP	Pn	17 17 41.5	-0.1
KESN				iS	Sn	17 18 01.4	+0.6
PAIG	Paliouri	1.46	280	P	Pn	17 17 41.3	-0.3
RDO	Rodhopi	1.46	360	PN	Pn	17 17 41.7	+0.1
RDO	Rodhopi	1.46	360	P	Pn	17 17 41.2	-0.4
KRBG	Karabiga-Canak	1.52	62	PN	Pn	17 17 42.8	+0.4
KAVA	Kavala	1.53	329	P	Pn	17 17 42.7	+0.1
URLA	Izmir	1.55	148	PN	Pn	17 17 42.9	0.0
STEP	BALIKESIR_Sava	1.71	100	iP	Pn	17 17 45.0	0.0
STEP				iS	Sg	17 18 10.7	+0.6
EDC	Edincik	1.90	69	PN	Pn	17 17 48.4	+0.8
SBT4	Kumbag-Tekirda	1.91	52	PN	Pn	17 17 48.8	+1.2

*ISCJB **08** 17:25:50.1±0.5, 8°.30S±0°.06×74°.29W±0°.05, h150km, mb3.5/8, Error ellipse: s-maj=8.8km s-min=7.4km az=15.9*
*IDC **08** 17:25:51.7±1.9, 8°.30S×74°.23W, h154km±19km, mb3.4/8, mb1 3.6/14, mb1mx3.5/38, mbtmp3.9/14, Error ellipse: s-maj=24.1km s-min=14.4km az=41.0*
ISC 08 17:25:51.4±0.5**, 8°.32S**±0°.07×**74°.28W**±0°.08**, h150**km**, n19, σ1s.24**/24**, mb3.5**/8**, Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
ATAH	Atahualpa	4.24	286	P	Pn	17 26 55.4	+0.2
	20nm,0.3s,baz=68,slow=4.4,SNR=63						
ATAH				S	Sn	17 27 43.6	-1.1
	21nm,0.3s,baz=151,slow=19,SNR=9.7						
NNA	Nana	4.43	214	P	Pn	17 26 59.1	+1.7
	4.4nm,0.3s,baz=85,slow=6.8,SNR=11						
NNA				S	Sn	17 27 46.9	-1.8
	34nm,0.3s,baz=182,slow=18,SNR=11						
LPAZ	La Paz	9.94	143	P	Pn	17 28 10.8	-0.4
	0.4nm,0.3s,baz=332,slow=12,SNR=6.4						
SIV	San Ignacio	14.99	122	P	Pn	17 29 15.4	-0.4
	1.2nm,0.3s,baz=298,slow=11,SNR=17						
LVC	Limon Verde	15.12	161	P	P	17 29 19.3	0.0
	0.4nm,0.3s,baz=308,slow=9.7,SNR=3.4						
PTGA	Pitinga	16.13	63	P	P	17 29 31.2	+1.0
	0.7nm,0.3s,baz=259,slow=16,SNR=4.7						
CPUP	Villa Florida	24.09	140	P	P	17 30 52.2	-0.8
	0.8nm,0.5s,baz=350,slow=11,SNR=3.2						
TXAR	Lajitas Array	46.93	324	P	P	17 34 08.1	+0.8
	0.4nm,0.5s,baz=146,slow=8.8,SNR=8.3						
PDAR	Pinedale Array	60.15	331	P	P	17 35 43.6	+0.2
	0.4nm,0.6s,baz=111,slow=6.5,SNR=4.2						
SCHQ	Schefferville	63.23	5	P	P	17 36 02.4	-1.2
	2.7nm,0.8s,baz=225,slow=5.7,SNR=3.8						
DBIC	Dimbokro	70.80	80	P	P	17 36 51.2	-1.0
	1.1nm,0.4s,baz=236,slow=6.9,SNR=3.6						
YKA	Yellowknife Ar	77.12	342	P	P	17 37 27.2	-0.6
	0.5nm,0.5s,baz=142,slow=6.0,SNR=15						
YKA				pP	pP	17 38 06.5	+1.6
	0.2nm,0.6s,baz=134,slow=5.8,SNR=2.6						
TORD	Torodi Ar. Bea	78.40	75	P	P	17 37 34.9	-1.1
	0.4nm,0.6s,baz=274,slow=6.1,SNR=3.2						
ESDC	Sonseca Array	80.45	47	P	P	17 37 48.3	+1.5
	0.3nm,0.6s,baz=253,slow=6.0,SNR=3.3						
MKAR	Makanchi Array	136.75	23	PKP	PKPdf	17 44 54.8	-1.3
	0.4nm,0.7s,baz=48,slow=1.8,SNR=3.9						
ASAR	Alice Springs	137.94	220	PKP	PKPdf	17 45 00.1	+1.1
	0.2nm,0.5s,baz=128,slow=1.8,SNR=7.6						
WRA	Warramunga Arr	140.22	225	PKP	PKPdf	17 45 03.2	-0.1
	0.8nm,0.5s,baz=124,slow=2.1,SNR=15						
WRA				pPKP	pPKPdf	17 45 46.3	+3.1
	0.3nm,0.9s,baz=120,slow=2.0,SNR=1.4						
KSRS	Korea Array	144.71	329	PKP	PKPab	17 45 09.7	-0.1
	1.2nm,0.7s,baz=32,slow=4.6,SNR=3.7						
FITZ	Fitzroy Crossi	147.20	217	PKPbc	PKPbc	17 45 17.4	-0.5
	2.6nm,0.8s,baz=77,slow=4.8,SNR=3.3						
FITZ				pPKPbc	pPKPab	17 45 59.0	+0.5
	2.1nm,0.7s,baz=74,slow=5.1,SNR=1.9						

*IDC **08** 17:34:39.6±2.1, 10°.45S×114°.26E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.5/44, mbtmp3.6/6, ML3.2/1, Error ellipse: s-maj=96.2km s-min=19.2km az=49.0*
ISC 08 17:34:44.0±3.3**, 10°.6S**±0°.8×**114°.3E**±0°.8**, h35**km**, n6, σ1s.69**/6**, mb3.6**/5**, South of Bali**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	13.30	125	Pn	Pn	17 37 49.0	-1.4
	0.1nm,0.3s,baz=309,slow=12,SNR=4.6						
FITZ				Sn	Sn	17 40 07.5	-10
	0.1nm,0.3s,baz=0.0,slow=19,SNR=2.1						
WRA	Warramunga Arr	21.46	118	P	P	17 39 31.7	+2.1
	2.5nm,0.7s,baz=292,slow=11,SNR=13						
ASAR	Alice Springs	22.79	127	P	P	17 39 45.0	+1.2
	1.3nm,0.6s,baz=308,slow=9.4,SNR=18						
CMAR	Chiang Mai Arr	32.59	332	P	P	17 41 12.8	+0.4
	0.3nm,0.3s,baz=160,slow=8.2,SNR=4.1						
SONM	Songino Array	58.60	354	P	P	17 44 37.0	-0.4
	0.3nm,0.4s,baz=172,slow=8.4,SNR=3.7						
MKAR	Makanchi Array	63.88	336	P	P	17 45 12.8	-0.3
	0.1nm,0.4s,baz=146,slow=7.1,SNR=2.4						

MEX 08 17:35:14.4±0.4**, 18°.02N**×**101°.18W, h58**km±7km**, MD3.8, Guerrero**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.50	214	eP	Pn	17 35 24.6	-1.6
ZIIG				iS	Sn	17 35 33.0	-1.6
ARIG	Puente Sto Nin	0.83	72	eP	Pn	17 35 28.4	-1.7
ARIG				eS	Sn	17 35 39.8	-1.9
CAIG	El Cayaco	1.30	138	eP	Pn	17 35 34.9	-1.5
CAIG				iS	Sn	17 35 50.6	-2.2
MEIG	Mezcala	1.48	93	eP	Pn	17 35 38.1	-0.8
MEIG				eS	Sn	17 35 55.4	-1.9
PLIG	Platanillo	1.63	77	eP	Pn	17 35 40.2	-0.7
PLIG				iS	Sn	17 35 59.0	-1.9
TLIG	Tlapa	2.53	100	iP	Pn	17 35 51.5	-1.7
TLIG				iS	Sn	17 36 20.5	-2.3

MEX 08 17:38:28.0±0.4**, 13°.87N**×**92°.52W, h15**km±999km**, MD3.9, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
THIG		1.06	13	eP	Pb	17 38 44.8	-3.4
THIG				iS	Sb	17 38 57.8	-4.1
CCIG	Comitan	2.43	9	eP	Pn	17 39 05.0	-2.5
CCIG				iS	Sn	17 39 33.5	-3.5

MEX 08 17:50:26.0±0.7**, 14°.82N**×**91°.84W, h98**km±17km**, MD3.6, Guatemala**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
THIG		0.42	282	eP	Pn	17 50 39.9	-1.1
THIG				eS	Sn	17 50 51.0	-1.2
CCIG	Comitan	1.48	349	iP	Pn	17 50 51.2	-1.0
CCIG				iS	Sn	17 51 10.3	-1.5

IDC 08 17:53:30.6±13.0**, 14°.74N**×**104°.72W, h0**km**, mb3.6**/3**, mb1 4.0**/4**, mb1mx3.7**/31**, mbtmp3.6**/4**, ML3.2**/1**, MS3.4**/5**, Ms1 3.4**/5**, ms1mx3.0**/33**, Error ellipse: s-maj=364.8km s-min=103.3km az=117.0, Northern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
H06E1	SOCORRO T-PHAS	7.17	305	T	T	18 01 43.4	
	SNR=8.2						
LPIG	La Paz	10.70	331	LR	LR	17 59 02.5	
	comp=Z,185nm,18.7s,baz=195,slow=31						
TXAR	Lajitas Array	14.56	4	Pn	Pn	17 56 58.5	+0.4
	0.0nm,0.3s,baz=182,slow=15,SNR=9.5						
TXAR				LR	LR	18 01 32.2	
	comp=Z,103nm,18.6s,baz=0.0,slow=33						
JTS	JuntasAbangare	19.80	101	LR	LR	18 04 12.9	
	comp=Z,86nm,18.1s,baz=68,slow=32						
PDAR	Pinedale Array	28.24	352	P	P	17 59 27.2	+1.6
	0.3nm,0.6s,baz=160,slow=8.3,SNR=3.5						
RPN	Rapa Nui	41.85	186	LR	LR	18 13 35.2	
	comp=Z,61nm,20.9s,baz=18,slow=29						
YKA	Yellowknife Ar	48.21	354	P	P	18 02 12.0	-0.7
	0.6nm,0.7s,baz=170,slow=7.3,SNR=6.5						
LVC	Limon Verde	51.07	136	LR	LR	18 19 38.7	
	comp=Z,39nm,18.6s,baz=290,slow=31						
ILAR	Eielson Array	57.60	340	P	P	18 03 21.8	-0.3
	0.6nm,0.8s,baz=151,slow=6.2,SNR=3.4						

IDC 08 18:05:41.3±2.5**, 15°.29N**×**105°.12W, h0**km**, mb3.8**/3**, mb1 4.2**/4**, mb1mx3.7**/35**, mbtmp3.8**/4**, ML3.5**/1**, MS3.6**/11**, Ms1 3.6**/11**, ms1mx3.3**/36**, Error ellipse: s-maj=117.5km s-min=28.2km az=61.0, Off coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
H06E1	SOCORRO T-PHAS	6.54	303	T	T	18 13 46.8	
	SNR=8.7						
CMIG	Matias Romero	10.00	78	LR	LR	18 11 12.4	
	comp=Z,104nm,19.2s,baz=250,slow=33						
TXAR	Lajitas Array	14.04	5	Pn	Pn	18 09 04.4	+2.7
	0.1nm,0.3s,baz=182,slow=7.5,SNR=13						
JTS	JuntasAbangare	20.28	102	LR	LR	18 16 21.3	
	comp=Z,106nm,21.0s,baz=341,slow=32						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PFO	Pinyon Flats O	20.93	333	LR	LR	18 17 16.5	
	comp=Z,229nm,20.8s,baz=136,slow=33						
TKL	Tuckaleechee C	27.86	39	LR	LR	18 22 12.2	
	comp=Z,78nm,20.6s,baz=230,slow=36						
ULM	Lac du Bonnet	35.66	10	LR	LR	18 26 17.1	
	comp=Z,63nm,19.2s,baz=86,slow=35						
YKA	Yellowknife Ar	47.62	354	P	P	18 14 18.2	-0.6
	0.7nm,0.8s,baz=165,slow=7.2,SNR=6.7						
LPAZ	La Paz	48.15	129	P	P	18 14 24.2	0.0
	4.7nm,1.2s,baz=281,slow=6.4,SNR=5.8						
LPAZ				LR	LR	18 32 03.1	
	comp=Z,123nm,21.7s,baz=330,slow=33						
SIV	San Ignacio	53.46	124	LR	LR	18 35 41.0	
	comp=Z,81nm,21.4s,baz=305,slow=34						
PPT	Papeete	54.66	235	LR	LR	18 33 47.7	
	comp=Z,41nm,18.2s,baz=176,slow=31						
ILAR	Eielson Array	56.95	340	P	P	18 15 28.3	+0.1
	0.7nm,0.9s,baz=144,slow=8.2,SNR=4.3						
CPUP	Villa Florida	62.21	131	LR	LR	18 43 00.9	
	comp=Z,35nm,19.1s,baz=248,slow=36						
PLCA	Paso Flores	64.31	151	LR	LR	18 38 16.4	
	comp=Z,82nm,19.4s,baz=184,slow=30						
MA2	Magadan	83.92	330	LR	LR	18 55 16.9	
	comp=Z,205nm,20.4s,baz=181,slow=36						

MEX 08 18:14:23.9±0.5, 16°.47N×98°.64W, h15km±7km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.50	99	*e*P	Pg	18 14 32.2	-1.6
PNIG				*i* S	Sg	18 14 38.8	-1.7
TLIG	Tlapa	1.09	4	*e*P	Pb	18 14 41.2	-3.4
TLIG				*i* S	Sb	18 14 54.0	-4.7
CAIG	El Cayaco	1.66	290	*i* P	Pn	18 14 49.0	-3.5
CAIG				*i* S	Sn	18 15 08.4	-5.2

*ISCJB **08** 18:16:27.9±0.4, 6°.86N±0°.03×73°.11W±0°.05, h158km±3km, mb3.7/6, Error ellipse: s-maj=7.8km s-min=4.4km az=18.4*
*RSNC **08** 18:16:29.5±1.3, 6°.83N×73°.12W, h151km±5km, ML3.8, Mw3.9*
*IDC **08** 18:16:29.3±1.4, 6°.75N×72°.96W, h168km±13km, mb3.5/6, mb1 3.8/8, mb1mx3.4/31, mbtmp4.0/8, Error ellipse: s-maj=26.3km s-min=18.4km az=111.0*
ISC 08 18:16:28.5±0.8, **6°.84N**±0°.04×**73°.10W**±0°.05, **h155**km±5km, **n38**, σ0^s**78**/51, **mb3.6**/8, **2C-3D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BARC	Barichara	0.26	198	*i* P	Pn	18 16 50.1	+0.2
BARC				*e*S	Sn	18 17 05.6	-0.5
BARC				*i*		18 17 06.8	
	comp=Z,2μm,0.5s						
BRRC	Barranca, Sant	0.66	294	⇑*i*P	Pn	18 16 51.9	+0.6
BRRC				*i*		18 16 52.4	
	comp=Z,752nm,0.2s						
BRRC				*e*S	Sn	18 17 08.5	-0.2
BRRC				*i*		18 17 09.9	
	comp=N,2μm,0.4s						
BRRC				*i*		18 17 10.4	
	comp=E,2μm,0.2s						
RUSC	La Rusia	0.94	179	⇓*i*P	Pn	18 16 53.9	0.0
RUSC				*e*S	Sn	18 17 12.1	-1.1
PTBC	PUERTO BERRIO,	1.38	258	*e*P	Pn	18 16 56.6	-0.7
PTBC				*e*S	Sn	18 17 17.9	-1.4
OCAC	Ocana	1.41	351	*e*P	Pn	18 16 58.1	+0.4
OCAC				*e*S	Sn	18 17 20.7	+0.6
ZARC	Zaragoza, Cauc	1.86	290	*e*P	Pn	18 17 02.5	+0.1
ZARC				*e*S	Sn	18 17 28.6	+0.3
CHIC	Chingaza	2.29	196	⇓*i*P	Pn	18 17 07.8	+0.1
CHIC				*i*		18 17 10.8	
	comp=Z,259nm,0.3s						
CHIC				*e*S	Sn	18 17 37.2	-0.8
CHIC				*i*		18 17 41.5	
	comp=N,646nm,0.3s						
ROSC	El Rosal	2.33	211	P	Pn	18 17 09.9	+1.6
	comp=N,103nm,0.3s,baz=306,slow=9.2,SNR=66						
ROSC				S	Sn	18 17 39.2	+0.4
	comp=N,80nm,0.3s,baz=112,slow=21,SNR=5.8						
ROSC	El Rosal	2.33	211	⇓*i*P	Pn	18 17 09.7	+1.5
ROSC				*e*S	Sn	18 17 38.9	0.0
ROSC				*i*		18 17 48.0	
	comp=Z,984nm,0.4s						
HELC	Santa Helena	2.50	255	*e*P	Pn	18 17 10.9	+0.7
HELC				*e*S	Sn	18 17 41.3	-1.0
HELC				*i*		18 17 49.1	
	comp=N,490nm,0.4s						
VILC	Villavicencio,	2.77	192	*e*P	Pn	18 17 13.1	-0.4
VILC				*e*S	Sn	18 17 48.8	+0.6
RREF	El Recreo	2.95	229	*e*P	Pn	18 17 17.1	+1.0
RREF				*e*S	Sn	18 17 53.1	+0.3
DBBC	Dabeiba	3.09	273	*i* P	Pn	18 17 17.7	+0.3
CODC	Agustn Codazz	3.09	354	*e*P	Pn	18 17 17.3	0.0
CODC				*e*S	Sn	18 17 54.6	-0.5
CODC				*i*		18 18 01.2	
	comp=N,192nm,0.5s						
SDV	Santo Domingo	3.18	50	P	Pn	18 17 19.1	+0.5
	comp=N,33nm,0.3s,baz=233,slow=11,SNR=68						
SDV				S	Sn	18 17 56.5	-0.8
	comp=N,28nm,0.3s,baz=217,slow=20,SNR=23						
SDV	Santo Domingo	3.18	50	*e*P	Pn	18 17 19.2	+0.6
ANIL	Santa Ana	3.27	225	*e*P	Pn	18 17 20.7	+0.8
ANIL				*e*S	Sn	18 17 58.8	-0.7
SJAC	San Juan de Ar	3.64	193	*e*P	Pn	18 17 25.8	+1.3
SJCC	San Jacinto, C	3.67	326	*e*P	Pn	18 17 24.1	-0.6
PLMC	San Jos del P	3.70	239	*e*P	Pn	18 17 25.8	+0.6
YOTC	Yotoco, Valle	4.30	229	*e*P	Pn	18 17 32.8	-0.2
SMRC	Santa Marta, M	4.44	346	*e*P	Pn	18 17 34.5	-0.1
BETC	Betania	4.75	210	*e*P	Pn	18 17 37.8	-1.0
MARP	Paez Belalcaza	4.88	216	*e*P	Pn	18 17 40.1	-0.8
POPC	Popayan, Colom	5.56	220	*e*P	Pn	18 17 50.0	+0.2
POPC				*i*		18 18 58.5	
	comp=N,26nm,0.5s						
FLOC	Florencia	5.81	206	⇑*i*P	Pn	18 17 52.4	-0.5
LPAZ	La Paz	23.50	168	pP	pP	18 21 56.4	+0.9
	comp=N,1.6nm,0.7s,baz=336,slow=14,SNR=5.0						
SIV	San Ignacio	25.62	152	pP	pP	18 22 14.8	-2.0
	comp=N,0.9nm,0.6s,baz=338,slow=12,SNR=3.4						
TXAR	Lajitas Array	36.46	312	P	P	18 23 19.8	+0.9
	comp=N,0.5nm,0.5s,baz=126,slow=9.2,SNR=8.7						
ULM	Lac du Bonnet	47.27	340	P	P	18 24 45.7	-0.4
	comp=N,2.7nm,0.4s,baz=128,slow=6.3,SNR=9.5						
PDAR	Pinedale Array	48.07	324	P	P	18 24 53.2	+0.5
	comp=N,0.5nm,0.6s,baz=125,slow=9.2,SNR=5.1						
SCHQ	Schefferville	48.12	5	P	P	18 24 53.1	+0.5
	comp=N,4.4nm,0.8s,baz=226,slow=17,SNR=3.2						
NVAR	Mina Array Bea	51.48	315	P	P	18 25 19.9	+1.4
	comp=N,0.4nm,0.6s,baz=129,slow=8.6,SNR=3.1						
YKA	Yellowknife Ar	63.25	340	P	P	18 26 40.2	0.0
	comp=N,1.8nm,0.6s,baz=132,slow=6.7,SNR=46						
MKAR	Makanchi Array	122.30	20	PKP	PKPdf	18 35 04.5	-0.9
	comp=N,0.3nm,0.8s,baz=305,slow=2.5,SNR=3.9						
ASAR	Alice Springs	149.14	234	PKPbc	PKPbc	18 35 58.2	-1.3
	comp=N,0.2nm,0.4s,baz=122,slow=3.1,SNR=5.9						
WRA	Warramunga Arr	150.36	241	PKPbc	PKPbc	18 36 01.2	-1.4
	comp=N,0.3nm,0.3s,baz=107,slow=2.8,SNR=21						
CMAR	Chiang Mai Arr	153.66	17	PKPbc	PKPbc	18 36 10.0	-0.1
	comp=N,0.3nm,0.5s,baz=325,slow=1.4,SNR=3.1						

*ISCJB **08** 18:32:05.5±0.8, 23°.44N±0°.09×141°.8E±0°.5, h100km, mb3.5/6, Error ellipse: s-maj=59.8km s-min=10.7km az=6.8*
*IDC **08** 18:32:09.7±2.8, 23°.46N×141°.71E, h123km±26km, mb3.3/6, mb1 3.5/7, mb1mx3.1/44, mbtmp3.7/7, MS3.6/1, Ms1 3.6/1, ms1mx2.4/26, Error ellipse: s-maj=53.8km s-min=16.2km az=99.0*
ISC 08 18:32:07.4±1.0, **23°.4N**±0°.1×**141°.7E**±0°.5, **h100**km, **n8**, σ**1^{s}52**/8, **mb3.5**/6, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	Chichijima	3.68	6	P	Pn	18 33 04.5	+2.2
	7.4nm,0.3s,baz=265,slow=23,SNR=33						
JCJ				S	Sn	18 33 43.1	-1.6
	11nm,0.3s,baz=268,slow=20,SNR=5.0						
WRA	Warramunga Arr	43.70	190	P	P	18 40 02.6	0.0
	0.3nm,0.3s,baz=7.5,slow=7.9,SNR=23						
ASAR	Alice Springs	47.42	190	P	P	18 40 32.3	+0.3
	0.2nm,0.6s,baz=16,slow=10,SNR=3.4						
DZM	Mont Dzumac	51.22	150	LR	LR	18 59 12.5	
	comp=Z,52nm,19.2s,baz=220,slow=32						
ILAR	Eielson Array	61.13	28	P	P	18 42 11.5	+0.7
	0.2nm,0.6s,baz=276,slow=7.4,SNR=3.1						
YKA	Yellowknife Ar	75.56	28	P	P	18 43 39.1	-1.7
	0.2nm,0.4s,baz=292,slow=5.7,SNR=5.8						
ARCES	ARCESS Array B	76.87	341	P	P	18 43 48.1	0.0
	4.7nm,0.9s,baz=71,slow=6.0,SNR=3.0						
FINES	FINESS Array B	81.05	334	P	P	18 44 10.2	-0.9
	1.0nm,0.5s,baz=50,slow=3.0,SNR=6.8						

*ISCJB **08** 18:35:22.5±0.6, 51°.42N±0°.03×16°.15E±0°.03, h0km, Error ellipse: s-maj=4.5km s-min=2.7km az=18.2*
*VIE **08** 18:35:25.0±0.7, 51°.34N×16°.10E, h0km, mb2.4/3, ml2.6/5, Error ellipse: s-maj=6.3km s-min=3.1km az=27.0 69 km WNW of Wroclaw Suspected Mining induced.*
*PRU **08** 18:35:24.3±0.0, 51°.48N×16°.14E, h0km*
ISC 08 18:35:23.6±1.2, **51°.47N**±0°.05×**16°.15E**±0°.03, **h0**km, **n25**, σ**0^{s}89**/57, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.64	172	*i* Pg	Pg	18 35 36.4	+0.6
KSP				*i* Sg	Sg	18 35 44.8	+0.8
UPC	Upice	0.97	185	*e*PG	Pb	18 35 42.6	-0.6
UPC				*e*SG	Sb	18 35 56.3	-0.3
	comp=Z,68nm,0.4s						
DPC	Dobruska-Polom	1.13	174	*e*PG	Pg	18 35 45.3	+0.1
DPC				*e*SG	Sg	18 36 00.3	+0.5
	comp=Z,23nm,0.3s						
PVCC	Panska Ves	1.38	227	*e*PG	Pb	18 35 50.0	-0.1
PVCC				*e*SG	Sn	18 36 09.2	+0.3
	comp=Z,62nm,0.3s						
KRLC	Kraliky	1.46	164	*e*PG	Pb	18 35 51.6	+0.1
KRLC				*e*SG	Sg	18 36 10.4	+0.1
	comp=Z,6.1nm,0.4s						
BRG	Berggiesshubel	1.51	248	PN	Pn	18 35 51.5	-0.5
BRG				PG	Pb	18 35 52.2	-0.3
BRG				SG	Sn	18 36 12.1	-0.2
	25nm,0.4s						
GOPC	GO Pecny, Ondr	1.78	210	*e*PG	Pb	18 35 56.6	-0.5
GOPC				*e*SG	Sg	18 36 20.9	0.0
	comp=Z,5.9nm,0.2s						
PRU	Pruhonice	1.80	215	*e*PN	Pn	18 35 55.4	-0.5
PRU				*e*PG	Pb	18 35 56.9	-0.5
PRU				*e*SG	Sg	18 36 21.6	+0.2
	comp=Z,12nm,0.3s						
MORC	Moravsky Berou	1.92	152	*e*PN	Pn	18 35 57.1	-0.4
MORC				*e*SG	Sb	18 36 24.1	+0.3
CLL	Collm	1.98	266	*e*Pg	Pb	18 36 00.0	-0.4
CLL				*i*		18 36 04.4	
CLL				*e*Sg	Sb	18 36 26.0	+0.4
	comp=Z,11nm,0.9s						
OKC	Ostrava-Krasne	2.07	141	*e*PG	Pg	18 36 02.8	-0.5
OKC				*e*SG	Sg	18 36 30.4	+0.3
	comp=Z,20nm,0.6s						
VRAC	Vranov	2.19	172	*e*PN	Pn	18 36 01.5	+0.3
VRAC				*e*SG	Sb	18 36 32.0	+0.4
TREC	Trest	2.22	191	*e*SG	Sg	18 36 35.2	+0.3
	comp=Z,10nm,0.2s						
KRUC	Moravsky	2.42	176	*e*PN	Pn	18 36 04.9	+0.6
KRUC				*e*SG	Sg	18 36 40.2	-1.0
OJC	Ojcow	2.63	117	*e*Pg	Pg	18 36 14.7	+0.7
OJC				*e*Sg	Sg	18 36 49.4	+1.3
NKC	Novy Kostel	2.65	244	*e*PN	Pn	18 36 08.0	+0.4
NKC				*e*PG	Pg	18 36 13.8	-0.6
NKC				*e*SG	Sg	18 36 50.5	+1.7
	comp=Z,21nm,0.3s						
JAVC	Velka Javorina	2.79	159	*e*PN	Pn	18 36 10.3	+0.7
JAVC				*e*SG	Sg	18 36 52.4	-0.8
KHC	Kasperske Hory	2.87	216	*e*PN	Pn	18 36 10.6	+0.1
KHC				*e*PG	Pb	18 36 16.4	+0.8
KHC				*e*SN	Sn	18 36 45.0	-0.7
KHC				*e*SG	Sg	18 36 55.2	-0.4
	comp=Z,9.7nm,0.3s						
SMOL	Smolenice	3.07	164	*e*PG	Pg	18 36 23.5	+1.0
SMOL				*e*SG	Sg	18 37 03.9	+1.6
LANS	Liptovska Anna	3.15	136	*e*PG	Pg	18 36 22.6	-1.3
LANS				*e*SG	Sg	18 37 04.8	+0.1
MODS	Modra-Piesok	3.19	166	*e*PG	Pg	18 36 22.8	-1.8
MODS				*e*SG	Sg	18 37 06.1	+0.2
MODS				*e*LG	Lg	18 37 10.1	
VYHS	Vyhne	3.45	149	*e*PG	Pg	18 36 28.4	-1.2
VYHS				*e*SG	Sg	18 37 11.3	-3.0
CONA	Conrad Observa	3.55	183	*e*Pn	Pn	18 36 20.9	+0.9
	comp=Z,0.9nm,0.3s						
CONA				Pg	Pg	18 36 30.8	-0.8
	comp=Z,3.4nm,0.4s						
CONA				Sg	Sg	18 37 19.7	+2.0
	comp=Z,2.6nm,0.3s						
MOA	Molln	3.83	199	*e*Pn	Pn	18 36 24.2	+0.4
	comp=Z,0.6nm,0.2s						
MOA				*e*Pg	Pg	18 36 36.6	-0.3
	comp=Z,2.1nm,0.3s						
MOA				Sg	Sg	18 37 26.3	-0.2
	comp=Z,5.9nm,0.3s						
ARSA	Arzberg	4.25	186	*e*Pn	Pn	18 36 30.0	+0.5
	comp=Z,0.6nm,0.2s						
ARSA				Pg	Pg	18 36 44.2	-0.7
	comp=Z,1.2nm,0.3s						
ARSA				Sg	Sg	18 37 41.5	+1.6
	comp=Z,4.1nm,0.6s						

*ISCJB **08** 18:37:42.3±0.5, 42°.00N±0°.05×139°.98E±0°.07, h163km±4km, mb3.5/5, Error ellipse: s-maj=9.2km s-min=8.2km az=143.2*
*JMA **08** 18:37:43.8±0.1, 42°.00N×140°.02E, h156km±1km, M2.9*
*IDC **08** 18:37:44.0±6.6, 42°.03N×140°.10E, h173km±22km, mb3.2/5, mb1 3.2/7, mb1mx2.9/42, mbtmp3.6/7, Error ellipse: s-maj=112.5km s-min=21.6km az=159.0*
ISC 08 18:37:43.1±0.9, **41°.98N**±0°.06×**140°.02E**±0°.06, **h161**km±6km, **n20**, σ**0^{s}59**/29, **mb3.6**/5, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYM2	Yakumo 2	0.29	63	P	Pn	18 38 05.3	+0.4
JYM2				*e*S	Sn	18 38 21.7	+0.1
JOSM	Okushiri--Mats	0.42	284	P	Pn	18 38 05.4	+0.1
JOSM				*e*S	Sn	18 38 21.6	-0.7
JHST	Hiyamasetana	0.45	347	P	Pn	18 38 05.7	+0.3
JHST				*e*S	Sn	18 38 22.2	-0.4
JSR	Shiriuchi	0.54	146	P	Pn	18 38 06.3	+0.4
JSR				*e*S	Sn	18 38 23.4	+0.1
JSH	Shimam	0.66	2	P	Pn	18 38 06.8	+0.3
JSH				*e*S	Sn	18 38 24.3	-0.2
JKB	Kayabe	0.76	97	P	Pn	18 38 07.4	+0.3
JNB	Noboribetsu	0.90	57	P	Pn	18 38 08.1	0.0
JOT	Ohata	0.98	127	P	Pn	18 38 09.0	+0.3
JIW	Iwasaki	1.39	180	P	Pn	18 38 13.2	+0.8
JTM	Tenmabayashi	1.43	146	P	Pn	18 38 13.4	+0.6
JTM				*e*S	Sn	18 38 37.1	+1.5
JANG	Nango	1.96	144	P	Pn	18 38 18.2	-0.3
JANG				*e*S	Sn	18 38 44.9	-0.9
JNBK	Urakawa-nobuka	2.06	81	P	Pn	18 38 19.9	+0.4
JNBK				*e*S	Sn	18 38 47.4	-0.2
JFR	Furan	2.24	57	P	Pn	18 38 22.1	+0.5
ASAJ	Asahikawa	2.85	41	P	Pn	18 38 29.5	+0.5
	2.3nm,0.3s,baz=215,slow=15,SNR=26						
ASAJ				S	Sn	18 39 05.5	+0.8
	2.1nm,0.3s,baz=128,slow=30,SNR=14						
USRK	Ussuriysk Ar.	6.28	293	P	Pn	18 39 14.5	+0.9
	0.2nm,0.3s,baz=96,slow=15,SNR=7.7						
SONM	Songino Array	24.39	295	P	P	18 42 46.7	+0.2
	0.3nm,0.5s,baz=95,slow=9.0,SNR=2.9						
ZALV	Zalesovo Beam	37.90	308	P	P	18 44 44.3	-0.1
	0.6nm,0.3s,baz=96,slow=7.5,SNR=4.7						
MKAR	Makanchi Array	40.73	297	P	P	18 45 08.0	0.0
	1.0nm,0.6s,baz=85,slow=9.3,SNR=15						
FINES	FINESS Array B	63.96	331	P	P	18 47 58.1	-0.5
	1.7nm,0.9s,baz=35,slow=6.2,SNR=4.8						
NOA	NORSAR Array B	69.22	336	P	P	18 48 31.1	-0.9
	0.3nm,0.7s,baz=29,slow=4.6,SNR=2.7						

*ISCJB **08** 18:44:02.7±1.2, 60°.4S±0°.2×25°.6W±0°.6, h35km, mb3.9/2, Error ellipse: s-maj=49.7km s-min=8.9km az=153.2*
*IDC **08** 18:44:02.3±1.8, 59°.71S×25°.73W, h0km, mb4.0/2, mb1 4.1/2, mb1mx3.8/18, mbtmp4.0/2, Error ellipse: s-maj=80.3km s-min=47.2km az=10.0*
ISC 08 18:44:04.1±1.0, **60°.4S**±0°.2×**25°.6W**±0°.3, **h35**km, **n10**, σ**2^{s}62**/13, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	12.49	153	P	P	18 47 06.7	-3.6
VNA1	Neumayer--Stat	12.49	153	S	Sn	18 49 20.2	+3.6
VNA3	Neumayer Olymp	12.64	156	P	P	18 47 08.7	-3.3
VNA3				S	Sn	18 49 20.1	-0.3
VNA2	Neumayer--Watz	12.89	153	P	P	18 47 11.8	-3.0
	baz=320,slow=15						
VNA2				S	Sn	18 49 30.0	+3.6
	baz=318,slow=22						
SNAA	Sanae	14.48	151	P	P	18 47 33.1	+0.7
SNAA				S	Sn	18 50 05.2	0.0
LPAZ	La Paz	53.60	306	P	P	18 53 22.5	+0.2
	0.8nm,0.4s,baz=158,slow=5.4,SNR=5.1						
TORD	Torodi Ar. Bea	76.47	27	P	P	18 55 50.5	+0.5
	0.8nm,0.6s,baz=193,slow=6.4,SNR=5.7						
YKA	Yellowknife Ar	139.88	314	PKP	PKiKP	19 03 29.9	+0.8
	1.2nm,0.7s,baz=126,slow=2.2,SNR=4.1						
SONM	Songino Array	149.91	93	PKPbc	PKPab	19 03 53.5	-1.9
	0.4nm,0.4s,baz=220,slow=4.0,SNR=6.0						
ILAR	Eielson Array	153.47	305	PKPbc	PKiKP	19 03 59.5	+2.4
	0.9nm,0.8s,baz=131,slow=2.3,SNR=3.3						

*ISCJB **08** 18:45:02.6±0.1, 55°.53N±0°.02×134°.88W±0°.03, h10km, mb4.4/121, MS4.2/15, Error ellipse: s-maj=3.3km s-min=1.3km az=140.6*
*AEIC **08** 18:45:02.5, 55°.38N×134°.98W, h20km, ML4.7, MB4.5(NEIC), MW4.7(USGS)*
*NEIC **08** 18:45:02.5±0.0, 55°.38N×134°.98W, h20km, mb4.5/139, MW4.7, ML4.7(AEIC), MW4.7(OTT) Best double couple: NP1:ϕ_s240.00000°, δ83.00000°, λ23.00000°. NP2: ϕ_s147.00000°, δ67.00000°, λ173.00000°. Principal axes: T 1.2400, Plg21.0000°, Azm106.0000°; N -0.1200, Plg66.0000°, Azm255.0000°; P -1.1200, Plg11.0000°, Azm12.0000°; After AEIC.*
NEIC Felt [III] at Sitka. Also felt at Craig and Petersburg. Felt at Prince Rupert, British Columbia.
*PGC **08** 18:45:02.7±3.1, 55°.32N×134°.91W, h10km, ML5.1/9, Mw4.7, 194km Sse of Sitka, Ak Southeastern Alaska*
*IDC **08** 18:45:03.7±0.6, 55°.52N×134°.91W, h0km, mb4.1/23, mb1 4.4/31, mb1mx4.3/46, mbtmp4.2/31, ML3.8/7, MS4.0/14, Ms1 4.0/14, ms1mx3.8/36, Error ellipse: s-maj=11.8km s-min=9.5km az=23.0*
*MOS **08** 18:45:04.6±1.2, 55°.51N×134°.83W, h22km, mb4.7/32, Error ellipse: s-maj=12.2km s-min=4.4km az=110.8*
*GCMT **08** 18:45:08.5±0.4, 55°.51N±0°.02×135°.09W±0°.03, h13km±2km, MW4.8/67, Moment Tensor Solution. s14,c16; s67,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.33±.10; $M_{\theta\theta}$-1.94±.12; $M_{\phi\phi}$1.62±.10; $M_{r\theta}$0.35±.28; $M_{\theta\phi}$1.54±.12; $M_{\phi r}$0.32±.26; Best double couple: $M_0$2.40800×10^{16} NP1:ϕ_s66.00000°, δ84.00000°, λ12.00000°. NP2: ϕ_s335.00000°, δ78.00000°, λ174.00000°. Principal axes: T 2.2850, Plg12.0000°, Azm291.0000°; N 0.2500, Plg77.0000°, Azm91.0000°; P -2.5300, Plg4.0000°, Azm200.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 08 18:45:04.2±0.9, **55°.40N**±0°.03×**134°.86W**±0°.03, **h12**km±5km, **n520**, σ**2^{s}02**/536, **mb4.5**/121, **MS4.1**/15, **1C-1D, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRAG	Craig	0.99	85	*e*Pg	Pb	18 45 21.4	-1.9
CRAG				*e*Sg	Sb	18 45 34.5	-1.7
SIT	Sitka	1.68	351	*e*Pn	Pn	18 45 30.5	-2.9
SIT	Sitka	1.68	351	*e*P	Pn	18 45 30.5	-2.9
WRAK	Wrangell Islan	1.75	53	*e*Pn	Pn	18 45 32.6	-1.7
WRAK				*e*Sn	Sn	18 45 53.6	-2.8
NDB	Naden	1.82	142	P	Pn	18 45 33.4	-2.0
NDB	Naden	1.82	142	Pn	Pn	18 45 33.4	-2.0
NDB				Sn	Sn	18 45 56.7	-1.8
MASB	Masset	2.15	129	*e*Pn	Pn	18 45 37.4	-2.4
MASB	Masset	2.15	129	Pn	Pn	18 45 38.1	-1.7
H02S1	DAWSON INLET T	2.60	147	Pn	Pn	18 45 44.7	-1.3
H02S1				Sn	Sn	18 46 13.5	-4.1
DIB	Dawson Inlet,	2.61	147	*e*Pn	Pn	18 45 43.7	-2.3
DIB	Dawson Inlet,	2.61	147	Pn	Pn	18 45 43.8	-2.3
DIB				Sn	Sn	18 46 13.5	-4.0
MOBC	Moresby Island	2.82	142	Pn	Pn	18 45 46.8	-2.3
MOBC				Sn	Sn	18 46 20.0	-3.1
MOBC				Sg	Sb	18 46 29.6	+0.6
RUBB	Prince Rupert	2.87	110	Pn	Pn	18 45 47.1	-2.6
RUBB				Sn	Sn	18 46 20.6	-3.6
RUBB				Sg	Sb	18 46 31.6	+1.3
JIS	Juneau Island	2.90	5	*e*Pn	Pn	18 45 48.4	-1.6
JIS				*e*Sn	Sn	18 46 21.9	-2.8
HG1B	Mitchell Dam	2.94	146	Pn	Pn	18 45 49.1	-1.6
HG1B				Sg	Sb	18 46 33.4	+1.0
BESE	Bessie Mountai	3.19	0	*e*Pn	Pn	18 45 52.3	-1.9
BESE	Bessie Mountai	3.19	0	Pn	Pn	18 45 52.6	-1.6
BESE				Sn	Sn	18 46 29.6	-2.6
BESE				Sg	Sb	18 46 40.1	+0.5
BNB	Barry Inlet	3.37	146	*e*Pn	Pn	18 45 54.1	-2.6
BNB	Barry Inlet	3.37	146	Pn	Pn	18 45 53.7	-3.0
HG3B	Hotspring	3.47	143	Pn	Pn	18 45 55.0	-2.9
HG3B				Sn	Sn	18 46 33.8	-5.1
HG3B				Sg	Sb	18 46 49.0	+1.4
DLBC	Dease Lake	4.04	39	Pn	Pn	18 46 04.5	-1.3
	6.3nm,0.3s,baz=220,slow=6.6,SNR=115						
DLBC				Pg	Pb	18 46 14.0	-1.2
	10.0nm,0.3s,baz=230,slow=13,SNR=14						
DLBC				Sn	Sn	18 46 50.3	-2.7
	71nm,0.3s,baz=192,slow=14,SNR=5.1						
DLBC				Lg	Lg	18 47 06.2	
	94nm,0.3s,baz=306,slow=19,SNR=12						
DLBC	Dease Lake	4.04	39	*e*Pn	Pn	18 46 05.1	-0.8
DLBC				Pg	Pb	18 46 14.0	-1.2
DLBC				Sn	Sn	18 46 50.3	-2.7
DLBC				Lg	Lg	18 47 06.2	
DLBC	Dease Lake	4.04	39	Pn	Pn	18 46 05.1	-0.8
DLBC				Sn	Sn	18 46 51.4	-1.6
DLBC				Sg	Sb	18 47 08.3	+4.4
SKAG	Skagway	4.08	357	P	Pn	18 46 05.4	-0.9
PLBC	Pleasant Camp	4.15	349	*e*Pn	Pn	18 46 06.1	-1.2
PLBC	Pleasant Camp	4.15	349	Pn	Pn	18 46 06.1	-1.2
PLBC				Sn	Sn	18 46 54.6	-1.1
YKU2	Yakutat	4.87	330	*e*Pn	Pn	18 46 15.3	-1.9
PNL	Peninsula	4.93	332	Pn	Pn	18 46 16.6	-1.4
BBB	Bella Bella	5.13	126	Pn	Pn	18 46 19.1	-1.7
	11nm,0.3s,baz=313,slow=7.0,SNR=40						
BBB				Sn	Sn	18 47 16.5	-3.4
	36nm,0.3s,baz=78,slow=20,SNR=10						
BBB				Lg	Lg	18 47 41.8	
	21nm,0.3s,baz=35,slow=21,SNR=3.4						
BBB				LR	LR	18 48 12.6	
	comp=Z,2μm,20.9s,baz=0.5,slow=36						
BBB	Bella Bella	5.13	126	Pn	Pn	18 46 18.8	-2.0
BBB				Sn	Sn	18 47 16.0	-3.8
BCPM	Bancas Point	5.24	333	*e*Pn	Pn	18 46 20.6	-1.7
BCPM				*e*Sn	Sn	18 47 19.0	-3.4
WHY	Whitehorse	5.28	360	*e*Pn	Pn	18 46 22.3	-0.6
WHY	Whitehorse	5.28	360	Pn	Pn	18 46 22.0	-0.9
WHY				Sn	Sn	18 47 21.0	-2.6
WHY				Sg	Sg	18 47 46.8	-6.6
YUK7	Dusty Glacier	5.43	343	*e*Pn	Pn	18 46 24.8	-0.3
YUK7	Dusty Glacier	5.43	343	Pn	Pn	18 46 24.8	-0.3
YUK7				Sn	Sn	18 47 25.6	-2.0
PCA	Pinnacle	5.53	331	*e*Pn	Pn	18 46 25.9	-0.3
PCA				*e*Sn	Sn	18 47 25.6	-4.1
HYT	Haines Junctio	5.62	347	*e*Pn	Pn	18 46 27.6	0.0
HYT	Haines Junctio	5.62	347	Pn	Pn	18 46 27.5	0.0
HYT				Sn	Sn	18 47 31.4	-0.7
BCBC	Bella Coola	5.67	119	Pn	Pn	18 46 28.9	+0.8
SAMH	Samovar Hills	5.70	329	P	Pn	18 46 28.6	-0.1
SAMH				S	Sn	18 47 32.0	-2.1
CHX	Chaix Hills	5.75	327	*e*Pn	Pn	18 46 28.9	-0.5
YUK6	Outpost Mounta	5.86	343	Pn	Pn	18 46 30.2	-0.8
YUK6				Sn	Sn	18 47 35.5	-2.6
YUK5	Granite Creek	5.96	346	*e*Pn	Pn	18 46 32.8	+0.5
YUK5	Granite Creek	5.96	346	Pn	Pn	18 46 32.3	0.0
YUK5				Sn	Sn	18 47 39.3	-1.3
RKAV	Rock Avalanche	6.01	328	P	Pn	18 46 33.6	+0.7
MESA	MESA	6.11	325	P	Pn	18 46 33.7	-0.7
MESA				S	Sn	18 47 40.8	-3.4
FSB	Fort Saint Jam	6.14	94	P	Pn	18 46 34.6	-0.1

FSB Fort Saint Jam 6.14 94 Pn Pn 18 46 33.9 -0.8
YUK4 Talbot Arm 6.29 343 ePn Pn 18 46 38.1 +1.3
YUK4 Talbot Arm 6.29 343 Pn Pn 18 46 37.5 +0.7
SNH Sunshine Point 6.42 322 ePn Pn 18 46 36.6 -1.8
SNH eSn Sn 18 47 49.9 -1.7
KULT Kultieth River 6.42 322 P Pn 18 46 37.0 -1.6
PHC Port Hardy 6.49 133 Pn Pn 18 46 37.3 -2.1
PHC Sn Sn 18 47 49.2 -4.0
PACB Port Alice, BC 6.67 135 Pn Pn 18 46 36.8 -5.1
PACB Sn Sn 18 47 53.7 -4.0
KHIT Khitrov Hills 6.75 322 P Pn 18 46 41.5 -1.5
TLCB Telegraph Cove 6.86 132 Pn Pn 18 46 43.8 -0.7
TLCB Sn Sn 18 47 58.6 -3.8
NICHA Nichawak Mount 6.87 319 P Pn 18 46 42.8 -1.8
HMT Hamilton 7.04 318 ePn Pn 18 46 44.6 -2.4
BMBC Bull Mountain 7.22 80 Pn Pn 18 46 50.5 +0.9
BMBC Sg Sg 18 48 50.0 -5.7
WOSB Woss 7.26 133 Pn Pn 18 46 48.9 -1.2
EDB Eliza Dome 7.26 136 Pn Pn 18 46 49.5 -0.5
EDB Sn Sn 18 48 09.6 -2.7
NCRB Newcastle Ridg 7.30 130 Pn Pn 18 46 50.1 -0.6
FNBB Fort Nelson 7.33 57 Pn Pn 18 46 52.5 +1.4
FNBB Sg Sg 18 48 52.9 -6.4
MID Middleton Isla 7.40 308 ePn Pn 18 46 48.7 -3.1
MID Middleton Isla 7.40 308 eP Pn 18 46 48.7 -3.1
SGAM Sherman Glacie 7.51 317 ePn Pn 18 46 51.6 -1.8
BMRM Bremner River 7.59 321 ePn Pn 18 46 52.7 -1.8
BMRM eSn Sn 18 48 15.1 -5.3
EYAK Cordova Ski Ar 7.75 316 ePn Pn 18 46 54.9 -1.8
GDR Gold River 7.78 133 Pn Pn 18 46 56.5 -0.6
DIV Divide 8.12 319 ePn Pn 18 47 00.5 -1.3
DIV eSn Sn 18 48 24.8 -8.7
DIV Divide 8.12 319 Pn Pn 18 47 00.7 -1.2
DIV Sn Sn 18 48 27.6 -6.0
KLU Klutina 8.42 321 ePn Pn 18 47 04.0 -1.9
KLU eSn Sn 18 48 33.0 -7.8
BCA3 Beaver Creek A 8.46 338 ePn Pn 18 47 04.9 -1.7
PS11 TAPS Pump St11 8.67 325 ePn Pn 18 47 09.5 +0.2
HARP HAARP 8.81 327 ePn Pn 18 47 12.1 +0.9
HARP HAARP 8.81 327 Pn Pn 18 47 12.4 +1.2
DAWY Dawson 8.99 347 ePn Pn 18 47 13.4 -0.3
DAWY Dawson 8.99 347 Pn Pn 18 47 13.9 +0.2
DAWY Sn Sn 18 48 50.6 -4.1
DAWY Sg Sg 18 49 45.1 -7.1
SEW Seward 9.11 307 ePn Pn 18 47 10.9 -4.3
SCM Sheep Creek Mo 9.15 320 ePn Pn 18 47 14.9 -1.0
SCM Sheep Creek Mo 9.15 320 eP Pn 18 47 14.9 -1.0
KNK Knik Glacier 9.33 316 ePn Pn 18 47 16.5 -1.8
PAX Paxson 9.33 329 ePn Pn 18 47 19.1 +0.7
PAX Paxson 9.33 329 Pn Pn 18 47 19.9 +1.5
PAX Paxson 9.33 329 eP Pn 18 47 19.1 +0.7
DOT Dot Lake 9.49 334 ePn Pn 18 47 19.1 -1.5
DOT Dot Lake 9.49 334 Pn Pn 18 47 20.5 -0.1
SML Sawmill 9.51 318 ePn Pn 18 47 19.1 -1.7
SML Sawmill 9.51 318 eP Pn 18 47 19.1 -1.7
BRLK Bradley Lake 9.65 304 ePn Pn 18 47 19.3 -3.4
RC01 Rabbit Creek A 9.69 312 ePn Pn 18 47 20.0 -3.2
RC01 eSn Sn 18 49 05.4 -6.4
PMR Palmer 9.70 316 ePn Pn 18 47 22.2 -1.1
PMR Palmer 9.70 316 eP Pn 18 47 22.2 -1.1
GHO Glory Hole Cre 9.72 317 ePn Pn 18 47 21.8 -1.9
GHO eSn Sn 18 49 11.4 -1.2
PGC Sidney 9.74 129 ePn Pn 18 47 27.5 +3.5
PGC Sidney 9.74 129 Pn Pn 18 47 27.6 +3.6
SCRK Sand Creek 9.75 336 ePn Pn 18 47 23.9 -0.3
SCRK eSn Sn 18 49 09.0 -4.6
RIDG Independ'e Rid 9.77 333 ePn Pn 18 47 25.4 +1.0
HOM Homer 9.97 302 ePn Pn 18 47 24.3 -2.8
DHY Denali Highway 10.00 325 ePn Pn 18 47 28.2 +0.6
KDAK Kodiak Island 10.06 291 Pn Pn 18 47 25.5 -2.8
31nm,0.3s,baz=79,slow=9.2,SNR=135
KDAK Sn Sn 18 49 13.4 -7.5
1.0nm,0.3s,baz=119,slow=19,SNR=3.1
KDAK LR LR 18 50 40.8
comp=Z,692nm,21.9s,baz=96,slow=34
KDAK Kodiak Island 10.06 291 *i* P Pn 18 47 25.3 -3.0
VDB Vedder Mountai 10.09 124 Pn Pn 18 47 31.1 +2.3
SUA Susitna One 10.29 313 ePn Pn 18 47 29.1 -2.5
OHAK Old Harbor 10.49 288 ePn Pn 18 47 28.6 -4.3
NLWA Neilton Lookou 10.54 135 ePn Pn 18 48 05.0 +1.0
B05A Bryant 10.64 127 P Pn 18 47 39.3 +3.1
baz=317,SNR=5.3
HDW Hoodsport 10.68 132 Pn Pn 18 47 37.6 +0.7
RND Reindeer 10.71 324 ePn Pn 18 47 37.5 +0.2
RND Reindeer 10.71 324 eP Pn 18 47 37.5 +0.2
JCW Jim Creek 10.76 127 Pn Pn 18 47 42.2 +4.2
RSO Redoubt South 10.77 305 ePn Pn 18 47 36.1 -2.1
HDA Harding Lake 10.86 331 ePn Pn 18 47 39.0 -0.3
HDA Harding Lake 10.86 331 P Pn 18 47 39.9 +0.7
baz=141,SNR=18
SLEB Sale Mountain 10.87 106 Pn Pn 18 47 40.8 +1.2
SLEB Sg 18 50 42.9
MCK McKinley 10.96 325 ePn Pn 18 47 40.5 +0.2
MCK McKinley 10.96 325 eP Pn 18 47 40.9 +0.2
EPYK Eagle Plains 11.05 356 ePn Pn 18 47 41.7 -0.1
EPYK Eagle Plains 11.05 356 P Pn 18 47 42.1 +0.2
baz=175
PNT Penticton 11.12 117 Pn Pn 18 47 45.3 +2.4
IL1 Eielson Array 11.13 332 ePn Pn 18 47 42.4 -0.5
ILAR Eielson Array 11.13 332 Pn Pn 18 47 42.8 -0.1
3.2nm,0.3s,baz=156,slow=13,SNR=193
ILAR Lg Lg 18 50 54.6
baz=122,slow=22,SNR=4.2
ILAR LR LR 18 52 07.5
comp=Z,381nm,18.8s,baz=158,slow=38
ILB Eielson Array 11.13 332 ePn Pn 18 47 43.0 0.0
WRH Wood River Hil 11.23 329 ePn Pn 18 47 44.8 +0.4
TRF Thorofare Moun 11.23 322 ePn Pn 18 47 44.7 +0.2
PRP Porcupine Dome 11.41 337 ePn Pn 18 47 46.9 0.0
COLA College 11.47 331 ePn Pn 18 47 48.0 +0.5
COLA College 11.47 331 eP Pn 18 47 48.0 +0.5
TCOL CIGO, UAF Yank 11.47 331 P Pn 18 47 48.7 +1.1
baz=140
D05A Enumclaw 11.49 130 ePn Pn 18 47 48.1 +0.1
POKR Poker Plat Res 11.55 333 P Pn 18 47 49.4 +0.8
baz=142,SNR=10
PPLA Purkeypile 11.61 317 ePn Pn 18 47 48.7 -0.9
MDM Murphy Dome 11.64 331 ePn Pn 18 47 50.1 +0.1
E04D Cinebar 11.75 134 P Pn 18 47 55.2 +3.8
baz=323
FMW Mount Fremont 11.83 130 Pn Pn 18 47 55.6 +2.9
CAST Castle Rocks 11.86 320 ePn Pn 18 47 52.2 -0.8
B08A Colville Reser 11.89 120 ePn Pn 18 47 56.3 +2.9
B08A Colville Reser 11.89 120 Pn Pn 18 47 56.3 +2.9
BPAW Bear Paw Mtn. 11.89 324 ePn Pn 18 47 52.6 -0.7
LON Longmire 11.91 131 ePn Pn 18 47 55.4 +1.7
LON Longmire 11.91 131 Pn Pn 18 47 55.6 +1.9
LON Longmire 11.91 131 eP Pn 18 47 55.4 +1.7
LTY Liberty 12.03 127 ePn Pn 18 47 57.3 +1.9
LTY Liberty 12.03 127 Pn Pn 18 47 57.6 +2.2
FYU Fort Yukon 12.26 340 ePn Pn 18 47 58.9 +0.6
SVW2 Sparrevohn 12.29 306 ePn Pn 18 47 56.2 -2.5
MLY Manley 12.40 327 ePn Pn 18 48 00.1 -0.6
YKA Yellowknife Ar 12.60 47 Pn Pn 18 48 02.3 -0.7
0.3nm,0.3s,baz=254,slow=12,SNR=48
YKA Lg Lg 18 51 34.3
baz=245,slow=31,SNR=4.4
YKA LR LR 18 52 53.9
comp=Z,50nm,21.2s,baz=244,slow=37
YKB5 Yellowknife Ar 12.60 47 ePn Pn 18 48 02.5 -0.5
YKW3 Yellowknife Ar 12.62 47 ePn Pn 18 48 03.0 -0.3
YKW3 Yellowknife Ar 12.62 47 Pn Pn 18 48 03.9 +0.6
YKW3 Sg Sg 18 51 37.1
YKW1 Yellowknife Ar 12.64 48 Pn Pn 18 48 03.9 +0.3
C09A Chrisman Ranch 12.79 120 ePn Pn 18 48 07.4 +1.7
E07A Sunnyside 12.92 127 ePn Pn 18 48 09.2 +1.6
INK Inuvik 12.97 2 Pn Pn 18 48 07.9 -0.1
0.8nm,0.3s,baz=180,slow=12,SNR=16
INK Lg Lg 18 51 47.7
0.2nm,0.3s,baz=108,slow=28,SNR=6.1
INK LR LR 18 53 40.0
comp=Z,586nm,19.6s,baz=194,slow=40
INK Inuvik 12.97 2 Pn Pn 18 48 07.1 -0.9
INK Inuvik 12.97 2 eP Pn 18 48 07.8 -0.2
NEW Newport 13.06 116 Pn Pn 18 48 11.9 +2.5
0.4nm,0.3s,baz=315,slow=10,SNR=20
NEW Lg Lg 18 51 46.0
0.2nm,0.3s,baz=278,slow=20,SNR=3.7
NEW LR LR 18 53 12.9
comp=Z,2µm,18.2s,baz=301,slow=37
NEW Newport 13.06 116 eP Pn 18 48 11.7 +2.2
baz=310,SNR=18
HAWA Hanford 13.20 127 ePn Pn 18 48 12.1 +0.9
CHGN Chignik 13.25 284 ePn Pn 18 48 10.7 -1.2
E08A Dider Farm, El 13.34 125 ePn Pn 18 48 15.2 +2.1
F07A Phinny Hill Vi 13.40 129 ePn Pn 18 48 14.8 +0.9
G06A Carlson Farm, 13.61 132 ePn Pn 18 48 19.9 +2.9
E09A Wood Farm, Sta 13.75 123 ePn Pn 18 48 20.0 +1.2
COLD Coldfoot 13.90 335 ePn Pn 18 48 22.7 +1.9
COLD Coldfoot 13.90 335 Pn Pn 18 48 21.9 +1.1
IM3 Indian Mountai 14.00 327 ePn Pn 18 48 21.9 -0.2
I04A Tendick Farm, 14.12 140 P Pn 18 48 26.5 +2.6
baz=330
KEBM Edson Butte 14.28 147 ePn Pn 18 48 28.6 +2.5
WALA Waterton Lakes 14.29 108 ePn Pn 18 48 26.2 -0.1
WALA Waterton Lakes 14.29 108 Pn Pn 18 48 25.9 -0.3
G08A Pilot Rock 14.29 128 ePn Pn 18 48 24.5 -1.9
SDPT Sand Point 14.54 280 ePn Pn 18 48 28.1 -1.4
F10A Beach Ranch, E 14.58 123 ePn Pn 18 48 31.6 +1.3
K02D Willamette Mer 14.65 146 P Pn 18 48 34.8 +3.6
baz=334
PINE Pine Mountain 14.67 137 ePn Pn 18 48 33.5 +1.9
J04D Umpqua Nationa 14.70 141 P Pn 18 48 35.0 +3.0
baz=330
JTMT Jette 14.87 112 ePn Pn 18 48 35.3 +1.1
HUMO Hull Mountain 14.96 144 ePn Pn 18 48 38.1 +2.7
J05D Fort Rock, OR 14.99 138 P Pn 18 48 37.7 +1.9
baz=329,SNR=7.0
FBMT Ferry Basin 15.01 114 Pn Pn 18 48 38.0 +1.9
I07A Izee 15.02 133 ePn Pn 18 48 36.6 +0.4
8.3nm,1.1s
L02E Cave Junction 15.16 146 P Pn 18 48 41.9 +4.0
baz=335
SWMT Swartz Lake 15.17 113 Pn Pn 18 48 39.6 +1.5
BMO Blue Mountains 15.38 126 ePn Pn 18 48 42.0 +1.0
10nm,0.9s
BMO Blue Mountains 15.38 126 eP Pn 18 48 42.0 +1.0
BMO pmax pmax
comp=Z,10.0nm,0.9s
KUKN Kugluktuk,NWT 15.50 29 Pn Pn 18 48 40.1 -2.2
L04D Klamath Falls 15.53 143 P P 18 48 50.1 +2.8
baz=332
MSO Missoula 15.64 115 ePn Pn 18 48 44.1 -0.2
comp=Z,22nm,1.1s
YBH Yreka Blue Hor 15.83 145 Pn Pn 18 48 49.8 +3.1
comp=Z,0.1nm,0.3s,baz=23,slow=5.8,SNR=6.4
YBH LR LR 18 53 59.7
comp=Z,647nm,19.9s,baz=330,slow=34
YBH Yreka Blue Hor 15.83 145 ePn Pn 18 48 48.5 +1.7
comp=Z,16nm,0.9s
YBH Yreka Blue Hor 15.83 145 eP Pn 18 48 48.5 +1.7
YBH pmax pmax
comp=Z,16nm,0.9s
J08A Circle Bar Ran 16.04 132 ePn Pn 18 48 50.7 +1.1
comp=Z,39nm,1.1s
M04C Macdoel 16.08 143 P P 18 48 54.2 +0.7
baz=332
M02C Callahan 16.09 146 P P 18 48 57.6 +4.1
baz=334
MOD Modoc Plateau 16.53 139 ePn Pn 18 48 58.5 +2.7
comp=Z,19nm,1.3s
WVOR Wild Horse Val 16.73 134 ePn Pn 18 49 01.2 +2.8
comp=Z,13nm,1.2s
WVOR Wild Horse Val 16.73 134 eP Pn 18 49 01.2 +2.8
WVOR pmax pmax
comp=Z,13nm,1.2s
HRY Holter Researc 16.82 112 ePn Pn 18 49 00.2 +0.7
KMRM Mail Ridge 16.89 149 ePn P 18 49 03.8 +1.3
comp=Z,113nm,1.4s
WDC Whiskeytown Da 16.92 146 ePn Pn 18 49 03.0 +2.3
comp=Z,31nm,1.1s
WDC Whiskeytown Da 16.92 146 eP Pn 18 49 03.0 +2.3
WDC pmax pmax
comp=Z,31nm,1.1s
EGMT Eagleton 17.15 105 ePn Pn 18 49 02.8 -0.8
comp=Z,117nm,1.6s
EGMT Eagleton 17.15 105 P Pn 18 49 04.3 +0.8
baz=305,SNR=12
O02D Mt. Diablo Mer 17.21 147 P P 18 49 08.3 +2.4
baz=336
DLMT Dillon 17.32 116 ePn Pn 18 49 07.3 +1.6
comp=Z,16nm,1.0s
O03E Paynes Creek 17.42 145 P P 18 49 10.3 +2.0
baz=334
MCMT McKenzie Canyo 17.56 118 ePn Pn 18 49 10.6 +1.8
ANM Nome 17.63 314 ePn Pn 18 49 10.2 +0.9
comp=Z,43nm,1.2s
ANM Nome 17.63 314 eP Pn 18 49 10.2 +0.9
ANM pmax pmax
comp=Z,43nm,1.2s
BOZ Bozeman (W) 17.66 114 ePn Pn 18 49 10.3 +0.4
comp=Z,11nm,1.1s
BOZ Bozeman (W) 17.66 114 eP Pn 18 49 10.3 +0.4
BOZ pmax pmax
comp=Z,11nm,1.1s
BOZ Bozeman (W) 17.66 114 P Pn 18 49 11.8 +1.9
baz=312,SNR=7.2
HLID Hailey 17.72 123 ePn Pn 18 49 12.6 +1.8
comp=Z,42nm,1.1s
HLID Hailey 17.72 123 P P 18 49 13.3 +1.8
baz=319,SNR=38
RDOG Red Dog Mine 18.13 325 ePn P 18 49 16.3 +0.5
comp=Z,33nm,1.1s
ORV Oroville 18.19 145 ePn Pn 18 49 17.2 +0.8
comp=Z,10nm,1.0s
ORV Oroville 18.19 145 eP Pn 18 49 17.2 +0.8
ORV pmax pmax
comp=Z,10.0nm,1.0s
QLMT Earthquake Lak 18.28 116 eP P 18 49 19.6 +1.8
BEKR Beckworth 18.29 142 eP Pn 18 49 19.7 +1.9
comp=Z,10nm,1.1s
UNV Unalaska Valle 18.31 278 ePn Pn 18 49 17.9 +0.2
comp=Z,59nm,0.9s
YHB Horse Butte 18.46 115 eP Pn 18 49 21.5 +1.7
comp=Z,19nm,1.0s
GDXM Gesers 18.47 149 eP P 18 49 20.9 +1.1
comp=Z,74nm,1.9s
GCMT Greycliff 18.56 111 eP Pn 18 49 23.7 +2.7
YMR Madison River 18.63 115 eP Pn 18 49 23.8 +1.8
comp=Z,36nm,1.0s
YNR Norris Junctio 18.75 115 eP Pn 18 49 26.5 +3.1
comp=Z,12nm,1.0s
FFC Flin Flon 18.75 78 eP P 18 49 23.0 +0.3
comp=Z,25nm,1.1s
FFC Flin Flon 18.75 78 *i* P Pn 18 49 23.9 +0.8
PAHR Pah Rah Range 18.79 140 eP P 18 49 25.3 +2.0
comp=Z,46nm,1.5s
YFT Old Faithful 18.85 116 eP P 18 49 25.9 +1.8
comp=Z,28nm,1.4s
AFDM Forest Hills D 18.91 145 eP P 18 49 26.1 +1.5
comp=Z,18nm,1.3s
YPP Pitchstone Pla 18.99 116 eP Pn 18 49 28.2 +1.8
comp=Z,19nm,1.2s
BMN Battle Mountai 18.99 135 eP Pn 18 49 28.4 +2.1
comp=Z,8.6nm,1.0s
LKWY Lake 19.00 115 eP Pn 18 49 27.9 +1.5
comp=Z,15nm,0.9s
LKWY Lake 19.00 115 eP Pn 18 49 27.9 +1.5
LKWY pmax pmax
comp=Z,15nm,0.9s
H17A Grant Village 19.02 115 eP Pn 18 49 28.4 +1.7
comp=Z,28nm,1.2s
H17A Grant Village 19.02 115 P Pn 18 49 29.8 +3.0
baz=314,SNR=10
RUBR Rubicon Trail 19.09 143 eP P 18 49 24.4 -2.4
comp=Z,84nm,1.7s
FLWY Flagg Ranch 19.18 116 eP P 18 49 25.2 -2.4
comp=Z,94nm,1.9s
RLMT Red Lodge 19.21 112 eP P 18 49 28.5 +0.4
RLMT Red Lodge 19.21 112 P Pn 18 49 31.3 +2.3
baz=312,SNR=27
MOOW Moose Ponds 19.39 117 eP P 18 49 31.1 +1.1
comp=Z,16nm,1.1s
TPAW Teton Pass 19.47 118 eP Pn 18 49 33.3 +1.2
comp=Z,21nm,0.9s
YERR Yerington 19.47 141 eP P 18 49 32.2 +1.3
comp=Z,24nm,1.2s
LOHW Long Hollow 19.56 117 eP P 18 49 34.0 +2.2
comp=Z,30nm,1.4s
ELK Elko 19.57 130 P Pn 18 49 34.5 +1.2
comp=Z,0.1nm,0.3s,baz=327,slow=9.7,SNR=11
ELK LR LR 18 57 09.4
comp=Z,480nm,19.1s,baz=327,slow=37
ELK Elko 19.57 130 eP P 18 49 32.9 +1.0
comp=Z,5.2nm,0.9s
ELK Elko 19.57 130 eP P 18 49 32.9 +1.0
ELK pmax pmax
comp=Z,5.0nm,0.9s
SNOW Snow King Moun 19.59 118 eP Pn 18 49 35.3 +1.8
comp=Z,61nm,1.6s
REDW Red Top Meadow 19.61 118 eP Pn 18 49 36.1 +2.3
comp=Z,28nm,1.2s
WAKR Walker 19.83 142 eP Pn 18 49 37.8 +1.4
comp=Z,26nm,1.0s
KVN Kaiserville 19.84 139 eP P 18 49 37.3 +2.5
comp=Z,22nm,1.0s
KVN Kaiserville 19.84 139 P P 18 49 37.3 +2.5
KVN pmax pmax
comp=Z,22nm,1.0s
HVU Hansel Valley 19.86 124 eP P 18 49 37.1 +2.0
comp=Z,24nm,1.2s
HVU Hansel Valley 19.86 124 P P 18 49 37.1 +2.0
HVU pmax pmax
comp=Z,24nm,1.2s
LAO LASA Array 19.88 104 eP P 18 49 36.8 +1.6
comp=Z,47nm,1.0s
AHID Auburn Hatcher 19.92 119 eP Pn 18 49 38.8 +1.3
comp=Z,53nm,1.2s
CMB Columbia Colle 19.93 145 eP P 18 49 36.9 +1.2
comp=Z,8.2nm,1.0s
CMB Columbia Colle 19.93 145 eP P 18 49 36.9 +1.2
CMB pmax pmax
comp=Z,8.0nm,1.0s
DGMT Dagmar 20.02 97 eP P 18 49 38.5 +1.8
comp=Z,65nm,1.1s
RYN Ryan 20.05 140 eP P 18 49 39.1 +1.9
comp=Z,16nm,1.3s
GAMB Gambell 20.18 309 eP P 18 49 39.6 +1.5
comp=Z,55nm,1.1s
NV01 Mina Array Sit 20.30 140 eP P 18 49 41.9 +1.9
NVAR Mina Array Bea 20.30 140 P P 18 49 42.4 +2.4
comp=Z,7.2nm,0.9s,baz=318,slow=9.1,SNR=22
NV11 Mina Array Sit 20.36 140 eP P 18 49 38.6 -1.9
comp=Z,1.4nm,1.2s
SPUT South Promonto 20.38 124 eP P 18 49 42.0 +1.2
comp=Z,22nm,1.5s
BGU Big Grassy Mou 20.41 126 eP P 18 49 38.6 -2.4
comp=Z,8.8nm,1.2s
HWUT Hardware Ranch 20.57 122 eP P 18 49 45.5 +2.7
comp=Z,11nm,0.9s
BW06 Boulder Array 20.70 117 eP P 18 49 46.7 +2.4
comp=Z,27nm,1.0s
BW06 Boulder Array 20.70 117 P Pn 18 49 47.2 +0.6
baz=316,SNR=37
PD31 Pinedale Array 20.70 117 eP Pn 18 49 47.1 +0.5
PDAR Pinedale Array 20.70 117 P Pn 18 49 47.5 +0.8
comp=Z,20nm,0.9s,baz=318,slow=8.7,SNR=50
PDAR LR LR 18 59 03.1
comp=Z,281nm,18.0s,baz=320,slow=40
PDAR Pinedale Array 20.70 117 eP P 18 49 45.8 +1.5
SAO San Andreas Ge 20.76 148 eP P 18 49 47.6 +2.9
comp=Z,25nm,1.3s
SAO San Andreas Ge 20.76 148 eP P 18 49 47.6 +2.9
SAO pmax pmax
comp=Z,25nm,1.3s
OMMB Old Mammoth Mi 20.78 142 eP P 18 49 47.7 +2.4
comp=Z,11nm,1.1s
TCUT Toone Canyon 21.02 123 eP P 18 49 50.4 +2.7
comp=Z,24nm,0.9s
DUG Dugway, Tooele 21.09 127 eP P 18 49 50.5 +2.1
comp=Z,14nm,1.0s
DUG Dugway, Tooele 21.09 127 eP P 18 49 50.5 +2.1
DUG pmax pmax
comp=Z,14nm,1.0s
CTU Camp Tracy 21.19 124 eP P 18 49 51.5 +2.0
comp=Z,6.1nm,0.8s
JLU Jordanelle 21.40 124 eP P 18 49 53.7 +1.8
comp=Z,11nm,1.2s
R11A Troy Canyon, C 21.43 135 eP P 18 49 54.5 +2.4
comp=Z,13nm,1.4s
R11A Troy Canyon, C 21.43 135 P P 18 49 54.3 +2.2
baz=329
NLU North Lily Min 21.62 126 eP P 18 49 54.8 +0.6
comp=Z,10nm,1.1s
MPU Maple Canyon 21.78 125 eP P 18 49 57.2 +1.3
comp=Z,10nm,1.4s
PSUT Pine Spring 21.99 131 eP P 18 49 58.9 +0.7
comp=Z,12nm,1.0s
PAGB Antelope Grade 22.08 147 eP P 18 50 01.1 +2.1
comp=Z,33nm,1.3s
CWC Cottonwood Cre 22.16 142 P P 18 50 02.3 +2.4
baz=334
FCC Fort Churchill 22.16 64 eP P 18 50 00.2 +0.7
comp=Z,19nm,0.9s
FCC Fort Churchill 22.16 64 Pn P 18 50 00.8 +1.2
FCC Sg 18 56 38.4
FCC Fort Churchill 22.16 64 eP P 18 50 00.3 +0.7
FCC pmax pmax
comp=Z,19nm,0.9s
K22A Casper 22.35 113 eP P 18 50 03.1 +1.2
comp=Z,25nm,1.0s
K22A Casper 22.35 113 P P 18 50 03.4 +1.4
baz=315
TPNV Topopah Spring 22.38 138 eP P 18 50 03.1 +0.8
comp=Z,10nm,0.8s
TPNV Topopah Spring 22.38 138 eP P 18 50 03.1 +0.8
TPNV pmax pmax
comp=Z,10.0nm,0.8s
TPNV Topopah Spring 22.38 138 P P 18 50 04.1 +1.8
baz=331,SNR=13
DAC Darwin (Calif) 22.48 141 eP P 18 50 05.3 +2.0
comp=Z,16nm,1.3s
DAC Darwin (Calif) 22.48 141 eP P 18 50 05.3 +2.0
DAC pmax pmax
comp=Z,16nm,1.3s
TCRU Three Creeks R 22.55 129 eP P 18 50 06.3 +2.2
comp=Z,16nm,1.1s
TMUT Trail Mountain 22.55 126 eP P 18 50 07.0 +2.8
comp=Z,8.4nm,1.1s
P17A Butcher Ranch, 22.63 125 eP P 18 50 07.9 +3.0
comp=Z,16nm,1.4s
RWWY Rawlins 22.68 116 eP P 18 50 06.3 +0.7
comp=Z,22nm,0.8s
RSSD Black Hills 22.69 107 eP P 18 50 05.8 +0.2
comp=Z,19nm,0.9s
RSSD Black Hills 22.69 107 eP P 18 50 05.8 +0.2
RSSD pmax pmax
comp=Z,19nm,0.9s
MPMC Manual Prospec 22.71 141 P P 18 50 08.8 +2.9
baz=334
ISA Isabella, Lake 22.72 144 eP P 18 50 08.3 +2.5
comp=Z,17nm,1.3s
ISA Isabella, Lake 22.72 144 eP P 18 50 08.4 +2.5
ISA pmax pmax
comp=Z,17nm,1.3s
ISA Isabella, Lake 22.72 144 P P 18 50 08.9 +3.1
baz=335
P18A Preston Nutter 22.74 124 eP P 18 50 07.8 +1.6
comp=Z,18nm,1.1s
MSU Marysvale 22.75 129 eP P 18 50 09.1 +2.8
MSU Marysvale 22.75 129 eP P 18 50 09.1 +2.8
Q16A Castle Valley 22.87 126 eP P 18 50 06.9 -0.6
comp=Z,20nm,1.3s
CCUT Cedar City 23.03 132 eP P 18 50 11.3 +2.1
comp=Z,15nm,1.5s
SZCU Shurtz Canyon 23.11 131 eP P 18 50 10.5 +0.5
comp=Z,14nm,1.3s
MTPU Mount Pierson 23.13 129 eP P 18 50 12.2 +1.8
comp=Z,15nm,1.5s
LRMC Laurel Mtn Rad 23.16 142 P P 18 50 12.2 +1.8
baz=335
SHPR Sheep Range 23.19 136 eP P 18 50 10.5 -0.3
comp=Z,12nm,1.4s
ATKA Atka Island 23.23 279 eP P 18 50 11.8 +1.0
comp=Z,346nm,1.7s
O20A White River Ci 23.32 120 eP P 18 50 12.6 +0.5
comp=Z,14nm,0.9s
O20A White River Ci 23.32 120 P P 18 50 13.5 +1.4
baz=320
LCMT Little Creek M 23.54 132 eP P 18 50 10.4 -3.8
comp=Z,23nm,1.8s
PKCU Pink Cliffs 23.57 130 eP P 18 50 16.6 +1.9
comp=Z,34nm,1.6s
OSI Osito Audit: C 23.59 145 eP P 18 50 16.8 +2.0
comp=Z,18nm,1.1s
GSC Goldstone, Bar 23.63 141 eP P 18 50 16.7 +1.6
comp=Z,48nm,1.7s
GSC Goldstone, Bar 23.63 141 P P 18 50 17.1 +1.9
baz=334
KNB Kanab 23.71 132 eP P 18 50 17.5 +1.5
comp=Z,14nm,1.3s
PHWY Pilot Hill 23.87 114 eP P 18 50 17.9 +0.3
comp=Z,49nm,1.5s

ULM Lac du Bonnet 23.88 86 P P 18 50 18.0 +0.7
comp=Z,5.5nm,0.9s,baz=304,slow=9.9,SNR=9.7
ULM Lg Lg 18 57 33.1
comp=Z,1.0nm,0.3s,baz=199,slow=15,SNR=5.1
ULM LR LR 19 00 25.1
comp=Z,307nm,18.6s,baz=306,slow=39
ULM Lac du Bonnet 23.88 86 eP P 18 50 14.5 -2.8
comp=Z,25nm,1.4s
ULM Lg Lg 18 57 33.1
ULM Lac du Bonnet 23.88 86 eP P 18 50 14.5 -2.8
ULM pmax pmax
comp=Z,25nm,1.4s
N23A Red Feather La 23.91 115 eP P 18 50 15.5 -2.5
comp=Z,49nm,1.6s
MWC Mount Wilson 24.17 144 eP P 18 50 18.6 -1.8
comp=Z,11nm,0.9s
MWC Mount Wilson 24.17 144 eP P 18 50 18.6 -1.8
MWC pmax pmax
comp=Z,11nm,0.9s
PASC Pasadena Art C 24.18 144 eP P 18 50 21.9 +1.7
comp=Z,10nm,0.5s
PV21 Cone Mtn., Par 24.18 123 eP P 18 50 22.3 +1.8
comp=Z,17nm,1.1s
PV23 Carpenter Ridg 24.25 124 eP P 18 50 21.7 +0.5
comp=Z,16nm,1.0s
PV14 Lion Creek, Pa 24.31 124 eP P 18 50 23.2 +1.5
comp=Z,20nm,1.2s
PV20 West Nyswonger 24.36 124 eP P 18 50 20.9 -1.2
comp=Z,43nm,1.7s
PV16 Nyswonger Mesa 24.41 124 eP P 18 50 20.4 -2.2
comp=Z,67nm,2.0s
PV17 East Wray Mesa 24.42 124 eP P 18 50 22.2 -0.4
comp=Z,25nm,1.2s
U15A North Rim 24.43 132 eP P 18 50 22.3 -0.5
comp=Z,31nm,1.8s
PV11 David Mesa, Pa 24.44 124 eP P 18 50 21.4 -1.4
comp=Z,35nm,1.3s
PV12 Saucer Basin, 24.46 123 eP P 18 50 23.3 +0.3
comp=Z,13nm,1.0s
PV03 Paradox Valley 24.49 124 eP P 18 50 22.5 -0.8
PV05 Paradox Valley 24.51 124 eP P 18 50 22.7 -0.8
GMRC Granite Mounta 24.51 139 P P 18 50 25.3 +1.8
baz=333
PV13 Radium Mtn., P 24.58 124 eP P 18 50 22.8 -1.4
comp=Z,37nm,1.6s
PV02 Paradox Valley 24.58 123 eP P 18 50 23.4 -0.7
comp=Z,13nm,1.1s
SMCO Snowmass 24.68 119 eP P 18 50 23.9 -1.3
comp=Z,14nm,1.4s
PV01 Paradox Valley 24.72 123 eP P 18 50 24.0 -1.4
ADK Adak 24.77 279 eP P 18 50 25.1 -0.3
comp=Z,471nm,1.6s
RES Resolute Bay 24.77 24 P P 18 50 26.3 +1.1
comp=Z,3.9nm,0.5s,baz=238,slow=10.0,SNR=22
RES Lg Lg 18 57 56.5
comp=Z,5.3nm,0.3s,baz=233,slow=12,SNR=19
RES LR LR 19 00 42.3
comp=Z,336nm,18.4s,baz=231,slow=38
RES Resolute Bay 24.77 24 eP P 18 50 25.0 -0.2
comp=Z,14nm,0.9s
RES Lg Lg 18 57 56.5
RES Resolute Bay 24.77 24 eP P 18 50 25.0 -0.2
RES pmax pmax
comp=Z,14nm,0.9s
AGMN Agassiz Nation 24.85 90 eP P 18 50 26.6 +0.4
comp=Z,9.6nm,0.9s
ISCO Idaho Springs 24.89 117 eP P 18 50 29.9 +2.8
comp=Z,17nm,1.4s
ISCO Idaho Springs 24.89 117 P P 18 50 29.8 +2.8
W13A Hualapai Mount 24.92 136 eP P 18 50 28.6 +1.5
comp=Z,4.6nm,1.1s
PFO Pinyon Flats O 25.28 142 LR LR 19 00 38.0
comp=Z,654nm,19.3s,baz=332,slow=37
PFO Pinyon Flats O 25.28 142 eP P 18 50 26.9 -3.4
PFO Pinyon Flats O 25.28 142 eP P 18 50 26.9 -3.4
PFO Pinyon Flats O 25.28 142 P P 18 50 33.8 +3.5
baz=335
XPFO Pion Flat 25.28 142 eP P 18 50 28.5 -1.9
comp=Z,9.5nm,1.1s
TPFO Pinon Flats 25.28 142 P P 18 50 33.6 +3.2
baz=335
WUAZ Wupatki 25.60 131 eP P 18 50 33.1 -0.2
comp=Z,19nm,1.3s
Q24A Divide 25.76 117 eP P 18 50 34.6 -0.3
comp=Z,10nm,1.1s
Y12C Blythe 25.86 138 eP P 18 50 34.7 -0.7
comp=Z,15nm,1.4s
S22A 4UR Ranch, Cre 25.86 121 eP P 18 50 32.8 -3.0
comp=Z,10nm,1.4s
OGNE Ogallala 25.93 110 eP P 18 50 34.6 -1.6
comp=Z,54nm,1.6s
MONP2 Monument Peak 25.94 143 P P 18 50 39.3 +2.9
baz=336
BAR Barrett 26.05 143 eP P 18 50 35.7 -1.5
comp=Z,41nm,1.9s
IKP In-Ko-Pah, Jac 26.27 142 P P 18 50 42.1 +2.9
baz=336
GLA Glamis 26.37 140 eP P 18 50 37.8 -2.3
GLA Glamis 26.37 140 eP P 18 50 37.8 -2.3
X16A Lo Mia Camp, P 26.51 133 eP P 18 50 39.4 -2.2
comp=Z,6.3nm,1.0s
SDCO Great Sand Dun 26.52 119 eP P 18 50 40.6 -1.1
comp=Z,7.3nm,1.5s
W18A Petrified Fore 26.65 129 eP P 18 50 41.1 -1.7
comp=Z,7.3nm,1.1s
113A Mohawk Valley, 27.02 138 eP P 18 50 46.4 +0.5
comp=Z,14nm,1.7s
ECSD EROS Data Cent 27.06 99 eP P 18 50 46.4 +0.2
comp=Z,15nm,1.0s
E38A The Farm, Brul 28.22 90 eP P 18 50 56.7 +0.1
comp=Z,49nm,1.6s
ANMO Albuquerque 28.29 124 LR LR 19 01 07.2
comp=Z,228nm,21.6s,baz=330,slow=34
SPMN Marine on St. 28.31 93 eP P 18 50 57.6 +0.2
comp=Z,38nm,1.8s
F38A Pierce - Schro 28.41 91 P P 18 50 59.3 +1.0
baz=305
TUC Tucson 28.61 134 eP P 18 50 59.5 -0.7
comp=Z,6.0nm,1.4s
TUC Tucson 28.61 134 eP P 18 50 59.5 -0.7
TUC pmax pmax
comp=Z,6.0nm,1.4s
CBKS Cedar Bluff 28.69 111 eP P 18 51 01.2 +0.3
comp=Z,16nm,1.3s
CBKS Cedar Bluff 28.69 111 eP P 18 51 01.2 +0.3
CBKS pmax pmax
comp=Z,16nm,1.3s
LENM Lemitar 28.69 126 eP P 18 51 00.2 -0.9
C40A Isle Royale Na 28.87 86 eP P 18 51 02.6 +0.3
comp=Z,23nm,0.9s
BILL Bilibino 29.32 319 eP P 18 51 06.4 +0.3
comp=Z,18nm,1.6s
BILL Bilibino 29.32 319 eP P 18 51 06.8 +0.7
BILL ePPP PPP 18 52 07.0
BILL pmax pmax
comp=Z,8.0nm,2.5s
BILL MLR MLR
comp=Z,518nm,20.0s
121A Cookes Peak, D 29.70 129 P P 18 51 11.8 +1.8
baz=328
G40A Rib Lake 29.76 91 eP P 18 51 10.3 -0.1
comp=Z,29nm,1.4s
I39A Houston 29.86 94 eP P 18 51 10.9 -0.3
comp=Z,14nm,1.1s
COWI Conover 29.89 89 eP P 18 51 10.3 -1.1
comp=Z,12nm,1.0s
H41A Junction City 30.46 92 eP P 18 51 17.1 +0.6
comp=Z,30nm,1.5s
AMTX Amarillo 30.67 118 eP P 18 51 17.5 -1.0
WMOK Wichita Mounta 32.27 115 eP P 18 51 33.0 +0.6
comp=Z,13nm,1.3s
WMOK Wichita Mounta 32.27 115 eP P 18 51 33.0 +0.6
WMOK pmax pmax
comp=Z,13nm,1.3s
CCM Cathedral Cave 33.88 102 eP P 18 51 46.2 -0.2
comp=Z,12nm,1.0s
CCM Cathedral Cave 33.88 102 eP P 18 51 46.3 -0.2
CCM pmax pmax
comp=Z,12nm,1.0s
LTX Lajitas 34.27 127 eP P 18 51 51.8 +1.7
LTX Lajitas 34.27 127 eP P 18 51 51.8 +1.7
TXAR Lajitas Array 34.27 127 P P 18 51 51.8 +1.7
comp=Z,1.5nm,0.7s,baz=324,slow=6.7,SNR=12
TXAR LR LR 19 06 27.7
comp=Z,206nm,19.5s,baz=0.0,slow=37
SEY Seymchan 36.13 312 P P 18 52 06.7 +1.1
comp=Z,2.5nm,0.8s,baz=67,slow=6.6,SNR=8.1
SEY Seymchan 36.13 312 i P P 18 52 07.2 +1.6
SCHQ Schefferville 37.49 62 P P 18 52 18.6 +1.2
comp=Z,6.2nm,0.9s,baz=274,slow=13,SNR=3.2
SCHQ LR LR 19 06 55.2
comp=Z,323nm,20.0s,baz=322,slow=35
SCHQ Schefferville 37.49 62 eP P 18 52 15.9 -1.4
comp=Z,31nm,1.4s
PEA1 Petropavlovsk- 38.07 295 eP P 18 52 22.9 +0.6
PETK Petropavlovsk- 38.07 295 P P 18 52 22.9 +0.6
comp=Z,4.5nm,0.8s,baz=76,slow=13,SNR=6.8
MA2 Magadan 38.26 308 ceP P 18 52 25.4 +1.7
MA2 pmax pmax
comp=Z,10.0nm,1.0s
SUMG Summit 40.18 28 eP P 18 52 41.7 +1.6
comp=Z,17nm,1.0s
SUMG Summit 40.18 28 i P P 18 52 42.1 +2.0
comp=Z,36nm,1.0s
SUMG Summit 40.18 28 eP P 18 52 41.7 +1.6
SUMG pmax pmax
comp=Z,17nm,1.0s
TIXI Tiksi 40.60 331 P P 18 52 45.6 +2.5
comp=Z,1.4nm,0.4s,baz=58,slow=6.5,SNR=7.8
TIXI Tiksi 40.60 331 i P P 18 52 42.9 -0.2
TIXI pmax pmax
comp=Z,1.0nm,1.1s
DAG Danmarks Havn 42.16 18 i P P 18 52 56.8 +0.9
comp=Z,8.8nm,0.7s
DAG Danmarks Havn 42.16 18 i P P 18 52 56.8 +0.9
DAG pmax pmax
comp=Z,6.0nm,0.7s
YAK Yakutsk 45.67 319 eP P 18 53 24.6 +0.4
YAK pmax pmax
comp=Z,10.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=N,2.0nm,1.2s
YSS Yuzh-Sakhalins 49.45 297 eP P 18 53 54.9 +1.2
YSS pmax pmax
comp=Z,10.0nm,1.2s
YSS MLR MLR
comp=Z,100nm,16.0s
YSS MLR MLR
comp=N,100nm,16.0s
YSS MLR MLR
comp=E,100nm,17.0s
KLR Kul'dur 53.27 305 i P P 18 54 23.0 +0.7
BOD Bodaibo 54.29 322 eP P 18 54 29.6 0.0
BOD pmax pmax
comp=Z,7.0nm,1.1s
ARA0 ARCESS Array S 54.56 8 eP P 18 54 32.3 +0.8
ARCES ARCESS Array B 54.56 8 P P 18 54 32.3 +0.8
comp=Z,3.6nm,0.8s,baz=346,slow=9.4,SNR=3.7
APA Apatity 57.04 5⇓ iP P 18 54 42.1 -7.1
H11S1 WAKE ISLAND Hy 57.15 254 T T 19 56 59.5
baz=33
H11S2 WAKE ISLAND Hy 57.16 254 T T 19 57 00.6
baz=33,slow=74
H11S3 WAKE ISLAND Hy 57.17 254 T T 19 57 00.9
baz=33,slow=74
MAJO Matsushiro 59.24 291 eP P 18 55 05.9 +0.8
MAJO Matsushiro 59.24 291 eP P 18 55 05.9 +0.8
MJAR Matsushiro Arr 59.24 291 P P 18 55 05.9 +0.7
comp=Z,2.9nm,0.9s,baz=38,slow=5.2,SNR=5.4
NB2 NORSAR Subarra 60.85 18 P P 18 55 16.5 +0.7
comp=Z,9.8nm,1.0s,baz=341,slow=6.9
NB200 NORSAR Array S 60.85 18 eP P 18 55 16.4 +0.5
NOA NORSAR Array B 60.85 18 P P 18 55 16.4 +0.5
comp=Z,0.8nm,0.7s,baz=339,slow=7.0,SNR=4.7
FIA0 FINESS Array S 62.53 10 eP P 18 55 27.8 +0.7
FIA0 FINESS Array S 62.53 10 eP P 18 55 27.8 +0.7
FINES FINESS Array B 62.53 10 P P 18 55 27.8 +0.7
comp=Z,2.1nm,0.8s,baz=17,slow=10,SNR=3.2
PRGR Permogore 63.31 360 eP P 18 55 33.9 +1.7
PRGR pmax pmax
comp=Z,16nm,1.0s
KSRS Korea Array 63.88 298 P P 18 55 37.9 +1.5
comp=Z,2.6nm,0.8s,baz=48,slow=7.1,SNR=5.5
KSAR Wonju Array Be 63.90 298 P P 18 55 37.9 +1.3
KSAR Wonju Array Be 63.90 298 P P 18 55 37.9 +1.3
KLMR Klimovskoe 64.01 3 eP P 18 55 40.6 +3.7
KLMR pmax pmax
comp=Z,19nm,1.5s
KLMR Klimovskoe 64.01 3 eP P 18 55 40.6 +3.7
KLMR AMP 18 55 49.2
comp=Z,19nm,1.6s
ULN Ulaanbaatar 64.76 319 i P P 18 55 41.5 -0.8
ULN pmax pmax
comp=Z,1.0nm,1.2s
SONA0 Songino Array 65.03 319 eP P 18 55 44.8 +0.8
SONM Songino Array 65.03 319 P P 18 55 44.8 +0.8
comp=Z,1.0nm,1.0s,baz=22,slow=7.0,SNR=5.1
NVS Novosibirsk 65.78 337 eP P 18 55 56.2 +7.7
ZAA1 Zalesovo Array 66.23 336 eP P 18 55 51.9 +0.4
ZAA0 Zalesovo Array 66.24 336 eP P 18 55 51.9 +0.4
comp=Z,4.7nm,1.1s
ZALV Zalesovo Beam 66.24 336 P P 18 55 51.9 +0.4
comp=Z,1.7nm,0.7s,baz=19,slow=4.9,SNR=6.5
ZALV Zalesovo Beam 66.24 336 eP P 18 55 51.5 0.0
ZALV Zalesovo Beam 66.24 336 eP P 18 55 51.5 0.0
BJI Beijing 67.42 308 P P 18 56 00.0 +0.8
BJI LR LR
comp=N,210nm,18.5s
BJI LR LR
comp=E,240nm,15.9s
BJI LR LR
comp=Z,140nm,29.4s
ARU Arti 68.00 352 eP P 18 56 01.6 -1.0
comp=Z,5.2nm,0.9s
ARU Arti 68.00 352 P P 18 56 03.7 +1.1
ARU 18 58 32.2
ARU S S 19 05 05.0 +4.0
ARU SS SS 19 09 20.3 -1.5
HHC Hu-ho-hao-te 68.77 312 eP P 18 56 06.9 -1.0
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,88nm,5.2s
DGZ Jazzator, Alta 69.47 332 i P P 18 56 12.9 +0.8
OBN Obninsk 69.63 5 eP P 18 56 14.2 +1.5
OBN e 18 56 19.2
OBN e 18 56 31.2
OBN e 18 58 47.0
OBN ePPP PPP 19 00 28.0
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN MLR MLR
comp=Z,95nm,18.0s
BRVK Borovoye 69.93 344 i P P 18 56 15.7 +1.0
KURK Kurchatov 70.64 338 i P P 18 56 21.8 +2.8
KURK pmax pmax
comp=Z,1.0nm,0.9s
BRG Berggiesshubel 70.96 20 eP P 18 56 26.0 +5.0
comp=Z,6.0nm,1.4s
BRG Berggiesshubel 70.96 20 eP P 18 56 26.0 +5.0
BRG pmax pmax
comp=Z,6.0nm,1.4s
PMOR Pomariorio Ree 70.99 193 eT T 20 13 57.8
comp=Z,70nm,0.2s
UPC Upice 71.70 19 eP P 18 56 35.0 +9.5
UPC Upice 71.70 19 eP P 18 56 35.0 +9.5
DPC Dobruska-Polom 71.91 19 eP P 18 56 36.4 +10
DPC ex x 18 56 55.5
DPC Dobruska-Polom 71.91 19 eP P 18 56 36.4 +10
PRU Pruhonice 71.92 20 eP P 18 56 36.2 +9.4
PRU ex x 18 56 44.8
PRU Pruhonice 71.92 20 eP P 18 56 36.2 +9.4
PRU e 18 56 44.8
GOPC GO Pecny, Ondr 72.04 20 eP P 18 56 38.4 +11
GOPC GO Pecny, Ondr 72.04 20 eP P 18 56 38.4 +11
KRLC Kraliky 72.26 19 eP P 18 56 38.9 +10
KRLC Kraliky 72.26 19 eP P 18 56 38.9 +10
KHC Kasperske Hory 72.54 21 eP P 18 56 40.3 +10
KHC ex x 18 56 52.6
KHC Kasperske Hory 72.54 21 eP P 18 56 40.3 +10
KHC e 18 56 52.6
NJ2 Nanjing 72.67 301 eP P 18 56 30.1 -1.4
NJ2 pmax pmax
comp=Z,11nm,0.5s
GEC2 GERESS Array S 72.84 21 eP P 18 56 30.8 -1.6
comp=Z,7.8nm,1.4s
GEC2 GERESS Array S 72.84 21 eP P 18 56 30.8 -1.6
GEC2 pmax pmax
comp=Z,8.0nm,1.4s
GERES GERESS Array B 72.84 21 P P 18 56 32.9 +0.4
comp=Z,0.6nm,0.8s,baz=343,slow=4.2,SNR=4.7
AKASG Malin Array Be 73.44 10 P P 18 56 35.9 +0.1
comp=Z,1.1nm,0.6s,baz=351,slow=5.7,SNR=6.6
AKASG Malin Array Be 73.44 10 i P P 18 56 36.7 +0.9
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 73.44 10 eP P 18 56 35.7 -0.1
comp=Z,7.8nm,0.9s
AKBB Malin Array Si 73.44 10 eP P 18 56 35.7 -0.1
AKBB pmax pmax
comp=Z,8.0nm,0.9s
MK31 Makanchi Array 73.48 334 eP P 18 56 35.7 -0.5
MK31 Makanchi Array 73.48 334 eP P 18 56 35.7 -0.5
MK32 Makanchi Array 73.48 334 eP P 18 56 36.3 +0.1
MKAR Makanchi Array 73.48 334 P P 18 56 36.3 +0.1
comp=Z,1.7nm,0.8s,baz=34,slow=5.9,SNR=21
MKAR Makanchi Array 73.48 334 eP P 18 56 35.4 -0.8
comp=Z,13nm,0.8s
MKAR Makanchi Array 73.48 334 i P P 18 56 36.5 +0.3
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MK01 Makanchi Array 73.50 334 eP P 18 56 36.0 -0.4
MAKZ Makanchi 73.54 335 eP P 18 56 36.2 -0.4
comp=Z,27nm,1.9s
MAKZ Makanchi 73.54 335 eP P 18 56 36.2 -0.4
MAKZ pmax pmax
comp=Z,27nm,1.9s
TIAR Tiarei 73.70 194 eT T 20 17 21.0
comp=Z,19nm,0.2s
PPT2 Papeete2 73.77 195 eLR LR 19 19 06.5
comp=Z,189nm,29.8s
PPT2 Papeete2 73.77 195 eT T 20 17 24.6
comp=Z,12nm,0.2s
PAE Paea 73.84 195 eT T 20 17 26.5
comp=Z,2.8nm,0.2s
TVO Taravao 73.91 194 eT T 20 17 37.0
comp=Z,7.1nm,0.2s
VYHS Vyhne 74.15 18 eP P 18 56 42.5 +2.4
VYHS esP sP 18 56 49.3 +3.8
GTA Gaotai 74.70 319 eP P 18 56 40.0 -3.6
GTA pP pP 18 56 44.3 -3.3
GTA sP sP 18 56 47.1 -1.9
GTA S SKiKP 19 06 11.6 +3.3
GTA sS S 19 06 20.7 +1.3
GTA Gaotai 74.70 319 SS SS 19 11 00.7 -5.0
GTA pmax pmax
comp=Z,2.0nm,1.5s
GTA pmax pmax
comp=Z,100nm,6.7s
GTA LR LR
comp=N,180nm,19.0s
GTA LR LR
comp=E,180nm,20.3s
GTA LR LR
comp=Z,370nm,19.0s
WMQ Urumqi 74.78 330 eP P 18 56 46.2 +2.3
WMQ pP sP 18 56 51.4 +2.1
WMQ pmax pmax
comp=Z,15nm,1.1s
WMQ pmax pmax
comp=Z,110nm,4.1s
WMQ LR LR
comp=N,340nm,25.3s
WMQ LR LR
comp=E,390nm,31.5s
WMQ LR LR
comp=Z,280nm,29.5s
ABKAR Akbulak array 74.98 350 eP P 18 56 45.5 +0.7
LZH Lanzhou 76.02 314 eP P 18 56 47.3 -3.9
LZH pP pP 18 56 50.9 -4.3
LZH sP sP 18 56 53.0 -3.7
LZH pmax pmax
comp=Z,31nm,1.0s
LZH LR LR
comp=N,600nm,17.9s
LZH LR LR
comp=E,590nm,17.3s
LZH LR LR
comp=Z,740nm,18.2s
ES19 SONSECA Array 76.47 37 eP P 18 56 52.1 -1.4
ESDC Sonseca Array 76.47 37 P P 18 56 53.7 +0.1
comp=Z,0.2nm,0.5s,baz=328,slow=5.0,SNR=3.8
RKT Rikitea 78.20 180 eT T 20 22 55.2
comp=Z,13nm,0.2s
TBI Tubuai 79.42 194 eT T 20 24 29.0
comp=Z,14nm,0.3s
KIV Kislovodsk 81.00 2 eP P 18 57 20.9 +2.4
KIV pmax pmax
comp=Z,10.0nm,1.1s
KBZ Khabaz 81.23 2 P P 18 57 21.6 +2.0
comp=Z,2.5nm,0.9s,baz=6.3,slow=9.2,SNR=2.6
KEST Kesra 84.20 29 P P 18 57 36.7 +1.4
comp=Z,1.8nm,0.8s,baz=0.0,slow=6.1,SNR=2.3
KEST Kesra 84.20 29 eP P 18 57 33.6 -1.7
comp=Z,38nm,1.9s
BR101 Keskin Array S 84.74 9 eP P 18 57 38.9 +0.9
BRTR Keskin Array B 84.74 9 P P 18 57 38.9 +0.9
comp=Z,1.2nm,0.9s,baz=10.0,slow=10.0,SNR=4.0
KMI Kunming 86.00 310 P P 18 57 45.4 +0.7
KMI pP PcP 18 57 48.4 +1.0
KMI sP pP 18 57 49.8 +1.1
KMI pmax pmax
comp=Z,6.0nm,0.9s
KMI pmax pmax
comp=Z,91nm,4.2s
KMI LR LR
comp=N,190nm,25.2s
KMI LR LR
comp=E,180nm,25.2s
KMI LR LR
comp=Z,170nm,28.0s
CM31 Chiang Mai Arr 93.52 310 eP P 18 58 19.0 -0.9
CMAR Chiang Mai Arr 93.52 310 P P 18 58 21.0 +1.1
comp=Z,0.4nm,0.4s,baz=20,slow=4.1,SNR=5.9
CM01 Chiang Mai Arr 93.54 310 eP P 18 58 19.1 -0.9
QSPA South Pole Qui 145.21 180 ePKPbc PKPbc 19 04 41.0 +1.2

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*MOS **08** 18:55:38.4±0.9, 52°.47N×170°.66W, h59km, mb5.1/132, Error ellipse: s-maj=6.5km s-min=5.4km az=79.1*

*IDC **08** 18:55:38.3±1.5, 52°.43N×170°.69W, h40km±12km, mb4.5/33, mb1 4.6/36, mb1mx4.6/48, mbtmp4.7/36, ML4.5/3, MS4.0/12, Ms1 4.0/12, ms1mx3.8/31, Error ellipse: s-maj=13.7km s-min=8.5km az=166.0*

*BJI **08** 18:55:38.5, 52°.66N×171°.08W, h50km, mb4.9/57, mB5.1/38, Ms4.8/38, Ms7 4.5/33*

*AEIC **08** 18:55:38.2±0.0, 52°.24N×170°.48W, h26km*

*ISCJB **08** 18:55:39.3±0.3, 52°.45N±0°.02×170°.58W±0°.02, h65km±2km, mb4.9/446, Error ellipse: s-maj=4.0km s-min=1.7km az=176.2*

*GCMT **08** 18:55:41.1±0.3, 52°.26N±0°.02×170°.56W±0°.03, h46km±1km, MW5.0/71, Moment Tensor Solution. s54,c67; s71,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.98±.19; $M_{\theta\theta}$-3.46±.13; $M_{\phi\phi}$-0.51±.14; $M_{r\theta}$1.71±.14; $M_{\theta\phi}$-1.16±.08; $M_{\phi r}$1.69±.11; Best double couple: $M_0$4.59300×10^{16} NP1:ϕ_s59.00000°, δ61.00000°, λ78.00000°. NP2: ϕ_s262.00000°, δ32.00000°, λ110.00000°. Principal axes: T 4.7480, Plg72.0000°, Azm301.0000°; N -0.3060, Plg10.0000°, Azm64.0000°; P -4.4380, Plg15.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **08** 18:55:41.1±0.3, 52°.50N×170°.64W, h67km±2km, mb5.0/298, ML4.7(AEIC) Error ellipse: s-maj=3.5km s-min=1.7km az=173.0*

ISC 08 18:55:40.1±0.6, **52°.41N**±0°.05×**170°.56W**±0°.03, **h58**km±4km, **n1169**, σ**1.05**/1286, **mb5.0**/458, **MS4.3**/28, **20C-12D, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.18**	**61**	ePn	**Pn**	**18 55 58.4**	**-2.1**
NIKH				eSn	**Sn**	**18 56 13.3**	**-2.4**
OKSP	**Okmok Steeple**	**1.62**	**58**	P	**Pn**	**18 56 05.0**	**-1.4**
OKER	**Okmok East Rim**	**1.85**	**55**	ePn	**Pn**	**18 56 09.7**	**+0.3**
KOSE	**Korovin Southe**	**2.14**	**270**	ePn	**Pn**	**18 56 13.4**	**0.0**
KOKL	**Mount Kliuchef**	**2.23**	**269**	ePn	**Pn**	**18 56 15.0**	**+0.3**
ATKA	**Atka Island**	**2.24**	**266**	ePn	**Pn**	**18 56 14.0**	**-0.7**
ATKA				eSn	**Sn**	**18 56 40.1**	**-1.1**
MREP	**Makushin Rep't**	**2.69**	**57**	P	**Pn**	**18 56 21.0**	**0.0**
MCIR	**Makushin Cirqu**	**2.70**	**54**	ePn	**Pn**	**18 56 21.8**	**+0.8**

UNV Unalaska Valle 2.84 58 ePn Pn 18 56 22.9 0.0
UNV eSn Sn 18 56 54.8 -1.1
AKRB Akutan Reef Bi 3.20 56 ePn Pn 18 56 29.2 +1.3
AKMO Akutan Morgan 3.21 57 ePn Pn 18 56 29.6 +1.5
AKMO eSn Sn 18 57 08.5 +3.4
ZRO Akutan Zero 3.23 57 ePn Pn 18 56 30.0 +1.7
AKGG Akutan Green G 3.28 55 P Pn 18 56 30.5 +1.6
AKGG S Sn 18 57 07.1 +0.5
AHB Akutan Harbor 3.32 57 P Pn 18 56 30.4 +0.8
AKUT Akutan 3.36 57 ePn Pn 18 56 30.9 +1.0
AKUT eSn Sn 18 57 10.8 +2.3
GSTR Great Sitkin T 3.39 267 ePn Pn 18 56 30.7 +0.2
GSTR eSn Sn 18 57 11.4 +1.9
AKSA Akutan Strait 3.40 57 ePn Pn 18 56 31.6 +1.1
GSMY Great Sitkin M 3.40 266 ePn Pn 18 56 31.1 +0.5
GSTD Great Sitkin T 3.45 266 eSn Sn 18 57 13.4 +2.4
GSSP Great Sitkin S 3.46 267 P Pn 18 56 32.7 +1.3
ADAG Mount Adagdak 3.74 266 ePn Pn 18 56 36.1 +0.8
ADK Adak 3.81 264 ePn Pn 18 56 36.2 +0.1
ADK eSn Sn 18 57 20.5 +0.9
ADK Adak 3.81 264 eP Pn 18 56 36.2 +0.1
ADK e 18 57 20.5
WECS Westdahl Cape 4.06 56 P Pn 18 56 41.1 +1.5
WESP Westdahl Peak 4.07 57 ePn Pn 18 56 41.6 +1.8
KIWB Kanaga Island 4.10 265 ePn Pn 18 56 40.5 +0.3
KIWB eSn Sn 18 57 29.2 +2.5
WEBT Westdahl Beart 4.10 56 P Pn 18 56 42.2 +2.0
KIKV Kanaga Island 4.10 265 ePn Pn 18 56 41.3 +1.0
KIMD Kanaga Island 4.17 264 P Pn 18 56 41.7 +0.6
SPIA Saint Paul Isl 4.78 2 ePn Pn 18 56 50.9 +1.5
FALS False Pass 4.91 57 ePn Pn 18 56 52.7 +1.5
DRIA Deer Island 5.56 59 P Pn 18 57 00.7 +0.6
PS4A Pavlof South-4 5.93 57 P Pn 18 57 07.8 +2.6
AMKA Amchitka 6.36 265 ePn Pn 18 57 12.3 +1.2
SDPT Sand Point 6.65 60 ePn Pn 18 57 15.8 +0.7
VNSS Veniaminof 8 7.54 55 P Pn 18 57 29.7 +2.4
CHGN Chignik 8.10 56 ePn Pn 18 57 34.7 -0.1
SMY Shemya 9.35 278 ePn Pn 18 57 51.5 -0.5
SMY Shemya 9.35 278 eP Pn 18 57 51.5 -0.5
OHAK Old Harbor 11.06 57 ePn Pn 18 58 12.5 -2.8
GAMB Gambell 11.41 357 ePn Pn 18 58 21.6 +1.5
KDAK Kodiak Island 11.60 55 P Pn 18 58 20.2 -2.5
2.7nm,0.3s,baz=205,slow=4.2,SNR=16
KDAK S Sn 19 00 22.7 -7.7
0.8nm,0.3s,baz=209,slow=19,SNR=1.9
KDAK Kodiak Island 11.60 55 ePn Pn 18 58 20.7 -2.0
KDAK eSn Sn 19 00 25.4 -5.1
KDAK Kodiak Island 11.60 55 eP Pn 18 58 20.7 -2.0
KDAK e 19 00 25.4
SVW2 Sparrevohn 11.94 37 ePn Pn 18 58 30.1 +2.7
ANM Nome 12.48 10 ePn Pn 18 58 36.8 +2.2
ANM Nome 12.48 10 eP Pn 18 58 36.8 +2.2
RSO Redoubt South 12.70 44 ePn Pn 18 58 40.3 +2.5
BRLK Bradley Lake 13.19 48 ePn Pn 18 58 42.9 -1.4
SEW Seward 13.99 48 ePn Pn 18 58 52.8 -2.2
SKT Skwentna 14.03 39 ePn Pn 18 58 57.2 +1.6
SUA Susitna One 14.06 42 ePn Pn 18 58 55.6 -0.5
RC01 Rabbit Creek A 14.29 44 ePn Pn 18 58 58.0 -1.1
PPLA Purkeypile 14.33 36 ePn Pn 18 58 59.8 0.0
CAST Castle Rocks 14.70 34 ePn Pn 18 59 03.4 -1.0
PMR Palmer 14.79 43 ePn Pn 18 59 05.1 -0.5
PMR Palmer 14.79 43 eP Pn 18 59 05.1 -0.5
GHO Glory Hole Cre 14.97 43 ePn Pn 18 59 06.3 -1.6
38nm,1.2s
KNK Knik Glacier 14.99 44 ePn Pn 18 59 06.7 -1.5
30nm,1.0s
SML Sawmill 15.23 43 ePn Pn 18 59 09.6 -1.7
27nm,0.8s
SML Sawmill 15.23 43 eP Pn 18 59 09.6 -1.7
SML pmax pmax
comp=Z,27nm,0.8s
TRF Thorofare Moun 15.35 36 ePn Pn 18 59 13.8 +0.8
comp=Z,154nm,1.8s
BPAW Bear Paw Mtn. 15.51 33 ePn P 18 59 16.6 -1.6
comp=Z,170nm,1.8s
SCM Sheep Creek Mo 15.66 44 ePn Pn 18 59 15.8 -1.1
comp=Z,58nm,0.9s
SCM Sheep Creek Mo 15.66 44 eP Pn 18 59 15.8 -1.1
SCM pmax pmax
comp=Z,58nm,0.9s
RND Reindeer 15.85 38 ePn Pn 18 59 19.4 +0.2
comp=Z,27nm,1.0s
RND Reindeer 15.85 38 eP Pn 18 59 19.4 +0.2
RND pmax pmax
comp=Z,27nm,1.0s
EYAK Cordova Ski Ar 15.86 49 ePn Pn 18 59 17.3 -2.0
comp=Z,49nm,1.2s
MCK McKinley 16.01 36 ePn Pn 18 59 21.1 -0.1
comp=Z,43nm,1.1s
MCK McKinley 16.01 36 eP Pn 18 59 21.1 -0.1
MCK pmax pmax
comp=Z,43nm,1.1s
IM3 Indian Mountai 16.02 25 ePn P 18 59 23.9 +0.1
DIV Divide 16.06 47 ePn Pn 18 59 20.3 -1.6
comp=Z,37nm,1.3s
RDOG Red Dog Mine 16.13 10 ePn Pn 18 59 23.2 +0.6
comp=Z,67nm,1.3s
KLU Klutina 16.13 46 ePn Pn 18 59 20.4 -2.4
comp=Z,32nm,1.0s
MLY Manley 16.20 31 ePn P 18 59 25.5 -0.4
comp=Z,64nm,1.3s
DHY Denali Highway 16.24 40 ePn Pn 18 59 23.9 -0.4
comp=Z,19nm,1.0s
HMT Hamilton 16.49 51 ePn Pn 18 59 26.0 -1.3
comp=Z,214nm,1.7s
BMRM Bremner River 16.53 49 ePn Pn 18 59 27.1 -0.8
comp=Z,75nm,1.3s
WRH Wood River Hil 16.74 35 ePn Pn 18 59 29.4 -0.8
comp=Z,63nm,1.4s
HARP HAARP 16.84 44 ePn Pn 18 59 30.0 -1.5
comp=Z,100nm,1.3s
PAX Paxson 16.95 42 ePn Pn 18 59 31.2 -1.8
comp=Z,32nm,1.2s
PAX Paxson 16.95 42 eP Pn 18 59 31.3 -1.8
PAX pmax pmax
comp=Z,33nm,1.2s
MDM Murphy Dome 16.98 34 ePn Pn 18 59 32.5 -0.9
comp=Z,36nm,1.1s
HDA Harding Lake 17.11 36 ePn P 18 59 35.1 -0.8
comp=Z,18nm,0.9s
HDA Harding Lake 17.11 36 P P 18 59 35.9 +0.1
baz=237
ILAR Eielson Array 17.34 35 P Pn 18 59 35.5 -2.1
comp=Z,0.9nm,0.3s,baz=234,slow=10,SNR=26
ILAR PcP PcP 19 04 16.8 +0.2
comp=Z,0.3nm,0.3s,baz=277,slow=3.2,SNR=8.8
ILAR LR LR 19 07 01.2
comp=Z,345nm,18.6s,baz=240,slow=39
ILAR ScP ScP 19 07 48.0 +1.8
comp=Z,0.1nm,0.3s,baz=273,slow=3.0,SNR=7.6
ILB Eielson Array 17.34 35 ePn Pn 18 59 34.9 -2.8
IL1 Eielson Array 17.34 35 ePn Pn 18 59 35.0 -2.7
POKR Poker Plat Res 17.35 34 P P 18 59 38.9 +0.5
baz=234
RIDG Independ'e Rid 17.56 40 ePn Pn 18 59 38.7 -1.8
comp=Z,23nm,0.9s
DOT Dot Lake 17.83 41 ePn Pn 18 59 42.0 -1.8
comp=Z,30nm,1.3s
COLD Coldfoot 17.89 26 eP P 18 59 45.8 +1.4
comp=Z,29nm,1.5s
SCRK Sand Creek 18.01 40 eP P 18 59 43.6 -2.3
comp=Z,15nm,1.0s
PRP Porcupine Dome 18.23 34 eP P 18 59 46.8 -1.6
comp=Z,17nm,1.0s
PCA Pinnacle 18.37 53 eP P 18 59 49.1 -0.7
comp=Z,121nm,1.4s
PET Petropavlovsk 18.59 284 eP Pn 18 59 52.6 -0.4
comp=Z,84nm,1.3s
PET Petropavlovsk 18.59 284 eP Pn 18 59 52.6 -0.4
PET pmax pmax
comp=Z,84nm,1.3s
FYU Fort Yukon 18.94 32 eP P 18 59 54.0 -1.8
comp=Z,210nm,1.8s
PEA1 Petropavlovsk- 19.14 285 eP Pn 18 59 58.6 -1.0
PEA1 ePcP PcP 19 04 20.5 +0.7
PEA0B Petropavlovsk- 19.14 285 eP P 18 59 58.5 +0.3
comp=Z,140nm,1.3s
PETK Petropavlovsk- 19.14 285 P Pn 18 59 58.6 -1.0
comp=Z,15nm,0.3s,baz=89,slow=13,SNR=310
PETK PcP PcP 19 04 20.5 +0.7
comp=Z,0.4nm,0.3s,baz=82,slow=2.0,SNR=8.4
PETK Petropavlovsk- 19.14 285 eP P 18 59 56.9 -1.4
PETK PcP PcP 19 04 20.5 +0.7
BILL Bilibino 19.23 333 eP Pn 19 00 00.6 0.0
comp=Z,125nm,1.5s
BILL Bilibino 19.23 333d iP P 18 59 58.2 -0.9
BILL pmax pmax
comp=Z,29nm,1.2s
BILL MLR MLR
comp=Z,1µm,24.0s
HYT Haines Junctio 19.85 52 eP P 19 00 06.6 +0.6
comp=Z,94nm,0.7s
DAWY Dawson 19.89 42 eP P 19 00 06.2 -0.1
comp=Z,21nm,1.1s
SIT Sitka 20.71 63 eP P 19 00 15.9 +0.7
comp=Z,112nm,1.3s
SIT Sitka 20.71 63 eP P 19 00 15.9 +0.7
SIT pmax pmax
comp=Z,112nm,1.3s
SKAG Skagway 20.76 56 eP P 19 00 15.2 -0.5
comp=Z,52nm,0.7s
BESE Bessie Mountai 20.96 59 eP P 19 00 18.5 +0.5
comp=Z,53nm,1.2s
WHY Whitehorse 21.10 53 eP P 19 00 19.6 0.0
comp=Z,30nm,1.0s
JIS Juneau Island 21.20 60 eP P 19 00 22.0 +1.6
comp=Z,35nm,1.0s
CRAG Craig 22.07 67 eP P 19 00 31.7 +1.9
comp=Z,126nm,1.4s
SEY Seymchan 22.10 313 P P 19 00 30.1 0.0
comp=Z,11nm,0.9s,baz=105,slow=11,SNR=42
SEY PcP PcP 19 04 25.7 +0.6
comp=Z,1.6nm,0.5s,baz=192,slow=3.4,SNR=5.2
SEY Seymchan 22.10 313c eP P 19 00 29.5 -0.6
MA2 Magadan 22.51 304 P P 19 00 36.0 +1.5
comp=Z,20nm,0.6s,baz=98,slow=15,SNR=31
MA2 PcP PcP 19 04 26.0 0.0
comp=Z,7.1nm,0.8s,baz=150,slow=3.3,SNR=3.8
MA2 Magadan 22.51 304 eP P 19 00 36.8 +2.2
comp=Z,21nm,0.7s
MA2 ePcP PcP 19 04 26.0 0.0
MA2 Magadan 22.51 304 iP P 19 00 34.1 -0.4
MA2 pmax pmax
comp=Z,23nm,1.0s
DIB Dawson Inlet, 22.86 73 eP P 19 00 41.4 +3.2
comp=Z,85nm,1.4s
DLBC Dease Lake 23.49 59 P P 19 00 46.5 +2.0
comp=Z,51nm,1.0s,baz=276,slow=9.8,SNR=40
DLBC PcP PcP 19 04 30.1 +1.9
comp=Z,2.4nm,0.6s,baz=213,slow=4.1,SNR=4.9
DLBC Dease Lake 23.49 59 eP P 19 00 44.4 0.0
comp=Z,85nm,1.1s
DLBC ePcP PcP 19 04 30.2 +2.0
INK Inuvik 23.72 34 P P 19 00 44.7 -1.5
comp=Z,18nm,0.7s,baz=240,slow=9.4,SNR=42
INK PcP PcP 19 04 29.2 +0.8
comp=Z,4.0nm,0.6s,baz=224,slow=2.2,SNR=4.3
INK Inuvik 23.72 34 eP P 19 00 45.4 -0.9
comp=Z,26nm,1.1s
INK ePcP PcP 19 04 29.5 +1.1
INK Inuvik 23.72 34 eP P 19 00 45.4 -0.9
INK e 19 04 29.5
INK pmax pmax
comp=Z,26nm,1.1s
BBB Bella Bella 25.69 73 eP P 19 01 05.7 +1.3
comp=Z,155nm,1.5s
YSS Yuzh-Sakhalins 30.26 279 eP P 19 01 43.7 -1.5
comp=Z,95nm,1.8s
YSS Yuzh-Sakhalins 30.26 279 eP P 19 01 44.1 -1.1
D03D Eldon 30.48 80 P P 19 01 49.4 +2.3
baz=297
B05A Bryant 30.75 78 P P 19 01 51.5 +2.1
baz=296
YKW3 Yellowknife Ar 30.75 49 eP P 19 01 49.8 +0.5
comp=Z,4.7nm,0.8s
YKA Yellowknife Ar 30.77 49 P P 19 01 50.0 +0.6
comp=Z,2.0nm,0.5s,baz=275,slow=7.9,SNR=49
YKA PcP PcP 19 04 46.0 +0.6
comp=Z,1.6nm,0.6s,baz=279,slow=2.7,SNR=7.0
YKA ScP ScP 19 08 25.1 +2.4
comp=Z,0.9nm,0.7s,baz=284,slow=3.1,SNR=10
YKA LR LR 19 15 23.6
comp=Z,22nm,19.6s,baz=276,slow=38
YKB5 Yellowknife Ar 30.77 49 eP P 19 01 49.1 -0.4
YKB5 ePcP PcP 19 04 46.0 +0.7
YKB5 eScP ScP 19 08 24.3 +1.6
B06A Marblemount 31.00 77 eP P 19 01 51.9 +0.2
comp=Z,9.9nm,0.8s
E04D Cinebar 31.25 81 P P 19 01 56.8 +2.9
baz=299
D05A Enumclaw 31.30 80 eP P 19 01 56.8 +2.5
comp=Z,46nm,1.0s
LON Longmire 31.61 81 eP P 19 01 59.3 +2.1
comp=Z,16nm,1.1s
LON Longmire 31.61 81 eP P 19 01 59.3 +2.1
LON pmax pmax
comp=Z,16nm,1.1s
ASAJ Asahikawa 31.77 274 eP P 19 02 00.3 +1.8
comp=Z,56nm,1.4s
OPA Opana 32.17 158 eP P 19 02 02.1 0.0
comp=Z,193nm,1.3s
OPA Opana 32.17 158 eP P 19 02 02.1 0.0
OPA pmax pmax
comp=Z,193nm,1.3s
TIXI Tiksi 32.32 329 P P 19 02 03.6 +0.5
comp=Z,0.7nm,0.3s,baz=111,slow=14,SNR=6.4
TIXI PcP PcP 19 04 49.2 -0.2
comp=Z,4.8nm,0.6s,baz=44,slow=1.6,SNR=10
TIXI Tiksi 32.32 329 iP P 19 02 01.5 -1.5
TIXI pmax pmax
comp=Z,3.0nm,1.2s
B08A Colville Reser 32.35 76 eP P 19 02 05.7 +2.0
comp=Z,16nm,0.8s
B08A ePcP PcP 19 04 51.1 +1.1
GRNR Gornyy 32.37 289 eP P 19 02 03.1 -0.6
GRNR pmax pmax
comp=Z,42nm,1.0s
KIP Kipapa 32.42 158 eP P 19 02 04.3 0.0
comp=Z,264nm,1.6s
KIP Kipapa 32.42 158 eP P 19 02 04.3 0.0
KIP pmax pmax
comp=Z,264nm,1.6s
ERM Erimo 32.59 270 eP P 19 02 05.9 +0.3
comp=Z,83nm,1.3s
ERM Erimo 32.59 270 iP P 19 02 05.3 -0.3
ERM pmax pmax
comp=Z,49nm,1.1s
YAK Yakutsk 32.59 311 eP P 19 02 04.4 -1.1
YAK e 19 04 49.0
YAK eS S 19 07 14.1 -2.5
YAK e 19 12 29.5
YAK pmax pmax
comp=Z,25nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=E,18nm,1.1s
YAK smax smax
comp=E,192nm,4.3s
YAK smax smax
comp=N,100nm,4.9s
YAK MLR MLR
comp=Z,521nm,21.0s
YAK MLR MLR
comp=N,153nm,19.0s
YAK MLR MLR
comp=E,263nm,18.0s
G05D Wamic, OR 32.66 83 P P 19 02 08.9 +2.6
baz=301
I04A Tendick Farm, 32.75 86 P P 19 02 09.8 +2.6
baz=303
E07A Sunnyside 32.89 80 eP P 19 02 09.5 +1.2
comp=E,44nm,1.8s
G06A Carlson Farm, 33.08 82 eP P 19 02 11.0 +1.0
comp=E,47nm,1.8s
I05D Terrebonne, OR 33.11 84 P P 19 02 12.7 +2.4
baz=302
HAWA Hanford 33.16 80 eP P 19 02 12.5 +1.8
comp=E,16nm,0.8s
F07A Phinny Hill Vi 33.17 81 eP P 19 02 11.9 +1.1
comp=E,16nm,0.9s
C09A Chrisman Ranch 33.24 77 eP P 19 02 12.6 +1.3
comp=E,12nm,0.8s
C09A ePcP PcP 19 04 53.2 +0.7
E08A Dider Farm, El 33.40 79 eP P 19 02 13.8 +1.1
E08A ePcP PcP 19 04 54.6 +1.8
PINE Pine Mountain 33.65 85 eP P 19 02 17.7 +2.5
comp=E,34nm,1.4s
NEW Newport 33.71 75 eP P 19 02 16.5 +1.0
comp=E,21nm,0.7s
NEW Newport 33.71 75 eP P 19 02 16.5 +1.0
NEW pmax pmax
comp=Z,21nm,0.7s
NEW Newport 33.71 75 P P 19 02 16.9 +1.4
baz=298,SNR=19
J05D Fort Rock, OR 33.74 86 P P 19 02 18.2 +2.2
baz=304
E09A Wood Farm, Sta 33.94 79 eP P 19 02 18.7 +1.3
comp=Z,14nm,0.9s
KMRM Mail Ridge 33.99 92 eP P 19 02 20.9 +2.8
comp=Z,56nm,1.4s
G08A Pilot Rock 34.06 81 eP P 19 02 19.8 +1.1
comp=Z,12nm,1.2s
M04C Macdoel 34.22 88 P P 19 02 22.8 +2.7
baz=305
I07A Izee 34.37 83 eP P 19 02 23.8 +2.5
comp=Z,7.7nm,1.0s
O02D Mt. Diablo Mer 34.58 91 P P 19 02 25.7 +2.6
baz=307
F10A Beach Ranch, E 34.76 79 eP P 19 02 25.7 +1.0
comp=Z,7.4nm,0.8s
MOD Modoc Plateau 35.09 87 eP P 19 02 29.2 +1.6
comp=Z,18nm,1.4s
O03E Paynes Creek 35.11 90 P P 19 02 30.1 +2.3
baz=307
WALA Waterton Lakes 35.23 72 eP P 19 02 30.0 +1.3
comp=Z,16nm,1.0s
WALA ePcP PcP 19 04 59.7 +1.4
BMO Blue Mountains 35.29 81 eP P 19 02 30.8 +1.6
comp=Z,22nm,1.8s
BMO Blue Mountains 35.29 81 eP P 19 02 30.8 +1.6
BMO pmax pmax
comp=Z,22nm,1.8s
J08A Circle Bar Ran 35.39 84 eP P 19 02 31.9 +1.8
comp=Z,17nm,0.8s
J08A ePcP PcP 19 04 60.0 +1.2
JTMT Jette 35.63 74 eP P 19 02 33.3 +1.1
comp=Z,12nm,0.7s
KLR Kul'dur 35.75 289c iP P 19 02 31.4 -1.6
MCCM Marconi Confer 35.77 94 eP P 19 02 32.0 -1.3
comp=Z,130nm,1.4s
WVOR Wild Horse Val 35.80 85 eP P 19 02 35.5 +1.9
comp=Z,13nm,0.9s
WVOR Wild Horse Val 35.80 85 eP P 19 02 35.6 +1.9
WVOR pmax pmax
comp=Z,13nm,0.9s
BEKR Beckworth 36.25 90 eP P 19 02 39.1 +1.5
comp=Z,8.6nm,1.4s
MSO Missoula 36.29 76 eP P 19 02 38.2 +0.5
comp=Z,17nm,1.3s
MSO ePcP PcP 19 05 01.6 +0.2
MSO Missoula 36.29 76 P P 19 02 39.0 +1.3
baz=300,SNR=6.0
ZEA Zeya 36.33 298 eP P 19 02 36.0 -1.9
ZEA pmax pmax
comp=Z,17nm,1.0s
ZEA MLR MLR
comp=E,300nm,14.0s
ZEA MLR MLR
comp=Z,300nm,14.0s
AFDM Forest Hills D 36.44 92 eP P 19 02 40.7 +1.7
comp=Z,12nm,1.5s
RUBR Rubicon Trail 36.88 91 eP P 19 02 43.0 +0.1
comp=Z,13nm,1.0s
PAHR Pah Rah Range 36.95 89 eP P 19 02 45.0 +1.5
comp=Z,17nm,1.3s
CMB Columbia Colle 37.37 92 eP P 19 02 47.1 +0.1
comp=Z,11nm,1.4s
CMB Columbia Colle 37.37 92 eP P 19 02 47.1 +0.1
CMB pmax pmax
comp=Z,11nm,1.4s
YERR Yerington 37.48 90 eP P 19 02 50.0 +2.0
comp=Z,14nm,1.1s
HRY Holter Researc 37.60 75 eP P 19 02 49.6 +0.7
WAKR Walker 37.66 91 eP P 19 02 51.3 +1.7
comp=Z,5.1nm,0.7s
HLID Hailey 37.74 81 eP P 19 02 51.0 +0.9
comp=Z,11nm,1.1s
HLID ePcP PcP 19 05 07.1 +1.1
HLID Hailey 37.74 81 P P 19 02 51.4 +1.3
baz=304,SNR=11
BMN Battle Mountai 37.84 87 eP P 19 02 52.1 +1.1
comp=Z,22nm,1.6s
BMN Battle Mountai 37.84 87 eP P 19 02 52.1 +1.1
BMN pmax pmax
comp=Z,22nm,1.6s
DLMT Dillon 37.85 77 eP P 19 02 52.1 +1.1
comp=Z,14nm,1.2s
DLMT ePcP PcP 19 05 07.6 +1.4
MCMT McKenzie Canyo 37.99 78 eP P 19 02 53.0 +0.7
KVN Kaiserville 38.13 89 eP P 19 02 55.3 +1.7
comp=Z,6.2nm,1.0s
KVN ePcP PcP 19 05 08.5 +1.2
KVN Kaiserville 38.13 89 eP P 19 02 55.3 +1.7
KVN e 19 05 08.5
KVN pmax pmax
comp=Z,6.0nm,1.0s
RYN Ryan 38.14 90 eP P 19 02 54.8 +1.2
comp=Z,12nm,1.2s
EGMT Eagleton 38.15 72 eP P 19 02 54.3 +0.8
comp=Z,31nm,0.8s
EGMT ePcP PcP 19 05 08.6 +1.5
EGMT Eagleton 38.15 72 P P 19 02 54.9 +1.4
baz=300,SNR=8.5
USA0B Ussuriysk Arra 38.17 281 eP P 19 02 52.8 -0.7
comp=Z,15nm,1.1s
USRK Ussuriysk Ar. 38.17 281 P P 19 02 52.0 -1.6
comp=Z,3.1nm,0.5s,baz=55,slow=9.5,SNR=17
USRK PcP PcP 19 05 07.9 +0.9
comp=Z,6.3nm,0.9s,baz=35,slow=6.0,SNR=9.5
H11S1 WAKE ISLAND Hy 38.23 216 T T 19 43 45.5
baz=22,slow=76,SNR=5267
H11S2 WAKE ISLAND Hy 38.25 216 T T 19 43 46.6
baz=22,slow=76,SNR=3451
H11S3 WAKE ISLAND Hy 38.25 216 T T 19 43 25.1
baz=22,slow=76,SNR=1686
BOZ Bozeman (W) 38.30 76 eP P 19 02 55.7 +0.9
comp=Z,9.7nm,0.6s
BOZ ePcP PcP 19 05 08.5 +0.8
BOZ Bozeman (W) 38.30 76 eP P 19 02 55.7 +0.9
BOZ e 19 05 08.5
BOZ pmax pmax
comp=Z,10.0nm,0.6s
BOZ Bozeman (W) 38.30 76 P P 19 02 55.9 +1.0
baz=302,SNR=11
NV01 Mina Array Sit 38.40 90 eP P 19 02 56.8 +1.0
NV01 ePcP PcP 19 05 08.9 +0.7
NVAR Mina Array Bea 38.40 90 P P 19 02 57.3 +1.5
comp=Z,4.4nm,0.8s,baz=297,slow=8.2,SNR=28
NVAR PcP PcP 19 05 09.1 +0.9
comp=Z,3.2nm,0.8s,baz=267,slow=2.6,SNR=5.8
NVAR ScP ScP 19 08 52.6 +1.8
comp=Z,3.7nm,1.0s,baz=289,slow=4.8,SNR=13
OMMB Old Mammoth Mi 38.48 92 eP P 19 02 58.7 +2.0
comp=Z,7.7nm,1.0s
NV11 Mina Array Sit 38.49 90 eP P 19 02 58.0 +1.5
comp=Z,0.7nm,1.2s
QLMT Earthquake Lak 38.83 77 eP P 19 02 60.0 +0.6
QLMT ePcP PcP 19 05 11.2 +1.8
VLA Vladivostok 38.83 280 iP P 19 02 58.9 -0.2
VLA pmax pmax
comp=Z,33nm,1.1s
ELK Elko 38.86 85 eP P 19 03 00.7 +1.0
comp=Z,7.6nm,0.8s
ELK ePcP PcP 19 05 11.0 +1.4
MJAR Matsushiro Arr 38.97 267 P P 19 03 00.5 +0.1
comp=Z,4.9nm,0.4s,baz=41,slow=7.3,SNR=35
MJAR PcP PcP 19 05 09.7 0.0
comp=Z,7.6nm,0.9s,baz=42,slow=0.4,SNR=11
MAJO Matsushiro 38.97 267 eP P 19 03 00.1 -0.2
comp=Z,72nm,1.1s
MAJO ePcP PcP 19 05 09.7 0.0
MAJO Matsushiro 38.97 267c iP P 19 03 00.3 -0.1
MAJO pmax pmax
comp=Z,57nm,1.2s
MAT Matsushiro 38.97 267 P P 19 03 00.4 0.0
MAT eS S 19 08 53.4 -1.3
MJB9 Matsu-Tunnel 38.97 267 eP P 19 03 00.4 0.0
comp=Z,82nm,1.2s
YHB Horse Butte 39.02 77 eP P 19 03 01.2 +0.3
comp=Z,19nm,0.9s
YHB ePcP PcP 19 05 12.0 +2.0
YMR Madison River 39.20 77 eP P 19 03 03.0 +0.6
comp=Z,24nm,1.0s
FFC Flin Flon 39.32 58 eP P 19 03 03.9 +0.8
comp=Z,9.8nm,0.8s
FFC Flin Flon 39.32 58 eP P 19 03 03.9 +0.8
FFC pmax pmax

comp=Z,10.0nm,0.8s
YNR Norris Junctio 39.34 77 *e*P **P 19 03 04.9 +1.2**
comp=Z,26nm,1.0s
YNR *e*PcP **PcP 19 05 13.8 +2.8**
YFT Old Faithful 39.40 77 *e*P **P 19 03 06.0 +1.9**
comp=Z,7.4nm,0.8s
YFT *e*PcP **PcP 19 05 14.8 +3.5**
YPP Pitchstone Pla 39.51 77 *e*P **P 19 03 06.9 +1.7**
comp=Z,9.9nm,1.1s
H17A Grant Village 39.58 77 *e*P **P 19 03 07.7 +2.0**
comp=Z,22nm,1.1s
H17A *e*PcP **PcP 19 05 14.6 +2.8**
H17A Grant Village 39.58 77 P **P 19 03 08.6 +2.9**
baz=304,SNR=9.7
FLWY Flagg Ranch 39.68 77 *e*P **P 19 03 07.6 +1.1**
comp=Z,11nm,0.8s
HVU Hansel Valley 39.75 82 *e*P **P 19 03 08.6 +1.6**
comp=Z,14nm,0.9s
HVU Hansel Valley 39.75 82 *e*P **P 19 03 08.6 +1.6**
HVU pmax pmax
comp=Z,14nm,0.9s
CWC Cottonwood Cre 39.80 92 P **P 19 03 09.2 +1.7**
baz=311
MOOW Moose Ponds 39.84 78 *e*P **P 19 03 09.1 +1.3**
comp=Z,6.3nm,1.1s
TPAW Teton Pass 39.86 78 *e*P **P 19 03 09.8 +1.7**
comp=Z,7.4nm,0.9s
GRAC Grapevine Rang 39.88 91 P **P 19 03 10.2 +2.2**
baz=310
RLMT Red Lodge 39.96 75 *e*P **P 19 03 09.6 +0.9**
comp=Z,29nm,1.0s
RLMT Red Lodge 39.96 75 P **P 19 03 10.6 +1.8**
baz=304,SNR=13
REDW Red Top Meadow 39.99 78 *e*P **P 19 03 10.9 +1.8**
comp=Z,19nm,1.3s
SNOW Snow King Moun 40.00 78 *e*P **P 19 03 10.2 +1.1**
comp=Z,10nm,1.0s
LOHW Long Hollow 40.00 78 *e*P **P 19 03 10.4 +1.3**
comp=Z,5.8nm,0.9s
ISA Isabella, Lake 40.07 94 *e*P **P 19 03 10.0 +0.4**
comp=Z,8.2nm,1.2s
ISA Isabella, Lake 40.07 94 *e*P **P 19 03 10.0 +0.4**
ISA pmax pmax
comp=Z,8.0nm,1.2s
ISA Isabella, Lake 40.07 94 P **P 19 03 10.3 +0.7**
baz=312
BGU Big Grassy Mou 40.10 83 *e*P **P 19 03 11.1 +1.2**
comp=Z,8.0nm,0.9s
R11A Troy Canyon, C 40.11 88 *e*P **P 19 03 11.3 +1.2**
comp=Z,9.2nm,1.1s
R11A Troy Canyon, C 40.11 88 P **P 19 03 11.7 +1.6**
baz=309,SNR=9.3
AHID Auburn Hatcher 40.19 79 *e*P **P 19 03 11.7 +1.0**
comp=Z,12nm,1.0s
DAC Darwin (Calif) 40.20 92 *e*P **P 19 03 12.3 +1.4**
comp=Z,5.5nm,0.9s
DAC Darwin (Calif) 40.20 92 *e*P **P 19 03 12.3 +1.4**
DAC pmax pmax
comp=Z,6.0nm,0.9s
SPUT South Promonto 40.22 82 *e*P **P 19 03 11.9 +1.0**
comp=Z,6.8nm,0.8s
MPMC Manual Prospec 40.41 92 P **P 19 03 14.3 +1.7**
baz=311
INU Inuyama 40.48 266 *e*P **P 19 03 11.8 -1.1**
comp=Z,75nm,1.6s
FURC Furnace Creek, 40.53 91 P **P 19 03 15.0 +1.8**
baz=311
HWUT Hardware Ranch 40.58 81 *e*P **P 19 03 15.2 +1.3**
comp=Z,3.5nm,0.6s
HWUT *e*PcP **PcP 19 05 16.0 +1.0**
TPNV Topopah Spring 40.59 90 *e*P **P 19 03 15.5 +1.5**
comp=Z,9.6nm,0.8s
TPNV Topopah Spring 40.59 90 *e*P **P 19 03 15.5 +1.5**
TPNV pmax pmax
comp=Z,10.0nm,0.8s
TPNV Topopah Spring 40.59 90 P **P 19 03 15.9 +1.9**
baz=310,SNR=11
DUG Dugway, Tooele 40.67 84 *e*P **P 19 03 15.8 +1.2**
comp=Z,17nm,0.9s
DUG Dugway, Tooele 40.67 84 *e*P **P 19 03 15.8 +1.2**
DUG pmax pmax
comp=Z,17nm,0.9s
DUG Dugway, Tooele 40.67 84 P **P 19 03 16.0 +1.4**
baz=308,SNR=16
LAO LASA Array 40.90 71 *e*P **P 19 03 17.2 +1.0**
comp=Z,17nm,0.8s
TCUT Toone Canyon 40.97 82 *e*P **P 19 03 18.2 +1.1**
comp=Z,26nm,0.4s
CTU Camp Tracy 41.01 82 *e*P **P 19 03 18.2 +0.7**
comp=Z,9.5nm,0.9s
PSUT Pine Spring 41.05 87 *e*P **P 19 03 18.9 +1.1**
comp=Z,7.7nm,0.8s
BW06 Boulder Array 41.11 78 *e*P **P 19 03 18.5 +0.1**
comp=Z,20nm,0.8s
BW06 Boulder Array 41.11 78 P **P 19 03 19.4 +1.0**
baz=306,SNR=30
PD31 Pinedale Array 41.11 78 *e*P **P 19 03 18.9 +0.6**
PDAR Pinedale Array 41.11 78 P **P 19 03 19.2 +0.9**
comp=Z,22nm,0.9s,baz=297,slow=4.0,SNR=103
PDAR ScP **ScP 19 09 03.3 +2.0**
comp=Z,0.5nm,0.8s,baz=282,slow=1.4,SNR=3.8
PDAR LR LR 19 19 24.3
comp=Z,155nm,18.1s,baz=308,slow=35
PDAR Pinedale Array 41.11 78 *e*P **P 19 03 18.9 +0.6**
PDAR ScP **ScP 19 09 03.3 +2.0**
DGMT Dagmar 41.12 68 *e*P **P 19 03 18.9 +0.9**
comp=Z,38nm,1.3s
JLU Jordanelle 41.25 82 *e*P **P 19 03 20.4 +0.9**
comp=Z,13nm,0.8s
NLU North Lily Min 41.26 84 *e*P **P 19 03 20.8 +1.2**
comp=Z,13nm,0.8s
MWC Mount Wilson 41.28 95 *e*P P 19 03 25.1 +5.4
comp=Z,29nm,1.4s
GSC Goldstone, Bar 41.33 93 *e*P **P 19 03 21.7 +1.7**
comp=Z,11nm,0.7s
GSC Goldstone, Bar 41.33 93 P **P 19 03 21.9 +1.9**
baz=312,SNR=9.5
BOD Bodaibo 41.40 308 *e*P **P 19 03 18.8 -1.3**
BOD pmax pmax
comp=Z,23nm,1.1s
FCC Fort Churchill 41.48 50 *e*P **P 19 03 21.1 +0.3**
comp=Z,44nm,1.1s
FCC Fort Churchill 41.48 50 *e*P **P 19 03 21.1 +0.3**
FCC pmax pmax
comp=Z,44nm,1.1s
MPU Maple Canyon 41.49 83 *e*P **P 19 03 22.0 +0.6**
comp=Z,8.9nm,0.7s
SHPR Sheep Range 41.55 90 *e*P **P 19 03 22.8 +1.0**
comp=Z,5.2nm,1.0s
TUQ Turquoise Moun 41.78 92 P **P 19 03 24.6 +0.8**
baz=312
TCRU Three Creeks R 41.87 85 *e*P **P 19 03 26.1 +1.6**
comp=Z,8.6nm,0.5s
TCRU *e*PcP **PcP 19 05 20.5 +1.2**
HEC Hector,Ludlow 41.93 93 P **P 19 03 26.7 +1.8**
baz=312
CCUT Cedar City 41.98 87 *e*P **P 19 03 26.9 +1.4**
comp=Z,4.9nm,0.9s
MSU Marysvale 42.09 85 *e*P **P 19 03 27.0 +0.6**
MSU *e*PcP **PcP 19 05 20.6 +0.5**
MSU Marysvale 42.09 85 *e*P **P 19 03 27.0 +0.6**
MSU *e* 19 05 20.6
SZCU Shurtz Canyon 42.12 87 *e*P **P 19 03 27.6 +1.0**
comp=Z,10nm,1.5s
TMUT Trail Mountain 42.20 84 *e*P **P 19 03 28.7 +1.4**
comp=Z,20nm,0.9s
CN2 Changchun 42.29 285 *e*P **P 19 03 26.6 -1.1**
CN2 *e*S **S 19 09 41.8 -2.2**
CN2 pmax pmax
comp=Z,20nm,1.3s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,14.0s
TULEG Thule 42.34 20 *e*P **P 19 03 28.0 +0.5**
comp=Z,14nm,1.1s
P17A Butcher Ranch, 42.37 83 *e*P **P 19 03 30.1 +1.5**
comp=Z,14nm,0.8s
P17A *e*PcP **PcP 19 05 21.9 +1.0**
GMRC Granite Mounta 42.37 92 P **P 19 03 29.8 +1.2**
baz=312,SNR=5.6
MTPU Mount Pierson 42.38 86 *e*P **P 19 03 30.2 +1.3**
comp=Z,7.0nm,0.9s
LCMT Little Creek M 42.39 88 *e*P **P 19 03 30.0 +1.3**
comp=Z,5.9nm,0.8s
LCMT *e*PcP **PcP 19 05 22.3 +1.4**
Q16A Castle Valley 42.45 84 *e*P **P 19 03 30.8 +1.5**
comp=Z,18nm,1.0s
LDFC Landfair 42.52 91 *e*P **P 19 03 31.1 +1.4**
comp=Z,70nm,0.4s
HIA Hailar 42.57 295 *e*P **P 19 03 28.9 -1.0**
HIA *e*PP **PcP 19 05 20.7 -0.5**
HIA *e*PcP PP 19 05 21.3 +12
HIA Hailar 42.57 295 *e*P **P 19 03 28.9 -1.0**
HIA *e* 19 05 21.3
P18A Preston Nutter 42.58 83 *e*P **P 19 03 31.4 +1.0**
comp=Z,18nm,0.8s
P18A *e*PcP **PcP 19 05 22.2 +0.4**
KNB Kanab 42.65 87 *e*P **P 19 03 31.8 +0.9**
comp=Z,10nm,1.1s
KNB *e*PcP **PcP 19 05 22.6 +0.8**
KNB Kanab 42.65 87 P **P 19 03 32.8 +1.9**
KNB pmax pmax
comp=Z,10.0nm,1.1s
PFO Pinyon Flats O 42.67 94 *e*P **P 19 03 30.1 -0.9**
comp=Z,14nm,1.2s
PFO Pinyon Flats O 42.67 94 *e*P **P 19 03 30.1 -0.9**
PFO pmax pmax
comp=Z,14nm,1.2s
PFO Pinyon Flats O 42.67 94 P **P 19 03 32.1 +1.1**
baz=313
XPFO Pion Flat 42.68 94 *e*P **P 19 03 30.1 -0.9**
comp=Z,17nm,1.3s
TPFO Pinon Flats 42.68 94 P **P 19 03 32.4 +1.3**
baz=313
PKCU Pink Cliffs 42.69 87 *e*P **P 19 03 32.2 +0.9**
comp=Z,27nm,1.5s
CPE Camp Elliot 42.77 95 *e*P **P 19 03 31.6 -0.1**
comp=Z,14nm,1.0s
K22A Casper 43.00 77 *e*P **P 19 03 33.5 0.0**
comp=Z,19nm,0.6s
K22A Casper 43.00 77 P **P 19 03 34.4 +0.8**
baz=306,SNR=5.5
IRM Iron Mountain 43.11 92 P **P 19 03 35.5 +1.1**
baz=313
RWWY Rawlins 43.16 78 *e*P **P 19 03 35.5 +0.5**
comp=Z,17nm,0.7s
BAR Barrett 43.18 95 *e*P **P 19 03 35.8 +0.8**
comp=Z,11nm,1.1s
MONP2 Monument Peak 43.19 95 P **P 19 03 36.3 +1.0**
baz=314
CBIJ Chichi jima 43.22 253 *e*P **P 19 03 34.8 -0.4**
comp=Z,351nm,2.0s
JCJ Chichijima 43.22 253 P **P 19 03 34.7 -0.6**
comp=Z,47nm,0.4s,baz=90,slow=20,SNR=19
W13A Hualapai Mount 43.25 90 *e*P **P 19 03 36.5 +0.7**
comp=Z,7.7nm,0.9s
U15A North Rim 43.35 88 *e*P **P 19 03 38.0 +1.4**
comp=Z,12nm,0.8s
O20A White River Ci 43.48 81 *e*P **P 19 03 38.1 +0.6**
comp=Z,42nm,0.8s
O20A White River Ci 43.48 81 P **P 19 03 38.5 +0.9**
baz=308,SNR=17
IKP In-Ko-Pah, Jac 43.55 95 P **P 19 03 39.6 +1.6**
baz=314
RSSD Black Hills 43.61 73 *e*P **P 19 03 38.1 -0.5**
comp=Z,38nm,1.4s
RSSD Black Hills 43.61 73 *e*P **P 19 03 38.1 -0.5**
RSSD pmax pmax
comp=Z,38nm,1.4s
PDMCI Parker Dam,Lak 43.62 92 P **P 19 03 40.0 +1.5**
baz=313,SNR=6.1
Y12C Blythe 43.76 92 *e*P **P 19 03 39.3 -0.4**
comp=Z,9.7nm,0.8s
Y12C Blythe 43.76 92 P **P 19 03 41.0 +1.3**
baz=313
PV09 Paradox Valley 43.96 83 *e*P **P 19 03 40.0 -1.5**
PV21 Cone Mtn., Par 44.01 83 *e*P **P 19 03 42.0 +0.1**
comp=Z,14nm,0.9s
MDND Maddock 44.04 66 *e*P **P 19 03 42.4 +0.7**
comp=Z,87nm,1.1s
MDND Maddock 44.04 66 P **P 19 03 43.0 +1.2**
baz=304
GLA Glamis 44.05 93 *e*P **P 19 03 42.3 +0.3**
comp=Z,12nm,0.8s
GLA Glamis 44.05 93 *e*P **P 19 03 42.3 +0.3**
GLA pmax pmax
comp=Z,12nm,0.8s
GLA Glamis 44.05 93 P **P 19 03 43.5 +1.5**
baz=314
PV23 Carpenter Ridg 44.06 83 *e*P **P 19 03 42.9 +0.6**
comp=Z,15nm,0.8s
PV23 *e*PP **PcP 19 05 27.6 +0.9**
PV10 Paradox Valley 44.09 83 *e*P **P 19 03 43.7 +1.2**
PV14 Lion Creek, Pa 44.10 83 *e*P **P 19 03 42.8 +0.2**
comp=Z,11nm,0.8s
PV14 *e*PP **PcP 19 05 27.8 +1.0**
PV20 West Nyswonger 44.16 83 *e*P **P 19 03 43.7 +0.7**
comp=Z,14nm,0.8s
PV20 *e*PP **PP 19 05 26.4 -0.2**
PV19 Morning Glory 44.17 83 *e*P **P 19 03 43.4 +0.2**
comp=Z,13nm,0.8s
PV19 *e*PP **PcP 19 05 27.6 +0.5**
PV17 East Wray Mesa 44.20 83 *e*P **P 19 03 43.9 +0.5**
comp=Z,26nm,0.8s
PV17 *e*PcP **PcP 19 05 27.4 +0.3**
PV16 Nyswonger Mesa 44.21 83 *e*P **P 19 03 44.0 +0.5**
comp=Z,16nm,0.8s
PV16 *e*PcP **PcP 19 05 28.9 +1.7**
PV11 David Mesa, Pa 44.24 83 *e*P **P 19 03 44.2 +0.5**
comp=Z,25nm,0.7s
PV11 *e*PcP **PcP 19 05 28.5 +1.2**
PV05 Paradox Valley 44.24 84 *e*P **P 19 03 44.6 +0.9**
PV12 Saucer Basin, 44.27 83 *e*P **P 19 03 44.7 +0.7**
comp=Z,19nm,0.8s
PV03 Paradox Valley 44.28 83 *e*P **P 19 03 44.5 +0.5**
PV13 Radium Mtn., P 44.36 83 *e*P **P 19 03 45.4 +0.7**
comp=Z,42nm,0.9s
PV13 *e*PcP **PcP 19 05 27.8 +0.1**
PV02 Paradox Valley 44.38 83 *e*P **P 19 03 45.7 +0.9**
comp=Z,28nm,0.8s
N23A Red Feather La 44.40 78 *e*P **P 19 03 45.5 +0.6**
comp=Z,18nm,1.0s
N23A Red Feather La 44.40 78 P **P 19 03 45.6 +0.6**
baz=308
WUAZ Wupatki 44.51 88 *e*P **P 19 03 46.9 +1.0**
comp=Z,14nm,0.7s
WUAZ *e*PcP **PcP 19 05 28.0 -0.2**
WUAZ Wupatki 44.51 88 P **P 19 03 47.4 +1.6**
baz=312,SNR=9.1
PV01 Paradox Valley 44.53 83 *e*P **P 19 03 46.7 +0.7**
KSRS Korea Array 44.67 276 P **P 19 03 47.1 +0.4**
comp=Z,5.6nm,0.7s,baz=51,slow=7.7,SNR=15
KSRS Korea Array 44.67 276 P **P 19 03 47.2 +0.4**
KSRS pmax pmax
comp=Z,5.0nm,0.7s
KS01 Wonju Array Si 44.67 276 *e*P **P 19 03 45.9 -1.0**
KS01 *e*PcP **PcP 19 05 29.3 +0.8**
KS15 Wonju Array Si 44.70 276 *e*P **P 19 03 46.9 -0.2**
KS15 *e*PcP **PP 19 05 32.2 +0.1**
KSAR Wonju Array Be 44.70 276 P **P 19 03 47.1 +0.1**
KSAR Wonju Array Be 44.70 276 P **P 19 03 47.2 +0.1**
ULM Lac du Bonnet 44.78 62 P **P 19 03 47.6 +0.1**
comp=Z,12nm,0.9s,baz=299,slow=8.0,SNR=16
ULM PcP **PcP 19 05 28.2 -0.4**
comp=Z,3.7nm,0.4s,baz=350,slow=4.6,SNR=4.6
ULM Lac du Bonnet 44.78 62 *e*P **P 19 03 47.6 +0.1**
comp=Z,22nm,1.1s
ULM PcP **PcP 19 05 28.2 -0.4**
ULM Lac du Bonnet 44.78 62 P **P 19 03 47.6 +0.1**
ULM *e* 19 05 28.3
ULM pmax pmax
comp=Z,13nm,0.9s
SMCO Snowmass 44.84 81 *e*P **P 19 03 48.9 +0.3**
SMCO *e*PcP **PcP 19 05 29.8 +0.3**
113A Mohawk Valley, 44.90 93 *e*P **P 19 03 49.5 +0.8**
comp=Z,31nm,2.0s
MVCO Mesa Verde 45.16 84 *e*P **P 19 03 51.6 +0.6**
comp=Z,19nm,1.4s
X16A Lo Mia Camp, P 45.20 89 *e*P **P 19 03 52.3 +1.0**
comp=Z,6.9nm,0.8s
ISCO Idaho Springs 45.27 79 *e*P **P 19 03 52.8 +0.8**
comp=Z,5.5nm,1.0s
ISCO *e*PcP **PcP 19 05 31.4 +0.4**
ISCO Idaho Springs 45.27 79 *e*P **P 19 03 52.8 +0.8**
ISCO *e* 19 05 31.4
ISCO pmax pmax
comp=Z,6.0nm,1.0s
TJN Taejon 45.71 275 *ce*P **P 19 03 54.4 -0.7**
JNU Nakatsue 45.73 269 *e*P **P 19 03 55.5 +0.1**
comp=Z,88nm,1.1s
W18A Petrified Fore 45.78 87 *e*P **P 19 03 56.6 +0.7**
comp=Z,11nm,0.8s
W18A Petrified Fore 45.78 87 P **P 19 03 57.2 +1.3**
baz=312
S22A 4UR Ranch, Cre 45.84 82 *e*P **P 19 03 57.2 +0.8**
comp=Z,33nm,1.8s
S22A 4UR Ranch, Cre 45.84 82 P **P 19 03 58.3 +1.8**
baz=310,SNR=8.8
AGMN Agassiz Nation 45.87 64 *e*P **P 19 03 56.0 -0.2**
comp=Z,35nm,0.9s
AGMN Agassiz Nation 45.87 64 P **P 19 03 56.7 +0.5**
baz=305,SNR=7.1
214A Organ Pipe Nat 46.04 93 P **P 19 03 59.2 +1.5**
baz=314,SNR=5.1
Q24A Divide 46.08 80 *e*P **P 19 03 58.6 +0.2**
Q24A *e*PcP **PcP 19 05 33.5 -0.3**
Q24A Divide 46.08 80 P **P 19 03 59.5 +1.1**
baz=310
SDCO Great Sand Dun 46.64 81 *e*P **P 19 04 03.5 +0.8**
comp=Z,11nm,0.9s
SDCO *e*PcP **PcP 19 05 36.5 +0.8**
SDCO Great Sand Dun 46.64 81 P **P 19 04 04.0 +1.2**
baz=310,SNR=16
OGNE Ogallala 46.70 76 *e*P **P 19 04 03.9 +0.9**
comp=Z,38nm,1.0s
TUC Tucson 47.04 91 *e*P **P 19 04 06.9 +1.2**
comp=Z,11nm,0.8s
TUC Tucson 47.04 91 *e*P **P 19 04 06.9 +1.2**
TUC pmax pmax
comp=Z,11nm,0.8s
KSCO Kaye Shedlock' 47.56 78 *e*P **P 19 04 10.5 +0.7**
comp=Z,38nm,0.9s
KSCO Kaye Shedlock' 47.56 78 P **P 19 04 11.4 +1.6**
baz=310,SNR=7.5
T25A Trinidad 47.70 81 *e*P **P 19 04 11.9 +1.0**
comp=Z,38nm,1.0s
T25A Trinidad 47.70 81 P **P 19 04 12.6 +1.7**
baz=311,SNR=18
LAZ Ladron 47.84 86 *e*P **P 19 04 13.7 +1.6**
ANMO Albuquerque 47.90 85 P **P 19 04 12.9 +0.4**
comp=Z,6.5nm,1.0s,baz=307,slow=8.0,SNR=6.2
ANMO Albuquerque 47.90 85 *e*P **P 19 04 12.9 +0.4**
ANMO *e*PcP **PcP 19 05 41.7 +1.6**
LENM Lemitar 48.10 86 *e*P **P 19 04 15.5 +1.4**
ECSD EROS Data Cent 48.14 69 *e*P **P 19 04 13.8 -0.3**
comp=Z,16nm,1.0s
ECSD *e*PcP **PcP 19 05 40.9 +0.2**
ECSD EROS Data Cent 48.14 69 P **P 19 04 13.9 -0.1**
baz=308,SNR=9.2
LPM Los Pinos Moun 48.22 86 *e*P **P 19 04 14.8 -0.1**
BNM Barren Site 48.33 86 *e*P **P 19 04 16.8 +1.0**
BNM *e*PcP **PcP 19 05 42.8 +1.1**
EYMN Ely 48.45 62 *e*P **P 19 04 16.1 -0.2**
comp=Z,26nm,0.9s
EYMN Ely 48.45 62 P **P 19 04 16.7 +0.4**
baz=307,SNR=11
319A Douglas 48.60 91 *e*P **P 19 04 16.6 -1.3**
comp=Z,47nm,0.6s
BGNE Belgrade 48.70 73 *e*P **P 19 04 18.1 -0.2**
comp=Z,60nm,0.8s
BGNE Belgrade 48.70 73 P **P 19 04 19.1 +0.7**
baz=309
121A Cookes Peak, D 48.72 88 P **P 19 04 20.6 +1.8**
baz=314,SNR=5.4
KBS Kingsbay 48.91 359 *e*P **P 19 04 21.1 +1.7**
comp=Z,140nm,1.8s
KBS Kingsbay 48.91 359 *e*P **P 19 04 21.1 +1.7**
KBS pmax pmax
comp=Z,140nm,1.8s
F37A Hinrichs Farm, 49.18 65 P **P 19 04 22.0 +0.1**
baz=308,SNR=6.3
E38A The Farm, Brul 49.23 63 *e*P **P 19 04 21.4 -0.9**
comp=Z,35nm,0.9s
E38A The Farm, Brul 49.23 63 P **P 19 04 22.4 +0.1**
baz=308,SNR=11
SPMN Marine on St. 49.38 65 *e*P **P 19 04 23.5 +0.1**
comp=Z,23nm,1.1s
SPMN Marine on St. 49.38 65 P **P 19 04 23.6 +0.1**
baz=308
CBKS Cedar Bluff 49.41 76 *e*P **P 19 04 24.6 +0.7**
comp=Z,48nm,0.8s
CBKS *e*PcP **PcP 19 05 45.7 +0.4**
CBKS Cedar Bluff 49.41 76 *e*P **P 19 04 24.6 +0.7**
CBKS *e* 19 05 45.7
CBKS pmax pmax
comp=Z,48nm,0.8s
CBKS Cedar Bluff 49.41 76 P **P 19 04 25.1 +1.2**
baz=311,SNR=14
F38A Pierce - Schro 49.45 64 P **P 19 04 24.7 +0.8**
baz=308,SNR=16
SPA0 Spitsbergen Ar 49.61 358 *e*P **P 19 04 25.4 +0.6**
SPA0 *e*PcP **PcP 19 05 46.0 +0.6**
SPA0 Spitsbergen Ar 49.61 358 *e*P **P 19 04 25.2 +0.4**
DAG Danmarks Havn 49.86 8 *i* P **P 19 04 26.3 -0.3**
comp=Z,16nm,0.8s
DAG Danmarks Havn 49.86 8 *i* P **P 19 04 26.3 -0.3**
DAG pmax pmax
comp=Z,12nm,0.8s
E39A Mellen 49.91 63 P **P 19 04 27.4 -0.1**
baz=308,SNR=5.8
G38A Ridgeland 49.95 65 P **P 19 04 27.6 -0.2**
baz=308,SNR=6.1
F39A Loretta 50.00 64 P **P 19 04 28.4 +0.2**
baz=308
H38A Maiden Rock 50.01 66 P **P 19 04 28.9 +0.7**
baz=309,SNR=7.0
EPT El Paso 50.03 88 *e*P **P 19 04 29.2 +0.5**
comp=Z,21nm,0.9s
EPT *e*PcP **PcP 19 05 45.5 -2.3**
BJI Beijing 50.06 286 *e*P **P 19 04 27.9 -0.8**
BJI pmax pmax
comp=Z,8.0nm,0.6s
BJI LR LR
comp=Z,200nm,16.3s
BJI LR LR
comp=Z,230nm,14.7s
BJT Baijiatuau 50.08 286 *e*P **P 19 04 28.2 -0.6**
BJT *e*PcP **PcP 19 05 46.4 -1.3**
BJT Baijiatuau 50.08 286 *e*P **P 19 04 28.2 -0.6**
BJT *e* 19 05 46.4
E40A Wakefield 50.23 63 P **P 19 04 30.2 +0.3**
baz=308,SNR=8.5
G39A Holcombe 50.25 64 P **P 19 04 30.1 +0.1**
baz=309,SNR=7.5
ULN Ulaanbaatar 50.28 300 *e*P **P 19 04 29.9 -0.5**
comp=Z,23nm,1.5s
ULN *e*PcP **PcP 19 05 47.8 -0.7**
ULN Ulaanbaatar 50.28 300 *ce*P **P 19 04 29.5 -0.9**
ULN pmax pmax
comp=Z,8.0nm,1.0s
F40A Park Falls 50.44 63 P **P 19 04 31.5 +0.1**
baz=309,SNR=14
H39A Augusta 50.57 65 P **P 19 04 32.2 -0.2**
baz=309
D41A Chassel 50.57 61 *e*P **P 19 04 33.0 +0.5**
comp=Z,73nm,1.4s
SONA1 Songino Array 50.64 300 *e*P **P 19 04 32.7 -0.4**
SONA1 *e*PcP **PcP 19 05 50.1 +0.3**
SONA0 Songino Array 50.65 300 *e*P **P 19 04 33.0 -0.2**
SONA0 *e*PcP **PcP 19 05 50.0 +0.1**
SONA0 *e*ScP **ScP 19 09 42.1 +1.5**
SONM Songino Array 50.65 300 P **P 19 04 33.0 -0.2**
comp=Z,3.8nm,0.5s,baz=57,slow=5.9,SNR=58
SONM PcP **PcP 19 05 50.0 +0.1**
comp=Z,4.6nm,0.7s,baz=56,slow=2.7,SNR=7.5
SONM ScP **ScP 19 09 42.1 +1.5**
comp=Z,2.5nm,1.1s,baz=49,slow=3.1,SNR=7.0
ZAK Zakamensk 50.69 304 *e*P **P 19 04 32.6 -0.8**
ZAK pmax pmax
comp=Z,7.0nm,1.5s
E41A Kenton 50.73 62 P **P 19 04 33.5 -0.1**
baz=309
MNTX Cornudas Mount 50.77 87 *e*P **P 19 04 34.9 +0.8**
comp=Z,12nm,0.8s
MNTX Cornudas Mount 50.77 87 P **P 19 04 35.5 +1.3**
baz=314,SNR=19
G40A Rib Lake 50.80 64 *e*P **P 19 04 34.0 -0.2**
G40A *e*PcP **PcP 19 05 50.8 +0.5**
G40A Rib Lake 50.80 64 P **P 19 04 34.4 +0.2**
baz=309,SNR=6.0
MSTX Muleshoe 50.80 83 *e*P **P 19 04 35.1 +0.6**
comp=Z,22nm,0.9s
MSTX Muleshoe 50.80 83 P **P 19 04 35.2 +0.8**
baz=313,SNR=5.8
AMTX Amarillo 50.84 81 *e*P **P 19 04 35.1 +0.3**
comp=Z,18nm,0.9s

COWI **Conover** 50.86 63 *e*P P 19 04 34.6 0.0
COWI *e*PcP PcP 19 05 50.5 0.0
I39A Houston 50.95 66 *e*P P 19 04 34.7 -0.6
comp=Z,20nm,0.8s
I39A Houston 50.95 66 P P 19 04 35.4 0.0
baz=310,SNR=5.9
SUMG Summit 50.95 17 *e*P P 19 04 36.0 +0.5
comp=Z,36nm,1.2s
SUMG *e*PcP PcP 19 05 51.3 +0.4
SUMG Summit 50.95 17 *i* P P 19 04 36.1 +0.6
comp=Z,48nm,0.9s
SUMG Summit 50.95 17 *e*P P 19 04 36.0 +0.5
SUMG *e* 19 05 51.3
SUMG pmax pmax
comp=Z,36nm,1.2s
MOY Mondy 51.04 307 *e*P P 19 04 37.1 +1.0
MOY pmax pmax
comp=Z,15nm,1.5s
GDL2 Guadalupe Moun 51.04 86 *e*P P 19 04 37.1 +0.8
GDL2 *e*PcP PcP 19 05 51.4 -0.2
KSU1 Kansas State U 51.08 74 *e*P P 19 04 36.2 -0.2
comp=Z,18nm,0.9s
KSU1 *e*PcP PcP 19 05 51.8 +0.4
H40A Chili 51.10 65 P P 19 04 36.9 +0.4
baz=309,SNR=5.7
F41A Three Lakes 51.10 63 *e*P P 19 04 36.3 -0.2
comp=Z,32nm,0.9s
F41A Three Lakes 51.10 63 P P 19 04 36.3 -0.2
baz=309,SNR=9.2
J39A Decorah 51.18 67 P P 19 04 36.9 -0.2
baz=310,SNR=7.4
SCIA State Center 51.24 69 *e*P P 19 04 36.7 -0.8
comp=Z,31nm,1.1s
E42A Champion 51.31 61 P P 19 04 38.4 +0.4
baz=309
I40A Norwalk 51.44 66 P P 19 04 38.7 -0.3
baz=310
K39A Oelwein 51.48 67 P P 19 04 38.9 -0.4
baz=310,SNR=7.0
H41A Junction City 51.51 64 *e*P P 19 04 39.3 -0.2
comp=Z,24nm,1.0s
H41A *e*PcP PcP 19 05 53.0 +0.1
H41A Junction City 51.51 64 P P 19 04 39.8 +0.2
baz=310,SNR=6.4
F42A Maple Grove Fa 51.62 62 P P 19 04 40.9 +0.6
baz=309
J40A Soldiers Grove 51.68 66 P P 19 04 40.2 -0.6
baz=310
I41A Arkdale 51.75 65 *e*P P 19 04 41.2 -0.1
comp=Z,46nm,1.1s
I41A Arkdale 51.75 65 P P 19 04 41.5 +0.2
baz=310
G42A Mountain 51.79 63 *e*P P 19 04 41.4 -0.2
comp=Z,23nm,1.0s
G42A Mountain 51.79 63 P P 19 04 41.9 +0.3
baz=310,SNR=5.0
L39A Vinton 51.79 68 P P 19 04 41.6 0.0
baz=310,SNR=6.2
E43A Lone Tree Farm 51.84 61 *e*P P 19 04 41.5 -0.4
comp=Z,27nm,0.8s
E43A Lone Tree Farm 51.84 61 P P 19 04 42.4 +0.5
baz=310,SNR=5.5
K40A Colesburg 51.91 67 P P 19 04 41.8 -0.7
baz=310
TIA Tai'an 52.02 282 P P 19 04 43.1 -0.3
TIA pmax pmax
comp=Z,8.0nm,1.0s
F43A Flat Rock, Esc 52.09 62 P P 19 04 44.2 +0.4
baz=310,SNR=5.1
M39A Webster 52.11 69 P P 19 04 43.9 -0.1
baz=311,SNR=16
J41A Loganville 52.11 66 P P 19 04 43.3 -0.8
baz=310
G43A Wallace 52.18 63 *e*PcP PcP 19 05 56.3 +0.9
H42A Shiocton 52.20 64 *e*P P 19 04 44.4 -0.2
H42A *e*PcP PcP 19 05 56.2 +0.7
HHC Hu-ho-hao-te 52.22 290 *e*P P 19 04 45.3 +0.3
HHC S S 19 12 02.8 -2.6
HHC pmax pmax
comp=Z,19nm,1.0s
HHC pmax pmax
comp=Z,84nm,5.2s
HHC LR LR
comp=Z,480nm,17.3s
HHC LR LR
comp=Z,550nm,16.4s
HHC LR LR
comp=Z,590nm,16.4s
JFWS Jewell Farm 52.27 66 *e*P P 19 04 44.5 -0.6
comp=Z,24nm,1.1s
JFWS Jewell Farm 52.27 66 *e*P P 19 04 44.6 -0.6
JFWS pmax pmax
comp=Z,24nm,1.1s
L40A Anamosa 52.27 68 *e*P P 19 04 44.6 -0.6
comp=Z,48nm,1.7s
L40A Anamosa 52.27 68 P P 19 04 45.0 -0.2
baz=311
I42A Draeger Farm, 52.38 65 *e*P P 19 04 45.8 -0.2
comp=Z,23nm,0.8s
I42A Draeger Farm, 52.38 65 P P 19 04 45.7 -0.2
baz=310,SNR=5.7
F44A Big Bay de Noc 52.41 61 P P 19 04 46.3 +0.2
baz=310
K41A Shullsburg 52.44 67 P P 19 04 45.9 -0.5
baz=311,SNR=5.7
GUMO Guam 52.49 239 P P 19 04 45.0 -2.0
comp=Z,51nm,0.4s,baz=31,slow=5.9,SNR=5.9
M40A Post Highland 52.53 69 P P 19 04 46.6 -0.6
baz=311
J42A Columbus 52.64 65 P P 19 04 47.2 -0.7
baz=311
H43A Windswept, Lux 52.64 63 *e*P P 19 04 48.1 +0.2
comp=Z,37nm,0.9s
H43A *e*PcP PcP 19 05 55.9 -1.2
H43A Windswept, Lux 52.64 63 P P 19 04 48.2 +0.3
baz=310
SFJD Kangerlussuaq 52.65 25 *i* P P 19 04 46.9 -0.7
comp=Z,42nm,1.2s
SFJD Kangerlussuaq 52.65 25 *i* P P 19 04 46.9 -0.7
SFJD pmax pmax
comp=Z,42nm,1.2s
L41A Preston 52.67 67 P P 19 04 47.4 -0.8
baz=311
WMOK Wichita Mounta 52.70 80 *e*P P 19 04 48.5 0.0
WMOK Wichita Mounta 52.70 80 *e*P P 19 04 48.5 0.0
WMOK Wichita Mounta 52.70 80 P P 19 04 48.9 +0.4
baz=313,SNR=21
I43A Langenfeld Bro 52.81 64 P P 19 04 49.1 -0.1
baz=311
E45A Wooded Hills, 52.82 60 P P 19 04 49.8 +0.6
baz=310
N40A Mertquake, Sal 52.83 69 P P 19 04 48.9 -0.5
baz=311
K42A Prairie Point, 52.86 66 P P 19 04 49.2 -0.4
baz=311
J43A Natural Harves 52.99 65 P P 19 04 49.8 -0.6
baz=311
SSE Sheshan 53.06 275 *e*P P 19 04 50.9 -0.3
comp=Z,87nm,0.9s
D46A Sault St. Mari 53.08 59 P P 19 04 51.0 -0.2
baz=310
M41A Milan 53.10 68 P P 19 04 51.2 -0.2
baz=311
L42A Oliver, Polo 53.19 67 *e*P P 19 04 50.8 -1.2
comp=Z,23nm,1.0s
L42A *e*PcP PcP 19 05 57.4 -1.9
L42A Oliver, Polo 53.19 67 P P 19 04 51.1 -0.8
baz=311
BTO Baotou 53.27 291 *e*P P 19 04 51.2 -1.5
E46A Sault Ste Mari 53.28 60 P P 19 04 52.9 +0.3
baz=310
N41A Harden Midland 53.37 69 *e*P P 19 04 52.8 -0.5
comp=Z,26nm,1.0s
N41A Harden Midland 53.37 69 P P 19 04 53.0 -0.2
baz=312
K43A Burlington 53.48 65 *e*P P 19 04 53.6 -0.5
comp=Z,38nm,1.0s
K43A Burlington 53.48 65 P P 19 04 54.0 -0.1
baz=311
LTX Lajitas 53.48 88 *e*P P 19 04 54.9 +0.5
LTX Lajitas 53.48 88 *e*P P 19 04 54.9 +0.5
TX31 Lajitas Ar. Si 53.48 88 *e*PcP PcP 19 06 01.1 +0.4
TXAR Lajitas Array 53.48 88 P P 19 04 54.9 +0.5
comp=Z,15nm,0.8s,baz=296,slow=5.2,SNR=126
TXAR ScP ScP 19 09 54.1 +1.0
comp=Z,0.9nm,1.0s,baz=305,slow=3.2,SNR=3.4
TXAR LR LR 19 25 30.8
comp=Z,168nm,20.4s,baz=0.0,slow=34
L43A Garden Prairie 53.59 66 P P 19 04 54.3 -0.6
baz=311
ABTX Abilene, Hawle 53.62 82 *e*P P 19 04 55.5 +0.1
comp=Z,25nm,1.1s
ABTX Abilene, Hawle 53.62 82 P P 19 04 55.5 +0.1
baz=314,SNR=5.5
G46A Petoskey 53.66 61 P P 19 04 55.9 +0.5
baz=311
TUL1 Leonard 53.69 76 *e*P P 19 04 56.0 +0.2
comp=Z,19nm,0.8s
TUL1 Leonard 53.69 76 P P 19 04 55.7 0.0
baz=313
O41A Passleys Farm, 53.74 69 P P 19 04 55.7 -0.3
baz=312,SNR=7.6
N42A Yates City 53.75 68 P P 19 04 55.5 -0.6
baz=312
E47A Iron Bridge 53.76 59 P P 19 04 56.2 +0.1
baz=311
NJ2 Nanjing 53.82 277 *e*P P 19 04 55.4 -1.3
NJ2 pmax pmax
comp=Z,20nm,0.5s
M43A Waltham Townsh 53.96 67 P P 19 04 57.1 -0.5
baz=312
HPIG 53.98 92 *e*P P 19 04 58.0 -0.2
comp=Z,13nm,1.2s
D48A Paudash Townsh 54.06 57 P P 19 04 58.4 +0.1
baz=311
I46A Reed City 54.25 62 P P 19 05 00.0 +0.3
baz=311
Q41A Truxton 54.31 71 P P 19 05 00.0 -0.2
baz=312,SNR=6.1
HDIL Hopedale 54.35 68 *e*P P 19 04 59.9 -0.6
comp=Z,30nm,0.8s
P42A Winchester 54.40 69 *e*P P 19 04 59.7 -1.2
P42A *e*PcP PcP 19 06 04.5 +0.6
P42A Winchester 54.40 69 P P 19 05 00.3 -0.6
baz=312
H47A Mio 54.49 61 P P 19 05 01.9 +0.5
baz=312
M44A Midewin, Midew 54.51 66 *e*P P 19 05 00.8 -0.8
comp=Z,22nm,0.8s
M44A Midewin, Midew 54.51 66 P P 19 05 01.3 -0.3
baz=312
HHAR Hobbs 54.54 75 *e*P P 19 05 00.8 -1.2
comp=Z,12nm,1.1s
R41A Rosebud 54.67 71 P P 19 05 02.1 -0.7
baz=313,SNR=6.6
Q42A Golden Eagle 54.75 70 P P 19 05 03.2 -0.2
baz=313,SNR=7.4
P43A Skaggs, Pawnee 54.84 69 P P 19 05 03.9 -0.1
baz=312
N44A Piper City 54.85 67 P P 19 05 03.9 -0.2
baz=312
HVS Khovu-Aksy 54.88 310 *i* P P 19 05 04.8 +0.5
HVS pmax pmax
comp=Z,11nm,1.0s
CCM Cathedral Cave 54.91 71 *e*P P 19 05 03.2 -1.3
comp=Z,10nm,0.9s
CCM *e*PcP PcP 19 06 06.0 +0.1
CCM Cathedral Cave 54.91 71 *e*P P 19 05 03.3 -1.3
CCM *e* 19 06 06.0
CCM pmax pmax
comp=Z,10.0nm,0.9s
S41A Jillco Farms, 54.94 72 P P 19 05 03.4 -1.4
baz=313,SNR=10
R42A Luebbering 55.02 71 P P 19 05 04.9 -0.4
baz=313
JCT Junction City 55.03 84 *e*P P 19 05 05.0 -0.6
comp=Z,14nm,0.8s
JCT Junction City 55.03 84 *e*P P 19 05 05.0 -0.6
JCT pmax pmax
comp=Z,14nm,0.8s
JCT Junction City 55.03 84 P P 19 05 05.5 -0.1
baz=315,SNR=5.7
D50A G1974 Best Tow 55.07 56 P P 19 05 05.6 0.0
baz=312
U40A Yellville 55.13 74 P P 19 05 05.1 -1.1
baz=313,SNR=8.0
N45A Kentland 55.17 67 P P 19 05 06.5 +0.2
baz=312
Q43A New Douglas 55.21 70 P P 19 05 06.8 +0.1
baz=313,SNR=5.1
T41A Mountain View 55.30 73 P P 19 05 05.8 -1.6
baz=313
K47A Vermontville 55.34 63 P P 19 05 07.2 -0.4
baz=312
SCO Scoresbysund 55.34 12 *e*P P 19 05 07.3 +0.2
comp=Z,46nm,1.6s
SCO Scoresbysund 55.34 12 *i* P P 19 05 07.4 +0.2
comp=Z,9.2nm,0.5s
SCO Scoresbysund 55.34 12 *i* P P 19 05 07.4 +0.2
SCO pmax pmax
comp=Z,9.0nm,0.5s
D51A Lot 18 Range I 55.36 56 P P 19 05 07.4 -0.3
baz=312
S42A Caledonia 55.37 71 P P 19 05 07.0 -0.9
baz=313
W39A Magazine 55.37 76 *e*P P 19 05 07.1 -0.8
comp=Z,24nm,1.3s
W39A Magazine 55.37 76 P P 19 05 07.4 -0.5
baz=314
WHTX Lake Whitney, 55.39 81 *e*P P 19 05 07.6 -0.5
comp=Z,46nm,1.0s
WHTX Lake Whitney, 55.39 81 P P 19 05 08.8 +0.7
baz=315,SNR=10.0
M46A Old House Fiel 55.44 65 *e*P P 19 05 08.2 -0.2
comp=Z,20nm,0.6s
O45A Potomac 55.45 67 P P 19 05 08.3 -0.2
baz=313
R43A Red Bud 55.52 70 P P 19 05 08.7 -0.3
baz=313
Q44A Meer Farm, Va 55.62 69 *e*P P 19 05 08.9 -0.8
comp=Z,28nm,1.1s
VLDQ Val d'Or 55.64 54 *e*P P 19 05 08.3 -1.3
comp=Z,22nm,1.0s
E51A G1948 Merrick 55.67 57 P P 19 05 10.0 0.0
baz=312
U41A Viola 55.68 73 P P 19 05 09.0 -1.2
baz=314
L47A Sherwood 55.69 64 P P 19 05 09.0 -1.2
baz=313
T42A Van Buren 55.70 72 *e*P P 19 05 08.5 -1.7
T42A *e*PcP PcP 19 06 08.9 0.0
T42A Van Buren 55.70 72 P P 19 05 08.8 -1.5
baz=313
SFIN Lafayette 55.72 67 *e*P P 19 05 10.0 -0.3
comp=Z,27nm,0.9s
SFIN Lafayette 55.72 67 P P 19 05 10.6 +0.3
baz=313,SNR=6.1
F51A Arnstein 55.86 57 P P 19 05 10.2 -1.1
baz=312
M47A Cromwell 55.88 65 P P 19 05 11.5 0.0
baz=313
J49A Marlette 55.89 62 P P 19 05 10.8 -0.7
baz=313
SCHQ Schefferville 55.91 43 P P 19 05 11.6 +0.1
comp=Z,30nm,0.9s,baz=320,slow=7.6,SNR=15
SCHQ Schefferville 55.91 43 *e*P P 19 05 11.2 -0.3
comp=Z,71nm,1.3s
S43A Fulton Ridge, 55.92 71 P P 19 05 11.5 -0.3
baz=313,SNR=10.0
D52A ZEK Kipawa Sen 55.92 56 P P 19 05 12.0 +0.2
baz=313
V41A Mountainview 55.93 74 P P 19 05 11.0 -0.9
baz=314,SNR=6.6
MIAR Mount Ida 55.94 76 *e*P P 19 05 11.6 -0.4
comp=Z,32nm,0.9s
MIAR *e*PcP PcP 19 06 09.9 -0.1
MIAR Mount Ida 55.94 76 *e*P P 19 05 11.6 -0.4
MIAR *e* 19 06 09.9
MIAR pmax pmax
comp=Z,32nm,0.9s
MIAR Mount Ida 55.94 76 P P 19 05 12.3 +0.3
baz=314,SNR=11
Q45A Warren Harvey, 56.12 69 P P 19 05 13.1 -0.1
baz=313
T43A Greenville 56.13 72 P P 19 05 12.5 -0.8
baz=314,SNR=13
N47A Urbana 56.16 65 P P 19 05 12.7 -0.8
baz=313
435B Jarrell 56.16 82 P P 19 05 14.7 +1.0
baz=315
WHAR Wooly Hollow 56.19 75 *e*P P 19 05 12.4 -1.4
comp=Z,45nm,1.6s
F52A Sundridge 56.26 57 P P 19 05 14.8 +0.7
baz=313,SNR=11
OLIL Olney 56.26 69 *e*P P 19 05 13.5 -0.7
comp=Z,31nm,0.8s
E52A Mattawa 56.27 56 P P 19 05 14.2 0.0
baz=313
M48A Edgerton 56.29 64 *e*P P 19 05 13.5 -1.0
comp=Z,32nm,1.0s
M48A Edgerton 56.29 64 P P 19 05 14.2 -0.2
baz=313
W41B Gary Mavity, V 56.30 75 *e*P P 19 05 13.4 -1.1
comp=Z,20nm,1.3s
W41B Gary Mavity, V 56.30 75 P P 19 05 13.8 -0.8
baz=314
SIUC Southern Illin 56.32 70 *e*P P 19 05 13.8 -0.8
comp=Z,15nm,0.8s
O47A Sheridan 56.33 66 P P 19 05 14.1 -0.6
baz=313
V42A Cord 56.37 74 P P 19 05 13.6 -1.4
baz=314
L49A Milan 56.39 63 P P 19 05 15.3 +0.2
baz=313
X40A Basin Creek Fa 56.42 76 *e*P P 19 05 15.0 -0.4
comp=Z,12nm,0.8s
X40A Basin Creek Fa 56.42 76 P P 19 05 15.4 -0.1
baz=314
R45A Skylar, Fairfi 56.46 69 P P 19 05 15.3 -0.3
baz=314
N48A Decatur 56.55 65 P P 19 05 15.6 -0.6
baz=313
E53A Dumoine, Ponti 56.71 56 P P 19 05 17.1 -0.2
baz=313
M49A Liberty Center 56.71 64 P P 19 05 17.5 +0.1
baz=313
S45A Carrier Mills 56.71 70 P P 19 05 16.6 -0.8
baz=314
PARMO Parma 56.73 72 *e*P P 19 05 16.4 -1.2
comp=Z,77nm,1.0s
P47A Martinsville 56.79 67 P P 19 05 17.4 -0.6
baz=314
H06N1 SOCORRO T-PHAS 56.79 103 T T 20 06 58.3
SNR=5.0
ALGO Algonquin Park 56.80 56 P P 19 05 18.3 +0.3
baz=313,SNR=5.8
833A Chaparral WMA, 56.81 86 *e*P P 19 05 18.1 -0.1
comp=Z,23nm,0.8s
833A Chaparral WMA, 56.81 86 P P 19 05 18.9 +0.6
baz=316
BLO Bloomington 56.86 67 *e*P P 19 05 17.9 -0.6
comp=Z,16nm,0.8s
BLO Bloomington 56.86 67 *e*P P 19 05 17.9 -0.6
BLO pmax pmax
comp=Z,16nm,0.8s
O48A Farmland 56.89 66 P P 19 05 17.9 -0.7
baz=313,SNR=6.4
ZAA1 Zalesovo Array 56.89 317 *e*P P 19 05 18.0 -0.5
ZAA1 *e*PcP PcP 19 06 13.6 +0.3
ZAA1 *e* 19 32 02.3
ZAA0 Zalesovo Array 56.90 317 *e*PcP PcP 19 06 13.1 -0.3
ZALV Zalesovo Beam 56.90 317 P P 19 05 18.0 -0.5
comp=Z,1.3nm,0.5s,baz=55,slow=3.8,SNR=8.3
ZALV PcP PcP 19 06 13.6 +0.3
comp=Z,11nm,0.9s,baz=33,slow=3.3,SNR=15
ZALV LR LR 19 32 02.3
comp=Z,190nm,18.6s,baz=70,slow=38
ZALV Zalesovo Beam 56.90 317 *e*P P 19 05 17.8 -0.7
ZALV *e*PcP PcP 19 06 13.3 0.0
E54A Lac Daplat, Po 56.91 55 P P 19 05 18.6 -0.1
baz=313,SNR=5.4
NVS Novosibirsk 56.91 318 *e*P P 19 05 18.8 +0.2
NVS *e* 19 06 13.2
NVS pmax pmax
comp=Z,8.0nm,1.0s
NVS pmax pmax
comp=E,8.0nm,1.8s
N49A Columbus Grove 56.97 64 P P 19 05 18.7 -0.5
baz=313
Y41A Eaglette Beard 56.98 76 P P 19 05 20.4 +1.0
baz=315
USIN University of 57.04 69 *e*P P 19 05 19.1 -0.6
comp=E,48nm,0.8s
SADO Sadowa 57.05 58 *e*P P 19 05 18.8 -0.9
comp=E,28nm,0.9s
G53A Haliburton 57.08 57 P P 19 05 20.8 +0.9
baz=313,SNR=8.1
Q47A Bedord North L 57.08 68 P P 19 05 19.7 -0.4
baz=314
NATX Nacogdoches 57.24 79 *e*P P 19 05 21.6 +0.3
comp=E,25nm,0.5s
P48A Milroy 57.28 66 P P 19 05 20.7 -0.8
baz=314
Z41A Richland Creek 57.30 77 *e*P P 19 05 21.9 +0.3
comp=E,36nm,1.1s
R47A Wooly Knot Far 57.46 68 P P 19 05 22.2 -0.6
baz=314
T46A Princeton 57.55 70 P P 19 05 23.4 0.0
baz=314
X43A Marvell 57.56 74 *e*P P 19 05 23.5 0.0
comp=E,36nm,0.7s
WHN Wuhan 57.61 279 ||P P 19 05 24.2 +0.3
P49A Miami Univ. Ec 57.63 66 P P 19 05 23.1 -0.8
baz=314
WCI Wyandotte Cave 57.64 68 *e*P P 19 05 23.8 -0.2
comp=E,21nm,0.8s
WCI Wyandotte Cave 57.64 68 *e*P P 19 05 23.8 -0.2
WCI pmax pmax
comp=Z,21nm,0.8s
N50A Nevada 57.65 64 P P 19 05 24.3 +0.3
baz=314,SNR=5.4
ARA0 ARCESS Array S 57.80 353 *e*P P 19 05 24.3 -0.4
ARA0 *e*PcP PcP 19 06 16.9 +0.3
ARA0 *e*PKKSdf PKKSdf 19 30 19.7 +4.4
ARCES ARCESS Array B 57.80 353 P P 19 05 24.3 -0.4
comp=Z,4.9nm,0.4s,baz=17,slow=6.1,SNR=38
ARCES PcP PcP 19 06 16.9 +0.3
comp=Z,6.6nm,0.5s,baz=4.5,slow=4.0,SNR=10
ARCES LR LR 19 30 19.7
comp=Z,12nm,21.7s,baz=338,slow=36
ARCES ARCESS Array B 57.80 353 *e*P P 19 05 24.6 0.0
ARCES *e*PcP PcP 19 06 16.2 -0.4
ARCES ARCESS Array B 57.80 353 *e*P P 19 05 24.7 0.0
ARCES *e* 19 06 16.3
G55A Calabogie 57.96 56 P P 19 05 26.3 +0.1
baz=314
N51A Ashland 57.97 63 *e*P P 19 05 25.7 -0.6
comp=Z,37nm,1.0s
TRO Tromso 58.07 356 *e*P P 19 05 26.8 +0.3
P50A Jamestown 58.09 65 P P 19 05 26.6 -0.5
baz=314
S48A Wiedeman Farm, 58.17 68 P P 19 05 27.6 -0.1
baz=314,SNR=5.7
I55A Frankford 58.19 58 P P 19 05 27.8 +0.1
baz=314
H55A Tweed 58.21 57 P P 19 05 28.1 +0.2
baz=314,SNR=5.3
WVT Waverly 58.22 71 *e*P P 19 05 27.7 -0.4
comp=Z,54nm,1.8s
WVT Waverly 58.22 71 *e*P P 19 05 27.7 -0.4
WVT pmax pmax
comp=Z,55nm,1.8s
V46A Holladay 58.28 71 P P 19 05 28.4 -0.1
baz=315
J54A Appleton 58.34 59 P P 19 05 29.7 +0.8
baz=314
Y44A Strider, Charl 58.34 74 P P 19 05 28.8 -0.2
baz=315
T48A Bowling Green 58.36 69 P P 19 05 28.4 -0.6
baz=314
O51A Pataskala 58.38 64 P P 19 05 29.0 -0.1
baz=314
XAN Xi'an 58.38 286 P P 19 05 28.8 -0.5
XAN pmax pmax
comp=Z,14nm,1.2s
XAN pmax pmax
comp=Z,91nm,4.6s
XAN Xi'an 58.38 286 *e*P P 19 05 28.6 -0.7
comp=Z,25nm,1.1s
XAN *e*PcP PcP 19 06 19.6 0.0
XAN Xi'an 58.38 286 *e*P P 19 05 28.6 -0.7
XAN *e* 19 06 19.6
XAN pmax pmax
comp=Z,25nm,1.1s
OXF Oxford 58.43 73 *e*P P 19 05 29.6 0.0
comp=Z,65nm,0.9s
OXF *e*PcP PcP 19 06 18.6 -1.1
OXF Oxford 58.43 73 *e*P P 19 05 29.6 0.0
OXF *e* 19 06 18.6
OXF pmax pmax
comp=Z,65nm,0.9s
OXF Oxford 58.43 73 P P 19 05 29.9 +0.3

baz=315,SNR=7.6
ERPA Erie 58.43 61 *e*P P 19 05 29.6 +0.1
comp=Z,201nm,2.0s
KTK1 Kautokeino 58.47 354 *e*P P 19 05 29.7 +0.4
SSLB Suanglung 58.48 269 *e*P P 19 05 29.5 -0.5
comp=Z,32nm,0.7s
S49A Springfield 58.52 68 P P 19 05 29.5 -0.7
baz=314
LVZ Lovozero 58.54 349 *e*P P 19 05 29.0 -0.9
comp=Z,38nm,1.0s
LVZ Lovozero 58.54 349 *ce*P P 19 05 29.1 -0.9
LVZ pmax pmax
comp=Z,12nm,1.7s
V47A Nunnelly 58.61 71 P P 19 05 30.1 -0.7
baz=315
H56A Elgin 58.66 57 P P 19 05 31.3 +0.3
baz=315
ALLY Alegheny Colle 58.67 61 *e*P P 19 05 30.6 -0.6
comp=Z,78nm,1.0s
U48A Cassie Pea, Po 58.69 70 P P 19 05 31.8 +0.4
baz=315,SNR=7.4
R50A Paris 58.72 67 P P 19 05 31.6 +0.1
baz=315
Q51A Peebles 58.75 66 *e*P P 19 05 31.1 -0.6
comp=Z,20nm,0.8s
Q51A *e*PcP **PcP** 19 06 20.1 -0.8
Q51A Peebles 58.75 66 P P 19 05 31.8 0.0
baz=314
DGZ Jazzator, Alta 58.77 312 *i* P P 19 05 31.7 -0.3
DGZ pmax pmax
comp=Z,2.0nm,1.0s
Y45A Yeager Farm, C 58.80 74 P P 19 05 32.3 +0.1
baz=315
O52A Adamsville 58.82 64 *e*P P 19 05 31.2 -1.0
comp=Z,46nm,1.0s
O52A Adamsville 58.82 64 P P 19 05 31.8 -0.4
baz=314
T49A Edmonton 58.85 69 *e*P P 19 05 32.1 -0.4
comp=Z,18nm,1.1s
T49A Edmonton 58.85 69 P P 19 05 31.8 -0.7
baz=315
PLAL Pickwick Lake 58.88 72 *e*P P 19 05 31.5 -1.2
comp=Z,18nm,0.9s
N53A Lisbon 58.88 62 P P 19 05 32.4 -0.2
baz=314
ZAIG Zacatecas 58.94 93 *e*P P 19 05 33.0 -0.6
comp=Z,6.8nm,0.9s
W47A Westpoint 58.97 71 P P 19 05 32.7 -0.6
baz=315
K55A Perry 59.02 59 P P 19 05 34.0 +0.4
baz=315
M54A Oil Creek Stat 59.03 61 *e*P P 19 05 32.8 -0.8
comp=Z,29nm,0.9s
M54A Oil Creek Stat 59.03 61 P P 19 05 33.2 -0.5
baz=315
Z45A Winona 59.07 74 *e*P P 19 05 33.4 -0.6
comp=Z,25nm,0.6s
V48A Smith Brothers 59.07 71 *e*P P 19 05 33.8 -0.3
comp=Z,42nm,1.7s
V48A Smith Brothers 59.07 71 P P 19 05 34.2 +0.1
baz=315
S50A Richmond 59.09 67 P P 19 05 33.9 -0.2
baz=315
MMNY Mt. Morris Dam 59.10 59 *e*P P 19 05 33.8 -0.4
comp=Z,30nm,1.0s
R51A Hillsboro 59.12 66 P P 19 05 34.6 +0.3
baz=315,SNR=9.7
TWG Pinlang 59.12 268 *e*P P 19 05 35.6 +1.1
comp=Z,127nm,1.1s
U49A Red Boiling Sp 59.13 69 P P 19 05 34.3 -0.1
baz=315
Y46A Houston 59.20 73 P P 19 05 34.8 -0.1
baz=315
N54A Moraine State 59.23 62 *e*P P 19 05 34.2 -0.8
comp=Z,34nm,1.1s
N54A Moraine State 59.23 62 P P 19 05 35.2 +0.1
baz=315
LNIG Linares 59.26 88 *e*P P 19 05 34.0 -1.4
comp=Z,6.0nm,0.7s
T50A Nancy 59.31 68 P P 19 05 35.3 -0.3
baz=315
X47A Russelville 59.33 72 P P 19 05 35.4 -0.5
baz=315
VBMS Vicksburg 59.39 76 *e*P P 19 05 36.4 +0.1
comp=Z,59nm,0.9s
244A Avery, Jackson 59.42 76 P P 19 05 37.4 +1.0
baz=316,SNR=7.4
W48A Pulaski 59.43 71 P P 19 05 36.1 -0.4
baz=315,SNR=6.9
145A Houston Renfro 59.47 75 P P 19 05 37.3 +0.5
baz=316
LONY Lake Ozonia 59.49 56 *e*P P 19 05 36.9 +0.1
comp=Z,58nm,1.5s
P53A Whipple 59.51 64 *e*P P 19 05 36.1 -0.9
comp=Z,14nm,0.7s
P53A Whipple 59.51 64 P P 19 05 37.0 0.0
baz=315
O54A Avella 59.57 63 P P 19 05 37.1 -0.3
baz=315
S51A Beattyville 59.58 67 *e*P P 19 05 36.0 -1.4
comp=Z,33nm,1.5s
V49A McMinnville 59.58 70 P P 19 05 37.0 -0.5
baz=315
R52A Catlettsburg 59.62 66 P P 19 05 37.7 -0.1
baz=315
U50A Jamestown 59.73 69 P P 19 05 38.4 -0.2
baz=315
Y47A UCPARC, Winfie 59.77 73 P P 19 05 38.8 -0.1
baz=316,SNR=9.4
GTA Gaotai 59.81 296 ⇑P P 19 05 38.3 -0.9
GTA pP pP 19 05 51.3 -3.5
GTA sP sP 19 05 55.4 -5.9
GTA PcP **PcP** **19 06 25.0 -0.3**
GTA S **S** **19 13 44.1 -2.0**
GTA sS pS 19 14 03.8 -0.2
GTA SS **SS** **19 17 41.7 -0.6**
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA pmax pmax
comp=Z,58nm,8.6s
GTA LR LR
comp=Z,180nm,19.0s
GTA LR LR
comp=Z,190nm,19.4s
GTA LR LR
comp=Z,370nm,18.7s
W49A Belvidere 59.83 71 P P 19 05 38.1 -1.2
baz=315
X48A Hartselle 59.85 72 *e*P P 19 05 38.3 -1.1
comp=Z,14nm,0.9s
X48A Hartselle 59.85 72 P P 19 05 38.9 -0.6
baz=316,SNR=5.2
T51A Gray 59.85 68 P P 19 05 38.8 -0.6
baz=315
LZH Lanzhou 59.89 291 *e*P P 19 05 39.3 -0.6
LZH pP sP 19 05 57.1 -4.9
LZH PcP **PcP** **19 06 26.4 +0.7**
LZH PP **PP** **19 07 56.4 +4.3**
LZH SS SS 19 17 44.1 +0.3
LZH pmax pmax
comp=Z,35nm,0.9s
LZH pmax pmax
comp=Z,160nm,5.2s
LZH LR LR
comp=Z,600nm,16.5s
LZH LR LR
comp=Z,620nm,16.3s
LZH LR LR
comp=Z,740nm,18.4s
245A Little AP, Sta 59.90 76 P P 19 05 39.9 +0.2
baz=316
STEI Steigen 59.90 357 *e*P P 19 05 39.1 -0.1
N55A Marion Center 59.90 61 P P 19 05 40.0 +0.3
baz=315,SNR=5.3
SWET Sewanee 59.95 70 *e*P P 19 05 39.1 -1.0
comp=Z,55nm,1.9s
146A Union 59.96 75 *e*P P 19 05 40.1 -0.1
comp=Z,56nm,0.7s
146A Union 59.96 75 P P 19 05 40.9 +0.7
baz=316
V50A Pikevile 60.11 69 P P 19 05 40.3 -0.8
baz=316
NCB Newcomb 60.13 56 *e*P P 19 05 41.2 0.0
comp=Z,112nm,1.9s
O55A Ligonier 60.14 62 P P 19 05 41.4 +0.1
baz=315
Z47A Carrollton 60.14 73 P P 19 05 41.3 -0.1
baz=316,SNR=8.2

MOQ Mont Orford 60.16 54 *e*P P 19 05 40.7 -0.7
Y48A Jasper 60.16 72 P P 19 05 40.9 -0.7
baz=316
X49A Woodville 60.23 71 P P 19 05 41.3 -0.7
baz=316,SNR=6.2
MCWV Mont Chateau 60.23 63 *e*P P 19 05 41.7 -0.2
comp=Z,21nm,1.1s
Z48A Northport 60.32 73 P P 19 05 42.4 -0.2
baz=316,SNR=6.4
W50A Signal Mountai 60.32 70 *e*P P 19 05 42.2 -0.5
comp=Z,15nm,1.0s
W50A Signal Mountai 60.32 70 P P 19 05 42.7 0.0
baz=316
TZTN Tazewell 60.38 68 *e*P P 19 05 42.7 -0.3
comp=Z,15nm,1.0s
147A Livingston 60.40 74 *e*P P 19 05 42.8 -0.3
comp=Z,46nm,0.9s
147A Livingston 60.40 74 P P 19 05 43.3 +0.2
baz=316
V51A Loudon 60.45 69 *e*P P 19 05 42.9 -0.6
comp=Z,12nm,0.8s
BINY Binghamton 60.49 58 *e*P P 19 05 43.8 +0.1
comp=Z,133nm,1.9s
O56A Blue Knob Stat 60.49 61 *e*P P 19 05 43.5 -0.3
comp=Z,30nm,1.0s
O56A Blue Knob Stat 60.49 61 P P 19 05 43.8 0.0
baz=316
Q55A Buckhannon 60.57 63 P P 19 05 45.0 +0.7
baz=316,SNR=5.6
U52A Thorn Hill 60.59 68 P P 19 05 44.4 0.0
baz=316
SSPA Standing Stone 60.59 61 *e*P P 19 05 44.3 -0.1
comp=Z,24nm,0.9s
247A Quitman 60.64 75 P P 19 05 44.8 -0.1
baz=316
Y49A Blount Mountai 60.64 72 *e*P P 19 05 43.5 -1.3
comp=Z,18nm,1.1s
Y49A Blount Mountai 60.64 72 P P 19 05 43.9 -0.9
baz=316
X50B Fort Payne 60.65 71 P P 19 05 44.7 -0.2
baz=316,SNR=5.3
W51A Cleveland 60.67 70 P P 19 05 44.6 -0.4
baz=316
ENH Enshi 60.73 282 *e*P P 19 05 44.8 -0.7
comp=Z,31nm,1.2s
148A Greensboro 60.83 74 P P 19 05 45.8 -0.3
baz=316
V52A Sevierville 60.85 68 *e*P P 19 05 45.4 -0.8
comp=Z,72nm,1.9s
V52A Sevierville 60.85 68 P P 19 05 45.8 -0.4
baz=316
TKL Tuckaleechee C 60.88 69 *e*P P 19 05 45.6 -0.8
comp=Z,12nm,0.9s
TKL Tuckaleechee C 60.88 69 *e*P P 19 05 45.6 -0.8
TKL pmax pmax
comp=Z,12nm,0.9s
LRAL Lakeview Retre 60.89 73 *e*P P 19 05 45.6 -0.9
comp=Z,16nm,1.0s
X51A Calhoun 61.04 70 *e*P P 19 05 46.5 -1.0
comp=Z,44nm,1.4s
Z49A Columbiana 61.05 72 P P 19 05 46.8 -0.8
baz=316,SNR=10
U53A Fall Branch 61.05 67 P P 19 05 47.6 -0.1
baz=316
KSPA Keystone Colle 61.06 59 *e*P P 19 05 47.4 -0.2
comp=Z,84nm,1.7s
LBNH Lisbon 61.09 54 *e*P P 19 05 47.9 +0.2
comp=Z,109nm,1.8s
LBNH Lisbon 61.09 54 *e*P P 19 05 47.9 +0.2
LBNH pmax pmax
comp=Z,109nm,1.8s
248A Dixon Mills 61.13 74 P P 19 05 48.8 +0.7
baz=316
W52A Murphy 61.19 69 *e*P P 19 05 47.3 -1.3
comp=Z,32nm,1.5s
PQI Presque Isle 61.22 50 *e*P P 19 05 47.5 -1.0
comp=Z,87nm,1.6s
149A Jones 61.32 73 P P 19 05 49.3 -0.1
baz=316,SNR=6.4
FUNA Funafuti 61.33 192 *e*P P 19 05 48.9 -0.6
comp=Z,250nm,1.6s
KONS Konsvik 61.38 358 *e*P P 19 05 49.3 0.0
Y51A Rockmart 61.40 71 P P 19 05 49.0 -0.9
baz=316
V53A Saluda 61.42 68 *e*P P 19 05 49.6 -0.5
comp=Z,31nm,1.5s
V53A Saluda 61.42 68 P P 19 05 50.2 +0.1
baz=316
PAGS Pennsylvania G 61.51 60 *e*P P 19 05 50.8 +0.2
comp=Z,23nm,1.0s
N59A State Game Lan 61.52 59 *e*P P 19 05 51.0 +0.3
comp=Z,19nm,1.0s
N59A State Game Lan 61.52 59 P P 19 05 51.2 +0.5
baz=316
348A Jackson 61.52 75 *e*P P 19 05 51.1 +0.3
comp=Z,63nm,0.9s
348A Jackson 61.52 75 P P 19 05 51.8 +1.1
baz=316
X52A Dahlonega 61.56 69 P P 19 05 50.0 -1.1
baz=316
249A Camden 61.58 74 P P 19 05 50.9 -0.3
baz=316
BLA Blacksburg 61.66 65 *e*P P 19 05 51.8 +0.1
comp=Z,35nm,0.9s
BLA Blacksburg 61.66 65 P P 19 05 52.4 +0.7
BLA pmax pmax
comp=Z,35nm,0.9s
BLA Blacksburg 61.66 65 P P 19 05 52.5 +0.7
baz=316,SNR=6.9
BATG Bathurst New B 61.68 48 *e*P P 19 05 51.8 +0.1
comp=Z,56nm,0.9s
MOR8 Moi Rana 61.69 358 *e*P P 19 05 50.2 -1.2
Z51A Franklin 61.75 71 P P 19 05 51.5 -0.8
baz=316
150A Eclectic 61.77 72 P P 19 05 51.4 -1.1
baz=316
KURK Kurchatov 61.85 318 *e*P P 19 05 51.6 -1.1
comp=Z,8.8nm,1.1s
KURK *e*PcP **PcP** 19 06 33.0 -0.2
KURK Kurchatov 61.85 318 *ce*P P 19 05 51.8 -0.9
KURK pmax pmax
comp=Z,6.0nm,0.8s
X53A Estanollee 61.98 69 P P 19 05 53.5 -0.3
baz=316
349A Repton 61.98 74 P P 19 05 54.5 +0.6
baz=317
Y52A Lilburn 62.00 70 P P 19 05 53.5 -0.5
baz=316
ODNJ Ogdensburg 62.01 58 *e*P P 19 05 54.2 +0.3
comp=Z,15nm,0.8s
SDMD Soldier's Deli 62.03 61 *e*P P 19 05 53.7 -0.5
comp=Z,14nm,1.1s
250A Grady 62.08 73 P P 19 05 54.4 -0.1
baz=317
151A Opelika 62.23 72 P P 19 05 54.4 -1.2
baz=317
Y53A Monroe 62.28 70 P P 19 05 55.3 -0.6
baz=316
BRNJ Basking Ridge 62.32 59 *e*P P 19 05 56.4 +0.4
comp=Z,25nm,0.9s
PAL Palisades 62.43 58 *e*P P 19 05 56.7 0.0
comp=Z,28nm,1.0s
PAL Palisades 62.43 58 P P 19 05 57.5 +0.8
PAL pmax pmax
comp=Z,28nm,1.0s
PAL Palisades 62.43 58 P P 19 05 56.7 0.0
baz=317
152A Waverly Hall 62.48 72 P P 19 05 56.0 -1.2
baz=317
251A Midway 62.49 72 P P 19 05 56.5 -0.8
baz=317
R58B Mineral 62.52 63 P P 19 05 57.8 +0.4
baz=317
KMSC Kings Mountain 62.63 67 *e*P P 19 05 57.8 -0.4
comp=Z,22nm,0.8s
KMSC Kings Mountain 62.63 67 P P 19 05 58.2 0.0
baz=317,SNR=5.5
Z53A Monticello 62.70 70 P P 19 05 57.8 -0.9
baz=317
PRGR Permogore 62.72 342 *e*P P 19 05 57.1 -1.2
PRGR *e* 19 06 36.6
PRGR pmax pmax
comp=Z,18nm,0.8s
HODGE Hodges 62.77 69 *e*P P 19 05 58.3 -0.8
comp=Z,14nm,0.8s
Y54A Tignall 62.79 69 P P 19 05 59.1 -0.1
baz=317
WMQ Urumqi 62.93 307 P P 19 06 00.6 +0.5

WMQ pP pP 19 06 17.1 +1.3
WMQ sP sP 19 06 22.7 +0.3
WMQ PcP **PcP** **19 06 36.2 -1.6**
WMQ pmax pmax
comp=Z,29nm,0.7s
WMQ pmax pmax
comp=Z,390nm,4.9s
WMQ LR LR
comp=Z,380nm,20.5s
WMQ LR LR
comp=Z,440nm,27.3s
WMQ LR LR
comp=Z,280nm,32.3s
252A Lumpkin 62.96 72 P P 19 05 59.8 -0.6
baz=317
351A Pinckard 62.97 73 P P 19 06 00.0 -0.5
baz=317
Z54A Sparta 63.16 70 P P 19 06 01.1 -0.6
baz=317
352A Blakely 63.22 73 P P 19 06 02.2 +0.1
baz=317
MK31 Makanchi Array 63.24 313 *e*P P 19 06 01.5 -0.6
MK31 Makanchi Array 63.24 313 P P 19 06 01.7 -0.4
comp=Z,1.1nm,0.5s,baz=48,slow=5.8,SNR=46
MK31 Makanchi Array 63.24 313 *e*P P 19 06 01.5 -0.6
MK32 Makanchi Array 63.24 313 *e*P P 19 06 00.9 -1.2
MK32 *e* 19 36 31.2
MKAR Makanchi Array 63.24 313 P P 19 06 00.9 -1.2
comp=Z,1.4nm,0.3s,baz=46,slow=6.3,SNR=61
MKAR LR LR 19 36 31.2
comp=Z,168nm,18.7s,baz=14,slow=39
MKAR Makanchi Array 63.24 313 *e*P P 19 06 01.4 -0.7
comp=Z,19nm,1.0s
MKAR Makanchi Array 63.24 313 *i* P P 19 06 01.7 -0.4
MKAR pmax pmax
comp=Z,1.0nm,0.3s
BRVK Borovoye 63.25 324 *e*P P 19 06 01.5 -0.5
comp=Z,14nm,0.9s
BRVK Borovoye 63.25 324 *i* P P 19 06 01.7 -0.3
BRVK pmax pmax
comp=Z,13nm,1.0s
MK01 Makanchi Array 63.26 313 *e*P P 19 06 00.9 -1.3
JSC Jenkinsville 63.30 68 *e*P P 19 06 02.2 -0.4
comp=Z,15nm,1.0s
JSC Jenkinsville 63.30 68 *e*P P 19 06 02.2 -0.4
JSC pmax pmax
comp=Z,15nm,1.0s
SVE Sverdlovsk 63.30 331 *e*P P 19 06 03.4 +1.1
SVE pmax pmax
comp=Z,14nm,1.0s
MAKZ Makanchi 63.37 313 *e*P P 19 06 02.2 -0.7
comp=Z,3.0nm,0.5s
CD2 Chengdu 63.66 287 *e*P P 19 06 04.8 -0.3
CD2 S **S** **19 14 34.3 -0.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,270nm,11.1s
CD2 LR LR
comp=Z,340nm,7.4s
DRLN Deer Lake 63.90 42 *e*P P 19 06 07.0 +0.6
comp=Z,83nm,1.0s
ARU Arti 64.25 332 *e*P P 19 06 07.8 -0.7
comp=Z,14nm,1.1s
ARU Arti 64.25 332 *c i*P P 19 06 07.8 -0.7
ARU 19 06 41.3
ARU 19 08 27.3
ARU S **S** **19 14 44.1 +2.8**
ARU SS **SS** **19 18 51.9 +1.4**
ARU pmax pmax
comp=Z,13nm,1.0s
KLMR Klimovskoe 64.55 344 *e*P P 19 06 08.5 -1.8
KLMR pmax pmax
comp=Z,17nm,1.5s
KLMR Klimovskoe 64.55 344 *e*P P 19 06 08.6 -1.8
KLMR AMP 19 06 12.0
comp=Z,17nm,1.4s
GYA Guiyang 65.20 282 P P 19 06 16.3 +0.9
GYA pP pP 19 06 31.2 +0.1
GYA PP **PP** **19 08 42.8 +3.7**
GYA S **S** **19 14 53.0 -1.2**
GYA SKS **SKSac** **19 16 01.8 -3.6**
GYA SS **SS** **19 19 07.7 +0.6**
GYA pmax pmax
comp=Z,40nm,0.9s
GYA pmax pmax
comp=Z,130nm,6.4s
GYA LR LR
comp=Z,420nm,20.6s
GYA LR LR
comp=Z,410nm,21.4s
GYA LR LR
comp=Z,400nm,20.2s
FIA0 FINESS Array S 65.72 351 *e*P P 19 06 17.1 -0.8
FIA0 *e*PcP **PcP** **19 06 48.8 -0.1**
FIA0 *e* 19 35 22.0
FIA0 FINESS Array S 65.72 351 *e*P P 19 06 17.2 -0.8
FIA0 *e* 19 06 48.8
FINES FINESS Array B 65.72 351 P P 19 06 17.1 -0.8
comp=Z,3.3nm,0.4s,baz=11,slow=8.8,SNR=30
FINES PcP **PcP** **19 06 48.8 -0.1**
comp=Z,6.0nm,0.6s,baz=21,slow=4.8,SNR=8.8
FINES LR LR 19 35 22.0
comp=Z,220nm,21.7s,baz=350,slow=36
FINES FINESS Array B 65.72 351 *i P* P 19 06 17.6 -0.4
FINES pmax pmax
comp=Z,4.0nm,0.6s
AKN Aaknes 65.74 1 *e*P P 19 06 19.2 +1.1
TGY Tagaytay City 65.84 262 LR LR 19 34 52.0
comp=Z,38nm,19.2s,baz=121,slow=36
NC204 NORSAR Array S 66.66 359 *e*P P 19 06 23.8 -0.3
NC303 NORSAR Array S 66.70 359 *e*P P 19 06 23.8 -0.5
NC405 NORSAR Array S 66.81 359 *e*P P 19 06 25.0 0.0
NB201 NORSAR Array S 66.88 359 *e*P P 19 06 25.3 -0.1
NB2 NORSAR Subarra 66.89 359 P P 19 06 25.4 -0.1
comp=Z,4.1nm,0.5s,baz=0.8,slow=6.9
NB2 NORSAR Subarra 66.89 359 P P 19 06 25.4 -0.1
baz=0.8,slow=6.9
NB200 NORSAR Array S 66.89 359 *e*P P 19 06 25.1 -0.4
NB200 *e* 19 38 01.6
NOA NORSAR Array B 66.89 359 P P 19 06 25.1 -0.4
comp=Z,4.0nm,0.5s,baz=2.1,slow=6.5,SNR=44
NOA LR LR 19 38 01.6
comp=Z,68nm,18.4s,baz=195,slow=38
NORES NORESS Array B 67.19 359 P P 19 06 27.2 -0.2
NORES pmax pmax
comp=Z,2.0nm,0.4s
KONO Kongsberg 68.30 360 *e*P P 19 06 34.4 +0.1
comp=Z,26nm,1.3s
KONO Kongsberg 68.30 360 *e*P P 19 06 34.4 +0.1
KONO pmax pmax
comp=Z,26nm,1.3s
KONO Kongsberg 68.30 360 *e*P P 19 06 34.3 0.0
BLS5 Blasjo 68.50 2 *e*P P 19 06 35.8 +0.2
KMI Kunming 68.55 284 P P 19 06 36.7 0.0
KMI pP pP 19 06 51.1 -1.4
KMI sP PcP 19 06 59.4 -2.1
KMI pmax pmax
comp=Z,23nm,1.2s
KMI pmax pmax
comp=Z,160nm,3.9s
KMI LR LR
comp=Z,190nm,20.6s
KMI LR LR
comp=Z,240nm,21.0s
KMI LR LR
comp=Z,190nm,25.3s
VSU Vasula 68.59 350 *i* P P 19 06 36.4 +0.2
VSU pmax pmax
comp=Z,32nm,0.8s
FRU Bishkek 69.74 315 *e*P P 19 06 45.0 +1.4
PMOR Pomariorio Ree 69.95 157 *e*T T 20 22 55.3
comp=Z,9.5nm,0.2s
AAK Ala-Archa 69.95 315 *e*P P 19 06 45.1 0.0
comp=Z,5.5nm,0.9s
AAK Ala-Archa 69.95 315 *ce*P P 19 06 45.5 +0.4
AAK pmax pmax
comp=Z,7.0nm,1.7s
ABKAR Akbulak array 70.01 327 *e*P P 19 06 44.7 -0.4
NRN Naryn 70.25 313 *e*P P 19 06 46.8 -0.4
comp=Z,3.3nm,0.8s
NRN Naryn 70.25 313 *e*P P 19 06 46.8 -0.4
NRN pmax pmax

comp=Z,3.0nm,0.8s
OBN Obninsk 70.50 344 *e*P **P 19 06 47.4 -0.6**
OBN *e* 19 07 08.3
OBN *e* 19 09 20.1
OBN pmax pmax
comp=Z,37nm,2.5s
OBN MLR MLR
comp=Z,275nm,21.0s
KK31 Karatay Array 71.27 317 *e*P **P 19 06 52.9 0.0**
KK31 Karatay Array 71.27 317 *e*P **P 19 06 52.9 0.0**
KKAR Karatay Array 71.27 317 *e*P **P 19 06 52.9 0.0**
KKAR Karatay Array 71.27 317 *e*P **P 19 06 52.9 0.0**
LSA Lhasa 71.77 295 *e*P **P 19 06 56.1 -0.5**
comp=Z,15nm,0.6s
LSA Lhasa 71.77 295 *e*P **P 19 06 56.2 -0.5**
LSA pmax pmax
comp=Z,15nm,0.6s
SIJI Sorong 71.87 243 P **P 19 06 55.9 -0.9**
comp=Z,20nm,0.8s,baz=32,slow=5.6,SNR=13
PPT2 Papeete2 72.05 159 *e*LR LR 19 28 53.8
comp=Z,371nm,30.5s
PPT2 Papeete2 72.05 159 *e*T T 20 25 34.3
comp=Z,12nm,0.3s
TIAR Tiarei 72.07 159 *e*T T 20 25 35.4
comp=Z,6.7nm,0.3s
PAE Paea 72.12 159 *e*T T 20 25 39.4
comp=Z,2.5nm,0.3s
BSD Bornholm Skovb 72.75 357 *i* P **P 19 07 01.6 +0.1**
comp=Z,5.9nm,0.4s
BSD Bornholm Skovb 72.75 357 *i* P **P 19 07 01.6 +0.1**
BSD pmax pmax
comp=Z,6.0nm,0.4s
KLNR Kaliningrad 72.98 353 *i* P **P 19 07 02.6 -0.2**
KLNR pmax pmax
comp=Z,66nm,1.0s
FAKI Fak Fak 73.05 241 *e*P **P 19 07 02.7 -1.2**
comp=Z,24nm,1.1s
FAKI Fak Fak 73.05 241 P **P 19 07 03.8 0.0**
comp=Z,22nm,1.3s
SUW Suwalki 73.33 352 *e*P **P 19 07 03.7 -1.2**
comp=Z,58nm,1.1s
SUW Suwalki 73.33 352 *e*P **P 19 07 03.7 -1.2**
SUW pmax pmax
comp=Z,58nm,1.1s
BTK Batken 73.65 315 *e*P **P 19 07 07.0 -0.2**
comp=Z,9.5nm,1.3s
BTK Batken 73.65 315 *e*P **P 19 07 07.0 -0.2**
BTK pmax pmax
comp=Z,10.0nm,1.3s
SKNT Sakolnakorn 73.99 277 P **P 19 07 09.8 +0.4**
comp=Z,28nm,1.1s
SHL Shillong 74.54 292 *e*P **P 19 07 11.3 -1.5**
comp=Z,20nm,0.4s
SHL Shillong 74.54 292 *e*P **P 19 07 11.3 -1.5**
SHL pmax pmax
comp=Z,20nm,0.4s
RETH Rethem/Aller, 75.22 0 *e*P **P 19 07 16.9 +1.0**
comp=Z,19nm,1.1s,baz=1.6,slow=5.6
LAMP Lampang 75.43 281 P **P 19 07 18.8 +1.1**
comp=Z,7.3nm,1.0s
NRDL Niedersach Rie 75.47 360 *e*P **P 19 07 18.2 +0.9**
comp=Z,17nm,1.2s,baz=1.6,slow=5.6
UTTA Uttaradit 75.47 280 P **P 19 07 18.3 +0.3**
comp=Z,17nm,1.0s,comp=Z,132nm
CMMT Chiang Mai 75.62 282 P **P 19 07 18.6 -0.2**
comp=Z,21nm,1.3s
CHTO Chiang Mai 75.62 282 *e*P **P 19 07 18.1 -0.7**
comp=Z,32nm,1.3s
CHTO Chiang Mai 75.62 282 *e*P **P 19 07 18.1 -0.7**
CHTO pmax pmax
comp=Z,32nm,1.3s
CHTO Chiang Mai 75.62 282 P **P 19 07 18.7 -0.1**
comp=Z,93nm,1.3s
IBBN Ibbenburen 75.65 1 *e*P **P 19 07 19.4 +1.0**
comp=Z,33nm,1.1s,baz=1.6,slow=5.6
ASSE Asse, Remlinge 75.83 359 *e*P **P 19 07 20.2 +0.8**
comp=Z,21nm,1.5s,baz=1.6,slow=5.6
CM31 Chiang Mai Arr 75.89 282 *e*P **P 19 07 20.7 +0.3**
CMAR Chiang Mai Arr 75.89 282 P **P 19 07 20.8 +0.4**
comp=Z,19nm,0.9s,baz=27,slow=6.3,SNR=110
CMAR LR LR 19 43 54.7
comp=Z,96nm,19.6s,baz=260,slow=38
CMAR Chiang Mai Arr 75.89 282 *i* P **P 19 07 20.7 +0.4**
CMAR pmax pmax
comp=Z,20nm,0.9s
AKASG Malin Array Be 75.91 347 P **P 19 07 18.4 -1.6**
comp=Z,5.8nm,0.6s,baz=17,slow=6.0,SNR=22
AKASG LR LR 19 46 21.9
comp=Z,117nm,18.2s,baz=345,slow=40
AKASG Malin Array Be 75.91 347 *i* P **P 19 07 18.7 -1.2**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKBB Malin Array Si 75.91 347 *e*P **P 19 07 18.9 -1.0**
comp=Z,7.1nm,0.7s
AKBB Malin Array Si 75.91 347 *e*P **P 19 07 18.9 -1.0**
AKBB pmax pmax
comp=Z,7.0nm,0.7s
CM01 Chiang Mai Arr 75.91 282 *e*P **P 19 07 20.7 +0.2**
KIEV Kiev 75.92 347 *e*P **P 19 07 19.2 -0.8**
comp=Z,6.9nm,0.7s
KIEV Kiev 75.92 347 ⇓*i*P **P 19 07 19.7 -0.3**
KIEV Kiev 75.92 347 *i* P **P 19 07 19.0 -1.0**
KIEV pmax pmax
comp=Z,9.0nm,1.0s
AK11 Malin Array Si 75.94 347 *e*P **P 19 07 18.7 -1.4**
CHAI Chaiyaphum 76.03 278 P **P 19 07 21.5 +0.4**
comp=Z,11nm,1.1s,comp=Z,91nm
GUN Gumba 76.06 298 *e*P **P 19 07 21.4 -0.2**
comp=Z,30nm,0.5s
JIRN Jiri 76.08 297 *e*P **P 19 07 21.7 -0.1**
comp=Z,48nm,0.5s
CLZ Clausthal 76.12 359 *e*P **P 19 07 22.3 +1.1**
comp=Z,18nm,1.0s,baz=1.6,slow=5.6
SUKH Sukhothai 76.23 281 P **P 19 07 24.0 +1.7**
comp=Z,9.2nm,1.2s
GTTG Gvttingen 76.42 360 *e*P **P 19 07 23.9 +1.0**
comp=Z,30nm,1.0s,baz=1.6,slow=5.6
RAMN Ramite 76.42 296 *e*P **P 19 07 23.0 -0.6**
comp=Z,27nm,0.6s
KKN Kakani 76.48 298 *e*P **P 19 07 23.6 -0.3**
PKIN Phulchoki 76.58 298 *e*P **P 19 07 23.7 -0.8**
comp=Z,18nm,0.9s
CLL Collm 76.61 358 *e*P **P 19 07 23.3 -0.6**
comp=Z,16nm,1.1s
CLL Collm 76.61 358 *e*P **P 19 07 24.2 +0.3**
comp=Z,16nm,1.1s,baz=1.6,slow=5.6
CLL Collm 76.61 358 *i* P **P 19 07 23.3 -0.6**
comp=Z,16nm,1.1s
CLL *i* PcP **PcP 19 07 34.6 -0.6**
CLL *e*pP **pP 19 07 41.0 +0.9**
CLL *e* 19 07 53.0
CLL Lm MLR 19 52 00.0
comp=N,300nm,19.9s
CLL Lm MLR 19 52 00.0
comp=E,200nm,18.4s
CLL Lm MLR 19 52 00.0
comp=Z,300nm,20.2s
CLL Collm 76.61 358 *i* P **P 19 07 23.3 -0.6**
CLL *e**PP **pP 19 07 41.0 +0.9**
CLL pmax pmax
comp=Z,137nm,1.1s
CLL MLR MLR
comp=Z,300nm,20.2s
DMN Daman 76.71 298 *e*P **P 19 07 25.0 -0.2**
NEUB Neuenburg 76.74 358 *e*P **P 19 07 25.3 +0.7**
comp=Z,28nm,1.1s,baz=1.6,slow=5.6
DZM Mont Dzumac 76.83 202 *e*LR LR 19 31 13.7
comp=Z,175nm,23.2s
DANN Dangsing 76.85 299 *e*P **P 19 07 25.6 -0.5**
comp=Z,46nm,0.7s
KSP Ksiaz 76.96 356 *e*P **P 19 07 22.5 -3.4**
KSP Ksiaz 76.96 356 *e*P **P 19 07 22.5 -3.4**
FBE Freiberg 76.99 357 *e*P **P 19 07 26.8 +0.7**
comp=Z,32nm,1.2s,baz=1.6,slow=5.6
BRG Berggiesshubel 77.02 357 *i* P **P 19 07 26.4 +0.2**
comp=Z,20nm,1.2s
BRG *e* 19 16 52.3
comp=Z,9.5nm,1.7s
comp=N,341nm,20.1s
comp=E,325nm,27.1s
comp=Z,439nm,20.7s
BRG Berggiesshubel 77.02 357 *e*P **P 19 07 26.9 +0.6**
comp=Z,20nm,1.2s,baz=1.6,slow=5.6
BRG Berggiesshubel 77.02 357 *i* P **P 19 07 26.4 +0.2**
BRG pmax pmax
comp=Z,20nm,1.2s
BRG MLR MLR
comp=N,341nm,20.1s
BRG MLR MLR
comp=E,325nm,27.1s
BRG MLR MLR
comp=Z,439nm,20.7s
MOX Moxa 77.30 359 *e*P **P 19 07 28.6 +0.7**
comp=Z,15nm,1.1s,baz=1.6,slow=5.6
UPC Upice 77.31 356 *e*P **P 19 07 28.3 +0.4**
UPC Upice 77.31 356 *e*P **P 19 07 28.3 +0.4**
MEM Membach 77.31 2 ⇑P **P 19 07 28.3 +0.4**
MEM ⇑pP **pP 19 07 42.6 -1.5**
PVCC Panska Ves 77.34 357 *e*P **P 19 07 29.5 +1.4**
PVCC Panska Ves 77.34 357 *e*P **P 19 07 29.5 +1.4**
OJC Ojcow 77.37 353 *e*P **P 19 07 27.7 -0.5**
OJC Ojcow 77.37 353 *e*P **P 19 07 27.7 -0.5**
comp=Z,16nm,1.1s
OJC Ojcow 77.37 353 *e*P **P 19 07 27.7 -0.5**
KOLN Koldanda 77.40 299 *e*P **P 19 07 28.4 -0.6**
comp=Z,26nm,1.0s
AHRW Bad Neuenahr-A 77.41 2 *e*P **P 19 07 29.2 +0.9**
comp=Z,19nm,1.2s,baz=1.6,slow=5.6
DPC Dobruska-Polom 77.45 355 *e*P **P 19 07 29.2 +0.5**
DPC Dobruska-Polom 77.45 355 *e*P **P 19 07 29.2 +0.5**
PLN Plauen 77.45 358 *e*P **P 19 07 29.3 +0.6**
comp=Z,8.9nm,1.1s,baz=1.6,slow=5.6
PYUN Piuthan 77.46 300 *e*P **P 19 07 28.8 -0.6**
comp=Z,40nm,0.9s
TANN Tannenbergstha 77.52 358 *e*P **P 19 07 30.0 +0.9**
comp=Z,48nm,1.9s,baz=1.6,slow=5.6
WERN Wernitzgruen 77.65 358 *e*P **P 19 07 30.7 +0.9**
comp=Z,12nm,1.1s,baz=1.6,slow=5.6
TBI Tubuai 77.66 160 *e*T T 20 32 34.1
comp=Z,18nm,0.3s
UMPA Umpang Tak 77.68 280 P **P 19 07 32.2 +1.7**
comp=Z,15nm,1.1s,comp=Z,116nm
KRLC Kraliky 77.70 355 *e*P **P 19 07 30.7 +0.6**
KRLC Kraliky 77.70 355 *e*P **P 19 07 30.7 +0.6**
NKC Novy Kostel 77.70 358 *e*P **P 19 07 30.8 +0.7**
NKC Novy Kostel 77.70 358 *e*P **P 19 07 30.8 +0.7**
KWP Kalwaria Pacla 77.71 351 *e*P **P 19 07 30.8 +0.7**
KWP Kalwaria Pacla 77.71 351 *e*P **P 19 07 30.8 +0.7**
TNS Taunus Mts 77.74 1 *e*P **P 19 07 31.2 +0.8**
comp=Z,15nm,1.1s,baz=1.6,slow=5.6
DOU Doupbes 77.79 3 ⇓P **P 19 07 31.3 +0.8**
GIVF Givet 77.79 3 *e*P **P 19 07 31.6 +1.0**
GIVF pmax pmax
comp=Z,15nm,1.0s
BAIF Baives 77.81 3 *e*P **P 19 07 31.0 +0.3**
BAIF pmax pmax
comp=Z,15nm,1.0s
UTHA Uthaitani 77.83 280 P **P 19 07 32.1 +0.8**
comp=Z,12nm,1.1s,comp=Z,116nm
NIL Nilore 77.85 310 *e*P **P 19 07 31.2 0.0**
comp=Z,36nm,1.4s
NIL Nilore 77.85 310 *e*P **P 19 07 31.2 0.0**
NIL pmax pmax
comp=Z,36nm,1.4s
OKC Ostrava-Krasne 77.86 354 *e*P **P 19 07 30.9 -0.1**
OKC Ostrava-Krasne 77.86 354 *e*P **P 19 07 30.9 -0.1**
PRU Pruhonice 77.89 357 *e*P **P 19 07 32.3 +1.2**
PRU Pruhonice 77.89 357 *e*P **P 19 07 32.3 +1.2**
GOPC GO Pecny, Ondr 77.95 356 *e*P **P 19 07 32.5 +1.0**
GOPC GO Pecny, Ondr 77.95 356 *e*P **P 19 07 32.5 +1.0**
MANZ Manzenberg 77.95 358 *e*P **P 19 07 32.4 +0.8**
baz=1.6,slow=5.6
MORC Moravsky Berou 77.96 355 *e*P **P 19 07 31.4 -0.2**
comp=Z,9.1nm,0.9s
MORC Moravsky Berou 77.96 355 ⇓*i*P **P 19 07 32.1 +0.5**
MORC Moravsky Berou 77.96 355 *e*P **P 19 07 31.4 -0.2**
MORC pmax pmax
comp=Z,9.0nm,0.9s
MORC Moravsky Berou 77.96 355 *e*P **P 19 07 31.6 0.0**
NIE Niedzica 78.13 353 *e*P **P 19 07 33.0 +0.6**
NIE Niedzica 78.13 353 *e*P **P 19 07 33.1 +0.6**
GRA1 Grafenberg Arr 78.26 359 *e*P **P 19 07 33.1 -0.1**
comp=Z,31nm,1.1s
GRF Grafenberg Arr 78.26 359 *e*P **P 19 07 34.6 +1.4**
comp=Z,12nm,1.2s,baz=1.6,slow=5.6
GRF Grafenberg Arr 78.26 359 *e*P **P 19 07 33.1 -0.1**
GRF pmax pmax
comp=Z,31nm,1.1s
WLF Walferdange 78.26 2 *e*P **P 19 07 34.3 +1.1**
baz=1.6,slow=5.6
WLF Walferdange 78.26 2 P **P 19 07 34.2 +1.1**
GRFO Grafenberg 78.26 359 *e*P **P 19 07 33.6 +0.4**
comp=Z,28nm,1.1s
GRFO Grafenberg 78.26 359 *e*P **P 19 07 33.6 +0.4**
GRFO pmax pmax
comp=Z,28nm,1.1s
LANS Liptovska Anna 78.46 353 *e*P **P 19 07 35.3 +1.0**
VRAC Vranov 78.47 355 ⇓*i*P **P 19 07 35.3 +0.9**
VRAC Vranov 78.47 355 P **P 19 07 35.3 +0.9**
VRAC Vranov 78.47 355 *e*P **P 19 07 34.8 +0.4**
TREC Trest 78.54 356 *e*P **P 19 07 35.8 +1.0**
TREC Trest 78.54 356 *e*P **P 19 07 35.8 +1.0**
GOF Gofitskoye 78.70 336 *e*P **P 19 07 37.4 +1.7**
GOF pmax pmax
comp=Z,60nm,1.4s
KRUC Moravsky 78.73 355 *e*P **P 19 07 36.0 +0.2**
KHC Kasperske Hory 78.77 357 *e*P **P 19 07 36.6 +0.5**
comp=Z,8.1nm,1.1s
KHC Kasperske Hory 78.77 357 *e*P **P 19 07 37.0 +0.9**
KHC *ex* x 19 08 08.5
KHC Kasperske Hory 78.77 357 *e*P **P 19 07 37.0 +0.9**
WET Wettzell 78.78 358 *e*P **P 19 07 37.1 +1.0**
comp=Z,9.2nm,1.1s,baz=1.6,slow=5.6
WET Wettzell 78.78 358 P **P 19 07 37.3 +1.2**
FLN La Foliniere 78.85 7 *e*P **P 19 07 36.1 -0.3**
FLN pmax pmax
comp=Z,111nm,1.7s
JAVC Velka Javorina 78.86 354 *e*P **P 19 07 37.9 +1.3**
KBL Kabul 79.03 314 *e*P **P 19 07 36.7 -1.3**
comp=Z,5.9nm,0.8s
KBL Kabul 79.03 314 *e*P **P 19 07 36.7 -1.3**
KBL pmax pmax
comp=Z,6.0nm,0.8s
LDF La Druitiere 79.04 6 *e*P **P 19 07 37.2 -0.3**
LDF pmax pmax
comp=Z,8.0nm,0.4s
GEC2 GERESS Array S 79.06 357 *e*P **P 19 07 37.9 +0.2**
comp=Z,14nm,1.1s
GEC2 GERESS Array S 79.06 357 *e*P **P 19 07 38.5 +0.8**
comp=Z,16nm,1.1s,baz=1.6,slow=5.6
GEC2 GERESS Array S 79.06 357 *e*P **P 19 07 37.9 +0.2**
GEC2 pmax pmax
comp=Z,14nm,1.1s
GERES GERESS Array B 79.06 357 P **P 19 07 37.8 0.0**
comp=Z,7.9nm,1.0s,baz=20,slow=4.3,SNR=35
GEA0 GERESS Array S 79.06 357 *e*P **P 19 07 37.1 -0.6**
VYHS Vyhne 79.15 354 *e*P **P 19 07 38.5 +0.4**
SGMF Saint Gilles 79.19 8 *e*P **P 19 07 38.2 -0.1**
SGMF pmax pmax
comp=Z,93nm,1.6s
GRR Gorron 79.20 7 *e*P **P 19 07 38.2 -0.1**
GRR pmax pmax
comp=Z,10.0nm,0.8s
TRPA Tarpa 79.21 351 ⇓*i*P **P 19 07 38.9 +0.5**
SMOL Smolenice 79.22 355 P **P 19 07 40.3 +1.8**
MODS Modra-Piesok 79.37 355 *e*P **P 19 07 39.5 +0.2**
BUR08 Bucovina Ar. S 79.42 349 *e*P **P 19 07 39.4 -0.3**
BUR04 Bucovina Ar. S 79.44 349 *e*P **P 19 07 40.0 +0.1**
BURAR Bucovina Array 79.44 349 ⇓*i*P **P 19 07 39.8 -0.1**
BURAR Bucovina Array 79.44 349 P **P 19 07 39.7 -0.1**
CDF Champ du Feu 79.54 1 *e*P **P 19 07 40.4 +0.1**
CDF pmax pmax
comp=Z,12nm,1.1s
BFO Black Forest 79.63 1 *e*P **P 19 07 41.4 +0.7**
comp=Z,36nm,1.9s,baz=1.6,slow=5.6
BFO Black Forest 79.63 1 *i* P **P 19 07 41.9 +1.1**
PSZ Piszkesteto 79.65 353 P **P 19 07 43.1 +2.2**
ECH Echery 79.73 2 *e*P **P 19 07 40.9 -0.4**
comp=Z,11nm,0.9s
ECH Echery 79.73 2 *e*P **P 19 07 40.9 -0.4**
ECH pmax pmax
comp=Z,11nm,0.9s
CLF Chambon-Foret 79.75 5 *e*P **P 19 07 41.7 +0.3**
comp=Z,51nm,1.1s
FUR Furstenfeldbru 79.79 359 *e*P **P 19 07 42.5 +0.9**
comp=Z,24nm,1.3s,baz=1.6,slow=5.6
KIV Kislovodsk 79.82 336 *e*P **P 19 07 41.3 -0.6**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,145nm,19.0s
CONA Conrad Observa 79.89 356 *e*P **P 19 07 43.4 +1.1**
comp=Z,19nm,1.1s,SNR=11
HAU Haudompre 79.93 2 *e*P **P 19 07 42.5 +0.1**
KBZ Khabaz 79.98 336 P **P 19 07 43.2 +0.6**
comp=Z,1.9nm,0.6s,baz=3.6,slow=3.1,SNR=6.8
KBZ LR LR 19 47 09.7
comp=Z,136nm,18.8s,baz=358,slow=39
BIZ Bicaz 80.00 348 ⇑*i*P **P 19 07 43.9 +1.1**
NCK Nalchik 80.02 335 *i* P **P 19 07 42.3 -0.7**
NCK pmax pmax
comp=Z,18nm,1.4s
SOP Sopron 80.10 355 P **P 19 07 45.7 +2.5**
HINF Hinteralfeld 80.13 2 *e*P **P 19 07 43.4 -0.1**
HINF pmax pmax
comp=Z,31nm,1.3s
RJOB Jochberg 80.19 358 *e*P **P 19 07 44.8 +1.0**
comp=Z,8.6nm,0.9s,baz=1.6,slow=5.6
UBR Ueberruh 80.28 360 *e*P **P 19 07 45.3 +0.9**
comp=Z,204nm,3.2s,baz=1.6,slow=5.6
RETA Reutte 80.47 359 *e*PcP **P 19 07 46.9 +1.5**
comp=Z,6.1nm,0.6s
GEYT Alibeck 80.56 323 P **P 19 07 45.7 -0.2**
comp=Z,8.4nm,0.6s,baz=325,slow=2.3,SNR=7.9
ARSA Arzberg 80.58 356 *e*P **P 19 07 46.8 +0.9**
comp=Z,16nm,1.2s,SNR=7.0
LOR Lormes 80.58 4 P **P 19 07 45.0 -0.9**
LOR pmax pmax
comp=Z,7.0nm,0.6s
MOTA Moosalm 80.61 359 *e*P **P 19 07 46.8 +0.5**
comp=Z,17nm,1.0s,SNR=11
WATA Walderalm 80.61 359 *e*PcP **P 19 07 47.6 +1.4**
comp=Z,4.7nm,0.5s
DAVA Damuels 80.68 360 *e*P **P 19 07 46.6 0.0**
comp=Z,15nm,1.0s
SQTA Sankt Quirin 80.74 359 *e*P **P 19 07 47.7 +0.8**
comp=Z,22nm,1.0s,SNR=11
SSF Saint Saulge 80.78 4 *e*P **P 19 07 47.2 +0.3**
SSF pmax pmax
comp=Z,12nm,0.6s
KBA Koelnbreinsper 80.83 357 *e*PcP **P 19 07 49.2 +1.8**
comp=Z,55nm,1.2s
FETA Feichten 80.94 359 *e*PcP **P 19 07 49.3 +1.3**
comp=Z,25nm,1.0s,SNR=10
PLOR Plostina 81.01 348 ⇑*i*P **P 19 07 49.8 +1.6**
PLOR Plostina 81.01 348 P **P 19 07 49.7 +1.6**
MFF Saint Martin d 81.02 7 *e*P **P 19 07 48.5 +0.3**
MFF pmax pmax
comp=Z,27nm,1.0s
AVF Avril sur Loir 81.04 4 *e*P **P 19 07 48.4 +0.1**
AVF pmax pmax
comp=Z,13nm,0.8s
DOPR Dopca 81.05 349 ⇑*i*P **P 19 07 49.9 +1.5**
SOKA Soboth 81.17 356 *e*P **P 19 07 49.8 +0.6**
comp=Z,26nm,1.1s,SNR=12
ABTA Abfaltersbach 81.19 358 *e*P **P 19 07 50.1 +0.9**
comp=Z,17nm,1.1s,SNR=8.1
SMF Signal de Mont 81.21 4 *e*P **P 19 07 49.3 +0.1**
SMF pmax pmax
comp=Z,35nm,1.1s
PERS Pernice 81.21 356 *e*P **P 19 07 49.9 +0.6**
BGF Bois d'Agland 81.25 5 *e*P **P 19 07 49.5 +0.1**
BGF pmax pmax
comp=Z,22nm,1.1s
MYKA Terra Mystica 81.27 357 *e*P **P 19 07 49.9 +0.3**
comp=Z,9.9nm,1.3s
CABF La Chapelle 81.31 2 *e*P **P 19 07 50.5 +0.6**
CABF pmax pmax
comp=Z,29nm,1.1s
FUORN Ofenpass-Fuorn 81.34 359 *e*P **P 19 07 51.0 +0.7**
comp=Z,23nm,1.1s
OBKA Obir 81.36 356 *e*PcP **P 19 07 51.1 +0.9**
comp=Z,9.7nm,1.1s
RKT Rikitea 81.37 147 *e*LR LR 19 33 23.3
comp=Z,364nm,24.0s
RKT Rikitea 81.37 147 *e*T T 20 37 11.6
comp=Z,4.5nm,0.3s
CTA Charters Tower 81.38 221 P **P 19 07 49.5 -0.7**
comp=Z,7.7nm,0.9s,baz=348,slow=3.3,SNR=6.4
CTAO Charters Tower 81.38 221 *e*P **P 19 07 50.1 -0.2**
comp=Z,20nm,1.2s
CTAO Charters Tower 81.38 221 *e*P **P 19 07 50.1 -0.2**
CTAO pmax pmax
comp=Z,21nm,1.2s
MLR Muntele Rosu 81.45 348 ⇑*i*P **P 19 07 51.6 +0.9**
TCF Toulx Ste Croi 81.48 5 *e*P **P 19 07 50.7 0.0**
TCF pmax pmax
comp=Z,19nm,1.2s
TUE Stuetta 81.50 0 *e*P **P 19 07 51.7 +0.7**
comp=Z,27nm,1.4s
VOIR 81.61 349 ⇓*i*P **P 19 07 52.9 +1.4**
VOIR 81.61 349 P **P 19 07 52.9 +1.4**
BZS Buzias 81.79 351 ⇓*i*P **P 19 07 52.2 -0.1**
BZS Buzias 81.79 351 P **P 19 07 52.2 -0.1**
GZR Gura Zlata 81.90 351 ⇓*i*P **P 19 07 52.8 -0.2**
GZR Gura Zlata 81.90 351 P **P 19 07 52.8 -0.2**
JAVS Javornik 81.99 357 *e*P **P 19 07 53.6 +0.1**
VISS Visnje 82.06 356 *i* P **P 19 07 55.4 +1.7**
BOJS Bojanci 82.34 356 *e*P **P 19 07 55.1 0.0**
LPL La Plagne 82.42 2 *e*P **P 19 07 58.1 +2.2**
LPL pmax pmax
comp=Z,5.0nm,0.8s
RJF Les Rejaudoux 82.43 6 *e*P **P 19 07 55.5 -0.1**
RJF pmax pmax
comp=Z,14nm,1.2s
LPG La Plagne 82.44 2 *e*P **P 19 07 58.4 +2.3**
LPG pmax pmax
comp=Z,8.0nm,1.1s
SSB Saint Sauveur 82.60 3 *e*P **P 19 07 56.9 +0.3**
comp=Z,9.7nm,1.0s
SSB Saint Sauveur 82.60 3 *e*P **P 19 07 56.9 +0.3**
SSB pmax pmax
comp=Z,10.0nm,1.0s
MDVR Moldovita 82.61 351 ⇑*i*P **P 19 07 56.8 +0.1**
LFF La Frestale 82.74 6 *e*P **P 19 07 57.5 +0.3**
LFF pmax pmax
comp=Z,6.0nm,0.5s
CAF Calviac 82.83 5 *e*P **P 19 07 58.1 +0.3**
CAF pmax pmax
comp=Z,16nm,1.2s
BNI Bardonecchia 82.89 2 *e*P **P 19 07 59.3 +1.1**
comp=Z,18nm,1.1s
BNI Bardonecchia 82.89 2 *e*P **P 19 07 59.3 +1.1**
BNI pmax pmax
comp=Z,18nm,1.1s
ORIF Oris-en-Rattie 83.00 3 *e*P **P 19 08 00.4 +1.6**
ORIF pmax pmax
comp=Z,7.0nm,0.8s
VIVF Saint-Julien-l 83.03 3 *e*P **P 19 08 00.2 +1.4**
VIVF pmax pmax
comp=Z,7.0nm,1.0s
MBDF Montbardon 83.21 2 *e*P **P 19 08 01.2 +1.3**
MBDF pmax pmax
comp=Z,8.0nm,0.9s
DIVS Divibare 83.44 352 *e*P **P 19 08 00.4 -0.6**
comp=Z,9.9nm,1.2s
SBF Sospel 84.09 1 *e*P **P 19 08 04.7 +0.4**
SBF pmax pmax
comp=Z,31nm,1.1s
FRF La Foret Royal 84.38 2 *e*P **P 19 08 06.1 +0.4**
FRF pmax pmax
comp=Z,15nm,0.9s
SJPF Ste Jean 84.41 8 *e*P **P 19 08 06.4 +0.5**
SJPF pmax pmax
comp=Z,14nm,1.2s
EPF Esparros 84.61 7 *e*P **P 19 08 05.8 -1.2**
EPF pmax pmax
comp=Z,13nm,1.1s
VTS Vitosha 84.63 350 *e*P **P 19 08 06.7 -0.4**
comp=Z,9.2nm,1.1s
VTS Vitosha 84.63 350 ⇑*i*P **P 19 08 07.6 +0.4**
VTS Vitosha 84.63 350 *e*P **P 19 08 06.7 -0.4**
VTS pmax pmax
comp=Z,9.0nm,1.1s
ETSF Etsaut 84.68 7 *e*P **P 19 08 08.0 +0.7**
ETSF pmax pmax
comp=Z,16nm,1.0s
PGAV Gavieira, Arco 84.76 13 *e*LQ LQ 19 35 13.4
PGAV *e*LR LR 19 41 02.4
comp=Z,297nm,20.0s
PGF Pioggiola 85.42 0 *e*P **P 19 08 11.4 +0.3**
PGF pmax pmax
comp=Z,55nm,1.1s
MVO Moncorvo 85.71 12 *e*LQ LQ 19 35 04.3
MVO *e*LR LR 19 42 01.0
comp=Z,389nm,22.0s
BR101 Keskin Array S 85.86 342 *e*P **P 19 08 13.9 +0.6**
BR101 *e* 19 50 49.5

BR131	Keskin Array S	85.86	342	*e*P	P	19 08 13.7	+0.3
BRTR	Keskin Array B	85.86	342	P	P	19 08 13.9	+0.6
	comp=Z,3.3nm,1.0s,baz=45,slow=4.4,SNR=7.3						
BRTR				LR	LR	19 50 49.5	
	comp=Z,57nm,19.9s,baz=334,slow=39						
BRTR	Keskin Array B	85.86	342	*i* P	P	19 08 13.8	+0.5
BRTR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PVIS	Viseu	86.04	13	*e*P	P	19 08 14.7	+0.6
MTE	Manteigas	86.40	13	*e*LQ	LQ	19 35 46.8	
MTE				*e*LR	LR	19 40 59.1	
	comp=Z,434nm,20.0s						
WRAB	Tennant Creek	86.45	231	*ce*P	P	19 08 14.9	-1.2
WRAB				pmax	pmax		
	comp=Z,23nm,2.5s						
WB2	Warramunga Arr	86.45	231	*e*P	P	19 08 14.8	-1.4
WR1	Warramunga Arr	86.46	231	*e*P	P	19 08 14.6	-1.6
	comp=Z,13nm,1.3s						
WR1				*e*PKKPbc	PKKPbc	19 26 12.6	+1.5
WRA	Warramunga Arr	86.46	231	P	P	19 08 14.6	-1.6
	comp=Z,3.2nm,1.0s,baz=34,slow=5.3,SNR=20						
WRA				PKKPbc	PKKPbc	19 26 12.6	+1.5
	comp=Z,0.1nm,0.4s,baz=200,slow=4.6,SNR=6.0						
WRA	Warramunga Arr	86.46	231	*i* P	P	19 08 17.0	+0.8
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FNA	Florina	86.61	351	*e*P	P	19 08 16.0	-0.9
	comp=Z,8.2nm,0.8s						
FNA	Florina	86.61	351	*e*P	P	19 08 16.0	-0.9
FNA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PCBR	Castelo Branco	86.95	13	*e*P	P	19 08 18.8	+0.3
PMRV	Marv??o	87.37	13	*e*LR	LR	19 40 46.1	
	comp=Z,484nm,22.0s						
ES19	SONSECA Array	87.53	10	*e*P	P	19 08 20.8	-0.6
ESDC	Sonseca Array	87.55	10	P	P	19 08 20.9	-0.6
	comp=Z,7.8nm,0.8s,baz=350,slow=4.6,SNR=34						
ESLA	Sonseca Array	87.55	10	*e*P	P	19 08 21.4	-0.1
	comp=Z,10nm,1.0s						
PESTR	Estremoz	87.89	13	*e*P	P	19 08 21.9	-1.2
	comp=Z,20nm,1.0s						
PSI	Prapat	88.11	272	*e*P	P	19 08 24.0	-0.6
	comp=Z,65nm,1.1s						
PSI	Prapat	88.11	272	*e*P	P	19 08 24.0	-0.6
PSI				pmax	pmax		
	comp=Z,65nm,1.1s						
HYB	Hyderabad	88.47	297	*i* P	P	19 08 26.0	-0.1
PBEJ	Beja	88.68	14	*e*P	P	19 08 29.3	+2.5
SDV	Santo Domingo	89.03	77	*e*P	P	19 08 28.8	-0.2
	comp=Z,22nm,0.8s						
MORF	Marmelete	89.27	14	*e*P	P	19 08 30.2	+0.5
PVAQ	Vaqueiros	89.31	14	*e*P	P	19 08 29.9	+0.1
PVAQ	Vaqueiros	89.31	14	*e*LQ	LQ	19 32 16.3	
PVAQ				*e*LR	LR	19 37 59.6	
	comp=Z,460nm,22.0s						
AS01	Alice Springs	89.84	229	*e*P	P	19 08 31.1	-1.2
AS31	Alice Springs	89.86	229	*e*P	P	19 08 31.2	-1.2
	comp=Z,3.5nm,1.0s						
ASAR	Alice Springs	89.86	229	P	P	19 08 32.0	-0.3
	comp=Z,11nm,1.0s,baz=23,slow=4.9,SNR=62						
ASAR				PKKPbc	PKKPbc	19 26 04.0	+1.1
	comp=Z,0.2nm,0.3s,baz=206,slow=1.9,SNR=4.1						
OTAV	Otavalo	91.11	88	*e*P	P	19 08 39.7	+0.7
	comp=Z,6.1nm,0.8s						
OTAV	Otavalo	91.11	88	*e*P	P	19 08 39.7	+0.7
OTAV				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KEST	Kesra	92.23	0	P	P	19 08 43.6	+0.1
	comp=Z,3.5nm,0.9s,baz=16,slow=15,SNR=3.5						
STKA	Stephens Creek	93.76	219	P	P	19 08 49.8	-0.4
	comp=Z,5.9nm,1.0s,baz=305,slow=8.0,SNR=4.3						
STKA	Stephens Creek	93.76	219	*e*P	P	19 08 49.6	-0.5
	comp=Z,3.7nm,1.3s						
RAYN	Ar Rayn	98.09	327	*e*P	P	19 09 09.5	-0.9
	comp=Z,7.4nm,1.0s						
RAYN	Ar Rayn	98.09	327	*e*P	P	19 09 09.5	-0.9
RAYN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TOA1	Torodi Ar. Sit	114.36	8	*e*PKKPbc	PKKPbc	19 24 50.0	-0.6
TORD	Torodi Ar. Bea	114.37	8	PKKPbc	PKKPbc	19 24 50.0	-0.5
	comp=Z,0.4nm,0.5s,baz=173,slow=4.0,SNR=5.7						
DBIC	Dimbokro	119.90	16	PKP	PKPdf	19 14 23.6	-0.3
	comp=Z,1.3nm,0.3s,baz=328,slow=3.9,SNR=4.6						
KMBO	Kilima Mbogo	123.86	326	PKP	PKiKP	19 14 33.6	+1.4
	comp=Z,1.1nm,0.2s,baz=353,slow=5.2,SNR=5.3						
CPUP	Villa Florida	124.44	89	PKP	PKPdf	19 14 31.9	-0.3
	comp=Z,1.3nm,0.4s,baz=328,slow=5.3,SNR=3.8						
CPUP	Villa Florida	124.44	89	PKIKP	PKPdf	19 14 31.9	-0.3
CPUP				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PLCA	Paso Flores	126.49	111	PKP	PKPdf	19 14 35.7	-0.1
	comp=Z,4.2nm,1.0s,baz=320,slow=5.4,SNR=3.0						
MATP	Matopo	144.81	328	PKP	PKPbc	19 15 09.7	+0.1
	comp=Z,29nm,0.5s,baz=8.8,slow=4.2,SNR=65						
TSUM	Tsumeb	146.25	346	*e*PKPdf	PKPbc	19 15 13.9	-0.2
LBTB	Lobatse	150.02	330	PKPbc	PKiKP	19 15 24.6	-0.2
	comp=Z,11nm,0.3s,baz=314,slow=1.6,SNR=55						
LBTB	Lobatse	150.02	330	*e*PKPdf	PKPdf	19 15 17.6	-1.3
LBTB				*e*PKPbc	PKiKP	19 15 24.5	-0.2
LBTB	Lobatse	150.02	330	*e*PKHKP	PKPpre	19 15 17.6	
LBTB				*e*		19 15 24.5	
MAW	Mawson	150.45	219	PKPbc	PKPbc	19 15 23.4	0.0
	comp=Z,35nm,1.2s,baz=72,slow=3.2,SNR=5.0						
BOSA	Boshof	153.48	328	PKPbc	PKPbc	19 15 31.7	0.0
	comp=Z,5.8nm,0.5s,baz=22,slow=2.5,SNR=25						
SYO	Syowa Base	158.15	209	⇑*e*PKPdf	PKPdf	19 15 27.0	-1.7
SYO	Syowa Base	158.15	209	⇓*e*pPKPdf	pPKPdf	19 15 46.8	+0.9

NNC 08 19:02:59.8±3.5, 36°.91N×70°.96E, h0km, mb3.6, mpv3.2, 6C-1D, Error ellipse: s-maj=30.3km s-min=26.3km az=129.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.69	32	⇓P	Pn	19 03 58.9	+0.6
	1.8nm,0.3s						
SFK				⇑S	Sn	19 04 43.4	+0.8
	3.8nm,0.2s						
KK31	Karatay Array	6.20	357	⇑P	Pn	19 04 31.9	-0.6
	0.6nm,0.4s,baz=182,slow=13,SNR=14						
KK31				⇑S	Sn	19 05 45.2	+1.1
	0.6nm,0.4s,baz=189,slow=22,SNR=6.4						
AAK	Ala-Archa	6.34	24	⇑P	Pn	19 04 35.8	+1.2
	1.0nm,0.5s						
AAK				⇑S	Sn	19 05 49.9	+2.2
	3.1nm,0.9s						
TKM2	Tokmak 2	6.98	29	⇑P	Pn	19 04 43.6	+0.1
	1.4nm,0.6s						

*IDC **08** 19:03:58.8±0.5, 32°.24S×14°.09W, h0km, mb4.4/16, mb1 4.5/16, mb1mx4.4/28, mbtmp4.4/16, MS4.8/18, Ms1 4.8/18, ms1mx4.7/21, Error ellipse: s-maj=18.2km s-min=13.4km az=159.0*

*ISCJB **08** 19:03:58.9±0.2, 32°.42S±0°.04×14°.08W±0°.04, h10km, mb4.9/64, MS4.9/28, Error ellipse: s-maj=6.2km s-min=4.8km az=175.0*

*BJI **08** 19:04:00.5, 32°.40S×14°.20W, h10km, mB5.5/6, Ms5.4/7, Ms7 5.1/7*

*NEIC **08** 19:04:00.1±2.2, 32°.40S×14°.16W, h9km±13km, mb5.1/46, Error ellipse: s-maj=7.8km s-min=5.6km az=158.0*

*VAO **08** 19:04:02.4±0.4, 32°.19S×14°.16W, h10km, mb4.9*

*GCMT **08** 19:04:05.1±0.1, 32°.39S±0°.01×13°.95W±0°.01, h12km, MW5.3/120, Moment Tensor Solution. s85,c125; s120,c214; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.15±.02; $M_{\theta\theta}$-0.44±.02; $M_{\phi\phi}$0.58±.02; $M_{r\theta}$-0.13±.04; $M_{\theta\phi}$ 1.02±.01; $M_{\phi r}$-0.01±.04; Best double couple: $M_0$1.14900×10^{17} NP1:ϕ_s76.00000°, δ88.00000°, λ-7.00000°. NP2:ϕ_s167.00000°, δ83.00000°, λ-178.00000°. Principal axes: T 1.2210, Plg3.0000°, Azm122.0000°; N -0.1420, Plg83.0000°, Azm236.0000°; P -1.0780, Plg6.0000°, Azm31.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 19:04:00.7±0.3, 32°.49S±0°.05×14°.08W±0°.06, h10km, n187, σ1s.68/164, mb5.0/67, MS4.9/28, 2D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H09N1	TRISTAN DA CUN	4.80	163	Pn	Pn	19 05 12.2	-0.8
	SNR=448						
H09N1				Sn	Sn	19 06 03.8	-4.8
H09N1				T	T	19 10 18.5	
	SNR=59						
H09W1	TRISTAN DA CUN	4.82	163	Pn	Pn	19 05 12.2	-1.1
	SNR=1214						
H09W1				Sn	Sn	19 06 04.4	-4.8
	SNR=30						
H09W1				T	T	19 10 32.6	
	SNR=108						
H10S2	ASCENSION HYDR	23.42	359	T	T	19 33 06.6	
	baz=179,slow=74,SNR=163						
H10S3	ASCENSION HYDR	23.42	359	T	T	19 33 07.1	
	baz=179,slow=74,SNR=154						
H10S1	ASCENSION HYDR	23.43	359	T	T	19 33 08.0	
	baz=179,slow=74,SNR=158						
H10N1	ASCENSION HYDR	24.52	359	T	T	19 34 26.5	
	baz=189,slow=80,SNR=15						
H10N3	ASCENSION HYDR	24.53	359	T	T	19 34 27.7	
	baz=189,slow=80,SNR=68						
H10N2	ASCENSION HYDR	24.54	359	T	T	19 34 27.3	
	baz=189,slow=80,SNR=20						
ALF01	Guarapari-ES	26.53	290	*e*P	P	19 09 39.2	+0.5
CAM01	Campos-RJ	26.66	287	*e*P	P	19 09 40.1	+0.2
RIB01	Linhares ES	26.98	293	*e*P	P	19 09 43.0	+0.3
HOPE	Hope Point	26.98	210	*e*P	P	19 09 41.3	-1.1
	134nm,1.1s						
DUB01	Friburgo-RJ	27.12	285	*e*P	P	19 09 44.7	+0.6
BSFB	Barra de Sao F	27.60	293	*e*P	P	19 09 48.5	+0.1
VAS01	Vassouras-RJ	27.90	284	*e*P	P	19 09 51.0	-0.1
SJMB	Sao Joao De Ma	27.94	293	*e*P	P	19 09 51.7	+0.4
SUR	Sutherland	29.37	99	LR	LR	19 18 55.4	
	comp=Z,3µm,21.9s,baz=253,slow=30						
SUR	Sutherland	29.37	99	*e*P	P	19 10 04.3	0.0
	112nm,2.0s						
BSCB	Bom Sucesso	29.60	285	*e*P	P	19 10 05.7	-0.5
TER01	Tubaro-SC	30.37	268	*e*P	P	19 10 15.7	+2.7
MCI7	Montes Claros	31.09	293	*e*P	P	19 10 19.1	-0.4
MCI6	Montes Claros	31.13	293	*e*P	P	19 10 19.7	-0.1
MCI9	Montes Claros	31.20	293	*e*P	P	19 10 20.3	-0.1
RCLB	Rio Claro- Sao	31.22	280	*e*P	P	19 10 21.4	+0.8
MCI8	Montes Claros	31.24	293	*e*P	P	19 10 20.4	-0.3
TSUM	Tsumeb	31.29	73	*e*P	P	19 10 19.9	-1.3
	25nm,1.0s						
CNLB	Canela	31.61	266	*e*P	P	19 10 25.4	+1.5
PMNB	Patos De Minas	32.19	288	*e*P	P	19 10 28.7	-0.5
FRTB	Fartura	32.53	277	*e*P	P	19 10 31.7	-0.3
BB19B	Bebedouro	32.66	282	*e*P	P	19 10 34.3	+1.2
ITAB	Concordia	33.29	269	*e*P	P	19 10 39.9	+1.3
PLTB	Pedras Altas	33.35	260	*e*P	P	19 10 40.6	+1.5
RCBR	Riachuelo	33.44	318	*e*P	P	19 10 39.7	-0.2
CPSB	Cacapava Do Su	33.52	263	*e*P	P	19 10 41.7	+1.2
IPMB	Ipameri, GO	33.92	287	*e*P	P	19 10 44.0	-0.2
BOSA	Boshof	33.96	94	P	P	19 10 43.7	-0.9
	7.5nm,0.9s,baz=257,slow=11,SNR=5.6						
BOSA				LR	LR	19 22 00.7	
	comp=Z,2µm,20.1s,baz=250,slow=32						
BOSA	Boshof	33.96	94	*e*P	P	19 10 46.8	+2.2
PTGB	Pitanga	34.10	273	*e*P	P	19 10 46.2	+0.5
ITRB	Iturama	34.81	282	*e*P	P	19 10 52.3	+0.5
TRCB	Terra Rica	35.33	276	*e*P	P	19 10 56.7	+0.3
LBTB	Lobatse	35.42	88	P	P	19 10 56.8	-0.4
	15nm,1.1s,baz=253,slow=7.0,SNR=8.3						
LBTB	Lobatse	35.42	88	*e*P	P	19 10 55.5	-1.7
	25nm,1.1s						
EFI	East Falkland	37.16	226	*e*P	P	19 11 11.9	+0.3
	70nm,1.3s						
CPUP	Villa Florida	37.98	268	P	P	19 11 18.3	-0.5
	2.5nm,0.7s,baz=122,slow=10,SNR=3.7						
CPUP				LR	LR	19 24 46.6	
	comp=Z,2µm,19.3s,baz=118,slow=33						
CPUP	Villa Florida	37.98	268	*e*P	P	19 11 17.5	-1.4
	16nm,1.4s						
CPUP	Villa Florida	37.98	268	*e*P	P	19 11 20.2	+1.4
VNA1	Neumayer--Stat	38.35	177	PKiKP	PKiKP	19 20 53.6	+4.5
VNA2	Neumayer--Watz	38.67	176	P	P	19 11 26.1	+2.0
	baz=344,slow=11						
VNA3	Neumayer Olymp	38.89	178	P	P	19 11 27.3	+1.3
AQDB	Aquidauana	38.90	277	*e*P	P	19 11 27.7	+1.1
TRQA	Tornquist	39.16	248	*e*P	P	19 11 25.5	-3.2
	56nm,1.8s						
TRQA	Tornquist	39.16	248	*e*P	P	19 11 30.4	+1.7
LIC	Lamto	39.45	14	*e*PKP2	P	19 11 30.4	-0.8
	62nm,1.3s						
KIC	Kosan Boka	39.64	15	*e*PKP2	P	19 11 31.2	-1.6
	35nm,0.9s						
SNAA	Sanae	39.71	174	P	P	19 11 35.5	+2.6
SNAA	Sanae	39.71	174	*e*P	P	19 11 32.3	-0.5
	12nm,1.3s						
MATP	Matopo	39.73	83	P	P	19 11 32.5	-1.3
	18nm,0.6s,baz=246,slow=9.0,SNR=33						
TIC	Toumodi	39.86	14	*e*PKP2	P	19 11 32.1	-2.5
DBIC	Dimbokro	39.92	14	P	P	19 11 32.2	-2.9
	5.9nm,0.8s,baz=184,slow=9.9,SNR=7.3						
DBIC				LR	LR	19 24 09.8	
	comp=Z,561nm,19.3s,baz=165,slow=30						
DBIC	Dimbokro	39.92	14	*e*P	P	19 11 34.1	-0.9
	12nm,0.8s						
DBIC	Dimbokro	39.92	14	*e*P	P	19 11 34.2	-0.9
LSZ	Lusaka	41.96	76	P	P	19 11 52.1	-0.2
	10nm,0.9s,baz=226,slow=7.9,SNR=14						
LSZ	Lusaka	41.96	76	*e*P	P	19 11 51.6	-0.7
	21nm,1.1s						
USHA	Ushuaia	43.87	223	P	P	19 12 07.3	+0.3
	16nm,1.0s,baz=72,slow=5.6,SNR=3.3						
PMSA	Palmer Station	44.28	208	LR	LR	19 27 28.5	
	comp=Z,546nm,19.3s,baz=51,slow=32						
PMSA	Palmer Station	44.28	208	*e*P	P	19 12 14.0	+3.8
PLCA	Paso Flores	45.40	243	P	P	19 12 19.7	+0.1
	6.8nm,0.9s,baz=154,slow=5.8,SNR=6.4						
PLCA				LR	LR	19 30 06.3	
	comp=Z,709nm,18.7s,baz=121,slow=34						
PLCA	Paso Flores	45.40	243	*e*P	P	19 12 19.3	-0.2
	42nm,1.8s						
PLCA	Paso Flores	45.40	243	*e*P	P	19 12 20.6	+1.0
SIV	San Ignacio	45.51	280	P	P	19 12 20.4	-0.3
	11nm,1.1s,baz=143,slow=8.6,SNR=17						
SYO	Syowa Base	47.23	157	⇓*e*pP	P	19 12 34.0	+0.6
SYO	Syowa Base	47.23	157	⇓*i*sP	sP	19 12 37.0	+0.2
ROC1	El Roble	47.38	253	*e*P	P	19 12 34.9	-0.6
	14nm,0.8s						
TOA0	Torodi Ar. Sit	47.82	21	*e*P	P	19 12 36.3	-2.3
TORD	Torodi Ar. Bea	47.82	21	P	P	19 12 35.4	-3.2
	5.3nm,0.9s,baz=217,slow=6.2,SNR=20						
TORD				LR	LR	19 28 47.3	
	comp=Z,2µm,20.4s,baz=250,slow=31						
TOA1	Torodi Ar. Sit	47.82	21	*e*P	P	19 12 35.4	-3.2
GO04	Tololo Observa	48.02	257	*e*P	P	19 12 38.3	-2.1
	95nm,1.7s						
LCO	Las Campanas	48.30	258	*e*P	P	19 12 43.3	+0.6
GO02	Mina Guanaco	48.72	264	*e*P	P	19 12 44.9	-1.1
	21nm,1.2s						
LVC	Limon Verde	49.14	267	*e*P	P	19 12 46.7	-2.7
	8.0nm,1.1s						
LVC	Limon Verde	49.14	267	*e*P	P	19 12 50.4	+1.1
PB10	IPOC Station P	50.17	265	*e*P	P	19 12 56.0	-0.7
	37nm,1.1s						
PB01	IPOC Station P	50.28	269	*e*P	P	19 12 57.0	-0.7
	15nm,1.0s						
PB04	IPOC Station P	50.30	267	*e*P	P	19 12 57.3	-0.6
	46nm,1.2s						
GO01	Chusmiza	50.63	270	*e*P	P	19 12 59.6	-1.2
	30nm,1.2s						
PB11	IPOC Station P	50.98	270	*e*P	P	19 13 01.7	-1.4
	24nm,1.0s						
MNMC	Minye Minye	51.20	271	*e*P	P	19 13 03.0	-1.9
	30nm,1.1s						
LPAZ	La Paz	51.28	275	P	P	19 13 05.1	-0.8
	4.2nm,1.0s,baz=74,slow=8.8,SNR=6.5						
LPAZ				LR	LR	19 33 27.7	
	comp=Z,1µm,20.5s,baz=114,slow=34						
LPAZ	La Paz	51.28	275	*e*P	P	19 13 04.1	-1.8
LPAZ				*e*sP	pP	19 13 04.4	-3.7
LPAZ	La Paz	51.28	275	*e*P	P	19 13 05.4	-0.5
CRZF	Crozet Islands	51.37	126	*e*P	P	19 13 07.0	+1.6
	49nm,1.0s						
MBAR	Mbarara	52.77	62	*e*P	P	19 13 16.4	-0.1
	89nm,1.9s						
PTGA	Pitinga	53.49	297	*e*P	P	19 13 21.1	-0.4
	22nm,1.1s						
PTGA	Pitinga	53.49	297	*e*P	P	19 13 22.3	+0.8
MAW	Mawson	55.47	153	P	P	19 13 36.6	+1.4
	9.8nm,0.9s,baz=265,slow=11,SNR=3.3						
MAW				LR	LR	19 32 06.5	
	comp=Z,910nm,20.8s,baz=276,slow=30						
MAW	Mawson	55.47	153	*e*P	P	19 13 36.1	+0.9
	18nm,1.8s						
NAI	Nairobi	56.98	68	*e*P	P	19 13 46.7	-0.3
	19nm,0.6s						
KMBO	Kilima Mbogo	57.42	68	LR	LR	19 35 49.4	
	comp=Z,600nm,21.0s,baz=254,slow=33						
KMBO	Kilima Mbogo	57.42	68	*e*P	P	19 13 50.2	-0.1
	6.9nm,1.4s						
QSPA	South Pole Qui	57.76	180	*e*P	P	19 13 52.1	+0.3
	19nm,1.3s						
TAM	Tamanrasset	58.07	21	*e*P	P	19 13 54.5	+0.1
	8.3nm,1.1s						
SDV	Santo Domingo	67.77	297	*e*P	P	19 14 58.9	-0.4
	34nm,1.2s						
SDV	Santo Domingo	67.77	297	*e*P	P	19 14 59.6	+0.4
ROSC	El Rosal	68.08	291	LR	LR	19 43 47.5	
	comp=Z,2µm,18.0s,baz=118,slow=35						
SEUS	St. Eustatius	68.25	309	*e*P	P	19 15 00.5	-1.4
	179nm,0.9s						
SABA	Saba	68.52	309	*e*P	P	19 15 02.5	-1.1
	276nm,1.4s						
OTAV	Otavalo	68.69	285	*e*P	P	19 15 05.4	0.0
	22nm,1.5s						
OTAV	Otavalo	68.69	285	*e*P	P	19 15 06.1	+0.7
ATD	Arta Tunnel	69.77	61	*e*P	P	19 15 11.8	+0.3
	20nm,1.2s						
SBA	Scott Base	69.92	180	*e*P	P	19 15 12.9	+1.5
	30nm,1.4s						
STVI	Saint Thomas	70.17	308	*e*P	P	19 15 12.0	-1.8
	67nm,1.2s						
VNDA	Vanda	70.22	179	P	P	19 15 14.8	+1.4
	1.7nm,0.8s,baz=242,slow=3.7,SNR=7.8						
VNDA				LR	LR	19 41 49.2	
	comp=Z,532nm,21.7s,baz=173,slow=32						
VNDA	Vanda	70.22	179	*e*P	P	19 15 15.2	+1.9
VNDA				*e*PcP	pP	19 15 15.4	-0.5
HUMP	Col San Antoni	70.62	308	*e*P	P	19 15 15.5	-1.0
	46nm,1.3s						
CART	Cartagena	70.77	11	*e*P	P	19 15 18.1	+1.1
	18nm,1.1s						
KEST	Kesra	71.33	20	P	P	19 15 19.1	-1.5
	5.1nm,0.8s,baz=232,slow=4.2,SNR=5.6						
KEST				LR	LR	19 43 37.1	
	comp=Z,1µm,20.7s,baz=168,slow=34						
KEST	Kesra	71.33	20	*e*P	P	19 15 20.7	+0.2
	39nm,1.5s						
ESDC	Sonseca Array	72.41	8	P	P	19 15 25.3	-1.7
	0.5nm,0.7s,baz=182,slow=6.9,SNR=2.3						
ES19	SONSECA Array	72.44	8	*e*P	P	19 15 26.5	-0.6
SSB	Saint Sauveur	79.23	13	*e*P	P	19 16 06.0	+0.3
	7.3nm,1.0s						
BNI	Bardonecchia	79.45	15	*e*P	P	19 16 07.7	+0.6
	11nm,1.3s						
RAYN	Ar Rayn	79.59	54	*e*P	P	19 16 09.6	+1.3
	13nm,1.4s						
JTS	JuntasAbangare	79.77	289	*e*P	P	19 16 09.1	-0.4
	17nm,1.1s						
FETA	Feichten	82.24	17	*e*P	P	19 16 24.6	+2.6
DAVA	Damuels	82.28	16	*e*P	P	19 16 23.4	+1.1
	12nm,1.2s						
ABTA	Abfaltersbach	82.44	18	P	P	19 16 25.7	+2.7
	6.8nm,1.0s						
SQTA	Sankt Quirin	82.54	17	*e*pP	P	19 16 27.7	+4.1
	4.2nm,0.9s						
MOTA	Moosalm	82.63	17	*e*P	P	19 16 26.0	+2.0
	0.7nm,0.6s						
SOKA	Soboth	83.06	20	*e*pP	P	19 16 29.1	+2.9
	6.8nm,1.2s						
ARSA	Arzberg	83.72	20	*e*pP	P	19 16 32.4	+2.8
	2.9nm,0.8s						
MOA	Molln	83.92	19	P	P	19 16 31.6	+1.1
	5.1nm,1.2s						
CONA	Conrad Observa	84.44	20	*e*P	P	19 16 35.4	+2.1
	8.4nm,1.3s						
GEC2	GERESS Array S	84.68	18	*e*P	P	19 16 34.2	-0.2
	10.0nm,1.5s						
GERES	GERESS Array B	84.68	18	P	P	19 16 32.6	-1.8
	0.6nm,0.8s,baz=205,slow=4.3,SNR=2.3						
GERES				LR	LR	19 51 52.5	
	comp=Z,400nm,20.4s,baz=210,slow=34						
KHC	Kasperske Hory	84.91	18	*e*P	P	19 16 33.2	-2.4
KHC				AMS	AMS	19 50 50.0	
	comp=Z,600nm,22.0s						
TREC	Trest	85.57	19	AMS	AMS	19 50 40.0	
	comp=Z,700nm,21.3s						
NKC	Novy Kostel	85.65	17	AMS	AMS	19 51 20.0	
	comp=Z,500nm,23.2s						
MLR	Muntele Rosu	85.68	27	*e*P	P	19 16 39.6	0.0
	25nm,1.3s						
VYHS	Vyhne	85.82	21	*e*P	P	19 16 42.1	+2.0
VRAC	Vranov	85.89	20	*e*P	P	19 16 42.9	+2.5
GOPC	GO Pecny, Ondr	85.95	18	AMS	AMS	19 50 10.0	
	comp=Z,500nm,21.3s						
PRU	Pruhonice	85.95	18	AMS	AMS	19 51 50.0	
	comp=Z,600nm,20.7s						
PVCC	Panska Ves	86.45	18	AMS	AMS	19 52 00.0	
	comp=Z,400nm,20.0s						
MORC	Moravsky Berou	86.58	20	*e*P	P	19 16 43.6	-0.3
	19nm,1.7s						
MORC	Moravsky Berou	86.58	20	*e*P	P	19 16 43.8	-0.1
DPC	Dobruska-Polom	86.76	19	AMS	AMS	19 51 40.0	
	comp=Z,500nm,22.3s						
CLL	Collm	86.78	17	*e*P	P	19 16 46.0	+1.3
	comp=Z,18nm,1.6s						
CLL				*e*		19 17 09.0	
CLL				LmV		21 34 00.0	
	comp=Z,200nm,19.7s						
UPC	Upice	86.82	19	AMS	AMS	19 52 10.0	
	comp=Z,500nm,18.2s						
DWPF	Disney Wildern	87.88	305	*e*P	P	19 16 51.3	+0.7
HODGE	Hodges	92.24	310	*e*P	P	19 17 09.7	-1.2
	comp=Z,59nm,1.9s						
SWET	Sewanee	95.24	309	*e*P	P	19 17 23.7	-1.0
	comp=Z,25nm,1.5s						
NOA	NORSAR Array B	95.45	12	LR	LR	19 59 53.6	
	comp=Z,204nm,18.9s,baz=190,slow=35						
GEYT	Alibeck	97.06	49	LR	LR	20 01 14.9	
	comp=Z,273nm,18.9s,baz=270,slow=36						
H01W2	Cape Leeuwin H	97.20	139	T	T	21 06 59.1	
	baz=222						
H01W3	Cape Leeuwin H	97.21	139	T	T	21 06 51.4	
	baz=222,slow=74						
H01W1	Cape Leeuwin H	97.21	139	T	T	21 06 56.9	
	baz=222,slow=74						
SCHQ	Schefferville	98.05	332	LR	LR	19 57 11.3	
	comp=Z,330nm,18.1s,baz=125,slow=33						
FINES	FINESS Array B	99.11	18	LR	LR	20 00 45.2	
	comp=Z,307nm,21.3s,baz=232,slow=34						
RKT	Rikitea	101.00	234	*e*LR	LR	19 50 38.3	
	comp=Z,547nm,39.2s						
TBI	Tubuai	110.01	223	*e*LR	LR	19 55 04.1	
	comp=Z,389nm,23.5s						
UGM	Wanagama	113.72	117	*e*Sdif	Sdif	19 31 15.7	-0.7
PPT2	Papeete2	114.48	227	*e*SS	SS	19 39 34.9	+4.9
	comp=Z,198nm,28.8s						
PPT2	Papeete2	114.48	227	*e*LR	LR	19 57 02.8	
	comp=Z,773nm,31.0s						
ASAR	Alice Springs	116.34	147	PKP	PKPdf	19 22 44.2	-0.9
	comp=Z,0.6nm,0.7s,baz=194,slow=1.4,SNR=9.0						
EGMT	Eagleton	116.89	311	*e*PKPdf	PKPdf	19 22 43.9	-1.4
CMAR	Chiang Mai Arr	118.81	86	PKP	PKiKP	19 22 50.5	+0.7
	comp=Z,0.3nm,0.6s,baz=212,slow=3.2,SNR=3.4						
WMQ	Urumqi	119.58	55	*e*PKP	PKiKP	19 22 51.3	+0.6
WMQ				LR	LR		
	comp=Z,440nm,26.3s						
WMQ				LR	LR		
	comp=Z,410nm,25.9s						
WMQ				LR	LR		
	comp=Z,400nm,17.7s						
WRA	Warramunga Arr	119.74	145	PKP	PKPdf	19 22 50.7	-1.1
	comp=Z,0.6nm,0.7s,baz=232,slow=1.7,SNR=5.8						
WR1	Warramunga Arr	119.74	145	*e*PKPdf	PKPdf	19 22 50.6	-1.1
ZALV	Zalesovo Beam	120.56	43	PKP	PKiKP	19 22 52.0	-0.2
	comp=Z,0.2nm,0.3s,baz=264,slow=4.1,SNR=2.5						
ZALV				PP	PP	19 24 20.9	+1.0
	comp=Z,0.3nm,0.3s,baz=209,slow=8.3,SNR=3.5						
ZAA1	Zalesovo Array	120.56	43	*e*PKPdf	PKiKP	19 22 52.0	-0.2
ZAA1				*e*PP	PP	19 24 20.9	+1.0
F10A	Beach Ranch, E	121.14	307	*e*PKPdf	PKiKP	19 22 53.7	0.0
YKA	Yellowknife Ar	123.03	327	PKP	PKPdf	19 22 55.9	-0.7
	comp=Z,0.2nm,0.6s,baz=94,slow=2.1,SNR=4.3						
YKB5	Yellowknife Ar	123.03	327	*e*PKPdf	PKPdf	19 22 55.8	-0.8
DZM	Mont Dzumac	125.75	181	*e*LR	LR	20 02 25.9	
	comp=Z,484nm,21.9s						
GTA	Gaotai	127.10	63	*e*PKP	PKiKP	19 23 10.2	+4.4
CD2	Chengdu	127.77	74	PKP	PKPdf	19 23 06.0	-0.7
LZH	Lanzhou	129.35	68	*e*PKP	PKPdf	19 23 05.1	-4.6
LZH				SKKS		19 32 09.4	
LZH				LR	LR		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,420nm,16.8s						
LZH				LR	LR		
	comp=Z,310nm,15.7s						
LZH				LR	LR		
	comp=Z,700nm,17.6s						
SONA0	**Songino Array**	**133.14**	**53**	*e*PKPdf	**PKiKP**	**19 23 17.3**	**-0.4**
SONA0				*e*PP	**PP**	**19 25 48.5**	**+5.0**
SONM	**Songino Array**	**133.14**	**53**	PKP	**PKiKP**	**19 23 17.3**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=198,slow=1.5,SNR=5.3						
SONM				PP	**PP**	**19 25 48.5**	**+5.0**
	comp=Z,0.7nm,1.1s,baz=273,slow=8.8,SNR=3.6						
HHC	**Hu-ho-hao-te**	**136.21**	**63**	*e*PKP	**PKiKP**	**19 23 23.8**	**-0.3**
ILAR	**Eielson Array**	**136.81**	**333**	PKP	**PKPdf**	**19 23 22.6**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=18,slow=1.6,SNR=2.1						
NJ2	**Nanjing**	**140.46**	**78**	*e*PKP	**PKiKP**	**19 23 32.1**	**-0.8**
CN2	**Changchun**	**146.53**	**58**	*e*PKPbc	**PKPbc**	**19 23 41.3**	**-0.8**
KSAR	**Wonju Array Be**	**148.59**	**70**	PKPbc	**PKPbc**	**19 23 47.1**	**-0.8**
KSRS	**Korea Array**	**148.62**	**70**	PKPbc	**PKPbc**	**19 23 47.1**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=303,slow=2.1,SNR=3.1						
USRK	**Ussuriysk Ar.**	**151.13**	**56**	PKPbc	**PKPbc**	**19 23 53.7**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=243,slow=2.3,SNR=3.7						

JMA 08 19:12:12.5±0.1**, 34°.26N×135°.83E, h435km, M3.5, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAI	**Aioi**	**1.24**	**248**	P	P	19 13 08.3	+0.3
JNY	**Yasuok**	**2.00**	**56**	P	P	19 13 12.3	+0.6
JRY	**Ryogami san**	**3.07**	**54**	P	P	19 13 19.9	+1.1
JAG	**Ashikaga**	**3.67**	**53**	P	P	19 13 23.8	+0.1
JAG				S	S	19 14 16.7	-4.9
BSO4	**Boso 4**	**3.79**	**78**	P	P	19 13 25.8	+1.2
BSO1	**Boso 1**	**4.27**	**83**	P	P	19 13 30.3	+1.8
JHO	**Hitachi**	**4.52**	**57**	P	P	19 13 31.8	+0.4
JHO				*e*S	S	19 14 29.8	-6.0

PGC 08 19:27:45.6±4.0**, 48°.90N×129°.55W, h10km, MLSn2.9**/8**, Mw3.6**/8**, 252km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMF	**NEPTUNE Canada**	**1.00**	**162**	P	Pg	19 28 02.8	-2.1
KEMF				S	Sg	19 28 15.8	-2.1
EDB	**Eliza Dome**	**1.86**	**58**	Sn	Sn	19 28 37.3	-3.8
PACB	**Port Alice, BC**	**2.04**	**40**	Pn	Pn	19 28 17.8	-2.1
PACB				Sn	Sn	19 28 40.3	-5.1
PHC	**Port Hardy**	**2.27**	**36**	Pn	Pn	19 28 22.4	-0.7
PHC				Sn	Sn	19 28 46.7	-4.4
WOSB	**Woss**	**2.31**	**56**	Pn	Pn	19 28 22.7	-1.1
TLCB	**Telegraph Cove**	**2.41**	**46**	Sn	Sn	19 28 50.6	-4.0
GDR	**Gold River**	**2.46**	**68**	Pn	Pn	19 28 24.6	-1.2
NCRB	**Newcastle Ridg**	**2.72**	**55**	Pn	Pn	19 28 28.9	-0.6
NCRB				Sn	Sn	19 29 00.3	-2.3
CBB	**Campbell River**	**2.96**	**66**	Sn	Sn	19 29 05.4	-2.7
BBB	**Bella Bella**	**3.41**	**15**	Pn	Pn	19 28 37.1	-1.7
BBB				Sn	Sn	19 29 14.9	-4.4

*ISK **08** 19:33:10.2, 39°.67N×25°.63E, h7km, ML2.5/11*
*ISCJB **08** 19:33:11.1±0.5, 39°.70N±0°.02×25°.63E±0°.04, h7km±4km, Error ellipse: s-maj=4.9km s-min=3.4km az=166.2*
*THE **08** 19:33:11.7, 39°.71N×25°.62E, h6km±1km, ML2.2/6, Error ellipse: s-maj=1.7km s-min=0.6km az=3.0*
*ATH **08** 19:33:11.1, 39°.68N×25°.59E, h21km±8km, ML2.3/3, Error ellipse: s-maj=8.5km s-min=1.1km az=229.0*
ISC 08 19:33:11.2±1.0**, 39°.68N**±0°.02×**25°.62E**±0°.02**, h9**km±9km**, n33, σ0ˢ.57**/48**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.37**	**64**	PG	**Pg**	**19 33 17.9**	**-0.6**
BOZC				SG	**Sg**	**19 33 23.7**	**+0.3**
LIA	**Limnos Island**	**0.40**	**303**	P	**Pg**	**19 33 19.3**	**+0.3**
LIA				S	**Sg**	**19 33 25.2**	**+0.8**
LIA	**Limnos Island**	**0.40**	**303**	P	**Pg**	**19 33 19.3**	**+0.3**
LIA				S	**Sg**	**19 33 24.6**	**+0.3**
GPNR	**Gulpinar-Canak**	**0.46**	**119**	PG	**Pg**	**19 33 19.6**	**-0.4**
SIGR	**SIGRI**	**0.50**	**159**	PG	**Pg**	**19 33 19.8**	**-1.1**
SIGR				SG	**Sg**	**19 33 27.6**	**+0.1**
SIGR	**SIGRI**	**0.50**	**159**	P	**Pg**	**19 33 21.0**	**+0.1**
SIGR				S	**Sb**	**19 33 28.7**	**-0.9**
SIGR				AML	AML	19 33 29.2	
	comp=E,1401µm,0.4s						
SIGR				AML	AML	19 33 29.3	
	comp=N,2161µm,0.6s						
SIGR	**SIGRI**	**0.50**	**159**	P	**Pg**	**19 33 21.0**	**+0.1**
SIGR				S	**Sb**	**19 33 29.7**	**+0.1**
GADA	**Gvkgeada**	**0.55**	**23**	PG	**Pg**	**19 33 21.6**	**-0.3**
GADA	**Gvkgeada**	**0.55**	**23**	P	**Pg**	**19 33 21.6**	**-0.3**
GADA				S	**Sg**	**19 33 29.9**	**+0.7**
EZN	**Ezine**	**0.56**	**75**	PG	**Pg**	**19 33 21.7**	**-0.4**
EZN				SG	**Sg**	**19 33 29.5**	**+0.1**
EZN	**Ezine**	**0.56**	**75**	P	**Pg**	**19 33 21.7**	**-0.4**
EZN				S	**Sg**	**19 33 29.8**	**+0.4**
PRK	**Paraskevi**	**0.67**	**131**	P	**Pb**	**19 33 25.2**	**+0.2**
PRK				S	**Sb**	**19 33 34.5**	**+0.3**
PRK				AML	AML	19 33 37.6	
	comp=E,563µm,0.2s						
PRK				AML	AML	19 33 38.5	
	comp=N,550µm,0.4s						
PRK	**Paraskevi**	**0.67**	**131**	P	**Pb**	**19 33 25.1**	**+0.2**
PRK				S	**Sb**	**19 33 35.2**	**+0.9**
SMTH	**Samothraki Isl**	**0.79**	**355**	P	**Pg**	**19 33 26.3**	**-0.2**
SMTH				AML	AML	19 33 39.1	
	comp=E,198µm,0.4s						
SMTH				AML	AML	19 33 39.3	
	comp=N,270µm,0.3s						
SMTH	**Samothraki Isl**	**0.79**	**355**	P	**Pg**	**19 33 26.2**	**-0.2**
SMTH				S	**Sb**	**19 33 37.8**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.97**	**42**	PG	**Pg**	**19 33 29.3**	**-0.5**
LPK	**Lapseki**	**1.11**	**51**	PN	**Pg**	**19 33 32.3**	**-0.3**
ENEZ	**Enez**	**1.13**	**21**	PN	**Pg**	**19 33 32.4**	**-0.5**
SKY	**Skiros Island**	**1.16**	**226**	P	**Pg**	**19 33 31.9**	**-1.5**
THAS	**Thassos island**	**1.16**	**324**	P	**Pg**	**19 33 32.5**	**-0.9**
THAS	**Thassos island**	**1.16**	**324**	P	**Pg**	**19 33 32.6**	**-0.8**
DKL	**Dikili**	**1.17**	**121**	PN	**Pg**	**19 33 33.4**	**-0.2**
ERIK	**Erikli-Kesan**	**1.20**	**34**	PN	**Pg**	**19 33 33.2**	**-1.1**
ALN	**Alexandroupoli**	**1.26**	**15**	PN	**Pn**	**19 33 34.8**	**-0.2**
ALN	**Alexandroupoli**	**1.26**	**15**	P	**Pn**	**19 33 34.3**	**-0.6**
ALN	**Alexandroupoli**	**1.26**	**15**	P	**Pn**	**19 33 34.4**	**-0.6**
ALN				S	**Sg**	**19 33 51.2**	**-0.5**
CHOS	**Chios island**	**1.33**	**165**	PN	**Pn**	**19 33 35.8**	**-0.3**
CHOS				SN	**Sn**	**19 33 54.5**	**+0.5**
CHOS	**Chios island**	**1.33**	**165**	P	**Pn**	**19 33 35.2**	**-0.9**
CHOS	**Chios island**	**1.33**	**165**	P	**Pg**	**19 33 37.0**	**+0.2**
CHOS				S	**Sn**	**19 33 54.9**	**+0.9**
OUR	**Ouranopolis**	**1.42**	**298**	P	**Pg**	**19 33 38.6**	**+0.2**
RDO	**Rodhopi**	**1.47**	**358**	PN	**Pn**	**19 33 37.7**	**-0.1**
KRBG	**Karabiga-Canak**	**1.47**	**61**	PN	**Pn**	**19 33 37.8**	**-0.1**
EDC	**Edincik**	**1.85**	**68**	PN	**Pn**	**19 33 43.2**	**+0.1**

*ISCJB **08** 19:35:36.0±0.2, 47°.33N±0°.01×6°.66E±0°.01, h14km±1km, Error ellipse: s-maj=1.9km s-min=1.6km az=147.2*
*BGR **08** 19:35:37.7±0.7, 47°.35N×6°.71E, h10km, ML2.5/6, Error ellipse: s-maj=6.7km s-min=3.3km az=53.0*
*STR **08** 19:35:38.8±0.2, 47°N±2°×°±°, h14km±1km, M2.8/6, MLv2.8/6*
*ZUR **08** 19:35:38.2, 47°.37N×6°.74E, h12km±1km, MLh2.2/17, Error ellipse: s-maj=3.0km s-min=0.9km az=139.0*
*LDG **08** 19:35:38.4±0.0, 47°.37N×6°.73E, h12km, Md2.8/2, Ml2.7/31, Error ellipse: s-maj=0.5km s-min=0.5km az=103.0*
ISC 08 19:35:38.5±0.8**, 47°.37N**±0°.01×**6°.73E**±0°.01**, h19**km±5km**, n98, σ2ˢ.11**/163**, 10C-6D, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOMF	**Lomont**	**0.07**	**106**	Pg	**Pg**	**19 35 41.6**	**-0.6**
LOMF				Sg	**Sg**	**19 35 43.5**	**-1.2**
CHMF	**Charmoille**	**0.13**	**204**	Pg	**Pg**	**19 35 42.2**	**-0.6**
CHMF				Sg	**Sg**	**19 35 44.3**	**-1.3**
BOURR	**Bourrignon**	**0.34**	**86**	⇑Pg	**Pg**	**19 35 45.6**	**-0.2**
BOURR				Sg	**Sg**	**19 35 50.3**	**-0.6**
HINF	**Hinteralfeld**	**0.46**	**10**	*e*Pg	**Pg**	**19 35 47.2**	**-0.7**
HINF				*e*Sg	**Sg**	**19 35 53.2**	**-1.0**
	95nm,0.2s						
BRANT	**Les Verrieres**	**0.47**	**202**	⇑Pg	**Pg**	**19 35 47.8**	**-0.2**
BRANT				Sg	**Sg**	**19 35 54.3**	**-0.1**
MOF	**Molkenrain**	**0.55**	**29**	Pg	**Pg**	**19 35 49.8**	**+0.2**
MOF				Sg	**Sg**	**19 35 57.6**	**+0.4**
MATTE	**Schuetzenmatte**	**0.60**	**72**	⇓Pg	**Pg**	**19 35 50.3**	**-0.1**
OTER1	**Otterbach 1 (B**	**0.63**	**70**	⇑Pg	**Pg**	**19 35 50.9**	**-0.1**
OTER2	**Otterbach 2 (B**	**0.63**	**70**	Pg	**Pg**	**19 35 50.5**	**-0.5**
BALST	**Balsthal**	**0.66**	**93**	⇑Pg	**Pg**	**19 35 51.2**	**-0.3**
BALST	**Balsthal**	**0.66**	**93**	*e*Pg	**Pg**	**19 35 51.2**	**-0.3**
BALST				*e*Sg	**Sg**	**19 35 59.8**	**-0.5**
HAU	**Haudompre**	**0.69**	**338**	*e*Pg	**Pg**	**19 35 51.5**	**-0.6**
HAU	**Haudompre**	**0.69**	**338**	*e*Pn	**Pg**	**19 35 52.5**	**+0.4**
HAU				*e*Sg	**Sg**	**19 36 00.7**	**-0.6**
	111nm,0.3s						
CABF	**La Chapelle**	**0.88**	**210**	*e*Pg	**Pb**	**19 35 55.3**	**+0.2**
CABF				*e*Sg	**Sb**	**19 36 07.0**	**+0.5**
	40nm,0.2s						
GIMEL	**St. Georges /**	**0.89**	**201**	⇑Pg	**Pb**	**19 35 55.7**	**+0.3**
ECH	**Echery**	**0.90**	**19**	Pn	**Pb**	**19 35 55.4**	**-0.1**
ECH	**Echery**	**0.90**	**19**	*e*Pg	**Pb**	**19 35 55.3**	**-0.1**
ECH				*e*Sg	**Sb**	**19 36 07.6**	**+0.7**
NOV3	**NOV3**	**0.95**	**171**	⇓Pn	**Pb**	**19 35 56.5**	**+0.1**
SULZ	**Cheisacher**	**0.95**	**80**	*e*Pg	**Pb**	**19 35 56.5**	**+0.2**
SULZ				*e*Sg	**Sb**	**19 36 09.0**	**+0.4**
THEF	**They Montfort**	**0.99**	**330**	Pn	**Pb**	**19 35 58.2**	**+1.1**
KIZ	**Kirchzarten**	**0.99**	**53**	Pg	**Pb**	**19 35 57.6**	**+0.5**
KIZ				Sn	**Sb**	**19 36 10.5**	**+0.7**
KIZ	**Kirchzarten**	**0.99**	**53**	⇑Pn	**Pb**	**19 35 56.3**	**-0.8**
FELD	**Feldberg im Sc**	**1.00**	**59**	⇑Pn	**Pb**	**19 35 56.5**	**-0.8**
SENIN	**Lac Senin/Sane**	**1.08**	**159**	⇓Pn	**Pb**	**19 35 58.6**	**-0.1**
BERGE	**Lenzkirch (DE)**	**1.10**	**62**	⇑Pn	**Pb**	**19 35 57.8**	**-1.1**
CDF	**Champ du Feu**	**1.11**	**19**	*e*Pn	**Pb**	**19 35 58.3**	**-0.8**
CDF	**Champ du Feu**	**1.11**	**19**	*e*Pg	**Pb**	**19 35 59.4**	**+0.3**
CDF				*e*Sg	**Sb**	**19 36 14.5**	**+1.4**
	102nm,0.3s						
WLS	**Welschbruch**	**1.13**	**22**	Pn	**Pb**	**19 35 58.5**	**-0.9**
WLS				Sn	**Sb**	**19 36 15.1**	**+1.4**
SLE	**Schleitheim**	**1.26**	**71**	⇑Pn	**Pn**	**19 36 00.1**	**-1.0**
SLE	**Schleitheim**	**1.26**	**71**	*e*Pn	**Pn**	**19 36 00.1**	**-1.0**
SLE				*e*Pg	**Pb**	**19 36 02.2**	**+0.6**
SLE				*e*Sg	**Sb**	**19 36 18.0**	**+0.6**
FIESA	**Fiescheralp**	**1.33**	**134**	⇓Pn	**Pn**	**19 36 02.4**	**+0.2**
PAGF	**Fort de Pagny**	**1.36**	**331**	*e*Pg	**Pn**	**19 36 03.8**	**+1.3**
	baz=150						
PAGF				*e*Sn	**Sn**	**19 36 18.4**	**-1.7**
PAGF				*e*Sg	**Sb**	**19 36 21.7**	**+1.2**
	31nm,0.2s						
EMBD	**Embd, Matterta**	**1.38**	**146**	⇓Pn	**Pn**	**19 36 03.1**	**+0.3**
SFTF	**Sexfontaines**	**1.41**	**307**	*e*Pg	**Pn**	**19 36 04.7**	**+1.5**
	baz=128						
SFTF				*e*Sn	**Sn**	**19 36 19.5**	**-1.8**
SFTF				*e*Sg	**Sb**	**19 36 23.1**	**+1.2**
	22nm,0.2s						
SIMPL	**Simplonpass**	**1.44**	**141**	⇓Pn	**Pn**	**19 36 03.9**	**+0.2**
BFO	**Black Forest**	**1.44**	**48**	⇑Pn	**Pn**	**19 36 02.3**	**-1.3**
BFO	**Black Forest**	**1.44**	**48**	*e*Pn	**Pn**	**19 36 02.3**	**-1.3**
BFO				*e*Pg	**Pb**	**19 36 05.4**	**+0.7**
BFO				*e*Sn	**Sn**	**19 36 20.5**	**-1.5**
BFO				*e*Sg	**Sb**	**19 36 24.4**	**+1.6**
WILA	**Wila**	**1.48**	**87**	*e*Sg	**Sb**	**19 36 25.2**	**+1.4**
OPP	**Oppenau**	**1.49**	**40**	Pn	**Pn**	**19 36 03.5**	**-0.8**
OPP				Sg	**Sb**	**19 36 26.0**	**+1.8**
OG35	**Corcelles**	**1.55**	**211**	Pg	**Pn**	**19 36 07.5**	**+2.4**
OG35				Sn	**Sn**	**19 36 26.6**	**+2.0**
REMY	**Saint-Rhmy-en**	**1.56**	**169**	P	**Pn**	**19 36 05.5**	**+0.1**
MEZF	**Maizieres J'vi**	**1.60**	**316**	*e*Pg	**Pn**	**19 36 08.2**	**+2.5**
	baz=136						
MEZF				*e*Sn	**Sn**	**19 36 24.0**	**-1.8**
	SNR=1.0						
MEZF				*e*Sg	**Sb**	**19 36 28.9**	**+1.7**
	11nm,0.2s						
RSL	**Roselend**	**1.68**	**182**	Pn	**Pn**	**19 36 06.8**	**-0.2**
SATI	**Passo dei Sala**	**1.69**	**152**	P	**Pn**	**19 36 07.8**	**+0.6**
PLONS	**Plons/SG**	**1.83**	**99**	*e*Pg	**Pb**	**19 36 12.5**	**+1.1**
PLONS				*e*Sn	**Sn**	**19 36 30.3**	**-1.5**
PLONS				*e*Sg	**Sb**	**19 36 35.7**	**+1.7**
LPL	**La Plagne**	**1.85**	**180**	*e*Pn	**Pn**	**19 36 08.6**	**-0.8**
	SNR=1.0						
LPL	**La Plagne**	**1.85**	**180**	*e*Pg	**Pb**	**19 36 13.1**	**+1.2**
LPL				*e*Sn	**Sn**	**19 36 30.5**	**-1.9**
LPL				*e*Sg	**Sb**	**19 36 37.0**	**+2.3**
	7.3nm,0.2s						
LPG	**La Plagne**	**1.87**	**180**	*e*Pn	**Pn**	**19 36 08.8**	**-0.9**
LPG	**La Plagne**	**1.87**	**180**	*e*Pg	**Pb**	**19 36 13.5**	**+1.3**
LPG				*e*Sn	**Sn**	**19 36 31.1**	**-1.9**
	SNR=1.0						
LPG				*e*Sg	**Sb**	**19 36 37.7**	**+2.4**
	8.0nm,0.3s						
LSD	**Lago del Serru**	**1.93**	**172**	P	**Pn**	**19 36 11.0**	**+0.5**
LOR	**Lormes**	**1.96**	**268**	*e*Pn	**Pn**	**19 36 09.9**	**-0.7**
	baz=89						
LOR	**Lormes**	**1.96**	**268**	*e*Pg	**Pb**	**19 36 14.8**	**+1.3**
	baz=90						
LOR				*e*Sn	**Sn**	**19 36 31.0**	**-3.7**
	baz=87,SNR=1.0						
LOR				*e*Sg	**Sb**	**19 36 39.7**	**+2.2**
	24nm,0.2s,baz=86						
SMF	**Signal de Mont**	**2.10**	**251**	*e*Pn	**Pn**	**19 36 11.8**	**-0.9**
SMF	**Signal de Mont**	**2.10**	**251**	*e*Pg	**Pb**	**19 36 17.6**	**+1.6**
SMF				*e*Sn	**Sn**	**19 36 36.1**	**-2.2**
	SNR=1.0						
SMF				*e*Sg	**Sb**	**19 36 44.8**	**+3.0**
	15nm,0.2s						
DAVA	**Damuels**	**2.14**	**91**	*e*Sn	**Sn**	**19 36 41.0**	**+1.4**
	2.7nm,0.1s						
DAVA				*e*Sg	**Sg**	**19 36 48.4**	**+0.8**
	25nm,0.3s						
SSF	**Saint Saulge**	**2.22**	**263**	*e*Pn	**Pn**	**19 36 13.1**	**-1.1**
	SNR=1.0						
SSF	**Saint Saulge**	**2.22**	**263**	*e*Pg	**Pb**	**19 36 19.6**	**+1.6**
SSF				*e*Sn	**Sn**	**19 36 39.0**	**-2.1**
SSF				*e*Sg	**Sb**	**19 36 47.8**	**+2.8**
	5.7nm,0.2s						
RSP	**Reno Superiore**	**2.25**	**170**	P	**Pn**	**19 36 15.3**	**+0.5**
UBR	**Ueberruh**	**2.31**	**81**	*e*Pg	**Pb**	**19 36 22.3**	**+2.7**
UBR				*e*Sn	**Sn**	**19 36 41.2**	**-2.3**
UBR				*e*Sg	**Sb**	**19 36 50.7**	**+3.0**
WLF	**Walferdange**	**2.33**	**351**	*e*Sg	**Sb**	**19 36 52.3**	**+4.1**
AVF	**Avril sur Loir**	**2.38**	**257**	*e*Pn	**Pn**	**19 36 15.4**	**-1.0**
AVF	**Avril sur Loir**	**2.38**	**257**	*e*Pg	**Pb**	**19 36 22.5**	**+1.8**
AVF				*e*Sg	**Sb**	**19 36 52.9**	**+3.3**
	3.1nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.52**	**194**	*e*Pn	**Pn**	**19 36 17.8**	**-0.7**
ORIF	**Oris-en-Rattie**	**2.52**	**194**	*e*Pg	**Pb**	**19 36 25.1**	**+1.9**
ORIF				*e*Sg	**Sb**	**19 36 57.3**	**+3.5**
	10.0nm,0.3s						
MBDF	**Montbardon**	**2.64**	**179**	*e*Pn	**Pn**	**19 36 19.4**	**-0.8**
	SNR=1.0						
MBDF	**Montbardon**	**2.64**	**179**	*e*Pg	**Pb**	**19 36 27.8**	**+2.5**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**19 36 49.0**	**-2.8**
MBDF				*e*Sg	**Sb**	**19 37 01.4**	**+4.0**
	4.6nm,0.4s						
FETA	**Feichten**	**2.75**	**96**	Pg	**Pg**	**19 36 30.9**	**-0.3**
	1.2nm,0.4s						
FETA				Sn	**Sn**	**19 36 55.7**	**+1.3**
	0.4nm,0.3s						
FETA				Sg	**Sg**	**19 37 07.0**	**+0.1**
	1.1nm,0.3s						
BGF	**Bois d'Agland**	**2.78**	**254**	*e*Pn	**Pn**	**19 36 21.0**	**-1.0**
	SNR=1.0						
BGF	**Bois d'Agland**	**2.78**	**254**	*e*Pg	**Pb**	**19 36 30.0**	**+2.5**
BGF				*e*Sn	**Sn**	**19 36 52.4**	**-2.6**
	SNR=1.0						
BGF				*e*Sg	**Sb**	**19 37 05.5**	**+4.3**
	16nm,0.3s,SNR=1.0						
HYF	**Humbligny**	**2.79**	**269**	*e*Pn	**Pn**	**19 36 21.1**	**-0.9**
HYF	**Humbligny**	**2.79**	**269**	*e*Pg	**Pb**	**19 36 30.4**	**+2.8**
HYF				*e*Sg	**Sb**	**19 37 05.9**	**+4.6**
VIVF	**Saint-Julien-l**	**2.89**	**210**	*e*Pn	**Pn**	**19 36 22.3**	**-1.2**
VIVF	**Saint-Julien-l**	**2.89**	**210**	*e*Pg	**Pb**	**19 36 32.2**	**+2.7**
VIVF				*e*Sg	**Sb**	**19 37 08.0**	**+3.6**
	7.5nm,0.2s						
MOTA	**Moosalm**	**2.97**	**89**	*e*Pn	**Pn**	**19 36 26.9**	**+2.2**
MOTA				*e*Pg	**Pg**	**19 36 35.1**	**-0.3**
	0.3nm,0.1s						
MOTA				*e*Sg	**Sg**	**19 37 12.7**	**-1.4**
	1.0nm,0.1s						
GIVF	**Givet**	**3.01**	**336**	*e*Sn	**Sn**	**19 37 00.7**	**0.0**
GIVF				*e*Sg	**Sg**	**19 37 14.4**	**-0.8**
	4.3nm,0.2s						
SQTA	**Sankt Quirin**	**3.05**	**91**	Pg	**Pb**	**19 36 35.7**	**+3.5**
	1.5nm,0.2s						
SQTA				Sg	**Sg**	**19 37 15.5**	**-1.0**
	5.3nm,0.3s						
TNS	**Taunus Mts**	**3.07**	**21**	*e*Sg	**Sb**	**19 37 14.8**	**+5.1**
BAIF	**Baives**	**3.17**	**329**	*e*Pn	**Pn**	**19 36 26.0**	**-1.3**
BAIF				*e*Sg	**Sb**	**19 37 17.2**	**+4.9**
	1.4nm,0.2s						
AHRW	**Bad Neuenahr-A**	**3.18**	**4**	*e*Sg	**Sg**	**19 37 18.7**	**-2.0**
TCF	**Toulx Ste Croi**	**3.29**	**252**	*e*Pn	**Pn**	**19 36 27.9**	**-1.0**
TCF	**Toulx Ste Croi**	**3.29**	**252**	*e*Pg	Pb	19 36 39.6	+3.4
TCF				*e*Sg	**Sb**	**19 37 21.5**	**+5.7**
	4.5nm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	**3.49**	**194**	*e*Pn	**Pn**	**19 36 30.7**	**-1.0**
	SNR=1.0						
SMRF				*e*Sn	**Sn**	**19 37 09.5**	**-3.0**
	SNR=1.0						
SMRF				*e*Sg	**Sb**	**19 37 27.6**	**+6.0**
	0.7nm,0.2s						
SBF	**Sospel**	**3.54**	**172**	*e*Pn	**Pn**	**19 36 31.3**	**-1.2**
SBF				*e*Sn	**Sn**	**19 37 10.8**	**-3.0**
	0.9nm,0.2s						
GRF	**Grafenberg Arr**	**3.78**	**50**	*e*Pg	**Pg**	**19 36 49.7**	**-1.2**
GRF				*e*Sg	**Sg**	**19 37 38.0**	**-1.9**
FRF	**La Foret Royal**	**3.81**	**181**	*e*Pn	**Pn**	**19 36 34.9**	**-1.2**
FRF	**La Foret Royal**	**3.81**	**181**	*e*Pg	Pb	19 36 48.7	+3.6
FRF				*e*Sn	**Sn**	**19 37 17.2**	**-3.1**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**19 37 37.5**	**-3.3**
	1.7nm,0.3s						
LASF	**Ste Croix**	**3.86**	**212**	*e*Pn	**Pn**	**19 36 35.9**	**-0.9**
LASF	**Ste Croix**	**3.86**	**212**	*e*Pg	Pb	19 36 49.8	+3.9
LASF				*e*Sn	**Sn**	**19 37 18.2**	**-3.4**
LASF				*e*Sg	**Sb**	**19 37 38.9**	**+6.7**
	2.9nm,0.3s						
LMR	**La Mourre**	**4.04**	**182**	*e*Pn	**Pn**	**19 36 38.0**	**-1.2**
LMR	**La Mourre**	**4.04**	**182**	*e*Pg	Pb	19 36 53.1	+4.1
LMR				*e*Sn	**Sn**	**19 37 22.4**	**-3.6**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**19 37 45.0**	**-3.1**
	0.5nm,0.2s,SNR=1.0						
CAF	**Calviac**	**4.06**	**235**	*e*Pn	**Pn**	**19 36 38.5**	**-1.1**
CAF	**Calviac**	**4.06**	**235**	*e*Pg	Pb	19 36 54.1	+4.7
CAF				*e*Sg	**Sg**	**19 37 45.8**	**-3.0**
	1.4nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**4.16**	**242**	*e*Sg	**Sg**	**19 37 48.6**	**-3.4**
	2.0nm,0.3s,SNR=1.0						
LDF	**La Druitiere**	**4.76**	**287**	*e*Sg	**Sg**	**19 38 07.7**	**-3.6**
	2.6nm,0.3s,SNR=1.0						
LFF	**La Frestale**	**4.82**	**242**	*e*Pn	**Pn**	**19 36 49.4**	**-0.6**
LFF				*e*Sg	**Sg**	**19 38 09.1**	**-4.0**
	4.7nm,0.4s						
MTLF	**Montolieu**	**5.13**	**220**	*e*Pn	**Pn**	**19 36 53.2**	**-1.1**
MTLF	**Montolieu**	**5.13**	**220**	*e*Pg	Pb	19 37 13.5	+5.9
MTLF				*e*Sn	**Sn**	**19 37 48.6**	**-4.3**
MTLF				*e*Sg	**Sg**	**19 38 19.1**	**-4.0**
	0.8nm,0.2s						
NACGM	**Naroch**	**14.64**	**52**	*e*LR	LR	19 39 04.0	

IDC 08 19:38:28.0±2.8**, 0°.43N×123°.44E, h242**km±27km**, mb3.1**/5**, mb1 3.3**/6**, mb1mx3.0**/28**, mbtmp3.7**/6**, Error ellipse: s-maj=76.9km s-min=12.6km az=67.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.54**	**173**	P	P	19 42 27.2	+0.1
	0.4nm,0.3s,baz=339,slow=9.2,SNR=32						
WRA	**Warramunga Arr**	**22.90**	**153**	P	P	19 43 10.5	-0.5
	1.3nm,0.3s,baz=332,slow=11,SNR=44						
ASAR	**Alice Springs**	**26.02**	**158**	P	P	19 43 39.5	+0.2
	0.2nm,0.3s,baz=328,slow=8.5,SNR=11						
ASAR				PcP	PcP	19 47 00.8	+0.1
	0.2nm,0.8s,baz=348,slow=3.4,SNR=2.9						
ASAR				ScP	ScP	19 50 16.5	-0.8
	0.4nm,0.9s,baz=338,slow=2.2,SNR=3.4						
STKA	**Stephens Creek**	**36.45**	**153**	P	P	19 45 10.0	0.0
	2.2nm,0.8s,baz=312,slow=12,SNR=4.0						
SONM	**Songino Array**	**49.48**	**345**	P	P	19 46 54.2	+0.1
	0.3nm,0.8s,baz=168,slow=8.8,SNR=2.8						
MKAR	**Makanchi Array**	**58.48**	**328**	P	P	19 47 58.6	-0.3
	0.4nm,0.3s,baz=120,slow=8.5,SNR=15						

MEX 08 19:47:14.2±0.3**, 17°.59N×102°.32W, h16**km±93km**, MD3.8, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.82**	**89**	*e*P	Pb	19 47 26.9	-3.1
ZIIG				*e*S	Sb	19 47 37.3	-3.5
ARIG	**Puente Sto Nin**	**2.00**	**70**	*e*P	Pn	19 47 44.3	-3.1
ARIG				*i* S	Sn	19 48 07.2	-5.0
CAIG	**El Cayaco**	**2.04**	**105**	*i* P	Pn	19 47 44.4	-3.4
CAIG				*i* S	Sn	19 48 08.2	-4.7
MEIG	**Mezcala**	**2.60**	**82**	*i* P	Pn	19 47 52.7	-2.9
MEIG				*i* S	Sn	19 48 23.0	-4.0
PLIG	**Platanillo**	**2.80**	**73**	*e*P	Pn	19 47 56.2	-2.3
PLIG				*i* S	Sn	19 48 27.7	-4.3

*IDC **08** 19:55:03.9±1.9, 59°.90S×25°.98W, h0km, mb3.7/1, mb1 3.7/1, mb1mx3.5/18, mbtmp3.7/1, Error ellipse: s-maj=105.5km s-min=78.3km az=127.0*
ISC 08 19:55:05.6±1.4**, 60°.3S**±0°.2×**25°.7W**±0°.5**, h10**km**, n8, σ3ˢ.69**/12**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.63**	**153**	P	**Pn**	**19 58 09.4**	**+4.4**
VNA1				S	**Sn**	**20 00 24.5**	**-0.9**
VNA3	**Neumayer Olymp**	**12.78**	**156**	P	**Pn**	**19 58 10.1**	**+3.1**
VNA3				S	**Sn**	**20 00 22.4**	**-6.7**
VNA2	**Neumayer--Watz**	**13.03**	**153**	P	**Pn**	**19 58 14.6**	**+4.1**
	baz=317,slow=15						
VNA2				S	**Sn**	**20 00 32.1**	**-3.1**
	baz=344,slow=15						
SNAA	**Sanae**	**14.61**	**151**	P	**Pn**	**19 58 36.0**	**+3.9**
SNAA				S	**Sn**	**20 01 12.0**	**-1.9**
TORD	**Torodi Ar. Bea**	**76.40**	**27**	P	**P**	**20 06 53.4**	**-1.5**
	0.4nm,0.6s,baz=200,slow=6.5,SNR=5.6						
YKA	**Yellowknife Ar**	**139.75**	**314**	PKP	**PKPdf**	**20 14 31.4**	**-0.5**
	0.4nm,0.7s,baz=125,slow=2.2,SNR=6.1						
SONM	**Songino Array**	**149.98**	**93**	PKPbc	**PKPbc**	**20 14 55.2**	**0.0**
	0.2nm,0.4s,baz=221,slow=2.2,SNR=3.0						
ILAR	**Eielson Array**	**153.35**	**305**	PKPbc	**PKPbc**	**20 15 01.4**	**-0.8**
	0.7nm,1.0s,baz=126,slow=2.2,SNR=4.2						

IDC 08 19:56:10.1±3.2**, 34°.81S×179°.28W, h0**km**, mb3.6**/2**, mb1 3.9**/3**, mb1mx3.7**/29**, mbtmp3.6**/3**, ML3.3**/1**, Error ellipse: s-maj=75.8km s-min=36.8km az=121.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.51**	**219**	Pn	Pn	19 57 20.5	+0.9
	1.6nm,0.3s,baz=22,slow=4.0,SNR=15						
URZ				Sn	Sn	19 58 12.4	-0.3
	2.7nm,0.3s,baz=108,slow=20,SNR=7.6						
ASAR	**Alice Springs**	**42.00**	**272**	P	P	20 04 03.2	0.0
	0.7nm,0.7s,baz=118,slow=7.6,SNR=12						
WRA	**Warramunga Arr**	**43.39**	**278**	P	P	20 04 14.2	-0.3
	0.7nm,0.7s,baz=120,slow=7.5,SNR=6.2						
FINES	**FINESS Array B**	**148.83**	**337**	PKPbc	PKPbc	20 15 58.1	-0.7
	1.9nm,0.8s,baz=54,slow=3.3,SNR=4.3						

*IDC **08** 20:03:30.6±0.9, 2°.19S×125°.43E, h0km, mb3.6/5, mb1 3.8/8, mb1mx3.5/43, mbtmp3.7/8, ML3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx2.8/28, Error ellipse: s-maj=45.0km s-min=17.8km az=65.0*
*ISCJB **08** 20:03:33.1±0.8, 2°.16S±0°.09×125°.55E±0°.08, h32km, mb3.6/5, Error ellipse: s-maj=12.8km s-min=10.9km az=156.4*
ISC 08 20:03:35.3±0.9**, 2°.2S**±0°.1×**125°.5E**±0°.1**, h32**km**, n10, σ0ˢ.44**/10**, mb3.6**/5**, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.89**	**77**	Pn	**Pn**	**20 05 00.9**	**+0.5**
	0.9nm,0.3s,baz=255,slow=20,SNR=4.2						
SIJI				Sn	**Sn**	**20 06 06.7**	**-0.3**
	0.5nm,0.3s,baz=180,slow=20,SNR=3.6						
BATI	**Baumata**	**8.19**	**193**	LR	LR	20 08 38.3	
	comp=Z,234nm,20.3s,baz=278,slow=38						
FITZ	**Fitzroy Crossi**	**15.82**	**180**	Pn	**Pn**	**20 07 16.4**	**+0.6**
	0.0nm,0.3s,baz=5.9,slow=12,SNR=2.1						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.65**	**155**	P	**P**	**20 08 00.9**	**-0.7**
	0.2nm,0.3s,baz=334,slow=12,SNR=22						
ASAR	**Alice Springs**	**22.86**	**160**	P	**P**	**20 08 35.9**	**-0.2**
	0.9nm,0.8s,baz=346,slow=14,SNR=13						
STKA	**Stephens Creek**	**33.20**	**155**	P	**P**	**20 10 09.2**	**-0.1**
	1.8nm,0.9s,baz=320,slow=16,SNR=2.9						
SONM	**Songino Array**	**52.54**	**344**	P	**P**	**20 12 45.4**	**-0.3**
	0.6nm,0.8s,baz=148,slow=6.9,SNR=4.5						
MKAR	**Makanchi Array**	**61.78**	**328**	P	**P**	**20 13 50.9**	**0.0**
	0.4nm,0.7s,baz=118,slow=7.2,SNR=5.2						
KURBB	**Kurchatov Arra**	**66.10**	**329**	P	**P**	**20 14 19.5**	**+0.3**
	0.4nm,0.7s,baz=138,slow=6.2,SNR=2.7						
TORD	**Torodi Ar. Bea**	**123.39**	**284**	PKP	**PKPdf**	**20 22 30.3**	**0.0**
	0.3nm,0.7s,baz=104,slow=3.0,SNR=3.4						

MAN 08 20:12:22.1, 6°.27N × 126°.15E, h58km, mb4.0, ML2.8, MS2.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.46**	**250**	*e*P	Pn	20 12 33.1	-0.4
DDMP				*e*S	Sn	20 12 41.9	+0.2
MATI	**Mati**	**0.69**	**9**	*e*P	Pn	20 12 38.0	+1.9
MATI				*e*S	Sn	20 12 49.1	+2.8
GSPH	**General Santos**	**1.20**	**262**⇑	*i*P	Pn	20 12 40.3	-2.6
GSPH				*i* S	Sn	20 12 53.7	-4.7
SKMP	**Bagumbayan, Su**	**1.61**	**279**	*e*P	Pn	20 12 46.1	-2.2
SKMP				*e*S	Sn	20 13 05.7	-2.4
BUKP	**Musuan**	**1.93**	**326**	*e*P	Pn	20 12 53.2	+0.5
BUKP				*e*S	Sn	20 13 17.1	+1.3

*GCMT **08** 20:14:59.9±0.3, 10°.38S±0°.01 × 161°.77E±0°.02, h37km±1km, MW5.2/94, Moment Tensor Solution. s56,c69; s94,c141; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.19±.24; $M_{\theta\theta}$-4.52±.19; $M_{\phi\phi}$2.32±.17; $M_{r\theta}$0.27±.21; $M_{\theta\phi}$4.92±.15; $M_{\phi r}$3.85±.23; Best double couple: $M_0$7.37600×10^{16} NP1:ϕ_s337.00000°,δ74.00000°,λ146.00000°. NP2: ϕ_s78.00000°,δ58.00000°,λ19.00000°. Principal axes: T 7.3800, Plg35.0000°, Azm293.0000°; N -0.0190, Plg53.0000°, Azm134.0000°; P -7.3720, Plg10.0000°, Azm31.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*ISCJB **08** 20:15:01.4±0.1, 10°.23S±0°.03 × 161°.45E±0°.03, h61km, mb5.3/196 Error ellipse: s-maj=4.3km s-min=3.3km az=135.5*

*BJI **08** 20:15:03.8, 10°.04S × 161°.77E, h88km, mb5.1/69, mB5.2/38, Ms5.0/22, Ms7 4.8/9*

*NEIC **08** 20:15:05.9±0.8, 10°.25S × 161°.48E, h91km±7km, mb5.3/121, Error ellipse: s-maj=4.2km s-min=3.6km az=116.0*

*IDC **08** 20:15:05.8±2.3, 10°.30S × 161°.47E, h90km±19km, mb4.6/28, mb1 4.7/28, mb1mx4.7/34, mbtmp4.9/28, MS4.3/20, Ms1 4.3/20, ms1mx4.2/32, Error ellipse: s-maj=15.9km s-min=11.0km az=94.0*

*MOS **08** 20:15:06.3±0.8, 10°.20S × 161°.37E, h103km, mb5.1/45, Error ellipse: s-maj=8.1km s-min=6.9km az=90.6*

ISC 08 20:15:02.0±0.3**, 10°.34S**±0°.04 × **161°.67E**±0°.05**, h61km, n422, σ1s.52**/437**, mb5.2**/199**, 15C-3D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.92**	**298**	P	**Pn**	**20 15 33.9**	**+1.4**
	2µm,0.3s,baz=174,slow=3.1,SNR=1352						
HNR				S	**Sn**	**20 15 59.2**	**+3.7**
	3µm,0.3s,baz=265,slow=20,SNR=9.4						
HNR	**Honiara**	**1.92**	**298**	*e*Pn	**Pn**	**20 15 33.5**	**+1.1**
RABL	**Rabaul**	**11.23**	**302**	*e*Pn	Pn	20 17 34.6	-5.2
DZM	**Mont Dzumac**	**12.53**	**159**	P	**Pn**	**20 17 58.2**	**+0.4**
	7.1nm,0.3s,baz=19,slow=6.0,SNR=70						
DZM				S	**Sn**	**20 20 11.4**	**-4.4**
	0.9nm,0.3s,baz=336,slow=20,SNR=2.7						
DZM				LR	LR	20 22 38.0	
	comp=Z,952nm,18.9s,baz=8.0,slow=36						
DZM	**Mont Dzumac**	**12.53**	**159**	*e*Pn	**Pn**	**20 17 58.0**	**+0.3**
	128nm,1.1s						
DZM				*e*Sn	**Sn**	**20 20 11.5**	**-4.3**
	53nm,0.9s						
DZM				*e*LR	LR	20 20 52.8	
	comp=Z,1µm,22.9s						
DZM	**Mont Dzumac**	**12.53**	**159**	*e*Pn	**Pn**	**20 17 57.6**	**-0.1**
DZM				*e*Sn	**Sn**	**20 20 10.7**	**-5.1**
MARNC	**Mare, Loyalty**	**12.65**	**152**	*e*Pn	**Pn**	**20 17 58.7**	**-0.5**
ONTNC	**Ouen Toro**	**12.76**	**160**	*e*Pn	**Pn**	**20 18 01.4**	**+0.7**
PMG	**Port Moresby**	**14.33**	**272**	P	**P**	**20 18 24.9**	**-2.3**
	0.6nm,0.3s,baz=100,slow=13,SNR=5.6						
PMG				LR	LR	20 23 53.9	
	comp=Z,3µm,19.4s,baz=115,slow=37						
PMG	**Port Moresby**	**14.33**	**272**	*e*Pn	**P**	**20 18 25.5**	**-1.7**
PMG				*e*		20 23 54.0	
TARA	**Tarawa**	**16.14**	**45**	*e*Pn	**Pn**	**20 18 43.1**	**-1.9**
	619nm,0.6s						
MANU	**Manus Island**	**16.42**	**299**	*e*Pn	**Pn**	**20 18 48.5**	**-0.2**
	101nm,0.9s						
PATS	**Pohnpei**	**17.39**	**349**	P	**P**	**20 19 01.2**	**+0.1**
	baz=17,SNR=4.6						
PATS	**Pohnpei**	**17.39**	**349**	*e*P	**Pn**	**20 19 00.8**	**+0.2**
	320nm,1.1s						
CTA	**Charters Tower**	**17.74**	**235**	P	**P**	**20 19 07.3**	**+2.2**
	2.5nm,0.3s,baz=63,slow=12,SNR=34						
CTA				S	**Sn**	**20 22 16.1**	**-6.0**
	0.3nm,0.3s,baz=342,slow=20,SNR=2.3						
CTA				LR	LR	20 25 42.1	
	comp=Z,2µm,19.4s,baz=62,slow=36						
CTAO	**Charters Tower**	**17.74**	**235**	*e*P	**P**	**20 19 07.7**	**+2.6**
	79nm,0.9s						
CTAO	**Charters Tower**	**17.74**	**235**	*e*P	**P**	**20 19 07.7**	**+2.6**
CTAO				pmax	pmax		
	comp=Z,79nm,0.9s						
EIDS	**Eidsvold**	**18.01**	**213**	P	**Pn**	**20 19 11.4**	**+3.2**
	baz=18,SNR=24						
EIDS	**Eidsvold**	**18.01**	**213**	*e*P	**Pn**	**20 19 10.2**	**+2.0**
	comp=Z,80nm,0.9s						
COEN	**Coen**	**18.43**	**257**	P	**Pn**	**20 19 17.0**	**+3.6**
	baz=19,SNR=24						
COEN	**Coen**	**18.43**	**257**	*e*P	**Pn**	**20 19 16.2**	**+2.7**
	comp=Z,428nm,1.6s						
MTSU	**Mount Surprise**	**18.51**	**243**	P	**Pn**	**20 19 17.7**	**+3.4**
	baz=19,SNR=108						
KWAJ	**Kwajalein Atol**	**19.91**	**17**	*e*P	**Pn**	**20 19 32.7**	**+1.7**
	comp=Z,565nm,1.3s						
KWAJ	**Kwajalein Atol**	**19.91**	**17**	*e*P	**Pn**	**20 19 32.7**	**+1.7**
KWAJ				pmax	pmax		
	comp=Z,565nm,1.3s						
RMQ	**Roma**	**20.17**	**216**	P	Pn	20 19 34.9	+0.9
	baz=20,SNR=52						
ARMA	**Armidale**	**22.06**	**204**	P	**P**	**20 19 53.7**	**+1.7**
	baz=22,SNR=12						
ARMA	**Armidale**	**22.06**	**204**	*e*P	**P**	**20 19 53.1**	**+1.1**
	comp=Z,130nm,1.7s						
JAY	**Jayapura**	**22.22**	**289**	P	**P**	**20 19 52.1**	**-1.7**
	comp=Z,51nm,1.0s,baz=152,slow=6.2,SNR=8.8						
JAY	**Jayapura**	**22.22**	**289**	P	**P**	**20 19 52.3**	**-1.5**
	comp=Z,822nm,1.1s						
QLP	**Quilpie**	**23.07**	**223**	P	**P**	**20 20 03.7**	**+1.1**
	baz=23,SNR=20						
QIS	**Mount Isa**	**23.54**	**242**	P	**P**	**20 20 08.2**	**+1.1**
	baz=24,SNR=14						
CMSA	**Cobar Meteorol**	**25.77**	**213**	P	**P**	**20 20 28.9**	**+1.6**
	baz=26,SNR=6.4						
YNG	**Young**	**26.77**	**205**	P	**P**	**20 20 38.4**	**+2.2**
	baz=27,SNR=5.5						
OUZ	**Omahuta**	**27.05**	**158**	*e*P	**P**	**20 20 39.7**	**+1.0**
	comp=Z,23nm,1.1s						
CNB	**Canberra Magne**	**27.28**	**202**	P	**P**	**20 20 43.0**	**+2.1**
	baz=28,SNR=6.3						
CAN	**Canberra**	**27.42**	**203**	*e*P	**P**	**20 20 43.5**	**+1.4**
	comp=Z,93nm,1.5s						
CAN	**Canberra**	**27.42**	**203**	*e*P	**P**	**20 20 43.5**	**+1.4**
CAN				pmax	pmax		
	comp=Z,93nm,1.5s						
WC3	**Warramunga Arr**	**27.99**	**247**	*e*P	**P**	**20 20 47.2**	**-0.2**
	comp=Z,85nm,1.1s						
WRAB	**Tennant Creek**	**28.00**	**247**	*e*P	**P**	**20 20 47.5**	**0.0**
	comp=Z,68nm,1.0s						
WRAB	**Tennant Creek**	**28.00**	**247**	*e*P	**P**	**20 20 47.5**	**0.0**
WRAB				pmax	pmax		
	comp=Z,68nm,1.0s						
WB2	**Warramunga Arr**	**28.01**	**247**	*e*P	**P**	**20 20 46.9**	**-0.6**
WR1	**Warramunga Arr**	**28.02**	**247**	*e*P	**P**	**20 20 47.8**	**+0.2**
	comp=Z,96nm,1.0s						
WR1				*e*PcP	**PcP**	**20 24 00.3**	**-1.1**
WR1				*e*		20 31 35.4	
WR1				*e*		20 32 00.9	
WRA	**Warramunga Arr**	**28.02**	**247**	P	**P**	**20 20 47.8**	**+0.2**
	comp=Z,25nm,0.9s,baz=76,slow=9.1,SNR=120						
WRA				PcP	**PcP**	**20 24 00.3**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=75,slow=3.4,SNR=4.5						
WRA				PKiKP	**PKiKP**	**20 31 35.4**	**-2.2**
	comp=Z,0.4nm,1.0s,baz=353,slow=0.7,SNR=4.8						
WRA				LR	LR	20 32 00.9	
	comp=Z,1µm,18.4s,baz=70,slow=36						
WRA	**Warramunga Arr**	**28.02**	**247**	*i* P	**P**	**20 20 47.7**	**+0.1**
WRA				pmax	pmax		
	comp=Z,25nm,0.9s						
STKA	**Stephens Creek**	**28.36**	**218**	P	**P**	**20 20 51.2**	**+0.7**
	comp=Z,10nm,0.8s,baz=24,slow=11,SNR=12						
STKA				LR	LR	20 32 05.6	
	comp=Z,3µm,18.5s,baz=38,slow=36						
STKA	**Stephens Creek**	**28.36**	**218**	P	**P**	**20 20 52.1**	**+1.6**
	baz=29,SNR=9.7						
STKA	**Stephens Creek**	**28.36**	**218**	*e*P	**P**	**20 20 51.6**	**+1.2**
	comp=Z,5.5nm,1.0s						
STKA	**Stephens Creek**	**28.36**	**218**	*e*P	**P**	**20 20 51.7**	**+1.2**
STKA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KDU	**Kakadu**	**28.70**	**262**	P	**P**	**20 20 53.8**	**+0.2**
	baz=29,SNR=19						
AS01	**Alice Springs**	**29.56**	**240**	*e*P	**P**	**20 21 00.7**	**-0.6**
AS31	**Alice Springs**	**29.60**	**240**	*e*P	**P**	**20 21 01.5**	**-0.2**
	comp=Z,5.2nm,0.9s						
ASAR	**Alice Springs**	**29.60**	**240**	P	**P**	**20 21 01.1**	**-0.6**
	comp=Z,7.7nm,0.7s,baz=64,slow=9.9,SNR=67						
ASAR				PcP	**PcP**	**20 24 05.5**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=87,slow=2.7,SNR=3.0						
ASAR				LR	LR	20 32 54.0	
	comp=Z,2µm,18.3s,baz=67,slow=36						
SAUI	**Saumlaki**	**30.07**	**272**	*e*P	**P**	**20 21 04.3**	**-1.5**
	comp=Z,172nm,1.1s						
FAKI	**Fak Fak**	**30.12**	**282**	*e*P	**P**	**20 21 05.3**	**-1.0**
	comp=Z,43nm,1.4s						
TOO	**Toolangi**	**30.78**	**206**	P	**P**	**20 21 14.4**	**+2.5**
	baz=31,SNR=17						
TOO	**Toolangi**	**30.78**	**206**	*e*P	**P**	**20 21 13.5**	**+1.6**
	comp=Z,33nm,0.8s						
TOO	**Toolangi**	**30.78**	**206**	*e*P	**P**	**20 21 13.5**	**+1.6**
TOO				pmax	pmax		
	comp=Z,33nm,0.8s						
MXZ	**Matakaoa Point**	**30.97**	**154**	*e*P	**P**	**20 21 15.4**	**+1.9**
	comp=Z,62nm,1.2s						
HTT	**Hallett**	**31.06**	**219**	P	**P**	**20 21 15.6**	**+1.1**
	baz=31,SNR=10						
URZ	**Urewera**	**31.06**	**156**	P	**P**	**20 21 16.6**	**+2.3**
	comp=Z,4.5nm,0.7s,baz=315,slow=1.4,SNR=3.1						
URZ	**Urewera**	**31.06**	**156**	*e*P	**P**	**20 21 16.4**	**+2.1**
	comp=Z,29nm,1.3s						
BKZ	**Black Stump Fm**	**31.61**	**158**	*e*P	**P**	**20 21 18.9**	**-0.3**
	comp=Z,77nm,1.7s						
SIJI	**Sorong**	**31.65**	**285**	P	**P**	**20 21 19.2**	**-0.6**
	comp=Z,5.0nm,0.6s,baz=110,slow=15,SNR=4.0						
ARPS	**Mount Arapiles**	**31.84**	**211**	P	**P**	**20 21 23.4**	**+2.2**
	baz=32,SNR=5.2						
BNDI	**Bandanaira**	**32.01**	**278**	P	**P**	**20 21 23.3**	**+0.4**
	comp=Z,242nm,1.3s						
KNRA	**Kununurra**	**32.47**	**257**	P	**P**	**20 21 27.4**	**+0.4**
	baz=33,SNR=18						
BBOO	**Buckleboo**	**32.50**	**223**	P	**P**	**20 21 27.9**	**+0.8**
	baz=33,SNR=13						
BBOO	**Buckleboo**	**32.50**	**223**	*e*P	**P**	**20 21 27.9**	**+0.8**
	comp=Z,53nm,1.0s						
SNZO	**South Karori**	**32.92**	**162**	*e*P	P	20 21 35.5	+5.0
	comp=Z,137nm,1.1s						
KHZ	**Kahutara**	**33.60**	**164**	*e*P	**P**	**20 21 40.4**	**+3.9**
	comp=Z,85nm,1.6s						
LTZ	**Lake Taylor**	**33.62**	**166**	*e*P	**P**	**20 21 40.2**	**+3.5**
	comp=Z,40nm,0.6s						
MQZ	**McQueen's Vall**	**34.59**	**166**	*e*P	**P**	**20 21 47.5**	**+2.5**
	comp=Z,201nm,1.6s						
WRKA	**Warakurna**	**34.87**	**241**	P	**P**	**20 21 47.7**	**-0.1**
	baz=35,SNR=42						
FITZ	**Fitzroy Crossi**	**35.72**	**253**	P	**P**	**20 21 55.0**	**0.0**
	baz=36,SNR=16						
FITZ	**Fitzroy Crossi**	**35.72**	**253**	*e*P	**P**	**20 21 55.3**	**+0.2**
	comp=Z,76nm,0.8s						
SANI	**Sanana**	**36.38**	**281**	P	**P**	**20 21 59.6**	**-1.2**
	comp=Z,56nm,0.9s						
FORT	**Forrest**	**37.24**	**232**	*e*P	**P**	**20 22 08.4**	**+0.4**
	comp=Z,84nm,1.0s						
BATI	**Baumata**	**37.38**	**267**	P	**P**	**20 22 11.2**	**+1.8**
	comp=Z,52nm,1.3s						
KMSI	**Cibinong**	**39.03**	**284**	P	**P**	**20 22 22.3**	**-0.9**
LUWI	**Luwuk**	**39.74**	**281**	*e*P	**P**	**20 22 28.4**	**-0.7**
	comp=Z,496nm,2.0s						
BNSI	**Bone**	**41.61**	**275**	P	**P**	**20 22 44.4**	**-0.1**
	comp=Z,119nm,1.3s						
MBWA	**Marble Bar**	**41.65**	**250**	*e*P	**P**	**20 22 45.0**	**+0.2**
	comp=Z,59nm,0.8s						
CBIJ	**Chichi jima**	**41.74**	**333**	*e*P	**P**	**20 22 42.9**	**-2.4**
	comp=Z,75nm,0.8s						
JCJ	**Chichijima**	**41.74**	**333**	P	**P**	**20 22 43.7**	**-1.6**
	comp=Z,68nm,0.8s,baz=285,slow=22,SNR=5.2						
PCI	**Palu**	**42.62**	**280**	P	**P**	**20 22 53.4**	**+0.6**
	comp=Z,88nm,1.0s						
MPSI	**Mapaga**	**42.88**	**282**	P	**P**	**20 22 51.1**	**-3.8**
	comp=Z,21nm,0.8s						
PLAI	**Plampang**	**43.28**	**268**	P	**P**	**20 22 57.4**	**-0.7**
	comp=Z,87nm,0.9s						
MEEK	**Meekatharra**	**43.70**	**242**	P	**P**	**20 23 02.3**	**+1.0**
	baz=44,SNR=31						
KLBR	**Kellerberrin**	**45.75**	**236**	P	**P**	**20 23 18.1**	**+0.5**
	baz=46,SNR=7.2						
IGBI	**Denpasar**	**45.87**	**268**	P	**P**	**20 23 18.2**	**-0.6**
	comp=Z,500nm,1.4s						
BLDU	**Ballidu**	**46.32**	**237**	P	**P**	**20 23 22.6**	**+0.5**
	baz=46,SNR=31						
MORW	**Morawa**	**46.48**	**240**	P	**P**	**20 23 24.1**	**+0.6**
	baz=47,SNR=9.8						
MORW	**Morawa**	**46.48**	**240**	*e*P	**P**	**20 23 24.4**	**+1.0**
	comp=Z,50nm,1.0s						
NWAO	**Narrogin (SRO)**	**46.58**	**234**	P	**P**	**20 23 24.9**	**+0.8**
	baz=47,SNR=13						
NWAO	**Narrogin (SRO)**	**46.58**	**234**	*e*P	**P**	**20 23 24.4**	**+0.4**
	comp=Z,47nm,0.9s						
NWAO	**Narrogin (SRO)**	**46.58**	**234**	*e*P	**P**	**20 23 24.5**	**+0.4**
NWAO				pmax	pmax		
	comp=Z,47nm,0.9s						
JAGI	**Jajag, Banyuwa**	**46.88**	**268**	*e*P	**P**	**20 23 25.1**	**-1.7**
	comp=Z,106nm,0.8s						
JAGI	**Jajag, Banyuwa**	**46.88**	**268**	P	**P**	**20 23 24.9**	**-1.8**
	comp=Z,168nm,1.0s						
GIRL	**Giralia**	**46.91**	**249**	*e*P	**P**	**20 23 28.0**	**+1.2**
	comp=Z,528nm,1.5s						
MUN	**Mundaring**	**47.12**	**236**	P	**P**	**20 23 29.2**	**+0.9**
	baz=47,SNR=6.4						
RKGY	**Rocky Gully**	**47.33**	**232**	P	**P**	**20 23 31.7**	**+1.8**
	baz=48,SNR=5.3						
PPT	**Papeete**	**47.75**	**104**	LR	LR	20 39 29.9	
	comp=Z,251nm,19.6s,baz=250,slow=30						
PPT2	**Papeete2**	**47.75**	**104**	*e*LQ	LQ	20 35 11.8	
	comp=Z,1µm,29.5s						
PPT2				*e*LR	LR	20 37 14.8	
	comp=Z,433nm,23.5s						
KKM	**Kota Kinabalu**	**48.10**	**288**	*e*P	**P**	**20 23 35.7**	**-0.6**
	comp=Z,81nm,1.3s						
TBI	**Tubuai**	**48.31**	**112**	*e*LQ	LQ	20 35 23.3	
	comp=Z,658nm,28.5s						
TBI				*e*LR	LR	20 37 24.9	
	comp=Z,510nm,32.0s						
JOW	**Kunigami**	**49.15**	**319**	*e*P	**P**	**20 23 45.1**	**+1.1**
	comp=Z,76nm,1.1s						
PWJI	**Pagerwojo**	**49.24**	**268**	P	**P**	**20 23 43.4**	**-1.5**
	comp=Z,59nm,0.7s						
PCJI	**Pacitan**	**49.84**	**268**	P	**P**	**20 23 49.0**	**-0.5**
	comp=Z,231nm,0.9s,comp=Z,5µm						
UGM	**Wanagama**	**50.52**	**268**	*e*P	**P**	**20 23 53.9**	**-0.8**
	comp=Z,664nm,1.7s						
SMRI	**Semarang**	**50.70**	**269**	*e*P	**P**	**20 23 56.6**	**+0.6**
	comp=Z,798nm,1.9s						
OPA	**Opana**	**50.78**	**51**	*e*P	**P**	**20 23 56.4**	**0.0**
	comp=Z,114nm,0.7s						
OPA	**Opana**	**50.78**	**51**	*e*P	**P**	**20 23 56.4**	**0.0**
OPA				pmax	pmax		
	comp=Z,114nm,0.7s						
SBUM	**Sibu**	**50.84**	**282**	P	**P**	**20 23 55.6**	**-1.4**
STKI	**Sintang**	**50.97**	**279**	P	**P**	**20 23 58.4**	**+0.4**
INU	**Inuyama**	**51.07**	**334**	*e*P	**P**	**20 23 58.4**	**0.0**
	comp=Z,78nm,1.0s						
KHU	**Kahuku**	**51.34**	**55**	*e*P	**P**	**20 24 02.2**	**+1.2**
	comp=Z,280nm,1.3s						
KHU	**Kahuku**	**51.34**	**55**	*e*P	**P**	**20 24 02.2**	**+1.2**
KHU				pmax	pmax		
	comp=Z,280nm,1.3s						
HUH	**Hualalai**	**51.39**	**55**	*e*P	**P**	**20 24 01.6**	**+0.2**
	comp=Z,686nm,2.0s						
MJAR	**Matsushiro Arr**	**51.59**	**336**	P	**P**	**20 24 01.1**	**-1.2**
	comp=Z,19nm,0.7s,baz=171,slow=8.7,SNR=48						
MJAR	**Matsushiro Arr**	**51.59**	**336**	P	**P**	**20 24 01.1**	**-1.2**
MJAR				pmax	pmax		
	comp=Z,14nm,0.6s						
MAJO	**Matsushiro**	**51.59**	**336**	*e*P	**P**	**20 24 01.5**	**-0.8**
	comp=Z,30nm,0.7s						
MAJO	**Matsushiro**	**51.59**	**336**	*i* P	**P**	**20 24 01.9**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,72nm,1.6s						
MAT	**Matsushiro**	**51.59**	**336**	P	**P**	**20 24 01.6**	**-0.7**
MJB9	**Matsu-Tunnel**	**51.60**	**336**	*e*P	**P**	**20 24 01.7**	**-0.7**
	comp=Z,30nm,0.7s						
HMH	**Humu'ula Sheep**	**51.63**	**55**	*e*P	**P**	**20 24 04.6**	**+1.4**
	comp=Z,268nm,1.5s						
MLH	**Mauna Loa**	**51.66**	**55**	*e*P	**P**	**20 24 04.0**	**+0.7**
	comp=Z,906nm,2.0s						
MLH	**Mauna Loa**	**51.66**	**55**	*e*P	**P**	**20 24 04.0**	**+0.7**
MLH				pmax	pmax		
	comp=Z,906nm,2.0s						
YULB	**Yu-li**	**51.80**	**311**	*e*P	**P**	**20 24 02.0**	**-2.1**
	comp=Z,124nm,1.9s						
STCH	**Steam Cracks**	**51.81**	**55**	*e*P	**P**	**20 24 05.8**	**+1.5**
	comp=Z,93nm,0.7s						
NACB	**Ninganchiao**	**52.04**	**312**	*e*P	**P**	**20 24 05.8**	**0.0**
	comp=Z,173nm,1.8s						
JNU	**Nakatsue**	**52.24**	**327**	P	**P**	**20 24 07.2**	**0.0**
	comp=Z,101nm,1.1s,baz=101,slow=2.3,SNR=24						
JNU	**Nakatsue**	**52.24**	**327**	*e*P	**P**	**20 24 07.5**	**+0.3**
	comp=Z,109nm,1.0s						
TPUB	**Ta-pu**	**52.25**	**310**	*e*P	**P**	**20 24 06.7**	**-0.7**
	comp=Z,232nm,1.9s						
SSLB	**Suanglung**	**52.29**	**311**	*e*P	**P**	**20 24 07.2**	**-0.6**
	comp=Z,187nm,1.9s						
KSM	**Kuching**	**52.44**	**280**	*e*P	**P**	**20 24 08.7**	**-0.3**
	comp=Z,25nm,0.9s						
KSM	**Kuching**	**52.44**	**280**	P	**P**	**20 24 09.0**	**0.0**
YHNB	**Yeheng**	**52.50**	**312**	*e*P	**P**	**20 24 08.7**	**-0.6**
	comp=Z,302nm,1.9s						
CMJI	**Cimerak**	**52.57**	**268**	P	**P**	**20 24 07.6**	**-2.4**
	comp=Z,89nm,1.3s						
JCJI	**Jatiwangi**	**52.92**	**270**	P	**P**	**20 24 12.0**	**-0.5**
	comp=Z,264nm,0.8s						
CISI	**Cisompet, Garu**	**53.22**	**268**	*e*P	**P**	**20 24 13.3**	**-1.5**
	comp=Z,71nm,0.7s						
CISI	**Cisompet, Garu**	**53.22**	**268**	P	**P**	**20 24 13.7**	**-1.2**
LEM	**Lembang**	**53.51**	**269**	P	**P**	**20 24 16.5**	**-0.6**
	comp=Z,70nm,0.8s,baz=82,slow=7.9,SNR=16						
LEM	**Lembang**	**53.51**	**269**	P	**P**	**20 24 17.0**	**-0.1**
	comp=Z,809nm,0.9s						
CBJI	**Citeko**	**54.32**	**269**	P	**P**	**20 24 21.0**	**-1.8**
	comp=Z,142nm,0.7s,comp=Z,5µm						
DBJI	**Dramaga**	**54.40**	**269**	P	**P**	**20 24 22.5**	**-0.9**
ERM	**Erimo**	**54.80**	**343**	*e*P	**P**	**20 24 26.7**	**+1.0**
	comp=Z,71nm,1.2s						
ERM	**Erimo**	**54.80**	**343**	*e*P	**P**	**20 24 26.7**	**+1.0**
ERM				pmax	pmax		
	comp=Z,71nm,1.2s						
XMIS	**Christmas Isla**	**55.03**	**264**	*e*P	**P**	**20 24 28.3**	**+0.3**
	comp=Z,137nm,1.4s						
TJN	**Taejon**	**56.59**	**327**	*ce*P	**P**	**20 24 39.2**	**+0.6**
SSE	**Sheshan**	**56.60**	**318**	*e*P	**P**	**20 24 39.0**	**+0.1**
	comp=Z,62nm,0.8s						
KASI	**Kota Agung**	**56.77**	**270**	P	**P**	**20 24 38.3**	**-2.1**
	comp=Z,55nm,0.9s						
ASAJ	**Asahikawa**	**56.90**	**344**	P	**P**	**20 24 41.8**	**+1.2**
	comp=Z,46nm,0.7s,baz=212,slow=8.8,SNR=29						
ASAJ	**Asahikawa**	**56.90**	**344**	*e*P	**P**	**20 24 40.7**	**+0.1**
	comp=Z,53nm,0.8s						
KSRS	**Korea Array**	**57.10**	**328**	P	**P**	**20 24 42.6**	**+0.4**
	comp=Z,21nm,0.9s,baz=144,slow=7.5,SNR=39						
KS15	**Wonju Array Si**	**57.11**	**328**	*e*P	**P**	**20 24 40.7**	**-1.7**
KSAR	**Wonju Array Be**	**57.11**	**328**	P	**P**	**20 24 42.6**	**+0.3**
KSAR	**Wonju Array Be**	**57.11**	**328**	P	**P**	**20 24 42.6**	**+0.3**
KS01	**Wonju Array Si**	**57.13**	**328**	*e*P	**P**	**20 24 42.5**	**0.0**
MDSI	**Maura Dua**	**57.24**	**271**	P	**P**	**20 24 42.2**	**-1.5**
	comp=Z,29nm,1.2s						
NJ2	**Nanjing**	**58.75**	**318**	*e*P	**P**	**20 24 53.8**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,21nm,0.6s						
QIZ	**Qiongzhong**	**58.83**	**300**	P	**P**	**20 24 55.7**	**+1.0**
QIZ				S	**S**	**20 32 55.8**	**-0.3**
YSS	**Yuzh-Sakhalins**	**59.48**	**345**⇑	*e*P	**P**	**20 24 58.9**	**+0.2**
YSS				pmax	pmax		
	comp=Z,20nm,1.1s						
YSS				pmax	pmax		
	comp=N,10µm,0.8s						
YSS				pmax	pmax		
	comp=E,20µm,0.8s						
USA0B	**Ussuriysk Arra**	**60.59**	**336**	*e*P	**P**	**20 25 06.6**	**+0.2**
	comp=E,86nm,0.9s						
USRK	**Ussuriysk Ar.**	**60.59**	**336**	P	**P**	**20 25 07.2**	**+0.9**
	comp=E,58nm,0.8s,baz=145,slow=6.4,SNR=90						
BKNI	**Bangkinang**	**61.21**	**276**	P	**P**	**20 25 10.7**	**-0.5**
	comp=E,83nm,1.0s						
DL2	**Dalian**	**61.56**	**325**	P	**P**	**20 25 13.4**	**+0.4**
DL2				pmax	pmax		
	comp=E,87nm,1.1s						
RKT	**Rikitea**	**61.59**	**111**	*e*LQ	LQ	20 40 58.3	
	comp=E,239nm,35.2s						
RKT				*e*LR	LR	20 43 34.1	
	comp=E,702nm,27.0s						
MDJ	**Mudanjiang**	**61.92**	**335**	P	**P**	**20 25 15.4**	**+0.1**
MDJ				pmax	pmax		
	comp=E,48nm,1.1s						
MDJ				pmax	pmax		
	comp=E,400nm,2.7s						
MDJ	**Mudanjiang**	**61.92**	**335**	*e*P	**P**	**20 25 16.1**	**+0.8**
	comp=E,240nm,2.0s						
IPM	**Ipoh**	**62.15**	**281**	*e*P	**P**	**20 25 17.0**	**-0.6**
	comp=E,41nm,1.3s						
IPM	**Ipoh**	**62.15**	**281**	P	**P**	**20 25 17.5**	**0.0**
TIA	**Tai'an**	**62.47**	**320**	P	**P**	**20 25 18.9**	**-0.3**
TIA				pmax	pmax		
	comp=E,10.0nm,0.8s						
KULM	**Kulim**	**62.72**	**281**	*e*P	**P**	**20 25 20.0**	**-1.2**
	comp=E,47nm,1.6s						
KULM	**Kulim**	**62.72**	**281**	P	**P**	**20 25 21.3**	**0.0**
MNSI	**Mandailing Nat**	**62.74**	**276**	P	**P**	**20 25 20.2**	**-1.2**
	comp=E,52nm,0.7s						
CN2	**Changchun**	**63.14**	**331**	*e*P	**P**	**20 25 23.3**	**-0.2**
CN2				pmax	pmax		
	comp=E,50nm,1.1s						
TYV	**Tymovskoe**	**63.15**	**347**	*e*P	**P**	**20 25 24.2**	**+0.8**
TYV				*e*S	**S**	**20 33 48.4**	**-1.5**
TYV				pmax	pmax		
	comp=Z,20nm,0.8s						
TYV				pmax	pmax		
	comp=Z,200nm,5.2s						
TYV				smax	smax		
	comp=E,400nm,5.4s						
SKNT	**Sakolnakorn**	**63.15**	**295**	P	**P**	**20 25 27.0**	**+2.9**
	comp=E,14nm,2.5s						
PEA0B	**Petropavlovsk-**	**63.28**	**357**	*e*P	**P**	**20 25 24.2**	**0.0**
	comp=E,155nm,1.5s						
PETK	**Petropavlovsk-**	**63.28**	**357**	P	**P**	**20 25 24.8**	**+0.5**
	comp=E,9.7nm,0.8s,baz=159,slow=9.5,SNR=7.2						
PETK				LR	LR	20 49 15.8	
	comp=E,211nm,20.9s,baz=169,slow=32						
PETK	**Petropavlovsk-**	**63.28**	**357**	*e*P	**P**	**20 25 25.2**	**+1.0**
PETK	**Petropavlovsk-**	**63.28**	**357**	*e*P	**P**	**20 25 25.2**	**+1.0**
PEA1	**Petropavlovsk-**	**63.29**	**357**	*e*P	**P**	**20 25 24.8**	**+0.5**
PEA1				*e*PKKSdf	PKKSdf	20 49 15.8	-28
PSI	**Prapat**	**63.80**	**278**	*e*P	**P**	**20 25 26.3**	**-2.3**
	comp=E,64nm,1.9s						
PSI	**Prapat**	**63.80**	**278**	*e*P	**P**	**20 25 26.3**	**-2.3**
PSI				pmax	pmax		
	comp=Z,64nm,1.9s						
NONG	**Nongkai**	**64.29**	**296**	P	**P**	**20 25 32.4**	**+0.9**
	comp=Z,0.3nm,1.0s						
ENH	**Enshi**	**64.37**	**311**	*e*P	**P**	**20 25 30.7**	**-1.2**
	comp=Z,25nm,0.9s						
CHAI	**Chaiyaphum**	**64.57**	**293**	P	**P**	**20 25 34.1**	**+0.7**
	comp=Z,3.2nm,0.9s						
PATY	**Pattaya**	**64.64**	**290**	P	P	20 25 39.3	+5.4
	comp=Z,6.7nm,1.1s,comp=Z,772nm						
GRNR	**Gornyy**	**64.70**	**343**	*e*P	**P**	**20 25 34.7**	**+1.1**
GYA	**Guiyang**	**64.73**	**306**	P	**P**	**20 25 36.4**	**+1.9**
GYA				PP	**PP**	**20 28 01.8**	**+4.2**
GYA				S	**S**	**20 34 09.6**	**-1.1**
GYA				SKS	**SKSac**	**20 35 19.0**	**-5.2**

GYA SS **SS** **20 38 22.4 -0.7**
GYA pmax pmax
comp=Z,40nm,0.9s
GYA pmax pmax
comp=Z,130nm,6.4s
GYA LR LR
comp=Z,510nm,20.0s
GYA LR LR
comp=Z,490nm,21.2s
GYA LR LR
comp=Z,460nm,20.2s
GSI Gunungsitoli 64.80 276 *e*P **P** **20 25 33.6 -1.4**
comp=Z,27nm,0.8s
GSI Gunungsitoli 64.80 276 P **P** **20 25 34.0 -1.0**
comp=Z,41nm,0.7s
KLR Kul'dur 64.88 339*d i*P **P** **20 25 34.6 -0.2**
KCSI Kotacane, Aceh 65.09 279 P **P** **20 25 35.0 -1.9**
comp=Z,18nm,0.9s
BJT Baijiatuau 65.45 323 *e*P **P** **20 25 37.8 -0.9**
BJT Baijiatuau 65.45 323 *e*P **P** **20 25 37.8 -0.9**
BJI Beijing 65.46 323 P **P** **20 25 38.7 0.0**
BJI pmax pmax
comp=Z,18nm,1.3s
TPTI 65.61 278 P **P** **20 25 38.4 -1.8**
comp=Z,5.6nm,0.9s
PBKT Sadao Pong 65.72 293 P **P** **20 25 41.4 +0.6**
comp=Z,14nm,0.8s,comp=Z,2µm
UTTA Uttaradit 66.49 294 P **P** **20 25 46.8 +1.1**
comp=Z,4.6nm,0.9s,comp=Z,41nm
SRDT SRDT 66.69 291 P **P** **20 25 48.2 +1.1**
comp=Z,16nm,0.9s,comp=Z,3µm
XAN Xi'an 66.72 314 P **P** **20 25 47.4 +0.4**
XAN pmax pmax
comp=Z,46nm,0.7s
XAN Xi'an 66.72 314 *e*P **P** **20 25 46.4 -0.6**
comp=Z,32nm,0.6s
XAN Xi'an 66.72 314 *e*P **P** **20 25 46.4 -0.6**
XAN pmax pmax
comp=Z,32nm,0.6s
NANT Nan 66.72 296 P **P** **20 25 47.7 +0.4**
comp=Z,8.1nm,0.9s
UTHA Uthaitani 66.77 292 P **P** **20 25 48.4 +0.8**
comp=Z,4.7nm,1.0s
VNDA Vanda 67.17 180 P **P** **20 25 49.9 +0.8**
comp=Z,3.8nm,0.9s,baz=338,slow=7.3,SNR=15
VNDA LR LR 20 51 18.3
comp=Z,222nm,19.3s,baz=356,slow=32
VNDA Vanda 67.17 180 *e*P **P** **20 25 49.8 +0.7**
SUKH Sukhothai 67.23 294 P **P** **20 25 52.1 +1.6**
comp=Z,5.7nm,0.6s
KMI Kunming 67.35 303 ⇑P **P** **20 25 53.5 +2.1**
KMI sP PcP 20 26 27.4 +8.7
KMI S **S** **20 34 37.0 -5.9**
KMI pmax pmax
comp=Z,22nm,0.8s
KMI pmax pmax
comp=Z,80nm,4.9s
LAMP Lampang 67.57 295 P **P** **20 25 54.0 +1.3**
comp=Z,9.8nm,0.9s
NIKH Nikolski High 67.91 19 *e*P **P** **20 25 55.0 +0.9**
comp=Z,212nm,0.8s
CM01 Chiang Mai Arr 68.14 295 *e*P **P** **20 25 55.8 -0.4**
CM31 Chiang Mai Arr 68.17 295 *e*P **P** **20 25 55.9 -0.6**
CMAR Chiang Mai Arr 68.17 295 P **P** **20 25 56.2 -0.2**
comp=Z,9.0nm,0.9s,baz=126,slow=4.9,SNR=41
CMAR LR LR 20 56 29.6
comp=Z,44nm,19.9s,baz=112,slow=36
CMAR Chiang Mai Arr 68.17 295*ce*P **P** **20 25 56.4 0.0**
CMAR pmax pmax
comp=Z,9.0nm,0.9s
CMMT Chiang Mai 68.28 295 P **P** **20 25 57.3 +0.2**
comp=Z,9.4nm,1.0s,comp=Z,334nm
CHTO Chiang Mai 68.29 295 *e*P **P** **20 25 56.6 -0.6**
comp=Z,9.2nm,1.0s
CHTO Chiang Mai 68.29 295 *e*P **P** **20 25 56.6 -0.6**
CHTO pmax pmax
comp=Z,9.0nm,1.0s
CHTO Chiang Mai 68.29 295 P **P** **20 25 57.4 +0.2**
comp=Z,42nm,1.1s
HHC Hu-ho-hao-te 68.74 321 *e*P **P** **20 26 00.4 +0.7**
HHC pmax pmax
comp=Z,37nm,1.0s
HHC pmax pmax
comp=Z,100nm,6.0s
CD2 Chengdu 69.01 309 *e*P **P** **20 26 02.2 +0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
UNV Unalaska Valle 69.40 20 *e*P **P** **20 26 05.5 +2.2**
comp=Z,136nm,1.5s
BTO Baotou 69.56 320 *e*P **P** **20 26 04.7 0.0**
HIA Hailar 69.83 332 *e*P **P** **20 26 06.4 +0.3**
HIA Hailar 69.83 332 *e*P **P** **20 26 06.4 +0.3**
AKUT Akutan 69.89 20 *e*P **P** **20 26 07.3 +1.0**
comp=Z,227nm,1.4s
ZEA Zeya 70.20 339 *e*P **P** **20 26 08.8 +0.6**
ZEA pmax pmax
comp=E,21nm,0.8s
ZEA pmax pmax
comp=N,35nm,1.0s
ZEA pmax pmax
comp=Z,58nm,1.0s
MA2 Magadan 70.23 354 P **P** **20 26 07.9 -0.4**
comp=Z,4.6nm,0.4s,baz=202,slow=4.2,SNR=5.3
MA2 Magadan 70.23 354 *e*P **P** **20 26 07.8 -0.4**
comp=Z,15nm,1.0s
MA2 Magadan 70.23 354*ce*P **P** **20 26 07.7 -0.6**
MA2 pmax pmax
comp=Z,41nm,2.5s
LZH Lanzhou 71.34 314 *e*P **P** **20 26 16.6 +0.8**
LZH pP sP 20 26 38.6 -0.5
LZH sP PcP 20 26 47.8 +13
LZH PP **PP** **20 28 57.5 +2.6**
LZH pmax pmax
comp=Z,60nm,1.1s
LZH pmax pmax
comp=Z,210nm,4.3s
LZH LR LR
comp=Z,410nm,12.2s
LZH LR LR
comp=Z,500nm,15.2s
LZH LR LR
comp=Z,590nm,17.6s
SEY Seymchan 73.40 356*ce*P **P** **20 26 26.9 -0.3**
ULN Ulaanbaatar 75.41 325 *e*P **P** **20 26 40.3 +0.8**
comp=Z,45nm,0.8s
ULN Ulaanbaatar 75.41 325 *e*P **P** **20 26 40.3 +0.8**
ULN pmax pmax
comp=Z,45nm,0.8s
GTA Gaotai 75.71 315 ⇑P **P** **20 26 42.1 +0.8**
GTA pP pP 20 26 59.8 +1.8
GTA S **S** **20 36 18.2 -0.3**
GTA SKS **SKSac** **20 36 41.8 -4.8**
GTA sS ScS 20 36 52.6 +2.2
GTA pmax pmax
comp=Z,25nm,1.0s
GTA pmax pmax
comp=Z,140nm,7.1s
GTA LR LR
comp=Z,140nm,17.8s
GTA LR LR
comp=Z,140nm,18.1s
SONA0 Songino Array 75.76 325 *e*P **P** **20 26 42.2 +0.7**
SONA0 *e* 21 02 53.9
SONM Songino Array 75.76 325 P **P** **20 26 42.2 +0.7**
comp=Z,43nm,0.7s,baz=142,slow=5.8,SNR=333
SONM LR LR 21 02 53.9
comp=Z,103nm,18.5s,baz=130,slow=38
SONA1 Songino Array 75.77 325 *e*P **P** **20 26 42.3 +0.8**
YAK Yakutsk 76.33 345 *e*P **P** **20 26 43.8 -0.4**
YAK *e* 20 26 57.0
YAK *e**PP **sP** **20 27 07.6 +0.1**
YAK *e*S **S** **20 36 18.4 -5.7**
YAK *e* 20 36 52.6
YAK *e**SS ScS 20 37 08.8 +15
YAK *e*SS **SS** **20 41 19.1 -0.6**
YAK *e*SSS SSS 20 44 30.1
YAK pmax pmax
comp=Z,56nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK pmax pmax
comp=N,15nm,1.0s
YAK smax smax
comp=E,331nm,5.8s
YAK smax smax
comp=N,176nm,4.7s
GAMB Gambell 76.64 12 *e*P **P** **20 26 46.3 +0.5**
comp=N,24nm,1.6s
SHL Shillong 76.67 299 *e*P **P** **20 26 45.9 -1.3**
comp=N,19nm,1.2s
SHL Shillong 76.67 299 *e*P **P** **20 26 45.9 -1.3**
SHL pmax pmax
comp=Z,19nm,1.2s
KDAK Kodiak Island 77.45 23 P **P** **20 26 51.6 +1.1**
comp=Z,12nm,0.9s,baz=223,slow=11,SNR=3.6
KDAK Kodiak Island 77.45 23 *e*P **P** **20 26 51.1 +0.5**
comp=Z,181nm,1.6s
BOD Bodaibo 78.23 336 *e*P **P** **20 26 54.7 -0.2**
BOD pmax pmax
comp=Z,20nm,1.6s
BILL Bilibino 78.24 2 *e*P **P** **20 26 55.2 +0.4**
comp=Z,40nm,1.0s
BILL Bilibino 78.24 2 *e*P **P** **20 26 55.0 +0.2**
BILL *e**PP **sP** **20 27 23.2 +5.1**
BILL *e* 20 30 01.5
BILL *e*PPP PPP 20 31 41.8
BILL pmax pmax
comp=Z,46nm,1.0s
LSA Lhasa 78.60 303 *e*P **P** **20 26 57.2 -1.0**
comp=Z,7.2nm,1.2s
LSA Lhasa 78.60 303 *e*P **P** **20 26 57.2 -1.0**
LSA pmax pmax
comp=Z,7.0nm,1.2s
ANM Nome 78.71 14 *e*P **P** **20 26 58.6 +1.1**
comp=Z,11nm,1.2s
ANM Nome 78.71 14 *e*P **P** **20 26 58.6 +1.1**
ANM pmax pmax
comp=Z,11nm,1.2s
SVW2 Sparrevohn 78.74 20 *e*P **P** **20 26 59.6 +1.9**
comp=Z,27nm,0.9s
ZAK Zakamensk 78.86 326 *e*P **P** **20 26 57.7 -1.0**
ZAK pmax pmax
comp=Z,24nm,1.0s
RSO Redoubt South 79.25 21 *e*P **P** **20 27 00.4 -0.4**
IRK Irkutsk 79.31 328 *e*P **P** **20 26 59.1 -1.9**
IRK pmax pmax
comp=Z,42nm,1.9s
BRLK Bradley Lake 79.45 22 *e*P **P** **20 27 02.5 +0.9**
comp=Z,140nm,1.7s
QSPA South Pole Qui 79.66 180 *e*P **P** **20 27 02.6 -0.3**
comp=Z,14nm,0.8s
SUA Susitna One 80.66 21 *e*P **P** **20 27 08.4 +0.2**
comp=Z,18nm,1.0s
MOY Mondy 80.75 327 *e*P **P** **20 27 09.0 +0.1**
MOY pmax pmax
comp=Z,26nm,1.7s
CAST Castle Rocks 81.55 19 *e*P **P** **20 27 12.0 -0.8**
comp=Z,14nm,0.7s
JIRN Jiri 82.15 300 *e*P **P** **20 27 16.5 -0.7**
comp=Z,15nm,0.6s
TRF Thorofare Moun 82.16 20 *e*P **P** **20 27 15.9 -0.3**
comp=Z,25nm,0.5s
BPAW Bear Paw Mtn. 82.38 19 *e*P **P** **20 27 17.1 0.0**
comp=Z,20nm,0.6s
KLU Klutina 82.44 23 *e*P **P** **20 27 17.8 +0.3**
comp=Z,18nm,1.0s
GUN Gumba 82.49 300 *e*P **P** **20 27 18.4 -0.5**
RND Reindeer 82.61 20 *e*P **P** **20 27 19.0 +0.6**
comp=Z,52nm,1.6s
RND Reindeer 82.61 20 *e*P **P** **20 27 19.0 +0.6**
RND pmax pmax
comp=Z,52nm,1.6s
MCK McKinley 82.80 20 *e*P **P** **20 27 19.9 +0.6**
comp=Z,41nm,1.1s
MCK McKinley 82.80 20 *e*P **P** **20 27 19.9 +0.6**
MCK pmax pmax
comp=Z,41nm,1.1s
PKIN Phulchoki 82.81 300 *e*P **P** **20 27 19.5 -1.0**
comp=Z,12nm,0.6s
KKN Kakani 82.97 300 *e*P **P** **20 27 20.7 -0.5**
DMN Daman 83.07 300 *e*P **P** **20 27 21.4 -0.4**
comp=Z,16nm,0.7s
MLY Manley 83.09 18 *e*P **P** **20 27 21.4 +0.5**
comp=Z,14nm,0.9s
WRH Wood River Hil 83.57 20 *e*P **P** **20 27 23.1 -0.1**
comp=Z,31nm,1.3s
MDM Murphy Dome 83.84 19 *e*P **P** **20 27 24.5 -0.1**
comp=Z,22nm,1.1s
MAW Mawson 83.86 202 P **P** **20 27 25.1 +0.3**
comp=Z,6.3nm,0.8s,baz=126,slow=6.8,SNR=7.5
MAW LR LR 21 02 13.5
comp=Z,100nm,18.0s,baz=77,slow=34
MAW Mawson 83.86 202 *e*P **P** **20 27 24.9 +0.2**
comp=Z,36nm,1.9s
TCOL CIGO, UAF Yank 83.90 19 P **P** **20 27 25.6 +0.7**
baz=230
HDA Harding Lake 83.91 20 *e*P **P** **20 27 24.8 -0.2**
comp=Z,24nm,1.0s
HDA Harding Lake 83.91 20 P **P** **20 27 25.6 +0.6**
baz=231
ILAR Eielson Array 84.16 20 P **P** **20 27 26.4 +0.2**
comp=Z,7.2nm,0.9s,baz=247,slow=3.9,SNR=28
ILAR LR LR 20 59 52.9
comp=Z,215nm,20.7s,baz=254,slow=32
ILAR Eielson Array 84.16 20 P **P** **20 27 26.5 +0.2**
ILAR pmax pmax
comp=Z,11nm,1.1s
ILAR MLR MLR
comp=Z,215nm,20.7s
POKR Poker Plat Res 84.20 19 P **P** **20 27 27.0 +0.5**
baz=230
RIDG Independ'e Rid 84.22 21 *e*P **P** **20 27 27.5 +0.9**
comp=Z,34nm,1.3s
KOLN Koldanda 84.40 299 *e*P **P** **20 27 27.3 -1.3**
comp=Z,20nm,0.7s
DANN Dangsing 84.41 300 *e*P **P** **20 27 27.4 -1.3**
comp=Z,27nm,0.6s
SCRK Sand Creek 84.66 21 *e*P **P** **20 27 29.8 +0.8**
comp=Z,9.1nm,0.8s
TIXI Tiksi 84.67 350*ce*P **P** **20 27 27.5 -1.1**
TIXI pmax pmax
comp=Z,30nm,1.7s
COLD Coldfoot 84.75 17 *e*P **P** **20 27 30.2 +1.0**
comp=Z,8.1nm,1.2s
PYUN Piuthan 85.00 300 *e*P **P** **20 27 30.0 -1.6**
comp=Z,25nm,1.0s
O02D Mt. Diablo Mer 85.78 48 P **P** **20 27 37.5 +2.5**
baz=253
WMQ Urumqi 85.78 316 P **P** **20 27 34.3 -0.6**
WMQ sP sP 20 28 11.6 +13
WMQ S **S** **20 37 58.7 -4.5**
WMQ SS **SS** **20 43 40.1 -1.4**
WMQ pmax pmax
comp=Z,24nm,1.1s
WMQ pmax pmax
comp=Z,300nm,3.9s
WMQ LR LR
comp=Z,230nm,20.5s
WMQ LR LR
comp=Z,300nm,28.3s
M02C Callahan 86.09 47 P **P** **20 27 39.0 +2.5**
baz=253
DAWY Dawson 86.38 22 *e*P **P** **20 27 39.0 +1.6**
comp=Z,26nm,1.1s
J04D Umpqua Nationa 87.16 45 P **P** **20 27 44.0 +2.1**
baz=253
J05D Fort Rock, OR 87.78 45 P **P** **20 27 47.1 +2.3**
baz=254
DGZ Jazzator, Alta 87.82 321*c i*P **P** **20 27 44.1 -0.8**
DGZ pmax pmax
comp=Z,4.0nm,0.7s
EDW2 Edwards Air Fo 88.03 54 P **P** **20 27 48.3 +2.2**
baz=256
PINE Pine Mountain 88.13 45 *e*P **P** **20 27 48.6 +2.1**
comp=Z,11nm,1.0s
RYN Ryan 88.54 50 *e*P **P** **20 27 50.6 +2.1**
comp=Z,4.6nm,0.8s
EPYK Eagle Plains 88.54 21 *e*P **P** **20 27 49.0 +1.2**
comp=Z,37nm,1.4s
EPYK Eagle Plains 88.54 21 P **P** **20 27 49.6 +1.9**
baz=240
NVAR Mina Array Bea 88.65 51 P **P** **20 27 50.8 +1.6**
comp=Z,4.1nm,0.7s,baz=236,slow=7.5,SNR=34
NVAR LR LR 21 00 46.5
comp=Z,144nm,20.0s,baz=256,slow=31
DAC Darwin (Calif) 88.68 53 *e*P **P** **20 27 51.0 +1.7**
comp=Z,6.6nm,1.1s
DAC Darwin (Calif) 88.68 53 *e*P **P** **20 27 51.0 +1.7**
DAC pmax pmax
comp=Z,7.0nm,1.1s
MPMC Manual Prospec 88.71 53 P **P** **20 27 51.6 +2.1**
baz=256
MONP2 Monument Peak 88.84 56 P **P** **20 27 52.0 +1.9**
baz=257
KVN Kaiserville 88.96 50 *e*P **P** **20 27 51.7 +1.2**
comp=Z,26nm,1.9s
KVN Kaiserville 88.96 50 *e*P **P** **20 27 51.7 +1.2**
KVN pmax pmax
comp=Z,26nm,1.9s
FURC Furnace Creek, 89.30 53 P **P** **20 27 54.1 +2.2**
baz=257
HEC Hector,Ludlow 89.35 55 P **P** **20 27 54.4 +2.1**
baz=257
J08A Circle Bar Ran 89.75 46 *e*P **P** **20 27 54.7 +0.7**
comp=Z,10nm,1.0s
TUQ Turquoise Moun 89.81 54 P **P** **20 27 56.6 +2.1**
baz=257
GMRC Granite Mounta 89.88 55 P **P** **20 27 56.7 +1.8**
baz=258
TPNV Topopah Spring 89.89 53 *e*P **P** **20 27 56.0 +1.1**
comp=Z,5.6nm,0.8s
TPNV Topopah Spring 89.89 53 P **P** **20 27 56.6 +1.7**
baz=257
BMN Battle Mountai 89.95 49 *e*P **P** **20 27 57.2 +2.1**
comp=Z,5.4nm,1.0s
IRM Iron Mountain 90.16 55 P **P** **20 27 58.2 +2.2**
baz=258
MK01 Makanchi Array 90.27 318 *e*P **P** **20 27 55.5 -0.8**
MK31 Makanchi Array 90.28 318 *e*P **P** **20 27 55.4 -0.9**
MK31 Makanchi Array 90.28 318 *e*P **P** **20 27 55.4 -0.9**
MK32 Makanchi Array 90.28 318 *e*P **P** **20 27 55.8 -0.5**
MK32 ⇑*e* 21 08 05.5
MKAR Makanchi Array 90.28 318 P **P** **20 27 55.8 -0.5**
comp=Z,12nm,0.6s,baz=92,slow=6.6,SNR=153
MKAR LR LR 21 08 05.5
comp=Z,103nm,21.9s,baz=76,slow=35
MKAR Makanchi Array 90.28 318 *e*P **P** **20 27 55.4 -0.9**
comp=Z,77nm,0.6s
MAKZ Makanchi 90.49 317 *e*P **P** **20 27 56.4 -0.9**
comp=Z,31nm,1.5s
INK Inuvik 90.56 20 *e*P **P** **20 27 57.0 0.0**
comp=Z,12nm,1.4s
INK Inuvik 90.56 20 *e*P **P** **20 27 57.0 0.0**
INK pmax pmax
comp=Z,12nm,1.4s
Y12C Blythe 90.58 56 P **P** **20 28 00.1 +2.1**
baz=258
SHPR Sheep Range 90.65 53 *e*P **P** **20 28 00.2 +1.8**
comp=Z,8.8nm,1.1s
ZAA0 Zalesovo Array 90.66 325 *e*P **P** **20 27 56.1 -1.7**
comp=Z,16nm,1.6s
ZALV Zalesovo Beam 90.66 325 P **P** **20 27 56.4 -1.4**
comp=Z,3.9nm,0.8s,baz=122,slow=6.0,SNR=15
ZALV LR LR 21 07 46.6
comp=Z,92nm,21.8s,baz=71,slow=35
ZALV Zalesovo Beam 90.66 325 *e*P **P** **20 27 56.1 -1.7**
ZAA1 Zalesovo Array 90.66 325 *e*P **P** **20 27 56.4 -1.4**
ZAA1 ⇑*e* 21 07 46.6
R11A Troy Canyon, C 90.71 51 *e*P **P** **20 27 59.9 +1.2**
comp=Z,4.5nm,1.0s
R11A Troy Canyon, C 90.71 51 P **P** **20 28 00.7 +2.0**
baz=258
BMO Blue Mountains 90.92 45 *e*P **P** **20 28 01.4 +2.0**
comp=Z,11nm,1.4s
BMO Blue Mountains 90.92 45 *e*P **P** **20 28 01.4 +2.0**
BMO pmax pmax
comp=Z,11nm,1.4s
F10A Beach Ranch, E 91.24 44 *e*P **P** **20 28 01.6 +0.7**
comp=Z,9.3nm,1.1s
SYO Syowa Base 91.26 198⇑*e*P P 20 28 12.0 +12
SYO Syowa Base 91.26 198⇑*es*P sP 20 28 32.0 +7.6
W13A Hualapai Mount 91.37 55 *e*P **P** **20 28 02.9 +1.0**
comp=Z,3.4nm,0.8s
ELK Elko 91.49 49 *e*P **P** **20 28 03.8 +1.4**
comp=Z,9.3nm,1.3s
ELK Elko 91.49 49 *e*P **P** **20 28 03.8 +1.4**
ELK pmax pmax
comp=Z,9.0nm,1.3s
NVS Novosibirsk 91.79 325 *e*P **P** **20 28 02.3 -0.8**
NVS pmax pmax
comp=Z,16nm,1.7s
NVS pmax pmax
comp=E,10.0nm,1.5s
NEW Newport 91.84 41 P **P** **20 28 05.0 +1.5**
baz=257
PSUT Pine Spring 92.08 51 *e*P **P** **20 28 06.8 +1.7**
comp=E,5.8nm,1.0s
LPIG La Paz 92.37 66 LR LR 21 00 29.1
comp=E,73nm,20.2s,baz=260,slow=29
HLID Hailey 92.67 46 *e*P **P** **20 28 09.4 +1.7**
comp=E,6.1nm,1.0s
HLID Hailey 92.67 46 P **P** **20 28 10.0 +2.3**
baz=258
KDJ Kajisay 92.80 312 *e*P **P** **20 28 09.0 +0.7**
comp=E,13nm,0.9s
KDJ Kajisay 92.80 312 *e*P **P** **20 28 09.0 +0.7**
KDJ pmax pmax
comp=Z,13nm,0.9s
KSH Kashi 93.20 309 P **P** **20 28 10.3 +0.1**
KSH pP sP 20 28 36.8 +3.1
KSH PP **PP** **20 31 58.5 +4.0**
KSH S S 20 39 02.6 -10
KSH sS sS 20 39 47.7 +5.9
KSH pmax pmax
comp=Z,9.0nm,0.8s
KSH pmax pmax
comp=Z,150nm,7.0s
KSH LR LR
comp=Z,130nm,6.0s
KSH LR LR
comp=Z,190nm,7.1s
KSH LR LR
comp=Z,140nm,8.2s
HVU Hansel Valley 93.51 48 *e*P **P** **20 28 12.7 +1.1**
comp=Z,36nm,2.0s
HVU Hansel Valley 93.51 48 *e*P **P** **20 28 12.7 +1.1**
HVU pmax pmax
comp=Z,36nm,2.0s
KURK Kurchatov 93.55 321 *e*P **P** **20 28 09.7 -1.6**
comp=Z,12nm,1.0s
KURK Kurchatov 93.55 321*ce*P **P** **20 28 09.9 -1.4**
KURK pmax pmax
comp=Z,15nm,1.3s
AAK Ala-Archa 94.85 312 P **P** **20 28 17.1 -0.6**
comp=Z,0.9nm,0.6s,baz=142,slow=6.9,SNR=4.8
AAK Ala-Archa 94.85 312 *i* P **P** **20 28 17.6 -0.1**
AAK pmax pmax
comp=Z,1.0nm,0.8s
BOZ Bozeman (W) 95.00 45 P **P** **20 28 20.2 +1.9**
baz=261
TPAW Teton Pass 95.14 47 *e*P **P** **20 28 16.6 -2.5**
comp=Z,10nm,0.3s
PDAR Pinedale Array 96.03 48 P **P** **20 28 24.6 +1.4**
comp=Z,0.2nm,0.5s,baz=204,slow=3.8,SNR=3.1
PDAR LR LR 21 06 09.7
comp=Z,119nm,19.8s,baz=304,slow=32
YKA Yellowknife Ar 96.20 28 P **P** **20 28 23.3 +0.2**
comp=Z,0.9nm,0.5s,baz=261,slow=4.6,SNR=16
YKB5 Yellowknife Ar 96.20 28 *e*P **P** **20 28 22.3 -0.8**
NVL N'lazarevskaya 96.53 190 *e*P P 20 28 19.0 -5.6
NVL pmax pmax
comp=Z,4.0nm,0.6s
EGMT Eagleton 96.64 43 P **P** **20 28 27.4 +1.8**
baz=262
HPIG 96.96 64 *e*P **P** **20 28 24.3 -3.4**
comp=Z,16nm,0.6s
ANMO Albuquerque 97.36 56 LR LR 21 03 05.2
comp=Z,105nm,19.8s,baz=262,slow=30
ANMO Albuquerque 97.36 56 *e*P Pdif 20 28 29.8 +0.4
comp=Z,12nm,1.9s
ANMO Albuquerque 97.36 56*ce*P Pdif 20 28 30.2 +0.8
ANMO pmax pmax
comp=Z,5.0nm,2.5s
ANMO Albuquerque 97.36 56 P Pdif 20 28 31.1 +1.7
baz=263
SNAA Sanae 97.52 185 P **P** **20 28 28.8 -0.4**
VNA3 Neumayer Olymp 98.40 183 P **P** **20 28 32.5 -0.6**
VNA2 Neumayer--Watz 98.58 184 P **P** **20 28 32.2 -1.6**
baz=175,slow=3.8
VNA1 Neumayer--Stat 98.91 183 P **P** **20 28 32.5 -2.8**
BRVK Borovoye 99.00 322 *e*P **Pdif** **20 28 34.5 -1.5**
comp=Z,4.7nm,1.1s
BRVK Borovoye 99.00 322 *|| i*P **Pdif** **20 28 35.0 -1.0**
LTX Lajitas 99.02 62 *e*P **Pdif** **20 28 37.9 +1.1**
LTX Lajitas 99.02 62 *e*P **Pdif** **20 28 37.9 +1.1**
TXAR Lajitas Array 99.02 62 P **Pdif** **20 28 37.9 +1.1**
comp=Z,0.3nm,0.8s,baz=262,slow=6.3,SNR=2.4
TXAR PP **PP** **20 32 39.6 -0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.6nm,1.0s,baz=270,slow=5.0,SNR=3.5						
TXAR				LR	LR	21 04 15.0	
	comp=Z,135nm,21.9s,baz=0.0,slow=30						
ABKAR	Akbulak array	105.41	318	*e*Pdif	Pdif	20 29 01.9	-2.7
APA	Apatity	113.48	341⇓	*i*PKIKP	PKiKP	20 33 38.4	+5.7
APA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ARA0	ARCESS Array S	114.61	344	*e*PKiKP	PKiKP	20 33 34.1	-0.7
ARCES	ARCESS Array B	114.61	344	PKP	PKiKP	20 33 34.1	-0.7
	comp=Z,4.5nm,1.0s,baz=69,slow=1.5,SNR=12						
KIV	Kislovodsk	117.88	314	*i* PKIKP	PKPdf	20 33 41.2	-0.8
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,114nm,23.0s						
OBN	Obninsk	118.10	328	*e*PKIKP	PKiKP	20 33 44.0	+2.1
OBN				*e*		20 34 55.0	
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
FIA0	FINESS Array S	119.61	337	*e*PKPdf	PKPdf	20 33 44.6	-0.1
FIA0	FINESS Array S	119.61	337	*e*PKIKP	PKPdf	20 33 44.6	-0.1
FINES	FINESS Array B	119.61	337	PKP	PKPdf	20 33 44.6	-0.1
	comp=Z,1.2nm,0.9s,baz=134,slow=4.0,SNR=2.5						
SCHQ	Schefferville	121.51	31	PKP	PKPdf	20 33 48.4	-0.2
	comp=Z,2.4nm,0.7s,baz=15,slow=3.0,SNR=2.6						
BOSA	Boshof	122.80	226	PKP	PKPdf	20 33 51.5	-0.6
	comp=Z,2.1nm,0.9s,baz=76,slow=4.2,SNR=3.2						
AKASG	Malin Array Be	124.05	326	PKP	PKPdf	20 33 52.7	-0.8
	comp=Z,0.2nm,0.2s,baz=56,slow=2.5,SNR=5.7						
AKASG				PP	PP	20 35 37.7	-0.3
	comp=Z,0.5nm,0.6s,baz=53,slow=6.8,SNR=6.0						
LPAZ	La Paz	124.07	118	PKP	PKiKP	20 33 55.6	0.0
	comp=Z,1.2nm,0.6s,baz=331,slow=2.3,SNR=5.5						
LPAZ	La Paz	124.07	118	*e*PKPdf	PKPdf	20 33 55.0	-0.3
AK11	Malin Array Si	124.09	326	*e*PKPdf	PKPdf	20 33 52.4	-1.2
NB2	NORSAR Subarra	124.92	343	PKPdf	PKPdf	20 33 54.4	-0.6
	comp=Z,0.5nm,0.7s,baz=33,slow=1.8						
NB200	NORSAR Array S	124.92	343	*e*PKPdf	PKPdf	20 33 54.3	-0.6
NOA	NORSAR Array B	124.92	343	PKP	PKPdf	20 33 54.3	-0.6
	comp=Z,0.7nm,0.7s,baz=34,slow=1.8,SNR=4.1						
BR101	Keskin Array S	125.52	312	*e*PKPdf	PKPdf	20 33 56.2	-0.7
BR101				*e*PP	PP	20 35 49.6	+1.0
BRTR	Keskin Array B	125.52	312	PKP	PKPdf	20 33 56.2	-0.7
	comp=Z,1.2nm,0.8s,baz=107,slow=6.6,SNR=5.0						
BRTR				PP	PP	20 35 49.6	+1.0
	comp=Z,0.7nm,0.8s,baz=119,slow=8.4,SNR=3.5						
CPUP	Villa Florida	127.42	135	PKP	PKiKP	20 34 01.1	-0.2
	comp=Z,1.0nm,0.6s,baz=304,slow=3.6,SNR=2.3						
SDV	Santo Domingo	128.46	87	*e*PKPpre	PKPpre	20 33 51.7	
SDV				*e*PKPdf	PKPdf	20 34 02.2	-1.1
KEST	Kesra	144.35	320	PKP	PKPbc	20 34 30.3	-0.1
	comp=Z,14nm,0.9s,baz=352,slow=3.5,SNR=13						
PBRG	Braganca	147.04	344	*e*PKP	PKiKP	20 34 41.1	+0.3
MVO	Moncorvo	147.72	344	*e*PKP	PKPbc	20 34 39.6	-0.7
POLO	Lamas de Olo	147.72	345	*e*PKP	PKPbc	20 34 41.0	+0.7
PVRL	Vila Real	147.79	345	*e*PKP	PKPbc	20 34 41.4	+1.0
ES19	SONSECA Array	148.06	339	*e*PKPbc	PKPbc	20 34 41.0	-0.2
ESDC	Sonseca Array	148.11	339	PKPbc	PKPbc	20 34 41.0	-0.4
	comp=Z,0.8nm,0.6s,baz=7.2,slow=3.2,SNR=9.2						
PVIS	Viseu	148.37	345	*e*PKP	PKPbc	20 34 42.7	+0.7
MTE	Manteigas	148.57	344	*e*PKP	PKiKP	20 34 43.3	-0.7
PCBR	Castelo Branco	149.07	344	*e*PKP	PKPbc	20 34 44.2	+0.5
PMRV	Marv??o	149.43	343	*e*PKP	PKiKP	20 34 47.5	+1.7
PTOM	Tomar	149.53	345	*e*PKP	PKPbc	20 34 44.8	-0.1
PESTR	Estremoz	150.01	343	*e*PKP	PKPab	20 34 53.2	+1.3
EVO	Evora	150.44	343	*e*PKP	PKPbc	20 34 47.3	+0.2
PBEJ	Beja	150.87	343	*e*PKP	PKiKP	20 34 50.0	+1.2
MESJ	Messejana	151.14	343	*e*PKP	PKiKP	20 34 49.5	+0.2
PVAQ	Vaqueiros	151.40	342	*e*PKP	PKiKP	20 34 50.0	+0.1
TORD	Torodi Ar. Bea	160.20	280	PKP	PKPdf	20 34 54.6	-1.0
	comp=Z,1.1nm,1.0s,baz=64,slow=1.4,SNR=6.1						
TORD				PKPab	PKPab	20 35 34.4	-1.7
	comp=Z,3.4nm,1.0s,baz=96,slow=3.5,SNR=9.4						
TOA1	Torodi Ar. Sit	160.20	280	*e*PKPdf	PKPdf	20 34 54.6	-1.0
TOA1				*e*PKPab	PKPab	20 35 34.4	-1.7

*ISK **08** 20:18:50.8, 39°.68N×25°.57E, h11km, ML2.4/7*
*ATH **08** 20:18:51.9, 39°.72N×25°.58E, h27km±4km, ML2.5/1, Error ellipse: s-maj=5.2km s-min=1.5km az=238.0*
*ISCJB **08** 20:18:52.4±0.5, 39°.71N±0°.03×25°.60E±0°.04, h19km±8km, Error ellipse: s-maj=5.7km s-min=4.7km az=137.6*
ISC 08 20:18:51.2±1.4**, 39°.68N**±0°.03×**25°.59E**±0°.03**, h14**km±12km**, n18, σ0s53**/25**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.38	305	P	Pb	20 18 59.8	+0.1
LIA				S	Sb	20 19 05.0	-0.4
BOZC	Bozcaada	0.39	66	PG	Pg	20 18 59.4	+0.3
BOZC				SG	Sb	20 19 05.5	-0.3
GPNR	Gulpinar-Canak	0.48	118	PG	Pb	20 19 01.2	-0.2
EFSA	Agios Efstrati	0.48	253	P	Pn	20 19 03.1	-0.6
EFSA				S	Sb	20 19 10.0	+1.5
SIGR	SIGRI	0.52	156	PG	Pg	20 19 01.2	-0.2
SIGR				SG	Sb	20 19 08.9	-0.4
SIGR	SIGRI	0.52	156	P	Pb	20 19 02.3	+0.3
SIGR				S	Sb	20 19 10.4	+1.0
SIGR				AML	AML	20 19 10.8	
	comp=E,1031µm,0.4s						
SIGR				AML	AML	20 19 10.8	
	comp=N,1130µm,0.4s						
GADA	Gvkgeada	0.56	25	PG	Pb	20 19 02.8	0.0
EZN	Ezine	0.59	76	PG	Pb	20 19 03.3	+0.1
PRK	Paraskevi	0.69	129	P	Pn	20 19 06.5	0.0
PRK				S	Sn	20 19 16.9	0.0
SMTH	Samothraki Isl	0.79	357	P	Pb	20 19 07.0	+0.3
SMTH				S	Sb	20 19 17.7	+0.5
GELI	Tayfur-Gelibol	0.99	43	PG	Pg	20 19 10.1	-0.2
THAS	Thassos island	1.14	324	P	Pn	20 19 12.8	+0.1
DKL	Dikili	1.19	120	PN	Pg	20 19 14.5	+0.4
ERIK	Erikli-Kesan	1.21	35	PN	Pb	20 19 14.1	+0.1
ALN	Alexandroupoli	1.26	16	PN	Pn	20 19 14.1	-0.3
ALN	Alexandroupoli	1.26	16	P	Pb	20 19 14.7	-0.1
CHOS	Chios island	1.34	164	PN	Pg	20 19 16.4	-0.7
RDO	Rodhopi	1.46	359	PN	Pb	20 19 17.8	-0.4

MAN 08 20:36:03.8, 9°.12N×125°.94E, h60km, mb4.5, ML3.3, MS3.1, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.79	326⇑	*e*P	Pn	20 36 20.8	+1.6
SCPH				*e*S	Sn	20 36 32.9	+2.4
BIPH	Bislig	1.02	156⇑	*e*P	Pn	20 36 22.4	+0.3
BIPH				*e*S	Sn	20 36 35.4	-0.3
BUKP	Musuan	1.50	215	*e*P	Pn	20 36 28.9	+0.4
BUKP				*e*S	Sn	20 36 48.9	+1.7

*IDC **08** 20:41:06.5±1.0, 35°.19N×26°.88E, h0km, mb3.7/10, mb1 3.8/14, mb1mx3.6/41, mbtmp3.7/14, ML3.5/4, Error ellipse: s-maj=22.6km s-min=17.3km az=4.0*
*ISCJB **08** 20:41:09.6±0.8, 35°.06N±0°.04×27°.16E±0°.03, h24km±6km, mb3.6/10, Error ellipse: s-maj=7.4km s-min=3.9km az=167.2*
*ISK **08** 20:41:09.2, 35°.11N×27°.04E, h13km, ML3.7/14*
*THE **08** 20:41:10.5, 35°.17N×27°.05E, h0km, ML3.5/6, Error ellipse: s-maj=2.7km s-min=0.7km az=147.0*
*ATH **08** 20:41:11.3, 35°.27N×26°.98E, h20km±1km, ML3.6/7, Error ellipse: s-maj=4.2km s-min=1.1km az=147.0*
ISC 08 20:41:09.6±1.2**, 35°.10N**±0°.04×**27°.09E**±0°.03**, h23**km±9km**, n70, σ1s52**/88**, mb3.7**/10**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.45	7	PG	Pb	20 41 18.5	-0.4
KARP				SG	Sb	20 41 25.3	+0.1
KARP	Karpathos	0.45	7	P	Pb	20 41 18.3	-0.6
KARP				S	Sb	20 41 23.4	-1.8
KARP				AML	AML	20 41 27.3	
	comp=N,19613µm,0.3s						
KARP				AML	AML	20 41 27.5	
	comp=E,38589µm,0.3s						
KARP	Karpathos	0.45	7	P	Pb	20 41 18.2	-0.6
KARP				S	Sb	20 41 25.1	-0.1
ZKR	Zakros	0.72	271	PG	Pb	20 41 22.0	-1.5
ZKR				SG	Sn	20 41 34.6	-0.1
ZKR	Zakros	0.72	271	P	Pb	20 41 23.3	-0.2
ZKR				S	Sb	20 41 32.5	-0.4
ZKR				AML	AML	20 41 36.5	
	comp=N,5845µm,0.4s						
ZKR				AML	AML	20 41 39.9	
	comp=E,11400µm,0.3s						
ZKR	Zakros	0.72	271	P	Pb	20 41 23.3	-0.2
ZKR				S	Sn	20 41 35.0	+0.3
STIA	Sitia Lasithi	0.83	277	P	Pn	20 41 25.6	-0.3
STIA				S	Sn	20 41 38.7	+1.3
NPS	Neapolis	1.22	278	P	Pb	20 41 33.1	+1.0
NPS				S	Sn	20 41 47.9	+0.7
NPS				AML	AML	20 41 59.0	
	comp=N,5683µm,0.8s						
NPS				AML	AML	20 42 02.2	
	comp=E,7086µm,0.7s						
NPS	Neapolis	1.22	278	P	Pb	20 41 32.8	+0.7
NPS				S	Sn	20 41 50.5	+3.3
LAST	Lasithi	1.32	273	P	Pb	20 41 34.5	+0.7
LAST				S	Sb	20 41 52.0	+1.6
LAST				AML	AML	20 42 03.7	
	comp=E,2894µm,0.7s						
LAST				AML	AML	20 42 04.5	
	comp=N,3134µm,0.5s						
LAST	Lasithi	1.32	273	P	Pb	20 41 34.5	+0.7
LAST				S	Sb	20 41 52.9	+2.5
ARG	Arkhangelos	1.39	37	PN	Pb	20 41 35.3	+0.3
ARG	Arkhangelos	1.39	37	P	Pb	20 41 36.2	+1.3
ARG				S	Sb	20 41 54.6	+2.3
ARG				AML	AML	20 41 58.1	
	comp=E,4132µm,0.3s						
ARG				AML	AML	20 42 02.2	
	comp=N,3860µm,0.4s						
ARG	Arkhangelos	1.39	37	P	Pb	20 41 35.9	+0.9
ARG				S	Sb	20 41 54.9	+2.6
ANAF	Anafi Island	1.65	320	P	Pb	20 41 38.7	-0.6
ANAF				S	Sb	20 41 58.7	-1.0
ANAF				AML	AML	20 42 03.9	
	comp=E,16384µm,0.4s						
ANAF				AML	AML	20 42 05.0	
	comp=N,11727µm,0.3s						
ANAF	Anafi Island	1.65	320	P	Pb	20 41 38.6	-0.7
ANAF				S	Sb	20 41 59.1	-0.6
KSTL	Kastelli Herak	1.67	277	P	Pn	20 41 37.1	-0.3
DAT	Datca	1.67	14	PN	Pn	20 41 38.3	+0.7
DATC	Datca-Mugla	1.71	15	PN	Pb	20 41 39.7	-0.7
SANT	Santorini	1.83	314	PN	Pn	20 41 40.5	+0.7
SANT	Santorini	1.83	314	P	Pb	20 41 41.7	-0.8
THR6	Thira Island,	1.86	313	P	Pb	20 41 41.5	-1.4
SIVA	Sivas	1.87	268	P	Pb	20 41 43.2	+0.1
SIVA				AML	AML	20 42 21.8	
	comp=E,4947µm,0.6s						
SIVA				AML	AML	20 42 23.9	
	comp=N,1865µm,0.5s						
SIVA	Sivas	1.87	268	P	Pb	20 41 44.0	+0.9
THR7	Fira-Santorini	1.89	315	P	Pb	20 41 41.8	-1.6
THR3	Thira Island,	1.89	314	P	Pb	20 41 42.1	-1.4
THT2	Imerovigli	1.90	315	P	Pb	20 41 42.7	-0.9
THR5	Thira Island,	1.93	313	P	Pb	20 41 42.6	-1.5
BODT	Bodrum	1.96	5	PN	Pb	20 41 43.6	-1.1
BODT	Bodrum	1.96	5	P	Pn	20 41 42.7	+1.2
AMGA	Amorgos Island	1.98	331	P	Pn	20 41 42.7	+1.0
AMGA	Amorgos Island	1.98	331	P	Pn	20 41 42.7	+1.0
DALY	Dalyan (Mula)	2.13	36	PN	Pb	20 41 46.5	-1.0
TURN	Turunc	2.15	34	PN	Pn	20 41 43.2	-0.8
FETY	Fethiye	2.23	46	PN	Pb	20 41 47.6	-1.6
FETY	Fethiye	2.23	46	P	Pn	20 41 46.3	+1.2
KSL	Kastellorizon	2.28	62	P	Pn	20 41 47.5	+1.6
APE	Apeiranthos	2.33	328	PN	Pn	20 41 47.8	+1.1
APE	Apeiranthos	2.33	328	P	Pn	20 41 48.0	+1.3
APE	Apeiranthos	2.33	328	P	Pn	20 41 47.8	+1.1
AKAS	Kas	2.33	60	PN	Pb	20 41 48.9	-2.2
VAM	Vamos	2.39	278	P	Pb	20 41 50.4	-1.5
IMMV	Iera Moni Meta	2.57	279	P	Pb	20 41 53.3	-1.7
GCAM	G?zelcaml?	2.59	2	PN	Pn	20 41 52.2	+2.0
SMG	Samos	2.61	356	P	Pn	20 41 51.5	+1.1
ELL	Elmali	2.81	54	PN	Pn	20 41 55.8	+2.5
AYDB	Zeytinkoy-Aydi	2.91	13	PN	Pn	20 41 56.3	+1.7
ANKY	Antikythira Is	3.19	285	P	Pn	20 42 01.3	+3.0
KORT	Korkueli	3.25	53	PN	Pn	20 42 02.0	+2.7
BLCB	Balcova	3.27	359	PN	Pn	20 42 01.2	+1.7
CHOS	Chios island	3.38	346	PN	Pn	20 42 02.2	+1.1
KYTH	Kithira	3.49	291	P	Pn	20 42 05.4	+2.9
KULA	Kula-Manisa	3.63	20	PN	Pn	20 42 06.9	+2.4
VLI	Veliai	3.74	297	P	Pn	20 42 08.3	+2.3
DKL	Dikili	3.96	358	PN	Pn	20 42 11.6	+2.6
BRTR	Keskin Array B	6.96	47	Pn	Pn	20 42 51.7	+1.4
	comp=N,0.3nm,0.3s,baz=216,slow=15,SNR=8.7						
BRTR				Sn	Sn	20 44 09.0	+0.2
	comp=N,0.1nm,0.3s,baz=205,slow=27,SNR=4.1						
MMAI	Mount Meron Ar	7.21	104	Pn	Pn	20 42 54.4	+0.8
	comp=N,1.7nm,0.3s,baz=305,slow=12,SNR=11						
MMAI				Sn	Sn	20 44 13.2	-1.6
	comp=N,1.2nm,0.3s,baz=313,slow=29,SNR=3.0						
EIL	Elat	8.57	127	Pn	Pn	20 43 13.4	+1.1
	comp=N,0.3nm,0.3s,baz=292,slow=17,SNR=3.4						
EIL				Sn	Sn	20 44 43.9	-4.5
	comp=N,0.5nm,0.3s,baz=15,slow=20,SNR=2.5						
AKASG	Malin Array Be	15.67	5	Pn	Pn	20 44 49.6	+0.8
	comp=N,0.5nm,0.3s,baz=196,slow=11,SNR=3.2						
GERES	GERESS Array B	16.92	328	Pn	Pn	20 45 05.3	+0.3
	comp=N,0.1nm,0.3s,baz=139,slow=12,SNR=5.7						
ESDC	Sonseca Array	25.02	290	P	P	20 46 30.2	-1.8
	comp=N,0.1nm,0.3s,baz=81,slow=9.8,SNR=3.9						
FINES	FINESS Array B	26.37	359	P	P	20 46 43.1	-0.7
	comp=N,2.5nm,0.9s,baz=166,slow=12,SNR=3.5						
HFS	Hagfors	26.52	345	P	P	20 46 43.7	-1.4
	comp=N,3.0nm,1.0s,baz=134,slow=10,SNR=3.4						
EKA	Eskdalemuir Ar	29.01	324	P	P	20 47 06.4	-1.2
	comp=N,0.5nm,0.5s,baz=116,slow=9.8,SNR=2.4						
TORD	Torodi Ar. Bea	31.69	233	P	P	20 47 31.5	-0.1
	comp=N,0.1nm,0.3s,baz=51,slow=11,SNR=2.9						
ARCES	ARCESS Array B	34.50	359	P	P	20 47 54.3	-1.3
	comp=N,3.8nm,1.0s,baz=184,slow=7.1,SNR=3.3						
MKAR	Makanchi Array	42.48	57	P	P	20 49 04.4	+1.5
	comp=N,0.9nm,0.5s,baz=273,slow=7.8,SNR=32						
ZALV	Zalesovo Beam	43.90	46	P	P	20 49 16.1	+1.9
	comp=N,0.7nm,0.5s,baz=241,slow=7.4,SNR=4.1						
SONM	Songino Array	58.29	51	P	P	20 51 04.2	+1.6
	comp=N,0.3nm,0.5s,baz=283,slow=6.9,SNR=6.4						
YKA	Yellowknife Ar	77.98	343	P	P	20 53 04.7	-0.9
	comp=N,0.4nm,0.6s,baz=30,slow=5.6,SNR=6.3						

*ISCJB **08** 20:42:14.3±1.5, 12°.41N±0°.06×88°.59W±0°.06, h25km±11km, mb3.3/3, Error ellipse: s-maj=12.8km s-min=6.0km az=39.4*
*UCR **08** 20:42:14.6±1.3, 12°.50N×88°.71W, h5km, MD3.8, ML3.6*
*IDC **08** 20:42:15.0±1.5, 13°.29N×87°.99W, h0km, mb3.3/3, mb1 3.6/6, mb1mx3.5/31, mbtmp3.3/6, ML3.1/3, Error ellipse: s-maj=67.8km s-min=14.6km az=40.0*
ISC 08 20:42:16.9±2.5**, 12°.6N**±0°.1×**88°.49W**±0°.09**, h27**km±19km**, n25, σ0s43**/16**, mb3.1**/3**, 4C, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	Lacayo	0.89	12	*e*P	Pb	20 42 33.6	-0.2
VSM	San Miguel	0.90	14	*e*P	Pb	20 42 34.1	0.0
PACA	Pacayal	0.93	10	*e*P	Pn	20 42 34.1	-0.1
PACA				*e*S	Sn	20 42 48.6	+1.8
TECA	Tecapa	0.94	359	*e*P	Pn	20 42 33.9	-0.6
LCND	La Caada	0.96	38	*e*P	Pn	20 42 34.8	+0.2
LCND				IAML		20 42 55.9	
	comp=Z,2µm,0.3s						
CNCH	Conchagua	0.97	42	*e*P	Pb	20 42 35.3	+0.2
LFRS	El Faro	1.20	333	*e*P	Pn	20 42 36.0	-2.0
PAVA	Las Pavas	1.23	340⇑	*e*P	Pn	20 42 37.3	-1.2
PAVA				*e*S	Sn	20 42 54.0	-0.3
PAVA				IAML		20 43 01.1	
	comp=Z,1µm,0.2s						
CAHU	Cacacuatique	1.24	13	*e*P	Pb	20 42 39.8	-0.1
LOMA	San Marcos	1.28	329	*e*P	Pn	20 42 37.0	-2.1
LOMA				*e*S	Sn	20 42 55.4	+0.1
LOMA				IAML		20 42 57.7	
	comp=Z,2µm,0.2s						
LBRS	Las Brisas	1.30	336	*e*P	Pn	20 42 37.9	-1.4
LFU	La Fuente	1.34	333	*e*P	Pn	20 42 38.3	-1.6
BOQS	Boqueron	1.41	327	*e*P	Pn	20 42 39.0	-2.0
CEVE	Cerro Verde	1.68	319⇑	*e*P	Pn	20 42 42.8	-2.0
SBLS	San Blas	1.69	319⇑	*e*P	Pn	20 42 42.9	-2.0
SNJE	San Jose	1.70	321⇑	*e*P	Pn	20 42 43.1	-1.9
SNJE				*e*S	Sn	20 43 05.9	-0.1
RTR	El Retiro	1.75	320	*e*P	Pn	20 42 44.0	-1.6
IXG	Ixpaco	2.50	310	*e*P	Pn	20 42 54.0	-2.0
IXG				*e*S	Sn	20 43 26.0	+0.3
NBG	Las Nubes	2.71	319	*e*P	Pn	20 42 59.1	+0.1
APG	El Apazote	3.10	322	Pn	Pn	20 43 03.8	-0.5
	comp=Z,1.4nm,0.3s,baz=159,slow=8.3,SNR=7.0						
APG				Lg	Lg	20 43 47.6	
	comp=Z,2.1nm,0.3s,baz=43,slow=18,SNR=3.5						
JTS	JuntasAbangare	4.13	123	Pn	Pn	20 43 19.0	+0.7
	comp=Z,2.2nm,0.3s,baz=3.6,slow=16,SNR=8.6						
JTS				Sn	Sn	20 44 05.4	-0.3
	comp=Z,3.6nm,0.3s,baz=338,slow=19,SNR=3.9						
JTS				Lg	Lg	20 44 30.0	
	comp=Z,1.2nm,0.3s,baz=24,slow=23,SNR=9.0						
CMIG	Matias Romero	7.65	307	Pn	Pn	20 44 07.5	+0.8
	comp=Z,0.2nm,0.3s,baz=139,slow=9.3,SNR=1.6						
CMIG				Sn	Sn	20 45 36.5	+4.0
	comp=Z,0.2nm,0.3s,baz=153,slow=18,SNR=2.1						
TXAR	Lajitas Array	21.86	322	P	P	20 47 07.6	-0.1
	comp=Z,0.4nm,0.5s,baz=144,slow=11,SNR=6.2						
NVAR	Mina Array Bea	36.96	320	P	P	20 49 24.7	+0.6
	comp=Z,0.1nm,0.4s,baz=121,slow=11,SNR=2.7						
YKA	Yellowknife Ar	53.25	345	P	P	20 51 30.3	-2.5
	comp=Z,0.3nm,0.3s,baz=143,slow=7.0,SNR=12						

IDC 08 20:42:59.3±4.7**, 6°.10S**×**151°.06E, h109**km±40km**, mb3.5**/6**, mb1 3.7**/7**, mb1mx3.4**/26**, mbtmp3.8**/7**, Error ellipse: s-maj=51.8km s-min=25.9km az=125.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.07	229	P	Pn	20 44 13.0	-0.1
	1.5nm,0.3s,baz=58,slow=9.5,SNR=3.5						
PMG				S	Sn	20 45 05.8	-4.7
	1.8nm,0.3s,baz=44,slow=17,SNR=3.8						
WRA	Warramunga Arr	21.29	228	P	P	20 47 36.6	-0.8
	1.3nm,0.4s,baz=54,slow=10,SNR=22						
ASAR	Alice Springs	24.03	222	P	P	20 48 05.3	+0.9
	2.5nm,0.7s,baz=58,slow=9.0,SNR=35						
FITZ	Fitzroy Crossi	27.52	242	P	P	20 48 35.7	-0.2
	3.5nm,0.9s,baz=63,slow=9.0,SNR=3.1						
SONM	Songino Array	66.51	329	P	P	20 53 38.5	+0.9
	0.3nm,0.6s,baz=142,slow=6.1,SNR=3.3						
ILAR	Eielson Array	84.01	22	P	P	20 55 15.5	-1.8
	0.5nm,0.7s,baz=240,slow=5.5,SNR=5.3						
NVAR	Mina Array Bea	94.25	52	P	P	20 56 08.2	+1.4
	0.2nm,0.3s,baz=246,slow=8.8,SNR=2.7						
TORD	Torodi Ar. Bea	149.02	285	PKPbc	PKPbc	21 02 34.5	-1.2
	1.7nm,0.6s,baz=68,slow=2.4,SNR=14						

IDC 08 20:45:19.5±1.6**, 9°.72S**×**159°.61E, h0**km**, mb3.6**/4**, mb1 3.7**/4**, mb1mx3.5**/30**, mbtmp3.6**/4**, MS3.4**/1**, Ms1 3.4**/1**, ms1mx2.7**/25**, Error ellipse: s-maj=65.9km s-min=12.2km az=147.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	0.44	50	Pn	Pn	20 45 33.6	+0.5
	526nm,0.3s,baz=207,slow=9.8,SNR=142						
HNR				Sn	Sb	20 45 41.0	+3.7
	2µm,0.3s,baz=251,slow=18,SNR=54						
HNR	Honiara	0.44	50	*i* P	Pn	20 45 34.5	+1.4
HNR				*i* S	Sb	20 46 12.0	+35
PMG	Port Moresby	12.28	270	LR	LR	20 52 32.9	
	comp=Z,188nm,21.7s,baz=22,slow=35						
WRA	Warramunga Arr	26.42	244	P	P	20 50 57.7	-0.5
	0.9nm,1.0s,baz=73,slow=10,SNR=6.7						
ASAR	Alice Springs	28.19	237	P	P	20 51 14.1	0.0
	0.5nm,0.9s,baz=67,slow=10,SNR=4.1						
SONM	Songino Array	74.11	326	P	P	20 56 58.1	+0.3
	0.3nm,0.5s,baz=136,slow=5.6,SNR=3.6						
MKAR	Makanchi Array	88.46	318	P	P	20 58 13.5	-0.4
	0.2nm,0.5s,baz=103,slow=4.8,SNR=6.1						

*BEO **08** 20:46:20.4±1.1, 39°.44N×25°.89E, h5km, ML3.0/2*
*ISK **08** 20:46:21.6, 39°.66N×25°.61E, h8km, ML3.5/23*
*DDA **08** 20:46:21.6, 39°.64N×25°.60E, h24km±1km, ML3.4*
*ATH **08** 20:46:21.8, 39°.68N×25°.60E, h26km±1km, ML3.0/6, Error ellipse: s-maj=2.1km s-min=1.1km az=79.0*
*ISCJB **08** 20:46:22.2±0.4, 39°.67N±0°.02×25°.60E±0°.02, h8km±3km, Error ellipse: s-maj=2.8km s-min=2.4km az=142.9*
*THE **08** 20:46:22.4, 39°.68N×25°.59E, h12km±1km, ML3.1/6, Error ellipse: s-maj=1.0km s-min=0.5km az=75.0*
ISC 08 20:46:22.2±1.0**, 39°.66N**±0°.02×**25°.58E**±0°.02**, h8**km±9km**, n109, σ1s31**/137**, 8C-5D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.39	308	P	Pg	20 46 30.0	+0.3
LIA				S	Sg	20 46 36.1	+1.2
LIA				AML	AML	20 46 40.5	
	comp=E,3230µm,0.5s						
LIA				AML	AML	20 46 41.4	
	comp=N,2781µm,0.5s						
LIA	Limnos Island	0.39	308	P	Pg	20 46 29.9	+0.2
LIA				S	Sb	20 46 36.3	-1.1
BOZC	Bozcaada	0.41	63	PG	Pg	20 46 29.7	-0.5
BOZC				SG	Sg	20 46 35.6	0.0
BOZC	Bozcaada	0.41	63	IAML_P			
	comp=Z,26µm,0.2s						
BOZC				*i* P	Pg	20 46 30.3	+0.1
EFSA	Agios Efstrati	0.47	256	P	Pb	20 46 32.8	+0.1
EFSA				S	Sb	20 46 39.4	-0.3
GPNR	Gulpinar-Canak	0.47	115	PG	Pg	20 46 31.4	0.0
SIGR	SIGRI	0.49	154	PG	Pg	20 46 31.5	-0.3
SIGR				SG	Sb	20 46 39.1	-1.4
SIGR	SIGRI	0.49	154	P	Pg	20 46 31.9	+0.2
SIGR				S	Sb	20 46 39.6	-1.0
SIGR				AML	AML	20 46 40.2	
	comp=E,13283µm,0.4s						
SIGR				AML	AML	20 46 40.2	
	comp=N,16203µm,0.4s						
SIGR	SIGRI	0.49	154	P	Pg	20 46 32.1	+0.3
SIGR				S	Sb	20 46 39.5	-1.0
GADA	Gvkgeada	0.59	25	PG	Pg	20 46 33.4	-0.1
GADA	Gvkgeada	0.59	25	P	Pg	20 46 33.1	-0.4
GADA				S	Sg	20 46 41.7	+0.5
EZN	Ezine	0.60	74	PG	Pg	20 46 33.3	-0.5
EZN				SG	Sg	20 46 41.4	-0.2
EZN	Ezine	0.60	74⇑	*i*P	Pg	20 46 33.8	0.0
EZN	Ezine	0.60	74	P	Pg	20 46 33.1	-0.7
EZN				S	Sg	20 46 41.9	+0.3
GOKC	Gokceada-Canak	0.60	26	PG	Pg	20 46 33.7	-0.1
PRK	Paraskevi	0.68	127	P	Pb	20 46 36.2	0.0
PRK				S	Sb	20 46 45.5	-0.2
PRK				AML	AML	20 46 48.2	
	comp=E,4706µm,0.6s						
PRK				AML	AML	20 46 51.3	
	comp=N,4038µm,0.5s						
PRK	Paraskevi	0.68	127	P	Pb	20 46 36.0	-0.2
PRK				S	Sb	20 46 46.2	+0.5
BAYC	CANAKKALE_Bayr	0.75	83	*i* P	Pg	20 46 36.5	-0.2
BAYC				*i* S	Sb	20 46 47.7	-0.3
SMTH	Samothraki Isl	0.81	358	P	Pg	20 46 37.5	-0.3
SMTH				S	Sg	20 46 48.3	-0.1
SMTH	Samothraki Isl	0.81	358	P	Pg	20 46 37.5	-0.3
SMTH				S	Sg	20 46 48.7	+0.3
AYVA	Ayvalik	0.93	112	*i* P	Pn	20 46 40.9	-0.6
AYVA				*i* S	Sn	20 46 55.9	+0.9
GELI	Tayfur-Gelibol	1.01	43	PG	Pg	20 46 41.1	-0.5
GELI				SG	Sb	20 46 54.9	-0.5
PSRA	Psara	1.11	181	P	Pn	20 46 44.2	+0.1
PSRA				S	Sn	20 46 59.5	-0.1
THAS	Thassos island	1.15	326	P	Pg	20 46 43.0	-1.3
THAS				S	Sb	20 46 59.7	+0.3
THAS				AML	AML	20 47 04.6	
	comp=N,1184µm,0.7s						
THAS				AML	AML	20 47 06.5	
	comp=E,1609µm,0.4s						
THAS	Thassos island	1.15	326	P	Pg	20 46 43.0	-1.3
THAS				S	Sg	20 46 58.8	-0.5
LPK	Lapseki	1.16	51	PN	Pg	20 46 43.7	-0.7
ENEZ	Enez	1.16	22	PN	Pg	20 46 44.1	-0.4
ENEZ				SN	Sn	20 47 00.6	-0.2
DKL	Dikili	1.19	119	PN	Pg	20 46 44.5	-0.4
ERIK	Erikli-Kesan	1.24	35	PN	Pn	20 46 45.1	-0.7
ALN	Alexandroupoli	1.29	16	PN	Pn	20 46 46.1	-0.4
ALN	Alexandroupoli	1.29	16	P	Pn	20 46 45.3	-1.2
ALN	Alexandroupoli	1.29	16	P	Pn	20 46 45.0	-1.5
ALN				S	Sb	20 47 02.6	-0.8
FOCM	Foa	1.30	136	PN	Pg	20 46 46.7	-0.4
CHOS	Chios island	1.32	163	PN	Pn	20 46 46.4	-0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOS	Chios island	1.32	163	P	Pn	20 46 46.2	-0.8
CHOS				S	Sg	20 47 04.4	-0.3
OUR	Ouranopolis	1.40	299	PN	Pb	20 46 48.5	0.0
OUR	Ouranopolis	1.40	299	P	Pg	20 46 49.4	+0.4
AOS	Alonnisos	1.40	250	PN	Pb	20 46 48.7	+0.1
AOS	Alonnisos	1.40	250	P	Pn	20 46 47.2	-0.8
KESN	Edirne-Kesan	1.44	36	IAML_P			
	comp=Z,588nm,0.2s						
KESN				iP	Pn	20 46 48.3	-0.6
KESN				iS	Sn	20 47 08.0	-0.2
PAIG	Paliouri	1.49	281	P	Pn	20 46 49.3	+0.1
PAIG	Paliouri	1.49	281	P	Pn	20 46 47.5	-1.7
RDO	Rodhopi	1.49	359	PN	Pn	20 46 49.0	-0.2
RDO	Rodhopi	1.49	359	P	Pn	20 46 48.2	-1.0
RDO				S	Sn	20 47 08.4	-0.4
RDO				AML	AML	20 47 13.7	
	comp=E,358μm,0.7s						
RDO				AML	AML	20 47 15.8	
	comp=N,526μm,0.5s						
RDO	Rodhopi	1.49	359	P	Pn	20 46 48.0	-1.2
KRBG	Karabiga-Canak	1.51	60	PN	Pn	20 46 49.7	+0.2
URLA	Izmir	1.52	148	PN	Pn	20 46 49.1	-0.6
URLA	Izmir	1.52	148	IAML_P			
	comp=Z,4μm,0.2s						
URLA				iP	Pn	20 46 49.3	-0.3
KAVA	Kavala	1.56	329	P	Pn	20 46 49.1	-1.3
KAVA	Kavala	1.56	329	P	Pn	20 46 49.0	-1.3
KVLA	Kavala	1.57	325	P	Pn	20 46 49.4	-0.9
GONE	Gonen-Balikesi	1.67	76	PN	Pn	20 46 52.1	+0.4
STEP	BALIKESIR_Sava	1.68	99	iP	Pb	20 46 52.8	-0.6
STEP				iS	Sb	20 47 13.9	-0.8
SKIA	Skiathos	1.71	254	P	Pb	20 46 53.6	-0.2
SKIA				AML	AML	20 47 20.5	
	comp=N,515μm,0.6s						
SKIA				AML	AML	20 47 20.6	
	comp=E,749μm,0.5s						
BLCB	Balcova	1.71	138	PN	Pn	20 46 52.4	+0.2
BALB	Balikesir	1.78	90	PN	Pn	20 46 52.8	-0.4
EREA	Eretria	1.78	227	P	Pn	20 46 52.1	-1.2
EREA	Eretria	1.78	227	P	Pn	20 46 51.8	-1.5
PLG	Polygyros	1.79	294	P	Pn	20 46 54.1	+0.7
EDC	Edincik	1.89	68	PN	Pn	20 46 55.4	+0.7
DGB	zmir	1.90	147	IAML_P			
	comp=Z,550nm,0.1s						
DGB				iP	Pn	20 46 55.0	+0.2
SBT4	Kumbag-Tekirda	1.90	51	PN	Pn	20 46 55.4	+0.7
KDZ	Kurdzhali	1.99	357	PN	Pn	20 46 56.7	+0.5
TKR	Tekirdag	2.00	48	PN	Pn	20 46 57.0	+0.7
DION	Dionisos Attik	2.03	220	P	Pn	20 46 56.1	-0.7
SOH	Sokhos	2.06	305	P	Pn	20 46 57.0	-0.1
SOH	Sokhos	2.06	305	P	Pn	20 46 56.0	-1.2
SRS	Serrai	2.10	315	ePn	Pb	20 46 59.9	-0.7
SRS				eSn	Sg	20 47 30.8	+1.1
SRS	Serrai	2.10	315	P	Pn	20 46 57.7	0.0
SRS	Serrai	2.10	315	P	Pn	20 46 56.9	-0.8
HORT	Hortiatis	2.12	297	PN	Pn	20 46 58.7	+0.7
HORT	Hortiatis	2.12	297	P	Pn	20 46 58.7	+0.7
NVR	Nevrokopi	2.14	323	P	Pn	20 46 57.6	-0.6
NVR	Nevrokopi	2.14	323	P	Pn	20 46 56.8	-1.4
CRLT	Corlu	2.21	48	PN	Pn	20 46 59.6	+0.5
KCTX	Karacabey (Bur	2.22	73	PN	Pn	20 46 59.3	0.0
DURS	Dursunbey	2.24	91	IAML_P			
	comp=Z,2μm,0.3s						
DURS				iP	Pn	20 47 00.3	+0.7
AYDB	Zeytinkoy-Aydi	2.49	133	PN	Pn	20 47 03.2	+0.1
DEMI	Demirci	2.51	103	iP	Pn	20 47 03.8	+0.4
PLD	Plovdiv	2.53	345	ePn	Pb	20 47 06.2	-1.7
PLD				eSn	Sb	20 47 40.2	+1.0
KNT	Kendrikon	2.54	307	P	Pn	20 47 03.7	0.0
KNT	Kendrikon	2.54	307	P	Pn	20 47 01.9	-1.8
KULA	Kula-Manisa	2.66	114	PN	Pn	20 47 05.5	+0.1
ARMT	Armutlu	2.68	69	PN	Pn	20 47 07.0	+1.4
VAY	Valandovo	2.83	307	ePn	Pb	20 47 11.6	-1.4
VAY	Valandovo	2.83	307	ePn	Pb	20 47 11.2	-1.7
BODT	Bodrum	2.93	152	PN	Pn	20 47 08.9	-0.1
STIP	Stip	3.28	309	ePn	Pn	20 47 12.9	-1.0
VTS	Vitosha	3.43	329	ePn	Pn	20 47 18.2	+2.1
VTS	Vitosha	3.43	329⇑	iP	Pb	20 47 20.0	-3.3
ZAPS	Zavoj	4.24	329	ePn	Pn	20 47 30.2	+3.2
BARS	Barje	4.24	319	ePn	Pn	20 47 28.9	+1.8
ZAGS	Zajecar	4.85	330	ePn	Pn	20 47 37.6	+2.2
SELS	Selova	4.89	318	ePn	Pn	20 47 38.9	+2.9
BOVS	Bovan	4.92	325	ePn	Pn	20 47 39.0	+2.6
GRUS	Gruza	5.57	321	ePn	Pn	20 47 48.0	+2.6
IVAS	Ivanjica	5.64	316	ePn	Pn	20 47 48.7	+2.3
ARR	Arges	5.75	353⇑	iP	Pn	20 47 51.3	+3.5
VOIR		5.79	356⇑	iP	Pn	20 47 51.9	+3.5
MLR	Muntele Rosu	5.84	3⇑	iP	Pn	20 47 51.7	+2.6
MDVR	Moldovita	5.87	332⇓	iP	Pn	20 47 52.8	+3.3
DIVS	Divibare	6.09	319	ePn	Pn	20 47 54.3	+1.8
GZR	Gura Zlata	6.09	341⇓	iP	Pn	20 47 55.1	+2.5
PLOR	Plostina	6.24	7⇑	iP	Pn	20 47 56.9	+2.3
VRI	Vrincioaia	6.26	7⇓	iP	Pn	20 47 57.7	+2.8
DOPR	Dopca	6.31	359⇑	iP	Pn	20 47 59.5	+4.0
BZS	Buzias	6.63	335⇑	iP	Pn	20 48 02.6	+2.7
SIRR	Siria	7.20	338⇓	iP	Pn	20 48 10.8	+3.0
BURAR	Bucovina Array	7.96	358⇓	iP	Pn	20 48 20.6	+2.4

ISCJB ***08*** *20:53:35.5±1.3, 43°.30N±0°.08×146°.79E±0°.10, h59km±14km, Error ellipse: s-maj=16.3km s-min=7.3km az=141.6*
SKHL ***08*** *20:53:35.9±0.4, 43°.23N×146°.82E, h50km, mb4.4/2*
JMA ***08*** *20:53:36.3±0.2, 43°.28N×146°.74E, h57km±3km, M2.6*
ISC 08 20:53:35.8±2.3**, 43°.3N**±0°.1×**146°.8E**±0°.1**, h49**km±28km**, n12, σ0s.53**/20**, 1C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.60	0⇓	iP	Pn	20 53 48.3	+0.1
SHO				AMB	AMB	20 53 48.7	
	30nm,0.2s						
SHO				AMB	AMB	20 53 48.7	
	40nm,0.2s						
SHO				AMB	AMB	20 53 48.7	
	100nm,0.2s						
SHO				iS	Sn	20 53 57.3	+0.1
SHO				A	A	20 53 57.4	
	190nm,0.2s						
SHO				A	A	20 53 57.4	
	260nm,0.2s						
NEM2	Nemuro 2	0.80	277	P	Pn	20 53 50.9	+0.1
NEM2				eS	Sn	20 54 01.7	0.0
YUK	Yuzh-Kuril'sk	1.04	318⇑	iP	Pn	20 53 53.7	-0.3
YUK				AMB	AMB	20 53 55.0	
	20nm,0.2s						
YUK				AMB	AMB	20 53 55.0	
	40nm,0.2s						
YUK				AMB	AMB	20 53 55.0	
	110nm,0.2s						
YUK				iS	Sn	20 54 07.3	-0.1
YUK				A	A	20 54 09.0	
	110nm,0.1s						
YUK				A	A	20 54 09.0	
	210nm,0.1s						
JKHN	Kushirohamanak	1.23	262	P	Pn	20 53 57.3	+0.6
JRA	Rausu	1.41	299	P	Pn	20 53 59.3	+0.3
JRA				eS	Sn	20 54 16.6	+0.2
JNK	Nakash	1.57	282	P	Pn	20 54 01.0	-0.3
JNK				eS	Sn	20 54 19.9	-0.5
JAK	Akkeshi	1.59	261	P	Pn	20 54 01.4	-0.1
JAK				eS	Sn	20 54 20.0	-0.8
KUR	Kuril'sk	2.10	20	iS	Sn	20 54 33.0	-0.4
KUR				A	A	20 54 39.7	
	140nm,1.0s						
JOB	Onbets	2.23	261	P	Pn	20 54 10.5	+0.3
JTKR	Abashiri--Toko	2.23	289	P	Pn	20 54 11.1	+0.8
JAR	Ashorobuto	2.23	272	P	Pn	20 54 10.9	+0.5
JAR				eS	Sn	20 54 37.1	+0.4
JCH	Churui	2.63	257	P	Pn	20 54 16.3	+0.5
JCH				eS	Sn	20 54 45.2	-1.2

IDC 08 20:55:21.0±3.3**, 6°.75S**×**154°.25E, h0**km**, mb3.3**/3**, mb1 3.5**/3**, mb1mx3.4**/40**, mbtmp3.3**/3**, Error ellipse: s-maj=109.7km s-min=32.2km az=113.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.36	234	P	P	21 00 31.4	0.0
	0.4nm,0.5s,baz=57,slow=9.5,SNR=7.7						
ASAR	Alice Springs	25.79	227	P	P	21 00 53.6	-0.4
	0.4nm,0.6s,baz=60,slow=9.6,SNR=4.5						
SONM	Songino Array	68.73	328	P	P	21 06 27.3	+0.4
	0.2nm,0.5s,baz=123,slow=6.6,SNR=2.4						
TORD	Torodi Ar. Bea	152.25	285	PKPbc	PKPbc	21 15 19.5	-0.5
	0.4nm,0.8s,baz=93,slow=2.9,SNR=2.9						
TORD				PKPab	PKPab	21 15 29.4	-0.3
	0.6nm,0.9s,baz=64,slow=3.4,SNR=3.1						

MAN ***08*** *20:57:58.0, 4°.90N×125°.50E, h23km, mb4.8, ML3.7, MS3.6*
ISCJB ***08*** *20:58:02.0±0.5, 5°.14N±0°.03×125°.41E±0°.05, h52km±6km, mb4.3/21, MS3.1/1, Error ellipse: s-maj=9.4km s-min=4.6km az=154.7*
IDC ***08*** *20:58:04.0±1.8, 5°.18N×125°.43E, h52km±16km, mb3.7/8, mb1 3.9/9, mb1mx3.6/43, mbtmp4.0/9, ML3.9/1, MS3.2/1, Ms1 3.4/1, ms1mx2.6/49, Error ellipse: s-maj=33.5km s-min=13.0km az=74.0*
NEIC ***08*** *20:58:04.0±0.8, 5°.14N×125°.35E, h56km±8km, mb4.7/15, Error ellipse: s-maj=12.5km s-min=5.2km az=70.0*
ISC 08 20:58:03.5±1.0**, 5°.12N**±0°.05×**125°.39E**±0°.06**, h49**km±9km**, n51, σ1s.90**/65**, mb4.3**/24**, 2C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	1.03	18	eP	Pn	20 58 19.8	-1.8
DDMP				eS	Sn	20 58 31.6	-3.4
GSPH	General Santos	1.05	336⇓	iP	Pn	20 58 19.7	-2.3
GSPH				iS	Sn	20 58 34.0	-1.6
SKMP	Bagumbayan, Su	1.62	329	eP	Pn	20 58 28.5	-1.2
SKMP				eS	Sn	20 58 48.1	-1.3
DAV	Davao City (W)	1.94	6	P	Pn	20 58 34.6	+0.5
	63nm,0.3s,baz=236,slow=7.3,SNR=7.7						
DAV				S	Sn	20 58 58.2	+0.9
	112nm,0.3s,baz=75,slow=19,SNR=7.2						
DAV	Davao City (W)	1.94	6	ePn	Pn	20 58 34.0	-0.1
DAV				eSn	Sn	20 58 58.0	+0.7
DMPH	Davao City--Mi	1.95	4⇑	eP	Pn	20 58 42.2	+8.1
DMPH				eS	Sn	20 59 05.6	+8.1
MATI	Mati	2.01	26	eP	Pn	20 58 32.0	-2.9
MATI				eS	Sn	20 58 54.9	-4.0
BUKP	Musuan	2.76	353	eP	Pn	20 58 45.3	0.0
BUKP				eS	Sn	20 59 20.8	+3.4
BIPH	Bislig	3.19	18⇑	eP	Pn	20 58 51.2	0.0
BIPH				eS	Sn	20 59 24.8	-3.2
PAGZ	Pagadian	3.36	324	eP	Pn	20 58 54.4	+0.8
CGP	Cagayan de Oro	3.38	348⇓	eP	Pn	20 58 58.4	+4.6
CGP				eS	Sn	20 59 45.6	+13
BUTP	Butuan	3.83	3	eP	Pn	20 59 01.4	+1.4
BUTP				eS	Sn	20 59 47.2	+3.5
IPIL	Ipil	3.85	314	eP	Pn	20 58 60.0	-0.3
IPIL				eS	Sn	20 59 40.5	-3.7
TNTI	Ternate	4.75	155	ePn	Pn	20 59 13.1	+0.4
LUWI	Luwuk	6.66	203	ePn	Pn	20 59 39.0	+0.2
SIJI	Sorong	8.36	135	P	Pn	21 00 03.4	+1.2
	1.5nm,0.3s,baz=320,slow=7.2,SNR=10						
SIJI				S	Sn	21 01 36.3	+1.0
	0.0nm,0.3s,baz=229,slow=19,SNR=3.2						
FAKI	Fak Fak	10.53	139	ePn	Pn	21 00 34.7	+2.9
FITZ	Fitzroy Crossi	23.07	179	P	P	21 03 05.8	+0.8
	2.7nm,0.7s,baz=347,slow=6.0,SNR=14						
FITZ	Fitzroy Crossi	23.07	179	eP	P	21 03 05.2	+0.2
	24nm,1.4s						
COEN	Coen	25.90	137	eP	P	21 03 30.1	-1.1
	14nm,1.1s						
WRAB	Tennant Creek	26.41	161	eP	P	21 03 35.1	-0.7
	36nm,1.8s						
WRA	Warramunga Arr	26.42	161	P	P	21 03 35.7	-0.1
	1.9nm,0.7s,baz=339,slow=10,SNR=23						
WRA				ScP	ScP	21 10 36.8	+0.2
	0.4nm,0.9s,baz=337,slow=3.0,SNR=2.7						
WR1	Warramunga Arr	26.42	161	eP	P	21 03 35.7	-0.1
	18nm,1.4s						
WR1				eScP	ScP	21 10 36.8	+0.2
WB2	Warramunga Arr	26.42	161	eP	P	21 03 36.4	+0.5
	8.0nm,0.9s						
WC3	Warramunga Arr	26.45	161	eP	P	21 03 36.7	+0.6
	40nm,1.9s						
CM31	Chiang Mai Arr	29.02	299	eP	P	21 03 59.1	0.0
CMAR	Chiang Mai Arr	29.02	299	P	P	21 04 00.3	+1.2
	0.3nm,0.6s,baz=118,slow=7.2,SNR=3.9						
CMAR				LR	LR	21 15 58.3	
	comp=Z,43nm,18.9s,baz=90,slow=37						
AS31	Alice Springs	29.80	164	eP	P	21 04 06.5	+0.5
	1.6nm,1.2s						
ASAR	Alice Springs	29.80	164	P	P	21 04 06.4	+0.4
	1.1nm,0.5s,baz=344,slow=7.1,SNR=26						
ASAR				PcP	PcP	21 07 09.0	+0.2
	0.5nm,1.0s,baz=343,slow=3.5,SNR=3.4						
ASAR				ScP	ScP	21 10 47.0	+0.1
	0.7nm,0.8s,baz=342,slow=3.2,SNR=6.8						
AS01	Alice Springs	29.81	164	eP	P	21 04 06.2	+0.1
FORT	Forrest	35.79	176	eP	P	21 04 58.6	+0.5
	16nm,0.8s						
NWAO	Narrogin (SRO)	38.62	191	eP	P	21 05 21.2	-0.9
	77nm,1.5s						
BBOO	Buckleboo	39.06	166	eP	P	21 05 25.9	0.0
	78nm,1.9s						
EIDS	Eidsvold	39.27	142	eP	P	21 05 27.6	-0.1
	35nm,1.7s						
USRK	Ussuriysk Ar.	39.35	7	P	P	21 05 27.8	-0.3
	2.1nm,0.8s,baz=184,slow=5.4,SNR=4.4						
STKA	Stephens Creek	39.91	158	P	P	21 05 33.7	+0.8
	3.4nm,0.8s,baz=308,slow=12,SNR=4.5						
STKA	Stephens Creek	39.91	158	eP	P	21 05 33.2	+0.4
	1.2nm,0.8s						
RAMN	Ramite	42.86	305	eP	P	21 05 59.8	+2.3
GUN	Gumba	43.83	306	eP	P	21 06 05.6	+0.1
	11nm,0.8s						
KOLN	Koldanda	45.63	304	eP	P	21 06 19.9	+0.2
	5.1nm,0.6s						
DANN	Dangsing	45.72	305	eP	P	21 06 20.4	-0.1
	11nm,0.7s						
PYUN	Piuthan	46.26	304	eP	P	21 06 24.9	+0.3
	5.4nm,0.6s						
MK01	Makanchi Array	55.63	325	eP	P	21 07 33.6	-1.0
MK31	Makanchi Array	55.65	325	eP	P	21 07 33.5	-1.2
MK32	Makanchi Array	55.65	325	eP	P	21 07 33.4	-1.4
MKAR	Makanchi Array	55.65	325	P	P	21 07 33.4	-1.4
	0.5nm,0.5s,baz=120,slow=7.5,SNR=12						
MKAR	Makanchi Array	55.65	325	eP	P	21 07 33.7	-1.0
	5.4nm,0.8s						
NIL	Nilore	56.02	307	eP	P	21 07 36.8	-0.8
	4.4nm,0.8s						
GAR	Garm	60.00	312	eP	P	21 08 05.5	0.0
	5.5nm,0.7s						
ILAR	Eielson Array	84.43	25	P	P	21 10 29.7	-0.9
	0.5nm,0.7s,baz=260,slow=4.9,SNR=6.5						
TULEG	Thule	98.05	3	eP	Pdif	21 11 36.3	+2.0
	13nm,1.0s						

BEO ***08*** *21:12:26.7±1.0, 39°.07N×25°.27E, h9km±7km, ML3.2/3*
DDA ***08*** *21:12:30.1, 39°.64N×25°.55E, h21km±2km, ML3.3*
ISCJB ***08*** *21:12:30.4±0.4, 39°.67N±0°.01×25°.52E±0°.02, h7km±3km, Error ellipse: s-maj=2.6km s-min=2.4km az=176.7*
ISK ***08*** *21:12:30.4, 39°.67N×25°.57E, h5km, ML3.5/19*
ATH ***08*** *21:12:30.6, 39°.67N×25°.55E, h30km, ML3.1/13, Error ellipse: s-maj=1.1km s-min=0.7km az=74.0*
THE ***08*** *21:12:31.0, 39°.69N×25°.55E, h9km±1km, ML3.2/8, Error ellipse: s-maj=1.1km s-min=0.5km az=72.0*
ISC 08 21:12:30.5±1.0**, 39°.66N**±0°.01×**25°.55E**±0°.02**, h8**km±9km**, n124, σ1s.07**/156**, 8C-6D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.36	310	P	Pb	21 12 38.6	-0.6
LIA				S	Sb	21 12 44.9	-0.2
LIA				AML	AML	21 12 49.3	
	comp=N,2453μm,0.3s						
LIA				AML	AML	21 12 50.3	
	comp=E,2487μm,0.3s						
LIA	Limnos Island	0.36	310	P	Pb	21 12 38.4	-0.8
LIA				S	Sg	21 12 43.2	+0.7
BOZC	Bozcaada	0.43	65	PG	Pg	21 12 38.9	0.0
BOZC	Bozcaada	0.43	65	IAML_P			
	comp=Z,13μm,0.1s						
BOZC				iP	Pb	21 12 40.1	-0.3
EFSA	Agios Efstrati	0.45	254	P	Pb	21 12 41.6	+0.9
EFSA				S	Sb	21 12 48.2	+0.8
EFSA				AML	AML	21 12 48.4	
	comp=E,8765μm,0.6s						
EFSA				AML	AML	21 12 50.1	
	comp=N,8202μm,0.3s						
GPNR	Gulpinar-Canak	0.50	114	PG	Pg	21 12 40.4	+0.2
SIGR	SIGRI	0.51	152	PG	Pg	21 12 40.3	-0.1
SIGR				SG	Sg	21 12 47.5	+0.4
SIGR	SIGRI	0.51	152	P	Pb	21 12 41.0	-0.8
SIGR				S	Sb	21 12 48.8	-0.6
SIGR				AML	AML	21 12 49.1	
	comp=E,8227μm,0.2s						
SIGR				AML	AML	21 12 49.5	
	comp=N,9253μm,0.4s						
SIGR	SIGRI	0.51	152	P	Pb	21 12 41.0	-0.8
SIGR				S	Sb	21 12 48.5	-0.8
GADA	Gvkgeada	0.59	27	PG	Pg	21 12 42.1	+0.1
GADA	Gvkgeada	0.59	27	P	Pg	21 12 42.1	+0.1
GADA				S	Sb	21 12 50.7	-1.0
GOKC	Gokceada-Canak	0.61	28	PG	Pb	21 12 42.7	-0.7
EZN	Ezine	0.62	75	PG	Pg	21 12 42.6	0.0
EZN				SG	Sg	21 12 50.7	0.0
EZN	Ezine	0.62	75⇓	iP	Pg	21 12 42.7	+0.1
EZN	Ezine	0.62	75	P	Pg	21 12 42.4	-0.2
EZN				S	Sg	21 12 50.9	+0.2
PRK	Paraskevi	0.70	126	P	Pb	21 12 45.5	+0.6
PRK				S	Sb	21 12 55.0	+0.2
PRK				AML	AML	21 12 58.9	
	comp=N,6691μm,0.3s						
PRK				AML	AML	21 12 59.4	
	comp=E,6733μm,0.4s						
PRK	Paraskevi	0.70	126	P	Pb	21 12 45.1	+0.1
PRK				S	Sb	21 12 55.4	+0.7
BAYC	CANAKKALE_Bayr	0.78	84	iP	Pb	21 12 45.8	-0.5
BAYC				iS	Sb	21 12 56.1	-0.8
SMTH	Samothraki Isl	0.81	359	P	Pb	21 12 46.4	-0.4
SMTH				S	Sb	21 12 57.8	0.0
SMTH	Samothraki Isl	0.81	359	P	Pb	21 12 46.4	-0.4
SMTH				S	Sb	21 12 57.0	-0.9
AYVA	Ayvalik	0.95	111	iP	Pb	21 12 49.1	-0.2
AYVA				iS	Sn	21 13 03.8	-0.2
GELI	Tayfur-Gelibol	1.02	44	PG	Pb	21 12 50.2	-0.3
SKY	Skiros Island	1.10	225	P	Pb	21 12 51.8	0.0
SKY				S	Sn	21 13 06.9	-0.7
SKY				AML	AML	21 13 09.6	
	comp=N,2087μm,0.3s						
SKY				AML	AML	21 13 09.7	
	comp=E,3062μm,0.2s						
SKY	Skiros Island	1.10	225	P	Pg	21 12 51.5	-0.2
SKY				S	Sn	21 13 07.6	0.0
PSRA	Psara	1.12	179	P	Pb	21 12 51.6	-0.5
PSRA				S	Sn	21 13 08.1	+0.1
THAS	Thassos island	1.13	326	P	Pb	21 12 52.0	-0.4
THAS				S	Sg	21 13 06.8	-0.2
THAS				AML	AML	21 13 08.6	
	comp=N,1911μm,0.5s						
THAS				AML	AML	21 13 09.3	
	comp=E,1703μm,0.3s						
THAS	Thassos island	1.13	326	P	Pb	21 12 51.8	-0.6
THAS				S	Sb	21 13 07.4	+0.1
ENEZ	Enez	1.17	23	PN	Pg	21 12 52.7	-0.3
LPK	Lapseki	1.17	52	PN	Pn	21 12 52.9	-0.3
DKL	Dikili	1.21	119	PN	Pg	21 12 53.8	+0.1
ERIK	Erikli-Kesan	1.25	36	PN	Pn	21 12 53.9	-0.4
ALN	Alexandroupoli	1.29	17	PN	Pg	21 12 55.1	-0.2
ALN	Alexandroupoli	1.29	17	P	Pn	21 12 54.1	-0.8
ALN				S	Sb	21 13 10.9	-0.8
ALN				AML	AML	21 13 14.9	
	comp=N,815μm,0.3s						
ALN				AML	AML	21 13 18.6	
	comp=E,687μm,0.4s						
ALN	Alexandroupoli	1.29	17	P	Pn	21 12 54.0	-0.8
ALN				S	Sb	21 13 11.1	-0.7
FOCM	Foa	1.32	135	PN	Pg	21 12 56.5	+0.6
KRBN	Karaburun	1.33	143	PN	Pg	21 12 56.3	+0.3
CHOS	Chios island	1.34	163	PN	Pg	21 12 56.3	+0.1
CHOS	Chios island	1.34	163	P	Pn	21 12 55.2	-0.3
CHOS				S	Sg	21 13 13.6	+0.1
CHOS				AML	AML	21 13 19.1	
	comp=E,2045μm,0.3s						
CHOS				AML	AML	21 13 24.1	
	comp=N,1542μm,0.6s						
CHOS	Chios island	1.34	163	P	Pn	21 12 55.2	-0.3
CHOS				S	Sg	21 13 14.2	+0.7
OUR	Ouranopolis	1.38	300	PN	Pg	21 12 56.7	-0.2
AOS	Alonnisos	1.38	250	PN	Pg	21 12 57.5	+0.5
AOS	Alonnisos	1.38	250	P	Pn	21 12 55.4	-0.6
AOS				S	Sb	21 13 13.7	-0.7
AOS				AML	AML	21 13 17.6	
	comp=N,815μm,0.7s						
AOS				AML	AML	21 13 18.2	
	comp=E,690μm,0.5s						
KESN	Edirne-Kesan	1.45	36	IAML_P			
	comp=Z,962nm,0.3s						
KESN				iP	Pn	21 12 57.2	-0.2
KESN				iS	Sg	21 13 18.2	+1.0
PAIG	Paliouri	1.46	281	P	Pn	21 12 56.7	-0.5
PAIG	Paliouri	1.46	281	P	Pn	21 12 56.6	-0.5
RDO	Rodhopi	1.48	360	PN	Pb	21 12 58.2	-0.1
RDO	Rodhopi	1.48	360	P	Pn	21 12 57.1	-0.4
RDO				S	Sn	21 13 16.5	-0.5
RDO	Rodhopi	1.48	360	P	Pn	21 12 56.8	-0.6
KRBG	Karabiga-Canak	1.53	61	PN	Pb	21 12 58.7	-0.4
URLA	Izmir	1.54	148	PN	Pb	21 12 59.1	-0.2
URLA	Izmir	1.54	148	IAML_P			
	comp=Z,2μm,0.2s						
URLA				iP	Pn	21 12 58.2	0.0
KAVA	Kavala	1.55	330	P	Pn	21 12 57.9	-0.5
KAVA				AML	AML	21 13 21.6	
	comp=N,385μm,0.3s						
KAVA				AML	AML	21 13 26.2	
	comp=E,479μm,0.5s						
KAVA	Kavala	1.55	330	P	Pn	21 12 57.4	-1.0
KVLA	Kavala	1.55	326	P	Pn	21 12 58.0	-0.4
KVLA				S	Sn	21 13 17.2	-1.5
KNL	Balıkesir	1.64	68	IAML_P			
	comp=Z,3μm,0.2s						
KNL				iP	Pg	21 13 01.5	-0.5
SKIA	Skiathos	1.69	254	P	Pn	21 12 59.9	-0.4
SKIA				AML	AML	21 13 29.5	
	comp=E,1072μm,0.6s						
SKIA				AML	AML	21 13 29.5	
	comp=N,934μm,0.4s						
GONE	Gonen-Balikesi	1.69	76	PN	Pb	21 13 01.1	-0.8
STEP	BALIKESIR_Sava	1.71	99	IAML_P			
	comp=Z,766nm,0.1s						
STEP				iP	Pb	21 13 01.6	-0.5
BLCB	Balcova	1.73	137	PN	Pb	21 13 02.2	-0.3
PLG	Polygyros	1.76	294	P	Pn	21 13 01.3	0.0
PLG	Polygyros	1.76	294	P	Pn	21 13 01.0	-0.3
EREA	Eretria	1.77	226	P	Pn	21 13 00.8	-0.6
EREA				S	Sn	21 13 23.5	-0.5
EREA				AML	AML	21 13 31.5	
	comp=E,710μm,0.5s						
EREA				AML	AML	21 13 32.9	
	comp=N,579μm,0.4s						
EREA	Eretria	1.77	226	P	Pn	21 13 00.9	-0.6
MRKA	Markates	1.80	238	P	Pn	21 13 01.5	-0.4
MRKA				AML	AML	21 13 31.4	
	comp=N,666μm,0.5s						
MRKA				AML	AML	21 13 33.5	
	comp=E,593μm,0.6s						
MRKA	Markates	1.80	238	P	Pn	21 13 01.4	-0.4
BALB	Balikesir	1.80	90	PN	Pb	21 13 02.5	-1.3
XOR	Xorichti	1.84	261	P	Pn	21 13 02.2	-0.3
EDC	Edincik	1.91	68	PN	Pn	21 13 04.0	+0.7
SBT4	Kumbag-Tekirda	1.92	52	PN	Pb	21 13 04.5	-1.1
DGB	zmir	1.92	147	IAML_P			
	comp=Z,316nm,0.1s						
DGB				iP	Pn	21 13 04.0	+0.6
TKR	Tekirdag	2.02	48	PN	Pb	21 13 06.1	-1.3
DION	Dionisos Attik	2.02	219	P	Pn	21 13 04.6	-0.3
FYTO	Fytoko, Volos	2.03	264	P	Pn	21 13 04.9	-0.1
SOH	Sokhos	2.04	305	P	Pn	21 13 05.2	+0.1
SOH	Sokhos	2.04	305	P	Pn	21 13 04.9	-0.3
PTL	Penteli	2.08	220	P	Pn	21 13 05.2	-0.5
SRS	Serrai	2.08	315	ePn	Pn	21 13 05.9	+0.1
SRS				eSn	Sg	21 13 36.6	-0.8
SRS	Serrai	2.08	315	P	Pn	21 13 05.8	+0.1
SRS	Serrai	2.08	315	P	Pn	21 13 05.5	-0.2
HORT	Hortiatis	2.09	297	P	Pn	21 13 06.2	+0.2
NVR	Nevrokopi	2.12	323	P	Pn	21 13 05.8	-0.5
NVR	Nevrokopi	2.12	323	P	Pn	21 13 05.7	-0.5
DURS	Dursunbey	2.26	91	IAML_P			
	comp=Z,554nm,0.2s						
DURS				iP	Pb	21 13 09.8	-1.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
VLY	Voula,Athens	2.27	218	P	Pn	21 13 07.9	-0.3
AYDB	Zeytinkoy-Aydi	2.51	132	PN	Pn	21 13 13.0	+1.3
KNT	Kendrikon	2.51	307	P	Pn	21 13 12.4	+0.7
KNT	Kendrikon	2.51	307	P	Pn	21 13 11.8	+0.1
DEMI	Demirci	2.54	103	IAML_P			
	comp=Z,801nm,0.2s						
DEMI				*i*P	Pg	21 13 17.6	-1.6
AGG	Agios Georgios	2.57	257	P	Pn	21 13 12.7	+0.2
APE	Apeiranthos	2.59	180	⇓*i*P	Pn	21 13 10.2	-2.6
LTK	Loutraki	2.59	232	P	Pn	21 13 12.9	+0.1
MAKR	Makrakomi, Fth	2.73	257	P	Pn	21 13 15.5	+0.9
GRG	Griva	2.73	299	P	Pn	21 13 15.6	+0.9
VAY	Valandovo	2.81	307	*e*Pn	Pn	21 13 15.2	-0.5
VAY				*e*Sn	Sn	21 13 50.8	+1.1
VAY	Valandovo	2.81	307	*e*Pn	Pb	21 13 19.8	-1.1
DID	Didima	2.81	221	P	Pn	21 13 15.4	-0.4
KALE	Kalithea	2.94	245	P	Pn	21 13 17.2	-0.4
TRIZ	Trizonia	3.00	245	P	Pn	21 13 18.8	+0.5
GUR	Goura	3.04	236	P	Pn	21 13 19.2	+0.2
LAKA	Lakka	3.12	244	P	Pn	21 13 20.8	+0.7
STIP	Stip	3.26	310	*e*Pn	Pn	21 13 21.3	-0.6
TRIP	Tripoli	3.34	231	P	Pn	21 13 23.7	+0.7
FNA	Florina	3.38	291	*e*Pn	Pn	21 13 20.6	-3.0
VTS	Vitosha	3.42	330	*e*Pn	Pn	21 13 25.7	+1.5
VTS				*e*Sn	Sb	21 14 10.5	-2.6
VTS	Vitosha	3.42	330	⇓*i*P	Pn	21 13 27.2	+3.0
DRO	Drossia	3.45	242	P	Pn	21 13 25.2	+0.7
IGT	Igoumenitsa	4.03	270	*e*Pn	Pn	21 13 26.4	-6.1
ZAPS	Zavoj	4.22	330	*e*Pn	Pn	21 13 36.8	+1.7
BARS	Barje	4.22	319	*e*Pn	Pn	21 13 36.5	+1.4
BARS				*e*Sn	Sn	21 14 27.9	+3.3
ZAGS	Zajecar	4.83	330	*e*Pn	Pn	21 13 45.7	+2.2
SELS	Selova	4.87	318	*e*Pn	Pn	21 13 43.8	-0.2
BOVS	Bovan	4.90	325	*e*Pn	Pn	21 13 45.0	+0.6
SJES	Sjenica	5.52	312	*e*Pn	Pn	21 13 52.2	-0.8
ARR	Arges	5.74	354	⇑*i*P	Pn	21 13 58.1	+2.0
VOIR		5.78	357	⇓*i*P	Pn	21 13 58.5	+1.9
MLR	Muntele Rosu	5.83	3	⇑*i*P	Pn	21 14 00.3	+2.9
MDVR	Moldovita	5.85	332	⇓*i*P	Pn	21 13 59.4	+1.8
GZR	Gura Zlata	6.08	341	⇑*i*P	Pn	21 14 02.4	+1.7
PLOR	Plostina	6.24	7	⇑*i*P	Pn	21 14 05.8	+2.9
VRI	Vrincioaia	6.26	8	⇑*i*P	Pn	21 14 06.0	+2.9
DOPR	Dopca	6.30	359	⇑*i*P	Pn	21 14 07.1	+3.4
SIRR	Siria	7.19	338	⇑*i*P	Pn	21 14 18.2	+2.3
BIZ	Bicaz	7.28	3	⇓*i*P	Pn	21 14 19.8	+2.6
BURAR	Bucovina Array	7.95	358	⇑*i*P	Pn	21 14 29.1	+2.7

*IDC **08** 21:26:54.8±0.5, 34°.48S×179°.17E, h0km, mb4.7/19, mb1 4.8/23, mb1mx4.7/40, mbtmp4.7/23, ML4.7/4, MS5.1/27, Ms1 5.1/27, ms1mx5.0/32, Error ellipse: s-maj=16.4km s-min=14.5km az=168.0*

*NEIC **08** 21:26:55.6±0.2, 34°.60S×179°.18E, h10km, mb5.4/40, MS5.4/118, MW5.6, MW5.7, Error ellipse: s-maj=6.6km s-min=4.3km az=123.0, Moment Tensor Solution. s28 Moment tensor: Scale 10^{17}Nm; M_{rr}0.98; $M_{\theta\theta}$-3.59; $M_{\phi\phi}$2.61; $M_{r\theta}$-0.34; $M_{\theta\phi}$1.27; $M_{\phi r}$0.70; Best double couple: $M_0$3.50000×10^{17} NP1:ϕ_s325.00000°, δ82.00000°, λ164.00000°. NP2:ϕ_s57.00000°, δ74.00000°, λ8.00000°. Principal axes: T 3.0500, Plg17.0000°, Azm280.0000°; N 0.8300, Plg72.0000°, Azm119.0000°; P -3.8800, Plg6.0000°, Azm12.0000°;*

*NEIC **08** 21:26:55.0±0.0, 34°.63S×179°.29E, h17km, Moment Tensor Solution. s19 Moment tensor: Scale 10^{17}Nm; M_{rr}0.09; $M_{\theta\theta}$-3.09; $M_{\phi\phi}$3.00; $M_{r\theta}$-1.72; $M_{\theta\phi}$1.74; $M_{\phi r}$2.59; Best double couple: $M_0$4.70000×10^{17} NP1:ϕ_s329.00000°, δ90.00000°, λ138.00000°. NP2:ϕ_s59.00000°, δ48.00000°, λ0.00000°. Principal axes: T 4.5800, Plg28.0000°, Azm276.0000°; N 0.2200, Plg48.0000°, Azm149.0000°; P -4.7900, Plg27.0000°, Azm22.0000°;*

*WEL **08** 21:26:56.6±0.4, 34°S±4°×17°9E±°, h12km, ML5.6/51*

*MOS **08** 21:26:57.2±1.3, 34°.35S×179°.08E, h21km, mb5.2/28, MS5.1/18, Error ellipse: s-maj=11.8km s-min=10.2km az=176.2*

*BJI **08** 21:26:58.9, 34°.75S×178°.89E, h33km, mb5.1/20, mB5.7/15, Ms5.5/23, Ms7 5.2/24*

*ISCJB **08** 21:26:58.5±0.1, 34°.44S±0°.02×179°.14E±0°.03, h33km, mb5.2/86, MS5.3/158, Error ellipse: s-maj=4.1km s-min=2.3km az=27.5*

*GCMT **08** 21:26:58.6±0.1, 34°.40S±0°.01×179°.18E±0°.01, h15km, MW5.7/135, Moment Tensor Solution. s100,c181; s135,c319; Duration: 1.s7 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.55±.04; $M_{\theta\theta}$-3.53±.04; $M_{\phi\phi}$4.07±.05; $M_{r\theta}$-0.08±.08; $M_{\theta\phi}$1.06±.04; $M_{\phi r}$0.34±.08; Best double couple: $M_0$3.95800×10^{17} NP1:ϕ_s323.00000°, δ89.00000°, λ176.00000°. NP2:ϕ_s53.00000°, δ86.00000°, λ1.00000°. Principal axes: T 4.2370, Plg4.0000°, Azm278.0000°; N -0.5630, Plg86.0000°, Azm128.0000°; P -3.6800, Plg2.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 08 21:27:00.2±0.3**, 34°.43S**±0°.04×**179°.19E**±0°.04**, h35km, n526,** σ**2.s12**/413**, mb5.3**/85**, MS5.3**/159**, 2C-1D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.21	193	*e*Pn	Pn	21 27 44.3	-3.8
MXZ	Matakaoa Point	3.21	193	P	Pn	21 27 44.9	-3.2
MXZ				P	Pn	21 27 49.2	+1.1
WMGZ	Waiomatatini S	3.44	190	P	Pn	21 27 50.2	-1.1
HAZ	Te Kaha	3.51	199	P	Pn	21 27 49.1	-3.1
HAZ				S	Sn	21 28 36.2	+3.6
GRZ	Great Barrier	3.55	238	P	Pn	21 27 50.4	-2.5
GRZ				S	Sn	21 28 33.3	-0.3
PKGZ	Pakihiroa	3.57	194	P	Pn	21 27 51.1	-2.0
KUZ	Kuaotunu	3.65	230	P	Pn	21 27 52.0	-2.2
PUZ	Puketiti	3.71	191	P	Pn	21 27 55.0	-0.1
PUZ				S	Sn	21 28 43.4	+5.8
MYRZ	Mayor Island	3.72	219	P	Pn	21 27 56.2	+1.1
RUGZ	Raukumara Rang	3.73	199	P	Pn	21 27 54.8	-0.7
WHRZ	Whale Island	3.86	207	P	Pn	21 27 59.7	+2.6
TWGZ	Tauwhareparae	3.86	194	P	Pn	21 27 57.6	+0.4
OPRZ	Ohinepanea	4.02	211	P	Pn	21 27 59.5	+0.2
WIAZ	Waiheke Island	4.06	233	P	Pn	21 27 58.3	-1.5
MARZ	Manawahe	4.09	209	P	Pn	21 28 02.7	+2.4
MWZ	Matawai	4.12	199	P	Pn	21 27 59.9	-0.9
MWZ				S	Sn	21 28 54.4	+6.7
CNGZ	Carnagh Statio	4.12	191	P	Pn	21 28 00.2	-0.5
CNGZ				S	Sn	21 28 53.4	+5.7
TKGZ	Te Karaka	4.14	195	P	Pn	21 28 00.7	-0.3
TKGZ				S	Sn	21 28 55.2	+7.0
ABAZ	Army Bay	4.16	237	P	Pn	21 27 59.5	-1.7
EDRZ	Edgecumbe	4.17	208	P	Pn	21 28 04.1	+2.7
URZ	Urewera	4.17	203	Pn	Pn	21 27 59.8	-1.6
	41nm,0.3s,baz=28,slow=8.3,SNR=123						
URZ				Sn	Sn	21 28 49.3	+0.3
	21nm,0.3s,baz=307,slow=20,SNR=2.7						
URZ	Urewera	4.17	203	P	Pn	21 28 00.1	-1.3
URZ				S	Sn	21 28 52.9	+3.9
MBAZ	Motutapu North	4.21	235	P	Pn	21 28 00.7	-1.2
MKAZ	Moumakai	4.23	230	P	Pn	21 28 00.5	-1.6
WCZ	Waipu Caves	4.25	248	P	Pn	21 28 00.3	-2.1
ETAZ	East Tamaki Re	4.29	233	P	Pn	21 28 01.4	-1.6
KARZ	Kaharoa	4.30	213	P	Pn	21 28 03.8	+0.6
RAGZ	Rawiri	4.30	199	P	Pn	21 28 03.1	-0.1
KMRZ	Kaimai	4.30	217	P	Pn	21 28 08.5	+5.2
MKRZ	Makatiti	4.30	210	P	Pn	21 28 10.0	+6.7
OMRZ	Omania	4.32	211	P	Pn	21 28 06.4	+3.0
TARZ	Mount Tarawera	4.37	209	P	Pn	21 28 07.5	+3.2
RIGZ	Rimuhau	4.42	195	P	Pn	21 28 03.7	-1.1
RVAZ	Riverhead Bore	4.42	237	P	Pn	21 28 04.6	-0.3
RVAZ				S	Sn	21 28 56.1	+0.9
TOZ	Tahuroa Road	4.45	221	P	Pn	21 28 05.4	+0.2
HLRZ	Highlands Stat	4.45	210	P	Pn	21 28 09.0	+3.8
UTU	Utuhina	4.45	212	P	Pn	21 28 06.8	+1.5
RRRZ	Republican Roa	4.46	208	P	Pn	21 28 08.2	+2.8
RRRZ				P	Pn	21 28 08.1	+2.8
MUGZ	Murupara	4.49	205	P	Pn	21 28 06.4	+0.7
WTAZ	Waiatarua	4.51	235	P	Pn	21 28 05.7	-0.4
AWAZ	Awhitu Peninsu	4.54	233	P	Pn	21 28 05.9	-0.5
RTZ	Ruatahuna	4.54	202	P	Pn	21 28 06.1	-0.5
HSRZ	Hossack Road	4.54	211	P	Pn	21 28 10.3	+3.7
HSRZ				P	Pn	21 28 10.3	+3.7
SNGZ	Shannon Statio	4.59	198	P	Pn	21 28 06.9	-0.3
HRRZ	Handcock Road	4.59	210	P	Pn	21 28 09.8	+2.6
HRRZ				P	Pn	21 28 10.4	+3.1
HRRZ				P	Pn	21 28 10.6	+3.4
PRGZ	Paritu Road	4.60	193	P	Pn	21 28 06.5	-0.8
GRRZ	Galatos Road	4.63	212	P	Pn	21 28 10.2	+2.5
PRRZ	Plateau Road	4.64	208	P	Pn	21 28 07.9	0.0
OUZ	Omahuta	4.67	259	*e*Pn	Pn	21 28 05.2	-3.0
OUZ	Omahuta	4.67	259	P	Pn	21 28 05.2	-3.0
ALRZ	Allen Road	4.72	208	P	Pn	21 28 10.4	+1.5
KNZ	Kokohu	4.74	194	P	Pn	21 28 07.6	-1.6
WPRZ	Whakapapatarin	4.75	210	P	Pn	21 28 12.8	+3.4
WPRZ				P	Pn	21 28 12.8	+3.4
RAHZ	Arahi	4.79	200	P	Pn	21 28 09.9	+0.1
MTHZ	Maungataniwha	4.80	203	P	Pn	21 28 10.9	+0.8
MTHZ				P	Pn	21 28 10.9	+0.8
MHGZ	Mahia Peninsul	4.82	192	P	Pn	21 28 09.5	-0.9
TLZ	Tolley Road	4.88	216	P	Pn	21 28 11.7	+0.5
WHHZ	Waihua	4.90	198	P	Pn	21 28 11.1	-0.2
MRHZ	Matea Rd	4.93	206	P	Pn	21 28 12.5	+0.6
NMHZ	Naumai	5.04	202	P	Pn	21 28 14.0	+0.6
WATZ	Wairara	5.10	212	P	Pn	21 28 17.1	+3.0
ARHZ	Aropaoanui	5.13	199	P	Pn	21 28 14.5	-0.1
BKZ	Black Stump Fm	5.20	204	*e*Pn	Pn	21 28 14.3	-1.2
BKZ	Black Stump Fm	5.20	204	P	Pn	21 28 14.5	-1.1
RATZ	Rangitukua	5.21	211	P	Pn	21 28 17.9	+2.2
RATZ				P	Pn	21 28 17.9	+2.2
RITZ	Rihia Road	5.27	210	P	Pn	21 28 18.1	+1.6
KATZ	Kakaramea	5.33	211	P	Pn	21 28 19.7	+2.2
HIZ	Hauiti	5.37	219	*e*Pn	Pn	21 28 18.3	+0.5
MCHZ	McNeill Hill	5.39	201	P	Pn	21 28 17.4	-0.7
KWHZ	Kaweka Forest	5.46	203	P	Pn	21 28 18.4	-0.7
KRVZ	Karewarewa	5.46	210	P	Pn	21 28 24.6	+5.5
CKHZ	Cape Kidnapper	5.48	197	P	Pn	21 28 18.8	-0.6
WTVZ	West Tongariro	5.50	211	P	Pn	21 28 21.3	+1.6
TWVZ	Taurewa	5.53	212	P	Pn	21 28 21.8	+1.8
NGZ	Ngauruhoe	5.54	210	P	Pn	21 28 21.9	+1.5
COVZ	Chateau Observ	5.59	211	P	Pn	21 28 23.1	+2.1
COVZ				P	Pn	21 28 27.3	+6.4
FWVZ	Far West T-bar	5.63	210	P	Pn	21 28 22.9	+1.2
BHHZ	Black Hill Sta	5.64	205	P	Pn	21 28 21.2	-0.4
WHVZ	Whangaehu Hut	5.64	210	P	Pn	21 28 24.4	+2.7
DRZ	Dome Shelter	5.64	210	P	Pn	21 28 25.4	+3.5
KAHZ	Kahuranaki	5.66	198	P	Pn	21 28 19.8	-2.1
TRVZ	Turoa	5.67	210	P	Pn	21 28 24.0	+1.8
MOVZ	Moawhango	5.68	208	P	Pn	21 28 22.2	0.0
GLKZ	Green Lake	5.71	26	P	Pn	21 28 18.5	-4.0
GLKZ				S	Sn	21 29 25.5	-1.3
RAO	Raoul Island	5.72	26	Pn	Pn	21 28 21.4	-1.2
	121nm,0.3s,baz=128,slow=23,SNR=10.0						
RAO				Sn	Sn	21 29 24.7	-2.3
	63nm,0.3s,baz=114,slow=19,SNR=2.0						
RAO				LR	LR	21 30 21.2	
	comp=Z,25µm,20.1s,baz=200,slow=36						
RAO	Raoul Island	5.72	26	*e*Pn	Pn	21 28 17.9	-4.8
RAO				*e*S	Sn	21 29 26.5	-0.6
RAO	Raoul Island	5.72	26	P	Pn	21 28 21.4	-1.2
RAO						21 29 24.7	
RAO				pmax	pmax		
	comp=Z,121nm,0.3s						
RAO				smax	smax		
	comp=N,63nm,0.3s						
RAO				MLR	MLR		
	comp=Z,25µm,20.1s						
PKVZ	Pokaka	5.75	211	P	Pn	21 28 28.9	+5.8
VRZ	Vera Road	5.88	216	P	Pn	21 28 28.2	+3.4
PXZ	Pawanui	5.89	198	P	Pn	21 28 22.3	-2.7
PNHZ	Pukenui	5.97	203	P	Pn	21 28 23.9	-2.2
WPHZ	Waipukurau	6.04	201	P	Pn	21 28 26.1	-0.9
PRHZ	Porangahau	6.17	199	P	Pn	21 28 26.2	-2.7
WAZ	Wanganui	6.29	211	P	Pn	21 28 35.0	+4.6
LREZ	Lake Rotokare	6.32	216	P	Pn	21 28 34.9	+4.0
DVHZ	Dannevirke	6.33	201	P	Pn	21 28 30.1	-1.0
KHEZ	Kahui Hut	6.39	219	P	Pn	21 28 36.0	+4.1
POWZ	Post Office Ro	6.54	204	P	Pn	21 28 33.8	-0.2
BFZ	Birch Farm	6.66	200	*e*Pn	Pn	21 28 31.0	-4.7
SNZO	South Karori	7.73	206	*e*Pn	Pn	21 28 46.1	-4.1
SNZO				*e*S	Sn	21 30 15.0	-1.5
THZ	Tophouse	8.84	212	*e*Pn	Pn	21 29 00.3	-5.2
KHZ	Kahutara	9.12	207	*e*Pn	Pn	21 29 04.5	-4.8
LTZ	Lake Taylor	9.94	211	*e*Pn	Pn	21 29 17.7	-2.8
OXZ	Oxford	10.48	210	*e*Pn	Pn	21 29 22.3	-5.7
MQZ	McQueen's Vall	10.56	207	*e*Pn	Pn	21 29 21.6	-7.4
RPZ	Rata Peaks	11.22	212	Pn	Pn	21 29 36.9	-1.1
	comp=Z,6.4nm,0.3s,baz=158,slow=3.7,SNR=5.4						
RPZ				Sn	Sn	21 31 35.5	-6.6
	comp=Z,1.6nm,0.3s,baz=60,slow=18,SNR=3.1						
RPZ				LR	LR	21 34 41.7	
	comp=Z,14µm,18.1s,baz=24,slow=42						
RPZ	Rata Peaks	11.22	212	*e*Pn	Pn	21 29 32.3	-5.7
RPZ				Sn	Sn	21 31 35.5	-6.6
FOZ	Fox Glacier	11.65	216	*e*Pn	Pn	21 29 37.6	-6.2
LBZ	Lake Benmore	12.13	212	*e*Pn	Pn	21 29 45.4	-5.1
ODZ	Otahua Downs	12.46	209	*e*Pn	Pn	21 29 48.7	-6.4
WKZ	Wanaka	13.00	214	*e*Pn	Pn	21 29 57.7	-4.7
MLZ	Mavora Lakes	13.82	215	*e*Pn	Pn	21 30 08.1	-5.6
WHZ	Wether Hill Ro	14.30	213	*e*Pn	Pn	21 30 16.8	-3.3
DZM	Mont Dzumac	16.65	314	Pn	Pn	21 30 49.7	-1.3
	comp=Z,0.5nm,0.3s,baz=138,slow=10,SNR=12						
DZM				LR	LR	21 35 44.1	
	comp=Z,25µm,20.3s,baz=136,slow=32						
DZM	Mont Dzumac	16.65	314	*e*P	Pn	21 30 45.7	-5.3
	comp=Z,198nm,1.6s						
DZM				*e*LQ	LQ	21 33 52.1	
	comp=Z,17µm,28.6s						
DZM				*e*LR	LR	21 34 33.7	
	comp=Z,30µm,23.6s						
DZM	Mont Dzumac	16.65	314	*e*Pn	Pn	21 30 51.6	+0.7
RAR	Rarotonga	22.73	60	P	P	21 31 59.4	+0.2
	comp=Z,19nm,0.4s,baz=247,slow=10.0,SNR=2.5						
RAR				LR	LR	21 40 34.7	
	comp=Z,4µm,18.3s,baz=228,slow=36						
RAR	Rarotonga	22.73	60	*e*Pn	P	21 31 58.7	-0.5
	comp=Z,490nm,1.8s						
ARMA	Armidale	23.58	272	P	P	21 32 09.2	+1.4
	baz=23,SNR=5.0						
CNB	Canberra Magne	24.45	259	P	P	21 32 18.7	+2.8
	baz=24						
CAN	Canberra	24.75	259	P	P	21 32 19.6	+1.1
CAN				pmax	pmax		
	comp=Z,50nm,1.4s						
YNG	Young	25.38	261	P	P	21 32 25.9	+1.7
	baz=25,SNR=4.8						
FUNA	Funafuti	25.78	0	*e*P	P	21 32 28.3	+0.4
	comp=Z,84nm,0.8s						
EIDS	Eidsvold	25.92	283	P	P	21 32 29.3	+0.1
	baz=26,SNR=5.8						
EIDS	Eidsvold	25.92	283	*e*P	P	21 32 27.5	-1.7
	comp=Z,169nm,1.8s						
TAU	Tasmania Unive	26.16	242	*e*P	P	21 32 29.9	-1.3
	comp=Z,34nm,1.4s						
TAU				LR	LR		
	comp=Z,8µm,19.0s						
TAU	Tasmania Unive	26.16	242	*e*P	P	21 32 29.9	-1.3
TAU				pmax	pmax		
	comp=Z,33nm,1.4s						
TAU				MLR	MLR		
	comp=Z,8µm,19.0s						
MOO	Moorlands	26.20	243	P	P	21 32 37.3	+5.8
	baz=26,SNR=3.4						
RMQ	Roma	27.33	279	P	P	21 32 43.1	+1.2
	baz=27,SNR=9.8						
CMSA	Cobar Meteorol	28.18	266	P	P	21 32 49.9	+0.5
	baz=28,SNR=14						
TBI	Tubuai	29.47	76	*e*LR	LR	21 40 29.0	
	comp=Z,15µm,30.2s,baz=234						
TBI	Tubuai	29.47	76	*e*T	T	22 03 39.4	
	comp=Z,183nm,0.3s						
ARPS	Mount Arapiles	30.34	255	P	P	21 33 09.8	+1.2
	baz=30,SNR=14						
HNR	Honiara	30.50	320	LR	LR	21 43 47.4	
	comp=Z,3µm,20.2s,baz=161,slow=33						
HNR	Honiara	30.50	320	*e*P	P	21 33 10.0	-0.2
	comp=Z,22nm,0.5s						
HNR	Honiara	30.50	320	*e*P	P	21 33 10.0	-0.2
HNR				pmax	pmax		
	comp=Z,22nm,0.5s						
QLP	Quilpie	31.00	275	P	P	21 33 14.3	-0.2
	baz=31,SNR=5.2						
STKA	Stephens Creek	31.46	264	P	P	21 33 19.1	+0.5
	comp=Z,16nm,0.9s,baz=84,slow=10.0,SNR=7.3						
STKA				LR	LR	21 44 44.3	
	comp=Z,9µm,20.0s,baz=102,slow=34						
STKA	Stephens Creek	31.46	264	P	P	21 33 19.3	+0.7
	baz=31,SNR=8.5						
STKA	Stephens Creek	31.46	264	*e*P	P	21 33 18.0	-0.6
	comp=Z,11nm,1.0s						
STKA	Stephens Creek	31.46	264	*e*P	P	21 33 17.9	-0.6
CTA	Charters Tower	32.42	288	P	P	21 33 27.1	0.0
	comp=Z,2.4nm,0.3s,baz=102,slow=12,SNR=8.5						
CTAO	Charters Tower	32.42	288	*e*P	P	21 33 26.5	-0.5
	comp=Z,104nm,1.4s						
CTAO				LR	LR		
	comp=Z,2µm,19.0s						
CTAO	Charters Tower	32.42	288	*e*P	P	21 33 26.5	-0.5
CTAO				pmax	pmax		
	comp=Z,104nm,1.4s						
CTAO				MLR	MLR		
	comp=Z,2µm,19.0s						
PAE	Paea	32.47	67	*e*P	P	21 33 27.9	+0.4
	comp=Z,8.6nm,1.1s						
PAE	Paea	32.47	67	*e*T	T	22 07 27.2	
	comp=Z,48nm,0.2s						
PPT2	Papeete2	32.52	67	*e*P	P	21 33 27.9	-0.1
	comp=Z,68nm,1.4s						
PPT2				*e*LQ	LQ	21 38 44.7	
	comp=Z,1µm,25.4s						
PPT2				*e*LR	LR	21 42 04.4	
	comp=Z,12µm,25.8s,baz=229						
PPT2	Papeete2	32.52	67	*e*T	T	22 07 30.4	
	comp=Z,52nm,0.3s						
PPT	Papeete	32.53	67	P	P	21 33 28.2	+0.2
	comp=Z,18nm,0.6s,baz=230,slow=17,SNR=3.1						
PPT				LR	LR	21 47 30.0	
	comp=Z,3µm,18.0s,baz=238,slow=38						
TVO	Taravao	32.65	68	*e*P	P	21 33 29.0	-0.1
	comp=Z,22nm,1.4s						
TVO	Taravao	32.65	68	*e*T	T	22 07 41.2	
	comp=Z,16nm,0.3s						
TIAR	Tiarei	32.71	67	*e*P	P	21 33 29.8	+0.2
	comp=Z,21nm,0.8s						
TIAR	Tiarei	32.71	67	*e*T	T	22 07 38.0	
	comp=Z,11nm,0.3s						
HTT	Hallett	33.28	260	P	P	21 33 34.7	+0.3
	baz=33,SNR=9.6						
MTSU	Mount Surprise	35.02	289	P	P	21 33 49.8	+0.1
	baz=35,SNR=5.0						
PMOR	Pomariorio Ree	35.38	65	*e*T	T	22 11 04.0	
	comp=Z,20nm,0.3s						
VAH	Vaihoa	35.43	66	*e*P	P	21 33 53.0	-0.2
	comp=Z,116nm,1.4s						
VAH	Vaihoa	35.43	66	*e*T	T	22 11 07.7	
	comp=Z,190nm,0.3s						
BBOO	Buckleboo	35.76	260	P	P	21 33 53.7	-2.2
	baz=35,SNR=5.5						
TARA	Tarawa	36.08	349	PFAKE		21 34 10.0	+11
TARA				LR	LR		
	comp=Z,293nm,21.0s						
QIS	Mount Isa	37.50	281	P	P	21 34 10.1	-0.7
	baz=37,SNR=9.6						
COEN	Coen	38.38	293	P	P	21 34 17.7	-0.6
	baz=38,SNR=5.1						
COEN	Coen	38.38	293	*e*P	P	21 34 17.4	-0.9
	comp=Z,132nm,1.4s						
PMG	Port Moresby	38.48	303	LR	LR	21 46 55.1	
	comp=Z,7µm,21.8s,baz=142,slow=31						
AS01	Alice Springs	40.69	273	*e*P	P	21 34 36.1	-1.4
AS31	Alice Springs	40.73	273	*e*P	P	21 34 36.6	-1.2
	comp=Z,19nm,0.8s						
ASAR	Alice Springs	40.73	273	P	P	21 34 36.8	-1.0
	comp=Z,21nm,0.7s,baz=114,slow=7.9,SNR=190						
ASAR				LR	LR	21 51 05.5	
	comp=Z,6µm,19.4s,baz=128,slow=36						
RKT	Rikitea	41.41	87	*e*S	S	21 40 59.7	+3.5
	comp=Z,731nm,28.2s						
RKT				*e*LR	LR	21 46 03.6	
	comp=Z,10µm,28.8s,baz=244						
RKT	Rikitea	41.41	87	*e*T	T	22 18 35.3	
	comp=Z,4.1nm,0.2s						
WB2	Warramunga Arr	42.08	278	*e*P	P	21 34 47.5	-1.5
WRAB	Tennant Creek	42.09	278	*e*P	P	21 34 47.5	-1.5
	comp=Z,357nm,1.8s						
WRAB				LR	LR		
	comp=Z,7µm,19.0s						
WRAB	Tennant Creek	42.09	278	*e*P	P	21 34 46.7	-2.3
WRAB				pmax	pmax		
	comp=Z,40nm,0.8s						
WRA	Warramunga Arr	42.09	278	P	P	21 34 47.6	-1.4
	comp=Z,22nm,0.8s,baz=118,slow=7.6,SNR=101						
WRA				LR	LR	21 52 43.5	
	comp=Z,7µm,18.1s,baz=120,slow=37						
WRA	Warramunga Arr	42.09	278	P	P	21 34 47.7	-1.4
WRA				pmax	pmax		
	comp=Z,21nm,0.8s						
WRA				MLR	MLR		
	comp=Z,7µm,18.1s						
FORT	Forrest	42.86	260	P	P	21 34 56.4	+1.3
	baz=42,SNR=8.3						
SBA	Scott Base	43.86	184	*e*P	P	21 34 59.6	-3.0
	comp=Z,150nm,1.9s						
SBA				LR	LR		
	comp=Z,2µm,19.0s						
SBA	Scott Base	43.86	184	*e*P	P	21 34 59.6	-3.0
SBA				pmax	pmax		
	comp=Z,151nm,1.9s						
SBA				MLR	MLR		
	comp=Z,2µm,19.0s						
VNDA	Vanda	43.86	185	P	P	21 35 02.2	-0.5
	comp=Z,5.1nm,0.8s,baz=1.1,slow=8.3,SNR=20						
VNDA				LR	LR	21 49 56.7	
	comp=Z,2µm,19.5s,baz=32,slow=32						
VNDA	Vanda	43.86	185	*e*P	P	21 35 01.4	-1.3
	comp=Z,15nm,1.0s						
PTCN	Pitcairn Islan	44.61	92	PFAKE		21 35 20.0	+11
PTCN				LR	LR		
	comp=Z,5µm,19.0s						
WRKA	Warakurna	44.78	268	P	P	21 35 09.1	-1.7
	baz=44,SNR=25						
KDU	Kakadu	47.48	285	P	P	21 35 30.4	-1.6
	baz=47,SNR=6.1						
JAY	Jayapura	47.86	303	P	P	21 35 35.3	+0.3
	comp=Z,28nm,0.9s,baz=108,slow=5.3,SNR=3.6						
JAY	Jayapura	47.86	303	P	P	21 35 36.1	+1.1
	comp=Z,521nm,1.1s,comp=Z,11µm						
GENI	Genyem	48.18	302	P	P	21 35 37.0	-0.4
	comp=Z,55nm,1.3s,comp=Z,3µm						
KNRA	Kununurra	48.83	279	P	P	21 35 41.9	-0.4
	baz=49,SNR=6.2						
FITZ	Fitzroy Crossi	50.15	275	P	P	21 35 51.8	-0.6
	baz=50,SNR=11						
FITZ	Fitzroy Crossi	50.15	275	*e*P	P	21 35 51.1	-1.3
	comp=Z,53nm,0.9s						
CASY	Casey	50.47	209	*e*P	P	21 35 51.7	-2.5
	comp=Z,1.8nm,0.8s						
CASY				LR	LR		
	comp=Z,398nm,22.0s						
NWAO	Narrogin (SRO)	50.85	253	P	P	21 35 56.1	-1.6
	comp=Z,7.1nm,0.7s,baz=350,slow=6.9,SNR=3.8						
NWAO	Narrogin (SRO)	50.85	253	*e*P	P	21 35 58.7	+1.1
	comp=Z,118nm,1.3s						
NWAO				LR	LR		
	comp=Z,2µm,20.0s						
NWAO	Narrogin (SRO)	50.85	253	*e*P	P	21 35 58.7	+1.1
NWAO				pmax	pmax		
	comp=Z,118nm,1.3s						
NWAO				MLR	MLR		
	comp=Z,2µm,20.0s						
KLBR	Kellerberrin	50.90	255	P	P	21 35 57.0	-1.0
	baz=50,SNR=5.0						
SAUI	Saumlaki	51.20	289	*e*P	P	21 35 59.7	-0.7
	comp=Z,193nm,1.1s						
SAUI	Saumlaki	51.20	289	P	P	21 36 00.0	-0.4
	comp=Z,139nm,0.9s						
MUN	Mundaring	52.00	254	P	P	21 36 05.6	-0.6
	baz=52,SNR=5.9						
MEEK	Meekatharra	52.09	261	P	P	21 36 05.8	-1.2
	baz=52,SNR=17						
MORW	Morawa	53.21	257	P	P	21 36 14.5	-0.8
	baz=53,SNR=4.9						
MORW	Morawa	53.21	257	*e*P	P	21 36 14.5	-0.8
	comp=Z,80nm,1.0s						
MBWA	Marble Bar	53.56	268	*e*P	P	21 36 16.1	-1.7
	comp=Z,70nm,1.0s						
MBWA				LR	LR		
	comp=Z,3µm,19.0s						
FAKI	Fak Fak	53.70	295	*e*P	P	21 36 17.4	-1.5
	comp=Z,41nm,0.9s						
FAKI	Fak Fak	53.70	295	P	P	21 36 17.4	-1.5
	comp=Z,51nm,1.2s,comp=Z,1µm						
BNDI	Bandanaira	54.44	292	P	P	21 36 20.1	-4.2
	comp=Z,238nm,1.1s						
WAKE	Wake Island	54.73	345	PFAKE		21 36 40.0	+14
WAKE				LR	LR		

comp=Z,3µm,22.0s
QSPA South Pole Qui 55.69 180 *e*P **P 21 36 33.0 +0.1**
QSPA LR LR
comp=Z,2µm,20.0s
SOEI Soe 55.74 283 P **P 21 36 30.9 -3.0**
comp=Z,83nm,1.1s
SWI Sorong 55.80 296 P **P 21 36 34.0 -0.1**
SWI pmax pmax
comp=Z,102nm,1.2s
SWI Sorong 55.80 296 P **P 21 36 31.9 -2.2**
comp=Z,102nm,1.2s,comp=Z,2µm
BATI Baumata 55.97 282 P **P 21 36 32.9 -2.5**
comp=Z,57nm,1.0s
GIRL Giralia 57.41 263 P **P 21 36 45.7 +0.2**
baz=57,SNR=3.2
GUMO Guam 57.84 320 LR LR 22 00 27.5
comp=Z,294nm,19.3s,baz=144,slow=35
SANI Sanana 59.02 291 P **P 21 36 55.3 -1.5**
comp=Z,159nm,1.0s,comp=Z,2µm
RPN Rapa Nui 60.70 104 PFAKE 21 37 20.0 +12
RPN LR LR
comp=Z,2µm,20.0s
KAPI Kappang 62.13 284 PFAKE 21 37 30.0 +12
KAPI LR LR
comp=Z,2µm,21.0s
LUWI Luwuk 62.15 290 *e*P **P 21 37 17.5 -0.7**
comp=Z,128nm,0.9s
TTSI Tana Toraja 63.24 286 P **P 21 37 22.1 -3.4**
comp=Z,48nm,1.1s,comp=Z,1µm
MRSI Marisa 63.74 290 P **P 21 37 25.9 -2.9**
comp=Z,17nm,0.7s
PCI Palu 64.53 288 P **P 21 37 34.5 +0.5**
PCI pmax pmax
comp=Z,32nm,1.3s
DAV Davao City (W) 65.30 298 PFAKE 21 37 50.0 +11
DAV LR LR
comp=Z,1µm,22.0s
MAW Mawson 67.70 202 LR LR 22 06 51.1
comp=Z,1µm,18.1s,baz=119,slow=35
PMSA Palmer Station 69.57 156 PFAKE 21 38 20.0 +15
PMSA LR LR
comp=Z,2µm,21.0s
CBIJ Chichi jima 70.52 325 P **P 21 38 12.3 +0.8**
JCJ Chichijima 70.52 325 P **P 21 38 12.3 +0.8**
comp=Z,34nm,0.7s,baz=276,slow=19,SNR=2.4
LEM Lembang 70.98 275 P **P 21 38 14.1 -0.8**
LEM pmax pmax
comp=Z,45nm,1.0s
LEM Lembang 70.98 275 P **P 21 38 14.1 -0.8**
comp=Z,713nm,1.0s
KKM Kota Kinabalu 71.66 291 P **P 21 38 19.9 +1.1**
KDM Kudat 71.74 292 P **P 21 38 20.5 +1.4**
STKI Sintang 71.77 283 P **P 21 38 14.8 -4.6**
BTM Bintulu 72.36 287 P **P 21 38 24.0 +1.0**
SBUM Sibu 72.59 286 P **P 21 38 25.5 +1.2**
SYO Syowa Base 72.65 194 *i*P **P 21 38 23.0 -0.8**
SYO Syowa Base 72.65 194 *i*X **P 21 38 27.0 +3.2**
KSM Kuching 73.54 283 P **P 21 38 30.8 +0.8**
KLI Kotabumi 74.35 275 P **P 21 38 35.8 +1.1**
KLI pmax pmax
comp=Z,108nm,1.2s
VNA3 Neumayer Olymp 74.43 177 P **P 21 38 32.8 -1.5**
NVL N'lazarevskaya 74.71 184 *e*P **P 21 38 39.4 +3.6**
NVL *e*S **S 21 48 04.6 -4.5**
NVL pmax pmax
comp=Z,11nm,1.0s
VNA2 Neumayer--Watz 74.83 178 P **P 21 38 35.6 -1.0**
VNA1 Neumayer--Stat 75.08 177 P **P 21 38 37.1 -0.9**
MDSI Maura Dua 75.12 275 P **P 21 38 37.8 -1.3**
comp=Z,41nm,1.1s
JOW Kunigami 77.71 315 LR LR 22 08 56.1
comp=Z,1µm,21.2s,baz=134,slow=32
MYKOM **Kota Tinggi 78.95 280** P **P 21 39 01.4 +0.7**
KGM Kluang 79.52 280 P **P 21 39 04.6 +0.8**
SSLB Suanglung 80.05 308 *e*P **P 21 39 06.8 +0.4**
comp=Z,24nm,0.8s
MJAR Matsushiro Arr 80.28 328 P **P 21 39 08.4 +1.1**
comp=Z,1.7nm,0.8s,baz=168,slow=5.3,SNR=4.4
MJAR LR LR 22 14 30.1
comp=Z,374nm,18.8s,baz=135,slow=36
MAJO Matsushiro 80.28 328 PFAKE 21 39 20.0 +13
MAJO LR LR
comp=Z,650nm,20.0s
MAJO Matsushiro 80.28 328 *i*P **P 21 39 07.7 +0.4**
MAJO pmax pmax
comp=Z,12nm,1.0s
MAT Matsushiro 80.28 328 P **P 21 39 08.6 +1.3**
MAT S **S 21 49 09.4 -0.8**
TATO Taipei 80.53 309 PFAKE 21 39 20.0 +11
TATO LR LR
comp=Z,820nm,22.0s
EFI East Falkland 80.67 148 PFAKE 21 39 20.0 +11
EFI LR LR
comp=Z,1µm,22.0s
EFI East Falkland 80.67 148 P **P 21 39 09.3 -0.1**
JNU Nakatsue 81.07 321 P **P 21 39 13.0 +1.3**
comp=Z,16nm,0.9s,baz=151,slow=10,SNR=2.9
PLCA Paso Flores 81.47 134 P **P 21 39 14.2 +0.2**
comp=Z,4.3nm,0.6s,baz=273,slow=4.6,SNR=11
PLCA LR LR 22 10 09.5
comp=Z,460nm,18.2s,baz=262,slow=32
PLCA Paso Flores 81.47 134 *e*P **P 21 39 14.3 +0.3**
KTGM Kuala Trenggan 81.58 282 P **P 21 39 15.8 +1.0**
IPM Ipoh 82.80 280 P **P 21 39 22.3 +1.1**
ERM Erimo 82.95 334 PFAKE 21 39 30.0 +8.8
ERM LR LR
comp=Z,689nm,20.0s
KULM Kulim 83.57 281 P **P 21 39 26.1 +0.9**
GSI Gunungsitoli 83.81 276 *e*P **P 21 39 25.1 -1.4**
comp=Z,53nm,1.0s
GSI Gunungsitoli 83.81 276 P **P 21 39 27.9 +1.4**
QIZ Qiongzhong 84.64 297 P **P 21 39 31.5 +1.0**
QIZ S **S 21 50 00.0 +4.5**
QIZ LR LR
comp=Z,1µm,33.5s
QIZ Qiongzhong 84.64 297 PFAKE 21 39 40.0 +10
QIZ LR LR
comp=Z,621nm,19.0s
ASAJ Asahikawa 84.98 334 LR LR 22 11 13.1
comp=Z,1µm,21.5s,baz=160,slow=31
TRTT Trang 85.81 282 P P 21 39 46.8 +10
KSRS Korea Array 85.94 322 P **P 21 39 38.7 +2.2**
comp=Z,7.4nm,0.8s,baz=142,slow=5.4,SNR=12
KSRS LR LR 22 15 34.4
comp=Z,187nm,18.8s,baz=155,slow=34
KSAR Wonju Array Be 85.96 321 P **P 21 39 38.7 +2.1**
KSAR Wonju Array Be 85.96 321 P **P 21 39 38.7 +2.1**
KS01 Wonju Array Si 85.98 322 *e*P **P 21 39 36.5 -0.2**
PEL Peldehue 86.12 128 P **P 21 39 41.4 +3.5**
PEL pmax pmax
comp=Z,43nm,2.2s
NJ2 Nanjing 87.13 312 *e*P **P 21 39 43.2 +0.7**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
YSS Yuzh-Sakhalins 87.39 336 PFAKE 21 39 50.0 +6.7
YSS LR LR
comp=Z,797nm,21.0s
YSS Yuzh-Sakhalins 87.39 336 *e*P P 21 39 52.7 +9.4
YSS *e*PPP PPP 21 45 03.1
YSS *e* 21 50 10.0
YSS *e*PS **PS 21 51 27.8 +0.3**
YSS pmax pmax
comp=Z,10.0nm,0.9s
SKNT Sakolnakorn 87.79 292 P P 21 39 56.4 +10
SKNT Sakolnakorn 87.79 292 P P 21 39 56.4 +10
PATY Pattaya 87.82 287 P P 21 39 57.4 +11
PATY Pattaya 87.82 287 P P 21 39 57.4 +11
TRQA Tornquist 88.23 136 PFAKE 21 40 00.0 +12
TRQA LR LR
comp=Z,899nm,19.0s
LCO Las Campanas 88.70 125 PFAKE 21 40 00.0 +9.3
LCO LR LR
comp=Z,3µm,21.0s
PET Petropavlovsk 88.91 348 PFAKE 21 40 00.0 +10
PET LR LR
comp=Z,940nm,20.0s
NONG Nongkai 89.08 293 P P 21 39 57.4 +5.3
NONG Nongkai 89.08 293 P P 21 39 57.4 +5.3
PETK Petropavlovsk- 89.16 347 LR LR 22 13 12.2
comp=Z,594nm,21.4s,baz=160,slow=31
USRK Ussuriysk Ar. 89.26 328 P **P 21 39 53.0 +0.7**
comp=Z,2.1nm,0.9s,baz=125,slow=9.0,SNR=3.2
USRK LR LR 22 15 13.2
comp=Z,530nm,21.9s,baz=134,slow=32
PKM Mcpherson Peak 89.48 46 P **P 21 39 56.7 +2.9**
baz=226
PBKT Sadao Pong 89.87 290 P P 21 40 07.3 +12
PBKT Sadao Pong 89.87 290 P P 21 40 07.3 +12
SRDT SRDT 90.03 287 P P 21 40 06.4 +10
SRDT SRDT 90.03 287 P P 21 40 06.4 +10
PAYG Puerto Ayora 90.05 91 PFAKE 21 40 10.0 +13
PAYG LR LR
comp=Z,1µm,19.0s
MONP2 Monument Peak 90.20 49 P **P 21 40 00.9 +3.6**
baz=228
BFSC Mount Baldy Ra 90.34 48 P **P 21 39 59.6 +1.8**
baz=227
DL2 Dalian 90.35 319 *e*P **P 21 39 59.8 +2.3**
DL2 PP **PP 21 43 34.4 +1.9**
DL2 SKS **SKSac 21 50 29.1 +3.2**
DL2 pmax pmax
comp=Z,25nm,0.9s
DL2 LR LR
comp=Z,440nm,18.7s
DL2 LR LR
comp=Z,490nm,19.7s
DL2 LR LR
comp=Z,680nm,18.9s
UTHA Uthaitani 90.47 288 P P 21 40 08.5 +10
UTHA Uthaitani 90.47 288 P P 21 40 08.5 +10
EDW2 Edwards Air Fo 90.57 47 P **P 21 39 58.7 0.0**
baz=227
SWSC Sam W. Stewart 90.63 50 P **P 21 40 01.2 +2.2**
baz=228
MDJ Mudanjiang 90.65 327 PFAKE 21 40 10.0 +11
MDJ LR LR
comp=Z,658nm,22.0s
PFO Pinyon Flats O 90.66 49 *e*P **P 21 39 59.7 +0.4**
comp=Z,12nm,1.1s
PFO LR LR
comp=Z,2µm,19.0s
PFO Pinyon Flats O 90.66 49 P **P 21 40 00.0 +0.7**
baz=228
TPFO Pinon Flats 90.66 49 P **P 21 40 00.0 +0.7**
baz=228
XPFO Pion Fiat 90.66 49 *e*P **P 21 39 58.4 -0.9**
comp=Z,13nm,1.1s
ISA Isabella, Lake 90.81 46 *e*P **P 21 39 59.2 -0.7**
comp=Z,28nm,1.4s
ISA Isabella, Lake 90.81 46 *e*P **P 21 39 59.2 -0.7**
ISA pmax pmax
comp=Z,28nm,1.4s
ISA Isabella, Lake 90.81 46 P **P 21 40 01.1 +1.2**
baz=227
LRMC Laurel Mtn Rad 91.16 47 P **P 21 40 01.7 +0.1**
baz=227
UMPA Umpang Tak 91.30 289 P P 21 40 13.4 +11
UMPA Umpang Tak 91.30 289 P P 21 40 13.4 +11
GLA Glamis 91.31 50 P **P 21 40 03.6 +1.3**
baz=229
BC3 Big Chuckawall 91.31 49 P **P 21 40 03.4 +1.0**
baz=228
CMB Columbia Colle 91.33 43 *e*P **P 21 40 04.2 +2.0**
CMB Columbia Colle 91.33 43 *e*P **P 21 40 04.2 +2.0**
HEC Hector,Ludlow 91.55 48 P **P 21 40 04.8 +1.5**
baz=228
GYA Guiyang 91.55 301 SS SS 21 57 13.0 +4.3
GYA pmax pmax
comp=Z,40nm,0.9s
GYA pmax pmax
comp=Z,130nm,7.4s
GYA LR LR
comp=N,530nm,20.5s
GYA LR LR
comp=E,510nm,21.8s
GYA LR LR
comp=Z,500nm,20.6s
CWC Cottonwood Cre 91.57 46 P **P 21 40 04.9 +1.4**
baz=227
AFDM Forest Hills D 91.63 42 *e*P **P 21 40 03.8 +0.3**
comp=Z,20nm,1.4s
IRM Iron Mountain 91.84 49 P **P 21 40 07.2 +2.6**
baz=229
GO02 Mina Guanaco 91.89 122 *e*P **P 21 40 04.7 -0.9**
comp=Z,43nm,1.3s
214A Organ Pipe Nat 91.90 52 P **P 21 40 04.2 -0.8**
baz=230
GMRC Granite Mounta 91.93 48 P **P 21 40 07.5 +2.3**
baz=228
CN2 Changchun 91.97 324 *e*P **P 21 40 05.4 +0.5**
CN2 *e*S **S 21 51 05.8 +1.9**
CN2 pmax pmax
comp=Z,10.0nm,1.3s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,500nm,21.0s
CN2 LR LR
comp=Z,500nm,21.0s
CN2 LR LR
comp=Z,700nm,22.0s
ENH Enshi 91.97 306 *e*P **P 21 40 07.2 +1.9**
comp=Z,30nm,1.4s
ENH LR LR
comp=Z,473nm,21.0s
WAKR Walker 92.19 44 *e*P **P 21 40 05.9 -0.5**
comp=Z,21nm,1.2s
CM01 Chiang Mai Arr 92.50 291 *e*P **P 21 40 07.0 -1.0**
CMAR Chiang Mai Arr 92.54 291 P **P 21 40 07.7 -0.5**
comp=Z,0.6nm,0.7s,baz=130,slow=3.9,SNR=3.9
CMAR PP **PP 21 43 47.9 -2.3**
comp=Z,1.9nm,1.0s,baz=136,slow=6.4,SNR=6.5
CMAR LR LR 22 26 06.0
comp=Z,503nm,18.1s,baz=160,slow=38
BEKR Beckworth 92.61 42 *e*P **P 21 40 07.4 -0.9**
comp=Z,9.9nm,1.1s
YERR Yerington 92.63 43 *e*P **P 21 40 07.7 -0.7**
comp=Z,11nm,1.2s
CMMT Chiang Mai 92.74 291 P P 21 40 20.3 +11
CMMT Chiang Mai 92.74 291 P P 21 40 20.3 +11
CHTO Chiang Mai 92.74 291 PFAKE 21 40 20.0 +11
CHTO LR LR
comp=Z,798nm,19.0s
NV01 Mina Array Sit 92.79 44 *e*P **P 21 40 07.7 -1.5**
NVAR Mina Array Bea 92.79 44 P **P 21 40 08.8 -0.4**
comp=Z,4.1nm,0.7s,baz=222,slow=8.1,SNR=20
NVAR LR LR 22 15 01.5
comp=Z,2µm,19.5s,baz=232,slow=31
RYN Ryan 92.80 44 *e*P **P 21 40 09.2 +0.1**
comp=Z,32nm,1.9s
NV11 Mina Array Sit 92.88 44 *e*P **P 21 40 07.6 -1.9**
comp=Z,1.8nm,1.6s
TPNV Topopah Spring 93.00 46 *e*P **P 21 40 10.0 -0.1**
TPNV Topopah Spring 93.00 46 *e*P **P 21 40 10.0 -0.1**
TPNV Topopah Spring 93.00 46 P **P 21 40 10.2 +0.1**
baz=228
PAHR Pah Rah Range 93.05 43 *e*P **P 21 40 09.3 -0.9**
comp=Z,9.9nm,1.2s
L04D Klamath Falls 93.21 39 P **P 21 40 12.6 +1.7**
baz=225
KVN Kaiserville 93.33 44 *e*P **P 21 40 10.6 -1.0**
comp=Z,10nm,1.2s
KVN Kaiserville 93.33 44 *e*P **P 21 40 10.6 -1.0**
KVN pmax pmax
comp=Z,11nm,1.2s
KLR Kul'dur 93.36 331 LR LR 22 16 17.2
comp=Z,548nm,21.4s,baz=148,slow=32
TUC Tucson 93.45 53 *e*P **P 21 40 12.5 +0.3**
comp=Z,8.2nm,0.8s
TUC LR LR
comp=Z,2µm,19.0s
TUC Tucson 93.45 53 *e*P **P 21 40 12.5 +0.3**
TUC pmax pmax
comp=Z,8.0nm,0.8s
TUC MLR MLR
comp=Z,2µm,19.0s
KMI Kunming 93.56 298 P **P 21 40 16.1 +3.0**
KMI pP pwP 21 40 26.2 -0.4
KMI PP **PP 21 43 57.6 -0.8**
KMI S **S 21 51 23.5 +4.1**
KMI SS **SS 21 57 41.2 +3.3**
KMI pmax pmax
comp=Z,6.0nm,1.5s
KMI pmax pmax
comp=Z,88nm,3.7s
KMI LR LR
comp=Z,380nm,21.3s
KMI LR LR
comp=Z,460nm,24.7s
KMI LR LR
comp=Z,1µm,39.2s
HPIG 93.69 60 *e*P **P 21 40 10.8 -2.8**
comp=Z,18nm,0.7s
LVC Limon Verde 94.00 121 *e*P **P 21 40 13.8 -1.6**
comp=Z,38nm,1.4s
LVC LR LR
comp=Z,2µm,21.0s
LVC Limon Verde 94.00 121 *e*P **P 21 40 13.8 -1.6**
LVC pmax pmax
comp=Z,38nm,1.4s
LVC MLR MLR
comp=Z,2µm,21.0s
MOD Modoc Plateau 94.05 41 *e*P **P 21 40 13.9 -0.9**
comp=Z,2.8nm,0.7s
BJT Baijiatuau 94.16 317 PFAKE 21 40 30.0 +15
BJT LR LR
comp=Z,768nm,21.0s
R11A Troy Canyon, C 94.32 46 P **P 21 40 18.0 +1.8**
baz=229
NNA Nana 94.53 108 PFAKE 21 40 30.0 +12
NNA LR LR
comp=Z,2µm,21.0s
PINE Pine Mountain 95.03 39 *e*P **P 21 40 18.9 -0.4**
comp=Z,18nm,1.1s
U15A North Rim 95.08 49 *e*P **P 21 40 18.8 -1.1**
comp=Z,8.0nm,1.1s
WUAZ Wupatki 95.08 50 PFAKE 21 40 30.0 +10
WUAZ LR LR
comp=Z,1µm,19.0s
WVOR Wild Horse Val 95.32 41 PFAKE 21 40 30.0 +9.4
WVOR LR LR
comp=Z,1µm,20.0s
NLWA Neilton Lookou 96.12 35 PFAKE 21 40 40.0 +16
NLWA LR LR
comp=Z,815nm,20.0s
CD2 Chengdu 96.26 303 *e*P **P 21 40 25.0 -0.1**
CD2 pP pP 21 40 36.0 +0.6
CD2 PP **PP 21 44 19.3 +0.2**
CD2 SKS **SKSac 21 50 58.7 -0.3**
CD2 S **ScS 21 51 43.1 +0.3**
CD2 sS sS 21 52 02.0 +2.5
CD2 SS **SS 21 58 18.8 +3.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.0s
CD2 LR LR
comp=Z,660nm,18.9s
CD2 LR LR
comp=Z,710nm,14.9s
CD2 LR LR
comp=Z,900nm,15.9s
TX31 Lajitas Ar. Si 96.53 59 *e*P **P 21 40 26.1 -0.2**
TXAR Lajitas Array 96.53 59 P **P 21 40 27.2 +0.9**
comp=Z,0.3nm,0.8s,baz=250,slow=2.7,SNR=2.7
TXAR PP **PP 21 44 22.4 +1.2**
comp=Z,0.5nm,0.9s,baz=272,slow=3.5,SNR=4.5
TXAR LR LR 22 17 33.4
comp=Z,2µm,18.6s,baz=0.0,slow=32
MA2 Magadan 96.58 346 LR LR 22 19 00.3
comp=Z,674nm,20.1s,baz=163,slow=32
MNTX Cornudas Mount 96.72 56 PFAKE 21 40 40.0 +13
MNTX LR LR
comp=Z,1µm,20.0s
DUG Dugway, Tooele 97.16 46 PFAKE 21 40 40.0 +11
DUG LR LR
comp=Z,2µm,19.0s
HHC Hu-ho-hao-te 97.36 315 *e*P Pdif 21 40 30.1 +0.2
HHC S **S 21 51 50.8 -0.6**
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,160nm,5.2s
HHC LR LR
comp=Z,540nm,19.9s
HHC LR LR
comp=Z,460nm,17.3s
HHC LR LR
comp=Z,910nm,19.9s
HAWA Hanford 97.54 38 PFAKE 21 40 40.0 +10
HAWA LR LR
comp=Z,1µm,20.0s
ANMO Albuquerque 97.92 53 PFAKE 21 40 40.0 +7.3
ANMO LR LR
comp=Z,2µm,19.0s
ANMO Albuquerque 97.92 53 *i*P Pdif 21 40 33.4 +0.7
ANMO pmax pmax
comp=Z,6.0nm,2.7s
MVCO Mesa Verde 97.95 50 PFAKE 21 40 40.0 +7.2
MVCO LR LR
comp=Z,2µm,19.0s
HVU Hansel Valley 98.18 44 *e*P **P 21 40 33.6 0.0**
comp=Z,18nm,1.6s
HVU Hansel Valley 98.18 44 *e*P **P 21 40 33.6 0.0**
HVU pmax pmax
comp=Z,18nm,1.6s
HLID Hailey 98.39 42 PFAKE 21 40 50.0 +15
HLID LR LR
comp=Z,1µm,19.0s
LPAZ La Paz 98.58 116 P Pdif 21 40 37.6 +1.0
comp=Z,1.0nm,0.8s,baz=218,slow=12,SNR=3.4
LPAZ PP **PP 21 44 37.1 0.0**
comp=Z,2.0nm,1.0s,baz=214,slow=5.8,SNR=3.8
LPAZ LR LR 22 15 10.7
comp=Z,553nm,21.5s,baz=204,slow=29
HIA Hailar 98.63 325 PFAKE 21 40 50.0 +15
HIA LR LR
comp=Z,687nm,21.0s
HWUT Hardware Ranch 98.78 45 PFAKE 21 40 50.0 +14
HWUT LR LR
comp=Z,46nm,19.0s
LZH Lanzhou 99.25 307 *e*P **Pdif 21 40 38.2 -0.3**
LZH SKS **SKSac 21 51 11.0 -3.3**
LZH *e*S **ScS 21 52 11.9 +4.1**
LZH sS pS 21 52 23.0 +2.0
LZH SS **SS 21 59 00.6 +2.6**
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,98nm,4.9s
LZH LR LR
comp=Z,2µm,18.4s
LZH LR LR
comp=Z,2µm,17.3s
LZH LR LR
comp=Z,2µm,20.1s
CPUP Villa Florida 99.26 131 LR LR 22 17 20.8
comp=Z,2µm,21.9s,baz=236,slow=30
WRAK Wrangell Islan 99.40 25 PFAKE 21 40 50.0 +12
WRAK LR LR
comp=Z,2µm,20.0s
DGAR Diego Garcia 99.44 254 PFAKE 21 40 50.0 +10
DGAR LR LR
comp=Z,596nm,20.0s
KVTX Kingsville 99.69 63 PFAKE 21 40 50.0 +10
KVTX LR LR
comp=Z,1µm,19.0s
AHID Auburn Hatcher 99.77 44 PFAKE 21 40 50.0 +9.3
AHID LR LR
comp=Z,922nm,20.0s
JCT Junction City 99.93 60 PFAKE 21 40 50.0 +8.4
JCT LR LR
comp=Z,2µm,19.0s
NEW Newport 100.02 37 PFAKE 21 40 50.0 +8.5
NEW LR LR
comp=Z,1µm,20.0s
SDCO Great Sand Dun 100.19 51 PFAKE 21 40 50.0 +7.2
SDCO LR LR
comp=Z,1µm,20.0s
OTAV Otavalo 100.32 97 PFAKE 21 40 50.0 +5.8
OTAV LR LR
comp=Z,648nm,22.0s
JTS JuntasAbangare 100.54 85 PFAKE 21 41 00.0 +15
JTS LR LR
comp=Z,1µm,20.0s
BW06 Boulder Array 100.67 45 PFAKE 21 41 00.0 +15
BW06 LR LR
comp=Z,2µm,20.0s
PDAR Pinedale Array 100.67 45 P **Pdif 21 40 45.4 +0.6**
comp=Z,0.6nm,0.8s,baz=206,slow=5.0,SNR=4.6
PDAR PP PP 21 45 01.6 +8.7
comp=Z,0.3nm,0.7s,baz=210,slow=5.2,SNR=3.7
BOZ Bozeman (W) 101.22 42 PFAKE 21 41 00.0 +13
BOZ LR LR
comp=Z,831nm,19.0s
LKWY Lake 101.27 43 PFAKE 21 41 00.0 +13
LKWY LR LR
comp=Z,2µm,20.0s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ISCO	Idaho Springs	101.31	49	PFAKE		21 41 00.0	+12
ISCO				LR	LR		
	comp=Z,2µm,19.0s						
RLMT	Red Lodge	102.25	43	PFAKE		21 41 00.0	+8.3
RLMT				LR	LR		
	comp=Z,1µm,19.0s						
COLA	College	102.29	14	PFAKE		21 41 00.0	+8.9
COLA				LR	LR		
	comp=Z,1µm,20.0s						
BILL	Bilibino	102.62	355	PFAKE		21 41 00.0	+7.5
BILL				LR	LR		
	comp=Z,976nm,22.0s						
WMOK	Wichita Mounta	102.99	57	PFAKE		21 41 10.0	+15
WMOK				LR	LR		
	comp=Z,1µm,20.0s						
EGMT	Eagleton	103.71	41	PFAKE		21 41 10.0	+12
EGMT				LR	LR		
	comp=Z,1µm,20.0s						
BCIP	Isla Barro Col	104.14	89	PFAKE		21 41 10.0	+9.4
BCIP				LR	LR		
	comp=Z,2µm,21.0s						
ULN	Ulaanbaatar	104.21	319	PFAKE		21 41 10.0	+10
ULN				LR	LR		
	comp=Z,522nm,20.0s						
OGNE	Ogallala	104.21	50	PFAKE		21 41 10.0	+10
OGNE				LR	LR		
	comp=Z,2µm,19.0s						
NATX	Nacogdoches	104.33	61	PFAKE		21 41 10.0	+9.0
NATX				LR	LR		
	comp=Z,2µm,20.0s						
CBKS	Cedar Bluff	104.54	53	PFAKE		21 41 10.0	+8.1
CBKS				LR	LR		
	comp=Z,2µm,19.0s						
SONM	Songino Array	104.55	318	PP	PP	21 45 17.1	-4.6
	comp=Z,0.2nm,0.5s,baz=126,slow=7.3,SNR=3.1						
SONM				PKKPbc	PKKPbc	21 56 47.4	-0.5
	comp=Z,0.3nm,0.6s,baz=260,slow=2.8,SNR=3.1						
LSA	Lhasa	104.65	296	PFAKE		21 41 10.0	+6.9
LSA				LR	LR		
	comp=Z,552nm,22.0s						
LAO	LASA Array	104.89	43	PFAKE		21 45 30.0	+12
LAO				LR	LR		
	comp=Z,802nm,19.0s						
MIAR	Mount Ida	106.54	59	PFAKE		21 45 30.0	+8.5
MIAR				LR	LR		
	comp=Z,1µm,19.0s						
KSU1	Kansas State U	106.77	54	PFAKE		21 45 30.0	+8.2
KSU1				LR	LR		
	comp=Z,2µm,19.0s						
DGMT	Dagmar	107.02	43	PFAKE		21 45 30.0	+8.0
DGMT				LR	LR		
	comp=Z,1µm,20.0s						
ECSD	EROS Data Cent	109.09	50	PFAKE		21 45 40.0	+14
ECSD				LR	LR		
	comp=Z,2µm,20.0s						
BRAL	Brewton	109.65	65	PFAKE		21 45 40.0	+13
BRAL				LR	LR		
	comp=Z,1µm,22.0s						
ABPO	Ambohimpanom	109.92	228	PFAKE		21 45 40.0	+11
ABPO				LR	LR		
	comp=Z,393nm,19.0s						
YKA	Yellowknife Ar	110.10	27	PKiKP	PKiKP	21 45 28.9	+1.7
	comp=Z,0.3nm,0.6s,baz=250,slow=1.6,SNR=4.7						
YKA				PP	PP	21 46 03.1	+1.3
	comp=Z,0.4nm,0.8s,baz=229,slow=7.7,SNR=4.6						
YKA				PKKPbc	PKKPbc	21 56 29.0	-1.6
	comp=Z,0.4nm,0.8s,baz=48,slow=3.4,SNR=4.6						
SCIA	State Center	110.40	53	PFAKE		21 45 40.0	+12
SCIA				LR	LR		
	comp=Z,2µm,20.0s						
SUR	Sutherland	110.50	199	PFAKE		21 45 40.0	+11
SUR				LR	LR		
	comp=Z,3µm,21.0s						
MTDJ	Mount Denham	110.81	82	PFAKE		21 45 40.0	+10
MTDJ				LR	LR		
	comp=Z,2µm,20.0s						
FFC	Flin Flon	111.44	38	PFAKE		21 45 40.0	+10
FFC				LR	LR		
	comp=Z,853nm,21.0s						
TIXI	Tiksi	111.51	345	PFAKE		21 45 40.0	+10
TIXI				LR	LR		
	comp=Z,775nm,20.0s						
SDV	Santo Domingo	111.59	94	PFAKE		21 45 40.0	+8.2
SDV				LR	LR		
	comp=Z,650nm,19.0s						
AGMN	Agassiz Nation	111.74	46	PFAKE		21 45 40.0	+9.2
AGMN				LR	LR		
	comp=Z,1µm,20.0s						
HDIL	Hopedale	112.41	55	PFAKE		21 45 40.0	+7.7
HDIL				LR	LR		
	comp=Z,875nm,19.0s						
JFWS	Jewell Farm	112.82	53	PFAKE		21 45 40.0	+7.0
JFWS				LR	LR		
	comp=Z,2µm,19.0s						
GOGA	Godfrey	113.38	65	PFAKE		21 45 50.0	+16
GOGA				LR	LR		
	comp=Z,702nm,19.0s						
GTBY	Guantanamo Bay	113.64	81	PFAKE		21 45 50.0	+15
GTBY				LR	LR		
	comp=Z,865nm,19.0s						
WMQ	Urumqi	113.83	308	*e*PKP	PKiKP	21 45 34.3	-0.7
WMQ				LR	LR		
	comp=Z,1µm,24.3s						
WMQ				LR	LR		
	comp=Z,630nm,24.9s						
WMQ				LR	LR		
	comp=Z,740nm,26.1s						
EYMN	Ely	114.20	47	PFAKE		21 45 50.0	+14
EYMN				LR	LR		
	comp=Z,2µm,20.0s						
PTGA	Pitinga	114.62	109	PFAKE		21 45 50.0	+13
PTGA				LR	LR		
	comp=Z,12µm,19.0s						
COWI	Conover	114.90	50	PFAKE		21 45 50.0	+13
COWI				LR	LR		
	comp=Z,2µm,20.0s						
NHSC	New Hope	115.72	66	PFAKE		21 45 50.0	+11
NHSC				LR	LR		
	comp=Z,840nm,20.0s						
SDDR	Presa de Saban	116.31	84	PFAKE		21 45 50.0	+9.5
SDDR				LR	LR		
	comp=Z,591nm,20.0s						
ACSO	Alum Creek Sta	116.63	58	PFAKE		21 45 50.0	+10
ACSO				LR	LR		
	comp=Z,2µm,19.0s						
AAM	Ann Arbor	116.98	56	PFAKE		21 45 50.0	+9.0
AAM				LR	LR		
	comp=Z,1µm,20.0s						
BLA	Blacksburg	117.25	62	PFAKE		21 45 50.0	+8.2
BLA				LR	LR		
	comp=Z,2µm,20.0s						
GLMI	Grayling	117.31	53	PFAKE		21 45 50.0	+8.4
GLMI				LR	LR		
	comp=Z,2µm,19.0s						
CNNC	Cliffs of the	118.33	65	PFAKE		21 45 50.0	+6.1
CNNC				LR	LR		
	comp=Z,1µm,19.0s						
MKAR	Makanchi Array	118.50	309	PP	PP	21 47 01.6	-0.2
	comp=Z,1.6nm,1.0s,baz=120,slow=7.3,SNR=6.5						
MKAR				PKKPbc	PKKPbc	21 56 01.0	-0.3
	comp=Z,0.5nm,0.7s,baz=291,slow=3.3,SNR=4.8						
ZALV	Zalesovo Beam	119.42	317	PKP	PKiKP	21 45 46.7	+1.3
	comp=Z,0.5nm,0.5s,baz=327,slow=3.3,SNR=2.4						
O56A	Blue Knob Stat	119.77	59	P	PKPdf	21 45 46.2	-0.3
	baz=248						
CBN	Corbin Frederi	119.86	62	PFAKE		21 46 00.0	+13
CBN				LR	LR		
	comp=Z,2µm,19.0s						
NIL	Nilore	119.99	292	PFAKE		21 46 00.0	+13
NIL				LR	LR		
	comp=Z,373nm,22.0s						
SJG	San Juan	120.12	88	PFAKE		21 46 00.0	+12
SJG				LR	LR		
	comp=Z,1µm,22.0s						
KSH	Kashi	120.19	299	PKP	PKiKP	21 45 49.0	+1.4
KSH				PP	PP	21 47 20.7	+7.0
KSH				PKS	PKSdf	21 49 25.7	+1.5
KSH				SKS	SKSdf	21 52 56.6	-0.3
KSH				LR	LR		
	comp=Z,260nm,8.4s						
KSH				LR	LR		
	comp=Z,140nm,11.4s						
GRGR	Grenville	120.75	96	PFAKE		21 46 00.0	+11
GRGR				LR	LR		
	comp=Z,1µm,20.0s						
E52A	Mattawa	121.75	53	P	PKPdf	21 45 49.0	-1.1
	baz=252						
RES	Resolute Bay	121.80	18	PKP	PKPdf	21 45 49.2	-0.1
	comp=Z,1.3nm,0.8s,baz=278,slow=4.2,SNR=5.0						
KURK	Kurchatov	122.06	312	PKP	PKPdf	21 45 49.2	-1.3
KURK				PP	PP	21 47 27.4	+1.4
KURK				LR	LR		
	comp=Z,1µm,22.0s						
KURK	Kurchatov	122.06	312	PKIKP	PKPdf	21 45 49.2	-1.3
KURK						21 47 27.4	
KURK				pmax	pmax		
	comp=Z,1.0nm,0.2s						
KURBB	Kurchatov Arra	122.09	312	PKP	PKPdf	21 45 49.2	-1.4
	comp=Z,0.6nm,0.3s,baz=108,slow=1.7,SNR=4.2						
KURBB				PP	PP	21 47 27.4	+1.2
	comp=Z,0.5nm,0.3s,baz=116,slow=3.6,SNR=5.0						
D52A	ZEK Kipawa Sen	122.12	52	P	PKPdf	21 45 50.0	-0.8
	baz=252						
BINY	Binghamton	122.26	58	PFAKE		21 46 00.0	+8.6
BINY				LR	LR		
	comp=Z,2µm,19.0s						
AAK	Ala-Archa	122.32	302	PFAKE		21 46 00.0	+8.3
AAK				LR	LR		
	comp=Z,557nm,21.0s						
D53A	Lac Vacive, Po	122.61	52	P	PKPdf	21 45 50.9	-0.9
	baz=253						
LSZ	Lusaka	123.39	214	PFAKE		21 46 00.0	+5.4
LSZ				LR	LR		
	comp=Z,693nm,22.0s						
ANWB	Willy Bob	123.51	91	PFAKE		21 46 10.0	+15
ANWB				LR	LR		
	comp=Z,892nm,19.0s						
LSQQ	Lebel-sur-Quev	123.63	50	P	PKPdf	21 45 53.4	-0.2
	baz=254						
TSUM	Tsumeb	123.86	201	PFAKE		21 46 10.0	+14
TSUM				LR	LR		
	comp=Z,1µm,20.0s						
LONY	Lake Ozonia	123.98	56	PFAKE		21 46 10.0	+15
LONY				LR	LR		
	comp=Z,1µm,20.0s						
LONY	Lake Ozonia	123.98	56	P	PKPdf	21 45 53.4	-1.0
	baz=253						
BVAR	Borovoye Array	127.55	314	PKP	PKPdf	21 45 59.5	-1.5
	comp=Z,0.6nm,0.6s,baz=106,slow=5.1,SNR=5.3						
BVAR				PP	PP	21 48 03.0	+0.3
	comp=Z,0.7nm,0.8s,baz=66,slow=7.0,SNR=2.7						
BRVK	Borovoye	127.62	314	PFAKE		21 46 10.0	+8.3
BRVK				LR	LR		
	comp=Z,305nm,21.0s						
PKME	Peaks-Kenny Pk	127.78	56	PFAKE		21 46 10.0	+7.8
PKME				LR	LR		
	comp=Z,2µm,20.0s						
RCBR	Riachuelo	128.03	133	PFAKE		21 46 10.0	+6.2
RCBR				LR	LR		
	comp=Z,38µm,19.0s						
SHEL	Horse Pasture	129.67	174	PFAKE		21 46 20.0	+13
SHEL				LR	LR		
	comp=Z,499nm,20.0s						
KMBO	Kilima Mbogo	129.77	233	PFAKE		21 46 20.0	+12
KMBO				LR	LR		
	comp=Z,544nm,20.0s						
ARU	Arti	134.59	318	PFAKE		21 46 30.0	+14
ARU				LR	LR		
	comp=Z,364nm,22.0s						
ARU	Arti	134.59	318	*i* PKIKP	PKPdf	21 46 13.7	-0.5
ARU						21 48 45.0	
AKTO	Aktyubinsk	134.94	309	PKP	PKPdf	21 46 15.1	0.0
	comp=Z,0.6nm,0.6s,baz=270,slow=3.0,SNR=3.1						
KBS	Kingsbay	135.08	357	PFAKE		21 46 30.0	+14
KBS				LR	LR		
	comp=Z,715nm,20.0s						
RAYN	Ar Rayn	138.37	268	PFAKE		21 46 30.0	+5.6
RAYN				LR	LR		
	comp=Z,1µm,20.0s						
LVZ	Lovozero	140.88	340	PFAKE		21 46 40.0	+12
LVZ				LR	LR		
	comp=Z,495nm,20.0s						
KEV	Kevo	141.46	345	PFAKE		21 46 40.0	+11
KEV				LR	LR		
	comp=Z,1µm,20.0s						
ARCES	ARCESS Array B	141.95	345	PKP	PKPdf	21 46 26.8	-0.5
	comp=Z,2.0nm,0.6s,baz=41,slow=2.9,SNR=6.7						
KLMR	Klimovskoe	143.06	328	*e*PKIKP	PKiKP	21 46 32.5	-0.2
KLMR				pmax	pmax		
	comp=Z,13nm,1.5s						
KLMR	Klimovskoe	143.06	328	*e*PKPdf	PKiKP	21 46 32.6	-0.2
KLMR				AMP		21 46 49.8	
	comp=Z,13nm,1.4s						
GNI	Garni	143.63	293	PFAKE		21 46 40.0	+5.2
GNI				LR	LR		
	comp=Z,520nm,21.0s						
ZEI	Tsey	144.43	297	*i* PKIKP	PKiKP	21 46 38.2	+1.7
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GOF	Gofitskoye	145.04	301	⇑*i*PKIKP	PKPdf	21 46 34.5	+1.0
GOF				pmax	pmax		
	comp=Z,50nm,1.4s						
VRH	Novokhopyorsk	145.16	312	*e*PKP2	PKPbc	21 46 30.7	-2.4
VRH				pmax	pmax		
	comp=Z,30nm,0.9s						
KBZ	Khabaz	145.17	299	PKPbc	PKPdf	21 46 34.1	+0.4
	comp=Z,6.2nm,1.1s,baz=196,slow=7.4,SNR=3.3						
KIV	Kislovodsk	145.32	299	*e*PKPbc	PKPab	21 46 34.3	+0.1
KIV				LR	LR		
	comp=Z,502nm,20.0s						
KIV	Kislovodsk	145.32	299	*i* PKIKP	PKiKP	21 46 37.2	-0.9
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
MOS	Moscow	146.14	321	*e*PKP2	PKiKP	21 46 38.2	-1.0
MOS				*e*		21 50 07.0	
MOS				pmax	pmax		
	comp=Z,23nm,0.7s						
MOS				MLR	MLR		
	comp=Z,600nm,20.0s						
LPSR	Galich'ya Gora	146.48	315	*e*PKP2	PKPbc	21 46 37.2	0.0
LPSR				pmax	pmax		
	comp=Z,20nm,0.8s						
VSR	Storozhevoye	146.72	313	*e*PKP2	PKiKP	21 46 40.6	0.0
VSR				pmax	pmax		
	comp=Z,20nm,0.7s						
OBN	Obninsk	146.94	320	PFAKE		21 46 50.0	+9.1
OBN				LR	LR		
	comp=Z,549nm,20.0s						
OBN	Obninsk	146.94	320	*e*PKIKP	PKPdf	21 46 36.7	+0.4
OBN				*e*		21 50 09.3	
OBN				*e*PPP	PPP	21 53 24.4	
OBN				pmax	pmax		
	comp=Z,11nm,0.9s						
OBN				MLR	MLR		
	comp=Z,633nm,22.0s						
FIA1	FINESS Array S	147.98	336	*e*PKPbc	PKPbc	21 46 40.9	-0.1
FINES	FINESS Array B	147.98	336	PKPbc	PKPdf	21 46 38.5	+0.6
	comp=Z,5.8nm,0.7s,baz=90,slow=4.2,SNR=12						
VSU	Vasula	149.77	331	*e*P	PKPdf	21 46 38.2	-2.7
LIC	Lamto	151.66	171	*e*PKP1	PKPbc	21 46 50.7	-0.8
	comp=Z,109nm,0.7s						
IZAR	Zarasai	151.70	327	*e*P	PKPbc	21 46 49.5	-0.8
IZAR				IAmb	IAmb	21 46 53.9	
	comp=Z,4.6nm,0.8s						
IDID	Didziasalis	151.73	326	*e*P	PKPbc	21 46 48.5	-1.9
IDID				IAmb	IAmb	21 47 04.3	
	comp=Z,5.3nm,0.9s						
KIC	Kosan Boka	151.83	172	*e*PKP1	PKPbc	21 46 50.1	-1.8
	comp=Z,45nm,0.7s						
IIGN	Ignalina	151.95	326	*e*P	PKPbc	21 46 49.7	-1.2
IIGN				IAmb	IAmb	21 47 04.0	
	comp=Z,5.4nm,0.9s						
NACGM	Naroch	151.95	325	*e*	PKiKP	21 46 52.0	+0.7
NACGM				*e*LR	LR	22 46 44.0	
TIC	Toumodi	152.08	171	*e*PKP1	PKPbc	21 46 51.1	-1.4
DBIC	Dimbokro	152.12	171	PKP	PKPdf	21 46 45.3	-0.6
	comp=Z,5.4nm,0.7s,baz=185,slow=5.6,SNR=3.5						
DBIC				PKPbc	PKPbc	21 46 51.5	-1.0
	comp=Z,17nm,0.8s,baz=172,slow=3.2,SNR=11						
DBIC	Dimbokro	152.12	171	PKP	PKPdf	21 46 45.3	-0.6
DBIC				PKPbc	PKPbc	21 46 51.5	-1.0
DBIC				*e*PKPbc	PKiKP	21 46 52.0	-0.8
BR131	Keskin Array S	152.13	291	*e*PKPbc	PKiKP	21 46 53.0	+0.7
BRTR	Keskin Array B	152.13	291	PKPbc	PKPbc	21 46 50.3	-1.7
	comp=Z,0.7nm,0.5s,baz=141,slow=5.3,SNR=4.6						
NB2	NORSAR Subarra	152.27	347	PKP	PKPbc	21 46 50.5	-1.0
	comp=Z,12nm,1.4s,baz=42,slow=2.6						
NOA	NORSAR Array B	152.27	347	PKPbc	PKPbc	21 46 51.0	-0.5
	comp=Z,0.5nm,0.7s,baz=8.9,slow=3.2,SNR=6.4						
NOA				PKPab	pPKPbc	21 47 02.6	+0.5
	comp=Z,3.6nm,1.0s,baz=28,slow=2.0,SNR=6.6						
ANTO	Ankara	152.78	291	PFAKE		21 47 00.0	-4.4
ANTO				LR	LR		
	comp=Z,776nm,21.0s						
AKASG	Malin Array Be	152.80	316	PKPbc	PKPbc	21 46 51.2	-1.8
	comp=Z,1.7nm,0.5s,baz=60,slow=2.4,SNR=5.9						
KIEV	Kiev	152.81	316	PFAKE		21 47 00.0	-4.1
KIEV				LR	LR		
	comp=Z,774nm,22.0s						
AK11	Malin Array Si	152.84	316	*e*PKPbc	PKPbc	21 46 51.0	-2.0
PABE	Paberze	152.85	328	*e*P	PKiKP	21 46 53.7	+0.6
PABE				IAmb	IAmb	21 46 56.8	
	comp=Z,6.8nm,0.8s						
KIS	Kishinev	154.44	308	*e*	SKPdf	21 50 16.0	-2.5
KIS				*e*L	L	22 47 30.0	
KIS				LRM	MLR	22 55 08.0	
	comp=Z,700nm,20.0s						
BUR04	Bucovina Ar. S	156.49	312	*e*PKPab	PKPab	21 47 19.1	-0.9
TORD	Torodi Ar. Bea	158.69	187	PKP	PKPdf	21 46 52.4	-2.4
	comp=Z,0.9nm,1.0s,baz=260,slow=2.6,SNR=3.5						
TORD				PKPab	PKPab	21 47 30.7	+0.7
	comp=Z,10nm,1.1s,baz=164,slow=3.9,SNR=9.8						
TORD				PP	PP	21 51 08.4	-0.7
	comp=Z,1.2nm,1.0s,baz=202,slow=4.4,SNR=3.1						
OKC	Ostrava-Krasne	159.24	324	AMS	AMS	22 57 50.0	
	comp=Z,600nm,21.5s						
VYHS	Vyhne	159.73	320	*e*PKP	PKPab	21 47 36.6	+2.7
KRLC	Kraliky	159.74	326	*e*PKPAB	PKPab	21 47 34.7	+0.8
KRLC	Kraliky	159.74	326	*e*PKP2	PKPab	21 47 34.7	+0.8
DPC	Dobruska-Polom	159.75	327	*e*PKPAB	PKPab	21 47 38.1	+4.2
DPC				AMS	AMS	22 57 00.0	
	comp=Z,500nm,21.1s						
DPC	Dobruska-Polom	159.75	327	*e*PKP2	PKPab	21 47 38.1	+4.2
DPC				MLR	MLR		
	comp=Z,500nm,21.1s						
UPC	Upice	159.78	328	AMS	AMS	22 49 50.0	
	comp=Z,500nm,19.9s						
VRAC	Vranov	160.35	324	*e*PKP	PKPab	21 47 43.0	+6.5
BRG	Berggiesshubel	160.37	331	*e*P	PKPab	21 47 41.9	+5.4
	comp=Z,7.1nm,1.3s						
BRG	Berggiesshubel	160.37	331	*e*PKP2	PKPab	21 47 41.9	+5.4
BRG				pmax	pmax		
	comp=Z,7.0nm,1.3s						
PVCC	Panska Ves	160.38	330	*e*PKPAB	PKPab	21 47 44.1	+7.5
PVCC				AMS	AMS	22 57 50.0	
	comp=Z,700nm,26.3s						
PVCC	Panska Ves	160.38	330	*e*PKP2	PKPab	21 47 44.1	+7.5
PVCC				MLR	MLR		
	comp=Z,700nm,26.3s						
KRUC	Moravsky	160.62	324	*e*PKP	PKPab	21 47 43.4	+5.7
GOPC	GO Pecny, Ondr	160.75	328	AMS	AMS	22 57 30.0	
	comp=Z,700nm,21.0s						
PRU	Pruhonice	160.80	329	AMS	AMS	22 57 10.0	
	comp=Z,700nm,25.5s						
TREC	Trest	160.88	326	AMS	AMS	22 52 10.0	
	comp=Z,800nm,27.5s						
KHC	Kasperske Hory	161.86	328	*e*PKPAB	PKPab	21 47 34.0	-9.1
KHC				AMS	AMS	22 58 20.0	
	comp=Z,700nm,24.8s						
KHC	Kasperske Hory	161.86	328	*e*PKP2	PKPab	21 47 34.0	-9.1
KHC				MLR	MLR		
	comp=Z,700nm,24.8s						
GERES	GERESS Array B	162.02	328	PKPab	PKPab	21 47 42.8	-1.2
	comp=Z,0.5nm,0.6s,baz=126,slow=6.2,SNR=3.5						
BFO	Black Forest	164.53	337	PFAKE		21 47 10.0	+10
BFO				LR	LR		
	comp=Z,34nm,19.0s						
PAB	San Pablo	174.16	28	PFAKE		21 47 20.0	+14
PAB				LR	LR		
	comp=Z,930nm,19.0s						

MEX 08 21:37:11.3±0.4**, 16.°55N×98.°67W, h16**km±5km**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.54	107	*e*P	Pg	21 37 20.2	-1.9
PNIG				*e*S	Sg	21 37 27.2	-2.2
TLIG	Tlapa	1.01	6	*i* P	Pb	21 37 26.7	-3.9
TLIG				*e*S	Sb	21 37 39.3	-4.4
CAIG	El Cayaco	1.61	288	*e*P	Pn	21 37 36.0	-3.1
CAIG				*e*S	Sn	21 37 54.5	-5.0
VHO	Vista Hermosa	1.93	74	*i* P	Pn	21 37 39.9	-3.7
VHO				*e*S	Sn	21 38 03.5	-4.1

IDC 08 21:41:33.5±2.5**, 29.°81N×87.°66E, h0**km**, mb3.6**/5**, mb1 3.6**/7**, mb1mx3.3**/55**, mbtmp3.5**/7**, ML3.3**/2**, Error ellipse: s-maj=58.1km s-min=34.4km az=44.0, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.28	135	Pn	Pn	21 45 11.7	+1.1
	0.1nm,0.3s,baz=322,slow=12,SNR=2.6						
MKAR	Makanchi Array	17.47	348	P	P	21 45 39.5	-0.3
	0.0nm,0.3s,baz=158,slow=12,SNR=5.1						
KURBB	Kurchatov Arra	21.89	344	P	P	21 46 28.3	+0.3
	0.6nm,0.2s,baz=174,slow=9.3,SNR=2.7						
SONM	Songino Array	23.07	34	P	P	21 46 41.3	+0.6
	0.7nm,0.7s,baz=222,slow=11,SNR=5.3						
BVAR	Borovoye Array	26.43	336	P	P	21 47 10.7	-1.1
	0.7nm,0.6s,baz=129,slow=4.1,SNR=2.4						
FINES	FINESS Array B	50.76	327	P	P	21 50 36.2	+1.2
	2.9nm,1.1s,baz=88,slow=9.9,SNR=4.2						
YKA	Yellowknife Ar	86.30	10	P	P	21 54 15.9	-1.0
	0.3nm,0.8s,baz=328,slow=4.9,SNR=3.7						

IDC 08 21:57:37.5±26.0**, 25.°35S×179.°90E, h581**km±254km**, mb3.0**/4**, mb1 3.1**/4**, mb1mx2.8**/38**, mbtmp4.0**/4**, Error ellipse: s-maj=188.5km s-min=110.3km az=89.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	31.42	273	P	P	22 03 12.7	+0.1
	2.7nm,0.4s,baz=90,slow=6.1,SNR=4.9						
STKA	Stephens Creek	34.12	250	P	P	22 03 35.5	+0.4
	0.8nm,0.5s,baz=107,slow=11,SNR=3.1						
ASAR	Alice Springs	41.73	262	P	P	22 04 36.8	-0.3
	0.7nm,0.4s,baz=91,slow=7.2,SNR=24						
WRA	Warramunga Arr	42.23	268	P	P	22 04 40.4	-0.6
	1.0nm,0.6s,baz=104,slow=8.1,SNR=9.6						
NB2	NORSAR Subarra	143.50	351	PKP	PKPab	22 16 04.2	-0.7
	comp=Z,0.5nm,0.7s,baz=20,slow=3.8						
NOA	NORSAR Array B	143.50	351	PKP	PKPab	22 16 04.2	-0.7
	comp=Z,0.8nm,0.7s,baz=22,slow=3.9,SNR=4.8						
AKASG	Malin Array Be	146.13	326	PKPbc	PKPbc	22 16 13.1	0.0
	comp=Z,0.4nm,0.3s,baz=49,slow=4.0,SNR=2.7						
BRTR	Keskin Array B	148.36	305	PKPbc	PKPbc	22 16 19.1	-0.3
	comp=Z,0.4nm,0.6s,baz=94,slow=1.7,SNR=4.5						

*ATH **08** 21:58:46.4, 39.°71N×25.°58E, h22km±8km, ML2.1/1, Error ellipse: s-maj=9.0km s-min=1.2km az=226.0*
*ISCJB **08** 21:58:47.3±0.5, 39.°69N±0.°03×25.°55E±0.°04, h19km±12km, Error ellipse: s-maj=7.0km s-min=4.3km az=43.3*
*DDA **08** 21:58:47.8, 40.°08N×25.°80E, h7km±3km, ML2.5*
ISC 08 21:58:46.0±1.1**, 39.°70N**±0.°04×**25.°65E**±0.°03**, h14**km±10km**, n12, σ1§36**/21**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.34	65	IAML_P			
	comp=Z,2µm,0.1s						
BOZC				*i* P	Pb	21 58 54.1	+0.3
LIA	Limnos Island	0.41	299	P	Pg	21 58 54.2	0.0
LIA				S	Sg	21 58 59.8	-0.1
SIGR	SIGRI	0.51	162	P	Pb	21 58 56.4	-0.3
SIGR				S	Sb	21 59 03.9	0.0
SIGR				AML	AML	21 59 04.5	
	comp=E,391µm,0.4s						
SIGR				AML	AML	21 59 04.7	
	comp=N,574µm,0.3s						
EFSA	Agios Efstrati	0.54	253	P	Pb	21 58 57.0	-0.1
EFSA				S	Sg	21 59 04.0	+0.3
PRK	Paraskevi	0.66	133	P	Pn	21 59 00.9	+0.1
PRK				S	Sn	21 59 10.9	-0.1
BAYC	CANAKKALE_Bayr	0.69	86	IAML_P			
	comp=Z,991nm,0.2s						
BAYC				*i* P	Pn	21 59 01.2	-0.1
BAYC				*i* S	Sn	21 59 11.8	0.0
SMTH	Samothraki Isl	0.78	353	P	Pb	21 59 01.6	+0.3
SMTH				S	Sb	21 59 12.4	+0.8
AYVA	Ayvalik	0.89	116	IAML_P			
	comp=Z,107nm,0.1s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AYVA				*i* P	**Pn**	**21 59 05.3**	**+1.2**
AYVA				*i* S	**Sn**	**21 59 19.0**	**+2.2**
THAS	**Thassos island**	**1.15**	**322**	P	**Pn**	**21 59 07.3**	**-0.3**
THAS				S	**Sb**	**21 59 22.5**	**0.0**
SKY	**Skiros Island**	**1.18**	**227**	P	**Pn**	**21 59 07.4**	**-0.7**
ALN	**Alexandroupoli**	**1.23**	**14**	P	**Pg**	**21 59 09.9**	**+0.2**
BALY	**Balya**	**1.52**	**88**	IAML_P			
	comp=Z,151nm,0.1s						
BALY				*i* P	**Pn**	**21 59 07.9**	**-4.8**
BALY				*i* S	**Sg**	**21 59 35.5**	**+0.6**

*ISCJB **08** 22:02:18.3±0.6, 23°.4S±0°.1×179°.9W±0°.1, h532km, mb3.9/13, Error ellipse: s-maj=16.0km s-min=12.1km az=42.0*
*IDC **08** 22:02:19.1±2.1, 23°.26S×179°.84W, h531km±21km, mb3.5/13, mb1 3.7/14, mb1mx3.5/41, mbtmp4.3/14, Error ellipse: s-maj=20.0km s-min=15.7km az=141.0*
ISC 08 22:02:19.1±0.6**, 23°.3S**±0°.1×**179°.9W**±0°.1**, h532**km**, n41, σ1s46**/42**, mb4.1**/13**, 1C-1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.66**	**273**	P	**P**	**22 05 06.9**	**+2.2**
	0.2nm,0.3s,baz=121,slow=18,SNR=2.5						
URZ	**Urewera**	**15.09**	**189**	P	**P**	**22 05 27.0**	**-2.5**
	2.2nm,0.3s,baz=284,slow=3.8,SNR=9.4						
RPZ	**Rata Peaks**	**21.64**	**198**	P	**P**	**22 06 31.7**	**+1.0**
	19nm,0.6s,baz=51,slow=1.0,SNR=3.8						
CTA	**Charters Tower**	**31.56**	**269**	P	**P**	**22 07 59.2**	**+1.1**
	baz=93,slow=12						
STKA	**Stephens Creek**	**35.01**	**247**	P	**P**	**22 08 28.1**	**+1.0**
	4.5nm,0.5s,baz=93,slow=10,SNR=13						
ASAR	**Alice Springs**	**42.21**	**260**	P	**P**	**22 09 25.9**	**+0.2**
	4.1nm,0.7s,baz=96,slow=6.8,SNR=42						
ASAR				ScP	**ScP**	**22 14 08.8**	**+1.3**
	1.8nm,1.0s,baz=115,slow=3.5,SNR=7.5						
ASAR				S	**S**	**22 15 06.0**	**-1.6**
	0.4nm,0.8s,baz=97,slow=14,SNR=4.7						
WRA	**Warramunga Arr**	**42.53**	**266**	P	**P**	**22 09 28.0**	**-0.1**
	4.6nm,0.6s,baz=90,slow=5.8,SNR=127						
WRA				ScP	**ScP**	**22 14 09.7**	**+0.9**
	2.0nm,1.0s,baz=103,slow=4.1,SNR=6.4						
WRA				S	**S**	**22 15 05.6**	**-6.6**
	1.1nm,1.0s,baz=101,slow=13,SNR=2.6						
VNDA	**Vanda**	**54.94**	**185**	P	**P**	**22 11 00.4**	**+1.1**
	0.4nm,0.5s,baz=9.7,slow=5.8,SNR=3.8						
PETK	**Petropavlovsk-**	**78.58**	**346**	P	**P**	**22 13 25.5**	**+0.3**
	7.6nm,1.0s,baz=138,slow=5.4,SNR=3.5						
USRK	**Ussuriysk Ar.**	**80.34**	**327**	P	**P**	**22 13 35.0**	**+0.3**
	1.8nm,0.8s,baz=116,slow=5.4,SNR=4.1						
NVAR	**Mina Array Bea**	**84.30**	**44**	P	**P**	**22 13 56.1**	**+0.9**
	2.2nm,1.0s,baz=233,slow=8.9,SNR=3.4						
SEY	**Seymchan**	**88.75**	**348**	P	**P**	**22 14 14.9**	**-0.5**
	1.9nm,0.5s,baz=136,slow=5.6,SNR=5.0						
CMAR	**Chiang Mai Arr**	**89.41**	**290**	P	**P**	**22 14 21.1**	**+1.4**
	1.3nm,0.3s,baz=140,slow=3.1,SNR=6.4						
TXAR	**Lajitas Array**	**90.07**	**58**	P	**P**	**22 14 23.1**	**+0.6**
	1.4nm,0.8s,baz=212,slow=6.8,SNR=12						
ILAR	**Eielson Array**	**91.47**	**14**	P	**P**	**22 14 26.3**	**-1.8**
	0.3nm,0.6s,baz=212,slow=6.7,SNR=6.0						
PDAR	**Pinedale Array**	**92.23**	**44**	P	**P**	**22 14 31.6**	**-0.8**
	0.5nm,0.6s,baz=226,slow=4.7,SNR=5.3						
MKAR	**Makanchi Array**	**111.84**	**313**	PKiKP	**PKiKP**	**22 19 52.4**	**-1.1**
	0.3nm,0.6s,baz=143,slow=0.7,SNR=6.2						
ARCES	**ARCESS Array B**	**131.36**	**348**	PKP	**PKPdf**	**22 20 28.6**	**-1.6**
	1.8nm,0.7s,baz=336,slow=1.5,SNR=8.4						
FINES	**FINESS Array B**	**137.94**	**342**	PKhKP	PKPpre	22 20 32.1	
	3.5nm,1.1s,baz=21,slow=8.9,SNR=3.4						
FINES				PKP	**PKPdf**	**22 20 42.4**	**-0.2**
	0.7nm,0.5s,baz=93,slow=3.8,SNR=4.3						
NB2	**NORSAR Subarra**	**141.54**	**351**	PKP	PKPpre	22 20 43.7	
	comp=Z,0.4nm,0.4s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**141.54**	**351**	PKhKP	PKPpre	22 20 41.4	
	comp=Z,0.4nm,0.6s,baz=29,slow=4.5,SNR=7.1						
AKASG	**Malin Array Be**	**144.55**	**328**	PKP	**PKPdf**	**22 20 53.9**	**-0.8**
	comp=Z,3.4nm,0.5s,baz=44,slow=4.1,SNR=24						
SUW	**Suwalki**	**144.79**	**336**	*e*P	PKPbc	22 20 55.2	-0.2
BRTR	**Keskin Array B**	**147.31**	**308**	PKPbc	**PKPdf**	**22 21 01.2**	**+1.2**
	comp=Z,1.4nm,0.6s,baz=141,slow=4.4,SNR=6.0						
MMAI	**Mount Meron Ar**	**147.54**	**295**	PKPbc	**PKPbc**	**22 21 04.0**	**+0.1**
	comp=Z,4.8nm,0.5s,baz=83,slow=6.9,SNR=13						
KWP	**Kalwaria Pacla**	**148.32**	**332**	*e*P	**PKPbc**	**22 21 05.5**	**+0.2**
NIE	**Niedzica**	**149.50**	**334**	*e*P	**PKiKP**	**22 21 09.0**	**0.0**
KSP	**Ksiaz**	**149.80**	**339**	*e*P	**PKiKP**	**22 21 09.3**	**-0.2**
LANS	**Liptovska Anna**	**150.05**	**334**	*e*PKP	**PKiKP**	**22 21 10.2**	**+0.1**
CLL	**Collm**	**150.35**	**344**	⇑*i*PKPbc	**PKPbc**	**22 21 09.4**	**-0.7**
	comp=Z,11nm,0.8s						
CLL				⇓*i*		22 21 18.7	
BRG	**Berggiesshubel**	**150.48**	**342**	*i* P	**PKPbc**	**22 21 10.4**	**0.0**
	comp=Z,6.1nm,0.7s						
VYHS	**Vyhne**	**150.82**	**334**	*e*PKP	**PKPbc**	**22 21 10.9**	**-0.4**
VYHS				*e*		22 21 21.7	
GERES	**GERESS Array B**	**152.36**	**340**	PKPbc	**PKPbc**	**22 21 14.1**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=356,slow=4.0,SNR=4.7						
CONA	**Conrad Observa**	**152.43**	**337**	*e*PKPab	**PKPab**	**22 21 28.3**	**+0.5**
	comp=Z,2.6nm,0.7s						
ARSA	**Arzberg**	**153.12**	**336**	*e*PKPab	**PKPab**	**22 21 30.9**	**+0.2**
	comp=Z,1.5nm,0.6s						
OBKA	**Obir**	**154.11**	**337**	*e*PKPab	**PKPab**	**22 21 35.4**	**+0.4**
	comp=Z,2.0nm,0.8s						
RETA	**Reutte**	**154.44**	**343**	*e*PKPab	**PKPab**	**22 21 35.6**	**-0.7**
	comp=Z,4.9nm,1.2s						
MOTA	**Moosalm**	**154.47**	**342**	*e*PKPab	**PKPab**	**22 21 37.3**	**+0.7**
	comp=Z,1.0nm,0.5s						
SQTA	**Sankt Quirin**	**154.56**	**342**	*e*PKPab	**PKPab**	**22 21 37.7**	**+0.7**
	comp=Z,2.6nm,0.9s						
ABTA	**Abfaltersbach**	**154.59**	**340**	*e*PKPab	**PKPab**	**22 21 36.1**	**-1.0**
	comp=Z,0.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**169.75**	**189**	PKPab	**PKPab**	**22 22 43.0**	**-1.1**
	comp=Z,0.4nm,0.9s,baz=195,slow=4.5,SNR=2.9						

IDC 08 22:06:27.5±2.4**, 0°.71N**×**126°.42E, h0**km**, mb3.3**/3**, mb1 3.5**/3**, mb1mx3.3**/48**, mbtmp3.3**/3**, Error ellipse: s-maj=207.0km s-min=29.2km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.95**	**160**	P	P	22 11 22.0	-0.9
	0.6nm,0.6s,baz=338,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**25.30**	**164**	P	P	22 11 56.7	+0.7
	0.6nm,0.7s,baz=350,slow=14,SNR=4.4						
MKAR	**Makanchi Array**	**59.86**	**326**	P	P	22 16 35.0	-0.1
	0.1nm,0.3s,baz=120,slow=8.5,SNR=3.0						

*ISK **08** 22:08:52.7, 38°.25N×38°.58E, h5km±1km, ML2.7/8*
*DDA **08** 22:08:53.8, 38°.21N×38°.63E, h7km±4km, ML3.2*
ISC 08 22:08:53.9±1.2**, 38°.23N**±0°.03×**38°.61E**±0°.03**, h3**km±12km**, n20, σ1s01**/27**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.55**	**277**	*i* P	**Pg**	**22 09 04.5**	**0.0**
ATAB	**Bozova**	**0.80**	**198**	*i* P	**Pg**	**22 09 09.4**	**+0.1**
ATAB				*i* S	**Sb**	**22 09 21.9**	**+0.2**
URFA	**Urfa**	**0.81**	**168**	PG	**Pg**	**22 09 09.2**	**-0.2**
URFA				SG	**Sg**	**22 09 20.7**	**+0.9**
PTK	**Pertek**	**0.90**	**42**	PG	**Pg**	**22 09 09.9**	**-1.3**
DARE	**Darende-Malaty**	**0.95**	**291**	PG	**Pg**	**22 09 10.7**	**-1.5**
DARE				SG	**Sg**	**22 09 23.7**	**-0.8**
SANL	**SANLIURFA_Merk**	**1.10**	**164**	IAML_P			
	comp=Z,3μm,0.2s						
SANL				*i* P	**Pn**	**22 09 15.8**	**-0.4**
SANL				*i* S	**Sg**	**22 09 29.2**	**0.0**
TNCL	**Tunceli-Merkez**	**1.14**	**39**	IAML_P			
	comp=Z,420nm,0.3s						
TNCL				*i* P	**Pn**	**22 09 19.0**	**+2.1**
ELBS	**KAHRAMANMARAS**	**1.17**	**275**	IAML_P			
	comp=Z,729nm,0.2s						
ELBS				*i* P	**Pn**	**22 09 17.0**	**-0.3**
ELBS				*i* S	**Sn**	**22 09 34.0**	**+0.3**
GZT	**Gaziantep**	**1.21**	**224**	IAML_P			
	comp=Z,3μm,0.2s						
GZT				*i* P	**Pg**	**22 09 17.4**	**+0.3**
GZT				*i* S	**Sn**	**22 09 34.6**	**-0.1**
ILIC	**ilic-Erzincan**	**1.22**	**358**	PN	**Pb**	**22 09 16.7**	**-1.0**
DIYA	**Diyarbakir**	**1.23**	**104**	IAML_P			
	comp=Z,3μm,0.2s						
DIYA				*i* P	**Pb**	**22 09 17.4**	**-0.4**
CUKAN	**kangal_SIVAS**	**1.41**	**321**	*i* P	**Pg**	**22 09 21.0**	**+0.1**
CUKAN				*i* S	**Sg**	**22 09 42.3**	**+3.1**
GAZ	**Gaziantep**	**1.53**	**227**	PN	**Pb**	**22 09 22.2**	**-0.8**
KMRS	**Kahramanmaras**	**1.54**	**242**	PN	**Pn**	**22 09 21.6**	**-0.6**
MAZI	**Mazidag**	**1.64**	**117**	PN	**Pn**	**22 09 23.7**	**-0.1**
KUZU	**Kuzuini**	**1.90**	**221**	*i* P	**Pg**	**22 09 30.7**	**+0.3**
ANDN	**Andirin**	**1.91**	**251**	IAML_P			
	comp=Z,263nm,0.2s						
ANDN				*i* P	**Pn**	**22 09 27.8**	**+0.4**
SAIM	**ADANA**	**2.01**	**264**	IAML_P			
	comp=Z,395nm,0.2s						
SAIM				*i* P	**Pn**	**22 09 29.3**	**+0.5**
SVSK	**Karacayir**	**2.10**	**324**	PN	**Pn**	**22 09 29.8**	**-0.1**
TAHT	**Tahtakopru-Hat**	**2.68**	**227**	PN	**Pn**	**22 09 38.6**	**+0.7**

*IDC **08** 22:08:46.7±1.4, 24°.59N×122°.88E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/50, mbtmp3.5/4, ML3.0/1, Error ellipse: s-maj=42.0km s-min=27.1km az=61.0*
*ISCJB **08** 22:08:57.4±0.7, 24°.80N±0°.10×123°.39E±0°.05, h112km±5km, mb3.4/3, Error ellipse: s-maj=16.8km s-min=6.9km az=166.5*
*JMA **08** 22:08:59.1±0.1, 24°.83N×123°.42E, h100km±2km, M3.1*
ISC 08 22:08:57.6±1.1**, 24°.9N**±0°.1×**123°.38E**±0°.06**, h106**km±9km**, n16, σ1s22**/27**, mb3.4**/3**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.57**	**215**	P	**Pn**	**22 09 15.2**	**+0.6**
YOJ				*e*S	**Sn**	**22 09 27.1**	**-0.2**
JYNG	**Yonagunijimaku**	**0.62**	**219**	P	**Pn**	**22 09 15.5**	**+0.6**
JYNG				S	**Sn**	**22 09 27.8**	**-0.1**
IRIF	**Iriomote-Funau**	**0.68**	**151**	P	**Pn**	**22 09 15.3**	**-0.1**
IRIF				S	**Sn**	**22 09 27.0**	**-1.7**
JIJ	**Ishigaki jima**	**0.90**	**129**	P	**Pn**	**22 09 17.4**	**-0.1**
JIJ				*e*S	**Sn**	**22 09 31.1**	**-1.3**
JKRS	**Kuro-shima**	**0.90**	**140**	P	**Pn**	**22 09 17.8**	**+0.3**
JKRS				*e*S	**Sn**	**22 09 31.8**	**-0.6**
JISG	**Ishigakijimahi**	**0.92**	**112**	P	**Pn**	**22 09 17.9**	**+0.3**
JISG				S	**Sn**	**22 09 32.5**	**-0.2**
HATJ	**Hateruma jima**	**0.96**	**156**	P	**Pn**	**22 09 18.1**	**+0.1**
JTJ	**Tarama**	**1.24**	**103**	P	**Pn**	**22 09 21.8**	**+0.7**
JTJ				S	**Sn**	**22 09 38.8**	**-0.1**
JIRB	**Irabujima**	**1.64**	**93**	P	**Pn**	**22 09 26.6**	**+0.8**
JIRB				S	**Sn**	**22 09 48.5**	**+1.2**
JIKM	**Ikemajima**	**1.70**	**90**	P	**Pn**	**22 09 27.8**	**+1.2**
JIKM				*e*S	**Sn**	**22 09 49.4**	**+0.7**
JMJ	**Miyako jima 2**	**1.75**	**93**	*e*S	**Sn**	**22 09 50.1**	**+0.3**
JOGS	**Gusukube**	**1.85**	**95**	P	**Pn**	**22 09 29.9**	**+1.3**
JOGS				*e*S	**Sn**	**22 09 53.1**	**+0.9**
JOW	**Kunigami**	**4.80**	**66**	Pn	**Pn**	**22 10 08.0**	**+0.2**
	1.2nm,0.3s,baz=117,slow=17,SNR=9.6						
JOW				Sn	**Sn**	**22 10 57.8**	**-4.5**
	1.1nm,0.3s,baz=115,slow=19,SNR=2.1						
MKAR	**Makanchi Array**	**39.22**	**314**	P	**P**	**22 16 15.9**	**+0.4**
	0.2nm,0.3s,baz=101,slow=9.7,SNR=8.2						
WRA	**Warramunga Arr**	**45.86**	**166**	P	**P**	**22 17 08.6**	**-0.8**
	0.6nm,0.8s,baz=347,slow=8.7,SNR=6.0						
ASAR	**Alice Springs**	**49.38**	**167**	P	**P**	**22 17 37.0**	**+0.4**
	0.2nm,0.5s,baz=354,slow=8.5,SNR=4.1						

*ISCJB **08** 22:13:12.9±1.0, 6°.83N±0°.04×73°.16W±0°.06, h147km±7km, mb3.3/1, Error ellipse: s-maj=9.3km s-min=6.1km az=175.8*
*RSNC **08** 22:13:13.5±0.9, 6°.80N×73°.13W, h146km±4km, ML3.3, Mw3.3*
*IDC **08** 22:13:14.9±6.5, 6°.72N×75°.23W, h149km±98km, mb3.1/1, mb1 3.4/2, mb1mx2.9/21, mbtmp3.5/2, Error ellipse: s-maj=317.8km s-min=42.2km az=84.0*
ISC 08 22:13:12.6±1.1**, 6°.83N**±0°.04×**73°.13W**±0°.07**, h149**km±7km**, n20, σ0s90**/33**, 2D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**193**	*i* P	**Pn**	**22 13 33.4**	**+0.2**
BARC				*e*S	**Sn**	**22 13 48.2**	**-0.7**
BARC				*i*		22 13 51.4	
	comp=Z,465nm,0.4s						
BRRC	**Barranca, Sant**	**0.64**	**296**	⇓*i*P	**Pn**	**22 13 35.3**	**+0.7**
BRRC				*e*S	**Sn**	**22 13 52.1**	**+0.7**
BRRC				*i*		22 13 55.8	
	comp=Z,301nm,0.2s						
RUSC	**La Rusia**	**0.93**	**177**	⇓*e*P	**Pn**	**22 13 37.2**	**-0.1**
RUSC				*e*S	**Sn**	**22 13 55.7**	**-0.4**
RUSC				*i*		22 13 56.8	
	comp=N,388nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.35**	**258**	*e*P	**Pn**	**22 13 39.9**	**-0.6**
PTBC				*e*S	**Sn**	**22 14 01.5**	**-0.5**
PTBC				*i*		22 14 08.7	
	comp=Z,316nm,0.3s						
OCAC	**Ocana**	**1.41**	**352**	*e*P	**Pn**	**22 13 41.8**	**+0.4**
OCAC				*e*S	**Sn**	**22 14 04.4**	**+1.0**
OCAC				*i*		22 14 09.5	
	comp=Z,183nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	*e*P	**Pn**	**22 13 46.0**	**+0.1**
ZARC				*e*S	**Sn**	**22 14 11.5**	**+0.2**
ZARC				*i*		22 14 18.4	
	comp=Z,326nm,0.3s						
CTAB	**Cerro Tablazo,**	**2.10**	**211**	*e*P	**Pn**	**22 13 50.6**	**+1.3**
CHIC	**Chingaza**	**2.27**	**195**	*e*P	**Pn**	**22 13 51.5**	**+0.2**
CHIC				*e*S	**Sn**	**22 14 20.2**	**-0.8**
CHIC				*i*		22 14 30.5	
	comp=Z,91nm,0.3s						
ROSC	**El Rosal**	**2.30**	**211**	P	**Pn**	**22 13 51.5**	**-0.2**
	comp=Z,13nm,0.3s,baz=288,slow=20,SNR=9.7						
ROSC				S	**Sn**	**22 14 19.6**	**-2.2**
	comp=Z,45nm,0.3s,baz=185,slow=20,SNR=11						
ROSC	**El Rosal**	**2.30**	**211**	*e*P	**Pn**	**22 13 52.2**	**+0.5**
ROSC				*e*S	**Sn**	**22 14 22.2**	**+0.5**
ROSC				*i*		22 14 30.8	
	comp=Z,193nm,0.5s						
HELC	**Santa Helena**	**2.47**	**255**	*e*P	**Pn**	**22 13 54.5**	**+0.8**
HELC				*e*S	**Sn**	**22 14 25.2**	**0.0**
HELC				*i*		22 14 32.7	
	comp=Z,91nm,0.3s						
UREC	**San Jos de Ur**	**2.56**	**291**	*e*P	**Pn**	**22 13 53.2**	**-1.2**
VILC	**Villavicencio,**	**2.76**	**192**	*e*P	**Pn**	**22 13 57.1**	**+0.1**
VILC				*e*S	**Sn**	**22 14 31.4**	**+0.1**
VILC				*i*		22 14 37.4	
	comp=Z,108nm,0.6s						
RREF	**El Recreo**	**2.92**	**229**	*e*P	**Pn**	**22 14 00.2**	**+0.7**
RREF				*i*		22 14 44.9	
	comp=Z,165nm,0.3s						
DBBC	**Dabeiba**	**3.06**	**274**	*e*P	**Pn**	**22 14 00.8**	**-0.1**
DBBC				*e*S	**Sn**	**22 14 38.3**	**+0.2**
CODC	**Agustn Codazz**	**3.10**	**354**	*e*P	**Pn**	**22 14 01.1**	**-0.2**
CODC				*i*		22 14 45.5	
	comp=Z,24nm,0.4s						
TOLC	**Tolima**	**3.12**	**224**	*e*P	**Pn**	**22 14 02.4**	**+0.6**
ANIL	**Santa Ana**	**3.24**	**224**	*e*P	**Pn**	**22 14 04.2**	**+0.8**
ANIL				*e*S	**Sn**	**22 14 42.9**	**+0.3**
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**22 23 23.2**	**-1.7**
	comp=Z,0.3nm,0.5s,baz=133,slow=6.6,SNR=7.5						
WRA	**Warramunga Arr**	**150.33**	**241**	PKPbc	**PKPdf**	**22 32 44.3**	**+2.4**
	comp=Z,0.2nm,0.7s,baz=104,slow=3.1,SNR=4.9						

*ISCJB **08** 22:15:45.7±0.6, 2°.13S±0°.09×68°.16E±0°.10, h15km, mb4.2/23, MS4.1/4, Error ellipse: s-maj=13.9km s-min=12.9km az=163.3*
*IDC **08** 22:15:45.5±0.8, 2°.10S×68°.03E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.8/50, mbtmp4.0/10, MS4.2/4, Ms1 4.2/4, ms1mx3.5/44, Error ellipse: s-maj=22.9km s-min=20.1km az=135.0*
*NEIC **08** 22:15:46.5±0.7, 2°.12S×68°.11E, h10km, mb4.2/11, Error ellipse: s-maj=15.7km s-min=14.7km az=79.0*
ISC 08 22:15:47.5±0.7**, 2°.2S**±0°.1×**68°.2E**±0°.1**, h15**km**, n38, σ1s47**/29**, mb4.2**/23**, MS4.2**/4**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.01**	**146**	T	T	22 22 10.4	
	baz=325,slow=75,SNR=2142						
H08N3	**Diego Garcia H**	**5.03**	**146**	T	T	22 22 17.1	
	baz=325,slow=75,SNR=1654						
H08N1	**Diego Carcia H**	**5.04**	**146**	T	T	22 22 16.3	
	baz=325,slow=75,SNR=1355						
OPO	**Ambohidratompo**	**26.25**	**230**	LR	LR	22 28 53.8	
	comp=Z,1μm,19.6s,baz=115,slow=30						
PSI	**Prapat**	**31.13**	**81**	LR	LR	22 34 48.5	
	comp=Z,325nm,18.1s,baz=269,slow=37						
KULM	**Kulim**	**33.27**	**77**	*e*P	**P**	**22 22 22.6**	**-2.2**
	10nm,1.1s						
MYKOM	**Kota Tinggi**	**35.88**	**84**	*e*P	**P**	**22 22 46.1**	**-1.3**
	42nm,1.1s						
NIL	**Nilore**	**35.93**	**7**	*e*P	**P**	**22 22 44.4**	**-3.1**
	3.0nm,0.9s						
KBL	**Kabul**	**36.51**	**1**	*e*P	**P**	**22 22 49.4**	**-3.2**
	3.6nm,1.1s						
CM31	**Chiang Mai Arr**	**36.55**	**55**	*e*P	**P**	**22 22 55.6**	**+2.6**
CMAR	**Chiang Mai Arr**	**36.55**	**55**	P	**P**	**22 22 55.6**	**+2.6**
	0.6nm,0.3s,baz=247,slow=9.9,SNR=11						
CMAR				LR	LR	22 36 01.1	
	comp=Z,154nm,21.8s,baz=250,slow=33						
CHTO	**Chiang Mai**	**36.74**	**54**	*e*P	**P**	**22 22 54.2**	**-0.3**
	6.3nm,1.1s						
CHTO	**Chiang Mai**	**36.74**	**54**	P	P	22 23 02.2	+7.6
	24nm,1.1s						
CMMT	**Chiang Mai**	**36.74**	**54**	P	P	22 23 02.2	+7.6
	5.4nm,1.0s						
CHAI	**Chaiyaphum**	**37.93**	**61**	P	P	22 23 14.3	+10
	3.6nm,1.0s						
LSA	**Lhasa**	**38.55**	**33**	*e*P	**P**	**22 23 11.4**	**+1.1**
	2.7nm,0.8s						
GAR	**Garm**	**41.00**	**3**	*e*P	**P**	**22 23 30.1**	**0.0**
	10nm,0.9s						
LSZ	**Lusaka**	**41.52**	**249**	P	**P**	**22 23 35.1**	**+0.4**
	1.5nm,0.3s,baz=76,slow=6.7,SNR=8.0						
BTK	**Batken**	**42.08**	**3**	*e*P	**P**	**22 23 40.0**	**+1.2**
	6.3nm,1.0s						
AAK	**Ala-Archa**	**44.95**	**7**	P	**P**	**22 24 02.7**	**+0.6**
	0.9nm,0.7s,baz=271,slow=5.9,SNR=4.8						
BOSA	**Boshof**	**48.61**	**233**	P	**P**	**22 24 30.2**	**-0.8**
	2.5nm,0.8s,baz=71,slow=5.1,SNR=3.8						
MAKZ	**Makanchi**	**50.25**	**12**	*e*P	**P**	**22 24 42.0**	**-1.1**
	2.1nm,1.0s						
MK32	**Makanchi Array**	**50.30**	**13**	*e*P	**P**	**22 24 43.0**	**-0.5**
MKAR	**Makanchi Array**	**50.30**	**13**	P	**P**	**22 24 43.0**	**-0.5**
	0.6nm,0.7s,baz=189,slow=6.1,SNR=8.0						
KURK	**Kurchatov**	**53.42**	**8**	*e*P	**P**	**22 25 06.6**	**0.0**
	3.9nm,1.1s						
ZALV	**Zalesovo Beam**	**57.60**	**12**	P	**P**	**22 25 35.9**	**-0.7**
	1.4nm,0.8s,baz=200,slow=7.5,SNR=6.2						
ZAA1	**Zalesovo Array**	**57.60**	**12**	*e*P	**P**	**22 25 35.9**	**-0.7**
SONA0	**Songino Array**	**59.91**	**29**	*e*P	**P**	**22 25 53.7**	**+0.7**
SONM	**Songino Array**	**59.91**	**29**	P	**P**	**22 25 53.7**	**+0.7**
	2.1nm,1.0s,baz=217,slow=6.2,SNR=9.6						
AKASG	**Malin Array Be**	**62.26**	**333**	P	**P**	**22 26 08.7**	**0.0**
	0.2nm,0.3s,baz=138,slow=6.0,SNR=2.4						
MAW	**Mawson**	**65.44**	**182**	LR	LR	22 48 04.2	
	comp=Z,199nm,19.1s,baz=32,slow=30						
WRA	**Warramunga Arr**	**66.89**	**111**	P	**P**	**22 26 41.0**	**+1.4**
	1.5nm,0.7s,baz=287,slow=6.0,SNR=18						
WB2	**Warramunga Arr**	**66.90**	**111**	*e*P	**P**	**22 26 39.6**	**-0.1**
ASAR	**Alice Springs**	**66.95**	**115**	P	**P**	**22 26 41.2**	**+1.2**
	1.1nm,0.6s,baz=285,slow=6.3,SNR=12						
AS31	**Alice Springs**	**66.95**	**115**	*e*P	**P**	**22 26 39.7**	**-0.4**
	0.8nm,0.8s						
CLL	**Collm**	**70.78**	**327**	*e*(P)	**P**	**22 27 05.0**	**+1.8**
YKA	**Yellowknife Ar**	**119.77**	**1**	PKP	**PKPdf**	**22 34 35.6**	**-1.2**
	0.1nm,0.6s,baz=346,slow=2.1,SNR=4.2						
TXAR	**Lajitas Array**	**151.87**	**345**	PKPbc	**PKPbc**	**22 35 42.8**	**+0.1**
	0.6nm,0.7s,baz=22,slow=1.3,SNR=3.7						

*ISCJB **08** 22:29:36.9±0.6, 13°.69N±0°.06×120°.58E±0°.08, h130km±7km, mb3.4/5, Error ellipse: s-maj=13.1km s-min=8.8km az=22.6*
*IDC **08** 22:29:36.8±1.0, 13°.65N×120°.76E, h122km±9km, mb3.2/5, mb1 3.3/5, mb1mx3.1/45, mbtmp3.6/5, Error ellipse: s-maj=43.1km s-min=19.7km az=61.0*
*MAN **08** 22:29:38.7, 13°.73N×120°.54E, h97km, mb4.3, ML3.2, MS2.9*
ISC 08 22:29:37.6±0.8**, 13°.72N**±0°.06×**120°.58E**±0°.08**, h124**km±8km**, n12, σ1s11**/19**, mb3.5**/5**, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.51**	**42**	P	**Pn**	**22 29 55.9**	**-0.3**
	180nm,0.3s,baz=168,slow=5.8,SNR=5.5						
TGY				S	**Sn**	**22 30 10.3**	**+0.1**
	291nm,0.3s,baz=343,slow=19,SNR=7.0						
TGY	**Tagaytay City**	**0.51**	**42**	*e*P	**Pn**	**22 29 56.4**	**+0.2**
TGY				*i* S	**Sn**	**22 30 08.7**	**-1.5**
BOAC	**Boac**	**1.25**	**102**	*e*P	**Pn**	**22 30 03.0**	**+0.4**
BOAC				*e*S	**Sn**	**22 30 24.2**	**+2.7**
SJMP	**San Jose**	**1.36**	**157**	*e*P	**Pn**	**22 30 04.2**	**+0.4**
SJMP				*e*S	**Sn**	**22 30 23.3**	**-0.2**
BUSP	**Coron**	**1.75**	**192**	*e*P	**Pn**	**22 30 08.7**	**+0.5**
BUSP				*e*S	**Sn**	**22 30 31.1**	**-0.5**
OTRP	**Odiongan**	**1.95**	**134**	*e*P	**Pn**	**22 30 10.8**	**+0.2**
OTRP				*e*S	**Sn**	**22 30 35.3**	**-0.6**
ENPP	**El Nido**	**2.74**	**204**	*e*P	**Pn**	**22 30 21.8**	**+1.1**
ENPP				*e*S	**Sn**	**22 30 53.2**	**-0.7**
CMAR	**Chiang Mai Arr**	**21.31**	**286**	P	**P**	**22 34 15.8**	**+1.1**
	1.8nm,0.8s,baz=97,slow=7.7,SNR=14						
SONM	**Songino Array**	**36.01**	**344**	P	**P**	**22 36 26.7**	**-0.1**
	0.5nm,0.7s,baz=160,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**36.09**	**158**	P	**P**	**22 36 25.9**	**-1.8**
	0.5nm,1.1s,baz=332,slow=10,SNR=3.3						
MKAR	**Makanchi Array**	**45.95**	**324**	P	**P**	**22 37 49.2**	**+1.1**
	0.9nm,0.7s,baz=129,slow=9.2,SNR=10						
ZALV	**Zalesovo Beam**	**48.99**	**333**	P	**P**	**22 38 11.1**	**-0.3**
	0.7nm,0.4s,baz=125,slow=8.0,SNR=3.4						

*ISCJB **08** 22:35:43.8±0.9, 2°.1S±0°.1×68°.0E±0°.2, h15km, mb3.9/10, MS3.9/7, Error ellipse: s-maj=23.7km s-min=19.8km az=36.6*
*IDC **08** 22:35:43.1±0.9, 2°.13S×67°.98E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.7/51, mbtmp3.9/8, MS4.0/8, Ms1 4.0/8, ms1mx3.5/41, Error ellipse: s-maj=27.0km s-min=25.0km az=121.0*
ISC 08 22:35:45.5±1.0**, 2°.2S**±0°.2×**68°.0E**±0°.2**, h15**km**, n21, σ1s11**/12**, mb4.0**/10**, MS3.9**/7**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.12**	**144**	T	T	22 42 14.4	
	baz=325,slow=75,SNR=176						
H08N3	**Diego Garcia H**	**5.13**	**144**	T	T	22 42 09.4	
	baz=325,slow=75,SNR=210						
H08N1	**Diego Carcia H**	**5.14**	**144**	T	T	22 42 13.3	
	baz=325,slow=75,SNR=205						
PALK	**Pallekele**	**15.81**	**53**	LR	LR	22 44 07.1	
	comp=Z,626nm,19.8s,baz=298,slow=32						
OPO	**Ambohidratompo**	**26.07**	**230**	LR	LR	22 49 12.0	
	comp=Z,420nm,19.1s,baz=7.0,slow=31						
PSI	**Prapat**	**31.35**	**81**	LR	LR	22 54 01.4	
	comp=Z,201nm,19.5s,baz=276,slow=35						
CMAR	**Chiang Mai Arr**	**36.75**	**55**	P	**P**	**22 42 52.2**	**-0.4**
	1.5nm,1.0s,baz=240,slow=9.7,SNR=9.3						
CMAR				LR	LR	22 57 43.1	
	comp=Z,133nm,18.7s,baz=246,slow=36						
LSZ	**Lusaka**	**41.31**	**249**	P	**P**	**22 43 31.4**	**+0.4**
	1.1nm,0.3s,baz=76,slow=10,SNR=6.3						
AAK	**Ala-Archa**	**45.00**	**7**	P	**P**	**22 44 01.2**	**+0.7**
	1.5nm,0.9s,baz=201,slow=9.2,SNR=3.2						
BOSA	**Boshof**	**48.42**	**233**	LR	LR	23 02 29.3	
	comp=Z,193nm,18.3s,baz=18,slow=33						
MKAR	**Makanchi Array**	**50.37**	**13**	P	**P**	**22 44 40.8**	**-1.2**
	0.7nm,0.9s,baz=194,slow=7.4,SNR=6.1						
GTA	**Gaotai**	**50.68**	**32**	*e*P	**P**	**22 44 46.8**	**+2.2**
GTA				pP	sP	22 44 51.2	0.0
GTA				sP	pP	22 44 53.8	+4.4
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
XAN	**Xi'an**	**52.73**	**43**	P	**P**	**22 44 59.6**	**-0.3**
XAN				pP	sP	22 45 05.1	-1.5
XAN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TGY	**Tagaytay City**	**54.93**	**71**	LR	LR	23 04 27.2	
	comp=Z,77nm,21.3s,baz=294,slow=31						
ZALV	**Zalesovo Beam**	**57.67**	**12**	P	**P**	**22 45 34.1**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=224,slow=10.0,SNR=5.7						
SONM	**Songino Array**	**60.03**	**29**	P	**P**	**22 45 51.8**	**-0.1**
	comp=Z,1.9nm,1.1s,baz=228,slow=5.8,SNR=11						
SONM				LR	LR	23 11 10.9	
	comp=Z,178nm,20.6s,baz=9.0,slow=36						
WRA	**Warramunga Arr**	**67.08**	**111**	P	**P**	**22 46 39.0**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=288,slow=5.8,SNR=10						
ASAR	**Alice Springs**	**67.14**	**115**	P	**P**	**22 46 39.4**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=285,slow=6.4,SNR=5.2						
MJAR	**Matsushiro Arr**	**75.55**	**52**	LR	LR	23 20 47.2	
	comp=Z,62nm,21.0s,baz=280,slow=36						
YKA	**Yellowknife Ar**	**119.80**	**1**	PKP	**PKPdf**	**22 54 33.2**	**-1.7**
	comp=Z,0.2nm,0.8s,baz=6.0,slow=2.1,SNR=2.2						
TXAR	**Lajitas Array**	**151.84**	**344**	PKPbc	**PKPbc**	**22 55 40.9**	**+0.3**

comp=Z,0.6nm,1.0s,baz=60,slow=3.3,SNR=3.8

IDC 08 22:37:56.1±2.0**,0°.92N×126°.85E,h0km,mb3.5**/3**, mb1 3.8**/3**,mb1mx3.4**/43**,mbtmp3.6**/3**,Error ellipse: s-maj=170.9km s-min=25.0km az=66.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.99**	**161**	P	P	22 42 51.2	-0.8
	1.1nm,0.6s,baz=339,slow=11,SNR=10						
ASAR	**Alice Springs**	**25.38**	**165**	P	P	22 43 26.0	+0.7
	0.7nm,0.7s,baz=347,slow=13,SNR=6.5						
MKAR	**Makanchi Array**	**59.93**	**326**	P	P	22 48 04.1	-0.1
	0.3nm,0.4s,baz=118,slow=7.9,SNR=8.1						

IDC 08 23:15:07.6±2.2**,64°.03S×173°.85E,h0km,mb3.9**/3**, mb1 4.2**/4**,mb1mx3.9**/26**,mbtmp4.0**/4**,ML4.3**/1**,MS3.7**/8**, Ms1 3.7**/8**,ms1mx3.5**/28**,Error ellipse: s-maj=87.2km s-min=26.0km az=71.0,Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.06**	**191**	Pn	Pn	23 18 27.3	-0.3
	1.4nm,0.3s,baz=28,slow=18,SNR=74						
RPZ	**Rata Peaks**	**20.42**	**354**	LR	LR	23 27 48.4	
	comp=Z,116nm,18.1s,baz=167,slow=37						
URZ	**Urewera**	**25.88**	**6**	LR	LR	23 28 34.7	
	comp=Z,168nm,21.5s,baz=208,slow=31						
QSPA	**South Pole Qui**	**26.05**	**180**	P	P	23 20 42.6	+0.2
	7.2nm,1.0s,baz=31,slow=6.5,SNR=10						
QSPA				LR	LR	23 29 20.0	
	comp=Z,230nm,18.3s,baz=45,slow=33						
MAW	**Mawson**	**39.74**	**214**	LR	LR	23 37 36.6	
	comp=Z,176nm,18.7s,baz=124,slow=34						
DZM	**Mont Dzumac**	**42.23**	**350**	LR	LR	23 38 39.7	
	comp=Z,136nm,19.2s,baz=240,slow=33						
RAR	**Rarotonga**	**46.29**	**35**	LR	LR	23 38 55.1	
	comp=Z,72nm,20.6s,baz=112,slow=31						
ASAR	**Alice Springs**	**48.10**	**308**	P	P	23 23 49.0	+0.2
	1.0nm,0.9s,baz=148,slow=8.4,SNR=6.1						
WRA	**Warramunga Arr**	**51.39**	**310**	P	P	23 24 13.6	-0.3
	0.9nm,0.9s,baz=170,slow=6.4,SNR=4.9						
HNR	**Honiara**	**55.40**	**343**	LR	LR	23 43 37.1	
	comp=Z,80nm,20.0s,baz=133,slow=31						
PMG	**Port Moresby**	**57.73**	**328**	LR	LR	23 44 18.8	
	comp=Z,59nm,21.7s,baz=120,slow=30						
H08S2	**Diego Garcia H**	**88.12**	**256**	T	T	01 06 17.6	
	baz=153						
H08S1	**Diego Carcia H**	**88.13**	**256**	T	T	01 06 19.2	
	baz=153						
H08S3	**Diego Garcia H**	**88.14**	**256**	T	T	01 06 11.7	
	baz=153						
ILAR	**Eielson Array**	**131.69**	**21**	PKP	PKPdf	23 34 19.9	-0.7
	0.4nm,0.8s,baz=214,slow=2.7,SNR=4.1						

*IDC **08** 23:18:45.3±1.7, 9°.81N×126°.23E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/39, mbtmp3.8/4, Error ellipse: s-maj=189.0km s-min=31.3km az=68.0*
*MAN **08** 23:18:50.2, 9°.78N×126°.33E, h6km, mb4.4, ML3.3, MS3.1*
ISC 08 23:18:47.3±2.5**,9°.73N**±0°.04×**126°.47E**±0°.08**,h12km**±16km**, n13,**σ**1s.31**/21**,2C-2D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.97**	**273⇑**	eP	**Pb**	**23 19 06.0**	**0.0**
SCPH				eS	**Sb**	**23 19 17.4**	**-1.5**
BUTP	**Butuan**	**1.13**	**228**	eP	**Pn**	**23 19 09.4**	**+0.4**
BUTP				eS	**Sn**	**23 19 25.0**	**+0.4**
MSLP	**Maasin**	**1.64**	**284**	eP	**Pb**	**23 19 17.4**	**-0.1**
MSLP				eS	**Sb**	**23 19 37.3**	**-0.8**
PLP	**Palo**	**2.04**	**314⇓**	eP	**Pn**	**23 19 22.9**	**+1.3**
PLP				eS	**Sn**	**23 19 47.7**	**+0.7**
BESP	**Borongan**	**2.12**	**331**	eP	**Pb**	**23 19 25.3**	**-0.4**
BESP				eS	**Sg**	**23 19 55.4**	**0.0**
CGP	**Cagayan de Oro**	**2.17**	**234⇑**	eP	**Pb**	**23 19 26.4**	**-0.2**
CGP				eS	**Sn**	**23 19 50.5**	**+0.5**
BUKP	**Musuan**	**2.31**	**217**	eP	**Pb**	**23 19 28.8**	**-0.2**
BUKP				eS	**Sb**	**23 19 57.4**	**-0.2**
LLP	**Lapu-Lapu**	**2.54**	**283**	eP	**Pb**	**23 19 30.6**	**-2.1**
LLP				eS	**Sn**	**23 20 00.8**	**+1.6**
RCP	**Roxas**	**4.09**	**297⇓**	eP	**Pn**	**23 19 53.0**	**+3.3**
WRA	**Warramunga Arr**	**30.49**	**165**	P	**P**	**23 25 01.4**	**+1.0**
	0.5nm,0.9s,baz=343,slow=8.7,SNR=3.3						
MKAR	**Makanchi Array**	**52.57**	**323**	P	**P**	**23 27 59.6**	**-1.3**
	0.2nm,0.4s,baz=122,slow=8.7,SNR=4.5						
ARCES	**ARCESS Array B**	**84.76**	**340**	P	**P**	**23 31 20.1**	**-1.1**
	4.4nm,1.0s,baz=67,slow=6.9,SNR=3.1						
FINES	**FINESS Array B**	**86.45**	**332**	P	**P**	**23 31 28.6**	**-1.1**
	0.5nm,0.4s,baz=76,slow=4.7,SNR=8.3						

MAN 08 23:26:19.9,9°.62N×125°.94E,h3km,mb4.0,ML2.7,MS2.3, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.47**	**290⇑**	eP	Pg	23 26 29.6	+0.7
SCPH				eS	Sb	23 26 41.2	+3.1
BUTP	**Butuan**	**0.72**	**206**	eP	Pg	23 26 33.1	-0.6
BUTP				eS	Sn	23 26 48.6	0.0
MSLP	**Maasin**	**1.18**	**296**	eP	Pg	23 26 42.2	-0.2
MSLP				eS	Sn	23 27 01.6	+1.8

*ISCJB **08** 23:26:41.9±1.2, 17°.5S±0°.5×178°.6W±0°.3, h550km, mb3.9/9, Error ellipse: s-maj=75.6km s-min=13.3km az=150.5*
*IDC **08** 23:26:47.3±3.6, 17°.81S×178°.66W, h611km±41km, mb3.4/9, mb1 3.7/10, mb1mx3.3/41, mbtmp4.3/10, Error ellipse: s-maj=62.0km s-min=17.9km az=148.0*
ISC 08 23:26:42.4±1.2**,17°.7S**±0°.5×**178°.6W**±0°.3**,h550km,n36,** σ**2s.32**/37**,mb3.9**/9**,1C,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.79**	**250**	P	**P**	**23 29 51.4**	**+1.5**
	0.4nm,0.3s,baz=72,slow=19,SNR=4.3						
CTA	**Charters Tower**	**33.36**	**260**	P	**P**	**23 32 36.5**	**+0.8**
	1.9nm,0.4s,baz=96,slow=15,SNR=4.5						
STKA	**Stephens Creek**	**38.64**	**241**	P	**P**	**23 33 18.6**	**-0.6**
	4.4nm,0.6s,baz=103,slow=12,SNR=8.6						
WRA	**Warramunga Arr**	**44.55**	**259**	P	**P**	**23 34 05.6**	**-0.4**
	1.2nm,0.5s,baz=96,slow=7.3,SNR=29						
WRA				PcP	**PcP**	**23 35 35.4**	**-1.8**
	0.3nm,0.4s,baz=95,slow=3.3,SNR=3.9						
ASAR	**Alice Springs**	**44.73**	**254**	P	**P**	**23 34 07.0**	**-0.4**
	8.3nm,0.7s,baz=85,slow=8.8,SNR=69						
ASAR				PcP	**PcP**	**23 35 35.9**	**-2.0**
	0.7nm,0.5s,baz=98,slow=4.2,SNR=5.6						
NVAR	**Mina Array Bea**	**79.33**	**44**	P	**P**	**23 37 52.5**	**+0.8**
	1.6nm,0.7s,baz=225,slow=9.1,SNR=13						
ILAR	**Eielson Array**	**85.66**	**13**	P	**P**	**23 38 22.2**	**-0.5**
	1.3nm,0.4s,baz=219,slow=4.9,SNR=25						
TXAR	**Lajitas Array**	**85.97**	**58**	P	**P**	**23 38 25.8**	**+0.6**
	2.8nm,0.8s,baz=219,slow=5.7,SNR=27						
PDAR	**Pinedale Array**	**87.25**	**43**	P	**P**	**23 38 31.0**	**-0.1**
	1.1nm,0.6s,baz=212,slow=3.6,SNR=10						
YKA	**Yellowknife Ar**	**94.15**	**25**	P	**P**	**23 39 02.1**	**-0.1**
	0.3nm,0.5s,baz=239,slow=4.2,SNR=6.6						
MKAR	**Makanchi Array**	**108.86**	**314**	PKiKP	**PKiKP**	**23 44 07.2**	**-2.3**
	0.4nm,0.6s,baz=90,slow=0.6,SNR=4.9						
ARCES	**ARCESS Array B**	**126.04**	**350**	PKP	**PKPdf**	**23 44 40.1**	**-1.6**
	3.1nm,0.9s,baz=29,slow=2.8,SNR=6.0						
FINES	**FINESS Array B**	**132.90**	**344**	PKP	**PKPdf**	**23 44 53.4**	**-1.5**
	4.0nm,1.0s,baz=300,slow=1.5,SNR=4.4						
AKASG	**Malin Array Be**	**140.27**	**332**	PKhKP	PKPpre	23 45 00.6	
	1.1nm,0.6s,baz=51,slow=4.5,SNR=4.8						
BRTR	**Keskin Array B**	**144.51**	**315**	PKP	**PKPdf**	**23 45 15.4**	**-1.4**
	1.1nm,0.6s,baz=96,slow=4.3,SNR=10						
CLL	**Collm**	**145.18**	**347⇑**	iPKPbc	**PKPdf**	**23 45 17.9**	**+0.4**
	comp=Z,12nm,0.8s						
UPC	**Upice**	**145.20**	**344**	eP	**PKPdf**	**23 45 18.4**	**+0.8**
DPC	**Dobruska-Polom**	**145.26**	**343**	eP	**PKPdf**	**23 45 18.7**	**+1.0**
BRG	**Berggiesshubel**	**145.38**	**346**	i PKP	**PKPdf**	**23 45 18.6**	**+0.7**
	comp=Z,5.6nm,0.7s						
PVCC	**Panska Ves**	**145.55**	**345**	eP	**PKPdf**	**23 45 19.6**	**+1.5**
MBAR	**Mbarara**	**145.94**	**241**	PKPbc	**PKPdf**	**23 45 19.7**	**-0.4**
	comp=Z,1.7nm,0.2s,baz=187,slow=20,SNR=3.5						
PRU	**Pruhonice**	**146.06**	**345**	eP	**PKPdf**	**23 45 20.5**	**+1.5**
GOPC	**GO Pecny, Ondr**	**146.07**	**345**	eP	**PKPdf**	**23 45 20.6**	**+1.5**
MODS	**Modra-Piesok**	**146.75**	**341**	e	**PKPdf**	**23 45 21.6**	**+1.4**
KHC	**Kasperske Hory**	**147.09**	**345**	eP	**PKPdf**	**23 45 23.4**	**+2.6**
GERES	**GERESS Array B**	**147.33**	**345**	PKPbc	**PKPdf**	**23 45 24.0**	**+2.7**
	comp=Z,1.9nm,0.5s,baz=9.9,slow=2.6,SNR=21						
CONA	**Conrad Observa**	**147.57**	**342**	ePKPbc	**PKPdf**	**23 45 24.9**	**+3.2**
	comp=Z,7.9nm,1.4s						
SOKA	**Soboth**	**148.95**	**342**	ePKPbc	**PKPdf**	**23 45 27.3**	**+3.3**
	comp=Z,2.0nm,0.8s						
WATA	**Walderalm**	**149.24**	**346**	ePKPbc	**PKPdf**	**23 45 28.4**	**+3.9**
	comp=Z,3.1nm,0.5s						
OBKA	**Obir**	**149.24**	**342**	ePKPbc	**PKPdf**	**23 45 27.6**	**+3.1**
	comp=Z,4.2nm,1.1s						
RETA	**Reutte**	**149.27**	**348**	ePKPbc	**PKPdf**	**23 45 28.4**	**+3.9**
	comp=Z,1.4nm,0.6s						
MOTA	**Moosalm**	**149.34**	**347**	i PKPbc	**PKPdf**	**23 45 28.6**	**+4.0**
	comp=Z,3.2nm,0.8s						
MYKA	**Terra Mystica**	**149.39**	**343**	ePKPbc	**PKPdf**	**23 45 28.2**	**+3.5**
	comp=Z,2.1nm,0.5s						
SQTA	**Sankt Quirin**	**149.43**	**347**	i PKPbc	**PKPdf**	**23 45 28.9**	**+4.1**
	comp=Z,4.1nm,0.6s						
ABTA	**Abfaltersbach**	**149.57**	**345**	i PKPbc	**PKPdf**	**23 45 28.6**	**+3.6**
	comp=Z,4.8nm,0.6s						
FETA	**Feichten**	**149.72**	**347**	ePKPbc	**PKPdf**	**23 45 29.1**	**+3.8**
	comp=Z,4.5nm,0.8s						

IDC 08 23:30:22.3±1.1**,2°.09S×68°.05E,h0km,mb3.6**/6**,mb1 3.7**/6**, mb1mx3.4**/57**,mbtmp3.6**/6**,Error ellipse: s-maj=29.6km s-min=28.9km az=166.0,Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**41.42**	**249**	P	P	23 38 11.2	0.0
	1.2nm,0.2s,baz=118,slow=15,SNR=2.7						
MKAR	**Makanchi Array**	**50.27**	**13**	P	P	23 39 21.3	+0.8
	0.2nm,0.5s,baz=198,slow=8.9,SNR=2.2						
KURBB	**Kurchatov Arra**	**53.27**	**8**	P	P	23 39 41.2	-1.6
	0.3nm,0.3s,baz=204,slow=6.8,SNR=4.1						
SONM	**Songino Array**	**59.92**	**29**	P	P	23 40 31.2	+0.8
	0.5nm,1.0s,baz=231,slow=6.9,SNR=1.8						
WRA	**Warramunga Arr**	**67.02**	**111**	P	P	23 41 17.9	+0.1
	0.8nm,1.0s,baz=290,slow=5.4,SNR=2.9						
ASAR	**Alice Springs**	**67.09**	**115**	P	P	23 41 18.0	-0.2
	0.3nm,0.4s,baz=286,slow=6.7,SNR=3.4						

*ISCJB **08** 23:31:47.9±0.4, 2°.01S±0°.06×68°.05E±0°.06, h15km, mb4.4/36, MS4.5/4, Error ellipse: s-maj=8.7km s-min=8.4km az=138.9*
*BJI **08** 23:31:47.8, 1°.90S×68°.10E, h13km, mb4.6/34, mB5.0/24, Ms4.7/14, Ms7 4.5/15*
*IDC **08** 23:31:47.0±0.7, 2°.00S×68°.11E, h0km, mb4.1/15, mb1 4.2/15, mb1mx3.9/58, mbtmp4.1/15, Error ellipse: s-maj=20.3km s-min=16.1km az=159.0*
*NEIC **08** 23:31:49.2±0.3, 1°.93S×68°.08E, h10km, mb4.5/16, Error ellipse: s-maj=7.4km s-min=7.1km az=105.0*
ISC 08 23:31:49.9±0.5**,1°.94S**±0°.09×**68°.05E**±0°.09**,h15km,n77,** σ**1s.29**/76**,mb4.5**/36**,MS4.5**/4**,2C,Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.26**	**146**	T	T	23 38 21.8	
	baz=325,slow=75,SNR=6.5						
H08N3	**Diego Garcia H**	**5.27**	**146**	T	T	23 38 18.3	
	baz=325,slow=75,SNR=19						
H08N1	**Diego Carcia H**	**5.28**	**146**	T	T	23 38 23.5	
	baz=325,slow=75,SNR=8.0						
DGAR	**Diego Garcia**	**6.99**	**141**	ePn	**Pn**	**23 33 31.3**	**-0.4**
MRIV	**Mauritius Mete**	**20.96**	**209**	eP	Pn	23 36 35.5	+0.4
HYB	**Hyderabad**	**21.84**	**28**	i P	**P**	**23 36 45.0**	**+2.9**
KMBO	**Kilima Mbogo**	**30.80**	**271**	P	**P**	**23 38 04.8**	**-0.9**
	0.4nm,0.4s,baz=45,slow=20,SNR=2.0						
KMBO	**Kilima Mbogo**	**30.80**	**271**	eP	**P**	**23 38 04.9**	**-0.7**
	0.9nm,0.4s						
NIL	**Nilore**	**35.73**	**7**	eP	**P**	**23 38 48.2**	**+0.1**
	16nm,1.0s						
SHL	**Shillong**	**35.78**	**39**	eP	**P**	**23 38 50.2**	**+1.4**
	15nm,1.0s						
KBL	**Kabul**	**36.30**	**1**	eP	**P**	**23 38 53.7**	**+0.5**
	8.9nm,1.1s						
CM01	**Chiang Mai Arr**	**36.53**	**55**	eP	**P**	**23 38 56.1**	**+0.9**
CM31	**Chiang Mai Arr**	**36.53**	**55**	eP	**P**	**23 38 55.9**	**+0.7**
CMAR	**Chiang Mai Arr**	**36.53**	**55**	P	**P**	**23 38 53.0**	**-2.3**
	1.1nm,0.4s,baz=244,slow=11,SNR=9.8						
CHTO	**Chiang Mai**	**36.72**	**54**	eP	**P**	**23 38 57.3**	**+0.5**
	9.8nm,1.1s						
LSA	**Lhasa**	**38.44**	**33**	eP	**P**	**23 39 12.9**	**+1.2**
	12nm,1.1s						
LSZ	**Lusaka**	**41.48**	**249**	P	**P**	**23 39 36.4**	**-0.4**
	6.4nm,0.7s,baz=68,slow=6.5,SNR=11						
LSZ	**Lusaka**	**41.48**	**249**	eP	**P**	**23 39 36.8**	**-0.1**
	7.8nm,0.8s						
KSH	**Kashi**	**41.89**	**9**	P	**P**	**23 39 37.6**	**-2.2**
KSH				pP	pP	23 39 43.9	-0.6
KSH				PcP	**PcP**	**23 41 33.0**	**-2.5**
KSH				S	**S**	**23 45 52.3**	**-5.3**
KSH				sS	pS	23 45 57.9	-5.2
KSH				SS	SS	23 48 48.4	-16
KSH				pmax	pmax		
	comp=Z,24nm,1.0s						
KSH				pmax	pmax		
	comp=Z,250nm,4.7s						
KSH				LR	LR		
	comp=N,130nm,7.3s						
KSH				LR	LR		
	comp=E,220nm,6.3s						
KSH				LR	LR		
	comp=Z,460nm,13.0s						
MATP	**Matopo**	**42.74**	**242**	P	**P**	**23 39 47.5**	**+0.4**
	2.9nm,1.1s,baz=91,slow=8.9,SNR=4.0						
KMI	**Kunming**	**43.05**	**49**	P	**P**	**23 39 50.5**	**+0.9**
KMI				pP	pP	23 39 54.3	0.0
KMI				sP	sP	23 39 56.0	-0.2
KMI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KMI				pmax	pmax		
	comp=Z,71nm,3.1s						
KMI				LR	LR		
	comp=N,170nm,19.3s						
KMI				LR	LR		
	comp=E,170nm,18.4s						
KMI				LR	LR		
	comp=Z,230nm,22.4s						
KZA	**Kyzart**	**44.29**	**8**	P	**P**	**23 40 01.8**	**+2.2**
	SNR=5.9						
EKS2	**Erkin-Say**	**44.69**	**6**	P	**P**	**23 40 04.8**	**+2.4**
	SNR=6.8						
AAK	**Ala-Archa**	**44.75**	**7**	P	**P**	**23 40 04.5**	**+1.6**
	3.7nm,1.0s,baz=191,slow=8.5,SNR=7.6						
AAK	**Ala-Archa**	**44.75**	**7**	P	**P**	**23 40 05.0**	**+2.1**
	SNR=5.1						
AAK	**Ala-Archa**	**44.75**	**7**	eP	**P**	**23 40 03.8**	**+0.9**
	10nm,1.1s						
KBK	**Karagaybulak**	**44.82**	**7**	P	**P**	**23 40 05.7**	**+2.2**
	SNR=7.3						
TKM2	**Tokmak 2**	**45.17**	**8**	P	**P**	**23 40 07.8**	**+1.5**
	SNR=6.8						
JAGI	**Jajag, Banyuwa**	**46.34**	**100**	eP	**P**	**23 40 15.6**	**-0.2**
CD2	**Chengdu**	**47.13**	**43**	eP	**P**	**23 40 22.0**	**+0.2**
WMQ	**Urumqi**	**48.84**	**19**	eP	**P**	**23 40 36.1**	**+1.3**
WMQ				pP	sP	23 40 41.5	+0.1
WMQ				pmax	pmax		
	comp=Z,14nm,1.1s						
WMQ				LR	LR		
	comp=N,1μm,24.7s						
WMQ				LR	LR		
	comp=E,720nm,19.1s						
WMQ				LR	LR		
	comp=Z,1μm,23.7s						
MAKZ	**Makanchi**	**50.06**	**12**	eP	**P**	**23 40 44.0**	**-0.1**
	6.7nm,1.0s						
MK01	**Makanchi Array**	**50.10**	**13**	eP	**P**	**23 40 43.8**	**-0.5**
MK31	**Makanchi Array**	**50.12**	**13**	eP	**P**	**23 40 44.5**	**-0.1**
MKAR	**Makanchi Array**	**50.12**	**13**	P	**P**	**23 40 44.4**	**-0.1**
	1.0nm,0.8s,baz=185,slow=7.5,SNR=6.4						
GTA	**Gaotai**	**50.43**	**32 ⇑**	P	**P**	**23 40 47.9**	**+0.8**
GTA				pP	pP	23 40 52.2	+0.3
GTA				sP	sP	23 40 55.0	+1.3
GTA				ScP	**ScP**	**23 46 02.4**	**+1.3**
GTA				S	**S**	**23 48 00.6**	**+0.3**
GTA				sS	sS	23 48 07.8	-0.3
GTA				SS	**SS**	**23 51 32.4**	**-2.0**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,68nm,7.0s						
GTA				LR	LR		
	comp=N,310nm,19.0s						
GTA				LR	LR		
	comp=E,160nm,20.0s						
GTA				LR	LR		
	comp=Z,440nm,18.7s						
LZH	**Lanzhou**	**50.44**	**38**	eP	**P**	**23 40 47.9**	**+0.6**
LZH				pP	pP	23 40 52.0	0.0
LZH				sP	sP	23 40 54.6	+0.7
LZH				pmax	pmax		
	comp=Z,12nm,1.2s						
KBZ	**Khabaz**	**50.75**	**337**	P	**P**	**23 40 49.2**	**-0.1**
	1.8nm,0.9s,baz=210,slow=11,SNR=2.4						
ENH	**Enshi**	**50.85**	**48**	eP	**P**	**23 40 50.0**	**-0.4**
	8.5nm,0.7s						
ABKAR	**Akbulak array**	**51.47**	**353**	eP	**P**	**23 40 54.9**	**+0.3**
XAN	**Xi'an**	**52.49**	**43**	P	**P**	**23 41 02.2**	**-0.4**
XAN				pP	pP	23 41 08.5	+1.1
XAN				pmax	pmax		
	comp=Z,16nm,1.2s						
KURBB	**Kurchatov Arra**	**53.12**	**8**	P	**P**	**23 41 07.2**	**+0.4**
	3.3nm,1.1s,baz=202,slow=7.9,SNR=11						
KURK	**Kurchatov**	**53.23**	**8**	eP	**P**	**23 41 07.1**	**-0.4**
BRVK	**Borovoye**	**54.83**	**2**	eP	**P**	**23 41 18.6**	**-0.7**
	3.6nm,1.1s						
ZAA0	**Zalesovo Array**	**57.41**	**12**	eP	**P**	**23 41 37.7**	**-0.1**
	7.7nm,1.0s						
ZALV	**Zalesovo Beam**	**57.41**	**12**	P	**P**	**23 41 36.3**	**-1.4**
	1.6nm,0.8s,baz=229,slow=6.8,SNR=6.3						
ZALV	**Zalesovo Beam**	**57.41**	**12**	eP	**P**	**23 41 37.0**	**-0.7**
HHC	**Hu-ho-hao-te**	**58.13**	**38**	eP	**P**	**23 41 45.6**	**+2.4**
HHC				pmax	pmax		
	comp=Z,14nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,5.2s						
ARU	**Arti**	**58.69**	**354**	eP	**P**	**23 41 46.5**	**-0.1**
NJ2	**Nanjing**	**58.76**	**50**	eP	**P**	**23 41 47.1**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
SONM	**Songino Array**	**59.78**	**29**	P	**P**	**23 41 55.7**	**+1.2**
	2.8nm,1.0s,baz=225,slow=7.1,SNR=10						
SONA1	**Songino Array**	**59.79**	**29**	eP	**P**	**23 41 55.1**	**+0.4**
ULN	**Ulaanbaatar**	**60.12**	**29**	eP	**P**	**23 41 57.3**	**+0.3**
	1.2nm,0.4s						
KIEV	**Kiev**	**62.02**	**333**	eP	**P**	**23 42 09.4**	**-0.1**
	1.5nm,0.5s						
VYHS	**Vyhne**	**65.84**	**326**	eP	**P**	**23 42 34.7**	**-0.1**
WRA	**Warramunga Arr**	**67.08**	**111**	P	**P**	**23 42 42.5**	**-0.8**
	2.2nm,0.6s,baz=288,slow=5.8,SNR=16						
WRAB	**Tennant Creek**	**67.09**	**111**	eP	**P**	**23 42 43.5**	**+0.2**
	3.0nm,0.6s						
WB2	**Warramunga Arr**	**67.09**	**111**	eP	**P**	**23 42 42.3**	**-1.0**
ASAR	**Alice Springs**	**67.16**	**115**	P	**P**	**23 42 43.1**	**-0.6**
	1.1nm,0.6s,baz=282,slow=6.3,SNR=14						
AS01	**Alice Springs**	**67.20**	**115**	eP	**P**	**23 42 43.1**	**-0.9**
MORC	**Moravsky Berou**	**67.26**	**327**	eP	**P**	**23 42 43.0**	**-0.8**
	1.1nm,1.0s						
TORD	**Torodi Ar. Bea**	**67.49**	**285**	P	**P**	**23 42 46.9**	**+1.0**
	1.0nm,1.1s,baz=98,slow=11,SNR=3.7						
SYO	**Syowa Base**	**69.64**	**191⇑**	eX		23 43 15.0	
CLL	**Collm**	**70.53**	**327**	eP	**P**	**23 43 06.0**	**+1.9**
CLL				e		23 43 15.0	
ES19	**SONSECA Array**	**77.43**	**311**	eP	**P**	**23 43 45.6**	**+0.8**
ESDC	**Sonseca Array**	**77.47**	**311**	P	**P**	**23 43 44.5**	**-0.7**
	0.7nm,0.7s,baz=99,slow=5.1,SNR=4.2						
TIXI	**Tiksi**	**82.96**	**16**	P	**P**	**23 44 13.3**	**-0.6**
	1.7nm,0.4s,baz=269,slow=4.6,SNR=4.7						
YKA	**Yellowknife Ar**	**119.56**	**1**	PKP	**PKPdf**	**23 50 37.7**	**-1.1**
	0.1nm,0.5s,baz=350,slow=2.2,SNR=3.7						
PDAR	**Pinedale Array**	**139.29**	**357**	PKhKP	PKPpre	23 51 12.7	
	0.3nm,0.7s,baz=125,slow=2.5,SNR=3.2						
LCMT	**Little Creek M**	**145.08**	**2**	ePKPbc	**PKPdf**	**23 51 28.2**	**+0.7**
WMOK	**Wichita Mounta**	**145.13**	**341**	ePKPbc	**PKPdf**	**23 51 27.6**	**+0.1**
SHPR	**Sheep Range**	**145.47**	**5**	ePKPdf	**PKPab**	**23 51 29.8**	**+1.4**
U15A	**North Rim**	**145.68**	**0**	ePKPdf	**PKPab**	**23 51 29.8**	**+0.5**
MNTX	**Cornudas Mount**	**149.75**	**349**	ePKPbc	**PKPbc**	**23 51 41.2**	**+1.3**
TX31	**Lajitas Ar. Si**	**151.63**	**345**	ePKPbc	**PKPbc**	**23 51 44.1**	**-0.5**
TXAR	**Lajitas Array**	**151.63**	**345**	PKPbc	**PKPbc**	**23 51 44.4**	**-0.1**
	0.8nm,0.8s,baz=56,slow=3.2,SNR=6.7						
JTS	**JuntasAbangare**	**151.93**	**288**	ePKPbc	**PKPbc**	**23 51 45.4**	**-0.1**

*ISCJB **08** 23:33:21.5±0.5, 2°.07S±0°.08×68°.1E±0°.1, h15km, mb4.2/18, Error ellipse: s-maj=15.7km s-min=10.6km az=17.6*
*IDC **08** 23:33:21.4±0.8, 2°.02S×68°.06E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.7/60, mbtmp3.9/10, Error ellipse: s-maj=26.2km s-min=19.9km az=130.0*
*NEIC **08** 23:33:22.2±0.4, 2°.15S×68°.03E, h10km, mb4.4/5, Error ellipse: s-maj=12.3km s-min=8.0km az=92.0*
ISC 08 23:33:23.2±0.6**,2°.17S**±0°.10×**68°.1E**±0°.1**,h15km,n37,** σ**0s.96**/35**,mb4.3**/18**,Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.03**	**145**	T	T	23 40 40.0	
	baz=325,slow=75,SNR=9.4						
H08N3	**Diego Garcia H**	**5.04**	**146**	T	T	23 40 40.5	
	baz=325,slow=75,SNR=10						
H08N1	**Diego Carcia H**	**5.05**	**145**	T	T	23 40 36.6	
	baz=325,slow=75,SNR=10.0						
DGAR	**Diego Garcia**	**6.76**	**141**	ePn	**Pn**	**23 35 00.7**	**-1.3**
RER	**Riviere de l'E**	**22.41**	**212**	eP	**P**	**23 38 20.4**	**-1.1**
	314nm,1.9s						
NIL	**Nilore**	**35.95**	**7**	eP	**P**	**23 40 22.7**	**-0.7**
KBL	**Kabul**	**36.52**	**1**	eP	**P**	**23 40 28.1**	**-0.4**
	7.7nm,1.1s						
CM01	**Chiang Mai Arr**	**36.59**	**55**	eP	**P**	**23 40 30.5**	**+1.4**
CMAR	**Chiang Mai Arr**	**36.60**	**55**	P	**P**	**23 40 30.9**	**+1.8**
	0.8nm,0.5s,baz=238,slow=12,SNR=4.7						
LSA	**Lhasa**	**38.58**	**33**	eP	**P**	**23 40 45.9**	**-0.5**
	2.6nm,0.3s						
LSZ	**Lusaka**	**41.47**	**249**	P	**P**	**23 41 11.1**	**+1.0**
	2.6nm,0.5s,baz=68,slow=7.2,SNR=9.4						
BTK	**Batken**	**42.09**	**3**	eP	**P**	**23 41 15.1**	**+0.3**
	11nm,1.1s						
AAK	**Ala-Archa**	**44.97**	**7**	P	**P**	**23 41 38.3**	**+0.2**
	3.9nm,1.0s,baz=240,slow=8.1,SNR=3.7						
BOSA	**Boshof**	**48.57**	**233**	P	**P**	**23 42 07.5**	**+1.0**
	1.5nm,0.6s,baz=108,slow=12,SNR=3.3						
MAKZ	**Makanchi**	**50.27**	**12**	eP	**P**	**23 42 19.1**	**+0.1**
	4.7nm,1.1s						
MK01	**Makanchi Array**	**50.30**	**13**	eP	**P**	**23 42 19.1**	**-0.2**
MK32	**Makanchi Array**	**50.32**	**13**	eP	**P**	**23 42 17.8**	**-1.6**
MKAR	**Makanchi Array**	**50.32**	**13**	P	**P**	**23 42 17.8**	**-1.6**
	0.7nm,0.7s,baz=188,slow=7.4,SNR=3.7						
XAN	**Xi'an**	**52.60**	**43**	eP	**P**	**23 42 36.5**	**-0.2**
	13nm,1.0s						
KURBB	**Kurchatov Arra**	**53.34**	**8**	P	**P**	**23 42 40.2**	**-1.5**
	1.0nm,0.8s,baz=206,slow=7.5,SNR=4.4						
BRVK	**Borovoye**	**55.05**	**2**	eP	**P**	**23 42 53.4**	**-0.9**
ZAA0	**Zalesovo Array**	**57.62**	**12**	eP	**P**	**23 43 11.6**	**-1.0**
	14nm,1.5s						
ZALV	**Zalesovo Beam**	**57.62**	**12**	P	**P**	**23 43 12.5**	**-0.1**
	0.6nm,0.5s,baz=224,slow=6.0,SNR=3.6						
ZALV	**Zalesovo Beam**	**57.62**	**12**	eP	**P**	**23 43 11.4**	**-1.1**
ZAA1	**Zalesovo Array**	**57.62**	**12**	eP	**P**	**23 43 12.5**	**-0.1**
SONA0	**Songino Array**	**59.94**	**29**	eP	**P**	**23 43 29.8**	**+0.8**
SONM	**Songino Array**	**59.94**	**29**	P	**P**	**23 43 29.8**	**+0.8**
	1.0nm,0.8s,baz=213,slow=6.4,SNR=3.8						
SONA1	**Songino Array**	**59.95**	**29**	eP	**P**	**23 43 29.4**	**+0.3**
WRA	**Warramunga Arr**	**66.92**	**111**	P	**P**	**23 44 16.6**	**+0.9**
	1.1nm,0.7s,baz=287,slow=5.9,SNR=6.5						
WRAB	**Tennant Creek**	**66.93**	**111**	eP	**P**	**23 44 16.7**	**+1.0**
	1.2nm,0.5s						
ASAR	**Alice Springs**	**66.99**	**115**	P	**P**	**23 44 17.4**	**+1.3**
	0.7nm,0.6s,baz=287,slow=6.3,SNR=5.6						
YKA	**Yellowknife Ar**	**119.78**	**1**	PKP	**PKPdf**	**23 52 12.4**	**-0.2**
	0.2nm,0.8s,baz=360,slow=3.0,SNR=5.7						
YKB5	**Yellowknife Ar**	**119.78**	**1**	ePKPdf	**PKPdf**	**23 52 12.4**	**-0.2**
PDAR	**Pinedale Array**	**139.52**	**357**	PKP	**PKPdf**	**23 52 50.4**	**-0.6**
	0.3nm,0.7s,baz=46,slow=5.4,SNR=2.4						
MNTX	**Cornudas Mount**	**149.99**	**349**	ePKPbc	**PKPbc**	**23 53 12.9**	**-1.0**
TUC	**Tucson**	**150.00**	**358**	ePKPdf	**PKPdf**	**23 53 08.7**	**-0.4**
TUC				ePKPbc	**PKPbc**	**23 53 13.8**	**-0.2**
TXAR	**Lajitas Array**	**151.88**	**345**	PKPbc	**PKPbc**	**23 53 17.7**	**-0.8**
	0.4nm,0.9s,baz=48,slow=1.9,SNR=3.5						

*ISCJB **08** 23:34:18.6±0.9, 2°.0S±0°.2×68°.0E±0°.2, h15km, mb4.0/8, Error ellipse: s-maj=25.6km s-min=22.4km az=37.4*
*IDC **08** 23:34:18.2±1.1, 2°.10S×67°.99E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.7/60, mbtmp4.0/8, Error ellipse: s-maj=30.2km s-min=28.3km az=109.0*
ISC 08 23:34:20.5±1.0**,2°.1S**±0°.2×**68°.0E**±0°.2**,h15km,n9,**σ**0s.58**/9**, mb4.1**/8**,Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**36.69**	**55**	P	**P**	**23 41 27.8**	**+0.6**
	0.8nm,0.5s,baz=248,slow=11,SNR=5.4						
LSZ	**Lusaka**	**41.35**	**249**	P	**P**	**23 42 06.7**	**+0.3**
	1.6nm,0.3s,baz=56,slow=11,SNR=2.7						
MKAR	**Makanchi Array**	**50.28**	**13**	P	**P**	**23 43 15.9**	**-0.5**
	0.7nm,0.8s,baz=184,slow=8.2,SNR=2.7						
KURBB	**Kurchatov Arra**	**53.28**	**8**	P	**P**	**23 43 38.6**	**-0.1**
	2.3nm,0.9s,baz=202,slow=7.7,SNR=4.8						
ZALV	**Zalesovo Beam**	**57.58**	**12**	P	**P**	**23 44 08.6**	**-1.0**
	0.7nm,0.5s,baz=226,slow=7.8,SNR=2.2						
SONM	**Songino Array**	**59.95**	**29**	P	**P**	**23 44 26.8**	**+0.4**
	2.6nm,1.1s,baz=224,slow=6.5,SNR=4.4						
WRA	**Warramunga Arr**	**67.10**	**111**	P	**P**	**23 45 13.7**	**-0.4**
	3.4nm,1.0s,baz=286,slow=6.2,SNR=4.6						
ASAR	**Alice Springs**	**67.16**	**115**	P	**P**	**23 45 14.2**	**-0.2**
	1.3nm,0.9s,baz=276,slow=6.2,SNR=4.2						
TXAR	**Lajitas Array**	**151.76**	**344**	PKPbc	**PKiKP**	**23 54 15.8**	**-0.1**
	0.9nm,0.8s,baz=104,slow=1.9,SNR=4.1						

IDC 08 23:36:09.7±3.6**, 2°.25S×67°.83E, h0km, mb3.8**/8**, mb1 3.9**/8**, mb1mx3.6**/56**, mbtmp3.8**/8**, Error ellipse: s-maj=100.9km s-min=27.9km az=65.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**36.89**	**55**	P	P	23 43 20.3	-0.1
	0.6nm,0.4s,baz=247,slow=11,SNR=2.3						
AAK	**Ala-Archa**	**45.08**	**7**	P	P	23 44 27.9	+0.1
	1.8nm,0.8s,baz=191,slow=10,SNR=3.6						
MKAR	**Makanchi Array**	**50.47**	**13**	P	P	23 45 09.9	+0.5
	0.6nm,0.8s,baz=195,slow=8.6,SNR=2.2						
KURBB	**Kurchatov Arra**	**53.46**	**8**	P	P	23 45 31.0	-0.5
	0.7nm,0.5s,baz=200,slow=8.1,SNR=4.7						
ZALV	**Zalesovo Beam**	**57.76**	**12**	P	P	23 46 02.2	-0.3
	0.6nm,0.5s,baz=212,slow=5.1,SNR=3.5						
SONM	**Songino Array**	**60.16**	**29**	P	P	23 46 19.3	-0.1
	1.6nm,1.0s,baz=221,slow=5.9,SNR=4.1						
WRA	**Warramunga Arr**	**67.17**	**111**	P	P	23 47 05.9	-0.2
	1.2nm,0.7s,baz=289,slow=5.7,SNR=5.1						
ASAR	**Alice Springs**	**67.22**	**115**	P	P	23 47 06.8	+0.4
	0.6nm,0.6s,baz=279,slow=6.5,SNR=2.5						

*IDC **08** 23:36:37.8±5.5, 23°.57S×179°.24E, h532km±62km, mb3.1/7, mb1 3.3/8, mb1mx3.1/37, mbtmp4.1/8, Error ellipse: s-maj=42.4km s-min=30.5km az=3.0*

*ISCJB **08** 23:36:38.6±1.0, 23°.66S±0°.09×179°.2E±0°.2, h555km, mb3.6/7, Error ellipse: s-maj=21.7km s-min=12.5km az=178.3*

ISC 08 23:36:39.1±0.9**, 23°.8S**±0°.1×**179°.3E**±0°.2**, h555km, n13,** σ**0s.83**/14**, mb3.8**/7**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.50**	**187**	P	**P**	**23 39 43.0**	**-0.1**
	0.7nm,0.3s,baz=5.9,slow=9.2,SNR=5.0						
URZ				S	**S**	**23 42 13.9**	**-0.9**
	0.3nm,0.3s,baz=225,slow=14,SNR=3.6						
CTA	**Charters Tower**	**30.79**	**270**	P	**P**	**23 42 10.7**	**+0.5**
	1.2nm,0.3s,baz=99,slow=11,SNR=11						
STKA	**Stephens Creek**	**34.11**	**248**	P	**P**	**23 42 39.1**	**+0.9**
	2.0nm,0.5s,baz=95,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**41.37**	**261**	P	**P**	**23 43 37.9**	**+0.5**
	0.4nm,0.3s,baz=92,slow=7.0,SNR=5.4						
WRA	**Warramunga Arr**	**41.72**	**266**	P	**P**	**23 43 40.1**	**-0.2**
	0.4nm,0.5s,baz=90,slow=5.8,SNR=29						
MJAR	**Matsushiro Arr**	**71.45**	**326**	P	**P**	**23 47 02.5**	**-1.4**
	2.1nm,0.7s,baz=172,slow=6.2,SNR=5.3						
PETK	**Petropavlovsk-**	**78.87**	**347**	P	**P**	**23 47 44.1**	**-0.7**
	3.3nm,0.7s,baz=142,slow=7.3,SNR=3.2						
TXAR	**Lajitas Array**	**90.98**	**58**	P	**P**	**23 48 46.1**	**+1.4**
	0.2nm,0.8s,baz=218,slow=5.7,SNR=3.3						
ARCES	**ARCESS Array B**	**131.67**	**348**	PKP	**PKPdf**	**23 54 47.9**	**-0.6**
	4.2nm,0.9s,baz=62,slow=2.1,SNR=3.5						
FINES	**FINESS Array B**	**138.15**	**341**	PKP	**PKPdf**	**23 55 01.3**	**+0.6**
	2.6nm,1.0s,baz=150,slow=1.5,SNR=4.0						
AKASG	**Malin Array Be**	**144.53**	**327**	PKP	**PKPdf**	**23 55 11.9**	**-0.5**
	0.9nm,0.5s,baz=46,slow=4.6,SNR=9.4						
BRTR	**Keskin Array B**	**146.98**	**307**	PKPbc	**PKPbc**	**23 55 19.9**	**-0.2**
	0.9nm,0.8s,baz=348,slow=1.6,SNR=5.1						
GERES	**GERESS Array B**	**152.55**	**339**	PKPbc	**PKPbc**	**23 55 33.1**	**+0.2**
	0.3nm,0.6s,baz=19,slow=3.3,SNR=3.5						

IDC 08 23:36:39.4±8.5**, 2°.84S×67°.64E, h0km, mb3.8**/5**, mb1 3.9**/5**, mb1mx3.5**/56**, mbtmp3.8**/5**, Error ellipse: s-maj=269.7km s-min=27.5km az=67.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**51.08**	**13**	P	P	23 45 43.5	-0.3
	0.8nm,0.8s,baz=189,slow=8.3,SNR=3.2						
KURBB	**Kurchatov Arra**	**54.06**	**9**	P	P	23 46 05.6	-0.1
	1.3nm,0.7s,baz=207,slow=6.9,SNR=3.8						
SONM	**Songino Array**	**60.76**	**29**	P	P	23 46 53.4	+0.1
	1.4nm,0.9s,baz=233,slow=6.8,SNR=3.3						
WRA	**Warramunga Arr**	**67.15**	**110**	P	P	23 47 35.9	+0.1
	0.4nm,0.6s,baz=287,slow=5.9,SNR=3.3						
ASAR	**Alice Springs**	**67.16**	**114**	P	P	23 47 35.7	-0.1
	0.5nm,0.6s,baz=286,slow=6.0,SNR=3.7						

IDC 08 23:37:59.5±1.1**, 2°.02S×68°.07E, h0km, mb4.0**/8**, mb1 4.0**/8**, mb1mx3.6**/55**, mbtmp4.0**/8**, Error ellipse: s-maj=30.4km s-min=25.0km az=83.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**41.47**	**249**	P	P	23 45 48.6	-0.1
	2.1nm,0.4s,baz=76,slow=8.3,SNR=5.7						
AAK	**Ala-Archa**	**44.83**	**7**	P	P	23 46 16.8	+1.2
	1.8nm,0.8s,baz=198,slow=9.6,SNR=3.7						
MKAR	**Makanchi Array**	**50.20**	**13**	P	P	23 46 57.0	-0.2
	0.6nm,0.8s,baz=181,slow=8.3,SNR=4.4						
KURBB	**Kurchatov Arra**	**53.20**	**8**	P	P	23 47 18.4	-1.0
	2.8nm,1.0s,baz=206,slow=7.3,SNR=6.5						
ZALV	**Zalesovo Beam**	**57.49**	**12**	P	P	23 47 49.9	-0.4
	1.1nm,0.5s,baz=216,slow=7.1,SNR=4.9						
SONM	**Songino Array**	**59.84**	**29**	P	P	23 48 07.3	+0.2
	1.2nm,0.8s,baz=228,slow=5.9,SNR=4.8						
WRA	**Warramunga Arr**	**67.03**	**111**	P	P	23 48 54.6	-0.5
	0.9nm,0.6s,baz=287,slow=6.0,SNR=6.5						
ASAR	**Alice Springs**	**67.11**	**115**	P	P	23 48 56.0	+0.5
	0.5nm,0.7s,baz=284,slow=6.3,SNR=6.3						

*BJI **08** 23:38:36.1, 2°.66S×67°.64E, h10km, mb4.7/40, mB5.0/31, Ms4.8/23, Ms7 4.6/23*

*MOS **08** 23:38:41.9±1.2, 1°.96S×67°.95E, h10km, mb4.9/36, Error ellipse: s-maj=9.3km s-min=6.0km az=94.5*

*IDC **08** 23:38:41.9±0.5, 2°.06S×68°.00E, h0km, mb4.4/28, mb1 4.4/28, mb1mx4.3/54, mbtmp4.4/28, MS4.4/1, Ms1 4.4/1, ms1mx3.3/20, Error ellipse: s-maj=15.1km s-min=12.6km az=167.0*

*ISCJB **08** 23:38:42.1±0.3, 2°.09S±0°.05×67°.93E±0°.04, h15km, mb4.6/103, Error ellipse: s-maj=6.8km s-min=5.5km az=168.7*

*NEIC **08** 23:38:43.3±0.2, 2°.06S×67°.99E, h10km, mb4.7/31, Error ellipse: s-maj=5.5km s-min=5.0km az=169.0*

*GCMT **08** 23:38:48.3±0.5, 2°.01S±0°.03×68°.26E±0°.04, h13km, MW5.0/64, Moment Tensor Solution. s23,c27; s64,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.79±.12; $M_{\theta\theta}$1.42±.10; $M_{\phi\phi}$0.37±.10; $M_{r\theta}$3.06±.31; $M_{\theta\phi}$-0.52±.09; $M_{\phi r}$-2.08±.34; Best double couple: $M_0$4.07500×10^{16} NP1:ϕ_s303.00000°, δ78.00000°, λ-86.00000°. NP2: ϕ_s105.00000°, δ13.00000°, λ-108.00000°. Principal axes: T 3.9700, Plg33.0000°, Azm30.0000°; N 0.2100, Plg4.0000°, Azm122.0000°; P -4.1800, Plg57.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 23:38:44.3±0.4**, 2°.00S**±0°.07×**68°.00E**±0°.06**, h15km, n217,** σ**1s.19**/216**, mb4.7**/112**, 10C-1D, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**6.97**	**141**	*e*Pn	**Pn**	**23 40 26.3**	**+0.3**
DGAR	**Diego Garcia**	**6.97**	**141**	*e*P	**Pn**	**23 40 26.3**	**+0.3**
PALK	**Pallekele**	**15.67**	**54**	LR	LR	23 47 05.7	
	comp=Z,2μm,21.4s,baz=295,slow=32						
MRIV	**Mauritius Mete**	**20.88**	**209**	*e*P	**P**	**23 43 23.4**	**-2.7**
	11nm,1.1s						
POO	**Poona**	**21.19**	**16**	*e*P	**P**	**23 43 29.0**	**-0.5**
HYB	**Hyderabad**	**21.92**	**28**	*i* P	**P**	**23 43 37.0**	**-0.3**
KCSI	**Kotacane, Aceh**	**30.26**	**80**	P	P	23 45 01.2	+6.2
KMBO	**Kilima Mbogo**	**30.75**	**271**	P	**P**	**23 44 58.1**	**-1.5**
	2.2nm,1.0s,baz=45,slow=7.1,SNR=2.9						
KMBO	**Kilima Mbogo**	**30.75**	**271**	*e*P	**P**	**23 44 59.7**	**0.0**
	3.3nm,1.2s						
KMBO	**Kilima Mbogo**	**30.75**	**271**	*e*P	**P**	**23 44 59.7**	**0.0**
KMBO				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KOLN	**Koldanda**	**33.19**	**26**	*e*P	**P**	**23 45 22.1**	**+1.3**
	comp=Z,53nm,1.1s						
PYUN	**Piuthan**	**33.21**	**25**	*e*P	**P**	**23 45 22.1**	**+1.0**
	comp=Z,108nm,1.7s						
KULM	**Kulim**	**33.41**	**77**	*e*P	**P**	**23 45 22.2**	**-0.5**
	comp=Z,26nm,1.0s						
RAYN	**Ar Rayn**	**33.51**	**320**	*e*P	**P**	**23 45 24.0**	**+0.5**
	comp=Z,4.1nm,0.9s						
RAYN	**Ar Rayn**	**33.51**	**320**	*e*P	**P**	**23 45 24.0**	**+0.5**
RAYN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DMN	**Daman**	**33.73**	**28**	*e*P	**P**	**23 45 26.9**	**+1.3**
	comp=Z,73nm,0.9s						
DANN	**Dangsing**	**33.76**	**26**	*e*P	**P**	**23 45 26.6**	**+0.7**
	comp=Z,39nm,0.9s						
PKIN	**Phulchoki**	**33.84**	**28**	*e*P	**P**	**23 45 27.4**	**+0.8**
	comp=Z,55nm,1.4s						
RAMN	**Ramite**	**33.91**	**31**	*e*P	**P**	**23 45 28.9**	**+1.7**
	comp=Z,41nm,0.9s						
KKN	**Kakani**	**33.96**	**28**	*e*P	**P**	**23 45 28.8**	**+1.2**
	comp=Z,43nm,0.8s						
JIRN	**Jiri**	**34.29**	**29**	*e*P	**P**	**23 45 31.6**	**+1.0**
	comp=Z,50nm,1.0s						
GUN	**Gumba**	**34.35**	**29**	*e*P	**P**	**23 45 32.4**	**+1.3**
	comp=Z,118nm,1.0s						
SRDT	**SRDT**	**34.85**	**61**	P	P	23 45 41.7	+6.5
	comp=Z,11nm,1.5s,comp=Z,972nm						
UMPA	**Umpang Tak**	**35.45**	**58**	P	P	23 45 46.4	+6.0
	comp=Z,7.5nm,0.9s,comp=Z,1μm						
UTHA	**Uthaitani**	**35.65**	**60**	P	P	23 45 48.7	+6.6
	comp=Z,4.6nm,0.8s						
NIL	**Nilore**	**35.80**	**8**	*e*P	**P**	**23 45 44.4**	**+1.2**
NIL	**Nilore**	**35.80**	**8**	*e*P	**P**	**23 45 44.4**	**+1.2**
SHL	**Shillong**	**35.85**	**39**	*e*P	**P**	**23 45 45.9**	**+2.0**
	comp=Z,14nm,0.8s						
SHL	**Shillong**	**35.85**	**39**	*e*P	**P**	**23 45 45.9**	**+2.0**
SHL				pmax	pmax		
	comp=Z,14nm,0.8s						
KBL	**Kabul**	**36.36**	**1**	*e*P	**P**	**23 45 49.5**	**+1.3**
	comp=Z,17nm,1.0s						
KBL	**Kabul**	**36.36**	**1**	*e*P	**P**	**23 45 49.5**	**+1.3**
KBL				pmax	pmax		
	comp=Z,17nm,1.0s						
CM01	**Chiang Mai Arr**	**36.60**	**55**	*e*P	**P**	**23 45 50.5**	**+0.2**
CM31	**Chiang Mai Arr**	**36.61**	**55**	*e*P	**P**	**23 45 51.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**36.61**	**55**	P	**P**	**23 45 51.6**	**+1.4**
	comp=Z,2.1nm,0.9s,baz=246,slow=10,SNR=12						
SUKH	**Sukhothai**	**36.70**	**57**	P	P	23 45 57.9	+6.9
	comp=Z,5.1nm,1.0s						
CHTO	**Chiang Mai**	**36.79**	**54**	*e*P	**P**	**23 45 52.2**	**+0.4**
	comp=Z,11nm,0.8s						
CHTO	**Chiang Mai**	**36.79**	**54**	*e*P	**P**	**23 45 52.2**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,11nm,0.8s						
CHTO	**Chiang Mai**	**36.79**	**54**	P	**P**	**23 45 53.5**	**+1.7**
	comp=Z,64nm,0.9s						
CMMT	**Chiang Mai**	**36.79**	**54**	P	**P**	**23 45 53.4**	**+1.5**
	comp=Z,15nm,0.9s						
MBAR	**Mbarara**	**37.28**	**272**	P	**P**	**23 45 58.3**	**+2.1**
	comp=Z,3.0nm,0.2s,baz=65,slow=19,SNR=4.1						
MBAR	**Mbarara**	**37.28**	**272**	*e*P	**P**	**23 45 57.8**	**+1.5**
	comp=Z,2.3nm,0.7s						
MBAR	**Mbarara**	**37.28**	**272**	*e*P	**P**	**23 45 57.8**	**+1.5**
MBAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PBKT	**Sadao Pong**	**37.41**	**59**	P	**P**	**23 45 58.8**	**+1.7**
	comp=Z,18nm,1.0s						
UTTA	**Uttaradit**	**37.60**	**57**	P	P	23 46 06.8	+8.1
	comp=Z,2.1nm,0.9s						
CHAI	**Chaiyaphum**	**38.01**	**61**	P	**P**	**23 46 04.0**	**+1.8**
	comp=Z,11nm,0.8s						
LSA	**Lhasa**	**38.51**	**33**	*e*P	**P**	**23 46 07.8**	**+1.0**
	comp=Z,16nm,0.8s						
LSA	**Lhasa**	**38.51**	**33**	*e*P	**P**	**23 46 07.8**	**+1.0**
LSA				pmax	pmax		
	comp=Z,16nm,0.8s						
LEM	**Lembang**	**39.78**	**98**	P	**P**	**23 46 18.4**	**+1.2**
	comp=Z,16nm,0.5s,baz=298,slow=8.0,SNR=6.8						
LEM	**Lembang**	**39.78**	**98**	P	**P**	**23 46 18.4**	**+1.2**
NONG	**Nongkai**	**39.94**	**59**	P	P	23 46 24.2	+5.9
	comp=Z,0.6nm,0.9s						
SKNT	**Sakolnakorn**	**40.19**	**61**	P	P	23 46 27.6	+7.1
	comp=Z,13nm,2.0s						
GEYT	**Alibeck**	**40.77**	**348**	P	**P**	**23 46 26.6**	**+1.7**
	comp=Z,6.3nm,1.0s,baz=144,slow=8.4,SNR=11						
LSZ	**Lusaka**	**41.41**	**249**	P	**P**	**23 46 31.0**	**+0.3**
	comp=Z,19nm,0.9s,baz=72,slow=6.9,SNR=17						
LSZ	**Lusaka**	**41.41**	**249**	*e*P	**P**	**23 46 30.6**	**-0.1**
	comp=Z,15nm,0.8s						
LSZ	**Lusaka**	**41.41**	**249**	*e*P	**P**	**23 46 30.6**	**-0.1**
LSZ				pmax	pmax		
	comp=Z,15nm,0.8s						
KSH	**Kashi**	**41.96**	**9**	P	**P**	**23 46 32.8**	**-2.0**
KSH				pP	pP	23 46 37.2	-1.2
KSH				PcP	**PcP**	**23 48 27.5**	**-2.6**
KSH				S	**S**	**23 52 47.3**	**-5.7**
KSH				pmax	pmax		
	comp=Z,43nm,1.1s						
KSH				pmax	pmax		
	comp=Z,470nm,6.0s						
KSH				LR	LR		
	comp=Z,260nm,10.1s						
KSH				LR	LR		
	comp=Z,370nm,10.2s						
KSH				LR	LR		
	comp=Z,770nm,15.9s						
MATP	**Matopo**	**42.67**	**242**	P	**P**	**23 46 41.1**	**+0.1**
	comp=Z,5.6nm,1.0s,baz=62,slow=7.6,SNR=4.6						
KMI	**Kunming**	**43.13**	**49**	P	**P**	**23 46 45.8**	**+1.1**
KMI				pP	sP	23 46 51.2	+1.5
KMI				sP	pwP	23 46 55.0	+2.0
KMI				S	**S**	**23 53 09.7**	**-1.2**
KMI				SS	**SS**	**23 56 20.7**	**-3.1**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.5s						
KMI				pmax	pmax		
	comp=Z,190nm,3.8s						
KMI				LR	LR		
	comp=Z,160nm,19.6s						
KMI				LR	LR		
	comp=Z,340nm,19.6s						
KMI				LR	LR		
	comp=Z,410nm,19.6s						
NRN	**Naryn**	**43.83**	**9**	*e*P	**P**	**23 46 51.2**	**+1.0**
	comp=Z,17nm,0.9s						
NRN	**Naryn**	**43.83**	**9**	*e*P	**P**	**23 46 51.2**	**+1.0**
NRN				pmax	pmax		
	comp=Z,17nm,0.9s						
AML	**Almayashu**	**44.23**	**6**	P	P	23 47 07.0	+14
	SNR=5.8						
KZA	**Kyzart**	**44.36**	**8**	P	**P**	**23 46 57.0**	**+2.4**
	SNR=9.5						
UCH	**Uchtor**	**44.41**	**7**	P	**P**	**23 46 57.2**	**+2.1**
	SNR=9.2						
KDJ	**Kajisay**	**44.70**	**10**	*e*P	**P**	**23 46 58.1**	**+1.0**
	comp=Z,19nm,0.9s						
KDJ	**Kajisay**	**44.70**	**10**	*e*P	**P**	**23 46 58.1**	**+1.0**
KDJ				pmax	pmax		
	comp=Z,19nm,0.9s						
EKS2	**Erkin-Say**	**44.76**	**6**	P	**P**	**23 47 00.0**	**+2.6**
	SNR=12						
AAK	**Ala-Archa**	**44.81**	**7**	P	**P**	**23 47 00.1**	**+2.2**
	comp=Z,14nm,1.1s,baz=186,slow=7.8,SNR=12						
AAK	**Ala-Archa**	**44.81**	**7**	P	**P**	**23 47 00.1**	**+2.2**
	SNR=6.6						
AAK	**Ala-Archa**	**44.81**	**7**	*e*P	**P**	**23 46 58.7**	**+0.8**
	comp=Z,14nm,1.0s						
AAK	**Ala-Archa**	**44.81**	**7**	*ce*P	**P**	**23 46 59.2**	**+1.3**
AAK				pmax	pmax		
	comp=Z,30nm,1.7s						
KBK	**Karagaybulak**	**44.89**	**7**	P	**P**	**23 47 00.9**	**+2.4**
	SNR=12						
FRU	**Bishkek**	**45.02**	**7**	⇑*i*P	**P**	**23 46 59.0**	**-0.4**
FRU				pmax	pmax		
	comp=Z,70nm,2.0s						
TKM2	**Tokmak 2**	**45.23**	**8**	P	**P**	**23 47 03.0**	**+1.7**
	SNR=13						
USP	**Ospenovka**	**45.44**	**7**	P	**P**	**23 47 03.7**	**+1.0**
	SNR=5.4						
PDGK	**Podgornoye**	**46.29**	**12**	P	**P**	**23 47 11.7**	**+2.2**
PDGK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
LBTB	**Lobatse**	**46.83**	**237**	P	**P**	**23 47 14.6**	**+0.5**
	comp=Z,5.2nm,1.0s,baz=63,slow=8.5,SNR=4.0						
CD2	**Chengdu**	**47.21**	**43**	*e*P	**P**	**23 47 17.5**	**+0.7**
BOSA	**Boshof**	**48.56**	**233**	P	**P**	**23 47 28.2**	**+0.7**
	comp=Z,4.1nm,1.0s,baz=43,slow=5.7,SNR=4.5						
WMQ	**Urumqi**	**48.91**	**19**	P	**P**	**23 47 31.0**	**+1.2**
WMQ				pP	sP	23 47 35.4	+0.5
WMQ				sP	pwP	23 47 40.7	+2.7
WMQ				pmax	pmax		
	comp=Z,20nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,380nm,4.1s						
WMQ				LR	LR		
	comp=Z,1μm,17.5s						
WMQ				LR	LR		
	comp=Z,670nm,15.5s						
WMQ				LR	LR		
	comp=Z,1μm,24.7s						
MAKZ	**Makanchi**	**50.13**	**12**	*e*P	**P**	**23 47 39.4**	**+0.3**
	comp=Z,7.6nm,1.0s						
MK01	**Makanchi Array**	**50.17**	**13**	*e*P	**P**	**23 47 39.0**	**-0.4**
OTUK	**Ortayu**	**50.18**	**4**	P	**P**	**23 47 41.0**	**+1.6**
MK31	**Makanchi Array**	**50.19**	**13**	*e*P	**P**	**23 47 39.2**	**-0.3**
MK31	**Makanchi Array**	**50.19**	**13**	*e*P	**P**	**23 47 39.2**	**-0.3**
MKAR	**Makanchi Array**	**50.19**	**13**	P	**P**	**23 47 39.5**	**+0.1**
	comp=Z,3.2nm,1.0s,baz=190,slow=6.2,SNR=8.9						
GTA	**Gaotai**	**50.50**	**32**	⇑P	**P**	**23 47 42.4**	**+0.3**
GTA				pP	sP	23 47 47.2	0.0
GTA				sP	pwP	23 47 49.4	-1.0
GTA				PcP	**PcP**	**23 49 01.0**	**+0.9**
GTA				S	**S**	**23 54 57.5**	**+1.7**
GTA				SS	**SS**	**23 58 30.6**	**+0.5**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,170nm,7.9s						
GTA				LR	LR		
	comp=Z,350nm,18.1s						
GTA				LR	LR		
	comp=Z,290nm,17.1s						
GTA				LR	LR		
	comp=Z,700nm,19.4s						
LZH	**Lanzhou**	**50.51**	**38**	*e*P	**P**	**23 47 42.6**	**+0.3**
LZH				pP	sP	23 47 47.6	+0.2
LZH				sP	pwP	23 47 50.8	+0.2
LZH				PP	**PP**	**23 49 36.5**	**-1.7**
LZH				*e*S	**S**	**23 54 58.9**	**+2.8**
LZH				sS	sS	23 55 07.6	+5.1
LZH				pmax	pmax		
	comp=Z,29nm,1.3s						
LZH				pmax	pmax		
	comp=Z,110nm,5.4s						
LZH				LR	LR		
	comp=Z,2μm,16.0s						
LZH				LR	LR		
	comp=Z,2μm,14.6s						
LZH				LR	LR		
	comp=Z,2μm,17.6s						
KBZ	**Khabaz**	**50.78**	**337**	P	**P**	**23 47 45.1**	**+1.2**
	comp=Z,12nm,0.9s,baz=160,slow=6.6,SNR=12						
ENH	**Enshi**	**50.93**	**48**	*e*P	**P**	**23 47 45.3**	**-0.1**
	comp=Z,15nm,0.9s						
KIV	**Kislovodsk**	**51.06**	**337**	*e*P	**P**	**23 47 43.8**	**-2.4**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,66nm,17.0s						
ABKAR	**Akbulak array**	**51.52**	**353**	*e*P	**P**	**23 47 49.7**	**+0.3**
MPSI	**Mapaga**	**51.94**	**88**	P	P	23 47 58.9	+5.7
BRTR	**Keskin Array B**	**52.10**	**327**	P	**P**	**23 47 55.0**	**+0.9**
	comp=Z,2.5nm,1.0s,baz=144,slow=11,SNR=8.0						
XAN	**Xi'an**	**52.57**	**43**	P	**P**	**23 47 57.2**	**-0.4**
XAN				pmax	pmax		
	comp=Z,25nm,1.2s						
XAN				pmax	pmax		
	comp=Z,210nm,4.7s						
XAN	**Xi'an**	**52.57**	**43**	*e*P	**P**	**23 47 56.9**	**-0.7**
	comp=Z,29nm,0.8s						
XAN	**Xi'an**	**52.57**	**43**	*e*P	**P**	**23 47 56.9**	**-0.7**
XAN				pmax	pmax		
	comp=Z,29nm,0.8s						
KURBB	**Kurchatov Arra**	**53.19**	**8**	P	**P**	**23 48 02.5**	**+0.8**
	comp=Z,8.3nm,0.9s,baz=203,slow=7.8,SNR=17						
KURK	**Kurchatov**	**53.29**	**8**	*e*P	**P**	**23 48 02.5**	**0.0**
KURK	**Kurchatov**	**53.29**	**8**	*ce*P	**P**	**23 48 02.7**	**+0.2**
KURK				pmax	pmax		
	comp=Z,35nm,1.7s						
DGZ	**Jazzator, Alta**	**54.15**	**15**	*i* P	**P**	**23 48 09.2**	**+0.1**
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRVK	**Borovoye**	**54.89**	**2**	*e*P	**P**	**23 48 14.3**	**+0.2**
	comp=Z,5.2nm,1.0s						
BRVK	**Borovoye**	**54.89**	**2**	*i* P	**P**	**23 48 14.9**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZAA0	**Zalesovo Array**	**57.48**	**12**	*e*P	**P**	**23 48 32.8**	**+0.1**
	comp=Z,12nm,1.0s						
ZALV	**Zalesovo Beam**	**57.48**	**12**	P	**P**	**23 48 32.7**	**+0.1**
	comp=Z,7.1nm,1.0s,baz=215,slow=9.0,SNR=11						
ZALV	**Zalesovo Beam**	**57.48**	**12**	*e*P	**P**	**23 48 32.2**	**-0.5**
ZALV	**Zalesovo Beam**	**57.48**	**12**	*e*P	**P**	**23 48 32.2**	**-0.5**
VRH	**Novokhopyorsk**	**57.53**	**341**	*e*P	**P**	**23 48 32.6**	**-0.4**
VRH				pmax	pmax		
	comp=Z,10.0nm,1.4s						
NVS	**Novosibirsk**	**58.02**	**10**	*e*P	**P**	**23 48 36.8**	**+0.4**
NVS				pmax	pmax		
	comp=N,13nm,1.5s						
NVS				pmax	pmax		
	comp=Z,17nm,1.5s						
KNGR	**Kungurtug, Tuv**	**58.16**	**22**	*i* P	**P**	**23 48 38.8**	**+1.1**
HHC	**Hu-ho-hao-te**	**58.21**	**38**	*e*P	**P**	**23 48 40.3**	**+2.1**
HHC				pmax	pmax		
	comp=Z,17nm,1.0s						
HHC				pmax	pmax		
	comp=Z,85nm,6.1s						
VSR	**Storozhevoye**	**58.42**	**339**	*e*P	**P**	**23 48 37.6**	**-1.7**
VSR				pmax	pmax		
	comp=Z,20nm,1.4s						
ARU	**Arti**	**58.74**	**354**	*e*P	**P**	**23 48 41.6**	**+0.2**
	comp=Z,8.9nm,1.1s						
ARU	**Arti**	**58.74**	**354**	*d i*P	**P**	**23 48 39.5**	**-1.9**
ARU						23 50 48.1	
ARU				S	**S**	**23 56 45.8**	**+0.1**
ARU				pmax	pmax		
	comp=Z,13nm,1.3s						
NJ2	**Nanjing**	**58.84**	**50**	*e*P	**P**	**23 48 42.1**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SVE	**Sverdlovsk**	**58.94**	**355**	*e*P	**P**	**23 48 42.9**	**+0.1**
SVE				pmax	pmax		
	comp=Z,19nm,1.5s						
LPSR	**Galich'ya Gora**	**59.65**	**340**	*e*P	**P**	**23 48 47.3**	**-0.4**
LPSR				pmax	pmax		
	comp=Z,20nm,0.9s						
SONM	**Songino Array**	**59.86**	**29**	P	**P**	**23 48 50.7**	**+1.2**
	comp=Z,7.8nm,1.0s,baz=221,slow=7.4,SNR=16						
SONA1	**Songino Array**	**59.87**	**29**	*e*P	**P**	**23 48 49.8**	**+0.2**
ULN	**Ulaanbaatar**	**60.20**	**29**	*e*P	**P**	**23 48 51.9**	**0.0**
	comp=Z,5.9nm,1.4s						
ULN	**Ulaanbaatar**	**60.20**	**29**	*ce*P	**P**	**23 48 51.5**	**-0.4**
AKASG	**Malin Array Be**	**62.05**	**333**	P	**P**	**23 49 03.4**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=129,slow=5.6,SNR=7.5						
AKBB	**Malin Array Si**	**62.05**	**333**	*e*P	**P**	**23 49 04.0**	**-0.2**
	comp=Z,6.3nm,0.9s						
AKBB	**Malin Array Si**	**62.05**	**333**	*e*P	**P**	**23 49 04.0**	**-0.2**
AKBB				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KIEV	**Kiev**	**62.05**	**333**	*e*P	**P**	**23 49 03.9**	**-0.2**
	comp=Z,5.8nm,0.9s						
KIEV	**Kiev**	**62.05**	**333**	*e*P	**P**	**23 49 03.9**	**-0.2**
KIEV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
OBN	**Obninsk**	**62.51**	**340**	P	**P**	**23 49 06.2**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=215,slow=18,SNR=2.6						
OBN	**Obninsk**	**62.51**	**340**	*e*P	**P**	**23 49 04.4**	**-2.7**
OBN				*e*		23 49 42.9	
OBN				pmax	pmax		
	comp=Z,33nm,2.5s						
MOS	**Moscow**	**62.67**	**341**	*e*P	**P**	**23 49 07.8**	**-0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MOS				e		23 51 25.3	
MOS				e		23 57 31.7	
MOS				pmax	pmax		
	comp=Z,47nm,1.5s						
DIVS	Divibare	62.76	323	eP	P	23 49 08.9	-0.3
	comp=Z,5.4nm,1.1s						
SIJI	Sorong	63.25	90	P	P	23 49 12.2	-0.7
	comp=Z,2.4nm,0.4s,baz=341,slow=5.6,SNR=6.7						
FAKI	Fak Fak	64.19	92	eP	P	23 49 19.4	+0.2
	comp=Z,7.7nm,1.0s						
FAKI	Fak Fak	64.19	92	P	P	23 49 21.5	+2.4
PRGR	Permogore	65.74	348	eP	P	23 49 27.3	-0.9
PRGR				pmax	pmax		
	comp=Z,17nm,1.1s						
VYHS	Vyhne	65.87	327	eP	P	23 49 28.7	-0.7
KLMR	Klimovskoe	66.43	345	eP	P	23 49 31.2	-1.5
KLMR				pmax	pmax		
	comp=Z,30nm,1.1s						
KLMR	Klimovskoe	66.43	345	eP	P	23 49 31.2	-1.5
KLMR				AMP		23 49 34.2	
	comp=Z,30nm,1.1s						
ARSA	Arzberg	67.08	324	eP	P	23 49 37.1	-0.1
	comp=Z,2.3nm,1.2s						
WRA	Warramunga Arr	67.11	111	P	P	23 49 37.3	-0.6
	comp=Z,2.3nm,0.7s,baz=287,slow=5.8,SNR=11						
WRAB	Tennant Creek	67.11	111	eP	P	23 49 37.2	-0.7
	comp=Z,2.4nm,0.5s						
WRAB	Tennant Creek	67.11	111	ceP	P	23 49 36.3	-1.6
WRAB				pmax	pmax		
	comp=Z,17nm,1.7s						
WB2	Warramunga Arr	67.12	111	eP	P	23 49 36.9	-1.1
ASAR	Alice Springs	67.17	115	P	P	23 49 37.5	-0.8
	comp=Z,1.3nm,0.7s,baz=283,slow=6.0,SNR=9.2						
AS01	Alice Springs	67.22	115	eP	P	23 49 36.7	-1.9
CONA	Conrad Observa	67.24	325	eP	P	23 49 37.9	-0.3
	comp=Z,7.1nm,1.2s						
MORC	Moravsky Berou	67.28	327	eP	P	23 49 37.8	-0.6
	comp=Z,5.1nm,1.1s						
MORC	Moravsky Berou	67.28	327	eP	P	23 49 37.8	-0.6
MORC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MORC	Moravsky Berou	67.28	327	eP	P	23 49 37.4	-1.1
TOA0	Torodi Ar. Sit	67.45	285	eP	P	23 49 40.7	+0.5
TORD	Torodi Ar. Bea	67.45	285	P	P	23 49 40.5	+0.3
	comp=Z,1.9nm,1.1s,baz=96,slow=4.3,SNR=6.4						
KRUC	Moravsky	67.53	326	eP	P	23 49 39.0	-1.0
MOA	Molln	68.12	324	eP	P	23 49 43.2	-0.6
	comp=Z,4.5nm,1.1s						
PUL	Pulkovo	68.26	341	ceP	P	23 49 44.9	+0.6
PUL				pmax	pmax		
	comp=Z,37nm,0.6s						
ABTA	Abfaltersbach	68.64	323	eP	P	23 49 46.9	-0.2
	comp=Z,7.6nm,1.0s						
GERES	GERESS Array B	68.94	325	P	P	23 49 47.9	-1.1
	comp=Z,0.4nm,0.8s,baz=114,slow=6.4,SNR=3.8						
WATA	Walderalm	69.48	323	eP	P	23 49 52.2	-0.2
	comp=Z,2.2nm,0.6s						
SYO	Syowa Base	69.57	191	⇑ePKiKP	PKiKP	23 56 05.9	-1.5
SQTA	Sankt Quirin	69.65	323	eP	P	23 49 52.9	-0.5
	comp=Z,5.4nm,1.1s						
MOTA	Moosalm	69.77	323	eP	P	23 49 53.9	-0.3
	comp=Z,5.5nm,1.0s						
BRG	Berggiesshubel	69.82	327	eP	P	23 49 54.5	+0.3
	comp=Z,3.4nm,1.1s						
BRG	Berggiesshubel	69.82	327	eP	P	23 49 54.5	+0.3
BRG				pmax	pmax		
	comp=Z,3.0nm,1.1s						
FETA	Feichten	69.85	322	eP	P	23 49 54.6	-0.1
	comp=Z,3.8nm,1.0s						
FUORN	Ofenpass-Fuorn	69.96	322	eP	P	23 49 55.0	-0.5
	comp=Z,5.7nm,0.9s						
BOD	Bodaibo	69.98	24	eP	P	23 49 54.6	-0.5
BOD				pmax	pmax		
	comp=Z,7.0nm,2.2s						
RETA	Reutte	70.04	323	eP	P	23 50 00.3	+4.6
	comp=Z,4.7nm,1.2s						
JOF	Joensuu	70.36	343	P	P	23 49 58.3	+1.0
JOF				pmax	pmax		
	comp=Z,22nm,1.3s						
DAVA	Damuels	70.49	322	eP	P	23 49 58.4	-0.2
	comp=Z,10nm,0.9s						
CLL	Collm	70.56	327	eP	P	23 49 59.0	+0.3
	comp=Z,9.0nm,1.1s						
CLL				e(sP)	sP	23 50 04.0	+0.1
CLL	Collm	70.56	327	eP	P	23 49 59.0	+0.3
CLL				e		23 50 04.0	
CLL				pmax	pmax		
	comp=Z,12nm,1.1s						
GRA1	Grafenberg Arr	70.78	325	eP	P	23 49 58.7	-1.4
	comp=Z,11nm,1.0s						
GRF	Grafenberg Arr	70.78	325	eP	P	23 49 58.7	-1.4
GRF				pmax	pmax		
	comp=Z,11nm,1.0s						
GRFO	Grafenberg	70.78	325	eP	P	23 49 58.8	-1.3
GRFO	Grafenberg	70.78	325	eP	P	23 49 58.8	-1.3
FINES	FINESS Array B	70.92	340	P	P	23 50 00.9	+0.3
	comp=Z,4.6nm,0.9s,baz=3.8,slow=2.9,SNR=6.7						
SENIN	Lac Senin/Sane	71.72	321	eP	P	23 50 05.4	-0.7
	comp=Z,5.2nm,0.8s						
BFO	Black Forest	71.88	323	eP	P	23 50 07.0	+0.2
	comp=Z,6.3nm,1.0s						
BFO	Black Forest	71.88	323	i P	P	23 50 07.9	+1.1
MMPI	Merauke	72.29	98	P	P	23 50 17.7	+7.8
DBIC	Dimbokro	73.22	278	P	P	23 50 15.4	-0.1
	comp=Z,6.3nm,1.0s,baz=80,slow=7.1,SNR=5.8						
MEM	Membach	74.20	324	⇑P	P	23 50 20.7	+0.2
	comp=Z,6.4nm,1.1s						
KLR	Kul'dur	74.72	38	P	P	23 50 22.3	-1.2
	comp=Z,1.2nm,0.7s,baz=265,slow=9.2,SNR=3.1						
NB2	NORSAR Subarra	76.34	335	P	P	23 50 32.4	-0.2
	comp=Z,1.3nm,0.8s,baz=110,slow=6.2						
NOA	NORSAR Array B	76.34	335	P	P	23 50 32.1	-0.5
	comp=Z,2.0nm,0.9s,baz=112,slow=6.0,SNR=5.7						
KONO	Kongsberg	76.34	334	ceP	P	23 50 31.0	-1.6
KONO				pmax	pmax		
	comp=Z,23nm,2.5s						
ES19	SONSECA Array	77.44	311	eP	P	23 50 39.5	+0.2
ESDC	Sonseca Array	77.48	311	P	P	23 50 40.2	+0.6
	comp=Z,2.9nm,0.9s,baz=89,slow=5.1,SNR=12						
PAB	San Pablo	77.74	311	eP	P	23 50 40.5	-0.5
	comp=Z,2.5nm,0.8s						
PAB	San Pablo	77.74	311	eP	P	23 50 40.5	-0.5
PAB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TIXI	Tiksi	83.03	16	P	P	23 51 08.4	-0.3
	comp=Z,5.5nm,0.8s,baz=268,slow=1.9,SNR=9.0						
BILL	Bilibino	94.94	22	eP	P	23 52 07.1	+1.3
BILL				ePPP	PPP	23 57 57.8	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
YKA	Yellowknife Ar	119.62	1	PKP	PKPdf	23 57 33.0	-0.4
	comp=Z,0.6nm,0.8s,baz=353,slow=2.3,SNR=7.1						
YKA				PP	PP	23 58 54.2	-0.8
	comp=Z,0.7nm,1.0s,baz=355,slow=7.2,SNR=8.4						
PDAR	Pinedale Array	139.35	357	PKhKP	PKPpre	23 58 08.6	
	comp=Z,0.3nm,0.7s,baz=276,slow=3.5,SNR=3.1						
DUG	Dugway, Tooele	141.97	1	ePKPdf	PKPdf	23 58 16.4	0.0
DUG	Dugway, Tooele	141.97	1	ePKIKP	PKPdf	23 58 16.4	0.0
NVAR	Mina Array Bea	143.28	8	PKP	PKPdf	23 58 17.7	-1.1
	comp=Z,0.7nm,0.9s,baz=28,slow=4.4,SNR=4.3						
PV13	Radium Mtn., P	143.89	356	ePKPdf	PKPdf	23 58 19.0	-0.9
MTPU	Mount Pierson	144.13	0	ePKPdf	PKPdf	23 58 19.6	-1.0
SZCU	Shurtz Canyon	144.56	1	ePKPdf	PKPdf	23 58 20.6	-0.5
CCUT	Cedar City	144.60	2	ePKPdf	PKPdf	23 58 20.9	-0.3
PKCU	Pink Cliffs	144.72	0	ePKPdf	PKPdf	23 58 21.3	-0.3
LCMT	Little Creek M	145.14	2	ePKPbc	PKPdf	23 58 22.7	+0.7
WMOK	Wichita Mounta	145.17	341	ePKPbc	PKPdf	23 58 21.9	-0.1
WMOK	Wichita Mounta	145.17	341	ePKIKP	PKPdf	23 58 21.9	-0.1
DAC	Darwin (Calif)	145.50	8	ePKPdf	PKPab	23 58 23.2	+0.3
DAC	Darwin (Calif)	145.50	8	ePKIKP	PKPab	23 58 23.2	+0.3
SHPR	Sheep Range	145.54	5	ePKPdf	PKPab	23 58 23.6	+0.6
U15A	North Rim	145.74	0	ePKPdf	PKPab	23 58 23.8	-0.1
OTAV	Otavalo	146.41	267	ePKPbc	PKPdf	23 58 25.8	+0.6
OTAV	Otavalo	146.41	267	ePKP2	PKPdf	23 58 25.8	+0.6
WUAZ	Wupatki	146.64	359	ePKPbc	PKPbc	23 58 26.4	+0.2
ANMO	Albuquerque	146.81	352	ePKPbc	PKPbc	23 58 26.4	-0.3
ANMO	Albuquerque	146.81	352	ePKP2	PKPbc	23 58 26.5	-0.3
X16A	Lo Mia Camp, P	147.74	359	ePKPbc	PKPbc	23 58 29.6	+0.3
MNTX	Cornudas Mount	149.80	349	ePKPbc	PKPbc	23 58 34.1	-0.4
TUC	Tucson	149.83	358	ePKPbc	PKPbc	23 58 34.9	+0.3
TUC	Tucson	149.83	358	ePKP2	PKPbc	23 58 34.9	+0.3
TX31	Lajitas Ar. Si	151.68	345	ePKPbc	PKPbc	23 58 39.0	-0.1
TXAR	Lajitas Array	151.68	345	PKPbc	PKiKP	23 58 39.7	+0.2
	comp=Z,2.7nm,0.9s,baz=48,slow=1.9,SNR=10						

*ISCJB **08** 23:40:40.9±0.7, 2°.0S±0°.1×68°.0E±0°.1, h15km, mb4.0/12, Error ellipse: s-maj=18.1km s-min=17.3km az=165.1*
*IDC **08** 23:40:40.7±0.9, 2°.08S×68°.04E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.6/53, mbtmp3.8/8, Error ellipse: s-maj=27.9km s-min=25.1km az=161.0*
*NEIC **08** 23:40:42.1±0.5, 2°.06S×68°.02E, h10km, mb4.1/5, Error ellipse: s-maj=14.2km s-min=12.8km az=147.0*
ISC 08 23:40:42.9±0.9, 2°.1S±0°.2×68°.0E±0°.1, h15km, n18, σ0.s56/18, mb4.0/12, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	Chiang Mai	36.82	54	eP	P	23 47 50.7	0.0
	1.2nm,0.5s						
LSA	Lhasa	38.57	33	eP	P	23 48 06.0	+0.1
	2.5nm,0.6s						
LSZ	Lusaka	41.40	249	P	P	23 48 29.3	+0.1
	1.2nm,0.3s,baz=39,slow=6.5,SNR=3.5						
LSZ	Lusaka	41.40	249	eP	P	23 48 28.8	-0.5
	2.6nm,0.6s						
AAK	Ala-Archa	44.90	7	eP	P	23 48 55.5	-1.7
	2.0nm,0.7s						
MKAR	Makanchi Array	50.27	13	P	P	23 49 38.2	-0.5
	0.9nm,0.9s,baz=193,slow=5.9,SNR=3.9						
KURBB	Kurchatov Arra	53.27	8	P	P	23 50 00.7	-0.3
	1.0nm,0.7s,baz=201,slow=7.6,SNR=3.0						
KURK	Kurchatov	53.37	8	eP	P	23 50 01.4	-0.3
ZALV	Zalesovo Beam	57.56	12	P	P	23 50 31.7	-0.1
	1.6nm,1.0s,baz=199,slow=11,SNR=2.0						
SONM	Songino Array	59.92	29	P	P	23 50 49.3	+0.8
	1.0nm,0.9s,baz=229,slow=5.9,SNR=2.2						
WRA	Warramunga Arr	67.06	111	P	P	23 51 36.4	+0.2
	1.0nm,0.6s,baz=290,slow=5.7,SNR=5.3						
WRAB	Tennant Creek	67.06	111	eP	P	23 51 35.8	-0.4
	2.1nm,0.6s						
ASAR	Alice Springs	67.12	115	P	P	23 51 36.4	-0.2
	0.7nm,0.5s,baz=284,slow=6.3,SNR=5.0						
TORD	Torodi Ar. Bea	67.50	285	P	P	23 51 39.3	+0.3
	0.8nm,1.1s,baz=108,slow=9.3,SNR=2.3						
CLL	Collm	70.64	327	eP	P	23 51 58.0	+0.2
PDAR	Pinedale Array	139.43	357	PKP	PKPdf	00 00 10.4	0.0
	0.3nm,0.7s,baz=118,slow=1.5,SNR=3.5						
MNTX	Cornudas Mount	149.89	349	ePKPbc	PKiKP	00 00 34.3	0.0
TXAR	Lajitas Array	151.77	345	PKPbc	PKiKP	00 00 38.7	+0.4
	0.8nm,0.9s,baz=48,slow=1.3,SNR=2.7						

*IDC **08** 23:42:48.7±1.0, 2°.06S×68°.05E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.7/52, mbtmp3.9/10, ML4.1/1, Error ellipse: s-maj=27.6km s-min=25.5km az=132.0*
*ISCJB **08** 23:42:55.0±0.6, 2°.36S±0°.10×67°.95E±0°.06, h11km, mb4.4/45, Error ellipse: s-maj=13.9km s-min=9.2km az=1.4*
*NEIC **08** 23:42:57.0±0.3, 2°.32S×68°.07E, h10km, mb4.6/24, Error ellipse: s-maj=8.5km s-min=7.1km az=165.0*
*GCMT **08** 23:43:00.0±0.3, 2°.07S±0°.02×67°.98E±0°.03, h19km±1km, MW5.0/87, Moment Tensor Solution. s29,c30; s87,c125; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.17±.26; $M_{\theta\theta}$2.73±.15; $M_{\phi\phi}$1.44±.16; $M_{r\theta}$1.42±.29; $M_{\theta\phi}$-1.42±.10; $M_{\phi r}$0.68±.40; Best double couple: $M_0$4.17000×10^{16} NP1:ϕ_s287.00000°,δ53.00000°,λ-108.00000°. NP2: ϕ_s136.00000°,δ41.00000°,λ-68.00000°. Principal axes: T 3.7380, Plg6.0000°, Azm30.0000°; N 0.8640, Plg14.0000°, Azm298.0000°; P -4.6020, Plg74.0000°, Azm144.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 08 23:42:57.3±0.7, 2°.4S±0°.1×67°.99E±0°.10, h11km, n84, σ1.s70/77, mb4.5/45, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	15.88	53	Pn	Pn	23 46 31.5	-9.5
	0.8nm,0.3s,baz=295,slow=6.6,SNR=3.7						
PALK	Pallekele	15.88	53	ePn	Pn	23 46 38.8	-2.2
	9.5nm,0.9s						
MDRS	Chennai	19.56	38	ex	P	23 47 26.7	+1.5
MDRS				ex	x	23 49 26.7	
HYB	Hyderabad	22.23	28	i P	P	23 47 52.0	-2.2
RAYN	Ar Rayn	33.78	321	eP	P	23 49 39.9	+0.5
	1.5nm,0.8s						
UMPA	Umpang Tak	35.64	58	P	P	23 50 02.9	+7.3
SHL	Shillong	36.13	38	eP	P	23 49 59.3	-0.6
	16nm,1.1s						
NIL	Nilore	36.15	7	eP	P	23 50 00.0	+0.3
KBL	Kabul	36.71	1	eP	P	23 50 05.3	+0.6
	9.5nm,1.0s						
CM01	Chiang Mai Arr	36.81	55	eP	P	23 50 06.1	+0.5
CM31	Chiang Mai Arr	36.82	55	eP	P	23 50 05.7	0.0
CMAR	Chiang Mai Arr	36.82	55	P	P	23 49 58.1	-7.5
	0.4nm,0.3s,baz=252,slow=11,SNR=1.0						
CHTO	Chiang Mai	37.00	54	eP	P	23 50 06.1	-1.1
	7.7nm,1.0s						
CHTO	Chiang Mai	37.00	54	P	P	23 50 08.8	+1.6
	38nm,0.9s						
CMMT	Chiang Mai	37.00	54	P	P	23 50 08.7	+1.5
	8.2nm,0.9s						
PBKT	Sadao Pong	37.60	59	P	P	23 50 15.7	+3.4
	7.6nm,0.9s,1µm						
CHAI	Chaiyaphum	38.19	60	P	P	23 50 20.2	+2.9
	6.8nm,1.1s						
LSA	Lhasa	38.81	33	eP	P	23 50 23.2	+0.3
	15nm,1.0s						
NONG	Nongkai	40.13	58	P	P	23 50 41.7	+8.2
	0.4nm,1.1s						
LSZ	Lusaka	41.28	249	P	P	23 50 38.0	-5.2
	3.6nm,0.7s,baz=73,slow=8.5,SNR=5.5						
LSZ	Lusaka	41.28	249	eP	P	23 50 44.4	+1.2
	11nm,0.9s						
KMI	Kunming	43.36	49	P	P	23 50 59.4	-0.8
KMI				pmax	pmax		
	comp=Z,7.0nm,1.4s						
NRN	Naryn	44.18	9	eP	P	23 51 05.8	-0.8
	10.0nm,1.0s						
AAK	Ala-Archa	45.16	7	eP	P	23 51 14.0	-0.3
	7.8nm,1.0s						
AAK				eS	S	23 57 52.7	-1.3
KK31	Karatay Array	45.30	3	eP	P	23 51 15.6	+0.4
KKAR	Karatay Array	45.30	3	eP	P	23 51 15.1	-0.1
WMQ	Urumqi	49.25	19	eP	P	23 51 48.4	+2.4
WMQ				LR	LR		
	comp=N,1µm,22.7s						
WMQ				LR	LR		
	comp=E,610nm,19.3s						
WMQ				LR	LR		
	comp=Z,1µm,23.7s						
MAKZ	Makanchi	50.48	12	eP	P	23 51 54.5	-0.8
	6.3nm,1.1s						
MK01	Makanchi Array	50.51	13	eP	P	23 51 55.0	-0.5
MK31	Makanchi Array	50.53	13	eP	P	23 51 55.0	-0.6
MKAR	Makanchi Array	50.53	13	P	P	23 51 46.8	-8.9
	0.7nm,0.8s,baz=198,slow=7.6,SNR=3.6						
MKAR	Makanchi Array	50.53	13	eP	P	23 51 55.6	-0.1
	14nm,0.9s						
LZH	Lanzhou	50.79	38	eP	P	23 52 00.3	+2.3
LZH				pP	pwP	23 52 04.7	+0.1
LZH				sP	sP	23 52 07.3	+5.8
LZH				pmax	pmax		
	comp=Z,17nm,1.4s						
LZH				LR	LR		
	comp=N,760nm,13.0s						
LZH				LR	LR		
	comp=E,480nm,10.6s						
LZH				LR	LR		
	comp=Z,420nm,14.4s						
GTA	Gaotai	50.80	32	eP	P	23 51 57.9	-0.1
GTA				pP	sP	23 52 02.4	+0.9
GTA				sP	pwP	23 52 04.9	+0.2
GTA				PcP	PcP	23 53 16.5	+1.7
GTA				S	S	23 59 13.2	-0.8
GTA				sS	sS	23 59 20.5	+2.5
GTA				SS	SS	00 02 46.0	-2.8
GTA				pmax	pmax		
	comp=Z,99nm,6.2s						
GTA				LR	LR		
	comp=N,170nm,15.5s						
GTA				LR	LR		
	comp=E,190nm,17.1s						
GTA				LR	LR		
	comp=Z,250nm,16.5s						
ENH	Enshi	51.17	47	eP	P	23 52 00.2	-0.6
	9.7nm,0.8s						
ABKAR	Akbulak array	51.87	353	eP	P	23 52 05.2	-0.4
XAN	Xi'an	52.83	43	P	P	23 52 13.0	-0.1
XAN				pP	sP	23 52 17.7	+1.1
XAN				pmax	pmax		
	comp=Z,26nm,0.9s						
XAN				pmax	pmax		
	comp=Z,170nm,4.3s						
XAN				LR	LR		
	comp=N,400nm,11.4s						
XAN				LR	LR		
	comp=E,230nm,5.0s						
XAN				LR	LR		
	comp=Z,200nm,9.2s						
XAN	Xi'an	52.83	43	eP	P	23 52 11.8	-1.3
	20nm,0.8s						
AKTO	Aktyubinsk	53.27	352	P	P	23 52 06.0	-10
	1.1nm,0.7s,baz=169,slow=9.0,SNR=3.7						
KURBB	Kurchatov Arra	53.54	8	P	P	23 52 08.8	-9.1
	2.1nm,0.9s,baz=202,slow=8.0,SNR=4.1						
KURK	Kurchatov	53.64	8	eP	P	23 52 17.9	-0.8
BRVK	Borovoye	55.24	2	eP	P	23 52 29.7	-0.6
	5.6nm,0.5s						
ZAA0	Zalesovo Array	57.83	12	eP	P	23 52 47.8	-0.9
	6.5nm,1.1s						
ZALV	Zalesovo Beam	57.83	12	P	P	23 52 39.0	-10
	0.6nm,0.6s,baz=224,slow=4.0,SNR=1.7						
ZALV	Zalesovo Beam	57.83	12	eP	P	23 52 47.1	-1.6
HHC	Hu-ho-hao-te	58.49	38	eP	P	23 52 55.0	+1.2
HHC				S	S	00 01 04.3	+7.0
HHC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,120nm,5.2s						
HHC				LR	LR		
	comp=N,300nm,16.4s						
HHC				LR	LR		
	comp=E,290nm,13.8s						
HHC				LR	LR		
	comp=Z,280nm,12.1s						
NJ2	Nanjing	59.07	50	eP	P	23 52 58.3	+0.5
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ARU	Arti	59.09	354	eP	P	23 52 56.6	-0.8
	4.0nm,0.5s						
SONM	Songino Array	60.17	29	P	P	23 52 56.9	-8.3
	1.4nm,0.8s,baz=224,slow=5.6,SNR=3.8						
SONA1	Songino Array	60.18	29	eP	P	23 53 04.8	-0.6
KIEV	Kiev	62.36	333	eP	P	23 53 19.0	-0.8
	1.7nm,0.5s						
KWP	Kalwaria Pacla	64.78	329	eP	P	23 53 36.5	+0.6
	21nm,0.9s						
BLY	Banja Luka	65.08	322	eP	P	23 53 39.3	+1.3
	3.3nm,1.0s						
VYHS	Vyhne	66.16	327	eP	P	23 53 44.0	-0.8
WRA	Warramunga Arr	66.99	111	P	P	23 53 43.7	-7.0
	1.2nm,0.8s,baz=289,slow=5.9,SNR=5.7						
WRAB	Tennant Creek	67.00	111	eP	P	23 53 50.6	-0.2
	2.5nm,0.6s						
WB2	Warramunga Arr	67.00	111	eP	P	23 53 49.3	-1.5
	5.5nm,1.0s						
ASAR	Alice Springs	67.03	115	P	P	23 53 44.5	-6.5
	0.7nm,0.6s,baz=282,slow=5.8,SNR=2.7						
AS01	Alice Springs	67.08	115	eP	P	23 53 51.3	0.0
TOA0	Torodi Ar. Sit	67.54	285	eP	P	23 53 53.9	-0.4
MOA	Molln	68.40	324	eP	P	23 53 58.6	-0.6
	1.8nm,0.5s						
SQTA	Sankt Quirin	69.92	323	P	P	23 54 08.7	0.0
	4.0nm,1.3s						
MOTA	Moosalm	70.04	323	P	P	23 54 08.4	-1.1
	1.7nm,0.8s						
FETA	Feichten	70.12	322	P	P	23 54 09.2	-0.8
	4.8nm,1.7s						
FUORN	Ofenpass-Fuorn	70.23	322	eP	P	23 54 10.5	-0.3
	4.4nm,0.9s						
RETA	Reutte	70.31	323	P	P	23 54 10.8	-0.2
	3.0nm,1.0s						
DAVA	Damuels	70.76	322	eP	P	23 54 13.3	-0.6
	4.1nm,0.8s						
CLL	Collm	70.84	327	eP	P	23 54 13.0	-1.1
	comp=Z,11nm,1.4s						
CLL				e		23 54 20.0	
CLL				ePP	PP	23 56 55.0	+3.8
GRFO	Grafenberg	71.06	325	eP	P	23 54 14.6	-0.8
	comp=Z,3.2nm,0.5s						
SENIN	Lac Senin/Sane	71.98	321	eP	P	23 54 21.0	-0.3
	comp=Z,4.9nm,0.8s						
TIXI	Tiksi	83.37	16	eP	P	23 55 23.2	-0.8
YKA	Yellowknife Ar	119.97	1	PKP	PKPdf	00 01 39.6	-8.1
	comp=Z,0.1nm,0.6s,baz=347,slow=1.7,SNR=2.2						
LPAZ	La Paz	132.87	245	ePKPdf	PKPdf	00 02 14.1	-0.3
PDAR	Pinedale Array	139.70	357	PKP	PKPdf	00 02 18.4	-7.5
	comp=Z,0.6nm,0.9s,baz=87,slow=3.7,SNR=2.4						
146A	Union	142.96	327	ePKPdf	PKPdf	00 02 32.9	+1.1
NVAR	Mina Array Bea	143.63	8	PKP	PKPab	00 02 26.9	-2.8
	comp=Z,0.4nm,0.8s,baz=284,slow=3.6,SNR=2.7						
PSUT	Pine Spring	143.95	2	ePKPdf	PKPdf	00 02 33.3	-0.3
SZCU	Shurtz Canyon	144.91	1	ePKPdf	PKPab	00 02 34.3	-0.1
LCMT	Little Creek M	145.49	2	ePKPdf	PKPab	00 02 37.3	+0.9
WMOK	Wichita Mounta	145.50	341	ePKPdf	PKPbc	00 02 36.2	0.0
DAC	Darwin (Calif)	145.85	8	ePKPdf	PKPdf	00 02 37.4	+0.4
MNTX	Cornudas Mount	150.15	349	ePKPdf	PKPdf	00 02 43.6	-0.4
MNTX				ePKPbc	PKPbc	00 02 49.0	+0.1
TX31	Lajitas Ar. Si	152.01	344	ePKPbc	PKPbc	00 02 52.3	-1.3
TXAR	Lajitas Array	152.01	344	PKPbc	PKPdf	00 02 46.2	-0.7
	comp=Z,0.4nm,0.7s,baz=90,slow=1.8,SNR=2.8						

*NEIC **08** 23:44:24.6±0.7, 2°.96S×67°.64E, h10km, mb4.5/13, Error ellipse: s-maj=17.1km s-min=11.0km az=214.0*
*IDC **08** 23:44:30.6±0.9, 2°.08S×68°.03E, h0km, mb4.2/12, mb1 4.3/12, mb1mx3.9/46, mbtmp4.2/12, Error ellipse: s-maj=25.7km s-min=22.1km az=42.0*
ISC 08 23:44:24.6±1.2, 3°.0S±0°.2×67°.7E±0°.2, h11km, n41, σ1.s22/37, mb4.4/27, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAYN	Ar Rayn	34.09	322	eP	P	23 51 08.4	-1.1
	1.5nm,0.9s						
NIL	Nilore	36.85	8	eP	P	23 51 31.9	-1.2
	11nm,1.0s						
KBL	Kabul	37.38	2	eP	P	23 51 37.8	0.0
	9.3nm,1.2s						
CM01	Chiang Mai Arr	37.46	54	eP	P	23 51 38.6	+0.1
CMAR	Chiang Mai Arr	37.47	54	P	P	23 51 40.0	+1.5
	2.3nm,0.9s,baz=246,slow=10,SNR=5.8						
CHTO	Chiang Mai	37.66	54	eP	P	23 51 39.7	-0.5
	3.4nm,0.8s						
XMIS	Christmas Isla	38.41	103	eP	P	23 51 47.1	+0.6
	67nm,1.0s						
LSA	Lhasa	39.55	33	eP	P	23 51 54.9	-1.5
	6.0nm,0.8s						
LSZ	Lusaka	40.74	250	P	P	23 52 20.0	+14
	2.9nm,0.6s,baz=55,slow=7.2,SNR=4.3						
GEYT	Alibeck	41.69	349	P	P	23 52 14.0	+0.5
	13nm,0.8s,baz=185,slow=5.4,SNR=3.7						
NRN	Naryn	44.89	9	eP	P	23 52 38.8	-0.8
	6.0nm,0.9s						
KZA	Kyzart	45.41	8	P	P	23 52 45.2	+1.3
	SNR=5.2						
UCH	Uchtor	45.46	7	P	P	23 52 45.3	+0.9
	SNR=5.1						
EKS2	Erkin-Say	45.80	6	P	P	23 52 48.2	+1.6
	SNR=8.7						
AAK	Ala-Archa	45.86	7	P	P	23 52 48.0	+0.9
	4.4nm,1.0s,baz=177,slow=10,SNR=3.5						
AAK	Ala-Archa	45.86	7	eP	P	23 52 47.0	-0.2
	7.6nm,1.1s						
KBK	Karagaybulak	45.94	7	P	P	23 52 49.0	+1.2
	SNR=7.2						
TKM2	Tokmak 2	46.29	8	P	P	23 52 51.2	+0.6
	SNR=9.6						
MAKZ	Makanchi	51.20	13	eP	P	23 53 26.9	-1.1
	4.0nm,1.0s						
MKAR	Makanchi Array	51.25	13	P	P	23 53 27.5	-0.9
	0.9nm,0.8s,baz=209,slow=8.9,SNR=4.0						
GTA	Gaotai	51.54	32	eP	P	23 53 31.3	+0.4
GTA				pP	sP	23 53 36.8	+1.1
GTA				sP	pP	23 53 40.0	+5.6
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KBZ	Khabaz	51.59	337	P	P	23 53 33.8	+2.9
	comp=Z,5.5nm,1.0s,baz=176,slow=8.4,SNR=3.7						
XAN	Xi'an	53.54	43	eP	P	23 53 45.1	-0.6
	comp=Z,14nm,1.0s						
AKTO	Aktyubinsk	53.89	352	P	P	23 53 49.0	+1.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,2.4nm,0.7s,baz=166,slow=7.5,SNR=5.7						
KURK	**Kurchatov**	**54.35**	**9**	*e*P	**P**	**23 53 51.4**	**+0.3**
BRVK	**Borovoye**	**55.92**	**2**	*e*P	**P**	**23 54 02.0**	**-0.5**
	comp=Z,4.7nm,0.8s						
ZAA0	**Zalesovo Array**	**58.55**	**12**	*e*P	**P**	**23 54 21.0**	**0.0**
	comp=Z,8.7nm,1.1s						
ZALV	**Zalesovo Beam**	**58.55**	**12**	P	**P**	**23 54 21.0**	**0.0**
	comp=Z,2.2nm,0.8s,baz=217,slow=7.0,SNR=4.8						
ZALV	**Zalesovo Beam**	**58.55**	**12**	*e*P	**P**	**23 54 20.9**	**-0.2**
SONM	**Songino Array**	**60.91**	**29**	P	**P**	**23 54 39.0**	**+1.4**
	comp=Z,3.1nm,1.0s,baz=224,slow=7.0,SNR=4.5						
SONA1	**Songino Array**	**60.92**	**29**	*e*P	**P**	**23 54 38.2**	**+0.4**
ULN	**Ulaanbaatar**	**61.25**	**29**	*e*P	**P**	**23 54 39.2**	**-0.8**
	comp=Z,0.6nm,0.5s						
ASAR	**Alice Springs**	**67.06**	**114**	P	P	23 55 26.1	+7.7
	comp=Z,1.1nm,0.7s,baz=281,slow=6.2,SNR=4.7						
WRA	**Warramunga Arr**	**67.06**	**110**	P	P	23 55 26.2	+7.6
	comp=Z,2.4nm,0.7s,baz=286,slow=6.1,SNR=6.2						
WRAB	**Tennant Creek**	**67.07**	**110**	*e*P	**P**	**23 55 18.8**	**+0.2**
	comp=Z,2.4nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**70.55**	**322**	*e*P	**P**	**23 55 39.7**	**-0.3**
	comp=Z,11nm,1.4s						
ESDC	**Sonseca Array**	**77.90**	**311**	P	P	23 56 28.2	+5.4
	comp=Z,0.5nm,0.7s,baz=99,slow=7.2,SNR=4.9						
X48A	**Hartselle**	**140.86**	**326**	*e*PKPdf	**PKPdf**	**00 03 55.9**	**+0.6**
DUG	**Dugway, Tooele**	**142.99**	**1**	*e*PKPdf	**PKPdf**	**00 03 58.7**	**-0.5**
MNTX	**Cornudas Mount**	**150.73**	**348**	*e*PKPab	**PKPab**	**00 04 24.2**	**-0.3**
TXAR	**Lajitas Array**	**152.56**	**343**	PKPbc	**PKPab**	**00 04 28.0**	**-4.3**
	comp=Z,1.3nm,0.9s,baz=29,slow=2.9,SNR=4.1						

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*IDC **08** 23:45:32.9±0.9, 2°.05S×68°.11E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.7/44, mbtmp4.0/8, Error ellipse: s-maj=28.7km s-min=26.7km az=177.0*
*ISCJB **08** 23:45:33.3±0.8, 2°.0S±0°.1×68°.1E±0°.1, h15km, mb4.1/13, Error ellipse: s-maj=18.8km s-min=16.5km az=172.0*
*NEIC **08** 23:45:34.4±0.4, 2°.05S×68°.11E, h10km, mb4.2/6, Error ellipse: s-maj=11.4km s-min=10.1km az=164.0*
ISC 08 23:45:35.2±0.9, **2°.1S**±0°.2×**68°.1E**±0°.1, **h15km, n20, σ0s.46**/20, **mb4.0**/13, **Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAYN	**Ar Rayn**	**33.62**	**320**	*e*P	**P**	**23 52 15.7**	**+0.2**
	1.0nm,0.8s						
CHTO	**Chiang Mai**	**36.73**	**54**	*e*P	**P**	**23 52 41.3**	**-1.0**
	1.9nm,0.7s						
LSA	**Lhasa**	**38.50**	**33**	*e*P	**P**	**23 52 58.2**	**+0.6**
	2.7nm,0.5s						
LSZ	**Lusaka**	**41.50**	**249**	P	**P**	**23 53 22.5**	**+0.1**
	3.6nm,0.6s,baz=66,slow=6.0,SNR=4.7						
LSZ	**Lusaka**	**41.50**	**249**	*e*P	**P**	**23 53 22.3**	**0.0**
	10nm,1.1s						
AAK	**Ala-Archa**	**44.86**	**7**	*e*P	**P**	**23 53 49.3**	**+0.1**
	3.5nm,0.9s						
MKAR	**Makanchi Array**	**50.22**	**13**	P	**P**	**23 54 31.1**	**+0.5**
	0.7nm,0.8s,baz=181,slow=8.5,SNR=2.4						
AKTO	**Aktyubinsk**	**53.00**	**352**	P	**P**	**23 54 51.1**	**-0.2**
	1.7nm,0.8s,baz=170,slow=9.9,SNR=3.6						
KURK	**Kurchatov**	**53.33**	**8**	*e*P	**P**	**23 54 53.7**	**0.0**
BRVK	**Borovoye**	**54.94**	**2**	*e*P	**P**	**23 55 05.0**	**-0.4**
	2.5nm,0.4s						
ZALV	**Zalesovo Beam**	**57.51**	**12**	P	**P**	**23 55 23.3**	**-0.5**
	0.8nm,0.5s,baz=211,slow=11,SNR=2.0						
SONM	**Songino Array**	**59.85**	**29**	P	**P**	**23 55 41.1**	**+0.7**
	1.6nm,0.9s,baz=231,slow=6.3,SNR=3.1						
WRA	**Warramunga Arr**	**66.98**	**111**	P	**P**	**23 56 27.9**	**-0.1**
	4.3nm,1.2s,baz=280,slow=5.8,SNR=4.2						
ASAR	**Alice Springs**	**67.05**	**115**	P	**P**	**23 56 28.9**	**+0.5**
	0.8nm,0.8s,baz=280,slow=6.5,SNR=2.2						
TORD	**Torodi Ar. Bea**	**67.58**	**285**	P	**P**	**23 56 31.9**	**+0.1**
	1.1nm,1.1s,baz=104,slow=6.1,SNR=3.3						
GRFO	**Grafenberg**	**70.89**	**325**	*e*P	**P**	**23 56 51.0**	**-0.7**
YKA	**Yellowknife Ar**	**119.67**	**1**	PKP	**PKPdf**	**00 04 23.9**	**-0.5**
	0.1nm,0.4s,baz=8.9,slow=1.5,SNR=3.0						
PDAR	**Pinedale Array**	**139.41**	**357**	PKP	**PKPdf**	**00 05 02.5**	**-0.2**
	0.3nm,0.7s,baz=47,slow=3.1,SNR=2.8						
MNTX	**Cornudas Mount**	**149.88**	**349**	*e*PKPbc	**PKPbc**	**00 05 25.9**	**+0.3**
TXAR	**Lajitas Array**	**151.76**	**345**	PKPbc	**PKPbc**	**00 05 30.4**	**+0.2**
	0.9nm,0.8s,baz=45,slow=0.1,SNR=3.9						

MAN 08 23:46:51.1, 9°.74N×126°.29E, h5km, mb4.3, ML3.1, MS2.8, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.79**	**273**	⇓*e*P	Pg	23 47 06.6	+0.2
SCPH				*e*S	Sb	23 47 18.3	-0.2
BUTP	**Butuan**	**1.01**	**221**	*e*P	Pg	23 47 10.3	-0.3
BUTP				*e*S	Sb	23 47 25.6	+0.8
MSLP	**Maasin**	**1.47**	**286**	*e*P	Pb	23 47 18.8	-0.1
MSLP				*e*S	Sb	23 47 37.9	+0.1
PLP	**Palo**	**1.92**	**318**	⇑*e*P	Pn	23 47 23.6	-0.8
PLP				*e*S	Sn	23 47 48.4	-0.5
BESP	**Borongan**	**2.03**	**336**	*e*P	Pn	23 47 25.5	-0.5
BESP				*e*S	Sg	23 47 57.0	+0.6
CGP	**Cagayan de Oro**	**2.03**	**231**	⇑*e*P	Pn	23 47 25.8	-0.2
CGP				*e*S	Sn	23 47 50.7	-1.1
BUKP	**Musuan**	**2.21**	**213**	*e*P	Pn	23 47 29.3	+0.7
BUKP				*e*S	Sb	23 47 58.0	-1.5
RCP	**Roxas**	**3.93**	**298**	⇑*e*P	Pn	23 47 54.1	+2.0

IDC 08 23:47:01.9±1.1, **2°.09S**×**68°.08E, h0km, mb3.9**/5, **mb1 4.0**/5, **mb1mx3.5**/44, **mbtmp3.9**/5, **Error ellipse: s-maj=34.3km s-min=31.5km az=157.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**41.45**	**249**	P	P	23 54 50.9	-0.1
	3.6nm,0.9s,baz=36,slow=14,SNR=4.3						
MKAR	**Makanchi Array**	**50.26**	**13**	P	P	23 55 59.5	-0.5
	0.7nm,0.9s,baz=190,slow=7.3,SNR=3.8						
SONM	**Songino Array**	**59.90**	**29**	P	P	23 57 10.3	+0.5
	1.2nm,0.9s,baz=208,slow=6.1,SNR=3.5						
WRA	**Warramunga Arr**	**67.00**	**111**	P	P	23 57 57.2	0.0
	1.1nm,0.8s,baz=289,slow=5.9,SNR=5.1						
ASAR	**Alice Springs**	**67.06**	**115**	P	P	23 57 57.6	0.0
	0.5nm,0.6s,baz=291,slow=6.0,SNR=2.2						
TXAR	**Lajitas Array**	**151.79**	**345**	PKPbc	PKPbc	00 06 59.4	-0.2
	0.3nm,0.6s,baz=27,slow=2.2,SNR=2.1						

IDC 08 23:48:22.0±2.3, **2°.24S**×**67°.92E, h0km, mb3.4**/4, **mb1 3.6**/4, **mb1mx3.3**/44, **mbtmp3.4**/4, **Error ellipse: s-maj=78.6km s-min=32.8km az=65.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**50.44**	**13**	P	P	23 57 20.6	-0.8
	0.2nm,0.7s,baz=193,slow=8.4,SNR=2.5						
SONM	**Songino Array**	**60.10**	**29**	P	P	23 58 31.8	+0.5
	0.2nm,0.4s,baz=232,slow=7.1,SNR=4.6						
WRA	**Warramunga Arr**	**67.09**	**111**	P	P	23 59 17.8	-0.1
	0.3nm,0.5s,baz=288,slow=5.8,SNR=6.8						
ASAR	**Alice Springs**	**67.15**	**115**	P	P	23 59 18.2	0.0
	0.3nm,0.5s,baz=278,slow=6.5,SNR=1.7						
TXAR	**Lajitas Array**	**151.89**	**344**	PKPbc	PKPbc	00 08 19.8	-0.1
	0.1nm,0.5s,baz=64,slow=2.1,SNR=2.7						

IDC 08 23:48:39.4±2.0, **2°.06S**×**68°.14E, h0km, mb3.7**/5, **mb1 4.0**/5, **mb1mx3.5**/43, **mbtmp3.7**/5, **Error ellipse: s-maj=63.0km s-min=29.5km az=63.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**36.53**	**55**	P	P	23 55 47.4	+0.3
	0.5nm,0.4s,baz=238,slow=5.2,SNR=1.5						
MKAR	**Makanchi Array**	**50.22**	**13**	P	P	23 57 37.2	-0.1
	0.6nm,0.8s,baz=183,slow=7.0,SNR=3.8						
ZALV	**Zalesovo Beam**	**57.52**	**12**	P	P	23 58 30.1	-0.4
	0.3nm,0.3s,baz=213,slow=10,SNR=2.7						
WRA	**Warramunga Arr**	**66.95**	**111**	P	P	23 59 34.5	0.0
	0.6nm,0.5s,baz=292,slow=5.7,SNR=8.8						
ASAR	**Alice Springs**	**67.02**	**115**	P	P	23 59 34.8	-0.1
	0.7nm,0.6s,baz=282,slow=6.7,SNR=4.5						
TXAR	**Lajitas Array**	**151.78**	**345**	PKPbc	PKPbc	00 08 37.1	+0.1
	0.7nm,0.9s,baz=46,slow=3.9,SNR=3.9						

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*ATH **08** 23:49:15.7, 39°.68N×25°.54E, h28km±2km, ML2.3/5, Error ellipse: s-maj=3.3km s-min=1.3km az=228.0*
*ISK **08** 23:49:15.7, 39°.68N×25°.56E, h8km, ML2.8/10*
*ISCJB **08** 23:49:16.3±0.4, 39°.69N±0°.02×25°.55E±0°.03, h8km±4km, Error ellipse: s-maj=4.0km s-min=3.3km az=33.3*
*THE **08** 23:49:16.4, 39°.68N×25°.57E, h8km±1km, ML2.2/6, Error ellipse: s-maj=1.5km s-min=0.6km az=186.0*
*DDA **08** 23:49:24.2, 39°.92N×26°.24E, h8km±6km, ML2.8*
ISC 08 23:49:16.4±0.9, **39°.69N**±0°.02×**25°.56E**±0°.02, **h13km**±9km, **n43, σ0s.53**/61, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.36**	**306**	P	**Pg**	**23 49 23.9**	**+0.3**
LIA				S	**Sg**	**23 49 28.9**	**+0.5**
LIA				AML	AML	23 49 29.9	
	comp=E,692μm,0.1s						
LIA				AML	AML	23 49 30.1	
	comp=N,779μm,0.2s						
LIA	**Limnos Island**	**0.36**	**306**	P	**Pg**	**23 49 23.8**	**+0.2**
LIA				S	**Sg**	**23 49 29.1**	**+0.6**
BOZC	**Bozcaada**	**0.41**	**68**	PG	**Pg**	**23 49 24.4**	**-0.3**
BOZC				SG	**Sg**	**23 49 30.4**	**+0.2**
BOZC	**Bozcaada**	**0.41**	**68**	*i* P	**Pb**	**23 49 25.2**	**-0.4**
BOZC				*i* S	**Sb**	**23 49 31.1**	**-0.6**
EFSA	**Agios Efstrati**	**0.46**	**252**	P	**Pb**	**23 49 26.6**	**+0.1**
EFSA				S	**Sb**	**23 49 32.9**	**-0.3**
SIGR	**SIGRI**	**0.53**	**154**	PG	**Pg**	**23 49 26.7**	**-0.1**
SIGR				SG	**Sg**	**23 49 33.4**	**-0.4**
SIGR	**SIGRI**	**0.53**	**154**	P	**Pg**	**23 49 26.2**	**-0.6**
SIGR				S	**Sg**	**23 49 33.6**	**-0.2**
SIGR				AML	AML	23 49 34.6	
	comp=N,1950μm,0.8s						
SIGR				AML	AML	23 49 34.6	
	comp=E,1405μm,0.7s						
SIGR	**SIGRI**	**0.53**	**154**	P	**Pg**	**23 49 26.2**	**-0.6**
SIGR				S	**Sg**	**23 49 33.8**	**0.0**
GADA	**Gvkgeada**	**0.57**	**28**	PG	**Pg**	**23 49 27.8**	**+0.3**
GADA	**Gvkgeada**	**0.57**	**28**	P	**Pg**	**23 49 27.5**	**0.0**
GADA				S	**Sb**	**23 49 36.0**	**-0.2**
EZN	**Ezine**	**0.61**	**77**	PG	**Pg**	**23 49 27.8**	**-0.5**
EZN	**Ezine**	**0.61**	**77**	P	**Pg**	**23 49 27.9**	**-0.4**
EZN				S	**Sg**	**23 49 36.3**	**-0.1**
PRK	**Paraskevi**	**0.71**	**128**	P	**Pb**	**23 49 30.8**	**+0.2**
PRK				S	**Sb**	**23 49 40.7**	**+0.4**
PRK				AML	AML	23 49 44.1	
	comp=N,645μm,0.3s						
PRK				AML	AML	23 49 45.9	
	comp=E,708μm,0.4s						
PRK	**Paraskevi**	**0.71**	**128**	P	**Pb**	**23 49 30.6**	**0.0**
PRK				S	**Sb**	**23 49 39.7**	**-0.6**
BAYC	**CANAKKALE_Bayr**	**0.77**	**86**	*i* P	**Pb**	**23 49 31.8**	**+0.2**
BAYC				IAML_P			
	comp=Z,4μm,0.1s						
SMTH	**Samothraki Isl**	**0.78**	**359**	P	**Pg**	**23 49 31.8**	**+0.2**
SMTH				S	**Sb**	**23 49 43.2**	**+0.7**
SMTH				AML	AML	23 49 44.7	
	comp=N,287μm,0.4s						
SMTH				AML	AML	23 49 46.0	
	comp=E,258μm,0.3s						
SMTH	**Samothraki Isl**	**0.78**	**359**	P	**Pg**	**23 49 31.8**	**+0.2**
SMTH				S	**Sb**	**23 49 42.6**	**+0.1**
AYVA	**Ayvalik**	**0.96**	**113**	*i* P	**Pb**	**23 49 35.1**	**+0.3**
AYVA				*i* S	**Sn**	**23 49 49.6**	**+0.6**
AYVA				IAML_P			
	comp=Z,872nm,0.2s						
GELI	**Tayfur-Gelibol**	**1.00**	**45**	PG	**Pg**	**23 49 35.4**	**-0.3**
THAS	**Thassos island**	**1.12**	**325**	P	**Pg**	**23 49 36.9**	**-1.1**
THAS				S	**Sg**	**23 49 51.6**	**-1.0**
THAS				AML	AML	23 49 53.7	
	comp=E,256μm,0.3s						
THAS				AML	AML	23 49 54.1	
	comp=N,287μm,0.3s						
THAS	**Thassos island**	**1.12**	**325**	P	**Pg**	**23 49 37.3**	**-0.7**
ENEZ	**Enez**	**1.14**	**23**	PN	**Pg**	**23 49 37.6**	**-0.8**
LPK	**Lapseki**	**1.15**	**53**	PN	**Pg**	**23 49 38.1**	**-0.5**
DKL	**Dikili**	**1.21**	**120**	PN	**Pb**	**23 49 39.4**	**+0.2**
ERIK	**Erikli-Kesan**	**1.23**	**36**	PN	**Pn**	**23 49 39.4**	**+0.1**
ALN	**Alexandroupoli**	**1.26**	**17**	PN	**Pn**	**23 49 40.2**	**+0.4**
ALN	**Alexandroupoli**	**1.26**	**17**	P	**Pn**	**23 49 39.3**	**-0.6**
ALN	**Alexandroupoli**	**1.26**	**17**	P	**Pn**	**23 49 39.2**	**-0.6**
ALN				S	**Sg**	**23 49 57.3**	**+0.1**
CHOS	**Chios island**	**1.36**	**163**	PN	**Pn**	**23 49 41.5**	**+0.4**
CHOS	**Chios island**	**1.36**	**163**	P	**Pn**	**23 49 40.3**	**-0.8**
OUR	**Ouranopolis**	**1.37**	**299**	PN	**Pn**	**23 49 41.7**	**+0.4**
AOS	**Alonnisos**	**1.40**	**249**	PN	**Pn**	**23 49 42.4**	**+0.8**
KESN	**Edirne-Kesan**	**1.43**	**37**	*i* P	**Pn**	**23 49 42.6**	**+0.2**
KESN				IAML_P			
	comp=Z,221nm,0.2s						
RDO	**Rodhopi**	**1.46**	**359**	PN	**Pn**	**23 49 42.7**	**+0.3**
RDO	**Rodhopi**	**1.46**	**359**	P	**Pn**	**23 49 41.7**	**-0.7**
RDO	**Rodhopi**	**1.46**	**359**	P	**Pn**	**23 49 42.1**	**-0.3**
KRBG	**Karabiga-Canak**	**1.51**	**62**	PN	**Pb**	**23 49 44.2**	**-0.1**
KAVA	**Kavala**	**1.53**	**329**	P	**Pn**	**23 49 42.8**	**-0.7**
KAVA	**Kavala**	**1.53**	**329**	P	**Pn**	**23 49 42.7**	**-0.7**
BALY	**Balya**	**1.59**	**87**	*i* P	**Pb**	**23 49 45.8**	**0.0**
BALY				*i* S	**Sb**	**23 50 06.6**	**+0.8**
BALY				IAML_P			
	comp=Z,575nm,0.1s						
STEP	**BALIKESIR_Sava**	**1.70**	**100**	*i* P	**Pb**	**23 49 47.6**	**0.0**
STEP				IAML_P			
	comp=Z,834nm,0.2s						
SBT4	**Kumbag-Tekirda**	**1.90**	**52**	PN	**Pn**	**23 49 49.0**	**+0.7**
KCTX	**Karacabey (Bur**	**2.23**	**74**	PN	**Pn**	**23 49 54.5**	**+1.4**

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*ISCJB **08** 23:49:34.6±0.5, 2°.13S±0°.08×68°.14E±0°.07, h15km, mb4.3/28, Error ellipse: s-maj=11.2km s-min=9.7km az=15.6*
*IDC **08** 23:49:34.4±0.7, 2°.11S×68°.11E, h0km, mb4.1/12, mb1 4.2/12, mb1mx3.9/41, mbtmp4.1/12, Error ellipse: s-maj=20.6km s-min=19.5km az=174.0*
*NEIC **08** 23:49:35.4±0.3, 2°.17S×68°.11E, h10km, mb4.5/16, Error ellipse: s-maj=8.9km s-min=7.5km az=205.0*
ISC 08 23:49:36.5±0.7, **2°.2S**±0°.1×**68°.1E**±0°.1, **h15km, n60, σ0s.85**/57, **mb4.3**/28, **Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.04**	**145**	T	T	23 55 56.3	
	baz=325,slow=75,SNR=4.1						
H08N3	**Diego Garcia H**	**5.06**	**146**	T	T	23 56 01.9	
	baz=325,slow=75,SNR=4.6						
H08N1	**Diego Carcia H**	**5.07**	**145**	T	T	23 55 58.0	
	baz=325,slow=75,SNR=4.1						
KMBO	**Kilima Mbogo**	**30.87**	**271**	*e*P	**P**	**23 55 53.2**	**+0.3**
	0.7nm,0.4s						
RAYN	**Ar Rayn**	**33.70**	**320**	*e*P	**P**	**23 56 17.3**	**0.0**
	2.1nm,0.9s						
NIL	**Nilore**	**35.94**	**7**	*e*P	**P**	**23 56 36.8**	**+0.3**
CM31	**Chiang Mai Arr**	**36.60**	**55**	*e*P	**P**	**23 56 42.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**36.60**	**55**	P	**P**	**23 56 44.0**	**+1.6**
	1.3nm,0.9s,baz=244,slow=10,SNR=6.6						
CHTO	**Chiang Mai**	**36.78**	**54**	*e*P	**P**	**23 56 43.8**	**-0.2**
	2.4nm,0.6s						
LSA	**Lhasa**	**38.57**	**33**	*e*P	**P**	**23 56 60.0**	**+0.5**
	4.1nm,0.6s						
GEYT	**Alibeck**	**40.94**	**348**	P	**P**	**23 57 19.9**	**+1.3**
	1.7nm,0.7s,baz=166,slow=8.2,SNR=4.4						
GAR	**Garm**	**41.00**	**3**	*e*P	**P**	**23 57 19.2**	**+0.1**
	34nm,1.1s						
LSZ	**Lusaka**	**41.47**	**249**	P	**P**	**23 57 24.1**	**+0.8**
	9.0nm,0.7s,baz=68,slow=7.3,SNR=13						
LSZ	**Lusaka**	**41.47**	**249**	*e*P	**P**	**23 57 23.4**	**+0.1**
	8.4nm,0.7s						
BTK	**Batken**	**42.08**	**3**	*e*P	**P**	**23 57 27.8**	**-0.1**
	10nm,1.0s						
AAK	**Ala-Archa**	**44.95**	**7**	P	**P**	**23 57 50.2**	**-0.9**
	2.3nm,0.9s,baz=183,slow=9.6,SNR=4.1						
AAK	**Ala-Archa**	**44.95**	**7**	*e*P	**P**	**23 57 51.3**	**+0.2**
	7.1nm,1.1s						
BOSA	**Boshof**	**48.57**	**233**	P	**P**	**23 58 20.0**	**+0.3**
	2.1nm,0.7s,baz=130,slow=16,SNR=3.2						
MAKZ	**Makanchi**	**50.26**	**12**	*e*P	**P**	**23 58 31.9**	**-0.2**
	5.2nm,1.4s						
MK31	**Makanchi Array**	**50.31**	**13**	*e*P	**P**	**23 58 32.8**	**+0.3**
MK32	**Makanchi Array**	**50.31**	**13**	*e*P	**P**	**23 58 32.0**	**-0.5**
MKAR	**Makanchi Array**	**50.31**	**13**	P	**P**	**23 58 32.0**	**-0.5**
	0.7nm,0.7s,baz=194,slow=7.0,SNR=3.7						
BR101	**Keskin Array S**	**52.30**	**327**	*e*P	**P**	**23 58 48.9**	**+1.1**
BRTR	**Keskin Array B**	**52.30**	**327**	P	**P**	**23 58 48.9**	**+1.1**
	1.6nm,1.0s,baz=124,slow=16,SNR=4.6						
XAN	**Xi'an**	**52.60**	**43**	*e*P	**P**	**23 58 50.1**	**+0.1**
	9.4nm,0.9s						
ISP	**Isparta**	**52.83**	**323**	*e*P	**P**	**23 58 51.3**	**-0.3**
	15nm,0.7s						
KURK	**Kurchatov**	**53.42**	**8**	*e*P	**P**	**23 58 52.9**	**-2.8**
BRVK	**Borovoye**	**55.04**	**2**	*e*P	**P**	**23 59 07.4**	**0.0**
ZAA0	**Zalesovo Array**	**57.61**	**12**	*e*P	**P**	**23 59 25.3**	**-0.4**
	8.2nm,1.1s						
ZALV	**Zalesovo Beam**	**57.61**	**12**	P	**P**	**23 59 23.9**	**-1.7**
	1.1nm,0.6s,baz=206,slow=6.3,SNR=5.4						
ZALV	**Zalesovo Beam**	**57.61**	**12**	*e*P	**P**	**23 59 24.9**	**-0.8**
ZAA1	**Zalesovo Array**	**57.61**	**12**	*e*P	**P**	**23 59 23.9**	**-1.8**
SONA0	**Songino Array**	**59.93**	**29**	*e*P	**P**	**23 59 43.2**	**+1.0**
SONM	**Songino Array**	**59.93**	**29**	P	**P**	**23 59 43.2**	**+1.0**
	2.6nm,1.0s,baz=226,slow=5.9,SNR=5.9						
SONA1	**Songino Array**	**59.94**	**29**	*e*P	**P**	**23 59 42.0**	**-0.3**
WRA	**Warramunga Arr**	**66.94**	**111**	P	**P**	**00 00 29.5**	**+0.6**
	2.0nm,0.6s,baz=287,slow=6.0,SNR=12						
WRAB	**Tennant Creek**	**66.95**	**111**	*e*P	**P**	**00 00 29.2**	**+0.1**
	2.9nm,0.6s						
WB2	**Warramunga Arr**	**66.95**	**111**	*e*P	**P**	**00 00 28.3**	**-0.7**
ASAR	**Alice Springs**	**67.00**	**115**	P	**P**	**00 00 29.9**	**+0.6**
	1.5nm,0.6s,baz=283,slow=6.3,SNR=11						
AS31	**Alice Springs**	**67.00**	**115**	*e*P	**P**	**00 00 28.8**	**-0.6**
	2.2nm,1.4s						
AS01	**Alice Springs**	**67.04**	**115**	*e*P	**P**	**00 00 29.4**	**-0.2**
CLL	**Collm**	**70.75**	**327**	*e*P	**P**	**00 00 51.0**	**-1.0**
	comp=Z,5.0nm,1.0s						
GRFO	**Grafenberg**	**70.97**	**325**	*e*P	**P**	**00 00 52.9**	**-0.5**
	comp=Z,5.0nm,0.7s						
SENIN	**Lac Senin/Sane**	**71.91**	**320**	*e*P	**P**	**00 00 59.4**	**-0.1**
	comp=Z,5.5nm,0.9s						
NB200	**NORSAR Array S**	**76.53**	**335**	*e*P	**P**	**00 01 25.1**	**-0.8**
NOA	**NORSAR Array B**	**76.53**	**335**	P	**P**	**00 01 25.1**	**-0.8**
	comp=Z,1.5nm,1.0s,baz=113,slow=5.8,SNR=3.2						
ES19	**SONSECA Array**	**77.63**	**311**	*e*P	**P**	**00 01 32.3**	**-0.2**
ESDC	**Sonseca Array**	**77.67**	**311**	P	**P**	**00 01 33.1**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=84,slow=5.4,SNR=5.3						
YKA	**Yellowknife Ar**	**119.77**	**1**	PKP	**PKPdf**	**00 08 24.9**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=358,slow=1.8,SNR=4.0						
YKB5	**Yellowknife Ar**	**119.77**	**1**	*e*PKPdf	**PKPdf**	**00 08 25.9**	**+0.1**
PD31	**Pinedale Array**	**139.51**	**357**	*e*PKPdf	**PKPdf**	**00 09 03.1**	**-1.0**
PDAR	**Pinedale Array**	**139.51**	**357**	PKP	**PKPdf**	**00 09 03.1**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=98,slow=2.1,SNR=4.7						
NV01	**Mina Array Sit**	**143.42**	**8**	*e*PKPdf	**PKPdf**	**00 09 09.9**	**-1.3**
NVAR	**Mina Array Bea**	**143.42**	**8**	PKP	**PKPdf**	**00 09 09.9**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=50,slow=1.4,SNR=3.1						
MTPU	**Mount Pierson**	**144.28**	**0**	*e*PKPdf	**PKPdf**	**00 09 13.1**	**+0.1**
WMOK	**Wichita Mounta**	**145.36**	**341**	*e*PKPbc	**PKPdf**	**00 09 14.7**	**+0.2**
WUAZ	**Wupatki**	**146.80**	**359**	*e*PKPbc	**PKPbc**	**00 09 18.0**	**-0.8**
MNTX	**Cornudas Mount**	**149.98**	**349**	*e*PKPbc	**PKPbc**	**00 09 27.8**	**+0.8**
TUC	**Tucson**	**149.98**	**358**	*e*PKPbc	**PKPbc**	**00 09 26.4**	**-0.8**
TXAR	**Lajitas Array**	**151.86**	**345**	PKPbc	**PKPbc**	**00 09 31.5**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=98,slow=1.8,SNR=5.9						

IDC 08 23:56:50.8±4.0, **2°.32S**×**67°.69E, h0km, mb3.7**/5, **mb1 3.8**/5, **mb1mx3.5**/43, **mbtmp3.7**/5, **Error ellipse: s-maj=99.9km s-min=40.8km az=65.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**37.05**	**55**	P	P	00 04 02.9	0.0
	0.5nm,0.3s,baz=246,slow=9.2,SNR=6.2						
MKAR	**Makanchi Array**	**50.57**	**13**	P	P	00 05 52.1	+0.9
	0.4nm,0.7s,baz=193,slow=5.9,SNR=3.9						
ZALV	**Zalesovo Beam**	**57.86**	**12**	P	P	00 06 43.5	-0.7
	0.9nm,0.8s,baz=210,slow=8.3,SNR=4.8						
SONM	**Songino Array**	**60.29**	**29**	P	P	00 07 01.1	-0.3
	1.3nm,1.1s,baz=221,slow=6.2,SNR=5.5						
ASAR	**Alice Springs**	**67.33**	**115**	P	P	00 07 48.2	0.0
	0.2nm,0.3s,baz=290,slow=6.3,SNR=2.0						

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*KNET **09** 00:04:58.5±0.2, 42°.08N×74°.79E, h14km±3km, ml2.2, Error ellipse: s-maj=2.5km s-min=1.5km az=18.0*
*KRNET **09** 00:04:59.3±0.1, 42°.07N×74°.80E, h16km, mb3.2*
*SOME **09** 00:04:59.5, 42°.05N×74°.80E, h15km*
*NNC **09** 00:04:59.8±0.5, 42°.11N×74°.78E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=3.7km s-min=2.7km az=164.0*
ISC 09 00:04:58.6±1.0, **42°.07N**±0°.02×**74°.80E**±0°.01, **h18km**±4km, **n93, σ1s.35**/160, **39C-29D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**0.27**	**307**	⇑P	**Pg**	**00 05 04.7**	**-0.3**
	94nm,0.2s,SNR=142						
UCH				⇓S	**Sg**	**00 05 08.7**	**-0.6**
	510nm,0.2s						
UCH	**Uchtor**	**0.27**	**307**	⇓*i*P	**Pg**	**00 05 04.7**	**-0.3**
	baz=6.0						
UCH				⇓*i*S	**Sg**	**00 05 08.7**	**-0.6**
	baz=6.0						
KZA	**Kyzart**	**0.33**	**88**	⇑P	**Pb**	**00 05 06.0**	**-0.3**
	105nm,0.2s,SNR=499						
KZA				⇓S	**Sb**	**00 05 11.9**	**+0.4**
	134nm,0.1s						
KZA	**Kyzart**	**0.33**	**88**	⇑*i*P	**Pb**	**00 05 06.0**	**-0.3**
	baz=89						
KZA				⇑*i*S	**Sb**	**00 05 11.1**	**-0.3**
	baz=89						
ARLS	**Aral**	**0.41**	**240**	⇑*i*P	**Pg**	**00 05 07.3**	**+0.1**
	baz=40						
ARLS				⇑*i*S	**Sg**	**00 05 12.9**	**-0.1**
	baz=40						
KBK	**Karagaybulak**	**0.60**	**10**	⇓P	**Pb**	**00 05 11.0**	**+0.4**
	176nm,0.1s,SNR=836						
KBK				⇑S	**Sb**	**00 05 19.4**	**+0.6**
	642nm,0.2s						
KBK	**Karagaybulak**	**0.60**	**10**	⇓*i*P	**Pb**	**00 05 11.0**	**+0.4**
	baz=11						
KBK				⇓*i*S	**Sb**	**00 05 19.3**	**+0.5**
	baz=11						
AAK	**Ala-Archa**	**0.61**	**338**	⇓P	**Pb**	**00 05 11.1**	**+0.2**
	48nm,0.2s,SNR=130						
AAK				⇓S	**Sb**	**00 05 19.4**	**+0.2**
	124nm,0.2s						
AAK	**Ala-Archa**	**0.61**	**338**	⇑P	**Pg**	**00 05 10.6**	**-0.3**
	20nm,0.3s						
AAK				⇑S	**Sg**	**00 05 19.2**	**+0.1**
	77nm,0.4s						
AAK	**Ala-Archa**	**0.61**	**338**	⇓*i*P	**Pb**	**00 05 11.0**	**+0.2**
	baz=38						
AAK				⇓*i*S	**Sb**	**00 05 19.4**	**+0.2**
	baz=38						
FRU1	**Bishkek**	**0.75**	**350**	⇑*i*P	**Pg**	**00 05 13.7**	**+0.3**
	baz=50						
FRU1				⇑*i*S	**Sg**	**00 05 23.7**	**+0.3**
	baz=50						
AML	**Almayashu**	**0.83**	**275**	⇑P	**Pg**	**00 05 15.1**	**+0.2**
	113nm,0.2s,SNR=334						
AML				⇓S	**Sg**	**00 05 26.5**	**+0.6**
	56nm,0.1s						
AML	**Almayashu**	**0.83**	**275**	⇑*i*P	**Pg**	**00 05 15.1**	**+0.2**
	baz=74						
AML				⇑*i*S	**Sg**	**00 05 26.5**	**+0.6**
	baz=74						
CHMS	**Chumysh**	**0.93**	**358**	⇓P	**Pn**	**00 05 16.9**	**0.0**
	21nm,0.1s,SNR=43						
CHMS				⇑S	**Sg**	**00 05 29.3**	**+0.3**
	40nm,0.1s						
CHMS	**Chumysh**	**0.93**	**358**	⇓*i*P	**Pn**	**00 05 16.9**	**0.0**
	baz=58						
CHMS				⇓*i*S	**Sg**	**00 05 29.4**	**+0.3**
	baz=58						
BOOM	**Boomskoye usch**	**0.94**	**63**	⇓*i*P	**Pn**	**00 05 17.0**	**-0.2**
	baz=63						
BOOM				⇓*i*S	**Sn**	**00 05 30.0**	**-0.3**
	baz=63						
EKS2	**Erkin-Say**	**0.96**	**308**	⇓P	**Pn**	**00 05 17.6**	**+0.2**
	6.2nm,0.1s,SNR=43						
EKS2				⇓S	**Sn**	**00 05 31.1**	**+0.4**
	54nm,0.2s						
EKS2	**Erkin-Say**	**0.96**	**308**	⇓*i*P	**Pn**	**00 05 17.6**	**+0.2**
	baz=8.0						
EKS2				⇓*i*S	**Sg**	**00 05 30.5**	**+0.4**
	baz=8.0						
TKM2	**Tokmak 2**	**1.04**	**34**	⇑P	**Pg**	**00 05 18.7**	**-0.1**
	12nm,0.1s,SNR=10						
TKM2	**Tokmak 2**	**1.04**	**34**	⇑P	**Pn**	**00 05 18.4**	**-0.1**
	3.6nm,0.2s						
TKM2				⇑S	**Sg**	**00 05 32.2**	**-0.2**
	46nm,0.5s						
TKM2	**Tokmak 2**	**1.04**	**34**	⇑*i*P	**Pn**	**00 05 18.5**	**0.0**
	baz=35						
TKM2				⇑*i*S	**Sg**	**00 05 32.2**	**-0.2**
	baz=35						
ULHL	**Ulahol**	**1.09**	**80**	P	**Pg**	**00 05 19.3**	**-0.4**
	23nm,0.1s,SNR=194						
ULHL	**Ulahol**	**1.09**	**80**	⇑*i*P	**Pg**	**00 05 19.3**	**-0.4**
	baz=80						

ULHL				⇑iS	Sn	00 05 33.8	0.0
	baz=80						
NRN	**Naryn**	**1.10**	**125**	⇑iP	**Pg**	**00 05 19.8**	**-0.2**
	baz=26						
NRN				⇑iS	**Sn**	**00 05 34.6**	**+0.3**
	baz=26						
USP	**Ospenovka**	**1.22**	**350**	⇓P	**Pg**	**00 05 22.1**	**-0.1**
	17nm,0.1s,SNR=66						
USP	**Ospenovka**	**1.22**	**350**	⇑iP	**Pg**	**00 05 22.1**	**-0.1**
	baz=50						
USP				⇑iS	**Sg**	**00 05 38.2**	**0.0**
	baz=50						
KST	**Kastek**	**1.30**	**41**	P	**Pg**	**00 05 23.4**	**-0.4**
	13nm,0.2s						
KST				S	**Sg**	**00 05 40.9**	**+0.2**
	33nm,0.3s						
KST	**Kastek**	**1.30**	**41**	eP	**Pg**	**00 05 23.4**	**-0.4**
	baz=41						
KST				eS	**Sg**	**00 05 40.9**	**+0.2**
	baz=41						
KST	**Kastek**	**1.30**	**41**	eP	**Pg**	**00 05 23.4**	**-0.4**
	13nm,0.2s						
KST				eS	**Sg**	**00 05 40.9**	**+0.2**
	33nm,0.3s						
MRKS	**Merke**	**1.35**	**301**	P	**Pg**	**00 05 24.3**	**-0.4**
	12nm,0.2s						
MRKS				S	**Sg**	**00 05 42.3**	**0.0**
	52nm,0.2s						
MRKS	**Merke**	**1.35**	**301**	eP	**Pg**	**00 05 24.3**	**-0.4**
	baz=0.0						
MRKS				eS	**Sg**	**00 05 42.3**	**0.0**
	baz=0.0						
MRKS	**Merke**	**1.35**	**301**	eP	**Pg**	**00 05 24.3**	**-0.4**
	12nm,0.2s						
MRKS				eS	**Sg**	**00 05 42.3**	**0.0**
	52nm,0.2s						
DGS	**Degeres**	**1.38**	**31**	P	**Pg**	**00 05 25.0**	**-0.2**
	8.7nm,0.3s						
DGS				S	**Sg**	**00 05 43.8**	**+0.7**
	47nm,0.3s						
DGS	**Degeres**	**1.38**	**31**	eP	**Pg**	**00 05 25.0**	**-0.2**
	baz=31						
DGS				eS	**Sg**	**00 05 43.8**	**+0.7**
	baz=31						
DGS	**Degeres**	**1.38**	**31**	eP	**Pg**	**00 05 25.0**	**-0.2**
	8.7nm,0.3s						
DGS				eS	**Sg**	**00 05 43.8**	**+0.7**
	47nm,0.3s						
SGDS	**Sogindy**	**1.39**	**355**	P	**Pg**	**00 05 25.0**	**-0.4**
	16nm,0.2s						
SGDS				S	**Sg**	**00 05 43.4**	**-0.2**
	29nm,0.2s						
ARSB	**Arslanbob**	**1.55**	**242**	⇑iP	**Pg**	**00 05 28.1**	**-0.4**
	baz=42						
ARSB				⇑iS	**Sg**	**00 05 49.1**	**+0.3**
	baz=42						
MTBS	**Maitube**	**1.60**	**48**	P	**Pg**	**00 05 29.2**	**-0.3**
	13nm,0.2s						
MTBS				S	**Sg**	**00 05 50.4**	**+0.1**
	31nm,0.3s						
MTBS	**Maitube**	**1.60**	**48**	eP	**Pg**	**00 05 29.2**	**-0.3**
	baz=48						
MTBS				eS	**Sg**	**00 05 50.5**	**+0.1**
	baz=48						
MTBS	**Maitube**	**1.60**	**48**	eP	**Pg**	**00 05 29.2**	**-0.3**
	13nm,0.2s						
MTBS				eS	**Sg**	**00 05 50.5**	**+0.1**
	31nm,0.3s						
IZV	**Izvestkoviy**	**1.65**	**54**	P	**Pg**	**00 05 30.2**	**-0.3**
	16nm,0.2s						
IZV				S	**Sg**	**00 05 52.2**	**+0.3**
	34nm,0.3s						
IZV	**Izvestkoviy**	**1.65**	**54**	eP	**Pg**	**00 05 30.2**	**-0.3**
	baz=54						
IZV				eS	**Sg**	**00 05 52.3**	**+0.3**
	baz=54						
IZV	**Izvestkoviy**	**1.65**	**54**	eP	**Pg**	**00 05 30.2**	**-0.3**
	16nm,0.2s						
IZV				eS	**Sg**	**00 05 52.2**	**+0.3**
	34nm,0.3s						
KDJ	**Kajisay**	**1.77**	**87**	⇑eP	**Pg**	**00 05 31.8**	**-0.9**
	baz=87						
KDJ				⇑iS	**Sg**	**00 05 55.1**	**-0.7**
	baz=87						
TNSS	**Tian-Shan**	**1.86**	**58**	P	**Pg**	**00 05 33.6**	**-0.8**
	13nm,0.3s						
TNSS				S	**Sg**	**00 05 58.4**	**-0.2**
	22nm,0.4s						
TNSS	**Tian-Shan**	**1.86**	**58**	eP	**Pg**	**00 05 33.6**	**-0.8**
	baz=58						
TNSS				eS	**Sg**	**00 05 58.4**	**-0.2**
	baz=58						
TNSS	**Tian-Shan**	**1.86**	**58**	eP	**Pg**	**00 05 33.6**	**-0.8**
	13nm,0.3s						
TNSS				eS	**Sg**	**00 05 58.4**	**-0.2**
	22nm,0.4s						
KNDC	**Almaty**	**1.97**	**54**	⇑Pn	**Pg**	**00 05 36.0**	**-0.5**
	13nm,0.4s						
KNDC				⇓Lg	Lg	00 06 06.2	
	16nm,0.2s						
MDOK	**Medeo**	**1.99**	**56**	Pn	**Pg**	**00 05 36.0**	**-0.9**
	5.3nm,0.3s						
MDOK				Lg	Lg	00 06 06.2	
	19nm,0.6s						
MDOK	**Medeo**	**1.99**	**56**	Pg	**Pg**	**00 05 35.9**	**-0.9**
	14nm,0.3s						
MDOK				Lg	Lg	00 06 02.4	
	38nm,0.4s						
MDOK	**Medeo**	**1.99**	**56**	eP	**Pg**	**00 05 35.9**	**-0.9**
	baz=56						
MDOK				eS	**Sg**	**00 06 02.3**	**-0.3**
	baz=56						
MDOK	**Medeo**	**1.99**	**56**	eP	**Pg**	**00 05 35.9**	**-0.9**
	14nm,0.3s						
MDOK				eS	**Sg**	**00 06 02.4**	**-0.3**
	38nm,0.4s						
KOTS	**Kotyrbulak**	**2.06**	**55**	Pg	**Pg**	**00 05 37.6**	**-0.7**
	24nm,0.3s						
KOTS				Lg	Lg	00 06 05.5	
	90nm,0.5s						
KOTS	**Kotyrbulak**	**2.06**	**55**	eP	**Pg**	**00 05 37.6**	**-0.7**
	baz=55						
KOTS				eS	**Sg**	**00 06 05.5**	**+0.3**
	baz=55						
KOTS	**Kotyrbulak**	**2.06**	**55**	eP	**Pg**	**00 05 37.6**	**-0.7**
	24nm,0.3s						
KOTS				eS	**Sg**	**00 06 05.5**	**+0.3**
	90nm,0.5s						
ARK	**Arkit**	**2.13**	**264**	⇓iP	**Pb**	**00 05 37.0**	**+0.2**
	baz=63						
ARK				⇓iS	**Sb**	**00 06 04.2**	**+1.2**
	baz=63						
KUU	**Kurty**	**2.15**	**31**	Pg	**Pg**	**00 05 39.1**	**-0.7**
	13nm,0.3s						
KUU				Lg	Lg	00 06 07.2	
	101nm,0.4s						
KUU	**Kurty**	**2.15**	**31**	eP	**Pg**	**00 05 39.1**	**-0.7**
	baz=31						
KUU				eS	**Sg**	**00 06 07.2**	**-0.5**
	baz=31						
KUU	**Kurty**	**2.15**	**31**	eP	**Pg**	**00 05 39.0**	**-0.7**
	13nm,0.3s						
KUU				eS	**Sg**	**00 06 07.2**	**-0.5**
	101nm,0.4s						
KTBS	**Karatobe**	**2.15**	**39**	Pg	**Pg**	**00 05 38.9**	**-0.9**
	12nm,0.3s						
KTBS				Lg	Lg	00 06 07.5	
	119nm,0.4s						
KTBS	**Karatobe**	**2.15**	**39**	eP	**Pg**	**00 05 38.9**	**-0.9**
	baz=36						
KTBS				eS	**Sg**	**00 06 07.5**	**-0.2**
	baz=36						
KTBS	**Karatobe**	**2.15**	**39**	eP	**Pg**	**00 05 38.9**	**-0.9**
	12nm,0.3s						
KTBS				eS	**Sg**	**00 06 07.5**	**-0.2**
	119nm,0.4s						
SFK	**Sufi-Kurgan**	**2.27**	**206**	⇑Pg	**Pg**	**00 05 41.4**	**-0.9**
	1.7nm,0.2s						
SFK				⇑Lg	Lg	00 06 12.3	
	8.3nm,0.3s						
SFK	**Sufi-Kurgan**	**2.27**	**206**	Pg	**Pg**	**00 05 41.5**	**-0.8**
	4.5nm,0.2s						
SFK				Lg	Lg	00 06 11.6	
	14nm,0.3s						
SFK	**Sufi-Kurgan**	**2.27**	**206**	⇑iP	**Pb**	**00 05 39.2**	**-0.1**
	baz=6.0						
SFK				⇑iS	**Sb**	**00 06 07.9**	**+0.7**
	baz=6.0						
CHKK	**Chushkaly**	**2.40**	**41**	Pg	**Pg**	**00 05 43.4**	**-1.3**
	12nm,0.4s						
CHKK				Lg	Lg	00 06 14.9	
	145nm,0.3s						
CHKK	**Chushkaly**	**2.40**	**41**	eP	**Pg**	**00 05 43.4**	**-1.3**
	baz=41						
CHKK				eS	**Sg**	**00 06 15.0**	**-0.9**
	baz=41						
CHKK	**Chushkaly**	**2.40**	**41**	eP	**Pg**	**00 05 43.4**	**-1.3**
	12nm,0.4s						
CHKK				eS	**Sg**	**00 06 14.9**	**-0.9**
	145nm,0.3s						
PRZ	**Przheval'sk**	**2.70**	**80**	⇓iP	**Pb**	**00 05 45.0**	**-1.6**
	baz=80						
PRZ				⇓iS	**Sb**	**00 06 18.4**	**-1.0**
	baz=80						
SATY	**Saty**	**2.84**	**68**	Pg	**Pg**	**00 05 51.5**	**-1.6**
	18nm,0.3s						
SATY				Lg	Lg	00 06 28.8	
	27nm,0.3s						
SATY	**Saty**	**2.84**	**68**	eP	**Pg**	**00 05 51.5**	**-1.6**
	18nm,0.3s						
SATY				eS	**Sg**	**00 06 28.8**	**-1.2**
	27nm,0.3s						
KURS	**Kuram**	**2.86**	**59**	Pg	**Pg**	**00 05 52.5**	**-0.9**
	14nm,0.6s						
KURS				Lg	Lg	00 06 30.2	
	16nm,0.4s						
KURS	**Kuram**	**2.86**	**59**	eP	**Pg**	**00 05 52.5**	**-0.9**
	baz=59						
KURS				eS	**Sg**	**00 06 30.2**	**-0.3**
	baz=59						
KURS	**Kuram**	**2.86**	**59**	eP	**Pg**	**00 05 52.5**	**-0.9**
	14nm,0.6s						
KURS				eS	**Sg**	**00 06 30.2**	**-0.3**
	16nm,0.4s						
ARXS	**Arharly**	**3.08**	**45**	Pg	**Pg**	**00 05 55.5**	**-2.2**
	6.3nm,0.5s						
ARXS				Lg	Lg	00 06 36.0	
	42nm,0.4s						
ARXS	**Arharly**	**3.08**	**45**	eP	**Pg**	**00 05 55.5**	**-2.2**
	6.3nm,0.5s						
ARXS				eS	**Sg**	**00 06 36.0**	**-1.7**
	42nm,0.4s						
UZB	**Uzynbulak**	**3.30**	**69**	Pg	**Pb**	**00 05 59.0**	**+2.4**
	10nm,0.5s						
UZB				Lg	Lg	00 06 41.5	
	13nm,0.5s						
UZB	**Uzynbulak**	**3.30**	**69**	eP	**Pb**	**00 05 59.0**	**+2.4**
	baz=70						
UZB				eS	**Sg**	**00 06 41.5**	**-3.0**
	baz=70						
UZB	**Uzynbulak**	**3.30**	**69**	eP	**Pb**	**00 05 59.0**	**+2.4**
	10nm,0.5s						
UZB				eS	**Sg**	**00 06 41.5**	**-3.0**
	13nm,0.5s						
KK31	**Karatay Array**	**3.33**	**290**	⇓Pg	**Pg**	**00 06 02.5**	**+0.1**
	0.5nm,0.2s,baz=101,slow=15,SNR=20						
KK31				⇑Lg	Lg	00 06 42.5	
	2.8nm,0.3s,baz=103,slow=30,SNR=5.0						
IUG	**Iuzhnay**	**3.55**	**273**	eP	**Pg**	**00 06 04.3**	**-2.3**
	baz=73						
IUG				eS	**Sg**	**00 06 50.9**	**-1.7**
	baz=73						
IUG	**Iuzhnay**	**3.55**	**273**	eP	**Pg**	**00 06 04.3**	**-2.3**
	11nm,0.3s						
IUG				eS	**Sg**	**00 06 50.9**	**-1.7**
	20nm,0.6s						
SHLS	**Shalkode**	**3.61**	**71**	Pg	**Pg**	**00 06 10.0**	**+2.2**
	7.9nm,0.5s						
SHLS				Lg	Lg	00 07 00.3	
	20nm,0.5s						
SHLS	**Shalkode**	**3.61**	**71**	eP	**Pg**	**00 06 10.0**	**+2.2**
	baz=72						
SHLS				eS	**Sg**	**00 07 00.4**	**+5.9**
	baz=72						
SHLS	**Shalkode**	**3.61**	**71**	eP	**Pg**	**00 06 10.0**	**+2.2**
	7.9nm,0.5s						
SHLS				eS	**Sg**	**00 07 00.3**	**+5.9**
	20nm,0.5s						
PDGK	**Podgornoye**	**3.68**	**68**	Pg	**Pb**	**00 06 05.8**	**+2.6**
	2.3nm,0.3s						
PDGK				Lg	Lg	00 06 53.1	
	4.0nm,0.5s						
PDGK	**Podgornoye**	**3.68**	**68**	⇑Pg	**Pb**	**00 06 05.1**	**+1.9**
	2.1nm,0.5s						
PDGK				⇑Lg	Lg	00 06 55.7	
	4.6nm,0.4s						
TDK	**Taldyqorghan**	**3.93**	**41**	Pg	**Pb**	**00 06 10.3**	**+2.9**
	16nm,0.3s						
TDK				Lg	Lg	00 07 01.0	
	21nm,0.5s						
TDK	**Taldyqorghan**	**3.93**	**41**	eP	**Pb**	**00 06 10.3**	**+2.9**
	16nm,0.3s						
TDK				eS	**Sg**	**00 07 01.0**	**-3.9**
	21nm,0.5s						
KAPS	**Kapalarasan**	**4.61**	**44**	Pg	**Pg**	**00 06 22.9**	**-4.0**
	2.0nm,0.5s						
KAPS				Lg	Lg	00 07 22.4	
	5.3nm,0.4s						
KAPS	**Kapalarasan**	**4.61**	**44**	eP	**Pg**	**00 06 22.9**	**-4.0**
	2.0nm,0.5s						
KAPS				eS	**Sg**	**00 07 22.4**	**-4.2**
	5.3nm,0.4s						
OTUK	**Ortayu**	**6.42**	**345**	⇓Lg	Lg	00 08 20.9	
	3.3nm,1.0s						
MK31	**Makanchi Array**	**7.14**	**46**	⇑Lg	Lg	00 08 46.4	
	0.5nm,0.5s						

IDC 09 00:05:40.4±2.7, 2.°00S×68.°12E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/43, mbtmp3.5/3, Error ellipse: s-maj=91.7km s-min=40.8km az=64.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.17**	**146**	T	T	00 12 14.3	
	baz=325,slow=75,SNR=14						
H08N3	**Diego Garcia H**	**5.18**	**146**	T	T	00 12 15.2	
	baz=325,slow=75,SNR=14						
H08N1	**Diego Carcia H**	**5.19**	**146**	T	T	00 12 16.1	
	baz=325,slow=75,SNR=13						
MKAR	**Makanchi Array**	**50.17**	**13**	P	P	00 14 36.3	-1.5
	0.4nm,0.8s,baz=214,slow=11,SNR=1.9						
SONM	**Songino Array**	**59.81**	**29**	P	P	00 15 48.8	+1.1
	0.4nm,0.6s,baz=235,slow=5.1,SNR=2.3						
WRA	**Warramunga Arr**	**66.99**	**111**	P	P	00 16 35.6	-0.1
	0.6nm,1.0s,baz=284,slow=6.3,SNR=2.8						
TXAR	**Lajitas Array**	**151.72**	**345**	PKPbc	PKPbc	00 25 38.0	+0.1
	0.6nm,1.0s,baz=17,slow=0.9,SNR=3.5						

IDC ***09*** *00:06:15.1±0.9, 28.°73N×128.°67E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.7/35, mbtmp3.7/8, ML2.6/1, Error ellipse: s-maj=34.8km s-min=15.2km az=86.0*
ISCJB ***09*** *00:06:16.8±1.3, 28.°78N±0.°04×128.°60E±0.°09, h21km±11km, mb3.7/6, Error ellipse: s-maj=14.1km s-min=5.5km az=10.6*
JMA ***09*** *00:06:16.2±0.2, 28.°76N×128.°58E, h13km±4km, M3.3*
ISC 09 00:06:16.1±1.9, 28.°74N±0.°04×128.°57E±0.°08, h6km±13km, n18, σ0.s75/25, mb3.7/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.69**	**53**	P	**Pg**	**00 06 29.0**	**-0.4**
JTAJ				S	**Sg**	**00 06 38.0**	**-0.4**
JAMN	**Amaminishikomi**	**0.72**	**133**	P	**Pg**	**00 06 30.3**	**+0.3**
JAM	**Amami Oshima**	**0.97**	**109**	P	**Pg**	**00 06 34.1**	**-0.5**
JAM				S	**Sg**	**00 06 46.3**	**-0.8**
JTK	**Tokunoshima**	**1.00**	**160**	P	**Pg**	**00 06 35.0**	**-0.3**
JTK				S	**Sb**	**00 06 49.7**	**+0.3**
JZK	**Kikaishima**	**1.30**	**108**	P	**Pn**	**00 06 40.8**	**0.0**
JZK				S	**Sg**	**00 07 00.1**	**+2.2**
JOKE	**Okinoerabujima**	**1.37**	**180**	P	**Pn**	**00 06 41.2**	**-0.6**
JYRO	**Yoronjima**	**1.71**	**184**	P	**Pn**	**00 06 46.3**	**-0.1**
JYRO				S	**Sn**	**00 07 08.4**	**-0.2**
JIH	**Iheya**	**1.78**	**198**	P	**Pn**	**00 06 47.9**	**+0.5**
JOW	**Kunigami**	**1.92**	**188**	Pn	**Pn**	**00 06 49.5**	**+0.2**
	14nm,0.3s,baz=11,slow=14,SNR=28						
JOW				Sn	**Sn**	**00 07 14.3**	**+0.6**
	35nm,0.3s,baz=338,slow=29,SNR=7.1						
JOW				LR	LR	00 07 23.6	
	comp=Z,316nm,20.8s,baz=288,slow=36						
JOW	**Kunigami**	**1.92**	**188**	P	**Pn**	**00 06 49.3**	**0.0**
JOW				eS	**Sn**	**00 07 14.0**	**+0.3**
JNU	**Nakatsue**	**4.80**	**24**	Pn	**Pn**	**00 07 30.1**	**+1.1**
	0.3nm,0.3s,baz=183,slow=18,SNR=1.9						
KLR	**Kul'dur**	**20.61**	**6**	P	**P**	**00 10 54.8**	**-1.2**
	1.5nm,0.9s,baz=140,slow=8.9,SNR=2.3						
SONM	**Songino Array**	**25.66**	**324**	P	**P**	**00 11 47.7**	**+0.9**
	3.8nm,1.1s,baz=136,slow=6.9,SNR=11						
MKAR	**Makanchi Array**	**40.13**	**310**	P	**P**	**00 13 53.4**	**+0.6**
	0.5nm,0.7s,baz=97,slow=10,SNR=7.2						
ZALV	**Zalesovo Beam**	**40.47**	**321**	P	**P**	**00 13 55.0**	**-0.4**
	0.5nm,0.4s,baz=120,slow=8.5,SNR=4.7						
WRA	**Warramunga Arr**	**48.71**	**173**	P	**P**	**00 15 01.3**	**-0.2**
	1.4nm,0.8s,baz=353,slow=8.1,SNR=8.0						
ASAR	**Alice Springs**	**52.35**	**174**	P	**P**	**00 15 28.4**	**-0.6**
	0.7nm,0.8s,baz=346,slow=9.0,SNR=4.6						
YKA	**Yellowknife Ar**	**76.14**	**25**	P	**P**	**00 18 04.3**	**-0.3**
	0.5nm,0.7s,baz=303,slow=4.9,SNR=8.1						

JMA ***09*** *00:17:48.1±0.9, 46.°71N×152.°86E, h30km, M5.1*
ISCJB ***09*** *00:17:49.7±0.5, 46.°59N±0.°03×152.°70E±0.°04, h51km±3km, mb4.6/167, MS3.9/16, Error ellipse: s-maj=6.4km s-min=2.9km az=142.9*
MOS ***09*** *00:17:49.8±1.0, 46.°55N×152.°72E, h55km, mb4.9/68, Error ellipse: s-maj=6.3km s-min=4.2km az=95.9*
BJI ***09*** *00:17:49.8, 46.°75N×152.°76E, h60km, mb4.7/42, mB4.9/26, Ms4.3/13, Ms7 4.1/15*
SKHL ***09*** *00:17:51.1±0.6, 46.°43N×152.°80E, h70km±4km, mb5.6/3, Ms4.6/9, msh5.0/3*
NEIC ***09*** *00:17:52.9±0.5, 46.°73N×152.°55E, h64km±4km, mb4.6/65, Error ellipse: s-maj=5.5km s-min=2.8km az=151.0*
IDC ***09*** *00:17:54.0±2.2, 46.°72N×152.°56E, h73km±19km, mb4.1/24, mb1 4.3/29, mb1mx4.3/35, mbtmp4.4/29, MS3.7/12, Ms1 3.7/12, ms1mx3.4/37, Error ellipse: s-maj=14.8km s-min=10.5km az=147.0*
ISC 09 00:17:50.7±0.7, 46.°48N±0.°05×152.°77E±0.°05, h53km±5km, n482, σ1.s31/510, mb4.7/175, MS4.0/16, 37C-35D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.65**	**252**	⇓iP	**Pn**	**00 18 46.1**	**+1.5**
KUR				AMB	AMB	00 18 48.5	
	1μm,3.0s						
KUR				AMB	AMB	00 18 51.0	
	370nm,0.3s						
KUR				AMB	AMB	00 18 51.0	
	160nm,0.3s						
KUR				AMB	AMB	00 18 51.0	
	770nm,0.3s						
KUR				eS	**Sn**	**00 19 26.9**	**+0.6**
KUR				A	A	00 19 29.0	
	2μm,3.0s						
KUR				A	A	00 19 29.0	
	2μm,3.0s						
KUR				A	A	00 19 36.0	
	2μm,0.3s						
KUR				A	A	00 19 36.0	
	300nm,0.3s						
KUR	**Kuril'sk**	**3.65**	**252**	d iPN	**Pn**	**00 18 46.2**	**+1.6**
KUR				i S	**Sn**	**00 19 28.7**	**+2.4**
KUR				pmax	pmax		
	comp=Z,631nm,0.3s						
KUR				pmax	pmax		
	comp=N,365nm,0.4s						
KUR				pmax	pmax		
	comp=E,157nm,0.2s						
KUR				smax	smax		
	comp=E,2μm,0.3s						
KUR				smax	smax		
	comp=N,658nm,0.6s						
SKR	**Severo-Kuril's**	**4.75**	**27**	⇓iP	**Pn**	**00 18 59.9**	**+0.2**
SKR				AMB	AMB	00 19 06.0	
	comp=N,210nm,0.5s						
SKR				AMB	AMB	00 19 06.6	
	comp=N,1μm,5.0s						
SKR				eS	**Sn**	**00 19 51.9**	**-1.5**
SKR				A	A	00 19 56.0	
	comp=N,1μm,4.0s						
SKR				A	A	00 19 56.0	
	comp=N,2μm,4.0s						
SKR				A	A	00 20 12.0	
	comp=N,490nm,0.5s						
SKR				A	A	00 20 12.0	
	comp=N,460nm,0.5s						
SKR				AMS	AMS	00 20 30.0	
	comp=N,10μm,22.0s						
SKR				AMS	AMS	00 20 30.0	
	comp=N,7μm,22.0s						
SKR				AMS	AMS	00 20 30.0	
	comp=N,3μm,22.0s						
SKR	**Severo-Kuril's**	**4.75**	**27**	ePN	**Pn**	**00 19 01.4**	**+1.7**
SKR				eS	**Sn**	**00 19 51.9**	**-1.5**
SKR				pmax	pmax		
	comp=Z,205nm,0.5s						
SKR				smax	smax		
	comp=E,458nm,0.5s						
SKR				smax	smax		
	comp=N,492nm,0.5s						
SHO	**Shikotan**	**4.95**	**240**	⇓iP	**Pn**	**00 19 02.4**	**0.0**
SHO				AMB	AMB	00 19 04.0	
	comp=N,600nm,3.0s						
SHO				AMB	AMB	00 19 06.0	
	comp=N,70nm,0.2s						
SHO				AMB	AMB	00 19 06.0	
	comp=N,130nm,0.2s						
SHO				AMB	AMB	00 19 06.0	
	comp=N,190nm,0.2s						
SHO				eS	**Sn**	**00 19 56.9**	**-1.4**
SHO				A	A	00 20 02.0	
	comp=N,500nm,3.0s						
SHO				A	A	00 20 02.0	
	comp=N,700nm,3.0s						
SHO				A	A	00 20 05.0	
	comp=N,410nm,0.3s						
SHO				A	A	00 20 05.0	
	comp=N,260nm,0.3s						
SHO				AMS	AMS	00 20 49.0	
	comp=N,3μm,16.0s						
SHO				AMS	AMS	00 20 49.0	
	comp=N,7μm,16.0s						
SHO				AMS	AMS	00 20 49.0	
	comp=N,2μm,16.0s						
SHO	**Shikotan**	**4.95**	**240**	c iPN	**Pn**	**00 19 02.1**	**-0.3**
SHO				eS	**Sn**	**00 19 59.8**	**+1.5**
SHO				pmax	pmax		
	comp=N,73nm,0.2s						
SHO				pmax	pmax		
	comp=E,126nm,0.2s						
SHO				pmax	pmax		
	comp=Z,185nm,0.2s						
SHO				smax	smax		
	comp=N,409nm,0.3s						
SHO				smax	smax		
	comp=E,258nm,0.6s						
SHO				MLR	MLR		
	comp=Z,151nm,16.0s						
SHO				MLR	MLR		
	comp=E,694nm,18.0s						
SHO				MLR	MLR		
	comp=N,336nm,15.0s						
YUK	**Yuzh-Kuril'sk**	**5.46**	**246**	⇑iP	**Pn**	**00 19 09.9**	**+0.5**
YUK				AMB	AMB	00 19 14.0	
	comp=N,190nm,0.5s						
YUK				AMB	AMB	00 19 14.0	
	comp=N,260nm,0.5s						
YUK				AMB	AMB	00 19 14.0	
	comp=N,510nm,0.5s						
YUK				eS	**Sn**	**00 20 10.2**	**-0.6**
YUK				A	A	00 20 28.0	
	comp=N,240nm,0.5s						
YUK				A	A	00 20 28.0	
	comp=N,630nm,0.5s						
YUK				AMS	AMS	00 21 15.0	
	comp=N,2μm,15.0s						
YUK				AMS	AMS	00 21 15.0	
	comp=N,2μm,15.0s						
YUK				AMS	AMS	00 21 15.0	
	comp=N,1μm,15.0s						
YUK	**Yuzh-Kuril'sk**	**5.46**	**246**	d iPN	**Pn**	**00 19 11.0**	**+1.6**
YUK				eS	**Sn**	**00 20 13.6**	**+2.8**
YUK				pmax	pmax		
	comp=N,190nm,0.5s						
YUK				pmax	pmax		
	comp=Z,507nm,0.5s						
YUK				pmax	pmax		
	comp=E,261nm,0.4s						
YUK				smax	smax		

comp=N,239nm,0.5s
YUK smax smax
comp=E,625nm,0.5s
YUK MLR MLR
comp=N,2µm,13.0s
YUK MLR MLR
comp=Z,345nm,13.0s
LAGR Lagunnoye 5.50 246 *e*P **Pn 00 19 10.0 +0.1**
LAGR AMB AMB 00 19 28.0
comp=Z,880nm,0.5s
LAGR AMB AMB 00 19 28.0
comp=Z,550nm,0.5s
LAGR AMB AMB 00 19 28.0
comp=Z,420nm,0.5s
LAGR *e*S **Sn 00 20 13.0 +1.3**
LAGR A A 00 20 27.0
comp=Z,2µm,0.5s
LAGR A A 00 20 27.0
comp=Z,1µm,0.5s
LAGR AMS AMS 00 21 13.0
comp=Z,5µm,13.0s
LAGR AMS AMS 00 21 13.0
comp=Z,4µm,13.0s
LAGR AMS AMS 00 21 13.0
comp=Z,4µm,13.0s
LAGR Lagunnoye 5.50 246 *e*PN **Pn 00 19 10.7 +0.8**
LAGR *e*S **Sn 00 20 13.9 +2.2**
LAGR pmax pmax
comp=Z,417nm,0.5s
LAGR pmax pmax
comp=E,551nm,0.4s
LAGR pmax pmax
comp=N,883nm,0.6s
LAGR smax smax
comp=E,1µm,0.4s
LAGR smax smax
comp=N,2µm,0.6s
LAGR MLR MLR
comp=E,4µm,13.0s
LAGR MLR MLR
comp=Z,4µm,13.0s
LAGR MLR MLR
comp=N,5µm,14.0s
GRPR Tuman 5.53 246 *e*P **Pn 00 19 11.0 +0.5**
GRPR AMB AMB 00 19 21.0
comp=N,360nm,0.3s
GRPR AMB AMB 00 19 21.0
comp=N,170nm,0.3s
GRPR AMB AMB 00 19 21.0
comp=N,650nm,0.3s
GRPR *e*S **Sn 00 20 14.0 +1.3**
GRPR A A 00 20 27.0
comp=N,870nm,0.4s
GRPR A A 00 20 27.0
comp=N,230nm,0.4s
GRPR Tuman 5.53 246 *e*PN **Pn 00 19 11.5 +1.0**
GRPR *e*S **Sn 00 20 14.3 +1.6**
GRPR pmax pmax
comp=Z,652nm,0.3s
GRPR pmax pmax
comp=N,362nm,0.4s
GRPR pmax pmax
comp=E,72nm,0.2s
GRPR smax smax
comp=E,227nm,0.3s
GRPR smax smax
comp=N,867nm,0.4s
PAU Pauzhetka 5.65 27 *e*P **Pn 00 19 13.6 +1.6**
PAU AMB AMB 00 19 15.7
comp=N,80nm,0.6s
PAU *e*S **Sn 00 20 15.8 +0.3**
PAU A A 00 20 19.5
comp=N,360nm,0.4s
PAU A A 00 20 19.5
comp=N,460nm,0.4s
PAU AMS AMS 00 23 16.3
comp=N,8µm,15.0s
PAU AMS AMS 00 23 16.3
comp=N,9µm,15.0s
PAU AMS AMS 00 23 16.3
comp=N,6µm,15.0s
NEM2 Nemuro 2 5.88 241 P **Pn 00 19 14.8 -0.4**
NEM2 *e*S **Sn 00 20 19.0 -2.3**
JRA Rausu 5.97 248 P **Pn 00 19 18.7 +2.2**
JNK Nakash 6.40 246 P **Pn 00 19 23.8 +1.5**
JNK *e*S **Sn 00 20 35.1 +1.1**
JTKR Abashiri--Toko 6.74 251 P **Pn 00 19 29.2 +2.2**
YSS Yuzh-Sakhalins 6.90 278 *e*Pn **Pn 00 19 30.3 +1.0**
YSS Yuzh-Sakhalins 6.90 278 *e*P **Pn 00 19 30.6 +1.4**
YSS AMB AMB 00 19 33.0
comp=N,80nm,0.7s
YSS AMS AMS 00 21 54.0
comp=N,500nm,15.0s
YSS AMS AMS 00 21 54.0
comp=N,300nm,15.0s
YSS AMS AMS 00 21 54.0
comp=N,600nm,15.0s
YSS Yuzh-Sakhalins 6.90 278 *e*PN **Pn 00 19 30.2 +1.0**
YSS pmax pmax
comp=Z,80nm,0.7s
YSS MLR MLR
comp=Z,600nm,16.0s
YSS MLR MLR
comp=N,500nm,15.0s
YSS MLR MLR
comp=E,300nm,14.0s
JMP Maruseppu 7.09 253 P **Pn 00 19 34.8 +3.0**
JAR Ashorobuto 7.14 247 P **Pn 00 19 33.9 +1.4**
PEA0B Petropavlovsk- 7.36 24 *e*Pn **Pn 00 19 34.6 -0.8**
PETK Petropavlovsk- 7.36 24 P **Pn 00 19 35.7 +0.3**
comp=E,1.4nm,0.3s,baz=186,slow=13,SNR=17
PETK S **Sn 00 20 55.3 -2.1**
baz=216,slow=14,SNR=1.6
PETK Petropavlovsk- 7.36 24 *e*Pn **Pn 00 19 33.8 -1.7**
PETK S **Sn 00 20 55.3 -2.1**
HRK Horoka 7.47 250 *e*P **Pn 00 19 39.5 +2.4**
JKK2 Kamakawa 2 7.55 253 P **Pn 00 19 40.8 +2.7**
JKA Kamikawa-asahi 7.55 255 *e*P **Pn 00 19 41.5 +3.4**
ASAJ Asahikawa 7.55 255 P **Pn 00 19 41.5 +3.3**
comp=E,5.5nm,0.3s,baz=84,slow=18,SNR=30
ASAJ S Sn 00 21 14.7 +12
comp=E,1.2nm,0.3s,baz=262,slow=30,SNR=2.0
ASAJ LR LR 00 22 26.3
comp=E,299nm,19.1s,baz=14,slow=36
ASAJ Asahikawa 7.55 255 *e*Pn **Pn 00 19 40.7 +2.6**
ASAJ S Sn 00 21 14.7 +12
ASAJ Asahikawa 7.55 255 P **Pn 00 19 41.5 +3.3**
PET Petropavlovsk 7.57 28⇑ *e*P **Pn 00 19 40.0 +1.7**
PET AMB AMB 00 19 44.6
comp=E,20nm,0.5s
PET Petropavlovsk 7.57 28 *e*PN **Pn 00 19 37.9 -0.4**
PET MLR MLR
comp=Z,200nm,15.0s
UGL Uglegorsk 7.66 294 *e*P **Pn 00 19 41.6 +2.0**
UGL AMB AMB 00 19 43.0
comp=Z,110nm,0.8s
UGL *e*S **Sn 00 21 04.1 -0.8**
UGL A A 00 21 14.0
comp=Z,80nm,0.9s
UGL AMS AMS 00 21 55.5
comp=Z,2µm,17.0s
UGL AMS AMS 00 21 55.5
comp=Z,1µm,17.0s
UGL Uglegorsk 7.66 294 *e*PN **Pn 00 19 42.4 +2.8**
UGL *e*S **Sn 00 21 09.1 +4.2**
UGL pmax pmax
comp=Z,109nm,1.1s
UGL smax smax
comp=E,75nm,0.9s
UGL MLR MLR
comp=Z,900nm,16.0s
JCH Churui 7.75 243 P **Pn 00 19 40.8 -0.1**
JCH *e*S **Sn 00 21 04.6 -2.6**
JFR Furan 7.96 249 P **Pn 00 19 45.5 +1.8**
MYR Moyori 7.98 242 *e*S **Sn 00 21 09.3 -3.5**
TYV Tymovskoe 8.00 307 *e*P **Pn 00 19 45.8 +1.6**
TYV AMB AMB 00 19 46.4
comp=Z,20nm,0.7s
TYV AMS AMS 00 22 11.0
comp=Z,2µm,17.0s
TYV AMS AMS 00 22 11.0
comp=Z,700nm,17.0s
TYV Tymovskoe 8.00 307 *e*PN **Pn 00 19 45.8 +1.6**
TYV pmax pmax
comp=Z,24nm,0.7s
JAB Ashibetsu 8.05 252 P **Pn 00 19 47.7 +2.8**

ERM Erimo 8.22 241 *e*Pn **Pn 00 19 48.3 +1.1**
ERM *e*Sn **Sn 00 21 14.3 -4.4**
ERM Erimo 8.22 241⇑ *e*P **Pn 00 19 48.6 +1.4**
ERM Erimo 8.22 241 *ce*PN **Pn 00 19 48.6 +1.4**
ERM pmax pmax
comp=Z,107nm,1.7s
JBT2 Biratori 2 8.29 247 P **Pn 00 19 48.8 +0.5**
JNBK Urakawa-nobuka 8.31 243 P **Pn 00 19 47.7 -0.8**
OKH Okha 9.49 322⇓ *e*P **Pn 00 20 06.9 +2.4**
OKH AMB AMB 00 20 07.7
comp=Z,90nm,0.9s
OKH AMS AMS 00 23 45.0
comp=Z,1µm,16.0s
JKB Kayabe 9.60 246 P **Pn 00 20 05.3 -0.8**
JKB *e*S **Sn 00 21 46.4 -6.1**
JSH Shimam 9.86 252 P **Pn 00 20 10.8 +1.1**
JYM2 Yakumo 2 9.90 248 P **Pn 00 20 10.5 +0.2**
JANG Nango 10.21 237 P **Pn 00 20 11.5 -3.0**
JANG *e*S **Sn 00 21 58.6 -8.8**
JTM Tenmabayashi 10.21 240 P **Pn 00 20 12.7 -1.8**
NKL Nikolayevsk 10.27 315⇑ *e*P **Pn 00 20 16.2 +1.1**
NKL AMB AMB 00 20 19.0
comp=Z,30nm,1.0s
NKL AMB AMB 00 20 19.0
comp=Z,50nm,1.0s
NKL AMS AMS 00 24 38.0
comp=Z,1µm,14.0s
NKL Nikolayevsk 10.27 315 *e*PN **Pn 00 20 16.2 +1.1**
NKL pmax pmax
comp=N,34nm,1.0s
NKL pmax pmax
comp=E,25nm,1.0s
NKL pmax pmax
comp=Z,51nm,1.0s
NKL MLR MLR
comp=Z,1µm,14.0s
JOSM Okushiri--Mats 10.50 250 P **Pn 00 20 18.7 +0.3**
TEY Ternei 11.39 269⇓ *e*P **Pn 00 20 32.2 +1.6**
TEY AMB AMB 00 20 37.4
comp=Z,30nm,0.9s
TEY AMB AMB 00 20 37.4
comp=Z,40nm,0.9s
TEY Ternei 11.39 269⇑ *e*PN Pn 00 20 36.4 +5.8
TEY pmax pmax
comp=E,30nm,0.8s
TEY pmax pmax
comp=Z,40nm,0.9s
GRNR Gornyy 11.63 298 *e*P **Pn 00 20 37.0 +3.1**
GRNR AMB AMB 00 20 38.9
comp=Z,30nm,1.0s
GRNR Gornyy 11.63 298 *e*PN **Pn 00 20 37.0 +3.1**
GRNR pmax pmax
comp=Z,25nm,1.0s
MA2 Magadan 13.17 356 P **Pn 00 20 54.5 -0.2**
comp=Z,5.1nm,0.3s,baz=160,slow=14,SNR=15
MA2 LR LR 00 25 44.0
comp=Z,175nm,21.9s,baz=162,slow=36
MA2 Magadan 13.17 356⇓ *i*P **Pn 00 20 54.4 -0.4**
MA2 Magadan 13.17 356⇓ *i*PN **Pn 00 20 54.4 -0.4**
MA2 pmax pmax
comp=Z,14nm,0.4s
KLR Kul'dur 14.37 289 P **Pn 00 21 13.4 +2.4**
comp=Z,0.2nm,0.3s,baz=98,slow=14,SNR=10
KLR Kul'dur 14.37 289⇑ *i*P **Pn 00 21 13.3 +2.3**
KLR Kul'dur 14.37 289⇑ *i*P **Pn 00 21 13.3 +2.3**
EKMR Ekimchan 14.38 305 *e*P **Pn 00 21 12.5 +1.4**
EKMR AMB AMB 00 21 22.6
comp=Z,30nm,0.9s
EKMR AMB AMB 00 21 22.6
comp=Z,10.0nm,0.9s
EKMR AMB AMB 00 21 22.6
comp=Z,110nm,0.9s
MAJO Matsushiro 14.73 233 *e*Pn **Pn 00 21 17.1 +1.2**
MAJO Matsushiro 14.73 233⇑ *i*P **Pn 00 21 14.1 -1.8**
MAJO Matsushiro 14.73 233 *i* P **Pn 00 21 14.9 -1.0**
MAJO pmax pmax
comp=Z,4.0nm,0.3s
MAT Matsushiro 14.73 233 P **Pn 00 21 17.5 +1.6**
MJAR Matsushiro Arr 14.73 233 P **Pn 00 21 14.5 -1.3**
comp=Z,0.8nm,0.3s,baz=25,slow=14,SNR=6.4
MJB9 Matsu-Tunnel 14.73 233 *e*Pn **Pn 00 21 17.3 +1.4**
USA0B Ussuriysk Arra 14.79 269 *e*Pn **Pn 00 21 16.3 -0.2**
USRK Ussuriysk Ar. 14.79 269 P **Pn 00 21 17.8 +1.2**
comp=Z,2.5nm,0.3s,baz=78,slow=14,SNR=22
USRK LR LR 00 26 50.5
comp=Z,243nm,19.0s,baz=311,slow=37
MDJ Mudanjiang 16.34 272 P Pn 00 21 26.3 -10
MDJ S **Sn 00 24 34.5 -2.0**
MDJ sS S 00 24 45.3 -1.3
MDJ ScP ScP 00 29 38.6 -18
MDJ PcS PcS 00 29 44.8 -18
MDJ Mudanjiang 16.34 272 ScS ScS 00 33 18.8 -17
MDJ pmax pmax
comp=Z,11nm,1.5s
MDJ pmax pmax
comp=Z,230nm,4.1s
MDJ LR LR
comp=N,320nm,3.0s
MDJ LR LR
comp=E,320nm,4.5s
MDJ LR LR
comp=Z,320nm,12.7s
MDJ Mudanjiang 16.34 272 *e*Pn **Pn 00 21 33.3 -3.0**
comp=Z,19nm,0.9s
SEY Seymchan 16.49 359 P **Pn 00 21 37.6 -0.5**
comp=Z,0.7nm,0.3s,baz=160,slow=10,SNR=8.8
SEY Seymchan 16.49 359⇑ *e*P **P 00 21 39.6 -0.4**
SEY Seymchan 16.49 359 *ce*P **P 00 21 39.6 -0.4**
BMKR Bomnak 17.21 307 *e*P **Pn 00 21 47.3 +0.1**
BMKR AMB AMB 00 21 51.9
comp=Z,30nm,0.6s
ZEA Zeya 17.84 303 *e*P **P 00 21 54.9 -0.1**
ZEA AMS AMS 00 23 54.0
comp=Z,700nm,16.0s
ZEA AMS AMS 00 23 54.0
comp=Z,900nm,16.0s
ZEA Zeya 17.84 303 *e*P **P 00 21 57.8 +2.8**
CN2 Changchun 19.42 272 *e*P **P 00 22 12.6 +0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
YAK Yakutsk 20.42 328 *e*P **P 00 22 23.3 +0.2**
YAK Yakutsk 20.42 328 *e*P **P 00 22 23.3 +0.2**
YAK pmax pmax
comp=Z,16nm,0.7s
YAK pmax pmax
comp=N,2.0nm,0.5s
YAK pmax pmax
comp=E,2.0nm,0.6s
KSRS Korea Array 20.49 253 P Pn 00 22 25.7 -0.9
comp=E,6.6nm,0.7s,baz=55,slow=11,SNR=14
KSRS LR LR 00 29 15.0
comp=E,77nm,20.8s,baz=10.0,slow=33
KS01 Wonju Array Si 20.50 253 *e*P **P 00 22 24.3 +0.2**
KSAR Wonju Array Be 20.52 253 P Pn 00 22 25.7 -1.3
KSAR Wonju Array Be 20.52 253 P Pn 00 22 25.7 -1.4
JNU Nakatsue 21.38 239 P **P 00 22 35.2 +1.5**
comp=E,10.0nm,0.7s,baz=353,slow=4.3,SNR=5.2
JNU Nakatsue 21.38 239 *e*P **P 00 22 33.9 +0.2**
comp=E,25nm,1.1s
BILL Bilibino 22.70 13⇓ *e*P **P 00 22 48.6 +1.0**
BILL Bilibino 22.70 13⇓ *e*P **P 00 22 48.6 +1.0**
BILL *e* 00 23 13.5
BILL *e*S **S 00 26 53.3 +1.5**
BILL pmax pmax
comp=Z,4.0nm,0.5s
BILL MLR MLR
comp=Z,149nm,18.0s
BOD Bodaibo 25.98 310 *e*P **P 00 23 16.4 -1.7**
TIXI Tiksi 27.66 344 PcP **PcP 00 26 49.2 +0.5**
comp=Z,1.9nm,0.4s,baz=68,slow=2.8,SNR=4.8
ANM Nome 29.05 36 *e*P **P 00 23 45.4 -0.1**
comp=Z,3.0nm,0.8s
ANM Nome 29.05 36 *e*P **P 00 23 45.4 -0.1**
ANM pmax pmax
comp=Z,3.0nm,0.8s
NJ2 Nanjing 29.69 253 *e*P **P 00 23 52.4 +0.9**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
HHC Hu-ho-hao-te 30.08 274 *e*P **P 00 23 55.3 +0.3**
HHC sP sP 00 24 20.9 +7.2
HHC S **S 00 28 48.2 -1.5**
HHC sS sS 00 29 08.6 -2.5
HHC pmax pmax
comp=Z,9.0nm,1.1s
HHC pmax pmax
comp=Z,130nm,6.1s
HHC LR LR
comp=Z,850nm,14.3s
HHC LR LR
comp=Z,880nm,13.3s
HHC LR LR
comp=Z,260nm,15.5s
H11S1 WAKE ISLAND Hy 30.18 153 T T 00 56 39.5
baz=341,slow=76,SNR=4140
H11S3 WAKE ISLAND Hy 30.18 153 T T 00 56 40.8
baz=341,slow=76,SNR=3610
H11S2 WAKE ISLAND Hy 30.19 153 T T 00 56 35.8
baz=341,slow=76,SNR=3302
ULN Ulaanbaatar 30.76 290 *e*P **P 00 23 59.4 -1.6**
comp=Z,7.4nm,0.9s
ULN Ulaanbaatar 30.76 290⇑ *e*P **P 00 24 01.5 +0.5**
ULN Ulaanbaatar 30.76 290 *ce*P **P 00 24 01.5 +0.5**
ULN pmax pmax
comp=Z,2.0nm,0.8s
SONA1 Songino Array 31.19 290 *e*P **P 00 24 04.2 -0.5**
SONM Songino Array 31.20 290 P **P 00 24 04.0 -0.8**
comp=Z,1.0nm,0.7s,baz=72,slow=6.9,SNR=8.4
SONM PcP **PcP 00 26 58.9 +0.6**
comp=Z,0.7nm,0.6s,baz=118,slow=2.3,SNR=4.6
SONM LR LR 00 37 55.7
comp=Z,134nm,18.2s,baz=134,slow=39
IM3 Indian Mountai 34.12 36 *e*P **P 00 24 30.6 +0.6**
KDAK Kodiak Island 34.45 51 *i* P **P 00 24 33.5 +0.6**
BRLK Bradley Lake 35.19 47 *e*P **P 00 24 40.2 +0.9**
XAN Xi'an 35.26 265 P **P 00 24 41.0 +0.8**
XAN pmax pmax
comp=Z,13nm,0.6s
XAN Xi'an 35.26 265 *e*P **P 00 24 40.6 +0.4**
comp=Z,9.4nm,0.6s
XAN Xi'an 35.26 265 *e*P **P 00 24 40.6 +0.4**
XAN pmax pmax
comp=Z,9.0nm,0.6s
MLY Manley 35.27 38 *e*P **P 00 24 41.1 +1.2**
comp=Z,2.3nm,0.8s
TRF Thorofare Moun 35.40 41 *e*P **P 00 24 40.2 -1.0**
comp=Z,6.9nm,1.1s
COLD Coldfoot 35.69 34 *e*P **P 00 24 43.2 -0.2**
comp=Z,1.0nm,0.7s
MCK McKinley 36.01 40 *e*P **P 00 24 47.5 +1.3**
comp=Z,7.1nm,1.0s
MCK McKinley 36.01 40 *e*P **P 00 24 47.5 +1.3**
MCK McKinley 36.01 40 *e*P **P 00 24 47.5 +1.3**
MCK pmax pmax
comp=Z,7.0nm,1.0s
SML Sawmill 36.33 43 *e*P **P 00 24 48.8 -0.2**
comp=Z,21nm,0.9s
SML Sawmill 36.33 43 *e*P **P 00 24 48.8 -0.2**
SML pmax pmax
comp=Z,21nm,0.9s
MDM Murphy Dome 36.33 38 *e*P **P 00 24 50.4 +1.4**
comp=Z,6.1nm,0.8s
WRH Wood River Hil 36.38 39 *e*P **P 00 24 50.4 +1.0**
comp=Z,4.1nm,0.9s
COLA College 36.49 38 *e*P **P 00 24 50.9 +0.6**
comp=Z,9.4nm,0.8s
COLA College 36.49 38 *e*P **P 00 24 50.9 +0.6**
COLA College 36.49 38 *e*P **P 00 24 50.9 +0.6**
COLA pmax pmax
comp=Z,9.0nm,0.8s
DHY Denali Highway 36.72 41 *e*P **P 00 24 52.0 -0.5**
comp=Z,2.2nm,0.7s
HDA Harding Lake 36.88 39 *e*P **P 00 24 54.5 +0.9**
comp=Z,4.6nm,0.7s
IL1 Eielson Array 36.90 38 *e*P **P 00 24 53.8 -0.1**
ILAR Eielson Array 36.90 38 P **P 00 24 54.3 +0.5**
comp=Z,3.5nm,1.1s,baz=259,slow=7.0,SNR=24
ILAR PcP **PcP 00 27 14.0 -0.2**
comp=Z,0.5nm,1.0s,baz=284,slow=3.7,SNR=3.3
ILB Eielson Array 36.90 38 *e*P **P 00 24 54.5 +0.7**
FYU Fort Yukon 37.60 35 *e*P **P 00 25 00.6 +0.9**
comp=Z,7.6nm,0.8s
LZH Lanzhou 37.66 272 *e*P **P 00 25 01.4 +0.6**
LZH pP pwP 00 25 16.4 -0.7
LZH sP sP 00 25 24.1 +4.4
LZH pmax pmax
comp=Z,20nm,1.4s
LZH LR LR
comp=Z,290nm,12.7s
LZH LR LR
comp=Z,360nm,10.3s
LZH LR LR
comp=Z,380nm,15.7s
SCRK Sand Creek 38.19 40 *e*P **P 00 25 04.5 -0.3**
comp=Z,3.9nm,1.0s
GTA Gaotai 38.78 279 *e*P **P 00 25 12.0 +1.9**
GTA pP pwP 00 25 25.0 -1.5
GTA sP sP 00 25 30.7 +1.7
GTA PcP **PcP 00 27 22.6 +2.0**
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA LR LR
comp=Z,110nm,14.0s
GTA LR LR
comp=Z,100nm,16.5s
GTA LR LR
comp=Z,160nm,17.2s
INK Inuvik 42.00 32 *e*P **P 00 25 36.4 +0.2**
comp=Z,4.1nm,0.6s
INK Inuvik 42.00 32 *e*P **P 00 25 36.4 +0.2**
INK Inuvik 42.00 32 *e*P **P 00 25 36.4 +0.2**
INK pmax pmax
comp=Z,4.0nm,0.6s
ZAA0 Zalesovo Array 42.58 306 *e*P **P 00 25 39.2 -1.8**
comp=Z,2.5nm,0.5s
ZALV Zalesovo Beam 42.58 306 P **P 00 25 38.8 -2.3**
comp=Z,2.7nm,0.5s,baz=59,slow=6.6,SNR=14
ZALV PcP **PcP 00 27 33.0 +0.6**
comp=Z,3.2nm,0.7s,baz=88,slow=3.4,SNR=13
ZALV LR LR 00 44 27.9
comp=Z,180nm,18.9s,baz=70,slow=38
WMQ Urumqi 44.80 291 *e*P **P 00 25 58.1 -1.1**
WMQ pP pP 00 26 09.8 -2.6
WMQ pmax pmax
comp=Z,18nm,0.7s
WMQ pmax pmax
comp=Z,670nm,5.5s
WMQ LR LR
comp=Z,120nm,20.5s
WMQ LR LR
comp=Z,150nm,22.1s
WMQ LR LR
comp=Z,180nm,22.1s
KMI Kunming 44.96 259 P **P 00 26 01.3 +0.5**
KMI pmax pmax
comp=Z,12nm,0.7s
MK31 Makanchi Array 46.85 297 *e*P **P 00 26 13.8 -1.4**
MK31 Makanchi Array 46.85 297 *e*P **P 00 26 13.9 -1.4**
MKAR Makanchi Array 46.85 297 P **P 00 26 14.1 -1.2**
comp=Z,3.6nm,0.6s,baz=67,slow=7.1,SNR=37
MKAR PcP **PcP 00 27 47.9 +0.5**
comp=Z,2.4nm,0.6s,baz=62,slow=5.1,SNR=13
MKAR LR LR 00 47 02.3
comp=Z,192nm,18.2s,baz=83,slow=38
MK01 Makanchi Array 46.86 297 *e*P **P 00 26 13.1 -2.2**
MAKZ Makanchi 47.04 298 *e*P **P 00 26 14.8 -1.9**
comp=Z,2.3nm,0.7s
MAKZ Makanchi 47.04 298 *e*P **P 00 26 14.8 -1.9**
MAKZ pmax pmax
comp=Z,2.0nm,0.7s
KURK Kurchatov 47.31 304 *e*P **P 00 26 17.1 -1.7**
KURK Kurchatov 47.31 304 *ce*P **P 00 26 17.0 -1.7**
KURK pmax pmax
comp=Z,3.0nm,0.5s
NONG Nongkai 49.56 252 P **P 00 26 38.8 +2.4**
comp=Z,0.6nm,0.7s,comp=Z,116nm
LSA Lhasa 50.05 273 *e*P **P 00 26 41.3 +0.7**
LSA Lhasa 50.05 273 *e*P **P 00 26 41.3 +0.7**
LSA Lhasa 50.05 273 *e*P **P 00 26 41.3 +0.7**
PAYA Payao 50.82 256 P **P 00 26 48.0 +2.0**
comp=Z,6.8nm,0.8s
BRVK Borovoye 50.89 310 *e*P **P 00 26 44.1 -1.8**
comp=Z,4.3nm,0.6s
BRVK *e*PcP **PcP 00 28 02.0 +0.1**
BRVK Borovoye 50.89 310⇓ *i*P **P 00 26 44.8 -1.2**
BRVK pmax pmax
comp=Z,4.0nm,0.6s
RES Resolute Bay 51.16 18 *e*P **P 00 26 47.1 -0.6**
comp=Z,1.6nm,0.5s
RES Resolute Bay 51.16 18 *e*P **P 00 26 47.1 -0.6**
RES pmax pmax
comp=Z,2.0nm,0.5s

YKA **Yellowknife Ar** 51.28 36 P **P** 00 26 49.3 +0.6
comp=Z,1.0nm,0.5s,baz=297,slow=7.0,SNR=16
YKA PcP **PcP** 00 28 03.8 +0.7
comp=Z,0.8nm,0.6s,baz=305,slow=3.6,SNR=6.3
YKB5 **Yellowknife Ar** 51.28 36 *eP* **P** 00 26 48.7 -0.1
UTTA **Uttaradit** 51.51 254 P **P** 00 26 53.2 +2.2
comp=Z,5.2nm,0.8s
LAMP **Lampang** 51.57 256 P **P** 00 26 53.8 +2.3
comp=Z,6.5nm,0.8s
CMMT **Chiang Mai** 51.83 257 P **P** 00 26 55.2 +1.7
comp=Z,12nm,0.8s
CHTO **Chiang Mai** 51.83 257 *eP* **P** 00 26 54.3 +0.8
comp=Z,9.1nm,0.8s
CHTO **Chiang Mai** 51.83 257 *eP* **P** 00 26 54.3 +0.8
CHTO pmax pmax
comp=Z,9.0nm,0.8s
CHTO **Chiang Mai** 51.83 257 P **P** 00 26 55.3 +1.8
comp=Z,57nm,0.9s
PBKT **Sadao Pong** 52.07 253 *eP* **P** 00 26 57.3 +2.1
comp=Z,12nm,1.2s
PBKT **Sadao Pong** 52.07 253 P **P** 00 26 57.1 +1.9
comp=Z,12nm,1.0s
CMAR **Chiang Mai Arr** 52.08 256 P **P** 00 26 56.6 +1.2
comp=Z,5.7nm,0.8s,baz=36,slow=7.6,SNR=7.6
CMAR **Chiang Mai Arr** 52.08 256 *i* P **P** 00 26 54.4 -0.9
CMAR pmax pmax
comp=Z,4.0nm,0.6s
OTUK **Ortayu** 52.09 303 P **P** 00 26 55.7 +0.6
OTUK pmax pmax
comp=Z,3.0nm,0.7s
CM01 **Chiang Mai Arr** 52.09 256 *eP* **P** 00 26 57.2 +1.8
SHL **Shillong** 52.13 268 *eP* **P** 00 26 56.9 +1.0
comp=Z,15nm,0.6s
SHL **Shillong** 52.13 268 P **P** 00 26 56.8 +1.0
SHL pmax pmax
comp=Z,15nm,0.6s
SPITS **Spitsbergen Ar** 52.83 350 P **P** 00 26 59.0 -1.2
SRAK **Srakaew** 53.24 250 P **P** 00 27 03.8 -0.1
comp=Z,37nm,0.9s,comp=Z,1µm
AAK **Ala-Archa** 53.74 296 *eP* **P** 00 27 06.4 -1.1
comp=Z,3.5nm,0.8s
AAK **Ala-Archa** 53.74 296⇑ *eP* **P** 00 27 06.8 -0.7
AAK **Ala-Archa** 53.74 296 *ceP* **P** 00 27 06.8 -0.7
AAK pmax pmax
comp=Z,4.0nm,0.8s
UTHA **Uthaitani** 53.81 253 P **P** 00 27 11.2 +3.1
comp=Z,3.5nm,0.8s
KSH **Kashi** 54.54 292 P **P** 00 27 17.9 +4.6
KSH pP sP 00 27 34.1 +1.5
KSH PcP **PcP** **00 28 18.9 +2.9**
KSH S **S** **00 34 49.0 +0.4**
KSH sS sS 00 35 15.5 +4.4
KSH pmax pmax
comp=Z,8.0nm,0.4s
KSH pmax pmax
comp=Z,260nm,6.3s
KSH LR LR
comp=Z,180nm,6.9s
KSH LR LR
comp=Z,130nm,8.4s
KSH LR LR
comp=Z,320nm,18.7s
JIRN **Jiri** 54.73 275 *eP* **P** 00 27 16.3 +1.1
comp=Z,88nm,0.6s
GUN **Gumba** 54.79 275 *eP* **P** 00 27 16.4 +0.9
RAMN **Ramite** 54.90 274 *eP* **P** 00 27 17.2 +1.0
comp=Z,70nm,0.6s
ARU **Arti** 55.05 317 *eP* **P** 00 27 14.8 -1.8
comp=Z,5.8nm,0.5s
ARU **Arti** 55.05 317 *c i*P **P** 00 27 14.5 -2.1
ARU 00 28 15.4
ARU S **S** **00 34 51.2 -3.5**
ARU SS **SS** **00 38 32.6 -5.7**
ARU pmax pmax
comp=Z,4.0nm,0.5s
KKN **Kakani** 55.28 275 *eP* **P** 00 27 20.4 +1.5
comp=Z,48nm,0.7s
PKIN **Phulchoki** 55.33 275 *eP* **P** 00 27 20.0 +0.6
comp=Z,16nm,0.6s
DMN **Daman** 55.51 275 *eP* **P** 00 27 21.9 +1.3
comp=Z,62nm,0.7s
PHET **Kaeng Krachan** 55.62 251 P **P** 00 27 24.1 +2.9
comp=Z,7.3nm,0.7s,comp=Z,89nm
SFK **Sufi-Kurgan** 55.82 294 P **P** 00 27 23.5 +0.8
SFK pmax pmax
comp=Z,5.0nm,1.0s
PMG **Port Moresby** 55.86 187 LR LR 00 48 08.6
comp=Z,45nm,19.9s,baz=36,slow=32
KK31 **Karatay Array** 55.92 299 *eP* **P** **00 27 23.1 0.0**
KK31 **Karatay Array** 55.92 299 *eP* **P** **00 27 23.1 0.0**
KKAR **Karatay Array** 55.92 299 *eP* **P** **00 27 23.1 0.0**
KKAR **Karatay Array** 55.92 299 *eP* **P** **00 27 23.1 0.0**
DANN **Dangsing** 55.97 277 *eP* **P** 00 27 25.3 +1.3
comp=Z,70nm,0.6s
KOLN **Koldanda** 56.44 276 *eP* **P** 00 27 28.4 +1.2
comp=Z,66nm,0.8s
PYUN **Piuthan** 56.66 277 *eP* **P** 00 27 29.7 +1.0
comp=Z,100nm,1.0s
DAG **Danmarks Havn** 56.90 358 *i* P **P** 00 27 28.4 -1.1
DAG **Danmarks Havn** 56.90 358 *i* P **P** 00 27 28.4 -1.1
PRGR **Permogore** 57.46 327 *eP* **P** 00 27 32.8 -0.9
PRGR pmax pmax
comp=Z,6.0nm,0.9s
ARCES **ARCESS Array B** 58.03 341 P **P** 00 27 36.2 -1.4
comp=Z,5.7nm,1.1s,baz=17,slow=6.8,SNR=14
ARCES **ARCESS Array B** 58.03 341 P **P** 00 27 36.2 -1.4
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ABKAR **Akbulak array** 58.41 310 *eP* **P** 00 27 39.2 -1.3
NIL **Nilore** 59.77 288 *eP* **P** **00 27 50.5 +0.3**
NIL **Nilore** 59.77 288 *eP* **P** **00 27 50.5 +0.3**
KLMR **Klimovskoe** 60.21 329 *eP* **P** 00 27 51.4 -1.3
KLMR pmax pmax
comp=Z,8.0nm,1.3s
KLMR **Klimovskoe** 60.21 329 *eP* **P** 00 27 51.4 -1.3
KLMR AMP 00 28 02.1
comp=Z,8.0nm,1.3s
SUMG **Summit** 60.98 4 *eP* **P** 00 27 57.1 -1.2
SUMG **Summit** 60.98 4 *i* P **P** 00 27 58.2 -0.1
comp=Z,20nm,0.6s
SUMG **Summit** 60.98 4 *i* P **P** 00 27 58.2 -0.1
SUMG pmax pmax
comp=Z,20nm,0.6s
FFC **Flin Flon** 61.09 40 *eP* **P** 00 27 59.5 +0.7
comp=Z,5.3nm,0.7s
FFC **Flin Flon** 61.09 40 *eP* **P** 00 27 59.6 +0.7
FFC **Flin Flon** 61.09 40 *eP* **P** 00 27 59.6 +0.7
FFC pmax pmax
comp=Z,5.0nm,0.7s
FCC **Fort Churchill** 61.61 33 *eP* **P** 00 28 02.6 +0.3
comp=Z,6.6nm,0.7s
FCC **Fort Churchill** 61.61 33 *eP* **P** 00 28 02.6 +0.3
FCC **Fort Churchill** 61.61 33 *eP* **P** 00 28 02.6 +0.3
FCC pmax pmax
comp=Z,7.0nm,0.7s
KVN **Kaiserville** 62.50 61 *eP* **P** 00 28 09.9 +1.1
comp=Z,17nm,1.1s
KVN **Kaiserville** 62.50 61 *eP* **P** 00 28 09.9 +1.1
KVN pmax pmax
comp=Z,2.0nm,1.1s
NV01 **Mina Array Sit** 62.77 62 *eP* **P** 00 28 11.4 +0.8
NVAR **Mina Array Bea** 62.77 62 P **P** 00 28 12.3 +1.7
comp=Z,1.2nm,0.8s,baz=292,slow=6.5,SNR=7.6
REDW **Red Top Meadow** 63.99 54 *eP* **P** 00 28 18.5 -0.2
comp=Z,1.9nm,0.9s
REDW *epP* **pwP** 00 28 35.1 -1.0
FIA1 **FINESS Array S** 64.18 335 *eP* **P** 00 28 17.0 -2.3
comp=Z,11nm,0.6s
FINES **FINESS Array B** 64.18 335 P **P** 00 28 18.3 -1.0
comp=Z,9.6nm,0.5s,baz=33,slow=8.0,SNR=87
R11A **Troy Canyon, C** 64.47 61 *eP* **P** 00 28 23.2 +1.4
comp=Z,1.1nm,0.8s
R11A *epP* **pP** 00 28 34.2 -1.3
PD31 **Pinedale Array** 65.09 54 *eP* **P** 00 28 27.8 +1.9
PDAR **Pinedale Array** 65.09 54 P **P** 00 28 27.2 +1.3
comp=Z,1.2nm,0.9s,baz=290,slow=1.3,SNR=8.1
PDAR **Pinedale Array** 65.09 54 *eP* **P** 00 28 26.7 +0.9
NLU **North Lily Min** 65.50 57 *eP* **P** 00 28 30.2 +1.7
comp=Z,1.9nm,1.0s
GEYT **Alibeck** 66.54 301 P **P** 00 28 35.1 +0.1
comp=Z,80nm,1.3s,baz=5.7,slow=3.0,SNR=16
GEYT LR LR 01 00 12.6
comp=Z,116nm,18.1s,baz=220,slow=38
HYB **Hyderabad** 66.77 271 *i* P **P** 00 28 37.5 +0.8
ULM **Lac du Bonnet** 66.88 41 P **P** 00 28 37.0 +0.1
comp=Z,2.5nm,0.6s,baz=324,slow=6.3,SNR=6.7
ULM **Lac du Bonnet** 66.88 41 *eP* **P** 00 28 37.0 +0.1
ULM pmax pmax
comp=Z,3.0nm,0.6s
SRU **San Rafael Swe** 66.96 57 *eP* **P** 00 28 39.9 +2.0
comp=Z,3.3nm,1.1s
SRU **San Rafael Swe** 66.96 57 *eP* **P** 00 28 39.9 +2.0
SRU pmax pmax
comp=Z,3.0nm,1.1s
RSSD **Black Hills** 67.17 50 *eP* **P** 00 28 40.4 +1.2
comp=Z,4.6nm,0.9s
RSSD **Black Hills** 67.17 50 *eP* **P** 00 28 40.4 +1.2
RSSD pmax pmax
comp=Z,5.0nm,0.9s
WRAB **Tennant Creek** 68.17 199 *eP* **P** 00 28 46.2 +0.9
comp=Z,3.2nm,0.8s
WRA **Warramunga Arr** 68.19 199 P **P** 00 28 46.1 +0.8
comp=Z,1.6nm,0.8s,baz=22,slow=7.1,SNR=10.0
NC405 **NORSAR Array S** 68.22 341 *eP* **P** 00 28 44.4 -0.8
NC204 **NORSAR Array S** 68.29 341 *eP* **P** 00 28 44.5 -1.2
NB201 **NORSAR Array S** 68.38 341 *eP* **P** 00 28 44.6 -1.6
PV19 **Morning Glory** 68.39 57 *eP* **P** 00 28 48.7 +1.8
comp=Z,2.9nm,1.1s
NB2 **NORSAR Subarra** 68.40 341 P **P** 00 28 45.5 -0.9
comp=Z,3.8nm,0.5s,baz=27,slow=6.5
NOA **NORSAR Array B** 68.40 341 P **P** 00 28 45.9 -0.5
comp=Z,6.9nm,0.7s,baz=28,slow=6.6,SNR=48
NOA LR LR 01 02 56.9
comp=Z,30nm,18.0s,baz=280,slow=40
PV03 **Paradox Valley** 68.50 57 *eP* **P** 00 28 49.4 +1.8
NBO00 **NORSAR Array S** 68.51 341 *eP* **P** 00 28 45.9 -1.1
NC602 **NORSAR Array S** 68.60 341 *eP* **P** 00 28 46.0 -1.6
NORES **NORESS Array B** 68.60 341 P **P** 00 28 46.6 -0.9
SMCO **Snowmass** 68.95 55 *eP* **P** 00 28 52.2 +1.6
comp=Z,1.0nm,0.7s
KIV **Kislovodsk** 70.81 314 *eP* **P** 00 29 01.2 -0.4
comp=Z,7.3nm,0.6s
KIV **Kislovodsk** 70.81 314 *eP* **P** 00 29 01.3 -0.3
KIV **Kislovodsk** 70.81 314 *eP* **P** 00 29 01.3 -0.3
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,70nm,17.0s
KBZ **Khabaz** 70.87 314 P **P** 00 29 02.2 +0.4
comp=Z,4.9nm,0.8s,baz=110,slow=3.4,SNR=16
ECSD **EROS Data Cent** 71.24 46 *eP* **P** 00 29 04.7 +0.6
comp=Z,6.0nm,0.9s
TBLG **Delisi** 71.38 311 *eP* **P** 00 29 05.1 +0.1
comp=Z,9.3nm,0.8s
TBLG **Delisi** 71.38 311 P **P** 00 29 06.3 +1.3
TBLG pmax pmax
comp=Z,9.0nm,0.8s
AKASG **Malin Array Be** 71.64 326 P **P** 00 29 05.5 -0.8
comp=Z,12nm,0.4s,baz=33,slow=6.3,SNR=43
AKBB **Malin Array Si** 71.64 326 *eP* **P** 00 29 05.6 -0.7
comp=Z,13nm,0.6s
KIEV **Kiev** 71.65 326 *eP* **P** 00 29 04.8 -1.5
comp=Z,13nm,0.6s
KIEV **Kiev** 71.65 326 *i* P **P** 00 29 05.3 -1.0
KIEV pmax pmax
comp=Z,11nm,0.6s
AK11 **Malin Array Si** 71.67 326 *eP* **P** 00 29 05.7 -0.8
AS01 **Alice Springs** 71.87 198 *eP* **P** 00 29 09.9 +2.0
ASAR **Alice Springs** 71.88 198 P **P** 00 29 10.3 +2.3
comp=Z,2.1nm,0.5s,baz=11,slow=5.4,SNR=36
BSD **Bornholm Skovb** 72.70 336 *i* P **P** 00 29 11.7 -0.9
comp=Z,14nm,0.7s
BSD **Bornholm Skovb** 72.70 336 *i* P **P** 00 29 11.7 -0.9
BSD pmax pmax
comp=Z,14nm,0.7s
COP **Copenhagen** 72.87 338 *i* P **P** 00 29 13.2 -0.3
comp=Z,12nm,0.6s
COP **Copenhagen** 72.87 338 *i* P **P** 00 29 13.2 -0.3
COP pmax pmax
comp=Z,12nm,0.6s
319A **Douglas** 72.97 62 *eP* **P** 00 29 15.3 +0.5
comp=Z,2.2nm,0.6s
MUD **Monsted U'grnd** 72.99 340 *i* P **P** 00 29 14.4 +0.2
MUD **Monsted U'grnd** 72.99 340 *eP* **P** 00 29 14.4 +0.2
SCHQ **Schefferville** 73.64 23 P **P** 00 29 18.1 -0.1
comp=Z,6.8nm,0.9s,baz=307,slow=10,SNR=4.5
KWP **Kalwaria Pacla** 74.93 329 *eP* **P** 00 29 26.3 +0.5
KWP **Kalwaria Pacla** 74.93 329 *eP* **P** 00 29 25.3 -0.5
comp=Z,184nm,1.0s
KWP **Kalwaria Pacla** 74.93 329 *eP* **P** 00 29 26.3 +0.5
AMTX **Amarillo** 74.97 55 *eP* **P** 00 29 28.2 +1.8
comp=Z,5.6nm,0.9s
OJC **Ojcow** 75.44 331 *eP* **P** 00 29 28.9 +0.3
OJC **Ojcow** 75.44 331 *eP* **P** 00 29 27.6 -1.1
comp=Z,3.2nm,0.5s
OJC **Ojcow** 75.44 331 *eP* **P** 00 29 28.9 +0.3
OJC **Ojcow** 75.44 331 *eP* **P** 00 29 28.9 +0.3
BUR08 **Bucovina Ar. S** 75.66 326 *eP* **P** 00 29 29.5 -0.6
BUR04 **Bucovina Ar. S** 75.68 326 *eP* **P** 00 29 29.6 -0.6
BURAR **Bucovina Array** 75.68 326⇑ *iP* **P** 00 29 30.0 -0.2
BURAR **Bucovina Array** 75.68 326⇑⇑ *P* **P** 00 29 30.0 -0.2
BIR **Birlad** 75.84 324 *iP* **P** 00 29 31.6 +0.6
BIR **Birlad** 75.84 324 ⇓⇓ *P* **P** 00 29 31.6 +0.6
BIZ **Bicaz** 75.89 325⇑⇑ *P* **P** 00 29 31.7 +0.4
KSP **Ksiaz** 76.03 333 *eP* **P** 00 29 32.3 +0.3
KSP **Ksiaz** 76.03 333 *eP* **P** 00 29 32.3 +0.3
VLDQ **Val d'Or** 76.10 32 *eP* **P** 00 29 30.8 -1.6
comp=Z,9.3nm,0.8s
TLCR 76.22 323⇑ *iP* **P** 00 29 33.7 +0.5
TLCR 76.22 323 ⇑⇑ *P* **P** 00 29 33.7 +0.5
TRPA **Tarpa** 76.25 328 *iP* **P** 00 29 33.9 +0.6
UPC **Upice** 76.41 333 *eP* **P** 00 29 34.6 +0.4
UPC *ex* x 00 31 11.2
UPC **Upice** 76.41 333 *eP* **P** 00 29 34.6 +0.4
PETR **Petresti** 76.44 324 *iP* **P** 00 29 34.4 0.0
ARCR **ARCALIA** 76.45 327 *iP* **P** 00 29 35.5 +1.1
DPC **Dobruska-Polom** 76.45 333 *eP* **P** 00 29 35.0 +0.5
DPC **Dobruska-Polom** 76.45 333 *eP* **P** 00 29 35.0 +0.5
LANS **Liptovska Anna** 76.46 331 *eP* **P** 00 29 35.4 +0.8
ODBI **Odobesti** 76.48 324 ⇑ *iP* **P** 00 29 33.8 -0.8
CFR **Carcaliu** 76.51 323 ⇑ *iP* **P** 00 29 34.6 -0.2
CFR **Carcaliu** 76.51 323 ⇑⇑ *P* **P** 00 29 34.6 -0.2
ASSE **Asse, Remlinge** 76.52 337 *eP* **P** 00 29 34.9 +0.3
comp=Z,6.5nm,0.9s,baz=26,slow=5.7
VRI **Vrincioaia** 76.52 324 ⇑ *iP* **P** 00 29 34.5 -0.4
VRI **Vrincioaia** 76.52 324 ⇑⇑ *P* **P** 00 29 34.5 -0.4
KRLC **Kraliky** 76.55 333 *eP* **P** 00 29 35.4 +0.4
KRLC **Kraliky** 76.55 333 *eP* **P** 00 29 35.4 +0.4
MORC **Moravsky Berou** 76.56 332 *eP* **P** 00 29 34.3 -0.8
comp=Z,8.9nm,0.8s
MORC **Moravsky Berou** 76.56 332 ⇓ *iP* **P** 00 29 35.0 -0.1
MORC **Moravsky Berou** 76.56 332 P **P** 00 29 36.2 +1.1
MORC **Moravsky Berou** 76.56 332 *eP* **P** 00 29 35.4 +0.3
CLL **Collm** 76.61 335 *eP* **P** 00 29 34.5 -0.8
comp=Z,14nm,0.6s
CLL **Collm** 76.61 335 *eP* **P** 00 29 35.1 -0.2
comp=Z,15nm,0.7s,baz=26,slow=5.7
CLL **Collm** 76.61 335 ⇓ *iP* **P** 00 29 35.1 -0.2
comp=Z,15nm,0.7s
CLL *epPP* 00 32 40.0
CLL **Collm** 76.61 335 ⇓ *iP* **P** 00 29 35.1 -0.2
CLL **Collm** 76.61 335 ⇓⇓ *iP* **P** 00 29 35.1 -0.2
CLL pmax pmax
comp=Z,11nm,0.7s
WMOK **Wichita Mounta** 76.70 53 *eP* **P** 00 29 36.2 +0.1
comp=Z,2.9nm,1.0s
WMOK **Wichita Mounta** 76.70 53 *eP* **P** 00 29 36.2 +0.1
WMOK pmax pmax
comp=Z,3.0nm,1.0s
BRG **Berggiesshubel** 76.72 335 *eP* **P** 00 29 35.3 -0.6
comp=Z,5.8nm,1.1s
BRG **Berggiesshubel** 76.72 335 *eP* **P** 00 29 35.3 -0.6
BRG pmax pmax
comp=Z,6.0nm,1.1s
PVCC **Panska Ves** 76.84 334 *eP* **P** 00 29 36.9 +0.3
PVCC **Panska Ves** 76.84 334 *eP* **P** 00 29 36.9 +0.3
FBE **Freiberg** 76.85 335 *eP* **P** 00 29 36.8 +0.2
comp=Z,9.5nm,1.0s,baz=26,slow=5.7
CLZ **Clausthal** 76.86 337 *eP* **P** 00 29 37.3 +0.6
comp=Z,12nm,0.9s,baz=26,slow=5.7
CJR **Cluj-Napoca** 77.04 327 ⇓ *iP* **P** 00 29 38.6 +0.7
CJR **Cluj-Napoca** 77.04 327 ⇓⇓ *P* **P** 00 29 38.6 +0.7
IBBN **Ibbenburen** 77.12 339 *eP* **P** 00 29 38.5 +0.4
comp=Z,13nm,0.9s,baz=26,slow=5.7
MLR **Muntele Rosu** 77.15 325 *eP* **P** 00 29 38.1 -0.5
comp=Z,9.7nm,0.7s
MLR **Muntele Rosu** 77.15 325 ⇓ *iP* **P** 00 29 39.5 +0.9
MLR **Muntele Rosu** 77.15 325 *eP* **P** 00 29 38.1 -0.5
MLR pmax pmax
comp=Z,10.0nm,0.7s
GTTG **Gvttingen** 77.24 337 *eP* **P** 00 29 39.2 +0.4
comp=Z,18nm,1.1s,baz=26,slow=5.7
VYHS **Vyhne** 77.24 331 *eP* **P** 00 29 39.4 +0.5
VRAC **Vranov** 77.28 332 ⇓ *iP* **P** 00 29 39.0 -0.1
VRAC **Vranov** 77.28 332 ⇓⇓ *P* **P** 00 29 39.0 -0.1
VRAC **Vranov** 77.28 332 *eP* **P** 00 29 39.6 +0.5
GOPC **GO Pecny, Ondr** 77.31 334 *eP* **P** 00 29 39.8 +0.5
GOPC **GO Pecny, Ondr** 77.31 334 *eP* **P** 00 29 39.8 +0.5
JAVC **Velka Javorina** 77.32 331 *eP* **P** 00 29 40.7 +1.3
PRU **Pruhonice** 77.32 334 *eP* **P** 00 29 39.8 +0.5
PRU **Pruhonice** 77.32 334 *eP* **P** 00 29 39.8 +0.5
PRU **Pruhonice** 77.32 334 *eP* **P** 00 29 39.8 +0.5
PSZ **Piszkesteto** 77.37 330 *eP* **P** 00 29 39.0 -0.7
comp=Z,5.4nm,1.0s
PSZ **Piszkesteto** 77.37 330 ⇓ *iP* **P** 00 29 40.4 +0.7
PSZ **Piszkesteto** 77.37 330 ⇓⇓ *P* **P** 00 29 40.4 +0.7
VOIR 77.55 325 ⇓ *iP* **P** 00 29 41.5 +0.8
VOIR 77.55 325 ⇓⇓ *P* **P** 00 29 41.5 +0.8
KRUC **Moravsky** 77.56 332 *eP* **P** 00 29 41.0 +0.4
TANN **Tannenbergstha** 77.56 335 *eP* **P** 00 29 40.8 +0.1
comp=Z,5.5nm,0.9s,baz=26,slow=5.7
PLN **Plauen** 77.59 335 *eP* **P** 00 29 41.0 +0.3
comp=Z,6.1nm,1.1s,baz=26,slow=5.7
MOX **Moxa** 77.60 336 *eP* **P** 00 29 41.1 +0.2
comp=Z,8.9nm,1.0s,baz=26,slow=5.7
MOX **Moxa** 77.60 336 *eP* **P** 00 29 41.4 +0.6
MOX **Moxa** 77.60 336 P **P** 00 29 41.4 +0.6
MOX pmax pmax
comp=Z,9.0nm,1.0s
TREC **Trest** 77.64 333 *eP* **P** 00 29 41.7 +0.6
TREC **Trest** 77.64 333 *eP* **P** 00 29 41.7 +0.6
GUNZ **Gunzen** 77.64 335 *eP* **P** 00 29 41.5 +0.4
comp=Z,7.0nm,0.8s,baz=26,slow=5.7
SMOL **Smolenice** 77.70 331 P **P** 00 29 42.8 +1.4
SMOL **Smolenice** 77.70 331 *eP* **P** 00 29 41.3 -0.1
WERN **Wernitzgruen** 77.70 335 *eP* **P** 00 29 41.9 +0.4
comp=Z,7.9nm,0.8s,baz=26,slow=5.7
NKC **Novy Kostel** 77.73 335 *eP* **P** 00 29 41.9 +0.3
NKC **Novy Kostel** 77.73 335 *eP* **P** 00 29 41.9 +0.3
ARR **Arges** 77.77 325 ⇑ *iP* **P** 00 29 43.0 +1.0
TX31 **Lajitas Ar. Si** 77.83 60 *eP* **P** 00 29 43.3 +0.7
TXAR **Lajitas Array** 77.83 60 P **P** 00 29 43.7 +1.1
comp=Z,1.4nm,0.6s,baz=295,slow=4.6,SNR=24
MODS **Modra-Piesok** 77.87 331 *eP* **P** 00 29 42.0 -0.4
UBBA **Unterbreizbach** 77.89 337 *eP* **P** 00 29 42.5 +0.2
comp=Z,16nm,1.6s,baz=26,slow=5.7
SRO **Srobarova** 78.01 331 *eP* **P** 00 29 43.9 +0.8
BUG **Bochum--Univer** 78.03 339 *eP* **P** 00 29 43.5 +0.3
comp=Z,14nm,1.0s,baz=26,slow=5.7
MANZ **Manzenberg** 78.05 335 *eP* **P** 00 29 43.6 +0.2
baz=26,slow=5.7
BUD **Budapest** 78.05 330 P **P** 00 29 45.0 +1.6
BUD pmax pmax
comp=Z,16nm,0.9s
SIRR **Siria** 78.14 328 ⇓ *iP* **P** 00 29 44.0 0.0
KHC **Kasperske Hory** 78.37 334 *eP* **P** 00 29 44.5 -0.8
comp=Z,4.9nm,0.9s
KHC **Kasperske Hory** 78.37 334 *eP* **P** 00 29 45.6 +0.4
KHC *ex* x 00 29 50.0
KHC **Kasperske Hory** 78.37 334 *eP* **P** 00 29 45.6 +0.4
KHC **Kasperske Hory** 78.37 334 *eP* **P** 00 29 45.6 +0.4
KHC *e* 00 29 50.0
BR131 **Keskin Array S** 78.42 317 *eP* **P** 00 29 45.6 -0.1
BRTR **Keskin Array B** 78.42 317 P **P** 00 29 45.9 +0.1
comp=Z,4.2nm,0.8s,baz=87,slow=3.6,SNR=17
BRTR LR LR 01 10 14.6
comp=Z,37nm,18.2s,baz=70,slow=40
BRTR **Keskin Array B** 78.42 317 *i* P **P** 00 29 46.2 +0.4
BRTR pmax pmax
comp=Z,4.0nm,0.9s
GZR **Gura Zlata** 78.46 327 ⇓ *iP* **P** 00 29 45.7 -0.1
GZR **Gura Zlata** 78.46 327 ⇓⇓ *P* **P** 00 29 45.7 -0.1
GRA1 **Grafenberg Arr** 78.56 336 *eP* **P** 00 29 45.8 -0.4
comp=Z,16nm,0.7s
GRF **Grafenberg Arr** 78.56 336 *eP* **P** 00 29 46.9 +0.7
comp=Z,17nm,0.7s,baz=26,slow=5.7
GRF **Grafenberg Arr** 78.56 336 P **P** 00 29 46.4 +0.2
GRF pmax pmax
comp=Z,16nm,0.7s
GRFO **Grafenberg** 78.57 336 *eP* **P** 00 29 45.5 -0.7
comp=Z,14nm,0.7s
GRFO **Grafenberg** 78.57 336 *eP* **P** 00 29 45.5 -0.7
GRFO pmax pmax
comp=Z,14nm,0.7s
WET **Wettzell** 78.57 334 *eP* **P** 00 29 47.0 +0.7
comp=Z,12nm,1.0s,baz=26,slow=5.7
WET **Wettzell** 78.57 334 P **P** 00 29 46.8 +0.5
WET pmax pmax
comp=Z,13nm,0.9s
GEC2 **GERESS Array S** 78.59 334 *eP* **P** 00 29 45.7 -0.8
comp=Z,4.4nm,0.7s
GEC2 **GERESS Array S** 78.59 334 *eP* **P** 00 29 46.6 +0.1
comp=Z,5.3nm,0.8s,baz=26,slow=5.7
GEC2 **GERESS Array S** 78.59 334 *eP* **P** 00 29 45.7 -0.8
GEC2 pmax pmax
comp=Z,4.0nm,0.7s
GERES **GERESS Array B** 78.59 334 P **P** 00 29 46.0 -0.5
comp=Z,3.1nm,0.6s,baz=34,slow=5.8,SNR=33
GEA0 **GERESS Array S** 78.60 334 *eP* **P** 00 29 46.2 -0.3
ANTO **Ankara** 78.71 317 *eP* **P** 00 29 47.1 -0.2
comp=Z,14nm,0.6s
ANTO **Ankara** 78.71 317 ⇓ *iP* **P** 00 29 47.9 +0.6
ANTO **Ankara** 78.71 317 *eP* **P** 00 29 47.1 -0.2
ANTO pmax pmax
comp=Z,14nm,0.6s
SOP **Sopron** 78.71 332 P **P** 00 29 48.2 +1.2
SOP pmax pmax
comp=Z,16nm,0.9s
BZS **Buzias** 78.71 327 ⇑ *iP* **P** 00 29 46.7 -0.4
BZS **Buzias** 78.71 327 ⇑⇑ *P* **P** 00 29 46.7 -0.4
CONA **Conrad Observa** 78.72 332 *eP* **P** 00 29 47.9 +0.6
comp=Z,8.5nm,0.7s,SNR=8.1
BR231 **Keskin MP Arra** 78.74 317 *eP* **P** 00 29 47.7 +0.2
TNS **Taunus Mts** 78.84 338 *eP* **P** 00 29 48.3 +0.5
comp=Z,7.9nm,0.7s,baz=26,slow=5.7
AHRW **Bad Neuenahr-A** 78.91 339 *eP* **P** 00 29 48.5 +0.5
comp=Z,14nm,1.1s,baz=26,slow=5.7
VLAD **Vladila** 79.00 325 ⇑ *iP* **P** 00 29 46.5 -2.2
BEBN **Eben Emael** 79.02 339 ⇑⇑ *P* **P** 00 29 49.3 +0.7
MEM **Membach** 79.11 339 ⇑⇑ *P* **P** 00 29 48.7 -0.5
comp=Z,12nm,0.9s
MOA **Molln** 79.30 333 *eP* **P** 00 29 50.8 +0.5
comp=Z,5.5nm,0.7s
MDVR **Moldovita** 79.38 327 ⇑ *iP* **P** 00 29 50.1 -0.7
ARSA **Arzbergs** 79.42 332 *i* P **P** 00 29 51.5 +0.5
comp=Z,2.5nm,0.5s
RJOB **Jochberg** 79.85 334 *eP* **P** 00 29 54.1 +0.7
comp=Z,7.2nm,0.9s,baz=26,slow=5.7
RAR **Rarotonga** 79.87 136 LR LR 00 57 38.4
comp=Z,175nm,20.6s,baz=257,slow=30
FUR **Furstenfeldbru** 79.92 335 *eP* **P** 00 29 54.3 +0.6
baz=26,slow=5.7
DOU **Dourbes** 79.93 340 ⇑⇑ *P* **P** 00 29 52.1 -1.5
WLF **Walferdange** 79.95 339 ⇓⇓ *P* **P** 00 29 53.4 -0.4
BAIF **Baives** 80.06 340 *eP* **P** 00 29 54.0 -0.3
BAIF pmax pmax
comp=Z,45nm,1.7s
SOKA **Soboth** 80.09 332 *eP* **P** 00 29 55.0 +0.3
comp=Z,8.3nm,0.8s,SNR=8.7
PERS **Pernice** 80.10 332 *i* P **P** 00 29 55.0 +0.3
KBA **Koelnbreinsper** 80.27 333 *eP* **P** 00 29 56.7 +0.9
comp=Z,12nm,0.5s
OBKA **Obir** 80.39 332 *eP* **P** 00 29 56.3 0.0
comp=Z,4.1nm,0.7s
GOLS **Golise** 80.48 331 *i* P **P** 00 29 56.6 -0.1
MYKA **Terra Mystica** 80.58 333 *eP* **P** 00 29 57.3 +0.1
comp=Z,3.4nm,0.5s
WATA **Walderalm** 80.58 334 *eP* **P** 00 29 58.2 +0.8
comp=Z,9.6nm,0.5s,SNR=14
BFO **Black Forest** 80.61 337 *eP* **P** 00 29 56.5 -0.9
comp=Z,13nm,1.0s
BFO **Black Forest** 80.61 337 *eP* **P** 00 29 57.7 +0.4
comp=Z,13nm,1.0s,baz=26,slow=5.7
BFO **Black Forest** 80.61 337 *i* P **P** 00 29 57.9 +0.6
DIVS **Livibare** 80.61 328 *eP* **P** 00 29 57.2 -0.3
comp=Z,6.8nm,0.8s
VTS **Vitosha** 80.65 325 *eP* **P** 00 29 57.1 -0.8
comp=Z,16nm,0.9s
VTS **Vitosha** 80.65 325 ⇓ *iP* **P** 00 29 58.3 +0.4
VTS **Vitosha** 80.65 325 *eP* **P** 00 29 57.1 -0.8
VTS pmax pmax
comp=Z,16nm,0.9s
RETA **Reutte** 80.68 335 *i* P **P** 00 29 58.3 +0.5
comp=Z,6.0nm,0.7s
CRES **Cresnjev** 80.70 331 *i* P **P** 00 29 57.6 -0.2

MOTA	Moosalm	80.71	335	eP	P	00 29 58.5	+0.4
	comp=Z,7.6nm,0.6s,SNR=16						
SQTA	Sankt Quirin	80.79	335	i P	P	00 29 59.1	+0.6
	comp=Z,7.4nm,0.7s,SNR=6.2						
CDF	Champ du Feu	80.81	338	eP	P	00 29 58.2	-0.3
CDF				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ECH	Echery	81.02	338	eP	P	00 29 58.7	-0.9
	comp=Z,7.7nm,0.8s						
ECH	Echery	81.02	338	eP	P	00 29 58.7	-0.9
ECH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
FETA	Feichten	81.11	335	eP	P	00 30 00.5	+0.2
	comp=Z,5.4nm,1.0s						
DAVA	Damuels	81.12	335	eP	P	00 30 00.7	+0.4
	comp=Z,8.5nm,0.8s						
HAU	Haudompre	81.43	338	eP	P	00 30 01.3	-0.4
HAU				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HINF	Hinteralfeld	81.47	338	eP	P	00 30 01.3	-0.7
HINF				pmax	pmax		
	comp=Z,7.0nm,1.0s						
FUORN	Ofenpass-Fuorn	81.61	335	eP	P	00 30 02.9	-0.2
	comp=Z,9.5nm,1.1s						
SRS	Serrai	81.74	324	P	P	00 30 04.1	+0.6
TUE	Stuetta	82.02	335	eP	P	00 30 04.5	-0.6
	comp=Z,9.9nm,0.9s						
PDG	Podgorica	82.32	327	⇓iP	P	00 30 06.1	-0.3
LDF	La Druitiere	82.40	342	eP	P	00 30 06.3	-0.5
LDF				pmax	pmax		
	comp=Z,23nm,1.5s						
LOR	Lormes	82.74	339	eP	P	00 30 08.8	+0.2
LOR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CABF	La Chapelle	82.78	338	eP	P	00 30 08.8	-0.2
CABF				pmax	pmax		
	comp=Z,15nm,1.3s						
FNA	Florina	82.91	325	eP	P	00 30 09.5	-0.2
SSF	Saint Saulge	83.02	339	eP	P	00 30 09.7	-0.3
SSF				pmax	pmax		
	comp=Z,8.0nm,1.4s						
SGMF	Saint Gilles	83.22	344	eP	P	00 30 10.8	-0.2
SGMF				pmax	pmax		
	comp=Z,71nm,1.7s						
AVF	Avril sur Loir	83.31	339	eP	P	00 30 11.5	0.0
AVF				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SMF	Signal de Mont	83.33	339	eP	P	00 30 11.7	0.0
SMF				pmax	pmax		
	comp=Z,32nm,1.4s						
LPL	La Plagne	83.62	337	eP	P	00 30 13.8	+0.3
LPL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LPG	La Plagne	83.64	337	eP	P	00 30 14.0	+0.4
LPG				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BGF	Bois d'Agland	83.65	340	eP	P	00 30 14.7	+1.4
BGF				pmax	pmax		
	comp=Z,39nm,1.9s						
TCF	Toulx Ste Croi	84.06	340	eP	P	00 30 15.9	+0.5
TCF				pmax	pmax		
	comp=Z,17nm,1.6s						
MFF	Saint Martin d	84.30	342	eP	P	00 30 16.8	+0.2
MFF				pmax	pmax		
	comp=Z,76nm,2.2s						
MBDF	Montbardon	84.34	336	eP	P	00 30 17.3	+0.3
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
RAYN	Ar Rayn	84.34	298	eP	P	00 30 17.2	-0.1
	comp=Z,5.0nm,0.9s						
RAYN	Ar Rayn	84.34	298	eP	P	00 30 17.2	-0.1
RAYN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ORIF	Oris-en-Rattie	84.41	337	eP	P	00 30 17.7	+0.4
ORIF				pmax	pmax		
	comp=Z,5.0nm,0.7s						
VIVF	Saint-Julien-l	84.78	338	eP	P	00 30 19.4	+0.3
VIVF				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SBF	Sospel	84.95	336	eP	P	00 30 20.1	+0.1
SBF				pmax	pmax		
	comp=Z,14nm,1.1s						
CAF	Calviac	85.37	340	eP	P	00 30 22.9	+0.8
CAF				pmax	pmax		
	comp=Z,25nm,1.8s						
LFF	La Frestale	85.67	340	eP	P	00 30 23.5	0.0
LFF				pmax	pmax		
	comp=Z,5.0nm,0.7s						
PGF	Pioggiola	85.69	334	eP	P	00 30 23.3	-0.5
PGF				pmax	pmax		
	comp=Z,30nm,1.5s						
LMR	La Mourre	85.70	336	eP	P	00 30 23.7	+0.1
ES19	SONSECA Array	91.70	342	eP	P	00 30 51.0	-1.3
ESDC	Sonseca Array	91.73	342	P	P	00 30 50.9	-1.6
	comp=Z,1.2nm,0.8s,baz=0.6,slow=3.9,SNR=8.1						
KEST	Kesra	91.79	331	P	P	00 30 52.6	-0.2
	comp=Z,2.0nm,0.6s,baz=287,slow=4.1,SNR=5.4						
TORD	Torodi Ar. Bea	115.20	329	PKP	PKiKP	00 36 24.9	-1.5
	comp=Z,0.3nm,0.4s,baz=118,slow=1.8,SNR=8.8						
DBIC	Dimbokro	123.46	333	PKP	PKPdf	00 36 41.5	-0.7
	comp=Z,2.0nm,0.7s,baz=332,slow=1.1,SNR=3.8						
VNDA	Vanda	123.86	178	PKP	PKiKP	00 36 42.4	+1.0
	comp=Z,0.8nm,0.9s,baz=220,slow=2.3,SNR=3.8						
LSZ	Lusaka	124.60	285	ePKPdf	PKiKP	00 36 45.5	+0.7
LSZ	Lusaka	124.60	285	ePKIKP	PKiKP	00 36 45.5	+0.7
LVC	Limon Verde	138.87	69	ePKPdf	PKiKP	00 37 13.3	-0.4
LVC	Limon Verde	138.87	69	ePKIKP	PKiKP	00 37 13.3	-0.4
PLCA	Paso Flores	148.42	95	PKPbc	PKPbc	00 37 31.4	+0.5
	comp=Z,3.4nm,0.9s,baz=183,slow=1.3,SNR=6.0						
CPUP	Villa Florida	148.80	60	PKPbc	PKiKP	00 37 32.9	-0.7
	comp=Z,3.3nm,0.7s,baz=348,slow=2.2,SNR=9.5						

*IDC **09** 00:26:44.3±2.6, 38.°02N×143.°68E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/26, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=68.6km s-min=28.5km az=67.0*

*ISCJB **09** 00:26:47.4±0.9, 37.°86N±0.°04×143.°29E±0.°07, h19km, mb3.4/4, Error ellipse: s-maj=8.5km s-min=5.1km az=175.2*

*JMA **09** 00:26:49.3±0.1, 37.°94N×143.°30E, h43km, M3.7*

ISC 09 00:26:48.6±1.3**, 37.°90N**±0.°05×**143.°29E**±0.°10**, h19km, n18, σ0.°73**/29**, mb3.5**/4**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.50	287	P	Pn	00 27 14.5	0.0
JIKH				S	Sn	00 27 33.1	-0.4
JIO	Ouri	1.63	291	P	Pn	00 27 16.4	+0.1
JIO				S	Sn	00 27 36.4	-0.4
JKMT	Kesennumamotoy	1.70	303	P	Pn	00 27 17.0	-0.2
JKMT				S	Sn	00 27 37.6	-0.8
OFUJ	Ofunato	1.74	313	P	Pn	00 27 17.5	-0.3
OFUJ				eS	Sn	00 27 38.3	-1.1
JMK	Ichinoseki	1.94	304	P	Pn	00 27 20.7	+0.2
JMK				eS	Sn	00 27 44.2	-0.2
JMM	Marumori	1.98	270	P	Pn	00 27 21.4	+0.3
JMM				eS	Sn	00 27 45.1	-0.3
JOM	Ohasama	2.22	316	P	Pn	00 27 24.5	+0.1
JOM				eS	Sn	00 27 51.2	-0.1
JFT	Otama	2.38	262	P	Pn	00 27 27.7	+1.1
JYK	Kaneyama	2.52	295	P	Pn	00 27 29.7	+1.1
JANG	Nango	2.83	331	P	Pn	00 27 33.8	+0.9
JANG				eS	Sn	00 28 06.6	+0.1
JAG	Ashikaga	3.40	246	P	Pn	00 27 41.3	+0.6
JAG				eS	Sn	00 28 20.3	-0.2
BSO1	Boso 1	3.74	211	P	Pn	00 27 44.6	-0.2
BSO1				eS	Sn	00 28 28.1	+0.1
JRY	Ryogami san	3.99	243	P	Pn	00 27 48.2	-0.5
JRY				eS	Sn	00 28 33.6	-1.4
MJAR	Matsushiro Arr	4.28	253	Pn	Pn	00 27 54.9	+2.2
	1.1nm,0.3s,baz=44,slow=16,SNR=4.4						
SONM	Songino Array	28.57	302	P	P	00 32 43.5	+0.1
	0.3nm,0.5s,baz=96,slow=8.0,SNR=2.4						
ZALV	Zalesovo Beam	42.45	312	P	P	00 34 41.8	-0.2
	0.7nm,0.7s,baz=77,slow=9.0,SNR=2.0						
MKAR	Makanchi Array	44.93	302	P	P	00 35 02.2	0.0
	0.4nm,0.7s,baz=88,slow=9.6,SNR=3.6						
WRA	Warramunga Arr	58.15	190	P	P	00 36 41.0	-0.1
	0.6nm,1.1s,baz=8.1,slow=7.0,SNR=3.5						

IDC 09 00:29:25.4±16.0**, 2.°28S**×**67.°37E, h0km, mb3.4**/3**, mb1 3.5**/3**, mb1mx3.3**/39**, mbtmp3.4**/3**, Error ellipse: s-maj=495.9km s-min=46.9km az=68.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	50.60	13	P	P	00 38 25.8	-0.3
	0.4nm,0.8s,baz=198,slow=7.6,SNR=3.7						
SONM	Songino Array	60.40	29	P	P	00 39 37.0	+0.2
	0.3nm,0.6s,baz=225,slow=5.2,SNR=3.5						
WRA	Warramunga Arr	67.59	111	P	P	00 40 24.5	0.0
	0.3nm,0.8s,baz=289,slow=5.6,SNR=2.8						

IDC 09 00:29:53.5±14.0**, 2.°03S**×**68.°09E, h0km, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.3**/40**, mbtmp3.4**/3**, Error ellipse: s-maj=430.9km s-min=39.4km az=69.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.16	146	T	T	00 36 49.4	
	baz=325,slow=75,SNR=5.2						
H08N3	Diego Garcia H	5.17	146	T	T	00 36 52.6	
	baz=325,slow=75,SNR=2.6						
H08N1	Diego Carcia H	5.18	146	T	T	00 36 51.0	
	baz=325,slow=75,SNR=6.1						
MKAR	Makanchi Array	50.20	13	P	P	00 38 50.9	-0.3
	0.5nm,0.8s,baz=207,slow=6.0,SNR=4.4						
SONM	Songino Array	59.84	29	P	P	00 40 01.2	+0.1
	0.3nm,0.7s,baz=225,slow=7.5,SNR=3.2						
WRA	Warramunga Arr	67.01	111	P	P	00 40 49.0	0.0
	0.4nm,0.9s,baz=288,slow=6.0,SNR=2.9						

ATH 09 00:39:58.0, 39.°65N×**25.°52E, h30km**±3km**, ML1.9**/2**, Error ellipse: s-maj=6.9km s-min=1.5km az=232.0, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIA	Limnos Island	0.35	314	P	Pn	00 40 07.0	-0.1
LIA				S	Sb	00 40 12.1	+0.3
LIA				AML	AML	00 40 19.2	
	comp=E,252μm,0.4s						
LIA				AML	AML	00 40 20.0	
	comp=N,211μm,0.1s						
SIGR	SIGRI	0.52	149	P	Pb	00 40 08.7	0.0
SIGR				S	Sb	00 40 16.1	+0.2
SIGR				AML	AML	00 40 16.7	
	comp=E,482μm,0.5s						
SIGR				AML	AML	00 40 16.7	
	comp=N,453μm,0.4s						
PRK	Paraskevi	0.71	125	P	Pn	00 40 12.9	+0.8
PRK				S	Sn	00 40 22.9	+1.0
SMTH	Samothraki Isl	0.82	1	P	Pb	00 40 13.8	+0.1
ALN	Alexandroupoli	1.31	18	P	Pb	00 40 22.0	0.0

IDC 09 00:40:11.7±2.0**, 1.°87S**×**68.°07E, h0km, mb3.7**/6**, mb1 3.9**/6**, mb1mx3.5**/46**, mbtmp3.7**/6**, MS3.5**/3**, Ms1 3.5**/3**, ms1mx3.0**/32**, Error ellipse: s-maj=56.7km s-min=30.3km az=66.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.30	147	T	T	00 46 38.1	
	baz=325,slow=76,SNR=8.0						
H08N3	Diego Garcia H	5.32	147	T	T	00 46 41.9	
	baz=325,slow=76,SNR=7.9						
H08N1	Diego Carcia H	5.33	147	T	T	00 46 39.8	
	baz=325,slow=76,SNR=7.8						
PALK	Pallekele	15.54	54	LR	LR	00 48 25.5	
	comp=Z,138nm,21.4s,baz=295,slow=32						
OPO	Ambohidratompo	26.35	230	LR	LR	00 53 28.3	
	comp=Z,147nm,19.2s,baz=52,slow=30						
CMAR	Chiang Mai Arr	36.48	55	P	P	00 47 19.2	+0.3
	0.4nm,0.3s,baz=249,slow=9.2,SNR=2.8						
MKAR	Makanchi Array	50.05	13	P	P	00 49 07.7	-0.4
	0.5nm,0.8s,baz=190,slow=6.2,SNR=5.3						
BVAR	Borovoye Array	54.73	2	LR	LR	01 13 48.5	
	comp=Z,40nm,18.1s,baz=295,slow=37						
ZALV	Zalesovo Beam	57.35	12	P	P	00 50 01.2	-0.2
	0.9nm,0.8s,baz=201,slow=7.9,SNR=4.7						
SONM	Songino Array	59.72	29	P	P	00 50 18.2	-0.1
	0.8nm,0.8s,baz=212,slow=7.2,SNR=5.8						
WRA	Warramunga Arr	67.09	111	P	P	00 51 07.3	-0.3
	0.8nm,0.8s,baz=283,slow=6.3,SNR=5.4						
ASAR	Alice Springs	67.17	115	P	P	00 51 08.1	+0.1
	0.5nm,0.7s,baz=297,slow=6.0,SNR=4.3						
TXAR	Lajitas Array	151.58	345	PKPbc	PKPbc	01 00 08.9	+0.1
	0.4nm,0.8s,baz=45,slow=2.7,SNR=3.2						

ISK 09 00:40:51.2, 39.°64N×**25.°63E, h9km, ML2.6**/7**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.39	58	PG	Pb	00 40 59.6	-0.6
SIGR	SIGRI	0.46	158	PG	Pg	00 41 00.5	+0.3
EZN	Ezine	0.57	70	PG	Pg	00 41 02.3	+0.1
GADA	Gvkgeada	0.59	20	PG	Pb	00 41 03.4	-0.3
GELI	Tayfur-Gelibol	1.00	40	PG	Pg	00 41 10.5	+0.1
GELI				SG	Sn	00 41 25.1	-0.5
LPK	Lapseki	1.14	49	PN	Pn	00 41 13.7	+0.4
LPK				SN	Sn	00 41 29.5	+0.5
DKL	Dikili	1.14	119	PN	Pn	00 41 13.7	+0.4
ENEZ	Enez	1.17	20	PN	Pn	00 41 13.7	0.0
ERIK	Erikli-Kesan	1.23	33	PN	Pg	00 41 15.3	+0.4
CHOS	Chios island	1.29	165	PN	Pb	00 41 15.6	-0.1
ALN	Alexandroupoli	1.30	14	PN	Pb	00 41 15.8	0.0
OUR	Ouranopolis	1.44	299	PN	Pb	00 41 18.2	0.0
URLA	Izmir	1.48	149	PN	Pb	00 41 18.8	-0.1
KRBG	Karabiga-Canak	1.49	59	PN	Pb	00 41 19.3	+0.3
RDO	Rodhopi	1.51	357	PN	Pn	00 41 18.6	+0.2

IDC 09 00:46:32.6±41.0**, 1.°04S**×**67.°86E, h0km, mb3.5**/3**, mb1 3.5**/3**, mb1mx3.2**/44**, mbtmp3.5**/3**, Error ellipse: s-maj=866.1km s-min=201.8km az=32.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	6.11	149	T	T	00 54 59.8	
	baz=325,slow=75,SNR=20						
H08N3	Diego Garcia H	6.13	149	T	T	00 54 57.7	
	baz=325,slow=75,SNR=18						
H08N1	Diego Carcia H	6.13	149	T	T	00 54 59.5	
	baz=325,slow=75,SNR=20						
MKAR	Makanchi Array	49.29	13	P	P	00 55 23.1	-0.1
	0.5nm,0.9s,baz=215,slow=8.7,SNR=5.2						
ZALV	Zalesovo Beam	56.58	12	P	P	00 56 16.9	0.0
	0.4nm,0.5s,baz=193,slow=5.9,SNR=3.0						
SONM	Songino Array	59.09	29	P	P	00 56 34.8	-0.1
	0.4nm,0.8s,baz=210,slow=7.8,SNR=3.7						

*IDC **09** 00:47:51.9±0.6, 31.°57S×178.°08W, h0km, mb4.3/10, mb1 4.5/12, mb1mx4.3/33, mbtmp4.3/12, ML3.7/2, MS4.2/8, Ms1 4.2/8, ms1mx3.8/22, Error ellipse: s-maj=23.6km s-min=20.3km az=121.0*

*NEIC **09** 00:47:53.0±0.2, 31.°74S×178.°11W, h10km, mb4.7/9, Error ellipse: s-maj=8.4km s-min=5.1km az=114.0*

*ISCJB **09** 00:47:54.7±0.4, 31.°98S±0.°05×178.°15W±0.°09, h33km, mb4.6/18, MS4.1/7, Error ellipse: s-maj=11.3km s-min=6.5km az=25.2*

ISC 09 00:47:56.4±0.7**, 31.°88S**±0.°06×**178.°20W**±0.°09**, h31km**±4km**, h32km:pP-P, n104, σ1.°54**/112**, mb4.6**/17**, MS4.1**/7**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	2.63	5	Pn	Pn	00 48 30.5	-6.2
	88nm,0.3s,baz=252,slow=21,SNR=2.3						
RAO				Sn	Sn	00 49 05.6	-2.0
	277nm,0.3s,baz=104,slow=22,SNR=3.1						
RAO	Raoul Island	2.63	5	ePn	Pn	00 48 31.0	-5.7
RAO				eSn	Sn	00 49 05.7	-2.0
MXZ	Matakaoa Point	6.36	206	ePn	Pn	00 49 27.5	-0.3
URZ	Urewera	7.43	210	Pn	Pn	00 49 40.4	-2.2
	0.8nm,0.3s,baz=160,slow=16,SNR=2.7						
URZ				Sn	Sn	00 51 04.1	-1.8
	9.5nm,0.3s,baz=101,slow=18,SNR=10						
URZ	Urewera	7.43	210	ePn	Pn	00 49 41.7	-1.0
URZ				eSn	Sn	00 51 04.1	-1.8
OUZ	Omahuta	7.62	242	ePn	Pn	00 49 50.3	+5.1
BKZ	Black Stump Fm	8.46	209	ePn	Pn	00 50 00.7	+3.9
BFZ	Birch Farm	9.86	205	ePn	Pn	00 50 16.9	+1.0
BFZ				eSn	Sn	00 52 00.4	-5.0
THZ	Tophouse	12.16	213	ePn	Pn	00 50 46.8	-0.7
THZ				eSn	Sn	00 52 57.5	-4.4
KHZ	Kahutara	12.40	210	ePn	Pn	00 50 49.6	-1.1
KHZ				eSn	Sn	00 53 00.5	-7.2
OXZ	Oxford	13.79	211	ePn	Pn	00 51 09.3	-0.3
DZM	Mont Dzumac	16.80	302	Pn	Pn	00 51 48.8	-0.7
	0.1nm,0.3s,baz=114,slow=20,SNR=2.4						
DZM				LR	LR	00 57 24.6	
	comp=Z,2μm,18.5s,baz=207,slow=34						
DZM	Mont Dzumac	16.80	302	eP	P	00 51 55.7	+4.3
	86nm,1.3s						
DZM				eLR	LR	00 55 42.5	
	comp=Z,1μm,21.9s						
DZM	Mont Dzumac	16.80	302	ePn	Pn	00 51 48.4	-1.1
	36nm,1.1s						
TBI	Tubuai	26.78	79	eLR	LR	01 00 06.9	
	comp=Z,326nm,29.2s						
PPT2	Papeete2	29.52	68	eLR	LR	01 01 32.6	
	comp=Z,310nm,24.8s						
PPT	Papeete	29.54	68	LR	LR	01 02 47.9	
	comp=Z,97nm,19.5s,baz=220,slow=31						
HNR	Honiara	30.16	313	LR	LR	01 04 48.4	
	comp=Z,368nm,19.2s,baz=154,slow=34						
CTAO	Charters Tower	33.90	282	eP	P	00 54 37.5	+0.9
STKA	Stephens Creek	34.01	259	P	P	00 54 39.0	+1.5
	7.3nm,1.0s,baz=98,slow=11,SNR=9.9						
STKA				LR	LR	01 07 31.9	
	comp=Z,461nm,19.1s,baz=50,slow=34						
STKA	Stephens Creek	34.01	259	eP	P	00 54 39.2	+1.8
	4.1nm,1.3s						
BBOO	Buckleboo	38.42	256	eP	P	00 55 15.6	+0.4
	87nm,1.8s						
XMAS	Kiritimati	39.07	34	eP	P	00 55 18.3	-2.3
	523nm,1.6s						
PMG	Port Moresby	39.11	297	eP	P	00 55 19.1	-2.0
	8.1nm,0.3s						
RKT	Rikitea	39.11	88	eLR	LR	01 05 59.1	
	comp=Z,371nm,26.2s						
AS01	Alice Springs	42.84	269	eP	P	00 55 52.7	+0.9
AS31	Alice Springs	42.88	269	eP	P	00 55 53.4	+1.2
	3.9nm,0.6s						
ASAR	Alice Springs	42.88	269	P	P	00 55 53.2	+1.0
	4.2nm,0.7s,baz=105,slow=7.6,SNR=36						
ASAR				LR	LR	01 14 05.6	
	comp=Z,216nm,19.3s,baz=116,slow=37						
WB2	Warramunga Arr	43.99	274	eP	P	00 56 01.5	+0.3
	14nm,0.6s						
WRAB	Tennant Creek	44.00	274	eP	P	00 56 01.4	+0.3
	6.7nm,0.6s						
WR1	Warramunga Arr	44.00	274	eP	P	00 56 02.1	+0.9
	17nm,0.9s						
WRA	Warramunga Arr	44.00	274	P	P	00 56 02.1	+0.9
	4.6nm,0.5s,baz=113,slow=7.7,SNR=82						
WRA				LR	LR	01 13 55.8	
	comp=Z,494nm,18.5s,baz=110,slow=36						
VNDA	Vanda	46.61	186	P	P	00 56 23.3	+2.2
	0.8nm,0.7s,baz=33,slow=3.3,SNR=4.1						
VNDA				LR	LR	01 12 17.1	
	comp=Z,114nm,21.2s,baz=358,slow=31						
VNDA	Vanda	46.61	186	eP	P	00 56 22.6	+1.5
MBWA	Marble Bar	55.91	265	eP	P	00 57 31.6	0.0
QSPA	South Pole Qui	58.23	180	P	P	00 57 50.7	+3.2
	4.0nm,0.6s,baz=274,slow=1.8,SNR=3.1						
QSPA	South Pole Qui	58.23	180	eP	P	00 57 51.0	+3.4
	26nm,1.1s						
MAW	Mawson	70.87	201	LR	LR	01 29 36.4	
	comp=Z,289nm,18.1s,baz=88,slow=35						
PMSA	Palmer Station	70.99	156	eP	P	00 59 10.3	-0.2
MAJO	Matsushiro	79.36	326	eP	P	00 59 58.1	-1.0
PETK	Petropavlovsk-	87.20	346	P	P	01 00 39.4	+0.3
	5.5nm,0.7s,baz=157,slow=7.9,SNR=3.9						
PEA1	Petropavlovsk-	87.21	346	eP	P	01 00 39.4	+0.3
NV01	Mina Array Sit	89.44	43	eP	P	01 00 49.4	-0.9
NVAR	Mina Array Bea	89.44	43	P	P	01 00 50.1	-0.3
	1.3nm,1.0s,baz=226,slow=4.8,SNR=4.6						
KLR	Kul'dur	92.23	330	P	P	01 01 02.6	-0.1
	1.4nm,0.6s,baz=146,slow=8.8,SNR=8.3						
LTX	Lajitas	93.33	57	eP	P	01 01 07.7	-0.8
TXAR	Lajitas Array	93.33	57	P	P	01 01 07.7	-0.8
	0.4nm,0.9s,baz=240,slow=7.2,SNR=2.5						
LVC	Limon Verde	93.37	119	eP	P	01 01 08.4	-0.9
	3.0nm,0.8s						
ILAR	Eielson Array	99.40	13	P	Pdif	01 01 33.8	-1.3
	0.2nm,0.8s,baz=208,slow=7.1,SNR=3.1						
ILB	Eielson Array	99.40	13	eP	Pdif	01 01 33.8	-1.3
MK01	Makanchi Array	118.57	309	ePKPdf	PKPdf	01 06 40.7	-0.1
MK31	Makanchi Array	118.59	309	ePKPdf	PKPdf	01 06 40.3	-0.5
MK32	Makanchi Array	118.59	309	ePKPdf	PKPdf	01 06 40.0	-0.8
MKAR	Makanchi Array	118.59	309	PKP	PKPdf	01 06 40.0	-0.9
	0.5nm,0.6s,baz=216,slow=1.4,SNR=8.6						
MKAR	Makanchi Array	118.59	309	ePKPdf	PKiKP	01 06 41.4	+0.5
MAKZ	Makanchi	118.80	309	ePKPdf	PKiKP	01 06 42.2	+0.9
ZALV	Zalesovo Beam	119.02	318	PKP	PKPdf	01 06 41.1	-0.3
	0.4nm,0.5s,baz=78,slow=2.1,SNR=2.1						
ZAA1	Zalesovo Array	119.02	318	ePKPdf	PKPdf	01 06 41.1	-0.3
KURK	Kurchatov	121.94	313	ePKPdf	PKiKP	01 06 47.6	+0.4
KURBB	Kurchatov Arra	121.98	313	PKP	PKPdf	01 06 46.6	-0.5
	1.5nm,0.6s,baz=110,slow=1.9,SNR=8.9						
AAK	Ala-Archa	122.79	303	PKP	PKiKP	01 06 50.0	+0.6
	0.9nm,0.4s,baz=147,slow=7.4,SNR=6.0						
AAK	Ala-Archa	122.79	303	ePKPdf	PKPdf	01 06 49.4	+0.2
GAR	Garm	124.91	298	ePKPdf	PKiKP	01 06 53.8	+0.1
KK31	Karatay Array	125.74	303	ePKPdf	PKPdf	01 06 55.0	+0.3
KKAR	Karatay Array	125.74	303	ePKPdf	PKiKP	01 06 55.1	+0.1
BVAR	Borovoye Array	127.34	315	PKP	PKPdf	01 06 57.1	-0.3
	2.0nm,0.8s,baz=117,slow=1.6,SNR=10.0						
BRVK	Borovoye	127.40	315	ePKPdf	PKiKP	01 06 58.7	+0.7
ARU	Arti	134.12	320	ePKPdf	PKPdf	01 07 09.6	-0.5
AKTO	Aktyubinsk	134.96	311	PKP	PKPdf	01 07 12.5	+0.6
	1.3nm,0.8s,baz=221,slow=17,SNR=3.5						
ARA0	ARCESS Array S	140.00	347	ePKPdf	PKPdf	01 07 19.9	-0.8
ARCES	ARCESS Array B	140.00	347	PKP	PKPdf	01 07 19.9	-0.8
	2.2nm,0.7s,baz=29,slow=2.1,SNR=6.5						
RAYN	Ar Rayn	140.63	269	ePKPdf	PKPdf	01 07 23.5	+0.3
GNI	Garni	144.58	296	ePKPdf	PKPdf	01 07 30.2	+0.3
KBZ	Khabaz	145.77	302	PKPbc	PKPab	01 07 32.6	+0.1
	8.0nm,1.1s,baz=256,slow=2.0,SNR=4.7						
KIV	Kislovodsk	145.90	303	ePKPbc	PKPdf	01 07 32.1	+0.1
OBN	Obninsk	146.28	324	ePKPbc	PKPbc	01 07 33.1	-0.1
FIA1	FINESS Array S	146.47	339	ePKPdf	PKPdf	01 07 32.8	+0.6
FIA1				ePKPdf	PKPbc	01 07 33.0	-0.6
FIA0	FINESS Array S	146.47	339	ePKPdf	PKPdf	01 07 32.9	+0.7
FINES	FINESS Array B	146.47	339	PKPbc	PKPdf	01 07 32.9	+0.7
	13nm,0.7s,baz=55,slow=3.5,SNR=57						
NC303	NORSAR Array S	149.99	351	ePKPbc	PKPbc	01 07 42.9	-0.1
NC303				ePKPab	sPKPdf	01 07 49.4	-0.5
NB2	NORSAR Subarra	150.18	351	PKP	PKPbc	01 07 42.6	-0.9
	comp=Z,0.8nm,0.6s,baz=17,slow=2.6						
NB200	NORSAR Array S	150.18	351	ePKPbc	PKPbc	01 07 42.9	-0.5
NOA	NORSAR Array B	150.18	351	PKPbc	PKPbc	01 07 42.9	-0.5
	comp=Z,1.5nm,0.8s,baz=14,slow=4.1,SNR=9.4						
AKASG	Malin Array Be	152.36	321	PKPbc	PKiKP	01 07 49.1	0.0
	comp=Z,2.3nm,0.7s,baz=50,slow=2.2,SNR=9.2						
AKBB	Malin Array Si	152.36	321	ePKPbc	PKPbc	01 07 48.7	0.0
AKBB				ePKPab	pPKPbc	01 07 57.7	+0.1
KIEV	Kiev	152.37	321	ePKPbc	PKPbc	01 07 48.9	+0.1
KIEV				ePKPab	pPKPbc	01 07 58.0	+0.4
AK11	Malin Array Si	152.40	321	ePKPbc	PKPbc	01 07 48.6	-0.3
AK11				ePKPab	pPKPbc	01 07 58.2	+0.5
BR101	Keskin Array S	153.12	296	ePKPbc	PKPbc	01 07 51.2	+0.2
BR101				ePKPab	pPKPbc	01 08 01.1	+1.3
BR131	Keskin Array S	153.12	296	ePKPbc	PKPbc	01 07 50.9	-0.1
BR131				ePKPab	sPKPbc	01 08 01.4	-1.5
BRTR	Keskin Array B	153.12	296	PKPbc	PKPbc	01 07 51.2	+0.2
	comp=Z,1.4nm,0.5s,baz=87,slow=2.2,SNR=14						
BRTR				PKPab	pPKPbc	01 08 01.1	+1.3
	comp=Z,3.9nm,1.0s,baz=106,slow=2.8,SNR=7.4						
CLL	Collm	158.91	340	ePKPdf	PKPdf	01 07 51.3	+0.6
CLL				ePKPab	PKPab	01 08 26.0	-0.8
BRG	Berggiesshubel	159.00	338	ePKP	PKPab	01 08 27.2	-0.1
	comp=Z,14nm,1.6s						
CONA	Conrad Observa	160.73	330	ePKPab	PKPab	01 08 35.9	+0.8
	comp=Z,2.6nm,0.8s						
GERES	GERESS Array B	160.82	336	PKPab	PKPab	01 08 35.0	-0.5
	comp=Z,0.5nm,0.6s,baz=15,slow=5.5,SNR=5.1						
TOA0	Torodi Ar. Sit	161.35	180	ePKPdf	PKPdf	01 07 54.1	-0.4
TOA0				ePKPab	PKPab	01 08 39.8	+1.5
TORD	Torodi Ar. Bea	161.35	180	PKPab	PKPab	01 08 40.2	+1.9
	comp=Z,2.0nm,0.9s,baz=248,slow=0.8,SNR=8.1						
TOA1	Torodi Ar. Sit	161.36	180	ePKPab	PKPab	01 08 40.2	+1.9
ARSA	Arzberg	161.40	330	ePKPab	PKPab	01 08 38.9	+0.9
	comp=Z,1.7nm,0.7s						
MOA	Molln	161.44	333	epPKPab	PKPab	01 08 40.3	+2.2
	comp=Z,3.7nm,1.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOKA	**Soboth**	**162.06**	**329**	*e*pPKPab	**PKPab**	**01 08 42.4**	**+1.5**
	comp=Z,4.9nm,1.4s						
MYKA	**Terra Mystica**	**162.68**	**332**	*e*PKPab	**PKPab**	**01 08 42.0**	**-1.6**
	comp=Z,2.7nm,0.8s						
RETA	**Reutte**	**162.98**	**339**	*e*PKPab	**PKPab**	**01 08 45.4**	**+0.6**
	comp=Z,8.0nm,1.4s						
MOTA	**Moosalm**	**163.00**	**338**	*e*pPKPab	**PKPab**	**01 08 46.6**	**+1.6**
	comp=Z,2.4nm,1.0s						
FUORN	**Ofenpass-Fuorn**	**163.91**	**339**	*e*PKPab	**PKPab**	**01 08 47.4**	**-1.7**

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*IDC **09** 00:47:31.1±39.0, 16.°29N×61.°83W, h0km, mb3.1/3, mb1 3.5/3, mb1mx3.3/30, mbtmp3.1/3, Error ellipse: s-maj=807.8km s-min=106.4km az=150.0*
*ISCJB **09** 00:47:57.6±0.5, 17.°20N±0.°04×62.°78W±0.°07, h151km±4km, mb3.0/3, Error ellipse: s-maj=11.9km s-min=4.6km az=148.7*
*TRN **09** 00:47:57.1, 17.°26N×62.°73W, h150km, MD3.8*
ISC 09 00:47:57.2±2.0**, 17.°24N**±0.°08×**62.°75W**±0.°07**, h157**km±12km**, n60,** σ1.^{s}**04**/71**, mb3.0**/3**, Leeward Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEV	**Hard Times**	**0.20**	**122**	*e*P	**Pn**	**00 48 19.0**	**+0.6**
NEV				*e*S	**Sn**	**00 48 34.0**	**-0.5**
SEUS	**St. Eustatius**	**0.34**	**318**	*e*P	**Pn**	**00 48 19.1**	**+0.4**
SEUS				*e*S	**Sn**	**00 48 34.5**	**-0.7**
SABA	**Saba**	**0.60**	**308**	*e*P	**Pn**	**00 48 20.4**	**+0.5**
SABA				*e*S	**Sn**	**00 48 37.0**	**-0.4**
MLYT	**Lee's Yard**	**0.74**	**134**	*e*P	**Pn**	**00 48 21.1**	**+0.3**
MLYT				*e*S	**Sn**	**00 48 39.0**	**+0.2**
SMRT	**St. Maarten**	**0.86**	**339**	*e*P	**Pn**	**00 48 22.0**	**+0.4**
SMRT				*e*S	**Sn**	**00 48 38.9**	**-1.5**
BPA	**Boggy Peak**	**0.87**	**103**	*e*P	**Pn**	**00 48 22.4**	**+0.7**
BPA				*e*S	**Sn**	**00 48 39.4**	**-1.1**
ANWB	**Willy Bob**	**1.01**	**65**	*e*P	**Pn**	**00 48 23.5**	**+0.7**
ANWB				*e*S	**Sn**	**00 48 42.4**	**+0.1**
ABD	**La Joyeuse, An**	**1.43**	**122**	*e*P	**Pn**	**00 48 26.8**	**+0.2**
CBE	**Ff, Capester**	**1.60**	**137**	*e*P	**Pn**	**00 48 29.4**	**+1.0**
TBG	**Guadaloupe-3**	**1.74**	**142**	*e*P	**Pn**	**00 48 30.0**	**+0.1**
TBG	**Guadaloupe-3**	**1.74**	**142**	*e*	Pn	00 48 47.5	+18
TDBA	**Terre de Bas,**	**1.75**	**142**	*e*P	**Pn**	**00 48 30.9**	**+1.0**
DEG	**La Desirade**	**1.86**	**120**	*e*P	**Pn**	**00 48 31.4**	**+0.1**
DEG				*e*S	**Sn**	**00 48 58.0**	**+0.6**
MGG	**Marie-Galante**	**1.90**	**134**	*e*P	**Pn**	**00 48 32.4**	**+0.7**
MGG	**Marie-Galante**	**1.90**	**134**	*e*	Pn	00 48 49.0	+17
MGG				*e*S	**Sn**	**00 48 58.2**	**0.0**
MAGL	**Barre de l'ile**	**1.90**	**132**	*e*P	**Pn**	**00 48 32.4**	**+0.7**
MDPV	**Dominica, Penn**	**2.05**	**141**	*e*P	**Pn**	**00 48 34.7**	**+1.4**
MDPV				*e*S	**Sn**	**00 49 00.2**	**-1.0**
MDPO	**Dominica; Chan**	**2.07**	**143**	*e*P	**Pn**	**00 48 34.2**	**+0.6**
MDPO				*e*S	**Sn**	**00 49 01.5**	**-0.2**
BBL	**Barber's Block**	**2.10**	**144**	*e*P	**Pn**	**00 48 34.1**	**+0.1**
BBL	**Barber's Block**	**2.10**	**144**	*e*	Pn	00 48 50.2	+16
BBL				*e*S	**Sn**	**00 49 02.5**	**+0.1**
DWS	**Wesley**	**2.16**	**140**	*e*P	**Pn**	**00 48 35.0**	**+0.3**
DWS				*e*S	**Sn**	**00 49 03.0**	**-0.5**
DLPL	**La Plaine**	**2.38**	**143**	*e*P	**Pn**	**00 48 38.5**	**+1.1**
DLPL				*e*S	**Sn**	**00 49 08.3**	**0.0**
PCM	**Pelee Case Pet**	**2.83**	**148**	*e*P	**Pn**	**00 48 42.8**	**0.0**
CXM	**Morne La Croix**	**2.85**	**148**	*e*P	**Pn**	**00 48 43.4**	**+0.2**
BAMF	**Morne Balai**	**2.86**	**147**	*e*P	**Pn**	**00 48 43.3**	**+0.1**
GBMF	**Grand Be**	**2.87**	**148**	*e*P	**Pn**	**00 48 43.5**	**+0.2**
PML	**Morne Lenard**	**2.87**	**148**	*e*P	**Pn**	**00 48 43.2**	**-0.1**
FDF	**Fort de France**	**2.93**	**148**	*e*P	**Pn**	**00 48 45.1**	**+1.1**
FDF				*e*S	**Sn**	**00 49 20.4**	**+0.1**
ZAM	**Aeronautique**	**3.13**	**148**	*e*P	**Pn**	**00 48 46.8**	**+0.3**
TRMF	**Trois Ilets**	**3.15**	**149**	*e*P	**Pn**	**00 48 47.3**	**+0.5**
BIM	**Bigot**	**3.15**	**149**	*e*P	**Pn**	**00 48 47.3**	**+0.5**
LPMF	**Morne Lapointe**	**3.16**	**147**	*e*P	**Pn**	**00 48 47.1**	**+0.2**
MVM	**Montagne Vaucl**	**3.21**	**146**	*e*P	**Pn**	**00 48 48.0**	**+0.5**
SLW	**Petit Monier**	**3.65**	**151**	*e*P	**Pn**	**00 48 54.7**	**+1.5**
SLW				*e*S	**Sn**	**00 49 35.8**	**-0.9**
SLB	**Belfond**	**3.77**	**154**	*e*P	**Pn**	**00 48 56.4**	**+1.6**
SLB				*e*S	**Sn**	**00 49 38.0**	**-1.6**
SLDE	**Delcer**	**3.79**	**154**	*e*P	**Pn**	**00 48 56.1**	**+1.2**
SLPA	**Patience**	**3.80**	**152**	*e*P	**Pn**	**00 48 56.5**	**+1.4**
SFAN	**Fancy Village**	**4.13**	**158**	*e*P	**Pn**	**00 49 00.4**	**+1.1**
SSV	**Crater Summit**	**4.17**	**159**	*e*P	**Pn**	**00 49 01.6**	**+1.6**
SVV	**Soufriere Volc**	**4.17**	**159**	*e*P	**Pn**	**00 49 01.6**	**+1.7**
SVB	**Belmont**	**4.20**	**160**	*e*P	**Pn**	**00 49 00.6**	**+0.3**
SVB	**Belmont**	**4.20**	**160**	*e*S	**Sn**	**00 49 47.6**	**-1.9**
SVCV	**St. Vincent, C**	**4.24**	**158**	*e*P	**Pn**	**00 49 02.7**	**+1.8**
FCV	**Fort Charlotte**	**4.31**	**160**	*e*P	**Pn**	**00 49 03.0**	**+1.2**
FCV	**Fort Charlotte**	**4.31**	**160**	*e*S	**Sn**	**00 49 50.0**	**-2.2**
GRSS	**Sisters**	**5.04**	**167**	*e*P	**Pn**	**00 49 13.1**	**+1.9**
GRHS	**Sauteurs**	**5.10**	**168**	*e*P	**Pn**	**00 49 13.5**	**+1.4**
BBGH	**Gun Hill**	**5.11**	**143**	*e*P	**Pn**	**00 49 12.8**	**+0.6**
BBGH	**Gun Hill**	**5.11**	**143**	*e*S	**Sn**	**00 50 08.9**	**-1.9**
GRGR	**Grenville**	**5.19**	**168**	*e*P	**Pn**	**00 49 14.9**	**+1.6**
GRGR	**Grenville**	**5.19**	**168**	*e*S	**Sn**	**00 50 11.4**	**-1.3**
BBSP	**Saint Philip**	**5.20**	**142**	*e*P	**Pn**	**00 49 14.1**	**+0.7**
BBSP	**Saint Philip**	**5.20**	**142**	*e*S	**Sn**	**00 50 10.4**	**-2.5**
TOSP	**Speyside**	**6.29**	**160**	*e*P	**Pn**	**00 49 28.9**	**+1.1**
TPR	**Prospect**	**6.32**	**162**	*e*P	**Pn**	**00 49 29.0**	**+0.8**
BOT	**Bacolet**	**6.35**	**162**	*e*P	**Pn**	**00 49 29.4**	**+0.7**
TRN	**Trinidad (W)**	**6.68**	**169**	*e*P	**Pn**	**00 49 34.0**	**+0.9**
TXAR	**Lajitas Array**	**39.28**	**295**	P	P	00 55 11.4	+0.6
	0.2nm,0.6s,baz=102,slow=8.4,SNR=2.0						
PDAR	**Pinedale Array**	**47.08**	**313**	P	P	00 56 15.5	+2.0
	0.2nm,0.4s,baz=112,slow=9.8,SNR=3.7						
YKA	**Yellowknife Ar**	**57.66**	**334**	P	P	00 57 31.5	+0.8
	0.1nm,0.4s,baz=107,slow=7.6,SNR=2.3						

IDC 09 00:50:48.1±2.1**, 2.°27S**×**67.°79E, h0**km**, mb3.7**/6**, mb1 3.9**/6**, mb1mx3.5**/38**, mbtmp3.7**/6**, MS3.4**/3**, Ms1 3.4**/3**, ms1mx2.9**/36**, Error ellipse: s-maj=60.0km s-min=29.4km az=66.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.15**	**142**	T	T	00 57 10.5	
	baz=324,slow=75,SNR=37						
H08N3	**Diego Garcia H**	**5.16**	**142**	T	T	00 57 11.3	
	baz=324,slow=75,SNR=28						
H08N1	**Diego Carcia H**	**5.17**	**142**	T	T	00 57 12.1	
	baz=324,slow=75,SNR=41						
PALK	**Pallekele**	**15.99**	**54**	LR	LR	00 59 05.8	
	comp=Z,111nm,20.8s,baz=296,slow=31						
OPO	**Ambohidratompo**	**25.89**	**230**	LR	LR	01 04 01.1	
	comp=Z,98nm,19.6s,baz=360,slow=31						
CMAR	**Chiang Mai Arr**	**36.93**	**55**	P	P	00 57 59.9	+0.8
	0.5nm,0.3s,baz=246,slow=8.8,SNR=5.5						
BOSA	**Boshof**	**48.24**	**233**	LR	LR	01 17 48.6	
	comp=Z,53nm,18.5s,baz=118,slow=34						
MKAR	**Makanchi Array**	**50.49**	**13**	P	P	00 59 46.1	-1.9
	0.3nm,0.7s,baz=207,slow=6.0,SNR=4.0						
ZALV	**Zalesovo Beam**	**57.79**	**12**	P	P	01 00 40.5	-0.4
	0.8nm,0.6s,baz=218,slow=6.8,SNR=5.9						
SONM	**Songino Array**	**60.19**	**29**	P	P	01 00 58.8	+0.7
	1.4nm,1.0s,baz=214,slow=7.0,SNR=7.2						
WRA	**Warramunga Arr**	**67.20**	**111**	P	P	01 01 44.4	-0.3
	0.8nm,0.9s,baz=283,slow=5.9,SNR=4.1						
ASAR	**Alice Springs**	**67.25**	**115**	P	P	01 01 44.7	-0.3
	0.9nm,0.8s,baz=274,slow=5.1,SNR=4.7						
TXAR	**Lajitas Array**	**151.88**	**344**	PKPbc	PKiKP	01 10 46.8	+0.4
	0.9nm,1.0s,baz=48,slow=1.9,SNR=5.3						

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*IDC **09** 00:53:49.8±1.6, 35.°38N×28.°63E, h0km, mb3.2/2, mb1 3.1/3, mb1mx3.0/35, mbtmp3.1/3, ML2.5/1, Error ellipse: s-maj=100.8km s-min=22.2km az=139.0*
*ISK **09** 00:53:51.4, 35.°88N×28.°19E, h5km, ML3.3/14*
*THE **09** 00:53:52.3, 35.°86N×28.°19E, h0km±1km, ML2.8/3, Error ellipse: s-maj=2.1km s-min=1.3km az=163.0*
*ATH **09** 00:53:53.0, 35.°87N×28.°22E, h15km±2km, ML2.9/2, Error ellipse: s-maj=3.6km s-min=1.5km az=349.0*
*DDA **09** 00:53:53.4, 35.°96N×28.°25E, h2km±3km, ML3.3*
ISC 09 00:53:52.2±1.3**, 35.°88N**±0.°03×**28.°23E**±0.°03**, h5**km±10km**, n45,** σ1.^{s}**06**/57**, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.34**	**347**	PG	**Pg**	**00 53 58.5**	**-0.4**
ARG	**Arkhangelos**	**0.34**	**347**	P	**Pg**	**00 53 59.9**	**+1.0**
ARG				S	**Sb**	**00 54 05.9**	**-0.6**
ARG				AML	AML	00 54 07.8	
	comp=N,2889μm,0.3s						
ARG				AML	AML	00 54 13.9	
	comp=E,4532μm,0.4s						
ARG	**Arkhangelos**	**0.34**	**347**	P	**Pg**	**00 53 59.9**	**+1.0**
ARG				S	**Sb**	**00 54 05.8**	**-0.8**
KARP	**Karpathos**	**0.93**	**249**	PG	**Pg**	**00 54 09.6**	**-0.4**
KARP	**Karpathos**	**0.93**	**249**	P	**Pg**	**00 54 10.4**	**+0.4**
KARP				S	**Sb**	**00 54 23.2**	**-0.1**
KARP				AML	AML	00 54 30.8	
	comp=N,2396μm,0.3s						
KARP				AML	AML	00 54 33.8	
	comp=E,2144μm,0.5s						
KARP	**Karpathos**	**0.93**	**249**	P	**Pg**	**00 54 10.4**	**+0.4**
KARP				S	**Sb**	**00 54 23.4**	**+0.1**
DATC	**Datca-Mugla**	**0.99**	**333**	PG	**Pg**	**00 54 11.2**	**0.0**
DAT	**Datca**	**1.00**	**329**	PG	**Pb**	**00 54 12.2**	**+0.2**
DAT	**Datca**	**1.00**	**329**	IAML_P			
	comp=Z,2μm,0.2s						
DAT				*i* P	**Pb**	**00 54 12.2**	**+0.2**
DALY	**Dalyan (Mula)**	**1.00**	**20**	PG	**Pg**	**00 54 11.6**	**+0.3**
DALY	**Dalyan (Mula)**	**1.00**	**20**	IAML_P			
	comp=Z,6μm,0.3s						
DALY				*i* P	**Pg**	**00 54 11.2**	**-0.1**
DALY				*i* S	**Sn**	**00 54 28.6**	**+1.3**
FETY	**Fethiye**	**1.02**	**42**	PG	**Pg**	**00 54 11.8**	**0.0**
FETY	**Fethiye**	**1.02**	**42**	P	**Pg**	**00 54 11.3**	**-0.6**
FETY				S	**Sn**	**00 54 28.4**	**+0.4**
FETY	**Fethiye**	**1.02**	**42**	IAML_P			
	comp=Z,10μm,0.2s						
FETY				*i* P	**Pg**	**00 54 11.8**	**0.0**
TURN	**Turunc**	**1.04**	**17**	PG	**Pg**	**00 54 10.1**	**-2.0**
TURN				SG	**Sg**	**00 54 23.2**	**-2.4**
TURN	**Turunc**	**1.04**	**17**	*i* P	**Pg**	**00 54 10.0**	**-2.0**
KSL	**Kastellorizon**	**1.13**	**76**	P	**Pb**	**00 54 14.6**	**+0.4**
KSL	**Kastellorizon**	**1.13**	**76**	P	**Pb**	**00 54 14.7**	**+0.4**
KSL				S	**Sn**	**00 54 31.3**	**+0.7**
AKAS	**Kas**	**1.17**	**72**	PN	**Pb**	**00 54 15.6**	**+0.6**
AKAS	**Kas**	**1.17**	**72**	IAML_P			
	comp=Z,9μm,0.3s						
AKAS				*i* P	**Pb**	**00 54 15.6**	**+0.6**
BDRM	**Kayabasi**	**1.34**	**332**	*i* P	**Pb**	**00 54 18.4**	**+0.7**
BDRM				*i* S	**Sn**	**00 54 37.6**	**+1.8**
BODT	**Bodrum**	**1.39**	**328**	PN	**Pn**	**00 54 18.5**	**+0.2**
BODT	**Bodrum**	**1.39**	**328**	P	**Pn**	**00 54 18.4**	**+0.2**
BODT				S	**Sn**	**00 54 37.7**	**+0.7**
ELL	**Elmali**	**1.61**	**57**	PN	**Pb**	**00 54 22.9**	**+0.4**
TAVA	**DENIZLI_Tavas**	**1.68**	**19**	IAML_P			
	comp=Z,5μm,0.4s						
TAVA				*i* P	**Pb**	**00 54 24.2**	**+0.7**
GOLH	**Golhisar**	**1.73**	**38**	IAML_P			
	comp=Z,4μm,0.3s						
GOLH				*i* P	**Pg**	**00 54 25.5**	**+0.2**
AYDN	**Tasoluk**	**1.80**	**351**	IAML_P			
	comp=Z,3μm,0.3s						
AYDN				*i* P	**Pn**	**00 54 25.3**	**+1.4**
AYDN				*i* S	**Sg**	**00 54 51.7**	**+1.7**
ZKR	**Zakros**	**1.81**	**246**	PN	**Pn**	**00 54 24.9**	**+1.0**
ZKR	**Zakros**	**1.81**	**246**	P	**Pb**	**00 54 26.2**	**+0.5**
GCAM	**G?zelcaml?**	**1.98**	**337**	PN	**Pn**	**00 54 27.6**	**+1.2**
ANAF	**Anafi Island**	**2.04**	**284**	P	**Pn**	**00 54 28.5**	**+1.3**
KORT	**Korkueli**	**2.05**	**56**	PN	**Pn**	**00 54 28.8**	**+1.4**
AYDB	**Zeytinkoy-Aydi**	**2.08**	**353**	PN	**Pn**	**00 54 28.8**	**+1.0**
NPS	**Neapolis**	**2.22**	**255**	P	**Pb**	**00 54 31.5**	**-1.2**
LAST	**Lasithi**	**2.35**	**253**	P	**Pn**	**00 54 33.2**	**+1.7**
DGB	**zmir**	**2.42**	**334**	IAML_P			
	comp=Z,1μm,0.3s						
DGB				*i* P	**Pn**	**00 54 32.6**	**+0.3**
APE	**Apeiranthos**	**2.48**	**299**	PN	**Pn**	**00 54 33.4**	**+0.2**
MANT	**Manisa**	**2.62**	**6**	IAML_P			
	comp=Z,190nm,0.1s						
MANT				*i* P	**Pb**	**00 54 39.1**	**-0.6**
KULA	**Kula-Manisa**	**2.65**	**7**	PN	**Pn**	**00 54 37.4**	**+1.7**
BLCB	**Balcova**	**2.67**	**340**	PN	**Pn**	**00 54 37.2**	**+1.3**
URLA	**Izmir**	**2.80**	**333**	PN	**Pn**	**00 54 38.8**	**+1.2**
URLA	**Izmir**	**2.80**	**333**	IAML_P			
	comp=Z,1μm,0.4s						
URLA				*i* P	**Pn**	**00 54 38.7**	**+1.2**
BRTR	**Keskin Array B**	**5.75**	**47**	Pn	**Pn**	**00 55 18.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=220,slow=16,SNR=5.7						
BRTR				Sn	**Sn**	**00 56 26.4**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=220,slow=26,SNR=6.0						
TORD	**Torodi Ar. Bea**	**32.89**	**233**	P	**P**	**01 00 25.1**	**-2.2**
	comp=Z,0.3nm,0.6s,baz=35,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**41.29**	**57**	P	**P**	**01 01 37.8**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=274,slow=7.5,SNR=5.1						

IDC 09 00:59:37.4±16.0**, 2.°18S**×**67.°59E, h0**km**, mb3.6**/5**, mb1 3.7**/5**, mb1mx3.3**/38**, mbtmp3.6**/5**, Error ellipse: s-maj=544.0km s-min=31.9km az=65.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.34**	**141**	T	T	01 06 09.5	
	baz=325,slow=75						
H08N3	**Diego Garcia H**	**5.36**	**141**	T	T	01 06 11.9	
	baz=325,slow=75						
H08N1	**Diego Carcia H**	**5.37**	**141**	T	T	01 06 13.6	
	baz=325,slow=75						
MKAR	**Makanchi Array**	**50.45**	**13**	P	P	01 08 36.8	-0.2
	0.7nm,0.9s,baz=188,slow=5.8,SNR=3.6						
KURBB	**Kurchatov Arra**	**53.42**	**9**	P	P	01 08 59.1	+0.1
	0.3nm,0.5s,baz=204,slow=8.2,SNR=3.9						
ZALV	**Zalesovo Beam**	**57.74**	**12**	P	P	01 09 29.8	-0.2
	0.4nm,0.4s,baz=214,slow=7.0,SNR=3.1						
WRA	**Warramunga Arr**	**67.43**	**111**	P	P	01 10 35.6	0.0
	0.6nm,0.9s,baz=283,slow=6.2,SNR=3.1						
ASAR	**Alice Springs**	**67.47**	**115**	P	P	01 10 35.8	0.0
	0.2nm,0.3s,baz=284,slow=7.6,SNR=1.6						

IDC 09 01:19:29.7±9.7**, 1.°93S**×**67.°72E, h0**km**, mb3.5**/4**, mb1 3.6**/4**, mb1mx3.3**/31**, mbtmp3.5**/4**, Error ellipse: s-maj=299.0km s-min=41.0km az=67.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.45**	**143**	T	T	01 27 21.7	
	baz=325						
H08N3	**Diego Garcia H**	**5.46**	**143**	T	T	01 27 24.6	
	baz=325						
H08N1	**Diego Carcia H**	**5.47**	**143**	T	T	01 27 26.5	
	baz=325						
MKAR	**Makanchi Array**	**50.19**	**13**	P	P	01 28 27.6	+0.4
	0.4nm,1.0s,baz=185,slow=6.5,SNR=2.3						
ZALV	**Zalesovo Beam**	**57.48**	**12**	P	P	01 29 20.6	+0.3
	0.5nm,0.6s,baz=212,slow=8.0,SNR=2.4						
SONM	**Songino Array**	**59.94**	**29**	P	P	01 29 36.7	-1.1
	0.4nm,0.8s,baz=224,slow=8.0,SNR=2.2						
WRA	**Warramunga Arr**	**67.39**	**111**	P	P	01 30 27.7	+0.3
	0.8nm,1.0s,baz=284,slow=6.1,SNR=4.1						

IDC 09 01:23:29.3±2.7**, 1.°60S**×**68.°82E, h0**km**, mb3.4**/5**, mb1 3.5**/5**, mb1mx3.2**/34**, mbtmp3.4**/5**, Error ellipse: s-maj=92.3km s-min=39.9km az=67.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**49.63**	**12**	P	P	01 32 21.4	-1.2
	0.2nm,0.8s,baz=193,slow=5.9,SNR=2.4						
KURBB	**Kurchatov Arra**	**52.69**	**8**	P	P	01 32 47.0	+1.6
	0.4nm,0.7s,baz=205,slow=7.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**56.94**	**11**	P	P	01 33 15.7	-0.5
	0.2nm,0.3s,baz=190,slow=7.3,SNR=2.0						
SONM	**Songino Array**	**59.12**	**29**	P	P	01 33 31.7	-0.2
	0.1nm,0.3s,baz=219,slow=6.5,SNR=1.8						
WRA	**Warramunga Arr**	**66.48**	**111**	P	P	01 34 21.5	+0.2
	0.3nm,0.8s,baz=295,slow=5.8,SNR=2.2						
TXAR	**Lajitas Array**	**151.51**	**346**	PKPbc	PKPbc	01 43 25.8	-0.5
	0.5nm,0.9s,baz=5.7,slow=1.8,SNR=4.3						

IDC 09 01:31:31.6±3.7**, 2.°25S**×**67.°57E, h0**km**, mb3.7**/6**, mb1 3.8**/6**, mb1mx3.5**/40**, mbtmp3.7**/6**, Error ellipse: s-maj=93.7km s-min=35.7km az=61.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.30**	**140**	T	T	01 38 20.0	
	baz=324,slow=75						
H08N3	**Diego Garcia H**	**5.31**	**140**	T	T	01 38 08.5	
	baz=324,slow=75						
H08N1	**Diego Carcia H**	**5.32**	**140**	T	T	01 38 08.0	
	baz=324,slow=75						
CMAR	**Chiang Mai Arr**	**37.11**	**55**	P	P	01 38 44.0	-0.1
	0.8nm,0.3s,baz=247,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**50.53**	**13**	P	P	01 40 31.0	-0.7
	0.6nm,0.8s,baz=189,slow=6.1,SNR=4.5						
KURBB	**Kurchatov Arra**	**53.50**	**9**	P	P	01 40 54.9	+1.2
	0.8nm,0.9s,baz=203,slow=7.5,SNR=4.6						
ZALV	**Zalesovo Beam**	**57.82**	**12**	P	P	01 41 23.8	-0.9
	1.0nm,0.8s,baz=206,slow=6.3,SNR=3.8						
SONM	**Songino Array**	**60.29**	**29**	P	P	01 41 42.3	+0.2
	0.5nm,0.7s,baz=221,slow=6.7,SNR=3.6						
WRA	**Warramunga Arr**	**67.42**	**111**	P	P	01 42 29.6	0.0
	0.6nm,0.7s,baz=279,slow=5.9,SNR=4.9						

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*IDC **09** 01:34:11.3±1.4, 9.°43N×122.°88E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/37, mbtmp3.4/5, Error ellipse: s-maj=174.4km s-min=21.2km az=67.0*
*ISCJB **09** 01:34:14.0±1.4, 9.°27N±0.°05×122.°34E±0.°06, h27km±12km, mb3.4/5, Error ellipse: s-maj=10.1km s-min=7.7km az=156.7*
*MAN **09** 01:34:15.2, 9.°38N×122.°39E, h20km, mb4.4, ML3.3, MS3.1*
ISC 09 01:34:13.6±2.2**, 9.°33N**±0.°05×**122.°41E**±0.°06**, h14**km±16km**, n13,** σ1.^{s}**09**/20**, mb3.4**/5**, 3C, Negros**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.81**	**89**⇑	*i*P	**Pn**	**01 34 30.7**	**+0.1**
SNPH				*i* S	**Sn**	**01 34 41.6**	**-1.0**
GUIM	**Jordan**	**1.30**	**8**	*e*P	**Pn**	**01 34 36.6**	**-0.8**
GUIM				*e*S	**Sb**	**01 34 54.4**	**-0.1**
JAP	**San Jose, Anti**	**1.49**	**342**⇑	*e*P	**Pn**	**01 34 40.0**	**+0.1**
PAGZ	**Pagadian**	**1.75**	**147**	*e*P	**Pb**	**01 34 44.9**	**-0.6**
PAGZ				*e*S	**Sg**	**01 35 10.6**	**+0.6**
LLP	**Lapu-Lapu**	**1.82**	**57**	*e*P	**Pn**	**01 34 45.3**	**+0.8**
LLP				*e*S	**Sb**	**01 35 08.4**	**-1.0**
CUYO	**Cuyo Island**	**2.04**	**318**	*e*P	**Pn**	**01 34 47.5**	**0.0**
CUYO				*e*S	**Sn**	**01 35 10.6**	**-2.4**
RCP	**Roxas**	**2.25**	**8**⇑	*e*P	**Pb**	**01 34 53.1**	**-0.8**
RCP				*e*S	**Sb**	**01 35 21.3**	**-0.3**
OTRP	**Odiongan**	**3.04**	**353**	*e*P	**Pn**	**01 35 02.5**	**+1.2**
OTRP				*e*S	**Sn**	**01 35 38.5**	**+1.0**
WRA	**Warramunga Arr**	**31.36**	**158**	P	**P**	**01 40 32.5**	**-1.6**
	0.4nm,1.0s,baz=345,slow=9.3,SNR=3.5						
ASAR	**Alice Springs**	**34.66**	**161**	P	**P**	**01 41 03.4**	**+0.5**
	0.5nm,0.7s,baz=337,slow=7.8,SNR=4.1						
SONM	**Songino Array**	**40.70**	**343**	P	**P**	**01 41 55.7**	**+1.9**
	0.6nm,0.7s,baz=157,slow=8.0,SNR=3.8						
MKAR	**Makanchi Array**	**50.54**	**325**	P	**P**	**01 43 12.0**	**+0.4**
	0.3nm,0.8s,baz=116,slow=6.6,SNR=3.3						
KURBB	**Kurchatov Arra**	**54.74**	**327**	P	**P**	**01 43 42.8**	**+0.2**
	0.3nm,0.6s,baz=124,slow=5.9,SNR=2.5						

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*ISCJB **09** 01:38:47.7±0.4, 39.°71N±0.°02×25.°62E±0.°03, h9km±3km, Error ellipse: s-maj=3.4km s-min=3.1km az=166.8*
*ATH **09** 01:38:47.1, 39.°70N×25.°60E, h30km±1km, ML2.2/4, Error ellipse: s-maj=1.7km s-min=0.9km az=239.0*
*ISK **09** 01:38:47.2, 39.°71N×25.°65E, h5km, ML2.4/9*
*THE **09** 01:38:48.0, 39.°70N×25.°62E, h11km±1km, ML2.1/7, Error ellipse: s-maj=1.5km s-min=0.7km az=74.0*
*DDA **09** 01:38:48.0, 39.°76N×25.°64E, h7km±1km, ML2.7*
ISC 09 01:38:47.9±0.9**, 39.°70N**±0.°02×**25.°62E**±0.°02**, h14**km±8km**, n41,** σ0.^{s}**55**/69**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.36**	**67**	PG	**Pg**	**01 38 54.9**	**-0.3**
BOZC				SG	**Sg**	**01 38 59.7**	**-0.5**
BOZC	**Bozcaada**	**0.36**	**67**	IAML_P			
	comp=Z,5μm,0.1s						
BOZC				*i* P	**Pg**	**01 38 55.1**	**-0.1**
LIA	**Limnos Island**	**0.39**	**300**	P	**Pg**	**01 38 55.9**	**+0.2**
LIA				S	**Sg**	**01 39 01.8**	**+0.8**
LIA	**Limnos Island**	**0.39**	**300**	P	**Pg**	**01 38 55.8**	**+0.1**
LIA				S	**Sg**	**01 39 01.9**	**+0.8**
EFSA	**Agios Efstrati**	**0.52**	**252**	P	**Pg**	**01 38 58.7**	**+0.7**
EFSA				S	**Sg**	**01 39 06.1**	**+1.2**
SIGR	**SIGRI**	**0.52**	**160**	PG	**Pg**	**01 38 57.9**	**-0.3**
SIGR	**SIGRI**	**0.52**	**160**	P	**Pg**	**01 38 57.8**	**-0.5**
SIGR				S	**Sg**	**01 39 05.6**	**+0.4**
SIGR				AML	AML	01 39 05.7	
	comp=N,1420μm,0.6s						
SIGR				AML	AML	01 39 05.8	
	comp=E,985μm,0.4s						
SIGR	**SIGRI**	**0.52**	**160**	P	**Pg**	**01 38 57.7**	**-0.5**
SIGR				S	**Sg**	**01 39 05.4**	**+0.2**
GADA	**Gvkgeada**	**0.53**	**24**	PG	**Pg**	**01 38 58.3**	**-0.1**
GADA				SG	**Sb**	**01 39 06.0**	**-0.6**
GADA	**Gvkgeada**	**0.53**	**24**	P	**Pg**	**01 38 58.2**	**-0.1**
GADA				S	**Sb**	**01 39 06.4**	**-0.2**
EZN	**Ezine**	**0.56**	**77**	PG	**Pg**	**01 38 58.2**	**-0.6**
EZN				SG	**Sg**	**01 39 06.1**	**-0.1**
EZN	**Ezine**	**0.56**	**77**	P	**Pg**	**01 38 58.5**	**-0.3**
EZN				S	**Sg**	**01 39 06.2**	**0.0**
PRK	**Paraskevi**	**0.68**	**132**	P	**Pb**	**01 39 01.6**	**+0.1**
PRK				S	**Sb**	**01 39 10.9**	**+0.1**
PRK				AML	AML	01 39 12.1	
	comp=E,467μm,0.4s						
PRK				AML	AML	01 39 15.2	
	comp=N,478μm,0.3s						
PRK	**Paraskevi**	**0.68**	**132**	P	**Pb**	**01 39 01.8**	**+0.3**
PRK				S	**Sb**	**01 39 11.3**	**+0.5**
BAYC	**CANAKKALE_Bayr**	**0.71**	**87**	*i* P	**Pb**	**01 39 01.9**	**-0.3**
BAYC				*i* S	**Sb**	**01 39 12.4**	**+0.6**
SMTH	**Samothraki Isl**	**0.77**	**355**	P	**Pg**	**01 39 02.9**	**0.0**
SMTH				S	**Sg**	**01 39 13.3**	**+0.3**
SMTH				AML	AML	01 39 15.7	
	comp=N,279μm,0.3s						
SMTH				AML	AML	01 39 15.7	
	comp=E,136μm,0.2s						
SMTH	**Samothraki Isl**	**0.77**	**355**	P	**Pg**	**01 39 02.8**	**0.0**
SMTH				S	**Sb**	**01 39 13.9**	**+0.5**
AYVA	**Ayvalik**	**0.92**	**115**	*i* P	**Pn**	**01 39 06.8**	**+0.5**
AYVA				*i* S	**Sn**	**01 39 19.6**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.95**	**43**	PG	**Pg**	**01 39 05.8**	**-0.5**
GELI				SG	**Sb**	**01 39 19.2**	**+0.5**
LPK	**Lapseki**	**1.10**	**52**	PN	**Pb**	**01 39 08.0**	**-0.7**
LPK				SN	**Sn**	**01 39 24.0**	**+0.1**
ENEZ	**Enez**	**1.11**	**21**	PN	**Pb**	**01 39 08.7**	**-0.2**
ENEZ				SN	**Sn**	**01 39 24.5**	**+0.4**
THAS	**Thassos island**	**1.14**	**323**	P	**Pb**	**01 39 08.9**	**-0.5**
THAS				S	**Sb**	**01 39 23.9**	**-0.1**
THAS				AML	AML	01 39 25.9	
	comp=E,168μm,0.3s						
THAS				AML	AML	01 39 27.0	
	comp=N,162μm,0.2s						
THAS	**Thassos island**	**1.14**	**323**	P	**Pb**	**01 39 09.2**	**-0.1**
THAS				S	**Sb**	**01 39 23.9**	**-0.1**
PSRA	**Psara**	**1.16**	**182**	P	**Pb**	**01 39 08.5**	**-1.2**
SKY	**Skiros Island**	**1.17**	**226**	P	**Pb**	**01 39 08.7**	**-1.2**
DKL	**Dikili**	**1.18**	**122**	PN	**Pb**	**01 39 09.9**	**-0.1**
DKL				SN	**Sn**	**01 39 26.7**	**+0.9**
ERIK	**Erikli-Kesan**	**1.18**	**35**	PN	**Pb**	**01 39 09.9**	**-0.2**
ERIK				SN	**Sn**	**01 39 26.3**	**+0.4**
ALN	**Alexandroupoli**	**1.23**	**15**	PN	**Pn**	**01 39 10.8**	**0.0**
ALN	**Alexandroupoli**	**1.23**	**15**	P	**Pn**	**01 39 09.7**	**-1.1**
ALN				S	**Sb**	**01 39 27.2**	**+0.4**
ALN	**Alexandroupoli**	**1.23**	**15**	P	**Pn**	**01 39 10.7**	**0.0**
ALN				S	**Sn**	**01 39 27.8**	**+0.6**
CHOS	**Chios island**	**1.36**	**165**	PN	**Pn**	**01 39 13.2**	**+0.7**
CHOS	**Chios island**	**1.36**	**165**	P	**Pn**	**01 39 12.3**	**-0.3**
CHOS				S	**Sb**	**01 39 29.9**	**-0.5**
CHOS	**Chios island**	**1.36**	**165**	P	**Pn**	**01 39 12.2**	**-0.3**
CHOS				S	**Sb**	**01 39 30.6**	**+0.2**
KESN	**Edirne-Kesan**	**1.38**	**36**	IAML_P			
	comp=Z,226nm,0.1s						
KESN				*i* P	**Pn**	**01 39 13.5**	**+0.4**
KESN				*i* S	**Sg**	**01 39 32.1**	**-0.5**
RDO	**Rodhopi**	**1.44**	**357**	PN	**Pb**	**01 39 14.5**	**0.0**
RDO	**Rodhopi**	**1.44**	**357**	P	**Pn**	**01 39 12.4**	**-1.2**
KRBG	**Karabiga-Canak**	**1.46**	**61**	PN	**Pn**	**01 39 14.5**	**+0.7**
PAIG	**Paliouri**	**1.51**	**279**	P	**Pn**	**01 39 13.7**	**-0.9**
PAIG	**Paliouri**	**1.51**	**279**	P	**Pn**	**01 39 13.7**	**-0.9**
BALY	**Balya**	**1.54**	**88**	IAML_P			
	comp=Z,271nm,0.2s						
BALY				*i* P	**Pn**	**01 39 15.3**	**+0.3**
EDC	**Edincik**	**1.84**	**69**	PN	**Pn**	**01 39 20.1**	**+1.0**

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*MOS **09** 01:41:49.9±1.3, 25.°31N×95.°16E, h77km, mb6.2/139, MS5.0/50, Error ellipse: s-maj=5.9km s-min=3.1km az=124.5*
*ISCJB **09** 01:41:50.4±0.2, 25.°34N±0.°01×94.°97E±0.°01, h79km±2km, mb5.8/448, Error ellipse: s-maj=2.5km s-min=1.8km*

az=27.5

BJI ***09*** *01:41:50.1, 25°.33N×94°.94E, h92km, mb5.4/65, mB5.8/58*

NEIC ***09*** *01:41:52.0±0.0, 25°.24N×94°.97E, h100km, Moment Tensor Solution. s42 Moment tensor: Scale 10^{17}Nm; M_{rr}5.39; $M_{\theta\theta}$-4.43; $M_{\phi\phi}$-0.96; $M_{r\theta}$0.26; $M_{\theta\phi}$2.59; $M_{\phi r}$-2.52; Best double couple: $M_0$6.20000×10^{17} NP1:ϕ_s137.00000°, δ55.00000°, λ113.00000°. NP2:ϕ_s280.00000°, δ41.00000°, λ60.00000°. Principal axes: T 6.3100, Plg69.0000°, Azm99.0000°; N -0.3100, Plg19.0000°, Azm303.0000°; P -6.0000, Plg7.0000°, Azm210.0000°;*

NEIC ***09*** *01:41:53.3±0.1, 25°.33N×95°.05E, h93km, mb5.8/234, ME5.5, MW5.8, MW5.8 Error ellipse: s-maj=3.2km s-min=2.2km az=40.0, Moment Tensor Solution. s59 Moment tensor: Scale 10^{17}Nm; M_{rr}6.47; $M_{\theta\theta}$-4.81; $M_{\phi\phi}$-1.67; $M_{r\theta}$0.82; $M_{\theta\phi}$2.75; $M_{\phi r}$-2.55; Best double couple: $M_0$7.00000×10^{17} NP1:ϕ_s134.00000°, δ55.00000°, λ106.00000°. NP2:ϕ_s287.00000°, δ38.00000°, λ68.00000°. Principal axes: T 7.2100, Plg74.0000°, Azm89.0000°; N -0.4900, Plg13.0000°, Azm305.0000°; P -6.7200, Plg9.0000°, Azm213.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s284.00000°, δ46.00000°, λ63.00000°. NP2:ϕ_s140.00000°, δ50.00000°, λ115.00000°. Principal axes: T Plg71.0000°, Azm117.0000°; N Plg0.0000°, Azm0.0000°; P Plg2.0000°, Azm213.0000°; Apparent Stress 1.44 MPa. Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Guwahati, India. Also felt at Dibrugarh, Golaghat, Itanagar, Jorhat, Kohima, Mangaldai, Sibsagar and Umsning. Felt at Dhaka, Bangladesh.

NDI ***09*** *01:41:53.1±4.0, 25°.30N×94°.86E, h92km±11km, ML5.8, mb5.8(NEIC)*

IDC ***09*** *01:41:53.1±0.9, 25°.34N×95°.19E, h93km±7km, mb5.3/38, mb1 5.4/39, mb1mx5.3/43, mbtmp5.6/39, MS4.9/34, Ms1 4.9/34, ms1mx4.8/41, Error ellipse: s-maj=8.5km s-min=6.7km az=40.0*

GCMT ***09*** *01:41:54.3±0.1, 25°.09N±0°.01×94°.95E±0°.01, h106km, MW5.8/140, Moment Tensor Solution. s126,c239; s140,c362; Duration: 2s0 Moment tensor: Scale 10^{17} Nm; M_{rr}5.92±.06; $M_{\theta\theta}$-4.81±.07; $M_{\phi\phi}$-1.11±.07; $M_{r\theta}$0.52±.06; $M_{\theta\phi}$4.16±.06; $M_{\phi r}$-1.89±.05; Best double couple: $M_0$7.04900×10^{17} NP1:ϕ_s137.00000°, δ53.00000°, λ109.00000°. NP2:ϕ_s288.00000°, δ41.00000°, λ67.00000°. Principal axes: T 6.4250, Plg74.0000°, Azm102.0000°; N 1.2470, Plg15.0000°, Azm306.0000°; P -7.6720, Plg6.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 09 01:41:53.1±0.2**, 25°.32N**±0°.02×**95°.01E**±0°.02**, h93**km±1km**, h93**km**:pP-P, n1898,** σ1s60/2362**, mb5.8**/481**, 191C-74D, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOHI	**KOHIMA**	**0.91**	**296**	*e*P	**Pn**	**01 42 10.4**	**-1.6**
KOHI				*e*S	**Sn**	**01 42 20.5**	**-5.8**
MOKO	**MOKOCHONG**	**1.09**	**336**	*e*P	**Pn**	**01 42 14.2**	**0.0**
MOKO				*e*S	**Sn**	**01 42 29.4**	**-0.6**
TEZP	**TEZPUR**	**2.37**	**303**	*e*P	**Pn**	**01 42 28.5**	**-1.8**
TEZP				*e*S	**Sn**	**01 42 54.4**	**-4.3**
TEZP				IAML		01 42 56.5	
	comp=E,142μm,0.1s						
TEZP				IAML		01 42 56.5	
	comp=N,130μm,0.1s						
AZL	**Aizawl**	**2.64**	**234**	*e*P	**Pn**	**01 42 32.5**	**-1.4**
AZL				*e*S	**Sn**	**01 43 01.0**	**-4.2**
AZL				IAML		01 43 05.1	
	comp=N,40μm,0.2s						
AZL				IAML		01 43 05.1	
	comp=E,55μm,0.2s						
SHL	**Shillong**	**2.84**	**276**	*e*Pn	**Pn**	**01 42 34.0**	**-2.6**
SHL				*e*Sn	**Sn**	**01 43 01.7**	**-8.4**
SHL	**Shillong**	**2.84**	**276**	*e*P	**Pn**	**01 42 34.0**	**-2.6**
SHL				*e*		01 43 01.7	
SHL	**Shillong**	**2.84**	**276**	*e*P	**Pn**	**01 42 34.6**	**-2.0**
SHL				*e*S	**Sn**	**01 43 05.6**	**-4.5**
SHL				IAML		01 43 09.1	
	comp=E,40μm,0.0s						
SHL				IAML		01 43 09.1	
	comp=N,37μm,0.2s						
GUWA	**GUWAHATI**	**3.12**	**287**	*e*P	**Pn**	**01 42 38.0**	**-2.1**
GUWA				*e*S	**Sn**	**01 43 10.8**	**-5.7**
GUWA				AMP		01 43 13.7	
	comp=Z,4μm,0.0s						
GUWA				AMP		01 43 13.9	
	comp=N,2601μm,0.1s						
SAIH	**SAIHA**	**3.37**	**214**	*e*P	**Pn**	**01 42 43.0**	**-0.9**
SAIH				*e*S	**Sn**	**01 43 18.8**	**-4.2**
BELO	**BELONIA**	**3.85**	**238**	*e*P	**Pn**	**01 42 49.5**	**-0.6**
BELO				*e*S	**Sn**	**01 43 29.1**	**-5.2**
BELO				AMP		01 43 33.5	
	comp=N,1398μm,0.1s						
BELO				AMP		01 43 34.0	
	comp=Z,2μm,0.2s						
BRDH	**Bariadhala**	**4.05**	**230**	P	**Pn**	**01 42 50.3**	**-2.5**
	comp=Z,122nm,0.3s,baz=65,slow=10,SNR=47						
BRDH				S	**Sn**	**01 43 35.6**	**-3.5**
	comp=Z,7μm,0.3s,baz=270,slow=21,SNR=28						
BRDH				Lg	Lg	01 44 20.3	
	baz=259,slow=21,SNR=0.4						
LSA	**Lhasa**	**5.55**	**323**	*e*Pn	**Pn**	**01 43 14.0**	**+0.5**
LSA				*e*Sn	**Sn**	**01 44 12.6**	**-3.6**
LSA	**Lhasa**	**5.55**	**323**	*i* P	**Pn**	**01 43 14.5**	**+0.9**
	SNR=243						
LSA	**Lhasa**	**5.55**	**323**	*e*P	**Pn**	**01 43 14.0**	**+0.5**
LSA				*e*		01 44 12.6	
GTK	**Tadong**	**6.08**	**290**	*e*P	**Pn**	**01 43 18.5**	**-2.1**
GTK				*e*S	**Sn**	**01 44 20.8**	**-8.1**
GTK				AMP		01 44 28.6	
	comp=N,80μm,0.1s						
GTK				IAML		01 44 31.3	
	comp=E,5μm,0.5s						
KMI	**Kunming**	**7.00**	**90**	P	**Pn**	**01 43 36.5**	**+3.3**
KMI				sP		01 43 54.0	
KMI				S	**Sn**	**01 44 58.4**	**+6.9**
KMI				LR	LR		
	comp=E,17μm,4.9s						
KMI				LR	LR		
	comp=E,19μm,4.7s						
KMI				LR	LR		
	comp=E,29μm,16.4s						
KMI	**Kunming**	**7.00**	**90**	*e*Pn	**Pn**	**01 43 36.9**	**+3.7**
KMI	**Kunming**	**7.00**	**90**	*e*P	**Pn**	**01 43 36.9**	**+3.7**
CHTO	**Chiang Mai**	**7.43**	**150**	*e*Pn	**Pn**	**01 43 39.1**	**+0.2**
CHTO				*e*Sn	**Sn**	**01 45 03.1**	**+1.4**
CHTO	**Chiang Mai**	**7.43**	**150**	*e*P	**Pn**	**01 43 39.1**	**+0.2**
CHTO				*e*		01 45 03.1	
CHTO	**Chiang Mai**	**7.43**	**150**	P	**Pn**	**01 43 39.1**	**+0.2**
	SNR=249						
CHTO	**Chiang Mai**	**7.43**	**150**	P	**Pn**	**01 43 38.9**	**0.0**
	comp=E,3μm,0.7s,comp=E,55μmcomp=E,79μmcomp=E,84nm						
RAMN	**Ramite**	**7.73**	**284**	*e*Pn	**Pn**	**01 43 41.2**	**-1.9**
CM31	**Chiang Mai Arr**	**7.75**	**151**	*e*Pn	**Pn**	**01 43 44.0**	**+0.9**
CM31	**Chiang Mai Arr**	**7.75**	**151**	P	**Pn**	**01 43 43.3**	**+0.2**
	SNR=377						
CMAR	**Chiang Mai Arr**	**7.75**	**151**	P	**Pn**	**01 43 43.7**	**+0.5**
	comp=E,32nm,0.3s,baz=327,slow=14,SNR=334						
CMAR				Lg	Lg	01 45 47.0	
	comp=E,3.9nm,0.3s,baz=330,slow=28,SNR=3.1						
CMAR				LR	LR	01 47 06.2	
	comp=E,13μm,19.2s,baz=331,slow=41						
CM01	**Chiang Mai Arr**	**7.79**	**151**	*e*Pn	**Pn**	**01 43 44.4**	**+0.7**
LAMP	**Lampang**	**8.01**	**147**	P	**Pn**	**01 43 47.5**	**+0.7**
	comp=E,167nm,0.8s,comp=E,2μmcomp=E,3.4nm						
JIRN	**Jiri**	**8.24**	**288**	*e*Pn	**Pn**	**01 43 47.7**	**-2.4**
BOK	**Bokaro**	**8.44**	**262**	*e*P	**Pn**	**01 43 50.1**	**-2.5**
BOK				*e*P	**Pn**	**01 43 50.5**	**-2.2**
BOK				*e*S	Sn	01 45 13.9	-12
BOK				AMP		01 45 23.3	
	comp=E,17μm,0.3s						
BOK				IAML		01 45 24.6	
	comp=N,18μm,0.1s						
GUN	**Gumba**	**8.57**	**290**	*e*Pn	**Pn**	**01 43 52.1**	**-2.5**
GUN				*e*Sn	**Sn**	**01 45 23.7**	**-6.1**
	comp=N,17μm,0.8s						
PKIN	**Phulchoki**	**8.90**	**287**	*e*Pn	**Pn**	**01 43 56.6**	**-2.5**
SUKH	**Sukhothai**	**8.91**	**150**	P	**Pn**	**01 43 59.5**	**+0.5**
	comp=N,212nm,0.9s,comp=N,2μm						
KKN	**Kakani**	**9.05**	**288**	*e*Pn	**Pn**	**01 43 58.4**	**-2.7**
KKN				*e*Sn	**Sn**	**01 45 35.0**	**-6.4**
	comp=N,7μm,0.6s						
DMN	**Daman**	**9.16**	**287**	*e*Pn	**Pn**	**01 43 59.5**	**-3.1**
CD2	**Chengdu**	**9.52**	**52**	P	**Pn**	**01 44 07.6**	**+0.3**
CD2				S	**Sn**	**01 45 51.3**	**-1.2**
CD2				pmax	pmax		
	comp=N,90nm,0.7s						
CD2				pmax	pmax		
	comp=N,3μm,5.4s						
CD2				LR	LR		
	comp=N,23μm,8.9s						
CD2				LR	LR		
	comp=N,20μm,8.9s						
CD2				LR	LR		
	comp=N,29μm,12.4s						
GKN	**Gorkha**	**9.65**	**288**	*e*Pn	**Pn**	**01 44 06.8**	**-2.5**
UMPA	**Umpang Tak**	**9.76**	**158**	P	**Pn**	**01 44 13.5**	**+2.9**
BWNR	**Bhubaneshwar**	**9.85**	**241**	*e*x	Pn	01 44 02.3	-9.5
NONG	**Nongkai**	**10.46**	**132**	P	**Pn**	**01 44 23.0**	**+2.9**
DANN	**Dangsing**	**10.49**	**289**	*e*Pn	**Pn**	**01 44 16.5**	**-4.3**
DANN				*e*Sn	**Sn**	**01 46 09.1**	**-7.4**
	comp=N,5μm,0.6s						
KOLN	**Koldanda**	**10.50**	**286**	*e*Pn	**Pn**	**01 44 16.7**	**-4.2**
KOLN				*e*Sn	**Sn**	**01 46 08.6**	**-8.1**
	comp=N,4μm,0.6s						
GYA	**Guiyang**	**10.56**	**81**	⇑*i*P	**Pn**	**01 44 21.7**	**+0.2**
GYA				PP		01 44 32.8	
GYA				sP		01 44 47.6	
GYA				S	**Sn**	**01 46 19.0**	**+1.1**
GYA				SS		01 46 35.2	
GYA				pmax	pmax		
	comp=N,80nm,0.8s						
GYA				pmax	pmax		
	comp=N,3μm,6.4s						
GYA				LR	LR		
	comp=N,14μm,10.3s						
GYA				LR	LR		
	comp=N,6μm,12.0s						
GYA				LR	LR		
	comp=N,10μm,11.3s						
UTHA	**Uthaitani**	**10.56**	**156**	P	**Pn**	**01 44 22.4**	**+0.8**
	comp=N,131nm,0.9s,comp=N,1μm						
PYUN	**Piuthan**	**11.10**	**287**	*e*Pn	Pn	01 44 24.1	-4.8
PYUN				*e*Sn	**Sn**	**01 46 23.6**	**-7.6**
	comp=N,2μm,0.6s						
CHAI	**Chaiyaphum**	**11.42**	**144**	P	**Pn**	**01 44 35.1**	**+1.9**
	comp=N,83nm,0.6s,comp=N,857nm						
LZH	**Lanzhou**	**13.14**	**33**	*e*P	**Pn**	**01 44 54.6**	**-1.6**
LZH				pP	P	01 45 09.2	+6.4
LZH				sP		01 45 22.2	
LZH				*e*S	**Sn**	**01 47 21.7**	**+1.0**
LZH				SS	**S**	**01 47 41.3**	**+2.0**
LZH				LR	LR		
	comp=N,14μm,10.5s						
LZH				LR	LR		
	comp=N,22μm,10.8s						
LZH				LR	LR		
	comp=N,40μm,12.3s						
ENH	**Enshi**	**13.73**	**66**	*e*Pn	**Pn**	**01 45 01.8**	**-2.0**
PBA	**Port Blair**	**13.76**	**189**	*e*Pn	Pn	01 45 03.2	-1.0
PBA				*e*Sn	Sn	01 47 31.3	-4.4
PBA	**Port Blair**	**13.76**	**189**	*e*P	Pn	01 45 02.7	-1.5
JBP	**Jabalpur**	**13.88**	**264**	*e*P	**Pn**	**01 45 05.5**	**-0.1**
JBP				*e*S	Sn	01 47 28.2	-10
JBP	**Jabalpur**	**13.88**	**264**	⇑*e*P	**Pn**	**01 45 05.5**	**-0.1**
JBP				*e*x	x	01 47 23.9	
GTA	**Gaotai**	**14.62**	**15**	⇓P	**Pn**	**01 45 13.7**	**-1.6**
GTA				pP	P	01 45 26.0	+6.8
GTA				sP		01 45 38.4	
GTA				S	**Sn**	**01 47 58.2**	**+1.8**
GTA				sS	S	01 48 14.8	+5.3
GTA				SS		01 48 19.0	
GTA				pmax	pmax		
	comp=N,34nm,1.6s						
GTA				pmax	pmax		
	comp=N,1μm,6.5s						
GTA				LR	LR		
	comp=N,9μm,11.7s						
GTA				LR	LR		
	comp=N,11μm,11.0s						
GTA				LR	LR		
	comp=N,7μm,10.6s						
XAN	**Xi'an**	**14.88**	**51**	P	**Pn**	**01 45 15.9**	**-2.7**
XAN				PP	P	01 45 28.2	+6.2
XAN				S	**Sn**	**01 47 57.1**	**-5.5**
XAN				SS	**S**	**01 48 16.9**	**+2.2**
XAN				pmax	pmax		
	comp=N,32nm,1.0s						
XAN				LR	LR		
	comp=N,14μm,11.2s						
XAN				LR	LR		
	comp=N,9μm,9.0s						
XAN				LR	LR		
	comp=N,12μm,22.1s						
XAN	**Xi'an**	**14.88**	**51**	*e*Pn	**Pn**	**01 45 15.7**	**-2.9**
XAN				*e*Sn	**Sn**	**01 47 58.0**	**-4.6**
XAN	**Xi'an**	**14.88**	**51**	*e*P	**Pn**	**01 45 15.7**	**-2.9**
XAN				*e*		01 47 58.0	
QIZ	**Qiongzhong**	**15.10**	**112**	P	**Pn**	**01 45 22.0**	**+0.6**
QIZ				sP	**pP**	**01 45 47.5**	**+5.4**
QIZ				S	**Sn**	**01 48 08.4**	**+0.4**
QIZ				pmax	pmax		
	comp=N,2μm,3.4s						
QIZ				LR	LR		
	comp=N,8μm,21.4s						
QIZ				LR	LR		
	comp=N,7μm,17.6s						
QIZ				LR	LR		
	comp=N,7μm,17.3s						
QIZ	**Qiongzhong**	**15.10**	**112**	*e*Pn	**P**	**01 45 23.3**	**-1.1**
	comp=N,834nm,1.4s						
NGP	**Nagpur**	**15.24**	**257**	*e*P	**Pn**	**01 45 20.4**	**-2.9**
NGP				*e*x	x	01 47 57.4	
DDI	**Dehra Dun**	**15.80**	**292**	*e*P	**Pn**	**01 45 29.1**	**-1.2**
BHPL	**Bhopal**	**16.17**	**266**	*e*P	**Pn**	**01 45 32.4**	**-2.5**
NDI	**New Delhi**	**16.21**	**286**	*e*P	**Pn**	**01 45 35.0**	**-0.3**
NDI				*e*x	x	01 48 18.0	
SMLA	**Simla**	**16.75**	**294**	*e*P	**Pn**	**01 45 40.0**	**-2.0**
GZH	**Guangzhou**	**16.88**	**94**	P	**P**	**01 45 44.8**	**+0.7**
GZH				pP	**pP**	**01 46 02.1**	**+0.3**
GZH				S	**Sn**	**01 48 52.2**	**+1.3**
GZH				pmax	pmax		
	comp=N,6μm,7.0s						
GZH				LR	LR		
	comp=N,14μm,8.8s						
GZH				LR	LR		
	comp=N,7μm,8.7s						
HYB	**Hyderabad**	**17.22**	**246**	*i* P	**Pn**	**01 45 47.0**	**-0.8**
	comp=N,190nm,1.0s						
HYB				*e*S	Sn	01 48 43.0	-16
MCO	**Taipa Grande**	**17.28**	**97**	P	**P**	**01 45 51.0**	**+2.4**
PKDT	**Phuket**	**17.62**	**169**	P	**Pn**	**01 45 53.2**	**+0.5**
	comp=N,72nm,2.5s,comp=N,2μm						
DHRM	**DHARAMSHALA**	**17.78**	**297**	*e*P	**P**	**01 45 52.8**	**-1.5**
WHN	**Wuhan**	**17.86**	**69**	P	**P**	**01 45 54.2**	**-0.7**
WHN				sP	**sP**	**01 46 23.9**	**-0.5**
WHN				S	**Sn**	**01 49 10.8**	**-3.7**
WHN				LR	LR		
	comp=N,9μm,7.6s						
WHN				LR	LR		
	comp=N,17μm,7.8s						
WHN				LR	LR		
	comp=N,32μm,22.9s						
TRTT	**Trang**	**17.95**	**165**	P	**Pn**	**01 45 58.0**	**+1.3**
	comp=N,48nm,0.9s,comp=N,2μm						
CMBY	**CAMPBELL BAY**	**18.24**	**183**	*e*P	**P**	**01 45 55.6**	**-3.6**
MDRS	**Chennai**	**18.50**	**232**	*e*P	**P**	**01 46 02.1**	**+0.1**
SKLT	**Songkhla**	**18.83**	**163**	P	**Pn**	**01 46 08.4**	**+1.2**
	comp=N,167nm,1.2s,comp=N,9μm						
TIY	**Taiyuan**	**19.28**	**46**	*e*P	**P**	**01 46 07.7**	**-2.8**
TIY				sP	**sP**	**01 46 39.1**	**-1.0**
TIY				S	**S**	**01 49 34.7**	**-9.3**
TIY				pmax	pmax		
	comp=N,120nm,0.6s						
TIY				pmax	pmax		
	comp=N,1μm,4.4s						
WMQ	**Urumqi**	**19.40**	**344**	P	**Pn**	**01 46 13.7**	**-0.1**
WMQ				pP	pP	01 46 32.4	+2.4
WMQ				sP	sP	01 46 39.6	-2.3
WMQ				S	**S**	**01 49 42.0**	**-4.2**
WMQ				PcP	**PcP**	**01 50 28.1**	**-1.6**
WMQ				ScP	**ScP**	**01 53 57.3**	**-0.1**
WMQ				pmax	pmax		
	comp=N,1μm,0.9s						
WMQ				pmax	pmax		
	comp=N,5μm,3.7s						
WMQ				LR	LR		
	comp=N,15μm,12.3s						
WMQ				LR	LR		
	comp=N,9μm,18.7s						
WMQ				LR	LR		
	comp=N,27μm,23.1s						
WMQ	**Urumqi**	**19.40**	**344**	*e*P	**Pn**	**01 46 14.1**	**+0.3**
	comp=N,352nm,0.7s						
WMQ	**Urumqi**	**19.40**	**344**	*e*P	**Pn**	**01 46 14.1**	**+0.3**
WMQ				pmax	pmax		
	comp=Z,352nm,0.7s						
BTO	**Baotou**	**19.73**	**36**	*e*P	**P**	**01 46 13.5**	**-1.9**
BTO				*e*pP	**pP**	**01 46 34.0**	**+0.6**
BTO				S	**S**	**01 49 42.9**	**-10**
LHMI	**Lhok Sumawe**	**20.07**	**174**	*e*P	**P**	**01 46 19.6**	**+0.5**
	comp=Z,966nm,1.2s						
LHMI	**Lhok Sumawe**	**20.07**	**174**	P	Pn	01 46 20.9	-0.8
	comp=Z,615nm,1.0s,comp=Z,10μmcomp=Z,18μm						
KULM	**Kulim**	**20.64**	**164**	*e*P	**P**	**01 46 26.4**	**+1.1**
	comp=Z,247nm,1.3s						
KULM				*e*S	**S**	**01 50 08.7**	**-2.3**
KULM	**Kulim**	**20.64**	**164**	P	**P**	**01 46 26.6**	**+1.3**
CHCP	**Chirah Chowk**	**20.64**	**299**	P	**P**	**01 46 25.3**	**0.0**
NIL	**Nilore**	**20.65**	**299**	*e*P	**P**	**01 46 25.5**	**+0.2**
	comp=Z,311nm,0.9s						
NIL				*e*S	**S**	**01 50 04.7**	**-6.3**
NIL	**Nilore**	**20.65**	**299**	*e*P	**P**	**01 46 25.5**	**+0.2**
NIL				*e*S	**S**	**01 50 04.7**	**-6.3**
NIL				pmax	pmax		
	comp=Z,311nm,0.9s						
HHC	**Hu-ho-hao-te**	**20.73**	**38**	*e*P	**P**	**01 46 25.7**	**-0.6**
HHC				PP	**PnPn**	**01 46 51.4**	**+2.4**
HHC				sP	sP	01 46 56.9	+0.8
HHC				S	**S**	**01 50 06.4**	**-6.2**
HHC				sS	sS	01 50 37.5	-5.2
HHC				pmax	pmax		
	comp=Z,90nm,1.1s						
HHC				pmax	pmax		
	comp=Z,2μm,7.2s						
HHC				LR	LR		
	comp=Z,9μm,14.1s						
HHC				LR	LR		
	comp=Z,8μm,18.0s						
HHC				LR	LR		
	comp=Z,13μm,22.2s						
POO	**Poona**	**20.75**	**255**	*e*P	**P**	**01 46 26.9**	**+0.4**
QZH	**Quanzhou**	**21.35**	**86**	⇑*i*P	**P**	**01 46 32.9**	**0.0**
QZH				S	**S**	**01 50 25.6**	**+0.7**
QZH				pmax	pmax		
	comp=Z,86nm,0.6s						
QZH				pmax	pmax		
	comp=Z,2μm,4.1s						
QZH				LR	LR		
	comp=Z,14μm,8.1s						
QZH				LR	LR		
	comp=Z,4μm,9.5s						
QZH				LR	LR		
	comp=Z,6μm,7.6s						
KSH	**Kashi**	**21.35**	**316**	P	**P**	**01 46 34.1**	**+1.2**
KSH				pP	pP	01 46 54.0	+2.7
KSH				sP	sP	01 47 05.3	+2.2
KSH				S	**S**	**01 50 16.2**	**-8.7**
KSH				PcP	**PcP**	**01 50 29.9**	**-3.6**
KSH				sS	sS	01 50 50.6	-4.5
KSH				SS	**SnSn**	**01 50 58.4**	**+2.8**
KSH				pmax	pmax		
	comp=Z,220nm,1.2s						
KSH				pmax	pmax		
	comp=Z,3μm,5.3s						
KSH				LR	LR		
	comp=Z,7μm,9.6s						
KSH				LR	LR		
	comp=Z,9μm,12.7s						
KSH				LR	LR		
	comp=Z,10μm,17.7s						
KTGM	**Kuala Trenggan**	**21.35**	**157**	P	**P**	**01 46 35.2**	**+2.2**
IPM	**Ipoh**	**21.51**	**163**	*e*P	**P**	**01 46 33.5**	**-1.2**
	comp=Z,258nm,1.3s						
IPM				*e*S	**S**	**01 50 25.2**	**-3.0**
IPM	**Ipoh**	**21.51**	**163**	P	**P**	**01 46 34.9**	**+0.2**
BOM	**Bombay**	**21.52**	**257**	*e*P	**P**	**01 46 34.1**	**-0.6**
BOM				*e*S	**S**	**01 50 27.1**	**-1.1**
THW	**Thamme Wali**	**21.63**	**296**	P	**P**	**01 46 35.3**	**-0.6**
CEP	**Cherat**	**21.77**	**298**	⇑P	**P**	**01 46 36.7**	**-0.7**
CEP				S	**S**	**01 50 28.0**	**-5.1**
TIA	**Tai'an**	**21.84**	**55**	P	**P**	**01 46 37.5**	**-0.5**
TIA				sP	**sP**	**01 47 11.3**	**+3.4**
TIA				S	**S**	**01 50 29.4**	**-4.6**
TIA				sS	**sS**	**01 50 59.8**	**-4.7**
TIA				LR	LR		
	comp=Z,3μm,12.8s						
TIA				LR	LR		
	comp=Z,1μm,7.1s						
TIA				LR	LR		
	comp=Z,750nm,5.0s						
KCSI	**Kotacane, Aceh**	**21.84**	**173**	P	**P**	**01 46 36.6**	**-1.5**
	comp=Z,362nm,1.1s,comp=Z,5μm						
SHLS	**Shalkode**	**21.88**	**328**	*d e*P	**P**	**01 46 35.1**	**-3.4**
SHLS				*i* S	**S**	**01 50 33.2**	**-1.8**
SHLS				pmax	pmax		
	comp=Z,4μm,1.5s						
SHLS				smax	smax		
	comp=E,5μm,3.8s						
SHLS				MLR	MLR		
	comp=Z,1μm,12.0s						
SHLS	**Shalkode**	**21.88**	**328**	⇓*e*P	**P**	**01 46 35.2**	**-3.4**
	comp=Z,4μm,1.5s						
SHLS				⇑*i*S	**S**	**01 50 33.2**	**-1.8**
	comp=Z,5μm,3.8s						
SHLS				*e*LRM	MLR	01 56 11.1	
	comp=Z,1μm,12.1s						
PRZ	**Przheval'sk**	**21.91**	**325**	*e*P	**P**	**01 46 41.1**	**+2.2**
	comp=Z,708nm,1.4s						
PRZ	**Przheval'sk**	**21.91**	**325**	*e*P	**P**	**01 46 41.1**	**+2.2**
PRZ				pmax	pmax		
	comp=Z,708nm,1.4s						
NJ2	**Nanjing**	**21.94**	**67**	*e*P	**P**	**01 46 37.2**	**-1.9**
NJ2				pP	**pP**	**01 47 00.0**	**+2.5**
NJ2				S	**S**	**01 50 33.3**	**-2.7**
NJ2				sS	Sn	01 50 58.2	+5.9
NJ2				pmax	pmax		
	comp=Z,64nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,2μm,5.4s						
NJ2				LR	LR		
	comp=Z,6μm,14.1s						
NJ2				LR	LR		
	comp=Z,9μm,19.5s						
NJ2				LR	LR		
	comp=Z,10μm,20.1s						
TSI	**Tuntungan**	**21.96**	**170**	P	**P**	**01 46 41.1**	**+1.7**
	comp=Z,2μm,1.4s,comp=Z,24μm						
PDGK	**Podgornoye**	**22.00**	**329**	P	**P**	**01 46 40.6**	**+0.8**
PDGK				pmax	pmax		
	comp=Z,185nm,0.9s						
TPTI		**22.04**	**174**	P	**P**	**01 46 37.8**	**-2.4**
UZB	**Uzynbulak**	**22.09**	**328**	*c i*P	**P**	**01 46 39.9**	**-0.8**
UZB				*i* S	**S**	**01 50 42.1**	**+3.5**
UZB				pmax	pmax		
	comp=Z,991nm,1.4s						
UZB				smax	smax		
	comp=N,3μm,3.0s						
UZB				MLR	MLR		
	comp=Z,882nm,12.0s						
UZB	**Uzynbulak**	**22.09**	**328**	⇑*i*P	**P**	**01 46 40.0**	**-0.8**
	comp=Z,991nm,1.4s						
UZB				⇑*i*S	**S**	**01 50 42.1**	**+3.5**
	comp=Z,3μm,3.0s						
UZB				*e*LRM	MLR	01 56 20.1	
	comp=Z,882nm,12.1s						
GOA	**Goa**	**22.10**	**248**	*e*P	**P**	**01 46 40.3**	**-0.6**
KDJ	**Kajisay**	**22.31**	**323**	*e*P	**P**	**01 46 45.9**	**+2.8**
	comp=Z,497nm,0.8s						
KDJ	**Kajisay**	**22.31**	**323**	*e*P	**P**	**01 46 45.9**	**+2.8**
KDJ				pmax	pmax		
	comp=Z,497nm,0.8s						
SATY	**Saty**	**22.32**	**327**	*d e*P	**P**	**01 46 43.2**	**0.0**
SATY				*i* S	**S**	**01 50 47.9**	**+5.3**
SATY				pmax	pmax		
	comp=Z,3μm,1.2s						
SATY				smax	smax		
	comp=E,6μm,4.1s						

SATY MLR MLR
comp=Z,2μm,14.0s
SATY Saty 22.32 327⇓*e*P P 01 46 43.2 0.0
comp=Z,3μm,1.2s
SATY ⇓*i*S **S 01 50 47.9 +5.3**
comp=Z,6μm,4.1s
SATY *e*LRM MLR 01 56 40.7
comp=Z,2μm,13.9s
ZHN Zhinishke 22.39 327*de*P P 01 46 43.7 -0.2
ZHN *i*S **S 01 50 46.1 +2.4**
ZHN pmax pmax
comp=Z,976nm,1.5s
ZHN smax smax
comp=N,318nm,5.3s
ZHN MLR MLR
comp=Z,2μm,15.0s
ZHN Zhinishke 22.39 327⇓*e*P P 01 46 43.8 -0.2
comp=Z,976nm,1.6s
ZHN ⇑*i*S **S 01 50 46.1 +2.4**
comp=Z,318nm,5.3s
ZHN *e*LRM MLR 01 56 38.2
comp=Z,2μm,15.4s
KPKS Kokpek 22.49 328*ce*P P 01 46 44.2 -0.7
KPKS *i*S **S 01 50 48.2 +3.0**
KPKS pmax pmax
comp=Z,2μm,1.0s
KPKS smax smax
comp=N,3μm,4.2s
KPKS MLR MLR
comp=Z,2μm,13.0s
KPKS Kokpek 22.49 328⇑*e*P P 01 46 44.2 -0.7
comp=Z,2μm,1.0s
KPKS ⇑*i*S **S 01 50 48.3 +3.0**
comp=Z,3μm,4.2s
KPKS *e*LRM MLR 01 57 05.2
comp=Z,2μm,13.0s
NRN Naryn 22.51 320 *e*P P 01 46 46.1 +0.8
comp=Z,221nm,1.1s
PALK Pallekele 22.56 220 P P **01 46 45.6 -0.2**
comp=Z,166nm,1.0s,baz=110,slow=0.2,SNR=36
PALK S **S 01 50 49.3 +2.6**
comp=Z,20nm,0.4s,baz=296,slow=21,SNR=8.3
PALK LR LR 01 58 43.3
comp=Z,2μm,19.0s,baz=116,slow=44
PALK Pallekele 22.56 220 *e*P P 01 46 45.9 +0.1
comp=Z,888nm,1.5s
PALK *e*S **S 01 50 50.8 +4.1**
PALK Pallekele 22.56 220 *i*P P 01 46 45.9 +0.1
SNR=38
PALK Pallekele 22.56 220 *e*P P 01 46 45.9 +0.1
PALK *e*S **S 01 50 50.8 +4.1**
PALK pmax pmax
comp=Z,888nm,1.5s
PSI Prapat 22.71 170 P P **01 46 47.5 +0.2**
comp=Z,95nm,0.6s,baz=360,slow=8.4,SNR=92
PSI PcP **PcP 01 50 37.6 +1.0**
comp=Z,20nm,0.5s,baz=180,slow=14,SNR=4.6
PSI S **S 01 50 49.2 +0.1**
comp=Z,8.2nm,0.7s,baz=180,slow=18,SNR=1.4
PSI Prapat 22.71 170 *e*P P 01 46 46.9 -0.5
comp=Z,794nm,1.5s
PSI *e*PcP **PcP 01 50 37.6 +1.0**
PSI *e*S **S 01 50 49.2 +0.1**
SNSI Sinabang, Aceh 22.82 177 P P **01 46 44.8 -3.5**
FRIM Kepong 22.86 163 P P **01 46 50.2 +1.4**
BJT Baijiatuau 22.98 45 *e*P P 01 46 49.3 -0.6
comp=Z,51nm,0.7s
BJT Baijiatuau 22.98 45 *e*P P 01 46 49.3 -0.6
BJT pmax pmax
comp=Z,51nm,0.7s
BJI Beijing 23.00 45 P P **01 46 48.7 -1.3**
BJI pP **pP 01 47 09.8 +1.1**
BJI sP **sP 01 47 19.4 -0.8**
BJI S **S 01 50 50.3 -2.9**
BJI LR LR
comp=Z,4μm,8.8s
BJI LR LR
comp=Z,4μm,10.0s
TNSS Tian-Shan 23.06 325 *e*P P 01 46 51.6 +0.6
TNSS pmax pmax
comp=Z,1μm,0.8s
TNSS Tian-Shan 23.06 325 *e*P P 01 46 51.7 +0.6
comp=Z,1μm,0.8s
MDOK Medeo 23.09 325*ce*P P 01 46 50.2 -0.8
MDOK *i*S **S 01 50 58.7 +3.7**
MDOK pmax pmax
comp=Z,5μm,1.7s
MDOK MLR MLR
comp=Z,4μm,19.0s
MDOK Medeo 23.09 325⇑*e*P P 01 46 50.3 -0.8
comp=Z,5μm,1.7s
MDOK ⇑*i*S **S 01 50 58.7 +3.7**
comp=Z,4μm,4.9s
MDOK *e*LRM MLR 01 57 13.8
comp=Z,4μm,18.9s
AAA Alma-Ata 23.19 325*c i*P P 01 46 50.9 -1.0
AAA *i*S **S 01 51 01.7 +5.3**
AAA pmax pmax
comp=Z,3μm,1.9s
AAA smax smax
comp=N,4μm,5.2s
AAA MLR MLR
comp=Z,2μm,16.0s
AAA Alma-Ata 23.19 325⇑*i*P P 01 46 51.0 -1.0
comp=Z,3μm,1.9s
AAA ⇑*i*S **S 01 51 01.7 +5.3**
comp=Z,4μm,5.2s
AAA *e*LRM MLR 01 57 27.4
comp=Z,2μm,15.8s
BHJ Bhuj 23.19 270 *e*P P 01 46 51.9 -0.1
SFK Sufi-Kurgan 23.20 314 P P **01 46 53.0 +0.8**
SFK pmax pmax
comp=Z,796nm,1.3s
MTBS Maitube 23.39 324⇓*e*P P 01 46 54.1 +0.3
MTBS pmax pmax
comp=Z,3μm,1.1s
MTBS Maitube 23.39 324⇓*e*P P 01 46 54.1 +0.3
comp=Z,3μm,1.1s
TPUB Ta-pu 23.43 90 *e*P P 01 46 54.1 -0.1
comp=Z,216nm,1.3s
ZSN Zaisan 23.50 343*d i*P P 01 46 54.4 -0.2
ZSN *i*S **S 01 51 07.0 +5.7**
ZSN pmax pmax
comp=Z,1μm,1.0s
ZSN smax smax
comp=E,1μm,3.3s
ZSN MLR MLR
comp=Z,916nm,15.0s
ZSN Zaisan 23.50 343⇓*i*P P 01 46 54.4 -0.2
comp=Z,1μm,1.0s
ZSN ⇑*i*S **S 01 51 07.0 +5.7**
comp=Z,1μm,3.3s
ZSN *e*LRM MLR 01 57 13.7
comp=Z,916nm,15.4s
CHKK Chushkaly 23.61 326⇓*i*P P 01 46 55.1 -0.5
CHKK pmax pmax
comp=Z,1μm,0.9s
CHKK Chushkaly 23.61 326⇓*i*P P 01 46 55.1 -0.5
comp=Z,1μm,0.9s
SSLB Suanglung 23.64 88 *e*P P 01 46 57.1 +1.0
comp=Z,230nm,1.5s
MK01 Makanchi Array 23.68 338 *e*P P 01 46 56.5 +0.2
MK31 Makanchi Array 23.71 338 *e*P P 01 46 57.6 +1.1
MK31 Makanchi Array 23.71 338 *e*P P 01 46 57.6 +1.1
MK32 Makanchi Array 23.71 338 *e*P P 01 46 57.5 +1.1
MK32 *e*PcP **PcP 01 50 38.7 +0.7**
MK32 *e*S **S 01 51 06.0 +1.4**
MK32 *e*ScP **ScP 01 54 08.6 +0.6**
MKAR Makanchi Array 23.71 338 P P **01 46 57.5 +1.1**
comp=Z,206nm,0.5s,baz=150,slow=10,SNR=830
MKAR PcP **PcP 01 50 38.7 +0.7**
comp=Z,14nm,0.6s,baz=179,slow=2.1,SNR=6.3
MKAR S **S 01 51 06.0 +1.4**
comp=Z,6.6nm,0.8s,baz=170,slow=25,SNR=2.6
MKAR ScP **ScP 01 54 08.6 +0.6**
comp=Z,24nm,0.8s,baz=151,slow=3.7,SNR=13
MKAR LR LR 01 56 50.9
comp=Z,3μm,21.3s,baz=126,slow=38
MKAR PKiKP **PKiKP 01 58 20.7 -0.5**
comp=Z,1.8nm,0.6s,baz=130,slow=4.4,SNR=6.4
MKAR P3KPbc 02 20 15.2
comp=Z,1.6nm,0.9s,baz=35,slow=3.5,SNR=14
MKAR Makanchi Array 23.71 338 *e*P P 01 46 57.6 +1.1
comp=Z,2μm,0.6s
MKAR Makanchi Array 23.71 338 *e*P P 01 46 57.6 +1.1
MKAR pmax pmax
comp=Z,2μm,0.6s
SSE Sheshan 23.75 70 P P **01 46 55.6 -1.3**
SSE S **S 01 51 04.6 -0.9**
SSE pmax pmax
comp=Z,40nm,0.8s
SSE pmax pmax
comp=Z,630nm,7.4s
SSE LR LR
comp=Z,2μm,16.6s
SSE LR LR
comp=Z,4μm,18.9s
SSE Sheshan 23.75 70 *e*P P 01 46 56.8 -0.2
comp=Z,276nm,1.1s
TDK Taldyqorghan 23.78 330*de*P P 01 46 58.2 +1.1
TDK *e*S **S 01 51 10.1 +4.2**
TDK pmax pmax
comp=Z,4μm,1.3s
TDK smax smax
comp=N,9μm,4.8s
TDK MLR MLR
comp=Z,4μm,14.0s
TDK Taldyqorghan 23.78 330⇓*e*P P 01 46 58.3 +1.1
comp=Z,4μm,1.3s
TDK *e*S **S 01 51 10.1 +4.2**
comp=Z,9μm,4.8s
TDK *e*LRM MLR 01 57 28.5
comp=Z,4μm,13.6s
MAKZ Makanchi 23.83 337 *e*P P 01 46 58.8 +1.3
comp=Z,565nm,1.0s
MAKZ Makanchi 23.83 337 *e*P P 01 46 58.8 +1.3
MAKZ pmax pmax
comp=Z,565nm,1.0s
YHNB Yeheng 23.90 86 *e*P P 01 46 59.8 +1.3
comp=Z,118nm,0.9s
TWG Pinlang 23.92 90 *e*P P 01 46 59.7 +1.2
comp=Z,668nm,0.6s
TATO Taipei 23.96 85 *e*P P 01 47 01.6 +2.7
comp=Z,115nm,0.7s
KUU Kurty 23.97 325*ce*P P 01 46 58.1 -0.7
KUU *i*S **S 01 51 12.9 +3.9**
KUU pmax pmax
comp=Z,1μm,1.5s
KUU smax smax
comp=N,2μm,5.2s
KUU MLR MLR
comp=Z,1μm,13.0s
KUU Kurty 23.97 325⇑*e*P P 01 46 58.2 -0.7
comp=Z,1μm,1.5s
KUU ⇓*i*S **S 01 51 12.9 +3.9**
comp=Z,2μm,5.2s
KUU *e*LRM MLR 01 57 23.3
comp=Z,1μm,12.5s
TRD Trivandrum 23.98 229 *e*P P 01 46 59.2 0.0
GSI Gunungsitoli 24.01 174 *e*P P 01 46 58.5 -0.8
comp=Z,4μm,1.5s
GSI Gunungsitoli 24.01 174 P P **01 46 58.6 -0.8**
comp=Z,2μm,1.6s,comp=Z,31μm
YULB Yu-li 24.02 89 *e*P P 01 47 00.4 +1.0
comp=Z,95nm,0.8s
AAK Ala-Archa 24.14 321 P P **01 47 02.5 +2.0**
comp=Z,116nm,0.6s,baz=125,slow=7.0,SNR=136
AAK PcP **PcP 01 50 40.9 +1.6**
comp=Z,15nm,0.6s,baz=323,slow=5.1,SNR=6.0
AAK Ala-Archa 24.14 321 *e*P P 01 47 02.5 +2.0
comp=Z,447nm,1.3s
AAK *e*PcP **PcP 01 50 40.9 +1.6**
AAK Ala-Archa 24.14 321 *i*P P 01 47 02.6 +2.0
SNR=224
AAK Ala-Archa 24.14 321 P P **01 47 02.3 +1.8**
SNR=136
AAK S **S 01 51 10.6 -1.4**
NACB Ninganchiao 24.16 87 *e*P P 01 47 01.8 +1.0
comp=Z,277nm,1.1s
FRU1 Bishkek 24.17 321 *e*P P 01 47 03.1 +2.4
comp=Z,340nm,0.6s
FRU1 Bishkek 24.17 321 *e*P P 01 47 03.1 +2.4
FRU1 pmax pmax
comp=Z,340nm,0.6s
SONA0 Songino Array 24.20 19 *e*P P 01 47 01.9 +0.9
SONA0 *e*PcP **PcP 01 50 38.8 -0.5**
SONA0 *e*S **S 01 51 14.0 +1.2**
SONA0 *e*ScP **ScP 01 54 08.7 -0.8**
SONM Songino Array 24.20 19 P P **01 47 01.9 +0.9**
comp=Z,118nm,0.7s,baz=197,slow=8.8,SNR=236
SONM PcP **PcP 01 50 38.8 -0.5**
comp=Z,4.7nm,0.5s,baz=205,slow=3.8,SNR=4.3
SONM S **S 01 51 14.0 +1.2**
comp=Z,4.9nm,0.9s,baz=202,slow=22,SNR=1.9
SONM ScP **ScP 01 54 08.7 -0.8**
comp=Z,7.9nm,0.8s,baz=198,slow=3.5,SNR=7.0
SONM PKiKP **PKiKP 01 58 21.7 +0.1**
comp=Z,1.5nm,0.6s,baz=183,slow=1.9,SNR=3.6
SONM LR LR 01 58 26.9
comp=Z,2μm,18.5s,baz=178,slow=41
SONA1 Songino Array 24.22 19 *e*P P 01 47 01.1 0.0
ARSB Arslanbob 24.26 317 *e*P P 01 47 02.4 +0.7
comp=Z,246nm,1.1s
ULN Ulaanbaatar 24.43 20 *e*P P 01 47 03.6 +0.5
comp=Z,152nm,1.0s
ULN Ulaanbaatar 24.43 20*c i*P P 01 47 03.6 +0.5
ULN pmax pmax
comp=Z,139nm,0.9s
ULN Ulaanbaatar 24.43 20 P P **01 47 03.5 +0.5**
SNR=46
KGM Kluang 24.52 160 P P **01 47 05.0 +1.0**
MNSI Mandailing Nat 24.78 169 P P **01 47 05.8 -0.6**
comp=Z,283nm,0.7s,comp=Z,7μm
GAR Garm 24.86 309 *e*P P 01 47 07.8 +0.7
comp=Z,1μm,1.1s
GAR Garm 24.86 309 *e*P P 01 47 07.8 +0.7
GAR pmax pmax
comp=Z,1μm,1.1s
MYKOM Kota Tinggi 24.90 159 *e*P P 01 47 09.1 +1.6
comp=Z,196nm,1.5s
MYKOM *e*pP **pP 01 47 29.9 +1.6**
MYKOM Kota Tinggi 24.90 159 P P **01 47 09.2 +1.7**
BTK Batken 25.00 312 *e*P P 01 47 10.1 +1.7
comp=Z,371nm,0.7s
BTK Batken 25.00 312 *e*P P 01 47 10.1 +1.7
BTK pmax pmax
comp=Z,371nm,0.7s
DGZ Jazzator, Alta 25.04 348*c i*P P 01 47 10.2 +1.5
DGZ pmax pmax
comp=Z,226nm,1.4s
BKNI Bangkinang 25.52 166 *e*P P 01 47 14.2 +1.0
comp=Z,339nm,1.3s
BKNI Bangkinang 25.52 166 P P **01 47 14.9 +1.8**
comp=Z,175nm,1.1s,comp=Z,4μm
CHGR Chuyangaron 25.54 308 *e*P P 01 47 13.5 +0.2
comp=Z,453nm,0.9s
HVS Khovu-Aksy 25.79 358⇓*i*P P 01 47 17.2 +1.8
HVS pmax pmax
comp=Z,1μm,0.9s
ZAK Zakamensk 25.82 12 *e*P P 01 47 16.9 +1.2
ZAK pmax pmax
comp=Z,121nm,1.0s
TPRI Tanjung Pinang 25.94 158 P P **01 47 18.7 +1.8**
DZA Taraz 26.16 318*d i*P P 01 47 19.3 +0.6
DZA pmax pmax
comp=Z,2μm,1.5s
DZA MLR MLR
comp=Z,1μm,17.0s
DZA Taraz 26.16 318⇓*i*P P 01 47 19.4 +0.6
comp=Z,2μm,1.5s
DZA *e*LRM MLR 01 58 24.9
comp=Z,1μm,16.9s
DL2 Dalian 26.19 52 P P **01 47 17.3 -1.7**
DL2 pP **pP 01 47 40.6 +0.8**
DL2 sP **sP 01 47 50.8 +0.1**
DL2 PcP **PcP 01 50 44.9 +1.2**
DL2 S **S 01 51 42.6 -1.6**
DL2 ScS **ScS 01 58 02.8 -2.3**
DL2 pmax pmax
comp=Z,110nm,0.7s
DL2 pmax pmax
comp=Z,760nm,8.3s
DL2 LR LR
comp=Z,2μm,17.9s
DL2 LR LR
comp=Z,3μm,14.6s
DL2 LR LR
comp=Z,4μm,17.3s
IUG luzhnay 26.56 315*ce*P P 01 47 22.0 -0.4
IUG pmax pmax
comp=Z,5μm,0.8s
IUG MLR MLR
comp=Z,1μm,13.0s
IUG luzhnay 26.56 315⇑*e*P P 01 47 22.1 -0.4
comp=Z,5μm,0.8s
IUG ⇓*e*S S 01 52 08.9 +19
comp=Z,1μm,3.4s
IUG *e*LRM MLR 01 58 57.3
comp=Z,1μm,12.8s
PDSI Padang 26.61 168 P P **01 47 22.5 -0.5**
comp=Z,150nm,0.5s,comp=Z,7μm
MOY Mondy 26.70 8 *e*P P 01 47 25.2 +1.6
MOY pmax pmax
comp=Z,95nm,1.8s
KK31 Karatay Array 26.77 318 *e*P P 01 47 25.2 +1.0
KK31 Karatay Array 26.77 318 *e*P P 01 47 25.2 +1.0
KKAR Karatay Array 26.77 318 *e*P P 01 47 25.2 +1.0
KKAR Karatay Array 26.77 318 *e*P P 01 47 25.2 +1.0
SISI Saibi 26.78 171 P P **01 47 25.5 +1.0**
comp=Z,183nm,1.3s,comp=Z,4μm
SDSI Sungai Dareh 26.83 166 P P **01 47 24.9 0.0**
comp=Z,38nm,0.7s,comp=Z,4μm
MNCI Minicoy 26.92 235 *e*P P 01 47 24.8 -0.9
comp=Z,260nm,1.3s
CHM Chimkent 26.92 315*de*P P 01 47 26.0 +0.4
CHM *i*S **S 01 52 00.3 +4.5**
CHM pmax pmax
comp=Z,3μm,1.5s
CHM smax smax
comp=N,4μm,4.1s
CHM MLR MLR
comp=Z,859nm,13.0s
CHM Chimkent 26.92 315⇓*e*P P 01 47 26.0 +0.4
comp=Z,3μm,1.5s
CHM ⇑*i*S **S 01 52 00.3 +4.5**
comp=Z,4μm,4.1s
CHM *e*LRM MLR 01 59 07.3
comp=Z,859nm,12.9s
SEM Semipalatinsk 27.52 339*c i*P P 01 47 29.9 -1.1
SEM *e*S **S 01 52 10.9 +5.5**
SEM pmax pmax
comp=Z,1μm,0.9s
SEM smax smax
comp=N,5μm,10.3s
SEM MLR MLR
comp=Z,2μm,22.0s
SEM Semipalatinsk 27.52 339⇑*i*P P 01 47 30.0 -1.1
comp=Z,1μm,0.9s
SEM *e*S **S 01 52 10.9 +5.5**
comp=Z,5μm,10.3s
SEM *e*LRM MLR 01 59 29.5
comp=Z,2μm,21.8s
KDM Kudat 27.75 128 P P **01 47 34.7 +1.6**
IRK Irkutsk 27.79 12 *e*P P 01 47 34.9 +1.7
IRK *e* 01 47 59.2
IRK pmax pmax
comp=Z,199nm,2.5s
KKM Kota Kinabalu 27.92 130 *e*P P 01 47 36.0 +1.2
comp=Z,174nm,1.3s
KKM *e*PcP **PcP 01 50 50.2 +1.8**
KKM Kota Kinabalu 27.92 130 P P **01 47 37.6 +2.8**
KSM Kuching 27.93 146 *e*P P 01 47 36.3 +1.5
comp=Z,231nm,1.4s
KSM *e*pP **pP 01 47 58.6 +2.9**
KSM Kuching 27.93 146 P P **01 47 37.3 +2.5**
JMBI JAMBI 28.07 161 P P **01 47 38.9 +2.9**
comp=Z,546nm,0.8s,comp=Z,10μm
SBUM Sibu 28.14 141 *e*P P 01 47 36.3 -0.3
comp=Z,45nm,1.5s
SBUM *e*pP **pP 01 47 52.6 -5.0**
SBUM Sibu 28.14 141 P P **01 47 38.5 +1.9**
KURBB Kurchatov Arra 28.27 338 P P **01 47 38.3 +0.8**
comp=Z,99nm,0.7s,baz=148,slow=8.8,SNR=206
KURBB PcP **PcP 01 50 49.1 +0.7**
comp=Z,63nm,0.8s,baz=151,slow=2.2,SNR=12
KURBB S **S 01 52 14.8 -2.0**
comp=Z,7.8nm,0.9s,baz=140,slow=20,SNR=1.7
KURK Kurchatov 28.32 338 *e*P P 01 47 39.1 +1.2
comp=Z,158nm,0.8s
KURK *e*PcP **PcP 01 50 49.1 +0.6**
KURK *e*S **S 01 52 14.8 -2.7**
KURK Kurchatov 28.32 338 *e*P P 01 47 39.1 +1.2
KURK *e* 01 50 49.2
KURK *e*S **S 01 52 14.8 -2.7**
KURK pmax pmax
comp=Z,158nm,0.8s
PPSI Pulau Pagai 28.34 169 P P **01 47 39.5 +1.2**
comp=Z,511nm,1.5s,comp=Z,8μm
SNY Shenyang 28.76 48 ⇑*i*P P 01 47 40.0 -1.9
SNY S **S 01 52 18.5 -6.1**
SNY pmax pmax
comp=Z,18nm,0.9s
SNY pmax pmax
comp=Z,580nm,11.8s
SNY LR LR
comp=Z,3μm,13.5s
SNY LR LR
comp=Z,3μm,15.1s
SNY LR LR
comp=Z,4μm,14.7s
PPBI Pangkal Pinang 29.37 157 P P **01 47 49.7 +2.1**
comp=Z,43nm,0.7s,comp=Z,12μm
ZAA0 Zalesovo Array 29.59 348 *e*P P 01 47 50.3 +1.2
comp=Z,260nm,1.0s
ZALV Zalesovo Beam 29.59 348 P P **01 47 50.3 +1.2**
comp=Z,161nm,0.8s,baz=167,slow=9.9,SNR=117
ZALV PcP **PcP 01 50 52.0 +0.3**
comp=Z,7.9nm,0.5s,baz=176,slow=4.2,SNR=5.0
ZALV S **S 01 52 39.0 +1.7**
comp=Z,8.9nm,0.7s,baz=184,slow=11,SNR=3.0
ZALV ScP **ScP 01 54 23.0 -2.3**
comp=Z,2.8nm,0.5s,baz=169,slow=3.8,SNR=3.9
ZALV ScS **ScS 01 58 16.6 -3.3**
comp=Z,2.2nm,0.8s,baz=168,slow=7.6,SNR=3.6
ZALV PKiKP **PKiKP 01 58 23.6 -0.9**
comp=Z,1.4nm,0.4s,baz=182,slow=2.5,SNR=4.7
ZALV LR LR 02 01 42.3
comp=Z,1μm,21.4s,baz=154,slow=40
ZALV P3KPbc 02 19 49.8
comp=Z,6.5nm,1.0s,baz=321,slow=4.7,SNR=18
ZALV PKP2ab 02 23 46.7
comp=Z,0.4nm,0.5s,baz=41,slow=2.9,SNR=3.6
ZALV Zalesovo Beam 29.59 348 *e*P P 01 47 49.4 +0.3
ZAA1 Zalesovo Array 29.59 348 *e*P P 01 47 50.3 +1.2
ZAA1 *e*PcP **PcP 01 50 52.0 +0.3**
ZAA1 *e*S **S 01 52 39.0 +1.6**
ZAA1 *e*ScP **ScP 01 54 23.0 -2.3**
STKI Sintang 29.73 145 P P **01 47 53.4 +2.7**
comp=Z,76nm,0.8s,comp=Z,26μm
JOW Kunigami 29.87 80 P P **01 47 50.2 -1.8**
comp=Z,52nm,0.5s,baz=269,slow=6.4,SNR=15
JOW Kunigami 29.87 80 *e*P P 01 47 50.9 -1.0
comp=Z,52nm,0.6s
CIT Chita 30.16 23 *e*P P 01 47 54.7 +0.5
CIT *e* 01 48 18.4
CIT *e* 01 49 01.0
CIT *e* 01 49 09.4
CIT *e* 01 50 55.7
CIT *e*S **S 01 52 50.4 +3.9**
CIT pmax pmax
comp=Z,98nm,2.4s
TSM Tawau 30.32 130 P P **01 47 57.2 +1.3**
KS15 Wonju Array Si 30.40 59 *e*P P 01 47 53.4 -3.1
KS15 *e*PcP **PcP 01 50 54.2 +0.1**
KS15 *e*ScP **ScP 01 54 26.6 -1.7**
KSAR Wonju Array Be 30.40 59 P P **01 47 53.4 -3.1**
KSAR Wonju Array Be 30.40 59 P P **01 47 53.4 -3.1**
KS01 Wonju Array Si 30.42 59 *e*P P 01 47 56.5 -0.2
KSRS Korea Array 30.44 59 P P **01 47 53.4 -3.4**
comp=Z,4.5nm,0.5s,baz=250,slow=8.2,SNR=18
KSRS PcP **PcP 01 50 54.2 0.0**
comp=Z,3.9nm,0.7s,baz=259,slow=2.7,SNR=4.0
KSRS ScP **ScP 01 54 26.6 -1.8**
comp=Z,3.9nm,0.9s,baz=272,slow=4.1,SNR=5.2
KSRS LR LR 02 01 44.7
comp=Z,5μm,18.6s,baz=262,slow=39
KSRS Korea Array 30.44 59 P P **01 47 53.4 -3.4**
KSRS 01 50 54.2
KSRS 01 54 26.6
KSRS MLR MLR
comp=Z,5μm,18.6s
HIA Hailar 30.70 32 *e*P P 01 47 59.4 +0.4
comp=Z,80nm,0.6s
HIA *e*PcP **PcP 01 50 55.5 +0.8**
HIA Hailar 30.70 32 *e*P P 01 47 59.4 +0.4
HIA *e* 01 50 55.5
HIA pmax pmax
comp=Z,80nm,0.6s
NVS Novosibirsk 30.74 347⇓*i*P P 01 48 00.8 +1.5

NVS *eS* **S** **01 52 55.6 +0.2**
NVS *e* 01 53 27.8
NVS pmax pmax
comp=Z,411nm,1.3s
NVS pmax pmax
comp=N,305nm,1.4s
NVS pmax pmax
comp=E,228nm,1.4s
NVS smax smax
comp=N,100nm,1.6s
NVS smax smax
comp=E,118nm,1.7s
CN2 Changchun 30.87 46 *eP* **P** **01 47 59.8 -0.7**
CN2 *eS* **S** **01 52 55.0 -2.6**
CN2 LR LR
comp=E,3μm,15.0s
CN2 LR LR
comp=E,2μm,15.0s
CN2 LR LR
comp=E,3μm,15.0s
MDSI Maura Dua 30.94 162 P **P** **01 47 59.7 -1.7**
comp=E,69nm,1.1s,comp=E,981nm
KASI Kota Agung 32.02 162 P **P** **01 48 09.1 -1.7**
comp=E,98nm,1.0s
JNU Nakatsue 32.14 68 P **P** **01 48 10.2 -1.6**
comp=E,12nm,0.9s,baz=271,slow=5.6,SNR=4.7
JNU Nakatsue 32.14 68 *eP* **P** **01 48 10.2 -1.6**
comp=E,48nm,1.2s
MTKI Muara Teweh, K 32.44 141 P P 01 48 25.0 +10
JLN Jalan Bani Buh 32.68 272 P **P** **01 48 18.1 +1.4**
SNR=13
WSAR Wadi Sarin 33.16 274 P **P** **01 48 21.7 +0.8**
comp=E,16nm,0.8s,baz=115,slow=7.1,SNR=13
WSAR LR LR 02 02 55.4
comp=E,2μm,21.7s,baz=96,slow=38
WSAR Wadi Sarin 33.16 274 P **P** **01 48 22.3 +1.4**
SNR=7.1
WSAR S **S** **01 53 33.6 -0.3**
BRVK Borovoye 33.35 333 *eP* **P** **01 48 23.1 +1.0**
comp=E,125nm,0.9s
BRVK Borovoye 33.35 333 *c iP* **P** **01 48 23.3 +1.1**
BRVK pmax pmax
comp=Z,140nm,1.0s
BRVK Borovoye 33.35 333 P **P** **01 48 23.3 +1.1**
SNR=40
BIDO Bidbid 33.56 275 P **P** **01 48 26.5 +2.1**
SNR=14
GEYT Alibeck 33.62 301 P **P** **01 48 26.0 +1.3**
comp=Z,86nm,0.9s,baz=106,slow=3.2,SNR=119
GEYT PcP **PcP** **01 51 04.0 +1.1**
comp=Z,36nm,0.6s,baz=99,slow=0.9,SNR=12
GEYT S **S** **01 53 43.6 +2.9**
comp=Z,4.1nm,0.8s,baz=62,slow=18,SNR=2.1
GEYT ScP **ScP** **01 54 39.4 +0.1**
comp=Z,22nm,0.6s,baz=122,slow=1.9,SNR=13
GEYT LR LR 02 06 02.3
comp=Z,1μm,21.5s,baz=140,slow=43
MDJ Mudanjiang 33.91 47 *eP* **P** **01 48 26.8 -0.3**
comp=Z,33nm,1.3s
MDJ *epP* **pP** **01 48 50.7 +2.3**
JCJI Jatiwangi 34.15 156 P P 01 48 35.3 +5.9
LEM Lembang 34.23 157 LR LR 02 04 17.1
comp=Z,2μm,18.0s,baz=324,slow=39
LEM Lembang 34.23 157 P **P** **01 48 30.3 0.0**
comp=Z,1μm,0.9s
MHTO MHTO 34.26 271 P **P** **01 48 31.1 +0.7**
SNR=13
MHTO S **S** **01 53 49.4 -1.4**
DAV Davao City (W) 34.37 117 *eP* **P** **01 48 29.8 -1.7**
comp=Z,167nm,0.6s
DAV Davao City (W) 34.37 117⇑ *iP* **P** **01 48 32.1 +0.6**
DAV Davao City (W) 34.37 117 *eP* **P** **01 48 30.1 -1.3**
BSY Bisya 34.55 274 P **P** **01 48 34.8 +1.8**
SNR=7.5
SOHO SOHO 34.89 276 P **P** **01 48 36.7 +0.9**
SNR=11
SOHO S **S** **01 53 59.5 -1.0**
MDH Madha 34.91 278 P **P** **01 48 36.4 +0.4**
VLA Vladivostok 34.94 50 *c iP* **P** **01 48 34.8 -1.2**
VLA pmax pmax
comp=Z,68nm,0.8s
SHME Shamm 34.95 280 P **P** **01 48 38.5 +2.1**
CISI Cisompet, Garu 34.98 157 *eP* **P** **01 48 34.0 -2.6**
comp=Z,64nm,1.3s
CISI *epPcP* **PcP** **01 51 06.4 -0.8**
MSFE Esma-Masafi 35.03 279 P **P** **01 48 39.4 +2.3**
UOSS Minazif 35.05 278 *eP* **P** **01 48 38.4 +1.2**
comp=Z,21nm,0.8s
KBKI Kotabaru 35.08 141 P P 01 48 48.0 +10
HATD Hatta, Dubai 35.13 278 *i P* **P** **01 48 39.9 +2.0**
SNR=15
BOD Bodaibo 35.19 18⇓ *iP* **P** **01 48 38.8 +0.9**
BOD pmax pmax
comp=Z,128nm,1.6s
ASHO Ashiyiah 35.22 277 *i P* **P** **01 48 40.7 +2.0**
SNR=8.0
ASHO Ashiyiah 35.22 277 P **P** **01 48 40.7 +2.0**
SNR=10
USA0B Ussuriysk Arra 35.36 48 *eP* **P** **01 48 37.8 -1.8**
comp=Z,26nm,0.8s
USRK Ussuriysk Ar. 35.36 48 P **P** **01 48 38.0 -1.6**
comp=Z,28nm,0.8s,baz=249,slow=8.5,SNR=56
USRK PcP **PcP** **01 51 06.9 -1.0**
comp=Z,1.9nm,0.4s,baz=270,slow=2.2,SNR=3.9
USRK S **S** **01 54 04.1 -3.1**
comp=Z,0.8nm,0.7s,baz=264,slow=26,SNR=3.4
USRK ScP **ScP** **01 54 43.2 -2.1**
comp=Z,2.3nm,0.7s,baz=259,slow=2.6,SNR=5.1
USRK LR LR 02 03 30.5
comp=Z,2μm,18.2s,baz=237,slow=37
SMRI Semarang 35.51 153 *eP* **P** **01 48 42.5 +1.4**
comp=Z,585nm,1.1s
SMRI Semarang 35.51 153 P **P** **01 48 44.4 +3.3**
comp=Z,566nm,1.7s,comp=Z,11μm
NAZ Nazwa, Dubai 35.53 278 *i P* **P** **01 48 42.2 +0.9**
SNR=5.3
ALNE Al Ain 35.61 276 *i P* **P** **01 48 44.3 +2.3**
SNR=9.2
FAQ Al Faqa, Dubai 35.63 278 *i P* **P** **01 48 43.3 +1.1**
SNR=8.6
MRSI Marisa 35.87 129 P **P** **01 48 46.8 +2.5**
comp=Z,41nm,1.0s,comp=Z,1μm
ASUD Al Ashush, Dub 35.89 278 *i P* **P** **01 48 45.9 +1.5**
SNR=8.1
AJN Ajban 36.20 278 *i P* **P** **01 48 48.4 +1.3**
SNR=5.6
AJN Ajban 36.20 278 P **P** **01 48 48.4 +1.3**
SNR=5.2
NGJI Ngawi 36.22 152 P **P** **01 48 50.6 +3.4**
comp=Z,104nm,1.2s
ABKAR Akbulak array 36.23 320 *eP* **P** **01 48 48.1 +1.2**
PWJI Pagerwojo 36.96 152 P **P** **01 48 54.6 +1.1**
comp=Z,123nm,1.2s,comp=Z,2μm
XMIS Christmas Isla 37.07 162 *eP* **P** **01 48 55.1 +0.7**
comp=Z,223nm,1.4s
XMIS *epP* **pP** **01 49 20.4 +4.5**
TTSI Tana Toraja 37.07 136 P **P** **01 48 56.9 +2.4**
comp=Z,107nm,1.6s,comp=Z,3μm
KMMI Kalianget 37.09 148 P **P** **01 48 57.4 +2.8**
comp=Z,288nm,1.0s,comp=Z,2μm
ZEA Zeya 37.16 32 *eP* **P** **01 48 54.8 0.0**
ZEA *e* 01 49 21.0
ZEA *e* 01 50 24.0
ZEA *ePPP* PPP 01 50 52.0
ZEA *eS* **S** **01 54 31.0 -3.5**
ZEA *e* 01 55 03.0
ZEA *e* 01 57 13.0
ZEA pmax pmax
comp=N,35nm,1.0s
ZEA pmax pmax
comp=Z,41nm,1.0s
ZEA pmax pmax
comp=Z,1μm,5.0s
ZEA pmax pmax
comp=Z,700nm,8.0s
ZEA pmax pmax
comp=E,400nm,6.0s
ZEA pmax pmax
comp=N,400nm,5.0s
ZEA smax smax
comp=N,800nm,11.0s
ZEA smax smax
comp=E,1μm,11.0s
ZEA MLR MLR
comp=N,5μm,16.0s
ZEA MLR MLR
comp=E,5μm,16.0s

ZEA MLR MLR
comp=Z,8μm,16.0s
KLR Kul'dur 37.19 40 *i P* **P** **01 48 54.1 -1.0**
KMSI Cibinong 37.25 127 P **P** **01 48 55.8 -0.2**
comp=Z,545nm,0.8s,comp=Z,8μm
COCO West Island 37.33 177 *eP* **P** **01 48 58.0 +1.5**
comp=Z,740nm,1.4s
COCO West Island 37.33 177 *eP* **P** **01 48 58.0 +1.5**
COCO pmax pmax
comp=Z,741nm,1.4s
INU Inuyama 37.37 64 *eP* **P** **01 48 55.6 -1.3**
comp=Z,90nm,1.4s
LUWI Luwuk 37.53 130 *eP* **P** **01 49 00.0 +1.6**
comp=Z,274nm,1.0s
LUWI Luwuk 37.53 130 P **P** **01 48 56.9 -1.5**
comp=Z,279nm,1.2s,comp=Z,5μm
SPSI Sidrap Palu 37.75 137 P **P** **01 49 02.3 +2.1**
comp=Z,114nm,2.0s,comp=Z,4μm
BNSI Bone 38.30 137 P P 01 49 14.8 +10
JAGI Jajag, Banyuwa 38.41 149 *eP* **P** **01 49 07.8 +2.1**
comp=Z,159nm,1.0s
JAGI Jajag, Banyuwa 38.41 149 P **P** **01 49 07.9 +2.1**
comp=Z,170nm,1.3s
MJB9 Matsu-Tunnel 38.42 63 *eP* **P** **01 49 03.8 -1.9**
comp=Z,78nm,1.4s
MAJO Matsushiro 38.42 63 *eP* **P** **01 49 03.4 -2.3**
comp=Z,38nm,1.1s
MAJO *ePcP* **PcP** **01 51 17.0 -0.3**
MAJO Matsushiro 38.42 63 *i P* **P** **01 49 02.7 -3.0**
MAJO pmax pmax
comp=Z,12nm,0.4s
MAJO Matsushiro 38.42 63 *eP* **P** **01 49 03.6 -2.1**
MAT Matsushiro 38.42 63 P **P** **01 49 03.0 -2.7**
MAT S **S** **01 54 55.1 +1.1**
MJAR Matsushiro Arr 38.42 63 P **P** **01 49 03.2 -2.5**
comp=Z,11nm,0.6s,baz=270,slow=9.5,SNR=23
MJAR PcP **PcP** **01 51 17.0 -0.3**
comp=Z,5.2nm,0.5s,baz=255,slow=1.6,SNR=5.3
MJAR ScP **S** **01 54 54.6 +0.6**
comp=Z,17nm,0.7s,baz=258,slow=3.3,SNR=20
MJAR LR LR 02 06 16.5
comp=Z,3μm,20.6s,baz=265,slow=38
SRBI Singaraja 38.59 147 P **P** **01 49 10.8 +3.5**
RBK Rabkut 38.66 267 P **P** **01 49 09.7 +1.8**
SNR=7.6
TEY Ternei 38.75 49⇑ *eP* **P** **01 49 08.7 +0.4**
TEY *e* 01 49 31.5
TEY *e* 01 54 59.2
TEY pmax pmax
comp=Z,40nm,0.8s
TEY MLR MLR
comp=N,200nm,11.0s
TEY MLR MLR
comp=Z,100nm,14.0s
WHFO Wadi Hawf 38.92 267 P **P** **01 49 10.4 +0.3**
SNR=6.1
ABTO Aybut 39.53 267 P **P** **01 49 16.5 +1.3**
SNR=9.4
SVE Sverdlovsk 40.01 331 *d iP* **P** **01 49 20.2 +1.6**
SVE *eS* **S** **01 55 19.5 +2.3**
SVE *e* 01 58 19.3
SVE pmax pmax
comp=Z,609nm,1.4s
SVE pmax pmax
comp=Z,349nm,8.9s
SVE MLR MLR
comp=Z,4μm,21.0s
PLAI Plampang 40.54 144 P **P** **01 49 23.1 -0.4**
comp=Z,174nm,1.0s
GRNR Gornyy 40.57 40 *eP* **P** **01 49 23.2 -0.2**
GRNR *e* 01 51 24.0
GRNR pmax pmax
comp=Z,29nm,0.5s
ARU Arti 40.70 330 *eP* **P** **01 49 24.5 +0.2**
comp=Z,143nm,0.7s
ARU Arti 40.70 330 *c iP* **P** **01 49 25.2 +0.9**
ARU *SP **pP** **01 49 46.4 +0.1**
ARU 01 51 00.6
ARU 01 51 24.1
ARU PPP PPP 01 51 29.5
ARU S **S** **01 55 34.6 +7.1**
ARU SSS SSS 01 59 05.5
ARU 01 59 27.3
ARU pmax pmax
comp=Z,525nm,1.6s
ARU MLR MLR
comp=Z,4μm,17.0s
AKT Akhty 42.09 305 *i* P **P** **01 49 37.4 +1.3**
AKT pmax pmax
comp=Z,232nm,0.8s
MAK Makhachkala 42.47 307 *eP* **P** **01 49 40.2 +1.3**
MAK *e*PP **pP** **01 50 00.2 -0.9**
MAK *e*SP **sP** **01 50 11.7 -0.1**
MAK *e* 01 51 24.7
MAK *eS* **S** **01 55 56.2 +2.2**
MAK *e*SS **sS** **01 56 33.4 +1.8**
MAK pmax pmax
comp=Z,185nm,0.8s
MAK MLR MLR
comp=Z,2μm,16.0s
EDFI Ende, Flores 42.69 139 P **P** **01 49 40.1 -1.0**
comp=Z,86nm,1.5s,comp=Z,2μm
ASAJ Asahikawa 42.72 52 *eP* **P** **01 49 40.2 -0.7**
comp=Z,34nm,0.7s
GNBR Gunib 42.78 306 *i P* **P** **01 49 43.2 +1.6**
GNBR pmax pmax
comp=Z,226nm,0.8s
ERM Erimo 42.81 55 *eP* **P** **01 49 42.1 +0.4**
comp=Z,32nm,0.6s
ERM Erimo 42.81 55 *eP* **P** **01 49 42.1 +0.4**
ERM pmax pmax
comp=Z,32nm,0.6s
MMRI Maumere 42.92 138 *eP* **P** **01 49 41.8 -1.1**
comp=Z,181nm,1.0s
BTLR Botlikh 43.36 306 *i P* **P** **01 49 47.8 +1.5**
BTLR pmax pmax
comp=Z,127nm,0.6s
YSS Yuzh-Sakhalins 43.38 48 *ceP* **P** **01 49 45.4 -0.9**
YSS *e*PP **pP** **01 50 08.2 0.0**
YSS *e*SP **sP** **01 50 14.3 -4.5**
YSS *e* 01 51 32.0
YSS *ePPP PPP 01 52 04.0
YSS *eS* **S** **01 56 00.0 -7.3**
YSS *eSSS SSS 01 59 29.0
YSS pmax pmax
comp=Z,30nm,1.3s
YSS pmax pmax
comp=Z,800nm,5.1s
YSS smax smax
comp=N,900nm,11.0s
YSS smax smax
comp=E,2μm,15.0s
YSS MLR MLR
comp=Z,2μm,16.0s
YSS MLR MLR
comp=E,2μm,15.0s
YAK Yakutsk 43.45 23 *c iP* **P** **01 49 46.8 +0.3**
YAK *e*PP **pP** **01 50 08.3 -0.7**
YAK *e* 01 51 27.5
YAK *e* 01 51 33.7
YAK *ePPP PPP 01 52 06.6
YAK *eS* **S** **01 56 08.1 +0.3**
YAK *e*SS **sS** **01 56 45.6 +0.1**
YAK *eSS **SS** **01 59 22.7 -2.3**
YAK *e* 01 59 32.7
YAK *eSSS SSS 02 00 06.3
YAK pmax pmax
comp=Z,120nm,1.0s
YAK pmax pmax
comp=N,42nm,1.0s
YAK pmax pmax
comp=E,52nm,1.2s
YAK pmax pmax
comp=Z,37nm,1.1s
YAK pmax pmax
comp=N,79nm,1.5s
YAK pmax pmax
comp=E,77nm,1.4s
YAK smax smax
comp=N,347nm,2.2s
YAK smax smax
comp=E,647nm,2.3s
GROC Groznyy 43.74 307⇑ *iP* **P** **01 49 50.3 +1.1**
GROC *e*PP **pP** **01 50 05.9 -5.6**
GROC *e*SP sP 01 50 13.5 -8.7

GROC *e* 01 51 36.1
GROC *eS* **S** **01 56 20.7 +8.1**
GROC pmax pmax
comp=Z,598nm,1.4s
NKL Nikolayevsk 43.91 38 *eP* **P** **01 49 49.0 -1.3**
NKL *eS* **S** **01 56 12.0 -2.7**
NKL pmax pmax
comp=E,16nm,0.9s
NKL pmax pmax
comp=Z,33nm,0.9s
NKL pmax pmax
comp=E,800nm,11.0s
NKL pmax pmax
comp=Z,1μm,14.0s
NKL smax smax
comp=E,2μm,14.0s
NKL MLR MLR
comp=E,2μm,11.0s
NKL MLR MLR
comp=Z,2μm,12.0s
GNI Garni 44.23 302 *eP* **P** **01 49 55.7 +2.4**
comp=Z,401nm,1.1s
GNI Garni 44.23 302 *eP* **P** **01 49 55.7 +2.4**
GNI pmax pmax
comp=Z,401nm,1.1s
TYV Tymovskoe 44.32 42 *eP* **P** **01 49 53.9 +0.2**
TYV *eS* **S** **01 56 23.6 +2.8**
TYV pmax pmax
comp=Z,700nm,5.1s
TYV pmax pmax
comp=Z,18nm,1.6s
TYV smax smax
comp=E,22nm,1.7s
TYV smax smax
comp=N,900nm,5.6s
TYV MLR MLR
comp=Z,2μm,16.0s
TBLG Delisi 44.35 305 *eP* **P** **01 49 55.9 +1.7**
comp=Z,86nm,0.7s
TBLG Delisi 44.35 305 *eP* **P** **01 49 55.9 +1.7**
TBLG pmax pmax
comp=Z,86nm,0.7s
RAYN Ar Rayn 44.91 279 *eP* **P** **01 49 59.5 +0.6**
comp=Z,72nm,0.8s
RAYN Ar Rayn 44.91 279 *i P* **P** **01 49 59.6 +0.8**
SNR=97
RAYN Ar Rayn 44.91 279 *eP* **P** **01 49 59.5 +0.6**
RAYN pmax pmax
comp=Z,72nm,0.8s
BATI Baumata 45.02 138 P P 01 50 08.6 +8.9
YUK Yuzh-Kuril'sk 45.03 52 *i P* P 01 49 49.9 -10
YUK *e* 01 51 41.1
YUK *ePPP PPP 01 52 24.2
YUK pmax pmax
comp=N,219nm,1.3s
YUK pmax pmax
comp=Z,269nm,1.3s
YUK pmax pmax
comp=E,49nm,0.9s
YUK MLR MLR
comp=Z,264nm,14.0s
SOEI Soe 45.03 137 *eP* **P** **01 49 58.7 -1.2**
comp=Z,539nm,1.1s
SOEI Soe 45.03 137 P **P** **01 49 59.3 -0.6**
comp=Z,528nm,1.1s,comp=Z,6μm
ZEI Tsey 45.07 306 *eP* **P** **01 49 57.4 -2.7**
ZEI *eS* **S** **01 56 35.2 +2.8**
ZEI pmax pmax
comp=Z,381nm,1.5s
ZEI pmax pmax
comp=E,156nm,0.9s
ZEI pmax pmax
comp=N,191nm,1.2s
NCK Nalchik 45.37 307⇑ *iP* **P** **01 50 03.0 +0.8**
NCK pmax pmax
comp=Z,489nm,1.8s
KARS Kars 45.52 303 *eP* **P** **01 50 06.2 +2.6**
comp=Z,2μm,0.8s
KARS Kars 45.52 303 *eP* **P** **01 50 06.2 +2.6**
KARS pmax pmax
comp=Z,2μm,0.8s
FAKI Fak Fak 45.73 122 *eP* **P** **01 50 04.2 -1.2**
comp=Z,200nm,1.1s
FAKI Fak Fak 45.73 122 P **P** **01 50 04.3 -1.0**
comp=Z,201nm,1.2s,comp=Z,3μm
PYA1 Pyatigorsk 45.79 308⇓ *iP* **P** **01 50 06.0 +0.5**
KBZ Khabaz 45.90 307 P **P** **01 50 06.8 +0.6**
comp=Z,19nm,0.8s,baz=112,slow=4.5,SNR=30
KBZ S **S** **01 56 43.5 -0.3**
comp=Z,1.0nm,0.7s,baz=263,slow=22,SNR=0.6
KBZ LR LR 02 13 08.9
comp=Z,1μm,18.2s,baz=86,slow=41
SIRT Sirnak 45.95 299 *eP* **P** **01 50 07.8 +0.8**
comp=Z,488nm,0.8s
GOF Gofitskoye 45.95 309⇑ *iP* **P** **01 50 07.9 +1.2**
GOF pmax pmax
comp=Z,630nm,1.3s
SHA1 Shidzhatmaz 46.07 307 *i P* **P** **01 50 09.0 +1.0**
KIV Kislovodsk 46.08 307 *eP* **P** **01 50 08.8 +0.9**
comp=Z,580nm,1.4s
KIV Kislovodsk 46.08 307 *eP* **P** **01 50 08.6 +0.8**
KIV *eS* **S** **01 56 51.9 +5.3**
KIV pmax pmax
comp=Z,337nm,4.3s
KIV pmax pmax
comp=Z,303nm,1.1s
KIV MLR MLR
comp=Z,1μm,16.0s
RKPI Ransiki, Papua 46.35 119 P **P** **01 50 10.4 +0.2**
comp=Z,148nm,1.0s,comp=Z,4μm
BCA Borcka 46.66 304⇑ *iP* **P** **01 50 14.8 +2.4**
DOMR Dombai 46.78 306 *d iP* **P** **01 50 16.1 +2.6**
DOMR pmax pmax
comp=Z,226nm,1.0s
VRH Novokhopyorsk 47.85 317 *eP* **P** **01 50 21.2 -0.2**
VRH *eS* **S** **01 57 09.9 -1.5**
VRH pmax pmax
comp=Z,410nm,0.8s
VRH pmax pmax
comp=Z,540nm,0.8s
VRH smax smax
comp=E,630nm,2.0s
KTUT Trabzon 48.05 303⇓ *iP* **P** **01 50 25.8 +2.7**
SOC Sochi 48.19 307 *c iP* **P** **01 50 23.1 -1.0**
SOC *e*SP **pP** **01 50 45.4 -1.3**
SOC *eS* **S** **01 57 17.4 +1.0**
SOC *e*SS **sS** **01 57 53.1 -1.6**
SOC *eSSS SSS 02 02 03.8
SOC pmax pmax
comp=Z,227nm,0.9s
SOC MLR MLR
comp=Z,891nm,17.0s
GUMO Guam 48.19 94 P **P** **01 50 23.5 -1.0**
comp=Z,36nm,0.4s,baz=24,slow=23,SNR=1.4
SAUI Saumlaki 48.41 128 *eP* **P** **01 50 26.4 +0.3**
comp=Z,344nm,1.2s
DAMY Dhamar 48.52 267 *eP* **P** **01 50 29.5 +2.0**
comp=Z,161nm,1.0s
PRGR Permogore 49.07 331⇑ *iP* **P** **01 50 31.4 +0.8**
PRGR *eS* **S** **01 57 28.9 +0.7**
PRGR pmax pmax
comp=Z,435nm,0.7s
VSR Storozhevoye 49.44 317 *eP* **P** **01 50 32.8 -0.7**
VSR *eS* **S** **01 57 31.7 -1.9**
VSR pmax pmax
comp=Z,380nm,1.6s
VSR pmax pmax
comp=Z,690nm,1.8s
VSR smax smax
comp=E,200nm,1.7s
VORR Voronezh 49.49 317 *eP* **P** **01 50 34.0 +0.1**
VORR pmax pmax
comp=Z,750nm,1.4s
LPSR Galich'ya Gora 49.83 319 *eP* **P** **01 50 36.6 +0.1**
LPSR *eS* **S** **01 57 38.8 -0.2**
LPSR pmax pmax
comp=Z,450nm,0.7s
LPSR pmax pmax
comp=Z,500nm,0.8s
LPSR smax smax
comp=N,250nm,1.8s
ANN Anapa 49.90 308 *eP* **P** **01 50 34.7 -2.4**
ANN *i *PP pP 01 50 51.5 -8.4
ANN *e* 01 51 53.6
ANN *e* 01 52 30.7
ANN *eS* **S** **01 57 41.4 +1.2**

ANN pmax pmax
comp=Z,143nm,0.9s
TIXI Tiksi 50.09 13*c* *i*P **P** **01 50 38.2 0.0**
TIXI pmax pmax
comp=Z,418nm,1.4s
ASF Jabal al Asfar 50.89 292 P **P** **01 50 45.8 +0.9**
ATD Arta Tunnel 51.05 264 LR LR 02 11 32.7
comp=Z,646nm,20.3s,baz=72,slow=35
ATD Arta Tunnel 51.05 264 *e*P **P** **01 50 48.3 +1.9**
comp=Z,239nm,1.2s
TOTH TOTAH 51.12 293 *e*P **P** **01 50 49.9 +3.3**
MOS Moscow 51.19 322 *e*P **P** **01 50 46.4 -0.3**
MOS *e**PP **pP** **01 51 06.0 -3.6**
MOS *e* 01 52 44.6
MOS *e*PPP PPP 01 53 41.7
MOS *e*S **S** **01 57 57.0 -0.9**
MOS *e**SS **sS** **01 58 33.3 -3.6**
MOS pmax pmax
comp=Z,1μm,1.4s
MOS pmax pmax
comp=E,500nm,1.5s
MOS pmax pmax
comp=Z,558nm,0.8s
MOS MLR MLR
comp=Z,1μm,17.0s
GIRL Giralia 51.20 157 *e*P **P** **01 50 47.1 0.0**
comp=Z,601nm,1.4s
QASN Qassioun 51.23 294 *e*P **P** **01 50 50.2 +2.8**
MA2 Magadan 51.29 33*c* *i*P **P** **01 50 46.3 -1.1**
MA2 pmax pmax
comp=Z,142nm,1.3s
DIKM Dikmen 51.44 304⇑*i*P **P** **01 50 49.9 +1.1**
SNOP Sinop 51.47 305 *e*P **P** **01 50 51.4 +2.3**
comp=Z,270nm,1.0s
BRBR Barbar 51.51 294 *e*P **P** **01 50 51.8 +2.0**
KLMR Klimovskoe 51.54 329 *e*P **P** **01 50 47.4 -1.8**
KLMR *e*S **S** **01 58 03.0 +0.5**
KLMR pmax pmax
comp=Z,582nm,1.2s
KLMR Klimovskoe 51.54 329 *e*P **P** **01 50 47.4 -1.8**
KLMR AMP 01 50 53.1
comp=Z,582nm,1.2s
KLMR *e*S **S** **01 58 03.0 +0.5**
KLMR *e*S **S** **01 58 03.0 +0.5**
OBN Obninsk 51.66 321 *e*P **P** **01 50 50.3 +0.1**
comp=Z,196nm,0.7s
OBN Obninsk 51.66 321⇑*i*P **P** **01 50 50.5 +0.3**
OBN Obninsk 51.66 321*d* *i*P **P** **01 50 49.9 -0.3**
OBN *i* 01 51 14.1
OBN *e* 01 52 03.0
OBN *e* 01 52 50.8
OBN *i*S **S** **01 58 03.5 -0.8**
OBN pmax pmax
comp=Z,743nm,1.7s
OBN MLR MLR
comp=Z,2μm,18.0s
SWQJ Swaqa 51.73 291 P **P** **01 50 52.6 +1.4**
SWQJ Swaqa 51.73 291 P **P** **01 50 52.2 +1.0**
MTN Manton Dam 51.76 133 *e*P **P** **01 50 49.0 -2.4**
comp=Z,17nm,0.6s
GENI Genyem 51.80 116 P **P** **01 50 51.9 +0.1**
comp=Z,402nm,1.0s,comp=Z,6μm
WALJ Wala 51.89 291 P **P** **01 50 53.9 +1.6**
WALJ Wala 51.89 291 P **P** **01 50 54.1 +1.8**
MBWA Marble Bar 52.07 150 *e*P **P** **01 50 52.3 -1.3**
comp=Z,198nm,0.9s
MBWA Marble Bar 52.07 150 P **P** **01 50 52.8 -0.9**
SNR=8.4
GHAJ Ghor Haditha 52.14 291 P **P** **01 50 56.4 +2.3**
comp=Z,200nm,1.5s
JDRJ Daraweish 52.15 290 P **P** **01 50 55.1 +0.7**
JDRJ Daraweish 52.15 290 P **P** **01 50 55.1 +0.7**
HSNJ Maan 52.21 290 P **P** **01 50 56.1 +1.2**
HSNJ Maan 52.21 290 P **P** **01 50 55.9 +1.0**
SIM Simferopol' 52.26 308*c* *i*P **P** **01 50 54.5 -0.3**
SIM *i**PP **pP** **01 51 17.0 -0.7**
SIM *e* 01 52 52.0
SIM *e*PPP PPP 01 54 07.0
SIM *i*S **S** **01 58 13.3 +0.5**
SIM *i**SS **sS** **01 58 52.0 +0.4**
SIM pmax pmax
comp=Z,281nm,0.7s
SIM pmax pmax
comp=Z,210nm,10.8s
SIM MLR MLR
comp=Z,270nm,13.4s
BZK Bozkurt 52.37 305⇑*i*P **P** **01 50 57.3 +1.6**
FITZ Fitzroy Crossi 52.46 142 *e*P **P** **01 50 56.4 -0.1**
comp=Z,188nm,1.4s
ILGA Ilgaz 52.62 303 *e*P **P** **01 50 59.5 +1.6**
comp=Z,561nm,1.0s
ILGA *ep**P **pP** **01 51 21.4 +0.6**
SKR Severo-Kuril's 52.67 44 *e*P **P** **01 50 54.6 -3.2**
SKR *e*S **S** **01 58 11.3 -7.0**
SKR MLR MLR
comp=Z,3μm,18.0s
SKR MLR MLR
comp=Z,3μm,14.0s
BR101 Keskin Array S 52.76 302 *e*P **P** **01 50 59.1 +0.4**
BR101 *e*ScP **ScP** **01 55 55.9 -0.3**
BR131 Keskin Array S 52.76 302 *e*P **P** **01 50 59.3 +0.5**
BR131 Keskin Array S 52.76 302 P **P** **01 50 59.3 +0.5**
SNR=39
BRTR Keskin Array B 52.76 302 P **P** **01 50 59.1 +0.4**
comp=Z,54nm,0.8s,baz=116,slow=6.4,SNR=137
BRTR ScP **ScP** **01 55 55.9 -0.4**
comp=Z,1.9nm,0.8s,baz=110,slow=4.3,SNR=2.9
HRFI Mount Harif 52.80 290 P **P** **01 50 59.6 +0.5**
HRFI Mount Harif 52.80 290 P **P** **01 50 00.4 +1.3**
EIL Elat 52.94 289 P **P** **01 50 58.9 -1.2**
EIL Elat 52.94 289 P **P** **01 50 58.8 -1.3**
comp=Z,222nm,1.3s
EIL Elat 52.94 289 P **P** **01 51 00.8 +0.7**
SEY Seymchan 53.02 29*c* *e*P **P** **01 50 59.5 -0.7**
ANTO Ankara 53.40 302 *e*P **P** **01 51 04.1 +0.8**
comp=Z,217nm,0.8s
ANTO *ep**P **pP** **01 51 27.1 +0.7**
ANTO Ankara 53.40 302⇓*i*P **P** **01 51 06.0 +2.6**
ANTO Ankara 53.40 302⇓P **P** **01 51 06.0 +2.6**
ANTO Ankara 53.40 302 P **P** **01 51 04.2 +0.8**
SNR=36
ANTO Ankara 53.40 302 *e*P **P** **01 51 04.3 +1.0**
BR231 Keskin MP Arra 53.41 302 *e*P **P** **01 51 04.6 +1.1**
CSS Mathiatis 53.47 296 *e*P **P** **01 51 05.7 +1.8**
comp=Z,127nm,1.1s
CSS Mathiatis 53.47 296 P **P** **01 51 05.1 +1.2**
comp=Z,29nm,1.1s
MAMC Mammari 53.53 296 P **P** **01 51 06.1 +1.7**
LEF Lefka 53.80 296⇑*i*P **P** **01 51 07.0 +0.7**
SZAC Souni 53.86 296 P **P** **01 51 07.7 +0.9**
PETK Petropavlovsk- 53.86 42 P **P** **01 51 05.3 -1.2**
comp=Z,10nm,0.8s,baz=246,slow=2.2,SNR=18
PETK PcP **PcP** **01 52 10.0 -1.0**
comp=Z,22nm,0.9s,baz=300,slow=2.8,SNR=3.0
PETK LR LR 02 15 37.6
comp=Z,2μm,19.6s,baz=261,slow=38
PEA1 Petropavlovsk- 53.87 42 *e*P **P** **01 51 05.3 -1.2**
PEA1 *e*PcP **PcP** **01 52 10.0 -1.0**
ALFC Alefka 54.04 296 P **P** **01 51 08.7 +0.6**
PPCY Paphos 54.28 296 P **P** **01 51 11.0 +1.2**
PET Petropavlovsk 54.43 42 *e*P **P** **01 51 08.2 -2.4**
PET *e**SP **sP** **01 51 41.1 -2.7**
PET *e* 01 52 07.5
PET *e*S **S** **01 58 37.5 -4.5**
PET pmax pmax
comp=Z,400nm,14.3s
PET MLR MLR
comp=Z,2μm,15.0s
ISP Isparta 55.36 300 *e*P **P** **01 51 17.7 0.0**
comp=Z,122nm,0.8s
ISP *ep**P **pP** **01 51 39.9 -0.9**
ISP Isparta 55.36 300⇑*i*P **P** **01 51 18.1 +0.4**
ISP Isparta 55.36 300 P **P** **01 51 16.7 -1.0**
ISP Isparta 55.36 300⇑P **P** **01 51 18.1 +0.4**
AKASG Malin Array Be 55.64 315 P **P** **01 51 19.1 -0.3**
comp=Z,142nm,0.6s,baz=80,slow=6.4,SNR=187
AKASG ScP **ScP** **01 56 07.9 -0.6**
comp=Z,2.3nm,0.6s,baz=75,slow=4.4,SNR=3.9
AKASG S **S** **01 58 53.4 -4.9**
comp=Z,0.2nm,0.3s,baz=90,slow=16,SNR=3.6
AKASG LR LR 02 20 28.8
comp=Z,1μm,19.1s,baz=95,slow=42
AKBB Malin Array Si 55.64 315 *e*P **P** **01 51 19.1 -0.3**
comp=Z,219nm,0.8s
AKBB *ep**P **pP** **01 51 39.5 -3.0**
AKBB *e*ScP **ScP** **01 56 07.9 -0.6**
KIEV Kiev 55.65 315 *e*P **P** **01 51 19.0 -0.4**
comp=Z,213nm,0.8s
KIEV Kiev 55.65 315⇓*i*P **P** **01 51 19.8 +0.4**
KIEV Kiev 55.65 315 *i* P **P** **01 51 19.4 -0.1**
SNR=132
KIEV Kiev 55.65 315*c* *i*P **P** **01 51 18.8 -0.6**
KIEV pmax pmax
comp=Z,232nm,0.8s
AK11 Malin Array Si 55.68 315 *e*P **P** **01 51 19.1 -0.5**
SILT Sile 55.69 304⇓*i*P **P** **01 51 21.8 +2.0**
LVZ Lovozero 55.73 337 *e*P **P** **01 51 20.1 +0.3**
comp=Z,159nm,0.7s
LVZ *ep**P **pP** **01 51 42.8 -0.2**
LVZ Lovozero 55.73 337*c* *e*P **P** **01 51 19.9 +0.1**
LVZ pmax pmax
comp=Z,18nm,0.7s
PUL Pulkovo 55.76 326*c* *i*P **P** **01 51 21.0 +1.0**
PUL pmax pmax
comp=Z,461nm,0.6s
PUL Pulkovo 55.76 326 *e*P **P** **01 51 21.1 +1.1**
PUL IAmb IAmb 01 51 23.6
comp=Z,588nm,0.6s
FURI Furi 55.87 263 *e*P **P** **01 51 23.5 +1.6**
comp=Z,111nm,1.3s
KIS Kishinev 55.93 311⇓*i*P **P** **01 51 20.0 -1.5**
comp=Z,720nm,1.5s
KIS *i* p**P** **pP** **01 51 43.0 -1.6**
KIS Kishinev 55.93 311 *e**PP PP 01 53 22.0 -4.9
KIS Kishinev 55.93 311 *e*PPP PPP 01 54 42.0
KIS *e*S **S** **01 59 01.0 -1.2**
KIS Kishinev 55.93 311 *e*PS **pS** **01 59 33.0 +4.2**
KIS *i* sS sS 01 59 46.0 +3.8
KIS *e*SS SSS 02 02 36.0 -13
KIS *e*SSS SSS 02 04 44.0
KIS *e*L L 02 10 10.0
KIS LRM MLR 02 19 00.0
comp=Z,1μm,20.0s
KIS Kishinev 55.93 311⇓*i*P **P** **01 51 20.0 -1.5**
KIS *i**PP **pP** **01 51 43.0 -1.6**
KIS *e*PPP PPP 01 54 42.0
KIS *e*S **S** **01 59 01.0 -1.2**
KIS *e*PS **pS** **01 59 33.0 +4.2**
KIS pmax pmax
comp=Z,720nm,1.5s
KIS MLR MLR
comp=Z,1μm,20.0s
ELL Elmali 55.98 298 P **P** **01 51 22.7 +0.5**
TLCR 56.01 309⇓*i*P **P** **01 51 22.5 +0.5**
TLCR 56.01 309 P **P** **01 51 24.4 +2.4**
APA Apatity 56.09 336⇓*i*P **P** **01 51 21.6 -0.6**
APA *i* 01 51 46.0
APA *i*S **S** **01 59 02.0 -1.6**
APA *i*PS **pS** **01 59 35.0 +4.9**
APA *i* 02 00 57.0
APA pmax pmax
comp=Z,63nm,1.0s
APA MLR MLR
comp=Z,3μm,16.0s
KLYT Kilyos 56.13 304⇑*i*P **P** **01 51 24.6 +1.6**
TIRR Tirgusor 56.34 308 *e*P **P** **01 51 25.1 +0.7**
comp=Z,209nm,1.0s
TIRR Tirgusor 56.34 308⇑*i*P **P** **01 51 24.8 +0.4**
TIRR Tirgusor 56.34 308 *e*P **P** **01 51 25.1 +0.7**
TIRR pmax pmax
comp=Z,209nm,1.0s
GIUM Giurgiulesti 56.42 309⇑*i*P **P** **01 51 26.5 +1.5**
CFR Carcaliu 56.49 309⇓*i*P **P** **01 51 26.0 +0.6**
CFR Carcaliu 56.49 309⇓P **P** **01 51 26.0 +0.6**
MICGM Minsk 56.59 320⇓*i*P **P** **01 51 26.0 0.0**
MICGM PM 01 51 28.0
comp=Z,1.7nm,1.5s
MICGM PM 01 51 29.0
comp=N,1.0nm,2.0s
MICGM *ep**P **pP** 01 51 34.0 -15
MICGM *e*sP sP 01 51 47.0 -13
MICGM *e*S **S** **01 59 11.0 +0.4**
MICGM *e*LR LR 02 15 18.0
MNK Minsk 56.59 320⇓*i*P **P** **01 51 26.0 0.0**
MNK *e* 01 51 47.0
MNK *e*S **S** **01 59 11.0 +0.4**
MNK pmax pmax
comp=Z,2μm,1.5s
MNK pmax pmax
comp=E,1μm,2.0s
HARR Harsova 56.66 308⇑*i*P **P** **01 51 27.2 +0.5**
HARR Harsova 56.66 308 P **P** **01 51 29.9 +3.2**
BIR Birlad 56.78 310⇓*i*P **P** **01 51 28.9 +1.4**
BIR Birlad 56.78 310 P **P** **01 51 30.6 +3.0**
IAS Iasi 56.78 311⇑*i*P **P** **01 51 28.1 +0.6**
IAS Iasi 56.78 311⇑P **P** **01 51 28.1 +0.6**
ICOR Ion Corvin 56.80 307⇓*i*P **P** **01 51 28.5 +0.8**
MANT Manisa 56.81 301 *e*P **P** **01 51 28.4 +0.2**
comp=E,230nm,1.0s
PETR Petresti 57.09 309⇑*i*P **P** **01 51 31.3 +1.6**
PRD Provadia 57.16 306 P **P** **01 51 30.5 +0.2**
ODBI Odobesti 57.21 309⇓*i*P **P** **01 51 32.7 +2.1**
PHSR Pinarhisar 57.23 305⇑*i*P **P** **01 51 31.5 +0.7**
NACGM Naroch 57.24 320 *e*P **P** **01 51 30.0 -0.6**
NACGM *e*P **P** **01 51 30.0 -0.6**
NACGM PM 01 51 33.0
comp=Z,1.2nm,1.0s
NACGM *e*sP **pP** **01 51 52.0 -1.8**
NACGM *e*PcP PcP 01 52 40.0 +16
NACGM *e*PP **PP** **01 53 38.0 -0.4**
NACGM *e*S **S** **01 59 18.0 -1.2**
NACGM *e*sS **pS** **01 59 52.0 +6.3**
NACGM *e*SS **SS** **02 03 10.0 +0.7**
NACGM *e*SSS SSS 02 05 20.0
NACGM *e*LQ LQ 02 11 32.0
NACGM *e*LR LR 02 14 40.0
RASA Rasa 57.26 308⇑*i*P **P** **01 51 32.4 +1.5**
IDID Didziasalis 57.28 321 *e*P **P** **01 51 31.7 +0.9**
IDID IAmb IAmb 01 51 34.5
comp=Z,95nm,0.8s
GRER 57.29 309⇑*i*P **P** **01 51 32.8 +1.6**
PGOR Pogoanele 57.32 308⇓*i*P **P** **01 51 33.2 +1.9**
VRI Vrincioaia 57.43 310⇑*i*P **P** **01 51 33.3 +1.1**
VRI Vrincioaia 57.43 310⇑P **P** **01 51 33.3 +1.1**
VSU Vasula 57.46 325*c* *i*P **P** **01 51 32.5 +0.5**
VSU pmax pmax
comp=Z,925nm,0.7s
VSU Vasula 57.46 325 *e*P **P** **01 51 32.5 +0.5**
VSU IAmb IAmb 01 51 34.6
comp=Z,864nm,0.7s
PLOR Plostina 57.49 310⇑*i*P **P** **01 51 33.9 +1.3**
PLOR Plostina 57.49 310⇑P **P** **01 51 33.9 +1.3**
MANU Manus Island 57.50 110 *e*P **P** **01 51 34.6 +1.6**
comp=Z,159nm,0.9s
IIGN Ignalina 57.58 321 *e*P **P** **01 51 34.0 +1.0**
IIGN IAmb IAmb 01 51 36.6
comp=Z,182nm,0.7s
IZAR Zarasai 57.58 321 *e*P **P** **01 51 33.8 +0.9**
IZAR IAmb IAmb 01 51 36.4
comp=Z,142nm,0.7s
ISR Istrita 57.62 309⇑*i*P **P** **01 51 35.4 +1.9**
ISR Istrita 57.62 309⇑P **P** **01 51 35.4 +1.9**
ISAL Salakas 57.64 321 *e*P **P** **01 51 34.3 +0.9**
ISAL IAmb IAmb 01 51 37.1
comp=Z,134nm,0.9s
PRAR RASCA 57.68 311⇓*i*P **P** **01 51 34.3 +0.4**
MORW Morawa 57.73 158 *e*P **P** **01 51 34.7 +0.4**
comp=Z,256nm,1.4s
BIZ Bicaz 57.79 311⇓*i*P **P** **01 51 35.5 +0.8**
JMB Yambol 57.83 306 P **P** **01 51 34.5 -0.5**
SULR 57.86 308⇑*i*P **P** **01 51 36.5 +1.4**
SECR 57.96 309⇑*i*P **P** **01 51 37.2 +1.3**
MLR Muntele Rosu 58.01 309 *e*P **P** **01 51 37.1 +0.7**
comp=Z,585nm,0.9s
MLR Muntele Rosu 58.01 309⇑*i*P **P** **01 51 37.6 +1.2**
MLR Muntele Rosu 58.01 309⇑P **P** **01 51 37.6 +1.2**
FIA0 FINESS Array S 58.04 328 *e*P **P** **01 51 36.6 +0.6**
FIA0 FINESS Array S 58.04 328 *e*P **P** **01 51 36.7 +0.6**
FINES FINESS Array B 58.04 328 P **P** **01 51 36.6 +0.6**
comp=Z,116nm,0.6s,baz=98,slow=6.3,SNR=217
FINES PKiKP **PKiKP** **01 58 51.1 +0.3**
comp=Z,3.5nm,0.9s,baz=116,slow=3.2,SNR=3.8
FINES S **S** **01 59 29.8 +0.3**
comp=Z,2.4nm,0.7s,baz=90,slow=4.2,SNR=2.7
FINES LR LR 02 19 18.3
comp=Z,2μm,18.8s,baz=93,slow=39
SGRR Singureni 58.10 308⇑*i*P **P** **01 51 38.0 +1.2**
MRIV Mauritius Mete 58.19 222 *e*P **P** **01 51 37.7 0.0**
comp=Z,192nm,1.2s
SZH Strazhica 58.22 307 P **P** **01 51 38.0 +0.3**
SMG Samos 58.27 300 P **P** **01 51 39.6 +1.5**
SMG Samos 58.27 300 P **P** **01 51 39.6 +1.5**
BURAR Bucovina Array 58.35 312⇑*i*P **P** **01 51 39.2 +0.5**
BURAR Bucovina Array 58.35 312 P **P** **01 51 41.7 +3.0**
BUR04 Bucovina Ar. S 58.35 312 *e*P **P** **01 51 38.9 +0.2**
EZN Ezine 58.35 303⇑*i*P **P** **01 51 39.6 +1.0**
EZN Ezine 58.35 303 P **P** **01 51 42.2 +3.6**
DOPR Dopca 58.36 310⇓*i*P **P** **01 51 39.3 +0.7**
BUR08 Bucovina Ar. S 58.36 312 *e*P **P** **01 51 39.1 +0.3**
KARP Karpathos 58.37 297 *e*P **P** **01 51 39.3 +0.4**
comp=Z,1μm,0.7s
KARP Karpathos 58.37 297 P **P** **01 51 39.0 +0.1**
ALN Alexandroupoli 58.42 304 *e*P **P** **01 51 39.8 +0.7**
comp=Z,94nm,0.8s
ALN Alexandroupoli 58.42 304 P **P** **01 51 39.4 +0.3**
ALN Alexandroupoli 58.42 304 *e*P **P** **01 51 39.8 +0.7**
ALN pmax pmax
comp=Z,94nm,0.8s
ZIMR 58.59 307⇑*i*P **P** **01 51 41.2 +0.9**
ZIMR 58.59 307 P **P** **01 51 43.6 +3.3**
GADA Gvkgeada 58.63 303 P **P** **01 51 41.4 +0.8**
GADA Gvkgeada 58.63 303 P **P** **01 51 41.4 +0.8**
VOIR 58.64 309⇓*i*P **P** **01 51 40.7 0.0**
VOIR 58.64 309⇓P **P** **01 51 40.7 0.0**
MTUR Matau 58.65 309⇑*i*P **P** **01 51 42.2 +1.4**
MTUR Matau 58.65 309⇑P **P** **01 51 42.2 +1.4**
DIM Dimitrovgrad 58.66 305 P **P** **01 51 40.5 -0.2**
GOLR 58.76 309⇓*i*P **P** **01 51 42.5 +1.1**
RDO Rodhopi 58.77 304 P **P** **01 51 41.0 -0.5**
RDO Rodhopi 58.77 304 P **P** **01 51 41.0 -0.5**
CHOS Chios island 58.77 301 P **P** **01 51 43.7 +2.0**
CHOS Chios island 58.77 301 P **P** **01 51 43.7 +2.0**
HUMR Humele 58.78 308⇑*i*P **P** **01 51 41.7 +0.1**
PABE Paberze 58.86 321 *e*P **P** **01 51 42.5 +0.6**
PABE IAmb IAmb 01 51 45.1
comp=Z,704nm,0.8s
SMTH Samothraki Isl 58.87 303 P **P** **01 51 39.7 -2.6**
SMTH Samothraki Isl 58.87 303 P **P** **01 51 39.7 -2.6**
KEV Kevo 58.88 338 *e*P **P** **01 51 42.6 +0.8**
comp=Z,202nm,0.8s
KEV Kevo 58.88 338 P **P** **01 51 42.6 +0.8**
ARR Arges 58.94 309⇑*i*P **P** **01 51 43.3 +0.6**
ARCR ARCALIA 58.98 311⇓*i*P **P** **01 51 44.2 +1.3**
LVV L'vov 58.99 314 *e*P **P** **01 51 43.2 +0.2**
LVV *e**PP **pP** **01 52 06.3 0.0**
LVV *e* 01 54 03.1
LVV *e*PPP PPP 01 55 21.6
LVV *e*S **S** **01 59 36.1 -6.2**
LVV *e*PS **PnS** **02 00 11.5 +3.4**
LVV pmax pmax
comp=Z,800nm,1.5s
LVV MLR MLR
comp=N,300nm,18.0s
LVV MLR MLR
comp=E,1μm,18.0s
LVV MLR MLR
comp=Z,1μm,18.0s
MDB Medias 59.04 310⇓*i*P **P** **01 51 43.7 +0.3**
MDB Medias 59.04 310⇓P **P** **01 51 43.7 +0.3**
WR1 Warramunga Arr 59.05 136 *e*P **P** **01 51 42.7 -0.9**
comp=Z,229nm,0.9s
WR1 *e*ScP **ScP** **01 56 18.8 -5.0**
WRA Warramunga Arr 59.05 136 P **P** **01 51 42.7 -1.0**
comp=Z,125nm,0.9s,baz=324,slow=7.2,SNR=530
WRA ScP **ScP** **01 56 18.8 -5.0**
comp=Z,6.8nm,0.9s,baz=324,slow=4.3,SNR=4.1
WRA LR LR 02 19 40.9
comp=Z,520nm,21.7s,baz=320,slow=38
WRA PKPPKP **P'P'df** **02 21 15.6 +0.1**
comp=Z,3.2nm,0.9s,baz=139,slow=1.7,SNR=9.7
WRA PKP2bc 02 21 26.4
comp=Z,8.2nm,0.7s,baz=143,slow=2.0,SNR=15
WRA Warramunga Arr 59.05 136 P **P** **01 51 42.7 -1.0**
WRA pmax pmax
comp=Z,118nm,0.8s
WRA MLR MLR
comp=Z,520nm,21.7s
WRAB Tennant Creek 59.05 136 *e*P **P** **01 51 43.3 -0.4**
comp=Z,278nm,1.0s
WRAB Tennant Creek 59.05 136 *e*P **P** **01 51 43.3 -0.4**
WRAB pmax pmax
comp=Z,278nm,1.0s
WB2 Warramunga Arr 59.05 136 *e*P **P** **01 51 43.0 -0.7**
ZKR Zakros 59.20 297 P **P** **01 51 46.1 +1.4**
ZKR Zakros 59.20 297 P **P** **01 51 46.1 +1.4**
VLAD Vladila 59.25 308⇑*i*P **P** **01 51 46.5 +1.7**
PLD Plovdiv 59.26 305 P **P** **01 51 45.0 +0.1**
ANAF Anafi Island 59.33 299 P **P** **01 51 45.1 -0.4**
SUW Suwalki 59.34 319 *e*P **P** **01 51 45.1 -0.1**
SUW *ep**P **pP** **01 52 08.2 -0.5**
SUW *e*S **S** **01 59 45.7 -0.8**
SUW *e*sS **sS** **02 00 22.6 -3.4**
SUW LMZ LR 02 17 49.8
comp=Z,2μm,33.7s
SUW Suwalki 59.34 319 *e*P **P** **01 51 44.8 -0.5**
comp=Z,643nm,1.1s
SUW *ep**P **pP** **01 52 06.8 -2.0**
SUW Suwalki 59.34 319 *e*P **P** **01 51 45.1 -0.1**
SUW *e**PP **pP** **01 52 08.2 -0.5**
SUW *e*S **S** **01 59 45.7 -0.8**
ARA0 ARCESS Array S 59.36 337 *e*P **P** **01 51 45.7 +0.6**
ARCES ARCESS Array B 59.36 337 *e*P **P** **01 51 45.7 +0.6**
comp=Z,93nm,0.7s,baz=101,slow=4.0,SNR=155
ARCES LR LR 02 20 50.9
comp=Z,149nm,18.7s,baz=104,slow=39
ARCES ARCESS Array B 59.36 337 *e*P **P** **01 51 46.0 +0.8**
ARCES ARCESS Array B 59.36 337 *e*P **P** **01 51 46.0 +0.8**
ARE0 ARCESS Array S 59.36 337 *e*P **P** **01 51 46.5 +1.3**
comp=Z,5.0nm,0.7s
ARE0 *ep**P **pP** **01 52 07.8 -0.9**
ARE0 ARCESS Array S 59.36 337 *e*P **P** **01 51 46.2 +1.0**
APE Apeiranthos 59.40 300⇓*i*P **P** **01 51 47.1 +1.1**
APE Apeiranthos 59.40 300⇓P **P** **01 51 47.1 +1.1**
THAS Thassos island 59.46 304 P **P** **01 51 45.9 -0.4**
BMR Baia Mare 59.51 312⇓*i*P **P** **01 51 47.4 +0.9**
BMR Baia Mare 59.51 312⇓P **P** **01 51 47.4 +0.9**
CJR Cluj-Napoca 59.52 311⇑*i*P **P** **01 51 47.9 +1.2**
CJR Cluj-Napoca 59.52 311⇑P **P** **01 51 47.9 +1.2**
LOT Lotru 59.53 309⇓*i*P **P** **01 51 47.7 +0.8**
KAVA Kavala 59.56 304 P **P** **01 51 47.7 +0.7**
KAVA Kavala 59.56 304 P **P** **01 51 47.7 +0.7**
SANT Santorini 59.58 299 *e*P **P** **01 51 46.8 -0.4**
comp=Z,656nm,0.7s
SANT Santorini 59.58 299⇑*i*P **P** **01 51 47.4 +0.1**
SAP2K Karterados 59.58 299 P **P** **01 51 48.0 +0.8**
THR7 Fira-Santorini 59.59 299 P **P** **01 51 48.1 +0.8**
THT2 Imerovigli 59.60 299 P **P** **01 51 47.5 +0.1**
PGB Panagyurishte 59.60 306 P **P** **01 51 47.5 +0.2**
THR3 Thira Island, 59.62 299 P **P** **01 51 48.0 +0.5**
THR3 Thira Island, 59.62 299 P **P** **01 51 48.0 +0.5**
THR6 Thira Island, 59.63 299 P **P** **01 51 47.1 -0.5**
THR6 Thira Island, 59.63 299 P **P** **01 51 47.1 -0.5**
CRAR CRAIOVA 59.64 308⇓*i*P **P** **01 51 48.7 +1.2**
CRAR CRAIOVA 59.64 308⇓P **P** **01 51 48.7 +1.2**
THR5 Thira Island, 59.66 299 P **P** **01 51 47.9 +0.1**
NPS Neapolis 59.66 297 P **P** **01 51 48.6 +0.8**
NPS Neapolis 59.66 297 P **P** **01 51 48.6 +0.8**
BILL Bilibino 59.77 24 *e*P **P** **01 51 48.0 -0.1**
comp=Z,76nm,0.6s
BILL Bilibino 59.77 24*c* *i*P **P** **01 51 47.9 -0.1**
BILL *i* 01 52 33.9
BILL *e* 01 53 59.1
BILL *i*S **S** **01 59 53.7 +2.0**
BILL pmax pmax
comp=Z,233nm,1.7s
BILL MLR MLR
comp=Z,2μm,18.0s
SLIT Slitere, Latvi 59.79 324 *e*P **P** **01 51 47.6 -0.6**
SLIT IAmb IAmb 01 51 49.9
comp=Z,699nm,0.8s
LAST Lasithi 59.79 297 P **P** **01 51 49.2 +0.4**
LAST Lasithi 59.79 297 P **P** **01 51 49.2 +0.4**
KWP Kalwaria Pacla 59.86 314 *e*P **P** **01 51 49.6 +0.6**
KWP *ep**P **pP** **01 52 13.7 +1.3**
KWP *e**PP **PP** **01 54 02.6 +0.8**
KWP *e*S **S** **01 59 54.4 +0.9**
KWP *e*sS **sS** **02 00 33.3 +0.3**
KWP LMZ LR 02 17 10.1
comp=Z,3μm,34.6s
KWP Kalwaria Pacla 59.86 314 *e*P **P** **01 51 49.6 +0.6**

KWP e*PP pP 01 52 13.7 +1.3
KWP e 01 54 02.6
KWP eS S 01 59 54.4 +0.9
RER Riviere de l'E 59.91 223 eP P 01 51 50.3 +0.7
comp=Z,203nm,0.8s
NVR Nevrokopi 59.99 305 P P 01 51 49.4 -0.6
NVR Nevrokopi 59.99 305 P P 01 51 49.4 -0.6
PBUR Paburg 60.01 322 eP P 01 51 50.4 +0.6
PBUR IAmb IAmb 01 51 53.0
comp=Z,287nm,0.8s
SRE Strehaia 60.02 308⇑iP P 01 51 50.8 +0.7
SRE Strehaia 60.02 308 ⇑P P 01 51 50.8 +0.7
MMB Musomiste 60.06 305 P P 01 51 51.0 +0.5
KTK1 Kautokeino 60.08 337 eP P 01 51 50.9 +0.8
DEV Deva 60.09 310⇓iP P 01 51 51.6 +1.0
DEV Deva 60.09 310 ⇓⇓P P 01 51 51.6 +1.0
TRPA Tarpa 60.10 313⇑iP P 01 51 51.1 +0.5
TRPA Tarpa 60.10 313⇑eP P 01 51 52.1 +1.5
TRPA eS S 01 59 58.0 +1.5
HAMF Hammerfest 60.16 339 eP P 01 51 51.8 +1.2
CEI Carei 60.20 312⇓iP P 01 51 52.7 +1.4
CEI Carei 60.20 312 ⇓⇓P P 01 51 52.7 +1.4
UZH Uzhgorod 60.22 313⇓⇓iP P 01 51 52.1 +0.7
UZH e 01 52 15.3
SRS Serrai 60.23 304 P P 01 51 50.9 -0.7
SRS Serrai 60.23 304 P P 01 51 50.9 -0.7
SRS Serrai 60.23 304 P P 01 51 50.9 -0.7
GZR Gura Zlata 60.24 309⇑iP P 01 51 53.3 +1.6
IDI Anoyia 60.24 298 eP P 01 51 51.9 +0.1
comp=Z,206nm,0.9s
IDI epP pP 01 52 14.2 -1.1
IDI Anoyia 60.24 298⇑iP P 01 51 52.5 +0.7
PUNG Punghina 60.26 308⇓iP P 01 51 52.2 +0.4
VTS Vitosha 60.29 306 eP P 01 51 52.6 +0.4
comp=Z,195nm,0.8s
VTS epP pP 01 52 14.8 -1.0
VTS Vitosha 60.29 306⇑iP P 01 51 52.6 +0.4
VTS Vitosha 60.29 306 P P 01 51 52.6 +0.4
VTS Vitosha 60.29 306 ⇑P P 01 51 52.6 +0.4
VTS Vitosha 60.29 306 P P 01 51 52.5 +0.3
PAIG Paliouri 60.35 303 P P 01 51 52.4 0.0
PAIG Paliouri 60.35 303 P P 01 51 52.4 0.0
PAIG Paliouri 60.35 303 P P 01 51 52.4 0.0
SIVA Sivas 60.35 297 P P 01 51 52.6 +0.1
SIVA Sivas 60.35 297 P P 01 51 52.6 +0.1
TMBK Timbaki Herakl 60.38 297 P P 01 51 53.5 +0.8
EREA Eretria 60.41 301 P P 01 51 52.6 -0.3
SOH Sokhos 60.45 304 P P 01 51 53.5 +0.3
SOH Sokhos 60.45 304 P P 01 51 53.5 +0.3
SOH Sokhos 60.45 304 P P 01 51 53.5 +0.3
PLG Polygyros 60.45 304 P P 01 51 53.1 -0.1
PLG Polygyros 60.45 304 P P 01 51 53.1 -0.1
PLG Polygyros 60.45 304 P P 01 51 53.1 -0.1
PTL Penteli 60.53 301 P P 01 51 54.1 +0.4
PTL Penteli 60.53 301 P P 01 51 54.1 +0.4
HERR Herculane 60.55 309⇑iP P 01 51 55.3 +1.6
ATHU Athens Univers 60.61 301 P P 01 51 54.3 +0.1
ATHU Athens Univers 60.61 301 P P 01 51 54.3 +0.1
LTVH Ltavrtes, Hu 60.61 312 eP P 01 51 55.1 +1.0
LTVH ⇓eS S 02 00 44.7 +43
VLY Voula,Athens 60.62 301 P P 01 51 53.3 -1.0
VLY Voula,Athens 60.62 301 P P 01 51 53.3 -1.0
MRKA Markates 60.63 302 P P 01 51 53.3 -1.1
ATH Athens Observa 60.66 301 P P 01 51 54.7 +0.2
ATH Athens Observa 60.66 301 P P 01 51 54.7 +0.2
HORT Hortiatis 60.68 304 P P 01 51 55.0 +0.2
HORT Hortiatis 60.68 304 P P 01 51 55.0 +0.2
KNT Kendrikon 60.74 305 P P 01 51 54.6 -0.5
KNT Kendrikon 60.74 305 P P 01 51 54.6 -0.5
KNT Kendrikon 60.74 305 P P 01 51 54.6 -0.5
VAM Vamos 60.77 298 P P 01 51 55.5 +0.1
VAM Vamos 60.77 298 P P 01 51 55.5 +0.1
VAM Vamos 60.77 298 P P 01 51 55.5 +0.1
THE Thessaloniki 60.77 304 P P 01 51 55.5 +0.2
THE Thessaloniki 60.77 304 P P 01 51 55.5 +0.2
THE Thessaloniki 60.77 304 P P 01 51 55.5 +0.2
NEO Neokhori 60.80 302 P P 01 51 55.9 +0.3
NEO Neokhori 60.80 302 P P 01 51 55.9 +0.3
XOR Xorichti 60.81 302 P P 01 51 56.0 +0.3
XOR Xorichti 60.81 302 P P 01 51 56.0 +0.3
BEL Belsk 60.90 317 eP P 01 51 56.4 +0.4
BEL epP pP 01 52 19.7 +0.1
BEL eS S 02 00 04.8 -1.8
BEL Belsk 60.90 317 eP P 01 51 56.3 +0.4
BEL e*PP pP 01 52 19.7 +0.1
BEL eS S 02 00 04.8 -1.8
SIRR Siria 60.91 310⇑iP P 01 51 57.0 +0.9
IMMV Iera Moni Meta 60.93 298 P P 01 51 56.7 +0.2
VILL Villia 60.94 301 P P 01 51 54.9 -1.6
VAY Valandovo 60.96 305 P P 01 51 56.0 -0.5
VAY Valandovo 60.96 305 P P 01 51 56.0 -0.5
VAY Valandovo 60.96 305 *i* P P 01 51 56.1 -0.5
VAY Valandovo 60.96 305 P P 01 51 56.0 -0.5
GVD Gavdhos 60.97 297 P P 01 51 57.0 +0.2
GVD Gavdhos 60.97 297 P P 01 51 57.0 +0.2
FYTO Fytoko, Volos 61.00 303 P P 01 51 57.4 +0.5
FYTO Fytoko, Volos 61.00 303 P P 01 51 57.4 +0.5
BZS Buzias 61.02 310⇑iP P 01 51 57.2 +0.3
BZS Buzias 61.02 310 ⇑P P 01 51 57.2 +0.3
COEN Coen 61.05 124 eP P 01 51 57.9 +0.4
comp=Z,37nm,1.1s
KLNR Kaliningrad 61.05 320⇓iP P 01 51 57.6 +0.7
KLNR pmax pmax
comp=Z,841nm,1.6s
MDVR Moldovita 61.06 309⇑iP P 01 51 58.0 +0.7
ATAL Atalanti 61.06 302 P P 01 51 55.9 -1.4
ATAL Atalanti 61.06 302 P P 01 51 55.9 -1.4
LKR Lokris 61.09 302 P P 01 51 54.3 -3.2
LKR Lokris 61.09 302 P P 01 51 54.3 -3.2
DID Didima 61.12 300 P P 01 51 57.3 -0.4
DID Didima 61.12 300 P P 01 51 57.3 -0.4
GRG Griva 61.14 304 P P 01 51 57.2 -0.6
GRG Griva 61.14 304 P P 01 51 57.2 -0.6
GRG Griva 61.14 304 P P 01 51 57.2 -0.6
STIP Stip 61.18 305 *i* P P 01 51 56.3 -1.7
LIT Litokhoron 61.22 303 eP P 01 51 58.0 -0.4
comp=Z,265nm,1.1s
LIT Litokhoron 61.22 303 P P 01 51 57.5 -0.9
LIT Litokhoron 61.22 303 eP P 01 51 58.0 -0.4
LIT pmax pmax
comp=Z,265nm,1.1s
LTK Loutraki 61.23 301 P P 01 51 56.1 -2.4
LTK Loutraki 61.23 301 P P 01 51 56.1 -2.4
LOUT Loutraki 61.23 301 P P 01 51 56.3 -2.2
AXAR Agios Charalam 61.33 302 P P 01 52 01.1 +2.0
AXAR Agios Charalam 61.33 302 P P 01 52 01.1 +2.0
LRSO Larissa Observ 61.37 303 P P 01 51 58.9 -0.4
BANR Banloc 61.38 310⇑iP P 01 52 00.6 +1.3
PMG Port Moresby 61.39 117 P P 01 51 58.8 -0.9
comp=Z,72nm,0.7s,baz=97,slow=2.4,SNR=14
PMG Port Moresby 61.39 117 eP P 01 51 59.1 -0.7
comp=Z,141nm,1.0s
PMG Port Moresby 61.39 117 eP P 01 51 59.1 -0.7
PMG pmax pmax
comp=Z,141nm,1.0s
NIE Niedzica 61.45 314 eP P 01 52 00.8 +1.1
NIE epP pP 01 52 24.2 +0.8
NIE ePP PP 01 54 18.3 +2.5
NIE eS S 02 00 14.3 +0.6
NIE esS sS 02 00 54.6 +1.1
NIE LMZ LR 02 18 01.4
comp=Z,1μm,37.5s
NIE Niedzica 61.45 314 eP P 01 52 00.8 +1.1
NIE e*PP pP 01 52 24.2 +0.8
NIE e 01 54 18.3
NIE eS S 02 00 14.3 +0.6
NIE e*SS sS 02 00 54.6 +1.1
VLI Veliai 61.51 300 P P 01 51 58.2 -2.1
VLI Veliai 61.51 300 P P 01 51 58.2 -2.1
KYTH Kithira 61.51 299 P P 01 51 59.8 -0.6
KYTH Kithira 61.51 299 P P 01 51 59.8 -0.6
AGG Agios Georgios 61.53 302 eP P 01 51 59.6 -0.9
comp=Z,254nm,0.8s
AGG epP pP 01 52 21.3 -2.8
AGG Agios Georgios 61.53 302 P P 01 51 59.0 -1.5
KTHR Kythira 61.55 299 P P 01 52 00.2 -0.4
AS31 Alice Springs 61.57 139 eP P 01 52 00.5 -0.4
comp=Z,38nm,0.9s
AS31 ePcP PcP 01 52 41.7 -0.1
AS31 eScP ScP 01 56 33.8 -1.2
ASAR Alice Springs 61.57 139 P P 01 52 00.5 -0.4
comp=Z,87nm,0.9s,baz=322,slow=5.8,SNR=212
ASAR PcP PcP 01 52 41.7 0.0
comp=Z,23nm,0.5s,baz=316,slow=5.3,SNR=5.2
ASAR ScP ScP 01 56 33.8 -1.2
comp=Z,2.2nm,0.7s,baz=323,slow=5.3,SNR=4.1
ASAR PKPPKP P'P'df 02 21 10.9 -0.4
comp=Z,2.1nm,0.8s,baz=154,slow=2.3,SNR=6.7
ASAR PKP2bc 02 21 15.7
comp=Z,4.7nm,0.8s,baz=124,slow=2.8,SNR=16
ASAR LR LR 02 22 16.4
comp=Z,637nm,20.2s,baz=314,slow=39
ASAR Alice Springs 61.57 139 P P 01 52 00.5 -0.4
ASAR 01 52 41.7
ASAR pmax pmax
comp=Z,83nm,0.9s
ASAR MLR MLR
comp=Z,637nm,20.2s
TRO Tromso 61.66 337 eP P 01 52 01.4 +0.7
NWAO Narrogin (SRO) 61.67 159 eP P 01 51 59.3 -2.0
comp=Z,395nm,1.5s
NWAO Narrogin (SRO) 61.67 159 eP P 01 51 59.3 -2.0
NWAO pmax pmax
comp=Z,395nm,1.5s
THL Klokotos Trika 61.68 303 P P 01 52 00.0 -1.4
KMBO Kilima Mbogo 61.68 254 P P 01 52 03.2 +1.2
comp=Z,49nm,1.0s,baz=46,slow=11,SNR=109
KMBO S S 02 00 15.1 -2.9
comp=Z,0.4nm,0.3s,baz=162,slow=23,SNR=1.5
KMBO LR LR 02 18 24.3
comp=Z,912nm,20.7s,baz=68,slow=35
KMBO Kilima Mbogo 61.68 254 eP P 01 52 02.8 +0.7
comp=Z,82nm,1.4s
KMBO Kilima Mbogo 61.68 254 *i* P P 01 52 03.6 +1.5
SNR=79
KMBO Kilima Mbogo 61.68 254 P P 01 52 02.9 +0.8
SNR=61
OJC Ojcow 61.68 315 eP P 01 52 01.4 +0.2
OJC epP pP 01 52 24.6 -0.4
OJC eS S 02 00 16.9 +0.3
OJC e*SS sS 02 00 53.0 -3.4
SKO Skopje 61.69 306 P P 01 52 00.6 -0.9
SKO Skopje 61.69 306 P P 01 52 00.6 -0.9
SKO Skopje 61.69 306 *i* P P 01 52 01.0 -0.5
SKO Skopje 61.69 306 P P 01 52 00.6 -0.9
MAKR Makrakomi, Fth 61.69 302 P P 01 52 00.2 -1.4
MAKR Makrakomi, Fth 61.69 302 P P 01 52 00.2 -1.4
KZN Kozani 61.73 304 P P 01 52 01.0 -0.9
KZN Kozani 61.73 304 P P 01 52 01.0 -0.9
KZN Kozani 61.73 304 P P 01 52 01.0 -0.9
GUR Goura 61.73 301 P P 01 52 00.7 -1.3
GUR Goura 61.73 301 P P 01 52 00.7 -1.3
KALE Kalithea 61.80 302 P P 01 52 00.6 -1.8
KALE Kalithea 61.80 302 P P 01 52 00.6 -1.8
VLX Vlachokerasia 61.81 300 P P 01 52 00.8 -1.7
VLX Vlachokerasia 61.81 300 P P 01 52 00.8 -1.7
TRIZ Trizonia 61.86 302 P P 01 51 58.7 -3.9
KLV Kalavryta, Ach 61.86 301 P P 01 51 58.4 -4.4
KLV Kalavryta, Ach 61.86 301 P P 01 51 58.4 -4.4
PSZ Piszkesteto 61.89 313 eP P 01 52 03.1 +0.3
comp=Z,138nm,1.1s
PSZ Piszkesteto 61.89 313⇑iP P 01 52 03.1 +0.3
PSZ Piszkesteto 61.89 313⇑eP P 01 52 04.0 +1.2
PSZ eS S 02 00 50.0 +31
PSZ Piszkesteto 61.89 313 ⇑P P 01 52 03.1 +0.3
KRUS Krusevo 61.93 305 *i* P P 01 52 02.1 -1.1
BIA Bitola 61.94 305 *i* P P 01 52 02.4 -0.8
FNA Florina 61.94 304 eP P 01 52 02.6 -0.6
comp=Z,124nm,0.8s
FNA Florina 61.94 304 P P 01 52 02.1 -1.1
FNA Florina 61.94 304 eP P 01 52 02.6 -0.6
FNA pmax pmax
comp=Z,124nm,0.8s
EVR Evrytania 61.95 302 P P 01 52 01.9 -1.5
EVR Evrytania 61.95 302 P P 01 52 01.9 -1.5
LAKA Lakka 61.95 301 P P 01 52 01.7 -1.6
LAKA Lakka 61.95 301 P P 01 52 01.7 -1.6
DYR Agios Nikonas 61.97 300 P P 01 52 01.9 -1.6
LANS Liptovska Anna 62.02 314 eP P 01 52 04.9 +1.3
LANS epP pP 01 52 29.1 +1.8
ITM Ithomi 62.20 300 eP P 01 52 04.0 -1.0
comp=Z,254nm,0.7s
ITM Ithomi 62.20 300 P P 01 52 03.6 -1.4
DRO Drossia 62.22 301 P P 01 52 04.4 -0.7
PENT Pentalofos 62.22 304 P P 01 52 05.3 +0.1
PVO Paravola 62.23 302 P P 01 52 04.6 -0.5
NEST Nestorio 62.25 304 P P 01 52 04.3 -1.1
AMT Artemida-Makis 62.30 301 P P 01 52 04.3 -1.4
OHR Ohrid 62.31 305 *i* P P 01 52 05.5 -0.3
FRGS Fruska Gora 62.34 309⇑iP P 01 52 05.8 0.0
DIVS Divibare 62.38 308 eP P 01 52 06.3 +0.1
comp=Z,114nm,0.9s
DIVS Divibare 62.38 308⇑iP P 01 52 06.1 -0.1
RLS Riolos of Patr 62.38 301 P P 01 52 05.7 -0.5
RLS Riolos of Patr 62.38 301 P P 01 52 05.7 -0.5
KBN Korca 62.41 304 P P 01 52 05.1 -1.3
KBN Korca 62.41 304 P P 01 52 05.1 -1.3
KBN Korca 62.41 304 P P 01 52 05.1 -1.3
PYL PYLOS 62.41 300 P P 01 52 04.6 -1.8
PYL PYLOS 62.41 300 P P 01 52 04.6 -1.8
PHP Peshkopia 62.47 305 P P 01 52 06.5 -0.3
PHP Peshkopia 62.47 305 P P 01 52 06.5 -0.3
PHP Peshkopia 62.47 305 P P 01 52 06.5 -0.3
VYHS Vyhne 62.52 313 eP P 01 52 07.3 +0.4
VYHS epP pP 01 52 30.5 -0.1
VYHS eS S 02 00 52.0 +25
VYHS e 02 40 01.2
VYHS e 02 40 08.1
BUD Budapest 62.53 312 eP P 01 52 18.1 +11
BUD eS S 02 00 44.0 +17
BUD Budapest 62.53 312 P P 01 52 07.8 +0.8
JAN Janina 62.54 303 P P 01 52 07.4 +0.1
JAN Janina 62.54 303 P P 01 52 07.4 +0.1
JAN Janina 62.54 303 P P 01 52 07.4 +0.1
TEKS Tekeris 62.64 309 eP P 01 52 08.8 +1.0
IVA Berane 62.66 307⇑iP P 01 52 07.6 -0.5
PVY Plav 62.66 307⇑iP P 01 52 07.6 -0.5
RAC Raciborz 62.72 315 eP P 01 52 09.2 +1.0
RAC e*PP pP 01 52 31.4 -0.5
OKC Ostrava-Krasne 62.78 315 eP P 01 52 09.4 +0.8
OKC eS S 02 00 31.6 +1.2
OKC AMS AMS 02 21 30.0
comp=Z,800nm,18.4s
OKC Ostrava-Krasne 62.78 315 eP P 01 52 09.4 +0.8
OKC eS S 02 00 31.6 +1.2
OKC MLR MLR
comp=Z,800nm,18.4s
KOLL Kolacno 62.79 313 eP P 01 52 09.1 +0.4
KOLL epP pP 01 52 33.1 +0.7
BBLS Lazići 62.84 308⇑iP P 01 52 09.5 +0.3
LKD2 Lefkada island 62.86 302 P P 01 52 07.6 -1.8
LKD2 Lefkada island 62.86 302 P P 01 52 07.6 -1.8
EVGI Lefkada island 62.90 302 P P 01 52 08.1 -1.5
GKP Gorka Klasztor 62.92 319 eP P 01 52 09.7 +0.3
GKP epP pP 01 52 33.5 +0.4
GKP eS S 02 00 32.1 +0.1
GKP esS sS 02 01 09.9 -1.9
GKP LMZ LR 02 19 52.8
comp=Z,2μm,33.5s
GKP Gorka Klasztor 62.92 319 eP P 01 52 09.7 +0.3
GKP e*PP pP 01 52 33.5 +0.4
GKP eS S 02 00 32.1 +0.1
GKP e*SS sS 02 01 09.9 -1.9
KOME Kolasin 62.94 307⇑iP P 01 52 09.5 -0.4
PLE Pljevlja 62.94 307⇑iP P 01 52 09.9 -0.1
TIR Tirane 62.96 305 eP P 01 52 08.8 -1.2
comp=Z,222nm,0.8s
TIR Tirane 62.96 305⇑iP P 01 52 09.8 -0.1
TIR Tirane 62.96 305 P P 01 52 09.0 -0.9
TIR Tirane 62.96 305 P P 01 52 11.3 +1.4
IGT Igoumenitsa 62.96 303 P P 01 52 08.1 -1.9
IGT Igoumenitsa 62.96 303 P P 01 52 08.1 -1.9
IGT Igoumenitsa 62.96 303 P P 01 52 08.1 -1.9
SRO Srobarova 62.96 313 eP P 01 52 10.8 +1.0
SRO epP pP 01 52 34.1 +0.5
STEI Steigen 62.96 335 eP P 01 52 09.6 +0.1
MORH Mrgy, Hungar 62.98 311 eP P 01 52 11.0 +1.0
MORH eS S 02 00 31.1 -2.0
MORH Mrgy, Hungar 62.98 311⇑iP P 01 52 09.9 -0.1
PATS Pohnpei 63.00 95 eP P 01 52 12.6 +2.0
comp=Z,288nm,1.3s
VLS Valsamata 63.04 302 P P 01 52 08.8 -1.8
VLS Valsamata 63.04 302 P P 01 52 08.8 -1.8
VLS Valsamata 63.04 302 P P 01 52 08.8 -1.8
SPA0 Spitsbergen Ar 63.06 347 eP P 01 52 10.4 +0.4
SPA0 Spitsbergen Ar 63.06 347 eP P 01 52 10.8 +0.7
HAPS Han Pijesak,Bl 63.12 308 eP P 01 52 10.7 -0.4
SRN Sarande 63.14 304 P P 01 52 09.2 -1.9
SRN Sarande 63.14 304 P P 01 52 09.2 -1.9
HSPB Hornsund (broa 63.15 346 eP P 01 52 12.4 +1.9
MORC Moravsky Berou 63.18 315 eP P 01 52 11.9 +0.6
comp=Z,153nm,1.1s
MORC Moravsky Berou 63.18 315⇑iP P 01 52 11.9 +0.6
MORC Moravsky Berou 63.18 315 P P 01 52 14.7 +3.4
MORC Moravsky Berou 63.18 315⇑iP P 01 52 11.9 +0.6
MORC epP pP 01 52 35.1 0.0
MORC eS S 02 00 34.7 -0.8
PDG Podgorica 63.20 306⇑iP P 01 52 11.1 -0.4
PDG Podgorica 63.20 306⇑iP P 01 52 11.1 -0.4
TTG Podgorica 63.20 306⇑iP P 01 52 11.1 -0.4
JAVC Velka Javorina 63.23 314⇑iP P 01 52 13.1 +1.4
JAVC epP pP 01 52 36.1 +0.7
JAVC eS S 02 00 37.1 +0.9
ULC Ulcinj 63.30 306⇑iP P 01 52 11.0 -1.2
DRME Dracevica, Mon 63.30 306⇑iP P 01 52 11.8 -0.4
DRME Dracevica, Mon 63.30 306⇑iP P 01 52 11.5 -0.7
UPM Unac-Piva 63.31 307⇑iP P 01 52 11.9 -0.6
UPM Unac-Piva 63.31 307 eP P 01 52 12.4 -0.1
NKY Niksic 63.32 307⇑iP P 01 52 11.9 -0.6
MOR8 Moi Rana 63.33 333 eP P 01 52 11.6 -0.3
KEK Kerkira 63.33 303 P P 01 52 11.3 -1.1
KEK Kerkira 63.33 303 P P 01 52 11.3 -1.1
NKME Niksic 63.36 307⇑iP P 01 52 12.3 -0.3
TIH Tihany 63.38 312⇑eP P 01 52 14.0 +1.4
TIH eS S 02 00 46.1 +8.0
VLO Vlora 63.40 304 P P 01 52 12.7 -0.2
VLO Vlora 63.40 304 P P 01 52 12.7 -0.2
VLO Vlora 63.40 304 P P 01 52 12.7 -0.2
CEME Cevo 63.43 307⇑iP P 01 52 12.5 -0.6
SMOL Smolenice 63.44 313 eP P 01 52 13.9 +0.9
SMOL epP pP 01 52 36.4 -0.4
BUM Brajici-Budva 63.49 306⇑iP P 01 52 07.8 -5.7
MODS Modra-Piesok 63.56 313 eP P 01 52 13.5 -0.3
MODS epP pP 01 52 36.2 -1.4
MODS eS S 02 00 37.1 -3.1
LOF Lofoten 63.60 336 eP P 01 52 13.9 +0.2
DOB Doboj 63.61 309 eP P 01 52 13.6 -0.6
KRLC Kraliky 63.62 315 eP P 01 52 15.1 +0.9
KRLC Kraliky 63.62 315 eP P 01 52 15.1 +0.9
BRY Bratogost 63.63 307⇑iP P 01 52 13.9 -0.7
BRY Bratogost 63.63 307⇑iP P 01 52 14.2 -0.4
ZST Bratislava 63.70 313 eP P 01 52 14.3 -0.4
HCY Herceg Novi 63.75 307⇑iP P 01 52 14.6 -0.6
HCY Herceg Novi 63.75 307 eP P 01 52 14.5 -0.6
OPO Ambohidratompo 63.78 232 LR LR 02 19 02.3
comp=Z,1μm,19.7s,baz=36,slow=35
TREB Trebinje 63.81 307 eP P 01 52 15.0 -0.5
KSP Ksiaz 63.82 316 eP P 01 52 16.2 +0.7
KSP epP pP 01 52 39.6 +0.4
KSP eS S 02 00 44.3 +1.0
KSP esS sS 02 01 21.2 -2.0
KSP Ksiaz 63.82 316 eP P 01 52 16.2 +0.7
KSP e*PP pP 01 52 39.6 +0.4
KSP eS S 02 00 44.3 +1.0
KSP e*SS sS 02 01 21.2 -2.0
KONS Konsvik 63.84 334 eP P 01 52 16.0 +0.7
VRAC Vranov 63.86 314⇑iP P 01 52 16.8 +1.0
VRAC Vranov 63.86 314 P P 01 52 19.5 +3.7
VRAC Vranov 63.86 314⇑iP P 01 52 16.7 +1.0
VRAC epP pP 01 52 40.1 +0.5
VRAC eS S 02 00 36.4 -7.5
DPC Dobruska-Polom 63.87 316 eP P 01 52 16.8 +0.9
DPC eS S 02 00 42.4 -1.7
DPC esS SS 02 05 04.8 +11
DPC AMS AMS 02 22 00.0
comp=Z,1μm,19.5s
DPC Dobruska-Polom 63.87 316 eP P 01 52 16.8 +0.9
DPC eS S 02 00 42.4 -1.7
DPC MLR MLR
comp=Z,1μm,19.5s
KRUC Moravsky 64.03 314⇑iP P 01 52 17.5 +0.6
KRUC epP pP 01 52 40.3 -0.4
KRUC eS S 02 00 41.2 -4.8
UPC Upice 64.05 316 eP P 01 52 18.0 +1.0
UPC eS S 02 00 48.9 +2.8
UPC AMS AMS 02 22 40.0
comp=Z,1μm,20.6s
UPC Upice 64.05 316 eP P 01 52 18.0 +1.0
UPC eS S 02 00 48.9 +2.8
UPC MLR MLR
comp=Z,1μm,20.6s
BSD Bornholm Skovb 64.05 321⇑iP P 01 52 16.4 -0.4
comp=Z,76nm,0.8s
BSD *i* 01 52 35.6
BSD Bornholm Skovb 64.05 321⇑iP P 01 52 16.4 -0.4
BSD *i* 01 52 35.6
BSD pmax pmax
comp=Z,76nm,0.8s
ABPO Ambohimpanom 64.05 231 eP P 01 52 17.8 +0.2
comp=Z,157nm,1.1s
ABPO Ambohimpanom 64.05 231 eP P 01 52 17.8 +0.2
ABPO pmax pmax
comp=Z,157nm,1.1s
FORT Forrest 64.13 149 eP P 01 52 18.3 +0.7
comp=Z,218nm,1.1s
SOP Sopron 64.15 313 eP P 01 52 18.0 +0.4
SOP eS S 02 00 49.0 +1.5
BEHE Becsehely 64.22 311⇑eP P 01 52 18.0 -0.1
BEHE eS S 02 01 15.0 +27
BEHE Becsehely 64.22 311 eP P 01 52 18.7 +0.6
STON Ston 64.25 307 P P 01 52 17.6 -0.8
BLY Banja Luka 64.25 309 eP P 01 52 18.6 +0.2
comp=Z,186nm,1.2s
BLY Banja Luka 64.25 309⇑iP P 01 52 18.8 +0.4
BLY Banja Luka 64.25 309⇑iP P 01 52 18.6 +0.2
NSS Namsos 64.47 332 eP P 01 52 19.6 +0.2
CONA Conrad Observa 64.57 313 eP P 01 52 21.0 +0.5
comp=Z,186nm,1.1s,SNR=134
CONA epP pP 01 52 43.7 -0.6
comp=Z,373nm,1.3s
KOGS Kog 64.58 311 *i* P P 01 52 20.6 +0.1
KOGS epP pP 01 52 43.1 -1.2
KOGS eS S 02 00 51.3 -1.5
KOGS e 02 01 35.0
TREC Trest 64.58 315 eP P 01 52 21.4 +0.9
TREC esP sP 01 52 56.8 +2.1
TREC eS S 02 00 46.8 -6.0
TREC AMS AMS 02 22 30.0
comp=Z,1μm,21.0s
TREC Trest 64.58 315 eP P 01 52 21.4 +0.9
TREC e 01 52 56.8
TREC eS S 02 00 46.8 -6.0
TREC MLR MLR
comp=Z,1μm,21.0s
CGL1 Ceglie Messapi 64.87 305 eP P 01 52 23.0 +0.5
ARSA Arzberg 64.92 312 *i* P P 01 52 23.0 +0.3
comp=Z,64nm,0.8s,SNR=40
ARSA epP pP 01 52 46.2 -0.4
comp=Z,159nm,1.7s
ARSA Arzberg 64.92 312 eP'P'df P'P'df 02 21 08.6 -0.3
comp=Z,7.1nm,1.4s
GOPC GO Pecny, Ondr 64.92 315 eP P 01 52 23.5 +0.8
GOPC epP pP 01 52 47.8 +1.3
GOPC esP sP 01 52 59.0 +2.1
GOPC eS S 02 00 55.4 -1.6
GOPC AMS AMS 02 23 00.0
comp=Z,1μm,14.7s
GOPC GO Pecny, Ondr 64.92 315 eP P 01 52 23.5 +0.8
GOPC e 01 52 47.8
GOPC e 01 52 59.0
GOPC eS S 02 00 55.4 -1.6
GOPC MLR MLR
comp=Z,1μm,14.7s
FASA Fasano 64.92 305 eP P 01 52 22.4 -0.4
PVCC Panska Ves 64.95 316 eP P 01 52 23.7 +0.9
PVCC AMS AMS 02 22 30.0
comp=Z,1μm,17.7s

PVCC **Panska Ves** 64.95 316 *e*P **P** **01 52 23.7 +0.9**
PVCC MLR MLR
comp=Z,1µm,17.7s
NC405 **NORSAR Array S** 64.97 328 *e*P **P** **01 52 23.2 +0.4**
TAR1 **Taranto** 65.04 305 *e*P **P** **01 52 22.5 -1.1**
RGN **Rugen** 65.04 321 *e*P **P** **01 52 24.5 +1.1**
comp=Z,319nm,1.1s
RGN **Rugen** 65.04 321 *e*P **P** **01 52 24.4 +1.1**
comp=Z,432nm,1.3s,baz=78,slow=6.3
RGN *e*pP **pP** **01 52 48.6 +1.6**
baz=78,slow=6.3
RGN **Rugen** 65.04 321 *e*P **P** **01 52 24.4 +1.1**
RGN IAmb IAmb 01 52 26.5
comp=Z,268nm,1.0s
PRU **Pruhonice** 65.06 315 *e*P **P** **01 52 24.2 +0.6**
PRU *e*pP **pP** **01 52 49.0 +1.6**
PRU *e*sP **sP** **01 52 59.7 +1.9**
PRU *e*S **S** **02 00 57.6 -1.0**
PRU *e*SS SS 02 05 32.5 +21
PRU AMS AMS 02 22 50.0
comp=Z,1µm,22.8s
PRU **Pruhonice** 65.06 315 *e*P **P** **01 52 24.2 +0.6**
PRU *e* 01 52 49.0
PRU *e* 01 52 59.7
PRU *e*S **S** **02 00 57.6 -1.0**
PRU MLR MLR
comp=Z,1µm,22.8s
NC602 **NORSAR Array S** 65.10 327 *e*P **P** **01 52 23.7 +0.1**
NC602 **NORSAR Array S** 65.10 327 *e*P **P** **01 52 23.6 +0.1**
NORES **NORESS Array B** 65.10 327 P **P** **01 52 23.7 +0.1**
NORES pmax pmax
comp=Z,11nm,0.2s
RUE **Ruedersdorf** 65.11 318 *e*P **P** **01 52 24.5 +0.8**
comp=Z,424nm,1.2s,baz=78,slow=6.3
RUE *e*pP **pP** **01 52 48.7 +1.1**
baz=78,slow=6.3
RUE **Ruedersdorf** 65.11 318 *e*P **P** **01 52 24.2 +0.5**
RUE IAmb IAmb 01 52 27.4
comp=Z,283nm,1.1s
NC303 **NORSAR Array S** 65.12 328 *e*P **P** **01 52 23.9 +0.1**
PRA **Prague** 65.12 316 *e*P **P** **01 52 25.1 +1.2**
PRA *e*pP **pP** **01 52 48.7 +1.0**
PRA *e*sP **sP** **01 53 00.3 +2.2**
PRA *e*S **S** **02 00 58.4 -0.9**
PRA AMS AMS 02 23 10.0
comp=Z,1µm,16.7s
PRA **Prague** 65.12 316 *e*P **P** **01 52 25.1 +1.2**
PRA *e* 01 52 48.7
PRA *e* 01 53 00.3
PRA *e*S **S** **02 00 58.4 -0.9**
PRA MLR MLR
comp=Z,1µm,16.7s
MASS **Massafra** 65.12 305 *e*P **P** **01 52 24.1 0.0**
NB201 **NORSAR Array S** 65.18 328 *e*P **P** **01 52 24.3 +0.2**
BAI **Bari** 65.21 305 *e*P **P** **01 52 24.2 -0.5**
NB2 **NORSAR Subarra** 65.22 328 P **P** **01 52 24.5 +0.1**
comp=Z,142nm,0.7s,baz=82,slow=6.5
NB2 **NORSAR Subarra** 65.22 328 P **P** **01 52 24.5 +0.1**
baz=82,slow=6.5
NB200 **NORSAR Array S** 65.22 328 *e*P **P** **01 52 24.4 -0.1**
NOA **NORSAR Array B** 65.22 328 P **P** **01 52 24.4 -0.1**
comp=Z,104nm,0.6s,baz=83,slow=6.4,SNR=342
NOA LR LR 02 23 40.4
comp=Z,2µm,18.5s,baz=85,slow=38
CRES **Cresnjev** 65.24 311 ⇑*i*P **P** **01 52 25.1 +0.3**
OZLJ **Ozalj** 65.27 311 P **P** **01 52 25.1 +0.1**
BRG **Berggiesshubel** 65.28 316 ⇑*i*P **P** **01 52 25.6 +0.6**
comp=Z,259nm,1.4s
BRG *i* pP **pP** **01 52 49.8 +1.0**
comp=Z,342nm,1.3s
BRG *i* sP **sP** **01 53 00.6 +1.4**
comp=Z,143nm,1.1s
BRG S **S** **02 00 59.0 -2.3**
BRG *e* 02 01 41.0
BRG SS **SS** **02 05 19.0 +3.7**
BRG *e*PKPPKP **P'P'df** **02 21 10.6 +2.5**
comp=Z,35nm,1.9s
comp=N,587nm,22.1s
comp=E,1µm,19.9s
comp=Z,2µm,18.1s
BRG **Berggiesshubel** 65.28 316 *e*P **P** **01 52 25.8 +0.8**
comp=Z,259nm,1.4s,baz=78,slow=6.3
BRG *e*pP **pP** **01 52 49.9 +1.0**
baz=78,slow=6.3
BRG *e*sP **sP** **01 53 00.9 +1.7**
baz=77,slow=6.4
BRG **Berggiesshubel** 65.28 316 ⇑*i*P **P** **01 52 25.6 +0.6**
BRG *i* *PP **pP** **01 52 49.8 +1.0**
BRG *i* *SP **sP** **01 53 00.6 +1.4**
BRG S **S** **02 00 59.0 -2.3**
BRG *e* 02 01 41.0
BRG SS **SS** **02 05 19.0 +3.7**
BRG pmax pmax
comp=Z,259nm,1.4s
BRG MLR MLR
comp=N,587nm,22.1s
BRG MLR MLR
comp=E,1µm,19.9s
BRG MLR MLR
comp=Z,2µm,18.1s
UDBI **Udbina** 65.29 309 P **P** **01 52 24.8 -0.4**
PERS **Pernice** 65.31 312 *e*P **P** **01 52 25.4 +0.1**
PERS *i* pP **pP** **01 52 48.0 -1.1**
SOKA **Soboth** 65.36 312 *e*P **P** **01 52 25.8 +0.1**
comp=Z,109nm,1.1s,SNR=76
SOKA *e*pP **pP** **01 52 50.2 +0.6**
comp=Z,203nm,1.5s
SOKA **Soboth** 65.36 312 *e*P'P'bc P'P'bc 02 21 08.7 -4.5
comp=Z,3.6nm,1.5s
COP **Copenhagen** 65.37 322 ⇑*i*P **P** **01 52 26.3 +0.9**
comp=Z,157nm,1.1s
COP *i* 01 52 47.9
COP **Copenhagen** 65.37 322 ⇑*i*P **P** **01 52 26.3 +0.9**
COP *i* 01 52 47.9
COP pmax pmax
comp=Z,160nm,1.1s
TBLU **Trondheim** 65.37 330 *e*P **P** **01 52 25.5 +0.2**
NC204 **NORSAR Array S** 65.40 328 *e*P **P** **01 52 26.0 +0.3**
NAO01 **NORSAR Array S** 65.40 328 *e*P **P** **01 52 25.5 -0.1**
SG1 **Sgolgore (BA)** 65.42 305 *e*P **P** **01 52 25.4 -0.7**
NBO00 **NORSAR Array S** 65.43 328 *e*P **P** **01 52 25.9 +0.1**
MATE **Matera** 65.44 305 ⇑*i*P **P** **01 52 26.3 +0.1**
BOJS **Bojanci** 65.44 310 *i* P **P** **01 52 26.3 +0.2**
BOJS *e*pP **pP** **01 52 49.6 -0.4**
BOJS *e*S **S** **02 01 02.6 -0.8**
OSL **Oslo** 65.61 327 *e*P **P** **01 52 27.8 +0.9**
FBE **Freiberg** 65.64 317 *e*P **P** **01 52 28.4 +1.1**
comp=Z,438nm,1.4s,baz=78,slow=6.3
FBE *e*pP **pP** **01 52 52.5 +1.4**
baz=78,slow=6.3
FBE *e*sP **sP** **01 53 03.5 +2.1**
baz=77,slow=6.4
MOA **Molln** 65.64 313 *e*P **P** **01 52 27.2 -0.2**
comp=Z,32nm,1.0s,SNR=74
MOA *e*pP **pP** **01 52 51.7 +0.4**
comp=Z,214nm,1.2s
MOA **Molln** 65.64 313 *e*P'P'bc P'P'bc 02 21 07.4 -4.8
comp=Z,12nm,1.4s
OBKA **Obir** 65.72 312 *e*P **P** **01 52 28.0 0.0**
comp=Z,71nm,1.0s,SNR=53
OBKA *e*pP **pP** **01 52 52.5 +0.6**
comp=Z,161nm,1.4s
OBKA **Obir** 65.72 312 *e*P'P'bc P'P'bc 02 21 09.8 -2.3
comp=Z,5.0nm,1.6s
TIP **Timpagrande** 65.74 303 *e*P **P** **01 52 27.7 -0.5**
comp=Z,72nm,0.8s
TIP **Timpagrande** 65.74 303 ⇑*i*P **P** **01 52 27.8 -0.5**
CLL **Collm** 65.79 317 *e*P **P** **01 52 28.4 +0.1**
comp=Z,171nm,1.3s
CLL **Collm** 65.79 317 *e*P **P** **01 52 28.7 +0.5**
comp=Z,116nm,1.1s,baz=78,slow=6.3
CLL *e*pP **pP** **01 52 52.8 +0.7**
baz=78,slow=6.3
CLL *e*sP **sP** **01 53 03.9 +1.5**
baz=77,slow=6.4
CLL **Collm** 65.79 317 *i* P **P** **01 52 28.3 +0.1**
comp=Z,116nm,1.1s
CLL *i* 01 52 37.5
CLL *i* pP **pP** **01 52 52.3 +0.2**
comp=Z,255nm,1.3s
CLL *i* 01 53 03.0
CLL *e*PPPP 01 57 06.0
CLL *e*S **S** **02 01 10.0 +2.6**
CLL *e*PS **PnS** **02 01 41.0 +0.5**
CLL *e*ScS **ScS** **02 02 18.0 +2.5**
CLL *e*SS **SS** **02 05 28.0 +4.9**
CLL *e*SSS SSS 02 08 37.0
CLL *e*SSSS 02 09 30.0
CLL *e*PKPPKPdf **P'P'df** **02 21 03.0 -4.3**
CLL *e*PKPPKPbc **P'P'bc** **02 21 08.0 -3.6**
comp=Z,154nm,3.1s
CLL Lm MLR 02 24 00.0
comp=Z,2µm,20.6s
CLL **Collm** 65.79 317 *i* P **P** **01 52 28.3 +0.1**
CLL *i* *SP **pP** **01 52 52.3 +0.2**
CLL *e*S **S** **02 01 10.0 +2.6**
CLL *e*SS **PnS** **02 01 41.0 +0.5**
CLL pmax pmax
comp=Z,15nm,1.1s
GEC2 **GERESS Array S** 65.81 314 *e*P **P** **01 52 29.1 +0.5**
comp=Z,305nm,1.3s
GEC2 **GERESS Array S** 65.81 314 *e*P **P** **01 52 29.3 +0.7**
comp=Z,292nm,1.3s,baz=78,slow=6.3
GEC2 *e*pP **pP** **01 52 53.5 +1.0**
baz=78,slow=6.3
GEC2 *e*sP **sP** **01 53 04.5 +1.7**
baz=77,slow=6.4
GEC2 **GERESS Array S** 65.81 314 *e*P **P** **01 52 29.1 +0.5**
GEC2 pmax pmax
comp=Z,305nm,1.3s
GERES **GERESS Array B** 65.81 314 P **P** **01 52 29.1 +0.5**
comp=Z,52nm,0.6s,baz=67,slow=4.7,SNR=198
GERES PKPPKP **P'P'df** **02 21 04.3 -3.1**
comp=Z,0.2nm,0.3s,baz=244,slow=4.3,SNR=7.1
GERES LR LR 02 25 43.0
comp=Z,675nm,18.8s,baz=78,slow=40
GEA0 **GERESS Array S** 65.82 314 *e*P **P** **01 52 28.6 0.0**
LJU **Ljubljana** 65.83 311 *e*P **P** **01 52 29.0 +0.4**
LJU *i* pP **pP** **01 52 52.5 0.0**
LJU *e*S **S** **02 01 06.9 -1.2**
LJU *e* 02 01 45.0
LJU **Ljubljana** 65.83 311 ⇑*i*P **P** **01 52 28.8 +0.2**
KHC **Kasperske Hory** 65.84 315 *e*P **P** **01 52 29.2 +0.5**
comp=Z,71nm,1.4s
KHC **Kasperske Hory** 65.84 315 *e*P **P** **01 52 29.1 +0.5**
KHC *e*pP **pP** **01 52 53.5 +1.0**
KHC *e*sP **sP** **01 53 04.6 +1.7**
KHC *e*S **S** **02 01 06.3 -1.9**
KHC *e*SS SS 02 05 49.3 +25
KHC AMS AMS 02 21 00.0
comp=Z,2µm,26.0s
KHC **Kasperske Hory** 65.84 315 *e*P **P** **01 52 29.1 +0.5**
KHC *e* 01 52 53.5
KHC *e* 01 53 04.6
KHC *e*S **S** **02 01 06.3 -1.9**
KHC MLR MLR
comp=Z,2µm,26.0s
NVLJ **Novalja** 65.90 310 P **P** **01 52 27.8 -1.2**
CEY **Cerknica** 65.96 311 ⇑*i*P **P** **01 52 29.7 +0.2**
GRI **Girifalco** 66.08 303 P **P** **01 52 30.2 -0.2**
KONO **Kongsberg** 66.22 326 *e*P **P** **01 52 31.2 +0.4**
comp=Z,107nm,0.8s
KONO **Kongsberg** 66.22 326 *ce*P **P** **01 52 31.4 +0.6**
KONO pmax pmax
comp=Z,231nm,1.3s
KONO **Kongsberg** 66.22 326 *e*P **P** **01 52 31.1 +0.2**
CUC **Castrocucco** 66.25 304 *e*P **P** **01 52 30.5 -1.0**
comp=Z,119nm,0.9s
WET **Wettzell** 66.29 315 *e*P **P** **01 52 32.2 +0.7**
comp=Z,244nm,1.5s,baz=78,slow=6.3
WET *e*pP **pP** **01 52 56.5 +1.2**
baz=78,slow=6.3
WET *e*sP **sP** **01 53 07.6 +1.9**
baz=77,slow=6.4
WET **Wettzell** 66.29 315 P **P** **01 52 32.0 +0.5**
TANN **Tannenbergstha** 66.30 316 *e*P **P** **01 52 32.2 +0.7**
comp=Z,527nm,1.6s,baz=78,slow=6.3
TANN *e*pP **pP** **01 52 56.4 +1.0**
baz=78,slow=6.3
TANN *e*sP **sP** **01 53 07.4 +1.6**
baz=77,slow=6.4
MYKA **Terra Mystica** 66.31 312 *e*P **P** **01 52 31.5 -0.2**
comp=Z,33nm,1.3s,SNR=15
MYKA *e*pP **pP** **01 52 56.0 +0.3**
comp=Z,73nm,1.3s
MYKA **Terra Mystica** 66.31 312 *e*P'P'df P'P'df 02 21 04.7 -1.9
comp=Z,1.2nm,0.3s
CADS **Cadrg** 66.33 311 *i* P **P** **01 52 31.4 -0.5**
CADS *i* pP **pP** **01 52 54.9 -0.9**
NKC **Novy Kostel** 66.34 316 *e*P **P** **01 52 33.0 +1.2**
NKC *e*S **S** **02 01 14.9 +0.6**
NKC AMS AMS 02 23 30.0
comp=Z,2µm,17.0s
NKC **Novy Kostel** 66.34 316 *e*P **P** **01 52 33.0 +1.2**
NKC *e*S **S** **02 01 14.9 +0.6**
NKC MLR MLR
comp=Z,2µm,17.0s
WERN **Wernitzgruen** 66.38 316 *e*P **P** **01 52 32.9 +0.8**
comp=Z,205nm,1.4s,baz=78,slow=6.3
WERN *e*pP **pP** **01 52 57.1 +1.2**
baz=78,slow=6.3
WERN *e*sP **sP** **01 53 08.1 +1.9**
baz=77,slow=6.4
GUNZ **Gunzen** 66.39 316 *e*P **P** **01 52 32.9 +0.7**
comp=Z,277nm,1.4s,baz=78,slow=6.3
GUNZ *e*pP **pP** **01 52 57.1 +1.1**
baz=78,slow=6.3
GUNZ *e*sP **sP** **01 53 08.1 +1.8**
baz=77,slow=6.4
KBA **Koelnbreinsper** 66.41 312 P **P** **01 52 33.1 +0.6**
KBA **Koelnbreinsper** 66.41 312 *e*P **P** **01 52 32.9 +0.3**
comp=Z,48nm,0.7s,SNR=9.0
TRI **Trieste** 66.42 311 *e*P **P** **01 52 32.1 -0.3**
comp=Z,263nm,1.1s
TRI **Trieste** 66.42 311 *e*P **P** **01 52 32.1 -0.3**
TRI pmax pmax
comp=Z,263nm,1.1s
PLN **Plauen** 66.47 316 *e*P **P** **01 52 33.3 +0.7**
comp=Z,320nm,1.8s,baz=78,slow=6.3
PLN *e*pP **pP** **01 52 57.5 +1.0**
baz=78,slow=6.3
PLN *e*sP **sP** **01 53 08.5 +1.6**
baz=77,slow=6.4
NEUB **Neuenburg** 66.56 317 *e*P **P** **01 52 33.7 +0.5**
comp=Z,387nm,1.5s,baz=78,slow=6.3
NEUB *e*pP **pP** **01 52 57.9 +0.9**
baz=78,slow=6.3
NEUB *e*sP **sP** **01 53 09.1 +1.8**
baz=77,slow=6.4
MANZ **Manzenberg** 66.61 316 *e*P **P** **01 52 34.6 +1.1**
baz=78,slow=6.3
MANZ *e*pP **pP** **01 52 58.9 +1.5**
baz=78,slow=6.3
MANZ *e*sP **sP** **01 53 09.8 +2.0**
baz=77,slow=6.4
CEL **Celeste** 66.62 303 *e*P **P** **01 52 33.9 0.0**
comp=Z,258nm,0.8s
RJOB **Jochberg** 66.63 313 *e*P **P** **01 52 34.0 +0.3**
comp=Z,134nm,1.2s,baz=78,slow=6.3
RJOB *e*pP **pP** **01 52 58.4 +0.7**
baz=78,slow=6.3
MOL **Molde** 66.70 330 *e*P **P** **01 52 34.7 +0.9**
MOX **Moxa** 66.78 317 *e*P **P** **01 52 35.3 +0.7**
comp=Z,176nm,1.4s,baz=78,slow=6.3
MOX *e*pP **pP** **01 52 59.5 +1.0**
baz=78,slow=6.3
MOX *e*sP **sP** **01 53 10.5 +1.7**
baz=77,slow=6.4
MOX **Moxa** 66.78 317 P **P** **01 52 35.1 +0.5**
BSEG **Bad Segeberg** 66.89 320 *e*P **P** **01 52 36.4 +1.2**
comp=Z,347nm,1.2s,baz=78,slow=6.3
BSEG *e*pP **pP** **01 53 00.6 +1.6**
baz=78,slow=6.3
AKN **Aaknes** 67.02 329 *e*P **P** **01 52 38.1 +2.2**
HOMB **Homborsund** 67.03 325 *e*P **P** **01 52 38.0 +2.1**
MUD **Monsted U'grnd** 67.03 323 *i* P **P** **01 52 36.6 +0.6**
comp=Z,116nm,0.8s
MUD *i* 01 53 00.4
MUD **Monsted U'grnd** 67.03 323 *i* P **P** **01 52 36.6 +0.6**
MUD *i* 01 53 00.4
MUD pmax pmax
comp=Z,120nm,0.8s
ABTA **Abfaltersbach** 67.04 312 *e*P **P** **01 52 35.6 -0.8**
comp=Z,54nm,0.9s,SNR=40
ABTA **Abfaltersbach** 67.04 312 *e*P'P'df P'P'df 02 20 58.5 -6.9
comp=Z,12nm,1.6s
ASSE **Asse, Remlinge** 67.05 318 *e*P **P** **01 52 36.8 +0.7**
comp=Z,297nm,1.8s,baz=78,slow=6.3
ASSE *e*pP **pP** **01 53 01.0 +1.0**
baz=78,slow=6.3
MBAR **Mbarara** 67.14 258 *e*P **P** **01 52 36.9 +0.9**
comp=Z,93nm,1.0s
MBAR **Mbarara** 67.14 258 *c i*P **P** **01 52 39.2 +1.5**
MBAR pmax pmax
comp=Z,106nm,1.1s
CTA **Charters Tower** 67.22 127 P **P** **01 52 37.5 -0.2**
comp=Z,104nm,1.0s,baz=316,slow=8.7,SNR=74
CTA PKPPKP **P'P'df** **02 21 01.6 -1.3**
comp=Z,2.7nm,0.8s,baz=190,slow=1.8,SNR=3.9
CTAO **Charters Tower** 67.22 127 *e*P **P** **01 52 37.2 -0.6**
comp=Z,154nm,1.0s
CTAO **Charters Tower** 67.22 127 *e*P **P** **01 52 37.2 -0.6**
CTAO pmax pmax
comp=Z,154nm,1.0s
GRA1 **Grafenberg Arr** 67.23 316 *e*P **P** **01 52 38.5 +1.0**
comp=Z,234nm,1.3s
GRF **Grafenberg Arr** 67.23 316 *e*P **P** **01 52 38.6 +1.2**
comp=Z,537nm,1.7s,baz=78,slow=6.3
GRF *e*pP **pP** **01 53 02.9 +1.6**
baz=78,slow=6.3
GRF **Grafenberg Arr** 67.23 316 *e*P **P** **01 52 38.5 +1.0**
GRF pmax pmax
comp=Z,234nm,1.3s
GRFO **Grafenberg** 67.23 316 *e*P **P** **01 52 38.5 +1.1**
comp=Z,211nm,1.3s
GRFO **Grafenberg** 67.23 316 *e*P **P** **01 52 38.5 +1.1**
GRFO pmax pmax
comp=Z,211nm,1.3s
CLZ **Clausthal** 67.29 318 *e*P **P** **01 52 38.7 +0.9**
comp=Z,535nm,1.7s,baz=78,slow=6.3
CLZ *e*pP **pP** **01 53 02.9 +1.2**
baz=78,slow=6.3
CLZ *e*sP **sP** **01 53 13.9 +1.9**
baz=77,slow=6.4
NRDL **Niedersach Rie** 67.31 319 *e*P **P** **01 52 39.3 +1.5**
comp=Z,590nm,1.5s,baz=78,slow=6.3
NRDL *e*pP **PcP** **01 53 03.4 -1.4**
baz=78,slow=6.3
NRDL *e*sP **sP** **01 53 14.3 +2.4**
baz=77,slow=6.4
WATA **Walderalm** 67.53 313 *e*P **P** **01 52 39.2 -0.4**
comp=Z,46nm,0.8s,SNR=34
WATA *e*pP **pP** **01 53 03.4 -0.1**
comp=Z,72nm,0.9s
FUR **Furstenfeldbru** 67.53 314 *e*P **P** **01 52 40.1 +0.6**
comp=Z,309nm,1.3s,baz=78,slow=6.3
FUR *e*pP **pP** **01 53 04.4 +1.1**
baz=78,slow=6.3
FUR **Furstenfeldbru** 67.53 314 P **P** **01 52 40.2 +0.8**
GTTG **Gvttingen** 67.60 318 *e*P **P** **01 52 40.6 +0.9**
comp=Z,474nm,1.5s,baz=78,slow=6.3
GTTG *e*pP **pP** **01 53 04.8 +1.1**
baz=78,slow=6.3
GTTG *e*sP **sP** **01 53 15.8 +1.9**
baz=77,slow=6.4
HYA **Hoyanger** 67.60 328 *e*P **P** **01 52 40.5 +1.0**
ODD1 **Odda** 67.65 327 *e*P **P** **01 52 40.5 +0.5**
SNART **Snarksmo** 67.68 325 *e*P **P** **01 52 41.1 +1.0**
RETH **Rethem/Aller,** 67.70 319 *e*P **P** **01 52 41.2 +0.9**
comp=Z,229nm,1.6s,baz=78,slow=6.3
RETH *e*pP **PcP** **01 53 05.5 -1.1**
baz=78,slow=6.3
UBBA **Unterbreizbach** 67.74 317 *e*P **P** **01 52 41.3 +0.8**
comp=Z,223nm,1.6s,baz=78,slow=6.3
UBBA *e*pP **pP** **01 53 05.5 +1.1**
baz=78,slow=6.3
SQTA **Sankt Quirin** 67.80 313 *e*P **P** **01 52 40.7 -0.6**
comp=Z,82nm,0.6s,SNR=54
SQTA *e*pP **pP** **01 53 05.1 -0.1**
comp=Z,121nm,1.1s
BLS5 **Blasjo** 67.84 327 *e*P **P** **01 52 42.3 +1.2**
MOTA **Moosalm** 67.84 313 *e*P **P** **01 52 41.0 -0.5**
comp=Z,82nm,0.8s,SNR=108
MOTA *e*PcP **pP** **01 53 06.1 +0.6**
comp=Z,197nm,1.2s
MOTA **Moosalm** 67.84 313 *e*P'P'ab P'P'ab 02 21 05.6 -1.8
comp=Z,2.7nm,0.9s
RETA **Reutte** 68.03 313 *i* P **P** **01 52 42.4 -0.2**
comp=Z,106nm,0.6s,SNR=92
RETA *e*PcP **pP** **01 53 06.8 +0.2**
comp=Z,168nm,1.0s
FETA **Feichten** 68.17 313 *e*P **P** **01 52 43.0 -0.6**
comp=Z,71nm,0.8s,SNR=62
FETA *e*PcP **pP** **01 53 07.7 +0.1**
comp=Z,230nm,1.4s
BER **Bergen** 68.18 328 *e*P **P** **01 52 44.5 +1.4**
ASK **Askoy** 68.22 328 *e*P **P** **01 52 45.2 +1.7**
HLG **Helgoland** 68.23 321 *e*pP pP 01 53 09.1 +1.6
baz=78,slow=6.3
SUE **Sulen** 68.30 328 *e*P **P** **01 52 45.6 +1.7**
UBR **Ueberruh** 68.41 314 *e*P **P** **01 52 44.9 -0.1**
comp=Z,182nm,1.4s,baz=78,slow=6.3
UBR *e*pP **pP** **01 53 09.2 +0.2**
baz=78,slow=6.3
KMY **Karmoy** 68.49 326 *e*P **P** **01 52 46.5 +1.4**
FUORN **Ofenpass-Fuorn** 68.57 312 *e*P **P** **01 52 46.3 +0.1**
comp=Z,43nm,0.6s
DAVA **Damuels** 68.66 313 *i* P **P** **01 52 46.5 -0.2**
comp=Z,33nm,1.1s,SNR=49
DAVA *e*PcP **PcP** **01 53 10.9 -0.1**
comp=Z,293nm,1.3s
STU **Stuttgart** 68.73 315 *e*P **P** **01 52 47.5 +0.6**
comp=Z,225nm,1.0s
STU **Stuttgart** 68.73 315 *e*P **P** **01 52 47.6 +0.6**
comp=Z,346nm,1.3s,baz=78,slow=6.3
STU *e*pP **PcP** **01 53 11.9 +0.8**
baz=78,slow=6.3
STU **Stuttgart** 68.73 315 *e*P **P** **01 52 47.5 +0.6**
STU pmax pmax
comp=Z,225nm,1.0s
IBBN **Ibbenburen** 68.75 319 *e*P **P** **01 52 47.7 +0.8**
comp=Z,398nm,1.6s,baz=78,slow=6.3
IBBN *e*pP **PcP** **01 53 12.1 +1.1**
baz=78,slow=6.3
IBBN *e*sP **sP** **01 53 23.0 +1.8**
baz=77,slow=6.4
CLTB **Caltabellotta** 68.84 303 *e*P **P** **01 52 47.3 -0.6**
comp=Z,101nm,0.9s
TNS **Taunus Mts** 68.85 317 *e*P **P** **01 52 48.2 +0.6**
comp=Z,138nm,1.1s,baz=78,slow=6.3
TNS *e*pP **pP** **01 53 12.5 +0.9**
baz=78,slow=6.3
TNS *e*sP **sP** **01 53 23.5 +1.6**
baz=77,slow=6.4
GAMB **Gambell** 69.02 28 *e*P **P** **01 52 48.2 -0.2**
comp=Z,120nm,1.1s
VLC **Villacollemand** 69.12 310 *e*P **P** **01 52 49.5 +0.1**
comp=Z,83nm,1.0s
TUE **Stuetta** 69.22 313 *e*P **P** **01 52 50.1 -0.1**
comp=Z,48nm,0.8s
BUG **Bochum--Univer** 69.26 318 *e*P **P** **01 52 50.8 +0.8**
comp=Z,298nm,1.5s,baz=78,slow=6.3
BUG *e*pP **pP** **01 53 15.1 +1.1**
baz=78,slow=6.3
BFO **Black Forest** 69.40 315 *e*P **P** **01 52 50.6 -0.4**
comp=Z,42nm,0.9s
BFO **Black Forest** 69.40 315 *e*P **P** **01 52 51.2 +0.1**
comp=Z,252nm,1.9s,baz=78,slow=6.3
BFO *e*pP **pP** **01 53 15.6 +0.5**
baz=78,slow=6.3
BFO **Black Forest** 69.40 315 *i* P **P** **01 52 51.4 +0.3**
WTSB **Winterswijk** 69.41 319 *e*PKP **P** **01 52 51.3 +0.3**
comp=Z,471nm,1.5s
WTSB *e*pPKP **pP** **01 53 15.3 +0.4**
SLE **Schleitheim** 69.45 314 P **P** **01 52 51.8 +0.4**
AHRW **Bad Neuenahr-A** 69.61 317 *e*P **P** **01 52 53.2 +0.9**
comp=Z,454nm,2.2s,baz=78,slow=6.3
AHRW *e*pP **pP** **01 53 17.5 +1.2**
baz=78,slow=6.3
BBOO **Buckleboo** 69.80 144 *e*P **P** **01 52 52.7 -0.9**
comp=Z,130nm,0.9s
CDF **Champ du Feu** 70.06 315 *e*P **P** **01 52 54.1 -1.1**
CDF pmax pmax
comp=Z,96nm,0.9s
ECH **Echery** 70.19 315 *e*P **P** **01 52 56.1 +0.2**
comp=Z,42nm,1.1s
ECH **Echery** 70.19 315 *e*P **P** **01 52 56.1 +0.2**
ECH pmax pmax
comp=Z,42nm,1.1s
MEM **Membach** 70.25 317 P **P** **01 52 57.1 +0.9**
MEM **Membach** 70.25 317 ⇑P **P** **01 52 56.5 +0.3**
MEM ⇑pP **pP** **01 53 20.8 +0.6**
comp=Z,96nm,1.7s
MEM ⇑sP **sP** **01 53 31.3 +0.8**
HGN **Heimansgroeve** 70.25 318 *e*PKP **P** **01 52 56.4 +0.2**
comp=Z,279nm,1.8s
HGN *e*pPKP **pP** **01 53 20.5 +0.3**
MOF **Molkenrain** 70.31 314 P **P** **01 52 57.0 +0.3**

BEBN Eben Emael 70.40 318 ⇓P P 01 52 57.8 +0.8
BEBN ⇓pP **pP** 01 53 20.7 -0.4
WLF Walferdange 70.42 316 *e*P P 01 52 58.2 +1.0
comp=Z,2µm,1.0s
WLF Walferdange 70.42 316 *e*P P 01 52 58.6 +1.4
baz=78,slow=6.3
WLF *e*pP **pP** 01 53 22.9 +1.6
baz=78,slow=6.3
WLF Walferdange 70.42 316 *e*P P 01 52 58.2 +1.0
WLF pmax pmax
comp=Z,2µm,1.0s
WLF Walferdange 70.42 316 ⇓P P 01 52 58.3 +1.0
WLF ⇑pP **pP** 01 53 22.3 +1.0
comp=Z,541nm,1.6s
HINF Hinteralfeld 70.50 314 *e*P P 01 52 56.4 -1.4
HINF pmax pmax
comp=Z,442nm,2.1s
SENIN Lac Senin/Sane 70.61 313 *e*P P 01 52 58.7 0.0
comp=Z,65nm,0.8s
DAG Danmarks Havn 70.72 347 *i* P P 01 52 58.3 -0.2
comp=Z,40nm,0.9s
DAG Danmarks Havn 70.72 347 *i* P P 01 52 58.3 -0.2
DAG pmax pmax
comp=Z,33nm,0.9s
HAU Haudompre 70.77 315 *e*P P 01 52 58.3 -1.1
HAU pmax pmax
comp=Z,102nm,1.1s
GIVF Givet 71.12 317 *e*P P 01 53 00.8 -0.7
GIVF pmax pmax
comp=Z,129nm,1.4s
UCC Uccle 71.20 318 *e*P P 01 53 02.5 +0.6
comp=Z,38nm,0.8s
UCC Uccle 71.20 318 *e*P P 01 53 02.5 +0.6
UCC pmax pmax
comp=Z,38nm,0.8s
UCC Uccle 71.20 318 ⇑P P 01 53 03.3 +1.4
UCC ⇓pP **pP** 01 53 25.7 -0.3
comp=Z,52nm,1.7s
LPG La Plagne 71.23 312 *e*P P 01 53 01.7 -0.9
LPG pmax pmax
comp=Z,117nm,0.8s
LPL La Plagne 71.24 312 *e*P P 01 53 01.7 -0.9
LPL pmax pmax
comp=Z,98nm,0.5s
SBF Sospel 71.25 310 *e*P P 01 53 01.2 -1.3
SBF pmax pmax
comp=Z,106nm,1.0s
DOU Dourbes 71.27 317 ⇑P P 01 53 01.9 -0.4
DOU ⇑pP **pP** 01 53 25.9 -0.5
comp=Z,80nm,1.8s
SNF Seneffe 71.33 318 ⇑P P 01 53 04.5 +1.7
SNF ⇑pP **pP** 01 53 27.3 +0.5
comp=Z,134nm,1.7s
CABF La Chapelle 71.34 313 *e*P P 01 53 02.0 -1.0
CABF pmax pmax
comp=Z,86nm,0.9s
LRW Lerwick 71.37 328 *e*P P 01 53 04.2 +1.5
BNI Bardonecchia 71.41 312 *e*P P 01 53 03.1 -0.3
comp=Z,111nm,1.4s
BNI Bardonecchia 71.41 312 *e*P P 01 53 03.2 -0.3
BNI pmax pmax
comp=Z,111nm,1.4s
ANM Nome 71.44 27 *e*P P 01 53 03.4 +0.3
comp=Z,221nm,1.4s
MBDF Montbardon 71.45 311 *e*P P 01 53 01.8 -2.0
MBDF pmax pmax
comp=Z,58nm,0.6s
BAIF Baives 71.51 317 *e*P P 01 53 03.3 -0.5
BAIF pmax pmax
comp=Z,209nm,1.6s
FRF La Foret Royal 71.89 310 *e*P P 01 53 04.9 -1.3
FRF pmax pmax
comp=Z,100nm,1.1s
HNR Honiara 72.00 110 P P 01 53 07.1 -0.2
comp=Z,71nm,0.3s,baz=196,slow=5.4,SNR=7.1
HNR Honiara 72.00 110 *e*P P 01 53 08.7 +1.5
comp=Z,149nm,0.8s
TAMR Tamra 72.12 303 *e*P P 01 53 09.0 +1.3
comp=Z,154nm,0.7s
STKA Stephens Creek 72.20 140 P P 01 53 07.5 -0.6
comp=Z,36nm,0.4s,baz=325,slow=4.5,SNR=84
STKA LR LR 02 29 59.1
comp=Z,425nm,19.3s,baz=313,slow=40
STKA Stephens Creek 72.20 140 *e*P P 01 53 07.1 -1.0
comp=Z,29nm,1.1s
KEST Kesra 72.36 302 P P 01 53 09.9 +0.7
comp=Z,240nm,1.0s,baz=327,slow=1.8,SNR=139
KEST S **S** 02 02 24.6 -1.1
comp=Z,6.1nm,1.1s,baz=132,slow=10,SNR=2.1
KEST LR LR 02 31 14.8
comp=Z,383nm,18.1s,baz=10,slow=41
KEST Kesra 72.36 302 *e*P P 01 53 09.7 +0.4
comp=Z,569nm,1.3s
LOR Lormes 72.60 314 *e*P P 01 53 09.0 -1.4
LOR pmax pmax
comp=Z,81nm,1.0s
SSB Saint Sauveur 72.78 312 *e*P P 01 53 10.8 -0.8
comp=Z,56nm,0.8s
SSB Saint Sauveur 72.78 312 *e*P P 01 53 10.8 -0.8
SSB pmax pmax
comp=Z,56nm,0.8s
SMF Signal de Mont 72.81 314 *e*P P 01 53 10.4 -1.2
SMF pmax pmax
comp=Z,133nm,0.8s
WACR West Acre 72.81 321 *e*P P 01 53 12.7 +1.2
WACR IAmb IAmb 01 53 14.8
comp=Z,292nm,0.9s
VIVF Saint-Julien-l 72.83 312 *e*P P 01 53 12.0 +0.2
VIVF pmax pmax
comp=Z,192nm,1.5s
SSF Saint Saulge 72.89 314 *e*P P 01 53 11.0 -1.1
SSF pmax pmax
comp=Z,131nm,0.8s
MLA1 Latheron 73.04 327⇑ *e*P P 01 53 13.4 +0.7
AVF Avril sur Loir 73.08 314 *e*P P 01 53 12.0 -1.2
AVF pmax pmax
comp=Z,99nm,0.8s
MME1 Meikle Cairn 73.19 326⇑ *e*P P 01 53 14.1 +0.4
MCD Coleburn Disti 73.24 326⇑ *e*P P 01 53 14.7 +0.7
BIGH Upper Bighouse 73.24 327 *e*P P 01 53 14.9 +1.0
BIGH IAmb IAmb 01 53 16.8
comp=Z,130nm,0.8s
CLF Chambon-Foret 73.37 316 *e*P P 01 53 15.2 +0.3
comp=Z,172nm,0.7s
ESY Stoneypath 73.50 324⇑ *e*P P 01 53 16.0 +0.5
EDMD Edmundbyers 73.54 323⇑ *e*P P 01 53 16.2 +0.4
EDMD IAmb IAmb 01 53 18.4
comp=Z,209nm,0.7s
CMAH Djebel Manchou 73.54 303 P P 01 53 16.1 -0.1
ABSA Djebel Ababsia 73.62 303 P P 01 53 16.5 -0.2
HPK Haverah Park 73.66 322⇑ *e*P P 01 53 17.0 +0.6
HPK IAmb IAmb 01 53 19.4
comp=Z,147nm,1.0s
EDI Edinburgh 73.80 325 *e*P P 01 53 17.8 +0.5
EDI IAmb IAmb 01 53 20.2
comp=Z,198nm,0.9s
MDO Dochfour 73.85 326⇑ *e*P P 01 53 17.8 +0.2
CWF Charnwood Fore 73.91 321 *e*P P 01 53 18.0 +0.1
CWF IAmb IAmb 01 53 19.9
comp=Z,48nm,0.8s
LBWR Ladybower, Pea 73.91 322⇑ *e*P P 01 53 18.3 +0.3
LBWR IAmb IAmb 01 53 20.8
comp=Z,226nm,1.1s
RSC Scourie 73.91 327 *e*P P 01 53 19.0 +1.1
CAEH 'Ain El Ouahch 73.92 303 P P 01 53 18.5 +0.1
TCF Toulx Ste Croi 73.99 314 *e*P P 01 53 17.9 -0.7
EIDS Eidsvold 74.00 129 *e*P P 01 53 19.0 +0.2
comp=Z,122nm,1.0s
ESK Eskdalemuir 74.03 324 *e*P P 01 53 19.7 +1.0
comp=Z,181nm,0.8s
ESK Eskdalemuir 74.03 324⇑ *e*P P 01 53 19.2 +0.6
ESK IAmb IAmb 01 53 21.5
comp=Z,172nm,0.8s
ESK Eskdalemuir 74.03 324 *i* P P 01 53 19.6 +1.0
INVG Invergeldie, C 74.06 325 *e*P P 01 53 18.9 +0.2
INVG IAmb IAmb 01 53 21.0
comp=Z,60nm,0.9s
BHH Howats Hill 74.12 324 *e*P P 01 53 19.9 +0.7
CKFL Kef-Lekhel 74.15 303 P P 01 53 19.5 -0.4
KESW Keswick, Cumbr 74.24 323 *e*P P 01 53 20.4 +0.5
KESW IAmb IAmb 01 53 22.9
comp=Z,147nm,0.8s
STNC Stoke 74.29 322 *e*P P 01 53 21.8 +1.6
STNC IAmb IAmb 01 53 23.4
comp=Z,376nm,1.5s

KAC Achnashellach 74.30 327⇑ *e*P P 01 53 20.5 +0.4
EAB Aberfoyle 74.31 325 *e*P P 01 53 21.1 +0.9
WOL Wolverton 74.37 320⇑ *e*P P 01 53 21.1 +0.4
WOL IAmb IAmb 01 53 23.5
comp=Z,266nm,1.0s
CASM Ain Smara 74.37 303 P P 01 53 20.9 -0.2
RRR Rubha Reidh 74.41 327 *e*P P 01 53 22.8 +2.1
CTEI Djebel Teioual 74.50 303 P P 01 53 22.2 +0.3
PGBU Glenifferbraes 74.52 325⇑ *e*P P 01 53 22.2 +0.7
PGBU IAmb IAmb 01 53 24.6
comp=Z,204nm,0.7s
KPL Plockton 74.54 326 *e*P P 01 53 23.5 +2.0
KPL IAmb IAmb 01 53 24.4
comp=Z,171nm,1.3s
CAF Calviac 74.55 313 *e*P P 01 53 21.2 -0.7
CAF pmax pmax
comp=Z,73nm,0.8s
LDF La Druitiere 74.67 317 *e*P P 01 53 22.1 -0.4
LDF pmax pmax
comp=Z,83nm,0.7s
DFRA Djebel Bou Aff 74.74 303 P P 01 53 23.8 +0.5
STRD Stroud 74.75 320⇑ *e*P P 01 53 23.0 +0.2
STRD IAmb IAmb 01 53 25.4
comp=Z,146nm,0.8s
MAHO Mahon 74.77 307 *e*P P 01 53 22.1 -1.1
MAHO *i* S **S** 02 02 50.3 -2.1
SCO Scoresbysund 74.77 342 *e*P P 01 53 24.1 +1.5
comp=Z,43nm,1.5s
SCO Scoresbysund 74.77 342 *i* P P 01 53 24.3 +1.7
SCO Scoresbysund 74.77 342 *i* P P 01 53 24.3 +1.7
RJF Les Rejaudoux 74.78 313 *e*P P 01 53 22.8 -0.4
RJF pmax pmax
comp=Z,128nm,0.8s
RRH Rhenigidale 74.82 327 *e*P P 01 53 24.1 +1.0
LAWE Loch Awe, Argy 74.83 325⇑ *e*P P 01 53 23.9 +0.7
LAWE IAmb IAmb 01 53 26.3
comp=Z,135nm,0.7s
FLN La Foliniere 74.83 317 *e*P P 01 53 24.0 +0.6
HLM1 Long Mynd 74.88 321⇑ *e*P P 01 53 24.2 +0.6
HLM1 IAmb IAmb 01 53 26.6
comp=Z,195nm,1.7s
FOEL Foel Wylfa 74.93 322 *e*P P 01 53 24.4 +0.5
FOEL IAmb IAmb 01 53 27.0
comp=Z,145nm,1.1s
MTLF Montolieu 75.00 311 *e*P P 01 53 23.6 -0.9
MTLF pmax pmax
comp=Z,80nm,0.8s
MCH1 Michaelchurch 75.14 321⇑ *e*P P 01 53 25.3 +0.2
MCH1 IAmb IAmb 01 53 27.8
comp=Z,190nm,1.4s
IOMK Kirk Michael 75.16 323 *e*P P 01 53 25.6 +0.5
IOMK IAmb IAmb 01 53 28.4
comp=Z,157nm,0.9s
CKHR Kef el Ahmar 75.20 303 P P 01 53 27.0 +1.1
GRR Gorron 75.20 317 *e*P P 01 53 24.5 -1.0
GRR pmax pmax
comp=Z,66nm,0.8s
SET Setif 75.22 303 P P 01 53 26.0 0.0
WIM Isle of Man 75.26 323 *e*P P 01 53 27.5 +1.7
IM3 Indian Mountai 75.29 23 *e*P P 01 53 25.1 -0.6
WME Myndd Eilian 75.35 322⇑ *e*P P 01 53 26.9 +0.7
YLL Llanberis 75.37 322⇑ *e*P P 01 53 26.9 +0.5
MFF Saint Martin d 75.40 315 *e*P P 01 53 25.7 -1.0
MFF pmax pmax
comp=Z,64nm,1.1s
LFF La Frestale 75.43 313 *e*P P 01 53 26.3 -0.6
LFF pmax pmax
comp=Z,58nm,0.6s
WLF1 Llynfaes 75.44 322⇑ *e*P P 01 53 27.5 +0.7
WLF1 IAmb IAmb 01 53 29.9
comp=Z,280nm,0.8s
WPS Cemaes, Angles 75.45 322 *e*P P 01 53 28.2 +1.4
WPS IAmb IAmb 01 53 29.9
comp=Z,150nm,1.1s
YRC Rhoscolyn 75.55 322⇑ *e*P P 01 53 28.1 +0.7
RSBS Rosebush, Pemb 76.16 321⇑ *e*P P 01 53 31.5 +0.6
RSBS IAmb IAmb 01 53 34.1
comp=Z,46nm,0.7s
SGMF Saint Gilles 76.30 317 *e*P P 01 53 31.9 +0.1
SGMF pmax pmax
comp=Z,96nm,0.8s
IDGL Inch Island, C 76.40 325 *e*P P 01 53 33.6 +1.4
DSB Dublin 76.55 323 *e*P P 01 53 33.8 +0.7
DSB Dublin 76.55 323 *e*P P 01 53 34.3 +1.2
comp=Z,63nm,1.0s
LSZ Lusaka 76.56 246 *e*P P 01 53 34.5 +0.6
comp=Z,238nm,0.6s
LSZ Lusaka 76.56 246 *e*P P 01 53 34.5 +0.6
LSZ pmax pmax
comp=Z,238nm,0.6s
LSZ Lusaka 76.56 246 P P 01 53 34.8 +0.9
SNR=31
ROSF Rostrenen 76.71 317 *e*P P 01 53 33.5 -0.6
ROSF pmax pmax
comp=Z,128nm,0.8s
ABA Alger-Bouzarea 76.78 305 P P 01 53 35.0 +0.3
QUIF Quistinic 76.81 317 *e*P P 01 53 35.0 +0.3
QUIF pmax pmax
comp=Z,265nm,1.8s
MLY Manley 76.86 23 *e*P P 01 53 35.3 +0.6
comp=Z,311nm,1.3s
SVW2 Sparrevohn 76.96 28 *e*P P 01 53 35.9 +0.7
comp=Z,189nm,1.2s
ETSF Etsaut 77.06 311 *e*P P 01 53 35.6 -0.7
ETSF pmax pmax
comp=Z,73nm,0.8s
EMHD Djebel Mahouad 77.06 304 P P 01 53 36.8 +0.3
IWEX Carrickbyrne, 77.13 322 *e*P P 01 53 37.5 +1.1
CCA1 Carnmenellis 77.15 320 *e*P P 01 53 38.3 +1.8
CCA1 IAmb IAmb 01 53 39.6
comp=Z,63nm,0.8s
CAST Castle Rocks 77.21 25 *e*P P 01 53 37.0 +0.3
comp=Z,233nm,1.1s
BPAW Bear Paw Mtn. 77.27 24 *e*P P 01 53 37.2 +0.2
comp=Z,137nm,0.8s
SDPT Sand Point 77.31 35 *e*P P 01 53 36.4 -0.9
comp=Z,126nm,0.6s
SUMG Summit 77.41 347 *e*P P 01 53 38.3 +0.2
comp=Z,60nm,0.8s
SUMG Summit 77.41 347 *i* P P 01 53 38.4 +0.3
comp=Z,154nm,0.8s
SUMG Summit 77.41 347 *i* P P 01 53 38.4 +0.3
SUMG pmax pmax
comp=Z,150nm,0.8s
SJPF Ste Jean 77.43 312 *e*P P 01 53 39.3 +1.0
PPLA Purkeypile 77.44 26 *e*P P 01 53 38.4 +0.3
comp=Z,204nm,1.1s
ARMA Armidale 77.53 132 *e*P P 01 53 40.4 +1.4
comp=Z,89nm,1.0s
MDM Murphy Dome 77.79 23 *e*P P 01 53 40.1 +0.2
comp=Z,405nm,1.2s
FYU Fort Yukon 77.87 21 *e*P P 01 53 41.4 +1.2
comp=Z,487nm,1.4s
TRF Thorufare Moun 77.88 25 *e*P P 01 53 40.6 0.0
comp=Z,41nm,0.8s
TULEG Thule 77.89 356 *e*P P 01 53 40.1 0.0
comp=Z,189nm,1.1s
TCOL CIGO, UAF Yank 77.97 23 P P 01 53 40.9 +0.1
baz=305
COLA College 77.97 23 *e*P P 01 53 41.1 +0.3
comp=Z,265nm,1.3s
COLA College 77.97 23 *e*P P 01 53 41.1 +0.3
COLA pmax pmax
comp=Z,265nm,1.3s
COLA College 77.97 23 *e*P P 01 53 41.2 +0.4
POKR Poker Flat Res 77.98 23 P P 01 53 41.4 +0.5
baz=305
EBNR Beni Rached 78.09 304 P P 01 53 43.6 +1.5
IGLA Glengowla, Co 78.10 324 *e*P P 01 53 42.5 +0.8
WRH Wood River Hil 78.12 23 *e*P P 01 53 41.0 -0.7
comp=Z,34nm,0.8s
MCK McKinley 78.23 24 *e*P P 01 53 42.2 -0.1
comp=Z,132nm,1.0s
IL1 Eielson Array 78.37 23 *e*P P 01 53 41.5 -1.6
ILAR Eielson Array 78.37 23 P P 01 53 42.0 -1.1
comp=Z,49nm,1.0s,baz=291,slow=3.9,SNR=183
ILAR PP **PP** 01 56 40.4 -0.4
comp=Z,7.3nm,0.7s,baz=297,slow=6.1,SNR=5.2
ILAR PKiKP **PKiKP** 01 59 18.2 -0.6
comp=Z,0.7nm,0.6s,baz=312,slow=3.4,SNR=4.3
ILAR S **S** 02 03 30.2 -0.7
comp=Z,0.5nm,0.9s,baz=292,slow=9.6,SNR=6.0
ILAR LR LR 02 31 26.5
comp=Z,738nm,18.9s,baz=304,slow=38
ILB Eielson Array 78.37 23 *e*P P 01 53 42.0 -1.1

ILB *e*PP **PP** 01 56 40.4 -0.4
PRP Porcupine Dome 78.40 22 *e*P P 01 53 43.9 +0.5
comp=Z,286nm,1.1s
RND Reindeer 78.44 24 *e*P P 01 53 42.9 -0.6
comp=Z,96nm,0.9s
RND Reindeer 78.44 24 *e*P P 01 53 42.9 -0.6
RND pmax pmax
comp=Z,97nm,0.9s
RSO Redoubt South 78.48 28 *e*P P 01 53 44.4 +0.5
TOO Toolangi 78.50 141 *e*P P 01 53 44.3 +0.2
comp=Z,117nm,1.1s
TOO Toolangi 78.50 141 *e*P P 01 53 44.3 +0.2
TOO pmax pmax
comp=Z,117nm,1.1s
EANR 'Ain N'Sour 78.55 304 P P 01 53 45.2 +0.5
HDA Harding Lake 78.56 23 *e*P P 01 53 42.8 -1.2
comp=Z,86nm,1.2s
HDA Harding Lake 78.56 23 P P 01 53 42.9 -1.2
baz=305
ETRT Tiaret 78.61 304 P P 01 53 46.0 +0.9
KULLO Kullorsuaq 78.72 353⇑ *i* P P 01 53 45.2 +0.4
comp=Z,243nm,0.9s
KULLO Kullorsuaq 78.72 353⇑ *i* P P 01 53 45.2 +0.4
KULLO pmax pmax
comp=Z,240nm,0.9s
BLWY Bulawayo 78.76 241 *i* P P 01 53 47.2 +1.2
BLWY Bulawayo 78.76 241 *i* P P 01 53 47.2 +1.2
SUA Susitna One 78.78 27 *e*P P 01 53 44.9 -0.6
comp=Z,172nm,0.8s
CAN Canberra 79.03 138 *e*P P 01 53 47.6 +0.5
comp=Z,167nm,1.3s
CAN Canberra 79.03 138 *e*P P 01 53 47.6 +0.5
CAN pmax pmax
comp=Z,167nm,1.3s
DHY Denali Highway 79.18 24 *e*P P 01 53 47.4 -0.3
comp=Z,103nm,1.4s
GHO Glory Hole Cre 79.33 26 *e*P P 01 53 48.7 +0.3
comp=Z,66nm,0.6s
PMR Palmer 79.35 26 *e*P P 01 53 47.9 -0.5
comp=Z,202nm,1.1s
PMR Palmer 79.35 26 *e*P P 01 53 47.9 -0.5
PMR pmax pmax
comp=Z,202nm,1.1s
RC01 Rabbit Creek A 79.39 27 *e*P P 01 53 48.2 -0.5
comp=Z,216nm,1.0s
CART Cartagena 79.45 307 *e*P P 01 53 51.0 +1.5
comp=Z,356nm,1.5s
CART Cartagena 79.45 307 *e*P P 01 53 46.9 -2.6
SML Sawmill 79.54 26 *e*P P 01 53 49.6 +0.1
comp=Z,518nm,1.4s
SML Sawmill 79.54 26 *e*P P 01 53 49.6 +0.1
SML pmax pmax
comp=Z,518nm,1.4s
BRLK Bradley Lake 79.64 28 *e*P P 01 53 49.2 -1.0
comp=Z,259nm,1.1s
RIDG Independ'e Rid 79.70 23 *e*P P 01 53 49.9 -0.6
comp=Z,116nm,0.8s
KNK Knik Glacier 79.72 26 *e*P P 01 53 49.8 -0.7
comp=Z,146nm,0.7s
SCRK Sand Creek 79.86 23 *e*P P 01 53 51.1 -0.2
comp=Z,328nm,1.4s
SCM Sheep Creek Mo 79.92 25 *e*P P 01 53 51.7 +0.1
comp=Z,103nm,0.9s
OHAK Old Harbor 79.93 31 *e*P P 01 53 51.3 -0.3
comp=Z,216nm,0.9s
UCM Universidad Co 79.94 310 *e*P P 01 53 59.4 +7.3
PAX Paxson 79.94 24 *e*P P 01 53 52.3 +0.5
comp=Z,50nm,1.1s
KDAK Kodiak Island 79.96 30 *e*P P 01 53 51.7 -0.1
comp=Z,121nm,0.9s
KDAK Kodiak Island 79.96 30 *i* P P 01 53 51.4 -0.4
RES Resolute Bay 80.03 3 *e*P P 01 53 52.3 +0.4
comp=Z,104nm,1.0s
RES Resolute Bay 80.03 3 *e*P P 01 53 52.3 +0.4
RES pmax pmax
comp=Z,104nm,1.0s
SEW Seward 80.06 27 *e*P P 01 53 52.0 -0.3
comp=Z,129nm,1.0s
INK Inuvik 80.09 16 *e*P P 01 53 52.7 +0.4
comp=Z,420nm,1.4s
INK Inuvik 80.09 16 *e*P P 01 53 52.7 +0.4
INK pmax pmax
comp=Z,420nm,1.4s
TAM Tamanrasset 80.13 291 *e*P P 01 53 54.2 +0.6
comp=Z,31nm,1.0s
TAM Tamanrasset 80.13 291 *e*P P 01 53 54.2 +0.6
TAM pmax pmax
comp=Z,31nm,1.0s
EGAK Eagle 80.30 21 *e*P P 01 53 53.5 -0.1
comp=Z,246nm,1.3s
HARP HAARP 80.40 24 *e*P P 01 53 55.2 +1.1
comp=Z,111nm,0.9s
GLI Glacier Island 80.57 26 *e*P P 01 53 55.1 +0.1
comp=Z,54nm,0.7s
EPYK Eagle Plains 80.60 19 *e*P P 01 53 55.1 -0.1
comp=Z,106nm,0.9s
EPYK Eagle Plains 80.60 19 P P 01 53 55.1 -0.1
baz=314
ES19 SONSECA Array 80.65 309 *e*P P 01 53 56.1 +0.1
KLU Klutina 80.66 25 *e*P P 01 53 56.0 +0.4
comp=Z,214nm,1.2s
ESDC Sonseca Array 80.70 309 P P 01 53 56.3 +0.1
comp=Z,37nm,1.0s,baz=57,slow=4.9,SNR=97
ESDC LR LR 02 35 42.2
comp=Z,364nm,18.2s,baz=65,slow=40
ESLA Sonseca Array 80.70 309 *e*P P 01 53 56.8 +0.5
comp=Z,158nm,1.4s
DIV Divide 80.94 25 *e*P P 01 53 57.7 +0.6
comp=Z,95nm,1.0s
PAB San Pablo 81.03 309 *e*P P 01 53 58.5 +0.5
comp=Z,47nm,1.0s
PAB San Pablo 81.03 309 *e*P P 01 53 58.5 +0.5
PAB pmax pmax
comp=Z,47nm,1.0s
EYAK Cordova Ski Ar 81.30 26 *e*P P 01 53 59.8 +0.9
comp=Z,105nm,1.0s
DAWY Dawson 81.35 21 *e*P P 01 53 59.5 +0.3
comp=Z,193nm,1.3s
CRZF Crozet Islands 81.40 209 *e*P P 01 54 00.4 +0.9
comp=Z,125nm,0.8s
BMRM Bremner River 81.49 25 *e*P P 01 54 00.4 +0.4
comp=Z,256nm,1.1s
PBRG Braganca 81.68 312 *e*P P 01 54 03.1 +1.7
comp=Z,94nm,1.7s
PBRG *e*pP **pP** 01 54 25.7 -0.5
MELI Melilla 81.82 305⇑ *i* P P 01 54 02.6 +0.5
HMT Hamilton 82.01 26 *e*P P 01 54 04.3 +1.6
comp=Z,243nm,1.4s
HMT *e*pP **pP** 01 54 29.2 +1.7
MVO Moncorvo 82.16 312 *e*P P 01 54 05.2 +1.3
comp=Z,121nm,1.9s
MVO *e*pP **pP** 01 54 28.3 -0.5
EMAL Malaga-Limoner 82.28 307⇑ *i* P P 01 54 03.6 -1.0
ANGG Ammassalik, Gr 82.39 342 *e*P P 01 54 05.3 +0.8
comp=Z,142nm,1.4s
PVRL Vila Real 82.57 312 *e*P P 01 54 08.1 +2.0
comp=Z,77nm,1.9s
PVRL *e*pP **pP** 01 54 31.3 +0.4
POLO Lamas de Olo 82.58 312 *e*P P 01 54 07.6 +1.4
comp=Z,41nm,1.4s
POLO *e*pP **pP** 01 54 30.7 -0.3
ILULI Ilulissat 82.58 348 *e*P P 01 54 05.8 +0.3
comp=Z,113nm,1.0s
ILULI Ilulissat 82.58 348 *i* P P 01 54 05.4 0.0
comp=Z,120nm,1.1s
ILULI Ilulissat 82.58 348 *e*P P 01 54 05.8 +0.3
ILULI pmax pmax
comp=Z,113nm,1.0s
PGAV Gavieira, Arco 82.63 313 *e*P P 01 54 08.0 +1.6
comp=Z,112nm,1.9s
MTE Manteigas 82.85 311 *e*P P 01 54 09.2 +1.6
comp=Z,168nm,1.5s
MTE *e*pP **pP** 01 54 32.5 +0.1
MTE Manteigas 82.85 311 *e*P P 01 54 07.3 -0.3
comp=Z,107nm,1.0s
LIJA Lijar 82.92 307 *i* P P 01 54 08.0 0.0
PVIS Viseu 82.95 312 *e*P P 01 54 10.2 +2.2
comp=Z,126nm,1.6s
PVIS *e*pP **pP** 01 54 33.4 +0.5
PCBR Castelo Branco 83.06 311 *e*P P 01 54 10.1 +1.6
comp=Z,123nm,1.2s
PCBR *e*pP **pP** 01 54 33.5 +0.2
PMRV Marv??o 83.19 310 *e*P P 01 54 12.9 +3.6
comp=Z,120nm,1.6s
PMRV *e*pP **pP** 01 54 35.6 +1.6
TAU Tasmania Unive 83.23 144 *e*P P 01 54 10.6 +1.6
comp=Z,144nm,1.3s

TAU Tasmania Unive 83.23 144 eP P 01 54 10.6 +1.6
TAU pmax pmax
comp=Z,144nm,1.3s
PTO Porto 83.23 312 eP P 01 54 10.6 +1.2
comp=Z,81nm,1.4s
CEU Ceuta 83.34 306 eP P 01 54 04.5 -5.6
CEU i S **S 02 04 18.1 -5.5**
PESTR Estremoz 83.58 310 eP P 01 54 12.7 +1.4
comp=Z,70nm,1.4s
PESTR epP **pP 01 54 35.2 -0.9**
PESTR Estremoz 83.58 310 eP P 01 54 13.1 +1.9
comp=Z,48nm,1.4s
PCAS Casmilo, Conde 83.66 311 eP P 01 54 12.9 +1.3
PCAS epP **pP 01 54 36.6 +0.1**
LBTB Lobatse 83.69 239 eP P 01 54 12.6 +0.5
comp=Z,467nm,1.4s
LBTB Lobatse 83.69 239 eP P 01 54 12.6 +0.5
LBTB pmax pmax
comp=Z,467nm,1.4s
SFS San Fernando 83.69 307 ⇑ *iP* **P 01 54 13.7 +1.8**
SFS *i* S **S 02 04 27.6 +0.5**
DZM Mont Dzumac 83.78 118 eP P 01 54 12.9 +0.4
comp=Z,126nm,1.3s
DZM Mont Dzumac 83.78 118 *e*LR LR 02 20 44.5
comp=Z,2µm,37.0s
DZM Mont Dzumac 83.78 118 eP P 01 54 13.1 +0.6
comp=Z,71nm,1.2s
PTOM Tomar 83.80 311 eP P 01 54 14.4 +2.0
comp=Z,147nm,1.6s
PTOM epP **pP 01 54 37.5 +0.3**
EVO Evora 84.03 310 eP P 01 54 17.0 +3.5
comp=Z,130nm,1.9s
EVO epP **pP 01 54 40.1 +1.7**
EVO Evora 84.03 310 *i* P **P 01 54 16.6 +3.0**
EVO eS **S 02 04 30.0 -0.5**
ALMR Almeirim 84.13 311 eP P 01 54 14.4 +0.4
ALMR AMb AMB 01 54 17.0
comp=Z,119nm,1.2s
ALMR Almeirim 84.13 311 eP P 01 54 14.4 +0.4
comp=Z,119nm,1.2s
PBEJ Beja 84.16 309 eP P 01 54 16.9 +2.7
comp=Z,110nm,1.4s
PBEJ epP **pP 01 54 40.3 +1.3**
HYT Haines Junctio 84.21 23 eP P 01 54 15.1 +0.9
comp=Z,125nm,1.0s
IFR Ifrane 84.22 304 ⇑ *iP* **P 01 54 15.3 +0.5**
IFR *i* S **S 02 04 29.6 -3.3**
PVAQ Vaqueiros 84.35 309 eP P 01 54 16.6 +1.4
comp=Z,201nm,1.5s
PVAQ epP **pP 01 54 39.7 -0.3**
SFJD Kangerlussuaq 84.40 347 eP P 01 54 14.4 -0.4
comp=Z,134nm,0.9s
SFJD Kangerlussuaq 84.40 347 ⇑ *iP* **P 01 54 14.9 +0.1**
comp=Z,114nm,0.9s
SFJD Kangerlussuaq 84.40 347 ⇑ *iP* **P 01 54 14.9 +0.1**
SFJD pmax pmax
comp=Z,110nm,0.9s
SFJD Kangerlussuaq 84.40 347 eP P 01 54 14.7 -0.2
MESJ Messejana 84.50 309 eP P 01 54 16.1 +0.2
MESJ AMb AMB 01 54 19.2
comp=Z,160nm,1.4s
PBDV Barranco-do-Ve 84.57 309 eP P 01 54 18.1 +1.8
comp=Z,271nm,1.3s
PBDV epP **pP 01 54 41.5 +0.4**
PNCL Nicolau / Gran 84.59 310 eP P 01 54 18.3 +2.0
comp=Z,106nm,1.5s
PNCL epP **pP 01 54 38.4 -2.8**
PMAFR Mafra 84.71 311 eP P 01 54 18.9 +1.9
comp=Z,283nm,2.0s
PMAFR epP **pP 01 54 41.7 -0.2**
LIS Lisbon 84.73 310 eP P 01 54 17.2 +0.1
LIS AMb AMB 01 54 20.7
comp=Z,142nm,2.0s
PMST Lisbon--Monsan 84.75 310 eP P 01 54 19.3 +2.2
PMST epP **pP 01 54 41.9 -0.2**
PTEO Sao Teotonio 84.99 309 eP P 01 54 20.2 +1.8
comp=Z,215nm,1.8s
PTEO epP **pP 01 54 42.7 -0.6**
MORF Marmelete 85.05 309 eP P 01 54 18.8 0.0
MORF AMb AMB 01 54 22.9
comp=Z,154nm,1.5s
MORF *e*SS SS 02 10 17.1 +1.9
MORF Marmelete 85.05 309 eP P 01 54 20.4 +1.6
comp=Z,153nm,1.3s
MORF epP **pP 01 54 43.5 -0.2**
WHY Whitehorse 85.24 22 eP P 01 54 19.6 +0.3
comp=Z,43nm,0.8s
PFVI Vila Bisbo 85.25 309 eP P 01 54 21.4 +1.7
comp=Z,166nm,1.1s
PFVI epP **pP 01 54 44.6 0.0**
PFVI Vila Bisbo 85.25 309 eP P 01 54 21.2 +1.5
comp=Z,134nm,1.0s
BOSA Boshof 85.83 236 *i* P **P 01 54 22.4 -0.3**
BOSA Boshof 85.83 236 P **P 01 54 23.2 +0.4**
comp=Z,87nm,0.8s,baz=58,slow=3.8,SNR=138
BOSA S **S 02 04 44.4 -4.2**
comp=Z,2.3nm,0.8s,baz=301,slow=22,SNR=1.8
BOSA LR LR 02 31 05.1
comp=Z,771nm,20.8s,baz=49,slow=34
BOSA Boshof 85.83 236 eP P 01 54 23.1 +0.4
comp=Z,124nm,0.8s
BOSA Boshof 85.83 236 *i* P **P 01 54 22.4 -0.3**
BOSA Boshof 85.83 236 eP P 01 54 22.8 0.0
SKAG Skagway 85.94 23 eP P 01 54 23.9 +1.2
comp=Z,195nm,1.0s
AVE Averroes 86.02 305 ⇑ *iP* **P 01 54 25.0 +1.4**
AVE *i* S **S 02 04 42.2 -8.1**
BESE Bessie Mountai 86.75 24 eP P 01 54 28.2 +1.4
comp=Z,110nm,1.1s
JIS Juneau Island 87.14 24 eP P 01 54 30.1 +1.6
comp=Z,95nm,1.0s
TSUM Tsumeb 87.30 247 eP P 01 54 31.6 +1.5
comp=Z,48nm,1.4s
TOA0 Torodi Ar. Sit 87.41 283 eP P 01 54 30.9 +0.2
TOA0 Torodi Ar. Sit 87.41 283 P **P 01 54 31.0 +0.3**
SNR=25
TOA1 Torodi Ar. Sit 87.41 283 eP P 01 54 29.7 -0.9
TOA1 ePP **PP 01 57 56.5 +0.3**
TORD Torodi Ar. Bea 87.41 283 P **P 01 54 29.7 -0.9**
comp=Z,37nm,0.9s,baz=90,slow=4.4,SNR=101
TORD PP **PP 01 57 56.5 +0.3**
comp=Z,17nm,1.1s,baz=67,slow=7.4,SNR=5.6
TORD PKiKP **PKiKP 01 59 33.7 -0.7**
comp=Z,2.4nm,0.9s,baz=95,slow=1.7,SNR=3.6
TORD S **SKSac 02 04 45.2 -5.3**
comp=Z,0.7nm,1.0s,baz=64,slow=9.9,SNR=2.2
TORD PKKPbc **PKKPbc 02 12 18.6 -0.3**
comp=Z,0.7nm,0.6s,baz=286,slow=1.7,SNR=5.7
TORD LR LR 02 37 24.6
comp=Z,897nm,18.8s,baz=25,slow=38
SIT Sitka 87.67 25 eP P 01 54 33.2 +2.1
comp=Z,100nm,1.1s
SIT Sitka 87.67 25 eP P 01 54 33.2 +2.1
SIT pmax pmax
comp=Z,100nm,1.1s
DLBC Dease Lake 88.55 22 LR LR 02 36 23.9
comp=Z,1µm,20.7s,baz=317,slow=37
DLBC Dease Lake 88.55 22 eP P 01 54 36.5 +1.2
comp=Z,152nm,1.4s
IVI Ivigtut 88.77 343 eP P 01 54 37.8 +1.7
comp=Z,263nm,1.5s
WRAK Wrangell Islan 89.26 24 eP P 01 54 39.2 +0.6
comp=Z,52nm,1.0s
YKW3 Yellowknife Ar 89.28 13 eP P 01 54 38.1 -0.5
comp=Z,97nm,1.3s
YKA Yellowknife Ar 89.35 13 P **P 01 54 38.4 -0.4**
comp=Z,25nm,0.9s,baz=332,slow=4.5,SNR=64
YKA PP **PP 01 58 09.1 -0.9**
comp=Z,4.9nm,0.7s,baz=334,slow=7.8,SNR=8.4
YKA PKKP **PKKPdf 02 12 10.8 +1.6**
comp=Z,0.6nm,0.4s,baz=161,slow=2.2,SNR=14
YKA PKPPKP **P'P'df 02 20 20.8 -3.5**
comp=Z,0.3nm,0.7s,baz=156,slow=2.3,SNR=4.7
YKA LR LR 02 40 05.8
comp=Z,41nm,19.4s,baz=333,slow=39
YKB5 Yellowknife Ar 89.35 13 eP P 01 54 37.3 -1.6
YKB5 ePP **PP 01 58 09.1 -0.9**
SUR Sutherland 91.04 235 eP P 01 54 49.6 +2.1
comp=Z,92nm,1.2s
CASY Casey 92.08 174 eP P 01 54 51.6 +0.4
comp=Z,107nm,1.3s
PMAR Madeira 93.21 308 eP P 01 55 00.9 +3.2
comp=Z,155nm,1.9s
BBB Bella Bella 94.10 25 LR LR 02 39 49.4
comp=Z,751nm,18.1s,baz=328,slow=37
MAW Mawson 95.69 192 P **P 01 55 07.7 -0.1**
comp=Z,17nm,1.2s,baz=100,slow=17,SNR=2.7
MAW LR LR 02 29 22.3
comp=Z,292nm,21.4s,baz=27,slow=30
MAW Mawson 95.69 192 eP P 01 55 07.7 -0.1
comp=Z,18nm,1.5s
FCC Fort Churchill 95.89 5 eP P 01 55 08.4 -0.7
comp=Z,48nm,1.1s
FCC Fort Churchill 95.89 5 eP P 01 55 08.4 -0.7
FCC pmax pmax
comp=Z,49nm,1.1s
DBIC Dimbokro 96.02 280 P **P 01 55 10.2 -0.4**
comp=Z,25nm,0.6s,baz=48,slow=5.3,SNR=67
DBIC LR LR 02 42 58.4
comp=Z,404nm,20.7s,baz=47,slow=38
DBIC Dimbokro 96.02 280 eP P 01 55 10.4 -0.2
comp=Z,27nm,0.8s
DBIC Dimbokro 96.02 280 eP P 01 55 10.4 -0.2
DBIC pmax pmax
comp=Z,27nm,0.8s
DBIC Dimbokro 96.02 280 eP P 01 55 10.7 +0.1
KIC Kosan Boka 96.06 280 *e*PKP2 **P 01 55 11.8 +1.0**
comp=Z,182nm,1.4s
TIC Toumodi 96.18 280 *e*PKP2 **P 01 55 12.2 +0.8**
LIC Lamto 96.37 280 *e*PKP2 **P 01 55 13.1 +0.9**
comp=Z,53nm,0.7s
SCHQ Schefferville 98.66 349 P **P 01 55 21.5 -0.2**
comp=Z,16nm,0.8s,baz=45,slow=5.5,SNR=19
SCHQ PKKPbc **PKKPbc 02 11 48.0 -3.1**
comp=Z,6.3nm,0.5s,baz=204,slow=1.9,SNR=28
SCHQ LR LR 02 44 17.8
comp=Z,661nm,20.0s,baz=14,slow=38
SCHQ Schefferville 98.66 349 eP Pdif 01 55 22.4 +0.7
comp=Z,60nm,1.3s
FFC Flin Flon 98.95 10 eP P 01 55 22.7 -0.3
comp=Z,38nm,1.3s
FFC Flin Flon 98.95 10 eP P 01 55 22.7 -0.3
FFC pmax pmax
comp=Z,38nm,1.3s
B08A Colville Reser 100.45 22 *e*Pdif **Pdif 01 55 30.7 +0.8**
D08A Wollman Farm, 101.71 23 *e*Pdif **Pdif 01 55 36.9 +1.4**
F10A Beach Ranch, E 103.24 22 *e*Pdif **Pdif 01 55 43.9 +1.4**
MSO Missoula 103.56 20 *e*Pdif **Pdif 01 55 46.1 +2.2**
ULM Lac du Bonnet 104.15 7 Pdiff **Pdif 01 55 46.1 -0.1**
comp=Z,1.9nm,0.7s,baz=330,slow=6.1,SNR=3.7
ULM PKiKP **PKiKP 02 00 02.4 -0.4**
comp=Z,4.2nm,0.6s,baz=352,slow=3.7,SNR=8.1
ULM PKKPbc **PKKPbc 02 11 33.1 -2.1**
comp=Z,1.5nm,0.4s,baz=153,slow=2.0,SNR=8.0
J08A Circle Bar Ran 105.04 25 *e*Pdif **Pdif 01 55 53.2 +2.7**
LAO LASA Array 105.80 15 P **PKiKP 02 00 07.7 +1.8**
baz=340
HLID Hailey 106.32 22 *e*Pdif **Pdif 01 55 58.9 +2.6**
HLID Hailey 106.32 22 P **PKiKP 02 00 07.3 +0.1**
baz=332
E51A G1948 Merrick 108.31 356 P **PKiKP 02 00 10.4 -0.2**
baz=5.2
E40A Wakefield 108.44 4 P **PKiKP 02 00 11.5 +0.6**
baz=355
E39A Mellen 108.46 4 P **PKiKP 02 00 11.7 +0.8**
baz=355
E50A Wahnapitae 108.49 357 P **PKiKP 02 00 11.4 +0.5**
baz=4.0
BW06 Boulder Array 108.56 19 P **PKiKP 02 00 11.7 +0.2**
baz=337
PD31 Pinedale Array 108.56 19 *e*Pdif **Pdif 01 56 07.2 +0.8**
PD31 *e*PKiKP **PKiKP 02 00 11.1 -0.4**
PDAR Pinedale Array 108.56 19 Pdiff **Pdif 01 56 07.2 +0.8**
comp=Z,0.5nm,0.8s,baz=359,slow=4.5,SNR=2.1
PDAR PKiKP **PKiKP 02 00 11.4 -0.1**
comp=Z,4.2nm,0.7s,baz=45,slow=2.3,SNR=12
PDAR PKKPbc **PKKPbc 02 11 19.4 -2.5**
comp=Z,0.4nm,0.5s,baz=134,slow=2.6,SNR=4.5
PDAR PKKP **PKKPdf 02 11 33.2 -1.8**
comp=Z,1.2nm,0.6s,baz=131,slow=5.8,SNR=7.9
E46A Sault Ste Mari 108.65 359 P **PKiKP 02 00 11.9 +0.7**
baz=0.6
RSSD Black Hills 108.72 14 P **PKiKP 02 00 11.7 -0.1**
baz=342
F40A Park Falls 108.95 4 P **PKiKP 02 00 12.2 +0.4**
baz=355
F37A Hinrichs Farm, 108.95 6 P **PKiKP 02 00 12.4 +0.6**
baz=353
F43A Flat Rock, Esc 109.16 2 P **PKiKP 02 00 13.3 +1.2**
baz=358
NV01 Mina Array Sit 109.31 27 *e*Pdif **Pdif 01 56 15.8 +6.0**
NV01 *e*PKiKP **PKiKP 02 00 12.9 0.0**
NV01 *e*PP **PP 02 00 42.7 +0.3**
NVAR Mina Array Bea 109.31 27 Pdiff **Pdif 01 56 12.4 +2.6**
comp=Z,0.7nm,0.7s,baz=309,slow=4.3,SNR=5.3
NVAR PKiKP **PKiKP 02 00 13.5 +0.5**
comp=Z,3.7nm,0.8s,baz=293,slow=1.5,SNR=16
NVAR PP **PP 02 00 42.7 +0.3**
comp=Z,3.8nm,0.8s,baz=312,slow=5.5,SNR=6.4
NVAR PKKPbc **PKKPbc 02 11 18.3 -1.0**
comp=Z,0.6nm,0.7s,baz=153,slow=4.3,SNR=4.2
NVAR PKKP **PKKPdf 02 11 31.4 -2.2**
comp=Z,1.0nm,0.8s,baz=113,slow=4.8,SNR=4.4
SPMN Marine on St. 109.43 6 P **PKiKP 02 00 13.2 +0.4**
baz=352
K22A Casper 109.51 17 P **PKiKP 02 00 12.7 -0.5**
baz=339
G38A Ridgeland 109.57 5 P **PKiKP 02 00 13.1 +0.1**
baz=353
G40A Rib Lake 109.59 4 P **PKiKP 02 00 13.6 +0.5**
baz=355
BANO Bancroft 109.70 355 P **PKiKP 02 00 13.5 +0.3**
baz=6.7
VNDA Vanda 109.74 168 PKiKP **PKiKP 02 00 12.6 +0.3**
comp=Z,1.1nm,0.6s,baz=334,slow=3.7,SNR=6.0
VNDA PP **PP 02 00 45.2 -0.4**
comp=Z,3.2nm,1.1s,baz=311,slow=5.8,SNR=3.5
VNDA PKKPbc **PKKPbc 02 11 17.0 -1.8**
comp=Z,4.4nm,0.7s,baz=129,slow=2.5,SNR=17
DUG Dugway, Tooele 109.86 22 P **PKiKP 02 00 14.5 +0.6**
baz=333
H39A Augusta 110.10 5 P **PKiKP 02 00 14.2 +0.2**
baz=354
H40A Chili 110.22 4 P **PKiKP 02 00 14.8 +0.6**
baz=355
ECSD EROS Data Cent 110.46 9 P **PKiKP 02 00 14.4 -0.3**
baz=349
R11A Troy Canyon, C 110.47 25 P **PKiKP 02 00 16.4 +1.3**
baz=331
H46A Fife Lake 110.48 0 P **PKiKP 02 00 14.6 -0.1**
baz=360
I39A Houston 110.90 5 P **PKiKP 02 00 15.2 -0.3**
baz=354
I42A Draeger Farm, 111.03 3 P **PKiKP 02 00 16.2 +0.4**
baz=356
N23A Red Feather La 111.30 17 P **PKiKP 02 00 16.8 +0.1**
baz=340
O20A White River Ci 111.37 19 P **PKiKP 02 00 16.4 -0.4**
baz=338
J39A Bicorah 111.40 5 P **PKiKP 02 00 15.8 -0.7**
baz=354
TPNV Topopah Spring 111.42 27 P **PKiKP 02 00 17.3 +0.3**
baz=330
J41A Loganville 111.50 4 P **PKiKP 02 00 16.7 0.0**
baz=355
J43A Natural Harves 111.56 3 P **PKiKP 02 00 16.5 -0.3**
baz=357
J42A Columbus 111.59 3 P **PKiKP 02 00 16.9 +0.1**
baz=356
ELFO Elginfield 111.74 357 P **PKiKP 02 00 17.1 -0.1**
baz=3.5
J47A Sunmer 111.78 360 P **PKiKP 02 00 17.1 -0.1**
baz=0.1
JFWS Jewell Farm 111.93 4 P **PKiKP 02 00 17.4 -0.1**
baz=355
K40A Colesburg 112.08 5 P **PKiKP 02 00 17.7 -0.1**
baz=354
K42A Prairie Point, 112.12 3 P **PKiKP 02 00 17.9 0.0**
baz=356
OGNE Ogallala 112.20 14 P **PKiKP 02 00 17.9 -0.3**
baz=343
K48A Perry 112.21 359 P **PKiKP 02 00 18.2 +0.2**
baz=0.8
BINY Binghamton 112.30 353 P **PKiKP 02 00 18.8 +0.5**
baz=8.7
K47A Vermontville 112.35 0 P **PKiKP 02 00 18.3 0.0**
baz=360
ISCO Idaho Springs 112.42 17 P **PKiKP 02 00 18.6 -0.4**
baz=340
BGNE Belgrade 112.50 11 P **PKiKP 02 00 18.4 -0.3**
baz=347
GSC Goldstone, Bar 112.60 28 P **PKiKP 02 00 20.2 +1.1**
baz=329
L43A Garden Prairie 112.75 3 P **PKiKP 02 00 19.2 +0.2**
baz=356
L42A Oliver, Polo 112.87 4 P **PKiKP 02 00 19.4 +0.1**
baz=355
L47A Sherwood 113.04 0 P **PKiKP 02 00 19.4 -0.3**
baz=360
L48A N Adams 113.07 360 P **PKiKP 02 00 19.5 -0.3**
baz=0.5
M39A Webster 113.21 6 P **PKiKP 02 00 19.5 -0.5**
baz=353
M54A Oil Creek Stat 113.33 356 P **PKiKP 02 00 20.3 0.0**
baz=5.2
M41A Milan 113.44 5 P **PKiKP 02 00 20.3 -0.1**
baz=354
M43A Waltham Townsh 113.48 3 P **PKiKP 02 00 20.7 +0.2**
baz=356
M49A Liberty Center 113.54 359 P **PKiKP 02 00 20.9 +0.3**
baz=1.0
N40A Mertquake, Sal 113.85 5 P **PKiKP 02 00 20.7 -0.6**
baz=354
KSCO Kaye Shedlock' 113.91 15 P **PKiKP 02 00 22.1 +0.5**
baz=343
N43A Stutzman Famil 113.96 3 P **PKiKP 02 00 21.8 +0.4**
baz=356
N42A Yates City 114.02 4 P **PKiKP 02 00 21.0 -0.5**
baz=355
SSPA Standing Stone 114.05 354 P **PKiKP 02 00 21.5 -0.2**
baz=7.0
N41A Harden Midland 114.08 5 P **PKiKP 02 00 20.8 -0.9**
baz=354
N49A Columbus Grove 114.09 359 P **PKiKP 02 00 21.1 -0.6**
baz=0.8
N53A Lisbon 114.10 357 P **PKiKP 02 00 21.5 -0.2**
baz=4.1
N47A Urbana 114.13 1 P **PKiKP 02 00 20.9 -0.9**
baz=359
N44A Piper City 114.16 3 P **PKiKP 02 00 21.5 -0.3**
baz=357
N48A Decatur 114.16 0 P **PKiKP 02 00 21.5 -0.3**
baz=360
N50A Nevada 114.22 358 P **PKiKP 02 00 21.7 -0.2**
baz=1.8
SDCO Great Sand Dun 114.37 18 P **PKiKP 02 00 22.7 0.0**
baz=340
O56A Blue Knob Stat 114.47 355 P PKPdf 02 00 22.7 +0.2
baz=6.3
O41A Passleys Farm, 114.67 5 P **PKiKP 02 00 22.6 -0.2**
baz=354
O54A Avella 114.69 356 P **PKiKP 02 00 22.8 -0.1**
baz=4.5
O48A Farmland 114.76 0 P **PKiKP 02 00 22.1 -0.9**
baz=360
O47A Sheridan 114.77 1 P **PKiKP 02 00 22.2 -0.8**
baz=359
O44A Mansfield 114.78 3 P **PKiKP 02 00 23.0 -0.1**
baz=356
O49A Covington 114.83 359 P **PKiKP 02 00 22.5 -0.7**
baz=0.6
O51A Pataskala 114.83 358 P **PKiKP 02 00 22.7 -0.4**
baz=2.3
O52A Adamsville 114.83 357 P **PKiKP 02 00 22.5 -0.6**
baz=3.1
O50A Cable 114.86 359 P **PKiKP 02 00 22.8 -0.4**
baz=1.3
KSU1 Kansas State U 115.00 10 P **PKiKP 02 00 23.3 -0.2**
baz=348
P41A Barry, Barry 115.09 5 P **PKiKP 02 00 23.3 -0.3**
baz=354
P43A Skaggs, Pawnee 115.24 4 P **PKPdf 02 00 24.2 +0.2**
baz=355
P42A Winchester 115.24 5 *e*PKPdf **PKiKP 02 00 23.6 -0.3**
T25A Trinidad 115.24 17 *e*PKPdf **PKiKP 02 00 23.8 -0.5**
T25A Trinidad 115.24 17 P **PKiKP 02 00 23.6 -0.7**
baz=341
P52A Corning 115.33 358 P **PKiKP 02 00 23.4 -0.7**
baz=2.8
P55A Reedsville 115.33 356 P **PKiKP 02 00 24.0 -0.1**
baz=5.1
P46A Rosedale 115.36 2 P **PKiKP 02 00 23.7 -0.4**
baz=358
GLA Glamis 115.37 28 *e*PKPdf **PKPdf 02 00 25.2 +0.8**
GLA Glamis 115.37 28 *e*PKIKP **PKPdf 02 00 25.2 +0.8**
GLA Glamis 115.37 28 P **PKPdf 02 00 25.2 +0.8**
baz=330
P50A Jamestown 115.40 359 P **PKiKP 02 00 23.7 -0.6**
baz=1.1
P45A Graceland, Par 115.44 2 *e*PKPdf **PKPdf 02 00 24.5 +0.2**
P45A Graceland, Par 115.44 2 P **PKiKP 02 00 24.2 -0.1**
baz=357
P53A Whipple 115.44 357 P **PKiKP 02 00 24.1 -0.3**
baz=3.6
P49A Miami Univ. Ec 115.48 360 P **PKiKP 02 00 23.7 -0.7**
baz=0.2
P47A Martinsville 115.52 1 P **PKiKP 02 00 24.1 -0.4**
baz=359
P48A Milroy 115.55 0 P **PKiKP 02 00 23.7 -0.9**
baz=360
Q41A Truxton 115.79 5 P **PKiKP 02 00 24.4 -0.6**
baz=354
Q55A Buckhannon 115.86 356 P **PKiKP 02 00 24.7 -0.5**
baz=4.9
Q42A Golden Eagle 115.89 5 P **PKiKP 02 00 25.1 -0.1**
baz=354
Q43A New Douglas 115.92 4 P **PKiKP 02 00 24.7 -0.6**
baz=355
Q51A Peebles 115.97 359 *e*PKPdf **PKiKP 02 00 25.1 -0.3**
Q51A Peebles 115.97 359 P **PKiKP 02 00 24.9 -0.5**
baz=1.6
Q44A Meyer Farm, Va 116.00 3 *e*PKPdf **PKiKP 02 00 24.8 -0.6**
Q44A Meyer Farm, Va 116.00 3 P **PKiKP 02 00 24.9 -0.5**
baz=356
Q52A Bidwell 116.00 358 P **PKiKP 02 00 25.0 -0.5**
baz=2.7
Q45A Warren Harvey, 116.05 3 P **PKiKP 02 00 25.4 -0.1**
baz=357
Q47A Bedord North L 116.06 1 P **PKPdf 02 00 25.6 0.0**
baz=358
Q48A North Vernon 116.08 1 P **PKiKP 02 00 25.4 -0.2**
baz=359
OLIL Olney 116.21 3 *e*PKPdf **PKPdf 02 00 25.9 +0.1**
R41A Rosebud 116.43 6 P **PKPdf 02 00 25.9 -0.3**
baz=354
R42A Luebbering 116.50 5 P **PKPdf 02 00 25.9 -0.5**
baz=354
R43A Red Bud 116.57 4 P **PKPdf 02 00 26.2 -0.3**
baz=355
R52A Catlettsburg 116.64 358 P **PKPdf 02 00 26.4 -0.3**
baz=2.3
R45A Skylar, Fairfi 116.65 3 P **PKPdf 02 00 26.4 -0.3**
baz=357
CCM Cathedral Cave 116.69 6 *e*PKPdf **PKPdf 02 00 26.5 -0.3**
CCM Cathedral Cave 116.69 6 *e*PKIKP **PKPdf 02 00 26.5 -0.3**
CCM Cathedral Cave 116.69 6 P **PKPdf 02 00 26.5 -0.3**
baz=354
R58B Mineral 116.70 354 *e*PKPdf **PKiKP 02 00 27.2 +0.4**
R47A Wooly Knot Far 116.70 1 P **PKPdf 02 00 26.5 -0.3**
baz=358
ANMO Albuquerque 116.70 20 *e*PKPdf **PKiKP 02 00 27.4 +0.3**
ANMO Albuquerque 116.70 20 P **PKiKP 02 00 27.3 +0.1**
baz=338
R49A Shelbyville 116.72 0 P **PKiKP 02 00 27.1 +0.3**
baz=360
R50A Paris 116.73 359 P **PKiKP 02 00 27.2 +0.3**
baz=0.6
WCI Wyandotte Cave 116.77 1 *e*PKPdf **PKPdf 02 00 26.7 -0.2**
WCI Wyandotte Cave 116.77 1 *e*PKIKP **PKPdf 02 00 26.7 -0.2**
WCI Wyandotte Cave 116.77 1 P **PKPdf 02 00 26.7 -0.2**
baz=359
LAZ Ladron 116.99 20 *e*PKPdf **PKiKP 02 00 28.1 +0.3**
S42A Caledonia 117.01 5 P **PKPdf 02 00 26.4 -1.0**
baz=354
S41A Jillco Farms, 117.10 6 P **PKPdf 02 00 26.9 -0.7**
baz=353
SIUC Southern Illin 117.17 4 *e*PKPdf **PKiKP 02 00 27.9 +0.2**
S44A Carbondale 117.19 4 P **PKiKP 02 00 28.6 +0.8**
baz=356
S49A Springfield 117.23 0 P **PKPdf 02 00 27.1 -0.7**
baz=360
S43A Fulton Ridge, 117.26 5 P **PKPdf 02 00 27.7 -0.2**
baz=355
LENM Lemitar 117.26 20 *e*PKPdf **PKPdf 02 00 28.1 -0.1**
S50A Richmond 117.33 359 P **PKPdf 02 00 27.6 -0.4**
baz=0.6
S48A Wiedeman Farm, 117.35 1 P **PKPdf 02 00 27.8 -0.2**
baz=359
S51A Beattyville 117.36 359 *e*PKPdf **PKPdf 02 00 27.4 -0.7**
S51A Beattyville 117.36 359 P **PKPdf 02 00 27.8 -0.3**
baz=1.4

BNM	Barren Site	117.39	20	*e*PKPdf	PKiKP	02 00 28.8	+0.2
S47A	Hartford	117.39	2	P	PKPdf	02 00 27.7	-0.5
	baz=358						
TUC	Tucson	117.63	25	*e*PKPdf	PKiKP	02 00 29.4	+0.5
TUC	Tucson	117.63	25	*e*PKIKP	PKiKP	02 00 29.4	+0.5
TUC	Tucson	117.63	25	P	PKiKP	02 00 29.4	+0.5
	baz=334						
T41A	Mountain View	117.64	6	P	PKiKP	02 00 28.9	+0.2
	baz=353						
BLA	Blacksburg	117.65	356	P	PKPdf	02 00 28.7	0.0
	baz=4.6						
T42A	Van Buren	117.72	6	*e*PKPdf	PKPdf	02 00 28.1	-0.7
T42A	Van Buren	117.72	6	P	PKPdf	02 00 27.9	-0.8
	baz=354						
T43A	Greenville	117.73	5	P	PKPdf	02 00 28.0	-0.8
	baz=355						
VNA2	Neumayer--Watz	117.75	201	P	PKiKP	02 00 28.6	+0.9
T44A	Benton	117.78	4	P	PKiKP	02 00 29.0	+0.1
	baz=355						
T48A	Bowling Green	117.89	1	P	PKPdf	02 00 28.7	-0.4
	baz=358						
T49A	Edmonton	117.90	0	*e*PKPdf	PKPdf	02 00 28.3	-0.9
T49A	Edmonton	117.90	0	P	PKPdf	02 00 28.9	-0.3
	baz=359						
T46A	Princeton	117.91	3	P	PKiKP	02 00 29.8	+0.7
	baz=357						
T50A	Nancy	117.99	360	P	PKPdf	02 00 28.9	-0.5
	baz=0.1						
T51A	Gray	118.04	359	P	PKPdf	02 00 29.0	-0.4
	baz=1.0						
VNA1	Neumayer--Stat	118.05	202	P	PKiKP	02 00 30.4	+2.1
AMTX	Amarillo	118.07	16	*e*PKPdf	PKiKP	02 00 30.8	+1.2
HHAR	Hobbs	118.15	8	*e*PKPdf	PKPdf	02 00 28.3	-1.3
PARMO	Parma	118.18	4	*e*PKPdf	PKiKP	02 00 30.4	+0.7
U40A	Yellville	118.21	7	P	PKPdf	02 00 28.9	-0.9
	baz=352						
TUL1	Leonard	118.25	10	*e*PKPdf	PKPdf	02 00 29.4	-0.4
TUL1	Leonard	118.25	10	P	PKPdf	02 00 29.2	-0.6
	baz=349						
U41A	Viola	118.32	6	P	PKPdf	02 00 29.1	-0.8
	baz=353						
U42A	Revenden	118.38	6	P	PKPdf	02 00 28.9	-1.1
	baz=354						
U43A	Rector	118.43	5	P	PKPdf	02 00 29.8	-0.3
	baz=354						
TZTN	Tazewell	118.45	359	*e*PKPdf	PKiKP	02 00 30.3	+0.1
TZTN	Tazewell	118.45	359	P	PKiKP	02 00 30.3	+0.1
	baz=1.4						
VNA3	Neumayer Olymp	118.47	201	P	PKPdf	02 00 29.0	0.0
U48A	Cassie Pea, Po	118.48	1	P	PKPdf	02 00 29.8	-0.5
	baz=358						
U49A	Red Boiling Sp	118.49	1	P	PKPdf	02 00 29.5	-0.8
	baz=359						
121A	Cookes Peak, D	118.50	22	P	PKiKP	02 00 30.8	+0.1
	baz=337						
U47A	Clarksville	118.53	2	P	PKPdf	02 00 30.1	-0.2
	baz=358						
U46A	Springville	118.58	3	P	PKPdf	02 00 30.0	-0.5
	baz=357						
U50A	Jamestown	118.59	360	P	PKPdf	02 00 29.9	-0.6
	baz=0.1						
MSTX	Muleshoe	118.66	17	*e*PKPdf	PKPdf	02 00 30.3	-0.6
MSTX	Muleshoe	118.66	17	P	PKPdf	02 00 30.2	-0.6
	baz=342						
WVT	Waverly	118.82	3	*e*PKPdf	PKPdf	02 00 30.4	-0.6
WVT	Waverly	118.82	3	P	PKPdf	02 00 30.2	-0.8
	baz=357						
V41A	Mountainview	118.85	7	P	PKPdf	02 00 30.4	-0.7
	baz=353						
WMOK	Wichita Mounta	118.85	13	*e*PKPdf	PKPdf	02 00 30.3	-0.8
WMOK	Wichita Mounta	118.85	13	*e*PKIKP	PKPdf	02 00 30.3	-0.8
WMOK	Wichita Mounta	118.85	13	P	PKPdf	02 00 30.5	-0.6
	baz=346						
V42A	Cord	118.90	6	P	PKPdf	02 00 30.2	-0.8
	baz=353						
319A	Douglas	119.02	24	*e*PKPdf	PKiKP	02 00 32.1	+0.4
V47A	Nunnelly	119.13	2	P	PKPdf	02 00 31.5	-0.1
	baz=357						
V46A	Holladay	119.14	3	P	PKPdf	02 00 31.0	-0.6
	baz=357						
V52A	Sevierville	119.15	359	*e*PKPdf	PKPdf	02 00 31.2	-0.4
V52A	Sevierville	119.15	359	P	PKPdf	02 00 31.2	-0.4
	baz=1.4						
V51A	Loudon	119.20	359	*e*PKPdf	PKPdf	02 00 31.7	0.0
V51A	Loudon	119.20	359	P	PKPdf	02 00 31.1	-0.5
	baz=0.6						
V49A	McMinnville	119.24	1	P	PKPdf	02 00 31.7	-0.1
	baz=359						
W39A	Magazine	119.24	8	*e*PKPdf	PKPdf	02 00 31.1	-0.7
W39A	Magazine	119.24	8	P	PKPdf	02 00 31.3	-0.5
	baz=351						
V48A	Smith Brothers	119.24	2	*e*PKPdf	PKPdf	02 00 30.8	-1.0
V48A	Smith Brothers	119.24	2	P	PKPdf	02 00 30.9	-0.8
	baz=358						
V53A	Saluda	119.30	358	*e*PKPdf	PKPdf	02 00 31.6	-0.3
V53A	Saluda	119.30	358	P	PKPdf	02 00 31.5	-0.5
	baz=2.2						
WHAR	Wooly Hollow	119.32	7	*e*PKPdf	PKPdf	02 00 31.4	-0.6
V50A	Pikevile	119.34	0	P	PKPdf	02 00 31.3	-0.7
	baz=360						
TKL	Tuckaleechee C	119.34	359	*e*PKPdf	PKPdf	02 00 31.6	-0.3
TKL	Tuckaleechee C	119.34	359	*e*PKIKP	PKPdf	02 00 31.7	-0.3
W41B	Gary Mavity, V	119.44	7	*e*PKPdf	PKPdf	02 00 31.8	-0.4
W41B	Gary Mavity, V	119.44	7	P	PKPdf	02 00 31.8	-0.4
	baz=352						
CPCT	Cooper Cave	119.56	360	*e*PKPdf	PKiKP	02 00 32.6	+0.2
W47A	Westpoint	119.71	2	P	PKPdf	02 00 31.8	-0.9
	baz=357						
W45A	Hickory Valley	119.72	4	P	PKPdf	02 00 32.6	0.0
	baz=356						
KMSC	Kings Mountain	119.77	357	*e*PKPdf	PKPdf	02 00 32.3	-0.5
KMSC	Kings Mountain	119.77	357	P	PKPdf	02 00 32.2	-0.5
	baz=3.8						
SWET	Sewanee	119.78	1	*e*PKPdf	PKPdf	02 00 32.2	-0.6
W46A	Michie	119.79	3	P	PKPdf	02 00 32.2	-0.6
	baz=356						
W50A	Signal Mountai	119.81	0	*e*PKPdf	PKPdf	02 00 32.8	-0.2
W50A	Signal Mountai	119.81	0	P	PKPdf	02 00 32.5	-0.5
	baz=360						
W53A	Cullowhee	119.81	358	P	PKPdf	02 00 32.8	-0.3
	baz=1.9						
UALR	University of	119.83	7	*e*PKPdf	PKiKP	02 00 33.0	0.0
W48A	Pulaski	119.84	2	P	PKPdf	02 00 32.0	-0.9
	baz=358						
W51A	Cleveland	119.85	360	P	PKPdf	02 00 32.9	-0.1
	baz=0.2						
W49A	Belvidere	119.88	1	P	PKPdf	02 00 32.2	-0.8
	baz=359						
PPT2	Papeete2	119.88	96	*e*PP	PP	02 01 50.7	-7.9
	comp=Z,134nm,25.0s						
PPT2	Papeete2	119.88	96	*e*PS	PS	02 11 48.8	-0.6
	comp=Z,400nm,23.2s						
PPT2				*e*SS	SS	02 18 14.0	-3.8
	comp=Z,764nm,27.2s						
PPT2	Papeete2	119.88	96	*e*LR	LR	02 37 28.3	
	comp=Z,2µm,29.5s						
GDL2	Guadalupe Moun	119.89	19	*e*PKPdf	PKPdf	02 00 33.0	-0.2
W52A	Murphy	119.91	359	*e*PKPdf	PKPdf	02 00 32.8	-0.3
W52A	Murphy	119.91	359	P	PKPdf	02 00 32.6	-0.5
	baz=1.1						
MIAR	Mount Ida	119.91	8	*e*PKPdf	PKPdf	02 00 33.0	-0.1
MIAR	Mount Ida	119.91	8	*e*PKIKP	PKPdf	02 00 33.0	-0.1
MIAR	Mount Ida	119.91	8	P	PKPdf	02 00 32.9	-0.1
	baz=351						
PLAL	Pickwick Lake	119.95	3	*e*PKPdf	PKPdf	02 00 32.5	-0.7
BG3	Lake Jocassee	119.98	358	*e*PKPdf	PKiKP	02 00 33.4	+0.1
MNTX	Cornudas Mount	120.05	20	*e*PKPdf	PKPdf	02 00 33.0	-0.4
MNTX	Cornudas Mount	120.05	20	P	PKiKP	02 00 33.5	0.0
	baz=339						
X40A	Basin Creek Fa	120.06	7	*e*PKPdf	PKiKP	02 00 33.6	+0.2
X40A	Basin Creek Fa	120.06	7	P	PKiKP	02 00 33.8	+0.3
	baz=352						
X41A	Kaden, Bauxite	120.08	7	P	PKiKP	02 00 33.9	+0.4
	baz=352						
PAULI	Pauline	120.11	357	*e*PKPdf	PKiKP	02 00 33.5	0.0
X44A	Crenshaw	120.31	5	P	PKiKP	02 00 34.4	+0.5
	baz=355						
OXF	Oxford	120.35	4	*e*PKPdf	PKPdf	02 00 33.2	-0.7
OXF	Oxford	120.35	4	*e*PKIKP	PKPdf	02 00 33.2	-0.7
OXF	Oxford	120.35	4	P	PKPdf	02 00 33.8	-0.1
	baz=355						
X46A	Booneville	120.35	3	P	PKiKP	02 00 34.3	+0.2
	baz=356						
X52A	Dahlonega	120.39	359	P	PKPdf	02 00 34.0	-0.1
	baz=1.1						
X47A	Russelville	120.43	3	P	PKPdf	02 00 33.8	-0.3
	baz=357						
X51A	Calhoun	120.44	360	*e*PKPdf	PKPdf	02 00 34.0	-0.1
X51A	Calhoun	120.44	360	P	PKiKP	02 00 34.3	+0.1
	baz=0.1						
X49A	Woodville	120.48	1	P	PKPdf	02 00 33.5	-0.7
	baz=359						
X53A	Estanollee	120.48	358	P	PKPdf	02 00 33.9	-0.3
	baz=1.7						
X48A	Hartselle	120.52	2	*e*PKPdf	PKPdf	02 00 33.4	-0.9
X48A	Hartselle	120.52	2	P	PKPdf	02 00 33.1	-1.1
	baz=358						
JSC	Jenkinsville	120.62	356	*e*PKPdf	PKiKP	02 00 34.7	+0.2
JSC	Jenkinsville	120.62	356	*e*PKIKP	PKiKP	02 00 34.7	+0.2
Y41A	Eaglette Beard	120.68	7	P	PKPdf	02 00 34.5	-0.1
	baz=352						
ABTX	Abilene, Hawle	120.71	14	*e*PKPdf	PKPdf	02 00 34.2	-0.5
ABTX	Abilene, Hawle	120.71	14	P	PKPdf	02 00 34.1	-0.6
	baz=345						
HODGE	Hodges	120.72	357	*e*PKPdf	PKPdf	02 00 34.5	-0.2
CCAR	Cane Creek	120.74	7	*e*PKPdf	PKiKP	02 00 36.1	+1.3
Y42A	Garnett, Star	120.81	7	P	PKiKP	02 00 35.6	+0.7
	baz=353						
Y43A	Makayla and Ka	120.82	6	P	PKPdf	02 00 34.4	-0.4
	baz=354						
Y44A	Strider, Charl	120.83	5	P	PKiKP	02 00 35.2	+0.3
	baz=354						
Y45A	Yeager Farm, C	120.98	4	P	PKPdf	02 00 34.7	-0.4
	baz=355						
Y46A	Houston	121.01	4	P	PKPdf	02 00 34.4	-0.8
	baz=356						
Y47A	UCPARC, Winfie	121.04	3	P	PKPdf	02 00 34.4	-0.9
	baz=357						
Y48A	Jasper	121.06	2	P	PKPdf	02 00 34.3	-1.0
	baz=358						
Y51A	Rockmart	121.11	0	P	PKPdf	02 00 35.1	-0.4
	baz=360						
Y50A	Piedmont	121.11	1	P	PKiKP	02 00 35.9	+0.3
	baz=359						
Y49A	Blount Mountai	121.13	1	*e*PKPdf	PKPdf	02 00 34.9	-0.6
Y49A	Blount Mountai	121.13	1	P	PKPdf	02 00 34.7	-0.8
	baz=358						
Y52A	Lilburn	121.13	359	*e*PKPdf	PKPdf	02 00 35.2	-0.3
Y52A	Lilburn	121.13	359	P	PKPdf	02 00 35.5	+0.1
	baz=0.9						
Y53A	Monroe	121.13	359	P	PKiKP	02 00 35.5	-0.1
	baz=1.4						
Z41A	Richland Creek	121.27	8	*e*PKPdf	PKiKP	02 00 36.0	+0.1
Z41A	Richland Creek	121.27	8	P	PKiKP	02 00 35.9	+0.1
	baz=352						
GOGA	Godfrey	121.57	359	*e*PKPdf	PKPdf	02 00 36.3	0.0
GOGA	Godfrey	121.57	359	*e*PKIKP	PKPdf	02 00 36.3	0.0
GOGA	Godfrey	121.57	359	P	PKPdf	02 00 36.4	0.0
	baz=1.6						
Z48A	Northport	121.58	3	P	PKPdf	02 00 35.5	-0.8
	baz=357						
Z51A	Franklin	121.69	0	P	PKiKP	02 00 36.7	0.0
	baz=360						
Z46A	Louisville	121.69	4	P	PKiKP	02 00 37.0	+0.3
	baz=356						
Z53A	Monticello	121.71	359	P	PKiKP	02 00 36.7	0.0
	baz=1.5						
Z55A	Blythe	121.72	357	P	PKiKP	02 00 36.8	+0.1
	baz=3.0						
Z47A	Carrollton	121.73	3	P	PKPdf	02 00 36.5	-0.1
	baz=357						
Z54A	Sparta	121.73	358	P	PKiKP	02 00 36.9	+0.2
	baz=2.2						
TBI	Tubuai	121.74	103	*e*PS	PS	02 12 03.7	-2.0
	comp=Z,484nm,27.5s						
TBI	Tubuai	121.74	103	*e*LR	LR	02 38 24.5	
	comp=Z,1µm,37.5s						
WHTX	Lake Whitney,	121.78	12	*e*PKPdf	PKPdf	02 00 36.4	-0.4
WHTX	Lake Whitney,	121.78	12	P	PKPdf	02 00 36.7	0.0
	baz=347						
Z49A	Columbiana	121.79	2	P	PKPdf	02 00 36.4	-0.3
	baz=358						
Z52A	Williamson	121.81	359	P	PKiKP	02 00 37.0	0.0
	baz=0.6						
LRAL	Lakeview Retre	121.94	2	*e*PKPdf	PKPdf	02 00 36.3	-0.7
LRAL	Lakeview Retre	121.94	2	P	PKiKP	02 00 37.4	+0.3
	baz=358						
144A	Alexander Plac	122.14	5	P	PKiKP	02 00 38.3	+0.7
	baz=354						
145A	Houston Renfro	122.20	5	P	PKiKP	02 00 38.7	+1.0
	baz=355						
146A	Union	122.23	4	*e*PKPdf	PKiKP	02 00 37.9	+0.1
146A	Union	122.23	4	P	PKiKP	02 00 38.0	+0.2
	baz=356						
147A	Livingston	122.24	3	*e*PKPdf	PKPdf	02 00 37.4	-0.2
147A	Livingston	122.24	3	P	PKiKP	02 00 37.8	0.0
	baz=356						
148A	Greensboro	122.30	3	P	PKiKP	02 00 37.9	+0.1
	baz=357						
152A	Waverly Hall	122.33	360	*e*PKPdf	PKPdf	02 00 37.8	0.0
152A	Waverly Hall	122.33	360	P	PKiKP	02 00 38.1	+0.1
	baz=0.2						
154A	Montrose	122.36	358	*e*PKPdf	PKiKP	02 00 38.5	+0.5
149A	Jones	122.38	2	P	PKiKP	02 00 38.1	+0.1
	baz=358						
150A	Eclectic	122.39	1	P	PKPdf	02 00 37.6	-0.3
	baz=359						
151A	Opelika	122.47	0	P	PKiKP	02 00 38.3	+0.1
	baz=360						
NATX	Nacogdoches	122.49	10	*e*PKPdf	PKiKP	02 00 38.5	+0.2
NATX	Nacogdoches	122.49	10	P	PKiKP	02 00 38.9	+0.6
	baz=350						
VBMS	Vicksburg	122.54	6	P	PKiKP	02 00 39.0	+0.6
	baz=354						
244A	Avery, Jackson	122.70	6	P	PKiKP	02 00 38.8	+0.1
	baz=354						
JCT	Junction City	122.73	15	*e*PKPdf	PKPdf	02 00 38.6	-0.1
JCT	Junction City	122.73	15	P	PKPdf	02 00 38.2	-0.4
	baz=344						
LTX	Lajitas	122.77	19	*e*PKPdf	PKPdf	02 00 38.4	-0.5
LTX	Lajitas	122.77	19	*e*PKIKP	PKPdf	02 00 38.4	-0.5
TX31	Lajitas Ar. Si	122.77	19	*e*PKPdf	PKPdf	02 00 38.1	-0.7
TX31				*e*PKPdf	PKiKP	02 00 38.7	-0.4
TXAR	Lajitas Array	122.77	19	PKP	PKPdf	02 00 38.4	-0.5
	comp=Z,12nm,0.6s,baz=174,slow=0.6,SNR=90						
TXAR				PKKPbc	PKKPbc	02 10 31.6	-0.5
	comp=Z,0.5nm,0.7s,baz=177,slow=7.1,SNR=6.7						
245A	Little AP, Sta	122.78	5	P	PKiKP	02 00 39.0	+0.2
	baz=355						
247A	Quitman	122.84	4	P	PKiKP	02 00 39.0	0.0
	baz=356						
248A	Dixon Mills	122.84	3	P	PKiKP	02 00 39.6	+0.6
	baz=357						
251A	Midway	122.91	0	P	PKPdf	02 00 38.8	-0.1
	baz=360						
435B	Jarrell	122.92	13	*e*PKPdf	PKPdf	02 00 39.0	0.0
435B	Jarrell	122.92	13	P	PKPdf	02 00 39.0	0.0
	baz=346						
253A	Americus	122.93	359	P	PKiKP	02 00 39.1	-0.1
	baz=0.9						
249A	Camden	122.99	2	P	PKiKP	02 00 39.6	+0.3
	baz=358						
252A	Lumpkin	123.00	360	P	PKiKP	02 00 39.8	+0.5
	baz=0.2						
250A	Grady	123.01	1	*e*PKPdf	PKiKP	02 00 39.9	+0.5
254A	Abbeville	123.03	358	P	PKiKP	02 00 39.3	0.0
	baz=1.8						
346A	Big Creek Wild	123.45	5	*e*PKPdf	PKiKP	02 00 41.2	+1.0
346A	Big Creek Wild	123.45	5	P	PKiKP	02 00 40.8	+0.6
	baz=355						
352A	Blakely	123.52	360	*e*PKPdf	PKiKP	02 00 40.8	+0.4
352A	Blakely	123.52	360	P	PKiKP	02 00 41.0	+0.7
350A	Dozier	123.56	1	P	PKiKP	02 00 41.0	+0.6
	baz=358						
356A	Blackshear	123.61	357	P	PKiKP	02 00 40.9	+0.4
	baz=3.0						
349A	Repton	123.61	2	P	PKiKP	02 00 41.4	+0.8
	baz=358						
353A	Camilla	123.64	359	P	PKiKP	02 00 41.1	+0.5
	baz=0.8						
351A	Pinckard	123.72	1	P	PKiKP	02 00 40.7	-0.1
	baz=359						
BRAL	Brewton	123.79	2	*e*PKPdf	PKiKP	02 00 41.5	+0.6
453A	Whigham	124.14	359	*e*PKPdf	PKiKP	02 00 42.8	+1.2
HPIG		124.35	22	*e*PKPdf	PKPdf	02 00 42.0	-0.1
555A	McAlpin	124.84	358	*e*PKPdf	PKiKP	02 00 44.2	+1.3
555A	McAlpin	124.84	358	P	PKiKP	02 00 43.9	+1.0
	baz=2.2						
833A	Chaparral WMA,	124.89	16	*e*PKPdf	PKiKP	02 00 43.0	-0.1
833A	Chaparral WMA,	124.89	16	P	PKiKP	02 00 43.0	-0.1
	baz=344						
TAOE	Nuku Hiva Isla	125.17	83	*e*LR	LR	02 40 01.9	
	comp=Z,981nm,26.1s						
857A	Zephyrhills	126.65	357	P	PKiKP	02 00 47.0	+0.4
	baz=3.1						
DWPF	Disney Wildern	126.77	356	*e*P	PKiKP	02 00 48.6	+1.8
LNIG	Linares	128.15	17	*e*PKPdf	PKPdf	02 00 48.5	-0.6
RCBR	Riachuelo	129.24	284	*e*PKPdf	PKiKP	02 00 53.5	+1.3
RCBR	Riachuelo	129.24	284	*e*PKIKP	PKiKP	02 00 53.5	+1.3
ZAIG	Zacatecas	129.25	21	*e*PKPdf	PKiKP	02 00 52.8	+0.4
JRQG	Juriquilla Cam	131.85	20	*e*PKPdf	PKiKP	02 00 58.1	+0.5
MOIG	Morelia	132.58	21	*e*PKPdf	PKiKP	02 00 59.3	+0.2
MTP	Monte Pirata	132.88	334	*e*PKPdf	PKiKP	02 00 59.6	+0.2
HUMP	Col San Antoni	132.95	335	*e*PKPdf	PKiKP	02 00 59.8	+0.3
SJG	San Juan	133.09	335	PKP	PKPdf	02 00 58.5	-0.1
	comp=Z,11nm,0.4s,baz=353,slow=10,SNR=8.2						
SJG				SKPbc	SKPbc	02 04 18.5	+0.3
	comp=Z,9.5nm,0.6s,baz=249,slow=19,SNR=1.2						
OBIP	Obispado Ponce	133.33	336	*e*PKPdf	PKiKP	02 00 59.9	-0.4
RKT	Rikitea	134.57	98	*e*SS	SS	02 21 18.2	-2.1
	comp=Z,553nm,31.8s						
RKT	Rikitea	134.57	98	*e*LR	LR	02 44 17.2	
	comp=Z,662nm,34.0s						
TLIG	Tlapa	135.37	19	*e*PKPdf	PKiKP	02 01 04.2	-0.4
MDP	Montagnes des	136.39	309	PKP	PKPdf	02 01 04.2	-0.7
	comp=Z,13nm,0.6s						
MDP				SKPbc	SKPbc	02 04 27.8	-1.2
	baz=0.0,slow=9.5						
CMIG	Matias Romero	136.76	14	PKP	PKPdf	02 01 04.9	-0.6
	comp=Z,17nm,0.7s,baz=359,slow=3.2,SNR=20						
CMIG				SKPbc	SKPbc	02 04 29.0	-1.0
	comp=Z,5.7nm,1.0s,baz=46,slow=2.9,SNR=3.3						
CCIG	Comitan	138.07	10	*e*PKPdf	PKPdf	02 01 08.9	+0.8
BSFB	Barra de Sao F	138.73	270	*e*P	PKiKP	02 01 10.4	-0.8
SJMB	Sao Joao De Ma	139.00	270	*e*P	PKiKP	02 01 10.9	-0.9
ALF01	Guarapari-ES	139.11	267	*e*P	PKiKP	02 01 11.0	-0.9
PCRV	Puerto La Cruz	139.52	328	PKhKP	PKPpre	02 01 01.8	
	comp=Z,17nm,0.9s,baz=39,slow=3.5,SNR=4.3						
PCRV				PKP	PKPdf	02 01 10.7	0.0
	comp=Z,9.2nm,0.4s,baz=1.7,slow=3.4,SNR=8.5						
PCRV				SKP		02 04 37.6	
	comp=Z,14nm,0.8s,baz=336,slow=14,SNR=3.6						
APG	El Apazote	139.56	8	PKhKP	PKPpre	02 01 02.8	
	comp=Z,5.9nm,0.8s,baz=329,slow=17,SNR=9.9						
APG				SKP		02 04 37.4	
	comp=Z,3.7nm,0.8s,baz=344,slow=19,SNR=1.9						
APG				SKPab	SKPab	02 04 48.3	-0.5
	comp=Z,8.7nm,1.0s,baz=5.2,slow=11,SNR=2.8						
CAM01	Campos-RJ	140.25	266	*e*P	PKiKP	02 01 13.3	-0.9
JANB	Januaria	140.61	277	*e*P	PKPdf	02 01 11.0	-1.6
MCI7	Montes Claros	140.77	274	*e*P	PKiKP	02 01 15.1	-0.5
MCI9	Montes Claros	140.81	274	*e*P	PKPdf	02 01 13.6	+0.7
MCI6	Montes Claros	140.85	274	*e*P	PKPdf	02 01 13.4	+0.4
DUB01	Friburgo-RJ	140.96	266	*e*P	PKPdf	02 01 13.6	+0.5
VAS01	Vassouras-RJ	141.97	266	*e*P	PKPdf	02 01 15.2	+0.4
BSCB	Bom Sucesso	142.87	268	*e*P	PKPdf	02 01 17.2	+0.7
SDV	Santo Domingo	143.24	336	PKhKP	PKPpre	02 01 14.5	
	comp=Z,246nm,0.6s,baz=78,slow=3.2,SNR=170						
SDV				SKPbc	SKPbc	02 04 47.0	-0.7
	comp=Z,27nm,0.7s,baz=97,slow=3.3,SNR=4.4						
SDV	Santo Domingo	143.24	336	*e*P	PKPab	02 01 13.7	+0.3
SDV	Santo Domingo	143.24	336	*e*P	PKPab	02 01 13.7	+0.3
JTS	JuntasAbangare	144.60	360	PKP	PKPab	02 01 17.4	-1.0
	comp=Z,14nm,0.4s,baz=132,slow=4.7,SNR=18						
JTS	JuntasAbangare	144.60	360	*e*PKPdf	PKPab	02 01 16.9	-1.5
JTS	JuntasAbangare	144.60	360	*e*PKIKP	PKPab	02 01 16.9	-1.5
OCAC	Ocana	144.76	340	*e*P	PKPab	02 01 19.1	-0.1
OCAC	Ocana	144.76	340	*e*P	PKPab	02 01 19.1	-0.1
HDC	Heredia	144.88	358	*e*PKPbc	PKPab	02 01 19.1	-0.4
IPMB	Ipameri, GO	145.13	275	*e*P	PKPbc	02 01 19.7	-0.5
BCIP	Isla Barro Col	145.35	351	*e*PKPdf	PKPbc	02 01 19.9	-1.0
CAPC	Capurgana	145.44	347	*e*P	PKPab	02 01 22.4	+1.0
CAPC	Capurgana	145.44	347	*e*P	PKPab	02 01 22.4	+1.0
PTGA	Pitinga	145.63	311	PKPbc	PKPbc	02 01 22.0	+0.1
	comp=Z,149nm,0.6s,baz=23,slow=5.4,SNR=176						
PTGA				SKP		02 04 47.5	
	comp=Z,3.0nm,0.5s,baz=313,slow=22,SNR=1.4						
PTGA				SKPbc	SKPbc	02 04 53.0	0.0
	comp=Z,9.0nm,0.6s,baz=314,slow=23,SNR=3.4						
PTGA	Pitinga	145.63	311	*e*P	PKPdf	02 01 21.5	0.0
RCLB	Rio Claro- Sao	145.69	267	*e*P	PKPdf	02 01 21.3	0.0
SPB	Sao Paulo	145.84	265	*e*PKPdf	PKPab	02 01 23.3	+0.5
UREC	San Jos de Ur	145.86	343	*e*P	PKPdf	02 01 19.8	-2.1
UREC	San Jos de Ur	145.86	343	*e*P	PKPdf	02 01 19.8	-2.1
ZARC	Zaragoza, Cauc	145.93	342	*e*P	PKPbc	02 01 22.4	-0.3
ZARC	Zaragoza, Cauc	145.93	342	*e*P	PKPbc	02 01 22.4	-0.3
BRRC	Barranca, Sant	145.95	340	*e*P	PKPdf	02 01 22.4	+0.4
BRRC	Barranca, Sant	145.95	340	*e*P	PKPdf	02 01 22.4	+0.4
BARC	Barichara	146.26	339	*e*P	PKPdf	02 01 23.1	+0.2
BARC	Barichara	146.26	339	*e*P	PKPdf	02 01 23.1	+0.2
BB19B	Bebedouro	146.28	270	*e*P	PKPbc	02 01 23.7	0.0
EFI	East Falkland	146.65	211	*e*PKPdf	PKPbc	02 01 24.2	+0.5
EFI	East Falkland	146.65	211	*e*PKP2	PKPbc	02 01 24.2	+0.5
PTBC	PUERTO BERRIO,	146.71	341	*e*P	PKPdf	02 01 22.4	-0.9
PTBC	PUERTO BERRIO,	146.71	341	*e*P	PKPdf	02 01 22.4	-0.9
DBBC	Dabeiba	146.74	344	*e*P	PKPab	02 01 27.1	+0.6
DBBC	Dabeiba	146.74	344	*e*P	PKPab	02 01 27.1	+0.6
RUSC	La Rusia	146.88	338	*e*P	PKPdf	02 01 24.4	+0.2
RUSC	La Rusia	146.88	338	*e*P	PKPdf	02 01 24.4	+0.2
HELC	Santa Helena	147.35	342	*e*P	PKPdf	02 01 25.7	+0.9
HELC	Santa Helena	147.35	342	*e*P	PKPdf	02 01 25.7	+0.9
TIJ01	Guaruva-PR	147.53	262	*e*P	PKPbc	02 01 26.0	-1.2
ITRB	Iturama	147.58	273	*e*P	PKPbc	02 01 26.8	-0.6
FRTB	Fartura	147.71	266	*e*P	PKPbc	02 01 26.7	-1.0
TER01	Tubaro-SC	147.94	256	*e*P	PKPdf	02 01 26.1	+1.2
CTAB	Cerro Tablazo,	148.08	339	*e*P	PKiKP	02 01 31.7	+0.5
CTAB	Cerro Tablazo,	148.08	339	*e*P	PKiKP	02 01 31.7	+0.5
USHA	Ushuaia	148.09	198	SKP		02 04 48.5	
	comp=Z,4.1nm,0.8s,baz=240,slow=16,SNR=1.2						
USHA				SKPbc	SKPbc	02 04 55.5	-1.5
	comp=Z,4.0nm,0.6s,baz=32,slow=12,SNR=1.5						
ROSC	El Rosal	148.28	339	PKPbc	PKPbc	02 01 29.6	-0.2
	comp=Z,172nm,0.6s,baz=44,slow=1.8,SNR=32						
ROSC	El Rosal	148.28	339	*e*PKPdf	PKPdf	02 01 28.1	+1.7
ROSC	El Rosal	148.28	339	*e*P	PKPbc	02 01 30.4	+0.5
ROSC	El Rosal	148.28	339	*e*P	PKPbc	02 01 30.4	+0.5
CHIC	Chingaza	148.28	338	*e*P	PKPbc	02 01 30.4	+0.5
CHIC	Chingaza	148.28	338	*e*P	PKPbc	02 01 30.4	+0.5
RREF	El Recreo	148.53	341	*e*P	PKPbc	02 01 30.4	-0.4
RREF	El Recreo	148.53	341	*e*P	PKPbc	02 01 30.4	-0.4
VILC	Villavicencio,	148.75	338	*e*P	PKPbc	02 01 31.0	+0.3
VILC	Villavicencio,	148.75	338	*e*P	PKPbc	02 01 31.0	+0.3
PLMC	San Jos del P	148.78	343	*e*P	PKPdf	02 01 27.7	+0.9
PLMC	San Jos del P	148.78	343	*e*P	PKPdf	02 01 27.7	+0.9
TOLC	Tolima	148.82	341	*e*P	PKPbc	02 01 31.7	+0.5
TOLC	Tolima	148.82	341	*e*P	PKPbc	02 01 31.7	+0.5
ANIL	Santa Ana	148.94	341	*e*P	PKPdf	02 01 28.4	+1.0
ANIL	Santa Ana	148.94	341	*e*P	PKPdf	02 01 28.4	+1.0
CNLB	Canela	149.47	255	*e*P	PKPdf	02 01 28.6	+1.1
SJAC	San Juan de Ar	149.62	338	*e*P	PKiKP	02 01 34.4	+0.4
SJAC	San Juan de Ar	149.62	338	*e*P	PKiKP	02 01 34.4	+0.4
YOTC	Yotoco, Valle	149.68	343	*e*P	PKPdf	02 01 29.1	+0.7
YOTC	Yotoco, Valle	149.68	343	*e*P	PKPdf	02 01 29.1	+0.7
MALC	Bahia Malaga	149.91	345	*e*P	PKiKP	02 01 35.7	+1.3
MALC	Bahia Malaga	149.91	345	*e*P	PKiKP	02 01 35.7	+1.3
PTGB	Pitanga	150.20	264	*e*P	PKPdf	02 01 30.7	+1.9
GO10	Punta Arenas	150.29	197	*e*PKPbc	PKiKP	02 01 34.6	+0.7
TRCB	Terra Rica	150.38	268	*e*P	PKPdf	02 01 31.0	+1.9
SALV	Santo Antonio	151.08	283	*e*P	PKPdf	02 01 32.3	+2.1
POPC	Popayan, Colom	151.15	343	*e*P	PKPdf	02 01 32.4	+1.6
POPC	Popayan, Colom	151.15	343	*e*P	PKPdf	02 01 32.4	+1.6
CPSB	Cacapava Do Su	151.70	252	*e*P	PKPdf	02 01 33.2	+2.4
PLTB	Pedras Altas	151.75	250	*e*P	PKPdf	02 01 33.0	+2.1
FLOC	Florencia	151.77	340	*e*P	PKPdf	02 01 33.0	+1.6
FLOC	Florencia	151.77	340	*e*P	PKPdf	02 01 33.0	+1.6
GO09	Cerro Castillo	152.34	197	*e*PKPbc	PKiKP	02 01 39.5	+1.3
TUMC	Tumaco	152.34	346	*e*P	PKPdf	02 01 34.4	+2.1
TUMC	Tumaco	152.34	346	*e*P	PKPdf	02 01 34.4	+2.1
GCUF	Volcan Galeras	152.59	343	*e*P	PKPdf	02 01 33.0	-0.2
GCUF	Volcan Galeras	152.59	343	*e*P	PKPdf	02 01 33.0	-0.2
AQDB	Aquidauana	152.62	274	*e*P	PKPdf	02 01 35.0	+2.5
PTLC	Puerto Leguiza	152.81	337	*e*P	PKPdf	02 01 30.4	-2.6
PTLC	Puerto Leguiza	152.81	337	*e*P	PKPdf	02 01 30.4	-2.6
CMBC	Cumbal	152.99	344	*e*P	PKPdf	02 01 37.0	+3.2
CMBC	Cumbal	152.99	344	*e*P	PKPdf	02 01 37.0	+3.2
OTAV	Otavalo	153.81	345	*e*PKPdf	PKPdf	02 01 36.4	+1.4
OTAV	Otavalo	153.81	345	*e*P	PKPdf	02 01 35.8	+0.8
CPUP	Villa Florida	155.10	262	PKP	PKPdf	02 01 36.0	+0.2
	comp=Z,15nm,0.8s,baz=78,slow=2.4,SNR=28						
CPUP				PKPbc	PKPab	02 01 44.7	-16
	comp=Z,32nm,0.7s,baz=86,slow=2.1,SNR=34						
CPUP	Villa Florida	155.10	262	PKIKP	PKPdf	02 01 36.0	+0.2
CPUP				pmax	pmax		
	comp=Z,15nm,0.8s						
CPUP	Villa Florida	155.10	262	*e*P	PKPdf	02 01 37.3	+1.5

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIV	San Ignacio	155.80	288	PKP	PKPdf	02 01 37.3	+0.3
	comp=Z,11nm,1.0s,baz=136,slow=1.7,SNR=25						
SIV				PKPbc	PKPbc	02 01 47.7	
	comp=Z,9.8nm,0.8s,baz=109,slow=4.1,SNR=13						
SIV				PKPab	PKPab	02 02 04.3	+0.2
	comp=Z,21nm,0.7s,baz=85,slow=6.0,SNR=18						
TRQA	Tornquist	156.74	231	*e*PKPdf	PKPdf	02 01 39.5	+1.8
TRQA				*e*PKPdif	PKPbc	02 01 49.1	
TRQA	Tornquist	156.74	231	*e*PKIKP	PKPdf	02 01 39.5	+1.8
TRQA	Tornquist	156.74	231	*e*P	PKPdf	02 01 41.1	+3.4
PLCA	Paso Flores	160.48	215	PKP	PKPdf	02 01 42.0	-0.1
	comp=Z,22nm,1.1s,baz=170,slow=1.3,SNR=15						
PLCA				PKPab	PKPab	02 02 23.1	-0.5
	comp=Z,9.9nm,0.8s,baz=175,slow=3.2,SNR=7.4						
PLCA	Paso Flores	160.48	215	*e*PKPdf	PKPdf	02 01 42.9	+0.8
PLCA				*e*PKPab	PKPab	02 02 23.1	-0.5
SUCO	SUCO	160.75	241	*e*P	PKPdf	02 01 43.5	+0.9
ALOL	LOMAS DE OLMED	160.83	270	*e*P	PKPdf	02 01 44.3	+1.4
ATAH	Atahualpa	160.85	340	PKP	PKPdf	02 01 44.0	+0.3
	comp=Z,20nm,0.8s,baz=91,slow=1.4,SNR=22						
ATAH				PKPab	PKPab	02 02 26.9	+0.7
	comp=Z,63nm,0.8s,baz=356,slow=2.9,SNR=18						
TCA	Tanti	161.08	247	*e*P	PKPdf	02 01 43.7	+0.7
MRA	San Martin	161.71	243	*e*P	PKPdf	02 01 44.0	+0.3
GO06	Curarrehue	161.80	215	*e*PKPdf	PKPdf	02 01 44.5	+0.9
AZAP	Zapla	161.87	269	*e*P	PKPdf	02 01 44.8	+0.5
LPAZ	La Paz	161.87	296	*e*PKPdf	PKPdf	02 01 45.4	+0.4
LPAZ	La Paz	161.87	296	*e*PKIKP	PKPdf	02 01 45.4	+0.4
LPAZ	La Paz	161.87	296	*e*P	PKPdf	02 01 47.2	+2.3
YJA	Yavi	161.90	276	*e*P	PKPdf	02 01 45.6	+1.0
HJA	Humahuaca	162.02	273	*e*P	PKPdf	02 01 45.9	+1.2
SLA	San Lorenzo	162.33	268	*e*P	PKPdf	02 01 45.4	+0.7
CYA	Choya	162.60	255	*e*P	PKPdf	02 01 45.1	+0.4
FSA	Cafayete	162.85	263	*e*P	PKPdf	02 01 46.2	+1.0
ACAN	Cantantal	162.94	242	*e*P	PKPdf	02 01 45.9	+1.0
AAGR	Agrelo	163.92	238	*e*P	PKPdf	02 01 46.7	+0.9
PB16	IPOC Station P	164.04	293	*e*P	PKPdf	02 01 48.9	+1.9
ASAL	Salagasta	164.12	239	*e*P	PKPdf	02 01 45.9	-0.1
RTCV	Cerro Valdivia	164.16	242	*e*P	PKPdf	02 01 46.4	+0.4
GO01	Chusmiza	164.36	288	*e*PKPdf	PKPdf	02 01 47.6	+0.5
MNMC	Minye Minye	164.48	290	*e*PKPdf	PKPdf	02 01 47.8	+0.9
MNMCX	Minye Minye	164.48	290	*e*P	PKPdf	02 01 47.2	+0.3
PB08	IPOC Station P	164.51	286	*e*P	PKPdf	02 01 48.1	+1.0
NNA	Nana	164.66	328	PKP	PKPdf	02 01 47.6	+0.7
	comp=Z,10nm,0.7s,baz=278,slow=5.8,SNR=4.1						
NNA				PKPab	PKPab	02 02 44.1	+1.6
	comp=Z,9.1nm,0.6s,baz=248,slow=8.9,SNR=4.2						
AUSP	Uspallata	164.69	240	*e*P	PKPdf	02 01 47.8	+1.0
AGUA	GUANDACOL	164.77	251	*e*P	PKPdf	02 01 47.8	+1.1
RTLS	Leoncito	164.78	241	*e*P	PKPdf	02 01 48.1	+1.2
PB11	IPOC Station P	164.79	288	*e*PKPdf	PKPdf	02 01 47.1	0.0
PB11	IPOC Station P	164.79	288	*e*P	PKPdf	02 01 48.3	+1.3
PB12	IPOC Station P	164.85	293	*e*P	PKPdf	02 01 48.3	+1.3
LVC	Limon Verde	165.05	277	PKP	PKPdf	02 01 49.0	+1.6
	comp=Z,18nm,1.1s,baz=110,slow=3.3,SNR=21						
LVC				PKPab	PKPab	02 02 46.0	+1.2
	comp=Z,18nm,0.7s,baz=108,slow=3.0,SNR=9.9						
LVC	Limon Verde	165.05	277	*e*PKPdf	PKPdf	02 01 49.0	+1.6
LVC				*e*PKPdf	PKPdf	02 01 49.3	+1.9
LVC				*e*PKPab	PKPab	02 02 46.0	+1.2
LVC				*e*PKPab	PKPab	02 02 46.4	+1.7
LVC	Limon Verde	165.05	277	*e*P	PKPdf	02 01 48.1	+0.6
LVC	Limon Verde	165.05	277	*e*P	PKPdf	02 01 49.9	+2.4
PB01	IPOC Station P	165.12	283	*e*P	PKPdf	02 01 47.5	+0.3
PSGCX	Pisagua	165.13	290	*e*P	PKPdf	02 01 47.8	+0.5
PB09	IPOC Station P	165.14	280	*e*P	PKPdf	02 01 48.9	+1.6
PEL	Peldehue	165.29	235	*e*PKPdf	PKPdf	02 01 48.7	+1.7
PEL	Peldehue	165.29	235	*e*PKIKP	PKPdf	02 01 48.7	+1.7
PB03	IPOC Station P	165.66	280	*e*P	PKPdf	02 01 48.3	+0.6
PB15	IPOC Station P	165.69	275	*e*P	PKPdf	02 01 49.4	+1.6
GO02	Mina Guanaco	166.06	267	*e*PKPdf	PKPdf	02 01 50.4	+2.3
GO02				*e*PKPab	PKPab	02 02 50.4	+1.3
PB04	IPOC Station P	166.09	279	*e*PKPdf	PKPdf	02 01 49.1	+1.0
GO04	Tololo Observa	166.54	246	*e*PKPdf	PKPdf	02 01 50.4	+2.1
LCO	Las Campanas	166.76	251	*e*PKPdf	PKPdf	02 01 50.6	+2.1
LCO	Las Campanas	166.76	251	*e*P	PKPdf	02 01 50.2	+1.7
LCO	Las Campanas	166.76	251	*e*PKIKP	PKPdf	02 01 50.6	+2.1

*TIR **09** 01:47:31.0, 41°.22N×20°.13E, h10km, Md2.7/4*
SKO 09 01:47:52.9, 41°.27N×20°.08E, h9km, M1.0, ML1.6, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIR	Tirane	0.18	296	*e*Pg	Pg	01 47 56.4	-0.3
TIR	Tirane	0.18	296	*i* PG	Pg	01 47 53.7	-2.9
TIR				*i* SG	Sg	01 48 00.3	+1.1
PHP	Peshkopia	0.49	33	*i* PG	Pg	01 48 00.5	-2.0
PHP				*i* SG	Sg	01 48 09.3	+0.3
OHR	Ohrid	0.56	106	*e*Pg	Pg	01 48 04.2	+0.3
OHR				*e*Sg	Sg	01 48 11.9	+0.7
OHR				*e*Lg	Lg	01 48 12.4	
	comp=E,22nm,0.5s						
OHR				*e*Lg	Lg	01 48 12.8	
	comp=N,11nm,0.3s						
PUK	Puka	0.79	350	*i* PG	Pg	01 48 07.7	-0.3
PUK				*i* SG	Sb	01 48 20.2	+0.7
KRUS	Krusevo	0.89	83	*e*Pg	Pg	01 48 09.1	-0.8
KRUS				*e*Sg	Sg	01 48 20.9	-0.5
BIA	Bitola	0.97	105	*e*Pg	Pg	01 48 09.8	-1.7
BIA				*e*Sg	Sg	01 48 24.2	0.0
FNA	Florina	1.09	116	*e*Pg	Pg	01 48 12.2	-1.7
FNA				*e*Sg	Sg	01 48 27.5	-0.6
FNA	Florina	1.09	116	*i* PN	Pg	01 48 11.6	-2.3
FNA				*i* SN	Sb	01 48 28.6	+0.2

*BEO **09** 01:47:56.5±1.2, 39°.32N×25°.20E, h5km, ML2.7/3*
*ATH **09** 01:47:59.8, 39°.70N×25°.60E, h30km±1km, ML3.1/5, Error ellipse: s-maj=1.5km s-min=0.9km az=242.0*
*ISK **09** 01:47:59.1, 39°.67N×25°.56E, h5km, ML3.2/19*
*ISCJB **09** 01:47:60.0±0.4, 39°.70N±0°.02×25°.56E±0°.02, h10km±3km, Error ellipse: s-maj=2.8km s-min=2.6km az=139.7*
*DDA **09** 01:48:00.2, 39°.73N×25°.63E, h7km±3km, ML3.6*
*THE **09** 01:48:00.4, 39°.71N×25°.61E, h10km±1km, ML2.8/8, Error ellipse: s-maj=1.9km s-min=0.9km az=75.0*
ISC 09 01:47:59.8±1.0**, 39°.70N**±0°.02×**25°.58E**±0°.02**, h12**km±8km**, n73, σ0s.75**/104**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIA	Limnos Island	0.36	304	P	Pb	01 48 08.2	-0.1
LIA	Limnos Island	0.36	304	P	Pb	01 48 08.1	-0.2
LIA				S	Sg	01 48 13.4	+1.4
BOZC	Bozcaada	0.40	68	PG	Pg	01 48 07.9	+0.2
BOZC	Bozcaada	0.40	68	IAML_P			
	comp=Z,49μm,0.1s						
EFSA	Agios Efstrati	0.48	251	P	Pb	01 48 10.9	+0.7
EFSA				S	Sb	01 48 18.0	+0.7
EFSA				AML	AML	01 48 19.5	
	comp=N,3473μm,0.2s						
EFSA				AML	AML	01 48 21.4	
	comp=E,4106μm,0.4s						
GPNR	Gulpinar-Canak	0.49	119	PG	Pg	01 48 09.1	-0.4
SIGR	SIGRI	0.53	156	PG	Pg	01 48 09.7	-0.5
SIGR				SG	Sg	01 48 17.2	0.0
SIGR	SIGRI	0.53	156	P	Pg	01 48 10.2	0.0
SIGR				S	Sg	01 48 17.7	+0.5
SIGR				AML	AML	01 48 18.1	
	comp=N,10812μm,0.6s						
SIGR				AML	AML	01 48 18.4	
	comp=E,7126μm,0.4s						
SIGR	SIGRI	0.53	156	P	Pg	01 48 10.2	0.0
SIGR				S	Sg	01 48 17.7	+0.5
GADA	Gvkgeada	0.55	27	PG	Pg	01 48 10.7	+0.1
GADA				SG	Sb	01 48 19.3	-0.1
GADA	Gvkgeada	0.55	27	P	Pb	01 48 11.2	-0.3
GADA				S	Sg	01 48 17.5	-0.5
GOKC	Gokceada-Canak	0.57	27	PG	Pg	01 48 11.2	+0.3
GOKC				SG	Sb	01 48 19.9	+0.1
EZN	Ezine	0.59	77	PG	Pg	01 48 11.4	0.0
EZN				SG	Sg	01 48 19.3	+0.1
EZN	Ezine	0.59	77	P	Pg	01 48 11.3	-0.1
EZN				S	Sb	01 48 19.5	-1.0
PRK	Paraskevi	0.70	130	P	Pb	01 48 14.0	0.0
PRK				S	Sb	01 48 24.1	+0.5
PRK				AML	AML	01 48 27.5	
	comp=N,2487μm,0.3s						
PRK				AML	AML	01 48 28.2	
	comp=E,2947μm,0.4s						
PRK	Paraskevi	0.70	130	P	Pg	01 48 13.4	0.0
PRK				S	Sb	01 48 24.5	+0.8
BAYC	CANAKKALE_Bayr	0.75	86	IAML_P			
	comp=Z,17μm,0.1s						
BAYC				*i* P	Pb	01 48 14.6	-0.3
BAYC				*i* S	Sg	01 48 24.2	0.0
SMTH	Samothraki Isl	0.77	357	P	Pb	01 48 15.4	+0.1
SMTH				S	Sb	01 48 25.9	+0.1
SMTH	Samothraki Isl	0.77	357	P	Pb	01 48 15.4	+0.1
SMTH				S	Sg	01 48 25.4	+0.4
AYVA	Ayvalik	0.94	114	IAML_P			
	comp=Z,3μm,0.2s						
AYVA				*i* P	Pn	01 48 18.8	-0.2
AYVA				*i* S	Sn	01 48 32.6	+0.2
GELI	Tayfur-Gelibol	0.98	44	PG	Pb	01 48 19.0	+0.2
GELI				SG	Sn	01 48 33.3	-0.1
THAS	Thassos island	1.12	324	P	Pg	01 48 20.9	-0.5
THAS				S	Sb	01 48 37.0	+1.2
THAS	Thassos island	1.12	324	P	Pg	01 48 20.9	-0.5
THAS				S	Sn	01 48 37.7	+0.9
ENEZ	Enez	1.13	23	PN	Pn	01 48 21.7	+0.2
LPK	Lapseki	1.13	53	PN	Pb	01 48 21.6	+0.2
LPK				SN	Sn	01 48 38.0	+0.9
SKY	Skiros Island	1.14	225	P	Pg	01 48 21.0	-0.8
PSRA	Psara	1.15	180	P	Pb	01 48 22.0	+0.3
PSRA				S	Sn	01 48 38.2	+0.6
PSRA				AML	AML	01 48 39.6	
	comp=N,2008μm,0.2s						
PSRA				AML	AML	01 48 40.3	
	comp=E,1963μm,0.3s						
DKL	Dikili	1.20	121	PN	Pg	01 48 22.3	-0.7
DKL				SN	Sn	01 48 39.5	+0.7
ERIK	Erikli-Kesan	1.21	36	PN	Pn	01 48 23.2	+0.6
ERIK				SN	Sn	01 48 39.6	+0.6
ALN	Alexandroupoli	1.25	17	PN	Pn	01 48 23.6	+0.4
ALN	Alexandroupoli	1.25	17	P	Pg	01 48 23.8	-0.1
ALN	Alexandroupoli	1.25	17	P	Pn	01 48 22.9	-0.3
ALN				S	Sb	01 48 38.8	-0.7
CHOS	Chios island	1.36	164	PN	Pn	01 48 24.6	-0.2
CHOS	Chios island	1.36	164	P	Pn	01 48 24.2	-0.6
CHOS				S	Sb	01 48 42.4	-0.3
CHOS				AML	AML	01 48 46.4	
	comp=N,972μm,0.3s						
CHOS				AML	AML	01 48 48.0	
	comp=E,1612μm,0.7s						
CHOS	Chios island	1.36	164	P	Pn	01 48 24.3	-0.5
CHOS				S	Sb	01 48 42.9	+0.2
KESN	Edirne-Kesan	1.41	36	IAML_P			
	comp=Z,615nm,0.2s						
KESN				*i* P	Pg	01 48 26.6	-0.4
KESN				*i* S	Sn	01 48 46.2	+1.7
AOS	Alonnisos	1.42	249	PN	Pn	01 48 25.7	+0.2
AOS	Alonnisos	1.42	249	P	Pn	01 48 26.1	+0.7
AOS	Alonnisos	1.42	249	P	Pb	01 48 26.9	+0.7
AOS				S	Sb	01 48 44.9	+0.7
RDO	Rodhopi	1.45	359	PN	Pn	01 48 26.4	+0.5
RDO	Rodhopi	1.45	359	P	Pn	01 48 26.2	+0.3
RDO	Rodhopi	1.45	359	P	Pn	01 48 26.2	+0.3
PAIG	Paliouri	1.48	280	P	Pn	01 48 25.0	-1.3
KRBG	Karabiga-Canak	1.49	62	PN	Pb	01 48 27.7	+0.2
KAVA	Kavala	1.53	328	P	Pn	01 48 26.8	-0.3
URLA	Izmir	1.55	149	PN	Pn	01 48 27.4	0.0
BALY	Balya	1.58	88	IAML_P			
	comp=Z,2μm,0.1s						
BALY				*i* P	Pn	01 48 28.4	+0.7
KNL	Balıkesir	1.60	68	IAML_P			
	comp=Z,6μm,0.2s						
KNL				*i* P	Pb	01 48 29.7	+0.2
KNL				*i* S	Sg	01 48 52.0	+0.5
GONE	Gonen-Balikesi	1.66	77	PN	Pb	01 48 30.1	-0.3
STEP	BALIKESIR_Sava	1.69	100	IAML_P			
	comp=Z,2μm,0.2s						
STEP				*i* P	Pb	01 48 31.0	+0.1
BLCB	Balcova	1.74	138	PN	Pn	01 48 30.9	+1.0
PLG	Polygyros	1.77	293	P	Pn	01 48 30.1	-0.3
BALB	Balikesir	1.78	91	PN	Pn	01 48 31.3	+0.8
EDC	Edincik	1.87	69	PN	Pb	01 48 33.2	-0.8
SBT4	Kumbag-Tekirda	1.88	52	PN	Pn	01 48 32.9	+1.2
SOH	Sokhos	2.04	304	P	Pn	01 48 34.5	+0.4
SRS	Serrai	2.08	314	*e*Pn	Pn	01 48 33.6	-1.0
SRS				*e*Sn	Sn	01 49 00.0	-0.4
SRS	Serrai	2.08	314	P	Pn	01 48 34.7	+0.2
HORT	Hortiatis	2.10	296	PN	Pn	01 48 35.6	+0.6
NVR	Nevrokopi	2.11	322	P	Pn	01 48 34.9	-0.1
CRLT	Corlu	2.18	48	PN	Pb	01 48 37.9	-1.4
KCTX	Karacabey (Bur	2.21	74	PN	Pn	01 48 36.9	+0.5
PLD	Plovdiv	2.50	345	*e*Pn	Pn	01 48 42.1	+1.8
PLD				*e*Sn	Sb	01 49 16.2	+0.9
AYDB	Zeytinkoy-Aydi	2.51	133	PN	Pn	01 48 42.2	+1.5
KNT	Kendrikon	2.51	306	P	Pn	01 48 41.6	+1.0
ARMT	Armutlu	2.66	70	PN	Pn	01 48 44.1	+1.4
KULA	Kula-Manisa	2.67	115	PN	Pn	01 48 43.9	+1.0
VAY	Valandovo	2.81	306	*e*Pn	Pn	01 48 42.7	-1.9
VTS	Vitosha	3.40	329	*e*Pn	Pn	01 48 53.1	+0.2
VTS				*e*Sn	Sn	01 49 35.4	+2.1
ZAPS	Zavoj	4.20	329	*e*Pn	Pn	01 49 03.0	-0.8
BARS	Barje	4.21	319	*e*Pn	Pn	01 49 02.5	-1.4
BOVS	Bovan	4.89	325	*e*Pn	Pn	01 49 12.2	-1.0
ASF	Jabal al Asfar	11.85	126	P	Pn	01 50 47.0	-1.8

*ISK **09** 01:52:01.3, 38°.82N×43°.50E, h9km±4km, ML2.4/4*
*ISCJB **09** 01:52:02.4±0.8, 38°.86N±0°.04×43°.52E±0°.06, h11km±7km, Error ellipse: s-maj=8.9km s-min=5.6km az=22.3*
*DDA **09** 01:52:02.0, 38°.85N×43°.53E, h7km±3km, ML3.0*
ISC 09 01:52:01.6±1.1**, 38°.84N**±0°.04×**43°.53E**±0°.05**, h12**km±9km**, n9, σ0s.59**/15**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.15	11	IAML_P			
	comp=Z,5μm,0.2s						
VMUR				*i* P	Pg	01 52 05.4	-0.1
ERCV	ERCIS-VAN	0.24	320	PG	Pg	01 52 06.7	-0.1
ERCV				SG	Sg	01 52 10.4	+0.1
VANB	Van	0.27	205	PG	Pg	01 52 07.7	+0.4
VANB				SG	Sb	01 52 13.0	0.0
TVAN	Van	0.33	198	IAML_P			
	comp=Z,7μm,0.1s						
TVAN				*i* P	Pb	01 52 09.0	-0.5
TVAN				*i* S	Sb	01 52 15.8	+1.1
CLDR	Caldiran	0.43	44	PG	Pg	01 52 10.7	+0.5
CLDR				SG	Sb	01 52 17.7	0.0
CLDR	Caldiran	0.43	44	*i* P	Pg	01 52 10.2	0.0
CLDR				*i* S	Sb	01 52 18.1	+0.3
ADCV	BITLIS_Adilcev	0.63	267	IAML_P			
	comp=Z,892nm,0.1s						
ADCV				*i* P	Pb	01 52 14.4	-0.3
ADCV				*i* S	Sb	01 52 24.9	+1.3
AKDM	Akdamar-Van	0.67	221	PG	Pg	01 52 14.2	-0.5
GURO	Guroymak-BITLI	1.21	257	PN	Pn	01 52 24.2	-0.3

*IDC **09** 01:56:49.7±0.9, 2°.01S×67°.97E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.7/43, mbtmp3.9/8, Error ellipse: s-maj=28.3km s-min=24.7km az=175.0*
*ISCJB **09** 01:56:50.5±0.8, 2°.0S±0°.2×68°.0E±0°.1, h15km, mb3.9/8, Error ellipse: s-maj=24.7km s-min=20.5km az=159.4*
ISC 09 01:56:52.2±0.9**, 2°.0S**±0°.2×**68°.0E**±0°.2**, h15**km**, n14, σ0s.46**/12**, mb4.0**/8**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.25	145	T	T	02 03 39.0	
	baz=325,slow=75,SNR=26						
H08N3	Diego Garcia H	5.27	145	T	T	02 03 22.1	
	baz=325,slow=75,SNR=26						
H08N1	Diego Carcia H	5.28	145	T	T	02 03 40.9	
	baz=325,slow=75,SNR=24						
CMAR	Chiang Mai Arr	36.63	55	P	P	02 03 58.7	+0.3
	1.4nm,0.4s,baz=243,slow=10.0,SNR=4.0						
LSZ	Lusaka	41.39	249	P	P	02 04 38.8	+0.4
	1.6nm,0.6s,baz=64,slow=5.3,SNR=4.1						
MKAR	Makanchi Array	50.19	13	P	P	02 05 47.1	-0.2
	0.6nm,0.8s,baz=189,slow=7.1,SNR=5.1						
MKAR				PcP	PcP	02 07 06.0	-0.5
	0.4nm,0.8s,baz=204,slow=3.2,SNR=2.2						
ZALV	Zalesovo Beam	57.49	12	P	P	02 06 40.0	-0.6
	1.1nm,0.6s,baz=208,slow=8.4,SNR=5.0						
SONM	Songino Array	59.87	29	P	P	02 06 58.3	+0.8
	1.0nm,0.8s,baz=223,slow=5.2,SNR=6.4						
WRA	Warramunga Arr	67.13	111	P	P	02 07 45.7	-0.2
	1.3nm,0.9s,baz=287,slow=5.9,SNR=6.4						
ASAR	Alice Springs	67.20	115	P	P	02 07 46.3	-0.1
	0.5nm,0.7s,baz=282,slow=5.6,SNR=5.1						
ESDC	Sonseca Array	77.46	311	P	P	02 08 47.4	0.0
	0.9nm,0.8s,baz=91,slow=5.0,SNR=4.9						
YKA	Yellowknife Ar	119.62	1	PKP	PKPdf	02 15 40.7	-0.6
	0.1nm,0.5s,baz=35,slow=2.3,SNR=2.9						
PDAR	Pinedale Array	139.35	357	PKP	PKPdf	02 16 19.6	0.0
	0.3nm,0.8s,baz=31,slow=2.1,SNR=2.2						
TXAR	Lajitas Array	151.67	344	PKPbc	PKPbc	02 16 46.8	-0.2
	0.8nm,0.9s,baz=48,slow=1.9,SNR=4.3						

IDC 09 02:06:33.6±10.0**, 2°.11S**×**67°.61E, h0**km**, mb3.5**/5**, mb1 3.7**/5**, mb1mx3.4**/31**, mbtmp3.5**/5**, Error ellipse: s-maj=330.0km s-min=32.8km az=68.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.38	141	T	T	02 13 14.3	
	baz=325,slow=75,SNR=20						
H08N3	Diego Garcia H	5.39	141	T	T	02 13 15.3	
	baz=325,slow=75,SNR=21						
H08N1	Diego Carcia H	5.40	141	T	T	02 13 14.3	
	baz=325,slow=75,SNR=22						
MKAR	Makanchi Array	50.38	13	P	P	02 15 33.1	+0.5
	0.3nm,0.8s,baz=193,slow=5.8,SNR=3.0						
ZALV	Zalesovo Beam	57.67	12	P	P	02 16 25.2	-0.5
	0.3nm,0.3s,baz=200,slow=7.1,SNR=2.6						
SONM	Songino Array	60.14	29	P	P	02 16 43.1	-0.1
	0.7nm,0.7s,baz=227,slow=7.3,SNR=3.7						
WRA	Warramunga Arr	67.43	111	P	P	02 17 31.6	-0.1
	0.6nm,0.9s,baz=281,slow=5.7,SNR=3.6						
ASAR	Alice Springs	67.48	115	P	P	02 17 32.2	+0.2
	0.4nm,0.5s,baz=285,slow=7.3,SNR=4.5						

IDC 09 02:28:28.7±0.9**, 1°.94S**×**67°.99E, h0**km**, mb4.0**/7**, mb1 4.1**/7**, mb1mx3.7**/40**, mbtmp4.0**/7**, MS3.9**/1**, Ms1 3.9**/1**, ms1mx3.0**/48**, Error ellipse: s-maj=28.6km s-min=24.4km az=145.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.29	146	T	T	02 35 02.1	
	baz=325,slow=75,SNR=36						
H08N3	Diego Garcia H	5.30	146	T	T	02 35 09.8	
	baz=325,slow=75,SNR=35						
H08N1	Diego Carcia H	5.31	146	T	T	02 35 12.1	
	baz=325,slow=75,SNR=39						
CMAR	Chiang Mai Arr	36.58	55	P	P	02 35 37.8	+1.1
	0.9nm,0.3s,baz=224,slow=7.6,SNR=4.0						
LSZ	Lusaka	41.43	249	P	P	02 36 17.9	+0.4
	5.9nm,0.8s,baz=63,slow=5.7,SNR=12						
LBTB	Lobatse	46.86	237	LR	LR	02 54 43.5	
	comp=Z,125nm,19.7s,baz=67,slow=34						
MKAR	Makanchi Array	50.13	13	P	P	02 37 25.0	-0.8
	0.9nm,0.8s,baz=184,slow=7.7,SNR=9.0						
ZALV	Zalesovo Beam	57.43	12	P	P	02 38 18.8	-0.3
	1.2nm,0.6s,baz=230,slow=6.9,SNR=5.6						
SONM	Songino Array	59.81	29	P	P	02 38 36.4	+0.4
	0.9nm,0.9s,baz=218,slow=6.2,SNR=4.9						
WRA	Warramunga Arr	67.13	111	P	P	02 39 24.4	-0.5
	0.8nm,0.8s,baz=286,slow=6.3,SNR=5.8						
ASAR	Alice Springs	67.20	115	P	P	02 39 25.2	-0.1
	0.6nm,0.8s,baz=270,slow=5.6,SNR=3.8						
TXAR	Lajitas Array	151.62	345	PKPbc	PKPbc	02 48 25.2	-0.7
	0.5nm,0.8s,baz=145,slow=3.1,SNR=4.9						

*ISCJB **09** 02:30:46.8±1.1, 28°.78S±0°.06×69°.42W±0°.04, h119km±13km, Error ellipse: s-maj=9.4km s-min=5.8km az=5.8*
*SJA **09** 02:30:47.2±0.9, 28°.73S×69°.35W, h116km±11km, ML2.4, MW2.7*
*GUC **09** 02:30:47.7±0.7, 28°.83S×69°.43W, h96km±21km, ML2.7*
ISC 09 02:30:47.1±2.0**, 28°.78S**±0°.06×**69°.44W**±0°.04**, h121**km±19km**, n10, σ0s.67**/19**, 3C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGUA	GUANDACOL	1.09	131	*e*P	Pn	02 31 10.5	+0.3
AGUA				*i* S	Sn	02 31 27.6	-0.1
LCO	Las Campanas	1.13	258	⇑*i*P	Pn	02 31 11.1	+0.2
LCO				*i* S	Sn	02 31 28.3	-0.4
LCO				IAML		02 31 29.0	
	comp=E,140nm,0.2s						
VACH	Vallenar	1.18	280	*e*P	Pn	02 31 11.2	+0.2
VACH				*i* S	Sn	02 31 28.6	-0.6
GO03	Copiap	1.38	329	⇑*i*P	Pn	02 31 13.8	+0.5
GO03				*i* S	Sn	02 31 33.2	+0.1
GO03				IAML		02 31 36.4	
	comp=E,152nm,0.1s						
GO04	Tololo Observa	1.83	220	⇑*i*P	Pn	02 31 19.0	+0.3
GO04				*i* S	Sn	02 31 42.9	+0.1
GO04				IAML		02 31 48.0	
	comp=E,175nm,0.4s						
LSCH	La Serena	1.94	234	⇓*i*P	Pn	02 31 20.0	+0.2
LSCH				*i* S	Sn	02 31 44.0	-0.8
ACLC	CERRO LA CRUZ	2.27	107	*e*P	Pn	02 31 24.6	+0.5
ACLC				*e*S	Sn	02 31 52.6	+0.2
CMCH	Combarbala	2.74	209	*e*P	Pn	02 31 30.6	+0.4
APLL	PUNTA DE LOS L	3.00	123	*e*P	Pn	02 31 33.9	+0.4
APLL				*e*S	Sn	02 32 08.9	-0.3
APLL				IAML		02 32 10.2	
	comp=Z,7.6nm,0.5s						
CYA	Choya	3.21	85	*e*P	Pn	02 31 36.8	+0.5
CYA				*e*S	Sn	02 32 12.2	-2.0
CYA				IAML		02 32 14.7	
	comp=Z,11nm,0.3s						

*ISK **09** 02:36:35.9, 39°.67N×25°.66E, h7km, ML2.4/10*
*ISCJB **09** 02:36:36.4±0.4, 39°.70N±0°.02×25°.63E±0°.03, h8km±4km, Error ellipse: s-maj=4.2km s-min=3.3km az=28.3*
*ATH **09** 02:36:36.2, 39°.71N×25°.61E, h28km±1km, ML2.2/2, Error ellipse: s-maj=2.4km s-min=1.2km az=229.0*
*DDA **09** 02:36:36.8, 39°.74N×25°.68E, h7km±3km, ML2.7*
ISC 09 02:36:36.4±1.0**, 39°.70N**±0°.02×**25°.64E**±0°.02**, h10**km±9km**, n30, σ0s.56**/44**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.35	66	PG	Pg	02 36 43.5	+0.2
BOZC	Bozcaada	0.35	66	IAML_P			
	comp=Z,2μm,0.1s						
BOZC				*i* P	Pb	02 36 44.3	-0.4
BOZC				*i* S	Sb	02 36 49.9	-0.3
LIA	Limnos Island	0.40	299	P	Pg	02 36 44.6	+0.4
LIA				S	Sg	02 36 50.3	+0.7
GPNR	Gulpinar-Canak	0.46	123	PG	Pg	02 36 44.7	-0.5
GPNR				SG	Sg	02 36 51.6	+0.4
SIGR	SIGRI	0.52	161	PG	Pg	02 36 45.9	-0.5
SIGR				SG	Sg	02 36 52.7	-0.6
SIGR	SIGRI	0.52	161	P	Pg	02 36 46.4	0.0
SIGR				S	Sg	02 36 53.8	+0.5
SIGR				AML	AML	02 36 54.6	
	comp=E,664μm,0.4s						
SIGR				AML	AML	02 36 54.7	
	comp=N,1004μm,0.6s						
GADA	Gvkgeada	0.53	22	PG	Pb	02 36 47.5	-0.2
EFSA	Agios Efstrati	0.53	252	P	Pb	02 36 47.8	+0.1
EFSA				S	Sg	02 36 54.8	+1.2
EZN	Ezine	0.54	77	PG	Pg	02 36 47.0	+0.1
EZN				SG	Sb	02 36 54.6	-1.2
PRK	Paraskevi	0.67	133	P	Pb	02 36 50.4	+0.3
PRK				S	Sb	02 37 00.0	+0.6
PRK				AML	AML	02 37 02.9	
	comp=E,284μm,0.3s						
PRK				AML	AML	02 37 04.7	
	comp=N,330μm,0.6s						
BAYC	CANAKKALE_Bayr	0.70	87	IAML_P			
	comp=Z,1μm,0.1s						
BAYC				*i* P	Pb	02 36 50.4	-0.3
SMTH	Samothraki Isl	0.77	354	P	Pb	02 36 51.6	-0.3
SMTH				S	Sb	02 37 01.8	-0.7
AYVA	Ayvalik	0.90	116	*i* P	Pb	02 36 54.3	+0.2
AYVA				*i* S	Sn	02 37 08.9	+0.7
GELI	Tayfur-Gelibol	0.94	42	PG	Pg	02 36 54.1	-0.4
LPK	Lapseki	1.09	52	PN	Pn	02 36 57.4	-0.3
ENEZ	Enez	1.10	21	PN	Pb	02 36 57.3	-0.2
THAS	Thassos island	1.15	322	P	Pg	02 36 57.7	-0.6
THAS				S	Sg	02 37 12.8	-0.4
DKL	Dikili	1.17	122	PN	Pg	02 36 58.5	-0.3

ERIK	Erikli-Kesan	1.18	34	PN	Pn	02 36 59.4	+0.6
SKY	Skiros Island	1.18	226	P	Pg	02 36 57.6	-1.4
ALN	Alexandroupoli	1.23	14	PN	Pn	02 36 59.9	+0.3
ALN	Alexandroupoli	1.23	14	P	Pb	02 36 59.5	-0.2
ALN				S	Sb	02 37 15.7	+0.1
CHOS	Chios island	1.35	166	PN	Pn	02 37 00.8	-0.6
CHOS	Chios island	1.35	166	P	Pg	02 37 02.3	-0.1
KESN	Edirne-Kesan	1.38	35	IAML_P			
	comp=Z,96nm,0.1s						
KESN				iP	Pg	02 37 02.5	-0.3
KESN				iS	Sn	02 37 21.6	+1.2
OUR	Ouranopolis	1.42	297	PN	Pg	02 37 03.4	-0.2
RDO	Rodhopi	1.44	357	PN	Pb	02 37 03.4	+0.1
RDO	Rodhopi	1.44	357	P	Pn	02 37 02.2	-0.3
KRBG	Karabiga-Canak	1.45	61	PN	Pb	02 37 03.4	0.0
BALY	Balya	1.53	88	IAML_P			
	comp=Z,233nm,0.2s						
BALY				iP	Pn	02 37 04.1	+0.4
BALY				iS	Sg	02 37 24.9	-0.6

IDC 09 02:46:32.2±3.5, 2°.22S×67°.41E, h0^{km}, mb3.7/6, mb1 3.9/6, mb1mx3.5/43, mbtmp3.7/6, MS3.6/2, Ms1 3.6/2, ms1mx2.9/45, Error ellipse: s-maj=95.0km s-min=29.5km az=70.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.43	139	T	T	02 53 13.9	
	baz=325,slow=75,SNR=48						
H08N3	Diego Garcia H	5.44	139	T	T	02 53 09.6	
	baz=325,slow=75,SNR=35						
H08N1	Diego Carcia H	5.45	139	T	T	02 53 15.6	
	baz=325,slow=75,SNR=56						
PALK	Pallekele	16.27	54	LR	LR	02 55 01.2	
	comp=Z,202nm,21.0s,baz=294,slow=31						
PSI	Prapat	31.90	81	LR	LR	03 05 56.3	
	comp=Z,107nm,18.1s,baz=104,slow=36						
CMAR	Chiang Mai Arr	37.22	55	P	P	02 53 45.4	-0.3
	1.1nm,0.3s,baz=238,slow=11,SNR=3.7						
MKAR	Makanchi Array	50.54	13	P	P	02 55 31.6	-0.7
	0.4nm,0.7s,baz=204,slow=9.2,SNR=4.0						
ZALV	Zalesovo Beam	57.82	12	P	P	02 56 25.4	+0.1
	0.7nm,0.5s,baz=208,slow=8.2,SNR=3.9						
SONM	Songino Array	60.34	29	P	P	02 56 43.6	+0.5
	1.3nm,1.1s,baz=216,slow=7.1,SNR=4.5						
WRA	Warramunga Arr	67.58	111	P	P	02 57 31.7	+0.5
	0.5nm,0.8s,baz=286,slow=6.0,SNR=2.9						
ASAR	Alice Springs	67.62	115	P	P	02 57 31.0	-0.5
	0.6nm,0.8s,baz=281,slow=5.6,SNR=3.5						

ISCJB 09 03:01:31.6±0.9, 1°.9S±0°.2×68°.0E±0°.2, h15^{km}, mb4.0/8, MS3.5/3, Error ellipse: s-maj=24.7km s-min=21.6km az=35.9

IDC 09 03:01:31.1±1.1, 1°.99S×67°.95E, h0^{km}, mb4.0/8, mb1 4.1/8, mb1mx3.6/55, mbtmp4.0/8, MS3.5/4, Ms1 3.5/4, ms1mx3.1/38, Error ellipse: s-maj=29.6km s-min=26.9km az=117.0

ISC 09 03:01:33.5±1.0, 2°.0S±0°.2×67°.9E±0°.2, h15^{km}, n15, σ0^s.76/9, mb4.0/8, MS3.6/3, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.28	145	T	T	03 08 07.9	
	baz=325,slow=76,SNR=25						
H08N3	Diego Garcia H	5.29	145	T	T	03 08 10.6	
	baz=325,slow=76,SNR=25						
H08N1	Diego Carcia H	5.30	145	T	T	03 08 08.1	
	baz=325,slow=76,SNR=24						
PALK	Pallekele	15.71	54	LR	LR	03 09 45.0	
	comp=Z,181nm,19.6s,baz=294,slow=32						
OPO	Ambohidratompo	26.18	230	LR	LR	03 15 17.1	
	comp=Z,176nm,18.2s,baz=3.5,slow=32						
CMAR	Chiang Mai Arr	36.65	55	P	P	03 08 41.0	+1.1
	1.2nm,0.3s,baz=243,slow=9.9,SNR=3.7						
LSZ	Lusaka	41.36	249	P	P	03 09 20.0	+0.4
	1.5nm,0.5s,baz=98,slow=5.6,SNR=3.9						
BOSA	Boshof	48.53	233	LR	LR	03 27 53.3	
	comp=Z,69nm,20.1s,baz=26,slow=33						
MKAR	Makanchi Array	50.19	13	P	P	03 10 28.6	-0.1
	0.9nm,0.8s,baz=179,slow=7.3,SNR=6.8						
KURBB	Kurchatov Arra	53.18	8	P	P	03 10 49.9	-1.0
	0.6nm,0.2s,baz=203,slow=7.6,SNR=5.3						
ZALV	Zalesovo Beam	57.48	12	P	P	03 11 21.3	-0.6
	1.6nm,0.8s,baz=217,slow=8.3,SNR=4.9						
SONM	Songino Array	59.87	29	P	P	03 11 38.9	0.0
	0.8nm,0.9s,baz=222,slow=8.8,SNR=6.9						
WRA	Warramunga Arr	67.16	111	P	P	03 12 26.8	-0.7
	2.7nm,1.2s,baz=286,slow=5.3,SNR=3.4						
WRA				LR	LR	03 38 13.4	
	comp=Z,20nm,21.0s,baz=205,slow=33						
ASAR	Alice Springs	67.23	115	P	P	03 12 27.5	-0.4
	0.8nm,0.8s,baz=305,slow=5.1,SNR=4.9						
TXAR	Lajitas Array	151.65	344	PKPbc	PKPbc	03 21 28.3	0.0
	0.6nm,1.0s,baz=48,slow=1.3,SNR=3.5						

ISCJB 09 03:03:55.7±0.5, 6°.7N±0°.1×30°.03W±0°.06, h10^{km}, mb4.2/19, Error ellipse: s-maj=17.7km s-min=9.2km az=179.4

IDC 09 03:03:55.7±0.7, 6°.75N×30°.11W, h0^{km}, mb3.9/11, mb1 4.1/11, mb1mx3.8/39, mbtmp3.9/11, Error ellipse: s-maj=27.0km s-min=17.9km az=161.0

NEIC 09 03:03:57.1±0.5, 6°.73N×30°.09W, h10^{km}, mb4.6/8, Error ellipse: s-maj=16.0km s-min=10.6km az=174.0

ISC 09 03:03:57.1±0.7, 6°.7N±0°.2×30°.1W±0°.1, h10^{km}, n37, σ1^s.32/31, mb4.3/19, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N3	ASCENSION HYDR	21.24	133	T	T	03 30 29.6	
	baz=312,slow=74,SNR=27						
H10N2	ASCENSION HYDR	21.24	133	T	T	03 30 29.6	
	baz=312,slow=74,SNR=26						
H10N1	ASCENSION HYDR	21.26	133	T	T	03 30 31.0	
	baz=312,slow=74,SNR=33						
H10S3	ASCENSION HYDR	21.89	135	T	T	03 31 05.4	
	baz=314,slow=74,SNR=7.4						
H10S1	ASCENSION HYDR	21.89	135	T	T	03 31 05.5	
	baz=314,slow=74,SNR=9.3						
H10S2	ASCENSION HYDR	21.91	135	T	T	03 31 06.9	
	baz=314,slow=74,SNR=5.5						
TIC	Toumodi	24.90	89	eP	P	03 09 19.9	-0.7
LIC	Lamto	24.91	90	eP	P	03 09 20.4	-0.2
	65nm,1.0s						
DBIC	Dimbokro	25.06	89	P	P	03 09 22.1	0.0
	13nm,0.7s,baz=257,slow=9.9,SNR=22						
DBIC	Dimbokro	25.06	89	eP	P	03 09 22.3	+0.3
	17nm,0.8s						
KIC	Kosan Boka	25.19	89	eP	P	03 09 22.3	-0.9
	33nm,0.8s						
TOA1	Torodi Ar. Sit	31.93	76	eP	P	03 10 22.9	-0.4
TOA0	Torodi Ar. Sit	31.93	76	eP	P	03 10 23.0	-0.4
TORD	Torodi Ar. Bea	31.93	76	P	P	03 10 22.9	-0.4
	1.8nm,0.6s,baz=276,slow=8.1,SNR=16						
SIV	San Ignacio	38.08	233	P	P	03 11 17.2	+0.8
	2.9nm,0.7s,baz=88,slow=8.9,SNR=7.4						
CPUP	Villa Florida	42.17	218	P	P	03 11 50.5	+0.3
	0.7nm,0.4s,baz=53,slow=10,SNR=3.1						
CPUP	Villa Florida	42.17	218	eP	P	03 11 50.5	+0.3
	36nm,2.0s						
LPAZ	La Paz	44.04	238	P	P	03 12 05.9	-0.3
	0.8nm,0.7s,baz=352,slow=5.8,SNR=4.0						
LPAZ	La Paz	44.04	238	eP	P	03 12 05.1	-1.2
	7.6nm,1.5s						
HAL	Halifax	47.72	328	eP	P	03 12 33.1	-1.1
	76nm,1.3s						
GERES	GERESS Array B	55.88	34	P	P	03 13 37.2	+2.0
	0.5nm,0.7s,baz=242,slow=7.4,SNR=4.6						
LTX	Lajitas	72.43	299	eP	P	03 15 23.4	-0.8
TXAR	Lajitas Array	72.43	299	P	P	03 15 23.4	-0.8
	0.2nm,0.7s,baz=99,slow=4.7,SNR=3.1						
SDCO	Great Sand Dun	74.38	307	eP	P	03 15 37.5	+1.6
	3.3nm,1.1s						
O20A	White River Ci	76.64	310	eP	P	03 15 53.0	+4.3
	8.3nm,1.2s						
PD31	Pinedale Array	77.73	312	eP	P	03 15 54.8	-0.1
PDAR	Pinedale Array	77.73	312	P	P	03 15 54.8	-0.1
	0.5nm,0.8s,baz=99,slow=4.8,SNR=4.9						
MTPU	Mount Pierson	79.67	307	eP	P	03 16 07.8	+2.0
	5.2nm,1.1s						
CCUT	Cedar City	80.61	307	eP	P	03 16 13.1	+2.4
	2.8nm,0.9s						
YKA	Yellowknife Ar	81.54	332	P	P	03 16 14.7	0.0
	0.6nm,0.8s,baz=92,slow=5.2,SNR=9.2						
YKB5	Yellowknife Ar	81.54	332	eP	P	03 16 15.7	+0.9
NV01	Mina Array Sit	84.47	308	eP	P	03 16 31.2	+0.4
NVAR	Mina Array Bea	84.47	308	P	P	03 16 31.2	+0.4
	0.2nm,0.5s,baz=108,slow=5.0,SNR=2.9						
ILAR	Eielson Array	94.98	337	P	P	03 17 18.7	-1.0
	0.6nm,0.9s,baz=42,slow=4.1,SNR=5.1						
ILB	Eielson Array	94.98	337	eP	P	03 17 18.7	-1.0
HDA	Harding Lake	95.17	337	eP	P	03 17 18.6	-2.0
	36nm,2.0s						
ASAR	Alice Springs	157.19	139	PKPab	PKPab	03 24 24.7	-0.1
	0.7nm,0.7s,baz=216,slow=4.4,SNR=7.3						

IDC 09 03:05:57.3±5.2, 6°.10S×150°.70E, h122^{km}±42^{km}, mb3.4/3, mb1 3.6/4, mb1mx3.1/40, mbtmp3.7/4, Error ellipse: s-maj=96.4km s-min=37.8km az=135.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.80	227	P	Pn	03 07 09.1	+1.4
	1.6nm,0.3s,baz=253,slow=23,SNR=2.7						
PMG				S	Sn	03 08 02.0	-0.4
	1.4nm,0.3s,baz=142,slow=22,SNR=3.2						
WRA	Warramunga Arr	21.02	228	P	P	03 10 31.2	-0.3
	1.2nm,0.7s,baz=54,slow=10,SNR=16						
ASAR	Alice Springs	23.79	221	P	P	03 10 59.5	+0.4
	1.8nm,0.8s,baz=54,slow=9.2,SNR=15						
NVAR	Mina Array Bea	94.53	52	P	P	03 19 03.6	-1.0
	0.2nm,0.5s,baz=262,slow=5.4,SNR=2.7						
TORD	Torodi Ar. Bea	148.68	285	PKPbc	PKPbc	03 25 30.9	-0.4
	0.8nm,0.6s,baz=62,slow=3.6,SNR=7.1						

IDC 09 03:08:47.8±15.0, 19°.78S×179°.50W, h625^{km}±138^{km}, mb2.5/3, mb1 2.8/3, mb1mx2.6/32, mbtmp3.5/3, Error ellipse: s-maj=212.2km s-min=44.4km az=133.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	43.31	262	P	P	03 15 56.5	-0.4
	0.1nm,0.3s,baz=96,slow=7.5,SNR=14						
WRA				PcP	PcP	03 17 30.4	-0.7
	0.4nm,1.0s,baz=88,slow=3.0,SNR=2.6						
ASAR	Alice Springs	43.32	256	P	P	03 15 57.8	+0.9
	0.2nm,0.3s,baz=92,slow=8.4,SNR=3.6						
ASAR				PcP	PcP	03 17 30.3	-0.8
	0.1nm,0.3s,baz=102,slow=3.5,SNR=4.8						
ILAR	Eielson Array	87.93	13	P	P	03 20 31.8	-0.3
	0.8nm,1.1s,baz=225,slow=5.8,SNR=4.9						
AKASG	Malin Array Be	141.70	330	PKhKP	PKPpre	03 27 05.9	
	1.9nm,0.5s,baz=45,slow=4.0,SNR=7.8						
BRTR	Keskin Array B	145.31	312	PKPbc	PKPbc	03 27 18.1	+0.6
	0.8nm,0.9s,baz=110,slow=1.4,SNR=4.6						
GERES	GERESS Array B	149.11	343	PKPbc	PKPbc	03 27 26.3	-0.7
	0.3nm,0.6s,baz=2.6,slow=2.2,SNR=3.0						

IDC 09 03:13:07.1±10.0, 2°.38S×67°.08E, h0^{km}, mb3.6/5, mb1 3.7/5, mb1mx3.5/43, mbtmp3.6/5, Error ellipse: s-maj=326.9km s-min=31.3km az=68.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.54	135	T	T	03 19 52.1	
	baz=325,slow=76,SNR=19						
H08N3	Diego Garcia H	5.54	135	T	T	03 19 51.6	
	baz=325,slow=76,SNR=22						
H08N1	Diego Carcia H	5.56	135	T	T	03 19 53.7	
	baz=325,slow=76,SNR=24						
MKAR	Makanchi Array	50.77	13	P	P	03 22 09.1	0.0
	0.4nm,0.9s,baz=211,slow=8.4,SNR=3.7						
ZALV	Zalesovo Beam	58.04	12	P	P	03 23 01.6	-0.2
	0.7nm,0.6s,baz=204,slow=9.2,SNR=3.4						
SONM	Songino Array	60.64	29	P	P	03 23 20.1	0.0
	0.8nm,0.9s,baz=221,slow=6.5,SNR=4.7						
WRA	Warramunga Arr	67.83	110	P	P	03 24 07.5	-0.3
	0.6nm,1.0s,baz=283,slow=5.8,SNR=3.2						
ASAR	Alice Springs	67.85	114	P	P	03 24 08.1	+0.2
	0.1nm,0.3s,baz=270,slow=5.6,SNR=3.3						

BEO 09 03:17:33.0±1.1, 39°.39N×25°.99E, h5^{km}, ML3.4/2

SKO 09 03:17:35.3, 39°.69N×25°.92E, h0^{km}, M2.8, ML3.4

ISCJB 09 03:17:37.6±0.4, 39°.68N±0°.01×25°.54E±0°.02, h7^{km}±3^{km}, Error ellipse: s-maj=2.6km s-min=2.1km az=32.9

ATH 09 03:17:37.6, 39°.69N×25°.58E, h30^{km}±1^{km}, ML3.2/5, Error ellipse: s-maj=1.5km s-min=0.9km az=238.0

DDA 09 03:17:37.7, 39°.68N×25°.63E, h22^{km}±1^{km}, ML3.4

ISK 09 03:17:37.4, 39°.63N×25°.60E, h4^{km}, ML3.6/29

THE 09 03:17:38.6, 39°.69N×25°.59E, h12^{km}±1^{km}, ML3.0/10, Error ellipse: s-maj=1.3km s-min=0.6km az=76.0

ISC 09 03:17:37.7±1.0, 39°.67N±0°.02×25°.61E±0°.02, h14^{km}±9^{km}, n151, σ1^s.17/180, 15C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.38	64	PG	Pb	03 17 45.6	-0.7
BOZC	Bozcaada	0.38	64	IAML_P			
	comp=Z,15µm,0.2s						
BOZC				iP	Pb	03 17 46.6	+0.4
BOZC				iS	Sb	03 17 51.5	-0.5
LIA	Limnos Island	0.40	305	P	Pb	03 17 46.2	-0.4
LIA				S	Sg	03 17 51.5	+0.3
LIA				AML	AML	03 17 57.6	
	comp=E,7464µm,0.4s						
LIA				AML	AML	03 17 58.8	
	comp=N,6982µm,0.5s						
LIA	Limnos Island	0.40	305	P	Pb	03 17 46.1	-0.4
LIA				S	Sg	03 17 51.7	+0.5
GPNR	Gulpinar-Canak	0.46	118	PG	Pb	03 17 47.5	-0.1
EFSA	Agios Efstrati	0.50	255	P	Pb	03 17 48.9	+0.7
EFSA				S	Sb	03 17 56.0	+0.7
SIGR	SIGRI	0.50	157	PG	Pg	03 17 47.1	-0.5
SIGR				SG	Sg	03 17 54.2	-0.1
SIGR	SIGRI	0.50	157	P	Pb	03 17 48.0	-0.2
SIGR				S	Sb	03 17 55.9	+0.5
SIGR				AML	AML	03 17 56.4	
	comp=E,16045µm,0.4s						
SIGR				AML	AML	03 17 56.4	
	comp=N,18841µm,0.4s						
SIGR	SIGRI	0.50	157	P	Pb	03 17 48.1	-0.2
SIGR				S	Sb	03 17 55.9	+0.5
GADA	Gvkgeada	0.56	23	PG	Pb	03 17 49.3	-0.1
GADA	Gvkgeada	0.56	23	P	Pb	03 17 49.1	-0.3
GADA				S	Sb	03 17 57.4	+0.1
EZN	Ezine	0.57	74	PG	Pb	03 17 49.3	-0.2
EZN				SG	Sb	03 17 57.6	0.0
EZN	Ezine	0.57	74	⇑iP	Pb	03 17 49.5	0.0
EZN	Ezine	0.57	74	P	Pb	03 17 49.3	-0.2
EZN				S	Sb	03 17 57.5	0.0
GOKC	Gokceada-Canak	0.58	24	PG	Pb	03 17 49.7	+0.1
PRK	Paraskevi	0.67	129	P	Pn	03 17 52.1	-0.6
PRK				S	Sb	03 18 01.7	+1.5
PRK				AML	AML	03 18 04.0	
	comp=E,5455µm,0.7s						
PRK				AML	AML	03 18 06.1	
	comp=N,4430µm,0.3s						
PRK	Paraskevi	0.67	129	P	Pn	03 17 52.5	-0.2
PRK				S	Sn	03 18 02.4	-0.6
BAYC	CANAKKALE_Bayr	0.73	84	iP	Pb	03 17 52.3	+0.1
SMTH	Samothraki Isl	0.80	356	P	Pb	03 17 53.4	0.0
SMTH				S	Sb	03 18 04.5	+0.4
SMTH				AML	AML	03 18 06.8	
	comp=E,1555µm,0.3s						
SMTH				AML	AML	03 18 07.8	
	comp=N,1692µm,0.3s						
SMTH	Samothraki Isl	0.80	356	P	Pb	03 17 53.4	0.0
SMTH				S	Sn	03 18 05.3	-1.0
AYVA	Ayvalik	0.91	113	iP	Pn	03 17 56.6	+0.5
GELI	Tayfur-Gelibol	0.98	42	PG	Pn	03 17 57.4	+0.3
LPK	Lapseki	1.13	51	PN	Pn	03 18 00.1	+1.0
PSRA	Psara	1.13	182	P	Pg	03 17 59.8	+0.2
ENEZ	Enez	1.14	21	PN	Pg	03 18 00.4	+0.6
SKY	Skiros Island	1.14	226	P	Pb	03 17 58.6	-0.6
SKY	Skiros Island	1.14	226	P	Pb	03 17 59.4	+0.1
SKY				S	Sg	03 18 14.9	+0.2
THAS	Thassos island	1.16	324	P	Pb	03 17 59.0	-0.4
THAS				S	Sb	03 18 13.8	-0.5
THAS				AML	AML	03 18 16.9	
	comp=E,2156µm,0.4s						
THAS				AML	AML	03 18 22.4	
	comp=N,2047µm,0.4s						
THAS	Thassos island	1.16	324	P	Pb	03 17 59.1	-0.4
THAS				S	Sb	03 18 14.3	0.0
DKL	Dikili	1.17	120	PN	Pg	03 18 00.4	+0.1
ERIK	Erikli-Kesan	1.21	35	PN	Pg	03 18 01.1	0.0
ALN	Alexandroupoli	1.27	15	PN	Pg	03 18 03.6	+1.4
ALN	Alexandroupoli	1.27	15	P	Pn	03 18 00.6	-0.4
ALN	Alexandroupoli	1.27	15	P	Pb	03 18 01.1	-0.3
ALN				S	Sg	03 18 18.5	-0.2
FOCM	Foa	1.30	137	PN	Pg	03 18 02.7	0.0
KRBN	Karaburun	1.30	145	PN	Pg	03 18 02.5	-0.3
CHOS	Chios island	1.33	165	PN	Pn	03 18 02.4	+0.5
CHOS	Chios island	1.33	165	P	Pn	03 18 02.2	+0.3
CHOS	Chios island	1.33	165	P	Pn	03 18 02.4	+0.5
CHOS				S	Sg	03 18 20.6	-0.1
KESN	Edirne-Kesan	1.41	35	IAML_P			
	comp=Z,1µm,0.2s						
KESN				iP	Pg	03 18 04.8	-0.2
KESN				iS	Sg	03 18 24.6	+1.2
OUR	Ouranopolis	1.41	298	PN	Pg	03 18 04.5	-0.4
AOS	Alonnisos	1.43	250	PN	Pb	03 18 04.5	+0.4
AOS	Alonnisos	1.43	250	P	Pn	03 18 02.8	-0.4
AOS	Alonnisos	1.43	250	P	Pn	03 18 03.3	+0.1
AOS				S	Sg	03 18 23.7	-0.1
RDO	Rodhopi	1.47	358	PN	Pg	03 18 06.1	0.0
RDO	Rodhopi	1.47	358	P	Pb	03 18 04.1	-0.7
RDO	Rodhopi	1.47	358	P	Pb	03 18 04.2	-0.7
KRBG	Karabiga-Canak	1.48	60	PN	Pg	03 18 05.6	-0.7
PAIG	Paliouri	1.51	280	P	Pn	03 18 04.0	-0.3
PAIG	Paliouri	1.51	280	P	Pn	03 18 04.5	+0.2
URLA	Izmir	1.52	149	PN	Pn	03 18 05.2	+0.7
URLA	Izmir	1.52	149	IAML_P			
	comp=Z,12µm,0.3s						
URLA				iP	Pb	03 18 05.4	-0.3
KAVA	Kavala	1.56	328	P	Pn	03 18 05.1	-0.1
KAVA	Kavala	1.56	328	P	Pn	03 18 05.0	-0.1
KAVA				S	Sn	03 18 24.9	-0.3
KVLA	Kavala	1.57	324	P	Pn	03 18 04.7	-0.5
KNL	Balıkesir	1.59	67	iP	Pg	03 18 07.4	-0.8
KNL				iS	Sg	03 18 29.2	+0.2
GONE	Gonen-Balikesi	1.64	76	PN	Pb	03 18 07.6	-0.2
STEP	BALIKESIR_Sava	1.66	100	iP	Pg	03 18 08.8	-0.8
STEP				iS	Sg	03 18 31.8	+0.7
BLCB	Balcova	1.70	139	PN	Pb	03 18 08.2	-0.6
BALB	Balikesir	1.75	90	PN	Pb	03 18 09.4	-0.3
PLG	Polygyros	1.80	294	P	Pn	03 18 08.6	+0.2
PLG	Polygyros	1.80	294	P	Pn	03 18 08.9	+0.5
EREA	Eretria	1.81	227	P	Pn	03 18 07.5	-0.9
EDC	Edincik	1.86	68	PN	Pb	03 18 11.2	-0.3
SBT4	Kumbag-Tekirda	1.87	51	PN	Pb	03 18 11.6	0.0
AKHS	Akhisar	1.89	114	iP	Pb	03 18 11.8	-0.1
XOR	Xorichti	1.89	261	P	Pn	03 18 09.7	0.0
TKR	Tekirdag	1.98	48	PN	Pb	03 18 12.8	-0.7
KDZ	Kurdzhali	1.98	356	PN	Pb	03 18 13.8	+0.2
DION	Dionisos Attik	2.06	220	P	Pn	03 18 11.7	-0.3
SOH	Sokhos	2.07	304	P	Pn	03 18 12.8	+0.7
SOH	Sokhos	2.07	304	P	Pn	03 18 12.8	+0.7
SOH	Sokhos	2.07	304	iPn	Pn	03 18 12.8	+0.7
SOH				eSg	Sg	03 18 43.9	-0.5
SRS	Serrai	2.11	314	ePn	Pb	03 18 14.3	-1.5
SRS				eSn	Sg	03 18 45.5	-0.1
SRS	Serrai	2.11	314	P	Pn	03 18 12.7	+0.1
SRS	Serrai	2.11	314	P	Pn	03 18 12.8	+0.2
SRS	Serrai	2.11	314	iPn	Pn	03 18 12.9	+0.3
SRS				eSg	Sg	03 18 46.4	+0.8
HORT	Hortiatis	2.13	296	PN	Pb	03 18 15.1	-1.1
NVR	Nevrokopi	2.14	322	P	Pn	03 18 13.3	+0.3
NVR	Nevrokopi	2.14	322	P	Pn	03 18 13.4	+0.3
CRLT	Corlu	2.18	47	PN	Pb	03 18 15.8	-1.2
SMG	Samos	2.18	154	P	Pn	03 18 13.9	+0.3
KCTX	Karacabey (Bur	2.19	73	PN	Pb	03 18 15.8	-1.4
DURS	Dursunbey	2.21	91	iP	Pb	03 18 16.1	-1.5
ATAL	Atalanti	2.24	245	P	Pn	03 18 14.4	0.0
VLY	Voula,Athens	2.31	219	P	Pn	03 18 14.9	-0.4
DST	Dursunbey	2.33	91	PN	Pb	03 18 17.9	-1.6
EDRB	Edirne	2.34	21	PN	Pb	03 18 18.6	-1.0
GCAM	G?zelcaml?	2.34	147	PN	Pn	03 18 17.9	+2.1
PHSR	Pinarhisar	2.44	36	⇑iP	Pn	03 18 18.3	+1.2
AYDB	Zeytinkoy-Aydi	2.48	133	PN	Pn	03 18 19.2	+1.4
DEMI	Demirci	2.49	104	iP	Pb	03 18 20.5	-1.8
SLVT	Silivri	2.52	51	PN	Pb	03 18 21.1	-1.7
PLD	Plovdiv	2.52	345	PN	Pb	03 18 20.6	-2.2
KNT	Kendrikon	2.55	307	PN	Pn	03 18 20.4	+1.8
KNT	Kendrikon	2.55	307	P	Pn	03 18 19.5	+0.9
KNT	Kendrikon	2.55	307	P	Pn	03 18 19.8	+1.2
KNT	Kendrikon	2.55	307	iPn	Pn	03 18 19.8	+1.2
AGG	Agios Georgios	2.62	257	PN	Pn	03 18 20.7	+1.0
AGG	Agios Georgios	2.62	257	P	Pn	03 18 20.2	+0.5
KULA	Kula-Manisa	2.64	115	PN	Pn	03 18 21.8	+1.8
ARMT	Armutlu	2.65	69	PN	Pb	03 18 23.0	-2.0
SBT5	Esenkoy-Cinarc	2.68	68	PN	Pb	03 18 23.6	-1.9
CTKS	Kestanelik-??a	2.71	54	PN	Pb	03 18 23.7	-2.2
GRG	Griva	2.77	299	P	Pn	03 18 23.1	+1.4
GRG	Griva	2.77	299	P	Pn	03 18 23.4	+1.7
GRG	Griva	2.77	299	iPn	Pn	03 18 23.4	+1.7
VAY	Valandovo	2.84	306	ePn	Pn	03 18 24.3	+1.6
VAY	Valandovo	2.84	306	iPn	Pn	03 18 25.2	+2.6
VAY				eSn	Sg	03 19 09.2	+0.2
VAY				eLg	Lg	03 19 14.3	
	comp=E,78nm,0.8s						
VAY				eLg	Lg	03 19 16.4	
	comp=N,130nm,1.1s						
KKB	Krupnik	2.91	320	iPn	Pn	03 18 24.7	+1.1
BODT	Bodrum	2.93	152	PN	Pn	03 18 24.8	+0.9
KAVV	Kandilli-Istan	2.98	61	PN	Pb	03 18 27.4	-3.2
ISK	Istanbul-Kandi	2.98	61	PN	Pb	03 18 27.4	-3.2
YLV	Yalova	3.02	72	PN	Pb	03 18 28.3	-3.0
STIP	Stip	3.29	309	iPn	Pn	03 18 28.6	-0.3
DAT	Datca	3.32	152	PN	Pn	03 18 30.8	+1.4
FNA	Florina	3.42	290	ePn	Pn	03 18 32.1	+1.4
FNA	Florina	3.42	290	iPn	Pn	03 18 32.7	+2.0
VTS	Vitosha	3.43	329	ePn	Pn	03 18 32.9	+2.0
VTS				eSn	Sb	03 19 17.6	-2.4
VTS	Vitosha	3.43	329	⇑iP	Pn	03 18 32.8	+1.9
BIA	Bitola	3.54	294	iPn	Pn	03 18 33.9	+1.6
KRUS	Krusevo	3.73	298	iPn	Pn	03 18 36.8	+1.8
SKO	Skopje	3.91	307	ePn	Pn	03 18 39.6	+2.3
SKO	Skopje	3.91	307	iPn	Pn	03 18 37.8	+0.5
IGT	Igoumenitsa	4.08	270	ePn	Pn	03 18 40.4	+0.7
ZAPS	Zavoj	4.24	329	ePn	Pn	03 18 44.3	+2.5
BARS	Barje	4.25	319	ePn	Pn	03 18 44.0	+2.0
ZAGS	Zajecar	4.85	330	ePn	Pn	03 18 51.4	+1.2
HUMR	Humele	4.87	355	⇑iP	Pn	03 18 51.7	+1.1
SELS	Selova	4.89	318	ePn	Pn	03 18 52.2	+1.3
BOVS	Bovan	4.92	325	ePn	Pn	03 18 52.1	+0.9
PDG	Podgorica	5.54	302	⇑iP	Pn	03 19 01.4	+1.7
SJES	Sjenica	5.55	312	ePn	Pn	03 19 01.2	+1.3
MTUR	Matau	5.56	356	⇑iP	Pn	03 19 02.0	+1.8
KUBS	Kucevo	5.57	330	ePn	Pn	03 19 01.5	+1.4
GRUS	Gruza	5.58	321	ePn	Pn	03 19 01.4	+1.1
IVAS	Ivanjica	5.65	315	ePn	Pn	03 19 02.2	+0.9
HERR	Herculane	5.72	337	⇑iP	Pn	03 19 03.3	+1.1
ARR	Arges	5.74	353	⇑iP	Pn	03 19 03.8	+1.3
VOIR		5.78	356	⇑iP	Pn	03 19 04.6	+1.6
MLR	Muntele Rosu	5.82	2	⇓iP	Pn	03 19 06.2	+2.5
MDVR	Moldovita	5.87	332	⇓iP	Pn	03 19 05.9	+1.6
TRUS	Trudelj	5.98	321	ePn	Pn	03 19 06.1	+0.4
GZR	Gura Zlata	6.09	341	⇓iP	Pn	03 19 09.0	+1.7
DIVS	Divibare	6.09	318	ePn	Pn	03 19 08.6	+1.2
ODBI	Odobesti	6.18	9	⇑iP	Pn	03 19 11.2	+2.7
PLOR	Plostina	6.22	7	⇑iP	Pn	03 19 10.8	+1.7
VRI	Vrincioaia	6.25	7	⇑iP	Pn	03 19 11.3	+1.9
MDB	Medias	6.53	352	⇑iP	Pn	03 19 16.0	+2.7
BZS	Buzias	6.63	335	⇑iP	Pn	03 19 15.8	+1.1
BURAR	Bucovina Array	7.95	358	⇑iP	Pn	03 19 36.1	+3.3

IDC 09 03:25:43.9±3.3, 19°.89S×177°.78W, h412^{km}±35^{km}, mb3.5/7, mb1 3.6/7, mb1mx3.3/25, mbtmp4.3/7, Error ellipse: s-maj=68.1km s-min=17.6km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.76	263	P	P	03 31 49.9	+0.5
	3.4nm,0.3s,baz=78,slow=12,SNR=9.4						
STKA	Stephens Creek	38.24	243	P	P	03 32 26.9	+0.2
	1.1nm,0.4s,baz=88,slow=11,SNR=5.6						
ASAR	Alice Springs	44.86	256	P	P	03 33 19.5	-0.3
	5.3nm,0.6s,baz=89,slow=8.2,SNR=57						
ASAR				S	S	03 39 26.6	+0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.3nm,0.8s,baz=97,slow=15,SNR=5.1						
WRA	Warramunga Arr	44.89	261	P	P	03 33 19.2	-0.8
	0.9nm,0.3s,baz=96,slow=7.5,SNR=70						
MJAR	Matsushiro Arr	69.84	323	P	P	03 36 11.7	+0.1
	2.4nm,0.6s,baz=165,slow=6.0,SNR=5.4						
PETK	Petropavlovsk-	75.73	345	P	P	03 36 45.2	-0.1
	4.2nm,0.9s,baz=134,slow=7.9,SNR=4.2						
ILAR	Eielson Array	87.67	13	P	P	03 37 46.2	-0.3
	0.5nm,0.8s,baz=213,slow=5.9,SNR=5.4						
BRTR	Keskin Array B	146.58	313	PKPbc	PKPbc	03 44 37.9	-0.4
	0.7nm,0.6s,baz=98,slow=2.9,SNR=6.7						

MEX 09 03:32:36.7±0.7, 15°.12N×93°.11W, h92km±8km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		0.60	349	eP	Pn	03 32 51.3	-1.1
PCIG				eS	Sn	03 33 02.5	-1.6
THIG		0.84	104	i P	Pn	03 32 53.5	-1.2
THIG				eS	Sn	03 33 07.1	-1.1
CCIG	Comitan	1.49	39	eP	Pn	03 33 02.3	-0.3
CCIG				eS	Sn	03 33 21.5	-0.7
TGIG		1.65	359	eP	Pn	03 33 03.5	-1.1
TGIG				eS	Sn	03 33 23.4	-2.3

ISCJB 09 03:35:06.7±1.1, 35°.1N±0°.2×36°.3W±0°.1, h10km, mb3.6/12, Error ellipse: s-maj=32.1km s-min=14.5km az=6.6
IDC 09 03:35:06.9±1.3, 35°.14N×36°.29W, h0km, mb3.6/12, mb1 3.9/12, mb1mx3.7/37, mbtmp3.6/12, Error ellipse: s-maj=40.8km s-min=18.7km az=9.0
ISC 09 03:35:08.4±1.2, 35°.1N±0°.3×36°.3W±0°.1, h10km, n18, σ0s.64/12, mb3.6/12, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ESDC	Sonseca Array	25.98	70	P	P	03 40 42.1	+0.7
	0.7nm,0.8s,baz=267,slow=8.4,SNR=4.1						
NOA	NORSAR Array B	39.64	34	P	P	03 42 40.1	0.0
	0.7nm,0.9s,baz=253,slow=8.3,SNR=2.7						
TORD	Torodi Ar. Bea	40.64	113	P	P	03 42 48.1	-0.7
	0.3nm,0.5s,baz=304,slow=5.6,SNR=6.2						
ULM	Lac du Bonnet	45.12	309	P	P	03 43 24.2	-0.6
	1.6nm,0.7s,baz=115,slow=5.0,SNR=3.7						
FINES	FINESS Array B	46.75	36	P	P	03 43 37.7	+0.3
	2.5nm,0.8s,baz=250,slow=8.1,SNR=3.6						
H10N2	ASCENSION HYDR	47.43	150	T	T	04 33 53.4	
	baz=336						
H10N3	ASCENSION HYDR	47.44	150	T	T	04 33 54.8	
	baz=336						
H10N1	ASCENSION HYDR	47.45	150	T	T	04 33 55.2	
	baz=336						
H10S1	ASCENSION HYDR	48.38	151	T	T	04 35 00.3	
	baz=336						
H10S3	ASCENSION HYDR	48.38	151	T	T	04 35 00.7	
	baz=336						
H10S2	ASCENSION HYDR	48.39	151	T	T	04 35 01.6	
	baz=336						
YKA	Yellowknife Ar	54.23	326	P	P	03 44 33.5	-0.5
	0.4nm,0.6s,baz=84,slow=7.5,SNR=7.1						
PDAR	Pinedale Array	55.85	302	P	P	03 44 46.0	-0.4
	0.5nm,0.6s,baz=76,slow=8.3,SNR=4.4						
TXAR	Lajitas Array	56.33	284	P	P	03 44 51.0	+1.2
	0.4nm,0.9s,baz=108,slow=8.0,SNR=3.7						
INK	Inuvik	60.43	335	P	P	03 45 17.3	-0.3
	1.6nm,0.8s,baz=42,slow=9.3,SNR=4.5						
NVAR	Mina Array Bea	63.64	300	P	P	03 45 40.4	+0.3
	0.6nm,0.8s,baz=69,slow=4.9,SNR=4.0						
KURBB	Kurchatov Arra	77.14	36	P	P	03 47 02.1	+0.1
	0.2nm,0.4s,baz=316,slow=5.2,SNR=2.7						
MKAR	Makanchi Array	81.55	38	P	P	03 47 26.5	+0.3
	0.3nm,0.8s,baz=298,slow=4.6,SNR=2.5						

IDC 09 03:36:28.3±2.3, 40°.24N×79°.39E, h0km, mb3.5/2, mb1 3.6/7, mb1mx3.3/42, mbtmp3.5/7, ML3.0/5, Error ellipse: s-maj=28.7km s-min=26.9km az=179.0
KRNET 09 03:36:30.5±0.1, 40°.32N×79°.51E, mb3.9
SOME 09 03:36:31.1, 40°.55N×79°.23E, h5km
NNC 09 03:36:31.3±1.5, 40°.52N×79°.10E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=10.4km s-min=7.9km az=151.0
ISC 09 03:36:29.8±3.1, 40°.31N±0°.09×79°.35E±0°.05, h4km±20km, n72, σ1s.75/102, 25C-12D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRZ	Przheval'sk	2.29	342	⇓eP	Pn	03 37 08.8	+0.3
	baz=40						
PRZ				⇓eS	Sn	03 37 36.4	-0.8
	baz=40						
KDJ	Kajisay	2.45	319	⇓iP	Pn	03 37 11.6	+0.9
	baz=17						
KDJ				⇓iS	Sn	03 37 41.5	+0.3
	baz=17						
NRN	Naryn	2.78	295	⇑eP	Pn	03 37 16.1	+0.7
	baz=93						
NRN				⇑iS	Sn	03 37 50.6	+1.1
	baz=93						
SATY	Saty	2.84	346	Pg	Pn	03 37 18.6	+2.6
	102nm,0.7s						
SATY				Lg	Lg	03 37 53.2	
	224nm,0.8s						
SATY	Saty	2.84	346	eP	Pn	03 37 18.6	+2.6
	102nm,0.7s						
SATY				eS	Sn	03 37 53.2	+2.4
	224nm,0.8s						
SHLS	Shalkode	2.85	2	eP	Pb	03 37 20.0	-1.3
	46nm,0.6s						
SHLS				eS	Sb	03 37 55.3	-1.2
	158nm,0.5s						
UZB	Uzynbulak	2.85	355	Pg	Pn	03 37 18.8	+2.6
	27nm,0.6s						
UZB				Lg	Lg	03 37 53.4	
	87nm,0.9s						
UZB	Uzynbulak	2.85	355	eP	Pn	03 37 18.8	+2.6
	27nm,0.6s						
UZB				eS	Sn	03 37 53.4	+2.4
	87nm,0.9s						
PDGK	Podgornoye	3.02	2	Pg	Pn	03 37 20.9	+2.4
	16nm,0.6s						
PDGK				Lg	Lg	03 37 57.1	
	54nm,0.5s						
PDGK	Podgornoye	3.02	2	⇑Pg	Pb	03 37 22.6	-1.6
	21nm,0.6s						
PDGK				⇓Lg	Lg	03 37 58.5	
	94nm,0.6s						
PDGK	Podgornoye	3.02	2	⇑iP	Pn	03 37 18.4	-0.1
	baz=60						
PDGK				⇑iS	Sn	03 37 53.5	-1.7
	baz=60						
ULHL	Ulahol	3.04	311	P	Pn	03 37 21.2	+2.3
	SNR=8.7						
ULHL	Ulahol	3.04	311	⇑eP	Pn	03 37 19.8	+0.9
	baz=9.0						
ULHL				⇑iS	Sn	03 37 55.9	+0.1
	baz=9.0						
TNSS	Tian-Shan	3.27	327	Pg	Pb	03 37 27.3	-1.3
	61nm,0.6s						
TNSS				Lg	Lg	03 38 07.5	
	74nm,0.5s						
TNSS	Tian-Shan	3.27	327	eP	Pb	03 37 27.3	-1.3
	61nm,0.6s						
TNSS				eS	Sb	03 38 07.5	-1.4
	74nm,0.5s						
KURS	Kuram	3.30	345	Pg	Pb	03 37 28.1	-0.8
	61nm,1.0s						
KURS				Lg	Lg	03 38 09.5	
	152nm,1.2s						
KURS	Kuram	3.30	345	eP	Pb	03 37 28.1	-0.8
	61nm,1.0s						
KURS				eS	Sb	03 38 09.5	+0.1
	152nm,1.2s						
MDOK	Medeo	3.33	330	Pg	Pb	03 37 27.1	-2.4
	50nm,0.6s						
MDOK				Lg	Lg	03 38 09.9	
	118nm,0.6s						
MDOK	Medeo	3.33	330	Pg	Pb	03 37 27.3	-2.3
	56nm,0.6s						
MDOK				Lg	Lg	03 38 08.0	
	134nm,0.6s						
MDOK	Medeo	3.33	330	eP	Pb	03 37 27.3	-2.3
	56nm,0.6s						
MDOK				eS	Sb	03 38 08.0	-2.5
	134nm,0.6s						
BOOM	Boomskoye usch	3.37	311	⇑iP	Pn	03 37 23.6	+0.3
	baz=10.0						
BOOM				⇑iS	Sn	03 38 03.7	-0.1
	baz=10.0						
KOTS	Kotyrbulak	3.37	331	Pg	Pb	03 37 28.4	-1.8
	27nm,0.3s						
KOTS				Lg	Lg	03 38 09.7	
	166nm,0.6s						
KOTS	Kotyrbulak	3.37	331	eP	Pb	03 37 28.4	-1.8
	27nm,0.3s						
KOTS				eS	Sb	03 38 09.7	-1.8
	166nm,0.6s						
IZV	Izvestkoviy	3.41	324	Pg	Pb	03 37 30.3	-0.6
	37nm,0.5s						
IZV				Lg	Lg	03 38 12.6	
	102nm,0.6s						
IZV	Izvestkoviy	3.41	324	eP	Pb	03 37 30.3	-0.6
	37nm,0.5s						
IZV				eS	Sb	03 38 12.6	-0.1
	102nm,0.6s						
KNDC	Almaty	3.41	329	⇑Pg	Pb	03 37 30.7	-0.1
	60nm,0.8s						
KNDC				⇑Lg	Lg	03 38 12.1	
	180nm,0.8s						
KZA	Kyzart	3.56	301	P	Pn	03 37 30.1	+3.8
	SNR=20						
KZA	Kyzart	3.56	301	⇑iP	Pn	03 37 27.6	+1.4
	baz=0.0						
KZA				⇑iS	Sn	03 38 09.5	+0.5
	baz=0.0						
MTBS	Maitube	3.57	323	Pg	Pb	03 37 30.8	-2.7
MTBS				Lg	Lg	03 38 13.8	
	24nm,0.7s						
MTBS	Maitube	3.57	323	eP	Pn	03 37 30.4	+4.4
	6.7nm,0.3s						
MTBS				eS	Sn	03 38 12.8	+4.1
	19nm,0.3s						
KST	Kastek	3.73	318	Pg	Pb	03 37 34.7	-1.6
	30nm,0.6s						
KST				Lg	Lg	03 38 20.9	
	56nm,0.8s						
KST	Kastek	3.73	318	eP	Pb	03 37 34.7	-1.6
	30nm,0.6s						
KST				eS	Sb	03 38 20.9	-1.0
	56nm,0.8s						
TKM2	Tokmak 2	3.84	314	P	Pn	03 37 30.2	+0.4
	SNR=19						
TKM2	Tokmak 2	3.84	314	⇓Pg	Pn	03 37 30.7	+0.9
	11nm,0.6s						
TKM2				⇑Lg	Lg	03 38 24.7	
	32nm,0.6s						
TKM2	Tokmak 2	3.84	314	⇓iP	Pn	03 37 30.1	+0.3
	baz=13						
TKM2				⇓iS	Sn	03 38 14.9	-0.6
	baz=13						
KTBS	Karatobe	3.94	331	Pg	Pb	03 37 38.2	-1.6
	17nm,0.5s						
KTBS				Lg	Lg	03 38 26.3	
	56nm,0.8s						
KTBS	Karatobe	3.94	331	eP	Pb	03 37 38.2	-1.6
	17nm,0.5s						
KTBS				eS	Sb	03 38 26.3	-1.5
	56nm,0.8s						
CHKK	Chushkaly	3.96	334	Pg	Pb	03 37 39.2	-0.9
	13nm,0.6s						
CHKK				Lg	Lg	03 38 28.2	
	85nm,0.5s						
CHKK	Chushkaly	3.96	334	eP	Pb	03 37 39.2	-0.9
	13nm,0.6s						
CHKK				eS	Sb	03 38 28.2	0.0
	85nm,0.5s						
DGS	Degeres	3.97	319	Pg	Pb	03 37 40.7	+0.3
	27nm,0.6s						
DGS				Lg	Lg	03 38 30.6	
	54nm,0.7s						
DGS	Degeres	3.97	319	eP	Pb	03 37 40.7	+0.3
	27nm,0.6s						
DGS				eS	Sb	03 38 30.6	+1.8
	54nm,0.7s						
DJR	Jarkent	4.04	4	eP	Pb	03 37 41.3	-0.2
	2.3nm,0.8s						
DJR				eS	Sb	03 38 31.9	+1.3
	14nm,0.5s						
KBK	Karagaybulak	4.05	307	P	Pb	03 37 39.8	-2.1
	SNR=7.1						
ARXS	Arharly	4.06	344	Pg	Pb	03 37 41.4	-0.5
	22nm,0.6s						
ARXS				Lg	Lg	03 38 32.0	
	37nm,0.5s						
ARXS	Arharly	4.06	344	eP	Pb	03 37 41.4	-0.5
	22nm,0.6s						
ARXS				eS	Sb	03 38 32.0	+0.6
	37nm,0.5s						
ARLS	Aral	4.10	294	⇑iP	Pn	03 37 34.7	+1.3
	baz=93						
ARLS				⇑eS	Sn	03 38 21.6	-0.4
	baz=93						
UCH	Uchtor	4.12	299	P	Pb	03 37 41.4	-1.8
	SNR=17						
UCH	Uchtor	4.12	299	⇑iP	Pn	03 37 35.2	+1.3
	baz=98						
UCH				⇑iS	Sn	03 38 22.5	-0.3
	baz=98						
KUU	Kurty	4.22	329	Pg	Pb	03 37 43.6	-1.1
	11nm,0.7s						
KUU				Lg	Lg	03 38 35.5	
	43nm,0.8s						
KUU	Kurty	4.22	329	eP	Pb	03 37 43.6	-1.1
	11nm,0.7s						
KUU				eS	Sb	03 38 35.5	-0.5
	43nm,0.8s						
AAK	Ala-Archa	4.33	304	Pn	Pn	03 37 38.8	+2.3
	1.2nm,0.3s,baz=136,slow=9.0,SNR=6.8						
AAK				Lg	Lg	03 38 38.2	
	0.7nm,0.3s,baz=304,slow=20,SNR=7.7						
AAK	Ala-Archa	4.33	304	P	Pb	03 37 45.0	-1.5
	SNR=6.2						
AAK	Ala-Archa	4.33	304	⇑Pg	Pb	03 37 44.0	-2.5
	17nm,0.7s						
AAK				⇓Lg	Lg	03 38 38.7	
	28nm,0.8s						
AAK	Ala-Archa	4.33	304	⇑eP	Pn	03 37 38.0	+1.5
	baz=3.0						
AAK				⇑iS	Sn	03 38 27.0	-0.5
	baz=3.0						
CHMS	Chumysh	4.37	309	P	Pb	03 37 46.8	-0.3
	SNR=6.3						
SFK	Sufi-Kurgan	4.49	268	⇓Pg	Pb	03 37 46.2	-3.2
	5.9nm,0.7s						
SFK				⇑Lg	Lg	03 38 44.8	
	36nm,1.1s						
USP	Ospenovka	4.68	311	P	Pb	03 37 50.5	-1.9
	SNR=8.8						
TDK	Taldyqorghan	4.74	352	Pg	Pb	03 37 53.8	+0.3
	53nm,0.3s						
TDK				Lg	Lg	03 38 53.0	
	168nm,1.1s						
TDK	Taldyqorghan	4.74	352	eP	Pb	03 37 53.8	+0.3
	53nm,0.3s						
TDK				eS	Sb	03 38 53.0	+2.1
	168nm,1.1s						
KAPS	Kapalarasan	4.97	0	Pg	Pb	03 37 58.8	+1.3
	7.5nm,0.6s						
KAPS				Lg	Lg	03 39 01.4	
	28nm,0.7s						
KAPS	Kapalarasan	4.97	0	eP	Pb	03 37 58.8	+1.3
	7.5nm,0.6s						
KAPS				eS	Sb	03 39 01.4	+3.8
	28nm,0.7s						
MRKS	Merke	5.20	300	Pg	Pb	03 38 03.4	+2.1
	10nm,0.7s						
MRKS				Lg	Lg	03 39 10.0	
	6.1nm,0.8s						
MRKS	Merke	5.20	300	eP	Pb	03 38 03.4	+2.1
	10nm,0.7s						
MRKS				eS	Sb	03 39 10.0	+5.8
	6.1nm,0.8s						
MAKZ	Makanchi	6.77	15	⇑Pn	Pn	03 38 12.4	+2.5
	0.9nm,0.6s						
MAKZ				⇑Sn	Sn	03 39 26.0	-1.4
	1.2nm,0.6s						
MAKZ				⇓Lg	Lg	03 40 03.5	
	1.6nm,0.9s						
MK31	Makanchi Array	6.83	17	Pn	Pn	03 38 11.3	+0.6
	0.4nm,0.3s,baz=200,slow=12,SNR=25						
MK31				Sn	Sn	03 39 29.9	+1.1
	0.8nm,0.4s,baz=200,slow=24,SNR=5.5						
MK31				⇑Lg	Lg	03 40 06.7	
	1.9nm,0.6s						
MKAR	Makanchi Array	6.83	17	Pn	Pn	03 38 11.7	+1.0
	0.6nm,0.3s,baz=202,slow=13,SNR=21						
MKAR				Sn	Sn	03 39 27.8	-1.0
	0.9nm,0.3s,baz=195,slow=26,SNR=8.0						
MKAR				Lg	Lg	03 40 06.3	
	0.4nm,0.3s,baz=196,slow=26,SNR=3.6						
OTUK	Ortayu	9.39	330	⇓Lg	Lg	03 41 16.2	
	8.0nm,1.1s						
KURBB	Kurchatov Arra	10.33	357	Pn	Pn	03 38 57.8	-0.8
	0.1nm,0.3s,baz=182,slow=11,SNR=3.5						
KURBB				Lg	Lg	03 41 51.8	
	0.1nm,0.3s,baz=184,slow=28,SNR=6.1						
BVAR	Borovoye Array	14.11	337	Pn	Pn	03 39 49.1	-1.3
	0.1nm,0.3s,baz=152,slow=13,SNR=8.2						
BVAR				Lg	Lg	03 43 57.2	
	0.1nm,0.3s,baz=150,slow=27,SNR=5.2						
ZALV	Zalesovo Beam	14.14	13	Pn	Pn	03 39 50.1	-0.6
	0.1nm,0.3s,baz=196,slow=10.0,SNR=2.6						
SONM	Songino Array	20.76	60	P	Pn	03 41 12.7	-1.3
	1.2nm,0.7s,baz=257,slow=11,SNR=7.6						
YKA	Yellowknife Ar	76.93	7	P	P	03 48 21.2	-1.7
	0.5nm,0.8s,baz=347,slow=5.5,SNR=7.4						

ISCJB 09 03:39:19.4±0.4, 23°.92N±0°.02×122°.31E±0°.02, h16km±6km, Error ellipse: s-maj=3.5km s-min=2.5km az=144.8
TAP 09 03:39:19.1, 23°.93N×122°.28E, h19km, ML3.2, D
JMA 09 03:39:19.2±0.2, 23°.92N×122°.30E, h15km
ISC 09 03:39:19.0±1.0, 23°.93N±0°.03×122°.29E±0°.02, h17km±8km, n50, σ0s.45/96, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HWA	Hwalien	0.63	274	P	Pb	03 39 32.2	+0.6
	baz=274						
HWA				eS	Sb	03 39 41.0	+0.9
	baz=274						
EOS1	EOS1	0.63	346	eP	Pg	03 39 31.4	-0.1
	baz=347						
EOS1				eS	Sb	03 39 40.2	+0.1
	baz=347						
ENLB	Shoufeng	0.63	267	eP	Pb	03 39 32.1	+0.5
	baz=267						
ENLB				eS	Sb	03 39 41.3	+1.1
	baz=267						
TWD	Chiawan	0.65	283	P	Pb	03 39 32.2	+0.2
	baz=283						
TWD				S	Sb	03 39 41.7	+0.9
	baz=283						
NACB	Ninganchiao	0.68	291	eP	Pb	03 39 32.6	+0.1
	baz=291						
NACB				eS	Sb	03 39 42.6	+1.0
	baz=291						
NANB	Nanao	0.70	315	eP	Pb	03 39 32.5	-0.3
	baz=315						
NANB				eS	Sn	03 39 43.8	-0.7
	baz=315						
ENA	Nanau	0.70	314	eP	Pb	03 39 32.5	-0.3
	baz=315						
ENA				eS	Sb	03 39 43.0	+0.8
	baz=315						
TWC	Suao	0.79	329	P	Pb	03 39 33.4	-0.8
	baz=330						
TWC				eS	Sb	03 39 44.5	-0.1
	baz=330						
JYNG	Yonagunijimaku	0.79	49	P	Pb	03 39 34.4	+0.1
JYNG				eS	Sb	03 39 43.5	-1.2
ESL	Shilin	0.80	262	eP	Pb	03 39 34.0	-0.4
	baz=261						
ESL				eS	Sg	03 39 45.4	+0.3
	baz=261						
YOJ	Yonaguni jima	0.84	51	eP	Pg	03 39 35.8	+0.4
	baz=50						
YOJ				eS	Sb	03 39 45.0	-1.2
	baz=50						
HGSD	Ruisui	0.91	241	eP	Pb	03 39 36.1	-0.2
	baz=240						
HGSD				eS	Sb	03 39 47.4	-0.8
	baz=240						
WHF	Hehuan Shan	0.96	283	P	Pb	03 39 37.3	-0.3
	baz=282						
WHF				S	Sg	03 39 50.5	-0.1
	baz=282						
EGS		0.97	340	eP	Pb	03 39 37.4	+0.1
	baz=341						
EGS				S	Sg	03 39 50.5	+0.1
	baz=341						
ENTT	Nioudou	0.97	317	i P	Pg	03 39 37.7	-0.1
	baz=317						
ENTT				eS	Sg	03 39 50.8	+0.3
	baz=317						
ILA	Ilan	0.97	329	eP	Pb	03 39 37.3	0.0
	baz=330						
ILA				eS	Sb	03 39 49.9	0.0
	baz=330						
NNSB	Datong	0.97	301	eP	Pb	03 39 37.3	-0.1
	baz=301						
NNSB				eS	Sg	03 39 50.6	0.0
	baz=301						
TWE	Neicheng	0.97	324	i P	Pn	03 39 37.8	-0.1
	baz=325						
TWE				S	Sn	03 39 51.3	+0.1
	baz=325						
NNS	Nan Shan	0.98	301	i P	Pb	03 39 37.5	-0.1
	baz=301						
NNS				S	Sg	03 39 50.8	-0.1
	baz=301						
EHY	Hungye	0.99	245	eP	Pb	03 39 37.6	-0.1
	baz=243						
EHY				S	Sg	03 39 51.0	-0.2
	baz=243						
NTC	Toucheng	1.01	335	eP	Pn	03 39 38.4	0.0
	baz=336						
NTC				eS	Sg	03 39 51.8	-0.1
	baz=336						
SLBB	Yuanshan	1.01	324	eP	Pn	03 39 38.7	+0.2
	baz=324						
SLBB				eS	Sn	03 39 52.7	+0.3
	baz=324						
CHGB	Renai	1.03	277	eP	Pb	03 39 38.5	-0.1
	baz=277						
CHGB				eS	Sg	03 39 52.3	-0.3
	baz=277						
YULB	Yu-li	1.06	240	eP	Pb	03 39 38.5	-0.5
	baz=239						
YULB				eS	Sb	03 39 52.9	+0.4
	baz=239						
VWDT	VWDT	1.07	261	eP	Pn	03 39 39.2	0.0
	baz=260						
VWDT				eS	Sn	03 39 53.6	0.0
	baz=260						
TWF1	Yuli	1.08	238	eP	Pb	03 39 39.0	-0.3
	baz=237						
TWF1				S	Sn	03 39 53.7	-0.3
	baz=237						
TDCB	Techi	1.08	287	eP	Pb	03 39 39.5	+0.1
	baz=287						
TDCB				eS	Sn	03 39 53.9	-0.4
	baz=287						
TWB1	Santiao Chiao	1.11	346	eP	Pb	03 39 39.0	-0.7
	baz=346						
TWB1				eS	Sg	03 39 55.2	+0.2
	baz=346						
NWLT	Wulai	1.11	320	eP	Pb	03 39 39.3	-0.4
	baz=320						
NWLT				eS	Sg	03 39 55.2	+0.2
	baz=320						
YHNB	Yeheng	1.11	311	eP	Pb	03 39 39.6	-0.2
	baz=311						
YHNB				eS	Sb	03 39 53.9	-0.2
	baz=311						
TIPB	Shuangxi	1.12	338	eP	Pb	03 39 39.7	-0.3
	baz=338						
TIPB				eS	Sb	03 39 54.1	-0.1
	baz=338						
NSK	Sanguang	1.13	311	P	Pn	03 39 39.9	-0.2
	baz=311						
NSK				S	Sn	03 39 55.2	-0.1
	baz=311						
NWF	Wu-fen Shan	1.23	338	eP	Pn	03 39 41.4	0.0
	baz=338						
NWF				eS	Sn	03 39 58.2	+0.5
	baz=338						
WFSB	Wu-fen Shan	1.23	338	eP	Pn	03 39 41.6	+0.2
	baz=338						
WFSB				eS	Sn	03 39 57.7	+0.1
	baz=338						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWA	**Mucha**	**1.23**	**328**	P	**Pb**	**03 39 42.3**	**+0.5**
	baz=329						
TWA				eS	**Sn**	**03 39 57.8**	**+0.2**
	baz=329						
TATO	**Taipei**	**1.27**	**325**	eP	**Pg**	**03 39 43.2**	**-0.4**
	baz=325						
SMLT	**Sun Moon Lake**	**1.28**	**268**	P	**Pn**	**03 39 42.5**	**+0.3**
	baz=267						
SMLT				S	**Sb**	**03 39 58.5**	**-0.3**
	baz=267						
YUS	**Yu-Shan**	**1.31**	**251**	eP	**Pn**	**03 39 42.7**	**-0.3**
	baz=249						
YUS				eS	**Sb**	**03 39 59.9**	**-0.1**
	baz=249						
TYC	**Yuchr**	**1.31**	**269**	P	**Pn**	**03 39 42.8**	**+0.2**
	baz=268						
TYC				eS	**Sn**	**03 39 59.1**	**-0.6**
	baz=268						
WLTB	**Daxi**	**1.32**	**314**	eP	**Pb**	**03 39 43.2**	**-0.2**
	baz=314						
WLTB				eS	**Sn**	**03 39 59.3**	**-0.5**
	baz=314						
NSTT	**Nanjuang**	**1.37**	**301**	eP	**Pb**	**03 39 44.2**	**+0.1**
	baz=301						
NSTT				eS	**Sn**	**03 40 01.1**	**0.0**
	baz=301						
IRIF	**Iriomote-Funau**	**1.37**	**73**	P	**Pb**	**03 39 45.0**	**+0.8**
IRIF				eS	**Sg**	**03 40 03.6**	**+0.2**
YM01	**YM01**	**1.38**	**332**	eP	**Pn**	**03 39 43.8**	**+0.3**
	baz=331						
YM01				eS	**Sn**	**03 40 01.0**	**-0.4**
	baz=331						
HATJ	**Hateruma jima**	**1.39**	**85**	eS	**Sn**	**03 40 00.7**	**-0.8**
YM11	**YM11**	**1.39**	**332**	eP	**Pn**	**03 39 44.1**	**+0.3**
	baz=332						
YM05	**YM05**	**1.39**	**332**	eP	**Pn**	**03 39 44.2**	**+0.5**
	baz=332						
YM05				eS	**Sb**	**03 40 02.2**	**0.0**
	baz=332						
YM04	**YM04**	**1.40**	**331**	eP	**Pn**	**03 39 43.7**	**-0.1**
	baz=330						
YM04				eS	**Sn**	**03 40 02.0**	**+0.2**
	baz=330						
JKRS	**Kuro-shima**	**1.60**	**79**	P	**Pb**	**03 39 48.6**	**+0.5**
JKRS				S	**Sg**	**03 40 09.5**	**-1.1**
JIJ	**Ishigaki jima**	**1.74**	**75**	P	**Pn**	**03 39 48.8**	**+0.3**
JIJ				eS	**Sn**	**03 40 11.2**	**+0.9**
JISG	**Ishigakijimahi**	**1.95**	**70**	eS	**Sn**	**03 40 15.8**	**+0.3**

IDC 09 03:43:14.0±9.0**, 2°.14S**×**67°.62E, h0^{km}, mb3.6**/5**, mb1 3.7**/5**, mb1mx3.4**/47**, mbtmp3.6**/5**, Error ellipse: s-maj=283.9km s-min=33.8km az=65.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.36**	**141**	T	T	03 50 01.4	
	baz=325,slow=75,SNR=14						
H08N3	**Diego Garcia H**	**5.37**	**141**	T	T	03 50 01.9	
	baz=325,slow=75,SNR=11						
H08N1	**Diego Carcia H**	**5.38**	**141**	T	T	03 49 56.7	
	baz=325,slow=75,SNR=11						
MKAR	**Makanchi Array**	**50.41**	**13**	P	P	03 52 12.8	-0.4
	0.4nm,0.8s,baz=205,slow=8.0,SNR=4.4						
KURBB	**Kurchatov Arra**	**53.38**	**9**	P	P	03 52 35.2	0.0
	0.7nm,0.8s,baz=207,slow=7.7,SNR=4.1						
ZALV	**Zalesovo Beam**	**57.70**	**12**	P	P	03 53 06.0	-0.3
	0.6nm,0.5s,baz=222,slow=5.6,SNR=3.2						
SONM	**Songino Array**	**60.17**	**29**	P	P	03 53 24.2	+0.4
	0.4nm,0.4s,baz=223,slow=5.4,SNR=4.1						
WRA	**Warramunga Arr**	**67.42**	**111**	P	P	03 54 12.0	0.0
	0.4nm,0.9s,baz=283,slow=7.7,SNR=2.5						

IDC 09 03:46:39.6±1.5**, 13°.47S**×**166°.48E, h0^{km}, mb3.7**/3**, mb1 4.0**/4**, mb1mx3.6**/32**, mbtmp3.7**/4**, ML3.8**/1**, Error ellipse: s-maj=51.4km s-min=29.6km az=131.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.55**	**180**	Pn	Pn	03 48 45.3	+0.4
	1.2nm,0.3s,baz=158,slow=16,SNR=9.8						
DZM				Sn	Sn	03 50 13.3	-8.8
	0.4nm,0.3s,baz=139,slow=20,SNR=1.9						
WRA	**Warramunga Arr**	**31.42**	**254**	P	P	03 53 03.1	+0.3
	0.3nm,0.6s,baz=86,slow=9.6,SNR=8.3						
ASAR	**Alice Springs**	**32.43**	**247**	P	P	03 53 11.6	-0.1
	0.8nm,0.5s,baz=75,slow=9.4,SNR=16						
ILAR	**Eielson Array**	**85.58**	**18**	P	P	03 59 19.9	+0.5
	0.2nm,0.5s,baz=235,slow=4.8,SNR=7.1						
ARCES	**ARCESS Array B**	**118.85**	**345**	PKP	PKPdf	04 05 28.3	-1.2
	2.4nm,0.9s,baz=48,slow=1.3,SNR=5.5						

*IDC **09** 03:49:02.5±0.6, 1°.92S×68°.04E, h0^{km}, mb4.3/19, mb1 4.4/19, mb1mx4.1/52, mbtmp4.3/19, MS3.9/16, Ms1 3.9/16, ms1mx3.6/42, Error ellipse: s-maj=18.5km s-min=14.0km az=150.0*
*ISCJB **09** 03:49:03.2±0.4, 1°.90S±0°.07×68°.04E±0°.06, h15^{km}, mb4.4/30, MS3.8/15, Error ellipse: s-maj=10.1km s-min=8.7km az=148.8*
*NEIC **09** 03:49:04.2±0.3, 1°.93S×68°.02E, h10^{km}, mb4.5/16, Error ellipse: s-maj=8.6km s-min=7.4km az=149.0*
*GCMT **09** 03:49:05.2±0.4, 2°.01S±0°.04×67°.96E±0°.03, h20^{km}±1^{km}, MW5.0/69, Moment Tensor Solution. s16,c17; s69,c87; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.75±.36; $M_{\theta\theta}$1.51±.20; $M_{\phi\phi}$2.23±.22; $M_{r\theta}$1.68±.44; $M_{\theta\phi}$-1.44±.11; $M_{\phi r}$-0.42±.35; Best double couple: $M_0$3.93000×10^{16} NP1:ϕ_s308.00000°, δ57.00000°, λ-104.00000°. NP2: ϕ_s153.00000°, δ36.00000°, λ-69.00000°. Principal axes: T 3.6190, Plg11.0000°, Azm48.0000°; N 0.6120, Plg12.0000°, Azm316.0000°; P -4.2410, Plg74.0000°, Azm180.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 03:49:05.0±0.6**, 1°.9S**±0°.1×**68°.0E**±0°.1**, h15^{km}, n85, σ0^{s}.88**/72**, mb4.4**/30**, MS3.8**/15**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.28**	**146**	T	T	03 55 50.9	
	baz=325,slow=76,SNR=371						
H08N3	**Diego Garcia H**	**5.29**	**146**	T	T	03 55 51.7	
	baz=325,slow=76,SNR=239						
H08N1	**Diego Carcia H**	**5.30**	**146**	T	T	03 55 52.6	
	baz=325,slow=76,SNR=342						
PALK	**Pallekele**	**15.62**	**54**	LR	LR	03 57 28.0	
	comp=Z,834nm,20.3s,baz=294,slow=32						
OPO	**Ambohidratompo**	**26.27**	**230**	LR	LR	04 02 39.1	
	comp=Z,516nm,19.3s,baz=14,slow=31						
WSAR	**Wadi Sarin**	**26.64**	**340**	LR	LR	04 03 48.7	
	comp=Z,135nm,18.1s,baz=174,slow=33						
ATD	**Arta Tunnel**	**28.37**	**299**	LR	LR	04 03 52.4	
	comp=Z,119nm,20.7s,baz=167,slow=31						
KMBO	**Kilima Mbogo**	**30.76**	**271**	P	**P**	**03 55 22.3**	**+1.9**
	1.0nm,0.3s,baz=32,slow=12,SNR=6.7						
KMBO				LR	LR	04 05 43.4	
	comp=Z,155nm,19.1s,baz=57,slow=32						
KMBO	**Kilima Mbogo**	**30.76**	**271**	eP	**P**	**03 55 22.3**	**+1.9**
	4.6nm,1.1s						
PSI	**Prapat**	**31.26**	**81**	LR	LR	04 05 46.3	
	comp=Z,408nm,21.1s,baz=264,slow=32						
CM31	**Chiang Mai Arr**	**36.57**	**55**	eP	**P**	**03 56 10.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**36.57**	**55**	P	**P**	**03 56 10.4**	**-0.2**
	0.6nm,0.3s,baz=244,slow=9.4,SNR=7.3						
CMAR				LR	LR	04 09 19.0	
	comp=Z,178nm,21.2s,baz=239,slow=33						
MBAR	**Mbarara**	**37.28**	**272**	P	**P**	**03 56 18.4**	**+1.4**
	3.7nm,0.2s,baz=346,slow=2.2,SNR=3.8						
MBAR	**Mbarara**	**37.28**	**272**	eP	**P**	**03 56 18.4**	**+1.4**
	7.8nm,1.2s						
PBKT	**Sadao Pong**	**37.38**	**59**	eP	**P**	**03 56 19.6**	**+2.1**
	7.6nm,1.1s						
LEM	**Lembang**	**39.77**	**98**	LR	LR	04 10 37.8	
	comp=Z,216nm,19.0s,baz=209,slow=33						
GAR	**Garm**	**40.79**	**3**	eP	**P**	**03 56 46.5**	**+0.6**
	17nm,1.1s						
LSZ	**Lusaka**	**41.44**	**249**	P	**P**	**03 56 51.3**	**-0.3**
	3.4nm,0.5s,baz=61,slow=4.7,SNR=12						
LSZ	**Lusaka**	**41.44**	**249**	eP	**P**	**03 56 51.5**	**-0.1**
	14nm,1.4s						
BTK	**Batken**	**41.87**	**3**	eP	**P**	**03 56 56.4**	**+1.6**
	7.4nm,1.0s						
MATP	**Matopo**	**42.71**	**242**	P	**P**	**03 57 01.2**	**-0.7**
	3.8nm,1.0s,baz=58,slow=10,SNR=4.2						
MATP				LR	LR	04 11 59.1	
	comp=Z,130nm,20.2s,baz=81,slow=32						
NRN	**Naryn**	**43.77**	**9**	eP	**P**	**03 57 10.7**	**+0.2**
	6.1nm,1.1s						
EIL	**Elat**	**44.56**	**317**	LR	LR	04 13 09.1	
	comp=Z,101nm,19.9s,baz=182,slow=32						
AAK	**Ala-Archa**	**44.76**	**7**	P	**P**	**03 57 18.8**	**+0.7**
	3.8nm,1.1s,baz=170,slow=4.4,SNR=5.4						
AAK	**Ala-Archa**	**44.76**	**7**	eP	**P**	**03 57 19.5**	**+1.4**
	5.4nm,1.1s						
BOSA	**Boshof**	**48.61**	**233**	P	**P**	**03 57 49.3**	**+0.8**
	6.4nm,1.2s,baz=76,slow=11,SNR=3.4						
BOSA				LR	LR	04 16 05.0	
	comp=Z,197nm,20.0s,baz=41,slow=33						
MAKZ	**Makanchi**	**50.07**	**12**	eP	**P**	**03 57 59.0**	**-0.3**
	9.0nm,1.3s						
MK01	**Makanchi Array**	**50.11**	**13**	eP	**P**	**03 57 58.6**	**-0.9**
MK31	**Makanchi Array**	**50.13**	**13**	eP	**P**	**03 57 59.3**	**-0.4**
MK32	**Makanchi Array**	**50.13**	**13**	eP	**P**	**03 57 59.0**	**-0.7**
MKAR	**Makanchi Array**	**50.13**	**13**	P	**P**	**03 57 59.0**	**-0.7**
	2.7nm,0.8s,baz=189,slow=6.9,SNR=21						
MKAR	**Makanchi Array**	**50.13**	**13**	eP	**P**	**03 57 59.3**	**-0.4**
	22nm,0.9s						
KBZ	**Khabaz**	**50.73**	**337**	P	**P**	**03 58 05.4**	**+1.1**
	5.1nm,1.1s,baz=165,slow=8.5,SNR=4.5						
ABKAR	**Akbulak array**	**51.47**	**353**	eP	**P**	**03 58 09.5**	**-0.2**
BR101	**Keskin Array S**	**52.06**	**326**	eP	**P**	**03 58 12.7**	**-1.9**
BRTR	**Keskin Array B**	**52.06**	**326**	P	**P**	**03 58 12.7**	**-1.9**
	1.5nm,1.0s,baz=140,slow=9.1,SNR=10.0						
XAN	**Xi'an**	**52.52**	**43**	eP	**P**	**03 58 18.0**	**+0.1**
	20nm,1.1s						
AKTO	**Aktyubinsk**	**52.87**	**352**	P	**P**	**03 58 19.7**	**-0.5**
	3.7nm,0.9s,baz=180,slow=8.0,SNR=6.0						
KURBB	**Kurchatov Arra**	**53.13**	**8**	P	**P**	**03 58 21.9**	**-0.1**
	4.9nm,1.0s,baz=204,slow=7.6,SNR=16						
KURBB				PcP	**PcP**	**03 59 29.9**	**-0.2**
	0.9nm,0.6s,baz=206,slow=4.3,SNR=6.0						
KURK	**Kurchatov**	**53.23**	**8**	eP	**P**	**03 58 22.8**	**0.0**
	8.2nm,1.0s						
ZAA0	**Zalesovo Array**	**57.42**	**12**	eP	**P**	**03 58 52.4**	**-0.5**
	9.4nm,1.0s						
ZALV	**Zalesovo Beam**	**57.42**	**12**	P	**P**	**03 58 52.4**	**-0.6**
	3.8nm,0.7s,baz=213,slow=8.0,SNR=22						
ZALV	**Zalesovo Beam**	**57.42**	**12**	eP	**P**	**03 58 51.8**	**-1.1**
ZAA1	**Zalesovo Array**	**57.43**	**12**	eP	**P**	**03 58 52.4**	**-0.6**
SONA0	**Songino Array**	**59.80**	**29**	eP	**P**	**03 59 10.8**	**+1.0**
SONM	**Songino Array**	**59.80**	**29**	P	**P**	**03 59 10.8**	**+1.0**
	3.8nm,0.9s,baz=223,slow=7.1,SNR=20						
SONA1	**Songino Array**	**59.81**	**29**	eP	**P**	**03 59 10.5**	**+0.6**
OBN	**Obninsk**	**62.46**	**340**	LR	LR	04 28 09.4	
	comp=Z,16nm,18.5s,baz=229,slow=38						
MAW	**Mawson**	**65.64**	**182**	LR	LR	04 20 22.1	
	comp=Z,198nm,21.5s,baz=358,slow=29						
WR1	**Warramunga Arr**	**67.12**	**111**	eP	**P**	**03 59 58.2**	**-0.5**
	10nm,1.4s						
WRA	**Warramunga Arr**	**67.12**	**111**	P	**P**	**03 59 58.2**	**-0.5**
	3.3nm,1.0s,baz=282,slow=5.8,SNR=13						
WRA				LR	LR	04 26 02.0	
	comp=Z,48nm,22.0s,baz=275,slow=33						
WB2	**Warramunga Arr**	**67.13**	**111**	eP	**P**	**03 59 58.5**	**-0.2**
ASAR	**Alice Springs**	**67.19**	**115**	P	**P**	**03 59 59.1**	**0.0**
	1.8nm,1.0s,baz=280,slow=6.2,SNR=9.1						
AS31	**Alice Springs**	**67.19**	**115**	eP	**P**	**03 59 59.1**	**0.0**
	1.6nm,1.3s						
AS01	**Alice Springs**	**67.23**	**115**	eP	**P**	**03 59 58.7**	**-0.7**
TOA0	**Torodi Ar. Sit**	**67.45**	**285**	eP	**P**	**04 00 01.6**	**+0.8**
TORD	**Torodi Ar. Bea**	**67.45**	**285**	P	**P**	**04 00 00.5**	**-0.3**
	2.3nm,1.1s,baz=101,slow=6.0,SNR=5.5						
TOA1	**Torodi Ar. Sit**	**67.45**	**285**	eP	**P**	**04 00 00.5**	**-0.3**
USRK	**Ussuriysk Ar.**	**73.02**	**43**	LR	LR	04 33 55.0	
	comp=Z,51nm,21.0s,baz=352,slow=37						
MJAR	**Matsushiro Arr**	**75.36**	**52**	LR	LR	04 33 58.4	
	comp=Z,108nm,20.8s,baz=265,slow=36						
NB200	**NORSAR Array S**	**76.29**	**335**	eP	**P**	**04 00 51.8**	**-1.2**
NOA	**NORSAR Array B**	**76.29**	**335**	P	**P**	**04 00 51.8**	**-1.2**
	1.9nm,1.1s,baz=113,slow=5.9,SNR=3.7						
ES19	**SONSECA Array**	**77.40**	**311**	eP	**P**	**04 01 00.1**	**+0.3**
ESDC	**Sonseca Array**	**77.44**	**311**	P	**P**	**04 00 59.5**	**-0.6**
	1.8nm,1.0s,baz=104,slow=4.7,SNR=6.1						
QSPA	**South Pole Qui**	**88.06**	**180**	eP	**P**	**04 01 54.8**	**+0.1**
	14nm,1.6s						
YKA	**Yellowknife Ar**	**119.56**	**1**	PKP	**PKPdf**	**04 07 52.7**	**-1.2**
	0.5nm,0.8s,baz=0.8,slow=2.4,SNR=5.6						
YKB5	**Yellowknife Ar**	**119.56**	**1**	ePKPdf	**PKPdf**	**04 07 52.7**	**-1.2**
NV01	**Mina Array Sit**	**143.22**	**8**	ePKPdf	**PKPdf**	**04 08 37.8**	**-1.7**
NVAR	**Mina Array Bea**	**143.22**	**8**	PKP	**PKPdf**	**04 08 37.8**	**-1.7**
	0.7nm,0.8s,baz=264,slow=1.3,SNR=4.4						
MTPU	**Mount Pierson**	**144.07**	**0**	ePKPdf	**PKPdf**	**04 08 40.6**	**-0.5**
SZCU	**Shurtz Canyon**	**144.50**	**2**	ePKPdf	**PKPdf**	**04 08 41.4**	**-0.3**
CCUT	**Cedar City**	**144.54**	**2**	ePKPdf	**PKPdf**	**04 08 41.7**	**-0.1**
PKCU	**Pink Cliffs**	**144.66**	**0**	ePKPdf	**PKPdf**	**04 08 41.8**	**-0.3**
LCMT	**Little Creek M**	**145.08**	**2**	ePKPbc	**PKPdf**	**04 08 43.0**	**+0.3**
WMOK	**Wichita Mounta**	**145.12**	**341**	ePKPbc	**PKPab**	**04 08 42.0**	**-0.1**
DAC	**Darwin (Calif)**	**145.44**	**8**	ePKPbc	**PKPab**	**04 08 44.0**	**+0.6**
SHPR	**Sheep Range**	**145.48**	**5**	ePKPdf	**PKPab**	**04 08 44.3**	**+0.8**
U15A	**North Rim**	**145.68**	**0**	ePKPdf	**PKPab**	**04 08 44.7**	**+0.3**
OTAV	**Otavalo**	**146.43**	**268**	ePKPdf	**PKPab**	**04 08 47.9**	**-0.3**
GSC	**Goldstone, Bar**	**146.50**	**7**	ePKPdf	**PKPab**	**04 08 47.3**	**0.0**
MNTX	**Cornudas Mount**	**149.75**	**349**	ePKPbc	**PKPbc**	**04 08 55.7**	**+0.6**
TUC	**Tucson**	**149.77**	**358**	ePKPbc	**PKPbc**	**04 08 55.9**	**+0.7**
LTX	**Lajitas**	**151.62**	**345**	ePKPbc	**PKPbc**	**04 08 59.5**	**-0.2**
TX31	**Lajitas Ar. Si**	**151.62**	**345**	ePKPbc	**PKPbc**	**04 08 59.6**	**-0.1**
TXAR	**Lajitas Array**	**151.62**	**345**	PKPbc	**PKPbc**	**04 08 59.5**	**-0.2**
	2.6nm,1.0s,baz=22,slow=1.3,SNR=14						

IDC 09 03:51:08.1±2.0**, 1°.99S**×**67°.78E, h0^{km}, mb3.9**/7**, mb1 4.1**/7**, mb1mx3.6**/51**, mbtmp3.9**/7**, MS3.6**/2**, Ms1 3.6**/2**, ms1mx3.0**/40**, Error ellipse: s-maj=58.6km s-min=28.2km az=65.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.38**	**143**	T	T	03 57 46.6	
	baz=325,slow=75,SNR=16						
H08N3	**Diego Garcia H**	**5.39**	**144**	T	T	03 57 46.5	
	baz=325,slow=75,SNR=18						
H08N1	**Diego Carcia H**	**5.40**	**143**	T	T	03 57 52.3	
	baz=325,slow=75,SNR=19						
CMAR	**Chiang Mai Arr**	**36.78**	**55**	P	P	03 58 18.8	+0.9
	0.7nm,0.3s,baz=240,slow=11,SNR=4.8						
MMAI	**Mount Meron Ar**	**46.33**	**322**	LR	LR	04 16 51.6	
	comp=Z,68nm,19.2s,baz=140,slow=33						
MKAR	**Makanchi Array**	**50.23**	**13**	P	P	04 00 05.3	-0.6
	0.9nm,0.8s,baz=203,slow=8.9,SNR=5.5						
KBZ	**Khabaz**	**50.69**	**337**	LR	LR	04 19 59.2	
	comp=Z,76nm,20.4s,baz=266,slow=34						
KURBB	**Kurchatov Arra**	**53.21**	**9**	P	P	04 00 27.0	-1.1
	0.9nm,0.7s,baz=204,slow=7.5,SNR=4.8						
ZALV	**Zalesovo Beam**	**57.52**	**12**	P	P	04 00 58.6	-0.5
	1.4nm,0.6s,baz=197,slow=7.6,SNR=4.6						
SONM	**Songino Array**	**59.95**	**29**	P	P	04 01 17.2	+0.8
	1.3nm,0.8s,baz=216,slow=7.8,SNR=4.5						
WRA	**Warramunga Arr**	**67.31**	**111**	P	P	04 02 04.8	-0.6
	1.3nm,0.9s,baz=284,slow=6.2,SNR=4.7						
ASAR	**Alice Springs**	**67.38**	**115**	P	P	04 02 05.6	-0.2
	0.7nm,0.8s,baz=286,slow=6.7,SNR=4.7						
TXAR	**Lajitas Array**	**151.61**	**344**	PKPbc	PKiKP	04 11 06.2	+0.4
	0.5nm,0.9s,baz=79,slow=1.4,SNR=3.1						

IDC 09 03:59:44.2±0.9**, 1°.91S**×**68°.04E, h0^{km}, mb4.1**/8**, mb1 4.2**/8**, mb1mx3.8**/39**, mbtmp4.1**/8**, MS3.5**/4**, Ms1 3.6**/4**, ms1mx3.1**/47**, Error ellipse: s-maj=28.6km s-min=20.6km az=135.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.28**	**146**	T	T	04 06 29.8	
	baz=325,slow=75,SNR=301						
H08N3	**Diego Garcia H**	**5.29**	**146**	T	T	04 06 23.2	
	baz=325,slow=75,SNR=247						
H08N1	**Diego Carcia H**	**5.30**	**146**	T	T	04 06 31.4	
	baz=325,slow=75,SNR=243						
PALK	**Pallekele**	**15.58**	**54**	LR	LR	04 08 09.3	
	comp=Z,281nm,20.9s,baz=292,slow=32						
WSAR	**Wadi Sarin**	**26.63**	**340**	LR	LR	04 14 02.3	
	comp=Z,74nm,18.1s,baz=168,slow=32						
ATD	**Arta Tunnel**	**28.39**	**299**	LR	LR	04 14 42.7	
	comp=Z,61nm,20.6s,baz=162,slow=32						
CMAR	**Chiang Mai Arr**	**36.53**	**55**	P	P	04 06 53.4	+1.6
	0.6nm,0.3s,baz=245,slow=9.8,SNR=5.6						
CMAR				LR	LR	04 19 36.9	
	comp=Z,104nm,21.1s,baz=243,slow=33						
LSZ	**Lusaka**	**41.48**	**249**	P	P	04 07 33.5	0.0
	2.8nm,0.6s,baz=62,slow=7.6,SNR=7.2						
BOSA	**Boshof**	**48.65**	**233**	P	P	04 08 31.0	+0.6
	3.8nm,0.9s,baz=93,slow=4.9,SNR=4.0						
MKAR	**Makanchi Array**	**50.10**	**13**	P	P	04 08 40.3	-0.7
	1.7nm,0.8s,baz=196,slow=7.4,SNR=16						
ZALV	**Zalesovo Beam**	**57.39**	**12**	P	P	04 09 33.1	-1.2
	3.0nm,0.7s,baz=219,slow=7.6,SNR=14						
SONM	**Songino Array**	**59.76**	**29**	P	P	04 09 52.1	+0.9
	2.4nm,0.9s,baz=220,slow=6.6,SNR=19						
WRA	**Warramunga Arr**	**67.09**	**111**	P	P	04 10 39.5	-0.6
	1.0nm,0.9s,baz=285,slow=5.8,SNR=6.6						
ASAR	**Alice Springs**	**67.17**	**115**	P	P	04 10 40.2	-0.4
	0.9nm,0.9s,baz=279,slow=5.8,SNR=5.4						

*ISK **09** 04:08:40.9, 38°.74N×43°.34E, h19^{km}, ML2.2/3*
*ISCJB **09** 04:08:41.7±1.7, 38°.78N±0°.05×43°.3E±0°.2, h27^{km}±14^{km}, Error ellipse: s-maj=24.8km s-min=7.4km az=12.0*
*DDA **09** 04:08:42.1, 38°.67N×43°.51E, h7^{km}±5^{km}, ML2.5*
ISC 09 04:08:41.9±1.1**, 38°.76N**±0°.04×**43°.31E**±0°.06**, h16^{km}**±12^{km}**, n7, σ0^{s}.84**/11**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**160**	PG	**Pb**	**04 08 47.1**	**+0.1**
VANB				SG	**Sb**	**04 08 51.0**	**+0.7**
TVAN	**Van**	**0.24**	**162**	IAML_P			
	comp=Z,8μm,0.1s						
TVAN				iP	**Pb**	**04 08 47.1**	**-1.1**
ERCV	**ERCIS-VAN**	**0.26**	**5**	PG	**Pg**	**04 08 47.3**	**-0.4**
ERCV				SG	**Sg**	**04 08 52.6**	**+0.9**
VMUR	**Van-Muradiye**	**0.30**	**42**	IAML_P			
	comp=Z,1μm,0.2s						
VMUR				iP	**Pb**	**04 08 49.0**	**-0.2**
VMUR				iS	**Sb**	**04 08 54.1**	**+0.1**
GEVA	**Gevas**	**0.49**	**204**	IAML_P			
	comp=Z,614nm,0.1s						
GEVA				iP	**Pg**	**04 08 51.4**	**-0.3**
GEVA				iS	**Sb**	**04 09 00.6**	**+1.3**
AKDM	**Akdamar-Van**	**0.51**	**211**	PG	**Pg**	**04 08 51.6**	**-0.4**
GURO	**Guroymak-BITLI**	**1.02**	**258**	PG	**Pb**	**04 09 00.9**	**-0.5**

*BJI **09** 04:12:47.0, 55°.30N×134°.90W, h10^{km}, mb4.8/28, mB5.1/13, Ms4.9/5, Ms7 4.6/5*
*AEIC **09** 04:12:48.7, 55°.34N×134°.87W, h11^{km}, ML4.6, MB4.7(NEIC), MW4.4(USGS)*
*NEIC **09** 04:12:48.7±0.0, 55°.34N×134°.87W, h11^{km}, mb4.7/146, MW4.4, ML4.6(AEIC), Moment Tensor Solution. s25 Moment tensor: Scale 10^{15}Nm; M_{rr}3.25; $M_{\theta\theta}$1.30; $M_{\phi\phi}$-4.56; $M_{r\theta}$0.00; $M_{\theta\phi}$1.16; $M_{\phi r}$-4.16; Best double couple: $M_0$5.90000×10^{15} NP1:ϕ_s333.00000°, δ24.00000°, λ65.00000°. NP2:ϕ_s179.00000°, δ69.00000°, λ100.00000°. Principal axes: T 5.1100, Plg65.0000°, Azm107.0000°; N 1.3900, Plg10.0000°, Azm356.0000°; P -6.5000, Plg23.0000°, Azm262.0000°; After AEIC.*
NEIC Felt [III] at Craig. Also felt at Ketchikan, Kupreanof, Metlakatla and Petersburg.
*ISCJB **09** 04:12:49.9±0.1, 55°.53N±0°.02×134°.78W±0°.03, h10^{km}, mb4.6/158, MS4.0/13 Error ellipse: s-maj=3.5km s-min=1.4km az=140.7*
*IDC **09** 04:12:50.0±0.4, 55°.37N×134°.73W, h0^{km}, mb4.3/38, mb1 4.5/47, mb1mx4.4/66, mbtmp4.3/47, ML4.2/8, MS3.8/18, Ms1 3.8/18, ms1mx3.6/52, Error ellipse: s-maj=10.3km s-min=6.7km az=46.0*
*MOS **09** 04:12:50.2±0.9, 55°.45N×134°.82W, h10^{km}, mb4.9/49, Error ellipse: s-maj=10.2km s-min=4.1km az=107.6*
ISC 09 04:12:51.3±0.9**, 55°.42N**±0°.04×**134°.87W**±0°.04**, h11^{km}**±5^{km}**, n619, σ1^{s}.44**/632**, mb4.7**/159**, MS3.9**/13**, 11C-1D, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRAG	**Craig**	**1.00**	**86**	P	**Pg**	**04 13 07.7**	**-2.8**
CRAG				eSg	**Sg**	**04 13 20.5**	**-3.0**
SIT	**Sitka**	**1.67**	**351**	ePn	**Pn**	**04 13 17.8**	**-2.6**
SIT				eSn	**Sn**	**04 13 39.2**	**-2.5**
SIT	**Sitka**	**1.67**	**351**	eP	**Pn**	**04 13 17.8**	**-2.6**
SIT				e		04 13 39.3	
WRAK	**Wrangell Islan**	**1.74**	**54**	ePn	**Pn**	**04 13 19.4**	**-2.1**
WRAK				eSn	**Sn**	**04 13 41.2**	**-2.5**
WRAK				S	**Sb**	**04 13 45.1**	**0.0**
NDB	**Naden**	**1.84**	**142**	P	**Pn**	**04 13 19.3**	**-3.6**
MASB	**Masset**	**2.17**	**129**	ePn	**Pn**	**04 13 23.6**	**-3.7**
DIB	**Dawson Inlet,**	**2.62**	**147**	ePn	**Pn**	**04 13 29.9**	**-3.7**
DIB				eSn	**Sn**	**04 14 02.7**	**-2.7**
H02S1	**DAWSON INLET T**	**2.62**	**147**	Pn	**Pn**	**04 13 30.4**	**-3.2**
H02S1				Sn	**Sn**	**04 14 07.7**	**+2.3**
JIS	**Juneau Island**	**2.88**	**5**	ePn	**Pn**	**04 13 35.6**	**-1.6**
JIS				eSn	**Sn**	**04 14 11.4**	**-0.3**
BESE	**Bessie Mountai**	**3.17**	**0**	ePn	**Pn**	**04 13 39.6**	**-1.6**
BNB	**Barry Inlet**	**3.39**	**146**	ePn	**Pn**	**04 13 40.8**	**-3.4**
DLBC	**Dease Lake**	**4.03**	**39**	Pn	**Pn**	**04 13 52.6**	**-0.3**
	8.2nm,0.3s,baz=244,slow=5.3,SNR=113						
DLBC				Sn	**Sn**	**04 14 39.3**	**-0.9**
	38nm,0.3s,baz=209,slow=15,SNR=3.5						
DLBC				Lg	Lg	04 14 57.2	
	132nm,0.3s,baz=134,slow=26,SNR=6.3						
DLBC	**Dease Lake**	**4.03**	**39**	ePn	**Pn**	**04 13 52.2**	**-0.8**
DLBC				eSn	**Sn**	**04 14 38.7**	**-1.4**
DLBC				eLg	Lg	04 14 57.1	
SKAG	**Skagway**	**4.06**	**357**	ePn	**Pn**	**04 13 52.7**	**-0.7**
SKAG				eSn	**Sn**	**04 14 40.2**	**-0.7**
DHAK	**Deception Hill**	**4.11**	**335**	P	**Pn**	**04 13 53.1**	**-0.9**
PLBC	**Pleasant Camp**	**4.13**	**349**	ePn	**Pn**	**04 13 53.6**	**-0.8**
PNL	**Peninsula**	**4.91**	**332**	ePn	**Pn**	**04 14 04.1**	**-1.0**
BBB	**Bella Bella**	**5.15**	**126**	Pn	**Pn**	**04 14 05.0**	**-3.2**
	20nm,0.3s,baz=305,slow=8.7,SNR=90						
BBB				Sn	**Sn**	**04 15 03.4**	**-4.2**
	50nm,0.3s,baz=106,slow=18,SNR=14						
BBB				Lg	Lg	04 15 27.6	
	32nm,0.3s,baz=35,slow=22,SNR=7.0						
BBB				LR	LR	04 15 34.9	
	comp=Z,200nm,20.2s,baz=291,slow=33						
BCPM	**Bancas Point**	**5.22**	**333**	ePn	**Pn**	**04 14 08.8**	**-0.4**
WHY	**Whitehorse**	**5.26**	**360**	ePn	**Pn**	**04 14 09.7**	**-0.3**
WHY				eSn	**Sn**	**04 15 08.1**	**-2.5**
YUK7	**Dusty Glacier**	**5.42**	**343**	ePn	**Pn**	**04 14 11.5**	**-0.7**
PCA	**Pinnacle**	**5.51**	**331**	ePn	**Pn**	**04 14 13.1**	**-0.2**
HYT	**Haines Junctio**	**5.60**	**347**	ePn	**Pn**	**04 14 14.6**	**0.0**
SAMH	**Samovar Hills**	**5.69**	**329**	P	**Pn**	**04 14 16.1**	**+0.4**
CHX	**Chaix Hills**	**5.74**	**327**	ePn	**Pn**	**04 14 15.8**	**-0.6**
YUK6	**Outpost Mounta**	**5.84**	**343**	ePn	**Pn**	**04 14 17.1**	**-0.9**
YUK5	**Granite Creek**	**5.95**	**346**	ePn	**Pn**	**04 14 19.5**	**+0.1**
RKAV	**Rock Avalanche**	**5.99**	**327**	P	**Pn**	**04 14 20.1**	**+0.1**
MESA	**MESA**	**6.09**	**325**	P	**Pn**	**04 14 20.7**	**-0.7**
FSB	**Fort Saint Jam**	**6.15**	**94**	P	**Pn**	**04 14 20.9**	**-1.2**
SNH	**Sunshine Point**	**6.40**	**322**	ePn	**Pn**	**04 14 24.1**	**-1.4**
KULT	**Kultieth River**	**6.40**	**322**	P	**Pn**	**04 14 24.2**	**-1.4**
SUCK	**Suckling Hills**	**6.67**	**318**	P	**Pn**	**04 14 27.7**	**-1.5**
KHIT	**Khitrov Hills**	**6.73**	**322**	P	**Pn**	**04 14 28.5**	**-1.5**
NICHA	**Nichawak Mount**	**6.85**	**319**	P	**Pn**	**04 14 29.9**	**-1.7**
HMT	**Hamilton**	**7.03**	**318**	ePn	**Pn**	**04 14 32.0**	**-2.0**
MID	**Middleton Isla**	**7.38**	**308**	ePn	**Pn**	**04 14 36.2**	**-2.7**
MID	**Middleton Isla**	**7.38**	**308**	eP	**Pn**	**04 14 36.2**	**-2.7**
SGAM	**Sherman Glacie**	**7.49**	**317**	ePn	**Pn**	**04 14 38.8**	**-1.7**
BMRM	**Bremner River**	**7.57**	**321**	P	**Pn**	**04 14 39.5**	**-2.1**
EYAK	**Cordova Ski Ar**	**7.73**	**316**	ePn	**Pn**	**04 14 41.6**	**-2.2**
DIV	**Divide**	**8.11**	**319**	ePn	**Pn**	**04 14 48.9**	**0.0**
KLU	**Klutina**	**8.40**	**321**	ePn	**Pn**	**04 14 52.1**	**-0.8**
BCA3	**Beaver Creek A**	**8.45**	**338**	ePn	**Pn**	**04 14 51.9**	**-1.7**
HARP	**HAARP**	**8.79**	**327**	ePn	**Pn**	**04 14 59.9**	**+1.6**
PWL	**Port Wells**	**8.96**	**313**	ePn	**Pn**	**04 14 58.5**	**-2.1**
DAWY	**Dawson**	**8.97**	**347**	ePn	**Pn**	**04 15 01.0**	**+0.2**
SEW	**Seward**	**9.09**	**307**	ePn	**Pn**	**04 14 59.1**	**-3.2**
SCM	**Sheep Creek Mo**	**9.13**	**320**	ePn	**Pn**	**04 15 02.1**	**-0.9**
SCM	**Sheep Creek Mo**	**9.13**	**320**	eP	**Pn**	**04 15 02.1**	**-0.9**
KNK	**Knik Glacier**	**9.31**	**316**	ePn	**Pn**	**04 15 04.4**	**-1.0**
PAX	**Paxson**	**9.31**	**329**	ePn	**Pn**	**04 15 06.9**	**+1.4**
PAX	**Paxson**	**9.31**	**329**	P	**Pn**	**04 15 06.8**	**+1.4**
DOT	**Dot Lake**	**9.47**	**334**	ePn	**Pn**	**04 15 08.4**	**+0.7**
SML	**Sawmill**	**9.49**	**318**	ePn	**Pn**	**04 15 06.5**	**-1.4**
SML	**Sawmill**	**9.49**	**318**	eP	**Pn**	**04 15 06.5**	**-1.4**
BRLK	**Bradley Lake**	**9.63**	**303**	ePn	**Pn**	**04 15 07.3**	**-2.5**
RC01	**Rabbit Creek A**	**9.67**	**312**	ePn	**Pn**	**04 15 07.2**	**-3.0**
PMR	**Palmer**	**9.68**	**316**	ePn	**Pn**	**04 15 08.7**	**-1.7**
PMR	**Palmer**	**9.68**	**316**	eP	**Pn**	**04 15 08.7**	**-1.7**
GHO	**Glory Hole Cre**	**9.70**	**317**	ePn	**Pn**	**04 15 08.9**	**-1.9**

GHO eSn Sn 04 16 56.2 -3.5
SCRK Sand Creek 9.73 336 ePn Pn 04 15 10.8 -0.4
RIDG Independ'e Rid 9.75 333 ePn Pn 04 15 12.6 +1.2
EGAK Eagle 9.90 344 ePn Pn 04 15 13.3 -0.1
29nm,0.6s
DHY Denali Highway 9.98 325 ePn Pn 04 15 15.9 +1.2
KDAK Kodiak Island 10.05 291 Pn Pn 04 15 12.9 -2.5
6.7nm,0.3s,baz=90,slow=6.5,SNR=49
KDAK Sn Sn 04 17 01.4 -6.6
0.4nm,0.3s,baz=159,slow=22,SNR=4.2
KDAK LR LR 04 18 40.7
comp=Z,664nm,19.1s,baz=101,slow=35
KDAK Kodiak Island 10.05 291 ePn Pn 04 15 12.4 -3.0
KDAK eSn Sn 04 17 01.4 -6.6
KDAK Kodiak Island 10.05 291 eP Pn 04 15 12.4 -3.0
SUA Susitna One 10.28 313 ePn Pn 04 15 17.8 -0.9
RND Reindeer 10.70 324 ePn Pn 04 15 25.4 +1.0
RND Reindeer 10.70 324 eP Pn 04 15 25.4 +1.0
RSO Redoubt South 10.75 305 ePn Pn 04 15 25.5 +0.2
B06A Marblemount 10.75 124 ePn Pn 04 15 28.1 +3.0
HDA Harding Lake 10.84 331 ePn Pn 04 15 27.0 +0.7
HDA Harding Lake 10.84 331 P Pn 04 15 27.1 +0.7
baz=141,SNR=15
MCK McKinley 10.95 325 ePn Pn 04 15 29.0 +1.3
MCK McKinley 10.95 325 eP Pn 04 15 29.0 +1.3
EPYK Eagle Plains 11.03 356 ePn Pn 04 15 29.6 +0.8
EPYK Eagle Plains 11.03 356 P Pn 04 15 29.9 +1.0
baz=174
IL1 Eielson Array 11.11 332 ePn Pn 04 15 29.6 -0.4
ILAR Eielson Array 11.11 332 Pn Pn 04 15 29.9 -0.1
3.4nm,0.3s,baz=154,slow=12,SNR=241
ILAR Lg Lg 04 18 54.7
0.1nm,0.3s,baz=110,slow=26,SNR=4.4
ILAR LR LR 04 19 60.0
comp=Z,335nm,19.0s,baz=146,slow=38
ILB Eielson Array 11.11 332 ePn Pn 04 15 30.2 +0.2
ILB eLg Lg 04 18 54.7
WRH Wood River Hil 11.21 329 ePn Pn 04 15 32.3 +0.9
TRF Thorofare Moun 11.22 322 ePn Pn 04 15 32.3 +0.7
PRP Porcupine Dome 11.39 337 ePn Pn 04 15 35.3 +1.4
COLA College 11.45 331 ePn Pn 04 15 35.4 +0.8
COLA College 11.45 331 eP Pn 04 15 35.4 +0.8
TCOL CIGO, UAF Yank 11.45 331 P Pn 04 15 35.4 +0.8
baz=140
D05A Enumclaw 11.51 130 ePn Pn 04 15 39.0 +3.5
POKR Poker Plat Res 11.53 333 P Pn 04 15 37.0 +1.3
baz=142,SNR=9.5
PPLA Purkeypile 11.59 317 ePn Pn 04 15 36.9 +0.2
MDM Murphy Dome 11.62 331 ePn Pn 04 15 37.8 +0.8
E04D Cinebar 11.76 134 P Pn 04 15 41.7 +2.7
baz=323
CAST Castle Rocks 11.84 320 ePn Pn 04 15 39.1 -0.9
BPAW Bear Paw Mtn. 11.87 324 ePn Pn 04 15 39.9 -0.4
B08A Colville Reser 11.90 120 ePn Pn 04 15 42.5 +1.6
LON Longmire 11.93 131 ePn Pn 04 15 42.8 +1.5
LON Longmire 11.93 131 eP Pn 04 15 42.8 +1.5
LTY Liberty 12.04 127 ePn Pn 04 15 44.2 +1.3
FYU Fort Yukon 12.24 340 ePn Pn 04 15 50.8 +5.5
SVW2 Sparrevohn 12.27 306 ePn Pn 04 15 43.9 -1.9
MLY Manley 12.41 327 ePn Pn 04 15 48.0 +0.2
YKA Yellowknife Ar 12.59 48 Pn Pn 04 15 48.6 -1.6
0.5nm,0.3s,baz=244,slow=12,SNR=34
YKA Lg Lg 04 19 28.1
0.3nm,0.3s,baz=238,slow=31,SNR=4.5
YKA LR LR 04 20 55.1
comp=Z,93nm,18.1s,baz=246,slow=38
YKB5 Yellowknife Ar 12.59 48 ePn Pn 04 15 48.1 -2.1
YKW3 Yellowknife Ar 12.62 47 ePn Pn 04 15 49.9 -0.6
C09A Chrisman Ranch 12.80 120 ePn Pn 04 15 54.9 +1.7
E07A Sunnyside 12.94 127 ePn Pn 04 15 56.5 +1.5
INK Inuvik 12.96 2 Pn Pn 04 15 56.5 +1.4
0.7nm,0.3s,baz=164,slow=8.2,SNR=19
INK Lg Lg 04 19 41.3
0.2nm,0.3s,baz=92,slow=28,SNR=5.1
INK LR LR 04 21 31.0
comp=Z,336nm,19.8s,baz=188,slow=40
D08A Wollman Farm, 13.01 123 ePn Pn 04 15 56.9 +0.9
NEW Newport 13.08 116 Pn Pn 04 15 57.1 +0.2
0.5nm,0.3s,baz=318,slow=10.0,SNR=37
NEW Lg Lg 04 19 37.5
0.2nm,0.3s,baz=254,slow=22,SNR=5.6
NEW LR LR 04 21 06.1
comp=Z,975nm,18.8s,baz=300,slow=38
NEW Newport 13.08 116 ePn Pn 04 15 58.5 +1.5
NEW Newport 13.08 116 eP Pn 04 15 58.5 +1.5
NEW Newport 13.08 116 P Pn 04 15 58.5 +1.5
baz=310,SNR=22
HAWA Hanford 13.21 127 ePn Pn 04 16 00.1 +1.3
CHGN Chignik 13.24 284 ePn Pn 04 15 58.6 -0.4
G05D Wamic, OR 13.34 134 P Pn 04 16 04.0 +3.5
baz=324
E08A Dider Farm, El 13.36 125 ePn Pn 04 16 01.3 +0.6
F07A Phinny Hill Vi 13.41 129 ePn Pn 04 16 03.4 +1.9
H04A Detroit Lake 13.46 138 ePn Pn 04 16 04.7 +2.6
G06A Carlson Farm, 13.63 132 ePn Pn 04 16 08.2 +3.7
E09A Wood Farm, Sta 13.77 123 ePn Pn 04 16 07.0 +0.7
COLD Coldfoot 13.89 335 ePn Pn 04 16 09.9 +2.1
IM3 Indian Mountai 13.98 327 ePn Pn 04 16 08.7 -0.5
I05D Terrebonne, OR 14.08 136 P Pn 04 16 12.0 +1.4
baz=327
I04A Tendick Farm, 14.13 140 P Pn 04 16 12.7 +1.4
baz=330
WALA Waterton Lakes 14.30 108 ePn Pn 04 16 14.8 +1.1
G08A Pilot Rock 14.31 128 ePn Pn 04 16 14.0 +0.1
F10A Beach Ranch, E 14.60 123 ePn Pn 04 16 18.1 +0.3
K02D Willamette Mer 14.67 146 P Pn 04 16 21.2 +2.5
baz=334
PINE Pine Mountain 14.69 137 ePn Pn 04 16 20.5 +1.3
J04D Umpqua Nationa 14.72 141 P Pn 04 16 21.2 +1.6
baz=330
JTMT Jette 14.88 112 ePn Pn 04 16 22.0 +0.3
HUMO Hull Mountain 14.98 144 ePn P 04 16 25.8 -2.7
J05D Fort Rock, OR 15.01 138 P Pn 04 16 24.6 +1.2
baz=329,SNR=13
K04D Chiloquin, OR 15.39 141 P Pn 04 16 29.7 +1.3
baz=331
BMO Blue Mountains 15.40 126 ePn Pn 04 16 28.4 -0.1
18nm,1.0s
BMO Blue Mountains 15.40 126 eP Pn 04 16 28.4 -0.1
BMO pmax pmax
comp=Z,18nm,1.0s
L04D Klamath Falls 15.55 143 P Pn 04 16 31.8 +1.2
baz=332,SNR=5.3
MSO Missoula 15.65 115 ePn Pn 04 16 31.6 -0.1
comp=Z,100nm,1.5s
MSO Missoula 15.65 115 P Pn 04 16 31.0 -0.8
baz=311,SNR=32
YBH Yreka Blue Hor 15.85 145 Pn Pn 04 16 35.0 +0.6
comp=Z,0.1nm,0.3s,baz=359,slow=12,SNR=7.5
YBH LR LR 04 21 49.4
comp=Z,316nm,18.1s,baz=332,slow=34
YBH Yreka Blue Hor 15.85 145 ePn P 04 16 38.5 +0.4
comp=Z,28nm,1.3s
YBH Yreka Blue Hor 15.85 145 eP P 04 16 38.5 +0.4
YBH pmax pmax
comp=Z,28nm,1.3s
J08A Circle Bar Ran 16.06 132 ePn Pn 04 16 36.8 -0.3
comp=Z,39nm,1.0s
M04C Macdoel 16.10 143 P P 04 16 39.2 -1.8
baz=332,SNR=8.9
M02C Callahan 16.11 146 P P 04 16 41.5 +0.5
baz=335
N02D Trinity Center 16.53 146 P P 04 16 45.4 -0.3
baz=335
MOD Modoc Plateau 16.55 139 ePn P 04 16 45.0 -0.9
comp=Z,24nm,1.3s
WVOR Wild Horse Val 16.75 134 ePn Pn 04 16 46.2 +0.3
comp=Z,28nm,1.4s
WVOR Wild Horse Val 16.75 134 eP Pn 04 16 46.2 +0.3
WVOR pmax pmax
comp=Z,28nm,1.4s
HRY Holter Researc 16.83 112 ePn Pn 04 16 47.0 +0.1
KMRM Mail Ridge 16.91 149 ePn P 04 16 50.9 +0.9
comp=Z,48nm,1.1s
WDC Whiskeytown Da 16.94 146 ePn P 04 16 50.7 +0.6
comp=Z,81nm,1.8s
WDC Whiskeytown Da 16.94 146 eP P 04 16 50.7 +0.6
WDC pmax pmax
comp=Z,81nm,1.8s
LRM Limekiln Ridge 17.09 115 ePn Pn 04 16 44.9 -5.4
EGMT Eagleton 17.16 105 ePn Pn 04 16 50.3 -0.7
comp=Z,69nm,1.1s
EGMT Eagleton 17.16 105 P Pn 04 16 50.0 -1.0
baz=305,SNR=17
O02D Mt. Diablo Mer 17.23 147 P P 04 16 53.4 0.0
baz=336
DLMT Dillon 17.33 116 ePn Pn 04 16 53.4 +0.3
comp=Z,26nm,0.9s
O03E Paynes Creek 17.44 145 P P 04 16 57.2 +1.5
baz=334
MCMT McKenzie Canyo 17.57 118 ePn P 04 16 57.0 -0.4
ANM Nome 17.61 314 ePn P 04 16 58.1 +0.7
comp=Z,29nm,0.9s
ANM Nome 17.61 314 eP P 04 16 58.1 +0.7
ANM pmax pmax
comp=Z,29nm,0.9s
BOZ Bozeman (W) 17.67 114 ePn Pn 04 16 57.6 +0.2
comp=Z,21nm,1.1s
BOZ Bozeman (W) 17.67 114 eP Pn 04 16 57.6 +0.2
BOZ pmax pmax
comp=Z,21nm,1.1s
RDOG Red Dog Mine 18.11 325 ePn P 04 17 05.2 +2.2
comp=Z,20nm,0.9s
ORV Oroville 18.21 145 ePn P 04 17 05.4 +1.3
comp=Z,15nm,1.1s
ORV Oroville 18.21 145 eP P 04 17 05.4 +1.3
ORV pmax pmax
comp=Z,15nm,1.1s
QLMT Earthquake Lak 18.29 116 ePn P 04 17 06.2 +1.0
BEKR Beckworth 18.31 142 ePn P 04 17 06.9 +1.4
comp=Z,110nm,2.0s
YHB Horse Butte 18.47 115 eP Pn 04 17 08.3 +0.9
comp=Z,50nm,1.2s
GCMT Greiff 18.57 111 eP Pn 04 17 09.0 +0.5
YMR Madison River 18.65 115 eP Pn 04 17 10.1 +0.7
comp=Z,61nm,1.0s
FFC Flin Flon 18.76 78 eP P 04 17 09.5 -0.6
comp=Z,76nm,1.3s
FFC Flin Flon 18.76 78 ceP P 04 17 09.9 -0.2
YNR Norris Junctio 18.76 115 eP Pn 04 17 12.5 +1.6
comp=Z,20nm,1.0s
PAHR Pah Rah Range 18.80 140 eP Pn 04 17 12.0 +0.7
comp=Z,78nm,1.4s
YFT Old Faithful 18.86 116 eP Pn 04 17 15.4 +3.3
comp=Z,18nm,1.0s
AFDM Forest Hills D 18.93 145 eP Pn 04 17 13.1 +0.4
comp=Z,16nm,1.2s
YPP Pitchstone Pla 19.00 116 eP Pn 04 17 15.3 +1.5
comp=Z,18nm,1.1s
BMN Battle Mountai 19.01 135 eP Pn 04 17 14.4 +0.6
BMN Battle Mountai 19.01 135 eP Pn 04 17 14.4 +0.6
H17A Grant Village 19.04 115 eP Pn 04 17 15.9 +1.7
comp=Z,28nm,0.9s
H17A Grant Village 19.04 115 P Pn 04 17 15.6 +1.4
baz=314,SNR=23
RUBR Rubicon Trail 19.11 143 eP Pn 04 17 16.9 +1.8
comp=Z,21nm,0.9s
FLWY Flagg Ranch 19.19 116 eP Pn 04 17 16.7 +0.6
comp=Z,140nm,2.0s
FLWY eP cP P cP 04 21 37.9 -0.4
RLMT Red Lodge 19.23 112 eP Pn 04 17 16.7 +0.2
comp=Z,81nm,1.1s
RLMT Red Lodge 19.23 112 P Pn 04 17 16.7 +0.2
baz=311,SNR=20
MOOW Moose Ponds 19.40 117 eP Pn 04 17 18.6 0.0
comp=Z,38nm,1.2s
TPAW Teton Pass 19.48 118 eP Pn 04 17 20.7 +1.1
comp=Z,126nm,1.8s
YERR Yerington 19.49 141 eP Pn 04 17 19.5 -0.2
comp=Z,35nm,1.2s
LOHW Long Hollow 19.57 117 eP Pn 04 17 20.8 +0.2
comp=Z,69nm,1.5s
ELK Elko 19.58 130 P P 04 17 19.7 +0.2
comp=Z,0.1nm,0.3s,baz=320,slow=12,SNR=16
ELK LR LR 04 24 58.9
comp=Z,426nm,18.1s,baz=327,slow=37
ELK Elko 19.58 130 eP Pn 04 17 20.4 -0.4
comp=Z,28nm,1.4s
ELK Elko 19.58 130 eP Pn 04 17 20.4 -0.4
ELK pmax pmax
comp=Z,28nm,1.4s
SNOW Snow King Moun 19.60 118 eP Pn 04 17 23.5 +2.4
comp=Z,37nm,1.2s
REDW Red Top Meadow 19.63 118 eP Pn 04 17 22.1 +0.8
comp=Z,69nm,1.4s
WAKR Walker 19.85 142 eP Pn 04 17 24.7 +0.8
comp=Z,64nm,1.2s
KVN Kaiserville 19.85 139 eP Pn 04 17 23.6 -0.3
comp=Z,75nm,1.3s
KVN Kaiserville 19.85 139 eP Pn 04 17 23.7 -0.3
KVN pmax pmax
comp=Z,75nm,1.3s
HVU Hansel Valley 19.87 124 eP Pn 04 17 24.0 -0.1
comp=Z,24nm,1.1s
HVU Hansel Valley 19.87 124 eP Pn 04 17 24.0 -0.1
HVU pmax pmax
comp=Z,24nm,1.1s
LAO LASA Array 19.89 104 eP P 04 17 23.2 +0.6
comp=Z,75nm,1.0s
LAO LASA Array 19.89 104 P Pn 04 17 23.5 -0.7
baz=306,SNR=30
AHID Auburn Hatcher 19.94 119 eP Pn 04 17 27.4 +2.5
comp=Z,98nm,1.3s
CMB Columbia Colle 19.95 145 eP Pn 04 17 26.6 +1.6
comp=Z,7.7nm,0.8s
CMB Columbia Colle 19.95 145 eP Pn 04 17 26.6 +1.6
CMB pmax pmax
comp=Z,8.0nm,0.8s
DGMT Dagmar 20.03 97 eP P 04 17 24.6 +0.6
comp=Z,133nm,1.2s
DGMT Dagmar 20.03 97 P P 04 17 24.8 +0.7
baz=302,SNR=13
RYN Ryan 20.07 140 eP Pn 04 17 25.6 -0.8
comp=Z,49nm,1.7s
GAMB Gambell 20.16 309 eP Pn 04 17 27.7 +0.6
comp=Z,67nm,1.3s
NV01 Mina Array Sit 20.32 140 eP P 04 17 27.9 +0.4
NV01 eP cP P cP 04 21 41.0 +0.5
NVAR Mina Array Bea 20.32 140 P P 04 17 27.9 +0.3
comp=Z,14nm,0.9s,baz=320,slow=9.5,SNR=28
NVAR PcP PcP 04 21 41.0 +0.5
comp=Z,1.0nm,0.8s,baz=316,slow=0.7,SNR=4.0
NV11 Mina Array Sit 20.38 140 eP P 04 17 28.7 +0.6
comp=Z,1.4nm,0.9s
SPUT South Promonto 20.39 124 eP P 04 17 28.9 +0.7
comp=Z,26nm,1.5s
BGU Big Grassy Mou 20.43 126 eP Pn 04 17 29.9 -0.7
comp=Z,18nm,1.5s
HWUT Hardware Ranch 20.58 122 eP Pn 04 17 32.4 -0.2
comp=Z,41nm,1.4s
BW06 Boulder Array 20.71 117 eP P 04 17 32.8 +1.0
comp=Z,34nm,0.9s
BW06 Boulder Array 20.71 117 P P 04 17 32.3 +0.6
baz=316,SNR=24
PD31 Pinedale Array 20.71 117 eP P 04 17 32.7 +1.0
PDAR Pinedale Array 20.71 117 P P 04 17 32.4 +0.7
comp=Z,34nm,0.9s,baz=316,slow=5.0,SNR=24
PDAR LR LR 04 25 17.4
comp=Z,175nm,18.5s,baz=330,slow=36
PDAR Pinedale Array 20.71 117 eP P 04 17 32.1 +0.4
OMMB Old Mammoth Mi 20.80 142 eP Pn 04 17 34.4 -0.8
comp=Z,12nm,0.9s
TCUT Toone Canyon 21.04 123 eP P 04 17 37.7 +2.5
comp=Z,126nm,1.8s
DUG Dugway, Tooele 21.11 127 eP P 04 17 36.4 +0.5
comp=Z,20nm,1.3s
DUG Dugway, Tooele 21.11 127 eP P 04 17 36.4 +0.5
DUG pmax pmax
comp=Z,20nm,1.3s
DUG Dugway, Tooele 21.11 127 P P 04 17 35.9 0.0
baz=324,SNR=14
JLU Jordanelle 21.42 124 eP P 04 17 40.5 +1.1
comp=Z,15nm,1.0s
R11A Troy Canyon, C 21.45 135 eP P 04 17 39.8 +0.3
comp=Z,17nm,1.1s
R11A Troy Canyon, C 21.45 135 P P 04 17 39.9 +0.3
baz=329,SNR=20
TIN Tinemaha, Big 21.57 141 P P 04 17 42.4 +1.6
baz=334,SNR=7.4
NLU North Lily Min 21.64 126 eP P 04 17 42.1 +0.4
comp=Z,16nm,1.3s
MPU Maple Canyon 21.79 125 eP P 04 17 43.9 +0.5
comp=Z,8.1nm,1.3s
GRAC Grapevine Rang 21.94 140 P P 04 17 45.2 +0.5
baz=333,SNR=14
PSUT Pine Spring 22.01 131 eP P 04 17 46.2 +0.5
comp=Z,22nm,1.3s
PAGB Antelope Grade 22.10 147 eP P 04 17 49.3 +2.8
comp=Z,72nm,1.8s
FCC Fort Churchill 22.16 64 eP P 04 17 47.1 +0.2
comp=Z,49nm,1.0s
FCC Fort Churchill 22.16 64 eP P 04 17 47.1 +0.2
FCC pmax pmax
comp=Z,49nm,1.0s
CWC Cottonwood Cre 22.18 142 P P 04 17 48.1 +0.6
baz=334
K22A Casper 22.36 113 eP P 04 17 49.0 -0.4
comp=Z,46nm,1.3s
K22A Casper 22.36 113 P P 04 17 49.0 -0.4
baz=315,SNR=12
TPNV Topopah Spring 22.40 138 eP P 04 17 49.9 +0.1
comp=Z,23nm,0.9s
TPNV Topopah Spring 22.40 138 eP P 04 17 49.9 +0.1
TPNV pmax pmax
comp=Z,23nm,0.9s
TPNV Topopah Spring 22.40 138 P P 04 17 49.5 -0.3
baz=331,SNR=26
DAC Darwin (Calif) 22.49 141 eP P 04 17 51.7 +0.8
comp=Z,15nm,1.0s
DAC Darwin (Calif) 22.49 141 eP P 04 17 51.7 +0.8
DAC pmax pmax
comp=Z,15nm,1.0s
TMUT Trail Mountain 22.57 126 eP P 04 17 53.5 +1.8
comp=Z,9.3nm,1.0s
FURC Furnace Creek, 22.59 140 P P 04 17 51.5 -0.1
baz=333,SNR=9.0
P17A Butcher Ranch, 22.64 125 eP P 04 17 54.0 +1.6
comp=Z,10nm,1.0s
RWWY Rawlins 22.69 116 eP P 04 17 53.4 +0.3
comp=Z,36nm,1.1s
RSSD Black Hills 22.70 107 eP P 04 17 52.3 -0.8
comp=Z,70nm,1.4s
RSSD Black Hills 22.70 107 eP P 04 17 52.3 -0.8
RSSD pmax pmax
comp=Z,70nm,1.4s
MPMC Manual Prospec 22.73 141 P P 04 17 54.1 +0.7
baz=334,SNR=16
ISA Isabella, Lake 22.74 144 eP P 04 17 53.9 +0.5
comp=Z,17nm,1.4s
ISA Isabella, Lake 22.74 144 eP P 04 17 53.9 +0.5
ISA pmax pmax
comp=Z,17nm,1.4s
ISA Isabella, Lake 22.74 144 P P 04 17 53.8 +0.5
baz=335
P18A Preston Nutter 22.75 124 eP P 04 17 56.6 +2.9
comp=Z,65nm,1.6s
MSU Marysvale 22.76 129 eP P 04 17 54.6 +0.8
MSU Marysvale 22.76 129 eP P 04 17 54.6 +0.8
Q16A Castle Valley 22.89 126 eP P 04 17 56.4 +1.3
comp=Z,17nm,1.8s
MDND Maddock 22.96 94 eP P 04 17 57.5 +2.0
comp=Z,60nm,1.0s
PKM Mcpherson Peak 23.01 147 P P 04 17 58.3 +2.0
baz=338
SRU San Rafael Swe 23.03 125 eP P 04 17 57.5 +1.0
comp=Z,15nm,1.0s
SRU San Rafael Swe 23.03 125 eP P 04 17 57.5 +1.0
SRU pmax pmax
comp=Z,15nm,1.0s
CCUT Cedar City 23.05 132 eP P 04 17 57.9 +1.2
comp=Z,31nm,1.6s
SZCU Shurtz Canyon 23.12 131 eP P 04 17 58.9 +1.4
comp=Z,21nm,1.2s
MTPU Mount Pierson 23.15 129 eP P 04 17 59.2 +1.3
comp=Z,38nm,1.8s
LRMC Laurel Mtn Rad 23.18 142 P P 04 17 57.5 -0.5
baz=335
SHPR Sheep Range 23.21 136 eP P 04 17 58.8 +0.5
comp=Z,8.9nm,1.2s
SHOC Shoshone, Teco 23.31 139 P P 04 18 00.1 +0.9
baz=333,SNR=9.5
O20A White River Ci 23.33 120 eP P 04 17 59.9 +0.3
comp=Z,24nm,1.1s
O20A White River Ci 23.33 120 P P 04 18 00.1 +0.5
baz=320
LCMT Little Creek M 23.55 132 eP P 04 18 02.6 +0.8
comp=Z,11nm,1.2s
GSC Goldstone, Bar 23.65 141 eP P 04 18 03.3 +0.7
comp=Z,15nm,1.0s
GSC Goldstone, Bar 23.65 141 eP P 04 18 03.3 +0.7
GSC pmax pmax
comp=Z,15nm,1.0s
GSC Goldstone, Bar 23.65 141 P P 04 18 02.8 +0.2
baz=334,SNR=12
KNB Kanab 23.73 132 eP P 04 18 04.4 +0.9
comp=Z,35nm,1.6s
KNB Kanab 23.73 132 eP P 04 18 04.4 +0.9
KNB pmax pmax
comp=Z,35nm,1.6s
TUQ Turquoise Moun 23.85 139 P P 04 18 05.6 +0.9
baz=333,SNR=5.3
ULM Lac du Bonnet 23.89 86 P P 04 18 04.5 -0.2
comp=Z,8.0nm,0.9s,baz=284,slow=9.2,SNR=11
ULM LR LR 04 27 59.4
comp=Z,1μm,21.4s,baz=276,slow=38
ULM Lac du Bonnet 23.89 86 eP P 04 18 04.5 -0.2
comp=Z,18nm,1.1s
ULM Lac du Bonnet 23.89 86 eP P 04 18 04.5 -0.2
ULM pmax pmax
comp=Z,19nm,1.1s
PV09 Paradox Valley 24.18 124 eP P 04 18 08.8 +0.9
PV21 Cone Mtn., Par 24.20 123 eP P 04 18 09.7 +1.7
comp=Z,35nm,1.4s
HEC Hector,Ludlow 24.24 140 P P 04 18 08.3 +0.1
baz=334,SNR=12
PV23 Carpenter Ridg 24.27 124 eP P 04 18 09.5 +0.8
comp=Z,69nm,1.5s
BFSC Mount Baldy Ra 24.31 143 P P 04 18 10.3 +1.4
baz=336,SNR=8.1
PV10 Paradox Valley 24.32 124 eP P 04 18 12.3 +3.2
PV14 Lion Creek, Pa 24.33 124 eP P 04 18 09.9 +0.8
comp=Z,22nm,1.1s
PV20 West Nyswonger 24.38 124 eP P 04 18 11.4 +1.8
comp=Z,32nm,1.4s
PV19 Morning Glory 24.40 124 eP P 04 18 11.2 +1.4
comp=Z,40nm,1.5s
PV17 East Wray Mesa 24.43 124 eP P 04 18 10.8 +0.7
comp=Z,36nm,1.3s
U15A North Rim 24.45 132 eP P 04 18 09.5 -0.9
comp=Z,27nm,1.6s
PV11 David Mesa, Pa 24.46 124 eP P 04 18 06.3 -4.0
comp=Z,21nm,0.7s
PV12 Saucer Basin, 24.48 123 eP P 04 18 10.6 0.0
comp=Z,20nm,1.1s
PV03 Paradox Valley 24.50 124 eP P 04 18 11.1 +0.4
PV05 Paradox Valley 24.53 124 eP P 04 18 11.9 +0.9
GMRC Granite Mounta 24.53 139 P P 04 18 10.8 -0.1
baz=333,SNR=5.4
BBRC Big Bear Solar 24.54 142 P P 04 18 12.1 +0.9
baz=335
PV13 Radium Mtn., P 24.59 124 eP P 04 18 11.3 -0.2
comp=Z,15nm,0.9s
PV02 Paradox Valley 24.59 124 eP P 04 18 12.0 +0.4
comp=Z,21nm,1.1s
SMCO Snowmass 24.69 119 eP P 04 18 13.4 +0.7
comp=Z,19nm,1.4s
PV01 Paradox Valley 24.73 123 eP P 04 18 11.3 -1.6
RES Resolute Bay 24.76 24 P P 04 18 13.7 +1.3
comp=Z,14nm,0.8s,baz=242,slow=10,SNR=49
RES LR LR 04 28 25.5
comp=Z,323nm,19.9s,baz=286,slow=38
RES Resolute Bay 24.76 24 eP P 04 18 14.0 +1.5
comp=Z,21nm,0.9s
RES Resolute Bay 24.76 24 eP P 04 18 14.0 +1.5
RES pmax pmax
comp=Z,21nm,0.9s
AGMN Agassiz Nation 24.86 90 eP P 04 18 13.9 +0.3
comp=Z,18nm,1.1s
AGMN Agassiz Nation 24.86 90 P P 04 18 13.9 +0.3
baz=301,SNR=5.5
ISCO Idaho Springs 24.91 117 eP P 04 18 15.9 +1.5
comp=Z,10.0nm,1.1s
ISCO Idaho Springs 24.91 117 eP P 04 18 15.9 +1.5
ISCO pmax pmax
comp=Z,10.0nm,1.1s
ISCO Idaho Springs 24.91 117 P P 04 18 16.0 +1.5
baz=318,SNR=6.1
W13A Hualapai Mount 24.94 136 eP P 04 18 15.4 +0.7
comp=Z,12nm,0.9s
MURC Murrieta 25.05 143 P P 04 18 15.7 +0.2
baz=336
IRM Iron Mountain 25.28 139 P P 04 18 18.5 +0.9
baz=333,SNR=8.3
PFO Pinyon Flats O 25.30 142 P P 04 18 17.6 -0.2
comp=Z,5.0nm,0.9s,baz=326,slow=2.9,SNR=5.2
PFO Pinyon Flats O 25.30 142 eP P 04 18 18.0 +0.2
comp=Z,6.0nm,0.9s
PFO Pinyon Flats O 25.30 142 eP P 04 18 18.0 +0.2
PFO pmax pmax

comp=Z,6.0nm,0.9s
PFO Pinyon Flats O 25.30 142 P P 04 18 17.6 -0.2
baz=335
XPFO Pion Flat 25.30 142 *e*P P 04 18 18.0 +0.2
comp=Z,6.5nm,0.9s
MVCO Mesa Verde 25.51 125 *e*P P 04 18 19.7 -0.1
comp=Z,35nm,1.4s
PDMCI Parker Dam,Lak 25.53 137 P P 04 18 20.3 +0.5
baz=332
BC3 Big Chuckawall 25.62 140 P P 04 18 20.9 +0.2
baz=334
WUAZ Wupatki 25.62 131 *e*P P 04 18 21.4 +0.6
comp=Z,19nm,1.3s
WUAZ Wupatki 25.62 131 P P 04 18 20.7 -0.1
baz=328,SNR=6.7
S22A 4UR Ranch, Cre 25.88 121 *e*P P 04 18 23.4 +0.1
comp=Z,21nm,1.6s
S22A 4UR Ranch, Cre 25.88 121 P P 04 18 22.8 -0.4
baz=322,SNR=7.2
Y12C Blythe 25.88 138 *e*P P 04 18 23.7 +0.8
comp=Z,26nm,1.6s
OGNE Ogallala 25.95 110 *e*P P 04 18 25.8 +2.2
comp=Z,91nm,1.5s
MONP2 Monument Peak 25.96 143 P P 04 18 24.9 +1.0
baz=336,SNR=12
BAR Barrett 26.07 143 *e*P P 04 18 24.9 +0.2
comp=Z,6.7nm,0.9s
IKP In-Ko-Pah, Jac 26.29 142 P P 04 18 27.8 +1.1
baz=336,SNR=5.4
GLA Glamis 26.39 140 *e*P P 04 18 28.8 +1.2
comp=Z,12nm,0.8s
GLA Glamis 26.39 140 *e*P P 04 18 28.8 +1.2
GLA pmax pmax
comp=Z,12nm,0.8s
GLA Glamis 26.39 140 P P 04 18 28.3 +0.7
baz=334
SDCO Great Sand Dun 26.53 119 *e*P P 04 18 29.1 0.0
comp=Z,22nm,1.9s
KSCO Kaye Shedlock' 27.03 114 *e*P P 04 18 34.4 +0.8
comp=Z,17nm,1.0s
KSCO Kaye Shedlock' 27.03 114 P P 04 18 34.1 +0.5
baz=318
ECSD EROS Data Cent 27.07 99 *e*P P 04 18 33.0 -0.7
comp=Z,14nm,1.2s
214A Organ Pipe Nat 28.13 137 P P 04 18 43.7 +0.4
baz=333
ANMO Albuquerque 28.31 124 P P 04 18 44.5 -0.6
comp=Z,0.6nm,0.6s,baz=302,slow=1.7,SNR=4.3
ANMO LR LR 04 29 56.1
comp=Z,172nm,22.0s,baz=328,slow=36
ANMO Albuquerque 28.31 124 *e*P P 04 18 44.5 -0.6
comp=Z,3.0nm,1.1s
ANMO Albuquerque 28.31 124 *ce*P P 04 18 44.1 -0.9
ANMO pmax pmax
comp=Z,7.0nm,2.6s
F38A Pierce - Schro 28.41 91 P P 04 18 45.1 -0.5
baz=305
TUC Tucson 28.62 134 *e*P P 04 18 48.8 +1.1
comp=Z,31nm,1.9s
TUC Tucson 28.62 134 P P 04 18 48.6 +0.9
TUC pmax pmax
comp=Z,31nm,1.9s
CBKS Cedar Bluff 28.70 111 *e*P P 04 18 48.5 +0.2
comp=Z,16nm,1.0s
CBKS Cedar Bluff 28.70 111 *e*P P 04 18 48.6 +0.2
CBKS pmax pmax
comp=Z,16nm,1.0s
BILL Bilibino 29.30 319⇑ *i*P P 04 18 54.9 +1.6
BILL pmax pmax
comp=Z,14nm,2.5s
121A Cookes Peak, D 29.71 129 P P 04 18 58.4 +0.9
baz=328,SNR=6.0
I39A Houston 29.87 94 P P 04 18 58.8 +0.1
baz=308
H40A Chili 30.05 92 P P 04 19 00.2 0.0
baz=307
319A Douglas 30.06 132 *e*P P 04 19 01.9 +1.3
comp=Z,13nm,1.1s
KSU1 Kansas State U 30.19 107 *e*P P 04 19 01.8 +0.4
comp=Z,10nm,0.9s
AMTX Amarillo 30.68 118 *e*P P 04 19 06.5 +0.6
comp=Z,31nm,1.4s
K40A Colesburg 30.82 96 P P 04 19 06.7 -0.3
baz=310
MSTX Muleshoe 30.87 121 P P 04 19 07.3 -0.4
baz=324
TULEG Thule 31.48 24 *e*P P 04 19 14.1 +1.7
comp=Z,19nm,1.0s
MNTX Cornudas Mount 31.50 127 *e*P P 04 19 12.8 -0.3
comp=Z,3.4nm,1.0s
GDL2 Guadalupe Moun 31.55 125 *e*P P 04 19 14.4 +0.7
WMOK Wichita Mounta 32.28 115 *e*P P 04 19 20.2 +0.3
comp=Z,21nm,1.2s
WMOK Wichita Mounta 32.28 115 *e*P P 04 19 20.2 +0.3
WMOK pmax pmax
comp=Z,21nm,1.2s
WMOK Wichita Mounta 32.28 115 P P 04 19 19.9 0.0
baz=321,SNR=15
N41A Harden Midland 32.28 98 *e*P P 04 19 19.7 -0.1
comp=Z,22nm,0.8s
N41A Harden Midland 32.28 98 P P 04 19 19.1 -0.7
baz=312
O41A Passleys Farm, 32.66 99 P P 04 19 22.8 -0.4
baz=313
P41A Barry, Barry 32.86 100 P P 04 19 24.4 -0.5
baz=313,SNR=6.2
TUL1 Leonard 32.96 110 *e*P P 04 19 25.6 -0.2
comp=Z,22nm,1.3s
FRB Frobisher Bay 33.11 48 P P 04 19 28.0 +1.2
FRB pmax pmax
comp=Z,30nm,1.1s
Q41A Truxton 33.27 101 P P 04 19 27.6 -0.9
baz=314
R41A Rosebud 33.64 102 P P 04 19 30.3 -1.5
baz=315,SNR=12
HHAR Hobbs 33.69 107 *e*P P 04 19 31.4 -0.8
comp=Z,16nm,1.2s
Q42A Golden Eagle 33.69 101 P P 04 19 31.0 -1.2
baz=314
CCM Cathedral Cave 33.89 102 *e*P P 04 19 32.9 -1.0
comp=Z,20nm,1.1s
CCM Cathedral Cave 33.89 102 *e*P P 04 19 32.9 -1.0
CCM pmax pmax
comp=Z,20nm,1.1s
S41A Jillco Farms, 33.94 103 P P 04 19 33.2 -1.2
baz=316,SNR=8.3
Q43A New Douglas 34.13 100 P P 04 19 35.6 -0.4
baz=314,SNR=7.0
U40A Yellville 34.23 106 P P 04 19 35.8 -1.1
baz=317,SNR=6.9
TX31 Lajitas Ar. Si 34.28 127 *e*P P 04 19 37.8 +0.2
LTX Lajitas 34.28 127 *e*P P 04 19 38.0 +0.5
LTX *e*PcP PcP 04 22 13.3 -0.3
LTX Lajitas 34.28 127 *e*P P 04 19 38.0 +0.5
LTX *e* 04 22 13.3
TXAR Lajitas Array 34.28 127 P P 04 19 38.0 +0.5
comp=Z,2.5nm,0.7s,baz=327,slow=7.2,SNR=34
TXAR PcP PcP 04 22 13.3 -0.3
comp=Z,1.0nm,0.9s,baz=332,slow=1.9,SNR=4.1
TXAR LR LR 04 34 10.5
comp=Z,152nm,21.0s,baz=0.0,slow=38
T41A Mountain View 34.33 104 P P 04 19 36.3 -1.5
baz=316
S42A Caledonia 34.34 102 P P 04 19 36.3 -1.6
baz=315
MATQ Matagami 34.37 75 P P 04 19 38.8 +0.8
baz=302,SNR=5.1
R43A Red Bud 34.47 101 P P 04 19 37.9 -1.0
baz=315,SNR=6.4
W39A Magazine 34.58 108 *e*P P 04 19 39.1 -0.8
comp=Z,63nm,2.0s
W39A Magazine 34.58 108 P P 04 19 38.2 -1.7
baz=319
T42A Van Buren 34.71 103 *e*P P 04 19 39.6 -1.4
comp=Z,5.6nm,0.8s
T42A Van Buren 34.71 103 P P 04 19 37.9 -3.1
baz=316
P45A Graceland, Par 34.84 97 *e*P P 04 19 42.0 -0.1
comp=Z,15nm,0.9s
P45A Graceland, Par 34.84 97 P P 04 19 41.3 -0.8
baz=313
D51A Lot 18 Range I 34.87 80 P P 04 19 41.6 -0.7
baz=305
S43A Fulton Ridge, 34.88 102 P P 04 19 41.3 -1.3
baz=315,SNR=10
V41A Mountainview 35.03 106 P P 04 19 42.0 -1.8
baz=318,SNR=14
Q45A Warren Harvey, 35.04 98 P P 04 19 42.9 -0.9
baz=314
P46A Rosedale 35.08 97 P P 04 19 43.4 -0.8
baz=313
T43A Greenville 35.12 103 P P 04 19 43.4 -1.1
baz=316,SNR=7.7
L48A N Adams 35.12 91 P P 04 19 44.1 -0.4
baz=310
MIAR Mount Ida 35.18 109 *e*P P 04 19 45.0 -0.1
comp=Z,28nm,1.2s
MIAR Mount Ida 35.18 109 *e*P P 04 19 45.0 -0.1
MIAR pmax pmax
comp=Z,28nm,1.2s
MIAR Mount Ida 35.18 109 P P 04 19 44.6 -0.5
baz=319,SNR=10
M48A Edgerton 35.25 92 P P 04 19 43.0 -2.7
baz=311
S44A Carbondale 35.26 101 P P 04 19 45.1 -0.6
baz=315
VLDQ Val d'Or 35.36 77 *e*P P 04 19 45.6 -0.9
comp=Z,16nm,0.8s
R45A Skylar, Fairfi 35.38 99 P P 04 19 46.0 -0.8
baz=314
L49A Milan 35.39 90 P P 04 19 45.9 -0.9
baz=310
D52A ZEK Kipawa Sen 35.47 80 P P 04 19 46.9 -0.6
baz=305
P47A Martinsville 35.70 96 P P 04 19 48.9 -0.7
baz=313
E52A Mattawa 35.73 81 P P 04 19 49.9 +0.1
baz=306
D53A Lac Vacive, Po 35.81 79 P P 04 19 51.1 +0.7
baz=305
435B Jarrell 36.02 118 *e*P P 04 19 52.7 +0.3
comp=Z,20nm,1.2s
SEY Seymchan 36.11 312 P P 04 19 54.4 +1.6
comp=Z,2.7nm,0.7s,baz=105,slow=5.7,SNR=6.7
SEY PcP PcP 04 22 19.4 +1.1
comp=Z,0.7nm,0.3s,baz=47,slow=9.7,SNR=3.0
SEY Seymchan 36.11 312 *i*P P 04 19 53.9 +1.1
U44B Burton Farm, H 36.17 103 P P 04 19 53.1 -0.5
baz=316
P48A Milroy 36.20 95 P P 04 19 52.1 -1.6
baz=313
Y41A Eaglette Beard 36.20 109 P P 04 19 53.3 -0.6
baz=320
E53A Dumoine, Ponti 36.24 80 P P 04 19 54.9 +0.8
baz=306
R47A Wooly Knot Far 36.37 98 P P 04 19 54.4 -0.9
baz=314,SNR=6.5
G53A Haliburton 36.44 82 P P 04 19 55.9 +0.1
baz=307
E54A Lac Daplat, Po 36.47 80 P P 04 19 56.4 +0.4
baz=306
S48A Wiedeman Farm, 37.08 98 P P 04 19 59.9 -1.5
baz=315
WVT Waverly 37.17 101 *e*P P 04 20 01.3 -0.8
comp=Z,7.8nm,1.0s
WVT Waverly 37.17 101 *e*P P 04 20 01.3 -0.8
WVT pmax pmax
comp=Z,8.0nm,1.0s
V46A Holladay 37.25 102 P P 04 20 01.2 -1.6
baz=317
U47A Clarksville 37.25 100 P P 04 20 00.1 -2.7
baz=316
T48A Bowling Green 37.28 99 P P 04 20 01.1 -1.9
baz=315
G55A Calabogie 37.44 81 P P 04 20 04.6 +0.4
baz=307
OXF Oxford 37.48 105 *e*P P 04 20 03.8 -1.0
comp=Z,34nm,1.1s
OXF Oxford 37.48 105 *e*P P 04 20 03.8 -1.0
OXF pmax pmax
comp=Z,34nm,1.1s
SCHQ Schefferville 37.49 62 P P 04 20 05.1 +0.4
comp=Z,26nm,0.9s,baz=301,slow=8.2,SNR=18
SCHQ LR LR 04 35 58.6
comp=Z,248nm,19.2s,baz=314,slow=37
SCHQ Schefferville 37.49 62 *e*P P 04 20 05.5 +0.8
comp=Z,46nm,1.0s
V47A Nunnelly 37.56 101 P P 04 20 04.2 -1.2
baz=316
U48A Cassie Pea, Po 37.62 100 P P 04 20 04.9 -1.1
baz=316
O52A Adamsville 37.80 91 *e*P P 04 20 07.3 -0.1
comp=Z,27nm,1.3s
O52A Adamsville 37.80 91 P P 04 20 06.8 -0.6
baz=312
N53A Lisbon 37.91 90 P P 04 20 06.8 -1.6
baz=311
PEA1 Petropavlovsk- 38.06 295 *e*P P 04 20 10.7 +1.3
PETK Petropavlovsk- 38.06 295 P P 04 20 10.7 +1.2
comp=Z,4.3nm,0.8s,baz=76,slow=12,SNR=3.7
H56A Elgin 38.10 81 P P 04 20 09.7 -0.2
baz=308
M54A Oil Creek Stat 38.12 88 P P 04 20 10.0 -0.1
baz=311
T50A Nancy 38.22 97 P P 04 20 10.0 -1.0
baz=315
ALFO Alfred 38.24 79 P P 04 20 11.4 +0.3
baz=307,SNR=6.1
MA2 Magadan 38.24 308 P P 04 20 13.0 +2.1
comp=Z,6.5nm,0.8s,baz=41,slow=11,SNR=4.2
MA2 Magadan 38.24 308 *ce*P P 04 20 12.6 +1.7
MA2 pmax pmax
comp=Z,26nm,1.7s
Y46A Houston 38.25 105 P P 04 20 09.7 -1.6
baz=318
V49A McMinnville 38.51 100 P P 04 20 12.5 -1.0
baz=316
O54A Avella 38.59 90 P P 04 20 13.8 -0.2
baz=312
U50A Jamestown 38.65 98 P P 04 20 13.1 -1.6
baz=316
244A Avery, Jackson 38.65 109 P P 04 20 13.6 -1.0
baz=320
Y47A UCPARC, Winfie 38.79 104 P P 04 20 14.6 -1.2
baz=318
X48A Hartselle 38.83 102 P P 04 20 15.0 -1.2
baz=318
N55A Marion Center 38.98 88 P P 04 20 17.1 -0.2
baz=311
LONY Lake Ozonia 39.02 80 *e*P P 04 20 18.7 +1.0
comp=Z,16nm,0.9s
V50A Pikevile 39.03 99 P P 04 20 17.4 -0.4
baz=316
Y48A Jasper 39.16 103 P P 04 20 18.8 -0.1
baz=318
X49A Woodville 39.19 102 P P 04 20 17.8 -1.3
baz=318
T52A Hall 39.21 96 P P 04 20 18.6 -0.7
baz=315
W50A Signal Mountai 39.26 100 P P 04 20 18.9 -0.9
baz=317
Z48A Northport 39.35 104 P P 04 20 19.6 -0.9
baz=319
P55A Reedsville 39.35 90 P P 04 20 20.5 0.0
baz=312
Q55A Buckhannon 39.55 91 P P 04 20 19.6 -2.6
baz=313
O56A Blue Knob Stat 39.56 88 P P 04 20 19.7 -2.6
baz=312
X50B Fort Payne 39.61 101 P P 04 20 21.4 -1.3
baz=317
Y49A Blount Mountai 39.63 102 *e*P P 04 20 22.1 -0.8
comp=Z,77nm,1.9s
Y49A Blount Mountai 39.63 102 P P 04 20 21.9 -1.0
baz=318
V52A Sevierville 39.76 98 *e*P P 04 20 23.2 -0.7
comp=Z,44nm,1.7s
V52A Sevierville 39.76 98 P P 04 20 22.6 -1.3
baz=316
X51A Calhoun 39.97 100 *e*P P 04 20 25.4 -0.3
comp=Z,48nm,1.2s
LNIG Linares 40.00 125 *e*P P 04 20 26.2 +0.2
comp=Z,11nm,0.9s
Z49A Columbiana 40.05 103 P P 04 20 24.5 -1.9
baz=319
SUMG Summit 40.17 28 *e*P P 04 20 29.1 +1.7
comp=Z,34nm,1.0s
SUMG Summit 40.17 28 *i*P P 04 20 29.1 +1.7
comp=Z,67nm,0.9s
SUMG Summit 40.17 28 *e*P P 04 20 29.1 +1.7
SUMG pmax pmax
comp=Z,34nm,1.0s
V53A Saluda 40.33 97 P P 04 20 27.1 -1.6
baz=316
149A Jones 40.36 104 P P 04 20 28.1 -0.8
baz=319,SNR=6.3
BLA Blacksburg 40.59 93 *e*P P 04 20 31.2 +0.4
comp=Z,43nm,1.4s
BLA Blacksburg 40.59 93 *e*P P 04 20 31.2 +0.4
BLA pmax pmax
comp=Z,43nm,1.4s
249A Camden 40.65 105 P P 04 20 30.8 -0.4
baz=320,SNR=5.7
Y53A Monroe 41.21 100 P P 04 20 33.6 -2.3
baz=318
Z52A Williamson 41.23 101 P P 04 20 35.3 -0.8
baz=318
152A Waverly Hall 41.45 102 P P 04 20 36.6 -1.4
baz=319
KMSC Kings Mountain 41.54 96 P P 04 20 37.1 -1.5
baz=316
Z53A Monticello 41.64 100 P P 04 20 38.0 -1.5
baz=318
Y54A Tignall 41.71 99 P P 04 20 39.2 -0.8
baz=317
DAG Danmarks Havn 42.15 18 *i*P P 04 20 43.8 +0.7
comp=Z,11nm,0.7s
DAG Danmarks Havn 42.15 18 *i*P P 04 20 43.8 +0.7
DAG pmax pmax
comp=Z,8.0nm,0.7s
YSS Yuzh-Sakhalins 49.44 297⇑ *e*P P 04 21 40.8 -0.1
YSS pmax pmax
comp=Z,34nm,1.7s
KLR Kul'dur 53.25 305 *i*P P 04 22 09.6 +0.1
ARA0 ARCESS Array S 54.54 8 *e*P P 04 22 19.2 +0.5
ARCES ARCESS Array B 54.54 8 P P 04 22 19.2 +0.5
comp=Z,4.1nm,1.0s,baz=351,slow=6.1,SNR=4.7
H11N2 WAKE ISLAND Hy 56.05 255 T T 05 23 10.3
baz=39
H11N3 WAKE ISLAND Hy 56.05 255 T T 05 23 12.9
baz=39
H11N1 WAKE ISLAND Hy 56.06 255 T T 05 23 13.4
baz=39
USRK Usuriysk Ar. 56.75 301 P P 04 22 35.6 +0.7
comp=Z,2.6nm,1.0s,baz=55,slow=18,SNR=2.7
H11S1 WAKE ISLAND Hy 57.15 254 T T 05 24 43.2
baz=33
H11S2 WAKE ISLAND Hy 57.16 254 T T 05 24 43.1
baz=33
H11S3 WAKE ISLAND Hy 57.16 254 T T 05 24 41.8
baz=33
MAJO Matsushiro 59.22 291 *e*P P 04 22 53.1 +0.7
MAJO Matsushiro 59.22 291 *e*P P 04 22 53.1 +0.7
MJAR Matsushiro Arr 59.22 291 P P 04 22 53.1 +0.7
comp=Z,1.9nm,0.4s,baz=5.9,slow=4.1,SNR=4.7
CN2 Changchun 60.19 305 *e*P P 04 22 57.8 -1.1
NB2 NORSAR Subarra 60.84 18 P P 04 23 03.5 +0.4
comp=Z,7.6nm,1.1s,baz=339,slow=6.9
NB200 NORSAR Array S 60.84 18 *e*P P 04 23 03.7 +0.6
NOA NORSAR Array B 60.84 18 P P 04 23 03.7 +0.6
comp=Z,2.8nm,0.9s,baz=339,slow=7.0,SNR=9.8
NOA LR LR 04 51 12.2
comp=Z,69nm,18.4s,baz=335,slow=38
HFS Hagfors 62.12 17 P P 04 23 12.1 +0.4
comp=Z,2.6nm,0.8s,baz=330,slow=5.1,SNR=7.7
FIA0 FINESS Array S 62.52 10 *e*P P 04 23 14.8 +0.5
FIA0 FINESS Array S 62.52 10 *e*P P 04 23 14.8 +0.5
FINES FINESS Array B 62.52 10 P P 04 23 14.8 +0.5
comp=Z,2.3nm,0.7s,baz=340,slow=6.1,SNR=7.8
FINES FINESS Array B 62.52 10 *ce*P P 04 23 16.2 +1.9
FINES pmax pmax
comp=Z,2.0nm,0.9s
EKA Eskdalemuir Ar 62.78 29 P P 04 23 16.0 -0.2
comp=Z,0.9nm,0.5s,baz=324,slow=6.5,SNR=9.3
ESK Eskdalemuir 62.78 29 *ce*P P 04 23 17.4 +1.2
PRGR Permogore 63.29 360 *e*P P 04 23 21.4 +1.9
PRGR pmax pmax
comp=Z,17nm,1.3s
KSRS Korea Array 63.86 298 P P 04 23 24.8 +1.1
comp=Z,2.3nm,0.7s,baz=43,slow=6.8,SNR=6.4
KSRS LR LR 04 49 54.7
comp=Z,27nm,21.5s,baz=70,slow=35
KS15 Wonju Array Si 63.89 298 *e*P P 04 23 24.8 +0.9
KSAR Wonju Array Be 63.89 298 P P 04 23 24.8 +1.0
KSAR Wonju Array Be 63.89 298 P P 04 23 24.8 +1.0
KLMR Klimovskoe 63.99 3 *e*P P 04 23 22.2 -1.9
KLMR pmax pmax
comp=Z,10.0nm,1.3s
KLMR Klimovskoe 63.99 3 *e*P P 04 23 22.2 -1.9
KLMR AMP 04 23 30.1
comp=Z,10.0nm,1.2s
SONA1 Songino Array 65.00 319 *e*P P 04 23 33.1 +1.9
SONA0 Songino Array 65.02 319 *e*P P 04 23 32.2 +1.0
SONM Songino Array 65.02 319 P P 04 23 32.2 +1.0
comp=Z,0.5nm,0.7s,baz=29,slow=8.4,SNR=5.4
ZAA1 Zalesovo Array 66.21 336 *e*P P 04 23 38.9 +0.2
ZAA0 Zalesovo Array 66.22 336 *e*P P 04 23 39.0 +0.4
comp=Z,10.0nm,1.5s
ZALV Zalesovo Beam 66.22 336 P P 04 23 38.9 +0.2
comp=Z,2.6nm,0.6s,baz=14,slow=4.9,SNR=10
ZALV Zalesovo Beam 66.22 336 *e*P P 04 23 39.6 +0.9
ZALV Zalesovo Beam 66.22 336 *e*P P 04 23 39.6 +0.9
BSD Bornholm Skovb 67.09 18 *i*P P 04 23 48.8 +4.6
comp=Z,14nm,1.0s
BSD Bornholm Skovb 67.09 18 *e*P P 04 23 48.8 +4.6
BSD pmax pmax
comp=Z,14nm,1.0s
ARU Arti 67.98 352 P P 04 23 49.9 +0.1
ARU S S 04 32 50.6 +2.3
ARU SS SS 04 37 11.3 +2.3
HHC Hu-ho-hao-te 68.76 312 *e*P P 04 23 48.5 -6.6
HHC sP pP 04 23 58.5 0.0
HHC S S 04 32 49.6 -8.7
HHC pmax pmax
comp=Z,10.0nm,0.9s
HHC pmax pmax
comp=Z,97nm,7.5s
HHC LR LR
comp=N,170nm,14.7s
HHC LR LR
comp=E,250nm,15.3s
HHC LR LR
comp=Z,280nm,15.9s
DGZ Jazzator, Alta 69.45 332 *i*P P 04 24 01.1 +1.7
DGZ pmax pmax
comp=Z,1.0nm,1.1s
BAIF Baives 69.49 27 *e*P P 04 24 00.6 +1.3
BAIF pmax pmax
comp=Z,33nm,1.5s
OBN Obninsk 69.61 5⇓ *i*P P 04 23 59.4 -0.6
OBN pmax pmax
comp=Z,34nm,2.5s
BRVK Borovoye 69.91 344 *e*P P 04 24 02.9 +1.0
comp=Z,4.3nm,0.9s
BRVK Borovoye 69.91 344 *i*P P 04 24 02.2 +0.3
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 69.93 344 P P 04 24 02.6 +0.6
comp=Z,1.4nm,0.7s,baz=24,slow=5.2,SNR=10
CLL Collm 70.34 21 *e*P P 04 24 05.0 +0.4
comp=Z,9.0nm,1.3s
CLL Collm 70.34 21 *e*P P 04 24 05.0 +0.4
CLL pmax pmax
comp=Z,116nm,1.3s
KURK Kurchatov 70.62 338 *e*P P 04 24 06.5 +0.2
comp=Z,4.5nm,0.9s
KURK Kurchatov 70.62 338 *ce*P P 04 24 07.0 +0.7
KURK pmax pmax
comp=Z,6.0nm,0.9s
KURBB Kurchatov Arra 70.73 338 P P 04 24 07.3 +0.3
comp=Z,4.8nm,0.8s,baz=23,slow=5.5,SNR=20
BRG Berggiesshubel 70.94 20 *e*P P 04 24 09.5 +1.2
comp=Z,7.1nm,1.2s
BRG Berggiesshubel 70.94 20 *e*P P 04 24 09.5 +1.2
BRG pmax pmax
comp=Z,7.0nm,1.2s
MFF Saint Martin d 71.44 31 *e*P P 04 24 11.8 +0.5
MFF pmax pmax
comp=Z,26nm,1.4s
DPC Dobruska-Polom 71.90 19 *e*P P 04 24 15.8 +1.7
DPC *ex* x 04 24 20.1
DPC Dobruska-Polom 71.90 19 *e*P P 04 24 15.8 +1.7
DPC *e* 04 24 20.1
SSF Saint Saulge 72.06 29 *e*P P 04 24 15.3 +0.3
SSF pmax pmax
comp=Z,6.0nm,0.9s
BFO Black Forest 72.11 25 *ce*P P 04 24 16.9 +1.5
TCF Toulx Ste Croi 72.40 30 *e*P P 04 24 17.3 +0.1
TCF pmax pmax
comp=Z,5.0nm,1.0s
KHC Kasperske Hory 72.53 21 *e*P P 04 24 19.5 +1.6
comp=Z,1.8nm,0.9s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KHC	Kasperske Hory	72.53	21	eP	P	04 24 18.9	+1.0
KHC				ex	x	04 24 24.0	
KHC	Kasperske Hory	72.53	21	eP	P	04 24 19.5	+1.6
KHC				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NJ2	Nanjing	72.65	301	eP	P	04 24 15.1	-3.7
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
GERES	GERESS Array B	72.82	21	P	P	04 24 20.0	+0.3
	comp=Z,2.2nm,0.9s,baz=338,slow=3.2,SNR=10						
GEA0	GERESS Array S	72.83	21	eP	P	04 24 20.4	+0.6
VRAC	Vranov	72.95	19	P	P	04 24 21.3	+1.0
	comp=Z,2.5nm,0.7s,baz=326,slow=4.6,SNR=4.7						
VRAC	Vranov	72.95	19	eP	P	04 24 21.5	+1.2
KRUC	Moravsky	73.15	19	eP	P	04 24 22.4	+0.9
LFF	La Frestale	73.21	31	eP	P	04 24 24.5	+2.6
LFF				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AKASG	Malin Array Be	73.42	10	P	P	04 24 23.1	0.0
	comp=Z,1.9nm,0.7s,baz=354,slow=5.6,SNR=8.4						
AKASG	Malin Array Be	73.42	10	ceP	P	04 24 22.8	-0.3
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKBB	Malin Array Si	73.42	10	eP	P	04 24 23.1	0.0
AKBB	Malin Array Si	73.42	10	eP	P	04 24 23.1	0.0
KIEV	Kiev	73.43	10	eP	P	04 24 22.7	-0.4
	comp=Z,34nm,1.9s						
KIEV	Kiev	73.43	10	i P	P	04 24 22.1	-1.0
KIEV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MK31	Makanchi Array	73.46	334	eP	P	04 24 24.3	+0.9
MK31	Makanchi Array	73.46	334	eP	P	04 24 24.3	+0.9
MK32	Makanchi Array	73.46	334	eP	P	04 24 24.3	+0.8
MKAR	Makanchi Array	73.46	334	P	P	04 24 24.3	+0.8
	comp=Z,3.4nm,0.7s,baz=35,slow=5.4,SNR=23						
MKAR	Makanchi Array	73.46	334	eP	P	04 24 24.3	+0.8
	comp=Z,17nm,0.8s						
MKAR	Makanchi Array	73.46	334	ceP	P	04 24 24.2	+0.8
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MK01	Makanchi Array	73.48	334	eP	P	04 24 24.1	+0.5
MAKZ	Makanchi	73.52	335	eP	P	04 24 24.3	+0.5
	comp=Z,9.9nm,1.0s						
MAKZ	Makanchi	73.52	335	eP	P	04 24 24.3	+0.5
MAKZ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CAF	Calviac	73.61	30	eP	P	04 24 24.4	+0.1
CAF				pmax	pmax		
	comp=Z,8.0nm,1.2s						
SQTA	Sankt Quirin	73.83	23	eP	P	04 24 26.4	+0.7
	comp=Z,5.7nm,1.4s						
FETA	Feichten	73.91	24	eP	P	04 24 26.9	+0.7
	comp=Z,5.4nm,1.1s						
DAVOX	Davos/Dischmat	73.93	24	P	P	04 24 27.8	+1.4
	comp=Z,3.5nm,0.9s						
AKTO	Aktyubinsk	73.97	351	P	P	04 24 26.8	+0.4
	comp=Z,3.3nm,0.8s,baz=339,slow=5.7,SNR=13						
MODS	Modra-Piesok	73.97	19	eP	P	04 24 26.6	+0.2
CONA	Conrad Observa	74.13	20	eP	P	04 24 28.5	+1.1
	comp=Z,5.2nm,1.1s						
VYHS	Vyhne	74.14	18	eP	P	04 24 28.4	+1.1
VYHS				esP	sP	04 24 32.9	+0.9
SJPF	Ste Jean	74.26	33	eP	P	04 24 30.3	+2.1
SJPF				pmax	pmax		
	comp=Z,14nm,1.6s						
KBA	Koelnbreinsper	74.43	22	eP	P	04 24 31.5	+2.2
	comp=Z,6.9nm,0.6s						
ABTA	Abfaltersbach	74.56	23	eP	P	04 24 31.0	+1.0
	comp=Z,1.5nm,0.6s						
GTA	Gaotai	74.69	319	eP	P	04 24 31.3	+0.5
GTA				pP	sP	04 24 35.9	+0.3
GTA				sP	pP	04 24 38.5	+4.2
ARSA	Arzberg	74.71	20	eP	P	04 24 32.8	+2.0
	comp=Z,8.1nm,1.1s						
WMQ	Urumqi	74.76	330	eP	P	04 24 30.3	-0.8
WMQ				pmax	pmax		
	comp=Z,18nm,0.7s						
WMQ				LR	LR		
	comp=Z,230nm,21.9s						
WMQ				LR	LR		
	comp=Z,150nm,17.7s						
WMQ				LR	LR		
	comp=Z,200nm,21.1s						
ABKAR	Akbulak array	74.96	350	eP	P	04 24 31.9	-0.2
MTLF	Montolieu	75.10	31	eP	P	04 24 37.5	+4.5
MTLF				pmax	pmax		
	comp=Z,9.0nm,1.3s						
SOKA	Soboth	75.16	21	eP	P	04 24 33.9	+0.5
	comp=Z,8.6nm,1.2s						
OBKA	Obir	75.22	21	epP	P	04 24 33.8	0.0
	comp=Z,5.9nm,0.8s						
LZH	Lanzhou	76.00	314	eP	P	04 24 35.5	-3.0
LZH				pP	sP	04 24 43.7	+0.5
LZH				sP	PcP	04 24 47.5	-3.3
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
FRF	La Foret Royal	76.14	28	eP	P	04 24 41.5	+2.6
FRF				pmax	pmax		
	comp=Z,11nm,1.2s						
ES19	SONSECA Array	76.45	37	eP	P	04 24 41.2	+0.3
ESDC	Sonseca Array	76.46	37	P	P	04 24 41.5	+0.6
	comp=Z,1.3nm,0.6s,baz=331,slow=5.6,SNR=13						
MLR	Muntele Rosu	78.17	14	P	P	04 24 51.1	+0.6
	comp=Z,3.8nm,1.1s,baz=105,slow=19,SNR=3.3						
MLR	Muntele Rosu	78.17	14	eP	P	04 24 51.1	+0.6
	comp=Z,28nm,1.7s						
MLR	Muntele Rosu	78.17	14	eP	P	04 24 51.1	+0.6
MLR				pmax	pmax		
	comp=Z,28nm,1.7s						
AAK	Ala-Archa	79.18	338	P	P	04 24 57.6	+1.4
	comp=Z,2.5nm,0.8s,baz=45,slow=2.9,SNR=2.7						
AAK	Ala-Archa	79.18	338	i P	P	04 24 57.3	+1.2
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
RAR	Rarotonga	79.22	204	LR	LR	04 58 12.5	
	comp=Z,91nm,18.3s,baz=320,slow=34						
KBZ	Khabaz	81.21	2	P	P	04 25 07.6	+0.8
	comp=Z,3.8nm,0.9s,baz=322,slow=5.4,SNR=5.3						
KSH	Kashi	81.84	336	P	P	04 25 09.6	-0.8
KSH				pP	pP	04 25 13.7	-0.2
KSH				sP	PcP	04 25 17.2	+1.1
KSH				PP	PP	04 28 16.2	-0.6
KSH				S	S	04 35 22.6	-1.0
KSH				pmax	pmax		
	comp=Z,7.0nm,0.4s						
KSH				pmax	pmax		
	comp=Z,260nm,7.0s						
KSH				LR	LR		
	comp=Z,120nm,7.7s						
KSH				LR	LR		
	comp=Z,93nm,11.5s						
KSH				LR	LR		
	comp=Z,200nm,10.4s						
MDT	Midelt	82.37	40	P	P	04 25 13.4	+0.1
	comp=Z,1.6nm,0.9s,baz=4.3,slow=6.5,SNR=5.1						
CHGR	Chuyangaron	84.07	341	eP	P	04 25 23.1	+1.1
	comp=Z,29nm,1.3s						
KEST	Kesra	84.19	29	P	P	04 25 22.5	0.0
	comp=Z,2.6nm,0.8s,baz=336,slow=4.8,SNR=2.8						
KEST	Kesra	84.19	29	eP	P	04 25 22.6	0.0
	comp=Z,17nm,1.4s						
BR101	Keskin Array S	84.72	9	eP	P	04 25 26.0	+0.7
BRTR	Keskin Array B	84.72	9	P	P	04 25 26.0	+0.7
	comp=Z,2.0nm,0.9s,baz=332,slow=2.5,SNR=6.1						
KMI	Kunming	85.99	310	P	P	04 25 30.0	-1.9
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
JAY	Jayapura	88.88	264	LR	LR	04 59 35.7	
	comp=Z,43nm,19.9s,baz=231,slow=32						
LPAZ	La Paz	90.73	118	P	P	04 25 53.6	-1.3
	comp=Z,1.0nm,0.8s,baz=341,slow=5.6,SNR=5.4						
CM31	Chiang Mai Arr	93.50	310	eP	P	04 26 08.7	+1.5
CMAR	Chiang Mai Arr	93.50	310	P	P	04 26 08.7	+1.5
	comp=Z,1.2nm,0.3s,baz=12,slow=5.0,SNR=4.4						
AS31	Alice Springs	109.82	257	ePP	PP	04 31 58.9	+4.1
ASAR	Alice Springs	109.82	257	PP	PP	04 31 58.9	+4.1
	comp=Z,1.1nm,0.8s,baz=40,slow=10,SNR=8.5						
QSPA	South Pole Qui	145.22	180	ePKPbc	PKPdf	04 32 27.5	0.0
BOSA	Boshof	149.64	36	PKPbc	PKiKP	04 32 41.9	+0.1
	comp=Z,3.8nm,0.7s,baz=336,slow=2.5,SNR=3.9						
BOSA				PKPab	PKPab	04 32 45.7	-0.2
	comp=Z,3.8nm,0.7s,baz=336,slow=5.8,SNR=8.0						

*IDC **09** 04:20:08.6±0.7, 1°97S×67°97E, h0^{km}, mb4.1/18, mb1 4.2/18, mb1mx4.0/58, mbtmp4.1/18, MS3.7/10, Ms1 3.7/10, ms1mx3.3/48, Error ellipse: s-maj=19.0km s-min=18.0km az=145.0*

*ISCJB **09** 04:20:09.0±0.4, 1°97S±0°07×68°05E±0°08, h15^{km}, mb4.4/28, MS3.7/9, Error ellipse: s-maj=10.9km s-min=10.3km az=176.0*

*NEIC **09** 04:20:10.0±0.3, 2°02S×68°02E, h10^{km}, mb4.9/13, Error ellipse: s-maj=8.8km s-min=8.4km az=107.0*

*GCMT **09** 04:20:11.0±0.5, 2°16S±0°05×68°01E±0°04, h24^{km}±1^{km}, MW4.9/62, Moment Tensor Solution. s33,c39; s62,c80; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.34±.26; $M_{\theta\theta}$1.32±.16; $M_{\phi\phi}$2.02±.17; $M_{r\theta}$-0.03±.24; $M_{\theta\phi}$-0.82±.10; $M_{\phi r}$0.28±.21; Best double couple: $M_0$2.96300×10^{16} NP1:ϕ_s148.00000°,δ47.00000°,λ-88.00000°. NP2: ϕ_s325.00000°,δ43.00000°,λ-93.00000°. Principal axes: T 2.5710, Plg2.0000°, Azm237.0000°; N 0.7840, Plg2.0000°, Azm327.0000°; P -3.3550, Plg87.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 04:20:10.7±0.6**, 2°0S**±0°1×**68°1E**±0°1**, h15**^{km}**, n59, σ1°03**/50**, mb4.4**/28**, MS3.7**/9**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.19	146	T	T	04 26 57.5	
	baz=325,slow=75,SNR=132						
H08N3	Diego Garcia H	5.20	146	T	T	04 26 49.4	
	baz=325,slow=75,SNR=162						
H08N1	Diego Carcia H	5.21	145	T	T	04 27 01.7	
	baz=325,slow=75,SNR=193						
PALK	Pallekele	15.64	54	LR	LR	04 28 35.5	
	comp=Z,361nm,19.7s,baz=295,slow=32						
WSAR	Wadi Sarin	26.73	340	LR	LR	04 34 19.5	
	comp=Z,74nm,19.5s,baz=190,slow=32						
PBA	Port Blair	28.06	60	eP	P	04 26 01.9	0.0
	106nm,1.0s						
ATD	Arta Tunnel	28.44	299	LR	LR	04 34 59.8	
	comp=Z,78nm,20.4s,baz=151,slow=31						
KULM	Kulim	33.37	77	eP	P	04 26 47.2	-1.6
	13nm,0.9s						
CM31	Chiang Mai Arr	36.59	55	eP	P	04 27 15.1	-1.4
CMAR	Chiang Mai Arr	36.59	55	P	P	04 27 18.4	+1.9
	1.4nm,0.2s,baz=336,slow=2.0,SNR=4.1						
CMAR				LR	LR	04 41 28.8	
	comp=Z,57nm,19.6s,baz=224,slow=35						
GEYT	Alibeck	40.80	348	LR	LR	04 43 31.0	
	comp=Z,58nm,21.9s,baz=225,slow=34						
GAR	Garm	40.88	3	eP	P	04 27 53.3	+1.0
	22nm,1.1s						
LSZ	Lusaka	41.45	249	P	P	04 27 57.8	+0.4
	3.9nm,0.7s,baz=76,slow=7.9,SNR=8.6						
LSZ	Lusaka	41.45	249	eP	P	04 27 57.7	+0.3
	10nm,1.1s						
NRN	Naryn	43.85	9	eP	P	04 28 18.8	+1.9
	7.0nm,1.1s						
AAK	Ala-Archa	44.84	7	P	P	04 28 25.4	+1.0
	3.8nm,1.1s,baz=204,slow=13,SNR=4.2						
FRU1	Bishkek	45.02	7	eP	P	04 28 22.3	-3.6
	28nm,0.4s						
CRZF	Crozet Islands	46.44	195	eP	P	04 28 36.2	-0.6
	107nm,1.4s						
LBTB	Lobatse	46.86	237	LR	LR	04 46 33.1	
	comp=Z,77nm,19.2s,baz=21,slow=34						
BOSA	Boshof	48.59	233	P	P	04 28 54.0	0.0
	2.7nm,1.0s,baz=34,slow=7.3,SNR=2.3						
BOSA				LR	LR	04 45 55.5	
	comp=Z,102nm,20.6s,baz=7.0,slow=32						
MAKZ	Makanchi	50.15	12	eP	P	04 29 05.2	-0.4
	7.6nm,1.1s						
MK01	Makanchi Array	50.18	13	eP	P	04 29 04.8	-1.0
MKAR	Makanchi Array	50.20	13	P	P	04 29 05.3	-0.6
	2.4nm,0.8s,baz=189,slow=7.1,SNR=16						
MKAR	Makanchi Array	50.20	13	eP	P	04 29 05.7	-0.3
	16nm,0.9s						
MK31	Makanchi Array	50.20	13	eP	P	04 29 05.7	-0.3
MK32	Makanchi Array	50.20	13	eP	P	04 29 05.3	-0.6
KBZ	Khabaz	50.83	337	P	P	04 29 11.0	+0.4
	1.7nm,0.8s,baz=146,slow=11,SNR=3.2						
ABKAR	Akbulak array	51.55	353	eP	P	04 29 15.6	-0.5
BR101	Keskin Array S	52.15	327	eP	P	04 29 22.3	+1.4
BRTR	Keskin Array B	52.15	327	P	P	04 29 22.3	+1.4
	1.0nm,1.0s,baz=120,slow=8.5,SNR=3.5						
TSUM	Tsumeb	52.22	247	LR	LR	04 48 07.0	
	comp=Z,116nm,20.4s,baz=122,slow=32						
XAN	Xi'an	52.56	43	eP	P	04 29 23.9	0.0
	18nm,1.0s						
AKTO	Aktyubinsk	52.96	352	P	P	04 29 25.8	-0.7
	2.1nm,0.8s,baz=168,slow=7.6,SNR=10						
KURBB	Kurchatov Arra	53.21	8	P	P	04 29 28.0	-0.3
	2.9nm,0.9s,baz=205,slow=7.7,SNR=16						
KURK	Kurchatov	53.31	8	eP	P	04 29 28.9	-0.1
BVAR	Borovoye Array	54.88	2	P	P	04 29 39.9	-0.6
	0.4nm,0.6s,baz=183,slow=7.2,SNR=3.3						
ZALV	Zalesovo Beam	57.50	12	P	P	04 29 58.5	-0.7
	4.1nm,0.7s,baz=214,slow=7.9,SNR=16						
ZAA1	Zalesovo Array	57.50	12	eP	P	04 29 58.5	-0.7
SONA0	Songino Array	59.86	29	eP	P	04 30 16.8	+0.9
SONM	Songino Array	59.86	29	P	P	04 30 16.8	+0.9
	3.5nm,0.9s,baz=223,slow=6.7,SNR=27						
SONM				LR	LR	04 56 23.8	
	comp=Z,170nm,18.2s,baz=16,slow=36						
SONA1	Songino Array	59.87	29	eP	P	04 30 16.5	+0.5
WR1	Warramunga Arr	67.05	111	eP	P	04 31 04.8	+0.8
	27nm,1.8s						
WRA	Warramunga Arr	67.05	111	P	P	04 31 04.7	+0.8
	2.5nm,1.0s,baz=283,slow=6.0,SNR=12						
WB2	Warramunga Arr	67.06	111	eP	P	04 31 04.9	+0.9
ASAR	Alice Springs	67.12	115	P	P	04 31 05.5	+1.1
	3.7nm,1.2s,baz=276,slow=6.4,SNR=9.1						
AS31	Alice Springs	67.12	115	eP	P	04 31 05.5	+1.1
	1.2nm,1.3s						
DBIC	Dimbokro	73.27	278	P	P	04 31 42.1	0.0
	3.2nm,1.0s,baz=100,slow=6.1,SNR=2.9						
DBIC	Dimbokro	73.27	278	eP	P	04 31 42.1	0.0
	21nm,1.5s						
HFS	Hagfors	74.86	335	P	P	04 31 49.6	-0.9
	2.0nm,0.7s,baz=123,slow=7.1,SNR=3.8						
MAJO	Matsushiro	75.38	52	eP	P	04 31 54.8	+0.7
MJAR	Matsushiro Arr	75.38	52	P	P	04 31 54.8	+0.7
	0.8nm,0.3s,baz=254,slow=6.5,SNR=3.2						
ESDC	Sonseca Array	77.53	311	P	P	04 32 06.0	-0.3
	0.4nm,0.6s,baz=95,slow=5.1,SNR=3.3						
MA2	Magadan	88.04	30	LR	LR	05 12 22.0	
	comp=Z,65nm,18.8s,baz=305,slow=36						
YKA	Yellowknife Ar	119.64	1	PKP	PKPdf	04 38 58.9	-0.9
	0.3nm,0.7s,baz=335,slow=2.4,SNR=4.7						
YKB5	Yellowknife Ar	119.64	1	ePKPdf	PKPdf	04 38 58.9	-0.9
PD31	Pinedale Array	139.38	357	ePKPdf	PKPdf	04 39 37.3	-0.9
PDAR	Pinedale Array	139.38	357	PKP	PKPdf	04 39 37.3	-0.9
	0.4nm,0.7s,baz=107,slow=3.0,SNR=4.9						
LTX	Lajitas	151.72	345	ePKPbc	PKPbc	04 40 05.7	+0.1
LTX				ePKPab	sPKPbc	04 40 12.2	+1.2
TXAR	Lajitas Array	151.72	345	PKPbc	PKPbc	04 40 05.7	+0.1
	1.2nm,0.9s,baz=48,slow=2.0,SNR=10						
TXAR				PKPab	sPKPbc	04 40 12.2	+1.2
	2.0nm,0.9s,baz=99,slow=1.1,SNR=10						

IDC 09 04:38:27.4±9.5**, 5°72S**×**10°49W, h0**^{km}**, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.5**/38**, mbtmp3.7**/3**, MS3.6**/6**, Ms1 3.5**/6**, ms1mx3.1**/43**, Error ellipse: s-maj=386.0km s-min=111.5km az=138.0, Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	4.49	242	T	T	04 42 05.4	
	baz=70,slow=74,SNR=208						
H10N1	ASCENSION HYDR	4.49	242	T	T	04 42 05.6	
	baz=70,slow=74,SNR=378						
H10N3	ASCENSION HYDR	4.51	242	T	T	04 42 07.9	
	baz=70,slow=74,SNR=209						
H10S1	ASCENSION HYDR	5.22	232	T	T	04 42 53.4	
	baz=53,slow=75,SNR=58						
H10S2	ASCENSION HYDR	5.23	232	T	T	04 43 01.7	
	baz=53,slow=75,SNR=37						
H10S3	ASCENSION HYDR	5.24	232	T	T	04 42 55.3	
	baz=53,slow=75,SNR=56						
DBIC	Dimbokro	13.53	25	LR	LR	04 46 17.3	
	comp=Z,102nm,19.1s,baz=192,slow=35						
TORD	Torodi Ar. Bea	22.31	33	P	P	04 43 26.8	0.0
	0.5nm,0.6s,baz=217,slow=12,SNR=4.4						
TORD				LR	LR	04 51 23.5	
	comp=Z,114nm,19.7s,baz=305,slow=35						
MDT	Midelt	38.72	8	LR	LR	05 00 59.0	
	comp=Z,124nm,19.8s,baz=305,slow=35						
SUR	Sutherland	39.45	136	LR	LR	04 59 56.8	
	comp=Z,89nm,18.1s,baz=342,slow=33						
LBTB	Lobatse	39.54	123	LR	LR	05 01 06.5	
	comp=Z,52nm,18.3s,baz=350,slow=34						
MDP	Montagnes des	43.44	284	LR	LR	05 00 05.5	
	comp=Z,99nm,19.4s,baz=16,slow=30						
GERES	GERESS Array B	58.31	19	P	P	04 48 24.1	-0.1
	0.9nm,0.9s,baz=201,slow=6.8,SNR=7.4						
AKASG	Malin Array Be	65.77	26	P	P	04 49 14.2	0.0
	1.3nm,0.6s,baz=223,slow=6.7,SNR=8.2						

*BJI **09** 04:46:21.4, 2°48S×67°38E, h10^{km}, mb4.9/45, mB5.2/25, Ms4.8/17, Ms7 4.6/10*

*MOS **09** 04:46:26.8±1.2, 1°93S×67°97E, h10^{km}, mb5.0/32, Error ellipse: s-maj=10.7km s-min=6.8km az=76.2*

*IDC **09** 04:46:27.3±0.5, 1°97S×68°01E, h0^{km}, mb4.4/25, mb1 4.5/25, mb1mx4.3/57, mbtmp4.4/25, MS4.0/31, Ms1 3.9/31, ms1mx3.8/51, Error ellipse: s-maj=17.1km s-min=12.2km az=164.0*

*NEIC **09** 04:46:28.8±2.1, 1°99S×67°94E, h10^{km}±2^{km}, mb4.9/41, Error ellipse: s-maj=13.6km s-min=12.5km az=48.0*

*GCMT **09** 04:46:28.8±0.3, 1°98S±0°03×67°90E±0°03, h13^{km}±1^{km}, MW4.9/66, Moment Tensor Solution. s16,c19; s66,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.41±.20; $M_{\theta\theta}$1.45±.12; $M_{\phi\phi}$0.95±.13; $M_{r\theta}$0.43±.31; $M_{\theta\phi}$-1.27±.08; $M_{\phi r}$-0.10±.31; Best double couple: $M_0$2.49300×10^{16} NP1:ϕ_s305.00000°,δ50.00000°,λ-96.00000°. NP2: ϕ_s134.00000°,δ41.00000°,λ-83.00000°. Principal axes: T 2.5280, Plg5.0000°, Azm39.0000°; N -0.0770, Plg5.0000°, Azm309.0000°; P -2.4580, Plg83.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*ISCJB **09** 04:46:30.8±1.7, 2°01S±0°05×67°87E±0°04, h39^{km}±15^{km}, mb4.7/84, MS4.0/35 Error ellipse: s-maj=8.6km s-min=7.2km az=178.2*

ISC 09 04:46:31.8±1.1**, 1°93S**±0°07×**67°95E**±0°06**, h31**^{km}±8^{km}**, n232, σ1°65**/231**, mb4.9**/92**, MS4.0**/36**, 8C-4D, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.33	145	T	T	04 53 10.3	
	baz=325,slow=75,SNR=125						
H08N3	Diego Garcia H	5.34	145	T	T	04 53 16.9	
	baz=325,slow=75,SNR=132						
H08N1	Diego Carcia H	5.35	145	T	T	04 53 11.9	
	baz=325,slow=75,SNR=116						
DGAR	Diego Garcia	7.06	141	ePn	Pn	04 48 12.2	-0.9
DGAR	Diego Garcia	7.06	141	eP	Pn	04 48 12.2	-0.9
PALK	Pallekele	15.67	54	LR	LR	04 54 51.4	
	comp=Z,1μm,19.7s,baz=295,slow=32						
PALK	Pallekele	15.67	54	ePn	Pn	04 50 05.5	-5.1
	28nm,1.1s						
PALK	Pallekele	15.67	54	eP	Pn	04 50 05.5	-5.1
PALK				pmax	pmax		
	comp=Z,28nm,1.1s						
HYB	Hyderabad	21.88	28	i P	P	04 51 24.0	+1.6
OPO	Ambohidratompo	26.22	230	LR	LR	04 59 54.8	
	comp=Z,753nm,20.2s,baz=27,slow=31						
ABPO	Ambohimpanom	26.46	229	eP	P	04 52 04.2	-2.4
	comp=Z,26nm,1.8s						
ABPO	Ambohimpanom	26.46	229	eP	P	04 52 04.2	-2.4
ABPO				pmax	pmax		
	comp=Z,26nm,1.8s						
WSAR	Wadi Sarin	26.61	341	LR	LR	05 00 45.4	
	comp=Z,175nm,18.6s,baz=174,slow=32						
ATD	Arta Tunnel	28.31	299	LR	LR	05 01 17.6	
	comp=Z,116nm,20.8s,baz=155,slow=31						
KCSI	Kotacane, Aceh	30.30	80	P	P	04 52 44.1	+3.4
KMBO	Kilima Mbogo	30.69	271	P	P	04 52 45.6	+1.2
	comp=Z,3.3nm,0.9s,baz=74,slow=7.0,SNR=6.7						
KMBO	Kilima Mbogo	30.69	271	eP	P	04 52 42.0	-2.5
	comp=Z,11nm,1.4s						
KMBO	Kilima Mbogo	30.69	271	ceP	P	04 52 46.4	+1.9
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PSI	Prapat	31.32	81	LR	LR	05 03 20.3	
	comp=Z,430nm,20.7s,baz=178,slow=32						
MNSI	Mandailing Nat	31.75	85	P	P	04 52 58.0	+4.5
PDSI	Padang	32.52	89	P	P	04 53 04.9	+4.6
KOLN	Koldanda	33.15	26	eP	P	04 53 06.8	+1.0
	comp=Z,39nm,1.0s						
BKNI	Bangkinang	33.16	86	eP	P	04 53 05.0	-0.9
	comp=Z,156nm,1.5s						
PYUN	Piuthan	33.17	25	eP	P	04 53 07.0	+1.0
	comp=Z,34nm,1.1s						
KULM	Kulim	33.45	77	eP	P	04 53 09.8	+1.4
	comp=Z,50nm,1.2s						
BRDH	Bariadhala	33.65	42	LR	LR	05 08 22.1	
	comp=Z,637nm,18.5s,baz=234,slow=39						
IPM	Ipoh	33.66	79	eP	P	04 53 11.8	+1.5
	comp=Z,29nm,1.2s						
IPM				ePcP	PcP	04 55 51.6	+1.5
DMN	Daman	33.69	28	eP	P	04 53 11.9	+1.3
	comp=Z,51nm,1.0s						
DANN	Dangsing	33.72	26	eP	P	04 53 11.7	+0.8
	comp=Z,66nm,1.2s						
PKIN	Phulchoki	33.80	29	eP	P	04 53 12.4	+0.8
RAMN	Ramite	33.88	31	eP	P	04 53 14.0	+1.8
KKN	Kakani	33.93	28	eP	P	04 53 13.7	+1.1
	comp=Z,42nm,0.9s						
ODAN	Odare	34.22	32	eP	P	04 53 16.9	+1.7
	comp=Z,57nm,1.0s						
JIRN	Jiri	34.26	30	eP	P	04 53 16.7	+1.0
	comp=Z,47nm,1.1s						
GUN	Gumba	34.31	29	eP	P	04 53 17.4	+1.3
	comp=Z,79nm,1.0s						
PHET	Kaeng Krachan	34.73	64	P	P	04 53 22.1	+2.6
	comp=Z,4.5nm,1.1s						
SRDT	SRDT	34.86	61	P	P	04 53 25.1	+4.5
	comp=Z,17nm,1.3s,comp=Z,3μm						
UMPA	Umpang Tak	35.46	58	P	P	04 53 27.5	+1.7
LHSI	Lahat	35.58	94	P	P	04 53 31.4	+4.6
UTHA	Uthaitani	35.67	60	P	P	04 53 29.6	+2.1
	comp=Z,4.9nm,1.1s,comp=Z,66nm						
NIL	Nilore	35.74	8	eP	P	04 53 29.9	+1.9
	comp=Z,22nm,1.0s						
NIL	Nilore	35.74	8	eP	P	04 53 29.9	+1.9
NIL				pmax	pmax		
	comp=Z,22nm,1.0s						
SHL	Shillong	35.83	39	eP	P	04 53 30.8	+1.8
	comp=Z,28nm,1.2s						
SHL	Shillong	35.83	39	eP	P	04 53 30.8	+1.8
SHL				pmax	pmax		
	comp=Z,28nm,1.2s						
MYKOM	Kota Tinggi	36.09	84	eP	P	04 53 28.7	-2.5
	comp=Z,33nm,1.2s						
MDSI	Maura Dua	36.26	95	P	P	04 53 34.6	+1.9
KBL	Kabul	36.29	2	eP	P	04 53 32.8	-0.1
	comp=Z,4.6nm,0.7s						
KBL	Kabul	36.29	2	eP	P	04 53 32.8	-0.1
KBL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CM31	Chiang Mai Arr	36.61	55	eP	P	04 53 36.2	+0.6
CM31				ePcP	PcP	04 55 59.7	+1.1
CMAR	Chiang Mai Arr	36.61	55	P	P	04 53 36.2	+0.6
	comp=Z,6.0nm,0.9s,baz=246,slow=10,SNR=28						
CMAR				PcP	PcP	04 55 59.7	+1.1
	comp=Z,0.6nm,0.3s,baz=224,slow=2.5,SNR=3.6						
SUKH	Sukhothai	36.71	57	P	P	04 53 38.8	+2.4
	comp=Z,4.4nm,1.1s						
CHTO	Chiang Mai	36.80	55	eP	P	04 53 38.1	+0.9
	comp=Z,21nm,1.1s						
CHTO	Chiang Mai	36.80	55	eP	P	04 53 38.1	+0.9
CHTO				pmax	pmax		
	comp=Z,21nm,1.1s						
CHTO	Chiang Mai	36.80	55	P	P	04 53 38.5	+1.3
	comp=Z,79nm,1.1s						
CMMT	Chiang Mai	36.80	55	P	P	04 53 38.4	+1.2
	comp=Z,18nm,1.1s						
MBAR	Mbarara	37.22	272	P	P	04 53 43.2	+2.1
	comp=Z,5.4nm,0.2s,baz=124,slow=7.3,SNR=4.9						
MBAR	Mbarara	37.22	272	eP	P	04 53 44.6	+3.5
	comp=Z,15nm,1.3s						
MBAR	Mbarara	37.22	272	i P	P	04 53 42.2	+1.1
MBAR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PBKT	Sadao Pong	37.43	59	eP	P	04 53 44.2	+1.7
	comp=Z,18nm,1.1s						

PBKT Sadao Pong 37.43 59 P P 04 53 44.2 +1.7
comp=Z,18nm,1.1s
CHAI Chaiyaphum 38.02 61 P P 04 53 49.5 +1.9
comp=Z,14nm,0.9s
LSA Lhasa 38.49 33 eP P 04 53 54.5 +2.6
comp=Z,12nm,1.0s
LSA Lhasa 38.49 33 eP P 04 53 54.5 +2.6
LSA pmax pmax
comp=Z,12nm,1.0s
LEM Lembang 39.84 98 P P 04 54 03.0 0.0
comp=Z,17nm,0.4s,baz=294,slow=20,SNR=4.3
LEM LR LR 05 07 20.0
comp=Z,222nm,20.5s,baz=211,slow=32
NONG Nongkai 39.95 59 P P 04 54 05.8 +2.1
comp=Z,0.5nm,1.3s
GEYT Alibeck 40.69 348 P P 04 54 11.0 +1.4
comp=Z,12nm,0.7s,baz=155,slow=7.4,SNR=4.2
GEYT LR LR 05 09 58.9
comp=Z,180nm,21.8s,baz=70,slow=35
GAR Garm 40.78 3 eP P 04 54 11.3 +0.8
comp=Z,30nm,1.1s
GAR Garm 40.78 3 eP P 04 54 11.3 +0.8
GAR pmax pmax
comp=Z,30nm,1.1s
LSZ Lusaka 41.39 249 P P 04 54 15.9 +0.1
comp=Z,16nm,1.1s,baz=76,slow=7.7,SNR=15
LSZ LR LR 05 09 24.6
comp=Z,489nm,18.5s,baz=63,slow=33
LSZ Lusaka 41.39 249 eP P 04 54 16.0 +0.2
LSZ epP P 04 54 16.2 +0.4
LSZ Lusaka 41.39 249 eP P 04 54 16.0 +0.2
LSZ e*PP P 04 54 16.2 +0.4
BTK Batken 41.87 3 eP P 04 54 20.7 +1.4
comp=Z,13nm,1.0s
BTK Batken 41.87 3 eP P 04 54 20.7 +1.4
BTK pmax pmax
comp=Z,13nm,1.0s
KSH Kashi 41.90 9 P P 04 54 15.8 -3.8
KSH pP pP 04 54 21.6 -6.0
KSH PcP PcP 04 56 11.1 -3.8
KSH PcS PcS 04 59 59.9 -6.7
KSH S S 05 00 28.0 -8.0
KSH pmax pmax
comp=Z,38nm,1.0s
KSH pmax pmax
comp=Z,410nm,5.6s
KSH LR LR
comp=Z,120nm,6.8s
KSH LR LR
comp=Z,280nm,4.8s
KSH LR LR
comp=Z,420nm,7.4s
MATP Matopo 42.66 242 P P 04 54 26.1 0.0
comp=Z,9.2nm,1.1s,baz=46,slow=11,SNR=5.8
MATP LR LR 05 09 44.7
comp=Z,152nm,18.3s,baz=326,slow=33
KMI Kunming 43.12 49 P P 04 54 31.4 +1.5
KMI pmax pmax
comp=Z,14nm,0.9s
KMI LR LR
comp=Z,210nm,12.7s
KMI LR LR
comp=Z,310nm,18.3s
KMI Kunming 43.12 49 eP P 04 54 30.0 +0.1
comp=Z,19nm,1.1s
KMI Kunming 43.12 49 eP P 04 54 30.0 +0.1
KMI pmax pmax
comp=Z,19nm,1.1s
NRN Naryn 43.77 9 eP P 04 54 36.4 +1.4
comp=Z,9.9nm,1.1s
NRN Naryn 43.77 9 eP P 04 54 36.4 +1.4
NRN pmax pmax
comp=Z,10.0nm,1.1s
KZA Kyzart 44.30 8 P P 04 54 40.6 +1.2
SNR=15
UCH Uchtor 44.35 7 P P 04 54 44.5 +4.7
SNR=6.1
EIL Elat 44.51 317 LR LR 05 11 26.7
comp=Z,87nm,18.7s,baz=108,slow=34
KDJ Kajisay 44.64 10 eP P 04 54 44.5 +2.7
comp=Z,29nm,1.1s
EKS2 Erkin-Say 44.70 6 P P 04 54 44.1 +2.0
SNR=9.7
AAK Ala-Archa 44.75 7 P P 04 54 43.7 +1.1
comp=Z,6.2nm,1.1s,baz=185,slow=6.5,SNR=8.1
AAK LR LR 05 12 49.4
comp=Z,111nm,19.8s,baz=180,slow=35
AAK Ala-Archa 44.75 7 P P 04 54 44.0 +1.3
SNR=5.3
AAK Ala-Archa 44.75 7 ceP P 04 54 41.6 -1.1
AAK pmax pmax
comp=Z,12nm,1.7s
KBK Karagaybulak 44.83 7 P P 04 54 44.3 +1.0
SNR=9.7
KKAR Karatay Array 44.89 3 eP P 04 54 42.1 -1.3
KKAR Karatay Array 44.89 3 eP P 04 54 42.2 -1.3
FRU1 Bishkek 44.94 7 eP P 04 54 44.4 +0.4
comp=Z,65nm,1.5s
FRU1 Bishkek 44.94 7 eP P 04 54 44.4 +0.4
FRU1 pmax pmax
comp=Z,65nm,1.5s
FRU Bishkek 44.96 7 eP P 04 54 44.5 +0.3
TKM2 Tokmak 2 45.17 8 P P 04 54 47.0 +1.0
SNR=19
JAGI Jajag, Banyuwa 46.44 100 eP P 04 54 54.8 -1.5
comp=Z,80nm,1.2s
GYA Guiyang 46.83 50 eP P 04 55 02.0 +2.8
GYA pmax pmax
comp=Z,20nm,0.8s
CD2 Chengdu 47.19 43 eP P 04 55 03.0 +1.0
CD2 S S 05 01 57.2 +4.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,530nm,8.8s
CD2 LR LR
comp=Z,250nm,13.7s
BOSA Boshof 48.56 233 P P 04 55 12.3 -0.4
comp=Z,5.1nm,1.0s,baz=47,slow=6.9,SNR=6.5
BOSA LR LR 05 13 39.5
comp=Z,233nm,18.1s,baz=30,slow=34
KKM Kota Kinabalu 48.84 80 eP P 04 55 16.1 +1.0
comp=Z,31nm,1.2s
WMQ Urumqi 48.87 19 P P 04 55 16.0 +1.3
WMQ pP pP 04 55 23.3 +0.5
WMQ sP sP 04 55 26.1 +0.1
WMQ pmax pmax
comp=Z,20nm,1.5s
WMQ pmax pmax
comp=Z,130nm,3.9s
WMQ LR LR
comp=Z,590nm,18.7s
WMQ LR LR
comp=Z,230nm,20.7s
WMQ Urumqi 48.87 19 eP P 04 55 14.0 -0.7
comp=Z,18nm,1.3s
WMQ Urumqi 48.87 19 eP P 04 55 14.0 -0.7
WMQ pmax pmax
comp=Z,18nm,1.3s
MAKZ Makanchi 50.08 13 eP P 04 55 23.7 -0.1
comp=Z,12nm,1.0s
MAKZ Makanchi 50.08 13 eP P 04 55 23.7 -0.1
MAKZ pmax pmax
comp=Z,12nm,1.0s
MK32 Makanchi Array 50.13 13 eP P 04 55 23.9 -0.3
MK32 ePcP PcP 04 56 44.1 +0.6
MKAR Makanchi Array 50.13 13 P P 04 55 23.9 -0.3
comp=Z,4.4nm,0.8s,baz=189,slow=6.9,SNR=46
MKAR PcP PcP 04 56 44.1 +0.6
comp=Z,2.3nm,1.0s,baz=186,slow=4.3,SNR=4.6
MKAR LR LR 05 17 25.8
comp=Z,102nm,18.5s,baz=189,slow=37
MKAR Makanchi Array 50.13 13 eP P 04 55 23.9 -0.3
comp=Z,29nm,0.8s
MKAR Makanchi Array 50.13 13 eP P 04 55 24.0 -0.3
MKAR pmax pmax
comp=Z,29nm,0.8s
GTA Gaotai 50.47 32 P P 04 55 26.8 -0.3
GTA pP pP 04 55 31.1 -4.1
GTA sP sP 04 55 33.7 -4.7
GTA PcP PcP 04 56 45.9 +0.9
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,120nm,5.5s
GTA LR LR
comp=Z,280nm,20.6s
GTA LR LR
comp=Z,230nm,17.9s
GTA LR LR
comp=Z,410nm,21.0s
LZH Lanzhou 50.49 38 eP P 04 55 28.1 +0.8
LZH pP pP 04 55 32.2 -3.2
LZH sP sP 04 55 34.6 -4.3
LZH pmax pmax
comp=Z,22nm,1.3s
KBZ Khabaz 50.70 337 P P 04 55 28.6 +0.1
comp=Z,3.2nm,0.9s,baz=90,slow=2.6,SNR=5.2
ENH Enshi 50.92 48 eP P 04 55 30.9 +0.3
comp=Z,27nm,0.9s
KIV Kislovodsk 50.97 337 eP P 04 55 30.9 +0.2
KIV pmax pmax
comp=Z,9.0nm,1.1s
ABKAR Akbulak array 51.45 353 eP P 04 55 34.1 0.0
XAN Xi'an 52.56 43 P P 04 55 42.7 0.0
XAN pP pP 04 55 51.4 +0.4
XAN pmax pmax
comp=Z,37nm,1.1s
XAN Xi'an 52.56 43 eP P 04 55 42.6 -0.1
comp=Z,44nm,1.1s
XAN Xi'an 52.56 43 eP P 04 55 42.6 -0.1
XAN pmax pmax
comp=Z,44nm,1.1s
KURK Kurchatov 53.23 8 eP P 04 55 47.4 +0.2
comp=Z,16nm,0.9s
KURK Kurchatov 53.23 8 ceP P 04 55 46.8 -0.5
KURK pmax pmax
comp=Z,16nm,0.8s
KARP Karpathos 53.29 318 eP P 04 55 49.4 +1.3
comp=Z,58nm,1.0s
DGZ Jazzator, Alta 54.10 16 dP P 04 55 53.5 -0.4
DGZ pmax pmax
comp=Z,5.0nm,1.1s
BVAR Borovoye Array 54.79 2 LR LR 05 19 05.2
comp=Z,86nm,20.5s,baz=177,slow=36
BRVK Borovoye 54.82 2 eP P 04 55 59.7 +0.9
comp=Z,8.2nm,1.4s
BRVK Borovoye 54.82 2 eP P 04 55 59.7 +0.9
BRVK pmax pmax
comp=Z,8.0nm,1.4s
NWAO Narrogin (SRO) 55.51 129 LR LR 05 15 43.9
comp=Z,65nm,20.4s,baz=102,slow=32
ZALV Zalesovo Beam 57.43 12 P P 04 56 17.1 -0.3
comp=Z,11nm,0.8s,baz=213,slow=7.7,SNR=34
ZALV LR LR 05 21 15.7
comp=Z,90nm,19.1s,baz=248,slow=36
ZALV Zalesovo Beam 57.43 12 iP P 04 56 17.1 -0.3
ZALV pmax pmax
comp=Z,12nm,0.8s
ZAA1 Zalesovo Array 57.43 12 eP P 04 56 17.1 -0.4
NVS Novosibirsk 57.97 10 eP P 04 56 20.2 -1.0
NVS pmax pmax
comp=Z,16nm,1.2s
NVS pmax pmax
comp=N,9.0nm,1.4s
KNGR Kungurtug, Tuv 58.12 22 iP P 04 56 22.0 -0.5
HHC Hu-ho-hao-te 58.19 38 eP P 04 56 21.5 -1.7
HHC sP pP 04 56 32.6 +1.0
HHC S S 05 04 21.5 -1.6
HHC pmax pmax
comp=N,29nm,0.8s
HHC pmax pmax
comp=N,220nm,4.8s
HHC LR LR
comp=N,150nm,15.7s
HHC LR LR
comp=N,180nm,15.5s
DAV Davao City (W) 58.20 81 eP P 04 56 20.4 -3.3
comp=N,572nm,0.4s
VSR Storozhevoye 58.33 339 iP P 04 56 23.1 -0.8
VSR pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 58.67 354 dP P 04 56 25.5 -0.6
ARU 04 57 11.8
ARU 04 58 34.3
ARU S S 05 04 31.6 +3.1
ARU pmax pmax
comp=Z,11nm,1.1s
NJ2 Nanjing 58.84 50 eP P 04 56 28.3 +0.6
NJ2 pmax pmax
comp=Z,20nm,0.5s
SONA0 Songino Array 59.82 29 eP P 04 56 35.5 +1.1
SONM Songino Array 59.82 29 P P 04 56 35.5 +1.1
comp=Z,8.6nm,0.8s,baz=218,slow=7.1,SNR=51
SONM LR LR 05 22 48.1
comp=Z,400nm,18.1s,baz=174,slow=36
ULN Ulaanbaatar 60.16 29 eP P 04 56 37.4 +0.6
comp=Z,6.1nm,1.1s
ULN Ulaanbaatar 60.16 29 ceP P 04 56 36.8 0.0
ULN pmax pmax
comp=Z,5.0nm,1.7s
ZAK Zakamensk 60.24 25 eP P 04 56 37.2 0.0
ZAK pmax pmax
comp=Z,4.0nm,1.2s
BJT Baijiatuao 60.66 41 eP P 04 56 40.8 +0.6
comp=Z,32nm,1.3s
BJT Baijiatuao 60.66 41 eP P 04 56 40.8 +0.6
BJT pmax pmax
comp=Z,32nm,1.3s
BJI Beijing 60.68 41 P P 04 56 40.8 +0.5
BJI pmax pmax
comp=Z,13nm,0.9s
AKASG Malin Array Be 61.96 333 P P 04 56 48.1 -0.6
comp=Z,0.6nm,0.5s,baz=127,slow=5.9,SNR=3.5
AKASG LR LR 05 25 14.2
comp=Z,38nm,19.6s,baz=235,slow=38
AKBB Malin Array Si 61.96 333 eP P 04 56 48.1 -0.6
AKBB Malin Array Si 61.96 333 eP P 04 56 48.1 -0.6
PSZ Piszkesteto 64.87 326 eS S 05 05 48.1 +0.6
PRGR Permogore 65.66 349 eP P 04 57 10.1 -2.7
PRGR pmax pmax
comp=Z,8.0nm,0.6s
VYHS Vyhne 65.78 327 eP P 04 57 14.0 0.0
KEST Kesra 66.16 311 LR LR 05 24 03.1
comp=Z,152nm,19.5s,baz=208,slow=34
KLMR Klimovskoe 66.35 345 eP P 04 57 16.1 -1.2
KLMR pmax pmax
comp=Z,14nm,1.1s
KLMR Klimovskoe 66.35 345 eP P 04 57 16.1 -1.2
KLMR AMP 04 57 17.5
comp=Z,14nm,1.1s
WR1 Warramunga Arr 67.18 111 eP P 04 57 23.1 -0.4
comp=Z,9.8nm,1.0s
WRA Warramunga Arr 67.18 111 P P 04 57 23.1 -0.4
comp=Z,6.8nm,1.0s,baz=281,slow=6.0,SNR=26
WRA LR LR 05 22 55.0
comp=Z,48nm,21.5s,baz=255,slow=33
WRAB Tennant Creek 67.19 111 eP P 04 57 23.7 +0.1
comp=Z,12nm,1.1s
WRAB Tennant Creek 67.19 111 ceP P 04 57 21.4 -2.2
WRAB pmax pmax
comp=Z,13nm,1.3s
ASAR Alice Springs 67.25 115 P P 04 57 23.6 -0.3
comp=Z,4.6nm,1.0s,baz=281,slow=6.1,SNR=18
ASAR LR LR 05 25 55.0
comp=Z,43nm,18.7s,baz=258,slow=35
AS31 Alice Springs 67.25 115 eP P 04 57 23.6 -0.3
comp=Z,2.6nm,1.2s
TORD Torodi Ar. Bea 67.38 285 P P 04 57 25.5 +0.7
comp=Z,2.2nm,1.2s,baz=108,slow=6.4,SNR=6.2
TORD LR LR 05 26 30.9
comp=Z,100nm,18.6s,baz=15,slow=36
TOA1 Torodi Ar. Sit 67.39 285 eP P 04 57 25.5 +0.7
KS15 Wonju Array Si 67.78 48 eP P 04 57 26.8 -0.1
KSRS Korea Array 67.81 48 P P 04 57 26.8 -0.3
comp=Z,2.6nm,0.9s,baz=252,slow=7.8,SNR=6.0
KSRS LR LR 05 28 12.5
comp=Z,117nm,20.0s,baz=250,slow=37
CN2 Changchun 68.55 41 eP P 04 57 34.5 +2.9
GERES GERESS Array B 68.86 325 P P 04 57 34.1 +0.5
comp=Z,0.4nm,0.7s,baz=150,slow=37,SNR=2.6
CLL Collm 70.47 327 eP P 04 57 43.0 -0.3
CLL Collm 70.47 327 eP P 04 57 43.0 -0.3
USRK Ussuriysk Ar. 73.06 43 P P 04 57 58.6 -0.4
comp=Z,2.2nm,0.8s,baz=289,slow=4.4,SNR=3.1
USRK LR LR 05 33 41.8
comp=Z,45nm,19.4s,baz=270,slow=39
DBIC Dimbokro 73.16 278 P P 04 58 00.8 +0.5
comp=Z,4.5nm,0.9s,baz=120,slow=9.0,SNR=3.0
DBIC LR LR 05 29 43.0
comp=Z,53nm,18.3s,baz=84,slow=35
DBIC Dimbokro 73.16 278 eP P 04 58 00.8 +0.5
comp=Z,17nm,1.4s
DBIC pmax pmax
comp=Z,17nm,1.4s
APA Apatity 73.44 347 ↓iP P 04 57 51.7 -9.1
APA pmax pmax
comp=Z,3.0nm,1.1s
APA MLR MLR
comp=Z,800nm,16.0s
ZEA Zeya 73.97 32 eP P 04 58 04.1 -0.1
MEM Membach 74.11 324 ↑P P 04 58 04.8 -0.2
KLR Kul'dur 74.69 38 P P 04 58 08.1 -0.5
comp=Z,6.2nm,0.9s,baz=265,slow=5.7,SNR=10
KLR LR LR 05 32 04.7
comp=Z,93nm,18.5s,baz=245,slow=37
KLR Kul'dur 74.69 38 dP P 04 58 07.7 -0.8
STKA Stephens Creek 75.11 122 LR LR 05 31 20.1
comp=Z,31nm,18.1s,baz=218,slow=36
MAJO Matsushiro 75.40 52 eP P 04 58 13.2 +0.3
MAJO Matsushiro 75.40 52 eP P 04 58 13.2 +0.3
MJAR Matsushiro Arr 75.40 52 P P 04 58 13.2 +0.3
comp=Z,2.2nm,0.7s,baz=255,slow=9.4,SNR=4.8
MJAR LR LR 05 31 43.0
comp=Z,73nm,20.3s,baz=260,slow=36
NB2 NORSAR Subarra 76.25 335 P P 04 58 15.9 -1.4
comp=Z,4.8nm,1.2s,baz=121,slow=5.9
NB200 NORSAR Array S 76.25 335 eP P 04 58 16.7 -0.6
NOA NORSAR Array B 76.25 335 P P 04 58 16.7 -0.6
comp=Z,1.6nm,0.9s,baz=110,slow=6.0,SNR=4.0
ESDC Soseca Array 77.39 311 P P 04 58 25.7 +1.5
comp=Z,1.0nm,0.8s,baz=83,slow=4.9,SNR=5.9
CTAO Charters Tower 78.36 110 eP P 04 58 30.7 +0.8
comp=Z,12nm,1.3s
CTAO Charters Tower 78.36 110 eP P 04 58 30.7 +0.8
CTAO pmax pmax
comp=Z,12nm,1.3s
YSS Yuzh-Sakhalins 81.08 42 eP P 04 58 43.7 -0.4
TIXI Tiksi 82.98 16 ceP P 04 58 52.8 -0.7
TIXI pmax pmax
comp=Z,14nm,0.8s
MA2 Magadan 88.01 30 ceP P 04 59 17.1 -1.7
MA2 pmax pmax
comp=Z,16nm,1.7s
QSPA South Pole Qui 88.07 180 LR LR 05 34 51.4
comp=Z,115nm,18.6s,baz=254,slow=33
PETK Petropavlovsk- 91.38 37 LR LR 05 43 13.4
comp=Z,95nm,18.3s,baz=252,slow=37
ILAR Eielson Array 112.44 15 PP PP 05 05 50.7 +0.5
comp=Z,1.0nm,1.1s,baz=316,slow=5.0,SNR=4.1
ILB Eielson Array 112.44 15 ePP PP 05 05 50.7 +0.5
YKA Yellowknife Ar 119.55 1 PKP PKPdf 05 05 17.6 -0.6
comp=Z,0.4nm,0.8s,baz=346,slow=1.9,SNR=6.3
YKA PP PP 05 06 37.6 -2.2
comp=Z,0.6nm,1.1s,baz=353,slow=5.5,SNR=4.1
YKB5 Yellowknife Ar 119.55 1 ePKPdf PKPdf 05 05 17.6 -0.6
YKB5 ePP PP 05 06 37.6 -2.2
GO06 Curarrehue 124.43 218 eSdif Sdif 05 15 16.1 +4.8
PD31 Pinedale Array 139.28 357 ePKPdf PKPdf 05 05 56.6 +0.1
PDAR Pinedale Array 139.28 357 PKP PKPdf 05 05 56.6 +0.1
comp=Z,0.7nm,0.8s,baz=45,slow=2.3,SNR=6.7
NV01 Mina Array Sit 143.22 8 ePKPdf PKPdf 05 06 02.8 -0.9
NVAR Mina Array Bea 143.22 8 PKP PKPdf 05 06 02.8 -0.9
comp=Z,1.1nm,1.0s,baz=252,slow=1.6,SNR=4.5
PSUT Pine Spring 143.53 2 ePKPdf PKPdf 05 06 04.3 0.0
PV13 Radium Mtn., P 143.82 356 ePKPdf PKPbc 05 06 03.3 +0.9
MTPU Mount Pierson 144.06 0 ePKPdf PKPdf 05 06 05.0 -0.4
SZCU Shurtz Canyon 144.49 1 ePKPdf PKPdf 05 06 05.8 -0.2
CCUT Cedar City 144.53 2 ePKPdf PKPdf 05 06 06.2 +0.2
PKCU Pink Cliffs 144.66 0 ePKPdf PKPdf 05 06 06.5 +0.1
LCMT Little Creek M 145.07 2 ePKPbc PKPdf 05 06 07.6 +0.7
WMOK Wichita Mounta 145.09 341 ePKPbc PKPdf 05 06 06.7 -0.1
WMOK Wichita Mounta 145.09 341 ePKIKP PKPdf 05 06 06.7 -0.1
DAC Darwin (Calif) 145.44 8 ePKPdf PKPab 05 06 08.5 +0.8
DAC Darwin (Calif) 145.44 8 ePKIKP PKPab 05 06 08.5 +0.8
SHPR Sheep Range 145.47 4 ePKPdf PKPab 05 06 09.0 +1.2
U15A North Rim 145.67 0 ePKPdf PKPab 05 06 09.4 +0.8
ISA Isabella, Lake 145.91 9 ePKPdf PKPab 05 06 09.3 0.0
ISA Isabella, Lake 145.91 9 ePKP2 PKPab 05 06 09.3 0.0
GSC Goldstone, Bar 146.50 7 ePKPdf PKPab 05 06 12.0 +0.4
GSC Goldstone, Bar 146.50 7 ePKP2 PKPab 05 06 12.0 +0.4
WUAZ Wupatki 146.57 359 ePKPdf PKPab 05 06 11.9 -0.1
ANMO Albuquerque 146.74 352 PKPbc PKPab 05 06 12.6 -0.1
baz=56,slow=3.6
MSTX Muleshoe 146.96 346 ePKPdf PKPbc 05 06 12.2 +0.1
PFO Pinyon Flats O 148.21 7 PKPbc PKiKP 05 06 17.0 -0.3
baz=3.2,slow=2.4
XPFO Pion Flat 148.21 7 ePKPbc PKiKP 05 06 16.9 -0.4
Y12C Blythe 148.26 4 ePKPbc PKiKP 05 06 16.7 -0.5
JCT Junction City 149.32 339 ePKPbc PKPbc 05 06 18.5 +0.1
JCT Junction City 149.32 339 ePKP2 PKPbc 05 06 18.5 +0.1
MNTX Cornudas Mount 149.72 349 ePKPbc PKiKP 05 06 20.4 +0.1
TUC Tucson 149.75 358 ePKPbc PKiKP 05 06 20.6 +0.1
TUC Tucson 149.75 358 ePKP2 PKiKP 05 06 20.6 +0.1
319A Douglas 150.59 355 ePKPbc PKiKP 05 06 22.6 +0.4
LTX Lajitas 151.60 344 ePKPbc PKiKP 05 06 24.3 -0.1
LTX ePKPab pPKPbc 05 06 32.9 +0.1
LTX Lajitas 151.60 344 ePKIKP PKiKP 05 06 24.3 -0.1
LTX e 05 06 32.9
TXAR Lajitas Array 151.60 344 PKPbc PKiKP 05 06 24.3 -0.1
comp=Z,2.8nm,0.9s,baz=85,slow=1.5,SNR=17
TXAR PKPab pPKPbc 05 06 32.9 +0.1
comp=Z,2.8nm,0.9s,baz=31,slow=2.9,SNR=9.2

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*ANF **09** 04:48:44.1±1.8, 42.40N×125.88W, ML3.3/10, Error ellipse: s-maj=19.9km s-min=7.6km az=87.0*
*ISCJB **09** 04:48:46.4±1.4, 42.34N±0.03×125.70W±0.10, h16km±12km, mb3.2/3, Error ellipse: s-maj=12.0km s-min=4.6km az=174.8*
*NEIC **09** 04:48:49.2±1.2, 42.46N×125.47W, h10km, ML3.0, Error ellipse: s-maj=14.9km s-min=5.9km az=80.0*
*IDC **09** 04:48:50.5±3.1, 42.63N×124.98W, h0km, mb3.2/3, mb1 3.5/6, mb1mx3.3/54, mbtmp3.2/6, ML3.1/3, MS2.8/1, Ms1 2.8/1, ms1mx2.5/16, Error ellipse: s-maj=43.7km s-min=19.0km az=62.0*

ISC 09 04:48:48.9±1.7, 42.34N±0.04×125.7W±0.1, h21km±7km, n50, σ1 43/61, mb3.4/3, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.12**	**61**	ePg	**Pn**	**04 49 06.6**	**-2.9**
KEBM				eSn	**Sb**	**04 49 20.4**	**-3.4**
J01E	**Myrtle Point** baz=237,SNR=17	**1.52**	**57**	P	**Pn**	**04 49 13.2**	**-1.7**
J01E				S	**Sb**	**04 49 36.5**	**+1.2**
K02D	**Willamette Mer** baz=258,SNR=270	**1.53**	**76**	P	**Pn**	**04 49 14.1**	**-0.9**
K02D				S	**Sb**	**04 49 38.2**	**+2.7**
L02E	**Cave Junction** baz=281,SNR=130	**1.55**	**96**	P	**Pn**	**04 49 14.2**	**-1.0**
HUMO	**Hull Mountain**	**2.03**	**82**	ePn	**Pn**	**04 49 21.4**	**-0.4**
KHMM	**Horse Mountain**	**2.07**	**134**	ePn	**Pn**	**04 49 19.5**	**-3.0**
KHMM				eSn	**Sn**	**04 49 48.2**	**+0.5**
I03D	**Drain, OR** baz=231,SNR=21	**2.18**	**51**	P	**Pn**	**04 49 22.4**	**-1.5**
I03D				S	**Sn**	**04 49 51.7**	**+1.5**
I02D	**Swisshome** baz=215	**2.21**	**37**	P	**Pn**	**04 49 22.9**	**-1.5**
I02D				S	**Sn**	**04 49 51.2**	**+0.1**
YBH	**Yreka Blue Hor** 5.3nm,0.3s,baz=294,slow=14,SNR=107	**2.29**	**104**	Pn	**Pn**	**04 49 25.5**	**-0.1**
YBH	1.2nm,0.3s,baz=322,slow=19,SNR=3.6			Sn	**Sn**	**04 49 49.8**	**-3.3**
YBH	comp=Z,104nm,21.3s,baz=18,slow=34			LR	LR	04 49 55.6	
YBH	2.5nm,0.3s,baz=173,slow=23,SNR=5.4			Lg	Lg	04 49 59.0	
M02C	**Callahan** baz=298,SNR=22	**2.31**	**113**	P	**Pn**	**04 49 24.8**	**-1.0**
L04D	**Klamath Falls** baz=276,SNR=249	**2.50**	**92**	P	**Pn**	**04 49 29.0**	**+0.5**
N02D	**Trinity Center** baz=306	**2.61**	**121**	P	**Pn**	**04 49 28.5**	**-1.4**
J04D	**Umpqua Nationa** baz=252,SNR=11	**2.77**	**70**	P	**Pn**	**04 49 33.4**	**+1.1**
I04A	**Tendick Farm,** baz=239,SNR=10.0	**2.80**	**58**	P	**Pn**	**04 49 32.1**	**-0.3**
COR	**Corvallis**	**2.83**	**37**	ePn	**Pn**	**04 49 32.0**	**-0.8**
COR				eSn	**Sn**	**04 50 04.5**	**-1.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
M04C	**Macdoel**	**2.91**	**100**	P	**Pn**	**04 49 34.4**	**+0.3**
	baz=284,SNR=11						
K04D	**Chiloquin, OR**	**2.92**	**83**	P	**Pn**	**04 49 34.4**	**+0.2**
	baz=267,SNR=9.1						
H04D	**Lebanon**	**3.06**	**43**	P	**Pn**	**04 49 35.0**	**-0.9**
	baz=224						
H04D				S	**Sn**	**04 50 14.3**	**+2.4**
	baz=224						
O02D	**Mt. Diablo Mer**	**3.07**	**134**	P	**Pn**	**04 49 34.4**	**-1.8**
	baz=319						
G03D	**McMinnville, O**	**3.36**	**31**	P	**Pn**	**04 49 39.4**	**-0.7**
	baz=210						
G03D				S	**Sn**	**04 50 20.1**	**+0.7**
	baz=210						
J05D	**Fort Rock, OR**	**3.40**	**72**	P	**Pn**	**04 49 40.9**	**+0.1**
	baz=256,SNR=9.3						
H04A	**Detroit Lake**	**3.45**	**46**	*e*Pn	**Pn**	**04 49 40.6**	**-0.8**
H04A				*e*Sn	**Sn**	**04 50 19.0**	**-2.7**
PINE	**Pine Mountain**	**3.76**	**66**	*e*Pn	**Pn**	**04 49 45.6**	**-0.3**
MOD	**Modoc Plateau**	**4.02**	**94**	*e*Pn	**Pn**	**04 49 49.1**	**-0.3**
ORV	**Oroville**	**4.21**	**130**	*e*Pn	**Pn**	**04 49 52.1**	**+0.2**
ORV				*e*Sn	**Sn**	**04 50 40.3**	**-0.1**
BEKR	**Beckworth**	**4.71**	**120**	*e*Pn	**Pn**	**04 49 59.4**	**+0.4**
AFDM	**Forest Hills D**	**4.93**	**132**	*e*Pn	**Pn**	**04 50 01.2**	**-0.5**
AFDM				*e*Sn	**Sn**	**04 50 58.0**	**-0.1**
LON	**Longmire**	**5.20**	**31**	*e*Pn	**Pn**	**04 50 05.3**	**-0.2**
LON				*e*Sn	**Sn**	**04 51 03.1**	**-1.7**
WVOR	**Wild Horse Val**	**5.21**	**87**	*e*Pn	**Pn**	**04 50 05.1**	**-0.6**
J08A	**Circle Bar Ran**	**5.39**	**77**	*e*Pn	**Pn**	**04 50 04.9**	**-3.3**
PAHR	**Pah Rah Range**	**5.44**	**117**	*e*Pn	**Pn**	**04 50 09.5**	**+0.7**
G08A	**Pilot Rock**	**5.68**	**56**	*e*Pn	**Pn**	**04 50 13.2**	**+1.0**
YERR	**Yerington**	**5.93**	**122**	*e*Pn	**Pn**	**04 50 16.0**	**+0.4**
LTY	**Liberty**	**6.07**	**34**	*e*Pn	**Pn**	**04 50 17.8**	**+0.4**
E08A	**Dider Farm, El**	**6.30**	**47**	*e*Pn	**Pn**	**04 50 20.2**	**-0.2**
BMO	**Blue Mountains**	**6.58**	**65**	*e*Pn	**Pn**	**04 50 24.0**	**-0.4**
NVAR	**Mina Array Bea**	**6.85**	**122**	Pn	**Pn**	**04 50 28.6**	**+0.3**
	0.2nm,0.3s,baz=300,slow=14,SNR=4.5						
F10A	**Beach Ranch, E**	**7.08**	**56**	*e*Pn	**Pn**	**04 50 33.1**	**+1.8**
ELK	**Elko**	**7.99**	**98**	Pn	**Pn**	**04 50 44.0**	**+0.1**
	0.1nm,0.3s,baz=266,slow=14,SNR=3.4						
ELK				LR	LR	04 53 56.4	
	comp=Z,74nm,20.6s,baz=318,slow=41						
PD31	**Pinedale Array**	**11.90**	**83**	*e*Pn	**Pn**	**04 51 36.8**	**-0.6**
PDAR	**Pinedale Array**	**11.90**	**83**	Pn	**Pn**	**04 51 36.8**	**-0.6**
	0.0nm,0.3s,baz=274,slow=2.6,SNR=2.8						
YKA	**Yellowknife Ar**	**21.22**	**14**	P	**P**	**04 53 33.4**	**+0.4**
	1.3nm,0.8s,baz=204,slow=11,SNR=13						
YKB5	**Yellowknife Ar**	**21.22**	**14**	*e*P	**P**	**04 53 33.5**	**+0.4**
ULM	**Lac du Bonnet**	**21.95**	**59**	P	**P**	**04 53 40.0**	**-0.9**
	1.6nm,0.7s,baz=254,slow=9.4,SNR=3.1						
LTX	**Lajitas**	**21.99**	**119**	*e*P	**P**	**04 53 43.0**	**+1.4**
TXAR	**Lajitas Array**	**21.99**	**119**	P	**P**	**04 53 43.0**	**+1.4**
	0.3nm,0.7s,baz=287,slow=9.0,SNR=4.6						
TXAR	**Lajitas Array**	**21.99**	**119**	P	**P**	**04 53 43.0**	**+1.4**
H11S1	**WAKE ISLAND Hy**	**61.34**	**269**	T	T	06 04 58.6	
	baz=49						
H11S2	**WAKE ISLAND Hy**	**61.35**	**269**	T	T	06 04 58.8	
	baz=49						
H11S3	**WAKE ISLAND Hy**	**61.36**	**269**	T	T	06 04 59.9	
	baz=49						

IDC 09 04:54:16.7±1.9**, 6˚.49S×129˚.94E, h127km±20km, mb3.3**/1**, mb1 3.5**/5**, mb1mx3.2**/53**, mbtmp4.0**/5**, MS2.8**/1**, Ms1 2.8**/1**, ms1mx2.3**/25**, Error ellipse: s-maj=30.1km s-min=14.0km az=115.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.74**	**13**	P	Pn	04 55 41.2	+1.5
	4.8nm,0.3s,baz=180,slow=19,SNR=23						
SIJI				S	Sn	04 56 43.7	-0.7
	8.0nm,0.3s,baz=270,slow=23,SNR=8.6						
SIJI				LR	LR	04 58 48.3	
	comp=Z,96nm,20.8s,baz=36,slow=47						
BATI	**Baumata**	**7.22**	**239**	P	Pn	04 56 01.6	+1.8
	4.2nm,0.3s,baz=114,slow=6.3,SNR=3.5						
BATI				S	Sn	04 57 19.5	-1.0
	18nm,0.3s,baz=44,slow=18,SNR=6.6						
WRA	**Warramunga Arr**	**14.04**	**163**	P	Pn	04 57 28.3	-1.9
	0.6nm,0.3s,baz=343,slow=13,SNR=43						
WRA				S	Sn	04 59 53.0	-12
	1.6nm,0.3s,baz=336,slow=23,SNR=13						
ASAR	**Alice Springs**	**17.50**	**168**	P	Pn	04 58 13.0	0.0
	0.2nm,0.3s,baz=351,slow=11,SNR=8.3						
ASAR				S	S	05 01 17.4	-11
	0.6nm,0.3s,baz=358,slow=26,SNR=7.3						
MKAR	**Makanchi Array**	**67.77**	**327**	P	P	05 05 00.8	0.0
	0.3nm,0.4s,baz=122,slow=8.2,SNR=10						

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*IDC **09** 04:55:34.3±1.3, 5˚.83S×11˚.97W, h0km, mb4.2/7, mb1 4.2/8, mb1mx3.9/49, mbtmp4.2/8, ML2.9/1, MS3.7/9, Ms1 3.7/9, ms1mx3.4/42, Error ellipse: s-maj=40.6km s-min=25.5km az=153.0*

*ISCJB **09** 04:55:35.3±0.9, 6˚.4S±0˚.1×11˚.8W±0˚.2, h10km, mb4.4/19, MS3.8/8, Error ellipse: s-maj=24.6km s-min=17.6km az=42.5*

ISC 09 04:55:36.3±1.2**, 6˚.2S**±0˚.2×**11˚.8W**±0˚.2**, h10km, n47,** σ**2.s98**/41**, mb4.5**/19**, MS3.8**/8**, 10C-1D, Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIC	**Lamto**	**14.09**	**29**	*e*P	**P**	**04 59 02.6**	**-1.4**
	52nm,1.0s						
KIC	**Kosan Boka**	**14.35**	**30**	*e*P	**Pn**	**04 59 00.8**	**+1.1**
	37nm,1.2s						
TIC	**Toumodi**	**14.46**	**28**	*e*P	**Pn**	**04 59 03.6**	**+2.3**
DBIC	**Dimbokro**	**14.56**	**29**	Pn	**Pn**	**04 58 59.4**	**-3.3**
	0.1nm,0.3s,baz=164,slow=7.9,SNR=3.5						
DBIC				LR	LR	05 03 33.3	
	comp=Z,288nm,19.9s,baz=191,slow=34						
TORD	**Torodi Ar. Bea**	**23.46**	**35**	P	**P**	**05 00 42.7**	**-3.4**
	3.1nm,0.9s,baz=216,slow=10,SNR=19						
TORD				LR	LR	05 09 00.2	
	comp=Z,231nm,19.1s,baz=230,slow=35						
MATP	**Matopo**	**41.54**	**114**	LR	LR	05 18 04.7	
	comp=Z,145nm,19.9s,baz=254,slow=32						
MBAR	**Mbarara**	**42.81**	**84**	P	**P**	**05 03 35.8**	**+0.8**
	2.4nm,0.2s,baz=289,slow=6.2,SNR=3.2						
KMBO	**Kilima Mbogo**	**49.19**	**86**	P	**P**	**05 04 26.2**	**+0.7**
	1.1nm,0.5s,baz=252,slow=7.2,SNR=4.2						
SIV	**San Ignacio**	**49.20**	**254**	P	**P**	**05 04 24.2**	**-1.1**
	1.3nm,0.8s,baz=111,slow=13,SNR=6.0						
DAVA	**Damuels**	**56.63**	**18**	*e*P	**P**	**05 05 18.6**	**-1.1**
	9.7nm,0.9s						
FETA	**Feichten**	**56.65**	**18**	*e*P	**P**	**05 05 23.1**	**+3.2**
	6.8nm,1.0s						
SQTA	**Sankt Quirin**	**56.98**	**19**	*e*P	**P**	**05 05 21.6**	**-0.6**
	14nm,1.3s						
ABTA	**Abfaltersbach**	**56.99**	**20**	*e*P	**P**	**05 05 26.3**	**+4.1**
	4.0nm,0.9s						
MOTA	**Moosalm**	**57.06**	**18**	*e*P	**P**	**05 05 22.8**	**0.0**
	9.6nm,1.1s						
RETA	**Reutte**	**57.08**	**18**	*e*P	**P**	**05 05 25.7**	**+2.9**
	5.8nm,1.1s						
WATA	**Walderalm**	**57.20**	**19**	*e*P	**P**	**05 05 26.3**	**+2.6**
	1.5nm,0.5s						
LVC	**Limon Verde**	**57.31**	**247**	LR	LR	05 29 07.2	
	comp=Z,34nm,20.7s,baz=140,slow=35						
OBKA	**Obir**	**57.49**	**21**	*i* P	**P**	**05 05 30.3**	**+4.5**
KBA	**Koelnbreinsper**	**57.56**	**20**	*e*P	**P**	**05 05 30.2**	**+3.9**
	5.2nm,0.5s						
SOKA	**Soboth**	**57.81**	**22**	*e*P	**P**	**05 05 28.3**	**+0.3**
	4.2nm,0.9s						
ARSA	**Arzberg**	**58.48**	**22**	*e*P	**P**	**05 05 36.8**	**+4.2**
	4.0nm,1.0s						
MOA	**Molln**	**58.54**	**20**	*e*P	**P**	**05 05 34.7**	**+1.7**
	6.0nm,1.1s						
MDVR	**Moldovita**	**59.02**	**27⇑**	*i*P	**P**	**05 05 39.6**	**+3.1**
CONA	**Conrad Observa**	**59.17**	**21**	*e*P	**P**	**05 05 40.4**	**+2.9**
	6.9nm,1.2s						
GERES	**GERESS Array B**	**59.21**	**19**	P	**P**	**05 05 36.3**	**-1.5**
	1.9nm,0.9s,baz=195,slow=6.1,SNR=7.7						
GERES				LR	LR	05 31 04.9	
	comp=Z,127nm,18.5s,baz=240,slow=36						
HERR	**Herculane**	**59.42**	**28⇑**	*i*P	**P**	**05 05 41.5**	**+2.3**
BZS	**Buzias**	**59.62**	**27⇑**	*i*P	**P**	**05 05 42.8**	**+2.3**
SIRR	**Siria**	**60.15**	**26⇑**	*i*P	**P**	**05 05 44.9**	**+0.7**
KRUC	**Moravsky**	**60.32**	**21**	*e*P	**P**	**05 05 48.4**	**+3.2**
VRAC	**Vranov**	**60.60**	**21**	*e*P	**P**	**05 05 50.5**	**+3.3**
JAVC	**Velka Javorina**	**60.61**	**22**	*e*P	**P**	**05 05 52.1**	**+4.8**
PSZ	**Piszkesteto**	**60.71**	**24⇑**	*i*P	**P**	**05 05 51.8**	**+3.8**
VYHS	**Vyhne**	**60.75**	**23**	*e*P	**P**	**05 05 51.8**	**+3.5**
VYHS				*e*sP	**sP**	**05 05 57.4**	**+4.7**
VOIR		**61.08**	**29⇓**	*i*P	**P**	**05 05 52.0**	**+1.4**
MORC	**Moravsky Berou**	**61.33**	**21**	*e*P	**P**	**05 05 56.1**	**+3.9**
LANS	**Liptovska Anna**	**61.53**	**23**	*e*P	**P**	**05 05 57.7**	**+4.2**
MLR	**Muntele Rosu**	**61.55**	**29⇑**	*i*P	**P**	**05 05 52.6**	**-1.3**
TRPA	**Tarpa**	**61.97**	**25⇑**	*i*P	**P**	**05 05 58.9**	**+2.5**
BRTR	**Keskin Array B**	**62.00**	**38**	P	**P**	**05 05 54.7**	**-2.3**
	1.2nm,1.0s,baz=260,slow=2.6,SNR=3.3						
VRI	**Vrincioaia**	**62.20**	**29⇑**	*i*P	**P**	**05 06 00.5**	**+2.4**
BURAR	**Bucovina Array**	**62.76**	**27⇑**	*i*P	P	05 06 08.8	+6.9
ROSC	**El Rosal**	**63.38**	**279**	LR	LR	05 29 57.1	
	comp=Z,38nm,21.7s,baz=72,slow=33						
NNA	**Nana**	**64.36**	**260**	LR	LR	05 34 08.1	
	comp=Z,30nm,19.4s,baz=78,slow=36						
KIEV	**Kiev**	**66.80**	**27⇑**	*i*P	**P**	**05 06 23.8**	**-4.2**
AKASG	**Malin Array Be**	**66.81**	**27**	P	**P**	**05 06 25.4**	**-2.7**
	5.9nm,0.9s,baz=225,slow=7.0,SNR=4.2						
SADO	**Sadowa**	**78.63**	**318**	LR	LR	05 36 54.8	
	comp=Z,97nm,19.4s,baz=84,slow=32						
ULM	**Lac du Bonnet**	**90.96**	**320**	LR	LR	05 42 54.2	
	comp=Z,60nm,19.3s,baz=323,slow=31						

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*ISCJB **09** 04:59:28.0±0.4, 35˚.38N±0˚.04×140˚.43E±0˚.06, h60km±4km, mb3.5/8, Error ellipse: s-maj=8.4km s-min=5.8km az=161.1*

*JMA **09** 04:59:28.9±0.1, 35˚.46N×140˚.45E, h51km±1km, M3.1*

JMA Felt I J1.

*IDC **09** 04:59:29.6±1.9, 35˚.28N×140˚.41E, h58km±20km, mb3.3/8, mb1 3.7/11, mb1mx3.4/67, mbtmp3.7/11, ML3.9/3, Error ellipse: s-maj=23.6km s-min=7.3km az=69.0*

ISC 09 04:59:29.2±0.8**, 35˚.40N**±0˚.04×**140˚.43E**±0˚.06**, h54km**±6km**, n31,** σ**0.s98**/32**, mb3.6**/8**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.19**	**276**	P	**Pn**	**04 59 37.5**	**-0.3**
JSMT	**Sammumatsuo**	**0.24**	**3**	P	**Pn**	**04 59 37.6**	**-0.6**
KTR	**Katsuura**	**0.27**	**201**	P	**Pn**	**04 59 38.3**	**-0.1**
KTR				*e*S	**Sn**	**04 59 45.5**	**+0.5**
JKUC	**kamogawauchiur**	**0.30**	**219**	P	**Pn**	**04 59 38.6**	**-0.1**
JKUC				*e*S	**Sn**	**04 59 45.8**	**+0.3**
BSO4	**Boso 4**	**0.41**	**191**	P	**Pn**	**04 59 40.0**	**+0.4**
CHOJ	**Chosi**	**0.46**	**49**	P	**Pn**	**04 59 39.5**	**-0.7**
BSO3	**Boso 3**	**0.60**	**174**	P	**Pn**	**04 59 41.6**	**+0.1**
JYT	**Yasato**	**0.85**	**347**	P	**Pn**	**04 59 43.7**	**-1.3**
JYT				*e*S	**Sn**	**04 59 55.1**	**-1.5**
BSO1	**Boso 1**	**0.87**	**149**	P	**Pn**	**04 59 44.3**	**-0.4**
JIM2	**Oshima 3**	**1.07**	**231**	P	**Pn**	**04 59 47.0**	**-0.9**
JOD2	**Odawara 2**	**1.11**	**263**	P	**Pn**	**04 59 48.0**	**-0.4**
JOD2				S	**Sn**	**05 00 02.3**	**-0.5**
JAG	**Ashikaga**	**1.30**	**322**	P	**Pn**	**04 59 50.5**	**-0.5**
MJAR	**Matsushiro Arr**	**2.13**	**303**	P	**Pn**	**05 00 01.8**	**-0.6**
	4.4nm,0.3s,baz=127,slow=13,SNR=17						
MJAR				S	**Sn**	**05 00 29.9**	**+2.1**
	7.4nm,0.3s,baz=137,slow=18,SNR=7.6						
MAT	**Matsushiro**	**2.14**	**303**	P	**Pn**	**05 00 02.7**	**+0.3**
MAT				S	**Sn**	**05 00 25.8**	**-2.0**
JHJ	**Hachijo jima 2**	**2.34**	**194**	P	**Pn**	**05 00 03.9**	**-1.2**
	72nm,0.3s,baz=43,slow=21,SNR=4.4						
JHJ				S	**Sn**	**05 00 31.0**	**-1.6**
	97nm,0.3s,baz=195,slow=23,SNR=8.3						
JCJ	**Chichijima**	**8.41**	**169**	P	**Pn**	**05 01 26.9**	**-1.5**
	14nm,0.3s,baz=281,slow=19,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**28.06**	**117**	T	T	05 34 34.1	
	baz=310						
H11N1	**WAKE ISLAND Hy**	**28.06**	**117**	T	T	05 34 35.5	
	baz=310						
H11N3	**WAKE ISLAND Hy**	**28.07**	**117**	T	T	05 34 35.2	
	baz=310						
H11S1	**WAKE ISLAND Hy**	**28.70**	**119**	T	T	05 35 26.1	
	baz=310						
H11S3	**WAKE ISLAND Hy**	**28.70**	**119**	T	T	05 35 22.7	
	baz=310						
H11S2	**WAKE ISLAND Hy**	**28.71**	**119**	T	T	05 35 26.0	
	baz=310						
ZALV	**Zalesovo Beam**	**42.45**	**314**	P	**P**	**05 07 18.7**	**+0.2**
	0.5nm,0.5s,baz=93,slow=10,SNR=2.6						
MKAR	**Makanchi Array**	**44.34**	**303**	P	**P**	**05 07 33.7**	**-0.1**
	0.2nm,0.6s,baz=95,slow=7.7,SNR=3.4						
ILAR	**Eielson Array**	**51.30**	**32**	P	**P**	**05 08 27.6**	**+0.2**
	0.7nm,0.8s,baz=270,slow=5.6,SNR=8.7						
WRA	**Warramunga Arr**	**55.34**	**187**	P	**P**	**05 08 57.0**	**-0.5**
	0.6nm,0.7s,baz=1.9,slow=7.5,SNR=8.2						
YKA	**Yellowknife Ar**	**65.62**	**30**	P	**P**	**05 10 07.3**	**+0.1**
	0.2nm,0.6s,baz=298,slow=7.1,SNR=4.1						
AKASG	**Malin Array Be**	**75.10**	**322**	P	**P**	**05 11 05.0**	**-0.2**
	0.6nm,0.5s,baz=46,slow=5.8,SNR=2.6						
NVAR	**Mina Array Bea**	**76.61**	**52**	P	**P**	**05 11 15.9**	**+1.6**
	0.2nm,0.2s,baz=318,slow=4.2,SNR=3.9						
PDAR	**Pinedale Array**	**79.38**	**45**	P	**P**	**05 11 30.6**	**+0.9**
	0.5nm,0.6s,baz=264,slow=2.5,SNR=6.6						
LPAZ	**La Paz**	**148.19**	**61**	PKPbc	**PKPbc**	**05 19 10.8**	**+0.5**
	0.4nm,0.6s,baz=304,slow=11,SNR=2.4						

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*IDC **09** 05:01:26.7±1.1, 2˚.25S×67˚.63E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.8/54, mbtmp3.9/10, MS3.5/1, Ms1 3.5/1, ms1mx2.8/45, Error ellipse: s-maj=32.3km s-min=25.6km az=35.0*

*NEIC **09** 05:01:28.5±0.5, 2˚.21S×67˚.63E, h10km, mb4.3/8, Error ellipse: s-maj=13.9km s-min=10.0km az=48.0*

ISC 09 05:01:29.1±0.7**, 2˚.1S**±0˚.1×**67˚.8E**±0˚.1**, h10km, n37,** σ**1.s23**/33**, mb4.2**/17**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.28**	**142**	T	T	05 08 11.7	
	baz=325,slow=75,SNR=38						
H08N3	**Diego Garcia H**	**5.29**	**142**	T	T	05 08 15.3	
	baz=325,slow=75,SNR=59						
H08N1	**Diego Carcia H**	**5.31**	**142**	T	T	05 08 13.4	
	baz=325,slow=75,SNR=37						
DGAR	**Diego Garcia**	**7.04**	**138**	*e*Pn	**Pn**	**05 03 12.2**	**-0.1**
CM31	**Chiang Mai Arr**	**36.88**	**55**	*e*P	**P**	**05 08 39.5**	**+1.3**
CMAR	**Chiang Mai Arr**	**36.88**	**55**	P	**P**	**05 08 39.5**	**+1.3**
	0.7nm,0.3s,baz=246,slow=10,SNR=6.5						
PBKT	**Sadao Pong**	**37.69**	**59**	*e*P	**P**	**05 08 45.5**	**+0.5**
	8.6nm,1.1s						
LSZ	**Lusaka**	**41.13**	**249**	P	**P**	**05 09 14.2**	**+0.2**
	1.9nm,0.4s,baz=127,slow=10,SNR=2.1						
LSZ	**Lusaka**	**41.13**	**249**	*e*P	**P**	**05 09 17.8**	**+3.7**
	3.1nm,0.6s						
MAKZ	**Makanchi**	**50.31**	**13**	*e*P	**P**	**05 10 25.9**	**-0.1**
	2.5nm,0.8s						
MK32	**Makanchi Array**	**50.37**	**13**	*e*P	**P**	**05 10 26.1**	**-0.4**
MKAR	**Makanchi Array**	**50.37**	**13**	P	**P**	**05 10 26.1**	**-0.3**
	1.5nm,0.8s,baz=198,slow=7.4,SNR=15						
MKAR	**Makanchi Array**	**50.37**	**13**	*e*P	**P**	**05 10 25.5**	**-0.9**
	8.1nm,0.8s						
BRTR	**Keskin Array B**	**52.07**	**327**	LR	LR	05 31 55.9	
	comp=Z,44nm,20.3s,baz=244,slow=35						
XAN	**Xi'an**	**52.83**	**43**	*e*P	**P**	**05 10 44.5**	**-0.7**
	15nm,1.1s						
KURK	**Kurchatov**	**53.45**	**9**	*e*P	**P**	**05 10 49.4**	**+0.1**
	3.3nm,0.8s						
ZALV	**Zalesovo Beam**	**57.66**	**12**	P	**P**	**05 11 19.1**	**-0.3**
	3.7nm,0.8s,baz=212,slow=8.1,SNR=14						
ZAA1	**Zalesovo Array**	**57.66**	**12**	*e*P	**P**	**05 11 19.1**	**-0.4**
SONA0	**Songino Array**	**60.09**	**29**	*e*P	**P**	**05 11 37.3**	**+0.6**
SONM	**Songino Array**	**60.09**	**29**	P	**P**	**05 11 37.3**	**+0.6**
	2.5nm,0.9s,baz=221,slow=6.5,SNR=9.9						
AKASG	**Malin Array Be**	**62.05**	**333**	P	**P**	**05 11 50.4**	**+0.7**
	0.2nm,0.3s,baz=148,slow=13,SNR=2.1						
AKBB	**Malin Array Si**	**62.05**	**333**	*e*P	**P**	**05 11 50.4**	**+0.7**
TORD	**Torodi Ar. Bea**	**67.25**	**285**	P	**P**	**05 12 21.6**	**-2.9**
	0.3nm,1.0s,baz=87,slow=3.0,SNR=2.0						
TOA1	**Torodi Ar. Sit**	**67.25**	**285**	*e*P	**P**	**05 12 21.6**	**-2.9**
WRA	**Warramunga Arr**	**67.29**	**111**	P	**P**	**05 12 24.9**	**+0.1**
	1.4nm,1.0s,baz=282,slow=5.5,SNR=5.6						
WR1	**Warramunga Arr**	**67.29**	**111**	*e*P	**P**	**05 12 24.9**	**+0.1**
	0.5nm,0.8s						
ASAR	**Alice Springs**	**67.35**	**115**	P	**P**	**05 12 23.6**	**-1.5**
	0.2nm,0.4s,baz=256,slow=7.6,SNR=3.9						
AS31	**Alice Springs**	**67.35**	**115**	*e*P	**P**	**05 12 23.6**	**-1.5**
	0.9nm,1.1s						
KLR	**Kul'dur**	**74.97**	**38**	P	**P**	**05 13 09.4**	**-1.2**
	2.0nm,0.9s,baz=230,slow=4.5,SNR=5.4						
MAJO	**Matsushiro**	**75.67**	**52**	*e*P	**P**	**05 13 15.5**	**+0.5**
MJAR	**Matsushiro Arr**	**75.68**	**52**	P	**P**	**05 13 15.5**	**+0.5**
	0.5nm,0.3s,baz=268,slow=11,SNR=3.2						
YKA	**Yellowknife Ar**	**119.75**	**1**	PKP	**PKiKP**	**05 20 20.2**	**+0.8**
	0.1nm,0.7s,baz=303,slow=2.6,SNR=3.9						
YKB5	**Yellowknife Ar**	**119.75**	**1**	*e*PKPdf	**PKiKP**	**05 20 20.2**	**+0.8**
PDAR	**Pinedale Array**	**139.46**	**357**	PKP	**PKPdf**	**05 20 57.7**	**+0.2**
	0.1nm,0.5s,baz=38,slow=4.6,SNR=3.0						
NVAR	**Mina Array Bea**	**143.44**	**8**	PKP	**PKPdf**	**05 21 05.0**	**+0.2**
	0.1nm,0.4s,baz=350,slow=2.7,SNR=2.4						
LTX	**Lajitas**	**151.73**	**344**	*e*PKPbc	**PKiKP**	**05 21 25.6**	**+0.3**
TXAR	**Lajitas Array**	**151.73**	**344**	PKPbc	**PKiKP**	**05 21 25.6**	**+0.3**
	0.4nm,0.7s,baz=16,slow=6.5,SNR=4.0						

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*IDC **09** 05:05:04.8±0.7, 1˚.89S×68˚.07E, h0km, mb4.1/13, mb1 4.2/13, mb1mx3.9/49, mbtmp4.1/13, MS3.6/3, Ms1 3.7/3, ms1mx3.1/46, Error ellipse: s-maj=21.0km s-min=17.5km az=167.0*

*ISCJB **09** 05:05:05.5±0.5, 1˚.87S±0˚.08×68˚.06E±0˚.08, h15km, mb4.3/20, MS3.4/2, Error ellipse: s-maj=11.7km s-min=10.4km az=44.5*

*NEIC **09** 05:05:06.5±0.4, 1˚.89S×68˚.02E, h10km, mb4.4/10, Error ellipse: s-maj=9.9km s-min=9.1km az=221.0*

ISC 09 05:05:07.3±0.6**, 1˚.9S**±0˚.1×**68˚.01E**±0˚.10**, h15km, n44,** σ**0.s86**/42**, mb4.3**/20**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.32**	**146**	T	T	05 11 43.0	
	baz=325,slow=75,SNR=113						
H08N3	**Diego Garcia H**	**5.33**	**146**	T	T	05 11 43.9	
	baz=325,slow=75,SNR=136						
H08N1	**Diego Carcia H**	**5.34**	**146**	T	T	05 11 44.6	
	baz=325,slow=75,SNR=126						
DGAR	**Diego Garcia**	**7.05**	**141**	*e*Pn	**Pn**	**05 06 50.5**	**+0.5**
PALK	**Pallekele**	**15.60**	**54**	LR	LR	05 13 30.0	
	comp=Z,348nm,20.0s,baz=297,slow=32						
WSAR	**Wadi Sarin**	**26.60**	**340**	LR	LR	05 18 40.3	
	comp=Z,96nm,21.9s,baz=165,slow=31						
KMBO	**Kilima Mbogo**	**30.76**	**271**	P	**P**	**05 11 22.9**	**+0.2**
	0.7nm,0.4s,baz=59,slow=11,SNR=4.5						
KMBO	**Kilima Mbogo**	**30.76**	**271**	*e*P	**P**	**05 11 22.4**	**-0.3**
	2.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**36.54**	**55**	P	**P**	**05 12 11.9**	**-0.8**
	0.7nm,0.4s,baz=243,slow=9.8,SNR=4.9						
CMAR				LR	LR	05 25 31.3	
	comp=Z,93nm,20.1s,baz=226,slow=34						
PBKT	**Sadao Pong**	**37.35**	**59**	*e*P	**P**	**05 12 20.3**	**+0.7**
	11nm,1.2s						
GAR	**Garm**	**40.74**	**3**	*e*P	**P**	**05 12 49.2**	**+1.3**
	10.0nm,0.9s						
LSZ	**Lusaka**	**41.46**	**249**	P	**P**	**05 12 53.6**	**-0.6**
	3.0nm,0.6s,baz=70,slow=5.9,SNR=7.9						
LSZ	**Lusaka**	**41.46**	**249**	*e*P	**P**	**05 12 53.6**	**-0.6**
	6.0nm,1.1s						
BTK	**Batken**	**41.83**	**3**	*e*P	**P**	**05 12 58.5**	**+1.8**
	4.1nm,0.8s						
MAKZ	**Makanchi**	**50.03**	**12**	*e*P	**P**	**05 14 00.8**	**-0.4**
	3.7nm,1.1s						
MK32	**Makanchi Array**	**50.08**	**13**	*e*P	**P**	**05 14 01.5**	**-0.2**
MK32				*e*PcP	**PcP**	**05 15 21.2**	**0.0**
MKAR	**Makanchi Array**	**50.08**	**13**	P	**P**	**05 14 01.5**	**-0.2**
	1.4nm,0.7s,baz=196,slow=7.2,SNR=12						
MKAR				PcP	**PcP**	**05 15 21.2**	**0.0**
	1.0nm,1.0s,baz=207,slow=4.8,SNR=2.8						
MKAR	**Makanchi Array**	**50.08**	**13**	*e*P	**P**	**05 14 01.1**	**-0.6**
	12nm,0.8s						
MKAR				PcP	**PcP**	**05 15 21.2**	**0.0**
ABKAR	**Akbulak array**	**51.42**	**353**	*e*P	**P**	**05 14 11.5**	**-0.2**
BR101	**Keskin Array S**	**52.02**	**326**	*e*P	**P**	**05 14 15.8**	**-0.8**
BRTR	**Keskin Array B**	**52.02**	**326**	P	**P**	**05 14 15.8**	**-0.8**
	0.9nm,0.9s,baz=151,slow=13,SNR=3.5						
XAN	**Xi'an**	**52.48**	**43**	P	**P**	**05 14 20.1**	**+0.1**
XAN				pP	sP	05 14 30.0	+3.4
XAN				pmax	pmax		
	comp=Z,11nm,0.9s						
XAN	**Xi'an**	**52.48**	**43**	*e*P	**P**	**05 14 19.5**	**-0.5**
	comp=Z,8.8nm,0.8s						
KURK	**Kurchatov**	**53.19**	**8**	*e*P	**P**	**05 14 24.6**	**-0.1**
	comp=Z,4.1nm,0.9s						
TPUB	**Ta-pu**	**56.98**	**61**	*e*P	**P**	**05 14 54.2**	**+1.5**
	comp=Z,30nm,0.8s						
ZALV	**Zalesovo Beam**	**57.38**	**12**	P	**P**	**05 14 54.5**	**-0.4**
	comp=Z,3.3nm,0.7s,baz=206,slow=6.8,SNR=15						
ZAA1	**Zalesovo Array**	**57.38**	**12**	*e*P	**P**	**05 14 54.5**	**-0.4**
SONA0	**Songino Array**	**59.76**	**29**	*e*P	**P**	**05 15 13.0**	**+1.1**
SONM	**Songino Array**	**59.76**	**29**	P	**P**	**05 15 13.0**	**+1.1**
	comp=Z,2.8nm,0.8s,baz=222,slow=7.4,SNR=19						
WR1	**Warramunga Arr**	**67.13**	**111**	*e*P	**P**	**05 16 00.7**	**-0.4**
WRA	**Warramunga Arr**	**67.13**	**111**	P	**P**	**05 16 00.7**	**-0.4**
	comp=Z,2.8nm,0.9s,baz=285,slow=5.9,SNR=14						
ASAR	**Alice Springs**	**67.21**	**115**	P	**P**	**05 16 01.2**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=281,slow=6.7,SNR=10.0						
TORD	**Torodi Ar. Bea**	**67.44**	**285**	P	**P**	**05 16 04.9**	**+1.8**
	comp=Z,0.9nm,1.1s,baz=84,slow=7.6,SNR=4.5						
TOA1	**Torodi Ar. Sit**	**67.44**	**285**	*e*P	**P**	**05 16 04.9**	**+1.8**
KS15	**Wonju Array Si**	**67.70**	**48**	*e*P	**P**	**05 16 03.5**	**-0.8**
KSAR	**Wonju Array Be**	**67.70**	**48**	P	**P**	**05 16 03.5**	**-0.8**
KSRS	**Korea Array**	**67.73**	**48**	P	**P**	**05 16 03.5**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=266,slow=9.6,SNR=3.0						
KLR	**Kul'dur**	**74.62**	**38**	P	**P**	**05 16 44.6**	**-1.5**
	comp=Z,2.2nm,0.8s,baz=240,slow=5.0,SNR=7.5						
VNDA	**Vanda**	**89.00**	**167**	P	**P**	**05 18 01.6**	**+0.4**
	comp=Z,1.2nm,1.0s,baz=256,slow=8.3,SNR=3.3						
YKA	**Yellowknife Ar**	**119.51**	**1**	PKP	**PKPdf**	**05 23 55.1**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=333,slow=2.9,SNR=3.8						
PDAR	**Pinedale Array**	**139.24**	**357**	PKP	**PKPdf**	**05 24 33.5**	**-1.0**
	comp=Z,0.8nm,1.0s,baz=66,slow=5.0,SNR=3.7						
WMOK	**Wichita Mounta**	**145.08**	**341**	*e*PKPbc	**PKPbc**	**05 24 43.1**	**-1.2**
LTX	**Lajitas**	**151.58**	**345**	*e*PKPbc	**PKPbc**	**05 25 01.7**	**-0.2**
TXAR	**Lajitas Array**	**151.58**	**345**	PKPbc	**PKPbc**	**05 25 01.7**	**-0.2**
	comp=Z,1.6nm,1.0s,baz=174,slow=1.3,SNR=6.9						

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*SJA **09** 05:09:02.8±0.9, 25˚.86S×71˚.05W, h40km±20km, ML3.4, MW3.4*

*GUC **09** 05:09:05.2±0.6, 25˚.89S×70˚.71W, h46km±3km, ML3.7*

ISC 09 05:09:02.2±1.4**, 25˚.82S**±0˚.03×**70˚.95W**±0˚.06**, h5km**±9km**, n32,** σ**2.s32**/48**, 2C-1D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRCH	**Chaqaral**	**0.60**	**151⇓**	*i*P	**Pb**	**05 09 15.5**	**+0.3**
CRCH				*i* S	**Sg**	**05 09 22.0**	**+0.3**
PB14	**IPOC Station P**	**1.29**	**23**	*e*P	**Pn**	**05 09 27.7**	**+0.7**
PB14				*e*S	**Sn**	**05 09 44.8**	**0.0**
PB14	**IPOC Station P**	**1.29**	**23**	*e*P	**Pn**	**05 09 27.8**	**+0.7**
PB14				*i* S	**Sn**	**05 09 45.7**	**+0.8**
GO02	**Mina Guanaco**	**1.39**	**62**	*e*P	**Pn**	**05 09 27.4**	**-1.1**
GO02				*i* S	**Sb**	**05 09 44.4**	**-2.6**
GO02				IAML		05 09 49.4	
	comp=N,3μm,0.7s						
GO03	**Copiap**	**1.88**	**160**	*e*P	**Pn**	**05 09 34.7**	**-0.3**
GO03				*e*S	**Sn**	**05 09 56.9**	**-2.3**
GO03	**Copiap**	**1.88**	**160**	*e*P	**Pn**	**05 09 34.5**	**-0.5**
GO03				*i* S	**Sn**	**05 09 56.6**	**-2.5**
GO03				IAML		05 09 59.6	
	comp=N,2μm,0.2s						
PB10	**IPOC Station P**	**2.32**	**9**	*e*P	**Pn**	**05 09 40.9**	**-0.1**
PB10	**IPOC Station P**	**2.32**	**9**	*e*P	**Pn**	**05 09 41.1**	**+0.1**
PB10				*e*S	**Sn**	**05 10 11.7**	**+1.7**
PB10				IAML		05 10 23.9	
	comp=E,161nm,0.5s						
PB15	**IPOC Station P**	**2.93**	**28**	*e*P	**Pn**	**05 09 50.8**	**+1.3**
PB15				*e*S	**Sb**	**05 10 33.7**	**+2.5**
PB15	**IPOC Station P**	**2.93**	**28**	*e*P	**Pn**	**05 09 50.6**	**+1.0**
PB05	**IPOC Station P**	**3.03**	**13**	*e*P	**Pn**	**05 09 51.0**	**0.0**
PB05	**IPOC Station P**	**3.03**	**13⇑**	*e*P	**Pn**	**05 09 50.9**	**0.0**
PB05				IAML		05 10 51.2	
	comp=E,178nm,0.6s						
LCO	**Las Campanas**	**3.19**	**176**	*e*P	**Pn**	**05 09 52.0**	**-1.2**
LCO				*i* S	**Sb**	**05 10 37.0**	**-1.7**
LCO				IAML		05 10 45.1	
	comp=N,294nm,0.4s						
PB06	**IPOC Station P**	**3.34**	**22⇑**	*e*P	**Pn**	**05 09 55.4**	**+0.2**
PB06				*i* S	**Sn**	**05 10 35.4**	**0.0**
PB06				IAML		05 10 56.0	
	comp=N,261nm,0.3s						
PB04	**IPOC Station P**	**3.54**	**12**	*e*P	**Pn**	**05 09 57.7**	**-0.3**
LVC	**Limon Verde**	**3.70**	**31**	*e*P	**Pn**	**05 10 01.5**	**+1.2**
PB03	**IPOC Station P**	**3.91**	**17**	*e*P	**Pn**	**05 10 02.7**	**-0.4**
AGUA	**GUANDACOL**	**4.26**	**150**	*e*P	**Pn**	**05 10 10.1**	**+2.3**
AGUA				*e*S	**Sn**	**05 11 01.5**	**+3.6**
FSA	**Cafayete**	**4.49**	**95**	*i* P	**Pn**	**05 10 13.0**	**+2.1**
FSA				IAML		05 10 16.5	
	comp=Z,17nm,0.5s						
FSA				*e*S	**Sn**	**05 11 04.7**	**+1.1**
ACLC	**CERRO LA CRUZ**	**5.05**	**136**	*e*P	**Pn**	**05 10 19.4**	**+0.7**

CYA	Choya	5.28	121	eP	Pn	05 10 22.1	+0.3
CYA				IAML		05 10 25.5	
	comp=Z,17nm,0.4s						
CYA				eS	Sn	05 11 24.8	+1.8
AZAP	Zapla	5.57	75	eP	Pn	05 10 28.3	+2.4
AZAP				IAML		05 10 31.6	
	comp=Z,13nm,0.4s						
AZAP				eS	Sb	05 11 39.9	-7.3
HJA	Humahuaca	5.68	64	i P	Pn	05 10 31.7	+4.2
HJA				IAML		05 10 44.1	
	comp=Z,20nm,0.7s						
APLL	PUNTA DE LOS L	6.00	140	eP	Pn	05 10 31.6	-0.1
APLL				IAML		05 11 47.4	
	comp=Z,16nm,0.6s						
CFA	Coronel Fontan	6.24	158	eP	Pn	05 10 36.2	+1.3
ALOL	LOMAS DE OLMED	6.64	74	i P	Pn	05 10 42.3	+1.8
ASAL	Salagasta	7.00	165	eP	Pn	05 10 49.2	+3.8
ASAL				eS	Sn	05 12 11.8	+6.4
LPAZ	La Paz	9.84	16	Pn	Pn	05 11 24.6	-0.4
	comp=Z,0.2nm,0.3s,baz=305,slow=17,SNR=6.0						
PLCA	Paso Flores	14.88	179	LR	LR	05 28 26.0	
	comp=Z,61nm,18.3s,baz=144,slow=36						
TORD	Torodi Ar. Bea	80.56	70	P	P	05 21 12.2	-3.8
	comp=Z,1.6nm,0.8s,baz=265,slow=4.3,SNR=12						
TORD				pP	PcP	05 21 26.7	+3.8
	comp=Z,1.0nm,0.7s,baz=238,slow=4.9,SNR=4.6						
ZALV	Zalesovo Beam	146.64	26	PKP	PKPdf	05 28 42.6	-0.3
	comp=Z,1.0nm,0.5s,baz=344,slow=1.4,SNR=5.0						
ZALV				pPKP	sPKPab	05 28 52.2	+5.0
	comp=Z,1.0nm,0.7s,baz=328,slow=5.1,SNR=2.8						
MKAR	Makanchi Array	150.19	38	PKP	PKPbc	05 28 52.5	-1.6
	comp=Z,0.5nm,0.6s,baz=331,slow=2.0,SNR=5.9						
MKAR				pPKP	pPKPab	05 29 01.3	0.0
	comp=Z,0.6nm,0.7s,baz=317,slow=2.3,SNR=4.6						

IDC 09 05:17:24.7±2.6, 54°.14N×86°.33E, h0km, mb1 2.7/2, mb1mx2.7/66, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=20.2km s-min=11.8km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.91	258	i		05 23 05.0	
	baz=78,slow=352,SNR=11						
ZALV	Zalesovo Beam	0.91	258	Pg	Pg	05 17 40.2	-1.9
	0.8nm,0.3s,baz=73,slow=17,SNR=11						
ZALV				Lg	Lg	05 17 55.9	
	2.7nm,0.3s,baz=80,slow=30,SNR=30						
KURBB	Kurchatov Arra	5.93	237	Pn	Pn	05 18 54.6	+0.8
	0.1nm,0.3s,baz=54,slow=13,SNR=5.2						
MKAR	Makanchi Array	7.79	201	Pn	Pn	05 19 20.9	+1.5
	0.1nm,0.3s,baz=22,slow=13,SNR=5.3						

IDC 09 05:19:36.6±2.1, 54°.09N×86°.43E, h0km, mb1 3.2/3, mb1mx3.0/69, mbtmp3.2/3, ML2.9/2, Error ellipse: s-maj=16.7km s-min=11.4km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.96	262	i		05 25 15.0	
	baz=83,slow=356,SNR=5.2						
ZALV	Zalesovo Beam	0.96	262	Pg	Pg	05 19 53.6	-1.4
	1.9nm,0.3s,baz=77,slow=16,SNR=22						
ZALV				Lg	Lg	05 20 09.3	
	2.8nm,0.3s,baz=79,slow=28,SNR=20						
KURBB	Kurchatov Arra	5.96	238	Pn	Pn	05 21 06.4	+0.5
	0.2nm,0.3s,baz=54,slow=14,SNR=7.2						
KURBB				Pg	Pb	05 21 22.8	+1.6
	baz=46,slow=4.0,SNR=2.0						
KURBB				Lg	Lg	05 22 48.7	
	0.2nm,0.3s,baz=60,slow=32,SNR=4.6						
MKAR	Makanchi Array	7.76	202	Pn	Pn	05 21 32.3	+1.5
	0.2nm,0.3s,baz=22,slow=12,SNR=12						
MKAR				Sn	Sn	05 22 57.0	-2.3
	baz=21,slow=12,SNR=1.4						
MKAR				Lg	Lg	05 23 44.0	
	baz=23,slow=30,SNR=5.9						
SONM	Songino Array	14.03	108	Pn	Pn	05 22 58.0	+1.5
	baz=346,slow=18,SNR=4.1						

ISCJB 09 05:24:28.6±1.7, 12°.86S±0°.07×166°.73E±0°.09, h102km±15km, mb4.2/24, Error ellipse: s-maj=15.7km s-min=9.5km az=153.0

IDC 09 05:24:28.2±0.8, 12°.80S×166°.84E, h84km±6km, mb3.9/19, mb1 4.1/21, mb1mx4.0/42, mbtmp4.3/21, MS5.1/1, Ms1 5.1/1, ms1mx2.9/29, Error ellipse: s-maj=16.9km s-min=12.1km az=95.0

NEIC 09 05:24:29.7±0.8, 12°.82S×166°.77E, h98km±7km, mb4.4/6, Error ellipse: s-maj=7.9km s-min=5.7km az=70.0

ISC 09 05:24:28.2±0.7, 12°.80S±0°.06×166°.78E±0°.08, h84km±5km, h85km:pP-P, n49, σ1s.02/62, mb4.2/24, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.50	296	P	Pn	05 26 17.4	+2.5
	46nm,0.3s,baz=154,slow=6.3,SNR=7.8						
HNR				S	Sn	05 27 36.3	-2.1
	26nm,0.3s,baz=30,slow=20,SNR=3.6						
HNR	Honiara	7.50	296	ePn	Pn	05 26 16.1	+1.2
HNR				ePn	Pn	05 26 17.4	+2.5
HNR				eSn	Sn	05 27 36.3	-2.1
HNR				eSn	Sn	05 27 41.0	+2.6
DZM	Mont Dzumac	9.23	182	P	Pn	05 26 40.1	+1.6
	3.0nm,0.3s,baz=305,slow=23,SNR=97						
DZM				S	Sn	05 28 17.7	-3.0
	baz=115,slow=19,SNR=2.7						
DZM	Mont Dzumac	9.23	182	ePn	Pn	05 26 39.9	+1.4
	15nm,0.2s						
DZM				eSn	Sn	05 28 10.1	-11
	3.4nm,0.2s						
DZM				eLR	LR	05 28 35.7	
	comp=Z,244nm,26.4s						
OUENC	Ouen Island, N	9.57	180	ePn	Pn	05 26 44.4	+1.3
EIDS	Eidsvold	19.38	228	eP	P	05 28 46.9	-0.5
	8.3nm,0.7s						
RAO	Raoul Island	21.68	141	LR	LR	05 35 09.0	
	comp=Z,5µm,21.1s,baz=86,slow=30						
MANU	Manus Island	22.00	297	eP	P	05 29 16.4	+0.6
	44nm,0.9s						
URZ	Urewera	26.97	162	P	P	05 30 02.9	+0.9
	2.9nm,0.4s,baz=194,slow=6.0,SNR=7.7						
URZ	Urewera	26.97	162	eP	P	05 30 02.0	0.0
	14nm,1.1s						
URZ				eP	P	05 30 02.9	+0.9
BKZ	Black Stump Fm	27.63	164	eP	P	05 30 07.9	-0.1
	13nm,1.1s						
STKA	Stephens Creek	29.93	227	P	P	05 30 28.3	-0.1
	3.6nm,0.6s,baz=311,slow=6.6,SNR=2.9						
WR1	Warramunga Arr	31.89	253	eP	P	05 30 45.5	-0.3
	1.6nm,0.8s						
WR1				ePcP	PcP	05 33 34.4	-0.4
WRA	Warramunga Arr	31.89	253	P	P	05 30 45.5	-0.3
	1.1nm,0.7s,baz=86,slow=9.3,SNR=9.7						
WRA				PcP	PcP	05 33 34.4	-0.4
	0.7nm,1.0s,baz=4.2,slow=1.9,SNR=3.0						
AS31	Alice Springs	32.97	246	ePcP	PcP	05 33 37.3	-0.5
ASAR	Alice Springs	32.97	246	P	P	05 30 54.9	-0.4
	2.6nm,0.7s,baz=74,slow=9.5,SNR=29						
ASAR				pP	pP	05 31 15.6	+2.1
	1.1nm,0.7s,baz=76,slow=9.4,SNR=2.9						
ASAR				PcP	PcP	05 33 37.3	-0.5
	0.4nm,0.5s,baz=31,slow=0.9,SNR=4.1						
PPT2	Papeete2	42.31	102	eLR	LR	05 44 38.9	
	comp=Z,143nm,29.2s						
NWAO	Narrogin (SRO)	49.36	238	P	P	05 33 09.3	0.0
	12nm,0.6s,baz=166,slow=4.2,SNR=8.5						
TGY	Tagaytay City	52.70	299	P	P	05 33 34.2	-0.5
	175nm,0.3s,baz=113,slow=7.7,SNR=2.3						
KSRS	Korea Array	61.89	326	P	P	05 34 39.0	+0.1
	1.3nm,0.6s,baz=128,slow=6.1,SNR=4.2						
KSAR	Wonju Array Be	61.90	325	P	P	05 34 39.0	-0.1
VNDA	Vanda	64.77	181	P	P	05 34 57.4	+0.1
	1.2nm,0.8s,baz=360,slow=6.5,SNR=8.1						
USRK	Ussuriysk Ar.	64.96	333	P	P	05 34 60.0	+0.9
	1.5nm,0.6s,baz=134,slow=7.7,SNR=2.6						
PETK	Petropavlovsk-	66.10	354	P	P	05 35 05.3	-0.9
	4.5nm,1.0s,baz=166,slow=5.7,SNR=2.7						
PEA1	Petropavlovsk-	66.11	354	eP	P	05 35 05.3	-1.0
KLR	Kul'dur	69.06	336	P	P	05 35 26.1	+1.1
	1.4nm,0.5s,baz=164,slow=3.9,SNR=8.0						
CMAR	Chiang Mai Arr	73.74	294	P	P	05 35 55.3	+1.5
	1.7nm,0.5s,baz=121,slow=4.6,SNR=7.1						
CMAR				pP	pwP	05 36 17.1	-1.3
	0.7nm,0.4s,baz=123,slow=4.4,SNR=1.5						
QSPA	South Pole Qui	77.22	180	P	P	05 36 13.0	0.0
	5.2nm,0.7s,baz=29,slow=2.9,SNR=28						
QSPA	South Pole Qui	77.22	180	eP	P	05 36 13.0	0.0
QSPA				eP	P	05 36 13.3	+0.3
RSO	Redoubt South	79.83	19	eP	P	05 36 27.2	-0.2
SONA0	Songino Array	80.67	324	eP	P	05 36 32.7	+0.5
SONM	Songino Array	80.67	324	P	P	05 36 32.7	+0.5
	1.1nm,0.5s,baz=145,slow=6.4,SNR=8.6						
HDA	Harding Lake	84.57	18	eP	P	05 36 51.7	-0.1
	5.3nm,1.2s						
ILAR	Eielson Array	84.85	18	P	P	05 36 52.8	-0.4
	0.7nm,0.5s,baz=243,slow=5.0,SNR=22						
ILAR				pP	pP	05 37 13.6	-1.4
	0.6nm,0.7s,baz=245,slow=4.9,SNR=3.0						
ILB	Eielson Array	84.85	18	eP	P	05 36 53.1	-0.1
ILB				epP	pP	05 37 13.6	-1.4
NVAR	Mina Array Bea	86.38	49	P	P	05 37 02.2	+0.5
	0.4nm,0.7s,baz=228,slow=7.3,SNR=3.6						
PDAR	Pinedale Array	93.99	47	P	P	05 37 36.4	-0.9
	0.4nm,1.0s,baz=264,slow=0.9,SNR=2.3						
MK32	Makanchi Array	95.49	317	eP	P	05 37 43.9	+0.1
MK32				epP	pP	05 38 06.2	+0.3
MKAR	Makanchi Array	95.49	317	P	P	05 37 43.9	+0.1
	1.9nm,0.8s,baz=92,slow=6.0,SNR=5.0						
MKAR				pP	pP	05 38 06.2	+0.3
	1.4nm,0.7s,baz=113,slow=4.2,SNR=3.5						
ZALV	Zalesovo Beam	95.56	324	P	P	05 37 43.8	-0.1
	1.0nm,0.6s,baz=106,slow=5.0,SNR=2.1						
ZAA1	Zalesovo Array	95.56	324	eP	P	05 37 43.8	-0.1
YKA	Yellowknife Ar	96.06	27	P	P	05 37 45.6	-0.3
	0.1nm,0.3s,baz=260,slow=5.1,SNR=3.7						
ARA0	ARCESS Array S	118.28	346	ePKPdf	PKPdf	05 43 04.5	-0.8
ARCES	ARCESS Array B	118.28	346	PKP	PKPdf	05 43 04.5	-0.8
	16nm,1.4s,baz=82,slow=1.6,SNR=9.4						
KEST	Kesra	149.42	322	PKPbc	PKPbc	05 44 08.5	+0.3
	1.4nm,0.6s,baz=99,slow=19,SNR=4.3						
KEST	Kesra	149.42	322	ePKPdf	PKPdf	05 44 04.8	+1.1
ESDC	Sonseca Array	152.01	345	PKPbc	PKPbc	05 44 13.9	-0.3
	0.1nm,0.4s,baz=8.1,slow=5.1,SNR=2.6						
ESDC				PKPab	PKPab	05 44 24.1	+0.5
	0.9nm,0.7s,baz=18,slow=3.9,SNR=5.8						
TORD	Torodi Ar. Bea	165.46	273	PKPab	PKPab	05 45 21.5	-1.2
	0.9nm,0.9s,baz=72,slow=5.7,SNR=5.1						
TOA1	Torodi Ar. Sit	165.47	273	ePKPab	PKPab	05 45 21.5	-1.2

IDC 09 05:25:58.8±1.3, 2°.02S×67°.80E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.7/50, mbtmp3.8/9, MS4.0/2, Ms1 4.0/2, ms1mx3.3/17, Error ellipse: s-maj=38.5km s-min=25.0km az=42.0

ISCJB 09 05:25:59.2±1.3, 2°.0S±0°.2×67°.8E±0°.2, h15km, mb3.9/9, MS4.0/2, Error ellipse: s-maj=35.9km s-min=22.1km az=42.9

ISC 09 05:26:00.9±1.3, 2°.0S±0°.3×67°.8E±0°.2, h15km, n14, σ0s.93/12, mb4.0/9, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	36.81	55	P	P	05 33 09.2	+0.6
	0.9nm,0.3s,baz=243,slow=9.6,SNR=5.9						
LBTB	Lobatse	46.63	237	LR	LR	05 52 06.5	
	comp=Z,238nm,20.7s,baz=63,slow=34						
MKAR	Makanchi Array	50.28	13	P	P	05 34 56.9	+0.1
	0.7nm,0.7s,baz=198,slow=7.8,SNR=7.1						
ZALV	Zalesovo Beam	57.57	12	P	P	05 35 49.2	-0.7
	1.6nm,0.7s,baz=214,slow=7.4,SNR=7.7						
SONM	Songino Array	60.00	29	P	P	05 36 07.6	+0.5
	1.2nm,0.7s,baz=212,slow=7.8,SNR=8.9						
AKASG	Malin Array Be	61.99	333	P	P	05 36 21.0	+0.7
	0.7nm,0.4s,baz=135,slow=7.5,SNR=6.7						
WRA	Warramunga Arr	67.29	111	P	P	05 36 55.7	0.0
	1.2nm,1.0s,baz=284,slow=5.8,SNR=5.6						
ASAR	Alice Springs	67.36	115	P	P	05 36 56.7	+0.6
	0.5nm,0.7s,baz=278,slow=7.4,SNR=4.1						
USRK	Ussuriysk Ar.	73.25	43	LR	LR	06 10 51.4	
	comp=Z,71nm,21.8s,baz=257,slow=37						
KLR	Kul'dur	74.88	38	P	P	05 37 40.0	-1.2
	1.7nm,0.9s,baz=293,slow=5.7,SNR=4.6						
ESDC	Sonseca Array	77.34	311	P	P	05 37 55.5	+0.1
	0.2nm,0.4s,baz=120,slow=7.6,SNR=4.2						
PDAR	Pinedale Array	139.38	357	PKP	PKPdf	05 45 27.6	-0.8
	0.3nm,0.8s,baz=132,slow=2.2,SNR=3.8						
NVAR	Mina Array Bea	143.36	8	PKP	PKPdf	05 45 34.0	-1.7
	0.1nm,0.3s,baz=319,slow=3.7,SNR=2.4						
TXAR	Lajitas Array	151.66	344	PKPbc	PKPbc	05 45 56.8	+1.1
	0.7nm,0.9s,baz=46,slow=2.6,SNR=3.2						

ISK 09 05:26:04.5, 39°.70N×25°.60E, h9km, ML2.4/7

ATH 09 05:26:04.8, 39°.72N×25°.59E, h30km±2km, ML2.5/3, Error ellipse: s-maj=2.7km s-min=1.3km az=235.0

ISCJB 09 05:26:05.3±0.4, 39°.72N±0°.02×25°.61E±0°.03, h10km±3km, Error ellipse: s-maj=3.9km s-min=3.7km az=34.1

THE 09 05:26:05.7, 39°.72N×25°.60E, h13km±1km, ML2.0/6, Error ellipse: s-maj=1.9km s-min=0.8km az=135.0

ISC 09 05:26:04.9±1.0, 39°.71N±0°.02×25°.60E±0°.02, h15km±9km, n29, σ0s.44/52, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.37	300	P	Pb	05 26 13.0	-0.2
LIA				S	Sb	05 26 18.7	-0.1
LIA				AML	AML	05 26 18.9	
	comp=E,313µm,0.3s						
LIA				AML	AML	05 26 19.1	
	comp=N,330µm,0.2s						
LIA	Limnos Island	0.37	300	P	Pb	05 26 13.0	-0.2
LIA				S	Sb	05 26 18.3	-0.5
BOZC	Bozcaada	0.38	70	PG	Pg	05 26 12.8	+0.2
BOZC				SG	Sb	05 26 18.4	-0.6
EFSA	Agios Efstrati	0.50	250	P	Pb	05 26 16.2	+0.8
EFSA				S	Sb	05 26 22.9	+0.4
GADA	Gvkgeada	0.53	26	PG	Pg	05 26 15.4	-0.1
GADA				SG	Sb	05 26 23.2	-0.3
GADA	Gvkgeada	0.53	26	P	Pb	05 26 15.7	-0.3
GADA				S	Sb	05 26 23.6	+0.1
SIGR	SIGRI	0.54	158	PG	Pg	05 26 15.4	-0.2
SIGR				SG	Sg	05 26 22.6	-0.2
SIGR	SIGRI	0.54	158	P	Pg	05 26 15.7	+0.1
SIGR				S	Sb	05 26 23.6	0.0
SIGR				AML	AML	05 26 24.2	
	comp=N,3259µm,0.4s						
SIGR				AML	AML	05 26 24.2	
	comp=E,2862µm,0.5s						
SIGR	SIGRI	0.54	158	P	Pg	05 26 15.6	+0.1
SIGR				S	Sb	05 26 23.6	0.0
EZN	Ezine	0.57	78	PG	Pb	05 26 16.4	-0.3
EZN				SG	Sg	05 26 24.1	+0.2
EZN	Ezine	0.57	78	P	Pb	05 26 16.4	-0.3
EZN				S	Sb	05 26 24.4	-0.3
PRK	Paraskevi	0.70	131	P	Pn	05 26 19.9	-0.4
PRK				S	Sb	05 26 29.7	+1.4
PRK				AML	AML	05 26 32.2	
	comp=E,1007µm,0.5s						
PRK				AML	AML	05 26 33.5	
	comp=N,839µm,0.4s						
PRK	Paraskevi	0.70	131	P	Pn	05 26 20.0	-0.3
PRK				S	Sn	05 26 30.2	-0.7
SMTH	Samothraki Isl	0.76	356	P	Pb	05 26 20.0	+0.1
SMTH				S	Sb	05 26 30.4	+0.4
SMTH	Samothraki Isl	0.76	356	P	Pb	05 26 20.4	+0.5
SMTH				S	Sb	05 26 31.1	+1.0
GELI	Tayfur-Gelibol	0.96	44	PG	Pn	05 26 23.7	-0.2
GELI				SG	Sn	05 26 37.3	0.0
ENEZ	Enez	1.11	22	PN	Pg	05 26 26.4	+0.1
ENEZ				SN	Sn	05 26 41.9	+0.9
LPK	Lapseki	1.11	53	PN	Pg	05 26 26.4	0.0
LPK				SN	Sn	05 26 41.9	+0.9
THAS	Thassos island	1.12	323	P	Pg	05 26 26.5	+0.1
THAS				S	Sg	05 26 40.8	-0.3
THAS	Thassos island	1.12	323	P	Pg	05 26 26.6	+0.1
THAS				S	Sg	05 26 40.8	-0.3
ERIK	Erikli-Kesan	1.19	36	PN	Pg	05 26 27.6	-0.3
DKL	Dikili	1.20	122	PN	Pg	05 26 27.9	-0.2
DKL				SN	Sg	05 26 44.5	+0.8
ALN	Alexandroupoli	1.23	16	PN	Pb	05 26 27.8	-0.1
ALN	Alexandroupoli	1.23	16	P	Pn	05 26 27.5	-0.1
ALN				S	Sn	05 26 44.0	-0.1
ALN	Alexandroupoli	1.23	16	P	Pb	05 26 27.8	-0.1
ALN				S	Sb	05 26 43.5	-0.2
CHOS	Chios island	1.37	165	PN	Pb	05 26 30.1	-0.2
CHOS	Chios island	1.37	165	P	Pn	05 26 29.4	-0.2
KRBG	Karabiga-Canak	1.47	62	PN	Pb	05 26 32.5	+0.5
PAIG	Paliouri	1.49	279	P	Pb	05 26 31.9	-0.4

BJI 09 05:26:55.5, 2°.66S×67°.34E, h10km, mb5.0/55, mB5.2/41, Ms4.8/32, Ms7 4.6/27

MOS 09 05:27:02.7±1.0, 1°.88S×67°.94E, h10km, mb5.1/44, Error ellipse: s-maj=9.1km s-min=5.5km az=75.5

IDC 09 05:27:02.6±0.4, 1°.96S×67°.98E, h0km, mb4.6/30, mb1 4.7/31, mb1mx4.6/49, mbtmp4.6/31, ML4.0/1, MS4.1/9, Ms1 4.1/9, ms1mx3.9/19, Error ellipse: s-maj=13.3km s-min=11.0km az=164.0

ISCJB 09 05:27:03.2±1.3, 1°.94S±0°.04×67°.89E±0°.03, h13km±8km, mb4.8/117, MS4.3/17, Error ellipse: s-maj=6.6km s-min=5.6km az=172.2

NEIC 09 05:27:04.2±0.2, 1°.97S×67°.99E, h10km, mb5.0/40, Error ellipse: s-maj=4.8km s-min=4.4km az=154.0

GCMT 09 05:27:05.2±0.2, 2°.02S±0°.02×67°.95E±0°.02, h12km, MW5.0/93, Moment Tensor Solution. s37,c40; s93,c143; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.40±.09; $M_{\theta\theta}$1.76±.09; $M_{\phi\phi}$1.64±.09; $M_{r\theta}$0.61±.34; $M_{\theta\phi}$-1.89±.07; $M_{\phi r}$-0.45±.35; Best double couple: $M_0$3.57600×10^{16} NP1:ϕ_s312.00000°,δ51.00000°,λ-92.00000°. NP2: ϕ_s136.00000°,δ39.00000°,λ-87.00000°. Principal axes: T 3.6690, Plg6.0000°, Azm44.0000°; N -0.1880, Plg2.0000°, Azm314.0000°; P -3.4820, Plg84.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 09 05:27:06.5±1.6, 1°.99S±0°.06×67°.93E±0°.06, h25km±11km, n321, σ1s.22/331, mb4.9/126, MS4.5/17, 5C-6D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.28	145	T	T	05 33 51.4	
	baz=325,slow=75,SNR=465						
H08N3	Diego Garcia H	5.29	145	T	T	05 33 48.1	
	baz=325,slow=75,SNR=564						
H08N1	Diego Carcia H	5.30	145	T	T	05 33 43.3	
	baz=325,slow=75,SNR=553						
DGAR	Diego Garcia	7.02	140	ePn	Pn	05 28 44.9	-2.9
DGAR	Diego Garcia	7.02	140	eP	Pn	05 28 44.9	-2.9
PALK	Pallekele	15.72	54	Pn	Pn	05 30 46.7	+0.2
	0.6nm,0.3s,baz=285,slow=0.5,SNR=2.9						
PALK				LR	LR	05 35 27.0	
	comp=Z,2µm,19.7s,baz=293,slow=32						
MRIV	Mauritius Mete	20.86	209	eP	P	05 31 46.9	+0.1
	9.5nm,1.0s						
POO	Poona	21.21	16	ex	P	05 31 50.0	-0.6
HYB	Hyderabad	21.95	28	i P	P	05 31 59.0	+0.5
	71nm,1.2s						
OPO	Ambohidratompo	26.17	230	P	P	05 32 40.1	+0.6
	4.9nm,0.8s,baz=76,slow=17,SNR=3.9						
OPO				LR	LR	05 40 40.4	
	comp=Z,1µm,19.3s,baz=28,slow=31						
ABPO	Ambohimpanom	26.41	229	eP	P	05 32 42.1	+0.5
	4.1nm,0.8s						
ABPO	Ambohimpanom	26.41	229	eP	P	05 32 42.1	+0.5
ABPO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WSAR	Wadi Sarin	26.67	341	LR	LR	05 41 39.4	
	comp=Z,252nm,18.1s,baz=174,slow=33						
ATD	Arta Tunnel	28.33	299	LR	LR	05 41 54.1	
	comp=Z,232nm,21.3s,baz=104,slow=31						
KCSI	Kotacane, Aceh	30.32	80	P	P	05 33 19.7	+3.3
KMBO	Kilima Mbogo	30.68	271	P	P	05 33 19.2	-0.7
	comp=Z,5.5nm,0.8s,baz=64,slow=12,SNR=11						
KMBO				LR	LR	05 44 25.2	
	comp=Z,307nm,19.6s,baz=90,slow=34						
KMBO	Kilima Mbogo	30.68	271	eP	P	05 33 19.9	0.0
KMBO				epP	P	05 33 21.3	+1.4
KMBO	Kilima Mbogo	30.68	271	i P	P	05 33 21.8	+1.9
KMBO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SISI	Saibi	31.15	89	P	P	05 33 26.1	+2.4
PSI	Prapat	31.34	81	P	P	05 33 25.4	-0.1
	comp=Z,9.2nm,0.8s,baz=357,slow=2.0,SNR=5.2						
PSI	Prapat	31.34	81	eP	P	05 33 25.1	-0.5
	comp=Z,11nm,1.0s						
PSI	Prapat	31.34	81	eP	P	05 33 25.1	-0.5
PSI				pmax	pmax		
	comp=Z,11nm,1.0s						
MNSI	Mandailing Nat	31.76	85	P	P	05 33 31.4	+2.3
PKDT	Phuket	31.87	72	P	P	05 33 32.5	+2.4
	comp=Z,5.8nm,0.7s,comp=Z,785nm						
PDSI	Padang	32.53	89	P	P	05 33 37.2	+1.3
TRTT	Trang	33.15	72	P	P	05 33 42.7	+1.4
	comp=Z,9.2nm,1.3s						
BKNI	Bangkinang	33.18	86	eP	P	05 33 40.8	-0.7
	comp=Z,112nm,1.1s						
BKNI	Bangkinang	33.18	86	P	P	05 33 43.1	+1.5
KOLN	Koldanda	33.21	26	eP	P	05 33 42.5	+0.6
	comp=Z,80nm,1.1s						
PYUN	Piuthan	33.24	25	eP	P	05 33 42.5	+0.4
	comp=Z,64nm,1.1s						
KULM	Kulim	33.47	77	eP	P	05 33 44.4	+0.3
	comp=Z,80nm,1.1s						
IPM	Ipoh	33.69	79	eP	P	05 33 45.6	-0.4
	comp=Z,35nm,1.1s						
DMN	Daman	33.76	28	eP	P	05 33 47.5	+0.8
	comp=Z,102nm,1.0s						
DANN	Dangsing	33.78	26	eP	P	05 33 47.3	+0.4
	comp=Z,101nm,1.2s						
PKIN	Phulchoki	33.87	29	eP	P	05 33 48.0	+0.3
RAMN	Ramite	33.94	31	eP	P	05 33 49.3	+1.0
	comp=Z,65nm,1.1s						
KKN	Kakani	33.99	28	eP	P	05 33 49.5	+0.8
	comp=Z,70nm,1.0s						
ODAN	Odare	34.28	32	eP	P	05 33 52.3	+1.1
	comp=Z,106nm,1.2s						
JIRN	Jiri	34.32	30	eP	P	05 33 52.2	+0.5
	comp=Z,81nm,1.1s						
GUN	Gumba	34.38	29	eP	P	05 33 53.0	+0.8
	comp=Z,136nm,1.1s						
PHET	Kaeng Krachan	34.77	64	P	P	05 33 57.6	+2.3
	comp=Z,9.2nm,1.1s						
SRDT	SRDT	34.90	61	P	P	05 33 58.7	+2.2
	comp=Z,27nm,1.4s,comp=Z,1µm						
UMPA	Umpang Tak	35.50	58	P	P	05 34 02.9	+1.2
	comp=Z,15nm,1.1s,comp=Z,2µm						
LHSI	Lahat	35.59	94	P	P	05 34 02.9	+0.5
UTHA	Uthaitani	35.71	60	P	P	05 34 05.1	+1.7
	comp=Z,8.7nm,1.2s,comp=Z,86nm						
NIL	Nilore	35.80	8	eP	P	05 34 04.2	+0.2
	comp=Z,38nm,1.0s						
NIL	Nilore	35.80	8	eP	P	05 34 04.3	+0.2
NIL				pmax	pmax		
	comp=Z,38nm,1.0s						
SHL	Shillong	35.89	39	eP	P	05 34 04.6	-0.5
	comp=Z,43nm,1.1s						
SHL	Shillong	35.89	39	eP	P	05 34 04.6	-0.5
SHL				pmax	pmax		
	comp=Z,43nm,1.1s						
MYKOM	Kota Tinggi	36.10	84	eP	P	05 34 06.4	-0.5
	comp=Z,11nm,1.0s						
MDSI	Maura Dua	36.27	95	P	P	05 34 10.7	+2.5
	comp=Z,33nm,1.3s						
KASI	Kota Agung	36.65	97	P	P	05 34 16.0	+4.5
	comp=Z,110nm,1.2s						
CM01	Chiang Mai Arr	36.66	55	eP	P	05 34 11.2	-0.3
CM31	Chiang Mai Arr	36.66	55	eP	P	05 34 11.0	-0.6
CMAR	Chiang Mai Arr	36.66	55	P	P	05 34 12.5	+1.0
	comp=Z,9.0nm,0.9s,baz=246,slow=10,SNR=46						
CMAR				PcP	PcP	05 36 34.2	-0.1
	comp=Z,1.1nm,0.3s,baz=249,slow=4.7,SNR=3.6						
SUKH	Sukhothai	36.75	57	P	P	05 34 14.1	+1.8
	comp=Z,7.5nm,1.2s						
CHTO	Chiang Mai	36.84	54	eP	P	05 34 13.1	0.0
	comp=Z,38nm,1.1s						
CHTO	Chiang Mai	36.84	54	eP	P	05 34 13.1	0.0
CHTO				pmax	pmax		
	comp=Z,38nm,1.1s						
CHTO	Chiang Mai	36.84	54	P	P	05 34 13.9	+0.8
	comp=Z,148nm,1.2s,comp=Z,2µm						
CMMT	Chiang Mai	36.84	54	P	P	05 34 13.9	+0.8
	comp=Z,33nm,1.2s,comp=Z,540nm						
MBAR	Mbarara	37.21	272	P	P	05 34 19.4	+2.9
	comp=Z,4.6nm,0.2s,baz=67,slow=7.7,SNR=7.4						
MBAR				LR	LR	05 46 45.6	
	comp=Z,181nm,21.6s,baz=88,slow=32						
MBAR	Mbarara	37.21	272	eP	P	05 34 17.2	+0.7

comp=Z,16nm,1.1s
MBAR Mbarara 37.21 272 *e*P **P** **05 34 17.2 +0.7**
MBAR pmax pmax
comp=Z,16nm,1.1s
SRAK Srakaew 37.36 64 P P 05 34 24.8 +7.3
PBKT Sadao Pong 37.47 59 *e*P **P** **05 34 18.9 +0.5**
comp=Z,47nm,1.2s
PBKT Sadao Pong 37.47 59 P **P** **05 34 19.7 +1.3**
comp=Z,39nm,1.2s
CHAI Chaiyaphum 38.06 61 P **P** **05 34 24.8 +1.3**
comp=Z,20nm,1.1s,comp=Z,568nm
LSA Lhasa 38.55 33 *e*P **P** **05 34 28.0 +0.1**
comp=Z,25nm,1.1s
LSA Lhasa 38.55 33 *e*P **P** **05 34 28.0 +0.1**
LSA pmax pmax
comp=Z,25nm,1.1s
LEM Lembang 39.84 98 P **P** **05 34 38.2 -0.4**
comp=Z,46nm,0.8s,baz=298,slow=1.4,SNR=6.0
NONG Nongkai 39.99 59 P **P** **05 34 40.6 +1.0**
comp=Z,0.8nm,1.2s
SKNT Sakolnakorn 40.25 61 P **P** **05 34 43.4 +1.7**
comp=Z,21nm,1.8s
CHGR Chuyangaron 40.47 1 *e*P **P** **05 34 43.3 0.0**
GEYT Alibeck 40.75 348 P **P** **05 34 45.9 +0.3**
comp=Z,6.9nm,1.0s,baz=123,slow=5.5,SNR=6.7
GYA0B ALIBECK ARRAY 40.75 348 *e*P **P** **05 34 43.3 -2.3**
comp=Z,10nm,1.1s
GAR Garm 40.85 3 *e*P **P** **05 34 46.3 -0.2**
comp=Z,33nm,1.0s
GAR Garm 40.85 3 *e*P **P** **05 34 46.3 -0.2**
GAR pmax pmax
comp=Z,33nm,1.0s
LSZ Lusaka 41.35 249 P **P** **05 34 51.6 +0.6**
comp=Z,10nm,0.7s,baz=71,slow=6.2,SNR=21
LSZ LR LR 05 50 00.5
comp=Z,749nm,18.2s,baz=88,slow=33
LSZ Lusaka 41.35 249 *e*P **P** **05 34 51.6 +0.6**
comp=Z,26nm,1.1s
LSZ Lusaka 41.35 249 *e*P **P** **05 34 51.6 +0.6**
LSZ pmax pmax
comp=Z,27nm,1.1s
BTK Batken 41.93 3 *e*P **P** **05 34 55.7 +0.4**
comp=Z,26nm,1.1s
BTK Batken 41.93 3 *e*P **P** **05 34 55.7 +0.4**
BTK pmax pmax
comp=Z,26nm,1.1s
KSH Kashi 41.96 9 P **P** **05 34 51.0 -4.7**
KSH sP pP 05 34 57.6 -4.5
KSH PcP **PcP** **05 36 50.5 -0.3**
KSH PcS **PcS** **05 40 36.4 -6.1**
KSH S S 05 41 03.6 -9.4
KSH ScS **ScS** **05 44 49.9 -7.2**
KSH pmax pmax
comp=Z,20nm,0.9s
KSH pmax pmax
comp=Z,540nm,6.1s
KSH LR LR
comp=Z,250nm,7.2s
KSH LR LR
comp=Z,310nm,5.6s
KSH LR LR
comp=Z,590nm,7.6s
SFK Sufi-Kurgan 42.11 6 P **P** **05 34 57.5 +0.5**
SFK pmax pmax
comp=Z,7.0nm,1.3s
MATP Matopo 42.61 242 P **P** **05 35 02.0 +0.7**
comp=Z,14nm,1.1s,baz=54,slow=9.6,SNR=9.2
KMI Kunming 43.17 49 P **P** **05 35 07.0 +1.1**
KMI pP pP 05 35 10.0 -2.4
KMI S **S** **05 41 31.6 +0.1**
KMI pmax pmax
comp=Z,24nm,0.9s
KMI pmax pmax
comp=Z,190nm,3.7s
KMI LR LR
comp=Z,280nm,15.6s
KMI LR LR
comp=Z,370nm,16.1s
ARSB Arslanbob 43.36 6 *e*P **P** **05 35 06.9 -0.1**
comp=Z,11nm,1.1s
STKI Sintang 43.58 88 P **P** **05 35 13.3 +4.2**
NRN Naryn 43.84 9 *e*P **P** **05 35 11.1 0.0**
comp=Z,20nm,1.1s
NRN Naryn 43.84 9 *e*P **P** **05 35 11.1 0.0**
NRN pmax pmax
comp=Z,21nm,1.1s
KZA Kyzart 44.37 8 P **P** **05 35 16.4 +1.0**
SNR=35
UCH Uchtor 44.42 7 P **P** **05 35 17.0 +1.1**
SNR=9.5
KDJ Kajisay 44.71 10 *e*P **P** **05 35 18.5 +0.6**
comp=Z,46nm,1.1s
KDJ Kajisay 44.71 10 *e*P **P** **05 35 18.5 +0.6**
KDJ pmax pmax
comp=Z,46nm,1.1s
EKS2 Erkin-Say 44.76 6 P **P** **05 35 19.9 +1.6**
SNR=22
AAK Ala-Archa 44.82 7 P **P** **05 35 19.5 +0.8**
comp=Z,13nm,1.1s,baz=178,slow=8.2,SNR=17
AAK Ala-Archa 44.82 7 P **P** **05 35 20.0 +1.3**
SNR=14
AAK Ala-Archa 44.82 7 *e*P **P** **05 35 19.0 +0.3**
comp=Z,14nm,1.1s
AAK *e*P **P** **05 35 19.5 +0.8**
AAK Ala-Archa 44.82 7*d* *i*P **P** **05 35 19.3 +0.6**
AAK pmax pmax
comp=Z,32nm,1.7s
KBK Karagaybulak 44.89 7 P **P** **05 35 20.2 +0.9**
SNR=23
KK31 Karatay Array 44.95 3 *e*P **P** **05 35 19.1 -0.5**
KK31 Karatay Array 44.95 3 *e*P **P** **05 35 19.1 -0.5**
KKAR Karatay Array 44.95 3 *e*P **P** **05 35 19.2 -0.4**
KKAR Karatay Array 44.95 3 *e*P **P** **05 35 19.2 -0.4**
FRU Bishkek 45.03 7 *e*P **P** **05 35 20.0 -0.2**
FRU pmax pmax
comp=Z,47nm,1.9s
CHMS Chumysh 45.21 7 P **P** **05 35 22.1 +0.5**
SNR=5.3
TKM2 Tokmak 2 45.24 8 P **P** **05 35 22.5 +0.4**
SNR=27
TKM2 Tokmak 2 45.24 8 P **P** **05 35 22.3 +0.2**
TKM2 pmax pmax
comp=Z,46nm,1.2s
QIZ Qiongzhong 46.18 61 P **P** **05 35 29.2 -0.5**
QIZ S **S** **05 42 15.8 +1.0**
QIZ LR LR
comp=Z,400nm,15.3s
PDGK Podgornoye 46.30 12 P **P** **05 35 30.1 -0.3**
PDGK pmax pmax
comp=Z,31nm,1.4s
GYA Guiyang 46.88 50 P **P** **05 35 37.0 +1.8**
GYA pmax pmax
comp=Z,20nm,0.9s
AKT Akhty 47.01 339 *i* P **P** **05 35 35.9 0.0**
AKT pmax pmax
comp=Z,18nm,1.1s
CD2 Chengdu 47.25 43 *e*P **P** **05 35 38.0 +0.1**
CD2 S **S** **05 42 31.9 +2.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,290nm,10.4s
CD2 LR LR
comp=Z,560nm,11.9s
CD2 LR LR
comp=Z,270nm,13.4s
BOSA Boshof 48.51 233 P **P** **05 35 48.1 +0.2**
comp=Z,7.1nm,0.9s,baz=62,slow=7.9,SNR=11
KKM Kota Kinabalu 48.87 80 *e*P **P** **05 35 50.6 -0.2**
comp=Z,25nm,1.0s
WMQ Urumqi 48.93 19 P **P** **05 35 51.4 +0.6**
WMQ pP pP 05 35 56.4 -1.0
WMQ sP pwP 05 36 01.1 -0.6
WMQ S **S** **05 42 53.2 -0.2**
WMQ ScS **ScS** **05 45 38.9 -2.7**
WMQ pmax pmax
comp=Z,47nm,1.3s
WMQ pmax pmax
comp=Z,440nm,3.7s
WMQ LR LR
comp=Z,1μm,16.3s
WMQ LR LR
comp=Z,910nm,16.5s
WMQ LR LR

comp=Z,810nm,25.3s
WMQ Urumqi 48.93 19 *e*P **P** **05 35 50.3 -0.4**
comp=Z,14nm,0.9s
WMQ Urumqi 48.93 19 *e*P **P** **05 35 50.3 -0.4**
WMQ pmax pmax
comp=Z,14nm,0.9s
MAKZ Makanchi 50.15 13 *e*P **P** **05 35 59.1 -0.8**
comp=Z,20nm,1.0s
MAKZ Makanchi 50.15 13 *e*P **P** **05 35 59.1 -0.8**
MAKZ pmax pmax
comp=Z,20nm,1.0s
MK01 Makanchi Array 50.18 13 *e*P **P** **05 35 59.0 -1.2**
OTUK Ortayu 50.18 4 P **P** **05 36 00.4 +0.3**
OTUK pmax pmax
comp=Z,8.0nm,1.5s
MK31 Makanchi Array 50.20 13 *e*P **P** **05 35 59.7 -0.6**
MK31 Makanchi Array 50.20 13 *e*P **P** **05 35 59.7 -0.6**
MK32 Makanchi Array 50.20 13 *e*P **P** **05 35 59.7 -0.6**
MK32 *e*PcP **PcP** **05 37 19.3 0.0**
MKAR Makanchi Array 50.20 13 P **P** **05 35 59.7 -0.6**
comp=Z,6.8nm,0.8s,baz=195,slow=7.5,SNR=42
MKAR PcP **PcP** **05 37 19.3 0.0**
comp=Z,3.7nm,1.0s,baz=210,slow=7.0,SNR=4.9
MKAR Makanchi Array 50.20 13 *e*P **P** **05 35 59.7 -0.6**
comp=Z,51nm,0.9s
MKAR PcP **PcP** **05 37 19.3 0.0**
MKAR Makanchi Array 50.20 13 *e*P **P** **05 35 59.7 -0.6**
MKAR 05 37 19.3
MKAR pmax pmax
comp=Z,51nm,0.9s
GTA Gaotai 50.53 32 P **P** **05 36 02.8 -0.3**
GTA pP pP 05 36 07.3 -2.5
GTA sP sP 05 36 09.8 -2.7
GTA PcP **PcP** **05 37 21.2 +0.3**
GTA S **S** **05 43 15.7 -0.4**
GTA SS **SS** **05 46 51.0 +0.5**
GTA pmax pmax
comp=Z,7.0nm,1.3s
GTA pmax pmax
comp=Z,110nm,4.8s
GTA LR LR
comp=Z,370nm,21.6s
GTA LR LR
comp=Z,300nm,19.7s
GTA LR LR
comp=Z,690nm,22.8s
LZH Lanzhou 50.55 38 *e*P **P** **05 36 03.7 +0.4**
LZH pP pP 05 36 07.4 -2.7
LZH sP sP 05 36 09.8 -2.7
LZH PcP **PcP** **05 37 19.9 -1.1**
LZH PP **PP** **05 38 02.4 +3.0**
LZH *e*S **S** **05 43 15.0 -1.4**
LZH SS **SS** **05 46 50.2 -0.7**
LZH pmax pmax
comp=Z,33nm,1.3s
LZH pmax pmax
comp=Z,170nm,4.6s
LZH LR LR
comp=Z,1μm,13.0s
LZH LR LR
comp=Z,2μm,13.8s
LZH LR LR
comp=Z,2μm,16.0s
KBZ Khabaz 50.76 337 P **P** **05 36 05.2 +0.8**
comp=Z,7.6nm,1.0s,baz=134,slow=5.5,SNR=7.7
ENH Enshi 50.97 48 *e*P **P** **05 36 05.7 -0.8**
comp=Z,65nm,1.1s
KIV Kislovodsk 51.03 337 *e*P **P** **05 36 04.9 -1.8**
KIV pmax pmax
comp=Z,8.0nm,1.1s
MLR MLR
comp=Z,59nm,16.0s
AB31 Akbulak array 51.51 353 *i* P **P** **05 36 09.2 -0.9**
AB31 pmax pmax
comp=Z,8.0nm,1.1s
ABKAR Akbulak array 51.51 353 *e*P **P** **05 36 09.5 -0.6**
MPSI Mapaga 52.01 88 P **P** **05 36 15.3 +0.9**
comp=Z,36nm,1.2s
BR101 Keskin Array S 52.06 327 *e*P **P** **05 36 13.8 -0.9**
BRTR Keskin Array B 52.06 327 P **P** **05 36 13.8 -0.9**
comp=Z,2.5nm,1.1s,baz=161,slow=12,SNR=5.1
BRTR Keskin Array B 52.06 327 *i* P **P** **05 36 14.5 -0.1**
BRTR pmax pmax
comp=Z,3.0nm,1.1s
XAN Xi'an 52.61 43 P **P** **05 36 18.0 -0.7**
XAN pP pwP 05 36 27.7 -2.0
XAN pmax pmax
comp=Z,39nm,1.0s
XAN pmax pmax
comp=Z,210nm,3.6s
XAN Xi'an 52.61 43 *e*P **P** **05 36 17.9 -0.7**
comp=Z,80nm,1.1s
XAN Xi'an 52.61 43 *e*P **P** **05 36 17.9 -0.7**
XAN pmax pmax
comp=Z,80nm,1.1s
AKTO Aktyubinsk 52.91 352 LR LR 05 57 54.1
comp=Z,105nm,21.1s,baz=157,slow=35
AKTO Aktyubinsk 52.91 352 P **P** **05 36 18.8 -1.7**
AKTO pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 53.30 8 *e*P **P** **05 36 22.6 -0.7**
comp=Z,27nm,1.0s
KURK Kurchatov 53.30 8*d* *i*P **P** **05 36 22.8 -0.5**
KURK pmax pmax
comp=Z,51nm,1.7s
MRSI Marisa 54.05 88 P **P** **05 36 29.8 +0.3**
comp=Z,13nm,1.1s,comp=Z,650nm
DGZ Jazzator, Alta 54.17 16*d* *i*P **P** **05 36 29.6 -0.3**
DGZ pmax pmax
comp=Z,12nm,1.3s
BRVK Borovoye 54.89 2 *e*P **P** **05 36 34.6 -0.3**
comp=Z,4.6nm,0.9s
BRVK Borovoye 54.89 2 *i* P **P** **05 36 34.3 -0.6**
BRVK pmax pmax
comp=Z,5.0nm,1.1s
ZAA0 Zalesovo Array 57.49 12 *e*P **P** **05 36 52.4 -1.0**
comp=Z,32nm,1.1s
ZALV Zalesovo Beam 57.49 12 P **P** **05 36 52.4 -1.0**
comp=Z,15nm,0.8s,baz=219,slow=7.7,SNR=50
ZALV Zalesovo Beam 57.49 12 *e*P **P** **05 36 52.2 -1.2**
ZALV Zalesovo Beam 57.49 12 *e*P **P** **05 36 52.2 -1.2**
ZAA1 Zalesovo Array 57.50 12 *e*P **P** **05 36 52.4 -1.1**
VRH Novokhopyorsk 57.50 341 *e*P **P** **05 36 52.7 -0.9**
VRH pmax pmax
comp=Z,9.0nm,0.4s
NVS Novosibirsk 58.03 10⇑ *i*P **P** **05 36 57.0 -0.2**
NVS pmax pmax
comp=Z,22nm,1.0s
NVS pmax pmax
comp=N,16nm,1.1s
HHC Hu-ho-hao-te 58.25 38 *e*P **P** **05 36 59.8 +0.6**
HHC sP pwP 05 37 10.4 0.0
HHC S **S** **05 45 00.4 +0.5**
HHC SS **SS** **05 48 59.2 +7.0**
HHC pmax pmax
comp=N,20nm,1.0s
HHC pmax pmax
comp=N,170nm,4.8s
HHC LR LR
comp=N,240nm,13.9s
HHC LR LR
comp=N,230nm,16.6s
HHC LR LR
comp=N,210nm,15.7s
VSR Storozhevoye 58.39 339 *e*P **P** **05 36 58.0 -1.8**
VSR pmax pmax
comp=Z,20nm,0.9s
ARU Arti 58.73 354 *e*P **P** **05 37 01.7 -0.4**
comp=Z,14nm,1.0s
ARU Arti 58.73 354*d* *i*P **P** **05 37 01.4 -0.7**
ARU S **S** **05 45 08.1 +2.7**
ARU SS **SS** **05 48 58.9 0.0**
ARU pmax pmax
comp=Z,15nm,1.0s
FITZ Fitzroy Crossi 58.77 110 P **P** **05 37 02.1 -0.9**
comp=Z,12nm,1.1s,baz=241,slow=3.4,SNR=5.5
FITZ Fitzroy Crossi 58.77 110 *e*P **P** **05 37 02.2 -0.9**
comp=Z,4.7nm,1.1s
NJ2 Nanjing 58.88 50 *e*P **P** **05 37 02.6 -1.0**
NJ2 pmax pmax
comp=Z,24nm,0.8s
LPSR Galich'ya Gora 59.62 340 *e*P **P** **05 37 07.2 -1.1**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
SONA0 Songino Array 59.89 29 *e*P **P** **05 37 10.9 +0.4**

SONM Songino Array 59.89 29 P **P** **05 37 10.9 +0.4**
comp=Z,17nm,1.0s,baz=223,slow=6.9,SNR=55
SONA1 Songino Array 59.90 29 *e*P **P** **05 37 10.6 0.0**
ULN Ulaanbaatar 60.23 29 *e*P **P** **05 37 12.3 -0.5**
comp=Z,5.4nm,1.1s
ULN Ulaanbaatar 60.23 29*c* *e*P **P** **05 37 12.8 0.0**
ULN pmax pmax
comp=Z,18nm,1.7s
ZAK Zakamensk 60.31 25 *e*P **P** **05 37 12.2 -1.0**
ZAK pmax pmax
comp=Z,7.0nm,1.3s
MOY Mondy 60.35 23 *e*P **P** **05 37 13.4 -0.2**
MOY pmax pmax
comp=Z,13nm,1.5s
BJT Baijiatuau 60.72 41 *e*P **P** **05 37 16.1 0.0**
BJT Baijiatuau 60.72 41 *e*P **P** **05 37 16.1 0.0**
BJI Beijing 60.73 41 P **P** **05 37 16.3 +0.1**
BJI pmax pmax
comp=Z,14nm,1.2s
AKASG Malin Array Be 62.01 333 P **P** **05 37 23.2 -1.5**
comp=Z,0.6nm,0.4s,baz=134,slow=5.5,SNR=5.0
SIJI Sorong 63.32 90 LR LR 06 05 02.4
comp=Z,57nm,18.8s,baz=216,slow=36
FAKI Fak Fak 64.25 92 *e*P **P** **05 37 37.9 -2.4**
comp=Z,13nm,1.0s
FAKI Fak Fak 64.25 92 P **P** **05 37 41.6 +1.3**
comp=Z,18nm,1.4s
MAW Mawson 65.58 182 P **P** **05 37 50.1 +2.3**
comp=Z,10.0nm,0.5s,baz=90,slow=5.1,SNR=14
PRGR Permogore 65.72 349 *e*P **P** **05 37 46.9 -1.9**
PRGR pmax pmax
comp=Z,19nm,1.3s
KLMR Klimovskoe 66.41 345 *e*P **P** **05 37 50.6 -2.7**
KLMR pmax pmax
comp=Z,25nm,1.1s
KLMR Klimovskoe 66.41 345 *e*P **P** **05 37 50.6 -2.7**
KLMR AMP 05 37 53.8
comp=Z,25nm,1.1s
WR1 Warramunga Arr 67.17 111 *e*P **P** **05 37 58.9 -0.1**
WRA Warramunga Arr 67.17 111 P **P** **05 37 58.9 -0.1**
comp=Z,10nm,1.0s,baz=283,slow=5.9,SNR=34
WRAB Tennant Creek 67.18 111 *e*P **P** **05 37 58.7 -0.3**
comp=Z,16nm,1.0s
WRAB Tennant Creek 67.18 111*c* *e*P **P** **05 37 58.0 -1.0**
WRAB pmax pmax
comp=Z,21nm,1.3s
WB2 Warramunga Arr 67.18 111 *e*P **P** **05 37 58.8 -0.3**
ASAR Alice Springs 67.24 115 P **P** **05 37 59.5 0.0**
comp=Z,6.1nm,1.0s,baz=281,slow=5.9,SNR=23
AS31 Alice Springs 67.24 115 *e*P **P** **05 37 58.5 -0.9**
AS01 Alice Springs 67.28 115 *e*P **P** **05 37 59.1 -0.5**
TORD Torodi Ar. Sit 67.39 285 *e*P **P** **05 38 01.0 +0.6**
TORD Torodi Ar. Bea 67.39 285 P **P** **05 38 02.2 +1.8**
comp=Z,2.8nm,1.1s,baz=107,slow=7.5,SNR=9.2
TOA1 Torodi Ar. Sit 67.39 285 *e*P **P** **05 38 02.2 +1.7**
HIA Hailar 67.75 34 *e*P **P** **05 38 01.5 -0.6**
comp=Z,13nm,0.9s
HIA Hailar 67.75 34 *e*P **P** **05 38 01.5 -0.6**
HIA pmax pmax
comp=Z,13nm,0.9s
KSAR Wonju Array Be 67.83 48 P **P** **05 38 02.6 -0.1**
KSAR Wonju Array Be 67.83 48 P **P** **05 38 02.7 -0.1**
KS01 Wonju Array Si 67.85 48 *e*P **P** **05 38 01.4 -1.5**
KSRS Korea Array 67.86 48 P **P** **05 38 02.6 -0.3**
comp=Z,4.4nm,0.9s,baz=249,slow=8.2,SNR=9.3
CN2 Changchun 68.60 41 *e*P **P** **05 38 09.5 +2.0**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
GERES GERESS Array B 68.90 325 P **P** **05 38 10.1 +0.7**
comp=Z,0.1nm,0.3s,baz=146,slow=11,SNR=3.0
CLL Collm 70.52 327 *i* P **P** **05 38 18.9 -0.3**
comp=Z,7.0nm,1.1s
CLL *e* 05 38 31.0
CLL Collm 70.52 327 *i* P **P** **05 38 18.9 -0.3**
CLL pmax pmax
comp=Z,9.0nm,1.1s
FIA0 FINESS Array S 70.89 340 *e*P **P** **05 38 21.7 +0.4**
FIA0 FINESS Array S 70.89 340 *e*P **P** **05 38 21.7 +0.4**
FINES FINESS Array B 70.89 340 P **P** **05 38 21.7 +0.5**
comp=Z,7.7nm,1.0s,baz=162,slow=14,SNR=5.3
MDJ Mudanjiang 71.66 41 *e*P **P** **05 38 26.6 +0.4**
comp=Z,25nm,1.1s
SENIN Lac Senin/Sane 71.67 321 *e*P **P** **05 38 26.1 -0.5**
comp=Z,4.8nm,1.0s
KIC Kosan Boka 73.02 277 *e*P **P** **05 38 36.1 +1.1**
comp=Z,21nm,1.0s
USRK Ussuriysk Ar. 73.11 43 P **P** **05 38 33.5 -1.5**
comp=Z,3.4nm,0.8s,baz=243,slow=6.2,SNR=5.2
DBIC Dimbokro 73.16 278 P **P** **05 38 35.9 +0.1**
comp=Z,4.1nm,0.8s,baz=82,slow=5.9,SNR=4.4
DBIC Dimbokro 73.16 278 *e*P **P** **05 38 35.9 +0.1**
comp=Z,5.8nm,0.9s
DBIC Dimbokro 73.16 278 *e*P **P** **05 38 35.9 +0.1**
DBIC pmax pmax
comp=Z,6.0nm,0.9s
LIC Lamto 73.30 277 *e*P **P** **05 38 39.0 +2.4**
comp=Z,34nm,1.3s
TIC Toumodi 73.32 277 *e*P **P** **05 38 37.8 +1.0**
APA Apatity 73.50 347⇓ *i*P P 05 38 22.5 -14
APA pmax pmax
comp=Z,4.0nm,1.0s
APA MLR MLR
comp=Z,900nm,17.0s
ZEA Zeya 74.03 32 *e*P **P** **05 38 39.9 -0.2**
ZEA pmax pmax
comp=Z,28nm,1.2s
KLR Kul'dur 74.75 38 P **P** **05 38 43.8 -0.6**
comp=Z,9.6nm,0.9s,baz=271,slow=6.7,SNR=22
MAJO Matsushiro 75.45 52 *e*P **P** **05 38 48.1 -0.6**
MAJO Matsushiro 75.45 52 *e*P **P** **05 38 48.2 -0.6**
MJAR Matsushiro Arr 75.45 52 P **P** **05 38 48.1 -0.6**
comp=Z,2.0nm,0.4s,baz=262,slow=8.4,SNR=6.8
NB200 NORSAR Array S 76.31 335 *e*P **P** **05 38 52.0 -1.2**
NOA NORSAR Array B 76.31 335 P **P** **05 38 52.0 -1.2**
comp=Z,2.9nm,1.1s,baz=115,slow=6.4,SNR=3.5
NOA NORSAR Array B 76.31 335 P **P** **05 38 52.0 -1.2**
ARA0 ARCESS Array S 76.87 346 *e*P **P** **05 38 55.9 -0.3**
ARCES ARCESS Array B 76.87 346 P **P** **05 38 55.9 -0.3**
comp=Z,5.9nm,1.0s,baz=257,slow=2.1,SNR=5.2
ES19 SONSECA Array 77.38 311 *e*P **P** **05 39 00.3 +0.6**
ESDC Sonseca Array 77.43 311 P **P** **05 39 00.4 +0.4**
comp=Z,1.3nm,0.8s,baz=89,slow=4.9,SNR=6.9
CTAO Charters Tower 78.35 110 *e*P **P** **05 39 05.0 -0.4**
comp=Z,4.2nm,0.8s
CTAO Charters Tower 78.35 110 *e*P **P** **05 39 05.0 -0.4**
CTAO pmax pmax
comp=Z,4.0nm,0.8s
YSS Yuzh-Sakhalins 81.14 42⇓ *e*P **P** **05 39 18.8 -1.1**
YSS *e* 05 39 26.5
YSS pmax pmax
comp=Z,30nm,1.1s
QSPA South Pole Qui 88.00 180 P **P** **05 39 54.5 0.0**
comp=Z,3.8nm,1.0s,baz=272,slow=22,SNR=7.3
QSPA South Pole Qui 88.00 180 *e*P **P** **05 39 54.5 0.0**
QSPA *e*P **P** **05 39 55.0 +0.6**
MA2 Magadan 88.07 30*c* *e*P **P** **05 39 54.8 +0.1**
MA2 pmax pmax
comp=Z,14nm,1.3s
VNDA Vanda 88.92 167 P **P** **05 39 58.9 +0.5**
comp=Z,1.1nm,0.8s,baz=266,slow=9.2,SNR=5.4
SEY Seymchan 89.23 27*c* *e*P **P** **05 40 01.5 +1.4**
YKA Yellowknife Ar 119.61 1 PKP **PKPdf** **05 45 53.0 -1.0**
comp=Z,0.8nm,0.8s,baz=350,slow=1.9,SNR=10
YKB5 Yellowknife Ar 119.61 1 *e*PKPdf **PKPdf** **05 45 53.0 -1.0**
PDAR Pinedale Array 139.34 357 PKP **PKPdf** **05 46 32.5 +0.2**
comp=Z,1.2nm,0.8s,baz=72,slow=1.9,SNR=10.0
PDAR Pinedale Array 139.34 357 *e*PKPdf **PKPdf** **05 46 30.5 -1.8**
PHWY Pilot Hill 140.42 352 *e*PKPdf **PKPdf** **05 46 34.1 -0.3**
HWUT Hardware Ranch 140.56 359 *e*PKPdf **PKPdf** **05 46 33.6 -0.9**
NV01 Mina Array Sit 143.29 8 *e*PKPdf PKPbc 05 46 37.4 +1.0
NVAR Mina Array Bea 143.29 8 PKP PKPbc 05 46 37.6 +1.1
comp=Z,1.2nm,0.8s,baz=355,slow=2.0,SNR=6.6
PSUT Pine Spring 143.60 2 *e*PKPdf **PKPdf** **05 46 39.6 -0.4**
MSU Marysvale 143.66 0 *e*PKPpre **PKPdf** **05 46 37.6 -2.6**
MSU Marysvale 143.66 0 *e*PKIKP PKPbc 05 46 37.6 +0.1
R11A Troy Canyon, C 143.67 5 P PKPbc 05 46 38.0 +0.5
baz=354
PV13 Radium Mtn., P 143.88 356 *e*PKPdf PKPbc 05 46 38.6 +0.4
MTPU Mount Pierson 144.12 0 *e*PKPdf PKPbc 05 46 39.9 +0.8
T25A Trinidad 144.32 349 P PKPbc 05 46 40.3 +0.7
baz=13
SZCU Shurtz Canyon 144.56 1 *e*PKPdf **PKPdf** **05 46 41.1 -0.6**
CCUT Cedar City 144.59 2 *e*PKPdf **PKPdf** **05 46 41.3 -0.5**
PKCU Pink Cliffs 144.72 0 *e*PKPdf **PKPdf** **05 46 41.6 -0.5**
GRAC Grapevine Rang 144.83 7 P **PKPdf** **05 46 41.7 -0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=351						
LCMT	Little Creek M	145.14	2	*e*PKPbc	PKPdf	05 46 42.5	-0.2
KNB	Kanab	145.14	1	*e*PKPbc	PKPbc	05 46 42.1	-0.1
KNB	Kanab	145.14	1	*e*PKIKP	PKPbc	05 46 42.1	-0.1
WMOK	Wichita Mounta	145.15	341	*e*PKPbc	PKPab	05 46 42.1	0.0
WMOK	Wichita Mounta	145.15	341	*e*PKIKP	PKPab	05 46 42.1	0.0
WMOK	Wichita Mounta	145.15	341	P	PKPab	05 46 42.3	+0.2
	baz=24,SNR=17						
CWC	Cottonwood Cre	145.28	9	P	PKPbc	05 46 41.9	-0.7
	baz=349						
FURC	Furnace Creek,	145.41	7	P	PKPab	05 46 43.6	+0.7
	baz=352,SNR=8.5						
DAC	Darwin (Calif)	145.50	8	*e*PKPdf	PKPab	05 46 43.8	+0.2
DAC	Darwin (Calif)	145.50	8	*e*PKIKP	PKPab	05 46 43.8	+0.2
SHPR	Sheep Range	145.54	4	*e*PKPdf	PKPab	05 46 44.0	+0.3
PAGB	Antelope Grade	145.58	12	*e*PKPdf	PKPbc	05 46 43.4	0.0
MPMC	Manual Prospec	145.73	8	P	PKPab	05 46 45.0	+0.5
	baz=350,SNR=18						
U15A	North Rim	145.74	0	*e*PKPdf	PKPbc	05 46 44.3	+0.1
ISA	Isabella, Lake	145.97	9	*e*PKPdf	PKPbc	05 46 45.0	+0.2
ISA	Isabella, Lake	145.97	9	*e*PKP2	PKPbc	05 46 45.0	+0.2
ISA	Isabella, Lake	145.97	9	P	PKPbc	05 46 44.9	+0.2
	baz=348						
SMMC	Simmler	146.04	12	P	PKPab	05 46 45.6	+0.2
	baz=346						
SHOC	Shoshone, Teco	146.04	6	P	PKPab	05 46 46.1	+0.8
	baz=352						
LRMC	Laurel Mtn Rad	146.28	8	P	PKPab	05 46 46.3	-0.1
	baz=350						
OTAV	Otavalo	146.35	267	*e*PKPdf	PKPdf	05 46 46.2	+0.4
OTAV	Otavalo	146.35	267	*e*PKP2	PKPdf	05 46 46.2	+0.4
GSC	Goldstone, Bar	146.57	7	*e*PKPdf	PKPbc	05 46 46.9	+0.4
GSC	Goldstone, Bar	146.57	7	P	PKPab	05 46 47.5	+0.1
	baz=351						
WUAZ	Wupatki	146.64	359	*e*PKPdf	PKPdf	05 46 45.8	+0.5
ANMO	Albuquerque	146.80	352	*e*PKPdf	PKPbc	05 46 46.8	-0.6
ANMO	Albuquerque	146.80	352	*e*PKP2	PKPbc	05 46 46.8	-0.6
EDW2	Edwards Air Fo	146.82	9	P	PKPab	05 46 48.0	-0.5
	baz=349						
SBC	Santa Barbara	146.94	12	P	PKPab	05 46 49.2	+0.4
	baz=346						
W13A	Hualapai Mount	147.02	3	*e*PKPdf	PKPbc	05 46 47.4	-0.6
MSTX	Muleshoe	147.02	346	*e*PKPdf	PKPbc	05 46 47.5	-0.5
MSTX	Muleshoe	147.02	346	P	PKPbc	05 46 47.9	0.0
	baz=17						
HEC	Hector,Ludlow	147.09	6	P	PKPbc	05 46 48.2	+0.1
	baz=352						
WHTX	Lake Whitney,	147.14	337	P	PKPab	05 46 49.4	-0.3
	baz=28						
GMRC	Granite Mounta	147.20	5	P	PKPbc	05 46 49.1	+0.7
	baz=353						
ABTX	Abilene, Hawle	147.37	340	*e*PKPdf	PKPdf	05 46 47.3	+0.8
ABTX	Abilene, Hawle	147.37	340	P	PKPbc	05 46 48.7	-0.1
	baz=23						
BFSC	Mount Baldy Ra	147.50	9	P	PKPbc	05 46 48.7	-0.5
	baz=350						
BBRC	Big Bear Solar	147.58	8	P	PKPbc	05 46 50.4	+0.8
	baz=351						
X16A	Lo Mia Camp, P	147.74	359	*e*PKPdf	PKPbc	05 46 48.9	-1.1
PDMCI	Parker Dam,Lak	147.80	3	P	PKPbc	05 46 50.5	+0.6
	baz=356						
IRM	Iron Mountain	147.87	5	P	PKPbc	05 46 51.0	+0.9
	baz=354						
BELC	Belle Mtn. Jos	147.95	6	P	PKPbc	05 46 51.2	+0.8
	baz=352						
MURC	Murrieta	148.19	8	P	PKPbc	05 46 51.5	+0.5
	baz=350						
PFO	Pinyon Flats O	148.28	7	*e*PKPbc	PKPbc	05 46 51.1	-0.2
PFO	Pinyon Flats O	148.28	7	*e*PKP2	PKPbc	05 46 51.1	-0.2
PFO	Pinyon Flats O	148.28	7	P	PKiKP	05 46 52.6	-0.5
	baz=352						
XPFO	Pion Flat	148.28	7	*e*PKPbc	PKPbc	05 46 51.7	+0.4
TPFO	Pinon Flats	148.28	7	P	PKPbc	05 46 52.1	+0.7
	baz=352						
Y12C	Blythe	148.32	4	P	PKiKP	05 46 52.2	-0.7
	baz=355						
BC3	Big Chuckawall	148.34	5	P	PKiKP	05 46 52.7	-0.5
	baz=354						
MONP2	Monument Peak	148.99	7	P	PKPbc	05 46 54.0	+0.6
	baz=352						
SWSC	Sam W. Stewart	149.01	6	P	PKiKP	05 46 54.5	+0.1
	baz=353						
IKP	In-Ko-Pah, Jac	149.27	7	P	PKiKP	05 46 55.1	0.0
	baz=352						
121A	Cookes Peak, D	149.36	353	P	PKPbc	05 46 54.7	+0.5
	baz=8.3						
JCT	Junction City	149.38	339	*e*PKPdf	PKPdf	05 46 51.3	+1.5
JCT	Junction City	149.38	339	*e*PKIKP	PKPdf	05 46 51.3	+1.5
MNTX	Cornudas Mount	149.79	349	*e*PKPbc	PKPbc	05 46 55.5	+0.4
TUC	Tucson	149.82	358	*e*PKPdf	PKPdf	05 46 51.7	+1.2
214A	Organ Pipe Nat	150.19	1	P	PKiKP	05 46 56.6	-0.3
	baz=358						
319A	Douglas	150.66	355	*e*PKPbc	PKiKP	05 46 58.1	+0.1
LTX	Lajitas	151.66	344	*e*PKPbc	PKPbc	05 46 59.5	-0.2
LTX	Lajitas	151.66	344	*e*PKIKP	PKPbc	05 46 59.5	-0.2
TX31	Lajitas Ar. Si	151.66	344	*e*PKPbc	PKPbc	05 46 59.5	-0.1
TX31				*e*PKPbc	PKiKP	05 47 00.0	-0.1
TXAR	Lajitas Array	151.66	344	PKPbc	PKPbc	05 46 59.5	-0.2
	comp=Z,4.3nm,0.9s,baz=126,slow=1.7,SNR=16						

IDC 09 05:37:45.1±59.0**, 18°.17S**×**179°.14E, h0**km**, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.7**/31**, mbtmp4.0**/3**, Error ellipse: s-maj=1055.0km s-min=154.0km az=78.0, Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.47	241	P	P	05 44 52.5	+0.5
	1.5nm,0.5s,baz=56,slow=7.3,SNR=3.2						
WRA	Warramunga Arr	42.29	260	P	P	05 45 40.8	-0.1
	0.8nm,0.6s,baz=96,slow=7.6,SNR=22						
ASAR	Alice Springs	42.47	255	P	P	05 45 41.9	-0.5
	1.3nm,0.5s,baz=91,slow=7.8,SNR=18						

*IDC **09** 05:38:57.6±1.5, 2°.03S×67°.82E, h0km, mb4.1/9, mb1 4.2/9, mb1mx3.8/49, mbtmp4.1/9, MS3.5/5, Ms1 3.6/5, ms1mx3.1/40, Error ellipse: s-maj=46.8km s-min=24.4km az=66.0*
*ISCJB **09** 05:38:58.0±1.8, 2°.0S±0°.2×67°.9E±0°.3, h15km, mb4.2/14, MS3.4/4, Error ellipse: s-maj=50.1km s-min=14.7km az=154.3*
*NEIC **09** 05:38:58.9±0.6, 2°.01S×67°.83E, h10km, mb4.4/6, Error ellipse: s-maj=18.6km s-min=12.8km az=73.0*
ISC 09 05:38:59.7±1.2**, 1°.9S**±0°.2×**67°.8E**±0°.2**, h15**km**, n41, σ1ˢ.04**/40**, mb4.2**/14**, MS3.5**/4**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.38	144	T	T	05 45 44.7	
	baz=325,slow=75,SNR=122						
H08N3	Diego Garcia H	5.39	144	T	T	05 45 46.5	
	baz=325,slow=75,SNR=207						
H08N1	Diego Carcia H	5.40	144	T	T	05 45 46.3	
	baz=325,slow=75,SNR=165						
PALK	Pallekele	15.77	54	LR	LR	05 47 22.8	
	comp=Z,333nm,20.1s,baz=295,slow=32						
ATD	Arta Tunnel	28.22	299	LR	LR	05 54 52.4	
	comp=Z,41nm,18.2s,baz=328,slow=34						
PSI	Prapat	31.43	81	LR	LR	05 55 06.5	
	comp=Z,126nm,22.0s,baz=266,slow=31						
CMAR	Chiang Mai Arr	36.71	55	P	P	05 46 07.8	+1.3
	1.2nm,0.3s,baz=245,slow=11,SNR=4.4						
CMAR				LR	LR	05 59 15.2	
	comp=Z,62nm,18.6s,baz=292,slow=33						
CHTO	Chiang Mai	36.89	55	*e*P	P	05 46 05.8	-2.3
	4.2nm,0.7s						
AAK	Ala-Archa	44.78	7	P	P	05 47 14.6	+1.5
	0.7nm,0.3s,baz=190,slow=6.1,SNR=3.7						
BOSA	Boshof	48.47	233	LR	LR	06 04 44.9	
	comp=Z,77nm,20.3s,baz=29,slow=32						
MAKZ	Makanchi	50.12	13	*e*P	P	05 47 54.6	+0.3
	3.4nm,1.0s						
MK01	Makanchi Array	50.15	13	*e*P	P	05 47 54.8	+0.2
MK31	Makanchi Array	50.17	13	*e*P	P	05 47 55.0	+0.2
MK32	Makanchi Array	50.17	13	*e*P	P	05 47 55.4	+0.6
MK32				*e*PcP	PcP	05 49 14.7	+0.8
MKAR	Makanchi Array	50.17	13	P	P	05 47 55.4	+0.6
	1.7nm,0.8s,baz=198,slow=7.6,SNR=18						
MKAR				PcP	PcP	05 49 14.7	+0.8
	0.5nm,0.9s,baz=222,slow=5.8,SNR=2.3						
MKAR	Makanchi Array	50.17	13	*e*P	P	05 47 54.9	+0.1
	12nm,0.6s						
MKAR				PcP	PcP	05 49 14.7	+0.8
XAN	Xi'an	52.64	43	*e*P	P	05 48 13.4	-0.1
	10nm,1.0s						
KURBB	Kurchatov Arra	53.16	8	P	P	05 48 17.8	+0.8
	2.4nm,0.8s,baz=206,slow=7.7,SNR=10						
KURBB				PcP	PcP	05 49 25.9	+1.0
	0.5nm,0.7s,baz=228,slow=4.9,SNR=4.3						
KURK	Kurchatov	53.26	9	*e*P	P	05 48 17.8	+0.1
KURK				*e*P	pP	05 48 18.6	-3.0
KURK				*e*PcP	PcP	05 49 25.9	+0.6
ZAA0	Zalesovo Array	57.46	12	*e*P	P	05 48 48.3	+0.4
	4.4nm,0.8s						
ZALV	Zalesovo Beam	57.46	12	P	P	05 48 48.5	+0.6
	2.9nm,0.6s,baz=204,slow=8.1,SNR=16						
ZALV	Zalesovo Beam	57.46	12	*e*P	P	05 48 48.0	+0.1
ZAA1	Zalesovo Array	57.47	12	*e*P	P	05 48 48.5	+0.5
SONA0	Songino Array	59.89	29	*e*P	P	05 49 06.6	+1.5
SONM	Songino Array	59.89	29	P	P	05 49 06.6	+1.5
	2.8nm,0.8s,baz=227,slow=7.3,SNR=16						
SONA1	Songino Array	59.90	29	*e*P	P	05 49 06.5	+1.3
WR1	Warramunga Arr	67.28	111	*e*P	P	05 49 54.8	+0.4
WRA	Warramunga Arr	67.28	111	P	P	05 49 54.8	+0.4
	1.7nm,0.9s,baz=280,slow=5.9,SNR=9.3						
ASAR	Alice Springs	67.35	115	P	P	05 49 55.0	+0.2
	0.9nm,0.8s,baz=286,slow=6.0,SNR=5.1						
AS31	Alice Springs	67.35	115	*e*P	P	05 49 54.5	-0.3
	0.8nm,0.9s						
KLR	Kul'dur	74.77	38	P	P	05 50 38.6	-0.6
	1.5nm,0.8s,baz=287,slow=2.7,SNR=5.1						
YKA	Yellowknife Ar	119.57	1	PKP	PKPdf	05 57 47.8	-0.9
	0.1nm,0.3s,baz=73,slow=8.6,SNR=3.9						
YKB5	Yellowknife Ar	119.57	1	*e*PKPdf	PKPdf	05 57 47.8	-0.9
PD31	Pinedale Array	139.29	357	*e*PKPdf	PKPdf	05 58 28.0	+1.0
PDAR	Pinedale Array	139.29	357	PKP	PKPdf	05 58 28.0	+1.0
	0.2nm,0.6s,baz=341,slow=5.2,SNR=3.0						
PHWY	Pilot Hill	140.35	352	*e*PKPdf	PKPdf	05 58 27.6	-1.4
NV01	Mina Array Sit	143.25	8	*e*PKPdf	PKPdf	05 58 33.5	-0.7
NVAR	Mina Array Bea	143.25	8	PKP	PKPdf	05 58 33.5	-0.7
	0.2nm,0.5s,baz=228,slow=1.1,SNR=2.2						
WMOK	Wichita Mounta	145.07	341	*e*PKPbc	PKPbc	05 58 36.4	-0.2
LTX	Lajitas	151.59	344	*e*PKPbc	PKiKP	05 58 55.7	+1.0
TXAR	Lajitas Array	151.59	344	PKPbc	PKiKP	05 58 55.7	+1.0
	1.4nm,1.0s,baz=116,slow=2.9,SNR=6.3						

IDC 09 05:44:09.1±3.4**, 54°.45N**×**87°.16E, h0**km**, mb1 2.9**/2**, mb1mx2.8**/48**, mbtmp2.9**/2**, ML2.7**/2**, Error ellipse: s-maj=32.1km s-min=20.1km az=44.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.46	251	*i*		05 51 45.2	
	baz=72,slow=356,SNR=3.0						
ZALV	Zalesovo Beam	1.46	251	Pg	Pn	05 44 34.6	-2.1
	1.2nm,0.3s,baz=65,slow=15,SNR=15						
ZALV				Lg	Lg	05 44 56.2	
	0.8nm,0.3s,baz=68,slow=27,SNR=4.8						
KURBB	Kurchatov Arra	6.51	237	Pn	Pn	05 45 46.6	+0.6
	0.1nm,0.3s,baz=56,slow=14,SNR=5.7						
MKAR	Makanchi Array	8.26	204	Pn	Pn	05 46 11.5	+1.3
	0.2nm,0.3s,baz=24,slow=13,SNR=9.8						

*DDA **09** 05:48:51.7, 39°.92N×38°.63E, h7km±2km, ML2.7*
*ISK **09** 05:48:51.6, 39°.90N×38°.71E, h9km, ML2.3/3*
*ISCJB **09** 05:48:52.4±0.9, 39°.86N±0°.05×38°.68E±0°.04, h6km±7km, Error ellipse: s-maj=8.7km s-min=4.6km az=157.4*
ISC 09 05:48:52.9±1.2**, 39°.88N**±0°.04×**38°.66E**±0°.03**, h14**km±10km**, n13, σ1ˢ.25**/20**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ILIC	ilic-Erzincan	0.43	190	PG	Pg	05 49 01.0	-0.6
REFA	Refahiye_ERZN	0.49	170	*i* P	Pg	05 48 55.2	-7.4
REFA				*i* S	Sg	05 48 56.5	-13
KELT	Kelkit	0.53	59	IAML_P			
	comp=Z,2μm,0.2s						
KELT				*i* P	Pb	05 49 03.3	-0.7
KELT				*i* S	Sb	05 49 11.0	-0.7
CUZAR	Zara_SIVAS	0.69	271	*i* P	Pg	05 49 05.5	-0.8
CUKAN	kangal_SIVAS	1.08	239	*i* P	Pn	05 49 13.4	-0.3
CUKAN				*i* S	Sb	05 49 28.0	+0.6
PTK	Pertek	1.14	150	PN	Pg	05 49 13.9	-0.9
PTK				SN	Sn	05 49 29.9	-0.1
BAYT	Aydıntepe-Bayb	1.25	65	PN	Pb	05 49 14.8	-1.4
BAYT				SN	Sn	05 49 32.2	-0.4
SVSK	Karacayir	1.28	272	PN	Pg	05 49 16.4	-1.1
SVSK				SN	Sn	05 49 35.4	+2.2
BAYB	BAYBURT	1.28	72	IAML_P			
	comp=Z,614nm,0.2s						
BAYB				*i* P	Pg	05 49 17.0	-0.6
BAYB				*i* S	Sn	05 49 34.3	+0.7
KOPT	Kop Dagi	1.42	84	IAML_P			
	comp=Z,162nm,0.1s						
KOPT				*i* P	Pg	05 49 20.5	+0.3
KOPT				*i* S	Sg	05 49 41.9	+3.3
DARE	Darende-Malaty	1.59	215	PN	Pb	05 49 21.6	-0.5
DARE				SN	Sb	05 49 42.8	+0.6
TOKT	Tokat	1.68	286	PN	Pb	05 49 23.2	-0.4
AKCD	Akcadag	1.68	200	IAML_P			
	comp=Z,264nm,0.1s						
AKCD				*i* P	Pg	05 49 24.3	-0.9

IDC 09 05:52:44.3±10.0**, 2°.26S**×**67°.07E, h0**km**, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.5**/44**, mbtmp3.7**/4**, MS3.4**/1**, Ms1 3.4**/1**, ms1mx2.7**/34**, Error ellipse: s-maj=324.8km s-min=35.9km az=67.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.63	136	T	T	05 59 35.3	
	baz=325,slow=75,SNR=91						
H08N3	Diego Garcia H	5.64	136	T	T	05 59 36.1	
	baz=325,slow=75,SNR=104						
H08N1	Diego Carcia H	5.65	136	T	T	05 59 30.4	
	baz=325,slow=75,SNR=99						
PALK	Pallekele	16.58	55	LR	LR	06 01 11.6	
	comp=Z,140nm,20.2s,baz=295,slow=31						
MKAR	Makanchi Array	50.65	13	P	P	06 01 45.3	-0.1
	0.5nm,0.8s,baz=185,slow=7.2,SNR=4.9						
ZALV	Zalesovo Beam	57.93	12	P	P	06 02 38.1	-0.1
	0.8nm,0.6s,baz=196,slow=9.8,SNR=3.6						
SONM	Songino Array	60.54	29	P	P	06 02 56.7	0.0
	0.9nm,0.8s,baz=226,slow=5.4,SNR=5.3						
WRA	Warramunga Arr	67.89	111	P	P	06 03 45.3	0.0
	1.1nm,1.0s,baz=289,slow=5.3,SNR=3.8						

*ISCJB **09** 05:54:09.6±0.8, 4°.89S±0°.05×129°.4E±0°.1, h182km, mb3.6/3, Error ellipse: s-maj=19.2km s-min=7.0km az=1.0*
*IDC **09** 05:54:10.6±2.4, 4°.85S×129°.39E, h180km±32km, mb3.4/3, mb1 3.5/7, mb1mx3.2/30, mbtmp3.9/7, Error ellipse: s-maj=43.0km s-min=13.9km az=80.0*
ISC 09 05:54:10.1±0.9**, 4°.99S**±0°.07×**129°.5E**±0°.2**, h182**km**, n7, σ2ˢ.12**/10**, mb3.9**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	Sorong	4.46	24	P	Pn	05 55 18.3	+1.1
	10nm,0.3s,baz=234,slow=19,SNR=20						
SIJI				S	Sn	05 56 07.9	-1.9
	4.9nm,0.3s,baz=249,slow=23,SNR=5.9						
FITZ	Fitzroy Crossi	13.56	196	P	P	05 57 18.6	+0.3
	0.5nm,0.3s,baz=22,slow=12,SNR=13						
WRA	Warramunga Arr	15.60	163	P	P	05 57 43.4	+2.5
	0.3nm,0.3s,baz=338,slow=13,SNR=30						
WRA				S	S	06 00 30.7	-3.7
	0.2nm,0.3s,baz=333,slow=22,SNR=7.2						
ASAR	Alice Springs	19.05	168	P	Pn	05 58 21.6	+0.1
	0.5nm,0.3s,baz=350,slow=12,SNR=21						
ASAR				S	S	06 01 43.5	-1.7
	0.1nm,0.3s,baz=350,slow=21,SNR=4.6						
STKA	Stephens Creek	29.06	158	P	P	05 59 54.7	+1.3
	2.1nm,0.7s,baz=291,slow=14,SNR=2.9						
CMAR	Chiang Mai Arr	38.07	309	P	P	06 01 11.6	+0.2
	1.0nm,0.3s,baz=87,slow=16,SNR=4.5						
MKAR	Makanchi Array	66.28	327	P	P	06 04 37.6	-1.2
	0.2nm,0.7s,baz=133,slow=6.1,SNR=2.6						

*ISCJB **09** 06:02:28.1±0.3, 5°.52S±0°.03×131°.32E±0°.05, h54km, mb3.9/5, MS3.5/1, Error ellipse: s-maj=7.7km s-min=3.9km az=175.5*
*IDC **09** 06:02:28.4±3.0, 5°.54S×131°.43E, h41km±30km, mb3.5/4, mb1 4.0/8, mb1mx3.8/30, mbtmp4.0/8, ML4.2/4, MS3.6/1, Ms1 3.6/1, ms1mx2.6/30, Error ellipse: s-maj=64.5km s-min=23.3km az=85.0*
*NEIC **09** 06:02:30.0±0.9, 5°.57S×131°.28E, h56km±10km, mb4.4/3, Error ellipse: s-maj=15.7km s-min=7.0km az=89.0*
*DJA **09** 06:02:32.5±0.5, 5°S±3°×13°1E±°, h102km±10km, M4.7/7, mb4.8/3, mB5.0/1, MLv4.7/7, Mw(mB)4.3/1*
ISC 09 06:02:28.8±0.6**, 5°.55S**±0°.04×**131°.29E**±0°.06**, h54**km**, n31, σ2ˢ.34**/40**, mb3.8**/5**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.71	307	P	Pn	06 02 57.5	+1.2
BNDI				S	Sn	06 03 17.8	+0.7
SAUI	Saumlaki	2.42	180	*e*Pn	Pn	06 03 07.1	+1.2
SAUI	Saumlaki	2.42	180	P	Pn	06 03 13.1	+7.2
FAKI	Fak Fak	2.79	20	*e*Pn	Pn	06 03 12.3	+1.4
FAKI				*e*Sn	Sn	06 03 42.7	-0.7
FAKI	Fak Fak	2.79	20	P	Pn	06 03 12.4	+1.4
FAKI				S	Sn	06 03 42.5	-0.9
SIJI	Sorong	4.65	360	P	Pn	06 03 36.0	-0.5
	8.8nm,0.3s,baz=41,slow=17,SNR=19						
SIJI				S	Sn	06 04 22.4	-6.9
	49nm,0.3s,baz=276,slow=23,SNR=21						
SWI	Sorong	4.66	360	P	Pn	06 03 37.1	+0.5
SWI				S	Sn	06 04 22.9	-6.5
RKPI	Ransiki, Papua	4.94	36	P	Pn	06 03 43.0	+2.4
RKPI				S	Sn	06 04 36.3	-0.2
SANI	Sanana	6.33	303	P	Pn	06 04 00.5	+1.0
MTN	Manton Dam	7.25	181	*e*Pn	Pn	06 04 15.5	+3.3
FITZ	Fitzroy Crossi	13.64	203	P	Pn	06 05 38.6	-0.9
	0.6nm,0.3s,baz=28,slow=8.3,SNR=25						
FITZ				S	Sn	06 08 04.6	-4.9
	1.4nm,0.3s,baz=167,slow=23,SNR=5.6						
COEN	Coen	14.38	126	*e*Pn	Pn	06 05 51.2	+1.7
COEN				*e*Sn	Sn	06 08 23.4	-4.3
WRAB	Tennant Creek	14.60	168	*e*Pn	Pn	06 05 52.9	+0.4
WRAB				*e*Sn	Sn	06 08 30.4	-2.7
WR1	Warramunga Arr	14.61	169	*e*Pn	Pn	06 05 52.6	+0.1
WR1				*e*Sn	Sn	06 08 24.8	-8.5
WRA	Warramunga Arr	14.61	169	P	Pn	06 05 52.6	+0.1
	1.5nm,0.3s,baz=349,slow=14,SNR=67						
WRA				S	Sn	06 08 24.8	-8.5
	0.5nm,0.3s,baz=332,slow=22,SNR=3.6						
WB2	Warramunga Arr	14.61	169	*e*Pn	Pn	06 05 53.2	+0.7
AS31	Alice Springs	18.18	172	*e*P	P	06 06 38.5	+1.3
	4.4nm,0.5s						
AS31				*e*Sn	Sn	06 09 57.8	-2.1
ASAR	Alice Springs	18.19	172	P	P	06 06 38.5	+1.3
	1.4nm,0.3s,baz=352,slow=10,SNR=56						
ASAR				S	Sn	06 09 57.8	-2.2
	0.3nm,0.3s,baz=349,slow=24,SNR=5.3						
CTA	Charters Tower	20.51	136	P	Pn	06 07 09.2	+3.9
	1.2nm,0.2s,baz=313,slow=15,SNR=2.3						
CTA				LR	LR	06 14 19.3	
	comp=Z,201nm,21.5s,baz=181,slow=35						
FORT	Forrest	25.28	187	*e*P	P	06 07 51.6	+1.4
	13nm,0.9s						
SONA0	Songino Array	57.50	340	*e*P	P	06 12 14.0	+1.4
SONM	Songino Array	57.50	340	P	P	06 12 14.0	+1.4
	0.1nm,0.3s,baz=142,slow=4.9,SNR=2.4						
MK01	Makanchi Array	67.72	326	*e*P	P	06 13 21.9	+1.3
MK31	Makanchi Array	67.74	326	*e*P	P	06 13 22.2	+1.5
MK32	Makanchi Array	67.74	326	*e*P	P	06 13 22.7	+1.9
MKAR	Makanchi Array	67.74	326	P	P	06 13 22.7	+1.9
	0.9nm,0.4s,baz=113,slow=7.5,SNR=21						
MKAR	Makanchi Array	67.74	326	*e*P	P	06 13 21.9	+1.2
	12nm,1.1s						
ZALV	Zalesovo Beam	70.87	333	P	P	06 13 40.8	+0.9
	0.6nm,0.5s,baz=129,slow=5.7,SNR=2.4						
ZAA1	Zalesovo Array	70.87	333	*e*P	P	06 13 40.8	+0.8
ILAR	Eielson Array	91.50	25	P	P	06 15 29.2	+0.1
	0.2nm,0.6s,baz=264,slow=3.8,SNR=4.0						
ILB	Eielson Array	91.50	25	*e*P	P	06 15 29.2	+0.1

*ISCJB **09** 06:11:47.5±0.6, 8°.46N±0°.03×73°.50W±0°.04, h113km±6km, mb3.4/2, Error ellipse: s-maj=6.9km s-min=5.4km az=19.8*
*RSNC **09** 06:11:49.1±1.2, 8°.38N×73°.48W, h105km±7km, ML3.7, Mw3.8*
*IDC **09** 06:11:49.3±1.8, 8°.43N×73°.40W, h131km±29km, mb3.0/2, mb1 3.2/4, mb1mx2.9/29, mbtmp3.4/4, Error ellipse: s-maj=38.2km s-min=10.2km az=133.0*
ISC 09 06:11:48.5±0.9**, 8°.44N**±0°.04×**73°.51W**±0°.04**, h102**km±8km**, n19, σ1ˢ.41**/31**, 3D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OCAC	Ocana	0.28	138⇓	*e*P	Pn	06 12 03.8	+0.3
OCAC				*e*S	Sn	06 12 15.2	+0.6
OCAC				*i*		06 12 16.2	
	comp=N,5μm,0.3s						
BRRC	Barranca, Sant	1.34	189⇓	*i*P	Pn	06 12 12.5	-0.6
BRRC				*e*S	Sn	06 12 31.2	-0.4
BRRC				*i*		06 12 32.0	
	comp=N,3μm,0.2s						
CODC	Agustn Codazz	1.48	2⇓	*e*P	Pn	06 12 15.5	+0.8
CODC				*e*S	Sn	06 12 36.1	+1.5
ZARC	Zaragoza, Cauc	1.64	235	*e*P	Pn	06 12 15.8	-0.9
ZARC				*e*S	Sn	06 12 37.7	-0.3
ZARC				*i*		06 12 42.2	
	comp=N,738nm,0.3s						
BARC	Barichara	1.87	170	*e*P	Pn	06 12 19.3	-0.5
BARC				*e*S	Sn	06 12 42.4	-1.1
BARC				*i*		06 12 44.1	
	comp=Z,885nm,0.3s						
PTBC	PUERTO BERRIO,	2.11	207	*e*P	Pn	06 12 21.6	-1.1
PTBC				*e*S	Sn	06 12 48.7	-0.1
PTBC				*i*		06 12 54.0	
	comp=N,230nm,0.3s						
UREC	San Jos de Ur	2.12	251	*e*P	Pn	06 12 24.0	+1.2
UREC				*e*S	Sn	06 12 50.7	+1.7
UREC				*i*		06 12 54.6	
	comp=N,1μm,0.3s						
SJCC	San Jacinto, C	2.19	311	*e*S	Sn	06 12 50.0	-0.8
SJCC				*i*		06 12 52.5	
	comp=N,343nm,0.4s						
RUSC	La Rusia	2.57	171	*e*P	Pn	06 12 27.6	-1.5
RUSC				*i*		06 13 04.5	
	comp=N,116nm,0.3s						
SDV	Santo Domingo	2.87	81	P	Pn	06 12 33.5	+0.7
	comp=N,2.5nm,0.3s,baz=237,slow=17,SNR=56						
SDV				S	Sn	06 13 07.5	+0.6
	comp=N,38nm,0.3s,baz=20,slow=14,SNR=39						
SDV	Santo Domingo	2.87	81	*e*P	Pn	06 12 33.4	+0.5
SDV				*e*S	Sn	06 13 07.4	+0.5
HELC	Santa Helena	3.01	222	*e*P	Pn	06 12 34.5	-0.3
HELC				*e*S	Sn	06 13 12.9	+2.5
HELC				*i*		06 13 19.5	
	comp=N,120nm,0.3s						
ROSC	El Rosal	3.67	193	P	Pn	06 12 44.8	+1.0
	comp=N,3.3nm,0.3s,baz=107,slow=5.4,SNR=9.8						
ROSC				S	Sn	06 13 29.0	+2.6
	comp=N,7.2nm,0.3s,baz=340,slow=23,SNR=7.2						
ROSC	El Rosal	3.67	193	*e*P	Pn	06 12 44.8	+1.0
CHIC	Chingaza	3.80	183	*e*P	Pn	06 12 46.0	+0.5
CHIC				*e*S	Sn	06 13 32.1	+2.7
CHIC				*i*		06 13 37.5	
	comp=N,75nm,0.6s						
RREF	El Recreo	3.97	208	*e*P	Pn	06 12 49.1	+1.1
TXAR	Lajitas Array	35.12	310	P	P	06 18 31.0	-1.5
	comp=N,0.2nm,0.7s,baz=141,slow=12,SNR=2.7						
YKA	Yellowknife Ar	61.62	340	P	P	06 21 53.1	-2.0
	comp=N,0.4nm,0.5s,baz=130,slow=6.9,SNR=8.2						
WRA	Warramunga Arr	150.74	244	PKPbc	PKPdf	06 31 27.0	+2.7
	comp=N,0.2nm,0.6s,baz=102,slow=2.7,SNR=4.9						

IDC 09 06:17:55.2±2.3**, 2°.02S**×**68°.01E, h0**km**, mb3.7**/6**, mb1 3.8**/6**, mb1mx3.5**/39**, mbtmp3.7**/6**, Error ellipse: s-maj=79.5km s-min=25.1km az=62.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.21	145	T	T	06 24 33.0	
	baz=325,slow=75,SNR=16						
H08N3	Diego Garcia H	5.22	145	T	T	06 24 41.0	
	baz=325,slow=75,SNR=20						
H08N1	Diego Carcia H	5.24	145	T	T	06 24 42.5	
	baz=325,slow=75,SNR=15						
MKAR	Makanchi Array	50.21	13	P	P	06 26 52.7	-0.3
	0.6nm,0.7s,baz=196,slow=8.2,SNR=7.1						
AKTO	Aktyubinsk	52.95	352	P	P	06 27 13.1	-0.3
	0.8nm,0.7s,baz=135,slow=4.3,SNR=3.1						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	57.51	12	P	P	06 27 45.5	-0.7
	1.2nm,0.5s,baz=216,slow=7.3,SNR=6.6						
SONM	Songino Array	59.88	29	P	P	06 28 03.8	+0.8
	0.9nm,0.8s,baz=207,slow=6.2,SNR=5.5						
WRA	Warramunga Arr	67.09	111	P	P	06 28 51.1	0.0
	0.6nm,1.0s,baz=289,slow=5.8,SNR=3.5						
ASAR	Alice Springs	67.16	115	P	P	06 28 51.4	-0.2
	0.5nm,0.9s,baz=272,slow=6.0,SNR=3.7						
TXAR	Lajitas Array	151.71	345	PKPbc	PKiKP	06 37 52.9	-0.2
	0.6nm,0.9s,baz=80,slow=2.8,SNR=4.9						

*ISCJB **09** 06:21:54.5±1.2, 1.°96S±0.°04×67.°90E±0.°03, h6km±7km, mb4.7/115, MS4.2/45, Error ellipse: s-maj=6.7km s-min=5.6km az=167.2*

*IDC **09** 06:21:55.1±0.4, 1.°93S×68.°03E, h0km, mb4.5/28, mb1 4.6/28, mb1mx4.5/41, mbtmp4.5/28, MS4.1/35, Ms1 4.1/35, ms1mx4.0/40, Error ellipse: s-maj=13.6km s-min=11.6km az=152.0*

*BJI **09** 06:21:55.2, 1.°90S×68.°00E, h10km, mb4.9/51, mB5.2/36, Ms4.8/31, Ms7 4.5/32*

*MOS **09** 06:21:55.1±1.1, 1.°91S×68.°04E, h10km, mb5.0/51, Error ellipse: s-maj=8.7km s-min=5.6km az=81.3*

*GCMT **09** 06:21:56.6±0.2, 2.°03S±0.°02×67.°96E±0.°02, h12km, MW5.0/91, Moment Tensor Solution. s41,c52; s91,c137; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.63±.10; $M_{\theta\theta}$1.38±.10; $M_{\phi\phi}$2.25±.10; $M_{r\theta}$1.49±.32; $M_{\theta\phi}$-2.05±.08; $M_{\phi r}$-0.50±.33; Best double couple: $M_0$4.09100×10^{16} NP1:ϕ_s309.00000°, δ56.00000°, λ-105.00000°. NP2: ϕ_s154.00000°, δ37.00000°, λ-70.00000°. Principal axes: T 4.1420, Plg10.0000°, Azm49.0000°; N -0.1010, Plg12.0000°, Azm317.0000°; P -4.0400, Plg74.0000°, Azm178.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **09** 06:21:56.6±0.2, 1.°97S×68.°01E, h10km, mb4.9/36 Error ellipse: s-maj=5.0km s-min=4.6km az=140.0*

ISC 09 06:22:00.2±1.5, **1.°93S**±0.°06×**67.°99E**±0.°05, **h31**km±10km, **n318**, σ**1.°36**/310, **mb4.8**/122, **MS4.1**/45, **14C-1D, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.29	146	T	T	06 28 37.7	
	baz=325,slow=75,SNR=251						
H08N3	Diego Garcia H	5.31	146	T	T	06 28 38.4	
	baz=325,slow=75,SNR=297						
H08N1	Diego Carcia H	5.32	146	T	T	06 28 39.3	
	baz=325,slow=75,SNR=262						
DGAR	Diego Garcia	7.03	141	ePn	Pn	06 23 38.3	-2.8
DGAR	Diego Garcia	7.03	141	i P	Pn	06 23 36.8	-4.3
H08S3	Diego Garcia H	7.21	142	T	T	06 31 11.6	
	baz=302,slow=23,SNR=17						
H08S1	Diego Carcia H	7.22	142	T	T	06 31 08.8	
	baz=302,slow=23,SNR=9.1						
H08S2	Diego Garcia H	7.23	142	T	T	06 31 10.1	
	baz=302,slow=23,SNR=12						
MNCI	Minicoy	11.34	26	ePn	Pn	06 24 39.4	-0.8
PALK	Pallekele	15.64	54	LR	LR	06 30 19.8	
	comp=Z,2μm,20.2s,baz=294,slow=32						
PALK	Pallekele	15.64	54	ePn	Pn	06 25 37.1	-1.5
	18nm,1.1s						
PALK	Pallekele	15.64	54	eP	Pn	06 25 37.1	-1.5
PALK				pmax	pmax		
	comp=Z,18nm,1.1s						
MRIV	Mauritius Mete	20.93	209	eP	P	06 26 39.8	-0.7
POO	Poona	21.14	16	eP	P	06 26 45.0	+2.2
HYB	Hyderabad	21.87	28	i P	P	06 26 52.0	+1.3
	comp=Z,64nm,1.2s						
OPO	Ambohidratompo	26.25	230	P	P	06 27 34.0	+0.9
	comp=Z,1.6nm,0.3s,baz=60,slow=14,SNR=4.3						
OPO				LR	LR	06 35 32.4	
	comp=Z,1μm,19.1s,baz=29,slow=31						
WSAR	Wadi Sarin	26.63	341	LR	LR	06 36 14.7	
	comp=Z,241nm,18.2s,baz=171,slow=32						
BSI	Banda Aceh	28.26	75	P	P	06 27 54.4	+3.4
	comp=Z,2μm,1.0s,comp=Z,140μm						
ATD	Arta Tunnel	28.35	299	LR	LR	06 36 45.6	
	comp=Z,256nm,21.4s,baz=138,slow=31						
ATD	Arta Tunnel	28.35	299	eP	P	06 27 51.8	-0.1
	comp=Z,12nm,1.0s						
KCSI	Kotacane, Aceh	30.26	80	P	P	06 28 11.6	+2.9
KMBO	Kilima Mbogo	30.73	271	P	P	06 28 13.0	-0.2
	comp=Z,6.9nm,0.8s,baz=66,slow=11,SNR=14						
KMBO				LR	LR	06 38 07.0	
	comp=Z,384nm,20.8s,baz=92,slow=32						
KMBO	Kilima Mbogo	30.73	271	eP	P	06 28 12.8	-0.4
	comp=Z,8.2nm,0.9s						
MNSI	Mandailing Nat	31.70	85	P	P	06 28 24.8	+3.3
PDSI	Padang	32.48	89	P	P	06 28 33.0	+4.7
KRAB	Krabi	32.71	72	P	P	06 28 34.1	+3.8
	comp=Z,17μm,0.7s,comp=Z,381μm						
TRTT	Trang	33.08	73	P	P	06 28 35.6	+2.1
	comp=Z,6.3nm,1.4s						
KOLN	Koldanda	33.13	26	eP	P	06 28 34.7	+0.6
	comp=Z,41nm,1.1s						
PYUN	Piuthan	33.16	25	eP	P	06 28 34.9	+0.6
	comp=Z,105nm,1.6s						
KULM	Kulim	33.41	77	eP	P	06 28 36.7	+0.3
	comp=Z,81nm,1.3s						
RAYN	Ar Rayn	33.45	320	eP	P	06 28 37.5	+0.8
	comp=Z,3.8nm,1.1s						
RAYN	Ar Rayn	33.45	320	eP	P	06 28 37.5	+0.8
RAYN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BRDH	Bariadhala	33.62	42	LR	LR	06 43 59.5	
	comp=Z,971nm,18.4s,baz=137,slow=39						
DMN	Daman	33.68	28	eP	P	06 28 39.6	+0.7
	comp=Z,61nm,1.1s						
DANN	Dangsing	33.71	26	eP	P	06 28 39.7	+0.6
	comp=Z,80nm,1.3s						
PKIN	Phulchoki	33.79	29	eP	P	06 28 40.0	+0.2
RAMN	Ramite	33.87	31	eP	P	06 28 41.6	+1.1
	comp=Z,53nm,1.1s						
KKN	Kakani	33.91	28	eP	P	06 28 41.4	+0.5
	comp=Z,33nm,0.9s						
ODAN	Odare	34.20	32	eP	P	06 28 44.4	+1.0
JIRN	Jiri	34.24	29	eP	P	06 28 44.3	+0.4
GUN	Gumba	34.30	29	eP	P	06 28 45.3	+0.9
	comp=Z,72nm,1.0s						
PHET	Kaeng Krachan	34.70	64	P	P	06 28 50.1	+2.6
	comp=Z,5.9nm,1.2s						
SRDT	SRDT	34.83	61	P	P	06 28 52.9	+4.2
	comp=Z,14nm,0.6s						
UMPA	Umpang Tak	35.42	58	P	P	06 28 55.6	+1.7
	comp=Z,8.4nm,1.3s,comp=Z,1μm						
LHSI	Lahat	35.54	94	P	P	06 28 57.0	+2.2
UTHA	Uthaitani	35.63	60	P	P	06 28 57.5	+1.9
	comp=Z,6.2nm,1.3s,comp=Z,66nm						
NIL	Nilore	35.74	8	eP	P	06 28 57.1	+0.8
	comp=Z,27nm,1.1s						
NIL	Nilore	35.74	8	eP	P	06 28 57.1	+0.8
NIL				pmax	pmax		
	comp=Z,27nm,1.1s						
SHL	Shillong	35.81	39	eP	P	06 28 57.4	+0.2
	comp=Z,19nm,1.0s						
SHL	Shillong	35.81	39	eP	P	06 28 57.4	+0.2
SHL				pmax	pmax		
	comp=Z,19nm,1.0s						
MDSI	Maura Dua	36.22	95	P	P	06 29 02.0	+1.3
CM31	Chiang Mai Arr	36.58	55	eP	P	06 29 04.7	+1.0
CMAR	Chiang Mai Arr	36.58	55	P	P	06 29 04.7	+1.0
	comp=Z,2.7nm,0.3s,baz=251,slow=10,SNR=26						
CMAR				LR	LR	06 42 11.8	
	comp=Z,389nm,22.0s,baz=244,slow=33						
SUKH	Sukhothai	36.67	57	P	P	06 29 07.2	+2.7
	comp=Z,4.8nm,1.1s						
CHTO	Chiang Mai	36.76	54	eP	P	06 29 05.7	+0.4
	comp=Z,22nm,1.0s						
CHTO	Chiang Mai	36.76	54	eP	P	06 29 05.7	+0.4
CHTO				pmax	pmax		
	comp=Z,22nm,1.0s						
CHTO	Chiang Mai	36.76	54	P	P	06 29 06.4	+1.1
	comp=Z,98nm,1.2s						
CMMT	Chiang Mai	36.77	54	P	P	06 29 06.4	+1.1
	comp=Z,22nm,1.1s						
MBAR	Mbarara	37.26	272	P	P	06 29 12.5	+2.7
	comp=Z,4.7nm,0.2s,baz=108,slow=8.5						
MBAR	Mbarara	37.26	272	eP	P	06 29 09.8	0.0
	comp=Z,15nm,1.1s						
MBAR	Mbarara	37.26	272	i P	P	06 29 10.4	+0.6
MBAR				pmax	pmax		
	comp=Z,11nm,1.1s						
SRAK	Srakaew	37.28	64	P	P	06 29 17.3	+7.6
PBKT	Sadao Pong	37.39	59	P	P	06 29 12.2	+1.6
	comp=Z,20nm,1.2s						
CHAI	Chaiyaphum	37.99	61	P	P	06 29 17.2	+1.5
	comp=Z,13nm,1.0s,comp=Z,517nm						
LSA	Lhasa	38.47	33	eP	P	06 29 20.2	+0.2
	comp=Z,17nm,1.1s						
LSA	Lhasa	38.47	33	eP	P	06 29 20.3	+0.2
LSA				pmax	pmax		
	comp=Z,17nm,1.1s						
LEM	Lembang	39.80	98	LR	LR	06 42 59.1	
	comp=Z,465nm,20.3s,baz=232,slow=32						
NONG	Nongkai	39.91	59	P	P	06 29 33.9	+2.1
	comp=Z,0.6nm,1.6s,comp=Z,83nm						
SKNT	Sakolnakorn	40.17	61	P	P	06 29 35.7	+1.7
	comp=Z,16nm,1.6s						
GEYT	Alibeck	40.70	348	P	P	06 29 36.2	-1.9
	comp=Z,7.2nm,0.5s,baz=142,slow=7.3,SNR=4.7						
GEYT				LR	LR	06 45 28.2	
	comp=Z,191nm,21.9s,baz=310,slow=35						
GAR	Garm	40.79	3	eP	P	06 29 38.8	-0.1
	comp=Z,40nm,1.0s						
GAR	Garm	40.79	3	eP	P	06 29 38.8	-0.1
GAR				pmax	pmax		
	comp=Z,40nm,1.0s						
LSZ	Lusaka	41.42	249	P	P	06 29 44.1	-0.4
	comp=Z,10nm,0.9s,baz=72,slow=7.7,SNR=9.2						
LSZ				PcP	PcP	06 31 42.8	+0.5
	comp=Z,1.3nm,0.4s,baz=18,slow=3.2,SNR=2.4						
LSZ	Lusaka	41.42	249	eP	P	06 29 44.0	-0.4
LSZ				epP	P	06 29 44.2	-0.3
LSZ				PcP	PcP	06 31 42.8	+0.5
BTK	Batken	41.87	3	eP	P	06 29 48.1	+0.4
	comp=Z,23nm,1.1s						
BTK	Batken	41.87	3	eP	P	06 29 48.1	+0.4
BTK				pmax	pmax		
	comp=Z,23nm,1.1s						
KSH	Kashi	41.90	9	P	P	06 29 44.8	-3.2
KSH				sP	pP	06 29 51.9	-4.2
KSH				PcP	PcP	06 31 44.1	+0.8
KSH				S	S	06 35 58.7	-5.6
KSH				ScS	ScS	06 39 44.0	-4.8
KSH				pmax	pmax		
	comp=Z,41nm,1.1s						
KSH				pmax	pmax		
	comp=Z,320nm,5.6s						
KSH				LR	LR		
	comp=Z,280nm,4.9s						
KSH				LR	LR		
	comp=Z,180nm,6.2s						
KSH				LR	LR		
	comp=Z,540nm,12.0s						
SFK	Sufi-Kurgan	42.05	6	P	P	06 29 50.4	+1.1
SFK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MATP	Matopo	42.69	242	P	P	06 29 54.6	-0.2
	comp=Z,16nm,1.2s,baz=47,slow=7.7,SNR=5.6						
KMI	Kunming	43.09	49	P	P	06 29 59.4	+1.3
KMI				pP	pP	06 30 02.7	-3.9
KMI				sP	sP	06 30 04.4	-5.1
KMI				S	S	06 36 26.2	+3.6
KMI				SS	SS	06 39 33.6	-2.2
KMI				pmax	pmax		
	comp=Z,22nm,0.5s						
KMI				pmax	pmax		
	comp=Z,210nm,3.7s						
KMI				LR	LR		
	comp=Z,320nm,16.8s						
KMI				LR	LR		
	comp=Z,340nm,18.2s						
KMI				LR	LR		
	comp=Z,390nm,17.2s						
ARSB	Arslanbob	43.29	5	eP	P	06 29 58.9	-0.5
	comp=Z,12nm,1.3s						
NRN	Naryn	43.77	9	eP	P	06 30 03.5	+0.1
	comp=Z,14nm,1.1s						
NRN	Naryn	43.77	9	eP	P	06 30 03.5	+0.1
NRN				pmax	pmax		
	comp=Z,14nm,1.1s						
KZA	Kyzart	44.30	8	P	P	06 30 08.6	+0.9
	SNR=26						
UCH	Uchtor	44.35	7	P	P	06 30 09.2	+1.1
	SNR=8.1						
KDJ	Kajisay	44.64	10	eP	P	06 30 11.5	+1.3
	comp=Z,31nm,1.1s						
EKS2	Erkin-Say	44.70	6	P	P	06 30 11.9	+1.4
	SNR=22						
AAK	Ala-Archa	44.76	7	P	P	06 30 11.8	+0.8
	comp=Z,9.3nm,1.1s,baz=197,slow=8.7,SNR=9.7						
AAK	Ala-Archa	44.76	7	P	P	06 30 11.6	+0.5
	SNR=8.2						
AAK	Ala-Archa	44.76	7	eP	P	06 30 11.4	+0.5
	comp=Z,16nm,1.3s						
AAK				eP	P	06 30 11.8	+0.8
AAK	Ala-Archa	44.76	7	c eP	P	06 30 11.5	+0.5
AAK				pmax	pmax		
	comp=Z,20nm,1.7s						
KBK	Karagaybulak	44.83	7	P	P	06 30 12.9	+1.2
	SNR=12						
ASF	Jabal al Asfar	44.92	322	LR	LR	06 47 37.7	
	comp=Z,156nm,20.4s,baz=93,slow=34						
FRU	Bishkek	44.96	7	eP	P	06 30 13.0	+0.5
FRU				pmax	pmax		
	comp=Z,40nm,1.9s						
TKM2	Tokmak 2	45.17	8	P	P	06 30 15.1	+0.7
	SNR=28						
TKM2	Tokmak 2	45.17	8	P	P	06 30 14.2	-0.2
TKM2				pmax	pmax		
	comp=Z,29nm,1.2s						
QIZ	Qiongzhong	46.10	61	P	P	06 30 21.4	-0.5
QIZ				S	S	06 37 07.4	+1.4
QIZ				LR	LR		
	comp=Z,310nm,13.9s						
PDGK	Podgornoye	46.23	12	P	P	06 30 22.3	-0.4
PDGK				pmax	pmax		
	comp=Z,19nm,1.3s						
GYA	Guiyang	46.80	50	⇑i P	P	06 30 27.3	-0.1
GYA				pmax	pmax		
	comp=Z,30nm,1.0s						
LBTB	Lobatse	46.86	237	P	P	06 30 27.6	-0.3
	comp=Z,8.8nm,1.1s,baz=43,slow=12						
LBTB	Lobatse	46.86	237	eP	P	06 30 27.6	-0.3
	comp=Z,17nm,1.2s						
LBTB	Lobatse	46.86	237	eP	P	06 30 27.6	-0.3
LBTB				pmax	pmax		
	comp=Z,17nm,1.2s						
CD2	Chengdu	47.17	43	eP	P	06 30 30.8	+0.6
CD2				S	S	06 37 24.7	+3.7
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
CD2				LR	LR		
	comp=Z,550nm,19.9s						
CD2				LR	LR		
	comp=Z,410nm,23.8s						
BOSA	Boshof	48.59	233	P	P	06 30 40.8	-0.6
	comp=Z,6.0nm,1.0s,baz=58,slow=7.2,SNR=6.5						
BOSA				LR	LR	06 48 38.7	
	comp=Z,295nm,18.5s,baz=31,slow=33						
WMQ	Urumqi	48.86	19	P	P	06 30 43.6	+0.6
WMQ				pP	pP	06 30 46.8	-4.5
WMQ				sP	sP	06 30 53.0	-1.7
WMQ				S	S	06 37 46.4	+1.8
WMQ				ScS	ScS	06 40 34.2	+1.0
WMQ				pmax	pmax		
	comp=Z,28nm,1.7s						
WMQ				pmax	pmax		
	comp=Z,340nm,3.9s						
WMQ				LR	LR		
	comp=Z,870nm,21.5s						
WMQ				LR	LR		
	comp=Z,330nm,23.3s						
WMQ				LR	LR		
	comp=Z,750nm,26.9s						
BCA	Borcka	49.38	334	S	S	06 37 53.5	+1.7
MAKZ	Makanchi	50.08	13	eP	P	06 30 51.3	-0.9
	comp=Z,15nm,1.1s						
MAKZ	Makanchi	50.08	13	eP	P	06 30 51.3	-0.9
MAKZ				pmax	pmax		
	comp=Z,15nm,1.1s						
OTUK	Ortayu	50.12	4	P	P	06 30 52.9	+0.4
OTUK				pmax	pmax		
	comp=Z,8.0nm,2.0s						
MK31	Makanchi Array	50.13	13	i P	P	06 30 51.3	-1.3
MK31				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MK32	Makanchi Array	50.13	13	eP	P	06 30 51.5	-1.1
MK32				ePcP	PcP	06 32 11.7	-0.2
MKAR	Makanchi Array	50.13	13	P	P	06 30 51.5	-1.1
	comp=Z,4.3nm,0.8s,baz=189,slow=7.0,SNR=44						
MKAR				PcP	PcP	06 32 11.7	-0.2
	comp=Z,3.9nm,1.0s,baz=201,slow=5.8,SNR=5.6						
MKAR				LR	LR	06 52 44.6	
	comp=Z,128nm,19.0s,baz=190,slow=37						
MKAR	Makanchi Array	50.13	13	eP	P	06 30 51.6	-1.1
	comp=Z,31nm,0.8s						
MKAR				PcP	PcP	06 32 11.7	-0.2
MKAR	Makanchi Array	50.13	13	eP	P	06 30 51.6	-1.1
MKAR						06 32 11.7	
MKAR				pmax	pmax		
	comp=Z,31nm,0.8s						
GTA	Gaotai	50.46	32	P	P	06 30 55.4	0.0
GTA				pP	pP	06 30 59.9	-3.7
GTA				sP	sP	06 31 02.5	-4.5
GTA				PcP	PcP	06 32 14.0	+0.7
GTA				S	S	06 38 08.6	+1.4
GTA				sS	pS	06 38 18.4	+1.1
GTA				SS	SS	06 41 39.5	-2.1
GTA				pmax	pmax		
	comp=Z,5.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,130nm,4.6s						
GTA				LR	LR		
	comp=Z,410nm,19.6s						
GTA				LR	LR		
	comp=Z,320nm,20.3s						
GTA				LR	LR		
	comp=Z,690nm,21.0s						
LZH	Lanzhou	50.47	38	eP	P	06 31 00.5	+4.9
LZH				pP	pwP	06 31 15.5	+6.4
LZH				sP	sP	06 31 20.7	+14
LZH				pmax	pmax		
	comp=Z,23nm,1.4s						
LZH	Lanzhou	50.47	38	eP	P	06 30 55.9	+0.3
LZH				pP	pP	06 31 00.8	-3.0
LZH				sP	sP	06 31 03.7	-3.5
LZH				eS	S	06 38 09.4	+1.8
LZH				sS	pS	06 38 18.6	+1.0
LZH				SS	SS	06 41 33.7	-8.3
LZH				pmax	pmax		
	comp=Z,24nm,1.2s						
LZH				pmax	pmax		
	comp=Z,130nm,5.2s						
LZH				LR	LR		
	comp=Z,2μm,13.8s						
LZH				LR	LR		
	comp=Z,1μm,13.6s						
LZH				LR	LR		
	comp=Z,2μm,17.9s						
KBZ	Khabaz	50.72	337	P	P	06 30 57.5	+0.4
	comp=Z,6.4nm,0.9s,baz=162,slow=6.6,SNR=9.7						
KBZ				LR	LR	06 51 33.1	
	comp=Z,83nm,21.1s,baz=176,slow=35						
ENH	Enshi	50.89	48	eP	P	06 30 58.0	-0.7
	comp=Z,85nm,1.4s						
KIV	Kislovodsk	51.00	337	eP	P	06 30 58.9	-0.4
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,53nm,17.0s						
AB31	Akbulak array	51.46	353	P	P	06 31 01.2	-1.3
AB31				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ABKAR	Akbulak array	51.46	353	eP	P	06 31 01.6	-0.9
BR101	Keskin Array S	52.05	327	eP	P	06 31 07.7	+0.4
BRTR	Keskin Array B	52.05	327	P	P	06 31 07.7	+0.4
	comp=Z,3.1nm,0.9s,baz=134,slow=11,SNR=10						
BRTR				LR	LR	06 53 09.0	
	comp=Z,98nm,18.1s,baz=118,slow=36						
BRTR	Keskin Array B	52.05	327	c eP	P	06 31 08.3	+1.0
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
XAN	Xi'an	52.53	43	P	P	06 31 10.4	-0.5
XAN				pP	pP	06 31 20.6	+1.4
XAN				PP	PP	06 33 11.0	+0.9
XAN				S	S	06 38 38.3	+2.4
XAN				pmax	pmax		
	comp=Z,44nm,1.2s						
XAN				pmax	pmax		
	comp=Z,230nm,4.5s						
XAN				LR	LR		
	comp=Z,260nm,14.9s						
XAN				LR	LR		
	comp=Z,230nm,18.2s						
XAN	Xi'an	52.53	43	eP	P	06 31 10.1	-0.8
	comp=Z,60nm,1.1s						
XAN	Xi'an	52.53	43	eP	P	06 31 10.1	-0.8
XAN				pmax	pmax		
	comp=Z,60nm,1.1s						
AKTO	Aktyubinsk	52.86	352	P	P	06 31 11.4	-1.6
AKTO				pmax	pmax		
	comp=Z,11nm,1.2s						
KURK	Kurchatov	53.23	8	eP	P	06 31 14.9	-0.7
	comp=Z,18nm,0.9s						
KURK	Kurchatov	53.23	8	c eP	P	06 31 14.7	-0.9
KURK				pmax	pmax		
	comp=Z,22nm,1.0s						
DGZ	Jazzator, Alta	54.10	15	d i P	P	06 31 21.6	-0.6
DGZ				pmax	pmax		
	comp=Z,9.0nm,1.4s						
TGY	Tagaytay City	54.82	71	LR	LR	06 53 21.2	
	comp=Z,176nm,20.2s,baz=226,slow=34						
BRVK	Borovoye	54.83	2	eP	P	06 31 27.2	-0.1
	comp=Z,12nm,1.4s						
BRVK	Borovoye	54.83	2	c i P	P	06 31 26.3	-1.0
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NWAO	Narrogin (SRO)	55.47	129	P	P	06 31 32.3	0.0
	comp=Z,12nm,0.8s,baz=264,slow=5.2,SNR=3.7						
NWAO				LR	LR	06 50 32.7	
	comp=Z,141nm,21.9s,baz=97,slow=31						
BATI	Baumata	55.90	101	LR	LR	06 54 31.1	
	comp=Z,244nm,20.8s,baz=274,slow=35						
ZALV	Zalesovo Beam	57.42	12	P	P	06 31 44.6	-1.2
	comp=Z,9.5nm,0.7s,baz=218,slow=7.5,SNR=47						
ZALV				LR	LR	06 55 02.1	
	comp=Z,134nm,20.9s,baz=248,slow=35						
ZAA1	Zalesovo Array	57.43	12	eP	P	06 31 44.6	-1.2
NVS	Novosibirsk	57.97	10	eP	P	06 31 48.1	-1.5
NVS				pmax	pmax		
	comp=E,19nm,1.2s						
NVS				pmax	pmax		
	comp=N,16nm,1.4s						
HHC	Hu-ho-hao-te	58.17	38	eP	P	06 31 52.3	+0.8
HHC				sP	pP	06 31 59.9	0.0
HHC				S	S	06 39 54.6	+3.5
HHC				sS	pS	06 40 00.3	-1.4
HHC				pmax	pmax		
	comp=N,14nm,0.9s						
HHC				pmax	pmax		
	comp=N,210nm,5.5s						
HHC				LR	LR		
	comp=N,260nm,15.9s						
HHC				LR	LR		
	comp=N,280nm,14.5s						
HHC				LR	LR		
	comp=N,310nm,15.7s						
VSR	Storozhevoye	58.35	339	i P	P	06 31 52.3	-0.1
VSR				pmax	pmax		
	comp=Z,32nm,1.5s						
ARU	Arti	58.68	354	eP	P	06 31 54.0	-0.6
	comp=Z,12nm,1.1s						
ARU	Arti	58.68	354	P	P	06 31 51.6	-2.9
ARU				S	S	06 39 56.1	-0.8
FITZ	Fitzroy Crossi	58.73	110	LR	LR	06 56 33.9	
	comp=Z,107nm,18.4s,baz=282,slow=35						
NJ2	Nanjing	58.81	50	eP	P	06 31 54.6	-1.3
NJ2				pmax	pmax		
	comp=Z,24nm,0.5s						
SVE	Sverdlovsk	58.88	355	eP	P	06 31 56.0	+0.1
SVE				pmax	pmax		
	comp=Z,17nm,1.0s						
SONA0	Songino Array	59.81	29	eP	P	06 32 03.3	+0.6
SONM	Songino Array	59.81	29	P	P	06 32 03.3	+0.6
	comp=Z,11nm,0.9s,baz=221,slow=6.9,SNR=59						
SONM				LR	LR	06 58 07.1	
	comp=Z,677nm,18.5s,baz=211,slow=36						
ULN	Ulaanbaatar	60.15	29	eP	P	06 32 04.9	-0.2
	comp=Z,8.2nm,1.3s						
ULN	Ulaanbaatar	60.15	29	c eP	P	06 32 05.3	+0.2
ULN				pmax	pmax		

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,13nm,1.7s						
ZAK	Zakamensk	60.23	25	eP	P	06 32 05.3	-0.2
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
BJT	Baijiatuau	60.64	41	eP	P	06 32 08.3	-0.1
BJT	Baijiatuau	60.64	41	eP	P	06 32 08.3	-0.1
AKASG	Malin Array Be	61.99	333	P	P	06 32 16.2	-1.0
	comp=Z,0.7nm,0.6s,baz=122,slow=6.1,SNR=4.3						
AKASG				LR	LR	07 01 46.2	
	comp=Z,42nm,19.4s,baz=215,slow=39						
AKASG	Malin Array Be	61.99	333	i P	P	06 32 18.2	+0.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKBB	Malin Array Si	61.99	333	eP	P	06 32 16.2	-1.0
AKBB	Malin Array Si	61.99	333	eP	P	06 32 16.3	-1.0
KIEV	Kiev	61.99	333	i P	P	06 32 17.3	0.0
KIEV				pmax	pmax		
	comp=Z,15nm,2.6s						
OBN	Obninsk	62.45	340	i P	P	06 32 17.9	-2.3
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
DIVS	Divibare	62.70	323	eP	P	06 32 22.7	+0.4
	comp=Z,11nm,1.5s						
FAKI	Fak Fak	64.20	92	eP	P	06 32 33.0	+0.3
	comp=Z,22nm,1.2s						
TAM	Tamanrasset	65.58	296	P	P	06 32 44.5	+2.8
TAM				pmax	pmax		
	comp=Z,6.0nm,1.9s						
MAW	Mawson	65.64	182	LR	LR	06 53 53.5	
	comp=Z,195nm,20.2s,baz=15,slow=29						
PRGR	Permogore	65.67	348	eP	P	06 32 39.1	-2.2
PRGR				pmax	pmax		
	comp=Z,17nm,1.3s						
KEST	Kesra	66.19	311	LR	LR	06 59 58.0	
	comp=Z,51nm,18.1s,baz=290,slow=34						
KLMR	Klimovskoe	66.37	345	eP	P	06 32 43.6	-2.2
KLMR				pmax	pmax		
	comp=Z,25nm,1.1s						
KLMR	Klimovskoe	66.37	345	eP	P	06 32 43.6	-2.2
KLMR				AMP		06 32 46.6	
	comp=Z,25nm,1.1s						
WR1	Warramunga Arr	67.14	111	eP	P	06 32 51.0	-0.6
	comp=Z,24nm,1.3s						
WRA	Warramunga Arr	67.14	111	P	P	06 32 51.0	-0.6
	comp=Z,8.8nm,1.0s,baz=283,slow=6.1,SNR=37						
WRA				LR	LR	06 58 24.0	
	comp=Z,109nm,22.0s,baz=265,slow=33						
WRAB	Tennant Creek	67.15	111	eP	P	06 32 51.3	-0.4
	comp=Z,15nm,1.1s						
WRAB	Tennant Creek	67.15	111	ceP	P	06 32 50.3	-1.4
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WB2	Warramunga Arr	67.15	111	eP	P	06 32 50.6	-1.0
	comp=Z,16nm,1.1s						
WB2				eP	P	06 32 51.1	-0.6
CONA	Conrad Observa	67.18	325	eP	P	06 32 49.3	-2.1
	comp=Z,6.2nm,1.0s						
ASAR	Alice Springs	67.21	115	P	P	06 32 51.4	-0.7
	comp=Z,4.6nm,1.0s,baz=278,slow=6.0,SNR=21						
ASAR				LR	LR	06 57 43.2	
	comp=Z,81nm,21.7s,baz=286,slow=32						
AS31	Alice Springs	67.21	115	eP	P	06 32 51.4	-0.7
	comp=Z,1.2nm,0.9s						
OBKA	Obir	67.24	323	eP	P	06 32 50.9	-0.9
	comp=Z,1.0nm,0.5s						
AS01	Alice Springs	67.25	115	eP	P	06 32 51.3	-1.0
TOA0	Torodi Ar. Sit	67.43	285	eP	P	06 32 54.1	+0.6
TORD	Torodi Ar. Bea	67.43	285	P	P	06 32 52.6	-0.9
	comp=Z,2.9nm,1.1s,baz=126,slow=7.1,SNR=9.9						
TOA1	Torodi Ar. Sit	67.43	285	eP	P	06 32 52.6	-0.9
KS15	Wonju Array Si	67.75	48	eP	P	06 32 54.5	-0.6
KSAR	Wonju Array Be	67.75	48	P	P	06 32 54.5	-0.6
KSAR	Wonju Array Be	67.75	48	P	P	06 32 54.5	-0.6
KSRS	Korea Array	67.78	48	P	P	06 32 54.5	-0.8
	comp=Z,3.8nm,0.9s,baz=244,slow=7.7,SNR=8.0						
KSRS				LR	LR	07 03 51.1	
	comp=Z,184nm,20.2s,baz=246,slow=37						
MOA	Molln	68.07	324	eP	P	06 32 55.8	-1.1
	comp=Z,1.4nm,0.6s						
VSU	Vasula	68.51	338	ceP	P	06 32 58.4	-1.0
VSU				pmax	pmax		
	comp=Z,46nm,1.1s						
CN2	Changchun	68.52	41	eP	P	06 33 01.5	+1.7
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GERES	GERESS Array B	68.89	325	LR	LR	07 06 05.0	
	comp=Z,52nm,18.5s,baz=100,slow=38						
SYO	Syowa Base	69.63	191⇑	eP	P	06 33 06.0	-0.2
SYO	Syowa Base	69.63	191⇑	esP	sP	06 33 13.6	-4.5
BRG	Berggiesshubel	69.77	327	eP	P	06 33 07.7	+0.3
	comp=Z,6.6nm,1.3s						
BRG	Berggiesshubel	69.77	327	eP	P	06 33 07.7	+0.3
BRG				pmax	pmax		
	comp=Z,7.0nm,1.3s						
FETA	Feichten	69.80	322	P	P	06 33 08.0	+0.1
	comp=Z,11nm,1.9s						
JOF	Joensuu	70.30	343	P	P	06 33 11.3	+0.9
JOF				pmax	pmax		
	comp=Z,25nm,1.4s						
DAVA	Damuels	70.43	322	eP	P	06 33 11.7	0.0
	comp=Z,11nm,0.9s						
CLL	Collm	70.50	327	i P	P	06 33 11.4	-0.4
	comp=Z,8.0nm,1.2s						
CLL				e		06 33 17.0	
CLL	Collm	70.50	327	i P	P	06 33 11.4	-0.4
CLL				e		06 33 17.0	
CLL				pmax	pmax		
	comp=Z,7.0nm,1.2s						
FIA0	FINESS Array S	70.85	340	eP	P	06 33 13.9	+0.1
FIA0	FINESS Array S	70.85	340	eP	P	06 33 13.9	+0.1
FINES	FINESS Array B	70.85	340	P	P	06 33 13.9	+0.1
	comp=Z,3.5nm,0.9s,baz=193,slow=7.4,SNR=3.9						
FINES				LR	LR	07 06 01.7	
	comp=Z,113nm,18.2s,baz=152,slow=37						
MDJ	Mudanjiang	71.58	41	eP	P	06 33 19.5	+0.9
	comp=Z,13nm,0.9s						
SENIN	Lac Senin/Sane	71.66	320	eP	P	06 33 19.6	+0.3
	comp=Z,6.3nm,0.8s						
BFO	Black Forest	71.82	323	ceP	P	06 33 20.9	+0.9
USRK	Ussuriysk Ar.	73.03	43	P	P	06 33 25.6	-1.6
	comp=Z,2.6nm,0.9s,baz=264,slow=7.6,SNR=5.3						
USRK				LR	LR	07 05 44.5	
	comp=Z,86nm,21.8s,baz=246,slow=36						
DBIC	Dimbokro	73.20	278	P	P	06 33 29.5	+0.6
	comp=Z,7.1nm,0.9s,baz=82,slow=5.1,SNR=5.9						
DBIC	Dimbokro	73.20	278	eP	P	06 33 29.5	+0.6
	comp=Z,14nm,1.0s						
DBIC	Dimbokro	73.20	278	eP	P	06 33 29.5	+0.6
DBIC				pmax	pmax		
	comp=Z,14nm,1.0s						
MSF	Maaselka	73.23	344	eP	P	06 33 28.5	+0.5
MSF				pmax	pmax		
	comp=Z,20nm,2.4s						
OUL	Oulu	73.51	343	P	P	06 33 31.1	+1.5
OUL				pmax	pmax		
	comp=Z,19nm,1.3s						
ZEA	Zeya	73.95	32	eP	P	06 33 31.9	-0.5
ZEA				pmax	pmax		
	comp=Z,48nm,1.8s						
KLR	Kul'dur	74.67	38	LR	LR	07 09 58.5	
	comp=Z,120nm,18.6s,baz=245,slow=39						
KLR	Kul'dur	74.67	38	i P	P	06 33 36.0	-0.8
STKA	Stephens Creek	75.07	122	P	P	06 33 37.9	-1.6
	comp=Z,2.7nm,0.8s,baz=270,slow=5.9,SNR=4.0						
STKA				LR	LR	07 06 11.6	
	comp=Z,80nm,18.1s,baz=226,slow=35						
MAJO	Matsushiro	75.37	52	eP	P	06 33 40.9	-0.2
MAJO	Matsushiro	75.37	52	eP	P	06 33 40.9	-0.2
MJAR	Matsushiro Arr	75.38	52	P	P	06 33 40.9	-0.2
	comp=Z,4.6nm,0.9s,baz=252,slow=6.0,SNR=6.3						
MJAR				LR	LR	07 08 46.1	
	comp=Z,137nm,18.6s,baz=255,slow=37						
NB200	NORSAR Array S	76.28	335	eP	P	06 33 44.5	-1.2
NOA	NORSAR Array B	76.28	335	P	P	06 33 44.5	-1.2
	comp=Z,2.1nm,1.1s,baz=112,slow=6.2,SNR=3.3						
KONO	Kongsberg	76.28	334	ceP	P	06 33 46.6	+0.8
KONO				pmax	pmax		
	comp=Z,13nm,1.1s						
ARCES	ARCESS Array B	76.83	346	LR	LR	07 07 52.2	
	comp=Z,5.7nm,21.3s,baz=118,slow=36						
ESDC	Sonseca Array	77.43	311	P	P	06 33 53.1	+0.3
	comp=Z,2.0nm,0.9s,baz=96,slow=5.5,SNR=7.9						
GRNR	Gornyy	78.03	37	eP	P	06 33 54.3	-1.5
CTAO	Charters Tower	78.32	110	eP	P	06 33 57.9	-0.2
	comp=Z,14nm,1.3s						
CTAO	Charters Tower	78.32	110	eP	P	06 33 57.9	-0.2
CTAO				pmax	pmax		
	comp=Z,14nm,1.3s						
ASAJ	Asahikawa	80.34	45	LR	LR	07 14 23.4	
	comp=Z,70nm,18.0s,baz=26,slow=39						
YSS	Yuzh-Sakhalins	81.06	42⇑	eP	P	06 34 11.8	-0.5
YSS				pmax	pmax		
	comp=Z,30nm,1.3s						
TIXI	Tiksi	82.98	16	ceP	P	06 34 20.9	-1.0
TIXI				pmax	pmax		
	comp=Z,37nm,1.7s						
QSPA	South Pole Qui	88.06	180	eP	P	06 34 47.0	-0.5
	comp=Z,20nm,1.4s						
VNDA	Vanda	88.96	167	P	P	06 34 51.5	+0.1
	comp=Z,1.3nm,0.8s,baz=288,slow=6.6,SNR=6.6						
VNDA				LR	LR	07 08 57.5	
	comp=Z,93nm,19.9s,baz=215,slow=32						
SEY	Seymchan	89.15	27	i P	P	06 34 51.4	-1.1
PETK	Petropavlovsk-	91.36	37	LR	LR	07 18 40.3	
	comp=Z,148nm,18.6s,baz=260,slow=37						
BILL	Bilibino	94.89	22	eP	P	06 35 19.3	+0.3
BILL				pmax	pmax		
	comp=Z,12nm,3.5s						
DZM	Mont Dzumac	97.11	112	eLR	LR	07 06 59.6	
	comp=Z,199nm,27.9s						
YKA	Yellowknife Ar	119.56	1	PKP	PKPdf	06 40 45.3	-1.3
	comp=Z,0.9nm,0.9s,baz=348,slow=2.3,SNR=11						
YKA				PP	PP	06 42 05.2	-3.0
	comp=Z,0.5nm,1.0s,baz=350,slow=6.5,SNR=6.1						
YKB5	Yellowknife Ar	119.56	1	ePKPdf	PKPdf	06 40 45.4	-1.3
PPT2	Papeete2	138.21	119	eLR	LR	07 26 02.9	
	comp=Z,97nm,24.5s						
REDW	Red Top Meadow	138.74	359	ePKPdf	PKPdf	06 41 23.7	-0.2
PD31	Pinedale Array	139.29	357	ePKPdf	PKPdf	06 41 24.2	-0.8
PDAR	Pinedale Array	139.29	357	PKhKP	PKPpre	06 41 21.2	
	comp=Z,0.7nm,0.8s,baz=270,slow=4.5,SNR=6.4						
PDAR	Pinedale Array	139.29	357	ePKPdf	PKPdf	06 41 23.8	-1.1
NV01	Mina Array Sit	143.22	8	ePKPdf	PKPbc	06 41 30.6	+1.6
NVAR	Mina Array Bea	143.22	8	PKP	PKPbc	06 41 30.6	+1.6
	comp=Z,1.2nm,0.9s,baz=314,slow=2.1,SNR=6.7						
PSUT	Pine Spring	143.54	2	ePKPdf	PKPbc	06 41 30.9	+1.0
PV12	Saucer Basin,	143.67	356	ePKPdf	PKPbc	06 41 32.0	+1.7
PV11	David Mesa, Pa	143.69	356	ePKPdf	PKPbc	06 41 31.0	+0.6
PV13	Radium Mtn., P	143.83	356	ePKPpre	PKPpre	06 41 30.7	
S22A	4UR Ranch, Cre	144.04	353	P	PKPab	06 41 31.3	+0.3
	baz=8.8						
MTPU	Mount Pierson	144.07	0	ePKPdf	PKPbc	06 41 32.8	+1.1
T25A	Trinidad	144.27	350	P	PKPab	06 41 32.3	+0.4
	baz=13						
SZCU	Shurtz Canyon	144.50	1	ePKPdf	PKPab	06 41 33.6	+0.9
CCUT	Cedar City	144.53	2	ePKPdf	PKPbc	06 41 33.7	+0.7
PKCU	Pink Cliffs	144.66	0	ePKPdf	PKPbc	06 41 34.4	+0.9
LCMT	Little Creek M	145.08	2	ePKPbc	PKPab	06 41 35.5	+0.8
KNB	Kanab	145.08	1	ePKPbc	PKPbc	06 41 34.8	+0.1
KNB	Kanab	145.08	1	PKIKP	PKPbc	06 41 35.5	+0.8
WMOK	Wichita Mounta	145.11	341	ePKPbc	PKPbc	06 41 34.3	-0.4
WMOK	Wichita Mounta	145.11	341	ePKIKP	PKPbc	06 41 34.3	-0.4
WMOK	Wichita Mounta	145.11	341	P	PKPbc	06 41 34.4	-0.3
	baz=24,SNR=15						
CWC	Cottonwood Cre	145.21	9	P	PKPbc	06 41 35.1	-0.1
	baz=349						
FURC	Furnace Creek,	145.35	7	P	PKPbc	06 41 35.9	+0.6
	baz=351						
DAC	Darwin (Calif)	145.44	8	ePKPdf	PKPbc	06 41 35.7	-0.2
DAC	Darwin (Calif)	145.44	8	ePKIKP	PKPbc	06 41 35.7	-0.2
SHPR	Sheep Range	145.48	4	ePKPdf	PKPbc	06 41 36.1	+0.1
MPMC	Manual Prospec	145.67	8	P	PKPdf	06 41 37.3	+0.9
	baz=350,SNR=17						
U15A	North Rim	145.68	0	ePKPdf	PKPdf	06 41 36.6	+0.1
AMTX	Amarillo	145.84	345	ePKPdf	PKPdf	06 41 35.6	-0.9
ISA	Isabella, Lake	145.91	9	ePKPdf	PKPdf	06 41 36.3	-0.4
ISA	Isabella, Lake	145.91	9	ePKP2	PKPdf	06 41 36.3	-0.4
ISA	Isabella, Lake	145.91	9	P	PKPdf	06 41 37.1	+0.4
	baz=348,SNR=5.4						
SMMC	Simmler	145.97	12	P	PKPdf	06 41 37.2	+0.5
	baz=346						
SHOC	Shoshone, Teco	145.97	6	P	PKPdf	06 41 37.4	+0.7
	baz=352						
LRMC	Laurel Mtn Rad	146.21	8	P	PKPdf	06 41 38.0	+0.7
	baz=350,SNR=5.8						
ARVC	Arvin	146.37	10	P	PKPdf	06 41 38.2	+0.9
	baz=348						
OTAV	Otavalo	146.40	268	ePKPdf	PKPdf	06 41 39.0	+0.4
OTAV	Otavalo	146.40	268	PKP2	PKPbc	06 41 40.4	+0.5
GSC	Goldstone, Bar	146.50	7	ePKPdf	PKPdf	06 41 39.2	+1.5
GSC	Goldstone, Bar	146.50	7	P	PKPbc	06 41 39.8	+0.7
	baz=351,SNR=8.4						
WUAZ	Wupatki	146.58	359	ePKPdf	PKPdf	06 41 39.3	+1.4
EDW2	Edwards Air Fo	146.75	9	P	PKPbc	06 41 40.3	+0.5
	baz=349,SNR=6.6						
ANMO	Albuquerque	146.75	352	ePKPdf	PKPdf	06 41 38.9	+0.6
ANMO	Albuquerque	146.75	352	ePKP2	PKPdf	06 41 38.9	+0.6
W18A	Petrified Fore	146.92	357	P	PKPbc	06 41 40.6	+0.1
	baz=4.1						
W13A	Hualapai Mount	146.96	3	ePKPdf	PKPdf	06 41 40.1	+1.5
MSTX	Muleshoe	146.98	346	ePKPdf	PKPdf	06 41 40.0	+1.5
MSTX	Muleshoe	146.98	346	P	PKPbc	06 41 40.8	+0.3
	baz=17						
HEC	Hector,Ludlow	147.03	7	P	PKPbc	06 41 41.5	+0.9
	baz=352						
WHTX	Lake Whitney,	147.10	337	P	PKPab	06 41 42.3	0.0
	baz=27						
GMRC	Granite Mounta	147.14	6	P	PKPbc	06 41 41.6	+0.6
	baz=353,SNR=6.3						
ABTX	Abilene, Hawle	147.33	340	P	PKPbc	06 41 41.5	+0.1
	baz=23						
BFSC	Mount Baldy Ra	147.43	9	P	PKPbc	06 41 41.4	-0.4
	baz=350						
BBRC	Big Bear Solar	147.51	8	P	PKPbc	06 41 42.5	+0.4
	baz=351						
X16A	Lo Mia Camp, P	147.68	359	ePKPdf	PKPdf	06 41 40.7	+0.8
PDMCI	Parker Dam,Lak	147.74	3	P	PKPbc	06 41 42.8	+0.4
	baz=356						
IRM	Iron Mountain	147.81	5	P	PKPbc	06 41 43.5	+0.8
	baz=354,SNR=7.8						
MURC	Murrieta	148.13	8	P	PKPbc	06 41 44.4	+0.8
	baz=350						
PFO	Pinyon Flats O	148.21	7	ePKPbc	PKPbc	06 41 44.8	+0.9
PFO	Pinyon Flats O	148.21	7	ePKP2	PKPbc	06 41 44.8	+0.9
PFO	Pinyon Flats O	148.21	7	P	PKPbc	06 41 45.2	+1.2
	baz=352,SNR=7.7						
XPFO	Pion Flat	148.21	7	ePKPbc	PKPbc	06 41 44.0	+0.1
Y12C	Blythe	148.26	4	epPKPdf	PKPdf	06 41 42.9	+2.3
Y12C	Blythe	148.26	4	P	PKPbc	06 41 45.0	+1.1
	baz=355						
BC3	Big Chuckawall	148.28	5	P	PKPbc	06 41 44.5	+0.4
	baz=353						
MONP2	Monument Peak	148.93	7	P	PKPbc	06 41 46.5	+0.6
	baz=351						
BAR	Barrett	149.10	8	ePKPdf	PKPdf	06 41 42.6	+0.6
IKP	In-Ko-Pah, Jac	149.20	7	P	PKPbc	06 41 47.3	+0.9
	baz=352						
121A	Cookes Peak, D	149.31	353	P	PKPbc	06 41 47.1	+0.3
	baz=8.2						
JCT	Junction City	149.34	339	epPKPdf	PKPdf	06 41 44.9	+2.5
JCT	Junction City	149.34	339	ePKP2	PKPdf	06 41 44.9	+2.5
MNTX	Cornudas Mount	149.74	349	ePKPbc	PKPbc	06 41 47.7	0.0
TUC	Tucson	149.76	358	ePKPbc	PKPbc	06 41 47.3	-0.5
TUC	Tucson	149.76	358	ePKP2	PKPbc	06 41 47.3	-0.5
214A	Organ Pipe Nat	150.13	1	P	PKPbc	06 41 48.9	+0.2
	baz=358						
319A	Douglas	150.60	355	ePKPbc	PKPbc	06 41 50.7	+0.7
LTX	Lajitas	151.62	345	ePKPbc	PKPbc	06 41 52.0	-0.3
LTX				ePKPab	PKPab	06 42 01.6	+0.9
LTX	Lajitas	151.62	345	ePKIKP	PKPbc	06 41 52.1	-0.3
TX31	Lajitas Ar. Si	151.62	345	ePKPbc	PKPbc	06 41 51.6	-0.8
TX31				ePKPbc	PKiKP	06 41 52.2	-0.5
TXAR	Lajitas Array	151.62	345	PKPbc	PKPbc	06 41 52.0	-0.3
	comp=Z,4.9nm,1.0s,baz=56,slow=1.6,SNR=27						
TXAR				PKPab	PKPab	06 42 01.6	+0.9
	comp=Z,6.3nm,1.1s,baz=2.3,slow=6.3,SNR=8.5						

*ISCJB **09** 06:27:36.9±0.5, 1.°92S±0.°07×68.°03E±0.°08, h15km, mb4.3/21, MS3.9/1, Error ellipse: s-maj=12.5km s-min=9.2km az=160.1*
*IDC **09** 06:27:36.5±0.7, 1.°88S×68.°01E, h0km, mb4.2/13, mb1 4.3/13, mb1mx3.9/59, mbtmp4.2/13, MS4.0/1, Ms1 4.0/1, ms1mx3.1/40, Error ellipse: s-maj=20.6km s-min=16.9km az=133.0*
*NEIC **09** 06:27:38.1±0.3, 1.°91S×68.°01E, h10km, mb4.4/10, Error ellipse: s-maj=9.3km s-min=7.1km az=71.0*
ISC 09 06:27:38.8±0.7**, 1.°9S**±0.°1×**68.°0E**±0.°1**, h15km, n45, σ0.s79**/38**, mb4.3**/21**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.29	146	T	T	06 34 17.1	
	baz=325,slow=75,SNR=84						
H08N3	Diego Garcia H	5.30	146	T	T	06 34 17.9	
	baz=325,slow=75,SNR=96						
H08N1	Diego Carcia H	5.31	146	T	T	06 34 18.8	
	baz=325,slow=75,SNR=108						
DGAR	Diego Garcia	7.02	141	ePn	Pn	06 29 21.1	-0.1
H08S3	Diego Garcia H	7.21	142	T	T	06 36 59.5	
	baz=317,slow=70,SNR=12						
H08S1	Diego Carcia H	7.22	142	T	T	06 36 59.0	
	baz=317,slow=70,SNR=4.7						
H08S2	Diego Garcia H	7.23	142	T	T	06 37 01.0	
	baz=317,slow=70,SNR=4.8						
PSI	Prapat	31.25	81	LR	LR	06 44 08.4	
	comp=Z,274nm,21.4s,baz=263,slow=32						
CMAR	Chiang Mai Arr	36.55	55	P	P	06 34 42.2	-2.1
	2.0nm,0.4s,baz=259,slow=14,SNR=2.9						
GAR	Garm	40.77	3	eP	P	06 35 19.8	+0.2
	11nm,0.9s						
LSZ	Lusaka	41.45	249	P	P	06 35 25.0	-0.6
	2.3nm,0.5s,baz=69,slow=7.9,SNR=6.4						
LSZ	Lusaka	41.45	249	eP	P	06 35 26.3	+0.7
	5.6nm,1.0s						
BTK	Batken	41.85	3	eP	P	06 35 29.5	+1.1
	4.6nm,0.8s						
MATP	Matopo	42.72	242	P	P	06 35 35.9	0.0
	3.1nm,1.0s,baz=99,slow=6.2,SNR=3.6						
NRN	Naryn	43.76	9	eP	P	06 35 44.0	-0.1
	4.2nm,0.8s						
AAK	Ala-Archa	44.74	7	P	P	06 35 51.4	-0.4
	2.2nm,0.7s,baz=197,slow=8.8,SNR=5.6						
AAK	Ala-Archa	44.74	7	eP	P	06 35 51.4	-0.4
AAK				eP	P	06 35 53.1	+1.3
BOSA	Boshof	48.62	233	P	P	06 36 23.3	+0.8
	4.6nm,1.1s,baz=77,slow=5.3,SNR=4.6						
MAKZ	Makanchi	50.05	12	eP	P	06 36 33.3	+0.4
	4.7nm,0.9s						
MK32	Makanchi Array	50.11	13	eP	P	06 36 33.5	+0.2
MKAR	Makanchi Array	50.11	13	P	P	06 36 33.5	+0.2
	2.1nm,0.8s,baz=188,slow=7.0,SNR=17						
MKAR	Makanchi Array	50.11	13	eP	P	06 36 33.5	+0.2
	14nm,0.8s						
KBZ	Khabaz	50.72	337	P	P	06 36 37.6	-0.3
	2.9nm,0.9s,baz=159,slow=3.8,SNR=4.7						
ABKAR	Akbulak array	51.45	353	eP	P	06 36 43.6	+0.2
BRTR	Keskin Array B	52.05	326	P	P	06 36 46.9	-1.3
	1.0nm,1.1s,baz=87,slow=7.9,SNR=2.3						
BR101	Keskin Array S	52.05	326	eP	P	06 36 47.0	-1.3
XAN	Xi'an	52.50	43	eP	P	06 36 52.7	+1.1
	13nm,1.0s						
AKTO	Aktyubinsk	52.85	352	P	P	06 36 53.7	-0.1
	2.1nm,0.9s,baz=184,slow=8.0						
KURK	Kurchatov	53.21	8	eP	P	06 36 57.0	+0.6
	6.6nm,1.0s						
ZALV	Zalesovo Beam	57.40	12	P	P	06 37 26.6	0.0
	4.4nm,0.8s,baz=224,slow=8.2,SNR=9.2						
ZALV	Zalesovo Beam	57.40	12	eP	P	06 37 26.2	-0.3
ZAA1	Zalesovo Array	57.41	12	eP	P	06 37 26.6	0.0
SONA0	Songino Array	59.78	29	eP	P	06 37 44.8	+1.3
SONM	Songino Array	59.78	29	P	P	06 37 44.8	+1.3
	3.7nm,0.9s,baz=224,slow=6.3,SNR=18						
SONA1	Songino Array	59.80	29	eP	P	06 37 44.6	+1.0
WRA	Warramunga Arr	67.11	111	P	P	06 38 32.9	+0.5
	2.5nm,1.0s,baz=282,slow=6.0,SNR=9.8						
WR1	Warramunga Arr	67.12	111	eP	P	06 38 32.9	+0.5
	3.8nm,1.1s						
WB2	Warramunga Arr	67.13	111	eP	P	06 38 32.9	+0.4
ASAR	Alice Springs	67.19	115	P	P	06 38 33.1	+0.2
	1.4nm,0.9s,baz=294,slow=5.5,SNR=7.8						
AS31	Alice Springs	67.19	115	eP	P	06 38 33.1	+0.2
	0.7nm,0.9s						
AS01	Alice Springs	67.23	115	eP	P	06 38 31.8	-1.3
PDAR	Pinedale Array	139.27	357	PKhKP	PKPpre	06 47 03.0	
	0.5nm,0.8s,baz=259,slow=0.9,SNR=2.4						
MTPU	Mount Pierson	144.05	0	ePKPdf	PKPdf	06 47 14.2	-0.7
LTX	Lajitas	151.61	345	ePKPbc	PKiKP	06 47 33.9	0.0
TXAR	Lajitas Array	151.61	345	PKPbc	PKiKP	06 47 33.9	0.0
	1.6nm,1.0s,baz=108,slow=0.9,SNR=10						

*ISCJB **09** 06:28:20.5±0.6, 24.°43N±0.°06×122.°84E±0.°02, h69km±6km, Error ellipse: s-maj=9.5km s-min=3.3km az=179.2*
*TAP **09** 06:28:20.4, 24.°48N×122.°86E, h70km, ML2.6, C*
*JMA **09** 06:28:20.5±0.1, 24.°42N×122.°84E, h70km±1km, M2.3*
ISC 09 06:28:21.0±1.4**, 24.°44N**±0.°07×**122.°84E**±0.°03**, h67km**±8km**, n29, σ0.s53**/50**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.10	82	P	Pn	06 28 30.8	0.0
JYNG				S	Sn	06 28 38.2	+0.2
YOJ	Yonaguni jima	0.16	81	eP	Pn	06 28 31.0	-0.1
	baz=97						
YOJ				eS	Sn	06 28 38.6	+0.3
	baz=97						
YOJ	Yonaguni jima	0.16	81	P	Pn	06 28 30.9	-0.1
YOJ				S	Sn	06 28 38.3	0.0
EOS1	EOS1	0.66	280	eP	Pn	06 28 35.1	-0.1
	baz=276						
EOS1				eS	Sn	06 28 46.0	+0.5
	baz=276						
IRIF	Iriomote-Funau	0.82	97	P	Pn	06 28 36.8	-0.3
IRIF				S	Sn	06 28 49.2	+0.3
TWC	Suao	0.92	281	P	Pn	06 28 37.8	-0.5
	baz=285						
TWC				S	Sn	06 28 50.6	-0.5
	baz=285						
HATJ	Hateruma jima	0.96	113	eS	Sn	06 28 52.1	+0.1
NANB	Nanao	0.99	270	eP	Pn	06 28 39.5	+0.3
	baz=271						
NANB				eS	Sn	06 28 53.3	+0.5
	baz=271						
TIPB	Shuangxi	1.06	300	eP	Pn	06 28 39.9	-0.3
	baz=297						
TIPB				eS	Sn	06 28 53.8	-0.7
	baz=297						
JKRS	Kuro-shima	1.08	100	P	Pn	06 28 40.6	+0.2
JKRS				S	Sn	06 28 55.7	+0.8
NACB	Ninganchiao	1.17	257	eP	Pn	06 28 41.1	-0.4
	baz=255						
NACB				eS	Sn	06 28 56.2	-0.6
	baz=255						
ENTT	Nioudou	1.18	280	eP	Pn	06 28 42.5	+0.9
	baz=283						
JIJ	Ishigaki jima	1.19	93	P	Pn	06 28 41.4	-0.4
JIJ				S	Sn	06 28 56.5	-0.8
NNSB	Datong	1.33	270	eP	Pn	06 28 43.8	+0.1
	baz=258						
NNSB				eS	Sn	06 29 00.7	-0.1
	baz=258						
NNS	Nan Shan	1.34	270	eP	Pn	06 28 44.0	+0.2
	baz=258						
JISG	Ishigakijimahi	1.35	83	P	Pn	06 28 43.4	-0.4
JISG				eS	Sn	06 29 01.2	+0.2
YHNB	Yeheng	1.35	280	eP	Pn	06 28 43.4	-0.6
	baz=278						
YHNB				eS	Sn	06 29 01.6	+0.4
	baz=278						
WHF	Hehuan Shan	1.47	259	P	Pn	06 28 45.6	-0.2
	baz=247						
WHF				eS	Sn	06 29 03.9	-0.6
	baz=247						
TWT	Tachien	1.53	263	eP	Pn	06 28 47.4	+0.9
	baz=262						
CHGB	Renai	1.57	256	eP	Pn	06 28 47.2	+0.2
	baz=245						
CHGB				eS	Sn	06 29 06.8	+0.3
	baz=245						
HGSD	Ruisui	1.60	234	eP	Pn	06 28 46.8	-0.5
	baz=233						
HGSD				eS	Sn	06 29 06.6	-0.4
	baz=233						
EHY	Hungye	1.67	237	P	Pn	06 28 47.7	-0.5
	baz=244						
EHY				eS	Sn	06 29 08.6	-0.1
	baz=244						
VWDT	VWDT	1.69	247	eP	Pn	06 28 48.9	+0.4
	baz=245						
VWDT				S	Sn	06 29 08.9	-0.3
	baz=245						
JTJ	Tarama	1.71	83	P	Pn	06 28 48.8	+0.2
YULB	Yu-li	1.75	234	eP	Pn	06 28 48.9	-0.4
	baz=243						
YULB				eS	Sn	06 29 09.3	-1.5

	baz=243						
TWF1	Yuli	1.78	233	eP	Pn	06 28 49.5	-0.1
	baz=232						
SMLT	Sun Moon Lake	1.86	253	eP	Pn	06 28 51.6	+0.9
	baz=245						
ALS	Alishan	2.08	244	eP	Pn	06 28 54.1	+0.2
	baz=236						
TPUB	Ta-pu	2.32	241	eP	Pn	06 28 58.0	+1.1
	baz=240						
TPUB				eS	Sn	06 29 25.5	+1.0
	baz=240						

IDC 09 06:36:53.0±4.0, 1°.49S×67°.37E, h0^{km}, mb3.9/3, mb1 3.9/3, mb1mx3.5/56, mbtmp3.9/3, Error ellipse: s-maj=179.4km s-min=76.1km az=124.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	6.01	143	T	T	06 43 38.4	
	baz=325,slow=75,SNR=62						
H08N3	Diego Garcia H	6.03	143	T	T	06 43 31.3	
	baz=325,slow=75,SNR=62						
H08N1	Diego Carcia H	6.04	143	T	T	06 43 40.0	
	baz=325,slow=75,SNR=78						
MKAR	Makanchi Array	49.84	13	P	P	06 45 48.1	+0.2
	0.9nm,0.8s,baz=198,slow=7.5,SNR=10.0						
ZALV	Zalesovo Beam	57.12	12	P	P	06 46 40.8	-0.4
	1.4nm,0.5s,baz=208,slow=7.9,SNR=7.7						
SONM	Songino Array	59.73	29	P	P	06 46 59.7	-0.1
	1.1nm,0.8s,baz=226,slow=7.7,SNR=8.5						
TXAR	Lajitas Array	151.02	344	PKPbc	PKPbc	06 56 48.6	-0.2
	0.4nm,0.8s,baz=29,slow=2.9,SNR=4.3						

*BEO **09** 06:37:02.7±0.9, 39°.17N×26°.02E, h5^{km}, ML3.7/5*
*DDA **09** 06:37:08.5, 39°.63N×25°.52E, h21^{km}±1^{km}, ML3.6*
*ISK **09** 06:37:08.4, 39°.66N×25°.53E, h5^{km}, ML3.6/27*
*IDC **09** 06:37:08.7±1.4, 39°.51N×25°.71E, h0^{km}, mb3.3/2, mb1 3.5/4, mb1mx3.2/40, mbtmp3.4/4, ML3.7/2, Error ellipse: s-maj=25.9km s-min=19.0km az=103.0*
*ATH **09** 06:37:10.0, 39°.68N×25°.59E, h32^{km}±1^{km}, ML3.4/8, Error ellipse: s-maj=2.0km s-min=1.0km az=206.0*
*THE **09** 06:37:10.7, 39°.70N×25°.61E, h11^{km}±1^{km}, ML3.2/14, Error ellipse: s-maj=1.2km s-min=0.5km az=74.0*
*ISCJB **09** 06:37:11.0±0.3, 39°.68N±0°.02×25°.56E±0°.02, h18^{km}±3^{km}, mb3.2/2, Error ellipse: s-maj=2.8km s-min=2.4km az=32.9*
ISC 09 06:37:10.7±0.9, 39°.66N±0°.02×25°.60E±0°.02, h16^{km}±7^{km}, n140, σ1^{s}11/161, 20C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.39	63	PG	Pg	06 37 18.3	-0.4
BOZC	Bozcaada	0.39	63	IAML_P			
	comp=Z,23μm,0.1s						
BOZC				iP	Pg	06 37 18.9	+0.2
LIA	Limnos Island	0.40	307	P	Pg	06 37 18.6	-0.2
LIA				AML	AML	06 37 27.4	
	comp=E,7418μm,0.4s						
LIA				AML	AML	06 37 28.8	
	comp=N,6470μm,0.4s						
LIA	Limnos Island	0.40	307	P	Pg	06 37 18.6	-0.2
LIA				S	Sg	06 37 24.1	-0.1
GPNR	Gulpinar-Canak	0.46	116	PG	Pg	06 37 19.6	-0.3
EFSA	Agios Efstrati	0.49	256	P	Pb	06 37 21.4	+0.5
EFSA				S	Sb	06 37 28.7	+0.9
EFSA				AML	AML	06 37 30.2	
	comp=N,11147μm,0.3s						
EFSA				AML	AML	06 37 31.0	
	comp=E,9542μm,0.4s						
SIGR	SIGRI	0.49	156	PG	Pg	06 37 20.1	-0.4
SIGR				SG	Sg	06 37 27.7	+0.6
SIGR	SIGRI	0.49	156	P	Pg	06 37 20.2	-0.3
SIGR				S	Sb	06 37 28.0	0.0
SIGR				AML	AML	06 37 28.3	
	comp=N,22298μm,0.6s						
SIGR				AML	AML	06 37 28.3	
	comp=E,19370μm,0.6s						
SIGR	SIGRI	0.49	156	P	Pg	06 37 20.2	-0.3
SIGR				S	Sg	06 37 27.8	+0.6
GADA	Gvkgeada	0.58	24	PG	Pb	06 37 21.6	-0.9
GADA	Gvkgeada	0.58	24	P	Pb	06 37 21.3	-1.2
GADA				S	Sb	06 37 29.3	-1.1
EZN	Ezine	0.58	74	PG	Pb	06 37 21.4	-1.1
EZN	Ezine	0.58	74	⇑iP	Pb	06 37 21.5	-1.1
EZN	Ezine	0.58	74	P	Pb	06 37 21.5	-1.1
EZN				S	Sb	06 37 29.5	-1.1
GOKC	Gokceada-Canak	0.59	25	PG	Pb	06 37 21.7	-1.0
PRK	Paraskevi	0.67	128	P	Pg	06 37 24.5	+0.8
PRK				S	Sn	06 37 34.2	-1.5
PRK				AML	AML	06 37 38.1	
	comp=N,21831μm,0.4s						
PRK				AML	AML	06 37 38.1	
	comp=E,18469μm,0.5s						
PRK	Paraskevi	0.67	128	P	Pg	06 37 24.6	+0.8
PRK				S	Sn	06 37 34.1	-1.6
BAYC	CANAKKALE_Bayr	0.74	84	IAML_P			
	comp=Z,15μm,0.1s						
BAYC				iP	Pb	06 37 24.7	-0.5
BAYC				iS	Sg	06 37 35.5	+0.7
SMTH	Samothraki Isl	0.81	356	P	Pb	06 37 25.8	-0.7
SMTH				S	Sg	06 37 37.2	0.0
SMTH				AML	AML	06 37 38.7	
	comp=N,4035μm,0.5s						
SMTH				AML	AML	06 37 38.9	
	comp=E,4737μm,0.3s						
SMTH	Samothraki Isl	0.81	356	P	Pb	06 37 25.7	-0.7
SMTH				S	Sb	06 37 37.0	-0.2
AYVA	Ayvalik	0.92	112	IAML_P			
	comp=Z,6μm,0.1s						
AYVA				iP	Pg	06 37 28.5	+0.1
AYVA				iS	Sn	06 37 41.0	-0.8
GELI	Tayfur-Gelibol	1.00	42	PG	Pb	06 37 29.4	-0.2
PSRA	Psara	1.12	181	P	Pb	06 37 32.1	+0.4
PSRA				AML	AML	06 37 50.9	
	comp=E,6121μm,0.3s						
PSRA				AML	AML	06 37 51.1	
	comp=N,4962μm,0.7s						
SKY	Skiros Island	1.13	226	P	Pn	06 37 31.8	-0.2
SKY	Skiros Island	1.13	226	P	Pn	06 37 31.7	-0.2
SKY				S	Sn	06 37 47.4	+0.3
LPK	Lapseki	1.14	51	PN	Pb	06 37 32.1	0.0
ENEZ	Enez	1.15	21	PN	Pn	06 37 31.5	-0.7
THAS	Thassos island	1.16	325	P	Pn	06 37 31.2	-1.1
THAS				AML	AML	06 37 48.8	
	comp=E,2246μm,0.3s						
THAS				AML	AML	06 37 49.0	
	comp=N,3883μm,0.4s						
THAS	Thassos island	1.16	325	P	Pn	06 37 31.3	-1.0
THAS				S	Sb	06 37 47.1	-0.1
DKL	Dikili	1.17	120	PN	Pg	06 37 33.2	-0.1
ERIK	Erikli-Kesan	1.23	35	PN	Pb	06 37 33.4	-0.2
ALN	Alexandroupoli	1.28	15	PN	Pn	06 37 33.8	-0.2
ALN	Alexandroupoli	1.28	15	P	Pn	06 37 33.6	-0.4
ALN				AML	AML	06 37 51.5	
	comp=E,1489μm,0.5s						
ALN				AML	AML	06 38 03.9	
	comp=N,984μm,0.9s						
ALN	Alexandroupoli	1.28	15	P	Pn	06 37 33.6	-0.4
ALN				S	Sb	06 37 50.0	-0.7
FOCM	Foa	1.29	137	PN	Pb	06 37 35.2	+0.5
KRBN	Karaburun	1.30	145	PN	Pb	06 37 34.9	+0.1
CHOS	Chios island	1.32	164	PN	Pn	06 37 34.7	+0.1
CHOS	Chios island	1.32	164	P	Pn	06 37 34.1	-0.5
CHOS	Chios island	1.32	164	P	Pn	06 37 34.4	-0.2
CHOS				S	Sg	06 37 53.6	+0.2
OUR	Ouranopolis	1.41	299	PN	Pn	06 37 35.4	-0.4
AOS	Alonnisos	1.42	250	PN	Pn	06 37 35.4	-0.5
AOS	Alonnisos	1.42	250	P	Pn	06 37 35.1	-0.8
AOS	Alonnisos	1.42	250	P	Pn	06 37 35.6	-0.3
AOS				S	Sg	06 37 56.5	0.0
KESN	Edirne-Kesan	1.43	35	iP	Pn	06 37 36.4	0.0
RDO	Rodhopi	1.48	358	PN	Pb	06 37 37.5	-0.4
RDO	Rodhopi	1.48	358	P	Pn	06 37 36.4	-0.4
RDO	Rodhopi	1.48	358	P	Pn	06 37 36.4	-0.4
KRBG	Karabiga-Canak	1.50	60	PN	Pb	06 37 37.5	-0.6
PAIG	Paliouri	1.50	281	P	Pn	06 37 36.1	-0.9
PAIG	Paliouri	1.50	281	P	Pn	06 37 36.5	-0.5
PAIG				S	Sb	06 37 57.2	+0.2
URLA	Izmir	1.52	149	PN	Pb	06 37 38.2	-0.3
URLA	Izmir	1.52	149	IAML_P			
	comp=Z,5μm,0.4s						
URLA				iP	Pb	06 37 37.9	-0.5
KAVA	Kavala	1.57	328	P	Pn	06 37 36.6	-1.3
KAVA	Kavala	1.57	328	P	Pn	06 37 37.3	-0.7
KAVA				S	Sn	06 37 57.3	-0.7
KNL	Balıkesir	1.60	67	iP	Pb	06 37 39.6	-0.3
KNL				iS	Sg	06 38 01.4	-1.0
GONE	Gonen-Balikesi	1.65	76	PN	Pb	06 37 40.3	-0.5
STEP	BALIKESIR_Sava	1.67	99	IAML_P			
	comp=Z,3μm,0.1s						
STEP				iP	Pb	06 37 40.7	-0.3
BLCB	Balcova	1.70	138	PN	Pb	06 37 40.8	-0.8
BALB	Balikesir	1.76	90	PN	Pb	06 37 41.9	-0.8
EREA	Eretria	1.79	227	P	Pn	06 37 40.5	-0.6
EREA	Eretria	1.79	227	P	Pn	06 37 40.5	-0.6
PLG	Polygyros	1.80	294	P	Pn	06 37 40.6	-0.5
PLG	Polygyros	1.80	294	P	Pn	06 37 41.1	-0.1
PLG				S	Sn	06 38 04.5	+0.8
MRKA	Markates	1.83	239	P	Pn	06 37 40.3	-1.3
EDC	Edincik	1.87	68	PN	Pb	06 37 43.3	-1.2
XOR	Xorichti	1.88	262	P	Pn	06 37 41.8	-0.5
XOR				S	Sb	06 38 07.7	-0.4
SBT4	Kumbag-Tekirda	1.89	51	PN	Pb	06 37 44.2	-0.5
AKHS	Akhisar	1.89	114	IAML_P			
	comp=Z,2μm,0.2s						
AKHS				iP	Pb	06 37 43.8	-1.0
DGB	zmir	1.90	148	IAML_P			
	comp=Z,662nm,0.1s						
DGB				iP	Pn	06 37 43.3	+0.9
SOH	Sokhos	2.07	305	P	Pn	06 37 45.3	+0.3
SRS	Serrai	2.11	314	ePn	Pn	06 37 45.0	-0.4
SRS				eSn	Sg	06 38 18.6	0.0
SRS	Serrai	2.11	314	P	Pn	06 37 44.8	-0.6
SRS	Serrai	2.11	314	P	Pn	06 37 45.1	-0.4
HORT	Hortiatis	2.13	297	PN	Pn	06 37 45.4	-0.4
HORT	Hortiatis	2.13	297	P	Pn	06 37 45.8	0.0
NVR	Nevrokopi	2.14	322	P	Pn	06 37 45.6	-0.3
SMG	Samos	2.18	153	P	Pn	06 37 46.5	+0.2
SMG				S	Sb	06 38 15.6	-0.9
KCTX	Karacabey (Bur	2.20	73	PN	Pb	06 37 48.3	-1.9
DURS	Dursunbey	2.22	91	IAML_P			
	comp=Z,1μm,0.4s						
DURS				iP	Pn	06 37 48.1	+1.1
GCAM	G?zelcaml?	2.34	146	PN	Pn	06 37 49.5	+1.0
EDRB	Edirne	2.35	21	PN	Pn	06 37 50.3	+1.6
PHSR	Pinarhisar	2.45	36	⇑iP	Pb	06 37 53.0	-1.4
PLD	Plovdiv	2.53	345	ePn	Pn	06 37 52.4	+1.2
PLD				eSn	Sb	06 38 29.0	+2.3
PLD	Plovdiv	2.53	345	PN	Pn	06 37 52.4	+1.2
SLVT	Silivri	2.54	51	PN	Pn	06 37 53.1	+1.9
KNT	Kendrikon	2.55	307	PN	Pn	06 37 51.8	+0.4
KNT	Kendrikon	2.55	307	P	Pn	06 37 51.8	+0.4
MANT	Manisa	2.58	116	IAML_P			
	comp=Z,172nm,0.1s						
MANT				iP	Pn	06 37 53.3	+1.2
AGG	Agios Georgios	2.61	257	PN	Pn	06 37 51.9	-0.4
MDNY	Mudanya-Bursa	2.62	73	PN	Pb	06 37 54.6	-2.7
KULA	Kula-Manisa	2.65	115	PN	Pn	06 37 54.1	+1.3
AYDN	Tasoluk	2.68	137	IAML_P			
	comp=Z,363nm,0.2s						
AYDN				iP	Pn	06 37 54.2	+1.0
VAY	Valandovo	2.84	307	ePn	Pn	06 37 56.9	+1.5
VAY				eSn	Sb	06 38 36.9	+1.3
VAY	Valandovo	2.84	307	iPn	Pb	06 38 00.4	-0.7
BODT	Bodrum	2.92	152	PN	Pn	06 37 57.4	+0.8
BDRM	Kayabasi	2.97	150	IAML_P			
	comp=Z,1000nm,0.2s						
BDRM				iP	Pn	06 37 58.4	+1.2
ISK	Istanbul-Kandi	2.99	61	PN	Pn	06 37 59.2	+1.7
KAVV	Kandilli-Istan	2.99	61	PN	Pn	06 37 59.5	+2.0
YLV	Yalova	3.03	71	PN	Pn	06 38 00.8	+2.7
GDZ	Gediz	3.06	100	iP	Pn	06 37 59.5	+0.9
STIP	Stip	3.29	309	iPn	Pn	06 38 01.0	-0.7
FNA	Florina	3.42	290	ePn	Pn	06 38 03.7	+0.2
VTS	Vitosha	3.44	329	ePn	Pn	06 38 05.4	+1.6
VTS				eSn	Sb	06 38 51.9	-1.1
VTS	Vitosha	3.44	329	⇑iP	Pn	06 38 07.1	+3.3
KRUS	Krusevo	3.73	299	iPn	Pn	06 38 08.4	+0.7
ZAPS	Zavoj	4.24	329	ePn	Pn	06 38 16.0	+1.3
ZAPS	Zavoj	4.24	329	ePn	Pn	06 38 16.3	+1.6
ZAGS	Zajecar	4.85	330	ePn	Pn	06 38 23.5	+0.5
HUMR	Humele	4.88	355	⇑iP	Pn	06 38 26.4	+2.9
SELS	Selova	4.89	318	ePn	Pn	06 38 23.8	+0.1
BOVS	Bovan	4.92	325	ePn	Pn	06 38 24.3	+0.2
HARR	Harsova	5.32	18	⇑iP	Pn	06 38 31.5	+2.1
SJES	Sjenica	5.55	312	ePn	Pn	06 38 32.4	-0.3
KUBS	Kucevo	5.57	330	ePn	Pn	06 38 33.1	+0.1
MTUR	Matau	5.58	356	⇑iP	Pn	06 38 36.5	+3.4
GRUS	Gruza	5.58	321	ePn	Pn	06 38 33.2	+0.1
IVAS	Ivanjica	5.65	316	ePn	Pn	06 38 34.0	-0.1
HERR	Herculane	5.72	337	⇓iP	Pn	06 38 37.8	+2.8
ARR	Arges	5.75	353	⇑iP	Pn	06 38 38.2	+2.8
VOIR		5.79	356	⇑iP	Pn	06 38 39.8	+3.8
CFR	Carcaliu	5.82	18	⇑iP	Pn	06 38 40.2	+3.8
MLR	Muntele Rosu	5.83	2	Pn	Pn	06 38 39.4	+2.8
	comp=Z,1.5nm,0.3s,baz=129,slow=20,SNR=7.0						
MLR				Lg	Lg	06 40 16.7	
	baz=97,slow=17,SNR=1.9						
MLR	Muntele Rosu	5.83	2	⇑iP	Pn	06 38 40.0	+3.4
MDVR	Moldovita	5.87	332	⇑iP	Pn	06 38 38.1	+1.0
LOT	Lotru	5.94	347	⇑iP	Pn	06 38 40.7	+2.6
DIVS	Divibare	6.09	318	ePn	Pn	06 38 41.0	+0.8
GZR	Gura Zlata	6.09	341	⇑iP	Pn	06 38 41.2	+1.0
BRTR	Keskin Array B	6.20	87	Pn	Pn	06 38 42.9	+1.1
	comp=Z,0.6nm,0.3s,baz=265,slow=12,SNR=34						
BRTR				Sn	Sn	06 39 50.7	-1.7
	comp=Z,0.1nm,0.3s,baz=274,slow=23,SNR=2.9						
BRTR				Lg	Lg	06 40 33.7	
	baz=268,slow=27,SNR=3.7						
PLOR	Plostina	6.23	7	⇑iP	Pn	06 38 45.9	+3.8
BBLS	Lazići	6.25	314	ePn	Pn	06 38 43.2	+0.9
VRI	Vrincioaia	6.26	7	⇑iP	Pn	06 38 46.0	+3.6
DOPR	Dopca	6.30	359	⇑iP	Pn	06 38 45.0	+2.0
MDB	Medias	6.54	353	⇓iP	Pn	06 38 49.1	+2.9
BZS	Buzias	6.63	335	⇑iP	Pn	06 38 48.2	+0.7
SIRR	Siria	7.21	338	⇑iP	Pn	06 38 58.2	+2.8
ARCR	ARCALIA	7.47	353	⇑iP	Pn	06 39 01.2	+2.1
BURAR	Bucovina Array	7.96	358	⇑iP	Pn	06 39 09.4	+3.6
LANS	Liptovska Anna	10.45	337	ePN	Pn	06 39 32.7	-7.1
TORD	Torodi Ar. Bea	33.78	225	P	P	06 43 51.6	-0.4
	comp=Z,0.2nm,0.5s,baz=52,slow=9.3,SNR=2.4						
MKAR	Makanchi Array	41.14	61	P	P	06 44 54.4	+0.4
	comp=Z,0.4nm,0.7s,baz=280,slow=7.1,SNR=2.0						

*NORS **09** 06:37:22.1±0.0, 42°.47N×41°.27E, h5^{km}, MPVA3.5*
*MOS **09** 06:37:22.0±0.0, 42°.54N×41°.12E, h10^{km}, MPVA3.5*
ISC 09 06:37:20.7±1.4, 42°.44N±0°.03×41°.20E±0°.05, h4^{km}±12^{km}, n11, σ0^{s}66/21, 1C, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOMR	Dombai	0.91	20	iPg	Pg	06 37 38.7	+0.5
DOMR				iSg	Sb	06 37 50.7	-0.9
BATM	Batumi	0.91	156	P	Pg	06 37 38.1	0.0
BATM				S	Sg	06 37 51.4	+1.4
BCA	Borcka	1.04	162	⇑iP	Pg	06 37 39.5	-1.2
ARXR	Arkhyz	1.12	3	iPg	Pg	06 37 42.1	-0.2
ARXR				iSg	Sg	06 37 57.2	+0.3
NEY	Neytrino	1.38	54	ePg	Pn	06 37 47.0	+0.1
NEY				eSg	Sn	06 38 05.8	+0.1
SHA1	Shidzhatmaz	1.68	39	iPg	Pb	06 37 52.2	-0.1
SHA1				iSg	Sg	06 38 14.9	+0.2
GUZR	Guzeripl'	1.75	333	iPg	Pn	06 37 51.5	-0.4
GUZR				eSg	Sn	06 38 14.2	-0.4
DIGR	Digorskoe uzhe	1.81	74	ePg	Pb	06 37 54.2	-0.4
DIGR				eSg	Sg	06 38 18.7	-0.2
LZRR	Lazarevskoye	2.00	319	iPg	Pn	06 37 56.0	+0.7
LZRR				iSg	Sn	06 38 21.2	+0.4
ZEI	Tsey	2.02	79	ePg	Pb	06 37 58.2	+0.1
ZEI				eSg	Sg	06 38 25.2	-0.5
KORR	Kora	2.21	72	ePg	Pn	06 37 59.2	+1.1
KORR				eSg	Sn	06 38 26.0	+0.1

*SOME **09** 06:40:31.4, 39°.75N×71°.73E, h0^{km}*
*KRNET **09** 06:40:32.1±0.1, 39°.52N×72°.33E, h14^{km}, mb2.7*
*NNC **09** 06:40:36.0±3.8, 39°.55N×72°.56E, h0^{km}, mb3.4, mpv3.0, Error ellipse: s-maj=30.9km s-min=15.1km az=178.0*
ISC 09 06:40:33.5±1.6, 39°.63N±0°.07×72°.35E±0°.04, h9^{km}±12^{km}, n16, σ1^{s}79/27, 18C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.97	66	⇓P	Pb	06 40 51.4	-1.1
	3.9nm,0.3s						
SFK				⇑S	Sg	06 41 06.1	+1.3
	30nm,0.3s						
SFK	Sufi-Kurgan	0.97	66	Pg	Pg	06 40 52.0	-0.2
	6.5nm,0.1s						
SFK				Lg	Lg	06 41 06.6	
	59nm,0.2s						
SFK	Sufi-Kurgan	0.97	66	⇑iP	Pb	06 40 51.8	-0.8
	baz=61						
SFK				⇑iS	Sn	06 41 06.3	-1.1
	baz=61						
BTK	Batken	1.25	290	⇑eP	Pg	06 40 56.7	-0.8
	baz=95						
BTK				⇑iS	Sg	06 41 14.3	+0.6
	baz=95						
ARSB	Arslanbob	1.76	16	⇓iP	Pg	06 41 07.1	-0.1
	baz=15						
ARSB				⇓iS	Sg	06 41 32.6	+2.6
	baz=15						
ARLS	Aral	2.69	33	⇑iP	Pb	06 41 20.5	-1.3
	baz=32						
ARLS				⇑iS	Sb	06 41 56.1	+1.2
	baz=32						
AML	Almayashu	2.70	22	⇑iP	Pb	06 41 20.8	-1.3
	baz=21						
AML				⇑iS	Sb	06 41 56.1	+0.6
	baz=21						
UCH	Uchtor	3.07	32	⇑iP	Pb	06 41 25.9	-2.6
	baz=31						
UCH				⇑iS	Sb	06 42 05.2	-1.0
	baz=31						
MRKS	Merke	3.18	12	Pg	Pb	06 41 32.1	+1.9
	16nm,0.5s						
MRKS				Lg	Lg	06 42 15.3	
	5.0nm,0.4s						
MRKS	Merke	3.18	12	eP	Pb	06 41 30.7	+0.5
	16nm,0.5s						
MRKS				eS	Sg	06 42 14.7	-0.9
	5.3nm,0.4s						
EKS2	Erkin-Say	3.21	19	⇓iP	Pb	06 41 27.5	-3.3
	baz=19						
EKS2				⇓iS	Sb	06 42 08.0	-2.1
	baz=19						
AAK	Ala-Archa	3.41	28	⇑Pg	Pg	06 41 38.4	-0.5
	1.7nm,0.5s						
AAK				⇓Lg	Lg	06 42 27.2	
	2.9nm,0.5s						
AAK	Ala-Archa	3.41	28	⇑iP	Pn	06 41 30.3	+3.3
	baz=27						
AAK				⇑iS	Sb	06 42 12.8	-3.0
	baz=27						
KK31	Karatay Array	3.73	339	Pn	Pb	06 41 37.5	-2.1
	0.5nm,0.3s,baz=155,slow=12,SNR=16						
KK31				⇑Sn	Sb	06 42 26.0	+1.1
	0.9nm,0.3s,baz=148,slow=26,SNR=4.9						
KK31				⇑Lg	Lg	06 42 37.9	
	1.1nm,0.5s,baz=152,slow=29						
TKM2	Tokmak 2	4.10	36	⇑Pg	Pg	06 41 51.9	-0.1
	1.0nm,0.5s						
TKM2				⇑Lg	Lg	06 42 47.2	
	2.6nm,0.6s						
DGS	Degeres	4.43	34	Pg	Pg	06 41 56.7	-1.7
	2.5nm,0.6s						
DGS				Lg	Lg	06 42 57.2	
	3.7nm,0.4s						

IDC 09 06:41:36.3±1.4, 3°.86N×126°.28E, h0^{km}, mb3.4/4, mb1 3.6/4, mb1mx3.4/42, mbtmp3.4/4, Error ellipse: s-maj=152.5km s-min=21.4km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.94	162	P	P	06 47 01.9	+0.3
	0.6nm,0.5s,baz=341,slow=10,SNR=8.3						
ASAR	Alice Springs	28.35	165	P	P	06 47 31.9	-0.4
	0.1nm,0.3s,baz=353,slow=6.8,SNR=3.9						
SONM	Songino Array	47.03	342	P	P	06 50 10.0	+0.3
	0.2nm,0.5s,baz=148,slow=8.5,SNR=1.9						
MKAR	Makanchi Array	57.19	325	P	P	06 51 24.8	-0.5
	0.3nm,0.5s,baz=117,slow=8.3,SNR=5.0						

IDC 09 06:44:60.0±28.0, 1°.89S×68°.16E, h0^{km}, mb3.6/3, mb1 3.7/3, mb1mx3.3/44, mbtmp3.6/3, Error ellipse: s-maj=925.1km s-min=36.7km az=65.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.24	147	T	T	06 51 46.3	
	baz=325,slow=75,SNR=12						
H08N3	Diego Garcia H	5.25	148	T	T	06 51 43.8	
	baz=325,slow=75,SNR=14						
H08N1	Diego Carcia H	5.26	147	T	T	06 51 44.4	
	baz=325,slow=75,SNR=88						
MKAR	Makanchi Array	50.05	13	P	P	06 53 56.6	+0.2
	0.3nm,0.7s,baz=202,slow=8.3,SNR=3.5						
ZALV	Zalesovo Beam	57.35	12	P	P	06 54 49.4	-0.4
	0.9nm,0.6s,baz=205,slow=6.4,SNR=3.8						
WRA	Warramunga Arr	67.00	111	P	P	06 55 55.3	0.0
	0.5nm,1.0s,baz=288,slow=5.8,SNR=3.0						

JMA 09 06:49:51.8, 34°.94N×135°.58E, h11^{km}±1^{km}, M2.7, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHE	Heguri	0.30	163	P	Pg	06 49 57.8	-0.1
JHE				S	Sg	06 50 02.0	+0.1
JWT	Wachi	0.37	337	P	Pg	06 49 59.3	+0.1
JWT				S	Sg	06 50 03.9	-0.3
JKS	Kasai	0.61	274	P	Pg	06 50 03.4	-0.2
JKS				S	Sg	06 50 11.4	-0.2
JWY	Kouya	0.72	179	P	Pg	06 50 05.4	-0.3
JWY				S	Sg	06 50 14.8	-0.4
TSUJ	Tsu 2	0.73	108	P	Pg	06 50 05.3	-0.6
TSUJ				S	Sg	06 50 15.0	-0.4
JAJ2	Tsuna	0.77	228	P	Pg	06 50 06.3	-0.4
JAJ2				S	Sg	06 50 16.7	-0.1
JKY	Yasaka	0.79	331	P	Pg	06 50 06.9	-0.2
JKY				S	Sg	06 50 17.5	+0.1
JKN2	Miekihoku	0.90	141	P	Pg	06 50 08.5	-0.7
JKN2				S	Sg	06 50 20.3	-0.7
JKSM	Kasumi	0.99	311	P	Pg	06 50 10.3	-0.6
JKSM				S	Sg	06 50 23.3	-0.5
MAT	Matsushiro	2.67	52	P	Pn	06 50 36.0	+1.2
MAT				S	Sn	06 51 08.6	+1.5

*BJI **09** 06:50:36.6, 1°.90S×68°.00E, h10^{km}, mb4.8/35, mB5.1/25, Ms4.8/15, Ms7 4.5/9*
*MOS **09** 06:50:36.4±0.9, 1°.94S×68°.00E, h10^{km}, mb4.9/29, Error ellipse: s-maj=10.9km s-min=6.9km az=86.6*
*IDC **09** 06:50:36.5±0.5, 1°.92S×67°.99E, h0^{km}, mb4.3/27, mb1 4.4/27, mb1mx4.3/43, mbtmp4.3/27, MS4.0/22, Ms1 4.0/22, ms1mx3.8/44, Error ellipse: s-maj=16.3km s-min=11.7km az=147.0*
*ISCJB **09** 06:50:36.3±0.3, 2°.01S±0°.05×67°.90E±0°.05, h10^{km}, mb4.5/69, MS4.1/24, Error ellipse: s-maj=7.0km s-min=6.1km az=44.1*
*NEIC **09** 06:50:37.8±0.2, 1°.96S×67°.98E, h10^{km}, mb4.7/20, Error ellipse: s-maj=6.6km s-min=5.6km az=113.0*
*GCMT **09** 06:50:38.8±0.3, 2°.01S±0°.03×67°.93E±0°.02, h15^{km}±1^{km}, MW4.8/79, Moment Tensor Solution. s20,c21; s79,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.46±.17; $M_{\theta\theta}$0.70±.10; $M_{\phi\phi}$1.76±.12; $M_{r\theta}$0.32±.25; $M_{\theta\phi}$-0.71±.06; $M_{\phi r}$-0.38±.20; Best double couple: $M_0$2.34200×10^{16} NP1:ϕ_s331.00000°, δ51.00000°, λ-93.00000°. NP2: ϕ_s156.00000°, δ39.00000°, λ-86.00000°. Principal axes: T 2.1670, Plg6.0000°, Azm63.0000°; N 0.3480, Plg2.0000°, Azm333.0000°; P -2.5160, Plg84.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 06:50:37.9±2.7, 1°.99S±0°.08×67°.94E±0°.07, h9^{km}±16^{km}, n200, σ1^{s}15/191, mb4.6/75, MS4.1/25, 10C, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.28	145	T	T	06 57 15.5	
	baz=325,slow=75,SNR=189						
H08N3	Diego Garcia H	5.29	145	T	T	06 57 25.7	
	baz=325,slow=75,SNR=196						
H08N1	Diego Carcia H	5.30	145	T	T	06 57 17.1	
	baz=325,slow=75,SNR=187						
DGAR	Diego Garcia	7.02	140	ePn	Pn	06 52 20.1	-0.8
DGAR	Diego Garcia	7.02	140	eP	Pn	06 52 20.1	-0.8
H08S3	Diego Garcia H	7.20	141	T	T	07 00 01.3	
	baz=306,slow=74,SNR=8.0						
H08S1	Diego Carcia H	7.21	141	T	T	06 59 56.0	
	baz=306						
H08S2	Diego Garcia H	7.22	141	T	T	07 00 01.6	
	baz=306,slow=74,SNR=3.6						
PALK	Pallekele	15.71	54	LR	LR	06 59 02.3	
	comp=Z,1μm,21.0s,baz=294,slow=32						
HYB	Hyderabad	21.94	28	iP	P	06 55 33.0	+1.0
RER	Riviere de l'E	22.46	211	eP	P	06 55 38.4	+0.8
	30nm,1.0s						
OPO	Ambohidratompo	26.18	230	P	P	06 56 13.9	+0.6
	4.3nm,0.7s,baz=17,slow=14,SNR=4.1						
OPO				LR	LR	07 03 53.4	
	comp=Z,804nm,21.9s,baz=14,slow=30						
WSAR	Wadi Sarin	26.66	341	LR	LR	07 04 36.2	
	comp=Z,147nm,22.0s,baz=168,slow=32						
ATD	Arta Tunnel	28.34	299	LR	LR	07 05 26.2	
	comp=Z,200nm,21.3s,baz=90,slow=31						
KMBO	Kilima Mbogo	30.69	271	P	P	06 56 55.8	+2.1
	0.8nm,0.3s,baz=66,slow=15,SNR=5.2						
KMBO				LR	LR	07 08 06.9	
	comp=Z,268nm,18.1s,baz=96,slow=34						
KMBO	Kilima Mbogo	30.69	271	eP	P	06 56 54.3	+0.6
	2.5nm,0.9s						
KMBO	Kilima Mbogo	30.69	271	ceP	P	06 56 56.0	+2.3
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PSI	Prapat	31.33	81	LR	LR	07 07 20.4	
	comp=Z,536nm,21.8s,baz=258,slow=32						
KOLN	Koldanda	33.20	26	eP	P	06 57 16.4	+0.9
	comp=Z,18nm,0.9s						
PYUN	Piuthan	33.23	25	eP	P	06 57 16.6	+0.9
	comp=Z,19nm,1.0s						
DMN	Daman	33.74	28	eP	P	06 57 21.5	+1.2
	comp=Z,34nm,0.8s						
DANN	Dangsing	33.77	26	eP	P	06 57 21.3	+0.7
	comp=Z,19nm,0.8s						
PKIN	Phulchoki	33.86	29	eP	P	06 57 21.9	+0.6
RAMN	Ramite	33.93	31	eP	P	06 57 23.5	+1.5
	comp=Z,20nm,0.9s						
KKN	Kakani	33.98	28	eP	P	06 57 23.3	+1.0
ODAN	Odare	34.27	32	eP	P	06 57 26.3	+1.4
JIRN	Jiri	34.31	30	eP	P	06 57 26.2	+0.8
GUN	Gumba	34.37	29	eP	P	06 57 26.9	+1.1
	comp=Z,38nm,0.9s						
UMPA	Umpang Tak	35.49	58	P	P	06 57 37.5	+2.2
	comp=Z,4.7nm,0.9s,comp=Z,2μm						
UTHA	Uthaitani	35.70	60	P	P	06 57 40.5	+3.5
	comp=Z,2.8nm,1.1s						
NIL	Nilore	35.80	8	eP	P	06 57 36.7	-1.0
	comp=Z,15nm,0.9s						
NIL	Nilore	35.80	8	eP	P	06 57 36.7	-1.0
NIL				pmax	pmax		
	comp=Z,15nm,0.9s						
CMAR	Chiang Mai Arr	36.65	55	P	P	06 57 45.8	+0.6
	comp=Z,1.3nm,0.4s,baz=245,slow=11,SNR=13						
CMAR				PcP	PcP	07 00 07.3	-0.9
	comp=Z,0.5nm,0.3s,baz=235,slow=5.6,SNR=4.3						
CMAR				LR	LR	07 10 53.5	
	comp=Z,250nm,21.5s,baz=222,slow=33						
CMAR	Chiang Mai Arr	36.65	55	ceP	P	06 57 46.5	+1.3
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CHTO	Chiang Mai	36.83	54	eP	P	06 57 46.4	-0.3
	comp=Z,7.2nm,0.8s						
CHTO	Chiang Mai	36.83	54	eP	P	06 57 46.4	-0.3
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CHTO	Chiang Mai	36.83	54	P	P	06 57 48.4	+1.7
	comp=Z,53nm,0.9s						
CMMT	Chiang Mai	36.83	54	P	P	06 57 48.3	+1.5
	comp=Z,12nm,0.8s						
PBKT	Sadao Pong	37.46	59	P	P	06 57 54.1	+2.0
	comp=Z,8.1nm,0.9s,comp=Z,2μm						
CHAI	Chaiyaphum	38.05	61	P	P	06 57 59.1	+2.0
	comp=Z,8.3nm,0.8s						
LEM	Lembang	39.83	98	LR	LR	07 11 41.5	
	comp=Z,328nm,20.1s,baz=234,slow=32						
GEYT	Alibeck	40.74	348	P	P	06 58 19.0	-0.4
	comp=Z,2.1nm,0.7s,baz=173,slow=13,SNR=4.0						
GEYT				LR	LR	07 13 58.5	
	comp=Z,128nm,21.5s,baz=75,slow=34						
GAR	Garm	40.84	3	eP	P	06 58 20.5	+0.2
	comp=Z,24nm,1.1s						
GAR	Garm	40.84	3	eP	P	06 58 20.5	+0.2
GAR				pmax	pmax		
	comp=Z,24nm,1.1s						
LSZ	Lusaka	41.36	249	P	P	06 58 26.0	+1.1
	comp=Z,13nm,0.7s,baz=70,slow=6.6,SNR=26						
LSZ				PcP	PcP	07 00 24.0	+0.7
	comp=Z,3.3nm,0.8s,baz=13,slow=3.2,SNR=4.3						
LSZ	Lusaka	41.36	249	eP	P	06 58 25.4	+0.6
	comp=Z,13nm,0.7s						
LSZ				ePcP	PcP	07 00 24.0	+0.7
LSZ	Lusaka	41.36	249	eP	P	06 58 25.5	+0.6
LSZ				e		07 00 24.0	
LSZ				pmax	pmax		
	comp=Z,13nm,0.7s						
BTK	Batken	41.92	3	eP	P	06 58 29.3	+0.2
	comp=Z,14nm,1.0s						
BTK	Batken	41.92	3	eP	P	06 58 29.3	+0.2
BTK				pmax	pmax		
	comp=Z,14nm,1.0s						
KSH	Kashi	41.95	9	P	P	06 58 25.6	-3.8
KSH				PcP	PcP	07 00 23.3	-1.5
KSH				S	S	07 04 37.6	-11
KSH				sS	pS	07 04 46.3	-3.9
KSH				pmax	pmax		
	comp=Z,33nm,0.9s						
KSH				pmax	pmax		
	comp=Z,150nm,6.4s						
KSH				LR	LR		
	comp=Z,250nm,7.6s						
KSH				LR	LR		
	comp=Z,220nm,5.9s						
KSH				LR	LR		
	comp=Z,230nm,8.9s						
MATP	Matopo	42.63	242	P	P	06 58 36.0	+0.8
	comp=Z,3.3nm,0.8s,baz=62,slow=8.7,SNR=6.6						
MATP				LR	LR	07 13 33.4	
	comp=Z,156nm,21.1s,baz=62,slow=32						
KMI	Kunming	43.16	49	P	P	06 58 40.7	+1.1
KMI				pmax	pmax		
	comp=Z,13nm,0.7s						
KMI				LR	LR		
	comp=Z,180nm,15.7s						
KMI				LR	LR		
	comp=Z,260nm,14.7s						
NRN	Naryn	43.83	9	eP	P	06 58 44.2	-0.6
	comp=Z,8.2nm,1.0s						
NRN	Naryn	43.83	9	eP	P	06 58 44.2	-0.6
NRN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KZA	Kyzart	44.36	8	P	P	06 58 50.1	+1.0
	SNR=11						
UCH	Uchtor	44.41	7	P	P	06 58 50.9	+1.3
	SNR=7.6						
KDJ	Kajisay	44.70	10	eP	P	06 58 51.3	-0.3
	comp=Z,22nm,0.9s						
KDJ	Kajisay	44.70	10	eP	P	06 58 51.3	-0.3
KDJ				pmax	pmax		
	comp=Z,22nm,0.9s						
EKS2	Erkin-Say	44.76	6	P	P	06 58 53.4	+1.4
	SNR=8.4						
AAK	Ala-Archa	44.81	7	eP	P	06 58 53.5	+1.1
	comp=Z,11nm,1.1s						
AAK	Ala-Archa	44.81	7	ceP	P	06 58 53.4	+0.9
AAK				pmax	pmax		
	comp=Z,24nm,2.5s						
KBK	Karagaybulak	44.89	7	P	P	06 58 54.7	+1.6
	SNR=6.0						
FRU	Bishkek	45.02	7	eP	P	06 58 55.0	+1.0
FRU				pmax	pmax		
	comp=Z,40nm,2.0s						
TKM2	Tokmak 2	45.23	8	P	P	06 58 56.6	+0.7
	SNR=14						
LBTB	Lobatse	46.79	237	P	P	06 59 08.3	-0.1
	comp=Z,3.0nm,0.8s,baz=14,slow=12,SNR=3.5						
LBTB				LR	LR	07 17 26.8	
	comp=Z,256nm,18.4s,baz=66,slow=34						
GYA	Guiyang	46.86	50	P	P	06 59 11.0	+2.1
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CD2	Chengdu	47.24	43	eP	P	06 59 12.0	+0.3
BOSA	Boshof	48.52	233	P	P	06 59 22.1	+0.3
	comp=Z,5.2nm,1.1s,baz=73,slow=6.7,SNR=4.4						
BOSA				LR	LR	07 17 39.1	
	comp=Z,210nm,18.8s,baz=32,slow=33						
WMQ	Urumqi	48.92	19	P	P	06 59 25.4	+0.9
WMQ				pP	pP	06 59 27.8	+1.7
WMQ				sP	pwP	06 59 36.9	+6.1
WMQ				pmax	pmax		
	comp=Z,25nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,580nm,4.9s						
WMQ				LR	LR		
	comp=Z,420nm,19.3s						
WMQ				LR	LR		
	comp=Z,220nm,26.3s						
MAKZ	Makanchi	50.14	13	eP	P	06 59 32.7	-1.0
	comp=Z,7.4nm,0.9s						
MAKZ	Makanchi	50.14	13	eP	P	06 59 32.7	-1.0
MAKZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MK01	Makanchi Array	50.17	13	eP	P	06 59 32.6	-1.3
MK31	Makanchi Array	50.19	13	eP	P	06 59 33.3	-0.8
MK31	Makanchi Array	50.19	13	eP	P	06 59 33.3	-0.8
MK32	Makanchi Array	50.19	13	eP	P	06 59 33.6	-0.4
MK32				ePcP	PcP	07 00 52.9	-0.4
MKAR	Makanchi Array	50.19	13	P	P	06 59 33.6	-0.5
	comp=Z,5.1nm,0.8s,baz=189,slow=7.1,SNR=61						
MKAR				PcP	PcP	07 00 52.9	-0.4
	comp=Z,1.2nm,0.8s,baz=224,slow=6.1,SNR=3.4						
MKAR				LR	LR	07 21 36.2	
	comp=Z,71nm,18.5s,baz=188,slow=37						
MKAR	Makanchi Array	50.19	13	eP	P	06 59 33.4	-0.6
	comp=Z,30nm,0.8s						
MKAR				PcP	PcP	07 00 52.9	-0.4
MKAR	Makanchi Array	50.19	13	ceP	P	06 59 33.5	-0.6
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GTA	Gaotai	50.52	32	eP	P	06 59 37.5	+0.6
GTA				pP	sP	06 59 42.0	+2.8
GTA				sP	pwP	06 59 44.5	+1.4
GTA				pmax	pmax		
	comp=Z,89nm,5.2s						
GTA				LR	LR		
	comp=Z,210nm,20.3s						
GTA				LR	LR		
	comp=Z,240nm,17.9s						
GTA				LR	LR		
	comp=Z,480nm,22.0s						
LZH	Lanzhou	50.54	38	eP	P	06 59 39.3	+2.2
LZH				pP	pwP	06 59 43.9	+0.6
LZH				sP	sP	06 59 47.3	+7.9
LZH				eS	S	07 06 56.4	+4.7
LZH				sS	sS	07 07 03.1	+8.6
LZH				SS	SS	07 10 20.1	-5.9
LZH				pmax	pmax		
	comp=Z,25nm,1.2s						
LZH				pmax	pmax		
	comp=Z,82nm,4.6s						
KBZ	Khabaz	50.75	337	P	P	06 59 38.9	+0.6
	comp=Z,6.3nm,0.9s,baz=172,slow=5.7,SNR=11						
KIV	Kislovodsk	51.03	337	eP	P	06 59 40.9	+0.4
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ABKAR	Akbulak array	51.51	353	eP	P	06 59 43.6	-0.3
BR101	Keskin Array S	52.06	327	eP	P	06 59 48.2	-0.2
BRTR	Keskin Array B	52.06	327	P	P	06 59 48.2	-0.2
	comp=Z,1.7nm,0.9s,baz=145,slow=14,SNR=5.3						
XAN	Xi'an	52.60	43	P	P	06 59 52.3	-0.1
XAN				pP	sP	06 59 59.0	+4.3
XAN				pmax	pmax		
	comp=Z,22nm,1.0s						
XAN				LR	LR		
	comp=Z,110nm,5.0s						
XAN				LR	LR		
	comp=Z,200nm,5.6s						
XAN	Xi'an	52.60	43	eP	P	06 59 51.9	-0.5
	comp=Z,20nm,0.9s						
XAN	Xi'an	52.60	43	eP	P	06 59 51.9	-0.5
XAN				pmax	pmax		
	comp=Z,20nm,0.9s						
KURK	Kurchatov	53.29	8	eP	P	06 59 56.8	-0.3
	comp=Z,13nm,0.8s						
KURK	Kurchatov	53.29	8	ceP	P	06 59 57.0	-0.1
KURK				pmax	pmax		
	comp=Z,17nm,1.0s						
DGZ	Jazzator, Alta	54.16	15	c iP	P	07 00 03.7	0.0
DGZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRVK	Borovoye	54.88	2	eP	P	07 00 08.8	+0.1
	comp=Z,4.8nm,1.1s						
BRVK	Borovoye	54.88	2	eP	P	07 00 08.8	+0.1
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ZAA0	Zalesovo Array	57.48	12	eP	P	07 00 26.5	-0.8
	comp=Z,12nm,0.8s						
ZALV	Zalesovo Beam	57.48	12	P	P	07 00 26.4	-0.8
	comp=Z,8.8nm,0.6s,baz=214,slow=7.4,SNR=46						
ZALV	Zalesovo Beam	57.48	12	eP	P	07 00 26.2	-1.1
ZALV	Zalesovo Beam	57.48	12	eP	P	07 00 26.2	-1.1
ZAA1	Zalesovo Array	57.49	12	eP	P	07 00 26.4	-0.9
NVS	Novosibirsk	58.03	10	eP	P	07 00 30.5	-0.5
NVS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NVS				pmax	pmax		
	comp=N,8.0nm,0.8s						
HHC	Hu-ho-hao-te	58.24	38	eP	P	07 00 34.4	+1.4
HHC				sP	pwP	07 00 43.2	+4.0
HHC				S	S	07 08 36.3	+1.0
HHC				sS	pS	07 08 39.7	+2.3
HHC				pmax	pmax		
	comp=N,13nm,0.9s						
HHC				pmax	pmax		
	comp=N,75nm,5.4s						
HHC				LR	LR		
	comp=N,140nm,12.8s						
HHC				LR	LR		
	comp=N,200nm,13.7s						
VSR	Storozhevoye	58.39	339	iP	P	07 00 34.7	+1.0
VSR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARU	Arti	58.72	354	eP	P	07 00 35.6	-0.3
	comp=Z,6.1nm,0.8s						
ARU	Arti	58.72	354	P	P	07 00 35.7	-0.2
ARU				S	S	07 08 42.0	+1.2
NJ2	Nanjing	58.87	50	eP	P	07 00 37.4	0.0
NJ2				pmax	pmax		
	comp=Z,22nm,0.7s						
SONA0	Songino Array	59.88	29	eP	P	07 00 44.8	+0.5
SONM	Songino Array	59.88	29	P	P	07 00 44.8	+0.5
	comp=Z,6.6nm,0.8s,baz=220,slow=6.7,SNR=49						
SONM				LR	LR	07 26 49.1	
	comp=Z,350nm,18.5s,baz=204,slow=36						
SONA1	Songino Array	59.89	29	eP	P	07 00 44.3	-0.1
AKASG	Malin Array Be	62.01	333	ceP	P	07 01 00.3	+1.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KIEV	Kiev	62.02	333	iP	P	07 00 59.3	+0.8
OBN	Obninsk	62.48	340	iP	P	07 01 01.5	0.0
OBN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MAW	Mawson	65.59	182	LR	LR	07 22 11.1	
	comp=Z,219nm,20.4s,baz=318,slow=29						
PRGR	Permogore	65.72	349	eP	P	07 01 20.2	-2.5
PRGR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
VYHS	Vyhne	65.83	327	eP	P	07 01 22.6	-1.1
KLMR	Klimovskoe	66.41	345	eP	P	07 01 24.7	-2.5
KLMR				pmax	pmax		
	comp=Z,14nm,1.1s						
KLMR	Klimovskoe	66.41	345	eP	P	07 01 24.7	-2.5
KLMR				AMP		07 01 29.5	
	comp=Z,14nm,1.1s						
WR1	Warramunga Arr	67.16	111	eP	P	07 01 32.7	-0.2
	comp=Z,8.3nm,1.0s						
WRA	Warramunga Arr	67.16	111	P	P	07 01 32.7	-0.2
	comp=Z,3.8nm,0.9s,baz=284,slow=6.0,SNR=22						
WRA				LR	LR	07 27 07.3	
	comp=Z,84nm,21.9s,baz=270,slow=33						
WRAB	Tennant Creek	67.17	111	ceP	P	07 01 32.0	-0.9
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WB2	Warramunga Arr	67.17	111	eP	P	07 01 32.5	-0.4
ASAR	Alice Springs	67.23	115	P	P	07 01 32.6	-0.7
	comp=Z,2.7nm,1.0s,baz=280,slow=6.1,SNR=14						
ASAR				LR	LR	07 26 26.7	
	comp=Z,66nm,21.8s,baz=278,slow=32						
AS31	Alice Springs	67.23	115	eP	P	07 01 32.6	-0.7
	comp=Z,1.5nm,1.3s						
AS01	Alice Springs	67.27	115	eP	P	07 01 31.9	-1.6
TORD	Torodi Ar. Bea	67.40	285	P	P	07 01 34.2	-0.2
	comp=Z,0.7nm,0.9s,baz=136,slow=7.1,SNR=5.0						
TORD				LR	LR	07 30 58.1	
	comp=Z,148nm,18.2s,baz=40,slow=36						
TOA1	Torodi Ar. Sit	67.40	285	eP	P	07 01 34.2	-0.2
KSAR	Wonju Array Be	67.81	48	P	P	07 01 36.4	-0.2
KSAR	Wonju Array Be	67.81	48	P	P	07 01 36.4	-0.2
KSRS	Korea Array	67.85	48	P	P	07 01 36.4	-0.4
	comp=Z,1.7nm,0.7s,baz=282,slow=6.3,SNR=4.6						
KSRS				LR	LR	07 32 33.6	
	comp=Z,123nm,19.7s,baz=252,slow=37						
VSU	Vasula	68.54	338	iP	P	07 01 40.9	+0.2
VSU				pmax	pmax		
	comp=Z,24nm,1.0s						
CN2	Changchun	68.59	41	eP	P	07 01 43.5	+2.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CLL	Collm	70.52	327	eP	P	07 01 53.0	-0.1
CLL	Collm	70.52	327	eP	P	07 01 53.0	-0.1
FIA0	FINESS Array S	70.89	340	eP	P	07 01 54.4	-0.7
FIA0	FINESS Array S	70.89	340	eP	P	07 01 54.4	-0.7
FINES	FINESS Array B	70.89	340	P	P	07 01 54.4	-0.7
	comp=Z,3.7nm,0.9s,baz=99,slow=11,SNR=5.4						
USRK	Ussuriysk Ar.	73.10	43	P	P	07 02 07.9	-0.9
	comp=Z,2.1nm,0.8s,baz=224,slow=8.1,SNR=3.9						
DBIC	Dimbokro	73.17	278	P	P	07 02 10.3	+0.6
	comp=Z,3.5nm,0.8s,baz=89,slow=6.0,SNR=4.2						
DBIC				LR	LR	07 34 00.3	
	comp=Z,81nm,18.2s,baz=90,slow=36						
DBIC	Dimbokro	73.17	278	eP	P	07 02 09.7	-0.1
	comp=Z,3.7nm,0.8s						
DBIC	Dimbokro	73.17	278	eP	P	07 02 09.7	-0.1
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KLR	Kul'dur	74.74	38	P	P	07 02 17.3	-1.0
	comp=Z,4.2nm,0.8s,baz=284,slow=6.5,SNR=17						
KLR	Kul'dur	74.74	38	eP	P	07 02 16.6	-1.7
STKA	Stephens Creek	75.08	122	LR	LR	07 32 19.3	
	comp=Z,66nm,20.8s,baz=213,slow=33						
MAJO	Matsushiro	75.44	52	eP	P	07 02 23.0	+0.3
MAJO	Matsushiro	75.44	52	eP	P	07 02 23.0	+0.3
MJAR	Matsushiro Arr	75.44	52	P	P	07 02 23.0	+0.3
	comp=Z,1.4nm,0.6s,baz=258,slow=6.1,SNR=3.0						
MJAR				LR	LR	07 37 18.6	
	comp=Z,71nm,18.4s,baz=10.0,slow=37						
MJAR	Matsushiro Arr	75.44	52	P	P	07 02 23.0	+0.3
NB2	NORSAR Subarra	76.31	335	P	P	07 02 26.0	-1.1
	comp=Z,8.1nm,1.2s,baz=120,slow=6.2						
NB200	NORSAR Array S	76.31	335	eP	P	07 02 26.0	-1.1
NOA	NORSAR Array B	76.31	335	P	P	07 02 26.0	-1.1
	comp=Z,2.0nm,0.9s,baz=115,slow=6.0,SNR=5.4						
NOA	NORSAR Array B	76.31	335	P	P	07 02 26.0	-1.1
KONO	Kongsberg	76.31	334	iP	P	07 02 26.1	-0.9
KONO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARA0	ARCESS Array S	76.87	346	eP	P	07 02 28.6	-1.5
ARCES	ARCESS Array B	76.87	346	P	P	07 02 28.6	-1.5
	comp=Z,4.1nm,0.8s,baz=160,slow=2.9,SNR=7.1						
ES19	SONSECA Array	77.39	311	eP	P	07 02 32.8	-0.8
ESDC	Sonseca Array	77.43	311	P	P	07 02 32.7	-1.2
	comp=Z,1.4nm,0.9s,baz=90,slow=5.1,SNR=6.0						
YSS	Yuzh-Sakhalins	81.12	42	eP	P	07 02 53.4	-0.4
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
TIXI	Tiksi	83.04	16	P	P	07 03 03.0	-0.3
	comp=Z,7.4nm,0.8s,baz=207,slow=1.9,SNR=16						
TIXI	Tiksi	83.04	16	ceP	P	07 03 03.0	-0.3
TIXI				pmax	pmax		
	comp=Z,38nm,2.5s						
VNDA	Vanda	88.92	167	P	P	07 03 33.1	+0.7
	comp=Z,0.9nm,0.8s,baz=266,slow=10,SNR=4.5						
SEY	Seymchan	89.22	27	iP	P	07 03 34.6	+0.6
BILL	Bilibino	94.95	22	eP	P	07 04 01.0	+0.5
BILL				pmax	pmax		
	comp=Z,1.0nm,1.1s						
YKA	Yellowknife Ar	119.61	1	PKP	PKPdf	07 09 26.9	-1.1
	comp=Z,0.7nm,0.8s,baz=353,slow=2.1,SNR=11						
YKB5	Yellowknife Ar	119.61	1	ePKPdf	PKPdf	07 09 26.9	-1.1
PD31	Pinedale Array	139.34	357	ePKPdf	PKPdf	07 10 05.7	-0.7
PDAR	Pinedale Array	139.34	357	PKP	PKPdf	07 10 05.7	-0.7
	comp=Z,1.3nm,0.8s,baz=56,slow=3.7,SNR=8.1						
NV01	Mina Array Sit	143.28	8	ePKPdf	PKPbc	07 10 10.7	+0.2
NVAR	Mina Array Bea	143.28	8	PKP	PKPbc	07 10 10.4	0.0
	comp=Z,1.1nm,0.8s,baz=313,slow=0.8,SNR=5.8						
PSUT	Pine Spring	143.59	2	ePKPdf	PKPbc	07 10 11.6	+0.3
PV12	Saucer Basin,	143.72	356	ePKPdf	PKPbc	07 10 12.1	+0.4
PV13	Radium Mtn., P	143.88	356	ePKPdf	PKPbc	07 10 12.2	0.0
MTPU	Mount Pierson	144.12	0	ePKPdf	PKPbc	07 10 14.0	+0.9
SZCU	Shurtz Canyon	144.55	1	ePKPdf	PKPbc	07 10 15.0	+0.6
CCUT	Cedar City	144.59	2	ePKPdf	PKPbc	07 10 14.9	+0.4
PKCU	Pink Cliffs	144.71	0	ePKPdf	PKPdf	07 10 15.7	-0.5
LCMT	Little Creek M	145.13	2	ePKPbc	PKPdf	07 10 16.7	0.0
WMOK	Wichita Mounta	145.15	341	ePKPbc	PKPab	07 10 16.2	+0.1
WMOK	Wichita Mounta	145.15	341	ePKIKP	PKPab	07 10 16.2	+0.1
DAC	Darwin (Calif)	145.50	8	ePKPdf	PKPbc	07 10 17.4	0.0
DAC	Darwin (Calif)	145.50	8	ePKIKP	PKPbc	07 10 17.4	0.0
SHPR	Sheep Range	145.53	4	ePKPdf	PKPab	07 10 18.2	+0.5
U15A	North Rim	145.73	0	ePKPdf	PKPab	07 10 18.8	+0.2
AMTX	Amarillo	145.87	345	ePKPdf	PKPbc	07 10 18.5	+0.1
OTAV	Otavalo	146.36	267	ePKPdf	PKPbc	07 10 20.5	-0.5
OTAV	Otavalo	146.36	267	PKP2	PKPab	07 10 22.1	+0.3
GSC	Goldstone, Bar	146.56	7	ePKPdf	PKPbc	07 10 20.6	0.0
GSC	Goldstone, Bar	146.56	7	PKP2	PKPab	07 10 21.6	+0.1
ANMO	Albuquerque	146.80	352	ePKPdf	PKPdf	07 10 20.2	+0.6
ANMO	Albuquerque	146.80	352	c iPKP2	PKPdf	07 10 19.2	-0.5
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.7s						
W13A	Hualapai Mount	147.01	3	ePKPdf	PKPbc	07 10 20.9	-1.0
PFO	Pinyon Flats O	148.27	7	ePKPbc	PKPbc	07 10 23.8	-1.6
PFO	Pinyon Flats O	148.27	7	ePKP2	PKPbc	07 10 23.8	-1.6
XPFO	Pion Flat	148.27	7	ePKPbc	PKPbc	07 10 25.4	0.0
Y12C	Blythe	148.32	4	ePKPdf	PKPdf	07 10 22.8	+0.9
MNTX	Cornudas Mount	149.78	349	ePKPbc	PKPbc	07 10 29.4	+0.3
TUC	Tucson	149.81	358	ePKPbc	PKPbc	07 10 29.6	+0.3
TUC	Tucson	149.81	358	ePKP2	PKPbc	07 10 29.6	+0.3
319A	Douglas	150.65	355	ePKPbc	PKiKP	07 10 32.5	+0.4
LTX	Lajitas	151.66	344	ePKPbc	PKiKP	07 10 33.9	-0.2
LTX	Lajitas	151.66	344	ePKIKP	PKiKP	07 10 33.9	-0.2
TX31	Lajitas Ar. Si	151.66	344	ePKPbc	PKPbc	07 10 33.5	-0.2
TX31				ePKPbc	PKiKP	07 10 34.1	-0.1
TXAR	Lajitas Array	151.66	344	PKPbc	PKiKP	07 10 33.9	-0.2
	comp=Z,2.6nm,0.9s,baz=63,slow=1.5,SNR=20						

IDC 09 06:53:07.4±1.1, 1°.99S×67°.99E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.6/45, mbtmp3.9/6, Error ellipse: s-maj=32.1km s-min=28.5km az=77.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.25	145	T	T	06 59 51.4	
	baz=325,slow=75,SNR=14						
H08N3	Diego Garcia H	5.26	145	T	T	06 59 52.6	
	baz=325,slow=75,SNR=11						
H08N1	Diego Carcia H	5.27	145	T	T	06 59 53.1	
	baz=325,slow=75,SNR=13						
LSZ	Lusaka	41.40	249	P	P	07 00 56.0	0.0
	1.1nm,0.5s,baz=89,slow=7.6,SNR=3.7						
MKAR	Makanchi Array	50.19	13	P	P	07 02 04.7	-0.3
	0.9nm,0.8s,baz=188,slow=8.1,SNR=4.5						
ZALV	Zalesovo Beam	57.48	12	P	P	07 02 57.4	-0.7
	2.4nm,0.7s,baz=197,slow=6.4,SNR=5.6						
SONM	Songino Array	59.86	29	P	P	07 03 15.7	+0.7
	1.5nm,0.8s,baz=220,slow=6.7,SNR=6.6						
WRA	Warramunga Arr	67.12	111	P	P	07 04 03.5	0.0
	0.8nm,0.9s,baz=288,slow=5.8,SNR=4.7						
ASAR	Alice Springs	67.19	115	P	P	07 04 03.9	-0.1
	0.6nm,0.8s,baz=274,slow=7.2,SNR=4.6						

*ISCJB **09** 06:56:45.3±1.7, 2°.0S±0°.2×67°.7E±0°.3, h15km, mb4.3/13, Error ellipse: s-maj=49.0km s-min=11.6km az=154.1*

*IDC **09** 06:56:45.3±1.6, 2°.03S×67°.82E, h0km, mb4.2/9, mb1 4.3/9, mb1mx3.8/48, mbtmp4.2/9, Error ellipse: s-maj=50.8km s-min=25.2km az=65.0*

*NEIC **09** 06:56:47.2±0.5, 1°.93S×67°.81E, h10km, mb4.5/5, Error ellipse: s-maj=17.0km s-min=7.7km az=65.0*

ISC 09 06:56:48.0±1.2**, 1°.9S**±0°.2×**67°.8E**±0°.2**, h15**km**, n31, σ0.s57**/29**, mb4.4**/13**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.41	144	T	T	07 03 24.1	
	baz=325,slow=75,SNR=58						
H08N3	Diego Garcia H	5.42	144	T	T	07 03 29.5	
	baz=325,slow=75,SNR=57						
H08N1	Diego Carcia H	5.43	144	T	T	07 03 25.3	
	baz=325,slow=75,SNR=55						
DGAR	Diego Garcia	7.15	140	ePn	Pn	06 58 32.7	+0.6
GSI	Gunungsitoli	29.93	84	eP	P	07 02 55.6	-0.2
	21nm,0.9s						
CMAR	Chiang Mai Arr	36.72	55	P	P	07 03 55.3	+0.3
	1.3nm,0.3s,baz=244,slow=11,SNR=4.9						
MAKZ	Makanchi	50.10	13	eP	P	07 05 42.5	0.0
	4.7nm,1.1s						
MK01	Makanchi Array	50.14	13	eP	P	07 05 42.7	-0.1
MK31	Makanchi Array	50.16	13	eP	P	07 05 42.9	0.0
MK32	Makanchi Array	50.16	13	eP	P	07 05 42.9	0.0
MKAR	Makanchi Array	50.16	13	P	P	07 05 42.9	0.0
	1.6nm,0.8s,baz=189,slow=7.2,SNR=14						
MKAR	Makanchi Array	50.16	13	eP	P	07 05 42.7	-0.2
	8.9nm,0.8s						
KURBB	Kurchatov Arra	53.14	9	P	P	07 06 05.9	+0.7
	3.0nm,0.9s,baz=205,slow=7.9,SNR=13						
KURK	Kurchatov	53.25	9	eP	P	07 06 05.9	0.0
KURK				eP	P	07 06 06.7	+0.8
ZAA0	Zalesovo Array	57.45	12	eP	P	07 06 36.0	-0.2
	4.3nm,0.9s						
ZALV	Zalesovo Beam	57.45	12	P	P	07 06 36.3	+0.2
	4.0nm,0.8s,baz=217,slow=7.6,SNR=14						
ZALV	Zalesovo Beam	57.45	12	eP	P	07 06 35.9	-0.2
ZAA1	Zalesovo Array	57.45	12	eP	P	07 06 36.3	+0.1
SONA0	Songino Array	59.89	29	eP	P	07 06 54.6	+1.2
SONM	Songino Array	59.89	29	P	P	07 06 54.6	+1.2
	2.8nm,0.9s,baz=221,slow=6.6,SNR=18						
SONA1	Songino Array	59.90	29	eP	P	07 06 54.4	+0.9
WR1	Warramunga Arr	67.31	111	eP	P	07 07 42.6	-0.3
	0.8nm,0.9s						
WRA	Warramunga Arr	67.31	111	P	P	07 07 42.6	-0.3
	1.7nm,0.9s,baz=283,slow=6.0,SNR=8.0						
ASAR	Alice Springs	67.38	115	P	P	07 07 42.4	-0.9
	1.1nm,1.0s,baz=286,slow=6.3,SNR=5.9						
KLR	Kul'dur	74.77	38	P	P	07 08 26.5	-1.1
	1.8nm,0.8s,baz=288,slow=7.7,SNR=5.8						
TIXI	Tiksi	83.02	16	P	P	07 09 11.7	-0.6
	0.9nm,0.3s,baz=86,slow=1.6,SNR=4.7						
YKA	Yellowknife Ar	119.55	1	PKP	PKiKP	07 15 37.1	+0.1
	0.3nm,0.7s,baz=354,slow=1.9,SNR=4.1						
PKCU	Pink Cliffs	144.65	0	ePKPdf	PKPdf	07 16 25.7	+0.6
LTX	Lajitas	151.56	344	ePKPbc	PKiKP	07 16 42.8	-0.2
TX31	Lajitas Ar. Si	151.56	344	ePKPbc	PKPbc	07 16 42.6	0.0
TXAR	Lajitas Array	151.56	344	PKPbc	PKiKP	07 16 42.8	-0.2
	1.0nm,0.9s,baz=25,slow=0.5,SNR=7.4						

*ISCJB **09** 06:59:31.8±1.0, 1°.9S±0°.2×67°.8E±0°.2, h15km, mb4.1/10, MS3.5/1, Error ellipse: s-maj=27.3km s-min=21.6km az=135.6*

*IDC **09** 06:59:31.3±1.1, 1°.97S×67°.81E, h0km, mb4.1/10, mb1 4.2/10, mb1mx3.8/50, mbtmp4.1/10, MS3.6/1, Ms1 3.6/1, ms1mx2.8/39, Error ellipse: s-maj=31.0km s-min=24.4km az=134.0*

ISC 09 06:59:33.6±1.1**, 2°.0S**±0°.2×**67°.8E**±0°.2**, h15**km**, n12, σ0.s72**/11**, mb4.1**/10**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	31.48	81	LR	LR	07 15 52.0	
	comp=Z,117nm,22.0s,baz=164,slow=31						
CMAR	Chiang Mai Arr	36.76	55	P	P	07 06 41.4	+0.5
	0.9nm,0.3s,baz=236,slow=11,SNR=5.8						
LSZ	Lusaka	41.23	249	P	P	07 07 18.7	+0.2
	1.8nm,0.5s,baz=30,slow=14,SNR=2.0						
AAK	Ala-Archa	44.80	7	P	P	07 07 48.0	+0.9
	0.8nm,0.4s,baz=194,slow=8.9,SNR=4.0						
MKAR	Makanchi Array	50.20	13	P	P	07 08 28.4	-0.5
	1.5nm,0.7s,baz=198,slow=7.6,SNR=6.2						
AKTO	Aktyubinsk	52.86	352	P	P	07 08 47.9	-0.8
	0.9nm,0.6s,baz=174,slow=9.9,SNR=5.3						
KURBB	Kurchatov Arra	53.18	9	P	P	07 08 51.4	+0.3
	3.0nm,0.9s,baz=205,slow=7.6,SNR=11						
ZALV	Zalesovo Beam	57.49	12	P	P	07 09 21.7	-0.3
	3.6nm,0.6s,baz=204,slow=8.1,SNR=15						
SONM	Songino Array	59.93	29	P	P	07 09 40.2	+0.9
	2.2nm,0.8s,baz=221,slow=7.4,SNR=15						
WRA	Warramunga Arr	67.31	111	P	P	07 10 28.2	-0.3
	1.4nm,1.0s,baz=286,slow=5.7,SNR=5.3						
KLR	Kul'dur	74.81	38	P	P	07 11 12.5	-0.9
	1.5nm,0.8s,baz=257,slow=4.7,SNR=5.5						
TXAR	Lajitas Array	151.59	344	PKPbc	PKPbc	07 19 28.8	+0.6
	0.8nm,0.9s,baz=352,slow=4.5,SNR=5.2						

*MOS **09** 07:01:52.6±1.6, 54°.81N×162°.28E, h47km, mb4.0/6, Error ellipse: s-maj=9.6km s-min=5.7km az=66.8*

*KRSC **09** 07:01:52.6±1.4, 54°.81N×162°.28E, h47km±13km, ML4.4*

*ISCJB **09** 07:01:53.9±0.6, 54°.84N±0°.02×162°.32E±0°.07, h44km±6km, mb3.6/11, Error ellipse: s-maj=7.2km s-min=3.7km az=13.6*

*IDC **09** 07:01:56.5±3.5, 54°.90N×162°.15E, h53km±34km, mb3.4/11, mb1 3.6/13, mb1mx3.4/47, mbtmp3.6/13, ML3.1/2, Error ellipse: s-maj=24.1km s-min=15.8km az=146.0*

ISC 09 07:01:53.8±1.2**, 54°.86N**±0°.03×**162°.36E**±0°.06**, h27**km±9km**, n69, σ1.s21**/111**, mb3.7**/11**, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.48	230	eP	Pb	07 02 03.1	-0.5
MKZ				eS	Sb	07 02 10.3	0.0
MKZ	Mys Kozlova	0.48	230	PN	Pb	07 02 03.1	-0.5
MKZ				S	Sb	07 02 10.3	0.0
KZV	Kizimen	1.22	283	eP	Pn	07 02 13.6	-1.5
KZV				eS	Sn	07 02 28.6	-2.2
KZV	Kizimen	1.22	283	PN	Pn	07 02 13.6	-1.5
KZV				S	Sn	07 02 28.6	-2.2
TUMR	Tumrok	1.34	289	eP	Pn	07 02 15.8	-1.0
TUMR				eS	Sn	07 02 33.7	-0.1
TUMR	Tumrok	1.34	289	PN	Pn	07 02 15.8	-1.0
TUMR				S	Sn	07 02 33.7	-0.1
KBG	Krutoberegovo	1.41	8	eP	Pb	07 02 18.5	-0.9
KBG				eS	Sb	07 02 38.5	+1.6
KBG	Krutoberegovo	1.41	8	PN	Pb	07 02 18.5	-0.9
KBG				S	Sb	07 02 38.5	+1.6
BZGR	Bezymyannyi-Gr	1.44	319	eP	Pn	07 02 17.9	-0.2
BZGR				eS	Sn	07 02 36.3	+0.1
BZGR	Bezymyannyi-Gr	1.44	319	PN	Pn	07 02 17.9	-0.2
BZGR				S	Sn	07 02 36.3	+0.1
BZWR	Bezymyannyi-We	1.53	317	eP	Pn	07 02 19.5	0.0
BZWR				eS	Sn	07 02 36.8	-1.8
BZWR	Bezymyannyi-We	1.53	317	PN	Pn	07 02 19.5	0.0
BZWR				S	Sn	07 02 36.8	-1.8
KPT	Kopyto	1.65	313	eP	Pn	07 02 21.3	+0.3
KPT				eS	Sn	07 02 42.1	+0.8
KPT	Kopyto	1.65	313	PN	Pn	07 02 21.3	+0.3
KPT				S	Sn	07 02 42.1	+0.8
KLY	Klyuchi	1.75	327	eP	Pn	07 02 21.4	-0.9
KLY				eS	Sn	07 02 43.2	-0.4
KLY	Klyuchi	1.75	327	PN	Pn	07 02 21.4	-0.9
KLY				S	Sn	07 02 43.2	-0.4
KOZ	Kozyrevsk	1.85	311	eP	Pn	07 02 24.1	+0.3
KOZ				eS	Sn	07 02 47.4	+1.1
KOZ	Kozyrevsk	1.85	311	PN	Pn	07 02 24.1	+0.3
KOZ				S	Sn	07 02 47.4	+1.1
KII	Karymskiy	1.89	245	eP	Pn	07 02 23.9	-0.4
KII				eS	Sn	07 02 47.2	-0.1
KII	Karymskiy	1.89	245	PN	Pn	07 02 23.9	-0.4
KII				S	Sn	07 02 47.2	-0.1
SPN	Mys Shipunski	2.24	219	eP	Pn	07 02 27.2	-1.8
SPN				eS	Sn	07 02 52.5	-3.3
SPN	Mys Shipunski	2.24	219	PN	Pn	07 02 27.2	-1.8
SPN				S	Sn	07 02 52.5	-3.3
ESO	Esso	2.34	299	eP	Pn	07 02 29.8	-0.7
ESO				eS	Sn	07 02 57.2	-1.2
ESO	Esso	2.34	299	PN	Pn	07 02 29.8	-0.7
ESO				S	Sn	07 02 57.2	-1.2
NLC	Nalytchevo	2.46	228	eP	Pn	07 02 31.2	-0.8
NLC				eS	Sn	07 02 59.4	-1.6
NLC	Nalytchevo	2.46	228	PN	Pn	07 02 31.2	-0.8
NLC				S	Sn	07 02 59.4	-1.6
SDLR	Sedlovina	2.59	234	eP	Pn	07 02 34.4	+0.4
SDLR	Sedlovina	2.59	234	PN	Pn	07 02 34.4	+0.4
SMAR	Somma	2.64	234	eP	Pn	07 02 35.2	+0.5
SMAR				eS	Sn	07 03 06.4	+0.5
SMAR	Somma	2.64	234	PN	Pn	07 02 35.2	+0.5
SMAR				S	Sn	07 03 06.4	+0.5
KRX	Arik	2.65	237	eP	Pn	07 02 35.6	+0.8
KRX				eS	Sn	07 03 07.4	+1.2
KRX	Arik	2.65	237	PN	Pn	07 02 35.6	+0.8
KRX				S	Sn	07 03 07.4	+1.2
UGLR	Uglovaya	2.66	233	eP	Pn	07 02 35.6	+0.7
UGLR	Uglovaya	2.66	233	PN	Pn	07 02 35.6	+0.7
AVH	Avacha	2.67	235	eP	Pn	07 02 35.7	+0.7
AVH				eS	Sn	07 03 08.9	+2.5
AVH	Avacha	2.67	235	PN	Pn	07 02 35.7	+0.7
AVH				S	Sn	07 03 08.9	+2.5
KOK	Koryaka	2.70	236	eP	Pn	07 02 36.1	+0.7
KOK	Koryaka	2.70	236	PN	Pn	07 02 36.1	+0.7
GNL	Ganaly	2.84	248	eP	Pn	07 02 37.8	+0.4
GNL	Ganaly	2.84	248	PN	Pn	07 02 37.8	+0.4
PET	Petropavlovsk	2.86	231	eP	Pn	07 02 38.0	+0.5
PET				eS	Sn	07 03 11.1	0.0
PET	Petropavlovsk	2.86	231	PN	Pn	07 02 38.0	+0.5
PET				S	Sn	07 03 11.1	0.0
KRMR	Karymshinskiy	3.23	233	eP	Pn	07 02 43.7	+1.1
KRMR				eS	Sn	07 03 21.7	+1.6
KRMR	Karymshinskiy	3.23	233	PN	Pn	07 02 43.7	+1.1
KRMR				S	Sn	07 03 21.7	+1.6
PETK	Petropavlovsk-	3.26	239	P	Pn	07 02 43.6	+0.5
	7.0nm,0.3s,baz=66,slow=18,SNR=35						
PETK				S	Sn	07 03 24.0	+3.0
	5.8nm,0.3s,baz=94,slow=20,SNR=5.8						
RUS	Russkaya	3.34	225	eP	Pn	07 02 44.1	0.0
RUS				eS	Sn	07 03 22.0	-0.9
RUS	Russkaya	3.34	225	PN	Pn	07 02 44.1	0.0
RUS				S	Sn	07 03 22.0	-0.9
MTVR	Mutnovka	3.44	228	eP	Pn	07 02 46.0	+0.3
MTVR				eS	Sn	07 03 25.5	-0.1
MTVR	Mutnovka	3.44	228	PN	Pn	07 02 46.0	+0.3
MTVR				S	Sn	07 03 25.5	-0.1
APC	Apacha	3.64	240	eP	Pn	07 02 49.9	+1.7
APC	Apacha	3.64	240	PN	Pn	07 02 49.9	+1.7
KDTR	Khodutka, Kamc	3.99	222	eP	Pn	07 02 53.8	+0.7
KDTR				eS	Sn	07 03 38.1	-0.8
KDTR	Khodutka, Kamc	3.99	222	PN	Pn	07 02 53.8	+0.7
KDTR				S	Sn	07 03 38.1	-0.8
ASAJ	Asahikawa	16.68	238	P	P	07 05 51.0	+3.4
	0.4nm,0.3s,baz=157,slow=33,SNR=3.7						
KLR	Kul'dur	19.55	266	P	P	07 06 19.0	-0.1
	0.1nm,0.3s,baz=58,slow=11,SNR=5.3						
ZEA	Zeya	20.39	281	eP	P	07 06 19.0	-9.2
TIXI	Tiksi	22.08	332	P	P	07 06 46.0	-0.2
	2.9nm,0.6s,baz=113,slow=7.2,SNR=3.4						
ILAR	Eielson Array	26.62	48	P	P	07 07 29.2	-0.4
	0.3nm,0.7s,baz=267,slow=8.1,SNR=5.1						
INK	Inuvik	31.65	40	P	P	07 08 14.1	0.0
	0.6nm,0.6s,baz=225,slow=2.9,SNR=4.3						
YKA	Yellowknife Ar	40.96	45	P	P	07 09 33.6	+0.1
	0.7nm,0.6s,baz=300,slow=7.8,SNR=9.3						
MKAR	Makanchi Array	48.60	296	P	P	07 10 35.0	+0.4
	0.4nm,0.4s,baz=39,slow=9.5,SNR=8.5						
NVAR	Mina Array Bea	53.91	73	P	P	07 11 16.8	+2.0
	0.5nm,0.7s,baz=311,slow=8.2,SNR=3.6						
PDAR	Pinedale Array	55.51	63	P	P	07 11 27.2	+0.9
	0.3nm,0.5s,baz=336,slow=3.3,SNR=3.6						
FINES	FINESS Array B	59.02	337	P	P	07 11 48.0	-2.5
	0.6nm,0.5s,baz=24,slow=6.7,SNR=6.9						
FINES	FINESS Array B	59.02	337	P	P	07 11 48.0	-2.5
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TXAR	Lajitas Array	68.73	69	P	P	07 12 55.9	+0.8
	comp=Z,0.6nm,0.6s,baz=291,slow=4.9,SNR=10						
WRA	Warramunga Arr	78.26	207	P	P	07 13 50.0	-0.9
	comp=Z,0.7nm,1.0s,baz=21,slow=6.4,SNR=3.5						
WRA	Warramunga Arr	78.26	207	P	P	07 13 50.0	-0.9
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	Alice Springs	81.93	206	P	P	07 14 09.2	-1.4
	comp=Z,0.3nm,0.6s,baz=16,slow=5.8,SNR=4.2						

IDC 09 07:03:56.7±2.7**, 2°.02S**×**67°.88E, h0**km**, mb3.7**/5**, mb1 3.8**/5**, mb1mx3.5**/51**, mbtmp3.7**/5**, Error ellipse: s-maj=89.2km s-min=33.3km az=66.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	50.23	13	P	P	07 12 54.4	-0.2
	0.5nm,0.8s,baz=199,slow=8.5,SNR=1.9						
KURBB	Kurchatov Arra	53.23	8	P	P	07 13 16.7	-0.1
	1.0nm,0.9s,baz=206,slow=8.2,SNR=3.5						
ZALV	Zalesovo Beam	57.53	12	P	P	07 13 46.9	-0.9
	0.9nm,0.6s,baz=206,slow=6.3,SNR=4.0						
SONM	Songino Array	59.93	29	P	P	07 14 05.5	+0.7
	0.6nm,0.8s,baz=214,slow=6.8,SNR=4.7						
WRA	Warramunga Arr	67.21	111	P	P	07 14 53.2	-0.1
	1.0nm,1.1s,baz=283,slow=6.0,SNR=3.5						
TXAR	Lajitas Array	151.67	344	PKPbc	PKPbc	07 23 54.1	+0.1
	0.4nm,0.9s,baz=64,slow=2.1,SNR=3.8						

*ISCJB **09** 07:05:09.6±0.7, 2°.02S±0°.09×67°.8E±0°.1, h15km, mb4.1/16, MS3.4/5, Error ellipse: s-maj=19.5km s-min=11.1km az=155.9*

*IDC **09** 07:05:09.3±1.0, 2°.04S×67°.80E, h0km, mb4.1/13, mb1 4.2/13, mb1mx3.9/51, mbtmp4.1/13, MS3.5/6, Ms1 3.5/6, ms1mx3.1/43, Error ellipse: s-maj=26.7km s-min=22.2km az=64.0*

*NEIC **09** 07:05:10.9±0.4, 2°.02S×67°.80E, h10km, mb4.3/4, Error ellipse: s-maj=11.2km s-min=6.8km az=67.0*

ISC 09 07:05:11.6±0.8**, 2°.0S**±0°.1×**67°.8E**±0°.2**, h15**km**, n40, σ0.s48**/30**, mb4.1**/16**, MS3.5**/5**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.32	143	T	T	07 11 54.4	
	baz=325,slow=75,SNR=81						
H08N3	Diego Garcia H	5.33	143	T	T	07 11 55.4	
	baz=325,slow=75,SNR=78						
H08N1	Diego Carcia H	5.34	143	T	T	07 11 56.3	
	baz=325,slow=75,SNR=87						
DGAR	Diego Garcia	7.07	139	ePn	Pn	07 06 54.5	-0.1
H08S3	Diego Garcia H	7.25	140	T	T	07 14 32.8	
	baz=307,SNR=5.4						
H08S1	Diego Carcia H	7.26	140	T	T	07 14 30.7	
	baz=307						
H08S2	Diego Garcia H	7.27	140	T	T	07 14 31.3	
	baz=307						
PALK	Pallekele	15.86	54	LR	LR	07 13 34.6	
	comp=Z,264nm,19.7s,baz=296,slow=32						
OPO	Ambohidratompo	26.04	230	LR	LR	07 18 37.7	
	comp=Z,250nm,21.3s,baz=9.5,slow=31						
WSAR	Wadi Sarin	26.67	341	LR	LR	07 19 08.9	
	comp=Z,50nm,20.6s,baz=159,slow=32						
ATD	Arta Tunnel	28.23	299	LR	LR	07 20 09.5	
	comp=Z,51nm,18.9s,baz=131,slow=32						
CMAR	Chiang Mai Arr	36.80	55	P	P	07 12 19.4	+0.2
	0.7nm,0.3s,baz=243,slow=12,SNR=4.2						
CMAR				LR	LR	07 25 49.8	
	comp=Z,72nm,20.1s,baz=245,slow=34						
LSZ	Lusaka	41.20	249	P	P	07 12 56.4	+0.1
	1.8nm,0.5s,baz=53,slow=6.4,SNR=3.9						
AAK	Ala-Archa	44.88	7	P	P	07 13 26.6	+0.9
	0.6nm,0.4s,baz=201,slow=7.4,SNR=3.8						
BOSA	Boshof	48.37	233	LR	LR	07 30 56.5	
	comp=Z,67nm,21.5s,baz=30,slow=32						
MAKZ	Makanchi	50.22	13	eP	P	07 14 06.8	-0.2
	3.0nm,0.9s						
MK01	Makanchi Array	50.26	13	eP	P	07 14 06.9	-0.4
MK31	Makanchi Array	50.28	13	eP	P	07 14 07.2	-0.3
MK32	Makanchi Array	50.28	13	eP	P	07 14 07.0	-0.4
MKAR	Makanchi Array	50.28	13	P	P	07 14 07.0	-0.4
	1.7nm,0.8s,baz=188,slow=7.4,SNR=9.9						
MKAR	Makanchi Array	50.28	13	eP	P	07 14 07.2	-0.3
	9.4nm,0.8s						
KBZ	Khabaz	50.75	337	P	P	07 14 10.8	-0.1
	3.0nm,1.0s,baz=190,slow=7.1,SNR=4.5						
ABKAR	Akbulak array	51.55	353	eP	P	07 14 17.1	+0.3
AKTO	Aktyubinsk	52.95	352	P	P	07 14 27.4	+0.1
	1.6nm,0.7s,baz=146,slow=10.0,SNR=7.7						
KURBB	Kurchatov Arra	53.26	9	P	P	07 14 29.4	-0.2
	2.7nm,0.8s,baz=205,slow=7.8,SNR=12						
KURK	Kurchatov	53.37	9	eP	P	07 14 29.4	-0.9
KURK				eP	P	07 14 30.6	+0.2
ZAA0	Zalesovo Array	57.57	12	eP	P	07 14 59.9	-0.7
	3.2nm,0.8s						
ZALV	Zalesovo Beam	57.57	12	P	P	07 15 00.1	-0.4
	2.8nm,0.7s,baz=217,slow=8.1,SNR=12						
ZALV	Zalesovo Beam	57.57	12	eP	P	07 14 59.8	-0.8
ZAA1	Zalesovo Array	57.57	12	eP	P	07 15 00.1	-0.4
SONA0	Songino Array	60.00	29	eP	P	07 15 18.6	+0.8
SONM	Songino Array	60.00	29	P	P	07 15 18.6	+0.8
	2.5nm,0.9s,baz=218,slow=6.1,SNR=14						
SONA1	Songino Array	60.01	29	eP	P	07 15 18.3	+0.4
WR1	Warramunga Arr	67.28	111	eP	P	07 16 06.5	+0.2
	0.5nm,0.6s						
WRA	Warramunga Arr	67.28	111	P	P	07 16 06.5	+0.2
	1.4nm,1.0s,baz=282,slow=6.3,SNR=5.6						
ASAR	Alice Springs	67.34	115	P	P	07 16 06.8	+0.1
	0.7nm,0.9s,baz=286,slow=4.7,SNR=3.8						
KLR	Kul'dur	74.88	38	P	P	07 16 50.9	-0.9
	1.4nm,0.8s,baz=264,slow=8.0,SNR=4.8						
TIXI	Tiksi	83.14	16	P	P	07 17 36.5	0.0
	2.6nm,0.7s,baz=214,slow=1.4,SNR=5.7						
LTX	Lajitas	151.67	344	ePKPbc	PKiKP	07 25 06.8	0.0
TXAR	Lajitas Array	151.67	344	PKPbc	PKiKP	07 25 06.8	0.0
	0.7nm,0.9s,baz=48,slow=1.9,SNR=5.8						

IDC 09 07:08:25.4±10.0**, 2°.39S**×**67°.12E, h0**km**, mb3.6**/4**, mb1 3.7**/4**, mb1mx3.4**/40**, mbtmp3.6**/4**, Error ellipse: s-maj=322.4km s-min=36.2km az=66.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.50	135	T	T	07 15 14.1	
	baz=325,slow=76,SNR=29						
H08N3	Diego Garcia H	5.51	136	T	T	07 15 11.1	
	baz=325,slow=76,SNR=22						
H08N1	Diego Carcia H	5.53	135	T	T	07 15 15.4	
	baz=325,slow=76,SNR=24						
MKAR	Makanchi Array	50.77	13	P	P	07 17 27.1	-0.2
	0.3nm,0.7s,baz=205,slow=8.8,SNR=3.6						
ZALV	Zalesovo Beam	58.04	12	P	P	07 18 20.1	0.0
	0.6nm,0.6s,baz=205,slow=6.4,SNR=2.9						
SONM	Songino Array	60.63	29	P	P	07 18 38.2	-0.1
	0.5nm,0.7s,baz=219,slow=7.6,SNR=4.4						
WRA	Warramunga Arr	67.80	110	P	P	07 19 25.8	0.0
	0.8nm,0.9s,baz=283,slow=6.2,SNR=4.1						

*ISCJB **09** 07:09:23.7±0.7, 49°.99N±0°.03×78°.62E±0°.10, h0km, Error ellipse: s-maj=9.1km s-min=4.1km az=173.9*

*NNC **09** 07:09:24.4±0.6, 50°.03N×78°.78E, h0km, mb2.5, mpv2.5, Error ellipse: s-maj=11.0km s-min=3.1km az=76.0, Suspected Mining explosion.*

*IDC **09** 07:09:26.0±0.9, 50°.10N×78°.78E, h0km, mb1 2.6/3, mb1mx2.6/43, mbtmp2.6/3, ML2.4/3, Error ellipse: s-maj=11.1km s-min=6.4km az=57.0*

ISC 09 07:09:25.6±1.0**, 50°.10N**±0°.06×**78°.71E**±0°.08**, h0**km**, n17, σ0.s74**/29**, 17C-6D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.50	346	⇑P	Pg	07 09 35.6	+0.4
KUR07				⇓S	Sb	07 09 45.2	0.0
KUR06	Kurchatov Arra	0.52	347	⇓P	Pg	07 09 36.1	+0.5
KUR06				⇓S	Sb	07 09 45.5	-0.2
KUR14	Kurchatov Arra	0.52	352	⇓P	Pg	07 09 36.0	+0.4
KUR14				⇓S	Sb	07 09 45.0	-0.8
KUR15	Kurchatov Arra	0.53	350	⇑P	Pg	07 09 36.1	+0.3
KUR15				⇑S	Sb	07 09 44.9	-1.0
KURBB	Kurchatov Arra	0.54	348	Pg	Pg	07 09 36.2	+0.4
	1.6nm,0.3s,baz=166,slow=18,SNR=70						
KURBB				Lg	Lg	07 09 44.5	
	2.7nm,0.3s,baz=164,slow=33,SNR=50						
KURBB	Kurchatov Arra	0.54	348	⇑P	Pg	07 09 36.3	+0.4
	4.4nm,0.2s						
KURBB				⇑S	Sb	07 09 45.2	-1.0
	35nm,0.6s						
KUR16	Kurchatov Arra	0.55	346	⇓P	Pg	07 09 36.4	+0.4
KUR16				⇑S	Sb	07 09 45.4	-1.1
KUR05	Kurchatov Arra	0.56	349	⇑P	Pg	07 09 36.4	+0.1
KUR05				⇑S	Sb	07 09 45.5	-1.2
KUR17	Kurchatov Arra	0.56	344	⇑P	Pg	07 09 36.8	+0.6
KUR17				⇑S	Sb	07 09 46.2	-0.5
KUR04	Kurchatov Arra	0.58	350	⇑P	Pg	07 09 37.0	+0.4
KUR04				⇑S	Sb	07 09 46.0	-1.2
KURK	Kurchatov	0.62	355	⇑P	Pg	07 09 37.6	+0.2
	3.5nm,0.4s						
KURK				⇑S	Sb	07 09 47.3	-1.3
	6.1nm,0.6s						
MK31	Makanchi Array	4.08	143	⇑Pn	Pn	07 10 28.5	-0.6
	0.1nm,0.1s,baz=323,slow=11,SNR=24						
MK31				Pg	Pb	07 10 38.4	+0.2
	0.1nm,0.2s,baz=322,slow=14,SNR=10						
MK31				Lg	Lg	07 11 32.2	
	2.6nm,0.5s,baz=324,slow=27,SNR=7.8						
MKAR	Makanchi Array	4.08	143	Pn	Pn	07 10 28.6	-0.6
	0.2nm,0.3s,baz=326,slow=10,SNR=18						
MKAR				Pg	Pb	07 10 38.4	+0.2
	0.4nm,0.3s,baz=320,slow=14,SNR=8.7						
MKAR				Lg	Lg	07 11 29.6	
	1.0nm,0.3s,baz=324,slow=27,SNR=9.3						
OTUK	Ortayu	4.57	249	⇑Pn	Pn	07 10 35.5	-0.5
	0.3nm,0.2s						
OTUK				⇑Lg	Lg	07 11 49.0	
	3.0nm,0.5s						
ZALV	Zalesovo Beam	5.39	42	Pn	Pn	07 10 48.2	+1.0
	0.4nm,0.3s,baz=226,slow=14,SNR=7.5						
I46RU	ZALESOVO INFRA	5.40	42	*i*		07 42 40.0	
	baz=217,slow=345,SNR=2.4						
BVAR	Borovoye Array	5.96	303	Pn	Pn	07 10 54.7	-0.3
	0.1nm,0.3s,baz=110,slow=13,SNR=3.0						
BVAR				Sn	Sn	07 12 05.1	+1.2
	0.5nm,0.3s,baz=113,slow=24,SNR=9.1						

IDC 09 07:19:03.0±1.2**, 2°.37S**×**67°.04E, h0**km**, mb3.7**/4**, mb1 3.8**/4**, mb1mx3.4**/46**, mbtmp3.7**/4**, Error ellipse: s-maj=43.5km s-min=27.4km az=125.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OPO	Ambohidratompo	25.25	229	P	P	07 24 31.2	0.0
	3.3nm,0.4s,baz=75,slow=13,SNR=4.1						
MKAR	Makanchi Array	50.77	13	P	P	07 28 04.7	-0.3
	0.3nm,0.7s,baz=187,slow=10,SNR=2.8						
SONM	Songino Array	60.65	29	P	P	07 29 16.2	+0.2
	0.3nm,0.3s,baz=221,slow=5.7,SNR=4.2						
WRA	Warramunga Arr	67.87	110	P	P	07 30 03.9	0.0
	0.4nm,0.8s,baz=285,slow=5.8,SNR=3.3						

*IDC **09** 07:21:30.8±1.7, 2°.05S×67°.75E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.7/46, mbtmp4.0/7, MS3.7/1, Ms1 3.7/1, ms1mx2.8/50, Error ellipse: s-maj=52.2km s-min=26.0km az=66.0*

ISC 09 07:21:33.3±1.9**, 2°.0S**±0°.2×**67°.8E**±0°.3**, h15**km**, n14, σ0.s60**/10**, mb4.1**/8**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.35	143	T	T	07 28 16.1	
	baz=325,slow=76,SNR=16						
H08N3	Diego Garcia H	5.37	143	T	T	07 28 16.1	
	baz=325,slow=76,SNR=17						
H08N1	Diego Carcia H	5.38	143	T	T	07 28 16.6	
	baz=325,slow=76,SNR=17						
PALK	Pallekele	15.88	54	LR	LR	07 29 56.1	
	comp=Z,248nm,19.4s,baz=296,slow=32						
CMAR	Chiang Mai Arr	36.82	55	P	P	07 28 41.7	+0.6
	1.0nm,0.3s,baz=237,slow=12,SNR=5.9						
AAK	Ala-Archa	44.87	7	P	P	07 29 46.9	-0.4
	0.8nm,0.4s,baz=169,slow=5.4,SNR=4.1						
MKAR	Makanchi Array	50.27	13	P	P	07 30 28.6	-0.4
	1.1nm,0.8s,baz=188,slow=7.4,SNR=6.8						
XAN	Xi'an	52.75	43	P	P	07 30 47.4	-0.5
XAN				pP	sP	07 30 58.9	+4.3
XAN				pmax	pmax		
	comp=Z,11nm,1.0s						
ZALV	Zalesovo Beam	57.56	12	P	P	07 31 21.5	-0.7
	comp=Z,2.3nm,0.6s,baz=216,slow=7.3,SNR=8.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SONM	Songino Array	60.00	29	P	P	07 31 40.1	+0.7
	comp=Z,2.5nm,0.9s,baz=230,slow=7.1,SNR=10						
WRA	Warramunga Arr	67.31	111	P	P	07 32 28.0	-0.2
	comp=Z,2.0nm,1.0s,baz=280,slow=6.2,SNR=8.9						
ASAR	Alice Springs	67.38	115	P	P	07 32 28.2	-0.4
	comp=Z,1.0nm,0.9s,baz=284,slow=6.4,SNR=5.7						
YKA	Yellowknife Ar	119.65	1	PKP	PKPdf	07 40 22.6	+0.2
	comp=Z,0.2nm,0.7s,baz=355,slow=2.8,SNR=4.0						
TXAR	Lajitas Array	151.64	344	PKPbc	PKPbc	07 41 28.7	+0.6
	comp=Z,0.9nm,0.9s,baz=96,slow=2.5,SNR=5.9						

IDC 09 07:22:28.8±4.0**,2°.24S×67°.84E,h0km,mb3.8**/6**,mb1 3.9**/6**, mb1mx3.6**/45**,mbtmp3.8**/6**,Error ellipse: s-maj=133.8km s-min=25.5km az=62.0,Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	50.46	13	P	P	07 31 27.0	-1.4
	0.9nm,0.8s,baz=190,slow=6.2,SNR=4.8						
AKTO	Aktyubinsk	53.14	352	P	P	07 31 48.7	+0.3
	1.3nm,0.9s,baz=194,slow=12,SNR=3.4						
ZALV	Zalesovo Beam	57.75	12	P	P	07 32 20.9	-0.5
	0.8nm,0.4s,baz=217,slow=7.1,SNR=4.1						
SONM	Songino Array	60.15	29	P	P	07 32 39.6	+1.1
	1.7nm,0.9s,baz=229,slow=5.7,SNR=6.0						
WRA	Warramunga Arr	67.17	111	P	P	07 33 25.6	+0.3
	1.0nm,0.9s,baz=288,slow=5.7,SNR=3.3						
ASAR	Alice Springs	67.22	115	P	P	07 33 25.2	-0.4
	0.7nm,0.9s,baz=295,slow=7.0,SNR=2.8						

IDC 09 07:25:38.2±2.7**,2°.00S×67°.78E,h0km,mb3.7**/5**,mb1 3.8**/5**, mb1mx3.5**/44**,mbtmp3.7**/5**,MS4.0**/1**,Ms1 4.0**/1**, ms1mx2.8**/47**,Error ellipse: s-maj=88.8km s-min=37.0km az=67.0,Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIL	Elat	44.45	318	LR	LR	07 49 13.4	
	comp=Z,206nm,20.5s,baz=64,slow=32						
MKAR	Makanchi Array	50.24	13	P	P	07 34 35.4	-0.7
	0.4nm,0.7s,baz=190,slow=6.2,SNR=4.5						
KURBB	Kurchatov Arra	53.22	9	P	P	07 34 58.4	0.0
	1.1nm,1.0s,baz=208,slow=7.2,SNR=4.5						
ZALV	Zalesovo Beam	57.53	12	P	P	07 35 28.8	-0.5
	1.1nm,0.7s,baz=215,slow=7.2,SNR=4.2						
SONM	Songino Array	59.97	29	P	P	07 35 47.3	+0.7
	0.9nm,0.8s,baz=232,slow=7.0,SNR=4.9						
WRA	Warramunga Arr	67.31	111	P	P	07 36 35.4	-0.2
	0.8nm,0.9s,baz=285,slow=6.1,SNR=4.6						
TXAR	Lajitas Array	151.62	344	PKPbc	PKPbc	07 45 35.5	0.0
	0.6nm,0.9s,baz=16,slow=6.7,SNR=4.0						

*IDC **09** 07:26:04.1±0.8, 31°.19N×86°.52E, h0km, mb3.6/13, mb1 3.9/15, mb1mx3.7/43, mbtmp3.7/15, ML2.7/1, Error ellipse: s-maj=30.1km s-min=15.5km az=57.0*
*ISCJB **09** 07:26:06.0±0.7, 31°.2N±0°.1×86°.5E±0°.2, h26km, mb3.6/12, Error ellipse: s-maj=23.6km s-min=11.0km az=148.2*
ISC 09 07:26:07.9±0.9**,31°.2N**±0°.1×**86°.6E**±0°.2**,h26km,n16, σ0s.88**/15**,mb3.6**/12**,Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	12.63	4	eP	Pn	07 28 59.8	-6.1
WMQ				smax	smax		
	comp=N,70nm,0.7s						
WMQ				smax	smax		
	comp=E,78nm,1.1s						
MKAR	Makanchi Array	15.92	349	Pn	Pn	07 29 49.6	-0.5
	comp=E,0.0nm,0.3s,baz=175,slow=13,SNR=3.8						
CMAR	Chiang Mai Arr	16.92	136	Pn	Pn	07 30 02.1	-0.9
	baz=315,slow=10,SNR=4.3						
KURBB	Kurchatov Arra	20.31	345	P	P	07 30 41.1	-0.7
	comp=E,3.0nm,0.6s,baz=161,slow=10,SNR=13						
SONM	Songino Array	22.47	37	P	P	07 31 05.9	+0.6
	comp=E,0.3nm,0.5s,baz=220,slow=13,SNR=3.0						
ZALV	Zalesovo Beam	22.77	357	P	P	07 31 08.4	+0.2
	comp=E,1.2nm,0.8s,baz=179,slow=11,SNR=4.4						
BVAR	Borovoye Array	24.78	336	P	P	07 31 27.2	-0.3
	comp=E,1.0nm,0.7s,baz=156,slow=11,SNR=7.8						
FINES	FINESS Array B	49.09	326	P	P	07 34 54.2	+1.4
	comp=E,1.8nm,0.9s,baz=108,slow=13,SNR=4.6						
ARCES	ARCESS Array B	51.07	337	P	P	07 35 07.7	-0.1
	comp=E,1.8nm,0.8s,baz=108,slow=8.7,SNR=4.1						
NOA	NORSAR Array B	56.24	326	P	P	07 35 45.0	-0.8
	comp=E,0.1nm,0.5s,baz=101,slow=4.6,SNR=3.3						
GERES	GERESS Array B	56.38	311	P	P	07 35 48.2	+1.2
	comp=E,0.4nm,0.6s,baz=46,slow=12,SNR=3.7						
WRA	Warramunga Arr	68.46	132	P	P	07 37 08.8	+0.8
	comp=E,0.7nm,0.5s,baz=327,slow=6.6,SNR=22						
ASAR	Alice Springs	70.93	134	P	P	07 37 24.1	+0.9
	comp=E,1.1nm,0.5s,baz=316,slow=5.9,SNR=22						
ILAR	Eielson Array	75.69	21	P	P	07 37 50.5	-0.2
	comp=E,0.2nm,0.6s,baz=316,slow=5.0,SNR=3.4						
TORD	Torodi Ar. Bea	78.99	279	P	P	07 38 09.1	-0.9
	comp=E,0.8nm,0.8s,baz=63,slow=4.0,SNR=5.9						
YKA	Yellowknife Ar	85.09	10	P	P	07 38 40.2	-1.0
	comp=E,0.1nm,0.6s,baz=336,slow=5.0,SNR=3.3						

*SFS **09** 07:27:50.0, 37°.00N×2°.40W, ML3.5, GERGAL (ALMERIA)*
*MDD **09** 07:27:50.0±0.2, 37°.10N×2°.50W, h4km±3km, mbLg3.4/28, Error ellipse: s-maj=2.3km s-min=1.7km az=16.0, PRXIMO*
MDD EMS: III INTENSIDAD MAXIMA.
*INMG **09** 07:27:50.8±1.6, 37°.08N×2°.49W, h11km±3km, ML3.2, Error ellipse: s-maj=2.2km s-min=2.0km az=4.0*
*LDG **09** 07:27:50.5±0.1, 37°.08N×2°.47W, h2km, Ml3.5/5, Error ellipse: s-maj=2.6km s-min=1.9km az=158.0*
*IGIL **09** 07:27:50.3, 37°.10N×2°.49W, h4km, ML3.1*
ISC 09 07:27:49.5±1.0**,37°.16N**±0°.03×**2°.48W**±0°.02**,h16**km±8km**, n102,σ1s.75**/181**,5C-6D,Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENIJ	Nijar	0.29	131	⇓Pg	Pg	07 27 55.1	-0.6
	750nm,0.2s,SNR=18						
ENIJ				Lg	Lg	07 27 58.6	
	6μm,0.3s,SNR=7.9						
EBER	Berja	0.42	231	⇑Pg	Pg	07 27 57.1	-1.0
	2μm,0.3s,SNR=18						
EBER				Lg	Lg	07 28 03.1	
	2μm,0.3s,SNR=7.9						
GORA	Gorafe	0.55	306	Pg	Pg	07 27 59.8	-0.5
	194nm,0.1s,SNR=7.9						
GORA				Lg	Lg	07 28 07.2	
	3μm,0.2s,SNR=7.9						
EQUE	Quentar	0.77	274	⇑Pg	Pb	07 28 03.4	-1.1
	56nm,0.2s,SNR=18						
EQUE				Lg	Lg	07 28 12.3	
	582nm,0.3s,SNR=30						
EQES	Quesada	0.79	324	Pg	Pb	07 28 04.7	-0.3
	3.4nm,0.1s,SNR=64						
EQES				Lg	Lg	07 28 17.6	
	218nm,0.2s,SNR=39						
SESP	Santiago Espad	0.96	357	Pg	Pb	07 28 08.0	+0.1
	12nm,0.2s,SNR=7.9						
SESP				Lg	Lg	07 28 23.4	
	980nm,0.2s,SNR=7.9						
ELGU	Los Guajares,	0.96	253	⇑Pg	Pb	07 28 06.6	-1.2
	248nm,0.3s,SNR=18						
ELGU				Lg	Lg	07 28 17.2	
	750nm,0.2s,SNR=7.9						
EMUR	La Murta	1.20	55	⇑Pg	Pb	07 28 11.9	0.0
	120nm,0.3s,SNR=18						
EMUR				Lg	Lg	07 28 29.0	
	370nm,0.4s,SNR=4.6						
CART	Cartagena	1.25	70	⇓Pg	Pn	07 28 11.6	-0.8
CART				Lg	Lg	07 28 28.7	
CART	Cartagena	1.25	70	⇓iP	Pn	07 28 11.6	-0.8
CART				iS	Sn	07 28 28.7	-0.2
EALB	Alboran	1.30	200	Pg	Pn	07 28 12.9	0.0
	12nm,0.2s,SNR=11						
EALB				Lg	Lg	07 28 27.6	
	341nm,0.4s,SNR=68						
EGOR	Sierra Gorda,	1.30	268	⇑Pg	Pn	07 28 12.5	-0.6
	24nm,0.2s						
EGOR				Lg	Lg	07 28 33.0	
	108nm,0.2s,SNR=7.9						
EMAL	Malaga-Limoner	1.61	256	⇓iP	Pn	07 28 17.6	+0.3
EMAL				eS	Sg	07 28 41.0	-0.4
ETRV	Los Montesinos	1.61	57	Pn	Pn	07 28 17.5	+0.2
	140nm,0.3s,SNR=7.9						
ETRV				Sn	Sb	07 28 40.1	+1.1
	242nm,0.3s,SNR=7.9						
ETOB	Tobarra	1.66	26	Pn	Pb	07 28 19.3	-0.4
	3.5nm,0.2s,SNR=118						
ETOB				Pg	Pg	07 28 21.1	-0.2
	73nm,0.2s,SNR=107						
ETOB				Lg	Lg	07 28 43.9	
	199nm,0.2s,SNR=5.0						
EMIJ	Mijas	1.93	253	Pn	Pn	07 28 21.6	-0.1
	7.5nm,0.2s,SNR=20						
EMIJ				Sn	Sn	07 28 44.7	-0.9
	57nm,0.4s,SNR=5.3						
EADA	Adamuz	1.94	302	Pn	Pb	07 28 23.2	-1.3
	1.2nm,0.1s,SNR=91						
EADA				Pg	Pg	07 28 25.2	-1.6
	15nm,0.1s						
EADA				Sn	Sn	07 28 47.1	+1.2
	40nm,0.3s,SNR=6.9						
EADA				Lg	Lg	07 28 51.1	
	106nm,0.2s,SNR=11						
LIJA	Lijar	2.35	265	Pn	Pb	07 28 30.2	-1.3
LIJA	Lijar	2.35	265	eP	Pb	07 28 30.2	-1.3
LIJA				iS	Sg	07 29 10.8	+5.6
EBEN2	Beniarda presa	2.36	49	Pn	Pn	07 28 27.7	+0.1
	2.5nm,0.1s,SNR=7.9						
ECAB	El Cabril	2.50	292	Pn	Pn	07 28 30.5	+0.9
	2.9nm,0.2s,SNR=67						
ECAB				Sn	Sn	07 29 00.9	+1.1
	31nm,0.1s,SNR=9.5						
ECAB				Lg	Lg	07 29 09.2	
	142nm,0.4s,SNR=5.0						
CEU	Ceuta	2.65	242	⇓Pn	Pn	07 28 30.5	-1.0
CEU	Ceuta	2.65	242	⇓iP	Pn	07 28 30.5	-1.0
CEU				eS	Sn	07 29 01.5	-1.7
ECHE	Chera	2.70	26	Pn	Pn	07 28 34.3	+2.0
	0.7nm,0.1s,SNR=7.9						
ECHE				Pg	Pg	07 28 40.8	-0.5
	30nm,0.2s,SNR=7.9						
ECHE				Sn	Sn	07 29 06.9	+2.1
	21nm,0.3s,SNR=7.9						
ECHE				Lg	Lg	07 29 16.7	
	62nm,0.3s,SNR=7.9						
ESPR	Espera	2.72	265	Pg	Pb	07 28 39.2	+1.5
	96nm,0.8s,SNR=7.9						
OKGL	Djebel Kef Gue	2.75	113	Pn	Pn	07 28 33.8	+0.8
	39nm,0.3s,SNR=7.9						
ESDC	Sonseca Array	2.77	336	Pn	Pn	07 28 35.2	+2.0
	0.3nm,0.1s,baz=154,slow=12,SNR=14						
ESDC				Sn	Sn	07 29 06.7	+0.4
	19nm,0.2s,baz=154,slow=23,SNR=7.1						
ESDC				Lg	Lg	07 29 18.4	
	44nm,0.4s,baz=155,slow=28,SNR=13						
PAB	San Pablo	2.80	329	Pn	Pn	07 28 34.9	+1.2
	1.9nm,0.3s,SNR=7.9						
PAB				Sn	Sn	07 29 07.8	+0.7
	SNR=7.9						
PAB				Lg	Lg	07 29 18.6	
	139nm,0.6s,SNR=7.9						
GIBL	Gibalbin	2.81	264	Pg	Pb	07 28 40.0	+0.7
GIBL	Gibalbin	2.81	264	eP	Pb	07 28 40.0	+0.7
GIBL				eS	Sg	07 29 27.5	+7.7
EANR	'Ain N'Sour	3.13	112	P	Pn	07 28 39.0	+0.8
UCM	Universidad Co	3.20	349	eP	Pg	07 28 51.1	+0.3
UCM				eS	Sg	07 29 30.8	-1.4
EMIN	Mina Concepcio	3.39	282	Pn	Pn	07 28 41.9	+0.1
	2.3nm,0.2s,SNR=28						
EMIN				Sn	Sn	07 29 21.1	-0.5
	9.8nm,0.3s,SNR=6.8						
EMIN				Lg	Lg	07 29 36.9	
	36nm,0.4s,SNR=5.7						
EIBI	Ibiza	3.55	57	Pn	Pn	07 28 44.4	+0.5
	16nm,0.3s,SNR=21						
EIBI				Sn	Sn	07 29 24.7	-0.8
	9.5nm,0.2s,SNR=5.0						
EMOS	Mosqueruela	3.56	26	Pn	Pn	07 28 46.6	+2.3
	2.1nm,0.4s,SNR=6.9						
EMOS				Pg	Pg	07 28 57.4	-0.3
	44nm,0.5s,SNR=40						
EMOS				Sn	Sn	07 29 27.2	+1.1
	4.7nm,0.3s,SNR=7.4						
EMOS				Lg	Lg	07 29 43.9	
	57nm,0.8s,SNR=7.9						
GUD	Guadarrama	3.71	340	Pn	Pn	07 28 48.1	+1.8
	2.3nm,0.3s,SNR=9.0						
GUD				Pg	Pg	07 29 00.2	-0.5
	8.9nm,0.4s,SNR=9.9						
GUD				Sn	Sn	07 29 29.8	0.0
	7.0nm,0.4s,SNR=5.7						
GUD				Lg	Lg	07 29 46.2	
	38nm,0.4s,SNR=8.8						
PBAR	Barrancos	3.75	287	ePn	Pn	07 28 47.9	+1.2
PBAR				eSn	Sn	07 29 30.6	0.0
PBAR	Barrancos	3.75	287	Pn	Pn	07 28 47.9	+1.2
EBAD	Badajoz	3.92	295	Pn	Pn	07 28 49.7	+0.8
	1.8nm,0.1s,SNR=14						
EBAD				Sn	Sn	07 29 35.1	+0.5
	14nm,0.1s,SNR=6.4						
EBAD				Lg	Lg	07 29 53.0	
	69nm,0.2s,SNR=7.9						
EGRO	El Granado	4.00	277	Pn	Pn	07 28 50.8	+0.7
	6.2nm,0.2s,SNR=15						
EGRO				Sn	Sn	07 29 35.5	-1.2
	9.3nm,0.2s,SNR=5.8						
EPLA	Plasencia	4.04	317	Pn	Pn	07 28 52.7	+2.0
	2.1nm,0.1s,SNR=15						
EPLA				Sn	Sn	07 29 38.1	+0.3
	6.0nm,0.2s,SNR=7.8						
EPLA				Lg	Lg	07 29 58.7	
	27nm,0.2s,SNR=7.9						
PVAQ	Vaqueiros	4.18	275	ePn	Pn	07 28 52.3	-0.3
PVAQ				eSn	Sn	07 29 40.6	-0.5
PVAQ				eSg	Sg	07 30 03.8	0.0
PVAQ				A	A	07 30 09.4	
	20nm,0.5s						
PVAQ	Vaqueiros	4.18	275	Pn	Pn	07 28 52.3	-0.3
IFR	Ifrane	4.23	212	eP	Pn	07 28 54.0	+0.5
IFR				eS	Sn	07 29 40.6	-2.0
PBDV	Barranco-do-Ve	4.35	273	ePn	Pn	07 28 56.1	+1.1
PBDV				eSn	Sn	07 29 44.9	-0.5
PBDV				A	A	07 30 26.0	
	19nm,0.5s						
PBDV	Barranco-do-Ve	4.35	273	Pn	Pn	07 28 56.1	+1.1
PBEJ	Beja	4.36	283	ePn	Pn	07 28 57.4	+2.3
PBEJ				eSn	Sn	07 29 45.5	-0.1
PBEJ				eSg	Sg	07 30 09.4	-0.1
PBEJ				A	A	07 30 12.5	
	20nm,0.5s						
PBEJ	Beja	4.36	283	Pn	Pn	07 28 57.4	+2.3
ERTA	Horta de San J	4.38	29	Pn	Pn	07 28 57.6	+2.2
	4.4nm,0.2s,SNR=8.5						
PESTR	Estremoz	4.38	294	ePn	Pn	07 28 55.8	+0.5
PESTR				eSn	Sn	07 29 46.3	+0.3
PESTR				A	A	07 30 17.1	
	39nm,0.8s						
PMRV	Marv??o	4.48	302	ePn	Pn	07 29 00.6	+3.9
PMRV				eSn	Sn	07 29 50.6	+2.2
PMRV				eSg	Sg	07 30 12.9	-0.3
PMRV				A	A	07 30 20.8	
	52nm,0.8s						
EVO	Evora	4.59	289	ePn	Pn	07 29 01.5	+3.3
EVO				eSn	Sn	07 29 51.8	+0.7
EVO				A	A	07 30 19.0	
	21nm,0.3s						
EVO	Evora	4.59	289	iP	Pn	07 29 01.6	+3.5
EVO				eS	Sn	07 29 51.4	+0.3
MESJ	Messejana	4.61	280	eS	Sn	07 29 48.6	-3.1
MESJ				AML	AML	07 30 20.3	
	comp=N,24nm,0.8s						
MESJ	Messejana	4.61	280	ePn	Pn	07 28 56.5	-2.0
MESJ				eSn	Sn	07 29 50.4	-1.3
MESJ				eSg	Sg	07 30 15.9	-1.7
MESJ				A	A	07 30 16.4	
	comp=N,17nm,0.5s						
MESJ	Messejana	4.61	280	Pn	Pn	07 28 56.5	-2.0
PCBR	Castelo Branco	4.74	306	ePn	Pn	07 29 02.3	+2.0
PCBR				eSn	Sn	07 29 54.8	-0.2
PCBR				eSg	Sg	07 30 19.2	-2.6
PCBR				A	A	07 30 26.5	
	comp=N,29nm,0.4s						
ESAC	San Caprasio	4.81	18	Pn	Pn	07 29 04.4	+3.1
	comp=N,4.4nm,0.3s,SNR=13						
ESAC				Pg	Pg	07 29 20.6	-1.1
	comp=N,28nm,0.3s,SNR=23						
ESAC				Lg	Lg	07 30 22.5	
	comp=N,82nm,0.4s,SNR=7.9						
PNCL	Nicolau / Gran	4.89	283	ePn	Pn	07 29 02.8	+0.4
PNCL				eSn	Sn	07 29 56.9	-1.7
PNCL				eSg	Sg	07 30 25.5	-1.0
PNCL				A	A	07 30 27.6	
	comp=N,12nm,0.4s						
ETOS	Mallorca	4.90	56	Pn	Pn	07 29 03.2	+0.6
	comp=N,3.3nm,0.2s,SNR=14						
ETOS				Sn	Sn	07 29 56.5	-2.5
	comp=N,16nm,1.0s,SNR=5.0						
MORF	Marmelete	4.92	274	eS	Sn	07 29 56.2	-3.4
MORF				AML	AML	07 30 01.9	
	comp=N,27nm,0.5s						
MORF	Marmelete	4.92	274	ePn	Pn	07 29 04.0	+1.1
MORF				eSn	Sn	07 29 58.9	-0.6
MORF				A	A	07 30 00.5	
	comp=N,14nm,0.2s						
PTEO	Sao Teotonio	4.99	276	ePn	Pn	07 29 05.7	+2.0
PTEO				eSn	Sn	07 30 00.6	-0.4
PTEO				eSg	Sg	07 30 29.6	0.0
PTEO				A	A	07 30 46.3	
	comp=N,17nm,0.9s						
EPOB	Poblet	5.01	32	Pn	Pn	07 29 06.4	+2.3
	comp=N,0.6nm,0.3s,SNR=7.9						
PFVI	Vila Bisbo	5.07	272	ePn	Pn	07 29 05.5	+0.7
PFVI				eSn	Sn	07 30 00.9	-2.1
PFVI				A	A	07 30 10.0	
	comp=N,12nm,0.6s						
PFVI	Vila Bisbo	5.07	272	Pn	Pn	07 29 05.7	+0.9
	comp=N,1.6nm,0.1s,SNR=7.6						
PFVI				Sn	Sn	07 29 59.3	-3.7
	SNR=7.9						
MTE	Manteigas	5.11	311	ePn	Pn	07 29 07.6	+2.2
MTE				eSn	Sn	07 30 04.7	+0.6
MTE				eSg	Sg	07 30 32.0	-1.4
MTE				A	A	07 30 34.6	
	comp=N,35nm,0.8s						
ALMR	Almeirim	5.20	294	eP	Pn	07 29 06.8	+0.2
ALMR				eS	Sn	07 30 03.1	-3.1
ALMR				AML	AML	07 30 06.4	
	comp=N,44nm,0.7s						
ALMR	Almeirim	5.20	294	eP	Pn	07 29 06.8	+0.2
ALMR				eS	Sn	07 30 03.1	-3.1
PTOM	Tomar	5.26	300	ePn	Pn	07 29 09.5	+2.0
PTOM				eSn	Sn	07 30 07.0	-0.8
PTOM				eSg	Sg	07 30 36.4	-2.0
PTOM				A	A	07 30 48.0	
	comp=N,54nm,0.6s						
MVO	Moncorvo	5.33	320	ePn	Pn	07 29 10.4	+1.9
MVO				eSn	Sn	07 30 08.9	-0.7
MVO				eSg	Sg	07 30 40.4	-0.3
MVO				A	A	07 30 49.5	
	comp=N,48nm,0.5s						
MVO	Moncorvo	5.33	320	Pn	Pn	07 29 10.6	+2.0
	comp=N,4.9nm,0.3s,SNR=12						
MVO				Sn	Sn	07 30 08.9	-0.7
	SNR=7.9						
MVO				Lg	Lg	07 30 39.6	
	comp=N,40nm,0.5s,SNR=7.9						
PVIS	Viseu	5.51	312	ePn	Pn	07 29 12.9	+1.9
PVIS				eSn	Sn	07 30 13.8	-0.2
PVIS				eSg	Sg	07 30 45.6	-0.8
PVIS				A	A	07 30 55.3	
	comp=N,21nm,0.4s						
PCAS	Casmilo, Conde	5.53	303	ePn	Pn	07 29 12.8	+1.7
PCAS				eSn	Sn	07 30 13.2	-1.1
PCAS				eSg	Sg	07 30 46.4	-0.4
PCAS				A	A	07 30 58.4	
	comp=N,45nm,0.6s						
IUNC	Unciti	5.64	7	Lg	Lg	07 30 52.8	
	comp=N,20nm,0.4s,SNR=7.9						
PMAFR	Mafra	5.66	291	ePn	Pn	07 29 14.7	+1.8
PMAFR				eSn	Sn	07 30 17.1	-0.4
PMAFR				eSg	Sg	07 30 48.6	-2.4
PMAFR				A	A	07 31 05.3	
	comp=N,38nm,0.7s						
PMAFR	Mafra	5.66	291	Pn	Pn	07 29 14.7	+1.8
	comp=N,0.5nm,0.1s,SNR=7.9						
PMAFR				Sn	Sn	07 30 16.1	-1.4
	comp=N,38nm,0.4s,SNR=7.9						
PMAFR				Lg	Lg	07 30 52.1	
	comp=N,61nm,0.6s,SNR=7.9						
PBRG	Braganca	5.69	326	ePn	Pn	07 29 16.2	+2.9
PBRG				eSg	Sg	07 30 50.3	-1.7
PBRG				A	A	07 31 00.7	
	comp=N,23nm,0.6s						
PVRL	Vila Real	5.78	317	ePn	Pn	07 29 17.0	+2.4
PVRL				eSn	Sn	07 30 19.8	-0.7
PVRL				eSg	Sg	07 30 55.7	+0.8
PVRL				A	A	07 31 07.1	
	comp=N,25nm,0.5s						
ECAL	Calabor	5.80	327	Pn	Pn	07 29 16.7	+1.9
	comp=N,3.6nm,0.3s,SNR=7.5						
ECAL				Sn	Sn	07 30 19.5	-1.5
	comp=N,2.6nm,0.3s,SNR=4.9						
ECAL				Lg	Lg	07 30 54.0	
	comp=N,44nm,0.7s,SNR=7.9						
ECHI	Chisagues Biel	5.87	20	Pn	Pn	07 29 18.2	+2.3
	comp=N,0.5nm,0.2s,SNR=7.9						
ECHI				Lg	Lg	07 30 59.3	
	comp=N,1.2nm,0.2s,SNR=7.9						
POLO	Lamas de Olo	5.89	317	ePn	Pn	07 29 18.3	+2.2
POLO				eSn	Sn	07 30 22.3	-1.0
POLO				eSg	Sg	07 30 56.3	-2.1
POLO				A	A	07 31 11.0	
	comp=N,9.5nm,0.7s						
CSOR	Sort	5.91	27	Pn	Pn	07 29 17.7	+1.3
	comp=N,4.9nm,0.3s,SNR=11						
ETSF	Etsaut	5.92	14	ePn	Pn	07 29 18.1	+1.6
ETSF				eSn	Sn	07 30 23.4	-0.6
	comp=N,16nm,0.8s						
CFON	Fontmartina	5.96	38	Pn	Pn	07 29 19.4	+2.2
	comp=N,0.2nm,0.1s,SNR=7.9						
SJPF	Ste Jean	6.02	9	ePn	Pn	07 29 19.6	+1.7
SJPF				eSn	Sn	07 30 26.0	-0.5
	comp=N,20nm,0.7s						
ATE	Arette	6.07	12	Pn	Pn	07 29 23.5	+4.9
	comp=N,0.8nm,0.1s,SNR=7.9						
EALK	Alkurruntz	6.10	7	Pn	Pn	07 29 22.3	+3.3
	comp=N,10nm,0.3s,SNR=11						
EALK				Sn	Sn	07 30 28.6	+0.2
	comp=N,14nm,0.3s,SNR=5.0						
EALK				Lg	Lg	07 31 03.6	
	comp=N,39nm,0.5s,SNR=7.9						
ELAN	Lanestosa	6.11	353	Pn	Pn	07 29 21.7	+2.6
	comp=N,0.5nm,0.2s,SNR=8.1						
ELAN				Pg	Pg	07 29 46.4	0.0
	comp=N,2.8nm,0.2s,SNR=7.9						
ELAN				Sn	Sn	07 30 28.7	+0.1
	comp=N,8.3nm,0.5s,SNR=5.0						
ELAN				Lg	Lg	07 31 04.0	
	comp=N,6.2nm,0.2s,SNR=7.9						
PCAB	Cabril	6.25	318	ePn	Pn	07 29 23.5	+2.5
PCAB				eSn	Sn	07 30 30.3	-1.8
PCAB				A	A	07 31 14.4	
	comp=N,24nm,0.5s						
EPF	Esparros	6.25	19	ePn	Pn	07 29 22.7	+1.6
EPF				eSn	Sn	07 30 31.2	-0.9
	comp=N,23nm,0.7s						
CLLI	Llivia	6.32	31	Pn	Pn	07 29 24.2	+2.1
	comp=N,1.4nm,0.3s,SNR=7.9						
ELOB	Lobios	6.38	319	Pn	Pn	07 29 25.4	+2.6
	comp=N,1.5nm,0.2s,SNR=6.4						
ELOB				Sn	Sn	07 30 32.3	-3.1
	comp=N,0.2nm,0.1s,SNR=7.9						
ELOB				Lg	Lg	07 31 12.4	
	comp=N,21nm,0.4s,SNR=7.9						
PGAV	Gavieira, Arco	6.56	319	ePn	Pn	07 29 28.0	+2.7
PGAV				eSn	Sn	07 30 39.0	-0.8
PGAV				eSg	Sg	07 31 18.0	-1.9
PGAV				A	A	07 31 28.3	
	comp=N,24nm,0.6s						
EAGO	Agolada(Pontev	7.09	324	Lg	Lg	07 31 36.8	
	SNR=7.9						
EPON	Pontenova	7.12	331	Lg	Lg	07 31 37.2	
	SNR=7.9						
LASF	Ste Croix	8.42	33	ePn	Pn	07 29 52.3	+1.5
LASF	Ste Croix	8.42	33	ePg	Pb	07 30 25.6	+11
LASF				eSn	Sn	07 31 22.4	-3.1
	comp=N,1.6nm,0.2s						
LASF				eSg	Sb	07 32 16.1	+21
	comp=N,1.0nm,0.2s						
PGF	Pioggiola	10.33	55	ePn	Pn	07 30 17.3	+0.2
QUIF	Quistinic	10.76	358	ePn	Pn	07 30 23.8	+1.0
HYF	Humbligny	10.79	19	ePn	Pn	07 30 22.5	-0.7
ROSF	Rostrenen	11.18	357	ePn	Pn	07 30 29.8	+1.2
ROSF				eSn	Sn	07 32 28.4	-4.9

IDC 09 07:33:29.6±2.6,2°.07S×67°.83E,h0km,mb3.9/6,mb1 4.1/6, mb1mx3.6/48,mbtmp3.9/6,MS3.7/2,Ms1 3.7/2, ms1mx2.9/45,Error ellipse: s-maj=89.0km s-min=26.8km az=66.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.28	143	T	T	07 40 15.1	
	baz=326,slow=74,SNR=50						
H08N3	Diego Garcia H	5.29	144	T	T	07 40 16.3	
	baz=326,slow=74,SNR=49						
H08N1	Diego Carcia H	5.30	143	T	T	07 40 17.7	
	baz=326,SNR=53						
MKAR	Makanchi Array	50.30	13	P	P	07 42 27.6	-0.5
	1.0nm,0.8s,baz=189,slow=7.0,SNR=9.4						
KVAR	Kislovodsk Arr	51.06	337	LR	LR	08 04 17.7	
	comp=Z,76nm,21.4s,baz=112,slow=36						
KURBB	Kurchatov Arra	53.29	8	P	P	07 42 50.3	+0.1
	0.8nm,0.4s,baz=204,slow=7.7,SNR=11						
ZALV	Zalesovo Beam	57.59	12	P	P	07 43 20.6	-0.6
	2.6nm,0.8s,baz=218,slow=9.4,SNR=7.8						
SONM	Songino Array	60.00	29	P	P	07 43 38.8	+0.5
	1.8nm,0.9s,baz=244,slow=6.1,SNR=8.8						
WRA	Warramunga Arr	67.23	111	P	P	07 44 26.7	+0.2
	1.3nm,0.9s,baz=287,slow=5.8,SNR=5.7						
ASAR	Alice Springs	67.30	115	P	P	07 44 26.6	-0.3
	1.0nm,1.0s,baz=288,slow=6.5,SNR=5.1						
PMG	Port Moresby	79.14	99	LR	LR	08 18 29.6	
	comp=Z,38nm,19.4s,baz=290,slow=34						
TXAR	Lajitas Array	151.71	344	PKPbc	PKPbc	07 53 27.1	+0.1
	0.6nm,0.9s,baz=92,slow=2.1,SNR=3.4						

IDC 09 07:34:14.1±2.6,1°.95S×68°.08E,h0km,mb3.8/6,mb1 3.9/6, mb1mx3.5/49,mbtmp3.8/6,MS4.2/1,Ms1 4.2/1, ms1mx2.9/43,Error ellipse: s-maj=89.9km s-min=26.1km az=65.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.23	146	T	T	07 40 56.8	
	baz=325						
H08N3	Diego Garcia H	5.24	146	T	T	07 40 56.5	
	baz=325						
H08N1	Diego Carcia H	5.25	146	T	T	07 40 59.3	
	baz=325						
MKAR	Makanchi Array	50.12	13	P	P	07 43 10.5	-0.7
	1.2nm,0.8s,baz=189,slow=7.2,SNR=6.2						
KURBB	Kurchatov Arra	53.13	8	P	P	07 43 33.8	+0.2
	1.7nm,0.9s,baz=203,slow=8.0,SNR=5.3						
BATI	Baumata	55.80	101	LR	LR	08 07 51.8	
	comp=Z,207nm,18.9s,baz=282,slow=36						
ZALV	Zalesovo Beam	57.42	12	P	P	07 44 04.0	-0.4
	2.2nm,0.7s,baz=204,slow=7.4,SNR=5.8						
SONM	Songino Array	59.78	29	P	P	07 44 21.6	+0.4
	1.5nm,0.9s,baz=214,slow=5.0,SNR=5.7						
WRA	Warramunga Arr	67.04	111	P	P	07 45 10.4	+0.6
	0.6nm,0.8s,baz=287,slow=6.0,SNR=3.3						
ASAR	Alice Springs	67.12	115	P	P	07 45 09.6	-0.7
	0.4nm,0.8s,baz=292,slow=4.9,SNR=3.0						
TXAR	Lajitas Array	151.66	345	PKPbc	PKPbc	07 54 11.5	0.0
	0.4nm,0.8s,baz=336,slow=2.0,SNR=3.6						

DDA ***09*** *07:34:35.9,40°.84N×31°.64E,h7km±1km,ML2.8*
ISCJB ***09*** *07:34:36.4±1.2,40°.86N±0°.09×31°.64E±0°.04,h8km±8km, Error ellipse: s-maj=14.8km s-min=4.8km az=170.3*
ISK ***09*** *07:34:36.5,40°.78N×31°.67E,h5km,ML2.2/3*
ISC 09 07:34:36.5±1.2,40°.82N±0°.07×31°.64E±0°.03,h10km±12km, n10,σ0s.65/15,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BCAM	Yenicaga	0.32	90	IAML_P			
	comp=Z,3µm,0.1s						
BCAM				*i* P	Pg	07 34 43.3	+0.2
BCAM				*i* S	Sg	07 34 47.6	+0.2
MDUB	Mudurnu	0.48	224	PG	Pb	07 34 47.0	-0.1
MDUB				SG	Sb	07 34 53.4	-0.9
BTAS	Taskesti	0.55	243	IAML_P			
	comp=Z,2µm,0.1s						
BTAS				*i* P	Pg	07 34 46.3	-0.9
BTAS				*i* S	Sg	07 34 55.2	+0.9
CMDR	Camlidere-ANKA	0.71	117	*i* P	Pb	07 34 50.4	-0.7
CMDR				*i* S	Sb	07 35 01.6	+0.7
KBUK	KARABUK-Merkez	0.86	60	*i* P	Pg	07 34 52.4	-0.6
GULT	Gulveren	0.94	246	PG	Pb	07 34 54.9	0.0
GULT				SG	Sb	07 35 08.3	+0.9
BORA	Eskisehir	1.30	224	PN	Pg	07 35 01.3	-0.2
SVRH	Sivrihisar-ESK	1.37	184	PN	Pg	07 35 02.5	-0.4
AUSIV	SIVRIHISAR	1.38	183	PN	Pn	07 35 02.1	+0.2
YLV	Yalova	1.74	262	PN	Pb	07 35 08.5	-0.1

IDC 09 07:35:36.4±1.9,1°.90S×68°.10E,h0km,mb4.0/7,mb1 4.1/7, mb1mx3.7/49,mbtmp4.0/7,Error ellipse: s-maj=56.3km s-min=26.3km az=65.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.27	147	T	T	07 42 13.8	
	baz=325,slow=75,SNR=11						
H08N3	Diego Garcia H	5.28	147	T	T	07 42 17.9	
	baz=325,slow=75,SNR=12						
H08N1	Diego Carcia H	5.29	147	T	T	07 42 19.4	
	baz=325,slow=75,SNR=11						
CMAR	Chiang Mai Arr	36.47	55	P	P	07 42 42.9	-0.7
	0.8nm,0.3s,baz=245,slow=11,SNR=3.6						
MKAR	Makanchi Array	50.07	13	P	P	07 44 32.5	-0.6
	1.4nm,0.8s,baz=203,slow=8.4,SNR=9.1						
KURBB	Kurchatov Arra	53.07	8	P	P	07 44 55.4	0.0
	2.5nm,0.8s,baz=204,slow=7.7,SNR=6.2						
ZALV	Zalesovo Beam	57.36	12	P	P	07 45 25.9	-0.5
	2.3nm,0.6s,baz=212,slow=7.0,SNR=4.9						
SONM	Songino Array	59.72	29	P	P	07 45 44.3	+1.1
	1.9nm,0.8s,baz=220,slow=7.2,SNR=11						
WRA	Warramunga Arr	67.05	111	P	P	07 46 32.1	0.0
	1.3nm,0.9s,baz=286,slow=5.8,SNR=5.8						
ASAR	Alice Springs	67.13	115	P	P	07 46 32.6	0.0
	0.8nm,1.0s,baz=310,slow=7.2,SNR=4.3						
TXAR	Lajitas Array	151.61	345	PKPbc	PKPbc	07 55 33.3	-0.3
	0.6nm,0.8s,baz=180,slow=0.5,SNR=3.5						

IDC 09 07:38:18.5±9.8,2°.05S×67°.83E,h0km,mb3.5/4,mb1 3.6/4, mb1mx3.3/50,mbtmp3.5/4,Error ellipse: s-maj=302.6km s-min=35.7km az=66.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	50.28	13	P	P	07 47 16.0	-0.7
	0.3nm,0.8s,baz=206,slow=8.1,SNR=3.6						
ZALV	Zalesovo Beam	57.57	12	P	P	07 48 09.9	+0.1
	0.8nm,0.6s,baz=205,slow=6.4,SNR=3.0						
SONM	Songino Array	59.98	29	P	P	07 48 27.2	+0.2
	0.5nm,0.9s,baz=224,slow=10.0,SNR=2.6						
WRA	Warramunga Arr	67.24	111	P	P	07 49 15.3	-0.1
	0.4nm,0.9s,baz=293,slow=5.9,SNR=2.9						

MEX 09 07:41:33.1±0.3,16°.19N×98°.38W,h1km±2km,MD3.9,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.32	50	*e*P	Pg	07 41 39.1	-0.1
PNIG				*i* S	Sg	07 41 43.6	+0.3
TLIG	Tlapa	1.38	353	*e*P	Pg	07 41 55.6	-3.9
TLIG				*i* S	Sg	07 42 13.8	-3.7
VHO	Vista Hermosa	1.81	61	*e*P	Pn	07 42 02.8	-2.8
VHO				*i* S	Sn	07 42 24.8	-4.4
CAIG	El Cayaco	2.00	296	*i* P	Pn	07 42 04.3	-3.7
CAIG				*i* S	Sn	07 42 29.0	-4.6

IDC ***09*** *07:44:14.0±0.4,29°.56N×81°.73E,h0km,mb4.8/36, mb1 4.9/39,mb1mx4.8/43,mbtmp4.8/39,ML4.8/2,MS3.7/15, Ms1 3.7/15,ms1mx3.5/50,Error ellipse: s-maj=12.3km s-min=10.1km az=13.0*
ISCJB ***09*** *07:44:16.1±0.7,29°.76N±0°.02×81°.67E±0°.02,h17km±4km, mb5.0/227,MS3.9/23,Error ellipse: s-maj=3.0km s-min=2.0km az=25.9*
MOS ***09*** *07:44:16.9±1.1,29°.78N×81°.69E,h24km,mb5.2/112,Error ellipse: s-maj=5.4km s-min=2.7km az=116.7*
NDI ***09*** *07:44:17.2±2.4,29°.67N×81°.72E,h15km,ML5.0, mb5.0(NEIC)*
NEIC ***09*** *07:44:17.1±1.5,29°.69N×81°.71E,h15km±9km,mb5.0/91, Error ellipse: s-maj=4.4km s-min=3.2km az=206.0*
DMN ***09*** *07:44:20.2±0.3,29°.78N×81°.70E,h10km,Ml5.6/6,Error ellipse: s-maj=9999.9km s-min=9999.9km az=0.0*
BJI ***09*** *07:44:20.4,29°.97N×81°.89E,h35km,mb5.1/56,mB4.9/37, ML4.3/1,Ms4.3/48,Ms7 4.2/39*
ISC 09 07:44:17.0±0.5,29°.73N±0°.03×81°.70E±0°.03,h16km±2km, h16km:pP-P,n711,σ1s.45/774,mb5.1/244,MS3.9/24, 81C-39D,Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PYUN	Piuthan	1.98	145	*e*Pn	Pb	07 44 52.3	-0.5
PYUN				*e*Sn	Sn	07 45 16.2	+1.6
	23µm,0.7s						
JOSI	Joshimath	2.03	295	*e*P	Pb	07 44 53.7	0.0
JOSI				*e*S	Sn	07 45 16.0	0.0
JOSI				IAML		07 45 32.9	
	comp=E,23µm,0.7s						
DANN	Dangsing	2.27	127	*e*Pn	Pb	07 44 56.9	-0.9
DANN				*e*Sn	Sn	07 45 24.3	+2.4
	comp=E,17µm,0.7s						
KOLN	Koldanda	2.57	139	*e*Pn	Pn	07 45 00.8	+2.6
KOLN				*e*Sn	Sn	07 45 31.7	+2.5
	comp=E,8µm,0.4s						
DDI	Dehra Dun	3.21	282	*e*P	Pn	07 45 08.8	+1.9
DDI				*e*S	Sn	07 45 45.8	+0.8
DMN	Daman	3.66	124	*e*Pn	Pn	07 45 15.8	+2.5
DMN				*e*Sn	Sn	07 45 56.7	+0.4
	comp=E,4µm,0.6s						
KKN	Kakani	3.69	121	*e*Pn	Pn	07 45 16.2	+2.6
KKN				*e*Sn	Sn	07 45 57.3	+0.4
	comp=E,3µm,0.5s						
PKIN	Phulchoki	3.89	122	*e*Pn	Pn	07 45 18.5	+2.1
NDI	New Delhi	4.05	256	*e*P	Pn	07 45 18.5	+0.1
NDI				*e*S	Sn	07 46 04.0	-1.6
GUN	Gumba	4.09	115	*e*Pn	Pn	07 45 21.5	+2.3
BHGR	Bahadurgarh	4.29	257	*e*P	Pn	07 45 21.3	-0.3
BHGR				*e*S	Sn	07 46 10.8	-0.5
SONA	Sohna	4.30	251	*e*P	Pn	07 45 22.7	+0.9
SONA				*e*S	Sn	07 46 12.9	+1.3
JIRN	Jiri	4.45	116	*e*Pn	Pn	07 45 26.6	+2.4
RAMN	Ramite	5.13	121	*e*Pn	Pn	07 45 35.2	+1.8
RAMN				*e*Sn	Sn	07 46 31.7	-0.8
	comp=E,2µm,0.3s						
ODAN	Odare	5.77	118	*e*Pn	Pn	07 45 44.8	+2.5
SARP	Sargodha	8.06	288	P	Pn	07 46 13.7	+0.2
CHCP	Chirah Chowk	8.18	301	P	Pn	07 46 16.5	+1.3
NIL	Nilore	8.19	301	*e*Pn	Pn	07 46 16.4	+1.2
NIL				*e*Sn	Sn	07 47 48.1	+0.6
NIL	Nilore	8.19	301	*e*P	Pn	07 46 16.4	+1.2
NIL				*e*		07 47 48.1	
LSA	Lhasa	8.22	88	*e*Pn	Pn	07 46 19.8	+3.7
LSA	Lhasa	8.22	88	*i* P	Pn	07 46 18.0	+1.9
	SNR=24						
NGP	Nagpur	8.87	196	⇑*i*P	Pn	07 46 22.7	-1.9
NGP				*e*S	Sn	07 47 56.2	-8.1
NGP				IAML		07 49 13.7	
	comp=E,472nm,0.0s						
NGP				IAML		07 49 14.4	
	comp=N,313nm,0.6s						
THW	Thamme Wali	9.05	292	P	Pn	07 46 26.9	-0.2
CEP	Cherat	9.28	299	P	Pn	07 46 29.9	-0.4
CEP				S	Sn	07 48 13.0	-1.4
JASL	Jaisalmer	9.91	256	*e*P	Pn	07 46 37.0	-1.9
JASL				*e*x	x	07 48 24.9	
SHL	Shillong	9.94	112	*e*Pn	Pn	07 46 38.5	-0.9
SHL	Shillong	9.94	112	*e*P	Pn	07 46 38.5	-0.9
SHL	Shillong	9.94	112	*e*P	Pn	07 46 38.5	-0.9
SHL				*e*S	Sn	07 48 21.0	-10
KSH	Kashi	10.84	336	Pn	Pn	07 46 49.0	-2.7
KSH				Sn	Sn	07 48 41.2	-12
KSH				smax	smax		
	comp=N,250nm,0.7s						
KSH				smax	smax		
	comp=E,270nm,0.5s						
KSH	Kashi	10.84	336	P	Pn	07 46 49.5	-2.2
KSH				S	Sn	07 48 44.6	-8.1
KSH				pmax	pmax		
	comp=E,130nm,0.6s						
KSH				pmax	pmax		
	comp=E,150nm,6.4s						
KSH				LR	LR		
	comp=E,1µm,7.5s						
KSH				LR	LR		
	comp=E,2µm,7.0s						
KSH				LR	LR		
	comp=E,2µm,14.2s						
BRDH	Bariadhala	11.35	126	Pn	Pn	07 46 56.6	-2.0
	baz=67,slow=6.2,SNR=4.3						
BRDH				Sn	Sn	07 48 56.5	-8.7
	comp=E,4.2nm,0.3s,baz=253,slow=19,SNR=3.8						
KBL	Kabul	11.75	297	*e*Pn	Pn	07 47 03.9	-0.3
KBL	Kabul	11.75	297	*e*P	Pn	07 47 03.9	-0.3
SFK	Sufi-Kurgan	12.26	329	P	Pn	07 47 11.7	+0.5
SFK				pmax	pmax		
	comp=Z,22nm,0.5s						
NRN	Naryn	12.56	340	*e*Pn	Pn	07 47 15.8	+0.5
NRN	Naryn	12.56	340	*e*P	Pn	07 47 15.9	+0.5
HYB	Hyderabad	12.59	194	⇑*i*P	Pn	07 47 11.0	-4.5
	comp=Z,150nm,1.0s						
HYB				*e*		07 49 23.0	
HYB				*e*S	Sn	07 49 39.0	+3.5
KDJ	Kajisay	12.90	345	*e*Pn	Pn	07 47 22.2	+2.3
PRZ	Przheval'sk	13.00	349	*e*Pn	Pn	07 47 22.4	+1.1
GAR	Garm	13.18	318	*e*Pn	Pn	07 47 22.0	-1.6
GAR	Garm	13.18	318	*e*P	Pn	07 47 22.0	-1.6
POO	Poona	13.24	214	*i* P	Pn	07 47 23.0	-1.5
ULHL	Ulahol	13.24	342	P	Pn	07 47 25.0	+0.4
	SNR=16						
KZA	Kyzart	13.38	339	P	Pn	07 47 26.3	-0.3
	SNR=25						
SHLS	Shalkode	13.52	353	*ce*P	Pn	07 47 26.4	-1.9
SHLS				*e*S	Sn	07 49 54.0	-4.3
SHLS				pmax	pmax		
	comp=Z,20nm,0.4s						
SHLS				MLR	MLR		
	comp=Z,252nm,12.0s						
SHLS	Shalkode	13.52	353	⇑*e*P	Pn	07 47 26.4	-1.9
	comp=Z,20nm,0.4s						
SHLS				⇓*e*S	Sn	07 49 54.0	-4.3
	comp=Z,536nm,1.5s						
SHLS				*e*LRM	MLR	07 53 06.9	
	comp=Z,252nm,12.3s						
ARSB	Arslanbob	13.56	331	*e*Pn	Pn	07 47 27.6	-1.3
UZB	Uzynbulak	13.56	352	*ce*P	Pn	07 47 27.4	-1.5
UZB				*e*S	Sn	07 49 55.9	-3.5
UZB				pmax	pmax		
	comp=Z,179nm,1.3s						
UZB				MLR	MLR		
	comp=Z,154nm,13.0s						
UZB	Uzynbulak	13.56	352	⇑*e*P	Pn	07 47 27.4	-1.5
	comp=Z,179nm,1.3s						
UZB				*e*S	Sn	07 49 55.9	-3.5
	comp=Z,189nm,0.6s						
UZB				*e*LRM	MLR	07 52 57.5	
	comp=Z,154nm,13.0s						
SATY	Saty	13.56	350	*de*P	Pn	07 47 28.0	-0.9
SATY				*e*S	Sn	07 49 57.0	-2.3
SATY				pmax	pmax		
	comp=Z,250nm,0.9s						
SATY				MLR	MLR		
	comp=Z,440nm,15.0s						
SATY	Saty	13.56	350	⇓*e*P	Pn	07 47 28.0	-0.9
	comp=Z,250nm,0.9s						
SATY				⇑*e*S	Sn	07 49 57.0	-2.3
	comp=Z,520nm,2.9s						
SATY				*e*LRM	MLR	07 52 59.6	
	comp=Z,440nm,14.6s						
BTK	Batken	13.62	322	*e*Pn	Pn	07 47 28.4	-1.2
BTK	Batken	13.62	322	*e*P	Pn	07 47 28.4	-1.2
ZHN	Zhinishke	13.67	350	*de*P	Pn	07 47 29.2	-1.0
ZHN				pmax	pmax		
	comp=Z,171nm,0.7s						
ZHN				MLR	MLR		
	comp=Z,457nm,15.0s						
ZHN	Zhinishke	13.67	350	⇓*e*P	Pn	07 47 29.3	-1.0
	comp=Z,171nm,0.7s						
ZHN				*e*LRM	MLR	07 53 00.1	
	comp=Z,457nm,15.2s						
PDGK	Podgornoye	13.69	353	P	Pn	07 47 30.6	0.0
PDGK				pmax	pmax		
	comp=Z,39nm,0.7s						
UCH	Uchtor	13.76	337	P	Pn	07 47 31.9	+0.1
	SNR=35						
TNSS	Tian-Shan	13.82	345	*de*P	Pn	07 47 31.8	-0.8
TNSS				pmax	pmax		
	comp=Z,27nm,0.7s						
TNSS	Tian-Shan	13.82	345	⇓*e*P	Pn	07 47 31.8	-0.8
	comp=Z,27nm,0.7s						
MDOK	Medeo	13.92	346	*ce*P	Pn	07 47 33.1	-0.6
MDOK				pmax	pmax		
	comp=Z,26nm,0.6s						
MDOK				MLR	MLR		
	comp=Z,542nm,15.0s						
MDOK	Medeo	13.92	346	⇑*e*P	Pn	07 47 33.1	-0.6
	comp=Z,26nm,0.6s						
MDOK				*e*LRM	MLR	07 53 07.4	
	comp=Z,542nm,14.7s						
KPKS	Kokpek	13.92	351	*c i*P	Pn	07 47 31.8	-1.9
KPKS				pmax	pmax		
	comp=Z,112nm,1.4s						
KPKS				MLR	MLR		
	comp=Z,516nm,14.0s						
KPKS	Kokpek	13.92	351	⇑*i*P	Pn	07 47 31.8	-1.9
	comp=Z,112nm,1.4s						
KPKS				*e*LRM	MLR	07 53 15.8	
	comp=Z,516nm,14.2s						
AML	Almayashu	13.96	335	P	Pn	07 47 35.2	+0.7
	SNR=27						
KBK	Karagaybulak	14.00	339	P	Pn	07 47 37.4	+2.6
	SNR=33						
TKM2	Tokmak 2	14.05	341	P	Pn	07 47 35.8	+0.2
	SNR=29						
AAK	Ala-Archa	14.13	338	Pn	Pn	07 47 36.1	-0.5
	comp=Z,3.3nm,0.3s,baz=143,slow=9.4,SNR=38						
AAK				LR	LR	07 53 53.1	
	comp=Z,1µm,18.7s,baz=136,slow=40						
AAK	Ala-Archa	14.13	338	P	Pn	07 47 37.9	+1.3
	SNR=7.9						
AAK	Ala-Archa	14.13	338	*e*Pn	Pn	07 47 36.1	-0.5
AAK				*e*Pn	Pn	07 47 36.4	-0.2
AAK	Ala-Archa	14.13	338	*i* P	Pn	07 47 36.5	-0.2
	SNR=16						
AAK	Ala-Archa	14.13	338	*ce*P	Pn	07 47 36.5	-0.2
AAK				pmax	pmax		
	comp=Z,49nm,1.3s						
AAK	Ala-Archa	14.13	338	P	Pn	07 47 36.4	-0.2
	SNR=34						
FRU1	Bishkek	14.24	338	*e*Pn	Pn	07 47 40.8	+2.8
FRU1	Bishkek	14.24	338	*e*P	Pn	07 47 40.8	+2.8
FRU	Bishkek	14.26	338	⇑*e*P	Pn	07 47 40.0	+1.7
FRU				pmax	pmax		
	comp=Z,100nm,1.8s						
CHMS	Chumysh	14.37	339	P	Pn	07 47 40.5	+0.7
	SNR=15						
EKS2	Erkin-Say	14.39	336	P	Pn	07 47 40.3	+0.1
	SNR=7.2						
CHKK	Chushkaly	14.59	346	*de*P	Pn	07 47 43.5	+0.7
CHKK				pmax	pmax		
	comp=Z,54nm,1.1s						
CHKK	Chushkaly	14.59	346	⇓*e*P	Pn	07 47 43.6	+0.7
	comp=Z,54nm,1.1s						
USP	Ospenovka	14.69	339	P	Pn	07 47 45.2	+1.0
	SNR=11						
KUU	Kurty	14.77	345	*d i*P	Pn	07 47 43.5	-1.7
KUU				pmax	pmax		
	comp=Z,43nm,0.7s						
KUU				MLR	MLR		
	comp=Z,368nm,13.0s						
KUU	Kurty	14.77	345	⇓*i*P	Pn	07 47 43.5	-1.7
	comp=Z,43nm,0.7s						
KUU				*e*LRM	MLR	07 53 48.6	
	comp=Z,368nm,13.2s						
WMQ	Urumqi	14.86	17	P	Pn	07 47 47.3	+0.8
WMQ				pP	P	07 47 54.7	+2.5
WMQ				PP	PnPn	07 48 00.0	+5.5
WMQ				S	Sn	07 50 31.3	+0.5
WMQ				PcP	PcP	07 53 00.4	+3.9
WMQ				pmax	pmax		
	comp=Z,95nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,120nm,3.7s						
WMQ				LR	LR		
	comp=Z,2µm,11.5s						
WMQ				LR	LR		
	comp=Z,1µm,14.1s						
WMQ				LR	LR		
	comp=Z,890nm,17.7s						
WMQ	Urumqi	14.86	17	*e*Pn	Pn	07 47 47.5	+1.0
WMQ	Urumqi	14.86	17	*e*P	Pn	07 47 47.5	+1.0
TDK	Taldyqorghan	15.47	351	*de*P	Pn	07 47 53.2	-1.3
TDK				pmax	pmax		
	comp=Z,299nm,0.6s						
TDK				MLR	MLR		
	comp=Z,726nm,15.0s						
TDK	Taldyqorghan	15.47	351	⇓*e*P	Pn	07 47 53.2	-1.3
	comp=Z,299nm,0.6s						
TDK				*e*LRM	MLR	07 54 07.2	
	comp=Z,726nm,14.7s						
IUG	Iuzhnay	15.56	326	*d i*P	Pn	07 47 53.2	-2.6
IUG				pmax	pmax		
	comp=Z,360nm,0.9s						
IUG	Iuzhnay	15.56	326	⇓*i*P	Pn	07 47 53.3	-2.6
	comp=Z,360nm,0.8s						
CHM	Chimkent	15.90	325	*c i*P	Pn	07 47 58.2	-2.0
CHM				pmax	pmax		
	comp=Z,409nm,0.4s						
CHM	Chimkent	15.90	325	⇑*i*P	Pn	07 47 58.2	-2.0
	comp=Z,409nm,0.4s						
KK31	Karatay Array	16.08	329	*e*Pn	Pn	07 48 00.7	-1.7
KK31	Karatay Array	16.08	329	*e*P	Pn	07 48 00.8	-1.7
KK31				pmax	pmax		
	comp=Z,13nm,0.4s						
KKAR	Karatay Array	16.08	329	*e*Pn	Pn	07 48 00.8	-1.6
KKAR	Karatay Array	16.08	329	*e*P	Pn	07 48 00.8	-1.6
BTLS	Baital	16.44	341	*ce*P	Pn	07 48 05.3	-1.7
BTLS				pmax	pmax		
	comp=Z,211nm,1.3s						
BTLS				MLR	MLR		
	comp=Z,86nm,4.0s						
BTLS	Baital	16.44	341	⇑*e*P	Pn	07 48 05.3	-1.7
	comp=Z,211nm,1.3s						
BTLS				*e*LRM	MLR	07 55 25.5	
	comp=Z,86nm,4.1s						
MK01	Makanchi Array	17.02	1	*e*Pn	Pn	07 48 13.4	-1.0
MK31	Makanchi Array	17.05	1	*e*Pn	Pn	07 48 13.8	-0.9
MK31	Makanchi Array	17.05	1	*e*P	Pn	07 48 13.8	-0.9
MK31				pmax	pmax		
	comp=Z,10.0nm,0.4s						
MK32	Makanchi Array	17.05	1	*e*Pn	Pn	07 48 14.0	-0.6
MK32				*e*Sn	Sn	07 51 23.6	-0.2
MKAR	Makanchi Array	17.05	1	P	Pn	07 48 14.0	-0.6
	comp=Z,3.7nm,0.3s,baz=179,slow=12,SNR=168						
MKAR				S	Sn	07 51 23.6	-0.2
	comp=Z,0.5nm,0.3s,baz=182,slow=22,SNR=3.4						
MKAR				LR	LR	07 56 00.2	
	comp=Z,518nm,21.5s,baz=173,slow=41						
MKAR	Makanchi Array	17.05	1	*e*Pn	Pn	07 48 13.7	-0.9
	comp=Z,334nm,0.4s						
MKAR				S	Sn	07 51 23.6	-0.2
MAKZ	Makanchi	17.06	1	*e*Pn	Pn	07 48 14.2	-0.6
	comp=Z,107nm,1.0s						
MAKZ	Makanchi	17.06	1	*e*P	Pn	07 48 14.2	-0.6
MAKZ				pmax	pmax		
	comp=Z,107nm,1.0s						
GTA	Gaotai	17.75	52	⇓P	Pn	07 48 22.4	-1.1
GTA				pP	P	07 48 26.7	+2.4
GTA				S	Sn	07 51 38.5	-2.6
GTA				sS	sS	07 51 51.6	-4.6
GTA				SS	SnSn	07 51 58.4	+3.8
GTA				pmax	pmax		
	comp=Z,160nm,4.5s						
GTA				LR	LR		
	comp=Z,510nm,15.8s						
GTA				LR	LR		
	comp=Z,400nm,17.2s						
ZSN	Zaisan	17.87	7	*d i*P	Pn	07 48 24.4	-0.4
ZSN				pmax	pmax		
	comp=Z,69nm,1.1s						
ZSN				MLR	MLR		
	comp=Z,151nm,18.0s						
ZSN	Zaisan	17.87	7	⇓*i*P	Pn	07 48 24.5	-0.4
	comp=Z,69nm,1.1s						
ZSN				⇑*e*PP	PnPn	07 48 34.2	-1.5
ZSN				⇑*e*PPP	PPP	07 48 41.7	
ZSN				*e*LRM	MLR	07 56 09.4	
	comp=Z,151nm,17.6s						

CD2 Chengdu 19.08 81 P **Pn** 07 48 39.8 0.0
CD2 pP sP 07 48 48.7 +2.3
CD2 sP pP 07 48 53.3 +9.2
CD2 S **Sn** **07 52 12.2 -1.1**
CD2 pmax pmax
comp=Z,140nm,0.5s
CD2 pmax pmax
comp=Z,220nm,4.6s
CD2 LR LR
comp=Z,870nm,10.9s
CD2 LR LR
comp=Z,580nm,10.9s
CD2 LR LR
comp=Z,560nm,11.9s
CHTO Chiang Mai 19.09 121 *e*P **P** **07 48 39.6 +0.5**
comp=Z,15nm,0.8s
CHTO Chiang Mai 19.09 121 *e*P **P** **07 48 39.6 +0.5**
CHTO pmax pmax
comp=Z,15nm,0.8s
CHTO Chiang Mai 19.09 121 P **Pn** **07 48 40.3 +0.4**
comp=Z,95nm,1.0s
CMMT Chiang Mai 19.09 121 P **Pn** **07 48 40.2 +0.3**
comp=Z,21nm,0.9s
KMI Kunming 19.23 99 P **Pn** **07 48 41.8 0.0**
KMI pP sP 07 48 50.9 +2.6
KMI sP pP 07 48 54.7 +8.7
KMI S **Sn** **07 52 11.5 -5.7**
KMI pmax pmax
comp=Z,37nm,1.1s
KMI Kunming 19.23 99 *e*P **P** **07 48 41.3 +0.5**
comp=Z,27nm,0.8s
KMI Kunming 19.23 99 *e*P **P** **07 48 41.3 +0.5**
KMI pmax pmax
comp=Z,27nm,0.8s
CM31 Chiang Mai Arr 19.30 122 *e*P **Pn** **07 48 42.4 -0.1**
CM31 Chiang Mai Arr 19.30 122 P **Pn** **07 48 42.5 -0.1**
SNR=13
CMAR Chiang Mai Arr 19.30 122 P **Pn** **07 48 42.4 -0.1**
comp=Z,1.5nm,0.3s,baz=313,slow=10.0,SNR=68
CMAR PcP **PcP** **07 53 04.9 +1.0**
comp=Z,0.4nm,0.3s,baz=284,slow=4.3,SNR=4.3
CMAR ScP **ScP** **07 56 36.7 -2.5**
comp=Z,0.4nm,0.3s,baz=296,slow=4.3,SNR=4.4
CMAR LR LR 07 58 26.0
comp=Z,70nm,18.5s,baz=295,slow=44
CM01 Chiang Mai Arr 19.34 122 *e*P **Pn** **07 48 42.8 -0.1**
LZH Lanzhou 19.63 65 *e*P **Pn** **07 48 46.0 -0.4**
LZH pP sP 07 48 54.0 +1.2
LZH sP pP 07 48 57.5 +7.1
LZH *e*S **S** **07 52 20.2 -6.0**
LZH pmax pmax
comp=Z,72nm,1.1s
LZH pmax pmax
comp=Z,460nm,4.9s
LZH LR LR
comp=Z,1μm,11.4s
LZH LR LR
comp=Z,930nm,10.8s
LZH LR LR
comp=Z,1μm,11.9s
LAMP Lampang 19.78 120 P **Pn** **07 48 49.1 +0.9**
comp=Z,11nm,0.8s
OTUK Ortayu 19.84 341 P **Pn** **07 48 48.1 -0.7**
OTUK pmax pmax
comp=Z,46nm,0.9s
DGZ Jazzator, Alta 20.42 11*c i*P Pn 07 48 55.4 -0.3
DGZ pmax pmax
comp=Z,55nm,0.6s
SUKH Sukhothai 20.43 123 P Pn 07 48 55.2 -0.6
comp=Z,8.2nm,0.8s
SEM Semipalatinsk 20.69 357*ce*P **P** **07 48 55.3 -1.2**
SEM pmax pmax
comp=Z,434nm,0.7s
SEM MLR MLR
comp=Z,383nm,19.0s
SEM Semipalatinsk 20.69 357⇑ *e*P **P** **07 48 55.4 -1.2**
comp=Z,434nm,0.7s
SEM *e*LRM MLR 07 57 30.6
comp=Z,383nm,18.6s
UMPA Umpang Tak 20.72 127 P Pn 07 49 05.3 +6.0
KURBB Kurchatov Arra 21.01 354 P **P** **07 49 00.5 +0.8**
comp=Z,45nm,0.8s,baz=176,slow=10,SNR=174
KURK Kurchatov 21.09 355 *e*P **P** **07 49 00.5 -0.1**
KURK *e*P **P** **07 49 01.5 +0.9**
KURK Kurchatov 21.09 355*ce*P **P** **07 49 01.3 +0.7**
KURK pmax pmax
comp=Z,97nm,0.8s
KURK Kurchatov 21.09 355 P **P** **07 49 01.3 +0.7**
SNR=33
GEYT Alibeck 21.19 299 P **P** **07 49 02.7 +0.9**
comp=Z,20nm,0.7s,baz=119,slow=9.3,SNR=20
GYA0B ALIBECK ARRAY 21.19 299 *e*P **P** **07 49 03.3 +1.4**
comp=Z,26nm,0.8s
BRZS Berezniki 21.35 344*de*P **P** **07 49 02.3 -1.1**
BRZS pmax pmax
comp=Z,185nm,1.4s
BRZS MLR MLR
comp=Z,206nm,13.0s
BRZS Berezniki 21.35 344⇓ *e*P **P** **07 49 02.3 -1.1**
comp=Z,185nm,1.4s
BRZS *e*LRM MLR 07 57 40.6
comp=Z,206nm,12.7s
JLN Jalan Bani Buh 21.39 255 P **P** **07 49 07.3 +3.2**
SNR=12
UTHA Uthaitani 21.57 127 P **P** **07 49 07.4 +1.4**
comp=Z,26nm,0.8s,comp=Z,187nm
WBK Wadi Bani Khal 21.57 256 P P 07 49 16.0 +10
SNR=7.8
WSAR Wadi Sarin 21.61 258 P **P** **07 49 08.6 +2.1**
comp=Z,15nm,0.7s,baz=102,slow=8.6,SNR=12
WSAR S **S** **07 52 57.9 -7.7**
comp=Z,2.9nm,0.5s,baz=94,slow=16,SNR=2.4
WSAR LR LR 07 58 18.1
comp=Z,169nm,21.6s,baz=80,slow=39
WSAR Wadi Sarin 21.61 258 P **P** **07 49 08.9 +2.4**
SNR=7.3
PBKT Sadao Pong 21.99 122 *e*P **P** **07 49 11.7 +1.1**
comp=Z,47nm,0.9s
PBKT Sadao Pong 21.99 122 P **P** **07 49 11.8 +1.3**
comp=Z,71nm,1.1s,comp=Z,1μm
SMDO Samad 22.18 258 P **P** **07 49 19.7 +7.0**
SNR=6.2
SRDT SRDT 22.20 130 P **P** **07 49 17.0 +4.2**
comp=Z,30nm,1.2s,comp=Z,3μm
GYA Guiyang 22.25 92 P **P** **07 49 13.6 +0.1**
GYA pP sP 07 49 24.2 +3.2
GYA S **S** **07 53 11.0 -7.0**
GYA sS sS 07 53 27.2 +0.7
GYA SS **SnSn** **07 53 52.1 +6.8**
GYA pmax pmax
comp=Z,20nm,0.6s
GYA LR LR
comp=Z,520nm,15.9s
GYA LR LR
comp=Z,610nm,16.2s
GYA LR LR
comp=Z,590nm,16.4s
PALK Pallekele 22.36 183 P **P** **07 49 15.2 +0.7**
comp=Z,14nm,0.8s,baz=116,slow=3.9,SNR=5.0
PALK S **S** **07 53 15.0 -4.9**
comp=Z,16nm,0.9s,baz=115,slow=16,SNR=3.6
PALK Pallekele 22.36 183 *e*P **P** **07 49 16.1 +1.6**
comp=Z,28nm,0.8s
PALK *e*S **S** **07 53 15.0 -4.9**
PALK Pallekele 22.36 183 P **P** **07 49 15.4 +0.9**
JMDO Jabal Madar 22.40 256 P P 07 49 24.9 +10
SNR=6.7
MNCI Minicoy 22.82 203 *e*P **P** **07 49 20.1 +0.7**
comp=Z,272nm,1.5s
MHTO MHTO 23.11 253 P P 07 49 31.7 +9.3
SNR=7.8
CHAI Chaiyaphum 23.17 122 P **P** **07 49 24.4 +1.4**
comp=Z,17nm,1.0s,comp=Z,152nm
HVS Khovu-Aksy 23.20 19*c i*P **P** **07 49 25.3 +2.2**
HVS pmax pmax
comp=Z,234nm,1.1s
ASHO Ashiyiah 23.33 264 *i* P **P** **07 49 25.4 +0.8**
SNR=7.1
XAN Xi'an 23.48 72 P **P** **07 49 26.3 +0.2**
XAN pP pP 07 49 31.5 -0.2
XAN pmax pmax
comp=Z,19nm,0.7s
XAN pmax pmax
comp=Z,120nm,3.5s
XAN LR LR
comp=Z,220nm,10.5s
XAN LR LR
comp=Z,280nm,17.3s
XAN Xi'an 23.48 72 *e*P **P** **07 49 26.5 +0.4**
comp=Z,26nm,0.8s
XAN Xi'an 23.48 72 *e*P **P** **07 49 26.5 +0.4**
XAN pmax pmax
comp=Z,27nm,0.8s
PHET Kaeng Krachan 23.59 131 P P 07 49 39.8 +13
KNGR Kungurtug, Tuv 24.01 25*c i*P **P** **07 49 31.5 +0.4**
SKNT Sakolnakorn 24.02 117 P **P** **07 49 32.9 +1.5**
comp=Z,9.8nm,1.1s
ENH Enshi 24.05 82 *e*P **P** **07 49 32.4 +0.8**
comp=Z,25nm,0.8s
ZAA0 Zalesovo Array 24.31 4 *e*P **P** **07 49 34.6 +1.0**
comp=Z,141nm,1.3s
ZALV Zalesovo Beam 24.31 4 P **P** **07 49 34.6 +1.0**
comp=Z,77nm,0.5s,baz=190,slow=10,SNR=283
ZALV LR LR 08 00 12.2
comp=Z,197nm,19.0s,baz=250,slow=39
ZALV Zalesovo Beam 24.31 4 *e*P **P** **07 49 34.5 +0.8**
ZALV Zalesovo Beam 24.31 4 *e*P **P** **07 49 34.5 +0.8**
ZAA1 Zalesovo Array 24.31 4 *e*P **P** **07 49 34.6 +0.9**
PATY Pattaya 24.40 129 P P 07 49 45.9 +11
SRAK Srakaew 24.45 125 P P 07 49 43.2 +7.9
BVAR Borovoye Array 24.72 344 P **P** **07 49 38.2 +0.8**
comp=Z,13nm,0.3s,baz=153,slow=9.8,SNR=101
BVAR PcP **PcP** **07 53 14.9 +0.8**
comp=Z,1.5nm,0.4s,baz=251,slow=3.0,SNR=5.8
BVAR LR LR 08 00 06.3
comp=Z,454nm,18.3s,baz=166,slow=38
BRVK Borovoye 24.77 343 *e*P **P** **07 49 38.7 +0.8**
comp=Z,27nm,0.7s
BRVK Borovoye 24.77 343 P **P** **07 49 37.9 0.0**
BRVK pmax pmax
comp=Z,20nm,0.6s
BRVK Borovoye 24.77 343 P **P** **07 49 39.2 +1.3**
SNR=13
NVS Novosibirsk 25.12 2 *e*P **P** **07 49 41.6 +0.6**
NVS pmax pmax
comp=Z,45nm,1.0s
NVS pmax pmax
comp=N,30nm,0.9s
BTO Baotou 25.47 57 *e*P **P** **07 49 45.4 +0.9**
AB31 Akbulak array 25.57 326 *i* P **P** **07 49 47.0 +1.8**
AB31 pmax pmax
comp=Z,93nm,0.9s
ABKAR Akbulak array 25.57 326 *e*P **P** **07 49 47.3 +2.1**
MOY Mondy 26.20 28 *e*P **P** **07 49 52.9 +1.9**
MOY pmax pmax
comp=Z,24nm,1.5s
SONA0 Songino Array 26.23 40 *e*P **P** **07 49 53.6 +2.3**
SONA0 *e*PcP **PcP** **07 53 18.0 +0.2**
SONM Songino Array 26.23 40 P **P** **07 49 53.6 +2.3**
comp=Z,27nm,0.8s,baz=229,slow=9.3,SNR=171
SONM PcP **PcP** **07 53 18.0 +0.2**
comp=Z,2.9nm,0.5s,baz=214,slow=3.8,SNR=8.6
SONA1 Songino Array 26.24 40 *e*P **P** **07 49 54.0 +2.5**
ZAK Zakamensk 26.26 32 *e*P **P** **07 49 53.1 +1.6**
ZAK pmax pmax
comp=Z,15nm,1.0s
HHC Hu-ho-hao-te 26.66 57 *e*P **P** **07 49 57.5 +2.2**
HHC pP sP 07 50 04.8 +1.5
HHC sP pP 07 50 13.2 +12
HHC PP **PnPn** **07 50 40.1 +4.0**
HHC S **S** **07 54 29.8 -0.2**
HHC sS sS 07 54 46.6 +7.2
HHC pmax pmax
comp=Z,27nm,1.0s
HHC pmax pmax
comp=Z,170nm,5.1s
HHC LR LR
comp=Z,1μm,13.1s
HHC LR LR
comp=Z,1μm,10.8s
HHC LR LR
comp=Z,1μm,15.9s
AKTO Aktyubinsk 27.29 326 P **P** **07 50 02.0 +1.4**
comp=Z,10nm,0.3s,baz=122,slow=7.6,SNR=60
LHMI Lhok Sumawe 28.31 146 P **P** **07 50 10.7 +0.6**
AKT Akhty 29.82 302 *i* P **P** **07 50 25.5 +2.0**
AKT pmax pmax
comp=Z,28nm,1.1s
BJT Baijiatuao 29.92 61 *e*P **P** **07 50 25.4 +1.1**
BJT *e* 07 50 26.0
BJT Baijiatuao 29.92 61 *e*P **P** **07 50 25.4 +1.1**
TPTI 30.14 148 P **P** **07 50 27.1 +0.8**
KCSI Kotacane, Aceh 30.19 147 P **P** **07 50 27.1 +0.3**
SNSI Sinabang, Aceh 30.52 150 P **P** **07 50 29.7 +0.1**
TSI Tuntungan 30.59 145 P **P** **07 50 30.3 0.0**
SVE Sverdlovsk 30.87 337⇓ *e*P **P** **07 50 34.0 +1.6**
SVE pmax pmax
comp=Z,17nm,0.9s
ARU Arti 31.29 335 *e*P **P** **07 50 37.4 +1.3**
comp=Z,31nm,1.0s
ARU Arti 31.29 335*c i*P **P** **07 50 37.5 +1.4**
ARU 07 51 38.2
ARU S **S** **07 55 47.5 +5.4**
ARU SS **SnSn** **07 57 27.8 +2.6**
ARU pmax pmax
comp=Z,35nm,1.1s
PSI Prapat 31.38 145 LR LR 08 04 06.1
comp=Z,171nm,21.2s,baz=307,slow=38
GROC Groznyy 31.60 305 *e*P **P** **07 50 37.0 -2.0**
GROC *e* 07 53 30.0
GROC *e*S **S** **07 55 46.8 -0.5**
GROC pmax pmax
comp=Z,40nm,0.6s
NJ2 Nanjing 31.87 76 *e*P **P** **07 50 41.9 +0.4**
NJ2 pmax pmax
comp=Z,24nm,0.5s
TBLG Delisi 32.07 302 *e*P **P** **07 50 44.1 +0.9**
comp=Z,24nm,0.7s
TBLG Delisi 32.07 302 *e*P **P** **07 50 44.1 +0.9**
TBLG pmax pmax
comp=Z,24nm,0.7s
RAYN Ar Rayn 32.85 268 *e*P **P** **07 50 51.2 +0.9**
comp=Z,11nm,1.0s
RAYN Ar Rayn 32.85 268 *i* P **P** **07 50 50.8 +0.5**
SNR=8.0
RAYN Ar Rayn 32.85 268 *e*P **P** **07 50 51.2 +0.9**
RAYN pmax pmax
comp=Z,11nm,1.0s
ZEI Tsey 32.87 304 *e*P **P** **07 50 49.8 -0.6**
ZEI pmax pmax
comp=Z,24nm,0.8s
KARS Kars 33.15 300 *e*P **P** **07 50 54.4 +1.6**
comp=Z,102nm,0.8s
KARS Kars 33.15 300 *e*P **P** **07 50 54.4 +1.6**
KARS pmax pmax
comp=Z,102nm,0.8s
SIRT Sirnak 33.41 294 *e*P **P** **07 50 56.2 +1.1**
SIRT Sirnak 33.41 294 *e*P **P** **07 50 56.2 +1.1**
comp=Z,97nm,1.0s
MNSI Mandailing Nat 33.43 146 P **P** **07 50 55.0 -0.3**
comp=Z,18nm,0.4s
KBZ Khabaz 33.77 305 P **P** **07 50 59.3 +1.3**
comp=Z,9.6nm,0.7s,baz=117,slow=6.1,SNR=24
SHA1 Shidzhatmaz 33.95 305 *i* P **P** **07 51 01.0 +1.2**
GOF Gofitskoye 33.95 308 *e*P **P** **07 51 00.3 +0.7**
KIV Kislovodsk 33.97 306 *e*P **P** **07 51 00.8 +1.0**
comp=Z,16nm,0.7s
KIV Kislovodsk 33.97 306 *e*P **P** **07 51 01.4 +1.6**
KIV pmax pmax
comp=Z,23nm,1.1s
KIV MLR MLR
comp=Z,103nm,15.0s
DL2 Dalian 34.00 64 P **P** **07 51 01.6 +1.5**
DL2 sP sP 07 51 15.9 +7.7
DL2 *e*S **S** **07 56 24.4 -0.3**
DL2 pmax pmax
comp=Z,24nm,0.6s
DL2 LR LR
comp=Z,310nm,14.1s
DL2 LR LR
comp=Z,490nm,14.0s
DL2 LR LR
comp=Z,680nm,15.0s
HIA Hailar 34.77 45 *e*P **P** **07 51 07.8 +1.2**
comp=Z,27nm,0.9s
HIA Hailar 34.77 45 *e*P **P** **07 51 07.8 +1.2**
HIA pmax pmax
comp=Z,27nm,0.9s
MAZI Mazidag 35.00 294 *e*P **P** **07 51 10.2 +1.3**
PDSI Padang 35.34 146 P **P** **07 51 11.2 -0.7**
comp=Z,32nm,0.4s
PTK Pertek 35.85 296 *e*P **P** **07 51 18.1 +1.8**
BOD Bodaibo 35.88 29 *e*P **P** **07 51 17.0 +0.9**
BOD pmax pmax
comp=Z,20nm,0.9s
VRH Novokhopyorsk 36.60 317 *e*P **P** **07 51 22.7 +0.5**
VRH pmax pmax
comp=Z,40nm,0.5s
CN2 Changchun 37.32 56 *e*P **P** **07 51 29.9 +1.4**
CN2 *e*SP sP 07 51 43.6 +7.0
CN2 *e*S **S** **07 57 14.1 -1.5**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,150nm,14.0s
CN2 LR LR
comp=Z,490nm,14.0s
CN2 LR LR
comp=Z,650nm,16.0s
DARE Darende-Malaty 37.34 296 *e*P **P** **07 51 30.5 +1.6**
KMRS Kahramanmaras 37.82 294 *e*P **P** **07 51 34.3 +1.4**
ANN Anapa 37.82 306 *e*P **P** **07 51 30.2 -2.5**
ANN *e**PP **pP** **07 51 34.2 -4.6**
ANN *e* 07 52 57.8
ANN *e*S **S** **07 57 21.1 -2.0**
ANN pmax pmax
comp=Z,29nm,0.9s
VSR Storozhevoye 38.12 316 *e*P **P** **07 51 35.1 -0.1**
VSR pmax pmax
comp=Z,50nm,1.3s
ASF Jabal al Asfar 38.29 285 P **P** **07 51 36.8 -0.2**
comp=Z,3.4nm,0.8s,baz=76,slow=8.3,SNR=2.9
KOZT Kozan 38.67 294 *e*P **P** **07 51 41.0 +1.0**
LPSR Galich'ya Gora 38.70 319 *e*P **P** **07 51 40.8 +0.8**
LPSR pmax pmax
comp=Z,30nm,0.6s
KSAR Wonju Array Be 38.92 66 P **P** **07 51 41.9 -0.2**
KSAR Wonju Array Be 38.92 66 P **P** **07 51 41.9 -0.2**
KSRS Korea Array 38.95 66 P **P** **07 51 41.9 -0.5**
comp=Z,5.3nm,0.7s,baz=275,slow=8.7,SNR=14
KSRS LR LR 08 09 13.9
comp=Z,122nm,18.0s,baz=274,slow=38
YOZ Yozgat 39.03 297 *e*P **P** **07 51 44.4 +1.3**
MMAI Mount Meron Ar 39.42 287 LR LR 08 10 34.8
comp=Z,102nm,18.2s,baz=275,slow=40
CORM Corum 39.56 298 *e*P **P** **07 51 48.1 +0.6**
PRGR Permogore 39.72 334 *e*P **P** **07 51 48.0 -0.4**
PRGR *e**PP **pP** **07 51 53.6 -1.0**
PRGR *e* 07 53 53.1
PRGR pmax pmax
comp=Z,24nm,0.6s
MERS Mersin 39.74 293 *e*P **P** **07 51 49.9 +0.8**
GULA Gulagac 39.90 295 *e*P **P** **07 51 51.5 +1.2**
SIM Simferopol' 40.18 306 *e*P **P** **07 51 53.7 +1.2**
SIM pmax pmax
comp=Z,27nm,0.8s
YAYX Yaylak 40.21 296 *e*P **P** **07 51 53.2 +0.3**
KAMT Kaman 40.27 297 *e*P **P** **07 51 53.2 -0.3**
BR101 Keskin Array S 40.32 298 *e*P **P** **07 51 54.7 +0.8**
BR131 Keskin Array S 40.32 298 *e*P **P** **07 51 55.0 +1.1**
BRTR Keskin Array B 40.32 298 P **P** **07 51 54.7 +0.8**
comp=Z,12nm,0.7s,baz=118,slow=9.8,SNR=54
BRTR LR LR 08 12 45.0
comp=Z,44nm,18.3s,baz=102,slow=42
ATD Arta Tunnel 40.37 252 P **P** **07 51 55.5 +1.0**
comp=Z,7.6nm,0.6s,baz=300,slow=3.2,SNR=5.2
ATD Arta Tunnel 40.37 252 *e*P **P** **07 51 55.7 +1.3**
comp=Z,16nm,0.9s
MDJ Mudanjiang 40.37 55 P **P** **07 51 55.1 +1.0**
MDJ pP sP 07 52 03.0 +0.8
MDJ sP pP 07 52 08.7 +8.8
MDJ PcS **PcS** **07 57 51.3 +3.8**
MDJ S **S** **07 57 57.5 -4.0**
MDJ sS sS 07 58 12.3 +1.3
MDJ pmax pmax
comp=Z,22nm,0.6s
MDJ pmax pmax
comp=Z,160nm,3.1s
MDJ LR LR
comp=Z,180nm,4.5s
MDJ Mudanjiang 40.37 55 *e*P **P** **07 51 55.2 +1.1**
comp=Z,14nm,0.7s
SULT Sultanhani-AKS 40.47 295 *e*P **P** **07 51 57.4 +2.3**
MOS Moscow 40.51 323 *e*P **P** **07 51 53.9 -1.1**
MOS *e* 07 53 27.6
MOS pmax pmax
comp=Z,28nm,0.6s
ZEA Zeya 40.65 41 *e*P **P** **07 51 58.2 +2.0**
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=Z,46nm,1.0s
OBN Obninsk 40.85 322 P **P** **07 51 58.9 +1.1**
comp=Z,15nm,0.5s,baz=308,slow=3.0,SNR=9.2
OBN Obninsk 40.85 322 *e*P **P** **07 51 58.9 +1.1**
comp=Z,55nm,0.6s
OBN Obninsk 40.85 322*ce*P **P** **07 51 58.7 +0.8**
OBN *e* 07 53 33.0
OBN *e* 07 53 59.1
OBN pmax pmax
comp=Z,40nm,0.6s
OBN MLR MLR
comp=Z,263nm,18.0s
CSS Mathiatis 40.88 290 *e*P **P** **07 51 56.9 -1.6**
LADK Ladik-KONYA 41.37 295 *e*P **P** **07 52 03.3 +0.7**
KLMR Klimovskoe 41.78 330 *e*P **P** **07 52 03.6 -1.8**
KLMR *e* 07 53 40.9
KLMR pmax pmax
comp=Z,36nm,1.3s
KLMR Klimovskoe 41.78 330 *e*P **P** **07 52 03.7 -1.7**
KLMR AMP 07 52 15.1
comp=Z,36nm,1.2s
KLMR *e*PP **PP** **07 53 41.0 -0.9**
USA0B Ussuriysk Arra 42.06 56 *e*P **P** **07 52 09.2 +1.2**
comp=Z,14nm,0.8s
USRK Ussuriysk Ar. 42.06 56 P **P** **07 52 09.3 +1.3**
comp=Z,6.6nm,0.5s,baz=257,slow=8.2,SNR=31
KLR Kul'dur 42.38 48 P **P** **07 52 11.8 +1.3**
comp=Z,13nm,0.3s,baz=272,slow=8.8,SNR=62
KLR Kul'dur 42.38 48*c i*P **P** **07 52 11.7 +1.2**
KORT Korkueli 43.06 294 *e*P **P** **07 52 16.7 +0.3**
ELL Elmali 43.44 293 *e*P **P** **07 52 19.7 +0.2**
AKAS Kas 43.75 293 *e*P **P** **07 52 21.4 -0.5**
KIS Kishinev 44.03 308 *e*P **P** **07 52 23.0 -0.9**
comp=Z,210nm,2.0s
KIS LRM MLR 08 13 40.0
comp=Z,300nm,15.0s
KIS Kishinev 44.03 308 *e*P **P** **07 52 23.0 -0.9**
KIS *e* 07 52 29.0
KIS pmax pmax
comp=Z,210nm,2.0s
KIS MLR MLR
comp=Z,300nm,15.0s
LEM Lembang 44.06 141 LR LR 08 13 48.9
comp=Z,124nm,18.1s,baz=218,slow=40
AKASG Malin Array Be 44.14 314 P **P** **07 52 25.0 +0.4**
comp=Z,10nm,0.6s,baz=81,slow=7.4,SNR=36
AKASG PP **PP** **07 54 06.2 -1.2**
comp=Z,3.9nm,0.8s,baz=80,slow=8.4,SNR=4.9
AKBB Malin Array Si 44.14 314 *e*P **P** **07 52 24.4 -0.2**
comp=Z,17nm,0.8s
AKBB *e*PP **PP** **07 54 06.2 -1.2**
AKBB Malin Array Si 44.14 314 *e*P **P** **07 52 24.4 -0.2**
AKBB *e* 07 54 06.2
AKBB pmax pmax
comp=Z,17nm,0.8s
KIEV Kiev 44.15 314 *e*P **P** **07 52 24.8 +0.1**
comp=Z,18nm,0.9s
KIEV Kiev 44.15 314 P **P** **07 52 24.4 -0.3**
KIEV Kiev 44.15 314*d i*P **P** **07 52 25.1 +0.4**
KIEV pmax pmax
comp=Z,20nm,0.9s
AK11 Malin Array Si 44.17 314 *e*P **P** **07 52 25.2 +0.3**
KULA Kula-Manisa 44.25 296 *e*P **P** **07 52 25.9 0.0**
MANT Manisa 44.34 296 *e*P **P** **07 52 27.0 +0.3**
comp=Z,67nm,1.1s
CFR Carcaliu 44.42 306⇑ *i*P **P** **07 52 28.2 +1.2**
CFR Carcaliu 44.42 306⇑ P **P** **07 52 28.2 +1.2**
DALY Dalyan (Mula) 44.44 294 *e*P **P** **07 52 25.9 -1.3**
TURN Turunc 44.47 294 *e*P **P** **07 52 30.1 +2.6**
HARR Harsova 44.56 305⇓ *i*P **P** **07 52 29.5 +1.4**
HARR Harsova 44.56 305⇓ P **P** **07 52 29.5 +1.4**

YAK Yakutsk 44.80 30 *eP* **P 07 52 30.9 +1.1**
YAK pmax pmax
comp=Z,38nm,0.8s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=E,12nm,1.1s
PHSR Pinarhisar 44.91 301⇓ *iP* **P 07 52 31.9 +0.9**
DAT Datca 45.30 294 *eP* **P 07 52 34.1 -0.2**
VRI Vrincioaia 45.43 307⇑ *iP* **P 07 52 37.3 +2.2**
VRI Vrincioaia 45.43 307⇑ *P* **P 07 52 37.3 +2.2**
PLOR Plostina 45.48 307⇑ *iP* **P 07 52 37.6 +2.1**
PLOR Plostina 45.48 307⇑ *P* **P 07 52 37.6 +2.1**
ISR Istrita 45.55 306⇓ *iP* **P 07 52 38.6 +2.5**
ISR Istrita 45.55 306⇓ *P* **P 07 52 38.6 +2.5**
GRNR Gornyy 45.56 47 *eP* **P 07 52 37.4 +1.3**
GRNR pmax pmax
comp=Z,46nm,1.0s
SULR 45.76 305⇑ *iP* **P 07 52 39.4 +1.8**
KARP Karpathos 45.81 292 *eP* **P 07 52 36.8 -1.4**
KARP Karpathos 45.81 292 *eP* **P 07 52 39.4 +1.2**
comp=Z,208nm,0.8s
PRAR RASCA 45.81 309⇓ *iP* **P 07 52 39.2 +1.1**
BIZ Bicaz 45.88 308⇓ *iP* **P 07 52 39.8 +1.2**
EZN Ezine 45.94 298⇓ *iP* **P 07 52 39.0 -0.2**
EZN Ezine 45.94 298⇓ *P* **P 07 52 39.0 -0.2**
MLR Muntele Rosu 45.97 306 *eP* **P 07 52 41.8 +2.3**
comp=Z,72nm,0.8s
MLR Muntele Rosu 45.97 306⇓ *iP* **P 07 52 41.8 +2.3**
MLR Muntele Rosu 45.97 306⇓ *P* **P 07 52 41.8 +2.3**
ALN Alexandroupoli 46.07 300 *eP* **P 07 52 41.6 +1.4**
comp=Z,24nm,1.3s
ALN Alexandroupoli 46.07 300 *eP* **P 07 52 41.6 +1.4**
ALN pmax pmax
comp=Z,24nm,1.3s
JOF Joensuu 46.17 331 *P* **P 07 52 41.8 +1.2**
JOF pmax pmax
comp=Z,55nm,1.4s
NACGM Naroch 46.25 319 *e* **P 07 52 40.0 -1.4**
IDID Didziasalis 46.35 320 *eP* **P 07 52 43.2 +1.1**
IDID IAmb IAmb 07 52 45.3
comp=Z,12nm,1.1s
DOPR Dopca 46.36 307⇑ *iP* **P 07 52 44.1 +1.6**
BURAR Bucovina Array 46.51 309⇑ *iP* **P 07 52 45.0 +1.3**
BURAR Bucovina Array 46.51 309 *P* **P 07 52 44.9 +1.3**
BUR04 Bucovina Ar. S 46.51 309 *eP* **P 07 52 44.5 +0.9**
BUR08 Bucovina Ar. S 46.52 309 *eP* **P 07 52 45.0 +1.2**
VOIR 46.60 306⇑ *iP* **P 07 52 45.8 +1.4**
VOIR 46.60 306⇑ *P* **P 07 52 45.8 +1.4**
ZKR Zakros 46.64 292 *eP* **P 07 52 43.7 -1.0**
IIGN Ignalina 46.64 320 *eP* **P 07 52 45.7 +1.3**
IIGN IAmb IAmb 07 52 47.1
comp=Z,111nm,0.6s
HUMR Humele 46.67 305⇑ *iP* **P 07 52 45.9 +1.1**
IZAR Zarasai 46.70 320 *eP* **P 07 52 45.5 +0.6**
IZAR IAmb IAmb 07 52 47.2
comp=Z,16nm,0.8s
ISAL Salakas 46.74 320 *eP* **P 07 52 45.8 +0.7**
ISAL IAmb IAmb 07 52 48.5
comp=Z,17nm,0.9s
APE Apeiranthos 46.88 294 *eP* **P 07 52 44.3 -2.4**
APE Apeiranthos 46.88 294⇑ *iP* **P 07 52 47.3 +0.6**
APE Apeiranthos 46.88 294⇑ *P* **P 07 52 47.3 +0.6**
ARR Arges 46.90 306⇑ *iP* **P 07 52 48.1 +1.4**
VSU Vasula 46.98 324 *ceP* **P 07 52 47.5 +0.4**
VSU pmax pmax
comp=Z,70nm,0.8s
VSU Vasula 46.98 324⇑ *eP* **P 07 52 47.7 +0.7**
VSU IAmb IAmb 07 52 48.1
comp=Z,72nm,0.8s
LVZ Lovozero 47.08 338 *ceP* **P 07 52 48.6 +0.8**
LVZ pmax pmax
comp=Z,22nm,2.5s
ARCR ARCALIA 47.08 308⇑ *iP* **P 07 52 50.5 +2.4**
MAJO Matsushiro 47.23 66 *eP* **P 07 52 48.8 -0.6**
MAJO *ePcP* **PcP 07 54 20.7 +0.1**
MAJO Matsushiro 47.23 66 *eP* **P 07 52 48.8 -0.6**
MAJO *e* 07 54 20.7
MJAR Matsushiro Arr 47.23 66 *P* **P 07 52 48.8 -0.6**
comp=Z,2.3nm,0.9s,baz=34,slow=8.8,SNR=4.2
MJAR *PcP* **PcP 07 54 20.7 0.0**
comp=Z,2.6nm,0.6s,baz=276,slow=4.2,SNR=7.6
MJAR LR LR 08 14 08.2
comp=Z,94nm,21.3s,baz=260,slow=38
APA Apatity 47.34 337⇓ *iP* *P* 07 52 43.1 -6.6
APA pmax pmax
comp=Z,3.0nm,0.8s
APA MLR MLR
comp=Z,700nm,14.0s
LVV L'vov 47.37 312 *eP* **P 07 52 51.0 +0.7**
LVV *eS* **S 07 59 39.2 -4.4**
LOT Lotru 47.50 306⇑ *iP* **P 07 52 52.8 +1.3**
CJR Cluj-Napoca 47.60 308⇑ *iP* **P 07 52 54.2 +2.0**
CJR Cluj-Napoca 47.60 308⇑ *P* **P 07 52 54.2 +2.0**
FIA1 FINESS Array S 48.03 328 *eP* **P 07 52 56.0 +0.8**
FIA1 *eP* **P 07 52 56.1 +1.0**
FIA0 FINESS Array S 48.03 328 *eP* **P 07 52 56.1 +0.9**
FIA0 FINESS Array S 48.03 328 *eP* **P 07 52 56.1 +0.9**
FINES FINESS Array B 48.03 328 *P* **P 07 52 56.1 +0.9**
comp=Z,20nm,0.5s,baz=113,slow=8.5,SNR=150
VTS Vitosha 48.06 302 *eP* **P 07 52 57.4 +1.5**
comp=Z,36nm,1.1s
VTS Vitosha 48.06 302⇑ *iP* **P 07 52 56.5 +0.7**
VTS Vitosha 48.06 302⇑ *P* **P 07 52 56.6 +0.7**
MRSI Marisa 48.09 120 *P* **P 07 52 56.4 +0.2**
comp=Z,32nm,0.8s
DEV Deva 48.10 307⇓ *iP* **P 07 52 57.8 +1.8**
DEV Deva 48.10 307⇓ *P* **P 07 52 57.8 +1.8**
PUNG Punghina 48.15 304⇑ *iP* **P 07 52 57.9 +1.6**
GZR Gura Zlata 48.20 306⇑ *iP* **P 07 52 57.8 +0.9**
GZR Gura Zlata 48.20 306⇑ *P* **P 07 52 57.8 +0.9**
SUW Suwalki 48.21 318 *eP* **P 07 52 57.1 +0.4**
SUW Suwalki 48.21 318 *eP* **P 07 52 57.1 +0.4**
KWP Kalwaria Pacla 48.23 312 *eP* **P 07 52 58.2 +1.3**
KWP Kalwaria Pacla 48.23 312 *eP* **P 07 52 58.2 +1.3**
TRPA Tarpa 48.32 310⇑ *iP* **P 07 52 59.3 +1.7**
TRPA Tarpa 48.32 310 *eP* **P 07 52 58.1 +0.5**
UZH Uzhgorod 48.48 310 *eP* **P 07 53 00.7 +1.9**
UZH *e* 07 53 13.7
STIP Stip 48.90 301⇑ *iP* **P 07 53 01.3 -0.8**
SIRR Siria 48.95 307⇑ *iP* **P 07 53 04.4 +1.9**
MDVR Moldovita 48.99 305⇓ *iP* **P 07 53 04.3 +1.4**
BZS Buzias 49.01 306⇑ *iP* **P 07 53 04.1 +1.1**
BZS Buzias 49.01 306⇑ *P* **P 07 53 04.1 +1.1**
TIXI Tiksi 49.06 18 *P* **P 07 53 03.7 +0.7**
comp=Z,13nm,0.3s,baz=236,slow=5.6,SNR=18
TIXI Tiksi 49.06 18 *ceP* **P 07 53 04.0 +1.1**
TIXI pmax pmax
comp=Z,56nm,1.7s
AGG Agios Georgios 49.11 298 *eP* **P 07 53 04.0 +0.1**
comp=Z,50nm,0.8s
AGG Agios Georgios 49.11 298 *eP* **P 07 53 04.0 +0.1**
AGG pmax pmax
comp=Z,50nm,0.8s
SKO Skopje 49.42 302 *iP* **P 07 53 06.9 +0.7**
TYV Tymovskoe 49.52 47 *eP* **P 07 53 05.3 -1.4**
TYV *eS* **S 08 00 12.7 -1.0**
TYV pmax pmax
comp=Z,200nm,3.1s
TYV pmax pmax
comp=Z,10.0nm,1.1s
TYV smax smax
comp=E,400nm,6.3s
FNA Florina 49.60 300 *P* **P 07 53 08.1 +0.4**
BIA Bitola 49.62 300 *iP* **P 07 53 08.3 +0.6**
YSS Yuzh-Sakhalins 49.63 52 *eP* **P 07 53 07.3 -0.3**
YSS pmax pmax
comp=Z,20nm,1.5s
ITM Ithomi 49.71 295 *eP* **P 07 53 08.3 -0.1**
comp=Z,25nm,1.0s
NIE Niedzica 49.79 311 *eP* **P 07 53 10.6 +1.7**
NIE Niedzica 49.79 311 *eP* **P 07 53 10.6 +1.7**
PSZ Piszkesteto 50.09 309 *eP* **P 07 53 12.9 +1.6**
comp=Z,12nm,1.1s
PSZ Piszkesteto 50.09 309⇑ *iP* **P 07 53 13.1 +1.8**
PSZ Piszkesteto 50.09 309 *eP* **P 07 53 12.9 +1.6**
PSZ pmax pmax
comp=Z,12nm,1.1s
PSZ Piszkesteto 50.09 309 *eP* **P 07 53 11.1 -0.2**
OJC Ojcow 50.11 312 *eP* **P 07 53 12.0 +0.7**
OJC Ojcow 50.11 312 *eP* **P 07 53 12.0 +0.7**
DIVS Divibare 50.27 304 *eP* **P 07 53 13.6 +0.9**
comp=Z,8.4nm,0.8s
DIVS Divibare 50.27 304⇑ *iP* **P 07 53 13.4 +0.7**
FRGS Fruska Gora 50.31 306⇑ *iP* **P 07 53 14.0 +1.1**
IGT Igoumenitsa 50.57 299 *P* **P 07 53 14.6 -0.3**
BBLS Lazići 50.71 304⇑ *iP* **P 07 53 17.0 +1.0**
VYHS Vyhne 50.78 310 *eP* **P 07 53 17.6 +1.2**
ARA0 ARCESS Array S 50.80 338 *eP* **P 07 53 16.9 +0.7**
ARCES ARCESS Array B 50.80 338 *P* **P 07 53 16.9 +0.7**
comp=Z,6.3nm,0.4s,baz=103,slow=7.7,SNR=74
ARCES LR LR 08 16 22.5
comp=Z,15nm,18.9s,baz=146,slow=38
ARE0 ARCESS Array S 50.80 338 *eP* **P 07 53 16.9 +0.7**
PDG Podgorica 50.98 302⇓ *iP* **P 07 53 18.6 +0.6**
PDG Podgorica 50.98 302 *eP* **P 07 53 18.2 +0.2**
TTG Podgorica 50.98 302 *eP* **P 07 53 18.5 +0.5**
comp=Z,22nm,0.9s
TTG Podgorica 50.98 302 *eP* **P 07 53 18.5 +0.5**
TTG pmax pmax
comp=Z,23nm,0.9s
MORH Mrgy, Hungar 51.04 307⇑ *iP* **P 07 53 18.6 +0.2**
MORH Mrgy, Hungar 51.04 307⇑ *eP* **P 07 53 19.0 +0.6**
DRME Dracevica, Mon 51.06 302 *eP* **P 07 53 18.5 -0.1**
UPM Unac-Piva 51.15 303 *eP* **P 07 53 20.8 +1.3**
OKC Ostrava-Krasne 51.18 312 *eP* **P 07 53 21.0 +1.6**
OKC Ostrava-Krasne 51.18 312 *eP* **P 07 53 21.0 +1.6**
KTK1 Kautokeino 51.38 337 *eP* **P 07 53 20.8 +0.2**
BRY Bryansk 51.45 303 *eP* **P 07 53 22.0 +0.3**
JAVC Velka Javorina 51.53 311 *eP* **P 07 53 23.9 +1.8**
MORC Moravsky Berou 51.58 312 *eP* **P 07 53 23.4 +1.0**
comp=Z,13nm,0.8s
MORC Moravsky Berou 51.58 312⇑ *iP* **P 07 53 23.7 +1.3**
MORC Moravsky Berou 51.58 312 *eP* **P 07 53 23.4 +1.0**
MORC pmax pmax
comp=Z,13nm,0.8s
MORC Moravsky Berou 51.58 312 *eP* **P 07 53 23.5 +1.0**
TREB Trebinje 51.61 303 *eP* **P 07 53 22.9 +0.2**
HAMF Hammerfest 51.77 339 *eP* **P 07 53 24.0 +0.5**
KRLC Kraliky 52.06 312 *eP* **P 07 53 27.2 +1.2**
KRLC *ex* x 07 53 34.5
KRLC Kraliky 52.06 312 *eP* **P 07 53 27.2 +1.2**
KRLC *e* 07 53 34.5
BLY Banja Luka 52.20 306 *eP* **P 07 53 28.1 +0.9**
comp=Z,13nm,1.2s
BLY Banja Luka 52.20 306 *eP* **P 07 53 27.8 +0.7**
VRAC Vranov 52.22 311⇑ *iP* **P 07 53 28.7 +1.5**
VRAC Vranov 52.22 311⇑ *P* **P 07 53 28.7 +1.5**
VRAC Vranov 52.22 311 *eP* **P 07 53 28.4 +1.2**
KMBO Kilima Mbogo 52.32 242 *P* **P 07 53 28.7 +0.1**
comp=Z,2.3nm,0.6s,baz=62,slow=13,SNR=5.5
KMBO Kilima Mbogo 52.32 242 *eP* **P 07 53 29.4 +0.7**
comp=Z,9.8nm,1.0s
KMBO Kilima Mbogo 52.32 242 *P* **P 07 53 29.0 +0.4**
KSP Ksiaz 52.33 313 *eP* **P 07 53 29.3 +1.3**
KSP Ksiaz 52.33 313 *eP* **P 07 53 29.3 +1.3**
DPC Dobruska-Polom 52.34 313 *eP* **P 07 53 29.5 +1.4**
DPC Dobruska-Polom 52.34 313 *eP* **P 07 53 29.5 +1.4**
KRUC Moravsky 52.36 311 *eP* **P 07 53 29.3 +1.1**
UPC Upice 52.53 313 *eP* **P 07 53 30.8 +1.4**
UPC *ex* x 07 53 39.1
UPC Upice 52.53 313 *eP* **P 07 53 30.8 +1.4**
UPC *e* 07 53 39.1
KOGS Kog 52.67 308 *iP* **P 07 53 31.6 +1.0**
KOGS *i* 07 53 37.4
CONA Conrad Observa 52.80 310 *eP* **P 07 53 32.7 +1.1**
comp=Z,23nm,1.1s,SNR=13
ARSA Arzberg 53.09 309 *iP* **P 07 53 34.3 +0.6**
comp=Z,12nm,1.3s
MATE Matera 53.14 300⇑ *iP* **P 07 53 33.9 -0.1**
CRES Cresnjev 53.29 307⇑ *iP* **P 07 53 36.1 +0.9**
GOPC GO Pecny, Ondr 53.35 312 *eP* **P 07 53 36.8 +1.3**
GOPC GO Pecny, Ondr 53.35 312 *eP* **P 07 53 36.8 +1.3**
PERS Pernice 53.43 308 *iP* **P 07 53 37.3 +1.1**
BOJS Bojanci 53.47 307 *eP* **P 07 53 37.5 +1.0**
SOKA Soboth 53.49 308 *eP* **P 07 53 37.8 +1.2**
comp=Z,18nm,1.1s,SNR=11
PRU Pruhonice 53.50 312 *eP* **P 07 53 37.8 +1.2**
PRU Pruhonice 53.50 312 *eP* **P 07 53 37.8 +1.2**
BRG Berggiesshubel 53.82 313⇑ *iP* **P 07 53 40.0 +1.1**
comp=Z,23nm,0.6s
BRG *i* 07 53 47.4
comp=Z,17nm,1.2s
BRG *ePP* **PP 07 55 40.6 +0.8**
comp=Z,5.2nm,2.1s
BRG Berggiesshubel 53.82 313 *eP* **P 07 53 40.2 +1.3**
comp=Z,23nm,0.6s,baz=84,slow=7.0
BRG Berggiesshubel 53.82 313⇑ *iP* **P 07 53 40.0 +1.1**
BRG *i* 07 53 47.4
BRG *e* 07 55 40.6
BRG pmax pmax
comp=Z,23nm,0.6s
OBKA Obir 53.84 308 *eP* **P 07 53 40.6 +1.4**
comp=Z,14nm,1.2s,SNR=5.3
MOA Molln 53.88 310 *eP* **P 07 53 40.1 +0.7**
comp=Z,8.0nm,0.5s,SNR=8.4
LJU Ljubljana 53.91 307 *iP* **P 07 53 41.0 +1.3**
LJU Ljubljana 53.91 307 *eP* **P 07 53 40.9 +1.3**
CUC Castrocucco 53.92 300 *eP* **P 07 53 40.3 +0.4**
comp=Z,27nm,0.8s
STEI Steigen 53.98 335 *eP* **P 07 53 40.4 +0.6**
CEY Cerknica 54.02 307⇑ *iP* **P 07 53 41.5 +1.0**
GEA0 GERESS Array S 54.15 311 *eP* **P 07 53 42.0 +0.5**
GEC2 GERESS Array S 54.15 311 *eP* **P 07 53 42.3 +0.8**
comp=Z,8.8nm,1.2s
GEC2 GERESS Array S 54.15 311 *eP* **P 07 53 42.5 +1.0**
comp=Z,11nm,1.3s,baz=84,slow=7.0
GEC2 *epP* **sP 07 53 49.8 -0.5**
GEC2 GERESS Array S 54.15 311 *eP* **P 07 53 42.3 +0.8**
GEC2 pmax pmax
comp=Z,9.0nm,1.2s
GERES GERESS Array B 54.15 311 *P* **P 07 53 42.1 +0.6**
comp=Z,2.1nm,0.5s,baz=85,slow=6.9,SNR=21
GERES LR LR 08 19 12.7
comp=Z,125nm,18.9s,baz=73,slow=39
FBE Freiberg 54.19 313 *eP* **P 07 53 43.2 +1.6**
comp=Z,22nm,0.9s,baz=84,slow=7.0
FBE *epP* **sP 07 53 50.0 -0.4**
KHC Kasperske Hory 54.20 311 *eP* **P 07 53 42.7 +0.9**
comp=Z,2.7nm,0.8s
KHC Kasperske Hory 54.20 311 *eP* **P 07 53 43.1 +1.3**
KHC *epP* **pP 07 53 47.2 -1.0**
KHC Kasperske Hory 54.20 311 *eP* **P 07 53 42.7 +0.9**
KHC pmax pmax
comp=Z,3.0nm,0.8s
MA2 Magadan 54.35 36 *ceP* **P 07 53 44.1 +1.4**
MA2 pmax pmax
comp=Z,13nm,1.0s
CLL Collm 54.38 314 *eP* **P 07 53 43.8 +0.8**
comp=Z,3.9nm,0.7s
CLL Collm 54.38 314 *iP* **P 07 53 43.5 +0.5**
comp=Z,6.0nm,0.7s
CLL *ePP* **PP 07 55 43.0 -1.8**
CLL *e* 07 55 57.0
CLL Collm 54.38 314 *iP* **P 07 53 43.5 +0.5**
CLL pmax pmax
comp=Z,8.0nm,0.7s
CADS Cadrg 54.43 308 *iP* **P 07 53 44.0 +0.5**
MYKA Terra Mystica 54.44 308 *eP* **P 07 53 44.8 +1.2**
comp=Z,2.7nm,0.5s
KONS Konsvik 54.59 333 *eP* **P 07 53 44.7 +0.4**
WET Wettzell 54.66 311 *eP* **P 07 53 46.3 +1.2**
comp=Z,23nm,1.7s,baz=84,slow=7.0
TANN Tannenbergstha 54.80 313 *eP* **P 07 53 47.2 +1.1**
comp=Z,18nm,0.8s,baz=84,slow=7.0
NC405 NORSAR Array S 54.84 326 *eP* **P 07 53 46.7 +0.5**
WERN Wernitzgruen 54.87 313 *eP* **P 07 53 47.9 +1.3**
comp=Z,40nm,2.0s,baz=84,slow=7.0
GUNZ Gunzen 54.89 313 *eP* **P 07 53 48.0 +1.3**
comp=Z,12nm,0.7s,baz=84,slow=7.0
GUNZ *epP* **sP 07 53 55.1 -0.5**
NSS Namsos 54.89 330 *eP* **P 07 53 46.3 -0.2**
NC602 NORSAR Array S 54.92 326 *eP* **P 07 53 46.8 0.0**
NORES NORESS Array B 54.92 326 *P* **P 07 53 46.7 0.0**
NORES pmax pmax
comp=Z,1.0nm,0.3s
PLN Plauen 54.98 313 *eP* **P 07 53 48.6 +1.2**
comp=Z,38nm,1.9s,baz=84,slow=7.0
PLN *epP* **sP 07 53 55.6 -0.6**
NC303 NORSAR Array S 55.01 326 *eP* **P 07 53 47.7 +0.3**
NB201 NORSAR Array S 55.04 326 *eP* **P 07 53 48.1 +0.4**
MANZ Manzenberg 55.07 312 *eP* **P 07 53 49.6 +1.5**
comp=Z,161nm,1.3s,baz=84,slow=7.0
NB2 NORSAR Subarra 55.08 326 *P* **P 07 53 47.6 -0.4**
comp=Z,31nm,0.9s,baz=92,slow=7.4
NB2 NORSAR Subarra 55.08 326 *P* **P 07 53 47.6 -0.4**
baz=92,slow=7.4
NB200 NORSAR Array S 55.08 326 *eP* **P 07 53 47.9 -0.1**
NOA NORSAR Array B 55.08 326 *P* **P 07 53 47.9 -0.1**
comp=Z,13nm,0.8s,baz=92,slow=7.0,SNR=46
ABTA Abfaltersbach 55.20 308 *eP* **P 07 53 49.2 +0.1**
comp=Z,7.4nm,1.3s
SEY Seymchan 55.23 32 *iP* **P 07 53 48.5 -0.4**
NAO01 NORSAR Array S 55.24 326 *eP* **P 07 53 49.4 +0.3**
NBO00 NORSAR Array S 55.29 326 *eP* **P 07 53 49.7 +0.2**
NC204 NORSAR Array S 55.30 326 *eP* **P 07 53 49.8 +0.1**
MOX Moxa 55.31 313 *eP* **P 07 53 50.9 +1.1**
comp=Z,12nm,0.8s,baz=84,slow=7.0
WATA Walderalm 55.75 309 *eP* **P 07 53 52.2 -0.9**
comp=Z,3.7nm,0.5s
BSEG Bad Segeberg 55.80 317 *eP* **P 07 53 54.6 +1.4**
comp=Z,30nm,1.2s,baz=84,slow=7.0
KONO Kongsberg 55.89 324 *eP* **P 07 53 54.5 +0.7**
comp=Z,36nm,1.0s
KONO Kongsberg 55.89 324 *ceP* **P 07 53 53.4 -0.4**
KONO pmax pmax
comp=Z,15nm,1.3s
CLZ Clausthal 55.96 315 *eP* **P 07 53 55.6 +1.1**
comp=Z,26nm,0.7s,baz=84,slow=7.0
SQTA Sankt Quirin 56.01 309 *eP* **P 07 53 54.9 -0.1**
comp=Z,6.3nm,0.5s,SNR=5.8
NRDL Niedersach Rie 56.06 316 *eP* **P 07 53 56.5 +1.5**
comp=Z,24nm,0.8s,baz=84,slow=7.0
NRDL *epP* **sP 07 54 03.5 -0.4**
MOTA Moosalm 56.06 309 *eP* **P 07 53 55.2 -0.3**
comp=Z,5.7nm,0.5s,SNR=6.6
SPA0 Spitsbergen Ar 56.11 347 *eP* **P 07 53 55.8 +0.7**
SPITS Spitsbergen Ar 56.11 347 *P* **P 07 53 56.0 +0.9**
comp=Z,5.7nm,0.5s,baz=96,slow=15,SNR=21
SPITS Spitsbergen Ar 56.11 347 *P* **P 07 53 56.0 +0.9**
SPITS pmax pmax
comp=Z,6.0nm,0.5s
GTTG Gvttingen 56.25 315 *eP* **P 07 53 57.6 +1.2**
comp=Z,43nm,1.3s,baz=84,slow=7.0
RETA Reutte 56.27 310 *eP* **P 07 53 56.8 -0.1**
comp=Z,9.7nm,0.7s
UBBA Unterbreizbach 56.31 314 *epP* *pP* 07 54 05.1 +1.9
FETA Feichten 56.37 309 *eP* **P 07 53 57.6 0.0**
comp=Z,3.5nm,0.5s,SNR=5.5
RETH Rethem/Aller, 56.48 316 *eP* **P 07 53 59.2 +1.1**
comp=Z,60nm,2.1s,baz=84,slow=7.0
RETH *epP* **sP 07 54 06.4 -0.6**
MOL Molde 56.82 328 *eP* **P 07 54 01.3 +1.0**
DAVA Damuels 56.90 309 *eP* **P 07 54 01.3 0.0**
comp=Z,22nm,0.8s,SNR=8.1
VLC Villacollemand 57.10 306 *eP* **P 07 54 04.0 +1.2**
comp=Z,20nm,1.0s
TNS Taunus Mts 57.38 313 *eP* **P 07 54 05.5 +0.9**
comp=Z,86nm,2.3s,baz=84,slow=7.0
BUG Bochum--Univer 57.93 315 *eP* **P 07 54 09.3 +1.0**
comp=Z,21nm,0.6s,baz=84,slow=7.0
AHRW Bad Neuenahr-A 58.19 314 *eP* **P 07 54 11.3 +1.1**
comp=Z,18nm,1.1s,baz=84,slow=7.0
FAKI Fak Fak 58.20 115 *P* **P 07 54 10.0 -0.7**
comp=Z,14nm,0.8s
CDF Champ du Feu 58.43 311 *eP* **P 07 54 12.4 +0.4**
CDF pmax pmax
comp=Z,32nm,1.6s
PEA1 Petropavlovsk- 58.63 43 *eP* **P 07 54 12.8 -0.5**
PETK Petropavlovsk- 58.64 43 *P* **P 07 54 12.8 -0.5**
comp=Z,7.5nm,0.8s,baz=348,slow=5.8,SNR=6.5
SENIN Lac Senin/Sane 58.81 309 *eP* **P 07 54 15.3 +0.4**
comp=Z,47nm,1.4s
HINF Hinteralfeld 58.82 311 *eP* **P 07 54 13.5 -1.2**
HINF pmax pmax
comp=Z,12nm,0.8s
MEM Membach 58.85 314 *iP* **P 07 54 15.3 +0.5**
WLF Walferdange 58.93 313⇓ *P* **P 07 54 15.9 +0.5**
HAU Haudompre 59.12 311 *eP* **P 07 54 16.5 -0.2**
HAU pmax pmax
comp=Z,8.0nm,0.6s
SBF Sospel 59.25 306 *eP* **P 07 54 17.8 0.0**
SBF pmax pmax
comp=Z,49nm,1.1s
LPG La Plagne 59.36 308 *eP* **P 07 54 19.0 +0.2**
LPG pmax pmax
comp=Z,31nm,0.9s
LPL La Plagne 59.37 308 *eP* **P 07 54 19.0 +0.2**
LPL pmax pmax
comp=Z,30nm,0.7s
BNI Bardonecchia 59.51 307 *eP* **P 07 54 20.1 +0.5**
comp=Z,15nm,1.0s
BNI Bardonecchia 59.51 307 *eP* **P 07 54 20.2 +0.5**
BNI pmax pmax
comp=Z,15nm,1.0s
MBDF Montbardon 59.52 307 *eP* **P 07 54 19.1 -0.6**
MBDF pmax pmax
comp=Z,6.0nm,0.6s
CABF La Chapelle 59.58 309 *eP* **P 07 54 20.2 +0.2**
CABF pmax pmax
comp=Z,5.0nm,0.5s
GIVF Givet 59.69 313 *eP* **P 07 54 20.8 +0.2**
GIVF pmax pmax
comp=Z,24nm,1.0s
DOU Dourbes 59.84 313⇑ *P* **P 07 54 20.3 -1.3**
comp=Z,9.5nm,1.3s
FRF La Foret Royal 59.88 306 *eP* **P 07 54 21.7 -0.3**
FRF pmax pmax
comp=Z,14nm,0.7s
KEST Kesra 59.91 296 *P* **P 07 54 21.7 -0.8**
comp=Z,111nm,0.8s,baz=357,slow=3.0,SNR=7.2
KEST Kesra 59.91 296 *eP* **P 07 54 23.4 +1.0**
comp=Z,16nm,0.9s
BAIF Baives 60.09 313 *eP* **P 07 54 23.5 +0.1**
BAIF pmax pmax
comp=Z,12nm,0.9s
ORIF Oris-en-Rattie 60.09 307 *eP* **P 07 54 23.5 -0.1**
ORIF pmax pmax
comp=Z,9.0nm,0.8s
BILL Bilibino 60.79 25 *ceP* **P 07 54 29.5 +1.7**
BILL *i* 07 54 37.0
BILL *i* 07 55 11.9
BILL *i* 07 56 42.9
BILL pmax pmax
comp=Z,12nm,0.8s
BILL MLR MLR
comp=Z,165nm,17.0s
LOR Lormes 60.92 310 *eP* **P 07 54 28.4 -0.7**
LOR pmax pmax
comp=Z,12nm,1.0s
SSB Saint Sauveur 60.93 308 *eP* **P 07 54 29.6 +0.4**
comp=Z,13nm,0.8s
SSB Saint Sauveur 60.93 308 *eP* **P 07 54 29.6 +0.4**
SSB pmax pmax
comp=Z,13nm,0.8s
VIVF Saint-Julien-l 60.94 308 *eP* **P 07 54 29.1 -0.2**
VIVF pmax pmax
comp=Z,6.0nm,0.8s
SMF Signal de Mont 61.08 310 *eP* **P 07 54 29.7 -0.5**
SMF pmax pmax
comp=Z,47nm,1.2s
SSF Saint Saulge 61.20 310 *eP* **P 07 54 30.5 -0.5**
SSF pmax pmax
comp=Z,29nm,1.1s
AVF Avril sur Loir 61.37 310 *eP* **P 07 54 31.6 -0.5**
AVF pmax pmax
comp=Z,18nm,1.0s
BGF Bois d'Agland 61.76 310 *eP* **P 07 54 34.2 -0.6**
BGF pmax pmax
comp=Z,8.0nm,0.7s
TCF Toulx Ste Croi 62.26 310 *eP* **P 07 54 38.1 -0.1**
TCF pmax pmax
comp=Z,28nm,1.0s
CAF Calviac 62.72 308 *eP* **P 07 54 41.3 0.0**
CAF pmax pmax
comp=Z,22nm,0.9s
EDMD Edmundbyers 62.74 320 *eP* **P 07 54 41.5 +0.3**
EDMD IAmb IAmb 07 54 42.8
comp=Z,34nm,0.5s
HPK Haverah Park 62.76 319 *eP* **P 07 54 41.7 +0.4**
HPK IAmb IAmb 07 54 42.6
comp=Z,40nm,0.6s
MCD Coleburn Disti 62.81 323 *eP* **P 07 54 42.2 +0.6**
ESY Stoneypath 62.85 321 *eP* **P 07 54 42.1 +0.1**
EDU Dundee 62.92 322 *eP* **P 07 54 42.8 +0.4**
RJF Les Rejaudoux 62.98 309 *eP* **P 07 54 43.2 +0.2**
RJF pmax pmax
comp=Z,27nm,0.9s
MTLF Montolieu 63.05 306 *eP* **P 07 54 43.5 0.0**
MTLF pmax pmax
comp=Z,13nm,0.9s
EDI Edinburgh 63.16 321 *eP* **P 07 54 43.9 -0.1**
EDI IAmb IAmb 07 54 44.9

comp=Z,45nm,0.9s
LDF La Druitiere 63.19 313 *e*P P 07 54 43.6 -0.7
LDF pmax pmax
comp=Z,28nm,0.8s
ESK Eskdalemuir 63.32 320 *e*P P 07 54 45.5 +0.4
comp=Z,35nm,0.7s
ESK Eskdalemuir 63.32 320 *e*P P 07 54 45.3 +0.2
ESK IAmb IAmb 07 54 46.0
comp=Z,34nm,0.7s
ESK Eskdalemuir 63.32 320 *i* P P 07 54 45.8 +0.7
FLN La Foliniere 63.37 313 *e*P P 07 54 44.7 -0.8
FLN pmax pmax
comp=Z,14nm,0.8s
BHH Howats Hill 63.38 320 *e*P P 07 54 45.7 +0.2
KESW Keswick, Cumbr 63.45 320 *e*P P 07 54 46.3 +0.4
KESW IAmb IAmb 07 54 47.1
comp=Z,71nm,1.1s
INVG Invergeldie, C 63.51 322 *e*P P 07 54 46.5 +0.2
LFF La Frestale 63.62 308 *e*P P 07 54 47.1 -0.1
DAG Danmarks Havn 63.63 345 *i* P P 07 54 46.4 -0.4
comp=Z,11nm,0.9s
DAG Danmarks Havn 63.63 345 *i* P P 07 54 46.4 -0.4
DAG pmax pmax
comp=Z,9.0nm,0.9s
GRR Gorron 63.71 313 *e*P P 07 54 47.0 -0.8
GRR pmax pmax
comp=Z,26nm,0.8s
EAB Aberfoyle 63.73 322 *e*P P 07 54 47.9 +0.1
MFF Saint Martin d 63.74 310 *e*P P 07 54 47.2 -0.8
MFF pmax pmax
comp=Z,21nm,0.7s
HLM1 Long Mynd 63.85 317 *e*P P 07 54 48.9 +0.3
HLM1 IAmb IAmb 07 54 49.6
comp=Z,14nm,1.1s
PGBU Glenifferbraes 63.90 321 *e*P P 07 54 49.3 +0.4
PGBU IAmb IAmb 07 54 50.3
comp=Z,45nm,0.8s
KAC Achnashellach 63.90 323 *e*P P 07 54 49.0 +0.1
FOEL Foel Wylfa 63.94 318 *e*P P 07 54 49.7 +0.5
FOEL IAmb IAmb 07 54 50.5
comp=Z,72nm,0.8s
MCH1 Michaelchurch 64.06 317 *e*P P 07 54 49.9 -0.1
MCH1 IAmb IAmb 07 54 50.6
comp=Z,44nm,0.7s
LAWE Loch Awe, Argy 64.28 322 *e*P P 07 54 51.7 +0.4
IOMK Kirk Michael 64.36 320 *e*P P 07 54 52.5 +0.6
IOMK IAmb IAmb 07 54 53.2
comp=Z,31nm,0.9s
YLL Llanberis 64.44 318 *e*P P 07 54 53.2 +0.8
WME Myndd Eilian 64.44 319 *e*P P 07 54 52.8 +0.3
EPF Esparros 64.45 307 *e*P P 07 54 53.6 +0.8
RRH Rhenigidale 64.51 324 *e*P P 07 54 53.1 +0.2
WLF1 Llynfaes 64.53 318 *e*P P 07 54 53.3 +0.4
WLF1 IAmb IAmb 07 54 54.1
comp=Z,42nm,0.7s
WPS Cemaes, Angles 64.55 319 *e*P P 07 54 53.5 +0.3
WPS IAmb IAmb 07 54 54.6
comp=Z,23nm,0.7s
YRC Rhoscolyn 64.64 318 *e*P P 07 54 54.3 +0.5
SGMF Saint Gilles 64.84 313 *e*P P 07 54 54.7 -0.4
SGMF pmax pmax
comp=Z,28nm,0.6s
ETSF Etsaut 65.12 307 *e*P P 07 54 57.3 +0.1
ETSF pmax pmax
comp=Z,8.0nm,0.5s
HTL Hartland 65.23 316 *e*P P 07 54 57.5 -0.1
ROSF Rostrenen 65.27 313 *e*P P 07 54 57.4 -0.6
ROSF pmax pmax
comp=Z,31nm,0.8s
QUIF Quistinic 65.33 312 *e*P P 07 54 57.7 -0.6
QUIF pmax pmax
comp=Z,13nm,0.6s
SJPF Ste Jean 65.52 307 *e*P P 07 54 59.0 -0.7
SJPF pmax pmax
comp=Z,12nm,1.0s
CCA1 Carnmenellis 65.93 315 *e*P P 07 55 01.7 -0.4
CCA1 IAmb IAmb 07 55 03.3
comp=Z,62nm,1.2s
LSZ Lusaka 68.28 237 *e*P P 07 55 17.3 -0.4
comp=Z,6.5nm,0.8s
LSZ Lusaka 68.28 237 *e*P P 07 55 17.3 -0.4
LSZ pmax pmax
comp=Z,6.0nm,0.8s
ES19 SONSECA Array 68.57 304 *e*P P 07 55 19.8 +0.6
ESDC Sonseca Array 68.62 304 P P 07 55 19.9 +0.4
comp=Z,8.8nm,0.8s,baz=59,slow=6.7,SNR=44
ESLA Sonseca Array 68.62 304 *e*P P 07 55 20.1 +0.6
comp=Z,12nm,0.9s
PAB San Pablo 68.95 304 *e*P P 07 55 21.8 +0.2
comp=Z,12nm,0.8s
PAB San Pablo 68.95 304 *e*P P 07 55 21.8 +0.2
PAB pmax pmax
comp=Z,12nm,0.8s
PBRG Braganca 69.80 307 *e*P P 07 55 27.2 +0.4
SUMG Summit 70.20 344 *e*P P 07 55 29.6 +0.5
comp=Z,17nm,0.7s
SUMG Summit 70.20 344 *i* P P 07 55 29.6 +0.5
comp=Z,36nm,0.8s
SUMG Summit 70.20 344 *i* P P 07 55 29.6 +0.5
SUMG pmax pmax
comp=Z,36nm,0.8s
MVO Moncorvo 70.24 307 *e*P P 07 55 30.0 +0.5
PVRL Vila Real 70.67 307 *e*P P 07 55 32.6 +0.4
POLO Lamas de Olo 70.69 307 *e*P P 07 55 32.2 -0.1
PCAB Cabril 70.72 308 *e*P P 07 55 32.6 +0.2
WRA Warramunga Arr 70.78 128 P P 07 55 31.7 -1.2
comp=Z,7.3nm,0.8s,baz=322,slow=6.1,SNR=98
WR1 Warramunga Arr 70.78 128 *e*P P 07 55 31.7 -1.2
comp=Z,12nm,0.8s
WRAB Tennant Creek 70.78 128 *e*P P 07 55 32.2 -0.7
comp=Z,13nm,0.8s
WRAB Tennant Creek 70.78 128*ce*P P 07 55 32.6 -0.3
WRAB pmax pmax
comp=Z,32nm,2.5s
WB2 Warramunga Arr 70.78 128 *e*P P 07 55 32.1 -0.8
PGAV Gavieira, Arco 70.79 308 *e*P P 07 55 33.5 +0.6
MTE Manteigas 70.89 306 *e*P P 07 55 34.4 +0.9
PVIS Viseu 71.02 307 *e*P P 07 55 34.9 +0.6
PCBR Castelo Branco 71.07 306 *e*P P 07 55 35.1 +0.6
PMRV Marv??o 71.17 305 *e*P P 07 55 37.6 +2.4
PTOM Tomar 71.82 306 *e*P P 07 55 39.6 +0.6
EVO Evora 71.97 304 *e*P P 07 55 42.8 +2.8
PBEJ Beja 72.07 304 *e*P P 07 55 42.1 +1.5
PVAQ Vaqueiros 72.21 303 *e*P P 07 55 41.9 +0.5
MESJ Messejana 72.40 304 *e*P P 07 55 42.9 +0.4
MESJ AMb AMB 07 55 49.3
comp=Z,38nm,1.5s
MESJ Messejana 72.40 304 *e*P P 07 55 43.2 +0.7
MESJ Messejana 72.40 304 *e*P P 07 55 42.9 +0.4
MESJ pmax pmax
comp=Z,38nm,1.5s
TULEG Thule 72.41 353 *e*P P 07 55 41.8 -0.1
comp=Z,20nm,0.8s
PBDV Barranco-do-Ve 72.43 303 *e*P P 07 55 43.9 +1.1
PNCL Nicolau / Gran 72.51 304 *e*P P 07 55 43.1 -0.1
ANM Nome 72.62 25 *e*P P 07 55 44.8 +1.4
comp=Z,7.7nm,0.8s
ANM Nome 72.62 25 *e*P P 07 55 44.8 +1.4
ANM pmax pmax
comp=Z,8.0nm,0.8s
AS31 Alice Springs 73.03 131 *e*P P 07 55 45.3 -1.1
comp=Z,2.3nm,0.9s
ASAR Alice Springs 73.03 131 P P 07 55 45.5 -1.0
comp=Z,2.3nm,0.4s,baz=315,slow=6.1,SNR=34
AS01 Alice Springs 73.06 131 *e*P P 07 55 45.1 -1.5
TOAD Torodi Ar. Sit 75.01 277 *e*P P 07 55 56.2 -2.0
TOA0 *e*P P 07 55 58.1 -0.2
TOA1 Torodi Ar. Sit 75.01 277 *e*P P 07 55 56.4 -1.8
TORD Torodi Ar. Bea 75.01 277 P P 07 55 56.4 -1.8
comp=Z,9.9nm,0.9s,baz=38,slow=5.2,SNR=49
IM3 Indian Mountai 75.63 20 *e*P P 07 56 01.3 +0.4
COLD Coldfoot 75.79 18 *e*P P 07 56 02.9 +1.1
comp=Z,7.3nm,1.0s
LBTB Lobatse 76.55 231 *e*P P 07 56 06.8 0.0
comp=Z,15nm,1.0s
LBTB Lobatse 76.55 231 *e*P P 07 56 06.8 0.0
LBTB pmax pmax
comp=Z,15nm,1.0s
SFJD Kangerlussuaq 77.09 343 *i* P P 07 56 08.4 -0.7
SFJD Kangerlussuaq 77.09 343 *i* P P 07 56 08.4 -0.7
MLY Manley 77.20 20 *e*P P 07 56 10.7 +0.8
comp=Z,18nm,1.2s
FYU Fort Yukon 77.61 17 *e*P P 07 56 13.3 +1.3
comp=Z,14nm,1.0s
BPAW Bear Paw Mtn. 77.78 21 *e*P P 07 56 13.8 +0.7
comp=Z,7.8nm,1.0s
CAST Castle Rocks 77.91 22 *e*P P 07 56 14.9 +1.0
comp=Z,30nm,0.9s
MDM Murphy Dome 77.99 19 *e*P P 07 56 14.7 +0.4
comp=Z,12nm,0.8s
COLA College 78.16 19 *e*P P 07 56 15.7 +0.5
comp=Z,22nm,1.0s
COLA College 78.16 19 *e*P P 07 56 15.7 +0.5
COLA pmax pmax
comp=Z,21nm,1.0s
PRP Porcupine Dome 78.33 18 *e*P P 07 56 17.6 +1.2
comp=Z,8.5nm,1.0s
IL1 Eielson Array 78.51 19 *e*P P 07 56 16.6 -0.5
ILAR Eielson Array 78.51 19 P P 07 56 16.9 -0.2
comp=Z,7.5nm,0.8s,baz=301,slow=4.5,SNR=69
ILAR PP PP 07 59 10.9 -3.2
comp=Z,1.4nm,0.8s,baz=307,slow=6.3,SNR=5.0
ILB Eielson Array 78.51 19 *e*P P 07 56 17.1 -0.2
ILB *e*PP PP 07 59 15.6 +1.5
HDA Harding Lake 78.77 19 *e*P P 07 56 18.0 -0.6
comp=Z,11nm,1.4s
INK Inuvik 78.83 13 P P 07 56 18.9 +0.1
comp=Z,2.7nm,0.4s,baz=322,slow=3.2,SNR=29
INK Inuvik 78.83 13 *e*P P 07 56 19.0 +0.2
comp=Z,6.7nm,1.0s
RND Reindeer 78.94 21 *e*P P 07 56 19.5 -0.1
comp=Z,5.8nm,0.8s
RND Reindeer 78.94 21 *e*P P 07 56 19.5 -0.1
RND pmax pmax
comp=Z,6.0nm,0.8s
BOSA Boshof 79.18 228 P P 07 56 20.5 -0.9
comp=Z,6.2nm,0.7s,baz=52,slow=5.3,SNR=10
CTAO Charters Tower 79.47 120 *e*P P 07 56 23.5 +0.5
comp=Z,7.1nm,0.8s
CTAO Charters Tower 79.47 120 *e*P P 07 56 23.5 +0.5
CTAO pmax pmax
comp=Z,7.0nm,0.8s
DHY Denali Highway 79.64 20 *e*P P 07 56 24.2 +0.7
comp=Z,5.7nm,0.8s
SUA Susitna One 79.74 23 *e*P P 07 56 24.5 +0.4
comp=Z,18nm,0.9s
EPYK Eagle Plains 79.82 15 *e*P P 07 56 24.1 -0.2
comp=Z,10nm,0.8s
RIDG Independ'e Rid 79.88 19 *e*P P 07 56 24.8 +0.1
comp=Z,16nm,0.8s
SCRK Sand Creek 79.94 19 *e*P P 07 56 25.7 +0.6
comp=Z,14nm,0.9s
DOT Dot Lake 80.17 19 *e*P P 07 56 22.6 -3.6
comp=Z,16nm,0.8s
PMR Palmer 80.18 22 *e*P P 07 56 26.8 +0.5
comp=Z,11nm,0.9s
PMR Palmer 80.18 22 *e*P P 07 56 26.8 +0.5
PMR pmax pmax
comp=Z,11nm,0.9s
SML Sawmill 80.28 22 *e*P P 07 56 27.7 +0.8
comp=Z,27nm,0.9s
SML Sawmill 80.28 22 *e*P P 07 56 27.7 +0.8
SML pmax pmax
comp=Z,27nm,0.9s
KNK Knik Glacier 80.53 22 *e*P P 07 56 28.9 +0.6
comp=Z,11nm,0.8s
SCM Sheep Creek Mo 80.58 21 *e*P P 07 56 28.6 0.0
comp=Z,48nm,1.5s
SCM Sheep Creek Mo 80.58 21 *e*P P 07 56 28.6 0.0
SCM pmax pmax
comp=Z,48nm,1.5s
HARP HAARP 80.81 20 *e*P P 07 56 31.4 +1.6
comp=Z,44nm,0.9s
DAWY Dawson 81.09 17 *e*P P 07 56 31.5 +0.3
comp=Z,12nm,1.1s
KLU Klutina 81.28 21 *e*P P 07 56 33.4 +1.1
comp=Z,6.3nm,0.8s
KDAK Kodiak Island 81.69 26 *i* P P 07 56 34.9 +0.5
STKA Stephens Creek 83.58 132 P P 07 56 42.9 -1.7
comp=Z,1.1nm,0.4s,baz=328,slow=4.5,SNR=5.8
STKA LR LR 08 37 50.6
comp=Z,50nm,20.7s,baz=232,slow=38
STKA Stephens Creek 83.58 132 *e*P P 07 56 42.9 -1.7
comp=Z,2.4nm,1.4s
DBIC Dimbokro 83.75 274 P P 07 56 46.4 +0.5
comp=Z,12nm,0.6s,baz=49,slow=6.9,SNR=16
DBIC Dimbokro 83.75 274 *e*P P 07 56 46.4 +0.5
comp=Z,19nm,0.9s
KIC Kosan Boka 83.80 274 *e*P P 07 56 46.5 +0.3
comp=Z,41nm,1.0s
TIC Toumodi 83.91 274 *e*P P 07 56 47.0 +0.3
LIC Lamto 84.11 274 *e*P P 07 56 47.9 +0.1
comp=Z,30nm,0.7s
HYT Haines Junctio 84.27 18 *e*P P 07 56 49.2 +1.3
comp=Z,13nm,0.8s
WHY Whitehorse 85.10 17 *e*P P 07 56 52.4 +0.3
comp=Z,8.5nm,0.9s
SKAG Skagway 86.01 18 *e*P P 07 56 58.0 +1.5
comp=Z,22nm,1.0s
YKW3 Yellowknife Ar 87.11 7 *e*P P 07 57 01.0 -0.8
comp=Z,9.3nm,1.3s
YKA Yellowknife Ar 87.17 7 P P 07 57 01.4 -0.7
comp=Z,1.4nm,0.5s,baz=342,slow=5.0,SNR=22
YKB5 Yellowknife Ar 87.17 7 *e*P P 07 57 01.4 -0.7
DLBC Dease Lake 88.26 16 *e*P P 07 57 08.7 +1.2
comp=Z,24nm,1.5s
SCHQ Schefferville 91.54 342 P P 07 57 22.6 -0.2
comp=Z,4.1nm,0.7s,baz=333,slow=4.5,SNR=5.9
SCHQ Schefferville 91.54 342 *e*P P 07 57 22.6 -0.2
comp=Z,11nm,1.3s
PD31 Pinedale Array 107.12 9 *e*PKiKP **PKiKP 08 02 42.0 -0.8**
PDAR Pinedale Array 107.12 9 PKiKP **PKiKP 08 02 42.0 -0.8**
comp=Z,0.4nm,0.5s,baz=74,slow=3.4,SNR=8.9
NV01 Mina Array Sit 109.67 17 *e*PKiKP **PKiKP 08 02 48.1 +0.5**
NVAR Mina Array Bea 109.67 17 PKiKP **PKiKP 08 02 48.1 +0.5**
comp=Z,0.4nm,0.5s,baz=277,slow=2.4,SNR=2.8
VNDA Vanda 116.69 166 PKP **PKPdf 08 02 58.0 -1.4**
comp=Z,0.7nm,0.9s,baz=274,slow=5.9,SNR=4.7
VNDA Vanda 116.69 166 PKIKP **PKPdf 08 02 58.0 -1.4**
VNDA pmax pmax
comp=Z,1.0nm,0.9s
MNTX Cornudas Mount 118.54 7 *e*PKPdf **PKiKP 08 03 05.0 +0.4**
JCT Junction City 120.11 1 *e*PKPdf **PKPdf 08 03 07.5 0.0**
LTX Lajitas 121.05 5 *e*PKPdf **PKPdf 08 03 07.3 -2.2**
LTX Lajitas 121.05 5 *e*PKIKP **PKPdf 08 03 07.3 -2.2**
TX31 Lajitas Ar. Si 121.05 5 *e*PKPdf **PKPdf 08 03 09.4 -0.1**
TX31 *e*PKPdf **PKiKP 08 03 09.8 +0.2**
TXAR Lajitas Array 121.05 5 PKP **PKPdf 08 03 07.3 -2.2**
comp=Z,0.7nm,0.4s,baz=220,slow=0.6,SNR=14
SDV Santo Domingo 133.28 321 PKP **PKPdf 08 03 31.1 -2.2**
comp=Z,3.3nm,0.6s,baz=99,slow=7.0,SNR=7.3
PTGA Pitinga 133.51 301 PKP **PKPdf 08 03 33.1 -0.3**
baz=128,slow=19,SNR=1.3
CPUP Villa Florida 143.81 265 PKP PKPab 08 03 49.2 +0.4
comp=Z,8.1nm,0.7s,baz=67,slow=2.9,SNR=29
CPUP Villa Florida 143.81 265 *e*PKPdf PKPab 08 03 49.4 +0.6
OTAV Otavalo 144.70 324 *e*PKPdf **PKPdf 08 03 54.1 -0.3**
OTAV Otavalo 144.70 324 *e*PKIKP **PKPdf 08 03 54.1 -0.3**
TRQA Tornquist 148.88 245 *e*PKPbc **PKPbc 08 04 04.7 +0.6**
LPAZ La Paz 149.28 289 PKP **PKPdf 08 04 01.9 -0.2**
comp=Z,6.4nm,0.9s,baz=14,slow=6.0,SNR=12
LPAZ PKPbc **PKPbc 08 04 06.5 0.0**
comp=Z,7.1nm,0.9s,baz=39,slow=5.2,SNR=19
LPAZ La Paz 149.28 289 *e*PKPdf **PKPdf 08 04 03.1 +1.0**
MNMC Minye Minye 151.89 285 *e*PKPbc **PKPbc 08 04 12.2 +0.1**
PB11 IPOC Station P 152.22 284 *e*PKPdf **PKPdf 08 04 06.1 +0.1**
LVC Limon Verde 152.74 278 *e*PKPbc **PKiKP 08 04 15.1 +0.8**
GO02 Mina Guanaco 154.15 273 *e*PKPab **PKPab 08 04 31.5 +0.7**
PLCA Paso Flores 154.91 237 PKP **PKPdf 08 04 09.1 -0.1**
comp=Z,2.3nm,0.9s,baz=87,slow=6.4,SNR=3.5
PLCA PKPbc **sPKPdf 08 04 18.1 +0.5**
comp=Z,2.1nm,0.7s,baz=12,slow=2.7,SNR=7.2

IDC 09 07:44:21.3±2.7, 54°.05N×86°.50E, h0km, mb1 3.0/2, mb1mx3.0/43, mbtmp3.0/2, ML2.9/2, Error ellipse: s-maj=23.6km s-min=13.8km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**265**	*i*			07 50 00.0	
baz=85,slow=357,SNR=2.5								
ZALV	**Zalesovo Beam**	**1.00**	**265**	Pg	Pg		07 44 38.8	-1.6
1.3nm,0.3s,baz=81,slow=18,SNR=17								
ZALV				Lg	Lg		07 44 55.2	
2.1nm,0.3s,baz=98,slow=29,SNR=7.8								
ZALV				Rg	Rg		07 45 01.2	
2.4nm,0.5s,baz=92,slow=30,SNR=8.5								
KURBB	**Kurchatov Arra**	**5.97**	**238**	Pn	Pn		07 45 51.7	+0.9
0.2nm,0.3s,baz=55,slow=13,SNR=3.0								
MKAR	**Makanchi Array**	**7.74**	**202**	Pn	Pn		07 46 16.4	+1.1
0.3nm,0.3s,baz=24,slow=14,SNR=18								

*NIED **09** 07:46:00.40°.10N×142°.20E, h32km, Mw3.4 Best double couple: M₀1.63000×10¹⁴ NP1:φ₀189.00000°, δ33.00000°, λ61.00000°. NP2:φ₀42.00000°, δ61.00000°, λ108.00000°.*

JMA 09 07:46:32.3±0.1, 40°.09N×142°.23E, h43km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.32**	**242**	P		Pn	07 46 41.2	+0.2
JTH				S		Sn	07 46 47.3	+0.2
JKEN	**Kujiedanarisaw**	**0.41**	**286**	P		Pn	07 46 41.9	-0.2
JKEN				S		Sn	07 46 48.7	-0.3
MIYJ	**Miyakonagasawa**	**0.60**	**212**	P		Pn	07 46 44.3	-0.2
MIYJ				*e*S		Sn	07 46 52.6	-0.6
JANG	**Nango**	**0.62**	**298**	P		Pn	07 46 44.6	-0.1
JANG				S		Sn	07 46 53.2	-0.4
JKZ	**Kuzumaki**	**0.70**	**262**	P		Pn	07 46 46.1	+0.3
JKZ				S		Sn	07 46 55.8	+0.2
JOM	**Ohasama**	**0.95**	**230**	P		Pn	07 46 49.4	+0.2
JOM				*e*S		Sn	07 47 01.9	+0.3
OFUJ	**Ofunato**	**1.10**	**203**	P		Pn	07 46 51.0	-0.2
JTM	**Tenmabayashi**	**1.13**	**309**	P		Pn	07 46 51.9	+0.3
JAH	**Hinai**	**1.23**	**275**	P		Pn	07 46 53.6	+0.6
JAH				S		Sn	07 47 08.5	+0.2

IDC 09 07:49:33.6±10.0, 17°.77S×67°.89E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/48, mbtmp3.7/4, Error ellipse: s-maj=332.0km s-min=35.2km az=66.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**49.99**	**13**	P		P	07 58 29.9	+0.3
0.5nm,0.7s,baz=188,slow=6.5,SNR=3.7								
ZALV	**Zalesovo Beam**	**57.28**	**12**	P		P	07 59 22.6	-0.4
1.1nm,0.7s,baz=210,slow=8.3,SNR=4.3								
SONM	**Songino Array**	**59.71**	**29**	P		P	07 59 40.0	-0.2
0.8nm,0.7s,baz=229,slow=6.6,SNR=3.6								
WRA	**Warramunga Arr**	**67.29**	**111**	P		P	08 00 30.8	0.0
0.4nm,0.8s,baz=286,slow=5.7,SNR=2.8								

IDC 09 07:55:27.5±2.8, 53°.87N×86°.71E, h0km, mb1 2.8/2, mb1mx2.8/72, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=22.2km s-min=13.3km az=72.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.12**	**275**	*i*			08 03 20.0	
baz=91,slow=345,SNR=1.7								
ZALV	**Zalesovo Beam**	**1.12**	**275**	Pg		Pg	07 55 48.4	-0.6
0.4nm,0.3s,baz=94,slow=17,SNR=4.9								
ZALV				Lg		Lg	07 56 03.8	
2.7nm,0.3s,baz=96,slow=30,SNR=24								
KURBB	**Kurchatov Arra**	**5.98**	**240**	Pn		Pn	07 56 59.2	+2.0
0.1nm,0.3s,baz=56,slow=14,SNR=4.2								
KURBB				Lg		Lg	07 58 36.6	
0.0nm,0.3s,baz=58,slow=33,SNR=4.5								
MKAR	**Makanchi Array**	**7.63**	**204**	Pn		Pn	07 57 20.0	+0.1
0.1nm,0.3s,baz=28,slow=12,SNR=3.4								
MKAR				Lg		Lg	07 59 31.7	
0.0nm,0.3s,baz=21,slow=29,SNR=4.6								

IDC 09 07:56:25.3±3.0, 2°.05S×67°.48E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.6/63, mbtmp4.0/6, MS4.0/2, Ms1 4.0/2, ms1mx2.9/50, Error ellipse: s-maj=69.4km s-min=56.7km az=169.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**37.06**	**55**	P		P	08 03 37.4	-0.1
0.9nm,0.3s,baz=240,slow=10,SNR=5.7								
LSZ	**Lusaka**	**40.91**	**249**	LR		LR	08 19 41.6	
comp=Z,134nm,18.3s,baz=68,slow=34								
AAK	**Ala-Archa**	**44.93**	**7**	P		P	08 04 42.2	0.0
1.6nm,0.9s,baz=193,slow=11,SNR=3.9								
MKAR	**Makanchi Array**	**50.36**	**13**	P		P	08 05 23.6	-0.6
1.4nm,0.8s,baz=187,slow=6.6,SNR=9.0								
KURBB	**Kurchatov Arra**	**53.32**	**9**	P		P	08 05 46.4	+0.2
2.4nm,0.9s,baz=204,slow=7.9,SNR=9.3								
ZALV	**Zalesovo Beam**	**57.64**	**12**	P		P	08 06 16.9	-0.3
2.3nm,0.7s,baz=210,slow=8.3,SNR=5.4								
SONM	**Songino Array**	**60.16**	**29**	P		P	08 06 35.2	+0.2
2.0nm,0.9s,baz=221,slow=5.6,SNR=10.0								
JHJ	**Hachijo jima 2**	**76.37**	**55**	LR		LR	08 41 23.4	
comp=Z,151nm,21.7s,baz=36,slow=35								
TXAR	**Lajitas Array**	**151.59**	**344**	PKPbc		PKPbc	08 16 22.3	-0.2
0.6nm,0.9s,baz=20,slow=2.9,SNR=3.6								

IDC 09 08:01:27.4±39.0, 2°.31S×67°.06E, h0km, mb3.7/4, mb1 3.7/4, mb1mx3.3/61, mbtmp3.7/4, Error ellipse: s-maj=843.6km s-min=176.9km az=32.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**5.60**	**136**	T		T	08 08 10.2	
baz=322,slow=74,SNR=5.8								
H08N3	**Diego Garcia H**	**5.61**	**136**	T		T	08 08 15.2	
baz=322,slow=74,SNR=27								
H08N1	**Diego Garcia H**	**5.62**	**136**	T		T	08 08 14.4	
baz=322,slow=75,SNR=25								
MKAR	**Makanchi Array**	**50.70**	**13**	P		P	08 10 28.5	-0.3
0.2nm,0.5s,baz=193,slow=5.9,SNR=2.1								
KURBB	**Kurchatov Arra**	**53.64**	**9**	P		P	08 10 51.0	+0.4
0.7nm,0.9s,baz=204,slow=7.6,SNR=3.2								
ZALV	**Zalesovo Beam**	**57.98**	**12**	P		P	08 11 21.1	-0.6
0.7nm,0.6s,baz=203,slow=9.4,SNR=3.5								
SONM	**Songino Array**	**60.59**	**29**	P		P	08 11 40.1	+0.1
0.4nm,0.8s,baz=231,slow=6.7,SNR=3.8								

WEL 09 08:02:32.6, 38°.5S×170°.9E, h27km±1km, ML4.3/19, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CNGZ	**Carnagh Statio**	**0.02**	**63**	P		Pb	08 02 37.3	+0.2
CNGZ				S		Sb	08 02 42.8	+2.6
TKGZ	**Te Karaka**	**0.27**	**282**	P		Pb	08 02 39.1	-0.1
TKGZ				S		Sn	08 02 45.0	-0.9
TWGZ	**Tauwhareparae**	**0.35**	**334**	P		Pb	08 02 40.8	+0.2
RIGZ	**Rimuhau**	**0.39**	**237**	P		Pb	08 02 41.7	+0.5
RIGZ				S		Sn	08 02 49.8	+0.7
PUZ	**Puketiti**	**0.43**	**8**	P		Pb	08 02 42.0	+0.2
PRGZ	**Paritu Road**	**0.49**	**208**	P		Pn	08 02 43.3	-0.5
PRGZ				S		Sn	08 02 53.2	+1.8
MWZ	**Matawai**	**0.54**	**287**	P		Pb	08 02 43.2	-0.3
MWZ				S		Sb	08 02 51.7	+0.8
RAGZ	**Rawiri**	**0.60**	**270**	P		Pb	08 02 44.7	+0.1
PKGZ	**Pakihiroa**	**0.61**	**352**	P		Pb	08 02 45.0	+0.2
PKGZ				S		Sn	08 02 55.0	+0.4
KNZ	**Kokohu**	**0.66**	**217**	P		Pb	08 02 45.3	-0.2
RUGZ	**Raukumara Rang**	**0.66**	**323**	P		Pb	08 02 45.2	-0.4
MHGZ	**Mahia Peninsul**	**0.69**	**198**	P		Pn	08 02 46.5	-0.1
WMGZ	**Waiomatatini S**	**0.70**	**15**	P		Pn	08 02 46.5	-0.2
SNGZ	**Shannon Statio**	**0.72**	**246**	P		Pb	08 02 46.5	0.0
HAZ	**Te Kaha**	**0.80**	**337**	P		Pb	08 02 47.3	-0.6
URZ	**Urewera**	**0.87**	**285**	P		Pn	08 02 48.6	-0.5
MXZ	**Matakaoa Point**	**0.94**	**6**	P		Pn	08 02 50.0	0.0
WHHZ	**Waihua**	**0.94**	**232**	P		Pn	08 02 49.7	-0.3
RTZ	**Ruatahuna**	**0.95**	**262**	P		Pn	08 02 49.8	-0.4
RAHZ	**Arahi**	**0.95**	**243**	P		Pb	08 02 50.9	+0.4
MUGZ	**Murupara**	**1.11**	**270**	P		Pn	08 02 52.4	+0.1
MTHZ	**Maungataniwha**	**1.11**	**251**	P		Pn	08 02 52.4	+0.1
MTHZ				S		Pn	08 02 52.4	0.0
WHRZ	**Whale Island**	**1.14**	**304**	P		Pn	08 02 53.1	+0.3
EDRZ	**Edgecumbe**	**1.20**	**288**	P		Pn	08 02 53.7	+0.1
ARHZ	**Aropaoanui**	**1.20**	**230**	P		Pn	08 02 53.9	+0.3
NMHZ	**Naumai**	**1.23**	**240**	P		Pn	08 02 53.9	-0.2
MARZ	**Manawahe**	**1.29**	**293**	P		Pn	08 02 54.7	-0.1
RRRZ	**Republican Roa**	**1.32**	**276**	P		Pn	08 02 55.6	+0.4
TARZ	**Mount Tarawera**	**1.34**	**281**	P		Pn	08 02 56.0	+0.4
MKRZ	**Makatiti**	**1.39**	**284**	P		Pb	08 02 57.5	-0.5
PRRZ	**Plateau Road**	**1.40**	**269**	P		Pn	08 02 56.4	0.0
OPRZ	**Ohinepanea**	**1.44**	**296**	P		Pn	08 02 56.3	-0.5
ALRZ	**Allen Road**	**1.44**	**267**	P		Pn	08 02 57.2	+0.2
CKHZ	**Cape Kidnapper**	**1.44**	**216**	P		Pn	08 02 55.9	-1.1

HLRZ	Highlands Stat	1.46	279	P	Pn	08 02 57.6	+0.4
OMRZ	Omania	1.47	285	P	Pn	08 02 57.3	-0.1
BKZ	Black Stump Fm	1.48	243	P	Pn	08 02 57.1	-0.3
HRRZ	Handcock Road	1.49	273	P	Pn	08 02 58.0	+0.4
MCHZ	McNeill Hill	1.50	230	P	Pn	08 02 57.2	-0.4
HSRZ	Hossack Road	1.53	276	P	Pn	08 02 58.8	+0.6
WPRZ	Whakapapatarin	1.58	268	P	Pn	08 02 59.6	+0.7
UTU	Utuhina	1.59	281	P	Pn	08 02 59.9	+0.9
KARZ	Kaharoa	1.60	287	P	Pn	08 02 58.8	-0.3
NGRZ	Ngongotaha	1.62	283	P	Pn	08 02 59.8	+0.4
GRRZ	Galatos Road	1.63	274	P	Pn	08 03 00.0	+0.5
KAHZ	Kahuranaki	1.65	218	P	Pn	08 02 58.6	-1.2
KWHZ	Kaweka Forest	1.66	235	P	Pn	08 02 59.6	-0.3
HATZ	Hinemaiaia	1.68	256	P	Pn	08 03 01.2	+1.0
TGRZ	Tauranga	1.70	296	P	Pn	08 02 59.9	-0.5
PXZ	Pawanui	1.84	213	P	Pn	08 03 01.7	-0.7
KUTZ	Kaahu Road	1.85	269	P	Pn	08 03 02.7	+0.1
RITZ	Rihia Road	1.88	254	P	Pn	08 03 04.2	+1.3
KMRZ	Kaimai	1.88	289	P	Pn	08 03 02.4	-0.6
RATZ	Rangitukua	1.92	258	P	Pn	08 03 04.6	+1.1
BHHZ	Black Hill Sta	1.93	238	P	Pn	08 03 03.0	-0.6
KATZ	Kakaramea	2.00	255	P	Pn	08 03 06.0	+1.3
WPHZ	Waipukurau	2.07	220	P	Pn	08 03 04.7	-0.8
KRVZ	Karewarewa	2.07	252	P	Pn	08 03 05.7	0.0
TLZ	Tolley Road	2.08	274	P	Pn	08 03 05.7	0.0
PNHZ	Pukenui	2.09	227	P	Pn	08 03 04.8	-1.1
MOVZ	Moawhango	2.10	244	P	Pn	08 03 06.6	+0.6
WTVZ	West Tongariro	2.12	252	P	Pn	08 03 07.3	+1.0
NGZ	Ngauruhoe	2.12	251	P	Pn	08 03 07.0	+0.5
PRHZ	Porangahau	2.14	214	P	Pn	08 03 05.3	-1.2
COVZ	Chateau Observ	2.18	250	P	Pn	08 03 08.2	+1.1
FWVZ	Far West T-bar	2.19	249	P	Pn	08 03 08.1	+0.8
TWVZ	Taurewa	2.22	254	P	Pn	08 03 08.2	+0.5
TOZ	Tahuroa Road	2.25	289	P	Pn	08 03 07.4	-0.5
TSZ	Takapari Road	2.33	227	P	Pn	08 03 07.1	-1.9
PKVZ	Pokaka	2.35	249	P	Pb	08 03 18.6	+4.3
ANWZ	Angora Road	2.37	213	P	Pn	08 03 08.9	-0.7
DVHZ	Dannevirke	2.38	220	P	Pn	08 03 08.1	-1.8
HIZ	Hauiti	2.61	269	P	Pn	08 03 13.4	+0.4
KUZ	Kuaotunu	2.62	311	P	Pn	08 03 12.0	-1.1
BFZ	Birch Farm	2.65	214	P	Pn	08 03 10.9	-2.6
BFZ				S	Sn	08 03 42.4	-2.3
POWZ	Post Office Ro	2.66	224	P	Pn	08 03 13.0	-0.6
PRWZ	Pori Road	2.67	219	P	Pn	08 03 12.2	-1.7
VRZ	Vera Road	2.75	256	P	Pn	08 03 15.1	+0.2
MKAZ	Moumakai	2.77	299	P	Pn	08 03 14.5	-0.5
WAZ	Wanganui	2.79	242	P	Pn	08 03 16.3	+0.9
MRZ	Mangatainoka R	2.95	222	P	Pn	08 03 14.9	-2.8
MRZ				S	Sn	08 03 49.2	-3.0
KBAZ	Karaka Road Bo	2.96	297	P	Pn	08 03 18.4	+0.7
ETAZ	East Tamaki Re	3.00	300	P	Pn	08 03 18.5	+0.1
GRZ	Great Barrier	3.12	315	P	Pn	08 03 19.4	-0.5
AWAZ	Awhitu Peninsu	3.15	296	P	Pn	08 03 20.6	+0.3
TMWZ	Te Maipa	3.15	213	P	Pn	08 03 17.6	-2.8
HOWZ	Holdsworth Sta	3.16	220	P	Pn	08 03 17.8	-2.8
HOWZ				S	Sn	08 03 53.8	-3.5
EPAZ	Eden Park BICE	3.17	300	P	Pn	08 03 21.0	+0.4
OGWZ	Otaki Gorge	3.28	224	P	Pn	08 03 19.4	-2.8
OGWZ				S	Sn	08 03 57.0	-3.4
RVAZ	Riverhead Bore	3.34	300	P	Pn	08 03 23.6	+0.6
KHEZ	Kahui Hut	3.35	255	P	Pn	08 03 24.8	+1.6
PKE	Pukeiti	3.35	257	P	Pn	08 03 24.2	+1.1
MTW	Mount Morrison	3.37	217	P	Pn	08 03 20.2	-3.1
CAW	Cannon Point	3.54	222	P	Pn	08 03 23.5	-2.3
PLWZ	Palliser	3.80	215	P	Pn	08 03 25.8	-3.6
WCZ	Waipu Caves	3.98	309	P	Pn	08 03 32.0	+0.1
DUWZ	D'Urville Isla	4.01	234	P	Pn	08 03 30.1	-2.2
TUWZ	Tuamarina	4.38	227	P	Pn	08 03 28.9	-8.4
QRZ	Quartz Range	4.94	240	P	Pn	08 03 41.7	-3.3
THZ	Tophouse	5.20	229	P	Pn	08 03 45.3	-3.2
DSZ	Denniston Nort	5.87	234	P	Pn	08 03 51.5	-6.2
LTZ	Lake Taylor	6.21	225	P	Pn	08 03 58.2	-4.2

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*IDC **09** 08:02:41.4±1.6, 10°.56S×119°.95E, h0km, mb3.9/3, mb1 3.9/7, mb1mx3.6/52, mbtmp3.8/7, ML3.6/4, Error ellipse: s-maj=61.8km s-min=20.9km az=48.0*
*ISCJB **09** 08:02:45.3±0.7, 10°.56S±0°.05×120°.25E±0°.05, h30km, mb3.9/3, Error ellipse: s-maj=7.4km s-min=6.7km az=145.2*
*DJA **09** 08:02:48.1±0.7, 10°S±4°×12°0E±°, h15km±3km, M3.8/7, MLv3.8/7*
ISC 09 08:02:45.8±0.9**, 10°.54S**±0°.06×**120°.18E**±0°.05**, h30km, n12, σ2.s32**/18**, mb4.0**/3**, Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BASI	Baing, Sumba	0.51	51	P	Pb	08 02 56.3	-0.1
BASI				S	Sb	08 03 00.9	-2.7
WSI	Waingapu	0.87	8	P	Pb	08 03 03.4	+1.0
WSI				S	Sb	08 03 11.8	-2.0
EDFI	Ende, Flores	2.32	40	P	Pn	08 03 22.7	+0.6
EDFI				S	Sn	08 03 49.4	-0.3
PLAI	Plampang	2.91	306	P	Pn	08 03 32.7	+2.6
PLAI				S	Sb	08 04 08.5	-3.8
BATI	Baumata	3.45	85	Pn	Pn	08 03 40.0	+2.5
	19nm,0.3s,baz=88,slow=2.0,SNR=5.2						
BATI				Sn	Sn	08 04 19.9	+2.5
	15nm,0.3s,baz=254,slow=18,SNR=4.1						
BATI	Baumata	3.45	85	P	Pn	08 03 40.4	+2.9
FITZ	Fitzroy Crossi	9.19	145	Pn	Pn	08 04 57.1	+0.7
	0.5nm,0.3s,baz=336,slow=10,SNR=7.0						
FITZ				Sn	Sn	08 06 34.2	-4.6
	1.1nm,0.3s,baz=178,slow=18,SNR=8.7						
WRA	Warramunga Arr	16.55	126	Pn	Pn	08 06 35.1	-0.7
	0.1nm,0.3s,baz=304,slow=14,SNR=10.0						
WRA				Sn	Sn	08 09 25.4	-13
	0.2nm,0.3s,baz=291,slow=24,SNR=5.6						
ASAR	Alice Springs	18.49	137	P	Pn	08 07 01.5	+1.6
	0.1nm,0.3s,baz=316,slow=12,SNR=16						
SONM	Songino Array	59.39	349	P	P	08 12 46.0	+0.5
	1.4nm,0.7s,baz=164,slow=8.8,SNR=11						
MKAR	Makanchi Array	66.35	333	P	P	08 13 32.1	+0.4
	0.4nm,0.5s,baz=142,slow=6.6,SNR=5.3						
ZALV	Zalesovo Beam	70.88	339	P	P	08 13 58.6	-1.2
	0.6nm,0.4s,baz=144,slow=3.7,SNR=3.3						

IDC 09 08:04:27.5±5.4**, 53°.64N**×**91°.06E, h0km, mb1 2.9**/3**, mb1mx2.8**/63**, mbtmp2.9**/3**, ML2.3**/3**, Error ellipse: s-maj=56.4km s-min=38.7km az=62.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.71	277	*i*		08 29 30.0	
	baz=92,slow=353,SNR=2.2						
ZALV	Zalesovo Beam	3.71	277	Pn	Pn	08 05 28.1	+2.0
	0.4nm,0.3s,baz=94,slow=10,SNR=4.3						
ZALV				Lg	Lg	08 06 20.8	
	0.7nm,0.3s,baz=89,slow=27,SNR=5.9						
KURBB	Kurchatov Arra	8.28	254	Pn	Pn	08 06 27.9	-0.9
	0.1nm,0.3s,baz=66,slow=15,SNR=3.1						
KURBB				Lg	Lg	08 08 50.2	
	0.1nm,0.3s,baz=67,slow=33,SNR=2.9						
MKAR	Makanchi Array	8.86	223	Pn	Pn	08 06 37.7	+1.0
	0.1nm,0.3s,baz=31,slow=12,SNR=6.2						
I34MN	SONGINO INFRAS	11.34	115	*i*		09 11 00.0	
	baz=309,slow=339,SNR=0.5						

WEL 09 08:08:02.6, 38°.5S±0°.9×**17°8E**±°**, h25km**±1km**, ML3.6**/18**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNGZ	Carnagh Statio	0.03	73	P	Pb	08 08 07.3	+0.5
CNGZ				S	Sb	08 08 12.7	+2.9
TKGZ	Te Karaka	0.26	281	P	Pb	08 08 09.0	0.0
TKGZ				S	Sb	08 08 14.7	+1.2
TWGZ	Tauwhareparae	0.35	334	P	Pb	08 08 10.7	+0.3
RIGZ	Rimuhau	0.39	236	P	Pb	08 08 11.5	+0.5
RIGZ				S	Sn	08 08 19.5	+0.2
PUZ	Puketiti	0.42	9	P	Pb	08 08 11.9	+0.4
PRGZ	Paritu Road	0.49	208	P	Pb	08 08 13.3	+0.6
PRGZ				S	Sn	08 08 23.0	+1.3
MWZ	Matawai	0.53	287	P	Pb	08 08 13.1	-0.3
MWZ				S	Sb	08 08 21.5	+0.8
RAGZ	Rawiri	0.60	269	P	Pb	08 08 14.5	0.0
RAGZ				S	Sn	08 08 24.3	-0.2
PKGZ	Pakihiroa	0.61	353	P	Pb	08 08 15.0	+0.3
PKGZ				S	Sn	08 08 24.9	+0.2
RUGZ	Raukumara Rang	0.66	323	P	Pb	08 08 15.0	-0.5
RUGZ				S	Sb	08 08 24.9	+0.6
KNZ	Kokohu	0.66	216	P	Pb	08 08 15.2	-0.3
MHGZ	Mahia Peninsul	0.69	198	P	Pb	08 08 16.2	+0.1
WMGZ	Waiomatatini S	0.70	16	P	Pn	08 08 16.6	-0.2
SNGZ	Shannon Statio	0.72	246	P	Pb	08 08 16.4	-0.1
SNGZ				S	Sn	08 08 28.0	+0.6
HAZ	Te Kaha	0.80	337	P	Pb	08 08 17.2	-0.6
URZ	Urewera	0.87	285	P	Pb	08 08 18.5	-0.5
MXZ	Matakaoa Point	0.93	6	P	Pb	08 08 20.1	0.0
WHHZ	Waihua	0.94	231	P	Pb	08 08 20.6	+0.3
RTZ	Ruatahuna	0.95	262	P	Pn	08 08 19.7	-0.6
RAHZ	Arahi	0.95	243	P	Pb	08 08 20.8	+0.3
MUGZ	Murupara	1.10	270	P	Pn	08 08 22.3	-0.1
MTHZ	Maungataniwha	1.11	251	P	Pb	08 08 22.9	-0.1
WHRZ	Whale Island	1.14	303	P	Pb	08 08 23.4	-0.3
EDRZ	Edgecumbe	1.19	288	P	Pn	08 08 23.6	-0.2
ARHZ	Aropaoanui	1.20	230	P	Pn	08 08 23.8	0.0
NMHZ	Naumai	1.23	240	P	Pb	08 08 26.6	+1.4
MARZ	Manawahe	1.29	293	P	Pn	08 08 25.4	+0.4
TARZ	Mount Tarawera	1.34	280	P	Pn	08 08 25.9	+0.2
PRRZ	Plateau Road	1.40	269	P	Pn	08 08 26.7	+0.2
OPRZ	Ohinepanea	1.43	296	P	Pn	08 08 26.1	-0.9
ALRZ	Allen Road	1.44	267	P	Pn	08 08 27.4	+0.3
HLRZ	Highlands Stat	1.45	279	P	Pn	08 08 28.0	+0.7
BKZ	Black Stump Fm	1.48	242	P	Pn	08 08 27.3	-0.4
MCHZ	McNeill Hill	1.50	230	P	Pb	08 08 29.7	0.0
HSRZ	Hossack Road	1.53	276	P	Pn	08 08 28.7	+0.4
UTU	Utuhina	1.59	281	P	Pn	08 08 30.2	+1.1
KARZ	Kaharoa	1.59	287	P	Pn	08 08 28.6	-0.6
GRRZ	Galatos Road	1.63	274	P	Pn	08 08 30.0	+0.3
TGRZ	Tauranga	1.69	296	P	Pn	08 08 30.3	-0.2
RATZ	Rangitukua	1.92	258	P	Pn	08 08 34.9	+1.2
BHHZ	Black Hill Sta	1.93	238	P	Pn	08 08 32.9	-0.9
KRVZ	Karewarewa	2.07	252	P	Pn	08 08 37.2	+1.4

IDC 09 08:09:16.9±2.1**, 2°.07S**×**67°.67E, h0km, mb4.0**/7**, mb1 4.1**/7**, mb1mx3.6**/54**, mbtmp4.0**/7**, MS3.5**/3**, Ms1 3.5**/3**, ms1mx2.9**/49**, Error ellipse: s-maj=61.2km s-min=26.9km az=65.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.38	142	T	T	08 16 01.6	
	baz=325,slow=75,SNR=75						
H08N3	Diego Garcia H	5.39	142	T	T	08 15 55.2	
	baz=325,slow=75,SNR=65						
H08N1	Diego Carcia H	5.40	142	T	T	08 16 03.3	
	baz=325,slow=75,SNR=73						
OPO	Ambohidratompo	25.93	229	LR	LR	08 22 44.5	
	comp=Z,276nm,20.3s,baz=36,slow=31						
WSAR	Wadi Sarin	26.65	341	LR	LR	08 23 55.1	
	comp=Z,52nm,18.2s,baz=158,slow=33						
CMAR	Chiang Mai Arr	36.92	55	P	P	08 16 28.1	+0.3
	0.6nm,0.3s,baz=249,slow=9.9,SNR=5.2						
GEYT	Alibeck	40.77	348	LR	LR	08 33 30.7	
	comp=Z,44nm,19.0s,baz=285,slow=36						
MKAR	Makanchi Array	50.33	13	P	P	08 18 15.2	-0.3
	1.0nm,0.8s,baz=203,slow=8.9,SNR=7.1						
KURBB	Kurchatov Arra	53.30	9	P	P	08 18 37.2	-0.3
	1.2nm,0.6s,baz=208,slow=7.4,SNR=7.6						
ZALV	Zalesovo Beam	57.62	12	P	P	08 19 07.6	-1.0
	1.8nm,0.5s,baz=212,slow=7.4,SNR=7.1						
SONM	Songino Array	60.08	29	P	P	08 19 26.7	+0.7
	1.8nm,0.9s,baz=227,slow=7.3,SNR=9.8						
WRA	Warramunga Arr	67.39	111	P	P	08 20 14.6	-0.1
	1.3nm,1.0s,baz=281,slow=6.1,SNR=6.6						
ASAR	Alice Springs	67.44	115	P	P	08 20 14.7	-0.4
	0.7nm,0.9s,baz=266,slow=6.3,SNR=5.1						
TXAR	Lajitas Array	151.66	344	PKPbc	PKiKP	08 29 14.8	+0.2
	0.6nm,0.9s,baz=92,slow=2.9,SNR=4.3						

IDC 09 08:15:06.7±3.0**, 54°.38N**×**87°.06E, h0km, mb1 2.8**/2**, mb1mx2.8**/52**, mbtmp2.8**/2**, ML2.7**/2**, Error ellipse: s-maj=25.9km s-min=19.3km az=43.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.39	253	*i*		08 22 15.0	
	baz=72,slow=348,SNR=7.2						
ZALV	Zalesovo Beam	1.39	253	Pg	Pg	08 15 30.7	-2.6
	1.8nm,0.3s,baz=70,slow=16,SNR=13						
ZALV				Lg	Lg	08 15 52.2	
	1.5nm,0.3s,baz=70,slow=34,SNR=9.6						
KURBB	Kurchatov Arra	6.42	238	Pn	Pn	08 16 43.5	+1.1
	0.1nm,0.3s,baz=54,slow=14,SNR=5.1						
KURBB				Sn	Sn	08 17 54.7	-1.7
	0.0nm,0.3s,baz=64,slow=30,SNR=2.7						
MKAR	Makanchi Array	8.18	204	Pn	Pn	08 17 08.0	+1.4
	0.2nm,0.3s,baz=27,slow=14,SNR=5.8						
BVAR	Borovoye Array	9.98	269	Pn	Pn	08 17 34.0	+2.8
	0.1nm,0.3s,baz=93,slow=12,SNR=3.5						

IDC 09 08:15:12.5±2.1**, 2°.17S**×**67°.82E, h0km, mb4.0**/6**, mb1 4.2**/6**, mb1mx3.7**/52**, mbtmp4.0**/6**, MS3.6**/4**, Ms1 3.7**/4**, ms1mx3.1**/48**, Error ellipse: s-maj=59.9km s-min=28.7km az=66.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.21	143	T	T	08 21 58.4	
	baz=325,slow=75,SNR=248						
H08N3	Diego Garcia H	5.22	143	T	T	08 21 54.6	
	baz=325,slow=75,SNR=243						
H08N1	Diego Carcia H	5.23	143	T	T	08 22 00.1	
	baz=325,slow=75,SNR=251						
PALK	Pallekele	15.91	54	LR	LR	08 23 38.7	
	comp=Z,296nm,20.0s,baz=296,slow=32						
CMAR	Chiang Mai Arr	36.85	55	P	P	08 22 23.7	+0.8
	1.3nm,0.3s,baz=243,slow=11,SNR=5.9						
CMAR				LR	LR	08 35 40.8	
	comp=Z,88nm,18.5s,baz=224,slow=33						
AAK	Ala-Archa	45.00	7	LR	LR	08 41 13.6	
	comp=Z,35nm,21.1s,baz=162,slow=35						
MKAR	Makanchi Array	50.39	13	P	P	08 24 10.9	-0.7
	1.0nm,0.8s,baz=168,slow=6.2,SNR=8.7						
ZALV	Zalesovo Beam	57.68	12	P	P	08 25 03.7	-1.0
	1.8nm,0.7s,baz=217,slow=9.1,SNR=6.9						
SONM	Songino Array	60.09	29	P	P	08 25 22.2	+0.4
	2.0nm,0.9s,baz=214,slow=6.3,SNR=12						
WRA	Warramunga Arr	67.21	111	P	P	08 26 08.6	-0.7
	1.7nm,1.0s,baz=286,slow=5.7,SNR=5.7						
ASAR	Alice Springs	67.27	115	P	P	08 26 09.8	+0.2
	1.3nm,1.1s,baz=269,slow=5.0,SNR=4.2						
MA2	Magadan	88.27	30	LR	LR	09 08 58.3	
	comp=Z,62nm,18.7s,baz=282,slow=36						
TXAR	Lajitas Array	151.79	344	PKPbc	PKiKP	08 35 11.0	+0.4
	0.6nm,0.9s,baz=79,slow=2.7,SNR=5.1						

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*IDC **09** 08:19:22.2±2.2, 13°.39N×125°.61E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/45, mbtmp3.4/3, ML5.1/1, Error ellipse: s-maj=77.0km s-min=25.3km az=54.0*
*ISCJB **09** 08:19:27.1±1.2, 13°.11N±0°.09×124°.91E±0°.09, h44km, mb3.5/3, Error ellipse: s-maj=16.3km s-min=7.1km az=41.2*
*MAN **09** 08:19:33.5, 12°.33N×124°.24E, h11km, mb4.5, ML3.3, MS3.1*
ISC 09 08:19:28.2±1.4**, 13°.11N**±0°.10×**124°.8E**±0°.1**, h44km, n10, σ3.s09**/11**, mb3.5**/3**, 3C, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PVCP	Virac	0.76	309	*e*P	Pn	08 19 37.3	-5.4
PVCP				*e*S	Sn	08 19 49.1	-4.0
PLP	Palo	1.94	174⇑	*e*P	Pn	08 19 57.5	-1.3
PLP				*e*S	Sn	08 20 21.6	-0.4
AUQP	San Andres	2.04	276	*e*P	Pn	08 20 05.2	+5.0
AUQP				*e*S	Sn	08 20 27.9	+3.5
GQP	Guinayangan	2.39	290⇑	*e*P	Pn	08 20 04.2	-0.7
GQP				*e*S	Sn	08 20 28.9	-4.0
RCP	Roxas	2.50	232⇑	*e*P	Pn	08 20 03.2	-3.3
BOAC	Boac	2.86	277	*e*P	Pn	08 20 14.6	+3.2
BOAC				*e*S	Sn	08 20 48.4	+3.8
TGY	Tagaytay City	3.85	285	Pn	Pn	08 20 33.3	+8.3
	83nm,0.3s,baz=131,slow=9.3,SNR=2.7						
WRA	Warramunga Arr	34.17	164	P	P	08 26 10.3	+0.8
	0.7nm,1.0s,baz=344,slow=8.8,SNR=5.7						
ASAR	Alice Springs	37.63	166	P	P	08 26 39.2	+0.2
	0.4nm,0.5s,baz=348,slow=7.0,SNR=11						
MKAR	Makanchi Array	48.89	322	P	P	08 28 11.9	+2.2
	0.4nm,0.8s,baz=115,slow=8.7,SNR=3.7						

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*ATH **09** 08:24:40.7, 35°.92N×28°.25E, h25km±3km, ML2.4/2, Error ellipse: s-maj=5.2km s-min=1.7km az=18.0*
*ISK **09** 08:24:40.2, 35°.92N×28°.21E, h6km, ML2.8/9*
*DDA **09** 08:24:41.1, 35°.99N×28°.22E, h5km±2km, ML2.9*
ISC 09 08:24:41.1±1.3**, 35°.94N**±0°.04×**28°.21E**±0°.03**, h5km**±10km**, n26, σ0.s94**/35**, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.29	346	PG	Pg	08 24 46.2	-0.5
ARG				SG	Sg	08 24 51.8	+1.3
ARG	Arkhangelos	0.29	346	P	Pg	08 24 47.4	+0.7
ARG				S	Sb	08 24 53.8	-0.1
ARG				AML	AML	08 24 55.7	
	comp=E,1185μm,0.5s						
ARG				AML	AML	08 24 59.6	
	comp=N,1047μm,0.7s						
KARP	Karpathos	0.94	246	PG	Pg	08 24 58.6	-0.5
KARP	Karpathos	0.94	246	P	Pg	08 24 58.6	-0.5
KARP				AML	AML	08 25 18.4	
	comp=N,850μm,0.4s						
KARP				AML	AML	08 25 20.1	
	comp=E,602μm,0.3s						
DAT	Datca	0.94	327	PG	Pg	08 24 59.0	-0.2
DAT	Datca	0.94	327	IAML_P			
	comp=Z,529nm,0.2s						
DAT				*i* P	Pb	08 24 59.6	-0.3
DAT				*i* S	Sn	08 25 14.2	-0.8
DALY	Dalyan (Mula)	0.95	22	PG	Pg	08 24 59.0	-0.2
DALY	Dalyan (Mula)	0.95	22	IAML_P			
	comp=Z,1μm,0.3s						
DALY				*i* P	Pg	08 24 59.1	-0.2
DALY				*i* S	Sn	08 25 17.0	+2.1
TURN	Turunc	0.99	18	PG	Pg	08 24 56.9	-3.1
TURN	Turunc	0.99	18	*i* P	Pg	08 24 57.9	-2.1
FETY	Fethiye	0.99	45	PG	Pg	08 25 00.2	+0.1
FETY	Fethiye	0.99	45	*i* P	Pb	08 25 00.8	+0.1
FETY				*i* S	Sn	08 25 15.8	-0.2
KSL	Kastellorizon	1.13	79	P	Pg	08 25 02.2	-0.5
AKAS	Kas	1.17	75	PN	Pg	08 25 02.8	-0.6
BDRM	Kayabasi	1.29	331	IAML_P			
	comp=Z,3μm,0.4s						
BDRM				*i* P	Pg	08 25 05.9	+0.1
BDRM				*i* S	Sn	08 25 24.1	+0.7
BODT	Bodrum	1.34	327	PN	Pn	08 25 06.2	-0.2
ELL	Elmali	1.59	59	PN	Pn	08 25 09.9	-0.1
TAVA	DENIZLI_Tavas	1.63	20	IAML_P			
	comp=Z,1000nm,0.4s						
TAVA				*i* P	Pb	08 25 11.6	0.0
TAVA				*i* S	Sg	08 25 33.3	-0.1
GOLH	Golhisar	1.69	39	IAML_P			
	comp=Z,639nm,0.2s						
GOLH				*i* P	Pb	08 25 12.2	-0.5
GOLH				*i* S	Sg	08 25 37.1	+1.7
AYDN	Tasoluk	1.74	351	IAML_P			
	comp=Z,894nm,0.3s						
AYDN				*i* P	Pb	08 25 13.1	-0.5
AYDN				*i* S	Sg	08 25 36.6	-0.5
ANAF	Anafi Island	2.02	283	P	Pn	08 25 16.2	+0.4
AYDB	Zeytinkoy-Aydi	2.02	353	PN	Pn	08 25 15.9	0.0
KORT	Korkueli	2.02	58	PN	Pn	08 25 16.3	+0.4
SMG	Samos	2.09	328	P	Pn	08 25 16.4	-0.3
LAST	Lasithi	2.36	252	P	Pn	08 25 20.6	+0.1
KULA	Kula-Manisa	2.60	8	PN	Pn	08 25 24.1	+0.3

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*ISK **09** 08:29:30.0, 39°.66N×25°.53E, h5km, ML3.6/34*
*DDA **09** 08:29:30.7, 39°.67N×25°.60E, h25km±1km, ML3.5*
*BEO **09** 08:29:30.5±1.3, 39°.41N×25°.49E, h5km, ML2.9/2*
*ISCJB **09** 08:29:31.5±0.4, 39°.70N±0°.02×25°.59E±0°.02, h5km±3km, Error ellipse: s-maj=2.7km s-min=2.3km az=31.9*
*ATH **09** 08:29:31.4, 39°.70N×25°.61E, h28km±2km, ML3.4/3, Error ellipse: s-maj=2.6km s-min=1.3km az=227.0*
*THE **09** 08:29:32.2, 39°.71N×25°.63E, h10km±1km, ML3.1/12, Error ellipse: s-maj=1.5km s-min=0.7km az=76.0*
ISC 09 08:29:31.6±1.0**, 39°.69N**±0°.02×**25°.68E**±0°.02**, h13km**±8km**, n111, σ1.s07**/139**, 10C-5D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.33	61	PG	Pb	08 29 39.2	-0.2
BOZC	Bozcaada	0.33	61	IAML_P			
	comp=Z,34μm,0.2s						
BOZC				*i* P	Pb	08 29 39.4	0.0
GPNR	Gulpinar-Canak	0.42	123	PG	Pb	08 29 41.1	+0.2
LIA	Limnos Island	0.44	299	P	Pg	08 29 40.1	-0.3
LIA				S	Sg	08 29 45.7	-0.4
LIA				AML	AML	08 29 51.7	
	comp=E,2650μm,0.5s						
LIA				AML	AML	08 29 52.8	
	comp=N,4498μm,0.3s						
LIA	Limnos Island	0.44	299	P	Pg	08 29 40.0	-0.3
LIA				S	Sg	08 29 45.8	-0.4
SIGR	SIGRI	0.49	164	PG	Pg	08 29 40.8	-0.5
SIGR	SIGRI	0.49	164	P	Pb	08 29 41.7	-0.4
SIGR				S	Sb	08 29 49.2	0.0
SIGR				AML	AML	08 29 49.8	
	comp=E,17700μm,0.5s						
SIGR				AML	AML	08 29 50.0	
	comp=N,20457μm,0.6s						
SIGR	SIGRI	0.49	164	P	Pb	08 29 41.7	-0.4
SIGR				S	Sb	08 29 49.2	0.0
EZN	Ezine	0.52	74	PG	Pb	08 29 42.7	+0.1
EZN	Ezine	0.52	74⇓	*i*P	Pb	08 29 42.7	+0.1
EZN				S	Sb	08 29 50.4	+0.4
EZN	Ezine	0.52	74	P	Pb	08 29 42.6	0.0
EZN				S	Sb	08 29 50.4	+0.4
GADA	Gvkgeada	0.53	18	PG	Pb	08 29 42.6	-0.3
GADA	Gvkgeada	0.53	18	P	Pb	08 29 42.5	-0.3
GADA				S	Sb	08 29 49.8	-0.7
GOKC	Gokceada-Canak	0.55	20	PG	Pb	08 29 43.0	-0.1
EFSA	Agios Efstrati	0.55	255	P	Pg	08 29 43.1	+0.6
EFSA				S	Sg	08 29 50.1	+0.3
EFSA				AML	AML	08 29 50.5	
	comp=E,9757μm,0.4s						
EFSA				AML	AML	08 29 51.8	
	comp=N,9880μm,0.3s						
PRK	Paraskevi	0.63	133	P	Pn	08 29 46.0	-0.3
PRK				S	Sn	08 29 54.0	-2.3
PRK	Paraskevi	0.63	133	P	Pn	08 29 46.0	-0.3
PRK				S	Sn	08 29 56.1	-0.2
BAYC	CANAKKALE_Bayr	0.67	85	IAML_P			
	comp=Z,16μm,0.1s						
BAYC				*i* P	Pn	08 29 46.2	-0.7
BAYC				*i* S	Sn	08 29 55.7	-1.5
SMTH	Samothraki Isl	0.79	352	P	Pg	08 29 46.7	-0.3
SMTH	Samothraki Isl	0.79	352	P	Pg	08 29 46.9	-0.1
SMTH				S	Sg	08 29 57.9	+0.4
AYVA	Ayvalik	0.87	115	*i* P	Pn	08 29 49.7	+0.1
AYVA				*i* S	Sn	08 30 03.3	+1.2
GELI	Tayfur-Gelibol	0.94	40	PG	Pn	08 29 50.2	-0.3
LPK	Lapseki	1.08	50	PN	Pn	08 29 53.4	+0.9
ENEZ	Enez	1.11	19	PN	Pn	08 29 53.1	+0.2
DKL	Dikili	1.13	122	PN	Pn	08 29 54.3	+1.1
PSRA	Psara	1.15	185	P	Pb	08 29 53.1	-0.2
ERIK	Erikli-Kesan	1.17	33	PN	Pg	08 29 54.3	0.0
THAS	Thassos island	1.18	322	P	Pn	08 29 52.9	-1.0
THAS	Thassos island	1.18	322	P	Pn	08 29 53.1	-0.7
THAS				S	Sb	08 30 08.5	-0.5
SKY	Skiros Island	1.19	228	P	Pn	08 29 53.1	-0.9
SKY	Skiros Island	1.19	228	P	Pn	08 29 53.1	-0.9
SKY				S	Sb	08 30 10.3	+0.9
ALN	Alexandroupoli	1.24	13	PN	Pn	08 29 53.4	-1.3
ALN	Alexandroupoli	1.24	13	P	Pg	08 29 55.0	-0.5
ALN	Alexandroupoli	1.24	13	P	Pn	08 29 54.4	-0.3
ALN				S	Sn	08 30 11.8	+0.4
FOCM	Foa	1.27	140	PN	Pg	08 29 56.4	+0.4
KRBN	Karaburun	1.28	148	PN	Pg	08 29 56.5	+0.2
CHOS	Chios island	1.33	167	PN	Pg	08 29 56.7	-0.5
CHOS	Chios island	1.33	167	P	Pb	08 29 56.1	-0.4
CHOS	Chios island	1.33	167	P	Pb	08 29 56.0	-0.4
CHOS				S	Sg	08 30 15.3	+0.8
KESN	Edirne-Kesan	1.37	34	IAML_P			
	comp=Z,2μm,0.2s						
KESN				*i* P	Pg	08 29 57.7	-0.4
KESN				*i* S	Sg	08 30 17.2	+1.2
KRBG	Karabiga-Canak	1.43	60	PN	Pg	08 29 59.0	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
RDO	Rodhopi	1.46	356	PN	Pb	08 29 58.8	+0.1
RDO	Rodhopi	1.46	356	P	Pn	08 29 57.6	-0.2
RDO	Rodhopi	1.46	356	P	Pn	08 29 57.8	0.0
AOS	Alonnisos	1.48	250	PN	Pn	08 29 57.1	-1.0
AOS	Alonnisos	1.48	250	P	Pn	08 29 56.7	-1.3
AOS	Alonnisos	1.48	250	P	Pn	08 29 58.9	+0.8
AOS				S	Sn	08 30 18.5	+1.2
URLA	Izmir	1.50	151	PN	Pb	08 29 59.1	-0.3
URLA	Izmir	1.50	151	IAML_P			
	comp=Z,3μm,0.3s						
URLA				*i* P	Pb	08 29 58.8	-0.6
URLA				*i* S	Sb	08 30 17.5	-0.9
KNL	Balıkesir	1.54	67	IAML_P			
	comp=Z,6μm,0.2s						
KNL				*i* P	Pg	08 30 01.0	-0.2
KNL				*i* S	Sg	08 30 22.1	+1.0
PAIG	Paliouri	1.56	280	P	Pn	08 29 58.2	-0.9
PAIG				S	Sn	08 30 19.7	+0.6
KAVA	Kavala	1.58	326	P	Pn	08 29 58.5	-0.9
KAVA	Kavala	1.58	326	P	Pn	08 29 59.1	-0.3
KAVA				S	Sn	08 30 18.2	-1.6
GONE	Gonen-Balikesi	1.59	76	PN	Pg	08 30 01.6	-0.5
STEP	BALIKESIR_Sava	1.61	100	IAML_P			
	comp=Z,6μm,0.3s						
STEP				*i* P	Pg	08 30 01.0	-1.5
STEP				*i* S	Sg	08 30 25.4	+2.0
BLCB	Balcova	1.68	140	PN	Pg	08 30 02.5	-1.3
BALB	Balikesir	1.70	91	PN	Pg	08 30 03.2	-1.1
MRMT	Marmara Adasi	1.73	57	PN	Pg	08 30 03.7	-1.2
SKIA	Skiathos	1.79	254	P	Pn	08 30 01.5	-0.8
SKIA				S	Sn	08 30 25.3	+0.4
EDC	Edincik	1.80	68	PN	Pg	08 30 05.3	-0.9
SBT4	Kumbag-Tekirda	1.82	51	PN	Pg	08 30 05.5	-1.1
AKHS	Akhisar	1.84	115	IAML_P			
	comp=Z,5μm,0.2s						
AKHS				*i* P	Pb	08 30 04.2	-1.0
AKHS				*i* S	Sg	08 30 32.9	+2.0
PLG	Polygyros	1.85	293	P	Pn	08 30 03.0	-0.1
DGB	zmir	1.88	150	IAML_P			
	comp=Z,315nm,0.1s						
DGB				*i* P	Pn	08 30 03.8	+0.3
TKR	Tekirdag	1.93	47	PN	Pb	08 30 06.8	+0.2
KDZ	Kurdzhali	1.97	354	PN	Pn	08 30 06.0	+1.2
KCTX	Karacabey (Bur	2.14	73	PN	Pb	08 30 09.9	-0.3
SRS	Serrai	2.14	313	*e*Pn	Pn	08 30 06.8	-0.3
SRS				*e*Sn	Sb	08 30 36.6	-0.2
SRS	Serrai	2.14	313	P	Pn	08 30 06.9	-0.2
DURS	Dursunbey	2.16	91	IAML_P			
	comp=Z,1μm,0.3s						
DURS				*i* P	Pb	08 30 09.5	-1.2
NVR	Nevrokopi	2.17	321	P	Pn	08 30 07.3	-0.2
HORT	Hortiatis	2.18	296	PN	Pn	08 30 07.2	-0.5
DST	Dursunbey	2.27	91	PN	Pb	08 30 11.9	-0.6
EDRB	Edirne	2.31	20	PN	Pb	08 30 11.5	-1.6
PHSR	Pinarhisar	2.40	35	PN	Pb	08 30 13.3	-1.4
PHSR	Pinarhisar	2.40	35	⇓*i*P	Pb	08 30 14.3	-0.4
AYDB	Zeytinkoy-Aydi	2.45	134	PN	Pn	08 30 12.7	+1.3
SLVT	Silivri	2.47	51	PN	Pb	08 30 14.4	-1.5
ORLT	Orhaneli	2.50	81	PN	Pb	08 30 15.5	-1.0
PLD	Plovdiv	2.53	343	*e*Pn	Pb	08 30 16.2	-0.7
PLD				*e*Sn	Sb	08 30 48.4	+0.5
PLD	Plovdiv	2.53	343	PN	Pn	08 30 13.6	+1.2
MDNY	Mudanya-Bursa	2.55	73	PN	Pb	08 30 15.8	-1.5
ARMT	Armutlu	2.59	69	PN	Pb	08 30 16.3	-1.7
KULA	Kula-Manisa	2.60	116	PN	Pb	08 30 15.9	-2.2
APE	Apeiranthos	2.61	183	⇑*i*P	Pb	08 30 19.2	+0.8
SBT5	Esenkoy-Cinarc	2.63	68	PN	Pb	08 30 17.3	-1.3
CTKS	Kestanelik-??a	2.66	53	PN	Pb	08 30 17.6	-1.4
CTYL	Yalikoy Yolu	2.67	47	PN	Pb	08 30 17.7	-1.7
CTYL	Yalikoy Yolu	2.67	47	⇑*i*P	Pn	08 30 15.9	+1.5
VAY	Valandovo	2.88	306	*e*Pn	Pn	08 30 18.0	+0.8
VAY	Valandovo	2.88	306	*i* Pn	Pb	08 30 22.5	-0.4
ISK	Istanbul-Kandi	2.93	61	PN	Pb	08 30 21.3	-2.4
KAVV	Kandilli-Istan	2.93	61	PN	Pb	08 30 21.0	-2.7
YLV	Yalova	2.97	72	PN	Pb	08 30 21.7	-2.7
KLYT	Kilyos	3.01	58	⇓*i*P	Pb	08 30 24.9	-0.1
STIP	Stip	3.33	308	*i* Pn	Pn	08 30 22.6	-0.8
VTS	Vitosha	3.45	328	⇓*i*P	Pn	08 30 28.0	+2.8
ZAPS	Zavoj	4.25	328	*e*Pn	Pn	08 30 38.7	+2.5
BARS	Barje	4.27	318	*e*Pn	Pn	08 30 37.2	+0.8
SELS	Selova	4.92	317	*e*Pn	Pn	08 30 46.3	+1.0
BOVS	Bovan	4.94	324	*e*Pn	Pn	08 30 47.3	+1.7
IVAS	Ivanjica	5.68	315	*e*Pn	Pn	08 30 55.6	-0.2
VOIR		5.77	356	⇓*i*P	Pn	08 30 57.9	+0.9
MLR	Muntele Rosu	5.81	2	⇑*i*P	Pn	08 30 59.6	+2.0
MDVR	Moldovita	5.88	331	⇑*i*P	Pn	08 30 59.6	+1.1
LOT	Lotru	5.93	347	⇑*i*P	Pn	08 31 00.9	+1.7
GZR	Gura Zlata	6.09	340	⇑*i*P	Pn	08 31 03.3	+1.8
PLOR	Plostina	6.20	6	⇑*i*P	Pn	08 31 04.5	+1.6
VRI	Vrincioaia	6.23	7	⇑*i*P	Pn	08 31 05.1	+1.9
DOPR	Dopca	6.28	358	⇑*i*P	Pn	08 31 05.4	+1.4
BZS	Buzias	6.64	335	⇑*i*P	Pn	08 31 10.9	+2.0

*AEIC **09** 08:29:37.7, 52.°24N×170.°43W, h26km, ML4.0, MB4.3(NEIC)*

*NEIC **09** 08:29:37.7±0.0, 52.°24N×170.°43W, h26km, mb4.3/76, ML4.0(AEIC), After AEIC.*

*IDC **09** 08:29:38.9±1.9, 52.°46N×170.°74W, h45km±16km, mb3.9/26, mb1 4.1/29, mb1mx3.9/56, mbtmp4.1/29, ML3.7/3, MS3.5/20, Ms1 3.5/20, ms1mx3.3/56, Error ellipse: s-maj=18.5km s-min=9.6km az=3.0*

*ISCJB **09** 08:29:39.7±0.3, 52.°52N±0.°04×170.°67W±0.°03, h65km±3km, mb4.3/75, Error ellipse: s-maj=6.9km s-min=2.6km az=163.0*

ISC 09 08:29:39.5±1.0**, 52.°42N**±0.°10×**170.°53W**±0.°04**, h51**km±8km**,** **n231,** σ1.°39/239**, mb4.3**/75**, MS3.5**/19**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIKH	Nikolski High	1.16	61	*e*Pn	Pn	08 29 58.1	-1.3
NIKH				*e*Sn	Sn	08 30 13.4	-0.7
OKSP	Okmok Steeple	1.59	57	P	Pn	08 30 04.6	-0.7
OKER	Okmok East Rim	1.82	54	*e*Pn	Pn	08 30 09.5	+1.0
KOSE	Korovin Southe	2.16	269	*e*Pn	Pn	08 30 13.7	+0.7
KOFP	Korovin Flat P	2.20	268	*e*Pn	Pn	08 30 13.6	+0.1
KOKL	Mount Kliuchef	2.25	269	*e*Pn	Pn	08 30 15.4	+1.1
ATKA	Atka Island	2.26	266	*e*Pn	Pn	08 30 13.8	-0.6
ATKA				*e*Sn	Sn	08 30 41.0	0.0
MREP	Makushin Rep't	2.67	57	P	Pn	08 30 20.5	+0.5
MCIR	Makushin Cirqu	2.67	53	*e*Pn	Pn	08 30 21.0	+0.9
MSW	Makushin Switc	2.71	55	*e*Pn	Pn	08 30 21.0	+0.5
MTBL	Makushin Table	2.79	55	*e*Pn	Pn	08 30 22.9	+1.3
UNV	Unalaska Valle	2.81	58	*e*Pn	Pn	08 30 22.4	+0.5
UNV				*e*Sn	Sn	08 30 56.8	+2.2
AKMO	Akutan Morgan	3.19	56	*e*Pn	Pn	08 30 27.7	+0.6
AKMO				*e*Sn	Sn	08 31 07.4	+3.6
ZRO	Akutan Zero	3.21	57	*e*Pn	Pn	08 30 28.8	+1.5
AKGG	Akutan Green G	3.25	55	P	Pn	08 30 29.5	+1.6
AKUT	Akutan	3.33	57	*e*Pn	Pn	08 30 31.4	+2.4
GSTR	Great Sitkin T	3.42	267	*e*Pn	Pn	08 30 31.5	+1.3
GSTR				*e*Sn	Sn	08 31 13.6	+4.2
GSMY	Great Sitkin M	3.42	266	*e*Pn	Pn	08 30 30.7	+0.5
GSTD	Great Sitkin T	3.47	266	*e*Pn	Pn	08 30 31.7	+0.7
GSTD				*e*Sn	Sn	08 31 12.9	+2.0
ETKA	Kagalaska Isla	3.67	264	*e*Pn	Pn	08 30 34.7	+1.1
ADAG	Mount Adagdak	3.77	266	*e*Pn	Pn	08 30 36.5	+1.5
ADK	Adak	3.83	264	*e*Pn	Pn	08 30 36.0	+0.1
ADK				*e*Sn	Sn	08 31 20.5	+1.0
KIWB	Kanaga Island	4.12	265	*e*Pn	Pn	08 30 40.8	+0.9
KIWB				*e*Sn	Sn	08 31 27.4	+0.7
KIKV	Kanaga Island	4.13	265	*e*Pn	Pn	08 30 41.0	+1.0
KIMD	Kanaga Island	4.19	264	P	Pn	08 30 41.2	+0.4
TAFP	Tanaga Falls P	4.62	267	*e*Pn	Pn	08 30 47.4	+0.7
TASE	Tanaga Southea	4.67	266	*e*Pn	Pn	08 30 48.4	+1.0
SPIA	Saint Paul Isl	4.77	2	*e*Pn	Pn	08 30 51.0	+2.3
SDPT	Sand Point	6.63	60	*e*Pn	Pn	08 31 17.8	+3.7
CHGN	Chignik	8.07	56	*e*Pn	Pn	08 31 35.3	+1.4
KDAK	Kodiak Island	11.58	55	P	Pn	08 32 20.9	-1.0
	0.7nm,0.3s,baz=179,slow=4.8,SNR=12						
KDAK				S	Sn	08 34 23.2	-6.2
	0.0nm,0.3s,baz=238,slow=15,SNR=2.1						
KDAK	Kodiak Island	11.58	55	*e*Pn	Pn	08 32 21.8	0.0
KDAK				*e*		08 32 22.3	
KDAK				*e*Sn	Sn	08 34 23.2	-6.2
SVW2	Sparrevohn	11.92	37	*e*Pn	Pn	08 32 29.9	+3.4
ANM	Nome	12.47	10	*e*Pn	Pn	08 32 35.9	+1.9
BRLK	Bradley Lake	13.16	48	*e*Pn	Pn	08 32 44.8	+1.3
SEW	Seward	13.96	48	*e*Pn	Pn	08 32 54.0	-0.3
RC01	Rabbit Creek A	14.27	44	*e*Pn	Pn	08 32 58.9	+0.5
PPLA	Purkeypile	14.31	36	*e*Pn	Pn	08 33 00.5	+1.5
CAST	Castle Rocks	14.68	34	*e*Pn	Pn	08 33 04.0	+0.2
PMR	Palmer	14.77	43	*e*Pn	Pn	08 33 06.1	+1.2
PMR				*e*Pn	P	08 33 11.3	+1.4
GHO	Glory Hole Cre	14.94	43	*e*Pn	Pn	08 33 08.4	+1.1
KNK	Knik Glacier	14.97	44	*e*Pn	Pn	08 33 08.4	+0.8
SML	Sawmill	15.21	43	*e*Pn	Pn	08 33 11.5	+0.8
	16nm,1.3s						
TRF	Thorofare Moun	15.33	36	*e*Pn	Pn	08 33 13.8	+1.3
	9.7nm,1.2s						
GLI	Glacier Island	15.35	47	*e*Pn	Pn	08 33 13.8	+1.3
	37nm,1.2s						
BPAW	Bear Paw Mtn.	15.49	33	*e*Pn	Pn	08 33 14.8	+0.4
	18nm,1.2s						
SCM	Sheep Creek Mo	15.64	44	*e*Pn	Pn	08 33 16.2	-0.1
	27nm,1.2s						
RND	Reindeer	15.83	38	*e*Pn	Pn	08 33 20.0	+1.3
	7.7nm,1.0s						
MCK	McKinley	15.99	36	*e*P	P	08 33 22.9	-0.5
	8.7nm,1.2s						
IM3	Indian Mountai	16.00	25	*e*P	P	08 33 24.0	+0.5
KLU	Klutina	16.11	46	*e*Pn	Pn	08 33 22.4	+0.2
	13nm,1.3s						
MLY	Manley	16.18	31	*e*Pn	Pn	08 33 24.9	+1.7
	6.7nm,0.9s						
DHY	Denali Highway	16.22	40	*e*Pn	Pn	08 33 24.4	+0.7
	8.9nm,1.4s						
HMT	Hamilton	16.47	51	*e*Pn	Pn	08 33 27.2	+0.5
	25nm,1.2s						
BMRM	Bremner River	16.51	49	*e*Pn	Pn	08 33 27.6	+0.3
	5.8nm,0.8s						
WRH	Wood River Hil	16.72	35	*e*Pn	Pn	08 33 30.4	+0.6
	8.1nm,1.0s						
HARP	HAARP	16.81	44	*e*Pn	Pn	08 33 32.2	+1.2
	19nm,1.3s						
MDM	Murphy Dome	16.96	34	*e*Pn	Pn	08 33 33.8	+1.0
	7.4nm,1.0s						
HDA	Harding Lake	17.09	36	*e*Pn	P	08 33 36.1	+0.6
	4.3nm,0.8s						
IL1	Eielson Array	17.32	35	*e*Pn	P	08 33 39.5	+1.4
ILAR	Eielson Array	17.32	35	P	Pn	08 33 36.5	-0.8
	0.3nm,0.3s,baz=217,slow=10,SNR=18						
ILAR				PcP	PcP	08 38 15.8	-0.9
	0.1nm,0.3s,baz=271,slow=3.3,SNR=9.8						
ILAR				LR	LR	08 41 14.6	
	comp=Z,193nm,18.1s,baz=286,slow=40						
ILAR				ScP	ScP	08 41 47.4	+0.2
	0.0nm,0.3s,baz=225,slow=5.0,SNR=4.2						
ILB	Eielson Array	17.32	35	*e*Pn	P	08 33 39.2	+1.2
RIDG	Independ'e Rid	17.54	40	*e*Pn	P	08 33 42.0	+1.4
	8.8nm,1.1s						
SCRK	Sand Creek	17.99	40	*e*P	P	08 33 46.0	+0.4
	3.4nm,0.7s						
PRP	Porcupine Dome	18.21	34	*e*P	P	08 33 48.5	+0.4
	2.8nm,0.9s						
FYU	Fort Yukon	18.92	32	*e*P	Pn	08 33 57.5	+0.8
	18nm,1.4s						
PEA1	Petropavlovsk-	19.16	285	*e*P	P	08 33 58.2	-0.2
PETK	Petropavlovsk-	19.16	285	P	P	08 33 58.2	-0.2
	0.9nm,0.3s,baz=89,slow=14,SNR=8.0						
PETK				LR	LR	08 41 49.2	
	comp=Z,68nm,18.9s,baz=93,slow=38						
EGAK	Eagle	19.45	39	*e*P	P	08 34 01.8	+0.4
	5.5nm,0.9s						
HYT	Haines Junctio	19.83	52	*e*P	Pn	08 34 07.4	-0.2
	12nm,0.7s						
DAWY	Dawson	19.87	42	*e*P	P	08 34 06.5	+0.4
	3.0nm,0.8s						
SKAG	Skagway	20.73	56	*e*P	P	08 34 16.6	+1.2
	14nm,1.0s						
WHY	Whitehorse	21.08	53	*e*P	P	08 34 20.5	+1.3
	4.4nm,0.9s						
EPYK	Eagle Plains	21.79	37	*e*P	P	08 34 25.6	-1.1
	8.7nm,0.9s						
SEY	Seymchan	22.12	313	P	P	08 34 30.3	+0.1
	7.3nm,0.8s,baz=79,slow=7.9,SNR=15						
MA2	Magadan	22.53	304	LR	LR	08 42 28.0	
	comp=Z,113nm,21.3s,baz=90,slow=34						
DLBC	Dease Lake	23.47	59	P	P	08 34 46.8	+2.6
	5.0nm,0.8s,baz=280,slow=6.4,SNR=13						
DLBC	Dease Lake	23.47	59	*e*P	P	08 34 46.3	+2.1
	12nm,1.0s						
INK	Inuvik	23.70	34	P	P	08 34 45.5	-0.6
	2.4nm,0.5s,baz=251,slow=8.8,SNR=16						
INK				LR	LR	08 45 15.7	
	comp=Z,203nm,19.7s,baz=300,slow=40						
INK	Inuvik	23.70	34	*e*P	P	08 34 45.7	-0.4
	4.6nm,1.0s						
INK				*e*		08 45 15.7	
BBB	Bella Bella	25.67	73	LR	LR	08 44 14.8	
	comp=Z,91nm,18.0s,baz=238,slow=34						
YKA	Yellowknife Ar	30.74	49	P	P	08 35 48.8	-0.5
	0.2nm,0.3s,baz=275,slow=7.4,SNR=7.7						
YKA				PcP	PcP	08 38 46.1	+0.5
	0.3nm,0.6s,baz=290,slow=2.5,SNR=4.3						
YKA				ScP	ScP	08 42 25.0	+1.4
	0.3nm,0.7s,baz=286,slow=3.5,SNR=4.6						
YKB5	Yellowknife Ar	30.74	49	*e*P	P	08 35 48.9	-0.5
YKB5				*e*PcP	PcP	08 38 46.1	+0.5
ASAJ	Asahikawa	31.80	274	LR	LR	08 47 33.4	
	comp=Z,85nm,21.1s,baz=114,slow=34						
NEW	Newport	33.68	75	P	P	08 36 16.4	+1.1
	5.4nm,0.8s,baz=305,slow=7.8,SNR=11						
NEW	Newport	33.68	75	*e*P	P	08 36 16.8	+1.4
	6.9nm,0.9s						
J08A	Circle Bar Ran	35.36	84	*e*P	P	08 36 31.6	+1.7
	7.7nm,0.9s						
KLR	Kul'dur	35.77	289	LR	LR	08 52 08.1	
	comp=Z,75nm,18.6s,baz=4.0,slow=38						
PAHR	Pah Rah Range	36.92	89	*e*P	P	08 36 45.5	+2.1
	13nm,1.3s						
H11N2	WAKE ISLAND Hy	37.06	217	T	T	09 15 55.4	
	baz=23,slow=75,SNR=36						
H11N3	WAKE ISLAND Hy	37.06	217	T	T	09 15 53.3	
	baz=23,slow=75,SNR=33						
H11N1	WAKE ISLAND Hy	37.08	217	T	T	09 16 01.8	
	baz=23,slow=75,SNR=23						
HLID	Hailey	37.71	81	*e*P	P	08 36 51.5	+1.4
	5.2nm,1.3s						
KVN	Kaiserville	38.11	89	*e*P	P	08 36 55.5	+2.1
	3.7nm,1.0s						
EGMT	Eagleton	38.12	72	*e*P	P	08 36 55.3	+2.0
	12nm,0.9s						
USRK	Ussuriysk Ar.	38.19	281	LR	LR	08 51 47.6	
	comp=Z,65nm,21.8s,baz=72,slow=35						
H11S1	WAKE ISLAND Hy	38.25	216	T	T	09 17 30.8	
	baz=22,slow=76,SNR=720						
H11S2	WAKE ISLAND Hy	38.27	216	T	T	09 17 32.5	
	baz=22,slow=76,SNR=493						
H11S3	WAKE ISLAND Hy	38.27	216	T	T	09 17 33.5	
	baz=22,slow=76,SNR=268						
NV01	Mina Array Sit	38.37	90	*e*P	P	08 36 57.8	+2.0
NVAR	Mina Array Bea	38.37	90	P	P	08 36 57.8	+2.0
	2.5nm,0.8s,baz=295,slow=7.5,SNR=14						
NVAR				PcP	PcP	08 39 09.6	+1.2
	0.6nm,0.8s,baz=293,slow=4.6,SNR=3.5						
NVAR				ScP	ScP	08 42 52.6	+0.9
	0.1nm,0.3s,baz=252,slow=4.4,SNR=4.2						
ELK	Elko	38.83	85	P	P	08 37 01.3	+1.7
	2.8nm,0.8s,baz=308,slow=8.2,SNR=17						
ELK				PcP	PcP	08 39 10.7	+0.9
	1.1nm,0.6s,baz=338,slow=4.7,SNR=5.2						
MAJO	Matsushiro	38.99	267	*e*P	P	08 36 60.0	-0.7
MAJO				*e*		08 51 05.3	
MAT	Matsushiro	38.99	267	P	P	08 37 01.0	+0.3
MJAR	Matsushiro Arr	38.99	267	P	P	08 36 60.0	-0.7
	3.3nm,0.6s,baz=31,slow=6.5,SNR=8.9						
MJAR				LR	LR	08 51 05.3	
	comp=Z,73nm,21.8s,baz=100,slow=33						
YNR	Norris Junctio	39.32	77	*e*P	P	08 37 05.5	+2.0
	5.8nm,0.8s						
VES	Vestal, Richgr	39.55	94	P	P	08 37 06.2	+0.9
	baz=311						
H17A	Grant Village	39.56	77	*e*P	P	08 37 08.6	+3.0
	9.4nm,1.3s						
HVU	Hansel Valley	39.72	82	*e*P	P	08 37 08.5	+1.6
	3.8nm,0.8s						
CWC	Cottonwood Cre	39.78	92	P	P	08 37 09.1	+1.7
	baz=310						
ISA	Isabella, Lake	40.05	94	*e*P	P	08 37 10.9	+1.3
	4.4nm,0.9s						
ISA	Isabella, Lake	40.05	94	P	P	08 37 10.6	+1.1
	baz=311						
BGU	Big Grassy Mou	40.07	83	*e*P	P	08 37 11.6	+1.8
	3.9nm,1.1s						
R11A	Troy Canyon, C	40.09	88	*e*P	P	08 37 11.3	+1.3
	6.0nm,1.1s						
R11A	Troy Canyon, C	40.09	88	P	P	08 37 11.4	+1.4
	baz=309,SNR=7.3						
MPMC	Manual Prospec	40.39	92	P	P	08 37 13.6	+1.1
	baz=311						
FURC	Furnace Creek,	40.51	91	P	P	08 37 15.0	+1.9
	baz=310,SNR=5.0						
TPNV	Topopah Spring	40.57	90	*e*P	P	08 37 15.3	+1.4
	6.6nm,0.8s						
TPNV	Topopah Spring	40.57	90	P	P	08 37 15.5	+1.5
	baz=310,SNR=6.8						
DUG	Dugway, Tooele	40.64	84	*e*P	P	08 37 15.7	+1.2
	9.5nm,1.1s						
DUG	Dugway, Tooele	40.64	84	P	P	08 37 15.4	+0.9
	baz=307,SNR=7.6						
PSUT	Pine Spring	41.03	87	*e*P	P	08 37 19.4	+1.6
	4.0nm,0.9s						
BW06	Boulder Array	41.09	78	P	P	08 37 19.0	+0.7
	baz=305,SNR=8.1						
PD31	Pinedale Array	41.09	78	*e*P	P	08 37 19.0	+0.7
PD31				*e*		08 53 51.0	
PDAR	Pinedale Array	41.09	78	P	P	08 37 18.9	+0.7
	4.8nm,0.9s,baz=297,slow=3.4,SNR=30						
PDAR				LR	LR	08 53 51.0	
	comp=Z,50nm,19.4s,baz=19,slow=35						
PDAR	Pinedale Array	41.09	78	*e*P	P	08 37 18.2	-0.1
JLU	Jordanelle	41.23	82	*e*P	P	08 37 20.7	+1.3
	4.1nm,0.9s						
SHOC	Shoshone, Teco	41.23	92	P	P	08 37 20.5	+1.3
	baz=311						
NLU	North Lily Min	41.24	84	*e*P	P	08 37 20.9	+1.4
	4.1nm,0.9s						
MWC	Mount Wilson	41.26	95	*e*P	P	08 37 21.3	+1.6
	10nm,1.2s						
GSC	Goldstone, Bar	41.30	93	*e*P	P	08 37 21.5	+1.6
	16nm,1.1s						
GSC	Goldstone, Bar	41.30	93	P	P	08 37 21.5	+1.6
	baz=311,SNR=10						
MPU	Maple Canyon	41.47	83	*e*P	P	08 37 22.7	+1.4
	4.0nm,0.9s						
BFSC	Mount Baldy Ra	41.49	95	P	P	08 37 23.1	+1.6
	baz=312,SNR=6.1						
HEC	Hector,Ludlow	41.91	93	P	P	08 37 25.8	+1.0
	baz=312						
BBRC	Big Bear Solar	41.93	94	P	P	08 37 26.3	+1.1
	baz=312						
CCUT	Cedar City	41.95	87	*e*P	P	08 37 26.8	+1.4
	2.1nm,0.8s						
TMUT	Trail Mountain	42.17	84	*e*P	P	08 37 29.2	+2.0
	8.3nm,0.9s						
P17A	Butcher Ranch,	42.35	83	*e*P	P	08 37 29.4	+1.0
	4.7nm,0.8s						
GMRC	Granite Mounta	42.35	92	P	P	08 37 29.5	+1.0
	baz=312						
LCMT	Little Creek M	42.37	88	*e*P	P	08 37 30.7	+2.1
	5.3nm,0.9s						
Q16A	Castle Valley	42.43	84	*e*P	P	08 37 31.3	+2.1
	8.8nm,1.0s						
KNB	Kanab	42.62	88	*e*P	P	08 37 32.9	+2.1
	6.0nm,1.2s						
PFO	Pinyon Flats O	42.65	94	P	P	08 37 31.5	+0.6
	4.5nm,0.9s,baz=34,slow=7.3,SNR=2.9						
PFO	Pinyon Flats O	42.65	94	P	P	08 37 31.5	+0.6
	baz=313						
SRU	San Rafael Swe	42.70	83	*e*P	P	08 37 32.9	+1.5
	6.6nm,0.8s						
K22A	Casper	42.97	77	P	P	08 37 34.1	+0.6
	baz=306						
IRM	Iron Mountain	43.09	93	P	P	08 37 35.5	+1.1
	baz=312,SNR=5.6						
MONP2	Monument Peak	43.16	95	P	P	08 37 36.3	+1.1
	baz=313						
W13A	Hualapai Mount	43.23	90	*e*P	P	08 37 37.0	+1.3
	7.2nm,1.1s						
U15A	North Rim	43.33	88	*e*P	P	08 37 38.3	+1.7
	8.4nm,0.9s						
O20A	White River Ci	43.45	81	*e*P	P	08 37 38.1	+0.7
	16nm,0.9s						
O20A	White River Ci	43.45	81	P	P	08 37 38.1	+0.7
	baz=308,SNR=12						
SWSC	Sam W. Stewart	43.51	94	P	P	08 37 38.7	+1.0
	baz=313						
IKP	In-Ko-Pah, Jac	43.52	95	P	P	08 37 38.8	+0.8
	baz=314						
Y12C	Blythe	43.74	92	*e*P	P	08 37 40.8	+1.3
	9.7nm,0.9s						
Y12C	Blythe	43.74	92	P	P	08 37 40.8	+1.3
	baz=313,SNR=8.4						
PV09	Paradox Valley	43.93	83	*e*P	P	08 37 42.2	+0.8
PV17	East Wray Mesa	44.18	83	*e*P	P	08 37 44.1	+0.8
	8.8nm,0.8s						
PV16	Nyswonger Mesa	44.18	83	*e*P	P	08 37 44.5	+1.1
	5.0nm,0.9s						
PV11	David Mesa, Pa	44.22	83	*e*P	P	08 37 44.5	+0.9
	7.5nm,0.6s						
PV12	Saucer Basin,	44.25	83	*e*P	P	08 37 44.9	+1.0
	8.8nm,0.9s						
PV13	Radium Mtn., P	44.34	83	*e*P	P	08 37 45.5	+0.9
	14nm,0.9s						
PV02	Paradox Valley	44.36	83	*e*P	P	08 37 45.7	+0.9
	9.7nm,0.9s						
WUAZ	Wupatki	44.49	88	*e*P	P	08 37 47.5	+1.7
	6.3nm,0.9s						
KSRS	Korea Array	44.70	276	P	P	08 37 46.6	-0.5
	2.1nm,0.8s,baz=60,slow=8.2,SNR=3.8						
KS15	Wonju Array Si	44.73	276	*e*P	P	08 37 46.6	-0.8
KSAR	Wonju Array Be	44.73	276	P	P	08 37 46.6	-0.8
214A	Organ Pipe Nat	46.02	93	P	P	08 37 58.8	+1.1
	baz=314,SNR=6.4						
SDCO	Great Sand Dun	46.62	81	*e*P	P	08 38 04.0	+1.3
	5.2nm,1.0s						
SDCO	Great Sand Dun	46.62	81	P	P	08 38 03.8	+1.1
	baz=310,SNR=6.1						
TUC	Tucson	47.01	91	*e*P	P	08 38 07.0	+1.4
	8.1nm,1.0s						
T25A	Trinidad	47.67	81	*e*P	P	08 38 12.6	+1.8
	11nm,0.9s						
T25A	Trinidad	47.67	81	P	P	08 38 12.1	+1.2
	baz=311,SNR=7.8						
LAZ	Ladron	47.82	86	*e*P	P	08 38 14.0	+2.0
ANMO	Albuquerque	47.87	85	P	P	08 38 13.2	+0.8
	2.2nm,1.1s,baz=308,slow=5.9,SNR=4.7						
ANMO				PcP	PcP	08 39 41.3	+1.0
	1.8nm,1.0s,baz=256,slow=5.4,SNR=6.2						
ANMO	Albuquerque	47.87	85	*e*P	P	08 38 14.4	+2.0
	5.2nm,1.3s						
ANMO				PcP	PcP	08 39 41.3	+1.0
LENM	Lemitar	48.08	86	*e*P	P	08 38 15.6	+1.6
BNM	Barren Site	48.30	86	*e*P	P	08 38 16.9	+1.1
FRB	Frobisher Bay	49.35	35	P	P	08 38 23.3	+0.3
	1.4nm,0.4s,baz=303,slow=8.0,SNR=7.1						
SONA0	Songino Array	50.66	300	*e*P	P	08 38 32.8	-0.7
SONA0				*e*PcP	PcP	08 39 49.9	-0.3
SONA0				*e*PKKPdf	PKKPdf	09 00 33.5	-19
SONM	Songino Array	50.66	300	P	P	08 38 32.8	-0.7
	0.4nm,0.4s,baz=51,slow=5.1,SNR=5.4						
SONM				PcP	PcP	08 39 49.9	-0.3
	0.6nm,0.7s,baz=49,slow=2.7,SNR=3.8						
SONM				LR	LR	09 00 33.5	
	comp=Z,48nm,19.6s,baz=324,slow=37						
MNTX	Cornudas Mount	50.74	87	*e*P	P	08 38 35.4	+1.3
	5.6nm,0.8s						
MNTX	Cornudas Mount	50.74	87	P	P	08 38 35.1	+1.0
	baz=314,SNR=8.6						
MSTX	Muleshoe	50.77	83	P	P	08 38 34.9	+0.4
	baz=313						
HHC	Hu-ho-hao-te	52.24	290	*e*P	P	08 38 47.8	+2.5
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,260nm,5.6s						
WMOK	Wichita Mounta	52.67	80	*e*P	P	08 38 48.8	+0.3
	comp=Z,7.1nm,0.8s						
WMOK	Wichita Mounta	52.67	80	P	P	08 38 48.9	+0.5
	baz=313,SNR=7.0						
LPIG	La Paz	53.20	98	LR	LR	08 58 06.1	
	comp=Z,36nm,19.8s,baz=334,slow=32						
TX31	Lajitas Ar. Si	53.45	88	*e*P	P	08 38 54.8	+0.4
LTX	Lajitas	53.45	88	*e*P	P	08 38 54.8	+0.4
LTX				*e*PcP	PcP	08 40 00.4	-0.5
LTX				*e*		09 02 03.6	
TXAR	Lajitas Array	53.45	88	P	P	08 38 54.8	+0.4
	comp=Z,5.3nm,0.7s,baz=298,slow=5.2,SNR=61						
TXAR				PcP	PcP	08 40 00.4	-0.5
	comp=Z,1.1nm,0.7s,baz=285,slow=1.7,SNR=3.8						
TXAR				LR	LR	09 02 03.6	
	comp=Z,66nm,18.3s,baz=0.0,slow=36						

JCT	Junction City	55.00	84	eP	P	08 39 05.8	+0.3
	comp=Z,5.7nm,0.9s						
WHTX	Lake Whitney,	55.37	81	eP	P	08 39 08.5	+0.4
	comp=Z,15nm,1.0s						
WHTX	Lake Whitney,	55.37	81	P	P	08 39 08.9	+0.8
	baz=314						
S43A	Fulton Ridge,	55.90	71	P	P	08 39 11.3	-0.6
	baz=313						
F52A	Sundridge	56.23	57	P	P	08 39 14.3	+0.2
	baz=312						
E52A	Mattawa	56.24	56	P	P	08 39 14.3	+0.1
	baz=312						
X41A	Kaden, Bauxite	56.58	75	P	P	08 39 16.4	-0.3
	baz=314						
E53A	Dumoine, Ponti	56.69	56	P	P	08 39 17.4	+0.1
	baz=313						
833A	Chaparral WMA,	56.79	86	P	P	08 39 18.9	+0.6
	baz=316						
ZALV	Zalesovo Beam	56.91	317	LR	LR	09 04 26.0	
	comp=Z,58nm,21.6s,baz=70,slow=37						
Y41A	Eaglette Beard	56.95	76	P	P	08 39 20.5	+1.1
	baz=314						
ARA0	ARCESS Array S	57.80	353	eP	P	08 39 24.4	-0.4
ARA0				ePcP	PcP	08 40 15.9	-1.0
ARCES	ARCESS Array B	57.80	353	P	P	08 39 24.4	-0.4
	comp=Z,2.9nm,0.8s,baz=18,slow=6.1,SNR=9.4						
ARCES				PcP	PcP	08 40 15.9	-1.0
	comp=Z,3.2nm,0.8s,baz=2.5,slow=5.5,SNR=3.5						
GTA	Gaotai	59.82	296	eP	P	08 39 36.8	-2.7
GTA				pP	pP	08 39 50.5	-3.1
GTA				sP	sP	08 39 56.5	-2.9
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
KURK	Kurchatov	61.86	318	eP	P	08 39 53.3	+0.4
KURBB	Kurchatov Arra	61.97	318	P	P	08 39 53.3	-0.4
	comp=Z,0.5nm,0.4s,baz=44,slow=7.0,SNR=4.2						
WMQ	Urumqi	62.94	307	eP	P	08 40 04.6	+4.2
WMQ				LR	LR		
	comp=N,230nm,21.9s						
WMQ				LR	LR		
	comp=E,140nm,22.9s						
WMQ				LR	LR		
	comp=Z,170nm,21.9s						
BVAR	Borovoye Array	63.25	324	LR	LR	09 09 48.7	
	comp=Z,42nm,19.1s,baz=74,slow=38						
MK32	Makanchi Array	63.25	313	eP	P	08 40 00.9	-1.5
MKAR	Makanchi Array	63.25	313	P	P	08 40 00.9	-1.5
	comp=Z,0.2nm,0.3s,baz=50,slow=7.3,SNR=8.0						
FIA0	FINESS Array S	65.72	351	eP	P	08 40 17.0	-1.2
FINES	FINESS Array B	65.72	351	P	P	08 40 17.0	-1.2
	comp=Z,1.5nm,0.7s,baz=15,slow=7.9,SNR=6.8						
FINES				LR	LR	09 08 54.8	
	comp=Z,57nm,21.8s,baz=359,slow=36						
HNR	Honiara	66.60	212	LR	LR	09 04 26.9	
	comp=Z,29nm,20.1s,baz=272,slow=31						
NB2	NORSAR Subarra	66.88	359	P	P	08 40 24.7	-1.0
	comp=Z,0.4nm,0.5s,baz=359,slow=6.2						
NB200	NORSAR Array S	66.88	359	eP	P	08 40 25.0	-0.7
NB200				e		09 11 10.6	
NOA	NORSAR Array B	66.88	359	P	P	08 40 25.0	-0.7
	comp=Z,0.9nm,0.7s,baz=0.3,slow=6.3,SNR=5.7						
NOA				LR	LR	09 11 10.6	
	comp=Z,32nm,18.2s,baz=285,slow=37						
AKTO	Aktyubinsk	69.61	329	P	P	08 40 42.5	-0.3
	comp=Z,1.2nm,0.5s,baz=41,slow=5.3,SNR=5.7						
PPT	Papeete	72.03	159	LR	LR	09 07 51.1	
	comp=Z,43nm,21.3s,baz=318,slow=32						
CM31	Chiang Mai Arr	75.92	282	eP	P	08 41 18.8	-1.9
CMAR	Chiang Mai Arr	75.92	282	P	P	08 41 18.8	-1.9
	comp=Z,2.0nm,0.3s,baz=32,slow=6.7,SNR=9.8						
GERES	GERESS Array B	79.05	357	P	P	08 41 37.9	0.0
	comp=Z,0.2nm,0.3s,baz=353,slow=6.7,SNR=4.9						
KBZ	Khabaz	79.98	336	LR	LR	09 22 54.7	
	comp=Z,52nm,18.1s,baz=359,slow=40						
WR1	Warramunga Arr	86.48	231	eP	P	08 42 14.7	-1.9
	comp=Z,8.0nm,1.4s						
WRA	Warramunga Arr	86.48	231	P	P	08 42 14.7	-1.9
	comp=Z,0.6nm,0.7s,baz=31,slow=6.1,SNR=5.5						
ESDC	Sonseca Array	87.54	10	P	P	08 42 21.5	-0.2
	comp=Z,0.5nm,0.5s,baz=349,slow=3.9,SNR=4.4						
ASAR	Alice Springs	89.89	229	P	P	08 42 31.9	-0.9
	comp=Z,2.3nm,0.8s,baz=33,slow=4.8,SNR=30						
PLCA	Paso Flores	126.47	111	PKP	PKPdf	08 48 35.6	-0.5
	comp=Z,1.6nm,0.8s,baz=12,slow=3.1,SNR=5.2						
MATP	Matopo	144.82	328	PKP	PKPab	08 49 09.6	-0.2
	comp=Z,5.0nm,0.7s,baz=293,slow=1.5,SNR=13						
LBTB	Lobatse	150.03	330	PKPbc	PKPbc	08 49 24.7	+0.5
	comp=Z,5.1nm,0.6s,baz=21,slow=1.4,SNR=9.2						

*ISCJB **09** 08:36:52.6±1.9, 2.°1S±0.°2×67.°6E±0.°3, h10km, mb4.0/9, MS3.6/5, Error ellipse: s-maj=50.7km s-min=20.7km az=146.4*

*IDC **09** 08:36:53.7±1.7, 2.°02S×67.°68E, h0km, mb4.0/9, mb1 4.2/9, mb1mx3.8/58, mbtmp4.0/9, MS3.7/6, Ms1 3.7/6, ms1mx3.2/42, Error ellipse: s-maj=50.4km s-min=24.3km az=57.0*

ISC 09 08:36:55.3±1.9**, 2.°0S**±0.°3×**67.°7E**±0.°3**, h10**km**, n21, $\sigma 0^s.97$**/10**, mb4.0**/9**, MS3.6**/5**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.41	142	T	T	08 43 38.1	
	baz=324,slow=75,SNR=76						
H08N3	Diego Garcia H	5.42	143	T	T	08 43 35.8	
	baz=324,slow=75,SNR=92						
H08N1	Diego Carcia H	5.43	142	T	T	08 43 39.8	
	baz=324,slow=75,SNR=78						
H08S3	Diego Garcia H	7.34	140	T	T	08 46 18.9	
	baz=316,slow=76,SNR=5.9						
H08S1	Diego Carcia H	7.35	140	T	T	08 46 12.1	
	baz=316,slow=76,SNR=20						
H08S2	Diego Garcia H	7.37	140	T	T	08 46 18.0	
	baz=316,slow=76,SNR=4.1						
PALK	Pallekele	15.93	54	LR	LR	08 45 20.6	
	comp=Z,291nm,20.8s,baz=296,slow=32						
OPO	Ambohidratompo	25.97	229	LR	LR	08 50 41.0	
	comp=Z,217nm,18.3s,baz=8.0,slow=32						
PSI	Prapat	31.59	81	LR	LR	08 53 39.0	
	comp=Z,156nm,21.6s,baz=266,slow=32						
BRDH	Bariadhala	33.89	42	LR	LR	08 59 00.2	
	comp=Z,168nm,18.8s,baz=242,slow=39						
CMAR	Chiang Mai Arr	36.88	55	P	P	08 44 04.0	-0.3
	0.7nm,0.4s,baz=251,slow=10,SNR=4.8						
CMAR				LR	LR	08 57 12.2	
	comp=Z,75nm,19.9s,baz=232,slow=33						
AAK	Ala-Archa	44.87	7	P	P	08 45 11.4	+1.3
	1.9nm,1.0s,baz=155,slow=8.3,SNR=3.6						
BOSA	Boshof	48.30	233	LR	LR	09 02 52.2	
	comp=Z,67nm,21.3s,baz=28,slow=32						
MKAR	Makanchi Array	50.28	13	P	P	08 45 51.8	-0.2
	1.0nm,0.8s,baz=186,slow=7.3,SNR=6.6						
KBZ	Khabaz	50.68	337	P	P	08 45 54.2	-0.7
	2.5nm,0.9s,baz=72,slow=3.2,SNR=2.8						
KURBB	Kurchatov Arra	53.25	9	P	P	08 46 14.3	+0.3
	1.0nm,0.4s,baz=204,slow=7.7,SNR=5.1						
ZALV	Zalesovo Beam	57.56	12	P	P	08 46 43.3	-1.8
	1.0nm,0.5s,baz=217,slow=7.1,SNR=6.5						
SONM	Songino Array	60.03	29	P	P	08 47 03.2	+0.7
	1.8nm,0.9s,baz=222,slow=2.0,SNR=8.5						
WRA	Warramunga Arr	67.39	111	P	P	08 47 51.4	-0.2
	1.1nm,1.0s,baz=283,slow=6.0,SNR=5.8						
ASAR	Alice Springs	67.45	115	P	P	08 47 52.0	+0.1
	1.3nm,1.1s,baz=288,slow=6.8,SNR=4.5						
TXAR	Lajitas Array	151.61	344	PKPbc	PKPbc	08 56 51.6	+0.8
	0.9nm,1.0s,baz=64,slow=5.7,SNR=5.5						

IDC 09 08:38:12.4±3.0**, 54.°52N×86.°27E, h0**km**, mb1 3.2**/2**, mb1mx3.1**/64**, mbtmp3.2**/2**, ML2.7**/2**, Error ellipse: s-maj=23.5km s-min=14.4km az=49.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.03	237	i		08 44 45.0	
	baz=59,slow=339,SNR=8.3						
ZALV	Zalesovo Beam	1.03	237	Pg	Pg	08 38 31.2	-0.9
	1.1nm,0.3s,baz=59,slow=18,SNR=15						
ZALV				Lg	Lg	08 38 46.5	
	2.4nm,0.3s,baz=54,slow=27,SNR=12						
KURBB	Kurchatov Arra	6.12	234	Pn	Pn	08 39 44.2	+0.1
	0.1nm,0.3s,baz=52,slow=14,SNR=6.7						
KURBB				Lg	Lg	08 41 22.6	
	0.0nm,0.3s,baz=52,slow=32,SNR=3.8						
MKAR	Makanchi Array	8.14	200	Pn	Pn	08 40 12.9	+1.1
	0.2nm,0.3s,baz=20,slow=12,SNR=7.7						
MKAR				Sn	Sn	08 41 45.2	+0.7
	0.1nm,0.3s,baz=19,slow=27,SNR=6.9						
MKAR				Lg	Lg	08 42 31.9	
	0.0nm,0.3s,baz=16,slow=22,SNR=7.6						

*ISCJB **09** 08:39:43.0±0.5, 33.°18S±0.°03×71.°54W±0.°05, h56km±6km, mb3.5/2, Error ellipse: s-maj=7.3km s-min=4.8km az=4.3*

*SJA **09** 08:39:43.2±1.2, 33.°13S×71.°52W, h49km±9km, ML3.6, MW3.7*

*NEIC **09** 08:39:44.0±0.0, 33.°08S×71.°21W, h66km, ML4.1(GUC), After GUC.*

NEIC Felt [III] at Alhue, Casablanca, Curacavi, El Quisco, Maria Pinto, Melipilla, Quillota, Valparaiso, Vina del Mar and Zapallar; [II] at San Pedro and Santiago. Also felt at Lampa.

*GUC **09** 08:39:45.2±0.7, 33.°09S×71.°20W, h68km±3km, ML4.1*

*IDC **09** 08:39:47.8±4.2, 33.°33S×71.°25W, h85km±45km, mb3.2/2, mb1 3.4/4, mb1mx3.2/23, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=55.1km s-min=36.5km az=65.0*

ISC 09 08:39:42.9±1.0**, 33.°22S**±0.°04×**71.°52W**±0.°05**, h51**km±8km**, n47, $\sigma 2^s.03$**/69**, 5C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	El Roble	0.49	60	ePn	Pn	08 39 55.3	+1.0
ROC1				eSn	Sn	08 40 03.0	+0.5
ROC1	El Roble	0.49	60	iP	Pn	08 39 55.4	+1.1
ROC1				eS	Sn	08 40 03.2	+0.7
ROCH	El Roble	0.49	60	⇑iP	Pn	08 39 55.4	+1.0
ROCH				iS	Sn	08 40 03.0	+0.4
ROCH				IAML		08 40 04.5	
	comp=E,18μm,0.5s						
PEL	Peldehue	0.70	84	ePn	Pn	08 39 57.2	+0.5
PEL				eSn	Sn	08 40 07.1	+0.3
PEL	Peldehue	0.70	84	iP	Pn	08 39 57.3	+0.5
PEL				eS	Sn	08 40 07.3	+0.4
PEL	Peldehue	0.70	84	⇑iP	Pn	08 39 56.7	-0.1
PEL				eS	Sn	08 40 05.8	-1.1
PEL				IAML		08 40 07.8	
	comp=N,9μm,0.2s						
CLCH	Cerro Calan	0.84	102	⇑iP	Pn	08 39 59.3	+0.8
CLCH				iS	Sn	08 40 10.0	0.0
CLCH				IAML		08 40 11.0	
	comp=N,10μm,0.4s						
FCH	Farellones	1.03	96	⇑iP	Pn	08 40 01.7	+0.3
FCH				iS	Sn	08 40 14.2	-0.8
FCH				IAML		08 40 14.9	
	comp=N,9μm,0.2s						
LMEL	Las Melosas	1.26	120	⇑iP	Pn	08 40 05.5	+1.2
LMEL				iS	Sn	08 40 20.9	+0.6
LMEL				IAML		08 40 23.5	
	comp=N,10μm,0.1s						
GO05	Huala	1.82	191	ePn	Pn	08 40 14.5	+2.8
GO05				eSn	Sn	08 40 33.9	+0.3
GO05	Huala	1.82	191	eP	Pn	08 40 14.6	+2.8
AUSP	Uspallata	2.05	62	iP	Pn	08 40 17.5	+2.2
AUSP				eS	Sn	08 40 42.0	+2.2
CMCH	Combarbala	2.09	12	eP	Pn	08 40 16.2	+0.7
ARCO	CERRO ARCO	2.21	81	iP	Pn	08 40 20.0	+2.8
ARCO				eS	Sn	08 40 50.7	+7.3
ARCO				IAML		08 40 50.8	
	comp=Z,226nm,0.3s						
AAGR	Agrelo	2.26	87	eP	Pn	08 40 20.6	+2.7
ASAL	Salagasta	2.34	75	eP	Pn	08 40 21.5	+2.5
ASAL				iS	Sn	08 40 51.1	+4.5
RTLS	Leoncito	2.35	54	iP	Pn	08 40 21.8	+2.4
RTLS				eS	Sn	08 40 51.4	+4.2
RTLS				IAML		08 40 55.3	
	comp=Z,320nm,0.7s						
AVIZ	Vizcacheras	2.53	97	iP	Pn	08 40 23.9	+2.4
RTCV	Cerro Valdivia	2.86	62	iP	Pn	08 40 28.1	+2.0
ZON	Zonda	2.93	56	iP	Pn	08 40 28.9	+1.9
RFA	San Rafael	2.97	122	eP	Pn	08 40 30.8	+3.2
RFA				IAML		08 40 50.0	
	comp=Z,87nm,0.6s						
GO04	Tololo Observa	3.10	12	ePn	Pn	08 40 30.9	+1.3
GO04				eSn	Sn	08 41 05.6	+0.1
GO04	Tololo Observa	3.10	12	eP	Pn	08 40 30.9	+1.3
RTLL	Cerro Villicun	3.19	55	iP	Pn	08 40 32.3	+1.7
RTLL				eS	Sn	08 41 11.1	+3.5
RTLL				IAML		08 41 15.6	
	comp=Z,103nm,0.4s						
CFA	Coronel Fontan	3.21	61	iP	Pn	08 40 32.2	+1.4
LSCH	La Serena	3.31	4	eP	Pn	08 40 32.4	+0.2
AMOG	MOGNA	3.43	49	eP	Pn	08 40 35.6	+1.6
ACAN	Cantantal	3.77	77	iP	Pn	08 40 39.7	+1.2
ACAN				eS	Sn	08 41 23.7	+2.0
LCO	Las Campanas	4.26	10	ePn	Pn	08 40 46.3	+0.8
LCO				eSn	Sn	08 41 33.6	-0.4
LCO	Las Campanas	4.26	10	eP	Pn	08 40 45.8	+0.4
LCO				eS	Sn	08 41 32.0	-1.9
LCO				IAML		08 41 57.0	
	comp=E,131nm,0.4s						
AGUA	GUANDACOL	4.54	36	eP	Pn	08 40 50.8	+1.7
MRA	San Martin	4.95	82	iP	Pn	08 40 54.9	+0.1
MRA				IAML		08 41 55.1	
	comp=Z,51nm,0.5s						
APLL	PUNTA DE LOS L	5.10	58	eP	Pn	08 40 56.5	-0.3
APLL				eS	Sn	08 41 54.1	-0.3
APLL				IAML		08 42 01.1	
	comp=Z,35nm,0.4s						
ACLC	CERRO LA CRUZ	5.44	47	eP	Pn	08 41 01.5	-0.1
GO03	Copiap	5.72	12	ePn	Pn	08 41 05.3	0.0
GO03				eSn	Sn	08 42 10.2	+0.6
TCA	Tanti	6.16	74	eP	Pn	08 41 10.9	-0.4
TCA				IAML		08 41 13.1	
	comp=Z,43nm,0.3s						
TCA				iS	Sn	08 42 19.2	-1.3
GO06	Curarrehue	6.35	180	ePn	Pn	08 41 16.1	+2.2
PLCA	Paso Flores	7.54	174	P	Pn	08 41 33.2	+3.0
	comp=Z,0.1nm,0.3s,baz=356,slow=10.0,SNR=9.4						
PLCA	Paso Flores	7.54	174	ePn	Pn	08 41 33.1	+2.9
GO02	Mina Guanaco	8.21	12	ePn	Pn	08 41 37.2	-2.5
TRQA	Tornquist	9.14	125	ePn	Pn	08 41 51.4	-0.7
CPUP	Villa Florida	14.10	65	ePn	Pn	08 42 56.2	-3.6
LPAZ	La Paz	17.14	11	P	P	08 43 43.3	+2.7
	comp=Z,0.1nm,0.3s,baz=196,slow=7.4,SNR=4.9						
TXAR	Lajitas Array	69.27	330	P	P	08 50 47.2	+2.4
	comp=Z,0.2nm,0.7s,baz=148,slow=5.3,SNR=3.1						
TORD	Torodi Ar. Bea	83.54	70	P	P	08 52 06.0	+0.3
	comp=Z,0.5nm,0.7s,baz=237,slow=4.6,SNR=3.7						
KSH	Kashi	153.18	67	PKPbc	PKPdf	08 59 24.0	-3.6
KSH				sPKP		09 00 00.5	
KSH				PP	PP	09 03 15.0	-6.1
KSH				AMB	AMB		
	comp=Z,330nm,6.5s						
MKAR	Makanchi Array	155.93	48	PKPab	PKPab	08 59 58.1	-0.2
	comp=Z,0.3nm,0.7s,baz=308,slow=2.9,SNR=3.5						

*NIED **09** 08:44:00, 37.°90N×139.°10E, h125km, Mw3.9 Best double couple: $M_0$6.70000×10^{14} NP1:ϕ_s90.00000°, δ48.00000°, λ179.00000°. NP2:ϕ_s181.00000°, δ89.00000°, λ42.00000°.*

*ISCJB **09** 08:44:25.3±0.3, 37.°84N±0.°04×139.°11E±0.°07, h185km±2km, mb3.8/17, Error ellipse: s-maj=8.9km s-min=5.6km az=19.0*

*IDC **09** 08:44:26.1±0.6, 37.°87N×139.°02E, h176km±6km, mb3.6/17, mb1 3.7/21, mb1mx3.6/57, mbtmp4.1/21, Error ellipse: s-maj=13.1km s-min=10.4km az=82.0*

*JMA **09** 08:44:26.6±0.1, 37.°86N×139.°12E, h180km±1km, M3.7 Broadband fault plane solution: P waves. NP1: ϕ_s351.00000°, δ77.00000°, λ-62.00000°. NP2: ϕ_s103.00000°, δ31.00000°, λ-154.00000°. Principal axes: T Plg27.0000°, Azm59.0000°; N Plg27.0000°, Azm164.0000°; P Plg50.0000°, Azm292.0000°;*

ISC 09 08:44:26.2±0.6**, 37.°81N**±0.°05×**139.°14E**±0.°06**, h183**km±5km**, n48, $\sigma 0^s.98$**/61**, mb3.9**/21**, 5C-8D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNS	Sasagawa	0.14	87	⇓P	Pn	08 44 50.3	-0.1
JNS				S	Sn	08 45 08.3	-0.6
JIZZ	Izumozaki	0.44	231	⇑P	Pn	08 44 52.0	+0.9
JIZZ				S	Sn	08 45 11.5	+1.3
JHK	Hiroka	0.57	190	⇓P	Pn	08 44 52.0	+0.3
JHK				S	Sn	08 45 11.1	-0.2
JFY	Yanaizu	0.60	132	⇓P	Pn	08 44 52.3	+0.4
JAW	Awa shima	0.65	8	⇓P	Pn	08 44 51.9	-0.1
JAW				S	Sn	08 45 11.3	-0.8
JSD	Sado	0.73	288	⇑P	Pn	08 44 52.2	-0.3
JSD				S	Sn	08 45 11.2	-1.5
JFT	Otama	0.99	107	⇓P	Pn	08 44 54.7	+0.5
JAG	Ashikaga	1.41	170	⇓P	Pn	08 44 58.0	+0.4
JSZ	Suzu	1.46	256	⇑P	Pn	08 44 58.3	+0.3
JYK	Kaneyama	1.46	41	⇓P	Pn	08 44 58.1	+0.1
JYK				eS	Sn	08 45 22.3	-0.5
MAT	Matsushiro	1.47	211	P	Pn	08 44 58.8	+0.5
MAT				S	Sn	08 45 23.3	+0.4
MAT	Matsushiro	1.47	211	P	Pn	08 44 58.7	+0.5
MAT				S	Sn	08 45 23.5	+0.6
MJAR	Matsushiro Arr	1.47	211	P	Pn	08 44 58.1	-0.1
	62nm,0.3s,baz=16,slow=8.8,SNR=938						
MJAR				S	Sn	08 45 21.9	-1.0
	2.5nm,0.3s,baz=303,slow=32,SNR=12						
JHG	Hegura jima	1.76	272	P	Pn	08 45 00.9	0.0
JRY	Ryogami san	1.80	186	⇑P	Pn	08 45 02.0	+0.5
JRY				S	Sn	08 45 29.2	+0.4
JMK	Ichinoseki	1.99	55	⇓P	Pn	08 45 03.4	+0.1
JYN	Shimob	2.36	192	⇑P	Pn	08 45 07.8	+0.2
JYN				S	Sn	08 45 39.7	0.0
JOM	Ohasama	2.37	45	P	Pn	08 45 07.7	+0.2
JOD2	Odawara 2	2.54	181	P	Pn	08 45 09.1	-0.6
JOD2				S	Sn	08 45 41.8	-1.6
JHJ	Hachijo jima 2	4.71	173	P	Pn	08 45 35.5	-1.0
	12nm,0.3s,baz=166,slow=23,SNR=7.8						
JHJ				S	Sn	08 46 27.4	-4.3
	40nm,0.3s,baz=61,slow=24,SNR=8.7						
ASAJ	Asahikawa	6.82	21	P	Pn	08 46 01.6	-2.3
	5.2nm,0.3s,baz=235,slow=9.3,SNR=21						
USRK	Ussuriysk Ar.	8.36	322	P	Pn	08 46 24.4	+0.2
	0.4nm,0.3s,baz=139,slow=13,SNR=18						
KLR	Kul'dur	12.60	337	P	Pn	08 47 17.4	-1.6
	0.2nm,0.3s,baz=146,slow=11,SNR=4.8						
SONM	Songino Array	25.85	303	P	P	08 49 40.0	-0.8
	9.9nm,0.5s,baz=106,slow=8.8,SNR=55						
ZALV	Zalesovo Beam	40.05	312	P	P	08 51 42.3	-1.0
	4.3nm,0.5s,baz=102,slow=7.9,SNR=18						
MKAR	Makanchi Array	42.17	301	P	P	08 52 00.4	-0.3
	2.5nm,0.7s,baz=86,slow=10,SNR=29						
RAMN	Ramite	45.15	272	eP	P	08 52 25.4	+0.4
	21nm,0.8s						
JIRN	Jiri	45.16	273	eP	P	08 52 26.4	+1.2
	8.8nm,0.3s						
GUN	Gumba	45.29	274	eP	P	08 52 28.0	+1.8
	8.9nm,0.3s						
DANN	Dangsing	46.77	275	eP	P	08 52 38.1	+0.5
	21nm,0.4s						
KOLN	Koldanda	47.15	275	eP	P	08 52 40.9	+0.4
PYUN	Piuthan	47.48	276	eP	P	08 52 43.4	+0.3
KDAK	Kodiak Island	47.74	42	P	P	08 52 45.1	+0.8
	8.4nm,1.0s,baz=323,slow=8.7,SNR=3.6						
AAK	Ala-Archa	48.52	297	P	P	08 52 51.4	+0.6
	3.2nm,0.8s,baz=66,slow=7.1,SNR=7.6						
ILAR	Eielson Array	49.81	33	P	P	08 53 00.7	+0.6
	0.3nm,0.6s,baz=249,slow=5.9,SNR=9.6						
AKTO	Aktyubinsk	56.80	311	P	P	08 53 50.5	-0.7
	baz=71,slow=14						
WRA	Warramunga Arr	57.62	185	P	P	08 53 57.7	+0.5
	1.3nm,0.5s,baz=1.2,slow=7.5,SNR=30						
ASAR	Alice Springs	61.35	185	P	P	08 54 23.7	+1.1
	0.5nm,0.6s,baz=14,slow=14,SNR=14						
ARCES	ARCESS Array B	62.62	339	P	P	08 54 30.4	-0.2
	2.8nm,1.0s,baz=69,slow=8.8,SNR=4.1						
YKA	Yellowknife Ar	64.04	30	P	P	08 54 40.7	+0.8
	0.3nm,0.8s,baz=300,slow=6.3,SNR=3.3						
FINES	FINESS Array B	67.27	331	P	P	08 55 00.4	-0.3
	3.1nm,0.9s,baz=59,slow=7.4,SNR=6.5						
AKASG	Malin Array Be	72.57	321	P	P	08 55 32.6	-0.4
	0.5nm,0.3s,baz=48,slow=6.1,SNR=3.6						
NB2	NORSAR Subarra	72.76	336	P	P	08 55 33.6	-0.5
	comp=Z,0.6nm,0.5s,baz=42,slow=5.9						
NOA	NORSAR Array B	72.76	336	P	P	08 55 34.2	+0.1
	comp=Z,1.2nm,0.6s,baz=40,slow=5.9,SNR=7.6						
NVAR	Mina Array Bea	75.96	52	P	P	08 55 54.3	+1.1
	comp=Z,0.5nm,0.7s,baz=297,slow=4.0,SNR=3.3						
BRTR	Keskin Array B	76.97	310	P	P	08 55 58.4	-0.4
	comp=Z,0.8nm,0.7s,baz=106,slow=5.1,SNR=3.0						
PDAR	Pinedale Array	78.40	44	P	P	08 56 08.0	+1.3
	comp=Z,0.3nm,0.6s,baz=270,slow=1.5,SNR=4.2						
GERES	GERESS Array B	81.09	327	P	P	08 56 21.0	+0.1
	comp=Z,0.8nm,0.5s,baz=35,slow=5.4,SNR=6.1						

*ISK **09** 08:47:12.7, 39.°73N×25.°59E, h11km, ML2.0/7*

*ATH **09** 08:47:13.6, 39.°72N×25.°63E, h20km±8km, ML2.0/1, Error ellipse: s-maj=8.6km s-min=1.0km az=245.0*

*ISCJB **09** 08:47:14.1±0.4, 39.°71N±0.°03×25.°63E±0.°04, h18km±8km, Error ellipse: s-maj=4.8km s-min=4.2km az=139.6*

*DDA **09** 08:47:16.4, 39.°98N×25.°86E, h7km±7km, ML2.5*

ISC 09 08:47:13.6±1.0**, 39.°73N**±0.°03×**25.°64E**±0.°03**, h14**km±9km**, n21, $\sigma 0^s.42$**/31**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.34	71	PG	Pb	08 47 21.2	-0.3
BOZC				SG	Sb	08 47 26.2	-0.6
BOZC	Bozcaada	0.34	71	IAML_P			
	comp=Z,2μm,0.1s						
BOZC				iP	Pb	08 47 21.4	0.0
LIA	Limnos Island	0.39	296	P	Pg	08 47 21.7	+0.3
LIA				S	Sb	08 47 27.3	-0.8
GADA	Gvkgeada	0.50	23	PG	Pg	08 47 23.8	+0.2
GADA				SG	Sg	08 47 30.9	+0.6
EFSA	Agios Efstrati	0.54	250	P	Pb	08 47 24.7	-0.1
EFSA				S	Sg	08 47 31.4	+0.2
EZN	Ezine	0.54	79	PG	Pg	08 47 23.9	-0.3
SIGR	SIGRI	0.54	162	PG	Pg	08 47 23.9	-0.4
SIGR	SIGRI	0.54	162	P	Pg	08 47 24.0	-0.3
SIGR				S	Sg	08 47 31.3	-0.2
SIGR				AML	AML	08 47 31.7	
	comp=E,360μm,0.4s						
SIGR				AML	AML	08 47 31.7	
	comp=N,384μm,0.5s						
PRK	Paraskevi	0.69	134	P	Pb	08 47 27.4	0.0
PRK				S	Sb	08 47 36.8	+0.1
BAYC	CANAKKALE_Bayr	0.70	89	IAML_P			
	comp=Z,1μm,0.1s						
BAYC				iP	Pg	08 47 27.4	+0.1
BAYC				iS	Sb	08 47 38.1	+0.9
SMTH	Samothraki Isl	0.74	354	P	Pb	08 47 28.6	+0.2
SMTH				S	Sb	08 47 38.7	+0.2
GELI	Tayfur-Gelibol	0.93	44	PG	Pg	08 47 31.3	-0.3
LPK	Lapseki	1.08	53	PN	Pb	08 47 34.2	+0.2
THAS	Thassos island	1.12	322	P	Pb	08 47 34.7	-0.1
THAS				S	Sn	08 47 50.5	+0.3
ERIK	Erikli-Kesan	1.16	35	PN	Pb	08 47 34.9	-0.5
ALN	Alexandroupoli	1.21	15	PN	Pn	08 47 35.5	-0.6
ALN	Alexandroupoli	1.21	15	P	Pg	08 47 36.6	-0.2
ALN				S	Sn	08 47 52.9	+0.6
KESN	Edirne-Kesan	1.35	36	IAML_P			
	comp=Z,131nm,0.3s						
KESN				iP	Pn	08 47 38.1	-0.4
CHOS	Chios island	1.38	166	PN	Pn	08 47 38.8	+0.2
CHOS	Chios island	1.38	166	P	Pn	08 47 39.0	+0.5
KRBG	Karabiga-Canak	1.44	62	PN	Pb	08 47 40.2	0.0

IDC 09 08:52:14.6±4.8**, 54.°20N×87.°34E, h0**km**, mb1 2.8**/2**, mb1mx2.8**/54**, mbtmp2.8**/2**, ML2.5**/2**, Error ellipse: s-maj=51.9km s-min=23.0km az=67.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.51	261	i		09 02 03.8	
	baz=82,slow=352,SNR=3.2						
ZALV	Zalesovo Beam	1.51	261	Pn	Pn	08 52 41.4	-1.4
	1.3nm,0.3s,baz=78,slow=17,SNR=12						
ZALV				Sn	Sn	08 53 05.9	+2.7
	1.3nm,0.3s,baz=80,slow=25,SNR=6.8						
KURBB	Kurchatov Arra	6.47	240	Pn	Pn	08 53 51.4	+0.3
	0.1nm,0.3s,baz=58,slow=14,SNR=3.1						
MKAR	Makanchi Array	8.09	205	Pn	Pn	08 54 15.0	+1.8
	0.1nm,0.3s,baz=26,slow=14,SNR=3.8						

IDC 09 08:56:52.5±15.0**, 2.°38S×66.°90E, h0**km**, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.3**/47**, mbtmp3.5**/3**, Error ellipse: s-maj=465.7km s-min=40.1km az=69.0, South Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	50.81	14	P	P	09 05 54.4	-0.4
	0.7nm,0.9s,baz=182,slow=7.2,SNR=4.2						
SONM	Songino Array	60.73	29	P	P	09 07 06.2	+0.2
	0.6nm,0.8s,baz=222,slow=5.8,SNR=3.6						
WRA	Warramunga Arr	68.00	110	P	P	09 07 54.1	0.0
	0.6nm,1.1s,baz=287,slow=5.9,SNR=2.8						

IDC 09 08:59:11.9±2.5**, 54°.25N×86°.14E, h0**km**, mb1 3.1**/2**, mb1mx3.0**/48**, mbtmp3.1**/2**, ML2.8**/2**, Error ellipse: s-maj=19.4km s-min=11.8km az=51.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.83	249	*i*		09 04 06.9	
	baz=70,slow=350,SNR=5.7						
ZALV	Zalesovo Beam	0.83	249	Pg	Pg	08 59 26.2	-1.6
	1.7nm,0.3s,baz=64,slow=17,SNR=12						
ZALV				Lg	Lg	08 59 40.3	
	6.0nm,0.3s,baz=70,slow=28,SNR=20						
KURBB	Kurchatov Arra	5.90	235	Pn	Pn	09 00 42.0	+1.5
	0.2nm,0.3s,baz=50,slow=13,SNR=3.1						
MKAR	Makanchi Array	7.86	200	Pn	Pn	09 01 08.4	+1.0
	0.3nm,0.3s,baz=22,slow=13,SNR=15						

*BJI **09** 09:02:32.1, 2°.57S×67°.36E, h10km, mb4.9/37, mB5.2/26, Ms4.6/13, Ms7 4.4/14*

*MOS **09** 09:02:38.8±1.0, 1°.90S×68°.05E, h10km, mb4.8/22, Error ellipse: s-maj=10.2km s-min=7.6km az=86.4*

*IDC **09** 09:02:38.9±0.5, 1°.89S×67°.99E, h0km, mb4.4/26, mb1 4.4/26, mb1mx4.3/43, mbtmp4.4/26, MS3.9/32, Ms1 3.9/32, ms1mx3.7/53, Error ellipse: s-maj=16.3km s-min=12.3km az=155.0*

*NEIC **09** 09:02:39.8±0.2, 1°.94S×67°.89E, h10km, mb4.7/19, Error ellipse: s-maj=6.4km s-min=5.4km az=165.0*

*ISCJB **09** 09:02:39.0±0.3, 2°.01S±0°.04×67°.90E±0°.04, h15km, mb4.6/75, MS3.9/34, Error ellipse: s-maj=6.4km s-min=5.8km az=0.4*

*GCMT **09** 09:02:41.8±0.3, 1°.92S±0°.03×67°.89E±0°.02, h13km±1km, MW4.9/61, Moment Tensor Solution. s25,c29; s61,c83; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.36±.15; $M_{\theta\theta}$1.12±.10; $M_{\phi\phi}$1.24±.11; $M_{r\theta}$1.30±.29; $M_{\theta\phi}$-0.95±.07; $M_{\phi r}$0.67±.25; Best double couple: $M_0$2.58900×10^{16} NP1:ϕ_s293.00000°, δ55.00000°, λ-118.00000°. NP2: ϕ_s156.00000°, δ43.00000°, λ-56.00000°. Principal axes: T 2.1760, Plg7.0000°, Azm42.0000°; N 0.8250, Plg23.0000°, Azm309.0000°; P -3.0020, Plg66.0000°, Azm147.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 09:02:40.9±0.4**, 1°.96S**±0°.06×**67°.87E**±0°.06**, h15**km**, n172, σ1s.55**/170**, mb4.7**/82**, MS3.8**/35**, 10C, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.35	144	T	T	09 09 22.7	
	baz=324,slow=75,SNR=62						
H08N3	Diego Garcia H	5.36	145	T	T	09 09 23.9	
	baz=324,slow=75,SNR=28						
H08N1	Diego Carcia H	5.37	144	T	T	09 09 19.5	
	baz=324,slow=75,SNR=71						
DGAR	Diego Garcia	7.09	140	*e*Pn	**Pn**	**09 04 23.5**	**-0.6**
DGAR	Diego Garcia	7.09	140	*e*P	**Pn**	**09 04 23.5**	**-0.6**
PALK	Pallekele	15.75	54	LR	LR	09 11 03.5	
	comp=Z,840nm,20.1s,baz=294,slow=32						
PALK	Pallekele	15.75	54	*e*Pn	**Pn**	**09 06 20.5**	**-1.9**
	54nm,1.4s						
PALK	Pallekele	15.75	54	*e*P	**Pn**	**09 06 20.5**	**-1.9**
PALK				pmax	pmax		
	comp=Z,54nm,1.4s						
MRIV	Mauritius Mete	20.86	208	*e*P	**P**	**09 07 22.1**	**-0.4**
	comp=Z,130nm,2.0s						
HYB	Hyderabad	21.94	28	*i* P	**P**	**09 07 35.0**	**+0.9**
RER	Riviere de l'E	22.45	211	*e*P	**P**	**09 07 39.8**	**+0.2**
	comp=Z,68nm,1.2s						
OPO	Ambohidratompo	26.15	229	LR	LR	09 16 06.5	
	comp=Z,633nm,20.5s,baz=16,slow=31						
WSAR	Wadi Sarin	26.61	341	LR	LR	09 17 06.8	
	comp=Z,121nm,18.6s,baz=174,slow=33						
ATD	Arta Tunnel	28.25	299	LR	LR	09 17 28.9	
	comp=Z,152nm,21.9s,baz=172,slow=31						
ATD	Arta Tunnel	28.25	299	*e*P	**P**	**09 08 33.5**	**-0.3**
	comp=Z,18nm,1.1s						
DAMY	Dhamar	28.47	306	*e*P	**P**	**09 08 35.5**	**-0.5**
	comp=Z,8.2nm,0.5s						
SNSI	Sinabang, Aceh	28.78	81	P	**P**	**09 08 38.9**	**+0.5**
GSI	Gunungsitoli	29.88	84	*e*P	**P**	**09 08 47.8**	**-0.4**
	comp=Z,37nm,1.3s						
LHMI	Lhok Sumawe	29.91	76	*e*P	**P**	**09 08 47.2**	**-1.2**
	comp=Z,124nm,0.9s						
KMBO	Kilima Mbogo	30.62	271	P	**P**	**09 08 58.1**	**+3.1**
	comp=Z,5.7nm,0.8s,baz=57,slow=9.2,SNR=12						
KMBO				LR	LR	09 20 00.1	
	comp=Z,201nm,19.1s,baz=90,slow=34						
KMBO	Kilima Mbogo	30.62	271	*e*P	**P**	**09 08 53.2**	**-1.9**
	comp=Z,6.3nm,1.0s						
KMBO	Kilima Mbogo	30.62	271	*i* P	**P**	**09 08 59.2**	**+4.1**
KMBO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PSI	Prapat	31.40	81	*e*P	**P**	**09 09 00.8**	**-1.0**
	comp=Z,9.1nm,1.2s						
PSI	Prapat	31.40	81	*e*P	**P**	**09 09 00.8**	**-1.0**
PSI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KOLN	Koldanda	33.20	26	*e*P	**P**	**09 09 18.3**	**+0.8**
	comp=Z,61nm,1.5s						
PYUN	Piuthan	33.23	25	*e*P	**P**	**09 09 18.9**	**+1.1**
	comp=Z,49nm,1.2s						
RAYN	Ar Rayn	33.40	321	*e*P	**P**	**09 09 18.9**	**-0.2**
	comp=Z,8.8nm,1.5s						
RAYN	Ar Rayn	33.40	321	*e*P	**P**	**09 09 18.9**	**-0.2**
RAYN				pmax	pmax		
	comp=Z,9.0nm,1.5s						
KULM	Kulim	33.52	77	*e*P	**P**	**09 09 20.0**	**-0.3**
	comp=Z,34nm,1.2s						
DMN	Daman	33.75	28	*e*P	**P**	**09 09 23.5**	**+1.1**
	comp=Z,39nm,0.9s						
DANN	Dangsing	33.78	26	*e*P	**P**	**09 09 23.5**	**+0.9**
	comp=Z,34nm,1.0s						
PKIN	Phulchoki	33.86	29	*e*P	**P**	**09 09 24.1**	**+0.7**
RAMN	Ramite	33.94	31	*e*P	**P**	**09 09 25.5**	**+1.5**
	comp=Z,34nm,1.1s						
KKN	Kakani	33.99	28	*e*P	**P**	**09 09 25.2**	**+0.8**
	comp=Z,32nm,0.9s						
JIRN	Jiri	34.32	30	*e*P	**P**	**09 09 28.0**	**+0.6**
GUN	Gumba	34.38	29	*e*P	**P**	**09 09 29.2**	**+1.3**
	comp=Z,44nm,0.9s						
UMPA	Umpang Tak	35.54	58	P	**P**	**09 09 41.4**	**+3.7**
	comp=Z,4.7nm,0.9s,comp=Z,2µm						
UTHA	Uthaitani	35.74	60	P	**P**	**09 09 42.3**	**+2.8**
	comp=Z,13nm,0.6s,comp=Z,6µm						
CMAR	Chiang Mai Arr	36.69	55	P	**P**	**09 09 48.1**	**+0.6**
	comp=Z,1.9nm,0.3s,baz=245,slow=10.0,SNR=10						
CMAR				PcP	**PcP**	**09 12 10.8**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=264,slow=2.9,SNR=5.3						
CMAR				LR	LR	09 23 17.1	
	comp=Z,156nm,21.3s,baz=244,slow=34						
CMAR	Chiang Mai Arr	36.69	55	*ce*P	**P**	**09 09 49.4**	**+1.8**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
DSRI	Dabo	36.73	88	P	**P**	**09 09 46.5**	**-1.4**
CHTO	Chiang Mai	36.87	55	*e*P	**P**	**09 09 48.6**	**-0.5**
	comp=Z,14nm,1.2s						
CHTO	Chiang Mai	36.87	55	*e*P	**P**	**09 09 48.6**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,14nm,1.2s						
CHTO	Chiang Mai	36.87	55	P	**P**	**09 09 50.6**	**+1.5**
	comp=Z,50nm,1.3s						
CMMT	Chiang Mai	36.88	55	P	**P**	**09 09 50.5**	**+1.4**
	comp=Z,11nm,1.3s						
MBAR	Mbarara	37.15	272	P	**P**	**09 09 52.5**	**+0.8**
	comp=Z,3.1nm,0.2s,baz=37,slow=20,SNR=2.1						
MBAR	Mbarara	37.15	272	*i* P	**P**	**09 09 52.8**	**+1.1**
MBAR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
PBKT	Sadao Pong	37.51	59	*e*P	**P**	**09 09 54.4**	**0.0**
	comp=Z,10nm,1.0s						
PBKT	Sadao Pong	37.51	59	P	**P**	**09 09 56.3**	**+1.8**
PAYA	Payao	37.90	55	P	**P**	**09 10 01.2**	**+3.4**
	comp=Z,2µm,0.7s,comp=Z,69µm						
CHAI	Chaiyaphum	38.10	61	P	**P**	**09 10 01.3**	**+1.8**
	comp=Z,8.0nm,0.9s						
PPBI	Pangkal Pinang	38.24	91	P	**P**	**09 09 59.9**	**-0.9**
LSA	Lhasa	38.55	33	*e*P	**P**	**09 10 05.7**	**+2.0**
LSA	Lhasa	38.55	33	*e*P	**P**	**09 10 05.7**	**+2.0**
NONG	Nongkai	40.03	59	P	**P**	**09 10 16.5**	**+0.9**
	comp=Z,0.5nm,1.1s						
GEYT	Alibeck	40.70	348	P	**P**	**09 10 20.8**	**-0.1**
	comp=Z,15nm,0.6s,baz=159,slow=8.9,SNR=4.5						
GEYT				LR	LR	09 25 59.3	
	comp=Z,129nm,21.7s,baz=50,slow=34						
LSZ	Lusaka	41.31	249	P	**P**	**09 10 28.6**	**+2.2**
	comp=Z,5.1nm,0.5s,baz=66,slow=8.2,SNR=9.1						
LSZ	Lusaka	41.31	249	*e*P	**P**	**09 10 23.8**	**-2.6**
	comp=Z,8.4nm,0.8s						
LSZ	Lusaka	41.31	249	*e*P	**P**	**09 10 23.8**	**-2.6**
LSZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KSH	Kashi	41.94	9	P	**P**	**09 10 28.6**	**-2.6**
KSH				sP	pP	09 10 35.3	+0.2
KSH				PcP	**PcP**	**09 12 25.6**	**-1.0**
KSH				S	**S**	**09 16 43.2**	**-6.1**
KSH				pmax	pmax		
	comp=Z,43nm,1.3s						
KSH				pmax	pmax		
	comp=Z,410nm,5.3s						
KSH				LR	LR		
	comp=Z,190nm,5.8s						
KSH				LR	LR		
	comp=Z,160nm,5.2s						
KSH				LR	LR		
	comp=Z,310nm,7.9s						
MATP	Matopo	42.58	242	P	**P**	**09 10 37.9**	**+1.2**
	comp=Z,4.2nm,1.0s,baz=73,slow=9.1,SNR=4.3						
KMI	Kunming	43.20	49	P	**P**	**09 10 44.4**	**+2.6**
KMI				pmax	pmax		
	comp=Z,13nm,0.7s						
UCH	Uchtor	44.39	7	P	**P**	**09 10 52.9**	**+1.5**
	SNR=6.2						
ULHL	Ulahol	44.65	9	P	**P**	**09 10 54.8**	**+1.6**
	SNR=5.9						
EKS2	Erkin-Say	44.73	6	P	**P**	**09 10 55.7**	**+2.0**
	SNR=13						
AAK	Ala-Archa	44.79	7	P	**P**	**09 10 55.5**	**+1.3**
	comp=Z,3.3nm,0.8s,baz=188,slow=9.5,SNR=8.4						
AAK				LR	LR	09 29 33.3	
	comp=Z,91nm,18.1s,baz=176,slow=36						
AAK	Ala-Archa	44.79	7	P	**P**	**09 10 55.5**	**+1.3**
	SNR=6.0						
AAK	Ala-Archa	44.79	7	*e*P	**P**	**09 10 54.8**	**+0.5**
	comp=Z,8.4nm,1.0s						
AAK	Ala-Archa	44.79	7	*ce*P	**P**	**09 10 55.7**	**+1.4**
AAK				pmax	pmax		
	comp=Z,13nm,1.7s						
KBK	Karagaybulak	44.87	7	P	**P**	**09 10 56.7**	**+1.8**
	SNR=11						
FRU	Bishkek	45.00	7	*e*P	**P**	**09 10 57.0**	**+1.2**
TKM2	Tokmak 2	45.21	8	P	**P**	**09 10 58.8**	**+1.1**
	SNR=18						
PDGK	Podgornoye	46.28	12	P	**P**	**09 11 07.1**	**+1.1**
PDGK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GYA	Guiyang	46.90	50	*e*P	**P**	**09 11 12.0**	**+0.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2	Chengdu	47.27	43	*e*P	**P**	**09 11 14.0**	**+0.1**
BOSA	Boshof	48.48	233	P	**P**	**09 11 24.7**	**+1.2**
	comp=Z,3.6nm,0.9s,baz=51,slow=7.6,SNR=5.0						
BOSA				LR	LR	09 29 51.7	
	comp=Z,163nm,18.5s,baz=30,slow=34						
WMQ	Urumqi	48.92	19	*e*P	**P**	**09 11 27.5**	**+1.1**
WMQ				pP	pP	09 11 30.3	-0.1
WMQ				PP	**PP**	**09 13 23.4**	**+3.4**
WMQ				S	**S**	**09 18 34.7**	**+4.8**
WMQ				pmax	pmax		
	comp=Z,22nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,290nm,5.1s						
WMQ				LR	LR		
	comp=Z,530nm,19.9s						
WMQ				LR	LR		
	comp=Z,180nm,25.9s						
WMQ				LR	LR		
	comp=Z,410nm,26.7s						
MAKZ	Makanchi	50.12	13	*e*P	**P**	**09 11 34.7**	**-0.8**
	comp=Z,8.7nm,1.0s						
MAKZ	Makanchi	50.12	13	*e*P	**P**	**09 11 34.7**	**-0.8**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
OTUK	Ortayu	50.15	4	P	**P**	**09 11 37.2**	**+1.5**
OTUK				pmax	pmax		
	comp=Z,10.0nm,1.5s						
MKAR	Makanchi Array	50.18	13	P	**P**	**09 11 35.6**	**-0.3**
	comp=Z,3.9nm,0.7s,baz=195,slow=7.4,SNR=49						
MKAR				PcP	**PcP**	**09 12 55.1**	**0.0**
	comp=Z,2.6nm,1.0s,baz=202,slow=5.2,SNR=5.0						
MKAR				LR	LR	09 31 59.3	
	comp=Z,84nm,19.1s,baz=192,slow=35						
MKAR	Makanchi Array	50.18	13	*e*P	**P**	**09 11 35.5**	**-0.5**
	comp=Z,27nm,0.8s						
MKAR				PcP	**PcP**	**09 12 55.1**	**0.0**
MKAR	Makanchi Array	50.18	13	*e*P	**P**	**09 11 35.5**	**-0.5**
MKAR						09 12 55.1	
MKAR				pmax	pmax		
	comp=Z,27nm,0.8s						
NEY	Neytrino	50.36	336	*i* P	**P**	**09 11 38.0**	**+0.4**
NEY				pmax	pmax		
	comp=Z,2.0nm,1.2s						
GTA	Gaotai	50.54	32	*e*P	**P**	**09 11 38.6**	**-0.3**
GTA				pP	pP	09 11 43.0	+0.1
GTA				sP	pwP	09 11 45.9	-0.3
GTA				PcP	**PcP**	**09 12 57.8**	**+1.0**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,69nm,5.0s						
GTA				LR	LR		
	comp=Z,190nm,20.8s						
GTA				LR	LR		
	comp=Z,180nm,17.5s						
GTA				LR	LR		
	comp=Z,400nm,22.3s						
LZH	Lanzhou	50.56	38	*e*P	**P**	**09 11 42.5**	**+3.3**
LZH				pP	pwP	09 11 46.0	-0.4
LZH				sP	sP	09 11 48.5	+3.8
LZH				*e*S	**S**	**09 18 59.3**	**+6.0**
LZH				sS	sS	09 19 06.9	+7.8
LZH				SS	**SS**	**09 22 28.2**	**+0.5**
LZH				pmax	pmax		
	comp=Z,14nm,1.1s						
LZH				pmax	pmax		
	comp=Z,76nm,5.4s						
LZH				LR	LR		
	comp=Z,500nm,10.8s						
LZH				LR	LR		
	comp=Z,380nm,11.1s						
LZH				LR	LR		
	comp=Z,490nm,12.2s						
KBZ	Khabaz	50.70	337	P	**P**	**09 11 40.4**	**+0.5**
	comp=Z,4.1nm,0.9s,baz=155,slow=7.9,SNR=5.9						
SHA1	Shidzhatmaz	50.80	337	*i* P	**P**	**09 11 43.1**	**+2.2**
KIV	Kislovodsk	50.97	337	*e*P	**P**	**09 11 43.0**	**+0.9**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ENH	Enshi	50.99	48	*e*P	**P**	**09 11 42.0**	**-0.4**
	comp=Z,19nm,0.7s						
ABKAR	Akbulak array	51.47	353	*e*P	**P**	**09 11 44.4**	**-1.2**
BRTR	Keskin Array B	52.00	327	P	**P**	**09 11 49.5**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=138,slow=11,SNR=5.2						
BRTR	Keskin Array B	52.00	327	*ce*P	**P**	**09 11 52.7**	**+2.8**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MPSI	Mapaga	52.07	88	P	**P**	**09 11 50.7**	**0.0**
XAN	Xi'an	52.63	43	P	**P**	**09 11 54.1**	**-0.5**
XAN				pP	pwP	09 12 01.1	-0.9
XAN				pmax	pmax		
	comp=Z,18nm,0.8s						
AKTO	Aktyubinsk	52.87	352	P	**P**	**09 11 55.5**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=155,slow=7.8,SNR=11						
AKTO				LR	LR	09 33 27.0	
	comp=Z,66nm,19.6s,baz=164,slow=35						
KURK	Kurchatov	53.27	9	*e*P	**P**	**09 11 58.7**	**-0.2**
	comp=Z,11nm,0.8s						
KURK	Kurchatov	53.27	9	*ce*P	**P**	**09 11 59.1**	**+0.2**
KURK				pmax	pmax		
	comp=Z,26nm,1.7s						
DGZ	Jazzator, Alta	54.15	16	*c i*P	**P**	**09 12 05.9**	**+0.3**
DGZ				pmax	pmax		
	comp=Z,9.0nm,1.6s						
BVAR	Borovoye Array	54.82	2	LR	LR	09 35 16.6	
	comp=Z,76nm,20.9s,baz=182,slow=36						
BRVK	Borovoye	54.85	2	*e*P	**P**	**09 12 09.8**	**-0.7**
	comp=Z,8.1nm,1.4s						
BRVK	Borovoye	54.85	2	*ce*P	**P**	**09 12 11.3**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
BATI	Baumata	56.01	101	LR	LR	09 35 25.6	
	comp=Z,138nm,20.2s,baz=311,slow=35						
ZAA0	Zalesovo Array	57.47	12	*e*P	**P**	**09 12 28.3**	**-0.8**
	comp=Z,12nm,0.8s						
ZALV	Zalesovo Beam	57.47	12	P	**P**	**09 12 28.4**	**-0.7**
	comp=Z,7.7nm,0.6s,baz=213,slow=7.4,SNR=38						
ZALV				LR	LR	09 35 17.7	
	comp=Z,77nm,20.9s,baz=248,slow=34						
ZALV	Zalesovo Beam	57.47	12	*e*P	**P**	**09 12 28.2**	**-0.9**
ZALV	Zalesovo Beam	57.47	12	*e*P	**P**	**09 12 28.2**	**-0.9**
NVS	Novosibirsk	58.01	10⇑	*i*P	**P**	**09 12 32.6**	**-0.3**
NVS				pmax	pmax		
	comp=Z,12nm,0.9s						
NVS				pmax	pmax		
	comp=N,7.0nm,0.8s						
HHC	Hu-ho-hao-te	58.26	38	*e*P	**P**	**09 12 36.4**	**+1.3**
HHC				sP	pwP	09 12 43.7	+1.1
HHC				PP	**PP**	**09 14 44.1**	**-0.1**
HHC				S	**S**	**09 20 35.8**	**-1.0**
HHC				pmax	pmax		
	comp=N,16nm,1.1s						
HHC				pmax	pmax		
	comp=N,170nm,4.8s						
DAV	Davao City (W)	58.28	81	LR	LR	09 36 06.4	
	comp=N,79nm,21.8s,baz=313,slow=34						
ARU	Arti	58.69	354	P	**P**	**09 12 35.8**	**-1.8**
ARU				S	**S**	**09 20 40.0**	**-1.6**
FITZ	Fitzroy Crossi	58.84	110	LR	LR	09 37 36.2	
	comp=N,54nm,18.2s,baz=288,slow=36						
NJ2	Nanjing	58.91	50	*e*P	**P**	**09 12 38.2**	**-1.4**
NJ2				pmax	pmax		
	comp=N,12nm,0.5s						
SONM	Songino Array	59.88	29	P	**P**	**09 12 46.7**	**+0.4**
	comp=N,7.2nm,0.8s,baz=223,slow=7.1,SNR=39						
SONM				LR	LR	09 38 50.8	
	comp=N,342nm,18.3s,baz=196,slow=36						
ZAK	Zakamensk	60.30	25	*e*P	**P**	**09 12 48.5**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
KIEV	Kiev	61.95	333	*i* P	**P**	**09 12 57.2**	**-2.9**
KIEV				pmax	pmax		
	comp=Z,2.0nm,1.0s						
OBN	Obninsk	62.43	340	*i* P	**P**	**09 13 02.3**	**-0.8**
OBN				*e*S	**S**	**09 21 30.9**	**+1.4**
OBN				*e*SS	**SS**	**09 25 31.8**	**-1.7**
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SIJI	Sorong	63.38	90	LR	LR	09 38 26.7	
	comp=Z,22nm,19.7s,baz=333,slow=34						
FAKI	Fak Fak	64.32	92	*e*P	**P**	**09 13 16.6**	**0.0**
	comp=Z,15nm,1.2s						
FAKI	Fak Fak	64.32	92	P	**P**	**09 13 17.6**	**+1.0**
JOW	Kunigami	64.80	59	LR	LR	09 39 34.7	
	comp=Z,274nm,21.8s,baz=248,slow=34						
MAW	Mawson	65.62	182	LR	LR	09 35 03.9	
	comp=Z,143nm,19.9s,baz=12,slow=30						
PRGR	Permogore	65.67	349	*e*P	**P**	**09 13 22.0**	**-2.3**
PRGR				pmax	pmax		
	comp=Z,12nm,1.1s						
KLMR	Klimovskoe	66.36	345	*e*P	**P**	**09 13 26.0**	**-2.8**
KLMR				pmax	pmax		
	comp=Z,20nm,1.4s						
KLMR	Klimovskoe	66.36	345	*e*P	**P**	**09 13 26.0**	**-2.8**
KLMR				AMP		09 13 32.2	
	comp=Z,20nm,1.4s						
WRA	Warramunga Arr	67.24	111	P	**P**	**09 13 35.0**	**-0.3**
	comp=Z,5.7nm,1.0s,baz=283,slow=5.9,SNR=24						
WRA				LR	LR	09 39 19.9	
	comp=Z,51nm,21.9s,baz=215,slow=33						
WRAB	Tennant Creek	67.25	111	*ce*P	**P**	**09 13 34.7**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WB2	Warramunga Arr	67.25	111	*e*P	**P**	**09 13 34.2**	**-1.1**
	comp=Z,20nm,1.4s						
ASAR	Alice Springs	67.31	115	P	**P**	**09 13 35.5**	**-0.2**
	comp=Z,2.9nm,1.0s,baz=283,slow=6.1,SNR=14						
ASAR				LR	LR	09 41 57.4	
	comp=Z,36nm,18.8s,baz=263,slow=35						
TORD	Torodi Ar. Bea	67.32	285	P	**P**	**09 13 36.6**	**+0.8**
	comp=Z,1.3nm,1.0s,baz=86,slow=9.0,SNR=5.6						
TORD				LR	LR	09 43 19.2	
	comp=Z,110nm,18.0s,baz=50,slow=36						
AS01	Alice Springs	67.35	115	*e*P	**P**	**09 13 35.1**	**-0.9**
KSAR	Wonju Array Be	67.85	48	P	**P**	**09 13 38.4**	**-0.4**
KSAR	Wonju Array Be	67.85	48	P	**P**	**09 13 38.4**	**-0.4**
KSRS	Korea Array	67.88	48	P	**P**	**09 13 38.4**	**-0.6**
	comp=Z,2.3nm,0.9s,baz=246,slow=7.6,SNR=4.6						
KSRS				LR	LR	09 43 53.9	
	comp=Z,99nm,20.0s,baz=214,slow=37						
CN2	Changchun	68.62	41	*e*P	**P**	**09 13 43.5**	**0.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
JNU	Nakatsue	68.76	53	LR	LR	09 44 55.3	
	comp=Z,120nm,19.1s,baz=242,slow=37						
CLL	Collm	70.45	327	*e*P	**P**	**09 13 55.0**	**+0.4**
CLL	Collm	70.45	327	*e*P	**P**	**09 13 55.0**	**+0.4**
FINES	FINESS Array B	70.83	340	P	**P**	**09 13 56.6**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=101,slow=5.6,SNR=2.8						
SENIN	Lac Senin/Sane	71.60	321	*e*P	**P**	**09 14 01.1**	**-0.9**
	comp=Z,28nm,1.9s						
JAY	Jayapura	72.77	92	LR	LR	09 46 00.4	
	comp=Z,60nm,20.1s,baz=233,slow=36						
DBIC	Dimbokro	73.09	278	P	**P**	**09 14 12.9**	**+1.6**
	comp=Z,1.7nm,0.7s,baz=66,slow=9.5,SNR=3.2						
DBIC				LR	LR	09 44 02.9	
	comp=Z,64nm,21.3s,baz=70,slow=34						
USRK	Ussuriysk Ar.	73.13	43	P	**P**	**09 14 09.8**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=198,slow=12,SNR=4.2						
USRK				LR	LR	09 50 51.3	
	comp=Z,50nm,18.1s,baz=236,slow=40						
ZEA	Zeya	74.03	32	*e*P	**P**	**09 14 16.1**	**+0.1**
ZEA				pmax	pmax		
	comp=Z,15nm,1.0s						
KLR	Kul'dur	74.76	38	P	**P**	**09 14 19.6**	**-0.8**
	comp=Z,4.8nm,0.9s,baz=264,slow=6.1,SNR=14						
STKA	Stephens Creek	75.16	122	LR	LR	09 43 58.4	
	comp=Z,30nm,19.9s,baz=214,slow=33						
MJAR	Matsushiro Arr	75.48	52	P	**P**	**09 14 24.7**	**-0.1**
	comp=Z,3.6nm,0.8s,baz=264,slow=6.9,SNR=4.7						
MJAR				LR	LR	09 47 54.5	
	comp=Z,80nm,20.0s,baz=255,slow=36						
NOA	NORSAR Array B	76.25	335	LR	LR	09 50 25.6	
	comp=Z,36nm,18.4s,baz=295,slow=38						
ESDC	Sonseca Array	77.35	311	P	**P**	**09 14 35.2**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=87,slow=6.4,SNR=5.6						
YSS	Yuzh-Sakhalins	81.15	42⇑	*e*P	**P**	**09 14 55.4**	**-0.5**
YSS				*e*		09 15 00.0	
YSS				pmax	pmax		
	comp=Z,20nm,1.2s						
TIXI	Tiksi	83.03	16	P	**P**	**09 15 05.0**	**-0.2**
	comp=Z,7.9nm,0.8s,baz=196,slow=1.4,SNR=15						
TIXI	Tiksi	83.03	16	P	**P**	**09 15 05.0**	**-0.2**
TIXI	Tiksi	83.03	16	P	**P**	**09 15 05.0**	**-0.2**
VNDA	Vanda	88.97	167	P	**P**	**09 15 35.6**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=297,slow=6.5,SNR=4.6						
SEY	Seymchan	89.22	27	*i* P	**P**	**09 15 34.5**	**-1.4**
PETK	Petropavlovsk-	91.45	37	LR	LR	09 59 35.2	
	comp=Z,100nm,19.5s,baz=271,slow=37						
BILL	Bilibino	94.95	22	*e*P	**P**	**09 16 03.3**	**+0.9**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,104nm,14.0s						
YKA	Yellowknife Ar	119.58	1	PKP	**PKPdf**	**09 21 29.0**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=348,slow=2.2,SNR=9.3						
YKA				PP	**PP**	**09 22 53.5**	**+2.2**
	comp=Z,0.2nm,0.9s,baz=354,slow=7.3,SNR=4.8						
BOZ	Bozeman (W)	136.53	359	*e*PKPdf	**PKPdf**	**09 22 01.3**	**-1.6**
BOZ	Bozeman (W)	136.53	359	*e*PKIKP	**PKPdf**	**09 22 01.3**	**-1.6**
PDAR	Pinedale Array	139.30	357	PKP	**PKPdf**	**09 22 08.0**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=333,slow=0.7,SNR=6.8						
ISCO	Idaho Springs	141.87	352	*e*PKPdf	**PKPdf**	**09 22 11.2**	**-1.8**
ISCO	Idaho Springs	141.87	352	*e*PKIKP	**PKPdf**	**09 22 11.2**	**-1.8**
NVAR	Mina Array Bea	143.26	8	PKP	**PKPdf**	**09 22 14.4**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=129,slow=1.1,SNR=5.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMOK	**Wichita Mounta**	**145.09**	**341**	*e*PKPbc	**PKPbc**	**09 22 17.1**	**-0.7**
WMOK	**Wichita Mounta**	**145.09**	**341**	*e*PKIKP	**PKPbc**	**09 22 17.1**	**-0.7**
DAC	**Darwin (Calif)**	**145.48**	**8**	*e*PKPbc	**PKPab**	**09 22 19.7**	**+0.3**
DAC	**Darwin (Calif)**	**145.48**	**8**	*e*PKIKP	**PKPab**	**09 22 19.7**	**+0.3**
ANMO	**Albuquerque**	**146.75**	**351***c*	*i*PKP2	**PKPdf**	**09 22 22.1**	**+0.6**
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.7s						
PFO	**Pinyon Flats O**	**148.25**	**7**	*e*PKPdf	**PKPdf**	**09 22 22.6**	**-1.3**
PFO	**Pinyon Flats O**	**148.25**	**7**	*e*PKIKP	**PKPdf**	**09 22 22.6**	**-1.3**
TXAR	**Lajitas Array**	**151.60**	**344**	PKPbc	**PKiKP**	**09 22 36.0**	**+0.1**
	comp=Z,2.9nm,0.9s,baz=48,slow=1.9,SNR=13						
TXAR				PKPab	**PKPab**	**09 22 44.5**	**+0.6**
	comp=Z,3.1nm,0.9s,baz=90,slow=1.3,SNR=9.4						

IDC 09 09:06:16.7±3.8**, 1°.76S×68°.22E, h0km, mb4.0**/5**, mb1 4.2**/5**, mb1mx3.7**/38**, mbtmp4.0**/5**, Error ellipse: s-maj=97.2km s-min=35.6km az=65.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.32**	**149**	T	T	09 13 01.2	
	baz=324,slow=75,SNR=27						
H08N3	**Diego Garcia H**	**5.33**	**149**	T	T	09 13 01.9	
	baz=324,slow=75,SNR=26						
H08N1	**Diego Carcia H**	**5.34**	**149**	T	T	09 13 04.1	
	baz=324,slow=75,SNR=31						
CMAR	**Chiang Mai Arr**	**36.30**	**55**	P	P	09 13 22.3	0.0
	0.9nm,0.3s,baz=235,slow=11,SNR=2.6						
MKAR	**Makanchi Array**	**49.91**	**13**	P	P	09 15 12.5	+0.4
	0.8nm,0.8s,baz=189,slow=7.1,SNR=5.9						
ZALV	**Zalesovo Beam**	**57.21**	**12**	P	P	09 16 05.1	-0.4
	1.4nm,0.6s,baz=206,slow=8.8,SNR=5.1						
SONM	**Songino Array**	**59.55**	**29**	P	P	09 16 21.8	-0.3
	1.0nm,0.7s,baz=235,slow=6.6,SNR=5.0						
WRA	**Warramunga Arr**	**66.99**	**111**	P	P	09 17 12.0	+0.1
	1.1nm,1.0s,baz=279,slow=6.9,SNR=4.9						

DJA 09 09:13:16.1±0.6**, 11°S**±4°×**12°0E**±°**, h10km, M3.8**/4**, MLv3.8**/4**, Sumba region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.74**	**25**	P	Pg	09 13 30.4	+0.1
BASI				S	Sg	09 13 40.4	+0.4
WSI	**Waingapu**	**1.21**	**2**	P	Pg	09 13 39.5	0.0
WSI				S	Sn	09 13 56.3	+0.6
EDFI	**Ende, Flores**	**2.55**	**34**	P	Pn	09 13 57.4	-0.3
EDFI				S	Sn	09 14 29.5	+0.6
MMRI	**Maumere**	**2.97**	**41**	P	Pn	09 14 03.2	-0.1
PLAI	**Plampang**	**3.19**	**310**	P	Pn	09 14 06.0	-0.4
BATI	**Baumata**	**3.42**	**79**	P	Pn	09 14 09.2	-0.3
SOEI	**Soe**	**4.10**	**74**	P	Pn	09 14 19.3	+0.3

IDC 09 09:18:47.5±10.0**, 1°.72S×68°.29E, h0km, mb3.8**/4**, mb1 3.9**/4**, mb1mx3.4**/60**, mbtmp3.8**/4**, MS3.6**/1**, Ms1 3.6**/1**, ms1mx2.7**/41**, Error ellipse: s-maj=328.9km s-min=35.5km az=66.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.31**	**150**	T	T	09 25 32.7	
	baz=325,slow=75,SNR=54						
H08N3	**Diego Garcia H**	**5.32**	**150**	T	T	09 25 33.0	
	baz=325,slow=75,SNR=52						
H08N1	**Diego Carcia H**	**5.33**	**149**	T	T	09 25 30.9	
	baz=325,slow=75,SNR=50						
LBTB	**Lobatse**	**47.23**	**237**	LR	LR	09 45 10.9	
	comp=Z,68nm,20.4s,baz=208,slow=34						
MKAR	**Makanchi Array**	**49.86**	**13**	P	P	09 27 42.5	0.0
	0.9nm,0.8s,baz=193,slow=6.4,SNR=6.1						
ZALV	**Zalesovo Beam**	**57.16**	**12**	P	P	09 28 35.7	-0.2
	1.1nm,0.6s,baz=202,slow=7.4,SNR=4.2						
SONM	**Songino Array**	**59.48**	**29**	P	P	09 28 52.5	0.0
	0.8nm,0.9s,baz=216,slow=7.3,SNR=4.8						
WRA	**Warramunga Arr**	**66.93**	**111**	P	P	09 29 42.3	0.0
	0.6nm,0.8s,baz=293,slow=5.2,SNR=4.8						

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*NNC **09** 09:23:31.2±3.4, 53°.41N×87°.00E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=24.9km s-min=21.1km az=20.0, Suspected Mining explosion.*

IDC 09 09:23:29.8±2.4**, 53°.58N×86°.83E, h0km, mb1 2.9**/2**, mb1mx2.8**/71**, mbtmp2.9**/2**, ML2.5**/2**, 6C-3D, Error ellipse: s-maj=22.2km s-min=12.3km az=74.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.25**	**288**	*i*		09 32 41.8	
	baz=105,slow=354,SNR=6.1						
ZALV	**Zalesovo Beam**	**1.25**	**288**	Pg	Pg	09 23 52.8	-1.0
	0.8nm,0.3s,baz=107,slow=17,SNR=20						
ZALV				Lg	Lg	09 24 10.5	
	1.6nm,0.3s,baz=107,slow=25,SNR=23						
KURK	**Kurchatov**	**5.81**	**244**	⇑Pn	Pn	09 24 57.6	+0.5
	0.4nm,0.5s						
KURK				⇑Sn	Sn	09 26 08.0	+3.6
	0.6nm,0.6s						
KURK				⇓Lg	Lg	09 26 35.3	
	4.0nm,0.8s						
KURBB	**Kurchatov Arra**	**5.91**	**243**	Pn	Pn	09 24 59.2	+0.7
	0.1nm,0.3s,baz=61,slow=14,SNR=4.6						
KURBB				Lg	Lg	09 26 37.3	
	0.0nm,0.3s,baz=60,slow=32,SNR=4.4						
KURBB	**Kurchatov Arra**	**5.91**	**243**	⇑Pn	Pn	09 25 00.2	+1.7
	1.3nm,0.6s						
KURBB				⇓Sn	Sn	09 26 10.6	+3.7
	1.7nm,0.6s						
KURBB				⇑Lg	Lg	09 26 36.2	
	5.0nm,0.6s						
MK31	**Makanchi Array**	**7.39**	**205**	⇑Pn	Pn	09 25 20.9	+2.0
	0.1nm,0.3s,baz=28,slow=13,SNR=8.5						
MK31				⇑Sn	Sn	09 26 42.8	-0.6
	0.3nm,0.4s						
MK31				⇓Lg	Lg	09 27 24.0	
	0.7nm,0.6s,baz=26,slow=29,SNR=3.6						
MKAR	**Makanchi Array**	**7.39**	**205**	Pn	Pn	09 25 20.8	+1.9
	0.2nm,0.3s,baz=24,slow=12,SNR=11						
MKAR				Sn	Sn	09 26 42.1	-1.3
	0.1nm,0.3s,baz=28,slow=23,SNR=3.7						
MKAR				Lg	Lg	09 27 23.1	
	0.0nm,0.3s,baz=22,slow=23,SNR=6.7						

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*KOLA **09** 09:25:22.4, 64°.65N×31°.05E, h0km*

*ISCJB **09** 09:25:28.9±0.6, 64°.72N±0°.03×30°.9E±0°.1, h0km, Error ellipse: s-maj=6.5km s-min=4.4km az=158.5*

*UPP **09** 09:25:28.4±3.0, 64°.43N×31°.20E, h0km, ML1.6, Suspected explosion*

*HEL **09** 09:25:31.9±0.1, 64°.69N×30°.62E, h0km, ML2.0, Explosion*

*IDC **09** 09:25:32.0±2.5, 64°.57N×30°.98E, h0km, mb1 2.9/3, mb1mx2.8/67, mbtmp2.9/3, ML2.0/3, Error ellipse: s-maj=33.3km s-min=9.4km az=106.0*

ISC 09 09:25:30.7±0.8**, 64°.69N**±0°.03×**30°.77E**±0°.05**, h0km, n35, σ1s.73**/47**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.39**	**345**	PG	**Pg**	**09 25 56.5**	**-0.9**
	baz=166						
KU6				MSG		09 26 13.4	
	comp=Z,12nm,0.2s						
KU6				SN	**Sn**	**09 26 18.8**	**+2.4**
MSF	**Maaselka**	**1.43**	**330**	PG	**Pg**	**09 25 56.9**	**-1.1**
	baz=154						
MSF				SN	**Sn**	**09 26 19.3**	**+2.0**
JOF	**Joensuu**	**1.79**	**172**	PG	**Pn**	**09 26 04.1**	**+1.2**
JOF				SN	**Sg**	**09 26 31.0**	**+2.8**
OUL	**Oulu**	**2.12**	**283**	PG	**Pn**	**09 26 08.4**	**+1.1**
OUL				SG	**Sb**	**09 26 35.0**	**-1.6**
OUF	**Merijarvi**	**2.63**	**266**	PB	**Pn**	**09 26 16.0**	**+1.7**
	baz=82						
OUF				MSG		09 26 47.6	
	comp=Z,11nm,0.2s						
OUF				SB	**Sb**	**09 26 50.2**	**-1.1**
RNF	**Rovaniemi**	**2.76**	**317**	PB	**Pn**	**09 26 18.6**	**+2.5**
	baz=136						
RNF				SG	**Sg**	**09 26 58.8**	**-0.3**
SUF	**Sumiainen**	**2.85**	**228**	PB	**Pn**	**09 26 20.3**	**+3.0**
SUF				MSG		09 26 54.3	
	comp=Z,5.2nm,0.2s						
SUF				SG	**Sg**	**09 27 01.2**	**-0.9**
TOF	**Tornio**	**3.04**	**300**	PB	**Pb**	**09 26 24.0**	**-1.5**
TOF				MSG		09 26 59.5	
	comp=Z,5.7nm,0.2s						
TOF				SG	**Sb**	**09 27 03.8**	**+0.7**
APA0	**Apatity Array**	**3.07**	**16**	P	Pn	09 26 11.4	-8.9
APA0				S	Sn	09 26 48.2	-9.5
APA	**Apatity**	**3.09**	**19**	P	Pn	09 26 11.7	-8.9
APA				S	Sn	09 26 48.5	-10
VRF	**Varrio**	**3.11**	**352**	PB	**Pn**	**09 26 22.4**	**+1.5**
	baz=168						
VRF				MSG		09 27 03.1	
	comp=Z,2.9nm,0.2s						
SGF	**Sodankyl**	**3.26**	**330**	PG	**Pb**	**09 26 29.9**	**+0.6**
	baz=148						
SGF				SG	**Sb**	**09 27 10.0**	**+0.5**
KAF	**Kangasniemi**	**3.27**	**220**	PB	**Pb**	**09 26 28.2**	**-1.3**
	baz=35						
KAF				MSG		09 27 06.7	
	comp=Z,3.4nm,0.2s						
KALU	**Kalix**	**3.33**	**294**	P	**Pn**	**09 26 25.1**	**+1.3**
KALU				S	**Sn**	**09 27 07.0**	**+3.0**
KALU	**Kalix**	**3.33**	**294**	PG	**Pb**	**09 26 31.0**	**+0.5**
KEF	**Keuruu**	**3.66**	**229**	PN	**Pn**	**09 26 31.2**	**+2.7**
FIA0	**FINESS Array S**	**3.89**	**215**	PN	**Pn**	**09 26 34.6**	**+3.0**
	baz=31						
FINES	**FINESS Array B**	**3.89**	**215**	Pn	**Pn**	**09 26 33.0**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=36,slow=13,SNR=3.6						
FINES				Lg	Lg	09 27 31.7	
	comp=Z,1.2nm,0.3s,baz=38,slow=29,SNR=6.7						
PAJU	**Pajala**	**3.92**	**310**	P	**Pn**	**09 26 32.6**	**+0.5**
VAF	**Ylistaro**	**3.94**	**249**	PN	**Pn**	**09 26 34.5**	**+2.1**
SJUU	**Sjulsmark**	**3.96**	**286**	P	**Pn**	**09 26 33.4**	**+0.8**
ERTU	**Ertsjaerv**	**4.02**	**302**	P	**Pn**	**09 26 34.9**	**+1.5**
BURU	**Burvik**	**4.04**	**273**	P	**Pn**	**09 26 33.8**	**+0.2**
BURU	**Burvik**	**4.04**	**273**	PN	**Pn**	**09 26 34.2**	**+0.5**
ODEU	**Stanfors**	**4.35**	**271**	P	**Pn**	**09 26 37.4**	**-0.5**
HARU	**Harads**	**4.35**	**294**	P	**Pn**	**09 26 39.2**	**+1.3**
UMAU	**Umeaa**	**4.47**	**264**	P	**Pn**	**09 26 38.5**	**-1.0**
MASU	**Masugnsbyn**	**4.52**	**312**	P	**Pn**	**09 26 42.0**	**+1.7**
LILU	**Lilltraesk**	**4.67**	**282**	P	**Pn**	**09 26 43.1**	**+0.8**
HEF	**Hetta**	**4.69**	**326**	PN	**Pn**	**09 26 45.0**	**+2.4**
HEF				SG	**Sg**	**09 27 56.5**	**-4.7**
SVAU	**Svanoeiden**	**4.83**	**273**	P	**Pn**	**09 26 44.5**	**0.0**
ARCES	**ARCESS Array B**	**5.28**	**340**	Pn	**Pn**	**09 26 51.0**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=151,slow=13,SNR=30						
ARCES				Sn	**Sn**	**09 27 52.8**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=152,slow=23,SNR=3.2						
ARCES				Lg	Lg	09 28 15.3	
	comp=Z,0.7nm,0.3s,baz=148,slow=28,SNR=7.4						
KLMR	**Klimovskoe**	**5.56**	**130**	*i* P	**Pn**	**09 26 55.9**	**+1.4**
KLMR				*i* S	**Sn**	**09 27 57.8**	**-1.3**
KLMR				*i* S	**Sn**	**09 27 57.8**	**-1.3**
KLMR				*i* S	**Sn**	**09 27 57.8**	**-1.3**
KLMR				AMP		09 27 58.2	
	comp=E,3.0nm,0.6s						
I43RU	**DUBNA INFRASON**	**8.59**	**155**	*i*		10 18 00.0	
	baz=339,slow=340,SNR=1.8						
HFS	**Hagfors**	**9.13**	**248**	Pn	**Pn**	**09 27 42.1**	**-1.4**
	comp=E,0.1nm,0.3s,baz=58,slow=14,SNR=2.1						
HFS				Lg	Lg	09 30 18.4	
	comp=E,0.2nm,0.3s,baz=66,slow=26,SNR=3.0						

IDC 09 09:26:52.4±3.1**, 2°.04S×67°.82E, h0km, mb3.9**/7**, mb1 4.0**/7**, mb1mx3.6**/69**, mbtmp3.9**/7**, Error ellipse: s-maj=87.7km s-min=26.6km az=66.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.31**	**143**	T	T	09 33 37.1	
	baz=325,slow=75,SNR=140						
H08N3	**Diego Garcia H**	**5.32**	**144**	T	T	09 33 37.9	
	baz=325,slow=75,SNR=123						
H08N1	**Diego Carcia H**	**5.33**	**143**	T	T	09 33 38.8	
	baz=325,slow=75,SNR=111						
CMAR	**Chiang Mai Arr**	**36.78**	**55**	P	P	09 34 01.9	-0.3
	1.0nm,0.3s,baz=232,slow=6.6,SNR=2.5						
MKAR	**Makanchi Array**	**50.27**	**13**	P	P	09 35 50.5	-0.1
	1.0nm,0.8s,baz=189,slow=7.0,SNR=7.3						
KURBB	**Kurchatov Arra**	**53.26**	**8**	P	P	09 36 12.4	-0.4
	1.1nm,0.8s,baz=208,slow=7.0,SNR=6.2						
ZALV	**Zalesovo Beam**	**57.56**	**12**	P	P	09 36 43.5	-0.1
	1.8nm,0.6s,baz=206,slow=7.5,SNR=7.6						
SONM	**Songino Array**	**59.98**	**29**	P	P	09 37 01.2	+0.3
	1.2nm,0.8s,baz=222,slow=7.0,SNR=8.0						
WRA	**Warramunga Arr**	**67.25**	**111**	P	P	09 37 49.5	+0.2
	0.9nm,0.8s,baz=287,slow=5.8,SNR=4.8						
ASAR	**Alice Springs**	**67.32**	**115**	P	P	09 37 49.6	-0.1
	0.5nm,0.9s,baz=292,slow=5.9,SNR=3.1						

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*MAN **09** 09:28:15.9, 5°.17N×126°.28E, h101km, mb4.6, ML3.5, MS3.4*

*ISCJB **09** 09:28:18.4±0.5, 5°.36N±0°.03×126°.04E±0°.08, h123km±4km, mb3.9/13, Error ellipse: s-maj=12.6km s-min=5.5km az=3.5*

*IDC **09** 09:28:19.7±1.5, 5°.29N×125°.46E, h118km±12km, mb3.6/13, mb1 3.7/13, mb1mx3.5/60, mbtmp4.0/13, Error ellipse: s-maj=37.1km s-min=12.2km az=78.0*

*DJA **09** 09:28:28.8±0.6, 4°N±5°×12°6E±°, h147km±6km, M4.6/6, mb4.8/4, mB4.9/4, MLv4.7/6, Mw(mB)4.1/4*

ISC 09 09:28:18.7±0.9**, 5°.30N**±0°.04×**125°.98E**±0°.08**, h110km**±7km**, n27, σ2s.26**/38**, mb3.9**/13**, 3C, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.84**	**341**	*e*P	**Pn**	**09 28 36.3**	**-2.1**
DDMP				*e*S	**Sn**	**09 28 51.4**	**-1.7**
GSPH	**General Santos**	**1.29**	**307**⇑	*i*P	**Pn**	**09 28 43.0**	**-0.2**
GSPH				*i* S	**Sn**	**09 29 02.3**	**+0.6**
MATI	**Mati**	**1.66**	**9**	*e*P	**Pn**	**09 28 45.8**	**-1.6**
MATI				*e*S	**Sn**	**09 29 08.4**	**-0.9**
SGSI	**Sangihe**	**1.67**	**196**	P	**Pn**	**09 28 49.1**	**+1.5**
SGSI				S	**Sn**	**09 29 13.0**	**+3.5**
DAV	**Davao City (W)**	**1.80**	**347**	P	**Pn**	**09 28 49.4**	**+0.2**
	122nm,0.3s,baz=46,slow=4.4,SNR=2.9						
DAV				S	**Sn**	**09 29 14.0**	**+1.5**
	85nm,0.3s,baz=226,slow=22,SNR=14						
DMPH	**Davao City--Mi**	**1.83**	**345**⇑	*e*P	**Pn**	**09 28 51.0**	**+1.4**
DMPH				*e*S	**Sn**	**09 29 15.4**	**+2.2**
SKMP	**Bagumbayan, Su**	**1.88**	**310**	*e*P	**Pn**	**09 28 50.6**	**+0.5**
SKMP				*e*S	**Sn**	**09 29 17.2**	**+3.1**
BUKP	**Musuan**	**2.72**	**340**	*e*P	**Pn**	**09 29 01.7**	**+0.6**
BUKP				*e*S	**Sn**	**09 29 34.3**	**+0.6**
BIPH	**Bislig**	**2.89**	**7**⇑	*e*P	**Pn**	**09 29 05.0**	**+1.7**
BIPH				*e*S	**Sn**	**09 29 38.4**	**+0.8**
TNTI	**Ternate**	**4.71**	**163**	P	**Pn**	**09 29 27.2**	**-0.4**
MRSI	**Marisa**	**6.27**	**220**	P	**Pn**	**09 29 50.7**	**+2.0**
MRSI				S	**Sn**	**09 30 54.6**	**-4.4**
APSI	**Ampana**	**7.54**	**215**	P	**Pn**	**09 30 10.5**	**+4.5**
APSI				S	**Sn**	**09 31 23.7**	**-6.2**
MPSI	**Mapaga**	**7.83**	**231**	P	**Pn**	**09 30 13.5**	**+3.6**
EDFI	**Ende, Flores**	**14.60**	**197**	P	Pn	09 31 27.4	-13
FITZ	**Fitzroy Crossi**	**23.25**	**181**	P	**P**	**09 33 17.1**	**+0.5**
	1.0nm,0.3s,baz=7.4,slow=9.2,SNR=7.3						
WRA	**Warramunga Arr**	**26.40**	**162**	P	**P**	**09 33 47.4**	**+2.2**
	0.8nm,0.4s,baz=341,slow=10,SNR=8.8						
ASAR	**Alice Springs**	**29.81**	**165**	P	**P**	**09 34 15.7**	**+0.1**
	0.5nm,0.8s,baz=354,slow=8.1,SNR=5.4						
USRK	**Ussuriysk Ar.**	**39.10**	**7**	P	**P**	**09 35 35.7**	**+0.5**
	1.6nm,0.6s,baz=178,slow=10,SNR=5.8						
KLR	**Kul'dur**	**44.05**	**5**	P	**P**	**09 36 16.8**	**+1.3**
	0.6nm,0.3s,baz=220,slow=6.5,SNR=4.4						
SONM	**Songino Array**	**45.58**	**342**	P	**P**	**09 36 26.1**	**-1.8**
	0.7nm,0.8s,baz=152,slow=9.8,SNR=5.3						
SONM				PcP	**PcP**	**09 38 04.8**	**+0.2**
	0.4nm,0.6s,baz=122,slow=2.3,SNR=3.5						
MKAR	**Makanchi Array**	**55.85**	**325**	P	**P**	**09 37 43.5**	**-1.4**
	1.9nm,0.6s,baz=125,slow=8.1,SNR=19						
ZALV	**Zalesovo Beam**	**58.86**	**333**	P	**P**	**09 38 03.0**	**-2.8**
	1.0nm,0.4s,baz=144,slow=6.9,SNR=5.1						
KURBB	**Kurchatov Arra**	**60.02**	**327**	P	**P**	**09 38 12.3**	**-1.6**
	1.7nm,0.5s,baz=127,slow=6.3,SNR=18						
BVAR	**Borovoye Array**	**65.61**	**327**	P	**P**	**09 38 48.4**	**-2.5**
	0.9nm,0.8s,baz=109,slow=5.6,SNR=5.2						
TIXI	**Tiksi**	**66.29**	**1**	P	**P**	**09 38 55.1**	**+0.2**
	4.0nm,0.4s,baz=312,slow=3.6,SNR=11						
ILAR	**Eielson Array**	**84.01**	**25**	P	**P**	**09 40 37.2**	**+0.5**
	0.3nm,0.7s,baz=243,slow=4.6,SNR=5.8						
ARCES	**ARCESS Array B**	**88.72**	**340**	P	**P**	**09 41 00.6**	**+0.9**
	3.6nm,0.9s,baz=54,slow=4.6,SNR=4.2						

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*IDC **09** 09:28:16.0±1.1, 31°.21N×86°.50E, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.5/72, mbtmp3.6/7, ML4.0/2, Error ellipse: s-maj=35.3km s-min=22.1km az=60.0*

*ISCJB **09** 09:28:18.0±1.0, 31°.3N±0°.1×86°.5E±0°.2, h26km, mb3.5/4, Error ellipse: s-maj=31.5km s-min=13.6km az=153.8*

ISC 09 09:28:20.0±1.1**, 31°.3N**±0°.2×**86°.6E**±0°.2**, h26km, n7, σ0s.27**/7**, mb3.8**/4**, Xizang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.84**	**349**	Pn	**Pn**	**09 32 01.0**	**-0.2**
	0.1nm,0.3s,baz=165,slow=12,SNR=3.7						
CMAR	**Chiang Mai Arr**	**16.99**	**136**	Pn	**Pn**	**09 32 15.8**	**-0.1**
	1.0nm,0.3s,baz=319,slow=12,SNR=7.1						
KURBB	**Kurchatov Arra**	**20.23**	**345**	P	**P**	**09 32 53.4**	**+0.4**
	1.8nm,0.7s,baz=161,slow=11,SNR=8.9						
SONM	**Songino Array**	**22.43**	**37**	P	**P**	**09 33 16.7**	**-0.1**
	0.3nm,0.8s,baz=233,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**68.53**	**132**	P	**P**	**09 39 20.4**	**0.0**
	0.6nm,0.5s,baz=326,slow=6.7,SNR=10						
ASAR	**Alice Springs**	**71.00**	**134**	P	**P**	**09 39 35.8**	**+0.2**
	0.6nm,0.4s,baz=314,slow=5.5,SNR=7.8						
TORD	**Torodi Ar. Bea**	**78.95**	**279**	P	**P**	**09 40 21.7**	**-0.1**
	0.6nm,0.9s,baz=73,slow=3.8,SNR=3.4						

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*ISCJB **09** 09:29:21.8±1.3, 15°.50S±0°.08×167°.6E±0°.2, h124km, mb4.1/6, Error ellipse: s-maj=27.7km s-min=11.5km az=0.1*

*IDC **09** 09:29:23.9±5.7, 15°.56S×167°.72E, h136km±57km, mb3.8/7, mb1 4.0/8, mb1mx3.6/47, mbtmp4.3/8, Error ellipse: s-maj=49.1km s-min=25.7km az=158.0*

ISC 09 09:29:22.8±1.3**, 15°.5S**±0°.1×**167°.7E**±0°.2**, h124km, n9, σ0s.90**/10**, mb4.2**/6**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.67**	**190**	P	**Pn**	**09 30 59.3**	**+0.9**
	9.6nm,0.3s,baz=256,slow=23,SNR=90						
DZM				S	**Sn**	**09 32 12.0**	**-1.1**
	2.4nm,0.3s,baz=135,slow=19,SNR=3.4						
CTA	**Charters Tower**	**20.93**	**254**	P	**P**	**09 33 56.2**	**+0.3**
	1.4nm,0.4s,baz=52,slow=12,SNR=6.1						
STKA	**Stephens Creek**	**28.84**	**231**	P	**P**	**09 35 10.1**	**+0.5**
	4.7nm,0.5s,baz=38,slow=8.2,SNR=18						
WRA	**Warramunga Arr**	**32.06**	**257**	P	**P**	**09 35 37.0**	**-1.2**
	1.0nm,0.5s,baz=86,slow=9.2,SNR=5.5						
ASAR	**Alice Springs**	**32.81**	**250**	P	**P**	**09 35 43.9**	**-0.8**
	2.8nm,0.4s,baz=81,slow=8.9,SNR=29						
FITZ	**Fitzroy Crossi**	**40.30**	**260**	P	**P**	**09 36 48.1**	**-0.1**
	2.6nm,0.4s,baz=74,slow=8.3,SNR=13						
SONM	**Songino Array**	**83.35**	**323**	P	**P**	**09 41 36.9**	**+0.8**
	0.6nm,0.5s,baz=150,slow=11,SNR=6.9						
ILAR	**Eielson Array**	**87.11**	**18**	P	**P**	**09 41 53.7**	**-0.5**
	2.1nm,1.3s,baz=232,slow=5.6,SNR=2.8						
ARCES	**ARCESS Array B**	**121.08**	**345**	PKP	**PKPdf**	**09 47 59.7**	**-0.6**
	3.3nm,0.9s,baz=346,slow=2.5,SNR=3.8						

IDC 09 09:30:38.4±3.2**, 1°.93S×67°.87E, h0km, mb3.7**/7**, mb1 3.9**/7**, mb1mx3.6**/62**, mbtmp3.7**/7**, Error ellipse: s-maj=88.5km s-min=26.7km az=67.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.37**	**145**	T	T	09 37 22.1	
	baz=325,slow=75,SNR=76						
H08N3	**Diego Garcia H**	**5.38**	**145**	T	T	09 37 23.0	
	baz=325,slow=75,SNR=93						
H08N1	**Diego Carcia H**	**5.39**	**144**	T	T	09 37 23.8	
	baz=325,slow=75,SNR=78						
CMAR	**Chiang Mai Arr**	**36.68**	**55**	P	P	09 37 47.1	-0.2
	0.5nm,0.3s,baz=250,slow=7.4,SNR=2.4						
MKAR	**Makanchi Array**	**50.15**	**13**	P	P	09 39 34.7	-1.0
	0.7nm,0.9s,baz=187,slow=7.2,SNR=3.9						
KURBB	**Kurchatov Arra**	**53.14**	**8**	P	P	09 39 58.5	+0.6
	0.4nm,0.6s,baz=205,slow=8.2,SNR=4.7						
ZALV	**Zalesovo Beam**	**57.45**	**12**	P	P	09 40 28.4	-0.5
	1.0nm,0.6s,baz=201,slow=7.9,SNR=5.2						
SONM	**Songino Array**	**59.86**	**29**	P	P	09 40 46.7	+0.6
	0.7nm,0.6s,baz=224,slow=7.0,SNR=7.3						
WRA	**Warramunga Arr**	**67.25**	**111**	P	P	09 41 35.3	-0.1
	0.7nm,0.7s,baz=286,slow=5.9,SNR=7.1						
ASAR	**Alice Springs**	**67.32**	**115**	P	P	09 41 35.9	+0.1
	0.3nm,0.7s,baz=286,slow=6.7,SNR=3.9						

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*ISCJB **09** 09:33:06.3±1.3, 11°.7N±0°.2×88°.9W±0°.1, h35km, mb3.5/4, Error ellipse: s-maj=30.1km s-min=6.5km az=36.5*

*IDC **09** 09:33:06.2±2.8, 12°.36N×88°.44W, h0km, mb3.4/4, mb1 3.8/7, mb1mx3.6/35, mbtmp3.5/7, ML3.3/3, MS2.1/1, Ms1 2.1/1, ms1mx2.0/25, Error ellipse: s-maj=120.9km s-min=21.1km az=37.0*

ISC 09 09:33:08.8±1.5**, 11°.8N**±0°.3×**88°.9W**±0°.2**, h35km, n7, σ1s.16**/10**, mb3.5**/4**, Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**3.56**	**334**	Pn	**Pn**	**09 34 01.3**	**-0.6**
	3.0nm,0.3s,baz=130,slow=9.1,SNR=21						
APG				Sn	**Sn**	**09 34 43.9**	**+1.0**
	3.7nm,0.3s,baz=1.0,slow=7.1,SNR=6.4						
APG				LR	LR	09 35 00.6	
	comp=Z,32nm,20.0s,baz=90,slow=35						
JTS	**JuntasAbangare**	**4.11**	**111**	Pn	**Pn**	**09 34 09.4**	**+0.3**
	2.3nm,0.3s,baz=345,slow=22,SNR=19						
JTS				Sn	**Sn**	**09 34 56.2**	**+0.2**
	0.9nm,0.3s,baz=270,slow=20,SNR=3.0						
CMIG	**Matias Romero**	**7.87**	**313**	Pn	**Pn**	**09 34 59.6**	**-1.3**
	0.5nm,0.3s,baz=134,slow=12,SNR=12						
CMIG				Sn	**Sn**	**09 36 30.3**	**+1.6**
	0.3nm,0.3s,baz=302,slow=19,SNR=3.5						
TXAR	**Lajitas Array**	**22.26**	**324**	P	**P**	**09 38 02.9**	**0.0**
	1.0nm,0.8s,baz=142,slow=12,SNR=6.9						
NVAR	**Mina Array Bea**	**37.32**	**320**	P	**P**	**09 40 19.3**	**+1.3**
	0.9nm,0.9s,baz=155,slow=6.1,SNR=4.4						
YKA	**Yellowknife Ar**	**53.90**	**346**	P	**P**	**09 42 26.9**	**-1.5**
	0.3nm,0.7s,baz=138,slow=7.9,SNR=6.4						
ILAR	**Eielson Array**	**66.08**	**337**	P	**P**	**09 43 52.4**	**+0.4**
	0.7nm,1.1s,baz=148,slow=5.3,SNR=4.3						

IDC 09 09:38:08.9±10.0**, 2°.09S×67°.51E, h0km, mb3.5**/4**, mb1 3.6**/4**, mb1mx3.4**/45**, mbtmp3.5**/4**, Error ellipse: s-maj=326.8km s-min=35.4km az=66.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.47**	**141**	T	T	09 44 53.9	
	baz=324,slow=75,SNR=24						
H08N3	**Diego Garcia H**	**5.48**	**141**	T	T	09 44 58.3	
	baz=324,slow=75,SNR=23						
H08N1	**Diego Carcia H**	**5.49**	**141**	T	T	09 44 55.6	
	baz=324,slow=75,SNR=26						
MKAR	**Makanchi Array**	**50.38**	**13**	P	P	09 47 07.9	+0.1
	0.3nm,0.7s,baz=196,slow=9.3,SNR=2.3						
ZALV	**Zalesovo Beam**	**57.67**	**12**	P	P	09 48 00.7	-0.2
	0.4nm,0.4s,baz=201,slow=6.7,SNR=3.1						
SONM	**Songino Array**	**60.17**	**29**	P	P	09 48 18.7	0.0
	0.7nm,0.8s,baz=218,slow=6.5,SNR=4.5						
WRA	**Warramunga Arr**	**67.53**	**111**	P	P	09 49 07.6	0.0
	0.4nm,1.0s,baz=288,slow=5.6,SNR=3.2						

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*MOS **09** 09:40:50.9±1.2, 1°.87S×68°.02E, h10km, mb4.7/26, Error ellipse: s-maj=9.3km s-min=7.4km az=77.3*

*IDC **09** 09:40:50.6±0.5, 1°.91S×68°.03E, h0km, mb4.3/23, mb1 4.4/23, mb1mx4.3/45, mbtmp4.3/23, MS3.9/17, Ms1 3.9/17, ms1mx3.7/35, Error ellipse: s-maj=17.0km s-min=12.4km az=159.0*

*BJI **09** 09:40:50.3, 1°.90S×67°.90E, h10km, mb4.8/36, mB5.1/20, Ms4.7/9, Ms7 4.4/11*

*ISCJB **09** 09:40:51.5±0.3, 1°.94S±0°.04×67°.89E±0°.04, h15km, mb4.6/75, MS4.0/20, Error ellipse: s-maj=6.4km s-min=5.8km az=171.9*

*NEIC **09** 09:40:52.2±0.2, 1°.88S×67°.94E, h10km, mb4.7/21, Error ellipse: s-maj=6.8km s-min=5.8km az=166.0*

*GCMT **09** 09:40:53.2±0.4, 2°.00S±0°.04×67°.95E±0°.03, h12km, MW4.9/63, Moment Tensor Solution. s28,c33; s63,c85; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.10±.09; $M_{\theta\theta}$0.43±.10; $M_{\phi\phi}$1.67±.10; $M_{r\theta}$1.00±.33; $M_{\theta\phi}$-0.81±.08; $M_{\phi r}$-1.06±.30; Best double couple: $M_0$2.54200×10^{16} NP1:ϕ_s324.00000°, δ63.00000°, λ-99.00000°. NP2:*

φs163.00000°,δ29.00000°,λ-74.00000°. Principal axes: T 2.4970, Plg17.0000°, Azm61.0000°; N 0.0890, Plg8.0000°, Azm328.0000°; P -2.5870, Plg71.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 09 09:40:53.3±0.4**, 1°.87S**±0°.06×**67°.90E**±0°.06**, h15km, n158, σ1s.46**/157**, mb4.7**/81**, MS3.9**/20**, 11C-1D, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.40	145	T	T	09 47 29.9	
	baz=324,slow=75,SNR=122						
H08N3	Diego Garcia H	5.41	145	T	T	09 47 35.6	
	baz=324,slow=75,SNR=106						
H08N1	Diego Carcia H	5.42	145	T	T	09 47 36.4	
	baz=324,slow=75,SNR=108						
DGAR	Diego Garcia	7.13	141	ePn	Pn	09 42 36.4	-0.7
DGAR	Diego Garcia	7.13	141	eP	Pn	09 42 36.4	-0.7
PALK	Pallekele	15.67	54	LR	LR	09 49 15.8	
	comp=Z,753nm,20.0s,baz=294,slow=32						
PALK	Pallekele	15.67	54	ePn	Pn	09 44 33.9	+0.1
	107nm,1.8s						
PALK	Pallekele	15.67	54	eP	Pn	09 44 33.9	+0.1
PALK				pmax	pmax		
	comp=Z,107nm,1.8s						
MRIV	Mauritius Mete	20.95	208	eP	P	09 45 36.1	+0.3
	comp=Z,37nm,1.3s						
HYB	Hyderabad	21.85	28	i P	P	09 45 48.0	+2.4
OPO	Ambohidratompo	26.23	229	LR	LR	09 54 27.6	
	comp=Z,592nm,19.0s,baz=24,slow=31						
WSAR	Wadi Sarin	26.54	341	LR	LR	09 55 18.6	
	comp=Z,104nm,18.0s,baz=156,slow=33						
ATD	Arta Tunnel	28.24	299	LR	LR	09 55 39.8	
	comp=Z,146nm,21.1s,baz=151,slow=31						
ATD	Arta Tunnel	28.24	299	eP	P	09 46 45.1	-1.0
	comp=Z,9.6nm,1.1s						
SNSI	Sinabang, Aceh	28.73	82	P	P	09 46 52.6	+2.1
TPTI		29.71	80	P	P	09 47 00.9	+1.8
	comp=Z,8.7nm,0.9s						
GSI	Gunungsitoli	29.84	84	eP	P	09 46 58.4	-1.8
	comp=Z,19nm,0.9s						
GSI	Gunungsitoli	29.84	84	P	P	09 47 02.1	+1.8
LHMI	Lhok Sumawe	29.86	76	eP	P	09 46 59.6	-0.8
	comp=Z,77nm,0.8s						
LHMI	Lhok Sumawe	29.86	76	P	P	09 47 02.6	+2.2
KCSI	Kotacane, Aceh	30.33	80	P	P	09 47 06.1	+1.4
	comp=Z,13nm,1.0s						
COCO	West Island	30.45	111	eP	P	09 47 05.8	+0.2
	comp=Z,353nm,1.6s						
COCO	West Island	30.45	111	eP	P	09 47 05.8	+0.2
KMBO	Kilima Mbogo	30.65	271	P	P	09 47 09.2	+1.5
	comp=Z,1.1nm,0.3s,baz=69,slow=10,SNR=5.1						
KMBO				LR	LR	09 58 01.7	
	comp=Z,256nm,19.5s,baz=79,slow=34						
KMBO	Kilima Mbogo	30.65	271	eP	P	09 47 07.0	-0.7
	comp=Z,3.3nm,1.0s						
KMBO	Kilima Mbogo	30.65	271	ceP	P	09 47 11.1	+3.4
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TSI	Tuntungan	31.11	80	P	P	09 47 12.7	+1.2
SISI	Saibi	31.18	89	P	P	09 47 13.5	+1.4
	comp=Z,22nm,0.9s						
PSI	Prapat	31.36	82	eP	P	09 47 12.7	-1.2
	comp=Z,8.9nm,1.1s						
PSI	Prapat	31.36	82	eP	P	09 47 12.7	-1.2
PSI				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KOLN	Koldanda	33.11	26	eP	P	09 47 30.2	+1.0
	comp=Z,29nm,1.1s						
PYUN	Piuthan	33.14	25	eP	P	09 47 30.5	+1.1
	comp=Z,26nm,1.2s						
RAYN	Ar Rayn	33.35	320	eP	P	09 47 30.7	-0.4
	comp=Z,15nm,2.0s						
RAYN	Ar Rayn	33.35	320	eP	P	09 47 30.7	-0.4
RAYN				pmax	pmax		
	comp=Z,15nm,2.0s						
KULM	Kulim	33.48	78	eP	P	09 47 32.8	+0.5
	comp=Z,26nm,1.1s						
DMN	Daman	33.66	28	eP	P	09 47 35.5	+1.5
	comp=Z,36nm,0.9s						
DANN	Dangsing	33.69	26	eP	P	09 47 35.2	+1.0
	comp=Z,29nm,0.9s						
IPM	Ipoh	33.69	79	eP	P	09 47 34.9	+0.7
	comp=Z,19nm,1.1s						
PKIN	Phulchoki	33.77	29	eP	P	09 47 35.7	+0.7
RAMN	Ramite	33.85	31	eP	P	09 47 37.5	+1.8
	comp=Z,19nm,0.8s						
KKN	Kakani	33.90	28	eP	P	09 47 37.1	+1.1
ODAN	Odare	34.19	32	eP	P	09 47 40.5	+1.9
JIRN	Jiri	34.23	30	eP	P	09 47 40.2	+1.1
GUN	Gumba	34.29	29	eP	P	09 47 40.9	+1.4
	comp=Z,49nm,1.0s						
UMPA	Umpang Tak	35.47	58	P	P	09 47 51.7	+2.2
UTHA	Uthaitani	35.67	60	P	P	09 47 54.2	+2.9
	comp=Z,3.0nm,0.9s						
NIL	Nilore	35.69	8	eP	P	09 47 52.1	+0.9
	comp=Z,18nm,1.0s						
NIL	Nilore	35.69	8	eP	P	09 47 52.1	+0.9
NIL				pmax	pmax		
	comp=Z,18nm,1.0s						
CMAR	Chiang Mai Arr	36.62	55	P	P	09 47 58.5	-0.8
	comp=Z,1.7nm,0.5s,baz=245,slow=10,SNR=15						
CMAR				LR	LR	10 01 07.8	
	comp=Z,171nm,21.6s,baz=242,slow=33						
CMAR	Chiang Mai Arr	36.62	55	ceP	P	09 48 00.6	+1.3
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CHTO	Chiang Mai	36.80	55	eP	P	09 48 01.4	+0.5
	comp=Z,9.3nm,0.8s						
CHTO	Chiang Mai	36.80	55	eP	P	09 48 01.4	+0.5
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CHTO	Chiang Mai	36.80	55	P	P	09 48 02.2	+1.3
	comp=Z,56nm,1.1s						
CMMT	Chiang Mai	36.80	55	P	P	09 48 02.1	+1.2
	comp=Z,12nm,0.9s,comp=Z,668nm						
MBAR	Mbarara	37.18	271	P	P	09 48 06.0	+1.7
	comp=Z,2.9nm,0.2s,baz=92,slow=4.9,SNR=4.3						
MBAR	Mbarara	37.18	271	i P	P	09 48 06.3	+1.9
MBAR				pmax	pmax		
	comp=Z,6.0nm,1.2s						
PBKT	Sadao Pong	37.43	59	eP	P	09 48 06.7	+0.5
	comp=Z,13nm,1.0s						
PBKT	Sadao Pong	37.43	59	P	P	09 48 08.0	+1.7
	comp=Z,16nm,1.1s,comp=Z,830nm						
CHAI	Chaiyaphum	38.03	61	P	P	09 48 12.9	+1.6
	comp=Z,9.1nm,1.1s,comp=Z,91nm						
LSA	Lhasa	38.46	34	P	P	09 48 18.4	+3.1
LSA				pmax	pmax		
	comp=Z,12nm,1.1s						
GEYT	Alibeck	40.62	348	P	P	09 48 32.9	+0.1
	comp=Z,9.3nm,0.5s,baz=151,slow=13,SNR=3.7						
GEYT				LR	LR	10 04 45.0	
	comp=Z,64nm,19.0s,baz=190,slow=35						
LSZ	Lusaka	41.37	249	P	P	09 48 39.7	+0.4
	comp=Z,6.8nm,0.7s,baz=85,slow=9.1,SNR=12						
LSZ	Lusaka	41.37	249	eP	P	09 48 39.7	+0.4
	comp=Z,6.3nm,0.8s						
LSZ	Lusaka	41.37	249	eP	P	09 48 39.7	+0.4
LSZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KSH	Kashi	41.85	9	P	P	09 48 39.4	-3.5
KSH				pP	pP	09 48 45.9	-1.7
KSH				PcP	PcP	09 50 37.6	-1.1
KSH				S	S	09 54 52.7	-7.7
KSH				sS	pS	09 55 00.7	-5.2
KSH				pmax	pmax		
	comp=Z,26nm,0.9s						
KSH				pmax	pmax		
	comp=Z,310nm,6.7s						
KSH				LR	LR		
	comp=Z,140nm,5.7s						
KSH				LR	LR		
	comp=Z,130nm,6.4s						
KSH				LR	LR		
	comp=Z,430nm,6.1s						
MATP	Matopo	42.64	241	P	P	09 48 49.0	-0.7
	comp=Z,5.3nm,1.1s,baz=69,slow=9.2,SNR=5.1						
KMI	Kunming	43.12	49	P	P	09 48 55.0	+1.4
KMI				pmax	pmax		
	comp=Z,17nm,0.8s						
KMI				LR	LR		
	comp=Z,220nm,17.8s						
KZA	Kyzart	44.25	8	P	P	09 49 04.2	+1.6
	SNR=19						
UCH	Uchtor	44.30	7	P	P	09 49 04.2	+1.2
	SNR=7.8						
TARG	Taragay, Kyrgy	44.32	11	eP	P	09 49 02.8	-0.4
	comp=Z,4.9nm,0.9s						
ULHL	Ulahol	44.56	9	P	P	09 49 06.6	+1.7
	SNR=6.7						
EKS2	Erkin-Say	44.64	6	P	P	09 49 07.5	+2.1
	SNR=16						
AAK	Ala-Archa	44.70	7	LR	LR	10 06 03.5	
	comp=Z,96nm,22.0s,baz=166,slow=34						
AAK	Ala-Archa	44.70	7	eP	P	09 49 07.3	+1.4
	comp=Z,5.8nm,1.0s						
AAK	Ala-Archa	44.70	7	ceP	P	09 49 08.0	+2.0
AAK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KBK	Karagaybulak	44.78	7	P	P	09 49 08.4	+1.8
	SNR=9.8						
FRU	Bishkek	44.91	7	eP	P	09 49 08.0	+0.5
TKM2	Tokmak 2	45.12	8	P	P	09 49 10.2	+0.9
	SNR=18						
PDGK	Podgornoye	46.19	12	P	P	09 49 19.1	+1.4
PDGK				pmax	pmax		
	comp=Z,7.0nm,1.5s						
LBTB	Lobatse	46.82	237	P	P	09 49 23.6	+0.6
	comp=Z,2.2nm,0.6s,baz=40,slow=8.0,SNR=3.7						
CD2	Chengdu	47.18	43	eP	P	09 49 26.0	+0.4
BOSA	Boshof	48.56	233	P	P	09 49 36.8	+0.4
	comp=Z,3.7nm,0.9s,baz=58,slow=10,SNR=3.9						
BOSA				LR	LR	10 08 02.9	
	comp=Z,143nm,18.9s,baz=32,slow=34						
WMQ	Urumqi	48.83	19	eP	P	09 49 41.5	+3.4
WMQ				sP	sP	09 49 48.9	+4.2
WMQ				pmax	pmax		
	comp=Z,26nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,310nm,5.1s						
WMQ				LR	LR		
	comp=Z,320nm,21.3s						
WMQ				LR	LR		
	comp=Z,170nm,19.1s						
WMQ				LR	LR		
	comp=Z,300nm,23.3s						
MAKZ	Makanchi	50.03	13	eP	P	09 49 46.7	-0.5
	comp=Z,7.8nm,0.9s						
OTUK	Ortayu	50.06	4	P	P	09 49 49.1	+1.7
OTUK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
MK01	Makanchi Array	50.07	13	eP	P	09 49 46.9	-0.6
MK01				ePcP	PcP	09 51 07.3	+0.2
MK31	Makanchi Array	50.09	13	eP	P	09 49 46.7	-0.9
MK31				ePcP	PcP	09 51 07.1	-0.1
MK31	Makanchi Array	50.09	13	eP	P	09 49 46.7	-0.9
MK31				e		09 51 07.1	
MKAR	Makanchi Array	50.09	13	P	P	09 49 47.5	-0.1
	comp=Z,4.2nm,0.8s,baz=189,slow=7.1,SNR=41						
MKAR				LR	LR	10 10 11.2	
	comp=Z,74nm,18.7s,baz=182,slow=35						
MKAR	Makanchi Array	50.09	13	eP	P	09 49 46.5	-1.2
	comp=Z,25nm,0.8s						
MKAR				ePcP	PcP	09 51 07.1	-0.1
GTA	Gaotai	50.45	32	eP	P	09 49 50.1	-0.6
GTA				pP	pP	09 49 54.5	-0.9
GTA				sP	sP	09 49 57.1	-0.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
LZH	Lanzhou	50.47	38	eP	P	09 49 51.4	+0.4
LZH				pP	pP	09 49 54.8	-0.9
LZH				sP	sP	09 49 57.8	+0.2
LZH				eS	S	09 57 07.2	+2.7
LZH				sS	sS	09 57 20.2	+7.9
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				pmax	pmax		
	comp=Z,90nm,4.3s						
LZH				LR	LR		
	comp=Z,320nm,14.6s						
LZH				LR	LR		
	comp=Z,290nm,14.0s						
LZH				LR	LR		
	comp=Z,420nm,16.3s						
KBZ	Khabaz	50.63	337	P	P	09 49 52.5	+0.7
	comp=Z,3.9nm,0.9s,baz=126,slow=4.4,SNR=6.3						
KBZ				LR	LR	10 09 56.9	
	comp=Z,61nm,21.2s,baz=222,slow=34						
KIV	Kislovodsk	50.90	337	eP	P	09 49 54.6	+0.6
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ENH	Enshi	50.91	48	eP	P	09 49 54.0	-0.2
	comp=Z,24nm,1.1s						
ABKAR	Akbulak array	51.39	353	eP	P	09 49 57.4	0.0
XAN	Xi'an	52.55	43	P	P	09 50 06.3	-0.1
XAN				pP	sP	09 50 13.4	+0.4
XAN				pmax	pmax		
	comp=Z,26nm,1.0s						
KURK	Kurchatov	53.18	8	eP	P	09 50 10.5	-0.1
	comp=Z,13nm,0.9s						
KURK	Kurchatov	53.18	8	ceP	P	09 50 10.9	+0.2
KURK				pmax	pmax		
	comp=Z,14nm,1.0s						
DGZ	Jazzator, Alta	54.06	16	i P	P	09 50 17.8	+0.5
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRVK	Borovoye	54.77	2	ceP	P	09 50 23.2	+1.0
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ZAA0	Zalesovo Array	57.38	12	eP	P	09 50 40.4	-0.5
	comp=Z,12nm,0.9s						
ZALV	Zalesovo Beam	57.38	12	P	P	09 50 40.3	-0.6
	comp=Z,12nm,0.9s,baz=214,slow=7.5,SNR=27						
ZALV	Zalesovo Beam	57.38	12	eP	P	09 50 40.2	-0.7
ZALV	Zalesovo Beam	57.38	12	eP	P	09 50 40.2	-0.7
NVS	Novosibirsk	57.92	10⇑	iP	P	09 50 44.9	+0.3
NVS				pmax	pmax		
	comp=Z,11nm,0.9s						
NVS				pmax	pmax		
	comp=N,6.0nm,0.8s						
HHC	Hu-ho-hao-te	58.17	38	eP	P	09 50 48.7	+1.8
HHC				sP	sP	09 50 57.5	+4.0
HHC				S	S	09 58 51.6	+3.5
HHC				sS	sS	09 59 02.6	+6.5
HHC				pmax	pmax		
	comp=N,14nm,1.0s						
HHC				pmax	pmax		
	comp=N,140nm,6.7s						
HHC				LR	LR		
	comp=N,150nm,11.6s						
HHC				LR	LR		
	comp=N,160nm,13.2s						
HHC				LR	LR		
	comp=N,210nm,12.3s						
ARU	Arti	58.60	354	P	P	09 50 49.2	-0.2
ARU						09 52 55.9	
ARU				S	S	09 58 53.7	+0.8
ARU				SS	SS	10 02 45.4	-0.6
NJ2	Nanjing	58.83	50	eP	P	09 50 49.5	-2.0
NJ2				pmax	pmax		
	comp=N,13nm,0.6s						
SONM	Songino Array	59.80	29	P	P	09 50 58.7	+0.7
	comp=N,7.9nm,0.9s,baz=224,slow=6.2,SNR=43						
SONM				LR	LR	10 17 12.6	
	comp=N,249nm,19.0s,baz=209,slow=36						
SONA1	Songino Array	59.81	29	eP	P	09 50 57.5	-0.7
ZAK	Zakamensk	60.21	25	eP	P	09 50 59.2	-1.6
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KIEV	Kiev	61.89	333	i P	P	09 51 13.0	+0.9
KIEV				pmax	pmax		
	comp=Z,2.0nm,1.0s						
OBN	Obninsk	62.36	340	eP	P	09 51 11.9	-3.2
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FAKI	Fak Fak	64.29	92	eP	P	09 51 27.7	-1.1
	comp=Z,10.0nm,1.1s						
PRGR	Permogore	65.59	349	eP	P	09 51 34.7	-1.5
PRGR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KLMR	Klimovskoe	66.28	345	eP	P	09 51 39.4	-1.3
KLMR				pmax	pmax		
	comp=Z,11nm,1.1s						
KLMR	Klimovskoe	66.28	345	eP	P	09 51 39.4	-1.3
KLMR				AMP		09 51 41.0	
	comp=Z,11nm,1.1s						
WRA	Warramunga Arr	67.24	111	P	P	09 51 46.8	-0.9
	comp=Z,4.5nm,0.9s,baz=283,slow=5.8,SNR=23						
WRA				LR	LR	10 17 32.4	
	comp=Z,63nm,21.8s,baz=255,slow=33						
WRAB	Tennant Creek	67.25	111	eP	P	09 51 47.2	-0.5
	comp=Z,35nm,1.8s						
WRAB	Tennant Creek	67.25	111	ceP	P	09 51 46.3	-1.5
WRAB				pmax	pmax		
	comp=Z,18nm,2.5s						
ASAR	Alice Springs	67.32	115	P	P	09 51 47.0	-1.2
	comp=Z,2.5nm,0.9s,baz=285,slow=5.8,SNR=14						
ASAR				LR	LR	10 16 40.5	
	comp=Z,49nm,21.8s,baz=272,slow=32						
ASAR	Alice Springs	67.32	115	P	P	09 51 47.0	-1.2
TORD	Torodi Ar. Bea	67.33	285	P	P	09 51 47.4	-0.9
	comp=Z,0.7nm,1.0s,baz=108,slow=9.7,SNR=4.5						
TORD				LR	LR	10 21 21.5	
	comp=Z,150nm,18.2s,baz=335,slow=36						
KSAR	Wonju Array Be	67.77	48	P	P	09 51 50.0	-0.6
KSAR	Wonju Array Be	67.77	48	P	P	09 51 50.1	-0.6
KSRS	Korea Array	67.80	48	P	P	09 51 50.0	-0.8
	comp=Z,2.2nm,0.9s,baz=232,slow=5.2,SNR=5.4						
VSU	Vasula	68.41	338	ceP	P	09 51 55.7	+1.5
VSU				pmax	pmax		
	comp=Z,36nm,1.3s						
CN2	Changchun	68.53	41	eP	P	09 51 56.5	+1.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
JOF	Joensuu	70.22	343	P	P	09 52 06.2	+0.9
JOF				pmax	pmax		
	comp=Z,16nm,1.5s						
USRK	Ussuriysk Ar.	73.04	43	P	P	09 52 21.0	-1.8
	comp=Z,2.0nm,0.8s,baz=318,slow=2.6,SNR=6.1						
DBIC	Dimbokro	73.11	277	P	P	09 52 25.7	+1.9
	comp=Z,3.7nm,1.0s,baz=97,slow=8.1,SNR=3.5						
DBIC				LR	LR	10 24 59.8	
	comp=Z,87nm,18.2s,baz=71,slow=36						
KLR	Kul'dur	74.67	38	i P	P	09 52 31.6	-0.6
MJAR	Matsushiro Arr	75.40	52	P	P	09 52 36.9	+0.2
	comp=Z,1.8nm,0.8s,baz=249,slow=7.3,SNR=3.9						
NOA	NORSAR Array B	76.18	335	P	P	09 52 40.9	+0.2
	comp=Z,2.7nm,1.1s,baz=114,slow=6.0,SNR=2.9						
ES19	SONSECA Array	77.28	311	eP	P	09 52 48.0	+0.7
ESDC	Sonseca Array	77.32	311	P	P	09 52 48.0	+0.4
	comp=Z,0.4nm,0.5s,baz=89,slow=5.6,SNR=5.3						
CTA	Charters Tower	78.42	110	P	P	09 52 53.4	-0.7
	comp=Z,1.7nm,0.9s,baz=195,slow=16,SNR=3.4						
YSS	Yuzh-Sakhalins	81.07	42⇓	eP	P	09 53 06.5	-1.3
YSS				e		09 53 09.5	
YSS				pmax	pmax		
	comp=Z,20nm,1.1s						
TIXI	Tiksi	82.94	16	ceP	P	09 53 17.0	-0.2
TIXI				pmax	pmax		
	comp=Z,12nm,1.0s						
QSPA	South Pole Qui	88.13	180	LR	LR	10 26 49.0	
	comp=Z,131nm,20.4s,baz=232,slow=31						
QSPA	South Pole Qui	88.13	180	eP	P	09 53 43.2	-0.2
	comp=Z,7.2nm,1.3s						
VNDA	Vanda	89.05	167	P	P	09 53 47.4	+0.1
	comp=Z,1.0nm,0.8s,baz=253,slow=3.1,SNR=4.8						
SEY	Seymchan	89.13	27	i P	P	09 53 45.7	-2.2
BILL	Bilibino	94.86	22	eP	P	09 54 15.0	+0.6
BILL				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	Yellowknife Ar	119.49	1	PKP	PKPdf	09 59 39.7	-2.4
	comp=Z,0.6nm,0.8s,baz=350,slow=2.2,SNR=11						
FFC	Flin Flon	126.67	353	c iPKIKP	PKPdf	09 59 57.4	+1.3
PDAR	Pinedale Array	139.22	357	PKP	PKPdf	10 00 17.9	-2.5
	comp=Z,0.9nm,0.8s,baz=58,slow=1.2,SNR=8.6						
NVAR	Mina Array Bea	143.17	8	PKP	PKPbc	10 00 24.8	+0.3
	comp=Z,1.2nm,0.9s,baz=0.0,slow=1.9,SNR=4.9						
DAC	Darwin (Calif)	145.39	8	ePKPbc	PKPdf	10 00 31.6	+0.1
DAC	Darwin (Calif)	145.39	8	ePKIKP	PKPdf	10 00 31.6	+0.1
ANMO	Albuquerque	146.68	352	c iPKP2	PKPbc	10 00 34.9	-0.4
ANMO				pmax	pmax		
	comp=Z,8.0nm,2.5s						
PFO	Pinyon Flats O	148.16	7	ePKPbc	PKPbc	10 00 40.2	+0.9
PFO	Pinyon Flats O	148.16	7	ePKP2	PKPbc	10 00 40.2	+0.9
MNTX	Cornudas Mount	149.66	349	ePKPbc	PKPbc	10 00 43.3	+0.2
TUC	Tucson	149.70	358	ePKPbc	PKPbc	10 00 43.7	+0.4
TUC	Tucson	149.70	358	ePKP2	PKPbc	10 00 43.7	+0.4
TXAR	Lajitas Array	151.53	344	PKPbc	PKPbc	10 00 47.8	+0.1
	comp=Z,3.1nm,0.9s,baz=49,slow=1.7,SNR=19						

IDC 09 09:48:19.1±10.0**, 2°.08S**×**67°.50E, h0km, mb3.7**/4**, mb1 3.8**/4**, mb1mx3.4**/35**, mbtmp3.7**/4**, MS3.7**/1**, Ms1 3.7**/1**, ms1mx2.8**/47**, Error ellipse: s-maj=327.8km s-min=36.5km az=67.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.47	141	T	T	09 55 05.9	
	baz=324,slow=75,SNR=15						
H08N3	Diego Garcia H	5.48	141	T	T	09 55 05.4	
	baz=324,slow=75,SNR=17						
H08N1	Diego Carcia H	5.49	141	T	T	09 55 07.7	
	baz=324,slow=75,SNR=16						
LSZ	Lusaka	40.92	249	LR	LR	10 11 45.3	
	comp=Z,88nm,18.8s,baz=124,slow=34						
MKAR	Makanchi Array	50.38	13	P	P	09 57 18.2	+0.1
	0.4nm,0.7s,baz=194,slow=8.4,SNR=3.7						
ZALV	Zalesovo Beam	57.67	12	P	P	09 58 10.9	-0.2
	0.3nm,0.3s,baz=190,slow=7.3,SNR=5.0						
SONM	Songino Array	60.17	29	P	P	09 58 28.7	-0.2
	0.6nm,0.7s,baz=226,slow=6.0,SNR=4.5						
WRA	Warramunga Arr	67.54	111	P	P	09 59 18.0	+0.1
	0.7nm,1.0s,baz=281,slow=6.8,SNR=3.2						

*ISCJB **09** 09:49:32.6±0.7, 20°.8S±0°.1×170°.24E±0°.09, h90km, mb3.9/10, Error ellipse: s-maj=18.3km s-min=10.3km az=152.0*

*IDC **09** 09:49:38.5±2.8, 20°.94S×170°.04E, h133km±23km, mb3.7/10, mb1 3.9/12, mb1mx3.8/25, mbtmp4.1/12, Error ellipse: s-maj=27.2km s-min=21.7km az=159.0*

ISC 09 09:49:33.6±0.8**, 20°.8S**±0°.1×**170°.3E**±0°.1**, h90km, n23, σ1s.34**/25**, mb4.0**/10**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.80	249	P	Pn	09 50 32.7	+2.6
	30nm,0.3s,baz=90,slow=7.5,SNR=847						
DZM				S	Sn	09 51 13.8	+0.1
	33nm,0.3s,baz=338,slow=20,SNR=8.2						
URZ	Urewera	18.41	163	P	Pn	09 53 43.6	+0.8
	0.3nm,0.3s,baz=1.4,slow=17,SNR=3.4						
CTA	Charters Tower	22.52	267	P	P	09 54 26.2	0.0
	1.9nm,0.4s,baz=88,slow=10,SNR=7.4						
STKA	Stephens Creek	27.91	241	P	P	09 55 14.1	-1.2
	1.2nm,0.3s,baz=80,slow=9.9,SNR=6.5						
WRA	Warramunga Arr	33.66	265	P	P	09 56 03.8	-2.4
	1.2nm,0.3s,baz=96,slow=8.1,SNR=50						
ASAR	Alice Springs	33.74	258	P	P	09 56 04.8	-2.0
	2.6nm,0.4s,baz=83,slow=8.1,SNR=74						
ASAR				PcP	PcP	09 58 41.9	-2.6
	0.5nm,1.1s,baz=79,slow=4.8,SNR=4.6						
USRK	Ussuriysk Ar.	73.53	332	P	P	10 00 57.0	+0.4
	1.0nm,0.6s,baz=150,slow=4.9,SNR=5.1						
PETK	Petropavlovsk-	74.36	352	P	P	10 01 03.0	+1.7
	1.8nm,0.8s,baz=151,slow=9.5,SNR=2.7						
CMAR	Chiang Mai Arr	80.01	294	P	P	10 01 34.8	+1.1
	1.9nm,0.6s,baz=133,slow=4.8,SNR=8.6						
SONM	Songino Array	89.01	323	P	P	10 02 18.4	-0.1
	0.2nm,0.3s,baz=176,slow=2.3,SNR=3.3						
NVAR	Mina Array Bea	89.08	48	P	P	10 02 20.4	+1.3
	1.2nm,0.8s,baz=232,slow=8.7,SNR=5.6						
ILAR	Eielson Array	91.39	17	P	P	10 02 28.0	-1.0
	0.4nm,0.6s,baz=236,slow=5.0,SNR=14						
ARCES	ARCESS Array B	126.78	345	PKP	PKPdf	10 08 25.0	-1.1
	2.4nm,0.9s,baz=54,slow=1.6,SNR=11						
FINES	FINESS Array B	132.36	338	PKP	PKPdf	10 08 36.5	-0.4
	3.0nm,1.0s,baz=116,slow=4.4,SNR=6.0						
CONA	Conrad Observa	145.94	329	ePKPbc	PKPbc	10 09 02.9	0.0
	4.9nm,1.1s						
GERES	GERESS Array B	146.28	332	PKPbc	PKPbc	10 09 03.5	-0.4
	2.1nm,0.6s,baz=30,slow=3.3,SNR=17						
KBA	Koelnbreinsper	147.75	330	ePKPbc	PKPbc	10 09 08.6	+0.4
	1.5nm,0.4s						
MYKA	Terra Mystica	147.93	329	ePKPbc	PKPbc	10 09 07.3	-1.3
	3.1nm,0.8s						
WATA	Walderalm	148.36	332	ePKiKP	PKPbc	10 09 11.0	+1.3
	0.6nm,0.3s						
ABTA	Abfaltersbach	148.38	330	ePKPbc	PKPbc	10 09 09.4	-0.3
	1.5nm,0.4s						
MOTA	Moosalm	148.56	332	ePKPbc	PKPbc	10 09 09.4	-0.9
	2.1nm,0.5s						
SQTA	Sankt Quirin	148.61	332	i PKPbc	PKPbc	10 09 09.7	-0.7
	3.4nm,0.4s						
FETA	Feichten	148.97	332	ePKPbc	PKPbc	10 09 10.6	-0.7

3.0nm,0.7s

IDC 09 09:53:11.6±10.0, 2°.27S×67°.71E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/34, mbtmp3.6/4, Error ellipse: s-maj=336.7km s-min=36.0km az=66.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.20**	**141**	T	T	09 59 55.0	
	baz=325,slow=75,SNR=3.2						
H08N3	**Diego Garcia H**	**5.21**	**141**	T	T	09 59 55.4	
	baz=325,slow=75,SNR=3.9						
H08N1	**Diego Carcia H**	**5.22**	**141**	T	T	09 59 56.7	
	baz=325,slow=75,SNR=3.2						
MKAR	**Makanchi Array**	**50.52**	**13**	P	P	10 02 11.0	-0.6
	0.4nm,0.8s,baz=187,slow=5.7,SNR=4.3						
ZALV	**Zalesovo Beam**	**57.80**	**12**	P	P	10 03 04.7	+0.1
	0.8nm,0.5s,baz=205,slow=8.4,SNR=3.6						
SONM	**Songino Array**	**60.23**	**29**	P	P	10 03 22.2	+0.4
	0.7nm,0.8s,baz=235,slow=5.1,SNR=4.2						
WRA	**Warramunga Arr**	**67.28**	**111**	P	P	10 04 08.7	-0.1
	0.3nm,0.8s,baz=284,slow=6.0,SNR=2.9						

*DDA **09** 09:57:14.4, 39°.71N×25°.56E, h8km±4km, ML2.8*
*ATH **09** 09:57:14.6, 39°.67N×25°.52E, h29km±2km, ML2.2/6, Error ellipse: s-maj=3.0km s-min=1.5km az=232.0*
*ISK **09** 09:57:14.7, 39°.65N×25°.61E, h3km, ML2.5/10*
*ISCJB **09** 09:57:15.2±0.4, 39°.68N±0°.02×25°.55E±0°.03, h7km±4km, Error ellipse: s-maj=3.9km s-min=3.1km az=36.3*
*THE **09** 09:57:15.6, 39°.68N×25°.55E, h2km±7km, ML2.1/6, Error ellipse: s-maj=7.9km s-min=0.9km az=133.0*
ISC 09 09:57:15.0±0.9, 39°.67N±0°.02×25°.56E±0°.02, h13km±8km, n40, σ0s.51/63, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.36**	**308**	P	**Pg**	**09 57 22.4**	**-0.1**
LIA				S	**Sg**	**09 57 27.3**	**-0.1**
LIA				AML	AML	09 57 27.6	
	comp=N,395µm,0.3s						
LIA				AML	AML	09 57 27.8	
	comp=E,408µm,0.2s						
LIA	**Limnos Island**	**0.36**	**308**	P	**Pg**	**09 57 22.3**	**-0.1**
LIA				S	**Sg**	**09 57 27.4**	**0.0**
BOZC	**Bozcaada**	**0.42**	**66**	PG	**Pg**	**09 57 23.3**	**-0.1**
BOZC				SG	**Sb**	**09 57 29.9**	**-0.6**
BOZC	**Bozcaada**	**0.42**	**66**	IAML_P			
	comp=Z,2µm,0.1s						
BOZC				i P	**Pg**	**09 57 23.1**	**-0.3**
EFSA	**Agios Efstrati**	**0.46**	**253**	P	**Pb**	**09 57 25.0**	**+0.1**
EFSA				S	**Sb**	**09 57 31.3**	**-0.3**
EFSA				AML	AML	09 57 31.4	
	comp=E,1068µm,0.4s						
EFSA				AML	AML	09 57 33.2	
	comp=N,1090µm,0.3s						
SIGR	**SIGRI**	**0.52**	**153**	PG	**Pg**	**09 57 24.7**	**-0.5**
SIGR				SG	**Sg**	**09 57 31.9**	**-0.1**
SIGR	**SIGRI**	**0.52**	**153**	P	**Pg**	**09 57 24.8**	**-0.3**
SIGR				S	**Sg**	**09 57 32.4**	**+0.3**
SIGR				AML	AML	09 57 33.3	
	comp=N,850µm,0.3s						
SIGR				AML	AML	09 57 33.3	
	comp=E,471µm,0.3s						
SIGR	**SIGRI**	**0.52**	**153**	P	**Pg**	**09 57 24.9**	**-0.3**
SIGR				S	**Sg**	**09 57 32.5**	**+0.5**
GADA	**Gvkgeada**	**0.58**	**27**	PG	**Pb**	**09 57 27.0**	**-0.1**
GADA				SG	**Sb**	**09 57 35.2**	**0.0**
GADA	**Gvkgeada**	**0.58**	**27**	P	**Pg**	**09 57 26.5**	**+0.1**
GADA				S	**Sb**	**09 57 35.2**	**0.0**
EZN	**Ezine**	**0.61**	**75**	PG	**Pg**	**09 57 26.6**	**-0.4**
EZN				SG	**Sg**	**09 57 35.2**	**+0.1**
EZN	**Ezine**	**0.61**	**75**	P	**Pg**	**09 57 27.0**	**0.0**
EZN				S	**Sg**	**09 57 35.6**	**+0.5**
PRK	**Paraskevi**	**0.70**	**127**	P	**Pb**	**09 57 29.6**	**+0.6**
PRK				S	**Sn**	**09 57 40.5**	**-0.8**
PRK				AML	AML	09 57 42.8	
	comp=N,657µm,0.5s						
PRK				AML	AML	09 57 44.1	
	comp=E,617µm,0.6s						
PRK	**Paraskevi**	**0.70**	**127**	P	**Pb**	**09 57 29.5**	**+0.4**
PRK				S	**Sn**	**09 57 40.4**	**-0.8**
BAYC	**CANAKKALE_Bayr**	**0.77**	**85**	IAML_P			
	comp=Z,2µm,0.2s						
BAYC				i P	**Pb**	**09 57 30.4**	**+0.2**
BAYC				i S	**Sb**	**09 57 41.3**	**+0.7**
SMTH	**Samothraki Isl**	**0.80**	**359**	P	**Pb**	**09 57 30.8**	**0.0**
SMTH				S	**Sb**	**09 57 41.6**	**+0.1**
SMTH				AML	AML	09 57 43.7	
	comp=E,139µm,0.3s						
SMTH				AML	AML	09 57 43.8	
	comp=N,170µm,0.2s						
SMTH	**Samothraki Isl**	**0.80**	**359**	P	**Pb**	**09 57 30.8**	**0.0**
SMTH				S	**Sb**	**09 57 41.8**	**+0.3**
AYVA	**Ayvalik**	**0.95**	**112**	i P	**Pb**	**09 57 33.7**	**+0.3**
AYVA				i S	**Sn**	**09 57 48.0**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.01**	**44**	PG	**Pb**	**09 57 34.1**	**-0.3**
THAS	**Thassos island**	**1.13**	**326**	P	**Pb**	**09 57 35.8**	**-0.6**
THAS				S	**Sb**	**09 57 50.8**	**-0.3**
THAS				AML	AML	09 57 52.9	
	comp=E,184µm,0.3s						
THAS				AML	AML	09 57 53.3	
	comp=N,235µm,0.2s						
THAS	**Thassos island**	**1.13**	**326**	P	**Pb**	**09 57 36.0**	**-0.4**
THAS				S	**Sb**	**09 57 50.9**	**-0.1**
ENEZ	**Enez**	**1.16**	**23**	PN	**Pg**	**09 57 37.4**	**+0.1**
LPK	**Lapseki**	**1.16**	**53**	PN	**Pb**	**09 57 36.9**	**0.0**
DKL	**Dikili**	**1.21**	**119**	PN	**Pn**	**09 57 37.5**	**-0.1**
ERIK	**Erikli-Kesan**	**1.24**	**36**	PN	**Pg**	**09 57 38.8**	**-0.1**
ALN	**Alexandroupoli**	**1.28**	**17**	PN	**Pg**	**09 57 39.8**	**+0.1**
CHOS	**Chios island**	**1.34**	**163**	PN	**Pg**	**09 57 40.7**	**-0.2**
CHOS	**Chios island**	**1.34**	**163**	P	**Pn**	**09 57 39.1**	**-0.4**
OUR	**Ouranopolis**	**1.38**	**299**	PN	**Pg**	**09 57 42.4**	**+0.9**
AOS	**Alonnisos**	**1.39**	**249**	PN	**Pg**	**09 57 42.4**	**+0.6**
RDO	**Rodhopi**	**1.47**	**359**	PN	**Pg**	**09 57 42.7**	**-0.6**
KRBG	**Karabiga-Canak**	**1.52**	**61**	PN	**Pb**	**09 57 43.2**	**+0.2**
URLA	**Izmir**	**1.54**	**148**	PN	**Pn**	**09 57 42.7**	**+0.5**
URLA	**Izmir**	**1.54**	**148**	i P	**Pn**	**09 57 40.4**	**-1.8**
URLA				i S	**Sn**	**09 58 01.8**	**-0.3**
KAVA	**Kavala**	**1.54**	**329**	P	**Pg**	**09 57 44.3**	**-0.4**
KAVA				S	**Sn**	**09 58 02.2**	**+0.1**
KNL	**Balıkesir**	**1.63**	**68**	IAML_P			
	comp=Z,182nm,0.1s						
KNL				i P	**Pb**	**09 57 44.5**	**-0.3**
KNL				i S	**Sg**	**09 58 07.1**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.70**	**99**	IAML_P			
	comp=Z,231nm,0.1s						
STEP				i P	**Pb**	**09 57 45.5**	**-0.6**
STEP				i S	**Sg**	**09 58 10.9**	**+1.2**
BLCB	**Balcova**	**1.73**	**138**	PN	**Pn**	**09 57 45.9**	**+1.1**
EDC	**Edincik**	**1.90**	**68**	PN	**Pn**	**09 57 48.1**	**+1.0**
SBT4	**Kumbag-Tekirda**	**1.90**	**52**	PN	**Pb**	**09 57 49.0**	**-0.5**

IDC 09 10:00:44.9±1.3, 16°.00S×174°.70W, h0km, mb4.2/7, mb1 4.4/7, mb1mx4.0/34, mbtmp4.2/7, Error ellipse: s-maj=34.5km s-min=28.3km az=107.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**23.32**	**196**	P	P	10 05 56.0	+1.4
	5.8nm,0.5s,baz=276,slow=3.1,SNR=9.4						
STKA	**Stephens Creek**	**42.65**	**240**	P	P	10 08 43.6	+0.1
	7.0nm,0.8s,baz=96,slow=11,SNR=13						
WRA	**Warramunga Arr**	**48.49**	**257**	P	P	10 09 29.6	-0.3
	1.8nm,0.6s,baz=91,slow=7.7,SNR=33						
ASAR	**Alice Springs**	**48.73**	**252**	P	P	10 09 31.4	-0.3
	8.8nm,0.5s,baz=89,slow=7.7,SNR=198						
VNDA	**Vanda**	**62.66**	**186**	P	P	10 11 10.3	-0.6
	1.0nm,0.8s,baz=9.5,slow=2.9,SNR=3.6						
QSPA	**South Pole Qui**	**74.05**	**180**	P	P	10 12 22.0	-0.6
	1.3nm,0.7s,baz=329,slow=1.5,SNR=8.2						
ILAR	**Eielson Array**	**83.28**	**12**	P	P	10 13 13.5	+0.4
	0.2nm,0.4s,baz=224,slow=5.5,SNR=9.3						

*ATH **09** 10:02:42.9, 39°.64N×25°.51E, h28km±1km, ML2.0/2, Error ellipse: s-maj=3.7km s-min=0.9km az=232.0*
*ISCJB **09** 10:02:43.3±0.5, 39°.67N±0°.02×25°.62E±0°.03, h9km±4km, Error ellipse: s-maj=4.8km s-min=3.6km az=147.3*
*THE **09** 10:02:43.8, 39°.70N×25°.61E, h6km±2km, ML1.9/6, Error ellipse: s-maj=2.7km s-min=0.8km az=215.0*
*ISK **09** 10:02:43.4, 39°.63N×25°.67E, h8km, ML2.3/11*
*DDA **09** 10:02:48.9, 39°.79N×26°.12E, h7km±2km, ML2.9*
ISC 09 10:02:43.4±1.1, 39°.67N±0°.02×25°.60E±0°.02, h6km±11km, n42, σ0s.86/56, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.39**	**63**	PG	**Pg**	**10 02 50.9**	**-0.1**
BOZC				SG	**Sg**	**10 02 56.7**	**+0.6**
BOZC	**Bozcaada**	**0.39**	**63**	IAML_P			
	comp=Z,3µm,0.1s						
LIA	**Limnos Island**	**0.40**	**306**	P	**Pg**	**10 02 51.4**	**+0.3**
LIA				S	**Sg**	**10 02 57.3**	**+1.0**
LIA				AML	AML	10 03 02.6	
	comp=N,662µm,0.6s						
LIA				AML	AML	10 03 02.9	
	comp=E,501µm,0.4s						
LIA	**Limnos Island**	**0.40**	**306**	P	**Pg**	**10 02 51.4**	**+0.3**
LIA				S	**Sg**	**10 02 57.5**	**+1.2**
SIGR	**SIGRI**	**0.49**	**156**	PG	**Pg**	**10 02 51.5**	**-1.4**
SIGR				SG	**Sg**	**10 02 59.4**	**0.0**
SIGR	**SIGRI**	**0.49**	**156**	P	**Pg**	**10 02 53.1**	**+0.2**
SIGR				S	**Sb**	**10 03 01.1**	**-0.8**
SIGR				AML	AML	10 03 02.2	
	comp=N,393µm,0.6s						
SIGR				AML	AML	10 03 02.4	
	comp=E,223µm,0.4s						
SIGR	**SIGRI**	**0.49**	**156**	P	**Pg**	**10 02 53.2**	**+0.2**
SIGR				S	**Sb**	**10 03 01.3**	**-0.6**
GADA	**Gvkgeada**	**0.57**	**23**	PG	**Pb**	**10 02 55.3**	**-0.5**
GADA	**Gvkgeada**	**0.57**	**23**	P	**Pg**	**10 02 54.5**	**0.0**
GADA				S	**Sg**	**10 03 02.1**	**+0.2**
EZN	**Ezine**	**0.58**	**74**	PG	**Pg**	**10 02 54.2**	**-0.4**
EZN				SG	**Sg**	**10 03 02.2**	**+0.1**
EZN	**Ezine**	**0.58**	**74**	P	**Pg**	**10 02 54.4**	**-0.2**
EZN				S	**Sg**	**10 03 02.3**	**+0.1**
PRK	**Paraskevi**	**0.67**	**129**	P	**Pb**	**10 02 57.3**	**-0.1**
PRK				S	**Sb**	**10 03 07.3**	**+0.4**
PRK	**Paraskevi**	**0.67**	**129**	P	**Pb**	**10 02 57.5**	**+0.1**
PRK				S	**Sb**	**10 03 07.3**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**0.73**	**84**	IAML_P			
	comp=Z,2µm,0.1s						
BAYC				i P	**Pb**	**10 02 57.9**	**-0.7**
BAYC				i S	**Sg**	**10 03 06.0**	**-1.1**
SMTH	**Samothraki Isl**	**0.81**	**356**	P	**Pg**	**10 02 58.6**	**-0.4**
SMTH	**Samothraki Isl**	**0.81**	**356**	P	**Pg**	**10 02 58.7**	**-0.2**
SMTH				S	**Sg**	**10 03 09.4**	**0.0**
AYVA	**Ayvalik**	**0.92**	**113**	IAML_P			
	comp=Z,778nm,0.1s						
AYVA				i P	**Pn**	**10 03 02.5**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.99**	**42**	PG	**Pb**	**10 03 02.3**	**-0.7**
LPK	**Lapseki**	**1.14**	**51**	PN	**Pn**	**10 03 05.4**	**-0.4**
ENEZ	**Enez**	**1.15**	**21**	PN	**Pg**	**10 03 05.6**	**+0.1**
THAS	**Thassos island**	**1.16**	**325**	P	**Pb**	**10 03 04.6**	**-1.2**
THAS	**Thassos island**	**1.16**	**325**	P	**Pb**	**10 03 04.9**	**-0.9**
THAS				S	**Sb**	**10 03 20.2**	**-0.8**
DKL	**Dikili**	**1.17**	**120**	PN	**Pb**	**10 03 05.2**	**-0.8**
ERIK	**Erikli-Kesan**	**1.22**	**35**	PN	**Pg**	**10 03 07.1**	**+0.2**
ALN	**Alexandroupoli**	**1.28**	**15**	PN	**Pg**	**10 03 07.8**	**-0.2**
ALN	**Alexandroupoli**	**1.28**	**15**	P	**Pb**	**10 03 07.3**	**-0.6**
ALN	**Alexandroupoli**	**1.28**	**15**	P	**Pg**	**10 03 07.7**	**-0.2**
ALN				S	**Sg**	**10 03 24.5**	**0.0**
CHOS	**Chios island**	**1.32**	**164**	PN	**Pn**	**10 03 07.9**	**-0.6**
CHOS	**Chios island**	**1.32**	**164**	P	**Pn**	**10 03 07.5**	**-0.9**
CHOS	**Chios island**	**1.32**	**164**	P	**Pn**	**10 03 07.5**	**-0.9**
AOS	**Alonnisos**	**1.42**	**250**	PN	**Pg**	**10 03 10.9**	**+0.3**
RDO	**Rodhopi**	**1.48**	**358**	PN	**Pg**	**10 03 12.0**	**+0.2**
RDO	**Rodhopi**	**1.48**	**358**	P	**Pn**	**10 03 09.3**	**-1.3**
KRBG	**Karabiga-Canak**	**1.49**	**60**	PN	**Pb**	**10 03 10.8**	**-0.7**
URLA	**Izmir**	**1.52**	**149**	PN	**Pn**	**10 03 09.9**	**-1.2**
BALY	**Balya**	**1.56**	**87**	i P	**Pb**	**10 03 11.6**	**-1.1**
KAVA	**Kavala**	**1.57**	**328**	P	**Pn**	**10 03 10.2**	**-1.6**
STEP	**BALIKESIR_Sava**	**1.66**	**99**	IAML_P			
	comp=Z,282nm,0.1s						
STEP				i P	**Pb**	**10 03 13.5**	**-0.9**
EDC	**Edincik**	**1.87**	**68**	PN	**Pn**	**10 03 15.9**	**0.0**
DBOC	**Borcka**	**12.35**	**77**	i P	**Pn**	**10 05 40.8**	**+1.1**
DBAD	**Bademkaya**	**12.36**	**79**	IAML_P			
	comp=Z,2µm,0.1s						
DBAD				i P	**Pn**	**10 05 43.4**	**+3.5**
ARTV	**Artvin**	**12.54**	**78**	i P	**Pn**	**10 05 43.7**	**+1.3**

*IDC **09** 10:04:57.8±0.9, 29°.89N×88°.02E, h0km, mb3.7/11, mb1 3.9/13, mb1mx3.7/48, mbtmp3.7/13, ML3.6/2, MS4.1/1, Ms1 4.1/1, ms1mx2.8/52, Error ellipse: s-maj=29.6km s-min=16.2km az=51.0*
*ISCJB **09** 10:05:01.7±0.7, 29°.9N±0°.1×87°.9E±0°.2, h37km, mb3.7/12, MS4.1/1, Error ellipse: s-maj=22.8km s-min=11.2km az=144.7*
ISC 09 10:05:03.5±0.8, 30°.0N±0°.1×88°.0E±0°.2, h37km, n17, σ1s.38/16, mb3.8/12, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**5.56**	**141**	eP	**Pn**	**10 06 26.5**	**+2.6**
CMAR	**Chiang Mai Arr**	**15.18**	**137**	Pn	**Pn**	**10 08 31.5**	**-3.7**
	0.2nm,0.3s,baz=328,slow=12,SNR=2.6						
MKAR	**Makanchi Array**	**17.38**	**347**	P	**P**	**10 09 03.5**	**-0.6**
	0.1nm,0.3s,baz=160,slow=11,SNR=11						
KURBB	**Kurchatov Arra**	**21.83**	**344**	P	**P**	**10 09 52.0**	**-0.4**
	3.0nm,0.7s,baz=158,slow=11,SNR=15						
SONM	**Songino Array**	**22.77**	**33**	P	**P**	**10 10 03.8**	**+1.1**
	1.8nm,0.7s,baz=220,slow=11,SNR=18						
ZALV	**Zalesovo Beam**	**24.08**	**355**	P	**P**	**10 10 15.0**	**-0.3**
	0.4nm,0.5s,baz=177,slow=9.7,SNR=3.1						
GEYT	**Alibeck**	**25.96**	**296**	P	**P**	**10 10 33.2**	**+0.6**
	4.0nm,1.1s,baz=167,slow=6.8,SNR=2.8						
AKASG	**Malin Array Be**	**47.97**	**313**	P	**P**	**10 13 38.5**	**0.0**
	1.6nm,0.6s,baz=82,slow=6.6,SNR=3.6						
FINES	**FINESS Array B**	**50.80**	**327**	P	**P**	**10 14 00.7**	**+0.9**
	1.0nm,0.4s,baz=114,slow=8.5,SNR=9.8						
BATI	**Baumata**	**52.65**	**134**	LR	LR	10 39 28.0	
	comp=Z,168nm,18.8s,baz=3.0,slow=39						
NB2	**NORSAR Subarra**	**57.95**	**326**	P	**P**	**10 14 51.1**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=86,slow=6.9						
NOA	**NORSAR Array B**	**57.95**	**326**	P	**P**	**10 14 51.3**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=87,slow=6.9,SNR=4.4						
GERES	**GERESS Array B**	**58.12**	**312**	P	**P**	**10 14 53.4**	**0.0**
	comp=Z,0.3nm,0.3s,baz=64,slow=6.1,SNR=4.4						
WRA	**Warramunga Arr**	**66.72**	**132**	P	**P**	**10 15 50.9**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=325,slow=6.4,SNR=8.6						
ASAR	**Alice Springs**	**69.18**	**135**	P	**P**	**10 16 06.2**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=318,slow=6.0,SNR=5.3						
ILAR	**Eielson Array**	**76.40**	**21**	P	**P**	**10 16 48.6**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=316,slow=4.4,SNR=5.0						
YKA	**Yellowknife Ar**	**86.09**	**10**	P	**P**	**10 17 40.0**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=329,slow=4.8,SNR=10						

IDC 09 10:05:38.6±2.4, 1°.90S×67°.88E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.5/58, mbtmp3.7/7, Error ellipse: s-maj=84.0km s-min=25.5km az=64.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.39**	**145**	T	T	10 12 17.3	
	baz=324,slow=75,SNR=48						
H08N3	**Diego Garcia H**	**5.40**	**145**	T	T	10 12 21.2	
	baz=324,slow=75,SNR=47						
H08N1	**Diego Carcia H**	**5.41**	**145**	T	T	10 12 18.9	
	baz=324,slow=75,SNR=54						
MKAR	**Makanchi Array**	**50.12**	**13**	P	P	10 14 35.3	-0.3
	0.5nm,0.8s,baz=196,slow=7.6,SNR=4.7						
KURBB	**Kurchatov Arra**	**53.11**	**8**	P	P	10 14 58.0	+0.1
	1.3nm,0.9s,baz=214,slow=7.8,SNR=4.8						
BVAR	**Borovoye Array**	**54.77**	**2**	P	P	10 15 10.0	+0.1
	0.2nm,0.4s,baz=156,slow=3.9,SNR=3.0						
ZALV	**Zalesovo Beam**	**57.41**	**12**	P	P	10 15 28.1	-0.7
	1.0nm,0.6s,baz=224,slow=8.3,SNR=5.0						
SONM	**Songino Array**	**59.83**	**29**	P	P	10 15 46.5	+0.4
	1.0nm,0.8s,baz=228,slow=6.6,SNR=6.1						
WRA	**Warramunga Arr**	**67.25**	**111**	P	P	10 16 35.2	-0.4
	0.7nm,0.8s,baz=284,slow=6.0,SNR=4.6						
ASAR	**Alice Springs**	**67.33**	**115**	P	P	10 16 36.3	+0.3
	0.5nm,0.9s,baz=289,slow=5.6,SNR=3.6						
TXAR	**Lajitas Array**	**151.55**	**344**	PKPbc	PKPbc	10 25 35.6	-0.1
	0.8nm,0.9s,baz=90,slow=2.5,SNR=5.0						

WEL 09 10:08:17.8, 39°S±1°×17°4E±°, h10km±1km, ML3.7/19, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBEZ	**Newall Road No**	**0.16**	**64**	P	Pg	10 08 22.2	+1.0
NMEZ	**Namu Road**	**0.17**	**117**	P	Pg	10 08 22.1	+0.7
NMEZ				S	Sg	10 08 25.4	+1.5
KHEZ	**Kahui Hut**	**0.26**	**81**	P	Pb	10 08 24.0	-0.7
KHEZ				S	Sb	10 08 28.6	-0.6
PKE	**Pukeiti**	**0.27**	**59**	P	Pb	10 08 24.4	-0.5
PKE				S	Sb	10 08 29.1	-0.5
PREZ	**Palmer Road**	**0.37**	**91**	P	Pb	10 08 25.9	-0.6
PREZ				S	Sb	10 08 32.0	-0.3
DREZ	**Durham Road**	**0.43**	**70**	P	Pb	10 08 26.9	-0.6
DREZ				S	Sb	10 08 33.8	-0.1
MHEZ	**Mangahewa**	**0.56**	**62**	P	Pb	10 08 29.3	-0.4
LREZ	**Lake Rotokare**	**0.57**	**103**	P	Pb	10 08 29.6	-0.3
LREZ				S	Sb	10 08 38.5	+0.4
VRZ	**Vera Road**	**0.86**	**76**	P	Pg	10 08 34.2	-0.2
HIZ	**Hauiti**	**1.23**	**48**	P	Pn	10 08 39.7	-1.4
PKVZ	**Pokaka**	**1.29**	**88**	P	Pn	10 08 41.5	-0.5
TWVZ	**Taurewa**	**1.39**	**79**	P	Pn	10 08 42.4	-1.0
COVZ	**Chateau Observ**	**1.45**	**85**	P	Pn	10 08 43.8	-0.4
FWVZ	**Far West T-bar**	**1.45**	**87**	P	Pn	10 08 44.1	-0.2
DUWZ	**D'Urville Isla**	**1.47**	**173**	P	Pb	10 08 45.0	-0.4
WHVZ	**Whangaehu Hut**	**1.48**	**88**	P	Pn	10 08 44.7	-0.1
WTVZ	**West Tongariro**	**1.50**	**82**	P	Pn	10 08 44.6	-0.3
NGZ	**Ngauruhoe**	**1.50**	**84**	P	Pn	10 08 45.1	+0.2
OHWZ	**Ohakea**	**1.53**	**125**	P	Pb	10 08 46.3	+0.1
TUVZ	**Tukino**	**1.53**	**88**	P	Pb	10 08 45.9	-0.5
KRVZ	**Karewarewa**	**1.54**	**82**	P	Pn	10 08 45.2	-0.3
KATZ	**Kakaramea**	**1.60**	**78**	P	Pn	10 08 46.0	-0.3
MOVZ	**Moawhango**	**1.60**	**93**	P	Pn	10 08 46.4	0.0
RATZ	**Rangitukua**	**1.69**	**75**	P	Pn	10 08 47.3	-0.2
WATZ	**Wairara**	**1.71**	**69**	P	Pn	10 08 47.5	-0.3
RITZ	**Rihia Road**	**1.73**	**79**	P	Pn	10 08 48.8	+0.8
QRZ	**Quartz Range**	**1.73**	**210**	P	Pn	10 08 46.8	-1.2
TLZ	**Tolley Road**	**1.76**	**56**	P	Pn	10 08 47.6	-0.9
KIW	**Kapiti Island**	**1.79**	**149**	P	Pb	10 08 49.9	-0.8
BHHZ	**Black Hill Sta**	**1.85**	**95**	P	Pb	10 08 50.7	-1.0
OGWZ	**Otaki Gorge**	**1.87**	**143**	P	Pb	10 08 51.5	-0.5
KUTZ	**Kaahu Road**	**1.87**	**64**	P	Pn	10 08 49.9	-0.1
NNZ	**Nelson**	**1.89**	**187**	P	Pn	10 08 50.0	-0.2
TSZ	**Takapari Road**	**1.90**	**113**	P	Pb	10 08 52.0	-0.6
POWZ	**Post Office Ro**	**1.92**	**124**	P	Pb	10 08 52.8	-0.2
TCW	**Tory Channel**	**1.93**	**167**	P	Pn	10 08 51.1	+0.4
MRZ	**Mangatainoka R**	**1.96**	**133**	P	Pb	10 08 53.2	-0.5
PNHZ	**Pukenui**	**2.02**	**107**	P	Pb	10 08 54.6	-0.2
CAW	**Cannon Point**	**2.06**	**150**	P	Pb	10 08 54.5	-0.8
HOWZ	**Holdsworth Sta**	**2.10**	**139**	P	Pn	10 08 54.2	+1.2
TUWZ	**Tuamarina**	**2.10**	**175**	P	Pn	10 08 53.8	+0.8
KWHZ	**Kaweka Forest**	**2.12**	**93**	P	Pb	10 08 56.5	0.0
GRRZ	**Galatos Road**	**2.13**	**63**	P	Pn	10 08 53.1	-0.5
PRWZ	**Pori Road**	**2.14**	**125**	P	Pb	10 08 57.1	+0.5
DVHZ	**Dannevirke**	**2.14**	**117**	P	Pn	10 08 52.7	-0.9
TOZ	**Tahuroa Road**	**2.15**	**42**	P	Pn	10 08 52.9	-0.8
BKZ	**Black Stump Fm**	**2.19**	**86**	P	Pb	10 08 57.0	-0.5
BHW	**Baring Head**	**2.26**	**157**	P	Pb	10 08 58.3	-0.4
UTU	**Utuhina**	**2.28**	**60**	P	Pn	10 08 55.1	-0.4
NGRZ	**Ngongotaha**	**2.31**	**59**	P	Pn	10 08 55.4	-0.6
MCHZ	**McNeill Hill**	**2.33**	**94**	P	Pb	10 09 01.2	+1.2
BSWZ	**Blackbirch Sta**	**2.38**	**177**	P	Pb	10 09 00.0	-0.8
BFZ	**Birch Farm**	**2.38**	**125**	P	Pb	10 09 00.1	-0.7
AWAZ	**Awhitu Peninsu**	**2.39**	**19**	P	Pn	10 08 57.4	+0.3
MSWZ	**Moikau Station**	**2.40**	**151**	P	Pb	10 09 00.1	-0.9
KARZ	**Kaharoa**	**2.40**	**58**	P	Pb	10 08 59.6	-1.5
ANWZ	**Angora Road**	**2.42**	**118**	P	Pb	10 09 02.0	+0.5
PAWZ	**Paruwai Farm**	**2.44**	**147**	P	Pb	10 09 02.7	+0.9
TMWZ	**Te Maipa**	**2.44**	**137**	P	Pb	10 09 00.0	-1.9
PRHZ	**Porangahau**	**2.45**	**113**	P	Pb	10 09 01.4	-0.6
THZ	**Tophouse**	**2.49**	**194**	P	Pn	10 08 58.8	+0.2
WTAZ	**Waiatarua**	**2.50**	**17**	P	Pn	10 08 58.9	+0.3
MTHZ	**Maungataniwha**	**2.50**	**80**	P	Pb	10 09 00.9	-2.0
MKAZ	**Moumakai**	**2.51**	**28**	P	Pn	10 08 58.7	-0.1
PLWZ	**Palliser**	**2.53**	**152**	P	Pb	10 09 02.7	-0.7
TRWZ	**Traveller**	**2.56**	**144**	P	Pb	10 09 03.6	-0.3
ETAZ	**East Tamaki Re**	**2.57**	**23**	P	Pn	10 08 59.5	-0.1
TGRZ	**Tauranga**	**2.58**	**52**	P	Pn	10 08 58.9	-0.8
URZ	**Urewera**	**2.88**	**69**	P	Pb	10 09 06.9	-2.5
KUZ	**Kuaotunu**	**3.05**	**32**	P	Pn	10 09 05.3	-0.7
KHZ	**Kahutara**	**3.08**	**182**	P	Pb	10 09 10.4	-2.3
MWZ	**Matawai**	**3.16**	**73**	P	Pn	10 09 10.2	+2.5
WCZ	**Waipu Caves**	**3.43**	**9**	P	Pn	10 09 11.1	-0.3
INZ	**Inchbonnie**	**3.79**	**206**	P	Pn	10 09 16.6	+0.4

*BJI **09** 10:08:44.2, 1°.90S×67°.80E, h10km, mb4.8/36, mB5.3/19, Ms4.8/13, Ms7 4.5/10*
*IDC **09** 10:08:44.8±0.5, 1°.93S×68°.07E, h0km, mb4.3/26, mb1 4.3/26, mb1mx4.2/58, mbtmp4.3/26, MS3.8/13, Ms1 3.8/13, ms1mx3.5/54, Error ellipse: s-maj=16.0km s-min=12.1km az=147.0*
*ISCJB **09** 10:08:45.8±3.3, 1°.95S±0°.05×67°.94E±0°.05, h19km±24km, mb4.5/52, MS3.9/16, Error ellipse: s-maj=9.5km s-min=8.5km az=142.2*
*NEIC **09** 10:08:45.8±0.3, 1°.91S×67°.88E, h10km, mb4.7/17, Error ellipse: s-maj=8.1km s-min=7.1km az=162.0*
*GCMT **09** 10:08:46.8±0.4, 2°.00S±0°.05×67°.95E±0°.04, h16km±1km, MW4.8/69, Moment Tensor Solution. s19,c20; s69,c88; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.18±.19; $M_{\theta\theta}$0.88±.12; $M_{\phi\phi}$1.30±.13; $M_{r\theta}$0.54±.37; $M_{\theta\phi}$-0.84±.07; $M_{\phi r}$-0.17±.33; Best double couple: $M_0$2.14000×10^{16} NP1:ϕ_s314.00000°,δ52.00000°,λ-99.00000°. NP2: ϕ_s149.00000°,δ39.00000°,λ-79.00000°. Principal axes: T 2.0060, Plg6.0000°, Azm51.0000°; N 0.2690, Plg7.0000°, Azm320.0000°; P -2.2730, Plg80.0000°, Azm182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 10:08:48.1±0.8, 1°.91S±0°.08×67°.83E±0°.07, h21km±12km, n96, σ1s.58/97, mb4.6/52, MS3.8/16, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.41**	**144**	T	T	10 15 28.0	
	baz=324,slow=75,SNR=202						
H08N3	**Diego Garcia H**	**5.42**	**145**	T	T	10 15 32.8	
	baz=324,slow=75,SNR=226						
H08N1	**Diego Carcia H**	**5.43**	**144**	T	T	10 15 29.7	
	baz=324,slow=75,SNR=199						
DGAR	**Diego Garcia**	**7.15**	**140**	ePn	**Pn**	**10 10 30.6**	**-0.8**
PALK	**Pallekele**	**15.75**	**54**	LR	LR	10 17 09.1	
	comp=Z,631nm,20.3s,baz=294,slow=32						
PALK	**Pallekele**	**15.75**	**54**	ePn	**Pn**	**10 12 27.6**	**-1.3**
	137nm,1.9s						
MRIV	**Mauritius Mete**	**20.88**	**208**	eP	**P**	**10 13 27.4**	**-1.6**
	28nm,1.3s						
HYB	**Hyderabad**	**21.92**	**28**	i P	**P**	**10 13 40.0**	**-0.3**
	77nm,0.8s						
OPO	**Ambohidratompo**	**26.15**	**229**	LR	LR	10 22 12.7	
	comp=Z,446nm,20.7s,baz=20,slow=31						
WSAR	**Wadi Sarin**	**26.55**	**341**	LR	LR	10 23 11.6	
	comp=Z,119nm,18.0s,baz=172,slow=32						
ATD	**Arta Tunnel**	**28.20**	**299**	LR	LR	10 23 33.4	
	comp=Z,106nm,20.1s,baz=52,slow=31						
ATD	**Arta Tunnel**	**28.20**	**299**	eP	**P**	**10 14 37.5**	**-2.1**
	11nm,1.2s						
GSI	**Gunungsitoli**	**29.91**	**84**	eP	**P**	**10 14 54.1**	**-0.7**
	21nm,1.0s						
KMBO	**Kilima Mbogo**	**30.58**	**271**	P	**P**	**10 15 03.3**	**+2.3**
	4.8nm,0.9s,baz=58,slow=11,SNR=12						
KMBO				LR	LR	10 25 56.3	
	comp=Z,139nm,18.5s,baz=92,slow=34						
KMBO	**Kilima Mbogo**	**30.58**	**271**	eP	**P**	**10 14 58.7**	**-2.3**
	6.3nm,0.9s						
PSI	**Prapat**	**31.43**	**82**	LR	LR	10 25 27.6	
	comp=Z,291nm,21.9s,baz=264,slow=32						
PSI	**Prapat**	**31.43**	**82**	eP	**P**	**10 15 07.2**	**-1.2**
	12nm,1.2s						
BKNI	**Bangkinang**	**33.28**	**87**	eP	**P**	**10 15 24.8**	**+0.4**
	43nm,0.5s						
RAYN	**Ar Rayn**	**33.34**	**321**	eP	**P**	**10 15 22.8**	**-2.0**
	9.0nm,1.6s						
BRDH	**Bariadhala**	**33.71**	**42**	LR	LR	10 30 39.3	
	comp=Z,363nm,18.8s,baz=232,slow=39						
SRDT	**SRDT**	**34.95**	**61**	P	**P**	**10 15 41.9**	**+3.0**
	13nm,1.5s						
UTHA	**Uthaitani**	**35.76**	**60**	P	**P**	**10 15 49.8**	**+4.0**
	2.4nm,1.4s						
CM01	**Chiang Mai Arr**	**36.69**	**55**	eP	**P**	**10 15 51.8**	**-2.0**
CM31	**Chiang Mai Arr**	**36.70**	**55**	eP	**P**	**10 15 53.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**36.70**	**55**	P	**P**	**10 15 52.9**	**-1.0**

1.1nm,0.3s,baz=247,slow=9.8,SNR=9.5
CMAR LR LR 10 29 11.7
comp=Z,144nm,20.8s,baz=232,slow=34
CHTO Chiang Mai 36.88 55 *eP* **P 10 15 55.5 +0.1**
14nm,1.4s
CHTO Chiang Mai 36.88 55 P **P 10 15 57.2 +1.8**
34nm,1.8s
CMMT Chiang Mai 36.88 55 P **P 10 15 57.2 +1.7**
3.9nm,0.5s
MBAR Mbarara 37.10 272 P **P 10 16 00.8 +3.2**
2.6nm,0.2s,baz=80,slow=8.3,SNR=3.8
PBKT Sadao Pong 37.52 59 *eP* **P 10 16 00.5 -0.3**
22nm,1.5s
PBKT Sadao Pong 37.52 59 P **P 10 16 03.4 +2.6**
8.9nm,1.6s
CHAI Chaiyaphum 38.11 61 P **P 10 16 07.5 +1.6**
5.9nm,0.9s
GEYT Alibeck 40.65 348 P **P 10 16 28.5 +1.7**
10.0nm,0.5s,baz=151,slow=3.4,SNR=3.7
GEYT LR LR 10 32 47.7
comp=Z,65nm,18.5s,baz=250,slow=35
LSZ Lusaka 41.28 249 P **P 10 16 33.7 +1.2**
5.4nm,0.6s,baz=77,slow=7.2,SNR=11
LSZ Lusaka 41.28 249 *eP* **P 10 16 30.3 -2.2**
17nm,1.2s
KSH Kashi 41.90 9 P **P 10 16 34.2 -3.0**
KSH sP pP 10 16 41.2 -1.4
KSH PcP **PcP 10 18 31.6 -1.1**
KSH PcS **PcS 10 22 24.5 +0.2**
KSH S **S 10 22 49.2 -5.2**
KSH pmax pmax
comp=Z,19nm,0.6s
KSH pmax pmax
comp=Z,330nm,6.6s
KSH LR LR
comp=N,200nm,5.1s
KSH LR LR
comp=E,140nm,6.0s
KSH LR LR
comp=Z,430nm,7.6s
MATP Matopo 42.56 242 P **P 10 16 43.7 +0.8**
2.8nm,0.8s,baz=74,slow=4.0,SNR=5.0
KMI Kunming 43.20 49 P **P 10 16 50.2 +2.1**
KMI pmax pmax
comp=Z,13nm,0.7s
KZA Kyzart 44.30 8 P **P 10 16 57.8 +0.9**
SNR=14
UCH Uchtor 44.35 7 P **P 10 16 58.6 +1.3**
SNR=5.5
ULHL Ulahol 44.61 9 P **P 10 16 59.6 +0.5**
SNR=5.6
EKS2 Erkin-Say 44.69 6 P **P 10 17 01.5 +1.8**
SNR=10
AAK Ala-Archa 44.75 7 P **P 10 17 00.4 +0.2**
4.0nm,1.0s,baz=182,slow=8.5,SNR=7.3
AAK LR LR 10 33 55.4
comp=Z,106nm,21.0s,baz=176,slow=34
AAK Ala-Archa 44.75 7 *eP* **P 10 16 59.3 -0.9**
12nm,1.4s
KBK Karagaybulak 44.83 7 P **P 10 17 02.4 +1.5**
SNR=6.5
TKM2 Tokmak 2 45.17 8 P **P 10 17 04.0 +0.4**
SNR=15
LBTB Lobatse 46.74 237 P **P 10 17 18.8 +2.6**
9.3nm,1.1s,baz=109,slow=5.7,SNR=4.7
LBTB LR LR 10 35 27.1
comp=Z,161nm,18.7s,baz=52,slow=34
CD2 Chengdu 47.26 43 *eP* **P 10 17 20.0 -0.1**
BOSA Boshof 48.48 233 P **P 10 17 30.5 +0.8**
3.5nm,0.8s,baz=27,slow=8.5,SNR=4.7
WMQ Urumqi 48.89 19 *eP* **P 10 17 33.9 +1.4**
WMQ sP pwP 10 17 42.8 -0.1
WMQ pmax pmax
comp=Z,20nm,1.5s
WMQ pmax pmax
comp=Z,240nm,3.7s
WMQ LR LR
comp=N,330nm,22.5s
WMQ LR LR
comp=E,110nm,20.7s
WMQ LR LR
comp=Z,360nm,22.5s
MAKZ Makanchi 50.09 13 *eP* **P 10 17 40.2 -1.3**
9.2nm,1.2s
MKAR Makanchi Array 50.14 13 P **P 10 17 41.3 -0.6**
2.9nm,0.7s,baz=189,slow=7.2,SNR=32
MKAR PcP **PcP 10 19 01.1 -0.1**
1.7nm,0.9s,baz=191,slow=3.7,SNR=4.7
MKAR Makanchi Array 50.14 13 *eP* **P 10 17 40.9 -1.0**
20nm,0.8s
MKAR PcP **PcP 10 19 01.1 -0.1**
GTA Gaotai 50.52 32 P **P 10 17 44.4 -0.7**
GTA pP pP 10 17 48.8 -2.2
GTA sP sP 10 17 51.4 -1.3
GTA PcP **PcP 10 19 03.6 +0.7**
GTA pmax pmax
comp=Z,96nm,4.2s
GTA LR LR
comp=N,150nm,18.2s
GTA LR LR
comp=E,150nm,17.9s
GTA LR LR
comp=Z,280nm,18.9s
LZH Lanzhou 50.55 38 *eP* **P 10 17 46.9 +1.5**
LZH pP pP 10 17 50.7 -0.6
LZH sP pwP 10 17 53.8 -0.8
LZH *eS* **S 10 25 02.1 +3.3**
LZH sS sS 10 25 13.4 +5.2
LZH pmax pmax
comp=Z,21nm,1.2s
LZH pmax pmax
comp=Z,91nm,4.6s
LZH LR LR
comp=N,520nm,10.3s
LZH LR LR
comp=E,450nm,10.8s
LZH LR LR
comp=Z,1µm,11.1s
ABKAR Akbulak array 51.42 353 *eP* **P 10 17 50.8 -0.7**
BRTR Keskin Array B 51.94 327 P **P 10 17 57.6 +1.9**
1.4nm,1.0s,baz=171,slow=8.8,SNR=4.4
MPSI Mapaga 52.11 88 P **P 10 17 58.0 +0.8**
KURBB Kurchatov Arra 53.13 9 P **P 10 18 03.7 -0.4**
6.2nm,1.0s,baz=205,slow=7.6,SNR=19
KURBB PcP **PcP 10 19 12.0 -0.1**
1.6nm,0.8s,baz=210,slow=4.1,SNR=7.3
KURK Kurchatov 53.23 9 *eP* **P 10 18 03.8 -1.0**
10nm,0.9s
KURK PcP **PcP 10 19 12.0 -0.5**
MANT Manisa 54.08 322 *eP* **P 10 18 07.4 -4.3**
35nm,0.6s
BVAR Borovoye Array 54.78 2 P **P 10 18 16.3 +0.1**
0.9nm,0.7s,baz=177,slow=2.7,SNR=2.9
BVAR LR LR 10 41 23.1
comp=Z,54nm,20.1s,baz=228,slow=36
BRVK Borovoye 54.81 2 *eP* **P 10 18 16.5 +0.1**
3.3nm,1.0s
ZAA0 Zalesovo Array 57.43 12 *eP* **P 10 18 33.4 -1.7**
8.9nm,0.8s
ZALV Zalesovo Beam 57.43 12 P **P 10 18 34.5 -0.6**
5.6nm,0.6s,baz=210,slow=7.8,SNR=34
ZALV Zalesovo Beam 57.43 12 *eP* **P 10 18 33.9 -1.2**
HHC Hu-ho-hao-te 58.25 38 *eP* **P 10 18 41.4 +0.2**
HHC sP sP 10 18 48.3 -0.6
HHC PP **PP 10 20 53.6 +3.2**
HHC S **S 10 26 43.7 +1.4**
HHC sS pS 10 26 48.8 -0.4
HHC pmax pmax
comp=Z,22nm,1.1s
HHC pmax pmax
comp=Z,220nm,5.8s
HHC LR LR
comp=N,150nm,13.4s
HHC LR LR
comp=E,280nm,14.6s
HHC LR LR
comp=Z,180nm,18.1s
NJ2 Nanjing 58.91 50 *eP* **P 10 18 45.2 -0.7**
NJ2 pmax pmax
comp=Z,18nm,0.6s
SONM Songino Array 59.86 29 P **P 10 18 52.7 +0.3**
5.2nm,0.8s,baz=220,slow=6.5,SNR=34
SONA1 Songino Array 59.88 29 *eP* **P 10 18 52.3 -0.2**
TORD Torodi Ar. Bea 67.27 285 P **P 10 19 43.3 +1.5**
1.5nm,1.1s,baz=76,slow=6.1,SNR=5.1
WRA Warramunga Arr 67.29 111 P **P 10 19 40.8 -1.1**
4.5nm,1.0s,baz=283,slow=5.8,SNR=19
WRAB Tennant Creek 67.30 111 *eP* **P 10 19 41.1 -0.8**
21nm,1.5s
WB2 Warramunga Ar 67.31 111 *eP* **P 10 19 40.4 -1.5**
ASAR Alice Springs 67.36 115 P **P 10 19 41.2 -1.0**
2.2nm,0.9s,baz=289,slow=6.4,SNR=11
AS01 Alice Springs 67.41 115 *eP* **P 10 19 40.8 -1.8**
KSAR Wonju Array Be 67.85 48 P **P 10 19 43.7 -1.3**
KSRS Korea Array 67.88 48 P **P 10 19 43.7 -1.5**
2.0nm,0.8s,baz=242,slow=7.1,SNR=4.5
CN2 Changchun 68.61 41 *eP* **P 10 19 49.5 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CLL Collm 70.39 327 *eP* **P 10 20 01.0 +0.5**
USRK Ussuriysk Ar. 73.12 43 P **P 10 20 16.1 -1.0**
1.0nm,0.6s,baz=184,slow=5.7,SNR=4.0
KLR Kul'dur 74.75 38 P **P 10 20 25.4 -1.0**
3.4nm,0.9s,baz=254,slow=6.5,SNR=12
STKA Stephens Creek 75.22 122 P **P 10 20 28.6 -1.0**
0.4nm,0.3s,baz=9.6,slow=1.5,SNR=3.0
MJAR Matsushiro Ar 75.48 52 P **P 10 20 29.9 -1.1**
1.6nm,0.8s,baz=257,slow=5.2,SNR=3.7
NOA NORSAR Array B 76.19 335 P **P 10 20 34.7 +0.1**
1.4nm,1.0s,baz=113,slow=6.2,SNR=2.7
MDT Midelt 76.34 304 LR LR 10 51 29.3
comp=Z,24nm,21.6s,baz=104,slow=34
ESDC Sonseca Array 77.29 311 P **P 10 20 42.0 +0.7**
0.2nm,0.4s,baz=59,slow=4.0,SNR=4.1
TIXI Tiksi 83.00 16 *eP* **P 10 21 10.6 -0.7**
18nm,1.1s
QSPA South Pole Qui 88.09 180 P **P 10 21 37.4 +0.5**
2.9nm,1.0s,baz=93,slow=23,SNR=6.7
QSPA South Pole Qui 88.09 180 *eP* **P 10 21 36.6 -0.3**
10nm,1.4s
YKA Yellowknife Ar 119.53 1 PKP **PKPdf 10 27 34.8 -1.1**
0.3nm,0.6s,baz=354,slow=2.3,SNR=7.2
PDAR Pinedale Array 139.25 357 PKP **PKPdf 10 28 13.8 -0.4**
0.6nm,0.8s,baz=2.9,slow=3.0,SNR=5.3
NVAR Mina Array Bea 143.22 8 PKP PKPbc 10 28 19.8 +1.5
1.1nm,1.0s,baz=46,slow=4.3,SNR=4.1
WMOK Wichita Mounta 145.03 341 *e*PKPbc **PKPbc 10 28 23.6 -0.2**
MNTX Cornudas Mount 149.69 348 *e*PKPbc **PKiKP 10 28 38.1 +0.1**
TXAR Lajitas Array 151.55 344 PKPbc **PKPbc 10 28 41.7 +0.1**
2.4nm,1.0s,baz=65,slow=1.1,SNR=14
TXAR PKPab **sPKPbc 10 28 50.1 -0.1**
2.3nm,0.9s,baz=68,slow=1.9,SNR=9.3

IDC 09 10:23:00.8±8.0, 2.°08S×67.°79E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.4/48, mbtmp3.6/6, Error ellipse: s-maj=255.6km s-min=26.6km az=67.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.29**	**143**	T	T		10 29 51.9	
baz=325,slow=75,SNR=33								
H08N3	**Diego Garcia H**	**5.30**	**143**	T	T		10 29 51.9	
baz=325,slow=75,SNR=28								
H08N1	**Diego Garcia H**	**5.32**	**143**	T	T		10 29 48.6	
baz=325,slow=75,SNR=30								
MKAR	**Makanchi Array**	**50.31**	**13**	P	P		10 31 59.3	0.0
0.4nm,0.8s,baz=181,slow=5.8,SNR=4.7								
KURBB	**Kurchatov Arra**	**53.30**	**9**	P	P		10 32 21.6	+0.1
0.7nm,0.9s,baz=199,slow=8.1,SNR=4.6								
ZALV	**Zalesovo Beam**	**57.60**	**12**	P	P		10 32 51.8	-0.6
0.6nm,0.4s,baz=195,slow=6.1,SNR=4.6								
SONM	**Songino Array**	**60.03**	**29**	P	P		10 33 09.8	+0.2
0.6nm,0.7s,baz=220,slow=5.6,SNR=4.0								
WRA	**Warramunga Arr**	**67.27**	**111**	P	P		10 33 57.2	-0.6
0.4nm,0.9s,baz=287,slow=5.8,SNR=2.9								
ASAR	**Alice Springs**	**67.33**	**115**	P	P		10 33 58.9	+0.6
0.5nm,1.0s,baz=282,slow=5.4,SNR=3.1								

*IDC **09** 10:27:23.8±1.5, 1.°89S×67.°96E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.6/47, mbtmp3.8/7, Error ellipse: s-maj=39.8km s-min=30.7km az=41.0*
*ISCJB **09** 10:27:25.0±1.0, 1.°8S±0.°2×68.°1E±0.°2, h15km, mb3.8/7, Error ellipse: s-maj=31.1km s-min=22.2km az=6.2*
ISC 09 10:27:26.9±1.0, 1.°8S±0.°2×68.°0E±0.°2, h15km, n10, σ0s52/10, mb3.8/7, 1C, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**36.47**	**55**	P	**P**		**10 34 31.9**	**+0.2**
0.5nm,0.4s,baz=222,slow=12,SNR=3.7								
MKAR	**Makanchi Array**	**49.98**	**13**	P	**P**		**10 36 20.3**	**-0.1**
0.9nm,0.8s,baz=186,slow=6.8,SNR=10								
KURBB	**Kurchatov Arra**	**52.98**	**8**	P	**P**		**10 36 43.0**	**+0.2**
1.1nm,0.9s,baz=206,slow=7.4,SNR=6.2								
ZALV	**Zalesovo Beam**	**57.27**	**12**	P	**P**		**10 37 13.5**	**-0.2**
1.4nm,0.6s,baz=199,slow=8.3,SNR=7.3								
SONM	**Songino Array**	**59.66**	**29**	P	**P**		**10 37 31.4**	**+0.6**
1.3nm,0.8s,baz=216,slow=6.4,SNR=8.5								
WRA	**Warramunga Arr**	**67.16**	**111**	P	**P**		**10 38 20.3**	**-0.6**
0.6nm,1.0s,baz=285,slow=6.6,SNR=3.6								
SYO	**Syowa Base**	**69.78**	**191**	*eP*	**P**		**10 38 36.8**	**+0.6**
ESDC	**Sonseca Array**	**77.35**	**311**	P	**P**		**10 39 21.3**	**-0.1**
0.2nm,0.4s,baz=130,slow=11,SNR=5.6								
PDAR	**Pinedale Array**	**139.14**	**357**	PKP	**PKPdf**		**10 46 53.5**	**-0.4**
0.3nm,0.9s,baz=343,slow=1.9,SNR=2.9								
TXAR	**Lajitas Array**	**151.48**	**345**	PKPbc	**PKPbc**		**10 47 20.5**	**-0.8**
0.5nm,0.9s,baz=29,slow=2.9,SNR=4.0								

*IDC **09** 10:27:45.7±0.4, 1.°93S×68.°00E, h0km, mb4.4/32, mb1 4.5/33, mb1mx4.4/48, mbtmp4.4/33, ML4.3/1, Error ellipse: s-maj=13.6km s-min=11.0km az=149.0*
*MOS **09** 10:27:45.3±1.1, 1.°87S×67.°88E, h10km, mb5.0/32, Error ellipse: s-maj=8.5km s-min=6.2km az=80.0*
*BJI **09** 10:27:45.2, 1.°90S×67.°90E, h10km, mb4.9/46, mB5.2/31, Ms4.7/24, Ms7 4.5/25*
*ISCJB **09** 10:27:45.6±0.2, 1.°93S±0.°04×67.°83E±0.°04, h10km, mb4.7/95, Error ellipse: s-maj=5.9km s-min=5.0km az=152.9*
*NEIC **09** 10:27:47.3±0.2, 1.°92S×67.°91E, h10km, mb4.8/20, Error ellipse: s-maj=5.4km s-min=4.5km az=141.0*
*GCMT **09** 10:27:47.3±0.2, 1.°95S±0.°02×67.°90E±0.°02, h12km, MW5.0/93, Moment Tensor Solution. s33,c39; s93,c130; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.45±.10; $M_{\theta\theta}$0.74±.10; $M_{\phi\phi}$2.71±.10; $M_{r\theta}$1.28±.38; $M_{\theta\phi}$-1.62±.08; $M_{\phi r}$-0.63±.32; Best double couple: M=3.81600×10^{16} NP1:ϕ=318.00000°, δ55.00000°, λ-104.00000°. NP2: ϕ=163.00000°, δ37.00000°, λ-70.00000°. Principal axes: T 3.8170, Plg9.0000°, Azm59.0000°; N -0.0010, Plg12.0000°, Azm327.0000°; P -3.8150, Plg75.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 10:27:47.7±2.1, 1.°94S±0.°06×67.°86E±0.°06, h13km±13km, n219, σ1s26/230, mb4.7/103, MS4.6/8, 5C-4D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.36**	**144**	T	T		10 34 27.6	
baz=325,slow=75,SNR=1152								
H08N3	**Diego Garcia H**	**5.37**	**145**	T	T		10 34 28.4	
baz=325,slow=75,SNR=1339								
H08N1	**Diego Garcia H**	**5.38**	**144**	T	T		10 34 28.1	
baz=325,slow=75,SNR=1287								
DGAR	**Diego Garcia**	**7.10**	**140**	*e*Pn	**Pn**		**10 29 32.9**	**+1.5**
DGAR	**Diego Garcia**	**7.10**	**140**	*e*P	**Pn**		**10 29 32.9**	**+1.5**
PALK	**Pallekele**	**15.74**	**54**	Pn	**Pn**		**10 31 27.5**	**-1.9**
1.2nm,0.3s,baz=294,slow=12,SNR=4.0								
PALK	**Pallekele**	**15.74**	**54**	*e*Pn	**Pn**		**10 31 29.3**	**-0.1**
154nm,1.9s								
PALK	**Pallekele**	**15.74**	**54**	*e*P	**Pn**		**10 31 29.3**	**-0.1**
PALK				pmax	pmax			
comp=Z,154nm,1.9s								
MRIV	**Mauritius Mete**	**20.87**	**208**	*e*P	**P**		**10 32 29.0**	**-0.7**
comp=Z,19nm,1.1s								
POO	**Poona**	**21.18**	**16**	*e*P	**P**		**10 32 36.0**	**+3.0**
HYB	**Hyderabad**	**21.93**	**28**	*i* P	**P**		**10 32 42.0**	**+0.9**
HYB				*e*			10 36 15.0	
RER	**Riviere de l'E**	**22.46**	**211**	*e*P	**P**		**10 32 47.0**	**+0.1**
comp=Z,123nm,1.5s								
OPO	**Ambohidratompo**	**26.15**	**229**	P	**P**		**10 33 23.0**	**+0.9**
comp=Z,1.7nm,0.3s,baz=269,slow=0.8,SNR=5.6								
ABPO	**Ambohimpanom**	**26.39**	**229**	*e*P	**P**		**10 33 25.2**	**+0.9**
comp=Z,25nm,1.7s								
ABPO	**Ambohimpanom**	**26.39**	**229**	*e*P	**P**		**10 33 25.2**	**+0.9**
ABPO				pmax	pmax			
comp=Z,25nm,1.7s								
DAMY Dhamar 28.45 306 *e*P **P 10 33 42.4 -0.6**
comp=Z,14nm,0.3s
SNSI Sinabang, Aceh 28.78 81 P **P 10 33 48.3 +2.7**
TPTI 29.76 80 P **P 10 33 55.7 +1.4**
comp=Z,17nm,1.5s
GSI Gunungsitoli 29.88 84 *e*P **P 10 33 55.3 -0.1**
comp=Z,20nm,1.0s
GSI Gunungsitoli 29.88 84 P **P 10 33 57.3 +1.9**
LHMI Lhok Sumawe 29.91 76 *e*P **P 10 33 56.3 +0.7**
comp=Z,71nm,0.9s
LHMI Lhok Sumawe 29.91 76 P **P 10 33 58.3 +2.7**
KCSI Kotacane, Aceh 30.38 80 P **P 10 34 00.0 +0.2**
comp=Z,12nm,1.1s
KMBO Kilima Mbogo 30.61 271 P **P 10 34 04.2 +2.0**
comp=Z,3.0nm,0.8s,baz=66,slow=12,SNR=6.9
KMBO Kilima Mbogo 30.61 271 *e*P **P 10 34 02.0 -0.1**
comp=Z,17nm,1.8s
KMBO Kilima Mbogo 30.61 271 *e*P **P 10 34 02.0 -0.1**
KMBO pmax pmax
comp=Z,17nm,1.8s
PSI Prapat 31.41 81 *e*P **P 10 34 09.3 +0.3**
comp=Z,11nm,1.0s
PSI Prapat 31.41 81 *e*P **P 10 34 09.3 +0.3**
PSI pmax pmax
comp=Z,11nm,1.0s
MNSI Mandailing Nat 31.83 85 P **P 10 34 16.5 +3.9**
KOLN Koldanda 33.19 26 *e*P **P 10 34 25.5 +0.9**
comp=Z,40nm,1.0s
TRTT Trang 33.20 73 P **P 10 34 26.2 +1.6**
comp=Z,5.6nm,1.3s
PYUN Piuthan 33.22 25 *e*P **P 10 34 25.6 +0.8**
comp=Z,40nm,1.1s
BKNI Bangkinang 33.25 86 *e*P **P 10 34 25.8 +0.8**
comp=Z,102nm,0.4s
RAYN Ar Rayn 33.38 321 *e*P **P 10 34 25.9 -0.2**
comp=Z,4.7nm,1.2s
RAYN Ar Rayn 33.38 321 *e*P **P 10 34 25.9 -0.2**
RAYN pmax pmax
comp=Z,5.0nm,1.2s
DMN Daman 33.74 28 *e*P **P 10 34 30.6 +1.2**
comp=Z,81nm,1.0s
DANN Dangsing 33.77 26 *e*P **P 10 34 30.4 +0.7**
comp=Z,48nm,1.0s
PKIN Phulchoki 33.85 29 *e*P **P 10 34 30.9 +0.5**
PKI Pulchoki 33.86 29 *e*P **P 10 34 31.1 +0.6**
RAMN Ramite 33.93 31 *e*P **P 10 34 32.5 +1.4**
comp=Z,42nm,1.1s
KKN Kakani 33.98 28 *e*P **P 10 34 32.3 +0.9**
ODAN Odare 34.27 32 *e*P **P 10 34 35.4 +1.4**
comp=Z,72nm,1.0s
JIRN Jiri 34.31 30 *e*P **P 10 34 35.3 +0.8**
comp=Z,57nm,1.1s
GUN Gumba 34.37 29 *e*P **P 10 34 35.9 +0.9**
comp=Z,91nm,1.0s
SRDT SRDT 34.94 61 P **P 10 34 41.8 +2.1**
comp=Z,10nm,1.6s,comp=Z,3µm
UMPA Umpang Tak 35.53 58 P **P 10 34 45.9 +1.1**
comp=Z,8.3nm,1.1s
UTHA Uthaitani 35.74 60 P **P 10 34 48.2 +1.6**
comp=Z,5.0nm,1.2s
NIL Nilore 35.76 8 *e*P **P 10 34 48.1 +1.5**
NIL Nilore 35.76 8 *e*P **P 10 34 48.1 +1.5**
SHL Shillong 35.90 39 P **P 10 34 49.3 +1.3**
SHL pmax pmax
comp=Z,15nm,0.8s
CM01 Chiang Mai Arr 36.68 55 *e*P **P 10 34 54.8 +0.2**
CMAR Chiang Mai Arr 36.69 55 P **P 10 34 55.1 +0.4**
comp=Z,8.9nm,1.0s,baz=245,slow=10,SNR=27
CMAR PcP **PcP 10 37 17.4 -0.1**
comp=Z,1.0nm,0.3s,baz=234,slow=4.1,SNR=4.4
CMAR Chiang Mai Arr 36.69 55 *i* P **P 10 34 55.7 +1.0**
CMAR pmax pmax
comp=Z,9.0nm,1.0s
SUKH Sukhothai 36.78 57 P **P 10 34 57.4 +2.0**
comp=Z,3.8nm,0.7s
CHTO Chiang Mai 36.87 55 *e*P **P 10 34 56.3 +0.1**
comp=Z,22nm,1.1s
CHTO Chiang Mai 36.87 55 *e*P **P 10 34 56.3 +0.1**
CHTO pmax pmax
comp=Z,22nm,1.1s
CHTO Chiang Mai 36.87 55 P **P 10 34 57.0 +0.8**
comp=Z,94nm,1.1s,comp=Z,2µm
CMMT Chiang Mai 36.87 55 P **P 10 34 57.0 +0.8**
comp=Z,21nm,1.1s,comp=Z,542nm
MBAR Mbarara 37.14 272 P **P 10 35 01.4 +2.6**
comp=Z,3.2nm,0.3s,baz=80,slow=5.7,SNR=6.1
MBAR Mbarara 37.14 272 *i* P **P 10 34 59.9 +1.1**
MBAR pmax pmax
comp=Z,5.0nm,1.1s
PBKT Sadao Pong 37.50 59 P **P 10 35 02.8 +1.2**
comp=Z,23nm,1.1s,comp=Z,2µm
CHAI Chaiyaphum 38.10 61 P **P 10 35 08.0 +1.4**
comp=Z,14nm,1.1s,comp=Z,132nm
LSA Lhasa 38.54 34 *e*P **P 10 35 10.9 +0.2**
comp=Z,8.9nm,0.8s
LSA Lhasa 38.54 34 *e*P **P 10 35 10.9 +0.2**
LSA pmax pmax
comp=Z,9.0nm,0.8s
LEM Lembang 39.92 98 P **P 10 35 21.4 -0.8**
comp=Z,25nm,0.6s,baz=312,slow=3.1,SNR=4.4
NONG Nongkai 40.02 59 P **P 10 35 23.9 +1.2**
comp=Z,0.3nm,1.5s,comp=Z,134nm
SKNT Sakolnakorn 40.28 61 P **P 10 35 27.0 +2.1**
comp=Z,11nm,1.2s
GEYT Alibeck 40.68 348 P **P 10 35 28.9 +1.0**
comp=Z,1.7nm,0.6s,baz=142,slow=7.5,SNR=4.8
LSZ Lusaka 41.30 249 P **P 10 35 34.5 +1.0**
comp=Z,8.4nm,0.7s,baz=58,slow=7.2,SNR=14
LSZ Lusaka 41.30 249 *e*P **P 10 35 34.7 +1.2**
comp=Z,10nm,0.8s
LSZ Lusaka 41.30 249 *e*P **P 10 35 34.7 +1.2**
LSZ pmax pmax
comp=Z,10.0nm,0.8s
KSH Kashi 41.92 9 P **P 10 35 35.7 -2.5**
KSH sP pwP 10 35 43.3 -1.7
KSH S **S 10 41 51.2 -5.2**
KSH sS pS 10 41 59.6 -0.6
KSH pmax pmax
comp=Z,62nm,1.0s
KSH pmax pmax
comp=Z,230nm,3.5s
KSH LR LR
comp=Z,240nm,8.9s
KSH LR LR
comp=Z,240nm,6.4s
KSH LR LR
comp=Z,600nm,10.2s
SFK Sufi-Kurgan 42.07 6 P **P 10 35 39.7 +0.1**
SFK pmax pmax
comp=Z,5.0nm,1.4s
MATP Matopo 42.58 242 P **P 10 35 44.9 +1.0**
comp=Z,2.9nm,0.8s,baz=74,slow=7.8,SNR=6.8
KMI Kunming 43.19 49 P **P 10 35 50.2 +1.3**
KMI sP pwP 10 35 54.9 -0.6
KMI S **S 10 42 18.4 +2.6**
KMI pmax pmax
comp=Z,18nm,1.0s
KMI LR LR
comp=Z,260nm,9.6s
KMI LR LR
comp=Z,370nm,16.2s
KMI LR LR
comp=Z,490nm,16.9s
KZA Kyzart 44.32 8 P **P 10 35 59.3 +1.4**
SNR=27
UCH Uchtor 44.38 7 P **P 10 36 00.0 +1.6**
SNR=9.2
TARG Taragay, Kyrgy 44.39 11 *eP* **P 10 35 58.4 -0.2**
comp=Z,9.9nm,1.1s
ULHL Ulahol 44.63 9 P **P 10 36 01.4 +1.2**
SNR=11
EKS2 Erkin-Say 44.72 6 P **P 10 36 02.4 +1.6**
SNR=15
AAK Ala-Archa 44.78 7 P **P 10 36 02.6 +1.3**
comp=Z,6.7nm,1.0s,baz=185,slow=9.6,SNR=15
AAK Ala-Archa 44.78 7 P **P 10 36 02.6 +1.3**
SNR=6.8
AAK Ala-Archa 44.78 7 *e*P **P 10 36 01.8 +0.5**
comp=Z,18nm,1.2s
AAK Ala-Archa 44.78 7 *de*P **P 10 36 01.6 +0.3**
AAK pmax pmax
comp=Z,24nm,1.7s
KBK Karagaybulak 44.85 7 P **P 10 36 03.8 +1.9**
SNR=12
FRU Bishkek 44.98 7 *e*P **P 10 36 03.0 +0.2**
FRU pmax pmax
comp=Z,60nm,2.0s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TKM2	**Tokmak 2**	**45.20**	**8**	P	**P**	**10 36 05.9**	**+1.2**
	SNR=21						
USP	**Ospenovka**	**45.40**	**7**	P	**P**	**10 36 07.1**	**+1.0**
	SNR=5.9						
QIZ	**Qiongzhong**	**46.21**	**61**	P	**P**	**10 36 12.8**	**-0.1**
QIZ				S	**S**	**10 42 59.1**	**-0.3**
QIZ				LR	LR		
	comp=Z,370nm,12.3s						
PDGK	**Podgornoye**	**46.26**	**12**	P	**P**	**10 36 13.8**	**+0.8**
PDGK				pmax	pmax		
	comp=Z,13nm,1.3s						
LBTB	**Lobatse**	**46.75**	**237**	P	**P**	**10 36 18.3**	**+1.2**
	comp=Z,4.3nm,1.0s,baz=45,slow=14,SNR=3.5						
AKT	**Akhty**	**46.93**	**339**	*i* P	**P**	**10 36 16.7**	**-1.6**
AKT				pmax	pmax		
	comp=Z,11nm,1.0s						
CD2	**Chengdu**	**47.26**	**43**	*e*P	**P**	**10 36 21.5**	**+0.6**
BOSA	**Boshof**	**48.49**	**233**	P	**P**	**10 36 31.6**	**+1.0**
	comp=Z,3.7nm,0.7s,baz=37,slow=6.6,SNR=6.9						
WMQ	**Urumqi**	**48.91**	**19**	P	**P**	**10 36 34.5**	**+1.0**
WMQ				sP	pwP	10 36 43.4	+3.2
WMQ				pmax	pmax		
	comp=Z,18nm,1.7s						
WMQ				pmax	pmax		
	comp=Z,490nm,3.7s						
WMQ				LR	LR		
	comp=Z,830nm,19.5s						
WMQ				LR	LR		
	comp=Z,260nm,19.5s						
WMQ				LR	LR		
	comp=Z,770nm,25.7s						
MAKZ	**Makanchi**	**50.11**	**13**	*e*P	**P**	**10 36 42.1**	**-0.4**
	comp=Z,19nm,1.0s						
MAKZ	**Makanchi**	**50.11**	**13**	*e*P	**P**	**10 36 42.2**	**-0.4**
MAKZ				pmax	pmax		
	comp=Z,19nm,1.0s						
OTUK	**Ortayu**	**50.13**	**4**	P	**P**	**10 36 43.7**	**+1.0**
OTUK				pmax	pmax		
	comp=Z,9.0nm,1.8s						
MK01	**Makanchi Array**	**50.15**	**13**	*e*P	**P**	**10 36 42.1**	**-0.7**
MK01				*e*PcP	**PcP**	**10 38 02.2**	**0.0**
MK31	**Makanchi Array**	**50.16**	**13**	*e*P	**P**	**10 36 42.4**	**-0.6**
MK31				*e*PcP	**PcP**	**10 38 02.0**	**-0.3**
MK31	**Makanchi Array**	**50.16**	**13**	*e*P	**P**	**10 36 42.4**	**-0.6**
MK31				*e*		10 38 02.0	
MKAR	**Makanchi Array**	**50.16**	**13**	P	**P**	**10 36 42.4**	**-0.7**
	comp=Z,7.2nm,0.8s,baz=194,slow=7.3,SNR=45						
MKAR				PcP	**PcP**	**10 38 00.7**	**-1.6**
	comp=Z,2.6nm,1.0s,baz=194,slow=4.6,SNR=3.8						
MKAR	**Makanchi Array**	**50.16**	**13**	*e*P	**P**	**10 36 42.3**	**-0.7**
	comp=Z,43nm,0.8s						
MKAR				*e*PcP	**PcP**	**10 38 02.1**	**-0.2**
MKAR	**Makanchi Array**	**50.16**	**13**	*e*P	**P**	**10 36 42.3**	**-0.7**
MKAR				*e*		10 38 02.1	
MKAR				pmax	pmax		
	comp=Z,43nm,0.8s						
GTA	**Gaotai**	**50.53**	**32**	P	**P**	**10 36 45.9**	**-0.1**
GTA				pP	sP	10 36 51.4	+0.9
GTA				sP	pwP	10 36 53.9	+1.2
GTA				PcP	**PcP**	**10 38 04.8**	**+0.9**
GTA				S	**S**	**10 44 05.3**	**+5.3**
GTA				sS	sS	10 44 13.0	+7.4
GTA				pmax	pmax		
	comp=Z,5.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,83nm,4.9s						
GTA				LR	LR		
	comp=Z,390nm,21.0s						
GTA				LR	LR		
	comp=Z,270nm,21.3s						
GTA				LR	LR		
	comp=Z,740nm,21.6s						
LZH	**Lanzhou**	**50.55**	**38**	*e*P	**P**	**10 36 46.8**	**+0.5**
LZH				pP	sP	10 36 51.2	+0.4
LZH				sP	pwP	10 36 54.3	+1.4
LZH				*e*S	**S**	**10 43 58.9**	**-1.6**
LZH				sS	sS	10 44 10.3	+4.1
LZH				pmax	pmax		
	comp=Z,28nm,1.2s						
LZH				pmax	pmax		
	comp=Z,150nm,5.7s						
LZH				LR	LR		
	comp=Z,690nm,13.0s						
LZH				LR	LR		
	comp=Z,390nm,14.4s						
LZH				LR	LR		
	comp=Z,920nm,19.3s						
KBZ	**Khabaz**	**50.68**	**337**	P	**P**	**10 36 48.0**	**+1.2**
	comp=Z,5.6nm,0.9s,baz=170,slow=6.8,SNR=10						
KIV	**Kislovodsk**	**50.95**	**337**	*e*P	**P**	**10 36 49.2**	**+0.1**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,57nm,16.0s						
ENH	**Enshi**	**50.99**	**48**	*e*P	**P**	**10 36 49.1**	**-0.4**
	comp=Z,15nm,0.6s						
ABKAR	**Akbulak array**	**51.45**	**353**	*e*P	**P**	**10 36 52.2**	**-0.4**
BRTR	**Keskin Array B**	**51.98**	**327**	P	**P**	**10 36 57.6**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=138,slow=9.4,SNR=5.7						
XAN	**Xi'an**	**52.62**	**43**	P	**P**	**10 37 00.9**	**-0.8**
XAN				pP	pwP	10 37 08.3	0.0
XAN				pmax	pmax		
	comp=Z,32nm,1.1s						
XAN				pmax	pmax		
	comp=Z,170nm,6.6s						
XAN				LR	LR		
	comp=Z,280nm,6.1s						
XAN				LR	LR		
	comp=Z,160nm,6.4s						
XAN				LR	LR		
	comp=Z,170nm,7.0s						
AKTO	**Aktyubinsk**	**52.85**	**352**	P	**P**	**10 37 02.9**	**-0.1**
	comp=Z,6.3nm,0.8s,baz=165,slow=7.1,SNR=28						
KURBB	**Kurchatov Arra**	**53.15**	**8**	P	**P**	**10 37 05.0**	**-0.2**
	comp=Z,12nm,0.9s,baz=204,slow=7.6,SNR=42						
KURBB				PcP	**PcP**	**10 38 12.3**	**-0.9**
	comp=Z,2.4nm,0.9s,baz=209,slow=3.5,SNR=6.0						
KURK	**Kurchatov**	**53.26**	**9**	*e*P	**P**	**10 37 05.8**	**-0.2**
	comp=Z,11nm,0.9s						
KURK				PcP	**PcP**	**10 38 12.3**	**-1.3**
KURK	**Kurchatov**	**53.26**	**9**	*e*P	**P**	**10 37 05.8**	**-0.2**
KURK						10 38 12.3	
KURK				pmax	pmax		
	comp=Z,11nm,0.9s						
DGZ	**Jazzator, Alta**	**54.13**	**16**	*d i*P	**P**	**10 37 12.4**	**-0.2**
DGZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BVAR	**Borovoye Array**	**54.81**	**2**	P	**P**	**10 37 17.5**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=200,slow=7.1,SNR=8.0						
BVAR				PcP	**PcP**	**10 38 18.8**	**-0.8**
	comp=Z,1.8nm,0.9s,baz=180,slow=3.6,SNR=4.5						
BRVK	**Borovoye**	**54.84**	**2**	*e*P	**P**	**10 37 16.9**	**-0.6**
	comp=Z,18nm,1.5s						
BRVK	**Borovoye**	**54.84**	**2**	*c i*P	**P**	**10 37 16.5**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ZAA0	**Zalesovo Array**	**57.46**	**12**	*e*P	**P**	**10 37 35.5**	**-0.6**
	comp=Z,25nm,1.0s						
ZALV	**Zalesovo Beam**	**57.46**	**12**	P	**P**	**10 37 35.5**	**-0.7**
	comp=Z,14nm,0.8s,baz=216,slow=7.3,SNR=47						
ZALV	**Zalesovo Beam**	**57.46**	**12**	*e*P	**P**	**10 37 35.4**	**-0.8**
NVS	**Novosibirsk**	**57.99**	**10**	*e*P	**P**	**10 37 39.0**	**-0.9**
NVS				pmax	pmax		
	comp=N,12nm,0.9s						
NVS				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC	**Hu-ho-hao-te**	**58.25**	**38**	*e*P	**P**	**10 37 43.3**	**+1.1**
HHC				sP	pwP	10 37 53.4	+4.5
HHC				sS	sS	10 45 58.7	+8.9
HHC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,66nm,6.8s						
HHC				LR	LR		
	comp=Z,170nm,16.3s						
HHC				LR	LR		
	comp=Z,280nm,16.3s						
HHC				LR	LR		
	comp=Z,410nm,14.7s						
ARU	**Arti**	**58.67**	**354**	*d i*P	**P**	**10 37 44.1**	**-0.5**
ARU						10 39 52.8	
ARU				S	**S**	**10 45 52.3**	**+3.6**
ARU				SS	**SS**	**10 49 42.9**	**+1.0**
ARU				pmax	pmax		
	comp=Z,12nm,1.0s						
NJ2	**Nanjing**	**58.91**	**50**	*e*P	**P**	**10 37 46.0**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,23nm,0.7s						
SONM	**Songino Array**	**59.88**	**29**	P	**P**	**10 37 53.9**	**+0.5**
	comp=Z,12nm,0.9s,baz=224,slow=6.5,SNR=53						
SONA1	**Songino Array**	**59.89**	**29**	*e*P	**P**	**10 37 53.7**	**+0.3**
ZAK	**Zakamensk**	**60.29**	**25**	*e*P	**P**	**10 37 54.0**	**-2.1**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
BJT	**Baijiatuau**	**60.73**	**41**	*e*P	**P**	**10 37 59.5**	**+0.3**
	comp=Z,21nm,1.3s						
BJT	**Baijiatuau**	**60.73**	**41**	*e*P	**P**	**10 37 59.5**	**+0.3**
BJT				pmax	pmax		
	comp=Z,21nm,1.3s						
KIEV	**Kiev**	**61.94**	**333**	*i* P	**P**	**10 38 05.5**	**-1.6**
KIEV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
OBN	**Obninsk**	**62.41**	**340**	*e*P	**P**	**10 38 09.0**	**-1.2**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
FAKI	**Fak Fak**	**64.33**	**92**	*e*P	**P**	**10 38 22.2**	**-1.6**
	comp=Z,26nm,1.5s						
PRGR	**Permogore**	**65.66**	**349**	*e*P	**P**	**10 38 29.5**	**-1.9**
PRGR				pmax	pmax		
	comp=Z,8.0nm,0.4s						
VYHS	**Vyhne**	**65.75**	**327**	*e*P	**P**	**10 38 33.4**	**+1.1**
KLMR	**Klimovskoe**	**66.34**	**345**	*e*P	**P**	**10 38 33.4**	**-2.4**
KLMR				pmax	pmax		
	comp=Z,37nm,1.5s						
KLMR	**Klimovskoe**	**66.34**	**345**	*e*P	**P**	**10 38 33.4**	**-2.4**
KLMR				AMP		10 38 36.9	
	comp=Z,37nm,1.6s						
WRA	**Warramunga Arr**	**67.25**	**111**	P	**P**	**10 38 41.6**	**-0.9**
	comp=Z,5.3nm,0.9s,baz=283,slow=5.9,SNR=25						
WRAB	**Tennant Creek**	**67.26**	**111**	*ce*P	**P**	**10 38 40.6**	**-2.0**
WRAB				pmax	pmax		
	comp=Z,20nm,2.5s						
WB2	**Warramunga Arr**	**67.26**	**111**	*e*P	**P**	**10 38 41.4**	**-1.1**
TORD	**Torodi Ar. Bea**	**67.31**	**285**	P	**P**	**10 38 43.3**	**+0.4**
	comp=Z,1.4nm,1.1s,baz=94,slow=5.8,SNR=5.5						
ASAR	**Alice Springs**	**67.32**	**115**	P	**P**	**10 38 42.5**	**-0.5**
	comp=Z,2.9nm,1.0s,baz=286,slow=5.6,SNR=14						
AS01	**Alice Springs**	**67.36**	**115**	*e*P	**P**	**10 38 39.7**	**-3.5**
KSAR	**Wonju Array Be**	**67.84**	**48**	P	**P**	**10 38 45.2**	**-0.7**
KSAR	**Wonju Array Be**	**67.84**	**48**	P	**P**	**10 38 45.2**	**-0.7**
KSRS	**Korea Array**	**67.88**	**48**	P	**P**	**10 38 45.2**	**-0.9**
	comp=Z,3.1nm,0.9s,baz=240,slow=7.1,SNR=5.3						
VSU	**Vasula**	**68.47**	**338**	*i* P	**P**	**10 38 48.2**	**-1.1**
VSU				pmax	pmax		
	comp=Z,126nm,2.5s						
CN2	**Changchun**	**68.61**	**41**	*e*P	**P**	**10 38 51.5**	**+0.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CLL	**Collm**	**70.44**	**327**	*e*P	**P**	**10 39 01.0**	**-0.7**
CLL	**Collm**	**70.44**	**327**	*e*P	**P**	**10 39 01.0**	**-0.7**
FINES	**FINESS Array B**	**70.82**	**340**	P	**P**	**10 39 03.1**	**-0.6**
	comp=Z,3.9nm,0.9s,baz=46,slow=8.2,SNR=6.4						
FINES	**FINESS Array B**	**70.82**	**340**	*i* P	**P**	**10 39 02.7**	**-1.1**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SENIN	**Lac Senin/Sane**	**71.59**	**321**	*e*P	**P**	**10 39 04.9**	**-4.2**
	comp=Z,5.7nm,0.9s						
BFO	**Black Forest**	**71.75**	**323**	*i* P	**P**	**10 39 10.3**	**+0.5**
DBIC	**Dimbokro**	**73.08**	**278**	P	**P**	**10 39 18.7**	**+0.4**
	comp=Z,4.9nm,1.0s,baz=90,slow=7.1,SNR=4.4						
USRK	**Ussuriysk Ar.**	**73.12**	**43**	P	**P**	**10 39 16.7**	**-1.3**
	comp=Z,3.1nm,0.9s,baz=251,slow=5.8,SNR=4.8						
MSF	**Maaselka**	**73.21**	**344**	P	**P**	**10 39 17.4**	**-0.7**
MSF				pmax	pmax		
	comp=Z,31nm,2.4s						
ZEA	**Zeya**	**74.02**	**32**	*e*P	**P**	**10 39 23.1**	**0.0**
ZEA				pmax	pmax		
	comp=Z,15nm,1.0s						
KLR	**Kul'dur**	**74.75**	**38**	*d i*P	**P**	**10 39 26.2**	**-1.3**
STKA	**Stephens Creek**	**75.17**	**122**	P	**P**	**10 39 29.8**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=315,slow=9.5,SNR=4.0						
MJAR	**Matsushiro Arr**	**75.48**	**52**	P	**P**	**10 39 31.6**	**-0.4**
	comp=Z,3.4nm,0.9s,baz=251,slow=6.6,SNR=5.8						
NB2	**NORSAR Subarra**	**76.23**	**335**	P	**P**	**10 39 34.7**	**-1.0**
	comp=Z,43nm,2.5s,baz=121,slow=5.9						
NB2	**NORSAR Subarra**	**76.23**	**335**	P	**P**	**10 39 34.7**	**-1.0**
	baz=121,slow=5.9						
NOA	**NORSAR Array B**	**76.23**	**335**	P	**P**	**10 39 35.4**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=109,slow=6.4,SNR=4.3						
ARCES	**ARCESS Array B**	**76.81**	**346**	P	**P**	**10 39 37.4**	**-1.4**
	comp=Z,6.1nm,0.9s,baz=114,slow=2.9,SNR=7.2						
ES19	**SONSECA Array**	**77.30**	**311**	*e*P	**P**	**10 39 39.4**	**-2.9**
ESDC	**Sonseca Array**	**77.34**	**311**	P	**P**	**10 39 43.5**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=86,slow=4.7,SNR=7.2						
YSS	**Yuzh-Sakhalins**	**81.14**	**42**	P	**P**	**10 40 02.1**	**-0.9**
TYV	**Tymovskoe**	**81.94**	**38**	*e*P	P	10 39 59.2	-8.0
TYV				pmax	pmax		
	comp=Z,200nm,6.7s						
TIXI	**Tiksi**	**83.02**	**16**	*ce*P	**P**	**10 40 11.6**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,63nm,2.5s						
QSPA	**South Pole Qui**	**88.06**	**180**	*e*P	**P**	**10 40 37.7**	**-0.1**
	comp=Z,43nm,1.8s						
MA2	**Magadan**	**88.06**	**30**	*ce*P	**P**	**10 40 37.0**	**-0.7**
MA2				pmax	pmax		
	comp=Z,16nm,1.7s						
VNDA	**Vanda**	**88.98**	**167**	P	**P**	**10 40 42.0**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=320,slow=3.2,SNR=4.5						
VNDA	**Vanda**	**88.98**	**167**	*e*P	**P**	**10 40 40.8**	**-1.0**
	comp=Z,8.3nm,1.4s						
VNDA	**Vanda**	**88.98**	**167**	*e*P	**P**	**10 40 40.8**	**-1.0**
VNDA				pmax	pmax		
	comp=Z,8.0nm,1.4s						
SEY	**Seymchan**	**89.21**	**27**	*ce*P	**P**	**10 40 41.6**	**-1.5**
DAG	**Danmarks Havn**	**91.08**	**347**	P	**P**	**10 40 52.4**	**+0.9**
BILL	**Bilibino**	**94.94**	**22**	*e*P	**P**	**10 41 09.6**	**+0.1**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
DZM	**Mont Dzumac**	**97.22**	**112**	*e*LR	LR	11 12 46.4	
	comp=Z,223nm,27.0s						
YKA	**Yellowknife Ar**	**119.56**	**1**	PKP	**PKPdf**	**10 46 36.0**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=1.0,slow=2.3,SNR=9.0						
YKA	**Yellowknife Ar**	**119.56**	**1**	PKIKP	**PKPdf**	**10 46 36.0**	**-1.0**
PPT2	**Papeete2**	**138.31**	**119**	*e*LR	LR	11 31 51.0	
	comp=Z,128nm,25.8s						
PDAR	**Pinedale Array**	**139.29**	**357**	PKP	**PKPdf**	**10 47 15.2**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=90,slow=4.4,SNR=7.5						
NVAR	**Mina Array Bea**	**143.25**	**8**	PKP	**PKPdf**	**10 47 21.4**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=341,slow=3.6,SNR=4.9						
S22A	**4UR Ranch, Cre**	**144.03**	**353**	P	PKPbc	10 47 22.2	+0.4
	baz=8.9						
CWC	**Cottonwood Cre**	**145.23**	**8**	P	**PKPdf**	**10 47 25.9**	**-0.1**
	baz=350						
FURC	**Furnace Creek,**	**145.37**	**7**	P	**PKPdf**	**10 47 26.9**	**+1.0**
	baz=352,SNR=9.0						
VES	**Vestal, Richgr**	**145.66**	**10**	P	**PKPbc**	**10 47 26.5**	**-0.2**
	baz=348,SNR=5.1						
MPMC	**Manual Prospec**	**145.69**	**8**	P	**PKPab**	**10 47 28.0**	**+0.7**
	baz=350,SNR=17						
ISA	**Isabella, Lake**	**145.94**	**9**	P	**PKPab**	**10 47 27.9**	**-0.2**
	baz=349						
SHOC	**Shoshone, Teco**	**145.99**	**6**	P	**PKPab**	**10 47 28.5**	**+0.2**
	baz=353,SNR=5.9						
SMMC	**Simmler**	**146.00**	**12**	P	**PKPab**	**10 47 29.2**	**+0.9**
	baz=346						
LRMC	**Laurel Mtn Rad**	**146.24**	**8**	P	**PKPab**	**10 47 29.7**	**+0.3**
	baz=350,SNR=12						
PKM	**Mcpherson Peak**	**146.45**	**11**	P	**PKPab**	**10 47 30.6**	**+0.3**
	baz=346						
GSC	**Goldstone, Bar**	**146.53**	**7**	P	**PKPab**	**10 47 30.7**	**+0.3**
	baz=352,SNR=9.7						
EDW2	**Edwards Air Fo**	**146.78**	**9**	P	**PKPab**	**10 47 31.4**	**0.0**
	baz=349,SNR=6.3						
W18A	**Petrified Fore**	**146.91**	**356**	P	**PKPbc**	**10 47 31.2**	**+0.4**
	baz=4.3						
MSTX	**Muleshoe**	**146.96**	**346**	P	**PKPbc**	**10 47 30.6**	**-0.2**
	baz=17						
HEC	**Hector,Ludlow**	**147.05**	**6**	P	**PKPab**	**10 47 32.4**	**0.0**
	baz=352,SNR=5.0						
WHTX	**Lake Whitney,**	**147.06**	**337**	P	**PKPab**	**10 47 32.3**	**-0.2**
	baz=28						
GMRC	**Granite Mounta**	**147.16**	**5**	P	**PKPab**	**10 47 32.7**	**-0.3**
	baz=353,SNR=6.7						
ABTX	**Abilene, Hawle**	**147.30**	**340**	P	**PKPbc**	**10 47 31.5**	**-0.2**
	baz=23						
BFSC	**Mount Baldy Ra**	**147.46**	**9**	P	**PKPbc**	**10 47 32.8**	**+0.6**
	baz=350						
BBRC	**Big Bear Solar**	**147.53**	**7**	P	**PKPbc**	**10 47 33.1**	**+0.6**
	baz=351						
PDMCI	**Parker Dam,Lak**	**147.75**	**3**	P	**PKPbc**	**10 47 33.5**	**+0.7**
	baz=356						
IRM	**Iron Mountain**	**147.83**	**5**	P	**PKiKP**	**10 47 34.2**	**-0.9**
	baz=354,SNR=8.2						
MURC	**Murrieta**	**148.15**	**8**	P	**PKPbc**	**10 47 34.5**	**+0.6**
	baz=350						
PFO	**Pinyon Flats O**	**148.23**	**7**	P	**PKiKP**	**10 47 35.6**	**-0.5**
	baz=352,SNR=5.6						
Y12C	**Blythe**	**148.28**	**4**	P	**PKiKP**	**10 47 35.2**	**-0.8**
	baz=355						
BC3	**Big Chuckawall**	**148.30**	**5**	P	**PKiKP**	**10 47 35.4**	**-0.7**
	baz=354						
MONP2	**Monument Peak**	**148.95**	**7**	P	**PKiKP**	**10 47 36.8**	**-0.8**
	baz=352						
SWSC	**Sam W. Stewart**	**148.97**	**6**	P	**PKiKP**	**10 47 37.0**	**-0.4**
	baz=353						
121A	**Cookes Peak, D**	**149.30**	**353**	P	**PKiKP**	**10 47 37.9**	**-0.5**
	baz=8.4						
TUC	**Tucson**	**149.76**	**358**	*e*PKPdf	**PKPdf**	**10 47 33.9**	**+0.4**
TUC				*e*PKPbc	**PKiKP**	**10 47 38.6**	**-0.6**
214A	**Organ Pipe Nat**	**150.14**	**1**	P	**PKPbc**	**10 47 39.2**	**+0.2**
	baz=359,SNR=6.1						
TXAR	**Lajitas Array**	**151.59**	**344**	PKPbc	**PKiKP**	**10 47 43.0**	**-0.1**
	comp=Z,4.0nm,0.9s,baz=65,slow=1.3,SNR=24						
TXAR				PKPab	**PKPab**	**10 47 51.7**	**+0.7**
	comp=Z,4.9nm,1.1s,baz=78,slow=1.8,SNR=9.1						
TXAR	**Lajitas Array**	**151.59**	**344**	PKIKP	**PKiKP**	**10 47 43.0**	**-0.1**

*ISK **09** 10:31:26.8, 39.°69N×25.°52E, h5km, ML2.7/21*
*ISCJB **09** 10:31:28.9±0.4, 39.°69N±0.°02×25.°59E±0.°02, h8km±3km, Error ellipse: s-maj=3.4km s-min=3.1km az=37.0*
*ATH **09** 10:31:28.6, 39.°68N×25.°57E, h29km±2km, ML2.2/4, Error ellipse: s-maj=2.6km s-min=1.5km az=240.0*
*DDA **09** 10:31:28.6, 39.°77N×25.°62E, h9km±5km, ML3.5*
*THE **09** 10:31:29.1, 39.°69N×25.°59E, h10km±1km, ML2.2/7, Error ellipse: s-maj=1.5km s-min=0.6km az=80.0*
ISC 09 10:31:28.8±1.0, **39.°69N**±0.°02×**25.°57E**±0.°02, **h12**km±8km, **n57**, σ**0.s67**/76, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.37**	**305**	P	**Pb**	**10 31 37.0**	**-0.3**
LIA				S	**Sg**	**10 31 42.1**	**+1.0**
LIA				AML	AML	10 31 42.9	
	comp=N,605μm,0.1s						
LIA				AML	AML	10 31 43.1	
	comp=E,657μm,0.1s						
LIA	**Limnos Island**	**0.37**	**305**	P	**Pb**	**10 31 37.0**	**-0.3**
LIA				S	**Sg**	**10 31 42.0**	**+1.0**
BOZC	**Bozcaada**	**0.40**	**67**	PG	**Pg**	**10 31 36.6**	**-0.2**
BOZC				SG	**Sb**	**10 31 43.9**	**0.0**
BOZC	**Bozcaada**	**0.40**	**67**	IAML_P			
	comp=Z,9μm,0.1s						
BOZC				*i* P	**Pb**	**10 31 37.1**	**-0.8**
EFSA	**Agios Efstrati**	**0.47**	**252**	P	**Pb**	**10 31 39.9**	**+0.8**
EFSA				S	**Sb**	**10 31 46.3**	**+0.3**
GPNR	**Gulpinar-Canak**	**0.49**	**118**	PG	**Pg**	**10 31 37.8**	**-0.6**
SIGR	**SIGRI**	**0.52**	**155**	PG	**Pg**	**10 31 37.7**	**-1.3**
SIGR	**SIGRI**	**0.52**	**155**	P	**Pg**	**10 31 38.8**	**-0.2**
SIGR				S	**Sg**	**10 31 46.2**	**+0.2**
SIGR				AML	AML	10 31 46.8	
	comp=N,992μm,0.2s						
SIGR				AML	AML	10 31 47.1	
	comp=E,616μm,0.3s						
SIGR	**SIGRI**	**0.52**	**155**	P	**Pg**	**10 31 38.8**	**-0.2**
SIGR				S	**Sg**	**10 31 46.4**	**+0.4**
GADA	**Gvkgeada**	**0.56**	**26**	PG	**Pg**	**10 31 39.1**	**-0.7**
GADA				SG	**Sb**	**10 31 48.1**	**-0.5**
GADA	**Gvkgeada**	**0.56**	**26**	P	**Pg**	**10 31 39.8**	**0.0**
GADA				S	**Sb**	**10 31 47.9**	**-0.7**
GOKC	**Gokceada-Canak**	**0.58**	**27**	PG	**Pg**	**10 31 39.8**	**-0.2**
EZN	**Ezine**	**0.60**	**76**	PG	**Pg**	**10 31 39.9**	**-0.5**
EZN	**Ezine**	**0.60**	**76**	P	**Pg**	**10 31 40.0**	**-0.5**
EZN				S	**Sg**	**10 31 48.1**	**-0.2**
PRK	**Paraskevi**	**0.70**	**129**	P	**Pb**	**10 31 43.2**	**+0.3**
PRK				S	**Sb**	**10 31 53.0**	**+0.6**
PRK				AML	AML	10 31 56.2	
	comp=N,1054μm,0.4s						
PRK				AML	AML	10 31 56.4	
	comp=E,870μm,0.3s						
PRK	**Paraskevi**	**0.70**	**129**	P	**Pb**	**10 31 43.1**	**+0.2**
PRK				S	**Sb**	**10 31 52.5**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.75**	**86**	IAML_P			
	comp=Z,6μm,0.1s						
BAYC				*i* P	**Pb**	**10 31 44.0**	**+0.1**
BAYC				*i* S	**Sb**	**10 31 53.9**	**-0.2**
SMTH	**Samothraki Isl**	**0.78**	**358**	P	**Pb**	**10 31 44.4**	**0.0**
SMTH				S	**Sb**	**10 31 54.8**	**-0.1**
SMTH				AML	AML	10 31 56.9	
	comp=N,199μm,0.1s						
SMTH				AML	AML	10 31 58.0	
	comp=E,169μm,0.1s						
SMTH	**Samothraki Isl**	**0.78**	**358**	P	**Pb**	**10 31 44.4**	**0.0**
SMTH				S	**Sb**	**10 31 54.8**	**-0.1**
AYVA	**Ayvalik**	**0.94**	**113**	IAML_P			
	comp=Z,951nm,0.1s						
AYVA				*i* P	**Pn**	**10 31 47.7**	**-0.2**
AYVA				*i* S	**Sn**	**10 32 00.9**	**-0.4**
GELI	**Tayfur-Gelibol**	**0.99**	**44**	PG	**Pg**	**10 31 47.5**	**-0.4**
THAS	**Thassos island**	**1.13**	**325**	P	**Pb**	**10 31 49.5**	**-0.7**
THAS	**Thassos island**	**1.13**	**325**	P	**Pb**	**10 31 50.2**	**0.0**
THAS				S	**Sn**	**10 32 05.7**	**-0.1**
SKY	**Skiros Island**	**1.13**	**225**	P	**Pb**	**10 31 49.8**	**-0.5**
SKY	**Skiros Island**	**1.13**	**225**	P	**Pb**	**10 31 49.8**	**-0.5**
SKY				S	**Sn**	**10 32 06.0**	**0.0**
ENEZ	**Enez**	**1.14**	**23**	PN	**Pb**	**10 31 50.2**	**-0.2**
LPK	**Lapseki**	**1.14**	**53**	PN	**Pb**	**10 31 49.9**	**-0.5**
DKL	**Dikili**	**1.20**	**120**	PN	**Pg**	**10 31 51.5**	**-0.4**
ERIK	**Erikli-Kesan**	**1.22**	**36**	PN	**Pn**	**10 31 51.5**	**-0.1**
ALN	**Alexandroupoli**	**1.26**	**17**	PN	**Pn**	**10 31 52.2**	**0.0**
ALN	**Alexandroupoli**	**1.26**	**17**	P	**Pg**	**10 31 52.8**	**-0.3**
ALN	**Alexandroupoli**	**1.26**	**17**	P	**Pn**	**10 31 51.9**	**-0.3**
ALN				S	**Sn**	**10 32 09.4**	**+0.3**
FOCM	**Foa**	**1.33**	**137**	PN	**Pg**	**10 31 53.9**	**-0.4**
KRBN	**Karaburun**	**1.33**	**145**	PN	**Pg**	**10 31 54.0**	**-0.4**
CHOS	**Chios island**	**1.35**	**164**	PN	**Pn**	**10 31 53.7**	**+0.1**
CHOS	**Chios island**	**1.35**	**164**	P	**Pn**	**10 31 52.9**	**-0.7**
CHOS	**Chios island**	**1.35**	**164**	P	**Pn**	**10 31 52.7**	**-0.9**
OUR	**Ouranopolis**	**1.38**	**298**	PN	**Pn**	**10 31 53.5**	**-0.4**
AOS	**Alonnisos**	**1.41**	**249**	PN	**Pn**	**10 31 53.9**	**-0.4**
RDO	**Rodhopi**	**1.46**	**359**	PN	**Pn**	**10 31 54.8**	**-0.1**
KRBG	**Karabiga-Canak**	**1.50**	**61**	PN	**Pb**	**10 31 56.5**	**-0.1**
URLA	**Izmir**	**1.55**	**149**	PN	**Pn**	**10 31 56.3**	**+0.1**
BALY	**Balya**	**1.58**	**87**	*i* P	**Pb**	**10 31 57.2**	**-0.7**
KNL	**Balıkesir**	**1.61**	**68**	*i* P	**Pb**	**10 31 58.5**	**+0.1**
GONE	**Gonen-Balikesi**	**1.67**	**77**	PN	**Pb**	**10 31 58.7**	**-0.7**
STEP	**BALIKESIR_Sava**	**1.69**	**100**	*i* P	**Pb**	**10 31 59.4**	**-0.4**
BALB	**Balikesir**	**1.78**	**91**	PN	**Pb**	**10 32 00.3**	**-1.1**
EDC	**Edincik**	**1.88**	**69**	PN	**Pb**	**10 32 02.2**	**-0.8**
SBT4	**Kumbag-Tekirda**	**1.89**	**52**	PN	**Pb**	**10 32 01.9**	**-1.1**
TKR	**Tekirdag**	**1.99**	**48**	PN	**Pb**	**10 32 03.7**	**-1.2**
KCTX	**Karacabey (Bur**	**2.21**	**74**	PN	**Pn**	**10 32 06.6**	**+1.2**
DURS	**Dursunbey**	**2.24**	**91**	*e*P	**Pn**	**10 32 07.3**	**+1.5**
DURS				*i* S	**Sn**	**10 32 33.7**	**+0.2**
EDRB	**Edirne**	**2.33**	**22**	PN	**Pn**	**10 32 08.1**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**2.51**	**133**	PN	**Pn**	**10 32 10.7**	**+1.2**
ARMT	**Armutlu**	**2.67**	**70**	PN	**Pn**	**10 32 13.3**	**+1.7**
KULA	**Kula-Manisa**	**2.67**	**115**	PN	**Pn**	**10 32 13.5**	**+1.8**
CTKS	**Kestanelik-??a**	**2.72**	**54**	PN	**Pn**	**10 32 13.8**	**+1.5**

*ISCJB **09** 10:35:50.8±0.3, 1.°90S±0.°05×67.°96E±0.°05, h15km, mb4.5/48, MS4.2/7, Error ellipse: s-maj=8.0km s-min=6.9km az=34.0*
*BJI **09** 10:35:50.6, 1.°90S×67.°90E, h10km, mb4.6/34, mB5.1/24, Ms4.7/8, Ms7 4.4/9*
*IDC **09** 10:35:50.6±0.6, 1.°85S×68.°04E, h0km, mb4.2/19, mb1 4.3/19, mb1mx4.0/63, mbtmp4.2/19, MS4.1/4, Ms1 4.1/4, ms1mx3.4/39, Error ellipse: s-maj=17.3km s-min=16.3km az=157.0*
*NEIC **09** 10:35:51.7±0.2, 1.°92S×67.°94E, h10km, mb4.6/19, Error ellipse: s-maj=6.5km s-min=5.6km az=128.0*
*GCMT **09** 10:35:52.7±0.3, 2.°05S±0.°04×67.°92E±0.°03, h18km±1km, MW5.0/72, Moment Tensor Solution. s23,c28; s72,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.66±.24; $M_{\theta\theta}$1.32±.14; $M_{\phi\phi}$2.33±.16; $M_{r\theta}$-0.22±.38; $M_{\theta\phi}$-1.06±.09; $M_{\phi r}$-0.11±.32; Best double couple: $M_0$3.33700×10^{16} NP1:ϕ_s144.00000°, δ45.00000°, λ-95.00000°. NP2: ϕ_s331.00000°, δ45.00000°, λ-85.00000°. Principal axes: T 2.9990, Plg0.0000°, Azm238.0000°; N 0.6650, Plg3.0000°, Azm148.0000°; P -3.6740, Plg87.0000°, Azm332.0000°; nsta1 refers to body waves, cutoff=40s.*

nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 09 10:35:52.8±0.4**, 1°.86S**±0°.07×**67°.94E**±0°.08**, h15**km**, n101, σ1°.29**/109**, mb4.6**/48**, MS4.3**/7**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.38	146	T	T	10 42 35.3	
	baz=324,slow=76,SNR=45						
H08N3	Diego Garcia H	5.39	146	T	T	10 42 27.6	
	baz=324,slow=76,SNR=181						
H08N1	Diego Carcia H	5.41	145	T	T	10 42 32.9	
	baz=324,slow=76,SNR=125						
DGAR	Diego Garcia	7.12	141	ePn	Pn	10 37 36.9	+0.5
PALK	Pallekele	15.64	54	ePn	Pn	10 39 32.4	-0.5
	94nm,1.7s						
MRIV	Mauritius Mete	20.97	208	eP	P	10 40 34.3	-1.3
	21nm,1.2s						
HYB	Hyderabad	21.83	28	i P	P	10 40 46.0	+1.1
RER	Riviere de l'E	22.56	211	eP	P	10 40 50.3	-2.4
	35nm,1.0s						
ABPO	Ambohimpanom	26.50	229	eP	P	10 41 29.9	-0.2
	38nm,1.9s						
WSAR	Wadi Sarin	26.55	341	LR	LR	10 50 27.4	
	comp=Z,177nm,18.4s,baz=164,slow=33						
DAMY	Dhamar	28.47	306	eP	P	10 41 47.7	-0.2
	6.6nm,0.5s						
GSI	Gunungsitoli	29.80	84	eP	P	10 41 58.8	-0.7
	18nm,0.9s						
KMBO	Kilima Mbogo	30.68	271	P	P	10 42 08.9	+1.4
	0.4nm,0.3s,baz=46,slow=12,SNR=3.6						
KMBO	Kilima Mbogo	30.68	271	eP	P	10 42 08.0	+0.5
	5.3nm,1.3s						
PSI	Prapat	31.32	82	eP	P	10 42 10.6	-2.4
	16nm,1.3s						
KULM	Kulim	33.44	78	eP	P	10 42 32.3	+0.7
	58nm,1.6s						
IPM	Ipoh	33.66	79	eP	P	10 42 34.3	+0.8
	80nm,1.9s						
UTHA	Uthaitani	35.64	60	P	P	10 42 56.4	+5.9
	3.6nm,1.5s,61nm						
CM01	Chiang Mai Arr	36.58	55	eP	P	10 42 59.4	+0.8
CMAR	Chiang Mai Arr	36.59	55	P	P	10 42 58.6	0.0
	1.7nm,0.8s,baz=244,slow=9.9,SNR=13						
CHTO	Chiang Mai	36.77	55	eP	P	10 43 00.1	0.0
	18nm,1.4s						
CHTO	Chiang Mai	36.77	55	P	P	10 43 03.6	+3.5
	54nm,2.0s						
CMMT	Chiang Mai	36.77	55	P	P	10 43 03.5	+3.3
	12nm,2.0s						
PBKT	Sadao Pong	37.40	59	eP	P	10 43 07.8	+2.3
	18nm,1.3s						
PBKT	Sadao Pong	37.40	59	P	P	10 43 09.6	+4.1
	13nm,1.5s						
CHAI	Chaiyaphum	38.00	61	P	P	10 43 13.7	+3.1
	5.3nm,1.1s,218nm						
LSA	Lhasa	38.44	33	eP	P	10 43 14.3	-0.4
	15nm,1.2s						
GEYT	Alibeck	40.62	348	P	P	10 43 33.2	+1.0
	11nm,0.4s,baz=90,slow=4.3,SNR=3.2						
LSZ	Lusaka	41.40	249	P	P	10 43 40.2	+1.1
	3.1nm,0.7s,baz=63,slow=9.4,SNR=7.5						
LSZ				LR	LR	10 58 38.1	
	comp=Z,538nm,18.2s,baz=102,slow=33						
LSZ	Lusaka	41.40	249	eP	P	10 43 39.0	-0.1
	4.9nm,0.8s						
KSH	Kashi	41.84	9	P	P	10 43 39.5	-2.8
KSH				pP	pP	10 43 44.2	-1.6
KSH				PcP	PcP	10 45 39.2	+1.0
KSH				S	S	10 49 54.4	-5.3
KSH				sS	pS	10 50 00.4	-3.5
KSH				pmax	pmax		
	comp=Z,14nm,0.8s						
KSH				pmax	pmax		
	comp=Z,260nm,6.0s						
KSH				LR	LR		
	comp=N,210nm,8.3s						
KSH				LR	LR		
	comp=E,230nm,6.0s						
KSH				LR	LR		
	comp=Z,460nm,9.3s						
MATP	Matopo	42.68	242	P	P	10 43 50.2	+0.7
	2.5nm,0.9s,baz=76,slow=13,SNR=3.7						
MATP				LR	LR	10 58 57.8	
	comp=Z,118nm,19.6s,baz=59,slow=32						
NRN	Naryn	43.71	9	eP	P	10 43 58.5	+0.8
	4.8nm,1.0s						
AAK	Ala-Archa	44.69	7	eP	P	10 44 06.8	+1.4
	6.0nm,1.2s						
LBTB	Lobatse	46.85	237	LR	LR	11 02 23.5	
	comp=Z,227nm,18.3s,baz=66,slow=34						
WMQ	Urumqi	48.81	19	eP	P	10 44 40.9	+3.4
WMQ				sP	pwP	10 44 47.7	+1.5
WMQ				pmax	pmax		
	comp=Z,22nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,170nm,4.9s						
WMQ				LR	LR		
	comp=N,390nm,18.1s						
WMQ				LR	LR		
	comp=E,230nm,20.9s						
WMQ				LR	LR		
	comp=Z,410nm,23.7s						
MAKZ	Makanchi	50.02	13	eP	P	10 44 46.9	+0.2
	8.0nm,1.1s						
MAKZ				ePcP	PcP	10 46 06.8	+0.3
MK01	Makanchi Array	50.05	13	eP	P	10 44 47.0	0.0
MK01				ePcP	PcP	10 46 05.8	-0.8
MK31	Makanchi Array	50.07	13	eP	P	10 44 47.0	-0.1
MKAR	Makanchi Array	50.07	13	P	P	10 44 47.3	+0.2
	1.7nm,0.9s,baz=182,slow=6.9,SNR=13						
MKAR	Makanchi Array	50.07	13	eP	P	10 44 46.7	-0.4
	16nm,0.8s						
GTA	Gaotai	50.42	32	P	P	10 44 51.5	+1.5
GTA				pP	sP	10 44 55.6	+0.7
GTA				sP	pwP	10 44 58.5	-0.2
GTA				PcP	PcP	10 46 09.0	+0.7
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,72nm,4.9s						
GTA				LR	LR		
	comp=N,210nm,19.2s						
GTA				LR	LR		
	comp=E,180nm,18.5s						
GTA				LR	LR		
	comp=Z,420nm,21.0s						
LZH	Lanzhou	50.45	38	eP	P	10 44 51.8	+1.5
LZH				pP	sP	10 44 55.4	+0.2
LZH				sP	pwP	10 44 57.6	-1.4
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,130nm,5.2s						
LZH				LR	LR		
	comp=N,510nm,10.3s						
LZH				LR	LR		
	comp=E,340nm,14.1s						
LZH				LR	LR		
	comp=Z,630nm,14.6s						
KBZ	Khabaz	50.64	337	P	P	10 44 52.5	+1.2
	2.6nm,0.9s,baz=131,slow=7.8,SNR=3.9						
ENH	Enshi	50.88	48	eP	P	10 44 53.5	0.0
	34nm,1.2s						
ABKAR	Akbulak array	51.38	353	eP	P	10 44 56.8	-0.1
BRTR	Keskin Array B	51.96	327	P	P	10 45 01.6	+0.1
	2.2nm,1.1s,baz=19,slow=4.2,SNR=4.0						
XAN	Xi'an	52.52	43	eP	P	10 45 05.8	+0.1
	26nm,1.2s						
AKTO	Aktyubinsk	52.79	352	P	P	10 45 06.6	-0.7
	0.8nm,0.3s,baz=167,slow=6.3,SNR=5.1						
KURBB	Kurchatov Arra	53.07	8	P	P	10 45 08.9	-0.4
	baz=208,slow=7.9						
KURK	Kurchatov	53.17	8	eP	P	10 45 10.3	+0.2
	10nm,1.1s						
BVAR	Borovoye Array	54.73	2	P	P	10 45 20.9	-0.6
	0.4nm,0.5s,baz=98,slow=3.0,SNR=4.6						
BRVK	Borovoye	54.76	2	eP	P	10 45 22.4	+0.7
	7.5nm,1.4s						
ZAA0	Zalesovo Array	57.37	12	eP	P	10 45 40.2	-0.1
	14nm,1.2s						
ZALV	Zalesovo Beam	57.37	12	P	P	10 45 40.2	-0.1
	5.4nm,0.8s,baz=225,slow=7.8,SNR=17						
ZALV	Zalesovo Beam	57.37	12	eP	P	10 45 39.8	-0.5
HHC	Hu-ho-hao-te	58.15	38	eP	P	10 45 46.0	-0.2
HHC				sP	pwP	10 46 00.6	+5.6
HHC				S	S	10 53 47.8	+0.5
HHC				sS	sS	10 53 56.5	+3.2
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,190nm,5.5s						
NJ2	Nanjing	58.80	50	eP	P	10 45 48.8	-2.0
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
SONM	Songino Array	59.77	29	P	P	10 45 58.5	+1.1
	4.1nm,0.9s,baz=223,slow=7.0,SNR=24						
SONA1	Songino Array	59.78	29	eP	P	10 45 58.1	+0.6
WRA	Warramunga Arr	67.21	111	P	P	10 46 47.1	+0.1
	4.6nm,1.0s,baz=281,slow=5.9,SNR=19						
WB2	Warramunga Arr	67.22	111	eP	P	10 46 46.4	-0.7
ASAR	Alice Springs	67.29	115	P	P	10 46 47.1	-0.4
	2.2nm,0.9s,baz=280,slow=6.4,SNR=9.8						
AS01	Alice Springs	67.33	115	eP	P	10 46 46.6	-1.2
KSAR	Wonju Array Be	67.74	48	P	P	10 46 49.2	-0.8
KSRS	Korea Array	67.77	48	P	P	10 46 49.2	-1.0
	1.7nm,0.9s,baz=238,slow=6.8,SNR=3.1						
CLL	Collm	70.41	327	eP	P	10 47 07.0	+0.7
KLR	Kul'dur	74.65	38	P	P	10 47 29.8	-1.9
	3.9nm,1.0s,baz=273,slow=6.3,SNR=8.4						
MJAR	Matsushiro Arr	75.37	52	P	P	10 47 36.3	+0.2
	1.8nm,0.9s,baz=240,slow=6.4,SNR=4.2						
NOA	NORSAR Array B	76.19	335	P	P	10 47 39.9	-0.4
	1.7nm,1.1s,baz=114,slow=6.0,SNR=2.4						
TIXI	Tiksi	82.92	16	eP	P	10 48 16.8	+0.2
	4.2nm,0.8s						
QSPA	South Pole Qui	88.13	180	eP	P	10 48 42.9	0.0
	13nm,1.4s						
VNDA	Vanda	89.04	167	P	P	10 48 47.1	+0.3
	0.9nm,0.8s,baz=323,slow=3.0,SNR=3.5						
YKA	Yellowknife Ar	119.49	1	PKP	PKPdf	10 54 40.3	-1.4
	0.5nm,0.9s,baz=1.6,slow=2.6,SNR=6.0						
PDAR	Pinedale Array	139.21	357	PKP	PKPdf	10 55 20.2	+0.3
	0.2nm,0.6s,baz=129,slow=1.3,SNR=3.2						
NVAR	Mina Array Bea	143.16	8	PKP	PKPdf	10 55 25.8	-1.4
	0.4nm,0.6s,baz=72,slow=2.9,SNR=3.3						
PV13	Radium Mtn., P	143.76	356	ePKPdf	PKPbc	10 55 26.3	+0.6
MTPU	Mount Pierson	144.00	0	ePKPdf	PKPbc	10 55 26.6	0.0
SZCU	Shurtz Canyon	144.43	1	ePKPdf	PKPbc	10 55 28.4	+0.7
CCUT	Cedar City	144.47	2	ePKPdf	PKPdf	10 55 29.3	-0.1
PKCU	Pink Cliffs	144.59	0	ePKPdf	PKPdf	10 55 29.2	-0.7
LCMT	Little Creek M	145.01	2	ePKPbc	PKPab	10 55 29.4	-0.1
WMOK	Wichita Mounta	145.03	341	ePKPbc	PKPbc	10 55 28.0	-1.5
DAC	Darwin (Calif)	145.38	8	ePKPbc	PKPdf	10 55 31.7	+0.7
SHPR	Sheep Range	145.41	4	ePKPdf	PKPab	10 55 32.3	+1.3
U15A	North Rim	145.61	0	ePKPdf	PKPdf	10 55 30.9	-0.6
ISA	Isabella, Lake	145.85	9	ePKPdf	PKPdf	10 55 31.2	-0.5
GSC	Goldstone, Bar	146.44	7	ePKPdf	PKPab	10 55 34.9	+0.1
WUAZ	Wupatki	146.51	359	ePKPbc	PKPab	10 55 35.3	+0.1
ANMO	Albuquerque	146.67	352	ePKPbc	PKPab	10 55 35.4	-0.5
W13A	Hualapai Mount	146.89	3	ePKPdf	PKPdf	10 55 32.5	-1.1
MSTX	Muleshoe	146.90	346	ePKPdf	PKPdf	10 55 33.0	-0.6
ABTX	Abilene, Hawle	147.25	340	ePKPdf	PKPdf	10 55 32.0	-2.0
X16A	Lo Mia Camp, P	147.61	359	ePKPbc	PKPbc	10 55 37.9	+0.5
PFO	Pinyon Flats O	148.15	7	ePKPdf	PKPdf	10 55 34.9	-0.8
PFO				ePKPbc	PKPbc	10 55 37.9	-1.0
XPFO	Pion Flat	148.15	7	ePKPdf	PKPbc	10 55 37.9	-1.0
XPFO				ePKPbc	PKiKP	10 55 40.5	-0.2
Y12C	Blythe	148.19	4	ePKPdf	PKPbc	10 55 37.8	-1.0
Y12C				ePKPbc	PKiKP	10 55 40.3	-0.3
MNTX	Cornudas Mount	149.66	349	ePKPbc	PKiKP	10 55 43.3	-0.4
TUC	Tucson	149.69	358	ePKPdf	PKPdf	10 55 36.8	-1.3
TUC				ePKPbc	PKiKP	10 55 44.0	+0.2
TX31	Lajitas Ar. Si	151.53	344	ePKPdf	PKPdf	10 55 40.5	-0.6
TX31				ePKPdf	PKPdf	10 55 40.8	-0.3
TX31				ePKPbc	PKPbc	10 55 47.5	+0.2
TX31				ePKPbc	PKPbc	10 55 47.6	+0.3
TX31				ePKPab	PKPab	10 55 55.9	+0.4
TX31				ePKPab	PKPab	10 55 56.8	+1.3
TXAR	Lajitas Array	151.53	344	PKP	PKPdf	10 55 42.2	+1.1
	0.8nm,1.1s,baz=90,slow=2.5,SNR=4.1						
TXAR				PKPbc	PKiKP	10 55 47.6	-0.1
	3.2nm,1.0s,baz=48,slow=1.9,SNR=16						
TXAR				PKPab	PKPab	10 55 56.7	+1.1
	2.6nm,1.0s,baz=42,slow=2.0,SNR=10.0						

IDC 09 10:38:58.7±1.9**, 1°.82S**×**68°.22E, h0**km**, mb3.7**/6**, mb1 3.9**/6**, mb1mx3.5**/52**, mbtmp3.7**/6**, Error ellipse: s-maj=56.9km s-min=29.0km az=66.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.27	148	T	T	10 45 44.1	
	baz=326,slow=75,SNR=6.7						
H08N3	Diego Garcia H	5.28	148	T	T	10 45 44.6	
	baz=326,slow=75,SNR=8.0						
H08N1	Diego Carcia H	5.29	148	T	T	10 45 41.7	
	baz=326,slow=75,SNR=6.5						
CMAR	Chiang Mai Arr	36.33	55	P	P	10 46 05.3	+0.7
	0.4nm,0.3s,baz=234,slow=7.5,SNR=3.8						
MKAR	Makanchi Array	49.97	13	P	P	10 47 54.2	-0.4
	0.2nm,0.5s,baz=179,slow=6.8,SNR=2.4						
ZALV	Zalesovo Beam	57.26	12	P	P	10 48 46.3	-1.6
	1.4nm,0.7s,baz=241,slow=8.3,SNR=3.8						
SONM	Songino Array	59.60	29	P	P	10 49 05.1	+0.5
	0.5nm,0.8s,baz=235,slow=6.9,SNR=4.3						
WRA	Warramunga Arr	66.96	111	P	P	10 49 53.9	+0.1
	0.7nm,0.7s,baz=286,slow=6.1,SNR=5.7						
ASAR	Alice Springs	67.05	115	P	P	10 49 53.8	-0.6
	0.6nm,0.7s,baz=283,slow=5.6,SNR=7.1						
TXAR	Lajitas Array	151.57	345	PKPbc	PKiKP	10 58 56.5	+0.2
	0.3nm,0.9s,baz=63,slow=1.6,SNR=2.8						

*BJI **09** 10:51:26.7, 2°.11S×67°.77E, h10km, mb4.8/42, mB5.1/27, Ms4.8/23, Ms7 4.5/25*

*IDC **09** 10:51:28.4±0.5, 1°.94S×68°.01E, h0km, mb4.4/28, mb1 4.5/29, mb1mx4.4/52, mbtmp4.4/29, ML4.0/1, MS4.1/25, Ms1 4.1/25, ms1mx4.0/35, Error ellipse: s-maj=14.4km s-min=11.6km az=156.0*

*MOS **09** 10:51:28.3±1.1, 1°.94S×68°.01E, h10km, mb4.9/39, Error ellipse: s-maj=8.7km s-min=6.5km az=81.6*

*NEIC **09** 10:51:29.7±0.2, 1°.97S×67°.97E, h10km, mb4.9/23, Error ellipse: s-maj=5.3km s-min=4.6km az=157.0*

*ISCJB **09** 10:51:29.4±0.2, 1°.96S±0°.04×67°.93E±0°.03, h17km, mb4.7/99, MS4.2/31, Error ellipse: s-maj=5.4km s-min=4.6km az=167.4*

*GCMT **09** 10:51:30.7±0.2, 1°.98S±0°.02×67°.95E±0°.01, h13km±1km, MW5.0/80, Moment Tensor Solution. s29,c38; s80,c113; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-2.87±.21; $M_{\theta\theta}$-0.38±.12; $M_{\phi\phi}$3.25±.14; $M_{r\theta}$0.30±.40; $M_{\theta\phi}$-1.85±.09; $M_{\phi r}$-1.31±.32; Best double couple: $M_0$3.70700×10^16 NP1:ϕ_s343.00000°, δ56.00000°, λ-82.00000°. NP2: ϕ_s150.00000°, δ35.00000°, λ-101.00000°. Principal axes: T 4.2720, Plg11.0000°, Azm68.0000°; N -1.1300, Plg6.0000°, Azm159.0000°; P -3.1410, Plg78.0000°, Azm280.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 10:51:30.9±1.3**, 1°.96S**±0°.06×**67°.94E**±0°.05**, h15**km±7km**, n202, σ1°.44**/199**, mb4.8**/105**, MS4.2**/31**, 11C-3D, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.30	145	T	T	10 58 13.3	
	baz=325,slow=75,SNR=153						
H08N3	Diego Garcia H	5.32	145	T	T	10 58 07.5	
	baz=325,slow=75,SNR=210						
H08N1	Diego Carcia H	5.33	145	T	T	10 58 11.9	
	baz=325,slow=75,SNR=246						
DGAR	Diego Garcia	7.04	140	ePn	Pn	10 53 13.5	-0.1
DGAR	Diego Garcia	7.04	140	eP	Pn	10 53 13.5	-0.1
PALK	Pallekele	15.69	54	Pn	Pn	10 55 09.6	-2.0
	0.5nm,0.3s,baz=295,slow=10,SNR=4.4						
PALK				LR	LR	11 00 03.0	
	comp=Z,1μm,18.4s,baz=293,slow=33						
PALK	Pallekele	15.69	54	ePn	Pn	10 55 10.9	-0.8
	130nm,1.9s						
PALK	Pallekele	15.69	54	eP	Pn	10 55 10.9	-0.8
PALK				pmax	pmax		
	comp=Z,130nm,1.9s						
MRIV	Mauritius Mete	20.89	209	eP	P	10 56 11.4	-1.5
	comp=Z,100nm,1.5s						
POO	Poona	21.17	16	eP	P	10 56 16.0	+0.1
HYB	Hyderabad	21.91	28	i P	P	10 56 24.0	+0.2
	comp=Z,71nm,1.2s						
RER	Riviere de l'E	22.49	211	eP	P	10 56 27.8	-2.3
	comp=Z,111nm,1.4s						
OPO	Ambohidratompo	26.20	230	P	P	10 57 06.6	+1.1
	comp=Z,6.0nm,1.0s,baz=69,slow=14,SNR=4.3						
OPO				LR	LR	11 04 56.4	
	comp=Z,1μm,20.6s,baz=67,slow=31						
ABPO	Ambohimpanom	26.44	229	eP	P	10 57 08.6	+0.9
	comp=Z,22nm,1.5s						
ABPO	Ambohimpanom	26.44	229	eP	P	10 57 08.6	+0.9
ABPO				pmax	pmax		
	comp=Z,22nm,1.5s						
WSAR	Wadi Sarin	26.63	341	P	P	10 57 09.9	+0.7
	comp=Z,9.7nm,1.2s,baz=171,slow=9.8,SNR=4.6						
WSAR				LR	LR	11 05 49.6	
	comp=Z,427nm,18.5s,baz=165,slow=32						
ATD	Arta Tunnel	28.32	299	LR	LR	11 06 18.0	
	comp=Z,300nm,20.7s,baz=134,slow=31						
SNSI	Sinabang, Aceh	28.71	81	P	P	10 57 29.2	+1.3
	comp=Z,32nm,0.5s						
TPTI		29.68	80	P	P	10 57 38.0	+1.5
	comp=Z,9.5nm,0.8s						
GSI	Gunungsitoli	29.80	84	eP	P	10 57 37.4	-0.3
	comp=Z,28nm,1.1s						
GSI	Gunungsitoli	29.80	84	P	P	10 57 39.2	+1.5
LHMI	Lhok Sumawe	29.84	76	eP	P	10 57 37.1	-0.8
	comp=Z,94nm,1.1s						
LHMI	Lhok Sumawe	29.84	76	P	P	10 57 39.5	+1.6
KCSI	Kotacane, Aceh	30.31	80	P	P	10 57 43.3	+1.2
	comp=Z,14nm,1.6s						
COCO	West Island	30.38	111	eP	P	10 57 42.5	-0.2
	comp=Z,230nm,1.4s						
COCO	West Island	30.38	111	eP	P	10 57 42.5	-0.2
KMBO	Kilima Mbogo	30.69	271	P	P	10 57 47.0	+1.2
	comp=Z,4.1nm,0.8s,baz=47,slow=10,SNR=9.2						
KMBO				LR	LR	11 07 39.7	
	comp=Z,566nm,21.3s,baz=96,slow=32						
KMBO	Kilima Mbogo	30.69	271	eP	P	10 57 45.6	-0.2
	comp=Z,6.1nm,1.0s						
KMBO	Kilima Mbogo	30.69	271	ceP	P	10 57 47.5	+1.7
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TSI	Tuntungan	31.08	80	P	P	10 57 49.2	+0.3
SISI	Saibi	31.14	89	P	P	10 57 50.9	+1.5
	comp=Z,35nm,1.2s						
PSI	Prapat	31.33	81	eP	P	10 57 49.6	-1.7
	comp=Z,13nm,1.2s						
PSI	Prapat	31.33	81	eP	P	10 57 49.6	-1.7
PSI				pmax	pmax		
	comp=Z,13nm,1.2s						
MNSI	Mandailing Nat	31.75	85	P	P	10 57 56.2	+1.4
	comp=Z,18nm,1.0s						
PPSI	Pulau Pagai	32.05	92	P	P	10 57 58.3	+0.8
	comp=Z,174nm,1.0s						
PPI	Padang Panjang	32.48	88	P	P	10 58 02.1	+0.9
PDSI	Padang	32.53	89	P	P	10 58 03.3	+1.6
	comp=Z,7.6nm,0.5s						
TRTT	Trang	33.13	73	P	P	10 58 15.5	+8.6
BKNI	Bangkinang	33.17	86	P	P	10 58 07.7	+0.4
KOLN	Koldanda	33.17	26	eP	P	10 58 07.9	+0.6
	comp=Z,53nm,1.1s						
RAYN	Ar Rayn	33.44	321	eP	P	10 58 08.6	-1.0
	comp=Z,31nm,1.8s						
RAYN	Ar Rayn	33.44	321	eP	P	10 58 08.6	-1.0
RAYN				pmax	pmax		
	comp=Z,31nm,1.8s						
KULM	Kulim	33.46	77	eP	P	10 58 09.2	-0.6
	comp=Z,45nm,1.2s						
IPM	Ipoh	33.67	79	eP	P	10 58 10.8	-0.9
	comp=Z,16nm,0.9s						
DMN	Daman	33.72	28	eP	P	10 58 13.0	+0.8
	comp=Z,65nm,1.0s						
DANN	Dangsing	33.74	26	eP	P	10 58 13.0	+0.6
PKIN	Phulchoki	33.83	29	eP	P	10 58 13.5	+0.4
PKI	Pulchoki	33.83	29	eP	P	10 58 13.6	+0.4
RAMN	Ramite	33.91	31	eP	P	10 58 14.9	+1.1
	comp=Z,46nm,1.1s						
KKN	Kakani	33.95	28	eP	P	10 58 14.8	+0.6
ODAN	Odare	34.24	32	eP	P	10 58 18.0	+1.3
	comp=Z,78nm,1.0s						
JIRN	Jiri	34.28	30	eP	P	10 58 17.8	+0.6
	comp=Z,112nm,1.3s						
GUN	Gumba	34.34	29	eP	P	10 58 18.5	+0.8
	comp=Z,142nm,1.1s						
UMPA	Umpang Tak	35.48	58	P	P	10 58 28.4	+1.2
	comp=Z,8.2nm,1.0s						
LHSI	Lahat	35.58	94	P	P	10 58 29.3	+1.1
	comp=Z,57nm,1.2s						
UTHA	Uthaitani	35.68	60	P	P	10 58 37.4	+8.4
NIL	Nilore	35.77	8	eP	P	10 58 31.1	+1.6
	comp=Z,22nm,0.8s						
NIL	Nilore	35.77	8	eP	P	10 58 31.1	+1.6
NIL				pmax	pmax		
	comp=Z,22nm,0.8s						
SHL	Shillong	35.86	39	P	P	10 58 31.9	+1.3
SHL	Shillong	35.86	39	eP	P	10 58 34.0	+3.4
MDSI	Maura Dua	36.26	95	P	P	10 58 44.5	+10
CM01	Chiang Mai Arr	36.63	55	eP	P	10 58 37.2	+0.1
CMAR	Chiang Mai Arr	36.63	55	P	P	10 58 37.5	+0.4
	comp=Z,4.1nm,0.9s,baz=245,slow=11,SNR=24						
CMAR				LR	LR	11 12 07.3	
	comp=Z,331nm,21.4s,baz=235,slow=34						
CMAR	Chiang Mai Arr	36.63	55	ceP	P	10 58 38.2	+1.1
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CHTO	Chiang Mai	36.81	55	eP	P	10 58 38.4	-0.3
	comp=Z,24nm,1.2s						
CHTO	Chiang Mai	36.81	55	eP	P	10 58 38.4	-0.3
CHTO				pmax	pmax		
	comp=Z,24nm,1.2s						
CHTO	Chiang Mai	36.81	55	P	P	10 58 39.6	+0.9
	comp=Z,83nm,1.1s						
CMMT	Chiang Mai	36.82	55	P	P	10 58 39.6	+0.9
	comp=Z,19nm,1.1s						
MBAR	Mbarara	37.22	272	P	P	10 58 43.7	+1.3
	comp=Z,3.5nm,0.2s,baz=78,slow=4.7,SNR=6.6						
MBAR	Mbarara	37.22	272	i P	P	10 58 43.6	+1.3
MBAR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
PBKT	Sadao Pong	37.44	59	eP	P	10 58 43.6	-0.4
	comp=Z,17nm,1.0s						
PBKT	Sadao Pong	37.44	59	P	P	10 58 45.5	+1.5
	comp=Z,18nm,1.3s,comp=Z,982nm						
CHAI	Chaiyaphum	38.04	61	P	P	10 58 50.7	+1.6
	comp=Z,12nm,0.9s,comp=Z,132nm						
LSA	Lhasa	38.51	33	eP	P	10 58 53.7	+0.3
	comp=Z,36nm,1.2s						
LSA	Lhasa	38.51	33	eP	P	10 58 53.7	+0.3
LSA				pmax	pmax		
	comp=Z,36nm,1.2s						
LEM	Lembang	39.84	98	P	P	10 59 04.3	-0.1
	comp=Z,29nm,0.6s,baz=160,slow=20,SNR=5.2						
NONG	Nongkai	39.96	59	P	P	10 59 08.3	+3.1
	comp=Z,0.5nm,1.1s,comp=Z,145nm						
SKNT	Sakolnakorn	40.22	61	P	P	10 59 11.3	+3.9
	comp=Z,7.5nm,1.0s,comp=Z,947nm						
GEYT	Alibeck	40.71	348	P	P	10 59 11.1	0.0
	comp=Z,10nm,0.4s,baz=310,slow=1.2,SNR=3.8						
GEYT				LR	LR	11 15 34.1	
	comp=Z,152nm,18.1s,baz=155,slow=36						
LSZ	Lusaka	41.37	249	P	P	10 59 17.1	+0.1
	comp=Z,12nm,0.8s,baz=72,slow=7.5,SNR=17						
LSZ	Lusaka	41.37	249	eP	P	10 59 16.9	-0.1
	comp=Z,12nm,0.8s						
LSZ	Lusaka	41.37	249	eP	P	10 59 16.9	-0.1
LSZ				pmax	pmax		
	comp=Z,12nm,0.8s						
KSH	Kashi	41.92	9	P	P	10 59 18.2	-3.0
KSH				pP	pP	10 59 22.3	-3.5
KSH				sP	sP	10 59 25.5	-2.1
KSH				PcP	PcP	11 01 14.2	-2.5
KSH				S	S	11 05 31.8	-7.4
KSH				SS	SS	11 08 28.6	-18
KSH				pmax	pmax		
	comp=Z,14nm,0.8s						
KSH				pmax	pmax		
	comp=Z,240nm,3.7s						
KSH				LR	LR		
	comp=Z,180nm,6.2s						
KSH				LR	LR		
	comp=Z,330nm,6.4s						
KSH				LR	LR		
	comp=Z,190nm,12.2s						
MATP	Matopo	42.64	242	P	P	10 59 27.2	-0.2
	comp=Z,6.4nm,1.0s,baz=67,slow=8.4,SNR=9.6						
KMI	Kunming	43.14	49	P	P	10 59 32.7	+1.2
KMI				sP	sP	10 59 39.5	+1.6

KMI S **S** **11 06 00.3 +2.5**
KMI SS **SS** **11 09 06.4 -4.3**
KMI pmax pmax
comp=Z,14nm,0.8s
KMI LR LR
comp=Z,260nm,17.9s
KMI LR LR
comp=Z,400nm,17.2s
KMI LR LR
comp=Z,440nm,17.2s
AAK Ala-Archa 44.78 7 *e*P **P** **10 59 44.6 +0.4**
comp=Z,12nm,1.0s
AAK Ala-Archa 44.78 7 *e*P **P** **10 59 44.6 +0.4**
AAK pmax pmax
comp=Z,12nm,1.0s
FRU Bishkek 44.99 7 *e*P **P** **10 59 46.0 +0.2**
FRU pmax pmax
comp=Z,50nm,2.0s
QIZ Qiongzhong 46.15 61 P **P** **10 59 54.2 -1.1**
QIZ S **S** **11 06 42.0 +0.8**
QIZ LR LR
comp=Z,300nm,7.6s
PDGK Podgornoye 46.26 12 P **P** **10 59 58.7 +2.8**
PDGK pmax pmax
comp=Z,10.0nm,1.5s
LBTB Lobatse 46.81 237 P **P** **11 00 00.3 -0.2**
comp=Z,7.2nm,1.1s,baz=69,slow=9.4,SNR=4.7
LBTB Lobatse 46.81 237 *e*P **P** **11 00 00.7 +0.2**
comp=Z,27nm,1.6s
LBTB Lobatse 46.81 237 *e*P **P** **11 00 00.7 +0.2**
LBTB pmax pmax
comp=Z,27nm,1.6s
GYA Guiyang 46.84 50 P **P** **11 00 02.0 +1.2**
GYA pmax pmax
comp=Z,20nm,1.0s
CD2 Chengdu 47.22 43 *e*P **P** **11 00 03.5 0.0**
BOSA Boshof 48.54 233 P **P** **11 00 14.4 +0.5**
comp=Z,5.2nm,0.9s,baz=65,slow=6.9,SNR=6.5
BOSA LR LR 11 18 31.7
comp=Z,335nm,19.0s,baz=16,slow=33
WMQ Urumqi 48.89 19 *e*P **P** **11 00 16.7 +0.4**
WMQ pP pP 11 00 21.6 +0.6
WMQ pmax pmax
comp=Z,50nm,0.6s
WMQ pmax pmax
comp=Z,340nm,4.5s
WMQ LR LR
comp=Z,510nm,23.7s
WMQ LR LR
comp=Z,280nm,22.3s
WMQ LR LR
comp=Z,540nm,22.3s
MAKZ Makanchi 50.11 13 *e*P **P** **11 00 24.5 -0.9**
comp=Z,10.0nm,1.0s
MAKZ Makanchi 50.11 13 *e*P **P** **11 00 24.5 -0.9**
MAKZ pmax pmax
comp=Z,10.0nm,1.0s
MK01 Makanchi Array 50.14 13 *e*P **P** **11 00 24.1 -1.6**
MK01 *e*PcP **PcP** **11 01 45.4 +0.3**
OTUK Ortayu 50.14 4 P **P** **11 00 27.6 +1.9**
OTUK pmax pmax
comp=Z,7.0nm,1.5s
MK31 Makanchi Array 50.16 13 *e*P **P** **11 00 24.9 -0.9**
MK31 *e*PcP **PcP** **11 01 45.8 +0.7**
MK31 Makanchi Array 50.16 13 *e*P **P** **11 00 25.0 -0.9**
MK31 *e* 11 01 45.8
MKAR Makanchi Array 50.16 13 P **P** **11 00 25.1 -0.7**
comp=Z,3.3nm,0.8s,baz=195,slow=7.3,SNR=10.0
MKAR PcP **PcP** **11 01 45.3 +0.1**
comp=Z,2.1nm,1.1s,baz=205,slow=4.9,SNR=2.0
MKAR Makanchi Array 50.16 13 *e*P **P** **11 00 24.9 -0.9**
comp=Z,33nm,0.9s
MKAR PcP **PcP** **11 01 45.3 +0.1**
GTA Gaotai 50.50 32 P **P** **11 00 28.9 +0.2**
GTA pP pP 11 00 34.2 +0.8
GTA sP sP 11 00 37.4 +2.2
GTA PcP **PcP** **11 01 47.7 +1.0**
GTA S **S** **11 07 44.6 +2.2**
GTA pmax pmax
comp=Z,4.0nm,1.4s
GTA pmax pmax
comp=Z,120nm,7.2s
GTA LR LR
comp=Z,380nm,21.6s
GTA LR LR
comp=Z,310nm,21.6s
GTA LR LR
comp=Z,630nm,23.4s
LZH Lanzhou 50.52 38 *e*P P 11 00 34.3 +5.4
LZH pP sP 11 00 38.0 +2.6
LZH sP pP 11 00 40.9 +7.3
LZH *e*S **S** **11 07 45.6 +2.8**
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,85nm,4.6s
LZH LR LR
comp=Z,660nm,13.0s
LZH LR LR
comp=Z,380nm,12.2s
LZH LR LR
comp=Z,990nm,17.1s
KBZ Khabaz 50.72 337 P **P** **11 00 30.4 +0.3**
comp=Z,4.4nm,0.9s,baz=147,slow=8.7,SNR=6.6
KBZ LR LR 11 22 16.8
comp=Z,93nm,18.3s,baz=155,slow=36
ENH Enshi 50.94 48 *e*P **P** **11 00 30.5 -1.6**
comp=Z,39nm,0.9s
KIV Kislovodsk 51.00 337 *e*P **P** **11 00 35.0 +2.7**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,80nm,17.0s
ABKAR Akbulak array 51.48 353 *e*P **P** **11 00 35.3 -0.4**
MPSI Mapaga 52.00 88 P **P** **11 00 40.6 +0.4**
comp=Z,25nm,1.1s
BRTR Keskin Array B 52.04 327 P **P** **11 00 40.4 +0.1**
comp=Z,4.0nm,1.1s,baz=146,slow=6.9,SNR=7.9
BRTR PcP **PcP** **11 01 53.4 +0.9**
comp=Z,1.4nm,0.9s,baz=95,slow=4.3,SNR=2.8
BRTR LR LR 11 22 33.8
comp=Z,125nm,18.5s,baz=138,slow=36
XAN Xi'an 52.58 43 P **P** **11 00 43.9 -0.4**
XAN pP pP 11 00 50.8 +1.8
XAN pmax pmax
comp=Z,29nm,1.0s
AKTO Aktyubinsk 52.88 352 P **P** **11 00 45.3 -0.8**
comp=Z,3.3nm,0.9s,baz=142,slow=8.7,SNR=6.4
KURK Kurchatov 53.26 8 *ce*P **P** **11 00 48.1 -0.8**
comp=Z,27nm,1.0s
KURK Kurchatov 53.26 8 *ce*P **P** **11 00 48.6 -0.3**
KURK pmax pmax
comp=Z,20nm,1.0s
DGZ Jazzator, Alta 54.13 16 *d iP* **P** **11 00 55.4 -0.1**
DGZ pmax pmax
comp=Z,5.0nm,1.2s
BRVK Borovoye 54.85 2 *ce*P **P** **11 01 03.0 +2.5**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BATI Baumata 55.94 101 LR LR 11 24 16.4
comp=Z,267nm,19.9s,baz=274,slow=35
ZAA0 Zalesovo Array 57.45 12 *e*P **P** **11 01 18.4 -0.7**
comp=Z,19nm,0.9s
ZALV Zalesovo Beam 57.45 12 P **P** **11 01 18.2 -0.9**
comp=Z,9.0nm,0.9s,baz=212,slow=6.5,SNR=22
ZALV LR LR 11 26 11.0
comp=Z,88nm,18.5s,baz=250,slow=36
ZALV Zalesovo Beam 57.45 12 *e*P **P** **11 01 17.9 -1.2**
NVS Novosibirsk 57.99 10 *e*P **P** **11 01 22.1 -0.8**
NVS pmax pmax
comp=N,16nm,1.4s
NVS pmax pmax
comp=Z,24nm,1.4s
HHC Hu-ho-hao-te 58.21 38 *e*P **P** **11 01 26.6 +1.8**
HHC sP sP 11 01 36.1 +4.7
HHC S **S** **11 09 28.6 +2.2**
HHC sS sS 11 09 35.9 +1.7
HHC pmax pmax
comp=Z,11nm,1.0s
HHC pmax pmax
comp=Z,110nm,6.1s
HHC LR LR
comp=Z,130nm,13.7s
HHC LR LR
comp=Z,260nm,14.1s
HHC LR LR
comp=Z,180nm,17.6s
VSR Storozhevoye 58.36 339 *i* P **P** **11 01 24.1 -1.4**
VSR pmax pmax
comp=Z,12nm,1.4s
ARU Arti 58.69 354 *e*P **P** **11 01 27.5 -0.2**
comp=Z,19nm,1.0s
ARU Arti 58.69 354 *d iP* **P** **11 01 28.8 +1.1**
ARU 11 03 36.9
ARU S **S** **11 09 35.6 +3.8**
ARU SS **SS** **11 13 25.9 +0.8**
ARU pmax pmax
comp=Z,21nm,1.6s
NJ2 Nanjing 58.85 50 *e*P **P** **11 01 27.0 -2.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
SONM Songino Array 59.85 29 P **P** **11 01 36.8 +0.7**
comp=Z,5.1nm,0.9s,baz=220,slow=6.7,SNR=40
SONM LR LR 11 27 40.3
comp=Z,567nm,18.3s,baz=208,slow=36
SONA1 Songino Array 59.86 29 *e*P **P** **11 01 36.0 -0.2**
ZAK Zakamensk 60.27 25 *e*P **P** **11 01 36.8 -2.1**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
KIEV Kiev 61.99 333 *i* P **P** **11 01 50.0 -0.4**
KIEV pmax pmax
comp=Z,3.0nm,1.0s
OBN Obninsk 62.45 340↑ *e*P **P** **11 01 54.4 +1.0**
OBN pmax pmax
comp=Z,7.0nm,1.1s
MOS Moscow 62.61 341 *e*P **P** **11 01 54.7 +0.3**
DIVS Divibare 62.69 323 *e*P **P** **11 01 55.6 +0.2**
comp=Z,10nm,1.3s
FAKI Fak Fak 64.25 92 *e*P **P** **11 02 05.1 -1.1**
comp=Z,23nm,1.2s
FAKI Fak Fak 64.25 92 P **P** **11 02 07.8 +1.6**
comp=Z,16nm,1.2s
MAW Mawson 65.62 182 LR LR 11 23 16.7
comp=Z,235nm,22.0s,baz=349,slow=29
PRGR Permogore 65.69 349 *e*P **P** **11 02 14.5 0.0**
PRGR pmax pmax
comp=Z,9.0nm,0.5s
VYHS Vyhne 65.80 327 *e*P **P** **11 02 15.8 +0.2**
KLMR Klimovskoe 66.38 345 *e*P **P** **11 02 16.7 -2.2**
KLMR pmax pmax
comp=Z,33nm,1.5s
KLMR Klimovskoe 66.38 345 *e*P **P** **11 02 16.8 -2.2**
KLMR AMP 11 02 21.6
comp=Z,33nm,1.6s
JAVC Velka Javorina 66.64 326 *e*P P 11 02 27.4 +6.3
WRA Warramunga Arr 67.17 111 P **P** **11 02 24.6 -0.3**
comp=Z,6.1nm,1.1s,baz=284,slow=5.7,SNR=23
WRA LR LR 11 27 48.1
comp=Z,146nm,21.9s,baz=260,slow=32
WRAB Tennant Creek 67.18 111 *e*P **P** **11 02 24.3 -0.7**
comp=Z,43nm,1.5s
WRAB Tennant Creek 67.18 111 *ce*P **P** **11 02 24.7 -0.3**
WRAB pmax pmax
comp=Z,16nm,1.7s
WB2 Warramunga Arr 67.18 111 *e*P **P** **11 02 24.9 -0.1**
MORC Moravsky Berou 67.22 327 *e*P **P** **11 02 24.4 -0.3**
comp=Z,25nm,1.9s
MORC Moravsky Berou 67.22 327 *e*P **P** **11 02 24.4 -0.3**
MORC pmax pmax
comp=Z,25nm,1.9s
MORC Moravsky Berou 67.22 327 *e*P **P** **11 02 24.6 -0.1**
ASAR Alice Springs 67.25 115 P **P** **11 02 24.9 -0.4**
comp=Z,3.5nm,1.0s,baz=284,slow=6.3,SNR=13
ASAR LR LR 11 26 44.3
comp=Z,94nm,21.9s,baz=288,slow=32
AS01 Alice Springs 67.29 115 *e*P **P** **11 02 24.9 -0.8**
TOA0 Torodi Ar. Sit 67.39 285 *e*P **P** **11 02 26.2 -0.1**
TORD Torodi Ar. Bea 67.39 285 P **P** **11 02 25.8 -0.5**
comp=Z,3.1nm,1.1s,baz=97,slow=6.3,SNR=10
TORD LR LR 11 32 08.4
comp=Z,284nm,18.0s,baz=40,slow=36
KRUC Moravsky 67.46 326 *e*P **P** **11 02 26.2 0.0**
VRAC Vranov 67.48 326 P **P** **11 02 25.4 -1.0**
comp=Z,1.6nm,0.5s,baz=122,slow=9.3,SNR=4.3
VRAC Vranov 67.48 326 *e*P **P** **11 02 26.3 0.0**
KSRS Korea Array 67.83 48 LR LR 11 33 24.6
comp=Z,225nm,19.9s,baz=252,slow=37
CN2 Changchun 68.57 41 *e*P **P** **11 02 34.5 +1.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
GERES GERESS Array B 68.88 325 LR LR 11 31 28.8
comp=Z,48nm,21.6s,baz=106,slow=35
SYO Syowa Base 69.60 191↓ *e*P **P** **11 02 39.4 +0.3**
BOD Bodaibo 69.97 24 *e*P **P** **11 02 41.5 -0.1**
BOD pmax pmax
comp=Z,8.0nm,1.8s
DAVOX Davos/Dischmat 70.20 322 P **P** **11 02 43.7 +0.1**
comp=Z,2.2nm,0.9s,baz=148,slow=4.5,SNR=4.5
CLL Collm 70.49 327 *e*P **P** **11 02 46.0 +1.1**
CLL *e* 11 02 52.0
CLL Collm 70.49 327 *e*P **P** **11 02 46.0 +1.1**
CLL *e* 11 02 52.0
FINES FINESS Array B 70.86 340 LR LR 11 37 09.4
comp=Z,73nm,18.1s,baz=107,slow=39
BFO Black Forest 71.81 323 *ce*P **P** **11 02 55.0 +1.9**
KIC Kosan Boka 73.03 277 *e*PKP2 **P** **11 03 01.5 +0.5**
comp=Z,30nm,1.2s
USRK Ussuriysk Ar. 73.08 43 LR LR 11 38 24.7
comp=Z,80nm,19.2s,baz=248,slow=39
DBIC Dimbokro 73.16 278 P **P** **11 03 02.4 +0.6**
comp=Z,5.3nm,0.9s,baz=68,slow=8.6,SNR=5.3
DBIC LR LR 11 35 18.2
comp=Z,144nm,18.7s,baz=82,slow=36
DBIC Dimbokro 73.16 278 *e*P **P** **11 02 58.0 -3.7**
comp=Z,12nm,1.1s
DBIC Dimbokro 73.16 278 *e*P **P** **11 02 58.0 -3.7**
DBIC pmax pmax
comp=Z,12nm,1.1s
LIC Lamto 73.30 277 *e*PKP2 **P** **11 03 02.5 -0.1**
comp=Z,36nm,1.3s
TIC Toumodi 73.32 277 *e*PKP2 **P** **11 03 03.1 +0.4**
OUL Oulu 73.52 343 *e*P **P** **11 03 04.5 +1.7**
OUL pmax pmax
comp=Z,27nm,2.7s
ZEA Zeya 73.99 32 *e*P **P** **11 03 02.1 -3.7**
ZEA pmax pmax
comp=Z,42nm,2.0s
KLR Kul'dur 74.72 38 *e*P **P** **11 03 08.7 -1.5**
HFS Hagfors 74.76 335 P **P** **11 03 09.7 -0.5**
comp=Z,3.4nm,0.9s,baz=150,slow=6.8,SNR=4.3
STKA Stephens Creek 75.10 122 LR LR 11 33 21.2
comp=Z,76nm,20.6s,baz=235,slow=34
MJAR Matsushiro Ar 75.42 52 P **P** **11 03 12.9 -1.7**
comp=Z,2.0nm,0.8s,baz=237,slow=8.5,SNR=3.8
MJAR LR LR 11 38 19.9
comp=Z,138nm,18.7s,baz=255,slow=37
NOA NORSAR Array B 76.28 335 P **P** **11 03 19.0 +0.1**
comp=Z,1.0nm,0.8s,baz=112,slow=5.9,SNR=2.9
KONO Kongsberg 76.28 334 *ce*P **P** **11 03 19.1 +0.2**
KONO pmax pmax
comp=Z,23nm,1.7s
ES19 SONSECA Array 77.36 311 *e*P **P** **11 03 23.9 -1.7**
ESDC Sonseca Array 77.41 311 P **P** **11 03 26.8 +1.0**
comp=Z,0.2nm,0.4s,baz=93,slow=5.9,SNR=5.4
GRNR Gornyy 78.08 37 *e*P **P** **11 03 28.0 -1.2**
YSS Yuzh-Sakhalins 81.10 42↑ *e*P **P** **11 03 45.1 -0.6**
YSS *e* 11 03 47.7
YSS *e* 11 03 51.3
YSS pmax pmax
comp=Z,10.0nm,0.8s
SNAA Sanae 82.17 198 P **P** **11 03 51.9 +0.9**
TIXI Tiksi 83.01 16 *ce*P **P** **11 03 55.2 0.0**
TIXI pmax pmax
comp=Z,19nm,1.7s
VNA2 Neumayer--Watz 83.39 199 P **P** **11 03 58.5 +1.2**
QSPA South Pole Qui 88.04 180 *e*P **P** **11 04 19.6 -1.0**
comp=Z,21nm,1.3s
VNDA Vanda 88.95 167 P **P** **11 04 24.0 -0.5**
comp=Z,1.4nm,0.9s,baz=291,slow=3.2,SNR=6.2
SEY Seymchan 89.19 27 *i* P **P** **11 04 24.6 -1.3**
PETK Petropavlovsk- 91.40 37 LR LR 11 48 24.0
comp=Z,135nm,18.6s,baz=256,slow=37
BILL Bilibino 94.92 22↑ *e*P **P** **11 04 53.0 +0.7**
BILL pmax pmax
comp=Z,2.0nm,1.0s
DZM Mont Dzumac 97.15 112 *e*LR LR 11 36 31.4
comp=Z,254nm,29.1s
YKA Yellowknife Ar 119.58 1 PKP **PKPdf** **11 10 17.8 -2.1**
comp=Z,0.8nm,0.9s,baz=2.4,slow=2.1,SNR=5.5
PPT2 Papeete2 138.24 119 *e*LR LR 11 55 34.0
comp=Z,143nm,24.5s
PDAR Pinedale Array 139.31 357 PKP **PKPdf** **11 10 55.9 -2.3**
comp=Z,0.5nm,0.8s,baz=29,slow=3.4,SNR=4.9
NVAR Mina Array Bea 143.25 8 PKP PKPbc 11 11 03.6 +1.3
comp=Z,1.8nm,1.0s,baz=288,slow=0.9,SNR=5.7
ANMO Albuquerque 146.76 352 *i* PKP2 **PKPdf** **11 11 11.3 -0.3**
TXAR Lajitas Array 151.62 344 PKPbc **PKPbc** **11 11 25.9 +0.3**
comp=Z,4.3nm,1.0s,baz=53,slow=0.9,SNR=20
TXAR PKPab **pPKPbc** **11 11 31.8 +1.1**
comp=Z,5.8nm,1.0s,baz=54,slow=2.2,SNR=10

ISK ***09*** *10:52:42.4,37.°18N×27.°90E,h1km±2km,ML2.2/4, Suspected Mining explosion.*
ISCJB ***09*** *10:52:43.1±0.9,37.°13N±0.°07×27.°97E±0.°06,h0km,Error ellipse: s-maj=10.1km s-min=6.6km az=1.8*
DDA ***09*** *10:52:44.0,37.°22N×27.°77E,h7km±2km,ML2.5*
ISC 09 10:52:42.6±0.9,37.°10N±0.°05×27.°93E±0.°04,h0km,n8, σ0s80/11,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.39**	**265**	IAML_P				
	comp=Z,2μm,0.3s							
BDRM				*i* P	**Pb**		**10 52 51.1**	**-1.3**
DAT	**Datca**	**0.47**	**217**	PG	**Pb**		**10 52 53.4**	**-0.4**
DAT				SG	**Sb**		**10 53 02.3**	**+1.0**
BODT	**Bodrum**	**0.50**	**265**	PG	**Pg**		**10 52 52.4**	**+0.3**
AYDN	**Tasoluk**	**0.56**	**356**	IAML_P				
	comp=Z,5μm,0.3s							
AYDN				*i* P	**Pg**		**10 52 53.4**	**0.0**
TURN	**Turunc**	**0.59**	**113**	PG	**Pg**		**10 52 53.8**	**-0.1**
TURN				SG	**Sg**		**10 53 00.3**	**-1.2**
GCAM	**G?zelcaml?**	**0.81**	**317**	PG	**Pg**		**10 52 57.9**	**-0.3**
GCAM	**G?zelcaml?**	**0.81**	**317**	*i* P	**Pb**		**10 52 59.4**	**-0.2**
TAVA	**DENIZLI_Tavas**	**0.86**	**65**	*i* P	**Pn**		**10 53 02.9**	**+0.7**
TAVA				*i* S	**Sn**		**10 53 16.0**	**+0.4**

IDC 09 11:04:59.0±4.8,31.°41S×76.°65E,h0km,mb3.7/5, mb1 3.8/5,mb1mx3.6/29,mbtmp3.7/5,Error ellipse: s-maj=165.8km s-min=34.0km az=38.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**23.96**	**350**	T	T		11 35 14.7	
	baz=172,slow=76,SNR=80							
H08S1	**Diego Garcia H**	**23.96**	**350**	T	T		11 35 14.8	
	baz=172,slow=76,SNR=88							
H08S3	**Diego Garcia H**	**23.98**	**350**	T	T		11 35 16.2	
	baz=172,slow=76,SNR=89							
H01W2	**Cape Leeuwin H**	**31.45**	**107**	T	T		11 44 18.8	
	baz=265,slow=74,SNR=4.5							
H01W3	**Cape Leeuwin H**	**31.46**	**107**	T	T		11 44 22.5	
	baz=265,slow=74,SNR=4.4							
H01W1	**Cape Leeuwin H**	**31.47**	**107**	T	T		11 44 23.2	
	baz=265,slow=74,SNR=4.0							
ASAR	**Alice Springs**	**50.87**	**96**	P	P		11 14 01.8	-0.3
	0.3nm,0.7s,baz=254,slow=6.3,SNR=6.5							
WRA	**Warramunga Arr**	**52.71**	**92**	P	P		11 14 15.8	0.0
	0.8nm,1.1s,baz=247,slow=6.9,SNR=3.3							
MKAR	**Makanchi Array**	**78.00**	**4**	P	P		11 16 58.5	-0.5
	0.8nm,0.9s,baz=185,slow=6.8,SNR=5.0							
SONM	**Songino Array**	**83.28**	**20**	P	P		11 17 27.5	+0.1
	0.4nm,0.7s,baz=204,slow=6.0,SNR=2.9							
ZALV	**Zalesovo Beam**	**85.30**	**5**	P	P		11 17 38.0	+0.7
	0.6nm,0.5s,baz=189,slow=4.8,SNR=4.9							
YKA	**Yellowknife Ar**	**148.06**	**10**	PKPbc	PKPbc		11 24 45.0	-0.8
	0.8nm,0.7s,baz=327,slow=3.5,SNR=15							

IDC 09 11:17:17.5±10.0,1.°98S×67.°88E,h0km,mb3.6/4, mb1 3.7/4,mb1mx3.4/33,mbtmp3.6/4,Error ellipse: s-maj=327.6km s-min=36.1km az=67.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.32**	**144**	T	T		11 23 57.0	
	baz=324,slow=75,SNR=178							
H08N3	**Diego Garcia H**	**5.33**	**145**	T	T		11 23 57.8	
	baz=324,slow=75,SNR=215							
H08N1	**Diego Garcia H**	**5.34**	**144**	T	T		11 23 58.6	
	baz=324,slow=75,SNR=254							
MKAR	**Makanchi Array**	**50.20**	**13**	P	P		11 26 14.7	-0.4
	0.5nm,0.8s,baz=198,slow=8.7,SNR=5.1							
ZALV	**Zalesovo Beam**	**57.49**	**12**	P	P		11 27 08.3	0.0
	0.7nm,0.5s,baz=212,slow=6.5,SNR=4.6							
SONM	**Songino Array**	**59.90**	**29**	P	P		11 27 25.6	+0.2
	0.7nm,0.9s,baz=221,slow=6.1,SNR=5.0							
WRA	**Warramunga Arr**	**67.22**	**111**	P	P		11 28 14.2	0.0
	0.3nm,0.7s,baz=292,slow=5.6,SNR=3.2							

VAO ***09*** *11:21:04.2±4.1,24.°43S×70.°37W,h36km±20km,mb4.9*
ISCJB ***09*** *11:21:17.8±0.3,24.°44S±0.°02×69.°30W±0.°03,h100km±2km, mb4.7/29,Error ellipse: s-maj=4.8km s-min=3.2km az=161.2*
NEIC ***09*** *11:21:18.5±0.3,24.°42S×69.°21W,h86km±3km,mb4.9/12, MW4.9,ML4.9(GUC),Error ellipse: s-maj=8.4km s-min=4.1km az=90.0,Moment Tensor Solution. s14 Moment tensor: Scale 10^16Nm; Mrr-1.81; Mθθ-0.20; Mφφ2.02; Mrθ-0.79; Mθφ-1.03; Mφr0.84; Best double couple: Mo2.50000×10^16 NP1:ϕ355.00000°,δ34.00000°, λ-64.00000°. NP2:ϕ145.00000°,δ60.00000°, λ-106.00000°. Principal axes: T 2.6800, Plg14.0000°, Azm247.0000°; N -0.5000, Plg14.0000°, Azm153.0000°; P -2.1800, Plg70.0000°, Azm19.0000°;*
NEIC Felt at Antofagasta.
IDC ***09*** *11:21:19.5±0.5,24.°43S×69.°14W,h91km±3km,mb4.3/15, mb1 4.4/17,mb1mx4.3/21,mbtmp4.6/17,MS3.7/5, Ms1 3.7/5,ms1mx3.3/24 Error ellipse: s-maj=15.4km s-min=8.4km az=93.0*
GUC ***09*** *11:21:19.7±0.6,24.°27S×69.°51W,h114km±5km,ML4.9*
SJA ***09*** *11:21:23.3±0.5,24.°45S×68.°97W,h149km±133km,ML3.5, MW3.8*
GCMT ***09*** *11:21:23.5±0.4,24.°41S±0.°03×69.°46W±0.°04,h96km±6km, MW4.8/66,Moment Tensor Solution. s14,c14; s66,c88; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.54±.15; Mθθ0.69±.17; Mθφ0.84±.19; Mrθ1.26±.07; Mφφ-1.43±.12; Mφr-0.03±.13; Best double couple: Mo2.32100×10^16 NP1:ϕ291.00000°,δ64.00000°,λ-121.00000°. NP2: ϕ164.00000°,δ40.00000°,λ-44.00000°. Principal axes: T 2.4140, Plg13.0000°, Azm42.0000°; N -0.1890, Plg28.0000°, Azm305.0000°; P -2.2280, Plg59.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 11:21:18.8±0.4,24.°41S±0.°03×69.°35W±0.°05,h96km±3km, h96km:pP-P,n163,σ1s55/196,mb5.0/29,6C-3D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.78**	**196**	*e*Pn	**Pn**		**11 21 37.0**	**+0.1**
GO02				*e*Sn	**Sn**		**11 21 50.3**	**-0.2**
GO02	**Mina Guanaco**	**0.78**	**196**↑	*e*P	**Pn**		**11 21 37.0**	**+0.1**
GO02				*i* S	**Sn**		**11 21 50.4**	**-0.2**
PB15	**IPOC Station P**	**1.20**	**355**↓	*i*P	**Pn**		**11 21 42.6**	**+1.1**
PB15				*i* S	**Sn**		**11 22 00.0**	**+1.4**
PB10	**IPOC Station P**	**1.42**	**309**	*e*Pn	**Pn**		**11 21 43.9**	**+0.2**
PB10				*e*Sn	**Sn**		**11 22 02.1**	**-0.8**
PB10	**IPOC Station P**	**1.42**	**309**↓	*i*P	**Pn**		**11 21 44.0**	**+0.2**
PB10				*i* S	**Sn**		**11 22 02.0**	**-0.8**
PB06	**IPOC Station P**	**1.71**	**353**↑	*i*P	**Pn**		**11 21 48.5**	**+0.8**
PB06				*i* S	**Sn**		**11 22 10.2**	**+0.7**
PB05	**IPOC Station P**	**1.74**	**333**↓	*i*P	**Pn**		**11 21 48.3**	**+0.3**
PB05				*i* S	**Sn**		**11 22 10.2**	**+0.1**
PB05				IAML			11 22 11.7	
	comp=E,13μm,0.3s							
LVC	**Limon Verde**	**1.84**	**13**	P	**Pn**		**11 21 50.7**	**+1.2**
	comp=E,428nm,0.3s,baz=170,slow=9.2,SNR=1541							
LVC				S	**Sn**		**11 22 13.5**	**+0.7**
	comp=E,2μm,0.3s,baz=343,slow=19,SNR=105							
LVC	**Limon Verde**	**1.84**	**13**	*e*P	**Pn**		**11 21 50.9**	**+1.3**
LVC				*i* S	**Sn**		**11 22 14.1**	**+1.2**
PB04	**IPOC Station P**	**2.19**	**340**	*e*Pn	**Pn**		**11 21 53.8**	**-0.2**
PB04				*e*Sn	**Sn**		**11 22 18.1**	**-2.7**
PB04	**IPOC Station P**	**2.19**	**340**	*e*P	**Pn**		**11 21 53.9**	**0.0**
PB04				*e*S	**Sn**		**11 22 20.4**	**-0.4**
PB04				IAML			11 22 28.7	
	comp=N,12μm,0.4s							

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PB03	IPOC Station P	2.38	351⇑	eP	Pn	11 21 56.8	+0.4
PB03				eS	Sn	11 22 24.8	-0.4
PB03				IAML		11 22 30.9	
	comp=N,7µm,0.3s						
PB09	IPOC Station P	2.61	2⇑	eP	Pn	11 22 00.6	+1.2
PB09				eS	Sn	11 22 31.2	+0.6
PB09				IAML		11 22 38.4	
	comp=E,5µm,0.5s						
PB07	IPOC Station P	2.72	349	eP	Pn	11 22 01.0	+0.1
PB07				iS	Sn	11 22 33.0	-0.2
PB07				IAML		11 22 51.4	
	comp=E,5µm,0.7s						
PB02	IPOC Station P	3.12	351	eP	Pn	11 22 06.2	+0.1
GO03	Copiap	3.27	194	ePn	Pn	11 22 07.3	-0.8
PB01	IPOC Station P	3.36	358	ePn	Pn	11 22 09.5	+0.1
PB01	IPOC Station P	3.36	358⇑	iP	Pn	11 22 09.4	+0.1
FSA	Cafayete	3.49	120	eP	Pn	11 22 13.9	+2.7
FSA				IAML		11 22 15.1	
	comp=Z,73nm,0.9s						
SLA	San Lorenzo	3.52	96	eP	Pn	11 22 14.3	+2.8
HJA	Humahuaca	3.81	72	eP	Pn	11 22 18.8	+3.1
AZAP	Zapla	3.92	88	eP	Pn	11 22 19.4	+2.5
AZAP				eS	Sn	11 23 00.8	-1.2
YJA	Yavi	4.17	59	eP	Pn	11 22 24.1	+3.4
YJA				IAML		11 22 51.8	
	comp=Z,81nm,0.6s						
PB11	IPOC Station P	4.64	356	ePn	Pn	11 22 25.2	-1.5
GO01	Chusmiza	4.72	2	ePn	Pn	11 22 27.8	-0.4
LCO	Las Campanas	4.74	194	ePn	Pn	11 22 25.6	-2.5
LCO				eSn	Sn	11 23 20.6	-1.4
MNMC	Minye Minye	5.26	358	ePn	Pn	11 22 34.2	-1.1
MNMC				eSn	Sn	11 23 32.1	-2.7
LPAZ	La Paz	8.16	8	P	Pn	11 23 15.8	+0.7
	comp=Z,10nm,0.3s,baz=200,slow=4.7,SNR=132						
LPAZ	La Paz	8.16	8	ePn	Pn	11 23 16.2	+1.0
ROC1	El Roble	8.66	189	ePn	Pn	11 23 21.8	+0.4
PEL	Peldehue	8.78	187	ePn	Pn	11 23 24.2	+1.3
GO05	Huala	10.79	191	ePn	Pn	11 23 50.4	+0.1
CPUP	Villa Florida	11.04	102	P	Pn	11 23 51.9	-1.8
	comp=Z,0.7nm,0.3s,baz=248,slow=3.8,SNR=5.5						
CPUP	Villa Florida	11.04	102	ePn	Pn	11 23 52.7	-1.0
SIV	San Ignacio	11.43	44	P	Pn	11 23 55.1	-3.8
	comp=Z,11nm,0.3s,baz=246,slow=11,SNR=203						
SIV				S	Sn	11 25 55.3	-9.4
	comp=Z,1.5nm,0.3s,baz=127,slow=20,SNR=3.0						
AQDB	Aquidauana	13.22	75	eP	Pn	11 24 21.7	-1.0
NNA	Nana	14.25	329	LR	LR	11 29 23.5	
	comp=Z,93nm,20.4s,baz=169,slow=34						
TRQA	Tornquist	14.98	157	ePn	Pn	11 24 44.2	-1.2
	comp=Z,133nm,0.9s						
TRQA				ePcP	PcP	11 29 47.1	-0.8
GO06	Curarrehue	15.23	186	ePn	Pn	11 24 47.2	-1.5
	comp=Z,62nm,0.8s						
CPSB	Cacapava Do Su	15.34	116	eP	Pn	11 24 49.0	-0.9
TRCB	Terra Rica	15.41	87	eP	Pn	11 24 50.5	-0.5
PLTB	Pedras Altas	15.70	121	eP	Pn	11 24 52.4	-2.1
PTGB	Pitanga	15.73	95	eP	Pn	11 24 55.8	+0.7
ITAB	Concordia	15.76	104	eP	Pn	11 24 55.4	+0.1
PLCA	Paso Flores	16.30	183	P	Pn	11 25 00.3	-1.7
	comp=Z,0.7nm,0.3s,baz=34,slow=14,SNR=18						
PLCA				LR	LR	11 32 23.5	
	comp=Z,140nm,19.6s,baz=54,slow=41						
PLCA	Paso Flores	16.30	183	ePn	Pn	11 25 02.4	+0.3
	comp=Z,59nm,1.2s						
CNLB	Canela	17.21	111	eP	Pn	11 25 12.0	-1.2
FRTB	Fartura	18.13	91	eP	P	11 25 23.9	+0.4
ITRB	Iturama	18.21	79	eP	P	11 25 24.8	+0.4
TIJ01	Guaruva-PR	18.49	97	eP	P	11 25 27.8	+0.3
TER01	Tubaro-SC	18.56	107	eP	P	11 25 28.1	0.0
GO07	Milladeo Hill,	18.99	190	eP	Pn	11 25 33.9	-0.5
	comp=Z,110nm,0.8s						
BB19B	Bebedouro	19.49	84	eP	P	11 25 39.1	+0.8
SPB	Sao Paulo	20.04	92	eP	P	11 25 44.4	+0.2
	comp=Z,24nm,0.9s						
RCLB	Rio Claro- Sao	20.12	89	eP	P	11 25 44.3	-0.9
IPMB	Ipameri, GO	20.71	76	eP	P	11 25 50.7	-0.9
BDFB	Brasilia	21.84	70	P	P	11 26 01.6	-2.2
	comp=Z,50nm,0.6s,baz=242,slow=12,SNR=20						
PMNB	Patos De Minas	22.10	79	eP	P	11 26 06.1	-0.4
BSCB	Bom Sucesso	22.92	86	eP	P	11 26 13.3	-1.6
VAS01	Vassouras-RJ	23.88	90	eP	P	11 26 23.2	-0.4
MCI6	Montes Claros	24.98	77	eP	P	11 26 32.8	-0.9
MCI8	Montes Claros	25.01	77	eP	P	11 26 33.6	-0.3
MCI9	Montes Claros	25.02	77	eP	P	11 26 34.1	+0.1
MCI7	Montes Claros	25.05	77	eP	P	11 26 34.4	0.0
PTGA	Pitinga	25.24	22	P	P	11 26 36.8	+0.9
	comp=Z,43nm,0.8s,baz=196,slow=12,SNR=50						
PTGA	Pitinga	25.24	22	eP	P	11 26 36.5	+0.6
	comp=Z,67nm,1.0s						
JANB	Januaria	25.30	73	eP	P	11 26 35.6	-1.1
CAM01	Campos-RJ	25.59	90	eP	P	11 26 37.7	-1.3
OTAV	Otavalo	26.04	339	eP	P	11 26 44.0	+0.2
	comp=Z,4.2nm,0.7s						
FLOC	Florencia	26.55	346	eP	P	11 26 49.9	+2.1
FLOC	Florencia	26.55	346	eP	P	11 26 49.9	+2.1
ALF01	Guarapari-ES	26.69	88	eP	P	11 26 48.2	-0.9
SJMB	Sao Joao De Ma	26.78	83	eP	P	11 26 48.2	-1.6
GO09	Cerro Castillo	26.91	184	eP	P	11 26 53.4	+2.7
	comp=Z,70nm,1.3s						
RIB01	Linhares ES	27.32	85	eP	P	11 26 54.6	-0.2
EFI	East Falkland	28.57	165	eP	P	11 27 05.3	-0.1
	comp=Z,58nm,1.0s						
YOTC	Yotoco, Valle	29.03	346	eP	P	11 27 13.3	+3.2
YOTC	Yotoco, Valle	29.03	346	eP	P	11 27 13.3	+3.2
RREF	El Recreo	29.72	348	eP	P	11 27 18.5	+1.8
RREF	El Recreo	29.72	348	eP	P	11 27 18.5	+1.8
USHA	Ushuaia	30.39	179	P	P	11 27 21.6	+0.1
	comp=Z,8.2nm,0.8s,baz=340,slow=4.4,SNR=3.7						
HELC	Santa Helena	31.01	348	eP	P	11 27 28.1	+0.4
HELC	Santa Helena	31.01	348	eP	P	11 27 28.1	+0.4
PTBC	PUERTO BERRIO,	31.16	350	eP	P	11 27 27.5	-1.2
PTBC	PUERTO BERRIO,	31.16	350	eP	P	11 27 27.5	-1.2
ZARC	Zaragoza, Cauc	32.16	350	eP	P	11 27 37.9	+0.3
ZARC	Zaragoza, Cauc	32.16	350	eP	P	11 27 37.9	+0.3
SDV	Santo Domingo	33.12	358	eP	P	11 27 45.5	-0.5
	comp=Z,8.6nm,1.0s						
VNA3	Neumayer Olymp	57.47	161	P	P	11 30 58.2	+0.9
351A	Pinckard	57.52	343	P	P	11 30 59.5	+1.4
	baz=162						
352A	Blakely	57.54	344	P	P	11 30 59.6	+1.3
	baz=163						
VNA2	Neumayer--Watz	58.06	160	P	P	11 31 02.3	+0.9
	baz=287,slow=8.4						
251A	Midway	58.25	344	P	P	11 31 04.1	+0.9
	baz=163						
250A	Grady	58.36	343	eP	P	11 31 05.3	+1.4
	comp=Z,24nm,0.9s						
LRAL	Lakeview Retre	59.55	343	eP	P	11 31 13.6	+1.4
	comp=Z,14nm,0.9s						
Z49A	Columbiana	59.58	343	P	P	11 31 12.9	+0.5
	baz=162						
SNAA	Sanae	59.68	160	P	P	11 31 13.6	+0.9
Y51A	Rockmart	59.88	345	P	P	11 31 15.2	+0.7
	baz=163						
X51A	Calhoun	60.47	345	P	P	11 31 19.5	+1.0
	baz=164						
Y47A	UCPARC, Winfie	60.60	342	P	P	11 31 20.0	+0.7
	baz=161						
W53A	Cullowhee	60.69	347	P	P	11 31 21.0	+1.0
	baz=166						
W52A	Murphy	60.77	346	eP	P	11 31 21.5	+1.0
	comp=Z,23nm,1.0s						
W52A	Murphy	60.77	346	P	P	11 31 21.9	+1.4
	baz=165						
X49A	Woodville	60.78	344	P	P	11 31 21.1	+0.6
	baz=162						
X48A	Hartselle	60.91	343	eP	P	11 31 22.3	+0.9
	comp=Z,33nm,0.8s						
X48A	Hartselle	60.91	343	P	P	11 31 21.9	+0.6
	baz=161						
W51A	Cleveland	61.02	346	P	P	11 31 23.0	+0.8
	baz=164						
W50A	Signal Mountai	61.19	345	P	P	11 31 24.3	+0.9
	baz=163						
SWET	Sewanee	61.35	345	eP	P	11 31 25.3	+0.8
	comp=Z,37nm,0.8s						
V52A	Sevierville	61.42	347	eP	P	11 31 25.9	+1.0
V52A				epP	pP	11 31 48.6	-0.7
V52A	Sevierville	61.42	347	P	P	11 31 25.6	+0.7
	baz=165						
V51A	Loudon	61.55	346	P	P	11 31 26.4	+0.7
	baz=164						
V50A	Pikevile	61.59	345	P	P	11 31 26.9	+1.0
	baz=164						
W47A	Westpoint	61.80	343	P	P	11 31 28.4	+0.9
	baz=161						
V49A	McMinnville	61.87	345	P	P	11 31 28.4	+0.5
	baz=163						
JCT	Junction City	61.90	330	eP	P	11 31 30.1	+1.8
	comp=Z,4.4nm,0.7s						
JCT				epP	pP	11 31 52.8	+0.2
V48A	Smith Brothers	62.07	344	P	P	11 31 29.9	+0.7
	baz=162						
U50A	Jamestown	62.24	346	P	P	11 31 31.4	+1.0
	baz=164						
R58B	Mineral	62.56	352	P	P	11 31 34.4	+2.0
	baz=171						
TXAR	Lajitas Array	62.80	326	P	P	11 31 36.4	+2.1
	comp=Z,0.6nm,0.7s,baz=140,slow=8.1,SNR=5.0						
TXAR				pP	pP	11 31 59.1	+0.3
	comp=Z,3.2nm,0.8s,baz=151,slow=8.1,SNR=16						
TXAR				sP	sP	11 32 09.5	0.0
	comp=Z,1.6nm,0.7s,baz=117,slow=10.0,SNR=6.1						
T46A	Princeton	63.57	343	P	P	11 31 39.8	+0.6
	baz=161						
V41A	Mountainview	63.64	339	P	P	11 31 40.8	+1.1
	baz=157						
W39A	Magazine	63.64	338	P	P	11 31 41.7	+2.0
	baz=155						
U40A	Yellville	64.39	339	P	P	11 31 45.5	+1.0
	baz=156						
S41A	Jillco Farms,	65.17	341	P	P	11 31 50.5	+0.9
	baz=157						
N55A	Marion Center	65.47	352	P	P	11 31 53.5	+2.0
	baz=170						
R41A	Rosebud	65.72	341	P	P	11 31 54.3	+1.2
	baz=158						
QSPA	South Pole Qui	65.79	180	eP	P	11 31 54.1	+0.7
	comp=Z,88nm,0.6s						
QSPA				epP	pP	11 32 19.2	+0.7
QSPA				esP	sP	11 32 30.4	+1.0
LIC	Lamto	69.61	73	eP	P	11 32 19.1	+1.0
	comp=Z,40nm,1.3s						
TIC	Toumodi	69.82	73	eP	P	11 32 20.5	+1.1
KIC	Kosan Boka	69.92	73	eP	P	11 32 21.2	+1.1
	comp=Z,34nm,0.7s						
DBIC	Dimbokro	69.97	73	P	P	11 32 21.6	+1.3
	comp=Z,13nm,0.6s,baz=216,slow=6.6,SNR=20						
DBIC				LR	LR	12 00 58.0	
	comp=Z,45nm,20.0s,baz=230,slow=34						
IRM	Iron Mountain	72.70	321	P	P	11 32 39.2	+2.8
	baz=137						
GMRC	Granite Mounta	73.45	322	P	P	11 32 42.8	+2.0
	baz=137						
VNDA	Vanda	73.92	190	P	P	11 32 45.5	+2.5
	comp=Z,3.8nm,0.9s,baz=120,slow=5.6,SNR=13						
SYO	Syowa Base	73.93	159⇑	eP	P	11 32 43.0	-0.1
FURC	Furnace Creek,	75.34	322	P	P	11 32 54.0	+2.5
	baz=136						
R11A	Troy Canyon, C	76.00	324	P	P	11 32 58.0	+2.4
	baz=137						
PDAR	Pinedale Array	76.43	331	P	P	11 33 00.2	+2.2
	comp=Z,0.2nm,0.5s,baz=149,slow=6.3,SNR=4.2						
PDAR				pP	pP	11 33 23.4	0.0
	comp=Z,1.9nm,0.8s,baz=147,slow=6.2,SNR=8.3						
NVAR	Mina Array Bea	77.54	323	P	P	11 33 06.8	+2.5
	comp=Z,0.9nm,0.8s,baz=175,slow=7.1,SNR=4.7						
NVAR				pP	pP	11 33 30.7	+1.1
	comp=Z,2.7nm,0.8s,baz=149,slow=5.5,SNR=9.9						
ULM	Lac du Bonnet	77.96	343	P	P	11 33 06.3	+0.2
	comp=Z,2.4nm,0.5s,baz=150,slow=7.4,SNR=5.9						
ULM				pP	pP	11 33 30.9	-0.7
	comp=Z,8.1nm,0.7s,baz=135,slow=6.9,SNR=9.0						
TORD	Torodi Ar. Bea	78.72	70	P	P	11 33 10.3	-0.8
	comp=Z,7.4nm,0.5s,baz=260,slow=4.7,SNR=50						
TORD				pP	pP	11 33 35.1	-2.1
	comp=Z,53nm,0.9s,baz=253,slow=4.5,SNR=35						
SCHQ	Schefferville	78.95	1	P	P	11 33 11.9	+0.5
	comp=Z,3.0nm,0.7s,baz=180,slow=13,SNR=3.8						
MAW	Mawson	81.67	163	P	P	11 33 27.9	+1.9
	comp=Z,26nm,0.8s,baz=208,slow=6.3,SNR=19						
MAW				LR	LR	12 10 10.5	
	comp=Z,125nm,18.8s,baz=244,slow=36						
RAR	Rarotonga	81.86	250	LR	LR	12 01 44.8	
	comp=Z,87nm,21.8s,baz=276,slow=30						
BOSA	Boshof	82.45	118	P	P	11 33 31.8	+0.7
	comp=Z,2.7nm,0.6s,baz=259,slow=5.3,SNR=4.1						
BOSA				pP	pP	11 33 56.0	-1.2
	comp=Z,5.1nm,0.9s,baz=165,slow=5.0,SNR=3.6						
ESDC	Sonseca Array	88.19	45	P	P	11 34 00.1	+1.0
	comp=Z,1.8nm,0.9s,baz=256,slow=4.6,SNR=7.0						
YKA	Yellowknife Ar	93.79	341	P	P	11 34 25.7	+1.3
	comp=Z,0.6nm,0.6s,baz=139,slow=4.5,SNR=14						
YKA				pP	pP	11 34 50.1	-0.4
	comp=Z,5.3nm,0.8s,baz=139,slow=4.5,SNR=29						
KEST	Kesra	95.37	53	P	P	11 34 31.2	-1.3
	comp=Z,1.1nm,0.4s,baz=169,slow=4.3,SNR=4.6						
ASAR	Alice Springs	127.15	207	PKP	PKiKP	11 40 13.3	+0.2
	comp=Z,2.7nm,0.5s,baz=134,slow=1.7,SNR=56						
WRA	Warramunga Arr	130.24	210	PKP	PKiKP	11 40 19.6	+0.2
	comp=Z,1.9nm,0.6s,baz=152,slow=1.6,SNR=40						
WRA				pPKP	pPKPdf	11 40 45.4	-0.5
	comp=Z,1.3nm,1.0s,baz=152,slow=1.8,SNR=2.8						
ZALV	Zalesovo Beam	144.74	26	PKP	PKPdf	11 40 45.1	+1.1
	comp=Z,7.7nm,0.5s,baz=307,slow=4.6,SNR=36						
KSH	Kashi	147.19	54	PKPbc	PKPdf	11 40 47.6	-1.2
KSH				pPKP	pPKPbc	11 41 18.5	+0.1
KSH				PP	PP	11 44 18.6	+1.4
KSH				SKS	SKSdf	11 47 40.2	-8.7
KSH				AMB	AMB		
	comp=Z,220nm,5.8s						
KSH				LR	LR		
	comp=Z,120nm,5.7s						
KSH				LR	LR		
	comp=Z,170nm,9.1s						
KSH				LR	LR		
	comp=Z,610nm,6.1s						
MKAR	Makanchi Array	148.19	38	PKPbc	PKiKP	11 40 55.0	-0.2
	comp=Z,1.9nm,0.6s,baz=311,slow=2.8,SNR=23						
WMQ	Urumqi	153.03	38	ePKPbc	PKPdf	11 40 55.8	-1.9
WMQ				LR	LR		
	comp=Z,210nm,27.7s						
WMQ				LR	LR		
	comp=Z,190nm,25.3s						
WMQ				LR	LR		
	comp=Z,250nm,25.3s						
SONM	Songino Array	156.38	7	PKP	PKPdf	11 41 04.4	+2.1
	comp=Z,0.3nm,0.6s,baz=135,slow=1.8,SNR=2.5						
SONM				PKPab	PKPab	11 41 31.9	+0.9
	comp=Z,1.3nm,1.0s,baz=310,slow=3.4,SNR=3.8						
KSRS	Korea Array	160.33	315	pPKPab	pPKPab	11 42 14.2	-0.4
	comp=Z,2.7nm,0.7s,baz=53,slow=4.5,SNR=6.0						
KSAR	Wonju Array Be	160.36	315	pPKPab	pPKPab	11 42 14.2	-0.5
HHC	Hu-ho-hao-te	163.59	358	ePKP	PKPdf	11 41 08.8	-1.8
LZH	Lanzhou	166.97	25	ePKP	PKPdf	11 41 11.6	-2.0
LZH				pPKP	pPKPdf	11 41 36.8	-4.4
LZH				sPKP		11 41 47.4	
NJ2	Nanjing	169.50	318	ePKP	PKPdf	11 41 13.1	-2.1
CD2	Chengdu	171.10	42	PKP	PKPdf	11 41 15.0	-1.2
GYA	Guiyang	175.86	60	ePKP	PKPdf	11 41 14.0	-4.2
GYA				sPKP		11 41 59.0	
GYA				PKPab	PKPab	11 42 56.4	-1.1
GYA				PKS	PKSdf	11 44 45.0	-5.6
GYA				PP	PP	11 46 49.8	-0.6
GYA				AMB	AMB		
	comp=Z,120nm,8.3s						

IDC 09 11:28:42.5±10.0,2°.07S×67°.79E,h0km,mb3.6/4, mb1 3.7/4,mb1mx3.4/28,mbtmp3.6/4,MS3.3/1,Ms1 3.5/1, ms1mx2.8/27,Error ellipse: s-maj=322.1km s-min=35.6km az=66.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.31	143	T	T	11 35 24.4	
	baz=324,slow=75,SNR=30						
H08N3	Diego Garcia H	5.32	143	T	T	11 35 30.5	
	baz=324,slow=75,SNR=26						
H08N1	Diego Carcia H	5.33	143	T	T	11 35 26.1	
	baz=324,slow=75,SNR=26						
CMAR	Chiang Mai Arr	36.82	55	LR	LR	11 49 52.1	
	comp=Z,44nm,19.0s,baz=201,slow=34						
MKAR	Makanchi Array	50.30	13	P	P	11 37 40.8	-0.1
	0.4nm,0.7s,baz=207,slow=7.8,SNR=5.2						
ZALV	Zalesovo Beam	57.59	12	P	P	11 38 34.0	0.0
	0.5nm,0.4s,baz=200,slow=6.5,SNR=3.1						
SONM	Songino Array	60.02	29	P	P	11 38 51.2	-0.1
	0.7nm,0.8s,baz=235,slow=5.2,SNR=5.2						
WRA	Warramunga Arr	67.28	111	P	P	11 39 39.6	0.0
	0.5nm,0.9s,baz=279,slow=6.5,SNR=2.9						

SOME 09 11:57:10.8,39°.67N×76°.98E,h0km
KRNET 09 11:57:10.9±0.1,39°.57N×77°.28E,mb3.6
NNC 09 11:57:12.4±0.9,39°.69N×76°.97E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=7.4km s-min=3.3km az=143.0
ISC 09 11:57:15.8±1.5,39°.82N±0°.07×76°.97E±0°.04,h10km,n57, σ1s.86/86,32C-14D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	2.01	18⇑	iP	Pn	11 57 50.9	+0.6
	baz=10.0						
TARG			⇑	iS	Sg	11 58 20.2	-0.4
	baz=10.0						
KDJ	Kajisay	2.31	4⇑	iP	Pb	11 57 56.0	-1.8
	baz=59						
KDJ			⇑	iS	Sb	11 58 28.4	+1.9
	baz=59						
ULHL	Ulahol	2.49	347	P	Pn	11 57 57.8	+1.2
	SNR=28						
ULHL	Ulahol	2.49	347⇑	iP	Pb	11 57 58.9	-1.8
	baz=44						
ULHL			⇑	iS	Sb	11 58 33.6	+2.1
	baz=44						
KZA	Kyzart	2.60	331	P	Pn	11 58 00.0	+1.6
	SNR=27						
KZA	Kyzart	2.60	331⇓	eP	Pb	11 58 00.9	-2.0
	baz=29						
KZA			⇓	iS	Sg	11 58 38.0	-1.6
	baz=29						
SFK	Sufi-Kurgan	2.67	275	⇑Pg	Pn	11 58 01.2	+2.1
	8.7nm,0.2s						
SFK				⇑Lg	Lg	11 58 37.3	
	43nm,0.4s						
SFK	Sufi-Kurgan	2.67	275	Pg	Pb	11 58 01.6	-2.3
	23nm,0.3s						
SFK				Lg	Lg	11 58 37.6	
	35nm,0.4s						
SFK	Sufi-Kurgan	2.67	275⇑	iP	Pn	11 58 00.8	+1.7
	baz=80						
SFK			⇑	iS	Sb	11 58 37.6	+0.8
	baz=80						
BOOM	Boomskoye usch	2.78	344⇓	iP	Pn	11 58 02.9	+2.3
	baz=41						
BOOM			⇓	iS	Sb	11 58 40.8	+0.9
	baz=41						
ARLS	Aral	2.86	316⇓	iP	Pb	11 58 04.7	-2.4
	baz=17						
ARLS			⇓	iS	Sb	11 58 44.7	+2.5
	baz=17						
PRZ	Przheval'sk	2.87	22⇑	iP	Pn	11 58 02.2	+0.3
	baz=16						
PRZ			⇑	iS	Sb	11 58 39.9	-2.7
	baz=16						
UCH	Uchtor	3.04	323	P	Pn	11 58 05.8	+1.4
	SNR=9.2						
UCH	Uchtor	3.04	323⇑	eP	Pn	11 58 05.9	+1.5
	baz=23						
UCH			⇑	iS	Sb	11 58 48.5	+0.9
	baz=23						
TNSS	Tian-Shan	3.22	360	Pg	Pb	11 58 13.6	+0.3
	16nm,0.6s						
TNSS				Lg	Lg	11 58 59.5	
	31nm,0.4s						
TNSS	Tian-Shan	3.22	360	eP	Pb	11 58 13.6	+0.3
	16nm,0.6s						
TNSS				eS	Sg	11 58 59.5	+0.4
	31nm,0.4s						
KBK	Karagaybulak	3.22	332	P	Pn	11 58 08.8	+2.1
	SNR=7.1						
TKM2	Tokmak 2	3.27	342	P	Pn	11 58 09.3	+2.0
	SNR=11						
TKM2	Tokmak 2	3.27	342	⇓Pg	Pb	11 58 13.6	-0.4
	6.1nm,0.4s						
TKM2				⇓Lg	Lg	11 59 00.2	
	26nm,0.6s						
TKM2	Tokmak 2	3.27	342⇓	iP	Pn	11 58 09.5	+2.2
	baz=40						
TKM2			⇓	iS	Sb	11 58 53.3	-0.6
	baz=40						
KST	Kastek	3.31	347	Pg	Pb	11 58 16.5	+1.8
	7.8nm,0.6s						
KST				Lg	Lg	11 59 03.7	
	19nm,0.6s						
KST	Kastek	3.31	347	eP	Pb	11 58 16.5	+1.8
	7.8nm,0.6s						
KST				eS	Sg	11 59 03.7	+1.6
	19nm,0.6s						
MTBS	Maitube	3.33	353	Pg	Pb	11 58 16.2	+1.1
	8.5nm,0.5s						
MTBS				Lg	Lg	11 59 02.9	
	51nm,0.5s						
MTBS	Maitube	3.33	353	eP	Pb	11 58 16.2	+1.1
	8.5nm,0.5s						
MTBS				eS	Sg	11 59 02.9	0.0
	51nm,0.5s						
MDOK	Medeo	3.34	1	⇓Pg	Pg	11 58 18.2	-1.7
	5.8nm,0.4s						
MDOK				⇑Lg	Lg	11 59 03.0	
	21nm,0.6s						
MDOK	Medeo	3.34	1	Pg	Pb	11 58 15.4	+0.1
	7.1nm,0.5s						
MDOK				Lg	Lg	11 59 01.6	
	25nm,1.2s						
MDOK	Medeo	3.34	1	eP	Pb	11 58 15.4	+0.1
	7.1nm,0.5s						
MDOK				eS	Sg	11 59 01.6	-1.6
	25nm,1.2s						
AAK	Ala-Archa	3.38	327	P	Pb	11 58 17.2	+1.3
	SNR=13						
AAK	Ala-Archa	3.38	327	⇓Pg	Pb	11 58 16.1	+0.2
	14nm,0.5s						
AAK				⇓Lg	Lg	11 59 03.8	
	62nm,0.8s						
AAK	Ala-Archa	3.38	327⇑	eP	Pn	11 58 11.7	+2.9
	baz=26						
AAK			⇑	iS	Sb	11 58 56.1	-1.0
	baz=26						
AML	Almayashu	3.39	314	P	Pn	11 58 09.9	+0.8
	SNR=16						
AML	Almayashu	3.39	314⇑	eP	Pn	11 58 12.2	+3.1
	baz=14						
AML			⇑	iS	Sb	11 58 57.1	-0.5
	baz=14						
ARSB	Arslanbob	3.39	298⇑	iP	Pn	11 58 12.0	+3.1
	baz=99						
ARSB			⇑	iS	Sb	11 58 56.8	-0.5
	baz=99						
SATY	Saty	3.41	18	Pg	Pb	11 58 17.0	+0.5
	34nm,0.6s						
SATY				Lg	Lg	11 59 04.2	
	50nm,0.9s						
SATY	Saty	3.41	18	eP	Pb	11 58 17.0	+0.5
	34nm,0.6s						
SATY				eS	Sg	11 59 04.2	-1.3
	50nm,0.9s						
FRU1	Bishkek	3.47	330⇑	eP	Pn	11 58 12.5	+2.5
	baz=29						
FRU1			⇑	iS	Sb	11 58 57.8	-1.8
	baz=29						
CHMS	Chumysh	3.59	333	P	Pn	11 58 13.5	+1.9
	SNR=9.5						
CHMS	Chumysh	3.59	333⇑	iP	Pn	11 58 13.3	+1.7
	baz=32						
CHMS			⇑	iS	Sb	11 59 00.6	-2.4
	baz=32						
EKS2	Erkin-Say	3.72	321	P	Pn	11 58 15.4	+1.9
	SNR=5.8						
KURS	Kuram	3.78	13	Pg	Pb	11 58 23.7	+1.1
	8.6nm,0.6s						
KURS				Lg	Lg	11 59 16.0	
	14nm,1.1s						
KURS	Kuram	3.78	13	eP	Pb	11 58 23.7	+1.1
	8.6nm,0.6s						
KURS				eS	Sg	11 59 16.0	-1.0
	14nm,1.1s						
USP	Ospenovka	3.91	333⇑	iP	Pn	11 58 18.4	+2.4
	baz=31						
USP			⇑	iS	Sb	11 59 08.3	-4.0
	baz=31						
PDGK	Podgornoye	3.99	28	⇑Pg	Pb	11 58 26.0	-0.3
	9.2nm,0.6s						
PDGK				⇑Lg	Lg	11 59 21.5	
	35nm,0.7s						
PDGK	Podgornoye	3.99	28⇑	eP	Pn	11 58 17.0	-0.1
	baz=23						
PDGK			⇑	iS	Sn	11 59 05.5	+1.5
	baz=23						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHKK	**Chushkaly**	**4.03**	**0**	Pg	**Pb**	**11 58 27.7**	**+0.7**
	4.8nm,0.5s						
CHKK				Lg	Lg	11 59 23.3	
	28nm,0.8s						
CHKK	**Chushkaly**	**4.03**	**0**	*e*P	**Pb**	**11 58 27.7**	**+0.7**
	4.8nm,0.5s						
CHKK				*e*S	**Sg**	**11 59 23.3**	**-2.0**
	28nm,0.8s						
MRKS	**Merke**	**4.06**	**317**	Pg	**Pb**	**11 58 28.7**	**+1.2**
	16nm,0.4s						
MRKS				Lg	Lg	11 59 24.4	
	22nm,0.6s						
MRKS	**Merke**	**4.06**	**317**	*e*P	**Pb**	**11 58 28.7**	**+1.2**
	16nm,0.4s						
MRKS				*e*S	**Sg**	**11 59 24.4**	**-1.8**
	22nm,0.6s						
KUU	**Kurty**	**4.10**	**354**	Pg	**Pb**	**11 58 29.7**	**+1.6**
	13nm,0.8s						
KUU				Lg	Lg	11 59 26.2	
	11nm,1.2s						
KUU	**Kurty**	**4.10**	**354**	*e*P	**Pb**	**11 58 29.7**	**+1.6**
	13nm,0.8s						
KUU				*e*S	**Sg**	**11 59 26.2**	**-1.2**
	11nm,1.2s						
ARXS	**Arharly**	**4.44**	**8**	Pg	**Pb**	**11 58 35.7**	**+1.8**
	7.1nm,0.8s						
ARXS				Lg	Lg	11 59 36.3	
	34nm,0.8s						
ARXS	**Arharly**	**4.44**	**8**	*e*P	**Pb**	**11 58 35.7**	**+1.8**
	7.1nm,0.8s						
ARXS				*e*S	**Sg**	**11 59 36.3**	**-2.0**
	34nm,0.8s						
IUG	**Iuzhnay**	**5.74**	**296**	Pg	**Pb**	**11 58 58.1**	**+2.0**
	7.4nm,0.5s						
IUG				Lg	Lg	12 00 14.5	
	7.5nm,0.6s						
IUG	**Iuzhnay**	**5.74**	**296**	*e*P	**Pb**	**11 58 58.2**	**+2.1**
	3.5nm,0.4s						
IUG				*e*S	**Sg**	**12 00 14.6**	**-5.5**
	12nm,0.5s						
KAPS	**Kapalarasan**	**5.74**	**17**	Pg	**Pb**	**11 58 58.5**	**+2.4**
	2.2nm,0.8s						
KAPS				Lg	Lg	12 00 15.9	
	3.0nm,0.6s						
KAPS	**Kapalarasan**	**5.74**	**17**	*e*P	**Pb**	**11 58 58.5**	**+2.4**
	2.2nm,0.8s						
KAPS				*e*S	**Sg**	**12 00 15.9**	**-4.2**
	3.0nm,0.6s						
KK31	**Karatay Array**	**5.86**	**306**	⇓Pg	**Pb**	**11 58 59.9**	**+1.9**
	0.8nm,0.4s,baz=129,slow=15,SNR=17						
KK31				⇑Lg	Lg	12 00 18.7	
	3.5nm,0.6s,baz=125,slow=28,SNR=5.5						

IDC 09 12:04:25.4±2.0**,2°.08S**×**67°.79E,h0**km**,mb4.0**/7**,mb1 4.1**/7**, mb1mx3.7**/41**,mbtmp4.0**/7**,MS3.3**/4**,Ms1 3.3**/4**, ms1mx2.9**/38**,Error ellipse: s-maj=57.3km s-min=26.4km az=66.0,Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.30**	**143**	T	T	12 11 06.6	
	baz=324,slow=75,SNR=275						
H08N3	**Diego Garcia H**	**5.31**	**143**	T	T	12 11 07.5	
	baz=324,slow=75,SNR=322						
H08N1	**Diego Carcia H**	**5.32**	**143**	T	T	12 11 08.2	
	baz=324,slow=75,SNR=289						
PALK	**Pallekele**	**15.88**	**54**	LR	LR	12 13 09.5	
	comp=Z,133nm,18.7s,baz=296,slow=33						
CMAR	**Chiang Mai Arr**	**36.83**	**55**	P	P	12 11 36.0	+0.5
	1.0nm,0.3s,baz=242,slow=11,SNR=7.0						
CMAR				LR	LR	12 25 14.9	
	comp=Z,32nm,18.0s,baz=248,slow=34						
AAK	**Ala-Archa**	**44.92**	**7**	P	P	12 12 42.5	+0.4
	1.9nm,0.9s,baz=198,slow=8.1,SNR=3.9						
BOSA	**Boshof**	**48.35**	**233**	LR	LR	12 31 00.9	
	comp=Z,29nm,18.1s,baz=25,slow=33						
MKAR	**Makanchi Array**	**50.31**	**13**	P	P	12 13 23.4	-0.4
	1.9nm,0.4s,baz=193,slow=7.4,SNR=10						
ZALV	**Zalesovo Beam**	**57.60**	**12**	P	P	12 14 16.2	-0.8
	2.2nm,0.6s,baz=214,slow=8.1,SNR=11						
FITZ	**Fitzroy Crossi**	**58.87**	**110**	LR	LR	12 37 27.2	
	comp=Z,24nm,18.4s,baz=266,slow=34						
SONM	**Songino Array**	**60.03**	**29**	P	P	12 14 34.3	+0.1
	2.1nm,0.9s,baz=224,slow=6.1,SNR=15						
WRA	**Warramunga Arr**	**67.27**	**111**	P	P	12 15 22.3	-0.2
	0.8nm,0.9s,baz=287,slow=5.5,SNR=4.3						
ASAR	**Alice Springs**	**67.33**	**115**	P	P	12 15 22.7	-0.2
	0.5nm,0.9s,baz=296,slow=7.1,SNR=3.6						
TXAR	**Lajitas Array**	**151.70**	**344**	PKPbc	PKiKP	12 24 23.2	0.0
	0.8nm,0.9s,baz=357,slow=2.6,SNR=6.7						

IDC 09 12:25:34.8±10.0**,2°.28S**×**67°.04E,h0**km**,mb4.0**/4**, mb1 4.1**/4**,mb1mx3.5**/47**,mbtmp4.0**/4**,MS3.4**/5**,Ms1 3.4**/5**, ms1mx3.0**/36**,Error ellipse: s-maj=326.7km s-min=35.7km az=67.0,Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**16.61**	**55**	LR	LR	12 34 31.1	
	comp=Z,131nm,19.5s,baz=297,slow=32						
ATD	**Arta Tunnel**	**27.69**	**300**	LR	LR	12 39 08.7	
	comp=Z,30nm,21.7s,baz=8.0,slow=29						
CMAR	**Chiang Mai Arr**	**37.55**	**55**	LR	LR	12 47 05.7	
	comp=Z,29nm,18.7s,baz=285,slow=34						
BOSA	**Boshof**	**47.63**	**232**	LR	LR	12 52 15.3	
	comp=Z,65nm,18.4s,baz=27,slow=34						
MKAR	**Makanchi Array**	**50.68**	**14**	P	P	12 34 35.8	-0.3
	1.2nm,0.3s,baz=210,slow=11,SNR=2.6						
ZALV	**Zalesovo Beam**	**57.95**	**12**	P	P	12 35 28.8	0.0
	1.5nm,0.7s,baz=203,slow=8.2,SNR=6.1						
SONM	**Songino Array**	**60.57**	**29**	P	P	12 35 47.3	+0.1
	0.9nm,0.7s,baz=229,slow=6.0,SNR=5.4						
SONM				LR	LR	13 00 54.1	
	comp=Z,64nm,20.2s,baz=222,slow=35						
WRA	**Warramunga Arr**	**67.90**	**110**	P	P	12 36 35.9	0.0
	0.8nm,1.0s,baz=286,slow=5.8,SNR=3.2						

*IGQ **09** 12:26:27.0±0.5, 1°N±3°×7°9W±°, h5km, MLv4.3*
*RSNC **09** 12:26:29.7±1.5, 0°.99N×78°.75W, h16km±6km, ML3.6, Mw3.9*
*IDC **09** 12:26:30.3±4.9, 1°.22N×78°.65W, h103km±44km, mb3.1/6, mb1 3.4/7, mb1mx3.1/43, mbtmp3.5/7, Error ellipse: s-maj=50.9km s-min=20.9km az=60.0*
ISC 09 12:26:26.6±1.2**,1°.00N**±0°.03×**78°.96W**±0°.04**,h31**km±11km**, n51,**σ**1**s**.57**/75**,mb3.5**/5**,2C,Colombia-Ecuador border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LITE1	**Lita**	**0.63**	**109**	P	**Pn**	**12 26 39.9**	**+0.3**
LITE1				S	**Sn**	**12 26 50.4**	**+1.7**
PAC1	**Pacto, Paraso**	**0.75**	**167**	P	**Pn**	**12 26 41.3**	**+0.1**
PAC1				S	**Sn**	**12 26 52.8**	**+1.1**
TUMC	**Tumaco**	**0.85**	**16**	*e*Pg	**Pn**	**12 26 43.4**	**+0.9**
TUMC				*e*P	**Pb**	**12 26 44.5**	**+1.6**
TUMC				*e*S	**Sn**	**12 26 56.8**	**+2.9**
URCU	**Urcuqui**	**0.90**	**128**	P	**Pn**	**12 26 44.4**	**+0.9**
URCU				S	**Sn**	**12 26 57.6**	**+1.9**
COTA	**Cotacachi**	**0.91**	**137**	P	**Pn**	**12 26 44.7**	**+1.0**
OTAV	**Otavalo**	**0.91**	**146**	*e*Pg	**Pn**	**12 26 43.8**	**+0.1**
OTAV				*e*P	**Pb**	**12 26 44.1**	**0.0**
OTAV				*e*S	**Sn**	**12 26 56.8**	**+0.8**
OTAV	**Otavalo**	**0.91**	**146**	P	**Pn**	**12 26 43.9**	**+0.1**
CUIC	**Cuicocha-Domo**	**0.92**	**139**	P	**Pn**	**12 26 44.4**	**+0.7**
CUIC				S	**Sn**	**12 26 58.1**	**+2.0**
ACOT	**Cotacachi (Cas**	**0.98**	**136**	P	**Pn**	**12 26 45.9**	**+1.4**
ACOT				S	**Sn**	**12 27 00.7**	**+3.1**
IMBA	**Imbabura, San**	**1.05**	**133**	P	**Pn**	**12 26 47.4**	**+1.8**
IMBA				S	**Sn**	**12 27 02.9**	**+3.5**
AIB2	**Ibarra (Univer**	**1.08**	**127**	P	**Pn**	**12 26 47.7**	**+1.9**
YAHU	**Yahuarcocha**	**1.09**	**125**	P	**Pn**	**12 26 47.5**	**+1.4**
CMBC	**Cumbal**	**1.14**	**93**	⇑*i*P	**Pb**	**12 26 47.2**	**-0.8**
CMBC				*e*S	**Sb**	**12 26 58.7**	**-3.8**
CMBC				*i*		12 27 11.3	
	comp=Z,692nm,0.5s						
YANA	**Yana**	**1.18**	**161**	P	**Pb**	**12 26 48.5**	**-0.2**
JUA2	**San Juan 2**	**1.26**	**164**	P	**Pb**	**12 26 49.4**	**-0.6**
ATUL	**Tulcn**	**1.26**	**100**	P	**Pb**	**12 26 50.0**	**+0.1**
MAG1	**Magdalena**	**1.34**	**217**	P	**Pb**	**12 26 49.8**	**-1.3**
GCUF	**Volcan Galeras**	**1.63**	**82**	*e*P	**Pn**	**12 26 54.5**	**+0.8**
GCUF				⇑*i*P	**Pb**	**12 26 54.6**	**-1.7**
GCUF				*e*S	**Sn**	**12 27 14.2**	**+0.3**
GCUF				*i*		12 27 18.7	
	comp=E,1μm,0.5s						
PITA	**Cotopaxi Volc**	**1.64**	**161**	P	**Pb**	**12 26 56.1**	**-0.3**
ANTI	**Antisana**	**1.65**	**151**	P	**Pb**	**12 26 56.8**	**+0.1**
CPAS1	**Pasto**	**1.65**	**83**	*e*P	**Pb**	**12 26 55.1**	**-1.5**
CPAS1				*e*S	**Sn**	**12 27 14.6**	**+0.4**
CONE	**Cono NE Rev Vo**	**1.69**	**129**	P	**Pb**	**12 26 56.4**	**-0.9**
PAST	**Pastocalle**	**1.71**	**169**	P	**Pb**	**12 26 56.9**	**-0.8**
PAST				S	**Sb**	**12 27 18.9**	**-0.1**
VC1	**Cotopaxi 1**	**1.72**	**161**	P	**Pb**	**12 26 57.5**	**-0.4**
BNAS	**Cotopaxi Volca**	**1.73**	**164**	P	**Pb**	**12 26 57.8**	**-0.3**
BNAS				S	**Sb**	**12 27 21.2**	**+1.6**
BVC2	**Cotopaxi Volca**	**1.74**	**162**	P	**Pb**	**12 26 57.3**	**-0.9**
BVC2				S	**Sb**	**12 27 20.1**	**+0.3**
BREF	**Cotopaxi Volca**	**1.74**	**163**	P	**Pb**	**12 26 58.7**	**+0.4**
BREF				S	**Sb**	**12 27 21.1**	**+1.1**
BTAM	**Cotopaxi Volca**	**1.76**	**161**	P	**Pb**	**12 26 58.1**	**-0.4**
BTAM				S	**Sb**	**12 27 20.9**	**+0.5**
BMOR	**Cotopaxi Volca**	**1.79**	**164**	P	**Pb**	**12 26 58.3**	**-0.8**
BMOR				S	**Sb**	**12 27 21.5**	**+0.1**
CRUC	**La Cruz**	**2.09**	**74**	*e*P	**Pn**	**12 27 00.6**	**+0.8**
CRUC				*i*		12 27 30.7	
	comp=Z,748nm,0.5s						
PISA	**Pisayambo**	**2.12**	**164**	P	**Pb**	**12 27 03.9**	**-0.8**
ARDO	**Archidona, Ten**	**2.30**	**150**	P	**Pb**	**12 27 08.4**	**+1.0**
ARDO				S	**Sb**	**12 27 37.6**	**+2.2**
POND	**Pondoa**	**2.46**	**168**	P	**Pb**	**12 27 08.9**	**-1.4**
RUN5	**Runtun**	**2.46**	**167**	P	**Pb**	**12 27 10.0**	**-0.3**
BBIL	**Ulba Tungurahu**	**2.48**	**169**	P	**Pb**	**12 27 08.5**	**-2.2**
BULB	**Ulba Tungurahu**	**2.48**	**167**	P	**Pb**	**12 27 08.6**	**-2.2**
BULB				S	**Sb**	**12 27 42.4**	**+1.3**
BMAS	**Trigal station**	**2.53**	**169**	P	**Pb**	**12 27 10.2**	**-1.5**
BMAS				S	**Sb**	**12 27 45.1**	**+2.6**
ARRY	**Arrayan**	**2.54**	**169**	P	**Pb**	**12 27 10.0**	**-1.7**
SOTA	**Rioblanco**	**2.61**	**64**	*e*P	**Pn**	**12 27 07.9**	**+0.8**
SOTA				*e*S	**Sn**	**12 27 37.9**	**-0.1**
PCON	**Cinco Dias**	**2.88**	**63**	*e*P	**Pn**	**12 27 11.9**	**+1.0**
PCON				*i*		12 27 14.2	
	comp=Z,185nm,0.3s						
PCON				*e*S	**Sn**	**12 27 44.7**	**-0.1**
FLOC	**Florencia**	**3.36**	**80**	*e*P	**Pn**	**12 27 18.2**	**+1.2**
FLOC				*i*		12 28 17.3	
	comp=N,183nm,0.5s						
COHC	**Cochancay**	**3.46**	**185**	P	**Pn**	**12 27 18.2**	**-0.1**
COHC				S	**Sn**	**12 27 59.4**	**+1.2**
MARP	**Paez Belalcaza**	**3.52**	**59**	*e*P	**Pn**	**12 27 20.2**	**+0.7**
MARP				*i*		12 27 21.5	
	comp=Z,142nm,0.5s						
MARP				*e*S	**Sn**	**12 27 59.9**	**-0.2**
PTLC	**Puerto Leguiza**	**4.24**	**101**	*e*P	**Pn**	**12 27 30.3**	**+1.1**
ROSC	**El Rosal**	**6.00**	**50**	P	**Pn**	**12 27 52.0**	**-1.7**
	comp=Z,2.7nm,0.3s,baz=237,slow=17,SNR=3.0						
ROSC				S	**Sn**	**12 29 06.6**	**+5.0**
	comp=Z,1.0nm,0.3s,baz=348,slow=21,SNR=1.7						
LPAZ	**La Paz**	**20.23**	**149**	P	**P**	**12 30 58.2**	**-1.9**
	comp=Z,1.3nm,0.6s,baz=332,slow=12,SNR=6.3						
SIV	**San Ignacio**	**24.44**	**134**	P	**P**	**12 31 39.0**	**-3.9**
	comp=Z,1.1nm,0.8s,baz=292,slow=9.7,SNR=4.3						
NVAR	**Mina Array Bea**	**51.83**	**321**	P	P	12 35 28.8	-3.4
	comp=Z,0.5nm,0.7s,baz=134,slow=5.2,SNR=3.7						
YKA	**Yellowknife Ar**	**66.88**	**343**	P	P	12 37 09.7	-5.8
	comp=Z,0.2nm,0.7s,baz=138,slow=5.7,SNR=4.3						
ILAR	**Eielson Array**	**79.82**	**336**	P	P	12 38 26.9	-4.9
	comp=Z,0.2nm,0.7s,baz=87,slow=4.7,SNR=3.1						
TORD	**Torodi Ar. Bea**	**80.67**	**77**	P	P	12 38 31.0	-6.4
	comp=Z,0.2nm,0.4s,baz=287,slow=6.3,SNR=4.7						

*DDA **09** 12:43:03.8, 37°.91N×37°.97E, h7km±4km, ML2.8*
*ISK **09** 12:43:03.2, 37°.91N×37°.95E, h4km, ML2.2/8*
ISC 09 12:43:03.7±1.4**,37°.90N**±0°.03×**37°.97E**±0°.03**,h4**km±12km**, n16,**σ**0**s**.93**/25**,Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.40**	**355**	IAML_P			
	comp=Z,4μm,0.1s						
AKCD				*i* P	**Pg**	**12 43 11.7**	**+0.2**
GZT	**Gaziantep**	**0.63**	**211**	IAML_P			
	comp=Z,2μm,0.1s						
GZT				*i* P	**Pg**	**12 43 16.3**	**+0.5**
GZT				*i* S	**Sb**	**12 43 25.8**	**-0.9**
DARE	**Darende-Malaty**	**0.77**	**330**	PG	**Pg**	**12 43 18.3**	**-0.3**
DARE				SG	**Sb**	**12 43 29.5**	**-1.3**
URFA	**Urfa**	**0.81**	**124**	PG	**Pg**	**12 43 19.8**	**+0.4**
KMRS	**Kahramanmaras**	**0.94**	**246**	PG	**Pg**	**12 43 21.4**	**-0.3**
KMRS				SG	**Sb**	**12 43 35.1**	**-0.2**
GAZ	**Gaziantep**	**0.94**	**220**	PG	**Pb**	**12 43 22.3**	**-0.4**
GAZ				SG	**Sb**	**12 43 35.7**	**+0.1**
SANL	**SANLIURFA_Merk**	**1.09**	**132**	IAML_P			
	comp=Z,2μm,0.1s						
SANL				*i* P	**Pn**	**12 43 26.2**	**+0.5**
SANL				*i* S	**Sn**	**12 43 40.6**	**-0.7**
SURC	**SANLIURFA_SURC**	**1.14**	**153**	IAML_P			
	comp=Z,316nm,0.1s						
SURC				*i* P	**Pn**	**12 43 27.2**	**+0.7**
SURC				*i* S	**Sn**	**12 43 42.3**	**-0.3**
ANDN	**Andirin**	**1.33**	**257**	IAML_P			
	comp=Z,549nm,0.3s						
ANDN				*i* P	**Pn**	**12 43 28.5**	**-0.6**
ANDN				*i* S	**Sn**	**12 43 49.4**	**+2.1**
KUZU	**Kuzuini**	**1.33**	**213**	*i* P	**Pg**	**12 43 29.5**	**+0.3**
KUZU				*i* S	**Sn**	**12 43 48.3**	**+0.9**
CUKAN	**kangal_SIVAS**	**1.47**	**345**	*i* P	**Pg**	**12 43 34.2**	**+2.3**
CUKAN				*i* S	**Sg**	**12 43 51.0**	**0.0**
PTK	**Pertek**	**1.49**	**48**	PN	**Pb**	**12 43 31.5**	**-0.7**
SAIM	**ADANA**	**1.50**	**274**	IAML_P			
	comp=Z,480nm,0.2s						
SAIM				*i* P	**Pg**	**12 43 32.8**	**+0.4**
ILIC	**ilic-Erzincan**	**1.62**	**17**	PN	**Pb**	**12 43 33.4**	**-0.9**
KOZT	**Kozan**	**1.75**	**257**	PN	**Pb**	**12 43 35.4**	**-1.1**
TAHT	**Tahtakopru-Hat**	**2.08**	**224**	PN	**Pn**	**12 43 40.2**	**+0.7**

IDC 09 12:47:58.8±2.2**,2°.06S**×**67°.77E,h0**km**,mb3.9**/6**,mb1 4.0**/6**, mb1mx3.6**/51**,mbtmp3.9**/6**,Error ellipse: s-maj=63.6km s-min=28.5km az=67.0,Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.32**	**143**	T	T	12 54 41.8	
	baz=324,slow=76,SNR=162						
H08N3	**Diego Garcia H**	**5.33**	**143**	T	T	12 54 43.0	
	baz=324,slow=76,SNR=134						
H08N1	**Diego Carcia H**	**5.35**	**143**	T	T	12 54 18.5	
	baz=324,slow=76,SNR=150						
CMAR	**Chiang Mai Arr**	**36.83**	**55**	P	P	12 55 09.6	+0.6
	0.5nm,0.3s,baz=248,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**50.30**	**13**	P	P	12 56 56.3	-0.9
	2.0nm,0.4s,baz=205,slow=7.5,SNR=6.9						
ZALV	**Zalesovo Beam**	**57.59**	**12**	P	P	12 57 49.7	-0.6
	1.4nm,0.6s,baz=209,slow=7.2,SNR=6.9						
SONM	**Songino Array**	**60.02**	**29**	P	P	12 58 08.0	+0.4
	1.2nm,0.8s,baz=220,slow=7.3,SNR=7.7						
WRA	**Warramunga Arr**	**67.30**	**111**	P	P	12 58 56.1	0.0
	1.0nm,1.0s,baz=286,slow=5.9,SNR=5.2						
ASAR	**Alice Springs**	**67.36**	**115**	P	P	12 58 56.0	-0.4
	0.6nm,0.9s,baz=286,slow=6.7,SNR=3.6						
TXAR	**Lajitas Array**	**151.68**	**344**	PKPbc	PKiKP	13 07 56.8	+0.2
	1.0nm,1.2s,baz=316,slow=2.5,SNR=3.8						

NNC 09 12:48:14.6±3.4**,36°.61N**×**70°.50E,h0**km**,mb3.8,mpv3.3, 2C-3D,Error ellipse: s-maj=34.6km s-min=20.9km az=148.0,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.14**	**34**	⇑P	Pn	12 49 19.6	+0.3
	0.4nm,0.2s						
SFK				⇓S	Sn	12 50 09.5	+1.0
	1.1nm,0.2s						
KK31	**Karatay Array**	**6.49**	**0**	P	Pn	12 49 52.5	+1.1
	2.8nm,0.3s,baz=183,slow=13,SNR=48						
KK31				⇓S	Sn	12 51 07.5	+1.4
	0.9nm,0.3s,baz=156,slow=25,SNR=6.8						
AAK	**Ala-Archa**	**6.76**	**26**	⇓P	Pn	12 49 54.2	-1.0
	1.2nm,0.5s						
AAK				⇑S	Sn	12 51 14.4	+1.3
	1.5nm,0.7s						
AB31	**Akbulak array**	**14.80**	**332**	P	Pn	12 51 44.0	-1.0
	0.2nm,0.3s,baz=164,slow=11,SNR=15						

*ISCJB **09** 12:56:18.1±1.7, 2°.0S±0°.2×67°.7E±0°.2, h10km, mb4.1/6, MS3.8/14, Error ellipse: s-maj=36.5km s-min=25.0km az=166.7*
*IDC **09** 12:56:18.7±1.7, 2°.01S×67°.74E, h0km, mb4.1/6, mb1 4.3/7, mb1mx3.8/50, mbtmp4.1/7, ML4.1/1, MS3.8/15, Ms1 3.8/15, ms1mx3.6/29, Error ellipse: s-maj=47.6km s-min=27.3km az=67.0*
*GCMT **09** 12:56:24.0±0.4, 1°.98S±0°.04×67°.99E±0°.03, h22km±1km, MW4.9/63, Moment Tensor Solution. s26,c30; s63,c82; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.81±.20; $M_{\theta\theta}$0.74±.11; $M_{\phi\phi}$2.07±.14; $M_{r\theta}$0.07±.21; $M_{\theta\phi}$-0.61±.08; $M_{\phi r}$-0.56±.20; Best double couple: $M_0$2.62000×10^{16} NP1:ϕ_s341.00000°,δ51.00000°,λ-87.00000°. NP2: ϕ_s157.00000°,δ39.00000°,λ-94.00000°. Principal axes: T 2.3660, Plg6.0000°, Azm69.0000°; N 0.5050, Plg2.0000°, Azm159.0000°; P -2.8750, Plg83.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 09 12:56:20.2±1.6**,2°.0S**±0°.2×**67°.7E**±0°.3**,h10**km**,n22,**σ**0**s**.68**/9**, mb4.2**/6**,MS3.7**/14**,Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.39**	**143**	T	T	13 02 58.8	
	baz=324,slow=75,SNR=79						
H08N3	**Diego Garcia H**	**5.41**	**143**	T	T	13 03 00.6	
	baz=324,slow=75,SNR=85						
H08N1	**Diego Carcia H**	**5.42**	**143**	T	T	13 03 03.4	
	baz=324,slow=75,SNR=78						
PALK	**Pallekele**	**15.88**	**54**	Pn	**Pn**	**13 00 03.3**	**-0.7**
	0.8nm,0.3s,baz=296,slow=8.7,SNR=3.5						
PALK				LR	LR	13 04 45.0	
	comp=Z,578nm,20.4s,baz=296,slow=32						
OPO	**Ambohidratompo**	**26.02**	**229**	LR	LR	13 10 05.6	
	comp=Z,385nm,18.1s,baz=32,slow=32						
WSAR	**Wadi Sarin**	**26.60**	**341**	LR	LR	13 11 05.1	
	comp=Z,88nm,18.6s,baz=168,slow=33						
ATD	**Arta Tunnel**	**28.16**	**299**	LR	LR	13 11 19.3	
	comp=Z,100nm,18.5s,baz=93,slow=32						
CMAR	**Chiang Mai Arr**	**36.82**	**55**	P	**P**	**13 03 29.4**	**+0.6**
	0.5nm,0.4s,baz=248,slow=9.6,SNR=7.3						
CMAR				LR	LR	13 16 58.9	
	comp=Z,123nm,20.2s,baz=232,slow=34						
GEYT	**Alibeck**	**40.71**	**348**	LR	LR	13 19 52.5	
	comp=Z,78nm,21.6s,baz=0.0,slow=35						
MKAR	**Makanchi Array**	**50.24**	**13**	P	**P**	**13 05 16.5**	**-0.1**
	1.2nm,0.8s,baz=197,slow=8.4,SNR=12						
ZALV	**Zalesovo Beam**	**57.53**	**12**	P	**P**	**13 06 09.4**	**-0.3**
	2.3nm,0.7s,baz=216,slow=7.3,SNR=13						
ZALV				LR	LR	13 29 51.8	
	comp=Z,54nm,18.7s,baz=250,slow=35						
SONM	**Songino Array**	**59.98**	**29**	P	**P**	**13 06 27.6**	**+0.6**
	2.1nm,0.8s,baz=219,slow=6.6,SNR=15						
SONM				LR	LR	13 32 31.8	
	comp=Z,244nm,18.2s,baz=200,slow=36						
TORD	**Torodi Ar. Bea**	**67.20**	**285**	LR	LR	13 37 00.1	
	comp=Z,94nm,18.2s,baz=35,slow=36						
WRA	**Warramunga Arr**	**67.35**	**111**	P	**P**	**13 07 16.2**	**0.0**
	1.7nm,0.9s,baz=285,slow=5.9,SNR=8.4						
ASAR	**Alice Springs**	**67.41**	**115**	P	**P**	**13 07 16.5**	**-0.1**
	1.8nm,1.1s,baz=279,slow=5.8,SNR=5.9						
ASAR				LR	LR	13 36 08.0	
	comp=Z,44nm,18.3s,baz=276,slow=35						
GERES	**GERESS Array B**	**68.79**	**325**	LR	LR	13 37 17.3	
	comp=Z,46nm,18.2s,baz=302,slow=36						
FINES	**FINESS Array B**	**70.82**	**340**	LR	LR	13 40 35.0	
	comp=Z,85nm,18.1s,baz=261,slow=38						
DBIC	**Dimbokro**	**72.97**	**278**	LR	LR	13 40 19.9	
	comp=Z,52nm,18.1s,baz=95,slow=36						
NOA	**NORSAR Array B**	**76.22**	**335**	LR	LR	13 42 28.2	
	comp=Z,28nm,18.3s,baz=355,slow=36						
PETK	**Petropavlovsk-**	**91.55**	**37**	LR	LR	13 53 04.7	
	comp=Z,68nm,18.8s,baz=212,slow=37						
PDAR	**Pinedale Array**	**139.33**	**357**	PKP	**PKPdf**	**13 15 47.3**	**-1.1**
	0.4nm,0.8s,baz=94,slow=2.7,SNR=4.1						
TXAR	**Lajitas Array**	**151.61**	**344**	PKPbc	**PKPbc**	**13 16 16.2**	**+0.5**
	1.5nm,1.0s,baz=79,slow=2.3,SNR=8.2						

*IDC **09** 12:58:55.8±0.7, 17°.69S×173°.29W, h0km, mb4.0/12, mb1 4.3/12, mb1mx4.1/31, mbtmp4.0/12, MS3.8/8, Ms1 3.8/8, ms1mx3.5/28, Error ellipse: s-maj=29.9km s-min=16.6km az=135.0*
*NEIC **09** 12:58:57.1±0.3, 17°.71S×173°.37W, h10km, mb4.6/3, Error ellipse: s-maj=15.3km s-min=8.0km az=144.0*
*ISCJB **09** 12:58:59.9±0.5, 17°.8S±0°.1×173°.4W±0°.1, h39km, mb4.3/18, MS3.8/6, Error ellipse: s-maj=20.5km s-min=10.7km az=144.5*
ISC 09 12:59:01.7±0.6**,17°.7S**±0°.1×**173°.4W**±0°.1**,h39**km**,n39, σ0**s**.89**/37**,mb4.3**/18**,MS3.9**/6**,Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.34**	**107**	LR	LR	13 06 19.0	
	comp=Z,167nm,18.3s,baz=266,slow=34						
DZM	**Mont Dzumac**	**19.41**	**254**	LR	LR	13 09 51.2	
	comp=Z,313nm,19.1s,baz=101,slow=34						
URZ	**Urewera**	**22.07**	**200**	P	**P**	**13 03 53.3**	**0.0**
	7.8nm,0.5s,baz=333,slow=4.5,SNR=15						
PPT	**Papeete**	**22.73**	**93**	LR	LR	13 10 17.4	
	comp=Z,93nm,19.1s,baz=264,slow=30						
HNR	**Honiara**	**27.13**	**284**	LR	LR	13 14 00.7	
	comp=Z,296nm,18.2s,baz=110,slow=33						
HNR	**Honiara**	**27.13**	**284**	*e*P	**P**	**13 04 39.2**	**-2.1**
	46nm,1.0s						
CTA	**Charters Tower**	**38.15**	**260**	P	**P**	**13 06 18.3**	**+0.8**
	0.9nm,0.4s,baz=85,slow=11,SNR=2.7						
WR1	**Warramunga Arr**	**49.32**	**259**	*e*P	**P**	**13 07 47.2**	**-0.1**
	36nm,1.9s						
WR1				*e*PcP	**PcP**	**13 09 11.0**	**+1.2**
WRA	**Warramunga Arr**	**49.32**	**259**	P	**P**	**13 07 47.2**	**-0.2**
	1.0nm,0.5s,baz=98,slow=6.5,SNR=41						
WRA				PcP	**PcP**	**13 09 11.0**	**+1.2**
	0.6nm,0.8s,baz=92,slow=3.8,SNR=2.8						
WRA				LR	LR	13 27 43.8	
	comp=Z,135nm,18.3s,baz=120,slow=35						
AS31	**Alice Springs**	**49.40**	**254**	*e*P	**P**	**13 07 47.4**	**-0.6**
	1.8nm,0.6s						
ASAR	**Alice Springs**	**49.40**	**254**	P	**P**	**13 07 47.8**	**-0.1**
	3.9nm,0.7s,baz=91,slow=8.8,SNR=68						
ASAR				PcP	**PcP**	**13 09 11.3**	**+1.3**
	0.9nm,0.8s,baz=105,slow=4.3,SNR=3.5						
VNDA	**Vanda**	**61.08**	**186**	P	**P**	**13 09 11.3**	**+0.1**
	0.9nm,0.8s,baz=333,slow=6.3,SNR=5.1						
VNDA	**Vanda**	**61.08**	**186**	*e*P	**P**	**13 09 10.7**	**-0.5**
MJAR	**Matsushiro Arr**	**70.69**	**320**	LR	LR	13 35 53.0	
	comp=Z,82nm,21.6s,baz=150,slow=31						
PETK	**Petropavlovsk-**	**74.82**	**342**	P	**P**	**13 10 38.0**	**+0.3**
	4.3nm,0.8s,baz=123,slow=9.0,SNR=7.0						
PEA1	**Petropavlovsk-**	**74.82**	**342**	*e*P	**P**	**13 10 38.0**	**+0.2**
NV01	**Mina Array Sit**	**76.07**	**42**	*e*P	**P**	**13 10 44.2**	**-1.3**
NVAR	**Mina Array Bea**	**76.07**	**42**	P	**P**	**13 10 44.2**	**-1.3**
	1.2nm,0.9s,baz=229,slow=9.8,SNR=7.0						
TMUT	**Trail Mountain**	**81.15**	**44**	*e*P	**P**	**13 11 13.5**	**-0.2**
	19nm,1.9s						
LTX	**Lajitas**	**81.93**	**56**	*e*P	**P**	**13 11 17.1**	**-0.6**
TXAR	**Lajitas Array**	**81.93**	**56**	P	**P**	**13 11 17.1**	**-0.6**
	0.5nm,0.9s,baz=202,slow=6.8,SNR=3.4						
S22A	**4UR Ranch, Cre**	**83.36**	**47**	*e*P	**P**	**13 11 25.0**	**-0.2**
	4.1nm,1.0s						
PD31	**Pinedale Array**	**84.01**	**42**	*e*P	**P**	**13 11 27.3**	**-1.0**
PDAR	**Pinedale Array**	**84.01**	**42**	P	**P**	**13 11 27.3**	**-1.0**
	1.4nm,0.8s,baz=226,slow=5.1,SNR=11						
BOZ	**Bozeman (W)**	**84.22**	**38**	*e*P	**P**	**13 11 29.2**	**0.0**
	14nm,0.6s						
BOZ				*e*S	**S**	**13 21 53.9**	**+2.2**
ILAR	**Eielson Array**	**84.72**	**11**	P	**P**	**13 11 30.5**	**-0.6**
	0.8nm,1.0s,baz=222,slow=6.2,SNR=7.1						
ILAR				LR	LR	13 41 13.9	
	comp=Z,39nm,21.7s,baz=228,slow=30						
ILB	**Eielson Array**	**84.72**	**11**	*e*P	**P**	**13 11 30.5**	**-0.6**
PLCA	**Paso Flores**	**87.98**	**132**	LR	LR	13 43 36.2	
	comp=Z,71nm,18.3s,baz=216,slow=30						
YKA	**Yellowknife Ar**	**92.23**	**23**	P	**P**	**13 12 07.8**	**+0.8**
	0.1nm,0.4s,baz=270,slow=3.7,SNR=2.5						
YKB5	**Yellowknife Ar**	**92.23**	**23**	*e*P	**P**	**13 12 07.8**	**+0.8**
CM31	**Chiang Mai Arr**	**93.31**	**288**	*e*P	**P**	**13 12 14.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**93.31**	**288**	P	**P**	**13 12 14.0**	**+1.0**
	0.4nm,0.3s,baz=124,slow=2.9,SNR=6.7						
KMBO	**Kilima Mbogo**	**144.45**	**241**	PKP	**PKPdf**	**13 18 35.3**	**+0.2**
	1.1nm,0.5s,baz=86,slow=2.6,SNR=7.6						
KMBO	**Kilima Mbogo**	**144.45**	**241**	*e*PKPdf	**PKPab**	**13 18 33.5**	**+0.1**
CLL	**Collm**	**146.10**	**353**	*i* PKPbc	**PKPbc**	**13 18 37.5**	**+0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,10.0nm,1.1s						
CLL				e		13 18 48.0	
BRG	**Berggiesshubel**	**146.40**	**352**	ePKP	**PKPab**	**13 18 38.9**	**-0.3**
	comp=Z,10.0nm,11.5s						
BR101	**Keskin Array S**	**147.90**	**319**	ePKPbc	**PKiKP**	**13 18 44.2**	**-0.8**
BRTR	**Keskin Array B**	**147.90**	**319**	PKPbc	**PKiKP**	**13 18 44.2**	**-0.8**
	comp=Z,1.8nm,0.9s,baz=59,slow=4.2,SNR=3.1						
GERES	**GERESS Array B**	**148.42**	**351**	PKPbc	**PKPbc**	**13 18 43.7**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=350,slow=3.0,SNR=5.4						

*JMA **09** 12:59:40.4±0.5, 31°.96N×138°.02E, h430km, M3.5*
*ISCJB **09** 12:59:44.1±0.4, 32°.18N±0°.05×138°.02E±0°.06, h400km, mb3.3/6, Error ellipse: s-maj=7.3km s-min=6.4km az=25.0*
*IDC **09** 12:59:45.5±0.8, 32°.19N×137°.87E, h393km±10km, mb3.1/6, mb1 3.1/10, mb1mx2.9/48, mbtmp3.9/10, Error ellipse: s-maj=25.7km s-min=14.1km az=71.0*
ISC 09 12:59:44.2±0.9**, 32°.13N**±0°.08×**138°.09E**±0°.09**, h400km, n35, σ1s39**/37**, mb3.9**/9**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.73**	**55**	P	**Pn**	**13 00 40.2**	**+1.6**
	6.1nm,0.3s,baz=323,slow=20,SNR=5.6						
JHJ				S	**S**	**13 01 24.5**	**+2.0**
	18nm,0.3s,baz=73,slow=19,SNR=3.7						
TTO3	**TONANKAI O.B.S**	**1.82**	**341**	P	**Pn**	**13 00 40.0**	**+1.2**
TTO2	**TONANKAI O.B.S**	**1.83**	**331**	P	**Pn**	**13 00 39.8**	**+1.1**
TTO1	**TONANKAI O.B.S**	**1.85**	**324**	P	**Pn**	**13 00 39.5**	**+0.7**
JIE	**Ise**	**2.53**	**333**	P	**Pn**	**13 00 43.9**	**+0.2**
JKN2	**Miekihoku**	**2.60**	**325**	P	**Pn**	**13 00 43.7**	**-0.5**
JTNC	**Tanabenakahech**	**2.68**	**310**	P	**Pn**	**13 00 44.0**	**-0.9**
JWY	**Kouya**	**2.95**	**315**	P	**Pn**	**13 00 46.8**	**-0.3**
JOD2	**Odawara 2**	**3.23**	**15**	P	**Pn**	**13 00 50.6**	**+1.3**
JOD2				eS	**S**	**13 01 44.5**	**+2.4**
JYN	**Shimob**	**3.38**	**6**	P	**Pn**	**13 00 51.2**	**+0.6**
BSO4	**Boso 4**	**3.41**	**33**	S	**S**	**13 01 44.7**	**+0.1**
JAI	**Aioi**	**3.48**	**299**	P	**Pn**	**13 00 50.5**	**-1.0**
BSO1	**Boso 1**	**3.48**	**43**	eS	**S**	**13 01 44.5**	**-0.5**
JHU	**Hanno**	**3.84**	**15**	eS	**S**	**13 01 49.8**	**-2.1**
JMN	**Monobe**	**3.88**	**295**	P	**Pn**	**13 00 54.4**	**-0.8**
JRY	**Ryogami san**	**3.93**	**10**	P	**Pn**	**13 00 56.4**	**+0.8**
MJAR	**Matsushiro Arr**	**4.40**	**1**	P	**Pn**	**13 01 00.1**	**0.0**
	1.3nm,0.3s,baz=184,slow=12,SNR=18						
MAT	**Matsushiro**	**4.40**	**1**	P	**Pn**	**13 00 59.6**	**-0.5**
MAT				S	**S**	**13 02 01.4**	**-0.4**
JAG	**Ashikaga**	**4.43**	**14**	P	**Pn**	**13 01 00.0**	**-0.3**
JYT	**Yasato**	**4.44**	**23**	eS	**S**	**13 01 58.0**	**-4.4**
JHO	**Hitachi**	**4.91**	**24**	P	**Pn**	**13 01 04.9**	**-0.3**
JHO				eS	**S**	**13 02 07.5**	**-3.7**
JCJ	**Chichijima**	**6.16**	**144**	P	Pn	13 01 19.9	+1.3
	9.9nm,0.3s,baz=4.3,slow=20,SNR=8.2						
JCJ				S	**S**	**13 02 34.1**	**-1.4**
	15nm,0.3s,baz=297,slow=23,SNR=6.5						
KSRS	**Korea Array**	**9.90**	**305**	P	**Pn**	**13 02 00.6**	**-0.4**
	0.4nm,0.3s,baz=118,slow=10,SNR=7.8						
KLR	**Kul'dur**	**17.73**	**346**	P	**P**	**13 03 25.7**	**0.0**
	0.3nm,0.3s,baz=158,slow=12,SNR=7.7						
SONM	**Songino Array**	**28.66**	**312**	P	**P**	**13 05 05.9**	**-0.2**
	0.3nm,0.4s,baz=101,slow=7.9,SNR=5.1						
MKAR	**Makanchi Array**	**44.58**	**306**	P	**P**	**13 07 18.9**	**+0.3**
	1.8nm,0.3s,baz=88,slow=9.8,SNR=11						
RAMN	**Ramite**	**44.75**	**277**	eP	**P**	**13 07 20.6**	**+0.2**
JIRN	**Jiri**	**44.87**	**278**	eP	**P**	**13 07 22.1**	**+0.7**
	27nm,0.5s						
GUN	**Gumba**	**45.05**	**279**	eP	**P**	**13 07 23.2**	**+0.4**
	15nm,0.6s						
DANN	**Dangsing**	**46.68**	**280**	eP	**P**	**13 07 35.9**	**+0.6**
PYUN	**Piuthan**	**47.40**	**280**	eP	**P**	**13 07 41.2**	**+0.5**
	8.9nm,0.5s						
WRA	**Warramunga Arr**	**51.90**	**184**	P	P	13 08 16.3	+2.4
	0.4nm,0.3s,baz=360,slow=7.7,SNR=10						
ILAR	**Eielson Array**	**55.09**	**30**	P	P	13 08 38.5	+2.3
	0.2nm,0.8s,baz=285,slow=7.5,SNR=4.3						
ARCES	**ARCESS Array B**	**67.61**	**339**	P	**P**	**13 10 00.2**	**+1.3**
	2.5nm,0.9s,baz=337,slow=5.9,SNR=4.1						
FINES	**FINESS Array B**	**71.86**	**332**	P	**P**	**13 10 25.8**	**+1.2**
	0.8nm,0.4s,baz=72,slow=6.2,SNR=9.1						

*NNC **09** 13:12:57.4±3.1, 39°.72N×76°.93E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=25.4km s-min=11.6km az=148.0*
*KRNET **09** 13:12:57.5±0.1, 39°.69N×77°.02E, mb2.2*
ISC 09 13:12:59.7±1.7**, 39°.74N**±0°.08×**76°.95E**±0°.05**, h10km, n21, σ2s43**/35**, 25C-9D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.83**	**337**	⇑iP	**Pb**	**13 13 33.2**	**-0.4**
	baz=36						
NRN				⇑iS	**Sg**	**13 13 59.1**	**+0.4**
	baz=36						
TARG	**Taragay, Kyrgy**	**2.09**	**18**	⇓iP	**Pb**	**13 13 36.2**	**-1.8**
	baz=16						
TARG				⇓iS	**Sg**	**13 14 05.4**	**-1.5**
	baz=16						
KDJ	**Kajisay**	**2.39**	**4**	⇑iP	**Pb**	**13 13 40.8**	**-2.2**
	baz=3.0						
KDJ				⇑iS	**Sb**	**13 14 12.8**	**+0.2**
	baz=3.0						
ULHL	**Ulahol**	**2.56**	**348**	⇑iP	**Pb**	**13 13 43.6**	**-2.2**
	baz=47						
ULHL				⇑iS	**Sb**	**13 14 17.2**	**-0.2**
	baz=47						
KZA	**Kyzart**	**2.66**	**332**	⇑iP	**Pb**	**13 13 45.4**	**-2.3**
	baz=31						
KZA				⇑iS	**Sb**	**13 14 20.1**	**-0.5**
	baz=31						
SFK	**Sufi-Kurgan**	**2.66**	**277**	⇓Pg	**Pb**	**13 13 46.0**	**-1.6**
	1.4nm,0.2s						
SFK				⇑Lg	Lg	13 14 21.9	
	4.2nm,0.4s						
SFK	**Sufi-Kurgan**	**2.66**	**277**	⇑iP	**Pb**	**13 13 45.1**	**-2.5**
	baz=78						
SFK				⇑iS	**Sb**	**13 14 19.7**	**-0.7**
	baz=78						
BOOM	**Boomskoye usch**	**2.85**	**345**	⇓iP	**Pb**	**13 13 47.5**	**-3.2**
	baz=44						
BOOM				⇓iS	**Sb**	**13 14 23.9**	**-1.8**
	baz=44						
ARLS	**Aral**	**2.90**	**318**	⇑iP	**Pb**	**13 13 48.6**	**-3.1**
	baz=18						
ARLS				⇑iS	**Sb**	**13 14 25.5**	**-1.8**
	baz=18						
UCH	**Uchtor**	**3.09**	**324**	⇑iP	**Pb**	**13 13 51.3**	**-3.7**
	baz=24						
UCH				⇑iS	**Sb**	**13 14 30.1**	**-2.8**
	baz=24						
TNSS	**Tian-Shan**	**3.29**	**0**	Pg	**Pb**	**13 13 58.3**	**-0.1**
	2.1nm,0.5s						
TNSS				Lg	Lg	13 14 43.4	
	2.0nm,1.0s						
TKM2	**Tokmak 2**	**3.33**	**343**	⇓Pg	**Pb**	**13 13 54.9**	**-4.1**
	0.9nm,0.6s						
TKM2				⇓Lg	Lg	13 14 44.5	
	2.4nm,0.6s						
TKM2	**Tokmak 2**	**3.33**	**343**	⇑iP	**Pn**	**13 13 54.4**	**+2.3**
	baz=42						
TKM2				⇑iS	**Sb**	**13 14 35.7**	**-4.0**
	baz=42						
AML	**Almayashu**	**3.43**	**315**	⇑iP	**Pn**	**13 13 55.9**	**+2.3**
	baz=15						
AML				⇑iS	**Sn**	**13 14 38.4**	**+3.9**
	baz=15						
AAK	**Ala-Archa**	**3.43**	**328**	ePdif	**Pb**	**13 14 02.0**	**+1.3**
AAK	**Ala-Archa**	**3.43**	**328**	⇓Pg	**Pb**	**13 14 01.7**	**+1.0**
	1.1nm,0.4s						
AAK				⇓Lg	Lg	13 14 47.7	
	5.2nm,0.7s						
AAK	**Ala-Archa**	**3.43**	**328**	⇑iP	**Pn**	**13 13 55.5**	**+2.1**
	baz=28						
AAK				⇑iS	**Sn**	**13 14 38.0**	**+3.8**
	baz=28						
SATY	**Saty**	**3.49**	**18**	Pg	**Pb**	**13 14 02.0**	**+0.3**
	1.7nm,0.7s						
SATY				Lg	Lg	13 14 49.3	
	3.6nm,0.6s						
SHLS	**Shalkode**	**3.90**	**28**	Pg	**Pg**	**13 14 12.5**	**-1.9**
	1.6nm,0.6s						
SHLS				Lg	Lg	13 15 07.1	
	4.0nm,0.7s						
USP	**Ospenovka**	**3.97**	**333**	⇑iP	**Pn**	**13 14 03.0**	**+2.3**
	baz=33						
USP				⇑iS	**Sn**	**13 14 50.9**	**+3.6**
	baz=33						
PDGK	**Podgornoye**	**4.06**	**27**	⇑iP	**Pn**	**13 14 03.5**	**+1.5**
	baz=26						
PDGK				⇑iS	**Sn**	**13 14 52.0**	**+2.3**
	baz=26						

*ISCJB **09** 13:29:39.0±6.5, 2°.5S±0°.5×6°6E±°, h10km, mb3.9/7, Error ellipse: s-maj=203.9km s-min=18.9km az=158.0*
*IDC **09** 13:29:47.3±2.8, 1°.92S×67°.90E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.5/40, mbtmp3.8/5, Error ellipse: s-maj=93.5km s-min=29.0km az=66.0*
*NEIC **09** 13:29:49.0±1.2, 1°.90S×67°.90E, h10km, mb4.4/1, Error ellipse: s-maj=40.1km s-min=14.8km az=66.0*
ISC 09 13:29:40.5±2.6**, 2°.6S**±0°.3×**66°.2E**±0°.5**, h10km, n15, σ0s17**/12**, mb3.9**/7**, South Indian Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**6.05**	**128**	T	T	13 36 27.8	
	baz=325,slow=76,SNR=51						
H08N3	**Diego Garcia H**	**6.06**	**128**	T	T	13 36 27.5	
	baz=325						
H08N1	**Diego Carcia H**	**6.07**	**128**	T	T	13 36 28.7	
	baz=325,slow=76						
MK32	**Makanchi Array**	**51.19**	**14**	eP	**P**	**13 38 44.2**	**+0.2**
MKAR	**Makanchi Array**	**51.19**	**14**	P	**P**	**13 38 44.2**	**+0.2**
	0.6nm,0.8s,baz=199,slow=8.7,SNR=6.4						
ZALV	**Zalesovo Beam**	**58.45**	**13**	P	**P**	**13 39 36.5**	**+0.1**
	0.4nm,0.4s,baz=201,slow=7.9,SNR=5.2						
ZAA1	**Zalesovo Array**	**58.45**	**13**	eP	**P**	**13 39 36.5**	**+0.1**
SONA0	**Songino Array**	**61.26**	**30**	eP	**P**	**13 39 55.9**	**-0.2**
SONM	**Songino Array**	**61.26**	**30**	P	**P**	**13 39 55.9**	**-0.2**
	0.8nm,0.7s,baz=225,slow=6.8,SNR=4.6						
ASAR	**Alice Springs**	**68.56**	**114**	P	**P**	**13 40 44.3**	**+0.3**
	0.2nm,0.4s,baz=267,slow=5.6,SNR=2.6						
WRA	**Warramunga Arr**	**68.58**	**110**	P	**P**	**13 40 44.1**	**-0.1**
	0.7nm,0.9s,baz=283,slow=6.2,SNR=5.5						
WR1	**Warramunga Arr**	**68.58**	**110**	eP	**P**	**13 40 44.1**	**-0.1**
	12nm,1.5s						
WRAB	**Tennant Creek**	**68.59**	**110**	P	**P**	**13 40 44.2**	**-0.1**
	3.3nm,1.2s						
LTX	**Lajitas**	**151.72**	**341**	ePKPbc	**PKPab**	**13 49 44.8**	**-0.1**
TXAR	**Lajitas Array**	**151.72**	**341**	PKPbc	**PKPab**	**13 49 44.8**	**-0.1**
	0.4nm,0.8s,baz=29,slow=2.1,SNR=2.6						

*IDC **09** 13:30:58.1±1.6, 36°.02N×142°.29E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/36, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=36.2km s-min=34.9km az=106.0*
*ISCJB **09** 13:30:59.8±0.9, 36°.09N±0°.06×142°.18E±0°.08, h23km, mb3.6/3, Error ellipse: s-maj=10.0km s-min=6.8km az=41.2*
*JMA **09** 13:31:00.9±0.2, 36°.09N×142°.13E, h66km±5km, M3.0*
ISC 09 13:31:01.8±1.2**, 36°.11N**±0°.06×**142°.08E**±0°.09**, h23km, n21, σ1s32**/19**, mb3.5**/3**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.07**	**248**	P	**Pn**	**13 31 20.8**	**-0.5**
CHOJ				eS	**Sn**	**13 31 35.7**	**+0.3**
JHYU	**Hitachinakayam**	**1.23**	**281**	P	**Pn**	**13 31 23.4**	**-0.1**
JHYU				eS	**Sn**	**13 31 39.7**	**+0.4**
JHO	**Hitachi**	**1.31**	**293**	P	**Pn**	**13 31 24.1**	**-0.6**
JFK	**Kawauchi**	**1.58**	**323**	P	**Pn**	**13 31 28.3**	**-0.2**
BSO1	**Boso 1**	**1.71**	**212**	P	**Pn**	**13 31 29.3**	**-0.3**
JAG	**Ashikaga**	**2.14**	**279**	P	**Pn**	**13 31 36.1**	**0.0**
JRY	**Ryogami san**	**2.57**	**269**	P	**Pn**	**13 31 42.0**	**-0.1**
JOD2	**Odawara 2**	**2.57**	**252**	P	**Pn**	**13 31 42.4**	**+0.3**
JOD2				eS	**Sn**	**13 32 13.0**	**+0.3**
JFNN	**Fujinakano**	**2.91**	**253**	eS	**Sn**	**13 32 21.4**	**+0.5**
JMK	**Ichinoseki**	**2.92**	**347**	S	**Sn**	**13 32 21.0**	**-0.1**
MJAR	**Matsushiro Arr**	**3.15**	**279**	Pn	**Pn**	**13 31 51.0**	**+1.0**
	2.2nm,0.3s,baz=87,slow=9.1,SNR=26						
MAT	**Matsushiro**	**3.15**	**279**	P	**Pn**	**13 31 52.1**	**+2.1**
MAT				S	**Sn**	**13 32 22.6**	**-4.4**
H11N2	**WAKE ISLAND Hy**	**27.22**	**120**	T	T	14 05 20.1	
	baz=311						
H11N1	**WAKE ISLAND Hy**	**27.23**	**120**	T	T	14 05 12.6	
	baz=311						
H11N3	**WAKE ISLAND Hy**	**27.24**	**120**	T	T	14 05 13.4	
	baz=311						
H11S1	**WAKE ISLAND Hy**	**27.91**	**122**	T	T	14 06 03.4	
	baz=314,slow=76,SNR=4.9						
H11S3	**WAKE ISLAND Hy**	**27.91**	**122**	T	T	14 06 04.0	
	baz=314,slow=76,SNR=5.6						
H11S2	**WAKE ISLAND Hy**	**27.93**	**122**	T	T	14 05 59.0	
	baz=314,slow=76,SNR=4.3						
MKAR	**Makanchi Array**	**45.06**	**303**	P	**P**	**13 39 17.2**	**+1.3**
	1.6nm,0.4s,baz=80,slow=8.9,SNR=1.9						
ILAR	**Eielson Array**	**49.99**	**32**	P	**P**	**13 39 53.5**	**-0.3**
	0.4nm,0.8s,baz=251,slow=8.5,SNR=3.6						
WRA	**Warramunga Arr**	**56.23**	**189**	P	**P**	**13 40 39.6**	**-0.6**
	0.1nm,0.4s,baz=6.7,slow=7.1,SNR=5.0						

*MOS **09** 13:31:59.1±1.0, 1°.79S×68°.01E, h10km, mb4.8/24, Error ellipse: s-maj=12.3km s-min=8.1km az=84.2*
*IDC **09** 13:31:59.3±0.7, 1°.89S×68°.07E, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.0/40, mbtmp4.2/14, MS3.7/7, Ms1 3.7/7, ms1mx3.3/35, Error ellipse: s-maj=23.3km s-min=15.5km az=159.0*
*ISCJB **09** 13:32:00.1±0.4, 1°.80S±0°.07×67°.96E±0°.06, h15km, mb4.4/37, MS3.7/8, Error ellipse: s-maj=9.8km s-min=8.8km az=148.2*
*NEIC **09** 13:32:00.4±0.3, 1°.87S×68°.02E, h10km, mb4.7/16, Error ellipse: s-maj=10.6km s-min=7.1km az=148.0*
ISC 09 13:32:02.2±0.5**, 1°.77S**±0°.09×**67°.95E**±0°.09**, h15km, n92, σ1s16**/85**, mb4.5**/37**, MS3.8**/8**, 6C, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.45**	**146**	T	T	13 38 36.1	
	baz=325,slow=75,SNR=78						
H08N3	**Diego Garcia H**	**5.46**	**146**	T	T	13 38 37.6	
	baz=325,slow=75,SNR=192						
H08N1	**Diego Carcia H**	**5.47**	**146**	T	T	13 38 38.4	
	baz=325,slow=75,SNR=73						
DGAR	**Diego Garcia**	**7.18**	**141**	i P	**Pn**	**13 33 48.4**	**+1.7**
HYB	**Hyderabad**	**21.74**	**28**	i P	**P**	**13 36 54.0**	**+0.7**
OPO	**Ambohidratompo**	**26.33**	**229**	LR	LR	13 45 16.2	
	comp=Z,227nm,20.1s,baz=16,slow=30						
ATD	**Arta Tunnel**	**28.24**	**298**	LR	LR	13 46 34.4	
	comp=Z,52nm,20.5s,baz=102,slow=31						
KMBO	**Kilima Mbogo**	**30.70**	**271**	P	**P**	**13 38 17.7**	**+0.6**
	2.2nm,0.8s,baz=71,slow=8.7,SNR=5.0						
KMBO	**Kilima Mbogo**	**30.70**	**271**	eP	**P**	**13 38 16.0**	**-1.1**
	6.8nm,1.3s						
KMBO	**Kilima Mbogo**	**30.70**	**271**	eP	**P**	**13 38 16.0**	**-1.1**
KMBO				pmax	pmax		
	comp=Z,7.0nm,1.3s						
BRDH	**Bariadhala**	**33.53**	**42**	LR	LR	13 54 12.0	
	comp=Z,205nm,18.2s,baz=230,slow=40						
NIL	**Nilore**	**35.58**	**8**	eP	**P**	**13 38 59.4**	**+0.2**
	comp=Z,21nm,1.4s						
NIL	**Nilore**	**35.58**	**8**	eP	**P**	**13 38 59.4**	**+0.2**
NIL				pmax	pmax		
	comp=Z,21nm,1.4s						
CMAR	**Chiang Mai Arr**	**36.52**	**55**	P	**P**	**13 39 08.2**	**+0.7**
	comp=Z,2.2nm,1.0s,baz=245,slow=9.9,SNR=13						
CHTO	**Chiang Mai**	**36.70**	**55**	eP	**P**	**13 39 07.1**	**-1.9**
	comp=Z,6.9nm,1.0s						
CHTO	**Chiang Mai**	**36.70**	**55**	eP	**P**	**13 39 07.1**	**-1.9**
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CHTO	**Chiang Mai**	**36.70**	**55**	P	**P**	**13 39 10.5**	**+1.5**
	comp=Z,41nm,1.8s						
CMMT	**Chiang Mai**	**36.70**	**55**	P	**P**	**13 39 10.5**	**+1.5**
	comp=Z,9.0nm,1.8s						
MBAR	**Mbarara**	**37.22**	**271**	P	**P**	**13 39 15.5**	**+1.8**
	comp=Z,2.3nm,0.3s,baz=114,slow=6.6,SNR=4.7						
MBAR	**Mbarara**	**37.22**	**271**	eP	**P**	**13 39 13.1**	**-0.6**
	comp=Z,6.1nm,1.1s						
MBAR	**Mbarara**	**37.22**	**271**	eP	**P**	**13 39 15.0**	**+1.3**
MBAR				pmax	pmax		
	comp=Z,5.0nm,1.1s						
PBKT	**Sadao Pong**	**37.34**	**59**	P	**P**	**13 39 16.8**	**+2.4**
	comp=Z,13nm,1.4s,comp=Z,805nm						
CHAI	**Chaiyaphum**	**37.94**	**61**	P	**P**	**13 39 21.6**	**+2.1**
	comp=Z,5.8nm,1.1s						
LSA	**Lhasa**	**38.35**	**34**	eP	**P**	**13 39 23.8**	**+0.5**
	comp=Z,32nm,1.6s						
LSA	**Lhasa**	**38.35**	**34**	eP	**P**	**13 39 23.8**	**+0.5**
LSA				pmax	pmax		
	comp=Z,32nm,1.6s						
GAR	**Garm**	**40.63**	**3**	eP	**P**	**13 39 41.9**	**+0.1**
	comp=Z,54nm,1.7s						
GAR	**Garm**	**40.63**	**3**	eP	**P**	**13 39 41.9**	**+0.1**
GAR				pmax	pmax		
	comp=Z,55nm,1.7s						
LSZ	**Lusaka**	**41.45**	**249**	P	**P**	**13 39 48.2**	**-0.7**
	comp=Z,5.3nm,0.8s,baz=75,slow=8.2,SNR=4.0						
LSZ	**Lusaka**	**41.45**	**249**	eP	**P**	**13 39 47.2**	**-1.7**
	comp=Z,11nm,1.0s						
LSZ	**Lusaka**	**41.45**	**249**	eP	**P**	**13 39 47.2**	**-1.7**
LSZ				pmax	pmax		
	comp=Z,11nm,1.0s						
BTK	**Batken**	**41.71**	**3**	eP	**P**	**13 39 50.9**	**+0.2**
	comp=Z,12nm,1.3s						
BTK	**Batken**	**41.71**	**3**	eP	**P**	**13 39 50.9**	**+0.2**
BTK				pmax	pmax		
	comp=Z,13nm,1.3s						
SFK	**Sufi-Kurgan**	**41.89**	**6**	P	**P**	**13 39 52.5**	**+0.2**
MATP	**Matopo**	**42.74**	**241**	P	**P**	**13 39 58.8**	**-0.6**
	comp=Z,6.2nm,1.1s,baz=56,slow=7.3,SNR=3.1						
NRN	**Naryn**	**43.62**	**9**	eP	**P**	**13 40 05.6**	**-0.8**
	comp=Z,7.4nm,1.4s						
NRN	**Naryn**	**43.62**	**9**	eP	**P**	**13 40 05.6**	**-0.8**
NRN				pmax	pmax		
	comp=Z,7.0nm,1.4s						
AAK	**Ala-Archa**	**44.60**	**7**	P	**P**	**13 40 15.4**	**+1.3**
	comp=Z,2.6nm,1.0s,baz=176,slow=9.0,SNR=8.4						
AAK	**Ala-Archa**	**44.60**	**7**	eP	**P**	**13 40 14.7**	**+0.6**
	comp=Z,28nm,1.9s						
AAK	**Ala-Archa**	**44.60**	**7**	ceP	**P**	**13 40 15.7**	**+1.6**
AAK				pmax	pmax		
	comp=Z,13nm,1.7s						
FRU	**Bishkek**	**44.80**	**7**	eP	**P**	**13 40 15.0**	**-0.6**
FRU				pmax	pmax		
	comp=Z,40nm,2.0s						
BOSA	**Boshof**	**48.66**	**233**	LR	LR	13 58 42.3	
	comp=Z,106nm,19.0s,baz=32,slow=33						
MAKZ	**Makanchi**	**49.92**	**13**	eP	**P**	**13 40 54.6**	**-0.7**
	comp=Z,14nm,1.4s						
MAKZ	**Makanchi**	**49.92**	**13**	eP	**P**	**13 40 54.6**	**-0.7**
MAKZ				pmax	pmax		
	comp=Z,14nm,1.4s						
OTUK	**Ortayu**	**49.96**	**4**	P	**P**	**13 40 56.0**	**+0.4**
MK32	**Makanchi Array**	**49.98**	**13**	eP	**P**	**13 40 54.7**	**-1.1**
MKAR	**Makanchi Array**	**49.98**	**13**	P	**P**	**13 40 54.7**	**-1.1**
	comp=Z,1.8nm,0.4s,baz=204,slow=7.1,SNR=1.7						
MKAR	**Makanchi Array**	**49.98**	**13**	eP	**P**	**13 40 54.7**	**-1.1**
	comp=Z,14nm,0.9s						
MKAR	**Makanchi Array**	**49.98**	**13**	eP	**P**	**13 40 54.7**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,14nm,0.9s						
GTA	**Gaotai**	**50.34**	**32**	eP	**P**	**13 40 59.2**	**+0.4**
GTA				pP	pP	13 41 03.5	0.0
GTA				sP	sP	13 41 06.3	+0.9
GTA				PcP	**PcP**	**13 42 17.5**	**+0.1**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.7s						
GTA				pmax	pmax		
	comp=Z,73nm,4.3s						
GTA				LR	LR		
	comp=N,130nm,21.0s						
GTA				LR	LR		
	comp=E,110nm,19.6s						
GTA				LR	LR		
	comp=Z,190nm,18.2s						
KBZ	**Khabaz**	**50.56**	**337**	P	**P**	**13 41 01.0**	**+0.9**
	comp=Z,2.8nm,0.9s,baz=177,slow=8.9,SNR=3.1						
KBZ	**Khabaz**	**50.56**	**337**	eP	**P**	**13 41 01.0**	**+0.9**
KIV	**Kislovodsk**	**50.83**	**337**	eP	**P**	**13 41 03.9**	**+1.5**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
XAN	**Xi'an**	**52.44**	**43**	P	**P**	**13 41 14.0**	**-0.5**
XAN				pP	sP	13 41 24.5	+3.4
XAN				pmax	pmax		
	comp=Z,15nm,1.5s						
XAN	**Xi'an**	**52.44**	**43**	eP	**P**	**13 41 13.2**	**-1.3**
	comp=Z,27nm,1.2s						
XAN	**Xi'an**	**52.44**	**43**	eP	**P**	**13 41 13.2**	**-1.3**
XAN				pmax	pmax		
	comp=Z,27nm,1.2s						
KURK	**Kurchatov**	**53.08**	**8**	ceP	**P**	**13 41 19.4**	**+0.6**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BRVK	**Borovoye**	**54.66**	**2**	eP	**P**	**13 41 29.5**	**-1.0**
	comp=Z,15nm,1.8s						
BRVK	**Borovoye**	**54.66**	**2**	c iP	**P**	**13 41 31.0**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.7s						
ZALV	**Zalesovo Beam**	**57.27**	**12**	P	**P**	**13 41 47.8**	**-1.2**
	comp=Z,3.3nm,0.7s,baz=212,slow=7.7,SNR=13						
ZALV	**Zalesovo Beam**	**57.27**	**12**	i P	**P**	**13 41 49.2**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZAA1	**Zalesovo Array**	**57.27**	**12**	eP	**P**	**13 41 47.8**	**-1.3**
NVS	**Novosibirsk**	**57.81**	**10**	eP	**P**	**13 41 51.9**	**-0.9**
ARU	**Arti**	**58.51**	**354**	c iP	**P**	**13 41 57.7**	**0.0**
ARU						13 42 43.8	
ARU				S	**S**	**13 50 01.5**	**+0.8**
ARU				SS	**SS**	**13 53 52.3**	**-1.1**
ARU				pmax	pmax		
	comp=Z,11nm,1.6s						
SONA0	**Songino Array**	**59.68**	**29**	eP	**P**	**13 42 06.1**	**-0.1**
SONM	**Songino Array**	**59.68**	**29**	P	**P**	**13 42 06.1**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=224,slow=7.1,SNR=17						
SONM				LR	LR	14 08 09.6	
	comp=Z,97nm,18.2s,baz=338,slow=36						
ZAK	**Zakamensk**	**60.10**	**25**	eP	**P**	**13 42 08.3**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.7s						
OBN	**Obninsk**	**62.28**	**340**	eP	**P**	**13 42 22.7**	**-0.8**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KLMR	**Klimovskoe**	**66.20**	**345**	eP	P	13 42 44.3	-4.8
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.5s						
KLMR	**Klimovskoe**	**66.20**	**345**	eP	P	13 42 44.3	-4.8
KLMR				AMP		13 42 50.3	
	comp=Z,10.0nm,1.5s						
WR1	**Warramunga Arr**	**67.23**	**111**	eP	**P**	**13 42 55.0**	**-1.5**
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**67.23**	**111**	P	**P**	**13 42 55.0**	**-1.5**
	comp=Z,2.9nm,1.1s,baz=282,slow=5.4,SNR=7.9						
ASAR	**Alice Springs**	**67.31**	**115**	P	**P**	**13 42 55.5**	**-1.6**
	comp=Z,1.3nm,1.0s,baz=289,slow=6.2,SNR=5.5						
TORD	**Torodi Ar. Bea**	**67.35**	**285**	P	**P**	**13 42 57.8**	**+0.4**
	comp=Z,0.9nm,1.1s,baz=98,slow=3.9,SNR=4.4						
TORD				LR	LR	14 12 19.9	
	comp=Z,47nm,18.3s,baz=330,slow=36						
TOA1	**Torodi Ar. Sit**	**67.35**	**285**	eP	**P**	**13 42 57.8**	**+0.4**
KSRS	**Korea Array**	**67.70**	**48**	LR	LR	14 13 53.8	
	comp=Z,34nm,19.7s,baz=320,slow=37						
CLL	**Collm**	**70.34**	**327**	eP	**P**	**13 43 16.0**	**+0.7**
CLL	**Collm**	**70.34**	**327**	eP	**P**	**13 43 16.0**	**+0.7**
TNS	**Taunus Mts**	**72.40**	**325**	P	**P**	**13 43 31.4**	**+3.5**
DBIC	**Dimbokro**	**73.15**	**277**	P	**P**	**13 43 33.4**	**+0.4**
	comp=Z,2.5nm,0.9s,baz=104,slow=8.3,SNR=3.8						
KLR	**Kul'dur**	**74.56**	**38**	i P	**P**	**13 43 39.0**	**-1.6**
TIXI	**Tiksi**	**82.83**	**16**	eP	**P**	**13 44 23.6**	**-2.0**
	comp=Z,25nm,1.7s						
TIXI	**Tiksi**	**82.83**	**16**	ceP	**P**	**13 44 24.6**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,15nm,1.7s						
SEY	**Seymchan**	**89.02**	**27**	i P	**P**	**13 44 55.7**	**-0.6**
BILL	**Bilibino**	**94.75**	**22**	eP	**P**	**13 45 25.6**	**+2.8**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
YKA	**Yellowknife Ar**	**119.39**	**1**	PKP	**PKPdf**	**13 50 50.0**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=22,slow=1.6,SNR=4.9						
YKA	**Yellowknife Ar**	**119.39**	**1**	PKIKP	**PKPdf**	**13 50 50.0**	**-0.9**
ANMO	**Albuquerque**	**146.58**	**352**	c iPKP2	**PKPdf**	**13 51 43.2**	**+0.7**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.3s						
LTX	**Lajitas**	**151.45**	**345**	ePKPbc	**PKPbc**	**13 51 56.0**	**-0.5**
LTX	**Lajitas**	**151.45**	**345**	ePKIKP	**PKPbc**	**13 51 56.0**	**-0.5**
TX31	**Lajitas Ar. Si**	**151.45**	**345**	ePKPbc	**PKPbc**	**13 51 55.6**	**-0.9**
TXAR	**Lajitas Array**	**151.45**	**345**	PKPbc	**PKPbc**	**13 51 56.0**	**-0.5**
	comp=Z,1.8nm,1.0s,baz=101,slow=2.7,SNR=7.6						
TXAR	**Lajitas Array**	**151.45**	**345**	PKIKP	**PKPbc**	**13 51 56.0**	**-0.5**

*IDC **09** 13:38:44.1±2.1, 2°.13S×67°.59E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/38, mbtmp3.9/6, MS3.4/3, Ms1 3.5/3, ms1mx3.0/34, Error ellipse: s-maj=61.0km s-min=27.9km az=67.0*

*NEIC **09** 13:38:45.8±1.0, 2°.04S×67°.60E, h10km, mb4.3/3, Error ellipse: s-maj=29.9km s-min=14.8km az=67.0*
ISC 09 13:38:45.6±2.1**, 2°.0S**±0°.3×**67°.6E**±0°.4**, h10**km**, n21, σ1s.18**/16**, mb4.2**/9**, MS3.3**/3**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.50**	**141**	T	T	13 45 33.2	
	baz=324,slow=75,SNR=68						
H08N3	**Diego Garcia H**	**5.51**	**142**	T	T	13 45 25.8	
	baz=324,slow=75,SNR=67						
H08N1	**Diego Carcia H**	**5.52**	**141**	T	T	13 45 34.8	
	baz=324,slow=75,SNR=63						
WSAR	**Wadi Sarin**	**26.55**	**341**	LR	LR	13 52 54.9	
	comp=Z,59nm,19.4s,baz=172,slow=32						
PSI	**Prapat**	**31.73**	**81**	LR	LR	13 55 40.7	
	comp=Z,132nm,19.6s,baz=267,slow=32						
CMAR	**Chiang Mai Arr**	**36.98**	**55**	P	**P**	**13 45 56.1**	**+0.5**
	0.5nm,0.6s,baz=250,slow=9.6,SNR=6.1						
CMAR				LR	LR	14 01 31.8	
	comp=Z,47nm,18.3s,baz=224,slow=37						
NRN	**Naryn**	**43.91**	**9**	*e*P	**P**	**13 46 49.7**	**-3.3**
	2.6nm,1.0s						
MAKZ	**Makanchi**	**50.24**	**13**	*e*P	**P**	**13 47 41.0**	**-1.0**
	3.0nm,1.0s						
MK32	**Makanchi Array**	**50.30**	**13**	*e*P	**P**	**13 47 43.0**	**+0.6**
MKAR	**Makanchi Array**	**50.30**	**13**	P	**P**	**13 47 43.0**	**+0.6**
	1.3nm,0.3s,baz=189,slow=8.3,SNR=4.5						
MKAR	**Makanchi Array**	**50.30**	**13**	*e*P	**P**	**13 47 41.1**	**-1.3**
	7.7nm,0.8s						
ZALV	**Zalesovo Beam**	**57.58**	**12**	P	**P**	**13 48 36.2**	**+0.7**
	2.6nm,0.8s,baz=209,slow=7.6,SNR=11						
ZAA1	**Zalesovo Array**	**57.59**	**12**	*e*P	**P**	**13 48 36.2**	**+0.6**
SONA0	**Songino Array**	**60.08**	**29**	*e*P	**P**	**13 48 54.0**	**+0.7**
SONM	**Songino Array**	**60.08**	**29**	P	**P**	**13 48 54.0**	**+0.7**
	1.7nm,0.9s,baz=221,slow=7.1,SNR=7.9						
SONA1	**Songino Array**	**60.10**	**29**	*e*P	**P**	**13 48 53.5**	**+0.2**
WR1	**Warramunga Arr**	**67.52**	**111**	*e*P	**P**	**13 49 42.2**	**-0.5**
	42nm,2.0s						
WRA	**Warramunga Arr**	**67.52**	**111**	P	**P**	**13 49 42.2**	**-0.5**
	1.2nm,1.1s,baz=286,slow=5.6,SNR=4.5						
ASAR	**Alice Springs**	**67.58**	**115**	P	**P**	**13 49 42.5**	**-0.5**
	0.5nm,0.8s,baz=298,slow=5.0,SNR=4.2						
LTX	**Lajitas**	**151.56**	**344**	*e*PKPbc	**PKPbc**	**13 58 41.7**	**+0.6**
TXAR	**Lajitas Array**	**151.56**	**344**	PKPbc	**PKPbc**	**13 58 41.7**	**+0.6**
	1.1nm,1.0s,baz=338,slow=2.1,SNR=4.2						

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*ISK **09** 13:39:52.9, 39°.69N×25°.55E, h9km, ML2.4/11*
*ISCJB **09** 13:39:54.3±0.4, 39°.69N±0°.02×25°.61E±0°.02, h8km±3km, Error ellipse: s-maj=3.1km s-min=2.9km az=143.6*
*DDA **09** 13:39:54.6, 39°.81N×25°.66E, h7km±3km, ML2.6*
*ATH **09** 13:39:54.0, 39°.69N×25°.61E, h27km, ML2.2/4, Error ellipse: s-maj=1.3km s-min=0.8km az=54.0*
*THE **09** 13:39:54.6, 39°.70N×25°.63E, h6km, ML2.2/9, Error ellipse: s-maj=0.8km s-min=0.3km az=115.0*
ISC 09 13:39:54.1±1.0**, 39°.67N**±0°.02×**25°.62E**±0°.02**, h14**km±8km**, n50, σ0s.69**/77**, 1D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.38**	**62**	PG	**Pg**	**13 40 01.6**	**-0.1**
BOZC				SG	**Sb**	**13 40 07.8**	**-0.5**
BOZC	**Bozcaada**	**0.38**	**62**	IAML_P			
	comp=Z,3μm,0.1s						
BOZC				*i* P	**Pb**	**13 40 02.5**	**-0.1**
LIA	**Limnos Island**	**0.41**	**304**	P	**Pb**	**13 40 02.8**	**-0.4**
LIA				S	**Sg**	**13 40 08.4**	**+0.5**
LIA	**Limnos Island**	**0.41**	**304**	P	**Pb**	**13 40 02.6**	**-0.6**
LIA				S	**Sg**	**13 40 08.4**	**+0.5**
SIGR	**SIGRI**	**0.49**	**158**	PG	**Pb**	**13 40 03.6**	**-0.9**
SIGR	**SIGRI**	**0.49**	**158**	P	**Pb**	**13 40 04.5**	**0.0**
SIGR				S	**Sb**	**13 40 12.0**	**+0.5**
SIGR				AML	AML	13 40 12.5	
	comp=N,485μm,0.4s						
SIGR				AML	AML	13 40 12.8	
	comp=E,493μm,0.3s						
SIGR	**SIGRI**	**0.49**	**158**	P	**Pb**	**13 40 04.4**	**-0.1**
SIGR				S	**Sb**	**13 40 11.6**	**0.0**
EFSA	**Agios Efstrati**	**0.51**	**256**	P	**Pb**	**13 40 05.0**	**+0.2**
EFSA				⇓S	**Sb**	**13 40 12.4**	**+0.4**
EZN	**Ezine**	**0.56**	**73**	PG	**Pg**	**13 40 05.4**	**+0.2**
EZN	**Ezine**	**0.56**	**73**	P	**Pg**	**13 40 05.0**	**-0.2**
EZN				S	**Sg**	**13 40 13.1**	**+0.4**
GADA	**Gvkgeada**	**0.56**	**22**	PG	**Pg**	**13 40 04.8**	**-0.4**
GADA				SG	**Sg**	**13 40 12.8**	**0.0**
GADA	**Gvkgeada**	**0.56**	**22**	P	**Pg**	**13 40 05.0**	**-0.2**
GADA				S	**Sg**	**13 40 12.3**	**-0.5**
PRK	**Paraskevi**	**0.66**	**130**	P	**Pn**	**13 40 07.8**	**-1.2**
PRK				S	**Sn**	**13 40 17.4**	**-1.8**
PRK				AML	AML	13 40 21.8	
	comp=E,734μm,0.5s						
PRK				AML	AML	13 40 22.1	
	comp=N,585μm,0.3s						
PRK	**Paraskevi**	**0.66**	**130**	P	**Pb**	**13 40 07.4**	**0.0**
PRK				S	**Sn**	**13 40 17.1**	**-2.1**
BAYC	**CANAKKALE_Bayr**	**0.72**	**84**	IAML_P			
	comp=Z,1μm,0.1s						
BAYC				*i* P	**Pb**	**13 40 08.3**	**-0.2**
BAYC				*i* S	**Sb**	**13 40 19.0**	**+0.8**
SMTH	**Samothraki Isl**	**0.81**	**355**	P	**Pg**	**13 40 09.5**	**-0.3**
SMTH				S	**Sb**	**13 40 21.0**	**+0.2**
SMTH				AML	AML	13 40 22.5	
	comp=E,261μm,0.4s						
SMTH				AML	AML	13 40 22.6	
	comp=N,220μm,0.2s						
SMTH	**Samothraki Isl**	**0.81**	**355**	P	**Pg**	**13 40 09.5**	**-0.3**
SMTH				S	**Sb**	**13 40 21.1**	**+0.3**
AYVA	**Ayvalik**	**0.90**	**113**	*i* P	**Pn**	**13 40 13.5**	**+1.1**
AYVA				*i* S	**Sn**	**13 40 26.8**	**+1.6**
GELI	**Tayfur-Gelibol**	**0.98**	**42**	PG	**Pb**	**13 40 12.5**	**-0.4**
LPK	**Lapseki**	**1.12**	**51**	PN	**Pn**	**13 40 15.4**	**-0.1**
PSRA	**Psara**	**1.12**	**182**	P	**Pg**	**13 40 15.7**	**-0.1**
ENEZ	**Enez**	**1.14**	**21**	PN	**Pn**	**13 40 15.3**	**-0.4**
SKY	**Skiros Island**	**1.15**	**227**	P	**Pg**	**13 40 15.9**	**-0.3**
SKY				S	**Sn**	**13 40 32.2**	**+0.9**
SKY	**Skiros Island**	**1.15**	**227**	P	**Pg**	**13 40 15.9**	**-0.3**
SKY				S	**Sn**	**13 40 33.2**	**+1.9**
DKL	**Dikili**	**1.16**	**120**	PN	**Pg**	**13 40 16.6**	**+0.1**
THAS	**Thassos island**	**1.17**	**324**	P	**Pb**	**13 40 16.1**	**0.0**
THAS				AML	AML	13 40 32.7	
	comp=E,219μm,0.3s						
THAS				AML	AML	13 40 34.2	
	comp=N,260μm,0.2s						
THAS	**Thassos island**	**1.17**	**324**	P	**Pb**	**13 40 16.1**	**0.0**
THAS				S	**Sg**	**13 40 32.4**	**+0.6**
ERIK	**Erikli-Kesan**	**1.21**	**34**	PN	**Pn**	**13 40 16.6**	**-0.1**
ALN	**Alexandroupoli**	**1.27**	**15**	PN	**Pn**	**13 40 16.2**	**-1.3**
ALN	**Alexandroupoli**	**1.27**	**15**	P	**Pn**	**13 40 17.5**	**-0.1**
ALN	**Alexandroupoli**	**1.27**	**15**	P	**Pn**	**13 40 17.4**	**-0.1**
ALN				S	**Sn**	**13 40 34.9**	**+0.5**
CHOS	**Chios island**	**1.32**	**165**	PN	**Pb**	**13 40 18.5**	**-0.3**
CHOS	**Chios island**	**1.32**	**165**	P	**Pg**	**13 40 19.0**	**-0.6**
CHOS				S	**Sg**	**13 40 37.6**	**+0.8**
CHOS	**Chios island**	**1.32**	**165**	P	**Pg**	**13 40 19.0**	**-0.6**
CHOS				S	**Sg**	**13 40 38.0**	**+1.2**
KESN	**Edirne-Kesan**	**1.41**	**35**	IAML_P			
	comp=Z,166nm,0.2s						
KESN				*i* P	**Pn**	**13 40 19.4**	**-0.4**
KESN				*i* S	**Sg**	**13 40 39.6**	**-0.2**
AOS	**Alonnisos**	**1.44**	**250**	PN	**Pn**	**13 40 19.1**	**-0.7**
AOS	**Alonnisos**	**1.44**	**250**	P	**Pb**	**13 40 19.9**	**-0.8**
KRBG	**Karabiga-Canak**	**1.48**	**60**	PN	**Pb**	**13 40 21.1**	**-0.3**
RDO	**Rodhopi**	**1.48**	**358**	PN	**Pn**	**13 40 19.7**	**-0.7**
RDO	**Rodhopi**	**1.48**	**358**	P	**Pn**	**13 40 20.4**	**+0.1**
RDO	**Rodhopi**	**1.48**	**358**	P	**Pn**	**13 40 20.3**	**-0.1**
URLA	**Izmir**	**1.51**	**150**	PN	**Pb**	**13 40 21.1**	**-0.8**
URLA	**Izmir**	**1.51**	**150**	*i* P	**Pb**	**13 40 21.1**	**-0.8**
URLA				*i* S	**Sb**	**13 40 40.1**	**-0.8**
PAIG	**Paliouri**	**1.52**	**280**	P	**Pn**	**13 40 20.9**	**0.0**
BALY	**Balya**	**1.54**	**87**	IAML_P			
	comp=Z,319nm,0.2s						
BALY				*i* P	**Pb**	**13 40 22.6**	**+0.1**
BALY				*i* S	**Sb**	**13 40 42.4**	**+0.4**
KAVA	**Kavala**	**1.57**	**328**	P	**Pn**	**13 40 21.9**	**+0.2**
KAVA	**Kavala**	**1.57**	**328**	P	**Pn**	**13 40 21.9**	**+0.2**
KAVA				S	**Sb**	**13 40 42.8**	**-0.1**
KNL	**Balıkesir**	**1.58**	**67**	IAML_P			
	comp=Z,423nm,0.2s						
KNL				*i* P	**Pb**	**13 40 23.0**	**-0.2**
KNL				*i* S	**Sg**	**13 40 44.8**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.65**	**99**	*i* P	**Pb**	**13 40 24.6**	**+0.2**
STEP				*i* S	**Sg**	**13 40 48.8**	**+1.7**
SBT4	**Kumbag-Tekirda**	**1.87**	**51**	PN	**Pn**	**13 40 26.1**	**+0.5**

WEL 09 13:51:44.4±1.1**, 35°S**±13°×**17°9W**±1°7**, h12**km**, ML4.1**/17**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.52**	**219**	P	Pn	13 52 37.0	-1.9
MXZ				S	Sn	13 53 20.7	+0.3
WMGZ	**Waiomatatini S**	**3.66**	**215**	P	Pn	13 52 42.0	+1.2
WMGZ				S	Sn	13 53 25.6	+1.6
PKGZ	**Pakihiroa**	**3.88**	**218**	P	Pn	13 52 43.8	-0.2
PKGZ				S	Sn	13 53 30.0	+0.4
PUZ	**Puketiti**	**3.94**	**215**	P	Pn	13 52 43.9	-0.8
PUZ				S	Sn	13 53 31.0	+0.1
HAZ	**Te Kaha**	**3.94**	**222**	P	Pn	13 52 45.8	+1.2
HAZ				S	Sn	13 53 33.3	+2.5
RUGZ	**Raukumara Rang**	**4.15**	**221**	P	Pn	13 52 47.7	+0.1
TWGZ	**Tauwhareparae**	**4.16**	**216**	P	Pn	13 52 48.5	+0.9
TWGZ				S	Sn	13 53 37.6	+1.4
CNGZ	**Carnagh Statio**	**4.30**	**212**	P	Pn	13 52 49.6	0.0
TKGZ	**Te Karaka**	**4.43**	**215**	P	Pn	13 52 51.7	+0.4
MWZ	**Matawai**	**4.50**	**219**	P	Pn	13 52 51.7	-0.8
MWZ				S	Sn	13 53 44.9	+0.1
URZ	**Urewera**	**4.67**	**222**	P	Pn	13 52 54.1	-0.6
URZ				S	Sn	13 53 49.0	+0.2
RIGZ	**Rimuhau**	**4.68**	**214**	P	Pn	13 52 54.8	-0.1
OPRZ	**Ohinepanea**	**4.72**	**230**	P	Pn	13 52 54.5	-0.9
KUZ	**Kuaotunu**	**4.76**	**245**	P	Pn	13 52 56.5	+0.6
PRGZ	**Paritu Road**	**4.80**	**211**	P	Pn	13 52 56.7	+0.1
SNGZ	**Shannon Statio**	**4.94**	**216**	P	Pn	13 52 59.0	+0.5
KNZ	**Kokohu**	**4.98**	**212**	P	Pn	13 52 58.1	-0.8
MHGZ	**Mahia Peninsul**	**4.99**	**210**	P	Pn	13 52 59.5	+0.4
MUGZ	**Murupara**	**5.01**	**223**	P	Pn	13 52 59.1	-0.4
KMRZ	**Kaimai**	**5.12**	**233**	P	Pn	13 53 00.8	-0.1
RAHZ	**Arahi**	**5.17**	**217**	P	Pn	13 53 01.9	+0.3

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*ISK **09** 13:59:59.9, 39°.67N×25°.60E, h8km, ML2.3/11*
*ISCJB **09** 14:00:00.5±0.5, 39°.68N±0°.02×25°.58E±0°.03, h6km±4km, Error ellipse: s-maj=4.3km s-min=3.2km az=147.4*
*ATH **09** 14:00:00.2, 39°.68N×25°.58E, h26km±2km, ML2.3/3, Error ellipse: s-maj=3.4km s-min=0.9km az=243.0*
*DDA **09** 14:00:01.4, 39°.74N×25°.66E, h8km±3km, ML2.5*
*THE **09** 14:00:01.1, 39°.70N×25°.62E, h6km±1km, ML2.1/5, Error ellipse: s-maj=1.6km s-min=0.5km az=29.0*
ISC 09 14:00:01.0±1.0**, 39°.69N**±0°.02×**25°.61E**±0°.02**, h11**km±9km**, n39, σ0s.62**/62**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.38**	**66**	PG	**Pg**	**14 00 08.2**	**-0.3**
BOZC				SG	**Sg**	**14 00 13.9**	**+0.4**
BOZC	**Bozcaada**	**0.38**	**66**	IAML_P			
	comp=Z,3μm,0.1s						
BOZC				*i* P	**Pg**	**14 00 08.3**	**-0.1**
BOZC				*i* S	**Sb**	**14 00 14.8**	**-0.7**
LIA	**Limnos Island**	**0.39**	**303**	P	**Pg**	**14 00 08.9**	**+0.2**
LIA				S	**Sg**	**14 00 14.2**	**+0.3**
LIA				AML	AML	14 00 17.6	
	comp=N,207μm,0.6s						
LIA				AML	AML	14 00 17.8	
	comp=E,220μm,0.3s						
LIA	**Limnos Island**	**0.39**	**303**	P	**Pg**	**14 00 09.0**	**+0.2**
LIA				S	**Sg**	**14 00 14.3**	**+0.3**
SIGR	**SIGRI**	**0.51**	**158**	PG	**Pg**	**14 00 10.0**	**-1.0**
SIGR				SG	**Sg**	**14 00 17.4**	**-0.4**
SIGR	**SIGRI**	**0.51**	**158**	P	**Pg**	**14 00 10.9**	**-0.2**
SIGR				S	**Sg**	**14 00 18.5**	**+0.7**
SIGR				AML	AML	14 00 19.1	
	comp=E,2327μm,0.5s						
SIGR				AML	AML	14 00 19.1	
	comp=N,2925μm,0.4s						
SIGR	**SIGRI**	**0.51**	**158**	P	**Pg**	**14 00 10.8**	**-0.2**
SIGR				S	**Sg**	**14 00 18.6**	**+0.8**
GADA	**Gvkgeada**	**0.55**	**24**	PG	**Pg**	**14 00 11.5**	**-0.3**
GADA				SG	**Sb**	**14 00 19.9**	**-0.7**
GADA	**Gvkgeada**	**0.55**	**24**	P	**Pg**	**14 00 11.5**	**-0.3**
GADA				S	**Sg**	**14 00 19.3**	**+0.3**
EZN	**Ezine**	**0.57**	**76**	PG	**Pg**	**14 00 11.5**	**-0.6**
EZN				SG	**Sg**	**14 00 19.9**	**+0.3**
EZN	**Ezine**	**0.57**	**76**	P	**Pg**	**14 00 11.9**	**-0.2**
EZN				S	**Sg**	**14 00 19.8**	**+0.2**
PRK	**Paraskevi**	**0.68**	**130**	P	**Pg**	**14 00 14.6**	**+0.5**
PRK				S	**Sb**	**14 00 23.9**	**-0.2**
PRK				AML	AML	14 00 28.0	
	comp=E,691μm,0.5s						
PRK				AML	AML	14 00 28.2	
	comp=N,537μm,0.3s						
PRK	**Paraskevi**	**0.68**	**130**	P	**Pg**	**14 00 13.8**	**-0.3**
PRK				S	**Sb**	**14 00 24.4**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**0.72**	**85**	*i* P	**Pb**	**14 00 15.8**	**+0.2**
SMTH	**Samothraki Isl**	**0.79**	**356**	P	**Pg**	**14 00 15.9**	**-0.3**
SMTH				S	**Sg**	**14 00 26.6**	**+0.1**
SMTH	**Samothraki Isl**	**0.79**	**356**	P	**Pg**	**14 00 15.9**	**-0.3**
SMTH				S	**Sg**	**14 00 26.7**	**+0.2**
AYVA	**Ayvalik**	**0.92**	**114**	*i* P	**Pb**	**14 00 19.0**	**+0.1**
AYVA				*i* S	**Sb**	**14 00 32.1**	**+1.0**
GELI	**Tayfur-Gelibol**	**0.97**	**43**	PG	**Pg**	**14 00 19.0**	**-0.7**
LPK	**Lapseki**	**1.12**	**52**	PN	**Pg**	**14 00 21.6**	**-0.9**
ENEZ	**Enez**	**1.13**	**21**	PN	**Pn**	**14 00 22.9**	**+0.2**
THAS	**Thassos island**	**1.14**	**324**	P	**Pg**	**14 00 22.6**	**-0.5**
THAS				S	**Sg**	**14 00 37.7**	**-0.2**
DKL	**Dikili**	**1.18**	**121**	PN	**Pb**	**14 00 22.9**	**-0.5**
ERIK	**Erikli-Kesan**	**1.20**	**35**	PN	**Pb**	**14 00 23.1**	**-0.7**
ALN	**Alexandroupoli**	**1.25**	**15**	PN	**Pn**	**14 00 23.6**	**-0.9**
ALN	**Alexandroupoli**	**1.25**	**15**	P	**Pn**	**14 00 24.2**	**-0.3**
CHOS	**Chios island**	**1.34**	**165**	PN	**Pn**	**14 00 25.4**	**-0.4**
CHOS	**Chios island**	**1.34**	**165**	P	**Pn**	**14 00 24.9**	**-0.9**
CHOS	**Chios island**	**1.34**	**165**	P	**Pn**	**14 00 24.9**	**-0.9**
CHOS				S	**Sb**	**14 00 44.3**	**+0.8**
KESN	**Edirne-Kesan**	**1.40**	**35**	*i* P	**Pg**	**14 00 29.1**	**+1.1**
KESN				*i* S	**Sn**	**14 00 46.0**	**+0.5**
AOS	**Alonnisos**	**1.44**	**249**	PN	**Pn**	**14 00 26.5**	**-0.5**
RDO	**Rodhopi**	**1.46**	**358**	PN	**Pn**	**14 00 27.8**	**+0.5**
KRBG	**Karabiga-Canak**	**1.48**	**61**	PN	**Pn**	**14 00 27.9**	**+0.4**
URLA	**Izmir**	**1.53**	**150**	PN	**Pn**	**14 00 27.8**	**-0.5**
BALY	**Balya**	**1.55**	**87**	*i* P	**Pn**	**14 00 26.4**	**-2.2**
BALY				*i* S	**Sg**	**14 00 50.4**	**-0.5**
KNL	**Balıkesir**	**1.58**	**68**	IAML_P			
	comp=Z,550nm,0.2s						
KNL				*i* P	**Pb**	**14 00 30.3**	**0.0**
KNL				*i* S	**Sg**	**14 00 51.9**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.66**	**100**	*i* P	**Pn**	**14 00 30.8**	**+0.7**
STEP				*i* S	**Sg**	**14 00 54.4**	**0.0**
SBT4	**Kumbag-Tekirda**	**1.86**	**52**	PN	**Pn**	**14 00 33.7**	**+1.0**
DURS	**Dursunbey**	**2.21**	**91**	IAML_P			
	comp=Z,94nm,0.3s						
DURS				*i* P	**Pb**	**14 00 42.1**	**+1.1**
DURS				*i* S	**Sn**	**14 01 05.6**	**+0.5**
EDRB	**Edirne**	**2.32**	**21**	PN	**Pn**	**14 00 38.8**	**-0.4**

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*PGC **09** 14:07:34.5±26.0, 49°.46N×130°.31W, h10km, MLSn3.4/16, Mw4.3, 248km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **09** 14:07:35.8±1.2, 49°.51N×130°.09W, h0km, mb3.5/4, mb1 3.8/13, mb1mx3.6/50, mbtmp3.6/13, ML3.4/9, MS3.4/14, Ms1 3.4/14, ms1mx3.2/35, Error ellipse: s-maj=20.4km s-min=11.9km az=61.0*
*ISCJB **09** 14:07:36.3±0.3, 49°.70N±0°.02×130°.05W±0°.05, h10km, mb3.8/6, MS3.5/6, Error ellipse: s-maj=4.7km s-min=2.9km az=146.5*
*NEIC **09** 14:07:38.4±0.4, 49°.72N×130°.03W, h10km, mb4.0/42, MW4.3(OTT), Error ellipse: s-maj=9.6km s-min=3.7km az=52.0*
ISC 09 14:07:37.4±0.7**, 49°.62N**±0°.06×**130°.08W**±0°.06**, h10**km**, n130, σ1s.44**/118**, mb3.9**/6**, MS3.5**/6**, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PACB	**Port Alice, BC**	**1.86**	**63**	Pn	**Pn**	**14 08 07.0**	**-2.3**
PACB				Sn	**Sn**	**14 08 30.9**	**-1.9**
PHC	**Port Hardy**	**2.02**	**56**	Pn	**Pn**	**14 08 09.9**	**-1.6**
PHC				Sn	**Sn**	**14 08 35.7**	**-1.1**
TLCB	**Telegraph Cove**	**2.29**	**65**	Pn	**Pn**	**14 08 13.4**	**-1.8**
TLCB				Sn	**Sn**	**14 08 44.1**	**+0.7**
WOSB	**Woss**	**2.34**	**75**	Pn	**Pn**	**14 08 14.0**	**-1.9**
GDR	**Gold River**	**2.63**	**85**	Pn	**Pn**	**14 08 17.4**	**-2.5**
NCRB	**Newcastle Ridg**	**2.71**	**72**	Pn	**Pn**	**14 08 20.0**	**-1.1**
BBB	**Bella Bella**	**2.86**	**25**	Pn	**Pn**	**14 08 22.9**	**0.0**
	30nm,0.3s,baz=225,slow=13,SNR=135						
BBB				Sn	**Sn**	**14 08 57.9**	**+0.6**
	5.0nm,0.3s,baz=294,slow=20,SNR=2.8						
BBB				LR	LR	14 09 03.8	
	comp=Z,116nm,20.9s,baz=328,slow=30						
BBB	**Bella Bella**	**2.86**	**25**	*e*Pn	**Pn**	**14 08 22.6**	**-0.4**
BBB				Sn	**Sn**	**14 08 57.9**	**+0.6**
BBB	**Bella Bella**	**2.86**	**25**	Pn	**Pn**	**14 08 22.5**	**-0.4**
CBB	**Campbell River**	**3.08**	**80**	Pn	**Pn**	**14 08 24.7**	**-1.4**
HG3B	**Hotspring**	**3.08**	**344**	Pn	**Pn**	**14 08 23.6**	**-2.5**
BNB	**Barry Inlet**	**3.14**	**341**	Pn	**Pn**	**14 08 23.5**	**-3.4**
TXB	**Texada**	**3.67**	**87**	Pn	**Pn**	**14 08 33.2**	**-1.0**
MOBC	**Moresby Island**	**3.72**	**342**	Pn	**Pn**	**14 08 33.0**	**-2.0**
GHNB	**Nanoose**	**3.83**	**92**	Pn	**Pn**	**14 08 36.1**	**-0.2**
DIB	**Dawson Inlet,**	**3.89**	**338**	*e*Pn	**Pn**	**14 08 33.8**	**-3.3**
NLLB	**Nanaimo Lost L**	**4.00**	**93**	Pn	**Pn**	**14 08 38.1**	**-0.6**
SHB	**Sechelt**	**4.04**	**88**	Pn	**Pn**	**14 08 38.7**	**-0.6**
LZB	**Mount Lazard**	**4.23**	**101**	Pn	**Pn**	**14 08 41.1**	**-0.9**
GOBB	**Galiano Island**	**4.36**	**96**	Pn	**Pn**	**14 08 43.5**	**-0.1**
BIB	**Bowen Island**	**4.42**	**90**	Pn	**Pn**	**14 08 44.2**	**-0.3**
PGC	**Sidney**	**4.46**	**100**	*e*Pn	**Pn**	**14 08 43.8**	**-1.2**
WPB	**Watts Point**	**4.47**	**87**	Pn	**Pn**	**14 08 44.2**	**-0.9**
VDB	**Vedder Mountai**	**5.25**	**93**	Pn	**Pn**	**14 08 56.0**	**+0.1**
B06A	**Marblemount**	**5.76**	**98**	*e*Pn	**Pn**	**14 09 02.7**	**-0.1**
FSB	**Fort Saint Jam**	**6.02**	**34**	Pn	**Pn**	**14 09 07.1**	**+0.6**
CRAG	**Craig**	**6.14**	**344**	*e*Pn	**Pn**	**14 09 06.9**	**-1.2**
LON	**Longmire**	**6.23**	**114**	*e*Pn	**Pn**	**14 09 08.8**	**-0.6**
LTY	**Liberty**	**6.69**	**107**	*e*Pn	**Pn**	**14 09 14.8**	**-1.0**
PNT	**Penticton**	**6.83**	**89**	Pn	**Pn**	**14 09 17.4**	**-0.2**
WRAK	**Wrangell Islan**	**6.95**	**350**	*e*Pn	**Pn**	**14 09 16.8**	**-2.4**
B08A	**Colville Reser**	**7.19**	**96**	*e*Pn	**Pn**	**14 09 20.7**	**-1.8**
BMBC	**Bull Mountain**	**8.03**	**34**	Pn	**Pn**	**14 09 37.3**	**+3.2**
E09A	**Wood Farm, Sta**	**8.58**	**107**	*e*Pn	**Pn**	**14 09 41.1**	**-0.4**
NEW	**Newport**	**8.64**	**94**	Pn	**Pn**	**14 09 41.9**	**-0.6**
	1.0nm,0.3s,baz=308,slow=11,SNR=7.0						
NEW				LR	LR	14 13 00.2	
	comp=Z,447nm,20.1s,baz=270,slow=38						
NEW	**Newport**	**8.64**	**94**	*e*Pn	**Pn**	**14 09 41.5**	**-0.9**
DLBC	**Dease Lake**	**8.84**	**0**	Pn	**Pn**	**14 09 46.9**	**+1.7**
	0.1nm,0.3s,baz=194,slow=15,SNR=3.0						
DLBC				LR	LR	14 13 09.0	
	comp=Z,321nm,19.3s,baz=176,slow=37						
YBH	**Yreka Blue Hor**	**9.42**	**144**	Pn	**Pn**	**14 09 52.3**	**-0.9**
	0.1nm,0.3s,baz=330,slow=11,SNR=4.8						
YBH				LR	LR	14 12 40.7	
	comp=Z,64nm,18.5s,baz=330,slow=33						
M02C	**Callahan**	**9.66**	**146**	P	Pn	14 09 57.9	+1.4
	baz=331						
N02D	**Trinity Center**	**10.08**	**146**	P	Pn	14 10 04.3	+2.0
	baz=332						
SKAG	**Skagway**	**10.32**	**345**	*e*Pn	**Pn**	**14 10 06.7**	**+1.4**
WDC	**Whiskeytown Da**	**10.49**	**147**	*e*Pn	Pn	14 10 09.4	+1.7
WVOR	**Wild Horse Val**	**10.71**	**128**	*e*Pn	Pn	14 10 13.2	+2.2
KCPM	**Cahto Peak**	**10.95**	**153**	*e*Pn	Pn	14 10 16.9	+2.7
MSO	**Missoula**	**11.13**	**98**	*e*Pn	**Pn**	**14 10 18.2**	**+1.7**
YKU2	**Yakutat**	**11.35**	**334**	*e*Pn	**Pn**	**14 10 17.4**	**-2.0**
WHY	**Whitehorse**	**11.40**	**348**	*e*Pn	**Pn**	**14 10 16.9**	**-3.2**
ORV	**Oroville**	**11.77**	**146**	*e*Pn	**Pn**	**14 10 26.1**	**+0.9**
BEKR	**Beckworth**	**11.94**	**141**	*e*Pn	Pn	14 10 29.6	+1.8
AFDM	**Forest Hills D**	**12.50**	**145**	*e*Pn	**Pn**	**14 10 34.5**	**-0.8**
HRY	**Holter Researc**	**12.53**	**96**	*e*Pn	**Pn**	**14 10 35.4**	**-0.3**
EGMT	**Eagleton**	**13.49**	**89**	P	**Pn**	**14 10 50.3**	**+1.5**
	baz=285						
NVAR	**Mina Array Bea**	**14.01**	**139**	Pn	**Pn**	**14 10 56.9**	**+0.8**
	0.1nm,0.3s,baz=319,slow=12,SNR=3.6						
YNR	**Norris Junctio**	**14.07**	**103**	*e*Pn	P	14 10 59.4	-5.3
NV11	**Mina Array Sit**	**14.07**	**138**	*e*Pn	P	14 10 58.5	-6.3
MOOW	**Moose Ponds**	**14.50**	**107**	*e*Pn	**Pn**	**14 11 03.9**	**+1.1**
RLMT	**Red Lodge**	**14.79**	**100**	*e*Pn	**P**	**14 11 11.1**	**-1.7**
AHID	**Auburn Hatcher**	**14.80**	**110**	*e*Pn	**Pn**	**14 11 04.8**	**-2.1**
KLU	**Klutina**	**14.84**	**329**	*e*Pn	**Pn**	**14 11 04.3**	**-2.7**
HARP	**HAARP**	**15.28**	**333**	*e*Pn	**Pn**	**14 11 12.3**	**-0.7**
	34nm,1.4s						
DAWY	**Dawson**	**15.32**	**344**	*e*Pn	**P**	**14 11 18.1**	**-0.3**
	23nm,1.8s						
R11A	**Troy Canyon, C**	**15.32**	**132**	P	**P**	**14 11 16.0**	**-2.7**
	baz=322						
YKA	**Yellowknife Ar**	**15.47**	**28**	Pn	**Pn**	**14 11 14.2**	**-1.1**
	0.1nm,0.3s,baz=218,slow=13,SNR=8.0						
KDAK	**Kodiak Island**	**15.57**	**310**	LR	LR	14 15 33.1	
	comp=Z,127nm,20.9s,baz=124,slow=30						
BW06	**Boulder Array**	**15.75**	**108**	*e*Pn	**P**	**14 11 21.4**	**-2.1**
	9.7nm,1.3s						
BW06	**Boulder Array**	**15.75**	**108**	P	**P**	**14 11 23.0**	**-0.5**
	baz=303						
PDAR	**Pinedale Array**	**15.75**	**108**	Pn	**P**	**14 11 21.4**	**-2.1**
	0.0nm,0.3s,baz=306,slow=10,SNR=15						
PDAR				LR	LR	14 17 09.1	
	comp=Z,174nm,20.4s,baz=312,slow=36						
PDAR	**Pinedale Array**	**15.75**	**108**	*e*Pn	**P**	**14 11 20.6**	**-2.8**
CWC	**Cottonwood Cre**	**15.80**	**142**	P	**P**	**14 11 21.5**	**-2.5**
	baz=331						
NLU	**North Lily Min**	**15.99**	**120**	*e*Pn	**P**	**14 11 26.6**	**+0.6**
	3.4nm,0.9s						
PSUT	**Pine Spring**	**16.05**	**128**	*e*Pn	**P**	**14 11 27.5**	**+0.8**
	6.5nm,1.4s						
DAC	**Darwin (Calif)**	**16.14**	**141**	*e*Pn	**P**	**14 11 29.6**	**+1.9**
	11nm,1.5s						
RIDG	**Independ'e Rid**	**16.24**	**336**	*e*Pn	**P**	**14 11 29.6**	**+1.1**
	25nm,1.8s						
ISA	**Isabella, Lake**	**16.33**	**144**	P	**P**	**14 11 29.8**	**+0.1**
	baz=333						
LRMC	**Laurel Mtn Rad**	**16.79**	**143**	P	**P**	**14 11 35.3**	**+0.4**
	baz=332						
MSU	**Marysvale**	**16.95**	**124**	*e*Pn	**P**	**14 11 36.7**	**0.0**
DGMT	**Dagmar**	**16.99**	**84**	*e*Pn	**P**	**14 11 35.6**	**-1.2**
	24nm,1.1s						
CCUT	**Cedar City**	**17.05**	**129**	*e*Pn	**P**	**14 11 37.3**	**-0.5**
	16nm,1.8s						
P17A	**Butcher Ranch,**	**17.07**	**119**	*e*Pn	**P**	**14 11 40.2**	**+2.2**
	6.2nm,1.2s						
EPYK	**Eagle Plains**	**17.14**	**351**	P	**P**	**14 11 39.5**	**+1.0**
	baz=165						
SZCU	**Shurtz Canyon**	**17.16**	**128**	*e*Pn	**P**	**14 11 39.2**	**+0.3**
	9.4nm,1.5s						
RND	**Reindeer**	**17.16**	**331**	*e*Pn	**P**	**14 11 39.1**	**+0.3**
	35nm,1.9s						
MTPU	**Mount Pierson**	**17.29**	**125**	*e*P	**P**	**14 11 42.4**	**+1.8**
	6.5nm,1.4s						
LCMT	**Little Creek M**	**17.52**	**130**	*e*Pn	**P**	**14 11 43.0**	**0.0**
	20nm,2.0s						
ILAR	**Eielson Array**	**17.61**	**336**	P	**P**	**14 11 44.1**	**+0.6**
	0.0nm,0.3s,baz=154,slow=13,SNR=6.8						
ILAR				LR	LR	14 17 22.8	
	comp=Z,77nm,19.8s,baz=204,slow=33						
KNB	**Kanab**	**17.73**	**129**	*e*Pn	**P**	**14 11 45.9**	**+0.6**
	20nm,1.8s						
FFC	**Flin Flon**	**17.91**	**63**	*e*Pn	**Pn**	**14 11 45.8**	**-0.6**
	37nm,1.1s						
SNCC	**San Nicolas Is**	**18.14**	**150**	*e*Pn	**P**	**14 11 53.0**	**+3.3**
	44nm,1.0s						
CAST	**Castle Rocks**	**18.25**	**327**	*e*Pn	**P**	**14 11 51.7**	**+1.0**
	12nm,1.7s						
U15A	**North Rim**	**18.46**	**129**	*e*P	**Pn**	**14 11 54.5**	**+1.1**
	11nm,1.5s						
RSSD	**Black Hills**	**18.59**	**97**	*e*P	**Pn**	**14 11 56.3**	**+1.3**
	5.5nm,1.0s						
PV09	**Paradox Valley**	**18.65**	**119**	*e*P	**Pn**	**14 11 56.1**	**+0.2**
PV21	**Cone Mtn., Par**	**18.70**	**118**	*e*P	**Pn**	**14 11 58.0**	**+1.6**
	14nm,1.5s						
PV10	**Paradox Valley**	**18.79**	**119**	*e*P	**Pn**	**14 12 00.2**	**+2.7**
	20nm,1.3s						
PV14	**Lion Creek, Pa**	**18.80**	**119**	*e*P	**Pn**	**14 11 57.6**	**+0.1**
	20nm,1.5s						
INK	**Inuvik**	**18.82**	**356**	P	**Pn**	**14 11 59.2**	**+1.8**
	0.0nm,0.3s,baz=174,slow=10.0,SNR=3.3						
INK				LR	LR	14 18 44.8	
	comp=Z,117nm,20.5s,baz=60,slow=35						
PV04	**Paradox Valley**	**18.85**	**119**	*e*P	**Pn**	**14 11 58.5**	**+0.4**
	19nm,1.5s						
PV20	**West Nyswonger**	**18.85**	**119**	*e*P	**Pn**	**14 12 00.3**	**+2.2**
	17nm,1.4s						
PV19	**Morning Glory**	**18.86**	**119**	*e*P	**Pn**	**14 11 58.9**	**+0.5**
	14nm,1.4s						
MLY	**Manley**	**18.90**	**332**	*e*P	**Pn**	**14 11 58.7**	**+0.3**
	8.8nm,1.6s						
PV17	**East Wray Mesa**	**18.90**	**119**	*e*P	**Pn**	**14 11 59.5**	**+0.7**
	20nm,1.3s						
PFO	**Pinyon Flats O**	**18.91**	**143**	*e*P	**Pn**	**14 11 59.6**	**+0.8**
	12nm,1.7s						
XPFO	**Pion Flat**	**18.91**	**143**	*e*P	**Pn**	**14 11 59.2**	**+0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	6.9nm,1.3s						
PV11	David Mesa, Pa	18.93	119	eP	Pn	14 11 59.4	+0.2
	22nm,1.3s						
PV05	Paradox Valley	18.96	120	eP	Pn	14 12 01.9	+2.4
	14nm,1.2s						
PV12	Saucer Basin,	18.96	119	eP	Pn	14 12 00.6	+1.0
	9.8nm,1.0s						
PV07	Paradox Valley	18.97	118	eP	Pn	14 12 00.2	+0.6
	11nm,1.4s						
PV03	Paradox Valley	18.98	119	eP	Pn	14 12 00.4	+0.6
	36nm,2.0s						
PV13	Radium Mtn., P	19.06	119	eP	Pn	14 12 01.5	+0.8
	24nm,1.4s						
PV02	Paradox Valley	19.07	119	eP	Pn	14 12 01.7	+0.8
	13nm,1.3s						
PHWY	Pilot Hill	19.11	106	eP	Pn	14 12 01.0	-0.4
	5.5nm,1.0s						
PV01	Paradox Valley	19.22	119	eP	Pn	14 12 03.9	+1.2
	10nm,1.2s						
SDPT	Sand Point	19.28	299	eP	Pn	14 12 01.7	-1.3
	431nm,1.9s						
MVCO	Mesa Verde	19.91	120	P	Pn	14 12 11.7	+0.9
	baz=316						
IM3	Indian Mountai	20.47	332	eP	Pn	14 12 15.1	-1.9
S22A	4UR Ranch, Cre	20.49	117	eP	Pn	14 12 16.7	-1.1
	11nm,1.3s						
S22A	4UR Ranch, Cre	20.49	117	P	Pn	14 12 17.6	-0.2
	baz=313						
ULM	Lac du Bonnet	21.92	75	P	P	14 12 31.5	+0.9
	7.8nm,0.8s,baz=280,slow=9.8,SNR=14						
ULM				LR	LR	14 21 12.0	
	comp=Z,309nm,19.2s,baz=254,slow=37						
ANMO	Albuquerque	22.68	121	P	P	14 12 38.7	-0.4
	0.3nm,0.3s,baz=325,slow=12,SNR=1.7						
FCC	Fort Churchill	22.70	53	eP	P	14 12 38.6	-0.3
	12nm,1.1s						
ECSD	EROS Data Cent	23.57	92	eP	P	14 12 49.1	+1.2
	13nm,1.4s						
TXAR	Lajitas Array	28.50	125	LR	LR	14 25 34.4	
	comp=Z,60nm,20.6s,baz=0.0,slow=38						
RES	Resolute Bay	29.13	18	LR	LR	14 25 15.0	
	comp=Z,96nm,19.1s,baz=30,slow=36						
LPIG	La Paz	29.80	142	LR	LR	14 24 25.7	
	comp=Z,53nm,19.1s,baz=30,slow=34						
SCHQ	Schefferville	37.91	57	LR	LR	14 30 30.6	
	comp=Z,171nm,19.2s,baz=346,slow=36						
NOA	NORSAR Array B	65.38	20	LR	LR	14 44 48.1	
	comp=Z,38nm,19.2s,baz=270,slow=34						
SONA0	Songino Array	71.38	324	eP	P	14 18 58.2	+0.8
SONM	Songino Array	71.38	324	P	P	14 18 58.2	+0.8
	0.3nm,0.8s,baz=42,slow=4.7,SNR=2.2						
KURK	Kurchatov	77.07	342	eP	P	14 19 30.9	+0.6
KURBB	Kurchatov Arra	77.18	342	P	P	14 19 30.9	0.0
	0.5nm,0.8s,baz=17,slow=6.4,SNR=3.3						

*ISK **09** 14:12:15.5, 37°.33N×37°.15E, h8km, ML1.9/6*
*ISCJB **09** 14:12:16.6±0.5, 37°.31N±0°.03×37°.15E±0°.04, h7km±6km, Error ellipse: s-maj=6.5km s-min=4.0km az=35.9*
*DDA **09** 14:12:16.3, 37°.31N×37°.17E, h7km±2km, ML2.8*
ISC 09 14:12:16.1±0.9, **37°.32N**±0°.03×**37°.17E**±0°.03, **h10**km±8km, **n14**, σ**0s62**/23, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GAZ	Gaziantep	0.15	166	PG	Pg	14 12 19.4	-0.1
GAZ				SG	Sg	14 12 22.3	+0.3
KMRS	Kahramanmaras	0.28	311	PG	Pg	14 12 21.6	-0.2
KMRS				SG	Sg	14 12 25.4	-0.2
GZT	Gaziantep	0.32	83	IAML_P			
	comp=Z,2µm,0.1s						
GZT				iP	Pb	14 12 23.5	-0.5
GZT				iS	Sb	14 12 28.2	-1.0
KUZU	Kuzuini	0.55	188	IAML_P			
	comp=Z,2µm,0.1s						
KUZU				iP	Pb	14 12 28.1	+0.2
KUZU				iS	Sb	14 12 35.9	+0.1
ANDN	Andirin	0.70	292	iP	Pb	14 12 29.9	-0.5
ANDN				iS	Sn	14 12 42.3	-0.8
ATAB	Bozova	0.91	80	iP	Pn	14 12 34.7	-0.2
ATAB				iS	Sb	14 12 47.3	+1.1
ELBS	KAHRAMANMARAS	1.00	359	iP	Pn	14 12 37.5	+1.2
ELBS				iS	Sn	14 12 50.3	-0.3
KOZT	Kozan	1.08	279	PG	Pb	14 12 36.7	-0.1
SAIM	ADANA	1.08	308	IAML_P			
	comp=Z,661nm,0.1s						
SAIM				iP	Pn	14 12 37.5	+0.1
SAIM				iS	Sb	14 12 51.7	+0.6
AKCD	Akcadag	1.14	31	IAML_P			
	comp=Z,950nm,0.2s						
AKCD				iP	Pn	14 12 39.5	+1.3
TAHT	Tahtakopru-Hat	1.23	220	PN	Pb	14 12 39.1	-0.2
SURC	SANLIURFA_SURC	1.24	110	IAML_P			
	comp=Z,336nm,0.1s						
SURC				iP	Pg	14 12 39.8	-0.1
SURC				iS	Sg	14 12 56.0	+0.1
DARE	Darende-Malaty	1.27	11	PN	Pg	14 12 40.4	-0.2
URFA	Urfa	1.32	84	PN	Pn	14 12 40.8	+0.1

PRU 09 14:15:03.1±0.0, **50°.20N**×**19°.31E**, **h0**km, **Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.31	86	ePg	Pg	14 15 08.4	-0.7
OJC				eSg	Sg	14 15 12.8	-0.4
OKC	Ostrava-Krasne	0.83	245	ePG	Pg	14 15 18.7	-0.3
OKC				eSG	Sg	14 15 30.7	+0.9
	comp=Z,8.7nm,0.4s						
NIE	Niedzica	1.01	140	ePg	Pg	14 15 22.8	+0.3
NIE				eSg	Sb	14 15 36.8	-0.5
LANS	Liptovska Anna	1.06	174	ePG	Pg	14 15 22.3	-1.0
LANS				eSG	Sg	14 15 37.2	+0.2
MORC	Moravsky Berou	1.22	250	ePG	Pg	14 15 24.7	-1.7
MORC				eSG	Sg	14 15 40.7	-1.5
KRLC	Kraliky	1.63	267	ePG	Pn	14 15 33.0	-0.1
KRLC				eSG	Sn	14 15 54.9	+0.1
	comp=Z,2.5nm,0.5s						
VYHS	Vyhne	1.74	190	ePN	Pn	14 15 32.6	-1.9
VYHS				eSN	Sn	14 15 54.7	-2.6
VYHS				eLG	Lg	14 15 57.6	
DPC	Dobruska-Polom	1.92	276	ePG	Pb	14 15 38.5	-0.5
DPC				eSG	Sb	14 16 04.1	+0.5
KHC	Kasperske Hory	3.87	256	eSG	Sg	14 17 07.4	-0.1

*ISK **09** 14:15:27.7, 39°.63N×25°.62E, h4km, ML3.2/23*
*DDA **09** 14:15:28.6, 39°.64N×25°.64E, h28km±1km, ML3.1*
*ISCJB **09** 14:15:28.6±0.4, 39°.64N±0°.02×25°.62E±0°.02, h6km±3km, Error ellipse: s-maj=2.9km s-min=2.4km az=150.6*
*ATH **09** 14:15:28.2, 39°.64N×25°.61E, h27km±1km, ML3.2/5, Error ellipse: s-maj=1.8km s-min=0.7km az=65.0*
*THE **09** 14:15:29.1, 39°.65N×25°.64E, h10km, ML3.0/10, Error ellipse: s-maj=0.9km s-min=0.3km az=84.0*
*BEO **09** 14:15:30.5±1.1, 39°.53N×25°.52E, h5km, ML2.9/3*
ISC 09 14:15:28.6±1.1, **39°.63N**±0°.02×**25°.62E**±0°.02, **h6**km±9km, **n93**, σ**0s98**/120, **2C-3D**, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.40	57	PG	Pg	14 15 36.3	0.0
BOZC				SG	Sg	14 15 41.6	+0.1
BOZC	Bozcaada	0.40	57	iP	Pg	14 15 35.2	-1.1
GPNR	Gulpinar-Canak	0.43	113	PG	Pg	14 15 37.4	+0.4
LIA	Limnos Island	0.43	309	P	Pg	14 15 37.4	+0.4
LIA				S	Sb	14 15 44.2	-1.3
LIA	Limnos Island	0.43	309	P	Pg	14 15 37.4	+0.4
SIGR	SIGRI	0.45	156	PG	Pg	14 15 36.8	-0.6
SIGR	SIGRI	0.45	156	P	Pg	14 15 38.1	+0.7
SIGR				S	Sb	14 15 45.1	-1.0
SIGR				AML	AML	14 15 45.8	
	comp=N,11989µm,0.4s						
SIGR				AML	AML	14 15 45.8	
	comp=E,11600µm,0.4s						
SIGR	SIGRI	0.45	156	P	Pg	14 15 38.0	+0.7
SIGR				S	Sb	14 15 45.2	-0.9
EZN	Ezine	0.58	70	PG	Pg	14 15 39.6	-0.2
EZN	Ezine	0.58	70	P	Pg	14 15 39.5	-0.2
EZN				S	Sg	14 15 47.5	+0.2
GADA	Gvkgeada	0.60	21	PG	Pg	14 15 40.0	-0.3
GADA	Gvkgeada	0.60	21	P	Pg	14 15 39.9	-0.3
GADA				S	Sb	14 15 48.9	-1.5
GOKC	Gokceada-Canak	0.62	22	PG	Pg	14 15 40.0	-0.5
PRK	Paraskevi	0.63	127	P	Pb	14 15 41.9	-0.2
PRK				S	Sb	14 15 51.2	0.0
PRK				AML	AML	14 15 54.9	
	comp=N,4415µm,0.5s						
PRK				AML	AML	14 15 58.7	
	comp=E,4847µm,0.7s						
PRK	Paraskevi	0.63	127	P	Pg	14 15 41.4	+0.6
PRK				S	Sb	14 15 50.8	-0.4
BAYC	CANAKKALE_Bayr	0.72	81	iP	Pg	14 15 42.8	+0.2
BAYC				iS	Sb	14 15 53.1	-0.8
SMTH	Samothraki Isl	0.84	355	P	Pg	14 15 44.6	-0.3
SMTH				S	Sb	14 15 56.2	-1.2
SMTH				AML	AML	14 15 58.4	
	comp=N,1071µm,0.3s						
SMTH				AML	AML	14 15 58.4	
	comp=E,1289µm,0.4s						
SMTH	Samothraki Isl	0.84	355	P	Pg	14 15 44.6	-0.3
SMTH				S	Sb	14 15 56.6	-0.8
AYVA	Ayvalik	0.89	111	iP	Pb	14 15 46.6	+0.1
AYVA				iS	Sn	14 15 59.9	-1.0
GELI	Tayfur-Gelibol	1.01	40	PG	Pg	14 15 47.9	-0.1
PSRA	Psara	1.08	182	P	Pg	14 15 49.8	+0.3
PSRA				S	Sn	14 16 05.1	-0.7
SKY	Skiros Island	1.12	228	P	Pb	14 15 49.9	-0.5
SKY	Skiros Island	1.12	228	P	Pb	14 15 50.0	-0.4
SKY				S	Sn	14 16 06.5	-0.1
DKL	Dikili	1.14	119	PN	Pb	14 15 50.3	-0.5
LPK	Lapseki	1.15	49	PN	Pb	14 15 50.2	-0.7
ENEZ	Enez	1.18	20	PN	Pb	14 15 50.2	-1.3
THAS	Thassos island	1.20	325	P	Pb	14 15 50.6	-1.1
THAS				S	Sg	14 16 06.7	-0.5
THAS				AML	AML	14 16 08.7	
	comp=E,1398µm,0.3s						
THAS				AML	AML	14 16 08.8	
	comp=N,1431µm,0.4s						
THAS	Thassos island	1.20	325	P	Pb	14 15 50.6	-1.1
THAS				S	Sn	14 16 07.7	-0.9
ERIK	Erikli-Kesan	1.25	33	PN	Pn	14 15 51.5	-1.1
FOCM	Foa	1.26	136	PN	Pb	14 15 52.5	-0.2
KRBN	Karaburun	1.26	145	PN	Pb	14 15 52.8	-0.1
CHOS	Chios island	1.28	165	PN	Pn	14 15 52.5	-0.7
CHOS	Chios island	1.28	165	P	Pn	14 15 52.7	-0.6
CHOS				S	Sb	14 16 10.1	0.0
CHOS				AML	AML	14 16 14.7	
	comp=E,2526µm,0.3s						
CHOS				AML	AML	14 16 17.9	
	comp=N,1836µm,0.6s						
CHOS	Chios island	1.28	165	P	Pn	14 15 52.7	-0.6
CHOS				S	Sb	14 16 10.0	-0.1
ALN	Alexandroupoli	1.31	14	P	Pn	14 15 52.2	-1.3
ALN	Alexandroupoli	1.31	14	P	Pn	14 15 52.1	-1.4
ALN				S	Sb	14 16 09.9	-0.8
AOS	Alonnisos	1.42	252	PN	Pb	14 15 54.9	-0.7
AOS	Alonnisos	1.42	252	P	Pn	14 15 54.3	-0.8
AOS	Alonnisos	1.42	252	P	Pn	14 15 54.3	-0.8
AOS				S	Sg	14 16 14.2	-0.2
KESN	Edirne-Kesan	1.45	34	iP	Pb	14 15 55.9	-0.3
KESN				iS	Sg	14 16 14.6	-0.6
URLA	Izmir	1.48	149	PN	Pn	14 15 55.4	-0.4
URLA	Izmir	1.48	149	IAML_P			
	comp=Z,5µm,0.4s						
URLA				iP	Pn	14 15 55.7	-0.1
URLA				iS	Sb	14 16 15.2	-0.3
KRBG	Karabiga-Canak	1.50	59	PN	Pb	14 15 56.4	-0.5
RDO	Rodhopi	1.52	358	PN	Pn	14 15 56.1	-0.3
RDO	Rodhopi	1.52	358	P	Pn	14 15 55.4	-1.0
RDO	Rodhopi	1.52	358	P	Pn	14 15 55.3	-1.1
PAIG	Paliouri	1.53	282	P	Pn	14 15 55.8	-0.7
SART	Tekirdag	1.60	48	IAML_P			
	comp=Z,3µm,0.2s						
SART				iP	Pb	14 15 58.0	-0.6
KNL	Balıkesir	1.60	66	iP	Pb	14 15 58.2	-0.4
KAVA	Kavala	1.61	329	P	Pn	14 15 56.3	-1.3
KAVA				S	Sn	14 16 17.5	-1.2
STEP	BALIKESIR_Sava	1.64	98	iP	Pn	14 15 58.2	+0.1
GONE	Gonen-Balikesi	1.64	75	PN	Pb	14 15 58.5	-0.9
BLCB	Balcova	1.66	138	PN	Pn	14 15 58.7	+0.3
BALB	Balikesir	1.75	89	PN	Pb	14 15 59.9	-1.2
EREA	Eretria	1.79	228	P	Pn	14 15 59.2	-0.9
EREA	Eretria	1.79	228	P	Pn	14 15 59.2	-0.9
EREA				S	Sn	14 16 23.0	-0.1
AKHS	Akhisar	1.86	113	IAML_P			
	comp=Z,1µm,0.2s						
AKHS				iP	Pb	14 16 01.7	-1.3
EDC	Edincik	1.87	67	PN	Pn	14 16 01.4	+0.2
SBT4	Kumbag-Tekirda	1.89	50	PN	Pn	14 16 01.6	+0.2
SRS	Serrai	2.15	314	ePn	Pb	14 16 07.0	-1.0
SRS				eSn	Sb	14 16 34.8	-0.1
HORT	Hortiatis	2.16	297	PN	Pn	14 16 05.2	-0.1
NVR	Nevrokopi	2.18	323	P	Pn	14 16 04.9	-0.7
NVR	Nevrokopi	2.18	323	P	Pn	14 16 04.9	-0.7
KCTX	Karacabey (Bur	2.20	72	PN	Pn	14 16 05.8	0.0
DURS	Dursunbey	2.20	90	IAML_P			
	comp=Z,717nm,0.3s						
DURS				iP	Pn	14 16 06.2	+0.3
DURS				iS	Sn	14 16 33.8	+0.2
EDRB	Edirne	2.38	21	PN	Pn	14 16 08.9	+0.7
SLVT	Silivri	2.54	50	PN	Pn	14 16 10.5	0.0
PLD	Plovdiv	2.57	345	ePn	Pb	14 16 14.0	-1.2
PLD				eSn	Sb	14 16 47.0	0.0
PLD	Plovdiv	2.57	345	PN	Pn	14 16 11.6	+0.7
KNT	Kendrikon	2.58	307	P	Pn	14 16 10.8	-0.2
KULA	Kula-Manisa	2.61	114	PN	Pn	14 16 11.8	+0.3
MDNY	Mudanya-Bursa	2.61	73	PN	Pn	14 16 12.0	+0.6
ARMT	Armutlu	2.66	68	PN	Pn	14 16 12.6	+0.5
SBT5	Esenkoy-Cinarc	2.69	67	PN	Pn	14 16 13.1	+0.6
CTKS	Kestanelik-??a	2.73	53	PN	Pn	14 16 13.7	+0.7
CTYL	Yalikoy Yolu	2.75	47	PN	Pn	14 16 14.3	+1.1
DID	Didima	2.82	222	P	Pn	14 16 13.7	-0.7
VAY	Valandovo	2.88	307	iPn	Pb	14 16 20.6	+0.2
STIP	Stip	3.33	309	iPn	Pn	14 16 20.7	-0.6
FNA	Florina	3.45	291	ePn	Pn	14 16 24.3	+1.3
VTS	Vitosha	3.48	329	ePn	Pn	14 16 25.6	+2.1
VTS				eSn	Sn	14 17 06.4	+1.4
VTS	Vitosha	3.48	329	⇑iP	Sn	14 17 06.4	+1.4
VTS	Vitosha	3.48	329	S	Sg	14 17 21.9	+1.6
ZAPS	Zavoj	4.28	329	ePn	Pn	14 16 36.5	+2.1
BARS	Barje	4.29	319	ePn	Pn	14 16 36.1	+1.6
MANR	Mangalia	4.74	27	⇓iP	Pg	14 17 02.6	+3.2
SELS	Selova	4.93	318	ePn	Pn	14 16 44.8	+1.5
BOVS	Bovan	4.96	325	ePn	Pn	14 16 46.7	+3.0
IVAS	Ivanjica	5.69	316	ePn	Pn	14 16 55.0	+1.2
MDVR	Moldovita	5.91	332	⇑iP	Pn	14 16 59.9	+3.1
DIVS	Divibare	6.13	319	ePn	Pn	14 17 02.2	+2.3
GZR	Gura Zlata	6.13	341	⇓iP	Pn	14 17 01.5	+1.6
BZS	Buzias	6.67	335	⇓iP	Pn	14 17 02.1	-5.1

*ISCJB **09** 14:17:16.7±0.5, 1°.89S±0°.08×67°.96E±0°.08, h15km, mb4.3/21, MS3.9/20, Error ellipse: s-maj=13.4km s-min=9.9km az=42.5*
*IDC **09** 14:17:16.3±0.6, 1°.96S×67°.96E, h0km, mb4.1/15, mb1 4.2/16, mb1mx3.9/58, mbtmp4.1/16, ML4.5/1, MS4.0/21, Ms1 4.0/21, ms1mx3.7/43, Error ellipse: s-maj=19.2km s-min=14.7km az=130.0*
*NEIC **09** 14:17:18.5±4.8, 1°.92S×67°.96E, h16km±28km, mb4.7/9, Error ellipse: s-maj=10.1km s-min=8.3km az=134.0*
*GCMT **09** 14:17:19.5±0.3, 1°.86S±0°.03×67°.90E±0°.02, h13km±1km, MW4.8/72, Moment Tensor Solution. s23,c26; s72,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.22±.16; $M_{\theta\theta}$0.67±.10; $M_{\phi\phi}$1.55±.11; $M_{r\theta}$1.03±.32; $M_{\theta\phi}$-0.94±.07; $M_{\phi r}$-0.05±.25; Best double couple: $M_0$2.39900×10^{16} NP1:ϕ_s310.00000°, δ55.00000°, λ-111.00000°. NP2: ϕ_s163.00000°, δ40.00000°, λ-63.00000°. Principal axes: T 2.2340, Plg8.0000°, Azm54.0000°; N 0.3280, Plg17.0000°, Azm322.0000°; P -2.5640, Plg71.0000°, Azm169.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 14:17:18.4±0.6, **1°.9S**±0°.1×**68°.0E**±0°.1, **h15**km, **n66**, σ**0s66**/51, **mb4.3**/21, **MS4.0**/20, **Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.31	145	T	T	14 23 58.7	
	baz=324,slow=75,SNR=95						
H08N3	Diego Garcia H	5.32	146	T	T	14 24 01.1	
	baz=324,slow=75,SNR=132						
H08N1	Diego Carcia H	5.33	145	T	T	14 24 00.4	
	baz=324,slow=75,SNR=94						
PALK	Pallekele	15.66	54	Pn	Pn	14 20 58.7	-0.1
	1.7nm,0.3s,baz=295,slow=8.1,SNR=9.2						
PALK				LR	LR	14 25 41.7	
	comp=Z,746nm,20.6s,baz=295,slow=32						
PALK	Pallekele	15.66	54	ePn	Pn	14 20 58.6	-0.2
	108nm,1.9s						
HYB	Hyderabad	21.88	28	iP	P	14 22 12.0	+0.9
OPO	Ambohidratompo	26.23	230	LR	LR	14 30 43.4	
	comp=Z,624nm,20.3s,baz=74,slow=31						
WSAR	Wadi Sarin	26.62	341	LR	LR	14 31 52.9	
	comp=Z,157nm,18.1s,baz=170,slow=33						
ATD	Arta Tunnel	28.33	299	LR	LR	14 32 16.0	
	comp=Z,115nm,19.9s,baz=94,slow=32						
KMBO	Kilima Mbogo	30.71	271	LR	LR	14 33 27.6	
	comp=Z,237nm,21.4s,baz=96,slow=32						
PSI	Prapat	31.30	81	LR	LR	14 34 00.1	
	comp=Z,413nm,21.6s,baz=165,slow=32						
PSI	Prapat	31.30	81	eP	P	14 23 37.4	-1.1
	9.6nm,1.2s						
BRDH	Bariadhala	33.64	42	LR	LR	14 39 12.2	
	comp=Z,504nm,18.6s,baz=234,slow=39						
CMAR	Chiang Mai Arr	36.60	55	P	P	14 24 25.5	+1.1
	0.6nm,0.5s,baz=245,slow=10,SNR=8.6						
CMAR				PcP	PcP	14 26 47.6	-0.1
	0.4nm,0.7s,baz=241,slow=3.0,SNR=3.1						
CMAR				LR	LR	14 37 33.6	
	comp=Z,184nm,21.9s,baz=240,slow=33						
CHTO	Chiang Mai	36.78	55	eP	P	14 24 26.4	+0.5
	3.7nm,0.8s						
LEM	Lembang	39.82	98	LR	LR	14 38 21.4	
	comp=Z,308nm,21.2s,baz=216,slow=32						
GEYT	Alibeck	40.70	348	LR	LR	14 41 19.2	
	comp=Z,89nm,18.3s,baz=200,slow=35						
GAR	Garm	40.79	3	eP	P	14 24 59.1	-0.3
	16nm,1.2s						
LSZ	Lusaka	41.40	249	P	P	14 25 05.1	+0.3
	6.6nm,0.6s,baz=76,slow=6.9,SNR=14						
LSZ	Lusaka	41.40	249	eP	P	14 25 04.9	+0.1
	6.9nm,0.6s						
MATP	Matopo	42.67	242	P	P	14 25 15.1	0.0
	1.5nm,0.6s,baz=80,slow=8.0,SNR=5.9						
AAK	Ala-Archa	44.76	7	P	P	14 25 32.5	+0.9
	0.9nm,0.7s,baz=140,slow=7.6,SNR=3.9						
BOSA	Boshof	48.57	233	P	P	14 26 02.1	+0.4
	2.5nm,0.7s,baz=67,slow=6.7,SNR=5.9						
BOSA				LR	LR	14 44 10.2	
	comp=Z,165nm,19.1s,baz=30,slow=33						
MAKZ	Makanchi	50.08	13	eP	P	14 26 10.9	-1.9
	2.3nm,0.9s						
MK32	Makanchi Array	50.14	13	eP	P	14 26 13.1	-0.2
MKAR	Makanchi Array	50.14	13	P	P	14 26 13.1	-0.2
	2.5nm,0.4s,baz=189,slow=6.1,SNR=3.0						
MKAR	Makanchi Array	50.14	13	eP	P	14 26 12.9	-0.3
	19nm,0.8s						
ABKAR	Akbulak array	51.46	353	eP	P	14 26 22.1	-0.9
BRTR	Keskin Array B	52.03	327	LR	LR	14 48 10.7	
	comp=Z,35nm,18.4s,baz=184,slow=36						
XAN	Xi'an	52.55	43	eP	P	14 26 31.4	-0.2
	10nm,0.7s						
AKTO	Aktyubinsk	52.86	352	P	P	14 26 33.2	-0.4
	2.2nm,0.8s,baz=180,slow=7.6,SNR=11						
KURBB	Kurchatov Arra	53.13	8	P	P	14 26 35.6	+0.1
	2.4nm,0.8s,baz=204,slow=7.6,SNR=15						
KURBB				PcP	PcP	14 27 43.9	+0.3
	0.9nm,0.7s,baz=209,slow=3.3,SNR=5.9						
KURK	Kurchatov	53.24	8	eP	P	14 26 36.2	0.0
KURK				ePcP	PcP	14 27 43.9	-0.1
BVAR	Borovoye Array	54.80	2	P	P	14 26 48.9	+1.2
	0.4nm,0.7s,baz=187,slow=5.8,SNR=3.6						
ZALV	Zalesovo Beam	57.43	12	P	P	14 27 06.2	-0.3
	4.8nm,0.8s,baz=212,slow=6.9,SNR=17						
ZAA1	Zalesovo Array	57.44	12	eP	P	14 27 06.2	-0.3
SONA0	Songino Array	59.82	29	eP	P	14 27 24.3	+0.9
SONM	Songino Array	59.82	29	P	P	14 27 24.3	+0.9
	2.6nm,0.8s,baz=222,slow=6.7,SNR=25						
SONM				LR	LR	14 53 28.5	
	comp=Z,267nm,18.7s,baz=209,slow=36						
MAW	Mawson	65.64	182	LR	LR	14 49 04.8	
	comp=Z,170nm,20.5s,baz=357,slow=29						
WR1	Warramunga Arr	67.16	111	eP	P	14 28 12.5	+0.1
	49nm,0.9s						
WRA	Warramunga Arr	67.16	111	P	P	14 28 12.5	+0.1
	1.6nm,0.6s,baz=288,slow=5.8,SNR=18						
WRA				LR	LR	14 53 46.3	
	comp=Z,78nm,21.6s,baz=135,slow=33						
ASAR	Alice Springs	67.23	115	P	P	14 28 12.8	0.0
	0.8nm,0.7s,baz=279,slow=6.2,SNR=14						
ASAR				LR	LR	14 53 06.3	
	comp=Z,61nm,21.5s,baz=268,slow=32						
TORD	Torodi Ar. Bea	67.41	285	LR	LR	14 57 08.7	
	comp=Z,118nm,18.5s,baz=50,slow=36						
KSRS	Korea Array	67.80	48	LR	LR	14 59 12.4	
	comp=Z,100nm,20.4s,baz=248,slow=37						
DBIC	Dimbokro	73.18	278	P	P	14 28 49.5	+0.1
	2.0nm,0.7s,baz=34,slow=4.6,SNR=4.1						
DBIC				LR	LR	15 00 57.3	
	comp=Z,75nm,18.3s,baz=90,slow=36						
DBIC	Dimbokro	73.18	278	eP	P	14 28 49.2	-0.2
	29nm,1.9s						
MJAR	Matsushiro Arr	75.39	52	LR	LR	15 02 51.9	
	comp=Z,58nm,20.2s,baz=250,slow=36						
VNDA	Vanda	88.97	167	P	P	14 30 12.8	+0.7
	0.8nm,0.7s,baz=270,slow=4.0,SNR=4.9						
VNDA	Vanda	88.97	167	eP	P	14 30 12.4	+0.3
PETK	Petropavlovsk-	91.37	37	LR	LR	15 14 01.5	
	comp=Z,54nm,18.2s,baz=244,slow=37						
YKA	Yellowknife Ar	119.56	1	PKP	PKPdf	14 36 06.3	-1.1
	0.3nm,0.7s,baz=358,slow=2.1,SNR=7.1						
PDAR	Pinedale Array	139.29	357	PKP	PKPdf	14 36 44.6	-1.1
	0.7nm,0.8s,baz=34,slow=5.6,SNR=6.2						
NVAR	Mina Array Bea	143.23	8	PKP	PKPdf	14 36 53.7	+0.8
	0.6nm,0.8s,baz=180,slow=0.5,SNR=3.0						
PSUT	Pine Spring	143.54	2	ePKPdf	PKPdf	14 36 52.9	-0.5
MTPU	Mount Pierson	144.07	0	ePKPdf	PKPbc	14 36 53.2	+0.8
LCMT	Little Creek M	145.08	2	ePKPbc	PKPdf	14 36 56.2	+0.2
WMOK	Wichita Mounta	145.10	341	ePKPbc	PKPbc	14 36 55.4	0.0
DAC	Darwin (Calif)	145.44	8	ePKPbc	PKPab	14 36 57.1	+0.2
SHPR	Sheep Range	145.48	4	ePKPdf	PKPab	14 36 56.9	0.0
U15A	North Rim	145.68	0	ePKPdf	PKPbc	14 36 57.6	+0.1
GSC	Goldstone, Bar	146.51	7	ePKPdf	PKPbc	14 36 59.3	-0.6
ANMO	Albuquerque	146.75	352	PKPbc	PKPab	14 37 02.2	+0.4
	1.2nm,0.8s,baz=85,slow=5.2,SNR=4.3						
MNTX	Cornudas Mount	149.74	349	ePKPbc	PKPbc	14 37 06.6	-1.9
LTX	Lajitas	151.61	344	ePKPbc	PKPbc	14 37 13.3	+0.2
TXAR	Lajitas Array	151.61	344	PKPbc	PKPbc	14 37 13.3	+0.2
	1.1nm,0.8s,baz=75,slow=1.4,SNR=6.5						
APG	El Apazote	155.07	303	PKPab	PKPab	14 37 36.6	-0.1
	3.0nm,0.6s,baz=14,slow=8.3,SNR=4.3						

IDC 09 14:20:25.7±3.0, **1°.69S**×**67°.61E**, **h0**km, **mb3.9**/6, **mb1 3.9**/6, **mb1mx3.5**/57, **mbtmp3.9**/6, **Error ellipse: s-maj=68.5km s-min=55.5km az=177.0**, **Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.71	144	T	T	14 27 04.2	
	baz=325,slow=75,SNR=39						
H08N3	Diego Garcia H	5.73	144	T	T	14 27 05.1	
	baz=325,slow=75,SNR=42						
H08N1	Diego Carcia H	5.74	144	T	T	14 27 05.6	
	baz=325,slow=75,SNR=53						
CMAR	Chiang Mai Arr	36.76	56	P	P	14 27 35.3	0.0
	0.5nm,0.5s,baz=244,slow=10,SNR=8.0						
AAK	Ala-Archa	44.56	7	P	P	14 28 39.8	+0.2
	0.2nm,0.3s,baz=168,slow=8.6,SNR=1.9						
MKAR	Makanchi Array	49.98	13	P	P	14 29 21.4	-0.3
	1.4nm,0.3s,baz=181,slow=7.2,SNR=1.6						
KURBB	Kurchatov Arra	52.95	9	P	P	14 29 43.7	0.0
	1.9nm,1.1s,baz=203,slow=7.5,SNR=4.8						
KURBB				PcP	PcP	14 30 52.8	+0.1
	0.3nm,0.7s,baz=178,slow=4.6,SNR=4.3						
ZALV	Zalesovo Beam	57.27	12	P	P	14 30 14.5	-0.4
	1.2nm,0.6s,baz=217,slow=7.1,SNR=5.1						
SONM	Songino Array	59.78	29	P	P	14 30 32.8	-0.1
	1.3nm,0.8s,baz=224,slow=6.2,SNR=9.6						
TXAR	Lajitas Array	151.28	344	PKPbc	PKPbc	14 40 21.8	-0.4
	0.6nm,0.8s,baz=354,slow=1.8,SNR=3.5						

IDC 09 14:22:16.8±3.6, **1°.65S**×**67°.40E**, **h0**km, **mb4.0**/4, **mb1 4.0**/4, **mb1mx3.5**/56, **mbtmp4.0**/4, **Error ellipse: s-maj=160.5km s-min=70.1km az=121.0**, **Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.87	142	T	T	14 29 00.9	
	baz=324,slow=75,SNR=12						
H08N3	Diego Garcia H	5.88	143	T	T	14 29 06.4	
	baz=324,slow=75,SNR=9.7						
H08N1	Diego Carcia H	5.89	142	T	T	14 28 59.3	
	baz=324,slow=75,SNR=15						
MKAR	Makanchi Array	49.99	13	P	P	14 31 12.8	-0.1
	2.3nm,0.5s,baz=199,slow=8.7,SNR=2.0						
KURBB	Kurchatov Arra	52.94	9	P	P	14 31 34.9	+0.1
	1.7nm,1.0s,baz=203,slow=7.8,SNR=5.1						
ZALV	Zalesovo Beam	57.27	12	P	P	14 32 05.8	-0.3
	2.0nm,0.8s,baz=198,slow=5.9,SNR=5.9						
SONM	Songino Array	59.85	29	P	P	14 32 24.4	0.0
	1.2nm,0.8s,baz=225,slow=7.0,SNR=7.2						
TXAR	Lajitas Array	151.19	344	PKPbc	PKPbc	14 42 12.8	-0.3
	0.1nm,0.3s,baz=118,slow=1.3,SNR=6.5						

*BEO **09** 14:24:56.0±1.1, 39.°65N×26.°15E, h5km, ML3.0/3*
*ISK **09** 14:24:57.0, 39.°69N×25.°53E, h4km, ML3.5/20*
*DDA **09** 14:24:58.7, 39.°69N×25.°68E, h31km±1km, ML3.2*
*ISCJB **09** 14:24:58.6±0.4, 39.°72N±0.°02×25.°62E±0.°02, h8km±3km, Error ellipse: s-maj=2.8km s-min=2.5km az=141.8*
*ATH **09** 14:24:58.4, 39.°71N×25.°61E, h29km±1km, ML3.0/7, Error ellipse: s-maj=1.3km s-min=0.7km az=62.0*
*THE **09** 14:24:59.1, 39.°72N×25.°62E, h7km±1km, ML2.9/10, Error ellipse: s-maj=1.4km s-min=0.6km az=65.0*
ISC 09 14:24:58.7±1.1, 39.°69N±0.°02×25.°61E±0.°02, h4km±9km, n105, σ0.s94/131, 5C-4D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.37	66	PG	Pg	14 25 06.1	+0.2
BOZC	Bozcaada	0.37	66	i P	Pg	14 25 06.5	+0.6
LIA	Limnos Island	0.39	302	P	Pb	14 25 07.3	-0.8
LIA				S	Sb	14 25 12.8	-1.6
LIA				AML	AML	14 25 13.2	
	comp=E,5189μm,0.3s						
LIA				AML	AML	14 25 14.1	
	comp=N,3693μm,0.3s						
LIA	Limnos Island	0.39	302	P	Pb	14 25 07.2	-0.9
LIA				S	Sg	14 25 12.1	+0.8
GPNR	Gulpinar-Canak	0.47	120	PG	Pg	14 25 07.8	+0.2
EFSA	Agios Efstrati	0.50	253	P	Pb	14 25 09.3	-0.8
EFSA				S	Sb	14 25 17.4	-0.3
EFSA				AML	AML	14 25 18.1	
	comp=E,3743μm,0.3s						
EFSA				AML	AML	14 25 18.2	
	comp=N,3598μm,0.2s						
SIGR	SIGRI	0.52	158	PG	Pg	14 25 08.2	-0.4
SIGR				SG	Sg	14 25 15.6	+0.4
SIGR	SIGRI	0.52	158	P	Pg	14 25 09.0	+0.4
SIGR				S	Sb	14 25 17.0	-1.1
SIGR				AML	AML	14 25 17.2	
	comp=E,11404μm,0.5s						
SIGR				AML	AML	14 25 17.5	
	comp=N,12404μm,0.5s						
SIGR	SIGRI	0.52	158	P	Pg	14 25 08.9	+0.3
SIGR				S	Sb	14 25 16.6	-1.4
GADA	Gvkgeada	0.55	24	PG	Pg	14 25 08.8	-0.4
GADA				SG	Sg	14 25 17.1	+0.8
GOKC	Gokceada-Canak	0.56	25	PG	Pg	14 25 09.2	-0.3
EZN	Ezine	0.57	76	PG	Pg	14 25 09.6	0.0
EZN	Ezine	0.57	76	P	Pg	14 25 09.6	0.0
EZN				S	Sg	14 25 17.4	+0.5
PRK	Paraskevi	0.68	131	P	Pg	14 25 12.2	+0.5
PRK				S	Sb	14 25 22.6	-0.1
PRK				AML	AML	14 25 26.3	
	comp=N,6478μm,0.3s						
PRK				AML	AML	14 25 26.6	
	comp=E,5338μm,0.6s						
PRK	Paraskevi	0.68	131	P	Pb	14 25 13.2	+0.2
PRK				S	Sb	14 25 22.7	0.0
BAYC	CANAKKALE_Bayr	0.72	86	i P	Pb	14 25 13.3	-0.5
BAYC				i S	Sg	14 25 22.3	+0.4
SMTH	Samothraki Isl	0.78	355	P	Pg	14 25 13.6	-0.1
SMTH				S	Sg	14 25 24.3	+0.4
SMTH				AML	AML	14 25 26.5	
	comp=N,710μm,0.2s						
SMTH				AML	AML	14 25 28.4	
	comp=E,603μm,0.2s						
SMTH	Samothraki Isl	0.78	355	P	Pg	14 25 13.8	+0.1
SMTH				S	Sg	14 25 24.1	+0.3
AYVA	Ayvalik	0.92	114	i P	Pb	14 25 17.0	-0.2
GELI	Tayfur-Gelibol	0.97	43	PG	Pg	14 25 17.0	-0.3
LPK	Lapseki	1.11	52	PN	Pg	14 25 19.5	-0.5
ENEZ	Enez	1.12	21	PN	Pg	14 25 19.5	-0.7
THAS	Thassos island	1.14	323	P	Pg	14 25 20.1	-0.5
THAS				S	Sg	14 25 35.0	-0.4
THAS				AML	AML	14 25 37.5	
	comp=E,1646μm,0.4s						
THAS				AML	AML	14 25 37.8	
	comp=N,1516μm,0.3s						
THAS	Thassos island	1.14	323	P	Pg	14 25 20.1	-0.5
THAS				S	Sb	14 25 36.3	+0.2
PSRA	Psara	1.15	182	P	Pb	14 25 20.9	-0.2
PSRA				S	Sn	14 25 36.7	-0.9
SKY	Skiros Island	1.16	226	P	Pg	14 25 20.2	-0.6
SKY				AML	AML	14 25 41.2	
	comp=E,1288μm,0.3s						
SKY				AML	AML	14 25 42.0	
	comp=N,1070μm,0.2s						
SKY	Skiros Island	1.16	226	P	Pg	14 25 20.3	-0.6
SKY				S	Sn	14 25 37.5	-0.4
DKL	Dikili	1.18	121	PN	Pg	14 25 21.2	-0.1
ERIK	Erikli-Kesan	1.20	35	PN	Pg	14 25 21.0	-0.7
ALN	Alexandroupoli	1.25	15	PN	Pg	14 25 21.3	-1.4
ALN	Alexandroupoli	1.25	15	P	Pg	14 25 21.8	-0.9
ALN	Alexandroupoli	1.25	15	P	Pg	14 25 21.5	-1.2
ALN				S	Sg	14 25 38.4	-0.5
FOCM	Foa	1.31	138	PN	Pn	14 25 23.4	-0.3
KRBN	Karaburun	1.32	146	PN	Pn	14 25 23.4	-0.4
CHOS	Chios island	1.35	165	PN	Pn	14 25 23.5	-0.8
CHOS	Chios island	1.35	165	P	Pn	14 25 23.2	-1.1
CHOS				S	Sg	14 25 41.6	-0.4
CHOS	Chios island	1.35	165	P	Pn	14 25 23.0	-1.3
CHOS				S	Sn	14 25 43.6	+0.9
KESN	Edirne-Kesan	1.40	35	IAML_P			
	comp=Z,1μm,0.2s						
KESN				i P	Pn	14 25 24.6	-0.7
KESN				i S	Sg	14 25 42.2	-1.4
AOS	Alonnisos	1.44	249	PN	Pn	14 25 23.5	-2.0
AOS	Alonnisos	1.44	249	P	Pn	14 25 24.3	-1.2
AOS	Alonnisos	1.44	249	P	Pn	14 25 24.3	-1.2
AOS				S	Sg	14 25 45.6	+0.7
RDO	Rodhopi	1.46	358	PN	Pn	14 25 23.1	-2.6
RDO	Rodhopi	1.46	358	P	Pn	14 25 24.6	-1.1
RDO	Rodhopi	1.46	358	P	Pn	14 25 24.4	-1.3
KRBG	Karabiga-Canak	1.47	61	PN	Pn	14 25 25.9	0.0
PAIG	Paliouri	1.51	280	P	Pn	14 25 25.5	-0.9
PAIG	Paliouri	1.51	280	P	Pb	14 25 26.7	-0.5
URLA	Izmir	1.53	150	PN	Pn	14 25 25.8	-1.0
URLA	Izmir	1.53	150	i P	Pn	14 25 26.6	-0.2
BALY	Balya	1.55	88	IAML_P			
	comp=Z,4μm,0.3s						
BALY				i P	Pn	14 25 26.9	-0.2
KAVA	Kavala	1.55	328	P	Pn	14 25 25.9	-1.1
KAVA	Kavala	1.55	328	P	Pn	14 25 25.9	-1.1
KAVA				S	Sn	14 25 46.6	-1.0
KVLA	Kavala	1.56	323	P	Pn	14 25 26.0	-1.1
SART	Tekirdag	1.56	50	IAML_P			
	comp=Z,5μm,0.2s						
SART				i P	Pb	14 25 28.0	-0.2
KNL	Balıkesir	1.58	68	i P	Pb	14 25 27.7	-0.7
GONE	Gonen-Balikesi	1.64	77	PN	Pn	14 25 28.2	0.0
STEP	BALIKESIR_Sava	1.66	100	IAML_P			
	comp=Z,1μm,0.2s						
STEP				i P	Pn	14 25 28.7	+0.1
STEP				i S	Sg	14 25 52.0	0.0
BLCB	Balcova	1.71	139	PN	Pn	14 25 29.2	-0.1
BALB	Balikesir	1.75	91	PN	Pn	14 25 29.6	-0.2
MRMT	Marmara Adasi	1.77	58	PN	Pn	14 25 30.1	-0.1
PLG	Polygyros	1.80	293	P	Pn	14 25 29.2	-1.3
EDC	Edincik	1.85	69	PN	Pn	14 25 31.2	+0.1
SBT4	Kumbag-Tekirda	1.86	52	PN	Pn	14 25 31.1	0.0
NEO	Neokhori	1.89	259	P	Pn	14 25 31.0	-0.6
AKHS	Akhisar	1.89	115	IAML_P			
	comp=Z,1μm,0.2s						
AKHS				i P	Pn	14 25 31.9	+0.2
XOR	Xorichti	1.90	261	P	Pn	14 25 31.3	-0.6
GMLD	Gumuldur	1.91	147	PN	Pn	14 25 31.7	-0.2
DGB	zmir	1.91	148	IAML_P			
	comp=Z,424nm,0.2s						
DGB				i P	Pn	14 25 31.3	-0.7
TKR	Tekirdag	1.96	48	PN	Pn	14 25 32.7	0.0
SRS	Serrai	2.10	313	ePn	Pn	14 25 34.9	+0.3
SRS				eSn	Sg	14 26 07.0	+0.9
SRS	Serrai	2.10	313	P	Pn	14 25 33.7	-0.9
SRS	Serrai	2.10	313	P	Pn	14 25 34.0	-0.6
NVR	Nevrokopi	2.13	322	P	Pn	14 25 33.9	-1.2
NVR	Nevrokopi	2.13	322	P	Pn	14 25 33.8	-1.2
KCTX	Karacabey (Bur	2.19	74	PN	Pn	14 25 35.8	0.0
DURS	Dursunbey	2.21	91	IAML_P			
	comp=Z,1μm,0.3s						
DURS				i P	Pn	14 25 36.4	+0.2
EDRB	Edirne	2.32	21	PN	Pn	14 25 37.4	-0.2
DST	Dursunbey	2.32	91	PN	Pn	14 25 38.2	+0.5
PHSR	Pinarhisar	2.42	36	PN	Pn	14 25 38.8	-0.2
DEMI	Demirci	2.49	104	i P	Pg	14 25 45.6	-0.8
PLD	Plovdiv	2.51	344	ePn	Pn	14 25 40.5	+0.3
PLD				eSn	Sn	14 26 12.6	+1.4
SLVT	Silivri	2.51	51	PN	Pn	14 25 40.5	+0.3
KNT	Kendrikon	2.54	306	P	Pn	14 25 39.6	-1.0
KNT	Kendrikon	2.54	306	P	Pn	14 25 40.5	-0.2
ORLT	Orhaneli	2.55	81	PN	Pn	14 25 41.5	+0.6
MDNY	Mudanya-Bursa	2.60	74	PN	Pn	14 25 42.0	+0.5
APE	Apeiranthos	2.62	181	⇑iP	Pg	14 25 54.5	+5.6
VAY	Valandovo	2.83	306	i Pn	Pg	14 25 57.1	+4.1
STIP	Stip	3.28	309	i Pn	Pn	14 25 49.9	-1.0
VTS	Vitosha	3.42	329	ePn	Pn	14 25 53.1	+0.2
VTS				eSn	Sn	14 26 36.9	+3.0
VTS	Vitosha	3.42	329	S	Sg	14 26 48.6	+0.1
FNA	Florina	3.42	290	ePn	Pn	14 25 55.9	+3.1
ZAPS	Zavoj	4.22	329	ePn	Pn	14 26 04.7	+0.9
BOVS	Bovan	4.91	325	ePn	Pn	14 26 14.2	+1.0
PUNG	Punghina	5.00	337	⇓iP	Pg	14 26 34.3	-0.1
GRUS	Gruza	5.57	320	ePn	Pn	14 26 22.6	+0.4
VOIR		5.76	356	⇑iP	Pn	14 26 24.1	-0.8
MLR	Muntele Rosu	5.80	2	⇓iP	Pn	14 26 26.3	+0.7
MDVR	Moldovita	5.85	332	⇑iP	Pn	14 26 26.9	+0.7
LOT	Lotru	5.91	347	⇑iP	Pn	14 26 26.2	-0.9
GZR	Gura Zlata	6.07	341	⇓iP	Pn	14 26 28.7	-0.5
VRI	Vrincioaia	6.23	7	⇓iP	Pn	14 26 29.4	-1.9
BBLS	Lazići	6.24	314	ePn	Pn	14 26 32.7	+1.2
BIR	Birlad	6.74	12	⇑iP	Pn	14 26 37.3	-1.0
CLL	Collm	14.57	327	eP	P	14 28 33.0	+0.8

*IDC **09** 14:25:43.5±1.0, 9.°64S×124.°79E, h0km, mb3.6/5, mb1 3.9/8, mb1mx3.7/37, mbtmp3.7/8, ML3.9/3, MS3.0/2, Ms1 3.0/2, ms1mx2.6/33, Error ellipse: s-maj=20.1km s-min=14.4km az=134.0*
*ISCJB **09** 14:25:46.3±0.7, 9.°81S±0.°07×124.°8E±0.°1, h35km, mb3.6/5, Error ellipse: s-maj=17.4km s-min=7.6km az=153.8*
ISC 09 14:25:48.0±0.9, 9.°77S±0.°09×124.°8E±0.°1, h35km, n10, σ2.s06/12, mb3.7/5, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	1.22	249	Pg	Pn	14 26 07.5	-1.1
	138nm,0.3s,baz=83,slow=3.7,SNR=75						
BATI				Lg	Lg	14 26 23.9	
	95nm,0.3s,baz=78,slow=19,SNR=12						
FITZ	Fitzroy Crossi	8.31	175	Pn	Pn	14 27 47.8	+1.6
	2.3nm,0.3s,baz=10,slow=11,SNR=53						
FITZ				Sn	Sn	14 29 18.4	-0.5
	1.5nm,0.3s,baz=122,slow=19,SNR=7.3						
FITZ				LR	LR	14 31 08.3	
	comp=Z,77nm,19.9s,baz=332,slow=38						
WRA	Warramunga Arr	13.66	139	Pn	Pn	14 29 00.3	+0.9
	0.5nm,0.3s,baz=319,slow=14,SNR=22						
WRA				Sn	Sn	14 31 25.3	-4.7
	0.2nm,0.3s,baz=317,slow=26,SNR=4.7						
ASAR	Alice Springs	16.31	149	Pn	Pn	14 29 35.4	+0.8
	0.2nm,0.3s,baz=321,slow=12,SNR=15						
ASAR				Sn	Sn	14 32 31.9	-2.6
	0.3nm,0.3s,baz=315,slow=21,SNR=7.7						
DAV	Davao City (W)	16.75	3	LR	LR	14 35 55.8	
	comp=Z,72nm,21.9s,baz=260,slow=37						
CMAR	Chiang Mai Arr	37.94	318	P	P	14 33 01.9	-0.6
	0.4nm,0.3s,baz=146,slow=7.4,SNR=4.1						
SONM	Songino Array	59.64	346	P	P	14 35 48.9	+0.1
	0.2nm,0.6s,baz=167,slow=6.8,SNR=2.6						
MKAR	Makanchi Array	67.88	330	P	P	14 36 43.3	+0.3
	0.3nm,0.6s,baz=135,slow=7.5,SNR=3.9						
ZALV	Zalesovo Beam	71.93	336	P	P	14 37 07.3	-0.3
	0.4nm,0.4s,baz=141,slow=5.7,SNR=3.1						
QSPA	South Pole Qui	80.22	180	P	P	14 37 56.7	+1.8
	1.1nm,0.9s,baz=308,slow=2.7,SNR=2.5						

*IDC **09** 14:30:14.5±1.1, 21.°92S×170.°28E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.9/37, mbtmp4.0/9, ML4.1/1, MS3.5/5, Ms1 3.5/5, ms1mx3.2/28, Error ellipse: s-maj=36.9km s-min=25.0km az=147.0*
*ISCJB **09** 14:30:17.0±0.8, 22.°0S±0.°2×170.°18E±0.°09, h25km, mb4.1/9, MS4.2/2, Error ellipse: s-maj=25.7km s-min=11.6km az=172.1*
*NEIC **09** 14:30:16.0±9.3, 21.°90S×170.°26E, h10km±54km, mb4.7/1, Error ellipse: s-maj=23.9km s-min=17.3km az=94.0*
ISC 09 14:30:19.0±0.9, 21.°9S±0.°2×170.°2E±0.°1, h25km, n32, σ1.s12/30, mb3.9/9, 1D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.46	267	Pn	Pn	14 31 11.6	+0.2
	17nm,0.3s,baz=113,slow=8.5,SNR=839						
DZM				Sn	Sn	14 31 51.2	-0.4
	16nm,0.3s,baz=86,slow=21,SNR=9.4						
DZM				LR	LR	14 32 26.0	
	comp=Z,110nm,18.4s,baz=46,slow=37						
HNR	Honiara	15.85	320	LR	LR	14 38 56.1	
	comp=Z,50nm,18.6s,baz=234,slow=33						
URZ	Urewera	17.32	161	LR	LR	14 39 41.6	
	comp=Z,117nm,18.6s,baz=338,slow=33						
STKA	Stephens Creek	27.26	243	P	P	14 36 02.0	+0.6
	2.3nm,0.7s,baz=87,slow=15,SNR=7.9						
ASAR	Alice Springs	33.42	260	P	P	14 36 56.3	+0.3
	0.7nm,0.8s,baz=91,slow=9.4,SNR=3.6						
WR1	Warramunga Arr	33.48	267	eP	P	14 36 56.2	-0.3
	8.3nm,0.8s						
WRA	Warramunga Arr	33.48	267	P	P	14 36 56.2	-0.3
	0.5nm,0.5s,baz=100,slow=8.3,SNR=8.8						
NWAO	Narrogin (SRO)	47.81	245	P	P	14 38 53.8	-0.8
	8.8nm,0.9s,baz=113,slow=7.7,SNR=2.7						
QSPA	South Pole Qui	68.12	180	P	P	14 41 16.4	-0.3
	1.7nm,0.9s,baz=24,slow=3.6,SNR=4.0						
CMAR	Chiang Mai Arr	80.40	294	P	P	14 42 29.1	+0.3
	1.2nm,0.9s,baz=136,slow=3.7,SNR=8.0						
USHA	Ushuaia	88.67	150	LR	LR	15 14 27.4	
	comp=Z,106nm,18.8s,baz=72,slow=30						
SONA0	Songino Array	89.89	323	eP	P	14 43 15.4	-0.5
SONM	Songino Array	89.89	323	P	P	14 43 15.5	-0.4
	1.6nm,0.9s,baz=132,slow=2.5,SNR=8.1						
SONM				LR	LR	15 23 39.7	
	comp=Z,63nm,18.5s,baz=189,slow=36						
ILAR	Eielson Array	92.55	17	P	P	14 43 26.4	-1.3
	0.3nm,0.8s,baz=241,slow=5.0,SNR=5.9						
ARA0	ARCESS Array S	127.89	345	ePKPdf	PKPdf	14 49 21.5	-0.3
ARCES	ARCESS Array B	127.89	345	PKP	PKPdf	14 49 21.5	-0.3
	3.1nm,0.9s,baz=36,slow=1.7,SNR=4.1						
VYHS	Vyhne	145.01	326	ePKP	PKPdf	14 49 54.8	+0.8
JAVC	Velka Javorina	145.37	328	ePKP	PKPdf	14 49 57.1	+2.4
VRAC	Vranov	145.59	329	ePKP	PKPab	14 49 56.7	+1.2
BRG	Berggiesshubel	145.67	333	eP	PKPab	14 49 56.4	+0.7
	9.4nm,0.9s						
BRG				e		14 50 08.4	
	4.8nm,0.7s						
CLL	Collm	145.72	334	ePKPdf	PKPdf	14 49 54.6	-0.5
CLL	Collm	145.72	334	⇓iPKPbc	PKPab	14 49 56.6	+0.7
	comp=Z,10.0nm,0.8s						
CLL				i		14 50 08.7	
KRUC	Moravsky	145.86	329	ePKP	PKPab	14 49 57.5	+1.0
CONA	Conrad Observa	146.89	328	epPKPbc	PKPab	14 50 01.4	+0.8
	comp=Z,2.0nm,1.0s						
GERES	GERESS Array B	147.27	331	PKPbc	PKPdf	14 49 59.6	+1.6
	comp=Z,1.8nm,0.5s,baz=35,slow=3.3,SNR=12						
MOA	Molln	147.72	329	epPKiKP	PKPab	14 50 06.4	+2.6
	comp=Z,1.5nm,0.5s						
SOKA	Soboth	148.15	327	eP	PKPab	14 50 08.3	+2.7
	comp=Z,0.9nm,0.5s						
KBA	Koelnbreinsper	148.71	329	eP	PKPab	14 50 09.4	+1.4
	comp=Z,1.2nm,0.5s						
ABTA	Abfaltersbach	149.34	329	epPKiKP	PKPab	14 50 09.8	-0.6
	comp=Z,1.3nm,0.7s						
MOTA	Moosalm	149.55	331	eP	PKPab	14 50 11.0	-0.3
	comp=Z,1.6nm,0.5s						
RETA	Reutte	149.59	332	eP	PKPab	14 50 11.1	-0.3
	comp=Z,1.8nm,0.5s						
SQTA	Sankt Quirin	149.60	331	eP	PKPab	14 50 11.1	-0.4
	comp=Z,3.4nm,0.5s						

IDC 09 14:38:23.7±3.4, 2.°17S×67.°21E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/42, mbtmp3.7/7, Error ellipse: s-maj=95.9km s-min=28.7km az=66.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	37.36	55	P	P	14 45 38.2	-0.2
	0.2nm,0.3s,baz=246,slow=11,SNR=4.6						
MKAR	Makanchi Array	50.54	13	P	P	14 47 24.0	+0.1
	0.7nm,0.8s,baz=196,slow=8.6,SNR=7.5						
KURBB	Kurchatov Arra	53.48	9	P	P	14 47 45.4	-0.3
	1.3nm,1.0s,baz=205,slow=7.8,SNR=6.0						
ZALV	Zalesovo Beam	57.82	12	P	P	14 48 16.6	-0.2
	1.5nm,0.6s,baz=198,slow=8.7,SNR=6.6						
SONM	Songino Array	60.39	29	P	P	14 48 35.1	+0.1
	1.1nm,0.8s,baz=229,slow=6.9,SNR=8.9						
WRA	Warramunga Arr	67.78	111	P	P	14 49 23.8	-0.2
	0.7nm,0.9s,baz=290,slow=5.8,SNR=4.5						
ASAR	Alice Springs	67.82	115	P	P	14 49 24.5	+0.3
	0.7nm,1.1s,baz=280,slow=6.5,SNR=3.6						

*ISCJB **09** 14:42:37.7±0.6, 1.°9S±0.°1×67.°88E±0.°08, h15km, mb4.3/19, MS3.8/10, Error ellipse: s-maj=15.3km s-min=10.1km az=158.3*
*IDC **09** 14:42:37.1±0.8, 1.°96S×67.°87E, h0km, mb4.1/11, mb1 4.2/12, mb1mx3.9/46, mbtmp4.1/12, ML4.2/1, MS3.7/10, Ms1 3.7/10, ms1mx3.4/50, Error ellipse: s-maj=23.2km s-min=18.7km az=159.0*
*NEIC **09** 14:42:39.5±5.3, 1.°92S×67.°87E, h15km±32km, mb4.7/8, Error ellipse: s-maj=10.9km s-min=7.7km az=164.0*
ISC 09 14:42:39.6±0.8, 2.°0S±0.°2×67.°9E±0.°1, h15km, n47, σ0.s64/40, mb4.4/19, MS3.7/10, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.33	145	T	T	14 49 17.0	
	baz=324,slow=75,SNR=38						
H08N3	Diego Garcia H	5.35	145	T	T	14 49 17.9	
	baz=324,slow=75,SNR=35						
H08N1	Diego Carcia H	5.36	145	T	T	14 49 18.6	
	baz=324,slow=75,SNR=42						
PALK	Pallekele	15.73	54	Pn	Pn	14 46 20.1	-0.8
	0.9nm,0.3s,baz=301,slow=11,SNR=4.8						
PALK				LR	LR	14 51 02.1	
	comp=Z,446nm,19.0s,baz=296,slow=32						
PALK	Pallekele	15.73	54	ePn	Pn	14 46 20.0	-0.8
	60nm,1.5s						
HYB	Hyderabad	21.93	28	i P	P	14 47 32.0	-0.7
WSAR	Wadi Sarin	26.62	341	LR	LR	14 56 55.0	
	comp=Z,96nm,18.1s,baz=171,slow=32						
KMBO	Kilima Mbogo	30.64	271	LR	LR	14 59 57.6	
	comp=Z,140nm,19.3s,baz=92,slow=34						
KMBO	Kilima Mbogo	30.64	271	eP	P	14 48 52.8	-1.2
	2.7nm,0.7s						
CM31	Chiang Mai Arr	36.67	55	eP	P	14 49 46.8	+0.7
CMAR	Chiang Mai Arr	36.67	55	P	P	14 49 46.8	+0.7
	2.0nm,1.0s,baz=246,slow=9.7,SNR=11						
CMAR				LR	LR	15 02 55.0	
	comp=Z,107nm,21.9s,baz=236,slow=33						
CHTO	Chiang Mai	36.85	55	eP	P	14 49 48.8	+1.2
	7.6nm,1.2s						
GAR	Garm	40.81	3	eP	P	14 50 21.0	+0.3
	20nm,1.0s						
LSZ	Lusaka	41.33	249	P	P	14 50 24.8	-0.4
	2.7nm,0.6s,baz=79,slow=11,SNR=6.0						
LSZ	Lusaka	41.33	249	eP	P	14 50 26.3	+1.0
	4.9nm,0.9s						
AAK	Ala-Archa	44.79	7	P	P	14 50 52.7	-0.2
	1.6nm,0.9s,baz=192,slow=12,SNR=4.3						
AAK	Ala-Archa	44.79	7	eP	P	14 50 52.3	-0.6
	4.7nm,1.3s						
MAKZ	Makanchi	50.12	13	eP	P	14 51 33.3	-0.9
	3.9nm,0.9s						
MK32	Makanchi Array	50.17	13	eP	P	14 51 33.9	-0.7
MK32				ePcP	PcP	14 52 54.1	+0.2
MKAR	Makanchi Array	50.17	13	P	P	14 51 33.9	-0.7
	1.6nm,0.8s,baz=196,slow=7.6,SNR=15						
MKAR				PcP	PcP	14 52 54.1	+0.2
	1.3nm,1.0s,baz=207,slow=2.2,SNR=4.0						
GTA	Gaotai	50.52	32	eP	P	14 51 37.9	+0.4
GTA				pP	pP	14 51 41.3	+0.2
GTA				sP	sP	14 51 44.0	+1.6
GTA				PcP	PcP	14 52 55.2	-0.2
GTA				pmax	pmax		
	comp=Z,2.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,46nm,4.5s						
GTA				LR	LR		
	comp=N,130nm,21.0s						
GTA				LR	LR		
	comp=E,140nm,20.6s						
GTA				LR	LR		
	comp=Z,200nm,20.3s						
ENH	Enshi	50.98	48	eP	P	14 51 40.8	-0.2
	comp=Z,14nm,0.9s						
ABKAR	Akbulak array	51.47	353	eP	P	14 51 43.9	-0.4
XAN	Xi'an	52.61	43	P	P	14 51 53.2	0.0
XAN				pP	pwP	14 52 00.2	-1.5
XAN				pmax	pmax		
	comp=Z,11nm,0.8s						
KURBB	Kurchatov Arra	53.16	8	P	P	14 51 56.4	-0.5
	comp=Z,3.2nm,0.9s,baz=205,slow=7.3,SNR=4.8						
KURK	Kurchatov	53.27	8	eP	P	14 51 57.5	-0.1
ZALV	Zalesovo Beam	57.46	12	P	P	14 52 27.3	-0.5
	comp=Z,3.9nm,0.7s,baz=218,slow=7.4,SNR=20						
ZAA1	Zalesovo Array	57.47	12	eP	P	14 52 27.3	-0.5
SONA0	Songino Array	59.87	29	eP	P	14 52 45.5	+0.6
SONM	Songino Array	59.87	29	P	P	14 52 45.5	+0.6
	comp=Z,2.8nm,0.9s,baz=222,slow=6.8,SNR=19						
WRA	Warramunga Arr	67.22	111	P	P	14 53 33.7	-0.2
	comp=Z,2.3nm,0.8s,baz=286,slow=5.9,SNR=11						
WR1	Warramunga Arr	67.22	111	eP	P	14 53 33.7	-0.2
	comp=Z,14nm,0.8s						
ASAR	Alice Springs	67.29	115	P	P	14 53 34.5	+0.2
	comp=Z,1.3nm,0.9s,baz=277,slow=5.6,SNR=8.1						
TORD	Torodi Ar. Bea	67.34	285	P	P	14 53 35.1	+0.4
	comp=Z,0.6nm,1.0s,baz=118,slow=8.5,SNR=3.6						
TORD				LR	LR	15 23 16.3	
	comp=Z,132nm,19.2s,baz=40,slow=36						
TOA1	Torodi Ar. Sit	67.34	285	eP	P	14 53 35.1	+0.4
KSRS	Korea Array	67.86	48	LR	LR	15 24 24.1	
	comp=Z,64nm,19.6s,baz=252,slow=37						
GERES	GERESS Array B	68.85	325	LR	LR	15 26 20.0	
	comp=Z,42nm,18.1s,baz=304,slow=38						
CLL	Collm	70.46	327	i P	P	14 53 55.0	+1.6
DBIC	Dimbokro	73.11	278	P	P	14 54 10.0	-0.1
	comp=Z,1.2nm,0.5s,baz=102,slow=9.0,SNR=3.4						
DBIC	Dimbokro	73.11	278	eP	P	14 54 09.7	-0.4
	comp=Z,29nm,1.9s						
USRK	Ussuriysk Ar.	73.11	43	LR	LR	15 29 53.7	
	comp=Z,41nm,19.3s,baz=262,slow=39						
STKA	Stephens Creek	75.14	122	LR	LR	15 27 05.4	
	comp=Z,32nm,18.1s,baz=203,slow=36						
PETK	Petropavlovsk-	91.43	37	LR	LR	15 38 20.6	
	comp=Z,46nm,19.4s,baz=254,slow=37						
YKA	Yellowknife Ar	119.58	1	PKP	PKPdf	15 01 27.8	-0.8
	comp=Z,0.1nm,0.5s,baz=355,slow=1.9,SNR=4.8						
PDAR	Pinedale Array	139.30	357	PKP	PKPdf	15 02 07.2	+0.3
	comp=Z,0.3nm,0.7s,baz=29,slow=2.1,SNR=2.8						
LTX	Lajitas	151.61	344	ePKPbc	PKPbc	15 02 33.7	-0.5
TXAR	Lajitas Array	151.61	344	PKPbc	PKPbc	15 02 33.7	-0.5
	comp=Z,1.5nm,1.0s,baz=120,slow=1.7,SNR=6.4						

*ISCJB **09** 14:45:13.1±1.4, 2.°0S±0.°2×67.°7E±0.°2, h15km, mb4.2/12, MS3.6/2, Error ellipse: s-maj=35.8km s-min=16.4km az=149.3*
*IDC **09** 14:45:13.1±1.6, 2.°03S×67.°78E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.8/44, mbtmp4.0/8, MS3.6/2, Ms1 3.6/2, ms1mx3.0/51, Error ellipse: s-maj=47.1km s-min=24.2km az=57.0*
*NEIC **09** 14:45:14.5±0.6, 2.°00S×67.°74E, h10km, mb4.6/4, Error ellipse: s-maj=16.1km s-min=10.6km az=61.0*

ISC 09 14:45:15.3±1.3, 2°0S±0°2×67°8E±0°2, h15km, n29, $\sigma 0^{s}56$/27, mb4.3/12, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.35	143	T	T	14 51 53.1	
	baz=325,slow=75,SNR=41						
H08N3	Diego Garcia H	5.36	143	T	T	14 51 54.0	
	baz=325,slow=75,SNR=42						
H08N1	Diego Carcia H	5.37	143	T	T	14 51 54.8	
	baz=325,slow=75,SNR=39						
HYB	Hyderabad	22.06	28	iP	P	14 50 10.0	+0.2
CMAR	Chiang Mai Arr	36.82	55	P	P	14 52 23.4	+0.3
	0.4nm,0.3s,baz=247,slow=11,SNR=7.7						
PBKT	Sadao Pong	37.63	59	eP	P	14 52 30.1	+0.1
AAK	Ala-Archa	44.87	7	P	P	14 53 29.4	0.0
	1.8nm,1.0s,baz=185,slow=12,SNR=3.2						
MAKZ	Makanchi	50.22	13	eP	P	14 54 09.3	-1.4
	11nm,1.5s						
MK32	Makanchi Array	50.27	13	eP	P	14 54 10.8	-0.4
MK32				ePcP	PcP	14 55 30.1	+0.1
MKAR	Makanchi Array	50.27	13	P	P	14 54 10.8	-0.4
	1.5nm,0.8s,baz=197,slow=7.5,SNR=9.3						
MKAR				PcP	PcP	14 55 30.1	+0.1
	0.9nm,0.9s,baz=180,slow=3.6,SNR=3.6						
KBZ	Khabaz	50.72	337	P	P	14 54 15.2	+0.7
	2.1nm,0.9s,baz=146,slow=3.6,SNR=3.2						
AKTO	Aktyubinsk	52.93	352	LR	LR	15 16 17.5	
	comp=Z,55nm,20.0s,baz=151,slow=35						
KURK	Kurchatov	53.36	9	eP	P	14 54 33.9	-0.1
	5.6nm,1.0s						
ZAA0	Zalesovo Array	57.56	12	eP	P	14 55 03.5	-0.7
	6.4nm,0.8s						
ZALV	Zalesovo Beam	57.56	12	P	P	14 55 03.8	-0.4
	4.2nm,0.8s,baz=212,slow=7.6,SNR=11						
ZALV	Zalesovo Beam	57.56	12	eP	P	14 55 03.2	-1.1
ZAA1	Zalesovo Array	57.56	12	eP	P	14 55 03.8	-0.4
SONA0	Songino Array	60.00	29	eP	P	14 55 22.0	+0.5
SONM	Songino Array	60.00	29	P	P	14 55 22.0	+0.5
	2.9nm,0.9s,baz=218,slow=7.5,SNR=15						
SONA1	Songino Array	60.01	29	eP	P	14 55 21.4	-0.2
WR1	Warramunga Arr	67.31	111	eP	P	14 56 10.4	+0.2
WRA	Warramunga Arr	67.31	111	P	P	14 56 10.4	+0.2
	1.9nm,1.0s,baz=284,slow=6.0,SNR=5.9						
WRA				LR	LR	15 20 03.1	
	comp=Z,44nm,20.8s,baz=165,slow=31						
ASAR	Alice Springs	67.37	115	P	P	14 56 10.8	+0.1
	1.3nm,1.0s,baz=280,slow=6.7,SNR=5.1						
TIXI	Tiksi	83.13	16	eP	P	14 57 39.9	-0.4
	4.7nm,0.8s						
PD31	Pinedale Array	139.37	357	ePKPdf	PKPdf	15 04 41.6	-1.2
PDAR	Pinedale Array	139.37	357	PKP	PKPdf	15 04 42.4	-0.4
	0.3nm,0.6s,baz=84,slow=3.7,SNR=3.4						
LTX	Lajitas	151.65	344	ePKPbc	PKPbc	15 05 10.2	+0.2
TX31	Lajitas Ar. Si	151.65	344	ePKPbc	PKPbc	15 05 10.6	+0.5
TXAR	Lajitas Array	151.65	344	PKPbc	PKPbc	15 05 10.2	+0.1
	1.1nm,0.9s,baz=94,slow=1.8,SNR=4.8						

ISCJB 09 14:47:16.8±0.4, 1°89S±0°08×67°98E±0°08, h15km, mb4.2/21, Error ellipse: s-maj=13.8km s-min=9.6km az=42.1

IDC 09 14:47:16.1±0.6, 1°95S×67°97E, h0km, mb4.0/15, mb1 4.1/16, mb1mx3.9/48, mbtmp4.1/16, ML4.2/1, Error ellipse: s-maj=19.7km s-min=15.2km az=140.0

NEIC 09 14:47:17.6±0.2, 1°93S×67°97E, h10km, mb4.6/8, Error ellipse: s-maj=8.2km s-min=5.7km az=134.0

ISC 09 14:47:18.5±0.6, 1°9S±0°1×68°0E±0°1, h15km, n39, $\sigma 0^{s}51$/40, mb4.3/21, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.32	145	T	T	14 53 57.7	
	baz=325,slow=75,SNR=18						
H08N3	Diego Garcia H	5.33	146	T	T	14 53 58.5	
	baz=325,slow=75,SNR=15						
H08N1	Diego Carcia H	5.34	145	T	T	14 53 57.9	
	baz=325,slow=75,SNR=19						
PALK	Pallekele	15.65	54	Pn	Pn	14 50 58.7	-0.1
	0.9nm,0.3s,baz=292,slow=7.7,SNR=5.1						
PALK	Pallekele	15.65	54	ePn	Pn	14 50 58.7	-0.1
	78nm,1.7s						
CMAR	Chiang Mai Arr	36.60	55	P	P	14 54 24.8	+0.4
	0.4nm,0.3s,baz=247,slow=10,SNR=5.3						
GAR	Garm	40.78	3	eP	P	14 54 59.6	+0.2
	11nm,1.1s						
LSZ	Lusaka	41.40	249	P	P	14 55 05.1	+0.2
	2.0nm,0.3s,baz=60,slow=7.8,SNR=7.4						
LSZ	Lusaka	41.40	249	eP	P	14 55 05.1	+0.2
	7.1nm,1.1s						
MATP	Matopo	42.67	242	P	P	14 55 15.1	-0.1
	2.5nm,0.9s,baz=87,slow=7.6,SNR=3.6						
KDJ	Kajisay	44.64	10	eP	P	14 55 32.1	+1.4
	6.5nm,0.9s						
AAK	Ala-Archa	44.75	7	P	P	14 55 32.2	+0.7
	0.7nm,0.5s,baz=180,slow=10,SNR=3.5						
BOSA	Boshof	48.58	233	P	P	14 56 02.2	+0.4
	2.3nm,0.7s,baz=37,slow=7.8,SNR=4.3						
MAKZ	Makanchi	50.07	13	eP	P	14 56 12.6	-0.2
	6.4nm,1.3s						
MK32	Makanchi Array	50.12	13	eP	P	14 56 13.1	-0.1
MK32				ePcP	PcP	14 57 33.0	+0.4
MKAR	Makanchi Array	50.12	13	P	P	14 56 13.1	-0.1
	2.2nm,0.8s,baz=197,slow=7.1,SNR=12						
MKAR				PcP	PcP	14 57 33.0	+0.4
	0.7nm,0.7s,baz=197,slow=4.5,SNR=3.5						
ABKAR	Akbulak array	51.45	353	eP	P	14 56 22.8	-0.3
KURK	Kurchatov	53.23	8	eP	P	14 56 36.0	-0.2
	5.6nm,0.8s						
ZAA0	Zalesovo Array	57.42	12	eP	P	14 57 05.6	-0.8
	6.4nm,0.8s						
ZALV	Zalesovo Beam	57.42	12	P	P	14 57 06.1	-0.3
	5.3nm,0.7s,baz=206,slow=7.2,SNR=18						
ZAA1	Zalesovo Array	57.42	12	eP	P	14 57 06.1	-0.4
SONA0	Songino Array	59.81	29	eP	P	14 57 24.1	+0.7
SONM	Songino Array	59.81	29	P	P	14 57 24.1	+0.7
	3.0nm,0.8s,baz=224,slow=7.3,SNR=18						
SONA1	Songino Array	59.82	29	eP	P	14 57 23.9	+0.4
WRA	Warramunga Arr	67.16	111	P	P	14 58 12.3	-0.2
	2.4nm,0.9s,baz=288,slow=5.9,SNR=9.4						
WR1	Warramunga Arr	67.17	111	eP	P	14 58 12.3	-0.2
	32nm,0.9s						
ASAR	Alice Springs	67.24	115	P	P	14 58 12.5	-0.4
	1.2nm,0.9s,baz=289,slow=5.9,SNR=6.3						
TORD	Torodi Ar. Bea	67.40	285	P	P	14 58 14.1	+0.1
	0.7nm,0.9s,baz=85,slow=5.1,SNR=3.1						
TOA1	Torodi Ar. Sit	67.40	285	eP	P	14 58 14.1	0.0
DBIC	Dimbokro	73.18	278	P	P	14 58 49.6	+0.1
	1.4nm,0.7s,baz=100,slow=6.1,SNR=3.4						
ESDC	Sonseca Array	77.40	311	P	P	14 59 13.5	+0.1
	0.1nm,0.3s,baz=97,slow=5.1,SNR=2.6						
QSPA	South Pole Qui	88.07	180	P	P	15 00 08.4	+0.1
	1.8nm,1.0s,baz=326,slow=2.9,SNR=2.8						
VNDA	Vanda	88.98	167	P	P	15 00 12.4	+0.2
	0.6nm,0.8s,baz=225,slow=4.3,SNR=1.8						
VNDA	Vanda	88.98	167	eP	P	15 00 12.6	+0.3
YKA	Yellowknife Ar	119.54	1	PKP	PKPdf	15 06 06.5	-1.0
	0.4nm,0.8s,baz=354,slow=2.1,SNR=6.1						
YKB5	Yellowknife Ar	119.54	1	ePKPdf	PKPdf	15 06 06.2	-1.3
PDAR	Pinedale Array	139.27	357	PKP	PKPdf	15 06 45.5	-0.2
	0.5nm,0.7s,baz=91,slow=4.6,SNR=4.6						
LTX	Lajitas	151.60	345	ePKPbc	PKPbc	15 07 12.9	-0.2
LTX				ePKPab	PKPab	15 07 20.8	-0.7
TXAR	Lajitas Array	151.60	345	PKPbc	PKPbc	15 07 12.9	-0.2
	1.6nm,0.9s,baz=106,slow=2.7,SNR=6.5						
TXAR				PKPab	PKPab	15 07 20.8	-0.7
	1.8nm,0.9s,baz=79,slow=2.7,SNR=6.7						

ISCJB 09 14:47:30.1±0.3, 55°34N±0°03×134°96W±0°05, h9km, mb3.7/2, MS3.3/1, Error ellipse: s-maj=5.0km s-min=3.2km az=36.4

IDC 09 14:47:30.9±1.1, 55°24N×134°74W, h0km, mb3.5/3, mb1 3.8/9, mb1mx3.6/43, mbtmp3.7/9, ML3.3/6, MS3.3/6, Ms1 3.3/6, ms1mx2.9/45, Error ellipse: s-maj=17.1km s-min=9.8km az=52.0

NEIC 09 14:47:32.9±0.0, 55°36N×134°78W, h20km, mb4.2/4, ML3.9(AEIC), After AEIC.

NEIC Felt at Petersburg.

ISC 09 14:47:31.7±0.7, 55°33N±0°05×134°83W±0°05, h9km, n88, $\sigma 1^{s}25$/93, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	Craig	0.98	81	P	Pg	14 47 50.0	-0.6
CRAG				S	Sb	14 48 02.7	-1.3
SIT	Sitka	1.75	351	P	Pn	14 48 01.2	-1.0
SIT				S	Sn	14 48 23.6	-1.1
NDB	Naden	1.76	141	P	Pn	14 48 02.0	-0.4
WRAK	Wrangell Islan	1.78	51	P	Pn	14 48 02.5	-0.1
WRAK				S	Sn	14 48 24.6	-0.7
MASB	Masset	2.10	128	P	Pn	14 48 07.6	+0.7
DIB	Dawson Inlet,	2.54	146	ePn	Pn	14 48 12.5	-0.5
H02S1	DAWSON INLET T	2.54	146	Pg	Pn	14 48 12.3	-0.7
H02S1				Lg	Lg	14 48 47.4	
JIS	Juneau Island	2.97	5	P	Pn	14 48 19.3	+0.4
JIS				S	Sn	14 48 53.2	-1.3
BESE	Bessie Mountai	3.26	360	P	Pn	14 48 23.0	0.0
BESE				S	Sn	14 49 01.2	-0.8
DLBC	Dease Lake	4.08	38	Pn	Pn	14 48 35.3	+1.0
	1.5nm,0.3s,baz=217,slow=12,SNR=56						
DLBC				Lg	Lg	14 49 40.5	
	21nm,0.3s,baz=131,slow=23,SNR=12						
DLBC	Dease Lake	4.08	38	P	Pn	14 48 35.1	+0.8
SKAG	Skagway	4.15	356	P	Pn	14 48 35.3	+0.1
DHAK	Deception Hill	4.20	335	P	Pn	14 48 35.8	-0.1
PLBC	Pleasant Camp	4.22	349	P	Pn	14 48 36.9	+0.8
YKU2	Yakutat	4.94	330	ePn	Pn	14 48 45.8	-0.2
PNL	Peninsula	5.00	332	P	Pn	14 48 47.4	+0.6
BBB	Bella Bella	5.08	126	Pn	Pn	14 48 46.6	-1.3
	0.8nm,0.3s,baz=296,slow=11,SNR=19						
BBB				Sn	Sn	14 49 44.0	-2.6
	5.3nm,0.3s,baz=106,slow=16,SNR=15						
BBB				Lg	Lg	14 50 09.6	
	10nm,0.3s,baz=237,slow=23,SNR=7.4						
BBB				LR	LR	14 50 46.7	
	comp=Z,214nm,19.3s,baz=38,slow=39						
BBB	Bella Bella	5.08	126	P	Pn	14 48 47.7	-0.2
BCPM	Bancas Point	5.30	333	P	Pn	14 48 52.2	+1.1
WHY	Whitehorse	5.35	360	P	Pn	14 48 52.4	+0.7
WHY				S	Sn	14 49 52.1	-1.3
YUK7	Dusty Glacier	5.51	343	P	Pn	14 48 54.1	+0.1
PCA	Pinnacle	5.59	331	P	Pn	14 48 57.0	+1.9
PCA				S	Sn	14 49 59.3	-0.2
HYT	Haines Junctio	5.69	347	P	Pn	14 48 58.0	+1.5
SAMH	Samovar Hills	5.77	329	P	Pn	14 48 59.2	+1.7
CHX	Chaix Hills	5.82	327	P	Pn	14 48 57.7	-0.5
YUK6	Outpost Mounta	5.93	343	P	Pn	14 49 00.9	+1.0
YUK5	Granite Creek	6.04	346	P	Pn	14 49 02.9	+1.7
YUK4	Talbot Arm	6.36	343	P	Pn	14 49 08.6	+2.9
SNH	Sunshine Point	6.48	322	P	Pn	14 49 07.3	+0.2
KULT	Kultieth River	6.49	323	P	Pn	14 49 07.7	+0.4
KHIT	Khitrov Hills	6.81	322	P	Pn	14 49 11.7	-0.1
HMT	Hamilton	7.11	319	P	Pn	14 49 15.3	-0.4
MID	Middleton Isla	7.45	308	ePn	Pn	14 49 19.3	-1.1
BMRM	Bremner River	7.66	322	ePn	Pn	14 49 23.9	+0.6
KLU	Klutina	8.48	321	P	Pn	14 49 34.7	+0.1
GLI	Glacier Island	8.54	316	ePn	Pn	14 49 33.9	-1.5
HARP	HAARP	8.88	327	P	Pn	14 49 40.1	+0.1
DAWY	Dawson	9.06	347	P	Pn	14 49 43.6	+1.1
SEW	Seward	9.16	307	ePn	Pn	14 49 43.7	-0.2
SCM	Sheep Creek Mo	9.21	320	P	Pn	14 49 44.4	-0.3
KNK	Knik Glacier	9.39	316	P	Pn	14 49 47.2	+0.1
SML	Sawmill	9.57	318	P	Pn	14 49 49.1	-0.4
BRLK	Bradley Lake	9.70	304	P	Pn	14 49 50.7	-0.5
RC01	Rabbit Creek A	9.74	312	P	Pn	14 49 50.8	-1.0
PMR	Palmer	9.76	316	ePn	Pn	14 49 52.2	+0.2
GHO	Glory Hole Cre	9.78	317	ePn	Pn	14 49 53.0	+0.5
SCRK	Sand Creek	9.82	336	ePn	Pn	14 49 53.9	+0.8
RIDG	Independ'e Rid	9.84	333	P	Pn	14 49 53.4	+0.2
DHY	Denali Highway	10.07	326	ePn	Pn	14 49 58.8	+2.4
KDAK	Kodiak Island	10.10	291	Pn	Pn	14 49 56.2	-0.5
	1.0nm,0.3s,baz=110,slow=16,SNR=26						
KDAK				Sn	Sn	14 51 45.3	-4.7
	0.3nm,0.3s,baz=253,slow=19,SNR=3.5						
KDAK				LR	LR	14 53 22.9	
	comp=Z,102nm,18.1s,baz=92,slow=35						
KDAK	Kodiak Island	10.10	291	P	Pn	14 49 56.5	-0.2
SUA	Susitna One	10.35	313	ePn	Pn	14 49 59.5	-0.7
OHAK	Old Harbor	10.43	288	ePn	Pn	14 49 59.9	-1.4
RND	Reindeer	10.78	324	ePn	Pn	14 50 08.8	+2.7
RSO	Redoubt South	10.82	306	ePn	Pn	14 50 07.1	+0.4
HDA	Harding Lake	10.93	331	ePn	Pn	14 50 09.9	+1.8
MCK	McKinley	11.03	325	ePn	Pn	14 50 10.2	+0.7
IL1	Eielson Array	11.20	333	ePn	Pn	14 50 12.6	+0.8
ILAR	Eielson Array	11.20	333	Pn	Pn	14 50 13.1	+1.4
	0.4nm,0.3s,baz=154,slow=12,SNR=42						
ILAR				Lg	Lg	14 53 29.7	
	0.0nm,0.3s,baz=149,slow=18,SNR=3.1						
ILB	Eielson Array	11.20	333	ePn	Pn	14 50 12.2	+0.5
TRF	Thorofare Moun	11.30	322	ePn	Pn	14 50 15.7	+2.5
WRH	Wood River Hil	11.30	330	ePn	Pn	14 50 15.3	+2.2
PPLA	Purkeypile	11.67	318	ePn	Pn	14 50 19.6	+1.2
MDM	Murphy Dome	11.71	331	ePn	Pn	14 50 18.2	-0.6
CAST	Castle Rocks	11.93	320	ePn	Pn	14 50 23.1	+1.4
BPAW	Bear Paw Mtn.	11.95	324	ePn	Pn	14 50 22.9	+0.9
FYU	Fort Yukon	12.33	340	ePn	Pn	14 50 26.5	-0.6
SVW2	Sparrevohn	12.34	306	ePn	Pn	14 50 27.4	0.0
MLY	Manley	12.50	327	ePn	Pn	14 50 29.3	-0.2
YKA	Yellowknife Ar	12.64	47	Pn	Pn	14 50 30.0	-1.4
	0.0nm,0.3s,baz=243,slow=12,SNR=3.7						
YKA				Lg	Lg	14 54 06.9	
	0.0nm,0.3s,baz=250,slow=27,SNR=4.2						
YKB5	Yellowknife Ar	12.64	47	ePn	Pn	14 50 30.9	-0.5
NEW	Newport	13.02	116	LR	LR	14 55 56.6	
	comp=Z,187nm,19.7s,baz=300,slow=39						
INK	Inuvik	13.04	2	Pn	Pn	14 50 38.0	+1.2
	0.1nm,0.3s,baz=162,slow=12,SNR=5.6						
INK				Lg	Lg	14 54 26.2	
	baz=319,slow=11,SNR=4.2						
INK				LR	LR	14 55 12.1	
	comp=Z,87nm,20.1s,baz=354,slow=35						
INK	Inuvik	13.04	2	ePn	Pn	14 50 36.3	-0.6
CHGN	Chignik	13.28	284	ePn	Pn	14 50 41.2	+1.0
IM3	Indian Mountai	14.07	327	ePn	Pn	14 50 53.0	+2.1
PINE	Pine Mountain	14.61	136	ePn	Pn	14 51 00.7	+2.1
BOZ	Bozeman (W)	17.61	114	ePn	P	14 51 37.5	-0.8
	30nm,0.8s						
HLID	Hailey	17.66	123	ePn	P	14 51 39.6	+0.6
	5.8nm,1.2s						
ANM	Nome	17.69	314	ePn	Pn	14 51 38.1	+0.1
	33nm,1.9s						
RDOG	Red Dog Mine	18.20	326	ePn	Pn	14 51 42.8	-1.4
	12nm,0.6s						
UNV	Unalaska Valle	18.33	278	ePn	P	14 51 48.8	+2.8
	262nm,1.7s						
ELK	Elko	19.51	130	LR	LR	14 59 29.1	
	comp=Z,85nm,18.1s,baz=338,slow=37						
NVAR	Mina Array Bea	20.24	140	P	P	14 52 06.7	-0.5
	0.5nm,0.9s,baz=327,slow=9.7,SNR=2.5						
PDAR	Pinedale Array	20.65	117	P	Pn	14 52 15.1	+1.1
	1.1nm,0.7s,baz=318,slow=7.5,SNR=5.9						
RES	Resolute Bay	24.83	24	P	P	14 52 55.4	+1.7
	1.4nm,0.8s,baz=235,slow=9.1,SNR=5.0						
ANMO	Albuquerque	28.24	124	LR	LR	15 04 38.5	
	comp=Z,70nm,18.1s,baz=69,slow=36						
MKAR	Makanchi Array	73.55	334	P	P	14 59 05.7	+1.1
	0.9nm,0.8s,baz=31,slow=5.3,SNR=5.1						

ISK 09 14:49:25.6, 39°71N×25°69E, h14km, ML3.1/1

ISCJB 09 14:49:26.4±0.5, 39°70N±0°02×25°58E±0°04, h5km±5km, Error ellipse: s-maj=5.4km s-min=3.5km az=149.0

ATH 09 14:49:26.6, 39°68N×25°57E, h19km±8km, ML1.9/3, Error ellipse: s-maj=8.3km s-min=0.8km az=236.0

DDA 09 14:49:32.6, 39°93N×26°19E, h7km±7km, ML2.4

ISC 09 14:49:26.3±1.0, 39°70N±0°02×25°63E±0°03, h13km±9km, n20, $\sigma 0^{s}79$/31, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.36	66	IAML_P			
	comp=Z,2μm,0.1s						
BOZC				iP	Pb	14 49 34.2	-0.3
BOZC				iS	Sb	14 49 39.9	-0.2
LIA	Limnos Island	0.40	301	P	Pg	14 49 34.7	+0.4
LIA				S	Sg	14 49 39.8	+0.1
GPNR	Gulpinar-Canak	0.46	121	PG	Pg	14 49 34.6	-0.8
SIGR	SIGRI	0.51	160	PG	Pg	14 49 36.1	-0.3
SIGR				SG	Sg	14 49 43.5	+0.3
SIGR	SIGRI	0.51	160	P	Pg	14 49 36.5	+0.1
SIGR				S	Sb	14 49 44.2	-0.3
SIGR				AML	AML	14 49 44.5	
	comp=E,514μm,0.5s						
SIGR				AML	AML	14 49 44.5	
	comp=N,801μm,0.6s						
GOKC	Gokceada-Canak	0.55	24	PG	Pg	14 49 36.5	-0.7
PRK	Paraskevi	0.67	132	P	Pn	14 49 40.8	-0.7
PRK				S	Sn	14 49 50.3	-1.4
PRK				AML	AML	14 49 53.2	
	comp=E,267μm,0.2s						
PRK				AML	AML	14 49 55.1	
	comp=N,285μm,0.4s						
BAYC	CANAKKALE_Bayr	0.71	86	IAML_P			
	comp=Z,1μm,0.1s						
BAYC				iP	Pb	14 49 40.5	0.0
SMTH	Samothraki Isl	0.78	354	P	Pb	14 49 41.9	+0.2
SMTH				S	Sb	14 49 52.7	+0.5
SMTH				AML	AML	14 49 54.5	
	comp=N,91μm,0.4s						
SMTH				AML	AML	14 49 54.6	
	comp=E,77μm,0.3s						
AYVA	Ayvalik	0.91	115	IAML_P			
	comp=Z,446nm,0.1s						
AYVA				iP	Pn	14 49 45.9	+1.2
AYVA				iS	Sn	14 49 58.7	+1.0
THAS	Thassos island	1.15	323	P	Pn	14 49 48.0	-0.1
THAS				S	Sb	14 50 03.0	+0.2
ALN	Alexandroupoli	1.24	15	PN	Pn	14 49 47.8	-1.6
ALN	Alexandroupoli	1.24	15	P	Pg	14 49 50.0	-0.3
CHOS	Chios island	1.35	166	PN	Pn	14 49 50.6	-0.3
CHOS	Chios island	1.35	166	P	Pg	14 49 52.4	+0.1
CHOS				S	Sg	14 50 10.2	+0.5
KESN	Edirne-Kesan	1.39	35	IAML_P			
	comp=Z,99nm,0.2s						
KESN				iP	Pb	14 49 52.2	-0.1
KESN				iS	Sg	14 50 10.9	-0.2
RDO	Rodhopi	1.45	357	PN	Pn	14 49 51.9	-0.3
AOS	Alonnisos	1.45	249	PN	Pn	14 49 52.7	+0.4
BALY	Balya	1.54	88	IAML_P			
	comp=Z,290nm,0.3s						
BALY				iP	Pb	14 49 54.2	-0.5
KNL	Balıkesir	1.57	68	iP	Pg	14 49 59.0	+2.6
KNL				iS	Sg	14 50 17.1	+0.4

IDC 09 14:49:30.3±9.3, 1°88S×68°13E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/53, mbtmp3.5/5, Error ellipse: s-maj=298.8km s-min=28.0km az=67.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.26	147	T	T	14 56 16.9	
	baz=324,slow=75,SNR=20						
H08N3	Diego Garcia H	5.27	147	T	T	14 56 12.8	
	baz=324,slow=75,SNR=21						
H08N1	Diego Carcia H	5.28	147	T	T	14 56 17.9	
	baz=324,slow=75,SNR=26						
MKAR	Makanchi Array	50.05	13	P	P	14 58 26.4	-0.4
	0.4nm,0.7s,baz=201,slow=7.6,SNR=2.7						
ZALV	Zalesovo Beam	57.34	12	P	P	14 59 20.0	-0.1
	0.4nm,0.5s,baz=246,slow=6.1,SNR=3.5						
SONM	Songino Array	59.69	29	P	P	14 59 37.3	+0.5
	0.8nm,0.8s,baz=217,slow=6.5,SNR=3.6						
WRA	Warramunga Arr	67.02	111	P	P	15 00 26.0	+0.2
	0.3nm,0.7s,baz=289,slow=6.1,SNR=4.2						
ASAR	Alice Springs	67.10	115	P	P	15 00 26.0	-0.3
	0.4nm,0.8s,baz=302,slow=7.6,SNR=3.6						

ISCJB 09 14:53:57.4±0.5, 1°90S±0°09×68°03E±0°07, h15km, mb4.3/24, MS3.8/7, Error ellipse: s-maj=12.8km s-min=10.1km az=154.3

IDC 09 14:53:57.2±0.7, 1°90S×68°06E, h0km, mb4.2/13, mb1 4.3/14, mb1mx3.9/65, mbtmp4.2/14, ML4.0/1, MS3.8/7, Ms1 3.8/7, ms1mx3.3/39, Error ellipse: s-maj=21.0km s-min=16.8km az=154.0

NEIC 09 14:53:58.1±0.3, 1°95S×67°99E, h10km, mb4.6/10, Error ellipse: s-maj=9.0km s-min=6.8km az=149.0

ISC 09 14:53:59.0±0.7, 2°0S±0°1×68°03E±0°10, h15km, n54, $\sigma 0^{s}80$/48, mb4.3/24, MS3.8/7, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.23	146	T	T	15 00 37.1	
	baz=324,slow=75,SNR=147						
H08N3	Diego Garcia H	5.25	146	T	T	15 00 38.0	
	baz=324,slow=75,SNR=124						
H08N1	Diego Carcia H	5.25	146	T	T	15 00 44.1	
	baz=324,slow=75,SNR=116						
MNCI	Minicoy	11.36	26	ePn	Pn	14 56 42.6	+1.7
PALK	Pallekele	15.63	54	Pn	Pn	14 57 39.5	+0.5
	0.7nm,0.3s,baz=297,slow=6.8,SNR=6.1						
PALK	Pallekele	15.63	54	ePn	Pn	14 57 39.3	+0.3
	100nm,1.9s						
HYB	Hyderabad	21.89	28	iP	P	14 58 54.0	+2.3
KMBO	Kilima Mbogo	30.78	271	P	P	15 00 15.9	+1.2
	2.5nm,0.7s,baz=61,slow=12,SNR=8.1						
KMBO				LR	LR	15 10 17.4	
	comp=Z,72nm,19.2s,baz=95,slow=32						
KMBO	Kilima Mbogo	30.78	271	eP	P	15 00 13.5	-1.1
	4.1nm,1.0s						
PSI	Prapat	31.25	81	LR	LR	15 10 50.5	
	comp=Z,186nm,20.6s,baz=195,slow=32						
PSI	Prapat	31.25	81	eP	P	15 00 18.2	-0.4
	9.4nm,1.2s						
CM01	Chiang Mai Arr	36.57	55	eP	P	15 01 03.2	-1.4
CM31	Chiang Mai Arr	36.57	55	eP	P	15 01 04.6	-0.1
CMAR	Chiang Mai Arr	36.57	55	P	P	15 01 05.2	+0.4
	1.9nm,1.0s,baz=247,slow=9.3,SNR=10						
CMAR				LR	LR	15 14 33.4	
	comp=Z,99nm,18.5s,baz=246,slow=34						
CHTO	Chiang Mai	36.75	54	eP	P	15 01 05.9	-0.3
	6.8nm,1.0s						
LSA	Lhasa	38.48	33	eP	P	15 01 20.6	-0.7
	5.5nm,1.0s						
GEYT	Alibeck	40.76	348	P	P	15 01 40.2	+0.6
	0.9nm,0.7s,baz=164,slow=6.8,SNR=3.6						
GAR	Garm	40.83	3	eP	P	15 01 38.8	-1.5
	44nm,1.9s						
LSZ	Lusaka	41.45	249	P	P	15 01 46.9	+1.1
	1.7nm,0.3s,baz=72,slow=6.7,SNR=5.8						
LSZ	Lusaka	41.45	249	eP	P	15 01 45.7	0.0
	4.7nm,0.8s						
MATP	Matopo	42.71	242	P	P	15 01 57.3	+1.3
	2.4nm,0.9s,baz=68,slow=8.2,SNR=2.6						
NRN	Naryn	43.81	9	eP	P	15 02 03.7	-1.1
	5.5nm,1.1s						
AAK	Ala-Archa	44.80	7	eP	P	15 02 12.3	-0.2
	6.9nm,1.4s						
BOSA	Boshof	48.60	233	LR	LR	15 20 03.2	
	comp=Z,109nm,18.5s,baz=28,slow=32						
MAKZ	Makanchi	50.11	12	eP	P	15 02 53.2	-0.4
	5.8nm,1.2s						
MK01	Makanchi Array	50.15	13	eP	P	15 02 53.3	-0.5
MK32	Makanchi Array	50.17	13	eP	P	15 02 53.8	-0.3
MK32				ePcP	PcP	15 04 13.7	+0.4
MKAR	Makanchi Array	50.17	13	P	P	15 02 53.8	-0.3
	1.9nm,0.8s,baz=188,slow=7.4,SNR=16						
MKAR				PcP	PcP	15 04 13.7	+0.4
	0.7nm,0.7s,baz=213,slow=5.0,SNR=2.9						
ENH	Enshi	50.89	48	eP	P	15 02 59.7	-0.1
	11nm,0.8s						
ABKAR	Akbulak array	51.51	353	eP	P	15 03 03.5	-0.6
AKTO	Aktyubinsk	52.92	352	P	P	15 03 13.9	-0.6
	1.6nm,0.7s,baz=162,slow=8.5,SNR=6.2						
KURK	Kurchatov	53.27	8	eP	P	15 03 16.7	-0.4
	5.0nm,0.7s						
NWAO	Narrogin (SRO)	55.41	129	LR	LR	15 24 20.1	
	comp=Z,94nm,20.2s,baz=322,slow=33						
ZAA0	Zalesovo Array	57.46	12	eP	P	15 03 46.6	-0.6
	5.5nm,0.8s						
ZALV	Zalesovo Beam	57.46	12	P	P	15 03 46.9	-0.4
	4.3nm,0.6s,baz=205,slow=8.2,SNR=28						
ZALV				LR	LR	15 28 43.8	
	comp=Z,65nm,18.8s,baz=248,slow=36						
ZALV	Zalesovo Beam	57.46	12	eP	P	15 03 46.3	-0.9
ZAA1	Zalesovo Array	57.46	12	eP	P	15 03 46.9	-0.4
SONA0	Songino Array	59.83	29	eP	P	15 04 05.0	+1.0
SONM	Songino Array	59.83	29	P	P	15 04 05.0	+1.0
	3.5nm,0.8s,baz=220,slow=7.1,SNR=26						
SONA1	Songino Array	59.84	29	eP	P	15 04 04.2	0.0
AKASG	Malin Array Be	62.05	333	P	P	15 04 18.8	-0.1
	0.3nm,0.4s,baz=140,slow=6.7,SNR=2.3						
MAW	Mawson	65.60	182	LR	LR	15 25 36.4	
	comp=Z,158nm,20.8s,baz=9.5,slow=29						
WR1	Warramunga Arr	67.08	111	eP	P	15 04 53.0	+0.6
WRA	Warramunga Arr	67.08	111	P	P	15 04 53.0	+0.6
	2.3nm,0.9s,baz=286,slow=5.8,SNR=8.8						
ASAR	Alice Springs	67.15	115	P	P	15 04 53.2	+0.3
	1.4nm,0.9s,baz=292,slow=7.0,SNR=5.9						
HFS	Hagfors	74.82	335	P	P	15 05 38.1	-0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.5nm,0.8s,baz=91,slow=7.6,SNR=4.9						
TIXI	**Tiksi**	**83.01**	**16**	*e*P	**P**	**15 06 22.8**	**-0.5**
	11nm,1.1s						
YKA	**Yellowknife Ar**	**119.60**	**1**	PKP	**PKPdf**	**15 12 47.5**	**-0.5**
	0.4nm,0.8s,baz=344,slow=1.8,SNR=5.1						
YKB5	**Yellowknife Ar**	**119.60**	**1**	*e*PKPdf	**PKPdf**	**15 12 47.5**	**-0.6**
PDAR	**Pinedale Array**	**139.34**	**357**	PKP	**PKPdf**	**15 13 26.4**	**0.0**
	0.4nm,0.8s,baz=68,slow=4.0,SNR=3.9						
NV01	**Mina Array Sit**	**143.26**	**8**	*e*PKPdf	PKPbc	15 13 31.8	+1.3
NVAR	**Mina Array Bea**	**143.26**	**8**	PKP	**PKPdf**	**15 13 32.7**	**-0.8**
	0.3nm,0.7s,baz=341,slow=1.9,SNR=3.4						
LTX	**Lajitas**	**151.67**	**345**	*e*PKPbc	**PKPbc**	**15 13 53.9**	**+0.1**
TXAR	**Lajitas Array**	**151.67**	**345**	PKPbc	**PKPbc**	**15 13 53.9**	**+0.1**
	1.5nm,0.9s,baz=145,slow=4.6,SNR=6.6						

*IDC **09** 14:55:43.0±1.5, 34°.65S×179°.14W, h0km, mb4.2/4, mb1 4.4/5, mb1mx4.0/38, mbtmp4.2/5, ML4.1/1, Error ellipse: s-maj=34.5km s-min=30.2km az=83.0*
*WEL **09** 14:55:43.6±1.2, 35°S±10°×17°9W±1°4, h12km, ML4.4/19*
*NEIC **09** 14:55:44.2±0.6, 34°.53S×179°.12W, h10km, mb4.0/2, Error ellipse: s-maj=18.6km s-min=13.3km az=147.0*
ISC 09 14:55:46.9±1.2**, 34°.81S**±0°.08×**178°.8W**±0°.1**, h42**km**, n49, σ1^{s}55**/54**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.59**	**219**	*e*Pn	**Pn**	**14 56 39.4**	**-0.6**
MXZ	**Matakaoa Point**	**3.59**	**219**	P	**Pn**	**14 56 39.2**	**-0.9**
MXZ				S	**Sn**	**14 57 21.7**	**+0.5**
WMGZ	**Waiomatatini S**	**3.73**	**216**	P	**Pn**	**14 56 42.3**	**+0.3**
WMGZ				S	**Sn**	**14 57 27.8**	**+3.1**
PKGZ	**Pakihiroa**	**3.96**	**218**	P	**Pn**	**14 56 44.4**	**-0.7**
PKGZ				S	**Sn**	**14 57 32.3**	**+2.0**
PUZ	**Puketiti**	**4.01**	**215**	P	**Pn**	**14 56 44.5**	**-1.3**
PUZ				S	**Sn**	**14 57 31.5**	**0.0**
HAZ	**Te Kaha**	**4.01**	**222**	P	**Pn**	**14 56 45.9**	**+0.1**
HAZ				S	**Sn**	**14 57 34.9**	**+3.3**
RUGZ	**Raukumara Rang**	**4.22**	**221**	P	**Pn**	**14 56 48.7**	**-0.1**
TWGZ	**Tauwhareparae**	**4.23**	**216**	P	**Pn**	**14 56 49.3**	**+0.4**
TWGZ				S	**Sn**	**14 57 38.3**	**+1.3**
CNGZ	**Carnagh Statio**	**4.37**	**212**	P	**Pn**	**14 56 49.9**	**-0.8**
TKGZ	**Te Karaka**	**4.50**	**215**	P	**Pn**	**14 56 52.5**	**0.0**
MWZ	**Matawai**	**4.58**	**219**	P	**Pn**	**14 56 52.4**	**-1.2**
URZ	**Urewera**	**4.74**	**222**	Pn	**Pn**	**14 56 55.2**	**-0.7**
	7.8nm,0.3s,baz=24,slow=7.1,SNR=63						
URZ				Sn	**Sn**	**14 57 49.9**	**+0.3**
	5.3nm,0.3s,baz=163,slow=19,SNR=9.1						
URZ	**Urewera**	**4.74**	**222**	P	**Pn**	**14 56 54.8**	**-1.1**
RIGZ	**Rimuhau**	**4.75**	**214**	P	**Pn**	**14 56 55.0**	**-1.0**
OPRZ	**Ohinepanea**	**4.80**	**230**	P	**Pn**	**14 56 56.0**	**-0.6**
MARZ	**Manawahe**	**4.81**	**228**	P	**Pn**	**14 56 56.9**	**+0.1**
KUZ	**Kuaotunu**	**4.83**	**245**	P	**Pn**	**14 56 56.5**	**-0.5**
GRZ	**Great Barrier**	**4.87**	**251**	P	**Pn**	**14 56 58.3**	**+0.7**
PRGZ	**Paritu Road**	**4.87**	**212**	P	**Pn**	**14 56 57.0**	**-0.7**
TGRZ	**Tauranga**	**4.92**	**232**	P	**Pn**	**14 56 57.9**	**-0.4**
SNGZ	**Shannon Statio**	**5.01**	**217**	P	**Pn**	**14 56 58.8**	**-0.8**
KNZ	**Kokohu**	**5.05**	**213**	P	**Pn**	**14 56 59.2**	**-0.9**
MHGZ	**Mahia Peninsul**	**5.06**	**210**	P	**Pn**	**14 56 59.2**	**-1.0**
OMRZ	**Omania**	**5.07**	**228**	P	**Pn**	**14 56 59.1**	**-1.4**
MUGZ	**Murupara**	**5.09**	**223**	P	**Pn**	**14 56 59.9**	**-0.7**
MKAZ	**Moumakai**	**5.38**	**243**	P	**Pn**	**14 57 05.2**	**+0.6**
TOZ	**Tahuroa Road**	**5.42**	**236**	P	**Pn**	**14 57 05.5**	**+0.2**
BKZ	**Black Stump Fm**	**5.73**	**219**	*e*Pn	**Pn**	**14 57 08.1**	**-1.4**
OUZ	**Omahuta**	**6.23**	**264**	*e*Pn	**Pn**	**14 57 17.4**	**+1.2**
HIZ	**Hauiti**	**6.27**	**232**	*e*Pn	**Pn**	**14 57 17.3**	**+0.4**
THZ	**Tophouse**	**9.50**	**221**	*e*Pn	**Pn**	**14 57 58.6**	**-2.6**
KHZ	**Kahutara**	**9.65**	**216**	*e*Pn	**Pn**	**14 58 03.4**	**+0.2**
LTZ	**Lake Taylor**	**10.55**	**218**	*e*Pn	**Pn**	**14 58 14.1**	**-1.4**
MQZ	**McQueen's Vall**	**11.06**	**214**	*e*Pn	**Pn**	**14 58 20.5**	**-1.9**
OXZ	**Oxford**	**11.07**	**217**	*e*Pn	**Pn**	**14 58 19.7**	**-2.8**
DZM	**Mont Dzumac**	**18.11**	**311**	*e*Pn	Pn	14 59 43.1	-12
	26nm,1.5s						
LHI	**Lord Howe Isla**	**18.79**	**274**	*e*P	**P**	**14 59 56.6**	**-6.1**
	822nm,2.0s						
AS01	**Alice Springs**	**42.33**	**272**	*e*P	**P**	**15 03 35.1**	**-1.8**
AS31	**Alice Springs**	**42.37**	**272**	*e*P	**P**	**15 03 36.6**	**-0.7**
	1.4nm,0.6s						
ASAR	**Alice Springs**	**42.37**	**272**	P	**P**	**15 03 37.2**	**-0.1**
	3.2nm,0.6s,baz=114,slow=8.1,SNR=95						
WR1	**Warramunga Arr**	**43.76**	**277**	*e*P	**P**	**15 03 48.1**	**-0.3**
	60nm,0.8s						
WRA	**Warramunga Arr**	**43.76**	**277**	P	**P**	**15 03 48.1**	**-0.3**
	3.2nm,0.6s,baz=118,slow=7.6,SNR=50						
FITZ	**Fitzroy Crossi**	**51.80**	**274**	P	**P**	**15 04 50.6**	**-0.2**
	2.0nm,0.7s,baz=162,slow=6.3,SNR=4.6						
FITZ	**Fitzroy Crossi**	**51.80**	**274**	*e*P	**P**	**15 04 50.4**	**-0.4**
	54nm,2.0s						
QSPA	**South Pole Qui**	**55.31**	**180**	P	**P**	**15 05 19.3**	**+3.3**
	0.7nm,0.6s,baz=75,slow=4.0,SNR=4.7						
E09A	**Wood Farm, Sta**	**97.63**	**37**	*e*P	Pdif	15 09 18.3	+1.6
	22nm,0.7s						
FIA0	**FINESS Array S**	**148.98**	**337**	*e*PKPbc	**PKiKP**	**15 15 30.6**	**-0.1**
FINES	**FINESS Array B**	**148.98**	**337**	PKPbc	**PKiKP**	**15 15 30.6**	**-0.1**
	2.8nm,0.9s,baz=17,slow=2.0,SNR=8.0						
AKASG	**Malin Array Be**	**154.20**	**317**	PKPbc	**PKiKP**	**15 15 43.9**	**+2.1**
	0.3nm,0.4s,baz=47,slow=1.7,SNR=2.2						

*ISK **09** 14:56:48.6, 39°.70N×25°.64E, h3km±1km, ML3.4/1*
*ISCJB **09** 14:56:50.4±0.5, 39°.70N±0°.02×25°.62E±0°.03, h5km±5km, Error ellipse: s-maj=4.7km s-min=3.6km az=136.8*
*ATH **09** 14:56:50.4, 39°.70N×25°.62E, h20km±2km, ML1.9/3, Error ellipse: s-maj=2.1km s-min=0.8km az=224.0*
*DDA **09** 14:56:51.5, 39°.78N×25°.73E, h4km±5km, ML2.6*
ISC 09 14:56:50.4±1.1**, 39°.71N**±0°.02×**25°.66E**±0°.03**, h8**km±11km**, n23, σ0^{s}62**/33**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.33**	**66**	IAML_P			
	comp=Z,2µm,0.1s						
BOZC				*i* P	**Pb**	**14 56 58.2**	**-0.4**
BOZC				*i* S	**Sb**	**14 57 03.9**	**-0.2**
LIA	**Limnos Island**	**0.42**	**297**	P	**Pg**	**14 56 58.5**	**0.0**
LIA				S	**Sg**	**14 57 04.2**	**+0.2**
GPNR	**Gulpinar-Canak**	**0.44**	**125**	PG	**Pg**	**14 56 58.9**	**-0.1**
SIGR	**SIGRI**	**0.52**	**163**	PG	**Pg**	**14 56 58.9**	**-1.5**
SIGR				SG	**Sg**	**14 57 07.2**	**0.0**
SIGR	**SIGRI**	**0.52**	**163**	P	**Pg**	**14 57 00.4**	**0.0**
SIGR				S	**Sg**	**14 57 08.1**	**+0.9**
SIGR				AML	AML	14 57 08.7	
	comp=E,415µm,0.3s						
SIGR				AML	AML	14 57 08.9	
	comp=N,589µm,0.5s						
GOKC	**Gokceada-Canak**	**0.53**	**22**	PG	**Pg**	**14 56 59.6**	**-1.1**
EFSA	**Agios Efstrati**	**0.55**	**252**	P	**Pg**	**14 57 01.1**	**+0.1**
EFSA				S	**Sg**	**14 57 08.1**	**0.0**
PRK	**Paraskevi**	**0.66**	**134**	P	**Pg**	**14 57 03.8**	**+0.7**
PRK				S	**Sb**	**14 57 13.3**	**-0.2**
PRK				AML	AML	14 57 18.3	
	comp=E,378µm,0.5s						
PRK				AML	AML	14 57 18.5	
	comp=N,312µm,0.5s						
BAYC	**CANAKKALE_Bayr**	**0.68**	**87**	IAML_P			
	comp=Z,2µm,0.1s						
BAYC				*i* P	**Pb**	**14 57 05.0**	**+0.3**
SMTH	**Samothraki Isl**	**0.77**	**352**	P	**Pg**	**14 57 05.5**	**+0.2**
SMTH				S	**Sb**	**14 57 16.4**	**-0.4**
SMTH				AML	AML	14 57 18.2	
	comp=E,97µm,0.3s						
SMTH				AML	AML	14 57 18.8	
	comp=N,62µm,0.1s						
AYVA	**Ayvalik**	**0.89**	**116**	*i* P	**Pb**	**14 57 08.3**	**+0.2**
AYVA				*i* S	**Sn**	**14 57 22.5**	**+0.2**
THAS	**Thassos island**	**1.15**	**321**	P	**Pg**	**14 57 12.2**	**-0.3**
THAS				S	**Sb**	**14 57 27.8**	**+0.1**
SKY	**Skiros Island**	**1.20**	**227**	P	**Pg**	**14 57 12.6**	**-0.8**
ALN	**Alexandroupoli**	**1.22**	**14**	PN	**Pg**	**14 57 12.8**	**-1.1**
ALN	**Alexandroupoli**	**1.22**	**14**	P	**Pg**	**14 57 13.8**	**-0.2**
FOCM	**Foa**	**1.29**	**140**	PN	**Pg**	**14 57 14.9**	**-0.4**
CHOS	**Chios island**	**1.35**	**167**	PN	**Pn**	**14 57 15.6**	**-0.2**
KESN	**Edirne-Kesan**	**1.36**	**35**	IAML_P			
	comp=Z,90nm,0.2s						
KESN				*i* P	**Pb**	**14 57 17.8**	**+1.4**
KESN				*i* S	**Sb**	**14 57 35.0**	**+0.8**
RDO	**Rodhopi**	**1.44**	**356**	PN	**Pn**	**14 57 16.2**	**-0.7**
RDO	**Rodhopi**	**1.44**	**356**	P	**Pb**	**14 57 17.7**	**+0.2**
AOS	**Alonnisos**	**1.48**	**249**	PN	**Pn**	**14 57 16.9**	**-0.5**
AOS	**Alonnisos**	**1.48**	**249**	P	**Pn**	**14 57 17.6**	**+0.1**
KAVA	**Kavala**	**1.56**	**326**	P	**Pn**	**14 57 18.7**	**+0.2**

IDC 09 15:06:37.3±3.1**, 6°.95S**×**129°.32E, h126**km±42km**, mb2.9**/1**, mb1 3.0**/5**, mb1mx2.9**/31**, mbtmp3.3**/5**, MS2.9**/1**, Ms1 2.9**/1**, ms1mx2.4**/14**, Error ellipse: s-maj=75.3km s-min=21.7km az=90.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.34**	**18**	P	Pn	15 08 08.5	0.0
	0.2nm,0.3s,baz=253,slow=19,SNR=4.7						
SIJI				S	Sn	15 09 14.5	-5.3
	0.5nm,0.3s,baz=233,slow=20,SNR=2.6						
FITZ	**Fitzroy Crossi**	**11.65**	**198**	P	Pn	15 09 20.0	+0.2
	0.1nm,0.3s,baz=14,slow=13,SNR=7.2						
FITZ				S	Sn	15 11 20.4	-7.8
	0.1nm,0.3s,baz=135,slow=8.6,SNR=2.9						
FITZ				LR	LR	15 14 19.5	
	comp=Z,61nm,21.1s,baz=285,slow=40						
WRA	**Warramunga Arr**	**13.81**	**160**	P	Pn	15 09 47.4	-0.5
	0.1nm,0.3s,baz=334,slow=13,SNR=6.0						
WRA				S	Sn	15 12 08.3	-12
	0.1nm,0.3s,baz=336,slow=21,SNR=6.8						
ASAR	**Alice Springs**	**17.20**	**166**	P	Pn	15 10 29.9	-0.1
	0.0nm,0.3s,baz=347,slow=12,SNR=4.3						
ASAR				S	Sn	15 13 30.6	-11
	0.0nm,0.3s,baz=273,slow=37,SNR=3.2						
MKAR	**Makanchi Array**	**67.81**	**327**	P	P	15 17 21.8	0.0
	0.1nm,0.5s,baz=112,slow=8.0,SNR=3.4						

*SJA **09** 15:06:31.1±0.4, 27°.79S×71°.92W, h10km, ML3.9, MW3.3*
*IDC **09** 15:06:35.5±1.0, 27°.91S×71°.31W, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.7/29, mbtmp3.6/5, ML3.8/2, MS2.7/1, Ms1 2.7/1, ms1mx2.3/14, Error ellipse: s-maj=40.3km s-min=32.1km az=95.0*
*GUC **09** 15:06:40.9±0.7, 27°.91S×71°.03W, h80km±6km, ML3.9*
ISC 09 15:06:39.3±0.8**, 27°.89S**±0°.04×**71°.20W**±0°.07**, h28**km**, n31, σ2^{s}21**/27**, mb3.4**/3**, 3D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GO03	**Copiap**	**0.91**	**71**	⇓*i*P	**Pb**	**15 06 57.6**	**+1.1**
GO03				*i* S	**Sb**	**15 07 09.3**	**+1.1**
GO03				IAML		15 07 12.6	
	comp=N,5µm,0.5s						
LCO	**Las Campanas**	**1.20**	**158**	*e*P	**Pb**	**15 07 01.5**	**-0.1**
LCO	**Las Campanas**	**1.20**	**158**	⇓*i*P	**Pb**	**15 07 02.5**	**+0.9**
LCO				*i* S	**Sb**	**15 07 18.0**	**+1.3**
LCO				IAML		15 07 19.5	
	comp=E,4µm,0.3s						
GO04	**Tololo Observa**	**2.30**	**171**	*e*P	**Pb**	**15 07 17.7**	**-2.5**
GO04				*e*S	**Sb**	**15 07 44.8**	**-3.5**
AGUA	**GUANDACOL**	**2.86**	**124**	*e*P	**Pb**	**15 07 27.8**	**-2.0**
GO02	**Mina Guanaco**	**3.08**	**28**	⇓*i*P	**Pn**	**15 07 27.7**	**+1.3**
GO02				*e*S	**Sn**	**15 08 02.9**	**+0.5**
GO02				IAML		15 08 19.8	
	comp=E,449nm,0.5s						
AMOG	**MOGNA**	**3.85**	**143**	*e*P	**Pn**	**15 07 40.0**	**+3.3**
AMOG				*e*S	**Sb**	**15 08 31.8**	**-1.0**
ACLC	**CERRO LA CRUZ**	**4.04**	**113**	*e*P	**Pb**	**15 07 45.2**	**-4.6**
ACLC				*e*S	**Sb**	**15 08 40.1**	**+1.8**
RTLL	**Cerro Villicun**	**4.17**	**146**	*e*P	Pn	15 07 44.7	+3.6
RTLS	**Leoncito**	**4.23**	**157**	*e*P	**Pn**	**15 07 44.7**	**+2.5**
RTLS				IAML		15 08 58.0	
	comp=Z,120nm,0.6s						
RTCV	**Cerro Valdivia**	**4.58**	**150**	*e*P	Pn	15 07 50.2	+3.4
AUSP	**Uspallata**	**4.59**	**160**	*e*P	**Pn**	**15 07 49.9**	**+2.8**
APLL	**PUNTA DE LOS L**	**4.79**	**122**	*e*P	Pn	15 07 54.9	+5.3
CYA	**Choya**	**4.80**	**98**	*e*P	Pb	15 07 55.8	-7.0
CYA				IAML		15 07 58.4	
	comp=Z,58nm,0.3s						
FSA	**Cafayete**	**4.99**	**70**	*e*P	Pn	15 07 58.0	+5.5
LVC	**Limon Verde**	**5.65**	**22**	Pn	**Pn**	**15 08 02.3**	**+0.5**
	comp=Z,1.9nm,0.3s,baz=204,slow=8.3,SNR=20						
LVC				Sn	**Sn**	**15 09 05.0**	**-1.0**
	comp=Z,4.6nm,0.3s,baz=270,slow=20,SNR=3.8						
LVC				Lg	Lg	15 09 27.5	
	comp=Z,9.1nm,0.3s,baz=197,slow=22,SNR=5.6						
LVC				LR	LR	15 10 19.9	
	comp=Z,70nm,20.0s,baz=218,slow=39						
LPAZ	**La Paz**	**11.89**	**14**	Pn	**Pn**	**15 09 26.8**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=204,slow=4.6,SNR=5.1						
SIV	**San Ignacio**	**15.11**	**40**	Pn	**Pn**	**15 10 05.8**	**-5.1**
	comp=Z,0.4nm,0.3s,baz=232,slow=14,SNR=5.7						
TXAR	**Lajitas Array**	**64.83**	**329**	P	**P**	**15 17 17.2**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=150,slow=9.3,SNR=2.7						
PDAR	**Pinedale Array**	**78.68**	**332**	P	**P**	**15 18 38.2**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=160,slow=5.6,SNR=2.9						
TORD	**Torodi Ar. Bea**	**81.47**	**70**	P	**P**	**15 18 55.4**	**+1.1**
	comp=Z,0.3nm,0.9s,baz=289,slow=5.5,SNR=3.1						
ASAR	**Alice Springs**	**123.31**	**208**	PKP	**PKPdf**	**15 25 34.4**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=135,slow=2.2,SNR=5.1						
H11S2	**WAKE ISLAND Hy**	**126.37**	**273**	T	T	17 44 55.0	
	baz=110						
H11S1	**WAKE ISLAND Hy**	**126.38**	**273**	T	T	17 44 55.3	
	baz=110						
H11S3	**WAKE ISLAND Hy**	**126.39**	**273**	T	T	17 44 54.0	
	baz=110						
WRA	**Warramunga Arr**	**126.41**	**210**	PKP	**PKPdf**	**15 25 41.0**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=150,slow=1.6,SNR=13						
H11N3	**WAKE ISLAND Hy**	**126.62**	**275**	T	T	17 45 17.4	
	baz=110						
H11N1	**WAKE ISLAND Hy**	**126.64**	**275**	T	T	17 45 16.8	
	baz=110						
H11N2	**WAKE ISLAND Hy**	**126.64**	**275**	T	T	17 45 14.9	
	baz=110						
ZALV	**Zalesovo Beam**	**148.58**	**27**	PKPbc	**PKPab**	**15 26 24.4**	**-2.3**
	comp=Z,1.7nm,0.6s,baz=304,slow=4.0,SNR=8.7						
MKAR	**Makanchi Array**	**151.93**	**41**	PKPbc	**PKPbc**	**15 26 32.3**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=339,slow=2.0,SNR=9.8						

*DDA **09** 15:07:02.0, 37°.91N×37°.97E, h7km±2km, ML2.7*
*ISK **09** 15:07:02.0, 37°.92N×37°.96E, h5km, ML2.2/8*
ISC 09 15:07:02.5±1.1**, 37°.91N**±0°.02×**37°.98E**±0°.03**, h20**km±5km**, n17, σ0^{s}60**/26**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.38**	**353**	*i* P	**Pb**	**15 07 10.6**	**-0.2**
ATAB	**Bozova**	**0.51**	**150**	*i* P	**Pg**	**15 07 12.5**	**-0.4**
ATAB				*i* S	**Sb**	**15 07 20.2**	**+0.4**
GZT	**Gaziantep**	**0.65**	**211**	IAML_P			
	comp=Z,2µm,0.1s						
GZT				*i* P	**Pg**	**15 07 15.3**	**-0.1**
GZT				*i* S	**Sg**	**15 07 24.0**	**-0.2**
DARE	**Darende-Malaty**	**0.76**	**329**	PG	**Pb**	**15 07 16.9**	**-0.3**
DARE				SG	**Sg**	**15 07 27.7**	**-0.1**
ELBS	**KAHRAMANMARAS**	**0.78**	**302**	IAML_P			
	comp=Z,328nm,0.2s						
ELBS				*i* P	**Pg**	**15 07 17.5**	**-0.4**
ELBS				*i* S	**Sg**	**15 07 28.6**	**+0.2**
URFA	**Urfa**	**0.82**	**125**	PG	**Pg**	**15 07 18.4**	**-0.2**
KMRS	**Kahramanmaras**	**0.95**	**245**	PG	**Pb**	**15 07 19.9**	**-0.4**
GAZ	**Gaziantep**	**0.96**	**220**	PG	**Pn**	**15 07 20.9**	**-0.1**
SANL	**SANLIURFA_Merk**	**1.09**	**132**	*i* P	**Pg**	**15 07 24.2**	**+0.4**
SANL				*i* S	**Sg**	**15 07 38.1**	**0.0**
SURC	**SANLIURFA_SURC**	**1.15**	**154**	IAML_P			
	comp=Z,241nm,0.1s						
SURC				*i* P	**Pg**	**15 07 25.3**	**+0.5**
SURC				*i* S	**Sg**	**15 07 40.8**	**+0.9**
ANDN	**Andirin**	**1.34**	**256**	*i* P	**Pb**	**15 07 27.4**	**+0.4**
ANDN				*i* S	**Sg**	**15 07 47.4**	**+1.5**
KUZU	**Kuzuini**	**1.35**	**213**	*i* P	**Pg**	**15 07 28.2**	**-0.4**
KUZU				*i* S	**Sg**	**15 07 46.4**	**+0.2**
CUKAN	**kangal_SIVAS**	**1.46**	**344**	*i* P	**Pg**	**15 07 31.5**	**+0.8**
CUKAN				*i* S	**Sg**	**15 07 49.3**	**-0.4**
PTK	**Pertek**	**1.48**	**48**	PN	**Pg**	**15 07 30.2**	**-0.9**
ILIC	**ilic-Erzincan**	**1.60**	**17**	PN	**Pb**	**15 07 31.8**	**+0.3**
KOZT	**Kozan**	**1.76**	**256**	PN	**Pb**	**15 07 33.9**	**-0.3**
TAHT	**Tahtakopru-Hat**	**2.10**	**224**	PN	**Pb**	**15 07 38.8**	**-1.1**

IDC 09 15:11:53.4±10.0**, 1°.96S**×**68°.14E, h0**km**, mb3.5**/5**, mb1 3.6**/5**, mb1mx3.3**/42**, mbtmp3.5**/5**, Error ellipse: s-maj=321.0km s-min=29.5km az=68.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.19**	**147**	T	T	15 18 33.2	
	baz=325,slow=75,SNR=5.5						
H08N3	**Diego Garcia H**	**5.20**	**147**	T	T	15 18 34.3	
	baz=325,slow=75,SNR=5.5						
H08N1	**Diego Carcia H**	**5.21**	**147**	T	T	15 18 37.1	
	baz=325,slow=75,SNR=5.4						
MKAR	**Makanchi Array**	**50.12**	**13**	P	P	15 20 50.0	-0.5
	0.3nm,0.8s,baz=188,slow=8.1,SNR=4.2						
ZALV	**Zalesovo Beam**	**57.42**	**12**	P	P	15 21 43.5	-0.2
	0.8nm,0.7s,baz=216,slow=7.1,SNR=3.7						
SONM	**Songino Array**	**59.75**	**29**	P	P	15 22 00.8	+0.5
	0.5nm,0.8s,baz=224,slow=7.6,SNR=4.0						
WRA	**Warramunga Arr**	**66.98**	**111**	P	P	15 22 48.6	-0.1
	0.3nm,0.8s,baz=293,slow=5.5,SNR=3.4						
ASAR	**Alice Springs**	**67.06**	**115**	P	P	15 22 49.1	0.0
	0.3nm,0.9s,baz=292,slow=6.5,SNR=3.3						

*IDC **09** 15:20:20.9±0.7, 1°.91S×67°.95E, h0km, mb4.0/12, mb1 4.1/12, mb1mx3.8/51, mbtmp4.0/12, MS3.5/12, Ms1 3.5/12, ms1mx3.3/41, Error ellipse: s-maj=23.4km s-min=17.2km az=155.0*
*ISCJB **09** 15:20:21.3±0.6, 1°.86S±0°.10×67°.96E±0°.09, h15km, mb4.2/17, MS3.4/11, Error ellipse: s-maj=15.1km s-min=11.4km az=145.3*
*NEIC **09** 15:20:22.3±0.4, 1°.90S×67°.94E, h10km, mb4.5/9, Error ellipse: s-maj=10.7km s-min=7.9km az=145.0*
ISC 09 15:20:23.1±0.8**, 1°.9S**±0°.2×**68°.0E**±0°.1**, h15**km**, n52, σ0^{s}70**/38**, mb4.4**/17**, MS3.4**/11**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.32**	**145**	T	T	15 26 59.8	
	baz=325,slow=75,SNR=40						
H08N3	**Diego Garcia H**	**5.33**	**146**	T	T	15 27 00.3	
	baz=325,slow=75,SNR=34						
H08N1	**Diego Carcia H**	**5.34**	**145**	T	T	15 27 01.6	
	baz=325,slow=75,SNR=79						
H08S3	**Diego Garcia H**	**7.24**	**142**	T	T	15 29 42.0	
	baz=300,slow=80,SNR=4.6						
H08S1	**Diego Carcia H**	**7.24**	**142**	T	T	15 29 38.5	
	baz=300,slow=80,SNR=8.6						
H08S2	**Diego Garcia H**	**7.26**	**142**	T	T	15 29 42.9	
	baz=300,slow=80,SNR=4.5						
PALK	**Pallekele**	**15.65**	**54**	LR	LR	15 28 34.7	
	comp=Z,300nm,21.8s,baz=296,slow=32						
PALK	**Pallekele**	**15.65**	**54**	*e*Pn	**Pn**	**15 24 03.7**	**+0.3**
	44nm,1.4s						
OPO	**Ambohidratompo**	**26.24**	**230**	LR	LR	15 33 37.3	
	comp=Z,225nm,21.9s,baz=24,slow=30						
WSAR	**Wadi Sarin**	**26.61**	**341**	LR	LR	15 34 04.4	
	comp=Z,65nm,21.9s,baz=172,slow=31						
ATD	**Arta Tunnel**	**28.32**	**299**	LR	LR	15 35 48.7	
	comp=Z,35nm,21.0s,baz=358,slow=33						
KMBO	**Kilima Mbogo**	**30.71**	**271**	P	**P**	**15 26 38.3**	**+0.1**
	0.8nm,0.3s,baz=37,slow=20,SNR=3.1						
KMBO				LR	LR	15 37 50.4	
	comp=Z,67nm,19.0s,baz=95,slow=34						
KMBO	**Kilima Mbogo**	**30.71**	**271**	*e*P	**P**	**15 26 37.7**	**-0.5**
	4.4nm,1.3s						
PSI	**Prapat**	**31.30**	**81**	LR	LR	15 36 41.7	
	comp=Z,104nm,21.8s,baz=110,slow=31						
CMAR	**Chiang Mai Arr**	**36.60**	**55**	P	**P**	**15 27 30.2**	**+1.2**
	0.5nm,0.4s,baz=244,slow=7.9,SNR=5.5						
CMAR				LR	LR	15 40 58.4	
	comp=Z,64nm,20.8s,baz=240,slow=34						
GAR	**Garm**	**40.78**	**3**	*e*P	**P**	**15 28 04.1**	**+0.1**
	39nm,1.7s						
LSZ	**Lusaka**	**41.41**	**249**	P	**P**	**15 28 09.8**	**+0.3**
	1.2nm,0.2s,baz=37,slow=15,SNR=5.2						
LSZ				LR	LR	15 43 35.8	
	comp=Z,110nm,19.0s,baz=91,slow=34						
LSZ	**Lusaka**	**41.41**	**249**	*e*P	**P**	**15 28 09.5**	**+0.1**
	23nm,1.8s						
MATP	**Matopo**	**42.67**	**242**	P	**P**	**15 28 19.8**	**0.0**
	1.8nm,0.9s,baz=174,slow=2.5,SNR=3.2						
AAK	**Ala-Archa**	**44.75**	**7**	LR	LR	15 46 40.0	
	comp=Z,35nm,18.3s,baz=174,slow=35						
AAK	**Ala-Archa**	**44.75**	**7**	*e*P	**P**	**15 28 36.2**	**0.0**
	7.1nm,1.4s						
BOSA	**Boshof**	**48.58**	**233**	LR	LR	15 47 05.6	
	comp=Z,84nm,18.2s,baz=30,slow=33						
MAKZ	**Makanchi**	**50.07**	**13**	*e*P	**P**	**15 29 16.8**	**-0.5**
	5.5nm,1.1s						
MK01	**Makanchi Array**	**50.11**	**13**	*e*P	**P**	**15 29 16.9**	**-0.7**
MK31	**Makanchi Array**	**50.13**	**13**	*e*P	**P**	**15 29 17.2**	**-0.5**
MK32	**Makanchi Array**	**50.13**	**13**	*e*P	**P**	**15 29 17.4**	**-0.4**
MKAR	**Makanchi Array**	**50.13**	**13**	P	**P**	**15 29 17.4**	**-0.4**
	1.4nm,0.8s,baz=189,slow=6.1,SNR=13						
MKAR	**Makanchi Array**	**50.13**	**13**	*e*P	**P**	**15 29 17.2**	**-0.6**
	10nm,0.9s						
KBZ	**Khabaz**	**50.70**	**337**	P	**P**	**15 29 22.3**	**+0.2**
	2.5nm,0.9s,baz=145,slow=9.5,SNR=3.8						
TSUM	**Tsumeb**	**52.18**	**247**	LR	LR	15 48 51.6	
	comp=Z,79nm,20.0s,baz=118,slow=33						
KURK	**Kurchatov**	**53.23**	**8**	*e*P	**P**	**15 29 40.6**	**-0.2**
	5.2nm,1.0s						
ZAA0	**Zalesovo Array**	**57.42**	**12**	*e*P	**P**	**15 30 10.2**	**-0.8**
	5.8nm,0.9s						
ZALV	**Zalesovo Beam**	**57.42**	**12**	P	**P**	**15 30 10.6**	**-0.4**
	4.2nm,0.9s,baz=216,slow=8.2,SNR=12						
ZALV	**Zalesovo Beam**	**57.42**	**12**	*e*P	**P**	**15 30 10.1**	**-0.9**
ZAA1	**Zalesovo Array**	**57.42**	**12**	*e*P	**P**	**15 30 10.6**	**-0.4**
SONA0	**Songino Array**	**59.81**	**29**	*e*P	**P**	**15 30 29.1**	**+1.1**
SONM	**Songino Array**	**59.81**	**29**	P	**P**	**15 30 29.1**	**+1.1**
	2.7nm,0.8s,baz=218,slow=6.8,SNR=20						
SONA1	**Songino Array**	**59.82**	**29**	*e*P	**P**	**15 30 27.9**	**-0.1**
WRA	**Warramunga Arr**	**67.16**	**111**	P	**P**	**15 31 17.4**	**+0.4**
	1.5nm,0.8s,baz=285,slow=6.1,SNR=5.5						
WR1	**Warramunga Arr**	**67.16**	**111**	*e*P	**P**	**15 31 17.4**	**+0.4**
ASAR	**Alice Springs**	**67.24**	**115**	P	**P**	**15 31 17.9**	**+0.4**
	0.7nm,0.7s,baz=278,slow=6.0,SNR=6.1						
KS15	**Wonju Array Si**	**67.76**	**48**	*e*P	**P**	**15 31 18.5**	**-2.0**
KSRS	**Korea Array**	**67.79**	**48**	LR	LR	16 01 55.7	
	comp=Z,22nm,19.8s,baz=305,slow=37						
KLR	**Kul'dur**	**74.68**	**38**	P	**P**	**15 32 01.0**	**-1.1**
	1.8nm,0.9s,baz=288,slow=4.4,SNR=4.7						
NB200	**NORSAR Array S**	**76.26**	**335**	*e*P	**P**	**15 32 11.9**	**+0.9**
NOA	**NORSAR Array B**	**76.26**	**335**	P	**P**	**15 32 11.9**	**+0.9**
	0.3nm,0.5s,baz=124,slow=5.7,SNR=3.1						
YKA	**Yellowknife Ar**	**119.55**	**1**	PKP	**PKPdf**	**15 39 11.5**	**-0.6**
	0.2nm,0.7s,baz=336,slow=2.7,SNR=4.5						
YKB5	**Yellowknife Ar**	**119.55**	**1**	*e*PKPdf	**PKPdf**	**15 39 11.1**	**-0.9**
DAC	**Darwin (Calif)**	**145.43**	**8**	*e*PKPbc	**PKPab**	**15 40 02.0**	**+0.6**
TX31	**Lajitas Ar. Si**	**151.60**	**345**	*e*PKPbc	**PKPbc**	**15 40 17.0**	**-0.7**
TX31				*e*PKPab	**PKPab**	**15 40 26.4**	**+0.3**
LTX	**Lajitas**	**151.60**	**345**	*e*PKPbc	**PKPbc**	**15 40 17.8**	**+0.1**
TXAR	**Lajitas Array**	**151.60**	**345**	PKPbc	**PKPbc**	**15 40 17.8**	**+0.1**
	1.9nm,1.0s,baz=126,slow=1.7,SNR=7.2						

IDC 09 15:22:57.7±47.0**, 2°.35S**×**68°.61E, h0**km**, mb3.4**/3**, mb1 3.4**/3**, mb1mx3.2**/49**, mbtmp3.4**/3**, MS4.1**/1**, Ms1 4.1**/1**, ms1mx2.9**/34**, Error ellipse: s-maj=1007.0km s-min=220.2km az=32.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**50.40**	**12**	P	P	15 31 56.8	0.0
	0.4nm,0.9s,baz=182,slow=7.2,SNR=3.1						
KVAR	**Kislovodsk Arr**	**51.62**	**336**	LR	LR	15 52 42.0	
	comp=Z,180nm,18.7s,baz=143,slow=35						
ZALV	**Zalesovo Beam**	**57.70**	**11**	P	P	15 32 49.8	-0.2
	0.3nm,0.3s,baz=215,slow=8.8,SNR=2.6						
SONM	**Songino Array**	**59.87**	**29**	P	P	15 33 05.4	0.0
	0.2nm,0.6s,baz=224,slow=8.4,SNR=2.3						

*IDC **09** 15:23:51.4±1.6, 17°.11S×174°.26W, h0km, mb4.3/6, mb1 4.4/6, mb1mx3.9/34, mbtmp4.3/6, MS2.9/1, Ms1 2.9/1, ms1mx2.5/28, Error ellipse: s-maj=54.8km s-min=23.9km az=118.0*
*ISCJB **09** 15:23:55.3±0.6, 17°.1S±0°.1×174°.37W±0°.08, h35km, mb4.3/7, Error ellipse: s-maj=18.1km s-min=10.7km az=3.8*
*NEIC **09** 15:23:57.2±3.1, 17°.23S×174°.37W, h35km±35km, mb4.3/3, Error ellipse: s-maj=33.7km s-min=11.7km az=147.0*
ISC 09 15:23:57.2±0.8**, 17°.2S**±0°.1×**174°.38W**±0°.09**, h35**km**, n16, σ0^{s}94**/16**, mb4.3**/7**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.61**	**114**	*e*Pn	**Pn**	**15 25 05.5**	**+1.1**
RAO	**Raoul Island**	**12.40**	**195**	*e*Pn	**Pn**	**15 26 49.2**	**-2.0**
RAR	**Rarotonga**	**14.35**	**108**	LR	LR	15 30 55.7	
	comp=Z,47nm,21.1s,baz=299,slow=30						
RAR	**Rarotonga**	**14.35**	**108**	*e*Pn	**Pn**	**15 27 17.8**	**0.0**
DZM	**Mont Dzumac**	**18.69**	**252**	*e*P	**Pn**	**15 28 14.3**	**+1.1**
	60nm,2.0s						
URZ	**Urewera**	**22.24**	**198**	P	**P**	**15 28 51.8**	**+0.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	8.3nm,0.4s,baz=56,slow=3.1,SNR=28						
STKA	**Stephens Creek**	**42.33**	**241**	P	**P**	**15 31 48.9**	**+1.1**
	1.0nm,0.5s,baz=88,slow=10,SNR=4.9						
STKA	**Stephens Creek**	**42.33**	**241**	*e*P	**P**	**15 31 48.8**	**+0.9**
	6.3nm,1.9s						
WR1	**Warramunga Arr**	**48.53**	**258**	*e*P	**P**	**15 32 37.1**	**-0.1**
WRA	**Warramunga Arr**	**48.53**	**258**	P	**P**	**15 32 37.1**	**-0.1**
	1.3nm,0.5s,baz=96,slow=6.9						
AS01	**Alice Springs**	**48.63**	**253**	*e*P	**P**	**15 32 37.8**	**-0.2**
AS31	**Alice Springs**	**48.67**	**253**	*e*P	**P**	**15 32 38.0**	**-0.3**
	1.9nm,0.6s						
ASAR	**Alice Springs**	**48.67**	**253**	P	**P**	**15 32 38.6**	**+0.3**
	7.2nm,0.7s,baz=89,slow=8.5,SNR=102						
ASAR				PcP	**PcP**	**15 34 03.1**	**-0.3**
	0.3nm,0.5s,baz=98,slow=4.4,SNR=2.8						
PETK	**Petropavlovsk-**	**74.09**	**343**	P	**P**	**15 35 29.6**	**+0.1**
	3.2nm,0.7s,baz=130,slow=5.8,SNR=6.1						
PEA1	**Petropavlovsk-**	**74.09**	**343**	*e*P	**P**	**15 35 29.6**	**+0.1**
ILAR	**Eielson Array**	**84.42**	**11**	P	**P**	**15 36 24.1**	**-1.5**
	0.4nm,0.5s,baz=226,slow=6.2,SNR=15						

*IDC **09** 15:27:22.2±1.7, 2°.13S×67°.65E, h0^{km}, mb3.8/7, mb1 3.9/7, mb1mx3.6/41, mbtmp3.8/7, Error ellipse: s-maj=52.7km s-min=26.0km az=66.0*
*ISCJB **09** 15:27:23.0±1.4, 2°.0S±0°.1×67°.8E±0°.2, h15^{km}, mb4.1/11, Error ellipse: s-maj=32.5km s-min=16.9km az=151.9*
*NEIC **09** 15:27:24.3±0.6, 2°.01S×67°.77E, h10^{km}, mb4.5/6, Error ellipse: s-maj=15.5km s-min=11.4km az=70.0*
ISC 09 15:27:25.1±1.4, **2°.0S**±0°.2×**67°.8E**±0°.2, **h15^{km}, n30, σ0^{s}64**/24, **mb4.2**/11, **Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.34**	**143**	T	T	15 34 04.0	
	baz=325,slow=75,SNR=16						
H08N3	**Diego Garcia H**	**5.35**	**143**	T	T	15 34 04.4	
	baz=325,slow=75,SNR=18						
H08N1	**Diego Carcia H**	**5.36**	**143**	T	T	15 34 04.0	
	baz=325,slow=75,SNR=16						
H08S3	**Diego Garcia H**	**7.27**	**140**	T	T	15 36 44.3	
	baz=300,slow=79,SNR=6.3						
H08S1	**Diego Carcia H**	**7.28**	**140**	T	T	15 36 44.0	
	baz=300,slow=79,SNR=4.6						
H08S2	**Diego Garcia H**	**7.29**	**140**	T	T	15 36 46.0	
	baz=300,slow=79,SNR=5.1						
PALK	**Pallekele**	**15.86**	**54**	*e*Pn	**Pn**	**15 31 06.8**	**-1.4**
	69nm,1.6s						
CMAR	**Chiang Mai Arr**	**36.81**	**55**	P	**P**	**15 34 34.0**	**+1.2**
	0.2nm,0.3s,baz=250,slow=9.5,SNR=5.1						
AAK	**Ala-Archa**	**44.88**	**7**	P	**P**	**15 35 40.1**	**+0.9**
	0.8nm,0.7s,baz=204,slow=10.0,SNR=3.3						
MAKZ	**Makanchi**	**50.22**	**13**	*e*P	**P**	**15 36 20.2**	**-0.3**
	2.9nm,1.0s						
MK01	**Makanchi Array**	**50.25**	**13**	*e*P	**P**	**15 36 20.1**	**-0.6**
MK31	**Makanchi Array**	**50.27**	**13**	*e*P	**P**	**15 36 20.3**	**-0.6**
MK32	**Makanchi Array**	**50.27**	**13**	*e*P	**P**	**15 36 20.6**	**-0.3**
MKAR	**Makanchi Array**	**50.27**	**13**	P	**P**	**15 36 20.6**	**-0.3**
	1.0nm,0.8s,baz=195,slow=7.5,SNR=14						
MKAR	**Makanchi Array**	**50.27**	**13**	*e*P	**P**	**15 36 20.3**	**-0.6**
	7.4nm,0.6s						
KURK	**Kurchatov**	**53.36**	**9**	*e*P	**P**	**15 36 43.6**	**-0.2**
	7.8nm,1.4s						
ZAA0	**Zalesovo Array**	**57.56**	**12**	*e*P	**P**	**15 37 13.4**	**-0.6**
	3.3nm,0.9s						
ZALV	**Zalesovo Beam**	**57.56**	**12**	P	**P**	**15 37 13.8**	**-0.2**
	2.8nm,0.7s,baz=213,slow=7.4,SNR=13						
ZALV	**Zalesovo Beam**	**57.56**	**12**	*e*P	**P**	**15 37 13.2**	**-0.8**
ZAA1	**Zalesovo Array**	**57.56**	**12**	*e*P	**P**	**15 37 13.8**	**-0.3**
SONA0	**Songino Array**	**59.99**	**29**	*e*P	**P**	**15 37 31.9**	**+0.6**
SONM	**Songino Array**	**59.99**	**29**	P	**P**	**15 37 31.9**	**+0.6**
	1.5nm,0.8s,baz=218,slow=7.4,SNR=10						
SONA1	**Songino Array**	**60.01**	**29**	*e*P	**P**	**15 37 32.0**	**+0.6**
WR1	**Warramunga Arr**	**67.29**	**111**	*e*P	**P**	**15 38 20.1**	**+0.2**
	33nm,1.8s						
WRA	**Warramunga Arr**	**67.29**	**111**	P	**P**	**15 38 20.1**	**+0.2**
	0.7nm,0.7s,baz=288,slow=5.9,SNR=6.2						
ASAR	**Alice Springs**	**67.36**	**115**	P	**P**	**15 38 20.0**	**-0.3**
	0.6nm,0.9s,baz=270,slow=5.4,SNR=4.4						
YKA	**Yellowknife Ar**	**119.66**	**1**	PKP	**PKPdf**	**15 46 13.9**	**-0.3**
	0.2nm,0.7s,baz=339,slow=3.3,SNR=3.2						
YKB5	**Yellowknife Ar**	**119.66**	**1**	*e*PKPdf	**PKPdf**	**15 46 13.9**	**-0.3**
LTX	**Lajitas**	**151.66**	**344**	*e*PKPbc	**PKiKP**	**15 47 19.9**	**-0.4**
TXAR	**Lajitas Array**	**151.66**	**344**	PKPbc	**PKiKP**	**15 47 20.0**	**-0.4**
	0.8nm,0.9s,baz=28,slow=2.3,SNR=4.0						

IDC 09 15:33:26.7±4.3, **0°.00S×67°.95E, h0^{km}, mb3.5**/3, **mb1 3.5**/3, **mb1mx3.2**/53, **mbtmp3.5**/3, **Error ellipse: s-maj=202.3km s-min=79.7km az=124.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.27**	**13**	P	P	15 42 10.8	+1.2
	0.3nm,0.7s,baz=194,slow=9.0,SNR=4.3						
ZALV	**Zalesovo Beam**	**55.55**	**12**	P	P	15 43 02.4	-1.3
	1.2nm,0.9s,baz=216,slow=7.1,SNR=4.4						
SONM	**Songino Array**	**58.15**	**30**	P	P	15 43 22.4	-0.1
	0.7nm,0.9s,baz=217,slow=6.9,SNR=3.9						
TXAR	**Lajitas Array**	**149.76**	**345**	PKPbc	PKPbc	15 53 19.2	-0.3
	0.7nm,0.9s,baz=57,slow=3.3,SNR=4.5						

*ISCJB **09** 15:34:04.6±0.6, 1°.9S±0°.1×68°.0E±0°.1, h15^{km}, mb4.2/13, Error ellipse: s-maj=16.3km s-min=13.4km az=42.3*
*IDC **09** 15:34:04.1±0.8, 2°.01S×68°.04E, h0^{km}, mb4.0/10, mb1 4.1/11, mb1mx3.8/55, mbtmp4.0/11, ML4.1/1, MS3.6/1, Ms1 3.6/1, ms1mx2.8/40, Error ellipse: s-maj=22.4km s-min=19.5km az=137.0*
*NEIC **09** 15:34:05.6±0.4, 1°.93S×67°.96E, h10^{km}, mb4.6/4, Error ellipse: s-maj=11.9km s-min=8.9km az=133.0*
ISC 09 15:34:06.5±0.8, **2°.0S**±0°.2×**68°.0E**±0°.1, **h15^{km}, n29, σ0^{s}77**/26, **mb4.2**/13, **Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.23**	**146**	T	T	15 40 48.5	
	baz=324,slow=76,SNR=222						
H08N3	**Diego Garcia H**	**5.24**	**146**	T	T	15 40 44.6	
	baz=324,slow=76,SNR=237						
H08N1	**Diego Carcia H**	**5.25**	**146**	T	T	15 40 50.2	
	baz=324,slow=76,SNR=217						
PALK	**Pallekele**	**15.64**	**54**	Pn	**Pn**	**15 37 46.6**	**0.0**
	0.7nm,0.3s,baz=294,slow=10.0,SNR=4.7						
PALK				LR	LR	15 42 28.1	
	comp=Z,227nm,18.6s,baz=295,slow=32						
PALK	**Pallekele**	**15.64**	**54**	*e*Pn	**Pn**	**15 37 46.7**	**+0.1**
	86nm,1.8s						
CM01	**Chiang Mai Arr**	**36.58**	**55**	*e*P	**P**	**15 41 12.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**36.58**	**55**	P	**P**	**15 41 13.3**	**+1.0**
	0.7nm,0.9s,baz=240,slow=8.2,SNR=6.3						
LSZ	**Lusaka**	**41.44**	**249**	P	**P**	**15 41 54.2**	**+1.0**
	3.3nm,0.6s,baz=67,slow=6.6,SNR=6.2						
BOSA	**Boshof**	**48.59**	**233**	P	**P**	**15 42 49.1**	**-0.8**
	1.6nm,0.6s,baz=307,slow=20,SNR=3.2						
MAKZ	**Makanchi**	**50.12**	**12**	*e*P	**P**	**15 43 00.8**	**-0.3**
	2.3nm,0.9s						
MK01	**Makanchi Array**	**50.16**	**13**	*e*P	**P**	**15 43 00.6**	**-0.8**
MK31	**Makanchi Array**	**50.17**	**13**	*e*P	**P**	**15 43 01.1**	**-0.5**
MK32	**Makanchi Array**	**50.17**	**13**	*e*P	**P**	**15 43 01.1**	**-0.5**
MKAR	**Makanchi Array**	**50.17**	**13**	P	**P**	**15 43 01.1**	**-0.5**
	0.9nm,0.7s,baz=188,slow=7.3,SNR=7.3						
MKAR	**Makanchi Array**	**50.17**	**13**	*e*P	**P**	**15 43 01.1**	**-0.5**
	6.9nm,0.6s						
KBZ	**Khabaz**	**50.79**	**337**	P	**P**	**15 43 07.5**	**+1.3**
	1.5nm,0.8s,baz=194,slow=4.2,SNR=3.2						
AKTO	**Aktyubinsk**	**52.92**	**352**	P	**P**	**15 43 21.1**	**-0.9**
	0.9nm,0.6s,baz=165,slow=11,SNR=4.1						
ZAA0	**Zalesovo Array**	**57.47**	**12**	*e*P	**P**	**15 43 53.6**	**-1.1**
	4.4nm,1.0s						
ZALV	**Zalesovo Beam**	**57.47**	**12**	P	**P**	**15 43 54.2**	**-0.6**
	1.7nm,0.6s,baz=199,slow=7.0,SNR=7.4						
ZALV	**Zalesovo Beam**	**57.47**	**12**	*e*P	**P**	**15 43 53.5**	**-1.3**
ZAA1	**Zalesovo Array**	**57.47**	**12**	*e*P	**P**	**15 43 54.2**	**-0.6**
SONA0	**Songino Array**	**59.84**	**29**	*e*P	**P**	**15 44 11.9**	**+0.3**
SONM	**Songino Array**	**59.84**	**29**	P	**P**	**15 44 11.9**	**+0.3**
	1.5nm,0.7s,baz=212,slow=7.4,SNR=8.6						
SONA1	**Songino Array**	**59.85**	**29**	*e*P	**P**	**15 44 11.5**	**-0.2**
WR1	**Warramunga Arr**	**67.08**	**111**	*e*P	**P**	**15 45 00.7**	**+0.7**
	33nm,1.9s						
WRA	**Warramunga Arr**	**67.08**	**111**	P	**P**	**15 45 00.7**	**+0.7**
	1.9nm,1.0s,baz=289,slow=5.8,SNR=10						
ASAR	**Alice Springs**	**67.15**	**115**	P	**P**	**15 44 59.4**	**-1.0**
	1.0nm,0.9s,baz=276,slow=6.0,SNR=9.3						
LTX	**Lajitas**	**151.68**	**345**	*e*PKPbc	**PKPbc**	**15 54 00.8**	**-0.5**
TXAR	**Lajitas Array**	**151.68**	**345**	PKPbc	**PKPbc**	**15 54 00.8**	**-0.5**
	0.7nm,1.1s,baz=106,slow=3.2,SNR=3.7						

*DDA **09** 15:36:23.4, 39°.65N×25°.44E, h23^{km}±1^{km}, ML3.7*
*ISCJB **09** 15:36:24.7±0.4, 39°.65N±0°.01×25°.49E±0°.02, h4^{km}±3^{km}, Error ellipse: s-maj=2.3km s-min=2.2km az=2.8*
*ISK **09** 15:36:24.1, 39°.65N×25°.51E, h5^{km}, ML3.8/32*
*THE **09** 15:36:25.3, 39°.67N×25°.53E, h6^{km}±1^{km}, ML3.3/16, Error ellipse: s-maj=1.2km s-min=0.6km az=77.0*
*ATH **09** 15:36:25.1, 39°.66N×25°.52E, h30^{km}, ML3.5/14, Error ellipse: s-maj=1.0km s-min=0.7km az=83.0*
ISC 09 15:36:25.6±1.0, **39°.63N**±0°.02×**25°.51E**±0°.02, **h8^{km}**±9^{km}, **n167, σ1^{s}32**/195, **20C-14D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.37**	**316**	P	**Pg**	**15 36 32.8**	**+0.1**
LIA				AML	AML	15 36 43.8	
	comp=N,13012μm,0.5s						
LIA				AML	AML	15 36 44.4	
	comp=E,13000μm,0.5s						
LIA	**Limnos Island**	**0.37**	**316**	P	**Pg**	**15 36 32.9**	**+0.1**
LIA				S	**Sg**	**15 36 38.0**	**+0.4**
EFSA	**Agios Efstrati**	**0.41**	**257**	P	**Pb**	**15 36 34.9**	**-0.3**
EFSA				S	**Sb**	**15 36 41.9**	**+0.3**
EFSA				AML	AML	15 36 42.5	
	comp=E,28312μm,0.6s						
EFSA				AML	AML	15 36 42.7	
	comp=N,19326μm,0.3s						
BOZC	**Bozcaada**	**0.47**	**63**	PG	**Pg**	**15 36 33.6**	**-1.0**
BOZC	**Bozcaada**	**0.47**	**63**	IAML_P			
	comp=Z,40μm,0.3s						
BOZC				*i* P	**Pg**	**15 36 34.4**	**-0.3**
BOZC				*i* S	**Sg**	**15 36 40.4**	**-0.4**
SIGR	**SIGRI**	**0.50**	**148**	PG	**Pg**	**15 36 34.8**	**-0.4**
SIGR	**SIGRI**	**0.50**	**148**	P	**Pg**	**15 36 35.9**	**+0.6**
SIGR				AML	AML	15 36 43.8	
	comp=E,16659μm,0.5s						
SIGR				AML	AML	15 36 43.9	
	comp=N,29085μm,0.7s						
SIGR	**SIGRI**	**0.50**	**148**	P	**Pg**	**15 36 35.2**	**0.0**
SIGR				S	**Sb**	**15 36 42.9**	**-1.1**
GPNR	**Gulpinar-Canak**	**0.51**	**110**	PG	**Pg**	**15 36 35.2**	**-0.3**
GADA	**Gvkgeada**	**0.63**	**28**	PG	**Pg**	**15 36 36.9**	**-0.9**
GADA	**Gvkgeada**	**0.63**	**28**	P	**Pg**	**15 36 36.8**	**-1.0**
GADA				S	**Sg**	**15 36 45.4**	**-0.6**
GOKC	**Gokceada-Canak**	**0.65**	**29**	PG	**Pg**	**15 36 37.6**	**-0.5**
EZN	**Ezine**	**0.66**	**73**	PG	**Pg**	**15 36 37.1**	**-1.2**
EZN	**Ezine**	**0.66**	**73**	P	**Pg**	**15 36 37.0**	**-1.2**
EZN				S	**Sg**	**15 36 45.6**	**-1.2**
PRK	**Paraskevi**	**0.70**	**123**	P	**Pb**	**15 36 40.0**	**-0.1**
PRK				S	**Sb**	**15 36 50.2**	**+0.2**
PRK				AML	AML	15 36 53.6	
	comp=N,27259μm,0.4s						
PRK				AML	AML	15 36 54.2	
	comp=E,26702μm,0.4s						
PRK	**Paraskevi**	**0.70**	**123**	P	**Pb**	**15 36 39.9**	**-0.2**
PRK				S	**Sb**	**15 36 49.9**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**0.81**	**82**	*i* P	**Pg**	**15 36 40.8**	**-0.3**
BAYC				*i* S	**Sb**	**15 36 52.7**	**-0.3**
SMTH	**Samothraki Isl**	**0.84**	**1**	P	**Pg**	**15 36 40.8**	**-0.8**
SMTH				S	**Sg**	**15 36 52.7**	**+0.1**
SMTH				AML	AML	15 36 54.4	
	comp=E,6902μm,0.5s						
SMTH				AML	AML	15 36 55.0	
	comp=N,6318μm,0.3s						
SMTH	**Samothraki Isl**	**0.84**	**1**	P	**Pg**	**15 36 40.9**	**-0.8**
SMTH				S	**Sg**	**15 36 51.7**	**-0.9**
AYVA	**Ayvalik**	**0.97**	**109**	IAML_P			
	comp=Z,6μm,0.1s						
AYVA				*i* P	**Pb**	**15 36 43.6**	**-1.0**
AYVA				*i* S	**Sn**	**15 36 58.7**	**-0.7**
SKY	**Skiros Island**	**1.06**	**225**	P	**Pb**	**15 36 45.7**	**-0.5**
SKY				S	**Sn**	**15 37 00.2**	**-1.5**
SKY				AML	AML	15 37 02.2	
	comp=N,3991μm,0.3s						
SKY				AML	AML	15 37 02.3	
	comp=E,4664μm,0.3s						
SKY	**Skiros Island**	**1.06**	**225**	P	**Pb**	**15 36 45.7**	**-0.5**
SKY				S	**Sn**	**15 37 00.8**	**-0.9**
GELI	**Tayfur-Gelibol**	**1.06**	**44**	PG	**Pb**	**15 36 44.6**	**-1.6**
PSRA	**Psara**	**1.09**	**178**	P	**Pb**	**15 36 45.8**	**-0.9**
THAS	**Thassos island**	**1.15**	**328**	P	**Pb**	**15 36 46.6**	**-1.1**
THAS				S	**Sb**	**15 37 01.5**	**-1.2**
THAS				AML	AML	15 37 02.7	
	comp=N,3260μm,0.5s						
THAS				AML	AML	15 37 03.8	
	comp=E,3016μm,0.4s						
THAS	**Thassos island**	**1.15**	**328**	P	**Pb**	**15 36 46.1**	**-1.5**
THAS				S	**Sb**	**15 37 01.8**	**-0.9**
ENEZ	**Enez**	**1.21**	**24**	PN	**Pn**	**15 36 47.5**	**-1.3**
LPK	**Lapseki**	**1.21**	**52**	PN	**Pn**	**15 36 47.6**	**-1.2**
DKL	**Dikili**	**1.22**	**117**	PN	**Pn**	**15 36 48.5**	**-0.4**
ERIK	**Erikli-Kesan**	**1.29**	**36**	PN	**Pn**	**15 36 48.9**	**-1.0**
CHOS	**Chios island**	**1.31**	**161**	PN	**Pb**	**15 36 50.5**	**-0.1**
CHOS	**Chios island**	**1.31**	**161**	P	**Pn**	**15 36 49.5**	**-0.9**
CHOS				S	**Sg**	**15 37 07.8**	**-0.1**
CHOS				AML	AML	15 37 10.8	
	comp=E,7582μm,0.5s						
CHOS				AML	AML	15 37 11.3	
	comp=N,4407μm,0.7s						
CHOS	**Chios island**	**1.31**	**161**	P	**Pn**	**15 36 49.4**	**-0.9**
CHOS				S	**Sg**	**15 37 09.0**	**+1.1**
KRBN	**Karaburun**	**1.32**	**142**	PN	**Pb**	**15 36 50.3**	**-0.3**
FOCM	**Foa**	**1.32**	**134**	PN	**Pg**	**15 36 50.9**	**0.0**
ALN	**Alexandroupoli**	**1.33**	**18**	PN	**Pn**	**15 36 49.3**	**-1.1**
ALN	**Alexandroupoli**	**1.33**	**18**	P	**Pn**	**15 36 48.8**	**-1.6**
ALN				S	**Sn**	**15 37 06.7**	**-1.6**
ALN				AML	AML	15 37 07.1	
	comp=E,2313μm,0.3s						
ALN				AML	AML	15 37 08.5	
	comp=N,1990μm,0.4s						
ALN	**Alexandroupoli**	**1.33**	**18**	P	**Pn**	**15 36 48.7**	**-1.7**
ALN				S	**Sn**	**15 37 07.0**	**-1.3**
AOS	**Alonnisos**	**1.34**	**250**	PN	**Pb**	**15 36 50.7**	**-0.3**
AOS	**Alonnisos**	**1.34**	**250**	P	**Pb**	**15 36 50.3**	**-0.7**
AOS				S	**Sn**	**15 37 07.9**	**-0.8**
AOS				AML	AML	15 37 11.7	
	comp=N,2734μm,0.8s						
AOS				AML	AML	15 37 13.2	
	comp=E,1966μm,1.0s						
AOS	**Alonnisos**	**1.34**	**250**	P	**Pn**	**15 36 50.0**	**-0.7**
AOS				S	**Sg**	**15 37 10.4**	**+1.6**
ALNA	**Alonissos**	**1.36**	**250**	P	**Pn**	**15 36 50.1**	**-0.8**
ALNA				AML	AML	15 37 13.5	
	comp=E,4200μm,0.8s						
ALNA				AML	AML	15 37 15.1	
	comp=N,4255μm,0.8s						
PAIG	**Paliouri**	**1.44**	**282**	P	**Pn**	**15 36 50.9**	**-1.0**
PAIG	**Paliouri**	**1.44**	**282**	P	**Pn**	**15 36 51.0**	**-1.0**
PAIG				S	**Sb**	**15 37 10.3**	**-0.9**
KESN	**Edirne-Kesan**	**1.49**	**37**	IAML_P			
	comp=Z,1μm,0.2s						
KESN				*i* P	**Pn**	**15 36 52.2**	**-0.8**
KESN				*i* S	**Sn**	**15 37 11.4**	**-1.5**
RDO	**Rodhopi**	**1.51**	**1**	PN	**Pn**	**15 36 52.9**	**0.0**
RDO	**Rodhopi**	**1.51**	**1**	P	**Pn**	**15 36 51.6**	**-1.3**
RDO				S	**Sn**	**15 37 10.9**	**-1.9**
RDO				AML	AML	15 37 19.5	
	comp=N,1020μm,0.6s						
RDO				AML	AML	15 37 19.6	
	comp=E,1096μm,0.8s						
RDO	**Rodhopi**	**1.51**	**1**	P	**Pn**	**15 36 51.7**	**-1.3**
RDO				S	**Sn**	**15 37 11.8**	**-1.0**
URLA	**Izmir**	**1.53**	**146**	PN	**Pn**	**15 36 53.1**	**-0.1**
URLA	**Izmir**	**1.53**	**146**	IAML_P			
	comp=Z,4μm,0.2s						
URLA				*i* P	**Pn**	**15 36 52.6**	**-0.5**
KAVA	**Kavala**	**1.56**	**331**	P	**Pn**	**15 36 52.3**	**-1.4**
KAVA				AML	AML	15 37 17.9	
	comp=E,1519μm,0.5s						
KAVA				AML	AML	15 37 17.9	
	comp=N,936μm,0.4s						
KAVA	**Kavala**	**1.56**	**331**	P	**Pn**	**15 36 52.4**	**-1.2**
KAVA				S	**Sn**	**15 37 13.2**	**-0.9**
KVLA	**Kavala**	**1.56**	**327**	P	**Pn**	**15 36 51.9**	**-1.7**
KRBG	**Karabiga-Canak**	**1.57**	**60**	PN	**Pn**	**15 36 53.8**	**+0.1**
SKIA	**Skiathos**	**1.65**	**254**	P	**Pn**	**15 36 54.7**	**-0.2**
SKIA				S	**Sb**	**15 37 17.1**	**-0.1**
KNL	**Balıkesir**	**1.68**	**67**	*i* S	**Sb**	**15 37 17.9**	**0.0**
BLCB	**Balcova**	**1.73**	**136**	PN	**Pb**	**15 36 56.5**	**-1.0**
GONE	**Gonen-Balikesi**	**1.73**	**75**	PN	**Pn**	**15 36 56.2**	**+0.3**
EREA	**Eretria**	**1.73**	**226**	P	**Pn**	**15 36 55.0**	**-0.9**
STEP	**BALIKESIR_Sava**	**1.73**	**98**	IAML_P			
	comp=Z,11μm,0.4s						
STEP				*i* P	**Pn**	**15 36 56.1**	**+0.1**
PLG	**Polygyros**	**1.75**	**296**	P	**Pn**	**15 36 55.8**	**-0.5**
PLG	**Polygyros**	**1.75**	**296**	P	**Pn**	**15 36 55.7**	**-0.6**
PLG				S	**Sn**	**15 37 18.3**	**-0.5**
MRKA	**Markates**	**1.76**	**239**	P	**Pn**	**15 36 55.5**	**-0.9**
NEO	**Neokhori**	**1.80**	**260**	P	**Pn**	**15 36 56.1**	**-0.9**
XOR	**Xorichti**	**1.81**	**262**	P	**Pn**	**15 36 56.2**	**-0.9**
XOR	**Xorichti**	**1.81**	**262**	P	**Pn**	**15 36 56.4**	**-0.7**
XOR				S	**Sb**	**15 37 20.4**	**-1.5**
BALB	**Balikesir**	**1.83**	**89**	PN	**Pn**	**15 36 56.8**	**-0.5**
DGB	**zmir**	**1.91**	**145**	IAML_P			
	comp=Z,802nm,0.1s						
DGB				*i* P	**Pn**	**15 36 58.5**	**+0.1**
AKHS	**Akhisar**	**1.94**	**112**	*i* P	**Pn**	**15 36 58.9**	**0.0**
EDC	**Edincik**	**1.94**	**68**	PN	**Pn**	**15 36 58.9**	**0.0**
SBT4	**Kumbag-Tekirda**	**1.96**	**52**	PN	**Pn**	**15 36 59.6**	**+0.7**
DION	**Dionisos Attik**	**1.98**	**219**	P	**Pn**	**15 36 58.5**	**-1.0**
DION				AML	AML	15 37 33.0	
	comp=E,770μm,0.5s						
DION				AML	AML	15 37 38.8	
	comp=N,831μm,1.1s						
KDZ	**Kurdzhali**	**2.02**	**358**	PN	**Pn**	**15 36 59.7**	**-0.2**
SOH	**Sokhos**	**2.03**	**306**	P	**Pn**	**15 36 59.7**	**-0.5**
SOH	**Sokhos**	**2.03**	**306**	P	**Pn**	**15 36 59.7**	**-0.5**
PTL	**Penteli**	**2.04**	**220**	P	**Pn**	**15 36 59.4**	**-0.8**
PTL	**Penteli**	**2.04**	**220**	P	**Pn**	**15 36 59.4**	**-0.8**
TKR	**Tekirdag**	**2.06**	**48**	PN	**Pn**	**15 37 01.2**	**+0.7**
SRS	**Serrai**	**2.08**	**316**	P	**Pn**	**15 36 60.0**	**-0.9**
SRS	**Serrai**	**2.08**	**316**	P	**Pn**	**15 37 00.0**	**-0.9**
HORT	**Hortiatis**	**2.08**	**298**	PN	**Pn**	**15 37 01.5**	**+0.6**
HORT	**Hortiatis**	**2.08**	**298**	P	**Pn**	**15 37 00.4**	**-0.5**
HORT	**Hortiatis**	**2.08**	**298**	P	**Pn**	**15 37 00.2**	**-0.7**
HORT				S	**Sn**	**15 37 27.1**	**0.0**
GOMA	**Golmarmara-Man**	**2.09**	**116**	PN	**Pn**	**15 37 01.5**	**+0.7**
TNSA	**Tinos**	**2.11**	**188**	P	**Pn**	**15 37 01.0**	**-0.2**
NVR	**Nevrokopi**	**2.13**	**324**	P	**Pn**	**15 37 00.6**	**-0.8**
NVR	**Nevrokopi**	**2.13**	**324**	P	**Pn**	**15 37 00.7**	**-0.8**
SMG	**Samos**	**2.18**	**151**	P	**Pn**	**15 37 01.6**	**-0.6**
SMG	**Samos**	**2.18**	**151**	P	**Pn**	**15 37 01.4**	**-0.8**
LKR	**Lokris**	**2.19**	**244**	P	**Pn**	**15 37 01.5**	**-0.8**
VLY	**Voula,Athens**	**2.23**	**218**	P	**Pn**	**15 37 01.9**	**-0.9**
CRLT	**Corlu**	**2.26**	**48**	PN	**Pn**	**15 37 04.4**	**+1.1**
KCTX	**Karacabey (Bur**	**2.28**	**73**	PN	**Pn**	**15 37 03.8**	**+0.3**
DURS	**Dursunbey**	**2.29**	**90**	IAML_P			
	comp=Z,2μm,0.3s						
DURS				*i* P	**Pn**	**15 37 03.1**	**-0.6**
GCAM	**G?zelcaml?**	**2.35**	**145**	PN	**Pn**	**15 37 05.8**	**+1.3**
GCAM	**G?zelcaml?**	**2.35**	**145**	*i* P	**Pn**	**15 37 05.1**	**+0.6**
DST	**Dursunbey**	**2.40**	**90**	PN	**Pn**	**15 37 06.3**	**+1.1**
EDRB	**Edirne**	**2.40**	**23**	PN	**Pn**	**15 37 05.8**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**2.51**	**131**	PN	**Pn**	**15 37 07.6**	**+0.8**
KNT	**Kendrikon**	**2.51**	**308**	P	**Pn**	**15 37 05.9**	**-0.8**
PHSR	**Pinarhisar**	**2.52**	**37**	PN	**Pn**	**15 37 07.8**	**+1.0**
AGG	**Agios Georgios**	**2.54**	**257**	P	**Pn**	**15 37 06.9**	**-0.2**
AGG	**Agios Georgios**	**2.54**	**257**	P	**Pn**	**15 37 07.0**	**-0.2**
PLD	**Plovdiv**	**2.54**	**346**	PN	**Pn**	**15 37 07.6**	**+0.5**
DEMI	**Demirci**	**2.56**	**102**	IAML_P			
	comp=Z,732nm,0.1s						
DEMI				*i* P	**Pn**	**15 37 07.6**	**+0.2**
LTK	**Loutraki**	**2.56**	**232**	P	**Pn**	**15 37 06.9**	**-0.4**
APE	**Apeiranthos**	**2.56**	**180**	P	**Pn**	**15 37 07.4**	**0.0**
APE	**Apeiranthos**	**2.56**	**180**	⇓*i*P	**Pn**	**15 37 06.4**	**-1.0**
SLVT	**Silivri**	**2.61**	**51**	PN	**Pn**	**15 37 08.9**	**+0.9**
DSF	**Desfina**	**2.62**	**243**	P	**Pn**	**15 37 07.8**	**-0.5**
MANT	**Manisa**	**2.63**	**115**	*i* P	**Pn**	**15 37 08.2**	**-0.4**
ORLT	**Orhaneli**	**2.64**	**80**	PN	**Pn**	**15 37 09.5**	**+1.0**
MDNY	**Mudanya-Bursa**	**2.69**	**73**	PN	**Pn**	**15 37 10.3**	**+1.1**
KULA	**Kula-Manisa**	**2.69**	**114**	PN	**Pn**	**15 37 10.3**	**+1.0**
THL	**Klokotos Trika**	**2.70**	**270**	P	**Pn**	**15 37 09.2**	**-0.1**
GRG	**Griva**	**2.72**	**300**	P	**Pn**	**15 37 09.1**	**-0.5**
ARMT	**Armutlu**	**2.73**	**69**	PN	**Pn**	**15 37 10.8**	**+1.0**
SBT5	**Esenkoy-Cinarc**	**2.77**	**68**	PN	**Pn**	**15 37 11.6**	**+1.4**
CTKS	**Kestanelik-??a**	**2.79**	**54**	PN	**Pn**	**15 37 11.6**	**+1.1**
CTYL	**Yalikoy Yolu**	**2.81**	**48**	PN	**Pn**	**15 37 11.5**	**+0.8**
VAY	**Valandovo**	**2.81**	**308**	*e*Pn	**Pn**	**15 37 10.9**	**+0.2**
AMGA	**Amorgos Island**	**2.81**	**174**	P	**Pn**	**15 37 10.4**	**-0.5**
BGKT	**Bogazkoy**	**2.93**	**57**	PN	**Pn**	**15 37 13.2**	**+0.7**
SHAP	**Saphane-Kutahy**	**2.94**	**101**	PN	**Pn**	**15 37 13.6**	**+0.9**
GUR	**Goura**	**3.00**	**237**	P	**Pn**	**15 37 13.6**	**+0.1**
ISK	**Istanbul-Kandi**	**3.07**	**61**	PN	**Pn**	**15 37 15.3**	**+1.0**
KAVV	**Kandilli-Istan**	**3.07**	**61**	PN	**Pn**	**15 37 15.6**	**+1.3**
KLV	**Kalavryta, Ach**	**3.07**	**240**	P	**Pn**	**15 37 14.1**	**-0.3**
YLV	**Yalova**	**3.10**	**71**	PN	**Pn**	**15 37 15.9**	**+1.0**
IZI	**Iznik**	**3.12**	**76**	PN	**Pn**	**15 37 16.0**	**+0.8**
KLYT	**Kilyos**	**3.14**	**58**	PN	**Pn**	**15 37 16.7**	**+1.3**
STIP	**Stip**	**3.26**	**310**	*i* Pn	**Pn**	**15 37 15.5**	**-1.5**
VTS	**Vitosha**	**3.43**	**330**	⇑*i*P	**Pn**	**15 37 22.4**	**+2.9**
KRUS	**Krusevo**	**3.68**	**299**	*i* Pn	**Pn**	**15 37 23.5**	**+0.6**
ZIMR		**4.02**	**358**	⇓*i*P	**Pn**	**15 37 31.1**	**+3.7**
SGRR	**Singureni**	**4.60**	**4**	⇓*i*P	**Pb**	**15 37 42.7**	**-3.8**
RASA	**Rasa**	**4.74**	**14**	⇑*i*P	**Pb**	**15 37 46.2**	**-2.6**
ICOR	**Ion Corvin**	**4.79**	**20**	⇑*i*P	**Pn**	**15 37 39.9**	**+1.8**
LEHL	**Lehliu**	**4.93**	**11**	⇑*i*P	**Pg**	**15 38 02.0**	**+1.9**
PUNG	**Punghina**	**5.02**	**338**	⇓*i*P	**Pn**	**15 37 43.7**	**+2.5**
SULR		**5.07**	**6**	⇑*i*P	**Pg**	**15 38 06.4**	**+3.7**
AMRR	**Amara**	**5.16**	**15**	⇑*i*P	Pg	15 38 17.5	+13
TIRR	**Tirgusor**	**5.28**	**23**	⇑*i*P	**Pb**	**15 37 59.9**	**+1.8**
TLB	**Topalu**	**5.29**	**20**	⇓*i*P	**Pb**	**15 37 59.1**	**+0.8**
HARR	**Harsova**	**5.36**	**19**	⇑*i*P	**Pn**	**15 37 45.8**	**-0.1**
PDG	**Podgorica**	**5.49**	**303**	⇑*i*P	**Pn**	**15 37 49.9**	**+2.2**
MTUR	**Matau**	**5.60**	**357**	⇑*i*P	**Pn**	**15 37 52.3**	**+3.1**
ANTO	**Ankara**	**5.62**	**85**	⇓*i*P	Pn	15 37 56.4	+6.9
HERR	**Herculane**	**5.72**	**337**	⇓*i*P	**Pn**	**15 37 49.9**	**-0.9**
VOIR		**5.81**	**357**	⇑*i*P	**Pn**	**15 37 53.9**	**+1.8**
MLR	**Muntele Rosu**	**5.86**	**3**	⇑*i*P	**Pn**	**15 37 53.9**	**+1.0**
MLR	**Muntele Rosu**	**5.86**	**3**	S	**Sg**	**15 39 40.5**	**+6.7**
CFR	**Carcaliu**	**5.87**	**18**	⇓*i*P	**Pn**	**15 37 53.5**	**+0.7**
LOT	**Lotru**	**5.95**	**348**	⇑*i*P	**Pn**	**15 37 54.1**	**0.0**
GZR	**Gura Zlata**	**6.10**	**342**	⇓*i*P	**Pn**	**15 37 55.7**	**-0.4**
PLOR	**Plostina**	**6.27**	**7**	⇑*i*P	**Pn**	**15 38 02.1**	**+3.7**
VRI	**Vrincioaia**	**6.29**	**8**	⇑*i*P	**Pn**	**15 38 01.8**	**+3.1**
DOPR	**Dopca**	**6.33**	**359**	⇑*i*P	**Pn**	**15 37 59.9**	**+0.7**
MDB	**Medias**	**6.56**	**353**	⇑*i*P	**Pn**	**15 38 05.1**	**+2.8**
BZS	**Buzias**	**6.63**	**336**	⇑*i*P	**Pn**	**15 38 02.6**	**-0.7**
TIP	**Timpagrande**	**6.79**	**269**	⇓*i*P	**Pn**	**15 38 07.2**	**+1.6**
SIRR	**Siria**	**7.21**	**338**	⇓*i*P	**Pn**	**15 38 09.0**	**-2.2**
BIZ	**Bicaz**	**7.32**	**3**	⇓*i*P	**Pn**	**15 38 15.9**	**+3.2**
GIRR	**Girov**	**7.35**	**5**	⇑*i*P	**Pn**	**15 38 16.0**	**+2.8**
DRGR		**7.44**	**345**	⇑*i*P	Pn	15 38 19.8	+5.3
PRAR	**RASCA**	**7.74**	**4**	⇓*i*P	**Pn**	**15 38 19.4**	**+0.8**
BURAR	**Bucovina Array**	**7.98**	**359**	⇓*i*P	**Pn**	**15 38 26.1**	**+4.2**

*DDA **09** 15:40:22.9, 39°.68N×25°.25E, h22^{km}±2^{km}, ML3.3*
*ISK **09** 15:40:30.7, 39°.71N×25°.65E, h10^{km}, ML3.7/9*
*ISCJB **09** 15:40:31.5±0.5, 39°.71N±0°.02×25°.70E±0°.02, h1^{km}±4^{km}, mb3.5/2, Error ellipse: s-maj=3.2km s-min=2.9km az=152.6*
*ATH **09** 15:40:32.6, 39°.68N×25°.58E, h6^{km}±1^{km}, ML3.5/15, Error ellipse: s-maj=1.8km s-min=0.6km az=61.0*
*IDC **09** 15:40:32.7±4.4, 39°.65N×25°.78E, h0^{km}, mb3.5/2, mb1 3.8/6, mb1mx3.3/50, mbtmp3.7/6, ML3.7/4, Error ellipse: s-maj=81.2km s-min=18.5km az=61.0*
ISC 09 15:40:31.2±1.1, **39°.69N**±0°.02×**25°.70E**±0°.02, **h0^{km}**±10^{km}, **n65, σ1^{s}75**/83, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.31**	**61**	PG	**Pg**	**15 40 37.9**	**+0.7**
BOZC	**Bozcaada**	**0.31**	**61**	IAML_P			
	comp=Z,6μm,0.1s						
BOZC				*i* P	**Pg**	**15 40 35.4**	**-1.8**
LIA	**Limnos Island**	**0.45**	**298**	P	**Pg**	**15 40 40.3**	**+0.5**
LIA				S	**Sg**	**15 40 45.5**	**-0.1**
LIA				AML	AML	15 40 46.7	
	comp=E,9363μm,0.2s						
LIA				AML	AML	15 40 49.0	
	comp=N,8101μm,0.2s						
SIGR	**SIGRI**	**0.49**	**166**	PG	**Pg**	**15 40 41.3**	**+0.7**
SIGR				SG	**Sb**	**15 40 49.0**	**-1.5**
SIGR	**SIGRI**	**0.49**	**166**	P	**Pb**	**15 40 42.4**	**-0.3**
SIGR				S	**Sb**	**15 40 50.1**	**-0.3**
SIGR				AML	AML	15 40 50.7	
	comp=N,65701μm,0.5s						
SIGR				AML	AML	15 40 50.7	

	comp=E,55164μm,0.5s						
EZN	**Ezine**	**0.50**	**74**	PG	**Pg**	**15 40 41.4**	**+0.6**
GADA	**Gvkgeada**	**0.52**	**17**	PG	**Pg**	**15 40 41.3**	**0.0**
GOKC	**Gokceada-Canak**	**0.54**	**18**	PG	**Pg**	**15 40 41.8**	**+0.3**
EFSA	**Agios Efstrati**	**0.57**	**255**	P	**Pg**	**15 40 41.8**	**-0.3**
EFSA				S	**Sg**	**15 40 49.1**	**-0.4**
EFSA				AML	AML	15 40 50.7	
	comp=N,21924μm,0.3s						
EFSA				AML	AML	15 40 51.7	
	comp=E,32320μm,0.4s						
PRK	**Paraskevi**	**0.63**	**135**	P	**Pb**	**15 40 45.7**	**+0.7**
PRK				S	**Sn**	**15 40 55.3**	**-2.8**
PRK				AML	AML	15 40 59.6	
	comp=N,17354μm,0.4s						
PRK				AML	AML	15 40 59.9	
	comp=E,21291μm,0.5s						
BAYC	**CANAKKALE_Bayr**	**0.66**	**85**	IAML_P			
	comp=Z,8μm,0.1s						
BAYC				*i* P	**Pg**	**15 40 41.9**	**-1.9**
BAYC				*i* S	**Sn**	**15 40 57.8**	**-1.0**
SMTH	**Samothraki Isl**	**0.79**	**351**	P	**Pb**	**15 40 47.6**	**-0.3**
SMTH				S	**Sb**	**15 40 58.3**	**-0.8**
SMTH				AML	AML	15 40 59.9	
	comp=N,4798μm,0.4s						
SMTH				AML	AML	15 41 00.1	
	comp=E,7537μm,0.7s						
AYVA	**Ayvalik**	**0.86**	**116**	IAML_P			
	comp=Z,1μm,0.1s						
AYVA				*i* P	**Pg**	**15 40 46.6**	**-1.1**
AYVA				*i* S	**Sg**	**15 40 51.5**	**-7.2**
GELI	**Tayfur-Gelibol**	**0.93**	**40**	PG	**Pg**	**15 40 49.2**	**+0.3**
LPK	**Lapseki**	**1.06**	**50**	PG	**Pg**	**15 40 52.0**	**+0.4**
ENEZ	**Enez**	**1.10**	**18**	PN	**Pb**	**15 40 52.1**	**-1.0**
DKL	**Dikili**	**1.12**	**123**	PN	**Pn**	**15 40 53.5**	**-0.6**
PSRA	**Psara**	**1.15**	**185**	P	**Pn**	**15 40 54.1**	**-0.4**
PSRA				S	**Sg**	**15 41 09.1**	**+1.0**
PSRA				AML	AML	15 41 10.6	
	comp=E,7890μm,0.3s						
PSRA				AML	AML	15 41 12.3	
	comp=N,4051μm,0.3s						
ERIK	**Erikli-Kesan**	**1.16**	**32**	PN	**Pb**	**15 40 53.3**	**-0.8**
THAS	**Thassos island**	**1.18**	**321**	P	**Pn**	**15 40 54.2**	**-0.8**
THAS				S	**Sb**	**15 41 09.4**	**-1.0**
THAS				AML	AML	15 41 09.9	
	comp=N,8070μm,0.4s						
THAS				AML	AML	15 41 10.5	
	comp=E,7271μm,0.4s						
SKY	**Skiros Island**	**1.21**	**228**	P	**Pb**	**15 40 53.4**	**-1.5**
SKY				S	**Sb**	**15 41 09.0**	**-2.0**
SKY				AML	AML	15 41 10.5	
	comp=E,8892μm,0.2s						
SKY				AML	AML	15 41 10.9	
	comp=N,11362μm,0.2s						
ALN	**Alexandroupoli**	**1.23**	**12**	PN	**Pn**	**15 40 54.0**	**-1.7**
ALN	**Alexandroupoli**	**1.23**	**12**	P	**Pg**	**15 40 55.9**	**+1.0**
ALN				S	**Sn**	**15 41 14.1**	**+1.0**
ALN				AML	AML	15 41 19.8	
	comp=N,1226μm,0.6s						
ALN				AML	AML	15 41 20.2	
	comp=E,1159μm,0.4s						
CHOS	**Chios island**	**1.33**	**168**	PN	**Pn**	**15 40 56.5**	**-0.6**
CHOS	**Chios island**	**1.33**	**168**	P	**Pg**	**15 40 57.7**	**+1.0**
CHOS				S	**Sg**	**15 41 16.4**	**+2.5**
CHOS				AML	AML	15 41 18.3	
	comp=N,3398μm,0.4s						
CHOS				AML	AML	15 41 18.5	
	comp=E,4384μm,0.3s						
KESN	**Edirne-Kesan**	**1.36**	**33**	IAML_P			
	comp=Z,106nm,0.1s						
KESN				*i* P	**Pn**	**15 40 53.3**	**-4.5**
KRBG	**Karabiga-Canak**	**1.42**	**60**	PN	**Pn**	**15 40 57.3**	**-0.9**
RDO	**Rodhopi**	**1.46**	**355**	PN	**Pn**	**15 40 57.1**	**-1.7**
RDO	**Rodhopi**	**1.46**	**355**	P	**Pg**	**15 41 00.1**	**+0.9**
AOS	**Alonnisos**	**1.50**	**250**	PN	**Pn**	**15 40 58.0**	**-1.3**
AOS	**Alonnisos**	**1.50**	**250**	P	**Pn**	**15 40 59.0**	**-0.4**
AOS				AML	AML	15 41 19.7	
	comp=N,3012μm,0.4s						
AOS				AML	AML	15 41 21.3	
	comp=E,3480μm,0.6s						
URLA	**Izmir**	**1.50**	**152**	PN	**Pn**	**15 40 58.5**	**-0.9**
URLA	**Izmir**	**1.50**	**152**	*i* P	Pn	15 40 54.1	-5.3
SART	**Tekirdag**	**1.51**	**48**	IAML_P			
	comp=Z,1μm,0.1s						
SART				*i* P	**Pn**	**15 40 57.0**	**-2.6**
ALNA	**Alonissos**	**1.52**	**250**	P	**Pb**	**15 40 59.4**	**-0.8**
KNL	**Balıkesir**	**1.52**	**67**	*i* P	**Pn**	**15 40 56.2**	**-3.4**
KNL				*i* S	**Sg**	**15 41 23.8**	**+3.8**
PAIG	**Paliouri**	**1.57**	**279**	P	**Pb**	**15 41 00.6**	**-0.6**
PAIG				S	**Sb**	**15 41 20.7**	**-0.9**
PAIG				AML	AML	15 41 23.6	
	comp=E,928μm,0.4s						
PAIG				AML	AML	15 41 24.3	
	comp=N,1190μm,0.5s						
KAVA	**Kavala**	**1.59**	**326**	P	**Pg**	**15 41 01.9**	**+0.2**
KAVA				AML	AML	15 41 24.4	
	comp=E,2216μm,0.3s						
KAVA				AML	AML	15 41 24.9	
	comp=N,1753μm,0.3s						
STEP	**BALIKESIR_Sava**	**1.59**	**101**	IAML_P			
	comp=Z,474nm,0.1s						
STEP				*i* P	**Pn**	**15 40 57.0**	**-3.6**
STEP				*i* S	**Sg**	**15 41 26.4**	**+4.0**
KVLA	**Kavala**	**1.60**	**322**	P	**Pg**	**15 41 01.8**	**0.0**
KVLA				S	**Sg**	**15 41 23.3**	**+0.7**
KVLA				AML	AML	15 41 24.2	
	comp=N,2585μm,0.3s						
KVLA				AML	AML	15 41 24.7	
	comp=E,1746μm,0.4s						
BLCB	**Balcova**	**1.67**	**141**	PN	**Pn**	**15 41 01.1**	**-0.6**
BALB	**Balikesir**	**1.69**	**91**	PN	**Pn**	**15 41 00.8**	**-1.1**
EDC	**Edincik**	**1.79**	**68**	PN	**Pn**	**15 41 02.5**	**-0.8**
SBT4	**Kumbag-Tekirda**	**1.81**	**50**	PN	**Pn**	**15 41 02.5**	**-0.9**
AKHS	**Akhisar**	**1.83**	**116**	IAML_P			
	comp=Z,2μm,0.3s						
AKHS				*i* P	**Pb**	**15 41 04.6**	**-1.0**
PLG	**Polygyros**	**1.86**	**292**	P	**Pb**	**15 41 06.2**	**+0.1**
DGB	**zmir**	**1.88**	**150**	IAML_P			
	comp=Z,721nm,0.2s						
DGB				*i* P	**Pn**	**15 41 04.9**	**+0.4**
NEO	**Neokhori**	**1.95**	**259**	P	**Pb**	**15 41 07.5**	**-0.1**
NEO				S	**Sg**	**15 41 32.9**	**-1.0**
NEO				AML	AML	15 41 34.5	
	comp=E,2110μm,0.3s						
NEO				AML	AML	15 41 35.4	
	comp=N,1948μm,0.3s						
XOR	**Xorichti**	**1.96**	**261**	P	**Pb**	**15 41 06.9**	**-0.9**
DION	**Dionisos Attik**	**2.12**	**221**	P	**Pb**	**15 41 09.5**	**-1.0**
SOH	**Sokhos**	**2.12**	**303**	P	**Pb**	**15 41 09.6**	**-0.9**
DURS	**Dursunbey**	**2.15**	**91**	IAML_P			
	comp=Z,238nm,0.2s						
DURS				*i* P	**Pn**	**15 41 05.0**	**-3.3**
DURS				*i* S	**Sb**	**15 41 37.6**	**-0.5**
SRS	**Serrai**	**2.15**	**312**	P	**Pb**	**15 41 10.9**	**-0.1**
SMG	**Samos**	**2.17**	**155**	P	**Pb**	**15 41 11.9**	**+0.6**
PTL	**Penteli**	**2.17**	**222**	P	**Pb**	**15 41 10.2**	**-1.2**
TNSA	**Tinos**	**2.19**	**191**	P	**Pb**	**15 41 11.6**	**0.0**
VLY	**Voula,Athens**	**2.36**	**220**	P	**Pb**	**15 41 13.0**	**-1.6**
LIT	**Litokhoron**	**2.50**	**280**	P	**Pb**	**15 41 14.8**	**-2.2**
KNT	**Kendrikon**	**2.59**	**305**	P	**Pb**	**15 41 16.3**	**-2.3**
MLR	**Muntele Rosu**	**5.80**	**2**	Pn	**Pn**	**15 42 00.2**	**+1.6**
	comp=Z,1.9nm,0.3s,baz=254,slow=4.0,SNR=12						
BRTR	**Keskin Array B**	**6.12**	**87**	Pn	**Pn**	**15 42 04.8**	**+1.8**
	comp=Z,1.1nm,0.3s,baz=265,slow=12,SNR=29						
MMAI	**Mount Meron Ar**	**10.27**	**127**	Pn	**Pn**	**15 42 59.2**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=310,slow=10,SNR=3.0						
AKASG	**Malin Array Be**	**11.29**	**12**	Pn	**Pn**	**15 43 16.2**	**+2.6**
	comp=Z,0.5nm,0.3s,baz=200,slow=12,SNR=4.7						
MKAR	**Makanchi Array**	**41.06**	**61**	P	**P**	**15 48 16.2**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=282,slow=6.8,SNR=2.7						
CMAR	**Chiang Mai Arr**	**65.71**	**86**	P	**P**	**15 51 20.3**	**+2.5**
	comp=Z,0.3nm,0.7s,baz=298,slow=7.7,SNR=3.7						

ROM 09 15:40:41.6±0.1**, 39.919N**±0.003×**16.024E**±0.004**, h9km, ML1.1**/4**, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMN	**Mormanno**	**0.04**	**222**	P	Pg	15 40 43.8	+0.5
MMN				S	Sg	15 40 44.8	+0.3
CUC	**Castrocucco**	**0.18**	**295**	P	Pg	15 40 45.7	+0.3
CUC				S	Sg	15 40 49.0	+1.1
CUC				AML	AML		
	comp=E,195μm,0.3s						
CUC				AML	AML		
	comp=N,138μm,0.5s						
CUC				AML	AML		
	comp=E,196μm,0.3s						
CUC				AML	AML		
	comp=N,138μm,0.5s						
CUC				AML	AML		
	comp=E,196μm,0.3s						
CUC				AML	AML		
	comp=N,138μm,0.5s						
T0702	**Acquaformosa (**	**0.20**	**167**	P	Pg	15 40 46.7	+0.8
T0702				S	Sg	15 40 50.2	+1.5
SALB	**San Lorenzo Be**	**0.25**	**100**	P	Pg	15 40 47.4	+0.7
SALB				S	Sb	15 40 51.6	-1.4
SALB				AML	AML		
	comp=E,49μm,1.4s						
SALB				AML	AML		
	comp=N,34μm,1.5s						
SALB				AML	AML		
	comp=E,49μm,1.4s						
SALB				AML	AML		
	comp=N,34μm,1.5s						
SALB				AML	AML		
	comp=N,34μm,1.5s						
SALB				AML	AML		
	comp=E,49μm,1.4s						
SIRI	**Monte Sirino -**	**0.29**	**335**	P	Pb	15 40 48.5	-0.6
SIRI				S	Sb	15 40 53.3	-0.8
SIRI				AML	AML		
	comp=E,59μm,0.3s						
SIRI				AML	AML		
	comp=N,68μm,0.2s						
SIRI				AML	AML		
	comp=E,59μm,0.3s						
SIRI				AML	AML		
	comp=N,68μm,0.2s						
SIRI				AML	AML		
	comp=E,59μm,0.3s						
SIRI				AML	AML		
	comp=N,68μm,0.2s						
CET2	**Cetraro**	**0.39**	**188**	P	Pg	15 40 50.0	+0.6
CET2				S	Sb	15 40 56.2	-0.8
MGR	**Morigerati**	**0.42**	**301**	P	Pb	15 40 50.7	-0.6
MGR				S	Sb	15 40 57.0	-0.8
MGR				AML	AML		
	comp=E,31μm,0.4s						
MGR				AML	AML		
	comp=N,27μm,1.3s						
MGR				AML	AML		
	comp=E,31μm,0.4s						
MGR				AML	AML		
	comp=N,27μm,1.3s						
MGR				AML	AML		
	comp=N,27μm,1.3s						
MGR				AML	AML		
	comp=E,31μm,0.4s						

*BEO **09** 15:41:31.8±0.9, 39.68N×25.83E, h0km±5km, ML4.6/3*
*IDC **09** 15:41:31.4±0.6, 39.61N×25.62E, h0km, mb4.1/23, mb1 4.3/34, mb1mx4.2/56, mbtmp4.2/34, ML4.4/11, MS3.4/7, Ms1 3.4/7, ms1mx3.2/30, Error ellipse: s-maj=11.2km s-min=9.4km az=28.0*
*MOS **09** 15:41:32.8±1.1, 39.72N×25.76E, h13km, mb4.4/23, Error ellipse: s-maj=3.9km s-min=2.6km az=99.8*
*ATH **09** 15:41:32.5, 39.69N×25.60E, h28km, ML4.7/8, Error ellipse: s-maj=0.9km s-min=0.5km az=65.0*
*DDA **09** 15:41:32.5, 39.71N×25.66E, h23km, ML4.9*
*ISK **09** 15:41:32.6, 39.67N×25.67E, h4km, ML5.0/25*
*ISCJB **09** 15:41:33.5±0.3, 39.70N±0.01×25.65E±0.01, h22km±2km, mb4.2/46, MS3.5/4, Error ellipse: s-maj=1.8km s-min=1.5km az=19.5*
*MED_RC **09** 15:41:33.0±0.4, 39.77N×25.66E, h16km±1km, MW4.5/16, Moment Tensor Solution.Mantle waves: s16,c21; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.18±.05; $M_{\theta\theta}$0.74±.05; $M_{\phi\phi}$-0.55±.05; $M_{r\theta}$0.19±.10; $M_{\theta\phi}$-0.31±.05; $M_{\phi r}$0.03±.10; Best double couple: $M_0$0.74000×10^{16} NP1:ϕ_s58.00000°,δ90.00000°, λ166.00000°. NP2:ϕ_s148.00000°,δ76.00000°,λ0.00000°. Principal axes: T 0.8400, Plg10.0000°, Azm12.0000°; N -0.2000, Plg76.0000°, Azm237.0000°; P -0.6300, Plg9.0000°, Azm104.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*THE **09** 15:41:33.3, 39.71N×25.63E, h9km±1km, ML4.4/16 Error ellipse: s-maj=1.2km s-min=0.5km az=78.0*
*NEIC **09** 15:41:33.2±0.0, 39.71N×25.63E, h9km, mb4.4/14, ML4.5(THE), After THE.*
*PDG **09** 15:41:33.0±0.7, 39.69N×25.65E, h15km±1km, ML4.2/10, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*

ISC 09 15:41:33.2±0.9**, 39.68N**±0.01×**25.64E**±0.01**, h10**km±5km**, n588,** σ**1s66**/676**, mb4.3**/50**, MS3.5**/5**, 63C-54D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.36**	**63**	PG	**Pg**	**15 41 40.3**	**0.0**
BOZC				SG	**Sg**	**15 41 45.2**	**+0.1**
BOZC	**Bozcaada**	**0.36**	**63**	⇓*i*P	**Pg**	**15 41 40.4**	**+0.1**
LIA	**Limnos Island**	**0.41**	**302**	P	**Pg**	**15 41 41.2**	**0.0**
LIA				S	**Sg**	**15 41 46.8**	**+0.1**
LIA	**Limnos Island**	**0.41**	**302**	P	**Pg**	**15 41 41.3**	**0.0**
LIA				S	**Sg**	**15 41 46.9**	**+0.2**
LIA				AML	AML	15 41 47.5	
LIA				AML	AML	15 41 51.2	
LIA	**Limnos Island**	**0.41**	**302**	P	**Pg**	**15 41 41.2**	**0.0**
LIA				S	**Sg**	**15 41 46.8**	**+0.1**
GPNR	**Gulpinar-Canak**	**0.45**	**120**	PG	**Pg**	**15 41 41.0**	**-0.9**
SIGR	**SIGRI**	**0.50**	**160**	PG	**Pg**	**15 41 42.8**	**-0.1**
SIGR				SG	**Sg**	**15 41 49.4**	**0.0**
SIGR	**SIGRI**	**0.50**	**160**	P	**Pg**	**15 41 43.0**	**+0.2**
SIGR				S	**Sb**	**15 41 50.9**	**-0.4**
SIGR	**SIGRI**	**0.50**	**160**	P	**Pg**	**15 41 43.1**	**+0.2**
SIGR				S	**Sb**	**15 41 50.6**	**-0.7**
SIGR				AML	AML	15 41 51.4	
SIGR				AML	AML	15 41 51.4	
SIGR	**SIGRI**	**0.50**	**160**	P	**Pg**	**15 41 43.0**	**+0.2**
SIGR				S	**Sb**	**15 41 50.9**	**-0.4**
GADA	**Gvkgeada**	**0.55**	**22**	PG	**Pg**	**15 41 43.6**	**-0.3**
GADA	**Gvkgeada**	**0.55**	**22**	P	**Pg**	**15 41 43.5**	**-0.3**
GADA				S	**Sg**	**15 41 51.3**	**+0.2**
GADA	**Gvkgeada**	**0.55**	**22**	P	**Pg**	**15 41 43.5**	**-0.3**
GADA				S	**Sg**	**15 41 51.3**	**+0.2**
EZN	**Ezine**	**0.55**	**74**	PG	**Pg**	**15 41 43.2**	**-0.7**
EZN				SG	**Sg**	**15 41 51.2**	**+0.1**
EZN	**Ezine**	**0.55**	**74**	P	**Pg**	**15 41 43.7**	**-0.2**
EZN				S	**Sg**	**15 41 51.4**	**+0.3**
EZN	**Ezine**	**0.55**	**74**	P	**Pg**	**15 41 43.7**	**-0.2**
EZN				S	**Sg**	**15 41 51.4**	**+0.3**
EZN	**Ezine**	**0.55**	**74**	P	**Pg**	**15 41 43.7**	**-0.2**
EZN				S	**Sg**	**15 41 51.4**	**+0.3**
GOKC	**Gokceada-Canak**	**0.56**	**23**	PG	**Pg**	**15 41 43.9**	**-0.2**
PRK	**Paraskevi**	**0.66**	**131**	P	**Pb**	**15 41 46.8**	**+0.1**
PRK				S	**Sb**	**15 41 56.5**	**+0.6**
PRK	**Paraskevi**	**0.66**	**131**	P	**Pb**	**15 41 46.9**	**+0.2**
PRK				S	**Sb**	**15 41 56.1**	**+0.2**
PRK				AML	AML	15 42 00.5	
PRK				AML	AML	15 42 00.5	
PRK	**Paraskevi**	**0.66**	**131**	P	**Pb**	**15 41 46.8**	**+0.1**
PRK				S	**Sb**	**15 41 56.5**	**+0.6**
PRK	**Paraskevi**	**0.66**	**131**	P	**Pb**	**15 41 46.8**	**+0.1**
PRK				S	**Sb**	**15 41 56.5**	**+0.6**
BAYC	**CANAKKALE_Bayr**	**0.71**	**85**	⇓*i*P	**Pb**	**15 41 47.3**	**-0.3**
BAYC				*i* S	**Sg**	**15 41 56.6**	**+0.5**
SMTH	**Samothraki Isl**	**0.79**	**354**	P	**Pg**	**15 41 48.0**	**-0.5**
SMTH				S	**Sg**	**15 41 58.4**	**-0.5**
SMTH	**Samothraki Isl**	**0.79**	**354**	P	**Pg**	**15 41 47.9**	**-0.5**
SMTH				S	**Sb**	**15 41 59.7**	**-0.2**
SMTH				AML	AML	15 42 00.9	
	comp=E,63423μm,0.4s						
SMTH				AML	AML	15 42 01.1	
	comp=N,67433μm,0.4s						
SMTH	**Samothraki Isl**	**0.79**	**354**	P	**Pg**	**15 41 48.0**	**-0.5**
SMTH				S	**Sg**	**15 41 58.4**	**-0.5**
AYVA	**Ayvalik**	**0.90**	**114**	⇓*i*P	**Pb**	**15 41 50.8**	**0.0**
AYVA				*i* S	**Sn**	**15 42 05.2**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.96**	**42**	PG	**Pg**	**15 41 51.4**	**-0.3**
LPK	**Lapseki**	**1.11**	**51**	PN	**Pb**	**15 41 53.8**	**-0.6**
ENEZ	**Enez**	**1.13**	**20**	PN	**Pb**	**15 41 54.2**	**-0.5**
PSRA	**Psara**	**1.14**	**183**	P	**Pg**	**15 41 55.1**	**+0.1**
DKL	**Dikili**	**1.16**	**121**	PN	**Pb**	**15 41 54.9**	**-0.3**
SKY	**Skiros Island**	**1.16**	**227**	P	**Pb**	**15 41 54.1**	**-1.2**
SKY				S	**Sg**	**15 42 11.0**	**+0.4**
SKY	**Skiros Island**	**1.16**	**227**	P	**Pb**	**15 41 54.2**	**-1.1**
SKY	**Skiros Island**	**1.16**	**227**	P	**Pb**	**15 41 54.1**	**-1.2**
SKY				S	**Sg**	**15 42 11.0**	**+0.4**
THAS	**Thassos island**	**1.16**	**323**	P	**Pb**	**15 41 54.4**	**-1.0**
THAS				S	**Sb**	**15 42 09.2**	**-1.2**
THAS				AML	AML	15 42 10.7	
	comp=E,32109μm,0.5s						
THAS				AML	AML	15 42 16.7	
	comp=N,50422μm,0.6s						
THAS	**Thassos island**	**1.16**	**323**	P	**Pb**	**15 41 53.9**	**-1.4**
THAS				S	**Sb**	**15 42 09.7**	**-0.7**
ERIK	**Erikli-Kesan**	**1.20**	**34**	PN	**Pb**	**15 41 55.2**	**-0.7**
ALN	**Alexandroupoli**	**1.26**	**14**	PN	**Pn**	**15 41 56.4**	**-0.4**
ALN	**Alexandroupoli**	**1.26**	**14**	*e*Pn	**Pn**	**15 41 55.5**	**-1.3**
ALN				S	**Sb**	**15 42 13.0**	**-0.2**
ALN	**Alexandroupoli**	**1.26**	**14**	P	**Pn**	**15 41 55.8**	**-1.0**
ALN				S	**Sb**	**15 42 12.8**	**-0.3**
ALN	**Alexandroupoli**	**1.26**	**14**	P	**Pn**	**15 41 55.4**	**-1.3**
ALN				S	**Sb**	**15 42 13.0**	**-0.2**
ALN	**Alexandroupoli**	**1.26**	**14**	*e*P	**Pn**	**15 41 55.5**	**-1.3**
ALN				S	**Sb**	**15 42 13.0**	**-0.2**
FOCM	**Foa**	**1.29**	**138**	PN	**Pn**	**15 41 56.8**	**-0.4**
KRBN	**Karaburun**	**1.30**	**146**	PN	**Pn**	**15 41 57.5**	**+0.1**
CHOS	**Chios island**	**1.33**	**166**	PN	**Pn**	**15 41 57.9**	**0.0**
CHOS	**Chios island**	**1.33**	**166**	P	**Pn**	**15 41 57.2**	**-0.7**
CHOS				S	**Sg**	**15 42 16.4**	**+0.4**
CHOS	**Chios island**	**1.33**	**166**	P	**Pn**	**15 41 57.4**	**-0.5**
CHOS				S	**Sb**	**15 42 15.4**	**0.0**
CHOS				AML	AML	15 42 19.2	
CHOS				AML	AML	15 42 20.5	
CHOS	**Chios island**	**1.33**	**166**	P	**Pn**	**15 41 57.2**	**-0.7**
CHOS				S	**Sg**	**15 42 16.4**	**+0.4**
KESN	**Edirne-Kesan**	**1.40**	**35**	⇑*i*P	**Pn**	**15 41 58.8**	**-0.3**
KESN				*i* S	**Sn**	**15 42 17.9**	**+0.1**
AOS	**Alonnisos**	**1.45**	**250**	PN	**Pb**	**15 42 00.3**	**0.0**
AOS	**Alonnisos**	**1.45**	**250**	P	**Pn**	**15 41 58.3**	**-1.2**
AOS				S	**Sb**	**15 42 19.1**	**+0.3**
AOS	**Alonnisos**	**1.45**	**250**	P	**Pn**	**15 41 58.7**	**-0.8**
AOS				S	**Sn**	**15 42 16.8**	**-1.8**
AOS	**Alonnisos**	**1.45**	**250**	P	**Pn**	**15 41 58.3**	**-1.2**
AOS				S	**Sb**	**15 42 19.1**	**+0.3**
KRBG	**Karabiga-Canak**	**1.46**	**60**	PN	**Pn**	**15 41 59.8**	**+0.2**
RDO	**Rodhopi**	**1.47**	**357**	PN	**Pn**	**15 41 59.8**	**+0.1**
RDO	**Rodhopi**	**1.47**	**357**	P	**Pn**	**15 41 58.6**	**-1.0**
RDO	**Rodhopi**	**1.47**	**357**	P	**Pn**	**15 41 58.7**	**-1.0**
RDO	**Rodhopi**	**1.47**	**357**	P	**Pn**	**15 41 58.6**	**-1.0**
ALNA	**Alonissos**	**1.47**	**249**	P	**Pn**	**15 41 59.1**	**-0.6**
URLA	**Izmir**	**1.52**	**150**	PN	**Pn**	**15 42 00.9**	**+0.5**
URLA	**Izmir**	**1.52**	**150**	*i* P	**Pn**	**15 41 59.8**	**-0.5**
URLA				*i* S	**Sn**	**15 42 19.4**	**-0.8**
PAIG	**Paliouri**	**1.53**	**280**	P	**Pn**	**15 41 59.1**	**-1.4**
PAIG				S	**Sb**	**15 42 20.9**	**0.0**
PAIG	**Paliouri**	**1.53**	**280**	P	**Pn**	**15 41 59.5**	**-1.0**
PAIG	**Paliouri**	**1.53**	**280**	P	**Pn**	**15 41 59.1**	**-1.4**
PAIG				S	**Sb**	**15 42 20.9**	**0.0**
PAIG	**Paliouri**	**1.53**	**280**	P	**Pn**	**15 41 59.1**	**-1.4**
PAIG				S	**Sb**	**15 42 20.9**	**0.0**
SART	**Tekirdag**	**1.55**	**49**	IAML_P			
	comp=Z,101μm,0.2s						
SART				⇑*i*P	**Pn**	**15 42 01.4**	**+0.4**
SART				*i* S	**Sg**	**15 42 22.5**	**-0.6**
KNL	**Balıkesir**	**1.57**	**67**	⇓*i*P	**Pb**	**15 42 01.7**	**-0.6**
KNL				*i* S	**Sb**	**15 42 22.3**	**+0.1**
KAVA	**Kavala**	**1.57**	**327**	P	**Pn**	**15 42 00.2**	**-0.9**
KAVA				S	**Sn**	**15 42 19.6**	**-1.9**
KAVA	**Kavala**	**1.57**	**327**	P	**Pn**	**15 42 00.3**	**-0.9**
KAVA				S	**Sn**	**15 42 20.9**	**-0.6**
KAVA				AML	AML	15 42 23.8	
	comp=E,19379μm,0.5s						
KAVA				AML	AML	15 42 25.6	
	comp=N,15962μm,0.7s						
KAVA	**Kavala**	**1.57**	**327**	P	**Pn**	**15 42 00.2**	**-0.9**
KAVA				S	**Sn**	**15 42 19.6**	**-1.9**
KVLA	**Kavala**	**1.58**	**323**	P	**Pn**	**15 42 00.1**	**-1.1**
GONE	**Gonen-Balikesi**	**1.62**	**76**	PN	**Pn**	**15 42 01.9**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.64**	**100**	IAML_P			
	comp=Z,224μm,0.4s						
STEP				⇓*i*P	**Pn**	**15 42 02.7**	**+0.6**
STEP				*i* S	**Sg**	**15 42 25.9**	**+0.1**
BLCB	**Balcova**	**1.69**	**139**	PN	**Pn**	**15 42 03.1**	**+0.3**
BALB	**Balikesir**	**1.73**	**91**	PN	**Pn**	**15 42 03.6**	**+0.3**
SKIA	**Skiathos**	**1.76**	**254**	P	**Pn**	**15 42 03.1**	**-0.5**
SKIA				S	**Sn**	**15 42 24.8**	**-1.3**
SKIA				AML	AML	15 42 31.4	
	comp=N,20873μm,0.7s						
SKIA				AML	AML	15 42 38.5	
	comp=E,25308μm,0.9s						
SKIA	**Skiathos**	**1.76**	**254**	P	**Pn**	**15 42 03.8**	**+0.1**
SKIA				S	**Sb**	**15 42 27.1**	**-0.5**
MRMT	**Marmara Adasi**	**1.76**	**58**	PN	**Pn**	**15 42 04.2**	**+0.4**
PLG	**Polygyros**	**1.82**	**293**	P	**Pn**	**15 42 04.1**	**-0.5**
PLG				S	**Sn**	**15 42 28.3**	**+0.6**
PLG	**Polygyros**	**1.82**	**293**	P	**Pn**	**15 42 04.5**	**0.0**
PLG	**Polygyros**	**1.82**	**293**	P	**Pn**	**15 42 04.1**	**-0.5**
PLG				S	**Sn**	**15 42 28.3**	**+0.6**
PLG	**Polygyros**	**1.82**	**293**	P	**Pn**	**15 42 04.1**	**-0.5**
PLG				S	**Sn**	**15 42 28.3**	**+0.6**
EREA	**Eretria**	**1.83**	**227**	P	**Pn**	**15 42 03.6**	**-1.1**
EDC	**Edincik**	**1.84**	**68**	PN	**Pn**	**15 42 05.3**	**+0.5**
SBT4	**Kumbag-Tekirda**	**1.85**	**51**	PN	**Pn**	**15 42 05.5**	**+0.7**
MRKA	**Markates**	**1.86**	**239**	P	**Pn**	**15 42 04.1**	**-1.1**
AKHS	**Akhisar**	**1.87**	**115**	⇓*i*P	**Pn**	**15 42 05.8**	**+0.5**
AKHS				*i* S	**Sg**	**15 42 34.8**	**+1.5**
DGB	**zmir**	**1.90**	**149**	*i* P	**Pn**	**15 42 06.4**	**+0.8**
DGB				*i* S	**Sn**	**15 42 28.0**	**-1.5**
XOR	**Xorichti**	**1.92**	**261**	P	**Pn**	**15 42 05.2**	**-0.7**
XOR	**Xorichti**	**1.92**	**261**	P	**Pn**	**15 42 05.7**	**-0.1**
XOR	**Xorichti**	**1.92**	**261**	P	**Pn**	**15 42 05.2**	**-0.7**
TKR	**Tekirdag**	**1.96**	**47**	PN	**Pn**	**15 42 07.0**	**+0.6**
GOMA	**Golmarmara-Man**	**2.02**	**118**	PN	**Pn**	**15 42 07.8**	**+0.5**
DION	**Dionisos Attik**	**2.08**	**220**	P	**Pn**	**15 42 07.0**	**-1.1**
SOH	**Sokhos**	**2.08**	**304**	P	**Pn**	**15 42 08.0**	**-0.2**
SOH				S	**Sn**	**15 42 34.6**	**+0.3**
SOH	**Sokhos**	**2.08**	**304**	P	**Pn**	**15 42 08.1**	**-0.1**
SOH	**Sokhos**	**2.08**	**304**	P	**Pn**	**15 42 08.0**	**-0.2**
SOH				S	**Sn**	**15 42 34.6**	**+0.3**
SOH	**Sokhos**	**2.08**	**304**	P	**Pn**	**15 42 08.0**	**-0.2**
SOH				S	**Sn**	**15 42 34.6**	**+0.3**
FYTO	**Fytoko, Volos**	**2.10**	**263**	P	**Pn**	**15 42 08.4**	**0.0**
SRS	**Serrai**	**2.12**	**313**	*e*Pn	**Pn**	**15 42 08.6**	**-0.1**
SRS				*e*Sn	**Sb**	**15 42 37.3**	**-0.8**
SRS	**Serrai**	**2.12**	**313**	P	**Pb**	**15 42 10.9**	**-0.8**
PTL	**Penteli**	**2.14**	**221**	P	**Pn**	**15 42 07.4**	**-1.5**
NVR	**Nevrokopi**	**2.15**	**322**	P	**Pn**	**15 42 08.3**	**-0.8**
NVR				S	**Sn**	**15 42 35.1**	**-0.7**
NVR	**Nevrokopi**	**2.15**	**322**	P	**Pn**	**15 42 08.4**	**-0.6**
NVR	**Nevrokopi**	**2.15**	**322**	P	**Pn**	**15 42 08.3**	**-0.8**
NVR				S	**Sn**	**15 42 35.1**	**-0.7**
HORT	**Hortiatis**	**2.15**	**296**	PN	**Pn**	**15 42 10.7**	**+1.6**
HORT	**Hortiatis**	**2.15**	**296**	P	**Pn**	**15 42 08.9**	**-0.2**
HORT				S	**Sn**	**15 42 35.8**	**-0.1**
HORT	**Hortiatis**	**2.15**	**296**	P	**Pn**	**15 42 08.8**	**-0.4**
HORT	**Hortiatis**	**2.15**	**296**	P	**Pn**	**15 42 08.9**	**-0.2**
HORT				S	**Sn**	**15 42 35.8**	**-0.1**
CRLT	**Corlu**	**2.16**	**47**	PN	**Pn**	**15 42 10.2**	**+1.0**
TNSA	**Tinos**	**2.17**	**190**	P	**Pn**	**15 42 08.9**	**-0.4**
KCTX	**Karacabey (Bur**	**2.17**	**74**	PN	**Pn**	**15 42 09.9**	**+0.5**
SMG	**Samos**	**2.18**	**154**	P	**Pn**	**15 42 09.3**	**-0.2**
SMG	**Samos**	**2.18**	**154**	P	**Pn**	**15 42 09.1**	**-0.4**
SMG	**Samos**	**2.18**	**154**	P	**Pn**	**15 42 09.3**	**-0.2**
DURS	**Dursunbey**	**2.19**	**91**	IAML_P			
	comp=Z,91μm,0.3s						
DURS				⇓*i*P	**Pn**	**15 42 10.8**	**+1.0**
DURS				*i* S	**Sn**	**15 42 37.5**	**+0.5**
THE	**Thessaloniki**	**2.26**	**296**	P	**Pb**	**15 42 13.4**	**-0.6**
ATH	**Athens Observa**	**2.27**	**222**	P	**Pn**	**15 42 09.6**	**-1.1**
ATH	**Athens Observa**	**2.27**	**222**	P	**Pn**	**15 42 09.5**	**-1.2**
DST	**Dursunbey**	**2.31**	**91**	PN	**Pn**	**15 42 11.9**	**+0.6**
EDRB	**Edirne**	**2.32**	**21**	PN	**Pn**	**15 42 12.5**	**+1.1**
VLY	**Voula,Athens**	**2.32**	**219**	P	**Pn**	**15 42 10.4**	**-1.1**
GCAM	**G?zelcaml?**	**2.34**	**147**	PN	**Pn**	**15 42 12.4**	**+0.8**
GCAM	**G?zelcaml?**	**2.34**	**147**	*i* P	**Pn**	**15 42 12.1**	**+0.5**
DIM	**Dimitrovgrad**	**2.37**	**358**	P	**Pn**	**15 42 13.0**	**+0.9**
PHSR	**Pinarhisar**	**2.42**	**36**	PN	**Pn**	**15 42 13.6**	**+0.8**
LIT	**Litokhoron**	**2.46**	**281**	*e*Pn	**Pn**	**15 42 13.9**	**+0.6**
LIT	**Litokhoron**	**2.46**	**281**	P	**Pn**	**15 42 14.0**	**+0.7**
LIT	**Litokhoron**	**2.46**	**281**	*e*P	**Pn**	**15 42 13.9**	**+0.6**

AYDB Zeytinkoy-Aydi 2.47 134 PN Pn 15 42 14.1 +0.5
DEMI Demirci 2.47 104 IAML_P
comp=Z,32µm,0.4s
DEMI ⇓iP Pn 15 42 14.0 +0.4
DEMI iS Sg 15 42 53.3 +0.7
SLVT Silivri 2.50 51 PN Pn 15 42 14.9 +1.0
PLD Plovdiv 2.52 344 ePn Pn 15 42 14.6 +0.4
PLD eSn Sb 15 42 47.8 -1.8
PLD Plovdiv 2.52 344 PN Pn 15 42 15.8 +1.6
PLD Plovdiv 2.52 344 P Pb 15 42 17.6 -0.9
ORLT Orhaneli 2.54 81 PN Pn 15 42 15.3 +0.9
MANT Manisa 2.57 117 ePn Pn 15 42 15.3 +0.3
MANT Manisa 2.57 117 IAML_P
comp=Z,19µm,0.3s
MANT ⇓iP Pn 15 42 16.1 +1.1
MANT iS Sg 15 42 54.8 -0.8
MDNY Mudanya-Bursa 2.59 74 PN Pn 15 42 15.9 +0.8
ELBA Catalca 2.59 55 iP Pn 15 42 15.5 +0.4
APE Apeiranthos 2.61 182 P Pn 15 42 15.0 -0.4
APE Apeiranthos 2.61 182 P Pn 15 42 15.1 -0.4
APE Apeiranthos 2.61 182 ⇑iP Pn 15 42 16.2 +0.8
APE Apeiranthos 2.61 182 P Pn 15 42 15.0 -0.4
APE Apeiranthos 2.61 182 cP Pn 15 42 15.7 +0.3
KULA Kula-Manisa 2.63 115 PN Pn 15 42 16.2 +0.5
ARMT Armutlu 2.63 69 PN Pn 15 42 16.7 +1.0
AGG Agios Georgios 2.65 257 ePn Pn 15 42 15.8 -0.1
AGG Agios Georgios 2.65 257 eP Pn 15 42 15.8 -0.1
SBT5 Esenkoy-Cinarc 2.66 68 PN Pn 15 42 17.1 +1.1
CTKS Kestanelik-??a 2.69 54 PN Pn 15 42 17.5 +1.1
CTYL Yalikoy Yolu 2.70 48 PN Pn 15 42 17.9 +1.3
KIYI Yalıkoy-Catalc 2.71 48 PN Pn 15 42 17.8 +1.0
BGKT Bogazkoy 2.83 57 PN Pn 15 42 19.5 +1.2
AMGA Amorgos Island 2.85 176 P Pn 15 42 17.4 -1.4
AMGA Amorgos Island 2.85 176 P Pn 15 42 17.9 -0.8
VAY Valandovo 2.85 306 ePn Pn 15 42 20.7 +1.9
VAY eSn Sb 15 42 56.6 -2.6
VAY Valandovo 2.85 306 ePn Pg 15 42 26.9 -1.0
VAY Valandovo 2.85 306 P Pb 15 42 22.7 -1.5
SHAP Saphane-Kutahy 2.86 102 PN Pn 15 42 19.6 +0.7
DID Didima 2.87 222 P Pn 15 42 17.9 -1.1
JMB Yambol 2.88 14 ePn Pn 15 42 18.2 -0.8
JMB eSn Sn 15 42 53.0 -0.7
ISK Istanbul-Kandi 2.96 61 PN Pn 15 42 21.3 +1.1
ISK Istanbul-Kandi 2.96 61 P Pn 15 42 21.2 +1.1
KAVV Kandilli-Istan 2.96 61 PN Pn 15 42 21.1 +0.9
YLV Yalova 3.00 PN Pn 15 42 21.8 +1.0
KALE Kalithea 3.01 246 P Pn 15 42 20.4 -0.6
IZI Iznik 3.02 76 PN Pn 15 42 22.1 +1.0
KLYT Kilyos 3.04 58 PN Pn 15 42 22.4 +1.2
GUR Goura 3.11 237 P Pn 15 42 21.9 -0.4
LAKA Lakka 3.19 244 P Pn 15 42 23.5 0.0
STIP Stip 3.31 309 ePn Pn 15 42 13.2 -12
SANT Santorini 3.31 182 ePn Pn 15 42 23.2 -1.8
VTS Vitosha 3.44 329 ePn Pn 15 42 27.3 +0.4
VTS eSn Sn 15 43 09.5 +1.7
VTS Vitosha 3.44 329 ePn Pn 15 42 21.9 -5.0
VTS Vitosha 3.44 329 ⇑iP Pn 15 42 24.9 -2.0
VTS Vitosha 3.44 329 S Sg 15 43 21.5 -2.1
VTS Vitosha 3.44 329 ⇑P Pn 15 42 24.9 -2.0
FNA Florina 3.44 290 ePn Pn 15 42 27.8 +0.9
FNA Florina 3.44 290 ePn Pn 15 42 27.4 +0.5
FNA Florina 3.44 290 P Pn 15 42 27.3 +0.5
FNA Florina 3.44 290 P Pn 15 42 28.8 +1.9
BIA Bitola 3.56 293 iPn Pn 15 42 29.3 +0.8
VLI Veliai 3.64 217 P Pn 15 42 28.3 -1.3
KRUS Krusevo 3.75 298 iPn Pn 15 42 31.9 +0.9
ITM Ithomi 3.83 231 ePn Pn 15 42 32.7 +0.5
ITM Ithomi 3.83 231 P Pn 15 42 32.9 +0.6
DYR Agios Nikonas 3.90 223 P Pn 15 42 33.0 -0.2
SKO Skopje 3.92 307 ePn Pn 15 42 34.9 +1.4
SKO Skopje 3.92 307 iPn Pn 15 42 34.8 +1.4
OHR Ohrid 3.96 293 iPn Pn 15 42 35.3 +1.3
KYTH Kithira 3.98 212 P Pn 15 42 33.4 -0.8
ARG Arkhangelos 3.98 150 P Pn 15 42 34.3 +0.1
ARG Arkhangelos 3.98 150 P Pn 15 42 35.3 +1.1
ZIMR 3.98 357 ⇑iP Pn 15 42 34.6 +0.4
ZIMR 3.98 357 ⇑P Pn 15 42 34.6 +0.4
IGT Igoumenitsa 4.10 270 ePn Pn 15 42 37.9 +2.0
ZAPS Zavoj 4.24 329 ePn Pn 15 42 39.1 +1.3
ISP Isparta 4.25 114 ePn Pn 15 42 38.3 +0.3
ISP Isparta 4.25 114 ⇓iP Pn 15 42 39.0 +1.0
ISP Isparta 4.25 114 ⇓P Pn 15 42 39.0 +1.0
BARS Barje 4.25 319 ePn Pn 15 42 39.0 +1.0
BARS Barje 4.25 319 ePn Pb 15 42 51.0 +2.9
KARP Karpathos 4.30 163 ePn Pn 15 42 38.1 -0.6
VLAD Vladila 4.41 348 ⇓iP Pn 15 42 40.0 -0.1
PSN Preselentsi 4.43 25 P Pn 15 42 39.3 -1.1
SGRR Singureni 4.55 3 ⇑iP Pn 15 42 41.5 -0.5
MANR Mangalia 4.69 27 ⇓iP Pn 15 42 43.5 -0.4
TIR Tirane 4.70 293 ePn Pn 15 42 46.1 +1.9
TIR Tirane 4.70 293 ⇓iP Pn 15 42 46.9 +2.7
TIR Tirane 4.70 293 eP Pn 15 42 46.1 +1.9
ICOR Ion Corvin 4.72 19 ⇓iP Pn 15 42 44.8 +0.4
CRAR CRAIOVA 4.84 344 ⇑iP Pn 15 42 47.9 +1.9
CRAR CRAIOVA 4.84 344 ⇑P Pn 15 42 47.9 +1.9
ZAGS Zajecar 4.85 329 ePn Pn 15 42 46.5 +0.3
HUMR Humele 4.87 354 ⇓iP Pn 15 42 46.4 0.0
LEHL Lehliu 4.87 10 ⇑iP Pb 15 43 01.2 +2.7
SELS Selova 4.90 318 ePn Pn 15 42 47.3 +0.4
BOVS Bovan 4.93 325 ePn Pn 15 42 47.6 +0.4
MFTR Murfatlar 4.95 24 ⇑iP Pn 15 42 47.0 -0.6
CVDA Cernavoda 4.98 20 ⇑iP Pn 15 42 48.3 +0.3
SULR 5.02 5 ⇑iP Pn 15 42 50.1 +1.7
PUNG Punghina 5.02 337 ⇑iP Pn 15 42 47.8 -0.7
PUNG Punghina 5.02 337 S Sg 15 44 18.4 +4.2
AMRR Amara 5.09 14 ⇓iP Pb 15 43 01.5 -0.7
PVY Plav 5.18 306 ⇓iPn Pn 15 42 52.1 +1.2
PVY eSn Sn 15 43 50.4 -0.3
TIRR Tirgusor 5.20 22 ePn Pn 15 42 50.6 -0.4
TIRR Tirgusor 5.20 22 ⇓iP Pn 15 42 50.9 -0.1
TIRR Tirgusor 5.20 22 ⇓P Pn 15 42 50.9 -0.1
TLB Topalu 5.22 19 ⇑iP Pn 15 42 50.1 -1.1
TLB Topalu 5.22 19 ⇑P Pn 15 42 50.1 -1.1
HARR Harsova 5.29 18 ⇓iP Pn 15 42 52.1 -0.1
HARR Harsova 5.29 18 ⇓P Pn 15 42 52.1 -0.1
SRE Strehaia 5.30 341 ⇑iP Pn 15 42 52.8 +0.5
SRE Strehaia 5.30 341 ⇑P Pn 15 42 52.8 +0.5
PGOR Pogoanele 5.32 10 ⇓iP Pb 15 43 02.0 -4.2
ULC Ulcinj 5.36 297 ⇑iPn Pn 15 42 54.7 +1.5
ULC eSn Sn 15 43 55.1 +0.1
IVA Berane 5.37 308 ⇑iPn Pn 15 42 54.7 +1.2
IVA eSn Sn 15 43 55.6 +0.2
ISR Istrita 5.48 7 P Pn 15 42 57.2 +2.4
ISR pmax pmax
comp=Z,559nm,0.9s
DRME Dracevica, Mon 5.49 299 ⇓iPn Pn 15 42 56.0 +1.0
DRME eSn Sn 15 43 58.8 +0.6
DRME Dracevica, Mon 5.49 299 ePn Pn 15 42 57.7 +2.7
DJES Djerdap 5.49 336 ePn Pn 15 42 55.6 +0.6
BR231 Keskin MP Arra 5.50 86 ePn Pn 15 42 55.9 +0.6
ANTO Ankara 5.52 86 ePn Pn 15 42 55.7 +0.3
ANTO Ankara 5.52 86 ⇑iP Pn 15 42 55.9 +0.5
ANTO Ankara 5.52 86 ⇑P Pn 15 42 55.9 +0.5
PDG Podgorica 5.55 302 ⇓iP Pn 15 42 58.8 +3.0
PDG Podgorica 5.55 302 ePn Pn 15 42 58.6 +2.8
TTG Podgorica 5.55 302 ⇑iPn Pn 15 42 58.1 +2.3
TTG eSn Sn 15 43 59.6 0.0
TTG Podgorica 5.55 302 ePn Pn 15 42 58.5 +2.8
TTG Podgorica 5.55 302 eP Pn 15 42 58.6 +2.8
SJES Sjenica 5.56 312 ePn Pn 15 42 57.4 +1.4
MTUR Matau 5.56 356 ⇑iP Pn 15 42 56.4 +0.4
MTUR Matau 5.56 356 ⇑P Pn 15 42 56.4 +0.4
KUBS Kucevo 5.57 329 ePn Pn 15 42 55.8 -0.3
GRUS Gruza 5.59 320 ePn Pn 15 42 56.6 +0.3
KOME Kolasin 5.59 306 ⇓iPn Pn 15 42 57.5 +1.0
KOME eSn Sn 15 44 01.1 +0.2
SVIS Svilajnac 5.64 326 ePn Pn 15 42 57.5 +0.5
IVAS Ivanjica 5.66 315 ePn Pn 15 42 57.9 +0.5
HERR Herculane 5.72 336 ⇑iP Pn 15 42 57.7 -0.4
ARR Arges 5.73 353 ⇓iP Pn 15 42 58.2 -0.2
BUM Brajici-Budva 5.73 299 ⇓iPn Pn 15 42 59.0 +0.6
BUM eSn Sn 15 44 04.1 -0.2
VOIR 5.77 356 ⇓iP Pn 15 42 58.9 0.0
VOIR 5.77 356 ⇓P Pn 15 42 58.9 0.0
GRER 5.78 9 ⇑iP Pn 15 43 01.4 +2.4
CFR Carcaliu 5.80 18 ⇓iP Pn 15 42 59.9 +0.7
CFR Carcaliu 5.80 18 ⇓P Pn 15 42 59.9 +0.7
MLR Muntele Rosu 5.81 2 Pn Pn 15 43 00.7 +1.2
comp=Z,14nm,0.3s,baz=199,slow=6.7,SNR=18
MLR Lg Lg 15 44 40.2
comp=Z,4.0nm,0.3s,baz=138,slow=15,SNR=2.4
MLR Muntele Rosu 5.81 2 ePn Pn 15 42 59.9 +0.4
MLR Lg Lg 15 44 40.2
MLR Muntele Rosu 5.81 2 ⇓iP Pn 15 43 00.2 +0.7
CEME Cevo 5.83 302 ⇑iPn Pn 15 43 01.1 +1.5
CEME eSn Sn 15 44 06.3 -0.2
MDVR Moldovita 5.87 332 ⇑iP Pn 15 42 59.4 -0.8
MDVR Moldovita 5.87 332 S Sg 15 44 40.5 -1.0
NKY Niksic 5.90 304 ⇓iPn Pn 15 43 02.2 +1.4
NKY eSn Sn 15 44 08.4 -0.1
NKME Niksic 5.91 304 ⇓iPn Pn 15 43 02.2 +1.5
NKME eSn Sn 15 44 08.2 -0.3
LOT Lotru 5.93 347 ⇑iP Pn 15 43 00.5 -0.6
PLE Pljevlja 5.94 310 ⇓iPn Pn 15 43 01.6 +0.3
PLE eSn Sn 15 44 08.9 -0.5
TRUS Trudelj 5.98 321 ePn Pn 15 43 02.1 +0.4
TLCR 5.98 22 ⇑iP Pn 15 43 01.9 +0.2
TLCR 5.98 22 ⇑P Pn 15 43 01.9 +0.2
HCY Herceg Novi 6.06 299 ⇑iPn Pn 15 43 04.6 +1.7
HCY eSn Sn 15 44 12.7 +0.4
HCY Herceg Novi 6.06 299 ePn Pn 15 43 05.6 +2.7
GZR Gura Zlata 6.09 341 ⇓iP Pn 15 43 02.9 -0.3
GZR Gura Zlata 6.09 341 ⇓P Pn 15 43 02.9 -0.3
DIVS Divibare 6.10 318 ePn Pn 15 43 03.6 +0.2
DIVS Divibare 6.10 318 ePn Pn 15 43 03.4 0.0
DIVS Divibare 6.10 318 ePn Pn 15 43 03.4 0.0
GIUM Giurgiulesti 6.10 17 ⇓iP Pn 15 43 03.5 +0.1
PETR Petresti 6.15 10 ⇑iP Pn 15 43 05.6 +1.6
UPM Unac-Piva 6.16 307 ⇑iPn Pn 15 43 05.6 +1.2
UPM eSn Sn 15 44 14.4 -0.6
UPM Unac-Piva 6.16 307 ePn Pn 15 43 06.2 +1.8
ODBI Odobesti 6.17 9 ⇓iP Pn 15 43 06.3 +2.0
BR131 Keskin Array S 6.17 87 ePn Pn 15 43 05.2 +0.8
BRTR Keskin Array B 6.17 87 Pn Pn 15 43 05.3 +0.8
comp=Z,42nm,0.3s,baz=260,slow=12,SNR=337
BRTR Sn Sn 15 44 10.1 -5.1
baz=273,slow=17,SNR=2.4
BRTR Lg Lg 15 44 49.8
baz=274,slow=20,SNR=4.0
PLOR Plostina 6.21 7 ⇑iP Pn 15 43 06.4 +1.5
PLOR Plostina 6.21 7 ⇑P Pn 15 43 06.4 +1.5
VRI Vrincioaia 6.24 7 ⇓iP Pn 15 43 06.5 +1.3
VRI Vrincioaia 6.24 7 ⇓P Pn 15 43 06.5 +1.3
BRY Bratogost 6.24 303 ⇑iPn Pn 15 43 06.3 +0.9
BRY eSn Sn 15 44 16.6 -0.2
BRY Bratogost 6.24 303 ePn Pn 15 43 09.1 +3.7
BBLS Lazići 6.26 314 ePn Pn 15 43 07.1 +1.5
BBLS Lazići 6.26 314 ePn Pn 15 43 07.5 +1.9
TREB Trebinje 6.28 301 ePn Pn 15 43 07.2 +1.4
DOPR Dopca 6.29 358 ⇑iP Pn 15 43 06.6 +0.7
ILGA Ilgaz 6.32 75 ePn Pn 15 43 06.1 -0.5
CGL1 Ceglie Messapi 6.33 281 eP Pn 15 43 09.9 +3.4
FASA Fasano 6.44 283 eP Pn 15 43 11.2 +3.2
TAR1 Taranto 6.46 280 eP Pn 15 43 11.8 +3.5
DEV Deva 6.52 343 ⇑iP Pn 15 43 07.4 -1.7
DEV Deva 6.52 343 ⇑P Pn 15 43 07.4 -1.7
MDB Medias 6.52 352 ⇑iP Pn 15 43 10.7 +1.5
MDB Medias 6.52 352 ⇑P Pn 15 43 10.7 +1.5
MASS Massafra 6.57 281 eP Pn 15 43 13.3 +3.4
BZS Buzias 6.63 335 ⇓iP Pn 15 43 10.0 -0.6
BZS Buzias 6.63 335 ⇓P Pn 15 43 10.0 -0.6
HAPS Han Pijesak,BI 6.65 314 ePn Pn 15 43 12.9 +1.9
TEKS Tekeris 6.65 319 ePn Pn 15 43 06.7 -4.3
BIR Birlad 6.74 12 ⇑iP Pn 15 43 13.1 +0.9
BIR Birlad 6.74 12 ⇑P Pn 15 43 13.1 +0.9
STON Ston 6.77 301 P Pn 15 43 15.9 +3.3
BAI Bari 6.83 285 ePn Pn 15 43 17.0 +3.6
TIP Timpagrande 6.89 269 ePn Pn 15 43 15.2 +0.9
TIP Timpagrande 6.89 269 ⇑iP Pn 15 43 15.6 +1.3
MATE Matera 6.91 281 ⇑iP Pn 15 43 15.1 +0.7
SG1 Sgolgore (BA) 6.95 282 eP Pn 15 43 18.4 +3.4
FRGS Fruska Gora 6.96 324 ePn Pn 15 43 15.6 +0.3
FRGS Fruska Gora 6.96 324 ePn Pn 15 43 17.1 +1.9
JOSR Joseni 7.02 359 ⇑iP Pn 15 43 13.3 -2.8
LEOM Leova 7.05 15 ⇓iP Pn 15 43 16.4 0.0
LEOM Leova 7.05 15 ⇓P Pn 15 43 16.4 0.0
CJR Cluj-Napoca 7.19 349 ⇓iP Pn 15 43 19.0 +0.7
CJR Cluj-Napoca 7.19 349 ⇓P Pn 15 43 19.0 +0.7
SIRR Siria 7.20 337 ⇓iP Pn 15 43 18.0 -0.5
BIZ Bicaz 7.26 3 ⇓iP Pn 15 43 20.5 +1.2
GIRR Girov 7.30 5 ⇑iP Pn 15 43 20.4 +0.6
DRGR 7.42 344 ⇑iP Pn 15 43 20.9 -0.7
DRGR 7.42 344 ⇑P Pn 15 43 20.9 -0.7
ARCR ARCALIA 7.46 353 ⇑iP Pn 15 43 22.8 +0.8
CUC Castrocucco 7.56 276 ePn Pn 15 43 25.1 +1.6
MILM Milestii Mici 7.60 17 ⇓iP Pn 15 43 23.9 0.0
IAS Iasi 7.64 10 ⇑iP Pn 15 43 24.6 +0.1
IAS Iasi 7.64 10 ⇑P Pn 15 43 24.6 +0.1
KIS Kishinev 7.67 17 eP Pn 15 43 23.0 -1.9
comp=Z,190nm,1.0s
KIS eS Sn 15 44 50.0 -1.9
KIS LRM MLR 15 46 30.0
comp=Z,600nm,15.0s
KIS Kishinev 7.67 17 eP Pn 15 43 23.0 -1.9
KIS eS Sn 15 44 50.0 -1.9
KIS pmax pmax
comp=Z,190nm,1.0s
KIS MLR MLR
comp=Z,600nm,15.0s
KIS MLR MLR
comp=N,1µm,13.0s
SEV Sevastopol' 7.70 48 eP Pn 15 43 24.8 -0.4
SEV eS Sn 15 44 47.6 -4.9
CEL Celeste 7.72 262 ePn Pn 15 43 27.0 +2.0
CSS Mathiatis 7.73 125 ePn Pn 15 43 26.2 +0.5
BURAR Bucovina Array 7.94 358 ⇓iP Pn 15 43 29.6 +0.9
BURAR Bucovina Array 7.94 358 ⇓P Pn 15 43 29.6 +0.9
BUR04 Bucovina Ar. S 7.94 358 ePn Pn 15 43 29.4 +0.7
YAL Yalta 7.95 50 eP Pn 15 43 29.6 +0.9
YAL eS Sn 15 44 56.2 -2.4
BUR08 Bucovina Ar. S 7.97 358 ePn Pn 15 43 30.6 +1.5
BLY Banja Luka 8.06 312 ePn Pn 15 43 32.4 +2.2
BLY Banja Luka 8.06 312 ⇑iP Pn 15 43 31.9 +1.7
BLY Banja Luka 8.06 312 ePn Pn 15 43 31.6 +1.4
BMR Baia Mare 8.14 350 ⇑iP Pn 15 43 33.1 +1.8
BMR Baia Mare 8.14 350 ⇑P Pn 15 43 33.1 +1.8
SIM Simferopol' 8.20 47 eP Pn 15 43 33.3 +1.2
SIM eS Sn 15 45 05.7 +1.0
ALU Alushta 8.21 50 eP Pn 15 43 32.1 -0.1
ALU eS Sn 15 45 02.6 -2.3
SUDU Sudak 8.67 50 eP Pn 15 43 35.5 +0.9
SUDU eS Sn 15 45 17.6 +1.1
TRPA Tarpa 8.74 346 ⇓iP Pn 15 43 38.9 -0.6
TRPA Tarpa 8.74 346 ePn Pn 15 43 42.1 +2.6
TRPA Sn Sn 15 45 19.1 +1.1
UDBI Udbina 8.79 307 P Pn 15 43 44.0 +3.6
BUD Budapest 9.15 331 P Pn 15 43 48.5 +3.3
BUD pmax pmax
comp=Z,55nm,0.7s
BUD Budapest 9.15 331 ⇑ePn Pn 15 43 48.0 +2.8
PSZ Piszkesteto 9.22 335 ePn Pn 15 43 48.3 +2.1
PSZ Piszkesteto 9.22 335 ⇑iP Pn 15 43 45.4 -0.8
PSZ Piszkesteto 9.22 335 eP Pn 15 43 48.3 +2.1
PSZ Piszkesteto 9.22 335 ePn Pn 15 43 44.0 -2.2
PSZ Sn Sn 15 45 30.1 +0.1
NVLJ Novalja 9.37 305 P Pn 15 43 51.6 +3.5
MORS Morshin 9.53 353 P Pn 15 43 52.0 +1.6
HORU Horodok 9.55 3 P Pn 15 43 51.6 +1.0
OZLJ Ozalj 9.55 312 P Pn 15 43 53.9 +3.2
WDD Wied Dalam 9.60 250 ePn Pn 15 43 53.9 +2.5
AQU L'Aquila 9.62 290 ePn Pn 15 43 54.9 +3.1
AQU L'Aquila 9.62 290 eP Pn 15 43 54.9 +3.1
CRES Cresnjev 9.68 313 ePn Pn 15 43 55.0 +2.6
SRO Srobarova 9.70 329 ePN Pn 15 43 55.2 +2.5
CLTB Caltabellotta 9.94 262 ePn Pn 15 43 58.7 +2.6
ANN Anapa 10.13 56 eP Pn 15 43 45.6 -13
ANN pmax pmax
comp=Z,89nm,1.3s
KNDS Knezji Dol 10.14 309 iPn Pn 15 44 02.7 +3.8
KWP Kalwaria Pacla 10.16 349 eP Pn 15 44 02.9 +3.8
KWP Kalwaria Pacla 10.16 349 ePn Pn 15 44 00.1 +1.0
KWP Kalwaria Pacla 10.16 349 eP Pn 15 44 02.9 +3.8
LVV L'vov 10.20 354 eP Pn 15 44 02.7 +3.1
LVV eS Sn 15 45 57.7 +3.7
LVV MLR MLR
comp=Z,1µm,9.0s
CEY Cerknica 10.23 310 ePn Pn 15 44 03.8 +3.8
MMAI Mount Meron Ar 10.30 127 Pn Pn 15 44 00.4 -0.7
comp=Z,15nm,0.3s,baz=322,slow=11,SNR=51
MMAI Sn Sn 15 45 51.6 -5.1
comp=Z,2.2nm,0.3s,baz=262,slow=36,SNR=3.5
MMAI LR LR 15 48 49.4
comp=Z,202nm,18.7s,baz=330,slow=43
LJU Ljubljana 10.34 312 ePn Pn 15 44 04.6 +3.2
BRBR Barbar 10.39 124 eP Pn 15 44 02.1 -0.3
SOKA Soboth 10.43 316 ePn Pn 15 44 05.1 +2.4
comp=Z,18nm,0.8s,SNR=11
QASN Qassioun 10.52 122 eP Pn 15 44 04.1 0.0
JAVS Javornik 10.52 310 iPn Pn 15 44 07.8 +3.6
ARSA Arzberg 10.54 319 ePn Pn 15 44 06.0 +1.7
comp=Z,8.5nm,1.2s
MODS Modra-Piesok 10.56 328 ePN Pn 15 44 04.2 -0.4
OBKA Obir 10.59 314 ePn Pn 15 44 07.9 +2.9
comp=Z,8.1nm,0.6s,SNR=6.8
TRI Trieste 10.61 308 ePn Pn 15 44 07.1 +2.0
TRI Trieste 10.61 308 eP Pn 15 44 07.1 +2.0
TOTH TOTAH 10.73 123 eP Pn 15 44 07.6 +0.7
CONA Conrad Observa 10.85 323 ePn Pn 15 44 10.7 +2.2
comp=Z,9.2nm,1.0s
MYKA Terra Mystica 11.17 312 ePn Pn 15 44 16.4 +3.5
comp=Z,4.2nm,0.4s
AK11 Malin Array Si 11.28 12 ePn Pn 15 44 13.3 -1.0
KIEV Kiev 11.30 12 ePn Pn 15 44 13.0 -1.5
KIEV Kiev 11.30 12 ⇑iP Pn 15 44 16.3 +1.8
KIEV Kiev 11.30 12 iP Pn 15 44 16.9 +2.4
AKASG Malin Array Be 11.31 12 Pn Pn 15 44 13.9 -0.7
comp=Z,3.2nm,0.3s,baz=196,slow=12,SNR=6.9
AKASG Sn Sn 15 46 11.1 -10
comp=Z,1.3nm,0.3s,baz=201,slow=21,SNR=2.6
AKASG Malin Array Be 11.31 12 eP Pn 15 44 16.5 +1.8
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKBB Malin Array Si 11.31 12 ePn Pn 15 44 13.0 -1.7
AKBB Malin Array Si 11.31 12 eP Pn 15 44 13.0 -1.7
OKC Ostrava-Krasne 11.46 335 AMS AMS 15 49 00.0
comp=Z,900nm,14.9s
MOA Molln 11.58 319 ePn Pn 15 44 22.3 +3.9
comp=Z,12nm,1.4s,SNR=5.4
VRAC Vranov 11.58 329 Pn Pn 15 44 17.7 -0.7
comp=Z,2.7nm,0.3s,baz=353,slow=23,SNR=6.4
VRAC Vranov 11.58 329 eSg Sn 15 44 17.5 -0.9
comp=Z,7.3nm,0.3s,baz=67
VRAC Vranov 11.58 329 eSG Pn 15 44 17.6 -0.9
KBA Koelnbreinsper 11.60 314 ePn Pn 15 44 22.2 +3.3
comp=Z,13nm,0.7s,SNR=18
ASF Jabal al Asfar 11.80 126 Pn Pn 15 44 22.1 +0.4
comp=Z,1.2nm,0.3s,baz=269,slow=7.9,SNR=9.4
ABTA Abfaltersbach 11.89 311 ePn Pn 15 44 25.1 +2.3
comp=Z,44nm,0.6s,SNR=27
TREC Trest 12.03 326 AMS AMS 15 48 30.0
comp=Z,600nm,19.4s
GEA0 GERESS Array S 12.51 321 ePn Pn 15 44 31.9 +0.6
GEC2 GERESS Array S 12.52 321 ePn Pn 15 44 31.9 +0.5
GEC2 GERESS Array S 12.52 321 eP Pn 15 44 31.9 +0.5
GERES GERESS Array B 12.52 321 Pn Pn 15 44 33.3 +1.9
comp=Z,0.6nm,0.3s,baz=120,slow=13,SNR=14
GERES LR LR 15 49 54.8
comp=Z,215nm,19.5s,baz=136,slow=40
DPC Dobruska-Polom 12.53 331 AMS AMS 15 50 10.0
comp=Z,700nm,9.2s
EIL Elat 12.58 140 Pn Pn 15 44 30.7 -1.5
comp=Z,1.4nm,0.3s,baz=357,slow=7.8,SNR=13
EIL Sn Sn 15 46 43.1 -9.3
comp=Z,0.8nm,0.3s,baz=37,slow=20,SNR=3.7
WATA Walderalm 12.74 311 ePn Pn 15 44 38.9 +4.4
comp=Z,12nm,0.6s,SNR=7.0
UPC Upice 12.77 331 AMS AMS 15 49 50.0
comp=Z,600nm,10.4s
KHC Kasperske Hory 12.77 322 ePn Pn 15 44 34.1 -0.7
KHC Kasperske Hory 12.77 322 AMS AMS 15 50 00.0
comp=Z,600nm,14.6s
KHC Kasperske Hory 12.77 322 eP Pn 15 44 34.1 -0.7
SQTA Sankt Quirin 12.90 310 ePn Pn 15 44 40.5 +3.9
comp=Z,14nm,0.8s,SNR=6.1
PRU Pruhonice 12.95 326 AMS AMS 15 50 10.0
comp=Z,700nm,9.5s
MOTA Moosalm 13.02 311 ePn Pn 15 44 41.9 +3.6
comp=Z,21nm,0.7s,SNR=18
FETA Feichten 13.08 309 iPn Pn 15 44 43.2 +4.0
SNR=12
WET Wettzell 13.12 320 P Pn 15 44 43.6 +4.0
FUORN Ofenpass-Fuorn 13.18 307 ePn Pn 15 44 43.3 +2.7
NEY Neytrino 13.30 69 iP Pn 15 44 42.4 +0.3
PVCC Panska Ves 13.35 328 AMS AMS 15 50 10.0
comp=Z,500nm,11.5s
KIV Kislovodsk 13.41 66 eP Pn 15 44 44.9 +1.3
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,60nm,11.0s
KEST Kesra 13.48 258 Pn Pn 15 44 44.5 -0.1
comp=Z,0.2nm,0.3s,baz=18,slow=13,SNR=2.5
DAVOX Davos/Dischmat 13.49 307 Pn Pn 15 44 46.5 +1.8
comp=Z,1.6nm,0.3s,baz=152,slow=16,SNR=34
KBZ Knabaz 13.52 67 Pn Pn 15 44 45.2 +0.4
comp=Z,0.0nm,0.3s,baz=98,slow=15,SNR=2.2
TUE Stuetta 13.69 305 ePn Pn 15 44 49.3 +1.8
DAVA Damuels 13.72 309 ePn Pn 15 44 51.2 +3.3
comp=Z,38nm,1.8s
BRG Berggiesshubel 13.87 328 eP P 15 45 09.4 +11
comp=Z,8.3nm,1.4s
BRG e 15 45 18.4
comp=Z,5.1nm,0.8s
comp=N,884nm,18.5s
comp=E,1µm,16.1s
comp=Z,432nm,15.8s
GOF Gofitskoye 13.94 62 eP P 15 45 03.9 +5.0
NCK Nalchik 13.97 68 iP Pn 15 44 49.9 -1.2
NKC Novy Kostel 14.07 323 AMS AMS 15 50 50.0
comp=Z,800nm,12.5s
ZEI Tsey 14.09 71 eP P 15 44 58.2 -2.6
ZEI pmax pmax
comp=Z,18nm,1.0s
SBF Sospel 14.21 293 eP Pn 15 44 57.7 +3.3
SBF pmax pmax
comp=Z,36nm,0.8s
SUW Suwalki 14.44 354 eP Pn 15 44 54.9 -2.5
SUW Suwalki 14.44 354 ePn Pn 15 44 56.6 -0.8
SUW Suwalki 14.44 354 eP Pn 15 44 56.6 -0.8
CLL Collm 14.59 327 esP P 15 45 03.0 -3.0
comp=Z,24nm,1.8s
CLL LmH 15 49 00.0
comp=N,600nm,20.1s
CLL LmH 15 49 00.0
comp=E,800nm,19.1s
CLL Collm 14.59 327 eP P 15 45 03.0 -3.0
CLL pmax pmax
comp=Z,10.0nm,1.8s
FRF La Foret Royal 14.72 291 eP P 15 45 05.7 -1.8
FRF pmax pmax
comp=Z,29nm,1.2s
LMR La Mourre 14.79 290 eP P 15 45 06.6 -1.6
LMR pmax pmax
comp=Z,16nm,1.0s
MBDF Montbardon 14.85 296 eP Pn 15 45 05.9 +2.6
MBDF pmax pmax
comp=Z,9.0nm,0.8s
VSR Storozhevoye 14.91 35 iP Pn 15 45 04.1 +0.2
VSR pmax pmax
comp=Z,55nm,1.0s
SENIN Lac Senin/Sane 14.97 302 ePn Pn 15 45 07.1 +2.3
BNI Bardonecchia 15.00 297 ePn P 15 45 08.1 -2.7
comp=Z,44nm,1.4s
BNI Bardonecchia 15.00 297 eP P 15 45 08.1 -2.7
BNI pmax pmax
comp=Z,44nm,1.4s
BFO Black Forest 15.13 311 ePn P 15 45 10.0 -2.1
comp=Z,9.1nm,0.9s
BFO Black Forest 15.13 311 eP P 15 45 10.0 -2.1
BFO pmax pmax
comp=Z,9.0nm,0.9s
NACGM Naroch 15.25 3 e Pn 15 45 05.0 -3.4
ORIF Oris-en-Rattie 15.52 296 eP P 15 45 15.8 -0.7
ORIF pmax pmax
comp=Z,23nm,0.8s
GROC Groznyy 15.52 70 eP Pn 15 45 09.8 -2.2
GROC eS Sn 15 47 59.9 -4.0
GROC pmax pmax
comp=Z,41nm,1.2s
IDID Didziasalis 15.66 2 eP Pn 15 45 11.1 -2.6
IDID IAmb IAmb 15 45 15.5
comp=Z,8.6nm,0.8s
IIGN Ignalina 15.68 1 eP Pn 15 45 10.2 -3.9
ECH Echery 15.78 309 ePn Pn 15 45 17.2 +1.9
comp=Z,15nm,1.3s
ECH Echery 15.78 309 eP Pn 15 45 17.3 +1.9
ECH pmax pmax

comp=Z,15nm,1.3s
HINF Hinteralfeld 15.79 307 *e*P **Pn** **15 45 16.8 +1.2**
HINF pmax pmax
comp=Z,10.0nm,1.0s
LPSR Galich'ya Gora 15.83 31 *e*P **Pn** **15 45 15.8 -0.2**
LPSR pmax pmax
comp=Z,20nm,0.9s
CABF La Chapelle 15.84 302 *e*P **Pn** **15 45 17.9 +1.7**
CABF pmax pmax
comp=Z,28nm,1.0s
PABE Paberze 15.87 357 *e*P **Pn** **15 45 14.1 -2.4**
PABE IAmb IAmb 15 45 15.7
comp=Z,25nm,1.0s
ISAL Salakas 15.90 1 *e*P **Pn** **15 45 14.4 -2.5**
ISAL IAmb IAmb 15 45 15.1
comp=Z,7.1nm,0.9s
VRH Novokhopyorsk 16.09 39 *e*P **Pn** **15 45 18.7 -0.6**
VRH pmax pmax
comp=Z,40nm,0.9s
HAU Haudompre 16.18 307 *e*P **Pn** **15 45 21.9 +1.3**
HAU pmax pmax
comp=Z,12nm,0.8s
AKT Akhty 16.88 77 *i*P **Pn** **15 45 28.7 -0.9**
WLF Walferdange 17.03 312 *e*Pn **P** **15 45 33.2 +0.1**
comp=Z,103nm,1.1s
WLF Walferdange 17.03 312 *e*P **P** **15 45 33.2 +0.1**
WLF pmax pmax
comp=Z,103nm,1.1s
OBN Obninsk 17.09 22 P **P** **15 45 34.1 +0.4**
comp=Z,0.4nm,0.3s,baz=196,slow=22,SNR=4.5
OBN LR LR 15 52 49.8
comp=Z,35nm,21.0s,baz=177,slow=40
OBN Obninsk 17.09 22⇑ *e*P **Pn** **15 45 32.0 +0.1**
OBN *e*S **Sn** **15 48 43.0 +1.2**
OBN pmax pmax
comp=Z,14nm,0.9s
OBN MLR MLR
comp=Z,345nm,16.0s
SMF Signal de Mont 17.33 301 *e*P **P** **15 45 39.2 +2.8**
SMF pmax pmax
comp=Z,16nm,1.0s
LOR Lormes 17.50 303 *e*P **Pn** **15 45 39.5 +1.2**
LOR pmax pmax
comp=Z,22nm,1.2s
SSF Saint Saulge 17.66 302 *e*P **P** **15 45 43.4 +3.3**
MTLF Montolieu 17.90 289 *e*P **P** **15 45 46.5 +3.7**
MTLF pmax pmax
comp=Z,16nm,0.8s
MOS Moscow 17.93 22 *e*P **P** **15 45 45.7 +2.7**
MOS *e* 15 48 57.0
MOS pmax pmax
comp=Z,51nm,0.9s
BGF Bois d'Agland 17.97 300 *e*P **P** **15 45 45.2 +1.7**
BGF pmax pmax
comp=Z,24nm,1.0s
TCF Toulx Ste Croi 18.33 299 *e*P **P** **15 45 50.2 +2.7**
TCF pmax pmax
comp=Z,21nm,1.0s
VSU Vasula 18.81 2 *i*P **Pn** **15 45 53.2 +0.1**
VSU pmax pmax
comp=Z,103nm,1.0s
VSU Vasula 18.81 2 *e*P **Pn** **15 45 52.9 -0.2**
VSU IAmb IAmb 15 45 58.9
comp=Z,134nm,1.0s
ETSF Etsaut 19.92 288 *e*P **Pn** **15 46 08.0 +1.4**
ETSF pmax pmax
comp=Z,11nm,0.8s
GRR Gorron 20.86 303 *e*P Pn 15 46 19.1 +1.5
GRR pmax pmax
comp=Z,26nm,1.0s
FINES FINESS Array B 21.79 1 P **P** **15 46 26.0 +1.1**
comp=Z,8.4nm,0.8s,baz=171,slow=8.7,SNR=9.5
FIA1 FINESS Array S 21.79 1 *e*P **P** **15 46 26.1 +1.2**
HFS Hagfors 21.80 344 P **P** **15 46 24.1 -1.0**
comp=Z,3.5nm,0.6s,baz=144,slow=12,SNR=6.6
HFS Hagfors 21.80 344 P **P** **15 46 24.1 -1.0**
HFS pmax pmax
comp=Z,3.0nm,0.6s
ES19 SONSECA Array 22.69 280 *e*P **P** **15 46 36.2 +1.4**
ESDC Sonseca Array 22.74 280 P **P** **15 46 36.0 +0.6**
comp=Z,1.3nm,0.6s,baz=91,slow=10,SNR=6.0
KLMR Klimovskoe 22.88 18 *e*P **P** **15 46 35.2 -1.4**
KLMR pmax pmax
comp=Z,29nm,1.0s
KLMR Klimovskoe 22.88 18 *e*P **P** **15 46 35.2 -1.4**
KLMR AMP 15 46 46.7
comp=Z,29nm,1.0s
PAB San Pablo 23.05 279 *e*P **P** **15 46 40.2 +1.5**
comp=Z,15nm,1.2s
NAO01 NORSAR Array S 23.08 341 *e*P **P** **15 46 38.0 -0.8**
NB2 NORSAR Subarra 23.17 342 P **P** **15 46 38.6 -1.1**
comp=Z,5.1nm,0.7s,baz=147,slow=10
NOA NORSAR Array B 23.17 342 P **P** **15 46 39.0 -0.7**
comp=Z,4.9nm,0.9s,baz=153,slow=10,SNR=13
NBO00 NORSAR Array S 23.27 342 *e*P **P** **15 46 39.0 -1.6**
RAYN Ar Rayn 23.28 128 *e*P **P** **15 46 41.1 0.0**
comp=Z,10nm,1.0s
RAYN Ar Rayn 23.28 128 *e*P **P** **15 46 41.1 0.0**
RAYN pmax pmax
comp=Z,10.0nm,1.0s
NC204 NORSAR Array S 23.49 342 *e*P **P** **15 46 43.0 +0.1**
TAM Tamanrasset 23.98 231 *e*P **P** **15 46 47.8 -0.2**
comp=Z,7.4nm,1.1s
TAM Tamanrasset 23.98 231 *e*P **P** **15 46 47.8 -0.2**
TAM pmax pmax
comp=Z,7.0nm,1.1s
PBRG Braganca 24.55 285 *e*P **P** **15 46 57.7 +4.7**
EKA Eskdalemuir Ar 24.72 319 P **P** **15 46 54.4 0.0**
comp=Z,6.9nm,0.6s,baz=102,slow=9.2,SNR=5.3
MVO Moncorvo 24.84 284 *e*P **P** **15 46 59.7 +4.0**
AKTO Aktyubinsk 25.08 54 P **P** **15 46 57.7 -0.1**
comp=Z,1.4nm,0.9s,baz=227,slow=11,SNR=3.9
AKTO LR LR 15 59 08.9
comp=Z,94nm,18.6s,baz=258,slow=42
PRGR Permogore 25.17 23 *e*P **P** **15 46 55.4 -2.9**
PRGR pmax pmax
comp=Z,25nm,1.0s
MDT Midelt 25.26 264 P **P** **15 46 59.9 +0.3**
comp=Z,2.5nm,0.9s,baz=66,slow=12,SNR=2.3
GEYT Alibeck 25.30 84 P **P** **15 47 00.7 +0.8**
comp=Z,38nm,0.8s,baz=289,slow=9.2,SNR=15
GEYT LR LR 15 58 54.1
comp=Z,87nm,18.8s,baz=245,slow=41
GYA0B ALIBECK ARRAY 25.30 84 *e*P **P** **15 46 60.0 +0.1**
comp=Z,35nm,1.4s
MTE Manteigas 25.33 282 *e*P **P** **15 47 05.9 +5.7**
ABKAR Akbulak array 26.09 57 *e*P **P** **15 47 06.2 -0.6**
PBDV Barranco-do-Ve 26.31 275 *e*P **P** **15 47 13.4 +4.4**
MESJ Messejana 26.38 277 *e*P **P** **15 47 13.2 +3.6**
ARU Arti 27.30 41 *e*P **P** **15 47 19.7 +2.1**
comp=Z,31nm,0.9s
ARU Arti 27.30 41 P **P** **15 47 20.9 +3.3**
ARU 15 48 04.3
ARU S **S** **15 52 03.2 +6.3**
ARU SS **SnSn** **15 53 13.0 +8.0**
SVE Sverdlovsk 28.51 41 *e*P **P** **15 47 32.7 +4.2**
ARCES ARCESS Array B 29.92 360 P **P** **15 47 42.0 +1.2**
comp=Z,4.6nm,0.9s,baz=177,slow=7.0,SNR=5.5
ARCES ARCESS Array B 29.92 360 P **P** **15 47 42.0 +1.2**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
WSAR Wadi Sarin 32.34 111 P **P** **15 48 02.3 -0.4**
comp=Z,1.7nm,0.6s,baz=252,slow=20,SNR=1.8
BRVK Borovoye 33.02 51 *e*P **P** **15 48 07.5 -0.9**
comp=Z,4.6nm,1.1s
BRVK Borovoye 33.02 51 *i*P **P** **15 48 09.2 +0.8**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
TOA0 Torodi Ar. Sit 33.82 225 *e*P **P** **15 48 15.1 -0.5**
TORD Torodi Ar. Bea 33.82 225 P **P** **15 48 14.8 -0.8**
comp=Z,2.9nm,0.8s,baz=37,slow=8.3,SNR=8.0
AAK Ala-Archa 36.50 69 P **P** **15 48 39.6 +0.9**
comp=Z,0.6nm,0.5s,baz=233,slow=10.0,SNR=4.4
AAK Ala-Archa 36.50 69 *e*P **P** **15 48 39.2 +0.5**
comp=Z,3.7nm,0.9s
FRU Bishkek 36.55 69 *e*P **P** **15 48 40.0 +1.0**
KURK Kurchatov 38.16 55 *i*P **P** **15 48 51.5 -1.0**
KURK pmax pmax
comp=Z,3.0nm,1.2s
KSH Kashi 38.37 74 P **P** **15 48 54.8 +0.3**
KSH sP sP 15 49 03.7 +4.9
KSH PcP **PcP** **15 51 03.5 -4.6**
KSH S **S** **15 54 48.1 -1.1**
KSH sS sS 15 54 53.9 -0.3
KSH SS **SnSn** **15 57 22.7 -12**
KSH pmax pmax
comp=Z,7.0nm,0.8s
KSH pmax pmax
comp=Z,160nm,6.3s
KSH LR LR
comp=N,170nm,7.0s
KSH LR LR
comp=E,100nm,6.1s
KSH LR LR
comp=Z,360nm,6.9s
MAKZ Makanchi 40.89 61 *e*P **P** **15 49 15.4 +0.1**
comp=Z,2.7nm,0.9s
MAKZ Makanchi 40.89 61 *e*P **P** **15 49 15.4 +0.1**
MAKZ pmax pmax
comp=Z,3.0nm,0.9s
MK31 Makanchi Array 41.10 61 *e*P **P** **15 49 17.0 -0.1**
MK31 Makanchi Array 41.10 61 *e*P **P** **15 49 17.0 -0.1**
MKAR Makanchi Array 41.10 61 P **P** **15 49 17.3 +0.2**
comp=Z,5.2nm,0.7s,baz=286,slow=6.3,SNR=33
MKAR Makanchi Array 41.10 61 P **P** **15 49 17.3 +0.2**
comp=Z,35nm,0.7s
MK01 Makanchi Array 41.11 61 *e*P **P** **15 49 17.0 -0.2**
ZAA0 Zalesovo Array 41.70 50 *e*P **P** **15 49 21.7 -0.1**
comp=Z,3.7nm,0.7s
ZALV Zalesovo Beam 41.70 50 P **P** **15 49 22.1 +0.3**
comp=Z,3.6nm,0.6s,baz=270,slow=10,SNR=14
ZALV Zalesovo Beam 41.70 50 *e*P **P** **15 49 23.2 +1.4**
ZALV pmax pmax
comp=Z,4.0nm,0.6s
DBIC Dimbokro 42.78 228 P **P** **15 49 29.9 -1.2**
comp=Z,3.1nm,0.7s,baz=34,slow=7.3,SNR=4.0
DBIC Dimbokro 42.78 228 *e*P **P** **15 49 31.1 0.0**
DBIC Dimbokro 42.78 228 *e*P **P** **15 49 31.1 0.0**
TIC Toumodi 42.90 228 *e*P **P** **15 49 35.7 +3.7**
KIC Kosan Boka 42.97 228 *e*P **P** **15 49 36.3 +3.7**
comp=Z,17nm,0.8s
LIC Lamto 43.24 228 *e*P **P** **15 49 34.3 -0.5**
comp=Z,38nm,0.7s
DGZ Jazzator, Alta 43.91 56 *i*P **P** **15 49 40.5 +0.5**
DGZ pmax pmax
comp=Z,3.0nm,0.8s
WMQ Urumqi 45.53 64 *e*P **P** **15 49 54.1 +1.2**
WMQ pmax pmax
comp=Z,10.0nm,0.9s
WMQ LR LR
comp=N,250nm,23.7s
WMQ LR LR
comp=E,130nm,16.1s
WMQ LR LR
comp=Z,110nm,17.5s
PYUN Piuthan 48.26 86 *e*P **P** **15 50 14.4 -0.2**
comp=Z,9.4nm,0.7s
DANN Dangsing 48.73 85 *e*P **P** **15 50 18.2 -0.2**
comp=Z,17nm,0.7s
KOLN Koldanda 48.89 86 *e*P **P** **15 50 19.0 -0.5**
comp=Z,15nm,1.0s
DMN Daman 50.13 85 *e*P **P** **15 50 28.7 -0.3**
comp=Z,20nm,1.2s
PKIN Phulchoki 50.37 85 *e*P **P** **15 50 29.7 -1.2**
PKI Pulchoki 50.38 85 *e*P **P** **15 50 29.8 -1.2**
JIRN Jiri 50.94 84 *e*P **P** **15 50 33.6 -1.7**
ZAK Zakamensk 53.54 51 *e*P **P** **15 50 53.6 -0.4**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
GTA Gaotai 55.59 65 P **P** **15 51 09.2 +0.1**
GTA pP sP 15 51 13.5 +0.1
GTA sP pP 15 51 16.2 +4.0
GTA pmax pmax
comp=Z,3.0nm,1.2s
SONM Songino Array 56.40 53 P **P** **15 51 14.9 +0.1**
comp=Z,1.5nm,0.9s,baz=294,slow=7.8,SNR=5.4
SONM Songino Array 56.40 53 *e*P **P** **15 51 16.6 +1.9**
SONM pmax pmax
comp=Z,2.0nm,0.9s
TIXI Tiksi 56.82 22 *i*P **P** **15 51 20.3 +3.1**
TIXI pmax pmax
comp=Z,1.0nm,0.9s
SCHQ Schefferville 60.03 318 P **P** **15 51 38.9 -1.1**
comp=Z,3.4nm,0.8s,baz=101,slow=4.2,SNR=3.7
HHC Hu-ho-hao-te 62.88 58 *e*P **P** **15 51 59.1 -0.4**
HHC pmax pmax
comp=Z,11nm,1.0s
HHC pmax pmax
comp=Z,250nm,6.1s
CHTO Chiang Mai 65.56 85 *e*P **P** **15 52 16.3 -0.9**
comp=Z,8.8nm,1.4s
CHTO Chiang Mai 65.56 85 *e*P **P** **15 52 16.3 -0.9**
CHTO pmax pmax
comp=Z,9.0nm,1.4s
CMAR Chiang Mai Arr 65.76 86 P **P** **15 52 18.1 -0.4**
comp=Z,1.9nm,0.7s,baz=303,slow=8.1,SNR=16
CMAR LR LR 16 24 37.9
comp=Z,31nm,20.9s,baz=250,slow=39
CM01 Chiang Mai Arr 65.80 86 *e*P **P** **15 52 17.6 -1.1**
BILL Bilibino 68.60 15 *e*P **P** **15 52 38.2 +2.4**
BILL pmax pmax
comp=Z,1.0nm,1.0s
SEY Seymchan 69.25 23 *i*P **P** **15 52 41.9 +2.0**
YKA Yellowknife Ar 73.27 342 P **P** **15 53 03.8 -0.4**
comp=Z,0.6nm,0.7s,baz=29,slow=5.7,SNR=7.8
IM3 Indian Mountai 74.67 360 *e*P **P** **15 53 12.4 +0.1**
ILAR Eielson Array 75.72 357 P **P** **15 53 18.7 +0.3**
comp=Z,0.4nm,1.0s,baz=336,slow=3.4,SNR=3.6
ULM Lac du Bonnet 76.78 326 P **P** **15 53 24.3 -0.4**
comp=Z,3.5nm,0.7s,baz=37,slow=8.3,SNR=4.3
ULM Lac du Bonnet 76.78 326 *e*P **P** **15 53 25.6 +0.9**
ULM pmax pmax
comp=Z,4.0nm,0.7s
MJAR Matsushiro Arr 82.04 49 LR LR 16 33 54.1
comp=Z,48nm,19.1s,baz=35,slow=38
BDFB Brasilia 87.77 248 P **P** **15 54 23.4 +0.7**
comp=Z,4.0nm,0.7s,baz=244,slow=3.8,SNR=3.4
BDFB Brasilia 87.77 248 P **P** **15 54 23.4 +0.7**
BDFB pmax pmax
comp=Z,2.0nm,0.5s
PDAR Pinedale Array 88.45 329 P **P** **15 54 25.0 -0.9**
comp=Z,0.3nm,0.7s,baz=24,slow=2.5,SNR=3.2
NVAR Mina Array Bea 95.53 332 P **P** **15 54 59.9 +1.2**
comp=Z,0.5nm,0.7s,baz=34,slow=3.5,SNR=2.5
WRA Warramunga Arr 116.64 94 PKP **PKiKP** **16 00 18.4 +0.6**
comp=Z,0.3nm,0.9s,baz=316,slow=1.6,SNR=3.5
ASAR Alice Springs 118.40 98 PKP **PKPdf** **16 00 19.4 -1.7**
comp=Z,0.2nm,0.7s,baz=306,slow=1.9,SNR=4.9

MEX 09 15:41:34.8±0.7, 15.°34N×93.°19W, h94km±8km, MD3.8,
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.36**	**355**	*e*P	Pn	15 41 47.9	-1.1
PCIG				*e*S	Sn	15 41 57.7	-1.9
THIG		**0.99**	**116**	*e*P	Pn	15 41 52.8	-1.9
THIG				*e*S	Sn	15 42 08.0	-1.5
CCIG	**Comitan**	**1.38**	**47**	*e*P	Pn	15 41 58.5	-0.9
CCIG				*e*S	Sn	15 42 15.9	-2.0

*ISCJB **09** 15:43:34.1±0.5, 49.°81N±0.°04×18.°49E±0.°03, h0km, Error ellipse: s-maj=5.6km s-min=3.1km az=9.6*
*IPEC **09** 15:43:34.8±0.2, 49.°82N×18.°54E, h0km±3km, ML1.7/3, Error ellipse: s-maj=1.7km s-min=1.1km az=164.0*
*PRU **09** 15:43:35.1±0.0, 49.°80N×18.°56E, h0km*
ISC 09 15:43:34.6±0.8, 49.°78N±0.°04×18.°56E±0.°03, h0km, n19,
σ0=63/30, 1C-1D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.28**	**283**	*e*PG	**Pg**	**15 43 40.3**	**+0.4**
OKC				*e*SG	**Sg**	**15 43 44.7**	**+1.3**
	comp=Z,65nm,0.6s						
MORC	**Moravsky Berou**	**0.66**	**271**⇑	*i*P	**Pg**	**15 43 47.7**	**+0.5**
MORC	**Moravsky Berou**	**0.66**	**271**	*e*PG	**Pg**	**15 43 47.3**	**+0.1**
MORC				*e*SG	**Sg**	**15 43 55.2**	**-0.6**
MORC	**Moravsky Berou** baz=86	**0.66**	**271**	*e*Pg	**Pg**	**15 43 47.3**	**+0.1**
MORC				*e*Sg	**Sg**	**15 43 55.1**	**-0.7**
	14nm,0.5s,baz=86						
LANS	**Liptovska Anna**	**0.86**	**136**	*e*PG	**Pb**	**15 43 52.2**	**-0.2**
LANS				*e*SG	**Sb**	**15 44 05.5**	**+1.0**
OJC	**Ojcow**	**0.91**	**60**	*e*Pg	**Pg**	**15 43 52.3**	**+0.2**
OJC				*e*Sg	**Sb**	**15 44 05.1**	**-0.9**
JAVC	**Velka Javorina**	**1.09**	**213**	*e*PG	**Pb**	**15 43 56.6**	**+0.3**
JAVC	**Velka Javorina** baz=30	**1.09**	**213**	*e*Pg	**Pb**	**15 43 56.6**	**+0.3**
NIE Niedzica 1.19 107 *e*P **Pn** **15 43 58.5 +0.1**
KRLC Kraliky 1.19 285 *e*PG **Pg** **15 43 56.7 -0.7**
KRLC *e*SG **Sb** **15 44 14.0 0.0**
comp=Z,3.2nm,0.6s
VYHS Vyhne 1.29 172 *e*PN **Pg** **15 43 59.4 0.0**
VRAC Vranov 1.36 251 ||| *i*P **Pg** **15 43 59.9 -0.8**
VRAC Vranov 1.36 251 *e*PG **Pg** **15 44 00.2 -0.5**
VRAC Vranov 1.36 251 *e*Pg **Pg** **15 44 00.2 -0.5**
baz=67
DPC Dobruska-Polom 1.55 293 *e*PG **Pn** **15 44 02.8 -0.8**
DPC *e*SG **Sg** **15 44 25.3 +0.8**
comp=Z,5.9nm,0.4s
KRUC Moravsky 1.58 244 *e*PG **Pn** **15 44 03.7 -0.2**
KRUC *e*SG **Sn** **15 44 24.8 -0.4**
KRUC Moravsky 1.58 244 *e*Pg **Pn** **15 44 03.6 -0.3**
baz=61
KRUC *e*Sg **Sn** **15 44 24.7 -0.4**
8.0nm,0.5s,baz=61
KSP Ksiaz 1.81 307 *e*Pg **Pb** **15 44 08.8 +0.3**
KSP *e*Sg **Sn** **15 44 30.1 -0.4**
KHC Kasperske Hory 3.31 261 *e*PG **Pb** **15 44 35.7 +1.4**
KHC *e*SG **Sg** **15 45 21.3 +0.3**

*IDC **09** 15:44:55.6±2.1, 1.°99S×67.°96E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.5/48, mbtmp3.8/6, ML4.1/1, MS3.2/2, Ms1 3.3/2, ms1mx2.8/45, Error ellipse: s-maj=64.4km s-min=29.6km az=66.0*
*ISCJB **09** 15:44:56.3±1.8, 1.°9S±0.°2×68.°0E±0.°3, h15km, mb3.7/5, MS3.0/1, Error ellipse: s-maj=39.3km s-min=25.9km az=166.5*
ISC 09 15:44:58.5±1.9, 1.°9S±0.°2×68.°1E±0.°3, h15km, n11, σ0=89/7, mb3.8/5, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.25**	**146**	T	T	15 51 35.1	
	baz=325,slow=75,SNR=36						
H08N3	**Diego Garcia H**	**5.26**	**147**	T	T	15 51 35.9	
	baz=325,slow=75,SNR=44						
H08N1	**Diego Garcia H**	**5.27**	**146**	T	T	15 51 36.7	
	baz=325,slow=75,SNR=36						
PALK	**Pallekele**	**15.57**	**54**	Pn	**Pn**	**15 48 37.2**	**-0.6**
	0.7nm,0.3s,baz=296,slow=11,SNR=4.5						
PALK				LR	LR	15 53 31.9	
	comp=Z,112nm,18.3s,baz=296,slow=33						
CMAR	**Chiang Mai Arr**	**36.51**	**55**	LR	LR	16 04 37.3	
	comp=Z,30nm,21.8s,baz=285,slow=32						
MKAR	**Makanchi Array**	**50.11**	**13**	P	**P**	**15 53 52.9**	**-0.2**
	0.5nm,0.8s,baz=204,slow=7.6,SNR=4.1						
ZALV	**Zalesovo Beam**	**57.40**	**12**	P	**P**	**15 54 45.5**	**-0.8**
	1.2nm,0.5s,baz=206,slow=8.7,SNR=5.1						
SONM	**Songino Array**	**59.77**	**29**	P	**P**	**15 55 04.5**	**+1.4**
	0.6nm,0.7s,baz=216,slow=7.3,SNR=4.2						
WRA	**Warramunga Arr**	**67.06**	**111**	P	**P**	**15 55 52.0**	**+0.2**
	0.8nm,0.9s,baz=288,slow=5.9,SNR=6.2						
ASAR	**Alice Springs**	**67.13**	**115**	P	**P**	**15 55 52.1**	**-0.2**
	0.3nm,0.6s,baz=280,slow=6.3,SNR=6.1						
TXAR	**Lajitas Array**	**151.64**	**345**	PKPbc	**PKPbc**	**16 04 52.7**	**-0.5**
	0.7nm,0.8s,baz=116,slow=4.1,SNR=4.7						

*ISK **09** 15:56:00.6, 39.°68N×25.°51E, h5km, ML3.8/21*
*ISCJB **09** 15:56:01.7±0.4, 39.°66N±0.°01×25.°58E±0.02, h6km±3km, Error ellipse: s-maj=2.5km s-min=2.3km az=160.1*
*DDA **09** 15:56:01.2, 39.°71N×25.°60E, h7km±5km, ML3.6*
*THE **09** 15:56:02.6, 39.°71N×25.°62E, h10km, ML3.2/13, Error ellipse: s-maj=1.0km s-min=0.4km az=77.0*
*ATH **09** 15:56:02.0, 39.°68N×25.°56E, h29km, ML3.4/8, Error ellipse: s-maj=1.3km s-min=0.6km az=60.0*
*BEO **09** 15:56:04.6±0.9, 39.°77N×25.°63E, h5km, ML3.2/2*
ISC 09 15:56:01.6±1.1, 39.°66N±0.°02×25.°57E±0.°02, h3km±10km, n149, σ1=34/180, 12C-7D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.38**	**308**	P	**Pb**	**15 56 10.8**	**-0.2**
LIA				S	**Sb**	**15 56 16.5**	**-0.8**
LIA				AML	AML	15 56 16.8	
	comp=E,10532μm,0.3s						
LIA				AML	AML	15 56 21.7	
	comp=N,6048μm,0.3s						
LIA	**Limnos Island**	**0.38**	**308**	P	**Pb**	**15 56 10.8**	**-0.2**
LIA				S	**Sb**	**15 56 16.4**	**-0.8**
BOZC	**Bozcaada**	**0.41**	**65**	PG	**Pg**	**15 56 09.7**	**+0.1**
BOZC	**Bozcaada**	**0.41**	**65**	*i*P	**Pb**	**15 56 10.5**	**-1.1**
GPNR	**Gulpinar-Canak**	**0.48**	**115**	PG	**Pg**	**15 56 11.6**	**+0.7**
SIGR	**SIGRI**	**0.50**	**154**	PG	**Pg**	**15 56 11.7**	**+0.4**
SIGR				SG	**Sb**	**15 56 19.5**	**-1.3**
SIGR	**SIGRI**	**0.50**	**154**	P	**Pb**	**15 56 12.7**	**-0.5**
SIGR				S	**Sb**	**15 56 20.3**	**-0.5**
SIGR				AML	AML	15 56 20.7	
	comp=N,32907μm,0.6s						
SIGR				AML	AML	15 56 20.8	
	comp=E,27585μm,0.5s						
SIGR	**SIGRI**	**0.50**	**154**	P	**Pb**	**15 56 12.6**	**-0.5**
SIGR				S	**Sb**	**15 56 20.3**	**-0.5**
GADA	**Gvkgeada**	**0.58**	**26**	PG	**Pg**	**15 56 12.5**	**-0.3**
GADA	**Gvkgeada**	**0.58**	**26**	P	**Pg**	**15 56 12.9**	**+0.1**
GADA				S	**Sg**	**15 56 20.1**	**-0.3**
GOKC	**Gokceada-Canak**	**0.60**	**27**	PG	**Pg**	**15 56 12.9**	**-0.2**
EZN	**Ezine**	**0.61**	**74**	PG	**Pg**	**15 56 13.2**	**-0.1**
EZN	**Ezine**	**0.61**	**74**	P	**Pg**	**15 56 13.2**	**-0.1**
EZN				S	**Sg**	**15 56 20.9**	**-0.2**
PRK	**Paraskevi**	**0.69**	**127**	P	**Pb**	**15 56 16.8**	**+0.6**
PRK				S	**Sb**	**15 56 26.5**	**+0.4**
PRK				AML	AML	15 56 29.9	
	comp=N,15388μm,0.5s						
PRK				AML	AML	15 56 30.6	
	comp=E,14341μm,0.5s						
PRK	**Paraskevi**	**0.69**	**127**	P	**Pb**	**15 56 16.8**	**+0.6**
PRK				S	**Sb**	**15 56 25.9**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**0.76**	**84**	*i*P	**Pb**	**15 56 16.9**	**-0.6**
BAYC				*i*S	**Sg**	**15 56 26.6**	**+0.6**
SMTH	**Samothraki Isl**	**0.81**	**358**	P	**Pb**	**15 56 17.5**	**-0.9**
SMTH				S	**Sb**	**15 56 28.6**	**-1.0**
SMTH				AML	AML	15 56 30.1	
	comp=N,3577μm,0.6s						
SMTH				AML	AML	15 56 30.6	
	comp=E,3281μm,0.4s						
SMTH	**Samothraki Isl**	**0.81**	**358**	P	**Pb**	**15 56 17.4**	**-0.9**
SMTH				S	**Sg**	**15 56 27.6**	**0.0**
AYVA	**Ayvalik**	**0.94**	**112**	*i*P	**Pb**	**15 56 20.4**	**-0.1**
AYVA				*i*S	**Sn**	**15 56 35.0**	**-0.6**
GELI	**Tayfur-Gelibol**	**1.01**	**43**	PG	**Pg**	**15 56 20.2**	**-0.8**
SKY	**Skiros Island**	**1.11**	**225**	P	**Pb**	**15 56 23.4**	**-0.1**
SKY	**Skiros Island**	**1.11**	**225**	P	**Pn**	**15 56 23.6**	**-0.5**
SKY				S	**Sn**	**15 56 40.3**	**+0.3**
THAS	**Thassos island**	**1.14**	**326**	P	**Pg**	**15 56 23.2**	**-0.3**
THAS				S	**Sg**	**15 56 38.3**	**-0.1**
THAS				AML	AML	15 56 39.9	
	comp=N,2614μm,0.5s						
THAS				AML	AML	15 56 40.8	
	comp=E,2291μm,0.4s						
THAS	**Thassos island**	**1.14**	**326**	P	**Pg**	**15 56 23.3**	**-0.3**
THAS				S	**Sn**	**15 56 39.8**	**-0.9**
LPK	**Lapseki**	**1.16**	**52**	PN	**Pg**	**15 56 23.5**	**-0.3**
ENEZ	**Enez**	**1.16**	**23**	PN	**Pg**	**15 56 23.5**	**-0.4**
DKL	**Dikili**	**1.19**	**119**	PN	**Pn**	**15 56 24.9**	**-0.3**
ERIK	**Erikli-Kesan**	**1.24**	**35**	PN	**Pg**	**15 56 24.7**	**-0.7**
ALN	**Alexandroupoli**	**1.28**	**16**	PN	**Pn**	**15 56 24.9**	**-1.5**
ALN	**Alexandroupoli**	**1.28**	**16**	P	**Pn**	**15 56 25.0**	**-1.5**
ALN				S	**Sg**	**15 56 42.2**	**-0.7**
ALN				AML	AML	15 56 42.5	
	comp=E,1089μm,0.4s						
ALN				AML	AML	15 56 50.7	
	comp=N,955μm,0.4s						
ALN	**Alexandroupoli**	**1.28**	**16**	P	**Pn**	**15 56 25.3**	**-1.2**
ALN				S	**Sg**	**15 56 42.1**	**-0.8**
FOCM	**Foa**	**1.31**	**136**	PN	**Pn**	**15 56 26.5**	**-0.3**
KRBN	**Karaburun**	**1.32**	**144**	PN	**Pn**	**15 56 26.6**	**-0.3**
CHOS	**Chios island**	**1.33**	**163**	PN	**Pn**	**15 56 26.3**	**-0.9**
CHOS	**Chios island**	**1.33**	**163**	P	**Pn**	**15 56 26.7**	**-0.5**
CHOS				S	**Sb**	**15 56 44.2**	**-0.5**
CHOS				AML	AML	15 56 48.5	
	comp=N,5071μm,0.5s						
CHOS				AML	AML	15 56 49.8	
	comp=E,5737μm,0.7s						
CHOS	**Chios island**	**1.33**	**163**	P	**Pn**	**15 56 26.7**	**-0.5**
CHOS				S	**Sn**	**15 56 45.5**	**+0.1**
AOS	**Alonnisos**	**1.40**	**250**	P	**Pn**	**15 56 27.8**	**-0.2**
AOS				S	**Sb**	**15 56 46.2**	**-0.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AOS				AML	AML	15 56 50.7	
	comp=E,1535μm,0.4s						
AOS				AML	AML	15 56 52.0	
	comp=N,1423μm,0.8s						
AOS	Alonnisos	1.40	250	P	Pn	15 56 27.8	-0.2
AOS				S	Sg	15 56 47.3	+0.8
KESN	Edirne-Kesan	1.44	36	IAML_P			
	comp=Z,2μm,0.2s						
KESN				*i* P	Pn	15 56 28.5	-0.4
KESN				*i* S	Sb	15 56 47.2	-1.0
PAIG	Paliouri	1.48	281	P	Pn	15 56 28.8	-0.3
PAIG	Paliouri	1.48	281	P	Pn	15 56 28.7	-0.4
RDO	Rodhopi	1.48	359	PN	Pn	15 56 28.1	-1.0
RDO	Rodhopi	1.48	359	P	Pn	15 56 28.2	-1.0
RDO	Rodhopi	1.48	359	P	Pn	15 56 28.2	-1.0
KRBG	Karabiga-Canak	1.52	61	PN	Pn	15 56 29.4	-0.2
URLA	Izmir	1.53	148	PN	Pn	15 56 29.6	-0.3
URLA	Izmir	1.53	148	IAML_P			
	comp=Z,5μm,0.2s						
URLA				*i* P	Pn	15 56 29.6	-0.3
URLA				*i* S	Sn	15 56 47.7	-2.6
KAVA	Kavala	1.56	329	P	Pn	15 56 29.4	-0.8
KAVA	Kavala	1.56	329	P	Pn	15 56 29.2	-1.0
KAVA				S	Sn	15 56 49.4	-1.5
SART	Tekirdag	1.60	50	IAML_P			
	comp=Z,8μm,0.2s						
SART				*i* P	Pb	15 56 31.2	-0.7
SART				*i* S	Sg	15 56 52.7	-0.5
GONE	Gonen-Balikesi	1.68	76	PN	Pn	15 56 31.7	-0.1
STEP	BALIKESIR_Sava	1.69	99	*i* P	Pn	15 56 32.1	+0.1
BLCB	Balcova	1.72	138	PN	Pn	15 56 32.6	+0.2
PLG	Polygyros	1.78	294	P	Pn	15 56 33.3	0.0
PLG	Polygyros	1.78	294	P	Pn	15 56 33.3	0.0
PLG				S	Sb	15 56 57.0	-0.6
EREA	Eretria	1.78	226	P	Pn	15 56 32.7	-0.7
EREA	Eretria	1.78	226	P	Pn	15 56 32.6	-0.7
BALB	Balikesir	1.79	90	PN	Pn	15 56 33.1	-0.2
MRKA	Markates	1.81	239	P	Pn	15 56 33.4	-0.3
NEO	Neokhori	1.85	260	P	Pb	15 56 35.0	-1.1
XOR	Xorichti	1.86	262	P	Pn	15 56 34.2	-0.2
XOR				S	Sb	15 56 59.6	-0.4
EDC	Edincik	1.89	68	PN	Pn	15 56 34.6	-0.2
GMLD	Gumuldur	1.90	146	PN	Pn	15 56 34.8	-0.1
SBT4	Kumbag-Tekirda	1.90	52	PN	Pn	15 56 34.9	+0.1
AKHS	Akhisar	1.91	114	*i* P	Pn	15 56 35.4	+0.2
KDZ	Kurdzhali	1.99	357	PN	Pn	15 56 34.9	-1.3
TKR	Tekirdag	2.00	48	PN	Pn	15 56 36.1	-0.3
DION	Dionisos Attik	2.03	219	P	Pn	15 56 36.2	-0.6
SOH	Sokhos	2.05	305	P	Pn	15 56 37.3	+0.2
PTL	Penteli	2.09	220	P	Pn	15 56 36.9	-0.7
SRS	Serrai	2.09	315	*e*Pn	Pb	15 56 38.8	-1.4
SRS				*e*Sn	Sb	15 57 05.6	-1.0
SRS	Serrai	2.09	315	P	Pn	15 56 36.5	-1.2
SRS	Serrai	2.09	315	P	Pn	15 56 36.4	-1.2
SRS				S	Sn	15 57 04.2	0.0
HORT	Hortiatis	2.11	297	P	Pn	15 56 37.9	0.0
HORT	Hortiatis	2.11	297	P	Pn	15 56 38.1	+0.2
NVR	Nevrokopi	2.13	323	P	Pn	15 56 38.1	0.0
NVR	Nevrokopi	2.13	323	P	Pn	15 56 37.6	-0.5
SMG	Samos	2.19	153	P	Pn	15 56 38.4	-0.5
SMG	Samos	2.19	153	P	Pn	15 56 38.5	-0.5
ATAL	Atalanti	2.20	245	P	Pn	15 56 38.8	-0.3
CRLT	Corlu	2.21	48	PN	Pn	15 56 39.3	+0.1
KCTX	Karacabey (Bur	2.23	73	PN	Pn	15 56 39.2	-0.2
DURS	Dursunbey	2.25	91	*i* P	Pn	15 56 39.4	-0.4
VLY	Voula,Athens	2.28	218	P	Pn	15 56 39.7	-0.4
VLY	Voula,Athens	2.28	218	P	Pn	15 56 39.5	-0.6
VIL2	Platees	2.31	232	P	Pn	15 56 40.3	-0.3
VILL	Villia	2.31	230	P	Pn	15 56 40.0	-0.6
EDRB	Edirne	2.36	22	PN	Pn	15 56 41.2	0.0
DST	Dursunbey	2.36	90	PN	Pn	15 56 41.2	-0.1
PHSR	Pinarhisar	2.46	37	PN	Pn	15 56 42.6	-0.1
PROD	Prodromos	2.51	237	P	Pn	15 56 43.2	-0.1
PROD	Prodromos	2.51	237	P	Pn	15 56 42.6	-0.7
PLD	Plovdiv	2.52	345	*e*Pn	Pb	15 56 45.7	-1.9
PLD				*e*Sn	Sn	15 57 15.8	+1.0
KNT	Kendrikon	2.53	307	P	Pn	15 56 44.0	+0.4
SLVT	Silivri	2.55	51	PN	Pn	15 56 44.1	+0.2
ORLT	Orhaneli	2.59	80	PN	Pn	15 56 44.8	+0.3
AGG	Agios Georgios	2.59	257	P	Pn	15 56 44.7	+0.2
APE	Apeiranthos	2.59	181⇑	*i*P	Pn	15 56 46.2	+1.7
LTK	Loutraki	2.61	232	P	Pn	15 56 44.2	-0.4
LTK	Loutraki	2.61	232	P	Pn	15 56 44.3	-0.4
SERI	Serifos	2.64	199	P	Pn	15 56 44.3	-0.9
MDNY	Mudanya-Bursa	2.64	73	PN	Pn	15 56 45.4	+0.3
DSF	Desfina	2.68	243	P	Pn	15 56 45.3	-0.4
GRG	Griva	2.74	299	P	Pn	15 56 46.9	+0.3
VAY	Valandovo	2.82	307	*e*Pn	Pb	15 56 50.6	-2.0
VAY				*e*Sn	Sn	15 57 23.9	+1.8
VAY	Valandovo	2.82	307	*i* Pn	Pg	15 56 56.8	+1.1
DID	Didima	2.83	221	P	Pn	15 56 47.0	-0.6
DID	Didima	2.83	221	P	Pn	15 56 47.1	-0.6
KALE	Kalithea	2.96	246	P	Pn	15 56 49.8	+0.2
TRIZ	Trizonia	3.02	246	P	Pn	15 56 50.4	+0.1
TRIZ	Trizonia	3.02	246	P	Pn	15 56 50.6	+0.4
ANX	Ano Chora	3.03	250	P	Pn	15 56 51.2	+0.6
ANX	Ano Chora	3.03	250	P	Pn	15 56 51.2	+0.6
KLV	Kalavryta, Ach	3.12	240	P	Pn	15 56 51.8	0.0
STIP	Stip	3.27	309	*i* Pn	Pn	15 56 53.2	-0.6
FNA	Florina	3.40	291	*e*Pn	Pn	15 56 58.4	+2.8
VTS	Vitosha	3.42	329	*e*Pn	Pn	15 56 57.2	+1.2
VTS				*e*Sn	Sn	15 57 37.1	-0.1
VTS	Vitosha	3.42	329⇓	*i*P	Pn	15 56 59.0	+3.0
VTS	Vitosha	3.42	329	S	Sg	15 57 55.0	+3.4
KRUS	Krusevo	3.71	299	*i* Pn	Pn	15 56 60.0	+0.1
IGT	Igoumenitsa	4.05	270	*e*Pn	Pn	15 57 08.4	+4.0
ZAPS	Zavoj	4.23	330	*e*Pn	Pn	15 57 09.3	+2.4
BARS	Barje	4.23	319	*e*Pn	Pn	15 57 08.0	+1.0
VLAD	Vladila	4.42	349⇑	*i*P	Pn	15 57 12.2	+2.7
ICOR	Ion Corvin	4.75	20⇑	*i*P	Pn	15 57 17.7	+3.6
ZAGS	Zajecar	4.84	330	*e*Pn	Pn	15 57 16.2	+0.9
BOVS	Bovan	4.91	325	*e*Pn	Pn	15 57 17.2	+0.9
SJES	Sjenica	5.53	312	*e*Pn	Pn	15 57 25.8	+0.9
KUBS	Kucevo	5.56	330	*e*Pn	Pn	15 57 26.6	+1.4
GRUS	Gruza	5.56	321	*e*Pn	Pn	15 57 26.1	+0.8
IVAS	Ivanjica	5.63	316	*e*Pn	Pn	15 57 27.4	+1.1
HERR	Herculane	5.71	337⇑	*i*P	Pn	15 57 29.6	+2.3
ARR	Arges	5.74	353⇑	*i*P	Pn	15 57 30.7	+2.9
VOIR		5.78	356⇑	*i*P	Pn	15 57 31.5	+3.1
CFR	Carcaliu	5.83	18⇑	*i*P	Pn	15 57 32.8	+3.9
MLR	Muntele Rosu	5.83	3⇑	*i*P	Pn	15 57 32.7	+3.6
MLR	Muntele Rosu	5.83	3	S	Sg	15 59 12.4	+3.6
MDVR	Moldovita	5.86	332⇓	*i*P	Pn	15 57 33.1	+3.7
MDVR	Moldovita	5.86	332	S	Sg	15 59 03.9	-5.8
LOT	Lotru	5.93	348⇑	*i*P	Pn	15 57 32.7	+2.3
DIVS	Divibare	6.08	319	*e*Pn	Pn	15 57 34.1	+1.7
GZR	Gura Zlata	6.08	341⇑	*i*P	Pn	15 57 35.4	+2.9
PLOR	Plostina	6.23	7⇓	*i*P	Pn	15 57 38.6	+4.1
VRI	Vrincioaia	6.26	7⇓	*i*P	Pn	15 57 39.6	+4.8
DOPR	Dopca	6.30	359⇓	*i*P	Pn	15 57 39.1	+3.7
BZS	Buzias	6.62	335⇓	*i*P	Pn	15 57 41.8	+2.0
TESR	Tescani	6.89	6⇓	*i*P	Pb	15 58 02.5	+0.6
SIRR	Siria	7.19	338⇑	*i*P	Pn	15 57 49.5	+1.8
BURAR	Bucovina Array	7.95	358⇑	*i*P	Pn	15 58 02.9	+4.8

*ISCJB **09** 15:57:19.5±1.7, 34°.79S±0°.05×72°.76W±0°.09, h3km±8km, Error ellipse: s-maj=12.9km s-min=7.5km az=12.7*
*GUC **09** 15:57:21.8±0.8, 34°.78S×72°.69W, h15km±4km, ML3.6*
ISC 09 15:57:18.5±3.3, **34°.74S**±0°.06×**72°.8W**±0°.1, **h2**km±16km, **n13**, σ**1s.84**/21, **1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GO05	Huala	0.77	110⇓	*i*P	Pg	15 57 34.4	+1.0
GO05				*i* S	Sg	15 57 42.7	-0.7
GO05				IAML		15 57 44.8	
	comp=N,4μm,0.1s						
CCHI	Chillan	1.95	162	*e*P	Pn	15 57 53.4	+0.7
CCHI				*e*S	Sn	15 58 17.2	-0.5
CCHI				IAML		15 58 24.9	
	comp=E,771nm,0.3s						
ROCH	El Roble	2.32	41	*e*P	Pn	15 57 58.2	+0.3
ROCH				*e*S	Sb	15 58 29.6	-0.7
ROCH				IAML		15 58 36.7	
	comp=N,412nm,0.5s						
CLCH	Cerro Calan	2.32	55	*e*P	Pn	15 57 59.2	+1.4
CLCH				*i* S	Sb	15 58 28.4	-1.8
LMEL	Las Melosas	2.34	68	*e*P	Pn	15 57 59.5	+1.4
LMEL				*i* S	Sn	15 58 27.9	+0.4
LMEL				IAML		15 58 32.0	
	comp=N,668nm,0.2s						
PEL	Peldehue	2.38	49	*e*P	Pn	15 57 58.7	+0.1
PEL				*i* S	Sn	15 58 28.6	+0.2
FCH	Farellones	2.53	57	*e*P	Pn	15 58 02.7	+1.8
FCH				*i* S	Sb	15 58 34.2	-2.3
FCH				IAML		15 58 41.8	
	comp=N,359nm,0.3s						
AAGR	Agrelo	3.70	65	*e*P	Pb	15 58 22.8	-2.0
ARCO	CERRO ARCO	3.75	61	IAML		15 59 29.8	
	comp=Z,127nm,0.6s						
AUSP	Uspallata	3.81	50	*e*P	Pn	15 58 20.8	+2.3
AUSP				*e*S	Sb	15 59 15.6	+2.2
ASAL	Salagasta	3.95	58	*e*P	Pn	15 58 24.7	+4.5
RTLS	Leoncito	4.16	46	*e*P	Pn	15 58 24.2	+0.9
RTLS				*e*S	Sb	15 59 21.7	-1.7
RTLS				IAML		15 59 32.7	
	comp=Z,31nm,0.5s						
RTLL	Cerro Villicun	4.99	48	*e*P	Pn	15 58 35.2	+0.8

*GUC **09** 16:00:32.2±0.6, 35°.28S×72°.57W, h49km±6km, ML3.9*
*ISCJB **09** 16:00:34.7±1.2, 34°.87S±0°.04×72°.61W±0°.10, h18km, Error ellipse: s-maj=12.0km s-min=6.0km az=12.7*
ISC 09 16:00:32.4±1.6, **34°.83S**±0°.04×**72°.3W**±0°.1, **h18**km, **n12**, σ**2s.25**/21, **3C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GO05	Huala	0.38	118⇓	*i*P	Pn	16 00 44.6	+1.6
GO05				*i* S	Sn	16 00 53.3	+3.4
GO05				IAML		16 00 55.0	
	comp=N,5μm,0.2s						
CCHI	Chillan	1.78	173⇑	*i*P	Pg	16 01 05.5	-1.1
CCHI				*i* S	Sg	16 01 29.1	-0.6
CCHI				IAML		16 01 36.6	
	comp=E,1μm,0.7s						
LMEL	Las Melosas	2.02	61⇑	*i*P	Pg	16 01 09.8	-1.4
LMEL				*i* S	Sg	16 01 38.4	+1.0
LMEL				IAML		16 01 42.5	
	comp=E,984nm,0.2s						
CLCH	Cerro Calan	2.07	47⇑	*i*P	Pg	16 01 10.3	-1.8
CLCH				*i* S	Sg	16 01 39.7	+0.7
CLCH				IAML		16 01 50.9	
	comp=E,1μm,0.7s						
ROCH	El Roble	2.16	31	*e*P	Pg	16 01 13.4	-0.5
ROCH				*i* S	Sg	16 01 44.1	+2.2
ROCH				IAML		16 01 47.0	
	comp=N,606nm,0.4s						
PEL	Peldehue	2.17	40	*e*P	Pg	16 01 12.3	-1.8
PEL				*i* S	Sg	16 01 43.1	+0.8
PEL				IAML		16 01 47.4	
	comp=N,458nm,0.4s						
FCH	Farellones	2.27	49⇓	*i*P	Pg	16 01 13.9	-2.0
FCH				*i* S	Sg	16 01 46.2	+0.8
FCH				IAML		16 01 51.9	
	comp=N,520nm,0.3s						
AAGR	Agrelo	3.40	60	*e*P	Pg	16 01 33.7	-3.8
AUSP	Uspallata	3.58	44	*e*P	Pb	16 01 31.0	-4.4
AUSP				*e*S	Sg	16 02 26.3	-1.3
ASAL	Salagasta	3.68	54	*e*P	Pb	16 01 35.3	-1.6
RTLS	Leoncito	3.95	41	*e*P	Pn	16 01 34.9	+2.5
RTLS				*e*S	Sb	16 02 31.7	+2.3
RTLS				IAML		16 02 42.5	
	comp=Z,48nm,0.6s						
RTLL	Cerro Villicun	4.77	44	*e*P	Pn	16 01 45.7	+2.3

*ISCJB **09** 16:03:43.9±0.4, 49°.85N±0°.03×18°.45E±0°.03, h0km, Error ellipse: s-maj=4.0km s-min=2.2km az=21.5*
*IPEC **09** 16:03:45.4±0.2, 49°.82N×18°.57E, h0km, ML2.4/3, Error ellipse: s-maj=1.7km s-min=1.1km az=163.0*
*IDC **09** 16:03:45.4±1.1, 49°.56N×18°.70E, h0km, mb1 3.2/3, mb1mx2.9/35, mbtmp3.0/3, ML2.6/3, Error ellipse: s-maj=28.6km s-min=9.3km az=163.0*
*PRU **09** 16:03:46.4±0.0, 49°.80N×18°.49E, h0km*
ISC 09 16:03:44.2±0.7, **49°.81N**±0°.03×**18°.57E**±0°.03, **h0**km, **n32**, σ**0s.87**/56, **Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.27	276	*e*PG	Pb	16 03 51.3	-0.7
OKC				*e*SG	Sg	16 03 54.9	+2.0
	comp=Z,299nm,0.5s						
MORC	Moravsky Berou	0.66	268	*e*PG	Pb	16 03 58.0	-0.7
MORC				*e*SG	Sg	16 04 06.2	+0.7
MORC	Moravsky Berou	0.66	268	*e*Pg	Pb	16 03 58.0	-0.7
	baz=86						
MORC				*e*Sg	Sg	16 04 06.1	+0.6
	80nm,0.5s,baz=86						
LANS	Liptovska Anna	0.89	138	*e*PG	Pb	16 04 02.8	+0.4
LANS				*e*SG	Sn	16 04 16.4	-1.1
OJC	Ojcow	0.90	62	*e*Pg	Pb	16 04 02.8	+0.2
OJC				*e*Sg	Sb	16 04 16.1	+1.0
JAVC	Velka Javorina	1.12	212	*e*PG	Pn	16 04 07.4	+0.3
JAVC	Velka Javorina	1.12	212	*e*Pg	Pn	16 04 07.3	+0.2
	baz=31						
KRLC	Kraliky	1.18	284	*e*PG	Pg	16 04 06.6	-0.2
KRLC				*e*SG	Sb	16 04 23.7	+0.3
	comp=Z,12nm,0.5s						
NIE	Niedzica	1.20	109	*e*Pg	Pn	16 04 08.9	+0.7
NIE				*e*Sg	Sn	16 04 27.4	+2.3
KOLL	Kolacno	1.24	185	*e*PG	Pn	16 04 09.1	+0.4
KOLL				*e*SN	Sn	16 04 26.4	+0.3
VYHS	Vyhne	1.33	172	*e*PN	Pn	16 04 10.2	+0.2
VYHS				*e*SN	Sn	16 04 29.5	+1.1
VYHS				*e*LG	Lg	16 04 36.3	
VRAC	Vranov	1.38	249	*e*PG	Pb	16 04 11.1	+0.2
VRAC				*e*SG	Sg	16 04 28.7	+0.3
VRAC	Vranov	1.38	249	*e*Pg	Pb	16 04 11.0	+0.2
	baz=67						
VRAC				*e*Sg	Sg	16 04 28.6	+0.2
	51nm,0.5s,baz=67						
SMOL	Smolenice	1.50	210	*e*SN	Sn	16 04 33.7	+1.2
DPC	Dobruska-Polom	1.54	291	*e*PG	Pb	16 04 13.5	-0.1
DPC				*e*SG	Sb	16 04 35.3	+1.6
	comp=Z,30nm,0.5s						
KRUC	Moravsky	1.60	243	*e*PG	Pb	16 04 14.6	-0.1
KRUC				*e*SG	Sg	16 04 36.0	+0.4
KRUC	Moravsky	1.60	243	*e*Pg	Pb	16 04 14.5	-0.1
	baz=61						
KRUC				*e*Sg	Sg	16 04 36.0	+0.4
	45nm,0.6s,baz=61						
UPC	Upice	1.78	294	*e*PG	Pg	16 04 18.2	-0.2
UPC				*e*SG	Sg	16 04 42.2	+0.7
	comp=Z,27nm,0.6s						
KSP	Ksiaz	1.79	306	*e*Pg	Pn	16 04 16.5	+0.2
KSP				*e*Sg	Sb	16 04 40.9	+0.2
TREC	Trest	2.07	257	*e*PG	Pb	16 04 22.2	-0.4
TREC				*e*SG	Sg	16 04 50.5	-0.1
	comp=Z,18nm,0.6s						
PSZ	Piszkesteto	2.09	155	*e*Pn	Pn	16 04 21.1	+0.6
PSZ				Sn	Sb	16 04 49.1	-0.4
GOPC	GO Pecny, Ondr	2.45	274	*e*SG	Sg	16 05 03.3	+0.6
	comp=Z,12nm,0.4s						
PRU	Pruhonice	2.61	275	*e*PG	Pb	16 04 32.8	+1.0
PRU				*e*SG	Sg	16 05 07.4	-0.5
	comp=Z,14nm,0.5s						
PVCC	Panska Ves	2.67	287	*e*PG	Pg	16 04 34.5	-0.8
PVCC				*e*SG	Sg	16 05 11.5	+1.7
	comp=Z,22nm,0.4s						
PRA	Prague	2.68	277	*e*SG	Sg	16 05 10.2	-0.1
	comp=Z,19nm,0.6s						
BRG	Berggiesshubel	3.15	292	PG	Pb	16 04 41.5	+0.5
BRG				SG	Sg	16 05 25.8	+0.6
	14nm,0.8s						
KHC	Kasperske Hory	3.32	260	*e*PG	Pb	16 04 45.6	+1.6
KHC				*e*SG	Sg	16 05 30.0	-0.9
	comp=Z,12nm,0.7s						
GERES	GERESS Array B	3.32	255	Pn	Pn	16 04 38.2	+0.7
	0.2nm,0.3s,baz=71,slow=14,SNR=4.6						
GERES				Pg	Pg	16 04 46.8	-1.1
	1.7nm,0.3s,baz=79,slow=16,SNR=25						
GERES				Lg	Lg	16 05 30.4	
	2.4nm,0.3s,baz=74,slow=28,SNR=10.0						
CLL	Collm	3.85	295	*e*Pg	Pg	16 04 57.0	-0.9
CLL				*e*Sg	Sg	16 05 48.0	+0.2
	comp=Z,8.0nm,0.7s						
NKC	Novy Kostel	3.97	278	*e*SG	Sg	16 05 51.6	0.0
	comp=Z,10nm,0.6s						
AKASG	Malin Array Be	6.89	79	Pn	Pn	16 05 24.8	-1.6
	comp=Z,0.4nm,0.3s,baz=260,slow=14,SNR=4.3						
AKASG				Lg	Lg	16 07 23.9	
	comp=Z,0.7nm,0.3s,baz=259,slow=24,SNR=4.1						
FINES	FINESS Array B	12.40	17	Pn	Pn	16 06 39.7	-1.9
	comp=Z,0.1nm,0.3s,baz=207,slow=12,SNR=4.2						

IDC 09 16:07:16.4±8.0, **1°.83S**×**67°.91E**, **h0**km, **mb3.7**/7, **mb1 3.7**/7, **mb1mx3.5**/46, **mbtmp3.7**/7, **Error ellipse: s-maj=261.4km s-min=24.2km az=66.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.43	145	T	T	16 13 57.3	
	baz=325,slow=75,SNR=33						
H08N3	Diego Garcia H	5.44	146	T	T	16 13 56.5	
	baz=325,slow=75,SNR=46						
H08N1	Diego Carcia H	5.45	145	T	T	16 14 04.2	
	baz=325,slow=75,SNR=33						
AAK	Ala-Archa	44.66	7	P	P	16 15 31.0	-0.1
	0.4nm,0.4s,baz=212,slow=9.5,SNR=2.7						
MKAR	Makanchi Array	50.05	13	P	P	16 16 12.7	-0.2
	0.6nm,0.8s,baz=185,slow=6.4,SNR=7.1						
KURBB	Kurchatov Arra	53.04	8	P	P	16 16 35.2	0.0
	0.4nm,0.3s,baz=208,slow=5.3,SNR=2.8						
ZALV	Zalesovo Beam	57.34	12	P	P	16 17 05.5	-0.7
	1.6nm,0.7s,baz=206,slow=5.0,SNR=7.0						
SONM	Songino Array	59.76	29	P	P	16 17 24.2	+0.9
	0.3nm,0.3s,baz=228,slow=6.5,SNR=3.9						
WRA	Warramunga Arr	67.25	111	P	P	16 18 12.2	-1.1
	0.5nm,0.7s,baz=285,slow=5.9,SNR=4.2						
ASAR	Alice Springs	67.33	115	P	P	16 18 14.8	+1.0
	0.3nm,0.8s,baz=297,slow=8.2,SNR=3.7						

*IDC **09** 16:12:03.3±7.1, 20°.94S×178°.51W, h542km±70km, mb3.0/6, mb1 3.2/6, mb1mx3.0/33, mbtmp3.9/6, Error ellipse: s-maj=90.2km s-min=31.6km az=144.0*
*ISCJB **09** 16:12:05.9±2.2, 20°.8S±0°.7×178°.8W±0°.5, h579km, mb3.5/6, Error ellipse: s-maj=110.5km s-min=20.3km az=148.7*
ISC 09 16:12:06.4±2.1, **20°.9S**±0°.7×**178°.6W**±0°.5, **h579**km, **n10**, σ**1s.07**/12, **mb3.5**/6, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.08	245	P	P	16 18 28.1	-0.6
	1.7nm,0.7s,baz=66,slow=10.0,SNR=2.5						
ASAR	Alice Springs	43.86	257	P	P	16 19 22.8	0.0
	1.1nm,0.6s,baz=95,slow=8.3,SNR=24						
ASAR				PcP	PcP	16 20 57.1	+1.1
	0.7nm,0.6s,baz=102,slow=3.7,SNR=10						
WRA	Warramunga Arr	43.98	263	P	P	16 19 23.1	-0.5
	0.7nm,0.6s,baz=96,slow=7.5,SNR=19						
WRA				PcP	PcP	16 20 57.1	+0.7
	0.3nm,0.7s,baz=99,slow=4.9,SNR=3.5						
FITZ	Fitzroy Crossi	52.40	263	P	P	16 20 27.0	+0.8
	1.8nm,0.9s,baz=95,slow=12,SNR=2.5						
ILAR	Eielson Array	88.87	13	P	P	16 23 58.9	-0.2
	0.4nm,0.7s,baz=223,slow=5.4,SNR=8.5						
PDAR	Pinedale Array	89.67	43	P	P	16 24 04.3	+0.6
	0.5nm,0.6s,baz=218,slow=3.9,SNR=4.5						
MKAR	Makanchi Array	111.08	313	PKiKP	PKiKP	16 29 33.3	-1.4
	0.3nm,0.9s,baz=134,slow=1.6,SNR=4.3						
AKASG	Malin Array Be	143.12	330	PKP	PKPdf	16 30 32.9	-2.0
	1.5nm,0.4s,baz=44,slow=4.4,SNR=7.3						
BRTR	Keskin Array B	146.71	311	PKPbc	PKPbc	16 30 45.0	+0.6
	0.7nm,0.6s,baz=151,slow=5.4,SNR=5.2						
GERES	GERESS Array B	150.46	343	PKPbc	PKPbc	16 30 53.9	+0.6
	0.3nm,0.3s,baz=19,slow=4.5,SNR=4.3						

IDC 09 16:21:51.8±51.0, **15°.12S**×**172°.70W**, **h0**km, **mb3.9**/3, **mb1 4.0**/3, **mb1mx3.6**/40, **mbtmp3.9**/3, **Error ellipse: s-maj=993.8km s-min=182.8km az=78.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	44.77	240	P	P	16 30 06.6	-0.8
	0.8nm,0.5s,baz=107,slow=11,SNR=4.0						
WRA	Warramunga Arr	50.57	256	P	P	16 30 52.9	+0.1
	0.3nm,0.6s,baz=90,slow=6.9,SNR=13						
ASAR	Alice Springs	50.85	252	P	P	16 30 54.9	+0.1
	2.7nm,0.6s,baz=89,slow=7.9,SNR=85						

*IDC **09** 16:25:18.0±1.5, 1°.76S×67°.81E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.6/56, mbtmp3.9/8, ML3.9/1, MS3.6/4, Ms1 3.6/4, ms1mx3.0/48, Error ellipse: s-maj=57.9km s-min=19.5km az=139.0*
*ISCJB **09** 16:25:18.4±1.1, 1°.7S±0°.2×67°.9E±0°.2, h15km, mb3.9/8, MS3.5/3, Error ellipse: s-maj=33.4km s-min=13.6km az=142.9*
*NEIC **09** 16:25:19.1±0.6, 1°.82S×67°.87E, h10km, mb4.3/4, Error ellipse: s-maj=21.7km s-min=8.7km az=142.0*
ISC 09 16:25:19.9±1.3, **1°.8S**±0°.3×**67°.9E**±0°.2, **h15**km, **n29**, σ**0s.52**/21, **mb4.0**/8, **MS3.6**/3, **Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.43	145	T	T	16 31 58.3	
	baz=325,slow=75,SNR=58						
H08N3	Diego Garcia H	5.44	146	T	T	16 32 06.0	
	baz=325,slow=75,SNR=60						
H08N1	Diego Carcia H	5.45	145	T	T	16 31 57.3	
	baz=325,slow=75,SNR=57						
H08S3	Diego Garcia H	7.34	142	T	T	16 34 34.9	
	baz=299,slow=80,SNR=5.5						
H08S1	Diego Carcia H	7.35	142	T	T	16 34 36.2	
	baz=299,slow=80,SNR=6.8						
H08S2	Diego Garcia H	7.36	142	T	T	16 34 35.9	
	baz=299,slow=80,SNR=5.2						
PALK	Pallekele	15.66	55	Pn	Pn	16 28 59.3	-0.9
	0.4nm,0.3s,baz=296,slow=14,SNR=4.5						
PALK				LR	LR	16 33 51.7	
	comp=Z,190nm,20.2s,baz=296,slow=33						
PALK	Pallekele	15.66	55	*e*Pn	Pn	16 28 59.3	-0.9
	38nm,1.4s						
OPO	Ambohidratompo	26.25	229	LR	LR	16 38 34.1	
	comp=Z,193nm,21.4s,baz=22,slow=30						
CMAR	Chiang Mai Arr	36.60	55	P	P	16 32 26.3	+0.5
	0.4nm,0.6s,baz=244,slow=12,SNR=4.7						
LEM	Lembang	39.90	98	LR	LR	16 47 16.8	
	comp=Z,147nm,20.4s,baz=226,slow=33						
LSZ	Lusaka	41.37	249	P	P	16 33 06.1	+0.1
	1.9nm,0.5s,baz=65,slow=8.0,SNR=6.0						
LSZ	Lusaka	41.37	249	*e*P	P	16 33 05.7	-0.3
	3.6nm,0.8s						
MATP	Matopo	42.66	241	P	P	16 33 16.3	-0.2
	1.2nm,0.6s,baz=80,slow=7.0,SNR=4.0						
MATP				LR	LR	16 48 23.6	
	comp=Z,36nm,21.4s,baz=33,slow=32						
MK01	Makanchi Array	50.04	13	*e*P	P	16 34 13.9	0.0
MK31	Makanchi Array	50.06	13	*e*P	P	16 34 14.0	0.0
MK32	Makanchi Array	50.06	13	*e*P	P	16 34 14.2	+0.1
MKAR	Makanchi Array	50.06	13	P	P	16 34 14.2	+0.1
	0.9nm,0.8s,baz=206,slow=8.3,SNR=7.3						
MKAR	Makanchi Array	50.06	13	*e*P	P	16 34 13.9	-0.2
	6.3nm,0.9s						
ABKAR	Akbulak array	51.35	353	*e*P	P	16 34 23.9	+0.1
AKTO	Aktyubinsk	52.76	352	P	P	16 34 33.5	-0.7
	0.7nm,0.7s,baz=225,slow=7.1,SNR=2.5						
ZAA0	Zalesovo Array	57.35	12	*e*P	P	16 35 06.8	-0.5
	2.2nm,0.8s						
ZALV	Zalesovo Beam	57.35	12	P	P	16 35 07.3	0.0
	1.8nm,0.7s,baz=207,slow=8.6,SNR=8.2						
ZALV	Zalesovo Beam	57.35	12	*e*P	P	16 35 06.8	-0.5
ZAA1	Zalesovo Array	57.35	12	*e*P	P	16 35 07.3	0.0
SONA0	Songino Array	59.77	29	*e*P	P	16 35 25.4	+0.9
SONM	Songino Array	59.77	29	P	P	16 35 25.4	+0.9
	0.8nm,0.8s,baz=223,slow=5.9,SNR=4.9						
LTX	Lajitas	151.50	344	*e*PKPbc	PKPbc	16 45 14.3	0.0
TXAR	Lajitas Array	151.50	344	PKPbc	PKPbc	16 45 14.3	0.0
	1.8nm,1.1s,baz=57,slow=3.3,SNR=4.9						

IDC 09 16:29:14.3±40.0, **3°.16S**×**66°.30E**, **h0**km, **mb3.5**/3, **mb1 3.5**/3, **mb1mx3.2**/42, **mbtmp3.5**/3, **Error ellipse: s-maj=872.9km s-min=207.4km az=33.0, South Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	51.70	14	P	P	16 38 23.0	-0.2
	0.4nm,0.8s,baz=200,slow=5.8,SNR=4.1						
ZALV	Zalesovo Beam	58.97	13	P	P	16 39 15.4	0.0
	0.4nm,0.5s,baz=202,slow=7.2,SNR=2.6						
SONM	Songino Array	61.69	30	P	P	16 39 34.4	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.6nm,0.8s,baz=224,slow=6.0,SNR=4.2						

*IDC **09** 16:30:53.5±0.7, 7°.24S×144°.18E, h0km, mb4.2/13, mb1 4.3/19, mb1mx4.2/42, mbtmp4.2/19, ML3.5/4, Error ellipse: s-maj=21.8km s-min=15.5km az=75.0*
*ISCJB **09** 16:30:56.5±0.3, 7°.32S±0°.04×144°.07E±0°.05, h35km, mb4.5/24, Error ellipse: s-maj=7.4km s-min=5.0km az=152.2*
*NEIC **09** 16:30:56.1±3.6, 7°.24S×144°.08E, h19km±23km, mb4.5/7, Error ellipse: s-maj=10.0km s-min=8.4km az=62.0*
ISC 09 16:30:58.1±0.5**, 7°.42S**±0°.06×**143°.94E**±0°.07**, h35**km**, n57, σ1.83**/59**, mb4.6**/27**, Near south coast of New Guinea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.74	122	Pn	Pn	16 31 51.9	-1.5
	8.4nm,0.3s,baz=350,slow=8.9,SNR=20						
PMG				Sn	Sn	16 32 35.7	-0.6
	15nm,0.3s,baz=196,slow=7.4,SNR=5.7						
JAY	Jayapura	5.85	326	Pn	Pn	16 32 23.0	+0.6
	0.5nm,0.3s,baz=330,slow=20,SNR=1.9						
JAY				Sn	Sn	16 33 27.2	-1.1
	0.9nm,0.3s,baz=336,slow=19,SNR=2.2						
JAY				Lg	Lg	16 33 47.9	
	1.4nm,0.3s,baz=122,slow=22,SNR=3.0						
COEN	Coen	6.54	187	ePn	Pn	16 32 35.4	+3.5
FAKI	Fak Fak	12.47	290	ePn	Pn	16 33 51.2	-2.1
CTA	Charters Tower	12.79	170	Pn	Pn	16 34 00.8	+3.2
	0.1nm,0.3s,baz=20,slow=16,SNR=2.3						
CTA				Lg	Lg	16 37 56.3	
	0.1nm,0.3s,baz=54,slow=19,SNR=2.5						
CTAO	Charters Tower	12.79	170	ePn	Pn	16 33 58.5	+0.9
SIJI	Sorong	14.21	297	Pn	Pn	16 34 19.5	+2.4
	0.4nm,0.3s,baz=163,slow=19,SNR=2.8						
WRAB	Tennant Creek	15.53	216	ePn	Pn	16 34 33.3	-1.3
	29nm,1.4s						
WB2	Warramunga Arr	15.54	216	ePn	Pn	16 34 35.8	+1.0
WRA	Warramunga Arr	15.54	216	Pn	Pn	16 34 35.8	+1.0
	0.4nm,0.3s,baz=33,slow=13,SNR=27						
WRA				Sn	Sn	16 37 22.1	-3.9
	0.4nm,0.3s,baz=30,slow=22,SNR=5.0						
WRA				Lg	Lg	16 39 12.2	
	0.5nm,0.3s,baz=32,slow=30,SNR=4.9						
HNR	Honiara	15.96	98	Pn	Pn	16 34 37.6	-2.6
	14nm,0.3s,baz=203,slow=16,SNR=5.3						
AS01	Alice Springs	18.78	210	eP	Pn	16 35 17.4	+2.2
AS31	Alice Springs	18.80	210	eP	Pn	16 35 18.4	+2.9
	8.9nm,0.6s						
ASAR	Alice Springs	18.81	210	P	Pn	16 35 18.5	+3.0
	1.0nm,0.3s,baz=42,slow=8.8,SNR=116						
ASAR				S	Sn	16 38 39.4	-5.7
	0.2nm,0.3s,baz=22,slow=26,SNR=3.6						
ASAR				Lg	Lg	16 40 58.3	
	0.1nm,0.3s,baz=19,slow=30,SNR=4.2						
FITZ	Fitzroy Crossi	20.74	237	P	Pn	16 35 38.3	-0.2
	10nm,0.7s,baz=57,slow=9.6,SNR=38						
FITZ				S	S	16 39 21.3	-4.5
	5.8nm,0.8s,baz=138,slow=16,SNR=3.8						
STKA	Stephens Creek	24.43	185	P	P	16 36 16.5	+2.9
	1.8nm,0.7s,baz=344,slow=15,SNR=3.9						
BKNI	Bangkinang	43.47	278	eP	P	16 38 58.1	-0.3
	147nm,0.6s						
NJ2	Nanjing	45.98	330	eP	P	16 39 17.5	-0.6
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
KSAR	Wonju Array Be	47.09	343	P	P	16 39 26.6	0.0
KSRS	Korea Array	47.09	343	P	P	16 39 26.6	0.0
	comp=Z,3.1nm,0.8s,baz=160,slow=8.4,SNR=6.9						
CM01	Chiang Mai Arr	51.27	301	eP	P	16 39 59.0	0.0
CM31	Chiang Mai Arr	51.30	301	eP	P	16 39 59.0	-0.3
CMAR	Chiang Mai Arr	51.30	301	P	P	16 40 01.1	+1.9
	comp=Z,5.1nm,0.7s,baz=121,slow=5.8,SNR=58						
CHTO	Chiang Mai	51.46	301	eP	P	16 40 00.1	-0.3
	comp=Z,6.6nm,0.8s						
USRK	Ussuriysk Ar.	52.51	349	P	P	16 40 09.0	+1.3
	comp=Z,1.9nm,0.8s,baz=123,slow=16,SNR=3.7						
HHC	Hu-ho-hao-te	56.51	331	eP	P	16 40 38.8	+1.7
HHC				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC				pmax	pmax		
	comp=Z,130nm,6.1s						
LZH	Lanzhou	57.37	322	eP	P	16 40 48.0	+4.7
LZH				pP	sP	16 40 56.2	-2.0
LZH				sP	pP	16 41 00.2	+6.2
LZH				pmax	pmax		
	comp=Z,25nm,1.1s						
PETK	Petropavlovsk-	61.42	9	P	P	16 41 10.6	-0.2
	comp=Z,2.6nm,0.7s,baz=176,slow=7.3,SNR=4.6						
GTA	Gaotai	61.95	322	P	P	16 41 15.9	+1.2
GTA				pP	pP	16 41 26.4	+0.9
GTA				sP	sP	16 41 30.4	+0.8
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KIP	Kipapa	63.74	62	eP	P	16 41 24.7	-2.2
SONM	Songino Array	64.22	333	P	P	16 41 29.9	+0.3
	comp=Z,0.6nm,0.7s,baz=160,slow=3.8,SNR=4.2						
JIRN	Jiri	65.79	305	eP	P	16 41 41.7	+1.1
GUN	Gumba	66.14	305	eP	P	16 41 44.2	+1.4
	comp=Z,12nm,0.8s						
PKI	Pulchoki	66.39	304	eP	P	16 41 45.3	+0.9
PKIN	Phulchoki	66.41	304	eP	P	16 41 45.1	+0.7
KKN	Kakani	66.58	304	eP	P	16 41 46.7	+1.2
DANN	Dangsing	68.04	304	eP	P	16 41 55.6	+0.8
	comp=Z,17nm,1.0s						
PYUN	Piuthan	68.58	304	eP	P	16 41 59.0	+0.9
	comp=Z,13nm,0.8s						
WMQ	Urumqi	71.92	321	eP	P	16 42 19.4	+1.3
WMQ				pmax	pmax		
	comp=Z,23nm,1.1s						
MK01	Makanchi Array	76.67	322	eP	P	16 42 45.8	+0.2
MK31	Makanchi Array	76.69	322	eP	P	16 42 45.3	-0.4
MKAR	Makanchi Array	76.69	322	P	P	16 42 46.2	+0.6
	comp=Z,3.4nm,0.7s,baz=110,slow=6.6,SNR=27						
MKAR	Makanchi Array	76.69	322	eP	P	16 42 45.3	-0.4
	comp=Z,22nm,0.9s						
MAKZ	Makanchi	76.89	321	eP	P	16 42 46.9	+0.1
	comp=Z,6.0nm,0.9s						
KSH	Kashi	78.09	313	P	P	16 42 59.0	+5.2
KSH				pP	sP	16 43 11.0	+2.1
KSH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KSH				pmax	pmax		
	comp=Z,520nm,6.6s						
ZAA0	Zalesovo Array	78.62	329	eP	P	16 42 54.7	-1.6
	comp=Z,3.2nm,0.9s						
ZALV	Zalesovo Beam	78.62	329	P	P	16 42 55.9	-0.4
	comp=Z,2.8nm,0.6s,baz=102,slow=4.2,SNR=12						
ZALV	Zalesovo Beam	78.62	329	eP	P	16 42 54.6	-1.7
AAK	Ala-Archa	80.20	315	P	P	16 43 07.0	+1.6
	comp=Z,0.3nm,0.3s,baz=225,slow=1.4,SNR=3.1						
KURK	Kurchatov	80.55	324	P	P	16 43 07.7	+0.9
KURBB	Kurchatov Arra	80.57	324	P	P	16 43 07.7	+0.8
	comp=Z,1.0nm,0.2s,baz=117,slow=4.3,SNR=5.8						
QSPA	South Pole Qui	82.55	180	eP	P	16 43 18.1	+0.8
	comp=Z,7.4nm,1.1s						
BVAR	Borovoye Array	86.14	325	P	P	16 43 35.7	+0.2
	comp=Z,3.0nm,0.6s,baz=110,slow=6.2,SNR=17						
BRVK	Borovoye	86.21	325	eP	P	16 43 35.4	-0.5
	comp=Z,2.6nm,0.8s						
ILAR	Eielson Array	87.98	24	P	P	16 43 42.3	-1.9
	comp=Z,1.3nm,0.9s,baz=244,slow=5.0,SNR=8.0						
LANS	Liptovska Anna	117.74	322	ePKP	PKPdf	16 49 39.4	-1.5
LANS				e		16 49 45.6	
DBIC	Dimbokro	149.03	271	PKPbc	PKiKP	16 50 44.1	-0.9
	comp=Z,2.1nm,0.6s,baz=113,slow=0.9,SNR=4.9						

*ISK **09** 16:31:09.8, 39°.66N×25°.45E, h5km, ML3.5/19*
*DDA **09** 16:31:09.6, 39°.67N×25°.47E, h29km±1km, ML3.4*
*ATH **09** 16:31:10.7, 39°.65N×25°.47E, h27km, ML3.2/7, Error ellipse: s-maj=1.4km s-min=0.6km az=59.0*
*THE **09** 16:31:11.4, 39°.67N×25°.51E, h11km±1km, ML3.1/9, Error ellipse: s-maj=1.2km s-min=0.6km az=74.0*
*ISCJB **09** 16:31:11.6±0.3, 39°.65N±0°.02×25°.46E±0°.02, h19km±4km, Error ellipse: s-maj=2.8km s-min=2.7km az=42.5*
*BEO **09** 16:31:13.1±1.5, 39°.53N×25°.03E, h17km±2km, ML2.9/3*
ISC 09 16:31:10.6±0.9**, 39°.66N**±0°.01×**25°.47E**±0°.02**, h15**km±8km**, n125, σ1.03**/145**, 5C-6D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.32	317	P	Pb	16 31 18.9	+0.9
LIA				S	Sb	16 31 23.8	+0.8
LIA				AML	AML	16 31 24.2	
	comp=N,4868µm,0.3s						
LIA				AML	AML	16 31 24.4	
	comp=E,6450µm,0.4s						
LIA	Limnos Island	0.32	317	P	Pb	16 31 18.9	+0.9
LIA				S	Sb	16 31 23.8	+0.8
BOZC	Bozcaada	0.48	68	PG	Pg	16 31 19.9	-0.3
BOZC	Bozcaada	0.48	68	IAML_P			
	comp=Z,16µm,0.1s						
BOZC				iP	Pb	16 31 20.7	-0.1
SIGR	SIGRI	0.54	146	PG	Pg	16 31 20.9	-0.3
SIGR				SG	Sg	16 31 28.9	+0.4
SIGR	SIGRI	0.54	146	P	Pg	16 31 21.3	+0.1
SIGR				S	Sb	16 31 29.1	-0.2
SIGR				AML	AML	16 31 29.4	
	comp=E,12920µm,0.5s						
SIGR				AML	AML	16 31 29.4	
	comp=N,17957µm,0.5s						
SIGR	SIGRI	0.54	146	P	Pg	16 31 21.3	+0.1
SIGR				S	Sg	16 31 28.8	+0.3
GPNR	Gulpinar-Canak	0.55	112	PG	Pg	16 31 21.1	-0.4
GADA	Gvkgeada	0.62	32	PG	Pg	16 31 22.9	+0.1
GADA				SG	Sg	16 31 31.1	0.0
GADA	Gvkgeada	0.62	32	P	Pg	16 31 22.8	0.0
GADA				S	Sg	16 31 31.0	0.0
GOKC	Gokceada-Canak	0.64	32	PG	Pg	16 31 23.2	+0.1
EZN	Ezine	0.68	76	PG	Pg	16 31 23.4	-0.4
EZN	Ezine	0.68	76	P	Pg	16 31 23.3	-0.5
PRK	Paraskevi	0.75	124	P	Pg	16 31 25.9	+0.8
PRK				S	Sn	16 31 36.3	-1.2
PRK				AML	AML	16 31 38.0	
	comp=N,3508µm,0.3s						
PRK				AML	AML	16 31 39.2	
	comp=E,4528µm,0.3s						
PRK	Paraskevi	0.75	124	P	Pn	16 31 26.0	-0.5
PRK				S	Sn	16 31 36.4	-1.2
SMTH	Samothraki Isl	0.81	3	P	Pg	16 31 26.8	+0.5
SMTH				S	Sn	16 31 38.3	-0.9
SMTH				AML	AML	16 31 40.4	
	comp=N,1644µm,0.3s						
SMTH				AML	AML	16 31 40.9	
	comp=E,1660µm,0.4s						
SMTH	Samothraki Isl	0.81	3	P	Pg	16 31 26.8	+0.5
SMTH				S	Sn	16 31 38.1	-1.1
BAYC	CANAKKALE_Bayr	0.83	84	IAML_P			
	comp=Z,12µm,0.2s						
BAYC				iP	Pb	16 31 26.3	-0.4
BAYC				iS	Sb	16 31 36.0	-1.7
AYVA	Ayvalik	1.01	110	IAML_P			
	comp=Z,7µm,0.2s						
AYVA				iP	Pb	16 31 29.8	+0.1
AYVA				iS	Sn	16 31 44.4	+0.4
SKY	Skiros Island	1.06	223	P	Pg	16 31 31.2	+0.1
SKY				S	Sg	16 31 45.0	+0.1
SKY	Skiros Island	1.06	223	P	Pg	16 31 31.1	0.0
SKY				S	Sn	16 31 46.3	+1.0
GELI	Tayfur-Gelibol	1.06	46	PG	Pn	16 31 30.9	0.0
THAS	Thassos island	1.10	329	P	Pg	16 31 32.0	+0.1
THAS				S	Sg	16 31 47.6	+1.3
THAS				AML	AML	16 31 48.6	
	comp=E,1871µm,0.2s						
THAS				AML	AML	16 31 49.5	
	comp=N,2555µm,0.2s						
THAS	Thassos island	1.10	329	P	Pg	16 31 32.1	+0.2
THAS				S	Sg	16 31 47.1	+0.7
PSRA	Psara	1.12	176	P	Pg	16 31 32.6	+0.4
ENEZ	Enez	1.19	26	PN	Pb	16 31 33.2	+0.3
LPK	Lapseki	1.22	54	PN	Pb	16 31 33.6	+0.3
DKL	Dikili	1.26	118	PN	Pb	16 31 34.2	+0.2
ERIK	Erikli-Kesan	1.28	38	PN	Pb	16 31 34.4	0.0
ALN	Alexandroupoli	1.31	19	PN	Pn	16 31 34.5	+0.2
ALN	Alexandroupoli	1.31	19	P	Pn	16 31 34.5	+0.2
ALN				S	Sg	16 31 52.6	-0.3
ALN				AML	AML	16 31 54.5	
	comp=E,659µm,0.4s						
ALN				AML	AML	16 32 01.4	
	comp=N,648µm,0.5s						
ALN	Alexandroupoli	1.31	19	P	Pn	16 31 34.3	0.0
ALN				S	Sg	16 31 52.6	-0.3
AOS	Alonnisos	1.33	249	PN	Pb	16 31 35.2	+0.1
AOS	Alonnisos	1.33	249	P	Pg	16 31 35.7	-0.5
AOS	Alonnisos	1.33	249	P	Pg	16 31 35.6	-0.5
AOS				S	Sg	16 31 54.0	+0.6
CHOS	Chios island	1.35	160	PN	Pb	16 31 35.8	+0.2
CHOS	Chios island	1.35	160	P	Pn	16 31 35.2	+0.2
CHOS				S	Sg	16 31 54.6	+0.4
CHOS				AML	AML	16 31 56.8	
	comp=E,3359µm,0.8s						
CHOS				AML	AML	16 31 57.0	
	comp=N,3945µm,0.6s						
CHOS	Chios island	1.35	160	P	Pb	16 31 35.3	-0.3
CHOS				S	Sg	16 31 54.3	+0.1
KRBN	Karaburun	1.36	141	PN	Pb	16 31 35.8	+0.1
FOCM	Foa	1.36	134	PN	Pb	16 31 36.2	+0.5
PAIG	Paliouri	1.41	281	P	Pb	16 31 36.4	0.0
PAIG	Paliouri	1.41	281	P	Pb	16 31 36.5	0.0
RDO	Rodhopi	1.48	2	PN	Pn	16 31 36.3	-0.4
RDO	Rodhopi	1.48	2	P	Pb	16 31 37.2	-0.6
RDO	Rodhopi	1.48	2	P	Pb	16 31 37.2	-0.6
KESN	Edirne-Kesan	1.48	38	IAML_P			
	comp=Z,2µm,0.2s						
KESN				iP	Pn	16 31 37.1	0.0
KESN				iS	Sb	16 31 56.9	0.0
KAVA	Kavala	1.52	332	P	Pb	16 31 38.2	-0.3
KAVA	Kavala	1.52	332	P	Pb	16 31 38.0	-0.5
URLA	Izmir	1.57	146	PN	Pb	16 31 38.9	-0.4
URLA	Izmir	1.57	146	IAML_P			
	comp=Z,2µm,0.2s						
URLA				iP	Pn	16 31 38.3	+0.4
KRBG	Karabiga-Canak	1.58	62	PN	Pb	16 31 39.3	-0.2
KNL	Balıkesir	1.69	68	iP	Pb	16 31 41.5	+0.1
KNL				iS	Sg	16 32 03.9	-1.2
EREA	Eretria	1.73	225	P	Pn	16 31 40.5	+0.5
EREA	Eretria	1.73	225	P	Pn	16 31 40.5	+0.5
GONE	Gonen-Balikesi	1.75	77	PN	Pb	16 31 41.8	-0.5
STEP	BALIKESIR_Sava	1.76	99	iP	Pn	16 31 41.3	+0.8
STEP				iS	Sg	16 32 07.4	+0.2
BLCB	Balcova	1.77	136	PN	Pb	16 31 41.6	-1.0
XOR	Xorichti	1.79	261	P	Pb	16 31 42.0	-1.0
XOR	Xorichti	1.79	261	P	Pb	16 31 42.0	-1.0
BALB	Balikesir	1.86	90	PN	Pn	16 31 42.8	+1.0
GMLD	Gumuldur	1.94	144	PN	Pn	16 31 44.2	+1.2
DGB	zmir	1.95	145	IAML_P			
	comp=Z,295nm,0.1s						
DGB				iP	Pn	16 31 44.3	+1.2
EDC	Edincik	1.96	69	PN	Pb	16 31 44.9	-1.0
SBT4	Kumbag-Tekirda	1.96	53	PN	Pn	16 31 44.4	+1.3
AKHS	Akhisar	1.98	113	IAML_P			
	comp=Z,893nm,0.1s						
AKHS				iP	Pn	16 31 44.4	+0.9
DION	Dionisos Attik	1.99	218	P	Pn	16 31 43.9	+0.3
KDZ	Kurdzhali	1.99	359	PN	Pn	16 31 44.9	+1.3
KDZ	Kurdzhali	1.99	359	iP	Pg	16 31 51.3	+2.6
SOH	Sokhos	1.99	306	P	Pb	16 31 45.4	-1.1
PTL	Penteli	2.04	218	P	Pn	16 31 44.9	+0.5
SRS	Serrai	2.04	316	ePn	Pn	16 31 45.2	+0.8
SRS				eSn	Sn	16 32 09.3	-0.3
SRS	Serrai	2.04	316	P	Pn	16 31 45.6	+1.3
SRS	Serrai	2.04	316	P	Pn	16 31 45.7	+1.3
HORT	Hortiatis	2.04	298	P	Pb	16 31 46.1	-1.4
TKR	Tekirdag	2.06	49	PN	Pb	16 31 46.3	-1.4
NVR	Nevrokopi	2.08	324	P	Pn	16 31 46.4	+1.4
NVR	Nevrokopi	2.08	324	P	Pn	16 31 46.4	+1.4
RZN	Rozhen	2.10	344	iP	Pn	16 31 46.5	+1.1
ATAL	Atalanti	2.14	244	P	Pn	16 31 46.7	+1.0
ATAL	Atalanti	2.14	244	P	Pn	16 31 46.5	+0.8
VLY	Voula,Athens	2.23	216	P	Pn	16 31 47.3	+0.3
VIL2	Platees	2.25	231	P	Pn	16 31 47.9	+0.7
VILL	Villia	2.25	229	P	Pn	16 31 47.8	+0.5
CRLT	Corlu	2.27	49	PN	Pn	16 31 49.0	+1.6
KCTX	Karacabey (Bur	2.30	74	PN	Pn	16 31 49.2	+1.3
DURS	Dursunbey	2.32	91	IAML_P			
	comp=Z,408nm,0.2s						
DURS				iP	Pn	16 31 49.0	+0.8
DURS				iS	Sn	16 32 17.8	+1.3
MMB	Musomiste	2.34	326	iP	Pn	16 31 49.6	+1.1
DIM	Dimitrovgrad	2.39	1	iP	Pn	16 31 50.2	+1.1
EDRB	Edirne	2.39	23	PN	Pb	16 31 51.2	-2.0
DST	Dursunbey	2.43	90	PN	Pn	16 31 51.4	+1.6
KNT	Kendrikon	2.47	308	P	Pb	16 31 52.4	-2.3
PLD	Plovdiv	2.51	347	ePn	Pb	16 31 54.6	-0.7
PLD				eSn	Sb	16 32 25.7	-0.2
PHSR	Pinarhisar	2.51	38	PN	Pn	16 31 52.5	+1.7
LTK	Loutraki	2.55	231	P	Pn	16 31 52.1	+0.7
LTK	Loutraki	2.55	231	P	Pn	16 31 52.3	+0.9
DEMI	Demirci	2.59	103	IAML_P			
	comp=Z,468nm,0.2s						
DEMI				iP	Pn	16 31 53.8	+1.8
SLVT	Silivri	2.61	52	PN	Pn	16 31 54.3	+2.1
SERI	Serifos	2.62	198	P	Pn	16 31 52.4	+0.1
ORLT	Orhaneli	2.66	81	PN	Pn	16 31 54.9	+1.9
THL	Klokotos Trika	2.67	269	P	Pn	16 31 54.9	+1.8
MDNY	Mudanya-Bursa	2.71	74	PN	Pn	16 31 55.9	+2.3
VAY	Valandovo	2.76	308	iPn	Pb	16 32 00.8	+1.1
DID	Didima	2.77	220	P	Pn	16 31 54.8	+0.3
DID	Didima	2.77	220	P	Pn	16 31 54.8	+0.3
KALE	Kalithea	2.89	245	P	Pn	16 31 57.5	+1.5
STIP	Stip	3.22	310	iPn	Pn	16 32 01.5	+0.9
STIP				iSn	Sg	16 32 51.3	-2.7
FNA	Florina	3.33	291	ePn	Pn	16 32 01.0	-1.1
VTS	Vitosha	3.39	330	ePn	Pn	16 32 04.8	+1.8
VTS				eSn	Sn	16 32 43.0	0.0
VTS	Vitosha	3.39	330	⇑iP	Pg	16 32 23.5	+8.0
IGT	Igoumenitsa	3.97	270	ePn	Pn	16 32 08.5	-2.4
ZAPS	Zavoj	4.19	330	ePn	Pn	16 32 15.1	+1.2
SGRR	Singureni	4.57	5	⇓iP	Pg	16 32 34.3	-3.8
BOVS	Bovan	4.87	326	ePn	Pn	16 32 24.7	+1.5
LEHL	Lehliu	4.91	11	⇓iP	Pg	16 32 46.5	+1.9
GRUS	Gruza	5.52	321	ePn	Pn	16 32 32.4	+0.3
IVAS	Ivanjica	5.58	316	ePn	Pn	16 32 33.1	0.0
VOIR		5.78	357	⇑iP	Pn	16 32 41.0	+5.2
MLR	Muntele Rosu	5.83	3	⇑iP	Pn	16 32 43.1	+6.5
GIUM	Giurgiulesti	6.16	18	⇑iP	Pn	16 32 47.5	+6.6
PLOR	Plostina	6.25	8	⇓iP	Pn	16 32 49.0	+6.8
VRI	Vrincioaia	6.27	8	⇓iP	Pn	16 32 49.3	+6.8
DOPR	Dopca	6.30	359	⇓iP	Pn	16 32 48.8	+5.9
ARCR	ARCALIA	7.46	354	⇓iP	Pn	16 32 44.3	-15
BURAR	Bucovina Array	7.95	359	⇑iP	Pn	16 33 00.0	-5.6
VYHS	Vyhne	10.03	334	eSN	Sn	16 36 11.7	+45

*ISCJB **09** 16:36:10.6±0.9, 1°.8S±0°.1×68°.0E±0°.2, h15km, MS3.5/3, Error ellipse: s-maj=24.8km s-min=19.6km az=9.4*
*IDC **09** 16:36:10.4±1.2, 1°.89S×68°.06E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.5/45, mbtmp3.9/6, MS3.6/3, Ms1 3.6/3, ms1mx3.0/40, Error ellipse: s-maj=34.8km s-min=26.8km az=124.0*
*NEIC **09** 16:36:11.5±0.9, 1°.85S×67°.97E, h10km, mb4.6/1, Error ellipse: s-maj=24.8km s-min=19.7km az=102.0*
ISC 09 16:36:12.6±1.1**, 1°.9S**±0°.2×**68°.0E**±0°.2**, h15**km**, n22, σ1.11**/13**, MS3.6**/3**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.34	146	T	T	16 42 50.7	
	baz=325,slow=75,SNR=93						
H08N3	Diego Garcia H	5.35	146	T	T	16 42 58.4	
	baz=325,slow=75,SNR=53						
H08N1	Diego Carcia H	5.36	146	T	T	16 42 52.8	
	baz=325,slow=75,SNR=90						
H08S3	Diego Garcia H	7.25	142	T	T	16 45 34.5	
	baz=300,slow=80,SNR=4.9						
H08S1	Diego Carcia H	7.26	142	T	T	16 45 32.1	
	baz=300,slow=80,SNR=5.6						
H08S2	Diego Garcia H	7.27	142	T	T	16 45 33.9	
	baz=300,slow=80,SNR=4.8						
WSAR	Wadi Sarin	26.58	340	LR	LR	16 50 22.7	
	comp=Z,108nm,19.0s,baz=168,slow=32						
PSI	Prapat	31.25	82	LR	LR	16 52 42.0	
	comp=Z,148nm,21.8s,baz=210,slow=32						
GEYT	Alibeck	40.64	348	LR	LR	16 59 50.0	
	comp=Z,84nm,20.5s,baz=195,slow=35						
LSZ	Lusaka	41.47	249	P	P	16 43 59.9	+0.4
	0.9nm,0.5s,baz=63,slow=2.3						
LSZ	Lusaka	41.47	249	eP	P	16 43 59.1	-0.4
	23nm,2.0s						
MK01	Makanchi Array	50.04	13	eP	P	16 45 03.6	-3.0
MK32	Makanchi Array	50.06	13	eP	P	16 45 06.5	-0.3
MKAR	Makanchi Array	50.06	13	P	P	16 45 06.5	-0.3
	7.9nm,0.5s,baz=208,slow=7.3,SNR=82						
KURBB	Kurchatov Arra	53.06	8	P	P	16 45 29.1	0.0
	1.5nm,0.2s,baz=205,slow=7.7,SNR=3.6						
KURK	Kurchatov	53.16	8	eP	P	16 45 29.1	-0.8
ZALV	Zalesovo Beam	57.35	12	P	P	16 46 00.2	+0.1
	0.3nm,0.4s,baz=212,slow=5.1,SNR=2.9						
ZAA1	Zalesovo Array	57.36	12	eP	P	16 46 00.2	+0.1
SONA0	Songino Array	59.74	29	eP	P	16 46 18.0	+1.0
SONM	Songino Array	59.74	29	P	P	16 46 18.0	+1.0
	0.2nm,0.5s,baz=226,slow=6.3,SNR=3.2						
WR1	Warramunga Arr	67.14	111	eP	P	16 47 06.2	-0.2
	37nm,1.9s						
WRA	Warramunga Arr	67.14	111	P	P	16 47 06.2	-0.2
	0.2nm,0.7s,baz=285,slow=5.7,SNR=2.7						

*ISCJB **09** 16:41:34.6±1.2, 2°.1S±0°.1×67°.8E±0°.2, h15km, mb4.2/19, MS3.6/10, Error ellipse: s-maj=31.6km s-min=13.8km az=146.2*
*IDC **09** 16:41:35.7±1.6, 1°.99S×67°.92E, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.8/46, mbtmp4.0/11, MS3.6/11, Ms1 3.5/11, ms1mx3.2/39, Error ellipse: s-maj=45.4km s-min=21.7km az=56.0*
*NEIC **09** 16:41:36.5±0.8, 2°.03S×67°.86E, h10km, mb4.7/7, Error ellipse: s-maj=21.8km s-min=13.0km az=56.0*
ISC 09 16:41:37.2±1.4**, 2°.1S**±0°.2×**67°.9E**±0°.2**, h15**km**, n43, σ0.97**/30**, mb4.2**/19**, MS3.5**/10**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.27	144	T	T	16 48 16.7	
	baz=325,slow=75,SNR=73						
H08N3	Diego Garcia H	5.28	144	T	T	16 48 17.6	
	baz=325,slow=75,SNR=77						
H08N1	Diego Carcia H	5.29	144	T	T	16 48 18.7	
	baz=325,slow=75,SNR=100						
PALK	Pallekele	15.80	54	LR	LR	16 50 00.6	
	comp=Z,257nm,19.6s,baz=294,slow=32						
OPO	Ambohidratompo	26.09	230	LR	LR	16 55 49.0	
	comp=Z,228nm,18.4s,baz=22,slow=33						
ATD	Arta Tunnel	28.30	299	LR	LR	16 56 36.6	
	comp=Z,71nm,21.4s,baz=146,slow=32						
BRDH	Bariadhala	33.79	42	LR	LR	17 03 32.0	
	comp=Z,168nm,18.5s,baz=232,slow=39						
CM31	Chiang Mai Arr	36.75	55	eP	P	16 48 44.6	+0.3
CMAR	Chiang Mai Arr	36.75	55	P	P	16 48 45.3	+0.9
	0.9nm,0.9s,baz=242,slow=9.7,SNR=8.0						
NRN	Naryn	43.91	9	eP	P	16 49 44.3	+0.6
	2.6nm,0.9s						
AAK	Ala-Archa	44.88	7	P	P	16 49 51.7	+0.4
	0.4nm,0.3s,baz=194,slow=14,SNR=3.6						
BOSA	Boshof	48.43	233	LR	LR	17 07 10.1	
	comp=Z,63nm,20.9s,baz=31,slow=32						
MAKZ	Makanchi	50.22	13	eP	P	16 50 32.4	-0.2
	5.0nm,1.2s						
MK31	Makanchi Array	50.27	13	eP	P	16 50 32.6	-0.4
MK32	Makanchi Array	50.27	13	eP	P	16 50 33.0	0.0
MKAR	Makanchi Array	50.27	13	P	P	16 50 33.0	0.0
	1.4nm,0.8s,baz=191,slow=7.4,SNR=18						
MKAR	Makanchi Array	50.27	13	eP	P	16 50 32.6	-0.4
	11nm,0.9s						
ENH	Enshi	51.06	48	eP	P	16 50 37.6	-1.6
	12nm,1.2s						
AKTO	Aktyubinsk	52.96	352	P	P	16 50 51.8	-1.2
	1.2nm,0.7s,baz=183,slow=3.9,SNR=5.3						
KURBB	Kurchatov Arra	53.26	8	P	P	16 50 55.4	+0.2
	0.6nm,0.2s,baz=206,slow=7.7,SNR=8.0						
KURK	Kurchatov	53.37	8	eP	P	16 50 55.4	-0.6
	3.9nm,0.9s						
BVAR	Borovoye Array	54.92	2	P	P	16 51 06.5	-0.8
	0.2nm,0.5s,baz=212,slow=4.5,SNR=3.6						
ZAA0	Zalesovo Array	57.56	12	eP	P	16 51 25.7	-0.4
	4.9nm,0.9s						
ZALV	Zalesovo Beam	57.56	12	P	P	16 51 26.1	-0.1
	2.9nm,0.7s,baz=213,slow=7.3,SNR=17						
ZALV	Zalesovo Beam	57.56	12	eP	P	16 51 25.2	-0.9
ZAA1	Zalesovo Array	57.57	12	eP	P	16 51 26.1	-0.1
DAV	Davao City (W)	58.30	80	LR	LR	17 14 41.8	
	comp=Z,22nm,21.4s,baz=280,slow=34						
SONA0	Songino Array	59.97	29	eP	P	16 51 44.5	+1.3
SONM	Songino Array	59.97	29	P	P	16 51 44.5	+1.3
	2.4nm,0.9s,baz=225,slow=6.8,SNR=16						
SONM				LR	LR	17 17 48.4	
	comp=Z,84nm,20.4s,baz=290,slow=36						
SONA1	Songino Array	59.98	29	eP	P	16 51 43.4	+0.2
AKASG	Malin Array Be	62.04	333	P	P	16 51 59.1	+2.1

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.4nm,0.4s,baz=302,slow=24,SNR=5.5						
AKBB	**Malin Array Si**	**62.04**	**333**	*e*P	**P**	**16 51 56.1**	**-0.8**
	16nm,1.8s						
WRA	**Warramunga Arr**	**67.21**	**111**	P	**P**	**16 52 31.8**	**+0.4**
	1.3nm,0.9s,baz=286,slow=6.1,SNR=6.6						
WR1	**Warramunga Arr**	**67.21**	**111**	*e*P	**P**	**16 52 31.8**	**+0.4**
	34nm,1.9s						
ASAR	**Alice Springs**	**67.27**	**115**	P	**P**	**16 52 32.5**	**+0.7**
	1.1nm,1.1s,baz=260,slow=5.5,SNR=3.8						
AS31	**Alice Springs**	**67.27**	**115**	*e*P	**P**	**16 52 30.6**	**-1.2**
	2.1nm,1.2s						
TORD	**Torodi Ar. Bea**	**67.34**	**285**	LR	LR	17 21 28.7	
	comp=Z,54nm,18.6s,baz=0.0,slow=36						
KSRS	**Korea Array**	**67.95**	**48**	LR	LR	17 23 52.1	
	comp=Z,24nm,20.0s,baz=110,slow=37						
DBIC	**Dimbokro**	**73.10**	**278**	LR	LR	17 24 49.5	
	comp=Z,23nm,18.5s,baz=92,slow=36						
STKA	**Stephens Creek**	**75.11**	**122**	LR	LR	17 22 10.9	
	comp=Z,25nm,20.1s,baz=207,slow=32						
BG3	**Lake Jocassee**	**137.44**	**324**	*e*PKPdf	**PKPdf**	**17 00 59.2**	**-1.8**
LTX	**Lajitas**	**151.70**	**344**	*e*PKPbc	**PKPbc**	**17 01 33.4**	**+1.3**
TXAR	**Lajitas Array**	**151.70**	**344**	PKPbc	**PKPbc**	**17 01 33.4**	**+1.3**
	1.3nm,1.0s,baz=39,slow=5.9,SNR=6.5						

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*IDC **09** 16:48:56.7±1.0, 2°.09S×67°.83E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.6/43, mbtmp3.8/8, Error ellipse: s-maj=27.2km s-min=24.4km az=45.0*
*ISCJB **09** 16:48:57.3±0.8, 2°.1S±0°.1×67°.9E±0°.1, h15km, mb3.9/10, Error ellipse: s-maj=21.3km s-min=17.0km az=153.9*
*NEIC **09** 16:48:58.2±0.7, 2°.11S×67°.84E, h10km, mb4.2/1, Error ellipse: s-maj=20.4km s-min=17.5km az=61.0*
ISC 09 16:48:59.4±1.0, **2°.1S**±0°.2×**67°.8E**±0°.2, **h15**km, **n22**, σ**1s.24**/16, **mb3.9**/10, **Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.29**	**143**	T	T	16 55 42.9	
	baz=325,slow=75,SNR=80						
H08N3	**Diego Garcia H**	**5.30**	**144**	T	T	16 55 42.0	
	baz=325,slow=75,SNR=27						
H08N1	**Diego Carcia H**	**5.31**	**143**	T	T	16 55 43.5	
	baz=325,slow=75,SNR=23						
H08S3	**Diego Garcia H**	**7.21**	**140**	T	T	16 58 18.2	
	baz=300,slow=80,SNR=7.9						
H08S1	**Diego Carcia H**	**7.22**	**140**	T	T	16 58 20.9	
	baz=300,slow=80,SNR=4.1						
H08S2	**Diego Garcia H**	**7.24**	**140**	T	T	16 58 18.7	
	baz=300,slow=80,SNR=5.5						
CMAR	**Chiang Mai Arr**	**36.79**	**55**	P	**P**	**16 56 07.9**	**+1.0**
	0.4nm,0.8s,baz=254,slow=10.0,SNR=3.6						
LSZ	**Lusaka**	**41.23**	**249**	P	**P**	**16 56 45.5**	**+1.3**
	2.5nm,0.8s,baz=74,slow=9.1,SNR=3.8						
MK32	**Makanchi Array**	**50.29**	**13**	*e*P	**P**	**16 57 54.6**	**-0.7**
MKAR	**Makanchi Array**	**50.29**	**13**	P	**P**	**16 57 54.6**	**-0.7**
	0.5nm,0.8s,baz=199,slow=6.9,SNR=5.0						
KBZ	**Khabaz**	**50.78**	**337**	P	**P**	**16 57 57.5**	**-1.4**
	1.9nm,1.0s,baz=143,slow=10,SNR=2.4						
ZALV	**Zalesovo Beam**	**57.58**	**12**	P	**P**	**16 58 47.5**	**-0.9**
	1.1nm,0.6s,baz=206,slow=8.8,SNR=5.9						
ZALV	**Zalesovo Beam**	**57.58**	**12**	*e*P	**P**	**16 58 48.3**	**-0.1**
ZAA1	**Zalesovo Array**	**57.59**	**12**	*e*P	**P**	**16 58 47.5**	**-0.9**
SONA0	**Songino Array**	**60.00**	**29**	*e*P	**P**	**16 59 07.3**	**+1.8**
SONM	**Songino Array**	**60.00**	**29**	P	**P**	**16 59 07.3**	**+1.8**
	1.0nm,1.0s,baz=221,slow=7.2,SNR=3.0						
WRA	**Warramunga Arr**	**67.24**	**111**	P	**P**	**16 59 53.6**	**-0.2**
	0.8nm,0.9s,baz=287,slow=5.9,SNR=3.6						
WR1	**Warramunga Arr**	**67.24**	**111**	*e*P	**P**	**16 59 53.6**	**-0.2**
	36nm,1.8s						
ASAR	**Alice Springs**	**67.30**	**115**	P	**P**	**16 59 52.7**	**-1.5**
	0.5nm,0.9s,baz=283,slow=4.7,SNR=3.3						
AS31	**Alice Springs**	**67.30**	**115**	*e*P	**P**	**16 59 52.5**	**-1.7**
	2.8nm,1.6s						
LTX	**Lajitas**	**151.70**	**344**	*e*PKPbc	**PKPbc**	**17 08 53.5**	**-0.7**
TXAR	**Lajitas Array**	**151.70**	**344**	PKPbc	**PKPbc**	**17 08 53.5**	**-0.7**
	0.6nm,1.0s,baz=33,slow=3.5,SNR=2.8						

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*ISCJB **09** 16:52:24.7±0.6, 1°.89S±0°.08×67°.96E±0°.10, h15km, mb4.1/12, MS3.4/5, Error ellipse: s-maj=13.9km s-min=11.6km az=172.8*
*IDC **09** 16:52:24.4±0.8, 1°.90S×67°.96E, h0km, mb4.0/9, mb1 4.2/9, mb1mx3.8/45, mbtmp4.0/9, MS3.4/5, Ms1 3.4/5, ms1mx3.1/37, Error ellipse: s-maj=23.8km s-min=20.4km az=135.0*
*NEIC **09** 16:52:25.3±0.5, 1°.92S×67°.86E, h10km, mb4.5/4, Error ellipse: s-maj=13.0km s-min=9.9km az=68.0*
ISC 09 16:52:26.6±0.7, **1°.9S**±0°.1×**67°.9E**±0°.1, **h15**km, **n30**, σ**0s.92**/22, **mb4.2**/12, **MS3.5**/5, **Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.37**	**145**	T	T	16 59 08.1	
	baz=325,slow=75,SNR=82						
H08N3	**Diego Garcia H**	**5.38**	**146**	T	T	16 59 10.3	
	baz=325,slow=75,SNR=71						
H08N1	**Diego Carcia H**	**5.39**	**145**	T	T	16 59 05.2	
	baz=325,slow=75,SNR=74						
DGAR	**Diego Garcia**	**7.11**	**141**	*e*Pn	**Pn**	**16 54 10.6**	**+0.4**
H08S3	**Diego Garcia H**	**7.29**	**142**	T	T	17 01 48.5	
	baz=300,slow=80,SNR=14						
H08S1	**Diego Carcia H**	**7.30**	**142**	T	T	17 01 41.2	
	baz=300,slow=80,SNR=13						
H08S2	**Diego Garcia H**	**7.31**	**142**	T	T	17 01 42.5	
	baz=300,slow=80,SNR=11						
PALK	**Pallekele**	**15.66**	**54**	*e*Pn	**Pn**	**16 56 07.5**	**+0.5**
	45nm,1.4s						
WSAR	**Wadi Sarin**	**26.56**	**341**	LR	LR	17 06 36.1	
	comp=Z,47nm,20.0s,baz=171,slow=32						
PSI	**Prapat**	**31.33**	**82**	LR	LR	17 09 18.0	
	comp=Z,122nm,19.4s,baz=108,slow=32						
CM31	**Chiang Mai Arr**	**36.60**	**55**	*e*P	**P**	**16 59 30.9**	**-1.6**
CMAR	**Chiang Mai Arr**	**36.60**	**55**	P	**P**	**16 59 34.0**	**+1.4**
	0.6nm,0.8s,baz=248,slow=11,SNR=5.6						
CMAR				LR	LR	17 13 10.8	
	comp=Z,40nm,18.6s,baz=228,slow=34						
GAR	**Garm**	**40.74**	**3**	*e*P	**P**	**17 00 07.5**	**+0.3**
	14nm,1.2s						
LSZ	**Lusaka**	**41.39**	**249**	P	**P**	**17 00 13.6**	**+0.8**
	1.5nm,0.5s,baz=32,slow=3.8,SNR=4.5						
LSZ	**Lusaka**	**41.39**	**249**	*e*P	**P**	**17 00 11.9**	**-1.0**
	23nm,2.0s						
BOSA	**Boshof**	**48.58**	**233**	P	**P**	**17 01 10.5**	**+0.6**
	2.2nm,0.8s,baz=241,slow=19,SNR=3.3						
BOSA				LR	LR	17 20 02.9	
	comp=Z,57nm,18.2s,baz=31,slow=34						
MK32	**Makanchi Array**	**50.09**	**13**	*e*P	**P**	**17 01 21.0**	**0.0**
MKAR	**Makanchi Array**	**50.09**	**13**	P	**P**	**17 01 21.0**	**-0.1**
	1.1nm,0.8s,baz=191,slow=6.5,SNR=12						
KBZ	**Khabaz**	**50.65**	**337**	P	**P**	**17 01 25.8**	**+0.5**
	1.9nm,0.9s,baz=80,slow=11,SNR=3.4						
KBZ				LR	LR	17 22 24.0	
	comp=Z,44nm,19.0s,baz=4.0,slow=36						
ZALV	**Zalesovo Beam**	**57.38**	**12**	P	**P**	**17 02 13.3**	**-1.0**
	2.6nm,0.8s,baz=212,slow=6.4,SNR=12						
ZAA1	**Zalesovo Array**	**57.39**	**12**	*e*P	**P**	**17 02 13.3**	**-1.0**
SONA0	**Songino Array**	**59.79**	**29**	*e*P	**P**	**17 02 32.4**	**+1.0**
SONM	**Songino Array**	**59.79**	**29**	P	**P**	**17 02 32.4**	**+1.0**
	2.2nm,0.8s,baz=221,slow=6.7,SNR=12						
SONA1	**Songino Array**	**59.80**	**29**	*e*P	**P**	**17 02 30.7**	**-0.8**
WR1	**Warramunga Arr**	**67.21**	**111**	*e*P	**P**	**17 03 20.9**	**0.0**
	28nm,1.7s						
WRA	**Warramunga Arr**	**67.21**	**111**	P	**P**	**17 03 20.9**	**0.0**
	1.4nm,0.8s,baz=288,slow=5.9,SNR=9.4						
ASAR	**Alice Springs**	**67.29**	**115**	P	**P**	**17 03 20.7**	**-0.7**
	0.7nm,0.8s,baz=282,slow=5.8,SNR=8.7						
AS31	**Alice Springs**	**67.29**	**115**	*e*P	**P**	**17 03 20.2**	**-1.2**
	2.5nm,1.5s						
LTX	**Lajitas**	**151.55**	**344**	*e*PKPbc	**PKPbc**	**17 12 20.1**	**-1.0**
TXAR	**Lajitas Array**	**151.55**	**344**	PKPbc	**PKPbc**	**17 12 20.1**	**-1.0**
	1.1nm,1.0s,baz=64,slow=2.9,SNR=4.8						

IDC 09 17:04:01.4±8.0, **2°.10S**×**67°.38E**, **h0**km, **mb3.9**/6, **mb1 3.9**/6, **mb1mx3.5**/45, **mbtmp3.9**/6, **MS3.7**/1, **Ms1 3.7**/1, **ms1mx2.6**/43, **Error ellipse: s-maj=258.4km s-min=26.1km az=67.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**50.42**	**13**	P	P	17 13 00.2	-0.5
	1.7nm,0.3s,baz=190,slow=6.2,SNR=6.6						
KURBB	**Kurchatov Arra**	**53.38**	**9**	P	P	17 13 22.7	+0.1
	0.5nm,0.3s,baz=207,slow=8.1,SNR=2.9						
BATI	**Baumata**	**56.46**	**101**	LR	LR	17 33 27.2	
	comp=Z,69nm,21.9s,baz=355,slow=31						
ZALV	**Zalesovo Beam**	**57.70**	**12**	P	P	17 13 53.8	0.0
	1.0nm,0.6s,baz=208,slow=8.4,SNR=5.8						
SONM	**Songino Array**	**60.24**	**29**	P	P	17 14 11.8	+0.1
	0.9nm,0.9s,baz=222,slow=9.8,SNR=6.1						
WRA	**Warramunga Arr**	**67.65**	**111**	P	P	17 15 00.7	-0.2
	0.4nm,0.7s,baz=289,slow=5.5,SNR=3.7						
ASAR	**Alice Springs**	**67.69**	**115**	P	P	17 15 01.4	+0.2
	0.7nm,1.1s,baz=275,slow=6.2,SNR=3.0						

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*IDC **09** 17:06:17.0±1.8, 29°.94N×80°.35E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.4/44, mbtmp3.6/6, ML4.2/1, MS3.6/2, Ms1 3.6/2, ms1mx2.7/38, Error ellipse: s-maj=78.6km s-min=21.7km az=66.0*
*ISCJB **09** 17:06:18.8±1.0, 30°.1N±0°.1×80°.5E±0°.2, h23km, mb3.4/4, MS3.5/2, Error ellipse: s-maj=23.6km s-min=16.4km az=140.7*
ISC 09 17:06:21.0±1.3, **30°.2N**±0°.2×**80°.6E**±0°.2, **h23**km, **n9**, σ**1s.38**/7, **mb3.4**/4, **Western Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**7.99**	**291**	P	**Pn**	**17 08 15.8**	**0.0**
MKAR	**Makanchi Array**	**16.65**	**4**	Pn	**P**	**17 10 13.5**	**-1.6**
	0.9nm,0.3s,baz=180,slow=11,SNR=5.9						
KURBB	**Kurchatov Arra**	**20.49**	**356**	P	**P**	**17 10 57.5**	**+0.3**
	0.6nm,0.2s,baz=181,slow=9.7,SNR=3.4						
ZALV	**Zalesovo Beam**	**23.96**	**6**	P	**P**	**17 11 35.6**	**+2.2**
	0.4nm,0.4s,baz=184,slow=4.7,SNR=2.7						
ASF	**Jabal al Asfar**	**37.25**	**285**	LR	LR	17 29 45.6	
	comp=Z,181nm,21.6s,baz=272,slow=38						
KLR	**Kul'dur**	**42.81**	**49**	LR	LR	17 34 49.5	
	comp=Z,33nm,19.7s,baz=249,slow=40						
FINES	**FINESS Array B**	**47.15**	**328**	P	**P**	**17 14 51.2**	**-0.1**
	0.7nm,0.6s,baz=121,slow=10,SNR=4.7						
WRA	**Warramunga Arr**	**71.81**	**127**	P	**P**	**17 17 41.7**	**-0.4**
	0.4nm,0.8s,baz=324,slow=6.0,SNR=4.0						
ASAR	**Alice Springs**	**74.05**	**130**	P	**P**	**17 17 55.3**	**0.0**
	0.3nm,0.9s,baz=314,slow=6.3,SNR=3.1						

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*ISCJB **09** 17:17:46.9±0.8, 2°.2S±0°.1×68°.1E±0°.1, h11km, mb3.6/10, MS3.6/1, Error ellipse: s-maj=22.0km s-min=20.4km az=142.3*
*IDC **09** 17:17:46.8±0.9, 2°.28S×68°.09E, h0km, mb3.7/10, mb1 3.8/10, mb1mx3.6/50, mbtmp3.7/10, MS3.5/1, Ms1 3.5/1, ms1mx2.6/46, Error ellipse: s-maj=24.6km s-min=22.8km az=44.0*
ISC 09 17:17:48.7±1.0, **2°.3S**±0°.2×**68°.1E**±0°.2, **h11**km, **n15**, σ**0s.78**/11, **mb3.8**/10, **Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**4.97**	**144**	T	T	17 23 56.9	
	baz=324,slow=75,SNR=113						
H08N3	**Diego Garcia H**	**4.99**	**144**	T	T	17 23 57.8	
	baz=324,slow=75,SNR=130						
H08N1	**Diego Carcia H**	**5.00**	**144**	T	T	17 23 58.7	
	baz=324,slow=75,SNR=102						
CMAR	**Chiang Mai Arr**	**36.70**	**55**	P	**P**	**17 24 56.9**	**+0.9**
	0.2nm,0.3s,baz=214,slow=10,SNR=3.8						
LSZ	**Lusaka**	**41.39**	**249**	P	**P**	**17 25 36.3**	**+0.8**
	1.9nm,0.5s,baz=61,slow=10,SNR=4.6						
AAK	**Ala-Archa**	**45.07**	**7**	P	**P**	**17 26 05.4**	**+0.4**
	1.2nm,1.0s,baz=189,slow=13,SNR=3.1						
MKAR	**Makanchi Array**	**50.43**	**13**	P	**P**	**17 26 46.1**	**-0.3**
	0.2nm,0.8s,baz=184,slow=6.4,SNR=1.4						
AKTO	**Aktyubinsk**	**53.20**	**352**	LR	LR	17 49 22.6	
	comp=Z,47nm,18.5s,baz=342,slow=36						
KURBB	**Kurchatov Arra**	**53.44**	**8**	P	**P**	**17 27 07.5**	**-1.1**
	0.8nm,0.9s,baz=207,slow=7.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**57.73**	**12**	P	**P**	**17 27 38.9**	**-0.5**
	0.3nm,0.5s,baz=205,slow=6.4,SNR=2.8						
SONM	**Songino Array**	**60.05**	**29**	P	**P**	**17 27 56.4**	**+0.6**
	0.6nm,0.8s,baz=213,slow=6.0,SNR=4.0						
WRA	**Warramunga Arr**	**66.93**	**111**	P	**P**	**17 28 41.6**	**-0.2**
	1.1nm,0.7s,baz=290,slow=5.9,SNR=9.4						
ASAR	**Alice Springs**	**66.99**	**115**	P	**P**	**17 28 41.5**	**-0.6**
	0.8nm,0.8s,baz=286,slow=6.1,SNR=10.0						
ESDC	**Sonseca Array**	**77.71**	**311**	P	**P**	**17 29 45.6**	**-0.3**
	0.3nm,0.5s,baz=110,slow=6.1,SNR=3.6						
TXAR	**Lajitas Array**	**151.96**	**345**	PKPbc	**PKPbc**	**17 37 43.8**	**-1.0**
	0.6nm,0.8s,baz=164,slow=2.3,SNR=3.6						

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*ISCJB **09** 17:21:39.0±2.4, 2°.4S±0°.3×67°.3E±0°.4, h10km, mb3.7/8, MS3.8/2, Error ellipse: s-maj=65.6km s-min=23.1km az=150.5*
*IDC **09** 17:21:39.8±2.5, 2°.35S×67°.40E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.5/49, mbtmp3.7/8, MS3.7/3, Ms1 3.7/3, ms1mx3.0/48, Error ellipse: s-maj=72.9km s-min=24.1km az=62.0*
ISC 09 17:21:41.7±2.8, **2°.3S**±0°.3×**67°.4E**±0°.4, **h10**km, **n10**, σ**0s.97**/8, **mb3.7**/8, **Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALK	**Pallekele**	**16.32**	**54**	LR	LR	17 29 58.1	
	comp=Z,208nm,21.5s,baz=297,slow=30						
CMAR	**Chiang Mai Arr**	**37.26**	**55**	P	**P**	**17 28 54.4**	**+0.3**
	0.3nm,0.3s,baz=246,slow=6.8,SNR=3.1						
MKAR	**Makanchi Array**	**50.64**	**13**	P	**P**	**17 30 40.4**	**-0.7**
	0.7nm,0.8s,baz=196,slow=7.4,SNR=7.7						
BRTR	**Keskin Array B**	**52.08**	**327**	LR	LR	17 51 50.3	
	comp=Z,70nm,19.6s,baz=268,slow=35						
AKTO	**Aktyubinsk**	**53.19**	**352**	P	**P**	**17 31 00.7**	**+0.8**
	0.9nm,0.9s,baz=180,slow=6.1,SNR=1.9						
KURBB	**Kurchatov Arra**	**53.60**	**9**	P	**P**	**17 31 02.4**	**-0.7**
	0.7nm,0.5s,baz=200,slow=8.9,SNR=4.2						
ZALV	**Zalesovo Beam**	**57.93**	**12**	P	**P**	**17 31 32.6**	**-1.3**
	1.5nm,0.6s,baz=221,slow=7.1,SNR=7.7						
SONM	**Songino Array**	**60.42**	**29**	P	**P**	**17 31 52.1**	**+0.5**
	0.9nm,0.8s,baz=222,slow=7.4,SNR=7.4						
SONM				LR	LR	17 57 20.6	
	comp=Z,64nm,18.6s,baz=275,slow=35						
WRA	**Warramunga Arr**	**67.51**	**111**	P	**P**	**17 32 37.9**	**-0.8**
	0.5nm,0.8s,baz=284,slow=5.3,SNR=2.7						
ASAR	**Alice Springs**	**67.54**	**115**	P	**P**	**17 32 39.5**	**+0.6**
	0.3nm,0.9s,baz=286,slow=5.5,SNR=2.7						

IDC 09 17:23:55.2±11.0, **2°.20S**×**67°.18E**, **h0**km, **mb3.6**/4, **mb1 3.7**/4, **mb1mx3.3**/42, **mbtmp3.6**/4, **MS3.6**/2, **Ms1 3.6**/2, **ms1mx2.8**/47, **Error ellipse: s-maj=344.0km s-min=36.0km az=67.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATP	**Matopo**	**41.86**	**241**	LR	LR	17 44 42.9	
	comp=Z,41nm,20.9s,baz=186,slow=30						
MKAR	**Makanchi Array**	**50.57**	**13**	P	P	17 32 55.4	-0.3
	0.3nm,0.7s,baz=192,slow=7.8,SNR=3.5						
KVAR	**Kislovodsk Arr**	**50.92**	**337**	LR	LR	17 54 43.7	
	comp=Z,134nm,20.6s,baz=90,slow=36						
ZALV	**Zalesovo Beam**	**57.85**	**12**	P	P	17 33 48.5	0.0
	0.7nm,0.6s,baz=208,slow=6.0,SNR=4.4						
SONM	**Songino Array**	**60.43**	**29**	P	P	17 34 06.8	+0.1
	0.6nm,0.8s,baz=214,slow=6.6,SNR=4.8						
WRA	**Warramunga Arr**	**67.80**	**111**	P	P	17 34 55.6	0.0
	0.7nm,1.1s,baz=279,slow=6.5,SNR=3.4						

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*BEO **09** 17:28:06.5±0.8, 39°.48N×26°.03E, h0km, ML3.8/10*
*DDA **09** 17:28:10.4, 39°.70N×25°.54E, h27km±1km, ML3.9*
*ISK **09** 17:28:11.2, 39°.70N×25°.61E, h8km, ML3.9/25*
*ISCJB **09** 17:28:11.2±0.4, 39°.70N±0°.01×25°.56E±0°.02, h8km±3km, Error ellipse: s-maj=2.4km s-min=2.2km az=156.9*
*ATH **09** 17:28:11.5, 39°.69N×25°.58E, h30km, ML3.6/8, Error ellipse: s-maj=1.3km s-min=0.6km az=63.0*
*THE **09** 17:28:12.1, 39°.70N×25°.61E, h7km±1km, ML3.5/9, Error ellipse: s-maj=1.1km s-min=0.5km az=85.0*
ISC 09 17:28:11.5±1.0, **39°.69N**±0°.02×**25°.60E**±0°.02, **h9**km±9km, **n159**, σ**0s.96**/191, **14C-15D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.38**	**303**	P	**Pb**	**17 28 20.4**	**0.0**
LIA				S	**Sb**	**17 28 25.9**	**-0.4**
LIA				AML	AML	17 28 26.3	
	comp=E,26765µm,0.3s						
LIA				AML	AML	17 28 28.8	
	comp=N,9800µm,0.3s						
LIA	**Limnos Island**	**0.38**	**303**	P	**Pb**	**17 28 20.3**	**0.0**
LIA				S	**Sb**	**17 28 25.6**	**-0.7**
BOZC	**Bozcaada**	**0.38**	**67**	PG	**Pg**	**17 28 19.3**	**+0.2**
BOZC				SG	**Sg**	**17 28 24.4**	**+0.3**
BOZC	**Bozcaada**	**0.38**	**67**	IAML_P			
	comp=Z,41µm,0.2s						
BOZC				*i* P	**Pg**	**17 28 19.5**	**+0.5**
GPNR	**Gulpinar-Canak**	**0.48**	**120**	PG	**Pg**	**17 28 20.9**	**+0.1**
SIGR	**SIGRI**	**0.52**	**157**	PG	**Pb**	**17 28 22.1**	**-0.8**
SIGR				SG	**Sb**	**17 28 29.5**	**-1.0**
SIGR	**SIGRI**	**0.52**	**157**	P	**Pb**	**17 28 22.1**	**-0.8**
SIGR				S	**Sb**	**17 28 30.1**	**-0.4**
SIGR				AML	AML	17 28 30.2	
	comp=E,29377µm,0.6s						
SIGR				AML	AML	17 28 30.3	
	comp=N,38163µm,0.6s						
SIGR	**SIGRI**	**0.52**	**157**	P	**Pb**	**17 28 22.0**	**-0.8**
SIGR				S	**Sb**	**17 28 29.8**	**-0.7**
GADA	**Gvkgeada**	**0.55**	**25**	PG	**Pg**	**17 28 22.2**	**0.0**
GADA	**Gvkgeada**	**0.55**	**25**	P	**Pg**	**17 28 22.6**	**+0.4**
GADA				S	**Sb**	**17 28 30.5**	**-0.8**
GOKC	**Gokceada-Canak**	**0.56**	**26**	PG	**Pg**	**17 28 22.5**	**0.0**
EZN	**Ezine**	**0.58**	**77**	PG	**Pg**	**17 28 22.6**	**-0.1**
EZN	**Ezine**	**0.58**	**77**	P	**Pg**	**17 28 22.8**	**+0.1**
EZN				S	**Sg**	**17 28 30.7**	**+0.4**
PRK	**Paraskevi**	**0.69**	**130**	P	**Pb**	**17 28 26.3**	**+0.6**
PRK				S	**Sb**	**17 28 35.8**	**+0.5**
PRK				AML	AML	17 28 39.4	
	comp=E,25166µm,0.4s						
PRK				AML	AML	17 28 39.4	
	comp=N,42074µm,0.3s						
PRK	**Paraskevi**	**0.69**	**130**	P	**Pb**	**17 28 26.3**	**+0.6**
PRK				S	**Sb**	**17 28 35.7**	**+0.5**
BAYC	**CANAKKALE_Bayr**	**0.74**	**86**	*i* P	**Pb**	**17 28 26.4**	**-0.1**
BAYC				*i* S	**Sb**	**17 28 36.9**	**+0.2**
SMTH	**Samothraki Isl**	**0.78**	**356**	P	**Pb**	**17 28 27.0**	**-0.2**
SMTH				S	**Sb**	**17 28 38.0**	**+0.1**
SMTH				AML	AML	17 28 40.0	
	comp=E,6070µm,0.3s						
SMTH				AML	AML	17 28 40.0	
	comp=N,7292µm,0.4s						
SMTH	**Samothraki Isl**	**0.78**	**356**	P	**Pb**	**17 28 27.1**	**-0.2**
SMTH				S	**Sb**	**17 28 37.8**	**-0.1**
AYVA	**Ayvalik**	**0.93**	**114**	*i* P	**Pn**	**17 28 30.2**	**-0.6**
AYVA				*i* S	**Sn**	**17 28 44.3**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.97**	**44**	PG	**Pg**	**17 28 30.2**	**-0.1**
LPK	**Lapseki**	**1.12**	**52**	PN	**Pg**	**17 28 32.8**	**-0.3**
ENEZ	**Enez**	**1.13**	**22**	PN	**Pb**	**17 28 33.1**	**-0.1**
THAS	**Thassos island**	**1.13**	**324**	P	**Pb**	**17 28 32.8**	**-0.4**
THAS				S	**Sg**	**17 28 47.9**	**-0.1**
THAS				AML	AML	17 28 49.5	
	comp=N,3694µm,0.4s						
THAS				AML	AML	17 28 51.8	
	comp=E,4075µm,0.2s						
THAS	**Thassos island**	**1.13**	**324**	P	**Pb**	**17 28 33.2**	**-0.1**
PSRA	**Psara**	**1.15**	**181**	P	**Pn**	**17 28 34.1**	**+0.3**
SKY	**Skiros Island**	**1.15**	**225**	P	**Pb**	**17 28 33.2**	**-0.3**
SKY	**Skiros Island**	**1.15**	**225**	P	**Pb**	**17 28 33.2**	**-0.3**
SKY				S	**Sn**	**17 28 49.5**	**-0.1**
DKL	**Dikili**	**1.19**	**121**	PN	**Pg**	**17 28 34.4**	**0.0**
ERIK	**Erikli-Kesan**	**1.20**	**35**	PN	**Pb**	**17 28 34.2**	**-0.3**
ALN	**Alexandroupoli**	**1.25**	**16**	PN	**Pn**	**17 28 34.8**	**-0.4**
ALN	**Alexandroupoli**	**1.25**	**16**	P	**Pn**	**17 28 34.7**	**-0.5**
ALN				S	**Sn**	**17 28 52.1**	**0.0**
ALN				AML	AML	17 28 52.9	
	comp=E,2655µm,0.3s						
ALN				AML	AML	17 28 54.6	
	comp=N,1847µm,0.4s						
ALN	**Alexandroupoli**	**1.25**	**16**	P	**Pn**	**17 28 34.6**	**-0.5**
ALN				S	**Sn**	**17 28 52.0**	**-0.1**
FOCM	**Foa**	**1.32**	**138**	PN	**Pb**	**17 28 36.3**	**-0.1**
KRBN	**Karaburun**	**1.33**	**146**	PN	**Pb**	**17 28 36.4**	**-0.2**
CHOS	**Chios island**	**1.35**	**165**	PN	**Pn**	**17 28 36.7**	**+0.1**
CHOS	**Chios island**	**1.35**	**165**	P	**Pn**	**17 28 36.2**	**-0.4**
CHOS				S	**Sb**	**17 28 53.8**	**-0.7**
CHOS				AML	AML	17 28 58.2	
	comp=N,3694µm,0.5s						
CHOS				AML	AML	17 28 59.7	
	comp=E,6327µm,0.6s						
CHOS	**Chios island**	**1.35**	**165**	P	**Pn**	**17 28 36.2**	**-0.4**
CHOS				S	**Sg**	**17 28 56.0**	**+0.9**
KESN	**Edirne-Kesan**	**1.40**	**36**	IAML_P			
	comp=Z,3µm,0.3s						
KESN				*i* P	**Pn**	**17 28 37.2**	**-0.4**
KESN				*i* S	**Sg**	**17 28 57.1**	**+0.3**
AOS	**Alonnisos**	**1.43**	**249**	PN	**Pb**	**17 28 38.3**	**0.0**
AOS	**Alonnisos**	**1.43**	**249**	P	**Pn**	**17 28 37.5**	**-0.1**
AOS				S	**Sn**	**17 28 56.2**	**-0.3**
AOS				AML	AML	17 29 05.3	
	comp=N,1327µm,0.6s						
AOS				AML	AML	17 29 05.3	
	comp=E,1850µm,0.4s						
AOS	**Alonnisos**	**1.43**	**249**	P	**Pn**	**17 28 37.5**	**-0.1**
AOS				S	**Sg**	**17 28 58.6**	**+1.2**
RDO	**Rodhopi**	**1.45**	**358**	PN	**Pn**	**17 28 37.9**	**0.0**
RDO	**Rodhopi**	**1.45**	**358**	P	**Pn**	**17 28 37.8**	**-0.1**
RDO	**Rodhopi**	**1.45**	**358**	P	**Pn**	**17 28 37.6**	**-0.3**
RDO				S	**Sg**	**17 28 57.8**	**-0.4**
KRBG	**Karabiga-Canak**	**1.48**	**61**	PN	**Pn**	**17 28 38.5**	**+0.2**
PAIG	**Paliouri**	**1.49**	**280**	P	**Pn**	**17 28 38.3**	**-0.2**
KAVA	**Kavala**	**1.54**	**328**	P	**Pn**	**17 28 38.7**	**-0.4**
KAVA	**Kavala**	**1.54**	**328**	P	**Pn**	**17 28 38.8**	**-0.4**
URLA	**Izmir**	**1.54**	**149**	PN	**Pn**	**17 28 39.3**	**+0.1**
URLA	**Izmir**	**1.54**	**149**	*i* P	**Pb**	**17 28 39.9**	**-0.4**
URLA				*i* S	**Sn**	**17 28 58.7**	**-0.7**
SART	**Tekirdag**	**1.57**	**50**	IAML_P			
	comp=Z,20µm,0.1s						
SART				*i* P	**Pb**	**17 28 40.1**	**-0.6**
KNL	**Balıkesir**	**1.59**	**68**	*i* P	**Pn**	**17 28 40.1**	**+0.3**
KNL				*i* S	**Sg**	**17 29 02.9**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.67**	**100**	*i* P	**Pb**	**17 28 41.6**	**-0.9**
BLCB	**Balcova**	**1.73**	**139**	PN	**Pn**	**17 28 41.7**	**0.0**
BALB	**Balikesir**	**1.76**	**91**	PN	**Pn**	**17 28 42.6**	**+0.4**
MRMT	**Marmara Adasi**	**1.78**	**59**	PN	**Pn**	**17 28 43.1**	**+0.6**
PLG	**Polygyros**	**1.79**	**293**	P	**Pn**	**17 28 43.1**	**+0.6**
EREA	**Eretria**	**1.81**	**226**	P	**Pn**	**17 28 42.5**	**-0.5**
EREA	**Eretria**	**1.81**	**226**	P	**Pn**	**17 28 42.5**	**-0.5**
MRKA	**Markates**	**1.85**	**238**	P	**Pn**	**17 28 43.3**	**-0.1**
EDC	**Edincik**	**1.86**	**69**	PN	**Pn**	**17 28 43.6**	**0.0**
SBT4	**Kumbag-Tekirda**	**1.87**	**52**	PN	**Pn**	**17 28 44.1**	**+0.6**
XOR	**Xorichti**	**1.89**	**261**	P	**Pn**	**17 28 43.6**	**-0.4**
AKHS	**Akhisar**	**1.90**	**115**	*i* P	**Pn**	**17 28 45.0**	**+0.9**
GMLD	**Gumuldur**	**1.92**	**147**	PN	**Pn**	**17 28 44.7**	**+0.4**
DGB	**zmir**	**1.92**	**148**	*i* P	**Pn**	**17 28 44.7**	**+0.3**
KDZ	**Kurdzhali**	**1.96**	**356**	PN	**Pn**	**17 28 44.9**	**0.0**
TKR	**Tekirdag**	**1.97**	**48**	PN	**Pn**	**17 28 45.5**	**+0.5**
GOMA	**Golmarmara-Man**	**2.06**	**118**	PN	**Pn**	**17 28 46.7**	**+0.5**
DION	**Dionisos Attik**	**2.07**	**219**	P	**Pn**	**17 28 46.1**	**-0.4**
SRS	**Serrai**	**2.09**	**314**	*e*Pn	**Pn**	**17 28 47.0**	**+0.3**
SRS				*e*Sn	**Sg**	**17 29 18.7**	**+0.1**
SRS	**Serrai**	**2.09**	**314**	P	**Pn**	**17 28 46.6**	**-0.2**
SRS	**Serrai**	**2.09**	**314**	P	**Pn**	**17 28 46.5**	**-0.2**
HORT	**Hortiatis**	**2.12**	**296**	P	**Pn**	**17 28 47.8**	**+0.7**
NVR	**Nevrokopi**	**2.12**	**322**	P	**Pn**	**17 28 47.0**	**-0.1**
NVR	**Nevrokopi**	**2.12**	**322**	P	**Pn**	**17 28 47.0**	**-0.1**
PTL	**Penteli**	**2.13**	**220**	P	**Pn**	**17 28 46.7**	**-0.5**
CRLT	**Corlu**	**2.17**	**48**	PN	**Pn**	**17 28 48.2**	**+0.3**
KCTX	**Karacabey (Bur**	**2.20**	**74**	PN	**Pn**	**17 28 48.6**	**+0.4**
SMG	**Samos**	**2.21**	**153**	P	**Pn**	**17 28 48.4**	**+0.1**
SMG	**Samos**	**2.21**	**153**	P	**Pn**	**17 28 48.4**	**+0.1**
DURS	**Dursunbey**	**2.23**	**91**	*i* P	**Pn**	**17 28 49.9**	**+1.3**
VLY	**Voula,Athens**	**2.31**	**218**	P	**Pn**	**17 28 49.2**	**-0.6**
VLY	**Voula,Athens**	**2.31**	**218**	P	**Pn**	**17 28 49.4**	**-0.4**
EDRB	**Edirne**	**2.32**	**22**	PN	**Pn**	**17 28 50.7**	**+0.8**
DST	**Dursunbey**	**2.34**	**91**	PN	**Pn**	**17 28 50.7**	**+0.6**
VIL2	**Platees**	**2.34**	**232**	P	**Pn**	**17 28 49.8**	**-0.4**
VILL	**Villia**	**2.35**	**230**	P	**Pn**	**17 28 49.8**	**-0.5**
PHSR	**Pinarhisar**	**2.43**	**37**	PN	**Pn**	**17 28 52.3**	**+0.9**
PLD	**Plovdiv**	**2.50**	**345**	*e*Pn	**Pn**	**17 28 53.2**	**+0.8**
PLD				*e*Sn	**Sb**	**17 29 26.6**	**-0.9**
DEMI	**Demirci**	**2.50**	**104**	*i* P	**Pn**	**17 28 53.1**	**+0.7**
SLVT	**Silivri**	**2.52**	**52**	PN	**Pn**	**17 28 53.2**	**+0.6**
KNT	**Kendrikon**	**2.53**	**306**	P	**Pn**	**17 28 53.4**	**+0.7**
KNT	**Kendrikon**	**2.53**	**306**	P	**Pn**	**17 28 53.4**	**+0.7**
ORLT	**Orhaneli**	**2.56**	**81**	PN	**Pn**	**17 28 54.3**	**+1.0**
MANT	**Manisa**	**2.60**	**117**	IAML_P			
	comp=Z,2µm,0.3s						
MANT				*i* P	**Pn**	**17 28 55.0**	**+1.1**
ELBA	**Catalca**	**2.61**	**55**	IAML_P			
	comp=Z,3µm,0.1s						
ELBA				*i* P	**Pn**	**17 28 54.2**	**+0.4**
MDNY	**Mudanya-Bursa**	**2.61**	**74**	PN	**Pn**	**17 28 54.5**	**+0.6**

AGG	**Agios Georgios**	**2.62**	**256**	P	**Pn**	**17 28 54.5**	**+0.5**
APE	**Apeiranthos**	**2.62**	**181**	⇓iP	**Pn**	**17 28 55.5**	**+1.4**
SERI	**Serifos**	**2.67**	**199**	P	**Pn**	**17 28 53.8**	**-0.9**
AYDN	**Tasoluk**	**2.70**	**138**	IAML_P			
	comp=Z,1µm,0.2s						
AYDN				iP	**Pn**	**17 28 56.4**	**+1.2**
GRG	**Griva**	**2.75**	**298**	P	**Pn**	**17 28 57.2**	**+1.4**
VAY	**Valandovo**	**2.82**	**306**	iPn	**Pn**	**17 28 58.4**	**+1.7**
VAY				iSn	**Sg**	**17 29 43.9**	**+1.8**
DID	**Didima**	**2.86**	**221**	P	**Pn**	**17 28 57.0**	**-0.4**
BUY	**Buyukada**	**2.93**	**66**	IAML_P			
	comp=Z,1µm,0.2s						
BUY				iP	**Pn**	**17 28 58.1**	**-0.2**
BUY				iS	**Sg**	**17 29 43.8**	**-2.0**
KALE	**Kalithea**	**2.99**	**245**	P	**Pn**	**17 28 59.6**	**+0.5**
TRIZ	**Trizonia**	**3.05**	**245**	P	**Pn**	**17 29 00.5**	**+0.7**
ANX	**Ano Chora**	**3.06**	**250**	P	**Pn**	**17 29 01.2**	**+1.0**
GUR	**Goura**	**3.09**	**236**	P	**Pn**	**17 29 00.7**	**+0.2**
GUR	**Goura**	**3.09**	**236**	P	**Pn**	**17 29 00.8**	**+0.2**
KLV	**Kalavryta, Ach**	**3.15**	**240**	P	**Pn**	**17 29 01.5**	**+0.1**
LAKA	**Lakka**	**3.17**	**244**	P	**Pn**	**17 29 02.5**	**+0.9**
STIP	**Stip**	**3.27**	**309**	iPn	**Pn**	**17 29 02.9**	**-0.1**
FNA	**Florina**	**3.41**	**290**	ePn	**Pn**	**17 29 06.2**	**+1.3**
VTS	**Vitosha**	**3.41**	**329**	ePn	**Pn**	**17 29 06.1**	**+1.1**
VTS				eSn	**Sb**	**17 29 50.7**	**-3.1**
VTS	**Vitosha**	**3.41**	**329**	⇓iP	**Pn**	**17 29 06.7**	**+1.7**
BIA	**Bitola**	**3.52**	**293**	ePn	**Pb**	**17 29 11.5**	**-2.5**
KRUS	**Krusevo**	**3.71**	**298**	iPn	**Pn**	**17 29 11.2**	**+2.1**
ZIMR		**3.96**	**358**	⇑iP	**Pn**	**17 29 11.1**	**-1.4**
IGT	**Igoumenitsa**	**4.07**	**269**	ePn	**Pn**	**17 29 14.5**	**+0.6**
ZAPS	**Zavoj**	**4.21**	**329**	ePn	**Pn**	**17 29 17.0**	**+1.1**
BARS	**Barje**	**4.22**	**319**	ePn	**Pn**	**17 29 16.9**	**+0.8**
BARS				eSn	**Sn**	**17 30 10.4**	**+4.9**
VLAD	**Vladila**	**4.39**	**349**	⇑iP	**Pn**	**17 29 18.8**	**+0.5**
ICOR	**Ion Corvin**	**4.72**	**20**	⇓iP	**Pn**	**17 29 23.1**	**+0.3**
ZAGS	**Zajecar**	**4.82**	**330**	ePn	**Pn**	**17 29 24.9**	**+0.6**
HUMR	**Humele**	**4.85**	**355**	⇓iP	**Pn**	**17 29 23.3**	**-1.4**
SELS	**Selova**	**4.87**	**318**	ePn	**Pn**	**17 29 25.2**	**+0.2**
BOVS	**Bovan**	**4.90**	**325**	ePn	**Pn**	**17 29 26.3**	**+1.0**
PUNG	**Punghina**	**4.99**	**337**	⇓iP	**Pn**	**17 29 23.7**	**-2.9**
TIRR	**Tirgusor**	**5.20**	**23**	⇑iP	**Pg**	**17 29 50.2**	**-0.9**
TLB	**Topalu**	**5.22**	**20**	⇓iP	**Pg**	**17 29 50.4**	**-1.0**
PGOR	**Pogoanele**	**5.31**	**11**	⇓iP	**Pg**	**17 29 53.2**	**0.0**
PDG	**Podgorica**	**5.52**	**302**	⇑iP	**Pn**	**17 29 34.9**	**+1.1**
SJES	**Sjenica**	**5.53**	**312**	ePn	**Pn**	**17 29 34.4**	**+0.4**
MTUR	**Matau**	**5.54**	**356**	⇑iP	**Pn**	**17 29 35.5**	**+1.3**
KUBS	**Kucevo**	**5.54**	**330**	ePn	**Pn**	**17 29 33.6**	**-0.6**
GRUS	**Gruza**	**5.56**	**321**	ePn	**Pn**	**17 29 34.8**	**+0.5**
IVAS	**Ivanjica**	**5.63**	**315**	ePn	**Pn**	**17 29 35.0**	**-0.4**
HERR	**Herculane**	**5.69**	**337**	⇑iP	**Pn**	**17 29 36.1**	**-0.1**
ARR	**Arges**	**5.71**	**353**	⇑iP	**Pn**	**17 29 39.5**	**+2.9**
VOIR		**5.75**	**356**	⇑iP	**Pn**	**17 29 38.2**	**+1.1**
MLR	**Muntele Rosu**	**5.80**	**2**	⇑iP	**Pn**	**17 29 40.1**	**+2.3**
MDVR	**Moldovita**	**5.84**	**332**	⇓iP	**Pn**	**17 29 39.5**	**+1.2**
GZR	**Gura Zlata**	**6.06**	**341**	⇓iP	**Pn**	**17 29 41.5**	**+0.1**
DIVS	**Divibare**	**6.07**	**318**	ePn	**Pn**	**17 29 41.5**	**0.0**
PLOR	**Plostina**	**6.20**	**7**	⇑iP	**Pn**	**17 29 45.7**	**+2.4**
VRI	**Vrincioaia**	**6.23**	**7**	⇓iP	**Pn**	**17 29 44.9**	**+1.3**
BBLS	**Lazići**	**6.23**	**314**	ePn	**Pn**	**17 29 44.3**	**+0.7**
DOPR	**Dopca**	**6.27**	**359**	⇑iP	**Pn**	**17 29 45.6**	**+1.4**
DEV	**Deva**	**6.50**	**343**	⇓iP	**Pn**	**17 29 46.9**	**-0.3**
MDB	**Medias**	**6.51**	**353**	⇓iP	**Pn**	**17 29 50.5**	**+3.1**
BZS	**Buzias**	**6.61**	**335**	ePn	**Pn**	**17 29 48.4**	**-0.3**
BZS	**Buzias**	**6.61**	**335**	⇑iP	**Pn**	**17 29 49.7**	**+1.0**
TIP	**Timpagrande**	**6.86**	**269**	⇓iP	**Pn**	**17 29 50.6**	**-1.7**
MATE	**Matera**	**6.88**	**281**	⇑iP	**Pn**	**17 29 50.6**	**-1.8**
BIZ	**Bicaz**	**7.25**	**3**	⇑iP	**Pn**	**17 29 59.3**	**+1.7**
ARCR	**ARCALIA**	**7.44**	**353**	⇓iP	**Pn**	**17 30 00.1**	**-0.2**
BURAR	**Bucovina Array**	**7.92**	**358**	⇓iP	**Pn**	**17 30 09.5**	**+2.6**

*ISCJB **09** 17:31:13.7±0.9, 1°.8S±0°.1×68°.0E±0°.2, h15km, mb3.8/8, MS3.5/4, Error ellipse: s-maj=24.0km s-min=21.2km az=15.8*

*IDC **09** 17:31:13.8±0.9, 1°.86S×68°.02E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.6/42, mbtmp3.7/8, MS3.5/5, Ms1 3.6/5, ms1mx3.0/42, Error ellipse: s-maj=26.4km s-min=24.7km az=94.0*

ISC 09 17:31:15.9±1.0**, 1°.9S**±0°.2×**68°.0E**±0°.2**, h15**km**, n13,** σ1s**47**/9**, mb3.8**/8**, MS3.5**/4**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALK	**Pallekele**	**15.59**	**54**	LR	LR	17 39 40.8	
	comp=Z,180nm,21.3s,baz=296,slow=33						
KMBO	**Kilima Mbogo**	**30.76**	**271**	LR	LR	17 48 45.9	
	comp=Z,94nm,19.1s,baz=102,slow=34						
CMAR	**Chiang Mai Arr**	**36.53**	**55**	P	**P**	**17 38 20.2**	**-1.1**
	0.2nm,0.4s,baz=241,slow=11,SNR=3.1						
CMAR				LR	LR	17 50 44.2	
	comp=Z,49nm,21.5s,baz=229,slow=32						
LEM	**Lembang**	**39.78**	**98**	LR	LR	17 51 58.7	
	comp=Z,126nm,20.1s,baz=212,slow=31						
GEYT	**Alibeck**	**40.66**	**348**	LR	LR	17 54 44.5	
	comp=Z,70nm,21.4s,baz=35,slow=35						
BOSA	**Boshof**	**48.65**	**233**	P	**P**	**17 39 58.6**	**-1.1**
	3.0nm,1.1s,baz=90,slow=2.0,SNR=2.0						
MKAR	**Makanchi Array**	**50.07**	**13**	P	**P**	**17 40 10.9**	**+0.7**
	1.5nm,0.4s,baz=190,slow=8.6,SNR=4.5						
KBZ	**Khabaz**	**50.69**	**337**	P	**P**	**17 40 15.4**	**+0.6**
	1.2nm,1.0s,baz=100,slow=18,SNR=2.3						
ZALV	**Zalesovo Beam**	**57.37**	**12**	P	**P**	**17 41 02.1**	**-1.3**
	0.6nm,0.6s,baz=188,slow=10.0,SNR=4.1						
SONM	**Songino Array**	**59.75**	**29**	P	**P**	**17 41 19.8**	**-0.6**
	0.5nm,0.6s,baz=231,slow=5.2,SNR=4.2						
WRA	**Warramunga Arr**	**67.13**	**111**	P	**P**	**17 42 10.4**	**+0.7**
	0.4nm,0.8s,baz=285,slow=6.1,SNR=3.0						
ASAR	**Alice Springs**	**67.21**	**115**	P	**P**	**17 42 10.8**	**+0.7**
	0.3nm,0.8s,baz=289,slow=7.4,SNR=5.5						
TXAR	**Lajitas Array**	**151.57**	**345**	PKPbc	**PKPbc**	**17 51 13.1**	**+2.6**
	0.3nm,0.8s,baz=30,slow=5.5,SNR=2.5						

MEX 09 17:37:07.7±0.3**, 14°.76N**×**91°.51W, h150**km±5km**, MD3.8, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.63**	**338**	eP	Pn	17 37 37.6	-1.2
CCIG				eS	Sn	17 38 00.0	-2.7
PCIG		**1.90**	**300**	eP	Pn	17 37 40.3	-1.3
PCIG				iS	Sn	17 38 06.0	-1.7
TGIG		**2.54**	**322**	iP	Pn	17 37 48.8	-0.6
TGIG				iS	Sn	17 38 19.2	-2.3

*ISCJB **09** 17:41:26.6±0.8, 56°.0S±0°.1×27°.3W±0°.3, h112km, mb4.3/5, Error ellipse: s-maj=23.1km s-min=15.5km az=0.2*

*NEIC **09** 17:41:32.6±2.7, 56°.06S×27°.39W, h154km±23km, mb4.2/2, Error ellipse: s-maj=14.5km s-min=11.3km az=50.0*

*IDC **09** 17:41:32.9±5.8, 56°.05S×27°.41W, h155km±51km, mb4.0/5, mb1 4.1/7, mb1mx3.7/25, mbtmp4.4/7, MS3.7/1, Ms1 3.6/1, ms1mx2.7/27, Error ellipse: s-maj=28.6km s-min=19.7km az=65.0*

ISC 09 17:41:27.8±0.6**, 56°.0S**±0°.1×**27°.6W**±0°.2**, h112**km**, n37,** σ**0s67**/37**, mb4.4**/4**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.90**	**156**	P	**P**	**17 45 39.6**	**+0.4**
	2.6nm,0.3s,baz=306,slow=12,SNR=22						
SNAA	**Sanae**	**18.90**	**156**	eP	**P**	**17 45 39.4**	**+0.2**
	6.7nm,0.7s						
PMSA	**Palmer Station**	**19.80**	**229**	P	**Pn**	**17 45 51.0**	**-0.5**
	1.4nm,0.3s,baz=65,slow=6.5,SNR=13						
QSPA	**South Pole Qui**	**34.28**	**180**	P	**P**	**17 48 03.4**	**+0.5**
	6.9nm,0.6s,baz=190,slow=1.8,SNR=66						
QSPA				PcP	**PcP**	**17 50 35.6**	**-0.9**
	1.3nm,0.6s,baz=277,slow=0.7,SNR=3.1						
MAW	**Mawson**	**40.33**	**144**	LR	LR	18 05 07.0	
	comp=Z,88nm,18.1s,baz=242,slow=35						
VNDA	**Vanda**	**46.64**	**183**	P	**P**	**17 49 44.4**	**+0.2**
	5.1nm,0.7s,baz=186,slow=5.2,SNR=38						
VNDA	**Vanda**	**46.64**	**183**	eP	**P**	**17 49 45.1**	**+1.0**
	5.2nm,0.6s						
LPAZ	**La Paz**	**50.16**	**306**	P	**P**	**17 50 13.7**	**+1.1**
	1.4nm,0.3s,baz=118,slow=3.9,SNR=5.9						
LPAZ	**La Paz**	**50.16**	**306**	eP	**P**	**17 50 12.7**	**+0.1**
TORD	**Torodi Ar. Bea**	**73.09**	**30**	P	**P**	**17 52 46.3**	**+0.6**
	0.9nm,0.4s,baz=205,slow=6.6,SNR=7.5						
TOA1	**Torodi Ar. Sit**	**73.09**	**30**	eP	**P**	**17 52 46.3**	**+0.6**
ASAR	**Alice Springs**	**99.12**	**163**	P	**Pdif**	**17 54 54.4**	**-2.0**
	0.6nm,0.8s,baz=186,slow=4.3,SNR=12						
WR1	**Warramunga Arr**	**102.84**	**163**	ePdif	**Pdif**	**17 55 11.8**	**-1.1**
WRA	**Warramunga Arr**	**102.84**	**163**	P	**Pdif**	**17 55 11.8**	**-1.1**
	0.3nm,0.7s,baz=196,slow=4.4,SNR=4.3						
FIA0	**FINESS Array S**	**124.41**	**28**	ePKPdf	**PKPdf**	**18 00 11.4**	**-0.7**
FINES	**FINESS Array B**	**124.41**	**28**	PKP	**PKPdf**	**18 00 11.4**	**-0.7**
	1.5nm,0.9s,baz=72,slow=2.4,SNR=3.5						
YKA	**Yellowknife Ar**	**135.97**	**318**	PKP	**PKPdf**	**18 00 32.8**	**-1.1**
	0.5nm,0.6s,baz=127,slow=2.5,SNR=9.3						
YKB5	**Yellowknife Ar**	**135.97**	**318**	ePKPdf	**PKPdf**	**18 00 33.6**	**-0.4**
INK	**Inuvik**	**145.61**	**321**	ePKPdf	**PKPbc**	**18 00 51.6**	**0.0**
DAWY	**Dawson**	**146.59**	**312**	ePKPdf	**PKPdf**	**18 00 53.5**	**+0.5**
DAWY	**Dawson**	**146.59**	**312**	e	**PKPdf**	**18 00 53.5**	**+0.5**
DOT	**Dot Lake**	**148.44**	**310**	ePKPbc	**PKPbc**	**18 00 59.9**	**+0.1**
SCRK	**Sand Creek**	**148.50**	**311**	ePKPbc	**PKPbc**	**18 00 59.9**	**-0.1**
KLU	**Klutina**	**148.62**	**306**	ePKPbc	**PKiKP**	**18 01 01.2**	**-0.5**
RIDG	**Independ'e Rid**	**148.80**	**310**	ePKPbc	**PKPbc**	**18 01 01.2**	**+0.5**
PRP	**Porcupine Dome**	**149.50**	**314**	ePKPbc	**PKPbc**	**18 01 02.5**	**0.0**
IL1	**Eielson Array**	**149.91**	**312**	ePKPbc	**PKPbc**	**18 01 02.9**	**-0.5**
ILAR	**Eielson Array**	**149.91**	**312**	PKPbc	**PKPbc**	**18 01 03.0**	**-0.3**
	6.5nm,0.8s,baz=131,slow=3.0,SNR=52						
ILB	**Eielson Array**	**149.91**	**312**	ePKPbc	**PKPbc**	**18 01 03.3**	**-0.1**
WRH	**Wood River Hil**	**150.35**	**311**	ePKPbc	**PKPbc**	**18 01 04.4**	**0.0**
RND	**Reindeer**	**150.45**	**309**	ePKPbc	**PKiKP**	**18 01 05.4**	**-0.1**
MCK	**McKinley**	**150.56**	**309**	ePKPbc	**PKiKP**	**18 01 05.4**	**-0.3**
KDAK	**Kodiak Island**	**150.60**	**297**	PKPbc	**PKPbc**	**18 01 05.2**	**0.0**
	7.0nm,0.5s,baz=205,slow=1.1,SNR=16						
SONA0	**Songino Array**	**150.93**	**87**	ePKPbc	**PKPbc**	**18 01 06.3**	**-0.2**
SONM	**Songino Array**	**150.93**	**87**	PKPbc	**PKPbc**	**18 01 06.3**	**-0.2**
	2.9nm,0.4s,baz=221,slow=3.7,SNR=40						
BPAW	**Bear Paw Mtn.**	**151.52**	**310**	ePKPbc	**PKPbc**	**18 01 07.2**	**0.0**
CAST	**Castle Rocks**	**151.88**	**308**	ePKPbc	**PKPbc**	**18 01 07.6**	**-0.4**

*IDC **09** 17:46:01.4±1.1, 34°.88N×25°.36E, h0km, mb3.9/7, mb1 3.8/14, mb1mx3.6/55, mbtmp3.7/14, ML3.3/7, MS3.6/2, Ms1 3.6/2, ms1mx2.7/43, Error ellipse: s-maj=22.7km s-min=16.2km az=174.0*

*ISCJB **09** 17:46:02.8±0.6, 34°.85N±0°.03×25°.49E±0°.02, h7km±3km, mb4.0/8, MS3.7/2, Error ellipse: s-maj=4.7km s-min=3.1km az=2.5*

*ISK **09** 17:46:02.9, 34°.95N×25°.54E, h5km, ML3.7/11*

*ATH **09** 17:46:03.3, 34°.93N×25°.49E, h23km±1km, ML3.9/9, Error ellipse: s-maj=1.5km s-min=0.7km az=355.0*

*THE **09** 17:46:03.8, 34°.93N×25°.50E, h0km, ML3.8/13, Error ellipse: s-maj=1.1km s-min=0.5km az=168.0*

*HLW **09** 17:46:06.4, 34°.83N×25°.75E, h33km±13km, Md4.4, Ml4.0*

ISC 09 17:46:02.7±1.2**, 34°.88N**±0°.04×**25°.47E**±0°.02**, h6**km±8km**, n107,** σ**1s73**/133**, mb4.0**/9**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.28**	**2**	P	**Pg**	**17 46 08.9**	**+0.6**
LAST				S	**Sg**	**17 46 13.4**	**+1.3**
LAST				AML	AML	17 46 14.1	
LAST				AML	AML	17 46 15.3	
	comp=N,38835µm,0.5s						
LAST	**Lasithi**	**0.28**	**2**	P	**Pg**	**17 46 08.9**	**+0.6**
LAST				S	**Sg**	**17 46 12.4**	**+0.3**
NPS	**Neapolis**	**0.41**	**17**	P	**Pg**	**17 46 10.8**	**+0.3**
NPS				S	**Sg**	**17 46 16.9**	**+1.0**
NPS				AML	AML	17 46 19.4	
	comp=N,28905µm,0.5s						
NPS				AML	AML	17 46 21.8	
	comp=E,25213µm,0.7s						
NPS	**Neapolis**	**0.41**	**17**	P	**Pg**	**17 46 10.8**	**+0.3**
NPS				S	**Sg**	**17 46 16.8**	**+1.0**
KSTL	**Kastelli Herak**	**0.54**	**323**	P	**Pg**	**17 46 10.2**	**-2.8**
KSTL				S	**Sg**	**17 46 15.9**	**-4.1**
IACM	**Heraklion**	**0.54**	**323**	P	**Pg**	**17 46 13.6**	**+0.5**
IACM				S	**Sb**	**17 46 21.6**	**-0.9**
IACM	**Heraklion**	**0.54**	**323**	P	**Pg**	**17 46 13.6**	**+0.5**
IACM				S	**Sb**	**17 46 22.7**	**+0.2**
SIVA	**Sivas**	**0.56**	**285**	P	**Pb**	**17 46 14.6**	**-0.2**
SIVA				S	**Sb**	**17 46 23.2**	**+0.1**
SIVA				AML	AML	17 46 25.4	
	comp=E,41096µm,0.8s						
SIVA				AML	AML	17 46 28.8	
	comp=N,31833µm,0.6s						
SIVA	**Sivas**	**0.56**	**285**	P	**Pb**	**17 46 14.6**	**-0.2**
SIVA				S	**Sb**	**17 46 24.0**	**+1.0**
STIA	**Sitia Lasithi**	**0.61**	**57**	P	**Pg**	**17 46 14.7**	**+0.3**
STIA				S	**Sb**	**17 46 23.7**	**-0.8**
ZKR	**Zakros**	**0.66**	**69**	PG	**Pg**	**17 46 15.3**	**-0.1**
ZKR				SG	**Sg**	**17 46 24.3**	**+0.3**
ZKR	**Zakros**	**0.66**	**69**	P	**Pg**	**17 46 15.5**	**0.0**
ZKR				S	**Sb**	**17 46 25.0**	**-1.1**
ZKR				AML	AML	17 46 26.1	
	comp=E,23515µm,0.6s						
ZKR				AML	AML	17 46 26.2	
	comp=N,12291µm,0.4s						
ZKR	**Zakros**	**0.66**	**69**	P	**Pg**	**17 46 15.4**	**0.0**
ZKR				S	**Sb**	**17 46 25.5**	**-0.6**
GVD	**Gavdhos**	**1.13**	**269**	P	**Pn**	**17 46 25.7**	**+0.6**
GVD	**Gavdhos**	**1.13**	**269**	P	**Pn**	**17 46 25.6**	**+0.6**
GVD				S	**Sn**	**17 46 42.9**	**+2.0**
VAM	**Vamos**	**1.16**	**297**	P	**Pg**	**17 46 24.6**	**-0.4**
VAM				S	**Sb**	**17 46 41.0**	**+0.4**
VAM				AML	AML	17 46 46.0	
	comp=N,7205µm,0.3s						
VAM				AML	AML	17 46 55.9	
	comp=E,8226µm,0.9s						
VAM	**Vamos**	**1.16**	**297**	P	**Pg**	**17 46 25.0**	**0.0**
VAM				S	**Sn**	**17 46 42.4**	**+0.7**
CHAN	**Chania**	**1.33**	**299**	P	**Pg**	**17 46 28.4**	**+0.2**
CHAN				S	**Sn**	**17 46 47.5**	**+1.7**
IMMV	**Iera Moni Meta**	**1.35**	**296**	P	**Pn**	**17 46 28.2**	**+0.2**
IMMV				S	**Sn**	**17 46 46.9**	**+0.6**
IMMV				AML	AML	17 46 51.6	
	comp=E,8870µm,0.8s						
IMMV				AML	AML	17 46 60.0	
	comp=N,7624µm,0.8s						
IMMV	**Iera Moni Meta**	**1.35**	**296**	P	**Pn**	**17 46 28.2**	**+0.2**
IMMV				S	**Sn**	**17 46 47.8**	**+1.5**
THR6	**Thira Island,**	**1.48**	**358**	P	**Pn**	**17 46 29.8**	**0.0**
THR6	**Thira Island,**	**1.48**	**358**	P	**Pn**	**17 46 30.0**	**+0.2**
SANT	**Santorini**	**1.49**	**360**	PN	**Pb**	**17 46 30.7**	**-0.1**
SANT	**Santorini**	**1.49**	**360**	P	**Pn**	**17 46 30.0**	**-0.1**
SANT				S	**Sn**	**17 46 49.4**	**-0.5**
SANT				AML	AML	17 46 54.3	
	comp=E,9383µm,0.5s						
SANT				AML	AML	17 46 54.6	
	comp=N,4526µm,0.7s						
SANT	**Santorini**	**1.49**	**360**	P	**Pn**	**17 46 29.8**	**-0.3**
SANT				S	**Sb**	**17 46 50.2**	**+0.1**
ANAF	**Anafi Island**	**1.50**	**10**	P	**Pn**	**17 46 30.1**	**0.0**
THR8	**Santorini-Mono**	**1.53**	**0**	P	**Pn**	**17 46 30.6**	**+0.1**
THR8	**Santorini-Mono**	**1.53**	**0**	P	**Pn**	**17 46 30.7**	**+0.2**
THR3	**Thira Island,**	**1.53**	**358**	P	**Pn**	**17 46 30.6**	**0.0**
THR3	**Thira Island,**	**1.53**	**358**	P	**Pn**	**17 46 30.4**	**-0.1**
THR5	**Thira Island,**	**1.54**	**357**	P	**Pn**	**17 46 30.6**	**-0.2**
THR5	**Thira Island,**	**1.54**	**357**	P	**Pn**	**17 46 30.5**	**-0.2**
KARP	**Karpathos**	**1.54**	**64**	P	**Pb**	**17 46 31.6**	**-0.1**
KARP	**Karpathos**	**1.54**	**64**	P	**Pb**	**17 46 31.3**	**-0.4**
KARP				S	**Sg**	**17 46 52.2**	**-0.1**
THR7	**Fira-Santorini**	**1.54**	**359**	P	**Pn**	**17 46 30.7**	**-0.1**
THT2	**Imerovigli**	**1.56**	**359**	P	**Pn**	**17 46 31.3**	**+0.3**
THT2				S	**Sn**	**17 46 50.5**	**-1.0**
THT2				AML	AML	17 46 58.8	
	comp=E,12409µm,1.0s						
THT2				AML	AML	17 46 59.9	
	comp=N,13702µm,0.9s						
THT2	**Imerovigli**	**1.56**	**359**	P	**Pn**	**17 46 30.8**	**-0.1**
THT2				S	**Sn**	**17 46 51.7**	**+0.3**
THR2	**Thira island,**	**1.57**	**359**	P	**Pn**	**17 46 31.3**	**+0.3**
THR2	**Thira island,**	**1.57**	**359**	P	**Pn**	**17 46 30.5**	**-0.6**
IOSP	**Ios island**	**1.85**	**356**	P	**Pn**	**17 46 34.2**	**-0.7**
IOSP				S	**Sn**	**17 46 57.5**	**-1.1**
IOSP				AML	AML	17 47 02.9	
	comp=E,3546µm,0.5s						
IOSP				AML	AML	17 47 04.8	
	comp=N,3082µm,0.3s						
IOSP	**Ios island**	**1.85**	**356**	P	**Pn**	**17 46 34.1**	**-0.8**
IOSP				S	**Sn**	**17 46 59.4**	**+0.8**
AMGA	**Amorgos Island**	**1.98**	**10**	P	**Pn**	**17 46 36.7**	**-0.1**
AMGA	**Amorgos Island**	**1.98**	**10**	P	**Pn**	**17 46 36.9**	**+0.1**
MHLO	**Agia Marina, M**	**2.01**	**335**	P	**Pn**	**17 46 37.9**	**+0.9**
MHLO	**Agia Marina, M**	**2.01**	**335**	P	**Pn**	**17 46 38.0**	**+0.9**
ANKY	**Antikythira Is**	**2.03**	**300**	P	**Pb**	**17 46 39.2**	**-0.7**
APE	**Apeiranthos**	**2.19**	**1**	PN	**Pn**	**17 46 40.7**	**+1.0**
APE	**Apeiranthos**	**2.19**	**1**	P	**Pn**	**17 46 40.2**	**+0.5**
APE	**Apeiranthos**	**2.19**	**1**	P	**Pn**	**17 46 40.2**	**+0.5**
KYTH	**Kithira**	**2.41**	**306**	P	**Pn**	**17 46 44.2**	**+1.5**
KTHR	**Kythira**	**2.44**	**305**	P	**Pn**	**17 46 44.4**	**+1.4**
DAT	**Datca**	**2.52**	**42**	PN	**Pn**	**17 46 45.1**	**+0.8**
ARG	**Arkhangelos**	**2.55**	**58**	PN	**Pn**	**17 46 45.9**	**+1.3**
BODT	**Bodrum**	**2.65**	**34**	PN	**Pn**	**17 46 46.9**	**+1.0**
VLI	**Veliai**	**2.76**	**313**	P	**Pn**	**17 46 48.2**	**+0.8**
VLI	**Veliai**	**2.76**	**313**	P	**Pn**	**17 46 48.3**	**+0.8**
MLSB	**Milas**	**3.06**	**37**	PN	**Pn**	**17 46 52.9**	**+1.3**
GCAM	**G?zelcaml?**	**3.16**	**26**	PN	**Pn**	**17 46 54.6**	**+1.7**
DID	**Didima**	**3.18**	**326**	P	**Pn**	**17 46 54.4**	**+1.1**
DID	**Didima**	**3.18**	**326**	P	**Pn**	**17 46 54.4**	**+1.1**
DALY	**Dalyan (Mula)**	**3.23**	**52**	IAML_P			
	comp=Z,460nm,0.2s						
DALY				iP	**Pb**	**17 46 57.5**	**-3.0**
DALY				iS	**Pg**	**17 47 08.6**	**+3.9**
TURN	**Turunc**	**3.23**	**51**	PN	**Pn**	**17 46 51.2**	**-2.8**
TURN	**Turunc**	**3.23**	**51**	iP	**Pn**	**17 46 51.6**	**-2.4**
TURN				iS	Sn	17 47 22.0	-11
DGB	**zmir**	**3.37**	**19**	iP	**Pn**	**17 46 56.7**	**+0.9**
SLUM	**Salum**	**3.38**	**184**	P	**Pn**	**17 46 56.6**	**+0.6**
	baz=188						
AYDN	**Tasoluk**	**3.40**	**34**	iP	**Pb**	**17 47 00.0**	**-3.3**
FETY	**Fethiye**	**3.43**	**58**	IAML_P			
	comp=Z,2µm,0.2s						
FETY				iP	**Pb**	**17 47 02.1**	**-1.7**
FETY				iS	Pg	17 47 14.2	+5.9
CHOS	**Chios island**	**3.54**	**8**	PN	**Pn**	**17 46 59.7**	**+1.5**
URLA	**Izmir**	**3.59**	**14**	PN	**Pn**	**17 47 00.7**	**+1.7**
AYDB	**Zeytinkoy-Aydi**	**3.64**	**32**	PN	**Pn**	**17 47 01.1**	**+1.5**
AKAS	**Kas**	**3.64**	**67**	PN	**Pn**	**17 47 01.5**	**+1.9**
BLCB	**Balcova**	**3.73**	**19**	PN	**Pn**	**17 47 02.5**	**+1.8**
TAVA	**DENIZLI_Tavas**	**3.80**	**46**	IAML_P			
	comp=Z,213nm,0.3s						
TAVA				iP	**Pn**	**17 47 05.5**	**+3.6**
GUR	**Goura**	**3.96**	**321**	P	**Pn**	**17 47 06.1**	**+2.0**
ELL	**Elmali**	**4.07**	**61**	PN	**Pn**	**17 47 07.2**	**+1.7**
GOLH	**Golhisar**	**4.07**	**53**	iP	**Pb**	**17 47 10.8**	**-4.0**
GOLH				iS	Pg	17 47 26.1	+5.4
KULA	**Kula-Manisa**	**4.45**	**34**	PN	**Pn**	**17 47 12.8**	**+2.1**
KORT	**Korkueli**	**4.50**	**60**	PN	**Pn**	**17 47 13.3**	**+1.9**
KORT	**Korkueli**	**4.50**	**60**	iP	**Pn**	**17 47 15.8**	**+4.3**
KORT				iS	**Pg**	**17 47 27.7**	**-1.1**
BRDR	**BURDUR-Merkez**	**4.66**	**51**	IAML_P			
	comp=Z,154nm,0.3s						
BRDR				iP	Pn	17 47 18.6	+4.9
KHAL	**Karahalli**	**4.76**	**42**	IAML_P			
	comp=Z,93nm,0.2s						
KHAL				iP	**Pn**	**17 47 18.3**	**+3.2**
KHAL				iS	Sn	17 47 53.0	-18
SHUT	**Suhut-Afyon**	**5.49**	**47**	PN	**Pn**	**17 47 27.4**	**+2.3**
SWA2		**5.62**	**180**	P	**Pn**	**17 47 27.2**	**+0.5**
	baz=183						
SWA2				AMP		17 48 00.0	
	baz=183						
SWA2				S	**Sn**	**17 48 26.4**	**-5.2**
	baz=183						
HFRF	**Wahat Farafira**	**8.08**	**162**	P	**Pn**	**17 48 00.6**	**0.0**
	baz=163						
HFRF				AMP		17 51 08.2	
	baz=163						
BRTR	**Keskin Array B**	**8.11**	**51**	Pn	**Pn**	**17 48 04.9**	**+3.8**
	comp=Z,0.1nm,0.3s,baz=225,slow=13,SNR=4.1						
MMAI	**Mount Meron Ar**	**8.46**	**100**	Pn	**Pn**	**17 48 04.3**	**-1.6**
	comp=Z,1.2nm,0.3s,baz=265,slow=9.7,SNR=6.5						
VAE	**Valguarnera**	**9.31**	**289**	Pn	**Pn**	**17 48 16.2**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=108,slow=6.4,SNR=2.5						
EIL	**Elat**	**9.56**	**120**	Pn	**Pn**	**17 48 20.3**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=359,slow=3.9,SNR=7.8						
EIL				Sn	**Sn**	**17 50 02.6**	**-6.0**
	comp=Z,0.4nm,0.3s,baz=339,slow=17,SNR=3.6						
AKASG	**Malin Array Be**	**16.05**	**9**	Pn	**Pn**	**17 49 48.3**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=201,slow=11,SNR=3.5						
KBZ	**Khabaz**	**16.11**	**52**	Pn	**Pn**	**17 49 51.2**	**+1.6**
	comp=Z,0.0nm,0.3s,baz=245,slow=11,SNR=1.8						
GERES	**GERESS Array B**	**16.45**	**332**	Pn	**Pn**	**17 49 52.5**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=144,slow=10,SNR=2.3						
ESDC	**Sonseca Array**	**23.85**	**290**	P	**P**	**17 51 16.7**	**0.0**
	comp=Z,0.6nm,0.5s,baz=80,slow=9.5,SNR=6.3						
GEYT	**Alibeck**	**26.38**	**74**	P	**P**	**17 51 40.6**	**+0.8**
	comp=Z,39nm,0.9s,baz=263,slow=12,SNR=2.7						
FINES	**FINESS Array B**	**26.59**	**1**	P	**P**	**17 51 39.0**	**-2.3**
	comp=Z,2.4nm,0.8s,baz=172,slow=21,SNR=2.4						
TORD	**Torodi Ar. Bea**	**30.50**	**231**	P	**P**	**17 52 15.5**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=41,slow=7.8,SNR=9.7						
ARCES	**ARCESS Array B**	**34.71**	**0**	P	**P**	**17 52 52.5**	**-0.5**
	comp=Z,2.0nm,0.9s,baz=177,slow=8.5,SNR=5.1						
DBIC	**Dimbokro**	**39.59**	**232**	LR	LR	18 10 51.0	
	comp=Z,57nm,18.3s,baz=64,slow=38						
MKAR	**Makanchi Array**	**43.72**	**56**	P	**P**	**17 54 09.2**	**+0.6**
	comp=Z,1.8nm,0.4s,baz=284,slow=7.2,SNR=3.1						
ZALV	**Zalesovo Beam**	**45.02**	**46**	P	**P**	**17 54 18.9**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=243,slow=6.3,SNR=3.2						
PYUN	**Piuthan**	**48.95**	**81**	eP	**P**	**17 54 53.4**	**+3.2**
DANN	**Dangsing**	**49.48**	**81**	eP	**P**	**17 54 59.0**	**+4.7**
	comp=Z,14nm,0.7s						
KOLN	**Koldanda**	**49.58**	**81**	eP	**P**	**17 54 58.7**	**+3.7**
DMN	**Daman**	**50.87**	**81**	eP	**P**	**17 55 08.4**	**+3.6**
GUN	**Gumba**	**51.37**	**80**	eP	P	17 55 13.6	+4.9
JIRN	**Jiri**	**51.72**	**80**	eP	**P**	**17 55 15.0**	**+3.6**
SONM	**Songino Array**	**59.47**	**51**	P	**P**	**17 56 07.3**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=299,slow=8.2,SNR=4.2						
KDAK	**Kodiak Island**	**87.68**	**359**	LR	LR	18 43 40.7	
	comp=Z,47nm,20.0s,baz=313,slow=40						

ISK 09 17:47:03.6, 36°.87N×**28°.90E, h8**km**, ML2.5**/8**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DALY	**Dalyan (Mula)**	**0.20**	**254**	PG	Pg	17 47 07.9	+0.2
DALY				SG	Sg	17 47 11.7	+1.2
TURN	**Turunc**	**0.24**	**270**	PG	Pg	17 47 14.5	+6.2
FETY	**Fethiye**	**0.28**	**148**	PG	Pg	17 47 09.7	+0.5
AKAS	**Kas**	**0.86**	**138**	PG	Pb	17 47 20.6	-0.2
MLSB	**Milas**	**0.99**	**296**	PG	Pb	17 47 23.2	+0.1
KORT	**Korkueli**	**1.17**	**83**	PN	Pb	17 47 26.2	0.0
AYDB	**Zeytinkoy-Aydi**	**1.34**	**324**	PN	Pg	17 47 29.3	0.0
GCAM	**G?zelcaml?**	**1.56**	**302**	PN	Pb	17 47 32.5	-0.3

*ISCJB **09** 17:50:46.3±0.7, 51°.37N±0°.10×176°.97E±0°.06, h10km, mb3.7/9, Error ellipse: s-maj=14.4km s-min=5.4km az=177.1*

*IDC **09** 17:50:47.6±1.6, 51°.64N×177°.40E, h0km, mb3.6/8, mb1 4.0/10, mb1mx3.6/63, mbtmp3.7/10, ML3.6/2, Error ellipse: s-maj=56.4km s-min=17.0km az=179.0*

*NEIC **09** 17:50:49.7±0.0, 51°.38N×177°.25E, h5km, ML3.5(AEIC), After AEIC.*

ISC 09 17:50:48.5±0.9**, 51°.3N**±0°.1×**177°.23E**±0°.04**, h10**km**, n39,** σ**1s64**/46**, mb3.7**/9**, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**1.04**	**50**	P	**Pg**	**17 51 08.5**	**0.0**
LSNW	**Little Sitkin**	**1.06**	**49**	P	**Pg**	**17 51 08.7**	**-0.1**
LSPA	**Little Sitkin**	**1.07**	**51**	P	**Pg**	**17 51 08.6**	**-0.6**
LSPA				S	**Sb**	**17 51 23.3**	**0.0**
AMKA	**Amchitka**	**1.30**	**85**	P	**Pn**	**17 51 13.0**	**+0.4**
AMKA				S	**Sn**	**17 51 30.9**	**+0.8**
CESW	**Semis' Southwe**	**1.58**	**66**	P	**Pn**	**17 51 17.6**	**+1.0**
CEAP	**Semis' Anvil P**	**1.63**	**63**	P	**Pn**	**17 51 17.9**	**+0.7**
CERB	**Semis' Cerberu**	**1.63**	**66**	P	**Pn**	**17 51 18.1**	**+0.9**
CERB				S	**Sg**	**17 51 40.0**	**-0.9**
CERAA	**Semis' Rag'd T**	**1.65**	**67**	P	**Pn**	**17 51 18.2**	**+0.7**
SMY	**Shemya**	**2.42**	**308**	P	**Pn**	**17 51 29.2**	**+1.2**
SMY				S	**Sn**	**17 51 59.0**	**+1.3**
TASE	**Tanaga Southea**	**3.00**	**78**	ePn	**Pn**	**17 51 37.4**	**+1.3**
KIWB	**Kanaga Island**	**3.55**	**79**	ePn	**Pn**	**17 51 45.6**	**+2.0**
ADK	**Adak**	**3.84**	**79**	ePn	**Pn**	**17 51 48.5**	**+0.9**
ADK				S	**Sn**	**17 52 37.4**	**+4.6**
GSTD	**Great Sitkin T**	**4.20**	**77**	ePn	**Pn**	**17 51 53.9**	**+1.4**
GSTD				S	**Sn**	**17 52 45.2**	**+3.6**
GSMY	**Great Sitkin M**	**4.25**	**77**	ePn	**Pn**	**17 51 54.9**	**+1.7**
PETK	**Petropavlovsk-**	**12.12**	**286**	Pn	**Pn**	**17 53 42.8**	**+1.7**
	0.3nm,0.3s,baz=98,slow=17,SNR=7.5						
KDAK	**Kodiak Island**	**18.57**	**58**	P	**P**	**17 55 01.7**	**-3.5**
	0.9nm,0.3s,baz=316,slow=2.4,SNR=14						
SUA	**Susitna One**	**20.24**	**47**	eP	**P**	**17 55 22.3**	**-1.3**
CAST	**Castle Rocks**	**20.29**	**41**	eP	**P**	**17 55 24.5**	**+0.5**
IM3	**Indian Mountai**	**20.80**	**34**	eP	**P**	**17 55 30.8**	**+1.3**
BPAW	**Bear Paw Mtn.**	**21.00**	**40**	eP	**P**	**17 55 31.8**	**+0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MLY	Manley	21.47	38	eP	P	17 55 36.8	0.0
DHY	Denali Highway	22.19	44	eP	P	17 55 43.6	-1.1
MDM	Murphy Dome	22.43	39	eP	P	17 55 46.2	-0.8
ILAR	Eielson Array	22.90	40	P	P	17 55 49.2	-2.8
	0.8nm,0.5s,baz=251,slow=9.5,SNR=20						
ILB	Eielson Array	22.90	40	eP	P	17 55 49.8	-2.2
PRP	Porcupine Dome	23.69	39	eP	P	17 55 58.2	-2.0
DOT	Dot Lake	23.78	44	eP	P	17 55 57.9	-3.0
SCRK	Sand Creek	23.89	43	eP	P	17 55 59.8	-2.2
EGAK	Eagle	25.27	42	eP	P	17 56 13.0	-1.5
	9.4nm,1.0s						
DAWY	Dawson	25.89	44	eP	P	17 56 19.7	-0.5
KLR	Kul'dur	28.80	284	P	P	17 56 47.5	+1.1
	0.6nm,0.6s,baz=81,slow=6.0,SNR=4.1						
YKA	Yellowknife Ar	37.09	46	P	P	17 57 56.4	-2.0
	0.3nm,0.5s,baz=284,slow=8.0,SNR=5.7						
YKA				PcP	PcP	18 00 17.3	-1.3
	0.1nm,0.5s,baz=292,slow=3.1,SNR=4.1						
SONM	Songino Array	44.44	295	P	P	17 58 58.9	-0.6
	0.6nm,1.0s,baz=57,slow=9.3,SNR=3.6						
NVAR	Mina Array Bea	46.03	80	P	P	17 59 12.2	-0.1
	0.7nm,0.6s,baz=335,slow=6.6,SNR=5.0						
PDAR	Pinedale Array	48.70	70	P	P	17 59 31.9	-1.1
	0.9nm,0.7s,baz=319,slow=4.0,SNR=7.4						
PV17	East Wray Mesa	51.84	74	eP	P	17 59 56.8	0.0
PV13	Radium Mtn., P	52.00	74	eP	P	17 59 57.9	-0.1
KURBB	Kurchatov Arra	57.36	312	P	P	18 00 36.1	-0.3
	0.4nm,0.6s,baz=44,slow=6.6,SNR=7.3						
TXAR	Lajitas Array	61.12	78	P	P	18 01 02.4	-0.5
	0.5nm,0.4s,baz=300,slow=5.9,SNR=4.2						

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*IDC **09** 17:53:31.3±0.8, 1°.94S×67°.96E, h0km, mb4.0/14, mb1 4.1/15, mb1mx3.9/53, mbtmp4.0/15, ML4.0/1, MS3.9/8, Ms1 4.0/8, ms1mx3.7/19, Error ellipse: s-maj=21.2km s-min=19.0km az=179.0*

*ISCJB **09** 17:53:32.1±0.6, 1°.96S±0°.09×67°.93E±0°.08, h15km, mb4.3/25, MS3.9/7, Error ellipse: s-maj=13.4km s-min=10.9km az=171.1*

*NEIC **09** 17:53:33.2±0.5, 1°.94S×67°.95E, h10km, mb4.7/14, Error ellipse: s-maj=12.8km s-min=10.0km az=174.0*

*GCMT **09** 17:53:35.2±0.3, 1°.92S±0°.03×67°.94E±0°.02, h13km±1km, MW4.8/72, Moment Tensor Solution. s25,c25; s72,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.06±.14; $M_{\theta\theta}$0.22±.09; $M_{\phi\phi}$1.83±.10; $M_{r\theta}$0.72±.26; $M_{\theta\phi}$-0.85±.07; $M_{\phi r}$-0.63±.21; Best double couple: $M_0$2.33800×10^{16} NP1:ϕ_s326.00000°,δ57.00000°,λ-102.00000°. NP2: ϕ_s167.00000°,δ35.00000°,λ-72.00000°. Principal axes: T 2.3720, Plg11.0000°, Azm65.0000°; N -0.0760, Plg10.0000°, Azm333.0000°; P -2.3040, Plg75.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 17:53:34.0±0.8, 2°.0S±0°.1×67°.9E±0°.1, h15km, n59, σ0s.97/49, mb4.5/31, MS3.9/7, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.30	145	T	T	18 00 15.9	
	baz=324,slow=75,SNR=609						
H08N3	Diego Garcia H	5.32	145	T	T	18 00 11.9	
	baz=324,slow=75,SNR=641						
H08N1	Diego Carcia H	5.33	145	T	T	18 00 17.3	
	baz=324,slow=75,SNR=60						
PALK	Pallekele	15.70	54	Pn	Pn	17 57 13.5	-1.3
	0.6nm,0.3s,baz=297,slow=9.0,SNR=3.8						
PALK				LR	LR	18 01 56.4	
	comp=Z,914nm,20.7s,baz=295,slow=32						
HYB	Hyderabad	21.92	28	i P	P	17 58 28.0	+1.0
OPO	Ambohidratompo	26.20	230	LR	LR	18 06 59.8	
	comp=Z,776nm,20.8s,baz=22,slow=31						
WSAR	Wadi Sarin	26.64	341	LR	LR	18 08 16.5	
	comp=Z,184nm,18.2s,baz=172,slow=33						
ATD	Arta Tunnel	28.32	299	LR	LR	18 08 20.4	
	comp=Z,188nm,21.4s,baz=108,slow=31						
KMBO	Kilima Mbogo	30.68	271	P	P	17 59 49.0	+0.2
	0.8nm,0.5s,baz=58,slow=17,SNR=3.1						
KMBO				LR	LR	18 10 43.2	
	comp=Z,286nm,19.6s,baz=96,slow=34						
KMBO	Kilima Mbogo	30.68	271	eP	P	17 59 49.6	+0.8
	11nm,2.0s						
KOLN	Koldanda	33.18	26	eP	P	18 00 11.0	+0.6
	12nm,0.8s						
PYUN	Piuthan	33.21	25	eP	P	18 00 10.8	+0.1
KULM	Kulim	33.46	77	eP	P	18 00 14.4	+1.6
	38nm,1.4s						
DMN	Daman	33.73	28	eP	P	18 00 16.1	+0.8
	27nm,0.9s						
DANN	Dangsing	33.75	26	eP	P	18 00 16.0	+0.5
	23nm,1.0s						
PKI	Pulchoki	33.84	29	eP	P	18 00 16.8	+0.5
KKN	Kakani	33.96	28	eP	P	18 00 17.8	+0.5
	20nm,0.9s						
JIRN	Jiri	34.29	30	eP	P	18 00 20.8	+0.5
	31nm,1.2s						
GUN	Gumba	34.35	29	eP	P	18 00 21.5	+0.7
	111nm,1.6s						
NIL	Nilore	35.77	8	eP	P	18 00 34.0	+1.4
	36nm,1.9s						
CM01	Chiang Mai Arr	36.63	55	eP	P	18 00 41.0	+0.9
CM31	Chiang Mai Arr	36.64	55	eP	P	18 00 40.9	+0.7
CMAR	Chiang Mai Arr	36.64	55	P	P	18 00 40.9	+0.7
	1.6nm,0.8s,baz=242,slow=10,SNR=18						
CMAR				LR	LR	18 13 58.6	
	comp=Z,190nm,20.1s,baz=239,slow=34						
CHTO	Chiang Mai	36.82	55	eP	P	18 00 42.6	+0.8
	4.9nm,0.8s						
LSA	Lhasa	38.52	33	eP	P	18 00 58.2	+1.7
	21nm,1.8s						
GAR	Garm	40.82	3	eP	P	18 01 15.4	+0.2
	42nm,1.7s						
LSZ	Lusaka	41.37	249	P	P	18 01 19.9	-0.1
	2.7nm,0.6s,baz=78,slow=5.5,SNR=7.2						
LSZ	Lusaka	41.37	249	eP	P	18 01 20.6	+0.6
	6.8nm,1.0s						
NRN	Naryn	43.81	9	eP	P	18 01 40.6	+0.9
	3.8nm,1.1s						
KDJ	Kajisay	44.68	10	eP	P	18 01 46.0	-0.5
	9.8nm,0.9s						
AAK	Ala-Archa	44.79	7	P	P	18 01 47.1	-0.2
	1.2nm,0.8s,baz=182,slow=12,SNR=4.2						
MAKZ	Makanchi	50.11	13	eP	P	18 02 28.0	-0.6
	4.5nm,1.0s						
MK32	Makanchi Array	50.17	13	eP	P	18 02 28.4	-0.6
MKAR	Makanchi Array	50.17	13	P	P	18 02 28.4	-0.6
	2.3nm,0.8s,baz=189,slow=7.2,SNR=1.3						
MKAR	Makanchi Array	50.17	13	eP	P	18 02 28.3	-0.6
	14nm,0.8s						
KBZ	Khabaz	50.73	337	P	P	18 02 33.4	+0.2
	1.5nm,0.8s,baz=180,slow=9.1,SNR=3.6						
ENH	Enshi	50.95	48	eP	P	18 02 35.3	+0.1
	18nm,1.1s						
BR101	Keskin Array S	52.04	327	eP	P	18 02 44.3	+1.0
BRTR	Keskin Array B	52.04	327	P	P	18 02 44.3	+1.0
	1.1nm,1.0s,baz=16,slow=5.4,SNR=3.8						
KURBB	Kurchatov Arra	53.16	8	P	P	18 02 50.0	-1.2
	2.2nm,0.9s,baz=203,slow=7.9,SNR=7.6						
KURK	Kurchatov	53.27	8	eP	P	18 02 50.0	-1.9
ZAA0	Zalesovo Array	57.46	12	eP	P	18 03 21.1	-1.1
	6.0nm,1.0s						
ZALV	Zalesovo Beam	57.46	12	P	P	18 03 21.4	-0.8
	2.7nm,0.6s,baz=227,slow=7.1,SNR=11						
ZALV	Zalesovo Beam	57.46	12	eP	P	18 03 20.9	-1.2
ZAA1	Zalesovo Array	57.46	12	eP	P	18 03 21.4	-0.8
SONA0	Songino Array	59.86	29	eP	P	18 03 38.9	-0.2
SONM	Songino Array	59.86	29	P	P	18 03 38.9	-0.2
	3.9nm,0.9s,baz=220,slow=7.1,SNR=30						
AKASG	Malin Array Be	61.99	333	LR	LR	18 34 00.4	
	comp=Z,25nm,18.4s,baz=335,slow=39						
MAW	Mawson	65.61	182	LR	LR	18 27 52.7	
	comp=Z,154nm,21.3s,baz=350,slow=31						
WR1	Warramunga Arr	67.17	111	eP	P	18 04 27.5	-0.5
	36nm,2.0s						
WRA	Warramunga Arr	67.17	111	P	P	18 04 27.5	-0.5
	0.7nm,0.6s,baz=287,slow=5.7,SNR=11						
ASAR	Alice Springs	67.25	115	P	P	18 04 28.8	+0.3
	0.4nm,0.6s,baz=284,slow=5.9,SNR=9.6						
KLR	Kul'dur	74.72	38	P	P	18 05 11.5	-1.8
	1.4nm,0.9s,baz=231,slow=7.2,SNR=3.7						
TIXI	Tiksi	83.02	16	P	P	18 05 57.2	-1.1
	2.0nm,0.7s,baz=329,slow=2.0,SNR=5.9						
DZM	Mont Dzumac	97.15	112	eLR	LR	18 38 32.7	
	comp=Z,202nm,27.1s						
PPT2	Papeete2	138.24	119	eLR	LR	18 57 36.0	
	comp=Z,81nm,26.2s						
ANMO	Albuquerque	146.77	352	PKPbc	PKPbc	18 13 15.8	-0.4
	0.5nm,0.3s,baz=317,slow=3.0,SNR=3.1						
LTX	Lajitas	151.63	344	epPKPdf	PKPbc	18 13 26.6	-2.1
TXAR	Lajitas Array	151.63	344	PKPbc	PKPbc	18 13 26.6	-2.1
	0.8nm,0.9s,baz=225,slow=1.4,SNR=5.1						

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*IDC **09** 17:54:55.8±0.9, 1°.93S×67°.84E, h0km, mb3.9/10, mb1 4.1/11, mb1mx3.7/50, mbtmp4.0/11, ML4.0/1, MS4.1/1, Ms1 4.1/1, ms1mx3.2/17, Error ellipse: s-maj=25.7km s-min=24.3km az=168.0*

*ISCJB **09** 17:54:56.1±0.7, 1°.9S±0°.1×67°.8E±0°.1, h15km, mb4.2/13, MS4.1/1, Error ellipse: s-maj=17.1km s-min=15.0km az=10.7*

*NEIC **09** 17:54:57.2±0.5, 1°.92S×67°.78E, h10km, mb4.4/1, Error ellipse: s-maj=14.0km s-min=12.0km az=176.0*

ISC 09 17:54:58.1±0.9, 1°.9S±0°.2×67°.8E±0°.1, h15km, n26, σ0s.86/25, mb4.2/13, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALK	Pallekele	15.79	55	Pn	Pn	17 58 39.7	-0.3
	0.6nm,0.3s,baz=296,slow=3.4,SNR=3.0						
CMAR	Chiang Mai Arr	36.73	55	P	P	18 02 05.0	-0.1
	1.0nm,1.1s,baz=249,slow=7.5,SNR=3.5						
LSZ	Lusaka	41.25	249	P	P	18 02 43.8	+0.7
	2.2nm,0.5s,baz=76,slow=4.6,SNR=3.9						
MK32	Makanchi Array	50.14	13	eP	P	18 03 52.7	-0.2
MKAR	Makanchi Array	50.14	13	P	P	18 03 52.7	-0.2
	1.2nm,0.8s,baz=195,slow=7.8,SNR=6.8						
MKAR	Makanchi Array	50.14	13	eP	P	18 03 52.7	-0.2
	14nm,0.8s						
BR101	Keskin Array S	51.91	327	eP	P	18 04 06.6	+0.2
BRTR	Keskin Array B	51.91	327	P	P	18 04 06.6	+0.2
	0.8nm,0.9s,baz=48,slow=4.7,SNR=4.4						
KURBB	Kurchatov Arra	53.12	9	P	P	18 04 15.2	+0.1
	1.8nm,0.9s,baz=206,slow=7.1,SNR=6.3						
KURK	Kurchatov	53.23	9	eP	P	18 04 15.2	-0.6
BATI	Baumata	56.10	101	LR	LR	18 28 06.8	
	comp=Z,156nm,19.9s,baz=308,slow=36						
ZAA0	Zalesovo Array	57.43	12	eP	P	18 04 46.7	+0.6
	3.5nm,0.8s						
ZALV	Zalesovo Beam	57.43	12	P	P	18 04 45.9	-0.2
	2.9nm,0.7s,baz=202,slow=7.7,SNR=6.1						
ZALV	Zalesovo Beam	57.43	12	eP	P	18 04 46.6	+0.5
ZAA1	Zalesovo Array	57.44	12	eP	P	18 04 45.9	-0.2
AGG	Agios Georgios	58.30	319	eP	P	18 04 50.0	-2.5
	18nm,0.7s						
SONA0	Songino Array	59.88	29	eP	P	18 05 05.1	+1.6
SONM	Songino Array	59.88	29	P	P	18 05 05.1	+1.6
	1.7nm,0.8s,baz=219,slow=6.9,SNR=6.9						
WRA	Warramunga Arr	67.34	111	P	P	18 05 52.6	-0.6
	1.2nm,0.7s,baz=289,slow=6.1,SNR=5.4						
WR1	Warramunga Arr	67.34	111	eP	P	18 05 52.6	-0.6
	22nm,1.7s						
ASAR	Alice Springs	67.41	115	P	P	18 05 53.6	0.0
	0.9nm,0.9s,baz=277,slow=5.7,SNR=4.3						
KLR	Kul'dur	74.77	38	P	P	18 06 37.0	-0.6
	1.5nm,0.8s,baz=299,slow=8.5,SNR=4.6						
YKA	Yellowknife Ar	119.53	1	PKP	PKPdf	18 13 46.1	-0.8
	0.3nm,0.8s,baz=356,slow=2.2,SNR=4.9						
PDAR	Pinedale Array	139.24	357	PKP	PKPdf	18 14 25.5	+0.2
	0.3nm,0.6s,baz=55,slow=3.4,SNR=3.2						
LTX	Lajitas	151.53	344	ePKPbc	PKPbc	18 14 53.1	+0.6
TXAR	Lajitas Array	151.53	344	PKPbc	PKPbc	18 14 53.1	+0.6
	1.1nm,1.0s,baz=214,slow=1.0,SNR=3.1						

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*ISCJB **09** 17:56:01.4±1.7, 2°.0S±0°.2×67°.8E±0°.2, h10km, mb3.9/7, Error ellipse: s-maj=36.9km s-min=25.0km az=158.3*

*IDC **09** 17:56:01.5±1.8, 2°.10S×67°.73E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.6/50, mbtmp3.9/8, ML3.9/1, Error ellipse: s-maj=50.3km s-min=26.4km az=66.0*

ISC 09 17:56:03.6±1.8, 2°.1S±0°.2×67°.8E±0°.3, h10km, n9, σ0s.70/9, mb4.0/7, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALK	Pallekele	15.84	54	Pn	Pn	17 59 46.0	-0.9
	0.5nm,0.3s,baz=115,slow=8.7,SNR=3.7						
CMAR	Chiang Mai Arr	36.78	55	P	P	18 03 12.7	+0.9
	0.7nm,1.1s,baz=251,slow=8.9,SNR=4.4						
MKAR	Makanchi Array	50.28	13	P	P	18 05 00.0	-0.2
	1.8nm,0.4s,baz=189,slow=8.0,SNR=4.9						
KURBB	Kurchatov Arra	53.27	8	P	P	18 05 22.9	+0.5
	1.6nm,1.0s,baz=208,slow=7.5,SNR=4.5						
ZALV	Zalesovo Beam	57.57	12	P	P	18 05 52.5	-0.9
	1.1nm,0.6s,baz=198,slow=9.3,SNR=4.2						
SONM	Songino Array	59.99	29	P	P	18 06 10.9	+0.4
	1.3nm,0.8s,baz=223,slow=7.0,SNR=5.0						
WRA	Warramunga Arr	67.25	111	P	P	18 06 58.9	0.0
	0.8nm,0.8s,baz=288,slow=5.7,SNR=4.3						
ASAR	Alice Springs	67.31	115	P	P	18 06 59.1	-0.1
	0.6nm,0.9s,baz=291,slow=8.4,SNR=4.0						
TXAR	Lajitas Array	151.68	344	PKPbc	PKPbc	18 15 58.8	-0.5
	0.4nm,0.8s,baz=39,slow=4.6,SNR=2.5						

IDC 09 18:00:17.4±1.2, 2°.02S×67°.60E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.5/40, mbtmp3.7/7, Error ellipse: s-maj=33.5km s-min=26.4km az=33.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	36.95	55	P	P	18 07 28.9	+0.3
	0.4nm,0.8s,baz=243,slow=12,SNR=4.0						
KURBB	Kurchatov Arra	53.27	9	P	P	18 09 37.5	-0.3
	1.6nm,1.1s,baz=205,slow=7.8,SNR=5.1						
ZALV	Zalesovo Beam	57.59	12	P	P	18 10 09.1	+0.1
	1.6nm,0.7s,baz=226,slow=7.4,SNR=5.6						
SONM	Songino Array	60.07	29	P	P	18 10 26.3	-0.2
	1.3nm,0.8s,baz=224,slow=6.8,SNR=11						
TORD	Torodi Ar. Bea	67.08	285	P	P	18 11 13.4	+0.1
	0.8nm,1.2s,baz=153,slow=9.7,SNR=2.8						
WRA	Warramunga Arr	67.47	111	P	P	18 11 15.7	-0.1
	0.8nm,1.0s,baz=284,slow=6.1,SNR=4.4						
ASAR	Alice Springs	67.53	115	P	P	18 11 16.2	+0.1
	0.5nm,0.9s,baz=308,slow=7.4,SNR=4.8						

SJA 09 18:14:34.7±1.0, 23°.56S×64°.98W, h14km±7km, ML2.9, MW3.8, Jujuy Province

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HJA	Humahuaca	0.52	312	eP	Pb	18 14 46.4	+0.5
HJA				eS	Sb	18 14 54.7	+1.2
HJA				IAML		18 14 55.5	
	comp=Z,504nm,0.5s						
AZAP	Zapla	0.67	187	eP	Pg	18 14 47.1	-0.7
AZAP				eS	Sb	18 14 58.3	+0.8
AZAP				IAML		18 15 06.8	
	comp=Z,421nm,0.3s						
ALOL	LOMAS DE OLMED	0.95	106	eP	Pg	18 14 53.1	-0.1
SLA	San Lorenzo	1.25	202	eP	Pg	18 14 58.7	-0.1
SLA				eS	Sg	18 15 16.2	+1.0
SLA				IAML		18 15 21.4	
	comp=Z,456nm,0.5s						
YJA	Yavi	1.46	340	eP	Pg	18 15 03.2	+0.3
YJA				IAML		18 15 34.3	
	comp=Z,135nm,0.5s						
FSA	Cafayete	2.70	199	eP	Pb	18 15 20.6	-2.3
LVC	Limon Verde	3.74	284	eP	Pb	18 15 38.5	-2.2
PB15	IPOC Station P	4.14	274	eP	Pb	18 15 45.8	-1.6
PB09	IPOC Station P	4.31	293	eP	Pb	18 15 47.0	-3.3
PB06	IPOC Station P	4.31	280	eP	Pn	18 15 38.3	-1.7
PB03	IPOC Station P	4.65	288	eP	Pn	18 15 49.7	+5.0
PB05	IPOC Station P	4.85	277	eP	Pn	18 15 40.3	-7.1
PB07	IPOC Station P	4.88	291	eP	Pn	18 15 53.9	+6.1
CYA	Choya	4.92	188	eP	Pn	18 15 50.9	+2.7
PB02	IPOC Station P	5.06	295	eP	Pb	18 16 04.6	+1.5
PB08	IPOC Station P	5.15	310	eP	Pn	18 15 55.8	+4.0

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*BEO **09** 18:35:11.1±0.9, 39°.21N×25°.70E, h5km, ML3.6/7*

*DDA **09** 18:35:14.1, 39°.67N×25°.40E, h19km±1km, ML3.4*

*ISK **09** 18:35:15.9, 39°.65N×25°.55E, h7km, ML3.5/23*

*ISCJB **09** 18:35:16.2±0.4, 39°.68N±0°.01×25°.51E±0°.02, h9km±3km, Error ellipse: s-maj=2.3km s-min=2.2km az=160.4*

*ATH **09** 18:35:16.3, 39°.66N×25°.57E, h31km, ML3.3/15, Error ellipse: s-maj=1.1km s-min=0.7km az=92.0*

*THE **09** 18:35:17.0, 39°.69N×25°.55E, h8km±1km, ML3.3/10, Error ellipse: s-maj=1.0km s-min=0.5km az=79.0*

ISC 09 18:35:16.0±1.1, 39°.66N±0°.02×25°.54E±0°.02, h8km±10km, n178, σ0s.80/209, 8C-11D, Aegean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.36	312	P	Pb	18 35 24.7	0.0
LIA				AML	AML	18 35 30.0	
	comp=E,3996µm,0.3s						
LIA				AML	AML	18 35 30.0	
	comp=N,5513µm,0.3s						
LIA	Limnos Island	0.36	312	P	Pb	18 35 24.6	-0.1
LIA				S	Sb	18 35 29.6	-1.0
BOZC	Bozcaada	0.44	65	PG	Pb	18 35 25.3	-0.7
BOZC	Bozcaada	0.44	65	IAML_P			
	comp=Z,16µm,0.1s						
EFSA	Agios Efstrati	0.44	255	P	Pn	18 35 27.5	-1.1
EFSA				S	Sb	18 35 33.9	+1.2
EFSA				AML	AML	18 35 34.3	
	comp=E,16778µm,0.6s						
EFSA				AML	AML	18 35 34.8	
	comp=N,15064µm,0.3s						
GPNR	Gulpinar-Canak	0.50	113	PG	Pb	18 35 26.6	-0.5
SIGR	SIGRI	0.51	151	PG	Pg	18 35 26.1	+0.3
SIGR				SG	Sg	18 35 33.1	+0.6
SIGR	SIGRI	0.51	151	P	Pb	18 35 26.9	-0.3
SIGR				S	Sb	18 35 34.3	-0.4
SIGR				AML	AML	18 35 35.4	
	comp=E,8665µm,0.5s						
SIGR				AML	AML	18 35 35.4	
	comp=N,11074µm,0.4s						
SIGR	SIGRI	0.51	151	P	Pb	18 35 26.9	-0.3
SIGR				S	Sb	18 35 34.8	0.0
GADA	Gvkgeada	0.60	27	PG	Pb	18 35 28.2	-0.6
GADA	Gvkgeada	0.60	27	P	Pb	18 35 28.1	-0.7
GOKC	Gokceada-Canak	0.62	28	PG	Pb	18 35 28.8	-0.3
EZN	Ezine	0.63	74	PG	Pb	18 35 28.6	-0.7
EZN				SG	Sg	18 35 36.8	+0.4
EZN	Ezine	0.63	74	P	Pg	18 35 28.4	+0.2
EZN				S	Sb	18 35 37.1	-1.2
PRK	Paraskevi	0.70	126	P	Pb	18 35 30.4	0.0
PRK				S	Sb	18 35 40.0	-0.4
PRK				AML	AML	18 35 45.0	
	comp=N,7720µm,0.4s						
PRK				AML	AML	18 35 45.6	
	comp=E,9190µm,0.4s						
PRK	Paraskevi	0.70	126	P	Pn	18 35 31.4	-0.9
PRK				S	Sb	18 35 41.2	+0.9
BAYC	CANAKKALE_Bayr	0.78	84	i P	Pb	18 35 31.9	-0.1
BAYC				i S	Sb	18 35 42.0	-0.8
SMTH	Samothraki Isl	0.81	360	P	Pb	18 35 32.4	0.0
SMTH				S	Sb	18 35 43.6	0.0
SMTH				AML	AML	18 35 45.8	
	comp=E,3813µm,0.4s						
SMTH				AML	AML	18 35 46.0	
	comp=N,5667µm,0.3s						
SMTH	Samothraki Isl	0.81	360	P	Pb	18 35 32.4	0.0
SMTH				S	Sb	18 35 43.4	-0.2
AYVA	Ayvalik	0.96	111	i P	Pn	18 35 35.6	-0.1
AYVA				i S	Sn	18 35 50.0	+0.4
GELI	Tayfur-Gelibol	1.03	44	PG	Pb	18 35 35.8	-0.3
SKY	Skiros Island	1.09	225	P	Pn	18 35 37.4	-0.2
SKY				S	Sn	18 35 52.4	-0.6
SKY				AML	AML	18 35 55.5	
	comp=N,4856µm,0.3s						
SKY				AML	AML	18 35 55.6	
	comp=E,5067µm,0.2s						
SKY	Skiros Island	1.09	225	P	Pn	18 35 37.5	-0.2
SKY				S	Sn	18 35 53.5	+0.6
PSRA	Psara	1.11	179	P	Pb	18 35 37.4	-0.1
THAS	Thassos island	1.14	327	P	Pb	18 35 38.1	+0.2
THAS				S	Sb	18 35 53.3	+0.4
THAS				AML	AML	18 35 54.8	
	comp=N,3889µm,0.5s						
THAS				AML	AML	18 35 55.3	
	comp=E,3280µm,0.3s						
THAS	Thassos island	1.14	327	P	Pg	18 35 37.8	0.0
THAS				S	Sb	18 35 53.3	+0.4
ENEZ	Enez	1.18	23	PN	Pn	18 35 38.7	-0.1
LPK	Lapseki	1.18	52	PN	Pn	18 35 38.9	0.0
DKL	Dikili	1.21	118	PN	Pn	18 35 39.4	+0.1
ERIK	Erikli-Kesan	1.26	36	PN	Pg	18 35 40.0	-0.2
ALN	Alexandroupoli	1.30	17	PN	Pb	18 35 40.5	-0.2
ALN	Alexandroupoli	1.30	17	P	Pn	18 35 40.1	-0.4
ALN				S	Sb	18 35 57.0	-0.5
ALN				AML	AML	18 35 59.2	
	comp=N,1091µm,0.5s						
ALN				AML	AML	18 35 59.5	
	comp=E,1074µm,0.5s						
ALN	Alexandroupoli	1.30	17	P	Pn	18 35 39.9	-0.6
ALN				S	Sb	18 35 57.0	-0.5
FOCM	Foa	1.32	135	PN	Pg	18 35 41.6	+0.2
KRBN	Karaburun	1.32	143	PN	Pg	18 35 41.2	-0.2
CHOS	Chios island	1.33	162	PN	Pn	18 35 40.8	-0.2
CHOS	Chios island	1.33	162	P	Pg	18 35 41.3	-0.3
CHOS	Chios island	1.33	162	P	Pb	18 35 41.0	-0.3
CHOS				S	Sn	18 36 01.1	+2.1
AOS	Alonnisos	1.37	250	PN	Pn	18 35 39.9	-1.6
AOS	Alonnisos	1.37	250	P	Pn	18 35 41.6	+0.1
AOS	Alonnisos	1.37	250	P	Pb	18 35 41.8	-0.1
AOS				S	Sg	18 36 02.1	+2.0
ALNA	Alonissos	1.39	249	P	Pb	18 35 42.1	-0.2
ALNA				S	Sg	18 36 00.9	+0.2
ALNA				AML	AML	18 36 05.2	
	comp=E,2765µm,0.5s						
ALNA				AML	AML	18 36 06.9	
	comp=N,2812µm,0.7s						
PAIG	Paliouri	1.46	281	P	Pn	18 35 42.5	-0.1
PAIG	Paliouri	1.46	281	P	Pn	18 35 42.6	-0.1
KESN	Edirne-Kesan	1.46	37	IAML_P			
	comp=Z,841nm,0.1s						
KESN				i P	Pb	18 35 43.3	-0.4
RDO	Rodhopi	1.49	0	PN	Pn	18 35 43.4	+0.3
RDO	Rodhopi	1.49	0	P	Pn	18 35 43.2	+0.1
RDO				S	Sb	18 36 02.8	-0.2
RDO				AML	AML	18 36 04.4	
	comp=N,936µm,0.8s						
RDO				AML	AML	18 36 07.1	
	comp=E,670µm,0.3s						
RDO	Rodhopi	1.49	0	P	Pn	18 35 43.1	+0.1
RDO				S	Sn	18 36 02.7	0.0
URLA	Izmir	1.54	147	PN	Pn	18 35 43.9	+0.1
URLA	Izmir	1.54	147	i P	Pg	18 35 45.0	-0.5
KRBG	Karabiga-Canak	1.54	61	PN	Pb	18 35 44.4	-0.4
KAVA	Kavala	1.55	330	P	Pn	18 35 44.0	+0.1
KAVA				S	Sb	18 36 04.6	-0.2
KAVA				AML	AML	18 36 08.0	
	comp=N,681µm,0.3s						
KAVA				AML	AML	18 36 08.4	
	comp=E,904µm,0.3s						
KAVA	Kavala	1.55	330	P	Pn	18 35 43.7	-0.2
KVLA	Kavala	1.55	326	P	Pn	18 35 44.0	+0.1
SART	Tekirdag	1.63	50	i P	Pb	18 35 45.6	-0.8
KNL	Balıkesir	1.65	68	i P	Pg	18 35 47.8	+0.2
KNL				i S	Sg	18 36 09.5	+0.5
SKIA	Skiathos	1.68	254	P	Pn	18 35 45.6	0.0
SKIA				AML	AML	18 36 15.4	
	comp=N,1427µm,0.4s						
SKIA				AML	AML	18 36 15.6	
	comp=E,1932µm,0.5s						
SKIA	Skiathos	1.68	254	P	Pn	18 35 45.5	-0.2
GONE	Gonen-Balikesi	1.70	76	PN	Pb	18 35 46.7	-0.8
STEP	BALIKESIR_Sava	1.71	99	IAML_P			
	comp=Z,1µm,0.1s						
STEP				i P	Pb	18 35 47.1	-0.6
BLCB	Balcova	1.73	137	PN	Pn	18 35 46.9	+0.5
EREA	Eretria	1.76	226	P	Pn	18 35 46.8	0.0
EREA	Eretria	1.76	226	P	Pn	18 35 46.9	+0.1
PLG	Polygyros	1.76	295	P	Pn	18 35 47.4	+0.6
PLG	Polygyros	1.76	295	P	Pn	18 35 47.4	+0.6
MRKA	Markates	1.79	239	P	Pn	18 35 47.2	0.0
MRKA				S	Sn	18 36 09.4	-0.7
MRKA				AML	AML	18 36 16.6	
	comp=E,1054µm,0.7s						
MRKA				AML	AML	18 36 17.6	
	comp=N,1169µm,0.5s						
MRKA	Markates	1.79	239	P	Pn	18 35 47.2	0.0
BALB	Balikesir	1.81	90	PN	Pb	18 35 48.2	-1.2
NEO	Neokhori	1.82	260	P	Pn	18 35 47.6	-0.2
NEO				AML	AML	18 36 17.6	
	comp=N,873µm,0.6s						
NEO				AML	AML	18 36 18.6	
	comp=E,540µm,0.5s						

T 3.8720, Plg28.0000°, Azm83.0000°; N -0.4750, Plg21.0000°, Azm342.0000°; P -3.3980, Plg54.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 09 18:38:43.6±0.4, **18.08S**±0.03×**69.65W**±0.04, **h113**km±3km, **h113km:pP-P,n713,σ1926/739,mb5.0**/187,**13C,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
PB16	**IPOC Station P**	**0.29**	**153**	⇑*iP*	**Pn**	**18 39 01.0**	**+0.7**
PB16				*i* S	**Sn**	**18 39 13.0**	**+0.1**
PB16				IAML		18 39 15.4	
	comp=N,34μm,0.6s						
PB12	**IPOC Station P**	**0.84**	**230**	⇑*iP*	**Pn**	**18 39 03.1**	**-0.5**
PB12				*i* S	**Sn**	**18 39 17.9**	**-0.8**
PB12				IAML		18 39 18.9	
	comp=N,30μm,0.2s						
MNMC	**Minye Minye**	**1.05**	**177**	*e*Pn	**Pn**	**18 39 06.7**	**+0.8**
MNMC	**Minye Minye**	**1.05**	**177**	⇑*iP*	**Pn**	**18 39 06.7**	**+0.8**
MNMC				*i* S	**Sn**	**18 39 23.8**	**+1.1**
PSGC	**Pisagua**	**1.58**	**197**	⇑*iP*	**Pn**	**18 39 11.3**	**-0.3**
PSGC				*i* S	**Sn**	**18 39 32.2**	**-0.7**
PSGC				IAML		18 39 39.0	
	comp=E,10μm,0.7s						
GO01	**Chusmiza**	**1.64**	**165**	*e*Pn	**Pn**	**18 39 14.4**	**+1.7**
GO01	**Chusmiza**	**1.64**	**165**	⇑*iP*	**Pn**	**18 39 14.3**	**+1.6**
GO01				*i* S	**Sn**	**18 39 36.8**	**+2.0**
GO01				IAML		18 39 42.1	
	comp=E,9μm,0.1s						
PB11	**IPOC Station P**	**1.68**	**180**	*e*Pn	**Pn**	**18 39 13.3**	**+0.5**
PB11	**IPOC Station P**	**1.68**	**180**	⇑*iP*	**Pn**	**18 39 13.4**	**+0.5**
PB11				*i* S	**Sn**	**18 39 36.1**	**+0.9**
PB11				IAML		18 39 36.9	
	comp=E,16μm,0.5s						
PB08	**IPOC Station P**	**2.11**	**167**	⇑*iP*	**Pn**	**18 39 19.9**	**+1.5**
PB08				*i* S	**Sn**	**18 39 46.7**	**+1.6**
PB08				IAML		18 39 49.9	
	comp=E,6μm,0.5s						
LPAZ	**La Paz**	**2.29**	**39**	P	**Pn**	**18 39 23.8**	**+2.8**
	comp=E,182nm,0.3s,baz=227,slow=6.8,SNR=2808						
LPAZ				S	**Sn**	**18 39 50.7**	**+1.1**
	comp=E,42nm,0.3s,baz=219,slow=4.3,SNR=4.3						
LPAZ	**La Paz**	**2.29**	**39**	*e*Pn	**Pn**	**18 39 23.4**	**+2.4**
LPAZ				S	**Sn**	**18 39 50.7**	**+1.1**
LPAZ	**La Paz**	**2.29**	**39**	*e*P	**Pn**	**18 39 23.4**	**+2.4**
LPAZ				S	**Sn**	**18 39 50.7**	**+1.1**
LPAZ	**La Paz**	**2.29**	**39**	⇑*iP*	**Pn**	**18 39 23.8**	**+2.8**
PB01	**IPOC Station P**	**2.96**	**177**	*e*Pn	**Pn**	**18 39 29.5**	**+0.3**
PB01	**IPOC Station P**	**2.96**	**177**	⇑*iP*	**Pn**	**18 39 29.3**	**+0.1**
PB04	**IPOC Station P**	**4.26**	**186**	*e*Pn	**Pn**	**18 39 45.5**	**-1.2**
PB04	**IPOC Station P**	**4.26**	**186**	*e*P	**Pn**	**18 39 45.7**	**-1.0**
LVC	**Limon Verde**	**4.56**	**171**	P	**Pn**	**18 39 52.1**	**+1.2**
	comp=E,83nm,0.3s,baz=11,slow=9.3,SNR=419						
LVC				S	**Sn**	**18 40 42.4**	**-0.7**
	comp=E,151nm,0.3s,baz=165,slow=20,SNR=17						
LVC	**Limon Verde**	**4.56**	**171**	*e*P	**Pn**	**18 39 51.8**	**+0.9**
PB15	**IPOC Station P**	**5.11**	**178**	*e*P	**Pn**	**18 39 58.0**	**-0.2**
PB10	**IPOC Station P**	**5.48**	**189**	*e*Pn	**Pn**	**18 40 01.2**	**-1.7**
YJA	**Yavi**	**5.63**	**137**	*e*P	**Pn**	**18 40 06.5**	**+1.1**
YJA				IAML		18 40 11.1	
	comp=Z,79nm,0.4s						
YJA				*e*S	**Sn**	**18 41 12.0**	**+2.9**
HJA	**Humahuaca**	**6.47**	**143**	*e*P	**Pn**	**18 40 17.3**	**+0.6**
HJA				*e*S	**Sn**	**18 41 30.2**	**+1.0**
GO02	**Mina Guanaco**	**7.05**	**180**	*e*Pn	**Pn**	**18 40 22.8**	**-1.7**
AZAP	**Zapla**	**7.46**	**146**	*e*P	**Pn**	**18 40 29.4**	**-0.6**
AZAP				IAML		18 40 32.7	
	comp=Z,106nm,0.4s						
AZAP				*e*S	**Sn**	**18 41 51.7**	**-1.5**
SLA	**San Lorenzo**	**7.66**	**150**	*e*P	**Pn**	**18 40 32.3**	**-0.3**
ALOL	**LOMAS DE OLMED**	**7.79**	**138**	*e*P	**Pn**	**18 40 33.3**	**-0.9**
ALOL				*e*S	**Sn**	**18 41 58.2**	**-2.5**
SIV	**San Ignacio**	**8.46**	**77**	P	**Pn**	**18 40 42.0**	**-1.4**
	comp=Z,193nm,0.3s,baz=271,slow=11,SNR=449						
FSA	**Cafayete**	**8.69**	**158**	*e*P	**Pn**	**18 40 45.1**	**-1.5**
NNA	**Nana**	**9.21**	**310**	P	**Pn**	**18 40 52.2**	**-1.4**
	comp=Z,8.9nm,0.3s,baz=135,slow=12,SNR=11						
NNA				S	**Sn**	**18 42 30.1**	**-5.6**
	comp=Z,4.2nm,0.3s,baz=138,slow=11,SNR=2.8						
NNA				LR	LR	18 45 29.2	
	comp=Z,186nm,20.3s,baz=165,slow=43						
NNA	**Nana**	**9.21**	**310**	*e*Pn	**Pn**	**18 40 51.6**	**-2.0**
NNA				S	**Sn**	**18 42 30.1**	**-5.6**
NNA				*e*		18 45 29.2	
NNA	**Nana**	**9.21**	**310**	*ce*P	**Pn**	**18 40 56.9**	**+3.2**
GO03	**Copiap**	**9.49**	**183**	*e*Pn	**Pn**	**18 40 53.2**	**-4.1**
LCO	**Las Campanas**	**10.93**	**185**	*e*Pn	Pn	18 41 12.0	-4.9
LCO	**Las Campanas**	**10.93**	**185**	*e*P	Pn	18 41 12.0	-5.0
AGUA	**GUANDACOL**	**11.41**	**175**	*e*P	**Pn**	**18 41 19.0**	**-4.2**
AGUA				*e*S	Sn	18 43 18.0	-11
ACLC	**CERRO LA CRUZ**	**11.56**	**168**	*e*P	**Pn**	**18 41 21.3**	**-4.1**
GO04	**Tololo Observa**	**12.09**	**185**	*e*Pn	**Pn**	**18 41 27.7**	**-4.7**
APLL	**PUNTA DE LOS L**	**12.59**	**168**	*e*P	Pn	18 41 33.7	-5.0
AMOG	**MOGNA**	**12.85**	**176**	*e*P	Pn	18 41 37.0	-5.2
AQDB	**Aquidauana**	**13.38**	**103**	*e*P	**Pn**	**18 41 45.3**	**-3.8**
SALV	**Santo Antonio**	**13.52**	**83**	*e*P	**Pn**	**18 41 46.9**	**-4.1**
CPUP	**Villa Florida**	**14.05**	**128**	P	**Pn**	**18 41 55.6**	**-2.0**
	comp=Z,1.1nm,0.3s,baz=302,slow=13,SNR=14						
CPUP	**Villa Florida**	**14.05**	**128**	*e*Pn	**Pn**	**18 41 54.8**	**-2.9**
ROC1	**El Roble**	**14.89**	**184**	*e*Pn	**Pn**	**18 42 06.8**	**-1.8**
	comp=Z,53nm,0.7s						
PEL	**Peldehue**	**15.04**	**183**	*e*Pn	Pn	**18 42 08.6**	**-1.6**
	comp=Z,88nm,1.4s						
PEL	**Peldehue**	**15.04**	**183**	*e*P	**Pn**	**18 42 08.6**	**-1.6**
PEL				pmax	pmax		
	comp=Z,88nm,1.4s						
TRCB	**Terra Rica**	**16.62**	**109**	*e*P	**Pn**	**18 42 29.6**	**-0.3**
GO05	**Huala**	**16.99**	**186**	*e*Pn	**Pn**	**18 42 33.0**	**-1.3**
	comp=Z,54nm,1.4s						
PTGB	**Pitanga**	**17.65**	**115**	*e*P	**P**	**18 42 42.2**	**+0.4**
ITRB	**Iturama**	**18.32**	**98**	*e*P	**P**	**18 42 49.1**	**-0.1**
ITAB	**Concordia**	**18.54**	**123**	*e*P	**P**	**18 42 50.7**	**-0.8**
CPSB	**Cacapava Do Su**	**19.18**	**133**	*e*P	**P**	**18 42 58.5**	**0.0**
FRTB	**Fartura**	**19.50**	**109**	*e*P	**P**	**18 43 02.5**	**+0.5**
PTGA	**Pitinga**	**19.69**	**30**	P	**P**	**18 43 02.9**	**-1.1**
	comp=Z,14nm,0.3s,baz=212,slow=13,SNR=100						
PTGA	**Pitinga**	**19.69**	**30**	*e*P	**P**	**18 43 01.6**	**-2.5**
	comp=Z,110nm,0.9s						
PLTB	**Pedras Altas**	**19.90**	**136**	*e*P	**P**	**18 43 05.8**	**-0.4**
BB19B	**Bebedouro**	**20.12**	**102**	*e*P	**P**	**18 43 07.8**	**-0.9**
OTAV	**Otavalo**	**20.15**	**334**	*e*P	**P**	**18 43 10.1**	**+0.5**
	comp=Z,17nm,0.8s						
OTAV	**Otavalo**	**20.15**	**334**	*e*P	**P**	**18 43 10.1**	**+0.5**
OTAV				pmax	pmax		
	comp=Z,17nm,0.8s						
IPMB	**Ipameri, GO**	**20.38**	**93**	*e*P	**P**	**18 43 10.8**	**-0.9**
TIJ01	**Guaruva-PR**	**20.48**	**114**	*e*P	**P**	**18 43 12.9**	**+0.3**
CNLB	**Canela**	**20.50**	**127**	*e*P	**P**	**18 43 14.4**	**+1.7**
CMBC	**Cumbal**	**20.54**	**336**	*e*P	**P**	**18 43 14.9**	**+1.2**
CMBC	**Cumbal**	**20.54**	**336**	*e*P	**P**	**18 43 14.9**	**+1.2**
GCUF	**Volcan Galeras**	**20.62**	**338**	*e*P	Pn	18 43 18.2	+0.3
GCUF	**Volcan Galeras**	**20.62**	**338**	*e*P	Pn	18 43 18.2	+0.3
CRUC	**La Cruz**	**20.80**	**339**	*e*P	**P**	**18 43 16.6**	**+0.1**
CRUC	**La Cruz**	**20.80**	**339**	*e*P	**P**	**18 43 16.6**	**+0.1**
BDFB	**Brasilia**	**20.84**	**87**	P	**P**	**18 43 15.9**	**-0.7**
	comp=Z,39nm,0.5s,baz=259,slow=10.0,SNR=21						
BDFB	**Brasilia**	**20.84**	**87**	*e*P	**P**	**18 43 15.2**	**-1.5**
	comp=Z,46nm,0.6s						
TRQA	**Tornquist**	**21.01**	**163**	*e*P	**P**	**18 43 18.3**	**+0.2**
	comp=Z,36nm,0.8s						
TRQA	**Tornquist**	**21.01**	**163**	*e*P	**P**	**18 43 18.3**	**+0.2**
TRQA				pmax	pmax		
	comp=Z,36nm,0.8s						
RCLB	**Rio Claro- Sao**	**21.19**	**105**	*e*P	**P**	**18 43 18.3**	**-2.0**
SPB	**Sao Paulo**	**21.46**	**109**	*e*P	**P**	**18 43 21.4**	**-1.7**
	comp=Z,61nm,0.9s						
GO06	**Curarrehue**	**21.49**	**184**	*e*P	**P**	**18 43 24.4**	**+1.0**
	comp=Z,39nm,0.6s						
TER01	**Tubaro-SC**	**21.49**	**123**	*e*P	**P**	**18 43 24.4**	**+1.0**
POPC	**Popayan, Colom**	**21.62**	**341**	*e*P	**P**	**18 43 27.3**	**+2.2**
POPC	**Popayan, Colom**	**21.62**	**341**	*e*P	**P**	**18 43 27.3**	**+2.2**
PMNB	**Patos De Minas**	**22.04**	**95**	*e*P	**P**	**18 43 27.8**	**-1.6**
PLCA	**Paso Flores**	**22.59**	**182**	P	**P**	**18 43 35.8**	**+1.0**
	comp=Z,25nm,0.7s,baz=31,slow=13,SNR=67						
PLCA	**Paso Flores**	**22.59**	**182**	*e*P	**P**	**18 43 35.8**	**+1.0**
	comp=Z,88nm,1.3s						
CHIC	**Chingaza**	**22.92**	**349**	*e*P	**P**	**18 43 33.1**	**-5.5**
CHIC	**Chingaza**	**22.92**	**349**	*e*P	**P**	**18 43 33.1**	**-5.5**
BSCB	**Bom Sucesso**	**23.61**	**101**	*e*P	**P**	**18 43 43.0**	**-1.7**
JANB	**Januaria**	**24.46**	**87**	*e*P	**P**	**18 43 51.4**	**-0.9**
MCI8	**Montes Claros**	**24.59**	**91**	*e*P	**P**	**18 43 53.4**	**-0.1**
MCI6	**Montes Claros**	**24.60**	**91**	*e*P	**P**	**18 43 52.9**	**-0.6**
MCI9	**Montes Claros**	**24.61**	**91**	*e*P	**P**	**18 43 52.8**	**-0.9**
MCI7	**Montes Claros**	**24.67**	**91**	*e*P	**P**	**18 43 53.2**	**-0.9**
BARC	**Barichara**	**24.76**	**352**	*e*P	**P**	**18 43 54.5**	**-0.6**
BARC	**Barichara**	**24.76**	**352**	*e*P	**P**	**18 43 54.5**	**-0.6**
HELC	**Santa Helena**	**24.80**	**346**	*e*P	**P**	**18 43 53.7**	**-2.0**
HELC	**Santa Helena**	**24.80**	**346**	*e*P	**P**	**18 43 53.7**	**-2.0**
VAS01	**Vassouras-RJ**	**24.93**	**104**	*e*P	**P**	**18 43 56.3**	**-0.2**
DUB01	**Friburgo-RJ**	**25.91**	**103**	*e*P	**P**	**18 44 05.6**	**+0.2**
CAM01	**Campos-RJ**	**26.55**	**103**	*e*P	**P**	**18 44 10.7**	**-0.4**
SDV	**Santo Domingo**	**26.81**	**358**	P	**P**	**18 44 13.6**	**0.0**
	comp=Z,6.3nm,0.5s,baz=174,slow=7.7,SNR=7.6						
SDV	**Santo Domingo**	**26.81**	**358**	*e*P	**P**	**18 44 12.0**	**-1.6**
	comp=Z,14nm,1.0s						
SJMB	**Sao Joao De Ma**	**27.00**	**96**	*e*P	**P**	**18 44 14.2**	**-1.0**
BSFB	**Barra de Sao F**	**27.32**	**96**	*e*P	**P**	**18 44 15.8**	**-2.2**
MDP	**Montagnes des**	**28.49**	**38**	P	**P**	**18 44 26.6**	**-1.8**
	comp=Z,21nm,0.5s,baz=180,slow=8.2						
MDP				LR	LR	18 56 24.3	
	comp=Z,116nm,21.0s,baz=192,slow=37						
PCRV	**Puerto La Cruz**	**28.50**	**10**	LR	LR	18 58 04.0	
	comp=Z,254nm,19.2s,baz=148,slow=41						
EFI	**East Falkland**	**34.76**	**167**	*i* P	**P**	**18 45 24.3**	**+1.4**
EFI				pmax	pmax		
	comp=Z,13nm,0.8s						
SJG	**San Juan**	**36.12**	**6**	P	**P**	**18 45 33.0**	**-1.9**
	comp=Z,15nm,0.4s,baz=190,slow=7.9,SNR=5.6						
SJG	**San Juan**	**36.12**	**6**	P	**P**	**18 45 33.0**	**-1.9**
SJG				pmax	pmax		
	comp=Z,15nm,0.4s						
CBYP	**Canovanas**	**36.31**	**6**	*e*P	**P**	**18 45 33.3**	**-3.3**
	comp=Z,63nm,1.1s						
USHA	**Ushuaia**	**36.70**	**179**	P	**P**	**18 45 39.0**	**-0.5**
	comp=Z,13nm,0.6s,baz=2.3,slow=8.7,SNR=9.1						
APG	**El Apazote**	**38.75**	**327**	P	**P**	**18 45 58.5**	**+1.0**
	comp=Z,15nm,0.8s,baz=143,slow=2.7,SNR=11						
CMIG	**Matias Romero**	**42.87**	**323**	P	**P**	**18 46 31.7**	**+0.7**
	comp=Z,6.1nm,0.7s,baz=108,slow=5.2,SNR=14						
PMSA	**Palmer Station**	**46.82**	**177**	P	**P**	**18 47 02.6**	**+1.0**
	comp=Z,9.2nm,0.7s,baz=40,slow=16,SNR=4.7						
656A	**Willston**	**48.78**	**345**	P	**P**	**18 47 17.4**	**+0.2**
	baz=163						
553A	**Crawfordville**	**50.05**	**343**	P	**P**	**18 47 27.4**	**+0.5**
	baz=161						
453A	**Whigham**	**50.65**	**344**	P	**P**	**18 47 32.1**	**+0.7**
	baz=162						
355A	**Pearson**	**50.75**	**345**	P	**P**	**18 47 32.7**	**+0.6**
	baz=164						
452A	**Marianna**	**50.89**	**343**	P	**P**	**18 47 33.9**	**+0.7**
	baz=161						
353A	**Camilla**	**51.09**	**344**	P	**P**	**18 47 35.1**	**+0.5**
	baz=162						
351A	**Pinckard**	**51.41**	**342**	P	**P**	**18 47 38.0**	**+1.0**
	baz=160						
352A	**Blakely**	**51.41**	**343**	*e*P	**P**	**18 47 36.7**	**-0.4**
	comp=Z,55nm,0.6s						
352A	**Blakely**	**51.41**	**343**	P	**P**	**18 47 37.4**	**+0.4**
	baz=161,SNR=5.4						
254A	**Abbeville**	**51.43**	**345**	P	**P**	**18 47 37.5**	**+0.4**
	baz=163						
349A	**Repton**	**51.95**	**341**	P	**P**	**18 47 42.1**	**+1.0**
	baz=158						
154A	**Montrose**	**52.02**	**346**	*e*P	**P**	**18 47 42.0**	**+0.4**
	comp=Z,151nm,1.4s						
154A	**Montrose**	**52.02**	**346**	P	**P**	**18 47 41.8**	**+0.2**
	baz=164						
251A	**Midway**	**52.12**	**343**	P	**P**	**18 47 42.6**	**+0.3**
	baz=161,SNR=10						
152A	**Waverly Hall**	**52.48**	**344**	*e*P	**P**	**18 47 44.2**	**-0.8**
	comp=Z,33nm,1.3s						
152A	**Waverly Hall**	**52.48**	**344**	P	**P**	**18 47 45.1**	**+0.1**
	baz=162,SNR=6.4						
151A	**Opelika**	**52.51**	**343**	P	**P**	**18 47 45.2**	**0.0**
	baz=161,SNR=6.2						
Z54A	**Sparta**	**52.56**	**346**	P	**P**	**18 47 45.4**	**-0.1**
	baz=164						
346A	**Big Creek Wild**	**52.73**	**339**	P	**P**	**18 47 47.6**	**+0.8**
	baz=156						
150A	**Eclectic**	**52.78**	**343**	P	**P**	**18 47 47.2**	**+0.1**
	baz=160,SNR=7.7						
248A	**Dixon Mills**	**52.81**	**341**	P	**P**	**18 47 48.0**	**+0.6**
	baz=158						
Z52A	**Williamson**	**52.89**	**344**	P	**P**	**18 47 48.0**	**0.0**
	baz=162,SNR=5.5						
149A	**Jones**	**52.99**	**342**	P	**P**	**18 47 48.9**	**+0.2**
	baz=159						
247A	**Quitman**	**53.05**	**340**	P	**P**	**18 47 49.6**	**+0.4**
	baz=157						
Y54A	**Tignall**	**53.12**	**346**	P	**P**	**18 47 49.4**	**-0.3**
	baz=164						
Z51A	**Franklin**	**53.21**	**344**	P	**P**	**18 47 50.2**	**-0.1**
	baz=161						
148A	**Greensboro**	**53.27**	**341**	P	**P**	**18 47 51.0**	**+0.2**
	baz=158						
Y53A	**Monroe**	**53.32**	**346**	P	**P**	**18 47 50.8**	**-0.4**
	baz=163						
HODGE	**Hodges**	**53.38**	**347**	*e*P	**P**	**18 47 51.0**	**-0.6**
	comp=Z,7.8nm,0.7s						
Y52A	**Lilburn**	**53.45**	**345**	P	**P**	**18 47 51.9**	**-0.2**
	baz=163						
LRAL	**Lakeview Retre**	**53.46**	**342**	*e*P	**P**	**18 47 51.6**	**-0.5**
	comp=Z,13nm,0.8s						
LRAL	**Lakeview Retre**	**53.46**	**342**	P	**P**	**18 47 52.1**	**-0.1**
	baz=159,SNR=7.5						
245A	**Little AP, Sta**	**53.47**	**339**	P	**P**	**18 47 53.2**	**+1.0**
	baz=156,SNR=7.0						
Z49A	**Columbiana**	**53.47**	**342**	P	**P**	**18 47 52.2**	**0.0**
	baz=160,SNR=6.8						
147A	**Livingston**	**53.52**	**340**	P	**P**	**18 47 52.8**	**+0.3**
	baz=158						
Y51A	**Rockmart**	**53.73**	**344**	P	**P**	**18 47 53.8**	**-0.4**
	baz=162,SNR=7.7						
146A	**Union**	**53.74**	**340**	*e*P	**P**	**18 47 54.5**	**+0.3**
	comp=Z,43nm,0.9s						
146A	**Union**	**53.74**	**340**	P	**P**	**18 47 55.1**	**+0.9**
	baz=157						
244A	**Avery, Jackson**	**53.76**	**338**	P	**P**	**18 47 55.4**	**+1.0**
	baz=155						
X53A	**Estanollee**	**53.88**	**346**	P	**P**	**18 47 55.0**	**-0.2**
	baz=164						
Y50A	**Piedmont**	**53.91**	**343**	P	**P**	**18 47 54.9**	**-0.5**
	baz=161						
Z47A	**Carrollton**	**53.94**	**341**	P	**P**	**18 47 55.9**	**+0.3**
	baz=158,SNR=6.6						
Z48A	**Northport**	**53.95**	**341**	P	**P**	**18 47 55.6**	**-0.1**
	baz=159,SNR=9.9						
145A	**Houston Renfro**	**54.00**	**339**	P	**P**	**18 47 57.2**	**+1.1**
	baz=156						
Y49A	**Blount Mountai**	**54.06**	**343**	*e*P	**P**	**18 47 55.9**	**-0.6**
	comp=Z,72nm,0.8s						
Y49A	**Blount Mountai**	**54.06**	**343**	P	**P**	**18 47 56.4**	**-0.1**
	baz=160,SNR=5.2						
KMSC	**Kings Mountain**	**54.08**	**348**	P	**P**	**18 47 56.6**	**0.0**
	baz=166						
X52A	**Dahlonega**	**54.11**	**345**	P	**P**	**18 47 56.4**	**-0.5**
	baz=163						
Z46A	**Louisville**	**54.21**	**340**	P	**P**	**18 47 58.3**	**+0.7**
	baz=157						
X51A	**Calhoun**	**54.31**	**345**	P	**P**	**18 47 57.9**	**-0.4**
	baz=162						
Y48A	**Jasper**	**54.33**	**342**	P	**P**	**18 47 58.1**	**-0.4**
	baz=159						
833A	**Chaparral WMA,**	**54.37**	**327**	P	**P**	**18 48 00.1**	**+1.2**
	baz=144						
X50B	**Fort Payne**	**54.42**	**344**	P	**P**	**18 47 59.5**	**+0.3**
	baz=161,SNR=5.2						
W53A	**Cullowhee**	**54.48**	**346**	P	**P**	**18 47 59.9**	**+0.1**
	baz=164,SNR=10						
Y47A	**UCPARC, Winfie**	**54.52**	**341**	P	**P**	**18 48 00.1**	**+0.2**
	baz=158,SNR=15						
W52A	**Murphy**	**54.59**	**346**	*e*P	**P**	**18 48 00.1**	**-0.3**
	comp=Z,19nm,1.1s						
W52A	**Murphy**	**54.59**	**346**	P	**P**	**18 48 00.5**	**+0.1**
	baz=163						
Z45A	**Winona**	**54.62**	**339**	P	**P**	**18 48 01.3**	**+0.7**
	baz=156						
X49A	**Woodville**	**54.65**	**343**	P	**P**	**18 48 00.3**	**-0.5**
	baz=160						
X48A	**Hartselle**	**54.80**	**342**	*e*P	**P**	**18 48 01.3**	**-0.5**
	comp=Z,34nm,1.0s						
X48A	**Hartselle**	**54.80**	**342**	P	**P**	**18 48 01.9**	**+0.1**
	baz=160,SNR=12						
Y46A	**Houston**	**54.82**	**340**	P	**P**	**18 48 02.1**	**+0.1**
	baz=157,SNR=5.8						
W51A	**Cleveland**	**54.85**	**345**	P	**P**	**18 48 02.2**	**0.0**
	baz=162,SNR=5.4						
V53A	**Saluda**	**54.89**	**347**	P	**P**	**18 48 02.6**	**+0.1**
	baz=164						

VAO ***09*** *18:38:25.5±1.5, 17.59S×70.38W, h10km, mb5.3*
BJI ***09*** *18:38:38.8, 17.34S×69.62W, h68km, mB5.3/6, Ms5.2/5, Ms7 5.0/6*
ISCJB ***09*** *18:38:42.8±0.1, 18.04S±0.02×69.60W±0.03, h122km, mb5.0/189, Error ellipse: s-maj=3.9km s-min=1.9km az=154.9*
IDC ***09*** *18:38:44.5±0.5, 18.00S×69.43W, h116km±4km, mb4.5/29, mb1 4.6/33, mb1mx4.5/52, mbtmp4.9/33, MS3.6/4, Ms1 3.6/4, ms1mx3.2/27, Error ellipse: s-maj=12.2km s-min=8.7km az=68.0*
GUC ***09*** *18:38:44.0±1.1, 18.05S×69.70W, h111km±7km, ML4.7*
MOS ***09*** *18:38:45.4±1.2, 17.97S×69.52W, h133km, mb5.1/52, Error ellipse: s-maj=10.0km s-min=6.1km az=95.9*
NEIC ***09*** *18:38:45.1±0.2, 18.01S×69.45W, mb5.0/135, ML4.7(ARE), ML4.7(GUC), Error ellipse: s-maj=7.8km s-min=4.3km az=70.0*
NEIC Felt [IV] at Cuya; [III] at Arica and Codpa; [II] at Poconchile and Putre. Also felt [IV] at Huacho and Moyobamba; [III] at Huaral, Lima and Tacna; [II] at Ancon, Barranca, Cusco, Mollendo, Puerto Supe and Yurimaguas, Peru.
GCMT ***09*** *18:38:48.1±0.4, 18.22S±0.03×69.78W±0.03, h136km±4km, MW5.0/66, Moment Tensor Solution. s23,c26; s66,c88; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.41±.15; Mθθ=-1.02±.19; Mφφ=2.43±.25; Mrθ=1.27±.08; Mθφ=0.11±.17; Mφr=-2.70±.14; Best double couple: Mo=3.63500×10^16 NP1:φs336.00000°, δ76.00000°, λ-111.00000°. NP2: φs215.00000°, δ25.00000°, λ-34.00000°. Principal axes:*

Y45A Yeager Farm, C 55.02 340 P P 18 48 03.9 +0.4
baz=157
W50A Signal Mountai 55.03 344 *e*P P 18 48 02.6 -0.9
comp=Z,38nm,1.3s
W50A Signal Mountai 55.03 344 P P 18 48 03.2 -0.4
baz=162
CPCT Cooper Cave 55.07 345 *e*P P 18 48 03.1 -0.7
comp=Z,36nm,1.3s
TKL Tuckaleechee C 55.09 346 P P 18 48 03.2 -0.7
comp=Z,13nm,0.7s,baz=164,slow=8.6,SNR=14
TKL Tuckaleechee C 55.09 346 *e*P P 18 48 02.5 -1.4
comp=Z,19nm,0.8s
X47A Russelville 55.10 342 P P 18 48 03.6 -0.4
baz=159,SNR=17
W49A Belvidere 55.21 343 P P 18 48 04.2 -0.5
baz=160
SWET Sewanee 55.21 344 *e*P P 18 48 04.2 -0.6
comp=Z,27nm,0.6s
V52A Sevierville 55.23 346 *e*P P 18 48 04.2 -0.8
comp=Z,21nm,0.8s
V52A Sevierville 55.23 346 P P 18 48 04.9 -0.1
baz=164,SNR=5.1
X46A Booneville 55.35 341 P P 18 48 05.6 -0.2
baz=158
W48A Pulaski 55.41 343 P P 18 48 06.2 -0.1
baz=160,SNR=15
V50A Pikevile 55.42 345 P P 18 48 06.1 -0.2
baz=162,SNR=10
X45A UM Field Stati 55.49 340 P P 18 48 06.7 -0.2
baz=157
U53A Fall Branch 55.51 347 P P 18 48 06.5 -0.4
baz=165
OXF Oxford 55.57 340 *e*P P 18 48 07.4 0.0
comp=Z,45nm,1.1s
OXF Oxford 55.57 340 *e*P P 18 48 07.4 0.0
OXF pmax pmax
comp=Z,45nm,1.1s
PLAL Pickwick Lake 55.59 342 *e*P P 18 48 05.9 -1.7
comp=Z,13nm,0.8s
W47A Westpoint 55.70 342 P P 18 48 08.0 -0.4
baz=159,SNR=9.4
U52A Thorn Hill 55.70 347 P P 18 48 07.9 -0.5
baz=164
V49A McMinnville 55.72 344 P P 18 48 08.0 -0.5
baz=161,SNR=13
U51A La Follette 55.84 346 P P 18 48 08.9 -0.4
baz=163
V48A Smith Brothers 55.94 343 *e*P P 18 48 09.3 -0.7
comp=Z,31nm,0.7s
V48A Smith Brothers 55.94 343 P P 18 48 09.8 -0.2
baz=160,SNR=15
U50A Jamestown 56.07 345 P P 18 48 10.7 -0.2
baz=162
X43A Marvell 56.07 339 *e*P P 18 48 11.1 +0.2
comp=Z,58nm,1.0s
X43A Marvell 56.07 339 P P 18 48 11.1 +0.2
baz=155
W45A Hickory Valley 56.10 341 P P 18 48 11.0 -0.2
baz=157,SNR=5.4
V47A Nunnelly 56.22 343 P P 18 48 11.4 -0.6
baz=159,SNR=7.9
T52A Hallie 56.31 347 P P 18 48 12.3 -0.3
baz=164
JCT Junction City 56.33 329 *e*P P 18 48 13.2 +0.2
comp=Z,8.6nm,0.8s
JCT Junction City 56.33 329 *e*P P 18 48 13.2 +0.2
JCT pmax pmax
comp=Z,9.0nm,0.8s
T51A Gray 56.38 346 P P 18 48 12.8 -0.3
baz=163
V45A Humboldt 56.56 341 P P 18 48 14.3 -0.1
baz=158
U48A Cassie Pea, Po 56.59 344 P P 18 48 14.4 -0.2
baz=160,SNR=7.9
WVT Waverly 56.59 342 *e*P P 18 48 13.7 -0.9
comp=Z,26nm,0.6s
WVT Waverly 56.59 342 *e*P P 18 48 13.7 -0.9
WVT pmax pmax
comp=Z,26nm,0.6s
T50A Nancy 56.64 345 P P 18 48 14.3 -0.6
baz=162
U47A Clarksville 56.73 343 P P 18 48 15.0 -0.6
baz=160,SNR=7.6
X40A Basin Creek Fa 56.74 337 *e*P P 18 48 14.6 -1.1
comp=Z,31nm,1.9s
X40A Basin Creek Fa 56.74 337 P P 18 48 17.0 +1.3
baz=153
UALR University of 56.82 338 *e*P P 18 48 15.0 -1.3
comp=Z,26nm,0.8s
T49A Edmonton 56.89 345 *e*P P 18 48 15.7 -1.1
comp=Z,36nm,0.6s
T49A Edmonton 56.89 345 P P 18 48 16.3 -0.4
baz=162,SNR=12
W42A Bald Knob 56.97 339 P P 18 48 18.4 +1.0
baz=155
MIAR Mount Ida 57.07 336 *e*P P 18 48 17.8 -0.3
comp=Z,13nm,0.7s
MIAR Mount Ida 57.07 336 *e*P P 18 48 17.8 -0.3
MIAR pmax pmax
comp=Z,13nm,0.7s
MIAR Mount Ida 57.07 336 P P 18 48 18.3 +0.3
baz=152,SNR=9.3
T48A Bowling Green 57.12 344 P P 18 48 18.0 -0.3
baz=161,SNR=8.8
W41B Gary Mavity, V 57.14 338 *e*P P 18 48 18.4 -0.2
comp=Z,16nm,0.8s
W41B Gary Mavity, V 57.14 338 P P 18 48 19.5 +0.9
baz=154,SNR=7.7
S50A Richmond 57.17 346 P P 18 48 18.5 -0.2
baz=163,SNR=6.1
U44B Burton Farm, H 57.24 341 P P 18 48 19.5 +0.3
baz=157
WHAR Wooly Hollow 57.26 338 *e*P P 18 48 20.1 +0.7
comp=Z,24nm,0.9s
V42A Cord 57.41 339 P P 18 48 20.8 +0.3
baz=155,SNR=5.2
LTX Lajitas 57.44 325 *e*P P 18 48 21.6 +0.8
LTX *e*pP pP 18 48 50.0 +0.6
LTX Lajitas 57.44 325 *e*P P 18 48 21.7 +0.8
LTX *e**PP pP 18 48 50.0 +0.6
TXAR Lajitas Array 57.44 325 P P 18 48 21.6 +0.7
comp=Z,1.6nm,0.7s,baz=151,slow=9.1,SNR=17
TXAR pP pP 18 48 50.0 +0.6
comp=Z,2.2nm,0.6s,baz=149,slow=9.7,SNR=7.8
TX31 Lajitas Ar. Si 57.44 325 *e*P P 18 48 20.6 -0.4
T46A Princeton 57.46 343 P P 18 48 20.5 -0.2
baz=159,SNR=14
S49A Springfield 57.48 345 P P 18 48 20.2 -0.6
baz=162
U44A Portageville 57.49 341 P P 18 48 21.8 +0.8
baz=157
S48A Wiedeman Farm, 57.55 345 P P 18 48 20.7 -0.6
baz=161,SNR=10
R51A Hillsboro 57.58 347 P P 18 48 21.4 -0.2
baz=164
U43A Rector 57.60 340 P P 18 48 22.5 +0.8
baz=156
Q55A Buckhannon 57.60 350 P P 18 48 22.2 +0.5
baz=168
T45A Paducah 57.66 342 P P 18 48 22.5 +0.4
baz=158
V41A Mountainview 57.66 338 P P 18 48 22.9 +0.7
baz=154,SNR=26
PARMO Parma 57.66 341 *e*P P 18 48 22.4 +0.3
comp=Z,126nm,0.8s
S47A Hartford 57.70 344 P P 18 48 21.9 -0.6
baz=160,SNR=9.8
W39A Magazine 57.72 337 *e*P P 18 48 22.1 -0.5
comp=Z,25nm,1.2s
W39A Magazine 57.72 337 P P 18 48 24.1 +1.5
baz=152,SNR=7.7
R50A Paris 57.73 346 P P 18 48 22.3 -0.3
baz=163,SNR=5.4
U42A Revenden 57.85 339 P P 18 48 24.2 +0.7
baz=155,SNR=20
R49A Shelbyville 57.93 346 P P 18 48 23.8 -0.2
baz=162
Q52A Bidwell 57.95 348 P P 18 48 24.2 0.0
baz=166
T44A Benton 58.00 341 P P 18 48 24.6 +0.1
baz=157
S46A Don Dixon Farm 58.01 343 P P 18 48 24.4 -0.2
baz=160,SNR=5.3
ABTX Abilene, Hawle 58.01 330 *e*P P 18 48 25.0 +0.2
comp=Z,15nm,0.9s
ABTX Abilene, Hawle 58.01 330 P P 18 48 25.5 +0.8
baz=146
P55A Reedsville 58.07 351 P P 18 48 25.3 +0.3
baz=168
U41A Viola 58.08 339 P P 18 48 24.9 -0.2
baz=155,SNR=20
MVL Millersville 58.11 354 *e*P P 18 48 24.5 -0.7
comp=Z,11nm,0.9s
WCI Wyandotte Cave 58.15 345 *e*P P 18 48 24.6 -0.9
comp=Z,30nm,0.6s
WCI Wyandotte Cave 58.15 345 *e*P P 18 48 24.6 -0.9
WCI pmax pmax
comp=Z,30nm,0.6s
Q50A Georgetown 58.19 347 P P 18 48 25.5 -0.3
baz=164,SNR=6.5
R48A Northridge Ran 58.20 345 P P 18 48 25.5 -0.4
baz=162
T43A Greenville 58.22 341 P P 18 48 26.2 +0.2
baz=157,SNR=18
MCWV Mont Chateau 58.22 351 *e*P P 18 48 25.3 -0.7
Q51A Peebles 58.23 347 P P 18 48 25.8 -0.4
baz=164
S45A Carrier Mills 58.25 342 P P 18 48 26.5 +0.3
baz=159,SNR=6.1
R47A Wooly Knot Far 58.27 344 P P 18 48 25.6 -0.8
baz=161
P53A Whipple 58.30 349 *e*P P 18 48 26.4 -0.2
comp=Z,45nm,0.6s
P53A Whipple 58.30 349 P P 18 48 27.1 +0.5
baz=167,SNR=10.0
U40A Yellville 58.42 338 P P 18 48 27.9 +0.5
baz=154,SNR=16
T42A Van Buren 58.42 340 *e*P P 18 48 26.8 -0.6
comp=Z,21nm,0.6s
T42A Van Buren 58.42 340 P P 18 48 28.0 +0.5
baz=156,SNR=14
R46A Gibon Southern 58.45 344 P P 18 48 26.9 -0.7
baz=160
S44A Carbondale 58.46 342 P P 18 48 28.2 +0.5
baz=158,SNR=31
SIUC Southern Illin 58.47 342 *e*P P 18 48 27.5 -0.2
comp=Z,109nm,0.7s
Q49A Aurora 58.55 346 P P 18 48 27.8 -0.5
baz=163
P52A Corning 58.58 349 P P 18 48 28.2 -0.4
baz=166
S43A Fulton Ridge, 58.60 341 P P 18 48 28.8 +0.1
baz=157,SNR=25
BRNJ Basking Ridge 58.63 356 *e*P P 18 48 28.9 +0.1
comp=Z,16nm,0.8s
O56A Blue Knob Stat 58.63 352 P P 18 48 29.1 +0.2
baz=170
T41A Mountain View 58.66 339 P P 18 48 29.6 +0.5
baz=155,SNR=10
Q48A North Vernon 58.67 345 P P 18 48 28.8 -0.4
baz=162,SNR=8.9
O55A Ligonier 58.67 351 P P 18 48 29.7 +0.5
baz=169,SNR=6.1
R45A Skylar, Fairfi 58.74 343 P P 18 48 29.4 -0.2
baz=159,SNR=9.7
HHAR Hobbs 58.74 337 *e*P P 18 48 30.4 +0.7
comp=Z,24nm,1.1s
Q47A Bedord North L 58.85 345 P P 18 48 30.1 -0.2
baz=161,SNR=5.6
P50A Jamestown 58.89 347 P P 18 48 30.0 -0.7
baz=164
PAL Palisades 58.91 356 P P 18 48 30.4 -0.4
baz=175
N59A State Game Lan 58.96 355 P P 18 48 31.0 -0.1
baz=173
O52A Adamsville 58.99 349 P P 18 48 31.2 -0.1
baz=166
S42A Caledonia 59.00 341 P P 18 48 31.9 +0.4
baz=156,SNR=11
P49A Miami Univ. Ec 59.01 346 P P 18 48 30.9 -0.7
baz=163,SNR=5.5
O53A New Philadelph 59.02 350 P P 18 48 31.6 0.0
baz=167
P48A Milroy 59.10 346 P P 18 48 31.1 -1.1
baz=162
TUL1 Leonard 59.13 335 *e*P P 18 48 32.8 +0.5
comp=Z,14nm,0.6s
TUL1 Leonard 59.13 335 P P 18 48 34.1 +1.7
baz=151
S41A Jillco Farms, 59.15 340 P P 18 48 33.3 +0.8
baz=155,SNR=19
O51A Pataskala 59.17 348 P P 18 48 32.2 -0.3
baz=165
N55A Marion Center 59.19 352 P P 18 48 33.3 +0.5
baz=170,SNR=9.1
R43A Red Bud 59.20 341 P P 18 48 33.2 +0.4
baz=157
ACSO Alum Creek Sta 59.32 348 *e*P P 18 48 32.8 -0.8
comp=Z,33nm,1.1s
P47A Martinsville 59.33 345 P P 18 48 33.4 -0.4
baz=161,SNR=5.6
O50A Cable 59.37 348 P P 18 48 33.6 -0.3
baz=164
CCM Cathedral Cave 59.41 340 *e*P P 18 48 34.2 -0.1
CCM Cathedral Cave 59.41 340 *e*P P 18 48 34.2 -0.1
R42A Luebbering 59.47 341 P P 18 48 35.4 +0.7
baz=156,SNR=20
N53A Lisbon 59.49 350 P P 18 48 35.2 +0.4
baz=167,SNR=9.3
Q44A Meyer Farm, Va 59.51 343 *e*P P 18 48 34.0 -0.9
comp=Z,32nm,0.7s
Q44A Meyer Farm, Va 59.51 343 P P 18 48 34.5 -0.4
baz=158,SNR=7.1
N54A Moraine State 59.51 351 P P 18 48 35.0 +0.1
baz=168
O49A Covington 59.56 347 *e*P P 18 48 33.4 -1.9
comp=Z,20nm,0.8s
O49A Covington 59.56 347 P P 18 48 34.6 -0.6
baz=164
R41A Rosebud 59.67 340 P P 18 48 36.9 +0.8
baz=156,SNR=37
P46A Rosedale 59.69 344 P P 18 48 35.4 -0.8
baz=160
P45A Graceland, Par 59.75 344 *e*P P 18 48 34.8 -1.7
comp=Z,25nm,0.8s
P45A Graceland, Par 59.75 344 P P 18 48 35.8 -0.8
baz=160
O48A Farmland 59.80 346 P P 18 48 36.1 -0.8
baz=163
N51A Ashland 59.87 349 P P 18 48 36.9 -0.5
baz=166
Q42A Golden Eagle 59.97 341 P P 18 48 38.5 +0.5
baz=157,SNR=6.3
M54A Oil Creek Stat 60.00 351 P P 18 48 38.3 0.0
baz=169
O47A Sheridan 60.02 345 P P 18 48 37.9 -0.6
baz=162,SNR=9.1
MNTX Cornudas Mount 60.20 325 *e*P P 18 48 39.8 -0.1
comp=Z,8.1nm,1.1s
Q41A Truxton 60.23 341 P P 18 48 40.5 +0.7
baz=156,SNR=16
N49A Columbus Grove 60.23 347 *e*P P 18 48 38.5 -1.3
comp=Z,46nm,0.7s
N49A Columbus Grove 60.23 347 P P 18 48 39.6 -0.2
baz=164,SNR=8.9
BINY Binghamton 60.26 355 P P 18 48 40.4 +0.4
baz=173,SNR=6.8
HRV Adam Dziewonsk 60.30 358 *e*P P 18 48 40.4 +0.1
comp=Z,36nm,0.8s
HRV Adam Dziewonsk 60.30 358 *e*P P 18 48 40.4 +0.1
HRV pmax pmax
comp=Z,36nm,0.8s
P43A Skaggs, Pawnee 60.34 342 P P 18 48 40.5 -0.1
baz=158,SNR=9.7
N48A Decatur 60.35 347 P P 18 48 40.1 -0.5
baz=163
SFIN Lafayette 60.38 345 *e*P P 18 48 39.3 -1.6
comp=Z,29nm,0.6s
SFIN Lafayette 60.38 345 P P 18 48 39.9 -1.0
baz=161
O45A Potomac 60.42 344 P P 18 48 40.2 -0.9
baz=160,SNR=11
N47A Urbana 60.52 346 P P 18 48 41.1 -0.7
baz=162
O44A Mansfield 60.52 343 P P 18 48 41.3 -0.5
baz=159
P42A Winchester 60.53 342 *e*P P 18 48 40.4 -1.6
comp=Z,29nm,0.8s
P42A Winchester 60.53 342 P P 18 48 41.7 -0.2
baz=157,SNR=8.0
TRY Troy 60.61 357 *e*P P 18 48 42.8 +0.4
comp=Z,30nm,0.9s
M49A Liberty Center 60.72 348 P P 18 48 42.7 -0.4
baz=164
N46A Monticello 60.78 345 P P 18 48 42.7 -0.9
baz=161
P41A Barry, Barry 60.83 341 P P 18 48 43.7 -0.3
baz=156,SNR=9.8
M48A Edgerton 60.88 347 P P 18 48 43.9 -0.3
baz=163
O43A Sugar Creek Fa 60.88 343 P P 18 48 43.6 -0.7
baz=158
N45A Kentland 60.93 345 P P 18 48 43.8 -0.7
baz=160
M47A Cromwell 60.96 346 P P 18 48 44.3 -0.4
baz=162
MMNY Mt. Morris Dam 60.98 353 *e*P P 18 48 42.5 -2.4
comp=Z,67nm,1.3s
O42A Bath 61.02 342 P P 18 48 44.9 -0.2
baz=158
N44A Piper City 61.04 344 P P 18 48 44.8 -0.5
baz=160
HDIL Hopedale 61.13 343 *e*P P 18 48 44.1 -1.8
comp=Z,32nm,0.6s
O41A Passleys Farm, 61.18 342 P P 18 48 45.9 -0.4
baz=157,SNR=7.2
L48A N Adams 61.26 347 P P 18 48 46.5 -0.3
baz=164,SNR=5.5
N43A Stutzman Famil 61.45 343 P P 18 48 47.8 -0.3
baz=159,SNR=13
L47A Sherwood 61.45 347 P P 18 48 47.5 -0.6
baz=163
N42A Yates City 61.59 343 P P 18 48 49.0 -0.1
baz=158,SNR=9.7
N41A Harden Midland 61.72 342 *e*P P 18 48 49.1 -0.8
comp=Z,41nm,0.7s
N41A Harden Midland 61.72 342 P P 18 48 49.9 0.0
baz=157
J52A Paris 61.82 351 P P 18 48 50.6 +0.1
baz=168
M43A Waltham Townsh 61.86 344 P P 18 48 50.2 -0.6
baz=159,SNR=6.4
K48A Perry 62.02 348 P P 18 48 51.3 -0.6
baz=164
LBNH Lisbon 62.04 358 *e*P P 18 48 51.7 -0.3
comp=Z,18nm,0.9s
LBNH Lisbon 62.04 358 *e*P P 18 48 51.7 -0.3
LBNH pmax pmax
comp=Z,18nm,0.9s
N40A Mertquake, Sal 62.10 341 P P 18 48 52.9 +0.4
baz=156
KSU1 Kansas State U 62.22 336 *e*P P 18 48 53.3 0.0
comp=Z,243nm,0.4s
M41A Milan 62.24 342 P P 18 48 53.3 0.0
baz=157
I55A Frankford 62.42 353 P P 18 48 54.2 -0.3
baz=171
J48A Bridge Port 62.44 348 P P 18 48 54.2 -0.4
baz=166
L43A Garden Prairie 62.50 344 P P 18 48 55.0 -0.1
baz=159,SNR=6.6
M40A Post Highland 62.55 342 P P 18 48 55.5 +0.1
baz=156
L42A Oliver, Polo 62.58 343 *e*P P 18 48 54.6 -1.0
comp=Z,25nm,0.6s
L42A Oliver, Polo 62.58 343 P P 18 48 55.5 -0.1
baz=158
J47A Sunmer 62.58 348 P P 18 48 55.3 -0.3
baz=164
I52A Shelburne 62.59 351 P P 18 48 55.8 +0.1
baz=168
H56A Elgin 62.65 355 P P 18 48 56.1 0.0
baz=173
H55A Tweed 62.70 354 P P 18 48 56.5 +0.1
baz=172
BNM Barren Site 62.75 326 *e*P P 18 48 58.6 +1.4
M39A Webster 62.82 341 P P 18 48 57.6 +0.3
baz=156
L41A Preston 62.87 343 P P 18 48 57.5 -0.1
baz=158,SNR=6.1
K43A Burlington 62.88 345 P P 18 48 57.5 -0.1
baz=160
L40A Anamosa 63.07 342 *e*P P 18 48 57.9 -1.0
comp=Z,26nm,0.9s
L40A Anamosa 63.07 342 P P 18 48 59.0 +0.1
baz=157
MOQ Mont Orford 63.13 358 *e*P P 18 48 59.0 -0.2
SADO Sadowa 63.14 352 P P 18 48 58.7 -0.6
comp=Z,4.3nm,0.4s,baz=187,slow=9.4,SNR=7.6
SADO Sadowa 63.14 352 *e*P P 18 48 58.7 -0.6
comp=Z,42nm,1.4s
K42A Prairie Point, 63.21 344 P P 18 49 00.1 +0.3
baz=159,SNR=9.1
CBKS Cedar Bluff 63.22 334 *e*P P 18 49 00.5 +0.4
comp=Z,1µm,0.4s
CBKS Cedar Bluff 63.22 334 *e*P P 18 49 00.5 +0.4
ANMO Albuquerque 63.27 327 P P 18 49 01.7 +1.1
comp=Z,0.9nm,0.4s,baz=139,slow=9.8,SNR=4.6
ANMO Albuquerque 63.27 327 *e*P P 18 49 01.0 +0.4
comp=Z,5.2nm,1.1s
ANMO Albuquerque 63.27 327 *ce*P P 18 49 01.1 +0.4
ANMO pmax pmax
comp=Z,3.0nm,1.0s
I47A Gladwin 63.27 348 P P 18 48 59.8 -0.3
baz=164
I48A Sherman Twp 63.28 349 P P 18 48 59.9 -0.2
baz=165
K41A Shullsburg 63.31 343 P P 18 49 01.0 +0.5
baz=158
G55A Calabogie 63.35 354 P P 18 49 01.0 +0.3
baz=172
L39A Vinton 63.36 342 P P 18 49 01.3 +0.5
baz=156
I46A Reed City 63.39 347 P P 18 49 00.3 -0.7
baz=163
G53A Haliburton 63.42 353 P P 18 49 00.6 -0.5
baz=170
SCIA State Center 63.54 341 *e*P P 18 49 02.7 +0.8
comp=Z,27nm,0.6s
J43A Natural Harves 63.54 345 P P 18 49 02.0 +0.1
baz=160
JFWS Jewell Farm 63.58 343 *e*P P 18 49 02.3 +0.1
comp=Z,38nm,0.8s
JFWS Jewell Farm 63.58 343 *e*P P 18 49 02.3 +0.1
JFWS pmax pmax
comp=Z,38nm,0.8s
JFWS Jewell Farm 63.58 343 P P 18 49 02.5 +0.3
baz=158,SNR=6.6
K40A Colesburg 63.63 342 P P 18 49 02.8 +0.2
baz=157,SNR=7.5
H46A Fife Lake 63.91 348 P P 18 49 03.8 -0.6
baz=163,SNR=5.5
J41A Loganville 63.94 344 P P 18 49 05.0 +0.4
baz=158,SNR=5.2
VNA2 Neumayer--Watz 64.10 161 P P 18 49 07.0 +1.7
I42A Draeger Farm, 64.14 345 P P 18 49 06.5 +0.6
baz=159
J40A Soldiers Grove 64.16 343 P P 18 49 06.6 +0.6
baz=158,SNR=5.9
J39A Decorah 64.38 342 P P 18 49 08.1 +0.6
baz=156,SNR=9.5
I41A Arkdale 64.54 344 P P 18 49 09.0 +0.5
baz=158
E53A Dumoine, Ponti 64.56 354 P P 18 49 08.3 -0.3
baz=171
E54A Lac Daplat, Po 64.56 354 P P 18 49 08.5 0.0
baz=172
I40A Norwalk 64.59 343 P P 18 49 09.3 +0.5
baz=158
G46A Petoskey 64.59 348 P P 18 49 08.7 0.0
baz=164
H42A Shiocton 64.62 345 *e*P P 18 49 09.5 +0.5
comp=Z,60nm,0.6s
KSCO Kaye Shedlock' 64.64 332 P P 18 49 10.6 +1.2
baz=145
214A Organ Pipe Nat 64.70 320 P P 18 49 12.2 +2.3
baz=134,SNR=5.4
I39A Houston 64.81 343 *e*P P 18 49 11.1 +0.8
comp=Z,36nm,0.9s
I39A Houston 64.81 343 P P 18 49 11.2 +0.9
baz=157
BGNE Belgrade 64.81 337 *e*P P 18 49 11.3 +0.9
comp=Z,860nm,0.4s
BGNE Belgrade 64.81 337 P P 18 49 11.4 +1.1
baz=150
X18A Snowflake 64.85 324 *e*P P 18 49 11.7 +0.7
comp=Z,7.8nm,1.1s
E51A G1948 Merrick 64.92 353 P P 18 49 11.6 +0.8
baz=170
SDCO Great Sand Dun 64.96 329 *e*P P 18 49 13.0 +1.3
comp=Z,10nm,1.2s
SDCO Great Sand Dun 64.96 329 P P 18 49 13.2 +1.5
baz=142,SNR=9.1
H41A Junction City 65.01 344 P P 18 49 11.8 +0.3

baz=159
F46A Macinaw City C 65.01 348 P P 18 49 11.4 0.0
baz=164
BATG Bathurst New B 65.13 3 eP P 18 49 12.2 0.0
comp=Z,22nm,0.7s
H40A Chili 65.20 344 P P 18 49 13.5 +0.7
baz=158,SNR=5.1
LATQ La Tuque 65.21 358 P P 18 49 13.2 +0.5
baz=176,SNR=5.6
D52A ZEK Kipawa Sen 65.23 353 P P 18 49 13.3 +0.4
baz=171
E48A Lockeyer 65.24 351 P P 18 49 13.2 +0.2
baz=167
D53A Lac Vacive, Po 65.25 354 P P 18 49 13.3 +0.2
baz=171
G42A Mountain 65.29 345 P P 18 49 13.8 +0.5
baz=160
G41A Antigo 65.44 345 P P 18 49 14.6 +0.3
baz=159
D51A Lot 18 Range I 65.45 353 P P 18 49 14.4 +0.1
baz=170
E46A Sault Ste Mari 65.49 349 P P 18 49 14.2 -0.4
baz=164
H39A Augusta 65.50 343 P P 18 49 15.3 +0.6
baz=157
F43A Flat Rock, Esc 65.56 347 P P 18 49 15.0 0.0
baz=162
D50A G1974 Best Tow 65.58 352 P P 18 49 15.4 +0.2
baz=169
S22A 4UR Ranch, Cre 65.62 328 eP P 18 49 15.7 -0.3
comp=Z,4.2nm,0.9s
X16A Lo Mia Camp, P 65.62 323 eP P 18 49 15.6 -0.3
comp=Z,4.4nm,0.9s
SNAA Sanae 65.73 161 P P 18 49 17.5 +1.5
SNAA Sanae 65.73 161 eP P 18 49 17.3 +1.3
comp=Z,7.3nm,1.0s
SNAA Sanae 65.73 161 i P P 18 49 17.9 +1.9
F41A Three Lakes 65.92 345 eP P 18 49 18.0 +0.6
comp=Z,41nm,0.7s
F41A Three Lakes 65.92 345 P P 18 49 18.1 +0.8
baz=160,SNR=5.5
G39A Holcombe 66.03 344 P P 18 49 19.0 +0.9
baz=157
E43A Lone Tree Farm 66.04 347 P P 18 49 18.3 +0.2
baz=162
G38A Ridgeland 66.11 343 P P 18 49 19.5 +1.0
baz=157
ECSD EROS Data Cent 66.29 339 eP P 18 49 20.4 +0.6
comp=Z,36nm,0.5s
ECSD EROS Data Cent 66.29 339 P P 18 49 21.8 +2.0
baz=152,SNR=8.6
E42A Champion 66.29 346 P P 18 49 19.9 +0.1
baz=161
F40A Park Falls 66.34 345 P P 18 49 21.2 +1.1
baz=159,SNR=8.6
WUAZ Wupatki 66.37 324 eP P 18 49 20.9 +0.2
comp=Z,11nm,1.1s
SPMN Marine on St. 66.43 342 eP P 18 49 21.2 +0.6
comp=Z,21nm,0.8s
SPMN Marine on St. 66.43 342 P P 18 49 21.8 +1.2
baz=156,SNR=7.1
F39A Loretta 66.54 344 P P 18 49 22.6 +1.3
baz=158
ISCO Idaho Springs 66.64 330 eP P 18 49 24.0 +1.5
comp=Z,7.7nm,1.0s
ISCO Idaho Springs 66.64 330 eP P 18 49 24.0 +1.5
ISCO pmax pmax
comp=Z,8.0nm,1.0s
E40A Wakefield 66.78 345 P P 18 49 23.9 +1.1
baz=159
PV01 Paradox Valley 66.80 327 eP P 18 49 25.4 +1.9
SMCO Snowmass 66.80 329 eP P 18 49 25.5 +1.9
comp=Z,6.6nm,0.8s
F37A Hinrichs Farm, 66.83 343 P P 18 49 24.4 +1.2
baz=156
F38A Pierce - Schro 66.84 343 P P 18 49 24.5 +1.3
baz=157
E39A Mellen 66.88 344 P P 18 49 24.8 +1.3
baz=158
PV13 Radium Mtn., P 66.95 327 eP P 18 49 26.1 +1.7
comp=Z,4.6nm,0.7s
BC3 Big Chuckawall 67.48 320 P P 18 49 29.6 +1.9
baz=132
W13A Hualapai Mount 67.52 322 eP P 18 49 28.9 +0.9
comp=Z,3.6nm,0.8s
U15A North Rim 67.54 324 eP P 18 49 30.4 +2.2
comp=Z,8.9nm,1.3s
IRM Iron Mountain 67.63 320 P P 18 49 30.8 +2.3
baz=133,SNR=7.0
PHWY Pilot Hill 67.76 332 eP P 18 49 29.6 +0.1
comp=Z,8.2nm,0.4s
CHGQ Chibougamau 67.81 357 P P 18 49 29.3 0.0
baz=175,SNR=6.9
MATQ Matagami 67.90 354 P P 18 49 29.5 -0.3
baz=172,SNR=9.6
BELC Belle Mtn. Jos 68.05 320 P P 18 49 33.4 +2.1
baz=132
TPFO Pinon Flats 68.07 319 P P 18 49 33.6 +2.2
baz=132
XPFO Pion Flat 68.07 319 eP P 18 49 33.9 +2.5
comp=Z,6.5nm,0.8s
PFO Pinyon Flats O 68.08 319 P P 18 49 32.8 +1.4
comp=Z,4.0nm,0.6s,baz=161,slow=6.7,SNR=5.6
PFO Pinyon Flats O 68.08 319 eP P 18 49 33.9 +2.5
comp=Z,5.8nm,0.8s
PFO Pinyon Flats O 68.08 319 P P 18 49 33.7 +2.3
baz=132
LIC Lamto 68.15 75 eP P 18 49 31.4 -0.8
comp=Z,94nm,0.8s
KNB Kanab 68.26 324 eP P 18 49 35.4 +2.8
comp=Z,12nm,1.0s
KNB Kanab 68.26 324 eP P 18 49 35.4 +2.8
KNB pmax pmax
comp=Z,12nm,1.0s
TIC Toumodi 68.31 75 eP P 18 49 32.6 -0.6
GMRC Granite Mounta 68.37 320 P P 18 49 35.4 +2.2
baz=132,SNR=7.0
KIC Kosan Boka 68.47 75 eP P 18 49 33.6 -0.5
comp=Z,128nm,0.6s
DBIC Dimbokro 68.47 75 P P 18 49 33.9 -0.3
comp=Z,54nm,0.6s,baz=225,slow=6.2,SNR=157
DBIC Dimbokro 68.47 75 eP P 18 49 33.8 -0.3
comp=Z,57nm,0.7s
HEC Hector,Ludlow 68.81 320 P P 18 49 38.5 +2.6
baz=132,SNR=6.0
P17A Butcher Ranch, 68.92 327 eP P 18 49 37.5 +0.8
comp=Z,5.0nm,0.8s
CCUT Cedar City 68.94 324 eP P 18 49 35.5 -1.4
comp=Z,7.1nm,1.0s
TUQ Turquoise Moun 68.97 321 P P 18 49 39.2 +2.2
baz=132
TMUT Trail Mountain 69.04 327 eP P 18 49 38.3 +0.8
comp=Z,9.7nm,1.4s
BFSC Mount Baldy Ra 69.24 319 P P 18 49 40.6 +1.9
baz=131
SHPR Sheep Range 69.24 322 eP P 18 49 40.0 +1.3
comp=Z,5.4nm,0.9s
GSC Goldstone, Bar 69.41 320 P P 18 49 41.9 +2.3
baz=132
RSSD Black Hills 69.43 334 eP P 18 49 41.2 +1.5
comp=Z,5.1nm,0.6s
RSSD Black Hills 69.43 334 eP P 18 49 41.2 +1.5
RSSD pmax pmax
comp=Z,5.0nm,0.6s
EDW2 Edwards Air Fo 69.87 319 P P 18 49 44.2 +1.7
baz=131,SNR=5.1
PSUT Pine Spring 69.91 324 eP P 18 49 44.5 +1.7
comp=Z,6.8nm,1.0s
LRMC Laurel Mtn Rad 70.07 320 P P 18 49 46.1 +2.4
baz=131
AGMN Agassiz Nation 70.10 342 eP P 18 49 45.5 +2.0
comp=Z,12nm,0.8s
JLU Jordanelle 70.12 327 eP P 18 49 45.4 +1.3
comp=Z,4.6nm,0.8s
TPNV Topopah Spring 70.18 322 eP P 18 49 47.0 +2.5
comp=Z,8.8nm,1.0s
TPNV Topopah Spring 70.18 322 eP P 18 49 47.0 +2.5
TPNV pmax pmax
comp=Z,9.0nm,1.0s
TPNV Topopah Spring 70.18 322 P P 18 49 47.1 +2.7
baz=133,SNR=7.7
FURC Furnace Creek, 70.22 321 P P 18 49 47.3 +2.9
baz=132,SNR=7.1
NVL N'lazarevskaya 70.27 160 eP P 18 49 55.4 +11
NVL pmax pmax
comp=Z,3.0nm,0.6s
MPMC Manual Prospec 70.33 320 P P 18 49 47.5 +2.1
baz=131,SNR=5.4

DAC Darwin (Calif) 70.54 320 eP P 18 49 47.3 +0.7
comp=Z,6.2nm,0.9s
DAC Darwin (Calif) 70.54 320 eP P 18 49 47.3 +0.7
DAC pmax pmax
comp=Z,6.0nm,0.9s
DUG Dugway, Tooele 70.54 326 eP P 18 49 47.5 +1.0
comp=Z,4.3nm,0.9s
DUG Dugway, Tooele 70.54 326 P P 18 49 48.7 +2.2
DUG pmax pmax
comp=Z,4.0nm,1.0s
ISA Isabella, Lake 70.67 319 eP P 18 49 50.0 +2.7
comp=Z,5.2nm,0.8s
ISA Isabella, Lake 70.67 319 eP P 18 49 50.0 +2.7
ISA pmax pmax
comp=Z,5.0nm,0.8s
ISA Isabella, Lake 70.67 319 P P 18 49 49.8 +2.4
baz=131,SNR=6.6
R11A Troy Canyon, C 70.76 323 eP P 18 49 49.3 +1.3
comp=Z,5.5nm,1.3s
R11A Troy Canyon, C 70.76 323 P P 18 49 50.2 +2.3
baz=134,SNR=5.6
BW06 Boulder Array 70.81 330 eP P 18 49 47.8 -0.5
comp=Z,6.1nm,1.3s
PD31 Pinedale Array 70.81 330 eP P 18 49 48.2 -0.1
PDAR Pinedale Array 70.81 330 P P 18 49 48.5 +0.3
comp=Z,0.6nm,0.5s,baz=123,slow=6.6,SNR=8.1
PDAR Pinedale Array 70.81 330 eP P 18 49 48.0 -0.2
MDND Maddock 70.90 339 eP P 18 49 49.0 +0.7
comp=Z,80nm,1.4s
MDND Maddock 70.90 339 P P 18 49 50.7 +2.4
baz=150
CWC Cottonwood Cre 70.94 320 P P 18 49 51.3 +2.3
baz=131
PKM Mcpherson Peak 71.02 318 P P 18 49 52.3 +2.7
baz=129
SPUT South Promonto 71.16 327 eP P 18 49 50.4 +0.2
comp=Z,5.8nm,1.1s
HVU Hansel Valley 71.67 327 eP P 18 49 54.2 +0.9
comp=Z,22nm,1.7s
HVU Hansel Valley 71.67 327 eP P 18 49 54.2 +0.9
HVU pmax pmax
comp=Z,22nm,1.7s
ULM Lac du Bonnet 71.86 343 P P 18 49 54.1 +0.1
comp=Z,12nm,0.3s,baz=159,slow=6.5,SNR=35
ULM Lac du Bonnet 71.86 343 eP P 18 49 54.4 +0.4
comp=Z,19nm,0.6s
ULM Lac du Bonnet 71.86 343 eP P 18 49 54.4 +0.4
ULM pmax pmax
comp=Z,19nm,0.6s
QSPA South Pole Qui 72.10 180 eP P 18 49 57.5 +1.9
comp=Z,23nm,1.4s
ELK Elko 72.23 325 P P 18 49 57.8 +1.0
comp=Z,1.1nm,0.6s,baz=179,slow=6.1,SNR=7.6
ELK Elko 72.23 325 eP P 18 49 56.8 +0.1
comp=Z,2.1nm,0.8s
FLWY Flagg Ranch 72.35 330 eP P 18 49 58.6 +1.2
comp=Z,6.9nm,0.8s
NV01 Mina Array Sit 72.38 322 eP P 18 49 59.6 +1.9
NVAR Mina Array Bea 72.38 322 P P 18 49 59.0 +1.2
comp=Z,1.9nm,0.8s,baz=145,slow=7.1,SNR=8.5
NVAR pP pP 18 50 29.6 +2.5
comp=Z,2.3nm,0.7s,baz=160,slow=7.6,SNR=4.2
RLMT Red Lodge 72.48 332 eP P 18 49 59.0 +0.8
comp=Z,36nm,1.9s
SCHQ Schefferville 72.65 2 P P 18 49 58.0 -0.7
comp=Z,21nm,0.9s,baz=183,slow=4.4,SNR=13
SCHQ Schefferville 72.65 2 eP P 18 49 58.8 +0.1
comp=Z,26nm,1.0s
KVN Kaiserville 72.68 322 eP P 18 50 01.5 +2.1
comp=Z,5.4nm,1.1s
KVN Kaiserville 72.68 322 eP P 18 50 01.5 +2.1
KVN pmax pmax
comp=Z,5.0nm,1.1s
YMR Madison River 72.92 330 eP P 18 50 03.3 +2.6
comp=Z,22nm,0.4s
YHB Horse Butte 73.09 330 eP P 18 50 04.3 +2.5
comp=Z,4.9nm,0.7s
GCMT Greycliff 73.18 332 eP P 18 50 04.2 +2.1
HLID Hailey 73.79 328 eP P 18 50 07.8 +2.0
comp=Z,3.6nm,0.9s
HLID Hailey 73.79 328 P P 18 50 08.1 +2.2
baz=136,SNR=6.4
PAHR Pah Rah Range 73.86 322 eP P 18 50 09.1 +2.8
comp=Z,8.3nm,0.8s
EGMT Eagleton 74.94 333 eP P 18 50 13.3 +1.0
comp=Z,6.6nm,0.6s
ORV Oroville 75.01 321 eP P 18 50 15.5 +2.7
comp=Z,14nm,1.1s
ORV Oroville 75.01 321 eP P 18 50 15.5 +2.7
ORV pmax pmax
comp=Z,14nm,1.1s
MOD Modoc Plateau 75.82 323 eP P 18 50 17.1 -0.4
comp=Z,5.4nm,0.6s
BMO Blue Mountains 76.17 327 eP P 18 50 21.4 +2.0
comp=Z,52nm,0.3s
BMO Blue Mountains 76.17 327 eP P 18 50 21.4 +2.0
BMO pmax pmax
comp=Z,52nm,0.3s
TOA0 Torodi Ar. Sit 76.89 71 eP P 18 50 21.7 -2.3
TOA1 Torodi Ar. Sit 76.89 71 eP P 18 50 21.6 -2.4
TOA1 epP pP 18 50 54.5 +0.5
TORD Torodi Ar. Bea 76.89 71 P P 18 50 21.6 -2.4
comp=Z,34nm,0.6s,baz=225,slow=5.5,SNR=129
TORD pP pP 18 50 54.5 +0.5
comp=Z,11nm,0.8s,baz=237,slow=4.8,SNR=2.5
TORD S S 18 59 59.1 -4.1
comp=Z,2.4nm,1.1s,baz=242,slow=8.2,SNR=6.0
F10A Beach Ranch, E 76.91 328 eP P 18 50 24.9 +1.4
comp=Z,28nm,1.7s
FFC Flin Flon 77.58 341 eP P 18 50 27.5 +0.6
comp=Z,4.1nm,0.6s
FFC Flin Flon 77.58 341 ceP P 18 50 31.2 +4.3
FCC Fort Churchill 79.16 347 eP P 18 50 36.3 +0.8
comp=Z,9.7nm,1.1s
FCC Fort Churchill 79.16 347 eP P 18 50 36.3 +0.8
FCC pmax pmax
comp=Z,10.0nm,1.1s
MORF Marmelete 79.53 45 eP P 18 50 39.0 +0.8
MORF AMb AMB 18 50 45.0
comp=Z,57nm,1.8s
MORF Marmelete 79.53 45 eP P 18 50 39.8 +1.7
comp=Z,58nm,1.7s
MORF Marmelete 79.53 45 eP P 18 50 38.9 +0.8
MORF pmax pmax
comp=Z,57nm,1.8s
PTEO Sao Teotonio 79.61 45 eP P 18 50 40.2 +1.7
SYO Syowa Base 79.94 160 ePcP PcP 18 50 45.0 -1.9
PBDV Barranco-do-Ve 79.98 46 eP P 18 50 43.2 +2.6
PNCL Nicolau / Gran 80.04 45 eP P 18 50 43.0 +2.2
VNDA Vanda 80.09 190 P P 18 50 41.3 +0.9
comp=Z,3.5nm,0.8s,baz=123,slow=4.6,SNR=17
VNDA Vanda 80.09 190 eP P 18 50 42.3 +1.8
VNDA Vanda 80.09 190 eP P 18 50 42.3 +1.8
MESJ Messejana 80.11 45 eP P 18 50 42.3 +1.1
MESJ AMb AMB 18 50 47.7
comp=Z,29nm,2.1s
MESJ Messejana 80.11 45 eP P 18 50 42.8 +1.7
MESJ Messejana 80.11 45 eP P 18 50 42.2 +1.1
MESJ pmax pmax
comp=Z,29nm,2.1s
PVAQ Vaqueiros 80.22 45 eP P 18 50 43.3 +1.5
comp=Z,43nm,1.9s
PBEJ Beja 80.44 45 eP P 18 50 46.4 +3.4
EVO Evora 80.61 44 eP P 18 50 47.2 +3.4
comp=Z,24nm,1.6s
PTOM Tomar 80.92 43 eP P 18 50 47.1 +1.6
comp=Z,51nm,2.1s
PESTR Estremoz 81.07 44 eP P 18 50 48.2 +1.9
PESTR Estremoz 81.07 44 eP P 18 50 44.9 -1.4
comp=Z,5.9nm,0.8s
PCBR Castelo Branco 81.65 43 eP P 18 50 50.7 +1.4
TSUM Tsumeb 81.70 107 eP P 18 50 50.1 -0.2
comp=Z,18nm,0.8s
PVIS Viseu 81.84 43 eP P 18 50 51.6 +1.2
MTE Manteigas 81.90 43 eP P 18 50 51.3 +0.6
MTE Manteigas 81.90 43 eP P 18 50 51.1 +0.3
comp=Z,16nm,0.8s
POLO Lamas de Olo 82.26 42 eP P 18 50 53.2 +0.6
PGAV Gavieira, Arco 82.28 41 eP P 18 50 52.6 -0.1
PCAB Cabril 82.29 42 eP P 18 50 53.3 +0.6
MVO Moncorvo 82.64 43 eP P 18 50 55.4 +0.8
comp=Z,30nm,2.4s
PBRG Braganca 83.16 42 eP P 18 50 58.2 +1.0
PAB San Pablo 83.58 45 eP P 18 51 00.7 +1.2
comp=Z,20nm,0.8s
PAB San Pablo 83.58 45 eP P 18 51 00.7 +1.2

PAB pmax pmax
comp=Z,20nm,0.8s
ESDC Sonseca Array 83.90 45 P P 18 51 01.2 +0.1
comp=Z,8.1nm,0.8s,baz=253,slow=5.2,SNR=35
ESLA Sonseca Array 83.90 45 eP P 18 51 01.9 +0.8
comp=Z,22nm,1.1s
TAM Tamanrasset 83.92 64 eP P 18 51 02.4 +0.8
comp=Z,24nm,1.3s
TAM Tamanrasset 83.92 64 eP P 18 51 02.4 +0.8
TAM pmax pmax
comp=Z,24nm,1.3s
ES19 SONSECA Array 83.96 45 eP P 18 51 02.0 +0.6
BOSA Boshof 85.67 119 P P 18 51 10.3 -0.1
comp=Z,26nm,1.3s,baz=252,slow=4.0,SNR=12
SJPF Ste Jean 87.35 43 eP P 18 51 18.4 +0.4
SJPF pmax pmax
comp=Z,10.0nm,0.9s
ETSF Etsaut 87.69 43 eP P 18 51 19.9 +0.2
ETSF pmax pmax
comp=Z,16nm,1.2s
YKA Yellowknife Ar 87.74 341 P P 18 51 20.3 +1.0
comp=Z,8.7nm,0.7s,baz=134,slow=4.8,SNR=130
YKA pP pP 18 51 49.4 -0.7
comp=Z,7.5nm,0.6s,baz=134,slow=4.8,SNR=7.3
YKB5 Yellowknife Ar 87.74 341 eP P 18 51 20.4 +1.1
YKW3 Yellowknife Ar 87.80 341 eP P 18 51 20.3 +0.7
comp=Z,11nm,0.8s
EPF Esparros 88.33 44 eP P 18 51 22.7 0.0
EPF pmax pmax
comp=Z,9.0nm,1.0s
QUIF Quistinic 88.44 38 eP P 18 51 22.1 -0.9
QUIF pmax pmax
comp=Z,65nm,1.6s
ROSF Rostrenen 88.58 38 eP P 18 51 22.9 -0.8
ROSF pmax pmax
comp=Z,30nm,1.1s
SGMF Saint Gilles 88.96 38 eP P 18 51 24.9 -0.5
SGMF pmax pmax
comp=Z,36nm,1.6s
LFF La Frestale 89.44 42 eP P 18 51 27.4 -0.4
LFF pmax pmax
comp=Z,17nm,0.7s
MFF Saint Martin d 89.64 40 eP P 18 51 28.0 -0.6
MFF pmax pmax
comp=Z,10.0nm,1.0s
GRR Gorron 90.03 38 eP P 18 51 29.3 -1.1
GRR pmax pmax
comp=Z,10.0nm,0.6s
RJF Les Rejaudoux 90.10 42 eP P 18 51 30.2 -0.7
RJF pmax pmax
comp=Z,9.0nm,1.0s
CAF Calviac 90.28 42 eP P 18 51 31.3 -0.5
CAF pmax pmax
comp=Z,9.0nm,0.8s
FLN La Foliniere 90.42 38 eP P 18 51 31.4 -0.8
FLN pmax pmax
comp=Z,19nm,1.0s
LDF La Druitiere 90.56 38 eP P 18 51 31.9 -1.0
LDF pmax pmax
comp=Z,24nm,1.0s
TCF Toulx Ste Croi 90.96 41 eP P 18 51 34.1 -0.8
TCF pmax pmax
comp=Z,15nm,1.4s
MATP Matopo 91.11 112 P P 18 51 36.8 +0.4
comp=Z,5.2nm,0.6s,baz=252,slow=5.2,SNR=20
BGF Bois d'Agland 91.47 41 eP P 18 51 36.5 -0.7
BGF pmax pmax
comp=Z,20nm,1.2s
KEST Kesra 91.81 53 P P 18 51 39.3 +0.2
comp=Z,7.4nm,0.6s,baz=110,slow=0.7,SNR=14
KEST Kesra 91.81 53 eP P 18 51 39.0 -0.1
comp=Z,11nm,0.9s
AVF Avril sur Loir 91.89 41 eP P 18 51 39.6 +0.5
AVF pmax pmax
comp=Z,27nm,1.8s
VIVF Saint-Julien-l 91.94 43 eP P 18 51 39.4 -0.1
VIVF pmax pmax
comp=Z,5.0nm,0.9s
SSB Saint Sauveur 92.03 43 eP P 18 51 40.5 +0.7
comp=Z,8.8nm,0.9s
SSB Saint Sauveur 92.03 43 eP P 18 51 40.5 +0.7
SSB pmax pmax
comp=Z,9.0nm,0.9s
SMF Signal de Mont 92.13 41 eP P 18 51 39.6 -0.7
SMF pmax pmax
comp=Z,11nm,1.0s
LOR Lormes 92.40 41 eP P 18 51 40.3 -1.2
LOR pmax pmax
comp=Z,6.0nm,1.1s
LMR La Mourre 92.57 45 eP P 18 51 43.0 +0.7
LMR pmax pmax
comp=Z,6.0nm,1.0s
ORIF Oris-en-Rattie 92.76 44 eP P 18 51 43.5 +0.2
ORIF pmax pmax
comp=Z,9.0nm,0.7s
SUMG Summit 92.80 9 eP P 18 51 44.7 +1.5
comp=Z,9.8nm,0.8s
SUMG Summit 92.80 9 eP P 18 51 44.7 +1.5
SUMG pmax pmax
comp=Z,10.0nm,0.8s
LPL La Plagne 93.54 43 eP P 18 51 47.3 +0.2
LPL pmax pmax
comp=Z,10.0nm,1.1s
CABF La Chapelle 93.54 42 eP P 18 51 46.3 -0.6
CABF pmax pmax
comp=Z,56nm,2.2s
LPG La Plagne 93.55 43 eP P 18 51 47.5 +0.3
LPG pmax pmax
comp=Z,10.0nm,1.0s
RES Resolute Bay 93.94 353 P P 18 51 49.4 +1.5
comp=Z,0.8nm,0.4s,baz=177,slow=11,SNR=4.6
RES Resolute Bay 93.94 353 P P 18 51 49.4 +1.5
RES pmax pmax
comp=Z,2.0nm,0.8s
GIVF Givet 94.12 38 eP P 18 51 49.2 -0.1
GIVF pmax pmax
comp=Z,13nm,1.0s
HAU Haudompre 94.24 41 eP P 18 51 49.0 -1.0
HAU pmax pmax
comp=Z,4.0nm,0.7s
HINF Hinteralfeld 94.48 41 eP P 18 51 50.0 -1.1
HINF pmax pmax
comp=Z,6.0nm,1.2s
CDF Champ du Feu 94.97 41 eP P 18 51 51.6 -1.8
CDF pmax pmax
comp=Z,33nm,1.9s
RETA Reutte 96.84 42 ePcP Pdif 18 52 02.4
comp=Z,5.1nm,1.1s
MOTA Moosalm 97.01 43 ePcP Pdif 18 52 03.0 +0.1
comp=Z,0.9nm,0.5s
SQTA Sankt Quirin 97.04 43 ePcP Pdif 18 52 03.3 +0.4
comp=Z,11nm,1.3s
INK Inuvik 97.50 340 P Pdif 18 52 05.7 +1.4
comp=Z,1.0nm,0.8s,baz=102,slow=6.9,SNR=3.4
ABTA Abfaltersbach 97.74 43 ePcP Pdif 18 52 06.7 +0.7
comp=Z,4.9nm,0.9s
GEA0 GERESS Array S 99.13 42 eP Pdif 18 52 10.4 -1.8
GERES GERESS Array B 99.13 42 P Pdif 18 52 12.0 -0.2
comp=Z,0.9nm,0.7s,baz=267,slow=5.3,SNR=7.1
GERES LR LR 19 34 33.6
comp=Z,28nm,18.6s,baz=74,slow=34
CLL Collm 99.42 39 eP Pdif 18 52 13.0 -0.2
ILAR Eielson Array 100.87 335 PP PP 18 56 24.6 -4.2
comp=Z,0.4nm,0.8s,baz=108,slow=6.8,SNR=4.6
OBN Obninsk 113.89 37 i PKIKP PKiKP 18 57 08.4 -0.5
OBN pmax pmax
comp=Z,4.0nm,0.8s
KBZ Khabaz 118.48 50 PKP PKiKP 18 57 18.6 +0.6
comp=Z,2.9nm,1.1s,baz=197,slow=7.8,SNR=5.9
BILL Bilibino 119.09 339 ePKIKP PKiKP 18 57 19.2 +0.6
BILL pmax pmax
comp=Z,2.0nm,1.2s
TIXI Tiksi 125.33 353 ePKIKP PKiKP 18 57 30.7 -0.1
TIXI pmax pmax
comp=Z,1.0nm,1.0s
ARU Arti 125.68 33 ePKPdf PKiKP 18 57 33.1 +1.1
ARU Arti 125.68 33 i PKIKP PKiKP 18 57 32.7 +0.8
ARU 18 59 23.4
ARU SS SS 19 16 16.5 +0.8
SEY Seymchan 126.69 338 i PKIKP PKiKP 18 57 34.6 +0.9
CTA Charters Tower 128.24 225 PKP PKiKP 18 57 38.4 +0.2
comp=Z,2.9nm,0.8s,baz=98,slow=7.1,SNR=4.5
ABKAR Akbulak array 129.06 41 ePKPpre PKPpre 18 57 29.2
ABKAR ePKPdf PKiKP 18 57 40.0 +1.1
PEA1 Petropavlovsk- 129.39 325 ePKPdf PKiKP 18 57 39.6 +0.1
PETK Petropavlovsk- 129.39 325 PKP PKiKP 18 57 39.6 +0.1

	comp=Z,6.9nm,1.1s,baz=100,slow=3.5,SNR=4.2						
PETK	Petropavlovsk-	129.39	325	PKIKP	PKiKP	18 57 39.6	+0.1
PETK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ASAR	Alice Springs	132.57	210	PKhKP	PKPpre	18 57 29.5	
	comp=Z,0.1nm,0.4s,baz=143,slow=3.1,SNR=4.8						
ASAR				PKP	PKiKP	18 57 46.6	-0.3
	comp=Z,0.9nm,0.5s,baz=139,slow=1.7,SNR=13						
ASAR				pPKP	pPKPdf	18 58 16.1	-1.4
	comp=Z,1.0nm,0.7s,baz=135,slow=2.0,SNR=4.4						
ASAR				SKPbc	SKPbc	19 01 03.1	+0.4
	comp=Z,2.8nm,1.1s,baz=154,slow=3.9,SNR=6.4						
BRVK	Borovoye	133.25	32	ePKPdf	PKPdf	18 57 43.4	-2.7
BRVK	Borovoye	133.25	32	i PKIKP	PKiKP	18 57 47.9	+0.6
WB2	Warramunga Arr	135.48	213	ePKPdf	PKiKP	18 57 52.5	-0.4
WR1	Warramunga Arr	135.49	213	ePKPdf	PKiKP	18 57 52.2	-0.7
WR1				epPKPdf	pPKPdf	18 58 22.4	-0.6
WRA	Warramunga Arr	135.49	213	PKhKP	PKPpre	18 57 35.6	
	comp=Z,0.4nm,0.7s,baz=170,slow=2.1,SNR=8.0						
WRA				PKP	PKiKP	18 57 52.2	-0.7
	comp=Z,2.9nm,0.8s,baz=141,slow=1.6,SNR=6.8						
WRA				pPKP	pPKPdf	18 58 22.4	-0.6
	comp=Z,1.6nm,0.8s,baz=137,slow=1.6,SNR=3.9						
WRA				SKPbc	SKPbc	19 01 12.0	-0.3
	comp=Z,3.1nm,1.0s,baz=139,slow=2.3,SNR=7.3						
WRAB	Tennant Creek	135.49	213	i PKIKP	PKPdf	18 57 51.0	-0.3
NVS	Novosibirsk	137.84	23	ePKIKP	PKiKP	18 57 55.7	-0.8
KURK	Kurchatov	138.80	31	i PKIKP	PKPdf	18 57 54.4	-2.0
ZAA1	Zalesovo Array	139.12	23	ePKPdf	PKPdf	18 57 57.2	+0.3
ZAA1				eSKPbc	SKPbc	19 01 22.2	+0.3
ZAA0	Zalesovo Array	139.12	23	ePKPdf	PKPdf	18 57 58.0	+1.2
ZALV	Zalesovo Beam	139.12	23	PKP	PKPdf	18 57 57.2	+0.3
	comp=Z,7.6nm,0.6s,baz=290,slow=3.0,SNR=22						
ZALV				SKPbc	SKPbc	19 01 22.2	+0.3
	comp=Z,1.8nm,0.7s,baz=282,slow=2.4,SNR=6.0						
ZALV	Zalesovo Beam	139.12	23	ePKPdf	PKPdf	18 57 57.9	+1.0
ZALV				SKPbc	SKPbc	19 01 22.2	+0.3
AAK	Ala-Archa	140.99	43	PKP	PKPdf	18 58 01.2	+0.3
	comp=Z,3.3nm,0.7s,baz=59,slow=0.8,SNR=10						
AAK	Ala-Archa	140.99	43	ePKPdf	PKPdf	18 58 00.7	-0.2
AAK				ePKPdf	PKPdf	18 58 01.2	+0.3
NRN	Naryn	142.54	44	ePKPdf	PKPdf	18 58 03.0	-1.0
MAKZ	Makanchi	143.04	33	ePKPdf	PKPbc	18 58 02.2	+0.8
MK31	Makanchi Array	143.21	33	ePKPdf	PKPbc	18 58 02.2	+0.4
MK31	Makanchi Array	143.21	33	ePKIKP	PKPbc	18 58 02.2	+0.4
MK32	Makanchi Array	143.21	33	ePKPdf	PKPdf	18 58 04.7	+0.2
MKAR	Makanchi Array	143.21	33	PKP	PKPdf	18 58 04.7	+0.1
	comp=Z,2.5nm,0.4s,baz=306,slow=1.0,SNR=4.3						
KSH	Kashi	143.39	47	PKP	PKPbc	18 58 02.8	+0.1
KSH				PP	PP	19 01 17.7	+0.2
KSH				PKS	PKSdf	19 01 38.2	-2.8
KSH				SKS	SKSdf	19 05 03.6	-1.2
KSH				AMB	AMB		
	comp=Z,320nm,5.5s						
KSH				LR	LR		
	comp=Z,160nm,7.4s						
KSH				LR	LR		
	comp=Z,99nm,9.3s						
KSH				LR	LR		
	comp=Z,140nm,10.4s						
DGZ	Jazzator, Alta	143.46	25	i PKHKP	PKPpre	18 57 49.4	
PRZ	Przheval'sk	143.57	41	ePKPdf	PKPdf	18 58 05.8	+0.3
PRZ	Przheval'sk	143.57	41	ePKIKP	PKPdf	18 58 05.8	+0.3
TARG	Taragay, Kyrgy	143.58	43	ePKPdf	PKiKP	18 58 07.8	-1.5
KLR	Kul'dur	144.44	336	i PKIKP	PKPab	18 58 04.9	-0.1
MOY	Mondy	145.67	10	ePKP2	PKPab	18 58 11.2	+1.5
MOY				pmax	pmax		
	comp=Z,22nm,1.5s						
KNGR	Kungurtug, Tuv	145.96	15	i PKP2	PKPab	18 58 10.7	-0.1
ZAK	Zakamensk	147.27	8	ePKP2	PKPbc	18 58 14.8	+0.8
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
WMQ	Urumqi	148.01	32	ePKPbc	PKPdf	18 58 12.5	-0.4
WMQ				LR	LR		
	comp=Z,280nm,25.9s						
WMQ				LR	LR		
	comp=Z,160nm,24.1s						
WMQ				LR	LR		
	comp=Z,260nm,24.1s						
USRK	Ussuriysk Ar.	148.24	330	PKPbc	PKiKP	18 58 18.2	0.0
	comp=Z,4.6nm,0.7s,baz=21,slow=2.3,SNR=11						
MJAR	Matsushiro Arr	149.33	312	PKPbc	PKiKP	18 58 21.2	+0.4
	comp=Z,4.8nm,0.6s,baz=90,slow=0.9,SNR=13						
MJAR				pPKPbc	pPKPbc	18 58 51.0	-0.4
	comp=Z,3.8nm,0.7s,baz=136,slow=0.8,SNR=4.4						
MAJO	Matsushiro	149.33	312	ePKPbc	PKiKP	18 58 21.2	+0.4
MAJO				epPKPab	pPKPbc	18 58 51.0	-0.4
MAT	Matsushiro	149.33	312	PKP	PKiKP	18 58 20.6	-0.1
HYB	Hyderabad	149.72	86	i PKP	PKiKP	18 58 22.0	-0.1
FAKI	Fak Fak	149.99	228	ePKPbc	PKiKP	18 58 23.6	+0.8
SONA1	Songino Array	150.13	5	ePKPdf	PKPdf	18 58 15.2	-1.1
SONA1				ePKPbc	PKiKP	18 58 22.6	+0.4
SONA0	Songino Array	150.14	5	ePKPdf	PKPdf	18 58 17.8	+1.6
SONA0				ePKPbc	PKiKP	18 58 22.8	+0.5
SONM	Songino Array	150.14	5	PKP	PKPdf	18 58 17.8	+1.6
	comp=Z,3.2nm,0.7s,baz=82,slow=0.6,SNR=4.9						
SONM				PKPbc	PKiKP	18 58 22.8	+0.5
	comp=Z,6.6nm,0.7s,baz=313,slow=1.6,SNR=44						
SIJI	Sorong	152.11	230	PKPbc	PKiKP	18 58 27.6	+0.5
	comp=Z,9.6nm,0.7s,baz=0.2,slow=16,SNR=7.7						
HHC	Hu-ho-hao-te	157.28	358	ePKP	PKPdf	18 58 24.9	-1.7
LSA	Lhasa	159.00	53	ePKPab	PKPab	18 59 07.3	+0.8
LZH	Lanzhou	161.16	17	ePKP	PKPdf	18 58 28.6	-2.7
LZH				pPKP	pPKPdf	18 58 55.0	-8.4
NJ2	Nanjing	164.11	333	ePKP	PKPdf	18 58 36.2	+2.1
CD2	Chengdu	165.89	24	PKP	PKPdf	18 58 36.0	+0.3
CM31	Chiang Mai Arr	169.15	86	ePKPab	PKPab	18 59 51.3	+0.4
CMAR	Chiang Mai Arr	169.15	86	PKP	PKPdf	18 58 37.7	-0.6
	comp=Z,0.3nm,0.3s,baz=278,slow=1.6,SNR=4.8						
CMAR				PKPab	PKPab	18 59 50.8	0.0
	comp=Z,3.1nm,0.8s,baz=274,slow=5.9,SNR=21						
CM01	Chiang Mai Arr	169.17	86	ePKPab	PKPab	18 59 50.3	-0.6
PBKT	Sadao Pong	170.91	98	ePKPab	PKPab	18 59 59.0	+0.4
GYA	Guiyang	170.99	22	ePKP	PKPdf	18 58 39.2	-0.1
GYA				pPKP	pPKPdf	18 59 01.0	-11
GYA				PKPab	PKPab	18 59 59.2	+0.7
GYA				PKS	PKSdf	19 02 10.0	-1.9
GYA				PP	PP	19 03 50.4	+2.2
GYA				AMB	AMB		
	comp=Z,120nm,8.1s						

MAN 09 18:41:24.5, 6°.95N×126°.05E, h41km, mb4.3, ML3.1, MS2.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.21	91	eP	Pn	18 41 33.4	+1.5
MATI				eS	Sn	18 41 39.8	+2.6
DMPH	Davao City--Mi	0.55	284⇑	eP	Pn	18 41 37.5	+1.6
DMPH				eS	Sn	18 41 46.6	+2.5
BUKP	Musuan	1.34	313	eP	Pn	18 41 47.1	+0.3
BUKP				eS	Sn	18 42 04.4	+0.9

*ISCJB **09** 18:48:22.8±0.5, 2°.07S±0°.08×67°.94E±0°.06, h15km, mb4.4/27, MS3.8/22, Error ellipse: s-maj=11.1km s-min=9.0km az=156.7*

*IDC **09** 18:48:22.1±0.6, 2°.05S×67°.99E, h0km, mb4.2/15, mb1 4.3/16, mb1mx4.0/55, mbtmp4.2/16, ML4.2/1, MS3.8/23, Ms1 3.8/23, ms1mx3.6/51, Error ellipse: s-maj=18.7km s-min=15.3km az=4.0*

*NEIC **09** 18:48:23.8±0.4, 2°.04S×67°.92E, h10km, mb4.6/15, Error ellipse: s-maj=11.3km s-min=8.8km az=160.0*

*GCMT **09** 18:48:25.8±0.4, 1°.88S±0°.04×67°.93E±0°.03, h12km, MW4.8/69, Moment Tensor Solution. s19,c21; s69,c85; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.78±.07; $M_{\theta\theta}$0.76±.08; $M_{\phi\phi}$1.01±.07; $M_{r\theta}$0.80±.31; $M_{\theta\phi}$-0.68±.06; $M_{\phi r}$-0.42±.29; Best double couple: $M_0$1.90300×10^{16} NP1:ϕ_s311.00000°, δ59.00000°, λ-99.00000°. NP2:ϕ_s148.00000°, δ32.00000°, λ-75.00000°. Principal axes: T 1.7790, Plg13.0000°, Azm47.0000°; N 0.2390, Plg8.0000°, Azm315.0000°; P -2.0260, Plg74.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 18:48:24.5±0.6, 2°.1S±0°.1×67°.96E±0°.09, h15km, n79, σ0s98/59, mb4.6/34, MS3.8/22, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.20	144	T	T	18 55 06.2	
	baz=325,slow=75,SNR=488						
H08N3	Diego Garcia H	5.21	145	T	T	18 55 03.7	
	baz=325,slow=75,SNR=71						
H08N1	Diego Carcia H	5.22	144	T	T	18 55 04.3	
	baz=325,slow=75,SNR=72						
PALK	Pallekele	15.75	54	Pn	Pn	18 52 04.9	-1.1
	1.0nm,0.3s,baz=296,slow=12,SNR=7.2						
PALK				LR	LR	18 56 47.3	
	comp=Z,590nm,20.0s,baz=295,slow=32						
OPO	Ambohidratompo	26.14	230	LR	LR	19 02 17.4	
	comp=Z,456nm,19.8s,baz=14,slow=32						
WSAR	Wadi Sarin	26.75	341	LR	LR	19 02 39.9	
	comp=Z,101nm,18.5s,baz=168,slow=32						
ATD	Arta Tunnel	28.39	299	LR	LR	19 03 12.0	
	comp=Z,92nm,21.2s,baz=124,slow=31						
KMBO	Kilima Mbogo	30.70	271	P	P	18 54 40.8	+1.3
	2.2nm,0.8s,baz=44,slow=8.6,SNR=7.1						
KMBO				LR	LR	19 04 44.2	
	comp=Z,140nm,19.7s,baz=93,slow=32						
KMBO	Kilima Mbogo	30.70	271	eP	P	18 54 39.6	+0.1
	3.0nm,0.9s						
PSI	Prapat	31.34	81	LR	LR	19 05 06.3	
	comp=Z,297nm,21.3s,baz=259,slow=32						
KOLN	Koldanda	33.27	26	eP	P	18 55 02.4	+0.6
	21nm,1.2s						
PYUN	Piuthan	33.30	25	eP	P	18 55 02.1	0.0
	17nm,1.1s						
DMN	Daman	33.82	28	eP	P	18 55 07.1	+0.5
	20nm,0.9s						
DANN	Dangsing	33.84	26	eP	P	18 55 07.8	+0.9
	16nm,0.9s						
PKIN	Phulchoki	33.93	28	eP	P	18 55 08.1	+0.5
	46nm,1.8s						
KKN	Kakani	34.05	28	eP	P	18 55 09.0	+0.4
	26nm,1.1s						
JIRN	Jiri	34.38	29	eP	P	18 55 11.6	-0.1
GUN	Gumba	34.44	29	eP	P	18 55 12.9	+0.8
	39nm,1.0s						
CM01	Chiang Mai Arr	36.68	55	eP	P	18 55 33.0	+1.8
CM31	Chiang Mai Arr	36.69	55	eP	P	18 55 32.4	+1.1
CMAR	Chiang Mai Arr	36.69	55	P	P	18 55 32.4	+1.1
	2.2nm,1.1s,baz=245,slow=10,SNR=11						
CMAR				LR	LR	19 09 00.7	
	comp=Z,123nm,20.4s,baz=245,slow=34						
CHTO	Chiang Mai	36.87	54	eP	P	18 55 34.0	+1.2
	24nm,1.7s						
LSA	Lhasa	38.60	33	eP	P	18 55 48.2	+0.4
	18nm,1.5s						
LEM	Lembang	39.81	98	LR	LR	19 09 27.8	
	comp=Z,164nm,19.3s,baz=244,slow=32						
GEYT	Alibeck	40.83	348	P	P	18 56 05.9	+0.1
	1.6nm,0.9s,baz=131,slow=6.1,SNR=4.4						
GEYT				LR	LR	19 12 15.6	
	comp=Z,84nm,19.0s,baz=220,slow=35						
GAR	Garm	40.93	3	eP	P	18 56 06.5	-0.1
	26nm,1.5s						
LSZ	Lusaka	41.34	249	P	P	18 56 10.5	+0.1
	4.5nm,0.8s,baz=96,slow=6.0,SNR=6.7						
LSZ	Lusaka	41.34	249	eP	P	18 56 11.4	+1.0
	6.3nm,0.9s						
NRN	Naryn	43.92	9	eP	P	18 56 31.2	+0.1
	3.7nm,0.9s						
AAK	Ala-Archa	44.90	7	P	P	18 56 39.5	+0.7
	1.4nm,0.9s,baz=184,slow=11,SNR=3.3						
AAK	Ala-Archa	44.90	7	eP	P	18 56 39.3	+0.5
	3.4nm,0.8s						
BOSA	Boshof	48.48	233	P	P	18 57 05.9	-1.2
	1.0nm,0.5s,baz=72,slow=5.3,SNR=5.1						
BOSA				LR	LR	19 15 36.0	
	comp=Z,100nm,18.4s,baz=6.0,slow=34						
MAKZ	Makanchi	50.22	13	eP	P	18 57 19.1	-0.8
	9.1nm,1.3s						
MK32	Makanchi Array	50.27	13	eP	P	18 57 19.2	-1.1
MKAR	Makanchi Array	50.27	13	P	P	18 57 19.2	-1.1
	1.3nm,0.3s,baz=204,slow=8.3,SNR=3.1						
MKAR	Makanchi Array	50.27	13	eP	P	18 57 19.4	-0.9
	14nm,0.7s						
KBZ	Khabaz	50.84	337	LR	LR	19 19 57.0	
	comp=Z,38nm,18.2s,baz=170,slow=37						
ENH	Enshi	51.01	48	eP	P	18 57 26.4	+0.2
	16nm,1.0s						
BR101	Keskin Array S	52.14	327	eP	P	18 57 35.1	+0.5
BRTR	Keskin Array B	52.14	327	P	P	18 57 35.1	+0.5
	1.1nm,0.9s,baz=172,slow=5.1,SNR=3.6						
XAN	Xi'an	52.66	43	P	P	18 57 38.1	-0.4
XAN				pP	pwP	18 57 45.5	-1.3
XAN				pmax	pmax		
	comp=Z,11nm,1.1s						
XAN	Xi'an	52.66	43	eP	P	18 57 38.5	+0.1
	comp=Z,53nm,1.8s						
KURK	Kurchatov	53.37	8	eP	P	18 57 42.8	-0.5
	comp=Z,13nm,1.4s						
NWAO	Narrogin (SRO)	55.41	129	LR	LR	19 15 08.6	
	comp=Z,65nm,20.7s,baz=21,slow=29						
BATI	Baumata	55.90	101	LR	LR	19 21 00.2	
	comp=Z,84nm,21.5s,baz=292,slow=35						
ZALV	Zalesovo Beam	57.56	12	P	P	18 58 11.3	-2.2
	comp=Z,5.6nm,0.6s,baz=221,slow=5.4,SNR=9.6						
ZALV				LR	LR	19 22 27.0	
	comp=Z,71nm,18.9s,baz=252,slow=36						
ZAA1	Zalesovo Array	57.57	12	eP	P	18 58 11.3	-2.2
SONM	Songino Array	59.95	29	LR	LR	19 24 34.0	
	comp=Z,243nm,18.2s,baz=250,slow=36						
SIJI	Sorong	63.30	90	P	P	18 58 53.1	-0.4
	comp=Z,4.4nm,0.7s,baz=293,slow=13,SNR=2.1						
JOW	Kunigami	64.78	59	LR	LR	19 27 03.0	
	comp=Z,57nm,18.4s,baz=82,slow=36						
MAW	Mawson	65.50	182	LR	LR	19 20 12.3	
	comp=Z,142nm,19.6s,baz=323,slow=29						
WRA	Warramunga Arr	67.12	111	P	P	18 59 18.2	0.0
	comp=Z,1.9nm,0.7s,baz=287,slow=6.0,SNR=13						
WR1	Warramunga Arr	67.12	111	eP	P	18 59 18.2	0.0
	comp=Z,49nm,2.0s						
ASAR	Alice Springs	67.18	115	P	P	18 59 18.7	+0.1
	comp=Z,1.3nm,0.8s,baz=282,slow=6.0,SNR=10						
AS31	Alice Springs	67.19	115	eP	P	18 59 19.4	+0.8
	comp=Z,0.9nm,0.9s						
TORD	Torodi Ar. Bea	67.43	285	P	P	18 59 21.5	+1.2
	comp=Z,1.2nm,1.1s,baz=75,slow=6.7,SNR=3.1						
TOA1	Torodi Ar. Sit	67.44	285	eP	P	18 59 21.5	+1.2
KS15	Wonju Array Si	67.86	48	eP	P	18 59 25.3	+2.8
KSRS	Korea Array	67.90	48	LR	LR	19 30 18.4	
	comp=Z,75nm,19.9s,baz=264,slow=37						
CLL	Collm	70.59	327	eP	P	18 59 39.0	-0.2
	comp=Z,9.0nm,1.2s						
FIA0	FINESS Array S	70.97	340	eP	P	18 59 39.9	-1.3
FINES	FINESS Array B	70.97	340	P	P	18 59 39.9	-1.3
	comp=Z,2.6nm,0.9s,baz=224,slow=12,SNR=3.2						
USRK	Ussuriysk Ar.	73.16	43	LR	LR	19 33 05.7	
	comp=Z,32nm,21.6s,baz=277,slow=37						
DBIC	Dimbokro	73.19	278	LR	LR	19 32 19.7	
	comp=Z,48nm,18.2s,baz=101,slow=36						
STKA	Stephens Creek	75.03	122	P	P	19 00 05.5	-0.5
	comp=Z,2.0nm,0.7s,baz=180,slow=8.1,SNR=3.0						
NOA	NORSAR Array B	76.39	335	LR	LR	19 34 30.2	
	comp=Z,39nm,18.4s,baz=5.0,slow=36						
TIXI	Tiksi	83.12	16	eP	P	19 00 48.9	-0.5
	comp=Z,5.8nm,0.8s						
MA2	Magadan	88.13	30	LR	LR	19 41 43.6	
	comp=Z,81nm,19.7s,baz=284,slow=36						
PETK	Petropavlovsk-	91.49	37	LR	LR	19 45 27.7	
	comp=Z,55nm,18.6s,baz=254,slow=38						
YKA	Yellowknife Ar	119.69	1	PKP	PKPdf	19 07 12.0	-1.8
	comp=Z,0.4nm,0.7s,baz=356,slow=1.9,SNR=6.5						
YKB5	Yellowknife Ar	119.69	1	ePKPdf	PKPdf	19 07 12.0	-1.8
PDAR	Pinedale Array	139.42	357	PKP	PKPdf	19 07 51.5	-0.5
	comp=Z,0.3nm,0.6s,baz=90,slow=1.5,SNR=4.0						
MTPU	Mount Pierson	144.20	0	ePKPdf	PKPdf	19 08 00.8	-0.1
PKCU	Pink Cliffs	144.80	0	ePKPdf	PKPdf	19 08 02.1	+0.2
LCMT	Little Creek M	145.21	2	ePKPbc	PKPdf	19 08 02.9	+0.5
DAC	Darwin (Calif)	145.58	8	ePKPdf	PKPdf	19 08 02.8	-0.3
SHPR	Sheep Range	145.62	4	ePKPdf	PKPdf	19 08 02.7	-0.4
LTX	Lajitas	151.74	344	ePKPbc	PKiKP	19 08 19.8	-0.1
TXAR	Lajitas Array	151.74	344	PKPbc	PKiKP	19 08 19.8	-0.1
	comp=Z,1.7nm,0.9s,baz=130,slow=1.3,SNR=9.5						

*ISCJB **09** 18:50:07.8±0.3, 39°.78N±0°.03×97°.96W±0°.03, h10km, Error ellipse: s-maj=4.1km s-min=3.3km az=18.2*

*NEIC **09** 18:50:08.3±0.3, 39°.74N×97°.95W, h5km, MN3.3, Error ellipse: s-maj=5.1km s-min=4.0km az=185.0*

*IDC **09** 18:50:09.6±1.3, 39°.80N×98°.17W, h0km, mb1 3.9/4, mb1mx3.5/45, mbtmp3.6/4, ML3.6/4, Error ellipse: s-maj=21.4km s-min=9.0km az=106.0*

*ANF **09** 18:50:10.4±1.0, 39°.72N×97°.94W, h14km±6km, ML4.3/13, Error ellipse: s-maj=2.6km s-min=2.4km az=22.0*

ISC 09 18:50:08.6±0.8, 39°.72N±0°.04×97°.97W±0°.05, h10km, n62, σ1s75/69, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSU1	Kansas State U	1.22	120	ePn	Pn	18 50 32.5	+0.7
KSU1	Kansas State U	1.22	120	P	Pn	18 50 32.8	+1.0
	baz=302						
KSU1				S	Sb	18 50 49.2	+1.5
	baz=302						
CBKS	Cedar Bluff	1.65	237	ePn	Pn	18 50 39.3	+1.7
CBKS	Cedar Bluff	1.65	237	P	Pn	18 50 39.4	+1.8
	baz=56						
CBKS				S	Sn	18 51 01.6	+2.7
	baz=56						
BGNE	Belgrade	1.69	355	ePn	Pn	18 50 39.5	+1.2
BGNE	Belgrade	1.69	355	P	Pn	18 50 39.6	+1.4
	baz=174						
BGNE				S	Sb	18 51 02.3	+1.1
	baz=174						
OGNE	Ogallala	3.34	293	ePn	Pn	18 51 01.9	+0.9
OGNE	Ogallala	3.34	293	P	Pn	18 51 02.0	+1.1
	baz=110						
OGNE				S	Sn	18 51 42.7	+2.0
	baz=110						
KSCO	Kaye Shedlock'	3.68	260	ePn	Pn	18 51 06.3	+0.6
ECSD	EROS Data Cent	4.13	14	ePn	Pn	18 51 13.6	+1.8
ECSD	EROS Data Cent	4.13	14	P	Pn	18 51 13.8	+2.0
	baz=194						
ECSD				S	Sn	18 52 01.7	+1.5
	baz=194						
TUL1	Leonard	4.18	155	ePn	Pn	18 51 13.8	+1.4
TUL1	Leonard	4.18	155	P	Pn	18 51 14.3	+1.9
	baz=337						
TUL1				S	Sn	18 52 03.7	+2.3
	baz=337						
SCIA	State Center	4.21	57	ePn	Pn	18 51 14.0	+1.1
HHAR	Hobbs	4.68	136	ePn	Pn	18 51 21.5	+2.1
SUSD	Miller	4.77	351	S	Sn	18 52 16.1	+0.1
	baz=171						
WMOK	Wichita Mounta	5.02	188	ePn	Pn	18 51 24.6	+0.6
WMOK	Wichita Mounta	5.02	188	P	Pn	18 51 25.9	+1.9
	baz=7.4						
U40A	Yellville	5.25	128	P	Pn	18 51 30.4	+3.1
	baz=312						
Q41A	Truxton	5.28	96	P	Pn	18 51 30.0	+2.5
	baz=281						
S41A	Jillco Farms,	5.32	112	P	Pn	18 51 31.3	+3.2
	baz=296						
R41A	Rosebud	5.33	103	P	Pn	18 51 30.5	+2.3
	baz=288						
P41A	Barry, Barry	5.33	88	P	Pn	18 51 30.9	+2.6
	baz=273						
CCM	Cathedral Cave	5.50	105	ePn	Pn	18 51 31.1	+0.5
N41A	Harden Midland	5.53	78	ePn	Pn	18 51 30.1	-0.9
W39A	Magazine	5.61	142	ePn	Pn	18 51 33.4	+1.2
W39A	Magazine	5.61	142	P	Pn	18 51 34.3	+2.1
	baz=325						
Q24A	Divide	5.62	265	ePn	Pn	18 51 32.2	-0.3
Q24A	Divide	5.62	265	P	Pn	18 51 32.3	-0.3
	baz=80						
L40A	Anamosa	5.62	63	ePn	Pn	18 51 32.5	+0.3
L40A	Anamosa	5.62	63	P	Pn	18 51 33.6	+1.3
	baz=248						
AMTX	Amarillo	5.67	213	ePn	Pn	18 51 33.9	+1.0
AMTX	Amarillo	5.67	213	P	Pn	18 51 35.0	+2.0
	baz=30						
T25A	Trinidad	5.68	245	P	Pn	18 51 33.6	+0.3
	baz=61						
P42A	Winchester	5.89	89	ePn	Pn	18 51 35.1	-0.7
ISCO	Idaho Springs	5.89	273	ePn	Pn	18 51 36.7	+0.4
ISCO	Idaho Springs	5.89	273	P	Pn	18 51 37.9	+1.6
	baz=88						
PHWY	Pilot Hill	5.92	288	ePn	Pn	18 51 36.2	-0.5
K40A	Colesburg	5.95	58	P	Pn	18 51 37.7	+0.9
	baz=242						
T42A	Van Buren	6.03	114	ePn	Pn	18 51 37.7	-0.2
N23A	Red Feather La	6.21	283	ePn	Pn	18 51 41.3	+0.8
N23A	Red Feather La	6.21	283	P	Pn	18 51 42.3	+1.7
	baz=98						
SDCO	Great Sand Dun	6.21	254	ePn	Pn	18 51 42.0	+1.4
MIAR	Mount Ida	6.25	144	ePn	Pn	18 51 40.8	-0.1
MIAR	Mount Ida	6.25	144	P	Pn	18 51 43.0	+2.2
	baz=327						
RSSD	Black Hills	6.31	316	P	Pn	18 51 43.2	+1.3
	baz=132						
WHAR	Wooly Hollow	6.32	133	ePn	Pn	18 51 40.9	-1.0
I39A	Houston	6.34	47	ePn	Pn	18 51 42.1	0.0
W41B	Gary Mavity, V	6.43	133	ePn	Pn	18 51 45.3	+1.9
W41B	Gary Mavity, V	6.43	133	P	Pn	18 51 45.5	+2.1
	baz=317						
K41A	Shullsburg	6.46	61	P	Pn	18 51 44.5	+0.7
	baz=246						
J40A	Soldiers Grove	6.54	54	P	Pn	18 51 45.2	+0.3
	baz=238						
HDIL	Hopedale	6.70	80	ePn	Pn	18 51 46.1	-0.9
SIUC	Southern Illin	7.13	104	ePn	Pn	18 51 52.9	-0.1
ANMO	Albuquerque	8.27	237	Pn	Pn	18 52 10.2	+1.3
	0.2nm,0.3s,baz=51,slow=13,SNR=2.3						
ANMO				Pg	Pb	18 52 40.7	+8.6
	2.1nm,0.3s,baz=58,slow=13,SNR=29						
ANMO				Lg	Lg	18 54 24.6	
	1.5nm,0.3s,baz=318,slow=17,SNR=4.5						
AGMN	Agassiz Nation	8.70	9	ePn	Pn	18 52 13.5	-1.0
PD31	Pinedale Array	9.24	293	ePn	Pn	18 52 22.9	+0.7
PDAR	Pinedale Array	9.24	293	Pn	Pn	18 52 22.9	+0.7
	0.3nm,0.3s,baz=128,slow=16,SNR=8.4						
PDAR				Lg	Lg	18 54 53.5	
	0.3nm,0.3s,baz=110,slow=35,SNR=4.2						
ULM	Lac du Bonnet	10.63	7	Pn	Pn	18 52 39.0	-1.9
	1.3nm,0.3s,baz=184,slow=14,SNR=11						
ULM				Sn	Sn	18 54 31.2	-8.7
	1.2nm,0.3s,baz=243,slow=22,SNR=4.8						
ULM				Lg	Lg	18 55 37.4	
	0.8nm,0.3s,baz=276,slow=19,SNR=6.3						
LTX	Lajitas	11.38	206	ePn	Pn	18 52 50.0	-1.3
LTX				eSn	Sn	18 54 53.3	-5.2
TXAR	Lajitas Array	11.38	206	Pn	Pn	18 52 50.0	-1.3
	0.5nm,0.3s,baz=34,slow=10,SNR=25						
TXAR				Sn	Sn	18 54 53.3	-5.2
	0.3nm,0.3s,baz=23,slow=14,SNR=4.2						
TXAR				Lg	Lg	18 56 05.8	
	0.4nm,0.3s,baz=24,slow=28,SNR=7.0						
TKL	Tuckaleechee C	11.95	105	Lg	Lg	18 56 22.5	
	0.8nm,0.3s,baz=168,slow=9.5,SNR=6.3						

UCR 09 19:08:59.1±2.5, 9°.42N×82°.57W, h26km±8km, MD3.4, ML3.7, 1C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	Volcan	0.63	191⇑	eP	Pb	19 09 11.2	-0.5
	baz=2.4,slow=9.3						
BRU2				i S	Sb	19 09 20.3	0.0
EDPN	Palmar Norte	0.99	243	eS	Sn	19 09 31.5	+1.1
PTJ1	Puerto Jimnez	1.14	220	eP	Pb	19 09 19.8	-0.4
PTJ1				i S	Sb	19 09 34.8	+0.2
URSC	Urasca	1.26	289	eP	Pn	19 09 20.4	-0.8
EDDO	Dominical	1.29	263	eS	Sb	19 09 38.8	-0.1
CVTR	Volcan Turrial	1.32	297	eP	Pn	19 09 21.9	-0.3
CVTR				eS	Sn	19 09 38.9	-0.2
LCR2	La Lucha 2	1.45	283	eP	Pn	19 09 23.9	+0.1
LCR2				eS	Sn	19 09 42.4	+0.2
HDC	Heredia	1.63	291	eP	Pn	19 09 27.3	+1.1
HDC				i S	Sb	19 09 47.8	-1.0
JTS	JuntasAbangare	2.50	290	eP	Pn	19 09 40.1	+1.9
JTS				i S	Sb	19 10 10.9	-2.9
ZANG	Zanguenga, Cho	2.71	100	eP	Pn	19 09 41.2	+0.3
ZANG				i S	Sn	19 10 12.3	-0.6
BCIP	Isla Barro Col	2.71	95⇓	iP	Pn	19 09 41.2	+0.3
BCIP				AMP		19 09 41.8	
	comp=Z,442nm,0.2s						
BCIP				i S	Sn	19 10 12.9	+0.1
AZU	Azuero	2.79	125	eP	Pn	19 09 43.6	+1.6
AZU				eS	Sn	19 10 15.6	+0.8
FRIJ	El Hiral	2.81	94	eP	Pn	19 09 42.9	+0.5
UPD2	Meteti	4.58	101	eP	Pn	19 10 08.0	+1.3

MEX 09 19:14:15.9±0.4, 16°.95N×100°.19W, h8km±4km, MD3.8, Near coast of Guerrero

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.13	322	*i* P	Pg	19 14 18.3	-0.5
CAIG				*i* S	Sg	19 14 20.4	-0.3
ACP2	Acapulco	0.30	104	*i* P	Pg	19 14 21.5	-0.3
ACP2				*i* S	Sg	19 14 25.9	+0.1
MEIG	Mezcala	1.11	29	*e*P	Pg	19 14 33.5	-3.8
MEIG				*e*S	Sg	19 14 48.6	-3.2
ARIG	Puente Sto Nin	1.33	353	*e*P	Pn	19 14 37.3	-3.5
ARIG				*e*S	Sb	19 14 53.8	-4.7
PLIG	Platanillo	1.58	24	*e*P	Pn	19 14 40.5	-3.7
PLIG				*i* S	Sn	19 14 59.4	-5.5

*JMA **09** 19:14:20.9±0.1, 35°.22N×141°.26E, h39km±2km, M2.8*
*ISCJB **09** 19:14:21.7±1.1, 35°.19N±0°.06×141°.22E±0°.09, h35km, mb3.6/2, Error ellipse: s-maj=11.4km s-min=8.4km az=161.4*
*IDC **09** 19:14:22.7±5.2, 34°.77N×140°.61E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.3/49, mbtmp3.5/2, ML2.7/1, Error ellipse: s-maj=169.1km s-min=31.3km az=61.0*
ISC 09 19:14:23.2±1.5**, 35°.17N**±0°.06×**141°.2E**±0°.1**, h35km, n11, σ2s22**/15**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.55	201	P	Pn	19 14 33.0	-1.1
CHOJ	Chosi	0.61	331	P	Pn	19 14 32.7	-2.6
CHOJ				*e*S	Sn	19 14 41.4	-2.5
BSO3	Boso 3	0.69	238	P	Pn	19 14 35.0	-1.2
BSO3				*e*X		19 14 45.7	
KTR	Katsuura	0.74	268	P	Pn	19 14 35.6	-1.5
KTR				*e*S	Sn	19 14 45.7	-1.5
BSO4	Boso 4	0.75	256	P	Pn	19 14 36.0	-1.1
JKUC	kamogawauchiur	0.84	269	P	Pn	19 14 36.9	-1.6
JKUC				*e*S	Sn	19 14 48.4	-1.2
JIM2	Oshima 3	1.54	253	P	Pn	19 14 45.9	-2.2
MJAR	Matsushiro Arr	2.80	300	Pn	Pn	19 15 05.8	+0.3
	1.6nm,0.3s,baz=132,slow=9.4,SNR=15						
MAT	Matsushiro	2.81	300	P	Pn	19 15 07.3	+1.8
MAT				S	Sn	19 15 42.3	+4.1
WRA	Warramunga Arr	55.20	188	P	P	19 23 52.3	-0.2
	0.6nm,0.5s,baz=5.5,slow=7.7,SNR=6.3						
ASAR	Alice Springs	58.93	188	P	P	19 24 21.8	+2.9
	0.4nm,1.0s,baz=23,slow=12,SNR=3.0						

*ISCJB **09** 19:16:14.5±0.5, 1°.87S±0°.09×68°.03E±0°.07, h15km, mb4.3/20, MS3.8/26, Error ellipse: s-maj=14.0km s-min=9.7km az=155.8*
*GCMT **09** 19:16:14.5±0.4, 2°.18S±0°.04×68°.10E±0°.03, h14km±1km, MW4.8/64, Moment Tensor Solution. s26,c38; s64,c82; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.83±.15; Mθθ0.70±.10; Mφφ1.13±.12; Mrθ-0.53±.25; Mθφ-0.39±.07; Mφr-1.52±.31; Best double couple: Mo2.19500×10^16 NP1:φs2.00000°, δ68.00000°, λ-75.00000°. NP2: φs148.00000°, δ26.00000°, λ-121.00000°. Principal axes: T 1.7940, Plg21.0000°, Azm81.0000°; N 0.8030, Plg13.0000°, Azm176.0000°; P -2.5950, Plg64.0000°, Azm296.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **09** 19:16:14.1±0.7, 1°.88S×68°.01E, h0km, mb4.0/11, mb1 4.1/12, mb1mx3.8/59, mbtmp4.0/12, ML4.1/1, MS3.8/27, Ms1 3.8/27, ms1mx3.6/51 Error ellipse: s-maj=24.2km s-min=16.6km az=160.0*
*NEIC **09** 19:16:15.5±0.4, 1°.89S×68°.02E, h10km, mb4.6/10, Error ellipse: s-maj=10.8km s-min=7.4km az=153.0*
ISC 09 19:16:16.3±0.7**, 1°.9S**±0°.1×**68°.0E**±0°.1**, h15km, n57, σ0s81**/37**, mb4.3**/20**, MS3.7**/26**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.27	146	T	T	19 22 58.6	
	baz=324,slow=75,SNR=51						
H08N3	Diego Garcia H	5.29	146	T	T	19 22 57.3	
	baz=324,slow=75,SNR=51						
H08N1	Diego Carcia H	5.30	146	T	T	19 22 58.2	
	baz=324,slow=75,SNR=48						
PALK	Pallekele	15.60	54	Pn	Pn	19 19 56.2	+0.3
	0.8nm,0.3s,baz=294,slow=12,SNR=5.7						
PALK				LR	LR	19 24 39.0	
	comp=Z,559nm,20.5s,baz=295,slow=32						
OPO	Ambohidratompo	26.29	230	LR	LR	19 29 41.9	
	comp=Z,503nm,20.8s,baz=20,slow=31						
WSAR	Wadi Sarin	26.64	340	LR	LR	19 30 50.2	
	comp=Z,100nm,18.4s,baz=170,slow=33						
ATD	Arta Tunnel	28.39	299	LR	LR	19 31 03.1	
	comp=Z,110nm,21.7s,baz=72,slow=31						
KMBO	Kilima Mbogo	30.79	271	P	P	19 22 33.0	+1.0
	0.7nm,0.4s,baz=56,slow=16,SNR=2.7						
KMBO				LR	LR	19 32 24.8	
	comp=Z,152nm,21.0s,baz=93,slow=32						
PSI	Prapat	31.23	81	LR	LR	19 32 57.7	
	comp=Z,269nm,21.9s,baz=261,slow=32						
BRDH	Bariadhala	33.59	42	LR	LR	19 38 18.6	
	comp=Z,343nm,18.6s,baz=226,slow=40						
CM01	Chiang Mai Arr	36.53	55	*e*P	P	19 23 20.2	-1.4
CM31	Chiang Mai Arr	36.54	55	*e*P	P	19 23 20.6	-1.1
CMAR	Chiang Mai Arr	36.54	55	P	P	19 23 23.1	+1.4
	0.9nm,0.9s,baz=249,slow=9.4,SNR=7.6						
CMAR				LR	LR	19 36 30.5	
	comp=Z,109nm,21.9s,baz=239,slow=33						
LSA	Lhasa	38.44	33	*e*P	P	19 23 39.1	+0.9
	3.6nm,0.9s						
LEM	Lembang	39.75	98	LR	LR	19 37 08.2	
	comp=Z,200nm,20.2s,baz=222,slow=32						
GEYT	Alibeck	40.71	348	LR	LR	19 41 28.6	
	comp=Z,49nm,18.2s,baz=5.0,slow=37						
GAR	Garm	40.78	3	*e*P	P	19 23 57.8	+0.6
	10nm,1.0s						
LSZ	Lusaka	41.47	249	P	P	19 24 02.6	-0.6
	1.4nm,0.2s,baz=81,slow=9.1,SNR=5.7						
LSZ				LR	LR	19 39 20.0	
	comp=Z,258nm,18.8s,baz=92,slow=33						
LSZ	Lusaka	41.47	249	*e*P	P	19 24 02.6	-0.6
	28nm,2.0s						
MATP	Matopo	42.74	242	LR	LR	19 39 01.7	
	comp=Z,70nm,20.3s,baz=38,slow=32						
NRN	Naryn	43.76	9	*e*P	P	19 24 20.0	-1.6
	4.4nm,1.2s						
BOSA	Boshof	48.64	233	P	P	19 25 00.3	+0.3
	2.7nm,0.9s,baz=35,slow=8.9,SNR=3.6						
BOSA				LR	LR	19 42 20.1	
	comp=Z,105nm,19.1s,baz=46,slow=32						
MAKZ	Makanchi	50.06	12	*e*P	P	19 25 10.5	0.0
	6.2nm,1.3s						
MK01	Makanchi Array	50.09	13	*e*P	P	19 25 10.5	-0.2
MK32	Makanchi Array	50.11	13	*e*P	P	19 25 09.2	-1.6
MKAR	Makanchi Array	50.11	13	P	P	19 25 09.2	-1.6
	1.7nm,0.8s,baz=188,slow=7.4,SNR=6.7						
ENH	Enshi	50.85	48	*e*P	P	19 25 16.7	-0.1
	56nm,1.8s						
ABKAR	Akbulak array	51.46	353	*e*P	P	19 25 20.4	-0.5
BR101	Keskin Array S	52.07	326	*e*P	P	19 25 25.9	+0.1
BRTR	Keskin Array B	52.07	326	P	P	19 25 25.9	+0.1
	2.3nm,1.1s,baz=212,slow=4.4,SNR=3.8						
KURK	Kurchatov	53.22	8	*e*P	P	19 25 34.2	+0.2
	6.5nm,0.9s						
ZAA0	Zalesovo Array	57.41	12	*e*P	P	19 26 03.8	-0.3
	6.2nm,0.9s						
ZALV	Zalesovo Beam	57.41	12	P	P	19 26 03.4	-0.7
	4.4nm,0.8s,baz=215,slow=7.2,SNR=18						
ZALV				LR	LR	19 49 22.1	
	comp=Z,51nm,19.4s,baz=248,slow=35						
ZALV	Zalesovo Beam	57.41	12	*e*P	P	19 26 03.2	-0.9
ZAA1	Zalesovo Array	57.41	12	*e*P	P	19 26 03.4	-0.8
SONA0	Songino Array	59.78	29	*e*P	P	19 26 21.5	+0.6
SONM	Songino Array	59.78	29	P	P	19 26 21.5	+0.6
	2.7nm,0.9s,baz=222,slow=7.3,SNR=24						
SONM				LR	LR	19 52 25.5	
	comp=Z,218nm,18.4s,baz=227,slow=36						
SONA1	Songino Array	59.79	29	*e*P	P	19 26 21.9	+0.8
WR1	Warramunga Arr	67.09	111	*e*P	P	19 27 10.0	+0.2
	58nm,2.0s						
WRA	Warramunga Arr	67.09	111	P	P	19 27 10.0	+0.2
	1.1nm,0.7s,baz=281,slow=6.1,SNR=7.5						
WRA				LR	LR	19 52 56.4	
	comp=Z,46nm,21.9s,baz=225,slow=33						
ASAR	Alice Springs	67.17	115	P	P	19 27 10.8	+0.5
	1.2nm,1.0s,baz=288,slow=5.6,SNR=6.1						
ASAR				LR	LR	19 51 43.2	
	comp=Z,46nm,21.7s,baz=272,slow=32						
TORD	Torodi Ar. Bea	67.47	285	P	P	19 27 12.1	-0.2
	0.7nm,1.0s,baz=97,slow=6.1,SNR=2.9						
TORD				LR	LR	19 56 45.2	
	comp=Z,70nm,18.4s,baz=35,slow=36						
TOA1	Torodi Ar. Sit	67.48	285	*e*P	P	19 27 12.1	-0.2
KSRS	Korea Array	67.74	48	LR	LR	19 58 19.6	
	comp=Z,67nm,19.2s,baz=256,slow=37						
CLL	Collm	70.52	327	*e*P	P	19 27 31.0	+0.5
USRK	Ussuriysk Ar.	72.99	43	LR	LR	20 03 28.7	
	comp=Z,21nm,19.3s,baz=230,slow=39						
DBIC	Dimbokro	73.25	278	LR	LR	20 00 13.9	
	comp=Z,50nm,18.1s,baz=85,slow=36						
STKA	Stephens Creek	75.03	122	LR	LR	20 00 50.9	
	comp=Z,24nm,18.1s,baz=215,slow=36						
MJAR	Matsushiro Arr	75.33	52	LR	LR	20 01 40.1	
	comp=Z,50nm,20.1s,baz=255,slow=36						
MDT	Midelt	76.52	304	LR	LR	20 01 05.9	
	comp=Z,46nm,18.5s,baz=138,slow=35						
GUMO	Guam	77.67	76	LR	LR	20 02 37.9	
	comp=Z,22nm,19.8s,baz=52,slow=36						
PMG	Port Moresby	78.96	99	LR	LR	20 03 27.7	
	comp=Z,110nm,20.2s,baz=224,slow=36						
TIXI	Tiksi	82.96	16	*e*P	P	19 28 39.9	-0.4
	8.0nm,1.1s						
PETK	Petropavlovsk-	91.32	37	LR	LR	20 15 55.4	
	comp=Z,20nm,18.9s,baz=247,slow=39						
PDAR	Pinedale Array	139.28	357	PKP	PKPdf	19 35 42.7	-0.8
	0.2nm,0.6s,baz=15,slow=3.7,SNR=3.0						
LTX	Lajitas	151.62	345	*e*PKPbc	PKPbc	19 36 10.3	-0.6
TXAR	Lajitas Array	151.62	345	PKPbc	PKPbc	19 36 10.3	-0.6
	1.4nm,0.9s,baz=48,slow=1.9,SNR=7.8						

IDC 09 19:26:57.8±3.4**, 1°.88S**×**67°.70E, h0km, mb3.5**/6**, mb1 3.6**/6**, mb1mx3.4**/63**, mbtmp3.5**/6**, Error ellipse: s-maj=92.7km s-min=28.1km az=69.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	36.79	55	P	P	19 34 07.1	-0.5
	0.1nm,0.3s,baz=228,slow=9.5,SNR=2.7						
MKAR	Makanchi Array	50.14	13	P	P	19 35 54.0	-0.9
	0.5nm,0.8s,baz=193,slow=8.4,SNR=5.9						
ZALV	Zalesovo Beam	57.43	12	P	P	19 36 48.0	-0.2
	0.9nm,0.5s,baz=186,slow=9.7,SNR=6.7						
SONM	Songino Array	59.90	29	P	P	19 37 06.7	+1.0
	0.8nm,0.8s,baz=221,slow=5.8,SNR=7.8						
WRA	Warramunga Arr	67.42	111	P	P	19 37 56.5	+0.7
	0.4nm,0.8s,baz=288,slow=6.0,SNR=3.3						
ASAR	Alice Springs	67.49	115	P	P	19 37 55.6	-0.7
	0.3nm,0.8s,baz=283,slow=5.6,SNR=3.5						

*ISCJB **09** 19:27:19.0±0.8, 2°.0S±0°.1×67°.9E±0°.1, h15km, mb4.0/11, MS3.3/1, Error ellipse: s-maj=20.4km s-min=16.7km az=168.4*
*IDC **09** 19:27:18.4±0.9, 2°.06S×67°.84E, h0km, mb4.0/11, mb1 4.2/12, mb1mx3.8/64, mbtmp4.1/12, ML4.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/40, Error ellipse: s-maj=23.0km s-min=21.5km az=24.0*
ISC 09 19:27:20.7±0.9**, 2°.1S**±0°.2×**67°.9E**±0°.1**, h15km, n15, σ0s73**/15**, mb4.1**/11**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALK	Pallekele	15.80	54	Pn	Pn	19 31 01.3	-1.7
	0.8nm,0.3s,baz=296,slow=7.5,SNR=5.8						
CMAR	Chiang Mai Arr	36.74	55	P	P	19 34 28.1	+0.3
	0.9nm,0.8s,baz=244,slow=10,SNR=7.5						
LSZ	Lusaka	41.27	249	P	P	19 35 05.2	-0.7
	2.1nm,0.3s,baz=149,slow=18,SNR=5.6						
AAK	Ala-Archa	44.88	7	P	P	19 35 35.1	+0.3
	1.3nm,0.9s,baz=195,slow=6.2,SNR=4.4						
AAK				LR	LR	19 53 16.9	
	comp=Z,36nm,18.7s,baz=132,slow=35						
MKAR	Makanchi Array	50.27	13	P	P	19 36 16.1	-0.4
	1.8nm,0.8s,baz=194,slow=7.1,SNR=14						
KBZ	Khabaz	50.78	337	P	P	19 36 21.1	+0.8
	1.4nm,0.6s,baz=261,slow=18,SNR=10						
BRTR	Keskin Array B	52.08	327	P	P	19 36 30.4	0.0
	1.2nm,0.9s,baz=130,slow=13,SNR=3.7						
ZALV	Zalesovo Beam	57.56	12	P	P	19 37 09.2	-0.4
	4.1nm,0.7s,baz=207,slow=7.6,SNR=14						
SONM	Songino Array	59.97	29	P	P	19 37 27.7	+1.0
	2.4nm,0.8s,baz=223,slow=7.2,SNR=15						
WRA	Warramunga Arr	67.21	111	P	P	19 38 15.0	0.0
	1.5nm,0.8s,baz=285,slow=6.1,SNR=8.1						
ASAR	Alice Springs	67.27	115	P	P	19 38 16.2	+0.9
	1.0nm,0.9s,baz=282,slow=5.8,SNR=7.0						
KLR	Kul'dur	74.83	38	P	P	19 39 00.5	-0.2
	1.4nm,0.7s,baz=263,slow=6.4,SNR=4.6						
YKA	Yellowknife Ar	119.67	1	PKP	PKPdf	19 46 09.7	-0.2
	0.1nm,0.4s,baz=340,slow=2.6,SNR=4.0						
PDAR	Pinedale Array	139.40	357	PKP	PKPdf	19 46 48.5	+0.3
	0.4nm,0.8s,baz=79,slow=2.3,SNR=3.8						
TXAR	Lajitas Array	151.70	344	PKPbc	PKPbc	19 47 15.3	-0.2
	1.3nm,0.9s,baz=112,slow=1.3,SNR=6.2						

*IDC **09** 19:36:20.7±1.1, 31°.59N×135°.01E, h0km, mb3.4/4, mb1 3.6/7, mb1mx3.4/50, mbtmp3.5/7, ML2.7/3, Error ellipse: s-maj=30.9km s-min=20.4km az=79.0*
*ISCJB **09** 19:36:41.6±0.6, 33°.34N±0°.08×138°.26E±0°.09, h350km, mb2.6/4, Error ellipse: s-maj=11.3km s-min=10.0km az=145.2*
*JMA **09** 19:36:41.5±0.5, 33°.03N×138°.30E, h325km, M3.2*
ISC 09 19:36:43.5±0.9**, 33°.29N**±0°.09×**138°.27E**±0°.08**, h350km, n18, σ2s40**/21**, mb2.8**/4**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	1.28	97	Pn	Pn	19 37 28.6	-1.9
	1.9nm,0.3s,baz=258,slow=14,SNR=2.9						
JHJ				Sn	S	19 38 08.2	+0.1
	5.3nm,0.3s,baz=35,slow=19,SNR=2.8						
JIE	Ise	1.70	311	P	Pn	19 37 29.9	-2.9
JYN	Shimob	2.21	6	P	Pn	19 37 35.5	-0.8
JTNC	Tanabenakahech	2.28	284	P	Pn	19 37 34.0	-2.9
JWY	Kouya	2.42	293	P	Pn	19 37 35.1	-2.9
JYTA	Yamagatataniai	2.62	331	P	Pn	19 37 37.6	-1.9
BSO1	Boso 1	2.63	58	P	Pn	19 37 36.8	-2.1
BSO1				*e*S	S	19 38 20.6	-3.0
JRY	Ryogami san	2.77	11	P	Pn	19 37 40.3	-0.5
JWT	Wachi	3.10	311	P	Pn	19 37 41.5	-2.2
JAI	Aioi	3.23	280	P	Pn	19 37 41.6	-3.3
MJAR	Matsushiro Arr	3.24	359	Pn	Pn	19 37 43.8	-1.2
	0.8nm,0.3s,baz=194,slow=12,SNR=7.4						
MAT	Matsushiro	3.24	359	P	Pn	19 37 44.0	-1.0
JAG	Ashikaga	3.27	17	P	Pn	19 37 43.8	-1.5
JAG				*e*S	S	19 38 30.3	-4.7
USRK	Ussuriysk Ar.	11.94	338	Pn	Pn	19 39 25.6	+1.2
	0.1nm,0.3s,baz=153,slow=16,SNR=2.5						
SONM	Songino Array	28.00	311	P	P	19 42 06.8	+3.3
	0.3nm,0.6s,baz=123,slow=10,SNR=3.5						
MKAR	Makanchi Array	44.04	305	P	P	19 44 18.6	+0.9
	0.1nm,0.6s,baz=82,slow=8.4,SNR=4.1						
WRA	Warramunga Arr	53.07	185	P	P	19 45 26.7	+0.7
	0.2nm,0.3s,baz=0.3,slow=7.7,SNR=20						
ASAR	Alice Springs	56.79	185	P	P	19 45 52.9	+0.5
	0.2nm,0.5s,baz=7.9,slow=7.4,SNR=6.5						

IDC 09 19:46:05.9±3.1**, 1°.83S**×**67°.44E, h0km, mb3.6**/5**, mb1 3.6**/5**, mb1mx3.3**/41**, mbtmp3.6**/5**, MS3.4**/8**, Ms1 3.4**/8**, ms1mx3.1**/38**, Error ellipse: s-maj=77.1km s-min=55.8km az=168.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	30.19	271	LR	LR	20 02 26.8	
	comp=Z,74nm,20.5s,baz=90,slow=32						
BRDH	Bariadhala	33.91	43	LR	LR	20 08 11.7	
	comp=Z,86nm,18.4s,baz=247,slow=39						
CMAR	Chiang Mai Arr	36.97	56	P	P	19 53 17.2	-0.1
	0.3nm,0.8s,baz=239,slow=10,SNR=3.1						
CMAR				LR	LR	20 06 45.2	
	comp=Z,42nm,21.6s,baz=250,slow=34						
GEYT	Alibeck	40.49	349	LR	LR	20 09 16.0	
	comp=Z,68nm,18.7s,baz=0.0,slow=34						
BOSA	Boshof	48.22	232	LR	LR	20 12 04.6	
	comp=Z,55nm,19.1s,baz=108,slow=32						
MKAR	Makanchi Array	50.15	13	P	P	19 55 02.9	-0.3
	0.4nm,0.8s,baz=205,slow=6.4,SNR=4.1						
MKAR				LR	LR	20 17 14.3	
	comp=Z,22nm,18.3s,baz=232,slow=37						
KURBB	Kurchatov Arra	53.11	9	P	P	19 55 25.2	+0.1
	0.3nm,0.3s,baz=201,slow=7.0,SNR=2.0						
ZALV	Zalesovo Beam	57.44	12	P	P	19 55 56.0	-0.4
	0.8nm,0.6s,baz=217,slow=7.1,SNR=4.4						
SONM	Songino Array	59.98	29	P	P	19 56 14.6	+0.2
	0.3nm,0.7s,baz=225,slow=4.7,SNR=4.8						
KSRS	Korea Array	68.12	48	LR	LR	20 27 52.9	
	comp=Z,14nm,19.7s,baz=200,slow=37						
DBIC	Dimbokro	72.65	278	LR	LR	20 28 29.9	
	comp=Z,41nm,18.9s,baz=72,slow=35						
TXAR	Lajitas Array	151.37	344	PKPbc	PKPbc	20 06 02.3	-0.2
	0.5nm,1.0s,baz=351,slow=4.8,SNR=3.4						

*ISCJB **09** 19:47:35.0±0.9, 4°.09S±0°.06×142°.2E±0°.1, h115km, mb3.7/7, Error ellipse: s-maj=17.1km s-min=8.3km az=172.6*
*IDC **09** 19:47:35.1±0.9, 4°.04S×142°.30E, h103km±7km, mb3.5/7, mb1 3.7/9, mb1mx3.4/32, mbtmp3.9/9, Error ellipse: s-maj=19.3km s-min=11.3km az=62.0*
ISC 09 19:47:35.7±0.9**, 4°.12S**±0°.08×**142°.2E**±0°.1**, h115km, n11, σ1s99**/17**, mb3.7**/7**, New Guinea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAY	Jayapura	2.17	317	P	Pn	19 48 10.5	-0.6
	4.6nm,0.3s,baz=154,slow=11,SNR=32						
JAY				S	Sn	19 48 37.7	-0.5
	19nm,0.3s,baz=252,slow=20,SNR=12						
WRA	Warramunga Arr	17.48	205	P	P	19 51 32.8	+0.8
	1.0nm,0.3s,baz=24,slow=12,SNR=44						
WRA				S	Sn	19 54 42.8	-4.8
	0.1nm,0.3s,baz=22,slow=22,SNR=3.5						
BATI	Baumata	19.33	251	P	Pn	19 51 55.8	+1.3
	7.0nm,0.3s,baz=23,slow=6.7,SNR=6.2						
ASAR	Alice Springs	21.01	202	P	P	19 52 10.3	+0.1
	0.9nm,0.6s,baz=30,slow=10.0,SNR=15						
ASAR				pP	pP	19 52 32.8	+1.0
	2.3nm,0.6s,baz=28,slow=9.8,SNR=6.0						
FITZ	Fitzroy Crossi	21.33	228	P	P	19 52 14.9	+1.3
	5.0nm,0.6s,baz=35,slow=11,SNR=14						
MKAR	Makanchi Array	73.02	322	P	P	19 58 53.7	+0.6
	0.2nm,0.6s,baz=91,slow=8.7,SNR=4.0						
MKAR				pP	pP	19 59 20.1	-1.8
	1.1nm,0.9s,baz=103,slow=6.9,SNR=5.7						
VNDA	Vanda	74.10	176	P	P	19 59 00.2	+1.3
	0.9nm,0.9s,baz=342,slow=7.6,SNR=5.5						
BVAR	Borovoye Array	82.44	325	P	P	19 59 46.3	+1.1
	0.6nm,0.5s,baz=103,slow=6.7,SNR=6.4						
BVAR				pP	pP	20 00 14.0	-0.7
	0.8nm,0.6s,baz=95,slow=9.1,SNR=4.3						
ILAR	Eielson Array	85.69	24	P	P	20 00 00.8	-0.6
	0.6nm,0.7s,baz=260,slow=4.3,SNR=9.0						
ILAR				pP	pP	20 00 27.7	-3.4
	0.4nm,0.6s,baz=267,slow=4.5,SNR=2.7						
AKTO	Aktyubinsk	89.42	320	P	P	20 00 22.3	+2.7
	1.6nm,0.5s,baz=115,slow=2.7,SNR=3.6						
LPAZ	La Paz	143.82	125	PKP	PKPdf	20 06 59.3	+0.1
	2.4nm,0.7s,baz=312,slow=3.3,SNR=7.9						

*ISK **09** 19:58:27.9, 38°.69N×43°.28E, h19km, ML2.1/5*
*ISCJB **09** 19:58:28.7±1.3, 38°.68N±0°.05×43°.3E±0°.1, h25km±14km, Error ellipse: s-maj=15.5km s-min=6.9km az=22.4*
*DDA **09** 19:58:28.9, 38°.69N×43°.24E, h7km±4km, ML2.6*
ISC 09 19:58:28.6±1.2**, 38°.72N**±0°.04×**43°.26E**±0°.05**, h19km**±3km**, n10, σ0s72**/13**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VANB	Van	0.16	141	PG	Pg	19 58 33.2	+0.1
VANB				SG	Sg	19 58 37.1	+0.9
TVAN	Van	0.22	149	*i* P	Pg	19 58 34.0	-0.1
ERCV	ERCIS-VAN	0.31	11	PG	Pg	19 58 35.2	-0.2
ERCV				SG	Sb	19 58 41.1	+0.8
VMUR	Van-Muradiye	0.36	42	*i* P	Pb	19 58 36.7	0.0
VMUR				*i* S	Sn	19 58 44.3	-1.5
ADCV	BITLIS_Adilcev	0.43	282	IAML_P			
	comp=Z,712nm,0.1s						
ADCV				*i* P	Pb	19 58 38.2	+0.4
GEVA	Gevas	0.44	202	*i* P	Pb	19 58 37.9	+0.1
AKDM	Akdamar-Van	0.45	210	PG	Pg	19 58 37.1	-0.7
CLDR	Caldiran	0.66	50	PG	Pg	19 58 41.6	-0.2
TUTA	Tutak	0.77	333	*i* P	Pn	19 58 44.7	0.0
GURO	Guroymak-BITLI	0.98	261	PG	Pb	19 58 47.2	+0.2

IDC 09 20:05:29.9±1.8**, 3°.55S**×**131°.16E, h0km, mb3.5**/2**, mb1 3.7**/5**, mb1mx3.5**/38**, mbtmp3.5**/5**, ML3.3**/3**, Error ellipse: s-maj=91.2km s-min=22.9km az=84.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	Sorong	2.67	2	Pn	Pn	20 06 13.8	-0.4
	4.0nm,0.3s,baz=212,slow=24,SNR=47						
SIJI				Sn	Sn	20 06 42.1	-5.2
	6.5nm,0.3s,baz=157,slow=22,SNR=5.4						
FITZ	Fitzroy Crossi	15.44	200	Pn	Pn	20 09 07.2	-1.9
	0.3nm,0.3s,baz=32,slow=9.1,SNR=17						
WRA	Warramunga Arr	16.58	169	Pn	Pn	20 09 22.5	-1.5
	0.1nm,0.3s,baz=352,slow=13,SNR=8.1						
ASAR	Alice Springs	20.17	173	P	Pn	20 10 07.3	-0.7
	1.6nm,0.6s,baz=355,slow=11,SNR=33						
MKAR	Makanchi Array	66.02	326	P	P	20 16 18.7	+0.2
	0.4nm,0.8s,baz=123,slow=6.1,SNR=4.2						

IDC 09 20:06:45.4±14.0**, 18°.57S**×**177°.86W, h584km**±176km**, mb3.0**/6**, mb1 3.2**/6**, mb1mx2.9**/35**, mbtmp3.9**/6**, Error ellipse: s-maj=113.9km s-min=54.5km az=153.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.86	261	P	P	20 12 40.9	0.0
	1.2nm,0.4s,baz=114,slow=2.8,SNR=3.7						
WRA	Warramunga Arr	45.03	260	P	P	20 14 09.9	-0.4
	0.9nm,0.6s,baz=96,slow=8.5,SNR=10						
ASAR	Alice Springs	45.12	255	P	P	20 14 10.9	-0.1
	1.4nm,0.5s,baz=88,slow=8.2,SNR=17						
FITZ	Fitzroy Crossi	53.43	261	P	P	20 15 12.2	+0.1
	4.5nm,1.1s,baz=108,slow=6.4,SNR=4.5						
TXAR	Lajitas Array	85.91	57	P	P	20 18 24.9	0.0
	0.4nm,0.7s,baz=213,slow=6.5,SNR=4.5						
ILAR	Eielson Array	86.41	13	P	P	20 18 25.9	-0.3
	0.1nm,0.4s,baz=216,slow=5.2,SNR=4.9						

*SOME **09** 20:13:18.9, 39°.57N×71°.72E, h0km*
*NNC **09** 20:13:22.4±5.1, 39°.43N×71°.90E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=42.2km s-min=23.4km az=15.0*
*KRNET **09** 20:13:25.0±0.1, 39°.44N×71°.98E, mb2.8*
ISC 09 20:13:23.6±2.7**, 39°.0N**±0°.2×**71°.83E**±0°.06**, h33km, n23, σ1s72**/34**, 24C-5D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BTK	Batken	1.31	324	⇑*i*P	Pn	20 13 45.6	-0.1
	baz=5.0						
BTK				⇑*i*S	Sn	20 14 00.9	-1.2
	baz=5.0						
SFK	Sufi-Kurgan	1.64	52	⇓Pn	Pn	20 13 43.3	-7.1
	8.0nm,0.3s						
SFK				⇓Sn	Sn	20 14 08.6	-1.8
	45nm,0.3s						
SFK	Sufi-Kurgan	1.64	52	Pg	Pn	20 13 52.5	+2.1
	9.5nm,0.2s						
SFK				Lg	Lg	20 14 09.1	
	38nm,0.2s						
SFK	Sufi-Kurgan	1.64	52	⇑*i*P	Pn	20 13 50.1	-0.3
	baz=63						
SFK				⇑*i*S	Sn	20 14 07.9	-2.5
	baz=63						
ARSB	Arslanbob	2.48	21	⇑*i*P	Pn	20 14 02.2	+0.4
	baz=22						
ARSB				⇑*i*S	Sn	20 14 29.7	-1.3
	baz=22						
ARK	Arkit	2.79	2	⇑*i*P	Pn	20 14 06.6	+0.5
	baz=0.0						
ARK				⇑*i*S	Sn	20 14 37.3	-1.4
	baz=0.0						
IUG	Iuzhnay	3.42	337	Pg	Pb	20 14 23.2	-0.5
	17nm,0.5s						
IUG				Lg	Lg	20 15 01.8	
	53nm,0.6s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**3.43**	**33**	⇑iP	**Pn**	**20 14 15.8**	**+0.9**
	baz=36						
ARLS				⇑iS	**Sn**	**20 14 53.3**	**-1.1**
	baz=36						
AML	**Almayashu**	**3.43**	**24**	⇑iP	**Pn**	**20 14 16.0**	**+0.9**
	baz=25						
AML				⇑iS	**Sn**	**20 14 53.2**	**-1.6**
	baz=25						
UCH	**Uchtor**	**3.81**	**32**	⇑iP	**Pn**	**20 14 21.5**	**+1.1**
	baz=34						
UCH				⇑iS	**Sn**	**20 15 02.8**	**-1.5**
	baz=34						
MRKS	**Merke**	**3.88**	**15**	Pg	Pn	20 14 26.0	+5.0
	4.8nm,0.4s						
MRKS				Lg	Lg	20 15 07.4	
	8.8nm,0.7s						
MRKS	**Merke**	**3.88**	**15**	eP	**Pn**	**20 14 22.1**	**+1.0**
	2.5nm,0.3s						
MRKS				eS	**Sn**	**20 15 07.5**	**+2.0**
	8.8nm,0.7s						
EKS2	**Erkin-Say**	**3.94**	**21**	⇑iP	**Pn**	**20 14 23.0**	**+1.1**
	baz=22						
EKS2				⇑iS	**Sn**	**20 15 04.8**	**-2.2**
	baz=22						
NRN	**Naryn**	**4.01**	**51**	⇑iP	**Pn**	**20 14 24.7**	**+1.7**
	baz=56						
NRN				⇑iS	**Sn**	**20 15 08.3**	**-0.7**
	baz=56						
KZA	**Kyzart**	**4.02**	**39**	⇑iP	**Pn**	**20 14 24.8**	**+1.5**
	baz=42						
KZA				⇑iS	**Sn**	**20 15 08.3**	**-1.2**
	baz=42						
AAK	**Ala-Archa**	**4.15**	**28**	⇓Pg	**Pn**	**20 14 28.5**	**+3.7**
	2.7nm,0.5s						
AAK				⇓Lg	Lg	20 15 17.2	
	8.3nm,0.5s						
AAK	**Ala-Archa**	**4.15**	**28**	⇑iP	**Pn**	**20 14 25.7**	**+0.9**
	baz=30						
AAK				⇑iS	**Sn**	**20 15 10.1**	**-2.2**
	baz=30						
KK31	**Karatay Array**	**4.21**	**347**	Pg	**Pn**	**20 14 27.9**	**+2.4**
	2.7nm,0.6s,baz=161,slow=12,SNR=23						
KK31				⇑Lg	Lg	20 15 19.0	
	1.8nm,0.3s,baz=170,slow=30,SNR=3.7						
DGS	**Degeres**	**5.17**	**34**	Pg	**Pb**	**20 14 53.5**	**+0.1**
	3.2nm,0.7s						
DGS				Lg	Lg	20 15 53.9	
	5.5nm,0.8s						
MDOK	**Medeo**	**5.72**	**42**	Pg	**Pb**	**20 15 05.0**	**+2.2**
	1.4nm,0.6s						
MDOK				Lg	Lg	20 16 13.9	
	3.6nm,0.8s						
KOTS	**Kotyrbulak**	**5.81**	**42**	Pg	**Pb**	**20 15 06.3**	**+2.1**
	2.0nm,0.6s						
KOTS				Lg	Lg	20 16 15.6	
	7.7nm,0.8s						
KTBS	**Karatobe**	**5.95**	**36**	Pg	**Pb**	**20 15 07.3**	**+0.7**
	1.0nm,1.2s						
KTBS				Lg	Lg	20 16 17.3	
	6.7nm,0.5s						
PDGK	**Podgornoye**	**7.21**	**51**	⇑Pg	**Pb**	**20 15 24.9**	**-3.2**
	1.8nm,0.9s						
PDGK				⇓Lg	Lg	20 17 02.5	
	2.8nm,0.8s						

RSNC ***09*** *20:22:46.8±0.9, 6°.17N×73°.30W, h3km±4km, ML3.3, Mw3.5*
IDC ***09*** *20:22:50.0±2.2, 5°.64N×72°.85W, h50km±16km, mb3.2/1, mb1 3.7/2, mb1mx3.1/28, mbtmp3.6/2, ML2.7/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/18, Error ellipse: s-maj=47.8km s-min=8.6km az=137.0*
ISC 09 20:22:43.6±1.2**, 6°.21N**±0°.03×**73°.32W**±0°.03**, h13**km±10km**, n20,** σ**1s.32**/32**, 2C-2D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RUSC	**La Rusia**	**0.39**	**144**	⇓iP	**Pb**	**20 22 53.7**	**+1.0**
RUSC				eS	**Sb**	**20 22 59.0**	**+0.1**
RUSC				i		20 23 01.8	
	comp=N,1μm,0.2s						
BARC	**Barichara**	**0.40**	**19**	eP	**Pn**	**20 22 55.2**	**0.0**
BARC				eS	**Sn**	**20 23 01.6**	**-1.2**
BARC				i		20 23 07.5	
	comp=Z,933nm,0.3s						
BRRC	**Barranca, Sant**	**0.97**	**336**	⇑iP	**Pn**	**20 23 05.1**	**+2.2**
BRRC				eS	**Sn**	**20 23 18.1**	**+1.5**
PTBC	**PUERTO BERRIO,**	**1.18**	**286**	⇓eP	**Pg**	**20 23 07.2**	**+0.8**
PTBC				eS	**Sg**	**20 23 22.4**	**+0.6**
CTAB	**Cerro Tablazo,**	**1.49**	**217**	eP	**Pg**	**20 23 12.1**	**-0.1**
CHIC	**Chingaza**	**1.63**	**195**	⇑eP	**Pg**	**20 23 14.8**	**-0.1**
CHIC				i		20 23 15.7	
	comp=Z,430nm,0.2s						
CHIC				eS	**Sg**	**20 23 36.9**	**+0.8**
ROSC	**El Rosal**	**1.69**	**216**	P	**Pg**	**20 23 16.3**	**+0.1**
	comp=Z,20nm,0.3s,baz=63,slow=16,SNR=16						
ROSC				S	**Sg**	**20 23 37.8**	**-0.4**
	comp=Z,48nm,0.3s,baz=302,slow=21,SNR=9.3						
ROSC	**El Rosal**	**1.69**	**216**	eP	**Pg**	**20 23 15.7**	**-0.4**
ROSC				eS	**Sg**	**20 23 39.1**	**+0.9**
ROSC				i		20 23 46.2	
	comp=Z,312nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.99**	**310**	eP	**Pg**	**20 23 20.5**	**-1.3**
ZARC				eS	**Sg**	**20 23 46.5**	**-1.2**
ZARC				i		20 23 47.8	
	comp=Z,123nm,0.3s						
OCAC	**Ocana**	**2.01**	**360**	eP	**Pg**	**20 23 23.1**	**+0.9**
OCAC				eS	**Sg**	**20 23 51.2**	**+2.8**
OCAC				i		20 23 57.6	
	comp=Z,265nm,0.4s						
VILC	**Villavicencio,**	**2.12**	**190**	eP	**Pg**	**20 23 23.4**	**-1.0**
VILC				i		20 23 57.9	
	comp=Z,211nm,0.4s						
HELC	**Santa Helena**	**2.20**	**270**	eP	**Pb**	**20 23 23.1**	**-0.4**
HELC				eS	**Sb**	**20 23 49.8**	**-1.0**
HELC				i		20 23 51.9	
	comp=Z,173nm,0.3s						
RREF	**El Recreo**	**2.41**	**237**	eP	**Pb**	**20 23 26.9**	**-0.2**
RREF				eS	**Sb**	**20 23 57.3**	**+0.4**
RREF				i		20 23 59.6	
	comp=Z,337nm,0.3s						
TOLC	**Tolima**	**2.57**	**231**	eP	**Pb**	**20 23 28.2**	**-1.5**
TOLC				eS	**Sb**	**20 23 59.7**	**-1.7**
TOLC				i		20 24 03.9	
	comp=Z,115nm,0.2s						
ANIL	**Santa Ana**	**2.69**	**231**	eP	**Pb**	**20 23 30.2**	**-1.6**
ANIL				eS	**Sb**	**20 24 03.5**	**-1.4**
SDV	**Santo Domingo**	**3.76**	**45**	P	**Pb**	**20 23 47.3**	**-2.7**
	comp=Z,5.3nm,0.3s,baz=37,slow=0.9,SNR=12						
SDV				S	**Sb**	**20 24 33.3**	**-2.1**
	comp=Z,1.8nm,0.3s,baz=233,slow=22,SNR=3.6						
CMIG	**Matias Romero**	**23.70**	**299**	LR	LR	20 38 25.9	
	comp=Z,34nm,21.7s,baz=6.5,slow=38						
YKA	**Yellowknife Ar**	**63.76**	**340**	P	P	20 33 20.8	+5.8
	comp=Z,0.4nm,0.7s,baz=130,slow=6.7,SNR=9.5						
ASAR	**Alice Springs**	**148.60**	**234**	PKPbc	**PKPbc**	**20 42 32.0**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=97,slow=4.0,SNR=3.9						
WRA	**Warramunga Arr**	**149.88**	**240**	PKPbc	**PKPbc**	**20 42 35.5**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=109,slow=2.7,SNR=6.8						

IDC 09 20:25:55.9±42.0**, 1°.53S**×**67°.96E, h0**km**, mb3.9**/3**, mb1 3.9**/3**, mb1mx3.4**/42**, mbtmp3.9**/3**, Error ellipse: s-maj=901.3km s-min=199.1km az=33.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**49.75**	**13**	P	P	20 34 50.0	-0.1
	1.4nm,0.3s,baz=193,slow=5.2,SNR=4.4						
ZALV	**Zalesovo Beam**	**57.04**	**12**	P	P	20 35 43.4	-0.1
	0.9nm,0.7s,baz=190,slow=7.3,SNR=3.9						
SONM	**Songino Array**	**59.47**	**29**	P	P	20 36 00.9	0.0
	0.3nm,0.7s,baz=215,slow=7.4,SNR=4.5						

NIED ***09*** *20:36:00, 27°.20N×143°.70E, h5km, Mw3.8 Best double couple: M0 6.36000×10¹⁴ NP1:φs350.00000°, δ34.00000°, λ-24.00000°. NP2:φs100.00000°, δ77.00000°, λ-122.00000°.*
IDC ***09*** *20:36:37.0±0.8, 27°.04N×143°.79E, h0km, mb3.9/12, mb1 4.1/16, mb1mx4.0/44, mbtmp4.0/16, ML4.0/4, MS2.8/5, Ms1 2.8/5, ms1mx2.5/54, Error ellipse: s-maj=21.2km s-min=17.0km az=93.0*
NEIC ***09*** *20:36:38.8±0.4, 27°.04N×143°.78E, h10km, mb4.7/6, Error ellipse: s-maj=10.2km s-min=7.2km az=80.0*
JMA ***09*** *20:36:40.0±0.2, 27°.23N×143°.72E, h62km, M4.7*
ISCJB ***09*** *20:36:42.1±0.6, 27°.39N±0°.04×143°.61E±0°.06, h33km, mb4.1/17, Error ellipse: s-maj=8.5km s-min=4.7km az=37.0*
ISC 09 20:36:43.2±0.8**, 27°.24N**±0°.07×**143°.63E**±0°.08**, h35**km**, n55,** σ**1s.26**/63**, mb4.1**/21**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.30**	**264**	ePn	**Pn**	**20 37 03.7**	**-1.1**
CBIJ				Sn	**Sn**	**20 37 20.9**	**-0.1**
CBIJ	**Chichi jima**	**1.30**	**264**	P	**Pn**	**20 37 03.6**	**-1.3**
CBIJ				eS	**Sn**	**20 37 20.6**	**-0.4**
JCJ	**Chichijima**	**1.30**	**264**	Pn	**Pn**	**20 37 03.8**	**-1.1**
	74nm,0.3s,baz=37,slow=9.7,SNR=38						
JCJ				Sn	**Sn**	**20 37 20.9**	**-0.1**
	396nm,0.3s,baz=287,slow=20,SNR=21						
JHHJ	**Haha-jima-NKT**	**1.43**	**245**	P	**Pn**	**20 37 05.0**	**-1.7**
JHHJ				eS	**Sn**	**20 37 24.8**	**+0.4**
JHJ	**Hachijo jima 2**	**6.74**	**331**	Pn	**Pn**	**20 38 18.8**	**-0.9**
	11nm,0.3s,baz=69,slow=21,SNR=8.4						
JHJ				Sn	**Sn**	**20 39 34.8**	**-0.4**
	13nm,0.3s,baz=73,slow=19,SNR=3.3						
BSO1	**Boso 1**	**7.73**	**344**	P	**Pn**	**20 38 31.8**	**-1.0**
BSO1				eS	**Sn**	**20 39 57.4**	**-1.5**
JOD2	**Odawara 2**	**8.89**	**335**	P	**Pn**	**20 38 48.7**	**-0.5**
JHU	**Hanno**	**9.35**	**338**	P	**Pn**	**20 38 55.2**	**-0.3**
JRY	**Ryogami san**	**9.63**	**336**	P	**Pn**	**20 38 59.4**	**0.0**
JHO	**Hitachi**	**9.70**	**345**	P	**Pn**	**20 38 58.2**	**-2.0**
JHO				eS	**Sn**	**20 40 43.7**	**-4.2**
JAG	**Ashikaga**	**9.82**	**340**	P	**Pn**	**20 39 01.3**	**-0.6**
MJAR	**Matsushiro Arr**	**10.35**	**335**	Pn	**Pn**	**20 39 08.3**	**-1.0**
	4.7nm,0.3s,baz=18,slow=14,SNR=39						
MAJO	**Matsushiro**	**10.35**	**335**	ePn	**Pn**	**20 39 10.0**	**+0.8**
MAT	**Matsushiro**	**10.35**	**335**	P	**Pn**	**20 39 09.6**	**+0.3**
MAT				S	**Sn**	**20 41 01.5**	**-2.6**
MJB9	**Matsu-Tunnel**	**10.36**	**335**	ePn	**Pn**	**20 39 10.0**	**+0.6**
JNU	**Nakatsue**	**12.49**	**301**	LR	LR	20 43 55.8	
	comp=Z,22nm,21.7s,baz=112,slow=34						
GUMO	**Guam**	**13.63**	**175**	LR	LR	20 44 10.9	
	comp=Z,37nm,21.6s,baz=76,slow=34						
KSRS	**Korea Array**	**16.71**	**311**	Pn	**P**	**20 40 36.0**	**-0.6**
	0.6nm,0.3s,baz=117,slow=10,SNR=12						
KSAR	**Wonju Array Be**	**16.73**	**311**	Pn	**P**	**20 40 36.0**	**-0.9**
ASAJ	**Asahikawa**	**16.86**	**357**	LR	LR	20 47 20.2	
	comp=Z,24nm,19.1s,baz=188,slow=38						
USRK	**Ussuriysk Ar.**	**19.35**	**334**	P	**Pn**	**20 41 07.2**	**+0.3**
	0.8nm,0.3s,baz=141,slow=12,SNR=25						
KLR	**Kul'dur**	**23.80**	**340**	P	**P**	**20 41 54.2**	**+1.5**
	3.6nm,0.7s,baz=153,slow=7.6,SNR=20						
PETK	**Petropavlovsk-**	**27.88**	**18**	LR	LR	20 51 40.5	
	comp=Z,22nm,21.3s,baz=81,slow=32						
SONA0	**Songino Array**	**35.51**	**315**	eP	**P**	**20 43 38.5**	**+1.7**
SONM	**Songino Array**	**35.51**	**315**	P	**P**	**20 43 38.5**	**+1.7**
	0.9nm,0.4s,baz=122,slow=8.1,SNR=13						
CMAR	**Chiang Mai Arr**	**41.92**	**268**	P	**P**	**20 44 29.9**	**-0.8**
	0.5nm,0.6s,baz=67,slow=5.7,SNR=4.3						
WR1	**Warramunga Arr**	**47.76**	**192**	eP	**P**	**20 45 15.1**	**-2.0**
	23nm,1.8s						
WRA	**Warramunga Arr**	**47.76**	**192**	P	**P**	**20 45 15.1**	**-2.0**
	1.5nm,0.6s,baz=12,slow=8.6,SNR=15						
ZAA1	**Zalesovo Array**	**50.23**	**319**	eP	**P**	**20 45 35.6**	**0.0**
ZAA1				ePcP	**PcP**	**20 46 54.0**	**-0.3**
ZALV	**Zalesovo Beam**	**50.23**	**319**	P	**P**	**20 45 35.6**	**0.0**
	1.4nm,0.6s,baz=113,slow=11,SNR=5.1						
ZALV				PcP	**PcP**	**20 46 54.0**	**-0.3**
	0.7nm,0.4s,baz=117,slow=5.0,SNR=3.2						
JIRN	**Jiri**	**50.56**	**285**	eP	**P**	**20 45 39.4**	**+0.4**
	6.6nm,0.4s						
GUN	**Gumba**	**50.77**	**285**	eP	**P**	**20 45 41.6**	**+1.0**
PKIN	**Phulchoki**	**51.27**	**285**	eP	**P**	**20 45 43.6**	**-0.6**
	1.6nm,0.4s						
MK31	**Makanchi Array**	**51.38**	**309**	eP	**P**	**20 45 45.7**	**+1.2**
MK32	**Makanchi Array**	**51.38**	**309**	eP	**P**	**20 45 45.8**	**+1.3**
MK32				ePcP	**PcP**	**20 46 58.5**	**-0.3**
MKAR	**Makanchi Array**	**51.38**	**309**	P	**P**	**20 45 45.8**	**+1.3**
	2.0nm,0.4s,baz=90,slow=8.3,SNR=3.1						
MKAR				PcP	**PcP**	**20 46 58.5**	**-0.3**
	1.7nm,0.4s,baz=86,slow=4.7,SNR=2.2						
MKAR	**Makanchi Array**	**51.38**	**309**	eP	**P**	**20 45 45.7**	**+1.3**
	12nm,0.6s						
MKAR				PcP	**PcP**	**20 46 58.5**	**-0.3**
ASAR	**Alice Springs**	**51.47**	**191**	P	**P**	**20 45 42.5**	**-2.8**
	0.3nm,0.7s,baz=7.4,slow=5.2,SNR=5.4						
DMN	**Daman**	**51.51**	**285**	eP	**P**	**20 45 45.9**	**-0.1**
MAKZ	**Makanchi**	**51.59**	**310**	eP	**P**	**20 45 47.5**	**+1.4**
	2.3nm,0.7s						
DANN	**Dangsing**	**52.49**	**286**	eP	**P**	**20 45 53.3**	**0.0**
	7.8nm,0.6s						
PYUN	**Piuthan**	**53.20**	**286**	eP	**P**	**20 45 58.7**	**+0.2**
	16nm,1.1s						
KURK	**Kurchatov**	**53.80**	**314**	eP	**P**	**20 46 03.8**	**+1.5**
	4.9nm,0.8s						
ILAR	**Eielson Array**	**56.97**	**29**	P	**P**	**20 46 23.8**	**-1.1**
	0.4nm,0.8s,baz=251,slow=6.6,SNR=4.5						
ILAR				LR	LR	21 12 28.2	
	comp=Z,18nm,18.3s,baz=360,slow=38						
NIL	**Nilore**	**59.97**	**295**	eP	**P**	**20 46 47.2**	**+0.8**
	3.4nm,0.6s						
KK31	**Karatay Array**	**60.04**	**306**	eP	**P**	**20 46 48.4**	**+1.6**
KKAR	**Karatay Array**	**60.04**	**306**	eP	**P**	**20 46 48.3**	**+1.6**
INK	**Inuvik**	**62.36**	**25**	P	**P**	**20 47 01.4**	**-0.5**
	0.6nm,0.5s,baz=281,slow=4.8,SNR=2.8						
ARU	**Arti**	**65.10**	**322**	eP	**P**	**20 47 20.0**	**-0.1**
	8.9nm,1.3s						
ABKAR	**Akbulak array**	**65.92**	**314**	eP	**P**	**20 47 26.8**	**+1.3**
YKA	**Yellowknife Ar**	**71.40**	**29**	P	**P**	**20 48 00.0**	**+0.6**
	0.4nm,0.8s,baz=296,slow=6.0,SNR=4.4						
NEW	**Newport**	**75.93**	**43**	LR	LR	21 16 54.5	
	comp=Z,131nm,20.8s,baz=46,slow=32						
FIA0	**FINESS Array S**	**78.38**	**334**	eP	**P**	**20 48 40.9**	**+1.0**
FINES	**FINESS Array B**	**78.38**	**334**	P	**P**	**20 48 40.9**	**+1.0**
	0.6nm,0.4s,baz=76,slow=4.1,SNR=9.0						
KBZ	**Khabaz**	**78.85**	**313**	P	**P**	**20 48 44.1**	**+1.3**
	1.5nm,0.7s,baz=63,slow=5.5,SNR=4.8						

IDC 09 20:53:23.6±4.2**, 10°.78N**×**84°.31W, h0**km**, mb3.5**/4**, mb1 3.9**/4**, mb1mx3.6**/28**, mbtmp3.5**/4**, MS2.8**/1**, Ms1 2.8**/1**, ms1mx2.3**/41**, Error ellipse: s-maj=88.1km s-min=10.5km az=128.0, Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**0.80**	**233**	Pg	Pb	20 53 39.7	-0.6
	143nm,0.3s,baz=290,slow=7.2,SNR=251						
JTS				Lg	Lg	20 53 49.2	
	baz=315,slow=19						
ATAH	**Atahualpa**	**18.75**	**161**	LR	LR	21 03 14.7	
	comp=Z,30nm,18.7s,baz=90,slow=32						
TXAR	**Lajitas Array**	**25.84**	**318**	P	P	20 58 58.1	+1.1
	0.8nm,0.8s,baz=140,slow=9.9,SNR=5.1						
NVAR	**Mina Array Bea**	**40.99**	**318**	P	P	21 01 09.7	+1.0
	0.9nm,0.7s,baz=132,slow=6.2,SNR=3.9						
NEW	**Newport**	**46.37**	**330**	P	P	21 01 49.9	-1.8
	7.0nm,0.5s,baz=112,slow=22,SNR=6.5						
YKA	**Yellowknife Ar**	**56.05**	**344**	P	P	21 03 03.6	-0.4
	0.2nm,0.5s,baz=143,slow=6.8,SNR=4.7						
ILAR	**Eielson Array**	**68.79**	**336**	P	P	21 04 29.2	-0.1
	0.3nm,0.6s,baz=122,slow=6.2,SNR=5.1						

IDC 09 20:59:59.3±3.4**, 2°.01S**×**67°.74E, h0**km**, mb3.5**/6**, mb1 3.6**/6**, mb1mx3.4**/34**, mbtmp3.5**/6**, Error ellipse: s-maj=92.8km s-min=28.6km az=69.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**36.83**	**55**	P	P	21 07 09.4	-0.1
	0.1nm,0.3s,baz=240,slow=10,SNR=2.8						
MKAR	**Makanchi Array**	**50.26**	**13**	P	P	21 08 58.5	+1.1
	0.4nm,0.7s,baz=195,slow=8.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**57.55**	**12**	P	P	21 09 49.8	-0.7
	0.7nm,0.6s,baz=216,slow=6.8,SNR=3.5						
SONM	**Songino Array**	**60.00**	**29**	P	P	21 10 07.4	-0.4
	0.6nm,0.7s,baz=211,slow=4.8,SNR=4.9						
WRA	**Warramunga Arr**	**67.34**	**111**	P	P	21 10 56.7	-0.1
	0.4nm,0.7s,baz=258,slow=8.4,SNR=3.6						
ASAR	**Alice Springs**	**67.41**	**115**	P	P	21 10 57.4	+0.2
	0.5nm,0.9s,baz=287,slow=7.4,SNR=2.9						

BJI ***09*** *21:04:56.9, 0°.34N×92°.57E, h17km, mb5.0/61, mB5.1/46, Ms4.7/59, Ms7 4.4/49*
IDC ***09*** *21:04:58.5±0.4, 0°.65N×92°.68E, h0km, mb4.8/24, mb1 4.9/27, mb1mx4.7/34, mbtmp4.8/27, ML4.9/3, MS4.1/25, Ms1 4.1/25, ms1mx3.9/53, Error ellipse: s-maj=14.8km s-min=11.3km az=35.0*
ISCJB ***09*** *21:05:02.3±0.2, 0°.70N±0°.03×92°.77E±0°.02, h33km, mb4.9/128, MS4.3/45, Error ellipse: s-maj=3.8km s-min=2.5km az=17.0*
MOS ***09*** *21:05:02.0±1.0, 0°.77N×92°.72E, h31km, mb5.1/66, MS4.2/14, Error ellipse: s-maj=7.6km s-min=4.8km az=111.9*
NEIC ***09*** *21:05:03.4±1.7, 0°.70N×92°.73E, h29km±12km, mb5.1/39, MW5.2, Error ellipse: s-maj=6.1km s-min=4.3km az=223.0, Moment Tensor Solution. s8 Moment tensor: Scale 10¹⁶ Nm; Mrr0.85; Mθθ-6.33; Mφφ5.48; Mrθ-0.94; Mθφ-5.11; Mφr0.18; Best double couple: M0 7.90000×10¹⁶ NP1: φs115.00000°, δ89.00000°, λ-173.00000°. NP2: φs25.00000°, δ83.00000°, λ-1.00000°. Principal axes: T 7.4200, Plg4.0000°, Azm249.0000°; N 0.8900, Plg83.0000°, Azm119.0000°; P -8.3100, Plg5.0000°, Azm340.0000°;*
GCMT ***09*** *21:05:03.4±0.2, 0°.70N±0°.01×92°.83E±0°.01, h31km±1km, MW5.2/94, Moment Tensor Solution. s57,c77; s94,c152; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.11±.17; Mθθ-5.41±.13; Mφφ5.31±.15; Mrθ-3.13±.27; Mθφ-2.48±.12; Mφr-1.71±.27; Best double couple: M0 6.78300×10¹⁶ NP1:φs31.00000°, δ81.00000°, λ-26.00000°. NP2: φs126.00000°, δ64.00000°, λ-170.00000°. Principal axes: T 6.0560, Plg11.0000°, Azm81.0000°; N 1.4610, Plg63.0000°, Azm194.0000°; P -7.5110, Plg24.0000°, Azm346.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
KLM ***09*** *21:05:04.6, 0°.75N×92°.81E, h19km, mb5.2*
DJA ***09*** *21:05:09.1±0.4, 1°N±2°×9°3E±°, h63km±6km, M5.5/30, mb5.5/30, mB5.8/22, MLv5.8/13, Mw(mB)5.4/22, Mwp5.3/1*
ISC 09 21:05:03.9±0.3**, 0°.66N**±0°.04×**92°.69E**±0°.04**, h35**km**, n381,** σ**2s.09**/413**, mb5.0**/142**, MS4.4**/46**, 26C-22D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**4.03**	**64**	P	**Pn**	**21 06 02.8**	**-0.3**
SNSI				S	**Sn**	**21 06 42.9**	**-6.2**
GSI	**Gunungsitoli**	**4.92**	**82**	ePn	**Pn**	**21 06 15.2**	**-0.3**
GSI	**Gunungsitoli**	**4.92**	**82**	P	**Pn**	**21 06 15.5**	**0.0**
GSI				S	**Sn**	**21 07 08.6**	**-2.7**
TPTI		**5.18**	**60**	P	**Pn**	**21 06 18.0**	**-0.9**
TPTI				S	**Sn**	**21 07 09.7**	**-7.8**
BSI	**Banda Aceh**	**5.46**	**28**	P	**Pn**	**21 06 21.9**	**-1.0**
KCSI	**Kotacane, Aceh**	**5.82**	**61**	P	**Pn**	**21 06 27.8**	**0.0**
KCSI				S	**Sn**	**21 07 26.8**	**-6.6**
LHMI	**Lhok Sumawe**	**6.22**	**43**	ePn	**Pn**	**21 06 33.4**	**+0.1**
LHMI	**Lhok Sumawe**	**6.22**	**43**	P	**Pn**	**21 06 33.2**	**-0.1**
LHMI				S	**Sn**	**21 07 38.3**	**-4.9**
CMBY	**CAMPBELL BAY**	**6.43**	**11**	eP	**Pn**	**21 06 35.3**	**-0.8**
TSI	**Tuntungan**	**6.51**	**64**	P	**Pn**	**21 06 37.6**	**+0.3**
PSI	**Prapat**	**6.58**	**71**	Pn	**Pn**	**21 06 38.0**	**-0.5**
	38nm,0.3s,baz=182,slow=1.7,SNR=79						
PSI				Sn	**Sn**	**21 07 50.8**	**-1.5**
	18nm,0.3s,baz=360,slow=18,SNR=2.7						
PSI				LR	LR	21 09 32.7	
	comp=Z,3μm,18.4s,baz=270,slow=42						
SISI	**Saibi**	**6.70**	**107**	P	**Pn**	**21 06 39.6**	**-0.2**
SISI				S	**Sn**	**21 07 49.9**	**-5.0**
MNSI	**Mandailing Nat**	**6.89**	**89**	P	**Pn**	**21 06 42.4**	**-0.1**
MNSI				S	**Sn**	**21 07 53.1**	**-6.6**
PPI	**Padang Panjang**	**7.78**	**98**	P	**Pn**	**21 06 54.8**	**0.0**
PPI				S	**Sn**	**21 08 16.5**	**-5.3**
PDSI	**Padang**	**7.92**	**101**	P	**Pn**	**21 06 56.1**	**-0.7**
PDSI				S	**Sn**	**21 08 19.8**	**-5.5**
PPSI	**Pulau Pagai**	**8.07**	**115**	P	**Pn**	**21 06 58.4**	**-0.3**
PPSI				S	**Sn**	**21 08 22.4**	**-6.3**
BKNI	**Bangkinang**	**8.35**	**92**	ePn	**Pn**	**21 07 02.5**	**-0.1**
BKNI	**Bangkinang**	**8.35**	**92**	P	**Pn**	**21 07 02.1**	**-0.5**
SDSI	**Sungai Dareh**	**8.88**	**100**	P	**Pn**	**21 07 09.4**	**-0.4**
PKDT	**Phuket**	**9.12**	**38**	P	**Pn**	**21 07 12.3**	**-0.9**
	114nm,1.0s,2μm						
IPM	**Ipoh**	**9.15**	**65**	P	**Pn**	**21 07 13.7**	**+0.2**
KULM	**Kulim**	**9.18**	**60**	P	**Pn**	**21 07 13.5**	**-0.5**
KRJI	**Kerinci**	**9.18**	**107**	P	**Pn**	**21 07 14.8**	**+0.7**
KRJI				S	**Sn**	**21 08 49.6**	**-6.8**
FRIM	**Kepong**	**9.29**	**74**	P	**Pn**	**21 07 15.3**	**-0.2**
RGRI	**Rengat**	**9.69**	**96**	P	**Pn**	**21 07 21.7**	**+0.7**
KRAB	**Krabi**	**9.92**	**41**	P	**Pn**	**21 07 24.3**	**+0.2**
	1μm,0.6s,21μm						
MASI	**Maura Aman, Be**	**10.26**	**112**	P	**Pn**	**21 07 28.2**	**-0.7**
MASI				S	**Sn**	**21 09 16.7**	**-6.1**
PBA	**Port Blair**	**10.93**	**0**	ePn	Pn	21 07 36.6	-1.2
PBA				eSn	Sn	21 09 36.3	-2.7
PBA	**Port Blair**	**10.93**	**0**	eP	Pn	21 07 36.1	-1.8
JMBI	**JAMBI**	**11.18**	**102**	P	**Pn**	**21 07 40.8**	**-0.6**
MYKOM	**Kota Tinggi**	**11.21**	**84**	P	**Pn**	**21 07 41.9**	**+0.1**
MNAI	**Manna**	**11.40**	**116**	ePn	**Pn**	**21 07 43.9**	**-0.5**
MNAI	**Manna**	**11.40**	**116**	P	**Pn**	**21 07 43.6**	**-0.9**
MNAI				S	**Sn**	**21 09 42.1**	**-8.6**
LHSI	**Lahat**	**11.71**	**112**	P	**Pn**	**21 07 48.0**	**-0.6**
LHSI				S	**Sn**	**21 09 50.7**	**-7.4**
TPRI	**Tanjung Pinang**	**11.84**	**89**	P	**Pn**	**21 07 49.4**	**-1.0**
MDSI	**Maura Dua**	**12.56**	**114**	P	**Pn**	**21 07 59.9**	**-0.4**
MDSI				S	**Sn**	**21 10 10.1**	**-9.0**
LWLI	**Liwa**	**12.68**	**117**	P	**Pn**	**21 08 01.9**	**-0.1**
LWLI				S	Sn	21 10 12.1	-10
KASI	**Kota Agung**	**13.29**	**118**	P	**Pn**	**21 08 10.0**	**-0.3**
KASI				S	Sn	21 10 24.8	-12
PALK	**Pallekele**	**13.64**	**299**	Pn	**Pn**	**21 08 13.5**	**-1.6**
	2.9nm,0.3s,baz=114,slow=11,SNR=19						
PALK				Sn	Sn	21 10 34.4	-11
	26nm,0.3s,baz=292,slow=0.6,SNR=16						
PALK	**Pallekele**	**13.64**	**299**	ePn	**Pn**	**21 08 13.8**	**-1.3**
PALK				eS	Sn	21 10 28.8	-17
PATY	**Pattaya**	**14.63**	**33**	P	**P**	**21 08 36.6**	**+2.2**
SRDT	**SRDT**	**15.02**	**25**	P	**Pn**	**21 08 33.9**	**+0.2**
	30nm,0.9s,1μm						
UMPA	**Umpang Tak**	**16.60**	**21**	P	**Pn**	**21 08 51.6**	**-2.6**
	145nm,0.8s,1μm						
LEM	**Lembang**	**16.65**	**117**	LR	LR	21 14 22.1	
	comp=Z,267nm,21.5s,baz=0.0,slow=34						
CISI	**Cisompet, Garu**	**17.15**	**119**	ePn	**Pn**	**21 09 00.2**	**-0.9**
	115nm,0.8s						
CISI	**Cisompet, Garu**	**17.15**	**119**	P	**P**	**21 09 04.0**	**+1.5**
MDRS	**Chennai**	**17.44**	**316**	eP	**Pn**	**21 09 04.8**	**+0.2**
MDRS				IAmb	IAmb	21 09 06.5	
	comp=Z,191nm,0.6s						
TRD	**Trivandrum**	**17.50**	**297**	eP	**Pn**	**21 09 04.4**	**-1.0**
CHAI	**Chaiyaphum**	**17.70**	**31**	P	**Pn**	**21 09 08.2**	**+0.3**
	comp=Z,30nm,1.0s,comp=Z,238nm						
PBKT	**Sadao Pong**	**17.79**	**27**	P	**Pn**	**21 09 08.5**	**-0.4**
	comp=Z,107nm,1.1s,comp=Z,3μm						
CMJI	**Cimerak**	**17.81**	**118**	P	**P**	**21 09 09.6**	**-0.1**
KPJI	**Karang Pucung**	**18.04**	**116**	P	**P**	**21 09 13.7**	**+1.5**
SUKH	**Sukhothai**	**18.06**	**22**	P	**P**	**21 09 12.8**	**+0.4**
	comp=Z,39nm,0.7s,comp=Z,502nm						
UTTA	**Uttaradit**	**18.66**	**24**	P	**Pn**	**21 09 19.7**	**+0.2**
	comp=Z,24nm,1.0s,comp=Z,188nm						
CM01	**Chiang Mai Arr**	**18.69**	**19**	eP	**P**	**21 09 18.1**	**-1.3**
CM31	**Chiang Mai Arr**	**18.72**	**19**	eP	**P**	**21 09 19.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**18.72**	**19**	P	**P**	**21 09 19.6**	**-0.1**
	comp=Z,2.1nm,0.3s,baz=213,slow=13,SNR=211						
STKI	**Sintang**	**18.79**	**92**	P	**Pn**	**21 09 21.2**	**0.0**
LAMP	**Lampang**	**19.02**	**21**	P	**Pn**	**21 09 24.1**	**+0.3**
	comp=Z,28nm,0.8s,comp=Z,356nm						
CHTO	**Chiang Mai**	**19.06**	**18**	eP	**P**	**21 09 23.6**	**+0.2**
	comp=Z,54nm,0.9s						
CHTO	**Chiang Mai**	**19.06**	**18**	eP	**P**	**21 09 23.6**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,54nm,0.9s						
CHTO	**Chiang Mai**	**19.06**	**18**	P	**P**	**21 09 23.7**	**+0.3**
	comp=Z,291nm,1.4s,comp=Z,7μm						
CMMT	**Chiang Mai**	**19.06**	**18**	P	**P**	**21 09 23.6**	**+0.2**
	comp=Z,64nm,1.0s,comp=Z,2μm						
SBUM	**Sibu**	**19.60**	**85**	P	**Pn**	**21 09 31.3**	**+0.4**
SKNT	**Sakolnakorn**	**19.66**	**34**	P	**Pn**	**21 09 31.0**	**-0.5**
	comp=Z,25nm,1.2s						
NONG	**Nongkai**	**20.12**	**30**	P	**P**	**21 09 35.5**	**+0.6**
	comp=Z,2.9nm,0.9s,comp=Z,63nm						
BTM	**Bintulu**	**20.53**	**83**	P	Pn	21 09 41.5	-0.4
BWNR	**Bhubaneshwar**	**20.64**	**341**	ex	**P**	**21 09 34.4**	**-6.2**
BWNR				IAmb	IAmb	21 09 41.4	
MNCY	**Minicoy**	**20.99**	**292**	eP	**P**	**21 09 43.9**	**-0.6**

HYB **Hyderabad** 21.70 321 *i* P **P** 21 09 53.0 +0.9
HYB *e*S **S** 21 13 42.0 -8.6
HYB **Hyderabad** 21.70 321 *e*P **P** 21 09 53.0 +0.9
HYB IAmb IAmb 21 09 54.1
comp=Z,40nm,0.6s
DGAR **Diego Garcia** 21.72 248 *e*P **P** 21 09 53.8 +1.5
comp=Z,186nm,0.8s
DGAR **Diego Garcia** 21.72 248 *i* P **P** 21 09 53.4 +1.1
DGAR pmax pmax
comp=Z,162nm,1.0s
H08S2 **Diego Garcia H** 21.77 247 P **P** 21 09 52.8 +0.3
baz=52,slow=15,SNR=12
H08S3 **Diego Garcia H** 21.77 247 P **P** 21 09 52.9 +0.3
baz=52,slow=15,SNR=17
H08S1 **Diego Garcia H** 21.79 247 P **P** 21 09 53.4 +0.6
baz=52,slow=15,SNR=14
BRDH **Bariadhala** 21.91 357 P **P** 21 09 54.1 -0.1
comp=Z,114nm,0.4s,baz=286,slow=16,SNR=5.5
BRDH LR LR 21 20 43.1
comp=Z,1μm,18.2s,baz=182,slow=43
MTKI **Muara Teweh, K** 22.26 94 P **P** 21 09 59.1 +0.9
H08N1 **Diego Garcia H** 22.73 252 P **P** 21 09 59.5 -3.3
H08N2 **Diego Garcia H** 22.74 252 P **P** 21 09 59.6 -3.3
H08N3 **Diego Garcia H** 22.75 252 P **P** 21 09 59.8 -3.3
GOA **Goa** 23.75 309 *e*P **P** 21 10 15.4 +2.1
GOA IAmb IAmb 21 10 16.4
comp=Z,30nm,0.5s
BOK **Bokaro** 23.93 344 *e*P **P** 21 10 16.5 +1.6
NGP **Nagpur** 24.33 328 *e*P **P** 21 10 20.2 +1.6
NGP IAmb IAmb 21 10 21.6
comp=Z,27nm,0.8s
NGP *ex* x 21 15 10.7
SHL **Shillong** 24.77 358 *e*P **P** 21 10 22.3 -0.5
comp=Z,159nm,0.8s
SHL **Shillong** 24.77 358 *e*P **P** 21 10 22.3 -0.5
SHL pmax pmax
comp=Z,159nm,0.8s
SHL **Shillong** 24.77 358 *e*P **P** 21 10 23.5 +0.7
QIZ **Qiongzhong** 24.82 42 P **P** 21 10 23.8 +0.7
QIZ S **S** 21 14 47.8 +4.1
QIZ LR LR
comp=Z,2μm,20.1s
QIZ LR LR
comp=Z,2μm,19.6s
QIZ LR LR
comp=Z,370nm,14.6s
POO **Poona** 25.64 315 *e*P **P** 21 10 32.1 +1.5
POO IAmb IAmb 21 10 33.1
comp=Z,21nm,0.7s
POO **Poona** 25.64 315 *e*P **P** 21 10 31.0 +0.4
comp=Z,40nm,1.0s
POO *e*PP PnPn 21 11 21.0 +13
POO *e*PPP PPP 21 11 33.0
POO *i* S S 21 15 16.0 +19
POO eLQ LQ 21 16 23.5
POO *i* SS SnSn 21 16 37.0 +44
POO *i* SSS SSS 21 16 55.5
KMI **Kunming** 26.19 21 P **P** 21 10 37.5 +1.8
KMI pP pP 21 10 41.9 -2.4
KMI sP sP 21 10 44.6 -3.4
KMI S **S** 21 15 06.3 +0.7
KMI pmax pmax
comp=Z,42nm,0.9s
KMI LR LR
comp=Z,590nm,12.0s
KMI LR LR
comp=Z,580nm,13.8s
KMI LR LR
comp=Z,530nm,14.0s
RAMN **Ramite** 26.79 348 *e*P **P** 21 10 42.7 +1.6
comp=Z,111nm,0.6s
BHPL **Bhopal** 26.90 328 *e*P **P** 21 10 43.9 +1.9
BHPL IAmb IAmb 21 10 44.7
comp=Z,20nm,0.7s
JIRN **Jiri** 27.56 347 *e*P **P** 21 10 49.3 +1.1
comp=Z,391nm,1.1s
PKIN **Phulchoki** 27.66 346 *e*P **P** 21 10 49.4 +0.4
comp=Z,135nm,1.5s
DMN **Daman** 27.77 345 *e*P **P** 21 10 50.7 +0.8
comp=Z,78nm,1.1s
GUN **Gumba** 27.87 347 *e*P **P** 21 10 51.9 +1.0
comp=Z,111nm,0.6s
KKN **Kakani** 27.90 346 *e*P **P** 21 10 51.7 +0.7
KOLN **Koldanda** 28.33 343 *e*P **P** 21 10 55.8 +0.9
comp=Z,82nm,0.7s
PYUN **Piuthan** 28.82 342 *e*P **P** 21 11 00.0 +0.8
comp=Z,123nm,0.9s
DANN **Dangsing** 28.83 344 *e*P **P** 21 11 00.0 +0.6
comp=Z,85nm,0.8s
GYA **Guiyang** 28.96 27⇑ *i*P **P** 21 11 00.7 +0.3
GYA PP **PnPn** 21 11 56.8 +3.8
GYA S **S** 21 15 52.2 +3.0
GYA SS **SnSn** 21 17 21.6 +7.7
GYA pmax pmax
comp=Z,20nm,0.7s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=Z,520nm,16.2s
GYA LR LR
comp=Z,550nm,16.8s
GYA LR LR
comp=Z,510nm,17.0s
CD2 **Chengdu** 31.86 18 ⇓P **P** 21 11 25.9 0.0
CD2 pP pP 21 11 31.1 -3.5
CD2 PP **PP** 21 12 38.1 -0.2
CD2 S **S** 21 16 37.3 +2.9
CD2 pmax pmax
comp=Z,140nm,4.8s
CD2 LR LR
comp=Z,830nm,13.4s
CD2 LR LR
comp=Z,950nm,14.4s
CD2 LR LR
comp=Z,380nm,14.4s
DDI **Dehra Dun** 32.62 336 *e*P **P** 21 11 33.8 +1.2
DDI IAmb IAmb 21 11 34.5
comp=Z,80nm,0.8s
BATI **Baumata** 32.65 110 P **P** 21 11 31.2 -1.8
comp=Z,24nm,0.6s,baz=285,slow=5.7,SNR=4.7
BATI LR LR 21 26 36.4
comp=Z,636nm,19.6s,baz=358,slow=40
DAV **Davao City (W)** 33.41 78 LR LR 21 26 46.7
comp=Z,149nm,19.9s,baz=100,slow=39
ENH **Enshi** 33.50 27 *e*P **P** 21 11 39.6 -0.6
comp=Z,45nm,0.8s
SMLA **Simla** 33.69 336 *e*P **P** 21 11 42.6 +0.9
DHRM **DHARAMSHALA** 35.02 335 *e*P **P** 21 11 54.0 +0.4
WHN **Wuhan** 36.14 33 ⇑P **P** 21 12 04.3 +1.3
WHN S **S** 21 17 47.3 +6.8
WHN LR LR
comp=Z,4μm,20.0s
WHN LR LR
comp=Z,2μm,14.9s
WHN LR LR
comp=Z,2μm,14.0s
XAN **Xi'an** 36.52 23 P **P** 21 12 06.2 -0.1
XAN pP sP 21 12 19.1 +0.4
XAN PP **PP** 21 13 29.9 +0.1
XAN S **S** 21 17 48.1 +1.7
XAN pmax pmax
comp=Z,71nm,0.8s
XAN pmax pmax
comp=Z,340nm,3.5s
XAN LR LR
comp=Z,490nm,23.0s
XAN LR LR
comp=Z,680nm,22.1s
XAN LR LR
comp=Z,600nm,14.4s
XAN **Xi'an** 36.52 23 *e*P **P** 21 12 06.0 -0.3
comp=Z,83nm,0.8s
XAN **Xi'an** 36.52 23 *e*P **P** 21 12 06.0 -0.3
XAN pmax pmax
comp=Z,83nm,0.8s
LZH **Lanzhou** 36.74 15 *e*P **P** 21 12 08.6 +0.4
LZH pP pP 21 12 13.9 -3.1
LZH sP sP 21 12 17.0 -3.7
LZH pmax pmax
comp=Z,47nm,1.1s
LZH pmax pmax
comp=Z,140nm,4.3s
LZH LR LR
comp=Z,620nm,13.1s
LZH LR LR
comp=Z,570nm,14.6s
LZH LR LR
comp=Z,690nm,16.0s
MEEK **Meekatharra** 36.88 139 P **P** 21 12 11.5 +2.0
baz=37,SNR=10.0
FITZ **Fitzroy Crossi** 37.38 122 P **P** 21 12 13.2 -0.5
comp=Z,6.0nm,0.6s,baz=308,slow=6.8,SNR=20
NIL **Nilore** 37.55 333 *e*P **P** 21 12 15.1 +0.1
NIL **Nilore** 37.55 333 *e*P **P** 21 12 15.1 +0.1
SIJI **Sorong** 38.60 92 P **P** 21 12 23.3 -0.9
comp=Z,8.1nm,0.6s,baz=278,slow=8.8,SNR=5.4
GTA **Gaotai** 39.11 9 ⇓P **P** 21 12 28.4 +0.2
GTA S **S** 21 18 29.5 +3.9
GTA SS **SS** 21 21 13.6 -5.6
GTA pmax pmax
comp=Z,31nm,0.9s
GTA pmax pmax
comp=Z,140nm,5.1s
GTA LR LR
comp=Z,190nm,16.8s
GTA LR LR
comp=Z,200nm,17.5s
GTA LR LR
comp=Z,260nm,20.3s
FAKI **Fak Fak** 39.70 95 *e*P **P** 21 12 32.6 -0.8
comp=Z,16nm,1.0s
NJ2 **Nanjing** 39.81 36 *e*P **P** 21 12 35.8 +1.9
NJ2 pmax pmax
comp=Z,16nm,0.8s
NJ2 LR LR
comp=Z,1μm,16.8s
NJ2 LR LR
comp=Z,1μm,16.3s
NJ2 LR LR
comp=Z,1μm,14.6s
KBL **Kabul** 40.31 329 *e*P **P** 21 12 38.3 0.0
comp=Z,6.3nm,0.8s
KBL **Kabul** 40.31 329 *e*P **P** 21 12 38.3 0.0
KBL pmax pmax
comp=Z,6.0nm,0.8s
NWAO **Narrogin (SRO)** 40.64 148 LR LR 21 27 56.4
comp=Z,522nm,18.5s,baz=248,slow=34
TIY **Taiyuan** 41.12 24 *e*P **P** 21 12 48.3 +3.6
TIY S **S** 21 18 58.6 +3.0
TIY sS **sS** 21 19 17.1 +6.9
TIY ScS **ScS** 21 22 43.2 -3.6
TIY pmax pmax
comp=Z,160nm,5.3s
TIY LR LR
comp=Z,300nm,7.4s
TIY LR LR
comp=Z,280nm,14.4s
TIY LR LR
comp=Z,290nm,13.9s
KSH **Kashi** 41.58 340 P **P** 21 12 45.8 -2.8
KSH PcP **PcP** 21 14 46.9 +1.5
KSH PcS **PcS** 21 18 30.0 -6.9
KSH S **S** 21 18 56.2 -6.3
KSH pmax pmax
comp=Z,26nm,0.9s
KSH pmax pmax
comp=Z,280nm,3.5s
KSH LR LR
comp=Z,410nm,6.5s
KSH LR LR
comp=Z,450nm,10.4s
KSH LR LR
comp=Z,570nm,11.2s
TIA **Tai'an** 42.01 30 P **P** 21 12 52.8 +0.8
TIA S **S** 21 19 09.4 +0.6
TIA pmax pmax
comp=Z,5.0nm,0.9s
TIA LR LR
comp=Z,170nm,17.8s
TIA LR LR
comp=Z,300nm,18.5s
BTO **Baotou** 42.76 20 *e*P **P** 21 12 58.4 +0.2
SFK **Sufi-Kurgan** 42.89 338 P **P** 21 13 00.0 +0.6
SFK pmax pmax
comp=Z,29nm,0.7s
WMQ **Urumqi** 43.20 355 P **P** 21 13 02.7 +1.0
WMQ sP pP 21 13 10.7 +0.1
WMQ PP **PP** 21 14 45.2 +2.7
WMQ S **S** 21 19 28.6 +2.4
WMQ SS **SS** 21 22 33.8 -6.3
WMQ pmax pmax
comp=Z,87nm,0.9s
WMQ pmax pmax
comp=Z,510nm,6.9s
WMQ LR LR
comp=Z,550nm,24.9s
WMQ LR LR
comp=Z,570nm,27.1s
WMQ LR LR
comp=Z,420nm,22.7s
WMQ **Urumqi** 43.20 355 *e*P **P** 21 13 02.7 +1.0
comp=Z,75nm,1.4s
WMQ **Urumqi** 43.20 355 *e*P **P** 21 13 02.7 +1.0
WMQ pmax pmax
comp=Z,75nm,1.4s
HHC **Hu-ho-hao-te** 43.51 21 *e*P **P** 21 13 05.5 +1.3
HHC sP pP 21 13 13.5 +0.3
HHC S **S** 21 19 34.8 +3.9
HHC sS sS 21 19 46.9 +1.3
HHC pmax pmax
comp=Z,49nm,0.9s
HHC pmax pmax
comp=Z,180nm,5.9s
HHC LR LR
comp=Z,390nm,14.9s
HHC LR LR
comp=Z,580nm,15.7s
HHC LR LR
comp=Z,420nm,16.1s
PRZ **Przheval'sk** 43.57 345 *e*P **P** 21 13 06.5 +1.7
comp=Z,57nm,1.1s
PRZ **Przheval'sk** 43.57 345 *e*P **P** 21 13 06.5 +1.7
PRZ pmax pmax
comp=Z,57nm,1.1s
PDGK **Podgornoye** 44.09 346 P **P** 21 13 09.3 +0.4
PDGK pmax pmax
comp=Z,27nm,1.1s
KZA **Kyzart** 44.12 341 P **P** 21 13 10.1 +0.6
SNR=11
UCH **Uchtor** 44.50 341 P **P** 21 13 13.1 +0.6
SNR=27
BJT **Baijiatuau** 44.63 26 *e*P **P** 21 13 14.8 +1.7
comp=Z,179nm,1.1s
BJT **Baijiatuau** 44.63 26 *e*P **P** 21 13 14.8 +1.7
BJT pmax pmax
comp=Z,179nm,1.1s
BJI **Beijing** 44.65 26 P **P** 21 13 14.8 +1.6
BJI S **S** 21 19 50.1 +2.9
BJI pmax pmax
comp=Z,42nm,0.9s
BJI LR LR
comp=Z,250nm,16.8s
BJI LR LR
comp=Z,370nm,18.7s
AML **Almayashu** 44.69 340 P **P** 21 13 14.8 +0.8
SNR=37
KBK **Karagaybulak** 44.74 341 P **P** 21 13 15.0 +0.9
SNR=25
TKM2 **Tokmak 2** 44.78 342 P **P** 21 13 14.8 +0.3
SNR=22
AAK **Ala-Archa** 44.87 341 LR LR 21 31 59.9
comp=Z,631nm,21.9s,baz=162,slow=36
AAK **Ala-Archa** 44.87 341 P **P** 21 13 15.8 +0.6
SNR=9.5
AAK **Ala-Archa** 44.87 341 *e*P **P** 21 13 15.2 +0.1
comp=Z,14nm,0.9s
AAK **Ala-Archa** 44.87 341 *ce*P **P** 21 13 15.5 +0.3
AAK pmax pmax
comp=Z,44nm,2.5s
CHMS **Chumysh** 45.11 341 P **P** 21 13 17.4 +0.5
SNR=6.2
EKS2 **Erkin-Say** 45.13 340 P **P** 21 13 18.1 +0.9
SNR=27
USP **Ospenovka** 45.44 341 P **P** 21 13 19.8 +0.3
SNR=48
WRA **Warramunga Arr** 45.65 119 P **P** 21 13 21.9 +0.4
comp=Z,8.2nm,0.6s,baz=297,slow=8.6,SNR=80
WRA LR LR 21 34 19.2
comp=Z,134nm,19.5s,baz=295,slow=39
WRA **Warramunga Arr** 45.65 119 P **P** 21 13 22.0 +0.4
WRAB **Tennant Creek** 45.65 119 *ce*P **P** 21 13 22.4 +0.8
comp=Z,19nm,0.8s
WRAB **Tennant Creek** 45.65 119 *ce*P **P** 21 13 21.3 -0.3
WRAB pmax pmax
comp=Z,13nm,1.0s
WB2 **Warramunga Arr** 45.66 119 *e*P **P** 21 13 22.2 +0.6
DL2 **Dalian** 46.38 31 *e*P **P** 21 13 35.0 +8.1
DL2 S S 21 20 27.5 +15
DL2 pmax pmax
comp=Z,65nm,0.8s
DL2 LR LR
comp=N,390nm,13.8s
DL2 LR LR
comp=E,580nm,16.6s
DL2 LR LR
comp=Z,370nm,18.3s
KK31 **Karatay Array** 46.69 338 *e*P **P** 21 13 29.2 -0.1
KK31 **Karatay Array** 46.69 338 *e*P **P** 21 13 29.2 -0.1
KKAR **Karatay Array** 46.69 338 *e*P **P** 21 13 29.2 -0.1
KKAR **Karatay Array** 46.69 338 *e*P **P** 21 13 29.2 -0.1
ASAR **Alice Springs** 46.75 124 P **P** 21 13 30.5 +0.3
comp=Z,3.4nm,0.8s,baz=298,slow=7.7,SNR=22
ASAR PcP **PcP** 21 15 04.2 +0.9
comp=Z,1.0nm,0.4s,baz=294,slow=3.0,SNR=5.1
AS31 **Alice Springs** 46.75 124 *e*P **P** 21 13 31.4 +1.2
comp=Z,2.6nm,0.9s
AS01 **Alice Springs** 46.79 124 *e*P **P** 21 13 31.6 +1.1
MK01 **Makanchi Array** 46.81 350 *e*P **P** 21 13 25.9 -4.4
MKAR **Makanchi Array** 46.84 350 P **P** 21 13 29.9 -0.5
comp=Z,18nm,0.6s,baz=168,slow=8.5,SNR=220
MKAR **Makanchi Array** 46.84 350 P **P** 21 13 30.0 -0.5
MKAR pmax pmax
comp=Z,18nm,0.6s
MAKZ **Makanchi** 46.91 350 *e*P **P** 21 13 30.7 -0.3
comp=Z,44nm,1.6s
MAKZ **Makanchi** 46.91 350 *e*P **P** 21 13 30.7 -0.3
MAKZ pmax pmax
comp=Z,45nm,1.6s
SONM **Songino Array** 48.47 12 P **P** 21 13 44.0 +0.8
comp=Z,27nm,0.7s,baz=192,slow=9.0,SNR=211
SONM LR LR 21 36 01.1
comp=Z,193nm,19.2s,baz=189,slow=38
SONA1 **Songino Array** 48.49 12 *e*P **P** 21 13 43.8 +0.4
ABPO **Ambohimpanom** 48.72 244 *e*P **P** 21 13 46.8 +1.1
comp=Z,31nm,1.6s
ABPO **Ambohimpanom** 48.72 244 *e*P **P** 21 13 46.8 +1.1
ABPO pmax pmax
comp=Z,31nm,1.6s
GEYT **Alibeck** 48.85 323 P **P** 21 13 47.0 +0.8
comp=Z,16nm,0.4s,baz=157,slow=9.6,SNR=25
GYA0B **ALIBECK ARRAY** 48.85 323 *e*P **P** 21 13 47.4 +1.1
comp=Z,24nm,1.1s
KS15 **Wonju Array Si** 48.90 37 *e*P **P** 21 13 47.7 +1.2
KSAR **Wonju Array Be** 48.90 37 P **P** 21 13 47.3 +0.7
KSAR **Wonju Array Be** 48.90 37 P **P** 21 13 47.3 +0.7
KS01 **Wonju Array Si** 48.93 37 *e*P **P** 21 13 45.9 -0.9
KSRS **Korea Array** 48.93 38 P **P** 21 13 47.3 +0.5
comp=Z,6.9nm,0.6s,baz=225,slow=8.0,SNR=22
KSRS LR LR 21 36 26.3
comp=Z,340nm,18.5s,baz=238,slow=39
DGZ **Jazzator, Alta** 49.06 355 *d* iP **P** 21 13 47.9 +0.1
DGZ pmax pmax
comp=Z,6.0nm,0.7s
ZAK **Zakamensk** 50.35 9 *e*P **P** 21 13 57.3 -0.2
ZAK pmax pmax
comp=Z,7.0nm,1.1s
QIS **Mount Isa** 50.50 118 P **P** 21 14 01.0 +1.9
baz=51
OTUK **Ortayu** 50.57 342 P **P** 21 13 58.9 -0.2
OTUK pmax pmax
comp=Z,52nm,1.0s
ATD **Arta Tunnel** 50.64 284 *e*P **P** 21 14 01.0 +0.8
comp=Z,20nm,1.1s
RAYN **Ar Rayn** 51.08 300 *e*P **P** 21 14 03.8 +0.4
comp=Z,7.8nm,0.9s
RAYN **Ar Rayn** 51.08 300 *e*P **P** 21 14 03.8 +0.4
RAYN pmax pmax
comp=Z,8.0nm,0.9s
KURK **Kurchatov** 51.29 349 *e*P **P** 21 14 04.0 -0.4
comp=Z,30nm,1.1s
KURK **Kurchatov** 51.29 349 *e*P **P** 21 14 04.0 -0.4
KURK pmax pmax
comp=Z,30nm,1.1s
MOY **Mondy** 51.30 7 *e*P **P** 21 14 05.4 +0.7
MOY pmax pmax
comp=Z,18nm,2.8s
CN2 **Changchun** 51.92 30 *e*P **P** 21 14 08.4 -0.9
CN2 *e*S **S** 21 21 29.9 0.0
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,290nm,18.0s
CN2 LR LR
comp=Z,250nm,18.0s
CN2 LR LR
comp=Z,280nm,18.0s
GUMO **Guam** 53.21 74 LR LR 21 36 49.5
comp=Z,29nm,21.4s,baz=214,slow=36
ZAA0 **Zalesovo Array** 53.51 354 *e*P **P** 21 14 20.7 -0.1
comp=Z,26nm,0.6s
ZALV **Zalesovo Beam** 53.51 354 P **P** 21 14 20.6 -0.2
comp=Z,26nm,0.5s,baz=185,slow=8.4,SNR=103
ZALV LR LR 21 41 36.4
comp=Z,222nm,18.9s,baz=242,slow=41
MTSU **Mount Surprise** 54.07 113 P **P** 21 14 27.0 +1.4
baz=54,SNR=6.2
NVS **Novosibirsk** 54.56 353⇑ *i*P **P** 21 14 28.1 -0.3
NVS *e* 21 14 41.7
NVS *e*S **S** 21 22 03.1 -2.2
NVS pmax pmax
comp=Z,19nm,1.0s
NVS pmax pmax
comp=N,12nm,0.8s
NVS smax smax
comp=E,8.0nm,1.5s
MDJ **Mudanjiang** 54.61 32 P **P** 21 14 29.6 +0.5
MDJ PcS **PcS** 21 19 29.6 -1.7
MDJ S **S** 21 22 11.5 +5.0
MDJ sS sS 21 22 20.1 -1.5
MDJ pmax pmax
comp=E,16nm,2.3s
MDJ pmax pmax
comp=E,230nm,3.4s
MDJ LR LR
comp=E,230nm,4.4s
PMG **Port Moresby** 55.14 102 *i* P **P** 21 14 37.6 +4.2
PMG pmax pmax
comp=Z,57nm,1.0s
MJAR **Matsushiro Arr** 55.18 44 P **P** 21 14 32.1 -1.3
comp=Z,1.5nm,0.5s,baz=240,slow=6.1,SNR=5.8
MJAR LR LR 21 38 30.4
comp=Z,330nm,20.7s,baz=240,slow=36
MJAR **Matsushiro Arr** 55.18 44 P **P** 21 14 32.1 -1.3
MJAR pmax pmax
comp=Z,1.0nm,0.5s
MJAR MLR MLR
comp=Z,330nm,20.7s
BVAR **Borovoye Array** 55.39 344 LR LR 21 39 32.9
comp=Z,366nm,18.1s,baz=166,slow=37
BRVK **Borovoye** 55.45 344 *e*P **P** 21 14 33.7 -1.2
comp=Z,8.8nm,0.8s
BRVK **Borovoye** 55.45 344 *c* iP **P** 21 14 33.2 -1.8
BRVK pmax pmax
comp=Z,8.0nm,0.8s
KMBO **Kilima Mbogo** 55.47 268 P **P** 21 14 37.1 +1.0
comp=Z,4.8nm,0.7s,baz=72,slow=7.6,SNR=16
KMBO **Kilima Mbogo** 55.47 268 *i* P **P** 21 14 37.7 +1.6
KMBO pmax pmax
comp=Z,5.0nm,0.7s
USA0B **Ussuriysk Arra** 55.63 33 *e*P **P** 21 14 36.8 +0.4
comp=Z,26nm,1.0s
USRK **Ussuriysk Ar.** 55.63 33 P **P** 21 14 36.8 +0.4
comp=Z,8.6nm,0.9s,baz=231,slow=5.9,SNR=17
ABKAR **Akbulak array** 55.97 335 *e*P **P** 21 14 38.4 -0.4
CTAO **Charters Tower** 56.34 115 *e*P **P** 21 14 42.6 +0.7
comp=Z,17nm,1.2s
CTAO **Charters Tower** 56.34 115 *e*P **P** 21 14 42.6 +0.7
CTAO pmax pmax
comp=Z,17nm,1.2s
STKA **Stephens Creek** 56.41 130 P **P** 21 14 43.3 +1.0
comp=Z,2.1nm,0.7s,baz=276,slow=6.2,SNR=5.5
STKA LR LR 21 39 44.6
comp=Z,150nm,19.2s,baz=288,slow=37
STKA **Stephens Creek** 56.41 130 P **P** 21 14 43.3 +1.0
STKA pmax pmax
comp=Z,5.0nm,0.8s

STKA MLR MLR
comp=Z,150nm,19.2s
AKT Akhty 57.37 321 *i* P **P 21 14 49.5 +0.5**
AKT pmax pmax
comp=Z,18nm,1.2s
AKTO Aktyubinsk 57.68 334 LR LR 21 40 26.0
comp=Z,170nm,20.7s,baz=151,slow=37
GNI Garni 58.62 318 *eP* **P 21 14 58.8 +0.9**
comp=Z,45nm,0.6s
GNI Garni 58.62 318 *eP* **P 21 14 58.8 +0.9**
GNI pmax pmax
comp=Z,45nm,0.6s
KLR Kul'dur 58.83 29 *d iP* **P 21 14 59.0 +0.1**
TBLG Delisi 59.41 320 *eP* **P 21 15 04.5 +1.3**
comp=Z,33nm,1.0s
TBLG Delisi 59.41 320 *eP* **P 21 15 04.5 +1.3**
TBLG pmax pmax
comp=Z,33nm,1.0s
BOD Bodaibo 59.46 13 *eP* **P 21 15 02.4 -0.7**
BOD pmax pmax
comp=Z,29nm,1.4s
CMSA Cobar Meteorol 59.48 128 P **P 21 15 05.0 +1.2**
baz=60,SNR=13
GROC Groznyy 59.51 322 *eP* **P 21 15 02.6 -1.1**
GROC *e* 21 15 50.9
GROC *e* 21 17 14.8
GROC *eS* **S 21 23 10.2 -0.8**
GROC pmax pmax
comp=Z,34nm,0.8s
ZEA Zeya 60.10 23 *eP* **P 21 15 07.9 +0.3**
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA MLR MLR
comp=Z,400nm,16.0s
ZEA MLR MLR
comp=N,400nm,14.0s
ZEI Tsey 60.48 320 *eP* **P 21 15 11.0 +0.3**
ZEI pmax pmax
comp=Z,13nm,0.9s
NCK Nalchik 61.03 321 *i* P **P 21 15 13.6 -0.6**
NCK pmax pmax
comp=Z,13nm,1.0s
ERM Erimo 61.19 41 *ceP* P 21 15 08.6 -6.6
ERM pmax pmax
comp=Z,43nm,1.2s
KBZ Khabaz 61.59 321 P **P 21 15 18.7 +0.8**
comp=Z,5.8nm,0.8s,baz=131,slow=6.3,SNR=12
KBZ LR LR 21 44 06.1
comp=Z,89nm,19.9s,baz=128,slow=38
SVE Sverdlovsk 61.61 341 ⇑ *iP* **P 21 15 17.1 -0.7**
SVE pmax pmax
comp=Z,35nm,1.5s
KIV Kislovodsk 61.83 321 *eP* **P 21 15 19.4 -0.3**
comp=Z,46nm,1.4s
KIV Kislovodsk 61.83 321 *eP* **P 21 15 20.2 +0.5**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,81nm,17.0s
MBAR Mbarara 61.97 269 *i* P **P 21 15 23.1 +1.9**
MBAR pmax pmax
comp=Z,9.0nm,1.2s
ARU Arti 62.01 339 *eP* **P 21 15 18.9 -1.6**
comp=Z,36nm,1.6s
ARU Arti 62.01 339 *d iP* **P 21 15 19.2 -1.3**
ARU 21 17 34.3
ARU S **S 21 23 44.2 +1.7**
ARU SS **SS 21 27 39.7 -5.8**
ARU pmax pmax
comp=Z,24nm,1.6s
ARU MLR MLR
comp=Z,334nm,18.0s
YSS Yuzh-Sakhalins 63.38 36 ⇓ *eP* **P 21 15 30.1 +0.3**
YSS *e* 21 15 35.3
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS MLR MLR
comp=N,300nm,14.0s
YSS MLR MLR
comp=E,300nm,15.0s
VRH Novokhopyorsk 66.11 328 *eP* **P 21 15 46.2 -1.3**
VRH pmax pmax
comp=Z,10.0nm,0.7s
BR131 Keskin Array S 66.18 314 *eP* **P 21 15 49.0 +0.5**
BRTR Keskin Array B 66.18 314 P **P 21 15 48.6 +0.2**
comp=Z,7.8nm,0.6s,baz=132,slow=6.6,SNR=44
BRTR LR LR 21 45 15.3
comp=Z,146nm,20.2s,baz=109,slow=36
YAK Yakutsk 67.25 18 *eP* **P 21 15 53.8 -0.8**
YAK *e* 21 16 07.8
YAK pmax pmax
comp=Z,28nm,0.6s
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=E,11nm,0.8s
VSR Storozhevoye 67.50 327 *i* P **P 21 15 54.8 -1.6**
VSR pmax pmax
comp=Z,13nm,0.6s
LPSR Galich'ya Gora 68.31 328 *eP* **P 21 15 59.9 -1.6**
LPSR pmax pmax
comp=Z,20nm,0.8s
LBTB Lobatse 69.62 243 *eP* **P 21 16 11.4 +1.1**
comp=Z,28nm,0.8s
LBTB Lobatse 69.62 243 *eP* **P 21 16 11.4 +1.1**
LBTB pmax pmax
comp=Z,28nm,0.8s
PRGR Permogore 70.41 338 *eP* **P 21 16 12.9 -1.3**
PRGR *e* 21 18 51.4
PRGR pmax pmax
comp=Z,31nm,0.6s
MOS Moscow 70.53 331 *eP* **P 21 16 13.6 -1.5**
MOS *e* 21 16 34.5
MOS pmax pmax
comp=Z,17nm,0.6s
BOSA Boshof 70.62 239 P **P 21 16 16.1 -0.3**
comp=Z,12nm,0.8s,baz=90,slow=3.8,SNR=13
OBN Obninsk 70.76 330 *i* P **P 21 16 15.9 -0.6**
OBN *i* 21 16 30.6
OBN *e* 21 18 53.7
OBN *eS* **S 21 25 20.5 -8.1**
OBN pmax pmax
comp=Z,22nm,1.4s
IDI Anoyia 71.60 307 ⇓ *iP* **P 21 16 23.5 +1.3**
ICOR Ion Corvin 71.73 317 ⇓ *iP* **P 21 16 22.3 -0.3**
HARR Harsova 71.81 317 ⇑ *iP* **P 21 16 24.1 +1.0**
HARR Harsova 71.81 317 ⇑ *iP* **P 21 16 24.1 +1.0**
KIS Kishinev 71.96 320 *eP* **P 21 16 23.0 -0.9**
KIS Kishinev 71.96 320 *eP* **P 21 16 23.0 -0.9**
KIS *e* 21 16 29.0
KLMR Klimovskoe 72.34 336 *eP* **P 21 16 24.0 -1.9**
KLMR pmax pmax
comp=Z,17nm,1.1s
KLMR Klimovskoe 72.34 336 *eP* **P 21 16 24.1 -1.9**
KLMR AMP 21 16 27.1
comp=Z,17nm,1.1s
AKASG Malin Array Be 72.97 323 P **P 21 16 28.6 -1.3**
comp=Z,4.0nm,0.7s,baz=93,slow=4.8,SNR=12
AKASG LR LR 21 50 24.7
comp=Z,184nm,21.5s,baz=90,slow=37
AKASG Malin Array Be 72.97 323 *i* P **P 21 16 29.5 -0.4**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 72.97 323 *eP* **P 21 16 29.3 -0.6**
VRI Vrincioaia 72.98 318 ⇑ *iP* **P 21 16 31.2 +1.1**
VRI Vrincioaia 72.98 318 ⇑ *iP* **P 21 16 31.2 +1.1**
KIEV Kiev 72.98 323 *eP* **P 21 16 28.9 -1.1**
comp=Z,6.3nm,0.9s
KIEV Kiev 72.98 323 ⇓ *iP* **P 21 16 29.3 -0.7**
KIEV Kiev 72.98 323 *i* P **P 21 16 29.2 -0.7**
KIEV pmax pmax
comp=Z,5.0nm,1.0s
PLOR Plostina 73.02 318 ⇓ *iP* **P 21 16 31.8 +1.4**
PLOR Plostina 73.02 318 ⇓ *iP* **P 21 16 31.8 +1.4**
MLR Muntele Rosu 73.39 318 *eP* **P 21 16 34.0 +1.3**
comp=Z,14nm,0.9s
MLR Muntele Rosu 73.39 318 ⇑ *iP* **P 21 16 34.0 +1.3**
MLR Muntele Rosu 73.39 318 ⇑ *iP* **P 21 16 34.0 +1.3**
PRAR RASCA 73.75 320 ⇑ *iP* **P 21 16 35.0 +0.4**
HUMR Humele 73.78 316 ⇑ *iP* **P 21 16 35.0 +0.2**
MA2 Magadan 73.80 27 *ceP* **P 21 16 34.8 +0.2**
MA2 pmax pmax
comp=Z,18nm,1.7s
DOPR Dopca 73.90 318 ⇑ *iP* **P 21 16 35.5 0.0**
MTUR Matau 73.92 317 ⇓ *iP* **P 21 16 35.9 +0.2**
MTUR Matau 73.92 317 P **P 21 16 36.4 +0.7**
SRS Serrai 73.92 313 P **P 21 16 35.3 -0.4**
SRS pmax pmax
comp=Z,8.0nm,1.0s
VOIR 73.98 317 ⇑ *iP* **P 21 16 36.1 0.0**
VOIR 73.98 317 ⇑ P **P 21 16 36.1 0.0**
ITM Ithomi 74.34 308 *eP* **P 21 16 38.9 +0.6**
comp=Z,56nm,1.6s
BURAR Bucovina Array 74.48 320 ⇓ *iP* **P 21 16 40.3 +1.3**
BURAR Bucovina Array 74.48 320 ⇓ P **P 21 16 40.3 +1.3**
BUR04 Bucovina Ar. S 74.48 320 *eP* **P 21 16 39.9 +0.8**
BUR08 Bucovina Ar. S 74.50 320 *eP* **P 21 16 40.4 +1.3**
TIXI Tiksi 74.54 11 *ceP* **P 21 16 37.4 -1.3**
TIXI pmax pmax
comp=Z,33nm,0.6s
VTS Vitosha 74.54 314 *eP* **P 21 16 39.6 +0.1**
comp=Z,8.2nm,0.8s
VTS Vitosha 74.54 314 ⇓ *iP* **P 21 16 39.8 +0.3**
VTS Vitosha 74.54 314 ⇓ P **P 21 16 39.8 +0.3**
PETK Petropavlovsk- 74.70 35 LR LR 21 51 36.6
comp=Z,152nm,19.1s,baz=243,slow=37
GRG Griva 74.76 312 P **P 21 16 40.4 -0.3**
GRG pmax pmax
comp=Z,20nm,0.9s
LVV L'vov 75.85 322 *eP* **P 21 16 45.4 -1.3**
LVV *eS* **S 21 26 25.5 -1.2**
IDID Didziasalis 75.98 327 *eP* P 21 16 55.1 +7.8
SEY Seymchan 76.05 24 *ceP* **P 21 16 47.3 -0.2**
MDVR Moldovita 76.11 316 ⇑ *iP* **P 21 16 48.8 +0.5**
IIGN Ignalina 76.27 327 *eP* P 21 16 56.2 +7.2
TRPA Tarpa 76.35 320 ⇓ *iP* **P 21 16 50.3 +0.7**
BZS Buzias 76.36 317 ⇓ *iP* **P 21 16 49.8 +0.1**
BZS Buzias 76.36 317 ⇓ P **P 21 16 49.8 +0.1**
IZAR Zarasai 76.39 328 *eP* P 21 16 55.8 +6.2
ISAL Salakas 76.39 328 *eP* P 21 16 56.2 +6.5
SIRR Siria 76.48 316 ⇓ *iP* **P 21 16 51.0 +0.6**
JOF Joensuu 76.74 336 P **P 21 16 51.1 -0.3**
JOF pmax pmax
comp=Z,15nm,2.5s
VSU Vasula 77.06 330 *ceP* **P 21 16 56.5 +3.2**
VSU pmax pmax
comp=Z,47nm,1.0s
DIVS Divibare 77.16 315 *eP* **P 21 16 54.7 +0.4**
comp=Z,11nm,1.2s
TTG Podgorica 77.36 313 *eP* **P 21 16 55.3 -0.1**
comp=Z,8.7nm,0.9s
TTG Podgorica 77.36 313 *eP* **P 21 16 55.3 -0.1**
TTG pmax pmax
comp=Z,9.0nm,0.9s
SUW Suwalki 77.54 326 P **P 21 16 55.7 -0.4**
SUW pmax pmax
comp=Z,32nm,1.2s
APA Apatity 78.08 340 ⇓ *iP* P 21 17 03.9 +5.0
APA pmax pmax
comp=Z,4.0nm,0.8s
APA MLR MLR
comp=Z,500nm,16.0s
SYO Syowa Base 78.13 197 ⇓ *eP* **P 21 17 00.4 +1.3**
SYO Syowa Base 78.13 197 ⇓ *esP* sP 21 17 10.0 -2.1
FINES FINESS Array B 78.42 333 P **P 21 17 00.1 -0.8**
comp=Z,6.7nm,0.7s,baz=98,slow=4.8,SNR=22
FINES LR LR 21 53 44.7
comp=Z,213nm,19.4s,baz=115,slow=37
FINES FINESS Array B 78.42 333 *i* P **P 21 17 00.6 -0.2**
FINES pmax pmax
comp=Z,7.0nm,0.6s
SUF Sumiainen 78.84 334 P **P 21 17 03.0 -0.1**
SUF pmax pmax
comp=Z,17nm,1.0s
VYHS Vyhne 78.84 319 *eP* **P 21 17 03.9 +0.4**
VYHS *ePCP* **PcP 21 17 10.0 -2.2**
JAVC Velka Javorina 79.67 320 *eP* **P 21 17 09.9 +1.8**
SMOL Smolenice 79.77 319 P **P 21 17 09.9 +1.4**
SMOL pmax pmax
comp=Z,18nm,0.7s
MODS Modra-Piesok 79.84 319 *eP* **P 21 17 10.3 +1.3**
MODS *epP* **pP 21 17 18.4 -0.1**
KRUC Moravsky 80.54 320 P **P 21 17 13.3 +0.6**
KRUC pmax pmax
comp=Z,5.0nm,1.2s
CONA Conrad Observa 80.69 318 *eP* **P 21 17 14.1 +0.5**
comp=Z,4.4nm,1.3s
DPC Dobruska-Polom 80.81 321 *eP* **P 21 17 15.6 +1.4**
DPC Dobruska-Polom 80.81 321 *eP* **P 21 17 15.6 +1.4**
ARSA Arzberg 80.81 318 *eP* **P 21 17 15.5 +1.2**
comp=Z,8.0nm,0.8s
SOKA Soboth 81.06 317 *eP* **P 21 17 16.8 +1.2**
comp=Z,4.8nm,0.6s,SNR=4.5
OBKA Obir 81.36 317 *eP* **P 21 17 18.4 +1.1**
comp=Z,4.6nm,0.7s
ARCES ARCESS Array B 81.54 341 P **P 21 17 16.8 -0.8**
comp=Z,7.3nm,0.8s,baz=94,slow=5.2,SNR=20
ARCES LR LR 21 55 38.2
comp=Z,15nm,18.7s,baz=157,slow=37
MOA Molln 81.75 318 *eP* **P 21 17 18.9 -0.2**
comp=Z,5.9nm,1.1s
MYKA Terra Mystica 82.00 317 *eP* **P 21 17 21.5 +0.9**
comp=Z,1.3nm,0.6s
GEA0 GERESS Array S 82.25 319 *eP* **P 21 17 22.6 +0.7**
GEC2 GERESS Array S 82.26 319 *eP* **P 21 17 23.2 +1.3**
comp=Z,19nm,1.0s
GEC2 GERESS Array S 82.26 319 *eP* **P 21 17 23.2 +1.3**
GEC2 pmax pmax
comp=Z,19nm,1.0s
GERES GERESS Array B 82.26 319 P **P 21 17 22.7 +0.8**
comp=Z,5.0nm,0.8s,baz=96,slow=4.7,SNR=32
GERES LR LR 21 58 27.5
comp=Z,58nm,18.2s,baz=94,slow=39
KBA Koelnbreinsper 82.26 317 P **P 21 17 21.9 -0.2**
KBA pmax pmax
comp=Z,7.0nm,1.1s
KBA Koelnbreinsper 82.26 317 *eP* **P 21 17 22.1 0.0**
comp=Z,1.7nm,0.6s
KHC Kasperske Hory 82.38 319 *eP* **P 21 17 24.3 +1.8**
comp=Z,1.7nm,0.9s
KHC Kasperske Hory 82.38 319 *eP* **P 21 17 23.9 +1.4**
KHC Kasperske Hory 82.38 319 *eP* **P 21 17 23.9 +1.4**
BRG Berggiesshubel 82.39 321 *eP* P 21 17 31.8 +9.3
comp=Z,5.6nm,1.1s
BRG Berggiesshubel 82.39 321 *eP* P 21 17 31.8 +9.4
BRG pmax pmax
comp=Z,5.0nm,1.2s
ABTA Abfaltersbach 82.79 317 *eP* **P 21 17 25.0 +0.3**
comp=Z,4.1nm,0.9s
WET Wettzell 82.83 319 P **P 21 17 25.5 +0.7**
WET pmax pmax
comp=Z,7.0nm,1.1s
CLL Collm 83.04 322 *eP* **P 21 17 27.0 +1.2**
CLL *epP* **pP 21 17 35.0 -0.4**
comp=Z,9.0nm,1.2s
CLL *e* 21 37 00.0
CLL Collm 83.04 322 *eP* **P 21 17 27.0 +1.2**
CLL *e* 21 17 35.0
BILL Bilibino 83.29 21 *eP* **P 21 17 27.5 +0.8**
BILL *i* 21 17 41.2
BILL *e* 21 20 46.5
BILL *eS* **S 21 27 41.0 -3.6**
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,310nm,17.0s
WATA Walderalm 83.49 317 *eP* **P 21 17 28.3 -0.1**
comp=Z,3.5nm,0.5s
SQTA Sankt Quirin 83.72 317 *eP* **P 21 17 29.8 +0.2**
comp=Z,8.4nm,0.6s,SNR=9.9
MOTA Moosalm 83.81 317 *i* P **P 21 17 30.1 0.0**
comp=Z,3.9nm,0.6s,SNR=8.3
FETA Feichten 84.03 317 *eP* **P 21 17 32.0 +0.8**
comp=Z,5.6nm,0.8s
RETA Reutte 84.05 318 *eP* **P 21 17 31.8 +0.6**
comp=Z,8.2nm,0.6s
KEST Kesra 84.21 306 P **P 21 17 33.6 +1.3**
comp=Z,1.7nm,0.6s,baz=74,slow=4.9,SNR=4.3
KEST LR LR 21 56 45.7
comp=Z,93nm,20.6s,baz=270,slow=37
FUORN Ofenpass-Fuorn 84.31 317 *eP* **P 21 17 34.1 +1.4**
comp=Z,12nm,0.8s
DAVA Damuels 84.63 317 *eP* **P 21 17 35.3 +1.1**
comp=Z,9.0nm,0.7s,SNR=7.7
NOA NORSAR Array B 85.29 331 P **P 21 17 35.4 -1.7**
comp=Z,1.7nm,0.9s,baz=97,slow=5.8,SNR=3.9
NOA LR LR 21 57 17.9
comp=Z,78nm,20.0s,baz=105,slow=37
BFO Black Forest 85.75 318 *ceP* P 21 17 50.5 +11
TAM Tamanrasset 87.14 293 *eP* **P 21 17 50.1 +2.9**
comp=Z,4.7nm,1.0s
TAM Tamanrasset 87.14 293 *eP* **P 21 17 50.1 +2.9**
TAM pmax pmax
comp=Z,5.0nm,1.0s
NVL N'lazarevskaya 87.60 199 *eP* **P 21 17 49.5 +1.4**
NVL pmax pmax
comp=Z,8.0nm,1.0s
QSPA South Pole Qui 90.61 180 *eP* **P 21 18 03.9 +1.3**
SNAA Sanae 92.37 198 *i* P **P 21 18 12.8 +2.2**
DAG Danmarks Havn 94.17 348 P **P 21 18 18.6 -0.1**
DAG pmax pmax
comp=Z,11nm,0.8s
NVAR Mina Array Bea 131.77 33 PKP **PKPdf 21 24 14.2 +0.1**
comp=Z,0.7nm,0.6s,baz=296,slow=4.7,SNR=3.5
PDAR Pinedale Array 132.36 22 PKP **PKPdf 21 24 14.4 -0.8**
comp=Z,0.3nm,0.5s,baz=106,slow=3.2,SNR=5.8
T42A Van Buren 142.34 5 P **PKPdf 21 24 28.0 -5.4**
baz=354
WMOK Wichita Mounta 143.18 16 P PKPab 21 24 31.2 +0.6
baz=341
MIAR Mount Ida 144.49 9 P PKPbc 21 24 36.2 +0.4
baz=349
X40A Basin Creek Fa 144.66 8 P **PKPbc 21 24 36.0 -0.1**
baz=350
X47A Russelville 145.00 1 P **PKPab 21 24 36.2 -1.3**
baz=359
X50B Fort Payne 145.03 358 P **PKPbc 21 24 34.8 -2.7**
baz=2.8
Y51A Rockmart 145.56 357 P **PKPdf 21 24 38.1 -1.1**
baz=3.9
Y46A Houston 145.61 2 P **PKPdf 21 24 39.0 -0.2**
baz=357
Y48A Jasper 145.61 360 P **PKPdf 21 24 38.4 -0.8**
baz=0.2
Y47A UCPARC, Winfie 145.62 1 P **PKPdf 21 24 38.7 -0.5**
baz=359
GOGA Godfrey 145.92 354 P **PKPdf 21 24 37.5 -2.2**
baz=6.8
Z54A Sparta 146.02 353 P **PKPdf 21 24 39.6 -0.3**
baz=7.9
Z48A Northport 146.14 0 P **PKPbc 21 24 40.6 -0.4**
baz=360
Z52A Williamson 146.22 356 P **PKPdf 21 24 40.7 +0.4**
baz=5.1
TXAR Lajitas Array 146.32 26 PKPbc **PKPbc 21 24 41.9 0.0**
comp=Z,4.0nm,0.5s,baz=159,slow=0.5,SNR=68
JCT Junction City 146.83 20 *ePKPbc* **PKPbc 21 24 42.9 -0.3**
JCT Junction City 146.83 20 *ePKP2* **PKPbc 21 24 42.9 -0.3**
JCT Junction City 146.83 20 P **PKPbc 21 24 43.0 -0.3**
baz=337
SIV San Ignacio 149.97 238 PKPbc **PKPbc 21 24 50.5 -1.3**
comp=Z,0.8nm,0.6s,baz=90,slow=4.8,SNR=10
SIV PKPab **sPKPdf 21 24 58.9 -1.3**
comp=Z,2.9nm,1.1s,baz=157,slow=3.6,SNR=5.4
LVC Limon Verde 151.78 218 PKPbc **PKPbc 21 24 54.5 -1.9**
comp=Z,2.8nm,0.5s,baz=146,slow=3.6,SNR=2.7
PTGA Pitinga 152.66 270 PKPbc **PKiKP 21 24 58.6 +0.2**
comp=Z,2.0nm,0.5s,baz=53,slow=4.2,SNR=5.9
LPAZ La Paz 155.53 230 PKPab **PKPab 21 25 21.5 -0.1**
comp=Z,3.4nm,0.8s,baz=83,slow=2.6,SNR=5.8

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*BJI **09** 21:20:01.1,2.2°S×67.6°E,h10km,mb4.6/37,mB5.2/23, Ms4.7/18,Ms7 4.4/19*
*IDC **09** 21:20:04.6±0.6, 1.9°S×68.1°E, h0km, mb4.2/22, mb1 4.3/23,mb1mx4.1/68,mbtmp4.2/23,ML4.1/1,MS4.2/16, Ms1 4.2/16,ms1mx3.8/52,Error ellipse: s-maj=16.7km s-min=13.9km az=173.0*
*MOS **09** 21:20:05.1±1.2, 1.8°S×68.0°E,h10km,mb4.9/29,Error ellipse: s-maj=10.1km s-min=6.4km az=83.8*
*ISCJB **09** 21:20:05.7±0.3, 1.9°S±0.0°×67.9°E±0.0°,h15km, mb4.5/75,MS4.2/19,Error ellipse: s-maj=7.2km s-min=6.5km az=15.6*
*GCMT **09** 21:20:06.8±0.3, 2.0°S±0.0°×67.9°E±0.0°,h12km, MW5.0/58,Moment Tensor Solution. s23,c26; s58,c88; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.29±.12; Mθθ0.49±.12; Mφφ 1.80±.11; Mrθ 1.32±.44; Mφφ-1.67±.09; Mφr 1.52±.33; Best double couple: Mo3.30500×10^16^ NP1:φs176.00000°,δ60.00000°,λ-51.00000°. NP2: φs298.00000°,δ48.00000°,λ-137.00000°. Principal axes: T 3.0000, Plg7.0000°, Azm239.0000°; N 0.6070, Plg33.0000°, Azm334.0000°; P -3.6110, Plg56.0000°, Azm139.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **09** 21:20:06.8±0.3, 1.9°S×68.0°E,h10km,mb4.8/20 Error ellipse: s-maj=9.1km s-min=8.4km az=179.0*
ISC 09 21:20:07.8±0.4,**1.8°S**±0.0°×**67.9°E**±0.0°,**h15**km,**n182,** σ1**s26**/160,**mb4.7**/82,**MS4.2**/19,**1C-2D,Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC h m s	ISC
H08N2	**Diego Garcia H**	**5.36**	**146**	T	T	21 26 48.9	
	baz=325,slow=75,SNR=269						
H08N3	**Diego Garcia H**	**5.37**	**146**	T	T	21 26 49.2	
	baz=325,slow=75,SNR=355						
H08N1	**Diego Garcia H**	**5.38**	**146**	T	T	21 26 46.8	
	baz=325,slow=75,SNR=303						
DGAR	**Diego Garcia**	**7.09**	**141**	*ePn*	**Pn**	**21 21 51.6 +0.5**	
	136nm,0.8s						
DGAR	**Diego Garcia**	**7.09**	**141**	*eP*	**Pn**	**21 21 51.7 +0.5**	
DGAR				pmax	pmax		
	comp=Z,136nm,0.8s						
PALK	**Pallekele**	**15.64**	**54**	P	**Pn**	**21 23 45.7 -2.2**	
	comp=Z,0.7nm,0.3s,baz=295,slow=7.4,SNR=4.0						
PALK				LR	LR	21 28 28.9	
	comp=Z,1μm,20.6s,baz=294,slow=32						
OPO	**Ambohidratompo**	**26.26**	**229**	LR	LR	21 33 41.6	
	comp=Z,906nm,19.1s,baz=22,slow=31						
WSAR	**Wadi Sarin**	**26.57**	**341**	LR	LR	21 34 16.4	
	comp=Z,277nm,18.2s,baz=162,slow=32						
ATD	**Arta Tunnel**	**28.29**	**299**	LR	LR	21 34 52.8	
	comp=Z,240nm,21.5s,baz=108,slow=31						
KMBO	**Kilima Mbogo**	**30.70**	**271**	P	**P**	**21 26 22.1 -0.7**	
	comp=Z,1.3nm,0.6s,baz=110,slow=18,SNR=4.6						
KMBO				LR	LR	21 37 24.3	
	comp=Z,354nm,19.4s,baz=103,slow=34						
KMBO	**Kilima Mbogo**	**30.70**	**271**	*eP*	P	21 26 28.6 +5.8	
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FURI	**Furi**	**31.08**	**291**	*eP*	**P**	**21 26 24.6 -1.6**	
	comp=Z,28nm,1.5s						
PSI	**Prapat**	**31.31**	**82**	LR	LR	21 36 58.3	
	comp=Z,561nm,21.2s,baz=268,slow=33						
PSI	**Prapat**	**31.31**	**82**	*eP*	P	21 26 20.6 -7.3	
	comp=Z,11nm,1.1s						
PSI	**Prapat**	**31.31**	**82**	*eP*	P	21 26 20.6 -7.4	
PSI				pmax	pmax		
	comp=Z,11nm,1.1s						
MNSI	**Mandailing Nat**	**31.73**	**85**	P	**P**	**21 26 33.2 +1.6**	
PKDT	**Phuket**	**31.82**	**72**	P	P	21 26 40.4 +8.1	
	comp=Z,11nm,1.1s						
PDSI	**Padang**	**32.51**	**89**	P	P	21 26 49.0 +11	
KOLN	**Koldanda**	**33.10**	**26**	*eP*	**P**	**21 26 43.8 +0.2**	
	comp=Z,60nm,1.4s						
PYUN	**Piuthan**	**33.13**	**25**	*eP*	**P**	**21 26 44.0 +0.1**	
	comp=Z,68nm,1.5s						
DMN	**Daman**	**33.65**	**28**	*eP*	**P**	**21 26 48.8 +0.3**	
	comp=Z,107nm,1.5s						
DANN	**Dangsing**	**33.67**	**26**	*eP*	**P**	**21 26 48.9 +0.2**	
	comp=Z,35nm,1.0s						
PKIN	**Phulchoki**	**33.76**	**29**	*eP*	**P**	**21 26 49.6 +0.1**	
	comp=Z,68nm,1.7s						
RAMN	**Ramite**	**33.84**	**31**	*eP*	**P**	**21 26 49.6 -0.5**	
KKN	**Kakani**	**33.88**	**28**	*eP*	**P**	**21 26 49.7 -0.8**	
JIRN	**Jiri**	**34.22**	**30**	*eP*	**P**	**21 26 53.2 -0.3**	
	comp=Z,79nm,1.3s						
GUN	**Gumba**	**34.27**	**29**	*eP*	**P**	**21 26 53.8 -0.2**	
	comp=Z,97nm,1.2s						
SRDT	**SRDT**	**34.83**	**61**	P	P	21 27 09.3 +11	
UMPA	**Umpang Tak**	**35.43**	**58**	P	P	21 27 14.6 +11	
NIL	**Nilore**	**35.69**	**8**	*eP*	**P**	**21 27 05.7 -0.1**	
	comp=Z,28nm,1.0s						
NIL	**Nilore**	**35.69**	**8**	*eP*	**P**	**21 27 05.7 -0.1**	
NIL				pmax	pmax		
	comp=Z,28nm,1.0s						
SHL	**Shillong**	**35.79**	**39**	*eP*	**P**	**21 27 07.7 +0.7**	
	comp=Z,14nm,0.9s						
SHL	**Shillong**	**35.79**	**39**	*eP*	**P**	**21 27 07.7 +0.7**	
SHL				pmax	pmax		
	comp=Z,14nm,0.9s						

KBL Kabul 36.24 2 eP P 21 27 13.2 +2.5
comp=Z,6.5nm,1.0s
KBL Kabul 36.24 2 P P 21 27 12.1 +1.4
KBL pmax pmax
comp=Z,9.0nm,1.1s
CM01 Chiang Mai Arr 36.58 55 eP P 21 27 13.1 -0.5
CM31 Chiang Mai Arr 36.58 55 eP P 21 27 11.2 -2.4
CMAR Chiang Mai Arr 36.58 55 P P 21 27 11.4 -2.2
comp=Z,2.1nm,0.9s,baz=244,slow=10,SNR=14
CMAR LR LR 21 40 20.6
comp=Z,272nm,21.8s,baz=244,slow=33
CMAR Chiang Mai Arr 36.58 55 eP P 21 27 13.8 +0.2
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CHTO Chiang Mai 36.76 55 eP P 21 27 14.7 -0.4
comp=Z,27nm,1.4s
CHTO Chiang Mai 36.76 55 eP P 21 27 14.7 -0.4
CHTO pmax pmax
comp=Z,27nm,1.4s
CHTO Chiang Mai 36.76 55 P P 21 27 16.1 +1.0
comp=Z,78nm,1.4s
CMMT Chiang Mai 36.76 55 P P 21 27 16.0 +0.8
comp=Z,17nm,1.3s
MBAR Mbarara 37.23 271 P P 21 27 21.0 +1.6
comp=Z,1.8nm,0.3s,baz=73,slow=13,SNR=5.0
MBAR Mbarara 37.23 271 eP P 21 27 17.8 -1.6
comp=Z,15nm,1.4s
MBAR Mbarara 37.23 271 i P P 21 27 21.7 +2.3
MBAR pmax pmax
comp=Z,5.0nm,1.1s
PBKT Sadao Pong 37.40 59 P P 21 27 23.1 +2.6
comp=Z,19nm,1.8s,comp=Z,791nm
UTTA Uttaradit 37.57 57 P P 21 27 29.6 +7.6
comp=Z,2.5nm,1.1s
CHAI Chaiyaphum 37.99 61 P P 21 27 28.4 +2.8
comp=Z,10.0nm,1.1s
LSA Lhasa 38.44 33 eP P 21 27 30.5 +0.7
comp=Z,42nm,1.6s
LSA Lhasa 38.44 33 eP P 21 27 30.5 +0.7
LSA pmax pmax
comp=Z,42nm,1.6s
LEM Lembang 39.84 98 LR LR 21 41 59.4
comp=Z,329nm,18.4s,baz=233,slow=33
LEM Lembang 39.84 98 P P 21 27 41.7 +0.4
LEM pmax pmax
comp=Z,45nm,1.7s
NONG Nongkai 39.92 59 P P 21 27 47.0 +5.3
comp=Z,0.5nm,1.5s
GEYT Alibeck 40.65 348 P P 21 27 48.0 +0.5
comp=Z,12nm,0.4s,baz=241,slow=6.1,SNR=5.3
LSZ Lusaka 41.41 249 P P 21 27 53.8 -0.5
comp=Z,2.0nm,0.4s,baz=88,slow=6.7,SNR=8.1
LSZ Lusaka 41.41 249 eP P 21 27 54.4 +0.1
comp=Z,10nm,0.9s
LSZ Lusaka 41.41 249 eP P 21 27 54.4 +0.1
LSZ pmax pmax
comp=Z,10.0nm,0.9s
KSH Kashi 41.85 9 P P 21 27 52.6 -4.9
KSH pP pP 21 27 58.6 -3.6
KSH sP sP 21 28 01.1 -2.9
KSH PP PnPn 21 29 37.7 -1.8
KSH S S 21 34 02.6 -12
KSH pmax pmax
comp=Z,110nm,2.2s
KSH pmax pmax
comp=Z,230nm,4.8s
KSH LR LR
comp=Z,240nm,7.7s
KSH LR LR
comp=Z,310nm,8.3s
KSH LR LR
comp=Z,310nm,7.9s
KMI Kunming 43.09 49 P P 21 28 10.4 +2.5
KMI pmax pmax
comp=Z,11nm,0.5s
AAK Ala-Archa 44.71 7 P P 21 28 20.8 +0.3
comp=Z,2.8nm,0.9s,baz=192,slow=8.5,SNR=8.5
AAK Ala-Archa 44.71 7 eP P 21 28 20.7 +0.1
comp=Z,4.9nm,0.9s
AAK Ala-Archa 44.71 7 i P P 21 28 20.9 +0.3
AAK pmax pmax
comp=Z,6.0nm,1.1s
KK31 Karatay Array 44.84 3 eP P 21 28 17.9 -3.6
KK31 Karatay Array 44.84 3 eP P 21 28 17.9 -3.6
KKAR Karatay Array 44.84 3 eP P 21 28 20.6 -0.8
KKAR Karatay Array 44.84 3 eP P 21 28 20.7 -0.8
FRU1 Bishkek 44.89 7 eP P 21 28 24.1 +2.2
comp=Z,18nm,1.2s
FRU1 Bishkek 44.89 7 eP P 21 28 24.1 +2.2
FRU1 pmax pmax
comp=Z,18nm,1.2s
FRU Bishkek 44.91 7 eP P 21 28 23.0 +0.9
PDGK Podgornoye 46.19 12 P P 21 28 31.5 -0.8
PDGK pmax pmax
comp=Z,8.0nm,1.8s
GYA Guiyang 46.79 50 eP P 21 28 39.0 +1.7
GYA pmax pmax
comp=Z,10.0nm,1.0s
CD2 Chengdu 47.15 43 eP P 21 28 40.0 0.0
BOSA Boshof 48.60 233 P P 21 28 50.4 -0.9
comp=Z,1.7nm,0.7s,baz=78,slow=6.7,SNR=3.6
BOSA LR LR 21 47 17.2
comp=Z,324nm,18.1s,baz=60,slow=34
WMQ Urumqi 48.82 19 eP P 21 28 53.1 +0.4
WMQ pP sP 21 29 00.2 +0.9
WMQ sP pP 21 29 05.4 +8.0
WMQ pmax pmax
comp=Z,19nm,1.9s
WMQ pmax pmax
comp=Z,190nm,3.6s
WMQ LR LR
comp=Z,400nm,19.9s
WMQ LR LR
comp=Z,210nm,24.9s
WMQ LR LR
comp=Z,410nm,28.9s
MAKZ Makanchi 50.03 13 eP P 21 29 00.5 -1.3
comp=Z,7.2nm,1.0s
MK01 Makanchi Array 50.07 13 eP P 21 29 00.2 -1.9
MK01 ePcP PcP 21 30 22.6 +0.9
OTUK Ortayu 50.07 4 P P 21 29 02.6 +0.5
OTUK pmax pmax
comp=Z,4.0nm,2.3s
MKAR Makanchi Array 50.09 13 P P 21 29 00.3 -1.9
comp=Z,3.0nm,0.9s,baz=204,slow=7.1,SNR=26
MKAR PcP PcP 21 30 20.4 -1.4
comp=Z,2.2nm,1.0s,baz=172,slow=3.7,SNR=4.5
MKAR ScP ScP 21 34 17.8 +0.5
comp=Z,0.6nm,0.8s,baz=198,slow=7.6,SNR=4.5
MKAR Makanchi Array 50.09 13 eP P 21 29 01.3 -0.9
MKAR pmax pmax
comp=Z,3.0nm,0.9s
GTA Gaotai 50.43 32 P P 21 29 05.5 +0.4
GTA pP pP 21 29 09.1 -0.8
GTA sP sP 21 29 12.0 +0.3
GTA PcP PcP 21 30 25.1 +1.7
GTA pmax pmax
comp=Z,3.0nm,1.7s
GTA pmax pmax
comp=Z,110nm,4.6s
GTA LR LR
comp=Z,260nm,19.6s
GTA LR LR
comp=Z,230nm,19.9s
GTA LR LR
comp=Z,440nm,21.3s
LZH Lanzhou 50.45 38 eP P 21 29 11.3 +5.9
LZH pP sP 21 29 16.1 +4.1
LZH sP pP 21 29 19.4 +9.3
LZH pmax pmax
comp=Z,33nm,1.2s
LZH pmax pmax
comp=Z,170nm,5.2s
LZH LR LR
comp=N,540nm,14.4s
LZH LR LR
comp=E,220nm,12.2s
LZH LR LR
comp=Z,700nm,14.9s
KBZ Khabaz 50.66 337 P P 21 29 07.3 +0.7
comp=Z,3.7nm,1.0s,baz=184,slow=8.6,SNR=5.5
ENH Enshi 50.88 48 eP P 21 29 07.8 -0.8
comp=Z,6.6nm,0.6s
KIV Kislovodsk 50.94 337 eP P 21 29 08.9 +0.1
KIV pmax pmax
comp=Z,5.0nm,1.0s

ABKAR Akbulak array 51.41 353 eP P 21 29 12.6 +0.5
MPSI Mapaga 51.98 88 P P 21 29 16.3 -0.7
comp=Z,23nm,1.1s
BRTR Keskin Array B 51.98 327 P P 21 29 16.6 -0.1
comp=Z,2.7nm,1.1s,baz=151,slow=21,SNR=6.2
XAN Xi'an 52.52 43 P P 21 29 20.7 0.0
XAN pP pP 21 29 26.5 +1.0
XAN pmax pmax
comp=Z,20nm,1.3s
XAN Xi'an 52.52 43 eP P 21 29 20.3 -0.5
comp=Z,36nm,1.2s
XAN Xi'an 52.52 43 eP P 21 29 20.3 -0.5
XAN pmax pmax
comp=Z,36nm,1.2s
AKTO Aktyubinsk 52.81 352 P P 21 29 20.5 -2.0
comp=Z,3.3nm,1.0s,baz=185,slow=6.6,SNR=10
KURK Kurchatov 53.19 8 eP P 21 29 25.3 +0.1
comp=Z,11nm,0.9s
KURK Kurchatov 53.19 8 i P P 21 29 25.4 +0.1
KURK pmax pmax
comp=Z,12nm,1.0s
H01W3 Cape Leeuwin H 54.02 133 T T 22 27 49.4
baz=299
H01W2 Cape Leeuwin H 54.03 133 T T 22 27 53.3
baz=299
H01W1 Cape Leeuwin H 54.04 133 T T 22 27 49.4
baz=299
DGZ Jazzator, Alta 54.05 16d iP P 21 29 32.9 +1.0
DGZ pmax pmax
comp=Z,3.0nm,1.0s
BVAR Borovoye Array 54.75 2 P P 21 29 36.2 -0.5
comp=Z,0.4nm,0.8s,baz=32,slow=8.5,SNR=5.1
BRVK Borovoye 54.78 2 i P P 21 29 37.8 +0.9
BRVK pmax pmax
comp=Z,3.0nm,1.2s
ZAA0 Zalesovo Array 57.38 12 eP P 21 29 55.6 +0.2
comp=Z,10nm,0.8s
ZALV Zalesovo Beam 57.38 12 P P 21 29 53.9 -1.5
comp=Z,9.2nm,0.9s,baz=216,slow=7.3,SNR=25
ZALV Zalesovo Beam 57.38 12 eP P 21 29 55.5 0.0
ZALV pmax pmax
comp=Z,10.0nm,0.9s
NVS Novosibirsk 57.92 10 eP P 21 29 58.9 -0.3
NVS pmax pmax
comp=N,8.0nm,1.2s
NVS pmax pmax
comp=Z,14nm,1.2s
HHC Hu-ho-hao-te 58.15 38 eP P 21 30 00.7 -0.6
HHC sP sP 21 30 09.3 +1.4
HHC S S 21 38 03.7 +1.3
HHC sS sS 21 38 10.5 +0.2
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,240nm,6.8s
HHC LR LR
comp=Z,220nm,15.1s
HHC LR LR
comp=Z,250nm,15.1s
HHC LR LR
comp=Z,250nm,16.4s
ARU Arti 58.62 354 eP P 21 30 04.2 0.0
comp=Z,9.3nm,1.2s
ARU Arti 58.62 354c iP P 21 30 04.3 +0.2
ARU 21 32 12.1
ARU S S 21 38 09.0 +1.2
ARU pmax pmax
comp=Z,14nm,1.9s
FITZ Fitzroy Crossi 58.78 110 P P 21 30 04.8 -1.3
comp=Z,7.7nm,1.0s,baz=214,slow=5.7,SNR=3.6
NJ2 Nanjing 58.80 50 eP P 21 30 04.9 -0.9
NJ2 pmax pmax
comp=Z,20nm,0.5s
SVE Sverdlovsk 58.82 355 eP P 21 30 06.0 +0.5
SONM Songino Array 59.78 29 P P 21 30 11.8 -0.7
comp=Z,2.1nm,0.9s,baz=226,slow=5.6,SNR=13
SONM LR LR 21 56 15.4
comp=Z,383nm,18.5s,baz=208,slow=36
SONA1 Songino Array 59.79 29 eP P 21 30 12.1 -0.5
ZAK Zakamensk 60.20 25 eP P 21 30 13.8 -1.5
ZAK pmax pmax
comp=Z,3.0nm,1.2s
AKASG Malin Array Be 61.92 333 P P 21 30 26.5 -0.3
comp=Z,0.2nm,0.3s,baz=119,slow=6.2,SNR=5.7
KIEV Kiev 61.93 333 i P P 21 30 25.4 -1.5
KIEV pmax pmax
comp=Z,4.0nm,1.2s
OBN Obninsk 62.39 340 eP P 21 30 32.9 +3.1
OBN pmax pmax
comp=Z,4.0nm,0.9s
MOS Moscow 62.55 341 eP P 21 30 29.8 -1.1
FAKI Fak Fak 64.24 92 eP P 21 30 43.4 +0.4
comp=Z,25nm,1.3s
FAKI Fak Fak 64.24 92 P P 21 30 42.4 -0.6
TAM Tamanrasset 65.52 296 P P 21 30 51.8 +0.4
TAM pmax pmax
comp=Z,3.0nm,2.2s
PRGR Permogore 65.62 349 eP P 21 30 45.4 -5.6
PRGR pmax pmax
comp=Z,9.0nm,1.5s
VYHS Vyhne 65.75 327 eP P 21 30 50.3 -1.9
KLMR Klimovskoe 66.31 345 eP P 21 30 54.2 -1.3
KLMR pmax pmax
comp=Z,16nm,1.3s
KLMR Klimovskoe 66.31 345 eP P 21 30 54.2 -1.3
KLMR AMP 21 30 56.5
comp=Z,16nm,1.2s
WRA Warramunga Arr 67.19 111 P P 21 31 00.1 -1.9
comp=Z,4.0nm,0.9s,baz=284,slow=5.9,SNR=16
WRA Warramunga Arr 67.19 111 eP P 21 31 01.0 -0.9
WRA pmax pmax
comp=Z,4.0nm,0.9s
WRAB Tennant Creek 67.20 111 eP P 21 31 01.2 -0.8
comp=Z,11nm,1.0s
WRAB Tennant Creek 67.20 111 i P P 21 30 59.9 -2.1
WRAB pmax pmax
comp=Z,7.0nm,1.1s
WB2 Warramunga Arr 67.20 111 eP P 21 31 01.2 -0.8
comp=Z,53nm,1.8s
ASAR Alice Springs 67.26 115 P P 21 31 01.0 -1.4
comp=Z,1.9nm,0.9s,baz=282,slow=6.0,SNR=10
AS01 Alice Springs 67.31 115 eP P 21 31 00.9 -1.8
TOA0 Torodi Ar. Sit 67.38 285 eP P 21 31 04.9 +1.7
TORD Torodi Ar. Bea 67.38 285 P P 21 31 04.3 +1.1
comp=Z,1.7nm,1.0s,baz=90,slow=5.9,SNR=6.7
TORD LR LR 22 00 16.1
comp=Z,234nm,18.5s,baz=80,slow=36
KSRS Korea Array 67.77 48 LR LR 22 01 49.5
comp=Z,124nm,20.2s,baz=249,slow=37
BOD Bodaibo 69.90 24 eP P 21 31 17.5 -0.6
BOD pmax pmax
comp=Z,11nm,2.0s
NKC Novy Kostel 70.22 326 P P 21 31 21.0 +0.8
NKC pmax pmax
comp=Z,3.0nm,1.8s
CLL Collm 70.44 327 i P P 21 31 21.3 -0.2
comp=Z,13nm,1.5s
CLL Collm 70.44 327 i P P 21 31 21.3 -0.2
CLL pmax pmax
comp=Z,24nm,1.5s
FINES FINESS Array B 70.79 340 P P 21 31 24.4 +0.9
comp=Z,2.8nm,0.9s,baz=148,slow=7.0,SNR=2.8
USRK Ussuriysk Ar. 73.02 43 LR LR 22 07 08.8
comp=Z,51nm,19.2s,baz=261,slow=39
DBIC Dimbokro 73.16 277 LR LR 22 03 44.0
comp=Z,166nm,19.1s,baz=77,slow=36
KLR Kul'dur 74.65 38 P P 21 31 43.9 -2.8
comp=Z,2.1nm,1.0s,baz=242,slow=11,SNR=4.1
KLR Kul'dur 74.65 38 i P P 21 31 44.7 -2.0
MJAR Matsushiro Arr 75.37 52 LR LR 22 06 55.5
comp=Z,81nm,18.7s,baz=245,slow=37
ES19 SONSECA Array 77.33 311 eP P 21 32 03.5 +1.2
ESDC Sonseca Array 77.37 311 P P 21 32 03.4 +0.9
comp=Z,0.7nm,0.8s,baz=99,slow=5.8,SNR=5.4
NVL N'lazarevskaya 77.56 196 eP P 21 32 01.7 -1.1
NVL pmax pmax
comp=Z,7.0nm,0.8s
YSS Yuzh-Sakhalins 81.04 42⇓eP P 21 32 25.5 +3.2
YSS e 21 32 30.6
YSS e 21 32 33.0
YSS pmax pmax
comp=Z,20nm,1.4s
TIXI Tiksi 82.94 16 i P P 21 32 32.1 +0.4
TIXI pmax pmax
comp=Z,9.0nm,1.0s
MA2 Magadan 87.96 30 LR LR 22 13 35.7

comp=Z,134nm,19.1s,baz=276,slow=36
QSPA South Pole Qui 88.11 180 eP P 21 32 57.1 -0.8
SEY Seymchan 89.12 27 i P P 21 33 03.0 +0.6
DAG Danmarks Havn 91.04 347 P P 21 33 11.5 +0.3
DAG pmax pmax
comp=Z,7.0nm,1.1s
BILL Bilibino 94.85 22 eP P 21 33 27.5 -1.4
BILL pmax pmax
comp=Z,1.0nm,1.1s
YKA Yellowknife Ar 119.50 1 PKP PKPdf 21 38 55.3 -1.4
comp=Z,0.4nm,0.8s,baz=6.5,slow=1.8,SNR=5.0
FFC Flin Flon 126.69 353 i PKIKP PKPdf 21 39 11.9 +1.2
O56A Blue Knob Stat 131.21 326 ePKPdf PKPdf 21 39 22.4 +2.5
PDAR Pinedale Array 139.23 357 PKP PKPdf 21 39 32.8 -2.2
comp=Z,0.4nm,0.9s,baz=298,slow=1.9,SNR=2.1
Q24A Divide 142.56 351 ePKPdf PKPdf 21 39 41.7 +0.5
PV10 Paradox Valley 143.58 356 ePKPdf PKPdf 21 39 45.2 +2.2
PV13 Radium Mtn., P 143.78 356 ePKPdf PKPbc 21 39 41.5 +0.7
PKCU Pink Cliffs 144.61 0 ePKPdf PKPab 21 39 43.8 +0.4
LCMT Little Creek M 145.03 2 ePKPbc PKPab 21 39 45.4 +0.7
WMOK Wichita Mounta 145.05 341 ePKPdf PKPbc 21 39 43.6 -1.1
WMOK Wichita Mounta 145.05 341 ePKIKP PKPbc 21 39 43.6 -1.1
DAC Darwin (Calif) 145.39 8 ePKPbc PKPbc 21 39 45.9 0.0
DAC Darwin (Calif) 145.39 8 ePKIKP PKPbc 21 39 45.9 0.0
SHPR Sheep Range 145.43 4 ePKPbc PKPab 21 39 46.8 +0.6
U15A North Rim 145.62 0 ePKPdf PKPab 21 39 48.9 +1.9
ISA Isabella, Lake 145.86 9 ePKPdf PKPdf 21 39 47.1 +0.3
ISA Isabella, Lake 145.86 9 ePKP2 PKPdf 21 39 47.1 +0.3
OTAV Otavalo 146.37 268 ePKPbc PKPbc 21 39 50.5 +0.6
GSC Goldstone, Bar 146.46 7 ePKPdf PKPbc 21 39 49.4 +0.3
GSC Goldstone, Bar 146.46 7 ePKP2 PKPbc 21 39 49.4 +0.3
WUAZ Wupatki 146.53 359 ePKPbc PKPbc 21 39 49.6 +0.2
PFO Pinyon Flats O 148.16 7 ePKPbc PKPbc 21 39 53.9 -0.1
PFO Pinyon Flats O 148.16 7 ePKP2 PKPbc 21 39 53.9 -0.1
XPFO Pion Flat 148.17 7 ePKPbc PKPbc 21 39 54.6 +0.6
MNTX Cornudas Mount 149.68 349 ePKPbc PKPbc 21 39 56.8 -0.9
TUC Tucson 149.71 358 ePKPbc PKPbc 21 39 58.5 +0.6
TUC Tucson 149.71 358 ePKP2 PKPbc 21 39 58.5 +0.6
TXAR Lajitas Array 151.56 345 PKPbc PKPbc 21 40 01.5 -0.8
comp=Z,2.0nm,0.8s,baz=40,slow=1.5,SNR=9.5

IDC 09 21:29:37.8±8.8**, 2°.09S**×**67°.63E, h0**km**, mb3.4**/5**, mb1 3.6**/5**, mb1mx3.3**/49**, mbtmp3.4**/5**, Error ellipse: s-maj=277.7km s-min=27.8km az=68.0, Carlsberg Ridge**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
H08N2 Diego Garcia H 5.38 141 T T 21 36 17.0
baz=325,slow=75,SNR=34
H08N3 Diego Garcia H 5.39 142 T T 21 36 18.1
baz=325,slow=75,SNR=34
H08N1 Diego Carcia H 5.41 141 T T 21 36 30.1
baz=325,slow=75,SNR=30
MKAR Makanchi Array 50.36 13 P P 21 38 36.4 -0.2
0.3nm,0.8s,baz=193,slow=5.9,SNR=3.0
ZALV Zalesovo Beam 57.65 12 P P 21 39 29.4 -0.4
0.3nm,0.3s,baz=192,slow=7.7,SNR=2.8
SONM Songino Array 60.12 29 P P 21 39 47.6 +0.4
0.3nm,0.8s,baz=220,slow=8.2,SNR=3.0
WRA Warramunga Arr 67.42 111 P P 21 40 35.9 +0.1
0.3nm,0.7s,baz=289,slow=6.3,SNR=3.3
ASAR Alice Springs 67.47 115 P P 21 40 36.0 -0.1
0.3nm,0.9s,baz=280,slow=5.5,SNR=2.6

IDC 09 21:30:28.8±1.7**, 8°.46S**×**123°.96E, h0**km**, mb3.6**/1**, mb1 4.1**/4**, mb1mx3.6**/34**, mbtmp3.9**/4**, ML4.0**/3**, Error ellipse: s-maj=54.4km s-min=21.1km az=79.0, Flores region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BATI Baumata 1.76 190 Pn Pn 21 31 00.0 -0.5
2.0nm,0.3s,baz=6.6,slow=13,SNR=23
BATI Sn Sn 21 31 23.8 +0.1
26nm,0.3s,baz=352,slow=3.6,SNR=9.2
FITZ Fitzroy Crossi 9.72 170 Pn Pn 21 32 50.2 +0.3
1.0nm,0.3s,baz=349,slow=9.1,SNR=39
FITZ Sn Sn 21 34 28.5 -11
1.3nm,0.3s,baz=221,slow=15,SNR=8.1
WRA Warramunga Arr 15.20 140 Pn Pn 21 34 04.5 -0.5
0.6nm,0.3s,baz=320,slow=12,SNR=32
WRA Sn Sn 21 36 41.1 -13
0.2nm,0.3s,baz=312,slow=22,SNR=3.9
ASAR Alice Springs 17.87 149 P P 21 34 40.4 +0.7
0.6nm,0.3s,baz=320,slow=11,SNR=39
ASAR S Sn 21 37 49.8 -9.1
0.1nm,0.3s,baz=313,slow=20,SNR=3.3
MKAR Makanchi Array 66.33 330 P P 21 41 19.2 0.0
0.4nm,0.6s,baz=131,slow=5.6,SNR=5.5

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*VIE **09** 21:36:26.5±0.8, 48°.34N×9°.09E, h8km, ml2.0/7, Error ellipse: s-maj=6.6km s-min=3.3km az=76.0 8 km NE of Albstadt*
*STR **09** 21:36:26.8±0.6, 48°N±3°×°±°, h14km±4km, M2.4/4, MLv2.4/4*
*BGR **09** 21:36:26.6±0.2, 48°.39N×9°.00E, h10km, ML1.9/10, Error ellipse: s-maj=2.2km s-min=1.1km az=136.0*
*LDG **09** 21:36:27.0±0.1, 48°.37N×9°.03E, h9km, Md2.5/3, Ml2.3/17, Error ellipse: s-maj=1.7km s-min=1.4km az=137.0*
ISC 09 21:36:26.4±0.8**, 48°.38N**±0°.02×**8°.99E**±0°.01**, h17**km±5km**, n81, σ1§14**/144**, 11C, Germany**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TUBL Tuebingen-Lenn 0.16 22⇑iP* Pg 21 36 29.9 -0.8
TUBL S* Sg 21 36 32.3 -1.3
BUCH Bad Urach 0.25 73⇑iP* Pg 21 36 31.6 -0.6
BUCH S* Sg 21 36 35.3 -0.7
LBG Lerchenberg 0.32 336 ⇑P* Pg 21 36 33.1 -0.1
LBG S* Sg 21 36 37.5 -0.3
GUT Gutenstein 0.32 165⇑iP* Pg 21 36 32.6 -0.6
GUT S* Sg 21 36 36.9 -0.9
STU Stuttgart 0.42 19 ⇑P* Pg 21 36 34.7 -0.3
STU S* Sg 21 36 40.4 -0.4
STU SmS 21 36 44.4
BFO Black Forest 0.45 264⇑iP* Pg 21 36 35.2 -0.2
BFO S* Sg 21 36 41.4 -0.2
BFO SmS 21 36 45.2
OPP Oppenau 0.55 283 Pg Pg 21 36 37.2 -0.2
OPP Oppenau 0.55 283⇑iP* Pg 21 36 37.2 -0.2
OPP S* Sg 21 36 44.6 -0.1
OPP SmS 21 36 47.6
BRET Bretten 0.67 343 PmP 21 36 40.9
BRET SmS 21 36 51.0
SISB Singen-Schiene 0.69 182 S* Sg 21 36 49.3 +0.1
SISB SmS 21 36 51.7
SLE Schleitheim 0.70 209⇑iP* Pg 21 36 39.6 -0.5
SLE PmP 21 36 41.0
SLE eSg Sg 21 36 48.6 -0.8
SLE SmS 21 36 51.1
BERGE Lenzkirch (DE) 0.74 228 ⇑P* Pg 21 36 40.6 -0.4
BERGE PmP 21 36 41.7
FELD Feldberg im Sc 0.83 233 ⇑P* Pg 21 36 42.2 -0.4
FELD PmP 21 36 43.2
FELD S* Sg 21 36 53.2 -0.4
FELD SmS 21 36 55.2
KIZ Kirchzarten 0.83 240 Pg Pg 21 36 42.3 -0.4
KIZ Sg Sg 21 36 54.1 +0.4
KIZ Kirchzarten 0.83 240 ⇑P* Pg 21 36 42.3 -0.4
KIZ PmP 21 36 43.0
KIZ SmS 21 36 55.1
HDH Heidenheim-Cha 0.83 75 P* Pg 21 36 42.3 -0.4
HDH PmP 21 36 43.0
HDH S* Sg 21 36 53.6 -0.1
HDH SmS 21 36 55.2
WILA Wila 0.96 183 PmP 21 36 45.4
WILA S* Sg 21 36 57.8 0.0
WILA SmS 21 36 59.5
LANF Langenberg 0.99 308 SmS 21 37 00.2
UBR Ueberruh 1.02 133 ePg Pb 21 36 46.4 +0.7
UBR eSg Sg 21 36 59.7 0.0
UBR SmS 21 37 01.2
SULZ Cheisacher 1.04 215 Pg Pg 21 36 46.2 -0.3
SULZ PmP 21 36 46.4
SULZ eSg Sg 21 37 00.2 +0.1
SIND Sindeldorf 1.05 22 Pg Pg 21 36 46.5 -0.4
SIND PmP 21 36 46.8
SIND Sg Sg 21 37 00.0 -0.6
ENDD Endenburg 1.07 232 P Pg 21 36 45.6 -1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ENDD				Pg	Pb	21 36 46.8	+0.2
ENDD				PmP		21 36 47.0	
ENDD				S	Sg	21 36 59.8	-1.4
ENDD				Sg	Sb	21 37 01.3	+1.0
PEB	Petersbachel	1.09	310	Sg	Sn	21 37 02.6	+1.0
WLS	Welschbruch	1.09	273	Pg	Pg	21 36 47.4	-0.2
WLS				Sg	Sg	21 37 01.9	0.0
WLS	Welschbruch	1.09	273	Pg	Pg	21 36 47.4	-0.2
WLS				Sg	Sb	21 37 02.3	+1.4
SWS	Schriesheim-Wi	1.12	350	S	Sg	21 37 02.1	-0.8
SWS				Sg	Sn	21 37 03.5	+1.0
LIENZ	Kamor/St.Gall	1.13	163	Sg	Sg	21 37 02.7	-0.5
NORI	Noerdlinger Ri	1.14	72	*e*Pg	Pb	21 36 48.1	+0.4
NORI				*e*Sg	Sb	21 37 03.3	+1.1
CDF	Champ du Feu	1.15	272	*e*Pg	Pb	21 36 48.2	+0.4
CDF				*e*Sg	Sb	21 37 03.6	+1.2
	18nm,0.2s						
ECH	Echery	1.23	263	Pg	Pn	21 36 49.6	+0.7
ECH	Echery	1.23	263	Pg	Pn	21 36 49.9	+1.0
ECH				Sg	Sb	21 37 06.3	+1.4
TOD	Tromm	1.24	354	Sg	Sn	21 37 06.5	+1.2
DAVA	Damuels	1.24	151	*e*Sg	Sn	21 37 07.4	+1.8
DAVA	Damuels	1.24	151	Pg	Pn	21 36 50.2	+1.0
	0.6nm,0.2s						
DAVA				Sg	Sb	21 37 06.7	+1.4
	5.5nm,0.3s						
PLONS	Plons/SG	1.35	169	*e*Sg	Sn	21 37 10.1	+1.9
BALST	Balsthal	1.36	220	P	Pn	21 36 49.6	-1.1
BALST				Pg	Pb	21 36 52.0	+0.6
BALST				Sg	Sn	21 37 10.1	+1.7
RETA	Reutte	1.49	126	*e*Sn	Sn	21 37 11.8	+0.3
FUR	Furstenfeldbru	1.54	97	*e*Pg	Pg	21 36 55.6	-0.5
FUR				*e*Sg	Sg	21 37 15.7	-0.4
HINF	Hinteralfeld	1.54	249	*e*Pn	Pn	21 36 54.0	+0.9
HINF				*e*Sg	Sb	21 37 15.4	+1.7
	6.1nm,0.2s						
BOURR	Bourrignon	1.54	231	Pg	Pb	21 36 55.1	+0.5
BOURR				Sg	Sg	21 37 15.9	-0.2
MOTA	Moosalm	1.76	125	*e*Sg	Sb	21 37 21.6	+1.6
	1.4nm,0.1s						
FETA	Feichten	1.79	138	Sn	Sn	21 37 20.6	+1.4
	0.3nm,0.2s						
HAU	Haudompre	1.81	259	*e*Pn	Pn	21 36 57.6	+0.8
HAU	Haudompre	1.81	259	*e*Pg	Pb	21 37 00.5	+1.4
HAU				*e*Sg	Sb	21 37 23.7	+2.3
	11nm,0.3s						
TNS	Taunus Mts	1.88	349	*e*Sg	Sg	21 37 26.5	-0.5
SQTA	Sankt Quirin	1.89	127	Pg	Pb	21 37 01.6	+1.1
	0.6nm,0.2s						
SQTA				Sg	Sb	21 37 25.6	+1.7
	2.5nm,0.3s						
CHMF	Charmoille	1.94	235	Pn	Pn	21 36 57.5	-1.2
CHMF				Sg	Sb	21 37 27.4	+2.2
GRF	Grafenberg Arr	1.97	47	Pg	Pg	21 37 03.6	-0.7
GRF				*e*Sn	Sn	21 37 22.2	-1.2
GRF				*e*Sg	Sb	21 37 27.7	+1.6
WATA	Walderalm	2.03	120	*e*Sg	Sg	21 37 31.3	-0.4
	0.9nm,0.1s						
PAGF	Fort de Pagny	2.18	276	*e*Pn	Pn	21 37 02.7	+0.8
	baz=93						
PAGF	Fort de Pagny	2.18	276	*e*Pg	Pg	21 37 07.7	-0.6
	baz=96						
PAGF				*e*Sn	Sn	21 37 29.1	+0.6
	baz=100						
PAGF				*e*Sg	Sg	21 37 36.1	-0.5
	5.6nm,0.2s,baz=97						
MANZ	Manzenberg	2.60	51	*e*Pg	Pg	21 37 15.5	-0.8
MANZ				*e*Sn	Sn	21 37 37.4	-1.5
MANZ				*e*Sg	Sg	21 37 48.6	-1.5
MEZF	Maizieres J'vi	2.63	274	*e*Pn	Pn	21 37 08.8	+0.8
MEZF	Maizieres J'vi	2.63	274	*e*Pg	Pg	21 37 16.3	-0.5
MEZF				*e*Sn	Sn	21 37 39.6	+0.1
MEZF				*e*Sg	Sg	21 37 49.7	-1.1
	3.1nm,0.3s						
RJOB	Jochberg	2.63	103	*e*Sg	Sg	21 37 50.2	-0.7
CABF	La Chapelle	2.65	229	*e*Pn	Pn	21 37 08.8	+0.4
CABF	La Chapelle	2.65	229	*e*Pg	Pg	21 37 16.4	-0.7
CABF				*e*Sn	Sn	21 37 38.9	-1.2
CABF				*e*Sg	Sg	21 37 50.5	-0.9
SFTF	Sexfontaines	2.65	268	*e*Pn	Pn	21 37 09.1	+0.8
SFTF	Sexfontaines	2.65	268	*e*Pg	Pg	21 37 16.2	-0.9
	baz=91						
SFTF				*e*Sn	Sn	21 37 40.3	+0.3
SFTF				*e*Sg	Sg	21 37 50.9	-0.5
	2.4nm,0.2s,baz=88						
WET	Wettzell	2.68	72	*e*Pg	Pg	21 37 16.2	-1.6
WET				*e*Sg	Sg	21 37 50.7	-1.9
MOX	Moxa	2.84	36	*e*Sn	Sn	21 37 42.9	-1.9
MOX				*e*Sg	Sg	21 37 55.2	-2.5
GEC2	GERESS Array S	3.16	80	*e*Pg	Pg	21 37 25.2	-1.7
GEC2				*e*Sg	Sg	21 38 05.8	-2.1
GIVF	Givet	3.23	304	*e*Pn	Pn	21 37 17.2	+0.9
GIVF	Givet	3.23	304	*e*Pg	Pg	21 37 27.3	-1.0
GIVF				*e*Sn	Sn	21 37 54.0	-0.4
GIVF				*e*Sg	Sg	21 38 09.3	-0.9
	1.6nm,0.2s						
LPL	La Plagne	3.25	209	*e*Pn	Pn	21 37 17.1	+0.2
LPL	La Plagne	3.25	209	*e*Pg	Pg	21 37 27.1	-1.7
LPL				*e*Sn	Sn	21 37 54.0	-1.3
LPL				*e*Sg	Sg	21 38 09.1	-1.8
	0.3nm,0.2s						
LPG	La Plagne	3.26	209	*e*Pn	Pn	21 37 17.5	+0.4
LPG	La Plagne	3.26	209	*e*Pg	Pg	21 37 27.7	-1.3
LPG				*e*Sn	Sn	21 37 54.4	-1.2
LPG				*e*Sg	Sg	21 38 09.4	-1.9
	0.6nm,0.2s						
BAIF	Baives	3.56	300	*e*Pn	Pn	21 37 21.2	+0.4
BAIF	Baives	3.56	300	*e*Pg	Pg	21 37 33.6	-1.0
BAIF				*e*Sn	Sn	21 38 02.2	-0.3
BAIF				*e*Sg	Sg	21 38 19.7	-1.0
	1.0nm,0.3s						
LOR	Lormes	3.63	254	*e*Pn	Pn	21 37 22.7	+0.8
	baz=61						
LOR	Lormes	3.63	254	*e*Pg	Pg	21 37 33.9	-2.1
	baz=75						
LOR				*e*Sn	Sn	21 38 02.9	-1.4
	baz=75						
LOR				*e*Sg	Sg	21 38 20.8	-2.2
	1.8nm,0.2s,baz=75						
SMF	Signal de Mont	3.90	246	*e*Pn	Pn	21 37 25.4	-0.1
SMF	Signal de Mont	3.90	246	*e*Pg	Pg	21 37 39.1	-1.9
SMF				*e*Sn	Sn	21 38 09.7	-1.1
SMF				*e*Sg	Sg	21 38 29.5	-2.0
	1.0nm,0.2s						
SSF	Saint Saulge	3.93	252	*e*Pn	Pn	21 37 26.2	+0.3
SSF	Saint Saulge	3.93	252	*e*Pg	Pg	21 37 39.8	-1.9
SSF				*e*Sg	Sg	21 38 30.7	-1.9
	0.8nm,0.2s						
AVF	Avril sur Loir	4.13	250	*e*Pn	Pn	21 37 29.0	+0.3
AVF	Avril sur Loir	4.13	250	*e*Pg	Pg	21 37 43.8	-1.8
AVF				*e*Sn	Sn	21 38 15.4	-1.2
AVF				*e*Sg	Sg	21 38 37.0	-2.1
	0.7nm,0.2s						
BGF	Bois d'Agland	4.55	249	*e*Pn	Pn	21 37 35.0	+0.6
BGF	Bois d'Agland	4.55	249	*e*Pg	Pg	21 37 51.9	-1.6
BGF				*e*Sn	Sn	21 38 25.4	-1.5
BGF				*e*Sg	Sg	21 38 50.0	-2.4
	2.9nm,0.5s						
VIVF	Saint-Julien-l	4.61	222	*e*Pn	Pn	21 37 36.1	+0.8
VIVF				*e*Sn	Sn	21 38 26.5	-2.0
	0.6nm,0.2s						

*ISK **09** 21:42:00.9, 37.97N×37.90E, h5km, ML2.0/7*
*DDA **09** 21:42:02.8, 37.92N×37.97E, h7km±2km, ML2.6*
ISC 09 21:42:03.0±1.2**, 37.93N**±0.03×**37.92E**±0.04**, h15**km±12km**,**
n16, σ**1.00**/22**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKCD	Akcadag	0.36	0	IAML_P			
	comp=Z,4μm,0.1s						
AKCD				*i* P	Pb	21 42 10.3	-0.8
ATAB	Bozova	0.55	147	IAML_P			
	comp=Z,4μm,0.1s						
ATAB				*i* P	Pb	21 42 13.4	-0.9
ATAB				*i* S	Sb	21 42 21.7	-0.3
GZT	Gaziantep	0.64	206	IAML_P			
	comp=Z,506nm,0.1s						
GZT				*i* P	Pb	21 42 16.0	0.0
GZT				*i* S	Sb	21 42 25.4	+0.5
DARE	Darende-Malaty	0.72	332	PG	Pg	21 42 15.3	-1.8
ELBS	KAHRAMANMARAS	0.73	302	IAML_P			
	comp=Z,325nm,0.2s						
ELBS				*i* P	Pb	21 42 17.1	-0.4
ELBS				*i* S	Sn	21 42 29.9	0.0
URFA	Urfa	0.87	124	PG	Pb	21 42 19.1	-0.7
URFA				SG	Sn	21 42 32.8	-0.4
KMRS	Kahramanmaras	0.92	242	PG	Pg	21 42 19.6	-1.1
GAZ	Gaziantep	0.95	217	PG	Pg	21 42 20.4	-0.9
SANL	SANLIURFA_Merk	1.14	132	*i* P	Pn	21 42 24.6	+0.1
SANL				*i* S	Sb	21 42 39.3	+0.2
SURC	SANLIURFA_SURC	1.19	152	*i* P	Pn	21 42 25.9	+0.8
ANDN	Andirin	1.30	255	IAML_P			
	comp=Z,178nm,0.1s						
ANDN				*i* P	Pg	21 42 27.0	-1.0
KUZU	Kuzuini	1.34	210	*i* P	Pg	21 42 29.4	+0.7
CUKAN	kangal_SIVAS	1.43	346	*i* P	Pg	21 42 31.0	+0.6
CUKAN				*i* S	Sg	21 42 51.5	+2.6
PTK	Pertek	1.50	50	PN	Pb	21 42 30.1	-0.5
ILIC	ilic-Erzincan	1.60	18	PN	Pn	21 42 30.9	+0.1
KOZT	Kozan	1.72	255	PN	Pb	21 42 33.5	-0.8

*IDC **09** 21:45:56.0±0.7, 57.30S×142.09W, h0km, mb4.1/8, mb1 4.3/8, mb1mx4.1/42, mbtmp4.0/8, MS4.8/15, Ms1 4.7/15, ms1mx4.7/18, Error ellipse: s-maj=71.1km s-min=19.2km az=178.0*
*ISCJB **09** 21:46:00.5±0.3, 57.07S±0.07×141.4W±0.1, h10km, mb5.1/34, MS4.9/107, Error ellipse: s-maj=10.6km s-min=8.3km az=178.5*
*BJI **09** 21:46:02.4, 57.00S×141.50W, h10km, mB5.6/1*
*NEIC **09** 21:46:02.6±0.3, 57.05S×141.47W, h10km, mb5.3/22, MS5.0/87, MW5.5, MW5.6, Error ellipse: s-maj=10.4km s-min=7.1km az=178.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.49; $M_{\theta\theta}$1.88; $M_{\phi\phi}$-1.38; $M_{r\theta}$0.51; $M_{\theta\phi}$1.10; $M_{\phi r}$0.52; Best double couple: $M_0$2.10000×10^{17} NP1:ϕ_s118.00000°, δ69.00000°, λ-2.00000°. NP2:ϕ_s209.00000°, δ88.00000°, λ-159.00000°. Principal axes: T 2.3600, Plg13.0000°, Azm342.0000°; N -0.5400, Plg69.0000°, Azm215.0000°; P -1.8200, Plg16.0000°, Azm76.0000°;*
*GCMT **09** 21:46:02.6±0.1, 56.97S±0.01×141.78W±0.01, h26km, MW5.6/127, Moment Tensor Solution. s104,c161; s127,c286; Duration: 1.5s Moment tensor: Scale 10^{17} Nm; M_{rr}-0.30±.04; $M_{\theta\theta}$2.24±.04; $M_{\phi\phi}$-1.94±.04; $M_{r\theta}$0.09±.08; $M_{\theta\phi}$1.93±.03; $M_{\phi r}$-0.14±.08; Best double couple: $M_0$2.85100×10^{17} NP1:ϕ_s294.00000°, δ88.00000°, λ-3.00000°. NP2:ϕ_s24.00000°, δ87.00000°, λ-178.00000°. Principal axes: T 2.9950, Plg1.0000°, Azm339.0000°; N -0.2920, Plg86.0000°, Azm77.0000°; P -2.7070, Plg4.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 09 21:46:01.9±0.4**, 56.86S**±0.07×**141.23W**±0.08**, h10**km**,**
n183, σ**2.51**/68**, mb5.2**/34**, MS5.0**/107**, 2C,**
Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBA	Scott Base	27.34	201	PFAKE		21 52 00.0	+14
SBA				LR	LR		
	comp=Z,2μm,22.0s						
VNDA	Vanda	28.25	203	LR	LR	21 59 41.8	
	comp=Z,2μm,20.7s,baz=78,slow=30						
VNDA	Vanda	28.25	203	*e*P	P	21 51 53.2	-1.3
	comp=Z,14nm,1.8s						
SNZO	South Karori	32.13	280	PFAKE		21 52 40.0	+11
SNZO				LR	LR		
	comp=Z,3μm,20.0s						
URZ	Urewera	33.03	286	*e*P	P	21 52 40.6	+3.6
	comp=Z,78nm,1.8s						
MLZ	Mavora Lakes	33.05	268	*e*P	P	21 52 36.8	-0.5
	comp=Z,124nm,1.5s						
QSPA	South Pole Qui	33.29	180	*e*P	P	21 52 38.6	-0.7
	comp=Z,24nm,1.2s						
QSPA				LR	LR		
	comp=Z,3μm,22.0s						
RKT	Rikitea	34.01	10	*e*S	S	21 58 05.5	-5.3
	comp=Z,731nm,29.5s						
RKT				*e*LQ	LQ	22 00 14.0	
	comp=Z,3μm,29.5s						
RKT				*e*LR	LR	22 01 38.6	
	comp=Z,3μm,30.0s,baz=191						
RKT	Rikitea	34.01	10	*e*T	T	22 28 13.7	
	comp=Z,4.8nm,0.2s						
TBI	Tubuai	34.01	346	*e*S	S	21 58 07.5	-3.3
	comp=Z,591nm,25.7s						
TBI				*e*LR	LR	22 01 27.2	
	comp=Z,5μm,29.2s,baz=173						
TBI	Tubuai	34.01	346	*e*T	T	22 28 16.0	
	comp=Z,40nm,0.3s						
PMSA	Palmer Station	36.17	135	PFAKE		21 53 20.0	+16
PMSA				LR	LR		
	comp=Z,2μm,22.0s						
RPN	Rapa Nui	37.38	51	PFAKE		21 53 30.0	+15
RPN				LR	LR		
	comp=Z,1μm,20.0s						
RAR	Rarotonga	38.14	331	PFAKE		21 53 30.0	+8.9
RAR				LR	LR		
	comp=Z,2μm,22.0s						
GO10	Punta Arenas	38.80	115	*e*P	P	21 53 28.3	+1.9
	comp=Z,230nm,1.6s						
TVO	Taravao	39.48	348	*e*T	T	22 35 05.3	
	comp=Z,1.0nm,0.3s						
PPTF	Pamatai, Papee	39.71	347	*e*P	P	21 53 35.0	+0.7
	comp=Z,151nm,1.8s						
PPT2	Papeete2	39.71	347	*e*S	S	21 59 34.6	-3.2
	comp=Z,720nm,26.8s						
PPT2				*e*LR	LR	22 04 02.8	
	comp=Z,6μm,28.5s,baz=177						
PPT	Papeete	39.73	347	LR	LR	22 05 40.9	
	comp=Z,928nm,18.1s,baz=178,slow=30						
PPT	Papeete	39.73	347	*e*P	P	21 53 35.7	+1.3
VAH	Vaihoa	41.83	351	*e*T	T	22 37 51.0	
	comp=Z,25nm,0.2s						
TAU	Tasmania Unive	45.95	256	PFAKE		21 54 40.0	+15
TAU				LR	LR		
	comp=Z,908nm,21.0s						
CASY	Casey	46.00	212	*e*P	P	21 54 22.6	-2.1
	comp=Z,8.0nm,0.9s						
CASY				LR	LR		
	comp=Z,265nm,20.0s						
EFI	East Falkland	46.00	121	PFAKE		21 54 40.0	+15
EFI				LR	LR		
	comp=Z,2μm,22.0s						
PLCA	Paso Flores	47.05	102	P	P	21 54 33.7	+0.3
	comp=Z,1.0nm,0.5s,baz=238,slow=13,SNR=2.3						
PLCA	Paso Flores	47.05	102	*e*P	P	21 54 35.2	+1.7
	comp=Z,18nm,1.4s						
GO06	Curarrehue	47.37	100	*e*P	P	21 54 37.3	+1.3
	comp=Z,24nm,1.7s						
VNA3	Neumayer Olymp	47.71	161	P	P	21 54 36.5	-1.5
LHI	Lord Howe Isla	47.83	276	*e*P	P	21 54 39.4	0.0
	comp=Z,364nm,1.4s						
TAOE	Nuku Hiva Isla	47.90	1	*e*S	S	22 01 33.5	-3.9
	comp=Z,738nm,25.9s						
TAOE				*e*LR	LR	22 08 02.3	
	comp=Z,3μm,28.4s						
TAOE	Nuku Hiva Isla	47.90	1	*e*P	P	21 54 41.9	+1.8
	comp=Z,116nm,1.0s						
VNA2	Neumayer--Watz	48.38	162	P	P	21 54 41.8	-1.4
	baz=210,slow=7.8						
SNAA	Sanae	48.48	164	P	P	21 54 42.4	-1.7
SNAA	Sanae	48.48	164	*e*P	P	21 54 42.2	-1.9
	comp=Z,14nm,0.8s						
DZM	Mont Dzumac	51.42	290	*e*S	S	22 02 29.6	+2.8
	comp=Z,138nm,26.4s						
DZM				*e*LQ	LQ	22 07 45.7	
	comp=Z,3μm,27.1s						
DZM				*e*LR	LR	22 09 58.2	
	comp=Z,2μm,25.6s						
ROC1	El Roble	52.48	94	*e*P	P	21 55 16.2	+1.1
	comp=Z,52nm,1.5s						
PEL	Peldehue	52.54	95	*e*P	P	21 55 16.6	+1.4
	comp=Z,66nm,1.5s						
TRQA	Tornquist	53.57	105	*e*P	P	21 55 22.6	0.0
	comp=Z,44nm,1.7s						
TRQA				LR	LR		
	comp=Z,358nm,19.0s						
SYO	Syowa Base	54.43	180⇑	*e*P	P	21 55 25.2	-3.3
SYO	Syowa Base	54.43	180⇑	*e*pP	P	21 55 29.0	+0.5
MAW	Mawson	54.57	191	LR	LR	22 15 44.2	
	comp=Z,1μm,20.7s,baz=158,slow=33						
GO04	Tololo Observa	54.74	92	*e*P	P	21 55 33.6	+2.0
	comp=Z,104nm,1.9s						
LCO	Las Campanas	55.70	91	PFAKE		21 55 50.0	+11
LCO				LR	LR		
	comp=Z,436nm,19.0s						
GO03	Copiap	57.06	91	*e*P	P	21 55 49.5	+1.5
	comp=Z,26nm,1.4s						
STKA	Stephens Creek	57.12	261	P	P	21 55 39.0	-9.3
	comp=Z,1.2nm,0.7s,baz=169,slow=19,SNR=2.7						
STKA				LR	LR	22 15 25.2	
	comp=Z,857nm,21.3s,baz=134,slow=31						
STKA	Stephens Creek	57.12	261	*e*P	P	21 55 47.3	-1.1
FUNA	Funafuti	57.19	311	PFAKE		21 56 00.0	+11
FUNA				LR	LR		
	comp=Z,3μm,19.0s						
GO02	Mina Guanaco	59.33	90	*e*P	P	21 56 05.6	+1.4
	comp=Z,103nm,0.3s						
PB04	IPOC Station P	61.27	87	*e*P	P	21 56 20.2	+2.8
	comp=Z,122nm,0.4s						
LVC	Limon Verde	61.73	88	P	P	21 56 18.0	-2.7
	comp=Z,2.3nm,0.7s,baz=256,slow=12,SNR=2.3						
PB11	IPOC Station P	63.62	86	*e*P	P	21 56 34.4	+1.3
	comp=Z,112nm,0.4s						
CTAO	Charters Tower	63.87	273	*e*P	P	21 56 35.7	+1.2
	comp=Z,31nm,1.7s						
CTAO				LR	LR		
	comp=Z,929nm,20.0s						
MNMC	Minye Minye	64.16	86	*e*P	P	21 56 37.1	+0.3
	comp=Z,247nm,0.3s						
CPUP	Villa Florida	65.10	100	P	P	21 56 40.4	-2.2
	comp=Z,2.7nm,0.9s,baz=112,slow=1.8,SNR=3.5						
CPUP				LR	LR	22 20 60.0	
	comp=Z,469nm,18.7s,baz=218,slow=32						
HNR	Honiara	65.38	292	PFAKE		21 57 00.0	+16
HNR				LR	LR		
	comp=Z,722nm,20.0s						
NNA	Nana	66.12	75	PFAKE		21 57 00.0	+11
NNA				LR	LR		
	comp=Z,218nm,19.0s						
LPAZ	La Paz	67.28	85	P	P	21 56 54.9	-2.4
	comp=Z,0.9nm,0.6s,baz=212,slow=9.5,SNR=3.4						
LPAZ				LR	LR	22 21 21.0	
	comp=Z,43nm,19.2s,baz=186,slow=31						
LPAZ	La Paz	67.28	85	*e*P	P	21 56 59.9	+2.6
AS01	Alice Springs	67.73	261	*e*P	P	21 56 59.6	+0.1
AS31	Alice Springs	67.75	261	*e*P	P	21 56 59.6	0.0
	comp=Z,2.2nm,1.2s						
ASAR	Alice Springs	67.75	261	P	P	21 56 52.0	-7.7
	comp=Z,1.1nm,0.7s,baz=143,slow=5.6,SNR=9.2						
ASAR				LR	LR	22 21 56.2	
	comp=Z,502nm,21.2s,baz=152,slow=32						
H01W1	Cape Leeuwin H	68.78	239	T	T	23 12 23.8	
	baz=145,slow=76,SNR=95						
H01W2	Cape Leeuwin H	68.79	239	T	T	23 12 33.2	
	baz=145,slow=76,SNR=93						
H01W3	Cape Leeuwin H	68.80	239	T	T	23 12 38.3	
	baz=145,slow=76,SNR=94						
NWAO	Narrogin (SRO)	68.92	242	PFAKE		21 57 20.0	+13
NWAO				LR	LR		
	comp=Z,867nm,20.0s						
PAYG	Puerto Ayora	69.16	56	*e*P	P	21 57 11.7	+3.3
	comp=Z,74nm,1.4s						
PAYG				LR	LR		
	comp=Z,1μm,19.0s						
WB2	Warramunga Arr	70.51	263	*e*P	P	21 57 16.3	-0.5
	comp=Z,36nm,1.8s						
WRA	Warramunga Arr	70.52	263	P	P	21 57 08.4	-8.4
	comp=Z,0.6nm,0.6s,baz=146,slow=5.8,SNR=3.6						
WRA				LR	LR	22 23 51.5	
	comp=Z,634nm,21.0s,baz=130,slow=32						
WRAB	Tennant Creek	70.52	263	PFAKE		21 57 30.0	+13
WRAB				LR	LR		
	comp=Z,763nm,19.0s						
PMG	Port Moresby	72.14	280	LR	LR	22 23 24.1	
	comp=Z,443nm,20.9s,baz=139,slow=31						
OTAV	Otavalo	75.65	67	*e*P	P	21 57 50.3	+2.6
	comp=Z,11nm,1.3s						
OTAV				LR	LR		
	comp=Z,242nm,19.0s						
CRZF	Crozet Islands	76.50	189	*e*P	P	21 57 51.9	+0.4
	comp=Z,154nm,1.7s						
FITZ	Fitzroy Crossi	76.73	257	LR	LR	22 27 03.1	
	comp=Z,815nm,21.7s,baz=138,slow=32						
BDFB	Brasilia	78.80	101	LR	LR	22 29 22.8	
	comp=Z,712nm,19.3s,baz=229,slow=33						
JTS	JuntasAbangare	81.27	56	PFAKE		21 58 30.0	+12
JTS				LR	LR		
	comp=Z,878nm,21.0s						
JAY	Jayapura	81.38	279	LR	LR	22 30 49.2	
	comp=Z,265nm,19.5s,baz=182,slow=33						
ROSC	El Rosal	81.69	68	LR	LR	22 27 57.6	
	comp=Z,240nm,21.9s,baz=196,slow=31						
BCIP	Isla Barro Col	82.68	61	PFAKE		21 58 40.0	+15
BCIP				LR	LR		
	comp=Z,604nm,19.0s						
BATI	Baumata	84.32	260	LR	LR	22 32 45.1	
	comp=Z,757nm,20.6s,baz=146,slow=34						
PTGA	Pitinga	84.61	83	PFAKE		21 58 50.0	+15
PTGA				LR	LR		
	comp=Z,11μm,20.0s						
SDV	Santo Domingo	87.02	69	PFAKE		21 59 00.0	+12
SDV				LR	LR		
	comp=Z,344nm,20.0s						
WAKE	Wake Island	87.47	312	PFAKE		21 59 00.0	+11
WAKE				LR	LR		
	comp=Z,2μm,22.0s						
TUC	Tucson	92.50	25	PFAKE		21 59 30.0	+17
TUC				LR	LR		
	comp=Z,620nm,21.0s						
PFO	Pinyon Flats O	92.54	20	PFAKE		21 59 30.0	+17
PFO				LR	LR		
	comp=Z,567nm,19.0s						
MNTX	Cornudas Mount	93.30	30	PFAKE		21 59 30.0	+14
MNTX				LR	LR		
	comp=Z,553nm,21.0s						
JCT	Junction City	93.80	35	PFAKE		21 59 30.0	+11
JCT				LR	LR		
	comp=Z,235nm,19.0s						
BOSA	Boshof	94.09	168	LR	LR	22 39 51.4	
	comp=Z,626nm,18.2s,baz=184,slow=34						
WUAZ	Wupatki	95.44	24	PFAKE		21 59 40.0	+14
WUAZ				LR	LR		
	comp=Z,479nm,22.0s						
ANMO	Albuquerque	96.08	28	PFAKE		21 59 40.0	+11
ANMO				LR	LR		
	comp=Z,481nm,20.0s						
NATX	Nacogdoches	96.67	39	PFAKE		21 59 40.0	+8.3
NATX				LR	LR		
	comp=Z,363nm,21.0s						
NVAR	Mina Array Bea	96.89	18	P	P	21 59 31.3	-1.6
	comp=Z,0.3nm,0.5s,baz=177,slow=3.9,SNR=3.0						
NVAR				LR	LR	22 34 48.0	
	comp=Z,482nm,21.0s,baz=112,slow=30						
SJG	San Juan	97.11	68	PFAKE		21 59 50.0	+16
SJG				LR	LR		
	comp=Z,351nm,20.0s						
GRTK	Grand Turk	97.50	62	PFAKE		21 59 50.0	+14
GRTK				LR	LR		
	comp=Z,1543μm,22.0s						
MVCO	Mesa Verde	97.72	26	PFAKE		21 59 50.0	+13
MVCO				LR	LR		
	comp=Z,398nm,21.0s						
WMOK	Wichita Mounta	98.06	34	PFAKE		21 59 50.0	+12
WMOK				LR	LR		
	comp=Z,327nm,19.0s						
SDCO	Great Sand Dun	98.97	28	PFAKE		22 00 00.0	+18
SDCO				LR	LR		
	comp=Z,504nm,19.0s						
DUG	Dugway, Tooele	99.62	22	PFAKE		22 00 00.0	+15
DUG				LR	LR		
	comp=Z,445nm,20.0s						
WVOR	Wild Horse Val	100.74	17	PFAKE		22 00 00.0	+10
WVOR				LR	LR		
	comp=Z,465nm,20.0s						
ISCO	Idaho Springs	100.88	27	PFAKE		22 00 00.0	+9.2
ISCO				LR	LR		
	comp=Z,622nm,21.0s						
H10S3	ASCENSION HYDR	101.19	126	T	T	23 53 49.2	
	baz=207,slow=75,SNR=9.1						
H10S2	ASCENSION HYDR	101.19	126	T	T	23 53 48.4	
	baz=207,slow=75,SNR=7.4						
H10S1	ASCENSION HYDR	101.21	126	T	T	23 53 44.8	
	baz=207,slow=75,SNR=9.4						
HWUT	Hardware Ranch	101.24	22	PFAKE		22 00 10.0	+18
HWUT				LR	LR		
	comp=Z,16nm,20.0s						
CBKS	Cedar Bluff	101.55	32	PFAKE		22 00 10.0	+17
CBKS				LR	LR		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,485nm,19.0s						
TSUM	**Tsumeb**	**102.17**	**160**	PFAKE		22 00 10.0	+13
TSUM				LR	LR		
	comp=Z,945nm,22.0s						
H10N3	**ASCENSION HYDR**	**102.25**	**126**	T	T	23 55 03.9	
	baz=206,slow=75,SNR=9.6						
H10N1	**ASCENSION HYDR**	**102.25**	**126**	T	T	23 55 12.7	
	baz=206,slow=75,SNR=11						
H10N2	**ASCENSION HYDR**	**102.27**	**126**	T	T	23 55 06.3	
	baz=206,slow=75,SNR=8.9						
GOGA	**Godfrey**	**102.30**	**46**	PFAKE		22 00 10.0	+13
GOGA				LR	LR		
	comp=Z,353nm,21.0s						
AHID	**Auburn Hatcher**	**102.45**	**22**	PFAKE		22 00 10.0	+12
AHID				LR	LR		
	comp=Z,512nm,20.0s						
HLID	**Hailey**	**102.56**	**20**	PFAKE		22 00 10.0	+12
HLID				LR	LR		
	comp=Z,779nm,20.0s						
BW06	**Boulder Array**	**102.78**	**23**	PFAKE		22 00 10.0	+11
BW06				LR	LR		
	comp=Z,644nm,21.0s						
OGNE	**Ogallala**	**102.89**	**29**	PFAKE		22 00 10.0	+11
OGNE				LR	LR		
	comp=Z,546nm,22.0s						
ABPO	**Ambohimpanom**	**104.08**	**188**	PFAKE		22 00 20.0	+14
ABPO				LR	LR		
	comp=Z,364nm,20.0s						
LKWY	**Lake**	**104.32**	**22**	PFAKE		22 00 20.0	+14
LKWY				LR	LR		
	comp=Z,449nm,19.0s						
BOZ	**Bozeman (W)**	**105.06**	**21**	PFAKE		22 04 40.0	
BOZ				LR	LR		
	comp=Z,423nm,19.0s						
RLMT	**Red Lodge**	**105.09**	**23**	PFAKE		22 04 40.0	
RLMT				LR	LR		
	comp=Z,340nm,20.0s						
CNNC	**Cliffs of the**	**106.16**	**50**	PFAKE		22 04 40.0	
CNNC				LR	LR		
	comp=Z,344nm,20.0s						
BLA	**Blacksburg**	**106.82**	**47**	PFAKE		22 04 40.0	
BLA				LR	LR		
	comp=Z,278nm,20.0s						
ECSD	**EROS Data Cent**	**106.99**	**32**	PFAKE		22 04 40.0	
ECSD				LR	LR		
	comp=Z,604nm,19.0s						
LAO	**LASA Array**	**107.24**	**24**	PFAKE		22 04 40.0	
LAO				LR	LR		
	comp=Z,653nm,20.0s						
LSZ	**Lusaka**	**107.59**	**169**	PFAKE		22 04 40.0	
LSZ				LR	LR		
	comp=Z,767nm,19.0s						
ACSO	**Alum Creek Sta**	**108.44**	**43**	PFAKE		22 04 40.0	
ACSO				LR	LR		
	comp=Z,289nm,22.0s						
CBN	**Corbin Frederi**	**108.91**	**48**	PFAKE		22 04 40.0	
CBN				LR	LR		
	comp=Z,403nm,20.0s						
DGMT	**Dagmar**	**109.39**	**25**	PFAKE		22 04 40.0	
DGMT				LR	LR		
	comp=Z,394nm,19.0s						
AGMN	**Agassiz Nation**	**111.37**	**31**	PFAKE		22 04 50.0	
AGMN				LR	LR		
	comp=Z,329nm,20.0s						
COWI	**Conover**	**111.43**	**36**	PFAKE		22 04 50.0	
COWI				LR	LR		
	comp=Z,263nm,20.0s						
GLMI	**Grayling**	**111.84**	**40**	PFAKE		22 04 50.0	
GLMI				LR	LR		
	comp=Z,1µm,19.0s						
EYMN	**Ely**	**112.33**	**34**	PFAKE		22 04 50.0	
EYMN				LR	LR		
	comp=Z,461nm,19.0s						
BINY	**Binghamton**	**112.85**	**47**	PFAKE		22 04 50.0	
BINY				LR	LR		
	comp=Z,451nm,19.0s						
KDAK	**Kodiak Island**	**114.66**	**353**	PFAKE		22 04 50.0	+9.1
KDAK				LR	LR		
	comp=Z,517nm,21.0s						
LONY	**Lake Ozonia**	**115.44**	**47**	PFAKE		22 05 00.0	+17
LONY				LR	LR		
	comp=Z,436nm,21.0s						
FFC	**Flin Flon**	**115.72**	**24**	PFAKE		22 05 00.0	+17
FFC				LR	LR		
	comp=Z,417nm,19.0s						
ERM	**Erimo**	**117.10**	**306**	PFAKE		22 05 00.0	+14
ERM				LR	LR		
	comp=Z,141nm,20.0s						
PKME	**Peaks-Kenny Pk**	**118.12**	**50**	PFAKE		22 05 00.0	+12
PKME				LR	LR		
	comp=Z,383nm,21.0s						
SSE	**Sheshan**	**119.45**	**282**	PFAKE		22 05 00.0	+9.0
SSE				LR	LR		
	comp=Z,241nm,21.0s						
PET	**Petropavlovsk**	**120.05**	**323**	PFAKE		22 05 00.0	+8.6
PET				LR	LR		
	comp=Z,751nm,22.0s						
ILAR	**Eielson Array**	**121.39**	**357**	PKP	**PKPdf**	**22 04 50.4**	**-3.2**
	comp=Z,2.6nm,0.9s,baz=227,slow=1.6,SNR=12						
ILB	**Eielson Array**	**121.39**	**357**	*e*PKPdf	**PKPdf**	**22 04 53.5**	**-0.2**
CM01	**Chiang Mai Arr**	**121.45**	**255**	*e*PKPdf	**PKPdf**	**22 04 55.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**121.49**	**255**	PKP	**PKPdf**	**22 04 51.2**	**-4.1**
	comp=Z,0.2nm,0.3s,baz=125,slow=2.2,SNR=3.1						
COLA	**College**	**121.52**	**357**	PFAKE		22 05 10.0	+16
COLA				LR	LR		
	comp=Z,404nm,22.0s						
CHTO	**Chiang Mai**	**121.78**	**255**	PFAKE		22 05 10.0	+14
CHTO				LR	LR		
	comp=Z,198nm,22.0s						
KMBO	**Kilima Mbogo**	**122.18**	**178**	PFAKE		22 05 10.0	+13
KMBO				LR	LR		
	comp=Z,673nm,21.0s						
MBAR	**Mbarara**	**122.35**	**170**	PFAKE		22 05 10.0	+13
MBAR				LR	LR		
	comp=Z,476nm,19.0s						
GYA	**Guiyang**	**123.75**	**267**	Pdif	**Pdif**	**22 01 33.0**	**+0.4**
GYA				PKP	**PKiKP**	**22 05 00.3**	**+0.4**
GYA				PP	**PP**	**22 06 47.8**	**+5.1**
GYA				AMB	AMB		
	comp=Z,160nm,7.8s						
ENH	**Enshi**	**125.18**	**273**	PFAKE		22 05 10.0	+7.9
ENH				LR	LR		
	comp=Z,274nm,19.0s						
MDJ	**Mudanjiang**	**125.40**	**299**	PFAKE		22 05 10.0	+8.0
MDJ				LR	LR		
	comp=Z,239nm,21.0s						
MA2	**Magadan**	**127.93**	**323**	PFAKE		22 05 20.0	+14
MA2				LR	LR		
	comp=Z,440nm,21.0s						
CD2	**Chengdu**	**128.81**	**268**	PKP	**PKPdf**	**22 05 09.5**	**+0.4**
BJT	**Baijiatuau**	**128.85**	**286**	PFAKE		22 05 20.0	+11
BJT				LR	LR		
	comp=Z,205nm,19.0s						
BILL	**Bilibino**	**130.43**	**337**	PFAKE		22 05 20.0	+9.1
BILL				LR	LR		
	comp=Z,391nm,20.0s						
LZH	**Lanzhou**	**132.65**	**273**	*e*PKP	**PKPdf**	**22 05 13.3**	**-3.0**
HIA	**Hailar**	**133.46**	**297**	PFAKE		22 05 30.0	+13
HIA				LR	LR		
	comp=Z,192nm,22.0s						
LSA	**Lhasa**	**134.72**	**256**	PFAKE		22 05 30.0	+9.2
LSA				LR	LR		
	comp=Z,219nm,21.0s						
GTA	**Gaotai**	**137.26**	**273**	PKP	**PKPdf**	**22 05 32.5**	**+7.7**
ULN	**Ulaanbaatar**	**139.00**	**288**	PFAKE		22 05 40.0	+12
ULN				LR	LR		
	comp=Z,164nm,21.0s						
TIXI	**Tiksi**	**142.41**	**329**	PFAKE		22 05 50.0	+17
TIXI				LR	LR		
	comp=Z,203nm,20.0s						
RAYN	**Ar Rayn**	**146.34**	**191**	*e*PKPdf	**PKPdf**	**22 05 40.5**	**-0.8**
RAYN				LR	LR		
	comp=Z,315nm,19.0s						
NIL	**Nilore**	**146.99**	**240**	PFAKE		22 05 50.0	+4.4
NIL				LR	LR		
	comp=Z,121nm,20.0s						
PAB	**San Pablo**	**147.13**	**103**	PFAKE		22 05 50.0	+3.9
PAB				LR	LR		
	comp=Z,214nm,19.0s						
ESDC	**Sonseca Array**	**147.43**	**103**	PKPbc	**PKPdf**	**22 05 42.1**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=137,slow=30,SNR=3.4						
ES19	**SONSECA Array**	**147.48**	**103**	*e*PKPdf	**PKPdf**	**22 05 43.8**	**+1.0**
TARG	**Taragay, Kyrgy**	**150.87**	**256**	*e*PKPdf	**PKPdf**	**22 05 48.9**	**+0.3**
NRN	**Naryn**	**151.61**	**253**	*e*PKPbc	**PKPbc**	**22 05 54.9**	**-1.0**
MK01	**Makanchi Array**	**151.72**	**268**	*e*PKPdf	**PKPdf**	**22 05 51.0**	**+1.7**
MKAR	**Makanchi Array**	**151.74**	**268**	PKPbc	**PKPdf**	**22 05 51.0**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=147,slow=2.5,SNR=6.0						
MAKZ	**Makanchi**	**151.92**	**268**	*e*PKPdf	**PKPdf**	**22 05 51.0**	**+1.5**
MAKZ				*e*PKPbc	**PKPbc**	**22 05 56.6**	**+0.5**
AAK	**Ala-Archa**	**153.26**	**253**	PFAKE		22 06 00.0	+0.7
AAK				LR	LR		
	comp=Z,202nm,19.0s						
ZALV	**Zalesovo Beam**	**154.08**	**283**	PKPbc	**PKPdf**	**22 05 56.2**	**+3.8**
	comp=Z,0.3nm,0.4s,baz=26,slow=30,SNR=2.2						
ZALV	**Zalesovo Beam**	**154.08**	**283**	*e*PKPdf	**PKPdf**	**22 05 55.8**	**+3.4**
KURK	**Kurchatov**	**155.94**	**272**	PFAKE		22 06 10.0	-12
KURK				LR	LR		
	comp=Z,392nm,22.0s						
KBS	**Kingsbay**	**156.16**	**12**	PFAKE		22 06 10.0	-13
KBS				LR	LR		
	comp=Z,365nm,20.0s						
BFO	**Black Forest**	**159.78**	**102**	PFAKE		22 06 10.0	+10
BFO				LR	LR		
	comp=Z,12nm,19.0s						
BRVK	**Borovoye**	**161.60**	**271**	PFAKE		22 06 10.0	+8.3
BRVK				LR	LR		
	comp=Z,150nm,20.0s						
ANTO	**Ankara**	**162.55**	**164**	PFAKE		22 06 10.0	+6.8
ANTO				LR	LR		
	comp=Z,336nm,22.0s						
GNI	**Garni**	**162.82**	**196**	PFAKE		22 06 10.0	+6.4
GNI				LR	LR		
	comp=Z,477nm,20.0s						
KEV	**Kevo**	**166.07**	**17**	PFAKE		22 06 20.0	+15
KEV				LR	LR		
	comp=Z,457nm,20.0s						
KIV	**Kislovodsk**	**166.84**	**193**	PFAKE		22 06 20.0	+13
KIV				LR	LR		
	comp=Z,351nm,20.0s						
AKTO	**Aktyubinsk**	**166.92**	**249**	PKPab	**PKPab**	**22 07 03.1**	**-7.2**
	comp=Z,0.5nm,0.5s,baz=41,slow=1.2,SNR=3.2						
ARU	**Arti**	**169.10**	**276**	PFAKE		22 06 20.0	+12
ARU				LR	LR		
	comp=Z,238nm,19.0s						
KIEV	**Kiev**	**171.62**	**133**	PFAKE		22 06 20.0	+11
KIEV				LR	LR		
	comp=Z,392nm,19.0s						
OBN	**Obninsk**	**177.85**	**144**	PFAKE		22 06 20.0	+8.9
OBN				LR	LR		
	comp=Z,167nm,21.0s						

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*ISCJB **09** 21:53:07.6±0.9, 6°.92S±0°.08×129°.74E±0°.09, h150^{km}, mb3.4/1, Error ellipse: s-maj=13.2km s-min=10.3km az=29.5*

*IDC **09** 21:53:08.9±2.1, 6°.87S×129°.64E, h145^{km}±25^{km}, mb3.2/1, mb1 3.4/6, mb1mx3.2/36, mbtmp3.9/6, Error ellipse: s-maj=38.9km s-min=19.8km az=94.0*

ISC 09 21:53:07.1±0.9**, 6°.96S**±0°.06×**129°.9E**±0°.1**, h150**^{km}**, n6,** σ**3**^{s}**52**/11**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.21**	**13**	P	**Pn**	**21 54 38.1**	**+1.4**
	3.5nm,0.3s,baz=81,slow=4.4,SNR=37						
SIJI				S	**Sn**	**21 55 42.0**	**-4.8**
	4.4nm,0.3s,baz=298,slow=23,SNR=10						
BATI	**Baumata**	**6.94**	**242**	P	**Pn**	**21 54 46.8**	**+0.4**
	0.8nm,0.3s,baz=281,slow=5.2,SNR=2.8						
BATI				S	**Sn**	**21 56 03.3**	**-0.8**
	5.3nm,0.3s,baz=88,slow=11,SNR=4.2						
FITZ	**Fitzroy Crossi**	**11.81**	**200**	P	**Pn**	**21 55 52.2**	**+1.3**
	0.5nm,0.3s,baz=20,slow=9.8,SNR=20						
FITZ				S	**Sn**	**21 57 55.8**	**-5.8**
	0.3nm,0.3s,baz=347,slow=18,SNR=2.8						
WRA	**Warramunga Arr**	**13.61**	**162**	P	**P**	**21 56 16.7**	**-1.3**
	0.5nm,0.3s,baz=334,slow=13,SNR=22						
WRA				S	**Sn**	**21 58 41.6**	**-3.3**
	0.5nm,0.3s,baz=337,slow=22,SNR=7.3						
ASAR	**Alice Springs**	**17.05**	**167**	P	**Pn**	**21 57 01.6**	**+4.9**
	0.4nm,0.3s,baz=344,slow=9.2,SNR=11						
ASAR				S	**Sn**	**22 00 08.2**	**+0.7**
	0.1nm,0.3s,baz=346,slow=26,SNR=4.1						
MKAR	**Makanchi Array**	**68.13**	**327**	P	**P**	**22 03 51.9**	**+1.1**
	0.3nm,0.4s,baz=117,slow=7.8,SNR=9.7						

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*ISCJB **09** 21:57:09.7±1.0, 21°.14S±0°.05×67°.64W±0°.05, h182^{km}±12^{km}, Error ellipse: s-maj=9.0km s-min=6.0km az=137.7*

*SJA **09** 21:57:10.3±0.3, 21°.32S×67°.55W, h191^{km}±5^{km}, ML2.7, MW2.9*

*GUC **09** 21:57:11.1±0.8, 21°.08S×68°.00W, h199^{km}±7^{km}, ML3.5*

ISC 09 21:57:07.5±2.2**, 21°.15S**±0°.06×**67°.63W**±0°.06**, h205**^{km}±21^{km}**, n18,** σ**1**^{s}**50**/32**, 1C-3D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.64**	**246**	*e*P	**Pn**	**21 57 45.0**	**+1.9**
PB09				*e*S	**Sn**	**21 58 10.3**	**-0.4**
PB09				IAML		21 58 11.9	
	comp=N,148nm,0.3s						
PB01	**IPOC Station P**	**1.74**	**273**	*e*P	**Pn**	**21 57 44.9**	**+0.9**
PB01				*i* S	**Sn**	**21 58 10.4**	**-1.8**
PB01				IAML		21 58 12.6	
	comp=N,344nm,0.3s						
PB08	**IPOC Station P**	**1.75**	**305**	⇓*i*P	**Pn**	**21 57 45.8**	**+1.5**
PB08				*e*S	**Sn**	**21 58 11.9**	**-1.0**
PB08				IAML		21 58 14.8	
	comp=E,140nm,0.2s						
LVC	**Limon Verde**	**1.88**	**219**	*e*P	**Pn**	**21 57 47.0**	**+1.5**
LVC	**Limon Verde**	**1.88**	**219**	⇓*i*P	**Pn**	**21 57 46.9**	**+1.3**
LVC				*i* S	**Sn**	**21 58 14.7**	**-0.6**
GO01	**Chusmiza**	**2.08**	**315**	*e*P	**Pn**	**21 57 49.0**	**+1.2**
GO01				*i* S	**Sn**	**21 58 18.1**	**-0.9**
GO01				IAML		21 58 23.4	
	comp=N,145nm,0.3s						
PB02	**IPOC Station P**	**2.13**	**265**	*e*P	**Pn**	**21 57 48.8**	**+1.0**
PB02				*i* S	**Sn**	**21 58 17.5**	**-1.6**
PB02				IAML		21 58 18.6	
	comp=N,622nm,0.3s						
PB03	**IPOC Station P**	**2.17**	**245**	*e*P	**Pn**	**21 57 49.7**	**+1.4**
PB03				*e*S	**Sn**	**21 58 18.6**	**-1.6**
PB03				IAML		21 58 19.4	
	comp=E,157nm,0.2s						
PB07	**IPOC Station P**	**2.19**	**254**	*e*P	**Pn**	**21 57 49.8**	**+1.3**
PB07				*i* S	**Sn**	**21 58 18.7**	**-1.7**
PB07				IAML		21 58 19.3	
	comp=N,442nm,0.4s						
YJA	**Yavi**	**2.21**	**118**	*e*P	**Pn**	**21 57 50.7**	**+1.6**
YJA				*e*S	**Sn**	**21 58 20.3**	**-1.1**
YJA				IAML		21 58 24.9	
	comp=Z,21nm,0.2s						
PB11	**IPOC Station P**	**2.35**	**306**	⇓*i*P	**Pn**	**21 57 51.2**	**+1.0**
PB11				*e*S	**Sn**	**21 58 21.8**	**-1.7**
PB11				IAML		21 58 24.8	
	comp=N,497nm,0.2s						
PB06	**IPOC Station P**	**2.38**	**229**	*e*P	**Pn**	**21 57 52.1**	**+1.5**
PB06				*i* S	**Sn**	**21 58 23.4**	**-0.8**
PB06				IAML		21 58 24.6	
	comp=E,355nm,0.3s						
PB04	**IPOC Station P**	**2.63**	**243**	⇑*e*P	**Pn**	**21 57 54.6**	**+1.3**
PB04				IAML		21 58 30.6	
	comp=E,91nm,0.3s						
MNMC	**Minye Minye**	**2.73**	**317**	*e*P	**Pn**	**21 57 56.4**	**+1.8**
MNMC				*e*S	**Sn**	**21 58 30.7**	**-0.6**
MNMC				IAML		21 58 33.5	
	comp=N,368nm,0.4s						
PSGC	**Pisagua**	**2.81**	**303**	*e*P	**Pn**	**21 57 55.6**	**+0.3**
PSGC				*i* S	**Sn**	**21 58 30.3**	**-2.3**
HJA	**Humahuaca**	**2.90**	**135**	*e*P	**Pn**	**21 57 57.9**	**+1.2**
HJA				IAML		21 58 37.5	
	comp=Z,31nm,0.4s						
AZAP	**Zapla**	**3.87**	**143**	*e*P	**Pn**	**21 58 09.0**	**+1.0**
AZAP				*e*S	**Sn**	**21 58 52.8**	**-2.9**
ALOL	**LOMAS DE OLMED**	**4.29**	**129**	*e*P	**Pn**	**21 58 14.1**	**+1.0**

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*ATH **09** 22:01:35.6, 40°.40N×25°.92E, h25^{km}±1^{km}, ML2.4/8, Error ellipse: s-maj=1.7km s-min=0.9km az=78.0*

*ISK **09** 22:01:35.7, 40°.40N×25°.96E, h8^{km}, ML2.6/16*

*SOF **09** 22:01:35.3, 40°.19N×25°.63E, h14^{km}*

*ISCJB **09** 22:01:35.9±0.3, 40°.41N±0°.02×25°.94E±0°.02, h8^{km}±3^{km}, Error ellipse: s-maj=2.9km s-min=2.5km az=149.5*

*THE **09** 22:01:36.2, 40°.39N×25°.92E, h7^{km}±1^{km}, ML2.5/9, Error ellipse: s-maj=1.2km s-min=0.4km az=85.0*

*DDA **09** 22:01:37.0, 40°.36N×26°.09E, h7^{km}±4^{km}, ML2.7*

ISC 09 22:01:36.2±0.9**, 40°.40N**±0°.02×**25°.92E**±0°.02**, h13**^{km}±7^{km}**, n78,** σ**0**^{s}**68**/103**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GOKC	**Gokceada-Canak**	**0.20**	**181**	PG	**Pg**	**22 01 40.4**	**-0.1**
GADA	**Gvkgeada**	**0.21**	**185**	PG	**Pg**	**22 01 40.9**	**+0.3**
GADA				SG	**Sg**	**22 01 44.1**	**+0.4**
SMTH	**Samothraki Isl**	**0.31**	**284**	P	**Pg**	**22 01 42.5**	**0.0**
SMTH				S	**Sg**	**22 01 47.2**	**+0.5**
SMTH				AML	AML	22 01 47.2	
	comp=E,3230µm,0.1s						
SMTH				AML	AML	22 01 47.9	
	comp=N,2500µm,0.1s						
SMTH	**Samothraki Isl**	**0.31**	**284**	P	**Pg**	**22 01 42.3**	**-0.2**
SMTH				S	**Sg**	**22 01 47.0**	**+0.3**
ENEZ	**Enez**	**0.38**	**27**	PG	**Pg**	**22 01 43.5**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.42**	**90**	PG	**Pg**	**22 01 43.8**	**-0.7**
ALN	**Alexandroupoli**	**0.51**	**10**	PG	**Pg**	**22 01 45.5**	**-0.7**
ALN	**Alexandroupoli**	**0.51**	**10**	P	**Pg**	**22 01 45.8**	**-0.4**
ALN				S	**Sb**	**22 01 53.7**	**-0.7**
ALN				AML	AML	22 01 54.2	
	comp=E,266µm,0.2s						
ALN				AML	AML	22 01 54.6	
	comp=N,257µm,0.4s						
ALN	**Alexandroupoli**	**0.51**	**10**	P	**Pg**	**22 01 45.7**	**-0.4**
ALN				S	**Sb**	**22 01 53.7**	**-0.7**
ERIK	**Erikli-Kesan**	**0.53**	**58**	PG	**Pg**	**22 01 46.1**	**-0.4**
ERIK				SG	**Sg**	**22 01 53.2**	**-0.3**
BOZC	**Bozcaada**	**0.56**	**170**	PG	**Pb**	**22 01 47.1**	**-0.8**
BOZC	**Bozcaada**	**0.56**	**170**	IAML_P			
	comp=Z,1µm,0.1s						
BOZC				*i* P	**Pb**	**22 01 47.9**	**0.0**
BOZC				*i* S	**Sb**	**22 01 55.1**	**-0.7**
LPK	**Lapseki**	**0.64**	**92**	PG	**Pg**	**22 01 47.9**	**-0.7**
EZN	**Ezine**	**0.65**	**151**	PG	**Pg**	**22 01 48.4**	**-0.3**
EZN	**Ezine**	**0.65**	**151**	P	**Pg**	**22 01 48.3**	**-0.4**
EZN				S	**Sb**	**22 01 57.7**	**-0.6**
KESN	**Edirne-Kesan**	**0.72**	**53**	IAML_P			
	comp=Z,878nm,0.2s						
KESN				*i* P	**Pg**	**22 01 49.2**	**-1.0**
LIA	**Limnos Island**	**0.75**	**229**	P	**Pb**	**22 01 50.6**	**-0.5**
LIA				S	**Sb**	**22 02 01.3**	**0.0**
LIA				AML	AML	22 02 03.3	
	comp=N,510µm,0.4s						
LIA				AML	AML	22 02 03.3	
	comp=E,713µm,0.5s						
LIA	**Limnos Island**	**0.75**	**229**	P	**Pb**	**22 01 50.5**	**-0.7**
LIA				S	**Sb**	**22 02 01.9**	**+0.5**
RDO	**Rodhopi**	**0.81**	**339**	PG	**Pb**	**22 01 51.8**	**-0.2**
RDO				SG	**Sb**	**22 02 03.4**	**+0.6**
RDO	**Rodhopi**	**0.81**	**339**	P	**Pg**	**22 01 51.1**	**-0.7**
RDO				S	**Sb**	**22 02 02.9**	**+0.1**
RDO				AML	AML	22 02 06.0	
	comp=N,535µm,0.3s						
RDO				AML	AML	22 02 06.4	
	comp=E,428µm,0.3s						
RDO	**Rodhopi**	**0.81**	**339**	P	**Pg**	**22 01 51.2**	**-0.5**
RDO				S	**Sb**	**22 02 04.1**	**+1.2**
BAYC	**CANAKKALE_Bayr**	**0.81**	**144**	*i* P	**Pg**	**22 01 51.5**	**-0.3**
BAYC				*i* S	**Sb**	**22 02 03.8**	**+0.8**
THAS	**Thassos island**	**0.94**	**283**	P	**Pg**	**22 01 53.6**	**-0.7**
THAS				S	**Sb**	**22 02 06.8**	**0.0**
THAS				AML	AML	22 02 08.8	
	comp=E,377µm,0.2s						
THAS				AML	AML	22 02 09.6	
	comp=N,423µm,0.2s						
THAS	**Thassos island**	**0.94**	**283**	P	**Pg**	**22 01 53.6**	**-0.7**
THAS				S	**Sb**	**22 02 07.1**	**+0.3**
SART	**Tekirdag**	**1.00**	**73**	IAML_P			
	comp=Z,2µm,0.2s						
SART				*i* P	**Pb**	**22 01 55.7**	**+0.2**
SART				*i* S	**Sb**	**22 02 08.7**	**+0.2**
KRBG	**Karabiga-Canak**	**1.05**	**90**	PG	**Pg**	**22 01 55.6**	**-0.8**
EFSA	**Agios Efstrati**	**1.12**	**220**	P	**Pn**	**22 01 58.1**	**+0.6**
PRK	**Paraskevi**	**1.18**	**167**	P	**Pn**	**22 01 58.4**	**0.0**
PRK				S	**Sn**	**22 02 14.6**	**+0.3**
PRK				AML	AML	22 02 16.5	
	comp=E,651µm,0.6s						
PRK				AML	AML	22 02 17.8	
	comp=N,646µm,0.6s						
PRK	**Paraskevi**	**1.18**	**167**	P	**Pb**	**22 01 58.2**	**-0.2**
PRK				S	**Sn**	**22 02 15.0**	**+0.7**
SIGR	**SIGRI**	**1.18**	**183**	PN	**Pg**	**22 01 58.1**	**-0.8**
SIGR	**SIGRI**	**1.18**	**183**	P	**Pg**	**22 01 58.1**	**-0.8**
SIGR				S	**Sn**	**22 02 14.6**	**+0.2**
SIGR				AML	AML	22 02 15.4	
	comp=E,634µm,0.7s						
SIGR				AML	AML	22 02 15.5	
	comp=N,736µm,0.4s						
SIGR	**SIGRI**	**1.18**	**183**	P	**Pg**	**22 01 57.6**	**-1.3**
SIGR				S	**Sn**	**22 02 15.1**	**+0.7**
KAVA	**Kavala**	**1.23**	**300**	P	**Pn**	**22 01 59.2**	**+0.1**
KAVA				S	**Sn**	**22 02 16.1**	**+0.5**
KAVA				AML	AML	22 02 16.9	
	comp=E,192µm,0.3s						
KAVA				AML	AML	22 02 20.4	
	comp=N,193µm,0.2s						
KAVA	**Kavala**	**1.23**	**300**	P	**Pn**	**22 01 59.2**	**+0.1**
KAVA				S	**Sn**	**22 02 16.3**	**+0.7**
KNL	**Balıkesir**	**1.23**	**95**	*i* P	**Pn**	**22 01 59.1**	**0.0**
AYVA	**Ayvalik**	**1.24**	**151**	*i* P	**Pg**	**22 02 00.4**	**+0.5**
AYVA				*i* S	**Sn**	**22 02 16.1**	**+0.4**
KVLA	**Kavala**	**1.29**	**295**	P	**Pn**	**22 01 59.7**	**-0.2**
MRMT	**Marmara Adasi**	**1.29**	**80**	PN	**Pn**	**22 01 59.6**	**-0.4**
SBT4	**Kumbag-Tekirda**	**1.30**	**70**	PN	**Pn**	**22 01 59.9**	**0.0**
KDZ	**Kurdzhali**	**1.31**	**343**	PN	**Pn**	**22 02 00.5**	**+0.3**
KDZ	**Kurdzhali**	**1.31**	**343**	*i* P	**Pg**	**22 02 04.5**	**+3.1**
TKR	**Tekirdag**	**1.36**	**64**	PN	**Pn**	**22 02 00.6**	**-0.3**
GONE	**Gonen-Balikesi**	**1.39**	**104**	PN	**Pn**	**22 02 01.4**	**+0.1**
EDC	**Edincik**	**1.48**	**91**	PN	**Pn**	**22 02 02.6**	**0.0**
DKL	**Dikili**	**1.52**	**150**	PN	**Pn**	**22 02 03.6**	**+0.5**
CRLT	**Corlu**	**1.56**	**61**	PN	**Pn**	**22 02 03.9**	**+0.3**
EDRB	**Edirne**	**1.58**	**23**	PN	**Pn**	**22 02 04.2**	**+0.3**
RZN	**Rozhen**	**1.58**	**325**	*i* P	**Pn**	**22 02 04.4**	**+0.3**
DIM	**Dimitrovgrad**	**1.68**	**350**	*i* P	**Pb**	**22 02 06.3**	**-0.6**
BALB	**Balikesir**	**1.68**	**116**	PN	**Pn**	**22 02 05.4**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.72**	**126**	IAML_P			
	comp=Z,489nm,0.2s						
STEP				*i* P	**Pn**	**22 02 06.5**	**+0.7**
PHSR	**Pinarhisar**	**1.73**	**44**	PN	**Pn**	**22 02 06.2**	**+0.2**
PAIG	**Paliouri**	**1.78**	**255**	P	**Pn**	**22 02 05.8**	**-0.9**
PAIG	**Paliouri**	**1.78**	**255**	P	**Pn**	**22 02 05.8**	**-0.9**
NVR	**Nevrokopi**	**1.83**	**302**	P	**Pn**	**22 02 07.6**	**+0.1**
NVR	**Nevrokopi**	**1.83**	**302**	P	**Pn**	**22 02 07.5**	**+0.1**
KCTX	**Karacabey (Bur**	**1.86**	**93**	PN	**Pn**	**22 02 07.7**	**-0.2**
PLG	**Polygyros**	**1.89**	**270**	P	**Pn**	**22 02 07.7**	**-0.6**
PLG	**Polygyros**	**1.89**	**270**	P	**Pn**	**22 02 07.5**	**-0.8**
PLG				S	**Sn**	**22 02 33.3**	**+1.3**
SRS	**Serrai**	**1.91**	**293**	P	**Pn**	**22 02 09.2**	**+0.7**
SRS	**Serrai**	**1.91**	**293**	P	**Pn**	**22 02 08.8**	**+0.3**
SLVT	**Silivri**	**1.93**	**64**	PN	**Pn**	**22 02 09.2**	**+0.5**
PLD	**Plovdiv**	**1.94**	**332**	*i* P	**Pg**	**22 02 12.4**	**-1.0**
AOS	**Alonnisos**	**1.99**	**233**	PN	**Pb**	**22 02 11.2**	**-1.1**
SOH	**Sokhos**	**2.00**	**283**	P	**Pn**	**22 02 10.3**	**+0.5**
SOH	**Sokhos**	**2.00**	**283**	P	**Pn**	**22 02 09.4**	**-0.4**
CHOS	**Chios island**	**2.01**	**177**	PN	**Pn**	**22 02 10.9**	**+1.0**
CHOS	**Chios island**	**2.01**	**177**	P	**Pn**	**22 02 10.1**	**+0.2**
CHOS	**Chios island**	**2.01**	**177**	P	**Pn**	**22 02 10.2**	**+0.3**
MMB	**Musomiste**	**2.04**	**306**	*i* P	**Pg**	**22 02 14.9**	**-0.5**
ELBA	**Catalca**	**2.05**	**68**	*i* P	**Pn**	**22 02 09.9**	**-0.4**
URLA	**Izmir**	**2.10**	**165**	PN	**Pn**	**22 02 12.0**	**+0.9**
DURS	**Dursunbey**	**2.11**	**111**	*i* P	**Pn**	**22 02 12.5**	**+1.2**
JMB	**Yambol**	**2.13**	**13**	*i* P	**Pg**	**22 02 16.4**	**-0.6**
BLCB	**Balcova**	**2.19**	**156**	PN	**Pn**	**22 02 13.4**	**+1.1**
MDNY	**Mudanya-Bursa**	**2.26**	**90**	PN	**Pn**	**22 02 13.9**	**+0.6**
KNT	**Kendrikon**	**2.42**	**289**	P	**Pn**	**22 02 15.9**	**+0.4**
STIP	**Stip**	**3.11**	**296**	*e*Pn	**Pn**	**22 02 23.4**	**-1.6**

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*IDC **09** 22:04:59.4±0.5, 61°.00N×150°.35W, h0^{km}, mb4.2/25, mb1 4.3/28, mb1mx4.2/56, mbtmp4.2/28, ML3.9/3, MS3.5/8, Ms1 3.5/8, ms1mx3.1/40, Error ellipse: s-maj=11.2km s-min=9.7km az=48.0*

*ISCJB **09** 22:05:05.5±0.2, 60°.78N±0°.02×150°.19W±0°.03, h59^{km}±2^{km}, mb4.3/61, MS3.6/6, Error ellipse: s-maj=2.9km s-min=2.4km az=152.5*

*NEIC **09** 22:05:06.9±0.0, 60°.74N×150°.17W, h50^{km}, mb4.3/38, MW4.3, ML4.1(AEIC), Moment Tensor Solution. s12 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.10; $M_{\theta\theta}$-0.28;*

Mφφ2.39; Mrθ1.56; Mθφ1.97; Mφr2.36; Best double couple: $M_0$4.10000×10^15 NP1:φs17.00000°,δ23.00000°, λ-106.00000°. NP2:φs214.00000°,δ68.00000°, λ-83.00000°. Principal axes: T 4.6200, Plg23.0000°, Azm299.0000°; N -1.3000, Plg6.0000°, Azm32.0000°; P -3.3200, Plg66.0000°, Azm136.0000°; After AEIC.

NEIC Felt [IV] at Cooper Landing; [III] at Anchorage, Eagle River, Girdwood and Sterling; [II] at Soldotna. Also felt at Chugiak, Elmendorf AFB, Fort Richardson, Homer, Kenai, Palmer and Talkeetna.

*AEIC **09** 22:05:06.9, 60.°74N×150.°17W, h50km, ML4.1, MB4.3(NEIC), MW4.3(USGS)*

ISC 09 22:05:06.7±0.7**, 60.°75N**±0.°03×**150.°18W**±0.°03**, h59**km±6km**, n196, σ1.s42**/216**, mb4.3**/63**, MS3.5**/6**, Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLKM	**Skilak Lake**	**0.25**	**184**	P	**Pn**	**22 05 15.3**	**-1.1**
RC01	**Rabbit Creek A**	**0.40**	**33**	P	**Pn**	**22 05 16.8**	**-0.8**
RC01				S	**Sn**	**22 05 24.4**	**-1.2**
NKA	**Nikishka**	**0.52**	**269**	P	**Pn**	**22 05 19.1**	**+0.4**
NKA				S	**Sn**	**22 05 29.8**	**+2.3**
PTE	**Portage**	**0.58**	**78**	P	**Pn**	**22 05 19.0**	**-0.5**
SEW	**Seward**	**0.74**	**150**	P	**Pn**	**22 05 20.3**	**-1.1**
SEW				S	**Sn**	**22 05 32.5**	**+0.3**
SUA	**Susitna One**	**0.77**	**339**	P	**Pn**	**22 05 20.5**	**-1.3**
SUA				S	**Sn**	**22 05 31.9**	**-0.9**
PWL	**Port Wells**	**0.91**	**82**	P	**Pn**	**22 05 22.9**	**-0.7**
PWL				S	**Sn**	**22 05 35.9**	**-0.1**
PMR	**Palmer**	**0.98**	**31**	P	**Pn**	**22 05 23.6**	**-0.9**
PMR				S	**Sn**	**22 05 37.0**	**-0.6**
BRLK	**Bradley Lake**	**1.05**	**200**	P	**Pn**	**22 05 24.9**	**-0.5**
BRLK				S	**Sn**	**22 05 39.0**	**-0.2**
KNK	**Knik Glacier**	**1.07**	**51**	P	**Pn**	**22 05 25.0**	**-0.6**
KNK				S	**Sn**	**22 05 39.8**	**+0.1**
CKT	**Bend**	**1.08**	**295**	P	**Pn**	**22 05 25.0**	**-0.8**
RDT	**Redoubt**	**1.11**	**262**	P	**Pn**	**22 05 25.4**	**-0.8**
GHO	**Glory Hole Cre**	**1.19**	**30**	P	**Pn**	**22 05 26.6**	**-0.6**
GHO				S	**Sn**	**22 05 43.0**	**+0.4**
DFR	**Drift River**	**1.24**	**264**	P	**Pn**	**22 05 27.1**	**-0.9**
SPWE	**Spurr West**	**1.27**	**295**	P	**Pn**	**22 05 27.9**	**-0.4**
RDN	**Redoubt North**	**1.29**	**260**	P	**Pn**	**22 05 27.8**	**-0.9**
RSO	**Redoubt South**	**1.30**	**258**	*e*Pn	**Pn**	**22 05 28.3**	**-0.6**
HOM	**Homer**	**1.32**	**214**	P	**Pn**	**22 05 28.9**	**0.0**
HOM				S	**Sn**	**22 05 45.8**	**+0.3**
RDWB	**Redoubt West**	**1.34**	**260**	P	**Pn**	**22 05 28.5**	**-0.8**
RDWB				S	**Sn**	**22 05 45.4**	**-0.8**
SPNN	**North Nagishla**	**1.37**	**298**	P	**Pn**	**22 05 29.2**	**-0.6**
SPNN				S	**Sn**	**22 05 47.7**	**+0.7**
SML	**Sawmill**	**1.39**	**39**	P	**Pn**	**22 05 29.5**	**-0.4**
SML				S	**Sn**	**22 05 47.4**	**+0.2**
GLI	**Glacier Island**	**1.52**	**84**	P	**Pn**	**22 05 30.1**	**-1.5**
GLI				S	**Sn**	**22 05 49.1**	**-1.3**
IVE	**Iliamna Volcan**	**1.59**	**244**	P	**Pn**	**22 05 32.2**	**-0.4**
ILW	**Iliamna West**	**1.62**	**246**	P	**Pn**	**22 05 32.6**	**-0.5**
ILS	**Iliamna Low So**	**1.64**	**242**	P	**Pn**	**22 05 32.9**	**-0.4**
SCM	**Sheep Creek Mo**	**1.75**	**51**	P	**Pn**	**22 05 34.5**	**-0.3**
SCM				S	**Sn**	**22 05 56.5**	**+0.3**
JPK	**Jack Peak**	**1.78**	**79**	P	**Pn**	**22 05 34.1**	**-1.0**
VMT	**TAPS Tl Valdez**	**1.89**	**78**	P	**Pn**	**22 05 36.1**	**-0.5**
AUE	**Augustine Isla**	**2.12**	**230**	P	**Pn**	**22 05 39.5**	**-0.2**
AUL	**Augustine Lava**	**2.13**	**231**	P	**Pn**	**22 05 39.8**	**-0.1**
AUW	**Augustine West**	**2.15**	**231**	P	**Pn**	**22 05 40.5**	**+0.3**
AUI	**Augustine Isla**	**2.16**	**230**	P	**Pn**	**22 05 40.4**	**+0.2**
DIV	**Divide**	**2.19**	**78**	P	**Pn**	**22 05 39.8**	**-0.8**
EYAK	**Cordova Ski Ar**	**2.19**	**93**	P	**Pn**	**22 05 39.2**	**-1.5**
KLU	**Klutina**	**2.20**	**68**	*e*Pn	**Pn**	**22 05 40.6**	**-0.3**
HUR	**Hurricane**	**2.25**	**6**	P	**Pn**	**22 05 41.5**	**0.0**
MID	**Middleton Isla**	**2.34**	**123**	P	**Pn**	**22 05 41.7**	**-1.0**
PPLA	**Purkeypile**	**2.35**	**337**	P	**Pn**	**22 05 42.5**	**-0.5**
SGAM	**Sherman Glacie**	**2.46**	**94**	P	**Pn**	**22 05 42.8**	**-1.7**
PS11	**TAPS Pump St11**	**2.63**	**57**	P	**Pn**	**22 05 46.7**	**+0.1**
SVW2	**Sparrevohn**	**2.66**	**280**	P	**Pn**	**22 05 46.0**	**-1.1**
DHY	**Denali Highway**	**2.69**	**28**	P	**Pn**	**22 05 47.5**	**-0.1**
FONW	**Fourpeaked Sta**	**2.69**	**226**	P	**Pn**	**22 05 47.7**	**+0.1**
TRF	**Thorofare Moun**	**2.71**	**359**	P	**Pn**	**22 05 47.3**	**-0.6**
RND	**Reindeer**	**2.74**	**13**	P	**Pn**	**22 05 47.8**	**-0.4**
BMRM	**Bremner River**	**2.74**	**83**	P	**Pn**	**22 05 46.9**	**-1.3**
CAST	**Castle Rocks**	**2.82**	**342**	P	**Pn**	**22 05 49.5**	**+0.2**
HARP	**HAARP**	**2.92**	**53**	P	**Pn**	**22 05 51.0**	**+0.3**
HMT	**Hamilton**	**2.96**	**96**	P	**Pn**	**22 05 49.0**	**-2.2**
MCK	**McKinley**	**3.05**	**11**	P	**Pn**	**22 05 53.1**	**+0.7**
NICHA	**Nichawak Mount**	**3.12**	**97**	P	**Pn**	**22 05 51.2**	**-2.1**
PAX	**Paxson**	**3.15**	**43**	P	**Pn**	**22 05 54.5**	**+0.6**
KDAK	**Kodiak Island**	**3.22**	**204**	Pn	**Pn**	**22 05 53.5**	**-1.3**
	19nm,0.3s,baz=58,slow=8.3,SNR=600						
KDAK				Sn	**Sn**	**22 06 28.0**	**-3.9**
	31nm,0.3s,baz=342,slow=12,SNR=5.8						
KDAK				LR	LR	22 07 14.8	
	comp=Z,210nm,18.8s,baz=15,slow=40						
SUCK	**Suckling Hills**	**3.25**	**99**	P	**Pn**	**22 05 52.9**	**-2.2**
CHUM	**Lake Minchumin**	**3.30**	**343**	P	**Pn**	**22 05 56.1**	**+0.4**
BPAW	**Bear Paw Mtn.**	**3.38**	**354**	P	**Pn**	**22 05 56.6**	**-0.3**
PS10	**TAPS Pump St10**	**3.39**	**36**	P	**Pn**	**22 05 58.2**	**+1.2**
KHIT	**Khitrov Hills**	**3.43**	**92**	P	**Pn**	**22 05 55.6**	**-2.1**
TT01	**Tatalina**	**3.51**	**311**	P	**Pn**	**22 05 58.0**	**-0.7**
KABR	**Katmai Barrier**	**3.59**	**225**	P	**Pn**	**22 05 59.6**	**-0.2**
KABU	**Katmai Buttres**	**3.60**	**228**	P	**Pn**	**22 05 59.8**	**-0.2**
KULT	**Kultieth River**	**3.73**	**95**	P	**Pn**	**22 05 59.5**	**-2.2**
CAHL	**Cahill**	**3.77**	**226**	P	**Pn**	**22 06 02.6**	**+0.3**
WRH	**Wood River Hil**	**3.86**	**14**	P	**Pn**	**22 06 03.7**	**+0.3**
NEA	**Nenana**	**3.87**	**7**	P	**Pn**	**22 06 04.0**	**+0.4**
OHAK	**Old Harbor**	**3.89**	**206**	P	**Pn**	**22 06 02.2**	**-1.6**
RIDG	**Independ'e Rid**	**3.90**	**37**	P	**Pn**	**22 06 04.5**	**+0.4**
HDA	**Harding Lake**	**3.96**	**21**	P	**Pn**	**22 06 05.8**	**+0.9**
HDA	**Harding Lake**	**3.96**	**21**	P	**Pn**	**22 06 05.9**	**+1.0**
	baz=204,SNR=157						
HDA				S	**Sn**	**22 06 49.3**	**-0.7**
	baz=204						
DOT	**Dot Lake**	**4.08**	**42**	P	**Pn**	**22 06 07.5**	**+1.0**
PS08	**TAPS Pump Stn8**	**4.11**	**21**	P	**Pn**	**22 06 07.8**	**+1.0**
MESA	**MESA**	**4.12**	**94**	P	**Pn**	**22 06 05.6**	**-1.6**
TCOL	**CIGO, UAF Yank**	**4.27**	**13**	P	**Pn**	**22 06 09.7**	**+0.7**
	baz=195,SNR=29						
TCOL				S	**Sn**	**22 06 58.0**	**+0.4**
	baz=195						
COLA	**College**	**4.27**	**13**	*e*Pn	**Pn**	**22 06 09.1**	**+0.1**
COLA				*e*S	**Sn**	**22 06 54.4**	**-3.2**
MLY	**Manley**	**4.30**	**357**	P	**Pn**	**22 06 09.5**	**-0.1**
ILAR	**Eielson Array**	**4.31**	**19**	Pg	**Pn**	**22 06 09.9**	**+0.3**
	18nm,0.3s,baz=200,slow=14,SNR=727						
ILAR				Lg	Lg	22 07 09.2	
	20nm,0.3s,baz=201,slow=27,SNR=7.3						
ILB	**Eielson Array**	**4.31**	**19**	P	**Pn**	**22 06 10.3**	**+0.7**
IL1	**Eielson Array**	**4.31**	**19**	*e*Pn	**Pn**	**22 06 08.9**	**-0.7**
MDM	**Murphy Dome**	**4.32**	**11**	P	**Pn**	**22 06 10.3**	**+0.6**
SCRK	**Sand Creek**	**4.34**	**39**	P	**Pn**	**22 06 09.7**	**-0.4**
RKAV	**Rock Avalanche**	**4.39**	**92**	P	**Pn**	**22 06 09.7**	**-1.1**
CHX	**Chaix Hills**	**4.55**	**95**	P	**Pn**	**22 06 11.6**	**-1.4**
POKR	**Poker Plat Res**	**4.56**	**15**	P	**Pn**	**22 06 13.6**	**+0.6**
	baz=197,SNR=51						
POKR				S	**Sn**	**22 07 05.0**	**+0.4**
	baz=197						
BCA3	**Beaver Creek A**	**4.60**	**56**	P	**Pn**	**22 06 13.7**	**0.0**
SAMH	**Samovar Hills**	**4.70**	**94**	P	**Pn**	**22 06 13.6**	**-1.4**
YUK3	**Moose Creek**	**4.80**	**73**	P	**Pn**	**22 06 16.2**	**-0.4**
GCSA	**Galena City Sc**	**5.05**	**325**	P	**Pn**	**22 06 20.0**	**+0.3**
PS06	**TAPS Pump Stn6**	**5.13**	**2**	P	**Pn**	**22 06 21.4**	**+0.6**
PRP	**Porcupine Dome**	**5.23**	**22**	P	**Pn**	**22 06 22.9**	**+0.6**
BCPM	**Bancas Point**	**5.30**	**94**	P	**Pn**	**22 06 21.1**	**-2.1**
PNL	**Peninsula**	**5.49**	**97**	P	**Pn**	**22 06 23.9**	**-1.9**
IM3	**Indian Mountai**	**5.49**	**345**	P	**Pn**	**22 06 25.8**	**0.0**
YUK4	**Talbot Arm**	**5.64**	**79**	P	**Pn**	**22 06 28.3**	**+0.4**
YUK6	**Outpost Mounta**	**5.78**	**83**	P	**Pn**	**22 06 29.4**	**-0.6**
EGAK	**Eagle**	**5.78**	**42**	*e*Pn	**Pn**	**22 06 29.5**	**-0.3**
	95nm,0.7s						
YUK7	**Dusty Glacier**	**5.93**	**87**	P	**Pn**	**22 06 30.5**	**-1.5**
DAWY	**Dawson**	**6.01**	**52**	P	**Pn**	**22 06 32.8**	**-0.2**
YUK5	**Granite Creek**	**6.02**	**81**	P	**Pn**	**22 06 32.8**	**-0.4**
PS05	**TAPS Pump Stn5**	**6.09**	**358**	P	**Pn**	**22 06 34.9**	**+1.0**
HYT	**Haines Junctio**	**6.21**	**84**	P	**Pn**	**22 06 35.0**	**-0.7**
FYU	**Fort Yukon**	**6.24**	**19**	P	**Pn**	**22 06 36.7**	**+0.8**
COLD	**Coldfoot**	**6.50**	**360**	*e*Pn	**Pn**	**22 06 41.0**	**+1.5**
PLBC	**Pleasant Camp**	**7.03**	**95**	P	**Pn**	**22 06 45.9**	**-0.9**
BM3	**Burnt Mountain**	**7.12**	**18**	P	**Pn**	**22 06 48.2**	**+0.1**
WHY	**Whitehorse**	**7.51**	**84**	P	**Pn**	**22 06 52.2**	**-1.2**
SKAG	**Skagway**	**7.54**	**93**	*e*Pn	**Pn**	**22 06 52.0**	**-1.7**
ANM	**Nome**	**7.96**	**305**	P	**Pn**	**22 06 59.5**	**0.0**
EPYK	**Eagle Plains**	**8.22**	**41**	P	**Pn**	**22 07 02.4**	**-0.7**
	baz=233						
RDOG	**Red Dog Mine**	**9.14**	**329**	*e*Pn	**Pn**	**22 07 18.3**	**+2.6**
INK	**Inuvik**	**10.40**	**36**	Pn	**Pn**	**22 07 32.3**	**-0.5**
	0.5nm,0.3s,baz=217,slow=15,SNR=28						
GAMB	**Gambell**	**10.46**	**296**	*e*Pn	**Pn**	**22 07 35.2**	**+1.7**
DLBC	**Dease Lake**	**10.47**	**94**	Pn	**Pn**	**22 07 32.8**	**-1.1**
	0.5nm,0.3s,baz=245,slow=12,SNR=5.1						
DLBC				LR	LR	22 12 09.3	
	comp=Z,335nm,20.4s,baz=265,slow=41						
DLBC	**Dease Lake**	**10.47**	**94**	*e*Pn	**Pn**	**22 07 33.0**	**-0.9**
DLBC				*e*S	**Sn**	**22 09 26.3**	**-3.2**
BBB	**Bella Bella**	**14.84**	**115**	LR	LR	22 12 59.2	
	comp=Z,139nm,20.0s,baz=52,slow=32						
YKW3	**Yellowknife Ar**	**16.85**	**68**	*e*Pn	**Pn**	**22 08 57.9**	**-0.3**
	5.8nm,0.9s						
YKA	**Yellowknife Ar**	**16.87**	**69**	Pn	**Pn**	**22 08 56.8**	**-1.6**
	0.6nm,0.3s,baz=276,slow=10.0,SNR=46						
YKB5	**Yellowknife Ar**	**16.87**	**69**	*e*Pn	**Pn**	**22 08 57.1**	**-1.3**
ADK	**Adak**	**17.06**	**251**	*e*Pn	**Pn**	**22 09 01.6**	**+0.7**
BILL	**Bilibino**	**19.78**	**310**	*e*P	**P**	**22 09 31.7**	**+0.2**
	5.7nm,1.0s						
B08A	**Colville Reser**	**21.52**	**111**	*e*P	**P**	**22 09 52.8**	**+2.2**
	8.6nm,1.1s						
NEW	**Newport**	**22.61**	**109**	P	**P**	**22 10 03.9**	**+1.6**
	5.4nm,0.7s,baz=311,slow=7.8,SNR=7.5						
NEW				LR	LR	22 19 02.2	
	comp=Z,171nm,20.2s,baz=302,slow=37						
NEW	**Newport**	**22.61**	**109**	*e*P	**P**	**22 10 05.2**	**+3.0**
	9.3nm,0.9s						
RES	**Resolute Bay**	**23.92**	**33**	P	**P**	**22 10 13.5**	**-1.0**
	4.3nm,0.6s,baz=261,slow=12,SNR=10						
RES	**Resolute Bay**	**23.92**	**33**	*e*P	**P**	**22 10 14.9**	**+0.4**
	4.4nm,0.6s						
PINE	**Pine Mountain**	**24.35**	**121**	*e*P	**P**	**22 10 22.6**	**+3.6**
	12nm,1.0s						
BMO	**Blue Mountains**	**25.09**	**114**	*e*P	**P**	**22 10 27.1**	**+1.6**
	9.4nm,1.1s						
MSO	**Missoula**	**25.14**	**107**	*e*P	**P**	**22 10 27.3**	**+1.3**
	4.9nm,0.8s						
YBH	**Yreka Blue Hor**	**25.34**	**126**	P	**P**	**22 10 29.0**	**+1.2**
	4.4nm,1.0s,baz=241,slow=3.4,SNR=4.1						
YBH				LR	LR	22 19 09.7	
	comp=Z,108nm,21.3s,baz=287,slow=33						
FFC	**Flin Flon**	**25.92**	**82**	*e*P	**P**	**22 10 34.0**	**+1.2**
	7.2nm,1.1s						
EGMT	**Eagleton**	**26.29**	**101**	*e*P	**P**	**22 10 37.6**	**+1.3**
	17nm,1.1s						
FCC	**Fort Churchill**	**27.60**	**69**	*e*P	**P**	**22 10 49.0**	**+1.1**
	10nm,1.0s						
YHB	**Horse Butte**	**27.97**	**107**	*e*P	**P**	**22 10 54.1**	**+2.4**
	9.1nm,0.9s						
YMR	**Madison River**	**28.14**	**107**	*e*P	**P**	**22 10 55.6**	**+2.5**
	10nm,0.9s						
RLMT	**Red Lodge**	**28.61**	**104**	*e*P	**P**	**22 11 00.3**	**+3.0**
	9.8nm,0.9s						
LAO	**LASA Array**	**28.93**	**99**	*e*P	**P**	**22 11 02.5**	**+2.5**
	11nm,1.0s						
TPAW	**Teton Pass**	**29.04**	**109**	*e*P	**P**	**22 11 03.9**	**+2.7**
	6.4nm,0.8s						
LOHW	**Long Hollow**	**29.11**	**108**	*e*P	**P**	**22 11 04.3**	**+2.5**
	4.5nm,1.1s						
ELK	**Elko**	**29.28**	**117**	P	**P**	**22 11 05.1**	**+1.8**
	3.8nm,0.9s,baz=312,slow=10,SNR=4.6						
ELK				LR	LR	22 24 01.0	
	comp=Z,124nm,18.0s,baz=358,slow=39						
ELK	**Elko**	**29.28**	**117**	*e*P	**P**	**22 11 06.3**	**+3.0**
	4.4nm,0.9s						
HVU	**Hansel Valley**	**29.54**	**113**	*e*P	**P**	**22 11 08.4**	**+2.9**
	5.2nm,1.1s						
NV01	**Mina Array Sit**	**29.92**	**124**	*e*P	**P**	**22 11 11.2**	**+2.2**
NVAR	**Mina Array Bea**	**29.92**	**124**	P	**P**	**22 11 11.1**	**+2.2**
	2.7nm,0.7s,baz=314,slow=9.2,SNR=9.3						
BW06	**Boulder Array**	**30.25**	**108**	*e*P	**P**	**22 11 13.7**	**+1.8**
	2.0nm,0.8s						
PD31	**Pinedale Array**	**30.25**	**108**	*e*P	**P**	**22 11 14.5**	**+2.6**
PDAR	**Pinedale Array**	**30.25**	**108**	P	**P**	**22 11 13.4**	**+1.6**
	1.2nm,0.7s,baz=311,slow=6.8,SNR=11						
PDAR	**Pinedale Array**	**30.25**	**108**	*e*P	**P**	**22 11 13.3**	**+1.5**
R11A	**Troy Canyon, C**	**31.12**	**120**	*e*P	**P**	**22 11 21.9**	**+2.4**
	5.6nm,1.1s						
ULM	**Lac du Bonnet**	**31.59**	**84**	P	**P**	**22 11 24.3**	**+1.1**
	4.3nm,0.8s,baz=309,slow=8.9,SNR=5.3						
RSSD	**Black Hills**	**31.86**	**100**	*e*P	**P**	**22 11 26.9**	**+0.9**
	3.7nm,0.8s						
Q16A	**Castle Valley**	**32.58**	**114**	*e*P	**P**	**22 11 35.5**	**+3.2**
	5.2nm,1.2s						
SRU	**San Rafael Swe**	**32.71**	**113**	*e*P	**P**	**22 11 36.0**	**+2.6**
	8.2nm,1.0s						
CCUT	**Cedar City**	**32.74**	**118**	*e*P	**P**	**22 11 36.7**	**+2.9**
	7.6nm,1.0s						
SZCU	**Shurtz Canyon**	**32.82**	**118**	*e*P	**P**	**22 11 37.6**	**+3.2**
	9.8nm,1.1s						
AGMN	**Agassiz Nation**	**32.89**	**87**	*e*P	**P**	**22 11 36.5**	**+1.8**
	18nm,1.1s						
GSC	**Goldstone, Bar**	**33.22**	**125**	*e*P	**P**	**22 11 40.8**	**+3.0**
	5.7nm,0.9s						
LCMT	**Little Creek M**	**33.24**	**119**	*e*P	**P**	**22 11 41.1**	**+3.0**
	7.4nm,1.1s						
KNB	**Kanab**	**33.42**	**118**	*e*P	**P**	**22 11 42.7**	**+3.0**
	7.9nm,0.9s						
PV13	**Radium Mtn., P**	**34.26**	**112**	*e*P	**P**	**22 11 49.0**	**+2.1**
	11nm,1.1s						
PV01	**Paradox Valley**	**34.39**	**112**	*e*P	**P**	**22 11 50.1**	**+2.0**
WUAZ	**Wupatki**	**35.31**	**118**	*e*P	**P**	**22 11 58.1**	**+2.1**
	9.9nm,0.8s						
SDCO	**Great Sand Dun**	**36.12**	**109**	*e*P	**P**	**22 12 05.3**	**+2.3**
	3.3nm,0.9s						
SPITS	**Spitsbergen Ar**	**41.07**	**4**	P	**P**	**22 12 42.2**	**-1.5**
	6.8nm,0.8s,baz=54,slow=10,SNR=5.4						
SCHQ	**Schefferville**	**41.98**	**59**	P	**P**	**22 12 51.0**	**-0.4**
	1.2nm,0.3s,baz=358,slow=7.2,SNR=10						
KLR	**Kul'dur**	**43.58**	**292**	P	**P**	**22 13 02.9**	**-1.5**
	4.2nm,0.6s,baz=41,slow=8.7,SNR=19						
KLR				LR	LR	22 30 32.7	
	comp=Z,48nm,21.2s,baz=2.5,slow=35						
TXAR	**Lajitas Array**	**43.97**	**114**	P	**P**	**22 13 09.0**	**+1.1**
	1.2nm,0.8s,baz=338,slow=7.0,SNR=10.0						
JCT	**Junction City**	**44.77**	**109**	*e*P	**P**	**22 13 15.6**	**+1.5**
	11nm,0.8s						
TKL	**Tuckaleechee C**	**48.27**	**90**	P	**P**	**22 13 41.7**	**+0.3**
	4.6nm,0.7s,baz=322,slow=3.8,SNR=4.5						
ARCES	**ARCESS Array B**	**49.97**	**2**	P	**P**	**22 13 51.8**	**-2.1**
	4.8nm,1.1s,baz=7.1,slow=8.6,SNR=2.4						
CN2	**Changchun**	**50.53**	**291**	*e*P	**P**	**22 13 57.7**	**-0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KSRS	**Korea Array**	**54.37**	**284**	P	**P**	**22 14 26.8**	**-0.2**
	comp=Z,4.3nm,0.8s,baz=35,slow=7.3,SNR=8.3						
KSAR	**Wonju Array Be**	**54.39**	**284**	P	**P**	**22 14 26.8**	**-0.5**
ULN	**Ulaanbaatar**	**55.18**	**307**	*e*P	**P**	**22 14 32.0**	**-1.0**
	comp=Z,1.6nm,0.8s						
SONM	**Songino Array**	**55.47**	**307**	P	**P**	**22 14 34.9**	**0.0**
	comp=Z,2.9nm,0.6s,baz=35,slow=7.4,SNR=24						
ZALV	**Zalesovo Beam**	**57.58**	**325**	P	**P**	**22 14 48.4**	**-1.3**
	comp=Z,4.3nm,0.6s,baz=32,slow=6.6,SNR=21						
NOA	**NORSAR Array B**	**57.69**	**11**	P	**P**	**22 14 49.4**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=348,slow=7.4,SNR=3.4						
FINES	**FINESS Array B**	**58.10**	**2**	P	**P**	**22 14 52.3**	**-0.9**
	comp=Z,3.0nm,1.0s,baz=348,slow=6.4,SNR=5.7						
CMIG	**Matias Romero**	**58.55**	**113**	P	**P**	**22 14 57.5**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=321,slow=7.7,SNR=7.1						
ARU	**Arti**	**60.98**	**342**	*e*P	**P**	**22 15 11.9**	**-1.2**
	comp=Z,3.8nm,0.6s						
EKA	**Eskdalemuir Ar**	**61.35**	**21**	P	**P**	**22 15 15.4**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=332,slow=4.9,SNR=8.6						
BRVK	**Borovoye**	**62.03**	**334**	*e*P	**P**	**22 15 19.7**	**-0.5**
	comp=Z,19nm,1.4s						
MKAR	**Makanchi Array**	**64.70**	**323**	P	**P**	**22 15 36.3**	**-1.7**
	comp=Z,1.8nm,0.7s,baz=44,slow=6.3,SNR=20						
GTA	**Gaotai**	**65.12**	**307**	P	**P**	**22 15 40.6**	**-0.4**
GTA				pP	pP	22 15 52.7	-4.4
GTA				sP	sP	22 15 58.3	-5.4
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
WMQ	**Urumqi**	**65.67**	**318**	*e*P	**P**	**22 15 47.7**	**+3.3**
WMQ				LR	LR		
	comp=N,540nm,39.1s						
WMQ				LR	LR		
	comp=E,320nm,39.3s						
WMQ				LR	LR		
	comp=Z,150nm,29.3s						
AKTO	**Aktyubinsk**	**66.86**	**341**	P	**P**	**22 15 51.1**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=6.3,slow=8.0,SNR=4.9						
AKASG	**Malin Array Be**	**68.90**	**0**	P	**P**	**22 16 03.3**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=2.5,slow=6.3,SNR=4.3						
AAK	**Ala-Archa**	**70.72**	**327**	*e*P	**P**	**22 16 15.4**	**-0.7**
	comp=Z,2.4nm,0.8s						
KSH	**Kashi**	**73.21**	**324**	P	**P**	**22 16 32.8**	**+1.8**
KSH				PcP	PcP	22 21 03.2	
KSH				S	**S**	**22 25 52.7**	**-1.6**
KSH				sS	pS	22 26 12.9	-1.4
KSH	**Kashi**	**73.21**	**324**	SS	SS	22 30 34.3	-1.2
KSH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,390nm,4.9s						
ESDC	**Sonseca Array**	**76.18**	**26**	P	**P**	**22 16 48.0**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=345,slow=6.1,SNR=3.1						
JIRN	**Jiri**	**80.73**	**312**	*e*P	**P**	**22 17 13.6**	**-0.2**
DANN	**Dangsing**	**80.98**	**314**	*e*P	**P**	**22 17 14.8**	**-0.2**
	comp=Z,26nm,0.8s						
DMN	**Daman**	**81.17**	**312**	*e*P	**P**	**22 17 15.1**	**-0.9**
PYUN	**Piuthan**	**81.48**	**314**	*e*P	**P**	**22 17 16.9**	**-0.7**
	comp=Z,14nm,1.0s						
KOLN	**Koldanda**	**81.57**	**314**	*e*P	**P**	**22 17 17.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**83.80**	**297**	P	**P**	**22 17 28.6**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=1.9,slow=5.9,SNR=5.9						
CMAR				LR	LR	22 55 24.9	
	comp=Z,24nm,18.2s,baz=140,slow=36						
BOSA	**Boshof**	**147.72**	**8**	PKPbc	**PKPdf**	**22 24 43.6**	**+2.3**
	comp=Z,3.7nm,1.1s,baz=351,slow=5.0,SNR=3.2						

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*IDC **09** 22:19:41.6±1.3, 3.°41N×126.°72E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/50, mbtmp3.7/7, MS4.2/2, Ms1 4.2/2, ms1mx2.9/37, Error ellipse: s-maj=104.2km s-min=16.5km az=68.0*

*ISCJB **09** 22:19:46.3±1.3, 3.°5N±0.°3×126.°9E±0.°6, h53km, mb3.6/7, MS4.2/2, Error ellipse: s-maj=94.1km s-min=14.5km az=159.3*

ISC 09 22:19:48.3±1.5**, 3.°5N**±0.°3×**126.°9E**±0.°6**, h53**km**, n9, σ0.s86**/7**, mb3.7**/7**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.48**	**183**	P	**P**	**22 24 32.9**	**+0.3**
	1.1nm,0.5s,baz=19,slow=12,SNR=5.1						
LEM	**Lembang**	**21.83**	**242**	LR	LR	22 34 25.6	
	comp=Z,231nm,19.0s,baz=174,slow=41						
WRA	**Warramunga Arr**	**24.38**	**163**	P	**P**	**22 25 01.4**	**-0.4**
	3.3nm,0.6s,baz=340,slow=11,SNR=27						
ASAR	**Alice Springs**	**27.82**	**166**	P	**P**	**22 25 31.5**	**-1.3**
	0.4nm,0.7s,baz=338,slow=7.6,SNR=5.7						
STKA	**Stephens Creek**	**37.82**	**159**	P	**P**	**22 27 00.5**	**+0.7**
	2.0nm,0.5s,baz=327,slow=12,SNR=5.6						
MKAR	**Makanchi Array**	**57.88**	**325**	P	**P**	**22 29 34.9**	**+0.1**
	0.3nm,0.5s,baz=118,slow=7.9,SNR=7.7						
KURBB	**Kurchatov Arra**	**62.06**	**327**	P	**P**	**22 30 03.0**	**-0.5**
	0.3nm,0.5s,baz=129,slow=6.8,SNR=3.9						
BVAR	**Borovoye Array**	**67.64**	**327**	P	**P**	**22 30 40.3**	**+0.6**
	0.2nm,0.4s,baz=125,slow=7.4,SNR=3.6						
FINES	**FINESS Array B**	**92.15**	**332**	LR	LR	23 16 56.0	
	comp=Z,309nm,21.6s,baz=320,slow=37						

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*IDC **09** 22:23:03.7±1.7, 38.°25S×75.°43W, h0km, mb3.9/6, mb1 4.1/7, mb1mx4.0/19, mbtmp3.9/7, ML3.8/1, Error ellipse: s-maj=47.2km s-min=25.6km az=44.0*

*ISCJB **09** 22:23:08.3±0.8, 38.°08S±0.°07×75.°19W±0.°09, h33km, mb3.9/6, Error ellipse: s-maj=12.0km s-min=6.4km az=135.7*

*GUC **09** 22:23:09.4±0.6, 38.°15S×74.°97W, h20km±6km, ML3.8*

ISC 09 22:23:10.1±1.0**, 38.°06S**±0.°08×**75.°2W**±0.°1**, h35**km**, n13, σ1.s24**/17**, mb3.9**/6**, 2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**2.04**	**54**	IAML		22 24 07.0	
	comp=N,814nm,0.6s						
TMU	**Temuco**	**2.13**	**109**	*e*P	**Pn**	**22 23 42.0**	**-1.2**
TMU				*i* S	**Sn**	**22 24 07.2**	**-1.2**
CCHI	**Chillan**	**2.87**	**60**	⇓*i*P	**Pn**	**22 23 53.0**	**-0.2**
CCHI				*i* S	**Sn**	**22 24 26.8**	**+0.3**
CCHI				IAML		22 24 37.0	
	comp=E,695nm,0.4s						
GO06	**Curarrehue**	**3.27**	**119**	⇓*i*P	**Pn**	**22 23 57.8**	**-1.1**
GO06				*i* S	**Sn**	**22 24 36.1**	**-0.6**
GO06				IAML		22 24 40.6	
	comp=N,166nm,0.8s						
PLCA	**Paso Flores**	**4.47**	**128**	Pn	**Pn**	**22 24 14.1**	**-1.3**
	comp=N,1.2nm,0.3s,baz=320,slow=12,SNR=30						
PLCA				Sn	**Sn**	**22 25 08.6**	**+2.4**
	comp=N,2.6nm,0.3s,baz=44,slow=14,SNR=5.1						
PLCA	**Paso Flores**	**4.47**	**128**	*e*P	**Pn**	**22 24 15.6**	**+0.2**
PLCA				*i* S	**Sn**	**22 25 08.5**	**+2.4**
LPAZ	**La Paz**	**22.56**	**18**	P	**P**	**22 28 09.6**	**+1.7**
	comp=N,1.4nm,0.8s,baz=149,slow=7.7,SNR=5.2						
SIV	**San Ignacio**	**25.25**	**33**	P	**P**	**22 28 33.5**	**+0.6**
	comp=N,2.0nm,0.8s,baz=233,slow=11,SNR=8.5						
TXAR	**Lajitas Array**	**72.15**	**334**	P	**P**	**22 34 31.1**	**0.0**
	comp=N,0.7nm,0.7s,baz=161,slow=8.0,SNR=6.0						
PDAR	**Pinedale Array**	**86.31**	**335**	P	**P**	**22 35 47.5**	**-0.7**
	comp=N,1.2nm,0.9s,baz=107,slow=7.9,SNR=6.0						
TORD	**Torodi Ar. Bea**	**87.94**	**72**	P	**P**	**22 35 56.7**	**+0.2**
	comp=N,0.5nm,0.6s,baz=212,slow=5.1,SNR=4.0						
ULM	**Lac du Bonnet**	**89.81**	**347**	P	**P**	**22 36 04.2**	**-0.2**
	comp=N,1.8nm,0.7s,baz=25,slow=9.4,SNR=3.3						
MKAR	**Makanchi Array**	**161.26**	**55**	PKPab	**PKPab**	**22 43 50.1**	**-0.3**
	comp=N,0.1nm,0.4s,baz=20,slow=4.6,SNR=2.1						

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*IDC **09** 22:26:32.4±0.9, 2.°92S×139.°05E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.8/34, mbtmp3.8/9, ML3.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/26, Error ellipse: s-maj=21.6km s-min=13.0km az=166.0*

*ISCJB **09** 22:26:36.4±0.6, 3.°03S±0.°07×139.°1E±0.°1, h46km, mb3.8/7, MS2.9/1, Error ellipse: s-maj=17.1km s-min=7.7km az=22.3*

ISC 09 22:26:37.5±0.8**, 3.°15S**±0.°09×**139.°1E**±0.°1**, h46**km**, n12, σ1.s34**/14**, mb3.9**/7**, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.71**	**68**	Pg	**Pn**	**22 27 04.3**	**-0.6**
	39nm,0.3s,baz=238,slow=10,SNR=50						
JAY				Lg	Lg	22 27 25.9	
	29nm,0.3s,baz=110,slow=20,SNR=7.4						
WRA	**Warramunga Arr**	**17.33**	**195**	P	**P**	**22 30 38.4**	**+1.3**
	0.5nm,0.3s,baz=17,slow=13,SNR=20						
WRA				S	**Sn**	**22 33 46.6**	**-1.7**
	0.1nm,0.3s,baz=14,slow=23,SNR=4.5						
FITZ	**Fitzroy Crossi**	**19.88**	**221**	P	**Pn**	**22 31 06.4**	**-0.6**
	1.8nm,0.7s,baz=31,slow=18,SNR=2.8						
FITZ				S	**S**	**22 34 45.2**	**-1.3**
	2.6nm,0.8s,baz=173,slow=9.2,SNR=2.9						
ASAR	**Alice Springs**	**21.01**	**193**	P	**P**	**22 31 20.2**	**+2.9**
	2.8nm,0.8s,baz=17,slow=10.0,SNR=22						
ASAR				S	**S**	**22 35 09.2**	**+0.2**
	0.2nm,0.3s,baz=314,slow=26,SNR=4.1						
HNR	**Honiara**	**21.62**	**108**	LR	LR	22 38 44.1	
	comp=Z,48nm,20.0s,baz=288,slow=34						
KLR	**Kul'dur**	**52.56**	**354**	P	**P**	**22 35 46.5**	**+0.3**
	1.0nm,0.5s,baz=168,slow=5.3,SNR=4.7						
SONM	**Songino Array**	**58.29**	**335**	P	**P**	**22 36 26.5**	**-1.2**
	0.4nm,0.6s,baz=148,slow=6.5,SNR=4.2						
MKAR	**Makanchi Array**	**70.38**	**322**	P	**P**	**22 37 47.7**	**+0.9**
	1.1nm,0.6s,baz=101,slow=8.5,SNR=21						
KURBB	**Kurchatov Arra**	**74.32**	**325**	P	**P**	**22 38 10.3**	**+0.2**
	0.2nm,0.4s,baz=120,slow=4.7,SNR=4.2						
BVAR	**Borovoye Array**	**79.90**	**325**	P	**P**	**22 38 42.1**	**+0.6**
	1.3nm,0.6s,baz=114,slow=7.9,SNR=12						
ILAR	**Eielson Array**	**86.06**	**24**	P	**P**	**22 39 12.4**	**-0.6**
	0.5nm,0.7s,baz=254,slow=5.1,SNR=5.9						
NVAR	**Mina Array Bea**	**101.81**	**52**	P	**Pdif**	**22 40 27.6**	**+1.2**
	0.1nm,0.3s,baz=303,slow=5.0,SNR=3.6						

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*ISCJB **09** 22:37:30.7±0.4, 39.°71N±0.°02×25.°58E±0.°03, h4km±4km, Error ellipse: s-maj=3.7km s-min=2.9km az=151.7*

*ATH **09** 22:37:30.4, 39.°71N×25.°53E, h28km±1km, ML2.2/5, Error ellipse: s-maj=2.3km s-min=1.1km az=237.0*

*ISK **09** 22:37:31.2, 39.°65N×25.°76E, h3km, ML2.2/15*

*THE **09** 22:37:31.1, 39.°71N×25.°56E, h10km±1km, ML2.1/9, Error ellipse: s-maj=1.2km s-min=0.6km az=86.0*

*DDA **09** 22:37:32.2, 39.°75N×25.°69E, h8km±4km, ML2.6*

ISC 09 22:37:30.7±1.0**, 39.°71N**±0.°02×**25.°62E**±0.°02**, h9**km±9km**, n54, σ0.s67**/78**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.36**	**68**	PG	**Pg**	**22 37 37.9**	**+0.1**

BOZC	Bozcaada	0.36	68	IAML_P			
	comp=Z,2μm,0.1s						
BOZC				i P	Pb	22 37 39.7	+0.4
LIA	Limnos Island	0.38	300	P	Pg	22 37 38.3	+0.1
LIA				S	Sg	22 37 43.1	-0.2
LIA				AML	AML	22 37 43.4	
	comp=N,614μm,0.3s						
LIA				AML	AML	22 37 43.7	
	comp=E,513μm,0.2s						
LIA	Limnos Island	0.38	300	P	Pg	22 37 38.2	0.0
LIA				S	Sg	22 37 43.1	-0.2
EFSA	Agios Efstrati	0.51	251	P	Pg	22 37 41.2	+0.6
EFSA				S	Sg	22 37 47.9	+0.6
GADA	Gvkgeada	0.53	24	PG	Pb	22 37 41.9	-0.2
GADA	Gvkgeada	0.53	24	P	Pb	22 37 41.6	-0.5
GADA				S	Sb	22 37 49.4	-0.4
SIGR	SIGRI	0.53	159	PG	Pg	22 37 40.6	-0.3
SIGR				SG	Sg	22 37 47.3	-0.6
SIGR	SIGRI	0.53	159	P	Pg	22 37 41.2	+0.3
SIGR				S	Sb	22 37 49.4	-0.4
SIGR				AML	AML	22 37 50.0	
	comp=N,1184μm,0.6s						
SIGR				AML	AML	22 37 50.0	
	comp=E,588μm,0.3s						
SIGR	SIGRI	0.53	159	P	Pg	22 37 41.2	+0.3
SIGR				S	Sb	22 37 49.2	-0.6
GOKC	Gokceada-Canak	0.54	25	PG	Pb	22 37 42.6	+0.3
EZN	Ezine	0.56	78	PG	Pg	22 37 40.9	-0.6
EZN				SG	Sg	22 37 48.3	-0.6
EZN	Ezine	0.56	78	P	Pb	22 37 42.3	-0.3
EZN				S	Sb	22 37 51.1	+0.4
PRK	Paraskevi	0.69	132	P	Pb	22 37 45.4	+0.7
PRK				S	Sn	22 37 55.8	-1.4
PRK				AML	AML	22 37 58.9	
	comp=E,515μm,0.4s						
PRK				AML	AML	22 37 59.2	
	comp=N,628μm,0.4s						
PRK	Paraskevi	0.69	132	P	Pb	22 37 45.5	+0.7
PRK				S	Sn	22 37 55.8	-1.4
BAYC	CANAKKALE_Bayr	0.72	87	IAML_P			
	comp=Z,1μm,0.2s						
BAYC				i P	Pb	22 37 45.6	+0.2
SMTH	Samothraki Isl	0.76	355	P	Pg	22 37 45.8	+0.4
SMTH				S	Sb	22 37 56.6	0.0
SMTH				AML	AML	22 37 58.5	
	comp=N,314μm,0.3s						
SMTH				AML	AML	22 37 59.1	
	comp=E,203μm,0.2s						
SMTH	Samothraki Isl	0.76	355	P	Pg	22 37 45.8	+0.4
SMTH				S	Sb	22 37 57.3	+0.7
AYVA	Ayvalik	0.92	115	IAML_P			
	comp=Z,449nm,0.2s						
AYVA				i P	Pn	22 37 50.7	+1.0
AYVA				i S	Sn	22 38 03.9	+0.8
GELI	Tayfur-Gelibol	0.95	43	PG	Pb	22 37 49.7	+0.4
LPK	Lapseki	1.10	53	PG	Pn	22 37 52.2	0.0
ENEZ	Enez	1.11	22	PN	Pn	22 37 52.9	+0.6
THAS	Thassos island	1.13	323	P	Pb	22 37 51.4	-1.0
THAS				S	Sg	22 38 06.3	-0.7
THAS				AML	AML	22 38 08.2	
	comp=N,276μm,0.2s						
THAS				AML	AML	22 38 08.5	
	comp=E,307μm,0.3s						
THAS	Thassos island	1.13	323	P	Pb	22 37 50.9	-1.4
THAS				S	Sg	22 38 06.8	-0.2
PSRA	Psara	1.17	182	P	Pb	22 37 53.1	+0.1
ERIK	Erikli-Kesan	1.18	35	PN	Pn	22 37 54.7	+1.4
DKL	Dikili	1.19	122	PG	Pb	22 37 52.4	-0.9
ALN	Alexandroupoli	1.23	15	P	Pb	22 37 53.8	-0.3
ALN				S	Sn	22 38 11.2	+0.5
ALN	Alexandroupoli	1.23	15	P	Pb	22 37 53.6	-0.5
ALN				S	Sn	22 38 11.1	+0.3
CHOS	Chios island	1.36	165	PN	Pg	22 37 57.1	+0.3
CHOS	Chios island	1.36	165	P	Pn	22 37 55.3	-0.6
CHOS	Chios island	1.36	165	P	Pn	22 37 55.3	-0.6
CHOS				S	Sg	22 38 14.9	+0.4
KESN	Edirne-Kesan	1.38	36	IAML_P			
	comp=Z,167nm,0.1s						
KESN				i P	Pg	22 37 58.0	+0.7
KESN				i S	Sn	22 38 15.3	+0.3
RDO	Rodhopi	1.44	358	PN	Pg	22 37 58.7	+0.5
RDO	Rodhopi	1.44	358	P	Pn	22 37 56.5	-0.3
RDO	Rodhopi	1.44	358	P	Pn	22 37 56.7	-0.1
RDO				S	Sn	22 38 15.3	-0.5
AOS	Alonnisos	1.45	249	PN	Pg	22 38 00.6	+2.2
KRBG	Karabiga-Canak	1.46	62	PN	Pg	22 37 58.3	-0.4
KAVA	Kavala	1.54	327	P	Pn	22 37 57.6	-0.6
KAVA	Kavala	1.54	327	P	Pn	22 37 57.6	-0.6
KAVA				S	Sn	22 38 17.7	-0.6
BALY	Balya	1.55	88	IAML_P			
	comp=Z,155nm,0.2s						
BALY				i P	Pg	22 38 00.4	+0.1
BALY				i S	Sg	22 38 20.9	+0.5
URLA	Izmir	1.55	150	PN	Pn	22 37 58.5	+0.1
KNL	Balıkesir	1.57	68	IAML_P			
	comp=Z,546nm,0.2s						
KNL				i P	Pg	22 38 00.9	+0.1
KNL				i S	Sg	22 38 22.3	+1.1
GONE	Gonen-Balikesi	1.63	77	PN	Pb	22 38 00.8	0.0
STEP	BALIKESIR_Sava	1.66	101	IAML_P			
	comp=Z,168nm,0.2s						
STEP				i P	Pg	22 38 02.0	-0.5
BLCB	Balcova	1.73	139	PN	Pn	22 38 01.2	+0.4
BALB	Balikesir	1.75	92	PN	Pn	22 38 01.4	+0.3
MRMT	Marmara Adasi	1.76	59	PN	Pn	22 38 02.0	+0.6
EDC	Edincik	1.84	69	PN	Pb	22 38 03.6	-0.9
SBT4	Kumbag-Tekirda	1.85	52	PN	Pb	22 38 03.9	-0.6
KDZ	Kurdzhali	1.94	356	PN	Pb	22 38 07.3	+1.0
TKR	Tekirdag	1.95	48	PN	Pb	22 38 05.2	-1.1
KCTX	Karacabey (Bur	2.18	74	PN	Pn	22 38 07.9	+0.8
EDRB	Edirne	2.30	21	PN	Pb	22 38 11.9	-0.4

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*ISK **09** 23:00:20.5, 38°.63N×43°.16E, h5^{km}, ML2.5/6*
*DDA **09** 23:00:21.7, 38°.63N×43°.16E, h7^{km}±2^{km}, ML2.6*
ISC 09 23:00:22.1±1.0**, 38°.66N**±0°.04×**43°.15E**±0°.03**, h9**^{km}±11^{km}**,**
n17, σ0^{s}94/22**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.20	110	PG	Pg	23 00 25.8	-0.4
VANB				SG	Sg	23 00 30.2	+1.1
TVAN	Van	0.24	124	i P	Pg	23 00 26.4	-0.7
TVAN				i S	Sg	23 00 30.4	0.0
TVAN				IAML_P			
	comp=Z,8μm,0.1s						
AKDM	Akdamar-Van	0.36	202	PG	Pg	23 00 28.3	-0.9
ADCV	BITLIS_Adilcev	0.36	294	i P	Pb	23 00 30.9	0.0
ADCV				IAML_P			
	comp=Z,1μm,0.1s						
ERCV	ERCIS-VAN	0.39	22	PG	Pg	23 00 29.6	-0.1
VMUR	Van-Muradiye	0.46	45	i P	Pb	23 00 31.6	-0.9
VMUR				i S	Sb	23 00 39.6	0.0
CLDR	Caldiran	0.77	51	PG	Pb	23 00 36.9	-0.8
CLDR	Caldiran	0.77	51	i P	Pb	23 00 37.5	-0.2
CLDR				i S	Sb	23 00 49.4	+1.0
CLDR				IAML_P			
	comp=Z,2μm,0.1s						
TUTA	Tutak	0.78	341	i P	Pg	23 00 37.1	-0.1
GURO	Guroymak-BITLI	0.88	263	PG	Pb	23 00 38.6	-1.0
SRTM	Siirt_Merkez	1.18	236	i P	Pn	23 00 44.1	-0.6
SRTM				IAML_P			
	comp=Z,338nm,0.3s						
SIRN	Sırnak	1.30	207	i P	Pb	23 00 48.7	+1.9
EATA	Eleskirt	1.30	337	i P	Pb	23 00 47.1	+0.2
EATA				IAML_P			
	comp=Z,528nm,0.3s						
IGDI	IGDIR	1.40	31	i P	Pg	23 00 49.7	+0.7
TASB	TASBURUN-IGDIR	1.57	32	PN	Pb	23 00 51.1	-0.2
KOPR	Koprukoy-ERZUR	1.67	323	PN	Pb	23 00 52.4	-0.6
BTMN	Batman	1.67	243	i P	Pg	23 00 53.0	-1.0
BTMN				i S	Sg	23 01 17.5	+1.8
BTMN				IAML_P			
	comp=Z,88nm,0.2s						

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*ISCJB **09** 23:10:00.8±0.7, 30°.38N±0°.04×131°.23E±0°.08, h46^{km}±5^{km}, mb3.8/13, Error ellipse: s-maj=11.9km s-min=5.0km az=17.3*
*JMA **09** 23:10:00.7±0.1, 30°.35N×131°.28E, h29^{km}±1^{km}, M3.8*
*NIED **09** 23:10:00, 30°.40N×131°.30E, h32^{km}, Mw3.9 Best double couple: Mo6.75000×10^{14} NP1:φs248.00000°, δ11.00000°, λ123.00000°. NP2:φs34.00000°, δ81.00000°, λ84.00000°.*
*IDC **09** 23:10:03.1±1.7, 30°.46N×131°.12E, h46^{km}±17^{km}, mb3.6/13, mb1 3.7/18, mb1mx3.6/51, mbtmp3.8/18, ML3.2/5, MS2.9/1, Ms1 2.9/1, ms1mx2.3/44, Error ellipse: s-maj=30.4km s-min=12.0km az=77.0*
ISC 09 23:10:01.1±1.2**, 30°.37N**±0°.05×**131°.20E**±0°.07**, h33**^{km}±4^{km}**,**
n30, σ1^{s}11/39**, mb4.0**/13**, 5C-3D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMTN	Minamitane	0.26	275	⇓P	Pb	23 10 08.3	-0.2
JMTN				S	Sb	23 10 14.2	+0.8
JTN	Tanegashima 3	0.34	325	⇓P	Pb	23 10 09.1	-0.4
JTN				S	Sb	23 10 15.5	+0.4
JYAK	Yakushimahirau	0.62	257	⇓P	Pb	23 10 13.6	0.0
JYAK				S	Sb	23 10 22.9	+0.8
JTSR	Tashiro 2	0.83	343	⇑P	Pn	23 10 16.7	+0.2
JTSR				S	Sb	23 10 28.1	+0.1
JKC	Kuchinoerabu	0.88	276	⇑P	Pn	23 10 17.8	+0.7
JNAR	Kushima--Naru	1.15	3	P	Pb	23 10 22.0	-0.5
JNN	Nakanoshima	1.27	246	P	Pn	23 10 23.6	+1.0
JNN				S	Sn	23 10 40.5	+2.0
JSU	Suzuyama	1.30	330	⇑P	Pn	23 10 23.6	+0.6
JSU				S	Sn	23 10 41.0	+1.8
JTZ	Takazaki	1.52	356	⇑P	Pn	23 10 27.3	+1.2
JTZ				S	Sn	23 10 46.4	+1.6
JAM	Amami Oshima	2.40	216	P	Pn	23 10 39.1	+1.0
JNU	Nakatsue	2.75	354	P	Pn	23 10 43.2	+0.2
	4.4nm,0.3s,baz=202,slow=13,SNR=32						
JNU				S	Sn	23 11 15.3	+0.2
	6.5nm,0.3s,baz=94,slow=12,SNR=5.0						
JAMN	Amaminishikomi	2.77	220	⇑P	Pn	23 10 44.2	+1.1
JTK	Tokunoshima	3.25	218	P	Pn	23 10 50.9	+1.1
JOW	Kunigami	4.37	217	P	Pn	23 11 06.9	+1.7
	2.3nm,0.3s,baz=90,slow=19,SNR=2.8						
JOW				S	Sn	23 11 52.5	-2.5
	3.7nm,0.3s,baz=233,slow=20,SNR=4.1						
KSRS	Korea Array	7.57	340	P	Pn	23 11 50.1	+1.0
	0.2nm,0.3s,baz=39,slow=9.5,SNR=3.9						
KSRS				LR	LR	23 15 00.7	
	comp=Z,88nm,21.2s,baz=165,slow=40						
MJAR	Matsushiro Arr	8.49	42	P	Pn	23 12 04.0	+2.3
	0.8nm,0.3s,baz=221,slow=14,SNR=6.0						
KLR	Kul'dur	18.84	1	P	P	23 14 16.5	-1.6
	0.2nm,0.3s,baz=168,slow=5.3,SNR=4.3						
SONM	Songino Array	25.80	319	P	P	23 15 27.9	-1.4
	0.5nm,0.6s,baz=135,slow=10,SNR=6.1						
ZALV	Zalesovo Beam	40.70	319	P	P	23 17 38.2	-0.1
	0.4nm,0.3s,baz=113,slow=7.7,SNR=3.1						
MKAR	Makanchi Array	40.91	308	P	P	23 17 39.6	-0.6
	0.3nm,0.4s,baz=104,slow=10,SNR=3.6						
KURBB	Kurchatov Arra	43.81	313	P	P	23 18 03.4	-0.3
	0.5nm,0.4s,baz=96,slow=9.4,SNR=6.5						
BVAR	Borovoye Array	49.04	316	P	P	23 18 44.6	-0.2
	0.6nm,0.3s,baz=88,slow=8.9,SNR=16						
WRA	Warramunga Arr	50.12	176	P	P	23 18 54.1	+0.9
	1.6nm,0.8s,baz=356,slow=8.1,SNR=11						
ASAR	Alice Springs	53.79	177	P	P	23 19 21.5	+0.9
	1.1nm,0.6s,baz=9.9,slow=13,SNR=18						
STKA	Stephens Creek	62.69	170	P	P	23 20 23.9	+1.3
	1.7nm,0.6s,baz=45,slow=1.8,SNR=4.8						
ARCES	ARCESS Array B	67.12	338	P	P	23 20 51.2	+0.1
	1.5nm,0.8s,baz=79,slow=9.3,SNR=2.5						
KBZ	Khabaz	68.59	309	P	P	23 21 01.0	+0.3
	1.3nm,0.8s,baz=130,slow=4.5,SNR=4.4						
FINES	FINESS Array B	70.56	331	P	P	23 21 12.5	0.0
	2.2nm,0.3s,baz=61,slow=5.7,SNR=35						
AKASG	Malin Array Be	74.08	320	P	P	23 21 32.9	-0.9
	0.4nm,0.4s,baz=58,slow=5.3,SNR=2.9						
NOA	NORSAR Array B	76.75	334	P	P	23 21 48.4	-0.6
	0.2nm,0.5s,baz=50,slow=5.8,SNR=2.6						

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*IDC **09** 23:11:55.0±1.3, 30°.31N×130°.20E, h0^{km}, mb3.7/3, mb1 3.8/4, mb1mx3.3/46, mbtmp3.6/4, MS2.6/1, Ms1 2.6/1, ms1mx2.2/46, Error ellipse: s-maj=94.5km s-min=24.3km az=85.0*
*ISCJB **09** 23:11:57.5±1.2, 30°.34N±0°.04×131°.33E±0°.08, h28^{km}±6^{km}, mb3.7/3, Error ellipse: s-maj=12.1km s-min=6.2km az=19.0*
*JMA **09** 23:11:58.5±0.1, 30°.36N×131°.28E, h29^{km}±1^{km}, M3.3*
ISC 09 23:11:59.3±1.5**, 30°.37N**±0°.06×**131°.19E**±0°.08**, h31**^{km}±8^{km}**,**
n14, σ0^{s}76/22**, mb3.7**/3**, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMTN	Minamitane	0.25	275	P	Pb	23 12 06.0	-0.2
JMTN				S	Sn	23 12 11.8	+0.1
JTN	Tanegashima 3	0.33	328	P	Pb	23 12 06.8	-0.5
JTN				S	Sb	23 12 13.0	+0.3
JYAK	Yakushimahirau	0.60	257	P	Pn	23 12 11.3	-0.4
JYAK				S	Sn	23 12 20.7	+0.4
JTSR	Tashiro 2	0.82	344	P	Pn	23 12 14.4	-0.4
JTSR				S	Sb	23 12 25.4	-0.5
JKC	Kuchinoerabu	0.86	276	P	Pb	23 12 15.6	-0.1
JKC				eS	Sn	23 12 27.7	+1.0
JNAR	Kushima--Naru	1.15	4	P	Pn	23 12 19.6	+0.3
JNAR				eS	Sn	23 12 35.5	+1.5
JNN	Nakanoshima	1.25	245	eS	Sb	23 12 39.4	+1.3
JSU	Suzuyama	1.29	331	P	Pn	23 12 21.3	+0.1
JSU				S	Sn	23 12 38.2	+0.7
JTZ	Takazaki	1.52	357	P	Pn	23 12 24.9	+0.5
JTZ				S	Sn	23 12 44.1	+0.9
JNU	Nakatsue	2.75	355	Pn	Pn	23 12 41.5	+0.2
	baz=193,slow=18,SNR=3.8						
JNU				Sn	Sn	23 13 13.7	+0.1
	1.6nm,0.3s,baz=229,slow=20,SNR=2.7						
JOW	Kunigami	4.36	217	LR	LR	23 14 31.8	
	comp=Z,90nm,21.1s,baz=354,slow=41						
WRA	Warramunga Arr	50.12	176	P	P	23 20 51.3	-0.4
	0.5nm,0.7s,baz=352,slow=8.5,SNR=4.6						
ASAR	Alice Springs	53.80	177	P	P	23 21 19.9	+0.8
	0.7nm,0.8s,baz=0.8,slow=9.4,SNR=5.2						
FINES	FINESS Array B	70.55	331	P	P	23 23 09.6	-1.4
	0.4nm,0.4s,baz=72,slow=6.2,SNR=5.9						

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*IDC **09** 23:27:24.6±1.2, 37°.42N×3°.47W, h0^{km}, mb3.3/3, mb1 3.4/6, mb1mx3.3/63, mbtmp3.3/6, ML3.0/3, Error ellipse: s-maj=31.8km s-min=14.6km az=82.0*
*ISCJB **09** 23:27:26.5±0.2, 37°.65N±0°.01×3°.74W±0°.01, h10^{km}, mb3.4/3, Error ellipse: s-maj=2.0km s-min=1.3km az=171.6*
*IGIL **09** 23:27:28.2, 37°.49N×3°.74W, h2^{km}, ML3.7*
*LDG **09** 23:27:29.3±0.1, 37°.54N×3°.74W, h2^{km}, Ml3.9/13, Error ellipse: s-maj=2.5km s-min=2.0km az=171.0*
*NEIC **09** 23:27:30.9±0.0, 37°.49N×3°.75W, h21^{km}, MN3.5(MDD), After MDD.*
NEIC Felt at Baeza, Benalua de las Villas, Colomera, Iznalloz, Jaen, Montefrio and Montillana.
*SFS **09** 23:27:30.0, 37°.49N×3°.75W, h21^{km}, ML3.5, FRAILES (ALMERIA)*
*INMG **09** 23:27:30.7±1.9, 37°.47N×3°.76W, h24^{km}±3^{km}, MD3.6, ML3.6, Error ellipse: s-maj=2.2km s-min=2.2km az=96.0*
*MDD **09** 23:27:31.1±0.2, 37°.46N×3°.70W, h30^{km}±1^{km}, mbLg3.9/34, Error ellipse: s-maj=1.9km s-min=1.8km az=132.0, PRXIMO*
MDD EMS: IV INTENSIDAD MAXIMA.
ISC 09 23:27:26.5±0.6**, 37°.51N**±0°.02×**3°.70W**±0°.02**, h10**^{km}**, n201,**
σ2^{s}39/367**, mb3.4**/3**, 22C-12D, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EQUE	Quentar	0.37	146	⇓Pg	Pn	23 27 38.8	+0.7
	1μm,0.2s,SNR=18						
EQUE				Lg	Lg	23 27 44.7	
	4μm,0.2s,SNR=5.0						
EGOR	Sierra Gorda,	0.52	219	⇑Pg	Pn	23 27 41.1	+1.0
	2μm,0.2s,SNR=18						
EGOR				Lg	Lg	23 27 49.0	
	6μm,0.3s,SNR=7.9						
GORA	Gorafe	0.53	93	⇑Pg	Pn	23 27 41.3	+1.1
	798nm,0.2s,SNR=18						
GORA				Lg	Lg	23 27 49.5	
	13μm,0.2s,SNR=7.9						
EQES	Quesada	0.58	60	⇑Pg	Pn	23 27 42.7	+1.8
	2μm,0.1s,SNR=18						
EQES				Lg	Lg	23 27 51.9	
	6μm,0.2s,SNR=28						
ELGU	Los Guajares,	0.65	175	⇑Pg	Pn	23 27 42.6	+0.8
	948nm,0.2s,SNR=18						
ELGU				Lg	Lg	23 27 51.7	
	7μm,0.3s,SNR=7.9						
EBER	Berja	0.89	133	ePg	Pn	23 27 46.9	+1.6
EBER	Berja	0.89	133	⇓Pg	Pn	23 27 46.9	+1.6
	201nm,0.1s,SNR=18						
EBER				Lg	Lg	23 27 59.0	
	2μm,0.4s,SNR=16						
EMAL	Malaga-Limoner	0.95	218	⇑iP	Pn	23 27 47.9	+2.0
EMAL				i S	Sn	23 28 01.0	+1.5
EADA	Adamuz	0.95	314	⇓Pg	Pn	23 27 47.7	+1.7
	60nm,0.1s,SNR=18						
EADA				Pn	Pb	23 27 49.0	+3.8
	SNR=7.9						
EADA				Lg	Lg	23 28 01.2	
	906nm,0.1s,SNR=12						
SESP	Santiago Espad	1.10	56	⇑Pg	Pn	23 27 50.0	+1.8
	470nm,0.2s,SNR=18						
SESP				Lg	Lg	23 28 03.9	
	1μm,0.2s,SNR=7.9						
EMIJ	Mijas	1.28	222	ePn	Pg	23 27 52.0	+1.0
EMIJ	Mijas	1.28	222	⇑Pg	Pg	23 27 52.0	+1.0
	179nm,0.3s,SNR=18						
EMIJ				Lg	Lg	23 28 09.0	
	603nm,0.4s,SNR=5.0						
ENIJ	Nijar	1.31	114	⇓Pg	Pg	23 27 52.4	+0.7
	44nm,0.2s,SNR=18						
ENIJ				Lg	Lg	23 28 08.5	
	846nm,0.2s,SNR=7.9						
ECAB	El Cabril	1.47	293	⇓Pn	Pb	23 27 54.4	+0.4
	5.6nm,0.1s,SNR=18						
ECAB				Pg	Pg	23 27 57.9	+3.1
	41nm,0.6s,SNR=7.9						
ECAB				Sn	Sn	23 28 11.5	-1.0
	54nm,0.2s,SNR=7.9						
ECAB				Lg	Lg	23 28 16.5	
	258nm,0.1s,SNR=20						
LIJA	Lijar	1.49	246	⇓Pg	Pg	23 27 55.5	+0.4
LIJA				Lg	Lg	23 28 11.8	
LIJA	Lijar	1.49	246	⇓iP	Pg	23 27 55.5	+0.4
LIJA				i S	Sn	23 28 11.8	-1.2
REAL	Reales	1.58	230	⇓Pg	Pb	23 27 56.8	+0.8
REAL	Reales	1.58	230	⇓iP	Pb	23 27 56.8	+0.8
EALB	Alboran	1.66	161	ePn	Pn	23 27 56.4	+0.7
EALB	Alboran	1.66	161	⇑Pn	Pn	23 27 56.4	+0.7
	47nm,0.1s,SNR=18						
EALB				Sn	Sn	23 28 15.4	-1.6
	122nm,0.3s,SNR=16						
EJIF	Jimena Fronter	1.77	234	Pn	Pb	23 27 59.1	0.0
	5.4nm,0.2s,SNR=7.9						
EJIF				Pg	Pg	23 28 00.9	+0.5
	60nm,0.7s,SNR=7.9						
ESPR	Espera	1.84	250	⇑Pn	Pb	23 27 59.9	-0.3
	356nm,2.5s,SNR=18						
ALJ	Aljibe	1.84	238	Pg	Pb	23 28 00.0	-0.3
ALJ	Aljibe	1.84	238	eP	Pb	23 28 00.0	-0.3
GIBL	Gibalbin	1.93	250	Pn	Pn	23 28 01.0	+1.6
GIBL				Lg	Lg	23 28 32.0	
GIBL	Gibalbin	1.93	250	i P	Pn	23 28 01.0	+1.6
GIBL				eS	Sg	23 28 32.0	+3.3
EMUR	La Murta	1.98	80	⇑Pn	Pn	23 28 01.5	+1.3
	16nm,0.4s,SNR=18						
EMUR				Pg	Pg	23 28 09.2	+4.7
	203nm,0.6s,SNR=12						
EMUR				Sn	Sn	23 28 24.9	-0.2
	205nm,0.4s,SNR=9.5						
ETOB	Tobarra	2.04	56	⇑Pn	Pn	23 28 02.5	+1.5
	22nm,0.2s,SNR=18						
ETOB				Pg	Pg	23 28 07.8	+2.1
	93nm,0.3s,SNR=9.9						
ETOB				Sn	Sn	23 28 26.5	-0.1
	108nm,0.4s,SNR=10						
ETOB				Lg	Lg	23 28 37.1	
	772nm,0.5s,SNR=13						
PAB	San Pablo	2.09	346	ePn	Pb	23 28 05.0	+0.4
PAB				eS	Sg	23 28 36.3	+2.5
PAB	San Pablo	2.09	346	Pn	Pn	23 28 03.7	+1.9
	2.5nm,0.1s,SNR=7.9						
PAB				Pg	Pg	23 28 08.9	+2.3
	21nm,0.2s,SNR=7.9						
PAB				Sn	Sn	23 28 29.1	+1.2
	48nm,0.3s,SNR=4.0						
PAB				Lg	Lg	23 28 36.9	
	216nm,0.2s,SNR=7.9						
CEU	Ceuta	2.10	220	Pn	Pn	23 28 03.5	+1.8
CEU				Sn	Sn	23 28 25.5	-2.3
CEU	Ceuta	2.10	220	eP	Pn	23 28 03.5	+1.8
CEU				eS	Sn	23 28 25.5	-2.3
CART	Cartagena	2.15	87	ePn	Pn	23 28 03.1	+0.7
CART	Cartagena	2.15	87	⇑Pn	Pn	23 28 03.1	+0.7
CART				Sn	Sn	23 28 27.3	-1.8
CART	Cartagena	2.15	87	⇑iP	Pn	23 28 03.1	+0.7
CART				i S	Sn	23 28 27.3	-1.8
ESDC	Sonseca Array	2.17	355	Pn	Pb	23 28 05.2	-0.7
	6.1nm,0.3s,baz=169,slow=12,SNR=85						
ESDC				Lg	Lg	23 28 38.5	
	130nm,0.3s,baz=180,slow=28,SNR=14						
ESDC	Sonseca Array	2.17	355	Pn	Pb	23 28 05.2	-0.7
	7.6nm,0.1s,baz=178,slow=12,SNR=5.9						
ESDC				Pg	Pg	23 28 10.3	+2.2
	37nm,0.3s,baz=174,slow=16,SNR=6.3						
ESDC				Sn	Sn	23 28 30.7	+1.0
	12nm,0.3s,baz=175,slow=15,SNR=9.2						
ESDC				Lg	Lg	23 28 38.6	
	430nm,0.6s,baz=171,slow=28,SNR=8.1						
ESLA	Sonseca Array	2.17	355	ePn	Pb	23 28 05.2	-0.7
ES19	SONSECA Array	2.19	356	ePn	Pn	23 28 05.0	+2.0
ES19				eSn	Sb	23 28 34.1	+0.6
CNIL	Conil	2.20	240	Pn	Pn	23 28 04.5	+1.3
CNIL	Conil	2.20	240	eP	Pn	23 28 04.5	+1.3
SFS	San Fernando	2.26	243	Pg	Pg	23 28 13.8	+3.9
SFS	San Fernando	2.26	243	eP	Pg	23 28 13.8	+3.9
EMIN	Mina Concepcio	2.37	277	⇑Pn	Pn	23 28 06.2	+0.7
	14nm,0.2s,SNR=18						
EMIN				Pg	Pg	23 28 13.1	+1.1
	18nm,0.3s,SNR=16						
EMIN				Sn	Sn	23 28 34.4	-0.2
	64nm,0.3s,SNR=9.9						
EMIN				Lg	Lg	23 28 42.6	
	206nm,0.2s,SNR=18						
ETRV	Los Montesinos	2.38	77	Pn	Pn	23 28 06.9	+1.3
	0.7nm,0.1s,SNR=7.9						
ETRV				Pg	Pg	23 28 13.7	+1.4
	32nm,0.2s,SNR=7.9						
ETRV				Sn	Sn	23 28 35.7	+0.8
	172nm,0.6s,SNR=7.9						
PBAR	Barrancos	2.72	285	ePn	Pn	23 28 11.2	+0.9
PBAR				eSn	Sn	23 28 42.7	-0.6
PBAR				eSg	Sg	23 28 56.0	+2.0
PBAR				A	A	23 29 02.9	
	221nm,0.3s						
PBAR	Barrancos	2.72	285	Pn	Pn	23 28 11.2	+0.9
PBAR				Sn	Sn	23 28 42.7	-0.6
PBAR				Lg	Lg	23 28 56.0	
	221nm,0.3s						
UCM	Universidad Co	2.81	7	eP	Pg	23 28 22.5	+2.1
UCM				eS	Sg	23 29 00.0	+3.1
EBAD	Badajoz	2.89	296	⇓Pn	Pn	23 28 13.7	+1.0
	4.2nm,0.1s,SNR=18						
EBAD				Sn	Sn	23 28 45.9	-1.5
	23nm,0.3s,SNR=5.4						
EBAD				Lg	Lg	23 29 00.5	
	466nm,0.2s,SNR=8.5						
ECHE	Chera	2.98	45	⇑Pn	Pn	23 28 15.4	+1.4
	1.4nm,0.2s,SNR=18						
ECHE				Pg	Pg	23 28 24.0	+0.3
	55nm,0.6s,SNR=7.9						
ECHE				Sn	Sn	23 28 48.9	-0.9
	68nm,0.3s,SNR=7.9						
ECHE				Lg	Lg	23 29 05.2	
	104nm,0.4s,SNR=7.9						
EBEN2	Beniarda presa	3.00	66	Pn	Pn	23 28 15.5	+1.3
	11nm,0.1s,SNR=7.9						
EBEN2				Sn	Sn	23 28 50.0	-0.3
	541nm,0.7s,SNR=7.9						
EGRO	El Granado	3.00	272	⇑Pn	Pn	23 28 14.7	+0.5
	9.7nm,0.1s,SNR=18						
EGRO				Sn	Sn	23 28 48.8	-1.5
	38nm,0.3s,SNR=5.6						
EGRO				Lg	Lg	23 29 02.1	
	215nm,0.3s,SNR=12						
GUD	Guadarrama	3.15	354	Pn	Pn	23 28 18.3	+2.1
	4.1nm,0.4s,SNR=20						
GUD				Pg	Pg	23 28 26.8	0.0
	190nm,0.4s						
GUD				Sn	Sn	23 28 53.0	-0.9

36nm,0.4s,SNR=7.4
GUD Lg Lg 23 29 09.1
234nm,0.4s,SNR=5.0
EPLA Plasencia 3.15 325 ⇓Pn **Pn 23 28 17.7 +1.4**
18nm,0.1s,SNR=18
EPLA Sn **Sn 23 28 53.0 -1.0**
18nm,0.3s,SNR=9.5
EPLA Lg Lg 23 29 06.7
79nm,0.2s,SNR=5.0
PVAQ Vaqueiros 3.20 269⇑ *e*Pn **Pn 23 28 17.3 +0.5**
PVAQ *e*Sn **Sn 23 28 53.5 -1.5**
PVAQ *e*Sg **Sg 23 29 11.2 +2.0**
PVAQ A A 23 29 17.0
206nm,0.6s
PVAQ Vaqueiros 3.20 269 Pn **Pn 23 28 17.3 +0.5**
PVAQ Sn **Sn 23 28 53.5 -1.5**
PVAQ Lg Lg 23 29 11.2
206nm,0.6s
PBEJ Beja 3.34 280 *e*Pn **Pn 23 28 20.6 +1.8**
PBEJ *e*Sn **Sn 23 28 57.6 -0.9**
PBEJ *e*Sg **Sg 23 29 14.1 +0.3**
PBEJ A A 23 29 23.3
73nm,0.6s
PBEJ Beja 3.34 280 Pn **Pn 23 28 20.6 +1.8**
PBEJ Sn **Sn 23 28 57.6 -0.9**
PBEJ Lg Lg 23 29 14.1
36nm,0.6s
PESTR Estremoz 3.35 295 *i* Pn **Pn 23 28 19.8 +0.9**
PESTR *e*Sg **Sg 23 29 15.0 +0.9**
PESTR A A 23 29 18.9
123nm,0.3s
PESTR Estremoz 3.35 295 *e*Pn **Pn 23 28 19.9 +0.9**
PESTR *e*Sn **Sn 23 28 59.1 +0.3**
PBDV Barranco-do-Ve 3.38 267⇑ *i*Pn **Pn 23 28 19.9 +0.5**
PBDV *e*Sn **Sn 23 28 58.3 -1.2**
PBDV *e*Sg **Sg 23 29 15.6 +0.5**
PBDV A A 23 29 19.6
121nm,0.4s
PBDV Barranco-do-Ve 3.38 267 Pn **Pn 23 28 19.9 +0.5**
PBDV Sn **Sn 23 28 58.3 -1.2**
PBDV Lg Lg 23 29 15.6
121nm,0.4s
PMRV Marv??o 3.47 305 *e*Pn **Pb 23 28 25.3 -2.8**
PMRV *e*Sg **Sg 23 29 21.1 +3.1**
PMRV A A 23 29 27.3
94nm,0.3s
PMRV Marv??o 3.47 305 Pn **Pb 23 28 25.3 -2.8**
PMRV Lg Lg 23 29 21.1
94nm,0.3s
EVO Evora 3.55 288 *e*Pn **Pn 23 28 24.6 +2.9**
EVO *e*Sn **Sn 23 29 03.1 -0.7**
EVO *e*Sg **Sg 23 29 23.9 +3.3**
EVO A A 23 29 27.1
138nm,0.4s
EVO Evora 3.55 288 Pn **Pn 23 28 24.6 +2.9**
EVO Sn **Sn 23 29 03.1 -0.7**
EVO Lg Lg 23 29 23.9
138nm,0.4s
EVO Evora 3.55 288 *e*P **Pn 23 28 24.2 +2.5**
EVO *e*S **Sn 23 29 02.7 -1.1**
MESJ Messejana 3.60 277 *e*P **Pn 23 28 23.1 +0.7**
MESJ *e*S **Sn 23 29 02.4 -2.5**
MESJ AML AML 23 29 28.0
comp=N,134nm,0.7s
MESJ Messejana 3.60 277⇑ *i*Pn **Pn 23 28 23.1 +0.7**
MESJ *e*Sn **Sn 23 29 03.3 -1.6**
MESJ *e*Sg **Sg 23 29 23.5 +1.4**
MESJ A A 23 29 27.7
comp=N,142nm,0.5s
MESJ Messejana 3.60 277 Pn **Pn 23 28 23.1 +0.7**
MESJ Sn **Sn 23 29 03.3 -1.6**
MESJ Lg Lg 23 29 23.5
comp=N,142nm,0.5s
PCBR Castelo Branco 3.76 309⇑ *i*Pn **Pn 23 28 27.2 +2.6**
PCBR *e*Sn **Sn 23 29 06.2 -2.6**
PCBR *e*Sg **Sg 23 29 30.8 +3.6**
PCBR A A 23 29 40.1
comp=N,68nm,0.4s
PCBR Castelo Branco 3.76 309 Pn **Pn 23 28 27.2 +2.6**
PCBR Sn **Sn 23 29 06.2 -2.6**
PCBR Lg Lg 23 29 30.8
comp=N,34nm,0.4s
OKGL Djebel Kef Gue 3.79 112 Pn **Pn 23 28 26.1 +1.1**
SNR=7.9
OKGL Pg **Pb 23 28 35.2 +1.7**
comp=N,13nm,0.2s,SNR=4.0
OKGL Sn **Sn 23 29 08.3 -1.3**
comp=N,116nm,0.3s,SNR=7.9
EMOS Mosqueruela 3.80 41 ⇑Pn **Pn 23 28 27.4 +2.0**
comp=N,6.0nm,0.2s,SNR=18
EMOS Sn **Sn 23 29 07.3 -2.8**
comp=N,29nm,0.3s,SNR=7.9
EMOS Lg Lg 23 29 28.6
comp=N,48nm,0.3s,SNR=5.0
PNCL Nicolau / Gran 3.87 280⇑ *e*Pn **Pn 23 28 26.9 +0.8**
PNCL *e*Sn **Sn 23 29 09.9 -1.7**
PNCL *e*Sg **Sg 23 29 30.6 -0.2**
PNCL A A 23 29 39.9
comp=N,76nm,0.5s
PNCL Nicolau / Gran 3.87 280 Pn **Pn 23 28 26.9 +0.8**
PNCL Sn **Sn 23 29 09.9 -1.7**
PNCL Lg Lg 23 29 30.6
comp=N,76nm,0.5s
MORF Marmelete 3.94 269 *e*P **Pn 23 28 27.4 +0.3**
MORF *e*S **Sn 23 29 10.9 -2.6**
MORF AML AML 23 29 40.5
comp=N,401nm,0.3s
MORF Marmelete 3.94 269 *e*Pn **Pn 23 28 27.5 +0.3**
MORF *e*Sn **Sn 23 29 12.3 -1.2**
MORF A A 23 29 13.0
comp=N,131nm,0.2s
MORF *e*Sg **Sg 23 29 32.8 -0.4**
MORF Marmelete 3.94 269 Pn **Pn 23 28 27.5 +0.3**
MORF Sn **Sn 23 29 12.3 -1.2**
comp=N,131nm,0.2s
MORF Lg Lg 23 29 32.8
PTEO Sao Teotonio 3.99 272 *e*Pn **Pn 23 28 28.8 +1.0**
PTEO *e*Sn **Sn 23 29 13.2 -1.4**
PTEO *e*Sg **Sg 23 29 36.1 +1.4**
PTEO A A 23 29 43.9
comp=N,139nm,0.7s
PTEO Sao Teotonio 3.99 272 Pn **Pn 23 28 28.8 +1.0**
PTEO Sn **Sn 23 29 13.2 -1.4**
PTEO Lg Lg 23 29 36.1
comp=N,70nm,0.7s
PFVI Vila Bisbo 4.10 266 *e*Pn **Pn 23 28 29.6 +0.3**
PFVI *e*Sn **Sn 23 29 14.7 -2.6**
PFVI A A 23 29 15.4
comp=N,98nm,0.1s
PFVI Vila Bisbo 4.10 266 *e*Pn **Pn 23 28 29.5 +0.2**
PFVI Vila Bisbo 4.10 266 Pn **Pn 23 28 29.6 +0.3**
comp=N,0.5nm,0.2s,SNR=55
PFVI Sn **Sn 23 29 14.1 -3.2**
comp=N,49nm,0.3s,SNR=26
IFR Ifrane 4.15 197 *e*P **Pn 23 28 30.5 +0.3**
IFR *e*S **Sn 23 29 15.8 -3.0**
MTE Manteigas 4.16 315 *e*Pn **Pn 23 28 32.5 +2.4**
MTE *e*Sn **Sn 23 29 17.9 -0.9**
MTE *e*Sg **Sg 23 29 40.8 +0.8**
MTE A A 23 30 03.3
comp=N,130nm,0.4s
MTE Manteigas 4.16 315 *e*Pn **Pn 23 28 32.5 +2.4**
MTE Manteigas 4.16 315 Pn **Pn 23 28 32.5 +2.4**
MTE Sn **Sn 23 29 17.9 -0.9**
MTE Lg Lg 23 29 40.8
comp=N,65nm,0.4s
ALMR Almeirim 4.17 295 *e*P **Pn 23 28 30.8 +0.6**
ALMR *e*S **Sn 23 29 16.4 -2.6**
ALMR *e*S **Sn 23 29 16.4 -2.6**
ALMR AML AML 23 29 18.5
comp=N,100nm,0.7s
ALMR Almeirim 4.17 295 *e*P **Pn 23 28 30.8 +0.6**
ALMR *e*S **Sn 23 29 16.4 -2.6**
ALMR Almeirim 4.17 295 Pn **Pn 23 28 30.8 +0.6**
ALMR Sn **Sn 23 29 16.4 -2.6**
PTOM Tomar 4.25 301 *e*Pn **Pn 23 28 33.1 +1.8**
PTOM *e*Sn **Sn 23 29 19.3 -1.6**
PTOM *e*Sg **Sg 23 29 44.1 +1.2**
PTOM A A 23 29 53.7
comp=N,124nm,0.5s
PTOM Tomar 4.25 301 Pn **Pn 23 28 33.1 +1.8**
PTOM Sn **Sn 23 29 19.3 -1.6**
PTOM Lg Lg 23 29 44.1
comp=N,62nm,0.5s

EIBI Ibiza 4.25 68 Pn **Pn 23 28 32.1 +0.8**
comp=N,2.1nm,0.2s,SNR=7.9
EIBI Sn **Sn 23 29 19.1 -1.9**
comp=N,48nm,0.3s,SNR=13
LIS Lisbon 4.46 287 *e*Sg **Sg 23 29 55.0 +5.3**
LIS A A 23 30 02.2
comp=N,91nm,0.4s
LIS Lisbon 4.46 287 Lg Lg 23 29 55.0
comp=N,91nm,0.4s
MVO Moncorvo 4.47 326 *e*Pn **Pn 23 28 36.7 +2.3**
MVO *e*Sn **Sn 23 29 23.7 -2.7**
MVO *e*Sg **Sg 23 29 52.3 +2.4**
MVO A A 23 30 07.7
comp=N,102nm,0.6s
MVO Moncorvo 4.47 326 Pn **Pn 23 28 36.8 +2.5**
comp=N,25nm,0.1s,SNR=134
MVO Sn **Sn 23 29 24.4 -2.0**
comp=N,13nm,0.3s,SNR=9.7
MVO Lg Lg 23 29 49.1
comp=N,136nm,0.5s,SNR=5.0
PMST Lisbon--Monsan 4.49 287 *e*Pn **Pn 23 28 35.0 +0.4**
PMST *e*Sn **Sn 23 29 23.9 -3.0**
PMST *e*Sg **Sg 23 29 56.1 +5.4**
PMST A A 23 30 06.0
comp=N,91nm,0.6s
PCAS Casmilo, Conde 4.52 306 *e*Pn **Pn 23 28 37.2 +2.1**
PCAS *e*Sn **Sn 23 29 25.6 -2.2**
PCAS *e*Sg **Sg 23 29 52.6 +0.8**
PCAS A A 23 30 01.8
comp=N,106nm,0.5s
PCAS Casmilo, Conde 4.52 306 Pn **Pn 23 28 37.2 +2.1**
PCAS Sn **Sn 23 29 25.6 -2.2**
PCAS Lg Lg 23 29 52.6
comp=N,106nm,0.5s
COI Coimbra 4.55 308 Pn **Pn 23 28 38.1 +2.6**
COI Sn **Sn 23 29 26.7 -1.8**
comp=N,69nm,0.4s
PVIS Viseu 4.57 316 *e*Pn **Pn 23 28 37.7 +2.0**
PVIS *e*Sn **Sn 23 29 26.4 -2.5**
PVIS *e*Sg **Sg 23 29 55.3 +2.1**
PVIS A A 23 30 03.9
comp=N,53nm,0.5s
PVIS Viseu 4.57 316 Pn **Pn 23 28 37.7 +2.0**
PVIS Sn **Sn 23 29 26.4 -2.5**
PVIS Lg Lg 23 29 55.3
comp=N,26nm,0.5s
PMAFR Mafra 4.62 290 *e*Pn **Pn 23 28 37.8 +1.3**
PMAFR *e*Sn **Sn 23 29 27.9 -2.3**
PMAFR *e*Sg **Sg 23 29 56.6 +1.6**
PMAFR A A 23 30 12.2
comp=N,107nm,0.3s
PMAFR Mafra 4.62 290 Pn **Pn 23 28 37.8 +1.3**
comp=N,6.2nm,0.1s,SNR=13
PMAFR Sn **Sn 23 29 27.9 -2.3**
comp=N,26nm,0.3s,SNR=6.1
PMAFR Lg Lg 23 29 50.8
comp=N,402nm,0.6s,SNR=5.0
EBR Ebro Roquetas 4.64 43 Pn **Pn 23 28 38.0 +1.3**
comp=N,45nm,0.3s,SNR=7.9
EBR Sn **Sn 23 29 29.9 -0.7**
comp=N,222nm,0.3s,SNR=7.9
EBR Lg Lg 23 29 54.7
comp=N,225nm,0.3s,SNR=7.9
ERTA Horta de San J 4.65 41 Pn **Pn 23 28 39.2 +2.3**
comp=N,1.9nm,0.1s,SNR=10
ERTA Pg **Pb 23 28 47.9 -0.4**
comp=N,11nm,1.5s,SNR=7.9
ERTA Sn **Sn 23 29 29.8 -1.2**
comp=N,26nm,0.6s,SNR=5.3
ERTA Lg Lg 23 29 54.0
comp=N,43nm,0.4s,SNR=5.0
MDT Midelt 4.75 189 Pn **Pn 23 28 38.3 0.0**
comp=N,0.6nm,0.3s,baz=16,slow=4.6,SNR=25
MDT Sn **Sn 23 29 31.6 -1.8**
comp=N,4.1nm,0.3s,baz=190,slow=18,SNR=7.7
PVRL Vila Real 4.88 322 *e*Pn **Pg 23 28 58.6 -1.3**
PVRL *e*Sn **Sb 23 29 51.1 +0.3**
PVRL A A 23 30 37.3
comp=N,50nm,0.4s
PVRL Vila Real 4.88 322 Pg **Pg 23 28 58.6 -1.3**
PVRL Lg Lg 23 29 51.1
comp=N,25nm,0.4s
PBRG Braganca 4.88 332 *e*Pn **Pn 23 28 43.0 +2.9**
PBRG *e*Sg **Sg 23 30 07.6 +4.2**
PBRG A A 23 30 24.2
comp=N,30nm,0.5s
PBRG Braganca 4.88 332 Pn **Pn 23 28 43.0 +2.9**
PBRG Lg Lg 23 30 07.6
comp=N,15nm,0.5s
ESAC San Caprasio 4.89 30 Pn **Pn 23 28 43.0 +2.9**
comp=N,34nm,0.3s,SNR=9.1
ESAC Sn **Sn 23 29 35.2 -1.6**
comp=N,63nm,0.3s,SNR=4.6
POLO Lamas de Olo 4.99 322 *e*Pn **Pn 23 28 43.1 +1.5**
POLO *e*Sn **Sn 23 29 37.1 -2.2**
POLO *e*Sg **Sg 23 30 10.1 +3.4**
POLO A A 23 30 27.3
comp=N,25nm,0.5s
POLO Lamas de Olo 4.99 322 Pn **Pn 23 28 43.1 +1.5**
POLO Sn **Sn 23 29 37.1 -2.2**
POLO Lg Lg 23 30 10.1
comp=N,25nm,0.5s
ECAL Calabor 5.00 333 Pn **Pn 23 28 44.0 +2.3**
comp=N,2.3nm,0.2s,SNR=5.0
ECAL Sn **Sn 23 29 37.9 -1.8**
comp=N,6.4nm,0.2s,SNR=7.9
ECAL Lg Lg 23 30 03.1
comp=N,119nm,0.5s,SNR=5.0
PTO Porto 5.25 315 *e*Pn **Pn 23 28 47.5 +2.5**
PTO Porto 5.25 315 Pn **Pn 23 28 47.5 +2.5**
EPOB Poblet 5.33 43 Pn **Pn 23 28 47.8 +1.6**
comp=N,5.4nm,0.2s,SNR=33
EPOB Sn **Sn 23 29 45.4 -2.3**
comp=N,22nm,0.3s,SNR=7.9
PCAB Cabril 5.36 323 *e*Pn **Pn 23 28 49.0 +2.4**
PCAB *e*Sn **Sn 23 29 45.8 -2.6**
PCAB *e*Sg **Sg 23 30 21.9 +3.4**
PCAB A A 23 30 39.6
comp=N,59nm,0.5s
PCAB Cabril 5.36 323 Pn **Pn 23 28 49.0 +2.4**
PCAB Sn **Sn 23 29 45.8 -2.6**
PCAB Lg Lg 23 30 21.9
comp=N,30nm,0.5s
ELOB Lobios 5.50 324 Pn **Pn 23 28 50.9 +2.4**
comp=N,4.5nm,0.1s,SNR=51
ELOB Sn **Sn 23 29 49.2 -2.6**
comp=N,42nm,0.5s,SNR=5.0
ELOB Lg Lg 23 30 20.3
comp=N,36nm,0.3s,SNR=5.7
EARA Aranguren 5.50 17 Pn **Pn 23 28 51.3 +2.8**
comp=N,0.4nm,0.1s,SNR=7.9
EARA Sn **Sn 23 29 50.2 -1.6**
comp=N,14nm,0.3s,SNR=7.9
EARA Lg Lg 23 30 19.2
comp=N,47nm,0.4s,SNR=7.9
IELO Elcoad 5.65 19 Pn **Pn 23 28 52.9 +2.3**
comp=N,1.5nm,0.1s,SNR=7.9
IELO Sn **Sn 23 29 53.2 -2.4**
comp=N,8.5nm,0.3s,SNR=7.9
IELO Lg Lg 23 30 23.9
comp=N,27nm,0.4s,SNR=7.9
PGAV Gavieira, Arco 5.67 323 *e*Pn **Pn 23 28 52.6 +1.7**
PGAV *e*Sn **Sn 23 29 52.9 -3.2**
PGAV A A 23 30 46.0
comp=N,44nm,0.5s
PGAV Gavieira, Arco 5.67 323 Pn **Pn 23 28 52.6 +1.7**
PGAV Sn **Sn 23 29 52.9 -3.2**
comp=N,44nm,0.5s
EORO Oroz-Betelu 5.68 18 Pn **Pn 23 28 54.4 +3.4**
comp=N,1.4nm,0.3s,SNR=7.9
EORO Sn **Sn 23 29 54.7 -1.6**
comp=N,221nm,0.8s,SNR=7.9
ELAN Lanestosa 5.72 2 Pn **Pn 23 28 53.8 +2.3**
comp=N,0.4nm,0.1s,SNR=17
ELAN Sn **Sn 23 29 55.0 -2.2**
comp=N,3.7nm,0.2s,SNR=7.9
ELAN Lg Lg 23 30 26.2
comp=N,38nm,0.6s,SNR=5.0
ETSF Etsaut 5.89 23 *e*Pn **Pn 23 28 56.8 +2.8**
ETSF *e*Sn **Sn 23 29 59.0 -2.6**
comp=N,26nm,0.3s
ETSF Etsaut 5.89 23 Pn **Pn 23 28 56.8 +2.8**
ETSF Sn **Sn 23 29 59.0 -2.6**
comp=N,13nm,0.3s
EARI Arriondas 5.89 349 Pn **Pn 23 28 56.2 +2.2**
comp=N,2.8nm,0.2s,SNR=18

EARI Sn **Sn 23 29 59.2 -2.4**
comp=N,5.2nm,0.4s,SNR=5.5
EARI Lg Lg 23 30 30.7
comp=N,103nm,0.9s,SNR=5.0
SJPF Ste Jean 5.91 18 *e*Pn **Pn 23 28 55.9 +1.8**
SJPF *e*Sn **Sn 23 30 00.3 -1.5**
comp=N,22nm,0.3s
SJPF Ste Jean 5.91 18 Pn **Pn 23 28 55.9 +1.8**
SJPF Sn **Sn 23 30 00.3 -1.5**
comp=N,11nm,0.3s
EALK Alkurruntz 5.94 16 Pn **Pn 23 28 57.4 +2.7**
comp=N,1.2nm,0.1s,SNR=42
EALK Sn **Sn 23 30 00.7 -2.1**
comp=N,29nm,0.3s,SNR=7.7
EALK Lg Lg 23 30 36.8
comp=N,74nm,0.5s,SNR=7.9
ECHI Chisagues Biel 5.95 29 Pn **Pn 23 28 57.1 +2.3**
comp=N,2.4nm,0.1s,SNR=7.9
ECHI Sn **Sn 23 30 00.2 -2.9**
comp=N,12nm,0.7s,SNR=7.9
EZAM Zamans 6.02 322 Pn **Pn 23 28 57.8 +2.2**
comp=N,1.2nm,0.1s,SNR=7.9
EZAM Sn **Sn 23 30 01.9 -2.6**
comp=N,4.7nm,0.6s,SNR=7.9
EZAM Lg Lg 23 30 34.4
comp=N,13nm,0.3s,SNR=7.9
ATE Arette 6.02 21 Pn **Pn 23 28 58.4 +2.7**
comp=N,5.9nm,0.1s,SNR=7.9
ATE Sn **Sn 23 30 02.0 -2.7**
comp=N,8.1nm,0.4s,SNR=7.9
CSOR Sort 6.11 36 Pn **Pn 23 28 58.6 +1.6**
comp=N,1.8nm,0.2s,SNR=23
CSOR Sn **Sn 23 30 04.2 -2.9**
comp=N,22nm,0.4s,SNR=7.9
EAGO Agolada(Pontev 6.26 329 Pn **Pn 23 29 01.8 +2.8**
comp=N,1.5nm,0.1s,SNR=7.9
EAGO Sn **Sn 23 30 07.5 -3.1**
comp=N,2.0nm,0.5s,SNR=7.9
EAGO Lg Lg 23 30 44.7
comp=N,26nm,0.4s,SNR=7.9
EPF Esparros 6.32 28 *e*Pn **Pn 23 29 01.6 +1.8**
EPF *e*Sn **Sn 23 30 08.4 -3.6**
comp=N,20nm,0.3s
EPF Esparros 6.32 28 Pn **Pn 23 29 01.6 +1.8**
EPF Sn **Sn 23 30 08.4 -3.6**
comp=N,9.8nm,0.3s
CFON Fontmartina 6.36 46 ⇓Pn **Pn 23 29 01.4 +1.1**
comp=N,6.8nm,0.2s,SNR=18
CFON Sn **Sn 23 30 10.4 -2.7**
comp=N,5.2nm,0.3s,SNR=9.6
EPON Pontenova 6.37 337 Pn **Pn 23 29 03.2 +2.6**
comp=N,0.4nm,0.2s,SNR=7.9
EPON Sn **Sn 23 30 10.8 -2.5**
comp=N,16nm,0.4s,SNR=4.0
EPON Lg Lg 23 30 44.7
comp=N,34nm,0.6s,SNR=5.5
CLLI Llivia 6.60 40 Pn **Pn 23 29 05.6 +1.8**
comp=N,0.7nm,0.2s,SNR=20
CLLI Sn **Sn 23 30 16.6 -2.5**
comp=N,4.8nm,0.7s,SNR=6.8
EMAZ Mazaricos 6.76 325 Pn **Pn 23 29 08.4 +2.6**
comp=N,2.3nm,0.1s,SNR=7.9
EJON La Jonquera 7.06 44 Pn **Pn 23 29 11.6 +1.6**
comp=N,1.4nm,0.2s,SNR=7.9
EJON Sn **Sn 23 30 27.2 -3.1**
comp=N,7.2nm,0.6s,SNR=7.9
SJAF Saint Jean de 7.08 43 Pn **Pn 23 29 11.9 +1.6**
comp=N,0.5nm,0.2s,SNR=7.9
SJAF Sn **Sn 23 30 26.2 -4.6**
comp=N,7.2nm,1.0s,SNR=7.9
MTLF Montolieu 7.37 36 *e*Pn **Pn 23 29 15.6 +1.5**
MTLF *e*Sn **Sn 23 30 35.9 -1.8**
comp=N,4.8nm,0.4s
MTLF Montolieu 7.37 36 Pn **Pn 23 29 15.6 +1.5**
MTLF Sn **Sn 23 30 35.9 -1.8**
comp=N,2.4nm,0.4s
LFF La Frestale 8.14 23 *e*Pn **Pn 23 29 26.9 +2.2**
LFF *e*Sn **Sn 23 30 54.0 -2.7**
comp=N,23nm,0.6s
LFF La Frestale 8.14 23 Pn **Pn 23 29 26.9 +2.2**
LFF Sn **Sn 23 30 54.0 -2.7**
comp=N,12nm,0.6s
CAF Calviac 8.58 29 *e*Pn **Pn 23 29 32.2 +1.3**
CAF *e*Sn **Sn 23 31 02.5 -5.2**
comp=N,9.9nm,0.6s
CAF Calviac 8.58 29 Pn **Pn 23 29 32.2 +1.3**
CAF Sn **Sn 23 31 02.5 -5.2**
comp=N,4.9nm,0.6s
LASF Ste Croix 8.71 39 *e*Pn **Pn 23 29 33.5 +1.0**
LASF Ste Croix 8.71 39 Pn **Pn 23 29 33.5 +1.0**
RJF Les Rejaudoux 8.71 25 *e*Pn **Pn 23 29 33.8 +1.2**
RJF *e*Sn **Sn 23 31 06.4 -4.5**
comp=N,9.0nm,0.5s
RJF Les Rejaudoux 8.71 25 Pn **Pn 23 29 33.8 +1.2**
RJF Sn **Sn 23 31 06.4 -4.5**
comp=N,4.5nm,0.5s
MFF Saint Martin d 9.46 15 *e*Pn **Pn 23 29 43.7 +0.9**
MFF *e*Sn **Sn 23 31 22.2 -6.9**
MFF Saint Martin d 9.46 15 Pn **Pn 23 29 43.7 +0.9**
MFF Sn **Sn 23 31 22.2 -6.9**
LMR La Mourre 9.71 50 *e*Pn **Pn 23 29 47.6 +1.3**
LMR *e*Sn **Sn 23 31 30.3 -5.1**
comp=N,11nm,0.6s
LMR La Mourre 9.71 50 Pn **Pn 23 29 47.6 +1.3**
LMR Sn **Sn 23 31 30.3 -5.1**
comp=N,5.6nm,0.6s
TCF Toulx Ste Croi 9.81 25 *e*Pn **Pn 23 29 48.3 +0.7**
TCF *e*Sn **Sn 23 31 33.9 -3.9**
comp=N,19nm,1.2s
TCF Toulx Ste Croi 9.81 25 Pn **Pn 23 29 48.3 +0.7**
TCF Sn **Sn 23 31 33.9 -3.9**
comp=N,9.6nm,1.2s
BGF Bois d'Agland 10.26 26 *e*Pn **Pn 23 29 54.8 +1.0**
BGF *e*Sn **Sn 23 31 42.9 -6.0**
comp=N,12nm,0.4s
BGF Bois d'Agland 10.26 26 Pn **Pn 23 29 54.8 +1.0**
BGF Sn **Sn 23 31 42.9 -6.0**
comp=N,5.8nm,0.4s
ORIF Oris-en-Rattie 10.33 41 *e*Pn **Pn 23 29 55.7 +0.9**
ORIF Oris-en-Rattie 10.33 41 Pn **Pn 23 29 55.7 +0.9**
QUIF Quistinic 10.40 2 *e*Pn **Pn 23 29 56.6 +0.9**
QUIF *e*Sn **Sn 23 31 46.0 -6.3**
QUIF Quistinic 10.40 2 Pn **Pn 23 29 56.6 +0.9**
QUIF Sn **Sn 23 31 46.0 -6.3**
KEST Kesra 10.64 96 Pn **Pn 23 29 57.4 -1.6**
comp=N,0.0nm,0.3s,baz=280,slow=13,SNR=2.1
AVF Avril sur Loir 10.64 27 *e*Pn **Pn 23 29 59.4 +0.4**
AVF Avril sur Loir 10.64 27 Pn **Pn 23 29 59.4 +0.4**
MBDF Montbardon 10.69 44 *e*Pn **Pn 23 30 02.5 +2.7**
MBDF Montbardon 10.69 44 Pn **Pn 23 30 02.5 +2.7**
SMF Signal de Mont 10.70 29 *e*Pn **Pn 23 30 01.0 +1.1**
SMF Signal de Mont 10.70 29 Pn **Pn 23 30 01.0 +1.1**
SGMF Saint Gilles 10.77 4 *e*Pn **Pn 23 30 01.7 +1.0**
SGMF *e*Sn **Sn 23 31 53.4 -7.8**
SGMF Saint Gilles 10.77 4 Pn **Pn 23 30 01.7 +1.0**
SGMF Sn **Sn 23 31 53.4 -7.8**
HYF Humbligny 10.81 24 *e*Pn **Pn 23 30 02.2 +0.8**
HYF *e*Sn **Sn 23 32 00.5 -1.9**
comp=N,30nm,0.4s
HYF Humbligny 10.81 24 Pn **Pn 23 30 02.2 +0.8**
HYF Sn **Sn 23 32 00.5 -1.9**
comp=N,30nm,0.4s
SSF Saint Saulge 10.93 27 *e*Pn **Pn 23 30 03.2 +0.3**
SSF *e*Sn **Sn 23 31 59.6 -5.6**
comp=N,1.5nm,0.3s
SSF Saint Saulge 10.93 27 Pn **Pn 23 30 03.2 +0.3**
SSF Sn **Sn 23 31 59.6 -5.6**
comp=N,0.8nm,0.3s
GRR Gorron 11.07 10 *e*Sn **Sn 23 32 00.1 -8.4**
GRR Gorron 11.07 10 Sn **Sn 23 32 00.1 -8.4**
LPG La Plagne 11.18 41 *e*Pn **Pn 23 30 07.2 +0.6**
LPG La Plagne 11.18 41 Pn **Pn 23 30 07.2 +0.6**
LPL La Plagne 11.18 41 *e*Pn **Pn 23 30 07.8 +1.2**
LPL La Plagne 11.18 41 Pn **Pn 23 30 07.8 +1.2**
LOR Lormes 11.23 27 *e*Sn **Sn 23 32 06.6 -6.0**
comp=N,0.6nm,0.2s
LOR Lormes 11.23 27 Sn **Sn 23 32 06.6 -6.0**
comp=N,0.3nm,0.2s
LDF La Druitiere 11.38 12 *e*Pn **Pn 23 30 10.2 +1.1**
LDF *e*Sn Sn 23 32 05.6 -11
FLN La Foliniere 11.49 11 *e*Pn **Pn 23 30 11.0 +0.5**
FLN La Foliniere 11.49 11 Pn **Pn 23 30 11.0 +0.5**
CABF La Chapelle 11.63 36 *e*Pn **Pn 23 30 13.6 +0.9**
CABF La Chapelle 11.63 36 Pn **Pn 23 30 13.6 +0.9**
BFO Black Forest 13.93 35 Pn **Pn 23 30 46.0 +2.1**

ESK	**Eskdalemuir**	**17.81**	**1**	Pn	**P**	**23 31 37.6**	**+2.5**
TORD	**Torodi Ar. Bea**	**24.74**	**167**	P	**P**	**23 32 47.6**	**-0.7**
	comp=N,0.5nm,0.6s,baz=350,slow=8.1,SNR=4.6						
MKAR	**Makanchi Array**	**61.40**	**51**	P	**P**	**23 37 40.9**	**-1.9**
	comp=N,0.3nm,0.4s,baz=298,slow=6.3,SNR=4.3						
YKA	**Yellowknife Ar**	**66.09**	**332**	P	**P**	**23 38 13.1**	**-0.2**
	comp=N,0.1nm,0.4s,baz=61,slow=6.4,SNR=2.8						

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*TIR **09** 23:47:08.9, 41.°98N×20.°71E, h15km, Md2.6/4*
*ISCJB **09** 23:47:11.0±0.6, 41.°92N±0.°04×20.°64E±0.°04, h22km±7km, Error ellipse: s-maj=7.6km s-min=5.4km az=8.3*
*SIK **09** 23:47:11.4, 41.°98N×20.°62E, h3km, M1.5*
*BEO **09** 23:47:11.5±0.7, 41.°98N×20.°64E, h5km±1km, ML1.4/3*
ISC 09 23:47:10.6±1.1**, 41.°97N**±0.°04×**20.°64E**±0.°03**, h14**km±11km**, n9, σ0.76**/17**, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.32**	**207**	*i* PG	**Pg**	**23 47 17.1**	**-0.1**
PHP				*i* SG	**Sg**	**23 47 22.3**	**+0.6**
PUK	**Puka**	**0.56**	**278**	*i* PG	**Pg**	**23 47 21.2**	**-0.4**
PUK				*i* SG	**Sb**	**23 47 31.0**	**+0.9**
BCI	**Bajram Curri**	**0.58**	**313**	*i* PG	**Pg**	**23 47 21.4**	**-0.6**
BCI				*i* SG	**Sg**	**23 47 30.3**	**+0.7**
SKO	**Skopje**	**0.60**	**90**	*e*Pg	**Pg**	**23 47 21.7**	**-0.7**
SKO				*e*Sg	**Sg**	**23 47 31.1**	**+0.8**
PDG	**Podgorica**	**1.12**	**295**	*e*Pg	**Pg**	**23 47 31.1**	**-1.2**
PDG				*e*Sg	**Sg**	**23 47 47.4**	**+0.5**
BARS	**Barje**	**1.22**	**46**	*e*Pg	**Pg**	**23 47 34.0**	**0.0**
BARS				*e*Sg	**Sg**	**23 47 50.4**	**+0.5**
SELS	**Selova**	**1.30**	**16**	*e*Pg	**Pn**	**23 47 35.2**	**+0.8**
SELS				*e*Sg	**Sg**	**23 47 51.4**	**-1.1**
FNA	**Florina**	**1.31**	**155**	*i* PN	**Pn**	**23 47 33.8**	**-0.8**
SJES	**Sjenica**	**1.38**	**339**	*e*Pg	**Pn**	**23 47 35.5**	**-0.1**
SJES				*e*Sg	**Sg**	**23 47 55.1**	**0.0**

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*IDC **09** 23:55:57.1±1.3, 38.°41N×142.°65E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.6/33, mbtmp3.7/7, ML3.0/1, MS3.3/2, Ms1 3.3/2, ms1mx2.5/47, Error ellipse: s-maj=39.8km s-min=21.0km az=79.0*
*ISCJB **09** 23:56:00.4±1.2, 38.°36N±0.°05×142.°33E±0.°07, h26km±6km, mb3.8/6, MS3.8/1, Error ellipse: s-maj=9.4km s-min=7.7km az=0.0*
*NIED **09** 23:56:00, 38.°40N×142.°30E, h44km, Mw3.8 Best double couple: M0 6.40000×10^14 NP1: φs 162.00000°, δ28.00000°, λ-72.00000°. NP2: φs 322.00000°, δ64.00000°, λ-99.00000°.*
*JMA **09** 23:56:01.7±0.1, 38.°40N×142.°28E, h30km±1km, M3.6*
ISC 09 23:55:59.9±1.9**, 38.°32N**±0.°04×**142.°21E**±0.°08**, h13**km±9km**, n25, σ1.19**/30**, mb3.9**/6**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.59**	**269**	P	**Pn**	**23 56 14.0**	**0.0**
JIKH				S	**Sn**	**23 56 22.5**	**-0.9**
JIO	**Ouri**	**0.69**	**281**	P	**Pn**	**23 56 15.5**	**+0.1**
JIO				S	**Sn**	**23 56 25.1**	**-0.9**
JKMT	**Kesennumamotoy**	**0.76**	**310**	P	**Pn**	**23 56 16.0**	**-0.3**
JKMT				S	**Sb**	**23 56 25.8**	**+0.7**
OFUJ	**Ofunato**	**0.87**	**331**	P	**Pn**	**23 56 17.0**	**-0.8**
OFUJ				S	**Sg**	**23 56 27.9**	**-0.1**
JMK	**Ichinoseki**	**1.00**	**309**	P	**Pg**	**23 56 19.6**	**+0.4**
JMK				S	**Sn**	**23 56 32.9**	**-0.7**
JMM	**Marumori**	**1.21**	**248**	P	**Pg**	**23 56 23.2**	**0.0**
JMM				S	**Sb**	**23 56 38.6**	**+0.4**
JOU	**Okura**	**1.22**	**272**	P	**Pg**	**23 56 23.9**	**+0.5**
JOU				S	**Sg**	**23 56 39.9**	**+0.7**
JOM	**Ohasama**	**1.35**	**328**	P	**Pg**	**23 56 25.3**	**-0.6**
JOM				S	**Sn**	**23 56 41.4**	**-0.9**
JYK	**Kaneyama**	**1.57**	**293**	P	**Pb**	**23 56 28.9**	**+0.1**
JYK				S	**Sb**	**23 56 48.7**	**+0.2**
JRG	**Rokugo**	**1.63**	**311**	P	**Pb**	**23 56 29.8**	**-0.1**
JRG				S	**Sb**	**23 56 50.3**	**-0.1**
MJAR	**Matsushiro Arr**	**3.65**	**242**	Pn	**Pn**	**23 56 59.5**	**+3.4**
	0.9nm,0.3s,baz=59,slow=10.0,SNR=5.6						
MJAR				Sn	**Sb**	**23 57 47.0**	**-1.5**
	1.2nm,0.3s,baz=37,slow=13,SNR=5.1						
MJAR				LR	LR	23 58 37.3	
	comp=Z,156nm,18.2s,baz=70,slow=40						
MAT	**Matsushiro**	**3.65**	**242**	P	**Pb**	**23 57 01.4**	**-2.9**
MAT				S	**Sb**	**23 57 46.1**	**-2.4**
H11N2	**WAKE ISLAND Hy**	**28.30**	**124**	T	T	00 31 44.1	
	baz=319						
H11N1	**WAKE ISLAND Hy**	**28.31**	**124**	T	T	00 31 41.2	
	baz=319						
H11N3	**WAKE ISLAND Hy**	**28.32**	**124**	T	T	00 31 44.1	
	baz=319						
H11S1	**WAKE ISLAND Hy**	**29.06**	**126**	T	T	00 32 41.8	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**29.07**	**126**	T	T	00 32 40.0	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**29.08**	**126**	T	T	00 32 40.5	
	baz=318						
ZALV	**Zalesovo Beam**	**41.53**	**311**	P	**P**	**00 03 47.2**	**+0.5**
	0.4nm,0.3s,baz=80,slow=7.9,SNR=2.9						
MKAR	**Makanchi Array**	**43.98**	**301**	P	**P**	**00 04 08.5**	**+1.7**
	0.2nm,0.6s,baz=90,slow=8.3,SNR=2.9						
WRA	**Warramunga Arr**	**58.43**	**189**	P	**P**	**00 05 55.4**	**0.0**
	1.5nm,0.8s,baz=7.5,slow=7.5,SNR=9.7						
ASAR	**Alice Springs**	**62.15**	**189**	P	**P**	**00 06 21.1**	**+0.3**
	0.8nm,0.7s,baz=5.7,slow=5.7,SNR=8.7						
FINES	**FINESS Array B**	**67.97**	**332**	P	**P**	**00 06 58.2**	**0.0**
	3.3nm,1.0s,baz=36,slow=12,SNR=2.9						
AKASG	**Malin Array Be**	**73.67**	**322**	P	**P**	**00 07 32.8**	**-0.2**
	0.4nm,0.5s,baz=44,slow=5.8,SNR=3.2						
URZ	**Urewera**	**82.70**	**153**	LR	LR	00 42 54.8	
	comp=Z,45nm,19.9s,baz=68,slow=34						

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*BEO **10** 00:04:44.3±0.9, 39.°52N×25.°94E, h5km, ML3.5/2*
*ISK **10** 00:04:46.4, 39.°67N×25.°53E, h5km, ML3.6/37*
*DDA **10** 00:04:46.3, 39.°68N×25.°57E, h21km, ML3.5*
*ISCJB **10** 00:04:46.8±0.4, 39.°69N±0.°01×25.°53E±0.°02, h1km±3km, Error ellipse: s-maj=2.3km s-min=2.2km az=135.6*
*ATH **10** 00:04:47.2, 39.°70N×25.°62E, h29km±1km, ML3.4/7, Error ellipse: s-maj=1.5km s-min=0.9km az=237.0*
*THE **10** 00:04:48.0, 39.°69N×25.°60E, h10km±1km, ML3.2/12, Error ellipse: s-maj=1.1km s-min=0.5km az=80.0*
ISC 10 00:04:47.0±1.1**, 39.°67N**±0.°02×**25.°58E**±0.°01**, h6**km±10km**, n166, σ1.09**/197**, 9C-9D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.38**	**307**	P	**Pb**	**00 04 55.7**	**-0.6**
LIA				S	**Sb**	**00 05 02.0**	**-0.3**
LIA				AML	AML	00 05 06.8	
	comp=N,12195µm,0.6s						
LIA				AML	AML	00 05 08.2	
	comp=E,9625µm,0.3s						
LIA	**Limnos Island**	**0.38**	**307**	P	**Pb**	**00 04 55.6**	**-0.6**
LIA				S	**Sb**	**00 05 01.1**	**-1.2**
BOZC	**Bozcaada**	**0.41**	**65**	PG	**Pg**	**00 04 54.8**	**-0.1**
BOZC	**Bozcaada**	**0.41**	**65**	IAML_P			
	comp=Z,18µm,0.2s						
BOZC				*i* P	**Pg**	**00 04 55.3**	**+0.4**
EFSA	**Agios Efstrati**	**0.47**	**254**	P	**Pb**	**00 04 58.5**	**+0.8**
EFSA				S	**Sb**	**00 05 06.5**	**+1.5**
EFSA				AML	AML	00 05 08.2	
	comp=N,10036µm,0.3s						
EFSA				AML	AML	00 05 12.9	
	comp=E,10710µm,0.7s						
GPNR	**Gulpinar-Canak**	**0.48**	**116**	PG	**Pb**	**00 04 57.4**	**-0.5**
SIGR	**SIGRI**	**0.51**	**155**	P	**Pb**	**00 04 57.6**	**-0.8**
SIGR				S	**Sb**	**00 05 05.8**	**-0.2**
SIGR				AML	AML	00 05 06.2	
	comp=E,15783µm,0.5s						
SIGR				AML	AML	00 05 06.2	
	comp=N,20404µm,0.5s						
SIGR	**SIGRI**	**0.51**	**155**	P	**Pb**	**00 04 57.6**	**-0.8**
SIGR				S	**Sb**	**00 05 05.5**	**-0.5**
GADA	**Gvkgeada**	**0.57**	**25**	PG	**Pg**	**00 04 58.3**	**+0.1**
GADA	**Gvkgeada**	**0.57**	**25**	P	**Pg**	**00 04 58.2**	**+0.1**
GADA				S	**Sb**	**00 05 07.3**	**-0.7**
GOKC	**Gokceada-Canak**	**0.59**	**26**	PG	**Pg**	**00 04 58.4**	**0.0**
EZN	**Ezine**	**0.60**	**75**	PG	**Pg**	**00 04 58.4**	**-0.1**
EZN	**Ezine**	**0.60**	**75**	P	**Pg**	**00 04 58.2**	**-0.3**
EZN				S	**Sg**	**00 05 06.7**	**+0.4**
PRK	**Paraskevi**	**0.69**	**128**	P	**Pb**	**00 05 01.5**	**+0.1**
PRK				S	**Sb**	**00 05 11.1**	**0.0**
PRK				AML	AML	00 05 16.1	
	comp=N,7083µm,0.4s						
PRK				AML	AML	00 05 18.6	
	comp=E,9314µm,0.7s						
PRK	**Paraskevi**	**0.69**	**128**	P	**Pb**	**00 05 01.7**	**+0.3**
PRK				S	**Sb**	**00 05 11.7**	**+0.6**
BAYC	**CANAKKALE_Bayr**	**0.75**	**84**	*i* P	**Pg**	**00 05 01.5**	**0.0**
SMTH	**Samothraki Isl**	**0.80**	**357**	P	**Pg**	**00 05 02.8**	**+0.4**
SMTH				AML	AML	00 05 15.9	
	comp=E,2032µm,0.5s						
SMTH				AML	AML	00 05 16.2	
	comp=N,2113µm,0.4s						
SMTH	**Samothraki Isl**	**0.80**	**357**	P	**Pg**	**00 05 02.6**	**+0.2**
SMTH				S	**Sg**	**00 05 13.6**	**+0.8**
AYVA	**Ayvalik**	**0.94**	**112**	IAML_P			
	comp=Z,2µm,0.2s						
AYVA				*i* P	**Pn**	**00 05 05.9**	**-0.8**
AYVA				*i* S	**Sn**	**00 05 20.5**	**0.0**
GELI	**Tayfur-Gelibol**	**1.00**	**43**	PG	**Pg**	**00 05 06.1**	**-0.1**
SKY	**Skiros Island**	**1.12**	**226**	P	**Pn**	**00 05 08.9**	**-0.5**
SKY	**Skiros Island**	**1.12**	**226**	P	**Pn**	**00 05 09.2**	**-0.2**
SKY				S	**Sn**	**00 05 24.8**	**-0.3**
PSRA	**Psara**	**1.13**	**181**	P	**Pn**	**00 05 09.7**	**+0.4**
PSRA				S	**Sn**	**00 05 25.7**	**+0.5**
PSRA				AML	AML	00 05 28.5	
	comp=E,3343µm,0.3s						
PSRA				AML	AML	00 05 29.0	
	comp=N,3284µm,0.2s						
THAS	**Thassos island**	**1.14**	**325**	P	**Pg**	**00 05 08.9**	**-0.1**
THAS				S	**Sb**	**00 05 24.3**	**0.0**
THAS	**Thassos island**	**1.14**	**325**	P	**Pb**	**00 05 09.1**	**-0.1**
THAS				S	**Sb**	**00 05 24.3**	**0.0**
LPK	**Lapseki**	**1.15**	**52**	PN	**Pn**	**00 05 09.6**	**-0.1**
ENEZ	**Enez**	**1.15**	**22**	PN	**Pb**	**00 05 09.3**	**-0.1**
DKL	**Dikili**	**1.19**	**120**	PN	**Pn**	**00 05 10.3**	**0.0**
ERIK	**Erikli-Kesan**	**1.23**	**35**	PN	**Pg**	**00 05 10.7**	**+0.1**
ALN	**Alexandroupoli**	**1.28**	**16**	P	**Pn**	**00 05 10.6**	**-0.9**
ALN	**Alexandroupoli**	**1.28**	**16**	P	**Pn**	**00 05 10.4**	**-1.1**
ALN				S	**Sb**	**00 05 27.3**	**-0.9**
FOCM	**Foa**	**1.31**	**136**	PN	**Pg**	**00 05 13.2**	**+1.0**
KRBN	**Karaburun**	**1.32**	**144**	PN	**Pg**	**00 05 13.2**	**+0.9**
CHOS	**Chios island**	**1.33**	**164**	P	**Pg**	**00 05 12.0**	**-0.6**
CHOS				S	**Sn**	**00 05 30.0**	**-0.5**
CHOS				AML	AML	00 05 35.4	
	comp=E,3616µm,0.5s						
CHOS				AML	AML	00 05 39.7	
	comp=N,2785µm,0.8s						
CHOS	**Chios island**	**1.33**	**164**	P	**Pg**	**00 05 12.0**	**-0.6**
CHOS				S	**Sn**	**00 05 30.5**	**0.0**
AOS	**Alonnisos**	**1.41**	**250**	PN	**Pg**	**00 05 13.6**	**-0.4**
AOS	**Alonnisos**	**1.41**	**250**	P	**Pb**	**00 05 13.1**	**-0.5**
AOS	**Alonnisos**	**1.41**	**250**	P	**Pb**	**00 05 13.2**	**-0.5**
AOS				S	**Sg**	**00 05 33.5**	**+1.3**
ALNA	**Alonissos**	**1.42**	**249**	P	**Pg**	**00 05 14.7**	**+0.4**
KESN	**Edirne-Kesan**	**1.43**	**36**	*i* P	**Pn**	**00 05 13.9**	**-0.1**
RDO	**Rodhopi**	**1.47**	**359**	PN	**Pn**	**00 05 13.9**	**-0.3**
RDO	**Rodhopi**	**1.47**	**359**	P	**Pn**	**00 05 13.5**	**-0.7**
RDO	**Rodhopi**	**1.47**	**359**	P	**Pn**	**00 05 13.8**	**-0.4**
RDO				S	**Sb**	**00 05 34.3**	**+0.4**
PAIG	**Paliouri**	**1.48**	**281**	P	**Pn**	**00 05 14.0**	**-0.3**
PAIG	**Paliouri**	**1.48**	**281**	P	**Pn**	**00 05 14.0**	**-0.3**
PAIG				S	**Sg**	**00 05 35.2**	**+0.5**
KRBG	**Karabiga-Canak**	**1.51**	**61**	PN	**Pb**	**00 05 14.8**	**-0.6**
URLA	**Izmir**	**1.53**	**148**	PN	**Pb**	**00 05 14.8**	**-1.1**
URLA	**Izmir**	**1.53**	**148**	IAML_P			
	comp=Z,3µm,0.2s						
URLA				*i* P	**Pb**	**00 05 15.3**	**-0.5**
KAVA	**Kavala**	**1.55**	**329**	P	**Pn**	**00 05 15.1**	**-0.2**
KAVA				S	**Sn**	**00 05 34.5**	**-1.3**
KVLA	**Kavala**	**1.56**	**325**	P	**Pn**	**00 05 15.1**	**-0.3**
BALY	**Balya**	**1.58**	**87**	IAML_P			
	comp=Z,4µm,0.3s						
BALY				*i* P	**Pb**	**00 05 16.0**	**-0.7**
BALY				*i* S	**Sb**	**00 05 36.4**	**-0.5**
SART	**Tekirdag**	**1.59**	**50**	*i* P	**Pb**	**00 05 16.2**	**-0.7**
SART				*i* S	**Sg**	**00 05 38.1**	**-0.2**
KNL	**Balıkesir**	**1.61**	**68**	IAML_P			
	comp=Z,3µm,0.2s						
KNL				*i* P	**Pb**	**00 05 17.1**	**-0.2**
KNL				*i* S	**Sg**	**00 05 38.8**	**-0.1**
GONE	**Gonen-Balikesi**	**1.67**	**76**	PN	**Pg**	**00 05 18.5**	**-0.5**
STEP	**BALIKESIR_Sava**	**1.68**	**99**	IAML_P			
	comp=Z,3µm,0.3s						
STEP				*i* P	**Pn**	**00 05 17.2**	**+0.2**
STEP				*i* S	**Sg**	**00 05 42.5**	**+1.5**
BLCB	**Balcova**	**1.72**	**138**	PN	**Pb**	**00 05 18.7**	**-0.3**
BALB	**Balikesir**	**1.78**	**90**	PN	**Pn**	**00 05 18.5**	**+0.1**
PLG	**Polygyros**	**1.78**	**294**	P	**Pn**	**00 05 18.3**	**-0.2**
PLG	**Polygyros**	**1.78**	**294**	P	**Pn**	**00 05 18.5**	**+0.1**
EREA	**Eretria**	**1.79**	**226**	P	**Pn**	**00 05 18.1**	**-0.4**
EREA	**Eretria**	**1.79**	**226**	P	**Pn**	**00 05 18.3**	**-0.2**
EREA				S	**Sb**	**00 05 41.8**	**-1.2**
MRMT	**Marmara Adasi**	**1.81**	**58**	PN	**Pb**	**00 05 19.8**	**-0.8**
NEO	**Neokhori**	**1.86**	**259**	P	**Pn**	**00 05 18.8**	**-0.7**
NEO	**Neokhori**	**1.86**	**259**	P	**Pn**	**00 05 19.3**	**-0.2**
XOR	**Xorichti**	**1.87**	**261**	P	**Pn**	**00 05 19.4**	**-0.3**
XOR	**Xorichti**	**1.87**	**261**	P	**Pn**	**00 05 19.2**	**-0.4**
EDC	**Edincik**	**1.88**	**68**	PN	**Pb**	**00 05 21.1**	**-0.7**
SBT4	**Kumbag-Tekirda**	**1.89**	**52**	PN	**Pb**	**00 05 21.6**	**-0.3**
GMLD	**Gumuldur**	**1.90**	**146**	PN	**Pb**	**00 05 21.5**	**-0.7**
AKHS	**Akhisar**	**1.91**	**114**	*i* P	**Pb**	**00 05 21.3**	**-1.0**
AKHS				*i* S	**Sg**	**00 05 49.6**	**+1.3**
DGB	**zmir**	**1.91**	**147**	IAML_P			
	comp=Z,908nm,0.2s						
DGB				*i* P	**Pb**	**00 05 21.1**	**-1.2**
KDZ	**Kurdzhali**	**1.98**	**357**	PN	**Pn**	**00 05 22.2**	**+1.0**
KDZ	**Kurdzhali**	**1.98**	**357**	*i* P	**Pg**	**00 05 24.7**	**-0.3**
TKR	**Tekirdag**	**2.00**	**48**	PN	**Pb**	**00 05 23.2**	**-0.6**
DION	**Dionisos Attik**	**2.04**	**219**	P	**Pn**	**00 05 21.6**	**-0.4**
SOH	**Sokhos**	**2.05**	**305**	P	**Pn**	**00 05 22.4**	**+0.3**
SOH	**Sokhos**	**2.05**	**305**	P	**Pn**	**00 05 22.5**	**+0.3**
GOMA	**Golmarmara-Man**	**2.06**	**117**	PN	**Pb**	**00 05 23.9**	**-0.9**
SRS	**Serrai**	**2.09**	**314**	*e*Pn	**Pn**	**00 05 22.9**	**+0.2**
SRS				*e*Sn	**Sg**	**00 05 54.0**	**-0.3**
SRS	**Serrai**	**2.09**	**314**	P	**Pn**	**00 05 22.1**	**-0.6**
SRS	**Serrai**	**2.09**	**314**	P	**Pn**	**00 05 22.9**	**+0.2**
PTL	**Penteli**	**2.10**	**220**	P	**Pn**	**00 05 22.4**	**-0.4**
HORT	**Hortiatis**	**2.11**	**297**	PN	**Pn**	**00 05 23.7**	**+0.7**
HORT	**Hortiatis**	**2.11**	**297**	P	**Pn**	**00 05 23.2**	**+0.2**
RZN	**Rozhen**	**2.12**	**342**	*i* P	**Pn**	**00 05 23.5**	**+0.3**
NVR	**Nevrokopi**	**2.13**	**323**	P	**Pn**	**00 05 23.4**	**+0.2**
SMG	**Samos**	**2.19**	**153**	P	**Pn**	**00 05 23.8**	**-0.2**
SMG	**Samos**	**2.19**	**153**	P	**Pn**	**00 05 23.9**	**-0.2**
CRLT	**Corlu**	**2.20**	**48**	PN	**Pb**	**00 05 25.9**	**-1.4**
ATAL	**Atalanti**	**2.21**	**245**	P	**Pn**	**00 05 24.3**	**0.0**
KCTX	**Karacabey (Bur**	**2.22**	**74**	PN	**Pb**	**00 05 26.1**	**-1.5**
DURS	**Dursunbey**	**2.24**	**91**	IAML_P			
	comp=Z,504nm,0.3s						
DURS				*i* P	**Pn**	**00 05 25.2**	**+0.4**
VLY	**Voula,Athens**	**2.29**	**218**	P	**Pn**	**00 05 25.1**	**-0.3**
VILL	**Villia**	**2.32**	**230**	P	**Pn**	**00 05 25.6**	**-0.3**
EDRB	**Edirne**	**2.35**	**22**	PN	**Pb**	**00 05 28.4**	**-1.4**
DST	**Dursunbey**	**2.35**	**91**	PN	**Pb**	**00 05 28.1**	**-1.7**
GCAM	**G?zelcaml?**	**2.36**	**146**	PN	**Pn**	**00 05 26.9**	**+0.6**
DIM	**Dimitrovgrad**	**2.38**	**359**	*i* P	**Pn**	**00 05 26.6**	**0.0**
PHSR	**Pinarhisar**	**2.46**	**36**	PN	**Pn**	**00 05 28.9**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**2.50**	**133**	PN	**Pn**	**00 05 28.7**	**+0.3**
DEMI	**Demirci**	**2.51**	**103**	IAML_P			
	comp=Z,539nm,0.2s						
DEMI				*i* P	**Pn**	**00 05 29.1**	**+0.5**
PLD	**Plovdiv**	**2.52**	**345**	*e*Pn	**Pn**	**00 05 29.0**	**+0.4**
PLD				*e*Sn	**Sb**	**00 06 03.0**	**-1.0**
PLD	**Plovdiv**	**2.52**	**345**	PN	**Pn**	**00 05 29.8**	**+1.2**
PLD	**Plovdiv**	**2.52**	**345**	*i* P	**Pg**	**00 05 34.8**	**-0.5**
KNT	**Kendrikon**	**2.53**	**307**	P	**Pn**	**00 05 29.4**	**+0.7**
SLVT	**Silivri**	**2.54**	**51**	PN	**Pn**	**00 05 30.7**	**+1.8**
ORLT	**Orhaneli**	**2.58**	**81**	PN	**Pb**	**00 05 32.1**	**-1.7**
APE	**Apeiranthos**	**2.60**	**181**	⇓*i*P	**Pb**	**00 05 32.1**	**-2.0**
AGG	**Agios Georgios**	**2.60**	**257**	P	**Pn**	**00 05 30.0**	**+0.3**
MANT	**Manisa**	**2.60**	**116**	IAML_P			
	comp=Z,356nm,0.2s						
MANT				*i* P	**Pn**	**00 05 30.9**	**+0.9**
LTK	**Loutraki**	**2.62**	**232**	P	**Pn**	**00 05 30.3**	**+0.4**
ELBA	**Catalca**	**2.63**	**55**	IAML_P			
	comp=Z,362nm,0.1s						
ELBA				*i* P	**Pn**	**00 05 30.5**	**+0.4**
MDNY	**Mudanya-Bursa**	**2.63**	**74**	PN	**Pb**	**00 05 32.6**	**-2.0**
KULA	**Kula-Manisa**	**2.66**	**115**	PN	**Pb**	**00 05 33.1**	**-2.1**
ARMT	**Armutlu**	**2.67**	**69**	PN	**Pb**	**00 05 32.9**	**-2.4**
AYDN	**Tasoluk**	**2.70**	**137**	IAML_P			
	comp=Z,676nm,0.3s						
AYDN				*i* P	**Pn**	**00 05 31.6**	**+0.5**
SBT5	**Esenkoy-Cinarc**	**2.71**	**68**	PN	**Pb**	**00 05 33.2**	**-2.7**
CTKS	**Kestanelik-??a**	**2.73**	**54**	PN	**Pn**	**00 05 33.3**	**+1.9**
CTYL	**Yalikoy Yolu**	**2.74**	**48**	PN	**Pb**	**00 05 33.9**	**-2.6**
GRG	**Griva**	**2.75**	**299**	P	**Pn**	**00 05 32.9**	**+1.2**
VAY	**Valandovo**	**2.82**	**307**	*e*Pn	**Pb**	**00 05 35.4**	**-2.5**
VAY	**Valandovo**	**2.82**	**307**	*i* Pn	**Pn**	**00 05 34.8**	**+2.1**
BGKT	**Bogazkoy**	**2.87**	**57**	PN	**Pn**	**00 05 35.3**	**+2.0**
SHAP	**Saphane-Kutahy**	**2.90**	**102**	PN	**Pn**	**00 05 35.9**	**+2.0**
BDRM	**Kayabasi**	**2.99**	**150**	IAML_P			
	comp=Z,1µm,0.2s						
BDRM				*i* P	**Pn**	**00 05 35.3**	**+0.3**
ISK	**Istanbul-Kandi**	**3.00**	**61**	PN	**Pn**	**00 05 37.2**	**+2.0**
KAVV	**Kandilli-Istan**	**3.00**	**61**	PN	**Pn**	**00 05 37.7**	**+2.5**
ANX	**Ano Chora**	**3.04**	**250**	P	**Pn**	**00 05 36.6**	**+0.8**
YLV	**Yalova**	**3.04**	**72**	PN	**Pb**	**00 05 38.7**	**-3.0**
GUR	**Goura**	**3.06**	**237**	P	**Pn**	**00 05 36.4**	**+0.3**
IZI	**Iznik**	**3.07**	**76**	PN	**Pn**	**00 05 38.6**	**+2.5**
KLYT	**Kilyos**	**3.08**	**58**	PN	**Pn**	**00 05 37.9**	**+1.7**
GDZ	**Gediz**	**3.08**	**100**	*i* P	**Pn**	**00 05 37.2**	**+0.8**
STIP	**Stip**	**3.28**	**309**	⇑*i*Pn	**Pn**	**00 05 38.4**	**-0.5**
KHAL	**Karahalli**	**3.31**	**112**	IAML_P			
	comp=Z,378nm,0.3s						
KHAL				*i* P	**Pn**	**00 05 41.8**	**+2.2**
FNA	**Florina**	**3.40**	**290**	*e*Pn	**Pn**	**00 05 41.5**	**+0.7**
VTS	**Vitosha**	**3.42**	**329**	*e*Pn	**Pn**	**00 05 42.4**	**+1.3**
VTS				*e*Sn	**Sn**	**00 06 25.2**	**+3.1**
VTS	**Vitosha**	**3.42**	**329**	⇑*i*P	**Pn**	**00 05 44.4**	**+3.3**
DRO	**Drossia**	**3.47**	**242**	P	**Pn**	**00 05 43.2**	**+1.5**
KRUS	**Krusevo**	**3.71**	**299**	*e*Pn	**Pn**	**00 05 46.5**	**+1.5**
IGT	**Igoumenitsa**	**4.05**	**270**	*e*Pn	**Pn**	**00 05 51.2**	**+1.5**
ZAPS	**Zavoj**	**4.22**	**329**	*e*Pn	**Pn**	**00 05 52.8**	**+0.8**
BARS	**Barje**	**4.23**	**319**	*e*Pn	**Pn**	**00 05 53.1**	**+1.0**
VLAD	**Vladila**	**4.41**	**349**	⇑*i*P	**Pn**	**00 05 55.1**	**+0.5**
HUMR	**Humele**	**4.87**	**355**	⇓*i*P	**Pn**	**00 06 02.6**	**+1.7**
BOVS	**Bovan**	**4.91**	**325**	*e*Pn	**Pn**	**00 06 02.6**	**+1.2**
SJES	**Sjenica**	**5.53**	**312**	*e*Pn	**Pn**	**00 06 10.9**	**+0.9**
GRUS	**Gruza**	**5.56**	**321**	*e*Pn	**Pn**	**00 06 11.4**	**+1.0**
IVAS	**Ivanjica**	**5.63**	**316**	*e*Pn	**Pn**	**00 06 11.9**	**+0.5**
HERR	**Herculane**	**5.71**	**337**	⇓*i*P	**Pn**	**00 06 13.8**	**+1.4**
ARR	**Arges**	**5.74**	**353**	⇓*i*P	**Pn**	**00 06 13.8**	**+1.0**
VOIR		**5.78**	**356**	⇑*i*P	**Pn**	**00 06 14.0**	**+0.6**
MLR	**Muntele Rosu**	**5.82**	**3**	⇑*i*P	**Pn**	**00 06 15.8**	**+1.7**
TRUS	**Trudelj**	**5.96**	**321**	*e*Pn	**Pn**	**00 06 14.6**	**-1.3**
TRUS	**Trudelj**	**5.96**	**321**	*e*Pn	**Pn**	**00 06 17.2**	**+1.3**
DIVS	**Divibare**	**6.08**	**319**	*e*Pn	**Pn**	**00 06 18.0**	**+0.5**
GZR	**Gura Zlata**	**6.08**	**341**	⇓*i*P	**Pn**	**00 06 20.0**	**+2.4**
PLOR	**Plostina**	**6.23**	**7**	⇓*i*P	**Pn**	**00 06 21.7**	**+2.2**
VRI	**Vrincioaia**	**6.25**	**7**	⇑*i*P	**Pn**	**00 06 18.5**	**-1.3**
DOPR	**Dopca**	**6.29**	**359**	⇓*i*P	**Pn**	**00 06 21.7**	**+1.3**
DEV	**Deva**	**6.51**	**343**	⇑*i*P	**Pn**	**00 06 23.5**	**+0.1**
MDB	**Medias**	**6.53**	**353**	⇓*i*P	**Pn**	**00 06 26.0**	**+2.4**
BZS	**Buzias**	**6.62**	**335**	*e*Pn	**Pn**	**00 06 25.0**	**+0.1**
BZS	**Buzias**	**6.62**	**335**	⇑*i*P	**Pn**	**00 06 25.7**	**+0.8**
DRGR		**7.42**	**345**	⇑*i*P	**Pn**	**00 06 37.1**	**+1.2**
BURAR	**Bucovina Array**	**7.95**	**358**	⇓*i*P	**Pn**	**00 06 45.7**	**+2.5**

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*HEL **10** 00:18:01.8, 67.°85N×20.°15E, h0km, ML1.8, Explosion*
UPP 10 00:18:02.0±0.0**, 67.°85N**×**20.°21E, h0**km**, ML2.0, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**25**	P	Pg	00 18 04.5	+0.3
KUA				S	Sg	00 18 06.1	+0.4
KUA	**Kurravaara**	**0.12**	**25**	*i* P	Pg	00 18 04.5	+0.3
KUA				*i* S	Sg	00 18 06.1	+0.4
RATU	**Laukkuluspa**	**0.23**	**264**	P	Pg	00 18 06.7	+0.2
RATU				S	Sg	00 18 10.0	+0.5
RATU	**Laukkuluspa**	**0.23**	**264**	*i* P	Pg	00 18 06.7	+0.2
RATU				*i* S	Sg	00 18 10.0	+0.5
NIKU	**Nikkaluokta**	**0.44**	**273**	P	Pg	00 18 10.5	0.0
NIKU	**Nikkaluokta**	**0.44**	**273**	*i* P	Pg	00 18 10.5	0.0
LANU	**Lannavaara**	**0.70**	**73**	*e*P	Pg	00 18 15.1	-0.3
LANU				*e*S	Sg	00 18 24.7	+0.2
DUNU	**Dundret**	**0.74**	**169**	P	Pg	00 18 16.1	-0.2
DUNU	**Dundret**	**0.74**	**169**	*i* P	Pg	00 18 16.1	-0.2
MASU	**Masugnsbyn**	**0.79**	**119**	P	Pg	00 18 16.9	-0.3
MASU	**Masugnsbyn**	**0.79**	**119**	*i* P	Pg	00 18 16.9	-0.3
SALU	**Saltoluokta**	**0.80**	**235**	P	Pg	00 18 17.1	-0.3
SALU	**Saltoluokta**	**0.80**	**235**	*i* P	Pg	00 18 17.1	-0.3
KIF	**Kilpisjarvi**	**1.18**	**10**	*e*P	Pg	00 18 24.6	0.0
KIF	**Kilpisjarvi**	**1.18**	**10**	*e*P	Pg	00 18 24.1	-0.5
	baz=194						
KIF				MSG		00 18 38.9	
	comp=Z,12nm,0.2s						
KIF				*e*S	Sg	00 18 39.7	-0.2
PAJU	**Pajala**	**1.40**	**125**	P	Pg	00 18 27.6	-1.1
PAJU	**Pajala**	**1.40**	**125**	*e*P	Pg	00 18 27.6	-1.1
HEF	**Hetta**	**1.41**	**65**	*e*P	Pn	00 18 28.0	-0.9
HEF	**Hetta**	**1.41**	**65**	*e*PG	Pn	00 18 28.0	-0.9
	baz=245						
HEF				MSG		00 18 44.8	
	comp=Z,6.5nm,0.2s						
HEF				*e*SN	Sn	00 18 51.7	+3.5
ERTU	**Ertsjaerv**	**1.51**	**148**	P	Pn	00 18 29.6	-0.7
ERTU	**Ertsjaerv**	**1.51**	**148**	*e*PG	Pn	00 18 29.5	-0.8
ERTU				*e*SN	Sb	00 18 50.6	0.0
HARU	**Harads**	**1.72**	**170**	P	Pn	00 18 33.3	+0.2
HARU	**Harads**	**1.72**	**170**	*e*P	Pn	00 18 33.3	+0.2
KALU	**Kalix**	**2.35**	**147**	*e*PB	Pn	00 18 42.8	+1.0
	baz=327						
KALU				*e*SB	Sb	00 19 13.6	-1.1
TOF	**Tornio**	**2.41**	**136**	*e*PB	Pn	00 18 44.0	+1.5
	baz=318						
TOF				MSG		00 19 13.3	
	comp=Z,4.0nm,0.2s						
TOF				*e*SG	Sb	00 19 16.0	-0.2
SGF	**Sodankyl**	**2.45**	**97**	*e*PB	Pn	00 18 44.4	+1.2
	baz=286						
ARE0	**ARCESS Array S**	**2.57**	**46**	*e*P	Pn	00 18 45.4	+0.6
ARE0				*e*SB	Sb	00 19 18.9	-2.1
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB	Pn	00 18 46.6	+1.7
RNF				*e*SG	Sb	00 19 21.2	-0.1
KEV	**Kevo**	**3.12**	**49**	*e*PB	Pn	00 18 54.9	+2.5
KEV				MSG		00 19 34.0	
	comp=Z,2.0nm,0.2s						
VRF	**Varrio**	**3.57**	**87**	*e*PG	Pb	00 19 06.0	+0.1
OUL	**Oulu**	**3.59**	**138**	*e*PG	Pb	00 19 07.9	+1.6
	baz=327						
OUL				*e*SG	Sb	00 19 51.1	+0.7
MSF	**Maaselka**	**3.99**	**115**	*e*PG	Pb	00 19 14.5	+1.4
KU6	**Riekki**	**4.23**	**111**	*e*PG	Pb	00 19 17.7	+0.6

UPP 10 00:18:38.6±0.1**, 67.°82N**×**20.°21E, h0**km**, ML1.9, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**19**	P	Pg	00 18 41.6	+0.3
KUA				S	Sg	00 18 43.5	+0.4
RATU	**Laukkuluspa**	**0.24**	**271**	P	Pg	00 18 43.3	+0.2
NIKU	**Nikkaluokta**	**0.45**	**276**	P	Pg	00 18 47.4	+0.2
LANU	**Lannavaara**	**0.71**	**70**	P	Pg	00 18 52.0	-0.2

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*IDC **10** 00:24:34.6±1.5, 9.°66S×116.°45E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/45, mbtmp3.8/6, ML3.9/1, MS2.9/3, Ms1 2.9/3, ms1mx2.5/26, Error ellipse: s-maj=91.0km s-min=19.7km az=51.0*
*ISCJB **10** 00:24:45.2±0.6, 9.°36S±0.°07×117.°11E±0.°03, h87km, mb3.8/4, Error ellipse: s-maj=9.9km s-min=3.7km az=2.6*
*DJA **10** 00:24:46.8±0.7, 9°S±5°×11°7E±°, h38km±18km, M4.3/13, mb4.5/2, MLv4.2/13*
ISC 10 00:24:46.4±0.8**, 9.°38S**±0.°08×**117.°10E**±0.°03**, h87**km**, n25, σ1.14**/29**, mb3.9**/4**, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.86**	**51**	P	**Pn**	**00 25 02.6**	**-1.7**
PLAI				S	**Sn**	**00 25 15.0**	**-2.7**
DNP	**Denpasar**	**2.00**	**290**	P	**Pn**	**00 25 17.0**	**-1.4**
DNP				S	**Sn**	**00 25 43.4**	**+0.5**
IGBI	**Denpasar**	**2.01**	**286**	P	**Pn**	**00 25 18.5**	**-0.1**
IGBI				S	**Sn**	**00 25 41.8**	**-1.5**
SRBI	**Singaraja**	**2.27**	**304**	P	**Pn**	**00 25 22.2**	**+0.1**
SRBI				S	**Sn**	**00 25 50.0**	**+0.6**
JAGI	**Jajag, Banyuwa**	**3.05**	**287**	P	**Pn**	**00 25 32.4**	**-0.2**

JAGI				S	Sn	00 26 07.7	-0.5
WSI	Waingapu	3.16	95	P	Pn	00 25 33.6	-0.5
GMJI	Gumukmas	3.78	287	P	Pn	00 25 41.9	-0.5
GMJI				S	Sn	00 26 25.6	-0.2
KMMI	Kalianget	3.87	306	P	Pn	00 25 45.6	+1.9
EDFI	Ende, Flores	4.57	82	P	Pn	00 25 55.0	+1.7
EDFI				S	Sn	00 26 46.5	+1.2
BKSI	Bulukumba	5.02	37	P	Pn	00 26 00.2	+0.9
BKSI				S	Sn	00 26 56.5	+0.4
PWJI	Pagerwojo	5.41	284	P	Pn	00 26 04.7	+0.1
PWJI				S	Sn	00 27 06.2	+0.6
BNSI	Bone	5.78	31	P	Pn	00 26 09.4	-0.2
FITZ	Fitzroy Crossi	11.99	137	Pn	Pn	00 27 28.9	-5.3
	0.6nm,0.3s,baz=327,slow=7.4,SNR=13						
FITZ				Sn	Sn	00 29 31.1	-15
	0.2nm,0.3s,baz=9.4,slow=19,SNR=3.7						
FITZ				LR	LR	00 32 17.7	
	comp=Z,39nm,18.6s,baz=264,slow=38						
WRA	Warramunga Arr	19.68	124	P	P	00 29 09.0	+0.2
	0.8nm,0.5s,baz=300,slow=12,SNR=9.3						
WRA				S	S	00 32 32.9	-13
	0.5nm,0.9s,baz=299,slow=20,SNR=2.9						
ASAR	Alice Springs	21.44	134	P	P	00 29 29.5	+1.8
	0.9nm,0.5s,baz=310,slow=8.6,SNR=14						
ASAR				S	S	00 33 19.9	-1.1
	0.3nm,0.7s,baz=299,slow=21,SNR=3.1						
PSI	Prapat	21.79	303	LR	LR	00 37 39.0	
	comp=Z,32nm,18.8s,baz=220,slow=37						
H08S2	Diego Garcia H	44.13	269	T	T	01 19 44.3	
	baz=95,slow=74,SNR=5.3						
H08S3	Diego Garcia H	44.14	269	T	T	01 19 44.8	
	baz=95,slow=74,SNR=4.9						
H08S1	Diego Carcia H	44.15	269	T	T	01 19 40.9	
	baz=95						
MJAR	Matsushiro Arr	49.80	22	LR	LR	00 55 36.9	
	comp=Z,11nm,19.1s,baz=30,slow=37						
SONM	Songino Array	57.75	351	P	P	00 34 28.6	+0.2
	1.4nm,0.6s,baz=171,slow=7.4,SNR=8.8						
MKAR	Makanchi Array	63.96	334	P	P	00 35 10.2	-0.2
	0.8nm,0.6s,baz=156,slow=6.8,SNR=12						
ZALV	Zalesovo Beam	68.74	340	P	P	00 35 40.0	-0.7
	0.9nm,0.5s,baz=152,slow=5.6,SNR=5.5						
YKA	Yellowknife Ar	115.30	24	PKP	PKPdf	00 43 18.5	+1.0
	0.2nm,0.5s,baz=317,slow=1.9,SNR=4.6						
TORD	Torodi Ar. Bea	116.68	280	PKP	PKPdf	00 43 20.1	-1.5
	0.5nm,0.7s,baz=76,slow=0.6,SNR=5.4						

*IDC **10** 00:29:32.8±3.9, 49°.71N×156°.22E, h102^{km}±33^{km}, mb3.2/6, mb1 3.5/7, mb1mx3.2/45, mbtmp3.5/7, Error ellipse: s-maj=39.7km s-min=21.3km az=139.0*
*MOS **10** 00:29:39.5±1.4, 50°.24N×156°.87E, h112^{km}, mb3.9/1, Error ellipse: s-maj=34.7km s-min=6.0km az=77.5*
*KRSC **10** 00:29:39.5±1.4, 50°.24N×156°.87E, h112^{km}±13^{km}, ML4.2*
ISC 10 00:29:38.3±1.6**, 50°.1N**±0°.1×**156°.9E**±0°.1**, h115**^{km}±12^{km}**, n46, σ1^{s}35**/51**, mb3.4**/6**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.81	321	eP	Pn	00 29 58.7	+0.8
SKR				eS	Sn	00 30 12.2	-0.6
SKR	Severo-Kuril's	0.81	321	PN	Pn	00 29 58.7	+0.8
SKR				S	Sn	00 30 12.2	-0.6
PAU	Pauzhetka	1.41	358	eP	Pn	00 30 04.6	+0.3
PAU				eS	Sn	00 30 23.3	-0.8
PAU	Pauzhetka	1.41	358	PN	Pn	00 30 04.6	+0.3
PAU				S	Sn	00 30 23.3	-0.8
KDTR	Khodutka, Kamc	1.90	22	eP	Pn	00 30 11.3	+1.1
KDTR				eS	Sn	00 30 34.1	-0.5
KDTR	Khodutka, Kamc	1.90	22	PN	Pn	00 30 11.3	+1.1
KDTR				S	Sn	00 30 34.1	-0.5
MTVR	Mutnovka	2.56	18	eP	Pn	00 30 19.8	+1.1
MTVR				eS	Sn	00 30 49.5	-0.3
MTVR	Mutnovka	2.56	18	PN	Pn	00 30 19.8	+1.1
MTVR				S	Sn	00 30 49.5	-0.3
RUS	Russkaya	2.58	22	eP	Pn	00 30 19.4	+0.5
RUS				eS	Sn	00 30 48.4	-1.7
RUS	Russkaya	2.58	22	PN	Pn	00 30 19.4	+0.5
RUS				S	Sn	00 30 48.4	-1.7
APC	Apacha	2.88	3	eP	Pn	00 30 22.0	-0.7
APC	Apacha	2.88	3	PN	Pn	00 30 22.0	-0.7
KRMR	Karymshinskiy	2.88	15	eP	Pn	00 30 23.4	+0.6
KRMR	Karymshinskiy	2.88	15	PN	Pn	00 30 23.4	+0.6
PETK	Petropavlovsk-	3.10	9	P	Pn	00 30 25.6	0.0
	2.3nm,0.3s,baz=178,slow=12,SNR=25						
PETK				S	Sn	00 31 06.9	+4.8
	0.9nm,0.3s,baz=124,slow=18,SNR=2.8						
PET	Petropavlovsk	3.17	19	eS	Sn	00 31 03.2	-0.5
UGLR	Uglovaya	3.38	20	eP	Pn	00 30 30.9	+1.5
UGLR	Uglovaya	3.38	20	PN	Pn	00 30 30.9	+1.5
AVH	Avacha	3.41	19	eP	Pn	00 30 31.4	+1.6
AVH	Avacha	3.41	19	PN	Pn	00 30 31.4	+1.6
KOK	Koryaka	3.41	18	eP	Pn	00 30 31.5	+1.6
KOK	Koryaka	3.41	18	PN	Pn	00 30 31.5	+1.6
SMAR	Somma	3.42	19	eP	Pn	00 30 31.5	+1.4
SMAR	Somma	3.42	19	PN	Pn	00 30 31.5	+1.4
SDLR	Sedlovina	3.45	20	eP	Pn	00 30 31.4	+1.0
SDLR	Sedlovina	3.45	20	PN	Pn	00 30 31.4	+1.0
KRX	Arik	3.48	17	eP	Pn	00 30 32.2	+1.4
KRX	Arik	3.48	17	PN	Pn	00 30 32.2	+1.4
SPN	Mys Shipunski	3.61	31	eP	Pn	00 30 33.9	+1.5
SPN				eS	Sn	00 31 11.7	-2.7
SPN	Mys Shipunski	3.61	31	PN	Pn	00 30 33.9	+1.5
SPN				S	Sn	00 31 11.7	-2.7
GNL	Ganaly	3.70	10	eP	Pn	00 30 33.7	0.0
GNL	Ganaly	3.70	10	PN	Pn	00 30 33.7	0.0
KBTR	Krutoberegovo	7.11	28	eP	Pn	00 31 20.1	+0.5
KBTR	Krutoberegovo	7.11	28	PN	Pn	00 31 20.1	+0.5
H11N2	WAKE ISLAND Hy	31.29	162	T	T	01 09 39.4	
	baz=347,slow=74,SNR=5.3						
H11N1	WAKE ISLAND Hy	31.30	162	T	T	01 09 39.4	
	baz=347						
H11N3	WAKE ISLAND Hy	31.30	162	T	T	01 09 36.6	
	baz=347,slow=74,SNR=13						
ILAR	Eielson Array	32.39	42	P	P	00 35 57.1	+0.5
	0.3nm,0.7s,baz=258,slow=5.9,SNR=6.2						
H11S1	WAKE ISLAND Hy	32.44	162	T	T	01 10 37.5	
	baz=347,slow=76,SNR=8.6						
H11S3	WAKE ISLAND Hy	32.45	163	T	T	01 10 40.0	
	baz=347,slow=76,SNR=12						
H11S2	WAKE ISLAND Hy	32.46	162	T	T	01 10 38.6	
	baz=347,slow=76,SNR=5.5						
INK	Inuvik	37.50	35	P	P	00 36 40.3	0.0
	0.4nm,0.5s,baz=284,slow=7.0,SNR=4.8						
YKA	Yellowknife Ar	46.76	40	P	P	00 37 56.0	+0.6
	0.4nm,0.6s,baz=299,slow=7.7,SNR=7.8						
MKAR	Makanchi Array	47.70	296	P	P	00 37 56.8	-6.2
	0.2nm,0.3s,baz=56,slow=7.1,SNR=5.7						
WRA	Warramunga Arr	72.50	202	P	P	00 40 45.5	-6.9
	0.7nm,1.1s,baz=14,slow=6.1,SNR=2.6						
TXAR	Lajitas Array	73.71	64	P	P	00 40 58.5	-1.2
	0.3nm,0.5s,baz=303,slow=5.0,SNR=5.9						

IDC 10 00:33:49.0±2.8**, 32°.12S**×**177°.81W, h0**^{km}**, mb3.8**/2**, mb1 4.0**/3**, mb1mx3.7**/27**, mbtmp3.8**/3**, ML3.2**/1**, MS3.4**/1**, Ms1 3.4**/1**, ms1mx2.6**/22**, Error ellipse: s-maj=69.4km s-min=35.3km az=119.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	7.40	213	Pn	Pn	00 35 37.6	-0.6
	0.4nm,0.3s,baz=94,slow=15,SNR=2.1						
URZ				Sn	Sn	00 37 02.6	-0.3
	3.1nm,0.3s,baz=298,slow=10,SNR=11						
DZM	Mont Dzumac	17.21	302	LR	LR	00 43 22.8	
	comp=Z,112nm,18.3s,baz=148,slow=33						
ASAR	Alice Springs	43.21	269	P	P	00 41 51.8	-0.2
	0.6nm,0.7s,baz=105,slow=7.0,SNR=7.3						
WRA	Warramunga Arr	44.35	274	P	P	00 42 01.4	+0.2
	1.0nm,0.5s,baz=113,slow=7.9,SNR=20						
FINES	FINESS Array B	146.81	339	PKPbc	PKPbc	00 53 31.4	-0.9
	1.1nm,0.5s,baz=59,slow=3.0,SNR=14						

*NNC **10** 00:35:12.8±0.3, 43°.50N×77°.61E, h1^{km}±2^{km}, mb2.7, mpv2.8, Error ellipse: s-maj=3.7km s-min=1.6km az=157.0*
*SOME **10** 00:35:13.6, 43°.50N×77°.60E, h15^{km}*
*KRNET **10** 00:35:13.4±0.1, 43°.52N×77°.60E, h17^{km}, mb2.6*
ISC 10 00:35:13.2±0.9**, 43°.51N**±0°.02×**77°.60E**±0°.01**, h14**^{km}±8^{km}**, n46, σ0^{s}54**/89**, 19C-9D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURS	Kuram	0.42	92	P	Pg	00 35 21.3	-0.2
	6.3nm,0.2s						
KURS				S	Sg	00 35 27.0	-0.2
	21nm,0.3s						
KURS	Kuram	0.42	92	eP	Pg	00 35 21.3	-0.2
	baz=94						
KURS				eS	Sg	00 35 27.0	-0.2
	baz=94						
KURS	Kuram	0.42	92	eP	Pg	00 35 21.3	-0.2
	6.3nm,0.2s						
KURS				eS	Sg	00 35 27.0	-0.2
	21nm,0.3s						
KOTS	Kotyrbulak	0.45	233	P	Pg	00 35 22.4	+0.3
	2.8nm,0.1s						
KOTS				S	Sg	00 35 28.9	+0.7
	58nm,0.5s						
KOTS	Kotyrbulak	0.45	233	eP	Pg	00 35 22.4	+0.3
	baz=31						
KOTS				eS	Sg	00 35 28.9	+0.7
	baz=31						
KOTS	Kotyrbulak	0.45	233	eP	Pg	00 35 22.4	+0.3
	2.8nm,0.1s						
KOTS				eS	Sg	00 35 28.9	+0.7
	58nm,0.5s						
MDOK	Medeo	0.53	230	⇓P	Pg	00 35 23.4	-0.2
	1.4nm,0.6s						
MDOK				⇓S	Sg	00 35 30.8	+0.1
	9.7nm,0.4s						
MDOK	Medeo	0.53	230	Pg	Pg	00 35 23.9	+0.3
	9.1nm,0.2s						
MDOK				Lg	Lg	00 35 31.0	
	15nm,0.3s						
MDOK	Medeo	0.53	230	eP	Pg	00 35 23.8	+0.1
	baz=29						
MDOK				eS	Sg	00 35 31.1	+0.4
	baz=29						
MDOK	Medeo	0.53	230	eP	Pg	00 35 23.8	+0.1
	6.4nm,0.2s						
MDOK				eS	Sg	00 35 31.0	+0.4
	12nm,0.2s						
CHKK	Chushkaly	0.56	308	eP	Pg	00 35 24.2	0.0
	baz=8.0						
CHKK				eS	Sg	00 35 32.1	+0.4
	baz=8.0						
CHKK	Chushkaly	0.56	308	eP	Pg	00 35 24.2	0.0
	6.4nm,0.1s						
CHKK				eS	Sg	00 35 32.1	+0.4
	26nm,0.2s						
KTBS	Karatobe	0.70	287	P	Pg	00 35 26.8	0.0
	9.6nm,0.1s						
KTBS				S	Sg	00 35 35.9	-0.1
	9.6nm,0.3s						
KTBS	Karatobe	0.70	287	eP	Pg	00 35 26.8	0.0
	9.6nm,0.1s						
KTBS				eS	Sg	00 35 35.9	-0.1
	9.6nm,0.3s						
ARXS	Arharly	0.72	13	P	Pg	00 35 27.2	-0.1
	9.7nm,0.1s						
ARXS				S	Sg	00 35 37.0	+0.1
	11nm,0.1s						
ARXS	Arharly	0.72	13	eP	Pg	00 35 27.2	-0.1
	9.7nm,0.1s						
ARXS				eS	Sg	00 35 37.0	+0.1
	11nm,0.1s						
SATY	Saty	0.74	127	eP	Pg	00 35 27.0	-0.6
	31nm,0.1s						
SATY				eS	Sg	00 35 36.7	-0.7
	39nm,0.1s						
MNBS	Baschi	0.82	45	P	Pg	00 35 28.7	-0.4
	9.3nm,0.2s						
MNBS				S	Sg	00 35 39.4	-0.4
	8.9nm,0.3s						
MNBS	Baschi	0.82	45	eP	Pg	00 35 28.7	-0.4
	baz=55						
MNBS				eS	Sg	00 35 39.4	-0.4
	baz=55						
MNBS	Baschi	0.82	45	eP	Pg	00 35 28.7	-0.4
	9.3nm,0.2s						
MNBS				eS	Sg	00 35 39.4	-0.4
	8.9nm,0.3s						
KUU	Kurty	0.99	293	eP	Pb	00 35 31.8	-0.3
	baz=93						
KUU				eS	Sb	00 35 44.8	-0.3
	baz=93						
KUU	Kurty	0.99	293	eP	Pb	00 35 31.8	-0.3
	2.3nm,0.1s						
KUU				eS	Sb	00 35 44.8	-0.3
	6.3nm,0.1s						
KST	Kastek	1.28	249	eP	Pb	00 35 37.3	+0.2
	baz=49						
KST				eS	Sn	00 35 54.2	+0.4
	baz=49						
KST	Kastek	1.28	249	eP	Pb	00 35 37.3	+0.2
	2.3nm,0.2s						
KST				eS	Sn	00 35 54.2	+0.4
	9.1nm,0.2s						
DGS	Degeres	1.36	259	P	Pb	00 35 38.2	-0.2
	5.6nm,0.2s						
DGS				S	Sb	00 35 56.1	+0.4
	18nm,0.3s						
DGS	Degeres	1.36	259	eP	Pb	00 35 38.3	-0.2
	baz=59						
DGS				eS	Sb	00 35 56.2	+0.4
	baz=59						
DGS	Degeres	1.36	259	eP	Pb	00 35 38.3	-0.2
	5.6nm,0.2s						
DGS				eS	Sb	00 35 56.1	+0.4
	18nm,0.3s						
PDGK	Podgornoye	1.39	97	⇑P	Pn	00 35 38.3	0.0
	2.4nm,0.3s						
PDGK				⇑S	Sb	00 35 56.6	-0.1
	2.1nm,0.3s						
PDGK	Podgornoye	1.39	97	⇑iP	Pn	00 35 38.7	+0.4
	baz=97						
PDGK				⇑iS	Sb	00 35 57.2	+0.5
	baz=97						
KDJ	Kajisay	1.41	193	⇓iP	Pg	00 35 40.1	-0.2
	baz=92						
KDJ				⇓iS	Sg	00 35 58.8	+0.1
	baz=92						
TKM2	Tokmak 2	1.58	249	⇑P	Pb	00 35 42.1	-0.1
	0.5nm,0.3s						
TKM2				⇓S	Sb	00 36 03.0	+0.9
	2.1nm,0.3s						
TKM2	Tokmak 2	1.58	249	⇑iP	Pb	00 35 42.9	+0.7
	baz=49						
TKM2				⇑iS	Sg	00 36 03.4	-0.6
	baz=49						
BOOM	Boomskoye usch	1.58	231	⇑iP	Pb	00 35 43.0	+0.6
	baz=30						
BOOM				⇑iS	Sg	00 36 03.5	-0.7
	baz=30						
ULHL	Ulahol	1.61	219	⇑iP	Pb	00 35 43.1	+0.3
	baz=19						
ULHL				⇑iS	Sg	00 36 04.2	-0.8
	baz=19						
TARG	Taragay, Kyrgy	1.78	175	⇓iP	Pb	00 35 46.0	+0.1
	baz=75						
TARG				⇓iS	Sb	00 36 09.0	+0.7
	baz=75						
DJR	Jarkent	1.79	62	P	Pb	00 35 46.4	+0.6
DJR				S	Sb	00 36 09.2	+1.2
DJR	Jarkent	1.79	62	eP	Pb	00 35 46.0	+0.3
	0.6nm,0.2s						
DJR				eS	Sb	00 36 09.1	+1.0
	5.8nm,0.5s						
KTMS	Ketmen	2.01	91	Pg	Pb	00 35 49.8	+0.2
	3.0nm,0.1s						
KTMS				Lg	Lg	00 36 15.3	
	18nm,0.4s						
KTMS	Ketmen	2.01	91	eP	Pb	00 35 48.9	-0.6
	baz=91						
KTMS				eS	Sb	00 36 14.4	0.0
	baz=91						
KTMS	Ketmen	2.01	91	eP	Pb	00 35 48.9	-0.6
	1.5nm,0.1s						
KTMS				eS	Sb	00 36 14.4	0.0
	18nm,0.4s						
KBK	Karagaybulak	2.12	247	⇑iP	Pb	00 35 50.9	-0.6
	baz=47						
KBK				⇑iS	Sb	00 36 16.6	-1.1
	baz=47						
CHMS	Chumysh	2.14	257	⇑iP	Pb	00 35 50.9	-0.9
	baz=57						
CHMS				⇑iS	Sb	00 36 17.6	-0.6
	baz=57						
KAPS	Kapalarasan	2.18	35	eP	Pb	00 35 52.4	0.0
	1.7nm,0.1s						
KAPS				eS	Sb	00 36 20.5	+1.1
	4.0nm,0.2s						
KZA	Kyzart	2.24	231	⇑iP	Pb	00 35 52.8	-0.9
	baz=31						
KZA				⇑iS	Sb	00 36 20.0	-1.5
	baz=31						
USP	Ospenovka	2.27	265	⇓iP	Pb	00 35 52.7	-1.3
	baz=65						
USP				⇓iS	Sb	00 36 20.9	-1.0
	baz=65						
AAK	Ala-Archa	2.43	250	⇑Pn	Pb	00 35 56.0	-0.9
	2.1nm,0.8s						
AAK				⇑Lg	Lg	00 36 29.0	
	5.5nm,0.9s						

MEX 10 00:40:13.4±0.6**, 16°.37N**×**98°.27W, h12**^{km}±3^{km}**, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.13	80	i P	Pg	00 40 16.0	-0.7
PNIG				i S	Sg	00 40 18.7	-0.4
TLIG	Tlapa	1.22	346	eP	Pn	00 40 33.1	-3.4
TLIG				i S	Sb	00 40 47.7	-4.7
CAIG	El Cayaco	2.03	290	eP	Pn	00 40 44.2	-3.3
CAIG				i S	Sn	00 41 09.4	-3.5

IDC 10 00:43:05.0±11.0**, 2°.08S**×**67°.67E, h0**^{km}**, mb3.6**/4**, mb1 3.7**/4**, mb1mx3.4**/27**, mbtmp3.6**/4**, MS3.2**/2**, Ms1 3.3**/2**, ms1mx2.7**/29**, Error ellipse: s-maj=341.2km s-min=36.1km az=66.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.37	142	T	T	00 49 41.7	
	baz=325,slow=76,SNR=366						
H08N3	Diego Garcia H	5.38	142	T	T	00 49 45.9	
	baz=325,slow=76,SNR=203						
H08N1	Diego Carcia H	5.39	142	T	T	00 49 43.3	
	baz=325,slow=76,SNR=219						
H08S3	Diego Garcia H	7.30	139	T	T	00 52 18.8	
	baz=120,slow=14,SNR=8.5						
H08S1	Diego Carcia H	7.31	139	T	T	00 52 18.7	
	baz=120,slow=14,SNR=3.6						
H08S2	Diego Garcia H	7.32	139	T	T	00 52 18.8	
	baz=120,slow=14,SNR=4.8						
CMAR	Chiang Mai Arr	36.93	55	LR	LR	01 03 36.2	
	comp=Z,25nm,21.7s,baz=270,slow=33						
MKAR	Makanchi Array	50.35	13	P	P	00 52 03.9	+0.1
	0.5nm,0.8s,baz=202,slow=6.3,SNR=5.6						
ZALV	Zalesovo Beam	57.63	12	P	P	00 52 56.6	-0.3
	0.9nm,0.7s,baz=195,slow=8.6,SNR=4.7						
SONM	Songino Array	60.09	29	P	P	00 53 14.3	0.0
	0.5nm,0.8s,baz=214,slow=7.2,SNR=4.4						
WRA	Warramunga Arr	67.39	111	P	P	00 54 02.9	0.0
	0.5nm,0.9s,baz=293,slow=6.2,SNR=3.2						
PMG	Port Moresby	79.30	99	LR	LR	01 29 02.1	
	comp=Z,17nm,18.6s,baz=271,slow=35						

ISC 10 00:57:12.2±2.6**, 51°.6N**±0°.1×**16°.15E**±0°.06**, h0**^{km}**, n12, σ0^{s}91**/19**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.72	173	ePg	Pg	00 57 26.1	+0.1
KSP				eSg	Sg	00 57 35.8	+0.4
UPC	Upice	1.06	185	ePG	Pg	00 57 32.5	+0.1
UPC				eSG	Sg	00 57 46.0	-0.1
	comp=Z,13nm,0.3s						
DPC	Dobruska-Polom	1.22	175	ePG	Pg	00 57 35.1	-0.4
DPC				eSG	Sg	00 57 51.0	-0.2
	comp=Z,2.4nm,0.2s						
PVCC	Panska Ves	1.44	225	ePG	Pg	00 57 39.3	-0.4
PVCC				eSG	Sg	00 57 58.0	-0.2
	comp=Z,15nm,0.2s						
KRLC	Kraliky	1.54	165	ePG	Pn	00 57 41.2	+0.3
KRLC				eSG	Sg	00 58 00.3	-1.3
	comp=Z,1.1nm,0.3s						
BRG	Berggiesshubel	1.55	244	PG	Pn	00 57 41.7	+0.8
BRG				SG	Sg	00 58 01.1	-0.8
	12nm,0.4s						
GOPC	GO Pecny, Ondr	1.86	208	eSG	Sn	00 58 10.0	+0.5
	comp=Z,2.9nm,0.2s						
PRU	Pruhonice	1.87	214	eSG	Sb	00 58 11.0	-0.2
	comp=Z,2.4nm,0.2s						
OKC	Ostrava-Krasne	2.14	143	eSG	Sg	00 58 20.4	-0.6
TREC	Trest	2.31	191	eSG	Sb	00 58 24.3	+0.6
	comp=Z,2.5nm,0.2s						
NKC	Novy Kostel	2.69	242	eSG	Sg	00 58 38.0	-0.6
	comp=Z,4.6nm,0.4s						
KHC	Kasperske Hory	2.94	215	eSN	Sn	00 58 34.0	-2.1
KHC				eSG	Sb	00 58 43.8	+2.0

*ISK **10** 01:08:45.5, 40°.41N×25°.92E, h5^{km}, ML2.5/20*
*SOF **10** 01:08:45.0, 40°.15N×25°.59E, h11^{km}*
*ATH **10** 01:08:46.2, 40°.42N×25°.91E, h24^{km}±2^{km}, ML2.1/8, Error ellipse: s-maj=2.1km s-min=0.9km az=348.0*
*DDA **10** 01:08:46.5, 40°.39N×25°.95E, h7^{km}±2^{km}, ML2.7*
*ISCJB **10** 01:08:46.5±0.4, 40°.41N±0°.02×25°.91E±0°.02, h3^{km}±3^{km}, Error ellipse: s-maj=3.0km s-min=2.6km az=166.5*
*THE **10** 01:08:47.0, 40°.39N×25°.90E, h8^{km}±1^{km}, ML2.1/8, Error ellipse: s-maj=1.2km s-min=0.6km az=344.0*
ISC 10 01:08:46.9±0.8**, 40°.40N**±0°.02×**25°.91E**±0°.02**, h13**^{km}±7^{km}**, n73, σ0^{s}75**/96**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GOKC	Gokceada-Canak	0.20	177	PG	Pg	01 08 51.2	-0.1
GADA	Gvkgeada	0.21	182	PG	Pg	01 08 51.4	0.0
GADA	Gvkgeada	0.21	182	P	Pg	01 08 51.5	0.0
GADA				S	Sg	01 08 54.6	0.0
SMTH	Samothraki Isl	0.30	284	P	Pg	01 08 52.8	-0.2
SMTH				S	Sg	01 08 57.4	+0.4
SMTH				AML	AML	01 08 57.8	
	comp=E,1340µm,0.1s						
SMTH				AML	AML	01 08 57.8	
	comp=N,1102µm,0.1s						
SMTH	Samothraki Isl	0.30	284	P	Pg	01 08 52.8	-0.2
SMTH				S	Sg	01 08 57.5	+0.4
ENEZ	Enez	0.38	29	PG	Pg	01 08 54.3	-0.3
ENEZ				SG	Sg	01 09 00.6	+0.8
GELI	Tayfur-Gelibol	0.43	90	PG	Pg	01 08 55.0	-0.5
ALN	Alexandroupoli	0.51	12	PG	Pg	01 08 54.9	-1.9
ALN	Alexandroupoli	0.51	12	P	Pg	01 08 56.5	-0.4
ALN				S	Sg	01 09 03.2	-0.4
ALN				AML	AML	01 09 04.5	
	comp=E,168µm,0.2s						
ALN				AML	AML	01 09 05.3	
	comp=N,175µm,0.2s						
ALN	Alexandroupoli	0.51	12	P	Pg	01 08 56.4	-0.4
ALN				S	Sb	01 09 04.5	-0.4
ERIK	Erikli-Kesan	0.54	60	PG	Pg	01 08 56.5	-0.9
BOZC	Bozcaada	0.57	169	PG	Pg	01 08 57.6	-0.4
BOZC	Bozcaada	0.57	169	IAML_P			
	comp=Z,2µm,0.1s						
BOZC				i P	Pg	01 08 58.0	0.0
BOZC				i S	Sb	01 09 05.9	-0.8
LPK	Lapseki	0.65	92	PG	Pg	01 08 59.0	-0.6
EZN	Ezine	0.66	151	PG	Pg	01 08 59.5	-0.2
EZN	Ezine	0.66	151	P	Pg	01 08 59.0	-0.7
EZN				S	Sg	01 09 08.0	-0.3
KESN	Edirne-Kesan	0.73	54	i P	Pg	01 09 00.7	-0.4
LIA	Limnos Island	0.75	228	P	Pg	01 09 01.1	-0.3
LIA				S	Sb	01 09 11.8	+0.1
LIA				AML	AML	01 09 13.7	
	comp=E,298µm,0.3s						
LIA				AML	AML	01 09 14.1	
	comp=N,183µm,0.2s						
LIA	Limnos Island	0.75	228	P	Pg	01 09 01.0	-0.3
LIA				S	Sb	01 09 11.9	+0.1
RDO	Rodhopi	0.80	339	PG	Pg	01 09 00.9	-1.4
RDO	Rodhopi	0.80	339	P	Pg	01 09 01.4	-0.9
RDO				S	Sg	01 09 12.5	-0.2
RDO				AML	AML	01 09 16.8	
	comp=E,288µm,0.2s						
RDO				AML	AML	01 09 17.6	
	comp=N,295µm,0.2s						
RDO	Rodhopi	0.80	339	P	Pg	01 09 01.7	-0.6
RDO				S	Sn	01 09 14.8	-0.7
BAYC	CANAKKALE_Bayr	0.82	143	IAML_P			

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,2µm,0.2s						
BAYC				iP	Pg	01 09 02.0	-0.7
THAS	Thassos island	0.93	283	P	Pb	01 09 04.1	-0.6
THAS				S	Sb	01 09 17.6	+0.6
THAS				AML	AML	01 09 18.5	
	comp=N,211µm,0.2s						
THAS				AML	AML	01 09 18.9	
	comp=E,127µm,0.2s						
THAS	Thassos island	0.93	283	P	Pb	01 09 04.2	-0.6
THAS				S	Sb	01 09 17.6	+0.6
SART	Tekirdag	1.01	73	IAML_P			
	comp=Z,1µm,0.1s						
SART				iP	Pb	01 09 05.2	-1.1
SART				iS	Sg	01 09 20.1	+0.5
KRBG	Karabiga-Canak	1.06	90	PG	Pb	01 09 05.9	-1.2
EFSA	Agios Efstrati	1.11	220	P	Pg	01 09 08.7	+0.5
PRK	Paraskevi	1.19	166	P	Pg	01 09 09.7	0.0
PRK				S	Sg	01 09 25.7	+0.5
PRK				AML	AML	01 09 27.1	
	comp=E,447µm,0.5s						
PRK				AML	AML	01 09 27.4	
	comp=N,369µm,0.5s						
PRK	Paraskevi	1.19	166	P	Pg	01 09 09.7	0.0
PRK				S	Sg	01 09 25.8	+0.7
SIGR	SIGRI	1.19	182	PN	Pn	01 09 08.4	-0.8
SIGR	SIGRI	1.19	182	P	Pn	01 09 08.9	-0.3
SIGR				S	Sg	01 09 25.6	+0.4
SIGR				AML	AML	01 09 26.0	
	comp=N,375µm,0.4s						
SIGR				AML	AML	01 09 26.5	
	comp=E,333µm,0.4s						
SIGR	SIGRI	1.19	182	P	Pn	01 09 08.9	-0.3
SIGR				S	Sg	01 09 25.4	+0.2
KAVA	Kavala	1.22	300	P	Pn	01 09 09.5	0.0
KAVA				S	Sn	01 09 26.0	+0.1
KAVA				AML	AML	01 09 27.2	
	comp=N,120µm,0.3s						
KAVA				AML	AML	01 09 28.3	
	comp=E,99µm,0.1s						
KAVA	Kavala	1.22	300	P	Pb	01 09 09.8	+0.1
KAVA				S	Sg	01 09 26.3	+0.2
KNL	Balıkesir	1.25	95	iP	Pg	01 09 10.8	0.0
AYVA	Ayvalik	1.25	151	iP	Pg	01 09 10.9	+0.1
AYVA				iS	Sg	01 09 27.6	+0.6
KDZ	Kurdzhali	1.30	344	PN	Pg	01 09 11.7	-0.2
KDZ	Kurdzhali	1.30	344	iP	Pg	01 09 14.8	+2.9
MRMT	Marmara Adasi	1.30	81	PN	Pn	01 09 10.8	0.0
SBT4	Kumbag-Tekirda	1.31	70	PN	Pb	01 09 11.5	+0.3
TKR	Tekirdag	1.37	64	PN	Pg	01 09 12.8	-0.4
GONE	Gonen-Balikesi	1.41	104	PN	Pb	01 09 13.2	+0.2
BALY	Balya	1.47	116	IAML_P			
	comp=Z,483nm,0.2s						
BALY				iP	Pb	01 09 14.2	+0.1
EDC	Edincik	1.50	91	PN	Pn	01 09 13.6	+0.2
DKL	Dikili	1.54	150	PN	Pb	01 09 15.1	0.0
CRLT	Corlu	1.57	62	PN	Pb	01 09 15.3	-0.4
RZN	Rozhen	1.57	325	iP	Pn	01 09 14.7	+0.1
EDRB	Edirne	1.58	23	PN	Pn	01 09 14.8	+0.3
DIM	Dimitrovgrad	1.67	350	iP	Pb	01 09 17.6	+0.1
BALB	Balikesir	1.69	116	PN	Pn	01 09 16.8	+0.7
STEP	BALIKESIR_Sava	1.73	126	iP	Pb	01 09 17.4	-1.0
STEP				iS	Sg	01 09 42.5	+0.1
PHSR	Pinarhisar	1.73	44	PN	Pb	01 09 17.8	-0.7
NVR	Nevrokopi	1.82	302	P	Pn	01 09 17.9	0.0
KCTX	Karacabey (Bur	1.88	93	PN	Pn	01 09 19.6	+0.9
PLG	Polygyros	1.88	270	P	Pn	01 09 18.1	-0.6
SRS	Serrai	1.90	293	P	Pn	01 09 19.2	+0.3
SRS	Serrai	1.90	293	P	Pn	01 09 19.6	+0.6
PLD	Plovdiv	1.93	332	PN	Pb	01 09 21.3	-0.6
PLD	Plovdiv	1.93	332	eP	Pb	01 09 22.9	+1.0
CHOS	Chios island	2.02	177	P	Pn	01 09 20.8	+0.2
ELBA	Catalca	2.06	68	iP	Pn	01 09 20.0	-1.1
CTYL	Yalikoy Yolu	2.10	58	PN	Pn	01 09 23.0	+1.3
JMB	Yambol	2.13	14	eP	Pb	01 09 25.8	+0.6
DURS	Dursunbey	2.13	111	iP	Pn	01 09 22.6	+0.4
CTKS	Kestanelik-??a	2.14	66	PN	Pn	01 09 23.3	+1.0
ARMT	Armutlu	2.26	85	PN	Pn	01 09 25.3	+1.4
SBT5	Esenkoy-Cinarc	2.28	83	PN	Pn	01 09 25.4	+1.3
BGKT	Bogazkoy	2.31	69	PN	Pn	01 09 26.0	+1.4
ISK	Istanbul-Kandi	2.49	73	PN	Pn	01 09 28.6	+1.6
KAVV	Kandilli-Istan	2.49	74	PN	Pn	01 09 28.5	+1.5
DEMI	Demirci	2.56	121	iP	Pn	01 09 28.9	+0.8
STIP	Stip	3.10	296	ePn	Pn	01 09 33.9	-1.5

*IDC **10** 01:19:58.8±4.3, 13°.39S×166°.84E, h230km±40km, mb3.2/7, mb1 3.4/8, mb1mx3.3/28, mbtmp3.7/8, Error ellipse: s-maj=26.6km s-min=26.4km az=109.0*
*ISCJB **10** 01:19:59.5±1.0, 13°.36S±0°.08×166°.7E±0°.2, h250km, mb3.4/7, Error ellipse: s-maj=27.6km s-min=11.6km az=175.9*
ISC 10 01:20:00.6±0.9**, 13°.44S**±0°.09×**166°.9E**±0°.2**, h250**km**, n12,** $\sigma 0^{s}$**90**/13**, mb3.2**/7**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.59	183	P	Pn	01 22 00.7	-0.8
	0.4nm,0.3s,baz=96,slow=18,SNR=4.5						
DZM				S	S	01 23 39.9	+0.8
	0.1nm,0.3s,baz=317,slow=19,SNR=2.7						
STKA	Stephens Creek	29.54	227	P	P	01 25 41.7	-0.5
	1.7nm,0.4s,baz=51,slow=9.2,SNR=3.6						
WRA	Warramunga Arr	31.77	254	P	P	01 26 01.2	-0.8
	0.5nm,1.0s,baz=86,slow=10,SNR=2.7						
ASAR	Alice Springs	32.77	247	P	P	01 26 11.0	+0.3
	0.3nm,0.4s,baz=75,slow=9.2,SNR=5.0						
VNDA	Vanda	64.13	181	P	P	01 30 08.4	+0.5
	0.4nm,0.8s,baz=355,slow=10,SNR=2.5						
SONM	Songino Array	81.23	324	P	P	01 31 49.0	+0.1
	0.2nm,0.4s,baz=108,slow=4.7,SNR=2.6						
ILAR	Eielson Array	85.44	18	P	P	01 32 08.8	-0.9
	0.7nm,0.6s,baz=243,slow=4.8,SNR=26						
MKAR	Makanchi Array	96.00	317	P	P	01 33 00.9	+1.4
	0.5nm,0.7s,baz=94,slow=6.8,SNR=6.8						
ARCES	ARCESS Array B	118.91	345	PKP	PKiKP	01 38 17.7	-1.2
	4.3nm,1.0s,baz=73,slow=1.9,SNR=7.4						
FINES	FINESS Array B	124.39	338	PKP	PKiKP	01 38 29.4	-0.3
	1.1nm,0.8s,baz=309,slow=9.3,SNR=3.3						
KEST	Kesra	149.96	322	PKPbc	PKiKP	01 39 23.1	+0.3
	1.8nm,0.6s,baz=135,slow=1.4,SNR=3.8						
ESDC	Sonseca Array	152.65	344	PKPbc	PKiKP	01 39 29.1	+1.0
	0.1nm,0.3s,baz=3.8,slow=3.7,SNR=3.4						

*ISK **10** 01:24:29.2, 39°.66N×25°.58E, h5km, ML2.3/18*
*ATH **10** 01:24:30.8, 39°.67N×25°.58E, h26km±1km, ML2.1/4, Error ellipse: s-maj=2.6km s-min=0.9km az=238.0*
*ISCJB **10** 01:24:31.1±0.5, 39°.69N±0°.02×25°.61E±0°.03, h6km±4km, Error ellipse: s-maj=4.8km s-min=3.1km az=153.7*
*DDA **10** 01:24:31.2, 39°.75N×25°.65E, h10km±6km, ML2.6*
*THE **10** 01:24:31.8, 39°.70N×25°.63E, h4km±41km, ML1.9/3, Error ellipse: s-maj=41.2km s-min=0.9km az=282.0*
ISC 10 01:24:31.4±1.0**, 39°.69N**±0°.02×**25°.61E**±0°.02**, h11**km±9km**, n47,** $\sigma 0^{s}$**85**/63**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.37	66	PG	Pg	01 24 38.6	-0.2
BOZC	Bozcaada	0.37	66	iP	Pg	01 24 39.0	+0.1
LIA	Limnos Island	0.39	302	P	Pg	01 24 39.5	+0.4
LIA				S	Sg	01 24 45.1	+0.8
LIA				AML	AML	01 24 49.6	
	comp=E,317µm,0.4s						
LIA				AML	AML	01 24 52.0	
	comp=N,364µm,0.4s						
LIA	Limnos Island	0.39	302	P	Pg	01 24 39.5	+0.4
LIA				S	Sg	01 24 45.2	+0.8
GPNR	Gulpinar-Canak	0.47	120	PG	Pg	01 24 39.4	-1.1
SIGR	SIGRI	0.52	158	PG	Pg	01 24 39.9	-1.5
SIGR				SG	Sg	01 24 47.7	-0.5
SIGR	SIGRI	0.52	158	P	Pg	01 24 41.2	-0.2
SIGR				S	Sg	01 24 48.7	+0.5
SIGR				AML	AML	01 24 49.3	
	comp=N,596µm,0.5s						
SIGR				AML	AML	01 24 49.3	
	comp=E,544µm,0.4s						
SIGR	SIGRI	0.52	158	P	Pg	01 24 41.3	-0.2
SIGR				S	Sg	01 24 48.8	+0.5
GADA	Gvkgeada	0.55	24	PG	Pg	01 24 41.9	-0.2
GADA	Gvkgeada	0.55	24	P	Pg	01 24 41.9	-0.2
GADA				S	Sb	01 24 49.8	-1.0
GOKC	Gokceada-Canak	0.56	25	PG	Pb	01 24 42.7	-0.5
EZN	Ezine	0.57	76	PG	Pg	01 24 42.1	-0.3
EZN	Ezine	0.57	76	P	Pg	01 24 42.1	-0.3
EZN				S	Sg	01 24 49.9	0.0
PRK	Paraskevi	0.68	131	P	Pb	01 24 45.1	0.0
PRK				S	Sb	01 24 54.1	-0.4
PRK				AML	AML	01 24 56.9	
	comp=N,297µm,0.4s						
PRK				AML	AML	01 24 57.6	
	comp=E,469µm,0.5s						
PRK	Paraskevi	0.68	131	P	Pb	01 24 45.4	+0.2
PRK				S	Sb	01 24 55.4	+0.9
BAYC	CANAKKALE_Bayr	0.72	86	iP	Pb	01 24 45.9	-0.1
SMTH	Samothraki Isl	0.78	355	P	Pb	01 24 46.5	-0.4
SMTH				S	Sb	01 24 57.6	0.0
AYVA	Ayvalik	0.92	114	iP	Pn	01 24 50.6	+0.4
AYVA				iS	Sn	01 25 03.6	+0.3
GELI	Tayfur-Gelibol	0.97	43	PG	Pg	01 24 49.4	-0.6
LPK	Lapseki	1.11	52	PN	Pg	01 24 52.0	-0.8
ENEZ	Enez	1.12	21	PN	Pb	01 24 52.3	-0.5
THAS	Thassos island	1.14	323	P	Pb	01 24 52.9	-0.2
THAS				S	Sn	01 25 09.0	+0.2
DKL	Dikili	1.18	121	PN	Pb	01 24 53.2	-0.5
ERIK	Erikli-Kesan	1.20	35	PN	Pb	01 24 53.5	-0.6
ALN	Alexandroupoli	1.25	15	PN	Pn	01 24 53.8	-0.9
ALN	Alexandroupoli	1.25	15	P	Pn	01 24 54.4	-0.3
ALN				S	Sn	01 25 11.7	+0.2
CHOS	Chios island	1.35	165	PN	Pn	01 24 55.4	-0.8
CHOS	Chios island	1.35	165	P	Pn	01 24 55.4	-0.8
CHOS				S	Sb	01 25 14.2	+0.3
CHOS				AML	AML	01 25 20.0	
	comp=N,118µm,0.6s						
CHOS				AML	AML	01 25 21.0	
	comp=E,196µm,0.6s						
AOS	Alonnisos	1.44	249	PN	Pn	01 24 57.8	+0.5
RDO	Rodhopi	1.46	358	PN	Pn	01 24 56.5	-1.1
KRBG	Karabiga-Canak	1.47	61	PN	Pn	01 24 57.9	+0.1
URLA	Izmir	1.53	150	PN	Pn	01 24 58.4	-0.3
BALY	Balya	1.55	88	IAML_P			
	comp=Z,370nm,0.2s						
BALY				iP	Pb	01 24 59.7	-0.4
GONE	Gonen-Balikesi	1.64	77	PN	Pb	01 25 00.7	-0.8
STEP	BALIKESIR_Sava	1.66	100	iP	Pb	01 25 01.3	-0.6
STEP				iS	Sg	01 25 26.5	+1.7
BALB	Balikesir	1.75	91	PN	Pn	01 25 02.3	+0.7
MRMT	Marmara Adasi	1.77	58	PN	Pb	01 25 02.9	-1.0
EDC	Edincik	1.85	69	PN	Pb	01 25 04.3	-0.9
SBT4	Kumbag-Tekirda	1.86	52	PN	Pb	01 25 03.9	-1.3
KCTX	Karacabey (Bur	2.19	74	PN	Pn	01 25 08.9	+1.3
DURS	Dursunbey	2.21	91	IAML_P			
	comp=Z,121nm,0.2s						
DURS				iP	Pn	01 25 08.5	+0.5
DURS				iS	Sn	01 25 36.0	+0.6
EDRB	Edirne	2.32	21	PN	Pb	01 25 11.2	-2.0
AYDB	Zeytinkoy-Aydi	2.49	134	PN	Pn	01 25 11.5	-0.4
ARMT	Armutlu	2.64	70	PN	Pn	01 25 15.9	+2.0
KULA	Kula-Manisa	2.65	115	PN	Pn	01 25 15.1	+1.1
SBT5	Esenkoy-Cinarc	2.67	68	PN	Pn	01 25 16.2	+1.9
CTKS	Kestanelik-??a	2.69	54	PN	Pn	01 25 16.6	+2.0

IDC 10 01:27:57.3±11.0**, 2°.48S**×**67°.23E, h0**km**, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.4**/28**, mbtmp3.7**/4**, Error ellipse: s-maj=343.5km s-min=41.6km az=66.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.36	136	T	T	01 34 43.1	
	baz=325,slow=75,SNR=70						
H08N3	Diego Garcia H	5.37	136	T	T	01 34 43.1	
	baz=325,slow=75,SNR=57						
H08N1	Diego Carcia H	5.38	136	T	T	01 34 44.8	
	baz=325,slow=75,SNR=60						
H08S3	Diego Garcia H	7.32	135	T	T	01 37 23.6	
	baz=289						
H08S1	Diego Carcia H	7.32	135	T	T	01 37 23.6	
	baz=289						
H08S2	Diego Garcia H	7.34	135	T	T	01 37 23.2	
	baz=289						
MKAR	Makanchi Array	50.83	13	P	P	01 36 60.0	+0.3
	0.8nm,0.8s,baz=190,slow=6.0,SNR=8.0						
ZALV	Zalesovo Beam	58.11	12	P	P	01 37 52.0	-0.4
	0.9nm,0.8s,baz=207,slow=6.3,SNR=4.4						
SONM	Songino Array	60.65	29	P	P	01 38 10.2	-0.2
	0.2nm,0.5s,baz=222,slow=5.6,SNR=5.1						
WRA	Warramunga Arr	67.66	110	P	P	01 38 56.9	+0.1
	0.8nm,1.0s,baz=277,slow=7.3,SNR=3.2						

*ISCJB **10** 01:44:00.7±1.1, 37°.17N±0°.03×141°.10E±0°.07, h6km±4km, mb3.7/4, Error ellipse: s-maj=8.9km s-min=5.6km az=13.7*
*IDC **10** 01:44:00.2±1.6, 37°.18N×141°.25E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.4/36, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=35.1km s-min=25.8km az=78.0*
*JMA **10** 01:44:03.1, 37°.18N×140°.95E, h10km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs33.00000°, δ49.00000°, λ-77.00000°. NP2:φs194.00000°, δ43.00000°, λ-104.00000°. Principal axes: T Plg3.0000°, Azm114.0000°; N Plg9.0000°, Azm205.0000°; P Plg80.0000°, Azm6.0000°;*
JMA Felt II J1.
ISC 10 01:44:02.2±1.5**, 37°.17N**±0°.04×**141°.01E**±0°.07**, h11**km±8km**, n20,** $\sigma 0^{s}$**66**/24**, mb3.8**/4**, 8C, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.19	248	⇑P	Pg	01 44 06.3	+0.1
ONAJ				S	Sg	01 44 08.7	-0.3
JFK	Kawauchi	0.22	330	⇑P	Pb	01 44 07.3	-1.0
JFK				S	Sg	01 44 10.4	+0.4
JFFD	Fukushimafurud	0.37	257	⇑P	Pg	01 44 09.6	+0.1
JFFD				S	Sg	01 44 14.4	-0.1
JFT	Otama	0.64	303	⇑P	Pb	01 44 14.9	-0.5
JFT				S	Sg	01 44 23.2	+0.2
JHO	Hitachi	0.67	213	⇑P	Pg	01 44 15.1	+0.1
JHO				S	Sg	01 44 23.8	+0.1
JMM	Marumori	0.71	346	⇑P	Pb	01 44 16.1	-0.6
JMM				S	Sb	01 44 25.7	-0.8
JSB	Shiboa	0.90	257	⇑P	Pb	01 44 19.9	+0.1
JSB				eS	Sg	01 44 31.3	+0.1
JFY	Yanaizu	1.07	283	⇑P	Pb	01 44 22.5	-0.2
JFY				eS	Sg	01 44 36.3	-0.4
MJAR	Matsushiro Arr	2.34	255	Pn	Pb	01 44 42.6	-1.7
	9.6nm,0.3s,baz=95,slow=16,SNR=45						
MJAR				Sn	Sb	01 45 13.5	+0.3
	12nm,0.3s,baz=70,slow=23,SNR=15						
MAT	Matsushiro	2.34	255	P	Pb	01 44 43.4	-1.0
MAT				S	Sb	01 45 13.4	+0.1
H11N2	WAKE ISLAND Hy	28.49	120	T	T	02 19 41.7	
	baz=314,slow=75,SNR=147						
H11N1	WAKE ISLAND Hy	28.50	120	T	T	02 19 45.2	
	baz=314,slow=75,SNR=233						
H11N3	WAKE ISLAND Hy	28.51	120	T	T	02 19 45.9	
	baz=314,slow=75,SNR=168						
H11S1	WAKE ISLAND Hy	29.20	123	T	T	02 20 37.4	
	baz=315,slow=76,SNR=45						
H11S3	WAKE ISLAND Hy	29.20	123	T	T	02 20 37.9	
	baz=315,slow=76,SNR=31						
H11S2	WAKE ISLAND Hy	29.22	123	T	T	02 20 36.4	
	baz=315,slow=76,SNR=26						
MKAR	Makanchi Array	43.77	302	P	P	01 52 08.9	+1.1
	0.3nm,0.6s,baz=91,slow=8.5,SNR=5.2						
KURBB	Kurchatov Arra	45.66	308	P	P	01 52 23.3	+0.6
	0.5nm,0.2s,baz=87,slow=7.8,SNR=5.0						
WRA	Warramunga Arr	57.16	187	P	P	01 53 48.6	-0.4
	0.3nm,0.4s,baz=4.5,slow=7.3,SNR=11						
FINES	FINESS Array B	68.54	332	P	P	01 55 04.8	+0.4
	1.2nm,0.8s,baz=61,slow=9.7,SNR=2.8						

*KRNET **10** 01:53:12.3±0.1, 39°.05N×71°.98E, mb3.0*
*NNC **10** 01:53:16.3±2.4, 39°.60N×71°.85E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=20.3km s-min=8.5km az=13.0*
ISC 10 01:53:15.5±2.6**, 39°.0N**±0°.2×**72°.07E**±0°.07**, h33**km**, n17,** $\sigma 2^{s}$**43**/25**, 13C-9D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.48	48	⇑P	Pb	01 53 41.3	-1.3
	9.0nm,0.5s						
SFK				⇑S	Sb	01 54 00.5	-0.6
	25nm,0.4s						
SFK	Sufi-Kurgan	1.48	48	Pg	Pn	01 53 40.2	+0.2
	1.6nm,0.1s						
SFK				Lg	Lg	01 54 02.1	
	51nm,0.2s						
SFK	Sufi-Kurgan	1.48	48	⇓iP	Pn	01 53 40.1	+0.1
	baz=50						
SFK				⇓iS	Sb	01 54 00.7	-0.3
	baz=50						
ARSB	Arslanbob	2.39	17	⇓eP	Pn	01 53 53.2	+0.7
	baz=18						
ARSB				⇓iS	Sn	01 54 23.5	+2.8
	baz=18						
ARK	Arkit	2.76	358	⇑iP	Pn	01 53 58.6	+1.0
	baz=60						
ARK				⇑iS	Sn	01 54 31.3	+1.5
	baz=60						
AML	Almayashu	3.33	21	⇑eP	Pn	01 54 07.4	+1.8
	baz=22						
AML				⇑iS	Sn	01 54 46.9	+2.6
	baz=22						
IUG	Iuzhnay	3.48	334	Pg	Pn	01 54 10.1	+2.7
	15nm,0.3s						
IUG				Lg	Lg	01 54 53.4	
	43nm,0.6s						
UCH	Uchtor	3.69	29	⇓eP	Pn	01 54 13.0	+2.4
	baz=30						
UCH				⇓iS	Sn	01 54 56.2	+3.0
	baz=30						
MRKS	Merke	3.81	13	Pg	Pn	01 54 13.9	+1.9
	4.7nm,0.3s						
MRKS				Lg	Lg	01 55 00.6	
	7.7nm,0.4s						
EKS2	Erkin-Say	3.85	19	⇑eP	Pn	01 54 13.9	+1.4
	baz=20						
EKS2				⇑iS	Sn	01 54 58.8	+2.2
	baz=20						
AAK	Ala-Archa	4.04	26	⇑Pg	Pb	01 54 21.4	-4.7
	2.4nm,0.4s						
AAK				⇑Lg	Lg	01 55 09.6	
	4.3nm,0.5s						
KK31	Karatay Array	4.23	344	⇑Pg	Pn	01 54 21.1	+3.4
	7.1nm,0.6s,baz=161,slow=13,SNR=17						
KK31				⇓Lg	Lg	01 55 13.2	
	5.7nm,0.6s,baz=157,slow=30						
TKM2	Tokmak 2	4.71	33	⇓Pg	Pb	01 54 34.5	-2.9
	1.6nm,0.6s						
TKM2				⇓Lg	Lg	01 55 37.5	
	3.6nm,0.8s						
DGS	Degeres	5.05	32	Pg	Pb	01 54 41.1	-2.0
	2.5nm,0.8s						
DGS				Lg	Lg	01 55 46.1	
	4.2nm,0.5s						
KOTS	Kotyrbulak	5.66	41	Pg	Pb	01 54 55.0	+1.4
	2.3nm,0.6s						
KOTS				Lg	Lg	01 56 10.7	
	7.0nm,0.4s						
KTBS	Karatobe	5.82	35	Pg	Pb	01 54 54.4	-1.8
	0.5nm,0.1s						
KTBS				Lg	Lg	01 56 08.8	
	1.4nm,0.5s						
AB31	Akbulak array	13.41	324	⇑Pn	Pn	01 56 23.3	0.0
	0.3nm,0.5s,baz=132,slow=14,SNR=10						
AB31				⇑Sn	Sn	01 58 46.4	-4.7
	0.1nm,0.3s						

*DDA **10** 02:06:56.6, 39°.98N×25°.67E, h7km±3km, ML2.5*
*ISCJB **10** 02:06:58.0±0.4, 39°.70N±0°.02×25°.64E±0°.03, h8km±4km, Error ellipse: s-maj=4.0km s-min=3.4km az=144.2*
*ATH **10** 02:06:57.6, 39°.70N×25°.62E, h26km±1km, ML2.0/3, Error ellipse: s-maj=2.0km s-min=1.0km az=242.0*
*ISK **10** 02:06:57.1, 39°.67N×25°.61E, h9km, ML2.2/13*
*THE **10** 02:06:58.2, 39°.71N×25°.62E, h4km±3km, ML2.0/4, Error ellipse: s-maj=3.2km s-min=0.7km az=30.0*
ISC 10 02:06:57.9±1.0**, 39°.70N**±0°.02×**25°.62E**±0°.02**, h12**km±11km**, n43,** $\sigma 0^{s}$**56**/58**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.36	67	PG	Pg	02 07 04.8	-0.3
BOZC	Bozcaada	0.36	67	IAML_P			
	comp=Z,2µm,0.1s						
BOZC				iP	Pb	02 07 05.5	-0.8
LIA	Limnos Island	0.39	300	P	Pg	02 07 05.7	0.0
LIA				S	Sb	02 07 12.4	-0.4
LIA				AML	AML	02 07 16.8	
	comp=N,409µm,0.4s						
LIA				AML	AML	02 07 19.8	
	comp=E,433µm,0.4s						
LIA	Limnos Island	0.39	300	P	Pg	02 07 05.8	0.0
LIA				S	Sb	02 07 11.8	-1.0
EFSA	Agios Efstrati	0.52	252	P	Pb	02 07 09.0	0.0
EFSA				S	Sb	02 07 16.5	+0.1
SIGR	SIGRI	0.52	160	PG	Pg	02 07 07.6	-0.4
SIGR				SG	Sg	02 07 14.7	-0.3
SIGR	SIGRI	0.52	160	P	Pg	02 07 07.7	-0.4
SIGR				S	Sg	02 07 14.6	-0.3
SIGR				AML	AML	02 07 16.3	
	comp=E,477µm,0.5s						
SIGR				AML	AML	02 07 16.3	
	comp=N,837µm,0.6s						
SIGR	SIGRI	0.52	160	P	Pg	02 07 07.7	-0.4
SIGR				S	Sg	02 07 15.6	+0.6
GADA	Gvkgeada	0.53	23	PG	Pb	02 07 08.8	-0.4
GADA	Gvkgeada	0.53	23	P	Pg	02 07 08.4	+0.1
GADA				S	Sb	02 07 15.9	-1.0
GOKC	Gokceada-Canak	0.55	24	PG	Pb	02 07 09.0	-0.5
EZN	Ezine	0.56	77	PG	Pg	02 07 08.3	-0.4
EZN	Ezine	0.56	77	P	Pg	02 07 08.3	-0.4
EZN				S	Sg	02 07 16.6	+0.5
PRK	Paraskevi	0.68	132	P	Pb	02 07 11.8	+0.2
PRK				S	Sb	02 07 21.4	+0.5
PRK				AML	AML	02 07 25.0	
	comp=N,363µm,0.4s						
PRK				AML	AML	02 07 28.6	
	comp=E,330µm,0.5s						
PRK	Paraskevi	0.68	132	P	Pb	02 07 11.8	+0.2
PRK				S	Sb	02 07 22.1	+1.1
BAYC	CANAKKALE_Bayr	0.71	86	iP	Pg	02 07 11.1	-0.6
SMTH	Samothraki Isl	0.77	355	P	Pg	02 07 12.7	-0.2
SMTH	Samothraki Isl	0.77	355	P	Pb	02 07 12.9	-0.4
SMTH				S	Sb	02 07 24.4	+0.6
AYVA	Ayvalik	0.91	115	iP	Pn	02 07 16.4	-0.1
GELI	Tayfur-Gelibol	0.95	43	PG	Pb	02 07 16.1	-0.3
LPK	Lapseki	1.10	52	PN	Pn	02 07 19.0	-0.2
ENEZ	Enez	1.11	21	PN	Pn	02 07 19.2	-0.1
THAS	Thassos island	1.14	323	P	Pb	02 07 19.4	-0.2
THAS	Thassos island	1.14	323	P	Pb	02 07 19.3	-0.2
THAS				S	Sb	02 07 34.5	+0.2
DKL	Dikili	1.18	122	PN	Pb	02 07 20.2	+0.1
ERIK	Erikli-Kesan	1.18	35	PN	Pn	02 07 20.9	+0.6
ALN	Alexandroupoli	1.24	15	PN	Pg	02 07 21.4	-0.3
ALN	Alexandroupoli	1.24	15	P	Pb	02 07 21.1	-0.2
CHOS	Chios island	1.35	166	PN	Pn	02 07 21.4	-1.3
CHOS	Chios island	1.35	166	P	Pn	02 07 22.1	-0.6
CHOS				S	Sg	02 07 42.4	+0.9
CHOS	Chios island	1.35	166	P	Pn	02 07 22.3	-0.4
CHOS				S	Sg	02 07 42.6	+1.1
RDO	Rodhopi	1.45	357	PN	Pn	02 07 24.0	+0.1
AOS	Alonnisos	1.45	249	P	Pn	02 07 24.4	+0.4
KRBG	Karabiga-Canak	1.46	61	PN	Pb	02 07 24.7	-0.3
URLA	Izmir	1.54	150	PN	Pn	02 07 24.5	-0.7
BALY	Balya	1.54	88	IAML_P			
	comp=Z,135nm,0.1s						
BALY				iP	Pn	02 07 25.9	+0.6
BALY				iS	Sb	02 07 46.1	+0.2
STEP	BALIKESIR_Sava	1.65	101	IAML_P			
	comp=Z,211nm,0.1s						
STEP				iP	Pb	02 07 28.5	+0.2
BALB	Balikesir	1.74	91	PN	Pn	02 07 28.5	+0.5
MRMT	Marmara Adasi	1.76	59	PN	Pn	02 07 29.2	+0.9
EDC	Edincik	1.84	69	PN	Pb	02 07 30.8	-0.7
SBT4	Kumbag-Tekirda	1.85	52	PN	Pb	02 07 31.2	-0.3
KCTX	Karacabey (Bur	2.17	74	PN	Pn	02 07 34.1	+0.1
EDRB	Edirne	2.31	21	PN	Pn	02 07 36.9	+1.1

MEX 10 02:08:18.2±0.7**, 16°.38N**×**98°.43W, h1**km±8km**, MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.29	87	eP	Pg	02 08 23.2	-0.6
PNIG				iS	Sg	02 08 27.9	+0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TLIG	Tlapa	1.19	354	*e*P	Pg	02 08 38.0	-3.0
TLIG				*i* S	Sg	02 08 54.0	-2.5

IDC 10 02:12:31.8±2.2**, 68°.28N**×**159°.31W, h0^{km}, mb3.0**/1**, mb1 3.2**/4**, mb1mx3.1**/49**, mbtmp3.0**/4**, ML2.9**/3**, MS2.9**/1**, Ms1 2.9**/1**, ms1mx2.3**/19**, Error ellipse: s-maj=53.0km s-min=21.4km az=25.0, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILAR	Eielson Array	6.08	120	Pn	Pn	02 14 00.1	-2.7
	0.1nm,0.3s,baz=307,slow=13,SNR=6.5						
ILAR				Lg	Lg	02 15 44.4	
	0.2nm,0.3s,baz=308,slow=30,SNR=4.4						
INK	Inuvik	9.52	78	Pn	Pn	02 14 49.1	-0.8
	0.2nm,0.3s,baz=320,slow=7.0,SNR=7.9						
INK				Sn	Sn	02 16 30.2	-7.2
	0.2nm,0.3s,baz=314,slow=14,SNR=3.0						
YKA	Yellowknife Ar	19.11	86	P	P	02 16 54.2	-1.6
	0.0nm,0.3s,baz=304,slow=10,SNR=5.8						
ASAJ	Asahikawa	38.23	261	LR	LR	02 36 16.8	
	comp=Z,16nm,18.2s,baz=39,slow=37						
MKAR	Makanchi Array	56.44	314	P	P	02 22 14.7	-0.1
	0.1nm,0.7s,baz=38,slow=7.3,SNR=1.7						

IDC ***10*** *02:16:24.5±0.7, 19°.13N×66°.52W, h0^{km}, mb3.6/9, mb1 3.9/10, mb1mx3.6/39, mbtmp3.6/10, ML2.3/1, MS3.2/1, Ms1 3.3/1, ms1mx2.4/32, Error ellipse: s-maj=28.3km s-min=13.6km az=71.0*

ISCJB ***10*** *02:16:27.7±0.5, 19°.17N±0°.03×66°.48W±0°.03, h28^{km}, mb3.6/9, MS3.2/1, Error ellipse: s-maj=4.6km s-min=3.8km az=22.3*

NEIC ***10*** *02:16:31.0±0.0, 19°.10N×66°.48W, h33^{km}, MD3.1(RSPR), After RSPR.*

RSPR ***10*** *02:16:31.0, 19°.10N×66°.48W, h33^{km}±4^{km}, MD3.1/6*

ISC 10 02:16:28.7±0.6**, 19°.10N**±0°.04×**66°.46W**±0°.03**, h28^{km}, n58,** σ**0^{s}.72**/72**, mb3.4**/9**, 22C-10D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EMPR	Esperanza - Ma	0.62	186⇓	*e*P	Pn	02 16 42.2	+0.6
EMPR	Esperanza - Ma	0.62	186	*e*S	Sn	02 16 50.6	-0.1
EMPR	Esperanza - Ma	0.62	186⇓	*e*P	Pn	02 16 42.2	+0.6
EMPR				*e*S	Sn	02 16 50.6	-0.1
AGPR	Aguadilla, PR	0.88	224⇑	*e*P	Pn	02 16 44.8	-0.4
AGPR	Aguadilla, PR	0.88	224	*e*S	Sb	02 16 56.8	0.0
AGPR	Aguadilla, PR	0.88	224⇑	*e*P	Pn	02 16 44.8	-0.4
AGPR				*e*S	Sb	02 16 56.8	0.0
CBYP	Canovanas	1.00	145⇑	*e*P	Pb	02 16 47.5	0.0
CBYP	Canovanas	1.00	145	*e*S	Sb	02 17 00.6	+0.2
CBYP	Canovanas	1.00	145⇑	*e*P	Pb	02 16 47.5	0.0
CBYP				*e*S	Sb	02 17 00.6	+0.2
CELP	Cerrillos	1.02	186⇓	*e*P	Pb	02 16 47.6	-0.2
CELP	Cerrillos	1.02	186⇓	*e*P	Pb	02 16 47.6	-0.2
SJG	San Juan	1.03	163⇓	*e*P	Pb	02 16 47.9	0.0
SJG	San Juan	1.03	163	*e*S	Sb	02 17 00.9	0.0
SJG	San Juan	1.03	163	Pn	Pb	02 16 47.8	0.0
	53nm,0.3s,baz=323,slow=12,SNR=81						
SJG				Sn	Sb	02 17 01.4	+0.5
	77nm,0.3s,baz=282,slow=20,SNR=17						
SJG	San Juan	1.03	163⇓	*e*P	Pb	02 16 47.9	0.0
SJG				*e*S	Sb	02 17 00.9	0.0
SJG				Sn	Sb	02 17 01.4	+0.5
OBIP	Obispado Ponce	1.06	187⇑	*e*P	Pb	02 16 48.2	-0.3
OBIP	Obispado Ponce	1.06	187	*e*S	Sn	02 17 01.5	-0.1
OBIP	Obispado Ponce	1.06	187⇑	*e*P	Pb	02 16 48.2	-0.3
OBIP				*e*S	Sn	02 17 01.5	-0.1
LSP	Las Mesas	1.09	213⇓	*e*P	Pn	02 16 48.4	+0.2
LSP	Las Mesas	1.09	213	*e*S	Sn	02 17 02.3	0.0
LSP	Las Mesas	1.09	213⇓	*e*P	Pn	02 16 48.4	+0.2
LSP				*e*S	Sn	02 17 02.3	0.0
HUMP	Col San Antoni	1.12	148⇑	*e*P	Pb	02 16 49.1	-0.2
HUMP	Col San Antoni	1.12	148	*e*S	Sb	02 17 03.3	-0.2
HUMP	Col San Antoni	1.12	148⇑	*e*P	Pb	02 16 49.1	-0.2
HUMP				*e*S	Sb	02 17 03.3	-0.2
GBPR	Guanica, Bosqu	1.19	200⇑	*e*P	Pn	02 16 49.7	+0.3
GBPR	Guanica, Bosqu	1.19	200⇑	*e*P	Pn	02 16 49.7	+0.3
IDE	Isla Desecheo	1.19	234⇓	*e*P	Pn	02 16 49.4	-0.1
IDE	Isla Desecheo	1.19	234	*e*S	Sn	02 17 04.4	-0.4
IDE	Isla Desecheo	1.19	234⇓	*e*P	Pn	02 16 49.4	-0.1
IDE				*e*S	Sn	02 17 04.4	-0.4
CRPR	Cabo Rojo, PR	1.25	210⇑	*e*P	Pn	02 16 50.6	+0.3
CRPR	Cabo Rojo, PR	1.25	210	*e*S	Sn	02 17 06.1	0.0
CRPR	Cabo Rojo, PR	1.25	210⇑	*e*P	Pn	02 16 50.6	+0.3
CRPR				*e*S	Sn	02 17 06.1	0.0
MTP	Monte Pirata	1.32	139⇑	*e*P	Pb	02 16 52.0	-0.9
MTP	Monte Pirata	1.32	139	*e*S	Sn	02 17 08.1	+0.1
MTP	Monte Pirata	1.32	139⇑	*e*P	Pb	02 16 52.0	-0.9
MTP				*e*S	Sn	02 17 08.1	+0.1
CUPR	Culebra, Puert	1.37	125⇑	*e*P	Pb	02 16 52.7	-1.0
CUPR	Culebra, Puert	1.37	125	*e*S	Sn	02 17 09.5	+0.3
CUPR	Culebra, Puert	1.37	125⇑	*e*P	Pb	02 16 52.7	-1.0
CUPR				*e*S	Sn	02 17 09.5	+0.3
STVI	Saint Thomas	1.61	117⇑	*e*P	Pb	02 16 56.3	-1.5
STVI	Saint Thomas	1.61	117	*e*S	Sn	02 17 15.9	+0.7
STVI	Saint Thomas	1.61	117⇑	*e*P	Pb	02 16 56.3	-1.5
STVI				*e*S	Sn	02 17 15.9	+0.7
TBVI	Tortola	1.88	111⇑	*e*P	Pn	02 16 59.8	+0.9
TBVI	Tortola	1.88	111⇑	*e*P	Pn	02 16 59.8	+0.9
DR12	Loma Pena Alta	2.78	264⇑	*e*P	Pn	02 17 12.2	+0.8
DR12	Loma Pena Alta	2.78	264⇑	*e*P	Pn	02 17 12.2	+0.8
SDDR	Presa de Saban	4.56	269	*e*Pn	Pn	02 17 37.8	+1.8
SDDR				*e*Sn	Sn	02 18 29.1	+1.0
SDV	Santo Domingo	10.93	202	Pn	Pn	02 19 04.3	+0.8
	0.2nm,0.3s,baz=34,slow=18,SNR=2.2						
TKL	Tuckaleechee C	22.49	321	S	S	02 25 29.4	-1.8
	1.1nm,0.5s,baz=87,slow=18,SNR=2.0						
TXAR	Lajitas Array	35.30	294	P	P	02 23 22.4	+0.8
	0.4nm,0.8s,baz=116,slow=11,SNR=4.2						
PDAR	Pinedale Array	43.23	313	P	P	02 24 28.4	+0.5
	0.2nm,0.5s,baz=81,slow=5.6,SNR=2.8						
CPUP	Villa Florida	46.02	169	P	P	02 24 48.4	-1.5
	0.9nm,0.6s,baz=34,slow=3.4,SNR=3.6						
YKA	Yellowknife Ar	54.48	335	P	P	02 25 51.9	-1.5
	0.1nm,0.6s,baz=109,slow=7.4,SNR=3.0						
ESDC	Sonseca Array	57.06	55	P	P	02 26 14.1	+1.6
	0.2nm,0.5s,baz=272,slow=9.2,SNR=3.3						
RES	Resolute Bay	57.69	351	P	P	02 26 16.5	+0.2
	1.4nm,0.3s,baz=217,slow=19,SNR=35						
DLBC	Dease Lake	60.13	327	P	P	02 26 31.4	-2.2
	2.0nm,0.9s,baz=198,slow=20,SNR=2.8						
NOA	NORSAR Array B	67.52	31	LR	LR	02 57 35.0	
	comp=Z,14nm,18.1s,baz=295,slow=37						
ILAR	Eielson Array	68.82	333	P	P	02 27 30.5	+0.3
	0.2nm,0.8s,baz=112,slow=4.7,SNR=4.9						
ARCES	ARCESS Array B	72.96	22	P	P	02 27 55.1	-0.2
	1.5nm,0.7s,baz=324,slow=6.0,SNR=5.5						

IDC 10 02:27:03.7±1.1**, 56°.00S**×**25°.86W, h0^{km}, mb4.0**/4**, mb1 4.1**/4**, mb1mx3.8**/22**, mbtmp4.0**/4**, Error ellipse: s-maj=46.1km s-min=25.3km az=88.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QSPA	South Pole Qui	34.25	180	P	P	02 33 51.1	+0.1
	1.6nm,0.2s,baz=188,slow=2.4,SNR=5.3						
VNDA	Vanda	46.65	182	P	P	02 35 33.0	-0.2
	0.6nm,0.8s,baz=186,slow=7.1,SNR=5.3						
LPAZ	La Paz	50.97	304	P	P	02 36 07.6	-0.1
	1.1nm,0.4s,baz=170,slow=6.1,SNR=9.0						
TORD	Torodi Ar. Bea	72.65	28	P	P	02 38 33.0	+0.1
	0.8nm,0.6s,baz=204,slow=5.7,SNR=15						
YKA	Yellowknife Ar	136.64	317	PKP	PKPdf	02 46 25.5	-0.8
	0.1nm,0.5s,baz=124,slow=2.6,SNR=2.8						

IDC ***10*** *02:54:17.1±0.5, 5°.42S×151°.88E, h0^{km}, mb4.6/15, mb1 4.8/16, mb1mx4.6/31, mbtmp4.6/16, ML2.8/1, MS3.8/19, Ms1 3.8/19, ms1mx3.8/23, Error ellipse: s-maj=21.3km s-min=14.0km az=119.0*

BJI ***10*** *02:54:21.9, 5°.40S×152°.31E, h61^{km}, mb4.7/42, mB5.0/24, Ms4.8/12, Ms7 4.5/11*

MOS ***10*** *02:54:24.3±0.6, 5°.24S×151°.57E, h48^{km}, mb4.9/24, Error ellipse: s-maj=13.1km s-min=10.0km az=83.0*

ISCJB ***10*** *02:54:24.7±0.2, 5°.46S±0°.03×151°.60E±0°.04, h57^{km}, mb4.7/71, MS4.0/21, Error ellipse: s-maj=6.6km s-min=4.2km az=31.2*

NEIC ***10*** *02:54:26.3±2.0, 5°.44S×151°.66E, h63^{km}±3^{km}, mb4.8/48, Error ellipse: s-maj=17.8km s-min=10.8km az=115.0*

DJA ***10*** *02:54:36.1±2.3, 6°S±10°×15°1E±1°3, h138^{km}±18^{km}, M4.8/7, mB5.2/2, mb4.5/7, MLv5.0/1, Mw(mB)4.5/2*

ISC 10 02:54:25.6±0.3**, 5°.42S**±0°.05×**151°.68E**±0°.06**, h57^{km}, n229,** σ**1^{s}.38**/229**, mb4.8**/76**, MS4.0**/21**, 9C-2D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	Rabaul	1.31	21	*e*Pn	Pn	02 54 47.9	+0.2
RABL				*e*Sn	Sn	02 55 01.1	-3.2
MANU	Manus Island	5.46	308	*e*Pn	Pn	02 55 50.6	+6.1
PMG	Port Moresby	5.98	228	Pn	Pn	02 55 51.3	-0.3
	16nm,0.3s,baz=30,slow=10,SNR=61						
PMG				Sn	Sn	02 56 58.7	-0.2
	45nm,0.3s,baz=106,slow=6.3,SNR=9.0						
PMG	Port Moresby	5.98	228	*e*Pn	Pn	02 55 51.0	-0.6
PMG				*e*Sn	Sn	02 56 57.6	-1.3
PMG	Port Moresby	5.98	228*c*	*e*P	Pn	02 55 53.5	+1.9
PMG				pmax	pmax		
	comp=Z,835nm,0.9s						
HNR	Honiara	9.11	116	LR	LR	02 59 32.0	
	comp=Z,439nm,21.7s,baz=286,slow=35						
JAY	Jayapura	11.33	284	LR	LR	03 01 04.0	
	comp=Z,642nm,18.6s,slow=35						
COEN	Coen	11.92	224	P	Pn	02 57 12.6	-0.4
	baz=12,SNR=5.2						
COEN	Coen	11.92	224	*e*Pn	Pn	02 57 11.9	-1.1
COEN				*e*Sn	Sn	02 59 17.5	-7.0
CTAO	Charters Tower	15.51	199	*e*Pn	P	02 58 03.8	-0.4
	comp=Z,8.2nm,0.8s						
CTAO	Charters Tower	15.51	199	*e*P	P	02 58 03.8	-0.4
CTAO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
QIS	Mount Isa	19.08	217	P	P	02 58 44.3	+0.6
	baz=19,SNR=22						
EIDS	Eidsvold	19.84	182	P	P	02 58 51.7	-0.2
	baz=20,SNR=7.8						
EIDS	Eidsvold	19.84	182	*e*P	P	02 58 51.7	-0.2
	comp=Z,16nm,0.8s						
KDU	Kakadu	20.29	248	P	P	02 58 56.9	+0.1
	baz=20,SNR=17						
SIJI	Sorong	20.88	282	P	P	02 59 03.7	+0.4
	comp=Z,5.2nm,0.3s,baz=90,slow=6.5,SNR=5.3						
RMQ	Roma	21.13	187	P	P	02 59 06.2	+0.3
	baz=21,SNR=6.4						
DZM	Mont Dzumac	21.86	141	*e*P	P	02 59 13.3	-0.5
	comp=Z,34nm,1.4s						
DZM				*e*S	S	03 03 11.8	-0.7
	comp=Z,251nm,23.8s						
DZM				*e*LR	LR	03 04 34.5	
	comp=Z,769nm,22.9s						
DZM	Mont Dzumac	21.86	141	*e*P	P	02 59 09.4	-4.4
	comp=Z,22nm,1.3s						
WRAB	Tennant Creek	22.19	228	*e*P	P	02 59 18.6	+1.3
	comp=Z,21nm,0.8s						
WRAB				*e*S	S	03 03 18.9	+0.5
WRAB	Tennant Creek	22.19	228*c*	*e*P	P	02 59 17.7	+0.4
WRAB				pmax	pmax		
	comp=Z,22nm,0.8s						
WB2	Warramunga Arr	22.20	228	*e*P	P	02 59 16.5	-0.9
WB2				*e*P	P	02 59 17.3	-0.1
WB2				*e*S	S	03 03 18.6	+0.1
WR1	Warramunga Arr	22.20	228	*e*P	P	02 59 17.1	-0.4
	comp=Z,35nm,0.9s						
WR1				*e*PcP	PcP	03 03 12.3	-0.2
WR1				*e*S	S	03 03 17.8	-0.9
WR1				*e*ScP	ScP	03 06 49.3	+4.0
WR1				*e*		03 08 10.1	
WRA	Warramunga Arr	22.20	228	P	P	02 59 17.1	-0.4
	comp=Z,14nm,0.7s,baz=52,slow=10.0,SNR=60						
WRA				PcP	PcP	03 03 12.3	-0.2
	comp=Z,1.9nm,0.9s,baz=42,slow=2.5,SNR=3.9						
WRA				S	S	03 03 17.8	-1.0
	comp=Z,9.3nm,1.1s,baz=53,slow=19,SNR=8.4						
WRA				ScP	ScP	03 06 49.3	+4.0
	comp=Z,1.2nm,0.9s,baz=48,slow=2.7,SNR=5.3						
WRA				LR	LR	03 08 10.1	
	comp=Z,232nm,21.2s,baz=55,slow=37						
WRA	Warramunga Arr	22.20	228*c*	*e*P	P	02 59 17.1	-0.4
WRA				pmax	pmax		
	comp=Z,15nm,0.7s						
QLP	Quilpie	22.21	198	P	P	02 59 17.0	-0.5
	baz=22,SNR=11						
KNRA	Kununurra	24.70	244	P	P	02 59 41.9	+0.3
	baz=25,SNR=16						
ARMA	Armidale	24.86	180	*e*P	P	02 59 42.1	-1.0
AS01	Alice Springs	24.91	222	*e*P	P	02 59 43.4	-0.1
AS31	Alice Springs	24.95	222	*e*P	P	02 59 45.0	+1.1
	comp=Z,7.1nm,0.6s						
AS31				*e*PcP	PcP	03 03 18.3	+0.1
AS31				*e*ScP	ScP	03 06 57.0	+4.4
AS31				*e*		03 09 20.8	
ASAR	Alice Springs	24.95	222	P	P	02 59 44.2	+0.3
	comp=Z,20nm,0.7s,baz=58,slow=9.1,SNR=106						
ASAR				PcP	PcP	03 03 18.3	+0.1
	comp=Z,0.9nm,0.8s,baz=64,slow=2.2,SNR=2.3						
ASAR				ScP	ScP	03 06 57.0	+4.4
	comp=Z,0.3nm,0.6s,baz=46,slow=4.0,SNR=3.2						
ASAR				LR	LR	03 09 20.8	
	comp=Z,201nm,21.7s,baz=92,slow=36						
CMSA	Cobar Meteorol	26.58	191	P	P	02 59 59.8	+1.3
	baz=27						
STKA	Stephens Creek	27.96	199	P	P	03 00 10.6	-0.3
	comp=Z,2.7nm,0.6s,baz=38,slow=13,SNR=6.1						
STKA				LR	LR	03 11 39.7	
	comp=Z,244nm,19.0s,baz=19,slow=37						
STKA	Stephens Creek	27.96	199	*e*P	P	03 00 10.6	-0.3
	comp=Z,1.3nm,1.1s						
STKA				*e*		03 11 39.7	
STKA	Stephens Creek	27.96	199	*e*P	P	03 00 10.6	-0.3
STKA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
NFK	Norfolk Island	28.09	149	P	P	03 00 13.6	+1.6
	baz=28,SNR=4.4						
FITZ	Fitzroy Crossi	28.39	241	P	P	03 00 14.8	0.0
	comp=Z,32nm,0.8s,baz=56,slow=7.2,SNR=27						
FITZ	Fitzroy Crossi	28.39	241	P	P	03 00 14.7	0.0
	baz=28,SNR=29						
FITZ	Fitzroy Crossi	28.39	241	*e*P	P	03 00 14.8	0.0
	comp=Z,42nm,1.0s						
WRKA	Warakurna	29.73	227	P	P	03 00 26.1	-0.6
	baz=30,SNR=25						
FORT	Forrest	33.61	219	*e*P	P	03 01 00.2	-0.5
	comp=Z,18nm,0.8s						
MBWA	Marble Bar	34.70	240	*e*P	P	03 01 09.0	-1.3
	comp=Z,18nm,1.0s						
MEEK	Meekatharra	37.95	233	P	P	03 01 40.7	+2.7
	baz=38,SNR=33						
MORW	Morawa	41.09	231	P	P	03 02 04.9	+0.8
	baz=41,SNR=3.8						
MORW	Morawa	41.09	231	*e*P	P	03 02 07.7	+3.5
	comp=Z,32nm,1.4s						
BLDU	Ballidu	41.34	228	P	P	03 02 06.7	+0.6
	baz=41,SNR=5.6						
MJAR	Matsushiro Arr	43.61	344	LR	LR	03 19 22.8	
	comp=Z,115nm,20.8s,baz=200,slow=34						
KSRS	Korea Array	48.06	334	LR	LR	03 23 59.3	
	comp=Z,50nm,18.4s,baz=152,slow=37						
NJ2	Nanjing	48.64	322	*e*P	P	03 03 04.2	+0.2
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
WHN	Wuhan	50.54	317	P	P	03 03 21.0	+2.5
USRK	Ussuriysk Ar.	52.48	342	LR	LR	03 25 52.1	
	comp=Z,66nm,18.0s,baz=188,slow=36						
CN2	Changchun	54.42	337	*e*P	P	03 03 50.0	+3.0
XAN	Xi'an	56.31	317	P	P	03 04 00.4	-0.5
XAN				pP	pP	03 04 16.9	+0.4
XAN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
XAN				pmax	pmax		
	comp=Z,160nm,5.9s						
KMI	Kunming	56.42	305	P	P	03 04 03.0	+1.0
KMI				pmax	pmax		
	comp=Z,13nm,0.5s						
KLR	Kul'dur	57.13	345	*i* P	P	03 04 06.4	+0.1
CM31	Chiang Mai Arr	57.14	296	*e*P	P	03 04 08.7	+1.7
CMAR	Chiang Mai Arr	57.14	296	P	P	03 04 08.7	+1.7
	comp=Z,1.7nm,0.4s,baz=123,slow=6.2,SNR=8.3						
CMAR				LR	LR	03 28 53.4	
	comp=Z,49nm,19.1s,baz=122,slow=36						
CMMT	Chiang Mai	57.25	296	P	P	03 04 12.6	+4.8
	comp=Z,5.0nm,1.0s						
CHTO	Chiang Mai	57.26	296	P	P	03 04 12.6	+4.8
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CHTO	Chiang Mai	57.26	296	P	P	03 04 12.6	+4.8
	comp=Z,22nm,0.9s						
CD2	Chengdu	58.30	311	*e*P	P	03 04 16.0	+1.0
PETK	Petropavlovsk-	58.53	4	P	P	03 04 15.4	-0.7
	comp=Z,3.6nm,0.8s,baz=158,slow=6.8,SNR=4.0						
PETK				LR	LR	03 25 41.5	
	comp=Z,100nm,19.6s,baz=185,slow=32						
PEA1	Petropavlovsk-	58.54	4	*e*P	P	03 04 15.4	-0.7
PPT	Papeete	58.60	107	LR	LR	03 24 12.4	
	comp=Z,29nm,20.9s,baz=291,slow=31						
PPT2	Papeete2	58.60	107	*e*LR	LR	03 21 36.5	
	comp=Z,64nm,22.8s						
HHC	Hu-ho-hao-te	58.91	325	*e*P	P	03 04 20.9	+1.8
HHC				S	S	03 12 21.1	0.0
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,130nm,5.6s						
HHC				LR	LR		
	comp=Z,340nm,16.4s						
HHC				LR	LR		
	comp=Z,140nm,16.4s						
HHC				LR	LR		
	comp=Z,470nm,17.8s						
PMOR	Pomariorio Ree	60.06	104	*e*P	P	03 04 27.7	+0.4
	comp=Z,56nm,1.0s						
LZH	Lanzhou	60.91	317	*e*P	P	03 04 35.4	+2.5
LZH				pP	pP	03 04 50.6	+1.9
LZH				sP	sP	03 04 57.5	+2.2
LZH				SS	SS	03 16 52.1	+4.8
LZH				pmax	pmax		
	comp=Z,23nm,0.9s						
LZH				pmax	pmax		
	comp=Z,260nm,5.4s						
LZH				LR	LR		
	comp=Z,390nm,14.1s						
LZH				LR	LR		
	comp=Z,310nm,13.0s						
LZH				LR	LR		
	comp=Z,390nm,14.1s						
GTA	Gaotai	65.36	318	P	P	03 05 03.3	+0.9
GTA				pP	pP	03 05 17.4	-0.9
GTA				sP	sP	03 05 25.0	+0.1
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,77nm,5.4s						
GTA				LR	LR		
	comp=Z,140nm,19.9s						
GTA				LR	LR		
	comp=Z,180nm,21.3s						
GTA				LR	LR		
	comp=Z,170nm,18.9s						
SHL	Shillong	65.67	301	P	P	03 05 05.7	+1.0
SONA0	Songino Array	66.26	328	*e*P	P	03 05 08.9	+0.9
SONA0				*e*		03 34 32.7	
SONM	Songino Array	66.26	328	P	P	03 05 08.9	+0.9
	comp=Z,2.7nm,0.4s,baz=144,slow=4.9,SNR=22						
SONM				LR	LR	03 34 32.7	
	comp=Z,107nm,19.9s,baz=122,slow=36						
SONA1	Songino Array	66.27	328	*e*P	P	03 05 08.8	+0.8
ZAK	Zakamensk	69.45	329	*e*P	P	03 05 28.4	+0.5
ZAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
JIRN	Jiri	71.16	301	*e*P	P	03 05 39.0	-0.2
	comp=Z,32nm,1.2s						
MOY	Mondy	71.38	329	*e*P	P	03 05 40.5	+0.8
GUN	Gumba	71.49	302	*e*P	P	03 05 41.2	0.0
	comp=Z,20nm,0.9s						
PALK	Pallekele	71.94	279*c*	*e*P	P	03 05 40.1	-3.6
KKN	Kakani	71.97	301	*e*P	P	03 05 43.5	-0.4
	comp=Z,14nm,0.7s						
DMN	Daman	72.07	301	*e*P	P	03 05 44.6	+0.1
	comp=Z,30nm,1.0s						
VNDA	Vanda	72.25	178	P	P	03 05 44.2	-0.2
	comp=Z,1.1nm,1.0s,baz=331,slow=3.1,SNR=2.8						
VNDA				LR	LR	03 35 27.6	
	comp=Z,73nm,19.5s,baz=246,slow=34						
GKN	Gorkha	72.57	301	*e*P	P	03 05 47.4	0.0
	comp=Z,0.2nm,0.3s						
KNGR	Kungurtug, Tuv	72.60	327	*i* P	P	03 05 47.0	0.0
KOLN	Koldanda	73.39	301	*e*P	P	03 05 52.2	-0.1
	comp=Z,17nm,0.8s						
DANN	Dangsing	73.41	302	*e*P	P	03 05 52.2	-0.4
	comp=Z,19nm,0.8s						
PYUN	Piuthan	74.00	301	*e*P	P	03 05 55.6	-0.3
	comp=Z,27nm,0.9s						
BILL	Bilibino	74.01	6	*e*P	P	03 05 56.1	+1.3
	comp=Z,6.3nm,1.2s						
BILL	Bilibino	74.01	6⇑	*e*P	P	03 05 54.5	-0.3
BILL				*e*		03 06 09.6	
BILL				*e*		03 06 14.9	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.1s						
WMQ	Urumqi	75.45	318	P	P	03 06 05.0	+1.2
WMQ				pP	PcP	03 06 15.8	-0.9
WMQ				sP	sP	03 06 28.4	+1.9
WMQ				pmax	pmax		
	comp=Z,25nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,370nm,5.1s						
WMQ				LR	LR		
	comp=Z,170nm,20.7s						
WMQ				LR	LR		
	comp=Z,120nm,16.3s						
WMQ				LR	LR		
	comp=Z,130nm,20.7s						
DGZ	Jazzator, Alta	77.91	323*d*	*i*P	P	03 06 18.1	+0.5
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TIXI	Tiksi	78.37	353	*e*pP	pP	03 06 36.9	+1.0
TIXI	Tiksi	78.37	353	*i* P	P	03 06 20.0	+0.5
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MK01	Makanchi Array	80.05	319	*e*P	P	03 06 29.1	-0.1
MK31	Makanchi Array	80.06	319	*e*P	P	03 06 29.7	+0.3
MK31	Makanchi Array	80.06	319	*e*P	P	03 06 29.7	+0.3
MK32	Makanchi Array	80.06	319	*e*P	P	03 06 29.4	+0.1
MK32				*e*		03 42 12.0	
MKAR	Makanchi Array	80.06	319	P	P	03 06 29.4	+0.1
	comp=Z,3.3nm,0.8s,baz=103,slow=6.3,SNR=26						
MKAR				LR	LR	03 42 12.0	
	comp=Z,54nm,20.0s,baz=90,slow=36						
MKAR	Makanchi Array	80.06	319	*e*P	P	03 06 29.7	+0.3
	comp=Z,21nm,0.9s						
MKAR	Makanchi Array	80.06	319*c*	*e*P	P	03 06 29.8	+0.5
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MAKZ	Makanchi	80.27	319	*e*P	P	03 06 31.0	+0.5
	comp=Z,6.3nm,0.9s						
MAKZ	Makanchi	80.27	319	*e*P	P	03 06 31.0	+0.5
MAKZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CAST	Castle Rocks	80.50	22	*e*P	P	03 06 31.5	+0.2
	comp=Z,5.8nm,1.1s						
PDGK	Podgornoye	80.91	315	P	P	03 06 35.0	+0.9
PDGK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ZAA0	Zalesovo Array	81.05	327	*e*P	P	03 06 33.8	-0.6
	comp=Z,3.7nm,0.8s						
ZALV	Zalesovo Beam	81.05	327	P	P	03 06 33.5	-0.9
	comp=Z,2.4nm,0.4s,baz=107,slow=4.9,SNR=15						
ZALV				LR	LR	03 42 19.0	
	comp=Z,73nm,20.2s,baz=268,slow=36						
ZALV	Zalesovo Beam	81.05	327	*e*P	P	03 06 33.4	-1.0
ZAA1	Zalesovo Array	81.06	327	*e*P	P	03 06 33.5	-0.9
ZAA1				*e*		03 42 19.0	
IM3	Indian Mountai	81.34	20	*e*P	P	03 06 35.7	0.0
RND	Reindeer	81.73	23	*e*P	P	03 06 38.2	+0.3
	comp=Z,5.7nm,0.9s						
RND	Reindeer	81.73	23	*e*P	P	03 06 38.2	+0.3
RND				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MLY	Manley	81.86	21	*e*P	P	03 06 38.6	+0.1
	comp=Z,4.1nm,0.4s						
MCK	McKinley	81.86	23	*e*P	P	03 06 38.8	+0.3
	comp=Z,8.8nm,0.9s						
MCK	McKinley	81.86	23	*e*P	P	03 06 38.8	+0.3
MCK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KSH	Kashi	82.50	311	P	P	03 06 43.6	+1.1
KSH				PP	PP	03 09 55.4	+2.9
KSH				S	S	03 16 52.9	-2.2
KSH				pmax	pmax		
	comp=Z,16nm,0.6s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH				pmax	pmax		
	comp=Z,220nm,8.3s						
KSH				LR	LR		
	comp=Z,140nm,8.0s						
KSH				LR	LR		
	comp=Z,130nm,6.9s						
KSH				LR	LR		
	comp=Z,260nm,6.9s						
COLA	College	82.84	22	*i* P	P	03 06 43.6	+0.1
COLA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NRN	Naryn	82.92	313	*e*P	P	03 06 45.8	+0.9
	comp=Z,3.8nm,1.0s						
NRN	Naryn	82.92	313	*e*P	P	03 06 45.8	+0.9
NRN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ILAR	Eielson Array	83.15	22	P	P	03 06 43.9	-1.3
	comp=Z,2.2nm,0.6s,baz=258,slow=4.7,SNR=26						
ILB	Eielson Array	83.15	22	*e*P	P	03 06 44.8	-0.4
IL1	Eielson Array	83.15	22	*e*P	P	03 06 44.5	-0.7
TKM2	Tokmak 2	83.56	314	P	P	03 06 48.8	+0.7
	SNR=6.1						
KURK	Kurchatov	83.57	322	*e*P	P	03 06 47.6	0.0
	comp=Z,6.3nm,0.9s						
KURK	Kurchatov	83.57	322	*e*P	P	03 06 47.6	0.0
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KZA	Kyzart	83.62	313	P	P	03 06 50.3	+1.7
	SNR=11						
UCH	Uchtor	84.18	313	P	P	03 06 52.3	+0.8
	SNR=9.1						
AAK	Ala-Archa	84.29	314	*e*P	P	03 06 52.6	+0.9
	comp=Z,6.6nm,0.9s						
AAK	Ala-Archa	84.29	314	*ce*P	P	03 06 51.8	+0.1
AAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
USP	Ospenovka	84.42	314	P	P	03 06 52.7	+0.5
	SNR=12						
SFK	Sufi-Kurgan	84.46	311	P	P	03 06 53.9	+1.1
SFK				pmax	pmax		
	comp=Z,6.0nm,1.6s						
MAW	Mawson	84.57	203	LR	LR	03 41 15.6	
	comp=Z,103nm,20.8s,baz=64,slow=33						
AML	Almayashu	84.76	313	P	P	03 06 55.9	+1.5
	SNR=16						
EKS2	Erkin-Say	84.81	314	P	P	03 06 55.6	+1.3
	SNR=9.6						
ARSB	Arslanbob	85.11	312	*e*P	P	03 06 57.0	+1.1
	comp=Z,19nm,1.1s						
OTUK	Ortayu	86.95	319	P	P	03 07 05.3	+0.7
OTUK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KK31	Karatay Array	87.25	314	*e*P	P	03 07 06.0	-0.2
KK31	Karatay Array	87.25	314	*e*P	P	03 07 06.0	-0.2
KKAR	Karatay Array	87.25	314	*e*P	P	03 07 06.0	-0.2
KKAR	Karatay Array	87.25	314	*e*P	P	03 07 06.0	-0.2
EPYK	Eagle Plains	87.66	23	*e*P	P	03 07 08.8	+1.1
	comp=Z,4.4nm,0.8s						
BVAR	Borovoye Array	89.07	323	LR	LR	03 49 09.2	
	comp=Z,48nm,18.1s,baz=78,slow=37						
BRVK	Borovoye	89.14	323	*e*P	P	03 07 14.0	-0.9
	comp=Z,4.6nm,0.9s						
BRVK	Borovoye	89.14	323	*ce*P	P	03 07 14.7	-0.2
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
HUMO	Hull Mountain	90.22	47	*e*P	P	03 07 22.1	+1.9
	comp=Z,11nm,0.9s						
PINE	Pine Mountain	91.82	46	*e*P	P	03 07 29.0	+1.2
	comp=Z,13nm,0.8s						
MOD	Modoc Plateau	92.10	48	*e*P	P	03 07 30.1	+1.0
	comp=Z,9.4nm,1.1s						
PAHR	Pah Rah Range	92.60	51	*e*P	P	03 07 33.5	+2.0
	comp=Z,6.3nm,0.7s						
SYO	Syowa Base	92.72	200	⇑*e*P	P	03 07 21.6	-10
SYO	Syowa Base	92.72	200	⇓*e*P	P	03 07 24.6	-6.6
NV01	Mina Array Sit	93.34	52	*e*P	P	03 07 35.8	+0.8
NVAR	Mina Array Bea	93.34	52	P	P	03 07 35.7	+0.6
	comp=Z,5.2nm,0.8s,baz=250,slow=7.0,SNR=21						
G08A	Pilot Rock	93.36	45	*e*P	P	03 07 35.4	+0.6
	comp=Z,9.7nm,1.1s						
NV11	Mina Array Sit	93.46	52	*e*P	P	03 07 36.3	+0.8
	comp=Z,0.5nm,0.9s						
J08A	Circle Bar Ran	93.57	47	*e*P	P	03 07 36.9	+1.0
	comp=Z,11nm,1.0s						
DAC	Darwin (Calif)	93.75	54	*e*P	P	03 07 40.2	+3.2
	comp=Z,8.7nm,1.1s						
DAC	Darwin (Calif)	93.75	54	*e*P	P	03 07 40.2	+3.2
DAC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BMO	Blue Mountains	94.50	46	*e*P	P	03 07 40.5	+0.4
	comp=Z,7.2nm,1.1s						
BMO	Blue Mountains	94.50	46	*e*P	P	03 07 40.5	+0.4
BMO				pmax	pmax		
	comp=Z,7.0nm,1.1s						
F10A	Beach Ranch, E	94.61	44	*e*P	P	03 07 40.9	+0.3
	comp=Z,8.3nm,1.0s						
NEW	Newport	94.80	42	*e*P	P	03 07 42.1	+0.8
	comp=Z,9.3nm,1.2s						
NEW	Newport	94.80	42	*e*P	P	03 07 42.1	+0.8
NEW				pmax	pmax		
	comp=Z,9.0nm,1.2s						
TPNV	Topopah Spring	94.87	53	*e*P	P	03 07 43.2	+1.2
	comp=Z,5.1nm,0.9s						
TPNV	Topopah Spring	94.87	53	*e*P	P	03 07 43.2	+1.2
TPNV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ABKAR	Akbulak array	95.20	319	*e*P	P	03 07 41.7	-1.4
LDFC	Landfair	95.70	55	*e*P	P	03 07 48.1	+2.3
	comp=Z,8.1nm,1.0s						
SHPR	Sheep Range	95.72	54	*e*P	P	03 07 48.1	+2.1
	comp=Z,3.4nm,1.1s						
ELK	Elko	95.83	50	*e*P	P	03 07 47.3	+0.9
	comp=Z,5.6nm,1.4s						
ELK	Elko	95.83	50	*e*P	P	03 07 47.3	+0.9
ELK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
ARU	Arti	96.21	326	P	P	03 07 46.0	-1.4
ARU						03 11 39.5	
ARU				S	SKSac	03 18 16.9	-2.1
ARU				SS	SS	03 25 29.0	-6.2
AKTO	Aktyubinsk	96.48	320	LR	LR	03 51 07.8	
	comp=Z,73nm,19.5s,baz=78,slow=35						
YKA	Yellowknife Ar	96.49	28	P	P	03 07 48.7	+0.2
	comp=Z,0.3nm,0.6s,baz=269,slow=4.6,SNR=8.1						
YKB5	Yellowknife Ar	96.49	28	*e*P	P	03 07 48.7	+0.2
HLID	Hailey	96.53	47	*e*P	P	03 07 50.2	+0.8
	comp=Z,2.2nm,0.9s						
HVU	Hansel Valley	97.71	49	*e*P	Pdif	03 07 56.0	+1.2
	comp=Z,5.8nm,1.1s						
HVU	Hansel Valley	97.71	49	*e*P	Pdif	03 07 56.0	+1.1
HVU				pmax	pmax		
	comp=Z,6.0nm,1.1s						
HRY	Holter Researc	98.36	44	*e*P	P	03 07 57.0	-0.5
TMUT	Trail Mountain	98.90	51	*e*P	Pdif	03 08 01.7	+1.2
	comp=Z,3.4nm,0.9s						
YFT	Old Faithful	99.11	46	*e*P	Pdif	03 08 03.9	+2.7
	comp=Z,8.8nm,1.2s						
H17A	Grant Village	99.30	46	*e*P	Pdif	03 08 04.5	+2.6
	comp=Z,3.4nm,1.0s						
BW06	Boulder Array	100.09	48	*e*Pdif	Pdif	03 08 05.4	-0.1
PD31	Pinedale Array	100.09	48	*e*Pdif	Pdif	03 08 05.7	+0.2
PDAR	Pinedale Array	100.09	48	P	Pdif	03 08 05.2	-0.3
	comp=Z,2.2nm,0.9s,baz=233,slow=2.4,SNR=15						
PDAR				LR	LR	03 47 45.6	
	comp=Z,82nm,19.6s,baz=279,slow=32						
PDAR	Pinedale Array	100.09	48	*e*Pdif	Pdif	03 08 04.6	-0.9
SNAA	Sanae	101.26	188	*i* P	Pdif	03 08 11.1	+1.2
AKASG	Malin Array Be	114.34	324	PKP	PKPdf	03 12 58.4	-0.6
	comp=Z,0.6nm,0.5s,baz=62,slow=2.1,SNR=5.9						
AKBB	Malin Array Si	114.34	324	*e*PKiKP	PKPdf	03 12 58.4	-0.6
AKBB	Malin Array Si	114.34	324	*e*PKIKP	PKPdf	03 12 58.4	-0.6
BR101	Keskin Array S	114.88	311	*e*PKiKP	PKiKP	03 12 59.6	-0.9
BRTR	Keskin Array B	114.88	311	PKP	PKiKP	03 12 59.6	-0.9
	comp=Z,0.9nm,0.9s,baz=108,slow=2.7,SNR=3.7						
NB200	NORSAR Array S	117.11	340	*e*PKPdf	PKPdf	03 13 02.0	-2.1
NOA	NORSAR Array B	117.11	340	PKP	PKPdf	03 13 02.0	-2.1
	comp=Z,0.4nm,0.6s,baz=44,slow=1.8,SNR=2.8						
PLCA	Paso Flores	119.94	144	PKP	PKPdf	03 13 10.1	-0.2
	comp=Z,0.3nm,0.5s,baz=267,slow=3.9,SNR=3.1						
VYHS	Vyhne	121.36	325	*e*PKP	PKiKP	03 13 12.9	+0.1
VTS	Vitosha	121.38	317	*e*PKPdf	PKPdf	03 13 13.1	+0.1
VTS	Vitosha	121.38	317	*e*PKIKP	PKPdf	03 13 13.1	+0.1
SCHQ	Schefferville	121.82	25	PKP	PKPdf	03 13 12.2	-1.1
	comp=Z,3.5nm,0.8s,baz=234,slow=8.7,SNR=3.0						
DIVS	Divibare	122.83	320	*e*PKPdf	PKiKP	03 13 15.8	0.0
CLL	Collm	122.85	330	*e*PKPdf	PKPdf	03 13 15.3	0.0
CLL	Collm	122.85	330	*i* PKPdf	PKPdf	03 13 13.8	-1.5
	comp=Z,6.0nm,0.8s						
CLL	Collm	122.85	330	*e*PKIKP	PKPdf	03 13 15.4	0.0
CONA	Conrad Observa	123.34	326	*e*PKiKP	PKiKP	03 13 17.2	+0.4
	comp=Z,0.8nm,0.5s						
FNA	Florina	123.38	316	*e*PKPdf	PKPdf	03 13 16.3	-0.5
FNA	Florina	123.38	316	*e*PKIKP	PKPdf	03 13 16.3	-0.5
KHC	Kasperske Hory	123.89	328	*e*PKPdf	PKiKP	03 13 17.8	0.0
KHC				*e*x	x	03 13 27.4	
KHC	Kasperske Hory	123.89	328	*e*PKIKP	PKiKP	03 13 17.8	0.0
KHC				*e*		03 13 27.4	
GEC2	GERESS Array S	123.99	328	*e*PKPdf	PKiKP	03 13 18.1	+0.1
GEC2	GERESS Array S	123.99	328	*e*PKIKP	PKiKP	03 13 18.1	+0.1
GERES	GERESS Array B	123.99	328	PKP	PKPdf	03 13 17.9	+0.2
	comp=Z,2.6nm,0.7s,baz=87,slow=1.7,SNR=17						
GEA0	GERESS Array S	124.00	328	*e*PKPdf	PKPdf	03 13 17.5	-0.3
SOKA	Soboth	124.51	325	*e*PKiKP	PKiKP	03 13 19.1	0.0
	comp=Z,3.5nm,1.1s						
ABTA	Abfaltersbach	125.89	326	*e*PKiKP	PKPdf	03 13 21.3	-0.2
	comp=Z,5.1nm,1.1s						
WATA	Walderalm	126.04	327	*e*PKiKP	PKPdf	03 13 21.3	-0.5
	comp=Z,2.3nm,0.4s						
MOTA	Moosalm	126.29	328	*e*PKiKP	PKPdf	03 13 22.5	+0.2
	comp=Z,2.8nm,0.5s						
SQTA	Sankt Quirin	126.31	327	*e*PKiKP	PKiKP	03 13 22.8	+0.1
	comp=Z,4.0nm,0.8s						
RETA	Reutte	126.38	328	*i* PKiKP	PKiKP	03 13 22.7	-0.1
	comp=Z,1.0nm,0.5s						
FETA	Feichten	126.69	327	*e*PKiKP	PKiKP	03 13 23.8	+0.3
	comp=Z,3.2nm,1.0s						
DAVA	Damuels	126.97	328	*e*PKiKP	PKiKP	03 13 24.1	0.0
	comp=Z,3.4nm,0.7s						
DAVOX	Davos/Dischmat	127.29	328	PKP	PKPdf	03 13 24.0	-0.3
	comp=Z,2.6nm,0.5s,baz=131,slow=3.6,SNR=7.6						
KEST	Kesra	134.09	316	PKP	PKPdf	03 13 37.4	0.0
	comp=Z,4.0nm,1.0s,baz=45,slow=1.4,SNR=5.1						
LPAZ	La Paz	135.09	119	PKP	PKPdf	03 13 40.5	+0.1
	comp=Z,1.2nm,0.8s,baz=302,slow=9.5,SNR=5.8						
SDV	Santo Domingo	137.89	83	*e*PKPdf	PKPdf	03 13 45.6	+0.5
MDT	Midelt	144.91	324	PKPbc	PKPbc	03 13 56.4	0.0
	comp=Z,1.4nm,0.4s,baz=358,slow=3.7,SNR=18						
PTGA	Pitinga	147.81	100	*e*PKPbc	PKPbc	03 14 05.3	-0.1
TOA0	Torodi Ar. Sit	149.43	287	*e*PKPdf	PKPdf	03 14 05.6	+0.6
TOA0				*e*PKPbc	PKPbc	03 14 09.4	-0.1
TORD	Torodi Ar. Bea	149.43	287	PKPbc	PKPbc	03 14 07.5	-1.9
	comp=Z,17nm,0.7s,baz=116,slow=3.4,SNR=85						
TOA1	Torodi Ar. Sit	149.43	287	*e*PKPbc	PKPbc	03 14 07.5	-1.9
BDFB	Brasilia	151.39	137	PKPbc	PKPbc	03 14 12.9	-1.3
	comp=Z,6.5nm,0.7s,baz=182,slow=3.7,SNR=10						
DBIC	Dimbokro	156.64	274	PKPab	PKPab	03 14 44.1	-0.7
	comp=Z,7.0nm,0.8s,baz=55,slow=2.6,SNR=5.7						
DBIC	Dimbokro	156.64	274	*e*PKPab	PKPab	03 14 44.7	-0.1
DBIC	Dimbokro	156.64	274	*e*PKP2	PKPab	03 14 44.7	-0.1

MEX 10 03:02:41.2±0.5**, 15°.48N×93°.39W, h94**km±6km**, MD3.6, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		0.28	37	*e*P	Pn	03 02 53.6	-1.3
PCIG				*e*S	Sn	03 03 03.5	-1.7
TGIG		1.31	11	*e*P	Pn	03 03 03.8	-1.1
TGIG				*i* S	Sn	03 03 21.2	-1.6
CCIG	Comitan	1.45	57	*e*P	Pn	03 03 05.3	-1.3
CCIG				*i* S	Sn	03 03 24.3	-1.6

IDC 10 03:20:12.9±3.8**, 5°.35S×152°.36E, h0**km**, mb3.6**/3**, mb1 3.9**/3**, mb1mx3.5**/28**, mbtmp3.7**/3**, Error ellipse: s-maj=140.1km s-min=50.9km az=123.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.76	229	P	P	03 25 16.2	-0.8
	0.6nm,0.6s,baz=53,slow=9.8,SNR=6.5						
ASAR	Alice Springs	25.45	222	P	P	03 25 43.3	+0.5
	1.5nm,0.8s,baz=61,slow=8.8,SNR=9.1						
FITZ	Fitzroy Crossi	29.02	242	P	P	03 26 14.6	-0.3
	1.6nm,0.8s,baz=74,slow=15,SNR=2.5						
TORD	Torodi Ar. Bea	150.06	287	PKPbc	PKPbc	03 40 06.5	-0.1
	0.4nm,0.6s,baz=59,slow=0.8,SNR=3.9						

*NORS **10** 03:36:41.3±0.0, 41°.76N×42°.50E, h4km, MPVA3.1*
ISC 10 03:36:41.7±2.0**, 41°.75N**±0°.06×**42°.6E**±0°.1**, h3**km±14km**, n6,** σ**0s.91**/11**, Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EPOS	Posof	0.27	153	*i* P	Pg	03 36 47.7	+0.7
BGD	Bogdanovka	0.92	121	P	Pg	03 36 58.5	-0.7
BGD				S	Sg	03 37 10.5	-0.6
DIGR	Digorskoe uzhe	1.38	33	*e*Pg	Pn	03 37 07.2	-0.8
DIGR				*e*Sg	Sn	03 37 26.8	-0.1
ZEI	Tsey	1.44	43	*e*Pg	Pn	03 37 08.9	+0.1
ZEI				*e*Sg	Sn	03 37 29.8	+1.4
NEY	Neytrino	1.51	4	*e*Pg	Pg	03 37 10.1	-0.5
NEY				*e*Sg	Sg	03 37 30.6	+0.5
LACR	Lac	1.68	49	*i* Pg	Pb	03 37 13.2	-0.1
LACR				*e*Sg	Sg	03 37 36.8	+1.1

*PDG **10** 03:37:48.8±0.4, 40°.67N×19°.65E, h5km, ML2.9/10, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*
*ATH **10** 03:37:48.9, 40°.69N×19°.64E, h18km±2km, ML2.8/4, Error ellipse: s-maj=2.4km s-min=1.7km az=283.0*
*THE **10** 03:37:49.2, 40°.70N×19°.65E, h0km±3km, ML2.8/4, Error ellipse: s-maj=4.1km s-min=1.0km az=293.0*
*ROM **10** 03:37:49.0, 40°.66N×19°.69E, h12km, ML3.1*
*TIR **10** 03:37:49.5, 40°.69N×19°.62E, h4km, Md3.2/6*
*BEO **10** 03:37:49.6±1.5, 40°.69N×19°.57E, h11km±6km, ML3.0/9*
ISC 10 03:37:49.9±0.9**, 40°.67N**±0°.02×**19°.67E**±0°.02**, h12**km±8km**, n136,** σ**1s.37**/165**, 10C-11D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLO	Vlora	0.23	214	P	Pg	03 37 54.9	0.0
VLO	Vlora	0.23	214	*i* PG	Pg	03 37 54.8	0.0
VLO				*i* SG	Sg	03 37 58.8	+0.6
TPE	Tepelena	0.45	144	P	Pg	03 37 57.9	-0.9
TPE				S	Sb	03 38 05.8	-0.6
TPE	Tepelena	0.45	144	*i* PG	Pg	03 37 58.2	-0.6
TPE				*i* SG	Sb	03 38 07.0	+0.6
TIR	Tirane	0.70	12	*e*Pg	Pg	03 38 02.1	-1.3
TIR				*e*Sg	Sb	03 38 13.7	+0.2
TIR	Tirane	0.70	12	P	Pg	03 38 02.3	-1.1
TIR				AML	AML	03 38 29.8	
	comp=N,4360µm,0.6s						
TIR				AML	AML	03 38 31.3	
	comp=E,3386µm,0.6s						
TIR	Tirane	0.70	12	P	Pg	03 38 02.3	-1.1
TIR	Tirane	0.70	12	*i* PG	Pg	03 38 02.6	-0.8
TIR				*i* SG	Sb	03 38 13.2	-0.3
SRN	Sarande	0.82	162	P	Pg	03 38 05.0	-0.8
SRN	Sarande	0.82	162	*i* PG	Pg	03 38 05.3	-0.5
SRN				*i* SG	Sn	03 38 19.5	+0.2
KEK	Kerkira	0.96	174	P	Pg	03 38 08.2	-0.1
KEK	Kerkira	0.96	174	P	Pg	03 38 08.2	-0.1
KEK				S	Sn	03 38 22.3	-0.3
OHR	Ohrid	0.97	62	*e*Pn	Pg	03 38 07.7	-0.8
NEST	Nestorio	1.08	103	P	Pb	03 38 09.1	-1.4
NEST	Nestorio	1.08	103	P	Pb	03 38 09.2	-1.4
SCTE	Santa Cesarea	1.09	238	P	Pb	03 38 10.1	-0.5
SCTE				AML	AML	03 38 31.1	
	comp=E,561µm,0.4s						
SCTE				AML	AML	03 38 35.6	
	comp=N,337µm,0.5s						
SCTE	Santa Cesarea	1.09	238	*i* PN	Pg	03 38 10.7	-0.2
SCTE				*i* SN	Sn	03 38 26.1	+0.3
PHP	Peshkopia	1.18	30	P	Pb	03 38 09.8	-2.3
PHP	Peshkopia	1.18	30	*i* PN	Pb	03 38 10.6	-1.5
PHP				*i* SN	Sn	03 38 29.6	+1.5
PENT	Pentalofos	1.22	112	P	Pn	03 38 12.3	-0.5
IGT	Igoumenitsa	1.24	155	P	Pn	03 38 12.9	-0.1
IGT	Igoumenitsa	1.24	155	P	Pn	03 38 12.9	-0.1
FNA	Florina	1.30	84	*e*P	Pn	03 38 13.0	-0.9
FNA	Florina	1.30	84	P	Pn	03 38 12.8	-1.1
FNA				AML	AML	03 38 39.4	
	comp=E,895µm,0.5s						
FNA				AML	AML	03 38 39.6	
	comp=N,928µm,0.6s						
FNA	Florina	1.30	84	P	Pn	03 38 12.6	-1.3
FNA				S	Sg	03 38 34.2	+2.3
BIA	Bitola	1.31	74	*i* Pn	Pb	03 38 14.4	+0.1
ULC	Ulcinj	1.34	346	⇓*i*Pg	Pn	03 38 12.9	-1.4
ULC				*e*Sg	Sg	03 38 34.0	+1.1
JAN	Janina	1.35	138	P	Pb	03 38 15.2	+0.1
JAN	Janina	1.35	138	P	Pn	03 38 14.7	+0.1
PUK	Puka	1.39	7	*i* PN	Pb	03 38 15.6	-0.1
PUK				*i* SN	Sg	03 38 35.6	+1.1
KRUS	Krusevo	1.39	59	*i* Pn	Pn	03 38 14.5	-0.6
DRME	Dracevica, Mon	1.56	347	⇑*i*Pg	Pn	03 38 16.8	-0.7
DRME				*e*Sg	Sg	03 38 42.0	+1.8
DRME	Dracevica, Mon	1.56	347	*e*Pn	Pn	03 38 16.7	-0.7
KZN	Kozani	1.64	102	P	Pb	03 38 19.6	-0.5
KZN	Kozani	1.64	102	P	Pb	03 38 19.6	-0.5
KZN				S	Sg	03 38 42.7	-0.1
CGL1	Ceglie Messapi	1.67	270	*e*Pn	Pb	03 38 19.6	-0.8
BCI	Bajram Curri	1.73	10	*i* PN	Pb	03 38 21.9	+0.4
BCI				*i* SN	Sb	03 38 44.2	+1.1
FASA	Fasano	1.76	276	*e*Pn	Pb	03 38 21.7	-0.4
PDG	Podgorica	1.79	350	*e*Pg	Pn	03 38 20.6	+0.1
PDG				*e*Sg	Sb	03 38 45.5	+0.6
PDG	Podgorica	1.79	350	⇑*i*P	Pn	03 38 20.9	+0.4
PDG	Podgorica	1.79	350	*e*Pn	Pn	03 38 20.4	-0.1
TTG	Podgorica	1.79	350	⇓*i*Pn	Pn	03 38 20.4	-0.1
TTG				*e*Sn	Sb	03 38 46.0	+1.1
TAR1	Taranto	1.82	266	*e*Pn	Pg	03 38 25.2	+0.5
SKO	Skopje	1.87	45	*e*Pg	Pb	03 38 23.6	-0.2
SKO				*e*Sg	Sg	03 38 49.4	-0.5
SKO	Skopje	1.87	45	*e*Pn	Pb	03 38 23.7	-0.2
MASS	Massafra	1.92	270	*e*Pn	Pb	03 38 23.9	-0.8
PVY	Plav	1.94	6	⇑*i*Pn	Pn	03 38 23.6	+0.9
PVY				*e*Sn	Sb	03 38 50.5	+1.1
CEME	Cevo	1.96	344	⇑*i*Pn	Pn	03 38 23.7	+0.7
CEME				*e*Sn	Sg	03 38 51.8	-1.2
NOCI	Noci	1.98	274	P	Pn	03 38 22.5	-0.7
HCY	Herceg Novi	1.99	334	⇓*i*Pn	Pn	03 38 24.0	+0.8
HCY				*e*Sn	Sb	03 38 51.3	+0.7
HCY	Herceg Novi	1.99	334	*e*Pn	Pn	03 38 21.3	-1.9
TSLK	Tsoukalades, L	1.99	157	P	Pn	03 38 24.4	+1.1
TSLK	Tsoukalades, L	1.99	157	P	Pn	03 38 24.7	+1.4
LKD2	Lefkada island	2.02	157	P	Pn	03 38 24.6	+0.9
LKD2	Lefkada island	2.02	157	P	Pn	03 38 24.6	+0.9
GRG	Griva	2.10	81	*e*P	Pn	03 38 24.2	-0.6
GRG				*e*S	Sn	03 38 48.1	-2.7
GRG	Griva	2.10	81	P	Pn	03 38 26.0	+1.3
GRG				AML	AML	03 39 05.5	
	comp=E,107µm,0.6s						
GRG				AML	AML	03 39 12.3	
	comp=N,190µm,0.7s						
GRG	Griva	2.10	81	P	Pn	03 38 25.6	+0.8
THL	Klokotos Trika	2.11	121	P	Pb	03 38 27.9	-0.1
BAI	Bari	2.16	283	*e*Pn	Pn	03 38 24.2	-1.4
STIP	Stip	2.16	61	*i* Pn	Pb	03 38 29.7	+0.8
NKME	Niksic	2.17	346	⇓*i*Pn	Pn	03 38 26.2	+0.4
NKME				*e*Sn	Sb	03 38 56.7	+0.8
EVGI	Lefkada island	2.18	159	P	Pn	03 38 26.8	+0.9
EVGI	Lefkada island	2.18	159	P	Pn	03 38 26.8	+0.9
KOME	Kolasin	2.19	357	⇓*i*Pn	Pn	03 38 27.1	+1.0
KOME				*e*Sn	Sb	03 38 56.7	+0.2
NKY	Niksic	2.21	347	⇓*i*Pn	Pn	03 38 27.0	+0.7
NKY				*e*Sn	Sb	03 38 56.4	-0.6
IVA	Berane	2.21	4	⇑*i*Pn	Pn	03 38 27.1	+0.7
IVA				*e*Sn	Sb	03 38 57.1	-0.1
LIT	Litokhoron	2.23	104	P	Pb	03 38 28.7	-1.4
MATE	Matera	2.25	271	⇓*i*P	Pb	03 38 29.9	-0.5
TREB	Trebinje	2.27	335	*e*Pn	Pn	03 38 24.7	-2.5
SG1	Sgolgore (BA)	2.28	275	*e*Pn	Pn	03 38 27.9	+0.7
VAY	Valandovo	2.29	72	*e*Pn	Pn	03 38 28.2	+0.8
VAY	Valandovo	2.29	72	*e*Pn	Pn	03 38 28.6	+1.1
BRY	Bratogost	2.39	340	⇓*i*Pn	Pn	03 38 30.1	+1.2
BRY				*e*Sn	Sb	03 39 00.9	-1.4
BRY	Bratogost	2.39	340	*e*Pn	Pb	03 38 31.4	-1.5
KNT	Kendrikon	2.50	77	*e*P	Pn	03 38 29.9	-0.4
KNT	Kendrikon	2.50	77	P	Pn	03 38 31.3	+1.0
PVO	Paravola	2.50	144	P	Pn	03 38 31.9	+1.6
VLS	Valsamata	2.58	164	P	Pn	03 38 31.4	0.0
VLS	Valsamata	2.58	164	P	Pn	03 38 31.3	-0.2
UPM	Unac-Piva	2.60	348	⇑*i*Pn	Pn	03 38 33.3	+1.5
UPM				*e*Sn	Sn	03 39 05.7	+2.3
UPM	Unac-Piva	2.60	348	*e*Pn	Pb	03 38 35.9	-0.6
SJES	Sjenica	2.60	5	*e*Pn	Pn	03 38 31.9	+0.1
HORT	Hortiatis	2.61	90	*e*P	Pn	03 38 31.7	-0.2
HORT	Hortiatis	2.61	90	P	Pn	03 38 33.3	+1.3
AGG	Agios Georgios	2.63	128	P	Pn	03 38 34.2	+2.1
STON	Ston	2.65	327	*i* Pn	Pn	03 38 29.7	-2.7
PLE	Pljevlja	2.67	356	⇓*i*Pn	Pn	03 38 33.9	+1.1
PLE				*e*Sn	Sn	03 39 07.7	+2.6
TIP	Timpagrande	2.68	237	P	Pn	03 38 32.3	-0.5
TIP	Timpagrande	2.68	237	⇑*i*P	Pg	03 38 41.7	+0.4
BARS	Barje	2.69	36	*e*Pn	Pn	03 38 33.3	+0.5
SELS	Selova	2.77	23	*e*Pn	Pn	03 38 33.6	-0.5
SOH	Sokhos	2.81	86	P	Pn	03 38 36.0	+1.5
KKB	Krupnik	2.84	64	*e*P	Pn	03 38 37.4	+2.4
IVAS	Ivanjica	2.93	7	*e*Pn	Pn	03 38 35.4	-0.9
XOR	Xorichti	3.00	114	P	Pn	03 38 39.2	+2.0
SRS	Serrai	3.01	80	P	Pn	03 38 38.3	+1.0
PAIG	Paliouri	3.16	102	P	Pn	03 38 40.4	+1.1
MMB	Musomiste	3.20	72	*e*P	Pn	03 38 42.1	+2.1
BBLS	Lazići	3.21	357	*e*Pn	Pn	03 38 39.6	-0.5
BBLS	Lazići	3.21	357	*e*Pn	Pn	03 38 43.2	+3.1
KLV	Kalavryta, Ach	3.25	143	P	Pn	03 38 42.5	+1.8
VTS	Vitosha	3.28	53	*e*Pn	Pn	03 38 42.4	+1.3
VTS	Vitosha	3.28	53	⇑*i*P	Pn	03 38 42.9	+1.8
GRUS	Gruza	3.31	13	*e*Pn	Pn	03 38 41.8	+0.3
BOVS	Bovan	3.33	26	*e*Pn	Pn	03 38 41.8	+0.1
ZAPS	Zavoj	3.42	39	*e*Pn	Pn	03 38 43.8	+0.8
GUR	Goura	3.42	142	P	Pn	03 38 44.7	+1.6
DIVS	Divibare	3.44	4	*e*Pn	Pn	03 38 42.3	-1.0
DIVS	Divibare	3.44	4	*e*Pn	Pn	03 38 42.1	-1.2
HAPS	Han Pijesak,Bl	3.46	351	*e*Pn	Pn	03 38 40.2	-3.4
ZAGS	Zajecar	3.68	30	*e*Pn	Pn	03 38 47.5	+1.0
ITM	Ithomi	3.90	152	*e*P	Pn	03 38 49.4	-0.2
RZN	Rozhen	3.95	73	*e*P	Pn	03 38 52.4	+2.1
KUBS	Kucevo	4.03	21	*e*Pn	Pn	03 38 50.9	-0.4
MDVR	Moldovita	4.38	19	⇑*i*P	Pb	03 39 04.4	-2.4
KDZ	Kurdzhali	4.45	75	*e*P	Pn	03 39 01.8	+4.7
BLY	Banja Luka	4.47	337	⇑*i*P	Pb	03 39 05.3	-3.0
BLY	Banja Luka	4.47	337	*e*Pn	Pn	03 38 58.2	+0.8
RDO	Rodhopi	4.47	82	*e*P	Pn	03 38 58.0	+0.6
FRGS	Fruska Gora	4.49	1	*e*Pn	Pn	03 38 58.3	+0.6
ALN	Alexandroupoli	4.85	85	*e*P	Pn	03 39 03.4	+0.8
AQU	L'Aquila	5.00	292	*e*Pn	Pn	03 39 02.1	-2.6
BZS	Buzias	5.15	15	*e*Pn	Pn	03 39 05.6	-1.1
BZS	Buzias	5.15	15	⇓*i*P	Pn	03 39 12.0	+5.3
GZR	Gura Zlata	5.25	25	⇓*i*P	Pn	03 39 11.1	+3.0
NVLJ	Novalja	5.26	319	*e*Pn	Pn	03 39 07.2	-1.0
NVLJ				Sn	Sn	03 40 05.9	-2.9
EDRB	Edirne	5.46	75	*e*P	Pn	03 39 12.6	+1.6
CRES	Cresnjev	6.00	331	*e*Pn	Pn	03 39 16.2	-2.2
CEY	Cerknica	6.35	325	*e*Pn	Pn	03 39 21.0	-2.3
OBKA	Obir	6.92	329	*e*Pn	Pn	03 39 32.1	+1.0
	comp=N,0.5nm,0.3s						
ABTA	Abfaltersbach	7.99	322	*e*Pn	Pn	03 39 48.4	+2.6
	comp=N,1.0nm,0.4s						
WATA	Walderalm	8.85	322	*e*Pn	Pn	03 39 59.7	+2.0
	comp=N,1.2nm,0.4s						
SQTA	Sankt Quirin	8.95	320	*e*Pn	Pn	03 40 02.1	+3.2
	comp=N,3.1nm,0.5s						
FETA	Feichten	9.05	318	Pn	Pn	03 40 04.3	+3.8
	comp=N,0.6nm,0.5s						
MOTA	Moosalm	9.09	320	*e*Pn	Pn	03 40 01.0	+0.1
	comp=N,2.6nm,0.6s						

UCR 10 04:13:56.5±2.4**, 9°.25N×83°.17W, h8**km±5km**, MD4.1, ML4.3, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DRK0	Durika	0.08	280	*e*P	Pg	04 13 58.9	+0.1
DRK0				*e*S	Sg	04 14 01.3	+1.0
EDBA	Buenos Aires	0.14	232	*e*P	Pg	04 14 00.2	+0.8
EDBA				*e*S	Sg	04 14 03.8	+2.3
EDPN	Palmar Norte	0.41	225	*e*P	Pg	04 14 05.2	+0.7
EDPN				*e*S	Sb	04 14 12.6	+0.3
EDLM	Las Mercedes	0.42	274	*e*P	Pg	04 14 04.4	-0.3
EDLM				*e*S	Sg	04 14 11.1	+0.9
EDSV	San Vito	0.47	156	*e*P	Pg	04 14 05.0	-0.7
BRU2	Volcan	0.65	134	AMP		04 14 07.5	
	comp=Z,32µm,0.1s						

BRU2 eS Sg 04 14 15.9 -1.7
EDDO Dominical 0.69 270 eP Pg 04 14 10.0 +0.2
EDDO eS Sb 04 14 20.8 +0.3
PTJ1 Puerto Jimnez 0.72 191 i P Pg 04 14 09.7 -0.7
PTJ1 eS Sb 04 14 20.7 -0.8
URSC Urasca 0.84 314 eP Pg 04 14 11.7 -1.0
LCR2 La Lucha 2 0.96 301 eP Pg 04 14 13.4 -1.6
LCR2 eS Sg 04 14 26.8 -0.7
HDC Heredia 1.20 309 eP Pg 04 14 17.9 -1.7
HDC eS Sg 04 14 35.0 -0.1
SRA1 San Ramn 1.54 303 eP Pn 04 14 23.6 -0.9
FORC Fortuna 1.91 309 i P Pn 04 14 30.1 +0.6
FORC i S Sb 04 14 56.0 +0.1
CASO Castillo 1.94 307 i P Pn 04 14 30.5 +0.5
ARE1 Arenal 1 1.95 308 eP Pn 04 14 30.3 +0.3
JTS JuntasAbangare 2.04 301 eP Pn 04 14 31.2 -0.1
JTS eS Sn 04 14 57.1 0.0
ACAL Aguas Claras 2.30 307 i P Pn 04 14 36.1 +1.2
AZU Azuero 3.21 117 eP Pn 04 14 47.8 +0.6
AZU eS Sn 04 15 24.3 -1.4
BCIP Isla Barro Col 3.29 91 eP Pn 04 14 46.0 -2.4
BCIP AMP 04 14 47.0
comp=Z,726nm,0.1s

IDC 10 04:18:38.1±1.6**, 1°.78S×68°.17E, h0km, mb3.8**/7**, mb1 4.0**/7**, mb1mx3.6**/52**, mbtmp3.8**/7**, MS3.4**/8**, Ms1 3.4**/8**, ms1mx3.1**/53**, Error ellipse: s-maj=56.1km s-min=23.4km az=52.0, Carlsberg Ridge**

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

H08N2 Diego Garcia H 5.32 148 T T 04 25 20.3
baz=325,slow=76,SNR=1324
H08N3 Diego Garcia H 5.33 148 T T 04 25 20.0
baz=325,slow=76,SNR=1161
H08N1 Diego Carcia H 5.34 148 T T 04 25 20.7
baz=325,slow=76,SNR=1164
H08S3 Diego Garcia H 7.22 144 T T 04 27 58.9
baz=304,slow=76,SNR=14
H08S1 Diego Carcia H 7.23 144 T T 04 28 04.0
baz=304,slow=76,SNR=14
H08S2 Diego Garcia H 7.24 144 T T 04 28 05.8
baz=304,slow=76,SNR=12
PALK Pallekele 15.40 54 LR LR 04 27 01.8
comp=Z,176nm,21.0s,baz=296,slow=33
WSAR Wadi Sarin 26.55 340 LR LR 04 32 48.6
comp=Z,69nm,18.8s,baz=169,slow=32
ATD Arta Tunnel 28.44 298 LR LR 04 33 36.9
comp=Z,39nm,21.0s,baz=340,slow=32
BRDH Bariadhala 33.39 42 LR LR 04 40 31.8
comp=Z,122nm,18.6s,baz=214,slow=39
CMAR Chiang Mai Arr 36.34 55 LR LR 04 39 15.5
comp=Z,37nm,21.4s,baz=183,slow=34
BOSA Boshof 48.83 233 LR LR 04 45 41.3
comp=Z,41nm,18.3s,baz=46,slow=33
MKAR Makanchi Array 49.94 13 P P 04 27 32.8 -1.0
0.7nm,0.8s,baz=201,slow=6.0,SNR=7.4
KBZ Khabaz 50.66 336 P P 04 27 39.4 +0.2
0.8nm,0.6s,baz=169,slow=9.6,SNR=2.2
BRTR Keskin Array B 52.02 326 P P 04 27 50.0 +0.3
0.5nm,0.9s,baz=165,slow=12,SNR=4.1
ZALV Zalesovo Beam 57.24 12 P P 04 28 26.9 -0.3
2.7nm,0.8s,baz=211,slow=10,SNR=7.5
SONM Songino Array 59.59 29 P P 04 28 44.6 +0.7
1.5nm,0.8s,baz=223,slow=8.1,SNR=9.1
WRA Warramunga Arr 67.02 111 P P 04 29 33.7 +0.1
1.2nm,0.8s,baz=287,slow=5.9,SNR=8.6
ASAR Alice Springs 67.11 115 P P 04 29 34.1 -0.1
0.9nm,0.8s,baz=283,slow=6.2,SNR=4.9
TORD Torodi Ar. Bea 67.57 285 LR LR 04 59 25.3
comp=Z,54nm,18.3s,baz=315,slow=36
DBIC Dimbokro 73.37 277 LR LR 05 01 11.7
comp=Z,14nm,18.6s,baz=102,slow=35
TXAR Lajitas Array 151.52 345 PKPbc PKPbc 04 38 34.6 -0.6
0.7nm,0.9s,baz=28,slow=2.1,SNR=4.4

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*NIED **10** 04:28:00, 32°.50N×141°.80E, h5km, Mw4.6 Best double couple: M0 8.56000×10^15 NP1:φs210.00000°, δ19.00000°, λ125.00000°. NP2:φs353.00000°, δ75.00000°, λ79.00000°.*
*IDC **10** 04:28:35.6±0.5, 32°.41N×141°.73E, h0km, mb4.4/25, mb1 4.6/30, mb1mx4.5/42, mbtmp4.4/30, ML4.0/3, MS3.8/22, Ms1 3.8/22, ms1mx3.6/60, Error ellipse: s-maj=13.9km s-min=11.8km az=74.0*
*MOS **10** 04:28:37.9±1.2, 32°.50N×141°.61E, h23km, mb4.9/62, Error ellipse: s-maj=8.4km s-min=4.4km az=107.7*
*JMA **10** 04:28:39.2±0.3, 32°.50N×141°.83E, h46km, M4.3*
*NEIC **10** 04:28:40.4±2.3, 32°.39N×141°.71E, h29km±4km, mb4.7/99, Error ellipse: s-maj=13.2km s-min=7.3km az=65.0*
*BJI **10** 04:28:40.2, 32°.42N×141°.81E, h62km, mb4.6/57, mB4.9/39, Ms4.5/40, Ms7 4.3/38*
*ISCJB **10** 04:28:41.5±0.2, 32°.47N±0°.03×141°.51E±0°.03, h48km, mb4.7/149, MS3.9/27, Error ellipse: s-maj=4.4km s-min=3.2km az=13.4*
ISC 10 04:28:42.0±0.5**, 32°.42N**±0°.04**×141°.71E**±0°.05**, h48km**±3km**, h48km:pP-P, n335, σ1s.84**/357**, mb4.7**/160**, MS3.9**/28**, 29C-12D, Southeast of Honshu**

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

JAOM Aogashimamukai 1.65 272 P **Pn 04 29 07.7 -0.8**
JHCJ Hachijojimakas 1.74 293 P **Pn 04 29 08.4 -1.4**
JHCJ S **Sn 04 29 29.7 -1.1**
JHJ2 Mitsune 1.74 294 ePn **Pn 04 29 08.8 -1.0**
JHJ2 eSn **Sn 04 29 29.4 -1.3**
JHJ2 Mitsune 1.74 294 P **Pn 04 29 08.6 -1.2**
JHJ Hachijo jima 2 1.77 294 Pn **Pn 04 29 08.9 -1.3**
192nm,0.3s,baz=123,slow=2.9,SNR=9.7
JHJ Sn **Sn 04 29 32.2 +0.7**
301nm,0.3s,baz=247,slow=23,SNR=7.4
BSO1 Boso 1 2.31 345 P **Pn 04 29 15.1 -2.1**
BSO3 Boso 3 2.58 337 P **Pn 04 29 19.1 -2.0**
JOD2 Odawara 2 3.58 323 P **Pn 04 29 33.4 -1.7**
JYN Shimob 4.05 320 P **Pn 04 29 41.8 +0.3**
JRY Ryogami san 4.28 328 P **Pn 04 29 43.9 -0.8**
JAG Ashikaga 4.41 336 P **Pn 04 29 44.6 -1.9**
INU Inuyama 4.88 308 ePn **Pn 04 29 53.2 +0.4**
INU eSn **Sn 04 30 43.8 -4.2**
MJAR Matsushiro Arr 5.03 326 Pn **Pn 04 29 53.8 -1.2**
5.8nm,0.3s,baz=153,slow=11,SNR=45
MJAR Sn **Sn 04 30 48.7 -3.0**
1.9nm,0.3s,baz=152,slow=14,SNR=2.5
MJAR LR LR 04 32 07.7
comp=Z,738nm,19.8s,baz=150,slow=42
MAJO Matsushiro 5.03 326 ePn **Pn 04 29 54.1 -0.8**
MAJO eSn **Sn 04 30 52.1 +0.3**
MAJO Matsushiro 5.03 326 i P **Pn 04 29 53.1 -1.9**
MAT Matsushiro 5.03 326 P **Pn 04 29 53.6 -1.4**
MAT eS **Sn 04 30 48.7 -3.1**
MAT Matsushiro 5.03 326 P **Pn 04 29 54.3 -0.7**
JFT Otama 5.21 348 P **Pn 04 29 55.1 -2.3**
JFT S **Sn 04 30 51.8 -4.5**
CBIJ Chichi jima 5.32 175 ePn **Pn 04 29 56.3 -2.6**
CBIJ eSn **Sn 04 30 54.4 -4.5**
JCJ Chichijima 5.32 175 Pn **Pn 04 29 56.5 -2.4**
JCJ Sn **Sn 04 30 54.0 -4.9**
JNU Nakatsue 9.15 277 Pn **Pn 04 30 52.3 +0.9**
0.7nm,0.3s,baz=87,slow=8.9,SNR=9.1
JNU LR LR 04 34 37.6
comp=Z,723nm,18.5s,baz=118,slow=40
JNU Nakatsue 9.15 277 ePn **Pn 04 30 51.9 +0.5**
JNU eSn **Sn 04 32 30.6 -2.5**
ERM Erimo 9.65 6 ePn **Pn 04 30 53.6 -4.6**
ERM eSn Sn 04 32 35.1 -10
ERM Erimo 9.65 6 i P **Pn 04 30 54.7 -3.5**
ASAJ Asahikawa 11.70 3 Pn **Pn 04 31 24.6 -1.7**
2.3nm,0.3s,baz=180,slow=14,SNR=6.4
ASAJ Sn Sn 04 33 24.3 -11
0.8nm,0.3s,baz=64,slow=29,SNR=2.9
ASAJ Asahikawa 11.70 3 ePn **Pn 04 31 21.9 -4.3**
ASAJ eSn Sn 04 33 24.3 -11
YUK Yuzh-Kuril'sk 12.05 14 P **Pn 04 31 26.7 -4.2**
YUK pmax pmax
comp=Z,66nm,0.9s
YUK pmax pmax
comp=N,60nm,0.7s
YUK pmax pmax
comp=E,30nm,0.3s
SHO Shikotan 12.12 18 eP **Pn 04 31 27.4 -4.5**
SHO pmax pmax
comp=Z,23nm,0.9s
SHO pmax pmax
comp=N,9.0nm,0.6s
SHO pmax pmax
comp=E,17nm,0.8s
KSRS Korea Array 12.38 298 Pn **Pn 04 31 35.5 0.0**
comp=E,0.3nm,0.3s,baz=106,slow=14,SNR=7.0
KSRS LR LR 04 36 31.8
comp=E,487nm,19.4s,baz=107,slow=38
JOW Kunigami 12.94 248 LR LR 04 36 54.6
comp=E,669nm,18.6s,baz=114,slow=38
KUR Kuril'sk 13.66 19 i P **Pn 04 31 50.1 -2.9**
USRK Ussuriysk Ar. 14.01 330 Pn **Pn 04 31 55.4 -2.4**
comp=E,0.2nm,0.3s,baz=141,slow=14,SNR=6.6
USRK LR LR 04 37 18.7
comp=E,383nm,18.8s,baz=136,slow=37
YSS Yuzh-Sakhalins 14.54 3⇓eP **Pn 04 32 01.2 -3.6**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,600nm,15.0s
YSS MLR MLR
comp=N,500nm,14.0s
YSS MLR MLR
comp=E,500nm,14.0s
MDJ Mudanjiang 15.42 326 P **P 04 32 19.0 -1.0**
MDJ pP pP 04 32 28.3 -1.5
MDJ S **Sn 04 35 12.0 +6.1**
MDJ pmax pmax
comp=E,19nm,0.9s
MDJ pmax pmax
comp=E,360nm,4.0s
MDJ LR LR
comp=E,540nm,13.9s
MDJ LR LR
comp=E,610nm,13.1s
MDJ LR LR
comp=E,880nm,14.3s
MDJ Mudanjiang 15.42 326 ePn **Pn 04 32 15.3 -0.9**
comp=E,15nm,0.9s
ANA2 Anatahan 16.41 166 ePn **Pn 04 32 25.3 -3.8**
comp=E,191nm,1.1s
CN2 Changchun 17.08 316 eP **P 04 32 40.4 +1.9**
DL2 Dalian 17.54 297 eP **P 04 32 50.7 +7.1**
DL2 sP **sP 04 33 04.4 +5.0**
DL2 S **S 04 36 12.4 +9.1**
DL2 pmax pmax
comp=Z,160nm,8.6s
DL2 LR LR
comp=N,730nm,14.9s
DL2 LR LR
comp=E,710nm,14.9s
DL2 LR LR
comp=Z,850nm,13.9s
KLR Kul'dur 18.38 339 P **P 04 32 49.6 -3.2**
comp=Z,1.1nm,0.3s,baz=174,slow=7.2,SNR=14
KLR LR LR 04 39 54.4
comp=Z,213nm,19.3s,baz=136,slow=37
KLR Kul'dur 18.38 339 eP **P 04 32 49.3 -3.5**
TYV Tymovskoe 18.45 2 eP **P 04 32 50.5 -2.9**
TYV pmax pmax
comp=Z,400nm,4.7s
TYV pmax pmax
comp=Z,11nm,1.6s
GRNR Gornyy 18.75 350 eP **P 04 32 53.0 -3.8**
GUMO Guam 18.96 171 P **Pn 04 33 03.9 +3.5**
comp=Z,8.4nm,0.3s,baz=350,slow=6.1,SNR=4.6
GUMO Guam 18.96 171 eP **Pn 04 33 00.2 -0.2**
comp=Z,304nm,1.0s
GUMO Guam 18.96 171 eP **Pn 04 33 00.2 -0.2**
GUMO pmax pmax
comp=Z,304nm,1.0s
NJ2 Nanjing 19.34 275 eP **P 04 33 04.0 +0.6**
NJ2 pmax pmax
comp=Z,14nm,0.5s
YHNB Yeheng 19.44 252 eP **P 04 33 03.3 -1.3**
comp=Z,82nm,1.2s
YULB Yu-li 20.13 249 eP **P 04 33 10.5 -1.6**
comp=Z,38nm,1.1s
SSLB Suanglung 20.20 250 eP **P 04 33 12.3 -0.7**
comp=Z,26nm,0.9s
NKL Nikolayevsk 20.74 358 eP **P 04 33 17.5 -0.9**
SKR Severo-Kuril's 21.13 26 i P **P 04 33 22.9 +0.3**
BJI Beijing 21.91 298⇓eP **P 04 33 29.5 -1.6**
WHN Wuhan 23.39 273 P **P 04 33 45.7 -0.9**
WHN LR LR
comp=Z,1μm,19.3s
HIA Hailar 23.52 322 eP **P 04 33 46.2 -1.5**
comp=Z,16nm,0.8s
HIA Hailar 23.52 322 eP **P 04 33 46.2 -1.5**
HIA pmax pmax
comp=Z,16nm,0.8s
PETK Petropavlovsk- 23.68 24 LR LR 04 43 57.9
comp=Z,165nm,20.8s,baz=218,slow=39
ZEA Zeya 23.70 338 eP **P 04 33 49.1 -0.1**
ZEA pmax pmax
comp=N,86nm,1.2s
ZEA pmax pmax
comp=E,36nm,1.2s
ZEA pmax pmax
comp=Z,120nm,1.0s
ZEA pmax pmax
comp=Z,200nm,6.0s
PET Petropavlovsk 23.95 26 i P **P 04 33 50.8 -0.8**
PET pmax pmax
comp=Z,29nm,1.3s
HHC Hu-ho-hao-te 25.52 298 eP **P 04 34 05.7 -0.5**
HHC pP pwP 04 34 20.9 -1.0
HHC sP sP 04 34 27.6 +4.8
HHC S **S 04 38 26.6 -3.8**
HHC pmax pmax
comp=Z,16nm,0.5s
HHC pmax pmax
comp=Z,130nm,6.5s
HHC LR LR
comp=Z,470nm,13.8s
HHC LR LR
comp=Z,350nm,13.0s
HHC LR LR
comp=Z,480nm,14.7s
XAN Xi'an 27.42 282 P **P 04 34 21.6 -1.7**
XAN pP pP 04 34 34.4 -0.1
XAN sP sP 04 34 40.8 +1.0
XAN pmax pmax
comp=Z,18nm,1.3s
XAN pmax pmax
comp=Z,160nm,5.1s
XAN LR LR
comp=Z,370nm,16.3s
XAN LR LR
comp=Z,330nm,14.7s
XAN Xi'an 27.42 282 eP **P 04 34 21.8 -1.5**
comp=Z,24nm,1.2s
XAN Xi'an 27.42 282 eP **P 04 34 21.8 -1.5**
XAN pmax pmax
comp=Z,24nm,1.2s
MA2 Magadan 27.83 10 LR LR 04 47 39.3
comp=Z,126nm,18.6s,baz=181,slow=41
DAV Davao City (W) 29.35 214 LR LR 04 46 21.6
comp=Z,190nm,20.1s,baz=336,slow=36
YAK Yakutsk 30.63 349 eP **P 04 34 50.8 -0.5**
YAK e*PP **pP 04 35 04.5 +2.4**
YAK eS **S 04 39 50.7 +0.7**
YAK pmax pmax
comp=Z,11nm,0.8s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK smax smax
comp=N,47nm,2.8s
YAK smax smax
comp=E,36nm,2.4s
YAK MLR MLR
comp=Z,142nm,16.0s
SONA1 Songino Array 30.77 310 eP **P 04 34 53.6 +0.6**
SONA0 Songino Array 30.77 310 eP **P 04 34 53.5 +0.5**
SONM Songino Array 30.77 310 P **P 04 34 53.5 +0.5**
comp=Z,18nm,1.0s,baz=116,slow=8.1,SNR=3.8
SONM LR LR 04 47 42.7
comp=Z,176nm,19.3s,baz=64,slow=37
GYA Guiyang 31.00 268 eP **P 04 34 57.0 +1.8**
GYA pmax pmax
comp=Z,10.0nm,0.8s
SEY Seymchan 31.28 9 P **P 04 34 57.8 +0.7**
comp=Z,0.6nm,0.4s,baz=203,slow=10,SNR=2.6
SEY Seymchan 31.28 9 i P **P 04 34 56.2 -0.9**
LZH Lanzhou 31.38 287 eP P 04 35 03.6 +5.0
LZH pP pwP 04 35 14.4 -0.5
LZH sP sP 04 35 20.8 +5.7
LZH pmax pmax
comp=Z,18nm,1.1s
LZH pmax pmax
comp=Z,230nm,4.3s
LZH LR LR
comp=Z,760nm,13.0s
LZH LR LR
comp=Z,800nm,12.1s
LZH LR LR
comp=Z,900nm,14.1s
BOD Bodaibo 31.64 332 eP **P 04 34 59.1 -1.2**
BOD pmax pmax
comp=Z,24nm,1.2s
CD2 Chengdu 32.23 278 eP **P 04 35 05.0 -0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
ZAK Zakamensk 33.49 314 eP **P 04 35 14.7 -2.0**
ZAK pmax pmax
comp=Z,6.0nm,1.4s
GTA Gaotai 34.40 294 ⇓P **P 04 35 24.1 -0.8**
GTA pP pP 04 35 36.4 +0.3
GTA sP pwP 04 35 42.6 +0.8
GTA S **S 04 40 47.1 -2.5**
GTA SS **SnSn 04 43 00.0 -3.0**
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA pmax pmax
comp=Z,150nm,5.6s
GTA LR LR
comp=Z,220nm,17.2s
GTA LR LR
comp=Z,300nm,16.1s
GTA LR LR
comp=Z,370nm,15.5s
KMI Kunming 34.78 268 P **P 04 35 27.9 -0.5**
KMI pmax pmax
comp=Z,9.0nm,0.5s
KMI LR LR
comp=Z,250nm,10.9s
KMI LR LR
comp=Z,270nm,13.2s
KMI LR LR
comp=Z,240nm,10.7s
MOY Mondy 35.25 315 eP **P 04 35 32.0 0.0**
MOY pmax pmax
comp=Z,11nm,1.3s
BILL Bilibino 38.40 15⇑eP **P 04 35 59.2 +0.8**
BILL e 04 36 04.7
BILL e 04 36 10.3
BILL e 04 38 11.5
BILL eSS SS 04 44 35.7 -3.7
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,136nm,16.0s
TIXI Tiksi 39.89 354 P **P 04 36 10.9 +0.1**
comp=Z,1.7nm,0.3s,baz=161,slow=3.0,SNR=3.7
PBKT Sadao Pong 40.02 257 eP **P 04 36 11.5 -1.1**
comp=Z,8.0nm,0.7s
PBKT Sadao Pong 40.02 257 P **P 04 36 12.1 -0.4**
comp=Z,12nm,0.8s
CMAR Chiang Mai Arr 40.78 261 P **P 04 36 19.0 +0.2**
comp=Z,1.0nm,0.3s,baz=59,slow=11,SNR=3.9
CMAR LR LR 04 55 37.4
comp=Z,74nm,18.0s,baz=74,slow=40
CMAR Chiang Mai Arr 40.78 261 P **P 04 36 19.0 +0.2**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR MLR MLR
comp=Z,74nm,18.0s
WMQ Urumqi 43.30 301 P **P 04 36 41.1 +2.0**
WMQ pP sP 04 36 53.8 -2.1
WMQ sP pwP 04 37 00.5 +4.5
WMQ pmax pmax
comp=Z,32nm,1.1s
WMQ pmax pmax
comp=Z,360nm,3.9s
WMQ LR LR
comp=Z,280nm,17.9s
WMQ LR LR
comp=Z,190nm,16.3s
WMQ LR LR
comp=Z,220nm,16.9s
DGZ Jazzator, Alta 43.42 310c iP **P 04 36 40.8 +0.7**
DGZ pmax pmax
comp=Z,6.0nm,0.9s
SHL Shillong 43.80 274 P **P 04 36 40.8 -2.7**
SHL pmax pmax
comp=Z,25nm,0.4s
ZAA1 Zalesovo Array 45.30 316 eP **P 04 36 54.9 0.0**
ZAA1 ePcP **PcP 04 38 34.3 +0.4**
ZALV Zalesovo Beam 45.30 316 P **P 04 36 54.9 0.0**
comp=Z,3.7nm,0.6s,baz=99,slow=6.6,SNR=23
ZALV PcP **PcP 04 38 34.3 +0.4**
comp=Z,2.9nm,0.5s,baz=96,slow=2.9,SNR=5.8
ZALV LR LR 04 55 42.7
comp=Z,90nm,18.2s,baz=52,slow=36
ANM Nome 45.46 29 eP **P 04 36 57.6 +1.6**
comp=Z,4.4nm,1.2s
ANM Nome 45.46 29 eP **P 04 36 57.6 +1.6**
ANM pmax pmax
comp=Z,4.0nm,1.2s
MTN Manton Dam 46.13 194 eP **P 04 37 01.0 -0.8**
comp=Z,24nm,1.1s
COEN Coen 46.13 178 eP **P 04 37 02.9 +1.1**
comp=Z,16nm,0.9s
NVS Novosibirsk 46.29 317⇑iP **P 04 37 02.5 -0.2**
NVS pmax pmax
comp=N,4.0nm,0.8s
NVS pmax pmax
comp=E,8.0nm,0.8s
NVS pmax pmax
comp=Z,12nm,0.8s
MK31 Makanchi Array 46.90 306 i P **P 04 37 07.8 +0.2**
MK31 pmax pmax
comp=Z,14nm,0.8s
MK32 Makanchi Array 46.90 306 eP **P 04 37 07.9 +0.3**
MKAR Makanchi Array 46.90 306 P **P 04 37 07.9 +0.2**
comp=Z,12nm,0.8s,baz=91,slow=9.2,SNR=98
MKAR LR LR 04 58 55.8
comp=Z,97nm,18.0s,baz=82,slow=39
MKAR Makanchi Array 46.90 306 eP **P 04 37 07.8 +0.2**
comp=Z,79nm,0.6s
MAKZ Makanchi 47.11 306 eP **P 04 37 09.6 +0.3**
comp=Z,11nm,0.8s
MAKZ Makanchi 47.11 306 eP **P 04 37 09.6 +0.3**
MAKZ pmax pmax
comp=Z,11nm,0.8s
RAMN Ramite 47.75 278 eP **P 04 37 14.3 -0.5**
JIRN Jiri 47.85 280 eP **P 04 37 15.7 0.0**
comp=Z,33nm,0.5s
GUN Gumba 48.03 280 eP **P 04 37 16.8 -0.2**
comp=Z,39nm,1.0s
PKIN Phulchoki 48.54 280 eP **P 04 37 19.9 -1.0**
KKN Kakani 48.57 280 eP **P 04 37 20.6 -0.4**
comp=Z,42nm,0.9s
DMN Daman 48.77 280 eP **P 04 37 22.0 -0.7**
comp=Z,21nm,1.0s
KURK Kurchatov 49.07 311 eP **P 04 37 24.2 -0.1**
comp=Z,22nm,1.1s
KURK Kurchatov 49.07 311ceP **P 04 37 24.4 +0.1**
KURK pmax pmax
comp=Z,19nm,1.0s
SVW2 Sparrevohn 49.10 35 eP **P 04 37 25.5 +1.1**
comp=Z,7.3nm,1.1s
DANN Dangsing 49.64 281 eP **P 04 37 29.5 +0.2**
comp=Z,24nm,0.6s
KOLN Koldanda 49.97 281 eP **P 04 37 31.6 -0.1**
comp=Z,20nm,0.8s
PYUN Piuthan 50.36 281 eP **P 04 37 34.7 0.0**
comp=Z,24nm,0.6s
RSO Redoubt South 50.43 36 eP **P 04 37 34.8 0.0**
KDAK Kodiak Island 50.44 39 P **P 04 37 34.6 0.0**
comp=Z,6.6nm,0.8s,baz=260,slow=5.3,SNR=6.4
KDAK LR LR 04 56 40.9
comp=Z,138nm,20.0s,baz=259,slow=33
KDAK Kodiak Island 50.44 39 eP **P 04 37 35.1 +0.6**
comp=Z,37nm,1.3s
KDAK Kodiak Island 50.44 39ceP **P 04 37 35.5 +1.0**
TARG Taragay, Kyrgy 50.78 300 eP **P 04 37 38.3 +0.4**
comp=Z,11nm,1.0s
PPLA Purkeypile 50.86 33 eP **P 04 37 38.6 +0.7**
comp=Z,16nm,1.4s
SUA Susitna One 51.46 35 eP **P 04 37 42.1 -0.2**
comp=Z,5.1nm,1.0s

MLY Manley 51.67 30 *e*P **P 04 37 43.8 -0.1**
comp=Z,3.7nm,0.9s
TRF Thorofare Moun 51.76 32 *e*P **P 04 37 46.9 +2.3**
comp=Z,3.3nm,1.0s
WRAB Tennant Creek 52.53 189 *e*P **P 04 37 50.3 -0.2**
comp=Z,50nm,1.2s
WRAB Tennant Creek 52.53 189*ce*P **P 04 37 50.3 -0.2**
WRAB pmax pmax
comp=Z,32nm,0.8s
WR1 Warramunga Arr 52.54 189 *e*P **P 04 37 50.5 -0.2**
comp=Z,47nm,1.2s
WRA Warramunga Arr 52.54 189 P **P 04 37 50.4 -0.2**
comp=Z,19nm,0.6s,baz=5.5,slow=7.7,SNR=217
WRA Warramunga Arr 52.54 189*ce*P **P 04 37 50.2 -0.4**
WRA pmax pmax
comp=Z,19nm,0.6s
KSH Kashi 52.63 297 P **P 04 37 54.0 +2.6**
KSH pP pwP 04 38 09.8 +1.2
KSH sP sP 04 38 17.5 +9.1
KSH PcP **PcP 04 39 01.0 0.0**
KSH S **S 04 45 13.8 -1.7**
KSH sS sS 04 45 41.9 +5.4
KSH ScS **ScS 04 47 28.6 -8.7**
KSH pmax pmax
comp=Z,27nm,0.9s
KSH pmax pmax
comp=Z,81nm,5.7s
KSH LR LR
comp=Z,190nm,10.6s
KSH LR LR
comp=Z,190nm,8.9s
KSH LR LR
comp=Z,140nm,7.6s
MDM Murphy Dome 52.73 30 *e*P **P 04 37 53.1 +1.4**
comp=Z,8.2nm,0.9s
FRU Bishkek 52.88 302 *e*P **P 04 37 52.0 -1.1**
FRU *e* 04 38 03.0
COLA College 52.89 30 *i*P **P 04 37 53.3 +0.6**
COLA pmax pmax
comp=Z,13nm,2.6s
AAK Ala-Archa 53.01 302 *e*P **P 04 37 54.9 +0.7**
comp=Z,6.6nm,1.0s
AAK Ala-Archa 53.01 302*ce*P **P 04 37 54.9 +0.7**
AAK pmax pmax
comp=Z,4.0nm,1.0s
HDA Harding Lake 53.27 31 *e*P **P 04 37 56.1 +0.6**
HDA *ep*P **pP 04 38 03.2 -3.2**
ILAR Eielson Array 53.30 30 P **P 04 37 55.6 -0.1**
comp=Z,1.7nm,0.7s,baz=263,slow=5.7,SNR=24
ILB Eielson Array 53.30 30 *e*P **P 04 37 55.6 -0.1**
OTUK Ortayu 53.42 309 P **P 04 37 57.0 0.0**
OTUK pmax pmax
comp=Z,33nm,1.0s
PRP Porcupine Dome 53.89 30 *e*P **P 04 38 01.1 +0.8**
comp=Z,3.8nm,1.0s
BVA0 Borovoye Array 53.93 315 P **P 04 38 00.6 0.0**
BVA0 pmax pmax
comp=Z,13nm,1.0s
BVAR Borovoye Array 53.93 315 LR LR 05 01 54.7
comp=Z,108nm,19.0s,baz=86,slow=37
BRVK Borovoye 53.99 315*ce*P **P 04 38 01.5 +0.5**
BRVK pmax pmax
comp=Z,16nm,1.0s
ARSB Arslanbob 54.41 300 *e*P **P 04 38 05.6 +1.1**
comp=Z,14nm,1.0s
SCRK Sand Creek 54.57 31 *e*P **P 04 38 05.9 +0.7**
comp=Z,4.9nm,1.0s
KK31 Karatay Array 55.74 303 *i*P **P 04 38 14.3 +0.4**
KK31 pmax pmax
comp=Z,15nm,0.9s
KKAR Karatay Array 55.74 303 *e*P **P 04 38 14.4 +0.5**
KKAR Karatay Array 55.74 303 *e*P **P 04 38 14.4 +0.5**
AS31 Alice Springs 56.26 189 *e*P **P 04 38 17.6 0.0**
comp=Z,2.0nm,0.5s
ASAR Alice Springs 56.26 189 P **P 04 38 17.6 -0.1**
comp=Z,4.1nm,0.8s,baz=16,slow=10,SNR=24
BTK Batken 56.33 299 *e*P **P 04 38 18.9 +0.7**
comp=Z,14nm,1.3s
BTK Batken 56.33 299 *e*P **P 04 38 18.9 +0.7**
BTK pmax pmax
comp=Z,14nm,1.3s
NIL Nilore 56.41 291 *e*P **P 04 38 19.9 +1.1**
comp=Z,19nm,0.8s
NIL Nilore 56.41 291 *e*P **P 04 38 19.9 +1.1**
NIL pmax pmax
comp=Z,19nm,0.8s
DAWY Dawson 56.58 31 *e*P **P 04 38 20.4 +0.8**
comp=Z,3.2nm,1.0s
GAR Garm 57.00 298 *e*P **P 04 38 23.6 +0.6**
comp=Z,33nm,1.0s
GAR Garm 57.00 298 *e*P **P 04 38 23.7 +0.6**
GAR pmax pmax
comp=Z,33nm,1.0s
EPYK Eagle Plains 57.44 28 *e*P **P 04 38 27.1 +1.5**
comp=Z,16nm,0.9s
INK Inuvik 58.40 26 P **P 04 38 32.8 +0.6**
comp=Z,1.8nm,0.6s,baz=290,slow=7.1,SNR=10
INK Inuvik 58.40 26 *e*P **P 04 38 32.8 +0.6**
comp=Z,3.7nm,0.9s
HYB Hyderabad 58.45 271 *i*P **P 04 38 34.0 +0.7**
SVE Sverdlovsk 58.82 321⇓ *e*P **P 04 38 35.7 +0.4**
SVE pmax pmax
comp=Z,18nm,1.0s
ARU Arti 60.02 320 *e*P **P 04 38 43.0 -0.6**
comp=Z,17nm,0.9s
ARU Arti 60.02 320*c i*P **P 04 38 43.7 +0.1**
ARU S **S 04 46 56.5 +3.9**
ARU SS **SS 04 50 49.9 +0.6**
ARU pmax pmax
comp=Z,25nm,1.2s
AB31 Akbulak array 61.16 312 *i*P **P 04 38 51.5 0.0**
AB31 pmax pmax
comp=Z,3.0nm,0.5s
ABKAR Akbulak array 61.16 312 *e*P **P 04 38 51.5 +0.1**
AKTO Aktyubinsk 61.99 314 LR LR 05 05 00.4
comp=Z,48nm,18.9s,baz=76,slow=35
STKA Stephens Creek 63.95 180 P **P 04 39 10.7 +0.6**
comp=Z,2.8nm,0.6s,baz=341,slow=12,SNR=5.5
FORT Forrest 64.17 193 *e*P **P 04 39 12.3 +0.7**
comp=Z,27nm,0.6s
PRGR Permogore 64.79 328 *e*P **P 04 39 15.0 -0.3**
PRGR pmax pmax
comp=Z,9.0nm,0.8s
GEYT Alibeck 66.35 301 P **P 04 39 26.2 +0.2**
comp=Z,3.4nm,0.5s,baz=358,slow=4.5,SNR=8.3
GEYT LR LR 05 09 52.4
comp=Z,52nm,18.2s,baz=45,slow=37
RES Resolute Bay 67.01 14 *e*P **P 04 39 30.1 +0.8**
comp=Z,9.1nm,1.3s
RES Resolute Bay 67.01 14 *e*P **P 04 39 30.2 +0.8**
RES pmax pmax
comp=Z,9.0nm,1.3s
YKA Yellowknife Ar 67.69 29 P **P 04 39 34.1 +0.2**
comp=Z,1.2nm,0.6s,baz=295,slow=6.3,SNR=20
YKB5 Yellowknife Ar 67.69 29 *e*P **P 04 39 34.1 +0.2**
KLMR Klimovskoe 67.81 329 *e*P **P 04 39 32.8 -1.9**
KLMR *e* 04 42 01.3
KLMR pmax pmax
comp=Z,9.0nm,1.4s
KLMR Klimovskoe 67.81 329 *e*P **P 04 39 32.9 -1.8**
KLMR AMP 04 39 49.1
comp=Z,9.0nm,1.4s
KLMR *e*PP **PP 04 42 01.4 -2.7**
ARA0 ARCESS Array S 68.40 340 *e*P **P 04 39 37.9 -0.4**
ARCES ARCESS Array B 68.40 340 P **P 04 39 37.9 -0.4**
comp=Z,0.9nm,0.7s,baz=46,slow=7.8,SNR=2.5
ARCES LR LR 05 11 48.6
comp=Z,5.7nm,21.7s,baz=204,slow=38
DAG Danmarks Havn 70.39 355 *i*P **P 04 39 50.5 +0.1**
comp=Z,5.3nm,1.0s
DAG Danmarks Havn 70.39 355 *i*P **P 04 39 50.5 +0.1**
DAG pmax pmax
comp=Z,5.0nm,1.0s
VRH Novokhopyorsk 71.19 319 *e*P **P 04 39 54.5 -1.2**
VRH pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 71.96 324⇓ *e*P **P 04 39 59.9 -0.3**
OBN 04 40 12.0
OBN *e*S **S 04 49 15.8 -1.9**
OBN *e* 04 50 12.3
OBN *e*SS **SS 04 53 57.1 +2.9**
OBN pmax pmax
comp=Z,4.0nm,0.3s
OBN MLR MLR
comp=Z,231nm,18.0s
B08A Colville Reser 71.96 44 *e*P **P 04 40 01.9 +1.4**
comp=Z,5.7nm,1.1s
LPSR Galich'ya Gora 72.02 321 *e*P **P 04 40 00.2 -0.5**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
AKT Akhty 72.07 308 *i*P **P 04 40 01.7 +0.3**
AKT pmax pmax
comp=Z,23nm,1.0s
VSR Storozhevoye 72.59 320 *e*P **P 04 40 02.5 -1.6**
VSR pmax pmax
comp=Z,10.0nm,1.1s
FIA0 FINESS Array S 73.02 333 *e*P **P 04 40 06.6 +0.1**
FIA0 FINESS Array S 73.02 333 *e*P **P 04 40 06.6 +0.1**
FINES FINESS Array B 73.02 333 P **P 04 40 06.6 +0.1**
comp=Z,2.9nm,0.8s,baz=67,slow=5.0,SNR=9.5
FINES FINESS Array B 73.02 333*ce*P **P 04 40 06.9 +0.4**
FINES pmax pmax
comp=Z,3.0nm,0.8s
PINE Pine Mountain 73.17 49 *e*P **P 04 40 10.2 +2.3**
comp=Z,21nm,1.2s
GOF Gofitskoye 73.38 313 *e*P **P 04 40 06.8 -2.1**
GOF pmax pmax
comp=Z,40nm,1.1s
ZEI Tsey 73.95 311 *e*P **P 04 40 11.2 -1.4**
ZEI pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 74.13 312 P **P 04 40 14.3 +1.0**
comp=Z,8.9nm,0.9s,baz=113,slow=3.5,SNR=11
KIV Kislovodsk 74.15 312 *e*P **P 04 40 15.8 +2.2**
comp=Z,20nm,1.0s
KIV Kislovodsk 74.15 312 *e*P **P 04 40 15.8 +2.2**
KIV pmax pmax
comp=Z,20nm,1.0s
WALA Waterton Lakes 74.71 41 *e*P **P 04 40 18.7 +1.9**
comp=Z,7.5nm,0.9s
J08A Circle Bar Ran 74.94 48 *e*P **P 04 40 22.3 +4.1**
comp=Z,12nm,1.3s
SUMG Summit 75.29 0 *e*P **P 04 40 21.3 +1.3**
comp=Z,15nm,1.2s
SUMG Summit 75.29 0 *i*P **P 04 40 21.1 +1.1**
comp=Z,35nm,1.2s
SUMG Summit 75.29 0 *e*P **P 04 40 21.3 +1.3**
SUMG pmax pmax
comp=Z,15nm,1.2s
HRY Holter Researc 77.16 43 *e*P **P 04 40 32.3 +1.5**
HLID Hailey 77.35 46 *e*P **P 04 40 33.5 +1.5**
comp=Z,3.6nm,1.0s
KVN Kaiserville 77.39 52 *e*P **P 04 40 33.2 +0.9**
comp=Z,6.9nm,1.2s
KVN Kaiserville 77.39 52 P **P 04 40 34.9 +2.6**
KVN pmax pmax
comp=Z,7.0nm,1.2s
FFC Flin Flon 77.46 32 *e*P **P 04 40 33.0 +0.9**
comp=Z,5.4nm,0.8s
FFC Flin Flon 77.46 32*ce*P **P 04 40 33.3 +1.1**
DLMT Dillon 77.46 44 *e*P **P 04 40 33.8 +1.2**
comp=Z,6.7nm,1.0s
NV01 Mina Array Sit 77.58 52 *e*P **P 04 40 34.5 +1.0**
NVAR Mina Array Bea 77.58 52 P **P 04 40 34.5 +1.0**
comp=Z,2.4nm,0.7s,baz=293,slow=6.9,SNR=8.0
FCC Fort Churchill 78.02 26 *e*P **P 04 40 35.1 0.0**
comp=Z,5.8nm,1.2s
FCC Fort Churchill 78.02 26 *e*P **P 04 40 35.2 0.0**
FCC pmax pmax
comp=Z,6.0nm,1.2s
AKASG Malin Array Be 78.11 323 P **P 04 40 35.8 -0.1**
comp=Z,2.9nm,0.6s,baz=48,slow=5.9,SNR=16
AKBB Malin Array Si 78.11 323 *e*P **P 04 40 35.8 0.0**
AKBB Malin Array Si 78.11 323 *e*P **P 04 40 35.8 0.0**
KIEV Kiev 78.12 323 *e*P **P 04 40 36.1 +0.2**
comp=Z,6.1nm,0.7s
KIEV Kiev 78.12 323⇑ *i*P **P 04 40 36.0 +0.1**
KIEV Kiev 78.12 323⇑ P **P 04 40 36.1 +0.2**
ELK Elko 78.36 49 *e*P **P 04 40 39.2 +1.5**
comp=Z,3.9nm,1.0s
ELK Elko 78.36 49 *e*P **P 04 40 39.3 +1.5**
ELK pmax pmax
comp=Z,4.0nm,1.0s
NB2 NORSAR Subarra 78.54 338 P **P 04 40 37.7 -0.4**
comp=Z,1.7nm,0.8s,baz=41,slow=5.3
NB200 NORSAR Array S 78.54 338 *e*P **P 04 40 38.1 0.0**
NOA NORSAR Array B 78.54 338 P **P 04 40 38.1 0.0**
comp=Z,3.7nm,0.9s,baz=40,slow=5.5,SNR=9.0
NOA LR LR 05 20 04.0
comp=Z,88nm,19.0s,baz=50,slow=39
YHB Horse Butte 78.63 44 *e*P **P 04 40 41.5 +2.4**
comp=Z,6.1nm,0.9s
H17A Grant Village 79.19 44 *e*P **P 04 40 45.7 +3.4**
comp=Z,9.5nm,1.0s
HVU Hansel Valley 79.34 47 *e*P **P 04 40 44.9 +1.9**
comp=Z,4.1nm,0.9s
HVU Hansel Valley 79.34 47 *e*P **P 04 40 44.9 +1.9**
HVU pmax pmax
comp=Z,4.0nm,0.9s
R11A Troy Canyon, C 79.43 51 *e*P **P 04 40 47.3 +3.7**
comp=Z,2.6nm,0.8s
TPAW Teton Pass 79.49 45 *e*P **P 04 40 45.9 +2.0**
comp=Z,2.7nm,0.8s
RLMT Red Lodge 79.54 43 *e*P **P 04 40 46.8 +2.7**
comp=Z,4.3nm,0.9s
BGU Big Grassy Mou 79.66 48 *e*P **P 04 40 46.7 +1.9**
comp=Z,5.2nm,1.3s
TPNV Topopah Spring 79.75 53 *e*P **P 04 40 48.8 +3.5**
comp=Z,9.4nm,1.2s
TPNV Topopah Spring 79.75 53 *e*P **P 04 40 48.8 +3.5**
TPNV pmax pmax
comp=Z,9.0nm,1.2s
DUG Dugway, Tooele 80.21 49 *e*P **P 04 40 49.0 +1.3**
comp=Z,5.7nm,0.9s
DUG Dugway, Tooele 80.21 49 *e*P **P 04 40 49.0 +1.3**
DUG pmax pmax
comp=Z,6.0nm,0.9s
RPZ Rata Peaks 80.37 159 P **P 04 40 48.9 +0.9**
comp=Z,13nm,0.6s,baz=338,slow=5.4,SNR=2.7
PSUT Pine Spring 80.47 50 *e*P **P 04 40 53.3 +4.1**
comp=Z,10nm,1.3s
SHPR Sheep Range 80.72 53 *e*P **P 04 40 52.3 +1.7**
comp=Z,3.8nm,1.1s
BW06 Boulder Array 80.74 45 *e*P **P 04 40 51.5 +0.8**
comp=Z,1.8nm,0.8s
PD31 Pinedale Array 80.74 45 *e*P **P 04 40 51.5 +0.9**
PDAR Pinedale Array 80.74 45 P **P 04 40 51.5 +0.9**
comp=Z,1.3nm,0.8s,baz=272,slow=1.5,SNR=11
NLU North Lily Min 80.81 48 *e*P **P 04 40 52.9 +1.9**
comp=Z,3.6nm,0.9s
MPU Maple Canyon 81.05 48 *e*P **P 04 40 54.1 +1.8**
comp=Z,4.7nm,0.8s
LCMT Little Creek M 81.72 51 *e*P **P 04 40 57.8 +2.0**
comp=Z,6.7nm,1.0s
TMUT Trail Mountain 81.73 49 *e*P **P 04 40 59.0 +2.9**
comp=Z,2.8nm,0.8s
MTPU Mount Pierson 81.83 50 *e*P **P 04 40 59.3 +2.7**
comp=Z,4.0nm,0.8s
P17A Butcher Ranch, 81.93 48 *e*P **P 04 40 58.5 +1.6**
comp=Z,6.9nm,0.8s
Q16A Castle Valley 81.98 49 *e*P **P 04 40 59.3 +2.1**
comp=Z,14nm,1.5s
KNB Kanab 81.99 51 *e*P **P 04 40 59.4 +2.1**
comp=Z,7.2nm,0.9s
KNB Kanab 81.99 51 *e*P **P 04 40 59.4 +2.1**
KNB pmax pmax
comp=Z,7.0nm,0.9s
BURAR Bucovina Array 82.09 322⇑ *i*P **P 04 40 57.8 +0.3**
BURAR Bucovina Array 82.09 322⇑ P **P 04 40 57.8 +0.3**
BR101 Keskin Array S 82.11 312 *e*P **P 04 40 58.4 +0.6**
BR131 Keskin Array S 82.11 312 *e*P **P 04 40 59.2 +1.4**
BRTR Keskin Array B 82.11 312 P **P 04 40 58.4 +0.6**
comp=Z,3.2nm,0.8s,baz=136,slow=4.5,SNR=15
BRTR LR LR 05 20 33.5
comp=Z,45nm,18.8s,baz=80,slow=38
BRTR Keskin Array B 82.11 312*ce*P **P 04 40 58.7 +0.9**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
SRU San Rafael Swe 82.28 48 *e*P **P 04 41 00.1 +1.4**
comp=Z,12nm,0.6s
SRU San Rafael Swe 82.28 48 *e*P **P 04 41 00.1 +1.4**
SRU pmax pmax
comp=Z,12nm,0.6s
PPT Papeete 82.36 116 LR LR 05 17 09.2
comp=Z,51nm,18.7s,baz=316,slow=35
PPT2 Papeete2 82.38 116 *e*LR LR 05 06 59.2
comp=Z,96nm,21.8s
VRI Vrincioaia 82.41 320⇑ *i*P **P 04 40 59.9 +0.8**
VRI Vrincioaia 82.41 320⇑ P **P 04 40 59.9 +0.8**
PLOR Plostina 82.46 320⇑ *i*P **P 04 41 01.1 +1.7**
PLOR Plostina 82.46 320⇑ P **P 04 41 01.1 +1.7**
RAYN Ar Rayn 82.66 293 P **P 04 41 01.4 +0.6**
RAYN pmax pmax
comp=Z,8.0nm,0.7s
ARCR ARCALIA 82.88 322⇑ *i*P **P 04 41 03.1 +1.6**
OJC Ojcow 83.01 327 *e*P **P 04 41 03.2 +1.1**
comp=Z,14nm,1.2s
OJC Ojcow 83.01 327 *e*P **P 04 41 03.2 +1.1**
OJC pmax pmax
comp=Z,14nm,1.2s
DOPR Doppa 83.07 321⇑ *i*P **P 04 41 04.1 +1.6**
MLR Muntele Rosu 83.08 320⇓ *i*P **P 04 41 03.4 +0.7**
MLR Muntele Rosu 83.08 320⇓ P **P 04 41 03.4 +0.7**
PV09 Paradox Valley 83.51 48 *e*P **P 04 41 08.3 +3.0**
PV21 Cone Mtn., Par 83.58 48 *e*P **P 04 41 07.3 +1.8**
comp=Z,11nm,0.9s
VOIR 83.59 321⇑ *i*P **P 04 41 05.7 +0.4**
VOIR 83.59 321⇑ P **P 04 41 05.7 +0.4**
PV23 Carpenter Ridg 83.62 48 *e*P **P 04 41 06.5 +0.6**
comp=Z,14nm,0.9s
Y14A Wickenburg 83.62 54 *e*P **P 04 41 08.7 +3.0**
comp=Z,2.2nm,0.8s
PV14 Lion Creek, Pa 83.66 48 *e*P **P 04 41 07.4 +1.4**
comp=Z,12nm,0.8s
PV20 West Nyswonger 83.71 48 *e*P **P 04 41 08.1 +1.9**
comp=Z,19nm,1.1s
PV19 Morning Glory 83.72 48 *e*P **P 04 41 08.3 +2.0**
comp=Z,9.9nm,0.9s
PV17 East Wray Mesa 83.75 48 *e*P **P 04 41 08.2 +1.7**
comp=Z,21nm,1.2s
PV16 Nyswonger Mesa 83.76 48 *e*P **P 04 41 08.2 +1.7**
comp=Z,7.9nm,0.9s
PV11 David Mesa, Pa 83.80 48 *e*P **P 04 41 08.4 +1.8**
comp=Z,16nm,1.1s
PV12 Saucer Basin, 83.83 48 *e*P **P 04 41 09.3 +2.5**
comp=Z,10nm,1.1s
ARR Arges 83.86 321⇓ *i*P **P 04 41 08.4 +1.7**
LANS Liptovska Anna 83.91 326 *e*P **P 04 41 08.1 +1.3**
PV13 Radium Mtn., P 83.91 48 *e*P **P 04 41 08.9 +1.6**
comp=Z,8.7nm,1.1s
DRGR 83.92 323⇑ *i*P **P 04 41 06.7 -0.3**
DRGR 83.92 323⇑ P **P 04 41 06.7 -0.3**
PV02 Paradox Valley 83.94 48 *e*P **P 04 41 11.5 +4.0**
comp=Z,7.2nm,1.1s
MORC Moravsky Berou 84.36 327 *e*P **P 04 41 10.0 +0.9**
comp=Z,13nm,1.3s
MORC Moravsky Berou 84.36 327⇓ *i*P **P 04 41 10.0 +0.9**
MORC Moravsky Berou 84.36 327⇓ P **P 04 41 10.0 +0.9**
MORC Moravsky Berou 84.36 327 *e*P **P 04 41 09.8 +0.7**
X16A Lo Mia Camp, P 84.40 53 *e*P **P 04 41 13.6 +3.8**
comp=Z,2.9nm,1.0s
SMCO Snowmass 84.45 47 *e*P **P 04 41 14.0 +3.8**
comp=Z,4.9nm,1.0s
DPC Dobruska-Polom 84.50 328 *e*P **P 04 41 10.9 +1.1**
DPC *ep*P **sP 04 41 24.4 -2.4**
DPC *es*P **pwP 04 41 32.1 +3.1**
DPC Dobruska-Polom 84.50 328 *e*P **P 04 41 10.9 +1.1**
DPC *e* 04 41 24.4
UPC Upice 84.52 329 *e*P **P 04 41 11.1 +1.3**
UPC Upice 84.52 329 *e*P **P 04 41 11.1 +1.3**
PSZ Piszkesteto 84.56 325 *e*P **P 04 41 10.8 +0.7**
comp=Z,15nm,1.1s
PSZ Piszkesteto 84.56 325 *e*P **P 04 41 10.8 +0.7**
PSZ pmax pmax
comp=Z,15nm,1.1s
VYHS Vyhne 84.67 326 *e*P **P 04 41 11.5 +0.9**
TAOE Nuku Hiva Isla 84.83 104 *e*LR LR 05 08 06.7
comp=Z,260nm,27.6s
JAVC Velka Javorina 84.96 327 *e*P **P 04 41 13.7 +1.6**
VRAC Vranov 85.13 328 LR LR 05 22 37.9
comp=Z,75nm,18.4s,baz=16,slow=38
VRAC Vranov 85.13 328⇓ *i*P **P 04 41 14.1 +1.2**
VRAC Vranov 85.13 328⇓ P **P 04 41 14.1 +1.2**
VRAC Vranov 85.13 328 *e*P **P 04 41 13.7 +0.8**
BRG Berggiesshubel 85.15 330 *e*P **P 04 41 13.2 +0.2**
comp=Z,5.3nm,1.0s
BRG Berggiesshubel 85.15 330 *e*P **P 04 41 13.2 +0.2**
BRG pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 85.22 331 *e*P **P 04 41 13.4 +0.1**
comp=Z,17nm,1.2s
CLL Collm 85.22 331⇑ *i*P **P 04 41 13.4 +0.1**
comp=Z,18nm,1.3s
CLL *i* sP **pP 04 41 27.2 +1.6**
CLL Collm 85.22 331⇑ *i*P **P 04 41 13.4 +0.1**
CLL *i* 04 41 27.2
CLL pmax pmax
comp=Z,6.0nm,1.3s
KRUC Moravsky 85.40 327 *e*P **P 04 41 14.8 +0.6**
MODS Modra-Piesok 85.48 327 *e*P **P 04 41 15.5 +0.8**
CONA Conrad Observa 86.46 327 *e*PcP **P 04 41 20.3 +0.7**
comp=Z,3.3nm,1.1s
GERES GERESS Array B 86.76 329 P **P 04 41 21.0 -0.1**
comp=Z,0.2nm,0.3s,baz=351,slow=5.5,SNR=3.4
GERES LR LR 05 22 51.4
comp=Z,72nm,18.5s,baz=52,slow=38
GERES GERESS Array B 86.76 329 P **P 04 41 21.0 -0.1**
GERES MLR MLR
comp=Z,72nm,18.5s
SOKA Soboth 87.76 326 *e*PcP **P 04 41 26.4 +0.4**
comp=Z,3.0nm,0.9s
ABTA Abfaltersbach 88.87 328 *e*P **P 04 41 29.7 -1.5**
comp=Z,2.2nm,0.8s
RETA Reutte 89.08 329 *e*PcP **P 04 41 32.6 +0.4**
comp=Z,4.0nm,1.0s
SQTA Sankt Quirin 89.09 329 *e*P **P 04 41 31.8 -0.4**
comp=Z,2.5nm,0.8s
FETA Feichten 89.45 329 *e*PcP **P 04 41 34.0 -0.1**
comp=Z,2.8nm,0.8s
DAVA Damuels 89.61 330 *e*P **P 04 41 34.3 -0.4**
comp=Z,7.9nm,1.6s
FUORN Ofenpass-Fuorn 89.96 329 *e*P **P 04 41 37.2 +0.6**
comp=Z,6.6nm,0.8s
LTX Lajitas 92.73 53 *e*P **P 04 41 50.7 +1.2**
LTX Lajitas 92.73 53 *e*P **P 04 41 50.7 +1.2**
TXAR Lajitas Array 92.73 53 P **P 04 41 50.7 +1.2**
comp=Z,1.4nm,0.8s,baz=306,slow=3.4,SNR=11
TOA1 Torodi Ar. Sit 120.71 313 *e*PKPdf **PKPdf 04 47 29.1 -0.3**
TOA0 Torodi Ar. Sit 120.71 313 *e*PKPdf **PKPdf 04 47 29.4 0.0**
TORD Torodi Ar. Bea 120.71 313 PKP **PKPdf 04 47 29.1 -0.3**
comp=Z,0.6nm,0.6s,baz=8.8,slow=2.7,SNR=7.3
BOSA Boshof 125.84 256 PKP **PKiKP 04 47 40.2 +0.9**
comp=Z,4.3nm,1.1s,baz=37,slow=5.1,SNR=2.5
DBIC Dimbokro 129.76 315 PKP **PKiKP 04 47 47.5 0.0**
comp=Z,1.8nm,0.7s,baz=333,slow=4.5,SNR=2.5
LPAZ La Paz 148.57 66 PKPbc **PKiKP 04 48 25.9 -0.6**
comp=Z,2.5nm,0.7s,baz=356,slow=3.8,SNR=11
LPAZ La Paz 148.57 66 *e*PKPbc **PKiKP 04 48 26.3 -0.2**
LPAZ La Paz 148.57 66 *e*PKP2 **PKiKP 04 48 26.3 -0.2**

ATH ***10*** *04:42:36.7,39°.65N×20°.10E,h30km±1km,ML1.7/4, Error ellipse: s-maj=1.6km s-min=1.1km az=275.0*
ISCJB ***10*** *04:42:37.6±0.6,39°.67N±0°.03×20°.08E±0°.06,h26km±4km, Error ellipse: s-maj=7.3km s-min=5.1km az=161.4*
TIR ***10*** *04:42:37.6,39°.77N×20°.28E,h20km,Md2.7/4*
ISC 10 04:42:37.0±1.0,39°.67N±0°.03×20°.09E±0°.05,h30km±7km, n15,σ0°96/23,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SRN	**Sarande**	**0.22**	**342**	*i* PG		**Pb**	**04 42 43.1**	**-0.3**
SRN				*i* SG		**Sb**	**04 42 48.0**	**+0.2**
KEK	**Kerkira**	**0.23**	**281**	P		**Pb**	**04 42 43.8**	**+0.2**
KEK				S		**Sb**	**04 42 48.2**	**+0.2**
KEK				AML		AML	04 42 48.7	
	comp=N,249μm,0.3s							
KEK				AML		AML	04 42 49.7	
	comp=E,671μm,0.1s							
IGT	**Igoumenitsa**	**0.23**	**126**	P		**Pb**	**04 42 43.2**	**-0.4**
IGT				S		**Sb**	**04 42 48.2**	**+0.2**
IGT				AML		AML	04 42 48.9	
	comp=E,182μm,0.2s							
IGT				AML		AML	04 42 49.1	
	comp=N,144μm,0.2s							
IGT	**Igoumenitsa**	**0.23**	**126**	*i* PG		**Pb**	**04 42 43.2**	**-0.4**
IGT				*i* SG		**Sb**	**04 42 48.4**	**+0.4**
JAN	**Janina**	**0.59**	**91**	P		**Pn**	**04 42 48.4**	**-0.9**
JAN				S		**Sn**	**04 42 57.4**	**-0.5**
JAN				AML		AML	04 42 58.1	
	comp=N,336μm,0.4s							
JAN				AML		AML	04 42 58.1	
	comp=E,502μm,0.2s							
TPE	**Tepelena**	**0.63**	**354**	*i* PG		**Pn**	**04 42 49.6**	**-0.3**
TPE				*i* SG		**Sn**	**04 42 57.6**	**-1.3**
TSLK	**Tsoukalades, L**	**0.95**	**152**	P		**Pb**	**04 42 54.9**	**0.0**
TSLK				S		**Sn**	**04 43 08.3**	**+1.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PENT	**Pentalofos**	**0.96**	**56**	P	**Pb**	**04 42 55.3**	**+0.2**
LKD2	**Lefkada island**	**0.98**	**153**	P	**Pb**	**04 42 55.0**	**-0.5**
LKD2	**Lefkada island**	**0.98**	**153**	*i* PN	Pb	04 42 59.9	+4.5
LKD2				*i* SN	**Sb**	**04 43 09.8**	**+1.7**
NEST	**Nestorio**	**1.05**	**44**	P	**Pb**	**04 42 56.9**	**+0.3**
NEST				S	**Sn**	**04 43 11.9**	**+2.5**
NEST				AML	AML	04 43 12.8	
	comp=E,47μm,0.3s						
NEST				AML	AML	04 43 16.9	
	comp=N,40μm,0.5s						
EVGI	**Lefkada island**	**1.14**	**157**	P	**Pb**	**04 42 57.6**	**-0.4**
FNA	**Florina**	**1.49**	**41**	P	**Pb**	**04 43 03.8**	**-0.2**
THL	**Klokotos Trika**	**1.49**	**93**	P	**Pb**	**04 43 02.8**	**-1.1**
VLS	**Valsamata**	**1.54**	**165**	P	**Pb**	**04 43 04.0**	**-0.9**

NIED ***10*** *04:43:00, 32°.40N×142°.10E, h8km, Mw3.7 Best double couple: $M_0$4.73000×10^14 NP1:ϕ_s219.00000°, δ28.00000°, λ77.00000°. NP2:ϕ_s53.00000°, δ63.00000°, λ97.00000°.*
IDC ***10*** *04:43:26.5±0.8, 32°.42N×141°.88E, h0km, mb3.7/13, mb1 3.9/16, mb1mx3.8/53, mbtmp3.8/16, ML3.9/3, Error ellipse: s-maj=24.8km s-min=17.3km az=77.0*
JMA ***10*** *04:43:27.3±0.4, 32°.37N×142°.06E, h35km, M4.1*
ISCJB ***10*** *04:43:30.1±0.4, 32°.43N±0°.04×141°.80E±0°.09, h39km, mb3.9/16, Error ellipse: s-maj=10.9km s-min=5.2km az=160.0*
NEIC ***10*** *04:43:31.8±0.5, 32°.43N×141°.75E, h35km, mb4.4/4, Error ellipse: s-maj=12.0km s-min=8.7km az=79.0*
ISC 10 04:43:31.2±0.6**, 32°.37N**±0°.05×**141°.83E**±0°.07**, h39**km**, n45,** σ**1s.66**/52**, mb3.8**/16**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.75**	**274**	P	**Pn**	**04 43 59.2**	**+0.1**
JHJ2	**Mitsune**	**1.85**	**294**	S	**Sn**	**04 44 24.6**	**+2.0**
BSO1	**Boso 1**	**2.39**	**343**	P	**Pn**	**04 44 06.1**	**-1.2**
BSO1				S	**Sn**	**04 44 35.5**	**+0.4**
BSO3	**Boso 3**	**2.66**	**336**	P	**Pn**	**04 44 11.3**	**-0.1**
JRY	**Ryogami san**	**4.37**	**327**	P	**Pn**	**04 44 36.1**	**+1.0**
JAG	**Ashikaga**	**4.50**	**335**	P	**Pn**	**04 44 35.9**	**-0.9**
MJAR	**Matsushiro Arr**	**5.12**	**325**	Pn	**Pn**	**04 44 43.7**	**-1.8**
	1.7nm,0.3s,baz=151,slow=11,SNR=11						
MJAR				Sn	**Sn**	**04 45 41.1**	**-2.3**
	0.5nm,0.3s,baz=64,slow=20,SNR=2.7						
MAJO	**Matsushiro**	**5.13**	**325**	*e*Pn	**Pn**	**04 44 43.7**	**-1.8**
MAJO				*e*Sn	**Sn**	**04 45 41.1**	**-2.3**
MAT	**Matsushiro**	**5.13**	**325**	P	**Pn**	**04 44 44.6**	**-0.9**
MAT				*e*S	**Sn**	**04 45 40.4**	**-3.0**
CBIJ	**Chichi jima**	**5.26**	**177**	*e*Pn	**Pn**	**04 44 47.5**	**+0.1**
CBIJ				*e*Sn	**Sn**	**04 45 45.2**	**-1.6**
JCJ	**Chichijima**	**5.26**	**177**	Pn	**Pn**	**04 44 47.5**	**+0.1**
	8.3nm,0.3s,baz=262,slow=23,SNR=4.7						
JCJ				Sn	**Sn**	**04 45 45.2**	**-1.6**
	7.6nm,0.3s,baz=301,slow=22,SNR=3.4						
JFT	**Otama**	**5.28**	**347**	P	**Pn**	**04 44 46.4**	**-1.2**
JFT				S	**Sn**	**04 45 43.5**	**-3.7**
ASAJ	**Asahikawa**	**11.74**	**3**	Pn	**Pn**	**04 46 13.9**	**-2.2**
	0.9nm,0.3s,baz=96,slow=8.6,SNR=3.3						
JOW	**Kunigami**	**13.02**	**248**	*e*Pn	**Pn**	**04 46 31.5**	**-2.1**
KLR	**Kul'dur**	**18.46**	**339**	P	**P**	**04 47 40.6**	**-3.0**
	0.2nm,0.3s,baz=155,slow=7.4,SNR=6.1						
SONA1	**Songino Array**	**30.87**	**310**	*e*P	**P**	**04 49 44.3**	**+0.3**
SONA0	**Songino Array**	**30.88**	**310**	*e*P	**P**	**04 49 46.2**	**+2.2**
SONM	**Songino Array**	**30.88**	**310**	P	**P**	**04 49 46.2**	**+2.2**
	1.3nm,0.7s,baz=124,slow=8.6,SNR=6.8						
ZALV	**Zalesovo Beam**	**45.40**	**316**	P	**P**	**04 51 45.3**	**-0.5**
	0.4nm,0.5s,baz=92,slow=7.8,SNR=2.3						
ZAA1	**Zalesovo Array**	**45.40**	**316**	*e*P	**P**	**04 51 45.3**	**-0.5**
MK01	**Makanchi Array**	**47.00**	**306**	*e*P	**P**	**04 51 59.4**	**+0.8**
MK31	**Makanchi Array**	**47.01**	**306**	*e*P	**P**	**04 51 59.8**	**+1.2**
MK32	**Makanchi Array**	**47.01**	**306**	*e*P	**P**	**04 51 59.3**	**+0.7**
MKAR	**Makanchi Array**	**47.01**	**306**	P	**P**	**04 51 59.3**	**+0.7**
	1.3nm,0.7s,baz=90,slow=8.6,SNR=14						
MKAR	**Makanchi Array**	**47.01**	**306**	*e*P	**P**	**04 51 59.8**	**+1.2**
	9.5nm,0.8s						
WR1	**Warramunga Arr**	**52.51**	**189**	*e*P	**P**	**04 52 40.8**	**+0.3**
	2.9nm,0.9s						
WRA	**Warramunga Arr**	**52.51**	**189**	P	**P**	**04 52 40.8**	**+0.3**
	1.9nm,0.6s,baz=6.3,slow=7.6,SNR=30						
ILAR	**Eielson Array**	**53.29**	**30**	P	**P**	**04 52 46.5**	**+0.6**
	0.5nm,0.8s,baz=250,slow=5.3,SNR=4.8						
ILB	**Eielson Array**	**53.29**	**30**	*e*P	**P**	**04 52 46.5**	**+0.6**
BVAR	**Borovoye Array**	**54.03**	**315**	P	**P**	**04 52 51.7**	**+0.2**
	0.7nm,0.7s,baz=96,slow=9.1,SNR=4.3						
AS31	**Alice Springs**	**56.23**	**189**	*e*P	**P**	**04 53 09.6**	**+2.0**
	0.9nm,0.8s						
ASAR	**Alice Springs**	**56.23**	**189**	P	**P**	**04 53 09.6**	**+2.0**
	0.3nm,0.3s,baz=358,slow=6.1,SNR=3.2						
BTK	**Batken**	**56.43**	**299**	*e*P	**P**	**04 53 05.7**	**-3.5**
	4.7nm,0.6s						
ABKAR	**Akbulak array**	**61.26**	**312**	*e*P	**P**	**04 53 43.1**	**+0.8**
AKTO	**Aktyubinsk**	**62.10**	**314**	P	**P**	**04 53 49.6**	**+1.7**
	0.3nm,0.3s,baz=66,slow=10.0,SNR=2.4						
YKA	**Yellowknife Ar**	**67.68**	**29**	P	**P**	**04 54 23.6**	**-0.4**
	0.3nm,0.6s,baz=295,slow=6.6,SNR=5.5						
YKB5	**Yellowknife Ar**	**67.68**	**29**	*e*P	**P**	**04 54 23.6**	**-0.4**
AKASG	**Malin Array Be**	**78.21**	**323**	P	**P**	**04 55 27.1**	**+0.5**
	0.4nm,0.4s,baz=46,slow=5.2,SNR=1.6						
AKBB	**Malin Array Si**	**78.21**	**323**	*e*P	**P**	**04 55 27.1**	**+0.5**
PD31	**Pinedale Array**	**80.70**	**45**	*e*P	**P**	**04 55 42.7**	**+2.0**
PDAR	**Pinedale Array**	**80.70**	**45**	P	**P**	**04 55 42.7**	**+2.0**
	0.2nm,0.5s,baz=336,slow=2.0,SNR=2.6						
BR101	**Keskin Array S**	**82.22**	**312**	*e*P	**P**	**04 55 50.5**	**+2.0**
BRTR	**Keskin Array B**	**82.22**	**312**	P	**P**	**04 55 50.6**	**+2.0**
	0.8nm,0.8s,baz=39,slow=9.4,SNR=3.5						
LTX	**Lajitas**	**92.68**	**53**	*e*P	**P**	**04 56 41.2**	**+1.7**
TXAR	**Lajitas Array**	**92.68**	**53**	P	**P**	**04 56 41.3**	**+1.7**
	0.3nm,0.7s,baz=291,slow=8.3,SNR=3.5						

SOME ***10*** *04:44:51.7, 45°.72N×84°.67E, h10km*
NNC ***10*** *04:44:51.9±1.4, 45°.60N×84°.93E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=10.3km s-min=6.4km az=116.0*
ISC 10 04:44:52.1±1.5**, 45°.64N**±0°.05×**84°.70E**±0°.07**, h10**km**, n16,** σ**1s.66**/25**, 6C-4D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**1.81**	**4**	P	**Pg**	**04 45 25.3**	**-1.6**
	4.5nm,0.2s						
ZSN				S	**Sg**	**04 45 50.1**	**-0.3**
	15nm,0.4s						
ZSN	**Zaisan**	**1.81**	**4**	*e*P	**Pg**	**04 45 25.3**	**-1.6**
	3.2nm,0.1s						
ZSN				*e*S	**Sg**	**04 45 49.9**	**-0.5**
	7.8nm,0.7s						
MK31	**Makanchi Array**	**2.03**	**305**	⇑Pn	**Pg**	**04 45 29.9**	**-1.1**
	1.0nm,0.3s,baz=119,slow=17,SNR=130						
MK31				⇑Sn	**Sg**	**04 45 58.0**	**+0.6**
	5.9nm,0.3s,baz=118,slow=29,SNR=9.3						
MAKZ	**Makanchi**	**2.22**	**303**	⇑Pn	**Pg**	**04 45 33.4**	**-1.2**
	3.0nm,0.3s						
MAKZ				⇓Sn	**Sg**	**04 46 03.9**	**+0.4**
	5.1nm,0.6s						
DJR	**Jarkent**	**3.72**	**251**	Pg	**Pg**	**04 46 02.5**	**-0.9**
	1.4nm,0.4s						
DJR				Lg	Lg	04 46 53.2	
	3.7nm,0.4s						
DJR	**Jarkent**	**3.72**	**251**	*e*P	**Pg**	**04 46 02.2**	**-1.2**
	0.2nm,0.2s						
DJR				*e*S	**Sg**	**04 46 52.7**	**+1.2**
	2.7nm,0.5s						
KAPS	**Kapalarasan**	**3.78**	**267**	Pg	**Pg**	**04 46 03.2**	**-1.2**
	4.4nm,0.4s						
KAPS				Lg	Lg	04 46 54.4	
	4.2nm,0.6s						
KAPS	**Kapalarasan**	**3.78**	**267**	*e*P	**Pg**	**04 46 01.5**	**-2.9**
	1.1nm,0.4s						
KAPS				*e*S	**Sg**	**04 46 51.5**	**-1.9**
	4.0nm,0.5s						
KTMS	**Ketmen**	**3.80**	**236**	Pg	**Pb**	**04 46 02.0**	**+2.7**
	2.1nm,0.1s						
KTMS				Lg	Lg	04 46 52.6	
	11nm,0.3s						
KTMS	**Ketmen**	**3.80**	**236**	*e*P	**Pb**	**04 46 01.9**	**+2.5**
	0.1nm,0.1s						
KTMS				*e*S	**Sg**	**04 46 52.8**	**-1.4**
	11nm,0.3s						
PDGK	**Podgornoye**	**4.38**	**240**	⇓Pg	**Pg**	**04 46 14.9**	**-1.1**
	1.0nm,0.4s						
PDGK				⇑Lg	Lg	04 47 16.1	
	6.3nm,0.7s						
SHLS	**Shalkode**	**4.50**	**238**	*e*P	**Pb**	**04 46 09.3**	**-1.9**
	2.4nm,0.2s						
SHLS				*e*S	**Sb**	**04 47 04.7**	**-0.8**
	15nm,0.6s						
ARXS	**Arharly**	**5.08**	**256**	Pg	**Pg**	**04 46 27.6**	**-1.8**
	5.8nm,0.6s						
ARXS				Lg	Lg	04 47 36.7	
	5.5nm,0.5s						
ARXS	**Arharly**	**5.08**	**256**	*e*P	**Pg**	**04 46 27.6**	**-1.8**
	5.8nm,0.6s						
ARXS				*e*S	**Sg**	**04 47 36.7**	**+1.5**
	5.5nm,0.5s						
KURBB	**Kurchatov Arra**	**6.47**	**323**	⇑Pn	**Pn**	**04 46 29.1**	**+1.8**
	0.5nm,0.4s						
KURBB				⇓Lg	Lg	04 48 21.8	
	4.4nm,0.7s						
KURK	**Kurchatov**	**6.50**	**324**	⇑Pn	**Pn**	**04 46 29.1**	**+1.3**
	2.4nm,0.9s						
KURK				⇓Lg	Lg	04 48 19.8	
	3.5nm,0.5s						

ISC 10 04:48:57.1±1.4**, 50°.08N**±0°.06×**18°.39E**±0°.05**, h0**km**, n12,** σ**0s.76**/21**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.29**	**212**	*e*PG	**Pg**	**04 49 03.5**	**+0.9**
OKC				*e*SG	**Sg**	**04 49 07.6**	**+1.3**
	comp=Z,18nm,0.4s						
MORC	**Moravsky Berou**	**0.62**	**241**	*e*PG	**Pg**	**04 49 09.7**	**+0.6**
MORC				*e*SG	**Sg**	**04 49 18.4**	**+1.2**
KRLC	**Kraliky**	**1.03**	**270**	*e*PG	**Pg**	**04 49 17.0**	**+0.1**
KRLC				*e*SG	**Sb**	**04 49 32.3**	**+0.3**
	comp=Z,2.4nm,0.3s						
LANS	**Liptovska Anna**	**1.17**	**143**	*e*PG	**Pg**	**04 49 19.7**	**+0.2**
LANS				*e*SG	**Sb**	**04 49 36.2**	**+0.4**
DPC	**Dobruska-Polom**	**1.35**	**282**	*e*PG	**Pn**	**04 49 23.3**	**0.0**
DPC				*e*SG	**Sn**	**04 49 42.4**	**+0.4**
	comp=Z,7.3nm,0.4s						
VRAC	**Vranov**	**1.40**	**237**	*e*PG	**Pg**	**04 49 23.6**	**-0.3**
VRAC				*e*SG	**Sb**	**04 49 42.2**	**-0.3**
UPC	**Upice**	**1.58**	**287**	*e*PG	**Pg**	**04 49 27.9**	**+0.5**
UPC				*e*SG	**Sg**	**04 49 48.5**	**+0.6**
VYHS	**Vyhne**	**1.62**	**169**	*e*PN	**Pn**	**04 49 26.2**	**-0.7**
VYHS				*e*SN	**Sn**	**04 49 47.5**	**-0.9**
VYHS				*e*LG	Lg	04 49 49.8	
KRUC	**Moravsky**	**1.65**	**233**	*e*SG	**Sb**	**04 49 49.7**	**0.0**
GOPC	**GO Pecny, Ondr**	**2.33**	**267**	*e*SG	**Sg**	**04 50 12.2**	**+0.3**
PRU	**Pruhonice**	**2.48**	**269**	*e*SG	**Sg**	**04 50 16.9**	**+0.1**
	comp=Z,1.6nm,0.3s						
KHC	**Kasperske Hory**	**3.27**	**255**	*e*PG	**Pg**	**04 49 58.4**	**-1.3**
KHC				*e*SG	**Sg**	**04 50 40.8**	**-1.3**

IDC 10 04:53:25.6±513.0**, 31°.86N**×**133°.22E, h0**km**, Error ellipse: s-maj=225.2km s-min=132.9km az=30.0, Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I30JP	**ISUMI INFRASON**	**6.84**	**58**	*i*		05 36 25.0	
	baz=241,slow=316,SNR=7.3						
I45RU	**USSURIYSK INFR**	**12.36**	**356**	*i*		06 04 40.0	
	baz=178,slow=338,SNR=1.8						
I34MN	**SONGINO INFRAS**	**25.85**	**316**	*i*		07 33 40.0	
	baz=117,slow=342,SNR=1.0						

MOS ***10*** *04:58:55.7±1.1, 4°.74S×152°.52E, h37km, mb5.2/22, Error ellipse: s-maj=11.0km s-min=7.2km az=85.9*
ISCJB ***10*** *04:58:57.0±0.8, 4°.93S±0°.03×152°.66E±0°.04, h56km±6km, mb5.0/122, MS4.1/35, Error ellipse: s-maj=6.4km s-min=4.5km az=16.4*
BJI ***10*** *04:58:57.0, 4°.78S×152°.88E, h60km, mb5.0/47, mB5.2/30, Ms4.7/16, Ms7 4.3/20*
NEIC ***10*** *04:58:58.1±0.7, 4°.90S×152°.67E, h51km±6km, mb5.1/78, Error ellipse: s-maj=5.2km s-min=3.8km az=112.0*
IDC ***10*** *04:58:58.8±2.1, 4°.91S×152°.57E, h54km±18km, mb4.5/27, mb1 4.6/29, mb1mx4.6/38, mbtmp4.8/29, ML3.4/2, MS4.0/30, Ms1 4.0/30, ms1mx3.9/45, Error ellipse: s-maj=13.0km s-min=9.5km az=102.0*
DJA ***10*** *04:59:02.7±3.1, 5°S±13°×15°2E±1°7, h74km±26km, M5.4/12, mB6.2/5, mb4.9/12, Mw(mB)5.9/5*
ISC 10 04:58:57.5±0.6**, 4°.91S**±0°.04×**152°.68E**±0°.06**, h48**km±5km**, n313,** σ**1s.05**/324**, mb5.1**/129**, MS4.1**/35**, 14C-1D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.88**	**324**	*e*Pn	**Pn**	**04 59 14.6**	**+0.9**
RABL				*e*Sn	**Sn**	**04 59 26.9**	**+1.4**
MANU	**Manus Island**	**6.02**	**298**	*e*Pn	Pn	05 00 28.9	+4.7
PMG	**Port Moresby**	**7.07**	**231**	P	**Pn**	**05 00 39.0**	**+0.6**
	7.5nm,0.3s,baz=33,slow=8.4,SNR=20						
PMG				S	**Sn**	**05 01 56.6**	**-0.9**
	13nm,0.3s,baz=37,slow=12,SNR=4.4						
PMG	**Port Moresby**	**7.07**	**231**	*e*Pn	**Pn**	**05 00 40.1**	**+1.6**
PMG				*e*Sn	**Sn**	**05 01 52.5**	**-5.1**
PMG	**Port Moresby**	**7.07**	**231**	*e*P	**Pn**	**05 00 40.1**	**+1.6**
PMG				*e*		05 01 52.5	
HNR	**Honiara**	**8.49**	**122**	LR	LR	05 04 32.0	
	comp=Z,2μm,18.1s,baz=293,slow=39						
PATS	**Pohnpei**	**12.95**	**26**	*e*Pn	**Pn**	**05 01 58.1**	**-0.9**
PATS				*e*Sn	**Sn**	**05 04 16.5**	**-5.3**
COEN	**Coen**	**12.98**	**226**	P	**Pn**	**05 02 01.6**	**+2.2**
	baz=13,SNR=4.9						
COEN	**Coen**	**12.98**	**226**	*e*Pn	**Pn**	**05 02 01.0**	**+1.5**
MTSU	**Mount Surprise**	**15.48**	**211**	P	**P**	**05 02 34.9**	**-1.6**
	baz=15,SNR=34						
CTA	**Charters Tower**	**16.33**	**202**	P	**Pn**	**05 02 44.5**	**+0.8**
	0.5nm,0.3s,baz=25,slow=14,SNR=9.7						
CTA				LR	LR	05 08 14.8	
	comp=Z,634nm,21.8s,baz=24,slow=34						
CTAO	**Charters Tower**	**16.33**	**202**	*e*Pn	**P**	**05 02 44.9**	**-1.1**
	42nm,1.5s						
CTAO	**Charters Tower**	**16.33**	**202**	*e*P	**P**	**05 02 44.9**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,42nm,1.5s						
GUMO	**Guam**	**19.95**	**337**	LR	LR	05 10 13.2	
	comp=Z,228nm,21.6s,baz=134,slow=34						
QIS	**Mount Isa**	**20.09**	**218**	P	**P**	**05 03 27.5**	**+0.2**
	baz=20,SNR=12						
EIDS	**Eidsvold**	**20.40**	**184**	P	**P**	**05 03 30.9**	**+0.3**
	baz=20,SNR=5.9						
EIDS	**Eidsvold**	**20.40**	**184**	*e*P	**P**	**05 03 31.2**	**+0.6**
	comp=Z,43nm,1.2s						
FAKI	**Fak Fak**	**20.48**	**275**	*e*P	**P**	**05 03 31.6**	**0.0**
	comp=Z,21nm,0.8s						
TARA	**Tarawa**	**21.16**	**73**	*e*P	**P**	**05 03 37.9**	**-1.0**
	comp=Z,72nm,1.0s						
KDU	**Kakadu**	**21.40**	**248**	P	**P**	**05 03 40.9**	**-0.5**
	baz=21,SNR=6.8						
DZM	**Mont Dzumac**	**21.65**	**143**	P	**P**	**05 03 44.6**	**+0.4**
	comp=Z,14nm,0.6s,baz=218,slow=8.9,SNR=20						
DZM				LR	LR	05 11 57.9	
	comp=Z,238nm,18.7s,baz=350,slow=36						
DZM	**Mont Dzumac**	**21.65**	**143**	*e*P	**P**	**05 03 45.6**	**+1.4**
	comp=Z,78nm,1.1s						
DZM				*e*S	**S**	**05 07 43.9**	**+2.4**
	comp=Z,703nm,25.1s						
DZM				*e*LR	LR	05 09 09.2	
	comp=Z,1μm,24.1s						
DZM	**Mont Dzumac**	**21.65**	**143**	*e*P	**P**	**05 03 44.7**	**+0.6**
	comp=Z,28nm,0.7s						
SIJI	**Sorong**	**21.76**	**280**	P	**P**	**05 03 45.8**	**+0.4**
	comp=Z,28nm,0.6s,baz=49,slow=11,SNR=7.5						
RMQ	**Roma**	**21.78**	**190**	P	**P**	**05 03 46.0**	**+0.5**
	baz=22,SNR=11						
MARNC	**Mare, Loyalty**	**22.20**	**139**	*e*P	**P**	**05 03 49.7**	**-0.3**
	comp=Z,141nm,1.1s						
MTN	**Manton Dam**	**22.69**	**248**	*e*P	**P**	**05 03 56.1**	**+0.9**
	comp=Z,33nm,0.8s						
QLP	**Quilpie**	**23.01**	**200**	P	**P**	**05 03 58.3**	**-0.3**
	baz=23,SNR=9.9						
WRAB	**Tennant Creek**	**23.27**	**229**	*e*P	**P**	**05 04 01.1**	**0.0**
	comp=Z,70nm,1.1s						
WRAB	**Tennant Creek**	**23.27**	**229**	*ce*P	**P**	**05 04 01.2**	**0.0**
WRAB				pmax	pmax		
	comp=Z,72nm,1.4s						
WB2	**Warramunga Arr**	**23.27**	**228**	*e*P	**P**	**05 04 00.9**	**-0.3**
	comp=Z,39nm,0.8s						
WR1	**Warramunga Arr**	**23.28**	**229**	*e*P	**P**	**05 04 01.2**	**-0.1**
	comp=Z,102nm,1.2s						
WR1				*e*S	**S**	**05 08 08.6**	**-1.7**
WRA	**Warramunga Arr**	**23.28**	**229**	P	**P**	**05 04 01.2**	**-0.1**
	comp=Z,22nm,0.5s,baz=53,slow=10,SNR=110						
WRA				S	**S**	**05 08 08.6**	**-1.7**
	comp=Z,8.3nm,1.2s,baz=55,slow=17,SNR=5.8						
WRA				LR	LR	05 14 32.6	
	comp=Z,379nm,18.2s,baz=60,slow=40						
KNRA	**Kununurra**	**25.82**	**244**	P	**P**	**05 04 23.4**	**-1.2**
	baz=26,SNR=11						
AS01	**Alice Springs**	**25.96**	**222**	*e*P	**P**	**05 04 25.5**	**-0.3**
ASAR	**Alice Springs**	**25.99**	**222**	P	**P**	**05 04 25.9**	**-0.2**
	comp=Z,5.1nm,0.6s,baz=57,slow=8.6,SNR=28						
ASAR				LR	LR	05 14 57.2	
	comp=Z,243nm,21.6s,baz=46,slow=37						
CMSA	**Cobar Meteorol**	**27.29**	**193**	P	**P**	**05 04 37.9**	**+0.3**
	baz=27,SNR=9.3						
STKA	**Stephens Creek**	**28.77**	**200**	P	**P**	**05 04 51.0**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=360,slow=8.0,SNR=6.3						
STKA				LR	LR	05 16 27.2	
	comp=Z,372nm,19.5s,baz=25,slow=36						
STKA	**Stephens Creek**	**28.77**	**200**	P	**P**	**05 04 52.0**	**+1.2**
	baz=29,SNR=4.4						
STKA	**Stephens Creek**	**28.77**	**200**	*e*P	**P**	**05 04 51.0**	**+0.1**
BATI	**Baumata**	**29.23**	**258**	P	**P**	**05 04 54.0**	**-1.2**
	comp=Z,37nm,0.5s,baz=181,slow=0.8,SNR=2.4						
BATI				LR	LR	05 18 55.8	
	comp=Z,560nm,21.5s,baz=98,slow=41						
FITZ	**Fitzroy Crossi**	**29.50**	**241**	P	**P**	**05 04 56.8**	**-0.8**
	comp=Z,18nm,0.5s,baz=63,slow=6.1,SNR=47						
FITZ				LR	LR	05 18 18.3	
	comp=Z,323nm,20.1s,baz=72,slow=39						
FITZ	**Fitzroy Crossi**	**29.50**	**241**	P	**P**	**05 04 56.7**	**-0.8**
	baz=29,SNR=14						
FITZ	**Fitzroy Crossi**	**29.50**	**241**	*e*P	**P**	**05 04 56.8**	**-0.8**
	comp=Z,60nm,1.4s						
DAV	**Davao City (W)**	**29.55**	**294**	LR	LR	05 15 51.5	
	comp=Z,199nm,21.0s,baz=110,slow=34						
WRKA	**Warakurna**	**30.80**	**227**	P	**P**	**05 05 08.1**	**-0.9**
	baz=31,SNR=20						
HTT	**Hallett**	**31.14**	**203**	P	**P**	**05 05 11.7**	**-0.2**
	baz=31,SNR=4.9						
BBOO	**Buckleboo**	**31.80**	**207**	*e*P	**P**	**05 05 18.3**	**+0.6**
	comp=Z,26nm,1.4s						
FORT	**Forrest**	**34.63**	**219**	P	**P**	**05 05 42.1**	**-0.3**
	baz=35,SNR=12						
FORT	**Forrest**	**34.63**	**219**	*e*P	**P**	**05 05 41.8**	**-0.6**
	comp=Z,37nm,0.8s						
MBWA	**Marble Bar**	**35.81**	**240**	*e*P	**P**	**05 05 51.8**	**-0.9**
	comp=Z,22nm,0.9s						
MEEK	**Meekatharra**	**39.04**	**233**	P	**P**	**05 06 19.5**	**-0.5**
	baz=39,SNR=7.5						
JHJ	**Hachijo jima 2**	**39.75**	**343**	LR	LR	05 19 42.3	
	comp=Z,183nm,21.6s,baz=64,slow=31						
URZ	**Urewera**	**39.95**	**150**	P	**P**	**05 06 29.8**	**+2.5**
	comp=Z,5.9nm,0.8s,baz=315,slow=10.0,SNR=2.7						
URZ	**Urewera**	**39.95**	**150**	*e*P	**P**	**05 06 27.0**	**-0.3**
	comp=Z,27nm,1.3s						
BKZ	**Black Stump Fm**	**40.35**	**151**	*e*P	**P**	**05 06 30.0**	**-0.7**
	comp=Z,29nm,1.5s						
GIRL	**Giralia**	**41.11**	**241**	*e*P	**P**	**05 06 38.1**	**+1.0**
	comp=Z,333nm,1.3s						
BFZ	**Birch Farm**	**41.43**	**153**	*e*P	**P**	**05 06 40.0**	**+0.5**
	comp=Z,108nm,1.4s						
UGM	**Wanagama**	**41.99**	**264**	*e*P	**P**	**05 06 44.0**	**-0.5**
	comp=Z,299nm,1.3s						
MORW	**Morawa**	**42.18**	**231**	*e*P	**P**	**05 06 44.8**	**-1.1**
	comp=Z,36nm,1.2s						
BLDU	**Ballidu**	**42.42**	**229**	P	**P**	**05 06 46.8**	**-1.0**
	baz=42,SNR=4.7						
MQZ	**McQueen's Vall**	**42.47**	**158**	*e*P	**P**	**05 06 49.1**	**+1.2**
	comp=Z,51nm,1.2s						
JNU	**Nakatsue**	**43.11**	**333**	P	**P**	**05 06 53.8**	**+0.5**
	comp=Z,45nm,0.9s,baz=131,slow=5.6,SNR=14						
JNU				LR	LR	05 22 49.6	
	comp=Z,115nm,21.7s,baz=118,slow=33						
JNU	**Nakatsue**	**43.11**	**333**	*e*P	**P**	**05 06 53.9**	**+0.5**
	comp=Z,62nm,1.0s						
NWAO	**Narrogin (SRO)**	**43.23**	**225**	LR	LR	05 26 33.2	
	comp=Z,384nm,18.2s,baz=308,slow=38						
MJAR	**Matsushiro Arr**	**43.40**	**343**	P	**P**	**05 06 53.8**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=171,slow=11,SNR=6.3						
MJAR				PcP	**PcP**	**05 08 44.1**	**+0.7**
	comp=Z,4.5nm,0.9s,baz=174,slow=4.1,SNR=5.5						
MJAR				LR	LR	05 23 26.6	
	comp=Z,146nm,21.8s,baz=185,slow=34						
MAJO	**Matsushiro**	**43.41**	**343**	*e*P	**P**	**05 06 53.8**	**-1.8**
MAJO	**Matsushiro**	**43.41**	**343**	*e*P	**P**	**05 06 53.8**	**-1.8**
LEM	**Lembang**	**44.86**	**265**	LR	LR	05 27 15.3	
	comp=Z,191nm,19.6s,baz=210,slow=38						
KSRS	**Korea Array**	**48.05**	**333**	P	**P**	**05 07 32.6**	**+0.5**
	comp=Z,4.7nm,0.8s,baz=149,slow=8.2,SNR=11						
KSRS				PcP	**PcP**	**05 09 00.7**	**+1.2**
	comp=Z,1.6nm,0.7s,baz=170,slow=4.1,SNR=4.1						
KSRS				LR	LR	05 26 41.3	
	comp=Z,74nm,19.4s,baz=198,slow=35						
KS15	**Wonju Array Si**	**48.05**	**333**	*e*P	**P**	**05 07 32.6**	**+0.4**
KS15				*e*PcP	**PcP**	**05 09 00.7**	**+1.1**
KSAR	**Wonju Array Be**	**48.05**	**333**	P	**P**	**05 07 32.6**	**+0.4**
KSAR	**Wonju Array Be**	**48.05**	**333**	P	**P**	**05 07 32.7**	**+0.4**
NJ2	**Nanjing**	**48.86**	**321**	*e*P	**P**	**05 07 39.4**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,19nm,0.5s						
ASAJ	**Asahikawa**	**49.64**	**350**	P	**P**	**05 07 44.2**	**-0.2**
	comp=Z,16nm,0.7s,baz=229,slow=11,SNR=8.5						
PDSI	**Padang**	**52.29**	**273**	P	**P**	**05 08 03.0**	**-1.9**
USRK	**Ussuriysk Ar.**	**52.31**	**341**	P	**P**	**05 08 04.7**	**+0.3**
	comp=Z,5.2nm,0.8s,baz=185,slow=8.2,SNR=9.9						
YSS	**Yuzh-Sakhalins**	**52.38**	**351**	*e*P	**P**	**05 08 04.6**	**-0.3**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YSS				MLR	MLR		
	comp=Z,100nm,16.0s						
SKNT	**Sakolnakorn**	**52.80**	**295**	P	**P**	**05 08 09.6**	**+1.1**
	comp=Z,20nm,1.1s						
MNSI	**Mandailing Nat**	**53.35**	**275**	P	**P**	**05 08 11.6**	**-1.0**
NONG	**Nongkai**	**53.92**	**296**	P	**P**	**05 08 17.5**	**+0.8**
	comp=Z,1.1nm,0.8s,comp=Z,64nm						
ENH	**Enshi**	**54.14**	**313**	*e*P	**P**	**05 08 19.0**	**+0.8**
	comp=Z,28nm,1.0s						
PSI	**Prapat**	**54.25**	**277**	*e*P	**P**	**05 08 18.1**	**-1.3**
	comp=Z,7.7nm,1.0s						
PSI	**Prapat**	**54.25**	**277**	*e*P	**P**	**05 08 18.1**	**-1.3**
PSI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CHAI	**Chaiyaphum**	**54.26**	**293**	P	**P**	**05 08 20.1**	**+0.9**
	comp=Z,7.0nm,0.8s						
CN2	**Changchun**	**54.35**	**336**	*e*P	**P**	**05 08 22.0**	**+2.6**
GYA	**Guiyang**	**54.37**	**307**	P	**P**	**05 08 21.8**	**+1.8**
GYA				pP	sP	05 08 37.4	+0.1
GYA				S	**S**	**05 15 56.3**	**+1.1**
GYA				sS	sS	05 16 21.8	+4.3
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.8s						
PBKT	**Sadao Pong**	**55.39**	**294**	*e*P	**P**	**05 08 26.0**	**-1.4**
	comp=Z,8.8nm,0.9s						
PBKT	**Sadao Pong**	**55.39**	**294**	P	**P**	**05 08 29.2**	**+1.8**
	comp=Z,12nm,0.8s						
UTTA	**Uttaradit**	**56.14**	**295**	P	**P**	**05 08 33.7**	**+1.0**
	comp=Z,14nm,0.8s,comp=Z,112nm						
NANT	**Nan**	**56.35**	**296**	P	**P**	**05 08 35.0**	**+0.7**
	comp=Z,13nm,0.8s,comp=Z,122nm						
SRDT	**SRDT**	**56.45**	**291**	P	**P**	**05 08 36.7**	**+1.7**
	comp=Z,26nm,1.2s,comp=Z,1μm						
UTHA	**Uthaitani**	**56.49**	**292**	P	**P**	**05 08 36.5**	**+1.2**
	comp=Z,6.8nm,0.8s,comp=Z,278nm						
XAN	**Xi'an**	**56.62**	**317**	P	**P**	**05 08 35.8**	**-0.2**
XAN				pP	sP	05 08 52.4	-0.9
XAN				sP	pwP	05 09 00.4	+7.8
XAN				pmax	pmax		
	comp=Z,11nm,0.7s						
XAN				pmax	pmax		
	comp=Z,240nm,5.9s						
XAN				LR	LR		
	comp=Z,210nm,20.6s						
XAN				LR	LR		
	comp=Z,280nm,19.5s						
XAN	**Xi'an**	**56.62**	**317**	*e*P	**P**	**05 08 36.4**	**+0.4**
	comp=Z,9.7nm,0.9s						
XAN	**Xi'an**	**56.62**	**317**	*e*P	**P**	**05 08 36.4**	**+0.4**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SUKH	**Sukhothai**	**56.89**	**294**	P	**P**	**05 08 39.6**	**+1.5**
	comp=Z,14nm,0.9s						
KLR	**Kul'dur**	**56.92**	**344**	P	**P**	**05 08 37.4**	**-0.3**
	comp=Z,6.0nm,0.8s,baz=178,slow=3.8,SNR=19						
KLR				PcP	**PcP**	**05 09 33.1**	**+0.4**
	comp=Z,4.3nm,0.8s,baz=185,slow=3.8,SNR=4.2						

KLR Kul'dur 56.92 344 *i* P **P** **05 08 38.2 +0.5**
KMI Kunming 56.95 304 P **P** **05 08 40.5 +1.8**
KMI pP sP 05 08 57.3 +1.2
KMI pmax pmax
comp=Z,19nm,1.0s
KMI LR LR
comp=Z,250nm,21.3s
LAMP Lampang 57.22 296 P **P** **05 08 41.9 +1.5**
comp=Z,20nm,0.8s,comp=Z,158nm
PPT Papeete 57.80 108 LR LR 05 29 44.7
comp=Z,48nm,19.2s,baz=348,slow=32
PPT2 Papeete2 57.81 108 *e*LR LR 05 26 04.9
comp=Z,78nm,22.0s
CM31 Chiang Mai Arr 57.82 295 *e*P **P** **05 08 45.9 +1.3**
CM31 *e*PcP **PcP** **05 09 38.2 +1.2**
CMAR Chiang Mai Arr 57.82 295 P **P** **05 08 45.9 +1.3**
comp=Z,27nm,0.8s,baz=120,slow=5.4,SNR=17
CMAR PcP **PcP** **05 09 38.2 +1.2**
comp=Z,5.1nm,1.0s,baz=105,slow=3.2,SNR=2.7
CMAR LR LR 05 33 24.1
comp=Z,46nm,19.4s,baz=100,slow=36
CMAR Chiang Mai Arr 57.82 295*ce*P **P** **05 08 44.0 -0.7**
CMAR pmax pmax
comp=Z,27nm,0.9s
CHTO Chiang Mai 57.93 296 *e*P **P** **05 08 46.4 +1.0**
comp=Z,17nm,0.9s
CHTO Chiang Mai 57.93 296 P **P** **05 08 46.4 +1.0**
CHTO pmax pmax
comp=Z,17nm,0.9s
CHTO Chiang Mai 57.93 296 P **P** **05 08 46.4 +1.0**
comp=Z,92nm,1.2s
PETK Petropavlovsk- 57.96 4 P **P** **05 08 45.5 +0.5**
comp=Z,12nm,0.6s,baz=166,slow=8.0,SNR=10
PETK LR LR 05 28 54.3
comp=Z,162nm,21.2s,baz=200,slow=31
PEA1 Petropavlovsk- 57.96 4 *e*P **P** **05 08 45.5 +0.5**
CD2 Chengdu 58.72 311 P **P** **05 08 51.6 +0.8**
CD2 S **S** **05 16 53.9 +1.4**
CD2 pmax pmax
comp=Z,80nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,320nm,10.4s
CD2 LR LR
comp=Z,360nm,10.4s
HHC Hu-ho-hao-te 59.07 324 *e*P **P** **05 08 55.4 +2.3**
HHC pP sP 05 09 11.5 +0.6
HHC sP pwP 05 09 19.8 +11
HHC pmax pmax
comp=Z,23nm,0.7s
LZH Lanzhou 61.23 316 *e*P **P** **05 09 09.5 +1.4**
LZH pP sP 05 09 25.3 -0.2
LZH sP pwP 05 09 33.4 +8.7
LZH SS SS 05 21 26.9 +1.0
LZH pmax pmax
comp=Z,46nm,1.0s
LZH pmax pmax
comp=Z,190nm,4.8s
LZH LR LR
comp=Z,390nm,13.6s
LZH LR LR
comp=Z,340nm,14.6s
LZH LR LR
comp=Z,600nm,14.7s
ZEA Zeya 62.22 343 *e*P **P** **05 09 13.5 -0.6**
ADK Adak 62.31 21 *e*P **P** **05 09 12.8 -2.0**
comp=Z,59nm,1.3s
ADK Adak 62.31 21 *e*P **P** **05 09 12.8 -2.0**
ADK pmax pmax
comp=Z,59nm,1.3s
MA2 Magadan 64.30 359 *e*P **P** **05 09 27.9 0.0**
comp=Z,18nm,0.7s
MA2 Magadan 64.30 359*ce*P **P** **05 09 26.1 -1.7**
MA2 pmax pmax
comp=Z,29nm,1.7s
BRDH Bariadhala 65.61 297 P **P** **05 09 38.6 +1.5**
comp=Z,64nm,0.3s,baz=95,slow=11,SNR=3.6
GTA Gaotai 65.66 317 ⇓P **P** **05 09 38.6 +1.4**
GTA pP sP 05 09 54.8 0.0
GTA sP pwP 05 10 00.2 +6.2
GTA S **S** **05 18 21.8 +1.9**
GTA sS sS 05 18 50.0 +7.3
GTA pmax pmax
comp=Z,10.0nm,1.3s
GTA pmax pmax
comp=Z,110nm,4.2s
GTA LR LR
comp=Z,98nm,20.6s
GTA LR LR
comp=Z,130nm,19.9s
GTA LR LR
comp=Z,230nm,19.6s
SHL Shillong 66.26 301 *e*P **P** **05 09 41.8 +0.3**
comp=Z,31nm,0.8s
SHL Shillong 66.26 301 *e*P **P** **05 09 41.8 +0.3**
SHL pmax pmax
comp=Z,31nm,0.8s
SHL Shillong 66.26 301 *e*P **P** **05 09 42.0 +0.5**
SONA0 Songino Array 66.36 328 *e*P **P** **05 09 42.0 +0.4**
SONA0 *e*PcP **PcP** **05 10 11.4 +0.3**
SONM Songino Array 66.36 328 P **P** **05 09 42.0 +0.4**
comp=Z,2.4nm,0.6s,baz=142,slow=6.1,SNR=9.4
SONM PcP **PcP** **05 10 11.4 +0.3**
comp=Z,2.0nm,0.4s,baz=142,slow=4.1,SNR=7.9
SONM LR LR 05 36 39.7
comp=Z,151nm,21.7s,baz=128,slow=34
SEY Seymchan 67.66 360 *i* P **P** **05 09 49.3 0.0**
LSA Lhasa 68.20 305 *e*P **P** **05 09 54.8 +0.8**
comp=Z,9.4nm,0.8s
LSA Lhasa 68.20 305 *e*P **P** **05 09 54.8 +0.8**
LSA pmax pmax
comp=Z,9.0nm,0.8s
YAK Yakutsk 69.06 349 *e*P **P** **05 09 58.0 -0.1**
YAK pmax pmax
comp=Z,11nm,0.8s
YAK pmax pmax
comp=N,5.0nm,0.9s
ZAK Zakamensk 69.53 329 *e*P **P** **05 10 00.9 -0.5**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
ODAN Odare 70.50 301 *e*P **P** **05 10 08.3 +0.3**
comp=Z,79nm,0.9s
RAMN Ramite 71.20 300 *e*P **P** **05 10 13.2 +0.9**
comp=Z,12nm,0.5s
JIRN Jiri 71.75 301 *e*P **P** **05 10 15.9 +0.2**
comp=Z,43nm,0.8s
GUN Gumba 72.08 301 *e*P **P** **05 10 17.9 +0.2**
comp=Z,79nm,0.8s
KKN Kakani 72.56 301 *e*P **P** **05 10 20.5 +0.1**
comp=Z,32nm,0.6s
DMN Daman 72.66 301 *e*P **P** **05 10 21.2 +0.2**
comp=Z,108nm,1.0s
VNDA Vanda 72.72 178 P **P** **05 10 20.8 +0.6**
comp=Z,2.7nm,0.9s,baz=337,slow=7.2,SNR=8.5
VNDA LR LR 05 38 56.7
comp=Z,85nm,19.4s,baz=304,slow=33
BILL Bilibino 73.41 5 *e*P **P** **05 10 24.4 +0.1**
comp=Z,8.7nm,0.8s
BILL Bilibino 73.41 5⇑ *i*P **P** **05 10 24.8 +0.5**
BILL *e**PP **pP** **05 10 37.0 -0.9**
BILL 05 10 43.0
BILL *e* 05 20 16.1
BILL *e*SSS SSS 05 27 48.0
BILL pmax pmax
comp=Z,16nm,1.0s
BILL MLR MLR
comp=Z,140nm,18.0s
GAMB Gambell 73.52 16 *e*P **P** **05 10 26.0 +1.1**
comp=Z,28nm,1.2s
KOLN Koldanda 73.99 301 *e*P **P** **05 10 28.7 -0.1**
comp=Z,55nm,0.8s
DANN Dangsing 74.00 301 *e*P **P** **05 10 28.7 -0.3**
comp=Z,45nm,0.9s
PYUN Piuthan 74.59 301 *e*P **P** **05 10 31.7 -0.6**
comp=Z,80nm,0.9s
OHAK Old Harbor 75.70 27 *e*P **P** **05 10 37.8 0.0**
comp=Z,38nm,1.2s
WMQ Urumqi 75.74 317 P **P** **05 10 39.6 +1.2**
WMQ pP pwP 05 10 54.3 -1.0
WMQ sP sP 05 11 01.9 +5.6
WMQ pmax pmax
comp=Z,33nm,1.5s
WMQ pmax pmax
comp=Z,300nm,4.5s
WMQ LR LR
comp=Z,120nm,20.5s
WMQ LR LR
comp=Z,190nm,21.5s
WMQ LR LR
comp=Z,170nm,21.7s
ANM Nome 75.92 17 *e*P **P** **05 10 39.8 +0.9**
comp=Z,18nm,1.0s
ANM Nome 75.92 17 *e*P **P** **05 10 39.8 +0.9**
ANM pmax pmax
comp=Z,18nm,1.0s
KDAK Kodiak Island 76.33 27*ce*P **P** **05 10 44.4 +3.1**
SVW2 Sparrevohn 76.97 23 *e*P **P** **05 10 46.0 +1.0**
comp=Z,12nm,0.8s
RSO Redoubt South 77.74 24 *e*P **P** **05 10 49.4 -0.1**
HOM Homer 77.76 25 *e*P **P** **05 10 48.5 -0.9**
comp=Z,263nm,1.1s
TIXI Tiksi 77.99 352*ce*P **P** **05 10 51.1 +0.7**
TIXI pmax pmax
comp=Z,3.0nm,1.4s
DGZ Jazzator, Alta 78.10 323*c i*P **P** **05 10 51.3 -0.4**
DGZ pmax pmax
comp=Z,6.0nm,0.8s
BRLK Bradley Lake 78.14 26 *e*P **P** **05 10 51.4 -0.1**
comp=Z,22nm,1.0s
SEW Seward 78.94 26 *e*P **P** **05 10 56.4 +0.5**
comp=Z,22nm,0.9s
SUA Susitna One 79.11 24 *e*P **P** **05 10 56.6 -0.3**
comp=Z,25nm,0.8s
RDOG Red Dog Mine 79.12 16 *e*P **P** **05 10 58.0 +1.3**
comp=Z,69nm,1.0s
PPLA Purkeypile 79.32 22 *e*P **P** **05 10 58.7 +0.6**
comp=Z,17nm,1.2s
RC01 Rabbit Creek A 79.33 25 *e*P **P** **05 10 57.9 0.0**
comp=Z,26nm,0.6s
CAST Castle Rocks 79.65 22 *e*P **P** **05 10 59.6 -0.2**
comp=Z,24nm,0.7s
PMR Palmer 79.83 24 *e*P **P** **05 11 00.4 -0.3**
comp=Z,17nm,0.9s
PMR Palmer 79.83 24 *e*P **P** **05 11 00.4 -0.3**
PMR pmax pmax
comp=Z,17nm,0.9s
GHO Glory Hole Cre 80.01 24 *e*P **P** **05 11 02.1 +0.3**
comp=Z,22nm,0.8s
KNK Knik Glacier 80.02 25 *e*P **P** **05 11 02.3 +0.5**
comp=Z,36nm,1.2s
SML Sawmill 80.27 24 *e*P **P** **05 11 03.8 +0.6**
comp=Z,53nm,0.8s
SML Sawmill 80.27 24 P **P** **05 11 03.7 +0.6**
SML pmax pmax
comp=Z,53nm,0.8s
MK01 Makanchi Array 80.32 319 *e*P **P** **05 11 03.8 +0.1**
MK31 Makanchi Array 80.33 319 *e*P **P** **05 11 03.3 -0.5**
MK31 Makanchi Array 80.33 319 *e*P **P** **05 11 03.3 -0.5**
MK32 Makanchi Array 80.33 319 *e*P **P** **05 11 04.0 +0.2**
MKAR Makanchi Array 80.33 319 P **P** **05 11 04.0 +0.2**
comp=Z,5.2nm,0.9s,baz=111,slow=5.0,SNR=25
MKAR LR LR 05 45 16.7
comp=Z,87nm,21.5s,baz=90,slow=35
MKAR Makanchi Array 80.33 319 *e*P **P** **05 11 03.3 -0.5**
comp=Z,25nm,0.9s
MKAR Makanchi Array 80.33 319*ce*P **P** **05 11 04.0 +0.2**
MKAR pmax pmax
comp=Z,5.0nm,0.9s
TRF Thorofare Moun 80.35 22 *e*P **P** **05 11 03.2 -0.5**
comp=Z,13nm,0.6s
MAKZ Makanchi 80.54 319 *e*P **P** **05 11 05.0 +0.1**
comp=Z,9.2nm,1.1s
MAKZ Makanchi 80.54 319 *e*P **P** **05 11 05.0 +0.1**
MAKZ pmax pmax
comp=Z,9.0nm,1.1s
SCM Sheep Creek Mo 80.70 25 *e*P **P** **05 11 06.2 +0.7**
comp=Z,31nm,1.0s
RND Reindeer 80.88 23 *e*P **P** **05 11 05.9 -0.5**
comp=Z,33nm,0.7s
RND Reindeer 80.88 23 *e*P **P** **05 11 05.9 -0.5**
RND pmax pmax
comp=Z,33nm,0.7s
MCK McKinley 81.01 23 *e*P **P** **05 11 06.5 -0.5**
comp=Z,49nm,0.8s
MCK McKinley 81.01 23 *e*P **P** **05 11 06.5 -0.5**
MCK pmax pmax
comp=Z,49nm,0.8s
DIV Divide 81.02 26 *e*P **P** **05 11 08.0 +0.8**
comp=Z,16nm,0.7s
MLY Manley 81.03 21 *e*P **P** **05 11 07.3 +0.2**
comp=Z,36nm,0.6s
KLU Klutina 81.13 25 *e*P **P** **05 11 08.4 +0.6**
comp=Z,38nm,1.1s
ZALV Zalesovo Beam 81.18 326 P **P** **05 11 07.5 -0.6**
comp=Z,8.0nm,0.6s,baz=113,slow=5.3,SNR=35
ZALV LR LR 05 45 43.6
comp=Z,52nm,21.7s,baz=56,slow=35
ZAA1 Zalesovo Array 81.18 326 *e*P **P** **05 11 07.5 -0.6**
DHY Denali Highway 81.29 23 *e*P **P** **05 11 08.8 +0.1**
comp=Z,22nm,0.9s
WRH Wood River Hil 81.71 22 *e*P **P** **05 11 10.4 -0.3**
comp=Z,30nm,1.1s
HARP HAARP 81.87 25 *e*P **P** **05 11 12.4 +0.8**
comp=Z,22nm,0.8s
MDM Murphy Dome 81.90 22 *e*P **P** **05 11 11.3 -0.5**
comp=Z,16nm,1.1s
TCOL CIGO, UAF Yank 81.99 22 P **P** **05 11 11.3 -0.8**
baz=240
COLA College 82.00 22 *e*P **P** **05 11 11.9 -0.3**
comp=Z,38nm,0.8s
COLA College 82.00 22*c i*P **P** **05 11 11.3 -0.8**
COLA pmax pmax
comp=Z,36nm,0.8s
HDA Harding Lake 82.11 22 *e*P **P** **05 11 12.1 -0.7**
comp=Z,18nm,1.2s
HDA Harding Lake 82.11 22 P **P** **05 11 12.1 -0.7**
baz=241
POKR Poker Plat Res 82.27 22 P **P** **05 11 12.8 -0.8**
baz=240
ILAR Eielson Array 82.31 22 P **P** **05 11 12.7 -1.2**
comp=Z,18nm,0.8s,baz=244,slow=5.9,SNR=200
ILAR LR LR 05 43 48.4
comp=Z,120nm,19.1s,baz=240,slow=33
ILB Eielson Array 82.31 22 *e*P **P** **05 11 12.7 -1.2**
NVS Novosibirsk 82.36 327 *e*P **P** **05 11 14.1 -0.2**
COLD Coldfoot 82.40 19 *e*P **P** **05 11 15.6 +1.4**
comp=Z,6.0nm,1.0s
RIDG Independ'e Rid 82.61 23 *e*P **P** **05 11 16.0 +0.5**
comp=Z,19nm,0.9s
DOT Dot Lake 82.88 24 *e*P **P** **05 11 17.1 +0.2**
comp=Z,31nm,0.8s
PRP Porcupine Dome 83.17 22 *e*P **P** **05 11 17.0 -1.4**
comp=Z,4.4nm,0.8s
FYU Fort Yukon 83.77 21 *e*P **P** **05 11 22.4 +1.1**
comp=Z,18nm,0.8s
KURK Kurchatov 83.78 322 *e*P **P** **05 11 21.6 -0.1**
comp=Z,22nm,1.4s
KURK Kurchatov 83.78 322*ce*P **P** **05 11 20.8 -0.9**
KURK pmax pmax
comp=Z,17nm,1.3s
KURBB Kurchatov Arra 83.81 322 P **P** **05 11 21.6 -0.2**
comp=Z,5.4nm,0.9s,baz=107,slow=4.2,SNR=20
NIL Nilore 83.94 304 *e*P **P** **05 11 23.4 +0.4**
comp=Z,36nm,0.7s
NIL *e*pP **pP** **05 11 36.4 +0.3**
NIL Nilore 83.94 304 *e*P **P** **05 11 23.4 +0.4**
NIL *e**PP **pP** **05 11 36.4 +0.3**
NIL pmax pmax
comp=Z,35nm,0.7s
EGAK Eagle 84.51 23 *e*P **P** **05 11 25.3 +0.1**
comp=Z,192nm,0.9s
HYT Haines Junctio 84.59 28 *e*P **P** **05 11 27.3 +1.5**
comp=Z,24nm,0.9s
AAK Ala-Archa 84.66 313 P **P** **05 11 27.3 +0.7**
comp=Z,3.8nm,0.5s,baz=83,slow=4.8,SNR=8.8
AAK Ala-Archa 84.66 313 *e*P **P** **05 11 27.6 +1.0**
AAK Ala-Archa 84.66 313*ce*P **P** **05 11 27.1 +0.5**
AAK pmax pmax
comp=Z,12nm,1.2s
DAWY Dawson 84.94 24 *e*P **P** **05 11 28.2 +0.8**
comp=Z,8.8nm,0.8s
QSPA South Pole Qui 85.05 180 *e*P **P** **05 11 28.2 +0.1**
comp=Z,17nm,1.1s
MAW Mawson 85.42 203 P **P** **05 11 27.6 -2.0**
comp=Z,3.4nm,0.4s,baz=90,slow=10,SNR=6.1
MAW LR LR 05 46 15.0
comp=Z,160nm,21.2s,baz=77,slow=33
ARSB Arslanbob 85.51 312 *e*P **P** **05 11 32.0 +1.1**
comp=Z,56nm,1.3s
EPYK Eagle Plains 86.81 22 *e*P **P** **05 11 37.2 +0.7**
comp=Z,53nm,0.8s
EPYK Eagle Plains 86.81 22 P **P** **05 11 37.3 +0.7**
baz=250
INK Inuvik 88.60 21 *e*P **P** **05 11 45.1 +0.1**
comp=Z,26nm,1.1s
INK Inuvik 88.60 21 *e*P **P** **05 11 45.1 +0.1**
INK pmax pmax
comp=Z,26nm,1.1s
YBH Yreka Blue Hor 89.22 48 LR LR 05 43 42.8
comp=Z,185nm,21.9s,baz=288,slow=30
BRVK Borovoye 89.33 323 *e*P **P** **05 11 47.9 -0.8**
comp=Z,8.6nm,0.9s
BRVK Borovoye 89.33 323*ce*P **P** **05 11 48.1 -0.7**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
NV01 Mina Array Sit 92.25 52 *e*P **P** **05 12 03.8 +0.8**
NVAR Mina Array Bea 92.25 52 P **P** **05 12 03.8 +0.8**
comp=Z,1.1nm,0.7s,baz=267,slow=4.5,SNR=4.4
MPMC Manual Prospec 92.72 54 P **P** **05 12 06.0 +0.7**
baz=266
NEW Newport 93.76 42 LR LR 05 50 08.0
comp=Z,130nm,18.2s,baz=276,slow=33
ELK Elko 94.75 50 LR LR 05 48 17.0
comp=Z,165nm,19.8s,baz=283,slow=31
ABKAR Akbulak array 95.48 319 *e*P **P** **05 12 15.9 -1.4**
YKA Yellowknife Ar 95.58 28 P **P** **05 12 17.9 +0.4**
comp=Z,3.8nm,0.8s,baz=271,slow=4.7,SNR=57
YKB5 Yellowknife Ar 95.58 28 *e*P **P** **05 12 17.9 +0.4**
ARU Arti 96.34 326 P **P** **05 12 17.5 -3.6**
ARU S **SKSac** **05 22 48.9 -4.8**
GEYT Alibeck 96.59 307 P **P** **05 12 22.0 -0.7**
comp=Z,6.8nm,0.4s,baz=334,slow=44,SNR=2.4
AKTO Aktyubinsk 96.73 320 LR LR 05 57 21.2
comp=Z,49nm,18.8s,baz=76,slow=36
P17A Butcher Ranch, 98.17 51 *e*P Pdif 05 12 32.5 +2.5
comp=Z,4.7nm,0.5s
PDAR Pinedale Array 99.01 48 P **Pdif** **05 12 35.1 +1.4**
comp=Z,0.5nm,0.8s,baz=260,slow=2.7,SNR=4.9
PDAR LR LR 05 55 31.7
comp=Z,127nm,18.1s,baz=269,slow=34
RES Resolute Bay 100.54 14 *e*Pdif **Pdif** **05 12 39.7 +0.2**
RES Resolute Bay 100.54 14 *e*P **Pdif** **05 12 39.7 +0.2**
PRGR Permogore 102.37 332 *e*P **Pdif** **05 12 44.8 -3.1**
PRGR pmax pmax
comp=Z,8.0nm,0.9s
FIA0 FINESS Array S 111.10 336 *e*Pdif **Pdif** **05 13 25.4 -1.4**
FIA0 *e*PKiKP **PKiKP** **05 17 24.6 -0.9**
FIA0 FINESS Array S 111.10 336 *e*P **Pdif** **05 13 25.4 -1.4**
FIA0 *i* 05 17 24.6
FINES FINESS Array B 111.10 336 Pdiff **Pdif** **05 13 25.4 -1.4**
comp=Z,4.5nm,1.1s,baz=64,slow=3.2,SNR=5.8
FINES PKiKP **PKiKP** **05 17 24.6 -0.9**
comp=Z,1.6nm,0.8s,baz=137,slow=12,SNR=3.5
U40A Yellville 112.54 53 P **PKiKP** **05 17 29.3 +0.2**
baz=281
JMIC Jan Mayen 112.92 353 PKiKP **PKiKP** **05 17 26.8 -2.0**
comp=Z,103nm,0.9s,baz=78,slow=23,SNR=2.2
J41A Loganville 113.05 45 P **PKiKP** **05 17 29.9 0.0**
baz=286
V42A Cord 113.81 53 P **PKiKP** **05 17 32.0 +0.5**
baz=282
AKASG Malin Array Be 114.52 324 PKP **PKiKP** **05 17 31.8 -0.6**
comp=Z,1.6nm,0.5s,baz=62,slow=2.4,SNR=5.9
BR101 Keskin Array S 115.29 312 *e*PKPdf **PKPdf** **05 17 35.5 +1.1**
BRTR Keskin Array B 115.29 312 PKP **PKPdf** **05 17 35.5 +1.1**
comp=Z,1.0nm,0.8s,baz=116,slow=2.9,SNR=4.6
HFS Hagfors 116.74 338 PKP **PKPdf** **05 17 36.2 -0.2**
comp=Z,1.7nm,0.7s,baz=268,slow=40,SNR=2.4
NB2 NORSAR Subarra 116.98 340 PKP **PKPdf** **05 17 36.2 -0.7**
comp=Z,1.1nm,1.0s,baz=11,slow=3.1
NB200 NORSAR Array S 116.98 340 *e*PKPdf **PKPdf** **05 17 36.7 -0.2**
NOA NORSAR Array B 116.98 340 PKP **PKPdf** **05 17 36.7 -0.2**
comp=Z,1.3nm,0.9s,baz=237,slow=3.2,SNR=3.9
WCI Wyandotte Cave 117.18 49 P **PKiKP** **05 17 38.3 +0.4**
baz=286
R50A Paris 118.65 49 P **PKiKP** **05 17 41.4 +0.5**
baz=288
MLR Muntele Rosu 118.66 320 PKKPbc PKKPbc 05 27 57.4 -1.0
comp=Z,0.9nm,0.7s,baz=225,slow=2.9,SNR=3.9
U50A Jamestown 118.80 51 P **PKiKP** **05 17 41.7 +0.5**
baz=286
S51A Beattyville 119.40 49 P **PKiKP** **05 17 42.8 +0.5**
baz=288
NIE Niedzica 120.20 326 *e*PKP **PKiKP** **05 17 44.6 +1.1**
NIE Niedzica 120.20 326 *e*PKiKP **PKiKP** **05 17 44.6 +1.1**
U53A Fall Branch 120.56 50 P **PKiKP** **05 17 45.6 +0.9**
baz=288
LANS Liptovska Anna 120.80 326 *e*PKP **PKiKP** **05 17 46.3 +1.5**
MORC Moravsky Berou 121.51 328 *e*PKP **PKiKP** **05 17 46.8 +0.7**
VYHS Vyhne 121.51 326 *e*PKP **PKPdf** **05 17 45.9 -0.1**
VTS Vitosha 121.67 318 *e*PKPdf **PKPdf** **05 17 45.9 -0.7**
VTS Vitosha 121.67 318 *e*PKiKP **PKPdf** **05 17 45.9 -0.7**
DPC Dobruska-Polom 121.82 329 *e*PKPdf **PKiKP** **05 17 47.6 +0.9**
DPC Dobruska-Polom 121.82 329 *e*PKiKP **PKiKP** **05 17 47.6 +0.9**
JAVC Velka Javorina 121.95 327 *e*PKP **PKiKP** **05 17 48.5 +1.4**
MODS Modra-Piesok 122.44 326 *e*PKP **PKiKP** **05 17 48.4 +0.4**
KRUC Moravsky 122.53 327 *e*PKP **PKiKP** **05 17 48.5 +0.4**
BRG Berggiesshubel 122.71 330 *e*PKP **PKiKP** **05 17 48.5 +0.1**
comp=Z,8.9nm,1.0s
BRG Berggiesshubel 122.71 330 *e*PKiKP **PKiKP** **05 17 48.5 +0.1**
BRG pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 122.89 331 *e*PKPdf **PKiKP** **05 17 49.1 +0.4**
CLL Collm 122.89 331 *i* PKPdf **PKiKP** **05 17 48.8 +0.1**
comp=Z,7.0nm,1.0s
CLL Collm 122.89 331 *e*PKiKP **PKiKP** **05 17 49.1 +0.4**
DIVS Divibare 123.07 321 *e*PKPdf **PKPdf** **05 17 48.6 -0.6**
CONA Conrad Observa 123.48 327 *e*PKiKP **PKiKP** **05 17 50.4 +0.3**
comp=Z,2.6nm,0.6s
KHC Kasperske Hory 123.97 329 *e*PKPdf **PKiKP** **05 17 51.0 0.0**
KHC Kasperske Hory 123.97 329 *e*PKPdf **PKiKP** **05 17 51.4 +0.4**
KHC *ep*PKP **pPKPdf** **05 18 05.4 +1.1**
KHC Kasperske Hory 123.97 329 *e*PKiKP **PKiKP** **05 17 51.4 +0.4**
KHC *e* 05 18 05.4
GERES GERESS Array B 124.09 328 PKP **PKiKP** **05 17 51.5 +0.2**
comp=Z,5.4nm,0.8s,baz=48,slow=2.0,SNR=32
MOA Molln 124.39 327 *i* PKiKP **PKPdf** **05 17 51.4 -0.1**
comp=Z,2.0nm,0.7s
SOKA Soboth 124.66 326 *i* PKiKP **PKPdf** **05 17 52.2 +0.1**
MYKA Terra Mystica 125.46 326 *i* PKiKP **PKPdf** **05 17 53.6 -0.1**
ABTA Abfaltersbach 126.01 327 *e*PKiKP **PKPdf** **05 17 54.7 -0.1**
comp=Z,4.3nm,0.8s
EKA Eskdalemuir Ar 126.10 343 PKP **PKiKP** **05 17 55.3 +0.3**
comp=Z,0.8nm,0.5s,baz=1.0,slow=2.4,SNR=5.1
MOTA Moosalm 126.39 328 *e*PKiKP **PKPdf** **05 17 55.8 +0.2**
comp=Z,5.1nm,0.6s
SQTA Sankt Quirin 126.41 328 *i* PKiKP **PKiKP** **05 17 56.1 0.0**
comp=Z,6.6nm,0.8s
RETA Reutte 126.47 329 *e*PKPdf **PKPdf** **05 17 55.0 -0.6**
comp=Z,6.3nm,1.2s
MEM Membach 126.58 334 ⇑PKiKP **PKiKP** **05 17 56.0 -0.1**
FETA Feichten 126.79 328 *e*PKiKP **PKiKP** **05 17 56.9 +0.1**
comp=Z,9.1nm,1.0s
DAVA Damuels 127.06 329 *e*PKiKP **PKiKP** **05 17 57.2 -0.1**
comp=Z,6.9nm,0.8s,SNR=5.5
FUORN Ofenpass-Fuorn 127.29 328 *e*PKPdf **PKiKP** **05 17 58.5 +0.5**
DAVOX Davos/Dischmat 127.39 328 PKP **PKiKP** **05 17 58.1 0.0**
comp=Z,6.8nm,0.9s,baz=94,slow=5.9,SNR=12
DOU Dourbes 127.57 335 ⇑PKiKP **PKPdf** **05 17 57.8 +0.3**
TUE Stuetta 127.87 328 *e*PKPdf **PKiKP** **05 17 59.0 -0.1**
KEST Keesa 134.41 317 PKP **PKiKP** **05 18 13.2 +0.7**
comp=Z,7.2nm,1.0s,baz=12,slow=3.4,SNR=4.9
LPAZ La Paz 134.47 118 PKP **PKiKP** **05 18 14.5 +0.8**
comp=Z,3.0nm,0.9s,baz=30,slow=3.8,SNR=5.1
SDV Santo Domingo 136.84 82 *e*PKPdf **PKPdf** **05 18 17.2 +0.9**
ESDC Sonseca Array 139.47 332 PKP **PKPdf** **05 18 20.8 +0.5**
comp=Z,1.2nm,1.0s,baz=51,slow=2.3,SNR=4.2
TAM Tamanrasset 143.64 302 *e*PKPdf PKPbc 05 18 26.4 +0.6
TAM Tamanrasset 143.64 302 *e*PKiKP PKPbc 05 18 26.4 +0.6
MDT Midelt 145.07 325 PKPbc **PKPdf** **05 18 30.6 +0.1**
comp=Z,4.7nm,0.4s,baz=326,slow=1.9,SNR=24
PTGA Pitinga 146.91 99 PKPbc **PKPbc** **05 18 36.5 +0.5**
comp=Z,19nm,0.8s,baz=247,slow=3.0,SNR=15
PTGA Pitinga 146.91 99 *e*PKPdf **PKPbc** **05 18 36.3 +0.4**
TORD Torodi Ar. Bea 150.23 288 PKPbc **PKPbc** **05 18 43.3 -1.2**
comp=Z,17nm,0.9s,baz=357,slow=3.9,SNR=40
TORD PKPab **PKPab** **05 18 51.1 +0.4**
comp=Z,18nm,0.8s,baz=46,slow=4.2,SNR=22
TOA1 Torodi Ar. Sit 150.23 288 *e*PKPbc **PKPbc** **05 18 43.3 -1.2**
TOA1 *e*PKPab **PKPab** **05 18 51.1 +0.4**
BDFB Brasilia 151.07 135 PKPbc **PKiKP** **05 18 47.0 -0.1**
comp=Z,15nm,0.7s,baz=236,slow=1.4,SNR=22
BDFB PKPab **PKPab** **05 18 54.5 +0.3**
comp=Z,7.2nm,0.7s,baz=239,slow=5.8,SNR=5.8
DBIC Dimbokro 157.59 276 PKPab **PKPab** **05 19 21.9 -0.1**
comp=Z,9.0nm,0.6s,baz=73,slow=4.6,SNR=16

*ISCJB **10** 05:12:13.7±0.5, 24.°29N±0.°07×124.°53E±0.°04, h50km±3km, mb3.8/16, Error ellipse: s-maj=13.3km s-min=4.5km az=155.9*
*JMA **10** 05:12:14.1±0.1, 24.°24N×124.°58E, h30km±3km, M3.7*
*IDC **10** 05:12:15.9±5.2, 24.°21N×124.°40E, h57km±48km, mb3.6/16, mb1 3.8/17, mb1mx3.6/53, mbtmp3.9/17, ML3.5/1, Error ellipse: s-maj=25.1km s-min=18.0km az=69.0*
ISC 10 05:12:14.5±1.1**, 24.°28N**±0.°09×**124.°54E**±0.°05**, h42**km±8km**, n34, σ0.s83**/38**, mb3.9**/16**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	Ishigakijimahi	0.37	326	P	Pn	05 12 23.0	-0.7
JISG				eS	Sn	05 12 30.1	0.0
JIJ	Ishigaki jima	0.37	283	P	Pn	05 12 23.0	-0.7
JIJ				S	Sn	05 12 29.7	-0.4
JTJ	Tarama	0.39	22	P	Pn	05 12 23.0	-0.9
JTJ				eS	Sn	05 12 29.6	-0.9
JKRS	Kuro-shima	0.49	265	P	Pn	05 12 25.0	-0.1
JKRS				S	Sn	05 12 32.6	0.0
HATJ	Hateruma jima	0.71	252	P	Pn	05 12 28.1	+0.1
HATJ				S	Sn	05 12 38.7	+0.9
IRIF	Iriomote-Funau	0.74	274	P	Pn	05 12 28.7	+0.2
IRIF				S	Sn	05 12 39.2	+0.6
JIRB	Irabujima	0.79	47	P	Pn	05 12 28.8	-0.4
JIRB				S	Sn	05 12 39.4	-0.5
JMJ	Miyako jima 2	0.87	52	P	Pn	05 12 30.2	-0.1
JMJ				S	Sn	05 12 42.2	+0.5
JIKM	Ikemajima	0.91	45	P	Pn	05 12 30.6	-0.2
JIKM				S	Sn	05 12 43.1	+0.4
JOGS	Gusukube	0.92	59	P	Pn	05 12 31.0	0.0
JOGS				S	Sn	05 12 43.1	0.0
KSRS	Korea Array	13.45	12	P	Pn	05 15 25.8	+3.2
	0.2nm,0.3s,baz=195,slow=11,SNR=2.8						
CMAR	Chiang Mai Arr	24.51	261	P	P	05 17 29.7	-0.4
	1.0nm,0.3s,baz=81,slow=11,SNR=2.7						
SONM	Songino Array	27.57	333	P	P	05 17 56.6	-1.0
	0.3nm,0.5s,baz=147,slow=8.1,SNR=2.5						
H11N1	WAKE ISLAND Hy	39.42	88	T	T	06 01 30.9	
	baz=284,slow=74,SNR=4.4						
H11N2	WAKE ISLAND Hy	39.42	88	T	T	06 01 36.5	
	baz=284,slow=74,SNR=5.5						
H11N3	WAKE ISLAND Hy	39.44	88	T	T	06 01 32.2	
	baz=284,slow=74,SNR=6.0						
H11S3	WAKE ISLAND Hy	39.55	90	T	T	06 01 46.0	
	baz=289						
H11S1	WAKE ISLAND Hy	39.56	90	T	T	06 01 51.5	
	baz=289						
H11S2	WAKE ISLAND Hy	39.57	90	T	T	06 01 44.8	
	baz=289						
MKAR	Makanchi Array	40.43	315	P	P	05 19 48.5	-0.2
	1.6nm,0.5s,baz=101,slow=10,SNR=28						
ZALV	Zalesovo Beam	41.86	326	P	P	05 19 59.3	-1.0
	2.5nm,0.6s,baz=114,slow=8.3,SNR=11						
KURBB	Kurchatov Arra	44.03	319	P	P	05 20 17.4	-0.6
	3.5nm,1.1s,baz=108,slow=7.8,SNR=6.9						
WRA	Warramunga Arr	44.98	167	P	P	05 20 24.2	-1.6
	0.4nm,0.6s,baz=347,slow=8.8,SNR=5.9						
ASAR	Alice Springs	48.52	169	P	P	05 20 53.8	+0.3
	0.2nm,0.3s,baz=0.7,slow=7.8,SNR=2.3						
ILAR	Eielson Array	67.72	28	P	P	05 23 08.2	+0.9
	0.2nm,0.5s,baz=268,slow=5.4,SNR=4.1						
KBZ	Khabaz	67.80	309	P	P	05 23 07.3	-0.9
	2.8nm,0.8s,baz=63,slow=4.5,SNR=4.2						
INK	Inuvik	71.98	22	P	P	05 23 34.1	+0.7
	1.1nm,0.8s,baz=311,slow=7.1,SNR=6.3						
FINES	FINESS Array B	72.90	330	P	P	05 23 39.1	+0.1
	3.2nm,0.8s,baz=79,slow=9.9,SNR=6.8						
AKASG	Malin Array Be	74.82	319	P	P	05 23 50.0	-0.4
	0.6nm,0.3s,baz=60,slow=6.2,SNR=5.8						
BRTR	Keskin Array B	75.57	307	P	P	05 23 55.2	+0.1
	0.8nm,0.9s,baz=58,slow=4.2,SNR=3.3						
HFS	Hagfors	78.96	332	P	P	05 24 12.9	-0.7
	2.0nm,0.8s,baz=93,slow=7.2,SNR=6.2						
NB2	NORSAR Subarra	79.55	333	P	P	05 24 16.4	-0.4
	comp=Z,0.5nm,0.5s,baz=56,slow=5.6						
NOA	NORSAR Array B	79.55	333	P	P	05 24 16.5	-0.3
	comp=Z,1.1nm,0.7s,baz=58,slow=5.6,SNR=4.4						
YKA	Yellowknife Ar	81.67	24	P	P	05 24 28.3	+0.3
	comp=Z,0.4nm,0.7s,baz=304,slow=5.5,SNR=7.8						

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*TEH **10** 05:16:53.0, 36.°01N×53.°57E, h5km, ML3.7*
*ISCJB **10** 05:16:53.7±0.3, 36.°11N±0.°02×53.°50E±0.°03, h10km, Error ellipse: s-maj=3.4km s-min=2.6km az=136.2*
*THR **10** 05:16:54.5, 36.°00N×53.°58E, h18km, ML3.5*
*IDC **10** 05:16:55.0±2.0, 35.°85N×53.°56E, h0km, mb3.9/3, mb1 4.0/6, mb1mx3.5/60, mbtmp3.8/6, ML3.3/3, Error ellipse: s-maj=30.3km s-min=19.4km az=17.0*
*AZER **10** 05:16:56.9±99.0, 36.°17N×53.°19E, h14km±19km, ml3.8/3, Error ellipse: s-maj=234.7km s-min=9.9km az=315.0*
*NNC **10** 05:16:59.7±8.9, 36.°64N×53.°72E, h0km, mb4.1, mpv4.3, Error ellipse: s-maj=75.7km s-min=37.0km az=27.0*
ISC 10 05:16:53.6±0.6**, 36.°05N**±0.°03×**53.°58E**±0.°02**, h10**km**, n63, σ2.s23**/78**, 18C-11D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKIA	Kiasar	0.18	27	ePg	Pg	05 16 57.7	+0.1
IKIA				IAMB	IAmb	05 17 04.4	
	comp=Z,56µm,0.2s						
ISHM	Shahmirzad	0.33	225	ePg	Pg	05 16 59.8	-0.6
ISHM				eSg	Sb	05 17 06.0	-1.3
ISHM				IAMB	IAmb	05 17 06.5	
	comp=Z,2460µm,0.2s						
IALA	Alasht	0.63	274	eSg	Sb	05 17 15.0	-0.8
IALA				ePg	Pg	05 17 05.4	-0.4
IALA				IAMB	IAmb	05 17 17.8	
	comp=Z,89µm,0.2s						
IANJ	Anjilo	0.64	155	IAMB	IAmb	05 17 15.4	
	comp=Z,28µm,0.2s						
IANJ				ePg	Pg	05 17 05.2	-0.8
IFIR	Firoozkooh	0.78	239	eSg	Sb	05 17 19.2	-1.1
IFIR				ePg	Pg	05 17 07.7	-1.1
ILAS	Lasjerd	0.83	218	IAMB	IAmb	05 17 26.1	
	comp=Z,30µm,0.5s						
ILAS				ePg	Pg	05 17 08.6	-1.1
IPRN	Peran	1.02	281	ePg	Pb	05 17 13.0	-0.5
IPRN				IAMB	IAmb	05 17 36.8	
	comp=Z,19µm,0.2s						
IDMV	Damavand	1.34	250	ePg	Pn	05 17 17.7	-1.0
IDMV				IAMB	IAmb	05 17 44.8	
	comp=Z,16µm,0.4s						
TEH	Tehran	1.81	261	ePn	Pb	05 17 26.2	-0.8
SHRO	Shahrood	1.97	91	ePn	Pb	05 17 29.1	-0.6
SHRO	Shahrood	1.97	91	ePn	Pb	05 17 29.1	-0.6
SHRO				eSg	Sg	05 17 57.0	+0.1
CHTH	Charan	2.00	267	ePn	Pb	05 17 29.5	-0.7
CHTH	Charan	2.00	267	ePn	Pb	05 17 29.5	-0.7
ANAR	Anarak	2.85	178	ePn	Pn	05 17 40.8	+1.5
IRAZ	Razeghan	3.04	259	ePn	Pb	05 17 45.5	-2.4
IRAZ				IAMB	IAmb	05 18 42.2	
	comp=E,6µm,0.5s						
IKLH	Kolahrood	3.18	212	ePn	Pn	05 17 45.2	+1.3
IKLH				IAMB	IAmb	05 18 35.6	
	comp=Z,3µm,0.4s						
TNSJ	Nastanj	3.24	129	ePn	Pn	05 17 46.8	+2.2
TNSJ				IAMB	IAmb	05 18 45.2	
	comp=Z,0.0nm,0.9s						
ASAO	Ashtian	3.27	244	ePn	Pn	05 17 46.7	+1.5
ASAO	Ashtian	3.27	244	eAML	AML	05 18 39.0	
	comp=E,118nm,0.4s						
ASAO	Ashtian	3.27	244	ePn	Pn	05 17 46.7	+1.5
SBZV	Sabzevar	3.28	83	ePn	Pb	05 17 48.3	-3.7
SBZV				IAMB	IAmb	05 18 53.5	
	comp=Z,0.0nm,0.8s						
IZEF	Zefreh	3.31	199	ePn	Pn	05 17 46.7	+1.0
IZEF				IAMB	IAmb	05 18 51.4	
	comp=Z,2µm,0.5s						
ISFR	Sfrayin	3.70	73	ePn	Pb	05 17 55.0	-4.2
ISFR				IAMB	IAmb	05 18 13.8	
	comp=Z,872nm,0.6s						
KHMZ	Khomeyn	3.76	233	ePn	Pn	05 17 54.0	+2.1
KHMZ	Khomeyn	3.76	233	ePn	Pn	05 17 54.0	+2.1
TABS	Tabas	3.77	128	ePn	Pn	05 17 53.6	+1.8
TABS	Tabas	3.77	128	ePn	Pn	05 17 53.6	+1.8
TABS				eSg	Sg	05 18 50.6	-3.9
TKDS	Koohdasht(Taba	3.79	129	ePn	Pn	05 17 54.3	+2.1
TKDS				IAMB	IAmb	05 19 07.3	
	comp=Z,0.0nm,0.9s						
IGAR	Gharneh	3.85	200	ePn	Pn	05 17 55.1	+2.0
IGAR				IAMB	IAmb	05 18 07.7	
	comp=Z,863nm,0.4s						
ICHK	Chekchek	3.85	170	ePn	Pn	05 17 54.9	+1.7
ICHK				IAMB	IAmb	05 19 03.7	
	comp=Z,3µm,0.9s						
TPRV	Parvadeh(Tabas	3.95	139	ePn	Pn	05 17 56.5	+2.1
TPRV				IAMB	IAmb	05 19 10.9	
	comp=Z,0.0nm,0.7s						
IPIR	Pirpir	4.02	214	ePn	Pb	05 17 59.1	-5.7
IPIR				IAMB	IAmb	05 19 16.8	
	comp=Z,846nm,0.5s						
IKRD	Kardeh	4.05	78	ePn	Pg	05 18 09.5	-1.6
IKRD				IAMB	IAmb	05 19 50.9	
	comp=E,242nm,0.8s						
GEYT	Alibeck	4.09	61	Pn	Pn	05 17 59.9	+3.6
	comp=E,1.7nm,0.3s,baz=247,slow=14,SNR=21						
GEYT				Pg	Pg	05 18 10.5	-1.4
	comp=E,2.7nm,0.3s,baz=243,slow=18,SNR=27						
GEYT				Lg	Lg	05 19 09.3	
	comp=E,0.9nm,0.3s,baz=240,slow=28,SNR=4.6						
GYA0B	ALIBECK ARRAY	4.09	61	⇑Pg	Pb	05 18 07.2	+1.5
	comp=E,79nm,1.1s						
GYA0B				⇑Lg	Lg	05 18 58.2	
	comp=E,100nm,0.9s						
IRAM	Ramesheh	4.34	194	ePn	Pn	05 18 01.5	+1.6
IRAM				IAMB	IAmb	05 19 24.1	
	comp=Z,533nm,0.6s						
ASTR	Astara	4.57	305	⇑P	Pn	05 18 03.7	+0.9
ASTR				⇑S	Sn	05 18 55.7	-0.2
IMEH	Mehriz	4.72	169	ePn	Pn	05 18 07.2	+2.1
IMEH				IAMB	IAmb	05 19 31.4	
	comp=Z,534nm,0.8s						
LRK	Lerik	4.92	303	⇓P	Pn	05 18 08.7	+1.0
LRK				⇓S	Sn	05 19 03.4	-1.3
ISRB	Sarab	5.06	292	ePn	Pn	05 18 12.0	+2.3
ISRB				IAMB	IAmb	05 19 46.9	
	comp=Z,552nm,0.8s						
GLBA	Clilabad	5.21	309	⇓P	Pn	05 18 12.8	+1.2
GLBA				⇑S	Sn	05 19 10.6	-1.1
IMYA	Miami	5.28	85	ePn	Pn	05 18 15.8	+3.0
IMYA				IAMB	IAmb	05 18 46.0	
	comp=Z,241nm,0.8s						
ITEG	Tejag	5.30	125	ePn	Pn	05 18 15.1	+2.1
ITEG				IAMB	IAmb	05 19 53.3	
	comp=Z,586nm,0.9s						
JRKH	Jarkhoshk	5.49	89	ePn	Pn	05 18 17.4	+1.8
JRKH				IAMB	IAmb	05 18 40.1	
	comp=Z,0.0nm,0.3s						
IMON	Monand	5.77	118	ePn	Pn	05 18 22.3	+2.8
IMON				IAMB	IAmb	05 20 16.5	
	comp=E,564nm,0.3s						
ATGJ	Altiaghaj	6.03	324	⇑P	Pn	05 18 25.7	+2.7
ATGJ				⇑S	Sn	05 19 33.3	+1.1
PQL	Pirkuli	6.14	322	⇑P	Pn	05 18 25.9	+1.4
PQL				⇓S	Sn	05 19 35.6	+0.6
KHGB	Koh Gabri	6.15	156	ePn	Pn	05 18 28.3	+3.5
KHGB				IAMB	IAmb	05 20 17.2	
	comp=Z,0.0nm,0.5s						
SIZA	Siyzn	6.22	325	⇓P	Pn	05 18 27.7	+2.2
SIZA				⇓S	Sn	05 19 37.8	+1.1
QUBA	Quba, Azerbaij	6.63	325	⇑S	Sn	05 19 46.1	-0.6
XNQ	Khinaliq	6.66	322	⇑P	Pn	05 18 33.7	+2.0
XNQ				⇑S	Sn	05 19 46.2	-1.5
ORD	Ordubad	6.68	298	⇓P	Pn	05 18 33.6	+1.7
QSAR	Qusar	6.86	324	⇑P	Pn	05 18 36.1	+1.8
QSAR				⇑S	Sn	05 19 50.7	-1.7
SEKA	Sheki	7.18	318	⇑P	Pn	05 18 40.1	+1.4
SEKA				⇓S	Sn	05 19 58.0	-2.2
GANJ	Ganja	7.32	311	⇑S	Sn	05 20 01.9	-1.8
GDB	GEDABAY	7.72	310	⇓P	Pn	05 18 47.6	+1.5
GDB				⇑S	Sn	05 20 11.9	-1.8
KBZ	Khabaz	11.23	316	Pn	Pn	05 19 40.6	+6.6
	comp=Z,0.1nm,0.3s,baz=105,slow=12,SNR=2.9						
AB31	Akbulak array	14.00	17	⇓Pn	Pn	05 20 13.4	+1.4
	comp=Z,0.9nm,0.7s,baz=208,slow=14						
AB31				⇑Sn	Sn	05 22 42.6	-4.7
	comp=Z,1.9nm,0.8s,baz=204,slow=26						
AKTO	Aktyubinsk	14.74	11	⇓Pn	Pn	05 20 20.8	-1.3
	comp=Z,2.4nm,1.0s						
AKTO				⇑Sn	Sn	05 22 58.7	-6.6
	comp=Z,1.0nm,0.7s						
AAK	Ala-Archa	17.44	61	P	P	05 21 03.1	+4.7
	comp=Z,0.1nm,0.3s,baz=201,slow=7.4,SNR=4.7						
KURBB	Kurchatov Arra	23.12	43	P	P	05 22 05.2	+5.6
	comp=Z,0.8nm,0.2s,baz=246,slow=12,SNR=4.7						
MKAR	Makanchi Array	23.93	54	P	P	05 22 11.2	+3.4
	comp=Z,0.6nm,0.7s,baz=257,slow=9.8,SNR=6.6						
CMAR	Chiang Mai Arr	43.54	101	P	P	05 25 00.2	+2.4
	comp=Z,1.6nm,0.3s,baz=305,slow=8.4,SNR=4.4						

IDC 10 05:20:04.0±1.3**, 3.°18N**×**128.°74E, h0**km**, mb3.7**/7**, mb1 3.8**/7**, mb1mx3.6**/42**, mbtmp3.7**/7**, Error ellipse: s-maj=90.9km s-min=16.1km az=73.0, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.37	188	P	P	05 24 54.4	+1.3
	1.5nm,0.7s,baz=355,slow=5.7,SNR=12						
WRA	Warramunga Arr	23.63	167	P	P	05 25 16.7	-0.3
	0.7nm,0.4s,baz=343,slow=10.0,SNR=21						
ASAR	Alice Springs	27.16	170	P	P	05 25 48.2	-1.0
	0.5nm,0.5s,baz=353,slow=8.5,SNR=8.5						
STKA	Stephens Creek	36.95	162	P	P	05 27 14.0	-1.0
	0.8nm,0.4s,baz=335,slow=9.3,SNR=3.4						
SONM	Songino Array	48.47	340	P	P	05 28 49.2	+0.6
	0.3nm,0.7s,baz=144,slow=8.6,SNR=2.4						
MKAR	Makanchi Array	59.15	325	P	P	05 30 07.1	+0.4
	0.4nm,0.4s,baz=118,slow=8.4,SNR=7.7						
KURBB	Kurchatov Arra	63.29	327	P	P	05 30 34.5	-0.1
	0.9nm,0.3s,baz=125,slow=5.4,SNR=5.5						

IDC 10 05:38:47.3±2.1**, 54.°02N**×**86.°36E, h0**km**, mb1 3.3**/3**, mb1mx3.1**/48**, mbtmp3.3**/3**, ML3.2**/3**, Error ellipse: s-maj=17.9km s-min=11.6km az=59.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.91	266	i		05 45 50.0	
	baz=87,slow=344,SNR=2.2						
ZALV	Zalesovo Beam	0.91	266	Pg	Pg	05 39 02.7	-2.0
	2.3nm,0.3s,baz=80,slow=17,SNR=16						
ZALV				Lg	Lg	05 39 17.6	
	5.7nm,0.3s,baz=81,slow=27,SNR=20						
KURBB	Kurchatov Arra	5.88	238	Pn	Pn	05 40 16.2	+0.6
	0.4nm,0.3s,baz=54,slow=13,SNR=9.7						
KURBB				Sn	Sn	05 41 23.1	-0.6
	baz=305,slow=42,SNR=2.5						
KURBB				Lg	Lg	05 41 56.4	
	0.0nm,0.3s,baz=154,slow=21,SNR=4.1						
MKAR	Makanchi Array	7.69	201	Pn	Pn	05 40 41.3	+0.9
	0.4nm,0.3s,baz=23,slow=12,SNR=19						
MKAR				Sn	Sn	05 42 08.2	+0.1
	0.1nm,0.3s,baz=26,slow=27,SNR=3.6						
MKAR				Lg	Lg	05 42 51.9	
	0.0nm,0.3s,baz=13,slow=27,SNR=4.1						
BVAR	Borovoye Array	9.56	270	Pn	Pn	05 41 06.1	0.0
	0.3nm,0.3s,baz=264,slow=29,SNR=5.9						

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*SOME **10** 05:47:30.2, 41.°25N×71.°07E, h0km*
*KRNET **10** 05:47:30.9±0.1, 41.°43N×70.°92E, mb2.5*
*NNC **10** 05:47:34.9±1.6, 41.°36N×71.°33E, h2km±13km, mb3.0, mpv2.8, Error ellipse: s-maj=13.5km s-min=9.0km az=35.0*
ISC 10 05:47:32.7±1.3**, 41.°33N**±0.°03×**71.°17E**±0.°04**, h9**km±12km**, n16, σ2.s31**/26**, 14C-5D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	Iuzhnay	1.18	314	P	Pg	05 47 57.2	+1.8
	14nm,0.2s						
IUG				S	Sn	05 48 16.3	+4.6
	18nm,0.3s						
IUG	Iuzhnay	1.18	314	eP	Pg	05 47 53.0	-2.4
	8.9nm,0.3s						
IUG				eS	Sn	05 48 09.4	-2.4
	20nm,0.4s						
BTK	Batken	1.29	192	⇑iP	Pg	05 47 57.0	-0.5
	baz=83						
BTK				⇑iS	Sn	05 48 16.3	+1.9
	baz=83						
ARSB	Arslanbob	1.37	89	⇓iP	Pg	05 47 59.7	+0.8
	baz=93						
ARSB				⇓iS	Sg	05 48 21.8	+5.1
	baz=93						
KK31	Karatay Array	1.84	345	⇓Pn	Pg	05 48 06.3	-1.7
	3.7nm,0.4s,baz=153,slow=14,SNR=66						
KK31				⇑Sn	Sg	05 48 32.6	+0.7
	9.6nm,0.5s,baz=157,slow=25,SNR=13						
AML	Almayashu	2.06	66	⇓eP	Pg	05 48 11.0	-1.1
	baz=71						
AML				⇓iS	Sg	05 48 39.7	+0.9
	baz=71						
MRKS	Merke	2.09	47	Pg	Pg	05 48 12.2	-0.5
	5.3nm,0.3s						
MRKS				Lg	Lg	05 48 42.7	
	4.8nm,0.3s						
MRKS	Merke	2.09	47	eP	Pg	05 48 12.2	-0.5
	2.5nm,0.3s						
MRKS				eS	Sg	05 48 42.7	+2.9
	4.1nm,0.3s						
SFK	Sufi-Kurgan	2.21	126	⇑Pn	Pg	05 48 12.4	-2.6
	0.3nm,0.3s						
SFK				⇑Lg	Lg	05 48 43.9	
	2.0nm,0.4s						
SFK	Sufi-Kurgan	2.21	126	Pg	Pg	05 48 13.0	-2.0
	0.4nm,0.1s						
SFK				Lg	Lg	05 48 43.8	
	2.6nm,0.3s						
SFK	Sufi-Kurgan	2.21	126	⇑iP	Pg	05 48 13.8	-1.2
	baz=25						
SFK				⇑iS	Sg	05 48 45.1	+1.5
	baz=25						
EKS2	Erkin-Say	2.36	55	⇑eP	Pb	05 48 14.4	-1.0
	baz=59						
EKS2				⇑iS	Sb	05 48 45.9	+1.2
	baz=59						
AAK	Ala-Archa	2.81	61	⇑Pg	Pb	05 48 23.2	+0.2
	2.1nm,0.6s						
AAK				Lg	Lg	05 48 60.0	
	1.5nm,0.6s						
KZA	Kyzart	3.15	75	⇑eP	Pb	05 48 26.4	-2.6
	baz=77						
KZA				⇑iS	Sb	05 49 06.5	-1.1
	baz=77						
SGDS	Sogindy	3.33	49	Pg	Pg	05 48 34.2	-2.3
	1.6nm,0.2s						
SGDS				Lg	Lg	05 49 19.8	
	1.8nm,0.4s						
TKM2	Tokmak 2	3.66	63	⇑Pg	Pb	05 48 34.9	-2.7
	1.3nm,0.8s						
TKM2				⇑Lg	Lg	05 49 28.5	
	1.2nm,0.6s						

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*BEO **10** 05:49:49.5±0.8, 39.°15N×26.°15E, h5km, ML4.0/16*
*NEIC **10** 05:49:56.5±0.0, 39.°64N×25.°47E, h5km, ML3.8(THE), ML4.2(ISK), After ISK.*
*DDA **10** 05:49:57.8, 39.°64N×25.°58E, h22km, ML4.2*
*IDC **10** 05:49:57.9±1.0, 39.°65N×25.°64E, h0km, mb3.4/7, mb1 3.7/12, mb1mx3.5/47, mbtmp3.6/12, ML3.9/5, MS3.0/1, Ms1 3.0/1, ms1mx2.2/38, Error ellipse: s-maj=16.3km s-min=12.5km az=108.0*
*ISK **10** 05:49:57.8, 39.°66N×25.°52E, h8km, ML4.2/27*
*ATH **10** 05:49:58.2, 39.°66N×25.°52E, h28km, ML3.8/13, Error ellipse: s-maj=1.1km s-min=0.7km az=77.0*
*THE **10** 05:49:58.7, 39.°66N×25.°52E, h8km, ML3.8/11, Error ellipse: s-maj=1.0km s-min=0.4km az=80.0*
*ISCJB **10** 05:49:58.0±0.4, 39.°66N±0.°01×25.°50E±0.°01, h11km±3km, mb3.4/7, Error ellipse: s-maj=1.9km s-min=1.8km az=21.2*
ISC 10 05:49:58.3±1.1**, 39.°64N**±0.°01×**25.°52E**±0.°01**, h2**km±8km**, n287, σ1.s07**/342**, mb3.6**/7**, 28C-24D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.37	314	P	Pg	05 50 06.2	+0.8
LIA				S	Sg	05 50 11.4	+1.3
LIA				AML	AML	05 50 11.9	
	comp=E,20916µm,0.4s						
LIA				AML	AML	05 50 14.7	
	comp=N,23517µm,0.3s						
LIA	Limnos Island	0.37	314	P	Pg	05 50 06.2	+0.8
LIA				S	Sg	05 50 11.5	+1.3
EFSA	Agios Efstrati	0.43	256	P	Pb	05 50 08.4	-0.1
EFSA				S	Sb	05 50 14.7	-0.7
EFSA				AML	AML	05 50 17.4	
	comp=E,58000µm,0.7s						
EFSA				AML	AML	05 50 17.4	
	comp=N,31228µm,0.6s						
BOZC	Bozcaada	0.45	64	PG	Pg	05 50 07.1	0.0
BOZC				SG	Sg	05 50 13.1	+0.2
BOZC	Bozcaada	0.45	64	⇓iP	Pb	05 50 07.9	-1.1
SIGR	SIGRI	0.50	149	PG	Pg	05 50 08.2	+0.3
SIGR				SG	Sb	05 50 16.2	-1.4
SIGR	SIGRI	0.50	149	P	Pb	05 50 08.7	-1.1
SIGR				S	Sb	05 50 16.6	-1.0
SIGR				AML	AML	05 50 17.2	
	comp=E,52007µm,0.6s						
SIGR				AML	AML	05 50 17.3	
	comp=N,76429µm,0.8s						
SIGR	SIGRI	0.50	149	P	Pb	05 50 08.7	-1.1
SIGR				S	Sb	05 50 16.1	-1.5
GPNR	Gulpinar-Canak	0.51	111	PG	Pg	05 50 08.3	+0.2
GADA	Gvkgeada	0.62	28	PG	Pg	05 50 10.3	0.0
GADA	Gvkgeada	0.62	28	P	Pg	05 50 10.2	0.0
GADA				S	Sg	05 50 18.4	+0.2
GOKC	Gokceada-Canak	0.63	28	PG	Pg	05 50 10.4	-0.1
EZN	Ezine	0.65	73	PG	Pg	05 50 10.5	-0.2
EZN	Ezine	0.65	73	P	Pg	05 50 10.5	-0.2
EZN				S	Sg	05 50 19.0	-0.1
PRK	Paraskevi	0.70	124	P	Pb	05 50 13.3	+0.1
PRK				S	Sb	05 50 23.2	-0.1
PRK				AML	AML	05 50 26.9	
	comp=N,68750µm,0.5s						
PRK				AML	AML	05 50 28.7	
	comp=E,58473µm,0.4s						
PRK	Paraskevi	0.70	124	P	Pb	05 50 13.4	+0.2
PRK				S	Sb	05 50 23.7	+0.4
BAYC	CANAKKALE_Bayr	0.80	83	IAML_P			
	comp=Z,46µm,0.1s						
BAYC				⇓iP	Pg	05 50 13.7	+0.1
BAYC				iS	Sg	05 50 24.3	+0.4
SMTH	Samothraki Isl	0.83	0	P	Pg	05 50 14.3	+0.1
SMTH				S	Sg	05 50 25.5	+0.6
SMTH				AML	AML	05 50 27.8	
	comp=E,18971µm,0.4s						
SMTH				AML	AML	05 50 28.3	
	comp=N,13158µm,0.4s						
SMTH	Samothraki Isl	0.83	0	P	Pg	05 50 14.3	+0.1
SMTH				S	Sb	05 50 25.9	-1.1
AYVA	Ayvalik	0.96	110	IAML_P			
	comp=Z,27µm,0.3s						
AYVA				⇓iP	Pb	05 50 17.4	-0.3
AYVA				iS	Sn	05 50 31.6	-1.4
GELI	Tayfur-Gelibol	1.05	44	PG	Pg	05 50 18.4	-0.1
SKY	Skiros Island	1.07	225	P	Pg	05 50 19.1	+0.1
SKY				S	Sb	05 50 33.8	-0.2
SKY				AML	AML	05 50 35.2	
	comp=N,9617µm,0.3s						
SKY				AML	AML	05 50 36.8	
	comp=E,12726µm,0.3s						
SKY	Skiros Island	1.07	225	P	Pb	05 50 19.2	-0.4
SKY				S	Sb	05 50 33.5	-0.6
PSRA	Psara	1.10	178	P	Pn	05 50 20.1	-0.6
THAS	Thassos island	1.14	328	P	Pg	05 50 19.8	-0.4
THAS				S	Sb	05 50 35.4	-0.7
THAS				AML	AML	05 50 36.6	
	comp=N,12240µm,0.6s						
THAS				AML	AML	05 50 37.1	
	comp=E,10160µm,0.3s						
THAS	Thassos island	1.14	328	P	Pg	05 50 19.5	-0.8
THAS				S	Sb	05 50 35.6	-0.5
ENEZ	Enez	1.19	24	PN	Pg	05 50 20.7	-0.5
LPK	Lapseki	1.20	52	PN	Pg	05 50 20.7	-0.6
DKL	Dikili	1.21	118	PN	Pb	05 50 21.7	-0.3
ERIK	Erikli-Kesan	1.28	36	PN	Pg	05 50 21.8	-1.0
ALN	Alexandroupoli	1.31	18	PN	Pn	05 50 21.9	-1.8
ALN	Alexandroupoli	1.31	18	ePn	Pn	05 50 22.4	-1.3
ALN	Alexandroupoli	1.31	18	P	Pn	05 50 22.2	-1.4
ALN				S	Sg	05 50 40.0	-0.7
ALN				AML	AML	05 50 41.6	
	comp=E,6614µm,0.4s						
ALN				AML	AML	05 50 41.8	
	comp=N,5378µm,0.4s						
ALN	Alexandroupoli	1.31	18	P	Pn	05 50 21.9	-1.8
ALN				S	Sg	05 50 39.9	-0.7
KRBN	Karaburun	1.32	142	PN	Pn	05 50 22.9	-0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FOCM	Foa	1.32	134	PN	Pn	05 50 22.6	-1.1
CHOS	Chios island	1.32	162	PN	Pn	05 50 22.3	-1.5
CHOS	Chios island	1.32	162	P	Pn	05 50 22.9	-0.9
CHOS				S	Sn	05 50 41.6	-0.4
CHOS				AML	AML	05 50 44.2	
	comp=E,16657µm,0.5s						
CHOS				AML	AML	05 50 44.6	
	comp=N,9630µm,0.8s						
CHOS	Chios island	1.32	162	P	Pn	05 50 22.9	-0.9
CHOS				S	Sn	05 50 41.9	-0.1
AOS	Alonnisos	1.36	250	PN	Pn	05 50 22.8	-1.5
AOS	Alonnisos	1.36	250	P	Pn	05 50 23.2	-1.1
AOS				S	Sg	05 50 41.4	-0.5
AOS				AML	AML	05 50 45.1	
	comp=N,6177µm,0.8s						
AOS				AML	AML	05 50 47.4	
	comp=E,4374µm,0.7s						
AOS	Alonnisos	1.36	250	P	Pn	05 50 23.1	-1.1
AOS				S	Sg	05 50 40.9	-1.1
OUR	Ouranopolis	1.37	301	P	Sb	05 50 40.3	-2.4
ALNA	Alonissos	1.38	249	P	Pn	05 50 23.6	-0.8
PAIG	Paliouri	1.45	282	P	Pn	05 50 24.1	-1.4
PAIG	Paliouri	1.45	282	P	Pn	05 50 24.1	-1.4
PAIG				S	Sb	05 50 43.5	-1.4
KESN	Edirne-Kesan	1.48	36	IAML_P			
	comp=Z,5µm,0.3s						
KESN				⇑ iP	Pn	05 50 25.3	-0.9
KESN				iS	Sg	05 50 45.5	-0.3
RDO	Rodhopi	1.50	0	PN	Pn	05 50 25.3	-0.9
RDO	Rodhopi	1.50	0	P	Pn	05 50 24.8	-1.4
RDO				S	Sn	05 50 44.5	-1.9
RDO				AML	AML	05 50 52.6	
	comp=N,3551µm,0.6s						
RDO				AML	AML	05 50 52.9	
	comp=E,3331µm,0.8s						
RDO	Rodhopi	1.50	0	P	Pn	05 50 24.9	-1.4
RDO				S	Sg	05 50 46.2	-0.4
URLA	Izmir	1.53	147	PN	Pn	05 50 25.8	-0.8
URLA	Izmir	1.53	147	⇑ iP	Pn	05 50 26.4	-0.3
URLA				iS	Sn	05 50 45.2	-1.9
KRBG	Karabiga-Canak	1.56	61	PN	Pn	05 50 26.3	-0.7
KAVA	Kavala	1.56	331	P	Pn	05 50 25.7	-1.2
KAVA				S	Sn	05 50 45.6	-2.2
KAVA				AML	AML	05 50 51.8	
	comp=E,2788µm,0.4s						
KAVA				AML	AML	05 50 52.2	
	comp=N,2271µm,0.4s						
KAVA	Kavala	1.56	331	P	Pn	05 50 25.8	-1.2
KAVA				S	Sb	05 50 47.7	-0.3
KVLA	Kavala	1.56	326	P	Pn	05 50 25.8	-1.2
KVLA				S	Sn	05 50 46.1	-1.7
KVLA				AML	AML	05 50 50.2	
	comp=N,3703µm,0.3s						
KVLA				AML	AML	05 50 50.5	
	comp=E,3347µm,0.3s						
SART	Tekirdag	1.64	50	⇑ iP	Pb	05 50 28.4	-1.0
SART				iS	Sg	05 50 50.7	-0.4
KNL	Balıkesir	1.66	67	IAML_P			
	comp=Z,44µm,0.4s						
KNL				⇓ iP	Pn	05 50 27.9	-0.6
KNL				iS	Sb	05 50 50.6	-0.4
GONE	Gonen-Balikesi	1.71	76	PN	Pn	05 50 28.6	-0.5
STEP	BALIKESIR_Sava	1.72	98	IAML_P			
	comp=Z,25µm,0.2s						
STEP				⇓ iP	Pn	05 50 29.4	+0.2
STEP				iS	Sg	05 50 53.6	0.0
BLCB	Balcova	1.73	136	PN	Pn	05 50 28.8	-0.5
PLG	Polygyros	1.75	295	P	Pn	05 50 29.2	-0.5
PLG	Polygyros	1.75	295	P	Pn	05 50 28.9	-0.9
NEO	Neokhori	1.81	260	P	Pn	05 50 29.5	-1.0
NEO	Neokhori	1.81	260	P	Pn	05 50 29.2	-1.3
BALB	Balikesir	1.82	89	PN	Pn	05 50 30.0	-0.6
KARY	Karystos	1.82	208	P	Pn	05 50 29.1	-1.5
XOR	Xorichti	1.82	262	P	Pn	05 50 29.5	-1.2
XOR	Xorichti	1.82	262	P	Pn	05 50 29.2	-1.5
MRMT	Marmara Adasi	1.86	58	PN	Pn	05 50 31.4	+0.2
GMLD	Gumuldur	1.91	145	PN	Pn	05 50 31.9	+0.2
DGB	zmir	1.91	146	i P	Pn	05 50 32.0	+0.2
DGB				i S	Sg	05 50 59.2	-0.5
EDC	Edincik	1.93	68	PN	Pn	05 50 32.0	-0.1
AKHS	Akhisar	1.94	113	⇓ iP	Pn	05 50 32.3	+0.1
AKHS				i S	Sg	05 51 00.4	-0.1
SBT4	Kumbag-Tekirda	1.94	52	PN	Pn	05 50 31.8	-0.3
DION	Dionisos Attik	2.00	219	P	Pn	05 50 31.9	-1.2
KDZ	Kurdzhali	2.01	358	PN	Pn	05 50 32.3	-0.9
SOH	Sokhos	2.04	306	P	Pn	05 50 33.1	-0.6
SOH	Sokhos	2.04	306	P	Pn	05 50 32.8	-0.8
TKR	Tekirdag	2.04	48	PN	Pn	05 50 33.7	0.0
PTL	Penteli	2.05	220	P	Pn	05 50 32.6	-1.2
PTL	Penteli	2.05	220	P	Pn	05 50 32.3	-1.5
GOMA	Golmarmara-Man	2.08	116	PN	Pn	05 50 34.3	+0.1
SRS	Serrai	2.08	316	ePn	Pn	05 50 33.2	-1.1
SRS				eSn	Sg	05 51 07.2	+1.9
SRS	Serrai	2.08	316	P	Pn	05 50 33.3	-1.0
SRS	Serrai	2.08	316	P	Pn	05 50 33.0	-1.3
HORT	Hortiatis	2.09	298	PN	Pn	05 50 33.5	-0.9
HORT	Hortiatis	2.09	298	P	Pn	05 50 33.8	-0.7
HORT	Hortiatis	2.09	298	P	Pn	05 50 33.7	-0.7
NVR	Nevrokopi	2.12	324	P	Pn	05 50 34.0	-0.9
NVR	Nevrokopi	2.12	324	P	Pn	05 50 33.9	-0.9
ATH	Athens Observa	2.19	221	P	Pn	05 50 35.1	-0.6
SMG	Samos	2.19	152	P	Pn	05 50 34.6	-1.1
SMG	Samos	2.19	152	P	Pn	05 50 34.8	-0.9
THE	Thessaloniki	2.20	298	P	Pn	05 50 35.2	-0.6
VLY	Voula,Athens	2.24	218	P	Pn	05 50 35.1	-1.3
VLY	Voula,Athens	2.24	218	P	Pn	05 50 35.5	-0.9
CRLT	Corlu	2.25	48	PN	Pn	05 50 36.1	-0.4
KCTX	Karacabey (Bur	2.26	73	PN	Pn	05 50 36.2	-0.6
DURS	Dursunbey	2.28	90	⇓ iP	Pn	05 50 36.6	-0.4
DURS				i S	Sn	05 51 05.0	-0.7
GCAM	G?zelcaml?	2.36	145	PN	Pn	05 50 37.7	-0.3
GCAM	G?zelcaml?	2.36	145	i P	Pn	05 50 38.5	+0.5
GCAM				i S	Sg	05 51 13.4	-0.6
LIT	Litokhoron	2.38	282	ePn	Pn	05 50 37.4	-0.9
LIT	Litokhoron	2.38	282	P	Pn	05 50 37.8	-0.6
LIT	Litokhoron	2.38	282	P	Pn	05 50 37.4	-0.9
EDRB	Edirne	2.39	22	PN	Pn	05 50 37.8	-0.6
DST	Dursunbey	2.39	90	PN	Pn	05 50 37.9	-0.6
PHSR	Pinarhisar	2.50	37	PN	Pn	05 50 39.4	-0.6
AYDB	Zeytinkoy-Aydi	2.51	132	PN	Pn	05 50 39.8	-0.4
KNT	Kendrikon	2.51	308	P	Pn	05 50 39.8	-0.4
KNT	Kendrikon	2.51	308	P	Pn	05 50 39.8	-0.4
PLD	Plovdiv	2.54	346	ePn	Pn	05 50 40.5	0.0
PLD				eSn	Sg	05 51 17.9	-1.9
PLD	Plovdiv	2.54	346	PN	Pn	05 50 40.1	-0.4
DEMI	Demirci	2.55	103	i P	Pn	05 50 40.7	0.0
DEMI				i S	Sg	05 51 20.0	-0.2
AGG	Agios Georgios	2.55	257	ePn	Pn	05 50 40.3	-0.4
AGG				eSn	Sn	05 51 11.4	-0.9
AGG	Agios Georgios	2.55	257	P	Pn	05 50 39.9	-0.8
AGG	Agios Georgios	2.55	257	P	Pn	05 50 40.3	-0.4
APE	Apeiranthos	2.57	180	P	Pn	05 50 39.3	-1.7
APE	Apeiranthos	2.57	180	P	Pn	05 50 39.4	-1.6
LTK	Loutraki	2.57	232	P	Pn	05 50 39.8	-1.1
LTK	Loutraki	2.57	232	P	Pn	05 50 40.2	-0.7
LTK				S	Sn	05 51 10.9	-1.9
SLVT	Silivri	2.59	51	PN	Pn	05 50 40.9	-0.3
MANT	Manisa	2.63	115	ePn	Pn	05 50 42.2	+0.3
MANT	Manisa	2.63	115	i P	Pn	05 50 42.9	+0.9
MANT				i S	Sg	05 51 21.5	-1.2
ORLT	Orhaneli	2.63	80	PN	Pn	05 50 41.8	0.0
DSF	Desfina	2.64	243	P	Pn	05 50 40.9	-1.1
DSF	Desfina	2.64	243	P	Pn	05 50 42.0	+0.1
ELBA	Catalca	2.68	55	i P	Pn	05 50 41.9	-0.5
ELBA				i S	Sg	05 51 22.3	-2.1
MDNY	Mudanya-Bursa	2.68	73	PN	Pn	05 50 42.6	+0.2
KULA	Kula-Manisa	2.69	114	PN	Pn	05 50 42.8	+0.2
AYDN	Tasoluk	2.71	136	IAML_P			
	comp=Z,3µm,0.2s						
AYDN				i P	Pn	05 50 43.1	+0.2
AYDN				i S	Sg	05 51 24.5	-0.7
THL	Klokotos Trika	2.71	269	P	Pn	05 50 42.6	-0.3
THL	Klokotos Trika	2.71	269	P	Pn	05 50 42.4	-0.5
ARMT	Armutlu	2.72	69	PN	Pn	05 50 43.2	+0.2
GRG	Griva	2.72	300	P	Pn	05 50 43.1	0.0
GRG	Griva	2.72	300	P	Pn	05 50 43.0	-0.1
SBT5	Esenkoy-Cinarc	2.76	68	PN	Pn	05 50 43.2	-0.2
CTKS	Kestanelik-??a	2.78	54	PN	Pn	05 50 43.6	-0.2
DID	Didima	2.79	221	P	Pn	05 50 42.5	-1.4
DID	Didima	2.79	221	P	Pn	05 50 42.7	-1.2
CTYL	Yalikoy Yolu	2.79	48	PN	Pn	05 50 42.8	-1.1
KIYI	Yalıkoy-Catalc	2.80	48	PN	Pn	05 50 44.0	-0.1
VAY	Valandovo	2.81	308	ePn	Pn	05 50 44.1	-0.1
VAY				eSn	Sb	05 51 25.1	+1.1
VAY	Valandovo	2.81	308	P	Pn	05 50 44.0	-0.1
VAY	Valandovo	2.81	308	i Pn	Pn	05 50 44.5	+0.3
AMGA	Amorgos Island	2.82	174	P	Pn	05 50 43.2	-1.3
AMGA	Amorgos Island	2.82	174	P	Pn	05 50 43.1	-1.3
BGKT	Bogazkoy	2.92	57	PN	Pn	05 50 45.3	-0.4
IOSP	Ios island	2.92	184	P	Pn	05 50 43.0	-2.7
IOSP	Ios island	2.92	184	P	Pn	05 50 42.9	-2.9
SHAP	Saphane-Kutahy	2.93	101	PN	Pn	05 50 46.1	+0.1
BODT	Bodrum	2.94	151	P	Pn	05 50 45.5	-0.5
EVR	Evrytania	2.97	257	P	Pn	05 50 46.7	+0.1
EVR	Evrytania	2.97	257	P	Pn	05 50 46.6	0.0
ANX	Ano Chora	2.99	251	P	Pn	05 50 46.7	-0.1
ANX	Ano Chora	2.99	251	P	Pn	05 50 46.8	-0.1
BUY	Buyukada	3.00	65	i P	Pn	05 50 47.3	+0.4
BUY				i S	Sb	05 51 31.7	+2.1
GUR	Goura	3.01	237	P	Pn	05 50 46.4	-0.7
GUR	Goura	3.01	237	P	Pn	05 50 46.3	-0.8
ISK	Istanbul-Kandi	3.05	61	PN	Pn	05 50 47.4	-0.1
KAVV	Kandilli-Istan	3.05	61	PN	Pn	05 50 46.9	-0.6
MHLO	Agia Marina, M	3.08	197	P	Pn	05 50 46.5	-1.4
MHLO	Agia Marina, M	3.08	197	P	Pn	05 50 46.5	-1.4
KLV	Kalavryta, Ach	3.08	240	P	Pn	05 50 47.4	-0.6
KLV	Kalavryta, Ach	3.08	240	P	Pn	05 50 47.4	-0.6
YLV	Yalova	3.09	71	PN	Pn	05 50 47.9	-0.3
IZI	Iznik	3.11	76	PN	Pn	05 50 48.5	0.0
GDZ	Gediz	3.12	99	i P	Pn	05 50 49.6	+1.0
GDZ				i S	Sg	05 51 37.5	-0.9
KLYT	Kilyos	3.13	58	PN	Pn	05 50 48.5	-0.1
THR5	Thira Island,	3.22	183	P	Pn	05 50 47.8	-2.1
THR3	Thira Island,	3.23	182	P	Pn	05 50 48.5	-1.5
STIP	Stip	3.26	310	i Pn	Pn	05 50 48.8	-1.6
SANT	Santorini	3.27	181	ePn	Pn	05 50 49.5	-1.0
VLX	Vlachokerasia	3.35	228	P	Pn	05 50 51.6	-0.2
FNA	Florina	3.37	291	ePn	Pn	05 50 52.1	+0.1
FNA	Florina	3.37	291	ePn	Pn	05 50 52.5	+0.5
FNA	Florina	3.37	291	P	Pn	05 50 52.3	+0.3
FNA	Florina	3.37	291	P	Pn	05 50 52.1	+0.1
DRO	Drossia	3.42	242	P	Pn	05 50 52.5	-0.2
DRO	Drossia	3.42	242	P	Pn	05 50 53.1	+0.4
VTS	Vitosha	3.43	330	ePn	Pn	05 50 52.8	0.0
VTS				eSn	Sb	05 51 40.2	-1.7
VTS	Vitosha	3.43	330	ePn	Pn	05 50 52.8	0.0
VTS				eSn	Sn	05 51 32.1	-2.0
VTS	Vitosha	3.43	330	⇓ iP	Pn	05 50 53.7	+0.9
VTS	Vitosha	3.43	330	P	Pn	05 50 53.6	+0.8
BIA	Bitola	3.49	295	i Pn	Pn	05 50 54.5	+0.8
NEST	Nestorio	3.52	284	P	Pn	05 50 54.6	+0.5
NEST	Nestorio	3.52	284	P	Pn	05 50 54.6	+0.5
VLI	Veliai	3.56	216	P	Pn	05 50 53.7	-0.9
KRUS	Krusevo	3.69	299	i Pn	Pn	05 50 56.6	+0.2
ITM	Ithomi	3.75	230	ePn	Pn	05 50 57.9	+0.8
DYR	Agios Nikonas	3.82	222	P	Pn	05 50 57.9	-0.2
SKO	Skopje	3.88	308	ePn	Pn	05 50 58.9	0.0
SKO	Skopje	3.88	308	i Pn	Pn	05 50 59.2	+0.3
OHR	Ohrid	3.90	294	i Pn	Pn	05 50 58.2	-1.0
IGT	Igoumenitsa	4.01	270	ePn	Pn	05 50 57.5	-3.3
IGT				eSn	Sn	05 51 51.3	+3.0
ZIMR		4.01	358	⇑ iP	Pn	05 51 00.6	-0.1
BARS	Barje	4.23	320	ePn	Pn	05 51 02.7	-1.0
ZAPS	Zavoj	4.23	330	ePn	Pn	05 51 04.1	+0.3
KARP	Karpathos	4.29	162	ePn	Pn	05 51 03.6	-1.1
KARP				eSn	Sn	05 51 55.2	0.0
ISP	Isparta	4.31	113	ePn	Pn	05 51 04.7	-0.2
ISP				eSn	Sn	05 51 56.4	+0.6
IDI	Anoyia	4.38	187	ePn	Pn	05 51 05.1	-0.8
VLAD	Vladila	4.43	349	⇑ iP	Pn	05 51 08.3	+1.8
SGRR	Singureni	4.59	4	⇑ iP	Pn	05 51 09.6	+0.9
TIR	Tirane	4.64	293	ePn	Pn	05 51 09.5	+0.2
RASA	Rasa	4.73	14	⇓ iP	Pg	05 51 31.6	+2.7
ICOR	Ion Corvin	4.78	20	⇓ iP	Pn	05 51 11.1	-0.2
ZAGS	Zajecar	4.84	330	ePn	Pn	05 51 12.0	-0.1
SELS	Selova	4.87	319	ePn	Pn	05 51 12.1	-0.5
HUMR	Humele	4.90	355	⇓ iP	Pn	05 51 14.8	+1.9
BOVS	Bovan	4.91	326	ePn	Pn	05 51 12.4	-0.7
PUNG	Punghina	5.02	338	⇑ iP	Pn	05 51 14.6	0.0
MFTR	Murfatlar	5.02	25	⇓ iP	Pn	05 51 13.9	-0.7
SULR		5.06	6	⇑ iP	Pn	05 51 16.4	+1.3
TIRR	Tirgusor	5.27	23	ePn	Pn	05 51 18.1	+0.1
TIRR	Tirgusor	5.27	23	⇑ iP	Pn	05 51 17.6	-0.4
TLB	Topalu	5.28	20	⇑ iP	Pn	05 51 17.3	-0.9
SRE	Strehaia	5.30	342	⇑ iP	Pn	05 51 19.0	+0.5
HARR	Harsova	5.35	19	⇑ iP	Pn	05 51 18.3	-0.8
PGOR	Pogoanele	5.37	11	⇓ iP	Pn	05 51 17.0	-2.4
SECR		5.40	4	⇓ iP	Pn	05 51 13.7	-6.2
PDG	Podgorica	5.50	302	ePn	Pn	05 51 21.3	+0.2
TTG	Podgorica	5.50	302	ePn	Pn	05 51 21.4	+0.3
SJES	Sjenica	5.52	313	ePn	Pn	05 51 20.6	-1.0
ISR	Istrita	5.52	8	⇓ iP	Pb	05 51 32.8	-2.7
GRUS	Gruza	5.56	321	ePn	Pn	05 51 21.9	-0.1
KUBS	Kucevo	5.56	330	ePn	Pn	05 51 21.4	-0.6
MTUR	Matau	5.59	357	⇑ iP	Pn	05 51 24.4	+1.9
BR231	Keskin MP Arra	5.59	86	ePn	Pn	05 51 23.8	+1.2
ANTO	Ankara	5.61	85	ePn	Pn	05 51 22.8	0.0
ANTO	Ankara	5.61	85	⇑ iP	Pn	05 51 25.6	+2.9
IVAS	Ivanjica	5.62	316	ePn	Pn	05 51 22.6	-0.4
HERR	Herculane	5.72	337	⇑ iP	Pn	05 51 25.1	+0.9
ARR	Arges	5.76	354	⇑ iP	Pn	05 51 23.0	-1.8
VOIR		5.80	357	⇑ iP	Pn	05 51 24.9	-0.5
MLR	Muntele Rosu	5.85	3	Pn	Pn	05 51 26.8	+0.7
	comp=Z,1.2nm,0.3s,baz=135,slow=7.1,SNR=24						
MLR				Sn	Sn	05 52 33.1	-0.7
	baz=266,slow=18,SNR=1.8						
MLR				Lg	Lg	05 53 06.7	
	comp=Z,1.5nm,0.3s,baz=301,slow=21,SNR=2.6						
MLR				LR	LR	05 54 12.8	
	comp=Z,132nm,19.9s,baz=194,slow=44						
MLR	Muntele Rosu	5.85	3	ePn	Pn	05 51 26.1	0.0
MLR				Sn	Sn	05 52 33.1	-0.7
MLR				Lg	Lg	05 53 06.7	
MLR	Muntele Rosu	5.85	3	⇑ iP	Pn	05 51 27.2	+1.0
CFR	Carcaliu	5.86	18	⇑ iP	Pn	05 51 25.2	-0.9
MDVR	Moldovita	5.86	332	⇓ iP	Pn	05 51 26.5	+0.3
LOT	Lotru	5.94	348	⇑ iP	Pn	05 51 20.1	-7.3
TLCR		6.05	23	⇓ iP	Pn	05 51 22.9	-5.8
DIVS	Divibare	6.07	319	ePn	Pn	05 51 28.2	-0.9
DIVS	Divibare	6.07	319	ePn	Pn	05 51 28.4	-0.7
GZR	Gura Zlata	6.09	341	⇑ iP	Pn	05 51 29.4	0.0
PETR	Petresti	6.21	11	⇑ iP	Pn	05 51 32.2	+1.4
ODBI	Odobesti	6.22	10	⇓ iP	Pn	05 51 26.1	-5.0
BBLS	Lazići	6.22	315	ePn	Pn	05 51 30.3	-0.9
PLOR	Plostina	6.26	7	⇓ iP	Pn	05 51 33.4	+1.7
BR101	Keskin Array S	6.26	87	ePn	Pn	05 51 31.9	+0.1
BR101				eSn	Sn	05 52 41.0	-3.0
BR101				eLg	Lg	05 53 19.8	
BR131	Keskin Array S	6.26	87	ePn	Pn	05 51 31.8	0.0
BRTR	Keskin Array B	6.26	87	Pn	Pn	05 51 31.9	0.0
	comp=Z,3.7nm,0.3s,baz=255,slow=11,SNR=138						
BRTR				Sn	Sn	05 52 41.0	-3.0
	comp=Z,2.7nm,0.3s,baz=268,slow=23,SNR=5.6						
BRTR				Lg	Lg	05 53 19.7	
	baz=276,slow=22,SNR=6.0						
VRI	Vrincioaia	6.28	8	⇑ iP	Pn	05 51 32.9	+0.9
DOPR	Dopca	6.32	359	⇑ iP	Pn	05 51 32.7	+0.2
MDB	Medias	6.55	353	⇓ iP	Pn	05 51 37.6	+2.0
BANR	Banloc	6.59	332	⇓ iP	Pn	05 51 28.0	-8.1
BZS	Buzias	6.63	336	ePn	Pn	05 51 35.4	-1.3
BZS	Buzias	6.63	336	⇑ iP	Pn	05 51 37.3	+0.6
BIR	Birlad	6.80	12	⇓ iP	Pn	05 51 39.8	+0.8
TIP	Timpagrande	6.80	269	ePn	Pn	05 51 39.8	+0.7
CJR	Cluj-Napoca	7.21	349	⇓ iP	Pn	05 51 44.9	+0.2
BIZ	Bicaz	7.30	3	⇑ iP	Pn	05 51 47.3	+1.3
CUC	Castrocucco	7.48	276	ePn	Pn	05 51 48.3	-0.2
ARCR	ARCALIA	7.49	354	⇑ iP	Pn	05 51 50.6	+2.1
KIS	Kishinev	7.73	17	e	Pn	05 51 50.0	-1.8
PRAR	RASCA	7.73	4	⇓ iP	Pn	05 51 50.8	-1.0
BURAR	Bucovina Array	7.97	359	⇑ iP	Pn	05 51 57.2	+2.0
BUR04	Bucovina Ar. S	7.98	358	ePn	Pn	05 51 55.4	+0.2
BUR08	Bucovina Ar. S	8.00	358	ePn	Pn	05 51 56.5	+0.8
BLY	Banja Luka	8.02	312	ePn	Pn	05 51 54.0	-1.8
PSZ	Piszkesteto	9.22	336	ePn	Pn	05 52 11.8	-0.4
AQU	L'Aquila	9.56	290	ePn	Pn	05 52 13.8	-3.1
KWP	Kalwaria Pacla	10.19	350	ePn	Pn	05 52 25.3	-0.1
MMAI	Mount Meron Ar	10.35	127	Pn	Pn	05 52 27.5	-0.3
	comp=Z,2.0nm,0.3s,baz=312,slow=11,SNR=8.6						
AKASG	Malin Array Be	11.36	12	Pn	Pn	05 52 40.5	-1.0
	comp=Z,1.1nm,0.3s,baz=199,slow=11,SNR=4.4						
DAVOX	Davos/Dischmat	13.44	307	Pn	Pn	05 53 10.9	+0.7
	comp=Z,0.3nm,0.3s,baz=150,slow=17,SNR=4.3						
FIA0	FINESS Array S	21.83	1	eP	P	05 54 51.5	-0.1
FINES	FINESS Array B	21.83	1	P	P	05 54 51.5	-0.1
	comp=Z,2.4nm,1.0s,baz=172,slow=14,SNR=2.0						
ESDC	Sonseca Array	22.66	280	P	P	05 55 02.2	+1.4
	comp=Z,0.4nm,0.6s,baz=96,slow=12,SNR=3.4						
NB200	NORSAR Array S	23.18	342	eP	P	05 55 04.6	-1.4
NOA	NORSAR Array B	23.18	342	P	P	05 55 04.6	-1.4
	comp=Z,0.4nm,0.6s,baz=148,slow=11,SNR=2.8						
EKA	Eskdalemuir Ar	24.69	319	P	P	05 55 19.6	-0.9
	comp=Z,2.1nm,0.7s,baz=111,slow=9.4,SNR=4.3						
MDT	Midelt	25.17	264	P	P	05 55 25.0	-0.1
	comp=Z,0.9nm,0.6s,baz=63,slow=9.0,SNR=2.6						
TOA1	Torodi Ar. Sit	33.73	225	eP	P	05 56 43.1	+1.9
TORD	Torodi Ar. Bea	33.73	225	P	P	05 56 43.1	+1.9
	comp=Z,0.3nm,0.3s,baz=33,slow=8.6,SNR=3.4						
BTK	Batken	34.49	74	eP	P	05 56 52.0	+4.2
MK32	Makanchi Array	41.20	61	eP	P	05 57 42.9	-1.3
MKAR	Makanchi Array	41.20	61	P	P	05 57 42.9	-1.3
	comp=Z,0.3nm,0.6s,baz=294,slow=6.6,SNR=2.8						

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*KRNET **10** 05:50:49.4±0.1, 39°.34N×71°.94E, mb2.9*

*NNC **10** 05:50:52.1±2.0, 39°.42N×72°.08E, h0^{km}, mb3.6, mpv3.3, Error ellipse: s-maj=18.3km s-min=7.1km az=2.0*

ISC 10 05:50:49.7±1.6**, 39°.31N**±0°.09×**72°.01E**±0°.04**, h10^{km}, n25,** σ**2.^{s}80**/35**, 12C-15D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	Batken	1.18	310	⇑ iP	Pg	05 51 11.0	-1.4
	baz=10.0						
BTK				⇑ iS	Sb	05 51 26.0	-1.7
	baz=10.0						
SFK	Sufi-Kurgan	1.35	58	⇑ P	Pn	05 51 15.1	+0.2
	5.1nm,0.4s						
SFK				⇓ S	Sb	05 51 33.2	+0.4
	25nm,0.4s						
SFK	Sufi-Kurgan	1.35	58	Pg	Pb	05 51 15.5	+0.2
	8.7nm,0.1s						
SFK				Lg	Lg	05 51 34.2	
	57nm,0.2s						
SFK	Sufi-Kurgan	1.35	58	⇓ iP	Pb	05 51 15.5	+0.2
	baz=60						
SFK				⇓ iS	Sn	05 51 33.7	+0.6
	baz=60						
ARSB	Arslanbob	2.14	20	⇑ eP	Pb	05 51 28.4	-0.4
	baz=22						
ARSB				⇑ iS	Sg	05 51 57.2	-1.5
	baz=22						
ARK	Arkit	2.48	359	⇓ iP	Pb	05 51 32.6	-1.9
	baz=1.0						
ARK				⇓ iS	Sb	05 52 04.3	-0.9
	baz=1.0						
AML	Almayashu	3.10	24	P	Pb	05 51 44.6	-0.5
	SNR=9.9						
AML	Almayashu	3.10	24	⇓ iP	Pb	05 51 42.1	-3.0
	baz=25						
AML				⇓ iS	Sb	05 52 20.7	-2.4
	baz=25						
ARLS	Aral	3.10	34	⇓ iP	Pb	05 51 42.2	-2.8
	baz=35						
ARLS				⇓ iS	Sb	05 52 20.6	-2.4
	baz=35						
IUG	Iuzhnay	3.21	333	Pg	Pb	05 51 46.4	-0.4
	21nm,0.4s						
IUG				Lg	Lg	05 52 27.8	
	44nm,0.3s						
UCH	Uchtor	3.48	32	P	Pb	05 51 49.3	-2.4
	SNR=8.7						
UCH	Uchtor	3.48	32	⇓ iP	Pb	05 51 48.2	-3.5
	baz=33						
UCH				⇓ iS	Sb	05 52 30.3	-3.9
	baz=33						
MRKS	Merke	3.55	15	Pg	Pb	05 51 54.1	+1.3
	6.5nm,0.4s						
MRKS				Lg	Lg	05 52 41.3	
	9.4nm,0.4s						
EKS2	Erkin-Say	3.60	21	P	Pb	05 51 50.8	-2.8
	SNR=13						
EKS2	Erkin-Say	3.60	21	⇑ eP	Pn	05 51 48.8	+3.0
	baz=22						
EKS2				⇑ iS	Sn	05 52 32.4	+3.9
	baz=22						
KZA	Kyzart	3.70	41	P	Pb	05 51 53.3	-2.2
	SNR=8.0						
KZA	Kyzart	3.70	41	⇑ eP	Pn	05 51 51.0	+3.6
	baz=42						
KZA				⇑ iS	Sn	05 52 35.6	+4.3
	baz=42						
AAK	Ala-Archa	3.82	29	Pn	Pb	05 51 53.7	-3.6
	3.2nm,0.6s						
AAK				Lg	Lg	05 52 49.1	
	4.7nm,0.6s						
KK31	Karatay Array	3.95	344	⇑ Pn	Pn	05 51 53.2	+2.8
	0.8nm,0.3s,baz=152,slow=11,SNR=45						
KK31				⇓ Pg	Pg	05 52 04.5	-1.0
	8.3nm,0.6s,baz=165,slow=16,SNR=21						
KK31				⇑ Lg	Lg	05 52 54.8	
	3.1nm,0.5s,baz=156,slow=30,SNR=4.0						
KBK	Karagaybulak	4.02	33	P	Pb	05 51 56.5	-4.2
	SNR=6.2						
CHMS	Chumysh	4.23	28	P	Pb	05 51 58.9	-5.3
	SNR=7.4						
USP	Ospenovka	4.38	25	P	Pn	05 52 00.7	+4.4
	SNR=6.4						
TKM2	Tokmak 2	4.51	36	⇓ Pn	Pn	05 52 01.4	+3.1
	1.5nm,0.4s						
TKM2				⇓ Lg	Lg	05 53 10.5	
	3.1nm,0.7s						
DGS	Degeres	4.84	35	Pg	Pb	05 52 18.3	+3.6
	3.0nm,0.6s						
DGS				Lg	Lg	05 53 23.3	
	5.7nm,0.6s						
AB31	Akbulak array	13.15	323	⇓ Pn	P	05 54 03.2	-3.5
	1.0nm,0.8s,baz=129,slow=13,SNR=11						
AB31				⇑ Sn	Sn	05 56 28.4	+5.6
	0.6nm,0.7s						

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*ISCJB **10** 06:02:51.8±0.5, 2°.41S±0°.08×67°.63E±0°.09, h10^{km}, mb4.3/17, MS3.8/28, Error ellipse: s-maj=14.4km s-min=10.6km az=151.5*

*IDC **10** 06:02:52.5±1.1, 2°.30S×67°.69E, h0^{km}, mb4.0/9, mb1 4.2/9, mb1mx3.8/44, mbtmp4.0/9, MS3.8/29, Ms1 3.8/29, ms1mx3.7/48, Error ellipse: s-maj=35.5km s-min=21.6km az=47.0*

*NEIC **10** 06:02:53.8±0.3, 2°.44S×67°.62E, h10^{km}, mb4.5/5, Error ellipse: s-maj=9.2km s-min=7.4km az=62.0*

*GCMT **10** 06:02:57.8±0.3, 2°.18S±0°.04×68°.12E±0°.03, h12^{km}, MW4.8/69, Moment Tensor Solution. s20,c23; s69,c85; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.77±.07; $M_{\theta\theta}$0.47±.07; $M_{\phi\phi}$1.30±.07; $M_{r\theta}$1.23±.30; $M_{\theta\phi}$-0.51±.06; $M_{\phi r}$-0.73±.26; Best double couple: $M_0$2.16700×10^{16} NP1:ϕ_s315.00000°, δ65.00000°, λ-104.00000°. NP2: ϕ_s166.00000°, δ28.00000°, λ-62.00000°. Principal axes: T 1.9580, Plg19.0000°, Azm55.0000°; N 0.4150, Plg13.0000°, Azm321.0000°; P -2.3760, Plg67.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 06:02:53.9±0.8**, 2°.4S**±0°.1×**67°.6E**±0°.1**, h10^{km}, n64,** σ**0.^{s}85**/37**, mb4.3**/17**, MS3.9**/28**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.13	139	T	T	06 09 08.5	
	baz=325,slow=75						
H08N3	Diego Garcia H	5.14	139	T	T	06 09 09.9	
	baz=325,slow=75						
H08N1	Diego Carcia H	5.15	139	T	T	06 09 09.2	
	baz=325,slow=75						
PALK	Pallekele	16.22	53	LR	LR	06 11 20.2	
	comp=Z,680nm,20.6s,baz=296,slow=32						
RER	Riviere de l'E	21.92	211	eP	P	06 07 47.5	-0.1
	114nm,1.4s						
OPO	Ambohidratompo	25.66	230	LR	LR	06 16 32.1	
	comp=Z,555nm,19.5s,baz=8.5,slow=32						
WSAR	Wadi Sarin	26.98	342	LR	LR	06 17 22.4	
	comp=Z,110nm,18.9s,baz=171,slow=32						
ATD	Arta Tunnel	28.27	300	LR	LR	06 17 53.5	
	comp=Z,94nm,21.9s,baz=100,slow=32						
ATD	Arta Tunnel	28.27	300	eP	P	06 08 47.9	+0.1
	14nm,1.3s						

UOSS	Minazif	29.38	339	*e*P	P	06 08 57.8	+0.4
	36nm,1.6s						
KMBO	Kilima Mbogo	30.39	272	LR	LR	06 19 12.3	
	comp=Z,156nm,21.6s,baz=92,slow=32						
PSI	Prapat	31.71	81	LR	LR	06 19 44.9	
	comp=Z,351nm,21.3s,baz=264,slow=32						
BRDH	Bariadhala	34.23	42	LR	LR	06 25 10.2	
	comp=Z,333nm,18.3s,baz=235,slow=39						
CM01	Chiang Mai Arr	37.16	55	*e*P	P	06 10 06.1	+0.8
CM31	Chiang Mai Arr	37.16	55	*e*P	P	06 10 06.4	+1.0
CMAR	Chiang Mai Arr	37.16	55	P	P	06 10 05.1	-0.3
	1.0nm,0.3s,baz=246,slow=10.0,SNR=7.4						
CMAR				LR	LR	06 23 00.1	
	comp=Z,151nm,21.6s,baz=240,slow=33						
GEYT	Alibeck	41.11	349	LR	LR	06 26 35.7	
	comp=Z,83nm,21.9s,baz=205,slow=35						
BTK	Batken	42.38	4	*e*P	P	06 10 50.1	+1.5
	13nm,1.2s						
AAK	Ala-Archa	45.28	7	P	P	06 11 11.3	-0.7
	2.5nm,1.0s,baz=181,slow=8.8,SNR=4.5						
AAK	Ala-Archa	45.28	7	*e*P	P	06 11 11.5	-0.5
BOSA	Boshof	48.01	233	LR	LR	06 28 30.3	
	comp=Z,120nm,22.0s,baz=36,slow=32						
MAKZ	Makanchi	50.63	13	*e*P	P	06 11 52.9	-0.3
	2.7nm,1.2s						
MK31	Makanchi Array	50.69	13	*e*P	P	06 11 53.9	+0.2
MK32	Makanchi Array	50.69	13	*e*P	P	06 11 51.5	-2.1
MKAR	Makanchi Array	50.69	13	P	P	06 11 51.5	-2.1
	0.6nm,0.8s,baz=180,slow=6.7,SNR=5.2						
MKAR				LR	LR	06 32 11.7	
	comp=Z,69nm,20.4s,baz=188,slow=35						
MKAR	Makanchi Array	50.69	13	*e*P	P	06 11 54.0	+0.4
	18nm,1.4s						
KBZ	Khabaz	51.03	337	P	P	06 11 54.2	-1.9
	1.2nm,0.9s,baz=131,slow=5.4,SNR=2.0						
ABKAR	Akbulak array	51.91	354	*e*P	P	06 12 03.0	+0.3
BATI	Baumata	56.16	101	LR	LR	06 35 34.9	
	comp=Z,127nm,20.8s,baz=318,slow=35						
ZALV	Zalesovo Beam	57.98	12	P	P	06 12 45.7	-0.8
	1.0nm,0.6s,baz=216,slow=7.3,SNR=5.6						
ZALV				LR	LR	06 37 07.3	
	comp=Z,58nm,18.6s,baz=250,slow=36						
ZALV	Zalesovo Beam	57.98	12	*e*P	P	06 12 46.0	-0.6
ZAA1	Zalesovo Array	57.98	12	*e*P	P	06 12 45.7	-0.9
SONA0	Songino Array	60.41	29	*e*P	P	06 13 03.6	-0.1
SONM	Songino Array	60.41	29	P	P	06 13 03.6	-0.1
	2.4nm,0.8s,baz=222,slow=6.3,SNR=15						
SONM				LR	LR	06 39 20.7	
	comp=Z,198nm,19.3s,baz=190,slow=36						
SONA1	Songino Array	60.42	29	*e*P	P	06 13 04.2	+0.3
AKASG	Malin Array Be	62.26	333	LR	LR	06 42 53.6	
	comp=Z,25nm,18.4s,baz=325,slow=39						
MAW	Mawson	65.14	182	LR	LR	06 34 40.2	
	comp=Z,180nm,21.8s,baz=353,slow=29						
TORD	Torodi Ar. Bea	67.21	285	LR	LR	06 43 14.1	
	comp=Z,75nm,18.5s,baz=10.0,slow=36						
WR1	Warramunga Arr	67.30	111	*e*P	P	06 13 49.6	0.0
	25nm,1.4s						
WRA	Warramunga Arr	67.30	111	P	P	06 13 49.6	0.0
	5.8nm,1.0s,baz=283,slow=5.9,SNR=15						
WRA				LR	LR	06 39 17.0	
	comp=Z,65nm,22.0s,baz=300,slow=32						
WRAB	Tennant Creek	67.31	110	*e*P	P	06 13 49.2	-0.4
	26nm,1.3s						
WB2	Warramunga Arr	67.31	110	*e*P	P	06 13 49.1	-0.6
ASAR	Alice Springs	67.33	115	P	P	06 13 49.6	-0.1
	3.6nm,1.1s,baz=280,slow=6.5,SNR=9.2						
ASAR				LR	LR	06 38 47.6	
	comp=Z,48nm,21.9s,baz=260,slow=32						
AS31	Alice Springs	67.34	115	*e*P	P	06 13 49.9	+0.1
	3.1nm,1.4s						
AS01	Alice Springs	67.38	115	*e*P	P	06 13 49.7	-0.3
KSRS	Korea Array	68.38	48	LR	LR	06 46 07.6	
	comp=Z,80nm,18.1s,baz=281,slow=38						
JNU	Nakatsue	69.24	53	LR	LR	06 45 19.0	
	comp=Z,75nm,18.9s,baz=280,slow=37						
DBIC	Dimbokro	72.91	278	LR	LR	06 46 52.4	
	comp=Z,70nm,18.2s,baz=68,slow=36						
USRK	Ussuriysk Ar.	73.64	43	LR	LR	06 50 20.6	
	comp=Z,43nm,19.2s,baz=246,slow=39						
STKA	Stephens Creek	75.12	122	LR	LR	06 47 14.2	
	comp=Z,39nm,18.1s,baz=213,slow=35						
KLR	Kul'dur	75.28	38	LR	LR	06 49 43.0	
	comp=Z,63nm,18.4s,baz=302,slow=37						
MJAR	Matsushiro Arr	75.96	52	LR	LR	06 49 35.8	
	comp=Z,54nm,19.2s,baz=270,slow=37						
ESDC	Sonseca Array	77.48	311	P	P	06 14 51.4	+1.4
	0.4nm,0.6s,baz=72,slow=3.9,SNR=3.5						
SPITS	Spitsbergen Ar	84.97	351	LR	LR	06 56 09.4	
	comp=Z,26nm,19.8s,baz=25,slow=38						
MA2	Magadan	88.60	30	LR	LR	06 56 21.3	
	comp=Z,88nm,18.9s,baz=268,slow=36						
PETK	Petropavlovsk-	91.97	37	LR	LR	06 59 00.8	
	comp=Z,44nm,20.5s,baz=253,slow=37						
YKA	Yellowknife Ar	120.05	1	PKP	PKPdf	06 21 44.7	0.0
	0.2nm,0.7s,baz=352,slow=2.2,SNR=4.6						
YKB5	Yellowknife Ar	120.05	1	*e*PKPdf	PKPdf	06 21 45.1	+0.4
PD31	Pinedale Array	139.76	357	*e*PKPdf	PKPdf	06 22 22.5	-0.4
PDAR	Pinedale Array	139.76	357	PKP	PKPdf	06 22 22.5	-0.4
	0.3nm,0.7s,baz=31,slow=2.4,SNR=2.6						
X43A	Marvell	142.31	330	*e*PKPpre	PKPpre	06 22 21.5	
PV13	Radium Mtn., P	144.29	355	*e*PKPdf	PKPdf	06 22 32.1	+1.0
LTX	Lajitas	151.99	344	*e*PKPbc	PKPbc	06 22 49.6	-0.6
TXAR	Lajitas Array	151.99	344	PKPbc	PKPbc	06 22 49.6	-0.6
	0.4nm,0.7s,baz=8.1,slow=1.3,SNR=4.5						

*ISK **10** 06:04:28.7, 39°.71N×25°.55E, h8^{km}, ML2.3/12*
*ISCJB **10** 06:04:30.5±0.5, 39°.69N±0°.03×25°.59E±0°.04, h18^{km}±5^{km}, Error ellipse: s-maj=5.0km s-min=4.1km az=136.7*
*DDA **10** 06:04:30.7, 39°.75N×25°.65E, h7^{km}±5^{km}, ML2.6*
*ATH **10** 06:04:30.1, 39°.68N×25°.57E, h28^{km}±1^{km}, ML1.7/1, Error ellipse: s-maj=2.9km s-min=1.1km az=241.0*
ISC 10 06:04:29.6±1.1**, 39°.72N**±0°.02×**25°.63E**±0°.03**, h16**^{km}±10^{km}**, n38,** σ0^{s}75/47**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.35	69	PG	Pb	06 04 36.9	-0.6
BOZC				SG	Sb	06 04 42.9	+0.2
BOZC	Bozcaada	0.35	69	IAML_P			
	comp=Z,3μm,0.1s						
BOZC				*i* P	Pb	06 04 38.1	+0.7
LIA	Limnos Island	0.39	298	P	Pb	06 04 38.9	+0.7
LIA				S	Sb	06 04 44.1	+0.2
LIA				AML	AML	06 04 44.9	
	comp=E,268μm,0.3s						
LIA				AML	AML	06 04 45.3	
	comp=N,220μm,0.2s						
GADA	Gvkgeada	0.52	23	PG	Pb	06 04 39.8	-0.5
GOKC	Gokceada-Canak	0.53	24	PG	Pg	06 04 39.8	-0.4
SIGR	SIGRI	0.53	161	PG	Pg	06 04 39.6	-0.6
SIGR	SIGRI	0.53	161	P	Pb	06 04 40.7	+0.1
SIGR				S	Sb	06 04 48.1	+0.1
EZN	Ezine	0.55	78	PG	Pb	06 04 40.9	+0.1
PRK	Paraskevi	0.68	133	P	Pn	06 04 45.0	+0.3
BAYC	CANAKKALE_Bayr	0.71	88	*i* P	Pn	06 04 45.1	+0.1
BAYC				*i* S	Sn	06 04 55.0	-0.6
SMTH	Samothraki Isl	0.76	354	P	Pn	06 04 45.9	+0.2
SMTH				S	Sn	06 04 56.6	-0.2
AYVA	Ayvalik	0.92	116	*i* P	Pn	06 04 49.8	+2.0
GELI	Tayfur-Gelibol	0.94	43	PG	Pn	06 04 48.0	-0.2
LPK	Lapseki	1.08	53	PN	Pg	06 04 51.2	+0.6
ENEZ	Enez	1.09	21	PN	Pg	06 04 50.8	0.0
THAS	Thassos island	1.13	322	P	Pg	06 04 52.2	+0.7
THAS				S	Sg	06 05 07.1	+0.8
ERIK	Erikli-Kesan	1.17	35	PN	Pg	06 04 52.1	-0.1
DKL	Dikili	1.18	123	PN	Pg	06 04 52.7	+0.3
SKY	Skiros Island	1.19	225	P	Pn	06 04 50.0	-1.6
ALN	Alexandroupoli	1.22	15	PN	Pb	06 04 52.1	-0.3
ALN	Alexandroupoli	1.22	15	P	Pg	06 04 53.7	+0.5
KESN	Edirne-Kesan	1.37	36	*i* P	Pg	06 04 56.1	+0.1
KESN				*i* S	Sg	06 05 14.0	+0.1
CHOS	Chios island	1.37	166	PN	Pb	06 04 54.7	-0.2
CHOS	Chios island	1.37	166	P	Pb	06 04 55.1	+0.2
RDO	Rodhopi	1.43	357	PN	Pb	06 04 55.8	-0.1
KRBG	Karabiga-Canak	1.45	62	PN	Pg	06 04 57.0	-0.5
AOS	Alonnisos	1.46	249	PN	Pn	06 04 54.9	-0.5
BALY	Balya	1.53	89	IAML_P			
	comp=Z,243nm,0.2s						
BALY				*i* P	Pg	06 04 59.7	+0.6
BALY				*i* S	Sg	06 05 19.6	+0.5
URLA	Izmir	1.55	151	PN	Pn	06 04 56.6	0.0
GONE	Gonen-Balikesi	1.61	78	PN	Pb	06 04 58.8	-0.3
STEP	BALIKESIR_Sava	1.65	101	*i* P	Pg	06 05 00.5	-0.8
BALB	Balikesir	1.74	92	PN	Pb	06 05 00.5	-0.6
MRMT	Marmara Adasi	1.75	59	PN	Pb	06 05 00.5	-0.9
EDC	Edincik	1.82	69	PN	Pb	06 05 01.9	-0.8
SBT4	Kumbag-Tekirda	1.83	52	PN	Pb	06 05 02.7	0.0
KCTX	Karacabey (Bur	2.16	74	PN	Pb	06 05 06.6	-1.8
DURS	Dursunbey	2.20	92	*i* P	Pb	06 05 08.7	-0.4
DURS				*i* S	Sn	06 05 33.6	+1.1
EDRB	Edirne	2.29	21	PN	Pb	06 05 08.4	-2.2

MEX 10 06:10:59.2±0.6**, 15°.91N**×**98°.66W, h9**^{km}±20^{km}**, MD3.8, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.70	47	*i* P	Pg	06 11 10.8	-1.8
PNIG				*e*S	Sg	06 11 21.0	-0.8
TLIG	Tlapa	1.64	3	*e*P	Pn	06 11 24.8	-3.7
TLIG				*i* S	Sn	06 11 45.2	-4.6
VHO	Vista Hermosa	2.17	58	*e*P	Pn	06 11 33.2	-2.6
VHO				*i* S	Sn	06 11 58.1	-4.9

MEX 10 06:15:33.8±0.3**, 18°.19N**×**100°.28W, h57**^{km}±4^{km}**, MD3.8, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	Puente Sto Nin	0.11	324	*i* P	Pn	06 15 41.0	-1.6
ARIG				*i* S	Sn	06 15 47.0	-1.9
MEIG	Mezcala	0.68	113	*e*P	Pn	06 15 46.3	-1.5
MEIG				*e*S	Sn	06 15 55.9	-2.0
PLIG	Platanillo	0.76	74	*e*P	Pn	06 15 47.5	-1.3
PLIG				*e*S	Sn	06 15 58.0	-1.8
CAIG	El Cayaco	1.13	179	*e*P	Pn	06 15 52.0	-1.5
CAIG				*e*S	Sn	06 16 06.3	-1.9
ZIIG	Zihuatanejo	1.27	243	*i* P	Pn	06 15 53.9	-1.4
ZIIG				*e*S	Sn	06 16 09.3	-2.1
TLIG	Tlapa	1.75	111	*e*P	Pn	06 16 01.0	-0.9
TLIG				*i* S	Sn	06 16 20.7	-2.4

IDC 10 06:16:03.5±1.6**, 2°.86S**×**139°.06E, h0**^{km}**, mb3.3**/2**, mb1 3.6**/3**, mb1mx3.3**/36**, mbtmp3.4**/3**, ML3.6**/1**, MS2.6**/1**, Ms1 2.6**/1**, ms1mx2.1**/21**, Error ellipse: s-maj=31.7km s-min=14.7km az=163.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	1.68	78	Pg	Pn	06 16 33.8	-0.4
	8.1nm,0.3s,baz=274,slow=24,SNR=25						
JAY				Lg	Lg	06 16 56.9	
	5.5nm,0.3s,baz=254,slow=18,SNR=5.0						
GUMO	Guam	17.33	19	LR	LR	06 25 05.9	
	comp=Z,22nm,20.0s,baz=131,slow=31						
WRA	Warramunga Arr	17.59	195	P	Pn	06 20 09.3	-1.0
	0.2nm,0.3s,baz=17,slow=13,SNR=9.6						
WRA				S	Sn	06 23 13.0	-14
	0.0nm,0.3s,baz=11,slow=24,SNR=2.9						
ASAR	Alice Springs	21.28	193	P	P	06 20 52.2	+0.4
	0.7nm,0.7s,baz=18,slow=9.3,SNR=6.4						
MKAR	Makanchi Array	70.12	322	P	P	06 27 18.0	+0.1
	0.3nm,0.5s,baz=109,slow=6.7,SNR=4.5						

*MOS **10** 06:20:36.5±2.7, 47°.96N×155°.97E, h39^{km}, mb3.9/1, Error ellipse: s-maj=48.9km s-min=6.0km az=78.4*
*KRSC **10** 06:20:36.5±2.1, 47°.96N×155°.97E, h39^{km}±47^{km}, ML4.1*
*SKHL **10** 06:20:37.7±1.1, 48°.15N×154°.60E, h70^{km}±5^{km}, mb4.5/2*
*IDC **10** 06:20:39.3±5.2, 48°.33N×153°.77E, h72^{km}±50^{km}, mb3.1/3, mb1 3.3/4, mb1mx3.0/47, mbtmp3.4/4, ML2.5/1, Error ellipse: s-maj=40.5km s-min=34.1km az=128.0*
ISC 10 06:20:36.7±1.5**, 47°.9N**±0°.1×**155°.3E**±0°.2**, h35**^{km}**, n49,** σ1^{s}64/55**, mb3.4**/3**, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.85	11	*e*P	Pn	06 21 19.0	-0.6
SKR				*e*S	Sn	06 21 52.0	-0.6
SKR	Severo-Kuril's	2.85	11	*e*P	Pn	06 21 19.0	-0.6
SKR				AMB	AMB	06 21 22.3	
	140nm,1.0s						
SKR				*e*S	Sn	06 21 50.8	-1.8
SKR				A	A	06 22 15.2	
	280nm,1.0s						
SKR				A	A	06 22 15.2	
	180nm,1.0s						
SKR	Severo-Kuril's	2.85	11	PN	Pn	06 21 19.0	-0.6
SKR				S	Sn	06 21 52.0	-0.6
PAU	Pauzhetka	3.72	15	*e*S	Sn	06 22 15.3	+1.3
KDTR	Khodutka, Kamc	4.32	24	*e*P	Pn	06 21 40.6	+0.8
KDTR				*e*S	Sn	06 22 28.6	-0.3
KDTR	Khodutka, Kamc	4.32	24	PN	Pn	06 21 40.6	+0.8
KDTR				S	Sn	06 22 28.6	-0.3
MTVR	Mutnovka	4.96	21	*e*P	Pn	06 21 50.1	+1.4
MTVR				*e*S	Sn	06 22 44.8	-0.1
MTVR	Mutnovka	4.96	21	PN	Pn	06 21 50.1	+1.4
MTVR				S	Sn	06 22 44.8	-0.1
RUS	Russkaya	5.00	23	*e*P	Pn	06 21 49.5	+0.4
RUS				*e*S	Sn	06 22 44.2	-1.4
RUS	Russkaya	5.00	23	*e*P	Pn	06 21 49.5	+0.4
RUS	Russkaya	5.00	23	PN	Pn	06 21 49.5	+0.4
RUS				S	Sn	06 22 44.2	-1.4
KRMR	Karymshinskiy	5.27	19	*e*P	Pn	06 21 55.2	+2.4
KRMR				*e*S	Sn	06 22 52.4	+0.1
KRMR	Karymshinskiy	5.27	19	PN	Pn	06 21 55.2	+2.4
KRMR				S	Sn	06 22 52.4	+0.1
PETK	Petropavlovsk-	5.45	16	P	Pn	06 21 57.1	+1.8
	0.8nm,0.3s,baz=183,slow=13,SNR=19						
PET	Petropavlovsk	5.57	21	S	Sn	06 22 58.5	-1.2
UGLR	Uglovaya	5.78	22	*e*P	Pn	06 22 02.3	+2.3
UGLR	Uglovaya	5.78	22	PN	Pn	06 22 02.3	+2.3
AVH	Avacha	5.81	21	*e*P	Pn	06 22 03.0	+2.6
AVH	Avacha	5.81	21	PN	Pn	06 22 03.0	+2.6
KOK	Koryaka	5.81	20	*e*P	Pn	06 22 03.0	+2.6
KOK	Koryaka	5.81	20	*e*P	Pn	06 22 03.0	+2.6
KOK	Koryaka	5.81	20	PN	Pn	06 22 03.0	+2.6
SMAR	Somma	5.83	21	*e*P	Pn	06 22 03.8	+3.1
SMAR	Somma	5.83	21	PN	Pn	06 22 03.8	+3.1
SDLR	Sedlovina	5.86	22	*e*P	Pn	06 22 02.0	+0.9
SDLR	Sedlovina	5.86	22	PN	Pn	06 22 02.0	+0.9
KRX	Arik	5.88	20	*e*P	Pn	06 22 03.7	+2.3
KRX	Arik	5.88	20	PN	Pn	06 22 03.7	+2.3
NLC	Nalytchevo	5.89	25	S	Sn	06 23 03.8	-3.7
SPN	Mys Shipunski	6.03	28	*e*P	Pn	06 22 05.0	+1.8
SPN				*e*S	Sn	06 23 09.7	-1.2
SPN	Mys Shipunski	6.03	28	*e*P	Pn	06 22 05.0	+1.8
SPN				*e*S	Sn	06 23 09.7	-1.2
SPN	Mys Shipunski	6.03	28	PN	Pn	06 22 05.0	+1.8
SPN				S	Sn	06 23 09.7	-1.2
GNL	Ganaly	6.05	15	*e*P	Pn	06 22 04.7	+1.0
GNL	Ganaly	6.05	15	PN	Pn	06 22 04.7	+1.0
MKZ	Mys Kozlova	7.80	29	P	Pn	06 22 28.1	+0.5
MKZ	Mys Kozlova	7.80	29	*e*P	Pn	06 22 28.1	+0.5
MKZ	Mys Kozlova	7.80	29	PN	Pn	06 22 28.1	+0.5
TYV	Tymovskoe	8.76	295	*e*P	Pn	06 22 35.0	-5.7
TYV				AMB	AMB	06 22 36.0	
	30nm,1.0s						
KBTR	Krutoberegovo	9.53	26	*e*P	Pn	06 22 50.9	-0.3
KBTR	Krutoberegovo	9.53	26	PN	Pn	06 22 50.9	-0.3
H11N2	WAKE ISLAND Hy	29.63	157	T	T	06 58 47.5	
	baz=342,slow=74						
H11N1	WAKE ISLAND Hy	29.64	157	T	T	06 58 41.4	
	baz=342,slow=74						
H11N3	WAKE ISLAND Hy	29.64	157	T	T	06 58 32.6	
	baz=342,slow=74						
H11S1	WAKE ISLAND Hy	30.75	158	T	T	06 59 58.0	
	baz=344,slow=76,SNR=55						
H11S3	WAKE ISLAND Hy	30.76	158	T	T	06 59 55.7	
	baz=344,slow=76,SNR=63						
H11S2	WAKE ISLAND Hy	30.77	158	T	T	06 59 50.4	
	baz=344,slow=76,SNR=54						
MKAR	Makanchi Array	47.73	297	P	P	06 28 59.6	-10
	0.4nm,0.9s,baz=71,slow=7.7,SNR=3.3						
YKA	Yellowknife Ar	49.12	38	P	P	06 29 21.2	+0.9
	0.3nm,0.7s,baz=302,slow=7.7,SNR=4.8						
WRA	Warramunga Arr	70.09	201	P	P	06 31 44.2	-0.9
	0.6nm,0.8s,baz=23,slow=6.6,SNR=3.1						

IDC 10 06:28:00.6±2.8**, 5°.79S**×**147°.31E, h217**^{km}±42^{km}**, mb3.3**/3**, mb1 3.5**/5**, mb1mx3.1**/36**, mbtmp3.8**/5**, Error ellipse: s-maj=84.2km s-min=27.8km az=112.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.59	182	P	Pn	06 28 58.5	+0.4
	8.1nm,0.3s,baz=47,slow=10,SNR=16						
PMG				S	S	06 29 43.8	+0.6
	0.7nm,0.3s,baz=221,slow=19,SNR=2.0						
WRA	Warramunga Arr	18.89	221	P	P	06 32 05.2	+0.2
	0.9nm,0.3s,baz=47,slow=12,SNR=39						
ASAR	Alice Springs	21.96	215	P	P	06 32 37.4	+0.2
	0.8nm,0.4s,baz=46,slow=8.0,SNR=10						
FITZ	Fitzroy Crossi	24.43	238	P	P	06 32 59.5	-0.2
	5.6nm,0.5s,baz=50,slow=10,SNR=22						
MKAR	Makanchi Array	77.53	320	P	P	06 39 32.5	0.0
	0.1nm,0.5s,baz=101,slow=7.5,SNR=3.7						

*ISCJB **10** 06:34:41.6±0.5, 39°.41N±0°.06×123°.54E±0°.05, h10^{km}, mb3.7/8, MS3.1/1, Error ellipse: s-maj=9.0km s-min=5.3km az=177.9*
*IDC **10** 06:34:41.7±0.7, 39°.40N×123°.46E, h0^{km}, mb3.7/8, mb1 3.8/12, mb1mx3.6/53, mbtmp3.7/12, ML3.4/4, MS3.2/1, Ms1 3.4/1, ms1mx2.6/34, Error ellipse: s-maj=22.1km s-min=12.4km az=42.0*
*BJI **10** 06:34:45.0, 39°.50N×123°.50E, h6^{km}, ML4.0/14*
ISC 10 06:34:44.2±0.7**, 39°.54N**±0°.07×**123°.61E**±0°.05**, h10**^{km}**, n17,** σ2^{s}36/20**, mb3.7**/8**, Northeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DL2	Dalian	1.66	248	Pg	Pn	06 35 13.5	+0.1
DL2				Sg	Sg	06 35 34.9	-2.8
DL2				smax	smax		
	comp=N,980nm,0.6s						
DL2				smax	smax		
	comp=E,1μm,0.5s						
KSRS	Korea Array	3.97	120	Pn	Pn	06 35 46.2	+1.1
	7.3nm,0.3s,baz=300,slow=14,SNR=52						
KSRS				Sn	Sn	06 36 30.2	-1.5
	6.7nm,0.3s,baz=297,slow=23,SNR=7.1						
KSRS				Lg	Lg	06 36 48.2	
	8.8nm,0.3s,baz=293,slow=24,SNR=7.7						
TIA	Tai'an	6.11	239	Pg	Pb	06 36 34.1	+3.4
TIA				Sn	Sn	06 37 21.2	-3.3
TIA				Sg	Sb	06 37 49.8	+5.9
TIA				smax	smax		
	comp=N,25nm,0.7s						
TIA				smax	smax		
	comp=E,15nm,0.7s						
MDJ	Mudanjiang	6.75	39	Pg	Pb	06 36 48.7	+7.1
MDJ				Sg	Sg	06 38 20.5	-0.2
MDJ				smax	smax		
	comp=N,280nm,0.8s						
MDJ				smax	smax		
	comp=E,120nm,0.9s						
USRK	Ussuriysk Ar.	7.79	51	Pn	Pn	06 36 40.7	+3.1
	1.1nm,0.3s,baz=228,slow=15,SNR=16						
USRK				Lg	Lg	06 38 52.7	
	2.9nm,0.3s,baz=238,slow=27,SNR=12						
JNU	Nakatsue	8.68	135	Pn	Pn	06 36 50.2	+0.4
	0.5nm,0.3s,baz=342,slow=13,SNR=2.4						
JNU				Lg	Lg	06 39 17.6	
	0.8nm,0.3s,baz=348,slow=19,SNR=3.3						
SONM	Songino Array	14.94	309	Pn	Pn	06 38 15.4	-0.1
	0.1nm,0.3s,baz=116,slow=13,SNR=3.1						
SONM				Lg	Lg	06 42 37.8	
	0.0nm,0.3s,baz=123,slow=28,SNR=5.8						
WMQ	Urumqi	27.03	291	*e*P	P	06 40 26.8	+0.3
ZALV	Zalesovo Beam	29.81	312	P	P	06 40 50.1	-1.0
	0.4nm,0.3s,baz=98,slow=8.9,SNR=2.6						
CMAR	Chiang Mai Arr	29.94	233	LR	LR	06 52 24.0	
	comp=Z,39nm,19.1s,baz=200,slow=36						
MKAR	Makanchi Array	30.71	297	P	P	06 40 59.6	+0.3
	0.2nm,0.6s,baz=99,slow=8.0,SNR=3.3						
FINES	FINESS Array B	59.51	326	P	P	06 44 46.4	-0.8
	1.0nm,0.5s,baz=76,slow=5.4,SNR=9.3						
WRA	Warramunga Arr	60.01	168	P	P	06 44 50.2	-0.9
	0.7nm,0.9s,baz=359,slow=9.0,SNR=3.8						
ASAR	Alice Springs	63.61	169	P	P	06 45 11.9	-3.3
	0.3nm,0.6s,baz=328,slow=6.9,SNR=3.4						
NOA	NORSAR Array B	65.76	330	P	P	06 45 27.6	-1.4
	0.9nm,0.6s,baz=50,slow=6.2,SNR=3.4						
BRTR	Keskin Array B	66.18	303	P	P	06 45 31.1	-1.0
	0.7nm,0.5s,baz=82,slow=2.8,SNR=5.8						
YKA	Yellowknife Ar	68.13	25	P	P	06 45 44.1	+0.1
	0.2nm,0.6s,baz=314,slow=6.1,SNR=4.3						

WEL 10 06:36:33.0, 39°S±1°×**17°4E**±°**, h10**^{km}±1^{km}**, ML4.0**/28**, Off west coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBEZ	Newall Road No	0.16	67	P	Pb	06 36 37.5	-0.5
NMEZ	Namu Road	0.17	119	P	Pg	06 36 37.4	+0.7
NMEZ				S	Sg	06 36 40.8	+1.5
KHEZ	Kahui Hut	0.26	82	P	Pb	06 36 39.2	-0.6
PKE	Pukeiti	0.27	60	P	Pb	06 36 39.6	-0.4
PKE				S	Sb	06 36 44.4	-0.3
PREZ	Palmer Road	0.37	92	P	Pb	06 36 41.1	-0.6
PREZ				S	Sb	06 36 47.3	-0.3
DREZ	Durham Road	0.43	71	P	Pb	06 36 42.1	-0.5
DREZ				S	Sb	06 36 48.9	-0.2
MHEZ	Mangahewa	0.56	63	P	Pg	06 36 44.7	+0.8
MHEZ				P	Pb	06 36 44.6	-0.3
LREZ	Lake Rotokare	0.57	103	P	Pb	06 36 44.9	-0.2
LREZ				S	Sb	06 36 53.6	+0.2
VRZ	Vera Road	0.86	77	P	Pg	06 36 49.4	-0.2
WAZ	Wanganui	1.09	113	P	Pb	06 36 53.3	-0.7
WAZ				P	Pb	06 36 53.3	-0.7
WAZ				S	Sn	06 37 09.5	-0.1
HIZ	Hauiti	1.23	49	P	Pn	06 36 54.9	-1.3
HIZ				P	Pn	06 36 54.9	-1.3
PKVZ	Pokaka	1.29	89	P	Pn	06 36 56.7	-0.5
MTVZ	Mangateitei	1.39	93	P	Pb	06 36 59.3	+0.3
TWVZ	Taurewa	1.39	80	P	Pn	06 36 57.5	-1.0
TRVZ	Turoa	1.45	89	P	Pn	06 36 59.3	-0.2
COVZ	Chateau Observ	1.45	85	P	Pn	06 36 59.2	-0.2
FWVZ	Far West T-bar	1.45	88	P	Pn	06 36 59.4	-0.1
WHVZ	Whangaehu Hut	1.48	89	P	Pn	06 36 59.9	0.0
DUWZ	D'Urville Isla	1.48	173	P	Pn	06 36 59.4	-0.3
WTVZ	West Tongariro	1.50	82	P	Pn	06 36 59.6	-0.4
NGZ	Ngauruhoe	1.50	85	P	Pn	06 36 59.7	-0.3
TUVZ	Tukino	1.53	88	P	Pn	06 37 01.0	+0.4
OHWZ	Ohakea	1.53	125	P	Pb	06 37 01.2	-0.3
KRVZ	Karewarewa	1.54	82	P	Pn	06 37 00.2	-0.5
KATZ	Kakaramea	1.60	78	P	Pn	06 37 01.2	-0.3
MOVZ	Moawhango	1.61	93	P	Pn	06 37 01.6	+0.1
RATZ	Rangitukua	1.69	75	P	Pn	06 37 02.4	-0.2
WATZ	Wairara	1.71	69	P	Pn	06 37 02.7	-0.2
RITZ	Rihia Road	1.73	79	P	Pb	06 37 04.2	-0.6
QRZ	Quartz Range	1.74	210	P	Pn	06 37 02.3	-0.9
TLZ	Tolley Road	1.76	56	P	Pn	06 37 02.7	-0.8
KIW	Kapiti Island	1.80	149	P	Pn	06 37 04.6	+0.5
BHHZ	Black Hill Sta	1.85	96	P	Pn	06 37 05.2	+0.4
KUTZ	Kaahu Road	1.87	64	P	Pn	06 37 05.1	0.0
OGWZ	Otaki Gorge	1.87	143	P	Pn	06 37 06.0	+0.9
NNZ	Nelson	1.90	187	P	Pn	06 37 05.4	-0.1
TSZ	Takapari Road	1.90	113	P	Pb	06 37 06.8	-1.0
POWZ	Post Office Ro	1.92	124	P	Pb	06 37 07.6	-0.6
TCW	Tory Channel	1.93	167	P	Pn	06 37 06.2	+0.3
MRZ	Mangatainoka R	1.97	133	P	Pb	06 37 07.8	-1.2
CAW	Cannon Point	2.07	150	P	Pn	06 37 08.7	+0.9
WPRZ	Whakapapatarin	2.10	68	P	Pn	06 37 07.8	-0.4
HOWZ	Holdsworth Sta	2.10	139	P	Pb	06 37 11.1	-0.2
TUWZ	Tuamarina	2.11	175	P	Pn	06 37 08.5	+0.2
KWHZ	Kaweka Forest	2.13	93	P	Pb	06 37 10.3	-1.3
GRRZ	Galatos Road	2.13	63	P	Pn	06 37 08.2	-0.5
TOZ	Tahuroa Road	2.14	42	P	Pn	06 37 08.0	-0.7
PRWZ	Pori Road	2.14	126	P	Pb	06 37 11.8	-0.1
DVHZ	Dannevirke	2.14	118	P	Pb	06 37 11.4	-0.6
MRHZ	Matea Rd	2.19	78	P	Pn	06 37 10.1	+0.7
BKZ	Black Stump Fm	2.19	87	P	Pn	06 37 10.6	+1.1
HRRZ	Handcock Road	2.24	66	P	Pg	06 37 15.5	-0.4
BHW	Baring Head	2.27	157	P	Pn	06 37 12.0	+1.5
UTU	Utuhina	2.28	60	P	Pn	06 37 10.3	-0.4
MTW	Mount Morrison	2.30	143	P	Pb	06 37 14.1	-0.4
KMRZ	Kaimai	2.31	51	P	Pn	06 37 10.7	-0.5
MCHZ	McNeill Hill	2.34	94	P	Pg	06 37 17.2	-0.7
AWAZ	Awhitu Peninsu	2.38	19	P	Pn	06 37 12.1	-0.1

BSWZ	Blackbirch Sta	2.39	177	P	Pn	06 37 13.3	+1.1
BFZ	Birch Farm	2.39	125	P	Pb	06 37 15.7	-0.4
MSWZ	Moikau Station	2.40	151	P	Pn	06 37 13.8	+1.4
ANWZ	Angora Road	2.43	119	P	Pb	06 37 18.0	+1.2
NMHZ	Naumai	2.44	86	P	Pb	06 37 18.2	+1.3
PAWZ	Paruwai Farm	2.44	148	P	Pb	06 37 16.0	-1.1
CMWZ	Cape Campbell	2.45	171	P	Pb	06 37 18.2	+1.1
TMWZ	Te Maipa	2.45	137	P	Pb	06 37 16.7	-0.5
PRHZ	Porangahau	2.46	113	P	Pb	06 37 17.7	+0.4
CPWZ	Castlepoint	2.49	130	P	Pb	06 37 19.2	+1.3
WTAZ	Waiatarua	2.49	17	P	Pn	06 37 14.2	+0.5
THZ	Tophouse	2.50	193	P	Pn	06 37 14.2	+0.3
MTHZ	Maungataniwha	2.50	80	P	Pb	06 37 17.8	-0.3
MKAZ	Moumakai	2.51	28	P	Pn	06 37 13.8	0.0
KAHZ	Kahuranaki	2.51	102	P	Pb	06 37 18.4	+0.1
PLWZ	Palliser	2.54	152	P	Pb	06 37 17.8	-0.9
PXZ	Pawanui	2.55	107	P	Pg	06 37 21.1	-0.8
ETAZ	East Tamaki Re	2.57	23	P	Pn	06 37 14.7	+0.1
TRWZ	Traveller	2.57	144	P	Pb	06 37 18.5	-0.7
WIAZ	Waiheke Island	2.78	25	P	Pn	06 37 17.8	+0.2
DSZ	Denniston Nort	2.81	210	P	Pn	06 37 18.0	0.0
URZ	Urewera	2.88	69	P	Pb	06 37 21.8	-2.8
KUZ	Kuaotunu	3.04	33	P	Pn	06 37 20.5	-0.7
KHZ	Kahutara	3.08	182	P	Pn	06 37 23.1	+1.3
MWZ	Matawai	3.16	73	P	Pb	06 37 26.2	-3.1
RUGZ	Raukumara Rang	3.41	68	P	Pb	06 37 30.4	-3.2
WCZ	Waipu Caves	3.43	9	P	Pn	06 37 26.7	+0.2
TWGZ	Tauwhareparae	3.55	72	P	Pb	06 37 32.2	-3.8
LTZ	Lake Taylor	3.61	197	P	Pn	06 37 30.7	+1.7
CNGZ	Carnagh Statio	3.63	78	P	Pn	06 37 28.2	-1.0
CNGZ				P	Pb	06 37 36.4	-0.8
INZ	Inchbonnie	3.79	206	P	Pn	06 37 31.6	+0.2
OUZ	Omahuta	4.10	359	P	Pn	06 37 36.4	+0.7

*NIED **10** 06:59:00, 30°.30N×129°.40E, h280^{km}, Mw4.2 Best double couple: $M_0$2.52000×10^{15} NP1:ϕ_s288.00000°, δ35.00000°, λ-140.00000°. NP2:ϕ_s163.00000°, δ68.00000°, λ-62.00000°.*
*ISCJB **10** 06:59:22.1±0.3, 30°.29N±0°.04×129°.23E±0°.09, h254^{km}±3^{km}, mb3.5/13, Error ellipse: s-maj=12.9km s-min=4.3km az=20.6*
*IDC **10** 06:59:22.6±0.7, 30°.33N×129°.14E, h242^{km}±7^{km}, mb3.3/13, mb1 3.5/20, mb1mx3.3/46, mbtmp4.0/20, Error ellipse: s-maj=14.2km s-min=7.0km az=98.0*
*JMA **10** 06:59:23.5±0.2, 30°.30N×129°.41E, h252^{km}±2^{km}, M3.9*
ISC 10 06:59:22.9±0.6**, 30°.30N**±0°.05×**129°.23E**±0°.09**, h251**^{km}±6^{km}**, n39, σ1^{s}37**/56**, mb3.6**/13**, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.72	129	P	Pn	06 59 57.3	+0.5
JNN				S	S	07 00 23.5	+0.2
JKC	Kuchinoerabu	0.85	79	P	Pn	06 59 57.9	+0.7
JKC				S	S	07 00 24.7	+0.5
JYAK	Yakushimahirau	1.11	93	P	Pn	06 59 58.2	-0.5
JYAK				S	S	07 00 24.0	-2.7
JTAJ	Takarajima	1.14	181	P	Pn	07 00 00.1	+1.2
JTAJ				S	S	07 00 28.9	+1.7
JSJ	Shimokoshiki	1.44	17	P	Pn	07 00 00.8	0.0
JSJ				eS	S	07 00 30.4	-0.4
JMTN	Minamitane	1.45	86	eS	S	07 00 29.1	-1.7
JTN	Tanegashima 3	1.55	76	P	Pn	07 00 01.5	-0.2
JTN				S	S	07 00 30.5	-1.7
JAM	Amami Oshima	1.91	170	P	Pn	07 00 05.4	+0.7
JAM				S	S	07 00 35.6	-2.1
JAMN	Amaminishikomi	2.05	181	P	Pn	07 00 06.8	+0.8
JAMN				S	S	07 00 38.9	-1.0
JZK	Kikaishima	2.08	162	P	Pn	07 00 08.8	+2.5
JZK				S	S	07 00 42.0	+1.5
JTZ	Takazaki	2.26	44	P	Pn	07 00 07.9	+0.1
JTZ				S	S	07 00 40.7	-2.6
JTK	Tokunoshima	2.52	186	P	Pn	07 00 11.2	+0.7
JTK				S	S	07 00 47.0	-1.0
JOKE	Okinoerabujima	2.98	191	P	Pn	07 00 15.7	+0.3
JOKE				S	S	07 00 55.5	-1.4
JNU	Nakatsue	3.15	26	P	Pn	07 00 17.4	+0.4
	26nm,0.3s,baz=193,slow=5.8,SNR=99						
JNU				S	S	07 00 59.3	-0.7
	7.2nm,0.3s,baz=317,slow=4.4,SNR=7.8						
JYRO	Yoronjima	3.33	192	P	Pn	07 00 19.0	-0.2
JYRO				S	S	07 01 01.5	-2.3
JIH	Iheya	3.44	199	P	Pn	07 00 20.3	0.0
JIH				S	S	07 01 03.7	-2.1
JOW	Kunigami	3.56	194	P	Pn	07 00 21.4	-0.4
	36nm,0.3s,baz=81,slow=18,SNR=75						
JOW				S	S	07 01 05.6	-2.7
	27nm,0.3s,baz=41,slow=7.0,SNR=9.7						
JOW	Kunigami	3.56	194	P	Pn	07 00 21.3	-0.4
JNTH	Nagotoyohara	3.91	196	S	S	07 01 13.2	-2.5
JKE	Kume jima 2	4.51	209	P	Pn	07 00 32.0	-0.8
KSRS	Korea Array	7.22	352	P	Pn	07 01 07.0	+0.7
	1.5nm,0.3s,baz=172,slow=13,SNR=20						
MAT	Matsushiro	9.75	48	P	P	07 01 41.3	-3.1
MJAR	Matsushiro Arr	9.75	48	P	Pn	07 01 40.2	+2.0
	0.8nm,0.3s,baz=239,slow=13,SNR=5.3						
USRK	Ussuriysk Ar.	14.05	8	P	P	07 02 32.8	+0.8
	0.2nm,0.3s,baz=194,slow=12,SNR=3.6						
ASAJ	Asahikawa	17.39	34	P	P	07 03 08.1	-0.7
	0.7nm,0.3s,baz=360,slow=19,SNR=2.8						
KLR	Kul'dur	19.00	5	P	P	07 03 25.1	-1.0
	0.4nm,0.3s,baz=198,slow=5.9,SNR=14						
SONM	Songino Array	24.77	321	P	P	07 04 23.0	+1.0
	0.2nm,0.3s,baz=128,slow=9.3,SNR=2.5						
CMAR	Chiang Mai Arr	29.90	254	P	P	07 05 09.2	+1.4
	1.2nm,0.4s,baz=56,slow=8.0,SNR=4.4						
MKAR	Makanchi Array	39.60	308	P	P	07 06 31.3	+1.1
	0.3nm,0.7s,baz=96,slow=11,SNR=3.6						
KURBB	Kurchatov Arra	42.62	313	P	P	07 06 53.8	-0.7
	0.4nm,0.6s,baz=101,slow=8.6,SNR=3.5						
WRA	Warramunga Arr	50.19	174	P	P	07 07 54.6	+1.1
	1.1nm,0.5s,baz=353,slow=6.9,SNR=22						
WRA				PcP	PcP	07 09 08.9	0.0
	0.2nm,0.6s,baz=341,slow=4.5,SNR=3.0						
ASAR	Alice Springs	53.84	175	P	P	07 08 21.8	+1.5
	2.1nm,0.7s,baz=2.9,slow=14,SNR=30						
ILAR	Eielson Array	60.46	29	P	P	07 09 05.9	-0.1
	0.8nm,0.7s,baz=270,slow=5.9,SNR=14						
STKA	Stephens Creek	62.94	168	P	P	07 09 24.1	+1.3
	3.2nm,0.7s,baz=346,slow=9.7,SNR=6.8						
FINES	FINESS Array B	69.78	330	P	P	07 10 05.5	-0.2
	1.6nm,0.4s,baz=66,slow=6.2,SNR=19						
AKASG	Malin Array Be	73.03	319	P	P	07 10 24.7	-0.6
	0.8nm,0.4s,baz=58,slow=6.4,SNR=4.2						
YKA	Yellowknife Ar	74.48	26	P	P	07 10 34.1	+0.6
	0.8nm,0.7s,baz=305,slow=5.8,SNR=14						
BRTR	Keskin Array B	75.25	307	P	P	07 10 38.0	-0.6
	1.4nm,0.8s,baz=74,slow=4.4,SNR=5.3						
NOA	NORSAR Array B	76.06	334	P	P	07 10 41.5	-1.1
	0.7nm,0.8s,baz=31,slow=2.8,SNR=3.6						

*SOME **10** 07:46:24.0, 42°.30N×81°.05E, h5^{km}*
*NNC **10** 07:46:24.6±1.3, 42°.32N×81°.11E, h0^{km}, mb3.5, mpv3.2, Error ellipse: s-maj=8.5km s-min=6.7km az=159.0*
ISC 10 07:46:27.9±2.3**, 42°.40N**±0°.08×**80°.86E**±0°.07**, h16**^{km}±11^{km}**, n37, σ1^{s}88**/55**, 11C-8D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	1.11	341	P	Pn	07 46 48.1	-0.9
	14nm,0.2s						
KTMS				S	Sn	07 47 05.5	+1.4
	38nm,0.1s						
KTMS	Ketmen	1.11	341	eP	Pn	07 46 48.1	-0.9
	12nm,0.2s						
KTMS				eS	Sn	07 47 05.8	+1.6
	50nm,0.3s						
SHLS	Shalkode	1.28	307	P	Pn	07 46 48.1	-3.2
SHLS				S	Sb	07 47 06.2	-1.8
	33nm,0.2s						
SHLS	Shalkode	1.28	307	eP	Pn	07 46 48.0	-3.2
	27nm,0.3s						
SHLS				eS	Sb	07 47 05.6	-2.4
	147nm,0.4s						
PDGK	Podgornoye	1.37	313	P	Pg	07 46 53.4	-0.9
	5.6nm,0.2s						
PDGK				S	Sg	07 47 14.3	+2.2
	29nm,0.3s						
PDGK	Podgornoye	1.37	313	⇑P	Pg	07 46 53.4	-0.9
	4.9nm,0.4s						
PDGK				⇑S	Sg	07 47 15.7	+3.5
	23nm,0.3s						
UZB	Uzynbulak	1.54	300	P	Pg	07 46 56.6	-1.0
	14nm,0.3s						
UZB				S	Sg	07 47 19.8	+2.1
	53nm,0.2s						
UZB	Uzynbulak	1.54	300	eP	Pg	07 46 56.6	-1.0
	14nm,0.3s						
UZB				eS	Sg	07 47 19.8	+2.1
	53nm,0.2s						
SATY	Saty	1.92	291	eP	Pg	07 47 03.9	-0.9
	27nm,0.5s						
SATY				eS	Sg	07 47 32.8	+3.0
	120nm,0.5s						
DJR	Jarkent	2.08	338	eP	Pg	07 47 05.2	-2.7
	2.5nm,0.5s						
DJR				eS	Sg	07 47 34.5	-0.5
	33nm,0.4s						
KURS	Kuram	2.25	300	eP	Pg	07 47 09.4	-1.7
	10nm,0.6s						
KURS				eS	Sg	07 47 42.2	+1.8
	21nm,0.7s						
MNBS	Baschi	2.46	314	Pg	Pb	07 47 12.7	+0.9
	6.2nm,0.2s						
MNBS				Lg	Lg	07 47 47.5	
	55nm,0.3s						
MNBS	Baschi	2.46	314	eP	Pb	07 47 12.7	+0.9
	6.2nm,0.2s						
MNBS				eS	Sg	07 47 47.4	+0.5
	55nm,0.3s						
ARXS	Arharly	2.86	310	Pg	Pb	07 47 20.0	+1.3
	4.4nm,0.6s						
ARXS				Lg	Lg	07 47 59.9	
	50nm,0.4s						
ARXS	Arharly	2.86	310	eP	Pb	07 47 19.8	+1.2
	3.5nm,0.6s						
ARXS				eS	Sg	07 48 00.1	+0.3
	50nm,0.4s						
KOTS	Kotyrbulak	2.88	288	Pg	Pb	07 47 20.2	+1.2
	6.0nm,0.7s						
KOTS				Lg	Lg	07 48 00.8	
	66nm,0.5s						
KOTS	Kotyrbulak	2.88	288	eP	Pb	07 47 20.2	+1.2
	6.0nm,0.7s						
KOTS				eS	Sg	07 48 00.8	+0.4
	66nm,0.5s						
MDOK	Medeo	2.91	287	⇑Pg	Pb	07 47 20.3	+0.8
	7.4nm,0.4s						
MDOK				⇑Lg	Lg	07 48 01.7	
	14nm,0.6s						
MDOK	Medeo	2.91	287	eP	Pb	07 47 20.3	+0.8
	5.7nm,0.4s						
MDOK				eS	Sg	07 48 00.8	-0.5
	22nm,0.6s						
TNSS	Tian-Shan	2.95	284	eP	Pb	07 47 21.2	+0.8
	10nm,0.5s						
TNSS				eS	Sg	07 48 02.4	-0.4
	27nm,0.5s						
CHKK	Chushkaly	3.18	298	eP	Pb	07 47 25.6	+1.5
	0.5nm,0.1s						
CHKK				eS	Sg	07 48 09.7	-0.5
	20nm,0.3s						
IZV	Izvestkoviy	3.19	283	Pg	Pb	07 47 24.8	+0.4
	13nm,0.5s						
IZV				Lg	Lg	07 48 09.1	
	32nm,0.6s						
IZV	Izvestkoviy	3.19	283	eP	Pb	07 47 24.8	+0.4
	13nm,0.5s						
IZV				eS	Sb	07 48 08.5	+5.4
	32nm,0.6s						
KTBS	Karatobe	3.33	295	Pg	Pb	07 47 28.8	+2.1
	6.4nm,0.8s						
KTBS				Lg	Lg	07 48 15.1	
	42nm,0.6s						
KTBS	Karatobe	3.33	295	eP	Pb	07 47 28.5	+1.9
	1.0nm,0.2s						
KTBS				eS	Sg	07 48 15.1	+0.2
	42nm,0.6s						
KUU	Kurty	3.63	296	eP	Pb	07 47 32.7	+1.0
KUU				eS	Sg	07 48 22.1	-2.3
DGS	Degeres	3.83	284	Pg	Pb	07 47 36.7	+1.4
	4.6nm,0.4s						
DGS				Lg	Lg	07 48 28.6	
	12nm,0.5s						
DGS	Degeres	3.83	284	eP	Pb	07 47 36.7	+1.4
	1.7nm,0.3s						
DGS				eS	Sg	07 48 28.6	-2.4
	12nm,0.5s						
TKM2	Tokmak 2	3.92	279	⇑Pg	Pg	07 47 40.0	-2.9
	1.8nm,0.4s						
TKM2				⇑Lg	Lg	07 48 36.1	
	6.3nm,0.5s						
MAKZ	Makanchi	4.48	10	⇑Pn	Pn	07 47 36.3	+1.1
	1.7nm,0.5s						
MAKZ				⇓Sn	Sn	07 48 25.7	-1.3
	2.3nm,0.7s						
MAKZ				⇓Lg	Lg	07 48 47.2	
	2.3nm,0.5s						
MK31	Makanchi Array	4.51	13	⇓Pn	Pn	07 47 36.6	+0.9
	0.1nm,0.2s,baz=197,slow=13,SNR=39						
MK31				⇑Pg	Pb	07 47 47.3	+0.6
	0.7nm,0.3s,baz=186,slow=16,SNR=8.3						
MK31				⇑Lg	Lg	07 48 49.4	
	1.9nm,0.3s,baz=190,slow=28,SNR=12						
AAK	Ala-Archa	4.71	275	⇓Pg	Pb	07 47 53.8	+3.6
	1.7nm,0.5s						
AAK				⇓Lg	Lg	07 48 58.3	
	4.2nm,0.6s						
SFK	Sufi-Kurgan	6.04	249	⇓Lg	Lg	07 49 43.0	
	0.9nm,0.2s						
KK31	Karatay Array	7.65	279	⇑Lg	Lg	07 50 35.9	
	0.7nm,0.5s,baz=92,slow=25,SNR=4.3						
OTUK	Ortayu	8.38	317	⇓Lg	Lg	07 50 59.7	
	1.3nm,0.6s						
KURBB	Kurchatov Arra	8.38	350	⇓Lg	Lg	07 50 51.2	
	2.1nm,0.7s						
KURK	Kurchatov	8.46	350	⇑Lg	Lg	07 50 54.6	
	2.9nm,0.7s						

*SJA **10** 07:46:29.0±0.4, 34°.34S×73°.30W, h44^{km}±8^{km}, ML3.5, MW3.5*
*GUC **10** 07:46:38.3±0.7, 34°.18S×72°.37W, h32^{km}±5^{km}, ML3.3*
ISC 10 07:46:37.3±3.5**, 34°.24S**±0°.05×**72°.5W**±0°.1**, h28**^{km}±23^{km}**, n16, σ1^{s}71**/25**, 1C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	Huala	0.92	148⇑	eP	Pn	07 46 54.3	0.0
GO05				i S	Sn	07 47 06.0	-0.5
GO05				IAML		07 47 07.9	
	comp=E,1μm,0.4s						
ROC1	El Roble	1.78	45	eP	Pn	07 47 07.3	+1.0
ROCH	El Roble	1.78	45	eP	Pn	07 47 06.0	-0.4
ROCH				eS	Sn	07 47 27.3	-1.0
ROCH				IAML		07 47 35.8	
	comp=N,728nm,0.4s						
PEL	Peldehue	1.88	55	eP	Pn	07 47 09.0	+1.4
PEL	Peldehue	1.88	55	eP	Pn	07 47 07.1	-0.4
PEL				eS	Sn	07 47 29.8	-0.6
PEL				IAML		07 47 37.2	
	comp=N,607nm,0.7s						
LMEL	Las Melosas	1.96	79	eP	Pn	07 47 08.3	-0.6
LMEL				eS	Sn	07 47 31.4	-1.2
FCH	Farellones	2.07	65	eP	Pn	07 47 09.3	-1.1
FCH				eS	Sn	07 47 33.9	-1.5
FCH				IAML		07 47 42.7	
	comp=N,484nm,0.4s						
AAGR	Agrelo	3.29	71	eP	Pn	07 47 30.0	+3.0
ARCO	CERRO ARCO	3.31	66	eP	Pn	07 47 29.8	+2.5
ARCO				IAML		07 47 49.8	
	comp=Z,73nm,0.4s						
ARCO				eS	Sb	07 48 15.1	0.0
AUSP	Uspallata	3.31	54	eP	Pn	07 47 29.8	+2.3
AUSP				eS	Sb	07 48 14.7	-0.7
CMCH	Combarbala	3.31	23	eP	Pn	07 47 27.5	+0.2
CMCH				eS	Sn	07 48 04.1	-1.7
ASAL	Salagasta	3.49	63	eP	Pn	07 47 32.4	+2.6
ASAL				eS	Sb	07 48 19.2	-1.3
RTLS	Leoncito	3.64	49	eP	Pn	07 47 34.3	+2.3
RTLS				IAML		07 48 38.6	
	comp=Z,60nm,0.6s						
RTCV	Cerro Valdivia	4.10	56	eP	Pn	07 47 40.3	+2.2
AMOG	MOGNA	4.73	47	eP	Pn	07 47 48.6	+1.8
ACAN	Cantantal	4.88	68	eP	Pn	07 47 51.2	+2.4

MEX 10 08:03:34.6±0.4**, 13°.71N**×**92°.72W, h28**^{km}±32^{km}**, MD3.9, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.27	20	eP	Pn	08 03 54.4	-2.1
THIG				i S	Sn	08 04 09.3	-3.3
PCIG		2.04	346	eP	Pn	08 04 05.2	-1.9
PCIG				i S	Sn	08 04 28.8	-2.9
CCIG	Comitan	2.62	12	i P	Pn	08 04 14.1	-1.1
CCIG				eP	Pb	08 04 16.5	-4.4
CCIG				eS	Sn	08 04 43.3	-2.9
TGIG		3.08	353	eP	Pn	08 04 20.0	-1.5
TGIG				i S	Sn	08 04 55.0	-2.3

*IDC **10** 08:07:22.3±0.8, 2°.79S×139°.04E, h0^{km}, mb4.0/6, mb1 4.2/9, mb1mx4.0/31, mbtmp4.0/9, ML3.6/2, MS3.3/12, Ms1 3.3/12, ms1mx3.1/28, Error ellipse: s-maj=17.9km s-min=13.0km az=163.0*
*ISCJB **10** 08:07:26.7±0.5, 2°.95S±0°.05×139°.04E±0°.06, h46^{km}, mb4.0/6, MS3.7/7, Error ellipse: s-maj=8.9km s-min=6.8km az=0.9*
*NEIC **10** 08:07:27.9±1.0, 2°.87S×139°.07E, h38^{km}±10^{km}, mb4.2/5, Error ellipse: s-maj=9.4km s-min=8.3km az=120.0*
ISC 10 08:07:28.7±0.7**, 2°.95S**±0°.07×**139°.06E**±0°.08**, h46**^{km}**, n32, σ1^{s}72**/28**, mb4.0**/6**, MS3.5**/7**, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	1.70	75	Pg	Pn	08 07 54.0	-1.9
	27nm,0.3s,baz=241,slow=9.7,SNR=40						
JAY				Lg	Lg	08 08 14.9	
	24nm,0.3s,baz=258,slow=21,SNR=8.6						
JAY				LR	LR	08 08 43.2	
	comp=Z,376nm,22.0s,baz=11,slow=48						
FAKI	Fak Fak	6.80	270	ePn	Pn	08 09 06.0	+0.1
SIJI	Sorong	8.06	285	Pn	Pn	08 09 23.1	-0.1
	4.3nm,0.3s,baz=22,slow=21,SNR=5.7						
SIJI				LR	LR	08 13 31.6	
	comp=Z,86nm,19.6s,baz=103,slow=46						
PMG	Port Moresby	10.29	129	Pn	Pn	08 09 54.9	+1.0
	0.6nm,0.3s,baz=303,slow=17,SNR=1.6						
PMG				LR	LR	08 15 22.6	
	comp=Z,70nm,18.4s,baz=294,slow=46						
COEN	Coen	11.67	160	ePn	Pn	08 10 14.1	+1.4
SOEI	Soe	16.17	245	ePn	Pn	08 11 12.7	-0.4
	47nm,0.9s						
DAV	Davao City (W)	16.73	307	LR	LR	08 17 07.3	
	comp=Z,36nm,21.6s,baz=146,slow=35						
GUMO	Guam	17.41	19	LR	LR	08 16 32.4	
	comp=Z,113nm,21.3s,baz=162,slow=32						
WRAB	Tennant Creek	17.50	195	ePn	P	08 11 30.5	+0.4
	13nm,0.8s						
WB2	Warramunga Arr	17.50	195	ePn	Pn	08 11 28.9	-0.6
WR1	Warramunga Arr	17.51	195	ePn	Pn	08 11 29.0	-0.5
	13nm,0.7s						
WR1				eSn	Sn	08 14 39.1	-4.7
WRA	Warramunga Arr	17.51	195	P	Pn	08 11 29.0	-0.6
	0.2nm,0.3s,baz=9.6,slow=13,SNR=14						
WRA				S	Sn	08 14 39.1	-4.7
	0.1nm,0.3s,baz=11,slow=22,SNR=3.4						
WRA				LR	LR	08 18 52.8	
	comp=Z,263nm,18.8s,baz=10.0,slow=39						
CTA	Charters Tower	18.43	158	P	P	08 11 40.9	+0.6
	0.2nm,0.3s,baz=348,slow=8.7,SNR=2.5						
FITZ	Fitzroy Crossi	19.99	220	P	P	08 11 58.2	+0.8
	5.1nm,0.8s,baz=66,slow=12,SNR=4.5						
FITZ				LR	LR	08 20 22.6	
	comp=Z,132nm,20.2s,baz=24,slow=39						
FITZ	Fitzroy Crossi	19.99	220	eP	Pn	08 11 58.7	-0.8
	14nm,1.0s						
AS01	Alice Springs	21.18	193	eP	P	08 12 11.1	+0.7
AS31	Alice Springs	21.19	193	eP	P	08 12 09.9	-0.6
	5.5nm,0.9s						
ASAR	Alice Springs	21.19	193	P	P	08 12 11.1	+0.6
	9.4nm,0.9s,baz=21,slow=9.0,SNR=36						
ASAR				S	S	08 16 06.2	+2.4
	0.9nm,1.0s,baz=16,slow=19,SNR=3.9						
ASAR				LR	LR	08 20 57.1	
	comp=Z,170nm,18.1s,baz=35,slow=38						
MBWA	Marble Bar	26.11	225	eP	P	08 13 01.4	+3.0
STKA	Stephens Creek	28.88	176	LR	LR	08 25 51.4	
	comp=Z,164nm,19.0s,baz=18,slow=38						
KSRS	Korea Array	41.51	347	LR	LR	08 28 59.1	
	comp=Z,22nm,21.9s,baz=150,slow=31						
RAO	Raoul Island	48.48	127	LR	LR	08 34 42.3	
	comp=Z,3μm,19.0s,baz=22,slow=34						
KLR	Kul'dur	52.35	354	P	P	08 16 35.1	-0.9
	2.2nm,0.6s,baz=166,slow=8.2,SNR=12						
PETK	Petropavlovsk-	58.01	13	LR	LR	08 38 46.1	
	comp=Z,15nm,21.9s,baz=179,slow=33						
SONM	Songino Array	58.08	335	LR	LR	08 41 20.7	
	comp=Z,36nm,20.5s,baz=1.5,slow=35						
MK01	Makanchi Array	70.17	322	eP	P	08 18 36.9	+0.3
MK32	Makanchi Array	70.19	322	eP	P	08 18 36.5	-0.3
MKAR	Makanchi Array	70.19	322	P	P	08 18 36.5	-0.3
	0.5nm,0.4s,baz=97,slow=8.1,SNR=15						
VNDA	Vanda	75.51	175	P	P	08 19 08.4	+0.6
	1.8nm,0.8s,baz=320,slow=4.3,SNR=7.1						
VNDA				LR	LR	08 51 51.4	
	comp=Z,60nm,18.1s,baz=214,slow=35						
VNDA	Vanda	75.51	175	eP	P	08 19 09.3	+1.5
ILAR	Eielson Array	85.91	24	P	P	08 20 02.5	-1.0
	0.7nm,0.8s,baz=265,slow=4.8,SNR=8.4						
LPAZ	La Paz	147.02	126	PKPbc	PKPbc	08 27 08.8	+0.6
	0.5nm,0.6s,baz=276,slow=1.6,SNR=4.0						

IDC 10 08:30:42.6±10.0**, 22°.46S**×**176°.81W, h394**^{km}±69^{km}**, mb3.0**/3**, mb1 3.3**/5**, mb1mx3.1**/22**, mbtmp4.1**/5**, Error ellipse: s-maj=137.6km s-min=39.1km az=68.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.51	268	P	P	08 34 01.1	+0.1
	0.4nm,0.3s,baz=92,slow=17,SNR=9.2						
URZ	Urewera	16.59	197	P	P	08 34 12.1	-0.1
	1.5nm,0.3s,baz=52,slow=12,SNR=13						
URZ				S	S	08 37 05.4	-0.4
	0.8nm,0.3s,baz=334,slow=23,SNR=6.9						
STKA	Stephens Creek	37.98	247	P	P	08 37 24.6	-0.1
	0.8nm,0.4s,baz=104,slow=8.3,SNR=5.9						
ASAR	Alice Springs	45.18	258	P	P	08 38 22.7	+0.2
	1.2nm,0.6s,baz=100,slow=7.3,SNR=24						
WRA	Warramunga Arr	45.46	264	P	P	08 38 24.1	-0.6
	0.2nm,0.4s,baz=93,slow=8.4,SNR=8.1						

*NIED **10** 08:54:00, 33°.50N×140°.90E, h68^{km}, Mw3.9 Best double couple: $M_0$7.01000×10^{14} NP1:ϕ_s316.00000°, δ43.00000°, λ45.00000°. NP2:ϕ_s189.00000°, δ61.00000°, λ123.00000°.*
*ISCJB **10** 08:54:12.9±0.8, 33°.47N±0°.04×140°.89E±0°.08, h65^{km}±8^{km}, Error ellipse: s-maj=11.4km s-min=6.3km az=0.5*
*JMA **10** 08:54:13.3±0.1, 33°.50N×140°.89E, h60^{km}±4^{km}, M3.6*
*IDC **10** 08:54:13.7±3.6, 33°.40N×140°.90E, h54^{km}±27^{km}, mb3.7/3, mb1 3.9/6, mb1mx3.3/49, mbtmp3.9/6, ML3.4/3, MS2.6/4, Ms1 2.7/4, ms1mx2.4/42, Error ellipse: s-maj=39.5km s-min=12.2km az=84.0*
ISC 10 08:54:13.6±1.7**, 33°.46N**±0°.05×**140°.9E**±0°.1**, h53**^{km}±16^{km}**, n30, σ0^{s}92**/33**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.99	250	P	Pn	08 54 31.3	0.0
JHJ2				S	Sn	08 54 44.3	-0.1
JHJ	Hachijo jima 2	1.02	251	P	Pn	08 54 30.9	-0.7
	995nm,0.3s,baz=157,slow=23,SNR=186						
JHJ				S	Sn	08 54 44.2	-0.7
	279nm,0.3s,baz=72,slow=22,SNR=6.3						
JHCJ	Hachijojimakas	1.02	248	P	Pn	08 54 31.5	-0.2
JHCJ				S	Sn	08 54 44.7	-0.4
BSO1	Boso 1	1.19	2	P	Pn	08 54 33.7	+0.3
JMKN	Mikurajimanish	1.19	291	P	Pn	08 54 33.6	-0.4
JMKN				eS	Sn	08 54 48.8	-0.4
BSO3	Boso 3	1.38	346	P	Pn	08 54 36.3	0.0
JAOM	Aogashimamukai	1.40	225	P	Pn	08 54 36.7	-0.1
BSO4	Boso 4	1.60	342	P	Pn	08 54 39.6	+0.2
JKO	Kozu shima	1.66	296	P	Pn	08 54 40.2	-0.1
JKO				eS	Sn	08 55 00.3	-0.1
JTHY	Toshimahigashi	1.73	308	P	Pn	08 54 41.1	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JTHY				eS	Sn	08 55 01.2	-0.9
JIM2	Oshima 3	1.76	316	P	Pn	08 54 41.1	-0.7
JIZS	Izushimoda	2.11	307	P	Pn	08 54 46.7	+0.2
JIZS				eS	Sn	08 55 11.2	-0.4
JOD2	Odawara 2	2.35	320	P	Pn	08 54 49.3	-0.5
JOD2				eS	Sn	08 55 15.5	-2.1
TK02	Tokai 2	2.69	281	P	Pn	08 54 54.8	+0.6
JYN	Shimob	2.83	317	P	Pn	08 54 57.5	+1.1
MJAR	Matsushiro Arr	3.80	325	P	Pn	08 55 09.8	+0.2
	6.9nm,0.3s,baz=163,slow=13,SNR=16						
MJAR				S	Sn	08 55 52.9	-0.1
	3.6nm,0.3s,baz=191,slow=29,SNR=6.1						
MJAR				LR	LR	08 56 49.3	
	comp=Z,44nm,21.0s,baz=80,slow=41						
MAT	Matsushiro	3.80	325	P	Pn	08 55 10.4	+0.8
MAT				S	Sn	08 55 51.9	-1.1
JNU	Nakatsue	8.42	270	P	Pn	08 56 14.4	+1.4
	0.4nm,0.3s,baz=194,slow=4.2,SNR=3.2						
JNU				LR	LR	08 59 13.2	
	comp=Z,39nm,19.7s,baz=130,slow=36						
KSRS	Korea Array	11.33	294	P	Pn	08 56 55.0	+2.3
	0.2nm,0.3s,baz=106,slow=13,SNR=2.8						
KSRS				LR	LR	09 01 23.1	
	comp=Z,30nm,19.4s,baz=126,slow=38						
H11N2	WAKE ISLAND Hy	26.86	114	T	T	09 27 14.5	
	baz=311						
H11N1	WAKE ISLAND Hy	26.86	114	T	T	09 27 16.4	
	baz=311						
H11N3	WAKE ISLAND Hy	26.88	114	T	T	09 27 17.4	
	baz=311						
H11S3	WAKE ISLAND Hy	27.44	116	T	T	09 28 01.8	
	baz=312						
H11S1	WAKE ISLAND Hy	27.44	116	T	T	09 28 05.3	
	baz=312						
H11S2	WAKE ISLAND Hy	27.45	116	T	T	09 28 10.1	
	baz=312						
CMAR	Chiang Mai Arr	40.31	259	LR	LR	09 18 29.6	
	comp=Z,20nm,18.4s,baz=166,slow=36						
MKAR	Makanchi Array	45.76	305	P	P	09 02 28.6	-1.1
	0.3nm,0.6s,baz=90,slow=9.1,SNR=3.6						
KURBB	Kurchatov Arra	47.95	311	P	P	09 02 48.6	+1.9
	baz=89,slow=7.3						
WRA	Warramunga Arr	53.48	188	P	P	09 03 27.6	-0.9
	5.3nm,0.6s,baz=5.5,slow=7.6,SNR=62						
ASAR	Alice Springs	57.20	188	P	P	09 03 54.7	-0.6
	0.9nm,0.5s,baz=3.9,slow=6.6,SNR=25						

UCR 10 09:08:09.9±1.9**, 9.50N×83.60W, h17km**±4km**, MD4.1, 1C, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EDLM	Las Mercedes	0.22	178	eP	Pb	09 08 15.4	-0.1
EDLM				eS	Sb	09 08 19.6	+0.4
EDDO	Dominical	0.36	227	eP	Pg	09 08 17.4	0.0
EDDO				eS	Sb	09 08 23.3	+0.2
URSC	Urasca	0.38	332	eP	Pb	09 08 18.2	0.0
DRK0	Durika	0.42	124	eP	Pg	09 08 18.3	-0.3
EDBA	Buenos Aires	0.46	136	eP	Pg	09 08 18.5	-0.8
LCR2	La Lucha 2	0.47	301	eP	Pg	09 08 19.2	-0.3
LCR2				eS	Sg	09 08 26.2	+0.3
EDPN	Palmar Norte	0.55	165	eP	Pg	09 08 20.6	-0.3
EDPN				eS	Sb	09 08 29.2	+0.5
SJS	Escuela Geolog	0.63	314	eP	Pg	09 08 22.4	0.0
HDC	Heredia	0.71	315	eP	Pb	09 08 23.3	-0.7
HDC				eS	Sb	09 08 33.9	+0.4
EDSV	San Vito	0.92	137	eP	Pb	09 08 27.1	-0.2
EDSV				eS	Sn	09 08 41.3	+0.4
PTJ1	Puerto Jimnez	1.00	163	eP	Pb	09 08 26.9	-1.9
PTJ1				eS	Sb	09 08 40.9	-0.8
SRA1	San Ramn	1.05	304	eP	Pb	09 08 28.5	-1.2
BRU2	Volcan	1.14	128	⇑iP	Pn	09 08 30.1	-1.1
BRU2				eS	Sb	09 08 45.6	-0.2
FORC	Fortuna	1.43	312	iP	Pn	09 08 35.5	+0.4
FORC				iS	Sb	09 08 54.5	+0.5
CASO	Castillo	1.45	310	iP	Pn	09 08 35.8	+0.3
ARE1	Arenal 1	1.46	311	eP	Pn	09 08 35.7	+0.2
CEDE	Laguna Cedeo	1.47	312	eP	Pb	09 08 36.2	-0.6
JTS	JuntasAbangare	1.55	301	eP	Pn	09 08 36.0	-0.8
JTS				eS	Sn	09 08 55.0	-1.5
ACAL	Aguas Claras	1.81	309	iP	Pn	09 08 40.9	+0.6
CUI	Cuipilapa	1.93	307	eP	Pn	09 08 42.7	+0.8
MESS	Mesas	2.00	308	iP	Pb	09 08 44.5	-1.4
AZU	Azuero	3.70	117	eP	Pn	09 09 08.1	+1.8
AZU				eS	Sn	09 09 50.5	+1.0
BCIP	Isla Barro Col	3.73	95	eP	Pn	09 09 06.2	-0.5
BCIP				eS	Sn	09 09 49.7	-0.4
UPA	Univ. de Panam	4.04	97	eP	Pn	09 09 11.4	+0.4
UPA				eS	Sn	09 09 57.6	-0.5

NEIC 10 09:19:03.6±0.0**, 61.53N×147.81W, h30km, MW3.7, ML3.6**(AEIC)**, Moment Tensor Solution. s18 Moment tensor: Scale** 10[14]**Nm;** Mrr-4.12; Mθθ1.01; Mφφ3.11; Mrθ2.48; Mθφ1.66; Mφr1.68; **Best double couple:** M0 5.00000×10[14] **NP1:**φs224.00000°, δ63.00000°, λ-77.00000°. **NP2:**φs16.00000°, δ30.00000°, λ-114.00000°. **Principal axes:** T 4.8500, Plg17.0000°, Azm304.0000°; N 0.3800, Plg12.0000°, Azm38.0000°; P -5.2300, Plg69.0000°, Azm160.0000°; **After AEIC. Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNK	Knik Glacier	0.33	249	ePg	Pb	09 19 10.6	-0.9
KNK				ePg	Pn	09 19 10.8	-1.7
KNK				e		09 19 16.8	
KNK				eSg	Sb	09 19 17.0	+0.2
KNK				eSg	Sn	09 19 17.1	-1.2
SML	Sawmill	0.37	318	ePg	Pb	09 19 11.0	-1.0
SML				eSg	Sb	09 19 17.4	-0.5
SML				eSg	Sn	09 19 17.7	-1.6
SCM	Sheep Creek Mo	0.38	37	ePg	Pb	09 19 11.4	-0.8
SCM				e		09 19 17.7	
SCM				eSg	Sb	09 19 18.2	+0.2
GHO	Glory Hole Cre	0.58	295	ePg	Pb	09 19 13.9	-1.6
GHO				ePg	Pn	09 19 14.0	-2.0
GHO				ePn	Pn	09 19 22.2	+6.2
GHO				eSn	Sb	09 19 22.7	-0.8
PMR	Palmer	0.64	276	ePg	Pb	09 19 14.6	-1.6
PMR				eSn	Sb	09 19 23.6	-1.1
GLI	Glacier Island	0.74	152	ePg	Pb	09 19 16.2	-1.8
GLI				eSg	Sb	09 19 27.1	-0.7
JPK	Jack Peak	0.76	129	ePg	Pb	09 19 16.4	-1.8
VMT	TAPS Tl Valdez	0.83	122	ePn	Pn	09 19 17.1	-2.1
KLU	Klutina	0.91	92	ePn	Pn	09 19 18.4	-2.0
KLU				eSn	Sn	09 19 29.4	-3.1
RC01	Rabbit Creek A	1.03	245	ePn	Pn	09 19 21.2	-0.8
RC01				eSn	Sn	09 19 34.8	-0.6
DIV	Divide	1.06	112	ePn	Pn	09 19 20.4	-2.1
DIV				eSn	Sn	09 19 34.0	-2.4
PS11	TAPS Pump St11	1.24	63	ePn	Pn	09 19 24.2	-0.6
PS12	TAPS Pump St12	1.28	91	ePn	Pn	09 19 23.7	-1.7
EYAK	Cordova Ski Ar	1.41	134	ePn	Pn	09 19 27.0	-0.2
EYAK				eSn	Sn	09 19 45.2	+0.5
SUA	Susitna One	1.41	268	ePn	Pn	09 19 26.6	-0.8
SUA				eSn	Sn	09 19 45.2	+0.3
HARP	HAARP	1.53	54	ePn	Pn	09 19 28.5	-0.4
HARP				eSn	Sb	09 19 49.1	-1.2
DHY	Denali Highway	1.56	7	ePn	Pn	09 19 28.5	-1.0
DHY				eSn	Sn	09 19 48.5	-0.3
SGAM	Sherman Glacie	1.64	128	ePn	Pn	09 19 29.7	-0.7
SEW	Seward	1.64	210	ePn	Pn	09 19 29.9	-0.5
SEW				eSn	Sn	09 19 50.6	+0.1
BMRM	Bremner River	1.65	109	ePn	Pn	09 19 29.7	-0.9
BMRM				eSn	Sn	09 19 50.9	0.0
HUR	Hurricane	1.68	330	ePn	Pn	09 19 30.5	-0.5
PAX	Paxson	1.81	36	ePn	Pn	09 19 32.5	-0.3
PAX				eSn	Sn	09 19 55.2	+0.4
NKA	Nikishka	1.84	246	ePn	Pn	09 19 34.8	+1.6
RND	Reindeer	1.94	346	ePn	Pn	09 19 34.1	-0.5
RND				eSn	Sn	09 19 59.4	+1.3
HMT	Hamilton	2.11	123	ePn	Pn	09 19 35.9	-0.9
HMT				ePn	Pn	09 19 36.3	-0.6
PS10	TAPS Pump St10	2.12	26	ePn	Pn	09 19 37.0	-0.1
CKT	Bend	2.14	263	ePn	Pn	09 19 36.8	-0.6
MID	Middleton Isla	2.23	160	ePn	Pn	09 19 39.9	+1.4
TRF	Thorofare Moun	2.24	330	ePn	Pn	09 19 38.5	-0.3
MCK	McKinley	2.27	347	ePn	Pn	09 19 39.2	+0.2
MCK				eSn	Sn	09 20 05.0	-1.0
NICHA	Nichawak Mount	2.29	123	P	Pn	09 19 38.5	-0.8
SPWE	Spurr West	2.30	266	P	Pn	09 19 39.2	-0.3
BRLK	Bradley Lake	2.33	222	ePn	Pn	09 19 39.2	-0.7
BRLK				ePn	Pn	09 19 39.5	-0.5
BRLK				eSn	Sn	09 20 06.2	-1.4
SPNN	North Nagishla	2.35	268	ePn	Pn	09 19 40.0	-0.4
RDT	Redoubt	2.43	249	P	Pn	09 19 40.9	-0.4
SUCK	Suckling Hills	2.46	125	P	Pn	09 19 41.0	-0.7
PPLA	Purkeypile	2.47	306	ePn	Pn	09 19 41.5	-0.4
KHIT	Khitrov Hills	2.48	114	P	Pn	09 19 40.9	-1.1
DFR	Drift River	2.55	250	P	Pn	09 19 42.6	-0.4
RIDG	Independ'e Rid	2.60	30	ePn	Pn	09 19 43.9	+0.1
RDJH	Redoubt Jeurge	2.61	251	P	Pn	09 19 43.1	-0.7
RSO	Redoubt South	2.64	248	ePn	Pn	09 19 44.2	-0.1
RDWB	Redoubt West	2.67	249	P	Pn	09 19 44.0	-0.6
DOT	Dot Lake	2.74	38	ePn	Pn	09 19 46.0	+0.4
CAST	Castle Rocks	2.74	316	ePn	Pn	09 19 44.9	-0.7
BWN	Browne	2.76	345	ePn	Pn	09 19 45.5	-0.2
KULT	Kultieth River	2.80	115	P	Pn	09 19 45.2	-1.2
HDA	Harding Lake	2.91	7	ePn	Pn	09 19 48.0	+0.1
WRH	Wood River Hil	2.95	358	ePn	Pn	09 19 48.0	-0.4
BPAW	Bear Paw Mtn.	2.96	332	ePn	Pn	09 19 47.8	-0.8
ILW	Iliamna West	3.00	243	ePn	Pn	09 19 48.3	-0.9
SCRK	Sand Creek	3.02	34	ePn	Pn	09 19 49.0	-0.5
ILS	Iliamna Low So	3.03	241	P	Pn	09 19 49.0	-0.6
NEA	Nenana	3.11	350	ePn	Pn	09 19 50.0	-0.6
MESA	MESA	3.17	113	P	Pn	09 19 50.9	-0.7
BCA3	Beaver Creek A	3.21	59	ePn	Pn	09 19 52.0	+0.1
IL1	Eielson Array	3.28	7	ePn	Pn	09 19 52.6	-0.3
ILB	Eielson Array	3.28	7	ePn	Pn	09 19 52.8	-0.1
YUK2	White River	3.33	83	P	Pn	09 19 53.2	-0.5
COLA	College	3.35	360	ePn	Pn	09 19 53.4	-0.5
RKAV	Rock Avalanche	3.39	109	P	Pn	09 19 54.2	-0.4
BVCY	Beaver Creek	3.40	72	P	Pn	09 19 54.2	-0.3
MDM	Murphy Dome	3.44	357	ePn	Pn	09 19 54.9	-0.4
YUK3	Moose Creek	3.51	83	P	Pn	09 19 55.8	-0.5
CHX	Chaix Hills	3.60	111	ePn	Pn	09 19 57.1	-0.3
MLY	Manley	3.75	341	ePn	Pn	09 19 59.2	-0.3
SVW2	Sparrevohn	3.77	267	ePn	Pn	09 19 58.3	-1.4
SVW2				ePn	Pn	09 19 58.5	-1.2
PCA	Pinnacle	3.97	108	ePn	Pn	09 20 05.0	+2.6
TT01	Tatalina	4.08	293	ePn	Pn	09 20 02.5	-1.5
PRP	Porcupine Dome	4.13	13	ePn	Pn	09 20 04.3	-0.4
PRP				ePn	Pn	09 20 05.5	+0.8
PS06	TAPS Pump Stn6	4.42	350	ePn	Pn	09 20 08.7	+0.1
KDAK	Kodiak Island	4.47	215	ePn	Pn	09 20 08.0	-1.3
DAWY	Dawson	4.62	53	ePn	Pn	09 20 11.2	-0.3
HYT	Haines Junctio	5.04	94	ePn	Pn	09 20 17.1	-0.1
FYU	Fort Yukon	5.18	11	ePn	Pn	09 20 18.5	-0.5
IM3	Indian Mountai	5.19	332	ePn	Pn	09 20 18.8	-0.3
GCSA	Galena City Sc	5.22	312	ePn	Pn	09 20 18.9	-0.7
COLD	Coldfoot	5.81	351	ePn	Pn	09 20 27.8	+0.2
PLBC	Pleasant Camp	6.03	105	ePn	Pn	09 20 30.0	-0.6
BM3	Burnt Mountain	6.07	12	ePn	Pn	09 20 30.7	-0.5
WHY	Whitehorse	6.33	92	ePn	Pn	09 20 34.0	-0.9
SKAG	Skagway	6.51	103	ePn	Pn	09 20 37.1	-0.1
JIS	Juneau Island	7.50	110	ePn	Pn	09 20 50.3	-0.4
ANM	Nome	8.53	299	ePn	Pn	09 21 04.4	-0.5

KRSC 10 09:23:41.0±0.8**, 50.42N×157.03E, h31km**±12km**, ML3.6, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.64	294	eP	Pb	09 23 53.7	0.0
SKR				eS	Sb	09 24 02.4	+0.1
PAU	Pauzhetka	1.05	353	eP	Pb	09 24 01.3	+0.6
PAU				eS	Sb	09 24 15.6	+1.5
KDTR	Khodutka, Kamc	1.54	25	eP	Pb	09 24 07.9	-0.9
KDTR				eS	Sb	09 24 27.4	-0.5
MTVR	Mutnovka	2.19	19	eP	Pb	09 24 18.0	-2.0
MTVR				eS	Sb	09 24 44.5	-2.2
RUS	Russkaya	2.22	24	eP	Pn	09 24 17.5	+1.9
RUS				eS	Sn	09 24 43.9	+2.0
KRMR	Karymshinskiy	2.51	16	eS	Sn	09 24 51.8	+2.8
UGLR	Uglovaya	3.00	21	P	Pn	09 24 29.8	+3.3
AVH	Avacha	3.04	20	eP	Pn	09 24 30.2	+3.2
KOK	Koryaka	3.04	19	eP	Pb	09 24 30.9	-3.6
SDLR	Sedlovina	3.08	21	eP	Pn	09 24 31.2	+3.6
SPN	Mys Shipunski	3.26	34	S	Sn	09 25 12.3	+4.6
GNL	Ganaly	3.33	9	P	Pn	09 24 34.6	+3.7

IDC ***10*** *09:26:00.8±2.1, 33.28S×178.75W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.9/30, mbtmp4.1/4, ML3.8/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/22, Error ellipse: s-maj=55.2km s-min=38.1km az=142.0*

WEL ***10*** *09:26:05.1±0.9, 33°S±7°×17°8W±1°8, h33km, ML4.9/16*

ISC 10 09:26:04.0±1.4**, 33.45S**±0.08**×178.2W**±0.2**, h41km, n28,** σ1ˢ74/34**, mb4.0**/3**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	4.18	4	P	Pn	09 27 05.8	+0.5
GLKZ				S	Sn	09 27 52.7	-0.2
MXZ	Matakaoa Point	4.99	214	P	Pn	09 27 17.4	+1.1
MXZ				S	Sn	09 28 11.8	-0.9
WMGZ	Waiomatatini S	5.15	211	P	Pn	09 27 20.9	+2.3
PKGZ	Pakihiroa	5.36	213	P	Pn	09 27 22.4	+0.9
PKGZ				S	Sn	09 28 23.1	+1.1
HAZ	Te Kaha	5.39	216	P	Pn	09 27 22.9	+1.0
HAZ				S	Sn	09 28 24.7	+2.1
PUZ	Puketiti	5.43	211	P	Pn	09 27 24.0	+1.5
PUZ				S	Sn	09 28 24.4	+0.7
RUGZ	Raukumara Rang	5.61	215	P	Pn	09 27 26.0	+1.0
TWGZ	Tauwhareparae	5.64	212	P	Pn	09 27 26.8	+1.5
TWGZ				S	Sn	09 28 29.7	+0.9
CNGZ	Carnagh Statio	5.80	209	P	Pn	09 27 29.3	+1.9
GRZ	Great Barrier	5.90	240	P	Pn	09 27 32.3	+3.3
TKGZ	Te Karaka	5.91	212	P	Pn	09 27 30.5	+1.5
KUZ	Kuaotunu	5.96	235	P	Pn	09 27 32.1	+2.4
MWZ	Matawai	5.97	214	P	Pn	09 27 30.7	+0.8
OPRZ	Ohinepanea	6.11	223	P	Pn	09 27 33.9	+2.1
URZ	Urewera	6.12	217	Pn	Pn	09 27 30.8	-1.0
	2.6nm,0.3s,baz=278,slow=5.4,SNR=57						
URZ				Sn	Sn	09 28 36.9	-3.6
	8.2nm,0.3s,baz=78,slow=22,SNR=10						
URZ	Urewera	6.12	217	P	Pn	09 27 30.8	-1.0
URZ				S	Sn	09 28 37.6	-2.9
RAGZ	Rawiri	6.16	214	P	Pn	09 27 33.6	+1.1
RIGZ	Rimuhau	6.17	211	P	Pn	09 27 33.2	+0.6
PRGZ	Paritu Road	6.30	209	P	Pn	09 27 34.9	+0.5
SNGZ	Shannon Statio	6.42	213	P	Pn	09 27 37.4	+1.3
MUGZ	Murupara	6.46	218	P	Pn	09 27 37.4	+0.9
STKA	Stephens Creek	33.73	261	LR	LR	09 45 18.6	
	comp=Z,43nm,18.7s,baz=30,slow=35						
CTA	Charters Tower	34.23	284	P	P	09 32 45.4	-0.6
	1.9nm,0.6s,baz=106,slow=11,SNR=5.7						
ASAR	Alice Springs	42.85	270	P	P	09 33 56.8	-1.7
	1.2nm,0.6s,baz=108,slow=7.7,SNR=19						
WRA	Warramunga Arr	44.12	275	P	P	09 34 06.7	-1.9
	0.9nm,0.3s,baz=117,slow=8.0,SNR=25						
USRK	Ussuriysk Ar.	89.60	327	LR	LR	10 17 24.5	
	comp=Z,12nm,18.1s,baz=0.4,slow=35						
FINES	FINESS Array B	147.92	338	PKPbc	PKPab	09 45 45.3	-1.3
	2.0nm,0.7s,baz=50,slow=3.0,SNR=5.1						
NOA	NORSAR Array B	151.73	350	PKPbc	PKPbc	09 45 56.1	+2.8
	0.6nm,0.7s,baz=15,slow=4.1,SNR=3.8						

SOME ***10*** *09:27:21.0, 39.55N×75.97E, h0km*

KRNET ***10*** *09:27:30.8±0.1, 39.84N×75.86E, mb3.5*

NNC ***10*** *09:27:33.0±1.4, 39.87N×75.92E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=13.1km s-min=4.9km az=148.0*

ISC 10 09:27:32.9±2.3**, 39.71N**±0.08**×75.86E**±0.04**, h11km**±17km**, n43,** σ1ˢ47/61**, 20C-21D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NRN	Naryn	1.72	3	⇑iP	Pn	09 28 00.0	-3.1
	baz=3.0						
NRN				⇑eS	Sn	09 28 22.5	-2.8
	baz=3.0						
SFK	Sufi-Kurgan	1.84	280	⇑Pn	Pn	09 28 04.5	-0.2
	29nm,0.5s						
SFK				⇑Sn	Sg	09 28 32.9	+0.7
	32nm,0.5s						
SFK	Sufi-Kurgan	1.84	280	Pg	Pb	09 28 06.2	-0.5
	21nm,0.2s						
SFK				Lg	Lg	09 28 33.3	
	30nm,0.2s						
SFK	Sufi-Kurgan	1.84	280	⇓iP	Pn	09 28 04.5	-0.2
	baz=77						
SFK				⇓iS	Sb	09 28 29.7	-0.2
	baz=77						
KZA	Kyzart	2.41	349	P	Pn	09 28 13.6	+1.0
	SNR=109						
KZA	Kyzart	2.41	349	⇓eP	Pn	09 28 12.0	-0.7
	baz=49						
KZA				⇓iS	Sn	09 28 41.8	-0.6
	baz=49						
ARLS	Aral	2.45	332	⇓iP	Pn	09 28 12.2	-0.7
	baz=31						
ARLS				⇓iS	Sn	09 28 42.9	0.0
	baz=31						
TARG	Taragay, Kyrgy	2.50	36	⇑eP	Pn	09 28 13.9	0.0
	baz=37						
TARG				⇑iS	Sn	09 28 44.4	-0.1
	baz=37						
ULHL	Ulahol	2.55	6	P	Pn	09 28 15.1	+0.7
	SNR=47						
ULHL	Ulahol	2.55	6	⇑iP	Pn	09 28 13.7	-0.7
	baz=7.0						
ULHL				⇑iS	Sn	09 28 45.3	-0.2
	baz=7.0						
KDJ	Kajisay	2.62	22	⇑eP	Pn	09 28 14.6	-0.7
	baz=23						
KDJ				⇑iS	Sn	09 28 47.1	0.0
	baz=23						
UCH	Uchtor	2.71	338	P	Pn	09 28 17.6	+0.7
	SNR=69						
UCH	Uchtor	2.71	338	⇓iP	Pn	09 28 16.8	-0.1
	baz=37						
UCH				⇓iS	Sn	09 28 49.9	0.0
	baz=37						
BOOM	Boomskoye usch	2.78	1	⇑eP	Pn	09 28 17.0	-0.5
	baz=1.0						
BOOM				⇑iS	Sn	09 28 50.5	-0.6
	baz=1.0						
AML	Almayashu	2.92	327	P	Pn	09 28 20.2	+0.5
	SNR=32						
AML	Almayashu	2.92	327	⇑eP	Pn	09 28 19.6	-0.1
	baz=25						
AML				⇑iS	Sn	09 28 54.9	-0.1
	baz=25						
KBK	Karagaybulak	3.02	347	P	Pb	09 28 24.3	-2.5
	SNR=103						
KBK	Karagaybulak	3.02	347	⇑iP	Pn	09 28 21.0	+0.1
	baz=47						
KBK				⇑iS	Sn	09 28 56.9	-0.2
	baz=47						
AAK	Ala-Archa	3.10	341	P	Pn	09 28 23.2	+1.3
	SNR=14						
AAK	Ala-Archa	3.10	341	⇓Pn	Pn	09 28 23.0	+1.1
	16nm,0.4s						
AAK				⇓Lg	Lg	09 29 07.1	
	72nm,1.1s						
TKM2	Tokmak 2	3.21	357	P	Pn	09 28 25.0	+1.5
	SNR=34						
TKM2	Tokmak 2	3.21	357	⇓Pn	Pn	09 28 24.8	+1.2
	11nm,0.4s						
TKM2				⇑Lg	Lg	09 29 10.6	
	51nm,0.6s						
KST	Kastek	3.33	1	eP	Pn	09 28 27.5	+2.4
	21nm,0.3s						
KST				eS	Sb	09 29 15.0	+2.4
	53nm,0.6s						
EKS2	Erkin-Say	3.34	333	P	Pn	09 28 27.4	+2.2
	SNR=14						
IZV	Izvestkoviy	3.37	9	Pg	Pb	09 28 30.8	-1.9
	17nm,0.5s						
IZV				Lg	Lg	09 29 16.1	
	50nm,0.8s						
CHMS	Chumysh	3.39	346	P	Pb	09 28 30.7	-2.3
	SNR=7.5						
DGS	Degeres	3.53	359	Pg	Pb	09 28 33.3	-2.1
	23nm,0.7s						
DGS				Lg	Lg	09 29 20.3	
	56nm,0.7s						
MDOK	Medeo	3.56	14	Pn	Pn	09 28 29.2	+1.0
	9.4nm,0.7s						
MDOK				Lg	Lg	09 29 21.9	
	48nm,1.0s						
KNDC	Almaty	3.60	13	⇓Pg	Pb	09 28 34.0	-2.6
	24nm,0.6s						
KNDC				⇓Lg	Lg	09 29 24.6	
	86nm,0.7s						
ARK	Arkit	3.62	306	⇓iP	Pn	09 28 29.4	+0.4
	baz=5.0						
ARK				⇓iS	Sn	09 29 10.9	-0.9
	baz=5.0						
MRKS	Merke	3.62	328	Pg	Pb	09 28 34.3	-2.8
	13nm,0.6s						
MRKS				Lg	Lg	09 29 21.4	
	16nm,0.3s						
MRKS	Merke	3.62	328	eP	Pn	09 28 32.4	+3.3
	13nm,0.3s						
MRKS				eS	Sb	09 29 24.5	+3.4
	8.4nm,0.5s						
KOTS	Kotyrbulak	3.64	15	Pg	Pb	09 28 36.4	-1.0
	9.5nm,0.6s						
KOTS				Lg	Lg	09 29 25.3	
	74nm,0.8s						
USP	Ospenovka	3.70	344	P	Pn	09 28 31.2	+1.2
	SNR=13						
MNAS	Manas	3.76	319	⇓Pn	Pn	09 28 30.8	-0.1
	0.6nm,0.3s						
MNAS				⇑Pg	Pb	09 28 38.0	-1.4
	5.5nm,0.7s						
MNAS				⇓Lg	Lg	09 29 29.8	
	15nm,0.8s						
MNAS	Manas	3.76	319	Pg	Pb	09 28 37.9	-1.5
	2.8nm,0.5s						
MNAS				Lg	Lg	09 29 27.5	
	6.2nm,0.7s						
SATY	Saty	3.85	29	Pg	Pb	09 28 39.4	-1.6
	14nm,0.5s						
SATY				Lg	Lg	09 29 30.1	
	28nm,0.6s						
KTBS	Karatobe	4.04	8	Pg	Pb	09 28 42.3	-1.9
	12nm,0.3s						
KTBS				Lg	Lg	09 29 35.8	
	55nm,0.8s						
PDGK	Podgornoye	4.53	36	⇓Pn	Pn	09 28 41.9	+0.4
	1.9nm,0.4s						
PDGK				⇓Pg	Pb	09 28 51.5	-1.0
	4.4nm,0.7s						
PDGK				⇓Lg	Lg	09 29 53.0	
	21nm,0.7s						
ARXS	Arharly	4.73	17	Pg	Pb	09 28 55.1	-0.8
	7.2nm,0.7s						
ARXS				Lg	Lg	09 29 57.2	
	15nm,0.7s						
MNBS	Baschi	4.76	23	Pg	Pb	09 28 57.8	+1.5
	5.2nm,0.7s						
MNBS				Lg	Lg	09 30 02.2	
	13nm,0.7s						
KTMS	Ketmen	5.03	41	Pg	Pb	09 29 01.2	+0.3
	1.5nm,0.3s						
KTMS				Lg	Lg	09 30 08.2	
	11nm,0.9s						
KK31	Karatay Array	5.26	312	⇑Pn	Pn	09 28 50.9	-0.6
	0.4nm,0.5s,baz=128,slow=13						
KK31				⇓Pg	Pb	09 29 04.8	-0.1
	0.5nm,0.3s,baz=125,slow=16						
KK31				⇑Lg	Lg	09 30 16.3	
	4.6nm,0.7s,baz=130,slow=28						

NNC 10 09:31:29.6±2.7**, 53.52N×87.83E, h0km, mb3.6, mpv3.3, 2C-8D, Error ellipse: s-maj=28.2km s-min=12.7km az=47.0, Suspected Mining explosion., Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	1.84	285	⇓Pn	Pn	09 32 02.2	-0.3
	5.8nm,0.5s						
ZAA0				⇓Sn	Sb	09 32 27.6	-0.1
	42nm,0.9s						
KURK	Kurchatov	6.33	247	⇓Pn	Pn	09 33 01.2	-2.9
	5.2nm,1.1s						
KURK				⇑Lg	Lg	09 34 47.5	
	4.6nm,0.8s						
KURBB	Kurchatov Arra	6.43	247	⇓Pn	Pn	09 33 07.2	+1.7
	2.3nm,0.3s						
KURBB				⇓Lg	Lg	09 34 52.7	
	10nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MK31	**Makanchi Array**	**7.61**	**210**	⇑Pn	Pn	09 33 22.7	+1.0
	0.2nm,0.3s,baz=27,slow=12,SNR=6.6						
MK31				⇓Lg	Lg	09 35 31.7	
	2.1nm,0.8s,baz=32,slow=32,SNR=4.7						
MAKZ	**Makanchi**	**7.70**	**212**	⇓Pn	Pn	09 33 24.0	+1.2
	2.1nm,1.0s						
MAKZ				⇓Lg	Lg	09 35 32.3	
	3.1nm,1.0s						

*NNC **10** 09:35:06.5±2.5, 53°.43N×87°.76E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=20.6km s-min=10.2km az=66.0, Suspected Mining explosion.*

KRAR 10 09:35:03.9±0.5, 53°.58N×87°.84E, M2.3, 6C-8D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.83**	**283**	⇓Pn	Pb	09 35 38.0	-0.2
	5.3nm,0.4s						
ZAA0				⇑Sn	Sg	09 36 04.6	+1.9
	21nm,0.5s						
KURK	**Kurchatov**	**6.36**	**247**	⇓Pn	Pn	09 36 40.2	+1.4
	2.8nm,0.8s						
KURK				⇓Sn	Sn	09 37 50.4	-1.6
	2.4nm,0.9s						
KURK				⇓Lg	Lg	09 38 23.9	
	3.8nm,0.9s						
KURBB	**Kurchatov Arra**	**6.46**	**246**	⇑Pn	Pn	09 36 42.1	+2.0
	4.0nm,0.3s						
KURBB				⇑Sn	Sn	09 37 54.3	-0.1
	5.9nm,0.6s						
KURBB				⇓Lg	Lg	09 38 30.3	
	8.2nm,0.6s						
MK31	**Makanchi Array**	**7.67**	**210**	⇑Pn	Pn	09 36 58.5	+1.7
	0.2nm,0.3s,baz=29,slow=13,SNR=34						
MK31				⇑Sn	Sn	09 38 24.4	+0.1
	0.9nm,0.7s						
MK31				⇑Lg	Lg	09 39 05.2	
	0.8nm,0.5s,baz=29,slow=30,SNR=4.3						
MAKZ	**Makanchi**	**7.75**	**211**	⇓Pn	Pn	09 36 59.9	+2.0
	0.7nm,0.3s						
MAKZ				⇓Sn	Sn	09 38 28.8	+2.5
	2.0nm,0.9s						
MAKZ				⇓Lg	Lg	09 39 06.0	
	0.8nm,0.6s						

*ISCJB **10** 09:36:30.8±0.6, 39°.67N±0°.03×25°.57E±0°.04, h7km±5km, Error ellipse: s-maj=5.2km s-min=4.1km az=145.2*
*ATH **10** 09:36:30.3, 39°.65N×25°.52E, h26km±1km, ML1.8/2, Error ellipse: s-maj=3.5km s-min=1.1km az=244.0*
*ISK **10** 09:36:30.6, 39°.65N×25°.62E, h9km, ML2.1/9*
*DDA **10** 09:36:32.0, 39°.72N×25°.64E, h7km±3km, ML2.6*

ISC 10 09:36:30.7±1.1, 39°.66N±0°.02×25°.61E±0°.03, h9km±11km, n26, σ0.57/36, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.39**	**62**	PG	**Pb**	**09 36 38.9**	**-0.9**
BOZC				SG	**Sb**	**09 36 44.7**	**-1.2**
BOZC	**Bozcaada**	**0.39**	**62**	*i* P	**Pb**	**09 36 39.5**	**-0.3**
BOZC				*i* S	**Sb**	**09 36 45.7**	**-0.2**
LIA	**Limnos Island**	**0.41**	**306**	P	**Pg**	**09 36 38.7**	**0.0**
LIA				S	**Sg**	**09 36 44.0**	**0.0**
LIA				AML	AML	09 36 44.2	
	comp=N,194µm,0.3s						
LIA				AML	AML	09 36 47.2	
	comp=E,246µm,0.2s						
SIGR	**SIGRI**	**0.49**	**157**	PG	**Pb**	**09 36 40.9**	**-0.5**
SIGR				SG	**Sg**	**09 36 47.0**	**+0.4**
SIGR	**SIGRI**	**0.49**	**157**	P	**Pb**	**09 36 41.1**	**-0.4**
SIGR				S	**Sb**	**09 36 48.6**	**-0.1**
SIGR				AML	AML	09 36 48.8	
	comp=E,323µm,0.6s						
SIGR				AML	AML	09 36 49.3	
	comp=N,610µm,0.3s						
GADA	**Gvkgeada**	**0.58**	**23**	PG	**Pb**	**09 36 42.5**	**-0.5**
GADA				SG	**Sb**	**09 36 50.8**	**-0.5**
EZN	**Ezine**	**0.58**	**73**	PG	**Pb**	**09 36 42.4**	**-0.6**
EZN				SG	**Sb**	**09 36 50.8**	**-0.5**
BAYC	**CANAKKALE_Bayr**	**0.73**	**83**	IAML_P			
	comp=Z,2µm,0.1s						
BAYC				*i* P	**Pb**	**09 36 45.5**	**-0.1**
BAYC				*i* S	**Sb**	**09 36 55.8**	**+0.1**
SMTH	**Samothraki Isl**	**0.81**	**356**	P	**Pg**	**09 36 46.4**	**0.0**
SMTH				S	**Sb**	**09 36 58.1**	**0.0**
AYVA	**Ayvalik**	**0.91**	**112**	*i* P	**Pn**	**09 36 50.7**	**+1.1**
AYVA				*i* S	**Sn**	**09 37 03.6**	**+0.7**
GELI	**Tayfur-Gelibol**	**0.99**	**42**	PG	**Pb**	**09 36 50.0**	**-0.1**
LPK	**Lapseki**	**1.14**	**51**	PN	**Pg**	**09 36 52.5**	**-0.1**
ENEZ	**Enez**	**1.15**	**21**	PN	**Pn**	**09 36 53.1**	**+0.1**
THAS	**Thassos island**	**1.17**	**325**	P	**Pb**	**09 36 52.7**	**-0.4**
ERIK	**Erikli-Kesan**	**1.23**	**34**	PN	**Pg**	**09 36 54.2**	**-0.1**
ALN	**Alexandroupoli**	**1.28**	**15**	PN	**Pn**	**09 36 54.2**	**-0.6**
ALN	**Alexandroupoli**	**1.28**	**15**	P	**Pn**	**09 36 54.6**	**-0.2**
CHOS	**Chios island**	**1.32**	**165**	PN	**Pg**	**09 36 55.7**	**-0.3**
CHOS	**Chios island**	**1.32**	**165**	P	**Pn**	**09 36 54.8**	**-0.5**
AOS	**Alonnisos**	**1.43**	**251**	PN	**Pb**	**09 36 57.6**	**+0.1**
KESN	**Edirne-Kesan**	**1.43**	**35**	IAML_P			
	comp=Z,104nm,0.3s						
KESN				*i* P	**Pg**	**09 36 58.5**	**+0.3**
RDO	**Rodhopi**	**1.49**	**358**	PN	**Pn**	**09 36 57.9**	**+0.3**
KRBG	**Karabiga-Canak**	**1.49**	**60**	PN	**Pb**	**09 36 57.9**	**-0.7**
URLA	**Izmir**	**1.51**	**149**	PN	**Pn**	**09 36 57.4**	**-0.5**
BALY	**Balya**	**1.55**	**86**	IAML_P			
	comp=Z,213nm,0.2s						
BALY				*i* P	**Pg**	**09 37 01.5**	**+1.0**
KDZ	**Kurdzhali**	**1.99**	**356**	PN	**Pn**	**09 37 05.9**	**+1.3**

*ISK **10** 09:44:57.2, 39°.64N×25°.42E, h4km, ML3.5/23*
*ISCJB **10** 09:44:58.5±0.4, 39°.65N±0°.01×25°.49E±0°.02, h7km±3km, Error ellipse: s-maj=2.5km s-min=2.4km az=41.7*
*DDA **10** 09:44:58.5, 39°.68N×25°.53E, h25km±1km, ML3.5*
*ATH **10** 09:44:58.6, 39°.66N×25°.55E, h29km, ML3.4/8, Error ellipse: s-maj=1.3km s-min=0.8km az=239.0*
*THE **10** 09:44:59.5, 39°.67N×25°.53E, h7km±1km, ML3.2/11, Error ellipse: s-maj=1.4km s-min=0.6km az=76.0*

ISC 10 09:44:59.1±1.0, 39°.66N±0°.02×25°.50E±0°.02, h7km±9km, n132, σ0.91/165, 9C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.34**	**314**	P	**Pb**	**09 45 06.7**	**-0.8**
LIA				S	**Sb**	**09 45 12.2**	**-1.0**
LIA				AML	AML	09 45 12.3	
	comp=N,5432µm,0.6s						
LIA				AML	AML	09 45 12.8	
	comp=E,8770µm,0.6s						
LIA	**Limnos Island**	**0.34**	**314**	P	**Pb**	**09 45 07.0**	**-0.6**
LIA				S	**Sb**	**09 45 12.3**	**-1.0**
EFSA	**Agios Efstrati**	**0.42**	**253**	P	**Pb**	**09 45 09.2**	**+0.3**
EFSA				S	**Sb**	**09 45 15.8**	**+0.4**
EFSA				AML	AML	09 45 15.9	
	comp=E,14670µm,0.5s						
EFSA				AML	AML	09 45 16.3	
	comp=N,15498µm,0.3s						
BOZC	**Bozcaada**	**0.46**	**67**	PG	**Pg**	**09 45 08.1**	**+0.1**
BOZC	**Bozcaada**	**0.46**	**67**	*i* P	**Pg**	**09 45 08.1**	**+0.1**
BOZC				*i* S	**Sg**	**09 45 14.4**	**+0.4**
SIGR	**SIGRI**	**0.53**	**149**	PG	**Pg**	**09 45 07.8**	**-1.4**
SIGR				SG	**Sg**	**09 45 16.7**	**+0.6**
SIGR	**SIGRI**	**0.53**	**149**	P	**Pg**	**09 45 09.3**	**+0.1**
SIGR				S	**Sg**	**09 45 16.6**	**+0.5**
SIGR				AML	AML	09 45 17.5	
	comp=E,20910µm,0.6s						
SIGR				AML	AML	09 45 17.5	
	comp=N,28254µm,0.5s						
SIGR	**SIGRI**	**0.53**	**149**	P	**Pg**	**09 45 09.3**	**+0.1**
SIGR				S	**Sg**	**09 45 16.9**	**+0.8**
GPNR	**Gulpinar-Canak**	**0.53**	**113**	PG	**Pg**	**09 45 09.2**	**-0.1**
GADA	**Gvkgeada**	**0.61**	**30**	PG	**Pg**	**09 45 10.7**	**-0.2**
GADA				SG	**Sb**	**09 45 20.1**	**-0.8**
GADA	**Gvkgeada**	**0.61**	**30**	P	**Pg**	**09 45 11.0**	**+0.1**
GADA				S	**Sb**	**09 45 19.6**	**-1.3**
GOKC	**Gokceada-Canak**	**0.62**	**31**	PG	**Pg**	**09 45 11.4**	**+0.2**
GOKC				SG	**Sb**	**09 45 20.7**	**-0.7**
EZN	**Ezine**	**0.65**	**75**	PG	**Pg**	**09 45 11.4**	**-0.3**
EZN	**Ezine**	**0.65**	**75**	P	**Pg**	**09 45 11.4**	**-0.3**
EZN				S	**Sg**	**09 45 19.8**	**-0.4**
PRK	**Paraskevi**	**0.72**	**125**	P	**Pg**	**09 45 13.6**	**+0.5**
PRK				S	**Sg**	**09 45 22.7**	**+0.2**
PRK				AML	AML	09 45 26.2	
	comp=N,5480µm,0.3s						
PRK				AML	AML	09 45 26.5	
	comp=E,6046µm,0.6s						
PRK	**Paraskevi**	**0.72**	**125**	P	**Pb**	**09 45 14.1**	**0.0**
PRK				S	**Sb**	**09 45 24.6**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**0.81**	**84**	IAML_P			
	comp=Z,22µm,0.1s						
BAYC				*i* P	**Pg**	**09 45 14.5**	**-0.1**
BAYC				*i* S	**Sb**	**09 45 25.8**	**-0.8**
SMTH	**Samothraki Isl**	**0.81**	**1**	P	**Pb**	**09 45 15.0**	**-0.6**
SMTH				S	**Sb**	**09 45 26.5**	**-0.2**
SMTH				AML	AML	09 45 28.5	
	comp=N,2484µm,0.3s						
SMTH				AML	AML	09 45 29.0	
	comp=E,2933µm,0.4s						
SMTH	**Samothraki Isl**	**0.81**	**1**	P	**Pb**	**09 45 15.0**	**-0.6**
SMTH				S	**Sb**	**09 45 26.5**	**-0.2**
AYVA	**Ayvalik**	**0.98**	**111**	*i* P	**Pg**	**09 45 17.8**	**-0.1**
AYVA				*i* S	**Sb**	**09 45 31.8**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.05**	**45**	PN	**Pg**	**09 45 18.6**	**-0.6**
SKY	**Skiros Island**	**1.08**	**224**	P	**Pg**	**09 45 19.3**	**-0.5**
SKY	**Skiros Island**	**1.08**	**224**	P	**Pg**	**09 45 19.3**	**-0.5**
SKY				S	**Sn**	**09 45 35.7**	**-0.2**
THAS	**Thassos island**	**1.12**	**328**	P	**Pg**	**09 45 20.1**	**-0.4**
THAS				S	**Sb**	**09 45 35.4**	**-0.3**
THAS				AML	AML	09 45 36.9	
	comp=E,2766µm,0.2s						
THAS				AML	AML	09 45 37.7	
	comp=N,3567µm,0.2s						
THAS	**Thassos island**	**1.12**	**328**	P	**Pg**	**09 45 20.3**	**-0.3**
THAS				S	**Sb**	**09 45 35.3**	**-0.3**
ENEZ	**Enez**	**1.18**	**25**	PN	**Pg**	**09 45 21.3**	**-0.5**
LPK	**Lapseki**	**1.20**	**53**	PN	**Pg**	**09 45 21.7**	**-0.4**
DKL	**Dikili**	**1.24**	**118**	PN	**Pg**	**09 45 21.7**	**-1.1**
ERIK	**Erikli-Kesan**	**1.27**	**37**	PN	**Pb**	**09 45 22.5**	**-0.9**
ALN	**Alexandroupoli**	**1.30**	**18**	PN	**Pn**	**09 45 21.9**	**-1.9**
ALN	**Alexandroupoli**	**1.30**	**18**	P	**Pn**	**09 45 22.6**	**-1.2**
ALN				S	**Sn**	**09 45 41.1**	**-0.3**
ALN				AML	AML	09 45 42.4	
	comp=E,1066µm,0.4s						
ALN				AML	AML	09 45 49.5	
	comp=N,1117µm,0.5s						
ALN	**Alexandroupoli**	**1.30**	**18**	P	**Pn**	**09 45 22.6**	**-1.2**
ALN				S	**Sn**	**09 45 40.9**	**-0.5**
KRBN	**Karaburun**	**1.34**	**142**	PN	**Pn**	**09 45 23.3**	**-1.0**
CHOS	**Chios island**	**1.34**	**161**	PN	**Pn**	**09 45 23.1**	**-1.3**
CHOS	**Chios island**	**1.34**	**161**	P	**Pn**	**09 45 23.4**	**-1.0**
CHOS				S	**Sb**	**09 45 41.6**	**-0.6**
CHOS				AML	AML	09 45 44.5	
	comp=E,5523µm,0.8s						
CHOS				AML	AML	09 45 45.0	
	comp=N,6234µm,0.6s						
CHOS	**Chios island**	**1.34**	**161**	P	**Pn**	**09 45 23.4**	**-1.0**
CHOS				S	**Sb**	**09 45 42.6**	**+0.5**
FOCM	**Foa**	**1.34**	**134**	PN	**Pn**	**09 45 24.2**	**-0.1**
AOS	**Alonnisos**	**1.35**	**249**	PN	**Pn**	**09 45 22.5**	**-1.9**
AOS	**Alonnisos**	**1.35**	**249**	P	**Pn**	**09 45 23.6**	**-0.8**
AOS	**Alonnisos**	**1.35**	**249**	P	**Pn**	**09 45 23.7**	**-0.8**
AOS				S	**Sn**	**09 45 44.1**	**+1.5**
PAIG	**Paliouri**	**1.43**	**281**	P	**Pn**	**09 45 25.4**	**-0.1**
PAIG				S	**Sg**	**09 45 45.9**	**+0.8**
KESN	**Edirne-Kesan**	**1.47**	**37**	IAML_P			
	comp=Z,3µm,0.2s						
KESN				*i* P	**Pn**	**09 45 25.3**	**-1.1**
KESN				*i* S	**Sb**	**09 45 45.3**	**-0.8**
RDO	**Rodhopi**	**1.48**	**1**	PN	**Pn**	**09 45 25.3**	**-1.0**
RDO	**Rodhopi**	**1.48**	**1**	P	**Pn**	**09 45 25.3**	**-1.0**
RDO	**Rodhopi**	**1.48**	**1**	P	**Pn**	**09 45 25.3**	**-1.0**
RDO				S	**Sg**	**09 45 46.4**	**-0.4**
KAVA	**Kavala**	**1.53**	**331**	P	**Pn**	**09 45 26.2**	**-0.8**
KAVA	**Kavala**	**1.53**	**331**	P	**Pn**	**09 45 26.1**	**-0.8**
URLA	**Izmir**	**1.55**	**146**	PN	**Pn**	**09 45 26.3**	**-0.9**
URLA	**Izmir**	**1.55**	**146**	IAML_P			
	comp=Z,3µm,0.2s						
URLA				*i* P	**Pn**	**09 45 26.5**	**-0.8**
KRBG	**Karabiga-Canak**	**1.56**	**61**	PN	**Pn**	**09 45 27.6**	**+0.3**
BALY	**Balya**	**1.63**	**87**	*i* P	**Pn**	**09 45 28.9**	**+0.5**
SART	**Tekirdag**	**1.64**	**51**	IAML_P			
	comp=Z,6µm,0.1s						
SART				*i* P	**Pn**	**09 45 28.9**	**+0.4**
KNL	**Balıkesir**	**1.67**	**68**	IAML_P			
	comp=Z,7µm,0.2s						
KNL				*i* P	**Pb**	**09 45 29.7**	**-0.4**
KNL				*i* S	**Sg**	**09 45 52.1**	**-0.6**
GONE	**Gonen-Balikesi**	**1.72**	**76**	PN	**Pn**	**09 45 29.2**	**-0.3**
PLG	**Polygyros**	**1.73**	**295**	P	**Pn**	**09 45 29.6**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.74**	**99**	IAML_P			
	comp=Z,6µm,0.3s						
STEP				*i* P	**Pn**	**09 45 29.7**	**0.0**
STEP				*i* S	**Sg**	**09 45 54.6**	**-0.2**
EREA	**Eretria**	**1.74**	**225**	P	**Pn**	**09 45 28.7**	**-1.1**
BLCB	**Balcova**	**1.75**	**136**	PN	**Pn**	**09 45 29.8**	**-0.1**
XOR	**Xorichti**	**1.81**	**261**	P	**Pn**	**09 45 30.0**	**-0.8**
XOR	**Xorichti**	**1.81**	**261**	P	**Pn**	**09 45 30.0**	**-0.8**
KARY	**Karystos**	**1.83**	**207**	P	**Pn**	**09 45 29.4**	**-1.6**
BALB	**Balikesir**	**1.83**	**90**	PN	**Pn**	**09 45 30.9**	**-0.2**
DGB	**zmir**	**1.93**	**146**	*i* P	**Pb**	**09 45 35.4**	**+0.7**
EDC	**Edincik**	**1.94**	**69**	PN	**Pn**	**09 45 33.2**	**+0.7**
SBT4	**Kumbag-Tekirda**	**1.94**	**53**	PN	**Pn**	**09 45 32.5**	**+0.1**
AKHS	**Akhisar**	**1.96**	**113**	IAML_P			
	comp=Z,2µm,0.1s						
AKHS				*i* P	**Pn**	**09 45 32.3**	**-0.4**
AKHS				*i* S	**Sg**	**09 46 01.1**	**-0.8**
KDZ	**Kurdzhali**	**1.99**	**358**	*i* Pg	**Pg**	**09 45 36.2**	**-1.0**
DION	**Dionisos Attik**	**2.00**	**218**	P	**Pn**	**09 45 32.1**	**-1.3**
SOH	**Sokhos**	**2.01**	**306**	P	**Pn**	**09 45 33.6**	**0.0**
TKR	**Tekirdag**	**2.04**	**49**	PN	**Pn**	**09 45 33.8**	**-0.1**
SRS	**Serrai**	**2.06**	**315**	P	**Pn**	**09 45 33.8**	**-0.4**
SRS	**Serrai**	**2.06**	**315**	P	**Pn**	**09 45 33.9**	**-0.4**
HORT	**Hortiatis**	**2.07**	**298**	PN	**Pn**	**09 45 32.8**	**-1.6**
HORT	**Hortiatis**	**2.07**	**298**	P	**Pn**	**09 45 34.4**	**0.0**
NVR	**Nevrokopi**	**2.10**	**324**	P	**Pn**	**09 45 34.5**	**-0.3**
NVR	**Nevrokopi**	**2.10**	**324**	P	**Pn**	**09 45 34.5**	**-0.3**
RZN	**Rozhen**	**2.11**	**344**	*i* Pg	**Pn**	**09 45 34.8**	**-0.3**
ATAL	**Atalanti**	**2.16**	**244**	P	**Pn**	**09 45 34.7**	**-0.8**
SMG	**Samos**	**2.21**	**151**	P	**Pn**	**09 45 35.2**	**-1.1**
VIL2	**Platees**	**2.27**	**231**	P	**Pn**	**09 45 36.0**	**-1.0**
VILL	**Villia**	**2.27**	**230**	P	**Pn**	**09 45 36.0**	**-1.1**
KCTX	**Karacabey (Bur**	**2.27**	**74**	PN	**Pn**	**09 45 37.5**	**+0.4**
MMB	**Musomiste**	**2.35**	**325**	*i* P	**Pn**	**09 45 37.7**	**-0.6**
EDRB	**Edirne**	**2.38**	**23**	PN	**Pn**	**09 45 38.3**	**-0.3**
GCAM	**G?zelcaml?**	**2.38**	**145**	PN	**Pn**	**09 45 38.1**	**-0.5**
GCAM	**G?zelcaml?**	**2.38**	**145**	*i* P	**Pb**	**09 45 42.5**	**+0.2**
DIM	**Dimitrovgrad**	**2.39**	**1**	*i* P	**Pn**	**09 45 39.6**	**+0.9**
KNT	**Kendrikon**	**2.49**	**308**	P	**Pn**	**09 45 40.2**	**+0.1**
PHSR	**Pinarhisar**	**2.50**	**37**	PN	**Pn**	**09 45 39.9**	**-0.3**
PLD	**Plovdiv**	**2.52**	**346**	PN	**Pn**	**09 45 39.9**	**-0.5**
DEMI	**Demirci**	**2.57**	**103**	*i* P	**Pn**	**09 45 41.9**	**+0.7**
SLVT	**Silivri**	**2.59**	**52**	PN	**Pn**	**09 45 41.1**	**-0.4**
SERI	**Serifos**	**2.62**	**198**	P	**Pn**	**09 45 40.5**	**-1.5**
ORLT	**Orhaneli**	**2.64**	**81**	PN	**Pn**	**09 45 42.5**	**+0.3**
MANT	**Manisa**	**2.65**	**115**	IAML_P			
	comp=Z,326nm,0.3s						
MANT				*i* P	**Pn**	**09 45 42.4**	**-0.1**
MDNY	**Mudanya-Bursa**	**2.69**	**74**	PN	**Pn**	**09 45 43.8**	**+1.0**
KULA	**Kula-Manisa**	**2.71**	**114**	PN	**Pn**	**09 45 43.0**	**-0.2**
ARMT	**Armutlu**	**2.73**	**70**	PN	**Pn**	**09 45 44.6**	**+1.2**
AYDN	**Tasoluk**	**2.73**	**136**	*i* P	**Pn**	**09 45 43.0**	**-0.4**
AYDN				*i* S	**Sb**	**09 46 22.1**	**+0.1**
SBT5	**Esenkoy-Cinarc**	**2.76**	**68**	PN	**Pn**	**09 45 44.9**	**+1.1**
CTKS	**Kestanelik-??a**	**2.78**	**55**	PN	**Pn**	**09 45 44.3**	**+0.3**
VAY	**Valandovo**	**2.78**	**307**	*i* Pn	**Pg**	**09 45 52.7**	**+0.3**
VAY				*i* Sn	**Sg**	**09 46 29.9**	**+1.4**
CTYL	**Yalikoy Yolu**	**2.79**	**49**	PN	**Pn**	**09 45 44.9**	**+0.7**
KKB	**Krupnik**	**2.87**	**321**	*i* P	Pn	09 45 33.1	-12
KALE	**Kalithea**	**2.91**	**245**	P	**Pn**	**09 45 45.7**	**-0.3**
BGKT	**Bogazkoy**	**2.92**	**58**	PN	**Pn**	**09 45 46.4**	**+0.4**
TRIZ	**Trizonia**	**2.97**	**245**	P	**Pn**	**09 45 46.4**	**-0.3**
BUY	**Buyukada**	**3.01**	**66**	*i* P	**Pn**	**09 45 49.7**	**+2.4**
ISK	**Istanbul-Kandi**	**3.06**	**62**	PN	**Pn**	**09 45 48.8**	**+0.9**
LAKA	**Lakka**	**3.09**	**244**	P	**Pn**	**09 45 48.3**	**-0.1**
YLV	**Yalova**	**3.10**	**72**	PN	**Pn**	**09 45 49.9**	**+1.3**
KLYT	**Kilyos**	**3.13**	**58**	PN	**Pn**	**09 45 50.1**	**+1.2**
STIP	**Stip**	**3.24**	**310**	*i* Pn	**Pn**	**09 45 49.6**	**-0.8**
STIP				*i* Sn	**Sb**	**09 46 39.5**	**+2.8**
DAT	**Datca**	**3.35**	**150**	*i* P	**Pn**	**09 45 51.6**	**-0.4**
KHAL	**Karahalli**	**3.36**	**111**	*i* P	**Pn**	**09 45 52.6**	**+0.4**
VTS	**Vitosha**	**3.40**	**330**	⇑*i*P	**Pn**	**09 45 53.7**	**+0.9**
TAVA	**DENIZLI_Tavas**	**3.46**	**128**	*i* P	**Pn**	**09 45 53.6**	**+0.1**
GEYV	**SAKARYA_Geyve**	**3.77**	**76**	*i* P	**Pn**	**09 45 59.0**	**+1.3**
BORA	**Eskisehir**	**3.82**	**85**	*i* P	**Pn**	**09 45 58.2**	**-0.2**
KAND	**Kocaeli-Kandir**	**3.86**	**67**	*i* P	**Pn**	**09 45 60.0**	**+1.1**
SAHE	**Sakarya_HENDEK**	**4.26**	**72**	*i* P	**Pn**	**09 46 05.5**	**+1.1**
SGRR	**Singureni**	**4.57**	**4**	⇑*i*P	**Pn**	**09 46 08.9**	**+0.2**
ICOR	**Ion Corvin**	**4.77**	**20**	⇓*i*P	**Pn**	**09 46 11.8**	**+0.4**
TLB	**Topalu**	**5.27**	**20**	⇑*i*P	**Pn**	**09 46 18.3**	**0.0**
VOIR		**5.78**	**357**	⇓*i*P	**Pn**	**09 46 27.8**	**+2.4**
MLR	**Muntele Rosu**	**5.83**	**3**	⇑*i*P	**Pn**	**09 46 28.2**	**+2.0**
MDVR	**Moldovita**	**5.84**	**332**	⇑*i*P	**Pn**	**09 46 28.2**	**+2.0**
GZR	**Gura Zlata**	**6.07**	**342**	⇓*i*P	**Pn**	**09 46 31.4**	**+2.0**
PLOR	**Plostina**	**6.24**	**7**	⇑*i*P	**Pn**	**09 46 34.1**	**+2.4**
VRI	**Vrincioaia**	**6.27**	**8**	⇑*i*P	**Pn**	**09 46 34.3**	**+2.3**
DOPR	**Dopca**	**6.30**	**359**	⇑*i*P	**Pn**	**09 46 34.8**	**+2.3**
BZS	**Buzias**	**6.61**	**336**	⇑*i*P	**Pn**	**09 46 38.0**	**+1.4**

RSNC 10 10:04:06.1±1.3, 6°.84N×73°.15W, h142km±5km, ML3.4, Mw3.7, 3C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**188**	*i* P	Pn	10 04 25.5	-0.3
BARC				*e*S	Sn	10 04 40.3	-0.4
BARC				*i*		10 04 41.8	
	comp=Z,558nm,0.2s						
BRRC	**Barranca, Sant**	**0.62**	**296**	⇑*i*P	Pn	10 04 27.3	+0.1
BRRC				*e*S	Sn	10 04 43.7	+0.5
BRRC				*i*		10 04 44.8	
	comp=E,611nm,0.4s						
RUSC	**La Rusia**	**0.94**	**176**	⇑*i*P	Pn	10 04 29.5	-0.6
RUSC				*i*		10 04 30.7	
	comp=Z,129nm,0.2s						
RUSC				*e*S	Sn	10 04 47.5	-0.9
PTBC	**PUERTO BERRIO,**	**1.33**	**257**	*e*P	Pn	10 04 31.9	-1.4
PTBC				*e*S	Sn	10 04 52.8	-1.3
PTBC				*i*		10 04 58.3	
	comp=N,382nm,0.4s						
OCAC	**Ocana**	**1.40**	**353**	*e*P	Pn	10 04 33.6	-0.6
OCAC				*e*S	Sn	10 04 55.2	-0.5
OCAC				*i*		10 04 58.3	
	comp=N,831nm,0.3s						
TAMC	**Tame, Arauca**	**1.40**	**106**	*e*P	Pn	10 04 33.9	-0.2
TAMC				*e*S	Sn	10 04 54.9	-0.5
TAMC				*i*		10 04 56.2	
	comp=N,317nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.82**	**291**	*e*P	Pn	10 04 38.0	-0.6
ZARC				*e*S	Sn	10 05 03.6	+0.1
ZARC				*i*		10 05 08.9	
	comp=N,332nm,0.6s						
CTAU	**Tausa, Cundina**	**1.85**	**209**	*e*P	Pn	10 04 40.5	+0.9
CTAU				*e*S	Sn	10 05 04.1	-1.0
CTAB	**Cerro Tablazo,**	**2.10**	**210**	*e*P	Pn	10 04 42.9	+0.5
CTAB				*e*S	Sn	10 05 09.8	-0.3
CHIC	**Chingaza**	**2.27**	**195**	*e*P	Pn	10 04 43.6	-0.8
CHIC				*e*S	Sn	10 05 13.5	-0.3
CHIC				*i*		10 05 18.8	
	comp=E,115nm,0.2s						
ROSC	**El Rosal**	**2.30**	**211**	⇑*e*P	Pn	10 04 45.4	+0.6
ROSC				*e*S	Sn	10 05 14.6	+0.1
ROSC				*i*		10 05 22.2	
	comp=Z,123nm,0.3s						
HELC	**Santa Helena**	**2.45**	**255**	*e*P	Pn	10 04 46.2	-0.4
HELC				*e*S	Sn	10 05 17.5	-0.2
HELC				*i*		10 05 25.3	
	comp=N,97nm,0.4s						
UREC	**San Jos de Ur**	**2.54**	**291**	*e*S	Sn	10 05 17.2	-1.8
UREC				*i*		10 05 28.7	
	comp=N,178nm,0.3s						
VILC	**Villavicencio,**	**2.76**	**191**	*e*P	Pn	10 04 49.3	-1.0
VILC				*e*S	Sn	10 05 23.6	-0.8
VILC				*i*		10 05 30.9	
	comp=N,356nm,0.5s						
RREF	**El Recreo**	**2.91**	**229**	*e*P	Pn	10 04 52.4	-0.2
RREF				*e*S	Sn	10 05 28.5	0.0
RREF				*i*		10 05 39.5	
	comp=Z,100nm,0.3s						
TOLC	**Tolima**	**3.11**	**224**	*e*P	Pn	10 04 55.2	+0.3
SDV	**Santo Domingo**	**3.22**	**51**	*e*P	Pn	10 04 54.9	-1.3
ANIL	**Santa Ana**	**3.24**	**224**	*e*P	Pn	10 04 56.7	+0.2
ANIL				*e*S	Sn	10 05 34.7	-0.7
ANIL				*i*		10 05 42.1	
	comp=N,204nm,0.2s						
SJAC	**San Juan de Ar**	**3.63**	**193**	*e*P	Pn	10 05 01.4	0.0
SJAC				*e*S	Sn	10 05 43.1	-1.3
SJAC				*i*		10 05 54.5	
	comp=Z,112nm,0.4s						
SJCC	**San Jacinto, C**	**3.65**	**327**	*e*P	Pn	10 04 60.0	-1.6
SJCC				*i*		10 05 44.5	
	comp=N,52nm,0.5s						
PLMC	**San Jos del P**	**3.66**	**239**	*e*P	Pn	10 05 01.4	-0.4
PLMC				*i*		10 05 04.0	
	comp=Z,145nm,0.3s						
YOTC	**Yotoco, Valle**	**4.26**	**228**	*e*P	Pn	10 05 08.8	-1.0
SMRC	**Santa Marta, M**	**4.43**	**346**	*e*P	Pn	10 05 10.7	-1.2
SMRC				*i*		10 05 12.3	
	comp=Z,16nm,0.5s						
POPC	**Popayan, Colom**	**5.53**	**220**	*e*P	Pn	10 05 25.4	-1.3

GUC 10 10:04:34.1±0.5, 23°.98S×67°.67W, h204km±6km, ML3.5, 7C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.78**	**320**	*e*P	Pn	10 05 12.0	+0.8
LVC				*e*S	S	10 05 41.4	+1.8
PB15	**IPOC Station P**	**1.82**	**295**	⇑*i*P	Pn	10 05 12.7	+1.3
PB15				*e*S	S	10 05 42.1	+2.1
PB15				IAML		10 05 47.6	
	comp=E,418nm,0.3s						
GO02	**Mina Guanaco**	**2.11**	**236**	⇑*i*P	Pn	10 05 13.7	-0.7
GO02				*e*S	S	10 05 45.2	0.0
GO02				IAML		10 05 47.2	
	comp=E,200nm,0.2s						
PB06	**IPOC Station P**	**2.16**	**306**	⇑*i*P	Pn	10 05 16.4	+1.6
PB06				*e*S	S	10 05 48.6	+2.7
PB06				IAML		10 05 50.9	
	comp=E,114nm,0.3s						
PB14	**IPOC Station P**	**2.57**	**255**	*e*P	Pn	10 05 19.6	+0.2
PB05	**IPOC Station P**	**2.58**	**295**	⇑*i*P	Pn	10 05 21.2	+1.9
PB05				*e*S	S	10 05 56.3	+2.3
PB05				IAML		10 05 58.8	
	comp=E,33nm,0.2s						
PB09	**IPOC Station P**	**2.61**	**326**	⇓*i*P	Pn	10 05 21.9	+2.1
PB09				*e*S	S	10 05 57.6	+2.8
PB09				IAML		10 05 59.4	
	comp=N,65nm,0.4s						
PB10	**IPOC Station P**	**2.68**	**279**	⇑*e*P	Pn	10 05 21.9	+1.6
PB10				*e*S	S	10 05 58.2	+2.4
PB10				IAML		10 06 04.3	
	comp=E,28nm,0.4s						
PB03	**IPOC Station P**	**2.72**	**315**	⇓*i*P	Pn	10 05 22.6	+1.7
PB03				*e*S	S	10 05 59.4	+2.5
PB03				IAML		10 06 00.6	
	comp=E,92nm,0.3s						
PB04	**IPOC Station P**	**2.81**	**305**	⇑*i*P	Pn	10 05 23.7	+1.7
PB04				*e*S	S	10 06 01.5	+2.8
PB04				IAML		10 06 05.6	
	comp=N,68nm,0.5s						
PB07	**IPOC Station P**	**3.04**	**317**	⇑*i*P	Pn	10 05 26.3	+1.7
PB07				*e*S	S	10 06 06.2	+2.7
PB07				IAML		10 06 07.8	
	comp=N,90nm,0.4s						
PB02	**IPOC Station P**	**3.35**	**322**	*e*P	Pn	10 05 30.4	+2.0
PB02				*e*S	S	10 06 13.2	+3.0
PB02				IAML		10 06 16.7	
	comp=E,89nm,0.6s						
PB01	**IPOC Station P**	**3.37**	**330**	*e*P	Pn	10 05 30.2	+1.7
PB01				*e*S	S	10 06 13.0	+2.4
PB01				IAML		10 06 13.2	
	comp=E,64nm,0.2s						

*ISK **10** 10:13:20.1, 39°.67N×25°.55E, h4km, ML2.3/10*
*ISCJB **10** 10:13:22.0±0.4, 39°.70N±0°.02×25°.63E±0°.03, h9km±3km, Error ellipse: s-maj=3.4km s-min=3.1km az=166.4*
*DDA **10** 10:13:21.3, 39°.64N×25°.64E, h7km±4km, ML2.8*
*ATH **10** 10:13:21.6, 39°.69N×25°.61E, h27km±1km, ML2.2/6, Error ellipse: s-maj=2.1km s-min=1.1km az=241.0*

THE 10 10:13:22.3, 39.°71N×25.°63E, h7km±1km, ML2.1/8, Error ellipse: s-maj=2.0km s-min=0.8km az=54.0

ISC 10 10:13:21.8±1.0**, 39.°69N**±0.°02×**25.°62E**±0.°02**, h12**km±8km**, n43, σ0.s56**/65**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.37**	**66**	PG	**Pg**	**10 13 29.2**	**0.0**
BOZC	**Bozcaada**	**0.37**	**66**	IAML_P			
	comp=Z,5µm,0.1s						
BOZC				*i* P	**Pg**	**10 13 29.5**	**+0.3**
LIA	**Limnos Island**	**0.39**	**302**	P	**Pb**	**10 13 30.2**	**-0.5**
LIA				S	**Sg**	**10 13 35.8**	**+0.9**
LIA				AML	AML	10 13 36.1	
	comp=N,518µm,0.2s						
LIA				AML	AML	10 13 36.3	
	comp=E,520µm,0.3s						
LIA	**Limnos Island**	**0.39**	**302**	P	**Pb**	**10 13 30.2**	**-0.5**
LIA				S	**Sg**	**10 13 35.8**	**+0.9**
EFSA	**Agios Efstrati**	**0.51**	**253**	P	**Pb**	**10 13 33.5**	**+0.8**
EFSA				S	**Sb**	**10 13 40.4**	**+0.4**
SIGR	**SIGRI**	**0.51**	**159**	PG	**Pg**	**10 13 30.5**	**-1.4**
SIGR				SG	**Sg**	**10 13 38.5**	**-0.2**
SIGR	**SIGRI**	**0.51**	**159**	P	**Pg**	**10 13 32.0**	**+0.1**
SIGR				S	**Sb**	**10 13 39.9**	**-0.3**
SIGR				AML	AML	10 13 40.4	
	comp=E,848µm,0.5s						
SIGR				AML	AML	10 13 40.5	
	comp=N,1178µm,0.6s						
SIGR	**SIGRI**	**0.51**	**159**	P	**Pg**	**10 13 31.7**	**-0.2**
SIGR				S	**Sb**	**10 13 39.8**	**-0.3**
GADA	**Gvkgeada**	**0.54**	**23**	PG	**Pg**	**10 13 32.1**	**-0.4**
GADA	**Gvkgeada**	**0.54**	**23**	P	**Pg**	**10 13 32.5**	**0.0**
GADA				S	**Sg**	**10 13 39.9**	**+0.2**
EZN	**Ezine**	**0.56**	**76**	PG	**Pg**	**10 13 32.7**	**-0.1**
EZN	**Ezine**	**0.56**	**76**	P	**Pg**	**10 13 32.7**	**-0.1**
EZN				S	**Sg**	**10 13 40.3**	**0.0**
PRK	**Paraskevi**	**0.68**	**131**	P	**Pb**	**10 13 36.2**	**+0.7**
PRK				S	**Sb**	**10 13 45.6**	**+0.8**
PRK				AML	AML	10 13 49.7	
	comp=N,512µm,0.5s						
PRK				AML	AML	10 13 51.2	
	comp=E,500µm,0.4s						
PRK	**Paraskevi**	**0.68**	**131**	P	**Pb**	**10 13 36.2**	**+0.7**
PRK				S	**Sb**	**10 13 45.6**	**+0.8**
BAYC	**CANAKKALE_Bayr**	**0.72**	**86**	IAML_P			
	comp=Z,1µm,0.1s						
BAYC				*i* P	**Pb**	**10 13 36.9**	**+0.6**
BAYC				*i* S	**Sg**	**10 13 45.2**	**0.0**
SMTH	**Samothraki Isl**	**0.78**	**355**	P	**Pb**	**10 13 37.1**	**-0.2**
SMTH				S	**Sb**	**10 13 48.1**	**+0.1**
SMTH				AML	AML	10 13 49.9	
	comp=N,372µm,0.2s						
SMTH				AML	AML	10 13 49.9	
	comp=E,292µm,0.2s						
SMTH	**Samothraki Isl**	**0.78**	**355**	P	**Pb**	**10 13 37.2**	**-0.2**
SMTH				S	**Sb**	**10 13 49.2**	**+1.2**
GELI	**Tayfur-Gelibol**	**0.96**	**43**	PG	**Pg**	**10 13 40.1**	**-0.3**
GELI				SG	**Sn**	**10 13 54.7**	**-0.2**
LPK	**Lapseki**	**1.11**	**52**	PN	**Pg**	**10 13 42.7**	**-0.5**
ENEZ	**Enez**	**1.12**	**21**	PN	**Pg**	**10 13 42.8**	**-0.6**
ENEZ				SN	**Sn**	**10 13 59.3**	**+0.6**
THAS	**Thassos island**	**1.14**	**323**	P	**Pg**	**10 13 43.5**	**-0.4**
THAS				AML	AML	10 13 59.1	
	comp=N,157µm,0.4s						
THAS				AML	AML	10 14 00.3	
	comp=E,220µm,0.2s						
THAS	**Thassos island**	**1.14**	**323**	P	**Pg**	**10 13 43.4**	**-0.4**
THAS				S	**Sg**	**10 13 58.5**	**-0.2**
DKL	**Dikili**	**1.18**	**121**	PN	**Pg**	**10 13 43.9**	**-0.5**
ERIK	**Erikli-Kesan**	**1.20**	**35**	PN	**Pg**	**10 13 44.3**	**-0.5**
ALN	**Alexandroupoli**	**1.25**	**15**	PN	**Pn**	**10 13 43.9**	**-1.2**
ALN	**Alexandroupoli**	**1.25**	**15**	P	**Pn**	**10 13 45.3**	**+0.2**
ALN	**Alexandroupoli**	**1.25**	**15**	P	**Pn**	**10 13 45.2**	**+0.1**
ALN				S	**Sg**	**10 14 02.0**	**-0.1**
CHOS	**Chios island**	**1.35**	**165**	PN	**Pn**	**10 13 45.9**	**-0.6**
CHOS	**Chios island**	**1.35**	**165**	P	**Pn**	**10 13 46.4**	**-0.1**
CHOS				AML	AML	10 14 09.6	
	comp=N,119µm,0.7s						
CHOS				AML	AML	10 14 10.2	
	comp=E,176µm,0.5s						
CHOS	**Chios island**	**1.35**	**165**	P	**Pb**	**10 13 47.1**	**+0.1**
CHOS				S	**Sn**	**10 14 05.1**	**+0.7**
KESN	**Edirne-Kesan**	**1.40**	**35**	IAML_P			
	comp=Z,188nm,0.2s						
KESN				*i* P	**Pg**	**10 13 48.5**	**-0.1**
KESN				*i* S	**Sb**	**10 14 06.1**	**+0.1**
AOS	**Alonnisos**	**1.44**	**249**	PN	**Pn**	**10 13 46.8**	**-1.0**
AOS	**Alonnisos**	**1.44**	**249**	P	**Pn**	**10 13 47.5**	**-0.3**
AOS	**Alonnisos**	**1.44**	**249**	P	**Pn**	**10 13 47.5**	**-0.3**
AOS				S	**Sg**	**10 14 08.9**	**+0.7**
RDO	**Rodhopi**	**1.45**	**358**	PN	**Pn**	**10 13 47.8**	**-0.1**
RDO	**Rodhopi**	**1.45**	**358**	P	**Pn**	**10 13 47.5**	**-0.4**
KRBG	**Karabiga-Canak**	**1.47**	**61**	PN	**Pb**	**10 13 48.8**	**-0.3**
PAIG	**Paliouri**	**1.51**	**280**	P	**Pn**	**10 13 48.2**	**-0.5**
URLA	**Izmir**	**1.53**	**150**	PN	**Pn**	**10 13 48.9**	**-0.1**
URLA	**Izmir**	**1.53**	**150**	*i* P	**Pn**	**10 13 49.0**	**0.0**
URLA				*i* S	**Sn**	**10 14 09.2**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.66**	**100**	*i* P	**Pg**	**10 13 53.0**	**-0.6**
STEP				*i* S	**Sg**	**10 14 14.4**	**-0.7**
SBT4	**Kumbag-Tekirda**	**1.86**	**52**	PN	**Pn**	**10 13 54.2**	**+0.9**
DURS	**Dursunbey**	**2.21**	**91**	IAML_P			
	comp=Z,84nm,0.2s						
DURS				*i* P	**Pb**	**10 14 00.7**	**-1.1**

IDC 10 10:36:32.1±6.1**, 17.°60S**×**178.°76W, h616**km±69km**, mb2.9**/7**, mb1 3.2**/7**, mb1mx2.9**/29**, mbtmp3.9**/7**, Error ellipse: s-maj=86.6km s-min=26.7km az=146.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.17**	**260**	P	P	10 42 20.1	+0.1
	0.9nm,0.3s,baz=87,slow=8.9,SNR=4.7						
STKA	**Stephens Creek**	**38.49**	**241**	P	P	10 43 03.0	-0.5
	1.2nm,0.7s,baz=108,slow=6.4,SNR=2.8						
WRA	**Warramunga Arr**	**44.36**	**259**	P	P	10 43 49.9	0.0
	1.2nm,0.5s,baz=96,slow=7.2,SNR=41						
WRA				PcP	PcP	10 45 20.1	+0.1
	0.1nm,0.4s,baz=88,slow=3.6,SNR=2.7						
ASAR	**Alice Springs**	**44.55**	**254**	P	P	10 43 51.4	0.0
	4.9nm,0.5s,baz=87,slow=8.8,SNR=103						
ASAR				PcP	PcP	10 45 20.1	-0.5
	0.3nm,0.5s,baz=107,slow=4.0,SNR=3.8						
ILAR	**Eielson Array**	**85.66**	**13**	P	P	10 48 06.3	-0.3
	0.3nm,0.8s,baz=198,slow=5.5,SNR=3.1						
TXAR	**Lajitas Array**	**86.11**	**58**	P	P	10 48 09.9	+0.3
	0.4nm,0.8s,baz=216,slow=4.0,SNR=4.2						
PDAR	**Pinedale Array**	**87.36**	**44**	P	P	10 48 15.4	0.0
	0.3nm,0.6s,baz=253,slow=5.6,SNR=2.8						

GUC 10 10:40:13.3±0.8**, 20.°49S**×**70.°21W, h45**km±3km**, ML3.6, 1C-6D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.87**	**130**⇓	*i*P	Pn	10 40 29.5	+0.2
PB01				*e*S	Sn	10 40 41.4	+0.4
PB01				IAML		10 40 44.3	
	comp=N,4µm,0.2s						
PB02	**IPOC Station P**	**0.88**	**161**	*e*P	Pn	10 40 29.4	0.0
PB02				*e*S	Sn	10 40 41.1	0.0
PB02				IAML		10 40 45.0	
	comp=E,4µm,0.2s						
PB11	**IPOC Station P**	**0.89**	**36**⇓	*i*P	Pn	10 40 29.8	+0.2
PB11				*e*S	Sn	10 40 42.3	+0.9
PB11				IAML		10 40 43.3	
	comp=N,4µm,0.2s						
PSGC	**Pisagua**	**0.89**	**5**	*e*P	Pn	10 40 29.4	-0.1
PSGC				*e*S	Sn	10 40 41.8	+0.4
PB08	**IPOC Station P**	**1.05**	**71**⇓	*i*P	Pn	10 40 32.6	+0.6
PB08				*e*S	Sn	10 40 47.3	+1.7
PB07	**IPOC Station P**	**1.27**	**166**⇑	*i*P	Pn	10 40 35.3	+0.5
PB07				*i* S	Sn	10 40 51.1	+0.4
PB07				IAML		10 40 53.3	
	comp=E,2µm,0.3s						
PB09	**IPOC Station P**	**1.58**	**146**⇓	*e*P	Pn	10 40 41.2	+2.2
PB09				*e*S	Sn	10 41 02.1	+3.7
PB09				IAML		10 41 05.1	
	comp=E,2µm,0.4s						
PB03	**IPOC Station P**	**1.61**	**165**⇓	*i*P	Pn	10 40 40.3	+0.8
PB03				*e*S	Sn	10 41 01.2	+2.1
PB03				IAML		10 41 07.8	
	comp=E,820nm,0.4s						
PB04	**IPOC Station P**	**1.84**	**178**	*e*P	Pn	10 40 42.5	-0.1
PB04				*e*S	Sn	10 41 06.6	+1.9
PB04				IAML		10 41 11.8	
	comp=N,1µm,0.7s						
PB12	**IPOC Station P**	**1.87**	**356**⇓	*e*P	Pn	10 40 43.9	+1.0
PB12				*e*S	Sn	10 41 07.0	+1.7
PB12				IAML		10 41 09.6	
	comp=N,362nm,0.4s						
PB06	**IPOC Station P**	**2.29**	**165**	*e*P	Pn	10 40 49.1	+0.4
PB06				*e*S	Sn	10 41 15.8	+0.1
PB06				IAML		10 41 25.9	
	comp=E,470nm,0.6s						
PB05	**IPOC Station P**	**2.35**	**180**	*e*P	Pn	10 40 49.2	-0.4
PB05				*e*S	Sn	10 41 19.8	+2.4
PB05				IAML		10 41 27.0	
	comp=E,464nm,0.4s						
GO02	**Mina Guanaco**	**4.69**	**173**	*e*P	Pn	10 41 21.5	-0.3

ISK 10 10:40:33.9, 39.°67N×25.°46E, h5km, ML3.7/44
BEO 10 10:40:34.4±1.1, 39.°75N×25.°93E, h5km, ML3.2/2
ATH 10 10:40:34.9, 39.°68N×25.°55E, h30km±1km, ML3.4/11, Error ellipse: s-maj=1.6km s-min=1.0km az=90.0
THE 10 10:40:35.4, 39.°67N×25.°55E, h6km±1km, ML3.3/9, Error ellipse: s-maj=1.4km s-min=0.6km az=67.0
DDA 10 10:40:35.2, 39.°65N×25.°61E, h27km±1km, ML3.6
ISCJB 10 10:40:35.0±0.4, 39.°67N±0.°01×25.°52E±0.°02, h9km±3km, Error ellipse: s-maj=2.6km s-min=2.2km az=41.2
SOF 10 10:40:37.2, 39.°72N×25.°27E, h10km

ISC 10 10:40:35.4±0.9**, 39.°65N**±0.°02×**25.°54E**±0.°02**, h14**km±8km**, n170, σ1.s33**/195**, 9C-4D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.37**	**312**	P	**Pg**	**10 40 42.8**	**-0.1**
LIA				AML	AML	10 40 48.5	
	comp=E,5386µm,0.3s						
LIA				AML	AML	10 40 50.6	
	comp=N,5643µm,0.3s						
LIA	**Limnos Island**	**0.37**	**312**	P	**Pg**	**10 40 42.9**	**0.0**
LIA				S	**Sg**	**10 40 48.2**	**+0.2**
EFSA	**Agios Efstrati**	**0.44**	**256**	P	**Pb**	**10 40 45.5**	**+0.6**
EFSA				S	**Sb**	**10 40 52.2**	**+0.9**
EFSA				AML	AML	10 40 52.5	
	comp=E,20542µm,0.5s						
EFSA				AML	AML	10 40 54.1	
	comp=N,15423µm,0.4s						
BOZC	**Bozcaada**	**0.44**	**64**	PG	**Pg**	**10 40 43.5**	**-0.7**
BOZC	**Bozcaada**	**0.44**	**64**	IAML_P			
	comp=Z,32µm,0.1s						
BOZC				*i* P	**Pg**	**10 40 44.0**	**-0.2**
GPNR	**Gulpinar-Canak**	**0.50**	**113**	PG	**Pg**	**10 40 45.0**	**-0.3**
SIGR	**SIGRI**	**0.50**	**151**	PG	**Pg**	**10 40 45.1**	**-0.2**
SIGR				SG	**Sb**	**10 40 52.6**	**-0.5**
SIGR	**SIGRI**	**0.50**	**151**	P	**Pg**	**10 40 45.2**	**-0.2**
SIGR				S	**Sb**	**10 40 53.2**	**+0.1**
SIGR				AML	AML	10 40 53.6	
	comp=E,15825µm,0.3s						
SIGR				AML	AML	10 40 53.8	
	comp=N,23799µm,0.8s						
SIGR	**SIGRI**	**0.50**	**151**	P	**Pg**	**10 40 45.2**	**-0.2**
SIGR				S	**Sb**	**10 40 52.7**	**-0.4**
GADA	**Gvkgeada**	**0.61**	**27**	PG	**Pb**	**10 40 46.6**	**-1.2**
GADA				SG	**Sb**	**10 40 55.1**	**-1.1**
GADA	**Gvkgeada**	**0.61**	**27**	P	**Pb**	**10 40 46.7**	**-1.1**
GADA				S	**Sb**	**10 40 55.0**	**-1.1**
GOKC	**Gokceada-Canak**	**0.62**	**28**	PG	**Pb**	**10 40 46.7**	**-1.3**
GOKC				SG	**Sb**	**10 40 55.6**	**-1.0**
EZN	**Ezine**	**0.63**	**74**	PG	**Pb**	**10 40 47.0**	**-1.2**
EZN	**Ezine**	**0.63**	**74**	P	**Pb**	**10 40 46.9**	**-1.2**
EZN				S	**Sb**	**10 40 55.4**	**-1.5**
PRK	**Paraskevi**	**0.70**	**125**	P	**Pn**	**10 40 49.7**	**-1.1**
PRK				S	**Sn**	**10 40 59.7**	**-1.6**
PRK				AML	AML	10 41 03.4	
	comp=N,13659µm,0.4s						
PRK				AML	AML	10 41 05.2	
	comp=E,14011µm,0.4s						
PRK	**Paraskevi**	**0.70**	**125**	P	**Pn**	**10 40 49.9**	**-0.9**
PRK				S	**Sn**	**10 41 00.0**	**-1.3**
BAYC	**CANAKKALE_Bayr**	**0.78**	**83**	IAML_P			
	comp=Z,28µm,0.1s						
BAYC				*i* P	**Pg**	**10 40 50.6**	**0.0**
BAYC				*i* S	**Sb**	**10 41 00.1**	**-1.2**
SMTH	**Samothraki Isl**	**0.82**	**360**	P	**Pb**	**10 40 50.7**	**-0.7**
SMTH				S	**Sb**	**10 41 01.2**	**-1.1**
SMTH				AML	AML	10 41 04.6	
	comp=E,4490µm,0.2s						
SMTH				AML	AML	10 41 04.8	
	comp=N,3725µm,0.2s						
SMTH	**Samothraki Isl**	**0.82**	**360**	P	**Pb**	**10 40 50.7**	**-0.7**
SMTH				S	**Sg**	**10 41 02.5**	**+0.4**
AYVA	**Ayvalik**	**0.95**	**111**	IAML_P			
	comp=Z,11µm,0.1s						
AYVA				*i* P	**Pn**	**10 40 53.6**	**-0.8**
AYVA				*i* S	**Sn**	**10 41 07.5**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.04**	**44**	PG	**Pn**	**10 40 55.0**	**-0.5**
GELI				SG	**Sg**	**10 41 09.6**	**+0.6**
SKY	**Skiros Island**	**1.09**	**225**	P	**Pn**	**10 40 55.6**	**-0.5**
SKY				AML	AML	10 41 11.8	
	comp=N,2910µm,0.4s						
SKY				AML	AML	10 41 13.8	
	comp=E,4798µm,0.2s						
SKY	**Skiros Island**	**1.09**	**225**	P	**Pn**	**10 40 55.9**	**-0.3**
PSRA	**Psara**	**1.11**	**179**	P	**Pg**	**10 40 57.2**	**+0.5**
THAS	**Thassos island**	**1.14**	**327**	P	**Pn**	**10 40 56.2**	**-0.7**
THAS				S	**Sb**	**10 41 11.3**	**-0.3**
THAS				AML	AML	10 41 12.6	
	comp=N,2376µm,0.4s						
THAS				AML	AML	10 41 13.6	
	comp=E,2264µm,0.4s						
THAS	**Thassos island**	**1.14**	**327**	P	**Pn**	**10 40 56.4**	**-0.5**
THAS				S	**Sb**	**10 41 11.8**	**+0.2**
ENEZ	**Enez**	**1.18**	**23**	PN	**Pb**	**10 40 57.2**	**-0.4**
LPK	**Lapseki**	**1.18**	**52**	PN	**Pg**	**10 40 57.8**	**-0.4**
DKL	**Dikili**	**1.21**	**118**	PN	**Pg**	**10 40 58.6**	**-0.1**
ERIK	**Erikli-Kesan**	**1.26**	**36**	PN	**Pb**	**10 40 58.5**	**-0.5**
ALN	**Alexandroupoli**	**1.30**	**17**	P	**Pn**	**10 40 58.5**	**-0.6**
ALN				S	**Sb**	**10 41 15.8**	**-0.5**
ALN				AML	AML	10 41 18.3	
	comp=N,1322µm,0.3s						
ALN				AML	AML	10 41 23.1	
	comp=E,1937µm,0.5s						
ALN	**Alexandroupoli**	**1.30**	**17**	P	**Pn**	**10 40 58.6**	**-0.6**
ALN				S	**Sb**	**10 41 16.6**	**+0.3**
FOCM	**Foa**	**1.32**	**135**	PN	**Pb**	**10 40 59.9**	**0.0**
KRBN	**Karaburun**	**1.32**	**143**	PN	**Pg**	**10 41 00.6**	**-0.2**
CHOS	**Chios island**	**1.32**	**162**	PN	**Pb**	**10 41 00.2**	**+0.2**
CHOS	**Chios island**	**1.32**	**162**	P	**Pn**	**10 40 59.3**	**-0.1**
CHOS				AML	AML	10 41 20.8	
	comp=E,5418µm,0.5s						
CHOS				AML	AML	10 41 21.7	
	comp=N,3613µm,0.3s						
CHOS	**Chios island**	**1.32**	**162**	P	**Pn**	**10 40 59.4**	**-0.1**
CHOS				S	**Sg**	**10 41 18.3**	**+0.2**
AOS	**Alonnisos**	**1.37**	**250**	PN	**Pn**	**10 40 59.6**	**-0.5**
AOS	**Alonnisos**	**1.37**	**250**	P	**Pn**	**10 40 59.9**	**-0.2**
AOS				AML	AML	10 41 21.2	
	comp=E,1375µm,0.4s						
AOS				AML	AML	10 41 21.7	
	comp=N,1769µm,0.7s						
AOS	**Alonnisos**	**1.37**	**250**	P	**Pn**	**10 41 00.0**	**-0.1**
AOS				S	**Sg**	**10 41 20.4**	**+0.8**
PAIG	**Paliouri**	**1.46**	**282**	P	**Pn**	**10 41 00.8**	**-0.4**
PAIG	**Paliouri**	**1.46**	**282**	P	**Pn**	**10 41 01.2**	**-0.1**
KESN	**Edirne-Kesan**	**1.46**	**36**	IAML_P			
	comp=Z,2µm,0.1s						
KESN				*i* P	**Pb**	**10 41 01.8**	**-0.8**
RDO	**Rodhopi**	**1.50**	**360**	PN	**Pn**	**10 41 01.2**	**-0.6**
RDO	**Rodhopi**	**1.50**	**360**	P	**Pn**	**10 41 00.9**	**-0.9**
RDO				AML	AML	10 41 22.8	
	comp=N,1051µm,0.8s						
RDO				AML	AML	10 41 29.9	
	comp=E,874µm,0.2s						
RDO	**Rodhopi**	**1.50**	**360**	P	**Pn**	**10 41 01.8**	**0.0**
URLA	**Izmir**	**1.53**	**147**	PN	**Pb**	**10 41 02.6**	**-0.9**
URLA	**Izmir**	**1.53**	**147**	IAML_P			
	comp=Z,4µm,0.2s						
URLA				*i* P	**Pb**	**10 41 02.6**	**-0.9**
KRBG	**Karabiga-Canak**	**1.54**	**61**	PN	**Pb**	**10 41 02.9**	**-0.8**
KAVA	**Kavala**	**1.56**	**330**	P	**Pn**	**10 41 02.0**	**-0.6**
KAVA	**Kavala**	**1.56**	**330**	P	**Pn**	**10 41 02.2**	**-0.4**
KAVA				S	**Sb**	**10 41 24.7**	**+1.2**
KVLA	**Kavala**	**1.56**	**326**	P	**Pn**	**10 41 02.1**	**-0.6**
SART	**Tekirdag**	**1.63**	**50**	IAML_P			
	comp=Z,11µm,0.2s						
SART				*i* P	**Pb**	**10 41 05.7**	**+0.4**
KNL	**Balıkesir**	**1.65**	**67**	IAML_P			
	comp=Z,7µm,0.2s						
KNL				*i* P	**Pb**	**10 41 05.5**	**0.0**
SKIA	**Skiathos**	**1.68**	**254**	P	**Pn**	**10 41 04.2**	**-0.1**
SKIA	**Skiathos**	**1.68**	**254**	P	**Pn**	**10 41 04.0**	**-0.3**
GONE	**Gonen-Balikesi**	**1.70**	**76**	PN	**Pb**	**10 41 05.8**	**-0.6**
STEP	**BALIKESIR_Sava**	**1.71**	**98**	IAML_P			
	comp=Z,9µm,0.3s						
STEP				*i* P	**Pb**	**10 41 05.6**	**-1.0**
BLCB	**Balcova**	**1.72**	**137**	PN	**Pb**	**10 41 06.3**	**-0.5**
EREA	**Eretria**	**1.75**	**226**	P	**Pn**	**10 41 04.8**	**-0.5**
EREA	**Eretria**	**1.75**	**226**	P	**Pn**	**10 41 04.9**	**-0.5**
PLG	**Polygyros**	**1.76**	**295**	P	**Pn**	**10 41 05.7**	**+0.3**
PLG	**Polygyros**	**1.76**	**295**	P	**Pn**	**10 41 05.8**	**+0.3**
BALB	**Balikesir**	**1.81**	**90**	PN	**Pb**	**10 41 06.9**	**-1.3**
KARY	**Karystos**	**1.83**	**208**	P	**Pn**	**10 41 05.7**	**-0.7**
XOR	**Xorichti**	**1.84**	**262**	P	**Pn**	**10 41 06.2**	**-0.4**
XOR	**Xorichti**	**1.84**	**262**	P	**Pn**	**10 41 06.4**	**-0.1**
GMLD	**Gumuldur**	**1.90**	**145**	PN	**Pb**	**10 41 09.1**	**-0.8**
DGB	**zmir**	**1.91**	**146**	IAML_P			
	comp=Z,686nm,0.1s						
DGB				*i* P	**Pb**	**10 41 08.5**	**-1.4**
EDC	**Edincik**	**1.92**	**68**	PN	**Pb**	**10 41 09.1**	**-1.0**
AKHS	**Akhisar**	**1.93**	**113**	IAML_P			
	comp=Z,2µm,0.2s						
AKHS				*i* P	**Pb**	**10 41 08.6**	**-1.6**
SBT4	**Kumbag-Tekirda**	**1.93**	**52**	PN	**Pb**	**10 41 09.1**	**-1.1**
KDZ	**Kurdzhali**	**2.00**	**357**	PN	**Pn**	**10 41 08.5**	**-0.3**
KDZ	**Kurdzhali**	**2.00**	**357**	*i* P	**Pb**	**10 41 12.5**	**+0.9**
DION	**Dionisos Attik**	**2.01**	**219**	P	**Pn**	**10 41 08.3**	**-0.6**
TKR	**Tekirdag**	**2.03**	**48**	PN	**Pn**	**10 41 09.3**	**+0.2**
SOH	**Sokhos**	**2.04**	**306**	P	**Pn**	**10 41 09.6**	**+0.3**
SOH	**Sokhos**	**2.04**	**306**	P	**Pn**	**10 41 09.7**	**+0.3**
SRS	**Serrai**	**2.09**	**315**	*e*Pn	**Pn**	**10 41 10.0**	**0.0**
SRS				*e*Sn	**Sb**	**10 41 40.5**	**+1.7**
SRS	**Serrai**	**2.09**	**315**	P	**Pn**	**10 41 10.0**	**0.0**
SRS	**Serrai**	**2.09**	**315**	P	**Pn**	**10 41 09.9**	**0.0**
HORT	**Hortiatis**	**2.10**	**298**	PN	**Pn**	**10 41 09.1**	**-1.0**
HORT	**Hortiatis**	**2.10**	**298**	P	**Pn**	**10 41 10.4**	**+0.3**
HORT	**Hortiatis**	**2.10**	**298**	P	**Pn**	**10 41 10.4**	**+0.3**
NVR	**Nevrokopi**	**2.13**	**324**	P	**Pn**	**10 41 10.7**	**+0.1**
NVR	**Nevrokopi**	**2.13**	**324**	P	**Pn**	**10 41 10.6**	**+0.1**
RZN	**Rozhen**	**2.13**	**343**	*i* P	**Pn**	**10 41 11.2**	**+0.5**
KCTX	**Karacabey (Bur**	**2.25**	**73**	PN	**Pn**	**10 41 13.4**	**+1.2**
DURS	**Dursunbey**	**2.27**	**90**	IAML_P			
	comp=Z,1µm,0.1s						
DURS				*i* P	**Pb**	**10 41 13.8**	**-2.3**
GCAM	**G?zelcaml?**	**2.36**	**145**	PN	**Pb**	**10 41 15.5**	**-2.1**
GCAM	**G?zelcaml?**	**2.36**	**145**	*i* P	**Pb**	**10 41 18.6**	**+1.1**
MMB	**Musomiste**	**2.38**	**325**	*i* P	**Pn**	**10 41 13.9**	**-0.1**
EDRB	**Edirne**	**2.38**	**22**	PN	**Pn**	**10 41 14.7**	**+0.8**
DIM	**Dimitrovgrad**	**2.40**	**360**	*i* P	**Pb**	**10 41 16.5**	**-1.8**
PHSR	**Pinarhisar**	**2.49**	**37**	PN	**Pn**	**10 41 16.4**	**+0.9**
KNT	**Kendrikon**	**2.52**	**308**	PN	**Pn**	**10 41 14.9**	**-1.0**
KNT	**Kendrikon**	**2.52**	**308**	P	**Pn**	**10 41 16.6**	**+0.7**
KNT	**Kendrikon**	**2.52**	**308**	P	**Pn**	**10 41 16.5**	**+0.7**
PLD	**Plovdiv**	**2.53**	**346**	*e*Pn	**Pn**	**10 41 17.1**	**+1.0**
PLD				*e*Sn	**Sn**	**10 41 47.4**	**+0.7**
PLD	**Plovdiv**	**2.53**	**346**	PN	**Pn**	**10 41 16.3**	**+0.2**
DEMI	**Demirci**	**2.54**	**103**	IAML_P			
	comp=Z,765nm,0.2s						
DEMI				*i* P	**Pn**	**10 41 17.9**	**+1.7**
AGG	**Agios Georgios**	**2.56**	**257**	PN	**Pn**	**10 41 16.4**	**-0.1**
SLVT	**Silivri**	**2.58**	**51**	PN	**Pn**	**10 41 18.2**	**+1.5**
ORLT	**Orhaneli**	**2.62**	**80**	PN	**Pb**	**10 41 19.3**	**-2.7**
MANT	**Manisa**	**2.62**	**115**	IAML_P			
	comp=Z,317nm,0.1s						
MANT				*i* P	**Pn**	**10 41 18.9**	**+1.5**
MDNY	**Mudanya-Bursa**	**2.67**	**73**	PN	**Pb**	**10 41 19.9**	**-3.0**
KULA	**Kula-Manisa**	**2.68**	**114**	PN	**Pn**	**10 41 19.5**	**+1.3**
AYDN	**Tasoluk**	**2.70**	**137**	IAML_P			
	comp=Z,450nm,0.3s						
AYDN				*i* P	**Pn**	**10 41 19.1**	**+0.7**
ARMT	**Armutlu**	**2.71**	**69**	PN	**Pn**	**10 41 20.2**	**+1.7**
THL	**Klokotos Trika**	**2.72**	**269**	P	**Pn**	**10 41 18.7**	**0.0**
GRG	**Griva**	**2.73**	**300**	PN	**Pn**	**10 41 17.6**	**-1.2**
GRG	**Griva**	**2.73**	**300**	P	**Pn**	**10 41 19.9**	**+1.1**
GRG	**Griva**	**2.73**	**300**	P	**Pn**	**10 41 19.7**	**+0.9**
CTKS	**Kestanelik-??a**	**2.77**	**54**	PN	**Pn**	**10 41 21.0**	**+1.8**
CTYL	**Yalikoy Yolu**	**2.78**	**48**	PN	**Pn**	**10 41 20.7**	**+1.3**
KIYI	**Yalıkoy-Catalc**	**2.79**	**48**	PN	**Pn**	**10 41 21.3**	**+1.7**
VAY	**Valandovo**	**2.81**	**307**	*e*Pn	**Pn**	**10 41 22.2**	**+2.3**
VAY	**Valandovo**	**2.81**	**307**	*i* Pn	**Pg**	**10 41 28.2**	**-1.1**
KKB	**Krupnik**	**2.90**	**321**	*i* P	**Pn**	**10 41 22.5**	**+1.4**
BGKT	**Bogazkoy**	**2.91**	**57**	PN	**Pn**	**10 41 21.1**	**0.0**
GEMT	**Gemlik**	**2.91**	**73**	PN	**Pn**	**10 41 23.1**	**+1.9**
SHAP	**Saphane-Kutahy**	**2.92**	**101**	PN	**Pn**	**10 41 23.6**	**+2.1**
BODT	**Bodrum**	**2.94**	**151**	PN	**Pn**	**10 41 22.3**	**+0.7**
BUY	**Buyukada**	**2.99**	**65**	IAML_P			
	comp=Z,427nm,0.2s						
BUY				*i* P	**Pn**	**10 41 22.0**	**-0.3**
ANX	**Ano Chora**	**3.00**	**251**	P	**Pn**	**10 41 23.4**	**+0.8**
ISK	**Istanbul-Kandi**	**3.04**	**61**	PN	**Pn**	**10 41 25.0**	**+2.0**
KAVV	**Kandilli-Istan**	**3.04**	**61**	PN	**Pn**	**10 41 24.6**	**+1.6**
GEDZ	**Gediz**	**3.06**	**100**	PN	**Pb**	**10 41 26.1**	**-3.6**
YLV	**Yalova**	**3.08**	**71**	PN	**Pn**	**10 41 25.6**	**+2.0**
GDZ	**Gediz**	**3.11**	**99**	IAML_P			
	comp=Z,287nm,0.2s						
GDZ				*i* P	**Pn**	**10 41 25.7**	**+1.6**
KLYT	**Kilyos**	**3.12**	**58**	PN	**Pn**	**10 41 25.6**	**+1.6**
STIP	**Stip**	**3.27**	**310**⇑	*i*Pn	**Pn**	**10 41 25.6**	**-0.6**
DAT	**Datca**	**3.33**	**151**	PN	**Pn**	**10 41 27.9**	**+0.8**
CAVI	**Cavuskoy**	**3.35**	**79**	PN	**Pn**	**10 41 29.1**	**+1.7**
FNA	**Florina**	**3.38**	**291**	*e*Pn	**Pb**	**10 41 31.7**	**-3.4**
VTS	**Vitosha**	**3.43**	**330**	*e*Pn	**Pn**	**10 41 30.0**	**+1.5**
SILT	**Sile**	**3.48**	**63**	PN	**Pn**	**10 41 30.4**	**+1.4**
TURN	**Turunc**	**3.67**	**138**	PN	**Pn**	**10 41 32.9**	**+1.2**
BORA	**Eskisehir**	**3.79**	**85**	PN	**Pn**	**10 41 34.8**	**+1.3**
KZIL	**AFYON_Kizioren**	**3.85**	**110**	*i* P	**Pn**	**10 41 33.1**	**-1.2**
GOLH	**Golhisar**	**3.97**	**126**	*i* P	**Pb**	**10 41 40.5**	**-4.7**
IGT	**Igoumenitsa**	**4.02**	**270**	*e*Pn	**Pn**	**10 41 41.0**	**+4.4**
BRDR	**BURDUR-Merkez**	**4.04**	**117**	*i* P	**Pn**	**10 41 36.6**	**-0.3**
SHUT	**Suhut-Afyon**	**4.05**	**104**	PN	**Pn**	**10 41 39.1**	**+2.1**
ZAPS	**Zavoj**	**4.23**	**330**	*e*Pn	**Pn**	**10 41 40.0**	**+0.6**
BARS	**Barje**	**4.23**	**320**	*e*Pn	**Pn**	**10 41 40.0**	**+0.6**
BAGO	**Egridir - ISPA**	**4.42**	**110**	*i* P	**Pn**	**10 41 42.9**	**+0.8**
KORT	**Korkueli**	**4.62**	**123**	*i* P	**Pn**	**10 41 46.8**	**+2.0**
KORT				*i* S	Pg	10 42 13.7	+10
AKAS	**Kas**	**4.69**	**135**	*i* P	**Pn**	**10 41 48.1**	**+2.3**
ZAGS	**Zajecar**	**4.84**	**330**	*e*Pn	**Pn**	**10 41 48.1**	**+0.4**
SELS	**Selova**	**4.87**	**318**	*e*Pn	**Pn**	**10 41 50.0**	**+1.8**
BOVS	**Bovan**	**4.91**	**325**	*e*Pn	**Pn**	**10 41 49.9**	**+1.2**
DOGA	**KONYA_Doganhis**	**5.03**	**106**	*i* P	**Pb**	**10 42 06.7**	**+3.5**
DOGA				*i* S	Sn	10 42 34.6	-14
TLB	**Topalu**	**5.27**	**20**⇑	*i*P	**Pn**	**10 41 55.8**	**+2.1**
GRUS	**Gruza**	**5.56**	**321**	*e*Pn	**Pn**	**10 41 59.1**	**+1.4**
ARR	**Arges**	**5.75**	**354**⇑	*i*P	**Pn**	**10 42 01.5**	**+1.1**
VOIR		**5.79**	**357**⇓	*i*P	**Pn**	**10 42 02.3**	**+1.3**
MLR	**Muntele Rosu**	**5.85**	**3**⇓	*i*P	**Pn**	**10 42 04.8**	**+3.1**
MDVR	**Moldovita**	**5.86**	**332**⇑	*i*P	**Pn**	**10 42 03.0**	**+1.2**
DIVS	**Divibare**	**6.07**	**319**	*e*Pn	**Pn**	**10 42 05.8**	**+1.0**
GZR	**Gura Zlata**	**6.09**	**341**⇓	*i*P	**Pn**	**10 42 06.4**	**+1.4**
PLOR	**Plostina**	**6.25**	**7**⇓	*i*P	**Pn**	**10 42 09.8**	**+2.6**
VRI	**Vrincioaia**	**6.28**	**8**⇑	*i*P	**Pn**	**10 42 10.3**	**+2.8**
DOPR	**Dopca**	**6.32**	**359**⇑	*i*P	**Pn**	**10 42 10.3**	**+2.3**
ERMK	**Ermenek**	**6.54**	**115**	*i* P	Pn	10 42 03.6	-7.7
BZS	**Buzias**	**6.63**	**335**⇑	*i*P	**Pn**	**10 42 13.9**	**+1.6**
KERG	**Konya-Eregli**	**7.09**	**106**	*i* P	**Pn**	**10 42 21.1**	**+2.3**
KERG				*i* S	**Pg**	**10 42 54.5**	**+3.3**
BIZ	**Bicaz**	**7.30**	**3**⇑	*i*P	**Pn**	**10 42 23.0**	**+1.5**
GULE	**Gulek**	**7.62**	**105**	*i* P	**Pn**	**10 42 27.2**	**+1.1**
BURAR	**Bucovina Array**	**7.97**	**358**⇑	*i*P	**Pn**	**10 42 33.8**	**+3.0**

KNET 10 10:42:16.0±0.2, 42.°68N×75.°69E, h7km±4km, ml0.9, Error ellipse: s-maj=1.3km s-min=0.7km az=37.0
SOME 10 10:42:15.1, 42.°65N×75.°63E
NNC 10 10:42:15.7±0.5, 42.°67N×75.°68E, h0km, mpv2.6, Error ellipse: s-maj=3.4km s-min=2.1km az=135.0, Suspected Mining explosion.
ISCJB 10 10:42:16.2±0.5, 42.°68N±0.°03×75.°69E±0.°03, h0km, Error ellipse: s-maj=4.4km s-min=3.2km az=161.7

ISC 10 10:42:15.9±0.9**, 42.°67N**±0.°03×**75.°68E**±0.°03**, h0**km**, n13,**

σ0§71/23, 10C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.26**	**347**	⇑P	**Pg**	**10 42 21.0**	**+0.1**
	6.3nm,0.1s,SNR=60						
TKM2				⇑S	**Sg**	**10 42 25.0**	**+0.8**
	21nm,0.1s						
TKM2	**Tokmak 2**	**0.26**	**347**	⇓P	**Pg**	**10 42 20.8**	**-0.1**
	1.5nm,0.3s						
TKM2				⇑S	**Sg**	**10 42 24.9**	**+0.6**
	10nm,0.5s						
KST	**Kastek**	**0.43**	**29**	P	**Pg**	**10 42 24.0**	**-0.1**
	8.8nm,0.1s						
KST				S	**Sg**	**10 42 30.6**	**+0.9**
	4.7nm,0.3s						
KBK	**Karagaybulak**	**0.54**	**269**	⇑P	**Pg**	**10 42 26.8**	**+0.5**
	4.1nm,0.1s,SNR=17						
KBK				⇓S	**Sb**	**10 42 35.1**	**-1.6**
	3.3nm,0.2s						
DGS	**Degeres**	**0.58**	**7**	P	**Pg**	**10 42 26.8**	**-0.2**
	2.1nm,0.2s						
DGS				S	**Sg**	**10 42 35.4**	**+0.9**
	4.1nm,0.1s						
ULHL	**Ulahol**	**0.60**	**135**	⇑P	**Pg**	**10 42 27.5**	**+0.2**
	4.1nm,0.2s,SNR=18						
ULHL				⇑S	**Sb**	**10 42 37.0**	**-1.4**
	2.8nm,0.2s						
KZA	**Kyzart**	**0.67**	**208**	⇑P	**Pg**	**10 42 29.2**	**+0.4**
	7.1nm,0.4s,SNR=13						
IZV	**Izvestkoviy**	**0.78**	**62**	P	**Pg**	**10 42 31.0**	**+0.2**
	3.5nm,0.1s						
IZV				S	**Sg**	**10 42 41.7**	**+0.8**
	2.4nm,0.1s						
AAK	**Ala-Archa**	**0.87**	**268**	⇓P	**Pg**	**10 42 32.8**	**+0.1**
	1.1nm,0.2s						
AAK	**Ala-Archa**	**0.87**	**268**	⇑P	**Pg**	**10 42 32.7**	**+0.1**
	0.8nm,0.4s						
AAK				⇑S	**Sg**	**10 42 44.9**	**+0.9**
	0.6nm,0.4s						
TNSS	**Tian-Shan**	**1.00**	**68**	P	**Pg**	**10 42 35.4**	**+0.2**
	2.4nm,0.1s						
TNSS				S	**Sb**	**10 42 50.1**	**-0.3**
	2.0nm,0.1s						
EKS2	**Erkin-Say**	**1.40**	**270**	⇑P	**Pn**	**10 42 43.0**	**+0.1**
	1.7nm,0.1s,SNR=10						
MRKS	**Merke**	**1.81**	**273**	P	**Pb**	**10 42 49.7**	**-0.3**
	4.0nm,0.2s						
MRKS				S	**Sg**	**10 43 14.8**	**+0.8**
	3.5nm,0.2s						

*ISK **10** 10:42:29.2, 39°.66N×25°.49E, h5km, ML3.5/29*
*DDA **10** 10:42:29.9, 39°.63N×25°.52E, h7km±2km, ML3.1*
*BEO **10** 10:42:30.6±1.2, 39°.73N×25°.94E, h5km, ML3.2/3*
*ISCJB **10** 10:42:31.0±0.4, 39°.67N±0°.02×25°.53E±0°.02, h7km±3km, Error ellipse: s-maj=2.6km s-min=2.4km az=39.8*
*ATH **10** 10:42:30.8, 39°.67N×25°.54E, h26km±1km, ML3.3/7, Error ellipse: s-maj=1.5km s-min=0.9km az=245.0*
*THE **10** 10:42:31.4, 39°.67N×25°.57E, h7km±1km, ML3.2/6, Error ellipse: s-maj=1.6km s-min=0.7km az=57.0*
ISC 10 10:42:30.9±1.0**, 39°.66N**±0°.02×**25°.51E**±0°.02**, h7**km±9km**, n115, σ0§76**/142**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.34**	**313**	P	**Pb**	**10 42 38.8**	**-0.5**
LIA				S	**Sb**	**10 42 43.9**	**-1.1**
LIA				AML	AML	10 42 50.3	
	comp=E,5856μm,0.5s						
LIA				AML	AML	10 42 50.8	
	comp=N,5933μm,0.3s						
LIA	**Limnos Island**	**0.34**	**313**	P	**Pb**	**10 42 38.9**	**-0.5**
LIA				S	**Sb**	**10 42 44.2**	**-0.8**
EFSA	**Agios Efstrati**	**0.42**	**253**	P	**Pb**	**10 42 41.1**	**+0.4**
EFSA				S	**Sb**	**10 42 47.8**	**+0.6**
EFSA				AML	AML	10 42 48.4	
	comp=E,18896μm,0.6s						
EFSA				AML	AML	10 42 48.6	
	comp=N,14268μm,0.3s						
BOZC	**Bozcaada**	**0.45**	**67**	PG	**Pg**	**10 42 39.5**	**-0.3**
BOZC				SG	**Sb**	**10 42 47.6**	**-0.6**
BOZC	**Bozcaada**	**0.45**	**67**	IAML_P			
	comp=Z,8μm,0.1s						
BOZC				*i* P	**Pg**	**10 42 39.9**	**+0.1**
GPNR	**Gulpinar-Canak**	**0.52**	**113**	PG	**Pg**	**10 42 40.9**	**-0.2**
SIGR	**SIGRI**	**0.53**	**149**	PG	**Pg**	**10 42 40.3**	**-0.8**
SIGR	**SIGRI**	**0.53**	**149**	P	**Pg**	**10 42 41.4**	**+0.3**
SIGR				S	**Sb**	**10 42 49.0**	**-1.2**
SIGR				AML	AML	10 42 49.8	
	comp=N,14869μm,0.7s						
SIGR				AML	AML	10 42 49.8	
	comp=E,8582μm,0.5s						
SIGR	**SIGRI**	**0.53**	**149**	P	**Pg**	**10 42 41.2**	**+0.1**
SIGR				S	**Sg**	**10 42 48.6**	**+0.7**
GADA	**Gvkgeada**	**0.60**	**29**	PG	**Pg**	**10 42 42.5**	**-0.1**
GADA	**Gvkgeada**	**0.60**	**29**	P	**Pg**	**10 42 42.7**	**+0.1**
GADA				S	**Sg**	**10 42 50.9**	**+0.4**
GOKC	**Gokceada-Canak**	**0.62**	**30**	PG	**Pg**	**10 42 42.7**	**-0.2**
EZN	**Ezine**	**0.65**	**75**	PG	**Pg**	**10 42 42.8**	**-0.6**
EZN	**Ezine**	**0.65**	**75**	P	**Pg**	**10 42 42.9**	**-0.5**
EZN				S	**Sg**	**10 42 51.5**	**-0.4**
PRK	**Paraskevi**	**0.72**	**125**	P	**Pb**	**10 42 45.5**	**-0.3**
PRK				S	**Sb**	**10 42 55.4**	**-0.5**
PRK				AML	AML	10 42 59.5	
	comp=N,8831μm,0.4s						
PRK				AML	AML	10 43 00.1	
	comp=E,8068μm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.80**	**84**	IAML_P			
	comp=Z,6μm,0.2s						
BAYC				*i* P	**Pb**	**10 42 46.7**	**-0.5**
BAYC				*i* S	**Sg**	**10 42 57.0**	**+0.2**
SMTH	**Samothraki Isl**	**0.81**	**1**	P	**Pb**	**10 42 46.8**	**-0.5**
SMTH	**Samothraki Isl**	**0.81**	**1**	P	**Pb**	**10 42 46.8**	**-0.5**
SMTH				S	**Sn**	**10 42 59.7**	**-1.3**
AYVA	**Ayvalik**	**0.98**	**111**	IAML_P			
	comp=Z,4μm,0.1s						
AYVA				*i* P	**Pb**	**10 42 49.9**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.04**	**45**	PG	**Pb**	**10 42 51.0**	**-0.3**
SKY	**Skiros Island**	**1.08**	**224**	P	**Pg**	**10 42 51.7**	**-0.1**
THAS	**Thassos island**	**1.12**	**327**	P	**Pb**	**10 42 52.5**	**-0.1**
THAS				S	**Sb**	**10 43 08.0**	**+0.6**
THAS				AML	AML	10 43 09.0	
	comp=N,2504μm,0.4s						
THAS				AML	AML	10 43 09.7	
	comp=E,2018μm,0.4s						
THAS	**Thassos island**	**1.12**	**327**	P	**Pb**	**10 42 52.5**	**-0.1**
THAS				S	**Sn**	**10 43 08.1**	**-0.6**
PSRA	**Psara**	**1.12**	**178**	P	**Pb**	**10 42 52.5**	**-0.2**
PSRA				S	**Sn**	**10 43 08.7**	**0.0**
ENEZ	**Enez**	**1.18**	**24**	PN	**Pg**	**10 42 52.9**	**-0.7**
ENEZ				SN	**Sn**	**10 43 10.5**	**+0.4**
LPK	**Lapseki**	**1.19**	**53**	PN	**Pg**	**10 42 52.9**	**-0.9**
LPK				SN	**Sn**	**10 43 10.7**	**+0.2**
DKL	**Dikili**	**1.23**	**118**	PN	**Pb**	**10 42 54.2**	**-0.3**
ERIK	**Erikli-Kesan**	**1.27**	**37**	PN	**Pn**	**10 42 54.6**	**-0.4**
ALN	**Alexandroupoli**	**1.30**	**18**	PN	**Pn**	**10 42 55.2**	**-0.3**
ALN	**Alexandroupoli**	**1.30**	**18**	P	**Pn**	**10 42 54.4**	**-1.1**
ALN	**Alexandroupoli**	**1.30**	**18**	P	**Pn**	**10 42 55.1**	**-0.4**
ALN				S	**Sb**	**10 43 11.7**	**-0.8**
FOCM	**Foa**	**1.34**	**135**	PN	**Pb**	**10 42 56.2**	**-0.2**
KRBN	**Karaburun**	**1.34**	**142**	PN	**Pg**	**10 42 56.4**	**-0.3**
CHOS	**Chios island**	**1.34**	**161**	PN	**Pn**	**10 42 55.9**	**-0.3**
CHOS	**Chios island**	**1.34**	**161**	P	**Pn**	**10 42 55.4**	**-0.8**
CHOS				S	**Sn**	**10 43 14.3**	**-0.1**
CHOS				AML	AML	10 43 16.8	
	comp=E,3457μm,0.4s						
CHOS				AML	AML	10 43 19.3	
	comp=N,2077μm,0.6s						
CHOS	**Chios island**	**1.34**	**161**	P	**Pn**	**10 42 55.1**	**-1.1**
CHOS				S	**Sn**	**10 43 14.2**	**-0.1**
AOS	**Alonnisos**	**1.36**	**249**	PN	**Pn**	**10 42 55.5**	**-0.8**
AOS	**Alonnisos**	**1.36**	**249**	P	**Pn**	**10 42 55.9**	**-0.3**
AOS	**Alonnisos**	**1.36**	**249**	P	**Pn**	**10 42 56.1**	**-0.2**
AOS				S	**Sg**	**10 43 16.4**	**+1.9**
PAIG	**Paliouri**	**1.44**	**281**	P	**Pn**	**10 42 57.0**	**-0.3**
PAIG	**Paliouri**	**1.44**	**281**	P	**Pn**	**10 42 57.2**	**-0.1**
KESN	**Edirne-Kesan**	**1.47**	**37**	IAML_P			
	comp=Z,1μm,0.3s						
KESN				*i* P	**Pg**	**10 42 59.0**	**-0.1**
RDO	**Rodhopi**	**1.48**	**1**	PN	**Pn**	**10 42 57.6**	**-0.4**
RDO	**Rodhopi**	**1.48**	**1**	P	**Pn**	**10 42 57.6**	**-0.4**
RDO	**Rodhopi**	**1.48**	**1**	P	**Pn**	**10 42 57.6**	**-0.4**
KAVA	**Kavala**	**1.53**	**331**	P	**Pn**	**10 42 58.4**	**-0.3**
KAVA				AML	AML	10 43 22.3	
	comp=N,627μm,0.3s						
KAVA				AML	AML	10 43 23.8	
	comp=E,689μm,0.5s						
KAVA	**Kavala**	**1.53**	**331**	P	**Pn**	**10 42 58.3**	**-0.4**
KAVA				S	**Sg**	**10 43 20.1**	**-0.2**
KVLA	**Kavala**	**1.54**	**326**	P	**Pn**	**10 42 58.2**	**-0.5**
URLA	**Izmir**	**1.55**	**147**	PN	**Pn**	**10 42 58.5**	**-0.5**
URLA	**Izmir**	**1.55**	**147**	IAML_P			
	comp=Z,2μm,0.3s						
URLA				*i* P	**Pn**	**10 42 59.2**	**+0.2**
KRBG	**Karabiga-Canak**	**1.55**	**61**	PN	**Pn**	**10 42 59.2**	**+0.2**
SART	**Tekirdag**	**1.64**	**51**	IAML_P			
	comp=Z,3μm,0.3s						
SART				*i* P	**Pb**	**10 43 01.4**	**-0.1**
SKIA	**Skiathos**	**1.66**	**253**	P	**Pn**	**10 43 00.1**	**-0.4**
SKIA	**Skiathos**	**1.66**	**253**	P	**Pn**	**10 42 59.9**	**-0.5**
SKIA				S	**Sg**	**10 43 24.9**	**+0.6**
KNL	**Balıkesir**	**1.66**	**68**	*i* P	**Pb**	**10 43 01.8**	**-0.1**
KNL				*i* S	**Sb**	**10 43 23.1**	**+0.1**
GONE	**Gonen-Balikesi**	**1.72**	**76**	PN	**Pn**	**10 43 01.4**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.73**	**99**	IAML_P			
	comp=Z,5μm,0.4s						
STEP				*i* P	**Pb**	**10 43 02.6**	**-0.5**
STEP				*i* S	**Sg**	**10 43 27.8**	**+1.2**
PLG	**Polygyros**	**1.74**	**295**	P	**Pn**	**10 43 01.7**	**+0.2**
PLG	**Polygyros**	**1.74**	**295**	P	**Pn**	**10 43 01.8**	**+0.2**
BLCB	**Balcova**	**1.75**	**136**	PN	**Pn**	**10 43 02.2**	**+0.6**
EREA	**Eretria**	**1.75**	**225**	P	**Pn**	**10 43 01.0**	**-0.6**
NEO	**Neokhori**	**1.81**	**259**	P	**Pn**	**10 43 02.0**	**-0.5**
BALB	**Balikesir**	**1.83**	**90**	PN	**Pn**	**10 43 02.9**	**+0.1**
GMLD	**Gumuldur**	**1.93**	**145**	PN	**Pn**	**10 43 04.4**	**+0.3**
EDC	**Edincik**	**1.93**	**69**	PN	**Pb**	**10 43 05.1**	**-1.4**
DGB	**zmir**	**1.93**	**146**	*i* P	**Pb**	**10 43 05.7**	**-0.8**
SBT4	**Kumbag-Tekirda**	**1.94**	**52**	PN	**Pb**	**10 43 05.1**	**-1.4**
AKHS	**Akhisar**	**1.95**	**113**	*i* P	**Pg**	**10 43 07.8**	**-0.6**
KDZ	**Kurdzhali**	**1.98**	**358**	PN	**Pn**	**10 43 05.1**	**+0.2**
KDZ	**Kurdzhali**	**1.98**	**358**	*i* P	**Pg**	**10 43 08.9**	**-0.1**
DION	**Dionisos Attik**	**2.01**	**218**	P	**Pn**	**10 43 04.6**	**-0.6**
SOH	**Sokhos**	**2.02**	**306**	P	**Pn**	**10 43 05.8**	**+0.4**
TKR	**Tekirdag**	**2.04**	**49**	PN	**Pn**	**10 43 05.9**	**+0.3**
SRS	**Serrai**	**2.06**	**315**	*e*Pn	**Pb**	**10 43 07.3**	**-1.4**
SRS				*e*Sn	**Sg**	**10 43 37.3**	**+0.1**
SRS	**Serrai**	**2.06**	**315**	P	**Pn**	**10 43 06.9**	**+0.9**
HORT	**Hortiatis**	**2.07**	**298**	PN	**Pn**	**10 43 05.8**	**-0.4**
HORT	**Hortiatis**	**2.07**	**298**	P	**Pn**	**10 43 06.4**	**+0.3**
GOMA	**Golmarmara-Man**	**2.10**	**116**	PN	**Pn**	**10 43 07.2**	**+0.7**
NVR	**Nevrokopi**	**2.10**	**324**	P	**Pn**	**10 43 06.7**	**+0.1**
NVR	**Nevrokopi**	**2.10**	**324**	P	**Pn**	**10 43 06.6**	**+0.1**
RZN	**Rozhen**	**2.11**	**344**	*i* P	**Pn**	**10 43 07.1**	**+0.3**
CRLT	**Corlu**	**2.24**	**49**	PN	**Pn**	**10 43 09.1**	**+0.6**
KCTX	**Karacabey (Bur**	**2.27**	**74**	PN	**Pn**	**10 43 09.4**	**+0.6**
DURS	**Dursunbey**	**2.29**	**91**	*i* P	**Pn**	**10 43 09.0**	**-0.2**
EDRB	**Edirne**	**2.37**	**23**	PN	**Pn**	**10 43 11.2**	**+0.9**
GCAM	**G?zelcaml?**	**2.38**	**145**	PN	**Pn**	**10 43 10.7**	**+0.4**
GCAM	**G?zelcaml?**	**2.38**	**145**	*i* P	**Pg**	**10 43 17.9**	**+1.3**
DIM	**Dimitrovgrad**	**2.38**	**0**	*i* P	**Pn**	**10 43 10.7**	**+0.3**
DST	**Dursunbey**	**2.40**	**90**	PN	**Pn**	**10 43 11.3**	**+0.6**
PHSR	**Pinarhisar**	**2.49**	**37**	PN	**Pn**	**10 43 13.1**	**+1.2**
KNT	**Kendrikon**	**2.49**	**308**	PN	**Pn**	**10 43 12.6**	**+0.7**
KNT	**Kendrikon**	**2.49**	**308**	P	**Pn**	**10 43 12.7**	**+0.8**
PLD	**Plovdiv**	**2.51**	**346**	*e*Pn	**Pn**	**10 43 13.4**	**+1.2**
PLD				*e*Sn	**Sn**	**10 43 43.7**	**+0.6**
PLD	**Plovdiv**	**2.51**	**346**	PN	**Pn**	**10 43 13.8**	**+1.6**
AGG	**Agios Georgios**	**2.55**	**256**	PN	**Pn**	**10 43 12.7**	**0.0**
DEMI	**Demirci**	**2.56**	**103**	IAML_P			
	comp=Z,629nm,0.3s						
DEMI				*i* P	**Pn**	**10 43 14.1**	**+1.1**
SLVT	**Silivri**	**2.59**	**52**	PN	**Pn**	**10 43 14.2**	**+1.0**
MANT	**Manisa**	**2.65**	**115**	*i* P	**Pb**	**10 43 18.7**	**-0.1**
GRG	**Griva**	**2.71**	**300**	PN	**Pn**	**10 43 15.5**	**+0.6**
GRG	**Griva**	**2.71**	**300**	P	**Pn**	**10 43 16.2**	**+1.4**
KULA	**Kula-Manisa**	**2.71**	**114**	PN	**Pn**	**10 43 16.1**	**+1.2**
AYDN	**Tasoluk**	**2.73**	**136**	*i* P	**Pn**	**10 43 15.1**	**0.0**
VAY	**Valandovo**	**2.79**	**307**	*i* Pn	**Pg**	**10 43 23.8**	**-0.6**
IOSP	**Ios island**	**2.94**	**183**	P	**Pn**	**10 43 15.7**	**-2.4**
BODT	**Bodrum**	**2.96**	**151**	PN	**Pn**	**10 43 18.2**	**-0.1**
ISK	**Istanbul-Kandi**	**3.05**	**62**	PN	**Pn**	**10 43 21.5**	**+1.9**
KAVV	**Kandilli-Istan**	**3.05**	**62**	PN	**Pn**	**10 43 20.6**	**+1.0**
GEDZ	**Gediz**	**3.09**	**100**	PN	**Pn**	**10 43 21.2**	**+1.1**
YLV	**Yalova**	**3.10**	**72**	PN	**Pn**	**10 43 21.2**	**+0.9**
STIP	**Stip**	**3.24**	**310**	*i* Pn	**Pn**	**10 43 21.6**	**-0.6**
VTS	**Vitosha**	**3.40**	**330**	*e*Pn	**Pn**	**10 43 26.7**	**+2.1**
VTS				*e*Sn	**Sn**	**10 44 07.4**	**+2.2**
OHR	**Ohrid**	**3.88**	**293**	*i* Pn	**Pn**	**10 43 30.7**	**-0.3**
ZAPS	**Zavoj**	**4.20**	**330**	*e*Pn	**Pn**	**10 43 37.5**	**+2.0**
ZAGS	**Zajecar**	**4.82**	**330**	*e*Pn	**Pn**	**10 43 44.7**	**+0.9**
BOVS	**Bovan**	**4.88**	**326**	*e*Pn	**Pn**	**10 43 45.8**	**+1.0**

MEX 10 11:48:58.2±0.3**, 13°.82N**×**92°.21W, h112**km±8km**, MD3.8, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THIG		**1.09**	**357**	*i* P	Pn	11 49 19.2	-1.2
THIG				*e*S	Sn	11 49 35.6	-1.6
PCIG		**2.12**	**333**	*i* P	Pn	11 49 31.2	-1.6
PCIG				*e*S	Sn	11 49 57.8	-1.4
CCIG	**Comitan**	**2.45**	**2**	*i* P	Pn	11 49 36.2	-1.0
CCIG				*i* S	Sn	11 50 06.1	-1.1
TGIG		**3.07**	**343**	*i* P	Pn	11 49 44.4	-0.9
TGIG				*i* S	Sn	11 50 19.8	-1.8

*SOME **10** 11:52:03.1, 41°.57N×75°.85E, h30km*
NNC 10 11:52:01.7±2.0**, 48°.60N**×**78°.22E, h1**km±18km**, mb3.1, mpv2.9, 4C-4D, Error ellipse: s-maj=20.8km s-min=10.7km az=105.0, Suspected Mining explosion., Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.04**	**6**	⇓Pn	Pn	11 52 37.6	+0.4
	1.8nm,0.3s						
KURBB				⇓Sn	Sn	11 53 04.1	+0.8
	19nm,0.8s						
KURK	**Kurchatov**	**2.14**	**7**	⇓Pn	Pn	11 52 38.0	-0.6
	3.5nm,0.6s						
KURK				⇑Sn	Sn	11 53 07.0	+1.3
	7.0nm,0.6s						
SEM	**Semipalatinsk**	**2.25**	**35**	Pg	Pb	11 52 43.5	+0.2
	3.5nm,0.1s						
SEM				Lg	Lg	11 53 12.7	
	33nm,0.5s						
SEM	**Semipalatinsk**	**2.25**	**35**	*e*P	Pb	11 52 43.5	+0.2
	3.5nm,0.1s						
SEM				*e*S	Sb	11 53 12.7	+1.0
	33nm,0.5s						
MAKZ	**Makanchi**	**3.10**	**124**	⇓Pg	Pb	11 52 57.3	-0.5
	0.7nm,0.6s						
MAKZ				⇑Lg	Lg	11 53 42.5	
	1.9nm,0.9s						
MK31	**Makanchi Array**	**3.29**	**122**	⇑Pg	Pb	11 52 59.2	-1.7
	0.1nm,0.3s,baz=296,slow=16,SNR=11						
MK31				⇑Lg	Lg	11 53 49.8	
	1.1nm,0.6s,baz=306,slow=27,SNR=6.5						
KAPS	**Kapalarasan**	**3.40**	**166**	Pg	Pg	11 53 05.0	-1.9
	0.8nm,0.2s						
KAPS				Lg	Lg	11 53 50.7	
	5.6nm,0.7s						
KAPS	**Kapalarasan**	**3.40**	**166**	*e*P	Pg	11 53 05.0	-1.9
	0.8nm,0.2s						
KAPS				*e*S	Sg	11 53 50.7	-0.3
	5.6nm,0.7s						
ARXS	**Arharly**	**4.39**	**184**	Pg	Pg	11 53 24.3	-1.5
	11nm,0.5s						
ARXS				Lg	Lg	11 54 21.1	
	7.4nm,0.8s						
ARXS	**Arharly**	**4.39**	**184**	*e*P	Pg	11 53 24.4	-1.5
	11nm,0.5s						
ARXS				*e*S	Sg	11 54 21.1	-1.7
	7.4nm,0.8s						
CHKK	**Chushkaly**	**4.82**	**191**	Pg	Pb	11 53 29.3	+2.3
	0.5nm,0.1s						
CHKK				Lg	Lg	11 54 32.0	
	3.2nm,0.4s						
CHKK	**Chushkaly**	**4.82**	**191**	*e*P	Pb	11 53 29.3	+2.3
	0.5nm,0.1s						
CHKK				*e*S	Sg	11 54 32.0	-4.5
	3.2nm,0.4s						

IDC 10 12:05:12.4±31.0**, 17°.04S**×**171°.90W, h0**km**, mb4.0**/4**, mb1 4.2**/4**, mb1mx3.7**/40**, mbtmp4.0**/4**, MS3.9**/1**, Ms1 3.9**/1**, ms1mx2.7**/38**, Error ellipse: s-maj=618.4km s-min=164.2km az=86.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**13.35**	**203**	LR	LR	12 16 13.3	
	comp=Z,494nm,18.1s,baz=264,slow=50						
STKA	**Stephens Creek**	**44.50**	**242**	P	P	12 13 26.7	+0.9
	1.1nm,0.4s,baz=67,slow=10.0,SNR=6.0						
WRA	**Warramunga Arr**	**50.89**	**258**	P	P	12 14 14.9	-0.8
	0.6nm,0.4s,baz=98,slow=6.8,SNR=18						
ASAR	**Alice Springs**	**50.99**	**253**	P	P	12 14 15.8	-0.7
	1.0nm,0.4s,baz=94,slow=7.3,SNR=40						
FITZ	**Fitzroy Crossi**	**59.29**	**259**	P	P	12 15 17.2	+0.8
	2.5nm,1.0s,baz=101,slow=7.6,SNR=1.5						

*ISCJB **10** 12:11:53.6±0.9, 5°.25S±0°.07×146°.6E±0°.1, h123km, mb3.7/6, Error ellipse: s-maj=16.5km s-min=8.1km az=152.7*
*IDC **10** 12:11:56.7±2.0, 5°.36S×146°.52E, h140km±18km, mb3.5/6, mb1 3.6/9, mb1mx3.4/41, mbtmp3.9/9, Error ellipse: s-maj=23.5km s-min=13.5km az=61.0*
ISC 10 12:11:55.4±1.1**, 5°.25S**±0°.09×**146°.6E**±0°.1**, h123**km**, n9, σ1§41**/11**, mb3.7**/6**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.16**	**173**	P	**Pn**	**12 12 58.8**	**+1.7**
	1.9nm,0.3s,baz=44,slow=10,SNR=7.8						
PMG				S	**Sn**	**12 13 44.9**	**-0.2**
	9.2nm,0.3s,baz=15,slow=6.5,SNR=8.2						
JAY	**Jayapura**	**6.49**	**295**	P	**Pn**	**12 13 28.3**	**-0.3**
	1.0nm,0.3s,baz=137,slow=10,SNR=4.1						
JAY				S	**Sn**	**12 14 43.1**	**+1.7**
	2.2nm,0.3s,baz=111,slow=17,SNR=7.2						
WRA	**Warramunga Arr**	**18.86**	**218**	P	**P**	**12 16 05.1**	**-1.0**
	0.8nm,0.3s,baz=37,slow=11,SNR=32						
ASAR	**Alice Springs**	**22.03**	**213**	P	**P**	**12 16 39.3**	**-0.8**
	2.6nm,0.7s,baz=42,slow=7.9,SNR=49						
FITZ	**Fitzroy Crossi**	**24.14**	**236**	P	**P**	**12 16 58.3**	**-1.9**
	7.1nm,0.5s,baz=53,slow=10,SNR=41						
SONM	**Songino Array**	**63.57**	**331**	P	**P**	**12 22 14.4**	**+1.3**
	0.3nm,0.3s,baz=132,slow=6.0,SNR=3.5						
MKAR	**Makanchi Array**	**76.68**	**320**	P	**P**	**12 23 32.1**	**-0.8**
	0.2nm,0.4s,baz=95,slow=9.1,SNR=4.9						
ZALV	**Zalesovo Beam**	**78.18**	**328**	P	**P**	**12 23 39.5**	**-1.5**
	0.5nm,0.5s,baz=123,slow=7.1,SNR=2.2						
ILAR	**Eielson Array**	**84.95**	**23**	P	**P**	**12 24 16.4**	**0.0**
	1.2nm,0.6s,baz=249,slow=5.0,SNR=22						

IDC 10 12:12:03.2±2.3**, 17°.77S**×**168°.09E, h0**km**, mb3.5**/3**, mb1 3.7**/4**, mb1mx3.5**/42**, mbtmp3.5**/4**, ML3.3**/1**, Error ellipse: s-maj=64.1km s-min=37.2km az=119.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.55**	**200**	Pn	Pn	12 13 13.6	+0.2
	1.4nm,0.3s,baz=77,slow=11,SNR=29						
DZM				Sn	Sn	12 14 03.9	-3.1
	4.4nm,0.3s,baz=145,slow=21,SNR=8.5						
WRA	**Warramunga Arr**	**31.98**	**261**	P	P	12 18 31.4	0.0
	0.4nm,0.9s,baz=84,slow=6.1,SNR=2.0						
ASAR	**Alice Springs**	**32.45**	**254**	P	P	12 18 35.2	-0.3
	0.6nm,0.5s,baz=80,slow=8.7,SNR=6.9						
SONM	**Songino Array**	**85.40**	**323**	P	P	12 24 43.2	+0.5
	0.3nm,0.6s,baz=120,slow=5.7,SNR=2.3						
ARCES	**ARCESS Array B**	**123.38**	**345**	PKP	PKPdf	12 31 01.1	-0.6
	2.7nm,1.0s,baz=46,slow=3.9,SNR=5.8						

IDC 10 12:15:23.4±1.5**, 2°.14S**×**125°.84E, h0**km**, mb3.5**/2**, mb1 3.9**/3**, mb1mx3.5**/43**, mbtmp3.7**/3**, ML3.7**/2**, Error ellipse: s-maj=47.6km s-min=25.7km az=63.0, Ceram Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.57**	**77**	Pn	Pn	12 16 47.6	0.0
	1.2nm,0.3s,baz=3.5,slow=19,SNR=5.4						
SIJI				Sn	Sn	12 17 48.3	-4.1
	0.3nm,0.3s,baz=0.0,slow=20,SNR=3.1						
WRA	**Warramunga Arr**	**19.54**	**155**	P	P	12 19 52.8	+0.1
	0.3nm,0.3s,baz=332,slow=12,SNR=32						
ASAR	**Alice Springs**	**22.78**	**161**	P	P	12 20 27.7	0.0
	1.5nm,0.6s,baz=343,slow=12,SNR=25						
MKAR	**Makanchi Array**	**61.92**	**328**	P	P	12 25 44.9	-0.1
	0.2nm,0.4s,baz=122,slow=7.5,SNR=5.7						

*NIED **10** 12:21:00, 35°.80N×141°.50E, h8km, Mw3.7 Best double couple: M0 4.54000×10^14 NP1:φs221.00000°, δ19.00000°, λ121.00000°. NP2:φs9.00000°, δ74.00000°, λ80.00000°.*
*ISCJB **10** 12:21:12.8±1.1, 35°.74N±0°.04×141°.58E±0°.06, h17km±7km, mb3.5/8, Error ellipse: s-maj=8.6km s-min=6.2km az=5.8*
*IDC **10** 12:21:12.4±0.9, 35°.71N×141°.46E, h0km, mb3.6/8, mb1 3.7/11, mb1mx3.6/47, mbtmp3.6/11, ML3.3/3, MS2.6/2, Ms1 2.6/2, ms1mx2.2/48, Error ellipse: s-maj=21.8km s-min=17.0km az=98.0*
*JMA **10** 12:21:14.3±0.2, 35°.75N×141°.46E, h22km±2km, M3.9*
JMA Felt I J1.
ISC 10 12:21:13.2±1.9**, 35°.78N**±0°.04×**141°.52E**±0°.06**, h7**km±11km**, n30, σ1§20**/33**, mb3.6**/8**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.54**	**262**	P	**Pg**	**12 21 24.1**	**+0.4**
CHOJ				S	**Sg**	**12 21 31.1**	**+0.3**
JIHU	**Itakohorinouch**	**0.83**	**283**	P	**Pb**	**12 21 29.9**	**0.0**
JIHU				S	**Sb**	**12 21 41.5**	**+0.3**
JSMT	**Sammumatsuo**	**0.88**	**262**	P	**Pb**	**12 21 30.7**	**-0.1**
JHYU	**Hitachinakayam**	**0.94**	**307**	P	**Pb**	**12 21 31.8**	**0.0**
JHYU				S	**Sb**	**12 21 44.4**	**-0.1**
JCN	**Nagara**	**1.13**	**252**	P	**Pn**	**12 21 35.6**	**+0.2**
JCN				*e*S	**Sb**	**12 21 50.1**	**+0.1**
JHO	**Hitachi**	**1.13**	**317**	P	**Pb**	**12 21 34.4**	**-0.7**
JHO				S	**Sg**	**12 21 48.9**	**-0.8**
JYT	**Yasato**	**1.17**	**293**	P	**Pb**	**12 21 34.0**	**-1.6**
JYT				*e*S	**Sb**	**12 21 48.1**	**-2.8**
BSO3	**Boso 3**	**1.28**	**221**	P	**Pn**	**12 21 36.7**	**-0.5**
JFK	**Kawauchi**	**1.67**	**342**	P	**Pn**	**12 21 42.6**	**-0.3**
JFK				*e*S	**Sn**	**12 22 03.8**	**-0.7**
JAG	**Ashikaga**	**1.79**	**292**	P	**Pn**	**12 21 43.1**	**-1.4**
MJAR	**Matsushiro Arr**	**2.79**	**287**	Pn	**Pn**	**12 21 58.1**	**-0.1**
	3.5nm,0.3s,baz=232,slow=2.4,SNR=33						
MJAR				Sn	**Sn**	**12 22 33.4**	**+1.3**
	5.5nm,0.3s,baz=85,slow=14,SNR=4.7						
MAT	**Matsushiro**	**2.79**	**287**	P	**Pn**	**12 21 58.3**	**+0.1**
MAT				*e*S	**Sn**	**12 22 33.4**	**+1.3**
JHJ	**Hachijo jima 2**	**3.02**	**209**	Pn	**Pn**	**12 22 00.5**	**-0.8**
	6.9nm,0.3s,baz=66,slow=12,SNR=2.6						
JHJ				Sn	**Sn**	**12 22 34.8**	**-2.9**
	11nm,0.3s,baz=81,slow=13,SNR=3.1						
ASAJ	**Asahikawa**	**8.37**	**5**	Pn	**Pn**	**12 23 14.7**	**-0.1**
	0.5nm,0.3s,baz=218,slow=16,SNR=5.6						
ASAJ				Sn	**Sn**	**12 24 46.9**	**-2.7**
	0.1nm,0.3s,baz=198,slow=20,SNR=2.5						
JNU	**Nakatsue**	**9.18**	**256**	LR	LR	12 27 08.8	
	comp=Z,48nm,21.5s,baz=70,slow=39						
KSRS	**Korea Array**	**11.06**	**283**	LR	LR	12 28 07.9	
	comp=Z,23nm,21.4s,baz=110,slow=38						
H11N2	**WAKE ISLAND Hy**	**27.45**	**119**	T	T	12 55 49.7	
	baz=311,slow=75,SNR=84						
H11N1	**WAKE ISLAND Hy**	**27.46**	**119**	T	T	12 55 52.3	
	baz=311,slow=75,SNR=66						
H11N3	**WAKE ISLAND Hy**	**27.47**	**119**	T	T	12 55 51.1	
	baz=311,slow=75,SNR=75						
SEY	**Seymchan**	**28.00**	**11**	P	**P**	**12 27 06.2**	**+1.8**
	1.7nm,0.8s,baz=119,slow=6.7,SNR=3.6						
H11S1	**WAKE ISLAND Hy**	**28.12**	**121**	T	T	12 56 50.1	
	baz=313,slow=76,SNR=42						
H11S3	**WAKE ISLAND Hy**	**28.12**	**121**	T	T	12 56 41.1	
	baz=313,slow=76,SNR=33						
H11S2	**WAKE ISLAND Hy**	**28.14**	**121**	T	T	12 56 36.5	
	baz=313,slow=76,SNR=31						
SONM	**Songino Array**	**28.57**	**306**	P	**P**	**12 27 09.8**	**0.0**
	0.3nm,0.5s,baz=96,slow=8.8,SNR=2.8						
ZALV	**Zalesovo Beam**	**42.83**	**313**	P	**P**	**12 29 11.6**	**0.0**
	1.1nm,0.6s,baz=107,slow=5.0,SNR=5.1						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MKAR	Makanchi Array	44.87	303	P	P	12 29 28.0	-0.1
	0.7nm,0.6s,baz=86,slow=9.1,SNR=12						
ILAR	Eielson Array	50.51	32	P	P	12 30 13.0	+1.4
	0.3nm,0.7s,baz=280,slow=7.1,SNR=3.3						
WRA	Warramunga Arr	55.83	188	P	P	12 30 50.2	-1.0
	0.8nm,1.0s,baz=1.7,slow=7.4,SNR=3.8						
ASAR	Alice Springs	59.56	188	P	P	12 31 17.9	+0.4
	0.3nm,0.7s,baz=18,slow=13,SNR=3.2						
YKA	Yellowknife Ar	64.85	30	P	P	12 31 53.1	+0.7
	0.2nm,0.7s,baz=306,slow=7.1,SNR=2.9						

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*ISCJB **10** 12:31:09.0±1.3, 39°.22N±0°.08×143°.73E±0°.10, h11km, Error ellipse: s-maj=14.1km s-min=7.2km az=139.7*

*JMA **10** 12:31:10.2±0.2, 39°.19N×143°.78E, h38km, M2.9*

ISC 10 12:31:10.9±2.1**, 39°.31N**±0°.09×**143°.61E**±0°.10**, h11km, n11, σ0s.76**/14**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	1.41	282	P	Pn	12 31 36.4	-0.1
MIYJ				eS	Sg	12 31 56.1	-0.2
OFUJ	Ofunato	1.52	262	P	Pn	12 31 38.0	0.0
OFUJ				eS	Sn	12 31 57.6	-0.2
JOM	Ohasama	1.80	276	P	Pn	12 31 42.5	+0.6
JOM				S	Sb	12 32 05.8	-0.6
JMK	Ichinoseki	1.89	260	P	Pn	12 31 42.9	-0.2
JNBK	Urakawa-nobuka	3.04	348	P	Pn	12 31 59.8	+0.9
JFT	Otama	3.13	236	eS	Sn	12 32 36.8	-0.7
JKB	Kayabe	3.24	324	P	Pn	12 32 02.8	+1.2
JCH	Churui	3.31	357	P	Pn	12 32 03.0	+0.4
JAW	Awa shima	3.51	257	P	Pn	12 32 05.8	+0.5
JAK	Akkeshi	3.78	12	P	Pn	12 32 08.3	-0.7
MJAR	Matsushiro Arr	5.08	239	Pn	Pn	12 32 28.3	+1.3
	0.3nm,0.3s,baz=86,slow=14,SNR=5.4						

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*IDC **10** 12:31:42.6±6.7, 36°.55N×141°.73E, h0km, mb3.6/2, mb1 3.4/3, mb1mx3.2/39, mbtmp3.3/3, ML2.1/1, Error ellipse: s-maj=125.1km s-min=49.1km az=155.0*

*JMA **10** 12:31:48.4±0.2, 39°.51N×143°.41E, h21km, M3.2*

ISC 10 12:31:47.8±1.9**, 39°.54N**±0°.06×**143°.38E**±0°.10**, h11km, n19, σ0s.94**/20**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	1.21	272	P	Pn	12 32 10.4	-0.2
MIYJ				eS	Sb	12 32 25.8	-0.5
JTH	Tanohata	1.23	289	P	Pn	12 32 10.6	-0.4
JTH				eS	Sb	12 32 27.2	+0.1
OFUJ	Ofunato	1.40	251	P	Pn	12 32 13.3	-0.1
OFUJ				eS	Sn	12 32 31.1	-0.8
JOM	Ohasama	1.61	268	P	Pn	12 32 16.7	+0.4
JMK	Ichinoseki	1.78	251	eS	Sn	12 32 40.7	-0.3
JIO	Ouri	1.92	236	P	Pn	12 32 20.9	+0.5
JRG	Rokugo	2.13	267	eS	Sb	12 32 51.7	-1.2
JTM	Tenmabayashi	2.16	306	eS	Sn	12 32 50.9	+0.3
JAH	Hinai	2.21	288	eS	Sn	12 32 53.5	+1.8
JOU	Okura	2.42	242	P	Pn	12 32 26.9	-0.5
JOU				S	Sn	12 32 57.3	+0.3
JOT	Ohata	2.56	317	P	Pn	12 32 30.8	+1.6
JNBK	Urakawa-nobuka	2.77	350	P	Pn	12 32 32.4	+0.2
JNBK				eS	Sn	12 33 04.7	-1.0
MAT	Matsushiro	5.06	235	P	Pn	12 33 05.0	+1.3
MJAR	Matsushiro Arr	5.06	235	Sn	Pn	12 33 05.3	+1.7
	0.6nm,0.3s,baz=37,slow=11,SNR=7.6						
H11N2	WAKE ISLAND Hy	28.27	127	T	T	13 07 18.5	
	baz=320,slow=75,SNR=4.7						
H11N1	WAKE ISLAND Hy	28.28	128	T	T	13 07 19.4	
	baz=320,slow=75,SNR=3.5						
H11N3	WAKE ISLAND Hy	28.29	127	T	T	13 07 15.9	
	baz=320,slow=75,SNR=5.1						
ZALV	Zalesovo Beam	41.42	310	P	P	12 39 39.5	+5.4
	0.5nm,0.3s,baz=90,slow=10,SNR=1.5						
MKAR	Makanchi Array	44.14	300	P	P	12 39 55.8	-0.5
	0.4nm,0.7s,baz=82,slow=8.0,SNR=4.5						

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*ISCJB **10** 12:40:53.1±0.7, 35°.75N±0°.06×140°.79E±0°.08, h56km±4km, mb3.4/4, Error ellipse: s-maj=13.5km s-min=7.4km az=141.0*

*JMA **10** 12:40:53.8±0.2, 35°.75N×140°.68E, h50km±2km, M2.6*

*IDC **10** 12:40:56.0±1.9, 34°.73N×138°.38E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.2/52, mbtmp3.3/4, Error ellipse: s-maj=71.5km s-min=23.2km az=79.0*

ISC 10 12:40:54.4±1.0**, 35°.76N**±0°.05×**140°.74E**±0°.07**, h48km**±7km**, n16, σ0s.76**/22**, mb3.4**/4**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.11	119	P	Pn	12 41 01.8	-0.3
CHOJ				eS	Sn	12 41 07.7	+0.2
JSMT	Sammumatsuo	0.26	245	P	Pn	12 41 02.6	-0.5
JSMT				S	Sn	12 41 09.7	+0.5
JIHU	Itakohorinouch	0.27	320	P	Pn	12 41 03.1	-0.1
JIHU				S	Sn	12 41 10.2	+0.9
JCN	Nagara	0.55	233	P	Pn	12 41 05.9	-0.3
JYT	Yasato	0.65	317	P	Pn	12 41 06.5	-0.9
JYT				eS	Sn	12 41 15.5	-1.3
JHO	Hitachi	0.86	351	P	Pn	12 41 10.2	-0.1
BSO3	Boso 3	0.97	191	P	Pn	12 41 11.3	-0.2
BSO1	Boso 1	1.12	170	P	Pn	12 41 13.1	-0.1
JAG	Ashikaga	1.24	303	P	Pn	12 41 14.6	-0.7
JOD2	Odawara 2	1.44	250	P	Pn	12 41 17.1	-0.9
MJAR	Matsushiro Arr	2.19	292	Pn	Pn	12 41 28.4	0.0
	3.2nm,0.3s,baz=298,slow=24,SNR=40						
MJAR				Sn	Sn	12 41 56.0	+1.7
	1.8nm,0.3s,baz=152,slow=14,SNR=4.4						
MAT	Matsushiro	2.20	292	P	Pn	12 41 28.9	+0.4
MAT				eS	Sn	12 41 55.1	+0.7
MKAR	Makanchi Array	44.35	303	P	P	12 48 59.9	+0.1
	0.2nm,0.6s,baz=90,slow=8.8,SNR=2.1						
KURBB	Kurchatov Arra	46.37	309	P	P	12 49 16.2	+0.5
	0.2nm,0.3s,baz=81,slow=8.4,SNR=3.4						
WRA	Warramunga Arr	55.73	187	P	P	12 50 25.0	-1.1
	0.2nm,0.7s,baz=4.0,slow=7.5,SNR=1.4						
ASAR	Alice Springs	59.45	187	P	P	12 50 52.6	+0.3
	0.9nm,1.2s,baz=20,slow=11,SNR=2.2						

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*NIED **10** 12:48:00, 37°.50N×141°.50E, h50km, Mw4.9 Best double couple: $M_0$2.96000×10^16 NP1:ϕ_s188.00000°, δ24.00000°, λ73.00000°. NP2:ϕ_s26.00000°, δ67.00000°, λ97.00000°.*

*BJI **10** 12:48:17.7, 37°.55N×141°.47E, h57km, mb5.2/70, mB5.0/44, Ms4.5/63, Ms7 4.3/56*

*JMA **10** 12:48:19.9, 37°.51N×141°.47E, h48km±1km, M5.0 Broadband fault plane solution: P waves. NP1: ϕ_s32.00000°, δ51.00000°, λ95.00000°. NP2:ϕ_s204.00000°, δ39.00000°, λ84.00000°. Principal axes: T Plg83.0000°, Azm333.0000°; N Plg4.0000°, Azm208.0000°; P Plg6.0000°, Azm118.0000°;*

JMA Felt IV J1.

*IDC **10** 12:48:21.0±1.4, 37°.52N×141°.31E, h53km±11km, mb4.7/44, mb1 4.8/51, mb1mx4.7/61, mbtmp4.9/51, MS4.0/36, Ms1 4.0/36, ms1mx3.9/49 Error ellipse: s-maj=10.2km s-min=9.1km az=135.0*

*ISCJB **10** 12:48:20.6±0.2, 37°.55N±0°.02×141°.30E±0°.02, h60km±1km, mb5.1/346, Error ellipse: s-maj=3.4km s-min=2.3km az=141.8*

*NEIC **10** 12:48:21.5±0.4, 37°.49N×141°.31E, h57km±3km, mb5.0/191, Error ellipse: s-maj=3.5km s-min=2.4km az=146.0*

NEIC Felt [III] in Sendai. Felt from Kitakami to Tokyo and from Aizuwakamatsu to Iwaki. Recorded [4 JMA] in Fukushima.

*GCMT **10** 12:48:22.5±0.3, 37°.58N±0°.02×141°.49E±0°.03, h53km±1km, MW5.0/80, Moment Tensor Solution. s49,c62; s80,c117; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}3.04±.16; $M_{\theta\theta}$-0.79±.11; $M_{\phi\phi}$-2.25±.11; $M_{r\theta}$1.03±.09; $M_{\theta\phi}$-0.98±.08; $M_{\phi r}$2.08±.10; Best double couple: $M_0$3.70700×10^16 NP1:ϕ_s26.00000°, δ64.00000°, λ90.00000°. NP2: ϕ_s207.00000°, δ26.00000°, λ90.00000°. Principal axes: T 3.8560, Plg71.0000°, Azm296.0000°; N -0.2970, Plg0.0000°, Azm27.0000°; P -3.5580, Plg19.0000°, Azm117.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MOS **10** 12:48:22.2±0.9, 37°.80N×141°.28E, h66km, mb5.4/104, MS4.2/9 Error ellipse: s-maj=5.6km s-min=3.5km az=110.4*

ISC 10 12:48:20.2±0.3**, 37°.53N**±0°.03×**141°.43E**±0°.03**, h51km**±2km**, h51km:pP-P, n973, σ1s.32**/1056**, mb5.1**/352**, MS4.1**/48**, 64C-52D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.47	250	⇓P	Pn	12 48 31.0	-0.3
JFK				S	Sn	12 48 38.6	-0.6
JMM	Marumori	0.61	303	⇓P	Pn	12 48 33.0	+0.2
JMM				S	Sn	12 48 42.2	+0.3
ONAJ	Iwakimizuishiy	0.67	230	⇓P	Pn	12 48 33.2	-0.4
ONAJ				S	Sn	12 48 42.5	-0.8
JIKH	Ishinomakikobu	0.78	2	P	Pn	12 48 34.9	-0.1
JIKH				S	Sn	12 48 45.2	-0.5
JFFD	Fukushimafurud	0.82	238	⇓P	Pn	12 48 35.5	-0.1
JFFD				S	Sn	12 48 46.1	-0.8
JFT	Otama	0.87	269	⇓P	Pn	12 48 37.0	+0.7
JFT				S	Sn	12 48 49.0	+1.0
JIO	Ouri	0.92	356	⇓P	Pn	12 48 36.9	0.0
JIO				S	Sn	12 48 48.8	-0.3
JOU	Okura	1.03	324	P	Pn	12 48 38.5	+0.1
JOU				S	Sn	12 48 52.5	+0.7
JHO	Hitachi	1.15	217	⇓P	Pn	12 48 39.1	-0.9
JYS	Shirataka	1.28	303	⇓P	Pn	12 48 42.3	+0.5
JYS				S	Sn	12 48 58.8	+1.0
JSB	Shiboa	1.33	245	⇓P	Pn	12 48 43.0	+0.5
JFY	Yanaizu	1.38	265	⇓P	Pn	12 48 43.7	+0.6
JFY				S	Sn	12 49 00.9	+0.6
JMK	Ichinoseki	1.43	353	⇓P	Pn	12 48 44.0	+0.3
JMK				S	Sn	12 49 01.9	+0.6
OFUJ	Ofunato	1.56	7	⇓P	Pn	12 48 45.5	0.0
JYK	Kaneyama	1.62	329	⇓P	Pn	12 48 47.1	+0.7
JYK				eS	Sn	12 49 07.4	+1.3
JNS	Sasagawa	1.70	280	⇓P	Pn	12 48 48.1	+0.6
JYA	Atsumi	1.72	308	⇓P	Pn	12 48 48.6	+0.9
JKT	Katashina	1.91	247	⇓P	Pn	12 48 51.5	+1.2
JAG	Ashikaga	1.93	236	⇓P	Pn	12 48 50.8	+0.2
JOM	Ohasama	1.94	357	⇓P	Pn	12 48 51.2	+0.5
JHK	Hiroka	1.95	262	⇓P	Pn	12 48 51.5	+0.7
JRG	Rokugo	1.96	342	⇓P	Pn	12 48 52.2	+1.2
JTB	Tobi-shima	2.22	319	P	Pn	12 48 55.2	+0.7
JYW	Yuwa	2.22	335	⇓P	Pn	12 48 56.1	+1.5
JKZ	Kuzumaki	2.45	358	⇓P	Pn	12 48 58.4	+0.7
JSD	Sado	2.56	282	⇓P	Pn	12 48 59.5	+0.2
JAH	Hinai	2.72	347	⇓P	Pn	12 49 03.2	+1.8
MJAR	Matsushiro Arr	2.76	250	P	Pn	12 49 03.2	+1.1
	56nm,0.3s,baz=70,slow=11,SNR=388						
MJAR				S	Sn	12 49 39.4	+5.2
	128nm,0.3s,baz=102,slow=13,SNR=6.0						
MJAR				LR	LR	12 50 24.6	
	comp=Z,6μm,19.4s,baz=70,slow=47						
MAJO	Matsushiro	2.77	250	ePn	Pn	12 49 03.5	+1.5
MAJO				eSn	Sn	12 49 39.4	+5.2
MAJO	Matsushiro	2.77	250	eP	Pn	12 49 03.5	+1.5
MAJO				e		12 49 39.4	
MAT	Matsushiro	2.77	250	P	Pn	12 49 03.5	+1.5
MAT				S	Sn	12 49 38.6	+4.4
MJB9	Matsu-Tunnel	2.77	250	ePn	Pn	12 49 03.6	+1.5
JNG	Nsakai	2.90	248	⇓P	Pn	12 49 05.3	+1.4
JYN	Shimob	3.09	230	⇓P	Pn	12 49 07.5	+0.9
INU	Inuyama	4.17	240	ePn	Pn	12 49 23.3	+1.9
JHJ2	Mitsune	4.61	197	ePn	Pn	12 49 27.2	-0.1
JHJ	Hachijo jima 2	4.61	198	P	Pn	12 49 27.2	-0.1
	104nm,0.3s,baz=312,slow=23,SNR=19						
JHJ				S	Sn	12 50 18.6	-0.9
	195nm,0.3s,baz=260,slow=23,SNR=6.9						
JHJ				LR	LR	12 50 54.8	
	comp=Z,186nm,20.7s,baz=16,slow=34						
ERM	Erimo	4.67	16	ePn	Pn	12 49 28.7	+0.6
ERM	Erimo	4.67	16	⇑eP	Pn	12 49 28.4	+0.3
ASAJ	Asahikawa	6.63	7	P	Pn	12 49 54.8	-0.3
	14nm,0.3s,baz=221,slow=12,SNR=64						
ASAJ				S	Sn	12 51 10.4	+1.2
	13nm,0.3s,baz=49,slow=19,SNR=4.2						
JHS	Saijyo	7.18	252	P	Pn	12 50 06.1	+3.5
YUK	Yuzh-Kuril'sk	7.31	26	P	Pn	12 50 03.8	-0.5
YUK				eS	Sn	12 51 22.8	-3.0
YUK				pmax	pmax		
	comp=N,126nm,0.5s						
YUK				pmax	pmax		
	comp=Z,234nm,0.5s						
YUK				pmax	pmax		
	comp=E,47nm,0.1s						
SHO	Shikotan	7.54	31	eP	Pn	12 50 06.2	-1.2
SHO				eS	Sn	12 51 26.8	-4.7
SHO				pmax	pmax		
	comp=N,16nm,0.2s						
SHO				pmax	pmax		
	comp=E,33nm,0.2s						
SHO				pmax	pmax		
	comp=Z,39nm,0.2s						
TEY	Ternei	8.33	336	⇑eP	Pn	12 50 21.6	+3.4
TEY				eS	Sn	12 51 51.7	+0.9
TEY				pmax	pmax		
	comp=E,30nm,1.0s						
TEY				pmax	pmax		
	comp=N,60nm,0.9s						
TEY				pmax	pmax		
	comp=Z,40nm,0.8s						
TEY				smax	smax		
	comp=E,20nm,0.6s						
KUR	Kuril'sk	9.08	30	eP	Pn	12 50 31.2	+2.7
KUR				eS	Sn	12 52 06.9	-2.4
KUR				pmax	pmax		
	comp=Z,89nm,0.8s						
KUR				pmax	pmax		
	comp=N,37nm,0.5s						
KUR				pmax	pmax		
	comp=E,22nm,0.4s						
KUR				smax	smax		
	comp=N,159nm,0.6s						
KUR				smax	smax		
	comp=E,239nm,0.6s						
KUR				MLR	MLR		
	comp=Z,720nm,18.0s						
VLA	Vladivostok	9.18	310	ceP	Pn	12 50 33.0	+3.1
VLA				pmax	pmax		
	comp=Z,346nm,0.9s						
MSHR	Mys Shultsa	9.35	306	⇑eP	Pn	12 50 35.5	+3.3
YSS	Yuzh-Sakhalins	9.46	6	ePn	Pn	12 50 33.2	-0.6
YSS	Yuzh-Sakhalins	9.46	6	⇑eP	Pn	12 50 32.6	-1.2
YSS				eS	Sn	12 52 16.4	-2.2
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
USA0B	Ussuriysk Arra	9.77	316	ePn	Pn	12 50 39.6	+1.7
USRK	Ussuriysk Ar.	9.77	316	P	Pn	12 50 39.3	+1.4
	comp=Z,7.8nm,0.3s,baz=133,slow=12,SNR=112						
USRK				LR	LR	12 54 12.6	
	comp=Z,2μm,19.1s,baz=127,slow=36						
CBIJ	Chichi jima	10.43	176	ePn	Pn	12 50 44.9	-2.2
CBIJ				eSn	Sn	12 52 32.3	-10
JCJ	Chichijima	10.43	176	P	Pn	12 50 44.6	-2.5
	comp=Z,15nm,0.3s,baz=350,slow=22,SNR=12						
JCJ				S	Sn	12 52 32.3	-10
	comp=Z,27nm,0.3s,baz=107,slow=19,SNR=4.2						
KSRS	Korea Array	10.74	274	P	Pn	12 50 55.5	+4.2
	comp=Z,4.1nm,0.3s,baz=89,slow=13,SNR=89						
KSRS				LR	LR	12 54 44.4	
	comp=Z,1μm,20.4s,baz=72,slow=36						
KS01	Wonju Array Si	10.76	274	ePn	Pn	12 50 53.9	+2.3
KS15	Wonju Array Si	10.77	274	ePn	Pn	12 50 52.8	+1.2
KSAR	Wonju Array Be	10.77	274	P	Pn	12 50 55.5	+3.8
KSAR	Wonju Array Be	10.77	274	P	Pn	12 50 55.5	+3.8
TJN	Taejon	11.32	268	⇑eP	Pn	12 51 03.4	+4.2
MDJ	Mudanjiang	11.39	312	P	Pn	12 51 03.2	+3.1
MDJ				sP		12 51 19.6	
MDJ				S	Sn	12 53 14.1	+8.2
MDJ				pmax	pmax		
	comp=Z,82nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,310nm,4.2s						
MDJ				LR	LR		
	comp=Z,900nm,17.1s						
MDJ				LR	LR		
	comp=Z,1μm,17.5s						
MDJ				LR	LR		
	comp=Z,2μm,19.1s						
MDJ	Mudanjiang	11.39	312	ePn	Pn	12 51 03.5	+3.4
TYV	Tymovskoe	13.36	3	eP	Pn	12 51 26.2	-0.7
TYV				eS	Sn	12 53 53.3	-0.4
TYV				pmax	pmax		
	comp=Z,300nm,5.3s						
TYV				pmax	pmax		
	comp=Z,24nm,0.8s						
TYV				smax	smax		
	comp=E,300nm,4.4s						
TYV				smax	smax		
	comp=E,6.0nm,1.7s						
KLR	Kul'dur	13.63	332	P	Pn	12 51 30.8	+0.1
	comp=E,0.6nm,0.3s,baz=146,slow=10,SNR=15						
KLR				LR	LR	12 56 37.4	
	comp=E,874nm,20.5s,baz=150,slow=36						
KLR	Kul'dur	13.63	332	⇓iP	Pn	12 51 31.3	+0.6
CN2	Changchun	13.64	302	eP	Pn	12 51 32.5	+1.6
GRNR	Gornyy	13.71	346	eP	Pn	12 51 29.0	-2.7
GRNR				pmax	pmax		
	comp=Z,13nm,0.8s						
JOW	Kunigami	15.41	230	P	Pn	12 51 54.0	-0.3
	comp=Z,5.6nm,0.3s,baz=54,slow=9.5,SNR=6.3						
JOW	Kunigami	15.41	230	ePn	Pn	12 51 53.6	-0.7
	comp=Z,81nm,0.8s						
NKL	Nikolayevsk	15.63	358	eP	Pn	12 51 54.0	-2.9
DL2	Dalian	15.63	281	⇓P	Pn	12 51 55.2	-1.8
DL2				sP	pP	12 52 13.4	+1.5
DL2				eS	Sn	12 54 44.4	-4.7
DL2				SS	SnSn	12 55 09.1	+6.9
DL2				pmax	pmax		
	comp=Z,190nm,0.6s						
DL2				pmax	pmax		
	comp=Z,300nm,4.1s						
DL2				LR	LR		
	comp=Z,180nm,15.2s						
DL2				LR	LR		
	comp=Z,690nm,19.0s						
DL2				LR	LR		
	comp=Z,810nm,19.9s						
ZEA	Zeya	18.94	333	eP	P	12 52 34.6	-2.2
ZEA				pmax	pmax		
	comp=N,62nm,0.8s						
ZEA				pmax	pmax		
	comp=E,42nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,97nm,0.8s						
ZEA				MLR	MLR		
	comp=Z,900nm,16.0s						
ZEA				MLR	MLR		
	comp=E,300nm,14.0s						
ZEA				MLR	MLR		
	comp=N,500nm,15.0s						
PETK	Petropavlovsk-	19.25	31	P	P	12 52 40.4	+0.2
	comp=N,0.2nm,0.3s,baz=242,slow=3.2,SNR=6.6						
PETK				LR	LR	12 59 49.1	
	comp=N,184nm,21.5s,baz=219,slow=36						
PETK	Petropavlovsk-	19.25	31	eP	P	12 52 40.7	+0.5
PETK	Petropavlovsk-	19.25	31	eP	P	12 52 40.7	+0.5
PEA1	Petropavlovsk-	19.25	31	eP	P	12 52 40.4	+0.1
NJ2	Nanjing	19.32	260	eP	P	12 52 40.7	-0.4
NJ2				pmax	pmax		
	comp=N,32nm,0.6s						
NJ2				LR	LR		
	comp=N,540nm,12.3s						
NJ2				LR	LR		
	comp=N,470nm,10.8s						
NJ2				LR	LR		
	comp=N,1μm,14.0s						
TIA	Tai'an	19.48	274	P	P	12 52 41.8	-1.1
TIA				pmax	pmax		
	comp=N,47nm,1.1s						
HIA	Hailar	19.57	314	eP	P	12 52 43.9	+0.1
	comp=N,18nm,1.0s						
HIA	Hailar	19.57	314	eP	P	12 52 43.9	+0.1
HIA				pmax	pmax		
	comp=Z,18nm,1.0s						
BJI	Beijing	19.83	285	⇓iP	P	12 52 45.2	-1.4
BJI				pmax	pmax		
	comp=Z,29nm,1.0s						
BJT	Baijiatuau	19.84	285	eP	P	12 52 45.7	-1.0
	comp=Z,62nm,0.6s						
BJT	Baijiatuau	19.84	285	eP	P	12 52 45.7	-1.0
BJT				pmax	pmax		
	comp=Z,62nm,0.6s						
YHNB	Yeheng	21.38	239	eP	P	12 53 01.9	-1.7
	comp=Z,258nm,1.7s						
NACB	Ninganchiao	21.56	237	eP	P	12 53 02.4	-3.1
	comp=Z,147nm,1.6s						
SSLB	Suanglung	22.25	238	eP	P	12 53 09.7	-3.2
	comp=Z,46nm,0.9s						
YULB	Yu-li	22.30	236	eP	P	12 53 10.7	-2.6
	comp=Z,43nm,0.7s						
TPUB	Ta-pu	22.80	237	eP	P	12 53 15.3	-3.4
	comp=Z,86nm,0.7s						
TWG	Pinlang	22.84	236	eP	P	12 53 16.9	-2.2
	comp=Z,384nm,1.0s						
MA2	Magadan	22.86	12	P	P	12 53 19.0	0.0
	comp=Z,30nm,0.8s,baz=205,slow=8.9,SNR=26						
MA2				LR	LR	13 01 57.1	
	comp=Z,167nm,21.7s,baz=199,slow=36						
MA2	Magadan	22.86	12	eP	P	12 53 18.7	-0.3
	comp=Z,31nm,0.8s						
MA2	Magadan	22.86	12	ceP	P	12 53 18.6	-0.4
MA2				pmax	pmax		
	comp=Z,35nm,0.8s						
TIY	Taiyuan	22.93	279	eP	P	12 53 17.7	-2.4
TIY				pmax	pmax		
	comp=Z,100nm,1.0s						
TIY				pmax	pmax		
	comp=Z,160nm,6.6s						
TIY				LR	LR		
	comp=Z,130nm,4.5s						
TIY				LR	LR		
	comp=Z,360nm,10.9s						
TIY				LR	LR		
	comp=Z,620nm,16.6s						
HHC	Hu-ho-hao-te	23.33	287	eP	P	12 53 21.7	-2.3
HHC				pP	pP	12 53 35.0	-1.2
HHC				sP	sP	12 53 42.8	+0.3
HHC				S	S	12 57 25.2	-7.7
HHC				pmax	pmax		
	comp=Z,59nm,0.6s						
HHC				LR	LR		
	comp=Z,1μm,13.8s						
HHC				LR	LR		
	comp=Z,1μm,13.8s						
HHC				LR	LR		
	comp=Z,1μm,14.7s						
WHN	Wuhan	23.45	261	⇓iP	P	12 53 24.3	-0.8
WHN				sP	sP	12 53 41.4	-2.3
WHN				pmax	pmax		
	comp=Z,130nm,0.7s						
WHN				LR	LR		
	comp=Z,1μm,22.7s						
BTO	Baotou	24.51	287	eP	P	12 53 33.3	-1.6
YAK	Yakutsk	25.59	347	c iP	P	12 53 43.8	-0.4
YAK				e*PP	sP	12 54 01.7	-1.4
YAK				eS	S	12 58 03.9	-4.4
YAK				pmax	pmax		
	comp=Z,312nm,0.9s						
YAK				pmax	pmax		
	comp=N,76nm,0.9s						
YAK				pmax	pmax		
	comp=E,27nm,1.0s						
YAK				smax	smax		
	comp=N,85nm,1.6s						
YAK				smax	smax		
	comp=E,97nm,1.4s						
YAK				MLR	MLR		
	comp=Z,413nm,16.0s						
YAK				MLR	MLR		
	comp=N,294nm,15.0s						
SEY	Seymchan	26.30	11	P	P	12 53 52.0	+1.3
	comp=N,38nm,1.1s,baz=200,slow=8.0,SNR=27						
SEY	Seymchan	26.30	11	⇑iP	P	12 53 52.8	+2.1
XAN	Xi'an	26.53	272	P	P	12 53 52.2	-0.9
XAN				pP	pP	12 54 03.8	-2.3
XAN				sP	sP	12 54 07.7	-4.4
XAN				S	S	12 58 25.2	+1.2
XAN				pmax	pmax		
	comp=N,85nm,0.7s						
XAN				pmax	pmax		
	comp=N,190nm,5.1s						
XAN				LR	LR		
	comp=N,390nm,15.2s						
XAN				LR	LR		
	comp=N,210nm,15.2s						
XAN	Xi'an	26.53	272	eP	P	12 53 52.3	-0.9
	comp=N,60nm,0.6s						
XAN	Xi'an	26.53	272	eP	P	12 53 52.3	-0.9
XAN				pmax	pmax		

comp=Z,60nm,0.6s
BOD Bodaibo 27.12 327 ↓ *i* P **P** **12 53 57.5 -0.6**
BOD pmax pmax
comp=Z,45nm,0.8s
ENH Enshi 27.39 264 *eP* **P** **12 54 00.2 -0.7**
comp=Z,199nm,0.8s
SONA1 Songino Array 27.52 303 *eP* **P** **12 54 01.2 -0.8**
SONA0 Songino Array 27.52 303 *eP* **P** **12 54 01.5 -0.5**
SONA0 ePcP **PcP** **12 57 19.3 +0.3**
SONM Songino Array 27.52 303 P **P** **12 54 01.5 -0.5**
comp=Z,38nm,0.6s,baz=102,slow=8.9,SNR=201
SONM PcP **PcP** **12 57 19.3 +0.3**
comp=Z,3.1nm,0.6s,baz=116,slow=2.0,SNR=7.0
SONM LR LR 13 05 15.0
comp=Z,223nm,20.8s,baz=120,slow=37
GZH Guangzhou 28.07 247 P **P** **12 54 03.5 -3.5**
H11N2 WAKE ISLAND Hy 28.39 122 T T 13 24 19.7
baz=314,slow=75,SNR=899
H11N1 WAKE ISLAND Hy 28.40 122 T T 13 24 22.9
baz=314,slow=75,SNR=1246
H11N3 WAKE ISLAND Hy 28.41 122 T T 13 24 23.6
baz=314,slow=75,SNR=1072
H11S1 WAKE ISLAND Hy 29.12 124 T T 13 25 18.2
baz=316,slow=76,SNR=773
H11S3 WAKE ISLAND Hy 29.12 124 T T 13 25 15.9
baz=316,slow=76,SNR=783
H11S2 WAKE ISLAND Hy 29.14 124 T T 13 25 27.5
baz=316,slow=76,SNR=544
TGY Tagaytay City 29.61 223 P **P** **12 54 19.9 -0.8**
comp=Z,171nm,0.8s,baz=134,slow=5.2,SNR=4.3
TGY Tagaytay City 29.61 223 *eP* **P** **12 54 20.0 -0.8**
ZAK Zakamensk 29.97 308 *eP* **P** **12 54 22.7 -1.1**
ZAK pmax pmax
comp=Z,13nm,1.3s
LZH Lanzhou 30.00 279 *eP* **P** **12 54 24.1 -0.1**
LZH pP sP 12 54 40.3 -3.0
LZH sP pP 12 54 46.8 +10
LZH PP **PnPn** **12 55 23.4 +1.0**
LZH SS SS 13 00 50.1 -38
LZH pmax pmax
comp=Z,68nm,1.0s
LZH pmax pmax
comp=Z,310nm,4.3s
LZH LR LR
comp=Z,500nm,15.8s
LZH LR LR
comp=Z,860nm,14.6s
LZH LR LR
comp=Z,940nm,16.3s
GYA Guiyang 31.32 260 P **P** **12 54 36.8 +0.9**
GYA pmax pmax
comp=Z,20nm,0.8s
MOY Mondy 31.63 310 *eP* **P** **12 54 38.6 +0.3**
MOY pmax pmax
comp=Z,17nm,1.1s
CD2 Chengdu 31.69 269 *eP* **P** **12 54 38.2 -0.8**
CD2 S **S** **12 59 43.4 -1.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.8s
CD2 LR LR
comp=Z,500nm,13.9s
CD2 LR LR
comp=Z,460nm,13.9s
CD2 LR LR
comp=Z,540nm,16.4s
GTA Gaotai 32.43 286 P **P** **12 54 44.6 -1.0**
GTA pP pP 12 54 58.0 -0.7
GTA sP sP 12 55 02.8 -1.9
GTA PcP **PcP** **12 57 32.6 +0.8**
GTA S **S** **12 59 53.0 -3.7**
GTA sS sS 13 00 15.0 -3.7
GTA ScP **ScP** **13 01 11.8 +0.5**
GTA PcS **PcS** **13 01 17.0 0.0**
GTA ScS **ScS** **13 05 10.1 -0.7**
GTA pmax pmax
comp=Z,13nm,0.9s
GTA pmax pmax
comp=Z,170nm,5.6s
GTA LR LR
comp=Z,270nm,17.9s
GTA LR LR
comp=Z,310nm,20.6s
GTA LR LR
comp=Z,570nm,19.9s
QIZ Qiongzhong 33.15 245 P **P** **12 54 52.3 +0.5**
QIZ S **S** **13 00 08.5 +0.6**
QIZ pmax pmax
comp=Z,510nm,2.9s
QIZ LR LR
comp=Z,240nm,5.6s
BILL Bilibino 33.54 17 *eP* **P** **12 54 54.9 +0.1**
comp=Z,21nm,1.5s
BILL Bilibino 33.54 17 ↓ *eP* **P** **12 54 54.8 +0.1**
BILL *e* 12 55 09.3
BILL *SP sP 12 55 23.0 +9.2
BILL *e* 12 57 35.6
BILL *e* 13 02 49.3
BILL pmax pmax
comp=Z,8.0nm,1.7s
BILL MLR MLR
comp=Z,137nm,21.0s
DAV Davao City (W) 33.58 209 LR LR 13 07 51.5
comp=Z,104nm,20.4s,baz=45,slow=35
DDMP Don Marcelino, 34.41 208 *eP* **P** **12 54 59.2 -3.5**
DDMP *eS* **pP** **12 55 11.9 -3.9**
TIXI Tiksi 34.80 353 P **P** **12 55 05.3 -0.2**
comp=Z,12nm,0.5s,baz=140,slow=5.7,SNR=19
TIXI LR LR 13 10 29.9
comp=Z,260nm,18.2s,baz=180,slow=38
TIXI Tiksi 34.80 353 ↑ *i* P **P** **12 55 05.1 -0.4**
TIXI pmax pmax
comp=Z,23nm,1.0s
KMI Kunming 35.05 261 P **P** **12 55 08.2 -0.4**
KMI pP pP 12 55 20.7 -1.1
KMI sP sP 12 55 27.7 0.0
KMI S **S** **13 00 33.0 -4.6**
KMI pmax pmax
comp=Z,140nm,0.9s
KMI pmax pmax
comp=Z,190nm,3.1s
KMI LR LR
comp=Z,410nm,12.2s
KMI LR LR
comp=Z,400nm,18.3s
KMI LR LR
comp=Z,550nm,26.7s
KMI Kunming 35.05 261 *eP* **P** **12 55 08.6 0.0**
comp=Z,116nm,0.9s
KMI Kunming 35.05 261 *eP* **P** **12 55 08.6 0.0**
KMI pmax pmax
comp=Z,116nm,0.9s
KDM Kudat 37.80 222 P **P** **12 55 33.9 +2.2**
SDKM Sandakan 38.68 221 P **P** **12 55 41.3 +2.1**
NONG Nongkai 38.69 251 P **P** **12 55 39.8 +0.6**
comp=Z,1.7nm,0.9s
SKNT Sakolnakorn 38.74 248 P **P** **12 55 40.5 +0.8**
comp=Z,26nm,0.9s
KKM Kota Kinabalu 38.86 222 P **P** **12 55 43.6 +2.8**
JAY Jayapura 39.85 181 LR LR 13 09 43.7
comp=Z,150nm,21.8s,baz=336,slow=32
DGZ Jazzator, Alta 40.11 305 *c i* P **P** **12 55 52.0 +1.0**
DGZ pmax pmax
comp=Z,92nm,0.8s
WMQ Urumqi 40.63 296 P **P** **12 55 56.4 +1.2**
WMQ pP pP 12 56 11.1 +2.5
WMQ sP sP 12 56 17.6 +3.1
WMQ pmax pmax
comp=Z,490nm,3.7s
WMQ LR LR
comp=Z,500nm,15.5s
WMQ LR LR
comp=Z,570nm,22.1s
WMQ LR LR
comp=Z,820nm,27.5s
WMQ Urumqi 40.63 296 *eP* **P** **12 55 56.7 +1.5**
comp=Z,99nm,0.8s
WMQ Urumqi 40.63 296 *eP* **P** **12 55 56.7 +1.5**
WMQ pmax pmax
comp=Z,99nm,0.8s
UTTA Uttaradit 40.84 253 P **P** **12 55 57.3 +0.2**
comp=Z,7.6nm,0.9s
CHAI Chaiyaphum 40.90 249 P **P** **12 55 57.6 0.0**
comp=Z,15nm,1.0s,comp=Z,137nm
LAMP Lampang 41.08 254 P **P** **12 56 00.6 +1.6**
comp=Z,8.9nm,0.7s
FAKI Fak Fak 41.14 194 *eP* **P** **12 55 59.7 +0.2**
comp=Z,16nm,0.7s
ANM Nome 41.16 32 *eP* **P** **12 56 01.7 +2.5**
comp=Z,7.9nm,0.9s
ANM Nome 41.16 32 *eP* **P** **12 56 01.7 +2.5**
ANM pmax pmax
comp=Z,8.0nm,0.9s
PBKT Sadao Pong 41.24 251 *eP* **P** **12 56 00.8 +0.4**
comp=Z,25nm,0.9s
PBKT Sadao Pong 41.24 251 P **P** **12 56 00.6 +0.2**
comp=Z,21nm,0.7s,comp=Z,2µm
CMMT Chiang Mai 41.43 255 P **P** **12 56 02.2 +0.2**
comp=Z,19nm,0.8s
CHTO Chiang Mai 41.43 255 *eP* **P** **12 56 02.1 +0.1**
comp=Z,13nm,0.6s
CHTO Chiang Mai 41.43 255 *eP* **P** **12 56 02.1 +0.1**
CHTO pmax pmax
comp=Z,13nm,0.6s
CHTO Chiang Mai 41.43 255 P **P** **12 56 02.3 +0.3**
comp=Z,84nm,0.8s
ZAA0 Zalesovo Array 41.59 312 *eP* **P** **12 56 02.7 -0.2**
comp=Z,54nm,0.9s
ZAA1 Zalesovo Array 41.59 312 *eP* **P** **12 56 03.0 +0.2**
ZAA1 ePcP **PcP** **12 57 59.0 -0.1**
ZALV Zalesovo Beam 41.59 312 P **P** **12 56 03.0 +0.2**
comp=Z,21nm,0.4s,baz=91,slow=7.4,SNR=170
ZALV PcP **PcP** **12 57 59.0 -0.1**
comp=Z,10nm,0.6s,baz=105,slow=2.9,SNR=6.7
ZALV ScP **ScP** **13 01 43.5 -1.4**
comp=Z,0.7nm,0.4s,baz=110,slow=4.9,SNR=3.7
ZALV LR LR 13 13 53.6
comp=Z,370nm,19.5s,baz=68,slow=37
ZALV Zalesovo Beam 41.59 312 *eP* **P** **12 56 02.7 -0.1**
ZALV PcP **PcP** **12 57 59.0 -0.1**
ZALV ScP **ScP** **13 01 43.5 -1.4**
CM31 Chiang Mai Arr 41.64 255 *eP* **P** **12 56 04.3 +0.6**
CMAR Chiang Mai Arr 41.64 255 P **P** **12 56 03.9 +0.2**
comp=Z,5.1nm,0.6s,baz=44,slow=8.5,SNR=25
CMAR PcP **PcP** **12 58 00.8 +0.9**
comp=Z,2.2nm,0.7s,baz=0.9,slow=2.6,SNR=5.6
CMAR ScP **ScP** **13 01 46.5 +0.8**
comp=Z,0.5nm,0.8s,baz=23,slow=3.5,SNR=4.2
CMAR LR LR 13 14 01.7
comp=Z,162nm,20.4s,baz=58,slow=37
CM01 Chiang Mai Arr 41.65 255 *eP* **P** **12 56 03.5 -0.3**
CM01 ePcP **PcP** **12 58 00.7 +0.8**
SUKH Sukhothai 41.69 253 P **P** **12 56 04.9 +0.8**
comp=Z,11nm,1.0s
SRAK Srakaew 42.07 247 P **P** **12 56 04.3 -2.9**
comp=Z,152nm,0.8s,comp=Z,2µm
LSA Lhasa 42.18 275 *eP* **P** **12 56 09.7 +1.1**
comp=Z,13nm,0.8s
LSA Lhasa 42.18 275 *i* P **P** **12 56 09.6 +1.0**
SNR=7.4
LSA Lhasa 42.18 275 *eP* **P** **12 56 09.7 +1.1**
LSA pmax pmax
comp=Z,13nm,0.8s
NVS Novosibirsk 42.51 313 ↑ *i* P **P** **12 56 10.7 +0.4**
NVS *i* 12 56 29.5
NVS pmax pmax
comp=Z,52nm,1.0s
NVS pmax pmax
comp=N,6.0nm,1.1s
NVS pmax pmax
comp=E,40nm,1.1s
RDOG Red Dog Mine 43.05 27 *eP* **P** **12 56 16.1 +1.5**
comp=E,15nm,0.9s
UMPA Umpang Tak 43.05 252 P **P** **12 56 17.0 +1.8**
comp=E,16nm,0.9s
SHL Shillong 43.43 269 *eP* **P** **12 56 18.1 -0.3**
comp=E,53nm,0.6s
SHL Shillong 43.43 269 *eP* **P** **12 56 18.1 -0.3**
SHL pmax pmax
comp=Z,53nm,0.6s
SHL Shillong 43.43 269 *eP* **P** **12 56 17.8 -0.6**
SHL IAmb IAmb 12 56 21.4
comp=Z,34nm,0.7s
MK01 Makanchi Array 43.87 302 *eP* **P** **12 56 21.6 +0.2**
MK31 Makanchi Array 43.87 302 *eP* **P** **12 56 21.7 +0.3**
MK31 Makanchi Array 43.87 302 *i* P **P** **12 56 21.8 +0.3**
MK31 pmax pmax
comp=Z,50nm,0.7s
MK32 Makanchi Array 43.87 302 *eP* **P** **12 56 21.7 +0.2**
MKAR Makanchi Array 43.87 302 P **P** **12 56 21.7 +0.2**
comp=Z,43nm,0.7s,baz=84,slow=9.8,SNR=341
MKAR LR LR 13 15 55.7
comp=Z,193nm,18.1s,baz=86,slow=38
MKAR Makanchi Array 43.87 302 *eP* **P** **12 56 21.7 +0.2**
comp=Z,351nm,0.8s
MKAR Makanchi Array 43.87 302 *eP* **P** **12 56 21.7 +0.2**
MKAR pmax pmax
comp=Z,351nm,0.8s
SRDT SRDT 44.02 250 P **P** **12 56 25.6 +2.7**
comp=Z,23nm,1.1s
MAKZ Makanchi 44.08 302 *eP* **P** **12 56 23.4 +0.2**
comp=Z,48nm,0.8s
MAKZ Makanchi 44.08 302 *eP* **P** **12 56 23.4 +0.2**
MAKZ pmax pmax
comp=Z,48nm,0.8s
PHET Kaeng Krachan 44.56 248 P **P** **12 56 28.4 +1.1**
comp=Z,30nm,0.7s,comp=Z,236nm
BRDH Bariadhala 45.04 265 LR LR 13 18 06.9
comp=Z,174nm,18.2s,baz=76,slow=40
KURK Kurchatov 45.64 308 *eP* **P** **12 56 35.5 0.0**
comp=Z,86nm,0.6s
KURK *eP* **P** **12 56 36.0 +0.6**
KURK Kurchatov 45.64 308 *c i* P **P** **12 56 35.1 -0.3**
KURK pmax pmax
comp=Z,74nm,0.6s
KURK Kurchatov 45.64 308 P **P** **12 56 35.4 0.0**
SNR=44
KURBB Kurchatov Arra 45.71 308 P **P** **12 56 36.0 0.0**
comp=Z,88nm,0.7s,baz=83,slow=8.2,SNR=265
KSM Kuching 45.91 226 *eP* **P** **12 56 39.2 +1.3**
comp=Z,66nm,1.4s
IM3 Indian Mountai 46.21 31 *eP* **P** **12 56 41.0 +1.3**
PDGK Podgornoye 46.56 298 P **P** **12 56 42.8 -0.2**
PDGK pmax pmax
comp=Z,26nm,0.9s
KDAK Kodiak Island 46.72 42 P **P** **12 56 44.6 +0.8**
comp=Z,9.1nm,0.8s,baz=217,slow=9.4,SNR=4.6
KDAK LR LR 13 15 31.5
comp=Z,187nm,20.1s,baz=252,slow=35
KDAK Kodiak Island 46.72 42 *eP* **P** **12 56 44.6 +0.8**
comp=Z,102nm,1.8s
KDAK Kodiak Island 46.72 42 *i* P **P** **12 56 44.8 +1.0**
CAST Castle Rocks 46.80 34 *eP* **P** **12 56 46.2 +1.7**
comp=Z,34nm,1.9s
PMG Port Moresby 47.00 172 LR LR 13 14 56.5
comp=Z,58nm,20.4s,baz=304,slow=34
MLY Manley 47.42 32 *eP* **P** **12 56 51.0 +1.7**
comp=Z,12nm,1.0s
SUA Susitna One 47.45 37 *eP* **P** **12 56 52.0 +2.3**
comp=Z,29nm,1.3s
PRZ Przheval'sk 47.55 297 *eP* **P** **12 56 51.8 +1.0**
comp=Z,48nm,0.9s
PRZ Przheval'sk 47.55 297 *eP* **P** **12 56 51.8 +1.0**
PRZ pmax pmax
comp=Z,48nm,0.9s
COLD Coldfoot 47.71 29 *eP* **P** **12 56 53.3 +1.8**
comp=Z,6.1nm,1.0s
SKLT Songkhla 47.76 241 P **P** **12 56 56.2 +3.8**
comp=Z,29nm,1.0s
TRTT Trang 47.94 243 P **P** **12 56 55.0 +1.1**
comp=Z,11nm,1.1s,comp=Z,225nm
TARG Taragay, Kyrgy 48.20 296 *eP* **P** **12 56 56.8 +0.7**
comp=Z,44nm,0.7s
MCK McKinley 48.21 34 *eP* **P** **12 56 56.7 +1.4**
comp=Z,14nm,1.2s
PMR Palmer 48.22 37 *eP* **P** **12 56 56.3 +0.9**
comp=Z,14nm,1.0s
PMR Palmer 48.22 37 *eP* **P** **12 56 56.3 +0.9**
PMR pmax pmax
comp=Z,14nm,1.0s
RND Reindeer 48.26 34 *eP* **P** **12 56 56.4 +0.6**
comp=Z,10nm,0.9s
RND Reindeer 48.26 34 *eP* **P** **12 56 56.4 +0.6**
RND pmax pmax
comp=Z,10.0nm,0.9s
GHO Glory Hole Cre 48.30 37 *eP* **P** **12 56 57.5 +1.3**
comp=Z,26nm,1.0s
MDM Murphy Dome 48.48 32 *eP* **P** **12 56 59.1 +1.7**
comp=Z,22nm,1.0s
KDJ Kajisay 48.52 297 *eP* **P** **12 56 59.9 +1.6**
comp=Z,24nm,0.6s
WRH Wood River Hil 48.56 33 *eP* **P** **12 56 59.4 +1.4**
WRH ePcP **PcP** **12 58 23.8 +0.8**
TCOL CIGO, UAF Yank 48.64 32 P **P** **12 57 00.3 +1.7**
baz=272
COLA College 48.65 32 *eP* **P** **12 56 59.0 +0.4**
comp=Z,8.8nm,0.8s
COLA College 48.65 32 ↑ *eP* **P** **12 57 00.0 +1.4**
COLA pmax pmax
comp=Z,6.0nm,0.8s
POKR Poker Flat Res 48.82 32 P **P** **12 57 01.8 +1.8**
baz=272,SNR=14
PKDT Phuket 48.87 244 P **P** **12 57 02.3 +1.3**
comp=Z,27nm,0.8s
BOK Bokaro 49.05 270 *eP* **P** **12 57 01.8 -0.6**
HDA Harding Lake 49.05 33 *eP* **P** **12 57 02.8 +1.0**
comp=Z,10nm,0.8s
HDA *eP* **pP** **12 57 15.1 -0.3**
HDA Harding Lake 49.05 33 P **P** **12 57 02.6 +0.8**
baz=273,SNR=7.6
ILAR Eielson Array 49.06 33 P **P** **12 57 02.5 +0.7**
comp=Z,8.9nm,0.8s,baz=270,slow=6.3,SNR=73
ILAR PcP **PcP** **12 58 26.0 +1.1**
comp=Z,2.2nm,0.8s,baz=268,slow=4.0,SNR=2.4
ILB Eielson Array 49.06 33 *eP* **P** **12 57 02.2 +0.3**
ILB ePcP **PcP** **12 58 26.0 +1.1**
IL1 Eielson Array 49.06 33 *eP* **P** **12 57 02.4 +0.5**
KULM Kulim 49.08 239 *eP* **P** **12 57 02.8 +0.2**
comp=Z,45nm,1.3s
ULHL Ulahol 49.15 297 P **P** **12 57 03.7 +0.5**
SNR=12
TKM2 Tokmak 2 49.41 298 P **P** **12 57 06.1 +1.0**
SNR=156
IPM Ipoh 49.42 238 *eP* **P** **12 57 05.1 -0.1**
comp=Z,63nm,1.3s
PRP Porcupine Dome 49.60 32 *eP* **P** **12 57 07.6 +1.5**
comp=Z,10nm,0.9s
FYU Fort Yukon 49.67 30 *eP* **P** **12 57 08.4 +2.0**
comp=Z,18nm,0.9s
KGM Kluang 49.74 234 P **P** **12 57 08.8 +1.2**
HNR Honiara 49.83 156 LR LR 13 14 52.7
comp=Z,192nm,21.5s,baz=322,slow=32
KZA Kyzart 49.91 297 P **P** **12 57 10.7 +1.5**
SNR=55
FRIM Kepong 49.93 237 P **P** **12 57 10.0 +1.0**
KBK Karagaybulak 49.94 298 P **P** **12 57 10.0 +0.8**
SNR=117
CHMS Chumysh 49.98 298 P **P** **12 57 09.6 +0.4**
SNR=18
USP Ospenovka 50.07 299 P **P** **12 57 10.4 +0.4**
SNR=52
FRU1 Bishkek 50.12 298 *eP* **P** **12 57 11.2 +0.9**
comp=Z,54nm,0.6s
FRU1 Bishkek 50.12 298 *eP* **P** **12 57 11.2 +0.9**
FRU1 pmax pmax
comp=Z,54nm,0.6s
FRU Bishkek 50.12 298 *eP* **P** **12 57 11.0 +0.7**
FRU *e* 12 57 27.0
FRU pmax pmax
comp=Z,50nm,1.6s
OTUK Ortayu 50.15 306 P **P** **12 57 10.3 -0.1**
OTUK pmax pmax
comp=Z,66nm,0.9s
KSH Kashi 50.22 294 P **P** **12 57 14.7 +3.5**
KSH pP sP 12 57 30.6 -0.1
KSH PcP **PcP** **12 58 33.2 +3.5**
KSH S **S** **13 04 21.7 +1.9**
KSH sS sS 13 04 50.2 +7.5
KSH pmax pmax
comp=Z,51nm,0.6s
KSH pmax pmax
comp=Z,380nm,4.2s
KSH LR LR
comp=Z,200nm,5.6s
KSH LR LR
comp=Z,200nm,6.4s
KSH LR LR
comp=Z,280nm,13.8s
BVA0 Borovoye Array 50.25 312 *i* P **P** **12 57 10.7 -0.4**
BVA0 pmax pmax
comp=Z,18nm,0.7s
BVAR Borovoye Array 50.25 312 P **P** **12 57 11.2 +0.2**
comp=Z,15nm,0.5s,baz=75,slow=7.7,SNR=87
BVAR PcP **PcP** **12 58 29.8 +0.4**
comp=Z,14nm,0.6s,baz=79,slow=2.9,SNR=8.2
BVAR S **S** **13 04 19.5 -0.1**
comp=Z,0.3nm,0.6s,baz=71,slow=5.2,SNR=2.7
AAK Ala-Archa 50.27 298 P **P** **12 57 12.0 +0.4**
SNR=45
AAK Ala-Archa 50.27 298 *eP* **P** **12 57 11.9 +0.4**
comp=Z,37nm,0.6s
AAK Ala-Archa 50.27 298 *i* P **P** **12 57 12.0 +0.4**
SNR=72
AAK Ala-Archa 50.27 298 *c i* P **P** **12 57 11.7 +0.1**
AAK pmax pmax
comp=Z,42nm,0.8s
AAK Ala-Archa 50.27 298 P **P** **12 57 11.9 +0.3**
SNR=16
BRVK Borovoye 50.30 312 *eP* **P** **12 57 11.7 +0.2**
comp=Z,31nm,0.9s
BRVK Borovoye 50.30 312 *c i* P **P** **12 57 11.5 0.0**
BRVK pmax pmax
comp=Z,33nm,0.9s
BRVK Borovoye 50.30 312 P **P** **12 57 11.7 +0.2**
SNR=15
DOT Dot Lake 50.38 34 *eP* **P** **12 57 13.0 +1.1**
comp=Z,6.6nm,0.8s
SCRK Sand Creek 50.38 34 *eP* **P** **12 57 13.2 +1.2**
comp=Z,12nm,0.9s
UCH Uchtor 50.38 297 P **P** **12 57 13.6 +0.8**
SNR=25
EKS2 Erkin-Say 50.76 298 P **P** **12 57 15.7 +0.4**
SNR=53
AML Almayashu 50.99 298 P **P** **12 57 18.3 +1.1**
SNR=91
COEN Coen 51.24 178 *eP* **P** **12 57 19.9 +1.1**
comp=Z,14nm,1.0s
EGAK Eagle 51.51 32 *eP* **P** **12 57 20.6 +0.2**
comp=Z,6.6nm,0.9s
MNAS Manas 51.71 298 P **P** **12 57 22.7 +0.3**
MNAS pmax pmax
comp=Z,76nm,0.8s
ARSB Arslanbob 51.76 297 *eP* **P** **12 57 23.7 +0.9**
comp=Z,58nm,0.7s
SFK Sufi-Kurgan 51.84 295 P **P** **12 57 23.5 0.0**
SFK pmax pmax
comp=Z,38nm,0.7s
PSI Prapat 52.06 239 LR LR 13 18 58.1
comp=Z,12nm,20.4s,baz=84,slow=35
PSI Prapat 52.06 239 *eP* **P** **12 57 25.4 +0.2**
comp=Z,24nm,0.8s
PSI Prapat 52.06 239 *eP* **P** **12 57 25.4 +0.2**
PSI pmax pmax
comp=Z,24nm,0.8s
DDI Dehra Dun 52.21 282 *eP* **P** **12 57 25.1 -1.1**
DAWY Dawson 52.37 33 *eP* **P** **12 57 27.8 +0.9**
comp=Z,18nm,1.7s
BKNI Bangkinang 52.49 235 *eP* **P** **12 57 29.6 +1.3**
comp=Z,120nm,1.0s
SMLA Simla 52.55 283 *eP* **P** **12 57 28.3 -0.2**
DHRM DHARAMSHALA 52.74 285 *eP* **P** **12 57 29.5 -0.8**
KK31 Karatay Array 52.89 300 *eP* **P** **12 57 31.1 +0.2**
KK31 Karatay Array 52.89 300 *eP* **P** **12 57 31.2 +0.2**
KKAR Karatay Array 52.89 300 *eP* **P** **12 57 31.1 +0.2**
KKAR Karatay Array 52.89 300 *eP* **P** **12 57 31.2 +0.2**
EPYK Eagle Plains 53.09 30 *eP* **P** **12 57 34.0 +1.9**
comp=Z,50nm,0.8s
EPYK Eagle Plains 53.09 30 P **P** **12 57 34.1 +2.0**
baz=280
NDI New Delhi 53.59 281 *eP* **P** **12 57 36.0 -0.3**
BTK Batken 53.74 296 *eP* **P** **12 57 37.6 +0.3**
comp=Z,34nm,1.0s
BTK Batken 53.74 296 *eP* **P** **12 57 37.7 +0.3**
BTK pmax pmax
comp=Z,34nm,1.0s
HYT Haines Junctio 53.89 37 *eP* **P** **12 57 39.8 +1.7**
HYT *eP* **sP** **12 57 55.4 -2.3**
INK Inuvik 53.94 27 P **P** **12 57 39.5 +1.3**
comp=Z,17nm,0.8s,baz=281,slow=6.7,SNR=50
INK LR LR 13 21 17.7
comp=Z,64nm,20.6s,baz=162,slow=37
INK Inuvik 53.94 27 *eP* **P** **12 57 39.5 +1.3**
comp=Z,12nm,1.8s
INK Inuvik 53.94 27 *eP* **P** **12 57 39.5 +1.3**
INK pmax pmax
comp=Z,12nm,1.8s
JBP Jabalpur 54.06 273 *ex* **P** **12 57 40.1 +0.4**
JBP *eP* **P** **12 57 40.4 +0.7**

GSI Gunungsitoli 54.07 239 *e*P **P 12 57 39.9 0.0**
comp=Z,101nm,0.8s
NIL Nilore 54.48 288 *e*P **P 12 57 43.3 +0.6**
comp=Z,48nm,0.7s
GAR Garm 54.50 295 *e*P **P 12 57 43.2 +0.3**
comp=Z,89nm,0.6s
GAR *e*S **S 13 05 16.9 -1.5**
GAR Garm 54.50 295 *e*P **P 12 57 43.2 +0.3**
GAR *e*S **S 13 05 16.9 -1.5**
GAR pmax pmax
comp=Z,89nm,0.6s
SVE Sverdlovsk 54.78 318*d i*P **P 12 57 45.3 +0.8**
SVE pmax pmax
comp=Z,108nm,1.0s
SVE MLR MLR
comp=Z,526nm,18.0s
WHY Whitehorse 55.18 37 *e*P **P 12 57 49.9 +2.4**
comp=Z,7.6nm,0.9s
NGP Nagpur 55.83 272 *e*P **P 12 57 52.1 -0.5**
ARU Arti 56.00 318 *e*P **P 12 57 53.2 0.0**
comp=Z,145nm,1.1s
ARU Arti 56.00 318*c i*P **P 12 57 53.4 +0.1**
ARU *PP **pP 12 58 08.9 +1.8**
ARU 12 58 50.5
ARU 12 59 57.5
ARU S **S 13 05 39.9 +2.3**
ARU pmax pmax
comp=Z,146nm,1.2s
ARU MLR MLR
comp=Z,411nm,18.0s
BHPL Bhopal 56.05 275 *e*P **P 12 57 52.8 -1.4**
KBL Kabul 57.25 291 *e*P **P 12 58 02.5 -0.3**
comp=Z,58nm,0.9s
KBL Kabul 57.25 291 *e*P **P 12 58 02.5 -0.3**
KBL pmax pmax
comp=Z,58nm,0.9s
FITZ Fitzroy Crossi 57.30 198 LR LR 13 21 10.9
comp=Z,155nm,21.9s,baz=220,slow=34
WRAB Tennant Creek 57.55 188 *e*P **P 12 58 04.6 0.0**
comp=Z,19nm,1.1s
WRAB Tennant Creek 57.55 188⇑ *e*P **P 12 58 04.1 -0.5**
WRAB pmax pmax
comp=Z,23nm,1.6s
WB2 Warramunga Arr 57.56 188 *e*P **P 12 58 03.4 -1.2**
WB2 *e*P **P 12 58 04.3 -0.3**
WR1 Warramunga Arr 57.56 188 *e*P **P 12 58 04.2 -0.4**
comp=Z,44nm,2.0s
WRA Warramunga Arr 57.56 188 P **P 12 58 04.2 -0.4**
comp=Z,8.6nm,0.7s,baz=6.0,slow=7.2,SNR=102
WRA LR LR 13 22 06.7
comp=Z,66nm,20.6s,baz=75,slow=35
AB31 Akbulak array 57.63 310 *i* P **P 12 58 04.7 -0.2**
AB31 pmax pmax
comp=Z,31nm,0.5s
ABKAR Akbulak array 57.63 310 *e*P **P 12 58 04.8 -0.1**
DLBC Dease Lake 58.22 38 P **P 12 58 12.0 +3.0**
comp=Z,4.8nm,0.9s,baz=280,slow=6.5,SNR=6.6
DLBC LR LR 13 23 59.5
comp=Z,71nm,19.7s,baz=321,slow=37
DLBC Dease Lake 58.22 38 *e*P **P 12 58 11.6 +2.6**
comp=Z,28nm,1.8s
HYB Hyderabad 58.23 268 *i* P **P 12 58 09.5 -0.2**
comp=Z,60nm,1.0s
HYB Hyderabad 58.23 268 *e*P **P 12 58 09.1 -0.6**
AKTO Aktyubinsk 58.35 312 P **P 12 58 09.8 -0.2**
comp=Z,30nm,0.6s,baz=75,slow=7.9,SNR=80
MDRS Chennai 59.36 263 *e*P **P 12 58 18.1 +0.7**
SPITS Spitsbergen Ar 60.04 349 P **P 12 58 21.5 +0.3**
comp=Z,5.7nm,0.7s,baz=67,slow=13,SNR=11
PRGR Permogore 60.36 327⇑ *i*P **P 12 58 23.8 +0.2**
PRGR pmax pmax
comp=Z,65nm,1.0s
AS01 Alice Springs 61.28 188 *e*P **P 12 58 30.1 -0.1**
AS31 Alice Springs 61.28 188 *e*P **P 12 58 30.6 +0.3**
comp=Z,1.6nm,1.3s
ASAR Alice Springs 61.28 188 P **P 12 58 30.4 +0.1**
comp=Z,6.2nm,0.7s,baz=13,slow=6.4,SNR=72
ASAR LR LR 13 24 22.7
comp=Z,64nm,21.0s,baz=356,slow=35
POO Poona 61.36 272 *e*P **P 12 58 30.7 -0.5**
POO *e*P **P 12 58 31.0 -0.2**
LVZ Lovozero 61.66 336⇑ *e*P **P 12 58 33.1 +0.7**
LVZ pmax pmax
comp=Z,7.0nm,1.2s
RES Resolute Bay 62.11 14 *e*P **P 12 58 33.6 -1.6**
comp=Z,18nm,0.8s
RES Resolute Bay 62.11 14 P **P 12 58 35.4 +0.1**
RES pmax pmax
comp=Z,13nm,2.0s
KEV Kevo 62.98 339 *e*P **P 12 58 41.9 +0.8**
comp=Z,29nm,0.8s
KEV Kevo 62.98 339 *e*P **P 12 58 41.9 +0.8**
KEV pmax pmax
comp=Z,29nm,0.8s
GOA Goa 63.06 269 *e*P **P 12 58 42.7 +0.2**
YKW3 Yellowknife Ar 63.33 30 *e*P **P 12 58 43.9 +0.4**
comp=Z,5.4nm,0.7s
KLMR Klimovskoe 63.34 328 *e*P **P 12 58 42.3 -1.4**
KLMR *e* 13 01 01.0
KLMR pmax pmax
comp=Z,41nm,0.8s
KLMR Klimovskoe 63.34 328 *e*P **P 12 58 42.3 -1.4**
KLMR AMP 12 58 44.6
comp=Z,41nm,0.8s
KLMR *ePP **PP 13 01 01.1 -1.8**
HAMF Hammerfest 63.35 341 *e*P **P 12 58 43.8 +0.3**
YKA Yellowknife Ar 63.37 30 P **P 12 58 44.3 +0.5**
comp=Z,5.7nm,0.7s,baz=303,slow=6.8,SNR=93
YKB5 Yellowknife Ar 63.37 30 *e*P **P 12 58 43.0 -0.8**
ARA0 ARCESS Array S 63.53 339 *e*P **P 12 58 45.2 +0.3**
ARCES ARCESS Array B 63.53 339 P **P 12 58 45.2 +0.3**
comp=Z,21nm,0.8s,baz=47,slow=7.4,SNR=32
ARCES LR LR 13 29 17.8
comp=Z,7.4nm,20.6s,baz=351,slow=39
ARE0 ARCESS Array S 63.53 339 *e*P **P 12 58 44.9 0.0**
GEYT Alibeck 63.61 299 P **P 12 58 46.4 +0.5**
comp=Z,30nm,0.6s,baz=31,slow=3.5,SNR=47
GEYT LR LR 13 27 37.3
comp=Z,116nm,21.0s,baz=55,slow=37
GYA0B ALIBECK ARRAY 63.61 299 *e*P **P 12 58 46.4 +0.5**
comp=Z,57nm,1.1s
DZM Mont Dzumac 63.79 154 *e*S **S 13 07 22.5 +4.0**
comp=Z,126nm,29.8s
DZM Mont Dzumac 63.79 154 *e*LR LR 13 17 47.8
comp=Z,291nm,21.4s
KTK1 Kautokeino 64.50 339 *e*P **P 12 58 51.7 +0.6**
SGF Sodankyl 64.50 337 *e*P **P 12 58 51.5 +0.3**
SGF pmax pmax
comp=Z,79nm,0.8s
MSF Maaselka 64.60 335 *e*P **P 12 58 52.3 +0.4**
MSF pmax pmax
comp=Z,51nm,0.7s
TRO Tromso 65.25 341 *e*P **P 12 58 56.3 +0.4**
DAG Danmarks Havn 65.28 355⇑ *i*P **P 12 58 56.3 +0.2**
comp=Z,21nm,0.7s
DAG Danmarks Havn 65.28 355⇑ *i*P **P 12 58 56.3 +0.2**
DAG pmax pmax
comp=Z,15nm,0.7s
JOF Joensuu 65.53 332 P **P 12 58 57.9 0.0**
JOF pmax pmax
comp=Z,31nm,0.9s
OUL Oulu 66.15 335 P **P 12 59 02.1 +0.3**
OUL pmax pmax
comp=Z,55nm,0.9s
MOS Moscow 66.86 323 *e*P **P 12 59 05.7 -0.8**
MOS *e*PP **sP 12 59 24.4 -2.1**
MOS *e* 12 59 39.8
MOS *e* 13 01 34.5
MOS pmax pmax
comp=Z,100nm,1.4s
MOS pmax pmax
comp=Z,74nm,1.3s
VRH Novokhopyorsk 67.22 318 *e*P **P 12 59 07.9 -1.0**
VRH pmax pmax
comp=Z,60nm,0.6s
STEI Steigen 67.40 341 *e*P **P 12 59 09.6 -0.2**
SUF Sumiainen 67.54 333 P **P 12 59 11.0 +0.2**
SUF pmax pmax
comp=Z,74nm,0.8s
OBN Obninsk 67.70 323 P **P 12 59 12.1 +0.2**
comp=Z,6.6nm,0.3s,baz=38,slow=4.8,SNR=12
OBN Obninsk 67.70 323 *e*P **P 12 59 12.1 +0.2**
comp=Z,66nm,1.0s
OBN Obninsk 67.70 323⇑ *e*P **P 12 59 10.8 -1.1**
OBN *e**PP **pP 12 59 24.2 -1.9**
OBN *e* 12 59 40.4
OBN *e* 13 08 53.5
OBN pmax pmax
comp=Z,95nm,1.4s
OBN MLR MLR
comp=Z,122nm,17.0s
LPSR Galich'ya Gora 67.93 320 *e*P **P 12 59 12.5 -0.9**
LPSR pmax pmax
comp=Z,60nm,0.8s
FIA1 FINESS Array S 68.38 332 *e*P **P 12 59 16.6 +0.5**
comp=Z,58nm,0.8s
FIA0 FINESS Array S 68.38 332 *e*P **P 12 59 16.3 +0.3**
FIA0 FINESS Array S 68.38 332 *e*P **P 12 59 16.3 +0.3**
FINES FINESS Array B 68.38 332 P **P 12 59 16.3 +0.3**
comp=Z,36nm,0.6s,baz=52,slow=9.0,SNR=54
FINES LR LR 13 31 31.6
comp=Z,257nm,18.2s,baz=36,slow=38
VAF Ylistaro 68.55 335 P **P 12 59 17.9 +0.8**
VAF pmax pmax
comp=Z,49nm,0.9s
VSR Storozhevoye 68.57 319 *e*P **P 12 59 16.8 -0.6**
VSR pmax pmax
comp=Z,40nm,0.5s
STKA Stephens Creek 69.05 180 P **P 12 59 20.9 +0.5**
comp=Z,3.6nm,0.7s,baz=350,slow=6.7,SNR=9.0
STKA LR LR 13 28 35.6
comp=Z,78nm,21.2s,baz=26,slow=35
STKA Stephens Creek 69.05 180 *e*P **P 12 59 21.3 +0.8**
comp=Z,1.0nm,1.3s
STKA Stephens Creek 69.05 180 *e*P **P 12 59 21.3 +0.8**
STKA pmax pmax
comp=Z,1.0nm,1.3s
FORT Forrest 69.10 192 *e*P **P 12 59 21.6 +0.8**
comp=Z,59nm,0.8s
GROC Groznyy 69.10 309 *e*P **P 12 59 18.4 -2.5**
GROC *e**PP **pP 12 59 36.5 +1.4**
GROC *e* 12 59 42.6
GROC *e*S **S 13 08 20.5 -1.9**
GROC *e**SS **sS 13 08 51.0 +4.6**
GROC pmax pmax
comp=Z,41nm,1.4s
I04A Tendick Farm, 69.11 50 P **P 12 59 23.2 +2.3**
baz=302
C09A Chrisman Ranch 69.37 45 *e*P **P 12 59 23.6 +1.1**
comp=Z,6.2nm,0.8s
JMIC Jan Mayen 69.66 350 LR LR 13 33 48.4
comp=Z,53nm,19.1s,baz=240,slow=39
NEW Newport 69.76 44 P **P 12 59 26.1 +1.2**
comp=Z,4.0nm,0.7s,baz=313,slow=7.4,SNR=7.5
NEW Newport 69.76 44 *e*P **P 12 59 26.5 +1.6**
comp=Z,7.9nm,1.1s
NEW Newport 69.76 44 *e*P **P 12 59 26.5 +1.6**
NEW pmax pmax
comp=Z,8.0nm,1.1s
NEW Newport 69.76 44 P **P 12 59 26.1 +1.2**
baz=304
GOF Gofitskoye 69.77 312 *e*P **P 12 59 25.4 +0.4**
GOF pmax pmax
comp=Z,70nm,0.8s
PINE Pine Mountain 70.00 50 *e*P **P 12 59 29.1 +2.4**
comp=Z,17nm,0.8s
L04D Klamath Falls 70.02 52 P **P 12 59 29.1 +2.4**
baz=303
YBH Yreka Blue Hor 70.03 52 P **P 12 59 28.9 +2.2**
comp=Z,4.5nm,0.9s,baz=319,slow=6.0,SNR=5.3
VSU Vasula 70.03 329⇑ *i*P **P 12 59 26.0 -0.3**
VSU pmax pmax
comp=Z,122nm,1.3s
VSU Vasula 70.03 329 *e*P **P 12 59 26.4 +0.1**
VSU IAmb IAmb 12 59 27.2
comp=Z,97nm,0.8s
J05D Fort Rock, OR 70.10 50 P **P 12 59 29.1 +1.9**
baz=303
SUMG Summit 70.19 360 *e*P **P 12 59 28.5 +1.0**
comp=Z,25nm,0.9s
SUMG Summit 70.19 360⇑ *i*P **P 12 59 28.6 +1.0**
comp=Z,71nm,0.9s
SUMG Summit 70.19 360⇑ *i*P **P 12 59 28.6 +1.0**
SUMG pmax pmax
comp=Z,71nm,0.9s
NCK Nalchik 70.29 310⇓ *i*P **P 12 59 27.9 -0.4**
NCK pmax pmax
comp=Z,22nm,0.5s
ZEI Tsey 70.50 309 *e*P **P 12 59 28.0 -1.7**
ZEI pmax pmax
comp=Z,17nm,0.8s
M04C Macdoel 70.55 52 P **P 12 59 31.9 +1.9**
baz=303
KVAR Kislovodsk Arr 70.59 311 P **P 12 59 31.5 +1.3**
comp=Z,20nm,0.8s,baz=190,slow=5.7,SNR=13
KBZ Khabaz 70.59 311 P **P 12 59 30.6 +0.6**
comp=Z,29nm,0.9s,baz=42,slow=3.0,SNR=35
KBZ LR LR 13 33 14.9
comp=Z,166nm,18.1s,baz=64,slow=38
KIV Kislovodsk 70.59 311 *e*P **P 12 59 30.8 +0.6**
comp=Z,81nm,0.9s
KIV Kislovodsk 70.59 311 *e*P **P 12 59 30.8 +0.6**
KIV pmax pmax
comp=Z,81nm,0.9s
WSAR Wadi Sarin 70.75 285 P **P 12 59 32.2 +0.8**
NSS Namsos 70.82 339 *e*P **P 12 59 30.7 -0.3**
WBK Wadi Bani Khal 70.84 284 P **P 12 59 31.8 -0.1**
NEY Neytrino 70.96 310 *e*P **P 12 59 33.7 +1.2**
NEY pmax pmax
comp=Z,3.0nm,0.8s
WALA Waterton Lakes 71.06 42 *e*P **P 12 59 34.3 +1.4**
comp=Z,59nm,1.9s
BANOM Banah 71.06 288 *i* P **P 12 59 34.2 +0.9**
SNR=7.2
SHME Shamm 71.12 289 *i* P **P 12 59 34.0 +0.4**
SNR=14
O03E Paynes Creek 71.39 53 P **P 12 59 35.9 +0.9**
baz=304
MDH Madha 71.41 288 P **P 12 59 34.9 -0.3**
GNI Garni 71.42 307 P **P 12 59 36.4 +1.1**
comp=Z,8.9nm,0.7s,baz=96,slow=4.6,SNR=5.1
GNI Garni 71.42 307 *e*P **P 12 59 36.1 +0.8**
comp=Z,121nm,1.8s
GNI *e*P **P 12 59 36.4 +1.1**
GNI Garni 71.42 307 *e*P **P 12 59 36.1 +0.8**
GNI pmax pmax
comp=Z,121nm,1.8s
MOD Modoc Plateau 71.44 51 *e*P **P 12 59 36.1 +0.8**
comp=Z,30nm,1.9s
MSFE Esma-Masafi 71.48 288 *i* P **P 12 59 36.3 +0.6**
SNR=9.5
BMO Blue Mountains 71.58 47 *e*P **P 12 59 37.9 +1.8**
comp=Z,6.0nm,0.8s
BMO Blue Mountains 71.58 47 *e*P **P 12 59 37.9 +1.8**
BMO pmax pmax
comp=Z,6.0nm,0.8s
SCO Scoresbysund 71.62 354 *e*P **P 12 59 36.8 +1.1**
comp=Z,21nm,1.0s
SCO Scoresbysund 71.62 354 *i* P **P 12 59 36.8 +1.1**
comp=Z,16nm,0.9s
SCO Scoresbysund 71.62 354 *e*P **P 12 59 36.8 +1.1**
SCO pmax pmax
comp=Z,21nm,1.0s
UOSS Minazif 71.67 288 *e*P **P 12 59 37.2 +0.4**
comp=Z,51nm,0.8s
J08A Circle Bar Ran 71.73 49 *e*P **P 12 59 38.7 +1.6**
comp=Z,14nm,1.1s
HATD Hatta, Dubai 71.79 288 *i* P **P 12 59 38.1 +0.5**
SNR=24
HATD Hatta, Dubai 71.79 288 P **P 12 59 38.1 +0.5**
SNR=5.2
SOHO SOHO 71.87 287 P **P 12 59 38.1 0.0**
SNR=5.9
ASHO Ashiyiah 71.92 287 *i* P **P 12 59 38.4 0.0**
SNR=11
ORV Oroville 71.99 54 *e*P **P 12 59 39.7 +1.1**
ORV *epP **pP 12 59 54.6 +1.8**
ORV Oroville 71.99 54 *e*P **P 12 59 39.7 +1.1**
ORV *e**PP **pP 12 59 54.6 +1.8**
IZAR Zarasai 72.00 327 *e*P **P 12 59 38.7 +0.4**
IZAR IAmb IAmb 12 59 39.3
comp=Z,17nm,0.7s
IDID Didziasalis 72.07 327 *e*P **P 12 59 39.3 +0.6**
IDID IAmb IAmb 12 59 40.7
comp=Z,24nm,1.0s
MICGM Minsk 72.09 326 *e* **P 12 59 39.0 +0.2**
MNK Minsk 72.09 326 *e*P **P 12 59 39.0 +0.2**
ISAL Salakas 72.16 327 *e*P **P 12 59 40.1 +0.9**
ISAL IAmb IAmb 12 59 41.4
comp=Z,53nm,1.2s
FAQ Al Faqa, Dubai 72.25 288 *i* P **P 12 59 40.1 -0.2**
SNR=11
IIGN Ignalina 72.27 327 *e*P **P 12 59 40.0 +0.1**
TBLU Trondheim 72.29 339 *e*P **P 12 59 38.5 -1.4**
NACGM Naroch 72.32 327 *e* **P 12 59 40.0 -0.2**
MSO Missoula 72.35 44 *e*P **P 12 59 42.0 +1.3**
comp=Z,9.3nm,1.3s
MSO Missoula 72.35 44 P **P 12 59 41.7 +1.0**
baz=306
ALNE Al Ain 72.50 287 *i* P **P 12 59 42.1 +0.2**
SNR=14
ASUD Al Ashush, Dub 72.51 288 *i* P **P 12 59 42.2 +0.4**
SNR=11
MHTO MHTO 72.51 283 P **P 12 59 41.9 0.0**
SNR=12
PAHR Pah Rah Range 73.25 53 *e*P **P 12 59 48.1 +1.8**
comp=Z,8.7nm,0.8s
FFC Flin Flon 73.28 33 *e*P **P 12 59 46.6 +0.7**
comp=Z,16nm,0.9s
FFC Flin Flon 73.28 33 *e*P **P 12 59 46.6 +0.7**
FFC Flin Flon 73.28 33 *i* P **P 12 59 46.8 +0.9**
NC405 NORSAR Array S 73.52 337 *e*P **P 12 59 47.7 +0.4**
NC303 NORSAR Array S 73.54 337 *e*P **P 12 59 48.1 +0.7**
FCC Fort Churchill 73.55 27 *e*P **P 12 59 47.8 +0.4**
comp=Z,20nm,1.0s
FCC Fort Churchill 73.55 27 *e*P **P 12 59 47.8 +0.4**
FCC pmax pmax
comp=Z,20nm,1.0s
CMB Columbia Colle 73.57 55 *e*P **P 12 59 49.2 +1.3**
CMB *epP **PcP 13 00 04.1 +0.3**
CMB Columbia Colle 73.57 55 P **P 12 59 49.6 +1.6**
HRY Holter Researc 73.58 43 *e*P **P 12 59 49.4 +1.4**
DOMB Dombas 73.58 339 *e*P **P 12 59 47.8 +0.1**
MOL Molde 73.59 340 *e*P **P 12 59 48.3 +0.8**
HFS Hagfors 73.64 336 P **P 12 59 48.0 +0.1**
comp=Z,10nm,0.4s,baz=57,slow=5.5,SNR=58
NC204 NORSAR Array S 73.69 338 *e*P **P 12 59 48.7 +0.4**
NB201 NORSAR Array S 73.70 337 *e*P **P 12 59 48.8 +0.4**
NB2 NORSAR Subarra 73.73 337 P **P 12 59 48.7 +0.2**
comp=Z,36nm,0.9s,baz=39,slow=6.2
NB2 NORSAR Subarra 73.73 337 P **P 12 59 48.7 +0.2**
baz=39,slow=6.2
NB200 NORSAR Array S 73.73 337 *e*P **P 12 59 48.7 +0.2**
NOA NORSAR Array B 73.73 337 P **P 12 59 48.7 +0.2**
comp=Z,22nm,0.8s,baz=39,slow=5.9,SNR=52
NOA LR LR 13 35 46.3
comp=Z,213nm,19.4s,baz=40,slow=39
NC602 NORSAR Array S 73.87 337 *e*P **P 12 59 49.1 -0.1**
NORES NORESS Array B 73.87 337 P **P 12 59 49.3 0.0**
NORES pmax pmax
comp=Z,1.0nm,0.3s
NBO00 NORSAR Array S 73.87 337 *e*P **P 12 59 49.6 +0.3**
EGMT Eagleton 73.89 41 *e*P **P 12 59 51.2 +1.4**
comp=Z,14nm,0.9s
EGMT Eagleton 73.89 41 P **P 12 59 50.6 +0.9**
baz=305
AKASG Malin Array Be 73.91 322 P **P 12 59 49.6 0.0**
comp=Z,26nm,0.5s,baz=46,slow=5.9,SNR=48
AKASG LR LR 13 35 23.6
comp=Z,212nm,18.1s,baz=25,slow=38
AKBB Malin Array Si 73.91 322 *e*P **P 12 59 49.5 -0.2**
comp=Z,19nm,1.9s
KIEV Kiev 73.92 322 *e*P **P 12 59 49.0 -0.7**
comp=Z,40nm,0.9s
KIEV Kiev 73.92 322⇑ *i*P **P 12 59 49.6 -0.2**
KIEV Kiev 73.92 322 *i* P **P 12 59 49.6 -0.2**
SNR=32
KIEV Kiev 73.92 322*c i*P **P 12 59 49.4 -0.4**
KIEV pmax pmax
comp=Z,29nm,0.6s
AK11 Malin Array Si 73.95 322 *e*P **P 12 59 50.1 +0.2**
DLMT Dillon 73.98 45 *e*P **P 12 59 51.8 +1.4**
comp=Z,13nm,0.9s
NAO01 NORSAR Array S 73.98 337 *e*P **P 12 59 50.4 +0.5**
HLID Hailey 74.02 47 *e*P **P 12 59 52.6 +1.9**
comp=Z,7.0nm,1.2s
HLID Hailey 74.02 47 P **P 12 59 52.1 +1.4**
baz=307
AKN Aaknes 74.06 340 *e*P **P 12 59 52.3 +1.9**
BOZ Bozeman (W) 74.37 44 *e*P **P 12 59 54.1 +1.4**
comp=Z,9.7nm,0.8s
BOZ Bozeman (W) 74.37 44 P **P 12 59 54.1 +1.4**
BOZ pmax pmax
comp=Z,10.0nm,0.9s
BOZ Bozeman (W) 74.37 44 P **P 12 59 53.8 +1.1**
baz=308
SIRT Sirnak 74.40 305 *e*P **P 12 59 53.3 +0.4**
comp=Z,79nm,1.0s
KVN Kaiserville 74.44 53 *e*P **P 12 59 54.6 +1.3**
KVN *ePcP **pP 13 00 06.4 -1.2**
KVN Kaiserville 74.44 53 *e*P **P 12 59 54.6 +1.3**
KVN *e* 13 00 06.4
SUW Suwalki 74.48 327 *e*P **P 12 59 53.1 +0.2**
SUW Suwalki 74.48 327 *e*P **P 12 59 53.1 +0.2**
comp=Z,44nm,0.9s
SUW Suwalki 74.48 327 *e*P **P 12 59 53.1 +0.2**
SUW pmax pmax
comp=Z,44nm,0.9s
NV01 Mina Array Sit 74.68 53 *e*P **P 12 59 56.1 +1.4**
NV01 *epP **pP 13 00 10.3 +1.2**
NVAR Mina Array Bea 74.68 53 P **P 12 59 56.6 +1.9**
comp=Z,5.7nm,0.8s,baz=282,slow=5.7,SNR=14
MZR Muzera 74.82 287 P **P 12 59 55.2 -0.3**
MZR Muzera 74.82 287 P **P 12 59 54.9 -0.6**
SIM Simferopol' 74.98 315 *e*P **P 12 59 56.0 0.0**
SIM pmax pmax
comp=Z,30nm,0.8s
YHB Horse Butte 75.14 45 *e*P **P 12 59 58.9 +1.7**
comp=Z,10nm,0.8s
ELK Elko 75.22 50 *e*P **P 12 59 59.3 +1.6**
comp=Z,2.9nm,0.8s
ELK Elko 75.22 50 *e*P **P 12 59 59.3 +1.6**
ELK pmax pmax
comp=Z,3.0nm,0.8s
KLNR Kaliningrad 75.31 329⇑ *e*P **P 12 59 58.4 +0.7**
KLNR pmax pmax
comp=Z,109nm,0.8s
YMR Madison River 75.31 45 *e*P **P 12 59 59.6 +1.4**
comp=Z,6.6nm,0.7s
KONO Kongsberg 75.32 337⇓ *e*P **P 12 59 57.7 0.0**
KONO pmax pmax
comp=Z,17nm,0.8s
GCMT Greycliff 75.33 43 *e*P **P 13 00 00.0 +1.8**
GCMT *epP **pP 13 00 14.5 +1.9**
SFJD Kangerlussuaq 75.39 5 *i* P **P 12 59 57.3 -0.6**
SFJD Kangerlussuaq 75.39 5 *i* P **P 12 59 57.3 -0.6**
YFT Old Faithful 75.52 45 *e*P **P 13 00 02.7 +3.3**
comp=Z,8.6nm,0.8s
YPP Pitchstone Pla 75.65 45 *e*P **P 13 00 02.6 +2.4**
comp=Z,4.6nm,0.9s
H17A Grant Village 75.70 45 *e*P **P 13 00 03.5 +3.0**
comp=Z,15nm,0.8s
H17A Grant Village 75.70 45 P **P 13 00 03.5 +3.0**
baz=309
IMW Indian Meadow 75.81 45 *e*P **P 13 00 03.3 +2.1**
comp=Z,9.9nm,0.8s
FLWY Flagg Ranch 75.83 45 *e*P **P 13 00 03.2 +2.0**
comp=Z,23nm,1.4s
RLMT Red Lodge 75.97 44 *e*P **P 13 00 03.9 +1.9**
comp=Z,18nm,1.4s
RLMT Red Lodge 75.97 44 P **P 13 00 03.6 +1.6**
baz=310
ODD1 Odda 76.01 338 *e*P **P 13 00 02.9 +1.2**
MOOW Moose Ponds 76.01 45 *e*P **P 13 00 04.1 +1.8**
comp=Z,27nm,1.7s
TPAW Teton Pass 76.06 46 *e*P **P 13 00 04.9 +2.4**
comp=Z,50nm,1.9s
HVU Hansel Valley 76.06 48 *e*P **P 13 00 04.6 +2.1**
comp=Z,5.3nm,0.9s
HVU *epcP **PcP 13 00 15.4 +0.8**
HVU Hansel Valley 76.06 48 *e*P **P 13 00 04.6 +2.1**
HVU *e* 13 00 15.4
HVU pmax pmax
comp=Z,5.0nm,0.9s
LOHW Long Hollow 76.18 45 *e*P **P 13 00 05.3 +2.1**
comp=Z,16nm,1.8s
SNOW Snow King Moun 76.19 46 *e*P **P 13 00 04.9 +1.6**
comp=Z,6.9nm,0.9s
REDW Red Top Meadow 76.19 46 *e*P **P 13 00 05.0 +1.7**
comp=Z,10.0nm,1.1s
FRB Frobisher Bay 76.28 13 P **P 13 00 03.4 +0.3**
FRB pmax pmax
comp=Z,50nm,1.4s
DAC Darwin (Calif) 76.40 55 *e*P **P 13 00 06.0 +1.4**
comp=Z,11nm,1.4s
DAC Darwin (Calif) 76.40 55 *e*P **P 13 00 06.0 +1.4**
DAC pmax pmax

comp=Z,11nm,1.4s
R11A Troy Canyon, C 76.44 52 *e*P **P 13 00 06.2 +1.4**
R11A *ep*P **pP 13 00 21.1 +1.9**
R11A Troy Canyon, C 76.44 52 P **P 13 00 06.2 +1.4**
baz=307
KIS Kishinev 76.52 319 *e*P **P 13 00 04.0 -0.8**
KIS LRM MLR 13 36 38.0
comp=Z,600nm,16.0s
KIS Kishinev 76.52 319 *e*P **P 13 00 04.0 -0.8**
KIS *e* 13 10 08.0
KIS MLR MLR
comp=Z,600nm,16.0s
KIS MLR MLR
comp=N,400nm,17.0s
LAO LASA Array 76.59 41 *e*P **P 13 00 06.9 +1.6**
LAO *ep*P **pP 13 00 21.4 +1.7**
LAO LASA Array 76.59 41 P **P 13 00 06.9 +1.6**
baz=311
MPMC Manual Prospec 76.60 55 P **P 13 00 06.9 +1.2**
baz=307
TPNV Topopah Spring 76.86 53 *e*P **P 13 00 07.6 +0.5**
comp=N,9.5nm,1.0s
TPNV Topopah Spring 76.86 53 *e*P **P 13 00 07.6 +0.5**
TPNV pmax pmax
comp=Z,10.0nm,1.0s
TPNV Topopah Spring 76.86 53 P **P 13 00 08.6 +1.5**
baz=307
HWUT Hardware Ranch 76.88 47 *e*P **P 13 00 08.4 +1.3**
comp=Z,12nm,1.4s
EDW2 Edwards Air Fo 76.97 56 P **P 13 00 08.7 +1.1**
baz=307
LVV L'vov 76.98 324 *e*P **P 13 00 07.4 +0.1**
DUG Dugway, Tooele 77.02 49 P **P 13 00 09.2 +1.3**
baz=308
BEL Belsk 77.04 327 *e*P **P 13 00 08.5 +0.9**
BEL Belsk 77.04 327 *e*P **P 13 00 08.5 +0.9**
SNART Snartemo 77.12 337 *e*P **P 13 00 08.8 +0.9**
LEOM Leova 77.17 319 ⇓*i*P **P 13 00 08.8 +0.4**
BW06 Boulder Array 77.31 46 *e*P **P 13 00 10.3 +0.7**
comp=Z,4.2nm,0.8s
BW06 Boulder Array 77.31 46 P **P 13 00 10.3 +0.7**
baz=310
PD31 Pinedale Array 77.31 46 *e*P **P 13 00 10.7 +1.1**
PDAR Pinedale Array 77.31 46 P **P 13 00 10.7 +1.1**
comp=Z,3.3nm,0.7s,baz=268,slow=2.7,SNR=22
PDAR LR LR 13 33 33.2
comp=Z,34nm,20.1s,baz=316,slow=35
PDAR Pinedale Array 77.31 46 P P 13 00 04.7 -4.9
comp=Z,0.7nm,0.5s,baz=292,slow=2.9,SNR=7.1
NLU North Lily Min 77.61 49 *e*P **P 13 00 12.2 +0.9**
comp=Z,4.9nm,1.0s
BIR Birlad 77.62 319 ⇓*i*P **P 13 00 12.6 +1.6**
BIR Birlad 77.62 319 P **P 13 00 12.5 +1.6**
ILGA Ilgaz 77.65 312 *e*P **P 13 00 12.9 +1.4**
comp=Z,31nm,0.8s
TLCR 77.72 318 ⇑*i*P **P 13 00 12.2 +0.7**
KWP Kalwaria Pacla 77.73 324 *e*P **P 13 00 12.6 +1.1**
KWP Kalwaria Pacla 77.73 324 *e*P **P 13 00 12.6 +1.1**
SHPR Sheep Range 77.83 53 *e*P **P 13 00 14.7 +2.2**
comp=Z,9.3nm,1.1s
MPU Maple Canyon 77.83 49 *e*P **P 13 00 14.0 +1.4**
comp=Z,6.5nm,0.8s
BUR08 Bucovina Ar. S 77.92 322 *e*P **P 13 00 13.4 +0.7**
BUR04 Bucovina Ar. S 77.93 322 *e*P **P 13 00 13.3 +0.5**
BURAR Bucovina Array 77.93 322 ⇑*i*P **P 13 00 13.4 +0.6**
BURAR Bucovina Array 77.93 322 P **P 13 00 13.4 +0.6**
BIZ Bicaz 77.95 321 ⇓*i*P **P 13 00 13.9 +1.1**
CFR Carcaliu 78.08 318 ⇓*i*P **P 13 00 13.9 +0.4**
CFR Carcaliu 78.08 318 P **P 13 00 13.9 +0.4**
CFR pmax pmax
comp=Z,18nm,1.8s
HEC Hector,Ludlow 78.09 55 P **P 13 00 15.6 +1.7**
baz=308
PETR Petresti 78.19 319 ⇓*i*P **P 13 00 15.2 +1.1**
ODBI Odobesti 78.26 319 ⇓*i*P **P 13 00 16.3 +1.8**
CCUT Cedar City 78.32 52 *e*P **P 13 00 17.4 +2.1**
comp=Z,4.5nm,0.9s
VRI Vrincioaia 78.36 320 ⇑*i*P **P 13 00 16.0 +0.9**
VRI Vrincioaia 78.36 320 P **P 13 00 15.9 +0.9**
PLOR Plostina 78.41 320 ⇑*i*P **P 13 00 16.2 +0.8**
PLOR Plostina 78.41 320 P **P 13 00 16.1 +0.7**
MSU Marysvale 78.45 50 *e*P **P 13 00 17.1 +1.1**
HARR Harsova 78.52 318 ⇑*i*P **P 13 00 16.2 +0.3**
HARR Harsova 78.52 318 P **P 13 00 16.2 +0.3**
TLB Topalu 78.53 318 ⇑*i*P **P 13 00 16.5 +0.5**
TLB Topalu 78.53 318 P **P 13 00 16.5 +0.5**
BR101 Keskin Array S 78.53 311 *e*P **P 13 00 16.1 -0.2**
BR131 Keskin Array S 78.53 311 *e*P **P 13 00 16.6 +0.3**
BRTR Keskin Array B 78.53 311 P **P 13 00 16.1 -0.3**
comp=Z,8.5nm,0.9s,baz=95,slow=3.4,SNR=20
BRTR Keskin Array B 78.53 311 *i*P **P 13 00 16.8 +0.5**
BRTR pmax pmax
comp=Z,9.0nm,0.9s
TMUT Trail Mountain 78.54 49 *e*P **P 13 00 18.5 +1.9**
TMUT *ep*P **sP 13 00 34.4 -2.3**
GRER 78.56 319 ⇑*i*P **P 13 00 17.0 +0.8**
GMRC Granite Mounta 78.56 55 P **P 13 00 17.9 +1.4**
baz=308
MFTR Murfatlar 78.60 317 ⇓*i*P **P 13 00 17.1 +0.7**
OJC Ojcow 78.63 326 *e*P **P 13 00 17.1 +0.7**
OJC Ojcow 78.63 326 *e*P **P 13 00 17.0 +0.5**
comp=Z,50nm,1.1s
OJC Ojcow 78.63 326 *e*P **P 13 00 17.2 +0.7**
P17A Butcher Ranch, 78.71 49 *e*P **P 13 00 19.4 +2.0**
comp=Z,9.4nm,0.9s
ARCR ARCALIA 78.72 322 ⇓*i*P **P 13 00 18.9 +1.9**
LCMT Little Creek M 78.73 52 *e*P **P 13 00 18.0 +0.6**
comp=Z,8.1nm,1.0s
MTPU Mount Pierson 78.74 51 *e*P **P 13 00 19.5 +1.7**
comp=Z,8.2nm,1.0s
Q16A Castle Valley 78.81 49 *e*P **P 13 00 19.0 +1.1**
Q16A *ep*P **pP 13 00 35.0 +2.6**
TRPA Tarpa 78.87 323 ⇑*e*P **P 13 00 18.1 +0.3**
PGOR Pogoanele 78.87 319 ⇑*i*P **P 13 00 18.0 +0.1**
ANTO Ankara 78.94 312 *e*P **P 13 00 18.5 0.0**
comp=Z,19nm,0.7s
ANTO Ankara 78.94 312 *e*P **P 13 00 18.5 0.0**
ANTO pmax pmax
comp=Z,19nm,0.7s
ISR Istrita 78.96 319 ⇓*i*P **P 13 00 19.9 +1.4**
ISR Istrita 78.96 319 P **P 13 00 19.8 +1.3**
ISR pmax pmax
comp=Z,64nm,0.9s
ICOR Ion Corvin 78.97 318 ⇓*i*P **P 13 00 19.7 +1.3**
DOPR Dopca 78.97 320 ⇑*i*P **P 13 00 19.8 +1.3**
KNB Kanab 78.99 52 *e*P **P 13 00 21.0 +2.0**
comp=Z,20nm,1.4s
KNB Kanab 78.99 52 P **P 13 00 21.3 +2.4**
NIE Niedzica 78.99 325 *e*P **P 13 00 19.6 +1.1**
NIE Niedzica 78.99 325 *e*P **P 13 00 19.6 +1.1**
MLR Muntele Rosu 79.01 320 P **P 13 00 18.3 -0.6**
comp=Z,2.9nm,0.3s,baz=337,slow=15,SNR=5.2
MLR Muntele Rosu 79.01 320 *e*P **P 13 00 19.6 +0.7**
comp=Z,26nm,1.3s
MLR Muntele Rosu 79.01 320 ⇓*i*P **P 13 00 19.6 +0.7**
SRU San Rafael Swe 79.07 49 *e*P **P 13 00 20.0 +0.6**
comp=Z,11nm,0.9s
SRU San Rafael Swe 79.07 49 *e*P **P 13 00 20.0 +0.6**
SRU pmax pmax
comp=Z,11nm,0.9s
ULM Lac du Bonnet 79.08 33 P **P 13 00 19.1 +0.1**
comp=Z,5.4nm,0.9s,baz=312,slow=8.0,SNR=11
ULM LR LR 13 36 60.0
comp=Z,32nm,19.6s,baz=314,slow=37
ULM Lac du Bonnet 79.08 33 *e*P **P 13 00 19.1 +0.1**
comp=Z,10nm,1.1s
ULM Lac du Bonnet 79.08 33 *e*P **P 13 00 19.1 +0.1**
ULM pmax pmax
comp=Z,10.0nm,1.1s
K22A Casper 79.08 44 *e*P **P 13 00 20.1 +0.8**
comp=Z,9.8nm,0.9s
K22A Casper 79.08 44 P **P 13 00 20.1 +0.8**
baz=312
MDND Maddock 79.10 37 *e*P **P 13 00 19.4 +0.3**
comp=Z,36nm,1.0s
MONP2 Monument Peak 79.21 57 P **P 13 00 20.3 0.0**
baz=308
IRM Iron Mountain 79.28 55 P **P 13 00 21.7 +1.3**
baz=308
CJR Cluj-Napoca 79.35 322 ⇓*i*P **P 13 00 21.9 +1.3**
RSSD Black Hills 79.44 42 *e*P **P 13 00 22.2 +0.9**
comp=Z,5.7nm,0.9s
RSSD Black Hills 79.44 42 *e*P **P 13 00 22.2 +0.9**
RSSD pmax pmax
comp=Z,6.0nm,0.9s
RSSD Black Hills 79.44 42 P **P 13 00 21.9 +0.6**
baz=313
VOIR 79.51 320 ⇑*i*P **P 13 00 21.9 +0.4**
VOIR 79.51 320 P **P 13 00 22.5 +1.0**
VOIR pmax pmax
comp=Z,11nm,1.2s
LANS Liptovska Anna 79.56 326 *e*P **P 13 00 23.1 +1.5**
IKP In-Ko-Pah, Jac 79.57 57 P **P 13 00 23.3 +1.2**
baz=308
KSP Ksiaz 79.69 328 *e*P **P 13 00 23.0 +0.7**
KSP Ksiaz 79.69 328 *e*P **P 13 00 23.0 +0.7**
U15A North Rim 79.69 52 *e*P **P 13 00 23.5 +0.6**
U15A *ep*P **pP 13 00 39.5 +2.1**
O20A White River Ci 79.76 47 *e*P **P 13 00 23.9 +0.8**
comp=Z,6.1nm,0.9s
O20A White River Ci 79.76 47 P **P 13 00 24.2 +1.0**
baz=311
ARR Arges 79.77 320 ⇓*i*P **P 13 00 24.7 +1.8**
PDMCI Parker Dam,Lak 79.84 55 P **P 13 00 24.8 +1.5**
baz=309
Y12C Blythe 79.94 55 *e*P **P 13 00 24.5 +0.6**
Y12C *ep*P **pP 13 00 40.2 +1.8**
Y12C Blythe 79.94 55 P **P 13 00 25.6 +1.7**
baz=309
MORC Moravsky Berou 79.95 327 *e*P **P 13 00 24.5 +0.8**
comp=Z,22nm,1.0s
MORC Moravsky Berou 79.95 327 ⇑*i*P **P 13 00 24.6 +0.8**
MORC Moravsky Berou 79.95 327 *e*P **P 13 00 24.5 +0.8**
MORC pmax pmax
comp=Z,22nm,1.0s
MORC Moravsky Berou 79.95 327 ⇑*i*P **P 13 00 24.4 +0.7**
DPC Dobruska-Polom 80.04 328 *e*P **P 13 00 25.2 +1.0**
DPC Dobruska-Polom 80.04 328 *e*P **P 13 00 25.2 +1.0**
UPC Upice 80.06 328 *e*P **P 13 00 25.2 +0.9**
UPC Upice 80.06 328 *e*P **P 13 00 25.2 +0.9**
PSZ Piszkesteto 80.26 324 *e*P **P 13 00 26.3 +0.8**
comp=Z,32nm,1.1s
PSZ Piszkesteto 80.26 324 ⇓*i*P **P 13 00 26.6 +1.1**
PSZ Piszkesteto 80.26 324 ⇓*e*P **P 13 00 26.0 +0.5**
PSZ Piszkesteto 80.26 324 *e*P **P 13 00 26.3 +0.8**
PSZ pmax pmax
comp=Z,32nm,1.1s
PV09 Paradox Valley 80.30 49 *e*P **P 13 00 28.1 +1.9**
VYHS Vyhne 80.32 325 *e*P **P 13 00 26.5 +0.8**
VYHS *es*P **sP 13 00 46.0 0.0**
PV21 Cone Mtn., Par 80.35 49 *e*P **P 13 00 27.1 +0.7**
comp=Z,11nm,0.8s
PV23 Carpenter Ridg 80.40 49 *e*P **P 13 00 27.6 +0.9**
PV10 Paradox Valley 80.43 49 *e*P **P 13 00 28.9 +2.0**
RAYN Ar Rayn 80.48 292 *i*P **P 13 00 27.0 -0.1**
SNR=15
RAYN Ar Rayn 80.48 292 P **P 13 00 27.0 -0.1**
RAYN pmax pmax
comp=Z,23nm,1.0s
PV20 West Nyswonger 80.50 49 *e*P **P 13 00 29.1 +1.9**
comp=Z,19nm,0.8s
PV19 Morning Glory 80.51 49 *e*P **P 13 00 28.9 +1.7**
comp=Z,14nm,0.8s
AGMN Agassiz Nation 80.52 35 P **P 13 00 26.6 -0.2**
baz=317
PV17 East Wray Mesa 80.54 49 *e*P **P 13 00 29.2 +1.8**
comp=Z,18nm,0.9s
PV16 Nyswonger Mesa 80.55 49 *e*P **P 13 00 29.2 +1.8**
comp=Z,8.9nm,0.8s
N23A Red Feather La 80.57 45 *e*P **P 13 00 29.5 +1.9**
comp=Z,12nm,1.0s
N23A *ep*P **pP 13 00 44.7 +2.6**
N23A Red Feather La 80.57 45 P **P 13 00 29.1 +1.5**
baz=312
JAVC Velka Javorina 80.57 326 ⇑*i*P **P 13 00 28.8 +1.7**
PV11 David Mesa, Pa 80.58 49 *e*P **P 13 00 28.8 +1.3**
comp=Z,56nm,1.7s
PV05 Paradox Valley 80.59 49 *e*P **P 13 00 29.3 +1.6**
PV12 Saucer Basin, 80.61 49 *e*P **P 13 00 29.4 +1.6**
comp=Z,36nm,1.7s
PV03 Paradox Valley 80.62 49 *e*P **P 13 00 29.5 +1.7**
BRG Berggiesshubel 80.63 329 *e*P **P 13 00 27.6 +0.3**
comp=Z,16nm,0.9s
BRG Berggiesshubel 80.63 329 *e*P **P 13 00 27.7 +0.3**
comp=Z,16nm,0.9s,baz=37,slow=5.2
BRG Berggiesshubel 80.63 329 *e*P **P 13 00 27.6 +0.3**
BRG pmax pmax
comp=Z,9.0nm,0.9s
PVCC Panska Ves 80.64 329 *e*P **P 13 00 28.5 +1.1**
PVCC Panska Ves 80.64 329 *e*P **P 13 00 28.5 +1.1**
CLL Collm 80.67 330 *e*P **P 13 00 27.7 +0.2**
comp=Z,24nm,0.9s
CLL Collm 80.67 330 *e*P **P 13 00 27.8 +0.2**
comp=Z,27nm,1.0s,baz=37,slow=5.2
CLL Collm 80.67 330 ⇑*i*P **P 13 00 27.7 +0.2**
comp=Z,27nm,1.0s
CLL *ep*P **sP 13 00 45.0 -2.7**
CLL *e* 13 00 47.0
CLL Lm MLR 13 38 00.0
comp=Z,200nm,19.4s
CLL Collm 80.67 330 *e*P **P 13 00 27.7 +0.2**
CLL pmax pmax
comp=Z,24nm,0.9s
GZR Gura Zlata 80.69 321 ⇑*i*P **P 13 00 28.1 +0.3**
GZR Gura Zlata 80.69 321 P **P 13 00 28.1 +0.3**
PV13 Radium Mtn., P 80.70 49 *e*P **P 13 00 30.0 +1.8**
comp=Z,16nm,0.9s
VRAC Vranov 80.71 327 P **P 13 00 28.7 +0.9**
comp=Z,10nm,0.7s,baz=51,slow=5.5,SNR=15
VRAC Vranov 80.71 327 ⇑*i*P **P 13 00 29.1 +1.3**
VRAC Vranov 80.71 327 ⇑*i*P **P 13 00 28.7 +0.9**
PV02 Paradox Valley 80.72 49 *e*P **P 13 00 29.9 +1.5**
comp=Z,6.3nm,0.7s
Y14A Wickenburg 80.80 54 *e*P **P 13 00 30.3 +1.6**
comp=Z,7.1nm,1.0s
FBE Freiberg 80.83 330 *e*P **P 13 00 29.1 +0.7**
comp=Z,30nm,0.8s,baz=37,slow=5.2
WUAZ Wupatki 80.84 52 *e*P **P 13 00 29.6 +0.6**
comp=Z,13nm,0.9s
WUAZ Wupatki 80.84 52 P **P 13 00 30.5 +1.5**
baz=310
PV01 Paradox Valley 80.87 49 *e*P **P 13 00 30.5 +1.4**
RETH Rethem/Aller, 80.92 333 *e*P **P 13 00 29.4 +0.5**
comp=Z,22nm,1.1s,baz=37,slow=5.2
SMOL Smolenice 80.94 326 P **P 13 00 30.9 +1.9**
SMOL pmax pmax
comp=Z,36nm,0.5s
KRUC Moravsky 80.98 327 P **P 13 00 29.8 +0.6**
KRUC pmax pmax
comp=Z,22nm,1.1s
KRUC Moravsky 80.98 327 ⇑*i*P **P 13 00 29.9 +0.7**
GOPC GO Pecny, Ondr 81.02 328 *e*P **P 13 00 30.1 +0.6**
GOPC GO Pecny, Ondr 81.02 328 *e*P **P 13 00 30.1 +0.6**
PRU Pruhonice 81.06 328 *e*P **P 13 00 30.6 +0.9**
PRU *e*PCP **PcP 13 00 35.2 -0.7**
PRU Pruhonice 81.06 328 *e*P **P 13 00 30.6 +0.9**
BZS Buzias 81.10 322 ⇑*i*P **P 13 00 30.1 +0.2**
MODS Modra-Piesok 81.11 326 *e*P **P 13 00 31.1 +1.1**
MODS *ep*P **sP 13 00 49.1 -1.1**
SMCO Snowmass 81.12 47 *e*P **P 13 00 32.3 +1.6**
comp=Z,9.9nm,1.4s
TREC Trest 81.20 328 P **P 13 00 31.3 +0.9**
TREC pmax pmax
comp=Z,10.0nm,1.2s
HERR Herculane 81.23 321 ⇑*i*P **P 13 00 30.8 +0.2**
NEUB Neuenburg 81.23 331 *e*P **P 13 00 30.9 +0.4**
comp=Z,55nm,1.4s,baz=37,slow=5.2
CLZ Clausthal 81.27 332 *e*P **P 13 00 31.5 +0.8**
comp=Z,43nm,1.4s,baz=37,slow=5.2
ISCO Idaho Springs 81.49 46 *e*P **P 13 00 33.9 +1.4**
comp=Z,20nm,1.8s
ISCO Idaho Springs 81.49 46 *e*P **P 13 00 33.9 +1.4**
ISCO pmax pmax
comp=Z,20nm,1.8s
ISCO Idaho Springs 81.49 46 P **P 13 00 33.9 +1.4**
baz=312
X16A Lo Mia Camp, P 81.50 53 *e*P **P 13 00 32.6 +0.1**
comp=Z,7.4nm,1.0s
MVCO Mesa Verde 81.52 49 *e*P **P 13 00 33.9 +1.2**
comp=Z,6.7nm,0.8s
MVCO Mesa Verde 81.52 49 P **P 13 00 33.8 +1.2**
baz=311,SNR=5.8
TANN Tannenbergstha 81.58 330 *e*P **P 13 00 33.1 +0.6**
comp=Z,96nm,2.0s,baz=37,slow=5.2
MDVR Moldovita 81.65 321 ⇑*i*P **P 13 00 33.2 +0.3**
GTTG Gyttingen 81.66 332 *e*P **P 13 00 33.2 +0.4**
comp=Z,32nm,1.0s,baz=37,slow=5.2
GUNZ Gunzen 81.67 330 *e*P **P 13 00 33.5 +0.5**
comp=Z,12nm,1.0s,baz=37,slow=5.2
WERN Wernitzgruen 81.72 330 *e*P **P 13 00 33.8 +0.6**
comp=Z,15nm,1.0s,baz=37,slow=5.2
NKC Novy Kostel 81.73 330 P **P 13 00 34.6 +1.4**
NKC pmax pmax
comp=Z,6.0nm,1.2s
MOX Moxa 81.74 330 *e*P **P 13 00 33.4 +0.2**
comp=Z,9.2nm,0.8s,baz=37,slow=5.2
MOX Moxa 81.74 330 P **P 13 00 34.5 +1.3**
MOX pmax pmax
comp=Z,11nm,1.5s
CSS Mathiatis 81.77 308 *e*P **P 13 00 32.7 -0.9**
comp=Z,27nm,0.7s
IBBN Ibbenburen 81.85 333 *e*P **P 13 00 34.2 +0.5**
comp=Z,25nm,0.7s,baz=37,slow=5.2
SOP Sopron 81.95 326 ⇑*e*P **P 13 00 35.0 +0.7**
SOP Sopron 81.95 326 P **P 13 00 35.8 +1.4**
SOP pmax pmax
comp=Z,27nm,1.3s
MANZ Manzenberg 82.06 330 *e*P **P 13 00 35.2 +0.2**
baz=37,slow=5.2
CONA Conrad Observa 82.07 326 *e*P **P 13 00 36.1 +0.9**
comp=Z,8.4nm,0.7s,SNR=9.0
CONA *e*S **sP 13 00 55.8 +0.5**
comp=Z,15nm,1.5s
MORH Mrgy, Hungar 82.09 324 ⇑*e*P **P 13 00 35.0 -0.1**
MORH Mrgy, Hungar 82.09 324 *e*P **P 13 00 34.9 -0.2**
KHC Kasperske Hory 82.13 328 *e*P **P 13 00 35.9 +0.6**
comp=Z,6.3nm,0.7s
KHC Kasperske Hory 82.13 328 *e*P **P 13 00 36.1 +0.8**
KHC *ex* x 13 00 46.1
KHC Kasperske Hory 82.13 328 *e*P **P 13 00 36.1 +0.8**
S22A 4UR Ranch, Cre 82.16 48 *e*P **P 13 00 37.9 +1.8**
comp=Z,6.6nm,0.8s
S22A 4UR Ranch, Cre 82.16 48 P **P 13 00 38.1 +2.1**
baz=312,SNR=8.7
GEC2 GERESS Array S 82.30 328 *e*P **P 13 00 36.5 +0.3**
comp=Z,9.3nm,0.7s
GEC2 *ep*P **sP 13 00 56.5 0.0**
GEC2 GERESS Array S 82.30 328 *e*P **P 13 00 36.4 +0.1**
comp=Z,12nm,0.8s,baz=37,slow=5.2
GEC2 GERESS Array S 82.30 328 *e*P **P 13 00 36.6 +0.3**
GEC2 *e*PP **sP 13 00 56.5 0.0**
GEC2 pmax pmax
comp=Z,9.0nm,0.7s
GERES GERESS Array B 82.30 328 P **P 13 00 36.5 +0.3**
comp=Z,6.5nm,0.6s,baz=38,slow=6.0,SNR=27
GERES LR LR 13 40 31.2
comp=Z,187nm,18.3s,baz=30,slow=38
GEA0 GERESS Array S 82.30 328 *e*P **P 13 00 36.4 +0.1**
FRGS Fruska Gora 82.31 323 ⇑*i*P **P 13 00 36.5 +0.1**
Q24A Divide 82.32 46 *e*P **P 13 00 38.6 +1.7**
Q24A Divide 82.32 46 P **P 13 00 38.0 +1.1**
baz=313
MANT Manisa 82.33 313 *e*P **P 13 00 36.8 -0.1**
comp=Z,30nm,0.9s
WET Wettzell 82.41 329 *e*P **P 13 00 37.4 +0.7**
comp=Z,16nm,1.1s,baz=37,slow=5.2
WET Wettzell 82.41 329 P **P 13 00 37.7 +0.9**
WET pmax pmax
comp=Z,18nm,1.7s
VTS Vitosha 82.45 319 *e*P **P 13 00 37.9 +0.6**
comp=Z,19nm,0.9s
VTS Vitosha 82.45 319 ⇓*i*P **P 13 00 38.4 +1.1**
VTS Vitosha 82.45 319 *e*P **P 13 00 37.9 +0.6**
VTS pmax pmax
comp=Z,19nm,0.9s
GRA1 Grafenberg Arr 82.64 330 *e*P **P 13 00 38.5 +0.5**
comp=Z,34nm,1.0s
GRF Grafenberg Arr 82.64 330 *e*P **P 13 00 39.1 +1.1**
comp=Z,40nm,1.1s,baz=37,slow=5.2
GRF Grafenberg Arr 82.64 330 P **P 13 00 39.3 +1.3**
GRF pmax pmax
comp=Z,44nm,1.5s
GRFO Grafenberg 82.65 330 *e*P **P 13 00 38.5 +0.5**
comp=Z,31nm,1.0s
EKA Eskdalemuir Ar 82.67 341 P **P 13 00 38.4 +0.5**
comp=Z,3.9nm,0.6s,baz=34,slow=4.7,SNR=15
EYMN Ely 82.71 33 *e*P **P 13 00 38.9 +0.5**
comp=Z,10.0nm,0.8s
EYMN Ely 82.71 33 P **P 13 00 38.7 +0.3**
baz=320
ARSA Arzberg 82.73 326 *e*P **P 13 00 39.1 +0.6**
comp=Z,13nm,1.2s
ARSA *e*S **sP 13 00 59.6 +0.9**
comp=Z,7.8nm,0.9s
MOA Molln 82.82 327 *e*PcP **P 13 00 40.6 +1.6**
comp=Z,14nm,1.1s,SNR=5.4
SDCO Great Sand Dun 82.94 47 *e*P **P 13 00 41.5 +1.3**
comp=Z,17nm,1.7s
SDCO Great Sand Dun 82.94 47 P **P 13 00 41.4 +1.3**
baz=313,SNR=6.9
DIVS Divibare 83.00 322 *e*P **P 13 00 40.2 +0.2**
comp=Z,38nm,1.5s
DIVS Divibare 83.00 322 ⇑*i*P **P 13 00 39.7 -0.3**
TUC Tucson 83.27 54 *e*P **P 13 00 42.9 +1.2**
comp=Z,9.1nm,1.4s
TUC Tucson 83.27 54 *e*P **P 13 00 42.9 +1.2**
TUC pmax pmax
comp=Z,9.0nm,1.4s
TUC Tucson 83.27 54 P **P 13 00 42.7 +1.0**
baz=310
SRS Serrai 83.29 318 P **P 13 00 42.5 +1.0**
SRS pmax pmax
comp=Z,19nm,1.6s
SOKA Soboth 83.39 326 *e*P **P 13 00 42.2 +0.2**
comp=Z,22nm,0.8s,SNR=10
BBLS Lazi?i 83.45 322 ⇑*i*P **P 13 00 43.0 +0.6**
ECSD EROS Data Cent 83.51 38 *e*P **P 13 00 43.3 +0.7**
comp=Z,7.7nm,0.8s
ECSD EROS Data Cent 83.51 38 P **P 13 00 42.8 +0.2**
baz=317,SNR=8.1
HAPS Han Pijesak,Bl 83.51 322 ⇑*i*P **P 13 00 42.6 -0.1**
RJOB Jochberg 83.54 328 *e*P **P 13 00 43.2 +0.5**
comp=Z,23nm,1.0s,baz=37,slow=5.2
STIP Stip 83.62 319 *i*P **P 13 00 42.9 -0.3**
SOH Sokhos 83.62 318 P **P 13 00 43.6 +0.3**
SOH pmax pmax
comp=Z,7.0nm,1.3s
KNT Kendrikon 83.62 318 P **P 13 00 43.8 +0.6**
KNT pmax pmax
comp=Z,18nm,1.6s
VAY Valandovo 83.69 318 *i*P **P 13 00 44.3 +0.8**
E38A The Farm, Brul 83.71 34 *e*P **P 13 00 43.7 +0.1**
comp=Z,18nm,0.8s
E38A The Farm, Brul 83.71 34 P **P 13 00 43.5 0.0**
baz=320,SNR=6.3
OBKA Obir 83.73 326 *i*P **P 13 00 43.8 +0.1**
comp=Z,8.3nm,0.8s
SKO Skopje 83.81 319 *i*P **P 13 00 45.6 +1.4**
KBA Koelnbreinsper 83.82 327 *i*PcP **P 13 00 45.5 +1.2**
comp=Z,9.7nm,0.7s
FUR Furstenfeldbru 83.83 329 *e*P **P 13 00 44.7 +0.5**
comp=Z,42nm,0.8s,baz=37,slow=5.2
CRES Cresnjev 83.85 325 ⇑*i*P **P 13 00 43.9 -0.4**
F37A Hinrichs Farm, 83.91 35 P **P 13 00 45.1 +0.5**
baz=320
T25A Trinidad 83.99 47 *e*P **P 13 00 46.9 +1.4**
comp=Z,15nm,0.8s
T25A Trinidad 83.99 47 P **P 13 00 46.7 +1.3**
baz=313,SNR=12
GRG Griva 84.03 318 P **P 13 00 45.7 +0.4**
GRG pmax pmax
comp=Z,19nm,1.4s
MYKA Terra Mystica 84.04 327 *e*P **P 13 00 45.0 -0.3**
comp=Z,4.7nm,0.5s,SNR=5.1
F38A Pierce - Schro 84.07 34 P **P 13 00 45.8 +0.4**
baz=320,SNR=7.8
PAIG Paliouri 84.08 317 P **P 13 00 45.8 +0.3**
PAIG pmax pmax
comp=Z,40nm,1.0s
STU Stuttgart 84.18 331 *e*P **P 13 00 46.3 +0.4**
comp=Z,27nm,0.7s,baz=37,slow=5.2
UPM Unac-Piva 84.19 322 *e*P **P 13 00 46.4 +0.1**
LAZ Ladron 84.20 51 *e*P **P 13 00 48.4 +1.9**
LAZ *ep*P **pP 13 01 03.2 +2.1**
SPMN Marine on St. 84.21 35 P **P 13 00 46.4 +0.3**
baz=320
ANMO Albuquerque 84.25 50 P **P 13 00 48.4 +1.6**
comp=Z,6.2nm,0.9s,baz=286,slow=3.0,SNR=22
ANMO Albuquerque 84.25 50 *e*P **P 13 00 48.0 +1.2**
comp=Z,9.2nm,1.0s
ANMO Albuquerque 84.25 50 P **P 13 00 48.4 +1.6**
baz=312
E39A Mellen 84.33 33 P **P 13 00 46.8 +0.1**
baz=321,SNR=5.4
KRUS Krusevo 84.34 319 *i*P **P 13 00 47.6 +0.6**
PMOR Pomariorio Ree 84.36 114 *e*T T 14 33 57.5

comp=Z,18nm,0.2s
WATA Walderalm 84.36 328 *i* S sP 13 01 06.4 -0.9
comp=Z,4.6nm,0.6s
CEY Cerknica 84.38 326 ⇑ *i* P **P 13 00 46.2 -0.8**
ABTA Abfaltersbach 84.43 327 *eP* **P 13 00 46.6 -0.7**
comp=Z,5.4nm,0.7s
LENM Lemitar 84.46 51 *eP* **P 13 00 48.8 +1.0**
F39A Loretta 84.53 34 P **P 13 00 48.0 +0.3**
baz=321
MOTA Moosalm 84.55 329 *eP* **P 13 00 47.8 -0.2**
comp=Z,6.5nm,0.8s,SNR=5.6
MOTA *eS* **sP 13 01 07.9 -0.3**
comp=Z,5.2nm,0.8s
RETA Reutte 84.58 329 *eP* **P 13 00 48.5 +0.5**
comp=Z,12nm,0.6s,SNR=7.3
RETA *eS* **sP 13 01 08.2 -0.1**
comp=Z,14nm,0.7s
PDG Podgorica 84.58 321 ⇑ *i* P **P 13 00 48.3 +0.3**
TTG Podgorica 84.58 321 *eP* **P 13 00 48.4 +0.3**
comp=Z,30nm,0.7s
BRY Bratogost 84.59 322 *eP* **P 13 00 47.6 -0.7**
LIT Litokhoron 84.60 318 *eP* **P 13 00 48.3 +0.1**
comp=Z,50nm,0.8s
LIT Litokhoron 84.60 318 *eP* **P 13 00 48.3 +0.1**
LIT pmax pmax
comp=Z,50nm,0.8s
WLF Walferdange 84.60 333 ⇑ P **P 13 00 48.8 +0.8**
SQTA Sankt Quirin 84.61 328 *eP* **P 13 00 48.6 +0.3**
comp=Z,3.5nm,0.5s
SQTA *eS* **sP 13 01 08.3 -0.2**
comp=Z,10nm,1.2s
BNM Barren Site 84.68 51 *eP* **P 13 00 49.9 +0.9**
G38A Ridgeland 84.69 35 P **P 13 00 48.7 +0.2**
baz=320
UBR Ueberruh 84.69 329 *eP* **P 13 00 48.3 -0.2**
comp=Z,27nm,1.4s,baz=37,slow=5.2
FNA Florina 84.70 319 P **P 13 00 49.3 +0.6**
OHR Ohrid 84.76 319 *i* P **P 13 00 49.1 +0.1**
OHR Ohrid 84.76 319 P **P 13 00 49.6 +0.5**
OHR pmax pmax
comp=Z,71nm,0.9s
DOU Dourbes 84.80 334 ⇑ P **P 13 00 48.7 -0.3**
DRME Dracevica, Mon 84.80 321 *eP* **P 13 00 49.0 -0.1**
PPT Papeete 84.84 117 LR LR 13 29 36.0
comp=Z,123nm,21.7s,baz=312,slow=29
SCHQ Schefferville 84.85 16 P **P 13 00 49.8 +0.6**
comp=Z,4.6nm,0.7s,baz=345,slow=5.2,SNR=7.2
SCHQ Schefferville 84.85 16 *eP* **P 13 00 49.8 +0.6**
comp=Z,69nm,2.0s
PPT2 Papeete2 84.86 117 *e*LR LR 13 27 00.9
comp=Z,438nm,31.5s
PPT2 Papeete2 84.86 117 *e*T T 14 34 33.5
comp=Z,3.2nm,0.3s
F40A Park Falls 84.88 33 P **P 13 00 49.5 0.0**
baz=322
BFO Black Forest 84.88 331 *eP* **P 13 00 49.5 +0.1**
comp=Z,26nm,0.9s
BFO Black Forest 84.88 331 *eP* **P 13 00 49.6 +0.1**
comp=Z,28nm,0.9s,baz=37,slow=5.2
BFO Black Forest 84.88 331 *i* P **P 13 00 49.9 +0.5**
G39A Holcombe 84.90 34 P **P 13 00 50.0 +0.4**
baz=321
E41A Kenton 84.95 32 P **P 13 00 49.9 +0.1**
baz=322
HCY Herceg Novi 84.95 321 *eP* **P 13 00 48.3 -1.6**
BAIF Baives 84.97 334 *eP* **P 13 00 49.4 -0.4**
BAIF pmax pmax
comp=Z,16nm,1.0s
FETA Feichten 84.97 329 *eP* **P 13 00 50.3 +0.2**
comp=Z,12nm,0.8s,SNR=5.4
TIAR Tiarei 85.00 116 *e*T T 14 34 43.0
comp=Z,4.6nm,0.3s
121A Cookes Peak, D 85.04 52 P **P 13 00 52.2 +1.4**
baz=312
APE Apeiranthos 85.05 314 ⇑ *i* P **P 13 00 50.1 -0.4**
APE Apeiranthos 85.05 314 ⇓ *i* P **P 13 00 48.6 -1.9**
APE pmax pmax
comp=Z,17nm,0.7s
DAVA Damuels 85.10 329 *eP* **P 13 00 51.0 +0.2**
comp=Z,23nm,0.8s,SNR=7.2
DAVA *i* S **sP 13 01 10.8 -0.3**
comp=Z,16nm,0.9s
CDF Champ du Feu 85.21 331 *eP* **P 13 00 50.9 -0.3**
CDF pmax pmax
comp=Z,20nm,0.9s
H39A Augusta 85.32 35 P **P 13 00 52.1 +0.4**
baz=321
G40A Rib Lake 85.35 34 P **P 13 00 52.2 +0.4**
baz=321
E42A Champion 85.42 32 P **P 13 00 52.4 +0.3**
baz=323
ECH Echery 85.42 331 *eP* **P 13 00 52.3 +0.2**
comp=Z,16nm,0.8s
AGG Agios Georgios 85.46 317 *eP* **P 13 00 52.1 -0.4**
comp=Z,9.9nm,0.8s
AGG Agios Georgios 85.46 317 *eP* **P 13 00 52.2 -0.4**
AGG pmax pmax
comp=Z,10.0nm,0.8s
CBKS Cedar Bluff 85.46 43 P **P 13 00 52.3 -0.2**
baz=316
F41A Three Lakes 85.46 33 P **P 13 00 52.9 +0.5**
baz=322
FUORN Ofenpass-Fuorn 85.48 329 *eP* **P 13 00 53.2 +0.4**
comp=Z,24nm,0.8s
DAVOX Davos/Dischmat 85.51 329 P **P 13 00 53.4 +0.5**
comp=Z,6.6nm,0.8s,baz=60,slow=5.2,SNR=11
H40A Chili 85.77 34 P **P 13 00 54.6 +0.7**
baz=321
E43A Lone Tree Farm 85.84 31 P **P 13 00 54.2 -0.1**
baz=324
I39A Houston 85.85 35 *eP* **P 13 00 54.5 +0.2**
comp=Z,18nm,0.8s
I39A Houston 85.85 35 P **P 13 00 54.6 +0.2**
baz=321
HINF Hinteralfeld 85.87 331 *eP* **P 13 00 53.7 -0.7**
HINF pmax pmax
comp=Z,6.0nm,0.8s
HAU Haudompre 85.90 332 *eP* **P 13 00 53.9 -0.7**
HAU pmax pmax
comp=Z,11nm,0.7s
TUE Stuetta 85.97 329 *eP* **P 13 00 55.0 -0.2**
comp=Z,71nm,2.0s
H41A Junction City 86.10 34 P **P 13 00 56.0 +0.4**
baz=322
G42A Mountain 86.14 33 P **P 13 00 56.3 +0.6**
baz=323
J39A Decorah 86.16 36 P **P 13 00 55.8 -0.1**
baz=321
I40A Norwalk 86.23 35 P **P 13 00 56.6 +0.3**
baz=321
TAOE Nuku Hiva Isla 86.28 104 *e*LR LR 13 28 21.4
comp=Z,383nm,28.7s
I41A Arkdale 86.44 34 P **P 13 00 57.8 +0.6**
baz=322
G43A Wallace 86.45 32 P **P 13 00 57.8 +0.6**
baz=323
J40A Soldiers Grove 86.56 35 P **P 13 00 57.8 -0.1**
baz=321
K39A Oelwein 86.56 36 P **P 13 00 57.7 -0.2**
baz=320
D46A Sault St. Mari 86.61 29 P **P 13 00 58.1 +0.1**
baz=326
IDI Anoyia 86.66 313 *eP* **P 13 00 57.7 -0.9**
comp=Z,21nm,0.8s
IDI Anoyia 86.66 313 ⇓ *i* P **P 13 00 58.1 -0.5**
D47A Chapleau 86.83 29 P **P 13 00 59.3 +0.1**
baz=326
J41A Loganville 86.92 35 P **P 13 01 00.0 +0.4**
baz=322
K40A Colesburg 86.92 36 P **P 13 00 59.7 +0.1**
baz=321
KSU1 Kansas State U 86.92 41 *eP* **P 13 00 59.9 +0.2**
comp=Z,15nm,0.8s
KSU1 Kansas State U 86.92 41 P **P 13 00 59.7 0.0**
baz=318
L39A Vinton 86.96 37 P **P 13 01 00.3 +0.5**
baz=320,SNR=6.0
I42A Draeger Farm, 87.00 34 P **P 13 01 00.5 +0.5**
baz=322
ITM Ithomi 87.00 316 *eP* **P 13 00 59.4 -0.7**
comp=Z,51nm,0.7s
MNTX Cornudas Mount 87.11 52 *ep*P pP 13 01 16.8 +1.3
MNTX Cornudas Mount 87.11 52 P **P 13 01 01.6 +0.9**
baz=313
AMTX Amarillo 87.14 47 *eP* **P 13 01 01.9 +0.9**
comp=Z,15nm,0.8s
AMTX Amarillo 87.14 47 P **P 13 01 02.1 +1.1**
baz=315
JFWS Jewell Farm 87.16 35 P **P 13 01 01.0 +0.2**
baz=322
D48A Paudash Townsh 87.22 28 P **P 13 01 01.4 +0.4**
baz=327
E47A Iron Bridge 87.26 29 P **P 13 01 01.6 +0.4**
baz=326
M39A Webster 87.37 37 P **P 13 01 02.5 +0.7**
baz=320
L40A Anamosa 87.37 36 *eP* **P 13 01 02.4 +0.5**
comp=Z,17nm,0.9s
L40A Anamosa 87.37 36 P **P 13 01 02.3 +0.5**
baz=321
K41A Shullsburg 87.38 35 P **P 13 01 02.2 +0.3**
baz=322
LOR Lormes 87.44 333 *eP* **P 13 01 01.8 -0.3**
LOR pmax pmax
comp=Z,29nm,1.2s
J43A Natural Harves 87.62 34 P **P 13 01 03.5 +0.5**
baz=323
FLN La Foliniere 87.66 336 *eP* **P 13 01 01.9 -1.2**
FLN pmax pmax
comp=Z,25nm,1.1s
K42A Prairie Point, 87.68 35 P **P 13 01 03.2 0.0**
baz=322
LDF La Druitiere 87.69 336 *eP* **P 13 01 03.1 -0.1**
LDF pmax pmax
comp=Z,8.0nm,0.6s
L41A Preston 87.70 36 P **P 13 01 03.4 0.0**
baz=321
M40A Post Highland 87.74 37 P **P 13 01 04.0 +0.4**
baz=321
LPL La Plagne 87.81 330 *eP* **P 13 01 04.2 +0.1**
LPL pmax pmax
comp=Z,10.0nm,0.8s
LPG La Plagne 87.82 330 *eP* **P 13 01 05.0 +0.7**
LPG pmax pmax
comp=Z,8.0nm,0.7s
AVF Avril sur Loir 88.03 333 *eP* **P 13 01 04.7 -0.2**
AVF pmax pmax
comp=Z,48nm,1.4s
GRR Gorron 88.11 336 *eP* **P 13 01 05.1 -0.1**
GRR pmax pmax
comp=Z,17nm,0.8s
N40A Mertquake, Sal 88.11 37 P **P 13 01 06.1 +0.7**
baz=321
L42A Oliver, Polo 88.14 35 P **P 13 01 04.9 -0.6**
baz=322
D51A Lot 18 Range I 88.18 27 P **P 13 01 05.5 0.0**
baz=329
H47A Mio 88.43 31 P **P 13 01 08.6 +1.8**
baz=326
MBDF Montbardon 88.44 330 *eP* **P 13 01 05.4 -1.7**
MBDF pmax pmax
comp=Z,5.0nm,0.8s
ORIF Oris-en-Rattie 88.64 330 *eP* **P 13 01 07.9 0.0**
ORIF pmax pmax
comp=Z,40nm,1.8s
SGMF Saint Gilles 88.77 337 *eP* **P 13 01 08.2 -0.1**
SGMF pmax pmax
comp=Z,19nm,0.8s
TBI Tubuai 88.77 121 *e*LR LR 13 28 53.3
comp=Z,475nm,32.0s
TBI Tubuai 88.77 121 *e*T T 14 39 25.7
comp=Z,33nm,0.3s
D53A Lac Vacive, Po 88.77 26 P **P 13 01 08.7 +0.3**
baz=330
J46A Howard City 88.85 32 P **P 13 01 09.7 +0.9**
baz=325
ROSF Rostrenen 88.92 337 *eP* **P 13 01 09.0 0.0**
ROSF pmax pmax
comp=Z,21nm,0.8s
WMOK Wichita Mounta 88.92 46 *eP* **P 13 01 10.3 +1.0**
WMOK *ep*P **pP 13 01 25.6 +1.5**
WMOK Wichita Mounta 88.92 46 *eP* **P 13 01 10.3 +1.0**
WMOK *e**PP **pP 13 01 25.6 +1.5**
WMOK Wichita Mounta 88.92 46 P **P 13 01 09.8 +0.4**
baz=316
F51A Arnstein 88.97 27 P **P 13 01 09.9 +0.6**
baz=328
O41A Passleys Farm, 89.04 37 P **P 13 01 10.3 +0.6**
baz=321
QUIF Quistinic 89.26 337 *eP* **P 13 01 10.2 -0.4**
QUIF pmax pmax
comp=Z,75nm,1.6s
J47A Sunmer 89.29 32 P **P 13 01 11.9 +1.0**
baz=325
P41A Barry, Barry 89.30 38 P **P 13 01 11.6 +0.6**
baz=321
F52A Sundridge 89.30 27 P **P 13 01 11.4 +0.5**
baz=329
M44A Midewin, Midew 89.37 35 P **P 13 01 11.9 +0.6**
baz=323
J48A Bridge Port 89.67 31 P **P 13 01 13.6 +1.0**
baz=326
P42A Winchester 89.72 37 *eP* **P 13 01 13.8 +0.8**
comp=Z,17nm,1.1s
P42A Winchester 89.72 37 P **P 13 01 13.3 +0.4**
baz=322
TUL1 Leonard 89.72 43 P **P 13 01 13.6 +0.6**
baz=318
Q41A Truxton 89.77 38 P **P 13 01 14.3 +1.1**
baz=321
LTX Lajitas 89.80 52 *eP* **P 13 01 14.6 +0.9**
LTX Lajitas 89.80 52 *eP* **P 13 01 14.6 +0.9**
TX31 Lajitas Ar. Si 89.80 52 *eP* **P 13 01 14.4 +0.7**
TX31 *eP* **P 13 01 14.9 +1.2**
TXAR Lajitas Array 89.80 52 P **P 13 01 14.6 +0.9**
comp=Z,4.9nm,0.7s,baz=298,slow=3.1,SNR=66
ABTX Abilene, Hawle 89.94 48 *eP* **P 13 01 15.0 +0.8**
comp=Z,12nm,1.0s
ABTX Abilene, Hawle 89.94 48 P **P 13 01 14.9 +0.8**
baz=316
CAF Calviac 90.09 332 *eP* **P 13 01 15.0 +0.3**
CAF pmax pmax
comp=Z,9.0nm,0.9s
L47A Sherwood 90.16 33 P **P 13 01 15.6 +0.6**
baz=325
R41A Rosebud 90.21 39 P **P 13 01 16.2 +0.9**
baz=321
O45A Potomac 90.43 35 P **P 13 01 17.2 +0.9**
baz=323
CCM Cathedral Cave 90.46 39 P **P 13 01 17.0 +0.6**
baz=321
L48A N Adams 90.52 32 P **P 13 01 17.3 +0.7**
baz=325
SFIN Lafayette 90.61 35 P **P 13 01 17.4 +0.4**
baz=324
S42A Caledonia 90.91 39 P **P 13 01 19.0 +0.5**
baz=321
U40A Yellville 90.95 41 P **P 13 01 19.1 +0.3**
baz=320
T41A Mountain View 90.98 40 P **P 13 01 19.1 +0.2**
baz=321
JCT Junction City 91.38 49 *eP* **P 13 01 21.8 +0.9**
comp=Z,8.3nm,0.8s
JCT Junction City 91.38 49 *eP* **P 13 01 21.8 +0.9**
JCT pmax pmax
comp=Z,8.0nm,0.8s
JCT Junction City 91.38 49 P **P 13 01 21.4 +0.4**
baz=316
U41A Viola 91.44 40 P **P 13 01 21.3 +0.3**
baz=320
N49A Columbus Grove 91.46 33 P **P 13 01 21.7 +0.7**
baz=326
O48A Farmland 91.58 34 P **P 13 01 21.8 +0.2**
baz=325
WHTX Lake Whitney, 91.67 47 *eP* **P 13 01 23.6 +1.4**
comp=Z,16nm,0.8s
WHTX Lake Whitney, 91.67 47 P **P 13 01 23.2 +1.0**
baz=317
V41A Mountainview 91.75 41 P **P 13 01 22.4 -0.1**
baz=320
U42A Revenden 91.78 40 P **P 13 01 23.2 +0.6**
baz=321
MIAR Mount Ida 91.94 43 *eP* **P 13 01 24.1 +0.7**
comp=Z,10nm,0.8s
MIAR *epP **pP 13 01 39.7 +1.6**
MIAR Mount Ida 91.94 43 *eP* **P 13 01 24.1 +0.7**
MIAR *e*PP **pP 13 01 39.7 +1.6**
MIAR pmax pmax
comp=Z,11nm,0.8s
MIAR Mount Ida 91.94 43 P **P 13 01 24.0 +0.7**
baz=320
WHAR Wooly Hollow 92.06 41 *eP* **P 13 01 24.3 +0.4**
comp=Z,10nm,0.8s
V42A Cord 92.13 40 P **P 13 01 24.3 +0.1**
baz=321
W41B Gary Mavity, V 92.17 41 P **P 13 01 24.8 +0.4**
baz=320
O50A Cable 92.34 33 P **P 13 01 25.5 +0.3**
baz=326
P49A Miami Univ. Ec 92.37 34 P **P 13 01 25.6 +0.4**
baz=325
ETSF Etsaut 92.80 333 *eP* **P 13 01 30.7 +3.4**
ETSF pmax pmax
comp=Z,20nm,1.4s
S48A Wiedeman Farm, 93.28 36 P **P 13 01 30.2 +0.7**
baz=324
Q51A Peebles 93.39 33 P **P 13 01 30.4 +0.4**
baz=326
WVT Waverly 93.66 38 P **P 13 01 31.6 +0.3**
baz=323
T49A Edmonton 93.97 36 P **P 13 01 33.0 +0.3**
baz=325
S50A Richmond 94.03 35 P **P 13 01 33.0 +0.1**
baz=325
O55A Ligonier 94.08 30 P **P 13 01 33.5 +0.4**
baz=329
U49A Red Boiling Sp 94.34 36 P **P 13 01 34.6 +0.2**
baz=324
T50A Nancy 94.36 35 P **P 13 01 34.3 -0.2**
baz=325
U50A Jamestown 94.86 36 P **P 13 01 37.0 +0.2**
baz=325
W48A Pulaski 94.89 38 P **P 13 01 37.1 +0.1**
baz=324
ES19 SONSECA Array 96.80 334 *eP* **P 13 01 45.4 -0.2**
ESDC Sonseca Array 96.85 334 P **P 13 01 45.1 -0.7**
comp=Z,0.6nm,0.5s,baz=4.7,slow=5.4,SNR=5.1
ESDC LR LR 13 49 31.0
comp=Z,170nm,20.4s,baz=345,slow=38
VNDA Vanda 115.47 175 PKP **PKiKP 13 06 55.2 +0.2**
comp=Z,1.2nm,0.8s,baz=20,slow=2.1,SNR=5.3
TOA1 Torodi Ar. Sit 116.99 315 *e*PKPdf **PKPdf 13 06 57.8 -2.1**
TOA1 *e*PP **PP 13 08 04.8 -4.0**
TOA0 Torodi Ar. Sit 116.99 315 *e*PKPdf **PKPdf 13 06 58.3 -1.6**
TORD Torodi Ar. Bea 116.99 315 PKP **PKPdf 13 06 57.8 -2.1**
comp=Z,1.1nm,0.5s,baz=26,slow=1.6,SNR=9.3
TORD PP **PP 13 08 04.8 -4.0**
comp=Z,3.5nm,1.1s,baz=28,slow=6.7,SNR=6.1
SDV Santo Domingo 124.93 40 *e*PKPdf **PKiKP 13 07 15.8 +0.1**
DBIC Dimbokro 125.94 317 PKP **PKPdf 13 07 16.8 -0.3**
comp=Z,5.7nm,0.7s,baz=12,slow=2.6,SNR=12
DBIC PP **PP 13 09 02.2 -7.5**
comp=Z,1.5nm,0.7s,baz=162,slow=3.2,SNR=2.8
BOSA Boshof 126.68 260 PKP **PKiKP 13 07 18.7 0.0**
comp=Z,3.7nm,0.8s,baz=101,slow=5.2,SNR=3.4
QSPA South Pole Qui 127.28 180 *e*PKPdf **PKPdf 13 07 17.9 -0.1**
SNAA Sanae 141.23 197 PKP **PKPdf 13 07 43.0 -1.0**
VNA2 Neumayer--Watz 142.80 196 PKP **PKPdf 13 07 44.0 -2.8**
VNA3 Neumayer Olymp 143.05 195 PKP PKPbc 13 07 44.2 0.0
VNA1 Neumayer--Stat 143.20 196 PKP PKPbc 13 07 44.6 +0.1
LPAZ La Paz 146.42 59 PKPbc **PKPbc 13 07 57.1 +0.4**
comp=Z,5.4nm,0.7s,baz=338,slow=1.9,SNR=17
LPAZ La Paz 146.42 59 *e*PKPdf **PKPbc 13 07 56.5 -0.3**
LPAZ La Paz 146.42 59 *e*PKP2 **PKPbc 13 07 56.5 -0.3**
MNMC Minye Minye 147.32 64 *e*PKPbc **PKPab 13 08 00.2 -0.5**
PB11 IPOC Station P 147.68 65 *e*PKPbc **PKiKP 13 08 00.7 -0.9**
PB01 IPOC Station P 148.61 67 *e*PKPbc **PKiKP 13 08 02.9 -0.6**
LVC Limon Verde 149.98 69 *e*PKPbc **PKiKP 13 08 07.2 +0.6**
LVC Limon Verde 149.98 69 *e*PKP2 **PKiKP 13 08 07.2 +0.6**
GO02 Mina Guanaco 150.91 74 *e*PKPbc **PKiKP 13 08 09.0 +0.6**
LCO Las Campanas 151.93 82 *e*PKPbc **PKiKP 13 08 10.4 +0.1**
LCO Las Campanas 151.93 82 *e*PKIKP **PKiKP 13 08 10.4 +0.1**
BDFB Brasilia 156.64 24 PKPab **PKPab 13 08 39.3 0.0**
comp=Z,3.4nm,0.7s,baz=358,slow=1.6,SNR=3.3

JMA 10 12:50:25.8, 33.06N×131.00E, h9km±1km, M1.0, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.12**	**301**	P	Pg	12 50 28.3	-0.3
	4.9nm,0.3s,baz=69,slow=19,SNR=153						
JNU				LR	LR	12 54 47.1	
	comp=Z,2μm,20.3s,baz=57,slow=40						
JNU	**Nakatsue**	**0.12**	**301**	*e*Pn	Pg	12 50 28.7	+0.1
JNU	**Nakatsue**	**0.12**	**301**	P	Pg	12 50 28.7	+0.1
JNU				S	Sg	12 50 30.9	+0.3
JTA	**Tamana**	**0.40**	**256**	P	Pg	12 50 33.8	+0.1

MEX 10 12:51:02.2±0.6, 16.01N×97.05W, h20km±9km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**1.10**	**291**	*e*P	Pn	12 51 19.1	-3.5
PNIG				*i* S	Sb	12 51 32.8	-3.9
VHO	**Vista Hermosa**	**1.10**	**16**	*i* P	Pn	12 51 18.5	-4.3
VHO				*e*S	Sb	12 51 33.3	-3.5
CMIG	**Matias Romero**	**2.34**	**62**	*i* P	Pn	12 51 37.9	-1.7

*IDC **10** 12:52:19.8±1.0, 52.23N×170.26W, h0km, mb3.8/11, mb1 4.0/13, mb1mx3.8/61, mbtmp3.8/13, ML3.2/2, Error ellipse: s-maj=30.7km s-min=17.8km az=160.0*
*NEIC **10** 12:52:24.6±0.0, 52.15N×169.98W, h29km, ML3.3(AEIC), After AEIC.*

ISC 10 12:52:24.1±1.2, 52.2N±0.2×170.0W±0.1, h29km, n24, σ1§18/28, mb3.9/10, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**1.08**	**41**	P	**Pn**	**12 52 43.2**	**-0.1**
NIKH				S	**Sn**	**12 52 57.0**	**-0.3**
OKSP	**Okmok Steeple**	**1.52**	**44**	P	**Pn**	**12 52 49.9**	**+0.6**
OKSP				S	**Sn**	**12 53 08.4**	**+0.2**
OKER	**Okmok East Rim**	**1.77**	**42**	P	**Pn**	**12 52 53.8**	**+1.1**
KOFP	**Korovin Flat P**	**2.50**	**274**	P	**Pn**	**12 53 04.4**	**+1.6**
ATKA	**Atka Island**	**2.56**	**273**	P	**Pn**	**12 53 05.2**	**+1.7**
MREP	**Makushin Rep't**	**2.58**	**49**	P	**Pn**	**12 53 05.0**	**+1.0**
MSW	**Makushin Switc**	**2.63**	**47**	P	**Pn**	**12 53 05.8**	**+1.2**
MSW				S	**Sn**	**12 53 37.9**	**+2.4**
UNV	**Unalaska Valle**	**2.72**	**50**	P	**Pn**	**12 53 06.8**	**+1.1**
UNV				S	**Sn**	**12 53 38.8**	**+1.2**
AKMO	**Akutan Morgan**	**3.10**	**50**	P	**Pn**	**12 53 13.1**	**+2.1**
ZRO	**Akutan Zero**	**3.11**	**50**	P	**Pn**	**12 53 13.3**	**+2.2**
KDAK	**Kodiak Island**	**11.48**	**54**	Pn	**Pn**	**12 55 04.9**	**-1.0**
	0.3nm,0.3s,baz=302,slow=18,SNR=10.0						
ILAR	**Eielson Array**	**17.35**	**34**	P	**Pn**	**12 56 23.4**	**-0.4**
	0.0nm,0.3s,baz=237,slow=11,SNR=5.6						
PETK	**Petropavlovsk-**	**19.52**	**286**	P	**P**	**12 56 48.4**	**-0.4**
	0.8nm,0.3s,baz=91,slow=13,SNR=18						
INK	**Inuvik**	**23.74**	**33**	P	**P**	**12 57 33.4**	**+0.1**
	1.2nm,0.4s,baz=239,slow=6.9,SNR=13						
YKA	**Yellowknife Ar**	**30.68**	**49**	P	**P**	**12 58 36.6**	**+0.9**
	0.3nm,0.4s,baz=273,slow=8.0,SNR=7.8						
SFJD	**Kangerlussuaq**	**52.74**	**25**	P	**P**	**13 01 34.9**	**-0.6**
	4.8nm,0.7s,baz=4.4,slow=13,SNR=2.3						
KURK	**Kurchatov**	**62.25**	**318**	P	**P**	**13 02 42.2**	**-0.6**
KURBB	**Kurchatov Arra**	**62.36**	**318**	P	**P**	**13 02 42.2**	**-1.3**
	0.7nm,0.8s,baz=44,slow=7.0,SNR=4.0						
BVAR	**Borovoye Array**	**63.63**	**324**	P	**P**	**13 02 51.3**	**-0.6**
	1.0nm,0.6s,baz=79,slow=7.5,SNR=4.3						
MKAR	**Makanchi Array**	**63.65**	**313**	P	**P**	**13 02 51.0**	**-1.2**
	0.2nm,0.5s,baz=44,slow=7.7,SNR=2.4						
AKTO	**Aktyubinsk**	**69.98**	**330**	P	**P**	**13 03 32.0**	**-0.4**
	1.1nm,0.4s,baz=27,slow=2.3,SNR=4.3						
CMAR	**Chiang Mai Arr**	**76.26**	**282**	P	**P**	**13 04 09.8**	**-0.2**
	1.2nm,0.8s,baz=29,slow=7.0,SNR=7.0						
WRA	**Warramunga Arr**	**86.56**	**231**	P	**P**	**13 05 04.3**	**0.0**
	0.5nm,0.9s,baz=37,slow=6.3,SNR=2.6						
ASAR	**Alice Springs**	**89.95**	**230**	P	**P**	**13 05 19.6**	**-0.8**
	0.5nm,0.6s,baz=21,slow=5.1,SNR=4.3						

MAN 10 12:54:15.5, 9.81N×125.30E, h32km, mb4.4, ML3.3, MS3.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.19**	**98** ⇓	*e*P	Pn	12 54 23.3	+1.2
MSLP	**Maasin**	**0.54**	**307**	*e*P	Pn	12 54 27.2	+0.2
MSLP				*e*S	Sn	12 54 35.8	+0.8
TBP	**Tagbilaran**	**1.42**	**265**	*e*P	Pn	12 54 39.6	+0.4
TBP				*i* S	Sn	12 54 57.0	+0.3
BUKP	**Musuan**	**1.93**	**187**	*e*P	Pn	12 54 46.3	+0.1
DCPH	**Dipolog City**	**2.28**	**238**	*e*P	Sn	12 55 14.7	-3.1

IDC 10 13:02:12.1±7.1, 18°.02S×174°.61W, h0km, mb4.1/4, mb1 4.4/4, mb1mx3.8/46, mbtmp4.1/4, Error ellipse: s-maj=305.4km s-min=33.3km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	36.99	260	P	P	13 09 24.3	+0.7
	1.8nm,0.9s,baz=84,slow=5.1,SNR=1.5						
WRA	Warramunga Arr	48.16	259	P	P	13 10 53.8	-0.7
	1.6nm,0.5s,baz=97,slow=7.5,SNR=7.1						
ASAR	Alice Springs	48.24	254	P	P	13 10 54.9	-0.1
	6.4nm,0.5s,baz=88,slow=8.5,SNR=44						
ILAR	Eielson Array	85.23	12	P	P	13 14 50.0	0.0
	0.3nm,0.5s,baz=225,slow=5.5,SNR=11						

KRSC 10 13:04:00.3±1.0, 52°.56N×159°.93E, h43km±11km, ML4.0
MOS 10 13:04:00.3±1.7, 52°.56N×159°.93E, h43km, mb4.0/1, Error ellipse: s-maj=10.1km s-min=5.3km az=94.7
IDC 10 13:04:04.3±3.2, 52°.64N×159°.80E, h62km±22km, mb3.2/7, mb1 3.5/7, mb1mx3.3/54, mbtmp3.5/7, Error ellipse: s-maj=46.3km s-min=17.2km az=173.0
ISC 10 13:04:00.7±1.1, 52°.51N±0°.04×159°.86E±0°.04, h32km±3km, n74, $\sigma 1^{s}50$/98, mb3.6/8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.60	10	eP	Pb	13 04 13.0	+0.1
SPN				eS	Sb	13 04 21.1	-0.1
SPN	Mys Shipunski	0.60	10	PN	Pb	13 04 13.0	+0.1
SPN				S	Sb	13 04 21.1	-0.1
NLC	Nalytchevo	0.73	335	eP	Pn	13 04 15.1	+0.3
NLC				eS	Sn	13 04 25.6	+0.7
NLC	Nalytchevo	0.73	335	PN	Pn	13 04 15.1	+0.3
NLC				S	Sn	13 04 25.6	+0.7
RUS	Russkaya	0.82	265	eP	Pb	13 04 16.8	+0.2
RUS				eS	Sn	13 04 28.4	+1.3
RUS	Russkaya	0.82	265	PN	Pb	13 04 16.8	+0.2
RUS				S	Sn	13 04 28.4	+1.3
PET	Petropavlovsk	0.90	306	i P	Pn	13 04 17.4	+0.4
PET				eS	Sb	13 04 29.1	-0.3
PET	Petropavlovsk	0.90	306	PN	Pn	13 04 17.4	+0.4
PET				S	Sb	13 04 29.1	-0.3
UGLR	Uglovaya	0.94	319	eP	Pn	13 04 18.5	+0.7
UGLR	Uglovaya	0.94	319	PN	Pn	13 04 18.5	+0.7
SDLR	Sedlovina	0.97	323	i P	Pn	13 04 18.5	+0.3
SDLR	Sedlovina	0.97	323	PN	Pn	13 04 18.5	+0.3
SMAR	Somma	0.99	320	eP	Pn	13 04 18.9	+0.3
SMAR	Somma	0.99	320	PN	Pn	13 04 18.9	+0.3
AVH	Avacha	1.02	319	eP	Pn	13 04 19.7	+0.9
AVH				eS	Sb	13 04 32.9	0.0
AVH	Avacha	1.02	319	PN	Pn	13 04 19.7	+0.9
AVH				S	Sb	13 04 32.9	0.0
MTVR	Mutnovka	1.02	269	eP	Pb	13 04 20.0	0.0
MTVR				eS	Sb	13 04 34.1	+1.0
MTVR	Mutnovka	1.02	269	PN	Pb	13 04 20.0	0.0
MTVR				S	Sb	13 04 34.1	+1.0
KOK	Koryaka	1.08	317	eP	Pn	13 04 20.5	+0.8
KOK	Koryaka	1.08	317	PN	Pn	13 04 20.5	+0.8
GRL	Gorelyy	1.09	273	eP	Pb	13 04 21.4	+0.3
GRL	Gorelyy	1.09	273	PN	Pb	13 04 21.4	+0.3
KRMR	Karymshinskiy	1.10	288	eP	Pn	13 04 20.5	+0.7
KRMR				eS	Sb	13 04 34.8	-0.4
KRMR	Karymshinskiy	1.10	288	PN	Pn	13 04 20.5	+0.7
KRMR				S	Sb	13 04 34.8	-0.4
KRX	Arik	1.12	320	eP	Pn	13 04 21.1	+0.8
KRX	Arik	1.12	320	PN	Pn	13 04 21.1	+0.8
KDTR	Khodutka, Kamc	1.30	238	eP	Pn	13 04 24.1	+1.5
KDTR				eS	Sb	13 04 41.3	+0.5
KDTR	Khodutka, Kamc	1.30	238	PN	Pn	13 04 24.1	+1.5
KDTR				S	Sb	13 04 41.3	+0.5
PETK	Petropavlovsk-	1.44	296	P	Pn	13 04 25.8	+1.3
	20nm,0.3s,baz=106,slow=20,SNR=392						
PETK				S	Sb	13 04 44.4	-0.5
	20nm,0.3s,baz=90,slow=23,SNR=11						
KII	Karymskiy	1.55	351	eP	Pn	13 04 27.2	+1.0
KII				eS	Sn	13 04 46.5	+1.3
KII	Karymskiy	1.55	351	PN	Pn	13 04 27.2	+1.0
KII				S	Sn	13 04 46.5	+1.3
GNL	Ganaly	1.66	317	eP	Pn	13 04 29.3	+1.7
GNL	Ganaly	1.66	317	PN	Pn	13 04 29.3	+1.7
APC	Apacha	1.69	285	eP	Pb	13 04 30.1	-1.1
APC				eS	Sb	13 04 51.6	-0.5
APC	Apacha	1.69	285	PN	Pb	13 04 30.1	-1.1
APC				S	Sb	13 04 51.6	-0.5
PAU	Pauzhetka	2.15	242	eP	Pn	13 04 37.0	+2.7
PAU	Pauzhetka	2.15	242	PN	Pn	13 04 37.0	+2.7
MKZ	Mys Kozlova	2.34	28	eP	Pn	13 04 36.9	0.0
MKZ				eS	Sn	13 05 02.3	-2.1
MKZ	Mys Kozlova	2.34	28	PN	Pn	13 04 36.9	0.0
MKZ				S	Sn	13 05 02.3	-2.1
KZV	Kizimen	2.62	6	eP	Pn	13 04 42.9	+1.9
KZV				eS	Sn	13 05 13.8	+2.0
KZV	Kizimen	2.62	6	PN	Pn	13 04 42.9	+1.9
KZV				S	Sn	13 05 13.8	+2.0
TUMD	Tumrok D	2.72	7	eP	Pn	13 04 43.9	+1.7
TUMD				eS	Sn	13 05 15.3	+1.4
TUMR	Tumrok	2.79	3	eP	Pn	13 04 45.7	+2.5
TUMR				eS	Sn	13 05 18.3	+2.6
TUMR	Tumrok	2.79	3	PN	Pn	13 04 43.9	+0.7
TUMR				S	Sn	13 05 15.3	-0.4
SKR	Severo-Kuril's	2.96	233	eP	Pb	13 04 50.8	-1.9
SKR	Severo-Kuril's	2.96	233	PN	Pb	13 04 50.8	-1.9
ESO	Esso	3.49	349	eP	Pn	13 04 54.8	+2.1
ESO	Esso	3.49	349	PN	Pn	13 04 54.8	+2.1
ZLN	Zelenaya	3.56	9	eP	Pn	13 04 56.9	+3.1
ZLN	Zelenaya	3.56	9	PN	Pn	13 04 56.9	+3.1
SRDR	Sredinnyy	3.82	359	eP	Pn	13 04 59.3	+2.0
SRDR	Sredinnyy	3.82	359	PN	Pn	13 04 59.3	+2.0
KLY	Klyuchi	3.84	7	eP	Pn	13 05 00.2	+2.7
KLY				eS	Sn	13 05 42.8	+1.3
KLY	Klyuchi	3.84	7	PN	Pn	13 05 00.2	+2.7
KLY				S	Sn	13 05 42.8	+1.3
KBTR	Krutoberegovo	4.09	24	eP	Pn	13 05 03.4	+2.4
KBTR	Krutoberegovo	4.09	24	PN	Pn	13 05 03.4	+2.4
SMKR	Semkarok	4.19	12	eP	Pn	13 05 05.9	+3.5
SMKR	Semkarok	4.19	12	PN	Pn	13 05 05.9	+3.5
SRKR	Sorokina	4.22	10	eP	Pn	13 05 05.6	+2.7
SRKR	Sorokina	4.22	10	PN	Pn	13 05 05.6	+2.7
ILAR	Eielson Array	29.33	45	P	P	13 10 00.7	+0.6
	0.2nm,0.8s,baz=266,slow=7.6,SNR=3.9						
H11N2	WAKE ISLAND Hy	33.17	168	T	T	13 46 19.0	
	baz=353,slow=76,SNR=27						
H11N3	WAKE ISLAND Hy	33.18	168	T	T	13 46 20.1	
	baz=353,slow=76,SNR=26						
H11N1	WAKE ISLAND Hy	33.19	168	T	T	13 46 20.2	
	baz=353,slow=76,SNR=32						
SONM	Songino Array	33.90	284	P	P	13 10 40.5	0.0
	0.2nm,0.3s,baz=79,slow=7.5,SNR=3.0						
H11S1	WAKE ISLAND Hy	34.35	168	T	T	13 47 48.1	
	baz=350,slow=74						
H11S3	WAKE ISLAND Hy	34.36	168	T	T	13 47 53.3	
	baz=350,slow=74						
H11S2	WAKE ISLAND Hy	34.37	168	T	T	13 47 44.8	
	baz=350						
MKAR	Makanchi Array	48.28	296	P	P	13 12 36.8	-1.7
	0.3nm,0.5s,baz=60,slow=13,SNR=4.8						
CMAR	Chiang Mai Arr	57.92	258	P	P	13 13 50.6	+0.8
	0.7nm,0.7s,baz=30,slow=7.0,SNR=5.2						
PDAR	Pinedale Array	57.94	60	P	P	13 13 48.7	-1.2
	0.2nm,0.6s,baz=289,slow=3.6,SNR=2.8						
NOA	NORSAR Array B	64.06	344	P	P	13 14 30.4	-0.5
	0.4nm,0.5s,baz=24,slow=6.8,SNR=2.4						
GEYT	Alibeck	67.29	303	P	P	13 14 51.4	-0.7
	48nm,0.8s,baz=35,slow=5.3,SNR=2.9						
TXAR	Lajitas Array	71.00	67	P	P	13 15 16.3	+1.0
	0.3nm,0.5s,baz=303,slow=4.9,SNR=6.2						

ISCJB 10 13:06:26.7±0.8, 6°.65S±0°.06×130°.06E±0°.08, h146km, mb3.8/3, Error ellipse: s-maj=11.2km s-min=8.5km az=174.2
IDC 10 13:06:28.8±2.1, 6°.62S×130°.02E, h155km±22km, mb3.7/3, mb1 3.8/8, mb1mx3.4/44, mbtmp4.2/8, Error ellipse: s-maj=33.5km s-min=16.5km az=83.0
ISC 10 13:06:27.1±0.9, 6°.72S±0°.06×130°.2E±0°.1, h146km, n8, $\sigma 3^{s}16$/13, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.91	11	P	Pn	13 07 53.9	+1.2
	11nm,0.3s,baz=52,slow=20,SNR=79						
SIJI				S	Sn	13 08 54.9	-4.7
	6.2nm,0.3s,baz=109,slow=23,SNR=9.7						
BATI	Baumata	7.30	241	P	Pn	13 08 13.1	+1.9
	7.7nm,0.3s,baz=106,slow=5.1,SNR=1.4						
BATI				S	Sn	13 09 31.9	-1.0
	9.5nm,0.3s,baz=291,slow=23,SNR=6.8						
FITZ	Fitzroy Crossi	12.14	201	P	Pn	13 09 15.4	+0.1
	1.3nm,0.3s,baz=23,slow=10,SNR=34						
FITZ				S	Sn	13 11 23.1	-6.4
	1.2nm,0.3s,baz=202,slow=19,SNR=3.2						
WRA	Warramunga Arr	13.76	163	P	Pn	13 09 37.4	+1.1
	0.9nm,0.3s,baz=347,slow=13,SNR=30						
WRA				S	Sn	13 12 06.0	-2.6
	1.4nm,0.3s,baz=335,slow=22,SNR=7.0						
ASAR	Alice Springs	17.23	168	P	Pn	13 10 22.8	+3.7
	0.7nm,0.3s,baz=348,slow=13,SNR=38						
ASAR				S	S	13 13 29.4	-1.2
	0.2nm,0.3s,baz=354,slow=28,SNR=3.8						
STKA	Stephens Creek	27.22	158	P	P	13 12 00.1	+2.7
	1.0nm,0.5s,baz=324,slow=14,SNR=3.0						
MKAR	Makanchi Array	68.08	327	P	P	13 17 11.1	+0.1
	2.4nm,0.4s,baz=114,slow=8.5,SNR=38						
ZALV	Zalesovo Beam	71.40	334	P	P	13 17 30.3	-0.9
	0.3nm,0.3s,baz=111,slow=7.9,SNR=3.4						

MEX 10 13:07:14.1±0.6, 16°.02N×97°.55W, h22km±36km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.67	304	eP	Pb	13 07 25.0	-2.1
PNIG				eS	Sb	13 07 33.5	-2.5
VHO	Vista Hermosa	1.31	37	eP	Pn	13 07 35.1	-2.2
VHO				i S	Sn	13 07 49.7	-4.6

ISCJB 10 13:08:42.2±1.0, 17°.5S±0°.3×178°.3W±0°.2, h550km, mb3.6/14, Error ellipse: s-maj=40.7km s-min=13.0km az=148.9
IDC 10 13:08:47.8±5.1, 17°.64S×178°.33W, h610km±67km, mb3.1/14, mb1 3.3/15, mb1mx3.1/46, mbtmp4.1/15, Error ellipse: s-maj=40.6km s-min=22.8km az=155.0
ISC 10 13:08:43.0±1.1, 17°.5S±0°.3×178°.2W±0°.2, h550km, n17, $\sigma 1^{s}04$/17, mb3.6/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.15	250	P	P	13 11 56.7	+2.5
	0.3nm,0.3s,baz=90,slow=19,SNR=4.6						
CTA	Charters Tower	33.72	260	P	P	13 14 39.5	+0.2
	1.0nm,0.3s,baz=94,slow=13,SNR=4.7						
STKA	Stephens Creek	39.00	241	P	P	13 15 22.2	-0.4
	2.2nm,0.5s,baz=102,slow=11,SNR=5.4						
WRA	Warramunga Arr	44.91	259	P	P	13 16 08.5	-0.9
	1.2nm,0.6s,baz=93,slow=7.0,SNR=5.7						
ASAR	Alice Springs	45.10	254	P	P	13 16 09.9	-0.8
	2.4nm,0.4s,baz=90,slow=8.5,SNR=14						
FITZ	Fitzroy Crossi	53.30	260	P	P	13 17 10.6	-0.6
	3.6nm,1.0s,baz=80,slow=6.1,SNR=2.8						
MJAR	Matsushiro Arr	67.72	323	P	P	13 18 45.6	-0.4
	0.7nm,0.4s,baz=168,slow=6.4,SNR=4.1						
PETK	Petropavlovsk-	73.36	345	P	P	13 19 20.0	+1.2
	1.9nm,0.7s,baz=123,slow=7.2,SNR=4.8						
YBH	Yreka Blue Hor	78.09	39	P	P	13 19 46.1	+0.7
	0.8nm,0.5s,baz=225,slow=10.0,SNR=3.7						
NVAR	Mina Array Bea	79.00	44	P	P	13 19 51.0	+0.5
	0.8nm,0.6s,baz=229,slow=8.2,SNR=2.7						
SEY	Seymchan	83.44	347	P	P	13 20 12.8	+0.3
	2.3nm,0.7s,baz=122,slow=6.7,SNR=4.2						
ILAR	Eielson Array	85.46	13	P	P	13 20 21.3	-1.1
	0.5nm,0.4s,baz=224,slow=4.8,SNR=12						
TXAR	Lajitas Array	85.61	58	P	P	13 20 24.9	+0.9
	0.6nm,0.7s,baz=212,slow=7.0,SNR=9.1						
PDAR	Pinedale Array	86.92	43	P	P	13 20 30.1	-0.1
	0.4nm,0.6s,baz=217,slow=3.7,SNR=4.8						
YKA	Yellowknife Ar	93.89	25	P	P	13 21 01.2	-0.3
	0.2nm,0.6s,baz=259,slow=5.6,SNR=5.0						
BRTR	Keskin Array B	144.66	315	PKP	PKPdf	13 27 16.6	-1.1
	0.6nm,0.6s,baz=90,slow=4.9,SNR=3.6						
GERES	GERESS Array B	147.29	345	PKPbc	PKPbc	13 27 23.9	-1.1
	0.9nm,0.7s,baz=28,slow=6.0,SNR=3.7						

ISCJB 10 13:18:02.4±0.4, 58°.46N±0°.04×156°.61W±0°.09, h204km±4km, Error ellipse: s-maj=8.7km s-min=4.9km az=37.3
NEIC 10 13:18:03.7±0.0, 58°.42N×156°.57W, h207km, ML3.1(AEIC), After AEIC.
IDC 10 13:18:03.2±4.7, 58°.79N×156°.58W, h171km±19km, mb3.0/4, mb1 3.3/6, mb1mx3.0/52, mbtmp3.5/6, Error ellipse: s-maj=54.7km s-min=19.0km az=79.0
ISC 10 13:18:03.4±0.9, 58°.51N±0°.05×156°.67W±0°.07, h197km±7km, n66, $\sigma 1^{s}45$/73, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNTC	Contact Creek	0.48	120	P	Pn	13 18 30.2	-0.1
CNTC				S	Sn	13 18 50.8	-0.1
PLK5	Peulik 5	0.52	192	P	Pn	13 18 30.6	+0.3
PLK1	Peulik 1	0.71	177	P	Pn	13 18 30.7	-0.4
KVTA	Katmai Vly 10	0.73	99	P	Pn	13 18 31.1	-0.1
KJL	Kejulik	0.74	128	P	Pn	13 18 31.5	+0.2
KABU	Katmai Buttres	0.77	107	P	Pn	13 18 31.6	0.0
KABU				S	Sn	13 18 53.7	+0.5
KBM	Katmai Bkd Mtn	0.81	106	P	Pn	13 18 31.8	+0.1
CAHL	Cahill	0.85	122	P	Pn	13 18 32.1	+0.1
KABR	Katmai Barrier	0.97	112	P	Pn	13 18 32.7	-0.1
FONW	Fourpeaked Sta	1.48	76	P	Pn	13 18 37.0	+0.3
ANNW	Aniakchak Nort	1.75	209	P	Pn	13 18 39.6	+0.4
ANNE	Aniakchak Nort	1.76	206	P	Pn	13 18 38.8	-0.6
ANPK	Aniakchak Peak	1.84	206	P	Pn	13 18 39.9	-0.3
AUW	Augustine West	1.87	61	P	Pn	13 18 40.9	+0.6
AUI	Augustine Isla	1.88	62	P	Pn	13 18 40.9	+0.5
AUJK	Augustine Jueg	1.89	62	P	Pn	13 18 40.9	+0.4
AUL	Augustine Lava	1.89	61	P	Pn	13 18 40.9	+0.4
OHAK	Old Harbor	2.22	124	P	Pn	13 18 43.3	-0.6
OHAK				S	Sn	13 19 12.9	-2.6
KDAK	Kodiak Island	2.29	107	P	Pn	13 18 44.1	-0.6
	27nm,0.3s,baz=141,slow=0.6,SNR=1291						
KDAK				S	Sn	13 19 14.9	-1.8
	12nm,0.3s,baz=60,slow=24,SNR=30						
ILS	Iliamna Low So	2.36	50	P	Pn	13 18 45.9	+0.3
ILW	Iliamna West	2.39	48	P	Pn	13 18 46.5	+0.4
CHGN	Chignik	2.40	204	P	Pn	13 18 45.3	-0.7
IVE	Iliamna Volcan	2.41	50	P	Pn	13 18 47.1	+0.9
SVW2	Sparrevohn	2.66	11	P	Pn	13 18 49.6	+0.8
SVW2				S	Sn	13 19 25.3	+0.9
VNSS	Veniaminof 8	2.74	215	P	Pn	13 18 49.9	-0.1
RDWB	Redoubt West	2.79	43	P	Pn	13 18 51.1	+0.6
HOM	Homer	2.84	64	P	Pn	13 18 51.5	+0.5
RDJH	Redoubt Jeurge	2.87	42	P	Pn	13 18 52.1	+0.7
DFR	Drift River	2.92	42	P	Pn	13 18 52.6	+0.7
BRLK	Bradley Lake	3.24	65	P	Pn	13 18 55.6	-0.1
SPWE	Spurr West	3.47	35	P	Pn	13 18 59.9	+1.4
SPNN	North Nagishla	3.50	33	P	Pn	13 18 59.8	+0.8
SDPT	Sand Point	3.79	215	P	Pn	13 19 01.7	-0.7
SDPT				S	Sn	13 19 45.4	-3.2
SLKM	Skilak Lake	3.85	56	P	Pn	13 19 03.0	-0.2
SEW	Seward	4.03	64	P	Pn	13 19 05.5	+0.1
SUA	Susitna One	4.20	43	P	Pn	13 19 08.5	+0.9
RC01	Rabbit Creek A	4.36	51	P	Pn	13 19 09.0	-0.5
TT01	Tatalina	4.43	4	P	Pn	13 19 11.3	+1.0
DRIA	Deer Island	4.70	223	P	Pn	13 19 13.0	-0.9
PPLA	Purkeypile	4.92	25	P	Pn	13 19 18.0	+1.2
KNK	Knik Glacier	5.05	51	P	Pn	13 19 17.2	-1.2
SML	Sawmill	5.32	48	P	Pn	13 19 20.9	-0.9
GLI	Glacier Island	5.40	60	P	Pn	13 19 21.7	-1.1
CAST	Castle Rocks	5.41	22	P	Pn	13 19 23.3	+0.4
MID	Middleton Isla	5.43	76	P	Pn	13 19 23.1	+0.1
JPK	Jack Peak	5.69	59	P	Pn	13 19 25.9	-0.7
SCM	Sheep Creek Mo	5.73	50	P	Pn	13 19 26.5	-0.6
TRF	Thorofare Moun	5.85	29	P	Pn	13 19 27.6	-1.1
EYAK	Cordova Ski Ar	5.92	65	P	Pn	13 19 28.8	-0.7
DIV	Divide	6.09	60	P	Pn	13 19 31.5	-0.3
KLU	Klutina	6.17	56	P	Pn	13 19 31.9	-0.9
SGAM	Sherman Glacie	6.17	66	P	Pn	13 19 31.9	-0.8
RND	Reindeer	6.21	34	P	Pn	13 19 31.2	-2.1
BPAW	Bear Paw Mtn.	6.24	24	P	Pn	13 19 32.5	-1.2
MCK	McKinley	6.44	32	P	Pn	13 19 35.2	-1.0
DHY	Denali Highway	6.46	41	P	Pn	13 19 35.1	-1.4
BMRM	Bremner River	6.58	63	P	Pn	13 19 37.6	-0.5
HARP	HAARP	6.91	51	P	Pn	13 19 41.8	-0.5
UNV	Unalaska Valle	7.20	234	P	Pn	13 19 44.9	-1.3
WRH	Wood River Hil	7.25	31	P	Pn	13 19 44.5	-2.2
ILAR	Eielson Array	7.82	32	P	Pn	13 19 51.1	-2.9
	0.2nm,0.3s,baz=224,slow=13,SNR=15						
ILAR				S	Sn	13 21 13.9	-8.2
	0.4nm,0.3s,baz=210,slow=24,SNR=8.9						
BCA3	Beaver Creek A	8.59	52	P	Pn	13 20 03.6	-0.6
YKA	Yellowknife Ar	20.81	61	P	P	13 22 29.2	0.0
	1.0nm,0.8s,baz=275,slow=10,SNR=12						
PDAR	Pinedale Array	32.97	98	P	P	13 24 21.6	+2.0
	0.4nm,0.5s,baz=310,slow=4.9,SNR=5.2						
ULM	Lac du Bonnet	35.21	76	P	P	13 24 39.7	+1.2
	0.9nm,0.3s,baz=316,slow=7.6,SNR=5.0						
TXAR	Lajitas Array	46.32	105	P	P	13 26 11.4	+2.0
	0.3nm,0.8s,baz=328,slow=8.5,SNR=4.1						

PRE 10 13:20:44.0±1.3, 28°.89S×28°.06E, h5km, ML2.4, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWZ	Schweizer	2.94	305	eP	Pn	13 21 33.3	+1.7
SWZ				eS	Sn	13 22 07.3	-0.1
SWZ				AML	AML	13 22 22.6	
	comp=Z,14nm,0.2s						
LBTB	Lobatse	4.44	330	eP	Pn	13 21 52.6	+0.5
LBTB				eS	Sn	13 22 42.1	-2.1
LBTB				AML	AML	13 22 59.8	
	comp=Z,9.4nm,0.4s						
GRAN	Grantham	6.11	235	eP	Pn	13 22 15.4	+0.3
GRAN				eS	Sn	13 23 22.8	-2.6
GRAN				AML	AML	13 23 31.8	
	comp=Z,14nm,0.5s						

PRE 10 13:24:46.1±1.4, 26°.92S×26°.77E, h2km, ML2.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	Parys	0.53	91	eP	Pg	13 24 56.9	+0.7
PRYS				eS	Sg	13 25 03.9	+0.9
PRYS				AML	AML	13 25 05.6	
	comp=Z,231nm,0.1s						
PRYS	Parys	0.53	91	eP	Pg	13 24 56.9	+0.7
PRYS				eS	Sg	13 25 03.9	+0.9
PRYS				AML	AML	13 25 05.6	
	comp=Z,231nm,0.1s						
WDLM	Western Deep L	0.76	50	eP	Pg	13 25 00.6	-0.1
WDLM				eS	Sg	13 25 10.6	0.0
WDLM				AML	AML	13 25 20.7	
	comp=Z,227nm,0.2s						
WDLM	Western Deep L	0.76	50	eP	Pg	13 25 00.6	-0.1
WDLM				eS	Sg	13 25 10.6	0.0
WDLM				AML	AML	13 25 20.7	
	comp=Z,227nm,0.2s						
KLOF	Kloof	0.94	53	eP	Pg	13 25 03.5	-0.6
KLOF				eS	Sg	13 25 16.7	+0.4
KLOF				AML	AML	13 25 23.0	
	comp=Z,637nm,0.2s						
KLOF	Kloof	0.94	53	eP	Pg	13 25 03.5	-0.6
KLOF				eS	Sg	13 25 16.7	+0.4
KLOF				AML	AML	13 25 23.0	
	comp=Z,637nm,0.2s						
KSR	Koster	1.06	6	eP	Pg	13 25 06.9	+0.4
KSR				eS	Sg	13 25 20.8	+0.5
KSR				AML	AML	13 25 26.1	
	comp=Z,102nm,0.2s						
KSR	Koster	1.06	6	eP	Pg	13 25 06.9	+0.4
KSR				eS	Sg	13 25 20.8	+0.5
KSR				AML	AML	13 25 26.1	
	comp=Z,102nm,0.2s						
SWZ	Schweizer	1.31	258	eP	Pg	13 25 10.6	-0.7
SWZ				eS	Sn	13 25 29.4	-0.3
SWZ				AML	AML	13 25 32.7	
	comp=Z,335nm,0.3s						
SWZ	Schweizer	1.31	258	eP	Pg	13 25 10.6	-0.7
SWZ				eS	Sn	13 25 29.4	-0.3
SWZ				AML	AML	13 25 32.7	
	comp=Z,335nm,0.3s						
ERPM	east rand prop	1.43	67	eP	Pb	13 25 15.2	+1.5
ERPM				eS	Sn	13 25 34.5	+1.6
ERPM				AML	AML	13 25 36.4	
	comp=Z,88nm,0.2s						
ERPM	east rand prop	1.43	67	eP	Pb	13 25 15.2	+1.5
ERPM				eS	Sn	13 25 34.5	+1.6
ERPM				AML	AML	13 25 36.4	
	comp=Z,88nm,0.2s						
SLR	Silverton	1.79	49	eP	Pb	13 25 19.7	-0.1
SLR				eS	Sb	13 25 42.5	-0.3
SLR				AML	AML	13 25 45.5	
	comp=Z,175nm,0.3s						
SLR	Silverton	1.79	49	eP	Pb	13 25 19.7	-0.1
SLR				eS	Sb	13 25 42.5	-0.3
SLR				AML	AML	13 25 45.5	
	comp=Z,175nm,0.3s						
BOSA	Boshof	2.16	218	eP	Pn	13 25 23.7	+0.4
BOSA				eS	Sn	13 25 50.9	+0.1
BOSA				AML	AML	13 25 58.2	
	comp=Z,30nm,0.5s						
BOSA	Boshof	2.16	218	eP	Pn	13 25 23.7	+0.4
BOSA				eS	Sn	13 25 50.9	+0.1
BOSA				AML	AML	13 25 58.2	
	comp=Z,30nm,0.5s						
LBTB	Lobatse	2.17	331	eP	Pb	13 25 24.9	-1.2
LBTB				eS	Sn	13 25 51.8	+0.9
LBTB				AML	AML	13 25 59.1	
	comp=Z,27nm,0.3s						
LBTB	Lobatse	2.17	331	eP	Pb	13 25 24.9	-1.2
LBTB				eS	Sn	13 25 51.8	+0.9
LBTB				AML	AML	13 25 59.1	
	comp=Z,27nm,0.3s						
GRAN	Grantham	6.70	216	eP	Pn	13 26 26.9	+1.3
GRAN				eS	Sn	13 27 39.2	-3.3
GRAN				AML	AML	13 27 48.1	
	comp=Z,2.0nm,0.5s						
GRAN	Grantham	6.70	216	eP	Pn	13 26 26.9	+1.3
GRAN				eS	Sn	13 27 39.2	-3.3
GRAN				AML	AML	13 27 48.1	
	comp=Z,2.0nm,0.5s						

MEX 10 13:33:24.9±0.4, 17°.38N×100°.81W, h16km±4km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.62	122	eP	Pg	13 33 34.9	-2.2
CAIG				i S	Sg	13 33 42.7	-2.6
ZIIG	Zihuatanejo	0.66	290	i P	Pg	13 33 35.6	-2.2
ZIIG				i S	Sg	13 33 43.6	-3.1
ARIG	Puente Sto Nin	1.00	26	eP	Pb	13 33 40.1	-3.7
ARIG				eS	Sb	13 33 52.6	-4.2
ACP2	Acapulco	1.02	119	i P	Pb	13 33 39.2	-5.0
ACP2				i S	Sb	13 33 53.1	-4.2
MEIG	Mezcala	1.26	64	eP	Pn	13 33 44.5	-3.5
MEIG				i S	Sb	13 33 58.8	-5.7
PLIG	Platanillo	1.60	51	eP	Pn	13 33 49.6	-3.1
PLIG				eS	Sn	13 34 08.1	-5.0
TLIG	Tlapa	2.15	85	eP	Pn	13 33 57.2	-3.1
TLIG				i S	Sn	13 34 21.4	-5.3

ISCJB 10 13:45:11.7±0.7, 31°.15S±0°.02×68°.43W±0°.03, h2km±4km, Error ellipse: s-maj=4.1km s-min=3.5km az=40.3
GUC 10 13:45:11.3±0.8, 31°.17S×68°.61W, h4km±5km, ML3.4
SJA 10 13:45:11.4±1.1, 31°.15S×68°.40W, h20km±2km, ML3.0, MW3.6
ISC 10 13:45:11.9±1.0, 31°.16S±0°.02×68°.53W±0°.02, h15km±8km, n42, $\sigma 1^{s}31$/75, 1C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	Cerro Villicun	0.17	166	i P	Pb	13 45 17.1	+0.3
	baz=22,slow=1.1						
RTLL				i S	Sg	13 45 21.4	+2.3
RTLL				IAML		13 45 21.7	
	comp=Z,4μm,0.2s						
AMOG	MOGNA	0.22	7	i P	Pb	13 45 16.9	-0.7
AMOG	MOGNA	0.22	7	i P	Pb	13 45 16.9	-0.7
SJA	San Juan	0.37	185	i P	Pb	13 45 20.2	+0.1
SJA				AMSG		13 45 26.8	

	comp=Z,10µm,0.4s						
SJA	San Juan	0.37	185	IAML		13 45 27.6	
	comp=Z,987nm,0.2s						
ZON	Zonda	0.41	199	iP	Pb	13 45 20.4	-0.4
CFA	Coronel Fontan	0.51	151	iP	Pg	13 45 21.6	-0.4
CFA				iS	Sb	13 45 29.4	-0.4
CFA	Coronel Fontan	0.51	151	eP	Pg	13 45 21.6	-0.4
CFA				eS	Sb	13 45 29.4	-0.4
RTCV	Cerro Valdivia	0.70	181	iP	Pb	13 45 25.4	-0.5
RTCV				iS	Sb	13 45 35.9	+0.6
RTLS	Leoncito	0.92	226	iP	Pg	13 45 29.2	-0.5
RTLS				IAML		13 45 44.4	
	comp=Z,371nm,0.4s						
RTLS				IAML		13 45 44.4	
	comp=Z,371nm,0.4s						
AUSP	Uspallata	1.29	214	eP	Pn	13 45 35.6	0.0
AUSP				iS	Sn	13 45 53.2	+0.4
AUSP	Uspallata	1.29	214	iP	Pn	13 45 35.6	0.0
AUSP				eS	Sn	13 45 53.1	+0.4
ASAL	Salagasta	1.45	190	eP	Pb	13 45 38.6	-0.1
ASAL				iS	Sg	13 45 59.3	+0.6
ASAL	Salagasta	1.45	190	eP	Pb	13 45 38.5	-0.1
ASAL				eS	Sg	13 45 59.8	+1.0
ACAN	Cantantal	1.59	135	iP	Pb	13 45 40.1	-0.9
ACAN	Cantantal	1.59	135	eP	Pb	13 45 40.1	-0.9
ACAN				eS	Sb	13 46 00.7	-0.2
ARCO	CERRO ARCO	1.71	192	iP	Pb	13 45 43.2	+0.1
ARCO				iS	Sg	13 46 06.5	-0.6
ARCO				IAML		13 46 10.4	
	comp=Z,191nm,0.2s						
ARCO	CERRO ARCO	1.71	192	iP	Pb	13 45 43.3	+0.1
ARCO				eS	Sg	13 46 07.4	+0.3
ARCO				IAML		13 46 10.4	
	comp=Z,191nm,0.2s						
APLL	PUNTA DE LOS L	1.88	67	iP	Pn	13 45 43.2	-0.3
APLL				iS	Sn	13 46 06.8	-0.2
APLL				IAML		13 46 08.1	
	comp=Z,298nm,0.2s						
APLL	PUNTA DE LOS L	1.88	67	eP	Pn	13 45 43.2	-0.3
APLL				eS	Sn	13 46 06.8	-0.2
APLL				IAML		13 46 08.2	
	comp=Z,298nm,0.2s						
AAGR	Agrelo	1.94	188	iP	Pb	13 45 46.6	-0.3
AAGR				iS	Sb	13 46 12.2	+1.3
AAGR	Agrelo	1.94	188	eP	Pb	13 45 46.9	-0.1
AAGR				eS	Sg	13 46 14.0	-0.3
CMCH	Combarbala	2.12	269⇑	iP	Pb	13 45 49.3	-0.8
CMCH				iS	Sb	13 46 17.4	+1.2
GO04	Tololo Observa	2.19	296	iP	Pb	13 45 50.3	-1.1
GO04				iS	Sb	13 46 20.1	+1.7
GO04	Tololo Observa	2.19	296	eP	Pb	13 45 50.3	-1.1
GO04				eS	Sb	13 46 20.1	+1.7
GO04	Tololo Observa	2.19	296	eP	Pb	13 45 50.2	-1.1
GO04				iS	Sb	13 46 20.1	+1.7
ACLC	CERRO LA CRUZ	2.20	39	eP	Pn	13 45 48.7	+0.7
ACLC				eS	Sb	13 46 17.3	-1.3
AVIZ	Vizcacheras	2.31	180	eP	Pb	13 45 52.7	-0.5
AVIZ				iS	Sg	13 46 27.3	+1.2
FCH	Farellones	2.63	214	eP	Pb	13 45 57.4	-1.4
FCH				iS	Sg	13 46 34.4	-2.0
FCH				IAML		13 46 37.9	
	comp=E,184nm,0.6s						
PEL	Peldehue	2.70	222	iP	Pn	13 45 54.3	-0.4
PEL				iS	Sg	13 46 36.6	-2.0
PEL	Peldehue	2.70	222	eP	Pb	13 45 57.5	-2.3
PEL				iS	Sb	13 46 32.7	0.0
PEL				IAML		13 46 37.8	
	comp=E,195nm,0.5s						
MRA	San Martin	2.70	118	iP	Pn	13 45 54.9	+0.1
MRA				iS	Sn	13 46 27.9	+0.6
MRA	San Martin	2.70	118	eP	Pn	13 45 54.9	+0.1
MRA				eS	Sn	13 46 27.9	+0.6
MRA				IAML		13 46 42.6	
	comp=Z,156nm,0.2s						
ROCH	El Roble	2.78	229	eP	Pn	13 45 58.6	+2.6
ROCH				iS	Sb	13 46 35.4	+0.2
ROCH				IAML		13 46 42.0	
	comp=N,181nm,0.5s						
ROC1	El Roble	2.78	229	iP	Pb	13 45 59.0	-2.5
ROC1				iS	Sb	13 46 34.5	-1.0
LCO	Las Campanas	2.85	318	iP	Pb	13 45 60.0	-2.7
LCO				iS	Sb	13 46 38.2	+0.8
LCO	Las Campanas	2.85	318	eP	Pn	13 45 59.3	+2.2
LCO				eS	Sb	13 46 38.2	+0.8
LCO	Las Campanas	2.85	318	eP	Pb	13 46 00.7	-2.0
LCO				iS	Sb	13 46 37.8	+0.3
LCO				IAML		13 46 42.7	
	comp=E,170nm,0.3s						
TCA	Tanti	3.37	94	iP	Pn	13 46 03.7	-0.3
TCA				iS	Sn	13 46 47.1	+3.3
TCA				IAML		13 47 03.1	
	comp=Z,68nm,0.5s						
CYA	Choya	3.60	42	iP	Pn	13 46 06.7	-0.4
CYA	Choya	3.60	42	eP	Pn	13 46 06.9	-0.2
CYA				eS	Sn	13 46 53.5	+4.2
CYA				IAML		13 47 09.8	
	comp=Z,58nm,0.6s						
RFA	San Rafael	3.60	179	iP	Pn	13 46 07.3	+0.1
RFA				iS	Sg	13 47 03.7	-3.9
RFA				IAML		13 47 07.9	
	comp=Z,94nm,0.2s						

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*BJI **10** 13:47:01.3, 4.64N×94.99E, h41km, mb5.9/81, mB5.6/59, Ms5.5/96, Ms7 5.5/86*

*MOS **10** 13:47:02.4±0.9, 4.90N×95.15E, h36km, mb6.2/88, MS5.0/43, Error ellipse: s-maj=5.8km s-min=3.2km az=119.0*

*NEIC **10** 13:47:03.0±0.0, 4.35N×95.33E, h45km, Moment Tensor Solution. s43 Moment tensor: Scale 10^{17}Nm; M_{rr}2.15; $M_{\theta\theta}$-1.33; $M_{\phi\phi}$-0.82; $M_{r\theta}$3.11; $M_{\theta\phi}$0.90; $M_{\phi r}$-2.67; Best double couple: $M_0$4.60000×10^{17} NP1:ϕ_s130.00000°, δ76.00000°, λ91.00000°. NP2:ϕ_s304.00000°, δ13.00000°, λ84.00000°. Principal axes: T 4.6700, Plg58.0000°, Azm42.0000°; N -0.1500, Plg1.0000°, Azm309.0000°; P -4.5200, Plg31.0000°, Azm219.0000°;*

*NEIC **10** 13:47:03.8±0.1, 4.72N×95.10E, h38km, mb5.9/76, ME6.1, MS5.5/111, MW5.6, MW5.7, MW5.7 Error ellipse: s-maj=4.6km s-min=2.9km az=40.0, Moment Tensor Solution. s56 Moment tensor: Scale 10^{17}Nm; M_{rr}3.88; $M_{\theta\theta}$-1.37; $M_{\phi\phi}$-2.50; $M_{r\theta}$2.31; $M_{\theta\phi}$1.59; $M_{\phi r}$-1.37; Best double couple: $M_0$4.60000×10^{17} NP1:ϕ_s132.00000°, δ63.00000°, λ79.00000°. NP2:ϕ_s335.00000°, δ29.00000°, λ111.00000°. Principal axes: T 4.8200, Plg70.0000°, Azm18.0000°; N -0.4500, Plg10.0000°, Azm137.0000°; P -4.3800, Plg17.0000°, Azm230.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s348.00000°, δ33.00000°, λ114.00000°. NP2:ϕ_s140.00000°, δ60.00000°, λ75.00000°. Principal axes: T Plg71.0000°, Azm16.0000°; N Plg0.0000°, Azm0.0000°; P Plg14.0000°, Azm241.0000°; Apparent Stress 4.16 MPa. Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Banda Aceh and Meulaboh.

*ISCJB **10** 13:47:04.6±0.3, 4.70N±0.02×95.13E±0.02, h61km±3km, mb6.0/289 Error ellipse: s-maj=3.2km s-min=2.2km az=39.6*

*IDC **10** 13:47:05.5±0.3, 4.81N×95.15E, h50km±2km, mb5.5/37, mb1 5.5/39, mb1mx5.5/39, mbtmp5.7/39, MS5.0/37, Ms1 5.0/37, ms1mx4.9/46, Error ellipse: s-maj=10.3km s-min=7.5km az=51.0*

*GCMT **10** 13:47:05.8±0.1, 4.54N±0.01×95.03E±0.01, h45km, MW5.7/117, Moment Tensor Solution. s117, c213; s114, c270; Duration: 1s7 Moment tensor: Scale 10^{17} Nm; M_{rr}3.08±.05; $M_{\theta\theta}$-1.72±.04; $M_{\phi\phi}$-1.37±.04; $M_{r\theta}$2.24±.04; $M_{\theta\phi}$1.52±.03; $M_{\phi r}$-1.73±.04; Best double couple: $M_0$4.18100×10^{17} NP1:ϕ_s129.00000°, δ66.00000°, λ88.00000°. NP2:ϕ_s314.00000°, δ24.00000°, λ95.00000°. Principal axes: T 4.1870, Plg69.0000°, Azm35.0000°; N -0.0220, Plg2.0000°, Azm130.0000°; P -4.1750, Plg21.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*DJA **10** 13:47:06.4±0.3, 5°N±2°×9°5E±°, h58km±3km, M5.9/72, mB6.2/49, mb6.0/72, MLv6.1/7, Mw(mB)5.8/49, Mwp5.7/3*

*KLM **10** 13:47:08.6, 4.50N×95.28E, h78km, mb5.8*

*NEIC **10** 13:47:24.8±0.0, 4.51N×94.84E, h54km, Moment Tensor Solution. s42 Moment tensor: Scale 10^{17}Nm; M_{rr}3.04; $M_{\theta\theta}$-1.41; $M_{\phi\phi}$-1.63; $M_{r\theta}$0.95; $M_{\theta\phi}$1.49; $M_{\phi r}$-1.27; Best double couple: $M_0$3.40000×10^{17} NP1:ϕ_s140.00000°, δ59.00000°, λ93.00000°. NP2:ϕ_s314.00000°, δ31.00000°, λ85.00000°. Principal axes: T 3.4300, Plg76.0000°, Azm58.0000°; N -0.0300, Plg2.0000°, Azm318.0000°; P -3.4000, Plg14.0000°, Azm228.0000°;*

ISC 10 13:47:05.1±0.2, **4.74N**±0.03×**95.10E**±0.03, **h52**km±1km, **h52**km**:pP-P, n1699,** σ**1s50**/1822, **mb6.0**/314, **MS5.3**/195, **181C-42D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	1.90	75	ePn	Pn	13 47 38.0	+2.9
LHMI	Lhok Sumawe	1.90	75	P	Pn	13 47 37.7	+2.6
LHMI				S	Sn	13 48 01.6	+3.6
CMBY	CAMPBELL BAY	2.54	333	eP	Pn	13 47 43.4	-0.4
CMBY				IAmb	IAmb	13 47 48.4	
	comp=Z,4µm,0.4s						
TPTI		2.54	125	P	Pn	13 47 44.2	+0.3
TPTI				S	Sn	13 48 13.8	+0.1
SNSI	Sinabang, Aceh	2.62	152	P	Pn	13 47 43.4	-1.6
SNSI				S	Sn	13 48 15.6	0.0
KCSI	Kotacane, Aceh	2.93	114	P	Pn	13 47 50.0	+0.8
KCSI				S	Sn	13 48 24.4	+1.2
TSI	Tuntungan	3.67	110	P	Pn	13 48 01.0	+1.6
GSI	Gunungsitoli	4.22	144	ePn	Pn	13 48 05.8	-1.2
GSI				eSn	Sn	13 48 53.1	-1.8
GSI	Gunungsitoli	4.22	144	P	Pn	13 48 05.7	-1.2
GSI				S	Sn	13 48 47.1	-7.8
PSI	Prapat	4.28	117	P	Pn	13 48 09.8	+2.0
	comp=Z,133nm,0.3s,baz=359,slow=8.0,SNR=207						
PSI				S	Sn	13 48 58.7	+2.2
	comp=Z,104nm,0.3s,baz=360,slow=11,SNR=5.7						
PSI				LR	LR	13 50 11.8	
	comp=Z,39µm,20.2s,baz=270,slow=43						
PSI	Prapat	4.28	117	ePn	Pn	13 48 10.7	+2.9
PSI				eSn	Sn	13 49 00.6	+4.0
PKDT	Phuket	4.49	46	P	Pn	13 48 12.9	+2.3
KRAB	Krabi	5.34	49	P	Pn	13 48 24.8	+2.5
	comp=Z,15µm,0.8s,comp=Z,125µmcomp=Z,45nm						
TRTT	Trang	5.50	56	P	Pn	13 48 26.5	+2.0
	comp=Z,1µm,0.7s,comp=Z,10µmcomp=Z,16µmcomp=Z,5.8nm						
IPM	Ipoh	5.91	92	P	Pn	13 48 31.6	+1.4
SKLT	Songkhla	6.00	66	P	Pn	13 48 33.3	+2.0
	comp=Z,2µm,0.8s,comp=Z,21µmcomp=Z,7.5nm						
FRIM	Kepong	6.68	103	P	Pn	13 48 41.1	+0.4
PBA	Port Blair	7.25	341	ePn	Pn	13 48 50.0	+1.5
PBA				eSn	Sn	13 50 10.0	+0.4
PBA	Port Blair	7.25	341	eP	Pn	13 48 48.4	-0.2
PBA				IAmb	IAmb	13 48 59.0	
	comp=Z,364nm,0.2s						
BKNI	Bangkinang	7.38	126	ePn	Pn	13 48 50.4	+0.1
BKNI	Bangkinang	7.38	126	P	Pn	13 48 50.7	+0.4
	comp=Z,2µm,1.1s,comp=Z,18µmcomp=Z,12nm						
PDSI	Padang	7.76	136	P	Pn	13 48 55.0	-0.6
KTGM	Kuala Trenggan	8.03	86	P	Pn	13 49 00.8	+1.6
KGM	Kluang	8.64	108	P	Pn	13 49 08.8	+1.3
MYKOM	Kota Tinggi	9.21	108	P	Pn	13 49 16.5	+1.1
PHET	Kaeng Krachan	9.27	29	P	Pn	13 49 20.2	+4.1
	comp=Z,212nm,0.9s,comp=Z,2µm						
PATY	Pattaya	9.92	35	P	Pn	13 49 29.0	+3.9
	comp=Z,136nm,0.7s,comp=Z,3µm						
SRDT	SRDT	10.34	22	P	Pn	13 49 35.7	+4.9
	comp=Z,793nm,1.0s,comp=Z,9µm						
JMBI	JAMBI	10.63	126	P	Pn	13 49 34.8	0.0
DSRI	Dabo	10.80	118	P	Pn	13 49 37.8	+0.7
SRAK	Srakaew	11.47	36	P	Pn	13 49 55.3	+8.9
	comp=Z,3µm,0.7s,comp=Z,24µm						
UTHA	Uthaitani	11.57	21	P	Pn	13 49 51.3	+3.7
	comp=Z,122nm,0.8s,comp=Z,1µm						
MNAI	Manna	11.97	139	ePn	Pn	13 49 51.1	-2.1
MNAI	Manna	11.97	139	P	Pn	13 49 52.4	-0.8
	comp=Z,975nm,0.6s,comp=Z,12µm						
UMPA	Umpang Tak	11.97	18	P	Pn	13 49 54.9	+1.7
	comp=Z,174nm,0.8s,comp=Z,1µm						
PMBI	Palembang	12.31	128	P	Pn	13 49 56.3	-1.4
	comp=Z,482nm,0.7s,comp=Z,13µm						
MDSI	Maura Dua	12.90	135	P	Pn	13 50 03.6	-2.2
	comp=Z,536nm,0.9s,comp=Z,3µm						
CHAI	Chaiyaphum	12.99	31	P	Pn	13 50 11.2	+4.1
	comp=Z,121nm,0.9s,comp=Z,888nm						
PBKT	Sadao Pong	13.09	26	ePn	Pn	13 50 12.0	+3.7
PBKT	Sadao Pong	13.09	26	P	Pn	13 50 11.9	+3.5
	comp=Z,326nm,0.9s,comp=Z,6µm						
SUKH	Sukhothai	13.42	19	P	Pn	13 50 16.1	+3.2
	comp=Z,172nm,0.8s,comp=Z,1µm						
KASI	Kota Agung	13.86	137	P	Pn	13 50 15.9	-3.0
UTTA	Uttaradit	13.98	22	P	P	13 50 23.8	-3.3
	comp=Z,137nm,0.8s,comp=Z,975nm						
CM01	Chiang Mai Arr	14.11	15	ePn	P	13 50 26.7	-1.8
CM31	Chiang Mai Arr	14.14	15	ePn	P	13 50 27.2	-1.6
CM31	Chiang Mai Arr	14.14	15	P	Pn	13 50 25.0	+2.3
	SNR=242						
CMAR	Chiang Mai Arr	14.14	15	P	Pn	13 50 24.5	+1.8
	comp=Z,0.9nm,0.3s,baz=200,slow=9.7,SNR=140						
CMAR				S	S	13 53 20.1	+3.4
	baz=194,slow=30,SNR=2.6						
CMAR				LR	LR	13 55 53.1	
	comp=Z,10µm,21.0s,baz=212,slow=38						
CMAR				ScP	ScP	13 59 10.2	+1.5
	comp=Z,0.2nm,0.3s,baz=214,slow=3.2,SNR=7.6						
CMAR				PKiKP	PKiKP	14 03 35.1	-0.2
	comp=Z,0.1nm,0.3s,baz=266,slow=2.0,SNR=5.4						
CHTO	Chiang Mai	14.48	15	ePn	Pn	13 50 29.5	+2.3
CHTO	Chiang Mai	14.48	15	P	Pn	13 50 29.3	+2.1
CHTO	Chiang Mai	14.48	15	P	Pn	13 50 29.1	+1.9
	SNR=96						
CHTO				S	S	13 53 19.4	-4.3
CHTO	Chiang Mai	14.48	15	P	Pn	13 50 29.3	+2.1
	comp=Z,3µm,0.9s,comp=Z,23µmcomp=Z,61µm						
CHTO	Chiang Mai	14.48	15	eP	Pn	13 50 28.9	+1.7
CMMT	Chiang Mai	14.48	15	P	Pn	13 50 29.2	+2.0
	comp=Z,691nm,0.9s,comp=Z,5µm						
PALK	Pallekele	14.54	281	P	Pn	13 50 28.9	+0.9
	comp=Z,2.3nm,0.3s,baz=116,slow=10,SNR=10						
PALK				S	Sn	13 52 54.5	-13
	comp=Z,12nm,0.3s,baz=116,slow=12,SNR=11						
PALK	Pallekele	14.54	281	iP	P	13 50 31.1	-2.3
	SNR=9.2						
SKNT	Sakolnakorn	14.95	35	P	P	13 50 36.2	-1.7
	comp=Z,276nm,0.9s,comp=Z,3µmcomp=Z,11µm						
NONG	Nongkai	15.40	30	P	P	13 50 41.6	-1.3
	comp=Z,9.5nm,1.0s,comp=Z,293nm						
MDRS	Chennai	16.83	300	eP	P	13 51 00.4	+1.7
MDRS				IAmb	IAmb	13 51 05.6	
	comp=Z,84nm,0.8s						
COCO	West Island	16.91	174	ePn	Pn	13 50 54.0	-4.3
	comp=Z,2µm,1.8s						
COCO	West Island	16.91	174	eP	Pn	13 50 54.0	-4.3
COCO				pmax	pmax		
	comp=Z,2µm,1.8s						
COCO	West Island	16.91	174	P	Pn	13 50 57.1	-1.2
	SNR=5.5						
LEM	Lembang	16.98	133	P	Pn	13 50 58.0	-1.3
	comp=Z,7.5nm,0.3s,baz=294,slow=20,SNR=2.8						
LEM				LR	LR	13 58 50.5	
	comp=Z,7µm,19.6s,baz=320,slow=42						
LEM	Lembang	16.98	133	P	Pn	13 50 58.0	-1.3
JCJI	Jatiwangi	17.25	130	P	P	13 51 05.6	+2.3
CISI	Cisompet, Garu	17.61	134	ePn	Pn	13 51 06.0	-1.1
	comp=Z,167nm,0.7s						
CISI	Cisompet, Garu	17.61	134	P	P	13 51 07.3	-0.2
	comp=Z,172nm,0.6s						
BWNR	Bhubaneshwar	17.91	330	ex	Pn	13 51 01.6	-9.0
BWNR				IAmb	IAmb	13 51 07.3	
	comp=Z,503nm,1.0s						
BRDH	Bariadhala	18.14	350	P	P	13 51 09.4	-3.7
	comp=Z,48nm,0.3s,baz=196,slow=15,SNR=4.1						
CMJI	Cimerak	18.23	133	P	P	13 51 12.3	-1.9
KPJI	Karang Pucung	18.29	131	P	P	13 51 13.2	-1.6
TRD	Trivandrum	18.40	283	eP	Pn	13 51 17.4	+0.7
XMIS	Christmas Isla	18.42	145	eP	P	13 51 14.4	-1.9
	comp=Z,1µm,1.8s						
SMRI	Semarang	19.28	127	eP	P	13 51 24.5	-1.2
	comp=Z,816nm,1.2s						
SMRI	Semarang	19.28	127	P	P	13 51 26.0	+0.2
UGM	Wanagama	19.87	129	eP	P	13 51 31.7	-0.6
	comp=Z,2µm,1.8s						
QIZ	Qiongzhong	20.21	44	P	P	13 51 36.7	+0.8
QIZ				S	Sn	13 55 22.7	-2.5
QIZ				pmax	pmax		
	comp=Z,130nm,1.2s						
QIZ				pmax	pmax		
	comp=Z,1µm,2.8s						
QIZ				LR	LR		
	comp=Z,2µm,13.7s						
QIZ				LR	LR		
	comp=Z,7µm,20.8s						
QIZ				LR	LR		
	comp=Z,7µm,19.8s						
QIZ	Qiongzhong	20.21	44	PFAKE		13 51 50.0	+12
QIZ				LR	LR		
	comp=Z,7.0nm,22.0s						
NGJI	Ngawi	20.28	126	P	P	13 51 35.9	-0.7
HYB	Hyderabad	20.52	309	iP	Pn	13 51 41.5	-0.4
HYB				eS	S	13 55 24.0	-2.3
HYB	Hyderabad	20.52	309	eP	Pn	13 51 41.5	-0.4
MTKI	Muara Teweh, K	20.57	105	P	P	13 51 40.6	+0.8
	comp=Z,304nm,0.8s,comp=Z,8µm						
GRJI	Gresik	20.86	124	P	P	13 51 43.3	+0.4
BOK	Bokaro	20.92	336	eP	P	13 51 43.5	0.0
BOK				IAmb	IAmb	13 51 47.6	
	comp=Z,574nm,0.8s						
SHL	Shillong	20.93	352	eP	P	13 51 40.9	-2.9
	comp=Z,186nm,0.9s						
SHL	Shillong	20.93	352	eP	P	13 51 40.9	-2.9
SHL				pmax	pmax		
	comp=Z,186nm,0.9s						
SHL	Shillong	20.93	352	eP	P	13 51 40.9	-2.9
SHL				IAmb	IAmb	13 51 42.7	
	comp=Z,74nm,0.6s						
SHL				ex	x	13 55 40.5	
PWJI	Pagerwojo	20.94	127	P	P	13 51 44.9	+1.1
KKM	Kota Kinabalu	21.06	86	P	P	13 51 47.7	+2.5
KMI	Kunming	21.55	19	P	P	13 51 52.8	+2.3
KMI				pP	pP	13 52 03.0	+0.6
KMI				sP	sP	13 52 08.0	-0.9
KMI				PP	PnPn	13 52 18.4	+5.6
KMI				S	S	13 55 46.9	0.0
KMI				ScP	ScP	13 59 25.6	+1.2
KMI				pmax	pmax		
	comp=Z,500nm,1.1s						
KMI				pmax	pmax		
	comp=Z,2µm,3.1s						
KMI				LR	LR		
	comp=Z,11µm,14.1s						
KMI				LR	LR		
	comp=Z,5µm,13.9s						
KMI				LR	LR		
	comp=Z,12µm,14.6s						
KDM	Kudat	21.73	83	P	P	13 51 53.6	+1.4
SDKM	Sandakan	22.02	87	P	P	13 51 55.8	+0.3
MNCI	Minicoy	22.17	280	eP	P	13 52 02.2	+5.2
	comp=Z,1µm,2.0s						
KMMI	Kalianget	22.18	122	P	P	13 51 56.9	-0.2
MNCY	Minicoy	22.20	280	eP	P	13 51 58.2	+0.9
MNCY				IAmb	IAmb	13 52 05.1	
	comp=Z,130nm,0.4s						
GMJI	Gumukmas	22.41	125	P	P	13 52 00.5	+1.0
	comp=Z,143nm,2.1s						
KBKI	Kotabaru	22.51	110	P	P	13 52 00.3	-0.4
NGP	Nagpur	22.56	318	eP	P	13 52 02.1	+1.0
NGP				IAmb	IAmb	13 52 04.5	
	comp=Z,190nm,0.7s						
NGP				eS	S	13 56 07.2	+2.1
BKB	Balikpapan	22.58	105	P	P	13 52 01.5	+0.1
SMKI	Samarinda	22.68	103	P	P	13 52 03.2	+0.7
TSM	Tawau	22.71	90	P	P	13 52 02.1	-0.7
ABJI	Asem Bagus	22.79	123	P	P	13 52 02.8	-0.8
SGKI	Sangatta, Kali	23.08	103	P	P	13 52 05.2	-1.4
	comp=Z,509nm,1.1s,comp=Z,7µm						
JAGI	Jajag, Banyuwa	23.09	125	P	P	13 52 06.6	-0.1
	comp=Z,284nm,1.4s						
JBP	Jabalpur	23.42	323	eP	P	13 52 11.2	+1.4
JBP				ex	x	13 56 19.6	
GOA	Goa	23.48	299	eP	P	13 52 12.3	+1.9
RAMN	Ramite	23.53	341	eP	P	13 52 09.0	-2.0
	comp=Z,392nm,0.7s						
SRBI	Singaraja	23.77	122	P	P	13 52 13.5	+0.4
	comp=Z,972nm,1.2s,comp=Z,11µm						
GYA	Guiyang	24.26	26	P	P	13 52 18.3	+0.7
GYA				pP	pP	13 52 29.0	-1.8
GYA				S	S	13 56 33.3	+0.2
GYA				sS	sS	13 56 50.4	-4.2
GYA				SS	SnSn	13 57 28.2	+8.4
GYA				pmax	pmax		
	comp=Z,110nm,0.9s						
GYA				pmax	pmax		
	comp=Z,1µm,9.3s						
GYA				LR	LR		
	comp=Z,3µm,8.8s						
GYA				LR	LR		
	comp=Z,2µm,8.8s						
GYA				LR	LR		
	comp=Z,4µm,8.6s						
JIRN	Jiri	24.32	341	eP	P	13 52 16.6	-1.8
	comp=Z,650nm,0.6s						
PKI	Pulchoki	24.51	339	eP	P	13 52 18.8	-1.3
PKIN	Phulchoki	24.52	339	eP	P	13 52 18.8	-1.3
DMN	Daman	24.65	338	eP	P	13 52 20.3	-1.1
	comp=Z,264nm,0.7s						
GUN	Gumba	24.66	340	eP	P	13 52 20.1	-1.4
	comp=Z,430nm,0.6s						
KKN	Kakani	24.75	339	eP	P	13 52 21.0	-1.2
	comp=Z,544nm,1.0s						
MCO	Taipa Grande	24.86	44	P	P	13 52 25.0	+2.0
POO	Poona	24.87	305	eP	P	13 52 25.4	+2.1
BHPL	Bhopal	25.09	319	eP	P	13 52 26.8	+1.7
BHPL				IAmb	IAmb	13 52 30.3	
	comp=Z,324nm,0.4s						
LSA	Lhasa	25.10	352	eP	P	13 52 25.9	+0.3
	comp=Z,353nm,0.8s						
LSA				LR	LR		
	comp=Z,4µm,20.0s						
LSA	Lhasa	25.10	352	iP	P	13 52 25.8	+0.1
	SNR=159						
LSA	Lhasa	25.10	352	eP	P	13 52 26.0	+0.3
LSA				pmax	pmax		
	comp=Z,353nm,0.8s						
LSA				MLR	MLR		
	comp=Z,4µm,20.0s						
MPSI	Mapaga	25.15	99	P	P	13 52 26.7	+1.0
	comp=Z,619nm,0.8s,comp=Z,5µm						
PCI	Palu	25.34	102	P	P	13 52 28.3	+0.8
PCI				pmax	pmax		
	comp=Z,704nm,1.0s						
PCI	Palu	25.34	102	P	P	13 52 28.3	+0.8
	comp=Z,705nm,1.0s,comp=Z,6µm						
GZH	Guangzhou	25.36	42	P	P	13 52 34.2	+6.7
GZH				PcP	PcP	13 55 59.9	+0.7
GZH				S	S	13 57 03.6	+13
GZH				ScP	ScP	13 59 37.0	+2.6
GZH				LR	LR		
	comp=N,6µm,15.3s						
GZH				LR	LR		
	comp=E,7µm,15.9s						
KOLN	Koldanda	25.38	336	eP	P	13 52 28.6	+0.7
	comp=E,1µm,0.8s						
DGAR	Diego Garcia	25.62	242	eP	P	13 52 33.8	+3.8
	comp=E,1µm,1.5s						
DGAR				LR	LR		
	comp=Z,3µm,21.0s						
DGAR	Diego Garcia	25.62	242	eP	P	13 52 33.8	+3.8
DGAR				pmax	pmax		
	comp=Z,1µm,1.5s						
DGAR				MLR	MLR		
	comp=Z,3µm,21.0s						
H08S2	Diego Garcia H	25.69	242	P	P	13 52 31.4	+1.1
	baz=23,slow=15,SNR=14						
H08S2				T	T	14 19 31.5	
	baz=61,slow=76,SNR=8.6						
H08S3	Diego Garcia H	25.69	242	P	P	13 52 31.6	+1.3
	baz=23,slow=15,SNR=13						
H08S3				T	T	14 19 38.0	
	baz=61,slow=76,SNR=1798						
H08S1	Diego Carcia H	25.71	242	P	P	13 52 32.1	+1.6
	baz=23,slow=15,SNR=15						
H08S1				T	T	14 19 37.6	
	baz=61,slow=76,SNR=1896						
DANN	Dangsing	25.83	337	eP	P	13 52 32.5	+0.4
	comp=Z,1µm,0.7s						
TTSI	Tana Toraja	25.88	107	P	P	13 52 33.4	+1.0
	comp=Z,326nm,1.0s,comp=Z,3µm						
BOM	Bombay	25.90	305	eP	P	13 52 27.5	-5.0
BOM				eS	S	13 56 55.4	-3.7
PYUN	Piuthan	25.93	335	eP	P	13 52 33.9	+1.0
	comp=Z,2µm,0.8s						

SPSI Sidrap Palu 26.12 109 P **P** **13 52 34.6 +0.1**
comp=Z,90nm,0.9s,comp=Z,1µm
PLAI Plampang 26.32 121 P **P** **13 52 34.7 -1.6**
comp=Z,370nm,0.9s
KAPI Kappang 26.46 111 PFAKE 13 52 50.0 +12
KAPI LR LR
comp=Z,6µm,20.0s
BNSI Bone 26.58 110 P **P** **13 52 39.9 +1.2**
comp=Z,194nm,0.8s,comp=Z,4µm
BKSI Bulukumba 26.92 112 P **P** **13 52 42.3 +0.6**
comp=Z,209nm,0.8s,comp=Z,2µm
TGY Tagaytay City 27.10 68 P **P** **13 52 45.5 +2.0**
comp=Z,681nm,0.8s,baz=286,slow=1.6,SNR=16
MRSI Marisa 27.14 98 P **P** **13 52 43.7 0.0**
comp=Z,148nm,0.8s,comp=Z,1µm
CD2 Chengdu 27.28 16⇑*iP* **P** **13 52 44.7 -0.1**
CD2 pP pP 13 52 54.5 -3.5
CD2 sP sP 13 52 59.0 -5.1
CD2 S **S** **13 57 20.6 -0.1**
CD2 sS sS 13 57 40.3 -2.1
CD2 pmax pmax
comp=Z,1µm,4.8s
CD2 LR LR
comp=Z,8µm,19.4s
CD2 LR LR
comp=Z,12µm,16.9s
CD2 LR LR
comp=Z,7µm,20.4s
RCP Roxas 28.17 74⇓*eP* **P** **13 52 54.0 +1.1**
LUWI Luwuk 28.24 101 *eP* **P** **13 52 54.4 +0.9**
comp=Z,626nm,0.9s
LUWI Luwuk 28.24 101 P **P** **13 52 54.5 +1.0**
comp=Z,901nm,1.0s,comp=Z,14µm
ENH Enshi 28.80 27 *eP* **P** **13 52 58.1 -0.3**
comp=Z,222nm,0.9s
ENH LR LR
comp=Z,10µm,21.0s
KMSI Cibinong 29.14 97 P **P** **13 53 02.6 +1.0**
comp=Z,710nm,0.9s,comp=Z,9µm
NDI New Delhi 29.24 326 *eP* **P** **13 53 02.0 -0.3**
BBSI Bau Bau 29.26 110 P **P** **13 53 03.6 +1.0**
comp=Z,105nm,1.0s,comp=Z,1µm
BASI Baing, Sumba 29.41 120 P **P** **13 53 02.1 -1.8**
comp=Z,819nm,1.5s,comp=Z,8µm
EDFI Ende, Flores 29.71 117 P **P** **13 53 04.2 -2.5**
MNI Manado 29.87 95 P **P** **13 53 11.9 +3.8**
MNI pmax pmax
comp=Z,386nm,0.9s
DDI Dehra Dun 30.10 330 *eP* **P** **13 53 10.4 +0.5**
DDI IAmb IAmb 13 53 23.9
comp=Z,153nm,0.5s
MMRI Maumere 30.15 116 *eP* **P** **13 53 10.0 -0.5**
comp=Z,170nm,0.8s
QZH Quanzhou 30.21 46⇑*iP* **P** **13 53 12.5 +1.6**
QZH S **S** **13 58 14.8 +7.9**
QZH pmax pmax
comp=Z,190nm,1.1s
QZH LR LR
comp=Z,5µm,17.5s
QZH LR LR
comp=Z,2µm,14.7s
QZH LR LR
comp=Z,6µm,24.2s
DAV Davao City (W) 30.40 84 LR LR 14 08 16.2
comp=Z,2µm,20.7s,baz=252,slow=42
BHJ Bhuj 30.69 309 *eP* **P** **13 53 15.7 +0.5**
TPUB Ta-pu 30.78 51 *eP* **P** **13 53 17.4 +1.4**
SMLA Simla 31.20 329 *eP* **P** **13 53 19.9 +0.4**
SMLA IAmb IAmb 13 53 21.8
comp=Z,994nm,2.1s
SSLB Suanglung 31.30 50 *eP* **P** **13 53 22.4 +1.8**
comp=Z,162nm,0.9s
YULB Yu-li 31.35 51 *eP* **P** **13 53 23.0 +2.0**
SANI Sanana 31.59 102 P **P** **13 53 22.4 -0.8**
comp=Z,177nm,1.0s,comp=Z,3µm
XAN Xi'an 31.86 22 P **P** **13 53 25.1 -0.3**
XAN pP pP 13 53 40.9 +2.3
XAN PP **PnPn** **13 54 31.5 -0.1**
XAN PcP **PcP** **13 56 15.9 +0.6**
XAN S **S** **13 58 30.1 -2.4**
XAN pmax pmax
comp=Z,1µm,4.0s
XAN LR LR
comp=Z,6µm,14.7s
XAN LR LR
comp=Z,6µm,16.7s
XAN LR LR
comp=Z,10µm,15.3s
XAN Xi'an 31.86 22 *eP* **P** **13 53 25.0 -0.3**
comp=Z,1µm,0.8s
XAN Xi'an 31.86 22 *eP* **P** **13 53 25.0 -0.3**
XAN pmax pmax
comp=Z,1µm,0.8s
NACB Ninganchiao 32.00 50 *eP* **P** **13 53 28.2 +1.5**
YHNB Yeheng 32.10 49 *eP* **P** **13 53 29.0 +1.3**
comp=Z,294nm,1.1s
LZH Lanzhou 32.22 13 ⇑P **P** **13 53 28.3 -0.3**
LZH pP pP 13 53 40.5 -1.4
LZH sP sP 13 53 46.1 -1.9
LZH PP **PnPn** **13 54 36.4 +0.1**
LZH PcP **PcP** **13 56 18.1 +1.7**
LZH S **S** **13 58 30.8 -7.5**
LZH sS sS 13 58 59.9 -0.3
LZH ScP **ScP** **13 59 57.9 +2.0**
LZH ScS **ScS** **14 03 54.1 -0.9**
LZH pmax pmax
comp=Z,220nm,1.2s
LZH pmax pmax
comp=Z,660nm,5.4s
LZH LR LR
comp=Z,8µm,15.2s
LZH LR LR
comp=Z,5µm,16.3s
LZH LR LR
comp=Z,9µm,15.7s
TATO Taipei 32.36 49 *eP* **P** **13 53 31.4 +1.6**
comp=Z,707nm,1.4s
TATO LR LR
comp=Z,4µm,20.0s
SOEI Soe 32.44 116 *eP* **P** **13 53 28.1 -2.7**
comp=Z,204nm,0.8s
SOEI Soe 32.44 116 P **P** **13 53 28.0 -2.8**
comp=Z,285nm,1.0s
TNTI Ternate 32.46 96 *eP* **P** **13 53 29.4 -1.5**
comp=Z,70nm,0.9s
TNTI Ternate 32.46 96 P **P** **13 53 30.9 0.0**
comp=Z,70nm,0.8s
DHRM DHARAMSHALA 32.54 329 *eP* **P** **13 53 31.5 0.0**
DHRM IAmb IAmb 13 53 35.0
comp=Z,2µm,2.3s
NLAI Namlea 32.94 103 P **P** **13 53 36.0 +0.9**
comp=Z,337nm,0.8s,comp=Z,3µm
GIRL Giralia 33.03 146 P **P** **13 53 37.4 +1.7**
baz=33,SNR=4.0
GTA Gaotai 34.77 6 ⇑P **P** **13 53 50.5 -0.3**
GTA pP pP 13 54 00.0 -4.1
GTA sP sP 13 54 04.3 -5.9
GTA PP **PnPn** **13 55 03.7 -4.7**
GTA PcP **PcP** **13 56 25.0 +1.5**
GTA S **S** **13 59 17.2 -0.6**
GTA ScP **ScP** **14 00 06.6 +1.8**
GTA PcS **PcS** **14 00 09.7 -0.5**
GTA SS **SnSn** **14 01 30.9 -4.4**
GTA ScS **ScS** **14 04 06.2 -2.0**
GTA pmax pmax
comp=Z,350nm,1.0s
GTA pmax pmax
comp=Z,520nm,8.1s
GTA LR LR
comp=Z,2µm,18.9s
GTA LR LR
comp=Z,2µm,21.0s
GTA LR LR
comp=Z,3µm,19.9s
NJ2 Nanjing 35.12 36 *eP* **P** **13 53 54.9 +1.2**
NJ2 pP **pP** **13 54 04.5 -2.6**
NJ2 sP **sP** **13 54 07.1 -6.1**
NJ2 S **S** **13 59 24.4 +1.4**
NJ2 sS **sS** **13 59 43.9 -1.1**
NJ2 pmax pmax
comp=Z,240nm,1.0s
NJ2 pmax pmax
comp=Z,490nm,4.9s
NJ2 LR LR
comp=Z,3µm,14.1s
NJ2 LR LR
comp=Z,7µm,14.1s
NJ2 LR LR
comp=Z,8µm,13.6s
NIL Nilore 35.22 327 *eP* **P** **13 53 54.5 -0.2**
comp=Z,631nm,0.8s
NIL LR LR
comp=Z,1µm,20.0s
NIL Nilore 35.22 327 *eP* **P** **13 53 54.5 -0.2**
NIL pmax pmax
comp=Z,631nm,0.8s
NIL MLR MLR
comp=Z,1µm,20.0s
MBWA Marble Bar 35.30 138 *eP* **P** **13 53 52.9 -2.5**
comp=Z,308nm,1.0s
MBWA LR LR
comp=Z,3µm,21.0s
MBWA Marble Bar 35.30 138 *eP* **P** **13 53 55.5 +0.1**
SSE Sheshan 35.90 40 P **P** **13 54 01.6 +1.2**
SSE S **S** **13 59 38.3 +3.3**
SSE pmax pmax
comp=Z,58nm,1.1s
SSE pmax pmax
comp=Z,290nm,5.7s
SSE LR LR
comp=Z,2µm,20.6s
SSE LR LR
comp=Z,2µm,19.3s
SSE Sheshan 35.90 40 PFAKE 13 54 10.0 +10
SSE LR LR
comp=Z,4µm,20.0s
BNDI Bandanaira 35.97 104 P **P** **13 53 59.3 -1.9**
comp=Z,855nm,0.9s,comp=Z,6µm
TIY Taiyuan 36.44 23 *eP* **P** **13 54 05.5 +0.5**
TIY pP **pP** **13 54 16.4 -2.1**
TIY S **S** **13 59 42.5 -0.7**
TIY pmax pmax
comp=Z,150nm,0.6s
TIY pmax pmax
comp=Z,660nm,5.4s
TIY LR LR
comp=Z,7µm,15.9s
TIY LR LR
comp=Z,3µm,16.1s
TIY LR LR
comp=Z,9µm,17.2s
SWI Sorong 36.55 98 P **P** **13 54 06.4 +0.1**
SWI pmax pmax
comp=Z,376nm,1.0s
SWI Sorong 36.55 98 P **P** **13 54 06.0 -0.2**
comp=Z,374nm,1.0s,comp=Z,3µm
SIJI Sorong 36.56 98 S **S** **13 59 39.6 -6.0**
comp=Z,2.0nm,0.5s,baz=198,slow=19,SNR=3.8
SIJI LR LR 14 11 46.8
comp=Z,967nm,20.3s,slow=41
TIA Tai'an 37.30 30 P **P** **13 54 13.0 +0.7**
TIA PP **PnPn** **13 55 43.2 +4.0**
TIA S **S** **13 59 56.6 +0.3**
TIA pmax pmax
comp=Z,160nm,0.9s
TIA pmax pmax
comp=Z,390nm,7.7s
TIA LR LR
comp=Z,1µm,21.6s
TIA LR LR
comp=Z,2µm,19.4s
TIA LR LR
comp=Z,3µm,19.6s
FITZ Fitzroy Crossi 37.72 128 P **P** **13 54 15.0 -1.1**
baz=316,slow=7.8
FITZ PcP **PcP** **13 56 33.4 +0.9**
comp=Z,47nm,0.8s,baz=281,slow=3.7,SNR=3.6
FITZ S **S** **13 59 56.7 -6.3**
comp=Z,5.6nm,0.8s,baz=321,slow=13,SNR=2.5
FITZ Fitzroy Crossi 37.72 128 P **P** **13 54 15.3 -0.7**
baz=38,SNR=79
FITZ Fitzroy Crossi 37.72 128 *eP* **P** **13 54 15.2 -0.8**
comp=Z,98nm,0.9s
FITZ PcP **PcP** **13 56 33.4 +0.9**
FITZ S **S** **13 59 56.7 -6.3**
FAKI Fak Fak 37.89 101 *eP* **P** **13 54 17.2 -0.5**
comp=Z,244nm,0.8s
FAKI Fak Fak 37.89 101 P **P** **13 54 16.9 -0.7**
comp=Z,423nm,0.9s,comp=Z,5µm
BTO Baotou 38.15 19 *eP* **P** **13 54 17.7 -1.8**
BTO *e*PP **PnPn** **13 55 52.3 +2.8**
BTO S **S** **14 00 06.3 -2.9**
KBL Kabul 38.24 324 *eP* **P** **13 54 20.4 -0.1**
comp=Z,37nm,0.8s
KBL Kabul 38.24 324 *eP* **P** **13 54 20.4 -0.1**
KBL pmax pmax
comp=Z,37nm,0.8s
SAUI Saumlaki 38.26 109 *eP* **P** **13 54 18.2 -2.5**
comp=Z,661nm,0.9s
SAUI Saumlaki 38.26 109 P **P** **13 54 20.1 -0.6**
comp=Z,866nm,1.0s,comp=Z,6µm
JOW Kunigami 38.53 52 *eP* **P** **13 54 24.3 +1.4**
comp=Z,473nm,0.8s
MEEK Meekatharra 38.62 145 P **P** **13 54 24.1 +0.6**
baz=39,SNR=9.0
JLN Jalan Bani Buh 38.63 300 P **P** **13 54 26.4 +2.7**
SNR=15
KSH Kashi 38.70 336 P **P** **13 54 23.5 -0.7**
KSH pP pP 13 54 33.0 -4.5
KSH sP pwP 13 54 37.0 -0.5
KSH PP **PnPn** **13 55 56.9 +0.7**
KSH S **S** **14 00 14.3 -3.4**
KSH sS sS 14 00 30.2 -10
KSH SS **SS** **14 02 56.7 -13**
KSH ScS **ScS** **14 04 26.7 -3.4**
KSH pmax pmax
comp=Z,160nm,0.8s
KSH pmax pmax
comp=Z,2µm,3.5s
KSH LR LR
comp=Z,2µm,14.7s
KSH LR LR
comp=Z,2µm,13.4s
KSH LR LR
comp=Z,1µm,16.2s
HHC Hu-ho-hao-te 38.87 20 *eP* **P** **13 54 26.8 +1.2**
HHC sP pP 13 54 39.6 +0.5
HHC PP **PnPn** **13 55 59.2 +1.0**
HHC S **S** **14 00 20.1 -0.1**
HHC SS **SS** **14 03 07.7 -5.5**
HHC pmax pmax
comp=Z,280nm,1.0s
HHC LR LR
comp=Z,9µm,14.7s
HHC LR LR
comp=Z,4µm,13.8s
HHC LR LR
comp=Z,8µm,13.8s
KNRA Kununurra 39.02 122 P **P** **13 54 26.0 -1.0**
baz=39,SNR=51
WBK Wadi Bani Khal 39.17 300 P **P** **13 54 31.4 +3.1**
MORW Morawa 39.18 150 P **P** **13 54 29.2 +1.0**
baz=39,SNR=4.0
MORW Morawa 39.18 150 *eP* **P** **13 54 29.2 +1.0**
comp=Z,76nm,1.0s
PALU Palau 39.23 84 P **P** **13 54 28.1 -0.8**
baz=39,SNR=3.4
WMQ Urumqi 39.46 352 P **P** **13 54 31.8 +1.3**
WMQ pP pP 13 54 43.7 -0.1
WMQ sP sP 13 54 49.0 -0.9
WMQ PP **PP** **13 56 02.0 +0.1**
WMQ PcP **PcP** **13 56 39.3 +1.7**
WMQ S **S** **14 00 32.5 +3.6**
WMQ SS **SS** **14 03 20.7 -4.3**
WMQ pmax pmax
comp=Z,450nm,1.7s
WMQ pmax pmax
comp=Z,3µm,4.3s
WMQ LR LR
comp=Z,3µm,19.1s
WMQ LR LR
comp=Z,4µm,25.3s
WMQ LR LR
comp=Z,3µm,27.1s
WMQ Urumqi 39.46 352 *eP* **P** **13 54 30.9 +0.4**
comp=Z,144nm,0.8s
WMQ Urumqi 39.46 352 *eP* **P** **13 54 30.9 +0.4**
WMQ pmax pmax
comp=Z,144nm,0.8s
MHTO MHTO 39.49 298 P **P** **13 54 32.6 +1.7**
SNR=10
MHTO S **S** **14 00 31.5 +1.8**
RKPI Ransiki, Papua 39.53 98 P **P** **13 54 31.0 -0.4**
comp=Z,356nm,1.0s,comp=Z,4µm
DQM DQM 39.54 296 P **P** **13 54 34.1 +2.7**
SNR=6.3
DQM P **P** **13 54 34.1 +2.7**
SNR=6.3
DQM S **S** **14 00 34.1 +3.5**
DQM S **S** **14 00 34.1 +3.5**
WSAR Wadi Sarin 39.70 301 P **P** **13 54 35.6 +2.9**
SNR=13
WSAR S **S** **14 00 38.3 +5.5**
BJT Baijiatuau 39.93 25 *eP* **P** **13 54 36.2 +1.9**
comp=Z,803nm,0.8s
BJT *e*PcP **PcP** **13 56 39.7 +0.7**
BJT LR LR
comp=Z,4µm,22.0s
BJT Baijiatuau 39.93 25 *eP* **P** **13 54 36.2 +1.9**
BJT *e* 13 56 39.7
BJT pmax pmax
comp=Z,803nm,0.8s
BJT MLR MLR
comp=Z,4µm,22.0s
SMDO Samad 40.13 301 P **P** **13 54 39.7 +3.3**
SNR=9.0
SFK Sufi-Kurgan 40.16 334 P **P** **13 54 37.4 +0.9**
SFK pmax pmax
comp=Z,1µm,0.8s
BIDO Bidbid 40.23 301 P **P** **13 54 40.3 +3.2**
SNR=12
BIDO P **P** **13 54 40.3 +3.2**
SNR=12
PRZ Przheval'sk 40.41 341 *eP* **P** **13 54 40.8 +2.3**
PRZ Przheval'sk 40.41 341 *eP* **P** **13 54 40.8 +2.3**
SHLS Shalkode 40.69 342*c iP* **P** **13 54 38.1 -2.5**
SHLS *i* S **S** **14 00 47.4 +0.1**
SHLS pmax pmax
comp=Z,4µm,1.3s
SHLS smax smax
comp=E,2µm,2.3s
SHLS MLR MLR
comp=Z,271nm,17.0s
SHLS Shalkode 40.69 342⇑*iP* **P** **13 54 38.2 -2.5**
comp=Z,4µm,1.3s
SHLS ⇓*iS* **S** **14 00 47.5 +0.1**
comp=Z,2µm,2.3s
SHLS *e*LRM MLR 14 13 59.0
comp=Z,271nm,17.0s
UZB Uzynbulak 40.81 342*c iP* **P** **13 54 40.0 -1.7**
UZB *e*S **S** **14 00 47.8 -1.4**
UZB pmax pmax
comp=Z,4µm,1.0s
UZB smax smax
comp=N,1µm,3.8s
UZB Uzynbulak 40.81 342⇑*iP* **P** **13 54 40.1 -1.7**
comp=N,4µm,1.0s
UZB ⇓*e*S **S** **14 00 47.9 -1.4**
comp=N,1µm,3.8s
PDGK Podgornoye 40.84 343 P **P** **13 54 42.7 +0.8**
PDGK pmax pmax
comp=Z,226nm,1.4s
GAR Garm 40.84 330 *eP* **P** **13 54 42.1 +0.2**
comp=Z,632nm,1.1s
GAR Garm 40.84 330 *eP* **P** **13 54 42.2 +0.2**
GAR pmax pmax
comp=Z,632nm,1.1s
SATY Saty 40.93 341*c iP* **P** **13 54 41.0 -1.6**
SATY *i* S **S** **14 00 51.3 +0.4**
SATY smax smax
comp=N,3µm,3.4s
SATY MLR MLR
comp=Z,96nm,9.0s
SATY Saty 40.93 341⇑*iP* **P** **13 54 41.0 -1.6**
comp=Z,15µm,0.9s
SATY ⇑*iS* **S** **14 00 51.3 +0.4**
comp=Z,3µm,3.4s
SATY *e*LRM MLR 14 13 36.0
comp=Z,96nm,9.4s
ULHL Ulahol 40.95 339 P **P** **13 54 44.3 +1.4**
SNR=540
HOQ Hoqain 40.95 301 P **P** **13 54 46.6 +3.6**
SNR=10
KDU Kakadu 40.98 115 P **P** **13 54 42.1 -1.2**
baz=41,SNR=28
ZHN Zhinishke 41.02 341 *eP* **P** **13 54 42.1 -1.3**
ZHN *e*S **S** **14 00 53.8 +1.6**
ZHN smax smax
comp=N,246nm,2.9s
ZHN Zhinishke 41.02 341 *eP* **P** **13 54 42.1 -1.3**
comp=N,4µm,0.9s
ZHN *e*S **S** **14 00 53.9 +1.6**
comp=N,246nm,2.9s
KZA Kyzart 41.17 337 P **P** **13 54 46.7 +1.6**
SNR=492
KPKS Kokpek 41.21 342*c iP* **P** **13 54 42.9 -2.0**
KPKS *i* S **S** **14 00 55.0 0.0**
KPKS smax smax
comp=E,2µm,3.4s
KPKS Kokpek 41.21 342⇑*iP* **P** **13 54 42.9 -2.0**
comp=E,6µm,1.1s
KPKS ⇓*iS* **S** **14 00 55.0 0.0**
comp=E,2µm,3.4s
TNSS Tian-Shan 41.39 340 *eP* **P** **13 54 45.5 -1.3**
TNSS Tian-Shan 41.39 340 *eP* **P** **13 54 45.6 -1.3**
comp=E,9µm,0.8s
MDOK Medeo 41.47 340*deP* **P** **13 54 45.5 -1.6**
MDOK *i* S **S** **14 00 59.1 +0.1**
MDOK MLR MLR
comp=Z,579nm,19.0s
MDOK Medeo 41.47 340⇓*eP* **P** **13 54 45.6 -1.6**
comp=Z,14µm,0.9s
MDOK ⇓*iS* **S** **14 00 59.1 +0.1**
comp=Z,3µm,3.1s
MDOK *e*LRM MLR 14 13 59.3
comp=Z,579nm,19.0s
AAA Alma-Ata 41.55 340*c iP* **P** **13 54 46.6 -1.1**
AAA *i* S **S** **14 01 01.4 +1.3**
AAA pmax pmax
comp=Z,6µm,0.9s
AAA smax smax
comp=N,1µm,4.1s
AAA MLR MLR
comp=Z,261nm,20.0s
AAA Alma-Ata 41.55 340⇑*iP* **P** **13 54 46.6 -1.1**
comp=Z,6µm,0.9s
AAA ⇑*iS* **S** **14 01 01.5 +1.3**
comp=Z,1µm,4.1s
AAA ⇓*e*LR LR 14 12 38.8
AAA *e*LRM MLR 14 14 26.2
comp=Z,261nm,19.9s
UCH Uchtor 41.59 337 P **P** **13 54 50.1 +1.6**
SNR=33
SRPI Serui, Papua 41.63 98 P **P** **13 54 47.8 -0.9**
comp=Z,309nm,0.8s,comp=Z,5µm
MTBS Maitube 41.65 339 *eP* **P** **13 54 47.5 -1.0**
MTBS Maitube 41.65 339 *eP* **P** **13 54 47.6 -1.0**
comp=Z,4µm,0.9s
DL2 Dalian 41.66 32⇑*iP* **P** **13 54 49.9 +1.3**
DL2 PP **PnPn** **13 56 32.9 +2.0**
DL2 PcP **PcP** **13 56 45.0 +0.4**
DL2 S **S** **14 01 00.8 -0.8**
DL2 pmax pmax
comp=Z,2µm,4.2s
DL2 LR LR
comp=Z,4µm,17.6s
DL2 LR LR
comp=Z,2µm,17.1s
DL2 LR LR
comp=Z,4µm,22.4s
MUN Mundaring 41.68 153 P **P** **13 54 49.4 +0.6**
baz=42,SNR=15
TKM2 Tokmak 2 41.77 338 P **P** **13 54 50.9 +1.2**
SNR=522
KBK Karagaybulak 41.78 338 P **P** **13 54 51.9 +2.1**
SNR=1090
SOHO SOHO 41.81 301 P **P** **13 54 52.5 +2.4**
SNR=14
SOHO P **P** **13 54 52.5 +2.4**
SNR=14
SOHO S **S** **14 01 08.6 +4.3**
SOHO S **S** **14 01 08.6 +4.3**
AML Almayashu 41.83 336 P **P** **13 54 52.2 +1.8**
SNR=976
AAK Ala-Archa 41.94 337 P **P** **13 54 52.3 +1.2**
comp=Z,330nm,0.8s,baz=140,slow=8.7,SNR=375
AAK ScP **ScP** **14 00 33.5 +1.4**
comp=Z,15nm,1.0s,baz=168,slow=9.3,SNR=3.6

AAK S **S** **14 01 09.5 +3.5**
comp=Z,14nm,1.0s,baz=311,slow=13,SNR=4.6
AAK **Ala-Archa** **41.94 337** P **P** **13 54 52.9 +1.9**
SNR=392
AAK **Ala-Archa** **41.94 337** *eP* **P** **13 54 52.7 +1.7**
comp=Z,802nm,1.3s
AAK ScP **ScP** **14 00 33.5 +1.4**
AAK S **S** **14 01 09.5 +3.5**
AAK LR LR
comp=Z,2μm,20.0s
AAK **Ala-Archa** **41.94 337** *i* P **P** **13 54 52.2 +1.2**
SNR=772
AAK **Ala-Archa** **41.94 337***c i* P **P** **13 54 52.6 +1.6**
AAK pmax pmax
comp=Z,774nm,1.3s
AAK MLR MLR
comp=Z,2μm,18.0s
AAK **Ala-Archa** **41.94 337** P **P** **13 54 53.0 +1.9**
SNR=334
AAK P **P** **13 54 53.0 +1.9**
SNR=334
AAK S **S** **14 01 08.5 +2.4**
AAK S **S** **14 01 08.5 +2.4**
FRU **Bishkek** **42.06 337**⇑ *i* P **P** **13 54 53.0 +1.1**
FRU *e* 13 56 27.0
FRU *e* 13 56 59.5
FRU *e*S **S** **14 01 10.0 +2.4**
FRU *e* 14 01 30.0
FRU pmax pmax
comp=Z,1μm,2.0s
FRU smax smax
comp=N,500nm,2.5s
KLBR **Kellerberrin** **42.09 151** P **P** **13 54 52.5 +0.2**
baz=42,SNR=5.6
CHKK **Chushkaly** **42.10 340**⇓ *i* P **P** **13 54 50.2 -1.9**
CHKK pmax pmax
comp=Z,2μm,1.1s
CHKK **Chushkaly** **42.10 340**⇓ *i* P **P** **13 54 50.2 -1.9**
comp=Z,2μm,1.1s
CHMS **Chumysh** **42.15 338** P **P** **13 54 54.3 +1.7**
SNR=9.9
EKS2 **Erkin-Say** **42.24 336** P **P** **13 54 55.5 +2.0**
SNR=294
KUU **Kurty** **42.35 340***c i* P **P** **13 54 52.2 -2.0**
KUU *i* S **S** **14 01 12.7 +0.9**
KUU smax smax
comp=N,2μm,2.2s
KUU MLR MLR
comp=Z,218nm,20.0s
KUU **Kurty** **42.35 340**⇑ *i* P **P** **13 54 52.2 -2.0**
comp=Z,4μm,1.1s
KUU ⇑ *i*S **S** **14 01 12.7 +0.9**
comp=Z,2μm,2.2s
KUU *e*LRM MLR 14 14 39.6
comp=Z,218nm,19.8s
HATD **Hatta, Dubai** **42.41 302** *i* P **P** **13 54 57.4 +2.5**
SNR=10
HATD **Hatta, Dubai** **42.41 302** P **P** **13 54 57.5 +2.5**
SNR=5.1
HATD S **S** **14 01 17.0 +4.0**
ASHO **Ashiyiah** **42.41 302** *i* P **P** **13 54 57.4 +2.4**
SNR=23
ASHO **Ashiyiah** **42.41 302** P **P** **13 54 57.6 +2.5**
SNR=6.4
ASHO S **S** **14 01 16.7 +3.4**
ALNE **Al Ain** **42.45 301** *i* P **P** **13 54 57.9 +2.6**
SNR=21
WHFO **Wadi Hawf** **42.47 291** P **P** **13 54 57.7 +2.1**
SNR=5.3
USP **Ospenovka** **42.48 338** P **P** **13 54 56.7 +1.5**
SNR=1341
MSFE **Esma-Masafi** **42.58 303** *i* P **P** **13 54 58.6 +2.3**
SNR=8.5
MNAS **Manas** **42.62 335** P **P** **13 54 57.0 +0.5**
MNAS pmax pmax
comp=Z,601nm,1.3s
TDK **Taldyqorghan** **42.68 343** *eP* **P** **13 54 55.8 -1.0**
TDK *i* S **S** **14 01 16.1 -0.4**
TDK smax smax
comp=N,1μm,5.6s
TDK MLR MLR
comp=Z,663nm,19.0s
TDK **Taldyqorghan** **42.68 343** *eP* **P** **13 54 55.9 -1.0**
comp=Z,4μm,1.1s
TDK ⇓ *i*S **S** **14 01 16.1 -0.4**
comp=Z,1μm,5.6s
TDK *e*LRM MLR 14 14 34.1
comp=Z,663nm,19.2s
FAQ **Al Faqa, Dubai** **42.83 302** *i* P **P** **13 55 00.7 +2.3**
SNR=13
SHME **Shamm** **42.86 304** P **P** **13 55 00.8 +2.2**
NAZ **Nazwa, Dubai** **42.86 302** *i* P **P** **13 55 01.0 +2.4**
SNR=7.1
NWAO **Narrogin (SRO)** **42.95 152** LR LR 14 13 28.4
comp=Z,1μm,19.1s,baz=202,slow=37
NWAO **Narrogin (SRO)** **42.95 152** P **P** **13 54 59.1 0.0**
baz=43,SNR=4.6
NWAO **Narrogin (SRO)** **42.95 152** *eP* **P** **13 54 59.5 +0.4**
comp=Z,168nm,1.3s
NWAO **Narrogin (SRO)** **42.95 152** *eP* **P** **13 54 59.5 +0.4**
NWAO pmax pmax
comp=Z,169nm,1.3s
ASUD **Al Ashush, Dub** **43.01 301** *i* P **P** **13 55 02.7 +2.9**
SNR=6.7
ASUD **Al Ashush, Dub** **43.01 301** P **P** **13 55 03.1 +3.3**
SNR=16
TJN **Taejon** **43.23 39***c i* P **P** **13 55 01.8 +0.4**
AJN **Ajban** **43.28 301** *i* P **P** **13 55 04.0 +2.1**
SNR=7.7
AJN **Ajban** **43.28 301** P **P** **13 55 04.2 +2.3**
SNR=7.2
AJN P **P** **13 55 04.2 +2.3**
SNR=7.2
AJN S **S** **14 01 28.5 +2.6**
AJN S **S** **14 01 28.5 +2.6**
H01W3 **Cape Leeuwin H** **43.30 157** T T 14 41 39.4
baz=332,slow=76,SNR=15
MK01 **Makanchi Array** **43.31 347** *eP* **P** **13 55 01.0 -0.9**
H01W2 **Cape Leeuwin H** **43.31 157** T T 14 41 40.2
baz=332,slow=76,SNR=14
H01W1 **Cape Leeuwin H** **43.32 157** T T 14 42 01.1
baz=332,slow=76,SNR=15
MK31 **Makanchi Array** **43.33 347** *eP* **P** **13 55 01.6 -0.5**
MK31 **Makanchi Array** **43.33 347** *eP* **P** **13 55 01.6 -0.5**
MKAR **Makanchi Array** **43.33 347** P **P** **13 55 02.4 +0.3**
comp=Z,194nm,0.8s,baz=161,slow=7.7,SNR=1438
MKAR PcP **PcP** **13 56 50.2 +0.1**
comp=Z,36nm,0.8s,baz=157,slow=4.4,SNR=3.8
MKAR S **S** **14 01 26.5 +0.4**
comp=Z,2.2nm,0.8s,baz=179,slow=13,SNR=2.3
MKAR LR LR 14 16 05.2
comp=Z,2μm,21.7s,baz=158,slow=40
MKAR **Makanchi Array** **43.33 347** *eP* **P** **13 55 01.6 -0.5**
comp=Z,2μm,0.9s
MKAR PcP **PcP** **13 56 50.2 +0.1**
MKAR S **S** **14 01 26.5 +0.4**
JBG **Jabagly** **43.41 333***de*P **P** **13 55 02.2 -0.8**
JBG MLR MLR
comp=Z,313nm,16.0s
MAKZ **Makanchi** **43.42 347** *eP* **P** **13 55 02.9 +0.1**
comp=Z,242nm,1.0s
MAKZ **Makanchi** **43.42 347** *eP* **P** **13 55 02.9 +0.1**
MAKZ pmax pmax
comp=Z,242nm,1.0s
IUG **Iuzhnay** **43.43 333***de*P **P** **13 55 02.0 -1.0**
IUG *i* S **S** **14 01 26.9 -0.9**
IUG smax smax
comp=N,622nm,3.0s
IUG MLR MLR
comp=Z,356nm,20.0s
IUG **Iuzhnay** **43.43 333**⇓ *eP* **P** **13 55 02.1 -1.0**
comp=Z,11μm,1.0s
IUG ⇓ *i*S **S** **14 01 26.9 -0.9**
comp=Z,622nm,3.0s
IUG *e*LRM MLR 14 14 42.3
comp=Z,356nm,19.6s
ZSN **Zaisan** **43.45 350***de*P **P** **13 55 01.6 -1.4**
ZSN pmax pmax
comp=Z,944nm,0.9s
ZSN **Zaisan** **43.45 350**⇓ *eP* **P** **13 55 01.7 -1.4**
comp=Z,944nm,0.9s
JNU **Nakatsue** **43.68 45** *eP* **P** **13 55 05.8 +0.7**
comp=Z,263nm,0.9s
CHM **Chimkent** **43.76 333** *eP* **P** **13 55 05.3 -0.3**
CHM *i* S **S** **14 01 33.5 +1.1**
CHM smax smax
comp=N,3μm,4.7s
CHM **Chimkent** **43.76 333** *eP* **P** **13 55 05.3 -0.3**
comp=N,3μm,1.0s
CHM ⇑ *i*S **S** **14 01 33.5 +1.1**
comp=N,3μm,4.7s
WRKA **Warakurna** **43.78 134** P **P** **13 55 06.0 -0.1**
baz=44,SNR=49
KK31 **Karatay Array** **43.97 334** *eP* **P** **13 55 08.0 +0.7**
KK31 **Karatay Array** **43.97 334** *i* P **P** **13 55 07.8 +0.5**
KK31 pmax pmax
comp=Z,314nm,0.9s
KKAR **Karatay Array** **43.97 334** *eP* **P** **13 55 08.0 +0.7**
SONM **Songino Array** **44.02 11** P **P** **13 55 07.4 -0.3**
comp=Z,49nm,0.8s,baz=189,slow=8.5,SNR=267
SONM PcP **PcP** **13 56 53.4 +0.8**
comp=Z,85nm,0.8s,baz=192,slow=3.4,SNR=20
SONM ScP **ScP** **14 00 40.2 -0.1**
comp=Z,11nm,1.1s,baz=193,slow=4.2,SNR=7.3
SONM LR LR 14 15 20.1
comp=Z,3μm,21.7s,baz=188,slow=39
SONA1 **Songino Array** **44.03 11** *eP* **P** **13 55 06.5 -1.2**
MZR **Muzera** **44.08 298** *i* P **P** **13 55 10.9 +2.5**
SNR=8.6
MZR **Muzera** **44.08 298** P **P** **13 55 11.2 +2.8**
SNR=5.7
BTLS **Baital** **44.16 339***d i* P **P** **13 55 07.4 -1.4**
BTLS *i* S **S** **14 01 38.3 +0.1**
BTLS smax smax
comp=N,307nm,2.7s
BTLS MLR MLR
comp=Z,354nm,17.0s
BTLS **Baital** **44.16 339**⇓ *i* P **P** **13 55 07.4 -1.4**
comp=Z,8μm,0.8s
BTLS ⇑ *i*S **S** **14 01 38.3 +0.1**
comp=Z,307nm,2.7s
BTLS *e*LRM MLR 14 15 39.9
comp=Z,354nm,17.3s
KSAR **Wonju Array Be** **44.23 38** P **P** **13 55 09.7 +0.3**
KSAR PcP **PcP** **13 56 53.8 +0.5**
KSAR ScP **ScP** **14 00 38.0 -3.1**
KSAR **Wonju Array Be** **44.23 38** P **P** **13 55 09.7 +0.3**
KSAR 13 56 53.8
KSRS **Korea Array** **44.26 38** P **P** **13 55 09.7 +0.1**
comp=Z,118nm,0.8s,baz=220,slow=8.8,SNR=264
KSRS PcP **PP** **13 56 53.8 +0.2**
comp=Z,10.0nm,0.7s,baz=220,slow=3.4,SNR=5.7
KSRS ScP **ScP** **14 00 38.0 -3.2**
comp=Z,3.2nm,1.0s,baz=235,slow=4.4,SNR=4.6
KSRS LR LR 14 15 42.0
comp=Z,2μm,18.1s,baz=208,slow=39
SNY **Shenyang** **44.82 30**⇑ P **P** **13 55 14.4 +0.4**
SNY pP **pP** **13 55 24.7 -3.0**
SNY sP **sP** **13 55 32.6 -1.1**
SNY PP **PP** **13 56 58.1 -1.4**
SNY pmax pmax
comp=Z,420nm,0.8s
SNY pmax pmax
comp=Z,1μm,6.9s
SNY LR LR
comp=Z,3μm,16.9s
SNY LR LR
comp=Z,3μm,19.0s
SNY LR LR
comp=Z,5μm,20.6s
DGZ **Jazzator, Alta** **45.27 353***c i* P **P** **13 55 18.1 +0.4**
DGZ pmax pmax
comp=Z,38nm,0.6s
DGZ MLR MLR
comp=Z,419nm,17.0s
GENI **Genyem** **45.62 98** P **P** **13 55 19.7 -1.1**
comp=Z,344nm,1.3s,comp=Z,4μm
WRA **Warramunga Arr** **45.71 124** P **P** **13 55 21.5 +0.1**
comp=Z,422nm,0.9s,baz=302,slow=9.2,SNR=1054
WRA PcP **PcP** **13 56 59.6 +0.8**
comp=Z,29nm,0.7s,baz=317,slow=2.8,SNR=4.6
WRA ScP **ScP** **14 00 48.2 +0.6**
comp=Z,7.1nm,1.0s,baz=303,slow=3.9,SNR=6.4
WRA S **S** **14 01 57.0 -4.2**
comp=Z,14nm,1.1s,baz=293,slow=16,SNR=8.4
WRA LR LR 14 15 09.1
comp=Z,2μm,21.8s,baz=295,slow=37
WRA P4KPbc 14 33 10.3
comp=Z,0.8nm,0.7s,baz=310,slow=3.4,SNR=11
WRAB **Tennant Creek** **45.71 124** *eP* **P** **13 55 21.8 +0.4**
comp=Z,484nm,0.8s
WRAB LR LR
comp=Z,3μm,22.0s
WRAB **Tennant Creek** **45.71 124***c i* P **P** **13 55 21.7 +0.2**
WRAB pmax pmax
comp=Z,819nm,1.3s
WRAB MLR MLR
comp=Z,5μm,24.0s
WB2 **Warramunga Arr** **45.72 124** *eP* **P** **13 55 21.8 +0.3**
ZAK **Zakamensk** **46.00 7** *eP* **P** **13 55 22.4 -1.0**
ZAK pmax pmax
comp=Z,47nm,1.1s
JAY **Jayapura** **46.13 98** P **P** **13 55 24.3 -0.6**
JAY pmax pmax
comp=Z,54nm,0.9s
JAY **Jayapura** **46.13 98** P **P** **13 55 24.3 -0.6**
comp=Z,676nm,0.9s,comp=Z,8μm
RER **Riviere de l'E** **46.38 235** *eP* **P** **13 55 27.9 +1.2**
comp=Z,112nm,0.9s
ASHT **Ashkhabad** **47.01 320** P **P** **13 55 34.1 +2.8**
ASHT pmax pmax
comp=Z,326nm,1.0s
MOY **Mondy** **47.03 5** *eP* **P** **13 55 31.1 -0.3**
MOY pmax pmax
comp=Z,66nm,2.8s
GEYT **Alibeck** **47.17 320** P **P** **13 55 34.0 +1.3**
comp=Z,212nm,0.7s,baz=148,slow=8.7,SNR=377
GEYT ScP **ScP** **14 00 54.0 +0.5**
comp=Z,12nm,1.1s,baz=108,slow=1.9,SNR=4.0
GEYT S **S** **14 02 22.2 +0.4**
comp=Z,4.9nm,1.0s,baz=90,slow=30,SNR=3.8
GEYT LR LR 14 17 34.2
comp=Z,617nm,20.8s,baz=100,slow=39
GYA0B **ALIBECK ARRAY** **47.17 320** *eP* **P** **13 55 34.0 +1.4**
comp=Z,246nm,0.8s
SEM **Semipalatinsk** **47.19 347***d i* P **P** **13 55 30.9 -1.9**
SEM *i* S **S** **14 02 20.7 -1.4**
SEM pmax pmax
comp=Z,3μm,1.1s
SEM smax smax
comp=N,1μm,2.6s
SEM MLR MLR
comp=Z,385nm,21.0s
SEM **Semipalatinsk** **47.19 347**⇓ *i* P **P** **13 55 31.0 -1.9**
comp=Z,3μm,1.1s
SEM ⇑ *i*S **S** **14 02 20.8 -1.4**
comp=Z,1μm,2.6s
SEM *e*LRM MLR 14 17 40.0
comp=Z,385nm,21.3s
CN2 **Changchun** **47.20 30**⇑ *i* P **P** **13 55 33.1 +0.3**
CN2 *e*pP pP 13 55 43.0 -3.6
CN2 *e*S **S** **14 02 22.1 +0.1**
CN2 pmax pmax
comp=Z,300nm,0.8s
CN2 pmax pmax
comp=Z,760nm,3.0s
CN2 LR LR
comp=Z,2μm,20.0s
CN2 LR LR
comp=Z,3μm,20.0s
CN2 LR LR
comp=Z,3μm,20.0s
AS31 **Alice Springs** **47.21 128** *eP* **P** **13 55 33.3 +0.1**
comp=Z,41nm,0.6s
ASAR **Alice Springs** **47.21 128** P **P** **13 55 33.2 +0.1**
comp=Z,91nm,0.7s,baz=299,slow=8.0,SNR=1412
ASAR pP **pP** **13 55 46.5 -0.3**
comp=Z,141nm,0.7s,baz=303,slow=7.7,SNR=15
ASAR PcP **PcP** **13 57 04.8 +0.7**
comp=Z,49nm,0.8s,baz=305,slow=3.9,SNR=6.8
ASAR ScP **ScP** **14 00 54.2 +0.3**
comp=Z,7.0nm,1.0s,baz=307,slow=3.8,SNR=4.2
ASAR S **S** **14 02 19.3 -3.4**
comp=Z,4.2nm,0.8s,baz=303,slow=14,SNR=5.7
ASAR LR LR 14 19 05.2
comp=Z,1μm,18.2s,baz=304,slow=41
ASAR PKPPKP **P'P'df** **14 26 46.4 -4.6**
comp=Z,0.8nm,0.8s,baz=108,slow=2.8,SNR=4.2
ASAR P4KPbc 14 33 17.2
comp=Z,0.4nm,0.7s,baz=306,slow=5.1,SNR=5.1
AS01 **Alice Springs** **47.25 128** *eP* **P** **13 55 32.1 -1.3**
FORT **Forrest** **47.32 140** P **P** **13 55 34.6 +0.7**
baz=47,SNR=30
FORT **Forrest** **47.32 140** *eP* **P** **13 55 34.9 +1.0**
comp=Z,200nm,0.7s
OTUK **Ortayu** **47.52 339** P **P** **13 55 35.3 +0.1**
OTUK pmax pmax
comp=Z,1μm,0.9s
KURBB **Kurchatov Arra** **47.80 346** P **P** **13 55 37.9 +0.6**
comp=Z,204nm,0.8s,baz=169,slow=6.9,SNR=1399
KURBB pP **pP** **13 55 50.7 -0.2**
comp=Z,50nm,0.8s,baz=168,slow=7.0,SNR=4.7
KURBB PcP **PcP** **13 57 06.5 +1.0**
comp=Z,71nm,0.8s,baz=152,slow=2.9,SNR=11
KURBB ScP **ScP** **14 00 57.1 +1.4**
comp=Z,4.8nm,0.8s,baz=163,slow=4.0,SNR=4.0
KURBB P4KPbc 14 33 15.8
comp=Z,0.1nm,0.4s,baz=157,slow=5.1,SNR=4.4
KURK **Kurchatov** **47.86 346** *eP* **P** **13 55 38.2 +0.5**
comp=Z,2μm,1.8s
KURK pP **pP** **13 55 50.7 -0.7**
KURK PcP **PcP** **13 57 06.5 +0.8**
KURK ScP **ScP** **14 00 57.1 +1.1**
KURK *e* 14 33 15.8
KURK LR LR
comp=Z,2μm,19.0s
KURK **Kurchatov** **47.86 346***c i* P **P** **13 55 38.3 +0.5**
KURK pmax pmax
comp=Z,251nm,0.7s
KURK MLR MLR
comp=Z,3μm,24.0s
KURK **Kurchatov** **47.86 346** P **P** **13 55 38.5 +0.8**
SNR=145
IRK **Irkutsk** **47.95 8** *eP* **P** **13 55 38.4 -0.1**
IRK pmax pmax
comp=Z,128nm,2.7s
HIA **Hailar** **49.05 21** *eP* **P** **13 55 47.6 +0.7**
comp=Z,191nm,0.8s
HIA *e*PcP **PcP** **13 57 09.9 -0.2**
HIA LR LR
comp=Z,7μm,21.0s
HIA **Hailar** **49.05 21** *eP* **P** **13 55 47.7 +0.7**
HIA *e* 13 57 10.0
HIA pmax pmax
comp=Z,191nm,0.8s
HIA MLR MLR
comp=Z,7μm,21.0s
INU **Inuyama** **49.19 46** *eP* **P** **13 55 48.7 +0.4**
comp=Z,301nm,0.9s
MSHR **Mys Shultsa** **49.42 35***c i* P **P** **13 55 50.7 +0.8**
CIT **Chita** **49.55 15** *eP* **P** **13 55 49.0 -1.8**
CIT *e* 13 55 54.8
CIT *e* 13 57 13.1
CIT pmax pmax
comp=Z,160nm,1.2s
ZALV **Zalesovo Beam** **49.77 352** P **P** **13 55 52.6 +0.3**
comp=Z,256nm,0.9s,baz=177,slow=7.0,SNR=540
ZALV pP **pP** **13 56 05.7 -0.3**
comp=Z,48nm,0.6s,baz=185,slow=6.8,SNR=6.5
ZALV PcP **PcP** **13 57 12.7 +0.1**
comp=Z,51nm,0.8s,baz=185,slow=3.0,SNR=2.8
ZALV ScP **ScP** **14 01 04.0 0.0**
comp=Z,13nm,0.9s,baz=227,slow=3.3,SNR=4.8
ZALV S **S** **14 02 58.4 +0.6**
comp=Z,15nm,1.0s,baz=169,slow=18,SNR=6.9
ZALV LR LR 14 19 55.2
comp=Z,922nm,21.9s,baz=182,slow=40
ZALV PKPPKP **P'P'df** **14 26 43.5 -3.1**
comp=Z,0.4nm,0.4s,baz=260,slow=0.9,SNR=4.6
GUMO **Guam** **49.83 76** PFAKE 13 56 10.0 +17
GUMO LR LR
comp=Z,2μm,20.0s
MDJ **Mudanjiang** **49.90 32** P **P** **13 55 54.9 +1.4**
MDJ pP pP 13 56 05.2 -2.2
MDJ sP sP 13 56 11.7 -1.7
MDJ S **S** **14 03 03.7 +3.7**
MDJ sS sS 14 03 24.0 +1.3
MDJ pmax pmax
comp=Z,410nm,0.9s
MDJ pmax pmax
comp=Z,490nm,5.0s
MDJ LR LR
comp=Z,3μm,22.6s
MDJ LR LR
comp=Z,3μm,17.3s
MDJ LR LR
comp=Z,5μm,23.9s
MDJ **Mudanjiang** **49.90 32** *eP* **P** **13 55 53.3 -0.2**
comp=Z,269nm,0.9s
MDJ LR LR
comp=Z,4μm,22.0s
CBIJ **Chichi jima** **50.05 58** *eP* **P** **13 55 53.0 -1.9**
comp=Z,374nm,0.7s
VLA **Vladivostok** **50.18 35***c i* P **P** **13 55 56.4 +0.8**
VLA pmax pmax
comp=Z,250nm,0.7s
QIS **Mount Isa** **50.40 122** P **P** **13 55 58.0 +0.3**
baz=50,SNR=136
MJB9 **Matsu-Tunnel** **50.61 45** *eP* **P** **13 55 59.7 +0.6**
comp=Z,93nm,0.9s
MAJO **Matsushiro** **50.61 45** *eP* **P** **13 55 59.6 +0.6**
comp=Z,91nm,0.9s
MAJO LR LR
comp=Z,3μm,22.0s
MAJO **Matsushiro** **50.61 45***c i* P **P** **13 55 59.4 +0.4**
MAJO pmax pmax
comp=Z,117nm,1.0s
MAJO **Matsushiro** **50.61 45** *eP* **P** **13 55 59.8 +0.7**
MAT **Matsushiro** **50.61 45** P **P** **13 55 58.9 -0.1**
MAT *e*S **S** **14 03 10.6 +0.5**
MJAR **Matsushiro Arr** **50.61 45** P **P** **13 55 59.1 +0.1**
comp=Z,60nm,0.9s,baz=244,slow=9.0,SNR=58
MJAR pP **pP** **13 56 11.8 -1.2**
comp=Z,14nm,0.7s,baz=240,slow=10,SNR=4.4
MJAR PcP **PcP** **13 57 16.7 +0.6**
comp=Z,47nm,0.9s,baz=244,slow=4.9,SNR=11
MJAR pPcP 13 57 31.2
comp=Z,41nm,0.8s,baz=242,slow=5.4,SNR=5.4
MJAR ScP **ScP** **14 01 07.8 -0.3**
comp=Z,8.1nm,1.1s,baz=242,slow=5.5,SNR=5.7
MJAR LR LR 14 18 48.7
comp=Z,3μm,21.1s,baz=260,slow=38
DAMY **Dhamar** **50.83 285** *eP* **P** **13 56 04.9 +3.6**
comp=Z,343nm,1.6s
NVS **Novosibirsk** **50.86 351**⇑ *i* P **P** **13 56 00.6 0.0**
NVS *i* *PP **pP** **13 56 13.4 -0.8**
NVS *i* 13 57 16.5
NVS *i* S **S** **14 03 07.6 -5.4**
NVS *i* PS PKiKP 14 03 24.0 -36
NVS pmax pmax
comp=N,193nm,1.3s
NVS pmax pmax
comp=E,128nm,1.3s
NVS pmax pmax
comp=Z,295nm,1.3s
NVS pmax pmax
comp=Z,65nm,1.4s
NVS pmax pmax
comp=N,32nm,1.1s
NVS pmax pmax
comp=E,34nm,1.5s
NVS smax smax
comp=N,59nm,2.1s
NVS smax smax
comp=E,105nm,2.0s
USA0B **Ussuriysk Arra** **50.92 34** *eP* **P** **13 56 01.8 +0.6**
comp=E,209nm,0.9s
USRK **Ussuriysk Ar.** **50.92 34** P **P** **13 56 01.8 +0.6**
comp=E,154nm,0.8s,baz=239,slow=7.7,SNR=280
USRK LR LR 14 19 35.1
comp=E,3μm,18.1s,baz=211,slow=38
COEN **Coen** **51.19 112** P **P** **13 56 03.0 -0.7**
baz=51,SNR=69
COEN **Coen** **51.19 112** *eP* **P** **13 56 02.9 -0.8**
comp=E,164nm,1.3s
RAYN **Ar Rayn** **51.28 296** *eP* **P** **13 56 05.9 +1.6**
comp=E,101nm,1.2s
RAYN LR LR
comp=Z,2μm,19.0s
RAYN **Ar Rayn** **51.28 296** *i* P **P** **13 56 05.9 +1.6**
SNR=33
RAYN **Ar Rayn** **51.28 296** *eP* **P** **13 56 05.9 +1.6**
RAYN pmax pmax
comp=Z,101nm,1.2s
RAYN MLR MLR
comp=Z,2μm,19.0s
ATD **Arta Tunnel** **52.10 281** *eP* **P** **13 56 12.9 +2.3**
comp=Z,191nm,1.6s
BVA0 **Borovoye Array** **52.24 341** *i* P **P** **13 56 11.1 +0.2**
BVA0 pmax pmax

comp=Z,571nm,0.9s
BVAR Borovoye Array 52.24 341 P **P** **13 56 11.3 +0.4**
comp=Z,477nm,0.7s,baz=139,slow=7.9,SNR=2026
BVAR pP **pP** **13 56 24.6 -0.2**
comp=Z,100nm,0.8s,baz=149,slow=12,SNR=5.1
BVAR S **S** **14 03 32.4 +0.4**
comp=Z,3.6nm,0.8s,baz=125,slow=12,SNR=4.4
BRVK Borovoye 52.30 341 *e*P **P** **13 56 11.8 +0.5**
comp=Z,550nm,0.8s
BRVK LR LR
comp=Z,831nm,21.0s
BRVK Borovoye 52.30 341 *e*P **P** **13 56 11.8 +0.5**
BRVK pmax pmax
comp=Z,550nm,0.8s
BRVK MLR MLR
comp=Z,831nm,21.0s
BRVK Borovoye 52.30 341 P **P** **13 56 11.9 +0.5**
SNR=193
BRVK P **P** **13 56 11.9 +0.5**
SNR=193
ABPO Ambohimpanom 52.71 242 *e*P **P** **13 56 16.4 +1.2**
comp=Z,166nm,1.7s
ABPO LR LR
comp=Z,658nm,20.0s
ABPO Ambohimpanom 52.71 242 *e*P **P** **13 56 16.4 +1.2**
ABPO pmax pmax
comp=Z,166nm,1.7s
ABPO MLR MLR
comp=Z,658nm,20.0s
ABKAR Akbulak array 53.42 332 *e*P **P** **13 56 20.4 +0.7**
MTSU Mount Surprise 53.59 117 P **P** **13 56 21.6 +0.2**
baz=54,SNR=112
PMG Port Moresby 53.75 105 S **S** **14 03 53.2 -0.5**
comp=Z,3.5nm,0.7s,baz=277,slow=17,SNR=3.8
PMG Port Moresby 53.75 105 *e*P **P** **13 56 22.5 -0.2**
comp=Z,95nm,0.8s
PMG S **S** **14 03 53.2 -0.5**
PMG LR LR
comp=Z,995nm,22.0s
PMG Port Moresby 53.75 105*c i*P **P** **13 56 22.3 -0.4**
PMG pmax pmax
comp=Z,277nm,0.7s
BBOO Buckleboo 53.88 137 P **P** **13 56 23.0 -0.3**
baz=54,SNR=27
BBOO Buckleboo 53.88 137 *e*P **P** **13 56 22.9 -0.4**
comp=Z,63nm,0.8s
TEY Ternei 54.05 35⇑*i*P **P** **13 56 24.3 0.0**
TEY *e*S **S** **14 03 54.0 -2.8**
TEY pmax pmax
comp=N,70nm,1.0s
TEY pmax pmax
comp=Z,160nm,0.9s
TEY smax smax
comp=N,20nm,2.9s
TEY MLR MLR
comp=N,2μm,27.0s
TEY MLR MLR
comp=Z,2μm,16.0s
KLR Kul'dur 54.11 29 P **P** **13 56 25.8 +1.0**
comp=Z,174nm,0.9s,baz=248,slow=8.4,SNR=230
KLR Kul'dur 54.11 29*c i*P **P** **13 56 25.4 +0.6**
BOD Bodaibo 54.97 12⇓*i*P **P** **13 56 30.4 -0.4**
BOD pmax pmax
comp=Z,127nm,1.0s
AKTO Aktyubinsk 55.14 332 P **P** **13 56 32.4 +0.2**
comp=Z,84nm,0.9s,baz=129,slow=8.0,SNR=234
AKTO pP **pP** **13 56 46.2 +0.4**
comp=Z,102nm,0.9s,baz=120,slow=10.0,SNR=14
AKTO S **S** **14 04 10.3 -1.0**
comp=Z,6.2nm,1.1s,baz=224,slow=22,SNR=7.3
ZEA Zeya 55.44 23*ce*P **P** **13 56 34.3 +0.1**
ZEA *e* 13 58 40.0
ZEA *e* 14 04 32.0
ZEA pmax pmax
comp=N,62nm,0.8s
ZEA pmax pmax
comp=E,62nm,0.8s
ZEA pmax pmax
comp=Z,130nm,0.8s
ZEA pmax pmax
comp=Z,700nm,9.0s
ZEA pmax pmax
comp=E,400nm,5.0s
ZEA pmax pmax
comp=N,500nm,7.0s
ZEA pmax pmax
comp=Z,500nm,9.0s
ZEA smax smax
comp=E,400nm,14.0s
ZEA smax smax
comp=N,500nm,11.0s
ZEA MLR MLR
comp=N,4μm,15.0s
ZEA MLR MLR
comp=E,3μm,15.0s
ZEA MLR MLR
comp=Z,6μm,15.0s
CTAO Charters Tower 55.98 118 *e*P **P** **13 56 38.7 0.0**
comp=Z,176nm,1.1s
CTAO LR LR
comp=Z,4μm,22.0s
CTAO Charters Tower 55.98 118 *e*P **P** **13 56 38.7 0.0**
CTAO pmax pmax
comp=Z,176nm,1.1s
CTAO MLR MLR
comp=Z,4μm,22.0s
HTT Hallett 56.20 136 P **P** **13 56 40.3 +0.2**
baz=56,SNR=30
ERM Erimo 56.55 42 *e*P **P** **13 56 44.0 +1.5**
comp=Z,136nm,1.0s
ERM LR LR
comp=Z,1μm,20.0s
ERM Erimo 56.55 42*c i*P **P** **13 56 43.3 +0.9**
ERM pmax pmax
comp=Z,135nm,1.0s
MAK Makhachkala 56.69 320 *e*P **P** **13 56 44.1 +0.7**
MAK *e* 13 58 49.6
MAK *e*S **S** **14 04 35.7 +3.5**
MAK *e*SS **SS** **14 08 24.3 +3.6**
MAK pmax pmax
comp=Z,430nm,1.1s
MAK MLR MLR
comp=Z,1μm,18.0s
QLP Quilpie 56.81 126 P **P** **13 56 45.3 +0.7**
baz=57,SNR=70
ASAJ Asahikawa 57.18 39 *e*P **P** **13 56 47.9 +1.0**
comp=Z,122nm,0.9s
STKA Stephens Creek 57.28 133 P **P** **13 56 47.9 +0.1**
comp=Z,34nm,0.8s,baz=310,slow=8.2,SNR=64
STKA pP **pP** **13 57 01.9 0.0**
comp=Z,56nm,0.9s,baz=294,slow=5.3,SNR=8.1
STKA LR LR 14 24 14.4
comp=Z,1μm,21.3s,baz=307,slow=39
STKA Stephens Creek 57.28 133 P **P** **13 56 47.9 +0.1**
baz=57,SNR=25
STKA Stephens Creek 57.28 133 *e*P **P** **13 56 47.8 +0.1**
comp=Z,13nm,0.8s
STKA pP **pP** **13 57 01.9 0.0**
GNI Garni 57.31 315 P **P** **13 56 48.6 +0.6**
GRNR Gornyy 57.40 30⇑*i*P **P** **13 56 48.6 +0.3**
GRNR pmax pmax
comp=N,31nm,0.8s
GRNR pmax pmax
comp=Z,80nm,0.8s
RABL Rabaul 57.69 98 *e*P **P** **13 56 50.9 -0.1**
comp=Z,209nm,0.5s
GROC Groznyy 57.91 319 *e*P **P** **13 56 50.7 -1.3**
GROC *e**PP **pP** **13 57 04.1 -1.5**
GROC *e* 13 57 42.1
GROC *e*S **S** **14 04 47.1 -1.2**
GROC *e* 14 05 03.5
GROC *e**SS **sS** **14 05 11.3 +0.4**
GROC pmax pmax
comp=Z,334nm,0.8s
TBLG Delisi 57.97 317 *e*P **P** **13 56 53.2 +0.7**
comp=Z,266nm,0.9s
TBLG Delisi 57.97 317 *e*P **P** **13 56 53.2 +0.7**
TBLG pmax pmax
comp=Z,266nm,0.9s
KMBO Kilima Mbogo 58.08 266 P **P** **13 56 56.5 +2.5**
comp=Z,22nm,0.9s,baz=62,slow=11,SNR=38
KMBO S **S** **14 04 54.5 +2.5**
comp=Z,0.5nm,0.4s,baz=324,slow=20,SNR=5.9
KMBO LR LR 14 17 34.7
comp=Z,2μm,21.4s,baz=93,slow=32
KMBO Kilima Mbogo 58.08 266 *e*P **P** **13 56 56.4 +2.3**
comp=Z,23nm,0.9s
KMBO S **S** **14 04 54.5 +2.5**
KMBO Kilima Mbogo 58.08 266 *i*P **P** **13 56 56.2 +2.2**
SNR=26
KMBO Kilima Mbogo 58.08 266 P **P** **13 56 56.3 +2.3**
SNR=16
KMBO P **P** **13 56 56.3 +2.3**
SNR=16
SVE Sverdlovsk 58.65 339*d i*P **P** **13 56 57.6 +0.7**
SVE *e* 13 59 08.6
SVE *e*PPP PPP 14 00 26.6
SVE *e*S **S** **14 04 56.4 -1.0**
SVE *e* 14 08 50.1
SVE pmax pmax
comp=Z,660nm,1.2s
SVE pmax pmax
comp=Z,274nm,7.7s
SVE MLR MLR
comp=Z,994nm,19.0s
YSS Yuzh-Sakhalins 58.69 36⇑*i*P **P** **13 56 58.3 +1.0**
YSS *e**PP **pP** **13 57 11.0 -0.6**
YSS *e**SP **sP** **13 57 17.8 +0.4**
YSS *e*S **S** **14 04 59.8 +1.6**
YSS *e*PS **PnS** **14 05 23.0 +6.6**
YSS *e*S **SS** **14 08 53.2 +1.2**
YSS pmax pmax
comp=Z,290nm,1.0s
YSS pmax pmax
comp=Z,300nm,16.0s
YSS MLR MLR
comp=N,1μm,17.0s
ZEI Tsey 58.98 318 *e*P **P** **13 56 58.0 -1.8**
ZEI *e*S **S** **14 05 01.5 -1.2**
ZEI pmax pmax
comp=Z,115nm,0.8s
ZEI pmax pmax
comp=N,29nm,0.6s
ZEI pmax pmax
comp=E,123nm,0.8s
ARU Arti 59.13 337*c i*P **P** **13 57 00.3 +0.1**
ARU *e**PP **pP** **13 57 13.8 -0.5**
ARU 13 57 47.9
ARU 13 59 13.3
ARU S **S** **14 05 05.9 +2.3**
ARU *e*SS **sS** **14 05 27.7 +0.6**
ARU 14 06 43.6
ARU SS **SS** **14 09 01.7 +3.2**
ARU pmax pmax
comp=Z,362nm,1.2s
ARU MLR MLR
comp=Z,1μm,19.0s
YUK Yuzh-Kuril'sk 59.23 41*c i*P **P** **13 57 01.8 +0.6**
NCK Nalchik 59.48 319⇑*i*P **P** **13 57 03.3 +0.3**
NCK pmax pmax
comp=Z,151nm,1.0s
NEY Neytrino 59.96 318*c i*P **P** **13 57 07.4 +0.9**
NEY pmax pmax
comp=Z,17nm,0.9s
ARPS Mount Arapiles 60.03 138 P **P** **13 57 07.8 +0.9**
baz=60,SNR=10
KBZ Khabaz 60.04 319 P **P** **13 57 07.0 +0.3**
comp=Z,108nm,0.9s,baz=112,slow=6.7,SNR=120
KBZ PKP2bc 14 26 40.6
comp=Z,3.5nm,0.9s,baz=328,slow=11,SNR=4.4
KBZ Khabaz 60.04 319 P **P** **13 57 07.0 +0.3**
CMSA Cobar Meteorol 60.17 130 P **P** **13 57 08.4 +0.6**
baz=60,SNR=141
KVAR Kislovodsk Arr 60.27 319 P **P** **13 57 09.8 +1.3**
comp=Z,34nm,1.0s,baz=253,slow=20,SNR=51
KIV Kislovodsk 60.27 319 *e*P **P** **13 57 08.8 +0.3**
comp=Z,234nm,0.9s
KIV LR LR
comp=Z,510nm,20.0s
KIV Kislovodsk 60.27 319 *e*P **P** **13 57 08.8 +0.3**
KIV pmax pmax
comp=Z,234nm,0.9s
KIV MLR MLR
comp=Z,510nm,20.0s
RMQ Roma 60.47 124 P **P** **13 57 11.4 +1.3**
baz=60,SNR=56
GOF Gofitskoye 60.51 320⇑*i*P **P** **13 57 10.2 +0.2**
GOF *e*S SKSac 14 06 56.9 +0.6
GOF pmax pmax
comp=Z,190nm,1.0s
GOF smax smax
comp=N,70nm,1.0s
TYV Tymovskoe 60.67 32 *e*P **P** **13 57 11.8 +0.9**
TYV *e*S **S** **14 05 26.8 +3.1**
TYV pmax pmax
comp=Z,106nm,1.6s
TYV pmax pmax
comp=Z,600nm,2.6s
TYV smax smax
comp=N,300nm,5.9s
TYV MLR MLR
comp=Z,4μm,16.0s
ASF Jabal al Asfar 60.73 304 LR LR 14 26 08.5
comp=Z,825nm,18.1s,baz=66,slow=39
NKL Nikolayevsk 60.94 29 *i*P **P** **13 57 13.5 +0.8**
NKL *e* 14 05 21.0
NKL *e* 14 09 27.0
NKL pmax pmax
comp=N,67nm,1.0s
NKL pmax pmax
comp=E,67nm,1.0s
NKL pmax pmax
comp=Z,420nm,1.0s
NKL pmax pmax
comp=Z,2μm,5.0s
NKL MLR MLR
comp=N,2μm,14.0s
NKL MLR MLR
comp=E,2μm,14.0s
NKL MLR MLR
comp=Z,3μm,14.0s
KUR Kuril'sk 61.04 40⇓*e*P **P** **13 57 14.8 +1.3**
EIL Elat 61.82 301 LR LR 14 24 16.4
comp=Z,2μm,19.8s,baz=113,slow=36
EIDS Eidsvold 62.00 122 P **P** **13 57 20.6 +0.2**
baz=62,SNR=9.3
EIDS Eidsvold 62.00 122 *e*P **P** **13 57 20.5 +0.2**
comp=Z,101nm,1.4s
MMLI Mount Malkishu 62.01 304 P pP 13 57 32.3 -2.0
SOC Sochi 62.10 317*c i*P **P** **13 57 20.1 -0.7**
SOC *e**PP **pP** **13 57 33.3 -1.2**
SOC *e* 13 59 34.3
SOC *e*PPP PPP 14 01 17.2
SOC *e*S **S** **14 05 38.5 -3.6**
SOC pmax pmax
comp=Z,213nm,0.8s
MMAI Mount Meron Ar 62.16 305 LR LR 14 27 07.2
comp=Z,1μm,18.3s,baz=115,slow=39
YAK Yakutsk 62.66 18*c i*P **P** **13 57 23.4 -0.7**
YAK *e**PP **pP** **13 57 40.7 +2.4**
YAK *e* 13 58 00.0
YAK *e*S **S** **14 05 47.1 -1.3**
YAK *e**SS **sS** **14 06 09.2 -3.5**
YAK *e* 14 07 04.1
YAK pmax pmax
comp=Z,308nm,0.9s
YAK pmax pmax
comp=N,124nm,1.0s
YAK pmax pmax
comp=E,95nm,1.0s
YAK smax smax
comp=N,127nm,1.5s
YAK smax smax
comp=E,118nm,1.8s
YAK MLR MLR
comp=Z,6μm,16.0s
YAK MLR MLR
comp=E,3μm,16.0s
YAK MLR MLR
comp=N,3μm,17.0s
PATS Pohnpei 62.89 85 *e*P **P** **13 57 29.7 +3.2**
TOO Toolangi 62.94 137 P **P** **13 57 27.9 +1.5**
baz=63,SNR=25
TOO Toolangi 62.94 137 *e*P **P** **13 57 28.1 +1.6**
TOO Toolangi 62.94 137 *e*P **P** **13 57 28.1 +1.6**
YNG Young 63.45 132 P **P** **13 57 30.6 +0.7**
baz=64,SNR=14
VRH Novokhopyorsk 64.03 326 *e*P **P** **13 57 32.6 -0.8**
VRH *e*S **S** **14 06 01.0 -4.9**
VRH pmax pmax
comp=Z,610nm,0.7s
VRH smax smax
comp=E,400nm,1.5s
ANN Anapa 64.08 318*c i*P **P** **13 57 32.5 -1.3**
ANN *e**PP **pP** **13 57 46.9 -0.7**
ANN *e* 13 59 53.0
ANN *e*S **S** **14 06 03.5 -3.2**
ANN pmax pmax
comp=Z,84nm,1.0s
CSS Mathiatis 64.28 307 *e*P **P** **13 57 36.1 +0.7**
CSS Mathiatis 64.28 307 P **P** **13 57 35.9 +0.6**
CSS Mathiatis 64.28 307 P **P** **13 57 36.3 +1.0**
comp=Z,29nm,1.1s
ARMA Armidale 64.32 127 P **P** **13 57 37.6 +1.8**
baz=64,SNR=20
ARMA Armidale 64.32 127 *e*P **P** **13 57 37.6 +1.8**
CAN Canberra 64.35 133 P **P** **13 57 36.8 +1.0**
baz=64
CAN Canberra 64.35 133 *e*P **P** **13 57 36.4 +0.6**
CAN Canberra 64.35 133 *e*P **P** **13 57 36.4 +0.6**
MAMC Mammari 64.41 307 P **P** **13 57 38.2 +2.0**
MBAR Mbarara 64.51 267 PKP2bc **P'P'bc** **14 26 30.6 -2.5**
comp=Z,4.8nm,0.2s,baz=359,slow=2.5,SNR=4.8
MBAR Mbarara 64.51 267 *e*P **P** **13 57 39.7 +2.3**
MBAR ⇑*e* 14 26 30.6
MBAR Mbarara 64.51 267 *e*P **P** **13 57 39.7 +2.3**
SZAC Souni 64.59 306 P **P** **13 57 38.9 +1.5**
CNB Canberra Magne 64.61 133 P **P** **13 57 38.4 +0.8**
baz=65,SNR=7.9
ALFC Alefka 64.90 307 P **P** **13 57 39.4 -0.1**
MGCD Mangrove Creek 65.02 130 P **P** **13 57 41.6 +1.5**
baz=65,SNR=5.8
BRTR Keskin Array B 65.20 312 P **P** **13 57 41.2 -0.2**
comp=Z,82nm,0.8s,baz=129,slow=7.4,SNR=347
BRTR PKP2bc 14 26 28.4
comp=Z,1.0nm,1.0s,baz=259,slow=0.7,SNR=3.7
BRTR LR LR 14 28 58.2
comp=Z,298nm,19.7s,baz=110,slow=38
BR131 Keskin Array S 65.20 312 *e*P **P** **13 57 41.3 -0.1**
BR131 Keskin Array S 65.20 312 P **P** **13 57 41.3 -0.1**
SNR=30
VSR Storozhevoye 65.48 325*c i*P **P** **13 57 41.6 -1.2**
VSR pmax pmax
comp=Z,472nm,0.7s
ILGA Ilgaz 65.50 313 *e*P **P** **13 57 44.0 +0.6**
VORR Voronezh 65.65 326 *e*P **P** **13 57 44.0 +0.1**
VORR pmax pmax
comp=Z,750nm,1.0s
ANTO Ankara 65.86 312 *e*P **P** **13 57 45.9 +0.3**
ANTO LR LR
comp=Z,430nm,19.0s
ANTO Ankara 65.86 312⇑*i*P **P** **13 57 45.3 -0.3**
ANTO Ankara 65.86 312 *e*P **P** **13 57 45.9 +0.3**
ANTO MLR MLR
comp=Z,430nm,19.0s
ANTO Ankara 65.86 312 P **P** **13 57 45.7 +0.1**
SNR=17
ANTO Ankara 65.86 312 *e*P **P** **13 57 45.7 +0.1**
BR231 Keskin MP Arra 65.87 312 *e*P **P** **13 57 46.3 +0.6**
HNR Honiara 66.14 102 *e*P **P** **13 57 47.6 -0.1**
HNR LR LR
comp=Z,1μm,22.0s
HNR Honiara 66.14 102 *e*P **P** **13 57 47.6 -0.1**
HNR MLR MLR
comp=Z,1μm,22.0s
LPSR Galich'ya Gora 66.20 326 *e*P **P** **13 57 46.8 -0.6**
LPSR *e*S **S** **14 06 28.7 -3.8**
LPSR pmax pmax
comp=Z,300nm,0.8s
LPSR smax smax
comp=N,500nm,1.8s
SIM Simferopol' 66.35 317*c i*P **P** **13 57 48.0 -0.6**
SIM *e*S **S** **14 06 33.0 -1.6**
SIM pmax pmax
comp=Z,204nm,0.7s
MOO Moorlands 66.55 140 P **P** **13 57 51.3 +1.5**
baz=67,SNR=4.2
TAU Tasmania Unive 66.87 141 PFAKE 13 58 00.0 +8.2
TAU LR LR
comp=Z,2μm,20.0s
PRGR Permogore 67.58 337⇑*i*P **P** **13 57 56.0 0.0**
PRGR *e* 14 00 26.4
PRGR *e*S **S** **14 06 44.9 -3.9**
PRGR pmax pmax
comp=Z,602nm,0.7s
FETY Fethiye 68.00 308 P **P** **13 57 59.0 -0.3**
FETY Fethiye 68.00 308 P **P** **13 57 58.9 -0.3**
MOS Moscow 68.23 329 *e*P **P** **13 57 56.8 -3.4**
MOS *e**PP **pP** **13 58 12.5 -1.5**
MOS *e* 14 00 36.2
MOS *e*S **S** **14 06 52.2 -4.6**
MOS *e**SS **sS** **14 07 21.8 +1.5**
MOS pmax pmax
comp=Z,436nm,0.9s
MOS pmax pmax
comp=Z,600nm,1.0s
MOS smax smax
comp=E,700nm,2.7s
MOS smax smax
comp=N,2μm,5.1s
MOS MLR MLR
comp=Z,1μm,23.0s
SKR Severo-Kuril's 68.25 37 *e*P **P** **13 58 00.3 -0.1**
SKR pmax pmax
comp=Z,2μm,3.0s
SKR pmax pmax
comp=Z,451nm,1.1s
SKR pmax pmax
comp=Z,500nm,3.1s
SKR MLR MLR
comp=Z,2μm,20.0s
OBN Obninsk 68.52 328 P **P** **13 58 02.0 0.0**
comp=Z,40nm,0.6s,baz=81,slow=2.2,SNR=69
OBN pP **pP** **13 58 16.8 +1.0**
comp=Z,25nm,0.6s,baz=107,slow=12,SNR=5.6
OBN S **S** **14 06 56.8 -3.4**
comp=Z,5.1nm,0.3s,baz=168,slow=22,SNR=9.7
OBN Obninsk 68.52 328 *e*P **P** **13 58 01.8 -0.3**
OBN pP **pP** **13 58 16.8 +1.0**
OBN S **S** **14 06 56.8 -3.4**
OBN LR LR
comp=Z,401nm,20.0s
OBN Obninsk 68.52 328⇑*i*P **P** **13 58 02.2 +0.2**
OBN Obninsk 68.52 328*c i*P **P** **13 58 01.6 -0.4**
OBN *i**PP **pP** **13 58 16.3 +0.5**
OBN *i**SP **sP** **13 58 21.4 0.0**
OBN *i*S **S** **14 06 56.5 -3.7**
OBN *e*PS **PnS** **14 07 24.6 -5.9**
OBN pmax pmax
comp=Z,449nm,1.3s
OBN MLR MLR
comp=Z,593nm,22.0s
MANT Manisa 68.76 309 *e*P **P** **13 58 04.5 +0.3**
MA2 Magadan 69.10 27 *e*P **P** **13 58 05.4 -0.2**
MA2 LR LR
comp=Z,2μm,22.0s
MA2 Magadan 69.10 27 *e*P **P** **13 58 05.4 -0.2**
MA2 MLR MLR
comp=Z,2μm,22.0s
LSZ Lusaka 69.16 252 *e*P **P** **13 58 08.3 +1.4**
LSZ LR LR
comp=Z,3μm,20.0s
LSZ Lusaka 69.16 252 *e*P **P** **13 58 08.3 +1.4**
LSZ MLR MLR
comp=Z,3μm,20.0s
KARP Karpathos 69.34 306 *e*P **P** **13 58 08.5 +0.9**
KARP Karpathos 69.34 306 P **P** **13 58 08.4 +0.8**
KLMR Klimovskoe 69.67 334 *e*P **P** **13 58 06.5 -2.6**
KLMR *e* 14 00 40.5
KLMR *e*S **S** **14 07 09.9 -3.7**
KLMR pmax pmax
comp=Z,224nm,0.9s
KLMR Klimovskoe 69.67 334 *e*P **P** **13 58 06.5 -2.6**
KLMR AMP 13 58 10.0
comp=Z,224nm,0.9s
KLMR *e*PP **PP** **14 00 40.5 -3.1**
KLMR *e*S **S** **14 07 10.0 -3.7**
KLMR *e*S **S** **14 07 10.0 -3.7**
EFOR EFORIE 69.90 315⇑*i*P **P** **13 58 10.3 -0.5**
SMG Samos 69.95 308 P **P** **13 58 11.8 +0.5**
SMG Samos 69.95 308 P **P** **13 58 11.8 +0.5**
PEA0B Petropavlovsk- 70.00 35 *e*P **P** **13 58 11.2 0.0**
PETK Petropavlovsk- 70.00 35 P **P** **13 58 10.6 -0.6**
comp=Z,34nm,1.0s,baz=238,slow=2.1,SNR=19
PETK LR LR 14 29 05.9
comp=Z,2μm,21.8s,baz=227,slow=36

TLCR 70.03 316⇑ *i*P P P 13 58 12.0 +0.4
MFTR Murfatlar 70.06 315⇑ *i*P P P 13 58 12.3 +0.5
TIXI Tiksi 70.10 11 P P P 13 58 10.6 -0.9
comp=Z,209nm,0.8s,baz=208,slow=2.7,SNR=468
TIXI S S 14 07 14.0 -4.3
comp=Z,1.1nm,0.6s,baz=41,slow=21,SNR=10
TIXI Tiksi 70.10 11 P P P 13 58 10.6 -0.9
TIXI S S 14 07 14.0 -4.3
TIXI LR LR
comp=Z,4μm,22.0s
TIXI Tiksi 70.10 11 *c i*P P P 13 58 10.4 -1.1
TIXI pmax pmax
comp=Z,316nm,0.9s
PSN Preselentsi 70.12 315 *e*P P P 13 58 13.0 +0.8
TIRR Tirgusor 70.14 316 *e*P P P 13 58 12.6 +0.3
TIRR Tirgusor 70.14 316⇑ *i*P P P 13 58 12.8 +0.6
TIRR Tirgusor 70.14 316 *e*P P P 13 58 12.6 +0.3
TLB Topalu 70.42 316⇑ *i*P P P 13 58 14.5 +0.5
KIS Kishinev 70.47 318⇑ *i*P P P 13 58 13.0 -1.3
comp=Z,800nm,2.0s
KIS Kishinev 70.47 318 *e*PP PP 14 00 44.0 -6.8
KIS *e*S S 14 07 18.0 -5.5
KIS LRM MLR 14 33 44.0
comp=Z,500nm,16.0s
KIS Kishinev 70.47 318⇑ *i*P P P 13 58 13.0 -1.3
KIS *e* 13 58 28.0
KIS *e*S S 14 07 18.0 -5.5
KIS *e* 14 07 44.0
KIS pmax pmax
comp=Z,800nm,2.0s
KIS MLR MLR
comp=Z,500nm,16.0s
ICOR Ion Corvin 70.49 315⇑ *i*P P P 13 58 15.2 +0.8
CFR Carcaliu 70.49 316⇑ *i*P P P 13 58 14.5 +0.1
PET Petropavlovsk 70.52 35 *e*P P P 13 58 14.1 -0.3
PET Petropavlovsk 70.52 35 *e*P P P 13 58 12.3 -2.1
PET *e*S S 14 07 23.3 -0.5
PET pmax pmax
comp=Z,700nm,3.9s
PET pmax pmax
comp=Z,162nm,1.1s
PET pmax pmax
comp=Z,500nm,11.3s
PET MLR MLR
comp=Z,2μm,23.0s
GIUM Giurgiulesti 70.52 317⇑ *i*P P P 13 58 15.5 +1.0
HARR Harsova 70.52 316⇑ *i*P P P 13 58 15.1 +0.5
NPS Neapolis 70.55 306 P P P 13 58 15.8 +0.8
NPS Neapolis 70.55 306 P P P 13 58 16.0 +1.0
NPS Neapolis 70.55 306 P P P 13 58 15.8 +0.8
AMGA Amorgos Island 70.56 307 P P P 13 58 14.8 -0.2
PRD Provadia 70.58 314 *e*P P P 13 58 15.5 +0.6
ANAF Anafi Island 70.58 307 P P P 13 58 15.1 -0.1
LAST Lasithi 70.64 306 P P P 13 58 16.3 +0.6
LAST Lasithi 70.64 306 P P P 13 58 16.4 +0.7
CHOS Chios island 70.68 309 P P P 13 58 16.5 +0.7
CHOS Chios island 70.68 309 P P P 13 58 16.7 +0.9
LEOM Leova 70.72 318⇑ *i*P P P 13 58 16.1 +0.3
THR8 Santorini-Mono 70.82 307 P P P 13 58 16.4 -0.2
SANT Santorini 70.83 307 *e*P P P 13 58 16.3 -0.4
THR2 Thira island, 70.86 307 P P P 13 58 16.7 -0.2
THR2 Thira island, 70.86 307 P P P 13 58 16.7 -0.2
APE Apeiranthos 70.88 308⇓ *i*P P P 13 58 16.3 -0.7
APE Apeiranthos 70.88 308 *c i*P P P 13 58 16.4 -0.6
APE pmax pmax
comp=Z,49nm,0.8s
THR6 Thira Island, 70.88 307 P P P 13 58 16.8 -0.2
THR6 Thira Island, 70.88 307 P P P 13 58 16.8 -0.2
THR3 Thira Island, 70.88 307 P P P 13 58 16.9 -0.1
THR3 Thira Island, 70.88 307 P P P 13 58 16.9 -0.1
RASA Rasa 70.97 315⇑ *i*P P P 13 58 17.7 +0.4
JMB Yambol 71.02 313 *e*P P P 13 58 18.5 +0.8
IOSP Ios island 71.02 307 P P P 13 58 16.4 -1.4
WAKE Wake Island 71.05 71 P P P 13 58 16.2 -2.0
comp=Z,229nm,1.4s
WAKE LR LR
comp=Z,2μm,19.0s
ALN Alexandroupoli 71.12 312 *e*P P P 13 58 19.0 +0.7
ALN Alexandroupoli 71.12 312 P P P 13 58 18.5 +0.2
ALN Alexandroupoli 71.12 312 P P P 13 58 19.0 +0.7
IDI Anoyia 71.14 306 *e*P P P 13 58 18.9 +0.3
IDI Anoyia 71.14 306⇑ *i*P P P 13 58 19.5 +0.8
AKASG Malin Array Be 71.19 322 P P P 13 58 18.0 -0.6
comp=Z,119nm,0.6s,baz=94,slow=4.8,SNR=279
AKASG pP pP 13 58 33.1 +0.6
comp=Z,32nm,0.7s,baz=90,slow=5.3,SNR=5.6
AKASG S S 14 07 28.3 -3.4
comp=Z,0.3nm,0.3s,baz=118,slow=2.1,SNR=5.3
AKASG PKPPKP P'P'df 14 26 09.9 -4.3
comp=Z,0.1nm,0.3s,baz=275,slow=2.3,SNR=4.4
AKBB Malin Array Si 71.19 322 *e*P P 13 58 17.8 -0.7
AKBB Malin Array Si 71.19 322 *e*P P 13 58 17.8 -0.7
KIEV Kiev 71.20 322 *e*P P 13 58 17.8 -0.8
KIEV LR LR
comp=Z,606nm,21.0s
KIEV Kiev 71.20 322⇑ *i*P P P 13 58 18.1 -0.5
KIEV Kiev 71.20 322 *i*P P P 13 58 18.0 -0.6
SNR=115
KIEV Kiev 71.20 322 *c i*P P P 13 58 17.9 -0.6
KIEV pmax pmax
comp=Z,156nm,0.8s
AK11 Malin Array Si 71.22 322 *e*P P P 13 58 18.0 -0.7
PGOR Pogoanele 71.23 316⇓ *i*P P P 13 58 20.5 +1.6
PETR Petresti 71.24 317⇑ *i*P P P 13 58 20.5 +1.6
LEHL Lehliu 71.25 315⇑ *i*P P P 13 58 19.9 +0.9
H11N1 WAKE ISLAND Hy 71.28 71 P P P 13 58 19.9 +0.5
H11N2 WAKE ISLAND Hy 71.29 71 P P P 13 58 20.0 +0.5
H11N3 WAKE ISLAND Hy 71.30 71 P P P 13 58 20.1 +0.5
GRER 71.34 316⇓ *i*P P P 13 58 21.5 +1.9
IAS Iasi 71.35 318⇑ *i*P P P 13 58 19.5 -0.1
IAS Iasi 71.35 318 P P P 13 58 19.8 +0.2
ODBI Odobesti 71.37 317⇓ *i*P P P 13 58 21.1 +1.4
SEY Seymchan 71.37 24⇑ *e*P P P 13 58 19.1 -0.3
RDO Rodhopi 71.54 312 P P P 13 58 20.8 0.0
RDO Rodhopi 71.54 312 P P P 13 58 20.8 0.0
ISR Istrita 71.58 316⇑ *i*P P P 13 58 22.1 +1.0
VRI Vrincioaia 71.61 317⇑ *i*P P P 13 58 22.4 +1.2
PLOR Plostina 71.66 317⇑ *i*P P P 13 58 22.6 +1.0
SULR 71.69 316⇑ *i*P P P 13 58 23.2 +1.5
VAM Vamos 71.71 306 P P P 13 58 23.1 +1.1
VAM Vamos 71.71 306 P P P 13 58 23.1 +1.1
VAM Vamos 71.71 306 P P P 13 58 23.1 +1.1
KDZ Kurdzhali 71.72 312 *e*P P P 13 58 26.4 +4.4
CASY Casey 71.73 173 *e*P P P 13 58 22.1 +0.7
comp=Z,64nm,1.3s
CASY LR LR
comp=Z,530nm,20.0s
SGRR Singureni 71.80 315⇓ *i*P P P 13 58 23.1 +0.8
SECR 71.89 316⇑ *i*P P P 13 58 24.5 +1.6
PLAR PLOIESTI 71.90 316⇑ *i*P P P 13 58 23.9 +1.0
IMMV Iera Moni Meta 71.90 306 P P P 13 58 24.1 +1.0
MLR Muntele Rosu 72.07 316 LR LR 14 36 13.6
comp=Z,250nm,19.9s,baz=71,slow=41
MLR Muntele Rosu 72.07 316 *e*P P P 13 58 24.9 +0.8
MLR Muntele Rosu 72.07 316⇑ *i*P P P 13 58 25.1 +1.0
MLR Muntele Rosu 72.07 316 *e*P P P 13 58 24.9 +0.8
ZIMR 72.12 314⇓ *i*P P P 13 58 25.4 +1.1
RZN Rozhen 72.24 312 *e*P P P 13 58 25.3 0.0
BIZ Bicaz 72.27 318⇑ *i*P P P 13 58 25.8 +0.7
PRAR RASCA 72.27 318⇑ *i*P P P 13 58 25.5 +0.3
KAVA Kavala 72.28 311 P P P 13 58 25.5 +0.2
KAVA Kavala 72.28 311 P P P 13 58 25.5 +0.2
VLY Voula,Athens 72.36 308 P P P 13 58 25.0 -0.8
VLY Voula,Athens 72.36 308 P P P 13 58 25.1 -0.8
ANKY Antikythira Is 72.50 306 P P P 13 58 26.9 +0.2
ANKY Antikythira Is 72.50 306 P P P 13 58 26.9 +0.2
DOPR Dopca 72.55 317⇑ *i*P P P 13 58 27.0 +0.2
HUMR Humele 72.55 315⇑ *i*P P P 13 58 27.4 +0.5
OUR Ouranopolis 72.57 311 P pP 13 58 44.2 +3.1
MTUR Matau 72.63 316⇑ *i*P P P 13 58 27.7 +0.3
VOIR 72.68 316⇑ *i*P P P 13 58 27.6 -0.1
PAIG Paliouri 72.74 310 P P P 13 58 28.0 -0.1
PAIG Paliouri 72.74 310 P P P 13 58 28.0 -0.1
PAIG Paliouri 72.74 310 P P P 13 58 28.0 -0.1
KYTH Kithira 72.75 306 P P P 13 58 27.9 -0.3
KYTH Kithira 72.75 306 P P P 13 58 27.9 -0.3
DID Didima 72.75 308 P P P 13 58 26.9 -1.3
DID Didima 72.75 308 P P P 13 58 26.8 -1.4
KRND KRANIDI 72.80 308 P P P 13 58 27.5 -1.0
NVR Nevrokopi 72.82 312 P P P 13 58 28.5 -0.1
NVR Nevrokopi 72.82 312 P P P 13 58 28.5 -0.1
VLAD Vladila 72.86 315⇑ *i*P P P 13 58 29.5 +0.8

VLI Veliai 72.89 307 P P P 13 58 27.6 -1.4
VLI Veliai 72.89 307 P P P 13 58 27.6 -1.4
ARR Arges 72.95 316⇓ *i*P P P 13 58 29.5 +0.2
MMB Musomiste 72.95 312 *e*P P P 13 58 20.2 -9.2
PLG Polygyros 72.98 311 P P P 13 58 29.3 -0.3
PLG Polygyros 72.98 311 P P P 13 58 29.3 -0.3
PLG Polygyros 72.98 311 P P P 13 58 29.3 -0.3
SRS Serrai 72.98 311 P P P 13 58 29.1 -0.4
SRS Serrai 72.98 311 P P P 13 58 29.1 -0.4
SRS Serrai 72.98 311 P P P 13 58 29.1 -0.4
BURAR Bucovina Array 73.00 318⇑ *i*P P P 13 58 30.9 +1.3
LTK Loutraki 73.03 308 P P P 13 58 28.3 -1.6
LTK Loutraki 73.03 308 P P P 13 58 28.3 -1.6
MICGM Minsk 73.03 326⇑ *i*P P P 13 58 30.0 +0.5
MICGM PM 13 58 31.0
comp=Z,1.1nm,1.0s
MICGM *e*LR LR 14 35 52.0
MNK Minsk 73.03 326⇑ *i*P P P 13 58 30.0 +0.5
MNK pmax pmax
comp=Z,1μm,1.0s
DYR Agios Nikonas 73.38 307 P P P 13 58 31.8 -0.1
PUL Pulkovo 73.40 331⇑ *i*P P P 13 58 31.9 +0.4
PUL pmax pmax
comp=Z,341nm,0.5s
PUL Pulkovo 73.40 331 *e*P P P 13 58 31.6 +0.1
PUL IAmb IAmb 13 58 33.4
comp=Z,538nm,0.5s
VLX Vlachokerasia 73.41 307 P P P 13 58 31.5 -0.7
VLX Vlachokerasia 73.41 307 P P P 13 58 31.5 -0.7
DSF Desfina 73.42 309 P P P 13 58 30.3 -2.0
DSF Desfina 73.42 309 P P P 13 58 30.2 -2.0
ARCR ARCALIA 73.47 318⇑ *i*P P P 13 58 33.4 +1.2
VTS Vitosha 73.49 313 *e*P P P 13 58 32.5 -0.2
VTS Vitosha 73.49 313⇑ *i*P P P 13 58 32.9 +0.2
VTS Vitosha 73.49 313 P P P 13 58 32.6 -0.1
VTS Vitosha 73.49 313 P P P 13 58 32.4 -0.2
GUR Goura 73.51 308 P P P 13 58 31.8 -1.0
GUR Goura 73.51 308 P P P 13 58 31.9 -0.9
KNT Kendrikon 73.51 311 P P P 13 58 32.2 -0.4
KNT Kendrikon 73.51 311 P P P 13 58 32.2 -0.4
LOT Lotru 73.56 316⇑ *i*P P P 13 58 32.9 -0.1
LBTB Lobatse 73.61 242 *e*P P P 13 58 35.0 +1.3
AGG Agios Georgios 73.65 309 *e*P P P 13 58 32.2 -1.3
AGG Agios Georgios 73.65 309 P P P 13 58 31.9 -1.6
AGG Agios Georgios 73.65 309 *e*P P P 13 58 32.2 -1.3
LIT Litokhoron 73.67 310 *e*P P P 13 58 32.9 -0.7
LIT Litokhoron 73.67 310 P P P 13 58 32.8 -0.7
LIT Litokhoron 73.67 310 *e*P P P 13 58 32.9 -0.7
KLV Kalavryta, Ach 73.67 308 P P P 13 58 32.6 -1.1
KLV Kalavryta, Ach 73.67 308 P P P 13 58 32.6 -1.1
KALE Kalithea 73.72 308 P P P 13 58 32.8 -1.2
KALE Kalithea 73.72 308 P P P 13 58 32.8 -1.2
ITM Ithomi 73.75 307 *e*P P P 13 58 33.7 -0.4
ITM Ithomi 73.75 307 P P P 13 58 33.7 -0.4
NACGM Naroch 73.76 326 *e*P P P 13 58 32.0 -1.7
NACGM *e*P P 13 58 32.0 -1.7
NACGM PM 13 58 34.0
comp=Z,1.1nm,1.0s
NACGM *e*PcP sP 13 58 54.0 +0.8
NACGM *e*PP PP 14 01 10.0 -8.7
NACGM *e*S SKiKP 14 07 55.0 -3.8
NACGM *e*ScS SKSac 14 08 20.0 -16
NACGM *e*SS SS 14 12 36.0 -9.3
NACGM *e*SSS SSS 14 15 42.0
NACGM *e*LQ LQ 14 24 16.0
NACGM *e*LR LR 14 28 16.0
TRIZ Trizonia 73.77 308 P P P 13 58 33.2 -1.0
VAY Valandovo 73.78 312 *i*P P P 13 58 34.1 -0.1
LAKA Lakka 73.83 308 P P P 13 58 33.9 -0.6
LAKA Lakka 73.83 308 P P P 13 58 34.0 -0.6
GRG Griva 73.85 311 P P P 13 58 34.0 -0.7
GRG Griva 73.85 311 P P P 13 58 34.0 -0.7
GRG Griva 73.85 311 P P P 13 58 34.0 -0.7
PYL PYLOS 73.86 307 P P P 13 58 33.8 -1.0
PYL PYLOS 73.86 307 P P P 13 58 33.9 -0.9
IDID Didziasalis 73.89 326 *e*P P P 13 58 35.0 +0.5
IDID IAmb IAmb 13 58 36.5
comp=Z,105nm,0.9s
CJR Cluj-Napoca 73.91 317⇓ *i*P P P 13 58 35.9 +1.0
EFP Efpalio 73.91 309 P P P 13 58 35.4 +0.4
ANX Ano Chora 73.92 309 P P P 13 58 34.4 -0.8
PUNG Punghina 73.96 315⇑ *i*P P P 13 58 35.8 +0.7
AMT Artemida-Makis 73.96 308 P P P 13 58 34.9 -0.5
THL Klokotos Trika 73.96 310 P P P 13 58 33.6 -1.7
DRO Drossia 74.01 308 P P P 13 58 35.7 +0.1
STIP Stip 74.11 312 *i*P P P 13 58 34.5 -1.7
BMR Baia Mare 74.15 318⇑ *i*P P P 13 58 37.4 +1.2
IIGN Ignalina 74.18 326 *e*P P P 13 58 36.8 +0.6
IIGN IAmb IAmb 13 58 38.2
comp=Z,89nm,0.7s
RLS Riolos of Patr 74.21 308 P P P 13 58 36.8 +0.1
RLS Riolos of Patr 74.21 308 P P P 13 58 36.8 +0.1
LVV L'vov 74.22 320 *c i*P P P 13 58 37.0 +0.5
LVV *e*S SKiKP 14 08 00.0 +0.3
LVV pmax pmax
comp=Z,500nm,1.1s
PVO Paravola 74.23 309 P P P 13 58 36.7 -0.1
DEV Deva 74.24 316⇑ *i*P P P 13 58 37.8 +1.0
GZR Gura Zlata 74.25 316⇑ *i*P P P 13 58 36.9 0.0
IZAR Zarasai 74.28 327 *e*P P P 13 58 37.3 +0.6
IZAR IAmb IAmb 13 58 37.8
comp=Z,72nm,0.7s
ISAL Salakas 74.29 327 *e*P P P 13 58 37.3 +0.4
ISAL IAmb IAmb 13 58 38.9
comp=Z,101nm,1.1s
HERR Herculane 74.42 315⇑ *i*P P P 13 58 38.6 +0.8
PDO Prodromos 74.49 309 P P P 13 58 38.2 -0.2
DRGR 74.52 317⇑ *i*P P P 13 58 39.5 +1.0
DRGR 74.52 317 P P P 13 58 39.1 +0.6
FNA Florina 74.60 311 P P P 13 58 38.0 -1.1
DZM Mont Dzumac 74.63 114 *e*P P P 13 58 40.9 +1.3
comp=Z,150nm,1.6s
DZM *e*S S 14 08 14.0 +1.9
comp=Z,2μm,30.4s
DZM *e*SS SS 14 13 03.3 +2.9
comp=Z,1μm,28.6s
DZM *e*LR LR 14 21 42.6
comp=Z,3μm,28.1s
BIA Bitola 74.67 311 *i*P P P 13 58 39.0 -0.4
SKO Skopje 74.70 312 *i*P P P 13 58 39.1 -0.5
VSU Vasula 74.75 330 *c i*P P P 13 58 39.4 0.0
VSU pmax pmax
comp=Z,537nm,1.0s
VSU Vasula 74.75 330 *e*P P P 13 58 39.2 -0.3
VSU IAmb IAmb 13 58 40.1
comp=Z,451nm,0.8s
BOSA Boshof 74.76 239 P P P 13 58 41.2 +0.9
comp=Z,28nm,0.9s,baz=88,slow=7.2,SNR=16
BOSA pP pwP 13 58 56.0 -1.1
comp=Z,23nm,0.7s,baz=59,slow=5.8,SNR=6.0
BOSA LR LR 14 26 37.7
comp=Z,2μm,21.1s,baz=66,slow=32
BOSA Boshof 74.76 239 *e*P P P 13 58 41.6 +1.3
BOSA pP pwP 13 58 56.0 -1.1
BOSA Boshof 74.76 239 *e*P P P 13 58 40.6 +0.3
KRUS Krusevo 74.77 311 *i*P P P 13 58 39.3 -0.7
NEST Nestorio 74.80 310 P P P 13 58 39.2 -1.1
LVZ Lovozero 74.81 340 *e*P P P 13 58 39.1 -0.5
LVZ LR LR
comp=Z,869nm,22.0s
LVZ Lovozero 74.81 340 *c i*P P P 13 58 39.4 -0.3
LVZ pmax pmax
comp=Z,26nm,0.7s
TRPA Tarpa 74.87 319⇑ *i*P P P 13 58 41.4 +1.1
TRPA Tarpa 74.87 319⇑ *e*P P P 13 58 41.0 +0.7
MDVR Moldovita 74.89 315⇑ *i*P P P 13 58 40.9 +0.2
VLS Valsamata 74.91 308 P P P 13 58 40.4 -0.4
VLS Valsamata 74.91 308 P P P 13 58 40.3 -0.5
VLS Valsamata 74.91 308 P P P 13 58 40.4 -0.4
LKD2 Lefkada island 74.92 309 P P P 13 58 40.7 -0.2
LKD2 Lefkada island 74.92 309 P P P 13 58 40.7 -0.2
KWP Kalwaria Pacla 75.02 320 *i*P P P 13 58 42.2 +0.9
KWP *e*S S 14 08 13.0 -2.3
KWP Kalwaria Pacla 75.02 320⇑ *i*P P P 13 58 42.2 +0.9
KWP *e*S S 14 08 13.0 -2.3
OHR Ohrid 75.07 311 *i*P P P 13 58 40.9 -0.9
OHR Ohrid 75.07 311 P P P 13 58 41.0 -0.8
BZS Buzias 75.09 316⇑ *i*P P P 13 58 42.0 +0.3
BZS Buzias 75.09 316 P P P 13 58 41.6 -0.1
APA Apatity 75.10 340⇓ *i*P P P 13 58 39.8 -1.5
APA *i* 13 58 57.3

APA *i*S S 14 08 12.0 -3.4
APA pmax pmax
comp=Z,266nm,0.7s
APA MLR MLR
comp=Z,2μm,16.0s
UZH Uzhgorod 75.11 319 *e*P P 13 58 42.2 +0.5
UZH *e* 13 58 53.8
SIRR Siria 75.15 317⇓ *i*P P P 13 58 42.9 +0.8
LTVH Ltavrtes, Hu 75.17 318⇑ *e*P P P 13 58 43.0 +1.0
PHP Peshkopia 75.41 312 P P P 13 58 42.3 -1.4
PHP Peshkopia 75.41 312 P P P 13 58 42.3 -1.4
PHP Peshkopia 75.41 312 P P P 13 58 42.3 -1.4
PABE Paberze 75.47 326 *e*P P P 13 58 43.6 0.0
PABE IAmb IAmb 13 58 45.0
comp=Z,323nm,0.6s
SUW Suwalki 75.59 325 *i*P P P 13 58 44.1 -0.2
SUW *e*S SKiKP 14 08 11.2 +9.5
SUW Suwalki 75.59 325 *e*P P P 13 58 44.3 -0.1
SUW Suwalki 75.59 325 *e*P P P 13 58 44.3 -0.1
MAW Mawson 75.69 192 P P P 13 58 46.0 +1.4
comp=Z,6.6nm,0.8s,baz=1.8,slow=5.7,SNR=7.2
MAW LR LR 14 25 38.1
comp=Z,1μm,21.7s,baz=22,slow=30
MAW Mawson 75.69 192 P P P 13 58 46.0 +1.4
PVY Plav 75.87 313⇑ *i*P P P 13 58 45.5 -0.9
FIA1 FINESS Array S 75.91 332 *e*P P P 13 58 46.0 0.0
FINES FINESS Array B 75.91 332 P P P 13 58 46.1 0.0
comp=Z,115nm,0.7s,baz=102,slow=5.6,SNR=333
FINES pP pP 13 59 00.1 -0.3
comp=Z,68nm,0.6s,baz=95,slow=5.7,SNR=10
FINES LR LR 14 36 18.3
comp=Z,681nm,19.1s,baz=108,slow=39
FINES FINESS Array B 75.91 332 *i*P P P 13 58 46.0 0.0
FINES pmax pmax
comp=Z,114nm,0.7s
IVA Berane 75.95 313⇑ *i*P P P 13 58 46.3 -0.5
DIVS Divibare 76.03 314⇑ *i*P P P 13 58 47.1 -0.1
KOME Kolasin 76.22 313⇑ *i*P P P 13 58 48.0 -0.4
FRGS Fruska Gora 76.28 315⇑ *i*P P P 13 58 48.4 -0.2
ULC Ulcinj 76.33 312⇑ *i*P P P 13 58 48.1 -0.8
PDG Podgorica 76.37 312⇑ *i*P P P 13 58 48.9 -0.1
PDG Podgorica 76.37 312⇑ *i*P P P 13 58 48.5 -0.5
PLE Pljevlja 76.37 313⇑ *i*P P P 13 58 49.3 +0.1
TTG Podgorica 76.37 312⇑ *i*P P P 13 58 48.5 -0.5
TTG Podgorica 76.37 312 *e*P P P 13 58 48.5 -0.5
TTG Podgorica 76.37 312 *e*P P P 13 58 48.5 -0.5
DRME Dracevica, Mon 76.40 312⇑ *i*P P P 13 58 48.9 -0.3
DRME Dracevica, Mon 76.40 312⇑ *i*P P P 13 58 48.8 -0.4
BBLS Lazići 76.42 314⇑ *i*P P P 13 58 49.9 +0.5
NIE Niedzica 76.53 320 *i*P P P 13 58 51.2 +1.3
NIE Niedzica 76.53 320⇑ *i*P P P 13 58 51.2 +1.3
PSZ Piszkesteto 76.59 318 *e*P P P 13 58 50.1 -0.2
PSZ Piszkesteto 76.59 318⇑ *i*P P P 13 58 51.0 +0.7
PSZ Piszkesteto 76.59 318 *e*P P P 13 58 50.1 -0.2
PSZ Piszkesteto 76.59 318⇑ *e*P P P 13 58 50.1 -0.2
NKY Niksic 76.60 313⇑ *i*P P P 13 58 50.4 -0.1
BEL Belsk 76.61 322 *i*P P P 13 58 51.1 +0.9
BEL Belsk 76.61 322⇑ *i*P P P 13 58 51.1 +0.9
BUM Brajici-Budva 76.62 312⇑ *i*P P P 13 58 49.6 -1.0
NKME Niksic 76.63 313⇑ *i*P P P 13 58 50.3 -0.3
CEME Cevo 76.63 312⇑ *i*P P P 13 58 50.4 -0.2
PBUR Paburg 76.70 326 *e*P P P 13 58 51.0 +0.3
PBUR IAmb IAmb 13 58 52.2
comp=Z,806nm,0.7s
UPM Unac-Piva 76.71 313⇑ *i*P P P 13 58 50.7 -0.5
UPM Unac-Piva 76.71 313⇑ *i*P P P 13 58 50.8 -0.5
HAPS Han Pijesak,Bl 76.77 314 *e*P P P 13 58 50.9 -0.6
SLIT Slitere, Latvi 76.84 328 *e*P P P 13 58 50.1 -1.2
SLIT IAmb IAmb 13 58 52.5
comp=Z,482nm,0.8s
HCY Herceg Novi 76.93 312⇑ *i*P P P 13 58 51.7 -0.6
HCY Herceg Novi 76.93 312 *e*P P P 13 58 51.4 -0.9
BRY Bratogost 76.94 313⇑ *i*P P P 13 58 51.9 -0.6
BRY Bratogost 76.94 313⇑ *i*P P P 13 58 51.9 -0.6
OJC Ojcow 76.97 320 *i*P P P 13 58 53.0 +0.7
OJC Ojcow 76.97 320 *e*P P P 13 58 53.1 +0.7
OJC Ojcow 76.97 320 *e*P P P 13 58 53.1 +0.7
LANS Liptovska Anna 77.04 319 *e*P P P 13 58 53.9 +1.1
TREB Trebinje 77.06 313 *e*P P P 13 58 52.3 -0.7
BUD Budapest 77.11 318 *e*P P P 13 58 53.0 -0.1
BUD Budapest 77.11 318 P P P 13 58 53.8 +0.7
MORH Mrgy, Hungar 77.22 316⇑ *i*P P P 13 58 54.0 +0.2
MORH Mrgy, Hungar 77.22 316⇑ *e*P P P 13 58 54.0 +0.2
VYHS Vyhne 77.36 319 *e*P P P 13 58 55.2 +0.6
KLNR Kaliningrad 77.41 325 *c i*P P P 13 58 54.8 +0.2
KLNR pmax pmax
comp=Z,681nm,0.7s
DOB Doboj 77.44 315 *e*P P P 13 58 54.5 -0.6
SRO Srobarova 77.63 318 *e*P P P 13 58 57.1 +1.1
KOLL Kolacno 77.66 319 *e*P P P 13 58 56.8 +0.6
TARA Tarawa 77.76 90 *e*P P P 13 58 59.0 +1.6
TIH Tihany 77.81 317⇑ *e*P P P 13 58 57.1 0.0
OKC Ostrava-Krasne 77.98 320 *e*P P P 13 58 59.1 +1.2
OKC Ostrava-Krasne 77.98 320 *e*P P P 13 58 59.1 +1.2
RAC Raciborz 77.98 320 *e*P P P 13 58 59.4 +1.5
TIP Timpagrande 77.98 309 *e*P P P 13 58 59.0 +0.8
TIP Timpagrande 77.98 309⇓ *i*P P P 13 58 59.1 +0.8
KEV Kevo 78.09 341 *e*P P P 13 58 58.5 +0.4
KEV LR LR
comp=Z,2μm,21.0s
KEV Kevo 78.09 341 *e*P P P 13 58 58.5 +0.4
KEV MLR MLR
comp=Z,2μm,21.0s
KEV Kevo 78.09 341 *e*P P P 13 58 58.7 +0.6
BLY Banja Luka 78.09 315 *e*P P P 13 58 59.1 +0.4
BLY Banja Luka 78.09 315⇑ *i*P P P 13 58 59.4 +0.7
BLY Banja Luka 78.09 315⇑ *i*P P P 13 58 59.1 +0.4
MATE Matera 78.12 310⇓ *i*P P P 13 58 59.0 +0.1
JAVC Velka Javorina 78.17 319⇑ *i*P P P 13 58 59.0 +1.7
SMOL Smolenice 78.30 318 P P P 13 58 59.0 +1.0
SMOL Smolenice 78.30 318 *e*P P P 13 58 59.0 +1.0
MORC Moravsky Berou 78.36 320 *e*P P P 13 58 59.1 +0.9
MORC Moravsky Berou 78.36 320⇑ *i*P P P 13 58 59.1 +0.9
MORC Moravsky Berou 78.36 320 P P P 13 58 59.0 +0.7
MORC pmax pmax
comp=Z,725nm,1.4s
MORC Moravsky Berou 78.36 320⇑ *i*P P P 13 59 00.9 +0.8
MORC *e*S S 14 08 52.4 +0.5
MODS Modra-Piesok 78.38 318 *e*P P P 13 59 01.2 +1.0
ARCES ARCESS Array B 78.52 340 P P P 13 59 01.0 +0.5
comp=Z,165nm,0.9s,baz=93,slow=5.3,SNR=439
ARCES pP pP 13 59 15.2 +0.3
comp=Z,38nm,0.7s,baz=95,slow=6.7,SNR=4.3
ARCES LR LR 14 37 11.9
comp=Z,56nm,21.7s,baz=111,slow=38
ARE0 ARCESS Array S 78.52 340 *e*P P P 13 59 01.2 +0.6
BEHE Becsehely 78.53 316⇑ *e*P P P 13 59 02.0 +1.0
BEHE Becsehely 78.53 316⇑ *i*P P P 13 59 02.3 +1.2
CEL Celeste 78.60 308 *e*P P P 13 59 03.1 +1.4
BILL Bilibino 78.63 21 *e*P P P 13 59 00.4 -0.8
comp=Z,181nm,1.4s
BILL LR LR
comp=Z,2μm,21.0s
BILL Bilibino 78.63 21 *c i*P P P 13 59 00.8 -0.4
BILL pmax pmax
comp=Z,128nm,1.3s
CUC Castrocucco 78.76 310 *e*P P P 13 59 02.5 0.0
SOP Sopron 78.79 318 P P P 13 59 03.1 +0.6
SOP Sopron 78.79 318⇑ *e*P P P 13 59 03.0 +0.6
KRLC Kraliky 78.88 320 *e*P P P 13 59 04.5 +1.5
KRLC Kraliky 78.88 320 *e*P P P 13 59 04.5 +1.5
KOGS Kog 78.89 316 *i*P P P 13 59 03.8 +0.8
VRAC Vranov 78.93 319⇓ *i*P P P 13 59 03.9 +0.7
VRAC Vranov 78.93 319⇑ *i*P P P 13 59 04.0 +0.7
GKP Gorka Klasztor 78.96 323 *e*P P P 13 59 03.6 +0.4
GKP *e*S S 14 08 55.8 -2.1
GKP Gorka Klasztor 78.96 323⇑ *e*P P P 13 59 03.6 +0.4
GKP *e*S S 14 08 55.8 -2.1
KRUC Moravsky 79.03 319⇑ *i*P P P 13 59 04.4 +0.6
KTK1 Kautokeino 79.14 340 *e*P P P 13 59 04.7 +0.8
DPC Dobruska-Polom 79.20 320 *e*P P P 13 59 06.1 +1.4
DPC *e*S S 14 08 58.4 -2.4
DPC AMS AMS 14 42 40.0
comp=Z,500nm,19.1s
DPC Dobruska-Polom 79.20 320 *e*P P P 13 59 06.1 +1.4
DPC *e*S S 14 08 58.4 -2.4
DPC MLR MLR
comp=Z,500nm,19.1s
KSP Ksiaz 79.27 321 *i*P P P 13 59 06.0 +1.0
KSP *e*S S 14 08 59.8 -1.6
KSP Ksiaz 79.27 321⇑ *i*P P P 13 59 06.0 +1.0
KSP *e*S S 14 08 59.8 -1.6

CONA Conrad Observa 79.28 318 *i* P **P 13 59 05.8 +0.5**
comp=Z,71nm,1.2s,SNR=27
SUR Sutherland 79.36 236 *e*P **P 13 59 06.4 +0.3**
comp=Z,140nm,1.0s
SUR LR LR 14 40 30.0
comp=Z,2µm,19.0s
CRES Cresnjev 79.40 316⇑ *i*P **P 13 59 06.4 +0.5**
UPC Upice 79.42 320 *e*P **P 13 59 07.1 +1.3**
UPC *e*S **S 14 08 58.4 -4.6**
UPC AMS AMS 14 40 30.0
comp=Z,700nm,18.4s
UPC Upice 79.42 320 *e*P **P 13 59 07.1 +1.3**
UPC *e*S **S 14 08 58.4 -4.6**
UPC MLR MLR 14 40 30.0
comp=Z,700nm,18.4s
HAMF Hammerfest 79.44 341 *e*P **P 13 59 05.6 +0.1**
ARSA Arzberg 79.46 317 *e*P **P 13 59 07.2 +1.0**
comp=Z,124nm,1.1s,SNR=53
BOJS Bojanci 79.52 315 *i*P **P 13 59 07.1 +0.6**
BOJS *i*pP **pP 13 59 21.4 +0.7**
BOJS *i*sP **sP 13 59 27.6 +1.4**
BOJS *e*PP **PP 14 02 07.1 -0.3**
TREC Trest 79.65 319 *e*P **P 13 59 08.3 +1.2**
TREC Trest 79.65 319 *e*P **P 13 59 08.3 +1.2**
PERS Pernice 79.69 316 *e*P **P 13 59 08.2 +0.7**
PERS *i*pP **pP 13 59 22.5 +0.9**
SOKA Soboth 79.75 316 *e*P **P 13 59 08.8 +0.9**
comp=Z,244nm,1.3s,SNR=98
TSUM Tsumeb 79.82 250 *e*P **P 13 59 11.1 +2.3**
TSUM LR LR 14 40 30.0
comp=Z,2µm,20.0s
VISS Visnje 79.83 316 *i*P **P 13 59 08.8 +0.6**
VISS *i* 13 59 10.5
VISS *e* 13 59 23.8
LJU Ljubljana 80.06 316⇑ *i*P **P 13 59 10.3 +0.9**
OBKA Obir 80.07 316 *e*P **P 13 59 10.5 +0.9**
comp=Z,64nm,0.8s,SNR=32
CEY Cerknica 80.11 315⇑ *i*P **P 13 59 10.0 +0.3**
GOPC GO Pecny, Ondr 80.15 320 *e*P **P 13 59 10.9 +1.0**
GOPC *e*S **S 14 09 10.7 -0.1**
GOPC GO Pecny, Ondr 80.15 320 *e*P **P 13 59 10.9 +1.0**
GOPC *e*S **S 14 09 10.7 -0.1**
PRU Pruhonice 80.31 320 *e*P **P 13 59 11.7 +1.0**
PRU *e*S **S 14 09 11.7 -0.7**
PRU AMS AMS 14 41 50.0
comp=Z,600nm,19.7s
PRU Pruhonice 80.31 320 *e*P **P 13 59 11.7 +1.0**
PRU *e*S **S 14 09 11.7 -0.7**
PRU MLR MLR 14 40 30.0
comp=Z,600nm,19.7s
PVCC Panska Ves 80.33 320 *e*P **P 13 59 11.8 +1.0**
PVCC Panska Ves 80.33 320 *e*P **P 13 59 11.8 +1.0**
MOA Molln 80.35 318 *e*P **P 13 59 11.4 +0.4**
comp=Z,32nm,0.8s,SNR=22
JAVS Javornik 80.37 316 *i*P **P 13 59 11.4 +0.2**
JAVS *i*pP **pP 13 59 23.8 -1.6**
JAVS *e*S **S 14 09 14.8 +1.4**
PRA Prague 80.39 320 *e*P **P 13 59 12.9 +1.8**
PRA Prague 80.39 320 *e*P **P 13 59 12.9 +1.8**
BSD Bornholm Skovb 80.51 325⇑ *i*P **P 13 59 11.5 -0.1**
comp=Z,124nm,0.8s
BSD Bornholm Skovb 80.51 325⇑ *i*P **P 13 59 11.5 -0.1**
BSD pmax pmax 14 40 30.0
comp=Z,120nm,0.8s
TRI Trieste 80.57 315 P **P 13 59 12.2 0.0**
AQU L'Aquila 80.69 312 *e*P **P 13 59 13.0 +0.1**
AQU L'Aquila 80.69 312 *e*P **P 13 59 13.0 +0.1**
AQU L'Aquila 80.69 312⇑ *i*P **P 13 59 13.4 +0.4**
MYKA Terra Mystica 80.70 316 *e*P **P 13 59 13.6 +0.6**
comp=Z,40nm,0.7s,SNR=38
BRG Berggiesshubel 80.76 321⇑ *i*P **P 13 59 13.9 +0.9**
comp=Z,102nm,1.0s
BRG *i* 13 59 26.4
comp=Z,44nm,1.1s
BRG S **S 14 09 15.0 -2.1**
comp=N,705nm,21.4s
comp=E,396nm,12.0s
comp=Z,649nm,22.0s
BRG Berggiesshubel 80.76 321 *e*P **P 13 59 13.7 +0.6**
comp=Z,102nm,1.0s,baz=92,slow=5.2
BRG Berggiesshubel 80.76 321⇑ *i*P **P 13 59 13.9 +0.9**
BRG *i* 13 59 26.4
BRG S **S 14 09 15.0 -2.1**
BRG pmax pmax 14 40 30.0
comp=Z,16nm,1.0s
BRG pmax pmax 14 40 30.0
comp=Z,102nm,1.1s
BRG MLR MLR 14 40 30.0
comp=N,44µm,21.4s
BRG MLR MLR 14 40 30.0
comp=E,705nm,12.0s
BRG MLR MLR 14 40 30.0
comp=Z,396nm,22.0s
TRO Tromso 80.77 340 *e*P **P 13 59 12.6 -0.1**
GEC2 GERESS Array S 80.78 319 *e*P **P 13 59 14.1 +0.7**
comp=Z,216nm,1.1s,baz=92,slow=5.2
GERES GERESS Array B 80.78 319 P **P 13 59 14.2 +0.7**
comp=Z,107nm,0.8s,baz=93,slow=5.9,SNR=399
GERES pP **pP 13 59 27.9 +0.4**
comp=Z,37nm,0.9s,baz=86,slow=5.5,SNR=5.7
GERES S **S 14 09 17.5 -0.2**
comp=Z,2.0nm,1.0s,baz=72,slow=8.6,SNR=8.5
HOPEN Hopen 80.82 347 *e*P **P 13 59 12.7 -0.2**
KHC Kasperske Hory 80.88 319 *e*P **P 13 59 14.5 +0.7**
KHC *e*PCP **PcP 13 59 19.3 -1.0**
KHC *e*pP **pP 13 59 28.5 +0.5**
KHC *e*S **S 14 09 12.8 -5.8**
KHC Kasperske Hory 80.88 319 *e*P **P 13 59 14.5 +0.7**
KHC *e* 13 59 28.5
KHC *e*S **S 14 09 12.8 -5.8**
KBA Koelnbreinsper 80.93 317 P **S 13 59 14.4 +0.1**
KBA Koelnbreinsper 80.93 317 *e*P **P 13 59 14.4 +0.1**
comp=Z,44nm,0.7s,SNR=22
RUE Ruedersdorf 80.97 322 *e*P **P 13 59 14.6 +0.5**
comp=Z,263nm,0.8s,baz=92,slow=5.2
RUE Ruedersdorf 80.97 322 *e*P **P 13 59 14.6 +0.5**
RUE lAmb lAmb 13 59 15.4
comp=Z,208nm,0.8s
FBE Freiberg 81.13 321 *e*P **P 13 59 15.9 +0.8**
comp=Z,144nm,1.0s,baz=92,slow=5.2
RJOB Jochberg 81.33 317 *e*P **P 13 59 16.1 -0.1**
comp=Z,84nm,0.8s,baz=92,slow=5.2
WET Wettzell 81.34 319 *e*P **P 13 59 16.9 +0.6**
comp=Z,98nm,1.0s,baz=92,slow=5.2
WET Wettzell 81.34 319 P **P 13 59 17.0 +0.7**
CLL Collm 81.38 321 *e*P **P 13 59 16.5 +0.2**
comp=Z,83nm,1.1s,baz=92,slow=5.2
CLL Collm 81.38 321⇑ *i*P **P 13 59 16.5 +0.2**
comp=Z,83nm,1.1s
CLL *e*pP **pP 13 59 29.0 -1.5**
CLL *e*PP **PP 14 02 24.0 +1.4**
CLL *e*PPP PPP 14 04 12.0
CLL *e*S **S 14 09 22.0 -1.5**
CLL *e*PS **PnS 14 10 20.0 +3.4**
CLL *e*SS **SS 14 14 39.0 -1.2**
CLL *e*SSS SSS 14 18 06.0
CLL *e* 14 19 36.0
CLL LmV 14 42 00.0
comp=Z,600nm,20.2s
CLL Collm 81.38 321⇑ *i*P **P 13 59 16.5 +0.2**
CLL *e* 13 59 29.0
CLL *e*S **S 14 09 22.0 -1.5**
CLL pmax pmax 14 40 30.0
comp=Z,27nm,1.1s
CLL MLR MLR 14 40 30.0
comp=Z,600nm,20.2s
ABTA Abfaltersbach 81.49 316 *e*P **P 13 59 17.1 -0.1**
comp=Z,70nm,1.2s,SNR=24
TANN Tannenbergstha 81.67 320 *e*P **P 13 59 18.4 +0.4**
comp=Z,137nm,1.3s,baz=92,slow=5.2
NKC Novy Kostel 81.67 320 *e*P **P 13 59 18.9 +0.9**
NKC *e*PCP **PcP 13 59 22.4 -1.3**
NKC Novy Kostel 81.67 320 *e*P **P 13 59 18.9 +0.9**
BJO Bjornoya 81.70 345 *e*P **P 13 59 17.9 +0.4**
WERN Wernitzgruen 81.72 320 *e*P **P 13 59 18.9 +0.6**
comp=Z,52nm,1.0s,baz=92,slow=5.2
GUNZ Gunzen 81.75 320 *e*P **P 13 59 19.0 +0.6**
comp=Z,67nm,1.0s,baz=92,slow=5.2
STEI Steigen 81.81 338 *e*P **P 13 59 18.3 +0.1**
PLN Plauen 81.87 320 *e*P **P 13 59 19.4 +0.5**
comp=Z,54nm,0.9s,baz=92,slow=5.2
NEUB Neuenburg 82.14 321 *e*P **P 13 59 20.6 +0.3**
comp=Z,109nm,0.9s,baz=92,slow=5.2
WATA Walderalm 82.14 317 *e*P **P 13 59 20.7 +0.1**
comp=Z,46nm,0.6s,SNR=31
MOX Moxa 82.22 320 *e*P **P 13 59 21.3 +0.5**
comp=Z,54nm,0.9s,baz=92,slow=5.2
MOX *e*L L 14 43 38.9
comp=Z,396nm,21.8s
MOX Moxa 82.22 320 P **P 13 59 21.4 +0.6**
FUR Furstenfeldbru 82.37 318 *e*P **P 13 59 21.7 0.0**
comp=Z,80nm,0.8s,baz=92,slow=5.2
FUR Furstenfeldbru 82.37 318 P **P 13 59 22.0 +0.3**
SQTA Sankt Quirin 82.39 317 *e*P **P 13 59 21.9 0.0**
comp=Z,74nm,0.6s,SNR=50
GRF Grafenberg Arr 82.44 319 *e*P **P 13 59 22.9 +0.9**
comp=Z,135nm,1.0s,baz=92,slow=5.2
GRF *e*L L 14 40 30.7
comp=Z,539nm,21.7s
GRF Grafenberg Arr 82.44 319 P **P 13 59 23.3 +1.3**
GRFO Grafenberg 82.44 319 *e*P **P 13 59 22.2 +0.2**
comp=Z,140nm,1.1s
GRFO Grafenberg 82.44 319 *e*P **P 13 59 22.2 +0.2**
GRFO pmax pmax 14 40 30.0
comp=Z,140nm,1.1s
MOTA Moosalm 82.47 317 *i*P **P 13 59 22.2 -0.2**
comp=Z,68nm,0.7s,SNR=61
KONS Konsvik 82.47 336 *e*P **P 13 59 22.1 +0.3**
LOF Lofoten 82.47 338 *e*P **P 13 59 21.4 -0.3**
RETA Reutte 82.70 317 *i*P **P 13 59 23.6 +0.1**
comp=Z,114nm,0.6s,SNR=52
FETA Feichten 82.72 317 *e*P **P 13 59 23.9 +0.2**
comp=Z,62nm,0.7s,SNR=67
SYO Syowa Base 82.72 197‖ *e*P **P 13 59 24.4 +1.5**
SYO Syowa Base 82.72 197‖ *i*PcP **PcP 13 59 26.0 -1.7**
SYO Syowa Base 82.72 197‖ *e*pP pP 13 59 35.0 -2.2
SYO Syowa Base 82.72 197‖ *i*sP sP 13 59 42.0 -0.7
NC602 NORSAR Array S 82.73 331 *e*P **P 13 59 23.4 +0.2**
NORES NORESS Array B 82.73 331 P **P 13 59 23.7 +0.4**
NORES pmax pmax 14 40 30.0
comp=Z,25nm,0.6s
NSS Namsos 82.78 334 *e*P **P 13 59 23.5 +0.1**
ASSE Asse, Remlinge 82.86 322 *e*P **P 13 59 24.3 +0.3**
comp=Z,94nm,1.1s,baz=92,slow=5.2
NB2 NORSAR Subarra 82.91 331 P **P 13 59 23.8 -0.4**
comp=Z,183nm,1.4s,baz=96,slow=5.1
NB2 NORSAR Subarra 82.91 331 P **P 13 59 23.8 -0.4**
baz=96,slow=5.1
NOA NORSAR Array B 82.91 331 P **P 13 59 23.8 -0.4**
comp=Z,60nm,1.0s,baz=97,slow=5.4,SNR=67
NOA pP **pP 13 59 39.0 +0.2**
comp=Z,20nm,0.7s,baz=92,slow=5.6,SNR=8.6
NOA PP **PP 14 02 33.8 -1.3**
comp=Z,5.9nm,0.8s,baz=88,slow=9.0,SNR=4.8
NOA PKKPbc **PKKPbc 14 17 46.7 -2.8**
comp=Z,0.5nm,0.6s,baz=281,slow=2.3,SNR=3.4
NOA LR LR 14 40 41.3
comp=Z,296nm,18.2s,baz=65,slow=39
CLZ Clausthal 83.04 322 *e*P **P 13 59 25.5 +0.4**
comp=Z,108nm,1.0s,baz=92,slow=5.2
HSPB Hornsund (broa 83.06 347 *e*P **P 13 59 24.6 0.0**
HSPB Hornsund (broa 83.06 347 *e*P **P 13 59 24.5 -0.1**
SPA0 Spitsbergen Ar 83.08 348 *e*P **P 13 59 24.6 -0.2**
OSL Oslo 83.10 330 *e*P **P 13 59 25.8 +0.6**
BSEG Bad Segeberg 83.12 324 *e*P **P 13 59 26.0 +0.6**
comp=Z,156nm,1.0s,baz=92,slow=5.2
UBR Ueberruh 83.15 317 *e*P **P 13 59 25.6 -0.1**
comp=Z,71nm,0.8s,baz=92,slow=5.2
RPZ Rata Peaks 83.18 135 LR LR 14 37 52.5
comp=Z,1µm,18.2s,baz=278,slow=37
NRDL Niedersach Rie 83.21 322 *e*P **P 13 59 26.7 +0.9**
comp=Z,468nm,2.0s,baz=92,slow=5.2
UBBA Unterbreizbach 83.25 320 *e*P **P 13 59 26.5 +0.5**
comp=Z,122nm,1.9s,baz=92,slow=5.2
GTTG Gottingen 83.28 321 *e*P **P 13 59 26.7 +0.4**
comp=Z,177nm,1.2s,baz=92,slow=5.2
DAVOX Davos/Dischmat 83.30 316 LR LR 14 44 04.8
comp=Z,267nm,18.7s,baz=80,slow=41
DAVA Damuels 83.30 317 *i*P **P 13 59 27.1 +0.4**
comp=Z,111nm,1.1s,SNR=29
TBLU Trondheim 83.47 333 *e*P **P 13 59 27.1 +0.1**
KONO Kongsberg 83.66 329 *c i*P **P 13 59 28.0 0.0**
KONO pmax pmax 14 40 30.0
comp=Z,176nm,1.3s
KONO Kongsberg 83.66 329 *e*P **P 13 59 28.6 +0.6**
RETH Rethem/Aller, 83.67 322 *e*P **P 13 59 28.6 +0.4**
comp=Z,107nm,1.1s,baz=92,slow=5.2
RETH *e*pP **pP 13 59 45.2 +2.3**
STU Stuttgart 83.76 318 *e*P **P 13 59 29.0 +0.2**
comp=Z,64nm,0.8s,baz=92,slow=5.2
STU Stuttgart 83.76 318 P **P 13 59 28.7 -0.1**
STU pmax pmax 14 40 30.0
comp=Z,81nm,0.9s
KEST Kesra 83.81 305 P **P 13 59 31.0 +1.5**
comp=Z,68nm,0.7s,baz=73,slow=0.8,SNR=55
MUD Monsted U'grnd 83.82 326⇑ *i*P **P 13 59 30.0 +1.1**
comp=Z,90nm,0.9s
MUD Monsted U'grnd 83.82 326⇑ *i*P **P 13 59 30.0 +1.1**
MUD pmax pmax 14 40 30.0
comp=Z,90nm,0.9s
PGF Pioggiola 83.95 312 *e*P **P 13 59 29.7 -0.3**
PGF pmax pmax 14 40 30.0
comp=Z,37nm,0.9s
DOMB Dombas 83.98 332 *e*P **P 13 59 30.4 +0.7**
KBS Kingsbay 84.06 349 PFAKE 13 59 40.0 +10
KBS LR LR 14 40 30.0
comp=Z,2µm,20.0s
KBS Kingsbay 84.06 349 *ce*P **P 13 59 29.3 -0.4**
KBS pmax pmax 14 40 30.0
comp=Z,247nm,1.3s
KBS Kingsbay 84.06 349 *e*P **P 13 59 29.5 -0.2**
SLE Schleitheim 84.24 317 P **P 13 59 31.5 +0.2**
TNS Taunus Mts 84.24 320 *e*P **P 13 59 31.8 +0.5**
comp=Z,81nm,0.9s,baz=92,slow=5.2
TNS Taunus Mts 84.24 320 P **P 13 59 32.1 +0.8**
BFO Black Forest 84.34 318 *e*P **P 13 59 31.7 -0.1**
comp=Z,9.5nm,0.8s
BFO LR LR 14 40 30.0
comp=Z,23nm,20.0s
BFO Black Forest 84.34 318 *e*P **P 13 59 31.7 -0.1**
comp=Z,62nm,0.8s,baz=92,slow=5.2
BFO Black Forest 84.34 318 *i*P **P 13 59 31.8 -0.1**
IBBN Ibbenburen 84.65 322 *e*P **P 13 59 33.8 +0.6**
comp=Z,144nm,1.0s,baz=92,slow=5.2
LANF Langenberg 84.68 319 P **P 13 59 34.3 +0.8**
MOL Molde 84.69 332 *e*P **P 13 59 33.9 +0.7**
FUNA Funafuti 84.88 99 PFAKE 13 59 50.0 +15
FUNA LR LR 14 40 30.0
comp=Z,5µm,20.0s
SNART Snartemo 84.89 328 *e*P **P 13 59 34.8 +0.5**
AKN Aaknes 84.95 332 *e*P **P 13 59 36.4 +1.9**
BUG Bochum--Univer 84.97 321 *e*P **P 13 59 35.4 +0.5**
comp=Z,124nm,0.9s,baz=92,slow=5.2
CDF Champ du Feu 85.04 318 *e*P **P 13 59 34.6 -0.8**
CDF pmax pmax 14 40 30.0
comp=Z,31nm,0.8s
SBF Sospel 85.06 313 *e*P **P 13 59 35.2 -0.4**
SBF pmax pmax 14 40 30.0
comp=Z,111nm,0.8s
AHRW Bad Neuenahr-A 85.11 320 *e*P **P 13 59 36.4 +0.8**
comp=Z,79nm,1.0s,baz=92,slow=5.2
MOF Molkenrain 85.15 318 *e*P **P 13 59 36.5 +0.5**
ODD1 Odda 85.16 330 *e*P **P 13 59 36.4 +0.7**
ADK Adak 85.20 38 P **P 13 59 34.1 -1.9**
comp=Z,149nm,1.0s
ADK Adak 85.20 38 P **P 13 59 34.1 -1.9**
ADK pmax pmax 14 40 30.0
comp=Z,149nm,1.0s
WTSB Winterswijk 85.25 322 *e*P **P 13 59 36.7 +0.5**
comp=Z,122nm,0.9s
BLS5 Blasjo 85.26 329 *e*P **P 13 59 37.3 +1.1**
SNZO South Karori 85.33 132 PFAKE 13 59 50.0 +13
SNZO LR LR 14 40 30.0
comp=Z,2µm,22.0s
HINF Hinteralfeld 85.34 317 *e*P **P 13 59 36.0 -0.9**
HINF pmax pmax 14 40 30.0
comp=Z,37nm,1.3s
HYA Hoyanger 85.35 331 *e*P **P 13 59 37.2 +0.7**
LPG La Plagne 85.49 315 *e*P **P 13 59 38.4 +0.4**
LPG pmax pmax 14 40 30.0
comp=Z,70nm,0.8s
LPL La Plagne 85.50 315 *e*P **P 13 59 37.7 -0.3**
LPL pmax pmax 14 40 30.0
comp=Z,100nm,0.8s
FRF La Foret Royal 85.64 313 *e*P **P 13 59 38.2 -0.2**
FRF pmax pmax 14 40 30.0
comp=Z,73nm,0.9s
HAU Haudompre 85.67 318 *e*P **P 13 59 37.8 -0.7**
HAU pmax pmax 14 40 30.0
comp=Z,80nm,0.8s
WLF Walferdange 85.74 319 *e*P **P 13 59 39.5 +0.8**
comp=Z,310nm,1.5s,baz=92,slow=5.2
WLF Walferdange 85.74 319⇓ *i*P **P 13 59 39.6 +0.8**
MEM Membach 85.79 320 *e*P **P 13 59 39.7 +0.7**
MEM Membach 85.79 320⇑ *i*P **P 13 59 39.4 +0.5**
comp=Z,44nm,1.0s
BER Bergen 85.80 330 *e*P **P 13 59 39.5 +0.8**
HGN Heimansgroeve 85.83 320 *e*P **P 13 59 39.5 +0.3**
comp=Z,153nm,1.7s
ASK Askoy 85.86 330 *e*P **P 13 59 39.4 +0.4**
KMY Karmoy 85.89 329 *e*P **P 13 59 40.1 +0.9**
FOO Floro 85.89 331 *e*P **P 13 59 39.9 +0.7**
CABF La Chapelle 85.91 316 *e*P **P 13 59 39.5 -0.3**
CABF pmax pmax 14 40 30.0
comp=Z,65nm,0.8s
ORIF Oris-en-Rattie 86.13 315 *e*P **P 13 59 40.8 -0.1**
ORIF pmax pmax 14 40 30.0
comp=Z,32nm,0.8s
GIVF Givet 86.58 320 *e*P **P 13 59 42.6 -0.3**
GIVF pmax pmax 14 40 30.0
comp=Z,43nm,1.1s
URZ Urewera 86.65 129 LR LR 14 38 03.7
comp=Z,1µm,21.7s,baz=286,slow=35
DOU Dourbes 86.72 320⇑ *i*P **P 13 59 44.0 +0.4**
UCC Uccle 86.83 321⇑ *i*P **P 13 59 44.2 +0.1**
SNF Seneffe 86.90 320⇑ *i*P **P 13 59 44.3 -0.1**
BAIF Baives 86.97 320 *e*P **P 13 59 44.8 0.0**
BAIF pmax pmax 14 40 30.0
comp=Z,74nm,0.9s
VIVF Saint-Julien-l 86.99 315 *e*P **P 13 59 44.7 -0.4**
VIVF pmax pmax 14 40 30.0
comp=Z,27nm,0.9s
LOR Lormes 87.39 317 *e*P **P 13 59 46.4 -0.5**
LOR pmax pmax 14 40 30.0
comp=Z,69nm,0.8s
SMF Signal de Mont 87.45 316 *e*P **P 13 59 45.1 -2.1**
SMF pmax pmax 14 40 30.0
comp=Z,58nm,0.7s
SSF Saint Saulge 87.65 317 *e*P **P 13 59 47.7 -0.4**
SSF pmax pmax 14 40 30.0
comp=Z,35nm,0.9s
AVF Avril sur Loir 87.78 317 *e*P **P 13 59 48.2 -0.5**
AVF pmax pmax 14 40 30.0
comp=Z,45nm,1.0s
BGF Bois d'Agland 88.14 316 *e*P **P 13 59 50.5 0.0**
BGF pmax pmax 14 40 30.0
comp=Z,71nm,1.0s
TCF Toulx Ste Croi 88.61 316 *e*P **P 13 59 52.6 -0.1**
TCF pmax pmax 14 40 30.0
comp=Z,94nm,1.6s
EMHD Djebel Mahouad 88.96 306 P **P 13 59 53.3 -1.5**
RAO Raoul Island 89.66 119 LR LR 14 42 24.7
comp=Z,1µm,19.3s,baz=281,slow=37
VNDA Vanda 89.69 168 P **P 13 59 58.0 +0.9**
comp=Z,6.3nm,1.0s,baz=277,slow=4.3,SNR=10
VNDA PKKPbc **PKKPbc 14 17 31.6 -2.3**
comp=Z,2.7nm,0.9s,baz=225,slow=1.4,SNR=7.2
VNDA LR LR 14 37 37.8
comp=Z,1µm,18.1s,baz=304,slow=34
JMIC Jan Mayen 89.96 341 LR LR 14 43 14.5
comp=Z,300nm,21.0s,baz=75,slow=38
EBNR Beni Rached 90.10 306 P P 14 00 05.0 +5.0
CWF Charnwood Fore 90.14 323 *e*P **P 14 00 00.1 +0.4**
CWF lAmb lAmb 14 00 00.7
comp=Z,59nm,1.0s
HPK Haverah Park 90.15 324 *e*P **P 14 00 00.8 +1.0**
HPK lAmb lAmb 14 00 01.2
comp=Z,107nm,0.8s
EDMD Edmundbyers 90.22 325 *e*P **P 14 00 00.4 +0.3**
EDMD lAmb lAmb 14 00 01.3
comp=Z,67nm,0.8s
WOL Wolverton 90.28 321 *e*P **P 14 00 01.5 +1.1**
WOL lAmb lAmb 14 00 02.4
comp=Z,204nm,1.1s
LBWR Ladybower, Pea 90.29 324 *e*P **P 14 00 01.0 +0.6**
LBWR lAmb lAmb 14 00 02.1
comp=Z,140nm,1.0s
ETRT Tiaret 90.38 305 P **P 14 00 03.1 +1.7**
EANR 'Ain N'Sour 90.48 306 P **P 14 00 02.5 +0.7**
BIGH Upper Bighouse 90.69 329 *e*P **P 14 00 03.4 +1.3**
BIGH lAmb lAmb 14 00 04.4
comp=Z,76nm,0.8s
DAG Danmarks Havn 90.72 348⇑ *i*P **P 14 00 01.5 -0.4**
comp=Z,44nm,0.8s
DAG Danmarks Havn 90.72 348⇑ *i*P **P 14 00 01.5 -0.4**
DAG pmax pmax 14 40 30.0
comp=Z,33nm,0.8s
SBA Scott Base 90.79 168 PFAKE 14 00 10.0 +7.8
SBA LR LR 14 40 30.0
comp=Z,907nm,19.0s
ESK Eskdalemuir 90.85 326 *e*P **P 14 00 03.3 +0.4**
comp=Z,48nm,1.1s
ESK Eskdalemuir 90.85 326 *e*P **P 14 00 03.8 +0.8**
ESK lAmb lAmb 14 00 04.2
comp=Z,42nm,0.9s
ESK Eskdalemuir 90.85 326 *i*P **P 14 00 04.2 +1.2**
BHH Howats Hill 90.90 325 *e*P **P 14 00 04.2 +1.0**
KESW Keswick, Cumbr 90.92 325 *e*P **P 14 00 03.9 +0.6**
OLDB Oldbury-Upon-S 91.05 322 *e*P **P 14 00 04.4 +0.4**
MDO Dochfour 91.12 328 *e*P **P 14 00 04.8 +0.7**
HLM1 Long Mynd 91.12 323 *e*P **P 14 00 05.0 +0.7**
HLM1 lAmb lAmb 14 00 05.6
comp=Z,21nm,1.2s
MONM Monmouth 91.18 322 *e*P **P 14 00 05.0 +0.4**
JSA Saint Aubin 91.19 319 *e*P **P 14 00 05.3 +0.7**
JSA lAmb lAmb 14 00 05.8
comp=Z,58nm,0.9s
FOEL Foel Wylfa 91.25 323 *e*P **P 14 00 05.7 +0.8**
FOEL lAmb lAmb 14 00 06.3
comp=Z,53nm,1.0s
MCH1 Michaelchurch 91.27 322 *e*P **P 14 00 04.9 -0.1**
KAC Achnashellach 91.60 328 *e*P **P 14 00 07.0 +0.6**
RRR Rubha Reidh 91.80 328 *e*P **P 14 00 08.4 +1.1**
IOMK Kirk Michael 91.81 325 *e*P **P 14 00 08.6 +1.1**
IOMK lAmb lAmb 14 00 08.9
comp=Z,39nm,1.0s
KPL Plockton 91.82 328 *e*P **P 14 00 08.5 +1.1**
WIM Isle of Man 91.90 325 *e*P **P 14 00 08.9 +1.1**
NVL N'lazarevskaya 92.22 199 *e*P P 14 00 19.6 +11
NVL pmax pmax 14 40 30.0
comp=Z,9.0nm,0.8s
TOA0 Torodi Ar. Sit 92.24 283 P **P 14 00 11.1 +0.8**
SNR=7.1
TORD Torodi Ar. Bea 92.24 283 P **P 14 00 09.5 -0.8**
comp=Z,9.7nm,0.9s,baz=109,slow=6.1,SNR=45
TORD pP **pwP 14 00 26.4 -1.1**
comp=Z,9.6nm,1.1s,baz=118,slow=6.0,SNR=5.9
TORD LR LR 14 41 08.3
comp=Z,807nm,19.2s,baz=30,slow=35
RRH Rhenigidale 92.25 328 *e*P **P 14 00 10.5 +1.2**
RSBS Rosebush, Pemb 92.35 322 *e*P **P 14 00 10.5 +0.5**
ESDC Sonseca Array 93.95 310 P **P 14 00 18.6 +0.8**
comp=Z,6.6nm,0.7s,baz=60,slow=4.1,SNR=34
ESDC PP **PP 14 04 01.8 -2.2**
comp=Z,0.8nm,0.7s,baz=59,slow=9.5,SNR=4.2
ESDC PKKPbc **PKKPbc 14 17 22.5 +1.0**
comp=Z,2.0nm,0.8s,baz=282,slow=2.6,SNR=13
ESDC LR LR 14 46 53.3
comp=Z,344nm,19.4s,baz=340,slow=38
PAB San Pablo 94.27 310 *e*P **P 14 00 18.6 -0.6**
comp=Z,9.6nm,1.0s
PAB LR LR 14 40 30.0
comp=Z,392nm,20.0s
PAB San Pablo 94.27 310 *e*P **P 14 00 18.6 -0.6**
PAB pmax pmax 14 40 30.0
comp=Z,10.0nm,1.0s
PAB MLR MLR 14 40 30.0
comp=Z,392nm,20.0s
SCO Scoresbysund 94.30 343 *i*P **P 14 00 19.6 +1.0**
comp=Z,34nm,1.0s
SCO Scoresbysund 94.30 343 *i*P **P 14 00 19.6 +1.0**
SCO pmax pmax 14 40 30.0
comp=Z,34nm,1.0s
QSPA South Pole Qui 94.66 180 *e*P **P 14 00 20.5 +0.1**
comp=Z,104nm,1.5s
QSPA LR LR 14 40 30.0
comp=Z,4µm,20.0s
TCOL CIGO, UAF Yank 96.84 23 P **P 14 00 30.1 -0.2**
baz=297
COLA College 96.85 23 *e*P **P 14 00 29.7 -0.6**
comp=Z,9.2nm,0.8s
COLA LR LR 14 40 30.0
comp=Z,1µm,21.0s
COLA College 96.85 23‖ *e*P **P 14 00 30.2 0.0**
COLA pmax pmax 14 40 30.0

comp=Z,9.0nm,0.9s
COLA College 96.85 23 *e*P **P** 14 00 30.3 0.0
POKR Poker Plat Res 96.90 22 P **P** 14 00 30.1 -0.4
baz=297
ILAR Eielson Array 97.26 22 P **P** 14 00 30.6 -1.6
comp=Z,7.4nm,0.8s,baz=291,slow=4.1,SNR=71
ILAR pP **pP** 14 00 47.6 +0.5
comp=Z,2.7nm,0.7s,baz=305,slow=4.7,SNR=4.3
ILAR PP **PP** 14 04 27.4 -1.3
comp=Z,4.3nm,0.9s,baz=294,slow=7.4,SNR=5.6
ILAR PKKPbc **PKKPbc** 14 17 10.8 -2.6
comp=Z,1.1nm,0.9s,baz=171,slow=3.1,SNR=6.2
ILAR LR LR 14 47 33.2
comp=Z,829nm,21.9s,baz=304,slow=37
SUMG Summit 97.39 347 *i* P Pdif 14 00 33.4 +0.2
comp=Z,94nm,1.1s
SUMG Summit 97.39 347 *i* P Pdif 14 00 33.4 +0.2
SUMG pmax pmax
comp=Z,94nm,1.1s
HDA Harding Lake 97.41 23 P **P** 14 00 31.5 -1.4
baz=297
KDAK Kodiak Island 97.67 30 P Pdif 14 00 34.3 +0.1
comp=Z,28nm,0.9s,baz=266,slow=4.2,SNR=5.6
KDAK Kodiak Island 97.67 30 P Pdif 14 00 34.3 +0.1
KDAK LR LR
comp=Z,679nm,21.0s
KDAK Kodiak Island 97.67 30 *i* P **P** 14 00 34.0 -0.1
KULLO Kullorsuaq 99.03 353 ⇑ *i* P **Pdif** 14 00 40.2 +0.3
comp=Z,47nm,1.0s
KULLO Kullorsuaq 99.03 353 ⇑ *i* P **Pdif** 14 00 40.2 +0.3
KULLO pmax pmax
comp=Z,47nm,1.0s
VNA3 Neumayer Olymp 99.20 198 P **PKKPbc** 14 17 04.9 -3.5
KIC Kosan Boka 99.22 277 *e*P **Pdif** 14 00 42.9 +0.8
comp=Z,41nm,1.3s
KIC Kosan Boka 99.22 277 *e*P PKKPdf 14 17 34.0 +23
comp=Z,28nm,1.1s
DBIC Dimbokro 99.30 278 P **Pdif** 14 00 43.5 +1.0
comp=Z,3.9nm,0.8s,baz=86,slow=4.4,SNR=7.7
DBIC LR LR 14 45 14.7
comp=Z,788nm,19.4s,baz=70,slow=35
DBIC Dimbokro 99.30 278 *e*P **Pdif** 14 00 43.7 +1.3
TIC Toumodi 99.47 278 *e*P **Pdif** 14 00 44.5 +1.3
TIC Toumodi 99.47 278 *e*P PKKPdf 14 17 33.0 +23
LIC Lamto 99.52 277 *e*P **Pdif** 14 00 44.0 +0.6
comp=Z,36nm,1.4s
LIC Lamto 99.52 277 *e*P PKKPdf 14 17 32.6 +23
comp=Z,26nm,1.0s
INK Inuvik 99.71 16 P **Pdif** 14 00 42.8 -0.2
comp=Z,13nm,0.8s,baz=307,slow=5.6,SNR=44
INK Inuvik 99.71 16 *e*Pdif **Pdif** 14 00 42.6 -0.4
comp=Z,37nm,1.3s
EPYK Eagle Plains 99.97 19 P **Pdif** 14 00 43.8 -0.5
baz=307
DAWY Dawson 100.42 21 *e*Pdif **Pdif** 14 00 46.8 +0.4
comp=Z,11nm,0.9s
RES Resolute Bay 100.47 3 *e*Pdif **Pdif** 14 00 44.1 -2.2
comp=Z,32nm,1.0s
RES Resolute Bay 100.47 3 *e*P **Pdif** 14 00 44.1 -2.2
RES pmax pmax
comp=Z,32nm,1.0s
SHEL Horse Pasture 101.70 255 PFAKE 14 01 00.0 +6.9
SHEL LR LR
comp=Z,753nm,19.0s
DLBC Dease Lake 107.46 23 Pdiff **Pdif** 14 01 19.1 +1.2
comp=Z,2.1nm,1.0s,baz=270,slow=5.1,SNR=2.1
DLBC PKIKP **PKiKP** 14 05 24.7 -1.4
comp=Z,2.4nm,0.8s,baz=254,slow=7.7,SNR=3.2
WRAK Wrangell Islan 107.83 25 PFAKE 14 05 40.0 +13
WRAK LR LR
comp=Z,1µm,20.0s
YKA Yellowknife Ar 109.22 14 PKiKP **PKiKP** 14 05 28.7 -0.3
comp=Z,2.4nm,0.9s,baz=325,slow=3.0,SNR=8.3
YKA PP **PP** 14 05 56.2 -1.5
comp=Z,2.0nm,0.7s,baz=336,slow=7.1,SNR=7.1
YKA PKKPbc **PKKPbc** 14 16 35.1 -2.8
comp=Z,0.7nm,0.7s,baz=149,slow=3.0,SNR=9.3
YKA PKKP **PKKPdf** 14 16 51.8 -0.9
comp=Z,1.1nm,0.8s,baz=149,slow=2.9,SNR=6.4
TBI Tubuai 115.20 113 *e*PS PS 14 16 25.2 +2.1
comp=Z,691nm,29.2s
TBI Tubuai 115.20 113 *e*LR LR 14 40 35.5
comp=Z,1µm,23.2s
PPT2 Papeete2 115.55 107 *e*PP PP 14 06 35.5 -10
comp=Z,136nm,27.2s
PPT2 Papeete2 115.55 107 *e*PS PS 14 16 27.3 +0.7
comp=Z,964nm,27.0s
PPT2 Papeete2 115.55 107 *e*LR LR 14 40 43.9
comp=Z,896nm,24.0s
FCC Fort Churchill 116.27 5 *e*PKPdf **PKiKP** 14 05 42.3 -0.3
FCC Fort Churchill 116.27 5 *e*PKIKP **PKiKP** 14 05 42.3 -0.3
HOPE Hope Point 117.03 209 PFAKE 14 06 00.0 +16
HOPE LR LR
comp=Z,1µm,19.0s
NLWA Neilton Lookou 117.79 29 PFAKE 14 06 00.0 +14
NLWA LR LR
comp=Z,830nm,20.0s
D03D Eldon 118.06 28 P **PKiKP** 14 05 47.1 +0.6
baz=316
PMSA Palmer Station 118.25 190 PFAKE 14 06 00.0 +14
PMSA LR LR
comp=Z,885nm,21.0s
SCHQ Schefferville 118.76 348 PKP **PKPdf** 14 05 47.3 -0.3
comp=Z,15nm,0.6s,baz=22,slow=3.2,SNR=33
SCHQ PKKPbc **PKKPbc** 14 16 03.4 -2.0
comp=Z,2.2nm,0.6s,baz=68,slow=0.5,SNR=6.2
C06D Leavenworth 118.79 27 P **PKPdf** 14 05 47.7 -0.2
baz=318
E04D Cinebar 119.01 29 P **PKiKP** 14 05 49.0 +0.7
baz=316
FFC Flin Flon 119.06 11 *e*PKPdf **PKPdf** 14 05 47.5 -0.7
FFC LR LR
comp=Z,2µm,21.0s
FFC Flin Flon 119.06 11 *i* PKIKP **PKiKP** 14 05 48.2 0.0
F05D White Salmon 120.03 29 P **PKiKP** 14 05 50.9 +0.5
baz=317
NEW Newport 120.15 24 PKP **PKiKP** 14 05 51.0 +0.4
comp=Z,15nm,0.9s,baz=232,slow=4.1,SNR=21
NEW Newport 120.15 24 *e*PKPdf **PKiKP** 14 05 50.9 +0.4
NEW LR LR
comp=Z,2µm,21.0s
NEW Newport 120.15 24 P **PKiKP** 14 05 50.7 +0.1
baz=322
H04D Lebanon 120.37 31 P **PKiKP** 14 05 51.6 +0.6
baz=315
HAWA Hanford 120.55 27 PFAKE 14 06 00.0 +8.6
HAWA LR LR
comp=Z,653nm,20.0s
J01E Myrtle Point 120.70 32 P **PKiKP** 14 05 52.2 +0.5
baz=313
WALA Waterton Lakes 120.76 22 *e*PKPdf **PKPdf** 14 05 51.8 0.0
I04A Tendick Farm, 121.05 31 P **PKiKP** 14 05 52.6 +0.1
baz=315
K02D Willamette Mer 121.16 33 P **PKiKP** 14 05 53.5 +0.7
baz=313
I05D Terrebonne, OR 121.21 30 P **PKiKP** 14 05 53.5 +0.7
baz=316
HUMO Hull Mountain 121.60 32 *e*PKPdf **PKiKP** 14 05 54.7 +1.2
J04D Umpqua Nationa 121.60 31 P **PKiKP** 14 05 54.3 +0.5
baz=315,SNR=8.9
J05D Fort Rock, OR 122.02 31 P **PKiKP** 14 05 55.3 +0.8
baz=316,SNR=8.7
L04D Klamath Falls 122.22 32 P **PKiKP** 14 05 54.9 0.0
baz=314
K04D Chiloquin, OR 122.22 32 P **PKiKP** 14 05 55.3 +0.4
baz=315
YBH Yreka Blue Hor 122.34 33 PKP **PKiKP** 14 05 55.4 +0.2
comp=Z,3.8nm,0.8s,baz=73,slow=7.3,SNR=6.1
M02C Callahan 122.49 33 P **PKiKP** 14 05 55.9 +0.5
baz=314,SNR=7.1
MSO Missoula 122.59 23 P **PKPdf** 14 05 55.1 -0.2
baz=325
BMO Blue Mountains 122.74 27 *e*PKPdf **PKPdf** 14 05 55.2 -0.5
BMO Blue Mountains 122.74 27 *e*PKIKP **PKPdf** 14 05 55.2 -0.5
M04C Macdoel 122.77 32 P **PKiKP** 14 05 56.4 +0.3
baz=315
N02D Trinity Center 122.86 34 P **PKiKP** 14 05 56.8 +0.6
baz=313,SNR=6.4
EGMT Eagleton 123.11 20 PFAKE 14 06 10.0 +14
EGMT LR LR
comp=Z,2µm,21.0s
EGMT Eagleton 123.11 20 P **PKiKP** 14 05 56.7 +0.2
baz=330
O02D Mt. Diablo Mer 123.36 34 P **PKiKP** 14 05 57.6 +0.4
baz=313
O03E Paynes Creek 123.83 34 P **PKPdf** 14 05 57.6 -0.2
baz=314,SNR=8.8
WVOR Wild Horse Val 123.94 30 PFAKE 14 06 10.0 +12
WVOR LR LR
comp=Z,823nm,21.0s
DGMT Dagmar 124.38 15 *e*PKPdf **PKiKP** 14 05 59.5 +0.6
DGMT LR LR
comp=Z,1µm,21.0s
DGMT Dagmar 124.38 15 P **PKiKP** 14 05 59.0 +0.1
baz=336
ULM Lac du Bonnet 124.41 9 PKP **PKPdf** 14 05 58.2 -0.4
comp=Z,39nm,0.7s,baz=356,slow=2.9,SNR=71
BOZ Bozeman (W) 124.50 23 *e*PKPdf **PKiKP** 14 05 59.4 0.0
BOZ LR LR
comp=Z,1µm,21.0s
BOZ Bozeman (W) 124.50 23 *e*PKIKP **PKiKP** 14 05 59.4 0.0
BOZ MLR MLR
comp=Z,1µm,21.0s
BOZ Bozeman (W) 124.50 23 P **PKiKP** 14 05 59.4 0.0
baz=327
TAOE Nuku Hiva Isla 125.03 97 *e*PP PP 14 07 40.6 -10
comp=Z,171nm,26.4s
TAOE Nuku Hiva Isla 125.03 97 *e*PS PS 14 17 52.2 +0.6
comp=Z,175nm,33.3s
TAOE Nuku Hiva Isla 125.03 97 *e*LR LR 14 45 03.9
comp=Z,715nm,24.7s
HLID Hailey 125.03 26 *e*PKPdf **PKiKP** 14 06 00.8 +0.2
HLID LR LR
comp=Z,1µm,19.0s
HLID Hailey 125.03 26 P **PKiKP** 14 06 01.1 +0.6
baz=323
LAO LASA Array 125.42 18 *e*PKPdf **PKiKP** 14 06 01.9 +0.8
LAO LR LR
comp=Z,1µm,21.0s
LAO LASA Array 125.42 18 P **PKiKP** 14 06 01.9 +0.8
baz=334
RLMT Red Lodge 125.78 21 *e*PKPdf **PKiKP** 14 06 02.6 +0.6
RLMT LR LR
comp=Z,2µm,22.0s
RLMT Red Lodge 125.78 21 P **PKiKP** 14 06 02.8 +0.8
baz=330
LKWY Lake 125.84 22 *e*PKPdf **PKiKP** 14 06 04.1 +1.8
LKWY LR LR
comp=Z,2µm,22.0s
H17A Grant Village 125.92 23 P **PKiKP** 14 06 04.0 +1.6
baz=328
MDND Maddock 126.06 12 P **PKPdf** 14 06 01.7 -0.1
baz=342
CMB Columbia Colle 126.19 35 *e*PKPdf **PKiKP** 14 06 02.9 +0.1
CMB Columbia Colle 126.19 35 *e*PKIKP **PKiKP** 14 06 02.9 +0.1
AGMN Agassiz Nation 126.31 9 *e*PKPdf **PKPdf** 14 06 01.7 -0.6
AGMN LR LR
comp=Z,1µm,22.0s
AGMN Agassiz Nation 126.31 9 P **PKPdf** 14 06 01.7 -0.6
baz=346
NVAR Mina Array Bea 127.06 33 PKP **PKiKP** 14 06 05.8 +1.0
comp=Z,22nm,0.8s,baz=270,slow=1.9,SNR=48
NVAR PP **PP** 14 08 03.6 +1.4
comp=Z,6.7nm,1.0s,baz=313,slow=5.7,SNR=3.7
AHID Auburn Hatcher 127.08 24 PFAKE 14 06 20.0 +15
AHID LR LR
comp=Z,1µm,20.0s
EYMN Ely 127.22 6 *e*PKPdf **PKiKP** 14 06 04.6 0.0
EYMN LR LR
comp=Z,2µm,22.0s
EYMN Ely 127.22 6 P **PKiKP** 14 06 04.4 -0.1
baz=352
BW06 Boulder Array 127.69 23 PFAKE 14 06 20.0 +14
BW06 LR LR
comp=Z,1µm,22.0s
BW06 Boulder Array 127.69 23 P **PKPdf** 14 06 05.2 -0.2
baz=328
PDAR Pinedale Array 127.69 23 PKP **PKPdf** 14 06 05.5 +0.1
comp=Z,22nm,0.8s,baz=349,slow=0.5,SNR=90
PDAR pPKP **pPKPdf** 14 06 21.6 +0.9
comp=Z,20nm,0.7s,baz=110,slow=2.0,SNR=12
PDAR SKP 14 09 37.9
comp=Z,0.8nm,0.8s,baz=299,slow=1.9,SNR=3.3
HWUT Hardware Ranch 127.85 25 *e*PKPdf **PKiKP** 14 06 06.2 -0.1
HWUT LR LR
comp=Z,24nm,22.0s
D53A Lac Vacive, Po 128.01 354 P **PKPdf** 14 06 05.6 +0.1
baz=9.1
D50A G1974 Best Tow 128.12 356 P **PKPdf** 14 06 04.9 -0.8
baz=6.4
D51A Lot 18 Range I 128.16 355 P **PKPdf** 14 06 05.3 -0.6
baz=7.0
EFI East Falkland 128.17 201 PFAKE 14 06 20.0 +14
EFI LR LR
comp=Z,1µm,20.0s
D52A ZEK Kipawa Sen 128.19 354 P **PKPdf** 14 06 06.0 +0.1
baz=8.2
D48A Paudash Townsh 128.23 357 P **PKPdf** 14 06 05.9 -0.1
baz=3.9
SMMC Simmler 128.29 37 P **PKiKP** 14 06 07.7 +0.6
baz=313
PKME Peaks-Kenny Pk 128.30 346 PFAKE 14 06 20.0 +13
PKME LR LR
comp=Z,1µm,21.0s
PKME Peaks-Kenny Pk 128.30 346 P **PKiKP** 14 06 06.6 -0.1
baz=22
USHA Ushuaia 128.31 192 PKP **PKiKP** 14 06 06.8 +0.4
comp=Z,11nm,0.9s,baz=90,slow=2.0,SNR=3.4
D41A Chassel 128.32 3 P **PKiKP** 14 06 06.5 -0.2
baz=355
RKT Rikitea 128.39 116 *e*LR LR 14 46 34.5
comp=Z,930nm,32.2s
RSSD Black Hills 128.40 18 *e*PKPdf **PKiKP** 14 06 07.1 -0.2
RSSD Black Hills 128.40 18 *e*PKIKP **PKiKP** 14 06 07.1 -0.2
RSSD Black Hills 128.40 18 P **PKPdf** 14 06 06.8 +0.1
baz=335
D47A Chapleau 128.40 358 P **PKPdf** 14 06 06.0 -0.3
baz=2.3
DUG Dugway, Tooele 128.45 27 *e*PKPdf **PKiKP** 14 06 08.0 +0.5
DUG LR LR
comp=Z,946nm,22.0s
DUG Dugway, Tooele 128.45 27 P **PKiKP** 14 06 07.5 +0.1
baz=324
E38A The Farm, Brul 128.54 6 P **PKPdf** 14 06 06.6 0.0
baz=352,SNR=12
R11A Troy Canyon, C 128.55 31 P **PKiKP** 14 06 08.0 +0.3
baz=320
D46A Sault St. Mari 128.58 359 P **PKPdf** 14 06 06.4 -0.2
baz=1.1
E54A Lac Daplat, Po 128.59 353 P **PKPdf** 14 06 06.2 -0.5
baz=9.8
CWC Cottonwood Cre 128.61 34 P **PKiKP** 14 06 07.6 -0.3
baz=316
PKM Mcpherson Peak 128.69 37 P **PKiKP** 14 06 08.9 +0.7
baz=313
E53A Dumoine, Ponti 128.70 354 P **PKPdf** 14 06 06.6 -0.2
baz=9.2
E51A G1948 Merrick 128.72 355 P **PKPdf** 14 06 06.6 -0.3
baz=6.9
E44A Grand Marais A 128.85 1 P **PKiKP** 14 06 07.9 +0.1
baz=359
E39A Mellen 128.86 5 P **PKPdf** 14 06 07.0 -0.2
baz=353,SNR=20
E41A Kenton 128.89 4 P **PKiKP** 14 06 07.6 -0.3
baz=355
E52A Mattawa 128.89 354 P **PKPdf** 14 06 07.0 -0.2
baz=8.0
K22A Casper 128.91 20 P **PKPdf** 14 06 07.5 -0.1
baz=332
E50A Wahnapitae 128.92 356 P **PKPdf** 14 06 07.1 -0.2
baz=5.3
ISA Isabella, Lake 128.94 35 P **PKPdf** 14 06 08.1 +0.3
baz=315
E48A Lockeyer 128.94 358 P **PKPdf** 14 06 07.2 -0.1
baz=3.5
E42A Champion 128.98 3 P **PKiKP** 14 06 08.2 0.0
baz=356
E47A Iron Bridge 129.01 359 P **PKPdf** 14 06 07.4 0.0
baz=2.1
E43A Lone Tree Farm 129.07 2 P **PKPdf** 14 06 07.8 +0.2
baz=357
F55A Otter Lake 129.07 352 P **PKPdf** 14 06 07.8 +0.2
baz=11
ARVC Arvin 129.11 36 P **PKiKP** 14 06 09.0 +0.3
baz=314
E46A Sault Ste Mari 129.11 359 P **PKiKP** 14 06 08.0 -0.3
baz=0.8
E45A Wooded Hills, 129.12 0 P **PKiKP** 14 06 08.1 -0.3
baz=360
F38A Pierce - Schro 129.14 6 P **PKiKP** 14 06 08.4 -0.1
baz=351,SNR=12
MPMC Manual Prospec 129.22 34 P **PKiKP** 14 06 09.4 +0.2
baz=316
COWI Conover 129.24 4 PFAKE 14 06 20.0 +11
COWI LR LR
comp=Z,1µm,21.0s
TPNV Topopah Spring 129.25 33 P **PKiKP** 14 06 09.6 +0.5
baz=318
F39A Loretta 129.28 5 P **PKPdf** 14 06 08.1 +0.1
baz=352,SNR=10
F37A Hinrichs Farm, 129.29 7 P **PKPdf** 14 06 08.3 +0.2
baz=350,SNR=7.7
F40A Park Falls 129.35 5 P **PKiKP** 14 06 08.7 -0.2
baz=353,SNR=16
F51A Arnstein 129.36 356 P **PKPdf** 14 06 07.9 -0.2
baz=6.4
SUSD Miller 129.43 13 P **PKPdf** 14 06 08.1 -0.3
baz=342
F52A Sundridge 129.44 355 P **PKPdf** 14 06 08.6 +0.3
baz=7.2
F44A Big Bay de Noc 129.49 1 P **PKiKP** 14 06 08.8 -0.3
baz=358
LRMC Laurel Mtn Rad 129.52 35 P **PKiKP** 14 06 10.8 +1.1
baz=316
F41A Three Lakes 129.60 4 P **PKPdf** 14 06 08.8 +0.1
baz=355
F43A Flat Rock, Esc 129.61 2 P **PKiKP** 14 06 09.1 -0.2
baz=357
F48A Evansville 129.61 358 P **PKPdf** 14 06 08.6 -0.1
baz=3.0
F49A Sandfield 129.65 357 P **PKPdf** 14 06 09.0 +0.2
baz=3.7
G55A Calabogie 129.69 352 P **PKPdf** 14 06 09.0 +0.2
baz=11
F46A Macinaw City C 129.71 360 P **PKPdf** 14 06 09.2 +0.4
baz=0.2
SPMN Marine on St. 129.76 7 P **PKiKP** 14 06 09.7 0.0
baz=350
EDW2 Edwards Air Fo 129.77 36 P **PKiKP** 14 06 10.2 +0.1
baz=315
F45A CMU Biological 129.79 1 P **PKiKP** 14 06 09.9 +0.2
baz=359
LBNH Lisbon 129.86 348 P **PKiKP** 14 06 10.2 +0.2
baz=17
G39A Holcombe 129.88 6 P **PKPdf** 14 06 08.8 -0.3
baz=352,SNR=12
G38A Ridgeland 129.92 6 P **PKPdf** 14 06 08.8 -0.5
baz=351,SNR=13
G40A Rib Lake 129.99 5 P **PKPdf** 14 06 09.1 -0.3
baz=353,SNR=8.4
LONY Lake Ozonia 130.00 350 P **PKiKP** 14 06 10.2 -0.1
baz=13
SHOC Shoshone, Teco 130.01 33 P **PKiKP** 14 06 11.5 +0.9
baz=318
G53A Haliburton 130.04 354 P **PKPdf** 14 06 09.4 -0.1
baz=8.2
G42A Mountain 130.14 3 P **PKiKP** 14 06 09.8 +0.1
baz=356
GSC Goldstone, Bar 130.15 34 P **PKiKP** 14 06 11.8 +0.9
baz=317
G43A Wallace 130.16 3 P **PKPdf** 14 06 09.9 +0.2
baz=356
G46A Petoskey 130.16 360 P **PKPdf** 14 06 09.9 +0.2
baz=0.1
H56A Elgin 130.28 352 P **PKPdf** 14 06 10.1 +0.2
baz=11
G47A Hillman 130.30 359 P **PKPdf** 14 06 10.2 +0.3
baz=1.4
H38A Maiden Rock 130.36 7 P **PKPdf** 14 06 10.2 +0.1
baz=350,SNR=6.6
BFSC Mount Baldy Ra 130.42 36 P **PKiKP** 14 06 11.9 +0.3
baz=315
SADO Sadowa 130.44 355 PKP **PKPdf** 14 06 10.5 +0.3
comp=Z,16nm,0.5s,baz=341,slow=2.6,SNR=23
SADO SKPbc **SKPbc** 14 09 30.4 +1.0
comp=Z,29nm,1.0s,baz=326,slow=3.7,SNR=6.2
H55A Tweed 130.44 353 P **PKPdf** 14 06 10.3 0.0
baz=10
O20A White River Ci 130.45 24 P **PKiKP** 14 06 11.8 +0.2
baz=329
H39A Augusta 130.47 6 P **PKPdf** 14 06 10.4 +0.1
baz=352,SNR=8.1
TUQ Turquoise Moun 130.54 34 P **PKiKP** 14 06 12.2 +0.4
baz=318
ECSD EROS Data Cent 130.60 11 *e*PKPdf **PKiKP** 14 06 11.2 -0.3
ECSD LR LR
comp=Z,1µm,19.0s
ECSD EROS Data Cent 130.60 11 P **PKPdf** 14 06 10.8 +0.2
baz=345
H40A Chili 130.61 5 P **PKPdf** 14 06 10.6 +0.1
baz=353,SNR=11
H52A Wyevale 130.63 355 P **PKPdf** 14 06 10.9 +0.3
baz=6.6
GLMI Grayling 130.66 360 PFAKE 14 06 20.0 +8.5
GLMI LR LR
comp=Z,1µm,21.0s
N23A Red Feather La 130.66 21 P **PKPdf** 14 06 11.3 +0.1
baz=332
H41A Junction City 130.68 4 P **PKPdf** 14 06 10.8 +0.1
baz=354,SNR=11
HEC Hector,Ludlow 130.76 34 P **PKiKP** 14 06 12.4 +0.3
baz=317
BBRC Big Bear Solar 130.83 35 P **PKiKP** 14 06 13.1 +0.6
baz=316
I55A Frankford 130.83 353 P **PKPdf** 14 06 11.4 +0.4
baz=9.5
H42A Shiocton 130.86 3 P **PKPdf** 14 06 11.2 +0.2
baz=355
H47A Mio 130.88 359 P **PKPdf** 14 06 11.3 +0.2
baz=0.9
H46A Fife Lake 130.94 0 P **PKPdf** 14 06 11.4 +0.2
baz=360
H43A Windswept, Lux 130.94 3 P **PKPdf** 14 06 11.2 0.0
baz=356
GMRC Granite Mounta 131.17 34 P **PKiKP** 14 06 13.6 +0.6
baz=318
RCBR Riachuelo 131.21 266 SKPbc **SKPbc** 14 09 31.8 -1.4
comp=Z,107nm,0.9s,baz=48,slow=1.2,SNR=4.6
RCBR Riachuelo 131.21 266 *e*P **PKiKP** 14 06 13.7 +0.1
I41A Arkdale 131.22 5 P **PKPdf** 14 06 11.0 -0.7
baz=353
I39A Houston 131.26 6 P **PKPdf** 14 06 11.1 -0.7
baz=351,SNR=16
I40A Norwalk 131.32 6 P **PKPdf** 14 06 11.6 -0.4
baz=352,SNR=6.3
HRV Adam Dziewonsk 131.44 347 P **PKPdf** 14 06 13.3 +0.2
baz=18
I42A Draeger Farm, 131.46 4 P **PKPdf** 14 06 12.0 -0.2
baz=355
I49A Point Hope 131.50 358 P **PKiKP** 14 06 13.0 -0.3
baz=2.8
BELC Belle Mtn. Jos 131.55 35 P **PKiKP** 14 06 13.9 0.0
baz=317
I51A Listowel 131.55 356 P **PKPdf** 14 06 12.8 +0.4
baz=5.2
PFO Pinyon Flats O 131.56 36 SKPbc **SKPbc** 14 09 34.0 -0.2
comp=Z,18nm,0.9s,baz=309,slow=3.9,SNR=10
PFO Pinyon Flats O 131.56 36 SKPbc **SKPbc** 14 09 34.0 -0.2
PFO LR LR
comp=Z,818nm,21.0s
PFO Pinyon Flats O 131.56 36 P **PKiKP** 14 06 13.9 0.0
baz=316
ISCO Idaho Springs 131.74 21 *e*PKPdf **PKPdf** 14 06 13.4 +0.2
ISCO LR LR
comp=Z,2µm,20.0s
ISCO Idaho Springs 131.74 21 P **PKiKP** 14 06 13.9 -0.4
baz=332
J39A Decorah 131.75 7 P **PKPdf** 14 06 11.7 -1.0
baz=351,SNR=10
J55A Hilton 131.79 353 P **PKPdf** 14 06 12.9 +0.1
baz=9.5
J54A Appleton 131.87 354 P **PKPdf** 14 06 13.2 +0.2
baz=8.4
J41A Loganville 131.89 5 P **PKPdf** 14 06 12.2 -0.9
baz=353,SNR=9.3
OGNE Ogallala 131.90 17 PFAKE 14 06 30.0 +16
OGNE LR LR
comp=Z,698nm,20.0s
IRM Iron Mountain 131.92 34 P **PKiKP** 14 06 15.9 +1.4
baz=318
J43A Natural Harves 132.00 3 P **PKPdf** 14 06 13.1 -0.1
baz=355
J42A Columbus 132.01 4 P **PKPdf** 14 06 12.9 -0.4
baz=354
J52A Paris 132.07 356 P **PKiKP** 14 06 14.0 -0.4
baz=5.9
J49A Marlette 132.09 358 P **PKPdf** 14 06 13.3 -0.1
baz=2.4
MONP2 Monument Peak 132.10 36 P **PKiKP** 14 06 15.3 +0.3
baz=316
J48A Bridge Port 132.17 359 P **PKPdf** 14 06 13.9 +0.3
baz=2.8

PTCN Pitcairn Islan 132.19 120 PFAKE 14 06 30.0 +15
PTCN LR LR
comp=Z,2µm,20.0s
JFWS Jewell Farm 132.32 5 PFAKE 14 06 30.0 +15
JFWS LR LR
comp=Z,807nm,19.0s
JFWS Jewell Farm 132.32 5 P PKPdf 14 06 13.4 -0.5
baz=353,SNR=7.1
K55A Perry 132.35 353 P PKPdf 14 06 13.9 -0.1
baz=9.2
K39A Oelwein 132.35 7 P PKPdf 14 06 13.8 -0.1
baz=351,SNR=6.7
K40A Colesburg 132.44 6 P PKPdf 14 06 13.7 -0.4
baz=352,SNR=6.5
IKP In-Ko-Pah, Jac 132.45 36 P PKiKP 14 06 16.8 +1.2
baz=316
BGNE Belgrade 132.50 14 P PKPdf 14 06 14.0 -0.3
baz=342
K42A Prairie Point, 132.53 4 P PKPdf 14 06 13.4 -0.9
baz=354
BINY Binghamton 132.58 351 ePKPdf PKiKP 14 06 15.2 -0.3
BINY LR LR
comp=Z,1µm,22.0s
BINY Binghamton 132.58 351 P PKPdf 14 06 14.9 +0.5
baz=12
K41A Shullsburg 132.62 5 P PKPdf 14 06 13.9 -0.6
baz=353,SNR=6.1
K48A Perry 132.67 359 P PKPdf 14 06 14.3 -0.2
baz=1.1
K43A Burlington 132.67 3 P PKPdf 14 06 14.1 -0.4
baz=355
K47A Vermontville 132.81 0 P PKPdf 14 06 14.8 0.0
baz=360
MVCO Mesa Verde 132.82 26 ePKPdf PKiKP 14 06 16.5 +0.1
MVCO LR LR
comp=Z,855nm,20.0s
MVCO Mesa Verde 132.82 26 P PKiKP 14 06 16.1 -0.3
baz=327
WUAZ Wupatki 132.87 30 ePKPdf PKiKP 14 06 17.7 +1.2
WUAZ LR LR
comp=Z,491nm,20.0s
WUAZ Wupatki 132.87 30 P PKiKP 14 06 16.9 +0.4
baz=323
GLA Glamis 132.91 35 P PKiKP 14 06 16.6 +0.1
baz=317
L39A Vinton 132.91 7 P PKPdf 14 06 15.0 0.0
baz=350,SNR=8.2
SCIA State Center 132.96 8 PFAKE 14 06 30.0 +14
SCIA LR LR
comp=Z,1µm,22.0s
SCIA State Center 132.96 8 P PKiKP 14 06 16.0 -0.3
baz=349
L40A Anamosa 133.06 6 P PKPdf 14 06 15.5 +0.2
baz=351,SNR=7.3
S22A 4UR Ranch, Cre 133.06 24 P PKiKP 14 06 16.4 -0.6
baz=330
L41A Preston 133.13 6 P PKPdf 14 06 14.8 -0.6
baz=352,SNR=8.5
ERPA Erie 133.15 355 P PKPdf 14 06 15.2 -0.3
baz=6.7
AAM Ann Arbor 133.17 359 PFAKE 14 06 30.0 +13
AAM LR LR
comp=Z,1µm,19.0s
L43A Garden Prairie 133.17 4 P PKPdf 14 06 15.2 -0.3
baz=355
L42A Oliver, Polo 133.27 5 P PKPdf 14 06 15.7 0.0
baz=354,SNR=13
L49A Milan 133.36 359 P PKPdf 14 06 16.0 +0.1
baz=1.6
KSCO Kaye Shedlock' 133.48 19 P PKPdf 14 06 16.2 -0.1
baz=335
L47A Sherwood 133.50 0 P PKPdf 14 06 15.8 -0.3
baz=360
M39A Webster 133.52 8 P PKPdf 14 06 15.8 -0.4
baz=350,SNR=9.9
L48A N Adams 133.53 360 P PKPdf 14 06 16.1 -0.1
baz=0.7
SDCO Great Sand Dun 133.59 23 PFAKE 14 06 30.0 +12
SDCO LR LR
comp=Z,1µm,21.0s
SDCO Great Sand Dun 133.59 23 P PKPdf 14 06 17.2 +0.4
baz=331
M40A Post Highland 133.68 7 P PKPdf 14 06 15.8 -0.6
baz=351
M54A Oil Creek Stat 133.72 355 P PKPdf 14 06 16.9 +0.3
baz=7.2
N59A State Game Lan 133.80 350 P PKPdf 14 06 17.2 +0.5
baz=13
M42A Sheffield 133.81 5 P PKPdf 14 06 16.8 +0.1
baz=353
M43A Waltham Townsh 133.89 4 P PKPdf 14 06 16.5 -0.4
baz=354
W18A Petrified Fore 133.98 29 P PKiKP 14 06 18.5 -0.3
baz=324
M48A Edgerton 134.00 360 P PKPdf 14 06 16.9 -0.2
baz=0.3
M49A Liberty Center 134.00 359 P PKPdf 14 06 16.7 -0.4
baz=1.3
M44A Midewin, Midew 134.00 3 P PKPdf 14 06 17.0 -0.1
baz=356
M45A Boilermakers S 134.04 2 P PKPdf 14 06 17.4 +0.3
baz=357
M50A Fremont 134.04 358 P PKPdf 14 06 16.8 -0.3
baz=2.6
M47A Cromwell 134.12 1 P PKPdf 14 06 17.3 0.0
baz=359
N54A Moraine State 134.29 355 P PKPdf 14 06 16.9 -0.8
baz=6.8
N43A Stutzman Famil 134.37 5 P PKPdf 14 06 17.2 -0.6
baz=354
N55A Marion Center 134.38 354 P PKPdf 14 06 18.0 +0.2
baz=8.2
SSPA Standing Stone 134.39 353 ePKPdf PKiKP 14 06 18.6 -0.6
SSPA Standing Stone 134.39 353 P PKPdf 14 06 18.2 +0.3
baz=9.8
N42A Yates City 134.41 5 P PKPdf 14 06 17.5 -0.4
baz=353,SNR=6.6
N41A Harden Midland 134.44 6 P PKPdf 14 06 17.9 0.0
baz=352
N53A Lisbon 134.52 356 P PKPdf 14 06 18.2 +0.1
baz=5.7
T25A Trinidad 134.53 22 P PKPdf 14 06 18.9 +0.4
baz=332
CBKS Cedar Bluff 134.54 16 PFAKE 14 06 30.0 +10
CBKS LR LR
comp=Z,1µm,22.0s
CBKS Cedar Bluff 134.54 16 P PKPdf 14 06 18.2 -0.1
baz=339
N46A Monticello 134.55 2 P PKPdf 14 06 17.9 -0.2
baz=357
N49A Columbus Grove 134.55 359 P PKPdf 14 06 17.7 -0.4
baz=1.0
N45A Kentland 134.57 3 P PKPdf 14 06 18.5 +0.3
baz=356
N44A Piper City 134.59 3 P PKPdf 14 06 18.0 -0.2
baz=356
N47A Urbana 134.59 1 P PKPdf 14 06 17.8 -0.4
baz=359
N48A Decatur 134.62 0 P PKPdf 14 06 17.7 -0.6
baz=360
N50A Nevada 134.68 358 P PKPdf 14 06 17.8 -0.6
baz=2.5
HDIL Hopedale 134.74 5 PFAKE 14 06 30.0 +10
HDIL LR LR
comp=Z,1µm,20.0s
HDIL Hopedale 134.74 5 P PKPdf 14 06 18.2 -0.3
baz=354
O56A Blue Knob Stat 134.83 353 P PKPdf 14 06 19.0 +0.3
baz=8.9
O55A Ligonier 134.97 354 P PKPdf 14 06 19.5 +0.5
baz=7.9
O41A Passleys Farm, 135.03 6 P PKPdf 14 06 18.7 -0.3
baz=352
KSU1 Kansas State U 135.05 13 ePKPdf PKPdf 14 06 19.6 +0.5
KSU1 LR LR
comp=Z,1µm,21.0s
KSU1 Kansas State U 135.05 13 P PKPdf 14 06 19.2 +0.1
baz=343
SFIN Lafayette 135.05 2 P PKPdf 14 06 18.9 -0.1
baz=357
O53A New Philadelph 135.10 356 P PKPdf 14 06 19.0 -0.2
baz=5.2
O54A Avella 135.10 355 P PKPdf 14 06 19.2 0.0
baz=6.4
ACSO Alum Creek Sta 135.21 358 ePKPdf PKPdf 14 06 19.8 +0.4
ACSO LR LR
comp=Z,1µm,21.0s
ACSO Alum Creek Sta 135.21 358 P PKPdf 14 06 19.0 -0.4
baz=2.7
O48A Farmland 135.22 0 P PKPdf 14 06 18.3 -1.1
baz=360
O47A Sheridan 135.23 1 P PKPdf 14 06 19.0 -0.4
baz=358
O52A Adamsville 135.27 357 P PKPdf 14 06 19.3 -0.2
baz=4.3
O51A Pataskala 135.28 357 P PKPdf 14 06 19.5 0.0
baz=3.2
O49A Covington 135.29 359 P PKPdf 14 06 19.4 -0.1
baz=0.8
O50A Cable 135.32 359 P PKPdf 14 06 19.4 -0.2
baz=1.8
P41A Barry, Barry 135.44 7 P PKPdf 14 06 19.9 +0.1
baz=351
P42A Winchester 135.61 6 P PKPdf 14 06 20.1 0.0
baz=352,SNR=6.1
ANMO Albuquerque 135.61 26 PKhKP PKPpre 14 06 07.8
comp=Z,1.3nm,0.5s,baz=303,slow=4.0,SNR=4.6
ANMO PKP PKPdf 14 06 20.8 +0.3
comp=Z,22nm,1.1s,baz=252,slow=1.1,SNR=5.0
ANMO Albuquerque 135.61 26 PKPpre PKPpre 14 06 07.8
ANMO ePKPdf PKiKP 14 06 21.9 -0.3
ANMO LR LR
comp=Z,1µm,22.0s
ANMO Albuquerque 135.61 26 PKHKP PKPpre 14 06 07.9
ANMO e 14 06 21.9
ANMO MLR MLR
comp=Z,1µm,22.0s
ANMO Albuquerque 135.61 26 P PKiKP 14 06 21.3 -0.8
baz=328
P43A Skaggs, Pawnee 135.63 5 P PKPdf 14 06 20.2 0.0
baz=353,SNR=6.9
TUC Tucson 135.69 32 ePKPdf PKPdf 14 06 20.7 +0.1
TUC LR LR
comp=Z,910nm,19.0s
P55A Reedsville 135.72 354 P PKPdf 14 06 20.2 -0.1
baz=7.2
P52A Corning 135.77 357 P PKPdf 14 06 20.1 -0.4
baz=4.0
P50A Jamestown 135.86 359 P PKPdf 14 06 20.3 -0.3
baz=1.6
P53A Whipple 135.87 356 P PKPdf 14 06 21.0 +0.4
baz=5.0
P49A Miami Univ. Ec 135.94 360 P PKPdf 14 06 20.4 -0.4
baz=0.3
P51A Williamsport 135.96 358 P PKPdf 14 06 20.2 -0.6
baz=2.6
P47A Martinsville 135.97 2 P PKPdf 14 06 20.6 -0.2
baz=358
P48A Milroy 136.01 1 P PKPdf 14 06 20.5 -0.4
baz=359
Q41A Truxton 136.13 7 P PKPdf 14 06 20.8 -0.3
baz=351,SNR=9.6
Q42A Golden Eagle 136.25 6 P PKPdf 14 06 21.5 +0.2
baz=352,SNR=9.7
Q55A Buckhannon 136.25 355 P PKPdf 14 06 21.8 +0.4
baz=6.9
Q43A New Douglas 136.31 5 P PKPdf 14 06 21.4 -0.1
baz=353,SNR=8.4
Q44A Meyer Farm, Va 136.41 5 P PKPdf 14 06 21.9 +0.3
baz=354
Q51A Peebles 136.43 358 P PKPdf 14 06 21.8 +0.1
baz=2.2
Q52A Bidwell 136.45 357 P PKPdf 14 06 21.8 +0.1
baz=3.8
Q45A Warren Harvey, 136.48 4 P PKPdf 14 06 21.6 -0.2
baz=355,SNR=6.0
Q47A Bedord North L 136.52 2 P PKPdf 14 06 21.9 0.0
baz=358
Q48A North Vernon 136.54 1 P PKPdf 14 06 21.8 -0.1
baz=359
CBN Corbin Frederi 136.70 351 PFAKE 14 06 30.0 +6.1
CBN LR LR
comp=Z,1µm,22.0s
R43A Red Bud 136.95 6 P PKPdf 14 06 22.5 -0.1
baz=353,SNR=5.1
R58B Mineral 137.01 352 P PKPdf 14 06 23.4 +0.7
baz=10
CCM Cathedral Cave 137.01 7 P PKPdf 14 06 23.4 +0.7
baz=351
R48A Northridge Ran 137.07 1 P PKPdf 14 06 22.9 0.0
baz=359
R45A Skyar, Fairfi 137.07 4 P PKPdf 14 06 23.0 +0.2
baz=355,SNR=6.8
R52A Catlettsburg 137.09 357 P PKPdf 14 06 22.9 0.0
baz=3.3
R47A Wooly Knot Far 137.15 2 P PKPdf 14 06 23.0 0.0
baz=358
R51A Hillsboro 137.16 358 P PKPdf 14 06 22.3 -0.8
baz=1.9
R49A Shelbyville 137.18 0 P PKPdf 14 06 22.8 -0.3
baz=360
R50A Paris 137.19 359 P PKPdf 14 06 22.6 -0.5
baz=0.8
R46A Gibon Southern 137.19 3 P PKPdf 14 06 23.5 +0.4
baz=356
WCI Wyandotte Cave 137.23 2 P PKPdf 14 06 23.5 +0.3
baz=358
S42A Caledonia 137.35 7 P PKPdf 14 06 23.5 0.0
baz=351,SNR=8.0
S41A Jillco Farms, 137.41 8 P PKPdf 14 06 23.6 0.0
baz=350
S44A Carbondale 137.59 5 P PKPdf 14 06 24.3 +0.5
baz=354,SNR=6.1
S43A Fulton Ridge, 137.63 6 P PKPdf 14 06 23.8 -0.1
baz=352
S49A Springfield 137.69 0 P PKPdf 14 06 23.4 -0.6
baz=359
S46A Don Dixon Farm 137.71 3 P PKPdf 14 06 23.9 -0.2
baz=356
S50A Richond 137.79 359 P PKPdf 14 06 23.7 -0.5
baz=0.8
S48A Wiedeman Farm, 137.80 1 P PKPdf 14 06 24.1 -0.2
baz=358
S51A Beattyville 137.82 358 P PKPdf 14 06 24.4 +0.1
baz=1.9
S47A Hartford 137.84 2 P PKPdf 14 06 24.1 -0.2
baz=357
T41A Mountain View 137.94 8 P PKPdf 14 06 24.4 -0.1
baz=350
MSTX Muleshoe 137.96 22 P PKPdf 14 06 25.0 +0.2
baz=333
MCI7 Montes Claros 138.01 250 eP PKiKP 14 06 26.2 -1.0
T42A Van Buren 138.04 7 P PKPdf 14 06 24.7 0.0
baz=351
BLA Blacksburg 138.05 355 PFAKE 14 06 40.0 +13
BLA LR LR
comp=Z,1µm,22.0s
BLA Blacksburg 138.05 355 P PKPdf 14 06 24.8 0.0
baz=5.7
MCI6 Montes Claros 138.07 250 eP PKiKP 14 06 26.4 -0.9
T43A Greenville 138.09 6 P PKPdf 14 06 24.6 -0.1
baz=352,SNR=6.6
MCI8 Montes Claros 138.12 250 eP PKiKP 14 06 26.7 -0.8
T44A Benton 138.16 6 P PKPdf 14 06 25.3 +0.4
baz=353,SNR=8.7
TUL1 Leonard 138.29 13 P PKPdf 14 06 25.4 +0.2
baz=344
T52A Hallie 138.33 358 P PKPdf 14 06 25.4 +0.1
baz=2.9
T46A Princeton 138.34 4 P PKPdf 14 06 25.8 +0.5
baz=356,SNR=7.3
T48A Bowling Green 138.34 2 P PKPdf 14 06 25.5 +0.3
baz=358
T49A Edmonton 138.37 1 P PKPdf 14 06 24.9 -0.4
baz=359
T47A Sharon Grove 138.44 3 P PKPdf 14 06 25.8 +0.4
baz=357
U40A Yellville 138.44 10 P PKPdf 14 06 25.2 -0.3
baz=348
T50A Nancy 138.45 360 P PKPdf 14 06 25.3 -0.2
baz=0.1
T51A Gray 138.50 359 P PKPdf 14 06 25.9 +0.4
baz=1.4
U41A Viola 138.60 9 P PKPdf 14 06 26.1 +0.4
baz=349
WMOK Wichita Mounta 138.61 17 PFAKE 14 06 40.0 +12
WMOK LR LR
comp=Z,956nm,20.0s
WMOK Wichita Mounta 138.61 17 P PKPdf 14 06 25.9 +0.1
baz=339
U42A Revenden 138.69 8 P PKPdf 14 06 26.0 +0.1
baz=350
U44A Portageville 138.72 6 P PKPdf 14 06 26.4 +0.4
baz=353
JANB Januaria 138.80 253 eP PKiKP 14 06 27.9 -1.0
MNTX Cornudas Mount 138.84 27 PFAKE 14 06 40.0 +11
MNTX LR LR
comp=Z,919nm,21.0s
MNTX Cornudas Mount 138.84 27 P PKPdf 14 06 27.1 +0.7
baz=328
TZTN Tazewell 138.91 358 P PKPdf 14 06 26.8 +0.4
baz=2.0
U48A Cassie Pea, Po 138.93 2 P PKPpre 14 06 14.5
baz=358
U47A Clarksville 138.97 3 P PKPpre 14 06 16.3
baz=356,SNR=6.8
U50A Jamestown 139.06 360 P PKPpre 14 06 16.0
baz=0.1
V41A Mountainview 139.12 9 P PKPpre 14 06 16.1
baz=349
V42A Cord 139.21 8 P PKPpre 14 06 16.8
baz=350
WVT Waverly 139.25 4 P PKPpre 14 06 18.0
baz=356
W39A Magazine 139.40 11 P PKPpre 14 06 16.4
baz=346
V46A Holladay 139.56 4 P PKPpre 14 06 17.7
baz=355
CNLB Canela 139.57 229 eP PKiKP 14 06 29.6 -0.6
V47A Nunnelly 139.57 3 P PKPpre 14 06 18.6
baz=356
V52A Sevierville 139.61 358 P PKPpre 14 06 19.5
baz=2.0
CNNC Cliffs of the 139.69 351 PFAKE 14 06 40.0 +10
CNNC LR LR
comp=Z,1µm,20.0s
V48A Smith Brothers 139.69 2 P PKPpre 14 06 18.6
baz=357
V49A McMinnville 139.69 1 P PKPpre 14 06 18.8
baz=358
V53A Saluda 139.75 357 P PKPpre 14 06 18.3
baz=3.2
TKL Tuckleechee C 139.80 359 PKhKP PKPpre 14 06 16.4
comp=Z,3.6nm,0.6s,baz=112,slow=5.4,SNR=3.4
TKL PKP PKPdf 14 06 27.8 -0.2
comp=Z,19nm,0.8s,baz=143,slow=3.5,SNR=16
V50A Pikevile 139.80 0 P PKPpre 14 06 18.5
baz=360
RCLB Rio Claro- Sao 139.82 241 eP PKiKP 14 06 30.1 -0.7
TIJ01 Guaruva-PR 139.96 236 eP PKPdf 14 06 29.5 +0.8
MIAR Mount Ida 140.07 11 ePKPdf PKPdf 14 06 29.5 +1.0
MIAR LR LR
comp=Z,788nm,19.0s
MIAR Mount Ida 140.07 11 P PKPpre 14 06 20.1
baz=346
W47A Westpoint 140.14 3 P PKPpre 14 06 19.0
baz=356
W46A Michie 140.20 4 P PKPpre 14 06 19.9
baz=355
PLTB Pedras Altas 140.21 224 eP PKPdf 14 06 30.0 +1.2
W53A Cullowhee 140.27 358 P PKPpre 14 06 20.8
baz=2.7
W50A Signal Mountai 140.27 1 P PKPpre 14 06 20.0
baz=359,SNR=5.6
X40A Basin Creek Fa 140.27 10 P PKPpre 14 06 21.1
baz=348
W48A Pulaski 140.28 3 P PKPpre 14 06 20.6
baz=357,SNR=10
ABTX Abilene, Hawle 140.29 20 P PKPpre 14 06 20.9
baz=337
W49A Belvidere 140.33 2 P PKPpre 14 06 20.0
baz=358
X44A Crenshaw 140.66 7 P PKPpre 14 06 22.0
baz=352
OXF Oxford 140.73 6 P PKPpre 14 06 22.1
baz=353
X46A Booneville 140.76 5 P PKPpre 14 06 22.9
baz=354
TRQA Tornquist 140.81 209 PFAKE 14 06 40.0 +7.6
TRQA LR LR
comp=Z,1µm,22.0s
TRQA Tornquist 140.81 209 eP PKiKP 14 06 32.0 -0.3
X45A UM Field Stati 140.81 6 P PKPpre 14 06 22.1
baz=353
X47A Russelville 140.85 4 P PKPpre 14 06 21.9
baz=355,SNR=9.6
X52A Dahlonega 140.85 359 P PKPpre 14 06 22.8
baz=1.6
CPSB Cacapava Do Su 140.88 226 eP PKiKP 14 06 32.6 -0.1
X53A Estanollee 140.94 358 P PKPpre 14 06 21.7
baz=2.5
X48A Hartselle 140.96 3 P PKPpre 14 06 22.4
baz=357,SNR=9.4
X50B Fort Payne 141.00 1 P PKPpre 14 06 23.2
baz=359
BB19B Bebedouro 141.15 242 eP PKPdf 14 06 32.0 +1.2
Y44A Strider, Charl 141.18 7 P PKPpre 14 06 24.7
baz=352
FRTB Fartura 141.22 238 eP PKPdf 14 06 31.4 +0.4
Y45A Yeager Farm, C 141.35 6 P PKPpre 14 06 24.1
baz=353
Y46A Houston 141.40 5 P PKPpre 14 06 24.0
baz=354
Y47A UCPARC, Winfie 141.46 4 P PKPpre 14 06 23.0
baz=355
Y48A Jasper 141.49 3 P PKPpre 14 06 24.2
baz=356,SNR=8.1
Y54A Tignall 141.55 357 P PKPpre 14 06 23.8
baz=3.5
WHTX Lake Whitney, 141.56 17 P PKPpre 14 06 24.5
baz=340
Y51A Rockmart 141.57 0 P PKPpre 14 06 24.4
baz=360,SNR=7.7
Y49A Blount Mountai 141.58 2 P PKPpre 14 06 25.1
baz=358
ITAB Concordia 141.59 231 eP PKPdf 14 06 32.7 +1.3
Y53A Monroe 141.59 358 P PKPpre 14 06 24.1
baz=2.1
Y52A Lilburn 141.59 359 P PKPpre 14 06 24.3
baz=1.4
TXAR Lajitas Array 141.62 27 PKhKP PKPpre 14 06 26.4
comp=Z,8.0nm,0.7s,baz=16,slow=1.1,SNR=41
TXAR pPKP pPKPdf 14 06 48.3 +1.5
comp=Z,11nm,0.6s,baz=150,slow=1.7,SNR=6.4
TXAR PP PP 14 09 35.0 +0.7
comp=Z,19nm,1.2s,baz=343,slow=3.9,SNR=6.9
TXAR SKPbc SKiKP 14 10 06.2 -0.2
comp=Z,2.0nm,0.5s,baz=253,slow=1.1,SNR=4.6
IPMB Ipameri, GO 141.80 247 eP PKiKP 14 06 33.5 -1.4
PLCA Paso Flores 141.92 198 PKhKP PKPpre 14 06 27.5
comp=Z,5.8nm,0.8s,baz=171,slow=0.5,SNR=11
PLCA SKPbc SKPbc 14 10 03.5 -1.5
comp=Z,12nm,1.2s,baz=139,slow=3.2,SNR=3.7
Z48A Northport 142.01 4 P PKPpre 14 06 25.2
baz=356
GOGA Godfrey 142.03 358 PFAKE 14 06 40.0 +5.0
GOGA LR LR
comp=Z,1µm,20.0s
GOGA Godfrey 142.03 358 P PKPpre 14 06 25.8
baz=2.3
Z46A Louisville 142.08 6 P PKPpre 14 06 27.6
baz=354
NHSC New Hope 142.09 354 PFAKE 14 06 40.0 +4.9
NHSC LR LR
comp=Z,868nm,22.0s
Z47A Carrollton 142.15 4 P PKPpre 14 06 26.4
baz=355
Z51A Franklin 142.15 0 P PKPpre 14 06 26.7
baz=360
Z53A Monticello 142.16 358 P PKPpre 14 06 26.3
baz=2.2
Z54A Sparta 142.18 357 P PKPpre 14 06 26.1
baz=3.3
BDFB Brasilia 142.18 251 PKhKP PKPpre 14 06 29.5
comp=Z,11nm,0.8s,baz=145,slow=4.4,SNR=8.5
JCT Junction City 142.19 21 PFAKE 14 06 40.0 +4.5
JCT LR LR
comp=Z,1µm,20.0s
JCT Junction City 142.19 21 P PKPpre 14 06 26.8
baz=335
Z49A Columbiana 142.24 2 P PKPpre 14 06 26.0
baz=357,SNR=9.6
Z52A Williamson 142.27 359 P PKPpre 14 06 26.6
baz=0.8
LRAL Lakeview Retre 142.38 3 P PKPpre 14 06 27.2
baz=357
NATX Nacogdoches 142.53 14 PFAKE 14 06 50.0 +14
NATX LR LR
comp=Z,1µm,22.0s
NATX Nacogdoches 142.53 14 P PKPpre 14 06 28.5
baz=344
145A Houston Renfro 142.55 7 P PKPpre 14 06 28.5
baz=352

146A Union 142.62 6 P PKPpre 14 06 29.1
baz=353
435B Jarrell 142.65 18 P PKPpre 14 06 28.1
baz=339
147A Livingston 142.65 5 P PKPpre 14 06 28.7
baz=354
156A Sylvania 142.67 355 P PKPpre 14 06 28.7
baz=5.6
PTGB Pitanga 142.72 235 eP PKPdf 14 06 35.0 +1.4
148A Greensboro 142.73 4 P PKPpre 14 06 28.9
baz=356
155A Kite 142.77 357 P PKPpre 14 06 28.7
baz=4.0
152A Waverly Hall 142.79 360 P PKPpre 14 06 28.9
baz=0.3
149A Jones 142.82 3 P PKPpre 14 06 29.9
baz=357
150A Eclectic 142.84 2 P PKPpre 14 06 28.8
baz=358
151A Opelika 142.93 1 P PKPpre 14 06 29.2
baz=359,SNR=7.3
244A Avery, Jackson 143.01 8 P PKPbc 14 06 30.6 0.0
baz=350
245A Little AP, Sta 143.12 7 P PKPbc 14 06 30.4 -0.5
baz=352
ITRB Iturama 143.22 243 eP PKiKP 14 06 37.8 -0.1
246A Jackson Lee, B 143.23 6 P PKPbc 14 06 31.2 0.0
baz=353
247A Quitman 143.24 5 P PKPbc 14 06 31.5 +0.3
baz=354
248A Dixon Mills 143.27 4 P PKPbc 14 06 31.2 -0.1
baz=355
251A Midway 143.37 1 P PKPab 14 06 30.9 +0.5
baz=359,SNR=26
256A Glennville 143.37 356 P PKPbc 14 06 31.3 -0.3
baz=5.0
249A Camden 143.43 3 P PKPbc 14 06 31.3 -0.4
baz=356
250A Grady 143.46 2 P PKPab 14 06 31.2 +0.4
baz=358
255A Hazlehurst 143.46 357 P PKPbc 14 06 32.1 +0.2
baz=4.0
252A Lumpkin 143.47 360 P PKPab 14 06 31.3 +0.4
baz=0.3,SNR=12
254A Abbeville 143.48 358 P PKPbc 14 06 31.5 -0.5
baz=2.7
346A Big Creek Wild 143.81 7 P PKPbc 14 06 33.1 +0.2
baz=352
348A Jackson 143.93 4 P PKPbc 14 06 33.6 +0.4
baz=355
352A Blakely 143.98 0 P PKPab 14 06 33.1 +0.2
baz=360,SNR=8.1
TIGA Tifton 144.00 358 P PKPab 14 06 32.8 -0.1
baz=2.2
350A Dozier 144.01 2 P PKPbc 14 06 33.5 0.0
baz=358
TRCB Terra Rica 144.03 237 eP PKPdf 14 06 36.0 +0.1
356A Blackshear 144.04 356 P PKPbc 14 06 33.5 -0.1
baz=4.7
349A Repton 144.04 3 P PKPbc 14 06 33.9 +0.3
baz=356
355A Pearson 144.06 357 P PKPbc 14 06 33.9 +0.2
baz=3.5,SNR=5.0
353A Camilla 144.11 359 P PKPbc 14 06 33.8 +0.1
baz=1.2,SNR=9.9
351A Pinckard 144.18 1 P PKPbc 14 06 33.9 -0.1
baz=359,SNR=5.6
BRAL Brewton 144.23 3 PFAKE 14 06 50.0 +10
BRAL LR LR
comp=Z,1μm,21.0s
BRAL Brewton 144.23 3 P PKPbc 14 06 34.5 +0.3
baz=356
833A Chaparral WMA, 144.28 22 P PKPbc 14 06 34.5 +0.1
baz=335
448A Bay Minette 144.41 4 P PKPbc 14 06 35.4 +0.6
baz=355
453A Whigham 144.60 359 P PKPbc 14 06 35.8 +0.5
baz=1.0,SNR=8.6
452A Marianna 144.61 0 P PKPbc 14 06 35.6 +0.3
baz=360
450A Crestview 144.62 3 P PKPdf 14 06 36.1 -0.5
baz=357
456A Hilliard 144.63 356 P PKPdf 14 06 36.1 -0.6
baz=5.0
449A Pace 144.63 3 P PKPdf 14 06 36.5 -0.2
baz=356
455A Stateville 144.67 357 P PKPbc 14 06 36.0 +0.4
baz=3.2,SNR=14
454A Quitman 144.72 358 P PKPbc 14 06 36.0 +0.2
baz=2.2
544A White Castle 144.83 9 P PKPdf 14 06 37.9 +0.9
baz=349
451A Vernon 144.83 1 P PKPdf 14 06 37.0 0.0
baz=359,SNR=14
H06N1 SOCORRO T-PHAS145.21 47 PKPbc PKPdf 14 06 38.9 +0.9
553A Crawfordville 145.26 359 P PKPdf 14 06 38.1 +0.3
baz=0.8,SNR=7.7
555A McAlpin 145.28 357 P PKPdf 14 06 38.5 +0.6
baz=3.4,SNR=68
H06E1 SOCORRO T-PHAS145.31 47 PKPbc PKPbc 14 06 37.9 -0.1
557A Orange Park 145.31 355 P PKPdf 14 06 38.2 +0.3
baz=5.5,SNR=34
H06S1 SOCORRO T 145.31 47 PKPbc PKPdf 14 06 39.3 +1.1
552A Lynn Haven 145.32 1 P PKPdf 14 06 38.6 +0.7
baz=359,SNR=12
556A Lake Butler 145.37 356 P PKPab 14 06 38.7 +0.7
baz=4.4,SNR=40
KVTX Kingsville 145.53 21 ePKPdf PKPab 14 06 40.4 +1.8
KVTX LR LR
comp=Z,1μm,20.0s
657A Interlachen 145.75 355 P PKPab 14 06 39.6 +0.2
baz=5.4,SNR=42
658A Bunnell 145.85 354 P PKPab 14 06 39.8 0.0
baz=6.5,SNR=22
655A Horseshoe Beac 145.91 357 P PKPab 14 06 40.0 +0.1
baz=2.9,SNR=10
CPUP Villa Florida 146.00 228 PKPbc PKPbc 14 06 40.2 +0.3
comp=Z,44nm,0.9s,baz=106,slow=2.4,SNR=66
CPUP Villa Florida 146.00 228 eP PKPbc 14 06 40.0 +0.1
656A Willston 146.01 356 P PKPab 14 06 40.9 +0.5
baz=4.2,SNR=65
MDP Montagnes des 146.33 286 PKPbc PKPab 14 06 42.2 0.0
baz=0.0,slow=2.3
757A Oxford 146.40 356 P PKPab 14 06 41.9 0.0
baz=5.1,SNR=25
858A St. Cloud 147.06 354 P PKPbc 14 06 43.7 +0.7
baz=6.5,SNR=19
857A Zephyrhills 147.08 356 P PKPbc 14 06 43.8 +0.7
baz=4.9,SNR=31
859A Kempfer Cattle 147.16 353 P PKPab 14 06 44.1 -0.8
baz=7.3,SNR=31
DWPF Disney Wildern 147.17 354 ePKPdf PKPdf 14 06 41.6 +0.5
DWPF Disney Wildern 147.17 354 P PKPbc 14 06 44.0 +0.8
baz=6.4
DWPF Disney Wildern 147.17 354 eP PKPbc 14 06 43.2 -0.1
AQDB Aquidauana 147.59 239 eP PKPdf 14 06 42.6 +0.6
957A Wimauma 147.67 356 P PKPbc 14 06 45.5 +0.8
baz=5.0,SNR=6.0
959A Okeechobee 147.69 353 P PKPbc 14 06 45.5 +0.8
baz=7.5,SNR=20
958A Wauchula 147.72 355 P PKPbc 14 06 45.6 +0.8
baz=5.9,SNR=18
RPN Rapa Nui 147.77 136 PKPbc PKiKP 14 06 46.9 0.0
comp=Z,229nm,0.8s,baz=255,slow=1.3,SNR=14
060A Indiantown 148.10 352 P PKPbc 14 06 46.5 +0.7
baz=8.6
ANWB Willy Bob 148.12 315 PFAKE 14 06 50.0 +1.0
ANWB LR LR
comp=Z,779nm,20.0s
058A Arcadia 148.25 355 P PKPbc 14 06 47.0 +0.7
baz=5.8,SNR=21
059A Moore Haven 148.27 354 P PKPbc 14 06 47.1 +0.8
baz=7.1,SNR=7.0
060Z West Palm Beac 148.75 352 P PKiKP 14 06 48.6 -0.4
baz=8.3
059Z Ave Maria 148.92 354 P PKiKP 14 06 48.8 -0.6
baz=6.7,SNR=5.0
061Z Ochoppi 149.33 353 P PKiKP 14 06 49.8 -0.4
baz=7.8,SNR=5.1
GRTK Grand Turk 150.62 333 PFAKE 14 07 00.0 +1.0
GRTK LR LR
comp=Z,828nm,20.0s
SJG San Juan 150.71 321 PKP PKPdf 14 06 47.4 +0.4
comp=Z,9.4nm,0.3s,baz=13,slow=5.1,SNR=4.4
SJG PKPbc PKPbc 14 06 52.7 +0.2
comp=Z,62nm,0.7s,baz=43,slow=8.2,SNR=12
SJG San Juan 150.71 321 ePKPdf PKPdf 14 06 47.4 +0.4
SJG PKPbc PKPbc 14 06 52.7 +0.2
SJG LR LR
comp=Z,863nm,21.0s
SJG San Juan 150.71 321 eP PKPbc 14 06 52.8 +0.2
SJG San Juan 150.71 321 ePKIKP PKPdf 14 06 47.4 +0.4
SJG 14 06 52.7
SJG MLR MLR
comp=Z,863nm,21.0s
SJG San Juan 150.71 321 eP PKPbc 14 06 52.8 +0.2
GRGR Grenville 151.45 306 PFAKE 14 07 00.0 -2.7
GRGR LR LR
comp=Z,875nm,19.0s
LCO Las Campanas 152.36 208 ePKPdf PKPdf 14 06 50.4 +0.7
LCO LR LR
comp=Z,921nm,20.0s
LCO Las Campanas 152.36 208 ePKIKP PKPdf 14 06 50.4 +0.7
LCO MLR MLR
comp=Z,921nm,20.0s
LCO Las Campanas 152.36 208 eP PKPdf 14 06 51.0 +1.4
SDDR Presa de Saban 152.88 331 ePKPdf PKPdf 14 06 51.8 +1.4
SDDR LR LR
comp=Z,808nm,20.0s
GTBY Guantanamo Bay 153.66 339 PFAKE 14 07 00.0 +0.7
GTBY LR LR
comp=Z,1μm,21.0s
SIV San Ignacio 154.07 243 PKP PKPdf 14 06 52.4 +0.3
comp=Z,6.5nm,0.9s,baz=110,slow=2.1,SNR=5.4
SIV PKPbc PKPbc 14 06 59.8 -0.4
comp=Z,7.0nm,0.7s,baz=126,slow=6.5,SNR=7.6
SIV PKPab sPKPdf 14 07 12.6 +0.2
comp=Z,12nm,0.8s,baz=319,slow=2.7,SNR=5.1
PTGA Pitinga 154.78 278 PKP PKPdf 14 06 54.1 +0.9
comp=Z,13nm,0.8s,baz=333,slow=5.0,SNR=6.2
PTGA PKPbc PKiKP 14 07 03.2 +1.4
comp=Z,9.7nm,0.8s,baz=120,slow=8.1,SNR=6.6
PTGA pPKP pPKPdf 14 07 09.2 +1.0
comp=Z,13nm,0.8s,baz=148,slow=5.5,SNR=5.2
PTGA PKPab PKPab 14 07 18.5 +1.5
comp=Z,16nm,0.6s,baz=88,slow=6.0,SNR=9.1
PTGA Pitinga 154.78 278 PKP PKPdf 14 06 54.1 +0.9
PTGA PKPbc PKiKP 14 07 03.2 +1.4
PTGA pPKP pPKPdf 14 07 09.2 +1.0
PTGA PKPab PKPab 14 07 18.5 +1.5
PTGA LR LR
comp=Z,12μm,21.0s
PTGA Pitinga 154.78 278 eP PKPdf 14 06 56.1 +2.9
PCRV Puerto La Cruz 154.96 306 PKPbc PKPbc 14 07 01.4 -0.8
comp=Z,7.5nm,0.4s,baz=178,slow=3.1,SNR=6.0
PCRV PKPab pPKPbc 14 07 16.1 -1.1
comp=Z,11nm,0.6s,baz=355,slow=7.1,SNR=3.7
MTDJ Mount Denham 156.05 343 PFAKE 14 07 10.0 -12
MTDJ LR LR
comp=Z,661nm,19.0s
CMIG Matias Romero 156.17 24 PKP PKPdf 14 06 55.3 +0.4
comp=Z,10nm,1.0s,baz=332,slow=2.9,SNR=10.0
CMIG PKPab PKPab 14 07 22.5 0.0
comp=Z,29nm,0.9s,baz=327,slow=5.4,SNR=12
CMIG PP PP 14 10 56.3 -2.3
comp=Z,4.9nm,0.9s,baz=304,slow=6.7,SNR=3.9
LVC Limon Verde 156.45 220 PKP PKPdf 14 06 57.0 +1.4
comp=Z,8.1nm,1.0s,baz=144,slow=4.4,SNR=5.2
LVC Limon Verde 156.45 220 PKP PKPdf 14 06 57.0 +1.4
LVC LR LR
comp=Z,980nm,20.0s
LVC Limon Verde 156.45 220 PKIKP PKPdf 14 06 57.0 +1.4
LVC MLR MLR
comp=Z,980nm,20.0s
LVC Limon Verde 156.45 220 eP PKPdf 14 06 57.3 +1.7
APG El Apazote 159.62 16 PKP PKPdf 14 06 58.7 -0.8
comp=Z,6.0nm,0.6s,baz=284,slow=7.4,SNR=5.9
APG PKPab PKPab 14 07 36.8 -0.9
comp=Z,70nm,0.9s,baz=326,slow=7.1,SNR=18
LPAZ La Paz 159.94 234 PKP PKPdf 14 07 01.1 +0.8
comp=Z,15nm,0.9s,baz=90,slow=2.0,SNR=17
LPAZ pPKP pPKPdf 14 07 16.5 +1.3
comp=Z,28nm,1.0s,baz=8.8,slow=5.0,SNR=7.4
LPAZ PKPab PKPab 14 07 39.5 -0.3
comp=Z,4.5nm,0.7s,baz=78,slow=11,SNR=2.9
LPAZ La Paz 159.94 234 eP PKPdf 14 07 01.3 +1.0
SDV Santo Domingo 160.36 314 PKP PKPdf 14 07 00.2 -0.1
comp=Z,4.4nm,0.3s,baz=117,slow=2.1,SNR=9.6
SDV pPKP pPKPdf 14 07 16.2 +0.8
comp=Z,14nm,0.8s,baz=354,slow=5.0,SNR=2.9
SDV PKPab PKPab 14 07 41.0 -0.1
comp=Z,10nm,0.7s,baz=64,slow=2.5,SNR=6.0
SDV PP PP 14 11 19.5 -3.2
comp=Z,3.5nm,0.2s,baz=5.2,slow=11,SNR=2.8
SDV Santo Domingo 160.36 314 eP PKPdf 14 06 59.3 -1.0
SDV Santo Domingo 160.36 314 eP PKPdf 14 06 59.3 -1.0
SDV Santo Domingo 160.36 314 eP PKPdf 14 07 03.0 +2.7
OCAC Ocana 162.69 318 eP PKPdf 14 07 03.0 +0.3
OCAC Ocana 162.69 318 eP PKPdf 14 07 03.0 +0.3
BARC Barichara 163.76 314 eP PKPdf 14 07 03.5 -0.3
BARC Barichara 163.76 314 eP PKPdf 14 07 03.5 -0.3
BRRC Barranca, Sant 163.78 316 eP PKPdf 14 07 04.4 +0.8
BRRC Barranca, Sant 163.78 316 eP PKPdf 14 07 04.4 +0.8
RUSC La Rusia 164.16 312 eP PKPdf 14 07 04.2 -0.3
RUSC La Rusia 164.16 312 eP PKPdf 14 07 04.2 -0.3
ZARC Zaragoza, Cauc 164.25 320 eP PKPdf 14 07 03.4 -0.6
ZARC Zaragoza, Cauc 164.25 320 eP PKPdf 14 07 03.4 -0.6
UREC San Jos de Ur 164.46 323 eP PKPdf 14 07 04.4 +0.2
UREC San Jos de Ur 164.46 323 eP PKPdf 14 07 04.4 +0.2
PTBC PUERTO BERRIO,164.69 317 eP PKPdf 14 07 04.3 -0.1
PTBC PUERTO BERRIO,164.69 317 eP PKPdf 14 07 04.3 -0.1
JTS JuntasAbangare 165.06 0 PFAKE 14 07 20.0 +15
JTS LR LR
comp=Z,924nm,22.0s
BCIP Isla Barro Col 165.29 340 PFAKE 14 07 20.0 +15
BCIP LR LR
comp=Z,1μm,22.0s
BCIP Isla Barro Col 165.29 340 eP PKPdf 14 07 05.1 +0.2
BCIP Isla Barro Col 165.29 340 eP PKPdf 14 07 05.1 +0.2
CHIC Chingaza 165.47 310 eP PKPdf 14 07 05.2 -0.4
CHIC Chingaza 165.47 310 eP PKPdf 14 07 05.2 -0.4
NORC Norcasia 165.68 316 eP PKPdf 14 07 05.3 +0.1
NORC Norcasia 165.68 316 eP PKPdf 14 07 05.3 +0.1
ROSC El Rosal 165.78 312 PKP PKPdf 14 07 06.6 +0.8
comp=Z,41nm,0.9s,baz=160,slow=2.6,SNR=16
ROSC PKPab PKPab 14 08 06.0 +0.8
comp=Z,8.7nm,0.6s,baz=58,slow=13,SNR=1.8
ROSC El Rosal 165.78 312 eP PKPdf 14 07 06.4 +0.6
ROSC El Rosal 165.78 312 eP PKPdf 14 07 06.4 +0.6
RREF El Recreo 166.48 315 eP PKPdf 14 07 06.2 -0.5
RREF El Recreo 166.48 315 eP PKPdf 14 07 06.2 -0.5
ANIL Santa Ana 166.80 314 eP PKPdf 14 07 06.1 -0.3
ANIL Santa Ana 166.80 314 eP PKPdf 14 07 06.1 -0.3
PLMC San Jos del P 167.12 318 eP PKPdf 14 07 07.2 +0.8
PLMC San Jos del P 167.12 318 eP PKPdf 14 07 07.2 +0.8
YOTC Yotoco, Valle 167.83 315 eP PKPdf 14 07 05.8 -1.2
YOTC Yotoco, Valle 167.83 315 eP PKPdf 14 07 05.8 -1.2
MARP Paez Belalcaza 168.31 310 eP PKPdf 14 07 07.6 +0.1
MARP Paez Belalcaza 168.31 310 eP PKPdf 14 07 07.6 +0.1
MALC Bahia Malaga 168.48 319 eP PKPdf 14 07 07.2 -0.1
MALC Bahia Malaga 168.48 319 eP PKPdf 14 07 07.2 -0.1
FLOC Florencia 168.83 304 eP PKPdf 14 07 07.6 0.0
FLOC Florencia 168.83 304 eP PKPdf 14 07 07.6 0.0
PCON Cinco Dias 168.98 309 eP PKPdf 14 07 09.3 +1.0
PCON Cinco Dias 168.98 309 eP PKPdf 14 07 09.3 +1.0
POPC Popayan, Colom 169.05 311 eP PKPdf 14 07 06.2 -1.8
POPC Popayan, Colom 169.05 311 eP PKPdf 14 07 06.2 -1.8
SOTA Rioblanco 169.26 309 eP PKPdf 14 07 09.3 +0.9
SOTA Rioblanco 169.26 309 eP PKPdf 14 07 09.3 +0.9
NNA Nana 169.26 227 PKP PKPdf 14 07 08.7 +0.9
comp=Z,16nm,0.7s,baz=135,slow=4.3
NNA pPKP pPKPdf 14 07 23.7 +0.6
baz=302,slow=2.3
NNA Nana 169.26 227 PKP PKPdf 14 07 08.7 +0.9
NNA pPKP pPKPdf 14 07 23.7 +0.6
NNA LR LR
comp=Z,549nm,20.0s
NNA Nana 169.26 227 PKIKP PKPdf 14 07 08.7 +0.9
NNA 14 07 23.7
NNA MLR MLR
comp=Z,549nm,20.0s
GCUF Volcan Galeras 170.40 308 eP PKPdf 14 07 10.1 +1.0
GCUF Volcan Galeras 170.40 308 eP PKPdf 14 07 10.1 +1.0
CMBC Cumbal 170.95 308 eP PKPdf 14 07 10.2 +0.9
CMBC Cumbal 170.95 308 eP PKPdf 14 07 10.2 +0.9
OTAV Otavalo 171.88 307 ePKPdf PKPdf 14 07 10.3 +0.5
OTAV LR LR
comp=Z,831nm,21.0s
OTAV Otavalo 171.88 307 eP PKPdf 14 07 10.2 +0.4
OTAV Otavalo 171.88 307 ePKIKP PKPdf 14 07 10.3 +0.5
OTAV MLR MLR
comp=Z,831nm,21.0s
OTAV Otavalo 171.88 307 eP PKPdf 14 07 10.2 +0.4
OTAV Otavalo 171.88 307 eP PKPdf 14 07 11.9 +2.1
ATAH Atahualpa 173.11 250 PKP PKPdf 14 07 11.3 +1.0
comp=Z,14nm,1.0s,baz=291,slow=0.3,SNR=8.9
ATAH pPKP pPKPdf 14 07 27.3 +1.8
comp=Z,10nm,0.9s,baz=26,slow=2.4,SNR=3.4
PAYG Puerto Ayora 173.27 53 PFAKE 14 07 20.0 +10
PAYG LR LR
comp=Z,791nm,20.0s

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*IDC **10** 13:52:15.6±0.9, 16°74N×85°82W, h0km, mb4.1/10, mb1 4.4/15, mb1mx4.2/49, mbtmp4.2/15, ML3.9/5, MS3.5/5, Ms1 3.5/5, ms1mx3.1/45, Error ellipse: s-maj=26.2km s-min=17.2km az=56.0*

*ISCJB **10** 13:52:19.3±0.3, 16°68N±0°03×85°80W±0°04, h49km, mb4.3/16, MS4.1/3, Error ellipse: s-maj=6.0km s-min=4.0km az=6.6*

*NEIC **10** 13:52:20.2±0.4, 16°74N×85°88W, h35km, mb4.4/17, Error ellipse: s-maj=7.6km s-min=6.1km az=107.0*

NEIC Felt at Jose Santos Guardiola and San Pedro Sula.

ISC 10 13:52:21.4±0.5, **16°71N**±0°05×**85°95W**±0°06, **h49km, n161,** $\sigma 2^{s}05$/155, **mb4.3**/16, **MS3.6**/3, **North of Honduras**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
ESTN Estel 3.61 186 ePn Pn 13 53 15.2 +0.3
TEIG Tepich 4.13 328 ePn Pn 13 53 20.2 -1.8
TEIG eSn Sn 13 54 03.5 -5.6
BOAB BOACO BROADBAN4.25 176 ePn Pn 13 53 23.1 -0.5
BOAB eSn Sn 13 54 10.5 -1.3
APG El Apazote 4.66 249 Pn Pn 13 53 28.7 -0.8
2.3nm,0.3s,baz=108,slow=12,SNR=22
APG Sn Sn 13 54 19.9 -2.5
16nm,0.3s,baz=62,slow=22,SNR=10
APG LR LR 13 55 20.8
comp=Z,262nm,20.0s,baz=66,slow=39
WBCY West Bay, Gran 5.08 58 ePn Pn 13 53 32.7 -2.3
WBCY eSn Sn 13 54 31.3 -1.1
FSCY Frank Sound, G 5.22 60 ePn Pn 13 53 35.1 -1.8
MYIG Mrida 5.54 320 ePn Pn 13 53 38.3 -3.0
MYIG eSn Sn 13 54 36.2 -7.5
CCIG Comitan 5.95 267 ePn Pn 13 53 45.7 -1.4
JTS JuntasAbangare 6.45 171 Pn Pn 13 53 51.9 -2.0
1.9nm,0.3s,baz=37,slow=11,SNR=7.3
JTS Lg Lg 13 55 34.8
3.6nm,0.3s,baz=189,slow=18,SNR=5.1
CMIG Matias Romero 8.56 274 Pn Pn 13 54 20.4 -2.4
3.3nm,0.3s,baz=74,slow=8.1,SNR=18
CMIG Sn Sn 13 55 47.1 -11
0.8nm,0.3s,baz=36,slow=17,SNR=2.0
CMIG LR LR 13 58 06.2
comp=Z,502nm,19.4s,baz=92,slow=40
061Z Ochoppi 10.25 26 ePn Pn 13 54 44.1 -1.8
061Z Ochoppi 10.25 26 P Pn 13 54 44.0 -1.9
baz=208
LVIG Laguna Verde 10.39 288 ePn Pn 13 54 43.3 -4.4
059Z Ave Maria 10.46 23 P Pn 13 54 47.8 -0.9
baz=204
058A Arcadia 10.99 20 P Pn 13 54 53.4 -2.6
baz=201,SNR=48
059A Moore Haven 11.14 23 ePn Pn 13 54 56.0 -2.0
059A Moore Haven 11.14 23 P Pn 13 54 57.0 -1.0
baz=204,SNR=6.7
957A Wimauma 11.44 17 ePn Pn 13 54 58.9 -3.2
957A Wimauma 11.44 17 P Pn 13 55 00.2 -1.8
baz=198
958A Wauchula 11.50 19 P Pn 13 55 01.2 -1.8
baz=200,SNR=11
060A Indiantown 11.51 26 ePn Pn 13 55 02.4 -0.6
060A Indiantown 11.51 26 P Pn 13 55 02.3 -0.8
baz=208
857A Zephyrhills 12.00 16 P Pn 13 55 06.6 -3.3
baz=197,SNR=20
857A S Sn 13 57 10.1 -12
baz=197
DWPF Disney Wildern 12.09 19 ePn Pn 13 55 08.1 -2.9
DWPF Disney Wildern 12.09 19 P Pn 13 55 09.3 -1.7
baz=201
DWPF S Sn 13 57 14.0 -10
baz=201
858A St. Cloud 12.21 20 P Pn 13 55 10.7 -1.9
baz=201
859A Kempfer Cattle 12.22 22 P Pn 13 55 10.0 -2.8
baz=203
757A Oxford 12.69 16 P Pn 13 55 15.9 -3.3
baz=197,SNR=60
655A Horseshoe Beac 12.98 11 P Pn 13 55 18.9 -4.2
baz=191,SNR=9.3
656A Willston 12.99 13 ePn Pn 13 55 19.6 -3.6
656A Willston 12.99 13 P Pn 13 55 19.5 -3.7
baz=194,SNR=22
656A S Sn 13 57 33.2 -13
baz=194
657A Interlachen 13.35 16 P Pn 13 55 24.3 -3.9
baz=197,SNR=21
658A Bunnell 13.37 18 ePn Pn 13 55 25.0 -3.5
553A Crawfordville 13.49 6 P Pn 13 55 28.1 -2.0
baz=186
553A S Sn 13 57 45.6 -13
baz=186
556A Lake Butler 13.62 13 P Pn 13 55 27.9 -4.0
baz=194,SNR=14
555A McAlpin 13.63 11 ePn Pn 13 55 28.6 -3.4
555A eSn Sn 13 57 49.1 -13
555A McAlpin 13.63 11 P Pn 13 55 30.1 -1.9
baz=192,SNR=20
555A S Sn 13 57 47.9 -14
baz=192
557A Orange Park 13.80 16 P Pn 13 55 30.1 -4.2
baz=197,SNR=18
451A Vernon 13.85 1 ePn Pn 13 55 32.3 -2.6
451A Vernon 13.85 1 P Pn 13 55 32.5 -2.5
baz=180
452A Marianna 14.09 3 P Pn 13 55 36.0 -2.3
baz=183
453A Whigham 14.16 6 P Pn 13 55 35.4 -3.8
baz=186
455A Stateville 14.22 10 P Pn 13 55 36.3 -3.7
baz=191,SNR=22
349A Repton 14.62 356 P Pn 13 55 43.9 -1.4
baz=175,SNR=5.4
353A Camilla 14.66 6 P Pn 13 55 41.7 -4.1
baz=186
356A Blackshear 14.96 13 P Pn 13 55 48.5 -1.3
baz=194,SNR=6.8
LNIG Linares 15.03 305 ePn Pn 13 55 46.5 -4.2
9.2nm,0.8s
254A Abbeville 15.36 9 P Pn 13 55 51.1 -3.8
baz=189,SNR=7.1
151A Opelika 15.76 2 P Pn 13 55 59.9 -0.2
baz=182,SNR=17
150A Eclectic 15.83 360 P Pn 13 56 00.7 -0.2
baz=180,SNR=26
149A Jones 15.84 357 P P 13 56 03.4 -0.7
baz=177,SNR=5.4
257A Skidaway Islan 15.84 16 P Pn 13 56 00.7 -0.4
baz=197
152A Waverly Hall 15.93 4 P Pn 13 56 01.6 -0.7
baz=184,SNR=11
147A Livingston 16.03 353 P Pn 13 56 03.1 -0.4
baz=172,SNR=6.2
LRAL Lakeview Retre 16.28 357 P Pn 13 56 05.7 -1.0
baz=176,SNR=19
156A Sylvania 16.38 13 P Pn 13 56 07.8 -0.1
baz=195,SNR=5.9
ROSC El Rosal 16.41 135 LR LR 14 02 13.8
comp=Z,87nm,21.5s,baz=282,slow=37
Z49A Columbiana 16.42 358 P Pn 13 56 07.9 -0.6
baz=178,SNR=31
Z52A Williamson 16.47 5 P Pn 13 56 08.3 -0.7
baz=185,SNR=16
Z51A Franklin 16.55 2 P Pn 13 56 10.9 +0.8
baz=182,SNR=31
GOGA Godfrey 16.78 7 P Pn 13 56 12.2 -0.8
baz=188,SNR=5.4
SDV Santo Domingo 16.83 116 Pn Pn 13 56 11.7 -2.2
1.2nm,0.3s,baz=157,slow=4.4,SNR=3.4
Y49A Blount Mountai 17.08 359 P Pn 13 56 17.6 +0.8
baz=178,SNR=8.1
Y51A Rockmart 17.14 3 P Pn 13 56 18.1 +0.7
baz=183,SNR=14
NHSC New Hope 17.14 17 P P 13 56 18.5 0.0
baz=199,SNR=5.4
Y48A Jasper 17.17 357 P Pn 13 56 18.6 +0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=176,SNR=8.7						
Y52A	Lilburn	17.17	5	P	Pn	13 56 18.4	+0.6
	baz=186						
Y47A	UCPARC, Winfie	17.20	355	P	P	13 56 19.9	+0.6
	baz=174,SNR=9.0						
Y53A	Monroe	17.21	7	P	Pn	13 56 18.8	+0.5
	baz=187,SNR=9.0						
Y54A	Tignall	17.33	9	P	Pn	13 56 20.7	+0.9
	baz=190						
X50B	Fort Payne	17.68	1	P	P	13 56 25.9	+1.4
	baz=181,SNR=6.1						
X49A	Woodville	17.73	359	P	P	13 56 26.2	+1.2
	baz=179,SNR=5.3						
X51A	Calhoun	17.81	3	P	P	13 56 27.5	+1.5
	baz=183,SNR=10						
X47A	Russelville	17.82	355	P	P	13 56 27.3	+1.3
	baz=174,SNR=15						
X52A	Dahlonega	17.91	6	P	Pn	13 56 26.0	-1.0
	baz=186,SNR=19						
JSC	Jenkinsville	18.00	13	ePn	Pn	13 56 26.8	-1.2
	30nm,0.5s						
W49A	Belvidere	18.34	359	P	Pn	13 56 34.4	+2.3
	baz=179,SNR=8.4						
W48A	Pulaski	18.38	357	P	P	13 56 32.4	+0.3
	baz=177,SNR=5.7						
W51A	Cleveland	18.41	3	P	Pn	13 56 35.5	+2.6
	baz=183,SNR=8.8						
BG3	Lake Jocassee	18.41	8	eP	P	13 56 31.7	-0.8
	50nm,1.2s						
W50A	Signal Mountai	18.42	2	eP	P	13 56 33.6	+0.9
	23nm,0.6s						
W50A	Signal Mountai	18.42	2	P	Pn	13 56 36.2	+3.0
	baz=182,SNR=6.1						
SWET	Sewanee	18.43	0	eP	P	13 56 33.5	+0.7
	14nm,0.7s						
WHTX	Lake Whitney,	18.45	328	eP	P	13 56 33.8	+0.8
	40nm,0.5s						
WHTX	Lake Whitney,	18.45	328	P	Pn	13 56 36.9	+3.4
	baz=143,SNR=13						
W47A	Westpoint	18.52	356	P	Pn	13 56 37.9	+3.5
	baz=175,SNR=9.1						
W53A	Cullowhee	18.55	7	P	Pn	13 56 36.9	+2.0
	baz=188,SNR=7.0						
JCT	Junction City	18.66	320	eP	P	13 56 35.5	+0.2
	12nm,0.6s						
JCT	Junction City	18.66	320	P	Pn	13 56 39.5	+3.4
	baz=134						
CPCT	Cooper Cave	18.71	4	eP	P	13 56 36.8	+1.0
	17nm,0.7s						
V50A	Pikevile	18.90	2	P	Pn	13 56 42.1	+3.1
	baz=182,SNR=9.9						
V48A	Smith Brothers	18.97	358	P	Pn	13 56 43.6	+3.9
	baz=177,SNR=19						
TKL	Tuckaleechee C	18.97	5	P	P	13 56 39.3	+0.6
	2.2nm,0.3s,baz=178,slow=13,SNR=15						
TKL				S	Sn	13 59 52.9	-19
	0.8nm,0.3s,baz=108,slow=17,SNR=2.8						
TKL	Tuckaleechee C	18.97	5	eP	P	13 56 39.6	+0.9
	78nm,1.4s						
V49A	McMinnville	18.98	0	P	Pn	13 56 43.2	+3.3
	baz=180,SNR=8.1						
V51A	Loudon	19.07	4	eP	P	13 56 40.9	+1.1
	28nm,0.8s						
V51A	Loudon	19.07	4	P	Pn	13 56 41.2	+0.2
	baz=184,SNR=9.2						
V53A	Saluda	19.09	8	P	Pn	13 56 41.6	+0.4
	baz=189,SNR=16						
V47A	Nunnelly	19.09	356	P	P	13 56 41.2	+1.1
	baz=175,SNR=14						
V46A	Holladay	19.11	355	P	P	13 56 40.8	+0.6
	baz=174						
V52A	Sevierville	19.17	6	P	P	13 56 41.9	+1.0
	baz=187,SNR=9.1						
WVT	Waverly	19.41	355	eP	Pn	13 56 45.3	+0.3
	12nm,0.8s						
WVT	Waverly	19.41	355	P	Pn	13 56 46.4	+1.3
	baz=174						
U50A	Jamestown	19.65	3	P	P	13 56 47.5	+1.3
	baz=183,SNR=19						
U51A	La Follette	19.67	5	P	Pn	13 56 48.3	+0.3
	baz=185,SNR=14						
U49A	Red Boiling Sp	19.73	0	P	P	13 56 48.0	+1.1
	baz=180						
U52A	Thorn Hill	19.74	6	P	Pn	13 56 49.2	+0.3
	baz=187						
V41A	Mountainview	19.79	345	P	Pn	13 56 54.3	+4.8
	baz=162,SNR=8.0						
U53A	Fall Branch	19.80	8	P	Pn	13 56 50.0	+0.3
	baz=189,SNR=10						
TZTN	Tazewell	19.87	6	eP	P	13 56 49.6	+1.1
	13nm,0.8s						
TZTN	Tazewell	19.87	6	P	Pn	13 56 50.6	+0.2
	baz=187						
ABTX	Abilene, Hawle	20.11	324	P	P	13 56 53.6	+2.4
	baz=139						
T50A	Nancy	20.26	3	P	Pn	13 57 00.2	+5.2
	baz=183,SNR=8.6						
T46A	Princeton	20.33	356	pP	pP	13 57 02.2	-2.6
	baz=174						
U40A	Yellville	20.51	344	pP	pP	13 57 04.2	-2.6
	baz=161,SNR=6.5						
TX31	Lajitas Ar. Si	20.55	311	eP	P	13 56 56.9	+0.8
TXAR	Lajitas Array	20.55	311	P	P	13 56 57.5	+1.4
	15nm,0.8s,baz=131,slow=11,SNR=153						
TXAR				S	S	14 00 31.8	-12
	0.3nm,0.3s,baz=131,slow=28,SNR=4.1						
T43A	Greenville	20.65	350	P	P	13 56 57.5	+0.5
	baz=168,SNR=9.0						
T42A	Van Buren	20.75	348	P	P	13 56 58.6	+0.6
	baz=166,SNR=7.3						
S47A	Hartford	20.82	358	pP	pP	13 57 08.1	-2.1
	baz=177						
S48A	Wiedeman Farm,	20.87	360	P	P	13 56 59.5	+0.2
	baz=180						
T41A	Mountain View	20.90	347	P	P	13 57 00.2	+0.5
	baz=164,SNR=5.9						
S50A	Richmond	20.93	3	P	Pn	13 57 03.9	+0.8
	baz=184,SNR=8.9						
S46A	Don Dixon Farm	20.95	356	P	P	13 57 00.7	+0.5
	baz=175,SNR=8.6						
S51A	Beattyville	20.95	5	P	P	13 57 01.6	+1.4
	baz=186,SNR=11						
BLA	Blacksburg	21.00	12	P	Pn	13 57 04.4	+0.5
	baz=195,SNR=7.1						
S49A	Springfield	21.00	1	P	P	13 57 01.6	+0.8
	baz=182,SNR=11						
WMOK	Wichita Mounta	21.31	330	eP	P	13 57 04.8	+0.6
	22nm,1.4s						
WMOK	Wichita Mounta	21.31	330	P	P	13 57 05.0	+0.8
	baz=144,SNR=8.6						
WCI	Wyandotte Cave	21.44	359	eP	P	13 57 06.0	+0.5
	33nm,0.7s						
WCI	Wyandotte Cave	21.44	359	P	P	13 57 06.3	+0.8
	baz=179						
R50A	Paris	21.54	3	P	P	13 57 07.4	+1.0
	baz=184,SNR=5.8						
R51A	Hillsboro	21.61	5	P	P	13 57 08.6	+1.4
	baz=186						
Q45A	Warren Harvey,	22.19	355	P	P	13 57 14.2	+0.8
	baz=174						
R58B	Mineral	22.33	17	pP	pP	13 57 27.2	+0.7
	baz=200,SNR=5.8						
Q51A	Peebles	22.35	5	eP	P	13 57 16.1	+0.9
	25nm,0.8s						
Q51A	Peebles	22.35	5	P	P	13 57 16.5	+1.3
	baz=186,SNR=6.9						
P49A	Miami Univ. Ec	22.77	2	P	P	13 57 20.4	+0.8
	baz=183						
Q55A	Buckhannon	22.79	12	pP	pP	13 57 30.0	-1.4
	baz=194,SNR=5.2						
AMTX	Amarillo	22.92	325	eP	P	13 57 20.9	-0.5
	11nm,0.9s						
MNTX	Cornudas Mount	23.11	314	eP	P	13 57 23.5	+0.3
	8.2nm,0.9s						
MNTX	Cornudas Mount	23.11	314	P	P	13 57 23.3	+0.1
	baz=126						
LPIG	La Paz	23.96	292	LR	LR	14 07 29.9	
	comp=Z,158nm,18.7s,baz=86,slow=38						
ANMO	Albuquerque	25.80	319	P	P	13 57 50.3	+2.1
	6.0nm,0.9s,baz=142,slow=11,SNR=16						
ANMO	Albuquerque	25.80	319	P	P	13 57 49.9	+1.7
	baz=130						
SADO	Sadowa	28.56	10	LR	LR	14 10 07.2	
	comp=Z,156nm,18.4s,baz=151,slow=38						
PDAR	Pinedale Array	32.86	327	P	P	13 58 50.6	-0.3
	0.6nm,0.8s,baz=134,slow=8.4,SNR=5.1						
ULM	Lac du Bonnet	34.40	349	P	P	13 59 02.5	-1.3
	1.6nm,0.6s,baz=174,slow=10.0,SNR=3.4						
NVAR	Mina Array Bea	35.64	314	P	P	13 59 17.7	+2.7
	5.7nm,0.8s,baz=131,slow=7.3,SNR=12						
LPAZ	La Paz	37.20	151	P	P	13 59 25.7	-3.2
	36nm,0.4s,baz=276,slow=7.9,SNR=87						
SIV	San Ignacio	40.72	142	P	P	13 59 58.3	+0.6
	1.6nm,0.9s,baz=7.3,slow=7.0,SNR=5.7						
SCHQ	Schefferville	40.81	17	P	P	13 59 55.4	-2.5
	5.2nm,0.9s,baz=239,slow=7.6,SNR=4.3						
YKA	Yellowknife Ar	49.94	343	P	P	14 01 09.7	-0.4
	1.6nm,0.8s,baz=138,slow=7.9,SNR=28						
DLBC	Dease Lake	52.76	333	P	P	14 01 33.1	+1.8
	3.3nm,0.8s,baz=158,slow=7.3,SNR=5.1						
ILAR	Eielson Array	62.76	335	P	P	14 02 43.2	+1.9
	0.9nm,0.9s,baz=93,slow=5.4,SNR=2.7						
KEST	Kesra	84.60	54	LR	LR	14 36 09.6	
	comp=Z,799nm,21.8s,baz=54,slow=31						
FINES	FINESS Array B	85.53	27	P	P	14 04 54.8	+0.8
	3.1nm,0.6s,baz=249,slow=2.4,SNR=4.2						
MODS	Modra-Piesok	86.17	41	eP	P	14 04 58.9	+1.4
KSH	Kashi	121.57	16	PKP	PKPdf	14 11 13.8	+3.6
KSH				sPKP		14 11 23.3	
KSH				PP	PP	14 12 44.7	+3.4
KSH				PKS	PKSdf	14 14 49.2	+2.2
KSH				SKS	SKSdf	14 18 15.9	-2.6
KSH				AMB	AMB		
	comp=Z,900nm,9.7s						
WRA	Warramunga Arr	141.68	259	PKP	PKPdf	14 11 49.9	+1.7
	comp=Z,0.8nm,1.0s,baz=100,slow=13,SNR=3.7						
ASAR	Alice Springs	142.05	253	PKhKP	PKPpre	14 11 44.4	
	comp=Z,0.4nm,0.9s,baz=122,slow=3.4,SNR=3.5						
ASAR				PKP	PKPdf	14 11 48.3	-0.5
	comp=Z,0.5nm,0.9s,baz=90,slow=2.8,SNR=4.2						

PGC 10 13:52:46.3±8.3, 50.°75N×130.°43W, h10km, MLSn2.8/7, Mw3.5/7, 212km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HG4B	Hotspring	1.62	343	Pn	Pn	13 53 12.0	-2.9
HG4B				Sn	Sn	13 53 31.1	-4.7
PACB	Port Alice, BC	1.90	98	Pn	Pn	13 53 16.6	-2.0
PACB				Sn	Sn	13 53 38.6	-4.0
PHC	Port Hardy	1.91	90	Pn	Pn	13 53 16.8	-1.9
PHC				Sn	Sn	13 53 39.0	-3.8
HG3B	Hotspring	1.94	341	Pn	Pn	13 53 17.9	-1.2
BNB	Barry Inlet	2.01	336	Pn	Pn	13 53 17.2	-3.0
BBB	Bella Bella	2.04	44	Pn	Pn	13 53 19.2	-1.4
BBB				Sn	Sn	13 53 41.9	-4.2
EDB	Eliza Dome	2.29	111	Pn	Pn	13 53 22.1	-2.1
TLCB	Telegraph Cove	2.30	94	Pn	Pn	13 53 23.0	-1.1
TLCB				Sn	Sn	13 53 49.6	-2.9
WOSB	Woss	2.54	102	Pn	Pn	13 53 26.3	-1.2
CBB	Campbell River	3.32	101	Pn	Pn	13 53 37.3	-0.9

JMA 10 13:53:24.8±0.1, 38.°43N×142.°18E, h30km±2km, M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.57	258	P	Pb	13 53 36.0	-0.4
JIKH				S	Sb	13 53 43.4	-1.0
JIO	Ouri	0.65	272	P	Pb	13 53 37.5	-0.2
JIO				S	Sb	13 53 45.9	-0.6
JKMT	Kesennumamotoy	0.67	305	P	Pb	13 53 37.8	-0.2
JKMT				S	Sb	13 53 46.8	-0.3
OFUJ	Ofunato	0.76	329	P	Pn	13 53 39.0	-0.5
OFUJ				S	Sb	13 53 48.9	-0.7
JMK	Ichinoseki	0.91	305	P	Pn	13 53 41.5	-0.1
JMK				S	Sn	13 53 53.4	-0.3
JOU	Okura	1.19	267	P	Pn	13 53 45.8	+0.3
JOU				S	Sn	13 54 01.1	+0.4
JMM	Marumori	1.23	243	P	Pn	13 53 45.4	-0.5
JMM				S	Sn	13 54 00.6	-0.9
JOM	Ohasama	1.25	327	P	Pn	13 53 46.6	+0.4
JOM				S	Sn	13 54 02.7	+0.6
JFK	Kawauchi	1.48	225	P	Pn	13 53 48.5	-0.9
JFK				S	Sn	13 54 06.3	-1.5
JYK	Kaneyama	1.51	289	P	Pn	13 53 50.7	+1.0
JRG	Rokugo	1.54	309	P	Pn	13 53 51.5	+1.2
JRG				S	Sb	13 54 11.6	-0.3

BUC 10 13:57:12.2±0.6, 45.°78N×26.°75E, h82km±5km, MD2.9/3, 20C-12D, Error ellipse: s-maj=6.6km s-min=5.0km az=30.0, Romania

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VRI	Vrincioaia	0.09	351	⇑iP	Pn	13 57 23.8	-0.1
VRI	Vrincioaia	0.09	351	⇑iP	Pn	13 57 23.8	-0.1
VRI				iS	Sn	13 57 31.7	-0.9
PLOR	Plostina	0.10	316	⇓iP	Pn	13 57 23.9	-0.1
PLOR	Plostina	0.10	316	⇓iP	Pn	13 57 23.9	-0.1
PLOR				iS	Sn	13 57 31.8	-0.9
ODBI	Odobesti	0.22	95	⇑iP	Pn	13 57 24.9	+0.7
ODBI	Odobesti	0.22	95	⇑iP	Pn	13 57 24.9	+0.7
ODBI				iS	Sn	13 57 34.4	+1.2
PETR	Petresti	0.34	100	⇑iP	Pn	13 57 25.3	+0.4
PETR	Petresti	0.34	100	⇑iP	Pn	13 57 25.3	+0.4
PETR				iS	Sn	13 57 34.9	+0.6
GRER		0.43	158	⇑iP	Pn	13 57 26.7	+1.1
GRER		0.43	158	⇑iP	Pn	13 57 26.7	+1.1
GRER				iS	Sn	13 57 37.0	+1.6
MLR	Muntele Rosu	0.63	243	⇓iP	Pn	13 57 28.0	+0.5
MLR	Muntele Rosu	0.63	243	⇓iP	Pn	13 57 28.0	+0.5
MLR				iS	Sn	13 57 38.8	0.0
ISR	Istrita	0.68	192	⇑iP	Pn	13 57 28.7	+0.8
ISR	Istrita	0.68	192	⇑iP	Pn	13 57 28.7	+0.8
ISR				iS	Sn	13 57 40.5	+1.1
BIR	Birlad	0.78	51	S	Sn	13 57 41.5	+0.3
BIR	Birlad	0.78	51	iS	Sn	13 57 41.5	+0.3
SECR		0.89	213	⇑iP	Pn	13 57 30.1	+0.1
SECR		0.89	213	⇑iP	Pn	13 57 30.1	+0.1
SECR				iS	Sn	13 57 45.3	+2.0
DOPR	Dopca	0.97	282	⇓iP	Pn	13 57 31.5	+0.5
DOPR	Dopca	0.97	282	⇓iP	Pn	13 57 31.5	+0.5
DOPR				iS	Sn	13 57 45.7	+0.7
GIUM	Giurgiulesti	1.07	106	S	Sn	13 57 47.9	+0.9
GIUM	Giurgiulesti	1.07	106	iS	Sn	13 57 47.9	+0.9
CFR	Carcaliu	1.15	121	⇓iP	Pn	13 57 33.3	+0.2
CFR	Carcaliu	1.15	121	⇓iP	Pn	13 57 33.3	+0.2
CFR				iS	Sn	13 57 49.4	+0.6
SULR		1.16	198	S	Sn	13 57 50.2	+1.2
SULR		1.16	198	iS	Sn	13 57 50.2	+1.2
BIZ	Bicaz	1.24	339	⇑iP	Pn	13 57 35.2	+0.9
BIZ	Bicaz	1.24	339	⇑iP	Pn	13 57 35.2	+0.9
BIZ				iS	Sn	13 57 51.8	+0.9
VOIR		1.24	255	⇓iP	Pn	13 57 34.8	+0.4
VOIR		1.24	255	⇓iP	Pn	13 57 34.8	+0.4
VOIR				iS	Sn	13 57 50.7	-0.3
LEHL	Lehliu	1.31	178	S	Sn	13 57 52.8	+0.5
LEHL	Lehliu	1.31	178	iS	Sn	13 57 52.8	+0.5
HARR	Harsova	1.37	142	⇑iP	Pn	13 57 37.0	+1.1
HARR	Harsova	1.37	142	⇑iP	Pn	13 57 37.0	+1.1
TLB	Topalu	1.50	142	⇑iP	Pn	13 57 37.6	0.0
TLB	Topalu	1.50	142	⇑iP	Pn	13 57 37.6	0.0
TLB				iS	Sn	13 57 55.6	-1.2
TLCR		1.57	112	S	Sn	13 57 58.5	+0.2
TLCR		1.57	112	iS	Sn	13 57 58.5	+0.2
RASA	Rasa	1.59	170	S	Sn	13 57 57.8	-1.0
RASA	Rasa	1.59	170	iS	Sn	13 57 57.8	-1.0
TIRR	Tirgusor	1.77	138	⇑iP	Pn	13 57 41.2	+0.1
TIRR	Tirgusor	1.77	138	⇑iP	Pn	13 57 41.2	+0.1
ICOR	Ion Corvin	1.82	155	⇓iP	Pn	13 57 42.2	+0.4
ICOR	Ion Corvin	1.82	155	⇓iP	Pn	13 57 42.2	+0.4
ICOR				iS	Sn	13 58 04.9	+0.6
MILM	Milestii Mici	1.83	51	S	Sn	13 58 03.9	-0.4
MILM	Milestii Mici	1.83	51	iS	Sn	13 58 03.9	-0.4

*IDC **10** 13:57:24.9±0.9, 14.°48S×75.°80W, h0km, mb4.0/8, mb1 4.2/11, mb1mx4.0/45, mbtmp4.1/11, ML3.9/3, MS3.7/7, Ms1 3.7/7, ms1mx3.4/29, Error ellipse: s-maj=29.9km s-min=13.8km az=64.0*

*ISCJB **10** 13:57:29.8±0.7, 14.°48S±0.°07×75.°8W±0.°1, h53km, MS3.8/3, Error ellipse: s-maj=18.8km s-min=6.8km az=152.5*

*VAO **10** 13:57:33.2±0.7, 14.°75S×75.°38W, h10km, mb4.2*

ISC 10 13:57:31.7±0.7, 14.°54S±0.°09×75.°7W±0.°1, h53km, n34, σ1.s91/25, MS3.8/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NNA	Nana	2.77	336	Pn	Pn	13 58 10.3	-3.4
	5.9nm,0.3s,baz=151,slow=15,SNR=7.0						
NNA				Lg	Lg	13 58 51.2	
	96nm,0.3s,baz=15,slow=16,SNR=8.7						
NNA				LR	LR	13 59 15.3	
	comp=Z,310nm,19.7s,baz=98,slow=41						
LPAZ	La Paz	7.52	104	LR	LR	14 03 04.4	
	comp=Z,289nm,18.0s,baz=279,slow=45						
ATAH	Atahualpa	7.82	340	Pn	Pn	13 59 24.4	+1.1
	0.6nm,0.3s,baz=17,slow=8.7,SNR=1.9						
ATAH				Sn	Sn	14 00 47.6	-3.1
	baz=176,slow=15,SNR=1.8						
ATAH				Lg	Lg	14 01 12.2	
	1.5nm,0.3s,baz=49,slow=18,SNR=4.8						
LVC	Limon Verde	10.29	142	Pn	Pn	13 59 57.1	-0.1
	4.6nm,0.3s,baz=321,slow=10,SNR=22						
LVC				Sn	Sn	14 01 48.3	-3.0
	8.2nm,0.3s,baz=104,slow=21,SNR=18						
LVC				Lg	Lg	14 02 55.2	
	baz=131,slow=19,SNR=7.8						
LVC				LR	LR	14 03 24.0	
	comp=Z,227nm,21.1s,baz=309,slow=34						
LVC	Limon Verde	10.29	142	eP	Pn	13 59 57.0	-0.1
LVC				eS	Sn	14 01 48.9	-2.4
SIV	San Ignacio	14.20	98	Pn	Pn	14 00 49.3	-0.9
	0.7nm,0.3s,baz=287,slow=12,SNR=7.3						
SIV				LR	LR	14 06 58.1	
	comp=Z,704nm,18.8s,baz=299,slow=40						
OTAV	Otavalo	14.93	349	eP	P	14 01 08.3	+3.5
LCO	Las Campanas	15.13	163	eP	Pn	14 01 02.9	+0.5
AQDB	Aquidauana	19.97	110	eP	Pn	14 02 02.5	+0.6
PTGA	Pitinga	20.75	50	P	P	14 02 07.4	-1.0
	1.5nm,0.2s,baz=319,slow=19,SNR=2.8						
CPUP	Villa Florida	20.81	127	P	Pn	14 02 10.8	-1.0
	3.6nm,0.9s,baz=318,slow=10,SNR=5.4						
CPUP	Villa Florida	20.81	127	eP	Pn	14 02 10.9	-0.9
TRCB	Terra Rica	23.33	114	eP	P	14 02 37.8	+2.2
SDV	Santo Domingo	23.82	13	P	P	14 02 38.5	-1.7
	6.5nm,0.4s,baz=202,slow=7.8,SNR=4.4						
SDV				LR	LR	14 13 12.5	
	comp=Z,191nm,19.9s,baz=233,slow=40						
ITRB	Iturama	24.76	106	eP	P	14 02 51.6	+3.0
PLCA	Paso Flores	26.48	171	P	P	14 03 03.5	-0.6
	0.5nm,0.3s,baz=0.4,slow=15,SNR=2.3						
BDFB	Brasilia	26.76	96	LR	LR	14 14 57.1	
	comp=Z,440nm,18.5s,baz=164,slow=39						
TXAR	Lajitas Array	51.30	328	LR	LR	14 26 59.0	
	comp=Z,75nm,18.3s,baz=0.0,slow=35						
DBIC	Dimbokro	73.34	78	P	P	14 08 59.4	+0.9
	4.4nm,1.0s,baz=233,slow=10,SNR=3.4						
TORD	Torodi Ar. Bea	81.42	74	P	P	14 09 44.6	+0.9
	3.4nm,0.8s,baz=302,slow=8.5,SNR=13						
YKA	Yellowknife Ar	82.59	343	P	P	14 09 47.9	-0.9
	0.7nm,0.9s,baz=137,slow=4.6,SNR=3.6						
ESDC	Sonseca Array	85.68	47	P	P	14 10 05.8	+0.8
	0.1nm,0.3s,baz=83,slow=14,SNR=6.4						
H11N3	WAKE ISLAND Hy	120.21	285	T	T	16 27 27.1	
	baz=100						
H11N2	WAKE ISLAND Hy	120.22	285	T	T	16 27 28.3	
	baz=100						
H11N1	WAKE ISLAND Hy	120.23	285	T	T	16 27 28.4	
	baz=100						
H11S2	WAKE ISLAND Hy	120.27	283	T	T	16 27 31.1	
	baz=100						
H11S1	WAKE ISLAND Hy	120.28	283	T	T	16 27 37.0	
	baz=100						
H11S3	WAKE ISLAND Hy	120.29	283	T	T	16 27 31.3	
	baz=100						
STKA	Stephens Creek	121.61	217	PKP	PKiKP	14 16 22.7	+2.4
	2.9nm,1.0s,baz=328,slow=16,SNR=2.9						
ASAR	Alice Springs	132.24	218	PKP	PKPdf	14 16 40.9	+0.2
	0.4nm,1.0s,baz=96,slow=1.9,SNR=3.2						
WRA	Warramunga Arr	134.74	222	PKP	PKPdf	14 16 44.7	-0.7
	0.4nm,0.8s,baz=128,slow=2.1,SNR=3.4						
ZALV	Zalesovo Beam	137.81	17	PKP	PKPdf	14 16 50.9	+0.8
	0.9nm,0.8s,baz=217,slow=4.7,SNR=4.4						
MKAR	Makanchi Array	142.96	25	PKhKP	PKPpre	14 16 57.9	
	0.9nm,0.9s,baz=293,slow=0.9,SNR=5.3						
MKAR				PKP	PKiKP	14 17 01.4	-1.5
	0.4nm,0.9s,baz=311,slow=1.4,SNR=5.2						
SONM	Songino Array	146.76	357	PKPbc	PKPab	14 17 08.8	-0.5
	2.1nm,0.8s,baz=328,slow=2.5,SNR=8.8						

MEX 10 14:06:22.4±0.4, 16.°73N×98.°47W, h16km±10km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TLIG	Tlapa	0.84	354	iP	Pb	14 06 35.7	-3.0
TLIG				eS	Sb	14 06 45.5	-4.2
PLIG	Platanillo	1.93	330	eP	Pn	14 06 50.8	-3.8
PLIG				eS	Sn	14 07 13.4	-5.2
YAIG	Yautepec	2.20	345	eP	Pn	14 06 55.5	-3.0
YAIG				iS	Sn	14 07 20.5	-4.9
ARIG	Puente Sto Nin	2.36	311	iP	Pn	14 06 57.3	-3.3
ARIG				eS	Sn	14 07 24.7	-4.6

*ISCJB **10** 14:27:29.8±1.0, 22.°7N±0.°1×12.°4W±0.°2, h10km, mb3.6/6, Error ellipse: s-maj=27.5km s-min=10.9km az=140.4*

*IDC **10** 14:27:30.7±1.3, 22.°77N×12.°27W, h0km, mb3.7/6, mb1 3.8/8, mb1mx3.5/52, mbtmp3.7/8, ML3.5/2, Error ellipse: s-maj=41.3km s-min=24.2km az=49.0*

ISC 10 14:27:31.5±1.1, 22.°7N±0.°2×12.°4W±0.°2, h10km, n12, σ1.s02/11, mb3.8/6, Mauritania

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MDT	Midelt	12.21	32	Lg	Lg	14 33 47.5	
	0.2nm,0.3s,baz=318,slow=16,SNR=3.8						
I11CV	MAIO ISLAND IN	12.61	236	i		15 51 00.0	
	baz=53,slow=310,SNR=0.7						
TORD	Torodi Ar. Bea	16.38	123	Pn	Pn	14 31 20.0	-1.6
	0.1nm,0.3s,baz=318,slow=12,SNR=3.7						
TORD				Sn	Sn	14 34 25.4	+1.9
	0.1nm,0.3s,baz=313,slow=17,SNR=3.6						
TORD				Lg	Lg	14 36 10.8	
	0.0nm,0.3s,baz=326,slow=23,SNR=2.7						
DBIC	Dimbokro	17.48	154	P	Pn	14 31 35.2	-0.2
	0.2nm,0.3s,baz=316,slow=13,SNR=2.6						
DBIC				Lg	Lg	14 36 47.8	
	0.1nm,0.3s,baz=259,slow=16,SNR=2.7						
FINES	FINESS Array B	46.86	24	P	P	14 36 01.3	-0.2
	3.8nm,1.1s,baz=215,slow=6.5,SNR=4.7						
AKTO	Aktyubinsk	60.46	44	P	P	14 37 41.7	+0.3
	0.7nm,0.5s,baz=270,slow=11,SNR=2.7						
KURBB	Kurchatov Arra	73.36	42	P	P	14 39 02.5	-1.1
	0.5nm,0.5s,baz=288,slow=6.6,SNR=4.2						
YKA	Yellowknife Ar	75.61	332	P	P	14 39 16.6	+0.2
	0.1nm,0.5s,baz=67,slow=8.1,SNR=2.7						
MKAR	Makanchi Array	76.88	45	P	P	14 39 24.4	+0.5
	0.4nm,0.5s,baz=270,slow=5.6,SNR=6.0						
PDAR	Pinedale Array	79.97	312	P	P	14 39 41.9	+0.5
	0.2nm,0.7s,baz=93,slow=5.4,SNR=2.7						
WRA	Warramunga Arr	148.89	91	PKPbc	PKiKP	14 47 21.4	-0.2
	0.5nm,0.7s,baz=293,slow=2.5,SNR=4.6						
ASAR	Alice Springs	149.01	99	PKPbc	PKiKP	14 47 22.1	+0.2
	0.5nm,0.7s,baz=314,slow=1.5,SNR=8.2						

*IDC **10** 15:05:57.5±1.1, 44.°21N×145.°78E, h0km, mb3.4/5, mb1 3.7/5, mb1mx3.4/32, mbtmp3.4/5, Error ellipse: s-maj=32.3km s-min=28.0km az=155.0*

*ISCJB **10** 15:06:14.1±0.5, 44.°27N±0.°06×145.°79E±0.°06, h155km±4km, mb3.2/5, Error ellipse: s-maj=10.4km s-min=6.1km az=163.5*

*SKHL **10** 15:06:14.0±0.5, 44.°07N×146.°12E, h153km±1km, mb4.5/5, msh4.9/5*

*JMA **10** 15:06:15.3±0.3, 44.°28N×145.°79E, h150km±2km, M3.0*

ISC 10 15:06:15.0±0.8, 44.°27N±0.°06×145.°81E±0.°04, h154km±6km, n30, σ0.s63/47, mb3.2/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LAGR	Lagunnoye	0.21	185	eP	Pn	15 06 36.1	+0.4
LAGR				AMB	AMB	15 06 36.8	
	40nm,0.4s						
LAGR				AMB	AMB	15 06 36.8	
	60nm,0.4s						
LAGR				AMB	AMB	15 06 36.8	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	190nm,0.4s						
LAGR				eS	Sn	15 06 52.2	+0.7
LAGR				A	A	15 06 57.9	
	660nm,0.6s						
LAGR				A	A	15 06 57.9	
	850nm,0.6s						
LAGR	Lagunnoye	0.21	185	eP	Pn	15 06 36.1	+0.4
LAGR				AMB	AMB	15 06 36.8	
	40nm,0.4s						
LAGR				AMB	AMB	15 06 36.8	
	60nm,0.4s						
LAGR				AMB	AMB	15 06 36.8	
	190nm,0.4s						
LAGR				eS	Sn	15 06 52.2	+0.7
LAGR				A	A	15 06 57.9	
	660nm,0.6s						
LAGR				A	A	15 06 57.9	
	850nm,0.6s						
YUK	Yuzh-Kuril'sk	0.23	171	eP	Pn	15 06 35.7	-0.1
YUK				AMB	AMB	15 06 36.5	
	60nm,0.2s						
YUK				AMB	AMB	15 06 36.5	
	180nm,0.2s						
YUK				eS	Sn	15 06 51.9	+0.4
YUK				A	A	15 06 56.0	
	290nm,0.5s						
YUK				A	A	15 06 56.0	
	180nm,0.5s						
YUK	Yuzh-Kuril'sk	0.23	171	eP	Pn	15 06 35.7	-0.1
YUK				AMB	AMB	15 06 36.5	
	61nm,0.2s						
YUK				AMB	AMB	15 06 36.5	
	63nm,0.2s						
YUK				AMB	AMB	15 06 36.5	
	184nm,0.2s						
YUK				eS	Sn	15 06 51.9	+0.4
YUK				A	A	15 06 56.0	
	285nm,0.5s						
YUK				A	A	15 06 56.0	
	183nm,0.5s						
GRPR	Tuman	0.28	186	eP	Pn	15 06 35.9	0.0
GRPR				AMB	AMB	15 06 36.7	
	60nm,0.3s						
GRPR				AMB	AMB	15 06 36.7	
	100nm,0.3s						
GRPR				AMB	AMB	15 06 36.7	
	360nm,0.3s						
GRPR				eS	Sn	15 06 52.5	+0.7
GRPR				A	A	15 06 53.2	
	310nm,0.5s						
GRPR				A	A	15 06 53.2	
	450nm,0.5s						
GRPR	Tuman	0.28	186	eP	Pn	15 06 35.9	0.0
GRPR				AMB	AMB	15 06 36.7	
	60nm,0.3s						
GRPR				AMB	AMB	15 06 36.7	
	100nm,0.3s						
GRPR				AMB	AMB	15 06 36.7	
	360nm,0.3s						
GRPR				eS	Sn	15 06 52.5	+0.7
GRPR				A	A	15 06 53.2	
	310nm,0.5s						
GRPR				A	A	15 06 53.2	
	450nm,0.5s						
JRA	Rausu	0.60	237	P	Pn	15 06 37.1	-0.1
JRA				eS	Sn	15 06 53.7	-0.4
SHO	Shikotan	0.83	118	eP	Pn	15 06 37.9	-0.9
SHO				AMB	AMB	15 06 38.5	
	30nm,0.4s						
SHO				AMB	AMB	15 06 38.5	
	50nm,0.4s						
SHO				AMB	AMB	15 06 38.5	
	170nm,0.4s						
SHO				eS	Sn	15 06 55.8	-1.1
SHO				A	A	15 06 57.8	
	140nm,0.3s						
SHO				A	A	15 06 57.8	
	200nm,0.3s						
SHO	Shikotan	0.83	118	eP	Pn	15 06 37.9	-0.9
SHO				AMB	AMB	15 06 38.5	
	40nm,0.4s						
SHO				AMB	AMB	15 06 38.5	
	50nm,0.4s						
SHO				AMB	AMB	15 06 38.5	
	170nm,0.4s						
SHO				eS	Sn	15 06 55.8	-1.1
SHO				A	A	15 06 57.8	
	140nm,0.3s						
SHO				A	A	15 06 57.8	
	200nm,0.3s						
NEM2	Nemuro 2	0.90	183	P	Pn	15 06 39.1	-0.2
NEM2				eS	Sn	15 06 56.9	-0.9
JNK	Nakash	1.04	230	P	Pn	15 06 40.7	+0.2
JKHN	Kushirohamanak	1.27	202	P	Pn	15 06 42.7	+0.2
JTKR	Abashiri--Toko	1.40	259	P	Pn	15 06 43.5	-0.3
JTKR				eS	Sn	15 07 05.3	-0.5
JAK	Akkeshi	1.51	213	P	Pn	15 06 45.0	+0.1
JAK				eS	Sn	15 07 07.3	-0.4
KUR	Kuril'sk	1.75	56	eP	Pn	15 06 47.1	-0.4
KUR				AMB	AMB	15 06 48.3	
	20nm,0.3s						
KUR				AMB	AMB	15 06 48.3	
	30nm,0.3s						
KUR				AMB	AMB	15 06 48.3	
	80nm,0.3s						
KUR				i S	Sn	15 07 12.5	0.0
KUR				A	A	15 07 16.8	
	30nm,0.3s						
KUR				A	A	15 07 16.8	
	110nm,0.3s						
KUR	Kuril'sk	1.75	56	eP	Pn	15 06 47.1	-0.4
KUR				AMB	AMB	15 06 48.3	
	20nm,0.3s						
KUR				AMB	AMB	15 06 48.3	
	30nm,0.3s						
KUR				AMB	AMB	15 06 48.3	
	80nm,0.3s						
KUR				eS	Sn	15 07 13.1	+0.6
KUR				A	A	15 07 16.8	
	30nm,0.4s						
KUR				A	A	15 07 16.8	
	110nm,0.4s						
JAR	Ashorobuto	1.77	237	P	Pn	15 06 48.2	+0.5
JMP	Maruseppu	1.79	263	P	Pn	15 06 47.7	-0.2
JOB	Onbets	1.98	227	P	Pn	15 06 50.5	+0.4
JKK2	Kamakawa 2	2.24	261	P	Pn	15 06 53.3	+0.1
JKK2				eS	Sn	15 07 23.0	+0.4
ASAJ	Asahikawa	2.32	267	P	Pn	15 06 54.4	+0.4
JSE	Soyaes	2.41	288	P	Pn	15 06 54.5	-0.6
JSE				eS	Sn	15 07 24.9	-1.1
JCH	Churui	2.43	228	P	Pn	15 06 55.5	+0.1
JCH				eS	Sn	15 07 25.4	-1.2
JFR	Furan	2.58	246	P	Pn	15 06 58.0	+0.7
JNBK	Urakawa-nobuka	2.99	229	P	Pn	15 07 01.9	-0.4
SONM	Songino Array	27.38	292	P	P	15 11 44.9	-0.9
	0.3nm,0.4s,baz=79,slow=9.7,SNR=4.8						
ILAR	Eielson Array	41.64	37	P	P	15 13 48.4	+0.7
	0.4nm,0.6s,baz=256,slow=4.5,SNR=6.7						
MKAR	Makanchi Array	43.49	297	P	P	15 14 01.8	-1.1
	0.6nm,0.6s,baz=77,slow=8.7,SNR=6.6						
WRA	Warramunga Arr	64.75	192	P	P	15 16 37.5	+0.6
	0.3nm,0.9s,baz=9.2,slow=6.7,SNR=3.8						
TXAR	Lajitas Array	83.16	55	P	P	15 18 24.8	+0.9
	0.1nm,0.5s,baz=319,slow=3.6,SNR=3.8						

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*ISCJB **10** 15:11:11.9±0.8, 49°.73S±0°.08×110°.6E±0°.3, h22km, Error ellipse: s-maj=23.7km s-min=11.7km az=8.5*

*IDC **10** 15:11:11.1±2.3, 49°.77S×110°.64E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/28, mbtmp3.8/3, Error ellipse: s-maj=56.8km s-min=51.5km az=123.0*

*NEIC **10** 15:11:12.1±0.7, 49°.76S×110°.58E, h10km, mb4.5/7, Error ellipse: s-maj=20.0km s-min=10.0km az=98.0*

ISC 10 15:11:13.8±1.1**, 49°.8S**±0°.1×**110°.6E**±0°.2**, h22**km**, n20, σ0s.97**/17**, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	15.09	11	T	T	15 30 22.8	
	baz=188,slow=74,SNR=9.6						
H01W1	Cape Leeuwin H	15.09	11	T	T	15 30 20.4	
	baz=188,slow=74,SNR=12						
H01W3	Cape Leeuwin H	15.10	11	T	T	15 30 22.4	
	baz=188,slow=74,SNR=9.0						
CASY	Casey	16.56	180	ePn	Pn	15 15 04.4	+0.1
	4.1nm,0.9s						
CASY				eSn	Sn	15 17 49.9	-17
ASAR	Alice Springs	31.80	44	P	P	15 17 37.1	+0.4
	0.8nm,0.7s,baz=206,slow=8.2,SNR=14						
AS31	Alice Springs	31.81	44	eP	P	15 17 36.6	-0.1
	0.9nm,0.9s						
AS01	Alice Springs	31.83	44	eP	P	15 17 36.1	-0.8
WR1	Warramunga Arr	35.27	41	eP	P	15 18 07.2	+0.4
	13nm,1.5s						
WRA	Warramunga Arr	35.27	41	P	P	15 18 07.2	+0.4
	1.4nm,0.8s,baz=207,slow=8.6,SNR=8.3						
WB2	Warramunga Arr	35.27	41	eP	P	15 18 06.9	0.0
	47nm,1.9s						
WRAB	Tennant Creek	35.28	41	eP	P	15 18 06.3	-0.6
	35nm,1.9s						
QSPA	South Pole Qui	40.36	180	eP	P	15 18 49.1	-0.5
	7.7nm,1.4s						
SOEI	Soe	41.48	21	eP	P	15 18 58.8	-0.4
	64nm,1.3s						
OXZ	Oxford	41.70	106	eP	P	15 18 58.4	-2.2
	146nm,2.0s						
MQZ	McQueen's Vall	41.88	106	eP	P	15 19 04.5	+2.3
	348nm,1.9s						
CRLZ	Canterbury Las	41.93	106	eP	P	15 19 03.3	+0.7
	485nm,1.9s						
CM01	Chiang Mai Arr	68.66	348	eP	P	15 22 15.3	+0.1
CMAR	Chiang Mai Arr	68.70	348	P	P	15 22 16.1	+0.5
	0.7nm,0.9s,baz=184,slow=5.5,SNR=5.0						
LTX	Lajitas	147.03	115	ePKPbc	PKPbc	15 30 55.0	+0.3
TXAR	Lajitas Array	147.03	115	PKPbc	PKPbc	15 30 55.0	+0.3
	0.6nm,0.8s,baz=197,slow=5.6,SNR=6.2						

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*IDC **10** 15:16:01.7±12.0, 29°.17N×80°.82E, h0km, mb3.8/3, mb1 3.8/4, mb1mx3.4/39, mbtmp3.8/4, ML3.4/1, Error ellipse: s-maj=250.5km s-min=76.2km az=141.0*

*ISCJB **10** 15:16:11.1±0.9, 30°.03N±0°.05×80°.53E±0°.07, h23km, mb3.8/3, Error ellipse: s-maj=8.3km s-min=6.8km az=159.8*

*NDI **10** 15:16:12.9±1.8, 30°.10N×80°.47E, h10km, ML3.2*

ISC 10 15:16:12.5±1.3**, 30°.05N**±0°.06×**80°.48E**±0°.09**, h23**km**, n12, σ1s.60**/17**, mb4.0**/3**, Western Xizang-India border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOSI	Joshimath	0.94	303	eP	Pb	15 16 28.1	-2.2
JOSI				eS	Sb	15 16 40.5	-1.9
JOSI				IAML		15 16 46.9	
	comp=E,971nm,0.5s						
JOSI				IAML		15 16 47.9	
	comp=N,801nm,0.3s						
DDI	Dehra Dun	2.11	278	eP	Pb	15 16 49.2	-0.9
DDI				eS	Sn	15 17 13.9	+1.8
DDI				IAML		15 17 21.4	
	comp=E,300nm,0.1s						
DDI				IAML		15 17 22.9	
	comp=N,427nm,0.2s						
SMLA	Simla	3.05	292	eP	Pn	15 17 01.6	+2.3
SMLA				eS	Sn	15 17 37.1	+2.0
SMLA				IAML		15 17 49.5	
	comp=N,133nm,0.5s						
SMLA				IAML		15 17 50.4	
	comp=E,156nm,0.3s						
NDI	New Delhi	3.15	245	eP	Pn	15 17 02.0	+1.3
SONA	Sohna	3.47	240	ex	Sn	15 17 43.0	-2.3
KUDL	Kundal	3.97	242	eP	Pn	15 17 12.8	+0.9
KUDL				eS	Sn	15 17 59.8	+2.0
KUDL				IAML		15 18 18.0	
	comp=N,27nm,0.3s						
DHRM	DHARAMSHALA	4.20	303	eP	Pn	15 17 16.3	+1.0
DHRM				eS	Sn	15 18 04.0	+0.2
DHRM				IAML		15 18 31.0	
	comp=E,60nm,0.2s						
DHRM				IAML		15 18 31.5	
	comp=N,39nm,0.7s						
JBP	Jabalpur	6.87	184	ex	Pb	15 18 17.7	+6.6
JBP				eS	Sn	15 19 09.5	+0.3
MKAR	Makanchi Array	16.78	4	P	P	15 20 08.7	+0.7
	comp=N,0.1nm,0.3s,baz=187,slow=11,SNR=14						
ZALV	Zalesovo Beam	24.09	6	P	P	15 21 26.1	+0.1
	comp=N,1.0nm,0.6s,baz=196,slow=9.2,SNR=4.8						
FINES	FINESS Array B	47.20	328	P	P	15 24 42.5	-0.5
	comp=N,1.2nm,0.8s,baz=115,slow=9.4,SNR=4.6						
ARCES	ARCESS Array B	50.10	338	P	P	15 25 05.3	-0.1
	comp=N,1.3nm,0.7s,baz=110,slow=7.8,SNR=4.8						

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*ISCJB **10** 15:19:34.8±1.5, 49°.7S±0°.2×110°.8E±0°.5, h10km, mb4.2/7, Error ellipse: s-maj=44.3km s-min=20.4km az=11.2*

*IDC **10** 15:19:34.5±2.3, 49°.77S×110°.80E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/27, mbtmp3.8/3, Error ellipse: s-maj=58.1km s-min=51.6km az=126.0*

*NEIC **10** 15:19:37.0±1.3, 49°.78S×110°.94E, h10km, mb4.7/5, Error ellipse: s-maj=44.1km s-min=17.3km az=101.0*

ISC 10 15:19:37.2±1.5**, 49°.7S**±0°.2×**110°.8E**±0°.4**, h10**km**, n14, σ1s.01**/11**, mb4.0**/7**, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	15.00	11	T	T	15 38 45.5	
	baz=188,slow=74,SNR=16						
H01W1	Cape Leeuwin H	15.01	11	T	T	15 38 43.4	
	baz=188,slow=74,SNR=19						
H01W3	Cape Leeuwin H	15.01	11	T	T	15 38 45.6	
	baz=188,slow=74,SNR=14						
NWAO	Narrogin (SRO)	17.43	18	ePn	P	15 23 43.2	+1.5
	128nm,1.9s						
ASAR	Alice Springs	31.66	43	P	P	15 25 59.9	-0.8
	0.8nm,0.7s,baz=207,slow=8.0,SNR=13						
AS31	Alice Springs	31.66	43	eP	P	15 26 00.2	-0.5
	2.1nm,1.5s						
AS01	Alice Springs	31.69	43	eP	P	15 25 59.2	-1.6
VNDA	Vanda	33.78	162	eP	P	15 26 18.9	+0.3
	25nm,2.0s						
WR1	Warramunga Arr	35.13	41	eP	P	15 26 30.3	-0.6
	19nm,1.6s						
WRA	Warramunga Arr	35.13	41	P	P	15 26 30.3	-0.6
	1.9nm,0.9s,baz=203,slow=10,SNR=7.6						
WB2	Warramunga Arr	35.13	41	eP	P	15 26 32.0	+1.1
	13nm,1.4s						
CMAR	Chiang Mai Arr	68.67	348	P	P	15 30 40.0	-0.6
	0.7nm,0.8s,baz=190,slow=6.2,SNR=5.7						
LTX	Lajitas	146.94	115	ePKPdf	PKPdf	15 39 18.0	+0.1
TXAR	Lajitas Array	146.94	115	PKPbc	PKPdf	15 39 18.0	+0.1
	0.8nm,0.9s,baz=193,slow=5.0,SNR=6.3						

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*SJA **10** 15:22:28.1±0.6, 21°.19S×67°.23W, h229km±8km, ML3.0, MW3.1*

*IDC **10** 15:22:28.3±1.1, 21°.35S×67°.61W, h158km±15km, mb3.4/1, mb1 3.6/4, mb1mx3.2/26, mbtmp3.9/4, Error ellipse: s-maj=28.7km s-min=18.6km az=131.0*

ISC 10 15:22:30.4±1.2**, 21°.15S**±0°.07×**67°.4W**±0°.1**, h183**km**, n10, σ2s.02**/15**, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YJA	Yavi	2.00	121	eP	Pn	15 23 09.2	+1.0
YJA				eS	Sn	15 23 39.5	+2.1
YJA				IAML		15 23 42.4	
	comp=Z,44nm,0.7s						
LVC	Limon Verde	2.04	224	P	Pn	15 23 01.8	-6.7
	comp=Z,3.4nm,0.3s,baz=35,slow=9.1,SNR=46						
LVC				S	Sn	15 23 26.6	-11
	comp=Z,5.9nm,0.3s,baz=295,slow=7.2,SNR=3.8						
HJA	Humahuaca	2.74	139	eP	Pn	15 23 16.6	+0.2
HJA				eS	Sn	15 23 52.4	+0.1
HJA				IAML		15 23 57.4	
	comp=Z,45nm,0.5s						
AZAP	Zapla	3.73	146	eP	Pn	15 23 27.2	-1.1
AZAP				eS	Sn	15 24 11.9	-1.8
ALOL	LOMAS DE OLMED	4.10	131	eP	Pn	15 23 31.6	-1.3
ALOL				eS	Sn	15 24 17.9	-4.0
LPAZ	La Paz	4.89	351	P	Pn	15 23 44.0	+0.4
	comp=Z,4.6nm,0.3s,baz=206,slow=8.0,SNR=55						
LPAZ				S	Sn	15 24 37.1	-4.0
	baz=329,slow=19,SNR=0.7						
SIV	San Ignacio	7.87	50	P	Pn	15 24 23.2	+1.1
	comp=Z,3.0nm,0.3s,baz=254,slow=12,SNR=38						
SIV				S	Sn	15 25 49.2	-1.3
	comp=Z,0.1nm,0.3s,baz=318,slow=18,SNR=2.6						
CPUP	Villa Florida	10.54	121	P	Pn	15 24 56.8	-0.1
	comp=Z,0.2nm,0.3s,baz=309,slow=13,SNR=2.9						
YKA	Yellowknife Ar	91.34	340	P	P	15 35 15.7	+0.9
	comp=Z,0.2nm,0.5s,baz=129,slow=4.3,SNR=7.1						
MKAR	Makanchi Array	144.50	37	PKP	PKPdf	15 41 46.2	+1.3
	comp=Z,0.4nm,0.4s,baz=311,slow=3.4,SNR=9.1						

IDC 10 15:24:33.6±2.2**, 2°.58N**×**128°.23E, h0**km**, mb3.2**/3**, mb1 3.4**/3**, mb1mx3.2**/28**, mbtmp3.2**/3**, Error ellipse: s-maj=159.6km s-min=24.8km az=68.0, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.17	165	P	P	15 29 42.2	+0.2
	0.2nm,0.3s,baz=345,slow=10.0,SNR=8.2						
ASAR	Alice Springs	26.66	168	P	P	15 30 13.7	-0.7
	0.2nm,0.5s,baz=353,slow=7.5,SNR=9.2						
MKAR	Makanchi Array	59.35	325	P	P	15 34 38.0	+0.4
	0.1nm,0.4s,baz=114,slow=6.9,SNR=4.1						

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*IDC **10** 15:44:21.4±2.1, 2°.02S×67°.69E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/44, mbtmp3.6/6, MS3.3/2, Ms1 3.4/2, ms1mx2.9/34, Error ellipse: s-maj=61.0km s-min=28.3km az=67.0*

ISC 10 15:44:23.0±2.3**, 2°.0S**±0°.3×**67°.7E**±0°.4**, h10**km**, n11, σ0s.56**/7**, mb3.8**/6**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.42	142	T	T	15 51 01.2	
	baz=325,slow=75,SNR=204						
H08N3	Diego Garcia H	5.43	143	T	T	15 51 06.1	
	baz=325,slow=75,SNR=161						
H08N1	Diego Carcia H	5.44	142	T	T	15 51 01.9	
	baz=325,slow=75,SNR=203						
BRDH	Bariadhala	33.88	42	LR	LR	16 06 35.3	
	comp=Z,78nm,18.3s,baz=241,slow=39						
CMAR	Chiang Mai Arr	36.88	55	P	P	15 51 32.3	+0.3
	0.1nm,0.4s,baz=250,slow=9.5,SNR=3.3						
CMAR				LR	LR	16 07 05.8	
	comp=Z,23nm,18.5s,baz=280,slow=37						
MKAR	Makanchi Array	50.27	13	P	P	15 53 19.2	-0.4
	0.5nm,0.8s,baz=187,slow=7.3,SNR=5.6						
ZALV	Zalesovo Beam	57.56	12	P	P	15 54 12.0	-0.6
	1.4nm,0.7s,baz=225,slow=7.3,SNR=6.3						
SONM	Songino Array	60.02	29	P	P	15 54 30.4	+0.3
	1.0nm,0.9s,baz=225,slow=8.3,SNR=5.4						
WRA	Warramunga Arr	67.40	111	P	P	15 55 18.9	-0.4
	0.9nm,1.0s,baz=286,slow=5.9,SNR=4.0						
ASAR	Alice Springs	67.46	115	P	P	15 55 19.5	-0.1
	0.5nm,0.9s,baz=279,slow=6.2,SNR=3.6						
TXAR	Lajitas Array	151.60	344	PKPbc	PKPbc	16 04 19.1	+0.6
	0.5nm,1.0s,baz=56,slow=3.4,SNR=3.7						

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*IDC **10** 15:45:14.3±5.4, 25°.14S×179°.62E, h479km±61km, mb3.0/7, mb1 3.3/8, mb1mx3.1/41, mbtmp4.0/8, Error ellipse: s-maj=33.4km s-min=21.7km az=33.0*

*ISCJB **10** 15:45:15.8±0.9, 25°.30S±0°.10×179°.5E±0°.2, h507km, mb3.4/7, Error ellipse: s-maj=19.2km s-min=12.9km az=178.0*

ISC 10 15:45:16.6±0.9**, 25°.4S**±0°.1×**179°.5E**±0°.2**, h507**km**, n11, σ0s.95**/10**, mb3.7**/7**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	13.00	189	P	P	15 48 04.9	-0.6
	1.4nm,0.3s,baz=37,slow=2.2,SNR=12						
URZ				S	S	15 50 23.8	-0.9
	baz=49,slow=19,SNR=3.6						
CTA	Charters Tower	31.10	273	P	P	15 50 53.1	0.0
	1.2nm,0.5s,baz=128,slow=12,SNR=5.1						
ASAR	Alice Springs	41.40	262	P	P	15 52 19.2	+0.8
	0.1nm,0.3s,baz=90,slow=8.2,SNR=9.9						
WRA	Warramunga Arr	41.91	268	P	P	15 52 22.1	-0.4
	0.7nm,0.7s,baz=104,slow=8.1,SNR=5.3						
SIJI	Sorong	52.52	290	P	P	15 53 42.3	-0.3
	1.3nm,0.3s,baz=99,slow=5.8,SNR=5.0						
QSPA	South Pole Qui	64.71	180	P	P	15 55 05.9	+1.8
	0.7nm,0.7s,baz=0.0,slow=3.0,SNR=4.0						
NVAR	Mina Array Bea	86.11	44	P	P	15 57 02.8	-1.0
	1.1nm,0.7s,baz=232,slow=8.9,SNR=2.1						
TXAR	Lajitas Array	91.57	58	P	P	15 57 29.5	+0.3
	0.6nm,0.8s,baz=202,slow=6.3,SNR=6.7						
ARCES	ARCESS Array B	133.24	348	PKP	PKPdf	16 03 33.7	0.0
	2.9nm,0.9s,baz=352,slow=2.7,SNR=4.1						
NB2	NORSAR Subarra	143.47	350	PKP	PKPab	16 03 49.0	-1.9
	comp=Z,0.8nm,0.6s,baz=16,slow=3.2						
NOA	NORSAR Array B	143.47	350	PKP	PKPab	16 03 49.9	-1.0
	comp=Z,1.2nm,0.9s,baz=17,slow=4.2,SNR=5.2						

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*ISCJB **10** 16:26:23.2±0.2, 10°.93S±0°.03×162°.01E±0°.04, h36km, mb5.0/78, MS3.9/12, Error ellipse: s-maj=5.6km s-min=4.6km az=11.5*

*MOS **10** 16:26:23.9±1.3, 10°.97S×162°.11E, h44km, mb5.2/10, Error ellipse: s-maj=9.6km s-min=8.3km az=51.4*

*NEIC **10** 16:26:26.8±0.7, 10°.87S×161°.98E, h55km±7km, mb5.1/55, Error ellipse: s-maj=5.0km s-min=4.4km az=98.0*

*IDC **10** 16:26:26.6±2.6, 10°.95S×162°.05E, h53km±22km, mb4.0/14, mb1 4.2/18, mb1mx4.1/35, mbtmp4.4/18, ML2.6/2, MS3.9/12, Ms1 3.9/12, ms1mx3.7/29, Error ellipse: s-maj=19.8km s-min=13.3km az=86.0*

*BJI **10** 16:26:28.6, 10°.49S×161°.76E, h57km, mb4.8/23, mB5.1/13, Ms4.8/5, Ms7 4.5/4*

ISC 10 16:26:24.8±0.3**, 10°.99S**±0°.05×**162°.04E**±0°.05**, h36**km**, n153, σ1s.59**/154**, mb5.0**/78**, MS3.9**/12**, 6C-3D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.58	307	P	Pn	16 27 05.1	+1.1
	207nm,0.3s,baz=158,slow=6.7,SNR=66						
HNR				S	Sn	16 27 36.4	+2.3
	457nm,0.3s,baz=184,slow=8.1,SNR=5.5						
HNR				LR	LR	16 28 14.4	
	comp=Z,3µm,18.6s,baz=138,slow=42						
HNR	Honiara	2.58	307	ePn	Pn	16 27 04.8	+0.8
HNR				eSn	Sn	16 27 36.4	+2.3
HNR	Honiara	2.58	307	eP	Pn	16 27 04.8	+0.8
HNR				e		16 27 36.4	
DZM	Mont Dzumac	11.80	160	P	Pn	16 29 12.3	+1.6
	0.3nm,0.3s,baz=74,slow=21,SNR=17						
DZM				S	Sn	16 31 16.2	-5.0
	0.3nm,0.3s,baz=288,slow=20,SNR=2.8						
DZM				LR	LR	16 33 13.6	
	comp=Z,662nm,19.1s,baz=17,slow=34						
DZM	Mont Dzumac	11.80	160	ePn	Pn	16 29 12.5	+1.8
	14nm,0.8s						
DZM				eSn	Sn	16 31 15.0	-6.2
	13nm,0.7s						
DZM				eLR	LR	16 32 02.2	
	comp=Z,1µm,23.8s						
RABL	Rabaul	11.89	304	ePn	Pn	16 29 09.5	-2.4
MARNC	Mare, Loyalty	11.91	152	ePn	Pn	16 29 12.1	0.0
ONTNC	Ouen Toro	12.02	160	ePn	Pn	16 29 19.1	+5.5
PMG	Port Moresby	14.73	275	P	P	16 29 53.8	-2.5
	0.2nm,0.3s,baz=84,slow=6.9,SNR=3.7						
PMG				LR	LR	16 35 27.3	
	comp=Z,996nm,19.7s,baz=108,slow=37						
PMG	Port Moresby	14.73	275	ePn	Pn	16 29 53.1	+2.4
PMG				e		16 35 27.3	
PMG	Port Moresby	14.73	275	eP	Pn	16 29 53.1	+2.4
TARA	Tarawa	16.36	42	ePn	Pn	16 30 10.8	-0.9
	100nm,0.8s						
MANU	Manus Island	17.06	300	ePn	Pn	16 30 19.7	-1.0
	79nm,1.4s						
FUNA	Funafuti	17.08	83	ePn	P	16 30 22.7	+0.3
	581nm,1.9s						
EIDS	Eidsvold	17.67	215	ePn	P	16 30 30.0	+1.1
	39nm,1.1s						
CTA	Charters Tower	17.68	237	P	P	16 30 30.3	+1.2
	3.1nm,0.3s,baz=69,slow=12,SNR=70						
CTA				S	Sn	16 33 38.1	-6.4
	0.1nm,0.3s,baz=90,slow=20,SNR=2.6						
CTAO	Charters Tower	17.68	237	ePn	P	16 30 31.2	+2.2
	93nm,0.9s						
CTAO	Charters Tower	17.68	237	eP	P	16 30 31.3	+2.2
CTAO				pmax	pmax		
	comp=Z,93nm,0.9s						
PATS	Pohnpei	18.09	348	eP	P	16 30 33.6	+0.1
	comp=Z,558nm,1.7s						
COEN	Coen	18.66	259	eP	Pn	16 30 41.6	+1.3
	comp=Z,29nm,0.9s						
KWAJ	Kwajalein Atol	20.43	16	eP	Pn	16 31 02.1	+0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,231nm,0.9s						
KWAJ	**Kwajalein Atol**	**20.43**	**16**	*e*P	Pn	16 31 02.1	+0.8
KWAJ				pmax	pmax		
	comp=Z,231nm,0.9s						
ARMA	**Armidale**	**21.62**	**205**	*e*P	**P**	**16 31 13.3**	**+1.3**
	comp=Z,90nm,1.8s						
JAY	**Jayapura**	**22.78**	**290**	P	**P**	**16 31 26.3**	**+1.9**
	comp=Z,16nm,1.0s,baz=195,slow=16,SNR=3.8						
OUZ	**Omahuta**	**26.31**	**158**	*e*P	**P**	**16 31 59.4**	**+2.3**
	comp=Z,25nm,1.3s						
CAN	**Canberra**	**26.97**	**204**	*e*P	**P**	**16 32 05.0**	**+1.8**
	comp=Z,75nm,1.9s						
CAN	**Canberra**	**26.97**	**204**	*e*P	**P**	**16 32 05.0**	**+1.8**
CAN				pmax	pmax		
	comp=Z,75nm,1.9s						
STKA	**Stephens Creek**	**28.08**	**219**	P	**P**	**16 32 13.4**	**+0.3**
	comp=Z,5.2nm,0.8s,baz=59,slow=11,SNR=10.0						
STKA				PcP	**PcP**	**16 35 26.6**	**-0.5**
	comp=Z,4.0nm,0.7s,baz=108,slow=2.4,SNR=4.2						
STKA				LR	LR	16 43 26.9	
	comp=Z,486nm,18.2s,baz=26,slow=36						
STKA	**Stephens Creek**	**28.08**	**219**	*e*P	**P**	**16 32 13.1**	**0.0**
	comp=Z,1.6nm,0.9s						
STKA				PcP	**PcP**	**16 35 26.6**	**-0.5**
STKA	**Stephens Creek**	**28.08**	**219**	*e*P	**P**	**16 32 13.1**	**0.0**
STKA						16 35 26.6	
WRAB	**Tennant Creek**	**28.09**	**248**	*e*P	**P**	**16 32 13.0**	**-0.4**
	comp=Z,60nm,1.8s						
WRAB	**Tennant Creek**	**28.09**	**248**⥣	*e*P	**P**	**16 32 13.6**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,19nm,2.5s						
WR1	**Warramunga Arr**	**28.11**	**248**	*e*P	**P**	**16 32 12.8**	**-0.6**
	comp=Z,48nm,1.8s						
WR1				*e*		16 43 39.8	
WRA	**Warramunga Arr**	**28.11**	**248**	P	**P**	**16 32 12.8**	**-0.6**
	comp=Z,3.1nm,0.7s,baz=78,slow=9.6,SNR=18						
WRA				LR	LR	16 43 39.8	
	comp=Z,676nm,18.1s,baz=70,slow=37						
AS01	**Alice Springs**	**29.56**	**241**	*e*P	**P**	**16 32 26.5**	**+0.1**
AS01				*e*PcP	**PcP**	**16 35 29.7**	**-1.3**
AS31	**Alice Springs**	**29.60**	**241**	*e*P	**P**	**16 32 26.1**	**-0.6**
	comp=Z,1.8nm,1.0s						
ASAR	**Alice Springs**	**29.60**	**241**	P	**P**	**16 32 26.2**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=64,slow=10.0,SNR=34						
ASAR				PcP	**PcP**	**16 35 30.4**	**-0.8**
	comp=Z,2.3nm,1.0s,baz=90,slow=3.7,SNR=4.4						
ASAR				LR	LR	16 43 43.2	
	comp=Z,307nm,20.4s,baz=74,slow=35						
GUMO	**Guam**	**29.77**	**325**	LR	LR	16 43 21.6	
	comp=Z,238nm,20.6s,baz=142,slow=34						
MXZ	**Matakaoa Point**	**30.23**	**154**	*e*P	**P**	**16 32 34.3**	**+2.2**
	comp=Z,151nm,1.5s						
URZ	**Urewera**	**30.32**	**156**	*e*P	**P**	**16 32 34.8**	**+2.0**
	comp=Z,40nm,1.5s						
TOO	**Toolangi**	**30.36**	**207**	*e*P	**P**	**16 32 35.4**	**+2.1**
	comp=Z,24nm,1.4s						
TOO	**Toolangi**	**30.36**	**207**	*e*P	**P**	**16 32 35.4**	**+2.1**
TOO				pmax	pmax		
	comp=Z,25nm,1.4s						
BKZ	**Black Stump Fm**	**30.87**	**158**	*e*P	**P**	**16 32 39.3**	**+1.5**
	comp=Z,58nm,1.8s						
BBOO	**Buckleboo**	**32.28**	**224**	*e*P	**P**	**16 32 51.0**	**+0.7**
	comp=Z,68nm,1.7s						
FOZ	**Fox Glacier**	**33.12**	**170**	*e*P	**P**	**16 32 58.9**	**+1.5**
	comp=Z,323nm,1.7s						
OXZ	**Oxford**	**33.37**	**167**	*e*P	**P**	**16 32 60.0**	**+0.4**
	comp=Z,140nm,1.8s						
RPZ	**Rata Peaks**	**33.53**	**168**	*e*P	**P**	**16 33 03.1**	**+2.1**
	comp=Z,153nm,1.9s						
MQZ	**McQueen's Vall**	**33.87**	**166**	*e*P	**P**	**16 33 04.6**	**+0.7**
	comp=Z,134nm,1.6s						
LBZ	**Lake Benmore**	**34.01**	**170**	*e*P	**P**	**16 33 06.2**	**+1.0**
	comp=Z,146nm,2.0s						
FITZ	**Fitzroy Crossi**	**35.89**	**254**	*e*P	**P**	**16 33 21.1**	**-0.5**
	comp=Z,11nm,0.9s						
FORT	**Forrest**	**37.14**	**233**	*e*P	**P**	**16 33 31.4**	**-0.8**
	comp=Z,44nm,1.0s						
RAR	**Rarotonga**	**37.98**	**110**	*e*P	**P**	**16 33 40.2**	**+0.8**
	comp=Z,169nm,1.5s						
RAR	**Rarotonga**	**37.98**	**110**	*e*P	**P**	**16 33 40.3**	**+0.8**
RAR				pmax	pmax		
	comp=Z,169nm,1.5s						
MBWA	**Marble Bar**	**41.78**	**251**	*e*P	**P**	**16 34 08.4**	**-2.7**
	comp=Z,113nm,1.7s						
MORW	**Morawa**	**46.48**	**240**	*e*P	**P**	**16 34 49.1**	**+0.5**
	comp=Z,100nm,1.8s						
NWAO	**Narrogin (SRO)**	**46.50**	**235**	*e*P	**P**	**16 34 49.2**	**+0.5**
	comp=Z,34nm,1.1s						
NWAO	**Narrogin (SRO)**	**46.50**	**235**	*e*P	**P**	**16 34 49.3**	**+0.5**
NWAO				pmax	pmax		
	comp=Z,34nm,1.1s						
GIRL	**Giralia**	**47.02**	**249**	*e*P	**P**	**16 34 53.9**	**+1.0**
	comp=Z,880nm,1.8s						
JAGI	**Jajag, Banyuwa**	**47.23**	**269**	*e*P	**P**	**16 34 53.3**	**-1.4**
	comp=Z,134nm,1.3s						
PPT	**Papeete**	**47.24**	**104**	LR	LR	16 51 58.9	
	comp=Z,96nm,18.3s,baz=300,slow=32						
PPT2	**Papeete2**	**47.24**	**104**	*e*LR	LR	16 48 27.0	
	comp=Z,245nm,25.0s						
KKM	**Kota Kinabalu**	**48.65**	**288**	*e*P	**P**	**16 35 04.5**	**-1.3**
	comp=Z,65nm,1.3s						
UGM	**Wanagama**	**50.87**	**269**	*e*P	**P**	**16 35 23.0**	**+0.4**
	comp=Z,1μm,1.7s						
MJAR	**Matsushiro Arr**	**52.33**	**336**	LR	LR	16 56 33.4	
	comp=Z,40nm,22.0s,baz=165,slow=35						
TAOE	**Nuku Hiva Isla**	**56.91**	**93**	*e*LR	LR	16 52 47.9	
	comp=Z,141nm,23.8s						
KSRS	**Korea Array**	**57.84**	**328**	LR	LR	16 59 18.6	
	comp=Z,93nm,20.0s,baz=118,slow=34						
NJ2	**Nanjing**	**59.48**	**318**	*e*P	**P**	**16 36 23.3**	**-1.0**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
YSS	**Yuzh-Sakhalins**	**60.20**	**345**	*e*P	**P**	**16 36 31.0**	**+2.0**
YSS				MLR	MLR		
	comp=N,100nm,14.0s						
YSS				MLR	MLR		
	comp=Z,100nm,14.0s						
USRK	**Ussuriysk Ar.**	**61.33**	**336**	P	**P**	**16 36 37.0**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=147,slow=8.0,SNR=4.9						
PET	**Petropavlovsk**	**63.82**	**358**	*e*P	**P**	**16 36 52.6**	**-0.6**
	comp=Z,288nm,2.0s						
PET	**Petropavlovsk**	**63.82**	**358**	*e*P	**P**	**16 36 52.6**	**-0.6**
PET				pmax	pmax		
	comp=Z,288nm,2.0s						
CN2	**Changchun**	**63.88**	**331**	*e*P	**P**	**16 36 55.1**	**+1.3**
PEA0B	**Petropavlovsk-**	**63.95**	**357**	*e*P	**P**	**16 36 53.5**	**-0.6**
	comp=Z,161nm,1.8s						
PETK	**Petropavlovsk-**	**63.95**	**357**	P	**P**	**16 36 53.9**	**-0.2**
	comp=Z,4.5nm,0.8s,baz=128,slow=4.1,SNR=4.6						
PETK	**Petropavlovsk-**	**63.95**	**357**	*e*P	**P**	**16 36 54.4**	**+0.3**
PETK	**Petropavlovsk-**	**63.95**	**357**	*e*P	**P**	**16 36 54.4**	**+0.3**
PEA1	**Petropavlovsk-**	**63.95**	**357**	*e*P	**P**	**16 36 53.9**	**-0.2**
PSI	**Prapat**	**64.26**	**279**	*e*P	**P**	**16 36 55.2**	**-1.9**
	comp=Z,7.0nm,1.0s						
PSI	**Prapat**	**64.26**	**279**	*e*P	**P**	**16 36 55.2**	**-1.9**
PSI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CASY	**Casey**	**65.14**	**200**	*e*P	**P**	**16 37 02.0**	**+0.3**
	comp=Z,21nm,1.8s						
GSI	**Gunungsitoli**	**65.24**	**277**	*e*P	**P**	**16 37 01.8**	**-1.6**
	comp=Z,13nm,0.8s						
GYA	**Guiyang**	**65.41**	**306**	*e*P	**P**	**16 37 04.9**	**+0.6**
GYA				pP	sP	16 37 21.2	+1.9
GYA				sP	PcP	16 37 28.4	-7.8
GYA				PP	**PP**	**16 39 32.0**	**+3.3**
GYA				S	**S**	**16 45 40.8**	**-5.8**
GYA				sS	sS	16 46 11.3	+7.5
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.4s						
KLR	**Kul'dur**	**65.62**	**339**⥣	*e*P	**P**	**16 37 04.8**	**-0.2**
ATKA	**Atka Island**	**66.18**	**16**	*e*P	**P**	**16 37 08.1**	**-0.4**
	comp=Z,322nm,1.9s						
VNDA	**Vanda**	**66.52**	**180**	P	**P**	**16 37 11.8**	**+1.4**
	comp=Z,3.8nm,0.7s,baz=339,slow=6.7,SNR=22						
VNDA				LR	LR	17 02 35.8	
	comp=Z,40nm,18.1s,baz=296,slow=33						
VNDA	**Vanda**	**66.52**	**180**	*e*P	**P**	**16 37 11.2**	**+0.7**
VNDA	**Vanda**	**66.52**	**180**	*e*P	**P**	**16 37 11.2**	**+0.7**
KMI	**Kunming**	**68.01**	**303**	P	**P**	**16 37 23.5**	**+2.4**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.5s						
CM01	**Chiang Mai Arr**	**68.74**	**295**	*e*P	**P**	**16 37 24.6**	**-0.9**
CM31	**Chiang Mai Arr**	**68.77**	**295**	*e*P	**P**	**16 37 22.2**	**-3.5**
CMAR	**Chiang Mai Arr**	**68.77**	**295**	P	**P**	**16 37 25.7**	**0.0**
	comp=Z,0.5nm,0.6s,baz=125,slow=5.3,SNR=5.7						
CMAR				LR	LR	17 07 08.1	
	comp=Z,19nm,19.6s,baz=5.0,slow=36						
HHC	**Hu-ho-hao-te**	**69.47**	**321**	*e*P	**P**	**16 37 30.9**	**+1.2**
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,76nm,5.2s						
CD2	**Chengdu**	**69.70**	**309**	*e*P	**P**	**16 37 31.0**	**-0.3**
MA2	**Magadan**	**70.91**	**354**⥣	*e*P	**P**	**16 37 38.3**	**+0.4**
MA2				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ZEA	**Zeya**	**70.93**	**339**	*e*P	**P**	**16 37 40.7**	**+2.5**
ZEA				pmax	pmax		
	comp=Z,23nm,1.4s						
SPIA	**Saint Paul Isl**	**71.67**	**15**	*e*P	**P**	**16 37 41.3**	**-1.3**
	comp=Z,1μm,1.6s						
LZH	**Lanzhou**	**72.06**	**314**	*e*P	**P**	**16 37 47.7**	**+2.1**
LZH				pP	sP	16 38 02.3	+1.5
LZH				sP	PcP	16 38 10.9	+6.9
LZH				pmax	pmax		
	comp=Z,24nm,1.0s						
SEY	**Seymchan**	**74.07**	**355**⥥	*e*P	**P**	**16 37 55.9**	**-0.8**
ULN	**Ulaanbaatar**	**76.15**	**325**	*e*P	**P**	**16 38 09.1**	**-0.2**
	comp=Z,3.9nm,1.0s						
ULN	**Ulaanbaatar**	**76.15**	**325**⥥	*e*P	**P**	**16 38 09.3**	**0.0**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.7s						
GTA	**Gaotai**	**76.43**	**315**	*e*P	**P**	**16 38 12.0**	**+1.0**
GTA				pP	sP	16 38 26.1	-0.1
GTA				sP	pwP	16 38 33.8	+10
GTA				pmax	pmax		
	comp=Z,74nm,6.5s						
GTA				LR	LR		
	comp=Z,69nm,18.6s						
GTA				LR	LR		
	comp=Z,65nm,19.2s						
GTA				LR	LR		
	comp=Z,120nm,21.0s						
SONA0	**Songino Array**	**76.50**	**325**	*e*P	**P**	**16 38 11.2**	**0.0**
SONM	**Songino Array**	**76.50**	**325**	P	**P**	**16 38 11.2**	**0.0**
	comp=Z,2.4nm,0.6s,baz=137,slow=6.0,SNR=6.9						
SONA1	**Songino Array**	**76.51**	**325**	*e*P	**P**	**16 38 10.6**	**-0.7**
GAMB	**Gambell**	**77.20**	**12**	*e*P	**P**	**16 38 14.7**	**+0.2**
	comp=Z,26nm,1.9s						
KDAK	**Kodiak Island**	**77.90**	**23**	P	**P**	**16 38 18.5**	**-0.1**
	comp=Z,8.6nm,1.0s,baz=236,slow=7.3,SNR=3.3						
KDAK	**Kodiak Island**	**77.90**	**23**	*e*P	**P**	**16 38 18.3**	**-0.3**
	comp=Z,99nm,1.8s						
KDAK	**Kodiak Island**	**77.90**	**23**	*e*P	**P**	**16 38 18.3**	**-0.3**
KDAK				pmax	pmax		
	comp=Z,99nm,1.8s						
BILL	**Bilibino**	**78.88**	**2**	*e*P	**P**	**16 38 23.4**	**-0.4**
	comp=Z,11nm,0.9s						
BILL	**Bilibino**	**78.88**	**2**	*e*P	**P**	**16 38 23.4**	**-0.4**
BILL				pmax	pmax		
	comp=Z,11nm,0.9s						
QSPA	**South Pole Qui**	**79.01**	**180**	*e*P	**P**	**16 38 25.6**	**+0.7**
	comp=Z,12nm,1.1s						
SVW2	**Sparrevohn**	**79.23**	**19**	*e*P	**P**	**16 38 25.6**	**-0.3**
	comp=Z,26nm,1.4s						
ANM	**Nome**	**79.25**	**14**	*e*P	**P**	**16 38 26.0**	**0.0**
	comp=Z,7.3nm,1.3s						
ANM	**Nome**	**79.25**	**14**	*e*P	**P**	**16 38 26.0**	**0.0**
ANM				pmax	pmax		
	comp=Z,7.0nm,1.3s						
ZAK	**Zakamensk**	**79.60**	**326**	*e*P	**P**	**16 38 28.4**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MID	**Middleton Isla**	**81.44**	**24**	*e*P	**P**	**16 38 37.3**	**-0.5**
	comp=Z,552nm,1.3s						
MID	**Middleton Isla**	**81.44**	**24**	*e*P	**P**	**16 38 37.3**	**-0.5**
PPLA	**Purkeypile**	**81.64**	**19**	*e*P	**P**	**16 38 38.2**	**-0.9**
	comp=Z,60nm,2.0s						
CAST	**Castle Rocks**	**82.05**	**19**	*e*P	**P**	**16 38 39.7**	**-1.3**
	comp=Z,24nm,1.9s						
SCM	**Sheep Creek Mo**	**82.60**	**22**	*e*P	**P**	**16 38 43.6**	**-0.4**
	comp=Z,83nm,1.7s						
SCM	**Sheep Creek Mo**	**82.60**	**22**	*e*P	**P**	**16 38 43.6**	**-0.4**
SCM				pmax	pmax		
	comp=Z,83nm,1.7s						
TRF	**Thorofare Moun**	**82.65**	**20**	*e*P	**P**	**16 38 42.6**	**-1.7**
	comp=Z,28nm,1.7s						
MCK	**McKinley**	**83.29**	**20**	*e*P	**P**	**16 38 46.0**	**-1.4**
	comp=Z,21nm,1.6s						
MCK	**McKinley**	**83.29**	**20**	*e*P	**P**	**16 38 46.1**	**-1.4**
MCK				pmax	pmax		
	comp=Z,21nm,1.6s						
IM3	**Indian Mountai**	**83.38**	**17**	*e*P	**P**	**16 38 47.5**	**-0.3**
DHY	**Denali Highway**	**83.39**	**21**	*e*P	**P**	**16 38 48.9**	**+0.8**
	comp=Z,25nm,1.7s						
MLY	**Manley**	**83.59**	**18**	*e*P	**P**	**16 38 48.0**	**-1.0**
	comp=Z,18nm,1.8s						
WRH	**Wood River Hil**	**84.06**	**19**	*e*P	**P**	**16 38 49.5**	**-1.9**
	comp=Z,31nm,1.8s						
MDM	**Murphy Dome**	**84.33**	**19**	*e*P	**P**	**16 38 51.5**	**-1.3**
	comp=Z,27nm,2.0s						
HDA	**Harding Lake**	**84.39**	**20**	*e*P	**P**	**16 38 53.4**	**+0.3**
	comp=Z,5.7nm,0.8s						
COLA	**College**	**84.40**	**19**⥣	*e*P	**P**	**16 38 52.8**	**-0.2**
COLA				pmax	pmax		
	comp=Z,26nm,2.8s						
IL1	**Eielson Array**	**84.65**	**20**	*e*P	**P**	**16 38 52.5**	**-1.9**
ILAR	**Eielson Array**	**84.65**	**20**	P	**P**	**16 38 53.3**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=244,slow=4.9,SNR=13						
ILB	**Eielson Array**	**84.65**	**20**	*e*P	**P**	**16 38 53.7**	**-0.6**
SCRK	**Sand Creek**	**85.14**	**21**	*e*P	**P**	**16 38 57.1**	**+0.1**
	comp=Z,5.3nm,1.0s						
TIXI	**Tiksi**	**85.37**	**350**⥥	*i*P	**P**	**16 38 58.0**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.5s						
WMQ	**Urumqi**	**86.50**	**316**	*e*P	**P**	**16 39 04.3**	**+0.2**
WMQ				sP	sP	16 39 27.0	+7.3
WMQ				pmax	pmax		
	comp=Z,19nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,290nm,5.5s						
WMQ				LR	LR		
	comp=Z,220nm,24.3s						
WMQ				LR	LR		
	comp=Z,250nm,22.7s						
WMQ				LR	LR		
	comp=Z,210nm,25.7s						
NVAR	**Mina Array Bea**	**88.78**	**51**	P	**P**	**16 39 15.5**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=238,slow=11,SNR=3.6						
NV01	**Mina Array Sit**	**88.78**	**51**	*e*P	**P**	**16 39 15.3**	**-0.1**
SYO	**Syowa Base**	**90.75**	**198**⥣	*e*X	**P**	**16 39 27.5**	**+3.8**
MK32	**Makanchi Array**	**91.01**	**317**	*e*P	**P**	**16 39 25.3**	**0.0**
MKAR	**Makanchi Array**	**91.01**	**317**	P	**P**	**16 39 25.3**	**0.0**
	comp=Z,0.5nm,0.7s,baz=94,slow=6.8,SNR=7.1						
MKAR	**Makanchi Array**	**91.01**	**317**	*ce*P	**P**	**16 39 24.2**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KSH	**Kashi**	**93.90**	**309**	P	**P**	**16 39 39.5**	**+0.5**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,250nm,4.6s						
YKA	**Yellowknife Ar**	**96.60**	**28**	P	**P**	**16 39 49.0**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=258,slow=4.7,SNR=9.8						
YKA	**Yellowknife Ar**	**96.60**	**28**	P	**P**	**16 39 49.0**	**-1.6**
YKA	**Yellowknife Ar**	**96.60**	**28**	P	**P**	**16 39 49.0**	**-1.6**
YKB5	**Yellowknife Ar**	**96.60**	**28**	*e*P	**P**	**16 39 49.0**	**-1.6**
Y22D	**IRIS PASSCAL I**	**96.91**	**57**	*e*P	**P**	**16 39 52.8**	**-0.1**
	comp=Z,61nm,0.5s						
BOSA	**Boshof**	**122.61**	**226**	PKP	**PKPdf**	**16 45 17.0**	**-0.5**
	comp=Z,3.6nm,0.6s,baz=127,slow=3.4,SNR=9.3						
MLR	**Muntele Rosu**	**129.22**	**321**	*e*PKPdf	**PKPdf**	**16 45 29.1**	**-0.5**
MLR	**Muntele Rosu**	**129.22**	**321**	*e*PKIKP	**PKPdf**	**16 45 29.1**	**-0.5**
UZH	**Uzhgorod**	**129.71**	**326**	*e*PKHKP	PKPpre	16 45 18.0	

DDA ***10*** *16:26:29.5, 37.°96N×35.°15E, h16km±1km, ML3.6*
ISK ***10*** *16:26:29.5, 37.°97N×35.°16E, h5km, ML3.3/30*
ISC 10 16:26:31.8±1.1**, 37.°99N**±0.°02×**35.°14E**±0.°02**, h25**km±15km**,**
n55, σ2.s03/61**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIG	**Nigde**	**0.43**	**286**	PG	**Pb**	**16 26 38.5**	**-2.5**
KARA	**Karaisali**	**0.73**	**185**	PG	**Pb**	**16 26 43.7**	**-2.1**
KOZT	**Kozan**	**0.75**	**133**	PG	**Pb**	**16 26 43.9**	**-2.2**
SAIM	**ADANA**	**0.75**	**91**	*i* P	**Pb**	**16 26 44.6**	**-1.6**
GULE	**Gulek**	**0.76**	**202**	IAML_P			
	comp=Z,4μm,0.1s						
GULE				*i* P	**Pb**	**16 26 44.8**	**-1.6**
GULA	**Gulagac**	**0.79**	**297**	PG	**Pb**	**16 26 46.1**	**-0.9**
AVNS	**Nevsehir-Avano**	**0.85**	**345**	*i* P	**Pb**	**16 26 46.1**	**-1.8**
AVNS				*i* S	**Sn**	**16 27 00.1**	**0.0**
KERG	**Konya-Eregli**	**0.98**	**235**	IAML_P			
	comp=Z,1μm,0.2s						
KERG				*i* P	**Pb**	**16 26 48.2**	**-2.1**
BNN	**Bunyan**	**1.03**	**33**	PG	**Pb**	**16 26 49.0**	**-2.0**
ANDN	**Andirin**	**1.04**	**113**	IAML_P			
	comp=Z,5μm,0.2s						
ANDN				*i* P	**Pn**	**16 26 49.5**	**-1.4**
CEYT	**Ceyhan**	**1.09**	**153**	PG	**Pb**	**16 26 50.8**	**-1.2**
MERS	**Mersin**	**1.22**	**204**	PN	**Pb**	**16 26 53.7**	**-0.5**
AKSY	**AKSARAY - Alti**	**1.27**	**302**	IAML_P			
	comp=Z,2μm,0.2s						
AKSY				*i* P	**Pb**	**16 26 54.8**	**-0.2**
AKSY				*i* S	**Sb**	**16 27 13.0**	**+2.0**
SULT	**Sultanhani-AKS**	**1.29**	**280**	PN	**Pb**	**16 26 56.2**	**+0.7**
YAYX	**Yaylak**	**1.41**	**313**	PN	**Pb**	**16 26 56.5**	**-0.9**
KRTS	**Karatas**	**1.43**	**172**	PN	**Pb**	**16 26 57.4**	**-0.3**
KMRS	**Kahramanmaras**	**1.48**	**108**	PN	**Pb**	**16 26 57.7**	**-0.9**
SERE	**Sereflikochisa**	**1.56**	**308**	PN	**Pb**	**16 26 59.1**	**-1.0**
ELBS	**KAHRAMANMARAS**	**1.61**	**77**	IAML_P			
	comp=Z,1μm,0.1s						
ELBS				*i* P	**Pb**	**16 26 59.7**	**-1.2**
YOZ	**Yozgat**	**1.66**	**5**	PN	**Pb**	**16 27 01.3**	**-0.4**
CUSAR	**Sarkisla-SIVAS**	**1.67**	**31**	*i* P	**Pb**	**16 27 00.5**	**-1.4**
CUSAR				*i* S	**Sb**	**16 27 24.9**	**+2.3**
KIZK	**Mersin**	**1.70**	**208**	PN	**Pb**	**16 27 00.8**	**-1.6**
KIZK	**Mersin**	**1.70**	**208**	IAML_P			
	comp=Z,2μm,0.2s						
KIZK				*i* P	**Pb**	**16 27 01.9**	**-0.5**
KIZK				*i* S	**Sb**	**16 27 28.9**	**+5.6**
CDAG	**Cicekdag**	**1.74**	**340**	IAML_P			
	comp=Z,2μm,0.1s						
CDAG				*i* P	**Pb**	**16 27 02.3**	**-0.8**
CDAG				*i* S	**Sb**	**16 27 27.2**	**+2.7**
KAMT	**Kaman**	**1.77**	**322**	PN	**Pb**	**16 27 02.8**	**-0.9**
CUALT	**Altinyayla-SIV**	**1.80**	**44**	*i* P	**Pb**	**16 27 03.5**	**-0.7**
CUALT				*i* S	**Sb**	**16 27 29.7**	**+3.3**
TAHT	**Tahtakopru-Hat**	**1.81**	**152**	PN	**Pb**	**16 27 02.5**	**-1.8**
CUGUR	**Gurin_SVAS**	**1.83**	**66**	*i* P	**Pb**	**16 27 04.6**	**-0.1**
GAZ	**Gaziantep**	**1.84**	**116**	PN	**Pb**	**16 27 03.1**	**-1.7**
CHBY	**Cihanbeyli**	**1.86**	**289**	PN	**Pb**	**16 27 04.4**	**-0.8**
KEBE	**Keben-Mersin**	**1.91**	**217**	PN	**Pb**	**16 27 04.6**	**-1.4**
DARE	**Darende-Malaty**	**1.94**	**72**	PN	**Pb**	**16 27 04.8**	**-1.6**
KUZU	**Kuzuini**	**1.96**	**128**	IAML_P			
	comp=Z,2μm,0.3s						
KUZU				*i* P	**Pb**	**16 27 05.6**	**-1.3**
KULU	**Kulu**	**1.98**	**303**	PN	**Pb**	**16 27 06.3**	**-0.8**
TEVE	**Tevekalti-Mers**	**2.06**	**222**	PN	**Pb**	**16 27 07.1**	**-1.4**
YESI	**Yesilovacik-Me**	**2.15**	**214**	PN	**Pb**	**16 27 07.9**	**-2.1**
AFSR	**Afar-Bala (An**	**2.17**	**313**	PN	**Pb**	**16 27 08.1**	**-2.4**
KONT	**Konya--Tatoy**	**2.19**	**270**	PN	**Pb**	**16 27 09.1**	**-1.7**
LADK	**Ladik-KONYA**	**2.20**	**276**	PN	**Pn**	**16 27 07.2**	**+0.4**
AKCD	**Akcadag**	**2.22**	**81**	IAML_P			
	comp=Z,5μm,0.2s						
AKCD				*i* P	**Pb**	**16 27 11.3**	**0.0**
CORM	**Corum**	**2.22**	**350**	PN	**Pb**	**16 27 10.2**	**-1.1**
AKKU	**Akkuyu-Mersin**	**2.22**	**215**	PN	**Pb**	**16 27 09.1**	**-2.2**
OREN	**Orenkoy-Mersin**	**2.23**	**218**	PN	**Pb**	**16 27 09.3**	**-2.0**
BERE	**Bereket-Mersin**	**2.24**	**224**	PN	**Pb**	**16 27 09.0**	**-2.6**
AKK2	**Akkuyu-Mersin**	**2.24**	**215**	PN	**Pb**	**16 27 09.6**	**-2.0**
CUKAN	**kangal_SIVAS**	**2.26**	**53**	*i* P	**Pb**	**16 27 10.0**	**-1.9**
SVSK	**Karacayir**	**2.41**	**36**	PN	**Pb**	**16 27 12.3**	**-2.2**
SCER	**sogukcermik**	**2.43**	**39**	IAML_P			
	comp=Z,2μm,0.2s						
SCER				*i* P	**Pb**	**16 27 15.3**	**+0.4**
TEKE	**Tekeli-Mersin**	**2.45**	**222**	PN	**Pb**	**16 27 12.3**	**-2.8**
TOKT	**Tokat**	**2.57**	**25**	PN	**Pb**	**16 27 14.6**	**-2.7**
ANTO	**Ankara**	**2.62**	**317**	PN	**Pb**	**16 27 15.7**	**-2.4**
LOD	**Lodumlu**	**2.65**	**316**	PN	**Pb**	**16 27 16.3**	**-2.3**
CANT	**Cankiri**	**2.87**	**336**	PN	**Pb**	**16 27 19.5**	**-2.8**
RSDY	**Resadiye-TOKAT**	**2.95**	**35**	PN	**Pb**	**16 27 19.6**	**-4.0**
SUTC	**Sutluce-Ispart**	**3.32**	**262**	PN	**Pb**	**16 27 25.5**	**-4.5**

IDC ***10*** *16:30:12.6±5.0, 5.°78S×132.°81E, h0km, mb3.8/1, mb1 4.1/3, mb1mx3.7/27, mbtmp3.9/3, ML4.1/2, Error ellipse: s-maj=301.4km s-min=33.7km az=76.0*
NEIC ***10*** *16:30:22.1±1.0, 6.°16S×132.°25E, h82km±12km, mb4.0/2, Error ellipse: s-maj=18.0km s-min=8.4km az=76.0*
DJA ***10*** *16:30:22.8±2.6, 6°S±5°×13°1E±°, h28km±28km, M4.3/7, mb4.3/3, mB5.2/3, MLv4.2/7, Mw(mB)4.6/3*
ISC 10 16:30:12.2±0.7**, 5.°87S**±0.°04×**132.°5E**±0.°1**, h10**km**, n23,**
σ3.s50/26**, Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.43**	**210**	*e*Pn	**Pn**	**16 30 54.9**	**+2.8**
SAUI				*e*Sn	**Sn**	**16 31 21.9**	**-0.1**
SAUI	**Saumlaki**	**2.43**	**210**	P	**Pn**	**16 30 54.3**	**+2.2**
FAKI	**Fak Fak**	**2.95**	**354**	*e*Pn	**Pg**	**16 31 10.5**	**+1.7**
FAKI				*e*Sn	**Sg**	**16 31 44.3**	**-2.7**
FAKI	**Fak Fak**	**2.95**	**354**	P	**Pg**	**16 31 10.1**	**+1.3**
BNDI	**Bandanaira**	**2.95**	**297**	P	**Pn**	**16 30 57.7**	**-1.5**
BNDI				S	Sn	16 31 23.1	-12
RKPI	**Ransiki, Papua**	**4.63**	**21**	P	**Pg**	**16 31 39.9**	**-1.1**
SWI	**Sorong**	**5.14**	**346**	P	Pb	16 31 37.2	-5.1
MTN	**Manton Dam**	**7.07**	**191**	*e*Pn	**Pn**	**16 31 58.9**	**+3.1**
MTN				*e*Sn	Sn	16 33 09.4	-6.8
SOEI	**Soe**	**9.06**	**244**	*e*Pn	Pn	16 32 18.7	-4.6
COEN	**Coen**	**13.19**	**128**	*e*Pn	P	16 33 33.6	+3.7
COEN				*e*Sn	Sn	16 35 55.0	+8.2
WRAB	**Tennant Creek**	**14.09**	**173**	*e*Pn	**Pn**	**16 33 34.0**	**+1.9**
WRAB				*e*Sn	**Sn**	**16 36 01.6**	**-6.9**
WR1	**Warramunga Arr**	**14.10**	**173**	*e*Pn	**Pn**	**16 33 34.3**	**+2.2**
WR1				*e*Sn	**Sn**	**16 36 01.8**	**-6.9**
WRA	**Warramunga Arr**	**14.10**	**173**	Pn	**Pn**	**16 33 34.3**	**+2.2**
	1.0nm,0.3s,baz=357,slow=13,SNR=16						
WRA				Sn	**Sn**	**16 36 01.8**	**-7.0**
	0.7nm,0.3s,baz=349,slow=24,SNR=6.9						
WB2	**Warramunga Arr**	**14.10**	**173**	*e*Pn	**Pn**	**16 33 33.8**	**+1.6**
WB2				*e*Sn	**Sn**	**16 36 01.9**	**-6.9**
WC3	**Warramunga Arr**	**14.12**	**173**	*e*Pn	**Pn**	**16 33 35.0**	**+2.5**
AS31	**Alice Springs**	**17.74**	**176**	*e*Pn	**Pn**	**16 34 20.6**	**+1.1**
	2.9nm,1.4s						
ASAR	**Alice Springs**	**17.74**	**176**	P	**P**	**16 34 22.5**	**+2.1**
	0.5nm,0.3s,baz=351,slow=14,SNR=4.4						
ASAR				S	Sn	16 37 27.9	-10
	0.1nm,0.3s,baz=350,slow=25,SNR=3.8						
AS01	**Alice Springs**	**17.74**	**176**	*e*Pn	**P**	**16 34 22.1**	**+1.7**
CISI	**Cisompet, Garu**	**24.61**	**265**	*e*P	**P**	**16 35 31.2**	**-2.0**
	197nm,1.4s						
KULM	**Kulim**	**33.72**	**289**	*e*P	**P**	**16 36 52.9**	**-1.2**
	10nm,1.1s						
MARNC	**Mare, Loyalty**	**37.68**	**118**	*e*P	**P**	**16 37 29.7**	**+1.6**
	139nm,1.1s						
MK32	**Makanchi Array**	**68.70**	**325**	*e*P	**P**	**16 41 18.6**	**+2.5**
MKAR	**Makanchi Array**	**68.70**	**325**	P	**P**	**16 41 18.6**	**+2.5**
	0.6nm,0.6s,baz=123,slow=7.1,SNR=3.4						

IDC ***10*** *16:33:34.5±0.4, 19.°43N×64.°47W, h0km, mb4.6/30, mb1 4.8/35, mb1mx4.8/40, mbtmp4.7/35, ML4.1/4, MS4.2/25, Ms1 4.2/25, ms1mx4.1/37, Error ellipse: s-maj=10.0km s-min=8.8km az=92.0*
MOS ***10*** *16:33:34.9±1.3, 19.°45N×64.°56W, h16km, mb5.2/74, Error ellipse: s-maj=6.0km s-min=4.5km az=107.5*
NEIC ***10*** *16:33:34.9±1.0, 19.°53N×64.°47W, h6km±6km, mb5.2/299, MW5.0, MD4.9(RSPR), Error ellipse: s-maj=3.4km s-min=2.3km az=46.0, Moment Tensor Solution. s21 Moment tensor: Scale 10^{16}Nm; M_{rr}2.75; $M_{\theta\theta}$-1.64; $M_{\phi\phi}$-1.11; $M_{r\theta}$0.78; $M_{\theta\phi}$2.76; $M_{\phi r}$0.58; Best double couple: $M_0$3.80000×10^{16} NP1:ϕ_s337.00000°, δ50.00000°, λ127.00000°. NP2:ϕ_s108.00000°, δ52.00000°, λ55.00000°. Principal axes: T 3.2400, Plg63.0000°, Azm315.0000°; N 0.9100, Plg27.0000°, Azm131.0000°; P -4.1500, Plg2.0000°, Azm222.0000°;*
NEIC Felt on Saint Thomas. Also felt at Bayamon and San Juan, Puerto Rico.
ISCJB ***10*** *16:33:35.3±0.6, 19.°53N±0.°01×64.°46W±0.°01, h15km±3km, mb5.0/455, MS4.2/27 Error ellipse: s-maj=2.2km s-min=1.6km az=150.4*
RSPR ***10*** *16:33:37.0, 19.°67N×64.°35W, h25km±25km, MD4.9/12*
BJI ***10*** *16:33:37.3, 19.°50N×64.°50W, h32km, Ms5.3/2, Ms7 5.2/2*
GCMT ***10*** *16:33:38.9±0.2, 19.°66N±0.°02×64.°53W±0.°02, h14km±1km, MW5.1/90, Moment Tensor Solution. s36,c46; s90,c139; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.09±.24; $M_{\theta\theta}$-1.82±.17; $M_{\phi\phi}$-1.27±.16; $M_{r\theta}$-2.01±.41; $M_{\theta\phi}$3.64±.12;*

M₀r-1.23±.38; Best double couple: M₀5.09600×10[16] NP1:φs281.00000°,δ60.00000°,λ45.00000°. NP2: φs165.00000°,δ52.00000°,λ142.00000°. Principal axes: T 4.9430, Plg51.0000°, Azm137.0000°; N 0.3050, Plg38.0000°, Azm308.0000°; P -5.2490, Plg5.0000°, Azm41.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 10 16:33:36.3±0.8**, 19.°51N**±0.°03×**64.°49W**±0.°02**, h15**km±5km**, n1222, σ1.°52**/1252**, mb5.1**/457**, MS4.2**/27**, 20C-22D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.79**	**169⇓**	eP	**Pg**	**16 33 52.4**	**+0.7**
ABV	**Anegada**	**0.79**	**169**	eS	**Sn**	**16 34 04.4**	**-0.1**
ABVI	**Anegada Island**	**0.79**	**169**	ePn	**Pg**	**16 33 52.4**	**+0.7**
ABVI				eSg	**Sn**	**16 34 04.4**	**-0.1**
TBVI	**Tortola**	**1.09**	**186⇑**	eP	**Pb**	**16 33 56.6**	**-0.4**
TBVI	**Tortola**	**1.09**	**186**	ePg	**Pb**	**16 33 56.6**	**-0.4**
STVI	**Saint Thomas**	**1.23**	**201⇓**	eP	**Pn**	**16 33 59.0**	**0.0**
STVI	**Saint Thomas**	**1.23**	**201⇑**	eP	**Pn**	**16 33 59.2**	**+0.2**
STVI				eS	**Sg**	**16 34 16.7**	**+0.4**
STVI	**Saint Thomas**	**1.23**	**201**	ePg	**Pn**	**16 33 58.7**	**-0.3**
CUPR	**Culebra, Puert**	**1.41**	**212⇓**	eP	**Pn**	**16 34 01.9**	**+0.3**
CUPR	**Culebra, Puert**	**1.41**	**212**	eS	**Sg**	**16 34 22.0**	**0.0**
CUPR	**Culebra, Puert**	**1.41**	**212**	ePn	**Pn**	**16 34 01.6**	**0.0**
CUPR				eSn	**Sg**	**16 34 22.0**	**0.0**
MTP	**Monte Pirata**	**1.73**	**216**	eS	**Sb**	**16 34 29.4**	**+0.1**
MTP	**Monte Pirata**	**1.73**	**216⇓**	eP	**Pn**	**16 34 06.6**	**+0.7**
MTP	**Monte Pirata**	**1.73**	**216**	ePn	**Pn**	**16 34 06.4**	**+0.5**
MTP				eSn	**Sb**	**16 34 29.4**	**+0.1**
CDVI	**St. Croix**	**1.77**	**189⇑**	eP	**Pb**	**16 34 08.2**	**-0.2**
CDVI				eS	**Sb**	**16 34 31.4**	**+0.9**
CDVI	**St. Croix**	**1.77**	**189**	ePn	**Pn**	**16 34 07.6**	**+1.2**
CDVI				eSn	**Sg**	**16 34 32.8**	**-0.5**
CBYP	**Canovanas**	**1.79**	**227**	eS	**Sn**	**16 34 30.4**	**+1.1**
CBYP	**Canovanas**	**1.79**	**227⇓**	eP	**Pn**	**16 34 07.0**	**+0.2**
CBYP	**Canovanas**	**1.79**	**227⇓**	eP	**Pn**	**16 34 07.2**	**+0.4**
CBYP	**Canovanas**	**1.79**	**227**	ePn	**Pn**	**16 34 06.9**	**+0.2**
CBYP				eSn	**Sn**	**16 34 30.4**	**+1.1**
HUMP	**Col San Antoni**	**1.88**	**224⇑**	eP	**Pn**	**16 34 08.5**	**+0.6**
HUMP	**Col San Antoni**	**1.88**	**224**	eS	**Sn**	**16 34 32.8**	**+1.5**
HUMP	**Col San Antoni**	**1.88**	**224⇓**	eP	**Pn**	**16 34 08.4**	**+0.5**
HUMP	**Col San Antoni**	**1.88**	**224**	ePn	**Pn**	**16 34 08.3**	**+0.5**
HUMP				eSn	**Sn**	**16 34 32.8**	**+1.5**
SMRT	**St. Maarten**	**1.98**	**137**	ePn	**Pn**	**16 34 05.8**	**-3.4**
SMRT				eSn	**Sn**	**16 34 32.7**	**-1.1**
SMRT	**St. Maarten**	**1.98**	**137**	eP	**Pn**	**16 34 06.3**	**-3.0**
SMRT				eS	**Sn**	**16 34 33.4**	**-0.4**
SJG	**San Juan**	**2.10**	**229⇓**	eP	**Pn**	**16 34 11.3**	**+0.4**
SJG	**San Juan**	**2.10**	**229**	eS	**Sn**	**16 34 38.1**	**+1.2**
SJG	**San Juan**	**2.10**	**229**	Pn	**Pn**	**16 34 11.4**	**+0.4**
	75nm,0.3s,baz=59,slow=12,SNR=76						
SJG				Sn	**Sn**	**16 34 38.0**	**+1.2**
	333nm,0.3s,baz=41,slow=12,SNR=8.9						
SJG				LR	LR	16 35 06.1	
	comp=Z,7μm,21.1s,baz=98,slow=44						
SJG	**San Juan**	**2.10**	**229**	eP	**Pn**	**16 34 11.7**	**+0.8**
SJG	**San Juan**	**2.10**	**229**	eP	**Pn**	**16 34 11.7**	**+0.8**
EMPR	**Esperanza - Ma**	**2.19**	**242⇑**	eP	**Pn**	**16 34 13.0**	**+0.8**
EMPR	**Esperanza - Ma**	**2.19**	**242**	eS	**Sn**	**16 34 41.1**	**+2.1**
EMPR	**Esperanza - Ma**	**2.19**	**242**	ePn	**Pn**	**16 34 11.6**	**-0.6**
EMPR				eSn	**Sn**	**16 34 41.1**	**+2.1**
SABA	**Saba**	**2.22**	**148**	ePn	**Pn**	**16 34 09.4**	**-3.3**
SABA				ePg	**Pn**	**16 34 13.2**	**+0.6**
SABA				eSn	**Sb**	**16 34 42.0**	**-1.5**
SABA	**Saba**	**2.22**	**148**	eP	**Pn**	**16 34 13.2**	**+0.6**
SABA				eS	**Sb**	**16 34 42.4**	**-1.1**
CELP	**Cerrillos**	**2.44**	**235⇑**	eP	**Pn**	**16 34 16.2**	**+0.5**
SEUS	**St. Eustatius**	**2.46**	**144**	ePn	**Pn**	**16 34 16.4**	**+0.4**
SEUS	**St. Eustatius**	**2.46**	**144**	eP	**Pn**	**16 34 13.7**	**-2.3**
SEUS				eS	**Sg**	**16 34 57.1**	**+1.5**
OBIP	**Obispado Ponce**	**2.48**	**234⇑**	eP	**Pn**	**16 34 16.9**	**+0.6**
OBIP	**Obispado Ponce**	**2.48**	**234**	eS	**Sn**	**16 34 48.4**	**+2.1**
OBIP	**Obispado Ponce**	**2.48**	**234**	ePn	**Pn**	**16 34 16.7**	**+0.5**
AGPR	**Aguadilla, PR**	**2.69**	**248⇓**	eP	**Pn**	**16 34 20.2**	**+1.1**
AGPR	**Aguadilla, PR**	**2.69**	**248**	eS	**Sn**	**16 34 53.0**	**+1.5**
AGPR	**Aguadilla, PR**	**2.69**	**248⇓**	eP	**Pn**	**16 34 20.2**	**+1.1**
AGPR				eS	**Sn**	**16 34 53.0**	**+1.5**
GBPR	**Guanica, Bosqu**	**2.73**	**236⇓**	eP	**Pn**	**16 34 21.0**	**+1.3**
GBPR	**Guanica, Bosqu**	**2.73**	**236**	ePn	**Pn**	**16 34 21.0**	**+1.3**
AGP	**Aguadilla**	**2.74**	**247**	ePn	**Pn**	**16 34 19.4**	**-0.4**
AGP				eSn	**Sn**	**16 34 53.0**	**+0.3**
LSP	**Las Mesas**	**2.80**	**242⇑**	eP	**Pn**	**16 34 21.5**	**+0.9**
LSP	**Las Mesas**	**2.80**	**242**	ePn	**Pn**	**16 34 21.5**	**+0.9**
MPR	**Mayaguez**	**2.82**	**243⇑**	eP	**Pn**	**16 34 22.3**	**+1.3**
MPR	**Mayaguez**	**2.82**	**243**	ePn	**Pn**	**16 34 20.7**	**-0.2**
CRPR	**Cabo Rojo, PR**	**2.90**	**239⇓**	eP	**Pn**	**16 34 22.6**	**+0.7**
CRPR	**Cabo Rojo, PR**	**2.90**	**239**	ePn	**Pn**	**16 34 21.3**	**-0.6**
NEV	**Hard Times**	**2.98**	**142**	ePn	**Pb**	**16 34 28.7**	**-0.5**
NEV	**Hard Times**	**2.98**	**142**	eP	**Pb**	**16 34 28.7**	**-0.5**
NEV				eS	**Sb**	**16 35 07.5**	**+2.0**
IDE	**Isla Desecheo**	**3.04**	**249⇑**	eP	**Pn**	**16 34 24.6**	**+0.7**
IDE	**Isla Desecheo**	**3.04**	**249**	eS	**Sn**	**16 35 01.4**	**+1.3**
ANWB	**Willy Bob**	**3.15**	**125**	ePn	**Pn**	**16 34 23.9**	**-1.5**
ANWB				eSn	**Sn**	**16 35 03.1**	**+0.3**
ANWB	**Willy Bob**	**3.15**	**125**	eP	**Pn**	**16 34 23.9**	**-1.5**
ANWB				eS	**Sn**	**16 35 03.1**	**+0.3**
BPA	**Boggy Peak**	**3.50**	**134**	ePn	**Pn**	**16 34 30.3**	**0.0**
BPA				eSn	**Sn**	**16 35 10.2**	**-1.3**
BPA	**Boggy Peak**	**3.50**	**134**	eP	**Pn**	**16 34 30.3**	**0.0**
BPA				eS	**Sn**	**16 35 10.2**	**-1.3**
MLYT	**Lee's Yard**	**3.53**	**141**	eP	**Pn**	**16 34 31.4**	**+0.7**
MLYT				eS	**Sn**	**16 35 13.5**	**+1.3**
ABD	**La Joyeuse, An**	**4.16**	**136**	eP	**Pn**	**16 34 38.2**	**-1.0**
CBE	**Ff, Capester**	**4.39**	**141**	eP	**Pn**	**16 34 42.5**	**0.0**
TBG	**Guadaloupe-3**	**4.54**	**143**	eP	**Pn**	**16 34 44.1**	**-0.4**
TBG	**Guadaloupe-3**	**4.54**	**143**	eS	**Sn**	**16 35 38.6**	**+1.6**
TDBA	**Terre de Bas,**	**4.54**	**143**	eP	**Pn**	**16 34 45.4**	**+0.8**
MAGL	**Barre de l'ile**	**4.68**	**139**	eP	**Pn**	**16 34 47.0**	**+0.5**
DR12	**Loma Pena Alta**	**4.68**	**262⇓**	eP	**Pn**	**16 34 46.9**	**+0.3**
DR12	**Loma Pena Alta**	**4.68**	**262**	ePn	**Pn**	**16 34 46.9**	**+0.3**
MGG	**Marie-Galante**	**4.68**	**139**	ePn	**Pn**	**16 34 46.4**	**-0.1**
MGG				eSn	**Sn**	**16 35 40.1**	**-0.5**
MGG	**Marie-Galante**	**4.68**	**139**	eP	**Pn**	**16 34 46.4**	**-0.1**
MGG	**Marie-Galante**	**4.68**	**139**	eS	**Sn**	**16 35 40.1**	**-0.5**
MDPV	**Dominica, Penn**	**4.84**	**142**	eP	**Pn**	**16 34 49.8**	**+1.0**
MDPV	**Dominica, Penn**	**4.84**	**142**	eS	**Sn**	**16 35 41.7**	**-3.0**
MDPO	**Dominica; Chan**	**4.87**	**143**	eP	**Pn**	**16 34 50.2**	**+1.1**
MDPO	**Dominica; Chan**	**4.87**	**143**	eS	**Sn**	**16 35 44.5**	**-0.7**
BBL	**Barber's Block**	**4.90**	**144**	ePn	**Pn**	**16 34 49.4**	**-0.1**
BBL				eSn	**Sn**	**16 35 45.8**	**-0.2**
BBL	**Barber's Block**	**4.90**	**144**	eP	**Pn**	**16 34 49.4**	**-0.1**
BBL	**Barber's Block**	**4.90**	**144**	eS	**Sn**	**16 35 45.8**	**-0.2**
DWS	**Wesley**	**4.96**	**142**	ePn	**Pn**	**16 34 52.3**	**+2.0**
DWS				eSn	**Sn**	**16 35 48.5**	**+1.1**
DWS	**Wesley**	**4.96**	**142**	eP	**Pn**	**16 34 52.3**	**+2.0**
DWS	**Wesley**	**4.96**	**142**	eS	**Sn**	**16 35 48.5**	**+1.1**
DLPL	**La Plaine**	**5.18**	**143**	eSn	**Sn**	**16 35 54.9**	**+1.9**
DLPL	**La Plaine**	**5.18**	**143**	eP	Pn	16 35 00.1	+6.7
DLPL	**La Plaine**	**5.18**	**143**	eS	**Sn**	**16 35 54.9**	**+1.9**
SDD	**Santo Domingo**	**5.24**	**259**	ePn	**Pn**	**16 34 54.2**	**0.0**
SDD				eSn	**Sn**	**16 35 51.6**	**-2.8**
PCM	**Pelee Case Pet**	**5.62**	**146**	eP	**Pn**	**16 34 59.7**	**+0.2**
CXM	**Morne La Croix**	**5.65**	**145**	eP	**Pn**	**16 35 00.7**	**+0.7**
BAMF	**Morne Balai**	**5.66**	**145**	eP	**Pn**	**16 35 00.3**	**+0.3**
GBMF	**Grand Be**	**5.66**	**145**	eP	**Pn**	**16 35 00.2**	**+0.1**
BANI	**BANI**	**5.67**	**260**	ePn	**Pn**	**16 35 00.8**	**+0.6**
BANI				eSn	**Sn**	**16 36 04.7**	**-0.4**
PML	**Morne Lenard**	**5.67**	**146**	eP	**Pn**	**16 35 00.6**	**+0.5**
FDF	**Fort de France**	**5.72**	**146**	ePn	**Pn**	**16 35 01.0**	**+0.1**
FDF	**Fort de France**	**5.72**	**146**	eP	**Pn**	**16 35 01.4**	**+0.5**
FDF	**Fort de France**	**5.72**	**146**	eS	**Sb**	**16 36 16.1**	**-8.3**
FDF	**Fort de France**	**5.72**	**146**	eP	**Pn**	**16 35 01.0**	**+0.1**
ZAM	**Aeronautique**	**5.92**	**146**	eP	**Pn**	**16 35 04.9**	**+1.4**
TRMF	**Trois Ilets**	**5.94**	**146**	eP	**Pn**	**16 35 04.5**	**+0.7**
BIM	**Bigot**	**5.95**	**146**	eP	**Pn**	**16 35 04.7**	**+0.8**
MVM	**Montagne Vaucl**	**6.01**	**145**	eP	**Pn**	**16 35 07.4**	**+2.7**
SLW	**Petit Monier**	**6.43**	**148**	ePn	Pn	16 35 04.3	-6.3
SLW	**Petit Monier**	**6.43**	**148**	eP	Pn	16 35 04.3	-6.3
SDDR	**Presa de Saban**	**6.45**	**266⇑**	eP	**Pn**	**16 35 12.1**	**+1.3**
SDDR	**Presa de Saban**	**6.45**	**266**	ePn	**Pn**	**16 35 11.9**	**+1.1**
SDDR				eSn	**Sn**	**16 36 23.4**	**-0.7**
GRTK	**Grand Turk**	**6.54**	**289**	ePn	**Pn**	**16 35 10.2**	**-1.8**
SLB	**Belfond**	**6.55**	**149**	ePn	Pn	16 35 07.0	-5.2
SLB	**Belfond**	**6.55**	**149**	eP	Pn	16 35 07.0	-5.2
SLPA	**Patience**	**6.58**	**148**	ePn	**Pn**	**16 35 13.6**	**+0.9**
SLPA	**Patience**	**6.58**	**148**	eP	**Pn**	**16 35 13.6**	**+0.9**
SVV	**Soufriere Volc**	**6.91**	**153**	ePn	Pn	16 35 12.3	-4.9
SVV	**Soufriere Volc**	**6.91**	**153**	eP	Pn	16 35 12.3	-4.9
SVV				eS		16 35 24.3	
SSV	**Crater Summit**	**6.91**	**152**	ePn	Pn	16 35 11.5	-5.8
SSV	**Crater Summit**	**6.91**	**152**	eP	Pn	16 35 11.5	-5.8
SVB	**Belmont**	**6.94**	**153**	ePn	**Pn**	**16 35 17.8**	**+0.2**
SVB	**Belmont**	**6.94**	**153**	eP	Pn	16 35 12.6	-4.9
SVB	**Belmont**	**6.94**	**153**	eP	**Pn**	**16 35 14.1**	**-3.4**
SVB				eS		16 35 23.7	
LGNH	**Logne**	**7.74**	**264**	ePn	**Pn**	**16 35 29.0**	**+0.4**
GRGR	**Grenville**	**7.83**	**159**	ePn	**Pn**	**16 35 31.7**	**+1.9**
BBGH	**Gun Hill**	**7.90**	**142**	ePn	**Pn**	**16 35 27.8**	**-3.0**
BBSP	**Saint Philip**	**7.99**	**142**	ePn	Pn	16 35 37.0	+5.0
TOSP	**Speyside**	**9.01**	**154**	eP	**Pn**	**16 35 49.4**	**+3.5**
TPR	**Prospect**	**9.02**	**156**	ePn	Pn	16 35 50.9	+4.8
TPR	**Prospect**	**9.02**	**156**	eP	Pn	16 35 50.9	+4.8
BOT	**Bacolet**	**9.06**	**156**	ePn	**Pn**	**16 35 50.1**	**+3.5**
BOT	**Bacolet**	**9.06**	**156**	eP	**Pn**	**16 35 50.1**	**+3.5**
PCRV	**Puerto La Cruz**	**9.28**	**181**	Pn	**Pn**	**16 35 50.3**	**+0.6**
	5.5nm,0.3s,baz=301,slow=1.7,SNR=13						
PCRV				Sn	**Sn**	**16 37 31.5**	**-2.5**
	1.9nm,0.3s,baz=28,slow=15,SNR=2.0						
PCRV				LR	LR	16 39 15.3	
	comp=Z,3μm,18.3s,baz=2.0,slow=37						
TRN	**Trinidad (W)**	**9.30**	**161**	ePn	Pn	16 35 56.7	+6.8
TRN	**Trinidad (W)**	**9.30**	**161**	eP	Pn	16 35 56.7	+6.8
TRN	**Trinidad (W)**	**9.30**	**161**	eP	Pn	16 35 56.7	+6.7
TPP	**Pointe-a-Pierr**	**9.60**	**162**	eP	Pn	16 36 01.5	+7.4
GTBY	**Guantanamo Bay**	**10.01**	**274**	ePn	**Pn**	**16 35 56.5**	**-3.3**
GTBY				eSn	**Sn**	**16 37 43.8**	**-8.1**
SDV	**Santo Domingo**	**12.12**	**210**	Pn	**Pn**	**16 36 29.5**	**+0.7**
	3.0nm,0.3s,baz=40,slow=8.8,SNR=64						
SDV				Sn	**Sn**	**16 38 43.7**	**-0.3**
	1.4nm,0.3s,baz=108,slow=20,SNR=3.5						
SDV	**Santo Domingo**	**12.12**	**210**	ePn	**Pn**	**16 36 31.7**	**+2.9**
SDV				eSn	**Sn**	**16 38 45.0**	**+1.1**
SDV	**Santo Domingo**	**12.12**	**210**	eP	**Pn**	**16 36 32.1**	**+3.3**
SDV	**Santo Domingo**	**12.12**	**210**	eP	**Pn**	**16 36 32.1**	**+3.3**
MTDJ	**Mount Denham**	**12.42**	**266**	ePn	**Pn**	**16 36 30.4**	**-2.4**
BBSR	**BB Station**	**12.81**	**359**	ePn	**Pn**	**16 36 34.2**	**-3.7**
BBSR				eSn	Sn	16 38 46.3	-14
SJCC	**San Jacinto, C**	**14.07**	**229**	eP	**P**	**16 37 01.2**	**-1.9**
SJCC	**San Jacinto, C**	**14.07**	**229**	eP	**P**	**16 37 01.2**	**-1.9**
OCAC	**Ocana**	**14.10**	**219**	eP	**Pn**	**16 36 55.4**	**-0.5**
OCAC	**Ocana**	**14.10**	**219**	eP	**Pn**	**16 36 55.4**	**-0.5**
PAMC	**Pamplona, Colo**	**14.49**	**214**	eP	**Pn**	**16 37 03.7**	**+2.2**
PAMC	**Pamplona, Colo**	**14.49**	**214**	eP	**Pn**	**16 37 03.7**	**+2.2**
TAMC	**Tame, Arauca**	**14.81**	**210**	eP	**Pn**	**16 37 08.6**	**+3.2**
TAMC	**Tame, Arauca**	**14.81**	**210**	eP	**Pn**	**16 37 08.6**	**+3.2**
BRRC	**Barranca, Sant**	**15.24**	**217**	eP	**Pn**	**16 37 11.6**	**+0.4**
BRRC	**Barranca, Sant**	**15.24**	**217**	eP	**Pn**	**16 37 11.6**	**+0.4**
BARC	**Barichara**	**15.37**	**215**	eP	**Pn**	**16 37 13.8**	**+0.7**
BARC	**Barichara**	**15.37**	**215**	eP	**Pn**	**16 37 13.8**	**+0.7**
ZARC	**Zaragoza, Cauc**	**15.62**	**222**	eP	**Pn**	**16 37 16.1**	**0.0**
ZARC	**Zaragoza, Cauc**	**15.62**	**222**	eP	**Pn**	**16 37 16.1**	**0.0**
FSCY	**Frank Sound, G**	**15.75**	**272**	ePn	**Pn**	**16 37 15.5**	**-2.3**
	736nm,1.4s						
UREC	**San Jos de Ur**	**15.86**	**224**	eP	**Pn**	**16 37 18.6**	**-0.6**
UREC	**San Jos de Ur**	**15.86**	**224**	eP	**Pn**	**16 37 18.6**	**-0.6**
RUSC	**La Rusia**	**15.91**	**213**	eP	**Pn**	**16 37 21.9**	**+1.6**
RUSC	**La Rusia**	**15.91**	**213**	eP	**Pn**	**16 37 21.9**	**+1.6**
PTBC	**PUERTO BERRIO,**	**16.13**	**218**	eP	**Pn**	**16 37 21.1**	**-1.6**
PTBC	**PUERTO BERRIO,**	**16.13**	**218**	eP	**Pn**	**16 37 21.1**	**-1.6**
060A	**Indiantown**	**16.39**	**300**	ePn	**Pn**	**16 37 25.9**	**+0.1**
	302nm,0.8s						
061Z	**Ochoppi**	**16.41**	**296**	ePn	**Pn**	**16 37 25.9**	**-0.3**
	562nm,1.7s						
DBBC	**Dabeiba**	**16.85**	**224**	eP	**Pn**	**16 37 31.5**	**-0.4**
DBBC	**Dabeiba**	**16.85**	**224**	eP	**Pn**	**16 37 31.5**	**-0.4**
059A	**Moore Haven**	**17.00**	**299**	ePn	**Pn**	**16 37 33.7**	**0.0**
	317nm,1.4s						
959A	**Okeechobee**	**17.00**	**301**	P	**Pn**	**16 37 34.2**	**+0.5**
	baz=114						
UPD2	**Meteti**	**17.04**	**232**	eP	**P**	**16 37 36.9**	**+0.9**
UPD2	**Meteti**	**17.04**	**232**	eP	**P**	**16 37 36.9**	**+0.9**
HELC	**Santa Helena**	**17.05**	**220**	eP	**Pn**	**16 37 35.0**	**+0.3**
HELC	**Santa Helena**	**17.05**	**220**	eP	**Pn**	**16 37 35.0**	**+0.3**
NORC	**Norcasia**	**17.16**	**217**	eP	**Pn**	**16 37 35.2**	**-0.5**
NORC	**Norcasia**	**17.16**	**217**	eP	**Pn**	**16 37 35.2**	**-0.5**
CTAB	**Cerro Tablazo,**	**17.24**	**215**	eP	**Pn**	**16 37 37.8**	**+0.6**
CTAB	**Cerro Tablazo,**	**17.24**	**215**	eP	**Pn**	**16 37 37.8**	**+0.6**
859A	**Kempfer Cattle**	**17.25**	**303**	P	**P**	**16 37 37.8**	**-0.4**
	baz=116,SNR=10						
CHIC	**Chingaza**	**17.32**	**213**	eP	**Pn**	**16 37 37.8**	**-0.4**
CHIC	**Chingaza**	**17.32**	**213**	eP	**Pn**	**16 37 37.8**	**-0.4**
ROSC	**El Rosal**	**17.45**	**215**	P	**P**	**16 37 40.9**	**-0.1**
	11nm,0.3s,baz=27,slow=9.0,SNR=25						
ROSC				S	**Sn**	**16 40 53.9**	**-0.1**
	2.1nm,0.3s,baz=41,slow=19,SNR=2.2						
ROSC				LR	LR	16 44 46.7	
	comp=Z,2μm,21.8s,baz=39,slow=39						
ROSC	**El Rosal**	**17.45**	**215**	ePn	**P**	**16 37 41.1**	**+0.2**
	135nm,0.9s						
ROSC	**El Rosal**	**17.45**	**215**	eP	**Pn**	**16 37 40.2**	**+0.5**
ROSC	**El Rosal**	**17.45**	**215**	eP	**Pn**	**16 37 40.2**	**+0.5**
858A	**St. Cloud**	**17.68**	**303**	P	**P**	**16 37 43.4**	**+0.4**
	baz=116,SNR=5.1						
DWPF	**Disney Wildern**	**17.70**	**302**	ePn	**Pn**	**16 37 40.9**	**-1.4**
	193nm,0.9s						
VILC	**Villavicencio,**	**17.75**	**212**	eP	**P**	**16 37 44.4**	**+0.4**
VILC	**Villavicencio,**	**17.75**	**212**	eP	**P**	**16 37 44.4**	**+0.4**
RREF	**El Recreo**	**17.97**	**217**	eP	**Pn**	**16 37 46.0**	**-0.4**
RREF	**El Recreo**	**17.97**	**217**	eP	**Pn**	**16 37 46.0**	**-0.4**
BCIP	**Isla Barro Col**	**18.06**	**237**	ePn	**P**	**16 37 48.5**	**+1.2**
	178nm,1.2s						
658A	**Bunnell**	**18.16**	**306**	ePn	**Pn**	**16 37 48.0**	**+0.1**
	213nm,0.8s						
658A	**Bunnell**	**18.16**	**306**	P	**P**	**16 37 51.0**	**+2.8**
	baz=119,SNR=6.9						
957A	**Wimauma**	**18.17**	**300**	ePn	**P**	**16 37 49.2**	**+0.8**
	163nm,0.9s						
TOLC	**Tolima**	**18.21**	**217**	eP	**Pn**	**16 37 48.5**	**-0.6**
TOLC	**Tolima**	**18.21**	**217**	eP	**Pn**	**16 37 48.5**	**-0.6**
ANIL	**Santa Ana**	**18.34**	**217**	eP	**P**	**16 37 51.0**	**+0.4**
ANIL	**Santa Ana**	**18.34**	**217**	eP	**P**	**16 37 51.0**	**+0.4**
MDP	**Montagnes des**	**18.39**	**140**	P	**P**	**16 37 50.7**	**-0.2**
	baz=0.0,slow=15						
857A	**Zephyrhills**	**18.40**	**302**	P	**Pn**	**16 37 53.7**	**+2.7**
	baz=114						
PLMC	**San Jos del P**	**18.52**	**220**	eP	**Pn**	**16 37 53.5**	**+0.9**
PLMC	**San Jos del P**	**18.52**	**220**	eP	**Pn**	**16 37 53.5**	**+0.9**
757A	**Oxford**	**18.56**	**304**	P	**Pn**	**16 37 56.6**	**+3.7**
	baz=116,SNR=5.9						
GUVC	**San Jose del G**	**18.65**	**206**	eP	**P**	**16 37 51.8**	**-1.9**
GUVC	**San Jose del G**	**18.65**	**206**	eP	**P**	**16 37 51.8**	**-1.9**
657A	**Interlachen**	**18.70**	**306**	P	**Pn**	**16 37 58.2**	**+3.6**
	baz=118,SNR=12						
557A	**Orange Park**	**18.80**	**307**	P	**Pn**	**16 37 59.3**	**+3.4**
	baz=120,SNR=12						
457A	**Yulee**	**18.98**	**309**	P	**Pn**	**16 38 02.5**	**+4.4**
	baz=122						
656A	**Willston**	**19.12**	**304**	eP	**Pn**	**16 38 00.2**	**+0.6**
	124nm,0.8s						
YOTC	**Yotoco, Valle**	**19.29**	**218**	eP	**P**	**16 38 01.0**	**+0.1**
YOTC	**Yotoco, Valle**	**19.29**	**218**	eP	**P**	**16 38 01.0**	**+0.1**
CSU	**Charleston Sou**	**19.34**	**317**	eP	**Pn**	**16 38 04.5**	**+2.2**
257A	**Skidaway Islan**	**19.36**	**313**	eP	**Pn**	**16 38 04.2**	**+1.7**
	192nm,0.9s						
257A	**Skidaway Islan**	**19.36**	**313**	P	**Pn**	**16 38 08.0**	**+5.4**
	baz=126						
357A	**Townsend**	**19.37**	**311**	P	**Pn**	**16 38 07.8**	**+5.2**
	baz=124,SNR=5.3						
RGRS	**Roger Stewart**	**19.37**	**317**	eP	**Pn**	**16 38 08.1**	**+5.4**
	4μm,0.7s						
RGRS				eSn	**Sn**	**16 41 30.8**	**-8.9**
456A	**Hilliard**	**19.38**	**309**	eP	**Pn**	**16 38 07.0**	**+4.2**
	306nm,1.0s						
456A	**Hilliard**	**19.38**	**309**	P	**Pn**	**16 38 07.3**	**+4.5**
	baz=121,SNR=12						
NHSC	**New Hope**	**19.49**	**317**	eP	**Pn**	**16 38 09.5**	**+5.4**
NHSC				eSn	**Sn**	**16 41 36.1**	**-6.5**
NHSC	**New Hope**	**19.49**	**317**	P	**Pn**	**16 38 10.0**	**+5.9**
	baz=130,SNR=22						
CNNC	**Cliffs of the**	**19.64**	**326**	eP	**Pn**	**16 38 05.8**	**-0.1**
	113nm,0.4s						
655A	**Horseshoe Beac**	**19.74**	**304**	P	**Pn**	**16 38 12.9**	**+5.7**
	baz=116						
356A	**Blackshear**	**19.77**	**310**	P	**Pn**	**16 38 12.3**	**+4.8**
	baz=122						
555A	**McAlpin**	**19.79**	**306**	eP	**P**	**16 38 06.7**	**+0.5**
	182nm,1.0s						
256A	**Glennville**	**19.96**	**312**	P	**Pn**	**16 38 15.5**	**+5.8**
	baz=124,SNR=7.9						
MARP	**Paez Belalcaza**	**20.00**	**215**	eP	**P**	**16 38 09.3**	**+0.4**
MARP	**Paez Belalcaza**	**20.00**	**215**	eP	**P**	**16 38 09.3**	**+0.4**
156A	**Sylvania**	**20.08**	**314**	P	Pn	16 38 18.1	+7.0
	baz=127,SNR=13						
455A	**Stateville**	**20.14**	**307**	P	Pn	16 38 11.5	-0.3
	baz=120,SNR=5.6						
355A	**Pearson**	**20.31**	**309**	P	Pn	16 38 14.2	+0.3
	baz=121						
255A	**Hazlehurst**	**20.35**	**311**	eP	**P**	**16 38 10.7**	**-1.5**
	118nm,0.8s						
255A	**Hazlehurst**	**20.35**	**311**	P	Pn	16 38 19.7	+5.4
	baz=123,SNR=9.1						
ESPN	**Las Esperanzas**	**20.39**	**252**	eP	**P**	**16 38 12.9**	**+0.1**
	45nm,0.8s						
454A	**Quitman**	**20.58**	**307**	P	Pn	16 38 17.0	0.0
	baz=118						
PTGA	**Pitinga**	**20.60**	**167**	P	**P**	**16 38 13.6**	**-1.4**
	26nm,0.9s,baz=356,slow=12,SNR=28						
PTGA	**Pitinga**	**20.60**	**167**	eP	**P**	**16 38 13.2**	**-1.9**
	35nm,0.8s						
POPC	**Popayan, Colom**	**20.65**	**217**	eP	**P**	**16 38 14.3**	**-1.6**
POPC	**Popayan, Colom**	**20.65**	**217**	eP	**P**	**16 38 14.3**	**-1.6**
PCON	**Cinco Dias**	**20.67**	**216**	eP	Pn	16 38 18.4	-0.4
PCON	**Cinco Dias**	**20.67**	**216**	eP	Pn	16 38 18.4	-0.4
155A	**Kite**	**20.73**	**313**	P	Pn	16 38 26.1	+7.4
	baz=125,SNR=11						
TIGA	**Tifton**	**20.90**	**308**	eP	**P**	**16 38 18.5**	**+0.3**
	163nm,0.8s						
TIGA	**Tifton**	**20.90**	**308**	P	Pn	16 38 21.3	+0.5
	baz=120						
FLOC	**Florencia**	**20.90**	**213**	eP	**P**	**16 38 16.8**	**-1.6**
FLOC	**Florencia**	**20.90**	**213**	eP	**P**	**16 38 16.8**	**-1.6**
JSC	**Jenkinsville**	**20.93**	**318**	eP	**P**	**16 38 17.4**	**-1.1**
	145nm,1.3s						
JSC	**Jenkinsville**	**20.93**	**318**	eP	**P**	**16 38 17.5**	**-1.1**
JSC				pmax	pmax		
	comp=Z,145nm,1.3s						
254A	**Abbeville**	**20.94**	**310**	P	Pn	16 38 20.6	-0.6
	baz=122,SNR=5.7						
SOTA	**Rioblanco**	**20.95**	**216**	eP	**P**	**16 38 20.1**	**+0.7**
SOTA	**Rioblanco**	**20.95**	**216**	eP	**P**	**16 38 20.1**	**+0.7**
GRGC	**Isla de Gorgon**	**21.16**	**221**	eP	**P**	**16 38 21.8**	**+0.6**
GRGC	**Isla de Gorgon**	**21.16**	**221**	eP	**P**	**16 38 21.8**	**+0.6**
453A	**Whigham**	**21.17**	**306**	eP	**P**	**16 38 22.6**	**+1.5**
	comp=Z,216nm,0.9s						
154A	**Montrose**	**21.17**	**312**	eP	**P**	**16 38 20.4**	**-0.7**
	comp=Z,325nm,1.0s						
154A	**Montrose**	**21.17**	**312**	P	**P**	**16 38 22.7**	**+1.6**
	baz=124,SNR=7.9						
HDC	**Heredia**	**21.18**	**246**	eP	**P**	**16 38 22.7**	**+1.2**
	comp=Z,132nm,1.0s						
353A	**Camilla**	**21.32**	**307**	P	**P**	**16 38 23.4**	**+0.6**
	baz=119						
Z54A	**Sparta**	**21.34**	**314**	P	**P**	**16 38 23.7**	**+0.8**
	baz=125,SNR=10						
BOAB	**BOACO BROADBAN**	**21.52**	**254**	eP	**P**	**16 38 26.2**	**+1.1**
	comp=Z,24nm,1.2s						
HODGE	**Hodges**	**21.54**	**316**	eP	**P**	**16 38 25.9**	**+0.8**
	comp=Z,90nm,0.6s						
KMSC	**Kings Mountain**	**21.55**	**320**	eP	**P**	**16 38 25.5**	**+0.4**
	comp=Z,92nm,0.7s						
KMSC	**Kings Mountain**	**21.55**	**320**	P	**P**	**16 38 25.9**	**+0.8**
	baz=132,SNR=6.3						
Y54A	**Tignall**	**21.60**	**315**	P	**P**	**16 38 26.7**	**+0.9**
	baz=127,SNR=7.2						
CRUC	**La Cruz**	**21.61**	**216**	eP	**P**	**16 38 26.7**	**+0.4**
CRUC	**La Cruz**	**21.61**	**216**	eP	**P**	**16 38 26.7**	**+0.4**
253A	**Americus**	**21.61**	**309**	eP	**P**	**16 38 27.1**	**+1.2**
	comp=Z,116nm,0.9s						
PAULI	**Pauline**	**21.63**	**318**	eP	**P**	**16 38 26.7**	**+0.7**
	comp=Z,63nm,0.7s						
PTLC	**Puerto Leguiza**	**21.71**	**209**	eP	**P**	**16 38 30.9**	**+3.8**
PTLC	**Puerto Leguiza**	**21.71**	**209**	eP	**P**	**16 38 30.9**	**+3.8**
CBN	**Corbin Frederi**	**21.73**	**332**	eP	**P**	**16 38 28.3**	**+1.2**
	comp=Z,240nm,0.4s						
CBN	**Corbin Frederi**	**21.73**	**332**	P	**P**	**16 38 28.4**	**+1.3**
	baz=145,SNR=5.4						
R58B	**Mineral**	**21.77**	**330**	eP	**P**	**16 38 28.7**	**+1.2**
	comp=Z,107nm,0.6s						
R58B	**Mineral**	**21.77**	**330**	P	**P**	**16 38 29.0**	**+1.5**
	baz=144,SNR=14						
JTS	**JuntasAbangare**	**21.78**	**248**	P	**P**	**16 38 29.1**	**+1.3**
	comp=Z,39nm,1.1s,baz=137,slow=5.7,SNR=9.6						
JTS	**JuntasAbangare**	**21.78**	**248**	eP	**P**	**16 38 28.7**	**+0.9**
	comp=Z,47nm,0.8s						
JTS	**JuntasAbangare**	**21.78**	**248**	deP	**P**	**16 38 29.2**	**+1.4**
Z53A	**Monticello**	**21.86**	**313**	P	**P**	**16 38 29.6**	**+1.1**
	baz=124,SNR=9.1						
GOGA	**Godfrey**	**21.86**	**313**	eP	**P**	**16 38 29.4**	**+0.8**
	comp=Z,41nm,0.8s						
GOGA				eS	**S**	**16 42 25.6**	**-4.3**
GOGA	**Godfrey**	**21.86**	**313**	eP	**P**	**16 38 29.4**	**+0.8**
GOGA				eS	**S**	**16 42 25.6**	**-4.3**
GOGA				pmax	pmax		
	comp=Z,41nm,0.8s						
GOGA	**Godfrey**	**21.86**	**313**	P	**P**	**16 38 29.9**	**+1.3**
	baz=125,SNR=9.8						
352A	**Blakely**	**21.92**	**307**	eP	**P**	**16 38 29.9**	**+0.7**
	comp=Z,98nm,0.8s						
352A	**Blakely**	**21.92**	**307**	P	**P**	**16 38 30.4**	**+1.3**
	baz=118						
ESTN	**Estel**	**21.93**	**256**	eP	**P**	**16 38 30.3**	**+0.7**
	comp=Z,102nm,1.2s						
252A	**Lumpkin**	**22.02**	**308**	P	**P**	**16 38 31.5**	**+1.2**
	baz=120,SNR=5.9						
GCUF	**Volcan Galeras**	**22.11**	**216**	eP	**P**	**16 38 32.2**	**+0.4**
GCUF	**Volcan Galeras**	**22.11**	**216**	eP	**P**	**16 38 32.2**	**+0.4**
451A	**Vernon**	**22.16**	**304**	eP	**P**	**16 38 33.1**	**+1.3**
	comp=Z,143nm,1.0s						
Y53A	**Monroe**	**22.20**	**314**	P	**P**	**16 38 33.2**	**+1.0**
	baz=125,SNR=11						
152A	**Waverly Hall**	**22.35**	**310**	eP	**P**	**16 38 34.6**	**+0.8**
	comp=Z,40nm,0.8s						
152A	**Waverly Hall**	**22.35**	**310**	P	**P**	**16 38 35.1**	**+1.3**
	baz=121,SNR=6.8						
TEIG	**Tepich**	**22.38**	**276**	eP	**P**	**16 38 35.6**	**+1.4**
	comp=Z,74nm,1.2s						
X53A	**Estanollee**	**22.39**	**316**	P	**P**	**16 38 35.4**	**+1.2**
	baz=127,SNR=6.3						
Z52A	**Williamson**	**22.41**	**311**	P	**P**	**16 38 36.0**	**+1.6**
	baz=122						
BG3	**Lake Jocassee**	**22.45**	**317**	eP	**P**	**16 38 35.3**	**+0.4**
	comp=Z,336nm,0.7s						
TGUH	**Tegucigalpa,Un**	**22.47**	**260**	eP	**P**	**16 38 36.3**	**+1.1**
	comp=Z,136nm,1.1s						
BLA	**Blacksburg**	**22.47**	**325**	eP	**P**	**16 38 36.3**	**+1.2**
	comp=Z,153nm,0.6s						
BLA	**Blacksburg**	**22.47**	**325**	eP	**P**	**16 38 36.3**	**+1.2**
BLA				pmax	pmax		
	comp=Z,153nm,0.6s						
BLA	**Blacksburg**	**22.47**	**325**	P	**P**	**16 38 36.2**	**+1.1**
	baz=137,SNR=12						
SDMD	**Soldier's Deli**	**22.52**	**334**	eP	**P**	**16 38 36.2**	**+0.7**
	comp=Z,47nm,0.6s						
Y52A	**Lilburn**	**22.53**	**313**	eP	**P**	**16 38 36.4**	**+0.6**
	comp=Z,58nm,0.5s						
Y52A				eS	**S**	**16 42 39.9**	**-2.6**
Y52A	**Lilburn**	**22.53**	**313**	P	**P**	**16 38 36.8**	**+1.0**
	baz=124						
251A	**Midway**	**22.57**	**308**	P	**P**	**16 38 37.1**	**+1.0**
	baz=119,SNR=7.3						
CMBC	**Cumbal**	**22.61**	**217**	eP	**P**	**16 38 38.4**	**+1.2**
CMBC	**Cumbal**	**22.61**	**217**	eP	**P**	**16 38 38.4**	**+1.2**
CPNY	**Central Park**	**22.71**	**341**	eP	**P**	**16 38 37.2**	**-0.3**
	comp=Z,61nm,0.8s						
CPNY				eS	**S**	**16 42 49.7**	**+4.2**
W53A	**Cullowhee**	**22.71**	**317**	P	**P**	**16 38 39.3**	**+1.5**
	baz=129,SNR=9.8						
BRNJ	**Basking Ridge**	**22.80**	**340**	eP	**P**	**16 38 38.2**	**-0.3**
	comp=Z,148nm,0.8s						
V53A	**Saluda**	**22.80**	**319**	eP	**P**	**16 38 38.9**	**+0.3**
	comp=Z,64nm,0.6s						
V53A				eS	**S**	**16 42 47.1**	**-0.3**
V53A	**Saluda**	**22.80**	**319**	P	**P**	**16 38 39.6**	**+1.0**
	baz=130,SNR=6.7						
MVL	**Millersville**	**22.83**	**336**	eP	**P**	**16 38 40.5**	**+1.7**
	comp=Z,50nm,0.8s						
X52A	**Dahlonega**	**22.84**	**315**	P	**P**	**16 38 40.2**	**+1.1**
	baz=126,SNR=6.9						
PAL	**Palisades**	**22.89**	**341**	eP	**P**	**16 38 40.2**	**+0.8**
	comp=Z,192nm,0.7s						
PAL				eS	**S**	**16 42 47.3**	**-1.3**
PAL	**Palisades**	**22.89**	**341**	eP	**P**	**16 38 40.2**	**+0.8**
PAL				eS	**S**	**16 42 47.3**	**-1.3**
PAL				pmax	pmax		
	comp=Z,192nm,0.7s						
PAL	**Palisades**	**22.89**	**341**	P	**P**	**16 38 41.8**	**+2.4**
	baz=157,SNR=5.5						

YLE Yale 22.90 343 eP P 16 38 40.5 +1.0
comp=Z,82nm,0.7s
350A Dozier 22.97 305 P P 16 38 41.6 +1.2
baz=116
LUPA Lehigh Univers 22.99 338 eP P 16 38 40.8 +0.3
comp=Z,7.4nm,0.7s
Z51A Franklin 23.01 311 P P 16 38 41.6 +0.8
baz=122
U53A Fall Branch 23.11 320 P P 16 38 42.5 +0.7
baz=132
BRYW Bryant College 23.13 347 eP P 16 38 42.9 +1.0
comp=Z,48nm,0.8s
W52A Murphy 23.16 316 eP P 16 38 41.4 -0.9
comp=Z,71nm,0.8s
W52A eSn S 16 43 01.1 +7.6
W52A Murphy 23.16 316 P P 16 38 43.5 +1.2
baz=127,SNR=7.9
250A Grady 23.16 307 eP P 16 38 42.7 +0.3
comp=Z,114nm,0.9s
250A Grady 23.16 307 P P 16 38 42.9 +0.6
baz=117
PAGS Pennsylvania G 23.17 336 eP P 16 38 43.2 +0.9
comp=Z,365nm,1.4s
PAGS eS S 16 42 55.4 +2.0
ODNJ Ogdensburg 23.17 340 eP P 16 38 42.2 -0.2
comp=Z,104nm,0.7s
ODNJ eS S 16 42 53.1 -0.5
Y51A Rockmart 23.24 312 P P 16 38 44.7 +1.5
baz=123
150A Eclectic 23.27 308 P P 16 38 44.7 +1.3
baz=119
TKL Tuckaleechee C 23.40 317 P P 16 38 46.4 +1.7
comp=Z,5.4nm,0.7s,baz=136,slow=9.3,SNR=5.7
TKL S S 16 43 01.0 +3.5
comp=Z,17nm,0.6s,baz=79,slow=16,SNR=3.8
TKL LR LR 16 47 15.3
comp=Z,407nm,20.8s,baz=124,slow=35
TKL Tuckaleechee C 23.40 317 eP P 16 38 46.0 +1.3
comp=Z,255nm,1.0s
TKL eS S 16 42 55.3 -2.1
TKL S S 16 43 01.0 +3.5
TKL Tuckaleechee C 23.40 317 P P 16 38 46.0 +1.3
TKL pmax pmax
comp=Z,260nm,1.0s
V52A Sevierville 23.40 318 eP P 16 38 45.1 +0.4
comp=Z,90nm,0.8s
V52A eSn S 16 43 05.5 +8.1
V52A Sevierville 23.40 318 P P 16 38 45.8 +1.1
baz=129,SNR=9.4
BRAL Brewton 23.41 304 eP P 16 38 43.7 -1.2
comp=Z,178nm,1.2s
N59A State Game Lan 23.41 338 eP P 16 38 46.5 +1.6
comp=Z,334nm,0.6s
N59A eS S 16 43 01.3 +3.7
N59A State Game Lan 23.41 338 P P 16 38 46.4 +1.5
baz=152
BCX Boston College 23.45 347 eP P 16 38 46.1 +1.1
comp=Z,64nm,1.0s
X51A Calhoun 23.47 314 eP P 16 38 46.1 +0.7
comp=Z,65nm,0.6s
X51A Calhoun 23.47 314 P P 16 38 46.5 +1.1
baz=124,SNR=7.5
WES Weston 23.53 347 eP P 16 38 46.2 +0.3
comp=Z,309nm,1.9s
OTAV Otavalo 23.54 217 eP P 16 38 46.6 -0.2
comp=Z,80nm,1.0s
OTAV Otavalo 23.54 217 eP P 16 38 47.5 +0.7
OTAV Otavalo 23.54 217 P P 16 38 47.2 +0.4
OTAV pmax pmax
comp=Z,80nm,1.0s
OTAV Otavalo 23.54 217 eP P 16 38 47.5 +0.7
349A Repton 23.60 304 P P 16 38 48.0 +1.3
baz=115
U52A Thorn Hill 23.61 319 P P 16 38 48.0 +1.2
baz=130
Q55A Buckhannon 23.64 329 P P 16 38 49.2 +2.1
baz=141,SNR=8.3
QUA2 Belchertown 23.66 345 eP P 16 38 44.6 -2.5
comp=Z,52nm,0.8s
QUA2 eSn Sn 16 43 13.3 -9.1
HRV Adam Dziewonsk 23.69 347 eP P 16 38 44.7 -2.8
comp=Z,72nm,0.8s
HRV Adam Dziewonsk 23.69 347 eP P 16 38 44.7 -2.8
HRV pmax pmax
comp=Z,72nm,0.8s
W51A Cleveland 23.75 315 P P 16 38 49.3 +1.2
baz=126,SNR=9.8
CPCT Cooper Cave 23.76 316 eP P 16 38 48.5 +0.2
comp=Z,147nm,0.8s
CPCT eS S 16 43 04.0 +0.8
249A Camden 23.81 306 P P 16 38 50.0 +1.3
baz=116
TZTN Tazewell 23.82 319 eP P 16 38 47.9 -0.9
comp=Z,41nm,0.8s
TZTN Tazewell 23.82 319 P P 16 38 49.9 +1.0
baz=130
149A Jones 23.84 308 P P 16 38 49.6 +0.5
baz=118
T52A Hallie 23.85 321 P P 16 38 50.1 +1.0
baz=132
V51A Loudon 23.86 317 eP P 16 38 49.0 -0.2
comp=Z,197nm,0.7s
V51A eSn Sn 16 43 22.3 -5.2
V51A Loudon 23.86 317 P P 16 38 50.1 +0.9
baz=128,SNR=15
P55A Reedsville 23.92 330 P P 16 38 51.3 +1.6
baz=142,SNR=8.4
Z49A Columbiana 23.93 309 P P 16 38 51.0 +1.1
baz=119
X50B Fort Payne 23.96 313 P P 16 38 50.7 +0.5
baz=123,SNR=5.8
O56A Blue Knob Stat 23.96 333 eP P 16 38 50.7 +0.6
comp=Z,57nm,0.9s
O56A Blue Knob Stat 23.96 333 P P 16 38 51.8 +1.7
baz=146,SNR=8.0
SSPA Standing Stone 23.98 334 eP P 16 38 51.5 +1.2
comp=Z,94nm,0.9s
SSPA eS S 16 43 12.9 +6.3
SSPA Standing Stone 23.98 334 P P 16 38 51.5 +1.2
baz=148
KSPA Keystone Colle 23.98 339 eP P 16 38 48.8 -1.5
comp=Z,75nm,0.7s
U51A La Follette 24.00 318 P P 16 38 52.1 +1.5
baz=129,SNR=5.2
MCWV Mont Chateau 24.05 330 eP P 16 38 50.9 0.0
comp=Z,61nm,0.8s
MCWV Mont Chateau 24.05 330 P P 16 38 52.7 +1.8
baz=142,SNR=6.4
W50A Signal Mountai 24.14 315 eP P 16 38 53.0 +1.1
comp=Z,41nm,0.7s
W50A Signal Mountai 24.14 315 P P 16 38 53.0 +1.1
baz=125,SNR=8.0
Y49A Blount Mountai 24.18 311 eP P 16 38 53.2 +1.1
comp=Z,46nm,0.8s
348A Jackson 24.18 304 eP P 16 38 51.2 -1.0
comp=Z,79nm,0.8s
LRAL Lakeview Retre 24.20 308 eP P 16 38 52.9 +0.6
comp=Z,124nm,1.8s
LRAL Lakeview Retre 24.20 308 P P 16 38 54.1 +1.7
baz=118
O55A Ligonier 24.23 332 P P 16 38 54.3 +1.7
baz=144,SNR=6.8
V50A Pikevile 24.27 316 P P 16 38 54.0 +1.0
baz=126,SNR=9.5
S52A Salyersville 24.29 322 P P 16 38 54.6 +1.4
baz=133
248A Dixon Mills 24.33 306 P P 16 38 54.6 +1.0
baz=115
T51A Gray 24.34 320 P P 16 38 54.8 +1.1
baz=130
TRY Troy 24.41 343 eP P 16 38 53.4 -0.8
comp=Z,132nm,0.9s
TRY eSn S 16 43 32.9 +19
148A Greensboro 24.45 307 P P 16 38 55.9 +1.2
baz=117
X49A Woodville 24.45 312 P P 16 38 56.2 +1.4
baz=122,SNR=5.9
R52A Catlettsburg 24.50 324 P P 16 38 56.3 +1.2
baz=135,SNR=11
U50A Jamestown 24.55 318 P P 16 38 57.2 +1.6
baz=128,SNR=8.8
N55A Marion Center 24.56 333 P P 16 38 57.3 +1.7
baz=145,SNR=14
SWET Sewanee 24.57 314 eP P 16 38 56.3 +0.5
comp=Z,24nm,0.8s
S51A Beattyville 24.57 321 eP P 16 38 57.8 +2.0
comp=Z,69nm,0.8s

BINY Binghamton 24.63 339 eP P 16 38 56.7 +0.5
comp=Z,63nm,0.6s
BINY Binghamton 24.63 339 P P 16 38 58.7 +2.4
baz=153
FFD Franklin Falls 24.64 347 eP P 16 38 54.7 -1.5
comp=Z,70nm,0.6s
P53A Whipple 24.67 327 eP P 16 38 57.4 +0.8
comp=Z,52nm,0.6s
P53A Whipple 24.67 327 P P 16 38 58.4 +1.8
baz=139
O54A Avella 24.71 330 P P 16 38 59.0 +2.0
baz=142,SNR=8.2
W49A Belvidere 24.74 313 P P 16 38 58.6 +1.4
baz=123
Q52A Bidwell 24.74 325 P P 16 38 58.9 +1.7
baz=137
Y48A Jasper 24.75 310 P P 16 38 58.3 +0.9
baz=120
Z48A Northport 24.77 309 P P 16 38 59.2 +1.7
baz=118
V49A McMinnville 24.86 315 P P 16 38 59.7 +1.3
baz=125
T50A Nancy 24.92 319 P P 16 39 00.4 +1.5
baz=129,SNR=12
X48A Hartselle 24.93 311 eP P 16 38 60.0 +1.0
comp=Z,30nm,0.7s
X48A Hartselle 24.93 311 P P 16 39 00.6 +1.6
baz=121
247A Quitman 24.99 305 P P 16 39 00.6 +1.1
baz=114
147A Livingston 24.99 306 eP P 16 38 58.9 -0.6
comp=Z,120nm,1.5s
147A Livingston 24.99 306 P P 16 39 01.4 +1.9
baz=116
HNH Hanover 25.00 347 eP P 16 39 01.4 +1.9
comp=Z,209nm,1.8s
R51A Hillsboro 25.01 322 P P 16 39 01.7 +2.1
baz=133,SNR=9.6
ACCN Adirondack Com 25.02 344 eP P 16 38 57.3 -2.4
comp=Z,119nm,0.6s
Z47A Carrollton 25.07 308 P P 16 39 01.1 +0.8
baz=117
N54A Moraine State 25.15 332 eP P 16 39 02.1 +1.2
comp=Z,83nm,0.6s
N54A Moraine State 25.15 332 P P 16 39 02.8 +1.8
baz=144,SNR=8.3
P52A Corning 25.16 327 P P 16 39 02.4 +1.4
baz=138
O53A New Philadelph 25.16 329 P P 16 39 02.7 +1.6
baz=140
APG El Apazote 25.20 264 P P 16 39 04.3 +2.4
comp=Z,84nm,1.1s,baz=76,slow=6.2,SNR=22
U49A Red Boiling Sp 25.21 317 P P 16 39 02.8 +1.2
baz=126,SNR=6.5
Y47A UCPARC, Winfie 25.24 309 P P 16 39 03.7 +1.9
baz=119
EMMW East Machias 25.25 355 eP P 16 39 00.0 -1.7
comp=Z,101nm,1.4s
WVL Waterville 25.35 351 eP P 16 38 59.9 -2.8
comp=Z,91nm,1.3s
O52A Adamsville 25.37 328 eP P 16 39 02.8 -0.1
comp=Z,64nm,0.8s
O52A Adamsville 25.37 328 P P 16 39 04.0 +1.0
baz=139
Q51A Peebles 25.38 324 eP P 16 39 02.4 -0.6
comp=Z,286nm,0.8s
Q51A Peebles 25.38 324 P P 16 39 04.3 +1.2
baz=135
346A Big Creek Wild 25.40 303 eP P 16 39 02.8 -0.5
comp=Z,48nm,0.9s
T49A Edmonton 25.41 318 eP P 16 39 03.4 0.0
comp=Z,44nm,0.7s
T49A Edmonton 25.41 318 P P 16 39 04.7 +1.4
baz=128
N53A Lisbon 25.42 330 P P 16 39 05.2 +1.8
baz=142,SNR=14
R50A Paris 25.43 322 P P 16 39 05.1 +1.6
baz=132,SNR=9.7
LBNH Lisbon 25.43 347 eP P 16 39 01.9 -1.5
comp=Z,180nm,1.7s
LBNH Lisbon 25.43 347 eP P 16 39 01.9 -1.5
LBNH pmax pmax
comp=Z,180nm,1.7s
M54A Oil Creek Stat 25.45 333 eP P 16 39 03.0 -0.7
comp=Z,56nm,0.6s
V48A Smith Brothers 25.46 314 eP P 16 39 03.3 -0.5
comp=Z,72nm,1.4s
V48A Smith Brothers 25.46 314 P P 16 39 05.3 +1.5
baz=124
X47A Russelville 25.54 311 P P 16 39 05.5 +0.9
baz=120,SNR=6.3
P51A Williamsport 25.54 325 eP P 16 39 03.8 -0.7
comp=Z,71nm,0.8s
P51A Williamsport 25.54 325 P P 16 39 05.9 +1.4
baz=136,SNR=7.1
146A Union 25.57 306 eP P 16 39 05.0 +0.2
comp=Z,66nm,0.9s
146A Union 25.57 306 P P 16 39 07.1 +2.3
baz=115
Q50A Georgetown 25.61 323 P P 16 39 07.5 +2.4
baz=133,SNR=7.1
GGN Saint George 25.61 356 eP P 16 39 04.5 -0.6
comp=Z,126nm,1.6s
S49A Springfield 25.68 320 P P 16 39 07.7 +1.9
baz=129
VT1 Waterbury 25.69 346 eP P 16 39 03.8 -2.1
comp=Z,39nm,1.0s
U48A Cassie Pea, Po 25.71 316 P P 16 39 08.0 +2.0
baz=125,SNR=5.9
NCB Newcomb 25.71 344 eP P 16 39 05.1 -1.0
comp=Z,46nm,0.6s
W47A Westpoint 25.73 312 P P 16 39 08.2 +1.9
baz=122
ALLY Alegheny Colle 25.77 332 eP P 16 39 07.2 +0.5
comp=Z,90nm,0.9s
MMNY Mt. Morris Dam 25.77 337 eP P 16 39 06.8 +0.3
comp=Z,109nm,0.6s
O51A Pataskala 25.79 327 P P 16 39 07.9 +1.2
baz=138
K55A Perry 25.83 337 P P 16 39 08.2 +1.1
baz=150
PLAL Pickwick Lake 25.93 311 eP P 16 39 08.1 0.0
comp=Z,115nm,1.8s
GBN Guysborough 25.94 5 eP P 16 39 06.1 -1.9
comp=Z,132nm,1.3s
T48A Bowling Green 25.96 317 P P 16 39 10.4 +2.1
baz=126,SNR=9.5
Y46A Houston 25.97 308 P P 16 39 09.3 +0.9
baz=117
V47A Nunnelly 25.98 313 P P 16 39 09.7 +1.2
baz=123
PKME Peaks-Kenny Pk 25.99 352 eP P 16 39 05.4 -3.1
comp=Z,36nm,0.9s
P50A Jamestown 26.04 324 P P 16 39 11.4 +2.4
baz=135,SNR=9.2
ACSO Alum Creek Sta 26.05 326 eP P 16 39 09.0 0.0
comp=Z,90nm,0.9s
ACSO Alum Creek Sta 26.05 326 P P 16 39 11.1 +2.0
baz=137,SNR=5.9
S48A Wiedeman Farm, 26.08 318 P P 16 39 11.7 +2.3
baz=128,SNR=6.6
X46A Booneville 26.08 310 P P 16 39 11.4 +1.9
baz=119
ERPA Erie 26.09 333 eP P 16 39 07.9 -1.5
comp=Z,65nm,0.6s
ERPA Erie 26.09 333 P P 16 39 11.1 +1.6
baz=145
U47A Clarksville 26.16 315 P P 16 39 11.4 +1.2
baz=124,SNR=11
J55A Hilton 26.20 338 P P 16 39 11.7 +1.2
baz=150,SNR=5.0
145A Houston Renfro 26.23 305 P P 16 39 13.4 +2.6
baz=114
Q49A Aurora 26.24 322 P P 16 39 12.1 +1.3
baz=132,SNR=7.2
N51A Ashland 26.25 328 eP P 16 39 10.4 -0.4
comp=Z,32nm,0.6s
N51A Ashland 26.25 328 P P 16 39 11.5 +0.6
baz=139
O50A Cable 26.32 325 P P 16 39 12.9 +1.3
baz=136
T47A Sharon Grove 26.35 316 eP P 16 39 11.6 -0.3
comp=Z,54nm,0.6s
WVT Waverly 26.36 314 eP P 16 39 11.9 0.0
comp=Z,21nm,0.7s
WVT Waverly 26.36 314 eP P 16 39 12.0 0.0
WVT pmax pmax
comp=Z,21nm,0.7s

WVT Waverly 26.36 314 P P 16 39 12.8 +0.8
baz=123
FRNY Flat Rock 26.36 345 eP P 16 39 10.6 -1.3
comp=Z,40nm,0.6s
Z45A Winona 26.37 307 eP P 16 39 11.1 -1.0
comp=Z,66nm,0.9s
Z45A Winona 26.37 307 P P 16 39 13.6 +1.6
baz=115
V46A Holladay 26.38 313 P P 16 39 12.6 +0.5
baz=122
R48A Northridge Ran 26.43 320 P P 16 39 14.5 +2.0
baz=129
Y45A Yeager Farm, C 26.47 308 P P 16 39 14.5 +1.5
baz=116
CCIG Comitan 26.49 267 eP P 16 39 13.6 0.0
comp=Z,50nm,1.0s
P49A Miami Univ. Ec 26.50 323 P P 16 39 14.2 +1.0
baz=133,SNR=10.0
J54A Appleton 26.51 336 P P 16 39 14.5 +1.3
baz=149,SNR=7.6
MOQ Mont Orford 26.52 348 eP P 16 39 12.5 -0.9
N50A Nevada 26.53 327 P P 16 39 14.8 +1.4
baz=138
VBMS Vicksburg 26.54 304 eP P 16 39 12.2 -1.4
comp=Z,99nm,1.4s
WCI Wyandotte Cave 26.58 319 eP P 16 39 14.3 +0.4
comp=Z,29nm,0.6s
WCI Wyandotte Cave 26.58 319 eP P 16 39 14.3 +0.4
WCI pmax pmax
comp=Z,29nm,0.6s
WCI Wyandotte Cave 26.58 319 P P 16 39 15.2 +1.3
baz=128
X45A UM Field Stati 26.61 309 P P 16 39 14.8 +0.5
baz=118
144A Alexander Plac 26.62 305 P P 16 39 15.9 +1.5
baz=113
OXF Oxford 26.66 309 eP P 16 39 15.3 +0.6
comp=Z,123nm,1.1s
OXF Oxford 26.66 309 eP P 16 39 15.3 +0.6
OXF pmax pmax
comp=Z,123nm,1.1s
OXF Oxford 26.66 309 P P 16 39 15.5 +0.8
baz=118
Q48A North Vernon 26.68 321 P P 16 39 16.0 +1.1
baz=130,SNR=12
O49A Covington 26.74 325 eP P 16 39 15.4 +0.1
comp=Z,86nm,0.6s
O49A Covington 26.74 325 P P 16 39 16.6 +1.3
baz=135
W45A Hickory Valley 26.81 311 P P 16 39 15.4 -0.6
baz=119
H56A Elgin 26.87 341 P P 16 39 18.0 +1.5
baz=155
T46A Princeton 26.90 315 P P 16 39 18.1 +1.3
baz=124
M50A Fremont 26.94 328 eP P 16 39 16.7 -0.4
comp=Z,63nm,0.7s
M50A Fremont 26.94 328 P P 16 39 18.6 +1.5
baz=139
Q47A Bedord North L 27.10 320 P P 16 39 19.7 +1.0
baz=129,SNR=7.4
U45A Rockin P Farm, 27.11 313 P P 16 39 19.6 +0.9
baz=122
S46A Don Dixon Farm 27.15 317 P P 16 39 20.1 +1.1
baz=125
N49A Columbus Grove 27.18 326 eP P 16 39 18.9 -0.3
comp=Z,54nm,0.8s
N49A Columbus Grove 27.18 326 P P 16 39 20.3 +1.1
baz=136
UTMT University of 27.18 313 eP P 16 39 19.3 0.0
comp=Z,182nm,1.0s
J52A Paris 27.22 334 P P 16 39 20.6 +1.0
baz=145
PQI Presque Isle 27.24 355 eP P 16 39 18.5 -1.2
comp=Z,124nm,1.8s
USIN University of 27.28 317 eP P 16 39 18.1 -2.1
comp=Z,85nm,0.8s
HALT Halls 27.29 312 eP P 16 39 19.8 -0.5
comp=Z,60nm,0.9s
BLO Bloomington 27.31 321 eP P 16 39 19.9 -0.6
comp=Z,125nm,0.6s
BLO Bloomington 27.31 321 eP P 16 39 19.9 -0.6
BLO pmax pmax
comp=Z,125nm,0.6s
R46A Gibon Southern 27.33 318 P P 16 39 22.1 +1.4
baz=127,SNR=14
P47A Martinsville 27.36 321 P P 16 39 22.1 +1.1
baz=130,SNR=11
T45A Paducah 27.39 315 eP P 16 39 20.2 -1.0
comp=Z,105nm,0.6s
GLAT Glass 27.43 313 eP P 16 39 20.9 -0.8
comp=Z,124nm,1.4s
M49A Liberty Center 27.47 327 P P 16 39 23.4 +1.5
baz=137
Y43A Makayla and Ka 27.53 307 P P 16 39 23.6 +1.1
baz=115
N48A Decatur 27.58 325 P P 16 39 23.8 +0.9
baz=134,SNR=9.0
G55A Calabogie 27.60 341 P P 16 39 24.3 +1.3
baz=154
S45A Carrier Mills 27.71 316 P P 16 39 25.0 +0.9
baz=124
BATG Bathurst New B 27.72 358 eP P 16 39 24.4 +0.3
comp=Z,189nm,2.0s
X43A Marvell 27.75 308 eP P 16 39 22.8 -1.7
comp=Z,51nm,1.0s
O47A Sheridan 27.80 323 P P 16 39 24.1 -0.8
baz=132,SNR=22
L49A Milan 27.83 328 P P 16 39 26.2 +1.1
baz=138
M48A Edgerton 27.86 326 eP P 16 39 24.4 -1.0
comp=Z,68nm,0.8s
R45A Skylar, Fairfi 27.87 317 P P 16 39 27.0 +1.5
baz=126,SNR=5.8
I51A Listowel 27.91 334 P P 16 39 26.9 +1.1
baz=145
AAM Ann Arbor 27.92 329 eP P 16 39 27.4 +1.5
comp=Z,78nm,0.6s
AAM Ann Arbor 27.92 329 eP P 16 39 27.4 +1.5
AAM pmax pmax
comp=Z,78nm,0.6s
AAM Ann Arbor 27.92 329 P P 16 39 27.1 +1.2
baz=139
PARMO Parma 27.96 313 eP P 16 39 24.6 -1.7
comp=Z,55nm,0.7s
N47A Urbana 27.96 324 P P 16 39 27.0 +0.7
baz=133
SADO Sadowa 27.98 337 P P 16 39 27.4 +1.0
comp=Z,14nm,0.6s,baz=176,slow=9.1,SNR=17
SADO LR LR 16 50 38.1
comp=Z,435nm,19.6s,baz=152,slow=36
SADO Sadowa 27.98 337 eP P 16 39 25.4 -1.0
comp=Z,25nm,0.8s
P46A Rosedale 28.00 321 P P 16 39 28.2 +1.5
baz=129,SNR=12
OLIL Olney 28.01 318 eP P 16 39 26.4 -0.3
comp=Z,118nm,0.8s
L48A N Adams 28.04 327 P P 16 39 28.3 +1.3
baz=137,SNR=9.9
HBAR Harrisburg 28.05 310 eP P 16 39 28.7 +1.5
comp=Z,41nm,0.8s
G53A Haliburton 28.11 338 P P 16 39 28.6 +1.0
baz=151
Q45A Warren Harvey, 28.14 318 P P 16 39 29.2 +1.2
baz=127,SNR=6.8
SIUC Southern Illin 28.15 315 eP P 16 39 29.2 +1.1
comp=Z,35nm,0.6s
Y42A Garnett, Star 28.15 306 P P 16 39 29.7 +1.6
baz=114
S44A Carbondale 28.16 315 P P 16 39 29.5 +1.3
baz=123
M47A Cromwell 28.25 325 P P 16 39 30.1 +1.2
baz=134
P45A Graceland, Par 28.27 320 eP P 16 39 27.1 -1.9
comp=Z,89nm,0.8s
P45A Graceland, Par 28.27 320 P P 16 39 30.2 +1.2
baz=128,SNR=12
SFIN Lafayette 28.42 322 eP P 16 39 29.4 -1.0
comp=Z,108nm,0.8s
SFIN Lafayette 28.42 322 P P 16 39 31.1 +0.7
baz=130,SNR=10
L47A Sherwood 28.46 326 P P 16 39 31.5 +0.8
baz=136,SNR=5.3
J49A Marlette 28.48 331 P P 16 39 31.8 +0.9
baz=141,SNR=5.4
K48A Perry 28.52 329 P P 16 39 32.7 +1.4
baz=138,SNR=9.3
N46A Monticello 28.55 323 P P 16 39 32.9 +1.4

baz=132,SNR=8.1
S43A **Fulton Ridge,** 28.65 314 P P 16 39 33.3 +0.8
baz=122
M46A **Old House Fiel** 28.68 324 eP P 16 39 31.5 -1.2
comp=Z,54nm,0.8s
Q44A **Meyer Farm, Va** 28.69 318 eP P 16 39 31.1 -1.7
comp=Z,118nm,1.1s
Q44A **Meyer Farm, Va** 28.69 318 P P 16 39 34.5 +1.7
baz=125,SNR=6.7
V42A **Cord** 28.70 310 P P 16 39 34.0 +1.0
baz=117,SNR=8.4
O45A **Potomac** 28.71 321 P P 16 39 33.9 +0.9
baz=129,SNR=11
Z41A **Richland Creek** 28.71 304 eP P 16 39 30.5 -2.6
comp=Z,33nm,1.0s
I49A **Point Hope** 28.79 332 P P 16 39 34.3 +0.7
baz=142
U42A **Revenden** 28.84 311 P P 16 39 34.8 +0.6
baz=118
K47A **Vermontville** 28.86 328 P P 16 39 35.3 +1.0
baz=137,SNR=21
E53A **Dumoine, Ponti** 28.90 341 P P 16 39 35.5 +0.9
baz=154
R43A **Red Bud** 28.93 316 P P 16 39 35.7 +0.8
baz=123
CMIG **Matias Romero** 28.94 270 P P 16 39 34.9 -0.4
comp=Z,1.1nm,0.4s,baz=61,slow=12,SNR=2.9
UALR **University of** 28.95 307 eP P 16 39 33.3 -1.9
comp=Z,13nm,0.8s
N45A **Kentland** 28.97 322 P P 16 39 36.0 +0.8
baz=130,SNR=14
W41B **Gary Mavity, V** 29.05 308 eP P 16 39 35.7 -0.3
comp=Z,25nm,1.1s
W41B **Gary Mavity, V** 29.05 308 P P 16 39 37.1 +1.1
baz=115
T42A **Van Buren** 29.07 312 eP P 16 39 34.8 -1.5
comp=Z,19nm,0.9s
FVM **French Village** 29.10 315 eP P 16 39 36.4 -0.1
comp=Z,60nm,0.8s
FVM **French Village** 29.10 315 eP P 16 39 36.4 -0.1
FVM pmax pmax
comp=Z,60nm,0.8s
WLAR **White Oak Lake** 29.11 305 eP P 16 39 36.6 -0.1
comp=Z,45nm,1.1s
WHAR **Wooly Hollow** 29.13 308 eP P 16 39 36.0 -0.8
comp=Z,27nm,1.2s
E52A **Mattawa** 29.14 340 P P 16 39 37.9 +1.2
baz=152
Q43A **New Douglas** 29.15 317 P P 16 39 37.9 +1.1
baz=124,SNR=6.2
J47A **Sunmer** 29.19 329 P P 16 39 38.1 +0.9
baz=138
X40A **Basin Creek Fa** 29.21 307 eP P 16 39 36.9 -0.5
comp=Z,11nm,0.8s
X40A **Basin Creek Fa** 29.21 307 P P 16 39 38.5 +1.0
baz=113
S42A **Caledonia** 29.24 314 P P 16 39 38.2 +0.4
baz=121,SNR=6.9
V41A **Mountainview** 29.25 309 P P 16 39 38.6 +0.8
baz=116
F51A **Arnstein** 29.26 338 P P 16 39 38.6 +0.9
baz=149
N44A **Piper City** 29.30 322 P P 16 39 39.1 +0.9
baz=129,SNR=32
U41A **Viola** 29.33 311 P P 16 39 39.4 +0.9
baz=118
I48A **Sherman Twp** 29.38 331 P P 16 39 39.8 +0.9
baz=141
P43A **Skaggs, Pawnee** 29.44 318 P P 16 39 40.9 +1.5
baz=126
R42A **Luebbering** 29.50 315 P P 16 39 40.7 +0.7
baz=122,SNR=5.8
D53A **Lac Vacive, Po** 29.55 342 P P 16 39 41.8 +1.5
baz=154
T41A **Mountain View** 29.55 312 P P 16 39 41.1 +0.6
baz=119
H48A **Harrisville** 29.61 332 P P 16 39 41.9 +1.0
baz=142
E51A **G1948 Merrick** 29.64 339 P P 16 39 42.4 +1.3
baz=150
D52A **ZEK Kipawa Sen** 29.67 341 P P 16 39 42.9 +1.4
baz=153
CCM **Cathedral Cave** 29.69 314 eP P 16 39 42.3 +0.6
comp=Z,21nm,0.8s
CCM **Cathedral Cave** 29.69 314 P P 16 39 42.7 +0.9
baz=121
NATX **Nacogdoches** 29.71 300 eP P 16 39 41.4 -0.5
comp=Z,28nm,0.6s
NATX **Nacogdoches** 29.71 300 P P 16 39 43.5 +1.6
baz=107
MIAR **Mount Ida** 29.79 306 eP P 16 39 41.4 -1.2
comp=Z,7.9nm,0.8s
MIAR **Mount Ida** 29.79 306 eP P 16 39 41.4 -1.2
MIAR pmax pmax
comp=Z,8.0nm,0.8s
S41A **Jillco Farms,** 29.80 313 P P 16 39 43.3 +0.6
baz=120
ATAH **Atahualpa** 29.81 209 P P 16 39 44.2 +0.8
comp=Z,12nm,1.0s,baz=6.8,slow=11,SNR=4.1
HDIL **Hopedale** 29.84 320 eP P 16 39 40.6 -2.4
comp=Z,10nm,0.7s
HDIL **Hopedale** 29.84 320 P P 16 39 44.0 +1.0
baz=127,SNR=8.8
R41A **Rosebud** 29.91 314 P P 16 39 44.1 +0.5
baz=121,SNR=17
P42A **Winchester** 29.92 318 eP P 16 39 44.4 +0.6
comp=Z,67nm,0.7s
P42A **Winchester** 29.92 318 P P 16 39 44.9 +1.1
baz=124
H47A **Mio** 29.93 331 P P 16 39 43.6 -0.1
baz=140,SNR=8.6
F49A **Sandfield** 29.93 335 P P 16 39 44.5 +0.8
baz=145
E50A **Wahnapitae** 29.98 337 P P 16 39 44.8 +0.6
baz=148
D51A **Lot 18 Range I** 30.08 340 P P 16 39 46.0 +0.9
baz=151,SNR=6.1
Q41A **Truxton** 30.15 316 P P 16 39 46.7 +0.9
baz=122,SNR=6.0
M43A **Waltham Townsh** 30.18 322 P P 16 39 46.7 +0.7
baz=129,SNR=13
W39A **Magazine** 30.20 307 eP P 16 39 47.1 +0.8
comp=Z,62nm,1.8s
F48A **Evansville** 30.21 334 P P 16 39 48.1 +1.9
baz=144
G47A **Hillman** 30.21 332 P P 16 39 47.1 +0.9
baz=142,SNR=5.2
GLMI **Grayling** 30.29 331 eP P 16 39 48.8 +1.9
comp=Z,114nm,0.6s
D50A **G1974 Best Tow** 30.30 339 P P 16 39 48.3 +1.3
baz=150,SNR=5.5
H46A **Fife Lake** 30.34 330 P P 16 39 47.6 +0.2
baz=139
VLDQ **Val d'Or** 30.41 343 eP P 16 39 49.9 +2.0
comp=Z,17nm,0.7s
P41A **Barry, Barry** 30.43 317 P P 16 39 48.9 +0.6
baz=124,SNR=9.3
L43A **Garden Prairie** 30.54 323 P P 16 39 50.1 +1.0
baz=130,SNR=12
O41A **Passleys Farm,** 30.57 318 P P 16 39 49.9 +0.5
baz=124,SNR=6.1
E48A **Lockeyer** 30.57 336 P P 16 39 50.7 +1.3
baz=146,SNR=14
K43A **Burlington** 30.65 324 eP P 16 39 50.9 +0.8
comp=Z,76nm,0.8s
K43A **Burlington** 30.65 324 P P 16 39 50.6 +0.5
baz=132,SNR=7.2
HHAR **Hobbs** 30.76 309 eP P 16 39 50.0 -1.3
comp=Z,58nm,2.0s
G46A **Petoskey** 30.78 331 P P 16 39 52.3 +1.1
baz=140,SNR=6.2
N41A **Harden Midland** 30.89 319 eP P 16 39 52.8 +0.6
comp=Z,48nm,0.7s
N41A **Harden Midland** 30.89 319 P P 16 39 53.2 +0.9
baz=125
L42A **Oliver, Polo** 30.95 322 eP P 16 39 52.3 -0.6
comp=Z,70nm,0.8s
L42A **Oliver, Polo** 30.95 322 P P 16 39 54.0 +1.2
baz=129,SNR=7.9
E47A **Iron Bridge** 30.99 334 P P 16 39 54.2 +1.2
baz=144,SNR=5.7
D48A **Paudash Townsh** 31.01 337 P P 16 39 54.3 +1.0
baz=147
F46A **Macinaw City C** 31.08 332 P P 16 39 54.7 +0.9
baz=141
J43A **Natural Harves** 31.15 325 P P 16 39 55.1 +0.6
baz=132,SNR=16
K42A **Prairie Point,** 31.26 323 P P 16 39 56.4 +0.8
baz=130,SNR=7.8
CHGQ **Chibougamau** 31.34 348 P P 16 39 57.4 +1.3
baz=162,SNR=5.7
I43A **Langenfeld Bro** 31.34 326 P P 16 39 57.0 +0.7
baz=133
E46A **Sault Ste Mari** 31.35 333 P P 16 39 57.7 +1.4
baz=142,SNR=14
F45A **CMU Biological** 31.35 331 P P 16 39 57.8 +1.5
baz=140
D47A **Chapleau** 31.41 335 P P 16 39 57.8 +1.0
baz=145
L41A **Preston** 31.48 321 P P 16 39 58.3 +0.8
baz=128,SNR=9.5
J42A **Columbus** 31.49 324 P P 16 39 58.5 +0.9
baz=131,SNR=6.4
H43A **Windswept, Lux** 31.55 327 eP P 16 39 57.3 -0.8
comp=Z,140nm,1.6s
H43A **Windswept, Lux** 31.55 327 P P 16 39 59.4 +1.3
baz=135
D46A **Sault St. Mari** 31.65 334 P P 16 40 00.3 +1.3
baz=143,SNR=5.9
K41A **Shullsburg** 31.70 322 P P 16 40 00.4 +1.0
baz=129,SNR=21
I42A **Draeger Farm,** 31.75 325 eP P 16 39 59.8 -0.1
comp=Z,38nm,0.8s
I42A **Draeger Farm,** 31.75 325 P P 16 40 00.9 +1.1
baz=132
JFWS **Jewell Farm** 31.86 323 eP P 16 40 00.5 -0.3
comp=Z,57nm,0.7s
JFWS **Jewell Farm** 31.86 323 eP P 16 40 00.5 -0.3
JFWS pmax pmax
comp=Z,57nm,0.7s
JFWS **Jewell Farm** 31.86 323 P P 16 40 01.6 +0.8
baz=129,SNR=9.5
435B **Jarrell** 31.88 297 eP P 16 40 01.3 +0.1
comp=Z,113nm,1.8s
435B **Jarrell** 31.88 297 P P 16 40 02.3 +1.2
baz=103
L40A **Anamosa** 31.91 321 eP P 16 40 00.7 -0.6
comp=Z,75nm,0.8s
L40A **Anamosa** 31.91 321 P P 16 40 01.9 +0.7
baz=127
H42A **Shiocton** 31.97 327 eP P 16 40 02.4 +0.6
comp=Z,28nm,0.9s
F44A **Big Bay de Noc** 31.99 331 P P 16 40 03.2 +1.3
baz=139
TUL1 **Leonard** 31.99 307 eP P 16 40 00.1 -1.9
comp=Z,29nm,1.3s
TUL1 **Leonard** 31.99 307 P P 16 40 02.9 +0.8
baz=112
J41A **Loganville** 32.01 324 P P 16 40 03.3 +1.2
baz=130,SNR=12
WHTX **Lake Whitney,** 32.06 299 eP P 16 40 02.2 -0.5
comp=Z,94nm,1.8s
WHTX **Lake Whitney,** 32.06 299 P P 16 40 03.9 +1.2
baz=105
G43A **Wallace** 32.07 328 eP P 16 40 01.6 -1.0
comp=Z,29nm,0.8s
M39A **Webster** 32.14 319 P P 16 40 03.9 +0.5
baz=125,SNR=10
F43A **Flat Rock, Esc** 32.23 330 P P 16 40 05.3 +1.3
baz=137,SNR=5.5
K40A **Colesburg** 32.24 322 P P 16 40 04.9 +0.8
baz=128,SNR=8.4
E44A **Grand Marais A** 32.25 332 eP P 16 40 04.1 -0.1
comp=Z,87nm,1.1s
I41A **Arkdale** 32.38 325 eP P 16 40 04.4 -1.0
comp=Z,27nm,0.9s
I41A **Arkdale** 32.38 325 P P 16 40 06.4 +1.0
baz=131
L39A **Vinton** 32.41 320 P P 16 40 06.3 +0.6
baz=126
G42A **Mountain** 32.43 328 eP P 16 40 01.8 -4.0
comp=Z,24nm,0.6s
G42A **Mountain** 32.43 328 P P 16 40 07.3 +1.5
baz=134
J40A **Soldiers Grove** 32.44 323 P P 16 40 06.7 +0.8
baz=129
E43A **Lone Tree Farm** 32.55 330 eP P 16 40 04.0 -2.8
comp=Z,120nm,1.8s
E43A **Lone Tree Farm** 32.55 330 P P 16 40 07.9 +1.1
baz=139
H41A **Junction City** 32.63 326 eP P 16 40 05.7 -1.9
comp=Z,25nm,0.6s
H41A **Junction City** 32.63 326 P P 16 40 08.4 +0.8
baz=132,SNR=7.3
K39A **Oelwein** 32.68 321 P P 16 40 08.5 +0.5
baz=126
I40A **Norwalk** 32.69 324 P P 16 40 08.9 +0.8
baz=130
LNIG **Linas** 32.77 286 eP P 16 40 09.3 +0.3
comp=Z,34nm,1.4s
J39A **Decorah** 32.96 322 P P 16 40 11.0 +0.6
baz=128,SNR=19
833A **Chaparral WMA,** 33.00 292 eP P 16 40 10.9 -0.1
comp=Z,14nm,0.8s
833A **Chaparral WMA,** 33.00 292 P P 16 40 11.5 +0.5
baz=98
SCIA **State Center** 33.03 319 eP P 16 40 10.3 -0.8
comp=Z,116nm,1.5s
H40A **Chili** 33.03 325 P P 16 40 12.2 +1.1
baz=131,SNR=5.9
F41A **Three Lakes** 33.12 328 eP P 16 40 11.5 -0.3
comp=Z,31nm,1.0s
F41A **Three Lakes** 33.12 328 P P 16 40 13.1 +1.3
baz=134,SNR=7.0
I39A **Houston** 33.17 323 eP P 16 40 12.0 -0.3
comp=Z,29nm,0.6s
G40A **Rib Lake** 33.36 326 eP P 16 40 14.5 +0.6
comp=Z,22nm,0.9s
G40A **Rib Lake** 33.36 326 P P 16 40 15.3 +1.4
baz=132
COWI **Conover** 33.38 328 eP P 16 40 13.3 -0.8
comp=Z,56nm,1.4s
E41A **Kenton** 33.56 329 P P 16 40 16.9 +1.3
baz=135,SNR=6.9
H39A **Augusta** 33.56 324 P P 16 40 16.4 +0.8
baz=130
NNA **Nana** 33.58 202 eP P 16 40 14.2 -2.0
comp=Z,79nm,1.5s
NNA **Nana** 33.58 202 eP P 16 40 14.2 -2.0
NNA pmax pmax
comp=Z,79nm,1.5s
JCT **Junction City** 33.69 296 eP P 16 40 15.8 -1.3
comp=Z,31nm,1.3s
JCT **Junction City** 33.69 296 eP P 16 40 15.8 -1.3
JCT pmax pmax
comp=Z,31nm,1.3s
JCT **Junction City** 33.69 296 P P 16 40 17.7 +0.7
baz=101
F40A **Park Falls** 33.76 327 P P 16 40 18.6 +1.2
baz=133,SNR=5.3
D41A **Chassel** 33.79 330 eP P 16 40 14.2 -3.5
comp=Z,69nm,1.1s
D41A **Chassel** 33.79 330 P P 16 40 19.4 +1.8
baz=136
KSU1 **Kansas State U** 33.88 312 eP P 16 40 17.3 -1.3
comp=Z,19nm,1.0s
G39A **Holcombe** 33.89 325 P P 16 40 19.6 +1.1
baz=131,SNR=8.3
WMOK **Wichita Mounta** 33.89 304 eP P 16 40 18.8 +0.1
comp=Z,24nm,1.6s
WMOK **Wichita Mounta** 33.89 304 eP P 16 40 18.8 +0.1
WMOK pmax pmax
comp=Z,23nm,1.6s
WMOK **Wichita Mounta** 33.89 304 P P 16 40 19.4 +0.7
baz=108,SNR=6.6
E40A **Wakefield** 34.01 328 P P 16 40 21.1 +1.6
baz=134,SNR=6.5
ABTX **Abilene, Hawle** 34.01 300 eP P 16 40 19.4 -0.4
comp=Z,56nm,1.1s
ABTX **Abilene, Hawle** 34.01 300 P P 16 40 20.6 +0.8
baz=104,SNR=7.6
H38A **Maiden Rock** 34.11 324 P P 16 40 21.2 +0.8
baz=128
F39A **Loretta** 34.17 326 P P 16 40 22.6 +1.6
baz=132,SNR=8.4
G38A **Ridgeland** 34.18 325 P P 16 40 21.9 +0.8
baz=130
E39A **Mellen** 34.29 327 P P 16 40 23.7 +1.7
baz=133,SNR=17
C40A **Isle Royale Na** 34.68 330 eP P 16 40 24.4 -0.9
comp=Z,79nm,0.9s
C40A **Isle Royale Na** 34.68 330 P P 16 40 26.9 +1.5
baz=136
F38A **Pierce - Schro** 34.70 326 P P 16 40 26.9 +1.3
baz=130,SNR=8.9
SPMN **Marine on St.** 34.74 324 eP P 16 40 24.9 -1.0
comp=Z,16nm,0.8s
SPMN **Marine on St.** 34.74 324 P P 16 40 26.6 +0.7
baz=128
F37A **Hinrichs Farm,** 34.95 325 P P 16 40 28.9 +1.1
baz=129
E38A **The Farm, Brul** 34.95 327 eP P 16 40 27.4 -0.3
comp=Z,16nm,0.9s
E38A **The Farm, Brul** 34.95 327 P P 16 40 28.8 +1.0
baz=132
SCHQ **Schefferville** 35.31 358 P P 16 40 31.7 +1.1
comp=Z,4.5nm,0.7s,baz=172,slow=8.0,SNR=5.1
SCHQ LR LR 16 55 22.3
comp=Z,450nm,18.6s,baz=141,slow=37
SCHQ **Schefferville** 35.31 358 eP P 16 40 31.6 +0.9
comp=Z,19nm,1.1s
ZAIG **Zacatecas** 35.60 282 eP P 16 40 34.5 +0.5
comp=Z,16nm,1.0s
LPAZ **La Paz** 35.76 186 P P 16 40 33.8 -1.8
comp=Z,4.3nm,0.7s,baz=57,slow=1.4,SNR=16
LPAZ LR LR 16 55 29.6
comp=Z,428nm,20.1s,baz=29,slow=37
LPAZ **La Paz** 35.76 186 eP P 16 40 33.2 -2.3
comp=Z,11nm,0.9s
LPAZ **La Paz** 35.76 186 eP P 16 40 33.2 -2.3
LPAZ pmax pmax
comp=Z,11nm,0.9s
EYMN **Ely** 35.83 329 eP P 16 40 34.5 -0.8
comp=Z,48nm,1.4s
EYMN **Ely** 35.83 329 P P 16 40 35.8 +0.6
baz=133
BGNE **Belgrade** 35.97 315 eP P 16 40 35.5 -1.1
comp=Z,59nm,1.0s
CBKS **Cedar Bluff** 36.00 310 P P 16 40 37.8 +0.9
baz=112
ECSD **EROS Data Cent** 36.12 319 eP P 16 40 37.0 -0.8
comp=Z,16nm,0.8s
ECSD **EROS Data Cent** 36.12 319 P P 16 40 38.6 +0.8
baz=122,SNR=7.0
AMTX **Amarillo** 36.22 303 eP P 16 40 38.9 0.0
comp=Z,28nm,1.0s
AMTX **Amarillo** 36.22 303 P P 16 40 39.7 +0.8
baz=105
LTX **Lajitas** 36.84 293 eP P 16 40 45.1 +0.8
LTX eScP ScP 16 46 55.0 +2.4
LTX **Lajitas** 36.84 293 eP P 16 40 45.1 +0.8
TX31 **Lajitas Ar. Si** 36.84 293 eP P 16 40 44.5 +0.2
TXAR **Lajitas Array** 36.84 293 P P 16 40 45.1 +0.8
comp=Z,6.9nm,0.8s,baz=109,slow=11,SNR=53
TXAR ScP ScP 16 46 55.0 +2.4
comp=Z,0.9nm,1.0s,baz=22,slow=1.3,SNR=4.0
TXAR LR LR 17 01 47.4
comp=Z,103nm,18.3s,baz=0.0,slow=46
MSTX **Muleshoe** 36.87 301 eP P 16 40 44.5 0.0
comp=Z,91nm,1.6s
MSTX **Muleshoe** 36.87 301 P P 16 40 44.8 +0.3
baz=103,SNR=6.5
RCBR **Riachuelo** 37.76 129 eP P 16 40 50.3 -1.8
comp=Z,56nm,1.4s
RCBR **Riachuelo** 37.76 129 eP P 16 40 50.3 -1.8
RCBR pmax pmax
comp=Z,56nm,1.4s
GDL2 **Guadalupe Moun** 37.83 298 eP P 16 40 51.5 -1.2
KSCO **Kaye Shedlock'** 38.17 309 eP P 16 40 55.2 -0.3
comp=Z,27nm,0.4s
AGMN **Agassiz Nation** 38.29 326 eP P 16 40 55.4 -0.8
comp=Z,78nm,1.4s
AGMN **Agassiz Nation** 38.29 326 P P 16 40 56.6 +0.5
baz=128,SNR=7.2
HPIG 38.42 289 eP P 16 40 58.9 +1.0
comp=Z,52nm,1.7s
OGNE **Ogallala** 38.44 312 eP P 16 40 55.1 -2.5
comp=Z,70nm,1.8s
BDFB **Brasilia** 38.51 154 P P 16 40 58.9 +0.5
comp=Z,33nm,1.0s,baz=339,slow=8.6,SNR=19
BDFB LR LR 16 57 29.5
comp=Z,358nm,19.4s,baz=292,slow=37
BDFB **Brasilia** 38.51 154 eP P 16 40 58.7 +0.3
comp=Z,27nm,0.9s
BDFB **Brasilia** 38.51 154 eP P 16 40 58.7 +0.3
BDFB pmax pmax
comp=Z,27nm,0.9s
MNTX **Cornudas Mount** 38.61 297 eP P 16 40 57.4 -1.7
comp=Z,59nm,1.9s
MNTX **Cornudas Mount** 38.61 297 P P 16 40 59.9 +0.8
baz=98,SNR=10
MNMC **Minye Minye** 38.73 188 eP P 16 40 56.6 -3.8
comp=Z,25nm,0.9s
T25A **Trinidad** 38.95 305 eP P 16 41 01.1 -1.1
comp=Z,24nm,1.0s
T25A **Trinidad** 38.95 305 P P 16 41 04.0 +1.8
baz=106,SNR=8.9
PB11 **IPOC Station P** 39.36 188 eP P 16 41 01.8 -3.7
comp=Z,33nm,0.8s
ULM **Lac du Bonnet** 39.51 328 P P 16 41 06.7 +0.4
comp=Z,13nm,0.6s,baz=123,slow=8.4,SNR=24
ULM PP PnPn 16 42 38.9 -1.2
comp=Z,8.1nm,0.6s,baz=133,slow=10,SNR=3.8
ULM LR LR 16 57 28.0
comp=Z,269nm,19.4s,baz=128,slow=36
ULM **Lac du Bonnet** 39.51 328 eP P 16 41 06.1 -0.2
ULM PP PnPn 16 42 38.9 -1.2
ULM **Lac du Bonnet** 39.51 328 eP P 16 41 06.1 -0.2
ULM 16 42 38.9
EPT **El Paso** 39.57 296 eP P 16 41 06.6 -0.7
comp=Z,12nm,0.6s
SDCO **Great Sand Dun** 39.95 306 eP P 16 41 11.7 +1.1
comp=Z,17nm,1.0s
SDCO **Great Sand Dun** 39.95 306 P P 16 41 11.7 +1.1
baz=105,SNR=33
Q24A **Divide** 40.02 308 eP P 16 41 09.3 -1.9
comp=Z,32nm,1.8s
BNM **Barren Site** 40.04 300 eP P 16 41 12.2 +0.9
ANMO **Albuquerque** 40.05 301 eP P 16 41 12.1 +0.7
comp=Z,13nm,0.9s
ANMO **Albuquerque** 40.05 301 *c iP* P 16 41 12.7 +1.4
ANMO pmax pmax
comp=Z,15nm,1.0s
ANMO **Albuquerque** 40.05 301 P P 16 41 12.4 +1.1
baz=101
LPM **Los Pinos Moun** 40.07 300 eP P 16 41 11.2 -0.4
MDND **Maddock** 40.08 323 eP P 16 41 11.1 -0.1
comp=Z,39nm,0.8s
Y22D **IRIS PASSCAL I** 40.27 300 eP P 16 41 12.5 -0.5
comp=Z,193nm,1.8s
LENM **Lemitar** 40.33 300 eP P 16 41 14.6 +1.0
LAZ **Ladron** 40.50 300 eP P 16 41 14.5 -0.6
PB01 **IPOC Station P** 40.60 187 eP P 16 41 12.5 -3.3
comp=Z,37nm,0.9s
ISCO **Idaho Springs** 40.62 309 eP P 16 41 16.3 +0.2
comp=Z,19nm,1.5s
ISCO **Idaho Springs** 40.62 309 eP P 16 41 16.3 +0.2
ISCO pmax pmax
comp=Z,19nm,1.5s
ISCO **Idaho Springs** 40.62 309 P P 16 41 17.3 +1.3
baz=108
121A **Cookes Peak, D** 40.75 297 P P 16 41 18.5 +1.4
baz=98
S22A **4UR Ranch, Cre** 40.97 305 eP P 16 41 14.2 -4.8
comp=Z,16nm,1.3s
S22A **4UR Ranch, Cre** 40.97 305 P P 16 41 19.9 +0.9
baz=104
PHWY **Pilot Hill** 40.98 311 eP P 16 41 17.7 -1.4
comp=Z,37nm,1.8s
RSSD **Black Hills** 41.05 316 eP P 16 41 16.8 -2.7
comp=Z,13nm,1.4s
RSSD **Black Hills** 41.05 316 eP P 16 41 16.8 -2.7
RSSD pmax pmax
comp=Z,13nm,1.4s
N23A **Red Feather La** 41.20 310 eP P 16 41 17.9 -3.0
comp=Z,19nm,1.5s
N23A **Red Feather La** 41.20 310 P P 16 41 22.1 +1.2
baz=109
SMCO **Snowmass** 41.45 308 eP P 16 41 21.1 -2.0
comp=Z,14nm,1.3s
LVC **Limon Verde** 42.09 186 eP P 16 41 25.7 -2.5
comp=Z,12nm,0.9s
LVC **Limon Verde** 42.09 186 eP P 16 41 25.7 -2.5
LVC pmax pmax
comp=Z,12nm,0.9s
MVCO **Mesa Verde** 42.14 304 eP P 16 41 26.0 -2.5
comp=Z,39nm,1.8s
K22A **Casper** 42.18 313 eP P 16 41 28.2 -0.6
comp=Z,42nm,1.5s
SLBS **Sierra La Lagu** 42.34 284 eP P 16 41 30.3 +0.2
comp=Z,28nm,1.2s
RWWY **Rawlins** 42.35 311 eP P 16 41 26.6 -3.6
comp=Z,67nm,1.1s

PV01 **Paradox Valley** 42.40 306 *e*P P 16 41 33.0 +2.3
PV02 **Paradox Valley** 42.54 306 *e*P P 16 41 29.8 -2.0
comp=Z,18nm,0.8s
PV13 **Radium Mtn., P** 42.59 306 *e*P P 16 41 32.5 +0.3
comp=Z,22nm,1.0s
PV12 **Saucer Basin,** 42.62 306 *e*P P 16 41 32.7 +0.3
comp=Z,17nm,0.9s
O20A **White River Ci** 42.65 309 *e*P P 16 41 29.1 -3.6
comp=Z,29nm,1.5s
PV11 **David Mesa, Pa** 42.67 306 *e*P P 16 41 33.5 +0.7
comp=Z,25nm,1.0s
PV16 **Nyswonger Mesa** 42.70 306 *e*P P 16 41 34.0 +1.0
comp=Z,19nm,0.9s
PV17 **East Wray Mesa** 42.73 306 *e*P P 16 41 34.5 +1.2
comp=Z,21nm,1.1s
W18A **Petrified Fore** 42.73 301 *e*P P 16 41 35.0 +1.7
comp=Z,54nm,1.2s
W18A **Petrified Fore** 42.73 301 P P 16 41 34.8 +1.5
baz=99,SNR=7.3
PV20 **West Nyswonger** 42.75 306 *e*P P 16 41 34.2 +0.8
comp=Z,22nm,1.3s
PV19 **Morning Glory** 42.75 306 *e*P P 16 41 32.9 -0.6
comp=Z,16nm,0.9s
PV14 **Lion Creek, Pa** 42.80 306 *e*P P 16 41 34.8 +0.9
comp=Z,17nm,0.7s
PV21 **Cone Mtn., Par** 42.80 306 *e*P P 16 41 33.7 -0.2
comp=Z,21nm,1.3s
PV23 **Carpenter Ridg** 42.81 306 *e*P P 16 41 31.7 -2.3
comp=Z,12nm,1.0s
PV10 **Paradox Valley** 42.81 306 *e*P P 16 41 36.0 +2.0
X18A **Snowflake** 42.81 300 *e*P P 16 41 33.9 -0.2
comp=Z,27nm,1.3s
DGMT **Dagmar** 43.05 321 *e*P P 16 41 35.6 +0.1
comp=Z,21nm,1.1s
HSIG 43.17 292 *e*P P 16 41 37.9 +1.1
comp=Z,47nm,1.7s
PB10 **IPOC Station P** 43.17 188 *e*P P 16 41 36.8 +0.1
comp=Z,114nm,1.8s
TUC **Tucson** 43.24 297 *e*P P 16 41 38.5 +1.1
comp=Z,62nm,2.0s
TUC **Tucson** 43.24 297 *e*P P 16 41 38.5 +1.1
TUC pmax pmax
comp=Z,62nm,2.0s
TUC **Tucson** 43.24 297 P P 16 41 39.1 +1.7
baz=96
LAO **LASA Array** 43.50 318 *e*P P 16 41 38.8 -0.4
comp=Z,93nm,2.0s
LAO **LASA Array** 43.50 318 P P 16 41 40.5 +1.2
baz=114
NRS **Narsarsuaq** 43.73 13 *e*P P 16 41 40.6 -0.1
comp=Z,172nm,1.6s
NRS **Narsarsuaq** 43.73 13 *e*P P 16 41 40.6 -0.1
NRS pmax pmax
comp=Z,172nm,1.6s
P18A **Preston Nutter** 44.01 307 *e*P P 16 41 43.7 -0.1
comp=Z,19nm,1.1s
X16A **Lo Mia Camp, P** 44.02 300 *e*P P 16 41 44.5 +0.7
comp=Z,29nm,1.6s
SRU **San Rafael Swe** 44.11 306 *e*P P 16 41 44.7 +0.3
comp=Z,7.1nm,1.0s
SRU **San Rafael Swe** 44.11 306 *e*P P 16 41 44.7 +0.3
SRU pmax pmax
comp=Z,7.0nm,1.0s
WUAZ **Wupatki** 44.12 301 *e*P P 16 41 45.2 +0.8
comp=Z,50nm,1.3s
WUAZ **Wupatki** 44.12 301 P P 16 41 46.0 +1.5
baz=98
FRB **Frobisher Bay** 44.29 357 LR LR 17 01 04.0
comp=Z,454nm,18.6s,baz=185,slow=37
BW06 **Boulder Array** 44.34 312 *e*P P 16 41 46.8 +0.5
comp=Z,13nm,1.0s
BW06 **Boulder Array** 44.34 312 P P 16 41 47.1 +0.8
baz=107,SNR=10
PD31 **Pinedale Array** 44.34 312 *e*P P 16 41 46.7 +0.5
PD31 *e*PP PcP 16 43 30.9 +0.6
PDAR **Pinedale Array** 44.34 312 P P 16 41 47.3 +1.0
comp=Z,3.3nm,0.7s,baz=109,slow=8.5,SNR=28
PDAR PcP PcP 16 43 30.9 +0.6
comp=Z,2.3nm,0.8s,baz=116,slow=4.8,SNR=3.8
PDAR LR LR 17 00 05.8
comp=Z,289nm,20.8s,baz=118,slow=36
PDAR **Pinedale Array** 44.34 312 *e*P P 16 41 46.3 0.0
PDAR PcP PcP 16 43 30.9 +0.6
P17A **Butcher Ranch,** 44.35 307 *e*P P 16 41 47.1 +0.8
comp=Z,21nm,1.3s
MACI **Morro de la Ar** 44.49 69 *e*P P 16 41 46.5 -1.1
comp=Z,62nm,1.0s
Q16A **Castle Valley** 44.56 306 *e*P P 16 41 48.5 +0.5
comp=Z,13nm,1.1s
TMUT **Trail Mountain** 44.67 307 *e*P P 16 41 50.1 +1.1
comp=Z,16nm,1.1s
GO02 **Mina Guanaco** 44.68 187 *e*P P 16 41 46.7 -2.4
comp=Z,21nm,0.9s
FCC **Fort Churchill** 44.70 339 *e*P P 16 41 48.8 +0.3
comp=Z,35nm,1.3s
FCC **Fort Churchill** 44.70 339 *e*P P 16 41 48.8 +0.3
FCC pmax pmax
comp=Z,35nm,1.3s
RLMT **Red Lodge** 44.89 315 *e*P P 16 41 51.5 +1.0
comp=Z,25nm,1.4s
RLMT **Red Lodge** 44.89 315 P P 16 41 51.7 +1.1
baz=110,SNR=7.6
214A **Organ Pipe Nat** 44.92 296 P P 16 41 52.4 +1.6
baz=94
U15A **North Rim** 44.99 302 *e*P P 16 41 52.4 +0.9
comp=Z,27nm,1.6s
JLU **Jordanelle** 45.14 308 *e*P P 16 41 52.9 +0.2
comp=Z,9.5nm,1.1s
MPU **Maple Canyon** 45.14 307 *e*P P 16 41 52.5 -0.2
comp=Z,7.9nm,0.9s
PKCU **Pink Cliffs** 45.16 304 *e*P P 16 41 53.8 +0.8
comp=Z,18nm,1.1s
MTPU **Mount Pierson** 45.17 305 *e*P P 16 41 51.8 -1.3
comp=Z,33nm,1.7s
FFC **Flin Flon** 45.20 330 *e*P P 16 41 52.4 -0.2
comp=Z,18nm,1.2s
FFC **Flin Flon** 45.20 330 *i*P P 16 41 53.1 +0.5
MSU **Marysvale** 45.25 305 *e*P P 16 41 53.8 +0.2
MSU **Marysvale** 45.25 305 *e*P P 16 41 53.8 +0.2
Y14A **Wickenburg** 45.25 299 *e*P P 16 41 53.9 +0.4
comp=Z,24nm,1.2s
LOHW **Long Hollow** 45.32 313 *e*P P 16 41 54.3 +0.3
comp=Z,29nm,1.5s
GCMT **Greycliff** 45.38 316 *e*P P 16 41 55.0 +0.6
CTU **Camp Tracy** 45.38 308 *e*P P 16 41 55.1 +0.5
comp=Z,13nm,0.9s
SNOW **Snow King Moun** 45.38 312 *e*P P 16 41 55.3 +0.7
comp=Z,22nm,1.2s
REDW **Red Top Meadow** 45.42 312 *e*P P 16 41 55.4 +0.5
comp=Z,31nm,1.3s
AHID **Auburn Hatcher** 45.43 311 *e*P P 16 41 55.7 +0.8
comp=Z,46nm,1.5s
MOOW **Moose Ponds** 45.46 313 *e*P P 16 41 55.6 +0.5
comp=Z,8.9nm,1.1s
NLU **North Lily Min** 45.46 307 *e*P P 16 41 56.1 +0.9
comp=Z,11nm,1.2s
HWUT **Hardware Ranch** 45.46 310 *e*P P 16 41 55.5 +0.3
comp=Z,8.7nm,0.9s
LKWY **Lake** 45.47 314 *e*P P 16 41 56.2 +0.9
comp=Z,9.9nm,1.0s
TCRU **Three Creeks R** 45.48 305 *e*P P 16 41 55.6 +0.2
comp=Z,12nm,0.4s
KNB **Kanab** 45.50 303 *e*P P 16 41 54.2 -1.3
comp=Z,19nm,1.4s
KNB **Kanab** 45.50 303 *e*P P 16 41 54.2 -1.3
KNB pmax pmax
comp=Z,19nm,1.4s
FLWY **Flagg Ranch** 45.53 313 *e*P P 16 41 53.2 -2.4
comp=Z,34nm,1.6s
TPAW **Teton Pass** 45.53 312 *e*P P 16 41 56.0 +0.2
comp=Z,9.6nm,1.0s
H17A **Grant Village** 45.54 314 *e*P P 16 41 54.4 -1.3
comp=Z,28nm,1.9s
IMW **Indian Meadow** 45.64 313 *e*P P 16 41 55.9 -0.7
comp=Z,5.1nm,0.8s
YPP **Pitchstone Pla** 45.65 313 *e*P P 16 41 56.5 -0.3
comp=Z,6.8nm,1.2s
YNR **Norris Junctio** 45.70 314 *e*P P 16 41 56.7 -0.4
comp=Z,5.3nm,0.9s
YFT **Old Faithful** 45.73 314 *e*P P 16 41 56.7 -0.6
comp=Z,14nm,1.4s
113A **Mohawk Valley,** 45.79 297 *e*P P 16 41 56.8 -0.8
comp=Z,11nm,1.2s
SZCU **Shurtz Canyon** 45.80 304 *e*P P 16 41 58.8 +0.9
comp=Z,36nm,0.8s
LCMT **Little Creek M** 45.83 303 *e*P P 16 41 58.2 +0.1
comp=Z,12nm,1.6s
YMR **Madison River** 45.88 314 *e*P P 16 41 58.3 -0.2
comp=Z,18nm,1.2s
CCUT **Cedar City** 46.01 304 *e*P P 16 42 00.5 +0.9
comp=Z,16nm,1.3s
SPUT **South Promonto** 46.04 309 *e*P P 16 41 58.4 -1.2
comp=Z,14nm,1.0s
DUG **Dugway, Tooele** 46.06 307 *e*P P 16 42 00.2 +0.4
comp=Z,8.6nm,0.9s
DUG **Dugway, Tooele** 46.06 307 P P 16 42 01.7 +1.8
DUG pmax pmax
comp=Z,9.0nm,1.0s
DUG **Dugway, Tooele** 46.06 307 P P 16 42 01.4 +1.5
baz=102,SNR=5.3
YHB **Horse Butte** 46.06 314 *e*P P 16 42 02.3 +2.3
comp=Z,20nm,0.9s
CPUP **Villa Florida** 46.09 171 P P 16 41 57.8 -2.2
comp=Z,14nm,0.8s,baz=352,slow=8.3,SNR=29
CPUP LR LR 17 02 12.6
comp=Z,338nm,18.4s,baz=352,slow=37
CPUP **Villa Florida** 46.09 171 *e*P P 16 41 57.6 -2.3
comp=Z,33nm,1.3s
CPUP **Villa Florida** 46.09 171 *e*P P 16 41 57.6 -2.3
CPUP pmax pmax
comp=Z,33nm,1.3s
W13A **Hualapai Mount** 46.10 300 *e*P P 16 42 00.6 +0.2
comp=Z,14nm,1.3s
EGMT **Eagleton** 46.23 319 *e*P P 16 42 01.7 +0.7
comp=Z,19nm,1.0s
EGMT **Eagleton** 46.23 319 P P 16 42 02.2 +1.2
baz=112
BGU **Big Grassy Mou** 46.38 308 *e*P P 16 42 02.9 +0.6
comp=Z,69nm,2.0s
HVU **Hansel Valley** 46.38 310 *e*P P 16 42 03.2 +0.8
comp=Z,10nm,0.9s
HVU **Hansel Valley** 46.38 310 *e*P P 16 42 03.2 +0.8
HVU pmax pmax
comp=Z,10.0nm,0.9s
Y12C **Blythe** 46.50 298 *e*P P 16 42 04.4 +1.2
comp=Z,28nm,1.5s
PSUT **Pine Spring** 46.55 305 *e*P P 16 42 03.1 -0.7
comp=Z,36nm,1.6s
BOZ **Bozeman (W)** 46.62 315 *e*P P 16 42 04.2 0.0
comp=Z,22nm,1.4s
BOZ **Bozeman (W)** 46.62 315 *e*P P 16 42 04.2 0.0
BOZ pmax pmax
comp=Z,22nm,1.4s
BOZ **Bozeman (W)** 46.62 315 P P 16 42 05.7 +1.6
baz=108,SNR=9.0
GLA **Glamis** 46.70 297 *e*P P 16 42 04.6 -0.2
comp=Z,12nm,0.9s
GLA **Glamis** 46.70 297 *e*P P 16 42 04.6 -0.2
GLA pmax pmax
comp=Z,12nm,0.9s
IRM **Iron Mountain** 47.04 299 P P 16 42 09.6 +2.1
baz=95,SNR=8.9
LDFC **Landfair** 47.09 300 *e*P P 16 42 10.5 +2.5
comp=Z,48nm,0.9s
HRY **Holter Researc** 47.10 316 *e*P P 16 42 08.5 +0.7
DLMT **Dillon** 47.20 314 *e*P P 16 42 09.5 +0.8
comp=Z,26nm,1.3s
LRM **Limekiln Ridge** 47.23 315 *e*P P 16 42 10.6 +1.5
BC3 **Big Chuckawall** 47.26 298 P P 16 42 10.8 +1.5
baz=94
SHPR **Sheep Range** 47.29 302 *e*P P 16 42 11.2 +1.6
comp=Z,32nm,1.6s
GMRC **Granite Mounta** 47.52 300 P P 16 42 12.9 +1.6
baz=95
TUQ **Turquoise Moun** 47.79 300 P P 16 42 15.4 +1.9
baz=95
R11A **Troy Canyon, C** 47.86 304 *e*P P 16 42 13.6 -0.4
comp=Z,33nm,1.6s
R11A **Troy Canyon, C** 47.86 304 P P 16 42 15.5 +1.4
baz=98,SNR=6.5
HLID **Hailey** 47.98 312 *e*P P 16 42 13.1 -1.7
comp=Z,22nm,1.4s
HLID **Hailey** 47.98 312 P P 16 42 16.4 +1.6
baz=104,SNR=6.8
ELK **Elko** 47.99 308 P P 16 42 16.5 +1.5
comp=Z,2.7nm,0.7s,baz=101,slow=7.3
ELK **Elko** 47.99 308 *e*P P 16 42 15.7 +0.7
comp=Z,9.0nm,1.1s
ELK **Elko** 47.99 308 *e*P P 16 42 15.7 +0.7
ELK pmax pmax
comp=Z,9.0nm,1.1s
XPFO **Pion Flat** 48.09 298 *e*P P 16 42 16.4 +0.6
comp=Z,42nm,1.9s
TPNV **Topopah Spring** 48.21 302 *e*P P 16 42 17.7 +1.0
comp=Z,21nm,0.9s
TPNV **Topopah Spring** 48.21 302 P P 16 42 18.8 +2.1
baz=96
SFJD **Kangerlussuaq** 48.30 7 *e*P P 16 42 16.4 -0.3
comp=Z,76nm,1.9s
SFJD **Kangerlussuaq** 48.30 7 *e*P P 16 42 16.4 -0.3
SFJD pmax pmax
comp=Z,76nm,1.9s
GSC **Goldstone, Bar** 48.50 300 *e*P P 16 42 19.7 +0.8
comp=Z,8.2nm,0.9s
GSC **Goldstone, Bar** 48.50 300 P P 16 42 20.9 +2.0
baz=95
MSO **Missoula** 48.52 316 *e*P P 16 42 19.3 +0.4
comp=Z,25nm,1.6s
CPE **Camp Elliot** 48.60 297 *e*P P 16 42 18.7 -0.9
comp=Z,75nm,1.7s
LCO **Las Campanas** 48.61 187 *e*P P 16 42 18.3 -1.5
comp=Z,24nm,1.2s
LCO **Las Campanas** 48.61 187 *e*P P 16 42 18.3 -1.5
LCO pmax pmax
comp=Z,24nm,1.2s
GRAC **Grapevine Rang** 49.10 302 P P 16 42 24.5 +1.1
baz=96
WALA **Waterton Lakes** 49.18 319 *e*P P 16 42 23.2 -0.7
comp=Z,22nm,1.5s
DAC **Darwin (Calif)** 49.22 301 *e*P P 16 42 26.1 +1.6
comp=Z,17nm,1.1s
DAC **Darwin (Calif)** 49.22 301 *e*P P 16 42 26.1 +1.6
DAC pmax pmax
comp=Z,17nm,1.1s
EDW2 **Edwards Air Fo** 49.44 300 P P 16 42 27.5 +1.4
baz=94
PASC **Pasadena Art C** 49.56 299 *e*P P 16 42 28.8 +1.8
comp=Z,99nm,1.9s
NV11 **Mina Array Sit** 49.88 304 *e*P P 16 42 30.4 +1.0
comp=Z,1.4nm,0.9s
ISA **Isabella, Lake** 49.88 301 *e*P P 16 42 28.2 -1.2
comp=Z,22nm,1.4s
ISA **Isabella, Lake** 49.88 301 *e*P P 16 42 28.3 -1.2
ISA pmax pmax
comp=Z,22nm,1.4s
KVN **Kaiserville** 49.91 305 *e*P P 16 42 30.2 +0.5
comp=Z,11nm,1.3s
KVN **Kaiserville** 49.91 305 *e*P P 16 42 30.2 +0.5
KVN pmax pmax
comp=Z,11nm,1.3s
NV01 **Mina Array Sit** 49.99 304 *e*P P 16 42 31.6 +1.2
NVAR **Mina Array Bea** 49.99 304 P P 16 42 31.9 +1.5
comp=Z,2.8nm,0.6s,baz=96,slow=7.4,SNR=16
RYN **Ryan** 50.19 304 *e*P P 16 42 30.3 -1.5
comp=Z,34nm,1.7s
BMO **Blue Mountains** 50.29 313 *e*P P 16 42 31.7 -0.7
comp=Z,4.0nm,0.8s
BMO **Blue Mountains** 50.29 313 *e*P P 16 42 31.7 -0.7
BMO pmax pmax
comp=Z,4.0nm,0.8s
ILULI **Ilulissat** 50.38 6 *e*P P 16 42 32.2 -0.3
comp=Z,47nm,1.4s
ILULI **Ilulissat** 50.38 6 *e*P P 16 42 32.2 -0.3
ILULI pmax pmax
comp=Z,47nm,1.4s
F10A **Beach Ranch, E** 50.49 314 *e*P P 16 42 33.9 0.0
comp=Z,8.1nm,1.0s
SNCC **San Nicolas Is** 50.64 297 *e*P P 16 42 34.2 -0.9
comp=Z,120nm,1.0s
YERR **Yerington** 50.78 305 *e*P P 16 42 35.0 -1.3
comp=Z,12nm,1.2s
J08A **Circle Bar Ran** 50.83 310 *e*P P 16 42 36.0 -0.5
comp=Z,15nm,0.9s
WAKR **Walker** 50.88 304 *e*P P 16 42 37.9 +0.7
comp=Z,26nm,1.4s
PAHR **Pah Rah Range** 50.97 306 *e*P P 16 42 36.5 -1.3
comp=Z,12nm,1.4s
NEW **Newport** 50.98 317 P P 16 42 38.4 +0.9
comp=Z,10nm,0.6s,baz=113,slow=7.7
NEW **Newport** 50.98 317 *e*P P 16 42 37.6 +0.1
comp=Z,20nm,0.9s
NEW **Newport** 50.98 317 *e*P P 16 42 37.6 +0.1
NEW pmax pmax
comp=Z,20nm,0.9s
NEW **Newport** 50.98 317 P P 16 42 38.2 +0.6
baz=105,SNR=11
E09A **Wood Farm, Sta** 51.23 314 *e*P P 16 42 39.3 -0.1
comp=Z,15nm,1.4s
PAGB **Antelope Grade** 51.33 301 *e*P P 16 42 41.4 +1.1
comp=Z,95nm,1.9s
MORF **Marmelete** 51.48 57 *e*P P 16 42 44.1 +2.6
comp=Z,41nm,1.5s
G08A **Pilot Rock** 51.53 313 *e*P P 16 42 41.7 0.0
comp=Z,28nm,1.8s
C09A **Chrisman Ranch** 51.62 316 *e*P P 16 42 42.1 -0.1
comp=Z,17nm,1.4s
I07A **Izee** 51.69 311 *e*P P 16 42 42.5 -0.5
comp=Z,20nm,1.6s
BEKR **Beckworth** 51.73 306 *e*P P 16 42 42.9 -0.6
comp=Z,33nm,1.7s
E08A **Dider Farm, El** 51.84 314 *e*P P 16 42 43.4 -0.5
comp=Z,27nm,1.8s
MESJ **Messejana** 51.87 57 *e*P P 16 42 47.0 +2.8
comp=Z,29nm,1.3s
PBDV **Barranco-do-Ve** 52.05 58 *e*P P 16 42 48.6 +2.9
comp=Z,45nm,1.6s
EVO **Evora** 52.08 56 *e*P P 16 42 49.9 +4.1
comp=Z,32nm,1.8s
AFDM **Forest Hills D** 52.12 305 *e*P P 16 42 45.7 -0.5
comp=Z,16nm,1.4s
HAWA **Hanford** 52.14 314 *e*P P 16 42 45.6 -0.6
comp=Z,13nm,1.3s
PBEJ **Beja** 52.16 57 *e*P P 16 42 49.7 +3.3
comp=Z,31nm,1.7s
PVAQ **Vaqueiros** 52.23 57 *e*P P 16 42 48.7 +1.7
comp=Z,34nm,2.1s
PVAQ **Vaqueiros** 52.23 57 *e*LR LR 16 57 34.7
comp=Z,592nm,22.0s
PGAV **Gavieira, Arco** 52.24 52 *e*LR LR 16 57 57.5
comp=Z,470nm,16.0s
E07A **Sunnyside** 52.40 314 *e*P P 16 42 47.9 -0.1
comp=Z,56nm,2.0s
B08A **Colville Reser** 52.44 317 *e*P P 16 42 47.6 -0.8
comp=Z,23nm,1.4s
ORV **Oroville** 52.58 305 *e*P P 16 42 50.0 +0.5
comp=Z,35nm,1.7s
ORV **Oroville** 52.58 305 *e*P P 16 42 50.1 +0.5
ORV pmax pmax
comp=Z,35nm,1.7s
MTE **Manteigas** 52.61 54 *e*P P 16 42 51.5 +1.7
comp=Z,51nm,1.6s
MTE **Manteigas** 52.61 54 *e*LR LR 16 58 18.4
comp=Z,689nm,20.0s
MTE **Manteigas** 52.61 54 *e*P P 16 42 50.2 +0.4
comp=Z,82nm,1.8s
PMRV **Marv??o** 52.64 55 *e*P P 16 42 56.7 +6.7
comp=Z,34nm,1.6s
PMRV **Marv??o** 52.64 55 *e*LR LR 16 58 13.4
comp=Z,348nm,22.0s
PINE **Pine Mountain** 52.67 311 *e*P P 16 42 50.2 -0.2
comp=Z,38nm,1.7s
G06A **Carlson Farm,** 52.68 312 *e*P P 16 42 50.5 +0.3
comp=Z,42nm,1.7s
J05D **Fort Rock, OR** 52.80 310 P P 16 42 52.3 +1.0
baz=98
MVO **Moncorvo** 53.07 53 *e*LR LR 16 58 18.8
comp=Z,492nm,22.0s
L04D **Klamath Falls** 53.45 309 P P 16 42 56.8 +0.7
baz=96
WDC **Whiskeytown Da** 53.47 306 *e*P P 16 42 55.0 -1.1
comp=Z,27nm,1.5s
WDC **Whiskeytown Da** 53.47 306 *e*P P 16 42 55.0 -1.1
WDC pmax pmax
comp=Z,27nm,1.5s
HUMO **Hull Mountain** 53.98 309 *e*P P 16 42 59.9 +0.1
comp=Z,64nm,1.9s
KMRM **Mail Ridge** 54.33 306 *e*P P 16 43 03.1 +0.6
comp=Z,163nm,1.8s
YKA **Yellowknife Ar** 54.91 334 P P 16 43 06.2 +0.1
comp=Z,15nm,0.8s,baz=108,slow=7.4,SNR=110
YKB5 **Yellowknife Ar** 54.91 334 *e*P P 16 43 06.2 +0.1
SUMG **Summit** 55.12 9 *e*P P 16 43 09.8 +1.8
comp=Z,46nm,1.2s
SUMG **Summit** 55.12 9 *i*P P 16 43 09.7 +1.7
comp=Z,115nm,1.2s
SUMG **Summit** 55.12 9 *i*P P 16 43 09.7 +1.7
SUMG pmax pmax
comp=Z,120nm,1.2s
ESDC **Sonseca Array** 55.30 55 P P 16 43 10.7 +1.3
comp=Z,6.2nm,1.0s,baz=268,slow=7.2,SNR=15
ESDC LR LR 17 01 13.7
comp=Z,214nm,21.0s,baz=250,slow=30
H10N3 **ASCENSION HYDR** 56.23 114 T T 17 43 56.6
baz=300,slow=75,SNR=4.4
H10N2 **ASCENSION HYDR** 56.23 114 T T 17 43 54.8
baz=300,slow=75,SNR=5.0
H10N1 **ASCENSION HYDR** 56.25 114 T T 17 43 54.7
baz=300,slow=75,SNR=7.0
H10S3 **ASCENSION HYDR** 56.64 115 T T 17 44 26.4
baz=300,slow=75,SNR=11
H10S1 **ASCENSION HYDR** 56.65 115 T T 17 44 26.9
baz=300,slow=75,SNR=12
H10S2 **ASCENSION HYDR** 56.66 115 T T 17 44 27.7
baz=300,slow=75,SNR=11
SCO **Scoresbysund** 56.89 16 *e*P P 16 43 18.2 -1.9
comp=Z,50nm,2.0s
SCO **Scoresbysund** 56.89 16 *i*P P 16 43 30.4 +10
SCO **Scoresbysund** 56.89 16 *e*P P 16 43 18.3 -1.9
SCO pmax pmax
comp=Z,50nm,2.0s
TRQA **Tornquist** 57.31 178 *e*P P 16 43 24.0 +0.4
comp=Z,31nm,1.8s
TRQA **Tornquist** 57.31 178 *e*P P 16 43 24.0 +0.4
TRQA pmax pmax
comp=Z,31nm,1.8s
RES **Resolute Bay** 57.57 351 *e*P P 16 43 24.3 -0.7
comp=Z,37nm,0.1s
RES **Resolute Bay** 57.57 351 *e*P P 16 43 24.3 -0.7
RES pmax pmax
comp=Z,37nm,0.1s
ESK **Eskdalemuir** 57.89 36 *e*P P 16 43 27.4 -0.2
comp=Z,116nm,1.8s
ESK **Eskdalemuir** 57.89 36 *e*P P 16 43 27.4 -0.2
ESK pmax pmax
comp=Z,116nm,1.8s
TIC **Toumodi** 59.06 94 *e*P P 16 43 37.2 +0.8
LIC **Lamto** 59.18 94 *e*P P 16 43 37.8 +0.6
comp=Z,60nm,1.3s
DBIC **Dimbokro** 59.20 94 P P 16 43 38.3 +0.9
comp=Z,10nm,0.8s,baz=276,slow=7.3,SNR=15
DBIC LR LR 17 04 03.7
comp=Z,305nm,21.4s,baz=266,slow=31
DBIC **Dimbokro** 59.20 94 *e*P P 16 43 38.2 +0.9
comp=Z,117nm,1.9s
DBIC **Dimbokro** 59.20 94 *e*P P 16 43 38.2 +0.9
DBIC pmax pmax
comp=Z,117nm,1.9s
KIC **Kosan Boka** 59.41 94 *e*P P 16 43 39.6 +0.8
comp=Z,26nm,0.9s
PLCA **Paso Flores** 60.20 185 P P 16 43 43.2 -0.5
comp=Z,3.2nm,0.7s,baz=37,slow=9.4,SNR=9.1
PLCA LR LR 17 10 52.5
comp=Z,205nm,19.2s,baz=52,slow=37
PLCA **Paso Flores** 60.20 185 *e*P P 16 43 42.7 -1.0
comp=Z,25nm,1.4s
PLCA **Paso Flores** 60.20 185 *e*P P 16 43 42.7 -1.0
PLCA pmax pmax
comp=Z,25nm,1.4s
CLF **Chambon-Foret** 60.26 45 *e*P P 16 43 45.2 +1.1
comp=Z,100nm,1.4s
DLBC **Dease Lake** 60.80 327 *e*P P 16 43 48.6 +0.8
comp=Z,20nm,1.0s
DAG **Danmarks Havn** 61.68 11 *i*P P 16 43 53.9 +0.6
comp=Z,28nm,1.2s
DAG **Danmarks Havn** 61.68 11 *i*P P 16 43 53.9 +0.6
DAG pmax pmax
comp=Z,45nm,1.2s
WLF **Walferdange** 62.90 44 *e*P P 16 44 03.2 +1.3
comp=Z,356nm,1.9s
WLF **Walferdange** 62.90 44 *e*P P 16 44 03.2 +1.3
WLF pmax pmax
comp=Z,356nm,1.9s
WLF **Walferdange** 62.90 44 ||P P 16 44 06.7 +4.8
JIS **Juneau Island** 63.05 326 *e*P P 16 44 03.0 +0.3
comp=Z,29nm,1.3s
BNI **Bardonecchia** 63.26 49 *e*P P 16 44 04.9 +0.3
BNI **Bardonecchia** 63.26 49 *e*P P 16 44 04.9 +0.3
TOA1 **Torodi Ar. Sit** 63.50 85 *e*P P 16 44 06.4 -0.1
TORD **Torodi Ar. Bea** 63.51 85 P P 16 44 06.4 -0.1
comp=Z,7.4nm,0.9s,baz=320,slow=14,SNR=36
TORD LR LR 17 08 33.9
comp=Z,399nm,19.2s,baz=295,slow=33
RPN **Rapa Nui** 63.55 225 LR LR 17 08 05.1

comp=Z,100nm,18.8s,baz=30,slow=33
WHY Whitehorse 63.59 329 *e*P P 16 44 06.3 -0.1
comp=Z,9.7nm,1.1s
SENIN Lac Senin/Sane 63.66 47 *e*P P 16 44 05.8 -1.6
comp=Z,44nm,1.9s
SKAG Skagway 63.67 327 *e*P P 16 44 06.7 -0.2
comp=Z,39nm,1.7s
INK Inuvik 64.30 337 *e*P P 16 44 11.0 +0.2
comp=Z,32nm,1.1s
INK Inuvik 64.30 337 *e*P P 16 44 11.0 +0.2
INK pmax pmax
comp=Z,32nm,1.1s
TNS Taunus Mts 64.39 43 P P 16 44 13.0 +1.2
TNS pmax pmax
comp=Z,16nm,2.2s
TAM Tamanrasset 64.82 73 *e*P P 16 44 16.5 +1.2
comp=Z,6.3nm,1.1s
TAM Tamanrasset 64.82 73 *e*P P 16 44 16.5 +1.2
TAM pmax pmax
comp=Z,6.0nm,1.1s
TUE Stuetta 65.07 47 *e*P P 16 44 18.0 +1.4
comp=Z,59nm,2.0s
EPYK Eagle Plains 65.17 335 *e*P P 16 44 16.2 -0.4
comp=Z,89nm,2.0s
EPYK Eagle Plains 65.17 335 P P 16 44 17.0 +0.4
baz=98
KONO Kongsberg 65.33 33 *e*P P 16 44 17.1 -0.6
comp=Z,65nm,1.6s
KONO Kongsberg 65.33 33⇓*e*P P 16 44 19.7 +2.0
KONO pmax pmax
comp=Z,50nm,2.3s
DAVA Damuels 65.40 46 *e*P P 16 44 20.7 +2.1
comp=Z,9.4nm,1.1s
FUORN Ofenpass-Fuorn 65.70 47 *e*P P 16 44 21.1 +0.4
comp=Z,65nm,1.8s
RETA Reutte 65.99 46 *e*pP P 16 44 23.2 +0.9
comp=Z,11nm,1.0s
FETA Feichten 66.00 46 *e*P P 16 44 24.4 +2.0
comp=Z,11nm,1.2s
KEST Kesra 66.00 59 LR LR 17 08 04.9
comp=Z,249nm,21.7s,baz=286,slow=31
DAWY Dawson 66.03 332 *e*P P 16 44 23.2 +0.9
comp=Z,35nm,1.2s
PCA Pinnacle 66.20 328 *e*P P 16 44 24.2 +0.8
comp=Z,71nm,1.6s
NB2 NORSAR Subarra 66.21 31 P P 16 44 24.6 +1.2
comp=Z,46nm,1.7s,baz=269,slow=6.9
NB2 NORSAR Subarra 66.21 31 P P 16 44 24.6 +1.2
baz=269,slow=6.9
NB200 NORSAR Array S 66.21 31 *e*P P 16 44 25.2 +1.8
NOA NORSAR Array B 66.21 31 P P 16 44 25.2 +1.8
comp=Z,4.6nm,0.9s,baz=269,slow=6.6,SNR=12
NOA LR LR 17 12 12.0
comp=Z,391nm,18.1s,baz=270,slow=35
MOTA Moosalm 66.23 46 *e*P P 16 44 25.8 +1.8
comp=Z,5.0nm,0.9s
SQTA Sankt Quirin 66.31 46 *e*P P 16 44 26.3 +1.8
comp=Z,7.4nm,1.0s
WATA Walderalm 66.55 46 *e*P P 16 44 25.9 -0.1
comp=Z,1.3nm,0.5s
ABTA Abfaltersbach 67.23 47 *e*P P 16 44 31.7 +1.4
comp=Z,2.0nm,0.7s
CLL Collm 67.25 42 *e*P P 16 44 29.4 -0.8
comp=Z,13nm,1.2s
CLL Collm 67.25 42 *i* P P 16 44 31.5 +1.3
comp=Z,25nm,1.8s
CLL *i* 16 44 39.1
CLL *e*PPS PPS 16 53 54.0
CLL *e*SS SS 16 57 36.0 -7.8
CLL *e*SSS SSS 17 00 54.0
CLL Collm 67.25 42 *i* P P 16 44 31.5 +1.3
CLL *i* 16 44 39.1
CLL pmax pmax
comp=Z,83nm,1.8s
WET Wettzell 67.30 44 P P 16 44 31.9 +1.3
WET pmax pmax
comp=Z,9.0nm,2.4s
KHC Kasperske Hory 67.76 44 *e*P P 16 44 33.8 +0.3
comp=Z,6.0nm,1.6s
KHC Kasperske Hory 67.76 44 *e*P P 16 44 34.6 +1.1
KHC Kasperske Hory 67.76 44 *e*P P 16 44 34.6 +1.1
GERES GERESS Array B 67.87 44 P P 16 44 35.2 +0.9
comp=Z,1.3nm,0.7s,baz=240,slow=11,SNR=7.7
GERES LR LR 17 09 55.2
comp=Z,151nm,20.4s,baz=278,slow=32
BRG Berggiesshubel 67.87 42 *i* PKP P 16 44 34.7 +0.6
comp=Z,13nm,1.4s
BRG *e* 16 44 45.5
comp=Z,13nm,1.2s
BRG *e* 16 45 01.5
comp=Z,8.6nm,1.2s
BRG Berggiesshubel 67.87 42 *i* P P 16 44 34.7 +0.6
BRG *e* 16 44 45.5
BRG *e* 16 45 01.5
BRG pmax pmax
comp=Z,1.0nm,1.4s
BRG pmax pmax
comp=Z,13nm,1.2s
MYKA Terra Mystica 68.02 47 *e*P P 16 44 36.6 +1.3
comp=Z,4.6nm,0.9s
SCRK Sand Creek 68.05 332 *e*P P 16 44 36.5 +1.3
comp=Z,86nm,1.8s
DOT Dot Lake 68.08 332 *e*P P 16 44 36.0 +0.7
comp=Z,56nm,1.3s
PRU Pruhonice 68.32 43 *e*P P 16 44 39.2 +2.3
PRU Pruhonice 68.32 43 *e*P P 16 44 39.2 +2.3
MOA Molln 68.33 45 *e*P P 16 44 40.0 +2.9
comp=Z,3.3nm,0.7s
BMRM Bremner River 68.36 329 *e*P P 16 44 37.5 +0.4
comp=Z,153nm,1.9s
RIDG Independ'e Rid 68.43 332 *e*P P 16 44 37.2 -0.2
comp=Z,29nm,1.0s
HARP HAARP 68.59 330 *e*P P 16 44 39.6 +1.2
comp=Z,83nm,1.5s
FYU Fort Yukon 68.59 335 *e*P P 16 44 38.3 -0.1
comp=Z,15nm,1.1s
OBKA Obir 68.66 47 *e*P P 16 44 40.8 +1.5
comp=Z,18nm,1.3s
PRP Porcupine Dome 68.71 334 *e*P P 16 44 39.9 +0.6
comp=Z,37nm,1.2s
PAX Paxson 68.72 331 *e*P P 16 44 37.5 -1.9
comp=Z,31nm,1.6s
PAX Paxson 68.72 331 *e*P P 16 44 37.5 -1.9
PAX pmax pmax
comp=Z,31nm,1.6s
EYAK Cordova Ski Ar 68.93 328 *e*P P 16 44 38.6 -2.0
comp=Z,130nm,1.7s
SOKA Soboth 68.97 46 pP P 16 44 42.2 +1.0
comp=Z,5.8nm,1.2s
KLU Klutina 68.98 329 *e*P P 16 44 42.0 +1.1
comp=Z,32nm,1.4s
TREC Trest 68.99 44 P P 16 44 42.3 +1.1
TREC pmax pmax
comp=Z,4.0nm,2.2s
UPC Upice 69.21 42 *e*P P 16 44 44.8 +2.3
UPC Upice 69.21 42 *e*P P 16 44 44.8 +2.3
ARSA Arzberg 69.24 46 *e*P P 16 44 42.0 -0.7
comp=Z,6.5nm,1.3s
IL1 Eielson Array 69.30 333 *e*P P 16 44 42.7 -0.1
ILAR Eielson Array 69.30 333 P P 16 44 43.1 +0.3
comp=Z,6.9nm,0.7s,baz=99,slow=3.8,SNR=91
ILB Eielson Array 69.30 333 *e*P P 16 44 42.7 -0.1
HDA Harding Lake 69.34 333 *e*P P 16 44 42.5 -0.6
comp=Z,16nm,1.0s
HDA Harding Lake 69.34 333 P P 16 44 42.9 -0.2
baz=88
CONA Conrad Observa 69.39 45 *e*P P 16 44 45.5 +1.8
comp=Z,4.9nm,1.2s
DPC Dobruska-Polom 69.42 42 *e*P P 16 44 45.3 +1.4
DPC AMS AMS 17 15 40.0
comp=Z,600nm,21.9s
DPC Dobruska-Polom 69.42 42 *e*P P 16 44 45.3 +1.4
DPC MLR MLR
comp=Z,600nm,21.9s
POKR Poker Plat Res 69.52 333 P P 16 44 45.0 +0.8
baz=88,SNR=9.3
GLI Glacier Island 69.58 329 *e*P P 16 44 43.9 -0.6
comp=Z,157nm,2.0s
DHY Denali Highway 69.59 331 *e*P P 16 44 42.8 -1.9
comp=Z,17nm,1.2s
KRUC Moravsky 69.61 44 P P 16 44 43.8 -1.2
KRUC pmax pmax
comp=Z,9.0nm,2.3s
KRUC Moravsky 69.61 44 *e*P P 16 44 45.9 +0.9
COLA College 69.71 333 *e*P P 16 44 45.4 +0.2
comp=Z,168nm,0.2s
COLA College 69.71 333⇓*e*P P 16 44 46.0 +0.7
COLA pmax pmax
comp=Z,36nm,2.2s
VRAC Vranov 69.71 44 *e*P P 16 44 46.7 +1.1
WRH Wood River Hil 69.83 333 *e*P P 16 44 46.2 +0.1
comp=Z,16nm,1.1s
MDM Murphy Dome 69.87 333 *e*P P 16 44 46.1 -0.2
comp=Z,32nm,0.9s
RND Reindeer 70.23 332 *e*P P 16 44 49.3 +0.7
comp=Z,38nm,1.2s
RND Reindeer 70.23 332 P P 16 44 49.6 +0.9
RND pmax pmax
comp=Z,38nm,1.1s
MCK McKinley 70.25 332 *e*P P 16 44 47.8 -0.9
comp=Z,56nm,1.8s
MCK McKinley 70.25 332 *e*P P 16 44 47.8 -0.9
MCK pmax pmax
comp=Z,56nm,1.8s
MORC Moravsky Berou 70.27 43 *e*P P 16 44 49.8 +0.7
comp=Z,46nm,1.9s
MORC Moravsky Berou 70.27 43 *e*P P 16 44 49.8 +0.7
MORC pmax pmax
comp=Z,46nm,1.9s
MORC Moravsky Berou 70.27 43 *e*P P 16 44 50.6 +1.5
MODS Modra-Pìesok 70.28 45 *e*P P 16 44 50.6 +1.5
SMOL Smolenice 70.36 44 P P 16 44 51.3 +1.7
SMOL pmax pmax
comp=Z,17nm,0.9s
GHO Glory Hole Cre 70.39 330 *e*P P 16 44 48.7 -1.0
comp=Z,29nm,1.2s
CUC Castrocucco 70.45 53 *e*P P 16 44 49.2 -1.2
comp=Z,24nm,1.0s
JAVC Velka Javorina 70.47 44 *e*P P 16 44 52.5 +2.1
COLD Coldfoot 70.53 336 *e*P P 16 44 50.2 -0.1
comp=Z,30nm,1.7s
TRF Thorofare Moun 70.87 332 *e*P P 16 44 53.2 +0.5
comp=Z,39nm,1.1s
MLY Manley 70.93 333 *e*P P 16 44 52.6 -0.2
comp=Z,20nm,1.2s
EFI East Falkland 71.10 176 *e*P P 16 44 54.4 +0.6
comp=Z,82nm,1.2s
EFI East Falkland 71.10 176 *e*P P 16 44 54.4 +0.6
EFI pmax pmax
comp=Z,82nm,1.2s
BPAW Bear Paw Mtn. 71.12 332 *e*P P 16 44 53.6 -0.4
comp=Z,26nm,1.0s
VYHS Vyhne 71.29 44 *e*P P 16 44 57.2 +1.9
VYHS *e* 16 45 06.1
SUA Susitna One 71.29 330 *e*P P 16 44 55.3 +0.1
comp=Z,21nm,1.3s
TIP Timpagrande 71.31 54 *e*P P 16 44 54.8 -0.8
comp=Z,40nm,1.7s
MORH Mrgy, Hungar 71.50 47⇑*e*P P 16 44 56.1 -0.5
MORH ⇑*e*P P 16 44 56.1 -0.5
OJC Ojcow 71.65 42 *e*P P 16 44 57.8 +0.3
comp=Z,38nm,1.8s
OJC Ojcow 71.65 42 *e*P P 16 44 57.8 +0.3
OJC pmax pmax
comp=Z,38nm,1.8s
CAST Castle Rocks 71.68 332 *e*P P 16 44 55.4 -2.0
comp=Z,16nm,1.0s
ARA0 ARCESS Array S 71.89 22 *e*P P 16 45 00.1 +1.5
ARCES ARCESS Array B 71.89 22 P P 16 45 00.1 +1.5
comp=Z,9.5nm,0.9s,baz=290,slow=3.6,SNR=18
ARCES LR LR 17 15 24.5
comp=Z,6.2nm,18.1s,baz=260,slow=35
IM3 Indian Mountai 72.07 335 *e*P P 16 44 59.7 +0.1
PSZ Piszkesteto 72.08 45 *e*P P 16 45 00.3 +0.2
comp=Z,38nm,1.9s
PSZ Piszkesteto 72.08 45 *e*P P 16 45 00.3 +0.2
PSZ pmax pmax
comp=Z,38nm,1.9s
PSZ Piszkesteto 72.08 45 *e*P P 16 44 57.0 -3.1
NIE Niedzica 72.10 43 P P 16 45 02.2 +2.0
RSO Redoubt South 72.39 329 *e*P P 16 45 01.9 0.0
SGF Sodankyl 72.55 24 P P 16 45 04.4 +1.9
SGF pmax pmax
comp=Z,20nm,1.0s
OUL Oulu 72.66 26 P P 16 45 05.1 +2.0
OUL pmax pmax
comp=Z,24nm,2.7s
OHAK Old Harbor 73.18 325 *e*P P 16 45 05.7 -0.7
comp=Z,77nm,1.7s
FIA0 FINESS Array S 73.34 30 *e*P P 16 45 07.8 +0.6
FIA0 FINESS Array S 73.34 30 *e*P P 16 45 07.9 +0.6
FINES FINESS Array B 73.34 30 P P 16 45 07.8 +0.6
comp=Z,4.9nm,0.9s,baz=276,slow=3.0,SNR=9.7
FINES LR LR 17 15 13.9
comp=Z,235nm,18.4s,baz=230,slow=34
KWP Kalwaria Pacla 73.61 43 *e*P P 16 45 09.8 +0.7
comp=Z,326nm,1.5s
KWP Kalwaria Pacla 73.61 43 *e*P P 16 45 09.8 +0.7
BZS Buzias 73.65 47 P P 16 45 10.6 +1.2
BZS pmax pmax
comp=Z,12nm,2.1s
SVW2 Sparrevohn 73.65 330 *e*P P 16 45 08.3 -0.8
comp=Z,25nm,1.4s
MSF Maaselka 73.80 25 P P 16 45 12.4 +2.5
MSF pmax pmax
comp=Z,13nm,1.3s
VSU Vasula 74.22 33⇑*e*P P 16 45 15.6 +3.1
VSU pmax pmax
comp=Z,85nm,1.3s
FNA Florina 74.47 52 *e*P P 16 45 13.8 -0.5
comp=Z,15nm,1.0s
RDOG Red Dog Mine 75.18 337 *e*P P 16 45 17.6 -0.3
comp=Z,9.3nm,0.6s
VTS Vitosha 75.41 50 *e*P P 16 45 20.2 +0.3
comp=Z,22nm,1.8s
LIT Litokhoron 75.45 52 *e*P P 16 45 21.3 +1.3
comp=Z,14nm,1.2s
AGG Agios Georgios 75.58 53 *e*P P 16 45 22.7 +1.9
comp=Z,46nm,1.8s
BUR08 Bucovina Ar. S 75.64 44 *e*P P 16 45 21.6 +0.6
BUR04 Bucovina Ar. S 75.65 44 *e*P P 16 45 22.2 +1.1
ANM Nome 77.14 334 *e*P P 16 45 27.1 -2.0
comp=Z,11nm,1.3s
ANM Nome 77.14 334 *e*P P 16 45 27.1 -2.0
ANM pmax pmax
comp=Z,11nm,1.3s
KIEV Kiev 77.44 41⇑*e*P P 16 45 31.6 +0.6
KIEV pmax pmax
comp=Z,7.0nm,1.3s
AKASG Malin Array Be 77.44 41 P P 16 45 31.2 +0.1
comp=Z,0.2nm,0.3s,baz=284,slow=3.8,SNR=7.9
AKASG PP PP 16 48 24.0 -1.3
comp=Z,0.4nm,0.3s,baz=284,slow=7.6,SNR=2.9
AKASG LR LR 17 18 44.6
comp=Z,164nm,18.0s,baz=285,slow=35
AKBB Malin Array Si 77.44 41 *e*P P 16 45 31.2 +0.2
AKBB *e*PP PP 16 48 24.0 -1.3
AKBB Malin Array Si 77.44 41 *e*P P 16 45 31.2 +0.2
AKBB *e* 16 48 24.0
IDI Anoyia 78.50 57 *e*P P 16 45 36.9 -0.5
comp=Z,14nm,0.8s
TAOE Nuku Hiva Isla 79.62 257 *e*LR LR 17 10 33.2
comp=Z,282nm,23.5s
KLMR Klimovskoe 79.76 29 *e*P P 16 45 41.7 -1.8
KLMR pmax pmax
comp=Z,29nm,1.5s
KLMR Klimovskoe 79.76 29 *e*P P 16 45 41.8 -1.8
KLMR AMP 16 45 57.2
comp=Z,29nm,1.5s
GAMB Gambell 80.01 334 *e*P P 16 45 45.2 +0.4
comp=Z,15nm,1.2s
OBN Obninsk 80.34 35*ce*P P 16 45 47.6 +0.8
OBN *e* 16 45 51.3
OBN *e**PP **pwP** 16 45 58.9 +1.1
OBN S **S** 16 55 49.0 -3.0
OBN SS **SS** 17 01 09.0 +6.3
OBN pmax pmax
comp=Z,54nm,2.5s
OBN MLR MLR
comp=Z,125nm,17.0s
MOS Moscow 80.69 34 *e*P P 16 45 48.8 +0.1
MOS pmax pmax
comp=Z,31nm,0.8s
MOS MLR MLR
comp=Z,500nm,20.0s
PRGR Permogore 82.14 27 *e*P P 16 45 56.5 +0.2
PRGR pmax pmax
comp=Z,10.0nm,0.4s
LPSR Galich'ya Gora 82.55 37 *e*P P 16 45 59.5 +0.9
LPSR pmax pmax
comp=Z,10.0nm,1.0s
ANTO Ankara 83.11 50 *e*P P 16 46 02.4 +0.5
comp=Z,17nm,0.9s
ANTO Ankara 83.11 50 *e*P **P** **16 46 02.4 +0.5**
ANTO pmax pmax
comp=Z,17nm,0.9s
VSR Storozhevoye 83.22 38 *e*P P 16 46 01.7 -0.4
VSR pmax pmax
comp=Z,10.0nm,1.1s
BR101 Keskin Array S 83.77 50 *e*P P 16 46 07.2 +1.8
BRTR Keskin Array B 83.77 50 P P 16 46 07.2 +1.8
comp=Z,3.9nm,0.9s,baz=270,slow=4.1,SNR=17
BRTR LR LR 17 23 25.1
comp=Z,52nm,18.1s,baz=266,slow=36
BRTR Keskin Array B 83.77 50*ce*P P 16 46 06.5 +1.1
BRTR pmax pmax
comp=Z,4.0nm,0.9s
VRH Novokhopyorsk 84.70 37 *e*P P 16 46 10.6 +1.0
VRH pmax pmax
comp=Z,20nm,1.1s
BILL Bilibino 85.23 343 *e*P P 16 46 12.2 +0.2
comp=Z,78nm,2.0s
BILL Bilibino 85.23 343⇓*i*P P 16 46 12.8 +0.8
BILL pmax pmax
comp=Z,11nm,0.8s
KBZ Khabaz 88.60 44 P P 16 46 30.8 +1.9
comp=Z,3.4nm,0.9s,baz=298,slow=5.4,SNR=4.3
KBZ LR LR 17 22 40.2
comp=Z,72nm,21.2s,baz=310,slow=33
TIXI Tiksi 88.61 356⇓*e*P P 16 46 28.9 +0.5
TIXI pmax pmax
comp=Z,9.0nm,0.8s
NCK Nalchik 89.16 44⇓*e*P P 16 46 32.8 +1.2
NCK pmax pmax
comp=Z,8.0nm,0.4s
ARU Arti 90.56 28 P P 16 46 36.5 -1.3
ARU 16 50 10.8
ARU S **SKSac** 16 57 07.4 -1.4
ARU SS **SS** 17 03 33.1 +0.4
PPT2 Papeete2 91.30 252 *e*LR LR 17 16 05.6
comp=Z,240nm,24.0s
SEY Seymchan 92.86 344⇓*i*P P 16 46 49.9 +1.6
ABKAR Akbulak array 95.66 33 *e*P P 16 47 02.2 +0.7
MA2 Magadan 96.10 343⇓*e*P P 16 47 05.8 +2.6
MA2 pmax pmax
comp=Z,30nm,1.9s
SNAA Sanae 99.98 164⇑*e*P **Pdif** 16 47 21.1 +0.8
MK32 Makanchi Array 107.51 23 *e*PP **PP** 16 52 25.6 +4.3
MKAR Makanchi Array 107.51 23 PP **PP** 16 52 25.6 +4.3
comp=Z,0.8nm,1.0s,baz=351,slow=4.5,SNR=4.3
KSH Kashi 110.63 32 PKP **PKiKP** 16 52 05.7 -3.3
KSH sPKP 16 52 20.6
KSH PKS **PKSdf** 16 55 43.6 -2.1
WMQ Urumqi 112.01 21 *e*PKP **PKiKP** 16 52 09.8 -1.6
WMQ LR LR
comp=Z,400nm,21.5s
WMQ LR LR
comp=Z,390nm,25.7s
WMQ LR LR
comp=Z,390nm,25.7s
CN2 Changchun 116.34 352 *e*PKP **PKiKP** 16 52 17.4 -2.2
GTA Gaotai 119.58 14 *e*PKP **PKPdf** 16 52 26.1 0.0
GTA sPKP 16 52 40.3
HHC Hu-ho-hao-te 119.84 3 *e*PKP **PKPdf** 16 52 22.8 -3.7
LZH Lanzhou 123.61 11 *e*PKP **PKPdf** 16 52 32.4 -1.6
LZH sPKP 16 52 48.6
CD2 Chengdu 128.61 13 PKP **PKPdf** 16 52 42.5 -1.1
NJ2 Nanjing 128.63 356 *e*PKP **PKPdf** 16 52 42.6 -0.9
DZM Mont Dzumac 132.49 258 *e*LR LR 17 35 07.0
comp=Z,176nm,23.8s
CM31 Chiang Mai Arr 138.91 24 *e*PKPpre PKPpre 16 52 48.9
CM31 *e*PKPdf **PKPdf** 16 53 02.9 -0.2
CMAR Chiang Mai Arr 138.91 24 PKP **PKiKP** 16 53 04.3 -1.0
comp=Z,1.1nm,0.8s,baz=325,slow=2.1,SNR=8.5
CM01 Chiang Mai Arr 138.95 24 *e*PKPdf **PKPdf** 16 53 03.4 +0.3
ARMA Armidale 145.64 244 *e*PKPdf **PKPab** 16 53 16.0 +0.6
EIDS Eidsvold 146.68 253 *e*PKPdf **PKPbc** 16 53 18.4 +0.2
PMG Port Moresby 147.81 284 *e*PKPdf **PKPbc** 16 53 21.4 -0.3
PMG Port Moresby 147.81 284*c i*PKP2 **PKPbc** 16 53 21.9 +0.3
CTAO Charters Tower 151.09 264 *e*PKPdf **PKPdf** 16 53 23.7 -0.2
CTAO *e*PKPbc **PKiKP** 16 53 31.2 +0.9
CTAO Charters Tower 151.09 264 *e*PKIKP **PKPdf** 16 53 23.7 -0.2
CTAO *e* 16 53 31.2
GSI Gunungsitoli 152.84 42 *e*PKPdf **PKPdf** 16 53 27.4 +0.7
GSI *e*PKPbc **PKiKP** 16 53 34.4 +0.4
STKA Stephens Creek 153.54 237 PKPbc **PKiKP** 16 53 36.2 +1.2
comp=Z,4.2nm,0.8s,baz=70,slow=5.8,SNR=6.7
STKA Stephens Creek 153.54 237 *e*PKPbc **PKiKP** 16 53 35.9 +0.9
STKA Stephens Creek 153.54 237 *e*PKIKP **PKiKP** 16 53 35.9 +0.9
WB2 Warramunga Arr 162.26 265 *e*PKPdf **PKPdf** 16 53 38.2 0.0
WB2 *e*PKPab **PKPab** 16 54 25.5 +0.2
WR1 Warramunga Arr 162.27 265 *e*PKPdf **PKPdf** 16 53 38.3 +0.1
WR1 *e*PKPab **PKPab** 16 54 25.7 +0.3
WRA Warramunga Arr 162.27 265 PKP **PKPdf** 16 53 38.3 +0.1
comp=Z,4.0nm,0.8s,baz=57,slow=1.1,SNR=18
WRA PKPab **PKPab** 16 54 25.7 +0.3
comp=Z,4.9nm,0.8s,baz=81,slow=4.1,SNR=12
AS01 Alice Springs 162.36 253 *e*PKPdf **PKPdf** 16 53 38.2 0.0
AS01 *e*PKPab **PKPab** 16 54 25.8 0.0
AS31 Alice Springs 162.40 253 *e*PKPdf **PKPdf** 16 53 38.4 +0.1
AS31 *e*PKPab **PKPab** 16 54 25.9 0.0
ASAR Alice Springs 162.41 253 PKP **PKPdf** 16 53 38.9 +0.5
comp=Z,2.5nm,0.9s,baz=101,slow=1.1,SNR=17
ASAR PKPab **PKPab** 16 54 26.9 +1.0
comp=Z,4.0nm,0.8s,baz=107,slow=4.6,SNR=16

NEIC ***10*** *16:41:30.3±0.0, 19.47N×64.21W, h76km, MD3.2(RSPR), After RSPR.*

RSPR 10 16:41:30.3, 19.47N×64.21W, h76km±8km, MD3.2/5, 2C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.75**	**189**⇓	*e*P	Pn	16 41 45.5	-0.8
ABV	**Anegada**	**0.75**	**189**	*e*S	Sn	16 41 57.6	-0.4
ABVI	**Anegada Island**	**0.75**	**189**	*e*Pn	Pn	16 41 45.8	-0.5
ABVI				*e*Sn	Sn	16 41 56.0	-2.0
TBVI	**Tortola**	**1.12**	**200**⇑	*e*P	Pn	16 41 50.2	-0.4
STVI	**Saint Thomas**	**1.32**	**212**⇓	*e*P	Pn	16 41 52.4	-0.7
STVI	**Saint Thomas**	**1.32**	**212**	*e*S	Sn	16 42 09.5	-0.8
STVI	**Saint Thomas**	**1.32**	**212**	*e*Pn	Pn	16 41 51.7	-1.4
STVI				*e*Sn	Sn	16 42 09.5	-0.8
STVI				*e*Sn	Sn	16 42 10.2	-0.1
CUPR	**Culebra, Puert**	**1.54**	**221**⇓	*e*P	Pn	16 41 55.1	-0.9
CUPR	**Culebra, Puert**	**1.54**	**221**	*e*S	Sn	16 42 15.1	-0.3
CUPR	**Culebra, Puert**	**1.54**	**221**	*e*Pn	Pn	16 41 55.1	-0.9
CUPR				*e*Sn	Sn	16 42 14.2	-1.2
SMRT	**St. Maarten**	**1.78**	**142**	*e*Pn	Pn	16 41 54.4	-4.8
CDVI	**St. Croix**	**1.79**	**197**	*e*Pn	Pn	16 41 59.5	+0.2
MTP	**Monte Pirata**	**1.87**	**223**⇑	*e*P	Pn	16 41 59.9	-0.5
MTP	**Monte Pirata**	**1.87**	**223**	*e*S	Sn	16 42 22.7	-0.4
MTP	**Monte Pirata**	**1.87**	**223**	*e*Pn	Pn	16 41 59.7	-0.7
CBYP	**Canovanas**	**1.96**	**233**	*e*Pn	Pn	16 41 59.8	-1.9
HUMP	**Col San Antoni**	**2.04**	**230**	*e*Pn	Pn	16 42 01.9	-0.8
EMPR	**Esperanza - Ma**	**2.41**	**246**	*e*Pn	Pn	16 42 03.0	-4.5
OBIP	**Obispado Ponce**	**2.68**	**238**	*e*Pn	Pn	16 42 10.6	-0.7
CRPR	**Cabo Rojo, PR**	**3.11**	**243**	*e*Pn	Pn	16 42 16.1	-1.0
SDDR	**Presa de Saban**	**6.70**	**267**	*e*Pn	Pn	16 43 03.4	-2.8

BJI ***10*** *17:20:56.8, 52.79N×170.71W, h5km, mb5.0/52, mB5.1/33, Ms4.7/26, Ms7 4.5/27*

MOS ***10*** *17:21:00.0±0.9, 52.43N×170.66W, h25km, mb5.1/91, MS4.1/8, Error ellipse: s-maj=7.4km s-min=4.2km az=90.0*

ISCJB ***10*** *17:21:01.0±0.1, 52.42N±0.03×170.52W±0.02, h33km, mb4.8/321, MS4.2/41, Error ellipse: s-maj=4.0km s-min=1.8km az=178.0*

AEIC ***10*** *17:21:03.2, 52.32N×170.50W, h26km, ML4.5, MB4.8(NEIC)*

NEIC ***10*** *17:21:03.2±0.0, 52.32N×170.50W, h26km, mb4.8/219, ML4.5(AEIC), After AEIC.*

IDC ***10*** *17:21:03.2±2.1, 52.46N×170.65W, h38km±16km, mb4.5/40, mb1 4.6/42, mb1mx4.6/56, mbtmp4.7/42, ML4.1/2, MS4.1/34, Ms1 4.0/34, ms1mx3.9/55, Error ellipse: s-maj=12.8km s-min=9.3km az=164.0*

GCMT ***10*** *17:21:05.2±0.3, 52.23N±0.02×170.60W±0.03, h42km, MW5.0/79, Moment Tensor Solution. s54,c68; s79,c106; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r3.74±.17; $M_{\theta\theta}$-3.08±.12; $M_{\phi\phi}$-0.65±.12; $M_{r\theta}$1.46±.10; $M_{\theta\phi}$-1.20±.07; $M_{r\phi}$1.50±.09; Best double couple: M_o4.20800×10^{16} NP1:ϕ_s57.00000°, δ60.00000°, λ79.00000°. NP2: ϕ_s257.00000°, δ32.00000°, λ107.00000°. Principal axes:*

T 4.3580, Plg73.0000°, Azm300.0000°; N -0.2990, Plg9.0000°, Azm62.0000°; P -4.0580, Plg14.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 10 17:21:01.9±0.7**,52°.31N**±0°.05×**170°.51W**±0°.03**,h30**km±4km**, n876,**σ1s.**42**/932**,mb4.9**/330**,MS4.2**/41**,24C-21D,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIKH	Nikolski High	1.21	56	*e*Pn	Pn	17 21 23.1	+0.4
NIKH				S	Sn	17 21 38.3	+0.2
OKSP	Okmok Steeple	1.65	54	P	Pn	17 21 29.6	+0.9
OKER	Okmok East Rim	1.88	51	*e*Pn	Pn	17 21 34.0	+2.0
KOSE	Korovin Southe	2.17	272	*e*Pn	Pn	17 21 38.3	+2.3
KOKL	Mount Kliuchef	2.27	272	*e*Pn	Pb	17 21 40.4	-1.7
ATKA	Atka Island	2.27	269	*e*Pn	Pn	17 21 39.1	+1.8
ATKA				S	Sn	17 22 06.4	+2.2
MREP	Makushin Rep't	2.72	55	P	Pn	17 21 45.6	+2.0
MCIR	Makushin Cirqu	2.73	52	*e*Pn	Pn	17 21 46.6	+2.9
MSW	Makushin Switc	2.76	53	*e*Sn	Sn	17 22 19.7	+3.3
UNV	Unalaska Valle	2.87	56	*e*Pn	Pn	17 21 47.3	+1.9
UNV				S	Sn	17 22 22.7	+3.8
AKMO	Akutan Morgan	3.24	55	*e*Pn	Pn	17 21 53.0	+2.4
ZRO	Akutan Zero	3.26	55	*e*Pn	Pn	17 21 54.2	+3.3
AKLV	Akutan Long Va	3.31	54	*e*Pn	Pn	17 21 54.9	+3.3
AKGG	Akutan Green G	3.31	53	P	Pn	17 21 54.5	+2.9
AHB	Akutan Harbor	3.35	56	P	Pn	17 21 55.1	+3.0
GSIG	Igitkin Island	3.35	267	P	Pn	17 21 54.3	+2.1
AKUT	Akutan	3.38	55	*e*Pn	Pn	17 21 56.3	+3.7
GSTR	Great Sitkin T	3.42	269	*e*Pn	Pn	17 21 56.5	+3.3
AKSA	Akutan Strait	3.42	56	*e*Pn	Pn	17 21 56.4	+3.2
GSMY	Great Sitkin M	3.42	268	*e*Pn	Pn	17 21 56.0	+2.8
GSTD	Great Sitkin T	3.48	268	*e*Pn	Pn	17 21 56.2	+2.2
GSTD				*e*Sn	Sn	17 22 37.5	+3.4
GSSP	Great Sitkin S	3.49	269	P	Pn	17 21 56.5	+2.4
ETKA	Kagalaska Isla	3.67	265	*e*Pn	Pn	17 21 59.0	+2.5
ADK	Adak	3.83	266	*e*Pn	Pn	17 22 01.5	+2.7
ADK				*e*Sn	Sn	17 22 46.2	+3.4
ADK	Adak	3.83	266	*e*P	Pn	17 22 01.5	+2.7
ADK				*e*		17 22 46.2	
WESP	Westdahl Peak	4.10	55	*e*Pn	Pn	17 22 05.0	+2.6
KIWB	Kanaga Island	4.12	266	*e*Pn	Pn	17 22 05.5	+2.7
KIKV	Kanaga Island	4.13	267	*e*Pn	Pn	17 22 06.1	+3.2
KIMD	Kanaga Island	4.19	265	P	Pn	17 22 06.7	+3.0
TAPA	Tanaga Point A	4.53	267	*e*Pn	Pn	17 22 11.4	+2.9
TAFP	Tanaga Falls P	4.63	268	*e*Pn	Pn	17 22 13.1	+3.4
FALS	False Pass	4.94	56	*e*Pn	Pn	17 22 16.6	+2.7
SDPT	Sand Point	6.67	59	*e*Pn	Pn	17 22 40.6	+2.9
CHGN	Chignik	8.12	56	*e*Pn	Pn	17 22 59.0	+1.4
OHAK	Old Harbor	11.09	57	*e*Pn	Pn	17 23 36.8	-1.4
GAMB	Gambell	11.52	357	*e*Pn	Pn	17 23 47.3	+3.3
KDAK	Kodiak Island	11.63	55	Pn	Pn	17 23 43.8	-1.9
	1.1nm,0.3s,baz=204,slow=3.8,SNR=20						
KDAK				Sn	Sn	17 25 48.2	-6.1
	0.6nm,0.3s,baz=300,slow=20,SNR=2.2						
KDAK	Kodiak Island	11.63	55	*e*Pn	Pn	17 23 46.7	+1.1
KDAK				*e*Sn	Sn	17 25 48.2	-6.1
KDAK	Kodiak Island	11.63	55	*i* P	Pn	17 23 45.5	-0.2
SVW2	Sparrevohn	12.00	37	*e*Pn	Pn	17 23 53.7	+3.0
ANM	Nome	12.57	10	*e*Pn	Pn	17 24 00.7	+2.2
ANM	Nome	12.57	10	*e*P	Pn	17 24 00.7	+2.2
RSO	Redoubt South	12.75	43	*e*Pn	Pn	17 24 05.0	+3.9
SEW	Seward	14.03	48	*e*Pn	Pn	17 24 17.2	-1.1
SUA	Susitna One	14.11	42	*e*Pn	Pn	17 24 21.7	+2.1
PPLA	Purkeypile	14.39	35	*e*Pn	P	17 24 29.7	-0.4
CAST	Castle Rocks	14.76	34	*e*Pn	P	17 24 33.5	-0.5
GHO	Glory Hole Cre	15.02	42	*e*Pn	Pn	17 24 32.2	+0.4
	36nm,1.2s						
KNK	Knik Glacier	15.04	44	*e*Pn	Pn	17 24 31.2	-0.9
	150nm,2.0s						
SML	Sawmill	15.28	43	*e*Pn	Pn	17 24 35.1	-0.1
	84nm,1.5s						
SML	Sawmill	15.28	43	*e*P	Pn	17 24 35.1	-0.1
SML				pmax	pmax		
	comp=Z,84nm,1.5s						
TRF	Thorofare Moun	15.41	36	*e*Pn	P	17 24 42.0	+0.6
	comp=Z,237nm,1.8s						
BPAW	Bear Paw Mtn.	15.58	33	*e*Pn	Pn	17 24 41.6	+2.5
	comp=Z,60nm,1.1s						
SCM	Sheep Creek Mo	15.71	44	*e*Pn	Pn	17 24 39.9	-1.0
	comp=Z,32nm,0.7s						
SCM	Sheep Creek Mo	15.71	44	*e*P	Pn	17 24 39.9	-1.0
SCM				pmax	pmax		
	comp=Z,32nm,0.7s						
RND	Reindeer	15.91	37	*e*Pn	Pn	17 24 43.7	+0.3
	comp=Z,41nm,1.3s						
RND				*e*PcP	PcP	17 29 40.4	+0.5
RND	Reindeer	15.91	37	*e*P	Pn	17 24 43.7	+0.3
RND				pmax	pmax		
	comp=Z,41nm,1.3s						
MCK	McKinley	16.07	36	*e*Pn	Pn	17 24 46.4	+1.0
	comp=Z,43nm,1.2s						
MCK	McKinley	16.07	36	*e*P	Pn	17 24 46.4	+1.0
MCK				pmax	pmax		
	comp=Z,43nm,1.2s						
IM3	Indian Mountai	16.09	25	*e*Pn	P	17 24 50.1	+1.4
DIV	Divide	16.10	47	*e*Pn	Pn	17 24 43.2	-2.6
	comp=Z,47nm,1.4s						
KLU	Klutina	16.18	46	*e*Pn	Pn	17 24 44.8	-2.0
	comp=Z,32nm,1.0s						
MLY	Manley	16.27	31	*e*Pn	P	17 24 50.4	-0.4
	comp=Z,33nm,1.1s						
DHY	Denali Highway	16.30	40	*e*Pn	Pn	17 24 48.3	-0.1
	comp=Z,36nm,1.5s						
WRH	Wood River Hil	16.80	35	*e*Pn	Pn	17 24 54.1	-0.6
	comp=Z,27nm,1.0s						
HARP	HAARP	16.89	43	*e*Pn	Pn	17 24 55.3	-0.4
	comp=Z,63nm,1.3s						
PAX	Paxson	17.00	41	*e*Pn	Pn	17 24 56.0	-1.3
	comp=Z,18nm,1.0s						
PAX	Paxson	17.00	41	*e*P	Pn	17 24 56.0	-1.3
PAX				pmax	pmax		
	comp=Z,18nm,1.0s						
MDM	Murphy Dome	17.04	33	*e*Pn	Pn	17 24 54.3	-3.4
	comp=Z,24nm,1.0s						
COLA	College	17.12	34	*e*Pn	Pn	17 24 57.0	-1.6
	comp=Z,28nm,0.9s						
COLA	College	17.12	34⇑	*e*P	Pn	17 24 59.4	+0.8
HDA	Harding Lake	17.17	36	*e*Pn	Pn	17 24 58.1	-1.2
	comp=Z,16nm,0.8s						
ILAR	Eielson Array	17.40	35	P	Pn	17 25 00.6	-1.5
	comp=Z,0.3nm,0.3s,baz=233,slow=11,SNR=20						
ILAR				S	Sn	17 28 17.7	+3.1
	baz=210,slow=10,SNR=2.1						
ILAR				PcP	PcP	17 29 41.8	-0.3
	comp=Z,0.3nm,0.3s,baz=267,slow=3.1,SNR=18						
ILAR				LR	LR	17 31 40.9	
	comp=Z,617nm,19.3s,baz=240,slow=37						
ILB	Eielson Array	17.40	35	*e*Pn	Pn	17 25 00.6	-1.5
ILB				*e*Sn	Sn	17 28 17.7	+3.1
ILB				*e*PcP	PcP	17 29 41.8	-0.3
RIDG	Independ'e Rid	17.62	40	*e*Pn	Pn	17 25 04.5	-0.3
	comp=Z,66nm,1.5s						
DOT	Dot Lake	17.88	40	*e*Pn	Pn	17 25 08.1	0.0
	comp=Z,8.4nm,0.6s						
DOT				*e*PcP	PcP	17 29 44.3	+1.3
COLD	Coldfoot	17.97	26	*e*Pn	Pn	17 25 09.6	+0.5
	comp=Z,14nm,1.1s						
SCRK	Sand Creek	18.06	39	*e*Pn	Pn	17 25 09.8	-0.6
	comp=Z,12nm,0.8s						
PRP	Porcupine Dome	18.30	34	*e*P	Pn	17 25 12.8	-0.5
	comp=Z,17nm,1.1s						
PET	Petropavlovsk	18.65	284	*e*P	Pn	17 25 19.4	+1.9
PET				*e*S	S	17 28 47.1	-0.5
PET				pmax	pmax		
	comp=Z,200nm,11.8s						
FYU	Fort Yukon	19.00	32	*e*P	P	17 25 20.1	-0.7
	comp=Z,57nm,1.2s						
PEA1	Petropavlovsk-	19.20	285	*e*P	P	17 25 23.9	+0.8
PEA1				*e*PcP	PcP	17 29 45.2	-0.2
PEA0B	Petropavlovsk-	19.20	285	*e*P	Pn	17 25 24.6	+0.4
	comp=Z,37nm,0.8s						
PETK	Petropavlovsk-	19.20	285	P	P	17 25 23.9	+0.8
	comp=Z,6.7nm,0.3s,baz=87,slow=15,SNR=162						
PETK				PcP	PcP	17 29 45.2	-0.2
	comp=Z,0.2nm,0.3s,baz=90,slow=4.3,SNR=4.6						
PETK				LR	LR	17 32 50.6	
	comp=Z,375nm,20.4s,baz=85,slow=37						
PETK	Petropavlovsk-	19.20	285	*e*P	Pn	17 25 24.5	+0.3
PETK				PcP	PcP	17 29 45.2	-0.2
BILL	Bilibino	19.33	333	*e*P	Pn	17 25 27.2	+1.6
	comp=Z,81nm,1.5s						
BILL	Bilibino	19.33	333⇓	*i*P	Pn	17 25 25.7	+0.1
BILL				pmax	pmax		
	comp=Z,40nm,1.7s						
BILL				MLR	MLR		
	comp=Z,1μm,23.0s						
DAWY	Dawson	19.94	42	*e*P	P	17 25 30.7	-0.4
	comp=Z,14nm,1.1s						
SKAG	Skagway	20.79	56	*e*P	P	17 25 41.0	+0.8
	comp=Z,52nm,0.7s						
WHY	Whitehorse	21.13	53	*e*P	P	17 25 47.7	+3.6
	comp=Z,26nm,0.9s						
EPYK	Eagle Plains	21.87	37	*e*P	P	17 25 50.6	-1.3
	comp=Z,119nm,1.7s						
EPYK				*e*S	S	17 29 51.8	+0.1
EPYK	Eagle Plains	21.87	37	P	P	17 25 50.7	-1.1
	baz=246						
SEY	Seymchan	22.20	313	P	P	17 25 55.5	+0.2
	comp=Z,11nm,0.7s,baz=70,slow=13,SNR=29						
SEY				PcP	PcP	17 29 50.9	+0.1
	comp=Z,5.1nm,0.7s,baz=122,slow=4.3,SNR=9.7						
SEY	Seymchan	22.20	313⇑	*e*P	P	17 25 56.1	+0.8
MA2	Magadan	22.59	304	P	P	17 26 01.3	+1.7
	comp=Z,28nm,0.7s,baz=84,slow=11,SNR=26						
MA2				PcP	PcP	17 29 51.8	+0.1
	comp=Z,3.5nm,0.5s,baz=37,slow=3.8,SNR=4.0						
MA2				LR	LR	17 34 00.3	
	comp=Z,386nm,21.1s,baz=90,slow=35						
MA2	Magadan	22.59	304	*e*P	P	17 26 01.5	+1.8
	comp=Z,32nm,0.8s						
MA2				*e*PcP	PcP	17 29 51.8	+0.1
MA2	Magadan	22.59	304	*de*P	P	17 26 01.2	+1.6
MA2				pmax	pmax		
	comp=Z,32nm,0.7s						
DLBC	Dease Lake	23.52	59	P	P	17 26 12.1	+2.9
	comp=Z,51nm,1.2s,baz=266,slow=6.9,SNR=23						
DLBC				PcP	PcP	17 29 54.4	+0.7
	comp=Z,4.4nm,0.9s,baz=195,slow=4.9,SNR=4.6						
DLBC	Dease Lake	23.52	59	*e*P	P	17 26 11.6	+2.5
	comp=Z,55nm,1.1s						
DLBC				PcP	PcP	17 29 54.4	+0.7
INK	Inuvik	23.78	34	P	P	17 26 09.6	-1.8
	comp=Z,5.1nm,0.4s,baz=237,slow=9.0,SNR=46						
INK				PcP	PcP	17 29 53.1	-0.9
	comp=Z,4.3nm,0.8s,baz=329,slow=1.4,SNR=5.0						
INK				S	S	17 30 29.1	+4.5
	comp=Z,0.5nm,0.5s,baz=18,slow=19,SNR=2.5						
INK				LR	LR	17 36 36.4	
	comp=Z,431nm,18.8s,baz=238,slow=39						
INK	Inuvik	23.78	34	*e*P	P	17 26 10.4	-1.0
	comp=Z,12nm,0.8s						
INK				PcP	PcP	17 29 53.1	-0.9
INK				S	S	17 30 29.1	+4.5
INK	Inuvik	23.78	34	*e*P	P	17 26 10.4	-1.0
INK						17 29 53.1	
INK				S	S	17 30 29.2	+4.5
INK				pmax	pmax		
	comp=Z,12nm,0.8s						
BBB	Bella Bella	25.69	73	P	P	17 26 29.6	+0.6
	comp=Z,25nm,1.0s,baz=261,slow=8.8,SNR=2.1						
BBB				LR	LR	17 34 51.1	
	comp=Z,191nm,19.2s,baz=270,slow=32						
NKL	Nikolayevsk	29.12	291	*e*P	P	17 27 00.5	+0.8
NKL				pmax	pmax		
	comp=Z,230nm,0.9s						
NKL				MLR	MLR		
	comp=E,700nm,16.0s						
NKL				MLR	MLR		
	comp=Z,700nm,16.0s						
YKA	Yellowknife Ar	30.81	49	P	P	17 27 14.8	+0.3
	comp=Z,1.0nm,0.4s,baz=274,slow=8.0,SNR=25						
YKA				PcP	PcP	17 30 11.3	+0.4
	comp=Z,2.2nm,0.8s,baz=290,slow=2.5,SNR=7.8						
YKA				ScP	ScP	17 33 49.2	-2.0
	comp=Z,0.5nm,0.7s,baz=280,slow=3.1,SNR=6.4						
YKA				PKiKP	PKiKP	17 37 39.8	-1.2
	comp=Z,0.3nm,0.8s,baz=256,slow=1.0,SNR=4.6						
YKA				LR	LR	17 39 49.8	
	comp=Z,51nm,21.1s,baz=274,slow=37						
YKB5	Yellowknife Ar	30.81	49	*e*P	P	17 27 13.8	-0.7
YKB5				*e*PcP	PcP	17 30 10.5	-0.4
YKB5				*e*ScP	ScP	17 33 49.2	-2.0
YKB5				*e*ScS	ScS	17 37 39.9	-7.7
YKB5				*e*		17 39 49.8	
I02D	Swisshome	31.68	86	P	P	17 27 22.0	-0.4
	baz=302						
B08A	Colville Reser	32.34	76	*e*P	P	17 27 29.9	+1.6
	comp=Z,12nm,1.0s						
TIXI	Tiksi	32.42	329⇑	*e*P	P	17 27 28.9	+0.3
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GRNR	Gornyy	32.43	289	*e*P	P	17 27 26.0	-3.0
GRNR				pmax	pmax		
	comp=Z,26nm,1.0s						
ERM	Erimo	32.62	270⇑	*e*P	P	17 27 31.2	+0.5
ERM				pmax	pmax		
	comp=Z,88nm,1.1s						
YAK	Yakutsk	32.68	311	*e*P	P	17 27 30.2	-0.8
YAK				pmax	pmax		
	comp=Z,28nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,12nm,1.0s						
I05D	Terrebonne, OR	33.09	84	P	P	17 27 35.8	+0.9
	baz=302						
HAWA	Hanford	33.15	80	*e*P	P	17 27 36.4	+1.2
	comp=E,13nm,0.7s						
F07A	Phinny Hill Vi	33.15	81	*e*P	P	17 27 35.4	+0.1
	comp=E,20nm,1.1s						
C09A	Chrisman Ranch	33.23	77	*e*P	P	17 27 36.7	+0.6
	comp=E,8.4nm,0.9s						
E08A	Dider Farm, El	33.38	79	*e*P	P	17 27 39.5	+2.2
	comp=E,32nm,1.7s						
NEW	Newport	33.70	75	*e*P	P	17 27 41.5	+1.3
	comp=E,12nm,0.8s						
NEW	Newport	33.70	75	*e*P	P	17 27 41.5	+1.3
NEW				pmax	pmax		
	comp=Z,12nm,0.8s						
NEW	Newport	33.70	75	P	P	17 27 41.4	+1.3
	baz=297,SNR=11						
E09A	Wood Farm, Sta	33.92	79	*e*P	P	17 27 43.5	+1.5
	comp=Z,20nm,1.3s						
G08A	Pilot Rock	34.05	81	*e*P	P	17 27 44.9	+1.6
	comp=Z,9.9nm,1.2s						
F10A	Beach Ranch, E	34.74	79	*e*P	P	17 27 50.9	+1.6
	comp=Z,30nm,1.8s						
O03E	Paynes Creek	35.08	90	P	P	17 27 53.6	+1.4
	baz=307						
WALA	Waterton Lakes	35.23	72	*e*P	P	17 27 54.9	+1.4
	comp=Z,25nm,1.4s						
BMO	Blue Mountains	35.27	81	*e*P	P	17 27 56.4	+2.5
	comp=Z,11nm,1.4s						
BMO	Blue Mountains	35.27	81	*e*P	P	17 27 56.4	+2.5
BMO				pmax	pmax		
	comp=Z,11nm,1.4s						
J08A	Circle Bar Ran	35.37	83	*e*P	P	17 27 56.8	+2.2
	comp=Z,19nm,1.1s						
WVOR	Wild Horse Val	35.78	85	*e*P	P	17 28 01.0	+2.8
	comp=Z,16nm,1.1s						
WVOR	Wild Horse Val	35.78	85	*e*P	P	17 28 01.0	+2.8
WVOR				pmax	pmax		
	comp=Z,16nm,1.1s						
KLR	Kul'dur	35.81	289	*ce*P	P	17 27 57.1	-1.2
MSO	Missoula	36.28	76	*e*P	P	17 28 03.8	+1.3
	comp=Z,10nm,1.0s						
MSO	Missoula	36.28	76	P	P	17 28 03.2	+0.7
	baz=300,SNR=7.3						
ZEA	Zeya	36.41	298	*e*P	P	17 28 02.0	-1.3
ZEA				pmax	pmax		
	comp=Z,23nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,600nm,16.0s						
ZEA				MLR	MLR		
	comp=N,400nm,16.0s						
PAHR	Pah Rah Range	36.92	89	*e*P	P	17 28 09.0	+1.0
	comp=N,9.9nm,1.2s						
H11N2	WAKE ISLAND Hy	36.98	217	T	T	18 07 20.9	
	baz=22,slow=75,SNR=267						
H11N3	WAKE ISLAND Hy	36.99	217	T	T	18 07 24.8	
	baz=22,slow=75,SNR=360						
H11N1	WAKE ISLAND Hy	37.00	217	T	T	18 07 22.2	
	baz=22,slow=75,SNR=341						
YERR	Yerington	37.44	90	*e*P	P	17 28 14.1	+1.6
	comp=N,11nm,1.2s						
HRY	Holter Researc	37.59	74	*e*P	P	17 28 13.9	+0.3
WAKR	Walker	37.62	91	*e*P	P	17 28 16.0	+2.0
	comp=N,14nm,1.3s						
HLID	Hailey	37.72	80	*e*P	P	17 28 15.7	+0.9
	comp=N,9.4nm,1.2s						
HLID	Hailey	37.72	80	P	P	17 28 16.0	+1.2
	baz=304,SNR=9.6						
DLMT	Dillon	37.84	77	*e*P	P	17 28 17.5	+1.7
	comp=N,14nm,1.4s						
DLMT				*e*PcP	PcP	17 30 33.5	+1.8
KVN	Kaiserville	38.10	89	*e*P	P	17 28 20.7	+2.6
	comp=N,9.5nm,1.4s						
EGMT	Eagleton	38.15	71	*e*P	P	17 28 19.5	+1.2
	comp=N,26nm,0.8s						
EGMT				*e*PcP	PcP	17 30 34.0	+1.5
EGMT	Eagleton	38.15	71	P	P	17 28 19.2	+0.9
	baz=300,SNR=7.5						
H11S1	WAKE ISLAND Hy	38.17	216	T	T	18 09 15.4	
	baz=22,slow=76,SNR=2696						
H11S2	WAKE ISLAND Hy	38.19	216	T	T	18 09 16.5	
	baz=22,slow=76,SNR=3649						
H11S3	WAKE ISLAND Hy	38.19	217	T	T	18 09 15.4	
	baz=22,slow=76,SNR=728						
USRK	Ussuriysk Ar.	38.22	281	P	P	17 28 17.1	-1.6
	comp=N,3.8nm,0.7s,baz=55,slow=8.7,SNR=8.7						
USRK				PcP	PcP	17 30 32.9	+0.3
	comp=N,6.9nm,0.7s,baz=92,slow=1.7,SNR=15						
USRK				LR	LR	17 42 36.2	
	comp=N,206nm,21.8s,baz=35,slow=34						
BOZ	Bozeman (W)	38.29	76	*e*P	P	17 28 20.7	+1.1
	comp=N,8.1nm,0.8s						
BOZ	Bozeman (W)	38.29	76	*e*P	P	17 28 20.7	+1.1
BOZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BOZ	Bozeman (W)	38.29	76	P	P	17 28 20.4	+0.8
	baz=302,SNR=13						
NV01	Mina Array Sit	38.36	90	*e*P	P	17 28 22.1	+1.7
NV01				*e*PcP	PcP	17 30 35.1	+1.7
NV01				*e*S	S	17 34 17.9	+4.9
NVAR	Mina Array Bea	38.36	90	P	P	17 28 22.1	+1.7
	comp=Z,6.6nm,0.9s,baz=297,slow=8.6,SNR=15						
NVAR				PcP	PcP	17 30 35.1	+1.7
	comp=Z,1.2nm,0.7s,baz=319,slow=3.6,SNR=2.5						
NVAR				ScP	S	17 34 17.9	+4.9
	comp=Z,1.0nm,0.6s,baz=255,slow=5.8,SNR=3.8						
OMMB	Old Mammoth Mi	38.45	92	*e*P	P	17 28 21.7	+0.5
	comp=Z,9.7nm,1.2s						
ELK	Elko	38.84	85	*e*P	P	17 28 25.8	+1.5
	comp=Z,4.4nm,0.6s						
VLA	Vladivostok	38.88	280⇑	*e*P	P	17 28 24.6	+0.3
VLA				pmax	pmax		
	comp=Z,20nm,0.9s						
MJAR	Matsushiro Arr	38.99	267	P	P	17 28 25.5	+0.1
	comp=Z,5.9nm,0.6s,baz=30,slow=6.7,SNR=13						
MJAR				PcP	PcP	17 30 34.8	-0.5
	comp=Z,7.2nm,0.9s,baz=195,slow=0.3,SNR=9.4						
MJAR				LR	LR	17 42 35.9	
	comp=Z,276nm,21.5s,baz=65,slow=33						
MAJO	Matsushiro	38.99	267	*e*P	P	17 28 25.8	+0.4
	comp=Z,34nm,0.8s						
MAJO				*e*PcP	PcP	17 30 34.8	-0.5
MAJO	Matsushiro	38.99	267⇓	*e*P	P	17 28 26.1	+0.7
MAJO				pmax	pmax		
	comp=Z,33nm,0.7s						
MAT	Matsushiro	38.99	267	P	P	17 28 25.3	-0.1
MAT				*e*S	S	17 34 11.4	-11
MJB9	Matsu-Tunnel	38.99	267	*e*P	P	17 28 25.3	-0.1
	comp=Z,35nm,0.8s						
YHB	Horse Butte	39.01	77	*e*P	P	17 28 26.7	+1.0
	comp=Z,14nm,1.0s						
YMR	Madison River	39.19	77	*e*P	P	17 28 27.8	+0.6
	comp=Z,15nm,0.9s						
YMR				*e*PcP	PcP	17 30 37.3	+1.3
YNR	Norris Junctio	39.33	77	*e*P	P	17 28 30.6	+2.2
	comp=Z,23nm,1.1s						
FFC	Flin Flon	39.35	58	*e*P	P	17 28 28.5	+0.4
	comp=Z,6.5nm,0.9s						
FFC	Flin Flon	39.35	58	*i* P	P	17 28 29.4	+1.3
GCMT	Greycliff	39.35	74	*e*P	P	17 28 30.0	+1.6
GCMT				*e*PcP	PcP	17 30 37.3	+0.9
YFT	Old Faithful	39.38	77	*e*P	P	17 28 32.1	+3.3
	comp=Z,8.6nm,1.0s						
YFT				*e*PcP	PcP	17 30 38.7	+2.1
H17A	Grant Village	39.57	77	*e*P	P	17 28 33.2	+2.8
	comp=Z,21nm,1.3s						
H17A				*e*PcP	PcP	17 30 39.0	+1.8
H17A	Grant Village	39.57	77	P	P	17 28 33.0	+2.6
	baz=304,SNR=9.6						
MSHR	Mys Shultsa	39.63	280⇓	*e*P	P	17 28 30.8	+0.2
IMW	Indian Meadow	39.63	78	*e*P	P	17 28 32.4	+1.5
	comp=Z,12nm,0.9s						
FLWY	Flagg Ranch	39.67	77	*e*P	P	17 28 33.8	+2.6
	comp=Z,10.0nm,1.0s						
HVU	Hansel Valley	39.73	82	*e*P	P	17 28 33.3	+1.7
	comp=Z,9.5nm,1.0s						
HVU				*e*PcP	PcP	17 30 39.9	+2.2
HVU	Hansel Valley	39.73	82	*e*P	P	17 28 33.3	+1.7
HVU				*e*		17 30 39.9	
HVU				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CWC	Cottonwood Cre	39.76	92	P	P	17 28 33.8	+1.8
	baz=311						
MOOW	Moose Ponds	39.83	78	*e*P	P	17 28 34.6	+2.1
	comp=Z,5.2nm,1.1s						
TPAW	Teton Pass	39.85	78	*e*P	P	17 28 34.5	+1.7
	comp=Z,15nm,0.5s						
RLMT	Red Lodge	39.95	75	*e*P	P	17 28 35.0	+1.5
	comp=Z,20nm,1.0s						
RLMT	Red Lodge	39.95	75	P	P	17 28 34.8	+1.2
	baz=303,SNR=18						
REDW	Red Top Meadow	39.98	78	*e*P	P	17 28 35.1	+1.3
	comp=Z,16nm,1.4s						
LOHW	Long Hollow	39.99	78	*e*P	P	17 28 35.2	+1.3
	comp=Z,13nm,1.4s						
ISA	Isabella, Lake	40.03	93	P	P	17 28 35.2	+1.1
	baz=311						
R11A	Troy Canyon, C	40.08	88	*e*P	P	17 28 36.2	+1.6
	comp=Z,5.8nm,1.0s						
R11A	Troy Canyon, C	40.08	88	P	P	17 28 36.3	+1.6
	baz=309,SNR=10						
DAC	Darwin (Calif)	40.17	92	*e*P	P	17 28 37.7	+2.3
	comp=Z,5.8nm,1.1s						
DAC	Darwin (Calif)	40.17	92	*e*P	P	17 28 37.7	+2.3
DAC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
AHID	Auburn Hatcher	40.17	79	*e*P	P	17 28 37.6	+2.3
	comp=Z,8.1nm,0.7s						
MPMC	Manual Prospec	40.38	92	P	P	17 28 38.8	+1.7
	baz=311						
TPNV	Topopah Spring	40.56	90	*e*P	P	17 28 40.9	+2.3
	comp=Z,9.3nm,0.8s						
TPNV	Topopah Spring	40.56	90	P	P	17 28 40.4	+1.8
	baz=310,SNR=7.1						
HWUT	Hardware Ranch	40.56	81	*e*P	P	17 28 40.7	+2.1
	comp=Z,2.3nm,0.7s						
DUG	Dugway, Tooele	40.65	84	*e*P	P	17 28 40.1	+0.9
	comp=Z,19nm,1.1s						
DUG	Dugway, Tooele	40.65	84	*e*P	P	17 28 40.1	+0.9
DUG				pmax	pmax		
	comp=Z,19nm,1.1s						
DUG	Dugway, Tooele	40.65	84	P	P	17 28 41.1	+1.9
	baz=307,SNR=7.9						
LAO	LASA Array	40.90	71	*e*P	P	17 28 41.9	+0.8
	comp=Z,23nm,1.3s						
LAO				*e*PcP	PcP	17 30 42.3	+1.1
PSUT	Pine Spring	41.03	86	*e*P	P	17 28 44.6	+2.2
	comp=Z,8.6nm,0.9s						
PSUT				*e*S	S	17 34 48.4	-4.6
BW06	Boulder Array	41.10	78	*e*P	P	17 28 44.0	+0.8
	comp=Z,16nm,0.9s						
BW06	Boulder Array	41.10	78	P	P	17 28 43.9	+0.8
	baz=305,SNR=29						
PD31	Pinedale Array	41.10	78	*e*P	P	17 28 43.9	+0.8
PDAR	Pinedale Array	41.10	78	P	P	17 28 43.9	+0.8
	comp=Z,26nm,1.1s,baz=305,slow=5.2,SNR=61						
PDAR				LR	LR	17 43 21.5	
	comp=Z,184nm,21.1s,baz=310,slow=32						
JLU	Jordanelle	41.23	82	*e*P	P	17 28 46.1	+1.9
	comp=Z,9.7nm,1.0s						
NLU	North Lily Min	41.24	83	*e*P	P	17 28 46.4	+2.2
	comp=Z,9.7nm,0.9s						
GSC	Goldstone, Bar	41.29	93	*e*P	P	17 28 46.1	+1.6
	comp=Z,15nm,0.9s						
GSC	Goldstone, Bar	41.29	93	*e*P	P	17 28 46.1	+1.6
GSC				pmax	pmax		
	comp=Z,15nm,0.9s						
GSC	Goldstone, Bar	41.29	93	P	P	17 28 46.0	+1.4
	baz=312,SNR=7.1						
MPU	Maple Canyon	41.47	83	*e*P	P	17 28 47.1	+1.0
	comp=Z,5.4nm,0.8s						

BOD Bodaibo 41.48 309 *e*P P 17 28 44.4 -1.3
BOD pmax pmax
comp=Z,25nm,0.8s
FCC Fort Churchill 41.51 50 *e*P P 17 28 46.1 +0.2
comp=Z,34nm,1.4s
FCC Fort Churchill 41.51 50 *e*P P 17 28 46.1 +0.2
FCC pmax pmax
comp=Z,34nm,1.4s
TMUT Trail Mountain 42.17 84 *e*P P 17 28 53.0 +1.0
comp=Z,14nm,0.9s
GMRC Granite Mounta 42.34 92 P P 17 28 54.5 +1.4
baz=312,SNR=6.1
P17A Butcher Ranch, 42.35 83 *e*P P 17 28 55.4 +2.1
comp=Z,9.0nm,0.7s
CN2 Changchun 42.35 285 *e*P P 17 28 58.2 +5.2
LCMT Little Creek M 42.36 88 *e*P P 17 28 56.0 +2.6
comp=Z,7.1nm,1.0s
Q16A Castle Valley 42.43 84 *e*P P 17 28 55.5 +1.6
comp=Z,16nm,1.0s
LDFC Landfair 42.48 91 *e*P P 17 28 56.4 +2.1
comp=Z,21nm,0.9s
P18A Preston Nutter 42.56 83 *e*P P 17 28 57.6 +2.5
comp=Z,18nm,1.1s
KNB Kanab 42.62 87 *e*P P 17 28 58.2 +2.7
comp=Z,20nm,1.4s
PFO Pinyon Flats O 42.63 94 *e*P P 17 28 55.9 +0.3
comp=Z,12nm,1.1s
XPFO Pion Flat 42.64 94 *e*P P 17 28 56.0 +0.5
comp=Z,12nm,1.1s
HIA Hailar 42.64 295 *e*P P 17 28 54.1 -1.2
comp=Z,18nm,0.6s
HIA *e*PcP PcP 17 30 47.1 +0.2
HIA Hailar 42.64 295 *e*P P 17 28 54.1 -1.2
HIA *e* 17 30 47.1
HIA pmax pmax
comp=Z,18nm,0.6s
SRU San Rafael Swe 42.71 83 *e*P P 17 28 58.2 +2.1
comp=Z,11nm,0.9s
SRU San Rafael Swe 42.71 83 *e*P P 17 28 58.2 +2.1
SRU pmax pmax
comp=Z,11nm,0.9s
K22A Casper 42.99 77 *e*P P 17 28 59.2 +0.8
comp=Z,17nm,1.1s
K22A Casper 42.99 77 P P 17 28 58.7 +0.3
baz=306
IRM Iron Mountain 43.07 92 P P 17 29 00.6 +1.6
baz=312,SNR=5.4
W13A Hualapai Mount 43.22 90 *e*P P 17 29 01.9 +1.5
comp=Z,9.2nm,1.1s
U15A North Rim 43.33 88 *e*P P 17 29 02.9 +1.6
comp=Z,11nm,0.9s
O20A White River Ci 43.46 81 *e*P P 17 29 03.0 +0.6
comp=Z,39nm,1.1s
O20A White River Ci 43.46 81 P P 17 29 02.9 +0.6
baz=308,SNR=14
PDMCI Parker Dam,Lak 43.59 91 P P 17 29 04.5 +1.4
baz=312,SNR=5.5
RSSD Black Hills 43.60 73 *e*P P 17 29 03.6 +0.2
comp=Z,13nm,1.2s
RSSD Black Hills 43.60 73 *e*P P 17 29 03.6 +0.2
RSSD pmax pmax
comp=Z,13nm,1.2s
RSSD Black Hills 43.60 73 P P 17 29 03.7 +0.2
baz=305
Y12C Blythe 43.73 92 *e*P P 17 29 05.4 +1.2
comp=Z,16nm,0.9s
PV21 Cone Mtn., Par 43.99 83 *e*P P 17 29 08.0 +1.3
comp=Z,7.1nm,0.7s
PV23 Carpenter Ridg 44.04 83 *e*P P 17 29 08.7 +1.7
comp=Z,16nm,1.1s
MDND Maddock 44.05 66 *e*P P 17 29 07.3 +0.6
comp=Z,54nm,1.1s
MDND Maddock 44.05 66 P P 17 29 07.6 +0.9
baz=304
PV14 Lion Creek, Pa 44.08 83 *e*P P 17 29 08.8 +1.5
comp=Z,9.7nm,0.9s
PV20 West Nyswonger 44.14 83 *e*P P 17 29 09.4 +1.7
comp=Z,11nm,0.9s
PV19 Morning Glory 44.15 83 *e*P P 17 29 09.3 +1.5
comp=Z,12nm,1.1s
PV17 East Wray Mesa 44.18 83 *e*P P 17 29 09.5 +1.4
comp=Z,15nm,0.8s
PV16 Nyswonger Mesa 44.19 83 *e*P P 17 29 09.1 +1.0
comp=Z,13nm,0.9s
PV11 David Mesa, Pa 44.22 83 *e*P P 17 29 09.7 +1.3
comp=Z,18nm,0.6s
PV12 Saucer Basin, 44.25 83 *e*P P 17 29 10.4 +1.7
comp=Z,20nm,1.0s
PV13 Radium Mtn., P 44.34 83 *e*P P 17 29 10.5 +1.1
comp=Z,34nm,1.0s
PV02 Paradox Valley 44.36 83 *e*P P 17 29 10.6 +1.0
comp=Z,25nm,1.1s
N23A Red Feather La 44.38 78 *e*P P 17 29 11.1 +1.3
comp=Z,12nm,1.0s
N23A Red Feather La 44.38 78 P P 17 29 10.7 +0.9
baz=308,SNR=6.6
WUAZ Wupatki 44.48 88 *e*P P 17 29 12.2 +1.8
comp=Z,11nm,0.8s
WUAZ Wupatki 44.48 88 P P 17 29 11.8 +1.3
baz=311,SNR=5.5
Y14A Wickenburg 44.53 91 *e*P P 17 29 12.8 +2.1
comp=Z,8.3nm,0.9s
KSRS Korea Array 44.72 276 P P 17 29 12.1 +0.1
comp=Z,11nm,0.7s,baz=51,slow=7.9,SNR=40
KSRS PcP PcP 17 30 53.9 -0.1
comp=Z,2.0nm,0.7s,baz=63,slow=3.9,SNR=4.8
KSRS LR LR 17 46 52.4
comp=Z,170nm,21.3s,baz=44,slow=35
KS01 Wonju Array Si 44.72 276 *e*P P 17 29 12.3 +0.2
KS15 Wonju Array Si 44.75 276 *e*P P 17 29 12.7 +0.3
KSAR Wonju Array Be 44.75 276 P P 17 29 12.1 -0.2
KSAR PcP PcP 17 30 53.9 -0.3
KSAR Wonju Array Be 44.75 276 P P 17 29 12.1 -0.2
KSAR 17 30 53.9
ULM Lac du Bonnet 44.79 61 P P 17 29 12.6 0.0
comp=Z,4.2nm,0.5s,baz=310,slow=9.3,SNR=9.0
ULM PcP PcP 17 30 53.6 -0.4
comp=Z,2.9nm,0.5s,baz=328,slow=4.6,SNR=3.3
ULM LR LR 17 50 26.6
comp=Z,148nm,18.1s,baz=284,slow=39
ULM Lac du Bonnet 44.79 61 *e*P P 17 29 12.7 +0.1
comp=Z,8.5nm,0.8s
ULM PcP PcP 17 30 53.6 -0.4
ULM Lac du Bonnet 44.79 61 *e*P P 17 29 12.7 +0.1
ULM 17 30 53.7
ULM pmax pmax
comp=Z,9.0nm,0.8s
SMCO Snowmass 44.82 81 *e*P P 17 29 14.9 +1.5
comp=Z,4.0nm,0.7s
MVCO Mesa Verde 45.14 84 *e*P P 17 29 17.0 +1.2
comp=Z,9.5nm,1.1s
MVCO Mesa Verde 45.14 84 P P 17 29 16.6 +0.8
baz=310
X16A Lo Mia Camp, P 45.17 89 *e*P P 17 29 18.2 +2.2
comp=Z,7.4nm,1.0s
ISCO Idaho Springs 45.26 79 *e*P P 17 29 17.6 +0.9
comp=Z,3.7nm,0.9s
ISCO Idaho Springs 45.26 79 *e*P P 17 29 17.6 +0.9
ISCO pmax pmax
comp=Z,4.0nm,0.9s
W18A Petrified Fore 45.75 87 *e*P P 17 29 22.8 +2.2
comp=Z,11nm,1.0s
W18A Petrified Fore 45.75 87 P P 17 29 21.9 +1.3
baz=312
TJN Taejon 45.75 275 *d i*P P 17 29 20.7 +0.4
JNU Nakatsue 45.76 269 *e*P P 17 29 20.0 -0.5
comp=Z,54nm,1.0s
S22A 4UR Ranch, Cre 45.82 82 *e*P P 17 29 23.2 +2.0
comp=Z,9.0nm,1.3s
S22A 4UR Ranch, Cre 45.82 82 P P 17 29 22.4 +1.2
baz=310,SNR=6.9
AGMN Agassiz Nation 45.88 64 P P 17 29 21.7 +0.4
baz=304
214A Organ Pipe Nat 46.00 93 P P 17 29 23.6 +1.2
baz=314
SUSD Miller 46.37 70 P P 17 29 26.0 +0.9
baz=306
SDCO Great Sand Dun 46.62 81 *e*P P 17 29 28.8 +1.2
comp=Z,13nm,1.2s
SDCO Great Sand Dun 46.62 81 P P 17 29 28.5 +1.0
baz=310,SNR=12
TUC Tucson 47.00 91 *e*P P 17 29 31.9 +1.6
comp=Z,13nm,1.1s
TUC Tucson 47.00 91 *e*P P 17 29 31.9 +1.6
TUC pmax pmax
comp=Z,13nm,1.1s
TUC Tucson 47.00 91 P P 17 29 31.5 +1.2
baz=314
KSCO Kaye Shedlock' 47.55 78 *e*P P 17 29 36.0 +1.4
comp=Z,31nm,1.0s
KSCO Kaye Shedlock' 47.55 78 P P 17 29 35.8 +1.3
baz=310,SNR=5.4
T25A Trinidad 47.68 81 *e*P P 17 29 36.8 +1.1
comp=Z,30nm,1.0s
T25A Trinidad 47.68 81 P P 17 29 36.6 +0.9
baz=311,SNR=19
LAZ Ladron 47.82 86 *e*P P 17 29 39.4 +2.6
ANMO Albuquerque 47.87 85 *e*P P 17 29 38.0 +0.8
comp=Z,5.2nm,1.0s
ANMO Albuquerque 47.87 85 *e*P P 17 29 38.6 +1.4
ANMO pmax pmax
comp=Z,6.0nm,1.3s
ANMO Albuquerque 47.87 85 P P 17 29 38.2 +1.0
baz=312
LENM Lemitar 48.08 86 *e*P P 17 29 40.7 +1.9
ECSD EROS Data Cent 48.15 69 *e*P P 17 29 38.5 -0.5
comp=Z,21nm,1.4s
ECSD EROS Data Cent 48.15 69 P P 17 29 38.4 -0.6
baz=308,SNR=6.7
BNM Barren Site 48.30 86 *e*P P 17 29 42.4 +1.9
EYMN Ely 48.47 62 *e*P P 17 29 42.0 +0.6
comp=Z,16nm,1.0s
EYMN Ely 48.47 62 P P 17 29 40.8 -0.6
baz=306
121A Cookes Peak, D 48.69 88 P P 17 29 44.8 +1.3
baz=314
BGNE Belgrade 48.70 73 *e*P P 17 29 44.4 +1.2
comp=Z,31nm,0.8s
E38A The Farm, Brul 49.24 63 *e*P P 17 29 47.8 +0.5
comp=Z,16nm,0.8s
CBKS Cedar Bluff 49.41 76 *e*P P 17 29 49.6 +0.9
comp=Z,40nm,1.0s
CBKS Cedar Bluff 49.41 76 *e*P P 17 29 49.6 +0.9
CBKS pmax pmax
comp=Z,40nm,1.0s
CBKS Cedar Bluff 49.41 76 P P 17 29 49.6 +0.9
baz=310,SNR=7.9
FRB Frobisher Bay 49.43 35 P P 17 29 48.7 +0.3
FRB pmax pmax
comp=Z,16nm,1.1s
F38A Pierce - Schro 49.46 64 P P 17 29 49.1 +0.1
baz=308,SNR=7.2
SPITS Spitsbergen Ar 49.71 358 P P 17 29 49.7 -0.8
comp=Z,5.9nm,0.5s,baz=53,slow=5.8,SNR=6.3
SPITS PcP PcP 17 31 10.8 -0.3
comp=Z,5.0nm,0.5s,baz=79,slow=8.8,SNR=8.9
DAG Danmarks Havn 49.95 8 *i* P P 17 29 51.1 -1.2
comp=Z,15nm,0.7s
DAG Danmarks Havn 49.95 8 *i* P P 17 29 51.1 -1.2
DAG pmax pmax
comp=Z,10.0nm,0.7s
G38A Ridgeland 49.96 65 P P 17 29 52.1 -0.7
baz=308
H38A Maiden Rock 50.02 66 P P 17 29 53.1 -0.2
baz=308
BJI Beijing 50.12 287 *e*P P 17 29 54.4 +0.3
BJI pmax pmax
comp=Z,17nm,0.7s
BJT Baijiatuau 50.14 287 *e*P P 17 29 53.6 -0.7
comp=Z,19nm,0.8s
BJT Baijiatuau 50.14 287 *e*P P 17 29 53.6 -0.7
BJT pmax pmax
comp=Z,19nm,0.8s
E40A Wakefield 50.25 63 P P 17 29 54.4 -0.6
baz=308
G39A Holcombe 50.27 64 P P 17 29 54.5 -0.6
baz=308
ULN Ulaanbaatar 50.36 300 *e*P P 17 29 55.2 -0.8
comp=Z,11nm,0.7s
ULN Ulaanbaatar 50.36 300 *c i*P P 17 29 55.0 -1.0
ULN pmax pmax
comp=Z,11nm,0.7s
F40A Park Falls 50.45 63 P P 17 29 55.9 -0.6
baz=308,SNR=5.6
D41A Chassel 50.59 61 P P 17 29 56.6 -1.0
baz=308
SONA1 Songino Array 50.71 300 *e*P P 17 29 58.0 -0.7
SONA0 Songino Array 50.73 300 *e*P P 17 29 58.0 -0.7
SONA0 *e*PcP PcP 17 31 15.2 -0.3
SONA0 *e*ScP ScP 17 35 07.7 -1.5
SONM Songino Array 50.73 300 P P 17 29 58.0 -0.7
comp=Z,4.6nm,0.6s,baz=55,slow=6.2,SNR=39
SONM PcP PcP 17 31 15.2 -0.3
comp=Z,6.9nm,0.9s,baz=59,slow=1.4,SNR=10
SONM ScP ScP 17 35 07.7 -1.5
comp=Z,2.4nm,1.1s,baz=50,slow=3.5,SNR=6.2
SONM LR LR 17 53 11.8
comp=Z,412nm,19.3s,baz=16,slow=38
MNTX Cornudas Mount 50.74 87 *e*P P 17 30 00.0 +1.1
comp=Z,6.9nm,0.8s
MNTX Cornudas Mount 50.74 87 P P 17 29 59.9 +1.0
baz=314,SNR=9.7
ZAK Zakamensk 50.77 304 *e*P P 17 29 58.1 -0.9
ZAK pmax pmax
comp=Z,7.0nm,1.3s
MSTX Muleshoe 50.78 83 *e*P P 17 30 00.2 +1.0
comp=Z,26nm,1.1s
MSTX Muleshoe 50.78 83 P P 17 29 59.7 +0.4
baz=313,SNR=8.5
G40A Rib Lake 50.81 64 *e*P P 17 29 58.4 -0.9
comp=Z,16nm,0.8s
G40A Rib Lake 50.81 64 P P 17 29 58.7 -0.6
baz=309
AMTX Amarillo 50.83 81 *e*P P 17 30 01.1 +1.5
comp=Z,18nm,1.3s
AMTX Amarillo 50.83 81 P P 17 30 00.5 +1.0
baz=312
I39A Houston 50.96 66 *e*P P 17 30 00.5 +0.1
comp=Z,15nm,0.7s
I39A Houston 50.96 66 P P 17 30 00.1 -0.3
baz=309
SUMG Summit 51.04 17 *e*P P 17 30 01.1 +0.1
comp=Z,29nm,1.3s
SUMG Summit 51.04 17 *i* P P 17 30 01.7 +0.6
SUMG Summit 51.04 17 *i* P P 17 30 01.7 +0.6
KSU1 Kansas State U 51.08 74 *e*P P 17 30 00.7 -0.6
comp=Z,23nm,1.3s
KSU1 Kansas State U 51.08 74 P P 17 30 01.2 -0.1
baz=311
H40A Chili 51.11 65 P P 17 30 00.9 -0.6
baz=309
F41A Three Lakes 51.12 63 *e*P P 17 30 01.6 0.0
comp=Z,12nm,0.8s
F41A Three Lakes 51.12 63 P P 17 30 01.2 -0.3
baz=309
MOY Mondy 51.13 307 *e*P P 17 30 01.8 +0.1
J39A Decorah 51.19 67 P P 17 30 00.9 -1.2
baz=310,SNR=7.8
E42A Champion 51.33 61 P P 17 30 02.8 -0.3
baz=309
K39A Oelwein 51.49 67 P P 17 30 03.0 -1.3
baz=310
H41A Junction City 51.52 64 *e*P P 17 30 05.1 +0.5
comp=Z,12nm,0.9s
H41A Junction City 51.52 64 P P 17 30 05.0 +0.5
baz=309
J40A Soldiers Grove 51.69 66 P P 17 30 05.2 -0.6
baz=310
I41A Arkdale 51.76 65 *e*P P 17 30 07.1 +0.7
comp=Z,12nm,0.6s
L39A Vinton 51.80 68 P P 17 30 06.2 -0.5
baz=310,SNR=5.2
G42A Mountain 51.80 63 P P 17 30 06.0 -0.6
baz=309
E43A Lone Tree Farm 51.86 61 P P 17 30 06.4 -0.7
baz=309
K40A Colesburg 51.91 67 P P 17 30 06.9 -0.6
baz=310
TIA Tai'an 52.07 282 P P 17 30 07.8 -1.0
TIA pmax pmax
comp=Z,10.0nm,0.9s
F43A Flat Rock, Esc 52.11 62 P P 17 30 08.2 -0.7
baz=310
M39A Webster 52.11 69 P P 17 30 08.3 -0.7
baz=310,SNR=8.3
L40A Anamosa 52.28 68 P P 17 30 09.3 -1.0
baz=310
HHC Hu-ho-hao-te 52.29 290 *e*P P 17 30 11.3 +0.8
HHC S S 17 37 34.0 +0.4
HHC pmax pmax
comp=Z,18nm,1.0s
HHC pmax pmax
comp=Z,230nm,6.4s
HHC LR LR
comp=Z,340nm,17.3s
HHC LR LR
comp=Z,450nm,17.3s
HHC LR LR
comp=Z,470nm,17.3s
K41A Shullsburg 52.45 67 P P 17 30 10.4 -1.0
baz=310
GUMO Guam 52.47 239 P P 17 30 09.5 -2.4
comp=Z,65nm,0.5s,baz=132,slow=2.4,SNR=5.3
GUMO LR LR 17 49 27.3
comp=Z,77nm,19.7s,baz=64,slow=32
H43A Windswept, Lux 52.65 63 P P 17 30 11.1 -1.9
baz=310
L41A Preston 52.68 67 P P 17 30 11.6 -1.6
baz=311
WMOK Wichita Mounta 52.68 80 *e*P P 17 30 14.0 +0.6
comp=Z,13nm,0.9s
WMOK Wichita Mounta 52.68 80 *e*P P 17 30 14.0 +0.6
WMOK pmax pmax
comp=Z,13nm,0.9s
WMOK Wichita Mounta 52.68 80 P P 17 30 13.4 +0.1
baz=313,SNR=17
I43A Langenfeld Bro 52.83 64 P P 17 30 12.1 -2.1
baz=310
K42A Prairie Point, 52.87 66 P P 17 30 13.7 -1.0
baz=311
E46A Sault Ste Mari 53.30 60 P P 17 30 17.6 -0.1
baz=310
G45A Suttons Bay 53.44 62 P P 17 30 18.9 +0.2
baz=310
LTX Lajitas 53.45 88 *e*P P 17 30 19.6 +0.5
LTX Lajitas 53.45 88 *e*P P 17 30 19.7 +0.5
TXAR Lajitas Array 53.45 88 P P 17 30 19.6 +0.5
comp=Z,10nm,0.8s,baz=298,slow=5.1,SNR=60
TXAR LR LR 17 50 44.3
comp=Z,195nm,21.0s,baz=0.0,slow=33
D47A Chapleau 53.49 58 P P 17 30 17.6 -1.5
baz=310
KNGR Kungurtug, Tuv 53.50 308 *i*P P 17 30 19.0 -0.3
ABTX Abilene, Hawle 53.61 82 *e*P P 17 30 21.1 +0.9
comp=Z,23nm,1.4s
O41A Passleys Farm, 53.75 69 P P 17 30 19.8 -1.3
baz=312,SNR=5.8
NJ2 Nanjing 53.86 277 *e*P P 17 30 23.8 +1.8
NJ2 pmax pmax
comp=Z,16nm,0.5s
P41A Barry, Barry 53.93 70 P P 17 30 21.0 -1.4
baz=312
D48A Paudash Townsh 54.08 57 P P 17 30 22.7 -0.7
baz=311
Q41A Truxton 54.32 71 P P 17 30 24.2 -1.0
baz=312,SNR=5.1
HDIL Hopedale 54.36 68 P P 17 30 23.9 -1.7
baz=312
P42A Winchester 54.41 69 P P 17 30 24.3 -1.6
baz=312
R41A Rosebud 54.67 71 P P 17 30 26.8 -1.0
baz=312,SNR=7.2
Q42A Golden Eagle 54.75 70 P P 17 30 28.0 -0.4
baz=312,SNR=5.3
P43A Skaggs, Pawnee 54.84 69 P P 17 30 28.0 -1.0
baz=312
CCM Cathedral Cave 54.91 71 *e*P P 17 30 29.0 -0.6
comp=Z,6.6nm,0.8s
CCM *e*S S 17 38 11.8 +2.8
CCM Cathedral Cave 54.91 71 *e*P P 17 30 29.0 -0.6
CCM *e*S S 17 38 11.8 +2.8
CCM pmax pmax
comp=Z,7.0nm,0.8s
CCM Cathedral Cave 54.91 71 P P 17 30 29.2 -0.4
baz=313
S41A Jillco Farms, 54.94 72 P P 17 30 27.9 -1.8
baz=313,SNR=12
JCT Junction City 55.01 84 *e*P P 17 30 30.6 +0.2
comp=Z,12nm,1.0s
JCT Junction City 55.01 84 *e*P P 17 30 30.6 +0.2
JCT pmax pmax
comp=Z,12nm,1.0s
JCT Junction City 55.01 84 P P 17 30 30.1 -0.4
baz=315
R42A Luebbering 55.02 71 P P 17 30 29.6 -0.8
baz=313
D50A G1974 Best Tow 55.10 56 P P 17 30 29.7 -1.1
baz=312
U40A Yellville 55.12 74 P P 17 30 29.5 -1.7
baz=313,SNR=6.1
E50A Wahnapitae 55.13 57 P P 17 30 30.5 -0.5
baz=312
Q43A New Douglas 55.21 70 P P 17 30 31.0 -0.8
baz=313
T41A Mountain View 55.30 73 P P 17 30 31.0 -1.4
baz=313
W39A Magazine 55.36 76 *e*P P 17 30 32.3 -0.6
comp=Z,25nm,1.3s
W39A Magazine 55.36 76 P P 17 30 32.2 -0.7
baz=314,SNR=6.4
S42A Caledonia 55.37 71 P P 17 30 31.3 -1.6
baz=313,SNR=6.1
WHTX Lake Whitney, 55.37 81 *e*P P 17 30 31.8 -1.2
comp=Z,33nm,1.1s
D51A Lot 18 Range I 55.39 56 P P 17 30 32.3 -0.6
baz=312
SCO Scoresbysund 55.43 12 *e*P P 17 30 32.3 -0.5
comp=Z,12nm,1.9s
SCO Scoresbysund 55.43 12 *i* P P 17 30 32.5 -0.3
comp=Z,7.2nm,0.6s
SCO Scoresbysund 55.43 12 *i* P P 17 30 32.5 -0.3
SCO pmax pmax
comp=Z,7.0nm,0.6s
R43A Red Bud 55.53 70 P P 17 30 32.7 -1.3
baz=313
U41A Viola 55.68 73 P P 17 30 33.7 -1.5
baz=313
T42A Van Buren 55.70 72 *e*P P 17 30 33.4 -1.9
comp=Z,9.2nm,1.0s
T42A Van Buren 55.70 72 P P 17 30 33.4 -1.9
baz=313
E51A G1948 Merrick 55.70 57 P P 17 30 34.9 -0.3
baz=312
SFIN Lafayette 55.72 67 P P 17 30 34.7 -0.7
baz=313
S43A Fulton Ridge, 55.92 71 P P 17 30 35.5 -1.3
baz=313,SNR=9.2
V41A Mountainview 55.92 74 P P 17 30 35.8 -1.2
baz=314,SNR=7.3
MIAR Mount Ida 55.93 76 *e*P P 17 30 37.2 +0.3
comp=Z,24nm,1.0s
MIAR Mount Ida 55.93 76 *e*P P 17 30 37.3 +0.3
MIAR pmax pmax
comp=Z,24nm,1.0s
MIAR Mount Ida 55.93 76 P P 17 30 36.9 0.0
baz=314,SNR=12
D52A ZEK Kipawa Sen 55.95 56 P P 17 30 36.7 -0.3
baz=312
SCHQ Schefferville 55.95 43 P P 17 30 36.7 -0.2
comp=Z,15nm,0.8s,baz=322,slow=8.9,SNR=13
SCHQ LR LR 17 57 10.5
comp=Z,228nm,18.8s,baz=306,slow=39
SCHQ Schefferville 55.95 43 *e*P P 17 30 37.1 +0.3
comp=Z,21nm,0.9s
U42A Revenden 56.08 73 P P 17 30 36.2 -1.8
baz=314
Q45A Warren Harvey, 56.13 69 P P 17 30 37.1 -1.2
baz=313
T43A Greenville 56.13 72 P P 17 30 36.9 -1.5
baz=313,SNR=13
N47A Urbana 56.17 65 P P 17 30 35.5 -3.1
baz=313
D53A Lac Vacive, Po 56.24 55 P P 17 30 38.6 -0.5
baz=313
F52A Sundridge 56.28 57 P P 17 30 39.0 -0.4
baz=312,SNR=6.5
W41B Gary Mavity, V 56.29 75 *e*P P 17 30 38.9 -0.6
comp=Z,12nm,1.0s
W41B Gary Mavity, V 56.29 75 P P 17 30 38.6 -0.9
baz=314,SNR=5.3
E52A Mattawa 56.29 56 P P 17 30 39.2 -0.2
baz=313
X40A Basin Creek Fa 56.42 76 *e*P P 17 30 39.5 -1.0
comp=Z,9.4nm,1.0s
X40A Basin Creek Fa 56.42 76 P P 17 30 39.7 -0.7
baz=314
R45A Skylar, Fairfi 56.47 69 P P 17 30 39.9 -0.8
baz=313
BUKO Buck Lake 56.48 58 P P 17 30 41.8 +1.1
baz=313,SNR=6.7
T44A Benton 56.53 71 P P 17 30 39.8 -1.5
baz=314

S45A Carrier Mills 56.71 70 P P 17 30 41.4 -1.1
baz=314
E53A Dumoine, Ponti 56.74 56 P P 17 30 42.4 -0.1
baz=313,SNR=6.8
833A Chaparral WMA, 56.79 86 *e*P P 17 30 43.6 +0.5
comp=Z,20nm,1.0s
P47A Martinsville 56.80 67 P P 17 30 42.0 -1.1
baz=313
ALGO Algonquin Park 56.83 56 P P 17 30 43.4 +0.2
baz=313,SNR=5.0
O48A Farmland 56.90 66 P P 17 30 41.6 -2.2
baz=313
E54A Lac Daplat, Po 56.94 55 P P 17 30 44.0 +0.1
baz=313,SNR=5.7
Y41A Eaglette Beard 56.97 76 P P 17 30 45.3 +1.0
baz=314
ZAA1 Zalesovo Array 56.99 317 *e*P P 17 30 42.5 -1.7
ZAA1 *e*PcP **PcP** 17 31 38.4 -0.7
ZAA0 Zalesovo Array 56.99 317 *e*P P 17 30 42.9 -1.3
comp=Z,8.6nm,0.8s
ZALV Zalesovo Beam 56.99 317 P P 17 30 42.5 -1.7
comp=Z,2.2nm,0.7s,baz=36,slow=7.5,SNR=9.5
ZALV PcP **PcP** 17 31 38.4 -0.7
comp=Z,7.9nm,0.7s,baz=41,slow=3.8,SNR=16
ZALV LR LR 17 55 58.1
comp=Z,217nm,21.5s,baz=65,slow=37
ZALV Zalesovo Beam 56.99 317 *i* P P 17 30 44.2 0.0
ZALV pmax pmax
comp=Z,2.0nm,0.5s
NVS Novosibirsk 57.01 319 *i* P P 17 30 44.0 -0.3
SADO Sadowa 57.07 58 *e*P P 17 30 45.7 +0.7
comp=Z,12nm,0.8s
G53A Haliburton 57.10 57 P P 17 30 45.2 0.0
baz=313,SNR=7.0
P48A Milroy 57.29 66 P P 17 30 45.1 -1.5
baz=314
BANO Bancroft 57.53 57 P P 17 30 48.2 0.0
baz=314,SNR=7.0
T46A Princeton 57.55 70 P P 17 30 47.7 -0.7
baz=314
WHN Wuhan 57.66 279 ⇓P P 17 30 49.2 0.0
WHN pP **pP** 17 30 56.0 -2.2
O50A Cable 57.83 65 P P 17 30 49.3 -1.0
baz=314
ARA0 ARCESS Array S 57.90 353 *e*P P 17 30 49.4 -1.1
ARA0 *e*PcP **PcP** 17 31 41.7 -0.7
ARCES ARCESS Array B 57.90 353 P P 17 30 49.4 -1.1
comp=Z,12nm,0.7s,baz=13,slow=6.5,SNR=35
ARCES PcP **PcP** 17 31 41.7 -0.7
comp=Z,6.3nm,0.6s,baz=9.1,slow=4.6,SNR=7.2
ARCES LR LR 17 55 34.7
comp=Z,14nm,21.9s,baz=346,slow=36
ARCES ARCESS Array B 57.90 353 *e*P P 17 30 49.6 -0.8
ARCES PcP **PcP** 17 31 41.7 -0.7
ARCES ARCESS Array B 57.90 353 *e*P P 17 30 49.7 -0.8
ARCES 17 31 41.7
ARE0 ARCESS Array S 57.90 353 *e*P P 17 30 49.4 -1.0
PLVO Plevna 57.95 57 *e*P P 17 30 52.2 +1.0
G55A Calabogie 57.99 56 P P 17 30 51.5 +0.2
baz=314
P50A Jamestown 58.10 65 P P 17 30 51.7 -0.6
baz=314
TRO Tromso 58.17 356 P P 17 30 52.4 +0.1
TRO pmax pmax
comp=Z,1.0nm,0.5s
TRO Tromso 58.17 356 *e*P P 17 30 51.7 -0.6
S48A Wiedeman Farm, 58.18 68 P P 17 30 52.4 -0.4
baz=314
WVT Waverly 58.22 71 *e*P P 17 30 53.0 -0.1
comp=Z,29nm,1.6s
WVT Waverly 58.22 71 *e*P P 17 30 53.0 -0.1
WVT pmax pmax
comp=Z,29nm,1.6s
WVT Waverly 58.22 71 P P 17 30 52.8 -0.3
baz=314
H55A Tweed 58.24 57 P P 17 30 53.4 +0.2
baz=314
V46A Holladay 58.28 71 P P 17 30 52.8 -0.8
baz=314,SNR=6.8
U47A Clarksville 58.31 70 P P 17 30 53.0 -0.8
baz=314
T48A Bowling Green 58.36 69 P P 17 30 53.3 -0.8
baz=314
OXF Oxford 58.42 73 *e*P P 17 30 54.2 -0.3
comp=Z,48nm,0.9s
OXF Oxford 58.42 73 P P 17 30 53.9 -0.7
baz=315
XAN Xi'an 58.44 286 P P 17 30 54.3 -0.5
XAN pmax pmax
comp=Z,21nm,1.0s
XAN pmax pmax
comp=Z,160nm,5.1s
XAN LR LR
comp=Z,320nm,20.6s
XAN LR LR
comp=Z,380nm,22.8s
XAN Xi'an 58.44 286 *e*P P 17 30 54.1 -0.7
comp=Z,15nm,0.8s
XAN Xi'an 58.44 286 *e*P P 17 30 54.1 -0.7
XAN pmax pmax
comp=Z,15nm,0.8s
SSLB Suanglung 58.51 269 *e*P P 17 30 53.6 -1.8
comp=Z,44nm,0.8s
S49A Springfield 58.53 68 P P 17 30 53.6 -1.6
baz=314
KTK1 Kautokeino 58.57 354 *e*P P 17 30 54.3 -0.8
V47A Nunnelly 58.61 71 P P 17 30 54.5 -1.4
baz=315
LVZ Lovozero 58.64 349 *e*P P 17 30 54.6 -1.1
comp=Z,37nm,0.8s
LVZ Lovozero 58.64 349⇑*e*P P 17 30 54.9 -0.8
LVZ pmax pmax
comp=Z,15nm,1.7s
H56A Elgin 58.68 57 P P 17 30 55.7 -0.5
baz=314
U48A Cassie Pea, Po 58.70 70 P P 17 30 55.8 -0.6
baz=314
Q51A Peebles 58.76 65 *e*P P 17 30 55.8 -1.1
comp=Z,29nm,1.1s
Q51A Peebles 58.76 65 P P 17 30 56.5 -0.3
baz=314
Y45A Yeager Farm, C 58.80 74 P P 17 30 57.6 +0.4
baz=315
T49A Edmonton 58.86 69 P P 17 30 56.9 -0.7
baz=314
DGZ Jazzator, Alta 58.87 312*d i* P P 17 30 57.3 -0.3
DGZ pmax pmax
comp=Z,4.0nm,0.8s
PLAL Pickwick Lake 58.88 72 *e*P P 17 30 58.0 +0.3
comp=Z,16nm,1.0s
X46A Booneville 58.88 73 P P 17 30 56.0 -1.7
baz=315
W47A Westpoint 58.97 71 P P 17 30 57.7 -0.7
baz=315,SNR=7.0
M54A Oil Creek Stat 59.05 61 P P 17 30 58.0 -0.9
baz=314
V48A Smith Brothers 59.07 70 *e*P P 17 30 58.4 -0.7
comp=Z,25nm,1.5s
S50A Richmond 59.10 67 P P 17 30 58.6 -0.6
baz=315
U49A Red Boiling Sp 59.13 69 P P 17 30 58.8 -0.7
baz=315
Y46A Houston 59.19 73 P P 17 30 59.5 -0.4
baz=315,SNR=7.0
N54A Moraine State 59.25 62 P P 17 30 59.8 -0.5
baz=314
T50A Nancy 59.31 68 P P 17 30 59.6 -1.1
baz=315
X47A Russelville 59.33 72 P P 17 31 00.0 -0.8
baz=315
W48A Pulaski 59.43 71 P P 17 31 00.1 -1.4
baz=315,SNR=7.1
V49A McMinnville 59.59 70 P P 17 31 01.7 -1.0
baz=315
Y47A UCPARC, Winfie 59.77 73 P P 17 31 03.2 -0.7
baz=315,SNR=9.3
W49A Belvidere 59.83 71 P P 17 31 04.0 -0.4
baz=315
LOF Lofoten 59.84 358 *e*P P 17 31 02.6 -1.2
X48A Hartselle 59.85 72 *e*P P 17 31 03.4 -1.0
comp=Z,11nm,1.1s
X48A Hartselle 59.85 72 P P 17 31 03.1 -1.3
baz=315
GTA Gaotai 59.88 296 P P 17 31 03.3 -1.5
GTA pP pP 17 31 08.3 -5.5
GTA sP sP 17 31 11.5 -5.7
GTA S **S** 17 39 12.0 -2.6

GTA pmax pmax
comp=Z,8.0nm,0.8s
GTA pmax pmax
comp=Z,87nm,6.0s
GTA LR LR
comp=Z,270nm,18.2s
GTA LR LR
comp=Z,270nm,17.5s
GTA LR LR
comp=Z,430nm,18.5s
245A Little AP, Sta 59.89 76 P P 17 31 03.8 -0.9
baz=316
N55A Marion Center 59.92 61 P P 17 31 03.8 -1.1
baz=315
LZH Lanzhou 59.96 291 *e*P P 17 31 05.6 +0.2
LZH pP pP 17 31 08.4 -6.0
LZH sP sP 17 31 10.4 -7.5
LZH pmax pmax
comp=Z,41nm,1.1s
STEI Steigen 60.00 357 *e*P P 17 31 03.7 -1.2
V50A Pikevile 60.12 69 P P 17 31 05.0 -1.3
baz=315
Z47A Carrollton 60.14 73 P P 17 31 05.8 -0.6
baz=316,SNR=6.8
Y48A Jasper 60.16 72 P P 17 31 05.4 -1.1
baz=316
X49A Woodville 60.23 71 P P 17 31 05.6 -1.4
baz=315
Z48A Northport 60.31 73 P P 17 31 06.3 -1.3
baz=316,SNR=6.7
W50A Signal Mountai 60.33 70 *e*P P 17 31 06.8 -0.9
comp=Z,13nm,1.1s
W50A Signal Mountai 60.33 70 P P 17 31 07.0 -0.8
baz=315
147A Livingston 60.39 74 *e*P P 17 31 08.8 +0.6
comp=Z,41nm,1.1s
147A Livingston 60.39 74 P P 17 31 07.7 -0.4
baz=316
O56A Blue Knob Stat 60.51 61 P P 17 31 08.8 -0.1
baz=315
Q55A Buckhannon 60.59 63 P P 17 31 08.4 -1.1
baz=315
SSPA Standing Stone 60.61 61 P P 17 31 09.4 -0.1
baz=315
Y49A Blount Mountai 60.64 72 P P 17 31 08.8 -1.1
baz=316
X50B Fort Payne 60.66 71 P P 17 31 09.1 -0.9
baz=316,SNR=6.3
ENH Enshi 60.78 283 *e*P P 17 31 10.1 -0.9
comp=Z,15nm,0.8s
148A Greensboro 60.83 74 P P 17 31 10.5 -0.6
baz=316
BORG Borgarnes 60.87 15 LR LR 18 00 33.4
comp=Z,90nm,19.6s,baz=339,slow=39
LRAL Lakeview Retre 60.89 73 *e*P P 17 31 11.3 -0.2
comp=Z,7.7nm,0.9s
LRAL Lakeview Retre 60.89 73 P P 17 31 10.6 -1.0
baz=316
Y50A Piedmont 61.01 71 P P 17 31 11.7 -0.7
baz=316
Z49A Columbiana 61.05 72 P P 17 31 11.6 -1.0
baz=316,SNR=9.0
149A Jones 61.32 73 P P 17 31 13.3 -1.2
baz=316
KONS Konsvik 61.48 358 *e*P P 17 31 14.2 -0.9
X52A Dahlonega 61.57 69 P P 17 31 15.2 -0.9
baz=316
Z51A Franklin 61.75 71 P P 17 31 16.3 -1.1
baz=316
150A Eclectic 61.76 72 P P 17 31 16.5 -0.9
baz=316
KURK Kurchatov 61.95 318 *e*P P 17 31 17.3 -1.1
comp=Z,10nm,0.6s
KURK Kurchatov 61.95 318 *e*P P 17 31 17.3 -1.1
KURK pmax pmax
comp=Z,10.0nm,0.6s
349A Repton 61.98 74 P P 17 31 18.2 -0.7
baz=316
250A Grady 62.07 73 *e*P P 17 31 19.9 +0.3
comp=Z,24nm,0.8s
Z52A Williamson 62.28 71 P P 17 31 19.6 -1.4
baz=316
152A Waverly Hall 62.48 72 P P 17 31 21.0 -1.3
baz=316
KMSC Kings Mountain 62.64 67 *e*P P 17 31 22.7 -0.7
comp=Z,10nm,0.8s
GOGA Godfrey 62.67 70 P P 17 31 22.2 -1.4
baz=316
Z53A Monticello 62.70 70 P P 17 31 22.4 -1.4
baz=316
Y54A Tignall 62.79 69 P P 17 31 23.5 -0.8
baz=316,SNR=5.5
PRGR Permogore 62.82 342 *e*P P 17 31 22.7 -1.4
PRGR *e* 17 32 02.2
PRGR pmax pmax
comp=Z,17nm,0.6s
351A Pinckard 62.97 73 P P 17 31 24.9 -0.7
baz=317
WMQ Urumqi 63.01 307 P P 17 31 26.5 +0.7
WMQ pmax pmax
comp=Z,18nm,1.3s
WMQ pmax pmax
comp=Z,240nm,4.1s
WMQ LR LR
comp=Z,400nm,20.7s
WMQ LR LR
comp=Z,380nm,25.1s
WMQ LR LR
comp=Z,390nm,23.7s
Z54A Sparta 63.16 70 P P 17 31 25.5 -1.3
baz=317
JSC Jenkinsville 63.31 68 *e*P P 17 31 28.1 +0.3
comp=Z,11nm,0.9s
MK31 Makanchi Array 63.33 313 *e*P P 17 31 26.4 -1.4
MK31 Makanchi Array 63.33 313 *e*P P 17 31 26.4 -1.4
MK32 Makanchi Array 63.33 313 *e*P P 17 31 26.4 -1.4
MKAR Makanchi Array 63.33 313 P P 17 31 26.4 -1.5
comp=Z,3.7nm,0.7s,baz=50,slow=6.5,SNR=40
MKAR LR LR 17 59 12.5
comp=Z,199nm,20.9s,baz=28,slow=36
MKAR Makanchi Array 63.33 313 *e*P P 17 31 26.4 -1.5
comp=Z,21nm,0.6s
MKAR Makanchi Array 63.33 313 *i* P P 17 31 26.3 -1.5
MKAR pmax pmax
comp=Z,4.0nm,0.7s
BVA0 Borovoye Array 63.34 324 *i* P P 17 31 26.3 -1.4
BVA0 pmax pmax
comp=Z,15nm,1.1s
MK01 Makanchi Array 63.35 313 *e*P P 17 31 25.7 -2.2
BRVK Borovoye 63.35 324 *e*P P 17 31 26.9 -0.9
comp=Z,9.4nm,0.7s
BRVK Borovoye 63.35 324*c i*P P 17 31 27.8 0.0
BRVK pmax pmax
comp=Z,13nm,1.0s
MAKZ Makanchi 63.46 313 *e*P P 17 31 26.8 -1.9
comp=Z,3.6nm,0.9s
MAKZ Makanchi 63.46 313 *e*P P 17 31 26.8 -1.9
MAKZ pmax pmax
comp=Z,4.0nm,0.9s
NSS Namsos 63.48 359 *e*P P 17 31 27.6 -0.8
552A Lynn Haven 63.98 74 P P 17 31 31.8 -0.4
baz=317
ARU Arti 64.35 332 *e*P P 17 31 32.9 -1.4
comp=Z,8.5nm,0.8s
ARU Arti 64.35 332 P P 17 31 33.2 -1.1
ARU 17 32 03.2
ARU 17 33 50.5
ARU S **S** 17 40 13.9 +3.8
ARU SS **SS** 17 44 22.8 +3.7
KLMR Klimovskoe 64.65 344 *e*P P 17 31 33.8 -2.4
KLMR pmax pmax
comp=Z,14nm,1.3s
KLMR Klimovskoe 64.65 344 *e*P P 17 31 33.8 -2.4
KLMR AMP 17 31 37.1
comp=Z,14nm,1.3s
FIA1 FINESS Array S 65.82 351 *e*P P 17 31 42.5 -1.3
FIA0 FINESS Array S 65.83 351 *e*P P 17 31 42.3 -1.4
FIA0 *e*PcP **PcP** 17 32 13.8 -0.9
FIA0 FINESS Array S 65.83 351 *e*P P 17 31 42.3 -1.4
FIA0 *e* 17 32 13.8
FINES FINESS Array B 65.83 351 P P 17 31 42.3 -1.4
comp=Z,4.8nm,0.4s,baz=7.4,slow=7.9,SNR=48
FINES PcP **PcP** 17 32 13.8 -0.9
comp=Z,5.7nm,0.6s,baz=34,slow=4.3,SNR=6.7
FINES LR LR 18 00 59.0
comp=Z,250nm,21.5s,baz=17,slow=36
FINES FINESS Array B 65.83 351 *i* P P 17 31 42.2 -1.6

FINES pmax pmax
comp=Z,5.0nm,0.4s
AKN Aaknes 65.84 1 *e*P P 17 31 44.4 +0.5
DOMB Dombas 65.99 0 *e*P P 17 31 43.9 -1.0
TAOE Nuku Hiva Isla 66.25 147 *e*LR LR 17 51 32.5
comp=Z,408nm,23.3s
TAOE Nuku Hiva Isla 66.25 147 *e*T T 18 43 59.5
comp=Z,57nm,0.3s
NC204 NORSAR Array S 66.76 359 *e*P P 17 31 49.3 -0.5
NC303 NORSAR Array S 66.80 359 *e*P P 17 31 49.4 -0.7
NC303 NORSAR Array S 66.80 359 *e*P P 17 31 49.4 -0.7
NC405 NORSAR Array S 66.91 359 *e*P P 17 31 50.1 -0.7
NB201 NORSAR Array S 66.98 359 *e*P P 17 31 50.8 -0.4
NB2 NORSAR Subarra 66.99 359 P P 17 31 50.1 -1.2
comp=Z,3.1nm,0.5s,baz=1.3,slow=6.2
NB2 NORSAR Subarra 66.99 359 P P 17 31 50.1 -1.2
baz=1.3,slow=6.2
NB200 NORSAR Array S 66.99 359 *e*P P 17 31 50.5 -0.8
NB200 *e*PcP **PcP** 17 32 19.0 -0.6
NOA NORSAR Array B 66.99 359 P P 17 31 50.5 -0.8
comp=Z,4.1nm,0.5s,baz=1.7,slow=6.4,SNR=36
NOA PcP **PcP** 17 32 19.0 -0.6
comp=Z,3.7nm,0.7s,baz=3.3,slow=4.6,SNR=7.9
NOA LR LR 18 03 25.9
comp=Z,82nm,18.3s,baz=0.0,slow=38
NORES NORESS Array B 67.29 359 P P 17 31 52.5 -0.7
NORES pmax pmax
comp=Z,1.0nm,0.3s
ASK Askoy 67.50 2 *e*P P 17 31 53.5 -0.9
HFS Hagfors 67.86 358 P P 17 31 55.5 -1.2
comp=Z,20nm,0.4s,baz=5.7,slow=3.0,SNR=234
HFS LR LR 18 00 37.1
comp=Z,134nm,18.9s,baz=5.0,slow=35
CMIG Matias Romero 67.89 90 LR LR 17 57 19.7
comp=Z,152nm,20.5s,baz=304,slow=32
ODD1 Odda 68.11 2 *e*P P 17 31 57.4 -1.0
KONO Kongsberg 68.39 360 *e*P P 17 32 00.0 -0.1
BLS5 Blasjo 68.59 2 *e*P P 17 32 00.8 -0.6
VSU Vasula 68.70 350⇑*e*P P 17 32 01.3 -0.7
VSU pmax pmax
comp=Z,72nm,0.6s
TARG Taragay, Kyrgy 69.29 312 *e*P P 17 32 05.7 -0.8
comp=Z,3.9nm,0.7s
USP Ospenovka 69.54 315 P P 17 32 06.3 -1.3
SNR=9.3
AKTO Aktyubinsk 69.71 329 P P 17 32 07.2 -1.2
comp=Z,12nm,0.7s,baz=43,slow=6.1,SNR=36
KBK Karagaybulak 69.83 314 P P 17 32 08.8 -0.8
SNR=5.4
PMOR Pomariorio Ree 69.84 157 *e*T T 18 48 29.4
comp=Z,5.5nm,0.2s
FRU1 Bishkek 69.85 315 *e*P P 17 32 09.8 +0.3
comp=Z,14nm,0.8s
FRU1 Bishkek 69.85 315 *e*P P 17 32 09.8 +0.3
FRU1 pmax pmax
comp=Z,14nm,0.8s
AAK Ala-Archa 70.04 315 P P 17 32 09.6 -1.3
SNR=7.4
AAK Ala-Archa 70.04 315 *e*P P 17 32 10.1 -0.8
comp=Z,6.8nm,0.7s
AAK Ala-Archa 70.04 315 *e*P P 17 32 10.1 -0.8
AAK pmax pmax
comp=Z,7.0nm,0.7s
AB31 Akbulak array 70.11 328 P P 17 32 08.7 -2.2
AB31 pmax pmax
comp=Z,14nm,1.1s
ABKAR Akbulak array 70.11 328 *e*P P 17 32 09.8 -1.1
KZA Kyzart 70.16 314 P P 17 32 11.8 -0.1
SNR=5.4
EKS2 Erkin-Say 70.34 315 P P 17 32 12.2 -0.4
SNR=7.8
OBN Obninsk 70.61 344 P P 17 32 12.0 -1.8
comp=Z,2.1nm,0.4s,baz=163,slow=21,SNR=4.1
OBN LR LR 18 06 58.4
comp=Z,74nm,18.8s,baz=352,slow=39
OBN Obninsk 70.61 344 *e*P P 17 32 11.6 -2.2
comp=Z,14nm,0.7s
OBN Obninsk 70.61 344⇓*e*P P 17 32 14.1 +0.3
OBN 17 32 32.0
OBN *e* 17 42 01.3
OBN SS SS 17 45 56.0 +0.3
OBN pmax pmax
comp=Z,7.0nm,0.6s
OBN MLR MLR
comp=Z,263nm,18.0s
KK31 Karatay Array 71.36 317 *e*P P 17 32 17.9 -0.8
KK31 Karatay Array 71.36 317 *e*P P 17 32 17.9 -0.8
KKAR Karatay Array 71.36 317 *e*P P 17 32 17.9 -0.8
KKAR Karatay Array 71.36 317 *e*P P 17 32 17.9 -0.8
LSA Lhasa 71.84 295 *e*P P 17 32 22.6 +0.3
comp=Z,25nm,0.7s
LSA Lhasa 71.84 295 *e*P P 17 32 22.6 +0.3
LSA pmax pmax
comp=Z,25nm,0.7s
SIJI Sorong 71.86 243 P P 17 32 21.1 -0.8
comp=Z,23nm,0.7s,baz=27,slow=6.4,SNR=35
KSH Kashi 71.89 312 P P 17 32 23.6 +1.5
KSH sP sP 17 32 34.9 +0.2
KSH S **S** 17 41 39.8 -1.1
KSH SKS **SKSac** 17 42 20.0 -3.8
KSH pmax pmax
comp=Z,20nm,0.6s
KSH pmax pmax
comp=Z,150nm,4.7s
KSH LR LR
comp=Z,110nm,6.7s
KSH LR LR
comp=Z,150nm,8.3s
KSH LR LR
comp=Z,470nm,14.4s
PPT Papeete 71.93 159 LR LR 17 56 25.9
comp=Z,124nm,21.0s,baz=359,slow=29
PPT2 Papeete2 71.95 159 *e*LR LR 17 54 05.3
comp=Z,416nm,29.5s
PPT2 Papeete2 71.95 159 *e*T T 18 51 07.6
comp=Z,6.7nm,0.2s
TIAR Tiarei 71.97 159 *e*T T 18 51 08.7
comp=Z,4.7nm,0.3s
EKA Eskdalemuir Ar 72.21 8 P P 17 32 22.8 -0.7
comp=Z,3.2nm,0.4s,baz=347,slow=4.6,SNR=40
LPSR Galich'ya Gora 72.58 342 *e*P P 17 32 24.3 -1.4
LPSR pmax pmax
comp=Z,8.0nm,0.7s
BSD Bornholm Skovb 72.85 357 *i* P P 17 32 26.5 -0.8
comp=Z,4.2nm,0.4s
BSD Bornholm Skovb 72.85 357 *e*P P 17 32 26.5 -0.8
BSD pmax pmax
comp=Z,4.0nm,0.4s
FAKI Fak Fak 73.03 241 *e*P P 17 32 28.3 -0.6
comp=Z,19nm,0.9s
VRH Novokhopyorsk 73.33 339 *e*P P 17 32 28.8 -1.4
VRH pmax pmax
comp=Z,30nm,1.7s
SUW Suwalki 73.43 352 *e*P P 17 32 29.5 -1.2
comp=Z,30nm,1.1s
SUW Suwalki 73.43 352 *e*P P 17 32 29.5 -1.2
SUW pmax pmax
comp=Z,50nm,1.1s
NONG Nongkai 73.71 278 P P 17 32 33.1 +0.2
comp=Z,1.4nm,0.8s
BTK Batken 73.75 315 *e*P P 17 32 32.5 -0.5
comp=Z,7.7nm,1.0s
BTK Batken 73.75 315 *e*P P 17 32 32.5 -0.5
BTK pmax pmax
comp=Z,8.0nm,1.0s
VSR Storozhevoye 73.85 341⇑*e*P P 17 32 32.0 -1.2
VSR pmax pmax
comp=Z,16nm,0.4s
SKNT Sakolnakorn 74.04 277 P P 17 32 35.0 +0.1
comp=Z,28nm,0.9s
SHL Shillong 74.61 292 *e*P P 17 32 37.6 -0.8
comp=Z,19nm,0.9s
SHL Shillong 74.61 292 *e*P P 17 32 37.6 -0.8
SHL pmax pmax
comp=Z,19nm,0.9s
GAR Garm 74.84 315 *e*P P 17 32 39.0 -0.4
comp=Z,30nm,1.3s
GAR Garm 74.84 315 *e*P P 17 32 39.0 -0.4
GAR pmax pmax
comp=Z,30nm,1.3s
LAMP Lampang 75.48 281 P P 17 32 43.9 +0.7
comp=Z,7.6nm,0.9s
UTTA Uttaradit 75.52 280 P P 17 32 43.4 0.0
comp=Z,26nm,0.8s,comp=Z,198nm
NRDL Niedersach Rie 75.57 360 *e*P P 17 32 43.5 +0.4
baz=2.1,slow=5.7

CMMT Chiang Mai 75.67 282 P **P** 17 32 44.1 -0.2
comp=Z,22nm,1.6s
CHTO Chiang Mai 75.67 282 *e*P **P** 17 32 44.0 -0.3
comp=Z,18nm,1.0s
CHTO Chiang Mai 75.67 282 P **P** 17 32 44.2 -0.1
comp=Z,94nm,1.6s
IBBN Ibbenburen 75.74 1 *e*P **P** 17 32 45.1 +0.9
comp=Z,34nm,1.2s,baz=2,1,slow=5.7
ASSE Asse, Remlinge 75.93 359 *e*P **P** 17 32 45.5 +0.3
comp=Z,9.1nm,0.9s,baz=2,1,slow=5.7
CM31 Chiang Mai Arr 75.95 282 *e*P **P** 17 32 45.9 0.0
CMAR Chiang Mai Arr 75.95 282 P **P** 17 32 45.7 -0.2
comp=Z,23nm,0.8s,baz=27,slow=6.7,SNR=144
CMAR Chiang Mai Arr 75.95 282 P **P** 17 32 45.7 -0.2
CMAR pmax pmax
comp=Z,22nm,0.8s
CM01 Chiang Mai Arr 75.97 282 *e*P **P** 17 32 45.5 -0.5
AKASG Malin Array Be 76.01 347 P **P** 17 32 43.9 -1.9
comp=Z,1.9nm,0.3s,baz=14,slow=5.7,SNR=13
AKASG LR LR 18 11 56.3
comp=Z,157nm,18.5s,baz=340,slow=40
AKBB Malin Array Si 76.01 347 *e*P **P** 17 32 43.9 -1.8
AKBB Malin Array Si 76.01 347 *e*P **P** 17 32 43.9 -1.8
KIEV Kiev 76.02 347 *e*P **P** 17 32 43.9 -1.9
comp=Z,7.8nm,0.8s
KIEV Kiev 76.02 347⇓ *i*P **P** 17 32 44.2 -1.6
KIEV Kiev 76.02 347⇓ *e*P **P** 17 32 44.4 -1.4
KIEV pmax pmax
comp=Z,8.0nm,0.8s
AK11 Malin Array Si 76.04 347 *e*P **P** 17 32 43.9 -2.0
GUN Gumba 76.13 298 *e*P **P** 17 32 46.3 -1.0
comp=Z,48nm,0.7s
JIRN Jiri 76.16 297 *e*P **P** 17 32 46.7 -0.8
comp=Z,89nm,0.7s
PBKT Sadao Pong 76.18 279 *e*P **P** 17 32 47.0 -0.2
comp=Z,22nm,0.8s
PBKT Sadao Pong 76.18 279 P **P** 17 32 47.2 0.0
comp=Z,32nm,0.8s,comp=Z,2μm
CLZ Clausthal 76.22 359 *e*P **P** 17 32 47.9 +0.9
comp=Z,13nm,0.9s,baz=2,1,slow=5.7
SUKH Sukhothai 76.28 281 P **P** 17 32 48.8 +1.0
comp=Z,7.5nm,1.0s
RAMN Ramite 76.49 297 *e*P **P** 17 32 48.0 -1.2
comp=Z,43nm,0.7s
KKN Kakani 76.55 298 *e*P **P** 17 32 48.6 -0.9
comp=Z,24nm,0.8s
PKIN Phulchoki 76.66 298 *e*P **P** 17 32 48.4 -1.8
comp=Z,28nm,1.1s
CLL Collm 76.71 358 *e*P **P** 17 32 48.9 -0.8
comp=Z,14nm,1.0s
CLL Collm 76.71 358 *e*P **P** 17 32 49.8 +0.1
comp=Z,14nm,1.0s,baz=2,1,slow=5.7
CLL Collm 76.71 358 *i* P **P** 17 32 48.7 -1.0
comp=Z,14nm,1.0s
CLL *es*P **pP** 17 33 00.0 +1.1
CLL *e*SS SS 17 47 54.0 +25
CLL LmV 18 11 00.0
comp=Z,200nm,19.7s
CLL Collm 76.71 358 *e*P **P** 17 32 48.9 -0.8
CLL pmax pmax
comp=Z,14nm,1.0s
DZM Mont Dzumac 76.75 202 P **P** 17 32 50.7 +0.5
comp=Z,3.5nm,0.6s,baz=77,slow=16,SNR=3.9
DZM Mont Dzumac 76.75 202 *e*LR LR 17 56 26.9
comp=Z,224nm,22.1s
DMN Daman 76.79 298 *e*P **P** 17 32 50.4 -0.5
comp=Z,26nm,0.9s
NEUB Neuenburg 76.84 359 *e*P **P** 17 32 51.3 +0.9
comp=Z,26nm,1.2s,baz=2,1,slow=5.7
DANN Dangsing 76.93 299 *e*P **P** 17 32 50.7 -1.0
comp=Z,49nm,0.7s
FBE Freiberg 77.09 357 *e*P **P** 17 32 52.6 +0.8
comp=Z,19nm,1.1s,baz=2,1,slow=5.7
BRG Berggiesshubel 77.12 357 *e*P **P** 17 32 51.1 -0.9
comp=Z,12nm,1.0s
BRG Berggiesshubel 77.12 357 *e*P **P** 17 32 52.3 +0.2
comp=Z,12nm,1.0s,baz=2,1,slow=5.7
BRG Berggiesshubel 77.12 357 *e*P **P** 17 32 51.1 -0.9
BRG pmax pmax
comp=Z,9.0nm,1.0s
MOX Moxa 77.40 359 *e*P **P** 17 32 54.0 +0.4
comp=Z,11nm,0.8s,baz=2,1,slow=5.7
UPC Upice 77.41 356 *e*P **P** 17 32 53.5 -0.2
UPC Upice 77.41 356 *e*P **P** 17 32 53.5 -0.2
PVCC Panska Ves 77.45 357 *e*P **P** 17 32 54.4 +0.5
PVCC Panska Ves 77.45 357 *e*P **P** 17 32 54.4 +0.5
OJC Ojcow 77.47 353 *e*P **P** 17 32 54.5 +0.5
comp=Z,8.6nm,0.8s
OJC Ojcow 77.47 353 *e*P **P** 17 32 54.6 +0.5
OJC pmax pmax
comp=Z,9.0nm,0.8s
KOLN Koldanda 77.47 299 *e*P **P** 17 32 53.4 -1.3
comp=Z,20nm,0.9s
SRAK Srakaew 77.50 277 P **P** 17 32 52.9 -1.8
comp=Z,280nm,0.8s,comp=Z,2μm
PYUN Piuthan 77.54 300 *e*P **P** 17 32 53.6 -1.4
comp=Z,39nm,0.9s
DPC Dobruska-Polom 77.55 356 *e*P **P** 17 32 54.4 -0.1
DPC Dobruska-Polom 77.55 356 *e*P **P** 17 32 54.4 -0.1
TBI Tubuai 77.55 160 *e*LR LR 17 56 41.4
comp=Z,549nm,35.8s
TBI Tubuai 77.55 160 *e*T T 18 58 07.3
comp=Z,9.5nm,0.3s
PLN Plauen 77.55 358 *e*P **P** 17 32 54.9 +0.4
comp=Z,5.8nm,0.9s,baz=2,1,slow=5.7
UMPA Umpang Tak 77.73 281 P **P** 17 32 57.9 +1.9
comp=Z,13nm,0.9s,comp=Z,111nm
WERN Wernitzgruen 77.75 358 *e*P **P** 17 32 56.2 +0.6
comp=Z,12nm,1.0s,baz=2,1,slow=5.7
NKC Novy Kostel 77.80 358 *e*P **P** 17 32 56.2 +0.3
NKC Novy Kostel 77.80 358 *e*P **P** 17 32 56.2 +0.3
TNS Taunus Mts 77.84 1 *e*P **P** 17 32 56.6 +0.4
comp=Z,9.0nm,0.8s,baz=2,1,slow=5.7
UTHA Uthaitani 77.88 280 P **P** 17 32 57.4 +0.6
comp=Z,10nm,1.1s,comp=Z,91nm
GIVF Givet 77.89 3 *e*P **P** 17 32 56.9 +0.6
GIVF pmax pmax
comp=Z,2.0nm,0.3s
BAIF Baives 77.91 3 *e*P **P** 17 32 56.3 -0.1
BAIF pmax pmax
comp=Z,7.0nm,0.7s
NIL Nilore 77.94 310 *e*P **P** 17 32 56.8 -0.2
comp=Z,16nm,0.8s
PRU Pruhonice 77.99 357 *e*P **P** 17 32 56.7 -0.2
PRU Pruhonice 77.99 357 *e*P **P** 17 32 56.7 -0.2
GOPC GO Pecny, Ondr 78.05 357 *e*P **P** 17 32 56.7 -0.6
GOPC GO Pecny, Ondr 78.05 357 *e*P **P** 17 32 56.7 -0.6
MORC Moravsky Berou 78.06 355 *e*P **P** 17 32 56.7 -0.6
comp=Z,6.8nm,0.8s
MORC Moravsky Berou 78.06 355⇑ *i*P **P** 17 32 56.8 -0.6
MORC Moravsky Berou 78.06 355 *e*P **P** 17 32 56.7 -0.6
MORC pmax pmax
comp=Z,7.0nm,0.8s
MORC Moravsky Berou 78.06 355 *e*P **P** 17 32 56.7 -0.6
LANS Liptovska Anna 78.56 353 *e*P **P** 17 33 00.8 +0.7
VRAC Vranov 78.58 355 P **P** 17 32 59.6 -0.6
comp=Z,14nm,0.8s,baz=356,slow=3.9,SNR=14
VRAC Vranov 78.58 355⇑ *i*P **P** 17 32 59.8 -0.4
VRAC Vranov 78.58 355 *e*P **P** 17 32 59.8 -0.4
GOF Gofitskoye 78.80 336 *e*P **P** 17 33 00.8 -0.7
KRUC Moravsky 78.83 355 *e*P **P** 17 33 01.1 -0.5
KHC Kasperske Hory 78.88 357 *e*P **P** 17 33 01.2 -0.7
comp=Z,5.0nm,0.9s
KHC Kasperske Hory 78.88 357 *e*P **P** 17 33 01.7 -0.2
KHC Kasperske Hory 78.88 357 *e*P **P** 17 33 01.7 -0.2
FLN La Foliniere 78.95 7 *e*P **P** 17 33 01.3 -0.9
FLN pmax pmax
comp=Z,72nm,1.8s
JAVC Velka Javorina 78.97 355 *e*P **P** 17 33 03.0 +0.6
SRDT SRDT 79.01 279 P **P** 17 33 03.2 +0.2
comp=Z,43nm,0.9s
PATY Pattaya 79.06 277 P **P** 17 33 04.0 +0.7
comp=Z,18nm,0.8s,comp=Z,640nm
LDF La Druitiere 79.14 6 *e*P **P** 17 33 02.5 -0.8
LDF pmax pmax
comp=Z,5.0nm,0.4s
GEC2 GERESS Array S 79.16 357 *e*P **P** 17 33 02.8 -0.7
comp=Z,7.5nm,0.8s
GEC2 GERESS Array S 79.16 357 *e*P **P** 17 33 03.8 +0.3
comp=Z,8.4nm,0.8s,baz=2,1,slow=5.7
GEC2 GERESS Array S 79.16 357 *e*P **P** 17 33 02.8 -0.7
GEC2 pmax pmax
comp=Z,8.0nm,0.8s
GERES GERESS Array B 79.16 357 P **P** 17 33 02.7 -0.7
comp=Z,4.7nm,0.7s,baz=15,slow=5.5,SNR=31
GEA0 GERESS Array S 79.17 357 *e*P **P** 17 33 02.9 -0.7

VYHS Vyhne 79.26 354 *e*P **P** 17 33 03.4 -0.5
GRR Gorron 79.29 7 *e*P **P** 17 33 02.9 -1.2
GRR pmax pmax
comp=Z,96nm,2.0s
TRPA Tarpa 79.32 351⇑ *i*P **P** 17 33 04.2 0.0
SMOL Smolenice 79.33 355 P **P** 17 33 05.6 +1.3
MODS Modra-Piesok 79.47 355 *e*P **P** 17 33 06.0 +0.9
BURAR Bucovina Array 79.55 349⇑ *i*P **P** 17 33 04.6 -1.1
BURAR Bucovina Array 79.55 349 P **P** 17 33 04.5 -1.1
CDF Champ du Feu 79.64 1 *e*P **P** 17 33 05.8 -0.3
CDF pmax pmax
comp=Z,17nm,1.1s
BFO Black Forest 79.73 1 *i* P **P** 17 33 07.4 +0.9
PSZ Piszkesteto 79.75 353 *e*P **P** 17 33 07.0 +0.3
PHET Kaeng Krachan 79.82 278 P **P** 17 33 08.2 +0.7
comp=Z,14nm,0.8s,comp=Z,110nm
ECH Echery 79.83 2 *e*P **P** 17 33 07.0 -0.1
comp=Z,7.7nm,0.9s
ECH Echery 79.83 2 *e*P **P** 17 33 07.0 -0.1
ECH pmax pmax
comp=Z,8.0nm,0.9s
CLF Chambon-Foret 79.85 5 *e*P **P** 17 33 07.7 +0.6
comp=Z,30nm,0.9s
CONA Conrad Observa 79.99 356 *e*P **P** 17 33 08.9 +0.9
comp=Z,12nm,0.7s,SNR=8.3
HAU Haudompre 80.03 2 *e*P **P** 17 33 07.9 -0.2
HAU pmax pmax
comp=Z,11nm,0.7s
KBZ Khabaz 80.08 336 P **P** 17 33 07.3 -1.1
comp=Z,2.6nm,0.7s,baz=138,slow=4.6,SNR=7.4
KBZ LR LR 18 13 36.8
comp=Z,152nm,18.4s,baz=1.0,slow=40
BIZ Bicaz 80.11 349⇑ *i*P **P** 17 33 08.5 -0.1
NCK Nalchik 80.13 336⇑ *e*P **P** 17 33 10.1 +1.3
NCK pmax pmax
comp=Z,48nm,1.4s
MOA Molln 80.13 357 *e*P **P** 17 33 09.2 +0.4
comp=Z,6.9nm,0.9s
ARCR ARCALIA 80.17 350⇓ *i*P **P** 17 33 09.3 +0.4
HINF Hinteralfeld 80.22 2 *e*P **P** 17 33 08.8 -0.4
HINF pmax pmax
comp=Z,6.0nm,0.7s
RJOB Jochberg 80.29 358 *e*P **P** 17 33 10.1 +0.5
comp=Z,9.7nm,0.8s,baz=2,1,slow=5.7
RETA Reutte 80.57 359 *e*P **P** 17 33 11.9 +0.7
comp=Z,10nm,1.0s
DRGR 80.63 351⇓ *i*P **P** 17 33 10.3 -1.2
GEYT Alibeck 80.66 323 P **P** 17 33 11.4 -0.3
comp=Z,26nm,0.8s,baz=294,slow=4.4,SNR=6.2
GEYT LR LR 18 13 15.5
comp=Z,186nm,18.1s,baz=50,slow=39
ARSA Arzberg 80.68 356 *e*P **P** 17 33 12.6 +1.0
comp=Z,7.7nm,0.8s
LOR Lormes 80.68 4 *e*P **P** 17 33 11.4 -0.3
LOR pmax pmax
comp=Z,8.0nm,0.6s
MOTA Moosalm 80.71 359 *e*P **P** 17 33 12.6 +0.6
comp=Z,15nm,0.9s,SNR=6.6
WATA Walderalm 80.72 359 *i* P **P** 17 33 12.8 +0.7
comp=Z,3.1nm,0.4s
SQTA Sankt Quirin 80.84 359 *e*P **P** 17 33 12.9 +0.3
comp=Z,22nm,0.8s,SNR=7.7
SSF Saint Saulge 80.87 4 *e*P **P** 17 33 12.5 -0.2
SSF pmax pmax
comp=Z,12nm,0.6s
KBA Koelnbreinsper 80.93 357 P **P** 17 33 14.5 +1.3
KBA Koelnbreinsper 80.93 357 *e*P **P** 17 33 14.5 +1.3
comp=Z,41nm,0.8s,SNR=7.1
SOC Sochi 80.98 338 *e*P **P** 17 33 12.5 -0.8
SOC *e*S **S** 17 43 20.9 +0.9
SOC *e*SS **SS** 17 48 34.7 +1.7
SOC pmax pmax
comp=Z,15nm,0.6s
SOC MLR MLR
comp=Z,163nm,16.0s
FETA Feichten 81.04 359 *e*P **P** 17 33 14.8 +1.0
comp=Z,9.6nm,0.7s,SNR=6.1
MFF Saint Martin d 81.12 7 *e*P **P** 17 33 13.8 -0.2
MFF pmax pmax
comp=Z,66nm,1.7s
AVF Avril sur Loir 81.14 4 *e*P **P** 17 33 13.7 -0.4
AVF pmax pmax
comp=Z,15nm,0.8s
DOPR Dopca 81.15 349⇑ *i*P **P** 17 33 14.7 +0.5
SIRR Siria 81.25 351⇑ *i*P **P** 17 33 14.9 +0.2
RKT Rikitea 81.27 147 *e*T T 19 02 45.4
comp=Z,2.7nm,0.2s
SOKA Soboth 81.28 356 *e*P **P** 17 33 15.6 +0.7
comp=Z,14nm,0.9s,SNR=10
ABTA Abfaltersbach 81.29 358 *e*P **P** 17 33 15.6 +0.6
comp=Z,13nm,1.1s
DAVOX Davos/Dischmat 81.29 360 P **P** 17 33 15.5 +0.4
comp=Z,12nm,0.7s,baz=342,slow=7.0,SNR=17
SMF Signal de Mont 81.30 4 *e*P **P** 17 33 14.7 -0.3
SMF pmax pmax
comp=Z,17nm,0.8s
PERS Pernice 81.31 356 *e*P **P** 17 33 14.8 -0.3
CTA Charters Tower 81.32 221 P **P** 17 33 15.6 +0.4
comp=Z,5.9nm,0.9s,baz=34,slow=7.5,SNR=6.7
MYKA Terra Mystica 81.37 357 *i* P **P** 17 33 16.7 +1.3
comp=Z,5.3nm,0.7s
CABF La Chapelle 81.41 2 *e*P **P** 17 33 15.9 +0.2
CABF pmax pmax
comp=Z,18nm,0.8s
FUORN Ofenpass-Fuorn 81.44 359 *e*P **P** 17 33 17.0 +1.0
comp=Z,18nm,1.1s
OBKA Obir 81.46 356 *e*P **P** 17 33 16.6 +0.6
comp=Z,14nm,0.8s
TLCR 81.47 346⇑ *i*P **P** 17 33 15.4 -0.4
MORH Mrgy, Hungar 81.54 354 *e*P P 17 33 09.0 -7.1
MLR Muntele Rosu 81.55 348 P **P** 17 33 16.9 +0.4
comp=Z,2.4nm,0.6s,baz=259,slow=6.4,SNR=5.0
MLR LR LR 18 12 47.6
comp=Z,266nm,20.6s,baz=1.0,slow=38
MLR Muntele Rosu 81.55 348 *e*P **P** 17 33 16.9 +0.4
comp=Z,35nm,2.0s
MLR Muntele Rosu 81.55 348⇑ *i*P **P** 17 33 16.2 -0.3
MLR Muntele Rosu 81.55 348 *e*P **P** 17 33 16.9 +0.4
MLR pmax pmax
comp=Z,35nm,2.0s
TUE Stuetta 81.59 0 *e*P **P** 17 33 16.5 -0.3
comp=Z,10nm,0.8s
VOIR 81.71 349⇓ *i*P **P** 17 33 17.5 +0.2
VOIR 81.71 349 P **P** 17 33 17.5 +0.2
ARR Arges 81.83 349⇓ *i*P **P** 17 33 17.4 -0.5
BZS Buzias 81.89 351⇑ *i*P **P** 17 33 17.0 -1.1
BZS Buzias 81.89 351 P **P** 17 33 17.0 -1.1
GZR Gura Zlata 82.00 351⇑ *i*P **P** 17 33 18.2 -0.6
GZR Gura Zlata 82.00 351 P **P** 17 33 18.1 -0.7
JAVS Javornik 82.09 357 *i* P **P** 17 33 17.9 -1.4
VISS Visnje 82.16 356 *e*P **P** 17 33 18.9 -0.6
TLB Topalu 82.17 347⇓ *i*P **P** 17 33 18.9 -0.6
TLB Topalu 82.17 347 P **P** 17 33 18.9 -0.6
TIRR Tirgusor 82.24 346⇓ *i*P **P** 17 33 19.5 -0.4
TIRR Tirgusor 82.24 346 P **P** 17 33 19.5 -0.4
BOJS Bojanci 82.44 356 *e*P **P** 17 33 20.4 -0.5
RJF Les Rejaudoux 82.52 6 *e*P **P** 17 33 20.9 -0.5
RJF pmax pmax
comp=Z,8.0nm,0.8s
LPL La Plagne 82.52 2 *e*P **P** 17 33 23.5 +1.8
LPL pmax pmax
comp=Z,6.0nm,0.8s
LPG La Plagne 82.54 2 *e*P **P** 17 33 23.7 +1.8
LPG pmax pmax
comp=Z,6.0nm,0.8s
MDVR Moldovita 82.71 351⇓ *i*P **P** 17 33 22.2 -0.3
LFF La Frestale 82.83 6 *e*P **P** 17 33 22.9 -0.1
LFF pmax pmax
comp=Z,9.0nm,0.6s
CAF Calviac 82.93 5 *e*P **P** 17 33 23.6 0.0
CAF pmax pmax
comp=Z,11nm,1.0s
GNI Garni 82.95 334 LR LR 18 19 30.7
comp=Z,45nm,18.2s,baz=1.0,slow=42
BNI Bardonecchia 82.98 2 *e*P **P** 17 33 24.3 +0.3
comp=Z,14nm,0.8s
BNI Bardonecchia 82.98 2 *e*P **P** 17 33 24.3 +0.3
BNI pmax pmax
comp=Z,14nm,0.8s
ORIF Oris-en-Rattie 83.10 3 *e*P **P** 17 33 25.6 +1.1
ORIF pmax pmax
comp=Z,9.0nm,0.8s
VIVF Saint-Julien-l 83.12 3 *e*P **P** 17 33 25.5 +0.9
VIVF pmax pmax
comp=Z,5.0nm,0.7s

MBDF Montbardon 83.31 2 *e*P **P** 17 33 29.3 +3.6
MBDF pmax pmax
comp=Z,8.0nm,0.9s
ZIMR 83.43 348⇑ *i*P **P** 17 33 29.2 +3.1
TRTT Trang 83.74 275 P **P** 17 33 29.3 +1.2
comp=Z,8.7nm,1.0s
SBF Sospel 84.19 1 *e*P **P** 17 33 32.7 +2.6
SBF pmax pmax
comp=Z,35nm,1.1s
SJG San Juan 84.31 68 LR LR 18 06 48.1
comp=Z,70nm,21.8s,baz=74,slow=32
SJPF Ste Jean 84.50 8 *e*P **P** 17 33 32.6 +1.0
SJPF pmax pmax
comp=Z,93nm,2.1s
MTLF Montolieu 84.52 5 *e*P **P** 17 33 31.2 -0.5
MTLF pmax pmax
comp=Z,11nm,1.0s
VTS Vitosha 84.73 350 *e*P **P** 17 33 31.9 -1.0
comp=Z,5.0nm,0.9s
VTS Vitosha 84.73 350⇓ *i*P **P** 17 33 32.3 -0.7
VTS Vitosha 84.73 350 *e*P **P** 17 33 31.9 -1.0
VTS pmax pmax
comp=Z,5.0nm,0.9s
ETSF Etsaut 84.77 7 *e*P **P** 17 33 33.3 +0.2
ETSF pmax pmax
comp=Z,70nm,1.6s
PGAV Gavieira, Arco 84.85 13 *e*P **P** 17 33 37.5 +4.0
KULM Kulim 85.14 272 *e*P **P** 17 33 34.4 -0.8
comp=Z,14nm,0.9s
PGF Pioggiola 85.52 0 *e*P **P** 17 33 36.8 0.0
PGF pmax pmax
comp=Z,49nm,1.0s
IPM Ipoh 85.55 272 *e*P **P** 17 33 36.4 -0.8
comp=Z,14nm,0.8s
STIP Stip 85.73 350 *i* P **P** 17 33 37.0 -0.8
BR101 Keskin Array S 85.96 342 *e*P **P** 17 33 39.0 -0.2
BR131 Keskin Array S 85.96 342 *e*P **P** 17 33 38.7 -0.5
BRTR Keskin Array B 85.96 342 P **P** 17 33 39.0 -0.2
comp=Z,2.8nm,0.8s,baz=34,slow=1.6,SNR=12
BRTR LR LR 18 17 12.4
comp=Z,63nm,20.5s,baz=27,slow=39
BRTR Keskin Array B 85.96 342 *i* P **P** 17 33 40.0 +0.8
BRTR pmax pmax
comp=Z,3.0nm,0.8s
VAY Valandovo 86.06 350 *i* P **P** 17 33 41.1 +1.7
KRUS Krusevo 86.14 351 *i* P **P** 17 33 39.0 -1.0
SRS Serrai 86.15 349 P **P** 17 33 40.0 +0.1
WR1 Warramunga Arr 86.42 231 *e*P **P** 17 33 40.5 -0.8
comp=Z,31nm,1.8s
WRA Warramunga Arr 86.42 231 P **P** 17 33 40.5 -0.8
comp=Z,3.1nm,0.8s,baz=35,slow=6.0,SNR=8.6
PCAS Casmilo, Conde 86.69 14 *e*P **P** 17 33 42.3 -0.3
PCBR Castelo Branco 87.04 13 *e*P **P** 17 33 43.8 -0.5
comp=Z,32nm,1.8s
LIT Litokhoron 87.27 350 *e*P **P** 17 33 44.7 -0.7
comp=Z,13nm,0.7s
LIT Litokhoron 87.27 350 *e*P **P** 17 33 44.7 -0.7
LIT pmax pmax
comp=Z,13nm,0.7s
ES19 SONSECA Array 87.63 10 *e*P **P** 17 33 46.6 -0.6
ESDC Sonseca Array 87.64 10 P **P** 17 33 46.4 -0.9
comp=Z,5.4nm,0.7s,baz=349,slow=4.6,SNR=31
IGT Igoumenitsa 88.05 352 P **P** 17 33 48.7 -0.4
PSI Prapat 88.15 272 *e*P **P** 17 33 49.0 -1.1
comp=Z,39nm,0.8s
PSI Prapat 88.15 272 *e*P **P** 17 33 49.0 -1.1
PSI pmax pmax
comp=Z,39nm,0.8s
HYB Hyderabad 88.55 297 *i* P **P** 17 33 50.0 -1.8
SDV Santo Domingo 89.02 77 *e*P **P** 17 33 55.5 +1.2
comp=Z,11nm,0.8s
PVAQ Vaqueiros 89.40 14 *e*P **P** 17 33 54.9 -0.6
ASAR Alice Springs 89.82 229 P **P** 17 33 57.2 -0.3
comp=Z,8.6nm,0.8s,baz=34,slow=4.8,SNR=27
ASAR LR LR 18 10 24.3
comp=Z,67nm,19.2s,baz=59,slow=33
GSI Gunungsitoli 90.15 272 *e*P **P** 17 33 58.6 -0.7
comp=Z,17nm,1.0s
VAE Valguarnera 90.48 356 LR LR 18 18 10.0
comp=Z,117nm,18.1s,baz=342,slow=38
STKA Stephens Creek 93.70 219 P **P** 17 34 14.3 -0.9
comp=Z,2.7nm,0.8s,baz=344,slow=9.8,SNR=4.6
STKA LR LR 18 10 10.3
comp=Z,165nm,21.0s,baz=26,slow=31
STKA Stephens Creek 93.70 219 *e*P **P** 17 34 14.3 -0.9
comp=Z,7.1nm,2.0s
STKA Stephens Creek 93.70 219 *e*P **P** 17 34 14.3 -0.9
STKA pmax pmax
comp=Z,7.0nm,2.0s
MDT Midelt 94.34 12 P **P** 17 34 17.6 -1.0
comp=Z,4.5nm,0.9s,baz=17,slow=3.7,SNR=9.4
TOA1 Torodi Ar. Sit 114.46 8 *e*PKKPbc PKKPbc 17 50 23.2 +7.4
TORD Torodi Ar. Bea 114.46 8 PKKPbc PKKPbc 17 50 15.1 -0.6
comp=Z,0.4nm,0.6s,baz=176,slow=3.6,SNR=3.8
TORD PKKPab **PKKPbc** **17 50 23.2 +7.5**
comp=Z,1.3nm,0.8s,baz=168,slow=7.4,SNR=7.4
KMBO Kilima Mbogo 123.96 326 PKP **PKPdf** 17 39 57.7 +0.1
comp=Z,0.8nm,0.4s,baz=3.4,slow=5.4,SNR=4.9
CPUP Villa Florida 124.41 89 PKP **PKPdf** 17 39 57.6 0.0
comp=Z,1.7nm,0.7s,baz=334,slow=9.2,SNR=4.3
PLCA Paso Flores 126.42 112 PKP **PKPdf** 17 40 00.8 -0.4
comp=Z,2.2nm,0.7s,baz=225,slow=3.8,SNR=5.6
TSUM Tsumeb 146.36 346 *e*PKPdf **PKPdf** 17 40 39.3 +0.7
MAW Mawson 150.39 218 PKPbc **PKPbc** 17 40 48.4 -0.3
comp=Z,9.8nm,0.8s,baz=94,slow=2.1,SNR=13
MAW Mawson 150.39 218 *e*PKPdf **PKPdf** 17 40 48.0 +4.6
MAW Mawson 150.39 218 *e*PKIKP **PKPdf** 17 40 48.0 +4.6
BOSA Boshof 153.58 328 PKPbc **PKPbc** 17 40 56.9 -0.5
comp=Z,4.5nm,0.5s,baz=30,slow=1.8,SNR=20
BOSA PKPab **sPKPbc** **17 41 09.9 -0.4**
comp=Z,7.1nm,0.7s,baz=336,slow=2.1,SNR=7.1

IDC ***10*** *17:27:06.4±0.8,35°10N×27°63E, h0km, mb4.0/13, mb1 4.0/19, mb1mx3.8/40, mbtmp3.9/19, ML3.6/6, Error ellipse: s-maj=19.6km s-min=14.7km az=173.0*
ISCJB ***10*** *17:27:08.7±0.8, 34°94N±0°03×27°83E±0°02, h26km±7km, mb3.9/16, MS3.4/1, Error ellipse: s-maj=4.2km s-min=3.0km az=171.6*
ATH ***10*** *17:27:08.7, 35°01N×27°70E, h13km±3km, ML3.6/1, Error ellipse: s-maj=5.4km s-min=1.9km az=330.0*
ISK ***10*** *17:27:08.4, 35°07N×27°66E, h9km, ML3.6/22*
MOS ***10*** *17:27:09.6±1.6, 35°07N×27°73E, h25km, mb4.2/9, Error ellipse: s-maj=10.6km s-min=7.0km az=77.1*
THE ***10*** *17:27:10.0, 35°12N×27°71E, h0km, ML3.6/3, Error ellipse: s-maj=2.4km s-min=1.0km az=148.0*
DDA ***10*** *17:27:10.9, 35°21N×27°80E, h31km±2km, ML3.7*
HLW ***10*** *17:27:14.5, 34°56N×27°86E, h14km±9km, Md3.9, Ml3.8*

ISC 10 17:27:08.8±1.2, 35°04N±0°04×27°72E±0°03, h14km±7km, n147, σ1°73/171, mb4.0/15, 1C-5D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
KARP	**Karpathos**	**0.68**	**318**	PG	**Pg**	**17 27 21.7**	**-0.4**
KARP				SG	**Sg**	**17 27 30.2**	**-0.9**
KARP	**Karpathos**	**0.68**	**318**	P	**Pg**	**17 27 21.6**	**-0.4**
KARP				S	**Sb**	**17 27 32.1**	**+0.4**
KARP	**Karpathos**	**0.68**	**318**	P	**Pg**	**17 27 21.4**	**-0.7**
KARP				S	**Sb**	**17 27 33.0**	**+1.3**
ARG	**Arkhangelos**	**1.22**	**16**	PN	**Pn**	**17 27 31.3**	**0.0**
ARG				SN	**Sg**	**17 27 49.4**	**+1.2**
ARG	**Arkhangelos**	**1.22**	**16**	P	**Pg**	**17 27 32.4**	**+0.2**
ARG				AML	AML	17 28 03.4	
	comp=N,4441μm,0.7s						
ARG				AML	AML	17 28 04.2	
	comp=E,4505μm,1.4s						
ARG	**Arkhangelos**	**1.22**	**16**	P	**Pg**	**17 27 32.0**	**-0.3**
ARG				S	**Sg**	**17 27 48.5**	**+0.3**
ARG	**Arkhangelos**	**1.22**	**16**	P	**Pn**	**17 27 31.3**	**0.0**
ARG				S	**Sg**	**17 27 49.3**	**+1.1**
ZKR	**Zakros**	**1.23**	**274**	PN	**Pn**	**17 27 31.3**	**-0.3**
ZKR	**Zakros**	**1.23**	**274**	P	**Pb**	**17 27 31.9**	**+0.1**
ZKR	**Zakros**	**1.23**	**274**	P	**Pb**	**17 27 31.8**	**0.0**
ZKR				S	**Sg**	**17 27 50.3**	**+1.7**
STIA	**Sitia Lasithi**	**1.34**	**277**	P	**Pb**	**17 27 33.9**	**+0.2**
STIA				S	**Sg**	**17 27 53.2**	**+1.1**
DAT	**Datca**	**1.69**	**356**	PN	**Pn**	**17 27 38.2**	**+0.3**
DAT	**Datca**	**1.69**	**356**	*i* P	**Pb**	**17 27 39.5**	**-0.2**
DAT				*i* S	**Sg**	**17 28 04.6**	**+1.4**
DATC	**Datca-Mugla**	**1.71**	**358**	PN	**Pn**	**17 27 38.8**	**+0.6**
NPS	**Neapolis**	**1.74**	**278**	P	**Pb**	**17 27 41.0**	**+0.5**
NPS	**Neapolis**	**1.74**	**278**	P	**Pb**	**17 27 40.8**	**+0.3**
NPS	**Neapolis**	**1.74**	**278**	P	**Pb**	**17 27 40.8**	**+0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LAST	Lasithi	1.84	274	P	Pb	17 27 41.8	-0.4
LAST	Lasithi	1.84	274	P	Pb	17 27 41.9	-0.3
KSL	Kastellorizon	1.88	53	P	Pn	17 27 41.1	+0.7
DALY	Dalyan (Mula)	1.93	23	PN	Pb	17 27 42.6	-1.0
DALY	Dalyan (Mula)	1.93	23	*i* P	Pn	17 27 42.3	+1.2
FETY	Fethiye	1.94	34	PN	Pn	17 27 41.2	-0.1
FETY	Fethiye	1.94	34	P	Pn	17 27 41.6	+0.3
FETY	Fethiye	1.94	34	*i* P	Pn	17 27 42.2	+0.9
AKAS	Kas	1.94	52	PN	Pn	17 27 42.7	+1.3
AKAS	Kas	1.94	52	IAML_P			
	comp=Z,6µm,0.2s						
AKAS				*i* P	Pn	17 27 42.5	+1.1
AKAS				*i* S	Sb	17 28 07.0	-1.1
TURN	Turunc	1.96	21	PN	Pn	17 27 39.9	-1.7
BDRM	Kayabasi	2.03	354	*i* P	Pn	17 27 43.2	+0.6
BDRM				*i* S	Sb	17 28 10.2	-0.4
BODT	Bodrum	2.04	351	PN	Pn	17 27 43.7	+1.0
ANAF	Anafi Island	2.06	310	P	Pn	17 27 43.5	+0.6
YKAV	Yalikavak-Bodr	2.11	350	PN	Pn	17 27 44.5	+0.9
MLSB	Milas	2.25	1	PN	Pn	17 27 46.4	+0.8
SANT	Santorini	2.27	306	PN	Pn	17 27 46.2	+0.4
THR8	Santorini-Mono	2.28	307	P	Pb	17 27 47.9	-1.7
THR6	Thira Island,	2.30	305	P	Pn	17 27 46.8	+0.6
AMGA	Amorgos Island	2.32	321	P	Pn	17 27 47.7	+1.2
THR2	Thira island,	2.33	308	P	Pn	17 27 48.0	+1.4
THR3	Thira Island,	2.33	307	P	Pn	17 27 47.8	+1.2
THR5	Thira Island,	2.37	306	P	Pn	17 27 48.8	+1.7
SIVA	Sivas	2.39	270	P	Pb	17 27 49.5	-1.9
SIVA	Sivas	2.39	270	P	Pb	17 27 49.8	-1.7
ELL	Elmali	2.46	46	PN	Pn	17 27 50.3	+1.7
ELL	Elmali	2.46	46	P	Pn	17 27 50.2	+1.7
IOSP	Ios island	2.59	311	P	Pn	17 27 50.7	+0.5
TAVA	DENIZLI_Tavas	2.60	21	*i* P	Pn	17 27 52.2	+1.7
AYDN	Tasoluk	2.62	3	IAML_P			
	comp=Z,2µm,0.3s						
AYDN				*i* P	Pn	17 27 52.0	+1.3
GOLH	Golhisar	2.65	34	IAML_P			
	comp=Z,3µm,0.2s						
GOLH				*i* P	Pb	17 27 55.0	-1.0
GCAM	G?zelcaml?	2.68	352	PN	Pn	17 27 52.9	+1.4
GCAM	G?zelcaml?	2.68	352	IAML_P			
	comp=Z,1µm,0.3s						
GCAM				*i* P	Pn	17 27 52.4	+0.9
APE	Apeiranthos	2.69	319	PN	Pn	17 27 52.7	+1.1
APE	Apeiranthos	2.69	319	P	Pn	17 27 53.1	+1.5
APE	Apeiranthos	2.69	319⇓	*e*P	Pn	17 27 52.7	+1.1
SMG	Samos	2.76	345	P	Pn	17 27 53.5	+1.0
KORT	Korkueli	2.89	47	PN	Pn	17 27 56.6	+2.1
KORT	Korkueli	2.89	47	IAML_P			
	comp=Z,891nm,0.3s						
KORT				*i* P	Pn	17 27 56.9	+2.4
KORT				*i* S	Sn	17 28 25.2	-4.0
AYDB	Zeytinkoy-Aydi	2.90	3	PN	Pn	17 27 56.0	+1.4
VAM	Vamos	2.90	278	P	Pn	17 27 57.2	+2.7
VAM	Vamos	2.90	278	P	Pn	17 27 57.2	+2.7
DENT	Denizli	2.91	21	PN	Pn	17 27 56.4	+1.8
GVD	Gavdhos	2.99	267	P	Pn	17 27 57.3	+1.6
DGB	zmir	3.08	348	*i* P	Pn	17 27 58.8	+1.8
IMMV	Iera Moni Meta	3.09	279	P	Pn	17 27 59.9	+2.8
IMMV	Iera Moni Meta	3.09	279	P	Pn	17 27 59.9	+2.8
BRDR	BURDUR-Merkez	3.25	35	IAML_P			
	comp=Z,509nm,0.2s						
BRDR				*e*P	Pn	17 28 01.6	+2.2
BCK	Bucak	3.35	43	PN	Pn	17 28 03.1	+2.3
BCK	Bucak	3.35	43	P	Pn	17 28 03.0	+2.3
BLCB	Balcova	3.38	351	PN	Pn	17 28 02.7	+1.6
KERA	Keramoti	3.42	277	P	Pn	17 28 03.4	+1.8
URLA	Izmir	3.43	345	PN	Pn	17 28 03.2	+1.4
URLA	Izmir	3.43	345	IAML_P			
	comp=Z,3µm,0.6s						
URLA				*i* P	Pn	17 28 03.1	+1.3
MANT	Manisa	3.51	11	IAML_P			
	comp=Z,298nm,0.1s						
MANT				*e*P	Pn	17 28 03.6	+0.5
KULA	Kula-Manisa	3.55	12	PN	Pn	17 28 04.6	+1.1
CHOS	Chios island	3.60	339	PN	Pn	17 28 05.4	+1.3
SUTC	Sutluce-Ispart	3.60	47	PN	Pn	17 28 06.4	+2.2
KHAL	Karahalli	3.62	23	IAML_P			
	comp=Z,345nm,0.2s						
KHAL				*i* P	Pn	17 28 05.4	+1.0
KEPZ	Antalya-Kepez	3.66	58	*i* P	Pn	17 28 05.5	+0.6
KEPZ				*i* S	Sn	17 28 43.9	-4.0
ANKY	Antikythira Is	3.70	284	P	Pn	17 28 08.1	+2.7
MATC	Matruh	3.71	186	AMP		17 28 00.0	
	baz=190						
KZIL	AFYON_Kizioren	3.75	31	*i* P	Pn	17 28 07.6	+1.3
AKHS	Akhisar	3.83	1	IAML_P			
	comp=Z,598nm,0.2s						
AKHS				*e*P	Pn	17 28 07.1	-0.2
BAGO	Egridir - ISPA	3.84	39	IAML_P			
	comp=Z,700nm,0.3s						
BAGO				*i* P	Pn	17 28 09.9	+2.4
KTHR	Kythira	4.03	289	P	Pn	17 28 11.0	+1.0
DEMI	Demirci	4.07	11	IAML_P			
	comp=Z,269nm,0.2s						
DEMI				*i* P	Pn	17 28 10.7	0.0
DKL	Dikili	4.08	351	PN	Pn	17 28 12.5	+1.9
SLUM	Salum	4.12	211	P	Pn	17 28 11.8	+0.6
	baz=217						
SHUT	Suhut-Afyon	4.18	32	PN	Pn	17 28 14.4	+2.3
GEDZ	Gediz	4.22	18	PN	Pn	17 28 14.9	+2.2
VLI	Veliai	4.23	295	P	Pn	17 28 13.1	+0.4
GDZ	Gediz	4.28	19	IAML_P			
	comp=Z,593nm,0.3s						
GDZ				*i* P	Pn	17 28 13.5	-0.1
STEP	BALIKESIR_Sava	4.33	360	IAML_P			
	comp=Z,488nm,0.4s						
STEP				*i* P	Pn	17 28 14.9	+0.8
DOGA	KONYA_Doganhis	4.41	45	IAML_P			
	comp=Z,997nm,0.4s						
DOGA				*i* P	Pn	17 28 18.0	+2.6
DOGA				*i* S	Sn	17 29 05.0	-1.6
SIGR	SIGRI	4.42	341	PN	Pn	17 28 16.9	+1.5
BOLV	Bolvadin	4.49	34	IAML_P			
	comp=Z,880nm,0.3s						
BOLV				*i* P	Pn	17 28 19.5	+3.0
ERMK	Ermenek	4.51	68	*i* P	Pn	17 28 17.7	+0.9
ERMK				*i* S	Sn	17 29 09.2	0.0
DURS	Dursunbey	4.59	7	IAML_P			
	comp=Z,246nm,0.4s						
DURS				*i* P	Pn	17 28 19.2	+1.4
KMER	Konya-Meram	4.63	53	IAML_P			
	comp=Z,134nm,0.3s						
KMER				*e*P	Pn	17 28 20.6	+2.2
KMER				*i* S	Sn	17 29 10.5	-1.5
BALY	Balya	4.69	359	IAML_P			
	comp=Z,744nm,0.4s						
BALY				*i* P	Pn	17 28 19.9	+0.8
BAYC	CANAKKALE_Bayr	4.78	349	IAML_P			
	comp=Z,529nm,0.5s						
BAYC				*i* P	Pn	17 28 22.1	+1.7
LTK	Loutraki	4.85	309	P	Pn	17 28 23.4	+2.2
GULN	MERSIN_Gulnar	4.88	75	IAML_P			
	comp=Z,258nm,0.1s						
GULN				*i* P	Pn	17 28 22.9	+1.3
GULN				*i* S	Sn	17 29 16.8	-1.2
KDHN	Kadinhani	4.95	44	*i* P	Pn	17 28 24.5	+1.8
KDHN				*i* S	Sn	17 29 21.9	+2.0
KIZK	Mersin	5.42	73	*e*P	Pn	17 28 29.2	+0.1
KIZK				*i* S	Sn	17 29 31.2	0.0
KERG	Konya-Eregli	5.69	64	IAML_P			
	comp=Z,36nm,0.1s						
KERG				*i* P	Pn	17 28 34.2	+1.2
KERG				*i* S	Sn	17 29 36.2	-2.0
SWA2		6.09	199	P	Pn	17 28 38.6	+0.3
	baz=202						
BRTR	Keskin Array B	6.64	43	Pn	Pn	17 28 47.1	+1.1
	comp=Z,0.8nm,0.3s,baz=356,slow=9.4,SNR=19						
BRTR				Sn	Sn	17 30 00.7	-0.8
	comp=Z,0.7nm,0.3s,baz=219,slow=27,SNR=8.3						
MMAI	Mount Meron Ar	6.69	105	Pn	Pn	17 28 45.2	-1.5
	comp=Z,2.9nm,0.3s,baz=304,slow=10,SNR=15						
MMAI				Sn	Sn	17 30 00.0	-2.7
	comp=Z,3.5nm,0.3s,baz=256,slow=34,SNR=4.0						
BRBR	Barbar	7.01	101	*e*P	Pn	17 28 49.7	-1.4
BRBR				*e*S	Sn	17 29 59.7	-11
BRBR				AML	AML	17 30 13.2	
	comp=E,31nm,0.5s						
BRBR				AML	AML	17 30 22.7	
	comp=N,28nm,0.7s						
QASN	Qassioun	7.24	100	*e*P	Pn	17 28 52.4	-1.8
HNKL	Nakhl	7.34	132	P	Pn	17 28 56.2	+0.6
	baz=130						
TOTH	TOTAH	7.41	101	*e*P	Pn	17 28 49.3	-7.2
TOTH				*e*S	Sn	17 30 02.1	-18
TOTH				AML	AML	17 30 29.8	
	comp=N,14nm,0.8s						
TOTH				AML	AML	17 30 35.6	
	comp=E,18nm,0.7s						
HFRF	Wahat Farafira	7.88	176	P	Pn	17 29 02.0	-0.9
	baz=176						
HFRF				S	Sn	17 30 20.8	-11
	baz=176						
EIL	Elat	8.13	129	Pn	Pn	17 29 05.2	-1.1
	comp=E,0.7nm,0.3s,baz=339,slow=16,SNR=12						
EIL				Sn	Sn	17 30 30.6	-7.4
	comp=E,1.2nm,0.3s,baz=97,slow=17,SNR=3.0						
ASF	Jabal al Asfar	8.17	108	Pn	Pn	17 29 06.6	-0.4
	comp=E,0.2nm,0.3s,baz=221,slow=12,SNR=2.5						
ASF				Sn	Sn	17 30 45.4	+6.2
	comp=E,0.3nm,0.3s,baz=43,slow=18,SNR=2.5						
HBST	Basata	8.31	132	P	Pn	17 29 09.3	+0.5
	baz=130						
VAE	Valguarnera	11.02	287	Pn	Pn	17 29 43.9	-2.1
	comp=E,0.8nm,0.3s,baz=332,slow=19,SNR=2.3						
VAE				Sn	Sn	17 31 33.4	-16
	comp=E,1.0nm,0.3s,baz=74,slow=18,SNR=2.5						
KBZ	Khabaz	14.58	49	Pn	P	17 30 41.1	+0.2
	comp=E,0.0nm,0.3s,baz=211,slow=12,SNR=3.0						
KEST	Kesra	15.01	278	Pn	P	17 30 45.6	-0.2
	comp=E,0.3nm,0.3s,baz=11,slow=2.2,SNR=5.7						
KIEV	Kiev	15.68	4⇓	*e*P	Pn	17 30 50.9	+1.8
KIEV				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	Malin Array Be	15.69	4	Pn	Pn	17 30 50.8	+1.6
	comp=Z,0.6nm,0.3s,baz=194,slow=11,SNR=4.4						
AKASG	Malin Array Be	15.69	4	*e*P	Pn	17 30 48.9	-0.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GERES	GERESS Array B	17.25	327	P	Pn	17 31 09.5	+0.3
	comp=Z,0.2nm,0.3s,baz=141,slow=11,SNR=3.0						
KHC	Kasperske Hory	17.52	328	*e*P	Pn	17 31 11.5	-1.0
KHC	Kasperske Hory	17.52	328	*e*P	Pn	17 31 11.5	-1.0
VSR	Storozhevoye	18.16	24⇑	*e*P	P	17 31 21.2	+0.6
VSR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
OBN	Obninsk	20.99	14⇓	*e*P	P	17 31 50.6	-0.8
OBN				*e*		17 31 57.3	
OBN				*e*S	S	17 35 45.6	+1.0
OBN				*e*SS	SnSn	17 36 12.9	+7.2
OBN				*e*SSS	SSS	17 36 21.4	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.4s						
OBN				MLR	MLR		
	comp=Z,107nm,15.0s						
ESDC	Sonseca Array	25.53	290	P	P	17 32 35.2	-1.7
	comp=Z,0.6nm,0.5s,baz=86,slow=10.0,SNR=5.5						
FINES	FINESS Array B	26.44	358	P	P	17 32 42.4	-2.4
	comp=Z,3.1nm,0.7s,baz=172,slow=11,SNR=3.0						
FINES	FINESS Array B	26.44	358	*e*P	P	17 32 47.6	+2.8
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KLMR	Klimovskoe	26.93	13	*e*P	P	17 32 47.5	-1.6
KLMR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KLMR	Klimovskoe	26.93	13	*e*P	P	17 32 47.6	-1.6
KLMR				AMP		17 32 50.4	
	comp=Z,8.0nm,1.1s						
TORD	Torodi Ar. Bea	32.06	234	P	P	17 33 35.0	-0.2
	comp=Z,1.5nm,0.8s,baz=60,slow=5.8,SNR=7.7						
ARCES	ARCESS Array B	34.57	359	P	P	17 33 55.5	-1.1
	comp=Z,1.6nm,0.6s,baz=171,slow=8.6,SNR=6.0						
KURK	Kurchatov	39.63	51⇓	*e*P	P	17 34 42.6	+2.9
DBIC	Dimbokro	41.17	234	P	P	17 34 53.3	+0.5
	comp=Z,2.1nm,0.7s,baz=242,slow=1.6,SNR=3.9						
MKAR	Makanchi Array	42.09	57	P	P	17 35 01.3	+1.2
	comp=Z,1.0nm,0.5s,baz=272,slow=7.8,SNR=19						
MKAR	Makanchi Array	42.09	57	*e*P	P	17 35 01.7	+1.6
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SPITS	Spitsbergen Ar	43.52	357	P	P	17 35 10.6	-0.7
	comp=Z,2.2nm,0.4s,baz=125,slow=14,SNR=8.4						
ZALV	Zalesovo Beam	43.57	46	P	P	17 35 12.3	+0.3
	comp=Z,0.9nm,0.4s,baz=264,slow=9.9,SNR=4.6						
ZALV	Zalesovo Beam	43.57	46	*e*P	P	17 35 14.6	+2.6
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
DGZ	Jazzator, Alta	45.30	52⇓	*e*P	P	17 35 28.6	+2.5
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	Songino Array	57.93	51	P	P	17 37 01.1	+0.6
	comp=Z,0.6nm,0.5s,baz=284,slow=7.5,SNR=6.4						
SONM	Songino Array	57.93	51	*e*P	P	17 37 02.3	+1.8
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SCHQ	Schefferville	64.63	320	P	P	17 37 44.7	-0.9
	comp=Z,2.3nm,0.4s,baz=68,slow=6.6,SNR=9.3						
USRK	Ussuriysk Ar.	75.43	46	P	P	17 38 51.7	-0.4
	comp=Z,1.0nm,0.6s,baz=312,slow=7.8,SNR=4.6						
KSRS	Korea Array	76.68	54	P	P	17 39 00.2	+0.9
	comp=Z,0.7nm,0.6s,baz=123,slow=31,SNR=6.1						
YKA	Yellowknife Ar	78.19	343	P	P	17 39 06.7	-0.6
	comp=Z,0.3nm,0.5s,baz=29,slow=5.3,SNR=5.1						

ISCJB ***10*** *17:28:11.6±0.5, 5°.82S±0°.06×148°.82E±0°.08, h60km, mb4.0/12, Error ellipse: s-maj=13.3km s-min=6.0km az=30.7*

NEIC ***10*** *17:28:14.7±1.0, 5°.85S×148°.94E, h79km±10km, mb4.4/5, Error ellipse: s-maj=12.2km s-min=6.7km az=125.0*

IDC ***10*** *17:28:14.5±2.6, 5°.88S×149°.02E, h79km±23km, mb3.8/8, mb1 4.0/10, mb1mx3.8/25, mbtmp4.2/10, Error ellipse: s-maj=25.1km s-min=12.6km az=111.0*

ISC 10 17:28:12.9±0.6**, 5°.83S**±0°.08×**148°.9E**±0°.1**, h60km, n24,** σ**1s.84**/30**, mb3.9**/12**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	Rabaul	3.68	64	*e*Pn	Pn	17 29 08.5	+1.2
PMG	Port Moresby	3.93	205	P	Pn	17 29 12.5	+1.8
	22nm,0.3s,baz=344,slow=4.0,SNR=94						
PMG				S	Sn	17 29 56.4	+0.8
	34nm,0.3s,baz=135,slow=21,SNR=18						
PMG	Port Moresby	3.93	205	*e*Pn	Pn	17 29 13.0	+2.2
PMG				*e*Sn	Sn	17 29 56.6	+0.9
WRAB	Tennant Creek	19.88	224	*e*P	P	17 32 40.3	+0.8
	40nm,1.5s						
WR1	Warramunga Arr	19.89	224	*e*P	P	17 32 40.4	+0.8
	11nm,0.5s						
WR1				*e*S	S	17 36 15.0	-5.5
WRA	Warramunga Arr	19.89	224	P	P	17 32 40.4	+0.8
	1.2nm,0.3s,baz=50,slow=11,SNR=72						
WRA				S	S	17 36 15.0	-5.5
	0.1nm,0.3s,baz=55,slow=24,SNR=3.4						
TNTI	Ternate	22.43	286	*e*P	P	17 33 06.8	-0.1
	18nm,1.1s						
AS31	Alice Springs	22.84	218	*e*P	P	17 33 11.7	+0.4
	2.3nm,0.8s						
ASAR	Alice Springs	22.84	218	P	P	17 33 11.7	+0.4
	2.6nm,0.6s,baz=53,slow=9.1,SNR=60						
ASAR				PcP	PcP	17 36 59.8	-0.9
	0.4nm,0.9s,baz=78,slow=4.8,SNR=3.7						
ASAR				S	S	17 37 16.7	+0.4
	1.1nm,1.0s,baz=28,slow=19,SNR=5.0						
DZM	Mont Dzumac	23.45	135	P	P	17 33 15.8	-1.5
	8.6nm,0.8s,baz=320,slow=16,SNR=5.6						
FITZ	Fitzroy Crossi	25.73	240	P	P	17 33 39.0	+1.0
	12nm,0.7s,baz=56,slow=8.7,SNR=30						
FITZ	Fitzroy Crossi	25.73	240	*e*P	P	17 33 39.2	+1.3
STKA	Stephens Creek	26.79	194	P	P	17 33 49.0	+1.6
	0.7nm,0.5s,baz=344,slow=19,SNR=3.5						
MJAR	Matsushiro Arr	43.31	347	P	P	17 36 09.1	+0.2
	1.7nm,0.9s,baz=171,slow=10,SNR=3.3						
MAJO	Matsushiro	43.31	347	*e*P	P	17 36 09.2	+0.2
PETK	Petropavlovsk-	59.19	6	P	P	17 38 08.4	+0.8
	2.1nm,0.6s,baz=163,slow=8.1,SNR=9.0						
PEA1	Petropavlovsk-	59.20	6	*e*P	P	17 38 08.4	+0.7
VNDA	Vanda	71.98	177	P	P	17 39 28.6	-1.1
	1.5nm,1.0s,baz=2.8,slow=7.2,SNR=6.4						
VNDA	Vanda	71.98	177	*e*P	P	17 39 28.4	-1.3
MK32	Makanchi Array	78.54	320	*e*P	P	17 40 08.3	+0.4
MKAR	Makanchi Array	78.54	320	P	P	17 40 08.3	+0.4
	0.1nm,0.5s,baz=96,slow=5.8,SNR=2.8						
ILAR	Eielson Array	84.61	23	P	P	17 40 38.0	-1.6
	0.9nm,0.7s,baz=250,slow=5.2,SNR=13						
ILB	Eielson Array	84.61	23	*e*P	P	17 40 38.0	-1.6
DLBC	Dease Lake	90.29	31	*e*P	P	17 41 07.9	+0.7
	34nm,1.8s						

ISCJB ***10*** *17:53:17.8±0.4, 6°.66S±0°.04×130°.00E±0°.05, h146km, mb3.7/10, Error ellipse: s-maj=6.8km s-min=5.7km az=16.8*

IDC ***10*** *17:53:18.6±2.0, 6°.60S×129°.98E, h136km±21km, mb3.6/10, mb1 3.7/15, mb1mx3.6/33, mbtmp4.1/15, Error ellipse: s-maj=23.5km s-min=17.3km az=104.0*

DJA ***10*** *17:53:20.5±0.3, 7°S±3°×13°0E±°, h175km±6km, M4.5/10, mb4.5/7, mB5.0/5, MLv4.7/10, Mw(mB)4.3/5*

ISC 10 17:53:19.0±0.6**, 6°.59S**±0°.05×**130°.02E**±0°.06**, h146km, n26,** σ**2s.97**/30**, mb3.7**/10**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.88	138	P	Pn	17 53 56.5	+4.0
SAUI				S	Sn	17 54 23.1	+4.9
BNDI	Bandanaira	2.06	357	P	Pn	17 53 56.8	+2.2
FAKI	Fak Fak	4.27	31	P	Pn	17 54 22.6	-0.1
NLAI	Namlea	4.42	319	P	Pn	17 54 33.1	+8.4
SIJI	Sorong	5.81	12	P	Pn	17 54 42.8	-0.5
	6.7nm,0.3s,baz=200,slow=23,SNR=48						
SIJI				S	Sn	17 55 42.8	-6.4
	6.0nm,0.3s,baz=198,slow=12,SNR=6.6						
SWI	Sorong	5.82	12	P	Pn	17 54 43.6	+0.3
SANI	Sanana	6.04	318	P	Pn	17 54 48.0	+1.8
SOEI	Soe	6.50	241	P	Pn	17 54 54.3	+1.7
RKPI	Ransiki, Papua	6.53	40	P	Pn	17 54 55.0	+2.2
BATI	Baumata	7.24	240	P	Pn	17 55 02.3	-0.1
	31nm,0.3s,baz=68,slow=1.2,SNR=38						
BATI				S	Sn	17 56 21.1	-2.3
	21nm,0.3s,baz=134,slow=17,SNR=6.7						
BATI	Baumata	7.24	240	P	Pn	17 55 03.5	+1.1
MRSI	Marisa	10.69	311	P	Pn	17 55 52.1	+3.8
	16nm,1.1s						
FITZ	Fitzroy Crossi	12.21	200	P	Pn	17 56 06.2	-2.0
	0.8nm,0.3s,baz=30,slow=9.3,SNR=52						
FITZ				S	Sn	17 58 11.9	-11
	5.6nm,0.3s,baz=270,slow=22,SNR=5.3						
WRA	Warramunga Arr	13.92	163	P	Pn	17 56 28.3	-1.9
	3.4nm,0.3s,baz=330,slow=14,SNR=48						
WRA				S	Sn	17 58 52.8	-12
	2.3nm,0.3s,baz=336,slow=23,SNR=7.3						
PMG	Port Moresby	17.20	100	P	Pn	17 57 12.0	+1.3
	0.4nm,0.3s,baz=286,slow=8.1,SNR=4.1						
PMG				S	S	18 00 16.2	-5.7
	0.1nm,0.3s,baz=281,slow=19,SNR=2.8						
ASAR	Alice Springs	17.39	168	P	Pn	17 57 14.1	+1.2
	1.0nm,0.3s,baz=337,slow=8.9,SNR=93						
ASAR				S	S	18 00 17.3	-8.4
	0.4nm,0.3s,baz=341,slow=26,SNR=4.8						
CMAR	Chiang Mai Arr	39.48	310	P	P	18 00 35.9	+0.4
	0.5nm,0.7s,baz=152,slow=7.4,SNR=4.4						
MJAR	Matsushiro Arr	43.58	10	P	P	18 01 08.4	-0.2
	1.9nm,0.8s,baz=192,slow=9.9,SNR=4.0						
KSRS	Korea Array	43.86	358	P	P	18 01 10.8	0.0
	0.6nm,0.6s,baz=183,slow=9.5,SNR=2.9						
USRK	Ussuriysk Ar.	50.58	2	P	P	18 02 04.0	+1.2
	0.8nm,0.5s,baz=180,slow=7.8,SNR=3.9						
SONM	Songino Array	58.06	341	P	P	18 02 58.4	+1.4
	0.4nm,0.4s,baz=152,slow=7.6,SNR=3.4						
PETK	Petropavlovsk-	63.93	18	P	P	18 03 37.1	+0.8
	7.2nm,1.1s,baz=188,slow=8.7,SNR=3.2						
MKAR	Makanchi Array	67.89	327	P	P	18 04 03.0	+1.2
	4.4nm,0.5s,baz=114,slow=8.5,SNR=100						
ZALV	Zalesovo Beam	71.22	334	P	P	18 04 21.1	-0.9
	0.8nm,0.5s,baz=106,slow=3.2,SNR=3.8						
BVAR	Borovoye Array	77.73	328	P	P	18 05 00.0	+0.4
	0.3nm,0.3s,baz=107,slow=7.0,SNR=6.1						
AKTO	Aktyubinsk	83.76	322	P	P	18 05 32.0	+0.2
	0.5nm,0.3s,baz=117,slow=5.6,SNR=2.7						

ISCJB ***10*** *18:00:39.9±0.3, 67°.03N±0°.02×20°.96E±0°.05, h0km, Error ellipse: s-maj=3.0km s-min=2.4km az=154.7*

UPP ***10*** *18:00:40.8±0.1, 67°.06N×20°.93E, h0km, ML1.9, Explosion*

HEL ***10*** *18:00:41.3±0.1, 67°.05N×20°.91E, h0km, ML2.2, ML1.9(UPP), Explosion*

NAO ***10*** *18:00:41.7±1.0, 67°.06N×21°.06E, ML2.6*

IDC ***10*** *18:00:42.0±0.9, 67°.05N×21°.28E, h0km, mb1 3.0/4, mb1mx2.9/39, mbtmp3.0/4, ML1.9/4, Error ellipse: s-maj=17.1km s-min=7.6km az=119.0*

BER ***10*** *18:00:44.1±3.8, 67°.11N×20°.85E, h0km, ML1.0, ML2.6(NAO), Suspected explosion*

ISC 10 18:00:41.2±0.7**, 67°.07N**±0°.02×**20°.96E**±0°.02**, h0km, n62,** σ**1s.29**/98**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	Dundret	0.17	290	P	Pg	18 00 44.0	-0.3
DUNU				S	Sg	18 00 46.3	-0.1
DUNU	Dundret	0.17	290	*i* P	Pg	18 00 44.0	-0.3
DUNU				*i* S	Sg	18 00 46.3	-0.1
MASU	Masugnsbyn	0.56	45	P	Pg	18 00 51.7	-0.2
MASU	Masugnsbyn	0.56	45	*i* P	Pg	18 00 51.7	-0.2
ERTU	Ertsjaerv	0.71	136	P	Pg	18 00 54.2	-0.5
ERTU	Ertsjaerv	0.71	136	*e*P	Pg	18 00 54.0	-0.7
ERTU				*e*S	Sg	18 01 04.8	+1.0
PAJU	Pajala	0.84	92	P	Pg	18 00 56.7	-0.7
PAJU				S	Sg	18 01 08.4	+0.1
PAJU	Pajala	0.84	92	*i* P	Pg	18 00 56.7	-0.7
PAJU				*i* S	Sg	18 01 08.4	+0.1
KUA	Kurravaara	0.93	345	P	Pg	18 00 57.9	-1.0
KUA				S	Sg	18 01 10.9	0.0
KUA	Kurravaara	0.93	345	*e*P	Pg	18 00 57.9	-1.0
KUA				*e*S	Sg	18 01 10.9	0.0
RATU	Laukkuluspa	0.93	326	P	Pg	18 00 57.8	-1.1
RATU				S	Sg	18 01 11.2	+0.3
RATU	Laukkuluspa	0.93	326	*e*P	Pg	18 00 57.8	-1.1
RATU				*e*S	Sg	18 01 11.2	+0.3
SALU	Saltoluokta	1.01	289	P	Pg	18 00 59.4	-1.1
SALU	Saltoluokta	1.01	289	*e*P	Pg	18 00 59.4	-1.1
LANU	Lannavaara	1.06	21	P	Pg	18 01 00.6	-1.0
LANU	Lannavaara	1.06	21	*e*P	Pg	18 01 00.2	-1.4
NIKU	Nikkaluokta	1.10	318	P	Pg	18 01 00.9	-1.3
NIKU	Nikkaluokta	1.10	318	*e*P	Pg	18 01 00.9	-1.3
KALU	Kalix	1.55	140	P	Pn	18 01 09.2	-0.7
KALU	Kalix	1.55	140	*e*PG	Pn	18 01 09.2	-0.7
KALU				*e*SN	Sg	18 01 34.1	+3.4
SJUU	Sjulsmark	1.58	170	P	Pn	18 01 09.9	-0.6
SJUU	Sjulsmark	1.58	170	*e*P	Pn	18 01 09.9	-0.6
TOF	Tornio	1.67	125	*e*PG	Pn	18 01 11.4	-0.2
TOF				MSG		18 01 31.0	
	comp=Z,34nm,0.2s						
TOF				*e*SN	Sb	18 01 34.5	+0.2
HEF	Hetta	1.70	36	*e*P	Pn	18 01 11.8	-0.2
HEF				*e*Sg	Sb	18 01 34.9	-0.2
HEF	Hetta	1.70	36	*e*P	Pn	18 01 11.4	-0.7
	baz=216						
HEF				MSG		18 01 31.8	
	comp=Z,20nm,0.2s						
HEF				*e*SN	Sg	18 01 36.1	+0.5
KIF	Kilpisjarvi	1.95	358	Pn	Pb	18 01 16.7	-0.8
KIF				Sn	Sg	18 01 43.4	-0.3
KIF	Kilpisjarvi	1.95	358	Pn	Pb	18 01 16.7	-0.8
KIF				*e*Sg	Sg	18 01 43.8	0.0
KIF				*e*Sg	Sb	18 01 45.2	+2.9
KIF	Kilpisjarvi	1.95	358	*e*P	Pn	18 01 16.3	+0.8
KIF				MSG		18 01 40.0	
	comp=Z,31nm,0.2s						
KIF				*e*SG	Sg	18 01 44.1	+0.4
RNF	Rovaniemi	2.05	101	*e*PB	Pn	18 01 17.5	+0.6
RNF				*e*SG	Sb	18 01 45.5	+0.4
KTK1	Kautokeino	2.13	23	*e*P	Pb	18 01 19.8	-0.9
SGF	Sodankyl	2.19	78	*e*PB	Pn	18 01 20.0	+1.2
SGF				*e*SG	Sb	18 01 50.5	+1.1
STEI	Steigen	2.37	294	*e*P	Pn	18 01 22.2	+1.0
STEI				*e*Sg	Sb	18 01 55.1	+0.8
STEI				IAML		18 02 01.6	
	comp=Z,4.8nm,0.2s						
BURU	Burvik	2.50	176	*e*PB	Pn	18 01 23.7	+0.7
TRO	Tromso	2.69	345	*e*P	Pn	18 01 26.4	+0.8
TRO				*e*Sg	Sb	18 02 04.4	+0.9
OUL	Oulu	2.83	132	*e*PB	Pb	18 01 30.8	-1.7
	baz=315						
OUL				*e*SG	Sb	18 02 09.3	+1.7
ARA0	ARCESS Array S	3.00	32	Pn	Pn	18 01 29.9	0.0
	baz=208,slow=16						
ARA0				Sn	Sn	18 02 08.6	+2.0
	baz=219,slow=28						
ARA0	ARCESS Array S	3.00	32	Pn	Pn	18 01 29.9	0.0
	baz=208,slow=16						
ARA0				Sn	Sn	18 02 08.6	+2.0

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	baz=219,slow=28						
ARCES	ARCESS Array B	3.00	32	Pn	Pn	18 01 29.9	0.0
	comp=Z,0.4nm,0.3s,baz=212,slow=14,SNR=36						
ARCES				Sn	Sn	18 02 07.2	+0.7
	comp=Z,0.8nm,0.3s,baz=212,slow=22,SNR=5.7						
ARE0	ARCESS Array S	3.00	32	eP	Pn	18 01 30.6	+0.7
ARE0				eS	Sn	18 02 08.4	+1.8
ARE0				IAML		18 02 15.1	
	comp=Z,0.4nm,0.2s						
ARE0	ARCESS Array S	3.00	32	eP	Pn	18 01 29.9	0.0
	baz=219						
ARE0				eS	Sn	18 02 04.6	-2.0
LOF	Lofoten	3.04	294	eP	Pn	18 01 30.8	+0.4
OUF	Merijarvi	3.12	148	ePB	Pn	18 01 34.1	+2.5
OUF				MSG		18 02 12.4	
	comp=Z,2.8nm,0.2s						
KONS	Konsvik	3.16	263	eP	Pn	18 01 33.7	+1.6
UMAU	Umeaa	3.20	182	eP	Pn	18 01 33.6	+0.9
	baz=358						
UMAU				eSB	Sn	18 02 14.2	+2.9
VRF	Varrio	3.41	74	eP	Pn	18 01 37.9	+2.4
MSF	Maaselka	3.44	106	ePB	Pb	18 01 40.2	-2.7
KEV	Kevo	3.51	37	eP	Pn	18 01 37.0	+0.1
KEV	Kevo	3.51	37	eP	Pn	18 01 36.9	+0.1
	baz=225						
KEV				eS	Sn	18 02 21.5	+2.6
KU6	Riekki	3.72	102	eP	Pn	18 01 41.0	+1.2
	baz=286						
VAF	Ylistaro	4.10	169	eP	Pn	18 01 46.2	+1.2
NSS	Namsos	4.49	240	eP	Pn	18 01 54.0	+3.6
FIA0	FINESS Array S	6.07	156	Pn	Pn	18 02 12.5	+0.5
	baz=341,slow=14						
FIA0				Sn	Sn	18 03 21.8	-0.2
	baz=344,slow=22						
FIA0	FINESS Array S	6.07	156	Pn	Pn	18 02 12.5	+0.5
	baz=341,slow=14						
FIA0				Sn	Sn	18 03 21.8	-0.2
	baz=344,slow=22						
FINES	FINESS Array B	6.07	156	Pn	Pn	18 02 12.4	+0.4
	comp=Z,0.1nm,0.3s,baz=346,slow=14,SNR=6.3						
FINES				Sn	Sn	18 03 21.1	-0.9
	comp=Z,0.2nm,0.3s,baz=341,slow=21,SNR=4.1						
NB2	NORSAR Subarra	7.40	220	Pn	Pn	18 02 30.6	+0.3
	baz=29,slow=16						
NB2	NORSAR Subarra	7.40	220	Pn	Pn	18 02 30.6	+0.3
	baz=29,slow=16						
NOA	NORSAR Array B	7.40	220	Pn	Pn	18 02 30.8	+0.4
	comp=Z,0.0nm,0.3s,baz=14,slow=20,SNR=2.3						
NOA				Sn	Sn	18 03 53.6	-1.3
	comp=Z,0.0nm,0.3s,baz=47,slow=23,SNR=3.2						
NOA				Lg	Lg	18 04 35.0	
	comp=Z,0.0nm,0.3s,baz=23,slow=16,SNR=2.9						
NRA0	NORESS Array S	7.58	218	Pn	Pn	18 02 34.8	+2.0
	baz=54,slow=12						
NRA0				Sn	Sn	18 03 56.8	-2.6
	baz=13,slow=22						
NRA0	NORESS Array S	7.58	218	Pn	Pn	18 02 34.8	+2.0
	baz=54,slow=12						
NRA0				Sn	Sn	18 03 56.8	-2.6
	baz=13,slow=22						
HFS	Hagfors	7.67	208	Pn	Pn	18 02 33.5	-0.5
	baz=20,slow=16						
HFS	Hagfors	7.67	208	Pn	Pn	18 02 33.4	-0.5
	comp=Z,0.1nm,0.3s,baz=32,slow=14,SNR=5.4						
HFS				Sn	Sn	18 03 58.3	-3.1
	comp=Z,0.1nm,0.3s,baz=30,slow=22,SNR=4.7						
HFS	Hagfors	7.67	208	Pn	Pn	18 02 33.5	-0.5
	baz=20,slow=16						

*THR **10** 18:32:55.4, 32°.82N×50°.10E, h17km, ML3.0*
*ISCJB **10** 18:32:59.6±0.5, 32°.88N±0°.06×49°.49E±0°.05, h10km, Error ellipse: s-maj=8.6km s-min=5.7km az=28.1*
*TEH **10** 18:32:59.0, 32°.80N×49°.42E, h10km, ML3.3*
ISC 10 18:32:58.7±1.2**, 32°.89N**±0°.05×**49°.50E**±0°.04**, h10km, n25,** σ**2^{s}16**/24**, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	0.98	217	eAML	AML	18 33 45.4	
	comp=E,295nm,0.6s						
SHGR				ePg	Pn	18 33 19.6	+1.1
SHGR				eAML	AML	18 33 45.8	
	comp=N,234nm,0.3s						
IKMR	Kamar-syah	1.12	304	ePg	Pb	18 33 18.5	-1.7
IKMR				IAMB	IAmb	18 33 42.2	
	comp=Z,0.0nm,0.2s						
IPIR	Pirpir	1.20	100	ePg	Pn	18 33 19.4	-2.3
IPIR				IAMB	IAmb	18 33 41.9	
	comp=Z,6µm,0.5s						
ZNGN	Zangian	1.39	124	ePn	Pn	18 33 24.3	-0.1
ZNGN				IAMB	IAmb	18 33 58.6	
	comp=Z,0.0nm,0.7s						
ROKH	ROKH	1.41	112	ePn	Pn	18 33 24.6	0.0
ROKH				IAMB	IAmb	18 33 52.4	
	comp=Z,0.0nm,0.5s						
HSAM	Samen	1.51	331	ePn	Pn	18 33 24.4	-1.7
HSAM				IAMB	IAmb	18 33 54.1	
	comp=E,0.0nm,0.4s						
IKFM	Kafar-mosalman	1.52	295	ePn	Pn	18 33 25.5	-0.4
IKFM				IAMB	IAmb	18 33 56.7	
	comp=Z,0.0nm,0.5s						
ASAO	Ashtian	1.71	15	ePn	Pn	18 33 26.8	-1.9
ASAO	Ashtian	1.71	15	ePn	Pn	18 33 26.8	-1.9
ASAO				eSg	Sn	18 33 49.9	-0.9
IKLH	Kolahrood	1.80	76	ePn	Pn	18 33 29.4	-0.6
IKLH				IAMB	IAmb	18 34 00.6	
	comp=Z,4µm,0.3s						
IKOM	Komasi	2.09	308	ePn	Pn	18 33 35.5	+1.6
IKOM				IAMB	IAmb	18 34 20.6	
	comp=Z,0.0nm,0.8s						
GHVR	GHOM	2.18	43	ePn	Pn	18 33 28.8	-6.3
GHVR	GHOM	2.18	43	ePn	Pn	18 33 28.8	-6.3
GHVR				eSg	Sn	18 33 56.0	-6.2
IGAR	Gharneh	2.20	102	ePn	Pn	18 33 38.0	+2.5
IGAR				IAMB	IAmb	18 33 42.0	
	comp=Z,2µm,0.2s						
IZEF	Zefreh	2.38	89	ePn	Pn	18 33 40.3	+2.2
IZEF				IAMB	IAmb	18 34 16.9	
	comp=Z,939nm,0.4s						
HKZM	Kohzaman	2.52	349	ePn	Pn	18 33 43.2	+3.2
IRAZ	Razeghan	2.53	8	ePn	Pn	18 33 42.8	+2.8
IRAZ				IAMB	IAmb	18 33 51.6	
	comp=Z,1µm,0.6s						
HSRG	Sareghieh	2.55	337	ePn	Pn	18 33 43.2	+2.8
HSRG				IAMB	IAmb	18 34 18.2	
	comp=N,0.0nm,0.9s						
IRAM	Ramesheh	2.67	113	ePn	Pn	18 33 43.8	+1.8
IRAM				IAMB	IAmb	18 33 54.9	
	comp=Z,447nm,0.3s						
IVIS	Veis	2.74	307	ePn	Pn	18 33 45.6	+2.8
IVIS				IAMB	IAmb	18 34 34.8	
	comp=Z,542nm,0.5s						
SNGE	Sanandaj	2.83	321	ePn	Pb	18 33 48.0	-1.4
SNGE	Sanandaj	2.83	321	ePn	Pb	18 33 48.0	-1.4
ANAR	Anarak	3.57	84	ePn	Pn	18 33 56.4	+2.2
IPRN	Peran	4.08	34	IAMB	IAmb	18 34 16.1	
	comp=Z,410nm,0.7s						
IPRN				ePn	Pn	18 34 04.6	+3.3
ISHM	Shahmirzad	4.28	46	IAMB	IAmb	18 34 28.2	
	comp=Z,438nm,0.4s						
ISHM				ePn	Pn	18 34 06.8	+2.7

*ISCJB **10** 19:03:52.7±0.7, 38°.06N±0°.05×73°.1E±0°.1, h150km, Error ellipse: s-maj=12.1km s-min=5.4km az=158.0*
*NNC **10** 19:03:57.6±2.1, 38°.37N×72°.80E, h147km±14km, mb2.4, mpv3.2, Error ellipse: s-maj=18.4km s-min=17.8km az=84.0*
ISC 10 19:03:51.5±1.0**, 38°.03N**±0°.08×**72°.8E**±0°.1**, h150km, n12,** σ**2^{s}19**/18**, 9C-3D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	2.05	15	⇓P	Pn	19 04 29.6	+2.1
	17nm,0.3s						
SFK				⇑S	Sn	19 04 54.8	-0.3
	49nm,0.4s						
AAK	Ala-Archa	4.78	15	⇑P	Pn	19 05 04.4	+2.4
	1.5nm,0.6s						
AAK				⇑S	Sn	19 05 56.9	-0.1
	6.7nm,0.8s						
TKM2	Tokmak 2	5.32	23	⇓P	Pn	19 05 10.0	+0.7
	0.6nm,0.5s						
TKM2				⇑S	Sn	19 06 09.0	-1.1
	0.7nm,0.3s						
KK31	Karatay Array	5.36	342	⇑P	Pn	19 05 12.8	+3.1
	2.2nm,0.3s,baz=162,slow=12,SNR=95						
KK31				⇑S	Sn	19 06 09.7	-1.1
	7.8nm,0.4s,baz=153,slow=22,SNR=31						
PYUN	Piuthan	13.06	136	eP	Pn	19 06 51.0	-0.7
	4.1nm,0.3s						
DANN	Dangsing	13.30	133	eP	Pn	19 06 54.3	-0.5
	6.1nm,0.4s						
AB31	Akbulak array	14.56	325	⇓P	P	19 07 13.8	+1.2
	0.5nm,0.6s,baz=133,slow=13,SNR=8.4						
AB31				⇑S	Sn	19 09 47.4	-4.3
	0.2nm,0.5s,baz=148,slow=22,SNR=4.8						
KKN	Kakani	14.61	131	eP	Pn	19 07 11.4	+0.1
	4.4nm,0.8s						
PKIN	Phulchoki	14.84	131	eP	P	19 07 14.6	-1.6
	3.6nm,0.7s						
GUN	Gumba	14.88	129	eP	Pn	19 07 15.1	+0.3
	4.0nm,0.4s						
JIRN	Jiri	15.26	129	eP	P	19 07 19.9	-1.0
	7.1nm,0.3s						
AKTO	Aktyubinsk	16.28	324	⇑P	P	19 07 36.0	+4.3
	0.7nm,0.5s						
AKTO				⇑S	S	19 10 29.5	-2.6
	0.4nm,0.6s						

MAN 10 19:05:57.6, 6°.49N×126°.26E, h42km, mb3.9, ML2.7, MS2.2, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	0.45	0	eP	Pn	19 06 09.4	+1.6
MATI				eS	Sn	19 06 18.1	+3.1
DDMP	Don Marcelino,	0.67	235	eP	Pn	19 06 07.6	-3.1
DDMP				eS	Sn	19 06 14.9	-5.2
GSPH	General Santos	1.36	253	⇑iP	Pn	19 06 13.2	-7.1
GSPH				iS	Sn	19 06 29.8	-7.4
SKMP	Bagumbayan, Su	1.70	271	eP	Pn	19 06 25.7	+0.8
SKMP				eS	Sn	19 06 41.7	-3.7
BUKP	Musuan	1.82	319	eP	Pn	19 06 27.0	+0.5
BUKP				eS	Sn	19 06 49.4	+1.1

*ISCJB **10** 19:06:24.4±0.4, 2°.70N±0°.05×128°.40E±0°.06, h200km, mb3.6/11, Error ellipse: s-maj=8.3km s-min=6.0km az=147.5*
*DJA **10** 19:06:26.1±0.6, 3°N±6°×12°8E±°, h209km±8km, M4.5/8, mb4.5/4, mB5.3/2, MLv4.4/8, Mw(mB)4.7/2*
*IDC **10** 19:06:27.4±2.1, 2°.64N×128°.52E, h221km±21km, mb3.4/12, mb1 3.6/14, mb1mx3.4/34, mbtmp4.0/14, Error ellipse: s-maj=24.7km s-min=10.0km az=76.0*
ISC 10 19:06:25.5±0.6**, 2°.59N**±0°.06×**128°.33E**±0°.08**, h200km, n29,** σ**1^{s}38**/34**, mb3.8**/17**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	2.05	208	P	Pn	19 07 06.2	+1.7
TNTI				S	Sn	19 07 37.2	+2.3
SGSI	Sangihe	3.00	291	P	Pn	19 07 15.7	+0.6
SGSI				S	Sn	19 07 54.4	+0.5
SWI	Sorong	4.51	139	P	Pn	19 07 35.2	+1.5
SIJI	Sorong	4.52	139	P	Pn	19 07 36.2	+2.4
	12nm,0.3s,baz=327,slow=17,SNR=52						
KMSI	Cibinong	4.79	245	P	Pn	19 07 37.3	+0.1
SANI	Sanana	5.17	207	P	Pn	19 07 42.1	0.0
	372nm,0.5s,14µm2.1nm						
SANI				S	Sn	19 08 38.1	-4.5
	372nm,0.5s,14µm2.1nm						
NLAI	Namlea	5.92	192	P	Pn	19 07 52.8	+1.1
FAKI	Fak Fak	6.73	144	P	Pn	19 08 03.9	+1.6
APSI	Ampana	7.53	243	P	Pn	19 08 13.0	+0.3
JAY	Jayapura	13.37	112	P	Pn	19 09 27.5	-0.2
	0.3nm,0.3s,baz=248,slow=11,SNR=2.1						
FITZ	Fitzroy Crossi	20.73	187	P	P	19 10 50.6	-0.1
	0.4nm,0.3s,baz=16,slow=9.7,SNR=7.2						
WRA	Warramunga Arr	23.16	165	P	P	19 11 14.4	0.0
	3.1nm,0.4s,baz=345,slow=11,SNR=26						
ASAR	Alice Springs	26.66	169	P	P	19 11 46.0	0.0
	0.8nm,0.5s,baz=357,slow=8.4,SNR=33						
ASAR				PcP	PcP	19 15 04.7	0.0
	0.7nm,0.5s,baz=352,slow=2.1,SNR=15						
CMAR	Chiang Mai Arr	32.82	301	P	P	19 12 42.2	+1.8
	1.0nm,0.6s,baz=121,slow=7.5,SNR=9.1						
KSRS	Korea Array	34.70	359	P	P	19 12 56.0	-0.3
	0.9nm,0.5s,baz=174,slow=9.2,SNR=5.9						
MJAR	Matsushiro Arr	34.99	14	P	P	19 12 56.8	-2.1
	0.5nm,0.4s,baz=180,slow=9.0,SNR=4.1						
STKA	Stephens Creek	36.52	161	P	P	19 13 12.1	+0.3
	2.0nm,0.3s,baz=344,slow=6.8,SNR=14						
JIRN	Jiri	47.33	306	eP	P	19 14 40.7	+0.8
	7.2nm,0.3s						
GUN	Gumba	47.68	306	eP	P	19 14 43.3	+0.7
	5.4nm,0.4s						
PKIN	Phulchoki	47.94	305	eP	P	19 14 44.7	+0.3
	1.4nm,0.3s						
SONM	Songino Array	48.89	340	P	P	19 14 51.3	+0.1
	0.6nm,0.5s,baz=145,slow=7.8,SNR=4.2						
KOLN	Koldanda	49.48	305	eP	P	19 14 57.1	+1.0
	4.4nm,0.3s						
DANN	Dangsing	49.57	306	eP	P	19 14 57.8	+0.9
	9.0nm,0.6s						
PYUN	Piuthan	50.11	305	eP	P	19 15 01.8	+1.0
	4.7nm,0.4s						
MKAR	Makanchi Array	59.40	325	P	P	19 16 07.0	+0.1
	0.7nm,0.4s,baz=114,slow=8.0,SNR=18						
MKAR				PcP	pP	19 16 52.8	+0.9
	0.5nm,0.7s,baz=115,slow=7.4,SNR=4.8						
VNDA	Vanda	82.11	173	P	P	19 18 23.4	+0.3
	0.6nm,0.5s,baz=316,slow=6.8,SNR=6.2						
ILAR	Eielson Array	85.44	25	P	P	19 18 38.8	-1.5
	0.2nm,0.6s,baz=247,slow=6.5,SNR=3.0						
ARCES	ARCESS Array B	92.06	340	P	P	19 19 10.1	-1.4
	2.6nm,0.9s,baz=87,slow=5.5,SNR=3.1						
TORD	Torodi Ar. Bea	124.79	288	PKP	PKPdf	19 25 01.1	-1.4
	0.3nm,0.5s,baz=70,slow=1.6,SNR=4.8						

*ISCJB **10** 19:29:19.7±0.7, 10°.68S±0°.08×124°.68E±0°.10, h33km, mb3.5/4, Error ellipse: s-maj=16.3km s-min=6.3km az=143.3*
*IDC **10** 19:29:21.3±7.2, 10°.60S×124°.60E, h27km±53km, mb3.4/4, mb1 3.6/7, mb1mx3.4/44, mbtmp3.6/7, ML3.6/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/18, Error ellipse: s-maj=41.7km s-min=17.3km az=42.0*
ISC 10 19:29:21.3±0.9**, 10°.58S**±0°.10×**124°.7E**±0°.1**, h35km, n9,** σ**2^{s}17**/13**, mb3.6**/4**, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	1.10	290	Pn	Pn	19 29 39.2	-1.1
	127nm,0.3s,baz=107,slow=2.0,SNR=132						
BATI				Sn	Sn	19 29 53.0	-1.3
	113nm,0.3s,baz=158,slow=19,SNR=8.9						
BATI				LR	LR	19 30 16.3	
	comp=Z,174nm,20.1s,baz=192,slow=55						
FITZ	Fitzroy Crossi	7.53	173	Pn	Pn	19 31 10.0	+1.4
	1.0nm,0.3s,baz=4.3,slow=9.2,SNR=62						
FITZ				Sn	Sn	19 32 32.2	-0.4
	2.7nm,0.3s,baz=254,slow=7.4,SNR=10						
FITZ				LR	LR	19 34 00.9	
	comp=Z,52nm,19.2s,baz=106,slow=37						
WRA	Warramunga Arr	13.14	136	Pn	Pn	19 32 26.4	+0.9
	0.2nm,0.3s,baz=306,slow=15,SNR=8.7						
WRA				Sn	Sn	19 34 46.4	-4.1
	0.3nm,0.3s,baz=313,slow=25,SNR=4.3						
ASAR	Alice Springs	15.69	147	Pn	Pn	19 33 01.2	+1.5
	0.3nm,0.3s,baz=320,slow=11,SNR=35						
ASAR				Sn	Sn	19 35 48.5	-4.1
	0.2nm,0.3s,baz=319,slow=22,SNR=5.5						
SONM	Songino Array	60.40	346	P	P	19 39 27.6	+0.5
	0.2nm,0.6s,baz=150,slow=6.7,SNR=2.6						
MKAR	Makanchi Array	68.53	330	P	P	19 40 22.1	+1.8
	0.8nm,0.8s,baz=133,slow=7.3,SNR=6.4						
ZALV	Zalesovo Beam	72.62	337	P	P	19 40 45.6	+0.6
	0.3nm,0.3s,baz=106,slow=3.1,SNR=2.4						
KURBB	Kurchatov Arra	72.97	331	P	P	19 40 48.0	+0.9
	0.2nm,0.3s,baz=132,slow=6.4,SNR=2.6						
TXAR	Lajitas Array	131.23	60	PKP	PKPdf	19 48 31.4	+0.9
	0.2nm,0.7s,baz=46,slow=3.9,SNR=2.7						

*ISCJB **10** 19:34:00.9±0.3, 16°.51S±0°.09×173°.28W±0°.07, h47km, mb4.5/53, MS3.6/13, Error ellipse: s-maj=14.6km s-min=6.9km az=152.7*
*NEIC **10** 19:34:01.2±0.2, 16°.46S×173°.24W, h35km, mb4.7/39, Error ellipse: s-maj=10.2km s-min=5.6km az=151.0*
*IDC **10** 19:34:02.9±0.6, 16°.35S×173°.41W, h43km±4km, mb4.0/14, mb1 4.2/14, mb1mx4.0/38, mbtmp4.3/14, MS3.6/15, Ms1 3.6/15, ms1mx3.5/28, Error ellipse: s-maj=22.2km s-min=11.2km az=136.0*
ISC 10 19:34:02.8±0.6**, 16°.3S**±0°.1×**173°.3W**±0°.1**, h43km**±4km**, h45km:pP-P, n123,** σ**1^{s}01**/122**, mb4.7**/53**, MS3.6**/13**, 2D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	Niue	4.22	131	ePn	Pn	19 35 00.3	-4.3
RAR	Rarotonga	13.70	113	LR	LR	19 41 04.6	
	comp=Z,204nm,19.9s,baz=310,slow=31						
DZM	Mont Dzumac	19.94	250	P	Pn	19 38 35.1	+1.8
	0.6nm,0.3s,baz=95,slow=19,SNR=12						
DZM				LR	LR	19 45 03.9	
	comp=Z,241nm,20.8s,baz=42,slow=33						
DZM	Mont Dzumac	19.94	250	eP	Pn	19 38 35.4	+2.1
	39nm,0.8s						
DZM				eLR	LR	19 43 26.9	
	comp=Z,415nm,25.6s						
DZM	Mont Dzumac	19.94	250	eP	Pn	19 38 35.2	+1.9
	22nm,0.8s						
PAE	Paea	22.73	97	eT	T	20 01 56.5	
	3.0nm,0.3s						
PPT	Papeete	22.73	97	LR	LR	19 45 52.6	
	comp=Z,91nm,19.3s,baz=212,slow=31						
PPT2	Papeete2	22.73	97	eS	S	19 42 55.4	-12
	99nm,25.0s						
PPT2				eLR	LR	19 44 23.1	
	comp=Z,203nm,24.2s						
PPT2	Papeete2	22.73	97	eT	T	20 01 58.8	
	7.3nm,0.4s						
TVO	Taravao	23.04	97	eT	T	20 02 20.8	
	1.8nm,0.3s						
URZ	Urewera	23.40	199	P	P	19 39 06.2	-1.6
	2.7nm,0.4s,baz=354,slow=4.8,SNR=3.5						
URZ				S	S	19 43 18.8	+0.9
	5.2nm,1.0s,baz=74,slow=19,SNR=1.9						
URZ				LR	LR	19 46 49.6	
	comp=Z,117nm,20.8s,baz=48,slow=33						
TBI	Tubuai	23.47	111	eLR	LR	19 44 45.7	
	comp=Z,319nm,25.0s						
TBI	Tubuai	23.47	111	eT	T	20 03 14.4	
	14nm,0.3s						
HNR	Honiara	26.94	281	LR	LR	19 48 44.6	
	comp=Z,360nm,21.5s,baz=128,slow=33						
TAOE	Nuku Hiva Isla	33.17	81	eLR	LR	19 49 02.9	
	comp=Z,120nm,24.8s						
TAOE	Nuku Hiva Isla	33.17	81	eT	T	20 14 37.0	
	30nm,0.2s						
RABL	Rabaul	35.98	286	eP	P	19 41 02.6	+2.7
	305nm,0.5s						
RKT	Rikitea	36.63	107	eLR	LR	19 50 52.7	
	comp=Z,188nm,28.2s						
RKT	Rikitea	36.63	107	eT	T	20 19 33.4	
	4.8nm,0.3s						
CTA	Charters Tower	38.52	258	P	P	19 41 19.1	-2.3
	3.4nm,0.9s,baz=100,slow=11,SNR=2.7						
PMG	Port Moresby	39.09	275	P	P	19 41 25.9	-0.3
	14nm,0.9s,baz=90,slow=4.4,SNR=7.3						
PMG	Port Moresby	39.09	275	eP	P	19 41 25.6	-0.6
	12nm,0.8s						
COEN	Coen	42.01	267	eP	P	19 41 52.1	+1.8
	5.5nm,0.8s						
STKA	Stephens Creek	43.65	241	P	P	19 42 02.6	-0.8
	6.2nm,0.9s,baz=81,slow=9.8,SNR=10						
STKA				LR	LR	19 57 22.2	
	comp=Z,59nm,19.4s,baz=27,slow=32						
WB2	Warramunga Arr	49.71	258	eP	P	19 42 50.8	-0.2
WR1	Warramunga Arr	49.72	258	eP	P	19 42 49.7	-1.4
WR1				epP	pP	19 43 02.5	-0.2
WR1				ePcP	PcP	19 44 12.5	+0.7
WRA	Warramunga Arr	49.72	258	P	P	19 42 49.7	-1.4
	1.8nm,0.8s,baz=95,slow=6.7,SNR=18						
WRA				pP	pP	19 43 02.5	-0.2
	0.6nm,0.4s,baz=95,slow=6.6,SNR=3.8						
WRA				PcP	PcP	19 44 12.5	+0.7
	1.3nm,1.0s,baz=98,slow=3.9,SNR=4.1						
WRA				LR	LR	20 02 19.0	
	comp=Z,66nm,21.6s,baz=195,slow=34						
AS01	Alice Springs	49.86	253	eP	P	19 42 50.7	-1.4
AS31	Alice Springs	49.91	253	eP	P	19 42 51.0	-1.6
	2.6nm,0.8s						
ASAR	Alice Springs	49.91	253	P	P	19 42 51.1	-1.4
	8.7nm,0.7s,baz=86,slow=8.4,SNR=62						
ASAR				pP	pP	19 43 04.1	0.0
	6.0nm,0.6s,baz=86,slow=8.5,SNR=9.1						
ASAR				PcP	PcP	19 44 13.0	+0.5
	0.8nm,0.7s,baz=97,slow=6.8,SNR=2.8						
ASAR				LR	LR	20 03 20.9	
	comp=Z,84nm,18.3s,baz=98,slow=35						
SIJI	Sorong	56.70	280	P	P	19 43 42.2	-0.3
	10.0nm,0.8s,baz=132,slow=3.0,SNR=6.5						
MJAR	Matsushiro Arr	69.71	320	LR	LR	20 10 11.1	
	comp=Z,19nm,21.9s,baz=170,slow=31						
CMB	Columbia Colle	73.41	41	eP	P	19 45 30.8	+0.2
	6.0nm,0.9s						
PETK	Petropavlovsk-	73.55	342	P	P	19 45 31.4	+0.3
	4.5nm,0.8s,baz=126,slow=9.8,SNR=3.9						
PEA1	Petropavlovsk-	73.55	342	eP	P	19 45 31.4	+0.3
AFDM	Forest Hills D	73.60	40	eP	P	19 45 30.7	-1.0
	6.4nm,1.0s						
QSPA	South Pole Qui	73.71	180	eP	P	19 45 33.5	+1.4
	4.6nm,0.8s						
BEKR	Beckworth	74.53	40	eP	P	19 45 36.3	-1.0
	7.7nm,0.9s						
NV01	Mina Array Sit	74.97	42	eP	P	19 45 40.2	+0.3
NVAR	Mina Array Bea	74.97	42	P	P	19 45 40.6	+0.7
	0.9nm,0.4s,baz=228,slow=9.5,SNR=6.1						
NVAR				pP	PcP	19 45 53.6	+0.1
	7.1nm,0.8s,baz=228,slow=10,SNR=8.4						
NV11	Mina Array Sit	75.07	42	eP	P	19 45 39.6	-0.7
	0.6nm,1.0s						
MOD	Modoc Plateau	75.81	38	eP	P	19 45 43.2	-1.4
	8.1nm,0.8s						
PINE	Pine Mountain	76.61	36	eP	P	19 45 49.0	-0.1
	17nm,0.9s						
R11A	Troy Canyon, C	76.69	43	eP	P	19 45 49.1	-0.5
	6.4nm,1.2s						
KSRS	Korea Array	76.89	316	LR	LR	20 13 22.1	
	comp=Z,21nm,21.5s,baz=332,slow=31						
WVOR	Wild Horse Val	77.12	38	eP	P	19 45 51.0	-0.9
	9.0nm,1.1s						
X16A	Lo Mia Camp, P	77.47	48	eP	P	19 45 53.4	-0.8
	7.6nm,0.7s						
CCUT	Cedar City	77.74	45	eP	P	19 45 57.0	+1.3
	10nm,1.2s						
G08A	Pilot Rock	78.64	36	eP	P	19 46 01.1	+0.7
	9.7nm,1.0s						
MTPU	Mount Pierson	78.79	45	eP	P	19 45 59.8	-1.8
	7.7nm,0.8s						
HLID	Hailey	80.30	39	eP	P	19 46 09.8	+0.4
	7.1nm,1.0s						
SRU	San Rafael Swe	80.45	45	eP	P	19 46 09.5	-0.9
	7.4nm,1.1s						
MNTX	Cornudas Mount	80.72	53	eP	P	19 46 12.1	+0.3
	14nm,1.8s						
LTX	Lajitas	81.06	56	eP	P	19 46 13.4	-0.4
LTX				epP	pP	19 46 27.9	+1.9
TX31	Lajitas Ar. Si	81.06	56	eP	P	19 46 13.5	-0.3
TXAR	Lajitas Array	81.06	56	P	P	19 46 13.4	-0.4
	0.4nm,0.8s,baz=226,slow=4.7,SNR=4.6						
TXAR				pP	pP	19 46 27.9	+1.9
	2.0nm,1.1s,baz=243,slow=5.5,SNR=6.9						
PV12	Saucer Basin,	81.24	46	eP	P	19 46 14.6	0.0
	13nm,1.2s						
MCK	McKinley	82.03	11	eP	P	19 46 16.5	-1.5
	12nm,1.1s						
S22A	4UR Ranch, Cre	82.34	47	eP	P	19 46 20.5	-0.1
	8.7nm,0.9s						
TPAW	Teton Pass	82.39	41	eP	P	19 46 21.1	+0.4
	5.2nm,0.9s						
IMW	Indian Meadow	82.61	40	eP	P	19 46 22.6	+0.7
	4.9nm,0.9s						
LOHW	Long Hollow	82.67	41	eP	P	19 46 22.1	0.0
	15nm,1.9s						
FLWY	Flagg Ranch	82.85	40	eP	P	19 46 21.8	-1.2
	7.2nm,0.9s						
WRH	Wood River Hil	82.86	11	eP	P	19 46 21.5	-0.8
	11nm,1.1s						
YHB	Horse Butte	82.89	39	eP	P	19 46 21.8	-1.5
	8.8nm,1.0s						
SMCO	Snowmass	82.90	46	eP	P	19 46 22.8	-0.9

	12nm,0.9s						
BW06	Boulder Array	82.91	42	eP	P	19 46 23.4	+0.1
	6.5nm,0.9s						
PD31	Pinedale Array	82.91	42	eP	P	19 46 23.3	-0.1
PDAR	Pinedale Array	82.91	42	P	P	19 46 23.2	-0.1
	2.2nm,0.7s,baz=221,slow=3.2,SNR=21						
PDAR				pP	pP	19 46 36.5	+1.0
	4.3nm,0.8s,baz=215,slow=3.3,SNR=20						
PDAR				LR	LR	20 17 49.0	
	comp=Z,70nm,19.2s,baz=256,slow=32						
PDAR	Pinedale Array	82.91	42	eP	P	19 46 22.8	-0.5
PDAR				pP	pP	19 46 36.5	+1.0
MLY	Manley	82.93	9	eP	P	19 46 22.1	-0.6
	8.6nm,1.2s						
HDA	Harding Lake	83.01	11	eP	P	19 46 23.0	-0.1
	4.8nm,0.9s						
BOZ	Bozeman (W)	83.07	39	eP	P	19 46 23.1	-0.9
	8.1nm,1.2s						
H17A	Grant Village	83.09	40	eP	P	19 46 23.2	-1.1
	4.4nm,0.8s						
COLA	College	83.27	11	eP	P	19 46 24.4	+0.1
	11nm,0.9s						
SDCO	Great Sand Dun	83.28	48	eP	P	19 46 24.5	-1.0
	3.6nm,1.0s						
IL1	Eielson Array	83.35	11	eP	P	19 46 23.9	-0.9
ILAR	Eielson Array	83.35	11	P	P	19 46 24.1	-0.8
	1.3nm,0.7s,baz=230,slow=6.4,SNR=20						
ILAR				LR	LR	20 16 16.8	
	comp=Z,21nm,20.9s,baz=186,slow=30						
ILB	Eielson Array	83.35	11	eP	P	19 46 24.4	-0.4
RLMT	Red Lodge	84.26	40	eP	P	19 46 30.4	+0.2
	7.8nm,1.0s						
DAWY	Dawson	84.31	14	eP	P	19 46 30.4	+0.6
	9.5nm,1.2s						
N23A	Red Feather La	84.39	45	eP	P	19 46 30.6	-0.5
	9.1nm,1.1s						
PLCA	Paso Flores	88.82	132	LR	LR	20 17 45.2	
	comp=Z,31nm,21.0s,baz=98,slow=30						
YKA	Yellowknife Ar	90.92	23	P	P	19 47 01.2	-0.4
	0.5nm,0.8s,baz=236,slow=4.3,SNR=8.3						
YKA				pP	pP	19 47 15.3	+1.3
	1.2nm,0.9s,baz=234,slow=4.4,SNR=6.4						
YKB5	Yellowknife Ar	90.92	23	eP	P	19 47 01.2	-0.4
CM31	Chiang Mai Arr	92.99	288	eP	P	19 47 12.6	+0.3
CMAR	Chiang Mai Arr	92.99	288	P	P	19 47 12.6	+0.3
	0.2nm,0.4s,baz=119,slow=1.4,SNR=4.5						
ULM	Lac du Bonnet	94.61	39	LR	LR	20 22 56.8	
	comp=Z,47nm,18.5s,baz=274,slow=31						
SONM	Songino Array	95.60	318	LR	LR	20 24 09.1	
	comp=Z,22nm,20.0s,baz=236,slow=32						
ARA0	ARCESS Array S	125.55	352	ePKPdf	PKPdf	19 52 58.4	-0.4
ARCES	ARCESS Array B	125.55	352	PKP	PKPdf	19 52 58.4	-0.4
	2.0nm,0.6s,baz=45,slow=1.9,SNR=7.5						
FIA0	FINESS Array S	132.88	347	ePKPdf	PKPdf	19 53 12.7	-0.2
FINES	FINESS Array B	132.88	347	PKP	PKPdf	19 53 12.7	-0.2
	1.9nm,1.0s,baz=39,slow=5.3,SNR=3.9						
AKASG	Malin Array Be	141.24	337	PKP	PKPdf	19 53 26.7	-1.9
	0.4nm,0.5s,baz=41,slow=3.0,SNR=2.7						
CLL	Collm	144.75	353	ePKPdf	PKPab	19 53 33.8	+0.1
	comp=Z,4.0nm,0.8s						
CLL				epPKPdf	pPKPdf	19 53 45.0	-2.6
CLL				esPKPdf	sPKPdf	19 53 48.0	-4.0
KMBO	Kilima Mbogo	145.19	243	PKPbc	PKPdf	19 53 37.3	+0.2
	comp=Z,5.4nm,0.9s,baz=68,slow=2.8,SNR=8.4						
KMBO	Kilima Mbogo	145.19	243	ePKPbc	PKPdf	19 53 37.4	+0.3
DPC	Dobruska-Polom	145.20	349	ePKP	PKPdf	19 53 36.2	+0.5
DPC				epPKP	pPKPab	19 53 47.2	-0.6
MORC	Moravsky Berou	145.51	348	⇓iP	PKPab	19 53 37.5	+0.9
MORC	Moravsky Berou	145.51	348	ePKP	PKPab	19 53 36.8	+0.2
TRPA	Tarpa	145.73	341	⇓iP	PKPab	19 53 37.5	+0.1
PRU	Pruhonice	145.84	351	ePKP	PKPab	19 53 37.9	+0.1
PRU				epPKP	pPKPdf	19 53 48.2	-1.3
NKC	Novy Kostel	145.88	353	ePKP	PKPab	19 53 38.5	+0.6
GOPC	GO Pecny, Ondr	145.88	351	ePKP	PKPab	19 53 38.2	+0.3
GOPC				epPKP	pPKPdf	19 53 48.7	-0.9
VRAC	Vranov	146.15	348	ePKP	PKPbc	19 53 38.7	+0.4
JAVC	Velka Javorina	146.35	347	ePKP	PKPab	19 53 40.6	+0.8
KRUC	Moravsky	146.42	348	ePKP	PKPbc	19 53 39.4	+0.3
KHC	Kasperske Hory	146.82	352	ePKP	PKPab	19 53 41.1	-0.5
KHC				epPKP	pPKPdf	19 53 52.1	+0.9
BR101	Keskin Array S	146.94	320	ePKPbc	PKPbc	19 53 41.4	+0.3
BRTR	Keskin Array B	146.94	320	PKPbc	PKPbc	19 53 41.4	+0.3
	comp=Z,6.3nm,0.8s,baz=117,slow=2.4,SNR=33						
GERES	GERESS Array B	147.08	351	PKPbc	PKPbc	19 53 41.7	+0.6
	comp=Z,4.4nm,0.9s,baz=28,slow=3.2,SNR=14						
CONA	Conrad Observa	147.61	348	ePKPab	PKPbc	19 53 43.2	+0.6
	comp=Z,10.0nm,1.2s						
MOA	Molln	147.97	350	ePKiKP	PKPbc	19 53 44.1	+0.6
	comp=Z,5.5nm,1.1s						
ARSA	Arzberg	148.32	349	ePKiKP	PKPbc	19 53 44.4	0.0
	comp=Z,5.5nm,0.9s						
RETA	Reutte	148.76	355	ePKiKP	PKiKP	19 53 46.7	-0.3
	comp=Z,5.4nm,1.0s						
MOTA	Moosalm	148.87	354	ePKiKP	PKiKP	19 53 46.9	-0.5
	comp=Z,4.3nm,0.8s						
SOKA	Soboth	148.97	349	ePKiKP	PKPbc	19 53 46.0	-0.2
	comp=Z,2.0nm,0.8s						
SQTA	Sankt Quirin	148.98	354	ePKiKP	PKPbc	19 53 46.7	+0.4
	comp=Z,2.2nm,0.4s						
DAVA	Damuels	149.03	356	ePKiKP	PKiKP	19 53 47.6	-0.1
	comp=Z,9.3nm,1.0s						
OBKA	Obir	149.22	349	ePKPbc	PKPbc	19 53 46.1	-0.7
	comp=Z,4.3nm,1.0s						
FETA	Feichten	149.23	355	ePKiKP	PKPbc	19 53 47.4	+0.4
	comp=Z,6.5nm,1.0s						
MYKA	Terra Mystica	149.25	351	ePKPbc	PKPbc	19 53 46.1	-0.9
	comp=Z,6.4nm,1.0s						
ABTA	Abfaltersbach	149.30	352	ePKiKP	PKPbc	19 53 47.0	-0.1
	comp=Z,12nm,1.2s						

IDC 10 19:42:00.1±2.9**, 1°.84S**×**67°.95E, h0**km**, mb3.5**/4**, mb1 3.6**/4**, mb1mx3.3**/40**, mbtmp3.5**/4**, MS3.1**/3**, Ms1 3.2**/3**, ms1mx2.8**/24**, Error ellipse: s-maj=94.9km s-min=43.0km az=68.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.39	146	T	T	19 48 41.7	
	baz=325,slow=75,SNR=244						
H08N3	Diego Garcia H	5.41	146	T	T	19 48 45.3	
	baz=325,slow=75,SNR=277						
H08N1	Diego Carcia H	5.42	146	T	T	19 48 42.4	
	baz=325,slow=75,SNR=286						
PALK	Pallekele	15.61	54	LR	LR	19 50 25.5	
	comp=Z,70nm,18.9s,baz=296,slow=32						
CMAR	Chiang Mai Arr	36.56	55	LR	LR	20 02 35.0	
	comp=Z,18nm,18.1s,baz=208,slow=34						
MKAR	Makanchi Array	50.05	13	P	P	19 50 56.0	-0.5
	0.2nm,0.6s,baz=191,slow=7.0,SNR=1.8						
BRTR	Keskin Array B	51.95	326	LR	LR	20 11 58.1	
	comp=Z,24nm,18.2s,baz=294,slow=35						
ZALV	Zalesovo Beam	57.34	12	P	P	19 51 50.0	+0.2
	0.7nm,0.6s,baz=198,slow=7.6,SNR=3.5						
SONM	Songino Array	59.74	29	P	P	19 52 07.0	+0.1
	0.3nm,0.8s,baz=216,slow=6.6,SNR=4.1						
WRA	Warramunga Arr	67.20	111	P	P	19 52 56.8	0.0
	0.4nm,0.7s,baz=282,slow=5.9,SNR=2.4						
TXAR	Lajitas Array	151.51	345	PKPbc	PKPbc	20 01 56.9	-0.2
	0.3nm,0.8s,baz=46,slow=2.6,SNR=2.3						

MAN 10 19:42:13.6, 9°.31N×**122°.48E, h43**km**, mb4.3, ML3.1, MS2.8, 1C-3D, Negros**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	Sibulan	0.75	87	⇓iP	Pn	19 42 28.1	+0.3
SNPH				iS	Sn	19 42 38.3	+0.2
GUIM	Jordan	1.31	5	eP	Pn	19 42 36.9	+1.3
GUIM				eS	Sn	19 42 53.0	+1.1
TBP	Tagbilaran	1.42	74	eP	Pn	19 42 39.1	+2.1
TBP				iS	Sn	19 42 56.8	+2.3
IPIL	Ipil	1.51	177	eP	Pn	19 42 39.4	+1.1
IPIL				eS	Sn	19 42 57.1	+0.4
PAGZ	Pagadian	1.70	148	eP	Pn	19 42 43.2	+2.3
PAGZ				eS	Sn	19 43 07.7	+6.2
LLP	Lapu-Lapu	1.78	55	⇑eP	Pn	19 42 42.3	+0.4
LLP				eS	Sn	19 43 03.3	0.0
CUYO	Cuyo Island	2.10	317	eP	Pn	19 42 47.9	+1.5
CUYO				eS	Sn	19 43 11.8	+0.5
RCP	Roxas	2.25	7	⇓eP	Pn	19 42 51.2	+2.8
RCP				eS	Sn	19 43 19.9	+4.9
CGP	Cagayan de Oro	2.35	111	⇓eP	Pn	19 42 50.7	+1.0
CGP				eS	Sn	19 43 16.7	-0.7
MSLP	Maasin	2.49	71	eP	Pn	19 42 53.1	+1.5
MSLP				eS	Sn	19 43 21.4	+0.7
OCLP	Ormoc	2.72	50	eP	Pn	19 42 55.4	+0.6
SJMP	San Jose	3.41	337	eP	Pn	19 43 05.7	+1.4
BUSP	Coron	3.49	320	eP	Pn	19 43 06.5	+1.1
ENPP	El Nido	3.55	302	eP	Pn	19 43 07.8	+1.5

*IDC **10** 19:43:30.4±7.4, 20°.35S×178°.16W, h485km±72km, mb3.0/5, mb1 3.2/6, mb1mx3.0/24, mbtmp3.9/6, Error ellipse: s-maj=53.8km s-min=40.5km az=121.0*
ISC 10 19:43:32.0±1.4**, 20°.4S**±0°.3×**178°.1W**±0°.2**, h500**km**, n9, σ1s.20**/9**, mb3.5**/5**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.47	261	P	P	19 46 36.8	0.0
	0.3nm,0.3s,baz=78,slow=19,SNR=3.3						
STKA	Stephens Creek	37.70	244	P	P	19 50 04.0	-0.4
	0.7nm,0.5s,baz=129,slow=10,SNR=3.3						
ASAR	Alice Springs	44.41	257	P	P	19 50 57.0	-1.0
	1.8nm,0.7s,baz=94,slow=7.9,SNR=23						
ASAR				PcP	pP	19 52 30.6	+1.2
	0.5nm,0.6s,baz=107,slow=4.1,SNR=5.6						
WRA	Warramunga Arr	44.48	262	P	P	19 50 57.3	-1.2
	0.5nm,0.3s,baz=96,slow=7.7,SNR=39						
ILAR	Eielson Array	88.27	13	P	P	19 55 28.1	-1.1
	0.2nm,0.4s,baz=218,slow=4.7,SNR=4.6						
CMAR	Chiang Mai Arr	89.97	290	P	P	19 55 39.5	+1.4
	0.6nm,0.8s,baz=125,slow=3.8,SNR=5.5						
AKASG	Malin Array Be	142.89	331	PKhKP	PKPpre	20 02 04.6	
	1.3nm,0.5s,baz=43,slow=4.1,SNR=9.0						
BRTR	Keskin Array B	146.69	312	PKPbc	PKPdf	20 02 16.4	+1.2
	0.7nm,0.8s,baz=108,slow=4.0,SNR=3.6						
TORD	Torodi Ar. Bea	172.76	179	PKPab	PKPab	20 04 13.4	0.0
	0.3nm,0.9s,baz=112,slow=6.4,SNR=2.7						

*ISK **10** 20:20:42.7, 39°.66N×25°.57E, h5km, ML2.4/14*
*ISCJB **10** 20:20:43.9±0.5, 39°.67N±0°.02×25°.63E±0°.03, h8km±4km, Error ellipse: s-maj=4.4km s-min=3.3km az=154.0*
*ATH **10** 20:20:43.6, 39°.67N×25°.63E, h29km±1km, ML2.2/4, Error ellipse: s-maj=2.9km s-min=1.3km az=236.0*
*THE **10** 20:20:44.3, 39°.67N×25°.63E, h10km±1km, ML2.1/7, Error ellipse: s-maj=1.4km s-min=0.6km az=75.0*
*DDA **10** 20:20:44.1, 39°.72N×25°.69E, h4km±4km, ML2.8*
ISC 10 20:20:44.2±1.0**, 39°.67N**±0°.02×**25°.63E**±0°.02**, h10**km±10km**, n47, σ0s.76**/66**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.37	61	PG	Pg	20 20 51.2	-0.3
BOZC	Bozcaada	0.37	61	IAML_P			
	comp=Z,3μm,0.2s						
BOZC				iP	Pg	20 20 51.3	-0.3
BOZC				iS	Sg	20 20 57.4	+1.0
LIA	Limnos Island	0.42	304	P	Pg	20 20 52.5	+0.1
LIA				S	Sg	20 20 58.5	+0.5
LIA				AML	AML	20 20 59.7	
	comp=N,159μm,0.6s						
LIA				AML	AML	20 21 00.1	
	comp=E,379μm,0.3s						
LIA	Limnos Island	0.42	304	P	Pg	20 20 52.6	+0.1
LIA				S	Sg	20 20 58.4	+0.4
SIGR	SIGRI	0.48	159	PG	Pg	20 20 52.8	-0.9
SIGR	SIGRI	0.48	159	P	Pg	20 20 53.2	-0.5
SIGR				S	Sg	20 21 00.7	+0.6
SIGR				AML	AML	20 21 01.1	
	comp=E,684μm,0.6s						
SIGR				AML	AML	20 21 01.2	
	comp=N,866μm,0.7s						
SIGR	SIGRI	0.48	159	P	Pg	20 20 53.2	-0.5
SIGR				S	Sg	20 21 00.5	+0.4
EFSA	Agios Efstrati	0.51	256	P	Pb	20 20 55.3	+0.1
EZN	Ezine	0.56	73	PG	Pg	20 20 54.7	-0.4
EZN	Ezine	0.56	73	P	Pg	20 20 54.6	-0.5
EZN				S	Sg	20 21 02.8	+0.4
GADA	Gvkgeada	0.56	21	PG	Pg	20 20 54.5	-0.7
GADA				SG	Sg	20 21 02.4	-0.2
GADA	Gvkgeada	0.56	21	P	Pg	20 20 54.9	-0.3
GADA				S	Sb	20 21 03.4	-0.8
GOKC	Gokceada-Canak	0.58	22	PG	Pg	20 20 55.0	-0.5
PRK	Paraskevi	0.65	130	P	Pb	20 20 57.6	0.0
PRK				S	Sb	20 21 06.2	-0.4
PRK				AML	AML	20 21 10.3	
	comp=E,558μm,0.5s						
PRK				AML	AML	20 21 10.9	
	comp=N,591μm,0.4s						
PRK	Paraskevi	0.65	130	P	Pb	20 20 57.6	0.0
PRK				S	Sb	20 21 07.1	+0.5
BAYC	CANAKKALE_Bayr	0.71	84	IAML_P			
	comp=Z,3μm,0.1s						
BAYC				iP	Pg	20 20 58.0	+0.1
SMTH	Samothraki Isl	0.81	354	P	Pg	20 20 59.6	-0.2
SMTH				S	Sg	20 21 10.4	0.0
SMTH	Samothraki Isl	0.81	354	P	Pg	20 20 59.6	-0.2
SMTH				S	Sb	20 21 11.5	+0.2
AYVA	Ayvalik	0.89	113	IAML_P			
	comp=Z,348nm,0.1s						
AYVA				iP	Pn	20 21 02.8	0.0
AYVA				iS	Sb	20 21 14.1	+0.5
GELI	Tayfur-Gelibol	0.98	41	PG	Pg	20 21 02.6	-0.4
LPK	Lapseki	1.12	50	PN	Pb	20 21 05.1	-0.5
ENEZ	Enez	1.14	20	PN	Pb	20 21 05.4	-0.6
DKL	Dikili	1.15	121	PN	Pb	20 21 05.7	-0.4
THAS	Thassos island	1.17	324	P	Pb	20 21 06.0	-0.5
THAS				S	Sb	20 21 20.8	-1.0
THAS				AML	AML	20 21 23.4	
	comp=N,286μm,0.3s						
THAS				AML	AML	20 21 23.5	
	comp=E,268μm,0.3s						
THAS	Thassos island	1.17	324	P	Pb	20 21 06.0	-0.5
THAS				S	Sg	20 21 21.8	-0.2
ERIK	Erikli-Kesan	1.21	34	PN	Pn	20 21 07.1	0.0
ALN	Alexandroupoli	1.27	14	PN	Pn	20 21 06.7	-1.3
ALN	Alexandroupoli	1.27	14	P	Pn	20 21 07.2	-0.7
ALN				S	Sg	20 21 24.9	-0.2
ALN	Alexandroupoli	1.27	14	P	Pn	20 21 07.3	-0.7
ALN				S	Sg	20 21 24.9	-0.2
CHOS	Chios island	1.32	165	PN	Pn	20 21 07.9	-0.8
CHOS	Chios island	1.32	165	P	Pn	20 21 07.6	-1.1
CHOS	Chios island	1.32	165	P	Pn	20 21 07.2	-1.5
CHOS				S	Sb	20 21 26.1	+0.1
AOS	Alonnisos	1.45	251	PN	Pn	20 21 09.2	-1.2
KRBG	Karabiga-Canak	1.47	60	PN	Pn	20 21 10.6	-0.1
RDO	Rodhopi	1.48	357	PN	Pn	20 21 10.7	-0.2
RDO	Rodhopi	1.48	357	P	Pn	20 21 10.1	-0.8
RDO	Rodhopi	1.48	357	P	Pn	20 21 10.3	-0.6
URLA	Izmir	1.50	150	PN	Pn	20 21 11.2	0.0
GONE	Gonen-Balikesi	1.62	76	PN	Pn	20 21 13.3	+0.5
STEP	BALIKESIR_Sava	1.64	99	IAML_P			
	comp=Z,422nm,0.3s						
STEP				iP	Pb	20 21 14.1	-0.3
STEP				iS	Sg	20 21 38.6	+1.7
MRMT	Marmara Adasi	1.77	57	PN	Pn	20 21 15.5	+0.6
EDC	Edincik	1.84	68	PN	Pn	20 21 16.2	+0.3
SBT4	Kumbag-Tekirda	1.86	51	PN	Pn	20 21 16.7	+0.7
KCTX	Karacabey (Bur	2.18	73	PN	Pn	20 21 21.4	+0.9
EDRB	Edirne	2.34	21	PN	Pn	20 21 23.4	+0.7
STIP	Stip	3.31	309	iPn	Pn	20 21 38.7	+2.6
STIP				eSn	Sb	20 22 25.8	+2.4
STON	Ston	6.78	301	Sg	Sb	20 23 53.0	-10

MEX 10 20:32:46.2±0.7**, 16°.61N**×**98°.95W, h16**km±7km**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.81	105	iP	Pb	20 32 59.3	-2.7
PNIG				eS	Sb	20 33 09.0	-3.8
ACP2	Acapulco	0.94	286	eP	Pb	20 33 01.1	-3.1
ACP2				iS	Sb	20 33 12.0	-4.3
TLIG	Tlapa	1.01	21	eP	Pb	20 33 01.7	-3.8
TLIG				iS	Sb	20 33 13.6	-5.0
CAIG	El Cayaco	1.34	289	iP	Pn	20 33 06.8	-3.4
CAIG				iS	Sn	20 33 22.5	-5.2
VHO	Vista Hermosa	2.17	77	eP	Pn	20 33 19.3	-2.5
VHO				iS	Sn	20 33 44.0	-4.5
ZIIG	Zihuatanejo	2.60	293	iP	Pn	20 33 25.5	-2.1
ZIIG				iS	Sn	20 33 55.8	-3.2

IDC 10 20:38:01.6±4.9**, 3°.95N**×**126°.70E, h116**km±53km**, mb3.1**/5**, mb1 3.3**/6**, mb1mx3.1**/46**, mbtmp3.5**/6**, MS3.1**/2**, Ms1 3.1**/2**, ms1mx2.6**/15**, Error ellipse: s-maj=78.2km s-min=20.0km az=76.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	6.62	136	P	Pn	20 39 37.1	+0.7
	3.2nm,0.3s,baz=335,slow=12,SNR=13						
LEM	Lembang	21.85	241	LR	LR	20 51 40.5	
	comp=Z,75nm,20.4s,baz=220,slow=38						
FITZ	Fitzroy Crossi	21.93	183	P	P	20 42 46.6	+0.7
	1.4nm,0.3s,baz=9.7,slow=8.6,SNR=7.3						
WRA	Warramunga Arr	24.90	163	P	P	20 43 14.5	+0.6
	0.6nm,0.5s,baz=342,slow=10,SNR=7.5						
ASAR	Alice Springs	28.34	166	P	P	20 43 42.8	-1.9
	0.2nm,0.6s,baz=346,slow=7.7,SNR=5.8						
CMAR	Chiang Mai Arr	30.73	300	LR	LR	20 58 20.4	
	comp=Z,18nm,18.2s,baz=202,slow=40						
SONM	Songino Array	47.08	341	P	P	20 46 22.2	+0.4
	0.2nm,0.5s,baz=141,slow=6.5,SNR=1.9						
MKAR	Makanchi Array	57.35	325	P	P	20 47 36.6	-1.2
	0.2nm,0.4s,baz=115,slow=6.8,SNR=7.4						
MKAR				PcP	PcP	20 48 32.0	+1.5
	0.5nm,0.7s,baz=115,slow=4.0,SNR=5.6						

*ISCJB **10** 20:38:53.4±2.4, 20°.3S±0°.4×178°.3W±0°.4, h550km, mb3.8/8, Error ellipse: s-maj=65.8km s-min=23.9km az=135.4*
*IDC **10** 20:38:59.4±8.1, 20°.39S×178°.41W, h610km±79km, mb3.3/8, mb1 3.5/8, mb1mx3.1/33, mbtmp4.3/8, Error ellipse: s-maj=65.1km s-min=33.7km az=115.0*
ISC 10 20:38:53.8±1.3**, 20°.4S**±0°.3×**178°.2W**±0°.2**, h550**km**, n16, σ1s.87**/18**, mb3.9**/8**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.67	244	P	P	20 45 23.4	+0.8
	1.9nm,0.5s,baz=79,slow=11,SNR=9.8						
JAY	Jayapura	43.81	288	P	P	20 46 12.5	+0.8
	16nm,0.9s,baz=116,slow=23,SNR=4.2						
ASAR	Alice Springs	44.36	257	P	P	20 46 15.8	-0.2
	3.9nm,0.5s,baz=95,slow=7.5,SNR=65						
ASAR				PcP	PcP	20 47 47.5	-0.4
	0.6nm,0.5s,baz=103,slow=3.7,SNR=5.8						
WRA	Warramunga Arr	44.42	262	P	P	20 46 15.8	-0.6
	1.7nm,0.3s,baz=97,slow=7.8,SNR=41						
WRA				PcP	PcP	20 47 47.7	-0.5
	0.4nm,0.8s,baz=96,slow=6.7,SNR=2.8						
FITZ	Fitzroy Crossi	52.85	262	P	P	20 47 18.6	-0.3
	3.9nm,0.8s,baz=65,slow=4.4,SNR=13						
MJAR	Matsushiro Arr	69.98	324	P	P	20 49 10.3	-0.1
	1.0nm,0.6s,baz=171,slow=6.0,SNR=3.1						
ILAR	Eielson Array	88.22	13	P	P	20 50 46.7	+0.6
	0.3nm,0.5s,baz=218,slow=5.5,SNR=5.4						
CMAR	Chiang Mai Arr	89.88	290	P	P	20 50 54.3	-0.6
	0.6nm,0.7s,baz=112,slow=2.4,SNR=7.4						
MKAR	Makanchi Array	110.96	313	PKiKP	PKiKP	20 56 23.3	-1.5
	0.1nm,0.4s,baz=56,slow=2.4,SNR=3.4						
BVAR	Borovoye Array	118.84	320	PKP	PKPdf	20 56 38.2	-1.5
	0.9nm,0.4s,baz=121,slow=1.9,SNR=6.1						
ARCES	ARCESS Array B	128.75	350	PKP	PKPdf	20 56 58.0	-0.2
	4.2nm,0.9s,baz=4.3,slow=4.9,SNR=5.5						
GNI	Garni	138.46	308	PKP	PKPdf	20 57 16.8	-0.7
	2.3nm,0.4s,baz=58,slow=9.5,SNR=3.5						
AKASG	Malin Array Be	142.79	331	PKP	PKPdf	20 57 21.1	-3.5
	1.8nm,0.4s,baz=43,slow=4.4,SNR=15						
BRTR	Keskin Array B	146.60	312	PKPbc	PKPdf	20 57 33.8	+2.0
	0.8nm,0.6s,baz=19,slow=6.1,SNR=5.0						
GERES	GERESS Array B	150.01	344	PKPbc	PKPdf	20 57 42.2	+5.3
	0.4nm,0.5s,baz=2.6,slow=4.3,SNR=2.2						
DAVOX	Davos/Dischmat	152.83	348	PKPbc	PKPbc	20 57 48.7	-0.4
	baz=333,slow=9.0						

*ISK **10** 20:58:00.0, 38°.81N×43°.53E, h21km, ML2.1/3*
*DDA **10** 20:58:01.5, 38°.84N×43°.55E, h7km±6km, ML2.5*
ISC 10 20:57:59.0±1.6**, 38°.77N**±0°.06×**43°.67E**±0°.08**, h23**km±12km**, n8, σ0s.55**/12**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.23	340	IAML_P			
	comp=Z,2μm,0.2s						
VMUR				iP	Pb	20 58 05.1	0.0
VANB	Van	0.28	231	PG	Pn	20 58 07.5	-0.4
TVAN	Van	0.32	221	IAML_P			
	comp=Z,3μm,0.1s						
TVAN				iP	Pn	20 58 08.0	-0.4
TVAN				iS	Sn	20 58 15.6	+1.1
CLDR	Caldiran	0.42	27	PG	Pn	20 58 09.6	-0.2
CLDR				SG	Sn	20 58 16.7	-0.3
CLDR	Caldiran	0.42	27	iP	Pn	20 58 10.2	+0.3
TUTA	Tutak	0.92	314	IAML_P			
	comp=Z,513nm,0.1s						
TUTA				iP	Pn	20 58 17.0	+0.3
AGRB	Hanur-Agry	0.96	327	PG	Pn	20 58 17.3	0.0
AGRB				SG	Sn	20 58 30.1	-0.2
GURO	Guroymak-BITLI	1.30	261	PN	Pn	20 58 22.2	+0.3
GURO				SN	Sn	20 58 38.0	-0.7

*UCR **10** 21:01:20.9±1.0, 13°.79N×91°.13W, h64km±17km, MD3.6, ML3.8*
*MEX **10** 21:01:26.9±0.5, 14°.01N×91°.36W, h8km±193km, MD3.5*
ISC 10 21:01:21.0±2.7**, 13°.7N**±0°.1×**91°.18W**±0°.06**, h35**km±5km**, n20, σ1s.07**/26**, 1C-1D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FUG	Fuego 3	0.77	25	eP	Pb	21 01 36.2	0.0
IXG	Ixpaco	0.82	59	⇑eP	Pb	21 01 36.6	-0.4
PCG	Pacaya	0.85	40	eP	Pb	21 01 37.2	-0.4
PCG				eS	Sb	21 01 48.9	+0.1
NBG	Las Nubes	1.16	44	⇓eP	Pn	21 01 41.1	0.0
RTR	El Retiro	1.49	84	eP	Pn	21 01 45.5	0.0
RTR				eS	Sn	21 02 05.2	+1.3
CEVE	Cerro Verde	1.51	87	eP	Pn	21 01 45.7	-0.1
CEVE				eS	Sn	21 02 05.0	+0.6
SBLS	San Blas	1.51	86	eP	Pn	21 01 45.5	-0.3
THIG		1.57	318	iP	Pn	21 01 46.5	+0.1
THIG				iS	Sn	21 02 02.1	-3.3
CEDA	San Andres	1.73	88	eP	Pn	21 01 48.7	+0.1
CEDA				eS	Sn	21 02 10.2	+0.6
CEDA				IAML		21 02 19.8	
	comp=Z,1μm,0.3s						
BOQS	Boqueron	1.84	90	eP	Pn	21 01 50.0	-0.4
SNET	Serv Nac Est T	1.89	92	eS	Sn	21 02 14.1	+0.5
SNET				IAML		21 02 15.9	
	comp=Z,1μm,0.2s						
OPAM	San Salvador	1.92	91	IAML		21 02 18.7	
	comp=Z,1μm,0.2s						
LOMA	San Marcos	1.95	92	eP	Pn	21 01 51.1	-0.5
LOMA				IAML		21 02 19.6	
	comp=Z,2μm,0.3s						
MRL	Marmol	1.95	47	eP	Pn	21 01 51.2	-0.5
LFRS	El Faro	2.06	93	eP	Pn	21 01 53.2	0.0
LBRS	Las Brisas	2.07	90	eP	Pn	21 01 53.0	-0.4
PAVA	Las Pavas	2.17	91	eP	Pn	21 01 54.4	-0.4
PAVA				eP	Pn	21 01 54.8	-0.1
PAVA				IAML		21 02 37.0	
	comp=Z,549nm,0.3s						
CCIG	Comitan	2.69	340	eP	Pn	21 02 03.3	+1.3
PCIG		2.78	315	eP	Pn	21 02 04.6	+1.6
PCIG				iS	Sn	21 02 34.1	-1.2
TGIG		3.55	328	iP	Pn	21 02 15.8	+2.0

*ISCJB **10** 21:02:12.6±1.2, 16°.22N±0°.07×93°.81W±0°.04, h112km±11km, mb3.6/2, Error ellipse: s-maj=11.2km s-min=6.8km az=12.7*
*MEX **10** 21:02:13.1±1.0, 16°.23N×93°.77W, h125km±11km, MD3.8*
*IDC **10** 21:02:13.8±5.9, 17°.59N×93°.37W, h66km±66km, mb3.5/2, mb1 3.6/3, mb1mx3.2/37, mbtmp3.6/3, ML3.9/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/24, Error ellipse: s-maj=54.6km s-min=45.6km az=68.0*
ISC 10 21:02:14.2±1.2**, 16°.22N**±0°.07×**93°.81W**±0°.04**, h102**km±10km**, n12, σ1s.04**/17**, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		0.77	132	iP	Pn	21 02 32.8	+0.3
PCIG				iS	Sn	21 02 47.3	+1.1
TGIG		0.86	50	iP	Pn	21 02 32.5	-0.9

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGIG				*i* S	Sn	21 02 47.3	-0.6
CMIG	Matias Romero	1.34	310	P	Pn	21 02 38.6	-0.1
	50nm,0.3s,baz=144,slow=9.8,SNR=120						
CMIG				S	Sn	21 02 58.0	+0.7
	92nm,0.3s,baz=317,slow=18,SNR=61						
CMIG				LR	LR	21 03 18.7	
	comp=Z,19nm,20.2s,baz=94,slow=43						
CMIG	Matias Romero	1.34	310	*i* P	Pn	21 02 38.5	-0.1
CMIG				*i* S	Sn	21 02 58.5	+1.3
CCIG	Comitan	1.61	88	*i* P	Pn	21 02 41.0	-1.1
CCIG				*i* S	Sn	21 03 02.0	-1.3
TUIG	Tuzandepetl	1.89	342	*i* P	Pn	21 02 45.0	-0.5
TUIG				*i* S	Sn	21 03 09.4	0.0
HUIG	Huatulco	2.25	259	*i* P	Pn	21 02 48.7	-1.4
HUIG				*i* S	Sn	21 03 17.1	-0.7
VHO	Vista Hermosa	2.92	287	*e*P	Pn	21 02 57.9	-1.3
VHO				*e*S	Sn	21 03 33.5	-0.3
TXAR	Lajitas Array	15.89	327	P	Pn	21 05 42.9	-9.3
	0.1nm,0.3s,baz=148,slow=12,SNR=6.0						
LPIG	La Paz	17.35	300	LR	LR	21 11 55.0	
	comp=Z,30nm,18.2s,baz=194,slow=34						
YKA	Yellowknife Ar	48.48	347	P	P	21 10 39.8	-6.4
	0.2nm,0.5s,baz=152,slow=7.4,SNR=3.5						
DBIC	Dimbokro	87.17	84	P	P	21 14 50.9	+1.3
	1.3nm,0.6s,baz=270,slow=6.1,SNR=1.8						

*ISCJB **10** 21:11:12.4±0.7, 6°.83S±0°.05×129°.75E±0°.08, h150km, mb3.3/3, Error ellipse: s-maj=11.0km s-min=7.6km az=173.5*

*IDC **10** 21:11:14.0±2.1, 6°.80S×129°.69E, h148km±22km, mb3.1/3, mb1 3.3/8, mb1mx3.0/41, mbtmp3.7/8, MS3.2/1, Ms1 3.2/1, ms1mx2.5/13, Error ellipse: s-maj=35.9km s-min=19.0km az=96.0*

ISC 10 21:11:12.1±0.8**, 6°.89S**±0°.06×**129°.9E**±0°.1**, h150**km**, n9, σ3s.13**/13**, mb3.2**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	6.13	13	P	Pn	21 12 41.7	+1.1
	2.0nm,0.3s,baz=242,slow=12,SNR=32						
SIJI				S	Sn	21 13 43.8	-6.1
	2.5nm,0.3s,baz=92,slow=24,SNR=11						
BATI	Baumata	7.00	241	P	Pn	21 12 53.1	+0.9
	5.1nm,0.3s,baz=65,slow=2.4,SNR=8.4						
BATI				S	Sn	21 14 08.8	-2.0
	2.1nm,0.3s,baz=256,slow=19,SNR=1.7						
FITZ	Fitzroy Crossi	11.89	200	P	Pn	21 13 58.3	+1.3
	0.4nm,0.3s,baz=22,slow=10,SNR=22						
FITZ				S	Sn	21 16 03.3	-5.3
	0.7nm,0.3s,baz=340,slow=16,SNR=2.0						
WRA	Warramunga Arr	13.67	162	P	P	21 14 23.2	-0.4
	0.4nm,0.3s,baz=338,slow=13,SNR=11						
WRA				S	Sn	21 16 49.7	-1.7
	0.9nm,0.3s,baz=150,slow=23,SNR=8.2						
ASAR	Alice Springs	17.12	167	P	Pn	21 15 06.3	+3.8
	0.2nm,0.3s,baz=342,slow=9.3,SNR=11						
ASAR				S	S	21 18 10.5	-2.1
	0.1nm,0.3s,baz=353,slow=28,SNR=3.2						
PSI	Prapat	32.39	286	LR	LR	21 32 51.3	
	comp=Z,38nm,18.0s,baz=267,slow=40						
SONM	Songino Array	58.31	342	P	P	21 20 52.5	+1.3
	0.1nm,0.3s,baz=159,slow=7.0,SNR=4.5						
MKAR	Makanchi Array	68.08	327	P	P	21 21 56.9	+1.3
	0.4nm,0.3s,baz=117,slow=7.9,SNR=27						
KURBB	Kurchatov Arra	72.37	329	P	P	21 22 22.1	+0.6
	0.2nm,0.4s,baz=115,slow=4.4,SNR=3.9						

*ISK **10** 21:15:41.5, 39°.70N×25°.59E, h3km, ML2.3/13*

*ISCJB **10** 21:15:43.0±0.4, 39°.71N±0°.02×25°.62E±0°.03, h8km±4km, Error ellipse: s-maj=3.8km s-min=3.3km az=155.3*

*ATH **10** 21:15:42.6, 39°.70N×25°.61E, h25km±1km, ML2.2/1, Error ellipse: s-maj=2.0km s-min=1.2km az=253.0*

*DDA **10** 21:15:43.4, 39°.76N×25°.64E, h7km±3km, ML2.7*

ISC 10 21:15:42.9±1.0**, 39°.69N**±0°.02×**25°.61E**±0°.02**, h10**km±9km**, n31, σ0s.55**/43**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.37	66	PG	Pg	21 15 50.1	-0.3
BOZC	Bozcaada	0.37	66	IAML_P			
	comp=Z,2μm,0.1s						
BOZC				*i* P	Pg	21 15 50.0	-0.3
BOZC				*i* S	Sg	21 15 55.9	+0.6
LIA	Limnos Island	0.39	302	P	Pg	21 15 50.9	+0.3
LIA				S	Sg	21 15 56.2	+0.5
EFSA	Agios Efstrati	0.50	252	P	Pb	21 15 54.0	+0.1
EFSA				S	Sb	21 16 00.7	-0.5
SIGR	SIGRI	0.52	158	PG	Pg	21 15 52.0	-1.0
SIGR	SIGRI	0.52	158	P	Pg	21 15 52.5	-0.5
SIGR				S	Sg	21 16 00.5	+0.6
SIGR				AML	AML	21 16 01.0	
	comp=E,595μm,0.5s						
SIGR				AML	AML	21 16 01.1	
	comp=N,685μm,0.5s						
GADA	Gvkgeada	0.54	24	PG	Pg	21 15 53.0	-0.5
GADA				SG	Sg	21 16 00.9	+0.2
EZN	Ezine	0.57	76	PG	Pg	21 15 53.0	-1.0
PRK	Paraskevi	0.68	131	P	Pb	21 15 57.1	+0.2
PRK				S	Sb	21 16 06.9	+0.6
BAYC	CANAKKALE_Bayr	0.72	86	IAML_P			
	comp=Z,1μm,0.1s						
BAYC				*i* P	Pb	21 15 57.4	-0.3
SMTH	Samothraki Isl	0.78	356	P	Pg	21 15 57.9	-0.1
SMTH				S	Sb	21 16 09.7	+0.4
AYVA	Ayvalik	0.92	114	IAML_P			
	comp=Z,262nm,0.1s						
AYVA				*i* P	Pn	21 16 02.4	+0.5
AYVA				*i* S	Sn	21 16 15.2	0.0
GELI	Tayfur-Gelibol	0.97	43	PG	Pg	21 16 01.3	-0.3
LPK	Lapseki	1.11	52	PN	Pg	21 16 03.9	-0.5
ENEZ	Enez	1.12	22	PN	Pg	21 16 03.9	-0.6
THAS	Thassos island	1.14	324	P	Pg	21 16 04.4	-0.4
THAS				S	Sg	21 16 19.1	-0.5
DKL	Dikili	1.18	121	PN	Pg	21 16 05.2	-0.4
ERIK	Erikli-Kesan	1.20	35	PN	Pg	21 16 05.1	-0.8
ALN	Alexandroupoli	1.25	15	P	Pb	21 16 06.1	-0.5
ALN				S	Sn	21 16 23.1	-0.3
CHOS	Chios island	1.35	165	PN	Pn	21 16 08.2	+0.3
CHOS	Chios island	1.35	165	P	Pn	21 16 06.8	-1.1
CHOS				S	Sb	21 16 25.9	+0.1
AOS	Alonnisos	1.44	249	PN	Pn	21 16 09.3	+0.2
AOS	Alonnisos	1.44	249	P	Pg	21 16 10.3	-0.2
AOS				S	Sg	21 16 29.3	+0.2
RDO	Rodhopi	1.45	358	PN	Pn	21 16 08.5	-0.8
KRBG	Karabiga-Canak	1.47	61	PN	Pn	21 16 09.9	+0.4
URLA	Izmir	1.54	150	PN	Pn	21 16 11.0	+0.5
EDC	Edincik	1.85	69	PN	Pn	21 16 15.5	+0.8
SBT4	Kumbag-Tekirda	1.86	52	PN	Pn	21 16 15.4	+0.7
SRS	Serrai	2.10	313	P	Pn	21 16 18.6	+0.4
KCTX	Karacabey (Bur	2.19	74	PN	Pn	21 16 20.3	+0.9
EDRB	Edirne	2.32	21	PN	Pn	21 16 21.7	+0.5

*NIED **10** 21:22:00, 28°.50N×129°.40E, h62km, Mw4.1 Best double couple: M0 1.36000×10^15 NP1:φs217.00000°, δ40.00000°, λ92.00000°. NP2:φs34.00000°, δ50.00000°, λ88.00000°.*

*ISCJB **10** 21:22:06.8±0.3, 28°.41N±0°.03×129°.39E±0°.05, h73km±3km, mb3.8/20, Error ellipse: s-maj=8.7km s-min=3.1km az=30.5*

*JMA **10** 21:22:08.2±0.2, 28°.44N×129°.36E, h57km±3km, M3.8*

JMA Felt II J1.

*IDC **10** 21:22:08.9±1.3, 28°.36N×129°.33E, h79km±12km, mb3.6/20, mb1 3.8/23, mb1mx3.6/55, mbtmp3.9/23, MS2.6/2, Ms1 2.6/2, ms1mx2.3/34, Error ellipse: s-maj=15.9km s-min=10.4km az=105.0*

ISC 10 21:22:07.4±0.7**, 28°.37N**±0°.04×**129°.44E**±0°.05**, h66**km±5km**, n50, σ0s.96**/66**, mb3.9**/20**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAM	Amami Oshima	0.15	75	P	Pn	21 22 17.1	-0.3
JAM				S	Sn	21 22 23.8	-0.8
JAMN	Amaminishikomi	0.26	241	P	Pn	21 22 17.8	-0.1
JAMN				S	Sn	21 22 25.0	-0.6
JZK	Kikaishima	0.48	97	P	Pn	21 22 20.8	+1.1
JZK				*e*S	Sn	21 22 31.4	+2.8
JTK	Tokunoshima	0.72	216	P	Pn	21 22 23.0	+0.6
JTK				S	Sn	21 22 33.8	+0.5
JTAJ	Takarajima	0.80	345	P	Pn	21 22 22.7	-0.6
JTAJ				S	Sn	21 22 33.8	-1.2
JOKE	Okinoerabujima	1.27	217	P	Pn	21 22 30.3	+1.1
JOKE				S	Sn	21 22 46.7	+1.2
JNN	Nakanoshima	1.51	15	P	Pn	21 22 32.3	-0.2
JNN				S	Sn	21 22 50.4	-0.9
JYRO	Yoronjima	1.60	213	P	Pn	21 22 34.4	+0.8
JYRO				S	Sn	21 22 54.1	+0.7
JOW	Kunigami	1.85	214	P	Pn	21 22 37.6	+0.6
	66nm,0.3s,baz=91,slow=22,SNR=167						
JOW				S	Sn	21 22 59.9	+0.5
	163nm,0.3s,baz=110,slow=22,SNR=5.9						
JOW	Kunigami	1.85	214	P	Pn	21 22 37.5	+0.5
JOW				S	Sn	21 23 00.2	+0.8
JIH	Iheya	1.86	225	P	Pn	21 22 37.8	+0.6
JIH				*e*S	Sn	21 22 59.6	-0.1
JYAK	Yakushimahirau	2.08	27	P	Pn	21 22 40.3	+0.2
JYAK				*e*S	Sn	21 23 05.1	+0.1
JKC	Kuchinoerabu	2.19	17	P	Pn	21 22 41.9	+0.4
JKC				*e*S	Sn	21 23 07.2	-0.3
JNTH	Nagotoyohara	2.23	215	P	Pn	21 22 42.8	+0.6
JNTH				*e*S	Sn	21 23 09.0	+0.3
JMTN	Minamitane	2.39	32	P	Pn	21 22 44.8	+0.5
JMTN				*e*S	Sn	21 23 13.1	+0.6
JAGN	Aguni-jima	2.64	228	P	Pn	21 22 48.3	+0.6
JAGN				*e*S	Sn	21 23 18.8	+0.3
JTN	Tanegashima 3	2.64	30	P	Pn	21 22 48.4	+0.7
JMZ	Minamidaito 2	3.00	148	P	Pn	21 22 52.2	-0.4
JMZ				*e*S	Sn	21 23 24.7	-2.7
JKE	Kume jima 2	3.12	230	P	Pn	21 22 54.6	+0.4
JKE				S	Sn	21 23 30.3	0.0
JNU	Nakatsue	4.89	14	P	Pn	21 23 21.0	+2.5
	4.5nm,0.3s,baz=211,slow=8.2,SNR=55						
JNU				S	Sn	21 24 14.2	+0.3
	1.4nm,0.3s,baz=115,slow=12,SNR=1.1						
JNU				LR	LR	21 25 28.1	
	comp=Z,53nm,21.1s,baz=142,slow=40						
KSRS	Korea Array	9.14	352	P	Pn	21 24 19.9	+3.4
	0.4nm,0.3s,baz=177,slow=14,SNR=7.8						
MJAR	Matsushiro Arr	11.01	40	LR	LR	21 28 21.8	
	comp=Z,45nm,19.4s,baz=85,slow=34						
ASAJ	Asahikawa	18.92	30	P	P	21 26 23.1	+0.3
	0.4nm,0.3s,baz=228,slow=5.3,SNR=5.6						
SONM	Songino Array	26.41	324	P	P	21 27 38.3	+0.4
	0.2nm,0.4s,baz=119,slow=8.9,SNR=3.4						
CMAR	Chiang Mai Arr	29.60	257	P	P	21 28 05.8	-0.6
	0.6nm,0.5s,baz=55,slow=7.8,SNR=9.0						
CMAR				PcP	PcP	21 31 10.1	+0.1
	0.4nm,0.8s,baz=40,slow=2.9,SNR=3.6						
H11N2	WAKE ISLAND Hy	35.16	96	T	T	22 06 26.0	
	baz=290						
H11N1	WAKE ISLAND Hy	35.16	96	T	T	22 06 26.1	
	baz=290						
H11N3	WAKE ISLAND Hy	35.17	96	T	T	22 06 27.2	
	baz=290						
H11S3	WAKE ISLAND Hy	35.44	98	T	T	22 06 53.7	
	baz=290						
H11S1	WAKE ISLAND Hy	35.45	98	T	T	22 06 48.8	
	baz=290						
H11S2	WAKE ISLAND Hy	35.46	98	T	T	22 06 51.2	
	baz=290						
MKAR	Makanchi Array	40.95	310	P	P	21 29 43.5	-0.1
	0.5nm,0.4s,baz=93,slow=11,SNR=16						
MKAR				PcP	PcP	21 31 41.7	-1.0
	0.3nm,0.6s,baz=114,slow=3.5,SNR=3.9						
ZALV	Zalesovo Beam	41.23	321	P	P	21 29 45.2	-0.5
	0.6nm,0.3s,baz=116,slow=10,SNR=3.6						
KURBB	Kurchatov Arra	44.08	315	P	P	21 30 08.7	-0.1
	1.3nm,0.8s,baz=101,slow=9.2,SNR=6.7						
AAK	Ala-Archa	46.17	303	P	P	21 30 25.4	-0.3
	0.8nm,0.5s,baz=76,slow=8.3,SNR=3.5						
WRA	Warramunga Arr	48.27	174	P	P	21 30 42.0	0.0
	1.0nm,0.9s,baz=356,slow=8.3,SNR=5.7						
BVAR	Borovoye Array	49.42	317	P	P	21 30 50.0	-0.5
	1.0nm,0.4s,baz=86,slow=9.8,SNR=12						
BVAR				PcP	PcP	21 32 12.1	+0.2
	0.9nm,0.6s,baz=85,slow=5.2,SNR=4.6						
ASAR	Alice Springs	51.92	175	P	P	21 31 10.4	+0.8
	0.5nm,0.6s,baz=3.2,slow=14,SNR=8.3						
ASAR				PcP	PcP	21 32 20.6	-0.9
	0.4nm,0.7s,baz=354,slow=3.7,SNR=3.3						
KDAK	Kodiak Island	60.17	37	P	P	21 32 08.1	+0.1
	5.9nm,1.0s,baz=240,slow=8.1,SNR=2.8						
ILAR	Eielson Array	62.05	29	P	P	21 32 20.9	+0.1
	0.7nm,0.7s,baz=288,slow=8.5,SNR=11						
INK	Inuvik	66.50	24	P	P	21 32 50.7	+0.9
	0.7nm,0.4s,baz=279,slow=8.6,SNR=6.2						
ARCES	ARCESS Array B	68.41	338	P	P	21 33 00.8	-1.0
	4.7nm,1.1s,baz=68,slow=7.2,SNR=3.5						
KBZ	Khabaz	68.64	309	P	P	21 33 03.5	-0.2
	2.0nm,0.8s,baz=37,slow=7.8,SNR=3.5						
FINES	FINESS Array B	71.53	330	P	P	21 33 20.2	-0.9
	1.1nm,0.4s,baz=63,slow=7.3,SNR=12						
AKASG	Malin Array Be	74.60	320	P	P	21 33 39.0	-0.3
	1.3nm,0.5s,baz=58,slow=6.3,SNR=5.0						
YKA	Yellowknife Ar	76.14	25	P	P	21 33 48.8	+0.9
	0.7nm,0.6s,baz=302,slow=5.4,SNR=14						
BRTR	Keskin Array B	76.57	308	P	P	21 33 51.3	+0.3
	1.4nm,0.8s,baz=96,slow=5.5,SNR=6.7						
NB2	NORSAR Subarra	77.87	334	P	P	21 33 56.4	-1.4
	comp=Z,0.5nm,0.6s,baz=47,slow=5.6						
NOA	NORSAR Array B	77.87	334	P	P	21 33 57.0	-0.8
	comp=Z,0.8nm,0.6s,baz=50,slow=5.6,SNR=4.1						
GERES	GERESS Array B	84.14	323	P	P	21 34 31.4	0.0
	comp=Z,0.6nm,0.5s,baz=91,slow=5.9,SNR=4.5						

*IDC **10** 21:22:12.6±1.1, 36°.15N×71°.20E, h0km, mb3.8/9, mb1 4.0/12, mb1mx3.7/54, mbtmp3.8/12, ML3.3/4, MS2.9/1, Ms1 2.9/1, ms1mx2.2/38, Error ellipse: s-maj=23.3km s-min=22.2km az=82.0*

*ISCJB **10** 21:22:22.6±0.3, 36°.38N±0°.03×71°.41E±0°.05, h100km, mb3.9/14, Error ellipse: s-maj=5.9km s-min=4.2km az=167.4*

*NEIC **10** 21:22:24.3±0.6, 36°.48N×71°.34E, h90km±5km, mb4.1/7, Error ellipse: s-maj=7.2km s-min=5.9km az=82.0*

*NNC **10** 21:22:26.4±3.1, 36°.74N×70°.66E, h65km±103km, mb3.8, mpv3.9, Error ellipse: s-maj=35.1km s-min=16.9km az=145.0*

ISC 10 21:22:23.8±0.6**, 36°.42N**±0°.05×**71°.17E**±0°.05**, h100**km**, n69, σ2s.37**/75**, mb3.9**/14**, 6C-8D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBL	Kabul	2.56	223	*e*Pn	Pn	21 23 05.8	+1.9
GAR	Garm	2.67	345	*e*Pn	Pn	21 23 05.5	+0.3
NIL	Nilore	3.25	148	*e*Pn	Pn	21 23 14.2	+1.4
BTK	Batken	3.65	356	*e*Pn	Pn	21 23 19.2	+0.9
SFK	Sufi-Kurgan	4.03	26	⇓P	Pn	21 23 25.0	+1.5
	5.4nm,0.4s						
SFK				⇑S	Sn	21 24 10.9	+1.0
	11nm,0.3s						
ARSB	Arslanbob	5.10	16	*e*Pn	Pn	21 23 37.1	-0.9
ARSB				*e*Sn	Sn	21 24 31.6	-4.0
AML	Almayashu	6.03	18	P	Pn	21 23 51.1	+0.3
	SNR=25						
UCH	Uchtor	6.35	23	P	Pn	21 23 55.5	+0.3
	SNR=10						
KZA	Kyzart	6.48	28	P	Pn	21 23 57.4	+0.6
	SNR=6.7						
EKS2	Erkin-Say	6.55	17	P	Pn	21 23 58.4	+0.8
	SNR=19						
KK31	Karatay Array	6.70	356	*e*Pn	Pn	21 23 58.8	-0.7
KK31				*e*Sn	Sn	21 25 10.4	-3.9
KK31	Karatay Array	6.70	356	⇓P	Pn	21 23 59.5	0.0
	1.8nm,0.3s,baz=179,slow=13,SNR=51						
KK31				⇓S	Sn	21 25 11.1	-3.2
	3.1nm,0.3s,baz=184,slow=23,SNR=11						
KKAR	Karatay Array	6.70	356	*e*Pn	Pn	21 23 59.5	0.0
KKAR				*e*Sn	Sn	21 25 10.6	-3.7
AAK	Ala-Archa	6.72	21	Pn	Pn	21 24 00.1	+0.1
	5.1nm,0.3s,baz=172,slow=5.9,SNR=120						
AAK				Sn	Sn	21 25 12.9	-2.1
	0.9nm,0.3s,baz=296,slow=22,SNR=7.1						
AAK	Ala-Archa	6.72	21	P	Pn	21 24 00.7	+0.7
	SNR=19						
AAK	Ala-Archa	6.72	21	*e*Pn	Pn	21 23 59.8	-0.1
AAK				*e*Sn	Sn	21 25 12.9	-2.1
AAK	Ala-Archa	6.72	21	⇓P	Pn	21 24 00.0	+0.1
	9.5nm,0.5s						
AAK				⇓S	Sn	21 25 12.9	-2.1
	17nm,0.8s						
KBK	Karagaybulak	6.88	24	P	Pn	21 24 03.4	+1.3
	SNR=8.9						
CHMS	Chumysh	7.13	22	P	Pn	21 24 05.9	+0.6
	SNR=8.4						
USP	Ospenovka	7.30	19	P	Pn	21 24 08.0	+0.2
	SNR=7.6						
TKM2	Tokmak 2	7.33	26	P	Pn	21 24 08.9	+0.6
	SNR=8.2						
TKM2	Tokmak 2	7.33	26	⇑P	Pn	21 24 08.0	-0.3
	4.9nm,0.5s						
TKM2				⇑S	Sn	21 25 31.1	+1.0
	2.2nm,0.7s						
GEYT	Alibeck	10.53	282	Pn	Pn	21 24 48.9	-2.7
	1.3nm,0.3s,baz=103,slow=12,SNR=17						
GEYT				Sn	Sn	21 26 40.0	-7.6
	1.8nm,0.3s,baz=106,slow=16,SNR=10.0						
GYA0B	ALIBECK ARRAY	10.53	282	*e*Pn	Pn	21 24 48.5	-3.1
GYA0B				*e*Sn	Sn	21 26 42.5	-5.2
GYA0B	ALIBECK ARRAY	10.53	282	⇑P	Pn	21 24 47.7	-3.9
	1.5nm,0.4s						
GYA0B				⇓S	Sn	21 26 39.6	-8.0
	9.4nm,0.5s						
PYUN	Piuthan	12.98	126	*e*P	Pn	21 25 20.6	-4.0
	32nm,0.3s						
MK32	Makanchi Array	13.28	35	*e*Pn	Pn	21 25 26.5	-1.7
MKAR	Makanchi Array	13.28	35	Pn	Pn	21 25 26.5	-1.7
	0.0nm,0.3s,baz=225,slow=16,SNR=4.8						
DANN	Dangsing	13.33	124	*e*P	Pn	21 25 25.4	-3.8
	17nm,0.4s						
KOLN	Koldanda	13.60	126	*e*P	Pn	21 25 28.8	-3.9
	11nm,0.4s						
DMN	Daman	14.71	123	*e*P	Pn	21 25 42.9	-4.2
	7.5nm,0.3s						
KKN	Kakani	14.71	122	*e*P	Pn	21 25 42.8	-4.3
	12nm,0.5s						
PKIN	Phulchoki	14.93	122	*e*P	Pn	21 25 46.2	-3.7
	17nm,0.7s						
GUN	Gumba	15.05	120	*e*P	Pn	21 25 47.9	-3.6
	9.3nm,0.4s						
KURBB	Kurchatov Arra	15.16	18	Pn	Pn	21 25 48.9	-3.3
	0.0nm,0.3s,baz=207,slow=11,SNR=4.1						
AB31	Akbulak array	15.22	331	⇓P	Pn	21 25 52.3	-0.9
	0.8nm,0.5s,baz=164,slow=12,SNR=19						
AB31				⇓S	Sn	21 28 30.8	-10
	1.2nm,0.5s,baz=147,slow=23,SNR=14						
ABKAR	Akbulak array	15.22	331	*e*Pn	Pn	21 25 53.3	+0.2
KURK	Kurchatov	15.26	18	*e*Pn	Pn	21 25 53.0	-0.6
JIRN	Jiri	15.43	120	*e*P	Pn	21 25 52.1	-4.1
	30nm,0.4s						
RAMN	Ramite	16.15	121	*e*P	Pn	21 26 02.3	-2.9
	18nm,0.5s						
BVAR	Borovoye Array	16.61	358	Pn	Pn	21 26 09.1	-1.4
	0.5nm,0.3s,baz=172,slow=9.6,SNR=13						
BRVK	Borovoye	16.65	358	*e*Pn	Pn	21 26 10.8	0.0
AKTO	Aktyubinsk	16.92	330	P	Pn	21 26 14.2	-0.1
	0.5nm,0.3s,baz=140,slow=15,SNR=6.7						
AKTO	Aktyubinsk	16.92	330	⇑P	Pn	21 26 14.9	+0.6
	3.6nm,0.7s						
AKTO				⇑S	Sn	21 29 13.1	-9.0
	2.2nm,0.9s						
LSA	Lhasa	18.02	106	*e*Pn	P	21 26 26.8	-0.5
ZAA0	Zalesovo Array	19.93	24	*e*P	P	21 26 47.3	-0.1
	4.1nm,0.8s						
ZALV	Zalesovo Beam	19.93	24	P	P	21 26 47.2	-0.2
	3.1nm,0.3s,baz=222,slow=11,SNR=18						
ZAA1	Zalesovo Array	19.93	24	*e*P	P	21 26 47.2	-0.2
ARU	Arti	21.75	341	*e*P	P	21 27 07.7	+0.7
	12nm,1.0s						
BRDH	Bariadhala	22.40	122	LR	LR	21 36 44.1	
	comp=Z,31nm,20.1s,baz=356,slow=39						
KIV	Kislovodsk	22.95	298	*e*P	P	21 27 21.6	+2.0
	5.8nm,0.9s						
RAYN	Ar Rayn	25.59	247	*e*P	P	21 27 46.2	+2.4
	1.3nm,0.6s						
AKASG	Malin Array Be	33.11	309	P	P	21 28 52.3	+2.3
	0.5nm,0.5s,baz=81,slow=7.6,SNR=3.6						
AKBB	Malin Array Si	33.11	309	*e*P	P	21 28 52.3	+2.3
	17nm,1.8s						
FIA0	FINESS Array S	37.63	326	*e*P	P	21 29 31.1	+2.6
FINES	FINESS Array B	37.63	326	P	P	21 29 31.1	+2.6
	3.2nm,0.9s,baz=124,slow=9.3,SNR=6.6						
ARA0	ARCESS Array S	41.27	338	*e*P	P	21 30 01.3	+2.5
ARCES	ARCESS Array B	41.27	338	P	P	21 30 01.3	+2.5
	3.6nm,0.8s,baz=113,slow=6.7,SNR=16						
NB2	NORSAR Subarra	44.53	323	P	P	21 30 27.1	+1.9
	comp=Z,1.9nm,0.6s,baz=98,slow=7.9						
NB200	NORSAR Array S	44.53	323	*e*P	P	21 30 27.4	+2.2
NOA	NORSAR Array B	44.53	323	P	P	21 30 27.4	+2.2
	comp=Z,1.1nm,0.5s,baz=97,slow=7.7,SNR=8.2						
TOA1	Torodi Ar. Sit	65.86	269	*e*P	P	21 32 59.6	+0.6
TORD	Torodi Ar. Bea	65.86	269	P	P	21 32 59.6	+0.6
	comp=Z,0.5nm,0.6s,baz=44,slow=6.3,SNR=4.7						
YKA	Yellowknife Ar	81.32	3	P	P	21 34 31.5	+2.9
	comp=Z,0.2nm,0.4s,baz=352,slow=5.5,SNR=6.4						
YKB5	Yellowknife Ar	81.32	3	*e*P	P	21 34 31.6	+2.9
WRA	Warramunga Arr	81.83	122	P	P	21 34 33.7	+1.7
	comp=Z,0.4nm,0.8s,baz=322,slow=5.1,SNR=3.4						
WR1	Warramunga Arr	81.83	122	*e*P	P	21 34 33.8	+1.7
	comp=Z,10.0nm,0.8s						
AS31	Alice Springs	84.09	125	*e*P	P	21 34 44.5	+0.9
	comp=Z,1.3nm,0.7s						
ASAR	Alice Springs	84.09	125	P	P	21 34 44.5	+0.9
	comp=Z,0.3nm,0.8s,baz=306,slow=5.2,SNR=4.1						

*NIED **10** 21:26:00, 37°.40N×143°.40E, h5km, Mw4.2 Best double couple: M0 2.58000×10^15 NP1:φs353.00000°, δ22.00000°, λ-134.00000°. NP2:φs219.00000°, δ75.00000°, λ-75.00000°.*

*IDC **10** 21:26:15.9±0.6, 37°.34N×143°.66E, h0km, mb4.0/21, mb1 4.2/27, mb1mx4.1/54, mbtmp4.1/27, ML3.7/6, MS3.3/6, Ms1 3.3/6, ms1mx2.9/41, Error ellipse: s-maj=15.7km s-min=13.2km az=114.0*

*MOS **10** 21:26:18.6±1.3, 37°.45N×143°.60E, h29km, mb4.6/24, Error ellipse: s-maj=8.3km s-min=5.5km az=102.7*

*JMA **10** 21:26:19.2±0.2, 37°.42N×143°.44E, h46km, M4.1*

*NEIC **10** 21:26:19.5±0.6, 37°.36N×143°.65E, h24km±4km, mb4.5/28, Error ellipse: s-maj=4.3km s-min=3.5km az=128.0*

ISC 10 21:26:20.0±1.0**, 37°.40N**±0°.04×**143°.57E**±0°.05**, h26**km±6km**, n191, σ1s.59**/180**, mb4.4**/65**, MS3.4**/4**, 7C-4D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.90	299	P	Pn	21 26 48.7	-2.0
JIKH				*e*S	Sn	21 27 10.1	-3.7
JIO	Ouri	2.05	302	P	Pn	21 26 50.9	-1.9
JIO				*e*S	Sn	21 27 13.8	-3.7
JFK	Kawauchi	2.15	270	P	Pn	21 26 52.0	-2.2
JFK				*e*S	Sn	21 27 16.0	-4.0
JKMT	Kesennumamotoy	2.17	311	P	Pn	21 26 52.4	-2.1
JKMT				*e*S	Sn	21 27 16.9	-3.7
ONAJ	Iwakimizuishiy	2.23	263	P	Pn	21 26 53.5	-1.9
ONAJ				S	Sn	21 27 18.5	-3.6
JMM	Marumori	2.26	283	P	Pn	21 26 53.4	-2.2
JMM				*e*S	Sn	21 27 19.0	-3.6
JMK	Ichinoseki	2.42	311	P	Pn	21 26 56.0	-1.8
JFT	Otama	2.58	274	P	Pn	21 26 59.1	-1.0
JFT				*e*S	Sn	21 27 28.8	-1.8
JOM	Ohasama	2.74	320	P	Pn	21 27 00.6	-1.6
JOM				S	Sn	21 27 31.4	-3.1
JYK	Kaneyama	2.95	302	P	Pn	21 27 04.0	-1.2
JANG	Nango	3.38	332	P	Pn	21 27 09.8	-1.2
JANG				*e*S	Sn	21 27 47.1	-3.1
JNS	Sasagawa	3.41	278	P	Pn	21 27 10.4	-1.0
JAG	Ashikaga	3.44	255	P	Pn	21 27 10.6	-1.3
JAG				*e*S	Sn	21 27 49.0	-2.9
BSO1	Boso 1	3.46	218	P	Pn	21 27 10.3	-1.3
JRY	Ryogami san	4.00	251	P	Pn	21 27 18.1	-1.5
JRY				S	Sn	21 28 00.9	-4.8
JOD2	Odawara 2	4.20	241	P	Pn	21 27 20.7	-1.7
JOD2				S	Sn	21 28 06.5	-4.2
MJAR	Matsushiro Arr	4.38	260	Pn	Pn	21 27 24.3	-0.5
	8.3nm,0.3s,baz=91,slow=14,SNR=77						
MJAR				Sn	Sn	21 28 14.5	-0.5
	1.5nm,0.3s,baz=57,slow=9.3,SNR=5.5						
MAJO	Matsushiro	4.38	260	*e*Pn	Pn	21 27 24.7	-0.1
MAJO				*e*Sn	Sn	21 28 14.3	-0.8
MAJO	Matsushiro	4.38	260 *d*	*i*P	Pn	21 27 25.4	+0.5
MAT	Matsushiro	4.38	260	P	Pn	21 27 25.1	+0.2
MAT				S	Sn	21 28 13.2	-1.9
MJB9	Matsu-Tunnel	4.38	260	*e*Pn	Pn	21 27 25.6	+0.7
MJB9				*e*Sn	Sn	21 28 14.8	-0.3
JOT	Ohata	4.43	335	P	Pn	21 27 25.1	-0.4
JOT				*e*S	Sn	21 28 12.7	-3.5

ERM	Erimo	4.62	356	ePn	Pn	21 27 25.9	-2.2
ERM				eSn	Sn	21 28 15.8	-5.1
ERM	Erimo	4.62	356	ceP	Pn	21 27 26.3	-1.8
JKB	Kayabe	4.89	337	P	Pn	21 27 31.3	-0.5
JKB				eS	Sn	21 28 25.4	-2.2
JCH	Churui	5.21	358	P	Pn	21 27 34.0	-2.2
JCH				S	Sn	21 28 29.6	-5.8
JHJ2	Mitsune	5.27	217	ePn	Pn	21 27 35.8	-1.2
JHJ2	Mitsune	5.27	217	P	Pn	21 27 35.0	-2.0
JHJ2				eS	Sn	21 28 32.4	-4.5
JHJ	Hachijo jima 2	5.28	217	Pn	Pn	21 27 35.6	-1.6
	13nm,0.3s,baz=339,slow=16,SNR=24						
JHJ				Sn	Sn	21 28 31.9	-5.2
	57nm,0.3s,baz=68,slow=21,SNR=5.6						
INU	Inuyama	5.67	251	ePn	Pn	21 27 43.3	+0.7
ASAJ	Asahikawa	6.75	354	Pn	Pn	21 27 56.1	-1.3
	11nm,0.3s,baz=214,slow=7.8,SNR=67						
ASAJ				Sn	Sn	21 29 07.4	-5.9
	3.4nm,0.3s,baz=39,slow=28,SNR=7.3						
ASAJ	Asahikawa	6.75	354	ePn	Pn	21 27 55.7	-1.6
YUK	Yuzh-Kuril'sk	6.85	14	P	Pn	21 27 57.1	-1.6
YUK				eS	Sn	21 29 08.7	-7.1
YUK				pmax	pmax		
	comp=N,57nm,0.3s						
YUK				pmax	pmax		
	comp=Z,90nm,0.3s						
SHO	Shikotan	6.92	20	eP	Pn	21 27 56.9	-2.8
SHO				eS	Sn	21 29 09.0	-8.5
SHO				pmax	pmax		
	comp=Z,18nm,0.5s						
SHO				pmax	pmax		
	comp=N,8.0nm,0.2s						
KUR	Kuril'sk	8.46	21	eP	Pn	21 28 22.2	+1.3
KUR				eS	Sn	21 29 46.9	-8.6
KUR				smax	smax		
	comp=E,73nm,0.5s						
KUR				smax	smax		
	comp=N,44nm,0.4s						
TEY	Ternei	9.26	328	⇑eP	Pn	21 28 31.3	-0.4
TEY				pmax	pmax		
	comp=N,30nm,0.9s						
TEY				pmax	pmax		
	comp=E,40nm,0.9s						
TEY				pmax	pmax		
	comp=Z,40nm,0.9s						
YSS	Yuzh-Sakhalins	9.57	357	ePn	Pn	21 28 35.9	-0.1
YSS	Yuzh-Sakhalins	9.57	357	eP	Pn	21 28 36.3	+0.3
YSS				pmax	pmax		
	comp=Z,30nm,1.2s						
CBIJ	Chichi jima	10.34	187	ePn	Pn	21 28 44.8	-1.8
USA0B	Ussuriysk Arra	11.10	311	ePn	Pn	21 28 58.0	+1.1
USRK	Ussuriysk Ar.	11.10	311	Pn	Pn	21 28 57.2	+0.3
	comp=Z,0.7nm,0.3s,baz=117,slow=12,SNR=13						
USRK				LR	LR	21 33 10.8	
	comp=Z,140nm,19.8s,baz=138,slow=37						
JNU	Nakatsue	11.22	251	Pn	Pn	21 28 57.6	-1.1
	comp=Z,0.1nm,0.3s,baz=45,slow=17,SNR=2.2						
JNU				Sn	Sn	21 30 56.7	-6.6
	comp=Z,0.2nm,0.3s,baz=182,slow=16,SNR=2.0						
JNU				LR	LR	21 34 27.5	
	comp=Z,67nm,18.4s,baz=88,slow=44						
KSRS	Korea Array	12.45	275	Pn	Pn	21 29 16.2	+0.8
	comp=Z,0.3nm,0.3s,baz=87,slow=14,SNR=18						
KSRS				LR	LR	21 33 52.8	
	comp=Z,127nm,18.4s,baz=84,slow=36						
KS01	Wonju Array Si	12.47	275	ePn	Pn	21 29 17.0	+1.3
KS15	Wonju Array Si	12.48	275	ePn	Pn	21 29 17.6	+1.8
KSAR	Wonju Array Be	12.48	275	Pn	Pn	21 29 16.2	+0.4
KSAR	Wonju Array Be	12.48	275	P	Pn	21 29 16.2	+0.4
MDJ	Mudanjiang	12.78	309	P	Pn	21 29 20.2	+0.3
MDJ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,190nm,4.5s						
TYV	Tymovskoe	13.48	358	eP	Pn	21 29 18.7	-11
TYV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KLR	Kul'dur	14.60	328	Pn	Pn	21 29 42.0	-2.7
	comp=Z,0.4nm,0.3s,baz=132,slow=12,SNR=27						
CN2	Changchun	15.17	301	eP	P	21 29 56.0	-1.2
ZEA	Zeya	19.86	331	eP	P	21 30 47.2	-1.7
ZEA				pmax	pmax		
	comp=N,36nm,0.8s						
ZEA				pmax	pmax		
	comp=E,26nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,36nm,0.8s						
NJ2	Nanjing	20.98	263	eP	P	21 31 03.3	+2.1
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
TIA	Tai'an	21.19	275	P	P	21 31 01.9	-1.6
TIA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BJI	Beijing	21.51	286	⇓eP	P	21 31 07.8	+1.0
BJI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BJT	Baijiatuau	21.52	285	eP	P	21 31 07.1	+0.2
	comp=Z,8.2nm,0.8s						
BJT	Baijiatuau	21.52	285	eP	P	21 31 07.1	+0.2
BJT				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC	Hu-ho-hao-te	25.00	288	eP	P	21 31 42.9	+1.2
HHC				pmax	pmax		
	comp=Z,23nm,0.9s						
HHC				pmax	pmax		
	comp=Z,100nm,6.2s						
WHN	Wuhan	25.12	263	⇓P	P	21 31 42.9	+0.2
WHN				pP	sP	21 31 54.2	+0.5
YAK	Yakutsk	26.12	345	eP	P	21 31 52.4	+0.9
YAK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.8s						
SEY	Seymchan	26.13	9	P	P	21 31 52.3	+0.7
	comp=N,2.7nm,0.9s,baz=210,slow=14,SNR=3.6						
SEY	Seymchan	26.13	9	⇑eP	P	21 31 53.8	+2.2
H11N2	WAKE ISLAND Hy	26.89	124	T	T	22 00 17.4	
	baz=316,slow=75,SNR=15						
H11N1	WAKE ISLAND Hy	26.90	124	T	T	22 00 13.5	
	baz=316,slow=75,SNR=9.7						
H11N3	WAKE ISLAND Hy	26.91	124	T	T	22 00 18.5	
	baz=316,slow=75,SNR=13						
H11S1	WAKE ISLAND Hy	27.65	127	T	T	22 01 12.2	
	baz=318,slow=76,SNR=8.7						
H11S3	WAKE ISLAND Hy	27.65	127	T	T	22 01 12.3	
	baz=318,slow=76,SNR=6.3						
H11S2	WAKE ISLAND Hy	27.67	127	T	T	22 01 06.1	
	baz=318,slow=76,SNR=11						
BOD	Bodaibo	28.17	326	eP	P	21 31 59.1	-11
BOD				pmax	pmax		
	comp=Z,9.0nm,1.3s						
XAN	Xi'an	28.24	274	P	P	21 32 11.9	+1.1
XAN				pP	sP	21 32 22.0	+0.1
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XAN	Xi'an	28.24	274	eP	P	21 32 12.0	+1.1
	comp=Z,6.9nm,0.7s						
XAN	Xi'an	28.24	274	eP	P	21 32 12.0	+1.1
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ULN	Ulaanbaatar	28.59	303	eP	P	21 32 15.1	+1.1
	comp=Z,4.1nm,0.8s						
ULN	Ulaanbaatar	28.59	303	⇓eP	P	21 32 14.3	+0.3
ULN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SONA1	Songino Array	29.02	303	eP	P	21 32 19.2	+1.3
SONA0	Songino Array	29.02	303	eP	P	21 32 19.1	+1.2
SONM	Songino Array	29.02	303	P	P	21 32 19.1	+1.2
	comp=Z,4.7nm,0.8s,baz=106,slow=7.4,SNR=29						
SONM				LR	LR	21 45 14.5	
	comp=Z,53nm,18.6s,baz=315,slow=39						
ENH	Enshi	29.08	266	eP	P	21 32 19.4	+1.0
	comp=Z,11nm,0.9s						
ZAK	Zakamensk	31.41	307	eP	P	21 32 39.3	+0.4
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
LZH	Lanzhou	31.70	280	eP	P	21 32 44.0	+2.3
LZH				pP	sP	21 32 56.7	+4.0
LZH				sP	pP	21 33 02.4	+13
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
CD2	Chengdu	33.40	271	eP	P	21 32 55.8	-0.6
GTA	Gaotai	34.10	287	eP	P	21 33 03.5	+0.9
GTA				pP	sP	21 33 11.9	-1.7
GTA				sP	pP	21 33 16.1	+5.7
GTA				S	S	21 38 27.8	+0.8
GTA				sS	sS	21 38 43.3	+3.4
GTA				pmax	pmax		
	comp=Z,4.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,42nm,5.4s						
GTA				LR	LR		
	comp=N,100nm,18.6s						
GTA				LR	LR		
	comp=E,100nm,18.2s						
GTA				LR	LR		
	comp=Z,84nm,18.2s						
TIXI	Tiksi	35.15	352	eP	P	21 33 10.4	-0.7
	comp=Z,0.9nm,0.3s						
TIXI	Tiksi	35.15	352	⇑eP	P	21 33 12.7	+1.6
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ANM	Nome	40.39	31	eP	P	21 33 55.6	+0.2
	comp=Z,17nm,1.6s						
ANM	Nome	40.39	31	eP	P	21 33 55.6	+0.2
ANM				pmax	pmax		
	comp=Z,17nm,1.6s						
DGZ	Jazzator, Alta	41.58	306	ceP	P	21 34 07.0	+1.4
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WMQ	Urumqi	42.21	297	eP	P	21 34 13.5	+2.7
WMQ				pP	sP	21 34 24.8	+2.9
WMQ				pmax	pmax		
	comp=Z,19nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,400nm,3.9s						
ZAA0	Zalesovo Array	42.95	312	eP	P	21 34 17.1	+0.6
	comp=Z,3.5nm,0.8s						
ZAA1	Zalesovo Array	42.95	312	eP	P	21 34 16.8	+0.3
ZAA1				ePcP	PcP	21 36 07.0	+0.3
ZALV	Zalesovo Beam	42.95	312	P	P	21 34 16.8	+0.3
	comp=Z,1.8nm,0.5s,baz=100,slow=6.5,SNR=7.9						
ZALV				PcP	PcP	21 36 07.0	+0.3
	comp=Z,1.1nm,0.7s,baz=113,slow=3.3,SNR=3.5						
ZALV	Zalesovo Beam	42.95	312	eP	P	21 34 16.6	+0.1
CHTO	Chiang Mai	43.05	257	eP	P	21 34 17.3	-0.5
	comp=Z,1.7nm,0.7s						
CHTO	Chiang Mai	43.05	257	eP	P	21 34 17.3	-0.5
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CM31	Chiang Mai Arr	43.26	257	eP	P	21 34 19.6	+0.1
CMAR	Chiang Mai Arr	43.26	257	P	P	21 34 20.3	+0.9
	comp=Z,0.8nm,0.8s,baz=46,slow=6.4,SNR=8.5						
CMAR				LR	LR	21 53 37.1	
	comp=Z,22nm,18.1s,baz=58,slow=38						
CMAR	Chiang Mai Arr	43.26	257	iP	P	21 34 22.5	+3.1
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CM01	Chiang Mai Arr	43.27	257	eP	P	21 34 19.6	+0.2
LSA	Lhasa	43.89	276	eP	P	21 34 26.9	+1.9
	comp=Z,2.6nm,0.7s						
LSA	Lhasa	43.89	276	eP	P	21 34 26.9	+1.9
LSA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MK01	Makanchi Array	45.38	302	eP	P	21 34 36.2	+0.1
MK31	Makanchi Array	45.38	302	eP	P	21 34 36.8	+0.6
MK31	Makanchi Array	45.38	302	eP	P	21 34 36.8	+0.6
MK32	Makanchi Array	45.38	302	eP	P	21 34 36.7	+0.6
MKAR	Makanchi Array	45.38	302	P	P	21 34 36.7	+0.6
	comp=Z,4.5nm,0.8s,baz=85,slow=9.4,SNR=33						
MKAR	Makanchi Array	45.38	302	ceP	P	21 34 37.2	+1.0
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
IM3	Indian Mountai	45.46	31	eP	P	21 34 35.6	-0.8
MAKZ	Makanchi	45.59	302	eP	P	21 34 38.1	+0.3
	comp=Z,5.5nm,0.8s						
MAKZ	Makanchi	45.59	302	eP	P	21 34 38.1	+0.3
MAKZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KDAK	Kodiak Island	45.67	42	P	P	21 34 38.7	+0.5
	comp=Z,2.7nm,0.8s,baz=307,slow=10,SNR=3.2						
PMG	Port Moresby	46.68	175	eP	P	21 34 45.6	-0.9
	comp=Z,3.4nm,0.4s						
PMG	Port Moresby	46.68	175	eP	P	21 34 45.6	-0.9
PMG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KURK	Kurchatov	47.06	308	eP	P	21 34 49.7	+0.5
KURK	Kurchatov	47.06	308	eP	P	21 34 49.7	+0.5
KURBB	Kurchatov Arra	47.14	308	P	P	21 34 49.8	0.0
	comp=Z,3.9nm,0.8s,baz=83,slow=8.5,SNR=28						
MDM	Murphy Dome	47.69	32	eP	P	21 34 53.4	-0.6
	comp=Z,8.7nm,1.1s						
ILAR	Eielson Array	48.26	33	P	P	21 34 58.5	+0.1
	comp=Z,2.4nm,0.7s,baz=262,slow=6.4,SNR=25						
ILB	Eielson Array	48.26	33	eP	P	21 34 58.4	+0.1
IL1	Eielson Array	48.26	33	eP	P	21 34 58.3	-0.1
JIRN	Jiri	48.70	276	eP	P	21 35 06.3	+3.6
	comp=Z,22nm,1.0s						
GUN	Gumba	48.83	276	eP	P	21 35 09.1	+5.4
	comp=Z,11nm,0.6s						
KKN	Kakani	49.36	277	eP	P	21 35 12.2	+4.6
	comp=Z,12nm,0.7s						
PKIN	Phulchoki	49.36	276	eP	P	21 35 10.1	+2.4
SCRK	Sand Creek	49.55	34	eP	P	21 35 08.6	+0.2
	comp=Z,4.6nm,1.0s						
TARG	Taragay, Kyrgy	49.78	297	eP	P	21 35 10.8	0.0
	comp=Z,6.7nm,0.8s						
DANN	Dangsing	50.31	278	eP	P	21 35 23.0	+8.1
	comp=Z,28nm,0.6s						
PYUN	Piuthan	51.03	278	eP	P	21 35 27.5	+7.3
	comp=Z,9.1nm,0.7s						
BVAR	Borovoye Array	51.60	312	P	P	21 35 24.3	+0.4
	comp=Z,0.9nm,0.7s,baz=81,slow=9.2,SNR=8.6						
BRVK	Borovoye	51.65	313	eP	P	21 35 24.9	+0.6
	comp=Z,3.7nm,0.8s						
BRVK	Borovoye	51.65	313	eP	P	21 35 24.9	+0.6
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AAK	Ala-Archa	51.83	299	eP	P	21 35 26.6	+0.7
	comp=Z,3.1nm,1.0s						
AAK	Ala-Archa	51.83	299	eP	P	21 35 26.6	+0.7
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
INK	Inuvik	53.27	27	P	P	21 35 35.0	-0.9
	comp=Z,1.0nm,0.7s,baz=289,slow=4.2,SNR=3.4						
INK	Inuvik	53.27	27	eP	P	21 35 35.0	-0.9
	comp=Z,19nm,1.8s						
ARSB	Arslanbob	53.33	298	eP	P	21 35 38.5	+1.4
SVE	Sverdlovsk	56.01	319	eP	P	21 35 57.6	+1.6
SVE				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NIL	Nilore	56.13	289	eP	P	21 35 58.1	+0.8
NIL	Nilore	56.13	289	eP	P	21 35 58.1	+0.8
ARU	Arti	57.23	319	eP	P	21 36 04.9	+0.2
	comp=Z,5.7nm,0.6s						
ARU	Arti	57.23	319	eP	P	21 36 04.9	+0.2
ARU				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CTAO	Charters Tower	57.23	177	eP	P	21 36 04.2	-0.9
CTAO	Charters Tower	57.23	177	eP	P	21 36 04.2	-0.9
WRAB	Tennant Creek	57.68	190	eP	P	21 36 07.0	-1.2
	comp=Z,3.0nm,0.4s						
WRAB	Tennant Creek	57.68	190	⇑eP	P	21 36 07.1	-1.2
WRAB				pmax	pmax		
	comp=Z,12nm,0.9s						
WR1	Warramunga Arr	57.69	190	eP	P	21 36 07.3	-1.1
	comp=Z,10.0nm,0.8s						
WRA	Warramunga Arr	57.70	190	P	P	21 36 07.3	-1.1
	comp=Z,6.1nm,0.7s,baz=12,slow=7.4,SNR=38						
WRA	Warramunga Arr	57.70	190	iP	P	21 36 07.6	-0.7
WRA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
FITZ	Fitzroy Crossi	57.73	200	eP	P	21 36 08.9	+0.3
	comp=Z,34nm,1.5s						
ABKAR	Akbulak array	59.02	311	eP	P	21 36 18.0	+0.7
AKTO	Aktyubinsk	59.71	312	P	P	21 36 21.6	-0.6
	comp=Z,1.0nm,0.8s,baz=73,slow=12,SNR=2.2						
AS01	Alice Springs	61.41	190	eP	P	21 36 33.5	-0.4
AS31	Alice Springs	61.42	190	eP	P	21 36 34.2	+0.2
	comp=Z,1.3nm,0.7s						
ASAR	Alice Springs	61.42	190	P	P	21 36 33.6	-0.3
	comp=Z,3.4nm,0.8s,baz=12,slow=6.8,SNR=32						
YKA	Yellowknife Ar	62.62	31	P	P	21 36 41.6	-0.1
	comp=Z,0.4nm,0.7s,baz=301,slow=6.6,SNR=5.8						
YKB5	Yellowknife Ar	62.62	31	eP	P	21 36 41.1	-0.5
ARA0	ARCESS Array S	64.25	340	eP	P	21 36 52.2	-0.1
ARCES	ARCESS Array B	64.25	340	P	P	21 36 52.2	-0.1
	comp=Z,1.6nm,0.8s,baz=56,slow=8.8,SNR=2.2						
STKA	Stephens Creek	68.94	182	P	P	21 37 22.6	+0.1
	comp=Z,2.0nm,0.6s,baz=8.5,slow=5.9,SNR=6.2						
STKA	Stephens Creek	68.94	182	eP	P	21 37 22.6	+0.1
	comp=Z,2.6nm,1.5s						
STKA	Stephens Creek	68.94	182	eP	P	21 37 22.7	+0.1
STKA				pmax	pmax		
	comp=Z,3.0nm,1.5s						
FIA0	FINESS Array S	69.28	333	eP	P	21 37 26.9	+2.4
FIA0	FINESS Array S	69.28	333	eP	P	21 37 26.9	+2.4
FINES	FINESS Array B	69.28	333	P	P	21 37 26.8	+2.4
	comp=Z,1.8nm,0.7s,baz=57,slow=5.1,SNR=2.8						
FINES				LR	LR	22 12 13.9	
	comp=Z,49nm,19.0s,baz=225,slow=40						
BBOO	Buckleboo	70.20	187	eP	P	21 37 30.3	0.0
	comp=Z,39nm,1.6s						
SCO	Scoresbysund	71.91	355	eP	P	21 37 39.5	-0.8
	comp=Z,24nm,1.5s						
SCO	Scoresbysund	71.91	355	eP	P	21 37 39.5	-0.8
SCO				pmax	pmax		
	comp=Z,24nm,1.5s						
KIV	Kislovodsk	71.96	312	eP	P	21 37 41.7	+0.4
	comp=Z,6.5nm,0.9s						
KIV	Kislovodsk	71.96	312	eP	P	21 37 41.7	+0.4
KIV				pmax	pmax		
	comp=Z,7.0nm,0.9s						
FFC	Flin Flon	72.46	34	eP	P	21 37 43.7	-0.2
FFC	Flin Flon	72.46	34	eP	P	21 37 43.7	-0.2
GNI	Garni	72.86	308	eP	P	21 37 46.4	-0.4
	comp=Z,25nm,1.6s						
GNI	Garni	72.86	308	eP	P	21 37 46.4	-0.4
GNI				pmax	pmax		
	comp=Z,25nm,1.6s						
ILULI	Ilulissat	73.15	5	eP	P	21 37 48.0	+0.3
	comp=Z,74nm,1.7s						
ILULI	Ilulissat	73.15	5	eP	P	21 37 48.0	+0.3
ILULI				pmax	pmax		
	comp=Z,74nm,1.7s						
NB200	NORSAR Array S	74.50	338	eP	P	21 37 56.6	+0.7
NOA	NORSAR Array B	74.50	338	P	P	21 37 56.6	+0.7
	comp=Z,0.5nm,0.8s,baz=40,slow=6.0,SNR=3.3						
AKASG	Malin Array Be	75.05	323	P	P	21 37 59.7	+0.5
	comp=Z,0.3nm,0.4s,baz=46,slow=6.4,SNR=3.1						
AKBB	Malin Array Si	75.05	323	eP	P	21 37 59.7	+0.5
	comp=Z,4.8nm,1.1s						
KIEV	Kiev	75.06	323	eP	P	21 37 59.2	0.0
	comp=Z,1.2nm,0.6s						
KIEV	Kiev	75.06	323	eP	P	21 37 59.2	0.0
KIEV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PD31	Pinedale Array	76.17	47	eP	P	21 38 06.0	0.0
PDAR	Pinedale Array	76.17	47	P	P	21 38 06.0	0.0
	comp=Z,0.4nm,0.8s,baz=318,slow=1.2,SNR=2.8						
BUR04	Bucovina Ar. S	79.08	323	eP	P	21 38 22.9	+0.9
CLL	Collm	81.62	331	eP	P	21 38 33.0	-2.5
LTX	Lajitas	88.52	54	eP	P	21 39 11.1	+0.5
LTX	Lajitas	88.52	54	eP	P	21 39 11.1	+0.5
TXAR	Lajitas Array	88.52	54	P	P	21 39 11.1	+0.4
	comp=Z,0.7nm,0.9s,baz=300,slow=2.7,SNR=5.3						
V53A	Saluda	95.52	36	epP	pP	21 39 52.0	+0.6
LPAZ	La Paz	145.01	62	PKP	PKPbc	21 45 56.0	+0.6
	comp=Z,0.8nm,0.7s,baz=207,slow=2.3,SNR=3.1						
LCO	Las Campanas	150.25	84	ePKPbc	PKPbc	21 46 09.3	+0.1
LCO	Las Campanas	150.25	84	ePKIKP	PKPbc	21 46 09.3	+0.1

IDC **10** *21:29:41.1±1.9, 37°.31N×143°.76E, h0km, mb3.6/5, mb1 3.7/9, mb1mx3.5/45, mbtmp3.6/9, ML3.4/3, Error ellipse: s-maj=46.7km s-min=23.0km az=68.0*

ISCJB **10** *21:29:44.3±0.8, 37°.42N±0°.04×143°.45E±0°.06, h33km, mb3.6/5, Error ellipse: s-maj=6.8km s-min=5.2km az=26.6*

JMA **10** *21:29:44.8±0.2, 37°.43N×143°.42E, h57km, M3.0*

ISC 10 21:29:46.9±1.3**, 37°.44N**±0°.06×**143°.44E**±0°.09**, h35km, n30, σ1s.56/36, mb3.6/5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.79	300	P	Pn	21 30 14.0	-1.3
JIKH				eS	Sn	21 30 35.7	-1.1
JIO	Ouri	1.94	302	P	Pn	21 30 16.1	-1.3
JIO				eS	Sn	21 30 38.6	-1.9
JFK	Kawauchi	2.04	269	P	Pn	21 30 17.3	-1.6
JFK				eS	Sn	21 30 41.3	-1.9
JKMT	Kesennumamotoy	2.07	312	P	Pn	21 30 17.8	-1.4
JKMT				eS	Sn	21 30 42.5	-1.2
ONAJ	Iwakimizuishiy	2.13	262	eS	Sn	21 30 43.8	-1.6
JMM	Marumori	2.14	282	P	Pn	21 30 18.8	-1.4
JMM				eS	Sn	21 30 44.0	-1.6
JMK	Ichinoseki	2.31	311	P	Pn	21 30 21.5	-1.0
JFT	Otama	2.47	273	P	Pn	21 30 24.5	-0.2
JFT				eS	Sn	21 30 53.4	-0.2
JOM	Ohasama	2.64	321	eS	Sn	21 30 56.8	-1.0
JANG	Nango	3.29	333	eS	Sn	21 31 12.6	-1.3
JAG	Ashikaga	3.35	254	P	Pn	21 30 36.2	-0.6
JAG				S	Sn	21 31 14.1	-1.3
JRY	Ryogami san	3.91	250	P	Pn	21 30 43.5	-1.1
JRY				eS	Sn	21 31 26.9	-2.4
JOD2	Odawara 2	4.13	240	P	Pn	21 30 46.2	-1.3
JOD2				eS	Sn	21 31 33.1	-1.5
MJAR	Matsushiro Arr	4.28	260	Pn	Pn	21 30 49.9	+0.2
	1.7nm,0.3s,baz=90,slow=14,SNR=6.8						
MJAR				Sn	Sn	21 31 40.2	+1.9
	baz=110,slow=18,SNR=1.9						
MAT	Matsushiro	4.28	260	P	Pn	21 30 50.1	+0.5
MAT				eS	Sn	21 31 35.4	-3.0
JCH	Churui	5.17	359	P	Pn	21 31 00.0	-1.8
ASAJ	Asahikawa	6.70	355	Pn	Pn	21 31 22.4	-0.4
	1.0nm,0.3s,baz=226,slow=4.6,SNR=6.7						
ASAJ				Sn	Sn	21 32 35.8	-2.1
	0.1nm,0.3s,baz=106,slow=32,SNR=1.4						
USRK	Ussuriysk Ar.	10.99	311	Pn	Pn	21 32 22.5	+0.9
	0.1nm,0.3s,baz=127,slow=17,SNR=1.7						
KSRS	Korea Array	12.34	275	Pn	Pn	21 32 42.0	+2.0
	0.1nm,0.3s,baz=86,slow=14,SNR=2.8						
H11N2	WAKE ISLAND Hy	27.00	124	T	T	22 03 38.1	
	baz=316						
H11N1	WAKE ISLAND Hy	27.01	124	T	T	22 03 33.1	
	baz=316						
H11N3	WAKE ISLAND Hy	27.02	124	T	T	22 03 34.4	
	baz=316						
H11S1	WAKE ISLAND Hy	27.76	126	T	T	22 04 11.2	
	baz=317						
H11S3	WAKE ISLAND Hy	27.76	126	T	T	22 04 10.9	
	baz=317						
H11S2	WAKE ISLAND Hy	27.77	126	T	T	22 04 11.9	
	baz=317						
SONM	Songino Array	28.91	303	P	P	21 35 44.9	+2.3
	0.7nm,1.0s,baz=103,slow=7.6,SNR=3.2						
MKAR	Makanchi Array	45.27	302	P	P	21 38 03.3	+2.3
	0.5nm,0.7s,baz=83,slow=8.6,SNR=3.6						
KURBB	Kurchatov Arra	47.03	308	P	P	21 38 15.4	+0.8
	0.9nm,0.7s,baz=81,slow=8.0,SNR=3.0						
WRA	Warramunga Arr	57.71	190	P	P	21 39 32.8	-1.4
	0.6nm,0.6s,baz=12,slow=7.5,SNR=3.3						
ASAR	Alice Springs	61.44	190	P	P	21 39 58.8	-1.1
	0.5nm,0.9s,baz=0.7,slow=7.5,SNR=4.1						

ISCJB **10** *21:35:18.3±0.7, 18°.3S±0°.1×174°.0W±0°.2, h43km, mb4.1/10, MS3.4/2, Error ellipse: s-maj=25.3km s-min=13.9km az=44.2*

IDC **10** *21:35:27.7±8.0, 18°.35S×174°.07W, h115km±71km, mb3.7/10, mb1 4.0/11, mb1mx3.8/27, mbtmp4.1/11, MS3.3/3, Ms1 3.3/3, ms1mx2.9/28, Error ellipse: s-maj=27.7km s-min=23.0km az=147.0*

ISC 10 21:35:19.7±0.7**, 18°.3S**±0°.2×**174°.0W**±0°.2**, h43km, n25, σ1s.16/16, mb4.2/10, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	13.70	105	LR	LR	21 42 24.4	
	comp=Z,102nm,20.6s,baz=316,slow=30						
DZM	Mont Dzumac	18.76	255	P	Pn	21 39 38.3	+2.1
	0.1nm,0.3s,baz=94,slow=19,SNR=2.9						
DZM	Mont Dzumac	18.76	255	eLR	LR	21 44 35.6	
	comp=Z,283nm,25.2s						
URZ	Urewera	21.40	200	P	P	21 40 04.7	+0.9
	7.3nm,0.3s,baz=260,slow=1.9,SNR=8.4						
PAE	Paea	23.22	92	eT	T	22 03 19.9	
	7.6nm,0.3s						
PPT2	Papeete2	23.23	92	eLR	LR	21 45 39.4	
	comp=Z,223nm,26.5s						
PPT	Papeete	23.23	92	LR	LR	21 46 44.7	
	comp=Z,55nm,20.1s,baz=268,slow=29						
TBI	Tubuai	23.47	107	eT	T	22 04 08.8	
	12nm,0.4s						
TVO	Taravao	23.52	93	eT	T	22 03 40.9	
	2.1nm,0.3s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	28.34	203	P	P	21 41 10.7	+1.1
	11nm,0.9s,baz=22,slow=5.4,SNR=2.8						
TAOE	Nuku Hiva Isla	34.14	79	eLR	LR	21 50 33.3	
	comp=Z,134nm,25.8s						
RKT	Rikitea	36.74	104	eT	T	22 20 36.2	
	2.7nm,0.3s						
STKA	Stephens Creek	42.18	242	P	P	21 43 07.2	-1.3
	0.9nm,0.5s,baz=98,slow=12,SNR=4.3						
WRA	Warramunga Arr	48.70	259	P	P	21 43 59.6	-0.7
	4.3nm,0.5s,baz=97,slow=8.4,SNR=54						
ASAR	Alice Springs	48.75	254	P	P	21 44 00.6	0.0
	10nm,0.7s,baz=90,slow=8.7,SNR=116						
ASAR				PcP	PcP	21 45 23.4	-1.9
	0.5nm,0.5s,baz=92,slow=5.3,SNR=2.1						
VNDA	Vanda	60.50	186	P	P	21 45 24.1	-0.8
	1.5nm,0.5s,baz=21,slow=14,SNR=10.0						
NVAR	Mina Array Bea	76.82	42	P	P	21 47 07.1	-0.3
	0.9nm,0.5s,baz=232,slow=8.8,SNR=3.2						
TXAR	Lajitas Array	82.66	56	P	P	21 47 40.5	+1.3
	0.3nm,0.8s,baz=246,slow=6.6,SNR=2.7						
ILAR	Eielson Array	85.34	11	P	P	21 47 52.1	+0.3
	0.3nm,0.5s,baz=235,slow=6.3,SNR=7.3						
CMIG	Matias Romero	85.36	70	LR	LR	22 16 03.6	
	comp=Z,39nm,21.6s,baz=196,slow=28						
YKA	Yellowknife Ar	92.92	24	P	P	21 48 27.8	0.0
	0.2nm,0.8s,baz=246,slow=6.0,SNR=2.9						
AKASG	Malin Array Be	142.72	336	PKP	PKPdf	21 54 47.5	-0.7
	0.2nm,0.4s,baz=35,slow=4.1,SNR=2.5						
BRTR	Keskin Array B	147.94	318	PKPbc	PKPdf	21 54 58.8	+1.1
	0.5nm,0.8s,baz=38,slow=2.6,SNR=2.5						
GERES	GERESS Array B	148.85	350	PKPbc	PKPbc	21 55 02.8	0.0
	0.3nm,0.5s,baz=12,slow=5.0,SNR=2.3						
TORD	Torodi Ar. Bea	173.44	140	PKP	PKPdf	21 55 24.3	-1.0
	0.8nm,0.8s,baz=286,slow=1.1,SNR=3.7						

UCR 10 21:38:01.4±1.6, 8°.61N×84°.07W, h17km±8km, MD3.7, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDDO	Dominical	0.67	18	eP	Pg	21 38 14.0	-0.6
EDDO				eS	Sb	21 38 24.3	+0.5
EDPN	Palmar Norte	0.70	60	eP	Pg	21 38 14.7	-0.5
EDPN				eS	Sb	21 38 24.8	+0.2
PTJ1	Puerto Jimnez	0.76	95	eP	Pb	21 38 15.7	-0.6
PTJ1				eS	Sg	21 38 26.4	0.0
EDLM	Las Mercedes	0.82	35	eP	Pb	21 38 15.8	-1.5
EDLM				eS	Sg	21 38 28.5	+0.2
EDBA	Buenos Aires	0.96	55	eP	Pb	21 38 18.5	-1.2
EDBA				eS	Sb	21 38 32.0	-0.1
DRK0	Durika	1.04	51	eS	Sb	21 38 34.2	-0.5
EDSV	San Vito	1.11	79	eS	Sg	21 38 38.2	+0.8
LCR2	La Lucha 2	1.13	3	eP	Pb	21 38 20.9	-1.8
LCR2				eS	Sb	21 38 36.7	-0.5
URSC	Urasca	1.25	13	eP	Pn	21 38 23.6	-0.8
BRU2	Volcan	1.38	82	eP	Pn	21 38 25.8	-0.2
BRU2				eS	Sb	21 38 44.8	+0.6
JTS	JuntasAbangare	1.89	333	eP	Pn	21 38 33.4	+0.4
ARE1	Arenal 1	1.95	341	eP	Pn	21 38 34.2	+0.4

*IDC **10** 21:57:08.8±0.5, 16°.51S×175°.57E, h0km, mb4.6/21, mb1 4.8/22, mb1mx4.7/31, mbtmp4.6/22, ML2.7/1, MS4.5/25, Ms1 4.5/25, ms1mx4.4/28, Error ellipse: s-maj=18.9km s-min=13.4km az=124.0*

*ISCJB **10** 21:57:14.5±0.1, 16°.62S±0°.03×175°.26E±0°.03, h33km, mb5.0/167, MS4.5/27, Error ellipse: s-maj=5.6km s-min=3.7km az=140.9*

*GCMT **10** 21:57:14.6±0.1, 16°.54S±0°.01×175°.66E±0°.01, h15km, MW5.2/117, Moment Tensor Solution. s73,c113; s117,c203; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.01±.01; $M_{\theta\theta}$-0.68±.02; $M_{\phi\phi}$0.66±.02; $M_{r\theta}$-0.03±.04; $M_{\theta\phi}$0.62±.01; $M_{\phi r}$0.06±.04; Best double couple: $M_0$0.91700×10^{17} NP1:ϕ_s156.00000°, δ90.00000°, λ-176.00000°. NP2:ϕ_s66.00000°, δ86.00000°, λ0.00000°. Principal axes: T 0.9130, Plg3.0000°, Azm291.0000°; N 0.0090, Plg86.0000°, Azm162.0000°; P -0.9220, Plg3.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MOS **10** 21:57:16.9±1.0, 16°.54S×175°.21E, h56km, mb5.3/36 Error ellipse: s-maj=10.9km s-min=9.1km az=135.8*

*BJI **10** 21:57:18.7, 16°.28S×175°.30E, h64km, mb4.8/47, mB5.3/31, Ms5.0/16, Ms7 4.6/16*

*NEIC **10** 21:57:21.6±1.5, 16°.64S×175°.23E, h86km±13km, mb5.0/133, Error ellipse: s-maj=5.9km s-min=4.8km az=160.0*

ISC 10 21:57:14.9±0.3, 16°.57S±0°.06×175°.55E±0°.06, h35km, n411, σ1s81/400, mb5.0/167, MS4.6/29, 7C-12D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	10.19	236	Pn	Pn	21 59 38.2	-0.6
	0.1nm,0.3s,baz=88,slow=16,SNR=1.6						
DZM				LR	LR	22 02 51.4	
	comp=Z,4µm,19.9s,baz=66,slow=34						
DZM	Mont Dzumac	10.19	236	eP	Pn	21 59 39.1	+0.3
	230nm,1.4s						
DZM				eLQ	LQ	22 01 31.1	
	10µm,26.2s						
DZM				eLR	LR	22 01 59.7	
	comp=Z,4µm,24.1s						
DZM	Mont Dzumac	10.19	236	ePn	Pn	21 59 41.9	+3.1
HNR	Honiara	16.77	293	LR	LR	22 06 56.1	
	comp=Z,1µm,18.9s,baz=134,slow=35						
OUZ	Omahuta	18.65	185	eP	Pn	22 01 32.6	+2.4
	36nm,1.1s						
MXZ	Matakaoa Point	21.05	174	eP	P	22 01 57.3	+1.5
	113nm,1.3s						
URZ	Urewera	21.65	177	P	P	22 02 01.3	-1.0
	40nm,1.1s,baz=284,slow=3.9,SNR=7.5						
URZ				LR	LR	22 08 37.6	
	comp=Z,2µm,19.5s,baz=2.5,slow=32						
URZ	Urewera	21.65	177	eP	P	22 02 02.9	+0.7
	219nm,1.9s						
HIZ	Hauiti	21.86	181	eP	P	22 02 06.4	+1.8
	537nm,2.0s						
BKZ	Black Stump Fm	22.52	178	eP	P	22 02 11.4	-0.3
	103nm,1.8s						
RAR	Rarotonga	23.79	105	LR	LR	22 09 41.2	
	comp=Z,1µm,20.9s,baz=284,slow=32						
BFZ	Birch Farm	24.03	179	eP	P	22 02 25.8	-0.9
	236nm,1.8s						
EIDS	Eidsvold	24.43	245	P	P	22 02 30.7	+0.2
	baz=24,SNR=10						
EIDS	Eidsvold	24.43	245	eP	P	22 02 29.7	-0.8
	23nm,1.0s						
THZ	Tophouse	25.20	185	eP	P	22 02 38.5	+1.2
	134nm,1.6s						
ARMA	Armidale	25.84	233	P	P	22 02 44.5	+1.2
	baz=26,SNR=9.5						
ARMA	Armidale	25.84	233	eP	P	22 02 44.2	+0.9
	29nm,0.9s						
LTZ	Lake Taylor	26.27	185	eP	P	22 02 48.3	+1.3
	105nm,1.6s						
RMQ	Roma	26.75	244	P	P	22 02 52.7	+1.2
	baz=27,SNR=10						
OXZ	Oxford	26.83	186	eP	P	22 02 54.7	+2.7
	136nm,1.8s						
FOZ	Fox Glacier	27.31	189	eP	P	22 02 56.3	+0.1
	316nm,1.7s						
RPZ	Rata Peaks	27.32	187	P	P	22 02 55.5	-1.0
	15nm,0.9s,baz=151,slow=6.4,SNR=4.1						
RPZ				LR	LR	22 12 20.4	
	comp=Z,2µm,20.3s,baz=27,slow=33						
RPZ	Rata Peaks	27.32	187	eP	P	22 02 57.3	+0.9
	93nm,1.6s						
CTA	Charters Tower	28.01	258	P	P	22 03 01.8	-1.1
	4.9nm,0.9s,baz=69,slow=8.6,SNR=6.4						
CTA				LR	LR	22 13 14.4	
	comp=Z,1µm,18.7s,baz=92,slow=34						
CTA	Charters Tower	28.01	258	P	P	22 03 03.0	+0.2
	baz=28						
CTAO	Charters Tower	28.01	258	eP	P	22 03 02.2	-0.7
	15nm,1.1s						
CTAO	Charters Tower	28.01	258	eP	P	22 03 02.2	-0.7
CTAO				pmax	pmax		
	comp=Z,15nm,1.1s						
LBZ	Lake Benmore	28.09	188	eP	P	22 03 02.6	-0.7
	comp=Z,190nm,1.9s						
PMG	Port Moresby	28.54	281	P	P	22 03 07.0	-0.6
	comp=Z,9.3nm,0.7s,baz=337,slow=10,SNR=4.1						
PMG				LR	LR	22 13 44.4	
	comp=Z,2µm,18.5s,baz=80,slow=35						
PMG	Port Moresby	28.54	281	eP	P	22 03 07.8	+0.2
	comp=Z,41nm,1.3s						
PMG	Port Moresby	28.54	281⇑	eP	P	22 03 08.2	+0.6
PMG				pmax	pmax		
	comp=Z,212nm,2.5s						
MLZ	Mavora Lakes	29.38	191	eP	P	22 03 15.2	+0.5
	comp=Z,224nm,1.9s						
MTSU	Mount Surprise	29.84	262	P	P	22 03 18.8	-0.3
	baz=30,SNR=5.1						
QLP	Quilpie	30.70	246	P	P	22 03 26.7	+0.1
	baz=31,SNR=11						
CMSA	Cobar Meteorol	30.94	236	P	P	22 03 28.9	+0.2
	baz=31,SNR=13						
COEN	Coen	31.32	270	P	P	22 03 32.2	0.0
	baz=31,SNR=4.0						
PPT2	Papeete2	33.32	97	eS	S	22 09 03.8	-4.7
	comp=Z,422nm,27.8s						
PPT2				eLQ	LQ	22 11 19.2	
	comp=Z,2µm,25.8s						
PPT2				eLR	LR	22 12 46.0	
	comp=Z,2µm,28.5s,baz=254						
PPT	Papeete	33.33	97	LR	LR	22 14 06.5	
	comp=Z,377nm,19.7s,baz=264,slow=31						
TBI	Tubuai	33.51	107	eS	S	22 09 07.1	-4.0
	comp=Z,523nm,32.8s						
TBI				eLQ	LQ	22 11 25.0	
	comp=Z,949nm,25.8s						
TBI				eLR	LR	22 12 50.5	
	comp=Z,3µm,31.8s,baz=271						
STKA	Stephens Creek	34.34	237	P	P	22 03 58.3	-0.1
	comp=Z,9.5nm,0.8s,baz=61,slow=8.2,SNR=14						
STKA				PcP	PcP	22 06 33.7	-0.4
	comp=Z,5.0nm,1.1s,baz=37,slow=5.1,SNR=2.9						
STKA				LR	LR	22 16 58.3	
	comp=Z,809nm,20.0s,baz=64,slow=35						
STKA	Stephens Creek	34.34	237	P	P	22 03 59.1	+0.7
	baz=34,SNR=7.9						
STKA	Stephens Creek	34.34	237	eP	P	22 03 59.2	+0.7
	comp=Z,3.4nm,1.0s						
STKA				PcP	PcP	22 06 33.7	-0.4
STKA	Stephens Creek	34.34	237	eP	P	22 03 59.2	+0.7
STKA						22 06 33.7	
STKA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
H11S2	WAKE ISLAND Hy	35.91	346	T	T	22 42 12.2	
	baz=166,slow=76						
H11S3	WAKE ISLAND Hy	35.92	346	T	T	22 42 12.5	
	baz=166,slow=76,SNR=5988						
H11S1	WAKE ISLAND Hy	35.93	346	T	T	22 42 13.6	
	baz=166,slow=76,SNR=9398						
HTT	Hallett	36.96	236	P	P	22 04 21.4	+0.3
	baz=37,SNR=6.8						
H11N1	WAKE ISLAND Hy	37.05	346	T	T	22 43 37.1	
	baz=166,slow=76,SNR=243						
H11N3	WAKE ISLAND Hy	37.05	346	T	T	22 43 37.1	
	baz=166,slow=76,SNR=303						
H11N2	WAKE ISLAND Hy	37.07	346	T	T	22 43 37.6	
	baz=166,slow=76,SNR=168						
WR9	Warramunga Arr	39.05	259	P	P	22 04 37.1	-1.6
	baz=39						
BBOO	Buckleboo	39.09	238	P	P	22 04 39.2	+0.3
	baz=39,SNR=10						
BBOO	Buckleboo	39.09	238	eP	P	22 04 39.3	+0.3
	comp=Z,32nm,0.9s						
WB2	Warramunga Arr	39.20	259	eP	P	22 04 38.7	-1.4
WRAB	Tennant Creek	39.20	259	eP	P	22 04 38.2	-1.8
	comp=Z,22nm,1.3s						
WRAB	Tennant Creek	39.20	259	eP	P	22 04 38.2	-1.8
WRAB				pmax	pmax		
	comp=Z,22nm,1.3s						
WRA	Warramunga Arr	39.21	259	P	P	22 04 38.3	-1.8
	comp=Z,5.2nm,0.8s,baz=90,slow=8.8,SNR=33						
WRA				LR	LR	22 19 53.9	
	comp=Z,714nm,18.6s,baz=80,slow=35						
AS01	Alice Springs	39.59	253	eP	P	22 04 41.8	-1.4
AS01				ePcP	PcP	22 06 49.5	-0.7
AS31	Alice Springs	39.63	253	eP	P	22 04 42.5	-1.1
	comp=Z,4.9nm,0.8s						
ASAR	Alice Springs	39.63	253	P	P	22 04 42.5	-1.0
	comp=Z,15nm,0.8s,baz=81,slow=8.9,SNR=135						
ASAR				PcP	PcP	22 06 49.5	-0.8
	comp=Z,4.2nm,0.9s,baz=92,slow=3.2,SNR=7.0						
ASAR				LR	LR	22 20 29.0	
	comp=Z,1µm,18.3s,baz=94,slow=35						
MCQ	Macquarie Isla	39.97	195	eP	P	22 04 46.9	+1.0
	comp=Z,639nm,1.8s						
MCQ	Macquarie Isla	39.97	195	eP	P	22 04 46.9	+1.0
MCQ				pmax	pmax		
	comp=Z,639nm,1.8s						
TAOE	Nuku Hiva Isla	43.81	86	eLR	LR	22 17 45.0	
	comp=Z,1µm,26.5s,baz=247						
FAKI	Fak Fak	44.66	283	eP	P	22 05 24.4	-0.2
	comp=Z,25nm,1.1s						
WRKA	Warakurna	44.78	251	P	P	22 05 25.3	-0.3
	baz=45,SNR=10						
KNRA	Kununurra	44.88	264	P	P	22 05 25.3	-1.0
	baz=45,SNR=3.7						
FORT	Forrest	45.41	243	eP	P	22 05 28.9	-1.6
	comp=Z,30nm,1.0s						
RKT	Rikitea	46.82	106	eS	S	22 12 26.4	-3.5
	comp=Z,349nm,30.0s						
RKT				eLR	LR	22 19 01.9	
	comp=Z,2µm,28.0s,baz=271						
FITZ	Fitzroy Crossi	47.55	260	P	P	22 05 47.5	+0.1
	baz=48,SNR=8.1						
FITZ	Fitzroy Crossi	47.55	260	eP	P	22 05 47.5	+0.1
	comp=Z,37nm,1.2s						
SOEI	Soe	50.28	271	eP	P	22 06 09.0	+0.4
	comp=Z,104nm,1.3s						
LUWI	Luwuk	54.19	281	eP	P	22 06 37.2	-0.2
	comp=Z,80nm,1.2s						
KLBR	Kellerberrin	54.27	243	P	P	22 06 36.9	-0.9
	baz=54						
NWAO	Narrogin (SRO)	54.76	241	eP	P	22 06 40.5	-0.9
NWAO	Narrogin (SRO)	54.76	241	eP	P	22 06 40.5	-0.9
JHJ	Hachijo jima 2	60.08	326	LR	LR	22 32 03.5	
	comp=Z,105nm,18.3s,baz=128,slow=35						
JAGI	Jajag, Banyuwa	60.29	270	eP	P	22 07 19.1	-1.4
	comp=Z,126nm,1.3s						
VNDA	Vanda	61.35	183	P	P	22 07 26.0	-0.8
	comp=Z,1.5nm,0.9s,baz=24,slow=7.8,SNR=3.7						
VNDA				LR	LR	22 30 31.3	
	comp=Z,558nm,19.5s,baz=24,slow=33						
VNDA	Vanda	61.35	183	eP	P	22 07 29.0	+2.2
	comp=Z,5.5nm,1.1s						
SBA	Scott Base	61.46	182	eP	P	22 07 29.0	+1.5
	comp=Z,20nm,1.0s						
SBA	Scott Base	61.46	182	eP	P	22 07 29.0	+1.5
SBA				pmax	pmax		
	comp=Z,20nm,1.0s						
MJAR	Matsushiro Arr	63.52	327	P	P	22 07 41.0	-0.8
	comp=Z,14nm,1.1s,baz=162,slow=6.8,SNR=11						
MJAR	Matsushiro Arr	63.52	327	P	P	22 07 41.0	-0.8
MAJO	Matsushiro	63.52	327	eP	P	22 07 40.8	-1.0
	comp=Z,43nm,1.4s						
MAJO	Matsushiro	63.52	327⇓	eP	P	22 07 41.9	+0.1
MAJO				pmax	pmax		
	comp=Z,22nm,1.2s						
MAT	Matsushiro	63.52	327	P	P	22 07 40.8	-1.0
MAT				eS	S	22 16 13.6	+0.7
MJB9	Matsu-Tunnel	63.52	327	eP	P	22 07 42.3	+0.5
	comp=Z,45nm,1.4s						
CASY	Casey	64.97	204	eP	P	22 07 51.2	+0.4
	comp=Z,8.8nm,0.8s						
JNU	Nakatsue	65.28	319	eP	P	22 07 53.5	+0.1
	comp=Z,83nm,1.8s						
RPN	Rapa Nui	69.63	113	LR	LR	22 31 34.3	
	comp=Z,366nm,21.4s,baz=262,slow=30						
YSS	Yuzh-Sakhalins	69.78	337	P	P	22 08 26.4	+4.9
YSS				e		22 18 17.0	
YSS				MLR	MLR		
	comp=Z,200nm,14.0s						
YSS				MLR	MLR		
	comp=N,200nm,15.0s						
KSRS	Korea Array	69.96	321	P	P	22 08 21.2	-1.6
	comp=N,3.8nm,1.0s,baz=138,slow=7.2,SNR=8.3						
KSRS				LR	LR	22 37 18.6	
	comp=N,105nm,19.2s,baz=130,slow=34						
KSAR	Wonju Array Be	69.98	321	P	P	22 08 21.2	-1.6
KSAR	Wonju Array Be	69.98	321	P	P	22 08 21.3	-1.6
KS01	Wonju Array Si	69.99	321	eP	P	22 08 22.9	-0.1
TEY	Ternei	70.80	332⇓	eP	P	22 08 36.5	+8.7
TEY				pmax	pmax		
	comp=Z,20nm,1.2s						
TEY				pmax	pmax		
	comp=E,20nm,0.9s						
TEY				pmax	pmax		
	comp=N,20nm,1.0s						
PETK	Petropavlovsk-	71.09	349	P	P	22 08 27.8	-1.5
	comp=N,12nm,1.1s,baz=126,slow=6.4,SNR=3.4						
PETK				LR	LR	22 34 17.9	
	comp=N,212nm,21.8s,baz=161,slow=31						
PETK	Petropavlovsk-	71.09	349	eP	P	22 08 29.1	-0.3
PETK	Petropavlovsk-	71.09	349	eP	P	22 08 29.1	-0.3
USRK	Ussuriysk Ar.	72.37	329	P	P	22 08 37.0	-0.3
	comp=N,1.8nm,0.8s,baz=134,slow=8.2,SNR=4.4						
NJ2	Nanjing	72.70	312	eP	P	22 08 40.0	+0.5
NJ2				pmax	pmax		
	comp=N,10.0nm,0.5s						
QSPA	South Pole Qui	73.47	180	eP	P	22 08 43.8	+0.1
GRNR	Gornyy	75.32	336	eP	P	22 08 55.5	+1.1
GRNR				pmax	pmax		
	comp=Z,21nm,1.0s						
CN2	Changchun	75.53	325	eP	P	22 08 59.0	+3.2
KLR	Kul'dur	76.14	332⇓	eP	P	22 09 00.3	+1.2
TIA	Tai'an	76.15	315	P	P	22 08 58.8	-0.7
TIA				pmax	pmax		
	comp=Z,9.0nm,1.4s						
OHAK	Old Harbor	77.97	17	eP	P	22 09 11.0	+1.8
	comp=Z,120nm,1.9s						
PSI	Prapat	78.01	277	eP	P	22 09 09.8	-0.8
	comp=Z,20nm,1.4s						
PSI	Prapat	78.01	277	eP	P	22 09 09.8	-0.8
PSI				pmax	pmax		
	comp=Z,20nm,1.4s						
KDAK	Kodiak Island	78.64	17	P	P	22 09 10.9	-2.0
	comp=Z,7.1nm,0.9s,baz=172,slow=6.2,SNR=2.9						
ENH	Enshi	78.79	306	eP	P	22 09 14.7	+0.2
	comp=Z,23nm,1.1s						
BJT	Baijiatuau	78.84	318	eP	P	22 09 14.4	-0.1
	comp=Z,3.2nm,0.3s						
BJT				ePcP	PcP	22 09 14.8	-8.3
BJI	Beijing	78.85	318⇓	eP	P	22 09 16.5	+2.0
BJI				pmax	pmax		
	comp=Z,8.0nm,1.2s						
GSI	Gunungsitoli	78.85	275	eP	P	22 09 14.4	-0.7
	comp=Z,15nm,1.0s						
GYA	Guiyang	79.39	302	eP	P	22 09 19.2	+1.2
GYA				pP	pwP	22 09 38.0	+6.2
GYA				sP	sP	22 09 44.6	+13
GYA				PP	PP	22 12 21.8	+3.2
GYA				S	S	22 19 13.6	-3.2
GYA				SKS	SKSac	22 19 24.2	-7.9
GYA				sS	ScS	22 19 44.0	+5.0
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.8s						
SAO	San Andreas Ge	79.59	47	eP	P	22 09 20.1	+1.5
	comp=Z,26nm,1.0s						
SAO	San Andreas Ge	79.59	47	eP	P	22 09 20.2	+1.5
SAO				pmax	pmax		
	comp=Z,26nm,1.0s						
KMRM	Mail Ridge	79.83	43	eP	P	22 09 22.2	+2.2
	comp=Z,56nm,1.1s						
TIY	Taiyuan	80.14	314	eP	P	22 09 23.1	+1.4
O02D	Mt. Diablo Mer	80.41	43	P	P	22 09 26.3	+3.2
	baz=239						
PBKT	Sadao Pong	80.55	290	eP	P	22 09 24.1	-0.1
	comp=Z,17nm,1.3s						
PBKT	Sadao Pong	80.55	290	P	P	22 09 26.6	+2.4
	comp=Z,14nm,1.4s						
GAMB	Gambell	80.70	6	eP	P	22 09 24.8	+0.9
	comp=Z,11nm,1.0s						
WDC	Whiskeytown Da	80.78	43	eP	P	22 09 27.9	+3.0
	comp=Z,39nm,1.6s						
WDC	Whiskeytown Da	80.78	43	P	P	22 09 27.9	+3.0
WDC				pmax	pmax		
	comp=Z,39nm,1.6s						
RSO	Redoubt South	80.91	15	eP	P	22 09 27.9	+2.5
XAN	Xi'an	80.91	309	P	P	22 09 26.1	+0.2
XAN				pP	pwP	22 09 41.5	+1.7
XAN				sP	sP	22 09 49.4	+10
XAN				pmax	pmax		
	comp=Z,14nm,1.8s						
XAN				pmax	pmax		
	comp=Z,200nm,4.3s						
XAN				LR	LR		
	comp=Z,240nm,17.3s						
XAN				LR	LR		
	comp=Z,310nm,22.8s						
XAN	Xi'an	80.91	309	eP	P	22 09 26.4	+0.5
	comp=Z,24nm,1.3s						
XAN	Xi'an	80.91	309	eP	P	22 09 26.4	+0.5
XAN				pmax	pmax		
	comp=Z,24nm,1.3s						
ORV	Oroville	80.95	44	eP	P	22 09 27.9	+2.0
	comp=Z,14nm,1.1s						
ORV	Oroville	80.95	44	P	P	22 09 29.1	+3.2
CMB	Columbia Colle	80.95	46	eP	P	22 09 27.6	+1.6
	comp=Z,12nm,1.0s						
CMB	Columbia Colle	80.95	46	eP	P	22 09 27.6	+1.6
CMB				pmax	pmax		
	comp=Z,12nm,1.0s						
M02C	Callahan	81.00	42	P	P	22 09 27.4	+1.1
	baz=239						
AFDM	Forest Hills D	81.00	45	eP	P	22 09 28.2	+2.0
	comp=Z,15nm,1.0s						
O03E	Paynes Creek	81.12	43	P	P	22 09 29.2	+2.3
	baz=240						
ISA	Isabella, Lake	81.18	49	eP	P	22 09 30.0	+2.7
	comp=Z,13nm,1.0s						
ISA	Isabella, Lake	81.18	49	eP	P	22 09 30.0	+2.7
ISA				pmax	pmax		
	comp=Z,13nm,1.0s						
ISA	Isabella, Lake	81.18	49	P	P	22 09 30.4	+3.1
	baz=242						
YBH	Yreka Blue Hor	81.27	42	eP	P	22 09 30.4	+2.7
	comp=Z,15nm,1.0s						
YBH	Yreka Blue Hor	81.27	42	eP	P	22 09 30.4	+2.7
YBH				pmax	pmax		
	comp=Z,15nm,1.0s						
SEY	Seymchan	81.30	350⇑	eP	P	22 09 27.1	-0.1
ZEA	Zeya	81.32	333	eP	P	22 09 27.8	+0.3
ZEA				pmax	pmax		
	comp=Z,28nm,1.2s						
ZEA				MLR	MLR		
	comp=Z,200nm,16.0s						
UTTA	Uttaradit	81.33	291	P	P	22 09 30.3	+1.9
SRDT	SRDT	81.47	288	P	P	22 09 34.2	+5.0
	comp=Z,7.7nm,1.2s						
NANT	Nan	81.57	292	P	P	22 09 31.7	+2.1
	comp=Z,3.1nm,1.2s						
UTHA	Uthaitani	81.58	289	P	P	22 09 32.2	+2.5
	comp=Z,2.4nm,1.1s						
OMMB	Old Mammoth Mi	81.71	47	eP	P	22 09 32.4	+2.0
	comp=Z,19nm,1.4s						
L04D	Klamath Falls	81.78	42	P	P	22 09 32.6	+2.2
	baz=239						
CWC	Cottonwood Cre	81.82	48	P	P	22 09 31.9	+1.1
	baz=243						
WAKR	Walker	81.83	46	eP	P	22 09 33.4	+2.5
	comp=Z,14nm,1.0s						
BEKR	Beckworth	81.86	44	eP	P	22 09 33.6	+2.6
	comp=Z,20nm,1.3s						
SUKH	Sukhothai	82.07	291	P	P	22 09 38.3	+6.1
MPMC	Manual Prospec	82.07	49	P	P	22 09 35.2	+3.0
	baz=243						
DAC	Darwin (Calif)	82.09	49	eP	P	22 09 34.7	+2.4
	comp=Z,18nm,1.4s						
DAC	Darwin (Calif)	82.09	49	eP	P	22 09 34.7	+2.4
DAC				pmax	pmax		
	comp=Z,19nm,1.4s						
KMI	Kunming	82.11	299	P	P	22 09 34.2	+1.5
KMI				pmax	pmax		
	comp=Z,12nm,0.7s						
YERR	Yerington	82.20	46	eP	P	22 09 34.9	+2.1
	comp=Z,14nm,0.9s						
ANM	Nome	82.20	8	eP	P	22 09 33.6	+1.7
	comp=Z,10nm,1.4s						
ANM	Nome	82.20	8	eP	P	22 09 33.6	+1.7
ANM				pmax	pmax		
	comp=Z,10.0nm,1.4s						
BELC	Belle Mtn. Jos	82.25	51	P	P	22 09 35.1	+2.0
	baz=244						
SUA	Susitna One	82.28	16	eP	P	22 09 33.3	+0.8
	comp=Z,10nm,0.8s						
HHC	Hu-ho-hao-te	82.28	317	eP	P	22 09 35.5	+2.5
HHC				pmax	pmax		
	comp=Z,19nm,0.8s						

HHC pmax pmax
comp=Z,280nm,5.3s
LAMP Lampang 82.42 292 P **P** **22 09 37.2 +3.1**
PAHR Pah Rah Range 82.44 45 *e*P **P** **22 09 36.1 +2.1**
comp=Z,15nm,1.2s
RYN Ryan 82.52 46 *e*P **P** **22 09 36.4 +2.0**
comp=Z,19nm,1.2s
NV01 Mina Array Sit 82.58 46 *e*P **P** **22 09 35.0 +0.2**
NVAR Mina Array Bea 82.58 46 P **P** **22 09 34.6 -0.2**
comp=Z,7.6nm,0.9s,baz=227,slow=9.0,SNR=17
NVAR LR LR 22 38 28.3
comp=Z,774nm,21.5s,baz=270,slow=30
NV11 Mina Array Sit 82.69 46 *e*P **P** **22 09 37.5 +2.2**
comp=Z,2.5nm,1.4s
FURC Furnace Creek, 82.70 49 P **P** **22 09 37.3 +2.1**
baz=243
GMRC Granite Mounta 82.84 51 P **P** **22 09 39.0 +2.8**
baz=244
MOD Modoc Plateau 82.90 43 *e*P **P** **22 09 36.8 +0.5**
comp=Z,46nm,1.9s
IRM Iron Mountain 82.96 51 P **P** **22 09 39.7 +3.0**
baz=245
CM01 Chiang Mai Arr 82.99 291 *e*P **P** **22 09 37.8 +0.8**
KVN Kaiserville 83.01 46 *e*P **P** **22 09 38.7 +1.7**
comp=Z,21nm,1.2s
KVN Kaiserville 83.01 46 *e*P **P** **22 09 38.7 +1.7**
KVN pmax pmax
comp=Z,21nm,1.2s
CM31 Chiang Mai Arr 83.02 292 *e*P **P** **22 09 37.9 +0.7**
CMAR Chiang Mai Arr 83.02 292 P **P** **22 09 37.8 +0.6**
comp=Z,12nm,1.2s,baz=114,slow=3.6,SNR=28
CMAR LR LR 22 43 11.8
comp=Z,149nm,21.8s,baz=114,slow=33
CMAR Chiang Mai Arr 83.02 292 *ce*P **P** **22 09 38.2 +1.0**
CMAR pmax pmax
comp=Z,11nm,1.2s
MAW Mawson 83.10 201 P **P** **22 09 37.2 +0.5**
comp=Z,8.5nm,1.0s,baz=124,slow=7.3,SNR=3.9
MAW LR LR 22 43 30.3
comp=Z,289nm,18.2s,baz=97,slow=33
CMMT Chiang Mai 83.13 292 P **P** **22 09 39.6 +1.8**
CMMT Chiang Mai 83.13 292 P **P** **22 09 39.6 +1.8**
CHTO Chiang Mai 83.14 292 *e*P **P** **22 09 37.3 -0.5**
comp=Z,21nm,1.5s
CHTO Chiang Mai 83.14 292 P **P** **22 09 38.4 +0.6**
CHTO pmax pmax
comp=Z,21nm,1.5s
CHTO Chiang Mai 83.14 292 P **P** **22 09 39.7 +1.9**
comp=Z,39nm,1.4s
TPNV Topopah Spring 83.36 48 *e*P **P** **22 09 41.0 +2.2**
comp=Z,19nm,1.2s
TPNV Topopah Spring 83.36 48 *e*P **P** **22 09 41.0 +2.2**
TPNV pmax pmax
comp=Z,19nm,1.2s
TPNV Topopah Spring 83.36 48 P **P** **22 09 41.7 +2.9**
baz=244
113A Mohawk Valley, 83.42 53 *e*P **P** **22 09 41.8 +2.8**
comp=Z,14nm,1.3s
PINE Pine Mountain 83.44 41 *e*P **P** **22 09 42.3 +3.2**
comp=Z,40nm,1.4s
CD2 Chengdu 83.53 305 *e*P **P** **22 09 40.0 +0.3**
CAST Castle Rocks 83.62 14 *e*P **P** **22 09 39.0 -0.4**
comp=Z,12nm,1.0s
PDMCI Parker Dam,Lak 83.77 52 P **P** **22 09 44.0 +3.2**
baz=245
E04D Cinebar 83.88 38 P **P** **22 09 45.0 +4.0**
baz=238
SHPR Sheep Range 83.95 49 *e*P **P** **22 09 44.4 +2.5**
comp=Z,22nm,1.3s
HSIG 84.16 58 *e*P **P** **22 09 45.3 +2.4**
comp=Z,11nm,0.7s
WVOR Wild Horse Val 84.24 43 *e*P **P** **22 09 44.4 +1.2**
comp=Z,21nm,1.4s
WVOR Wild Horse Val 84.24 43 P **P** **22 09 45.7 +2.5**
WVOR pmax pmax
comp=Z,21nm,1.3s
W13A Hualapai Mount 84.30 51 *e*P **P** **22 09 46.2 +2.5**
comp=Z,19nm,1.4s
RND Reindeer 84.39 15 *e*P **P** **22 09 43.2 -0.1**
comp=Z,15nm,1.0s
RND Reindeer 84.39 15 *e*P **P** **22 09 43.2 -0.1**
RND pmax pmax
comp=Z,15nm,1.0s
R11A Troy Canyon, C 84.45 47 *e*P **P** **22 09 46.7 +2.3**
comp=Z,9.7nm,1.4s
R11A Troy Canyon, C 84.45 47 P **P** **22 09 46.9 +2.5**
baz=244
MCK McKinley 84.64 15 *e*P **P** **22 09 47.0 +2.5**
comp=Z,57nm,2.0s
MCK McKinley 84.64 15 *e*P **P** **22 09 47.0 +2.5**
MCK pmax pmax
comp=Z,57nm,2.0s
BILL Bilibino 84.65 357 *e*P **P** **22 09 44.0 -0.4**
comp=Z,30nm,1.7s
BILL Bilibino 84.65 357 *e*P **P** **22 09 44.0 -0.4**
BILL pmax pmax
comp=Z,30nm,1.7s
J08A Circle Bar Ran 84.79 42 *e*P **P** **22 09 48.8 +2.9**
comp=Z,9.6nm,1.0s
G08A Pilot Rock 85.41 40 *e*P **P** **22 09 51.0 +2.1**
comp=Z,15nm,1.1s
IM3 Indian Mountai 85.48 12 *e*P **P** **22 09 48.6 0.0**
TUC Tucson 85.55 55 *e*P **P** **22 09 51.8 +1.9**
comp=Z,16nm,1.3s
TUC Tucson 85.55 55 P **P** **22 09 52.5 +2.6**
baz=247
LZH Lanzhou 85.55 310 *e*P **P** **22 09 51.0 +1.1**
LZH S S 22 20 09.7 -10
LZH sS sS 22 20 40.7 +4.5
LZH SS **SS** **22 25 55.0 -1.2**
LZH pmax pmax
comp=Z,29nm,1.2s
LZH pmax pmax
comp=Z,300nm,5.4s
LZH LR LR
comp=Z,370nm,13.6s
LZH LR LR
comp=Z,330nm,16.3s
LZH LR LR
comp=Z,470nm,16.7s
HAWA Hanford 85.60 39 *e*P **P** **22 09 51.2 +1.6**
comp=Z,25nm,1.4s
HDA Harding Lake 85.70 15 *e*P **P** **22 09 51.7 +2.0**
comp=Z,13nm,1.2s
HDA Harding Lake 85.70 15 P **P** **22 09 50.4 +0.7**
baz=216
CCUT Cedar City 85.70 49 *e*P **P** **22 09 53.5 +2.8**
comp=Z,10nm,1.1s
RIDG Independ'e Rid 85.71 17 *e*P **P** **22 09 51.9 +2.0**
comp=Z,45nm,1.6s
ELK Elko 85.74 45 *e*P **P** **22 09 52.8 +2.0**
comp=Z,11nm,1.2s
ELK Elko 85.74 45 P **P** **22 09 52.8 +2.0**
ELK pmax pmax
comp=Z,11nm,1.2s
PSUT Pine Spring 85.76 48 *e*P **P** **22 09 52.3 +1.4**
comp=Z,13nm,1.0s
MDM Murphy Dome 85.83 15 *e*P **P** **22 09 50.7 +0.3**
comp=Z,40nm,1.8s
COLA College 85.85 15 *e*P **P** **22 09 52.3 +1.8**
comp=Z,3.8nm,0.7s
COLA College 85.85 15 *e*P **P** **22 09 52.3 +1.8**
COLA pmax pmax
comp=Z,18nm,1.9s
DOT Dot Lake 85.86 17 *e*P **P** **22 09 52.9 +2.3**
comp=Z,8.2nm,1.1s
X16A Lo Mia Camp, P 85.86 52 *e*P **P** **22 09 54.3 +2.7**
comp=Z,13nm,1.0s
E08A Dider Farm, El 85.93 39 *e*P **P** **22 09 54.1 +2.8**
comp=Z,22nm,1.2s
IL1 Eielson Array 86.01 15 *e*P **P** **22 09 50.4 -0.9**
ILAR Eielson Array 86.01 15 P **P** **22 09 49.7 -1.6**
comp=Z,3.5nm,0.9s,baz=235,slow=5.6,SNR=22
ILAR LR LR 22 41 21.8
comp=Z,493nm,21.1s,baz=224,slow=31
ILB Eielson Array 86.01 15 *e*P **P** **22 09 50.4 -0.9**
U15A North Rim 86.02 50 *e*P **P** **22 09 54.9 +2.5**
comp=Z,19nm,1.2s
E09A Wood Farm, Sta 86.50 39 *e*P **P** **22 09 57.5 +3.4**
comp=Z,50nm,1.9s
MTPU Mount Pierson 86.75 49 *e*P **P** **22 09 58.2 +2.1**
comp=Z,12nm,1.1s
DUG Dugway, Tooele 87.18 47 *e*P **P** **22 10 00.2 +2.4**
comp=Z,12nm,1.5s
DUG Dugway, Tooele 87.18 47 *e*P **P** **22 10 00.2 +2.4**
DUG pmax pmax
comp=Z,12nm,1.5s
DUG Dugway, Tooele 87.18 47 P **P** **22 10 00.4 +2.6**
baz=246
HLID Hailey 87.52 43 *e*P **P** **22 10 01.3 +1.9**
comp=Z,11nm,1.0s
HLID Hailey 87.52 43 P **P** **22 10 01.6 +2.2**
baz=245
NLU North Lily Min 87.60 47 *e*P **P** **22 10 02.8 +2.9**
comp=Z,6.9nm,1.2s
HVU Hansel Valley 87.86 45 *e*P **P** **22 10 03.3 +2.3**
comp=Z,21nm,1.3s
NEW Newport 87.93 38 *e*P **P** **22 10 03.3 +2.2**
comp=Z,22nm,1.7s
NEW Newport 87.93 38 *e*P **P** **22 10 03.3 +2.2**
NEW pmax pmax
comp=Z,22nm,1.7s
NEW Newport 87.93 38 P **P** **22 10 03.9 +2.8**
baz=242
TMUT Trail Mountain 87.95 48 *e*P **P** **22 10 05.3 +3.5**
comp=Z,64nm,1.4s
121A Cookes Peak, D 87.99 55 P **P** **22 10 04.7 +2.8**
baz=249
CTU Camp Tracy 88.12 47 *e*P **P** **22 10 05.3 +2.9**
comp=Z,10.0nm,1.0s
JLU Jordanelle 88.30 47 *e*P **P** **22 10 06.8 +3.5**
comp=Z,14nm,1.2s
P17A Butcher Ranch, 88.36 48 *e*P **P** **22 10 06.3 +2.8**
comp=Z,54nm,1.3s
SRU San Rafael Swe 88.37 48 *e*P **P** **22 10 05.7 +2.1**
comp=Z,26nm,1.2s
SRU San Rafael Swe 88.37 48 P **P** **22 10 05.7 +2.1**
SRU pmax pmax
comp=Z,27nm,1.1s
ULN Ulaanbaatar 88.45 321 *e*P **P** **22 10 03.8 +0.1**
comp=Z,4.7nm,0.9s
ULN Ulaanbaatar 88.45 321 *e*P **P** **22 10 03.8 +0.1**
ULN pmax pmax
comp=Z,5.0nm,0.9s
TCUT Toone Canyon 88.53 46 *e*P **P** **22 10 07.4 +3.0**
comp=Z,22nm,1.0s
HWUT Hardware Ranch 88.62 46 *e*P **P** **22 10 06.3 +1.6**
comp=Z,2.1nm,0.8s
SONM Songino Array 88.83 321 P **P** **22 10 05.2 -0.3**
comp=Z,2.0nm,0.8s,baz=144,slow=3.2,SNR=15
SONM LR LR 22 48 21.4
comp=Z,96nm,20.5s,baz=31,slow=35
SONA1 Songino Array 88.83 321 *e*P **P** **22 10 05.8 +0.3**
SYO Syowa Base 89.08 195‖ *e*P **P** **22 10 05.2 -1.0**
SYO Syowa Base 89.08 195‖ epP pP 22 10 23.8 +7.3
MVCO Mesa Verde 89.13 51 P **P** **22 10 10.3 +3.0**
baz=249
PV09 Paradox Valley 89.14 49 *e*P **P** **22 10 09.1 +1.7**
LAZ Ladron 89.16 54 *e*P **P** **22 10 09.4 +1.9**
PV10 Paradox Valley 89.16 50 *e*P **P** **22 10 08.5 +1.1**
PV14 Lion Creek, Pa 89.17 50 *e*P **P** **22 10 09.4 +2.0**
comp=Z,18nm,0.8s
PV19 Morning Glory 89.18 50 *e*P **P** **22 10 10.4 +3.0**
comp=Z,11nm,0.8s
LENM Lemitar 89.20 54 *e*P **P** **22 10 09.8 +2.2**
PV20 West Nyswonger 89.20 50 *e*P **P** **22 10 10.1 +2.5**
comp=Z,10nm,0.9s
PV23 Carpenter Ridg 89.21 49 *e*P **P** **22 10 10.7 +3.0**
comp=Z,13nm,0.9s
MSO Missoula 89.22 40 P **P** **22 10 09.5 +2.2**
baz=245
PV16 Nyswonger Mesa 89.23 50 *e*P **P** **22 10 09.9 +2.2**
comp=Z,13nm,1.2s
PV13 Radium Mtn., P 89.24 50 *e*P **P** **22 10 10.2 +2.4**
comp=Z,7.1nm,0.8s
PV11 David Mesa, Pa 89.26 50 *e*P **P** **22 10 10.2 +2.4**
comp=Z,7.2nm,0.7s
PV03 Paradox Valley 89.26 50 *e*P **P** **22 10 10.2 +2.4**
PV21 Cone Mtn., Par 89.28 49 *e*P **P** **22 10 11.3 +3.3**
comp=Z,18nm,1.0s
PV12 Saucer Basin, 89.31 50 *e*P **P** **22 10 10.4 +2.3**
comp=Z,12nm,0.9s
PV02 Paradox Valley 89.32 50 *e*P **P** **22 10 10.3 +2.2**
comp=Z,9.9nm,1.1s
PV01 Paradox Valley 89.42 50 *e*P **P** **22 10 10.5 +1.9**
DLMT Dillon 89.45 42 *e*P **P** **22 10 11.5 +3.0**
comp=Z,19nm,1.1s
BNM Barren Site 89.46 54 *e*P **P** **22 10 11.2 +2.3**
MNTX Cornudas Mount 89.61 57 *e*P **P** **22 10 11.5 +2.1**
comp=Z,3.6nm,0.9s
MNTX Cornudas Mount 89.61 57 P **P** **22 10 11.3 +1.9**
baz=250
LRM Limekiln Ridge 89.74 42 *e*P **P** **22 10 13.1 +3.2**
TPAW Teton Pass 89.78 44 *e*P **P** **22 10 12.9 +2.7**
comp=Z,6.9nm,1.1s
GTA Gaotai 89.78 311‖ P **P** **22 10 11.1 +1.0**
GTA pP pwP 22 10 31.5 +7.3
GTA sP sP 22 10 40.7 +17
GTA S **S** **22 20 58.2 -1.6**
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,130nm,4.9s
GTA LR LR
comp=Z,120nm,21.0s
GTA LR LR
comp=Z,190nm,21.3s
GTA LR LR
comp=Z,280nm,22.0s
REDW Red Top Meadow 89.80 44 *e*P **P** **22 10 13.7 +3.5**
comp=Z,13nm,1.1s
ANMO Albuquerque 89.87 53 *e*P **P** **22 10 12.7 +2.0**
comp=Z,7.2nm,1.0s
ANMO Albuquerque 89.87 53‖ *e*P **P** **22 10 12.4 +1.6**
ANMO pmax pmax
comp=Z,17nm,2.5s
ANMO Albuquerque 89.87 53 P **P** **22 10 12.9 +2.2**
baz=250
MOOW Moose Ponds 90.02 44 *e*P **P** **22 10 14.2 +3.0**
comp=Z,6.9nm,1.3s
LOHW Long Hollow 90.06 44 *e*P **P** **22 10 13.9 +2.4**
comp=Z,22nm,2.0s
YHB Horse Butte 90.12 43 *e*P **P** **22 10 14.8 +3.1**
comp=Z,20nm,1.4s
BOZ Bozeman (W) 90.17 42 *e*P **P** **22 10 13.8 +2.0**
comp=Z,17nm,1.4s
BOZ Bozeman (W) 90.17 42 P **P** **22 10 14.7 +2.9**
baz=246
FLWY Flagg Ranch 90.18 44 *e*P **P** **22 10 15.0 +3.0**
comp=Z,29nm,1.7s
WALA Waterton Lakes 90.19 38 *e*P **P** **22 10 15.0 +3.2**
comp=Z,10nm,1.2s
TX31 Lajitas Ar. Si 90.23 60 *e*P **P** **22 10 14.7 +2.3**
TXAR Lajitas Array 90.23 60 P **P** **22 10 12.4 0.0**
comp=Z,2.1nm,0.8s,baz=226,slow=5.1,SNR=20
TXAR LR LR 22 44 01.7
comp=Z,400nm,18.9s,baz=0.0,slow=31
YMR Madison River 90.23 43 *e*P **P** **22 10 14.8 +2.5**
comp=Z,12nm,1.3s
H17A Grant Village 90.38 44 P **P** **22 10 17.3 +4.3**
baz=247
O20A White River Ci 90.39 48 *e*P **P** **22 10 15.2 +2.2**
comp=Z,14nm,0.9s
O20A White River Ci 90.39 48 P **P** **22 10 15.3 +2.2**
baz=249
BW06 Boulder Array 90.44 45 *e*P **P** **22 10 15.1 +1.9**
comp=Z,12nm,1.4s
BW06 Boulder Array 90.44 45 P **P** **22 10 16.0 +2.8**
baz=248
PD31 Pinedale Array 90.44 45 *e*P **P** **22 10 16.0 +2.7**
PDAR Pinedale Array 90.44 45 P **P** **22 10 12.2 -1.1**
comp=Z,3.7nm,1.1s,baz=224,slow=2.5,SNR=6.9
PDAR LR LR 22 46 20.6
comp=Z,214nm,19.1s,baz=255,slow=33
PDAR Pinedale Array 90.44 45 *e*P **P** **22 10 15.5 +2.3**
S22A 4UR Ranch, Cre 90.56 51 *e*P **P** **22 10 15.4 +1.4**
comp=Z,15nm,1.0s
S22A 4UR Ranch, Cre 90.56 51 P **P** **22 10 16.3 +2.2**
baz=250
RLMT Red Lodge 91.52 43 *e*P **P** **22 10 21.8 +3.5**
comp=Z,22nm,1.9s
RLMT Red Lodge 91.52 43 P **P** **22 10 21.0 +2.8**
baz=248
SDCO Great Sand Dun 91.55 51 *e*P **P** **22 10 20.5 +1.9**
comp=Z,6.2nm,1.0s
SDCO Great Sand Dun 91.55 51 P **P** **22 10 20.5 +1.9**
baz=250
SNAA Sanae 91.97 181 *e*P **P** **22 10 19.2 -0.5**
comp=Z,17nm,1.6s
SNAA Sanae 91.97 181 *e*P **P** **22 10 19.2 -0.5**
SNAA pmax pmax
comp=Z,17nm,1.6s
NVL N'lazarevskaya 92.15 185 *e*P P 22 10 26.0 +5.5
NVL pmax pmax
comp=Z,7.0nm,1.1s
T25A Trinidad 92.17 52 P **P** **22 10 23.7 +2.3**
baz=251
Q24A Divide 92.22 50 P **P** **22 10 24.0 +2.3**
baz=251
N23A Red Feather La 92.29 48 P **P** **22 10 25.2 +3.2**
baz=250
MSTX Muleshoe 92.42 55 *e*P **P** **22 10 25.5 +3.0**
comp=Z,12nm,1.1s
LNIG Linares 92.44 65 *e*P **P** **22 10 24.4 +1.8**
comp=Z,9.4nm,1.1s
LSA Lhasa 93.34 300 *e*P **P** **22 10 27.2 -0.2**
comp=Z,1.6nm,0.6s
TIXI Tiksi 93.47 347 *e*P **P** **22 10 26.0 -0.3**
comp=Z,11nm,1.3s
TIXI Tiksi 93.47 347‖ *e*P **P** **22 10 27.6 +1.3**
TIXI pmax pmax
comp=Z,9.0nm,1.3s
RSSD Black Hills 94.68 45 *e*P **P** **22 10 34.5 +1.7**
comp=Z,7.7nm,0.9s
RSSD Black Hills 94.68 45 *e*P **P** **22 10 34.5 +1.7**
RSSD pmax pmax
comp=Z,8.0nm,0.9s
RSSD Black Hills 94.68 45 P **P** **22 10 34.3 +1.5**
baz=252
YKA Yellowknife Ar 95.61 26 P **P** **22 10 35.4 -0.8**
comp=Z,1.0nm,0.9s,baz=250,slow=4.4,SNR=9.3
YKA PP **PP** **22 14 28.6 +0.6**
comp=Z,0.5nm,0.9s,baz=241,slow=7.8,SNR=4.9
YKA LR LR 22 51 01.6
comp=Z,28nm,18.1s,baz=263,slow=34
PLCA Paso Flores 96.37 136 LR LR 22 48 22.1
comp=Z,66nm,18.1s,baz=255,slow=32
PALK Pallekele 96.67 276 *e*P **P** **22 10 41.6 -0.7**
PALK Pallekele 96.67 276 *e*P **P** **22 10 41.6 -0.7**
DGZ Jazzator, Alta 101.25 319‖ *e*P **Pdif** **22 11 02.8 +0.6**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
ZALV Zalesovo Beam 103.64 323 Pdiff **Pdif** **22 11 11.5 -1.0**
comp=Z,0.3nm,0.3s,baz=87,slow=3.2,SNR=3.2
MKAR Makanchi Array 104.09 315 Pdiff **Pdif** **22 11 13.7 -1.0**
comp=Z,0.5nm,0.7s,baz=113,slow=3.7,SNR=5.9
MKAR PKKPbc **PKKPbc** **22 27 03.9 -1.0**
comp=Z,0.4nm,0.9s,baz=299,slow=5.0,SNR=3.8
KSH Kashi 107.64 307 Pdif **Pdif** **22 11 29.8 -1.0**
KSH AMB AMB
comp=Z,190nm,5.4s
ARU Arti 118.52 326 *e*PKPdf **PKPdf** **22 15 58.0 -0.7**
ARU Arti 118.52 326 *i* PKIKP **PKPdf** **22 15 57.8 -0.9**
ARU 22 17 14.3
ARU 22 23 07.1
ARU SS SS 22 33 21.4 -9.4
GEYT Alibeck 121.53 305 PKP **PKPdf** **22 16 04.5 -0.7**
comp=Z,1.4nm,0.8s,baz=64,slow=3.4,SNR=3.4
ARCES ARCESS Array B 123.89 348 PKP **PKPdf** **22 16 07.7 -1.0**
comp=Z,4.8nm,0.7s,baz=70,slow=1.4,SNR=13
KLMR Klimovskoe 125.81 335 PKIKP **PKPdf** **22 16 10.6 -2.0**
KLMR pmax pmax
comp=Z,9.0nm,1.4s
KLMR Klimovskoe 125.81 335 PKPdf **PKPdf** **22 16 10.7 -1.9**
KLMR AMP 22 16 27.4
comp=Z,9.0nm,1.4s
NOA NORSAR Array B 134.19 349 PKP **PKPdf** **22 16 27.8 -0.8**
comp=Z,1.1nm,0.8s,baz=15,slow=3.9,SNR=3.1
LSZ Lusaka 134.84 227 *e*PKPdf **PKPdf** **22 16 31.4 +0.2**
LSZ Lusaka 134.84 227 *e*PKIKP **PKPdf** **22 16 31.5 +0.2**
KMBO Kilima Mbogo 135.26 251 PKP **PKPdf** **22 16 31.8 -0.4**
comp=Z,0.5nm,0.3s,baz=122,slow=9.4,SNR=4.2
KMBO Kilima Mbogo 135.26 251 *e*PKPdf **PKPdf** **22 16 32.8 +0.5**
KMBO Kilima Mbogo 135.26 251 *e*PKIKP **PKPdf** **22 16 32.8 +0.5**
AKASG Malin Array Be 136.58 329 PKP **PKPdf** **22 16 33.7 +0.5**
comp=Z,0.3nm,0.4s,baz=53,slow=3.1,SNR=3.6
KIEV Kiev 136.59 329 *e*PKPdf **PKPdf** **22 16 33.1 -0.1**
KIEV Kiev 136.59 329 *e*PKIKP **PKPdf** **22 16 33.2 -0.1**
KLNR Kaliningrad 137.53 339‖ *e*PKIKP **PKPdf** **22 16 34.0 -0.8**
TSUM Tsumeb 138.37 212 *e*PKPdf **PKPdf** **22 16 36.8 -1.0**
CLL Collm 142.65 342 *e*PKPdf **PKPdf** **22 16 44.0 -0.3**
comp=Z,4.0nm,1.0s
CLL *i* (PKiKP) 22 16 49.6
CLL Lm MLR 23 10 00.0
comp=Z,200nm,20.1s
CLL Collm 142.65 342 *e*PKIKP **PKPdf** **22 16 44.0 -0.3**
CLL pmax pmax
comp=Z,14nm,1.0s
BRG Berggiesshubel 142.74 341 *e*PKP **PKPdf** **22 16 43.4 -1.1**
comp=Z,9.8nm,1.5s
BRG Berggiesshubel 142.74 341 *e*PKIKP **PKPdf** **22 16 43.4 -1.1**
BRG pmax pmax
comp=Z,12nm,1.5s
VYHS Vyhne 142.90 334 *e*PKP **PKPdf** **22 16 42.2 -2.7**
VYHS *e* 22 16 48.4
MODS Modra-Piesok 143.64 335 *e*PKP **PKPdf** **22 16 45.5 -0.7**
KHC Kasperske Hory 144.36 340 *e*PKPdf PKPbc 22 16 46.5 +0.6
KHC Kasperske Hory 144.36 340 PKIKP PKPbc 22 16 46.4 +0.6
CONA Conrad Observa 144.55 336 *e*PKPdf PKPbc 22 16 47.1 +0.6
comp=Z,13nm,1.2s
GEC2 GERESS Array S 144.57 339 *e*PKPdf PKPbc 22 16 46.7 +0.1
GEC2 GERESS Array S 144.57 339 *e*PKPdf **PKPab** **22 16 46.0 -0.3**
baz=27,slow=0.0
GEC2 GERESS Array S 144.57 339 *e*PKIKP PKPbc 22 16 46.7 +0.1
GERES GERESS Array B 144.57 339 PKP **PKPab** **22 16 46.1 -0.3**
comp=Z,3.9nm,0.9s,baz=29,slow=3.0,SNR=10
GEA0 GERESS Array S 144.57 339 *e*PKPdf **PKPab** **22 16 46.2 -0.1**
WET Wettzell 144.58 340 *e*PKPdf **PKPdf** **22 16 48.8 +1.0**
baz=27,slow=0.0
GRA1 Grafenberg Arr 144.61 342 *e*PKPdf **PKPdf** **22 16 48.6 +0.8**
GRF Grafenberg Arr 144.61 342 *e*PKPdf **PKPdf** **22 16 48.9 +1.1**
baz=27,slow=0.0
GRF Grafenberg Arr 144.61 342 PKIKP **PKPdf** **22 16 48.6 +0.8**
GRFO Grafenberg 144.61 342 *e*PKPdf **PKPdf** **22 16 48.6 +0.8**
MORH Mrgy, Hungar 144.74 332‖ *e*PKP **PKPdf** **22 16 48.0 -0.1**
TNS Taunus Mts 144.86 346 *e*PKPdf **PKPdf** **22 16 49.4 +1.1**
baz=27,slow=0.0
VTS Vitosha 144.93 323 *e*PKPdf PKPbc 22 16 48.5 +0.5
VTS Vitosha 144.93 323 *e*PKIKP PKPbc 22 16 48.5 +0.5
MEM Membach 145.02 348‖ PKP **PKPbc** **22 16 47.1 -0.7**
MOA Molln 145.22 338 *e*PKPdf **PKPdf** **22 16 49.2 +0.2**
comp=Z,23nm,1.1s,SNR=11
ARSA Arzberg 145.24 336 *e*PKPdf **PKPab** **22 16 49.0 +0.2**
comp=Z,15nm,1.3s,SNR=7.3
DIVS Divibare 145.65 328 *e*PKPdf **PKPab** **22 16 51.1 +0.6**
DOU Dourbes 145.77 350‖ PKP **PKPdf** **22 16 49.2 -0.6**
WLF Walferdange 145.89 348 *e*PKPdf **PKPab** **22 16 51.5 +0.4**
WLF Walferdange 145.89 348 *e*PKP2 **PKPab** **22 16 51.5 +0.4**
WLF Walferdange 145.89 348‖ PKP **PKPab** **22 16 51.2 +0.1**
SOKA Soboth 145.90 336 *e*PKPab **PKPdf** **22 16 50.4 +0.2**
comp=Z,13nm,1.0s,SNR=6.5
PERS Pernice 145.90 336 *i* PKPdf **PKPdf** **22 16 50.5 +0.3**
KBA Koelnbreinsper 146.20 338 *e*PKPdf **PKPdf** **22 16 49.7 -1.2**
comp=Z,7.5nm,0.7s
MYKA Terra Mystica 146.47 337 *e*PKPbc **PKPdf** **22 16 51.9 +0.8**
comp=Z,7.9nm,1.0s
BLY Banja Luka 146.52 332 *e*PKPdf **PKPab** **22 16 54.0 +0.3**
WATA Walderalm 146.59 340 *e*PKPbc **PKPdf** **22 16 51.4 0.0**
comp=Z,1.7nm,0.4s
BFO Black Forest 146.64 344 *e*PKPbc **PKPbc** **22 16 52.6 -0.3**
BFO Black Forest 146.64 344 *e*PKPdf **PKPbc** **22 16 53.3 +0.4**
baz=27,slow=0.0
BFO Black Forest 146.64 344 *i* PKP2 **PKPab** **22 16 53.9 -0.1**
VISS Visnje 146.69 335 *i* PKPdf **PKPbc** **22 16 52.9 -0.3**
RETA Reutte 146.71 341 *e*PKPab **PKPbc** **22 16 53.2 0.0**
comp=Z,10.0nm,1.1s
MOTA Moosalm 146.73 341 *e*PKPab **PKPbc** **22 16 53.3 -0.1**
comp=Z,12nm,1.0s,SNR=6.0
BOJS Bojanci 146.77 334 *i* PKPdf **PKPab** **22 16 54.1 -0.4**
ABTA Abfaltersbach 146.78 339 *e*PKPbc **PKPbc** **22 16 53.2 -0.3**
comp=Z,16nm,0.9s,SNR=6.1
SQTA Sankt Quirin 146.81 340 *e*PKPab **PKPbc** **22 16 53.8 +0.2**
comp=Z,18nm,1.7s
JAVS Javornik 146.93 336 *e*PKPdf **PKPbc** **22 16 54.3 +0.3**
ECH Echery 147.04 346 *e*PKPdf **PKPbc** **22 16 55.0 +0.9**
ECH Echery 147.04 346 *e*PKP2 **PKPbc** **22 16 55.0 +0.9**
FETA Feichten 147.14 341 *e*PKPab **PKPbc** **22 16 54.8 +0.3**
comp=Z,8.5nm,1.1s
DAVA Damuels 147.16 342 *e*PKPbc **PKPbc** **22 16 54.5 -0.1**
comp=Z,21nm,1.1s
FUORN Ofenpass-Fuorn 147.64 341 *e*PKPbc **PKPbc** **22 16 56.6 +0.5**
TUE Stuetta 148.05 342 *e*PKPbc **PKPbc** **22 16 57.1 -0.1**
SENIN Lac Senin/Sane 148.73 344 *e*PKPbc **PKPbc** **22 16 59.2 +0.3**
BNI Bardonecchia 150.10 344 *e*PKPbc **PKiKP** **22 17 03.1 0.0**
BNI Bardonecchia 150.10 344 *e*PKP2 **PKiKP** **22 17 03.2 0.0**
SSB Saint Sauveur 150.40 347 *e*PKPbc **PKiKP** **22 17 03.5 -0.1**
SSB Saint Sauveur 150.40 347 *e*PKIKP **PKiKP** **22 17 03.5 -0.1**
ESDC Sonseca Array 156.98 359 PKPab **PKPab** **22 17 35.9 -1.3**
comp=Z,1.9nm,0.9s,baz=355,slow=3.8,SNR=8.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TOA0	**Torodi Ar. Sit**	**173.15**	**241**	*e*PKPdf	**PKPdf**	**22 17 21.2**	**-0.2**
TOA0				*e*PKPab	**PKPab**	**22 18 48.3**	**-0.7**
TOA0				*e*PKPab	**PKPab**	**22 18 48.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**173.15**	**241**	PKP	**PKPdf**	**22 17 19.7**	**-1.8**
	comp=Z,2.0nm,1.1s,baz=104,slow=1.4,SNR=7.7						
TORD				PKPab	**PKPab**	**22 18 48.2**	**-0.8**
	comp=Z,2.1nm,1.1s,baz=136,slow=6.5,SNR=7.0						

*IDC **10** 22:23:36.7±1.1, 56°.03S×26°.39W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/21, mbtmp3.8/3, Error ellipse: s-maj=46.6km s-min=36.1km az=86.0*
*ISCJB **10** 22:23:39.8±1.0, 56°.1S±0°.1×26°.2W±0°.5, h35km, mb3.8/3, Error ellipse: s-maj=41.1km s-min=14.8km az=159.1*
ISC 10 22:23:41.6±0.9**, 56°.2S**±0°.2×**26°.3W**±0°.3**, h35km, n15, σ0s.96**/9**, mb3.9**/3**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.51**	**159**	P	**Pn**	**22 27 28.8**	**-1.2**
VNA3	**Neumayer Olymp**	**16.72**	**161**	P	**P**	**22 27 34.4**	**-0.3**
VNA2	**Neumayer--Watz**	**16.90**	**158**	P	**P**	**22 27 36.8**	**+0.1**
	baz=322,slow=14						
VNDA	**Vanda**	**46.48**	**182**	P	**P**	**22 32 05.2**	**+0.8**
	0.5nm,0.6s,baz=170,slow=6.1,SNR=1.9						
H10S2	**ASCENSION HYDR**	**47.98**	**16**	T	T	23 24 52.0	
	baz=189,slow=74,SNR=2.3						
H10S3	**ASCENSION HYDR**	**47.98**	**16**	T	T	23 24 54.0	
	baz=189,slow=74,SNR=2.4						
H10S1	**ASCENSION HYDR**	**47.99**	**16**	T	T	23 24 24.8	
	baz=189,slow=74,SNR=1.7						
H10N1	**ASCENSION HYDR**	**49.09**	**16**	T	T	23 26 10.4	
	baz=189						
H10N3	**ASCENSION HYDR**	**49.10**	**16**	T	T	23 26 24.0	
	baz=189						
H10N2	**ASCENSION HYDR**	**49.11**	**16**	T	T	23 26 03.5	
	baz=189						
LPAZ	**La Paz**	**50.85**	**304**	P	**P**	**22 32 38.8**	**-0.6**
	1.4nm,0.6s,baz=161,slow=5.1,SNR=5.3						
TORD	**Torodi Ar. Bea**	**72.92**	**29**	P	**P**	**22 35 06.5**	**-0.5**
	0.8nm,0.6s,baz=199,slow=6.7,SNR=7.2						
YKA	**Yellowknife Ar**	**136.59**	**318**	PKP	**PKPdf**	**22 42 58.3**	**+0.1**
	0.1nm,0.6s,baz=136,slow=2.4,SNR=2.2						
SONM	**Songino Array**	**150.25**	**86**	PKPbc	**PKPbc**	**22 43 29.6**	**+1.6**
	0.3nm,0.9s,baz=258,slow=1.3,SNR=2.2						
ILAR	**Eielson Array**	**150.56**	**311**	PKPbc	**PKPbc**	**22 43 28.4**	**+0.4**
	0.3nm,0.7s,baz=96,slow=1.3,SNR=4.6						

*AZER **10** 22:23:44.4±0.1, 38°.37N×46°.77E, h10km, ml3.4/23, Error ellipse: s-maj=4.5km s-min=1.0km az=18.0*
*NSSP **10** 22:23:44.6, 38°.50N×46°.88E, h9km, Ms3.5*
*TEH **10** 22:23:46.8, 38°.40N×46°.86E, h13km, ML3.1*
*THR **10** 22:23:47.3, 38°.44N×46°.89E, h18km, ML3.0*
ISC 10 22:23:45.9±1.2**, 38°.30N**±0°.03×**46°.82E**±0°.02**, h9km**±9km**, n45, σ2s.01**/69**, 25C-20D, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ITBZ	**Tabriz**	**0.53**	**263**	*e*Pg	**Pb**	**22 23 58.3**	**+0.8**
ITBZ				IAMB	IAmb	22 24 09.7	
	comp=Z,12μm,0.3s						
ISRB	**Sarab**	**0.82**	**125**	*e*Sg	**Sn**	**22 24 15.4**	**-0.8**
ISRB				*e*Pg	**Pb**	**22 24 03.1**	**+0.7**
ISRB				IAMB	IAmb	22 24 17.6	
	comp=Z,17μm,0.2s						
ORD	**Ordubad**	**0.90**	**315**	⇑P	**Pg**	**22 24 02.3**	**-0.9**
ORD				⇑S	**Sg**	**22 24 13.7**	**-1.3**
GRMI	**Germi**	**0.99**	**59**	*e*AML	AML	22 24 17.8	
	comp=E,546nm,0.2s						
GRMI				*e*Pg	**Pg**	**22 24 03.9**	**-0.9**
GRMI				*e*Sg	**Sg**	**22 24 15.8**	**-1.9**
GRMI				*e*AML	AML	22 24 19.8	
	comp=N,451nm,0.1s						
LRK	**Lerik**	**1.25**	**73**	⇓P	**Pg**	**22 24 09.3**	**-0.5**
	SNR=663						
LRK				⇑S	**Sg**	**22 24 26.0**	**0.0**
NAX	**Nakhchivan**	**1.35**	**311**	⇓P	**Pn**	**22 24 10.8**	**-0.2**
	SNR=58						
NAX				⇓S	**Sb**	**22 24 28.2**	**-0.7**
SBZ	**Shahbuz**	**1.48**	**318**	⇓P	**Pn**	**22 24 12.2**	**-0.5**
SBZ				⇓S	**Sn**	**22 24 32.2**	**0.0**
GLBA	**Clilabad**	**1.55**	**52**	⇑P	**Pb**	**22 24 15.0**	**+0.2**
	SNR=39						
GLBA				⇓S	**Sg**	**22 24 36.4**	**+0.6**
ASTR	**Astara**	**1.57**	**80**	⇓P	**Pb**	**22 24 15.6**	**+0.5**
	SNR=183						
ASTR				⇓S	**Sg**	**22 24 37.5**	**+1.0**
LKRN	**Lenkeran, Azer**	**1.59**	**74**	P	**Pb**	**22 24 16.1**	**+0.6**
	SNR=12						
LKRN				⇓S	**Sg**	**22 24 37.9**	**+0.8**
MAKU	**Maku**	**1.97**	**303**	*e*Pn	**Pn**	**22 24 21.7**	**+2.1**
MAKU	**Maku**	**1.97**	**303**	*e*Pn	**Pn**	**22 24 21.7**	**+2.1**
BRDA	**Brd**	**1.98**	**8**	⇑P	**Pn**	**22 24 20.8**	**+1.2**
	SNR=23						
BRDA				⇑S	**Sb**	**22 24 48.6**	**+1.8**
SAAT	**Saatly**	**2.00**	**38**	⇓S	**Sb**	**22 24 47.1**	**-0.3**
HYR	**Heyderabad**	**2.09**	**313**	⇑P	**Pn**	**22 24 22.1**	**+1.0**
HYR				⇑S	**Sb**	**22 24 50.9**	**+0.9**
ZRD	**Zardab**	**2.09**	**19**	⇓P	**Pn**	**22 24 22.8**	**+1.8**
	SNR=6.0						
ZRD				⇑S	**Sb**	**22 24 51.5**	**+1.5**
ZNJK	**Zanjan**	**2.20**	**137**	*e*Pn	**Pb**	**22 24 26.1**	**+0.1**
ZNJK	**Zanjan**	**2.20**	**137**	*e*Pn	**Pb**	**22 24 26.1**	**+0.1**
ZNJK				*e*Sg	**Sg**	**22 24 58.7**	**+2.0**
KDMR	**Kurdemir**	**2.33**	**27**	⇑S	**Sb**	**22 24 57.2**	**+0.3**
GANJ	**Ganja**	**2.38**	**351**	⇓P	**Pn**	**22 24 26.4**	**+1.4**
	SNR=37						
GANJ				⇑S	**Sn**	**22 24 55.7**	**+1.4**
CLDR	**Caldiran**	**2.42**	**291**	P	**Pb**	**22 24 30.9**	**+1.2**
GNI	**Garni**	**2.45**	**320**	P	**Pb**	**22 24 29.9**	**-0.3**
GNI	**Garni**	**2.45**	**320**	⇑*i*P	**Pb**	**22 24 29.4**	**-0.8**
GNI				⇑*i*S	**Sb**	**22 25 01.5**	**+0.9**
GDB	**GEDABAY**	**2.56**	**342**	⇑P	**Pn**	**22 24 28.8**	**+1.2**
	SNR=70						
GDB				⇓S	**Sn**	**22 25 02.6**	**+3.6**
TASB	**TASBURUN-IGDIR**	**2.62**	**311**	P	**Pb**	**22 24 32.2**	**-0.8**
IML	**Ismayilli**	**2.71**	**23**	⇑P	**Pn**	**22 24 31.1**	**+1.5**
	SNR=23						
IML				⇓S	**Sn**	**22 25 05.9**	**+3.5**
CUKT	**Cukurca**	**2.75**	**249**	P	**Pb**	**22 24 36.8**	**+1.5**
QBL	**Gabala**	**2.76**	**16**	⇑P	**Pn**	**22 24 31.7**	**+1.3**
	SNR=18						
QBL				⇑S	**Sn**	**22 25 05.8**	**+2.0**
GBS	**Qobustan**	**2.77**	**36**	⇓P	**Pn**	**22 24 32.5**	**+1.9**
	SNR=19						
PQL	**Pirkuli**	**2.84**	**28**	⇑P	**Pn**	**22 24 33.1**	**+1.5**
	SNR=9.3						
PQL				⇑S	**Sn**	**22 25 09.2**	**+3.2**
SEKA	**Sheki**	**2.92**	**6**	P	**Pn**	**22 24 34.1**	**+1.6**
	SNR=32						
SEKA				⇓S	**Sn**	**22 25 10.4**	**+2.5**
QZX	**Qazax, Azerbai**	**2.97**	**338**	⇓P	**Pn**	**22 24 34.5**	**+1.3**
	SNR=34						
QZX				⇑S	**Sn**	**22 25 11.4**	**+2.4**
XNQ	**Khinaliq**	**3.05**	**19**	P	**Pn**	**22 24 35.2**	**+0.8**
	SNR=24						
XNQ				⇑S	**Sn**	**22 25 15.0**	**+3.9**
SIZA	**Siyzn**	**3.21**	**29**	⇑P	**Pn**	**22 24 37.9**	**+1.4**
AGRB	**Hanur-Agry**	**3.24**	**294**	*e*P	**Pb**	**22 24 42.6**	**-1.1**
ZKTA	**Zakatala**	**3.34**	**358**	⇑P	**Pn**	**22 24 39.8**	**+1.5**
	SNR=17						
ZKTA				⇓S	**Sn**	**22 25 20.6**	**+2.6**
ILIN	**Lien**	**3.38**	**178**	IAMB	IAmb	22 25 48.4	
	comp=Z,290nm,0.6s						
SIRT	**Sirnak**	**3.55**	**258**	*e*P	**Pb**	**22 24 48.0**	**-0.9**
TBLG	**Delisi**	**3.78**	**336**	*e*P	**Pn**	**22 24 48.8**	**+4.5**
TBLG	**Delisi**	**3.78**	**336**	P	**Pb**	**22 24 51.8**	**-0.9**
TBLG				S	**Pb**	**22 24 51.8**	**-0.9**
IRAZ	**Razeghan**	**3.82**	**138**	IAMB	IAmb	22 24 59.9	
	comp=Z,609nm,0.4s						
BGD	**Bogdanovka**	**3.86**	**321**	P	**Pb**	**22 24 56.7**	**+2.4**
GUDG	**Gudauri**	**4.53**	**338**	P	**Pb**	**22 25 08.0**	**+2.3**
AB31	**Akbulak array**	**14.46**	**37**	⇓Pn	**Pn**	**22 27 10.3**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=227,slow=13,SNR=12						
AB31				⇓Sn	**Sn**	**22 29 43.1**	**-7.9**
	comp=Z,0.5nm,0.6s,baz=217,slow=28						
AKTO	**Aktyubinsk**	**14.52**	**30**	⇑Pn	**Pn**	**22 27 09.6**	**-1.7**
	comp=Z,1.6nm,0.8s						
AKTO				⇑Sn	**Sn**	**22 29 47.8**	**-4.5**
	comp=Z,1.4nm,1.0s						

MEX 10 22:24:03.5±0.8**, 16°.15N**×**98°.42W, h18km**±95km**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.37**	**49**	*e*P	Pg	22 24 10.5	-0.8
PNIG				*e*S	Sg	22 24 14.8	-1.8
TLIG	**Tlapa**	**1.42**	**354**	*e*P	Pn	22 24 24.5	-4.1
TLIG				*i* S	Sn	22 24 41.8	-5.0
VHO	**Vista Hermosa**	**1.86**	**60**	*i* P	Pn	22 24 32.5	-2.2
VHO				*i* S	Sn	22 24 53.9	-4.0
CAIG	**El Cayaco**	**1.99**	**297**	*i* P	Pn	22 24 32.9	-3.4
CAIG				*i* S	Sn	22 24 56.8	-3.9
HUIG	**Huatulco**	**2.25**	**99**	*e*P	Pn	22 24 36.8	-3.1
HUIG				*i* S	Sn	22 25 02.9	-4.4

MEX 10 22:51:52.6±0.7**, 17°.20N**×**101°.26W, h16km**±63km**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.45**	**333**	*e*P	Pg	22 52 00.8	-0.9
ZIIG				*i* S	Sg	22 52 05.5	-2.3
CAIG	**El Cayaco**	**0.96**	**99**	*e*P	Pb	22 52 07.5	-3.3
CAIG				*e*S	Sb	22 52 18.9	-4.3
ARIG	**Puente Sto Nin**	**1.38**	**39**	*e*P	Pn	22 52 13.9	-3.3
ARIG				*e*S	Sn	22 52 30.3	-4.8
MEIG	**Mezcala**	**1.72**	**65**	*e*P	Pn	22 52 19.1	-2.8
MEIG				*i* S	Sn	22 52 38.2	-5.3
PLIG	**Platanillo**	**2.05**	**54**	*e*P	Pn	22 52 23.8	-2.6
PLIG				*i* S	Sn	22 52 46.6	-5.1
TLIG	**Tlapa**	**2.59**	**82**	*i* P	Pn	22 52 30.8	-3.2
TLIG				*i* S	Sn	22 53 01.8	-3.5
YAIG	**Yautepec**	**2.66**	**51**	*i* P	Pn	22 52 31.8	-3.1
YAIG				*e*S	Sn	22 53 03.2	-3.6
R15V		**3.25**	**307**	*i* P	Pn	22 52 39.8	-3.2
R15V				*i* S	Sn	22 53 18.2	-3.1

*IDC **10** 23:10:17.7±0.9, 24°.87N×124°.78E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.5/31, mbtmp3.6/8, ML2.7/1, Error ellipse: s-maj=30.0km s-min=19.2km az=65.0*
*ISCJB **10** 23:10:22.5±0.4, 24°.79N±0°.09×124°.72E±0°.05, h50km±4km, mb3.4/7, Error ellipse: s-maj=15.5km s-min=4.5km az=156.6*
*JMA **10** 23:10:22.9±0.1, 24°.64N×124°.78E, h46km±1km, M3.3*
JMA Felt I J1.
ISC 10 23:10:22.7±1.0**, 24°.91N**±0°.06×**124°.68E**±0°.04**, h35km**±4km**, n18, σ0s.90**/29**, mb3.4**/7**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.27**	**175**	P	**Pn**	**23 10 30.0**	**-0.1**
JTJ				S	**Sb**	**23 10 35.5**	**+0.1**
JIRB	**Irabujima**	**0.46**	**100**	P	**Pb**	**23 10 32.6**	**-0.2**
JIRB				S	**Sn**	**23 10 40.2**	**+0.4**
JISG	**Ishigakijimahi**	**0.46**	**226**	P	**Pb**	**23 10 32.9**	**+0.1**
JISG				S	**Sn**	**23 10 41.0**	**+1.2**
JIKM	**Ikemajima**	**0.52**	**88**	P	**Pb**	**23 10 34.3**	**+0.6**
JIKM				S	**Sn**	**23 10 43.0**	**+1.7**
JMJ	**Miyako jima 2**	**0.57**	**99**	P	**Pn**	**23 10 33.9**	**-0.4**
JMJ				S	**Sn**	**23 10 42.4**	**-0.1**
JOGS	**Gusukube**	**0.68**	**102**	P	**Pn**	**23 10 35.0**	**-0.9**
JOGS				*e*S	**Sn**	**23 10 44.6**	**-0.7**
JIJ	**Ishigaki jima**	**0.73**	**222**	P	**Pn**	**23 10 35.7**	**-0.8**
JIJ				S	**Sn**	**23 10 45.0**	**-1.4**
JKRS	**Kuro-shima**	**0.90**	**222**	P	**Pn**	**23 10 38.3**	**-0.6**
JKRS				S	**Sn**	**23 10 49.8**	**-0.9**
IRIF	**Iriomote-Funau**	**1.03**	**237**	P	**Pn**	**23 10 40.5**	**-0.2**
IRIF				*e*S	**Sb**	**23 10 55.2**	**-0.3**
HATJ	**Hateruma jima**	**1.16**	**223**	P	**Pn**	**23 10 42.0**	**-0.5**
HATJ				*e*S	**Sn**	**23 10 56.3**	**-0.8**
JOW	**Kunigami**	**3.77**	**59**	Pn	**Pn**	**23 11 17.0**	**-1.3**
	1.3nm,0.3s,baz=136,slow=18,SNR=1.3						
JOW				Sn	**Sn**	**23 11 59.8**	**-1.7**
	2.7nm,0.3s,baz=107,slow=24,SNR=1.3						
CMAR	**Chiang Mai Arr**	**24.73**	**260**	P	**P**	**23 15 42.0**	**+0.9**
	0.7nm,0.3s,baz=66,slow=7.9,SNR=4.1						
SONM	**Songino Array**	**27.07**	**332**	P	**P**	**23 16 02.9**	**+0.8**
	0.2nm,0.3s,baz=133,slow=7.3,SNR=2.6						
MKAR	**Makanchi Array**	**40.08**	**314**	P	**P**	**23 17 56.1**	**+1.3**
	0.3nm,0.4s,baz=102,slow=9.8,SNR=12						
ZALV	**Zalesovo Beam**	**41.42**	**325**	P	**P**	**23 18 05.7**	**0.0**
	0.6nm,0.4s,baz=118,slow=9.7,SNR=2.9						
WRA	**Warramunga Arr**	**45.56**	**167**	P	**P**	**23 18 38.4**	**-1.0**
	0.5nm,0.9s,baz=350,slow=9.3,SNR=2.9						
STKA	**Stephens Creek**	**58.74**	**163**	P	**P**	**23 20 17.3**	**+0.2**
	0.7nm,0.6s,baz=330,slow=10,SNR=2.3						
YKA	**Yellowknife Ar**	**81.05**	**24**	P	**P**	**23 22 34.0**	**+0.2**
	0.3nm,0.8s,baz=301,slow=5.1,SNR=4.2						

*SJA **10** 23:34:26.9±0.8, 32°.68S×69°.85W, h120km±3km, ML3.5, MW3.8*
*ISCJB **10** 23:34:27.1±0.6, 32°.70S±0°.04×69°.83W±0°.04, h126km±5km, Error ellipse: s-maj=6.2km s-min=5.3km az=148.8*
*GUC **10** 23:34:28.3±0.5, 32°.95S×70°.02W, h139km±5km, ML3.6*
ISC 10 23:34:27.8±1.6**, 32°.70S**±0°.04×**69°.84W**±0°.04**, h121km**±10km**, n30, σ0s.48**/43**, 2C-4D, Mendoza Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.61**	**39**	*e*P	**Pn**	**23 34 46.6**	**-0.3**
AUSP				*e*S	**Sn**	**23 35 00.8**	**-0.6**
FCH	**Farellones**	**0.73**	**211**	⇓*i*P	**Pn**	**23 34 48.0**	**+0.1**
FCH				*i* S	**Sn**	**23 35 03.5**	**+0.5**
FCH				IAML		23 35 06.8	
	comp=E,709nm,0.3s						
ARCO	**CERRO ARCO**	**0.78**	**100**	*e*P	**Pn**	**23 34 48.1**	**+0.1**
ARCO				*e*S	**Sn**	**23 35 03.5**	**+0.1**
ARCO				IAML		23 35 06.2	
	comp=Z,1μm,0.4s						
PEL	**Peldehue**	**0.84**	**238**	*e*P	**Pn**	**23 34 48.4**	**-0.1**
PEL				*e*S	**Sn**	**23 35 04.2**	**+0.1**
PEL	**Peldehue**	**0.84**	**238**	*e*P	**Pn**	**23 34 48.3**	**-0.1**
PEL				*e*S	**Sn**	**23 35 03.1**	**-1.0**
PEL				IAML		23 35 05.5	
	comp=N,959nm,0.4s						
ASAL	**Salagasta**	**0.85**	**83**	*e*P	**Pn**	**23 34 48.9**	**+0.2**
ASAL				*e*S	**Sn**	**23 35 04.2**	**-0.2**
AAGR	**Agrelo**	**0.93**	**114**	*e*P	**Pn**	**23 34 49.7**	**+0.3**
AAGR				*e*S	**Sn**	**23 35 06.2**	**+0.5**
RTLS	**Leoncito**	**1.01**	**27**	*e*P	**Pn**	**23 34 50.7**	**+0.3**
RTLS				IAML		23 34 50.9	
	comp=Z,599nm,0.3s						
RTLS				*e*S	**Sn**	**23 35 07.9**	**+0.5**
ROCH	**El Roble**	**1.02**	**255**	⇑*i*P	**Pn**	**23 34 50.2**	**-0.1**
ROCH				*e*S	**Sn**	**23 35 07.1**	**-0.4**
ROCH				IAML		23 35 08.9	
	comp=E,3μm,0.3s						
ROC1	**El Roble**	**1.03**	**254**	*e*P	**Pn**	**23 34 50.3**	**-0.2**
ROC1				*e*S	**Sn**	**23 35 07.2**	**-0.4**
LMEL	**Las Melosas**	**1.18**	**195**	⇓*i*P	**Pn**	**23 34 52.9**	**+1.0**
AVIZ	**Vizcacheras**	**1.35**	**125**	*e*P	**Pn**	**23 34 54.0**	**+0.4**
RTCV	**Cerro Valdivia**	**1.38**	**53**	*e*P	**Pn**	**23 34 54.0**	**0.0**
ZON	**Zonda**	**1.52**	**41**	*e*P	**Pn**	**23 34 55.5**	**-0.1**
ZON				IAML		23 35 17.5	
	comp=Z,160nm,0.4s						
CFA	**Coronel Fontan**	**1.74**	**52**	*e*P	**Pn**	**23 34 58.0**	**-0.2**
RTLL	**Cerro Villicun**	**1.79**	**41**	*e*P	**Pn**	**23 34 58.9**	**+0.1**
RTLL				IAML		23 35 23.6	
	comp=Z,370nm,0.3s						
RTLL	**Cerro Villicun**	**1.79**	**41**	⇓*i*P	**Pn**	**23 34 58.9**	**+0.1**
RTLL				*i* S	**Sn**	**23 35 21.8**	**-0.7**
RTLL				IAML		23 35 23.7	
	comp=N,1μm,0.5s						
CMCH	**Combarbala**	**1.82**	**327**	⇓*i*P	**Pn**	**23 34 59.3**	**+0.1**
CMCH				*e*S	**Sn**	**23 35 23.0**	**-0.1**
AMOG	**MOGNA**	**2.10**	**33**	*e*P	**Pn**	**23 35 03.1**	**+0.4**
ACAN	**Cantantal**	**2.28**	**80**	*e*P	**Pn**	**23 35 04.9**	**0.0**
RFA	**San Rafael**	**2.36**	**151**	*e*P	**Pn**	**23 35 06.1**	**+0.3**
RFA				IAML		23 35 06.4	
	comp=Z,214nm,0.6s						
GO04	**Tololo Observa**	**2.65**	**342**	*e*P	**Pn**	**23 35 09.7**	**-0.1**
GO04	**Tololo Observa**	**2.65**	**342**	⇑*i*P	**Pn**	**23 35 09.9**	**0.0**
GO04				*i* S	**Sn**	**23 35 43.6**	**+1.4**
GO05	**Huala**	**2.88**	**217**	*e*P	**Pn**	**23 35 12.5**	**-0.1**
AGUA	**GUANDACOL**	**3.41**	**20**	*e*P	**Pn**	**23 35 20.6**	**+1.0**
MRA	**San Martin**	**3.49**	**86**	*e*P	**Pn**	**23 35 19.9**	**-0.7**
MRA				IAML		23 36 24.0	
	comp=Z,85nm,0.4s						
APLL	**PUNTA DE LOS L**	**3.64**	**52**	*e*P	**Pn**	**23 35 22.8**	**+0.1**
APLL				IAML		23 36 06.0	
	comp=Z,53nm,0.4s						
LCO	**Las Campanas**	**3.75**	**348**	*e*P	**Pn**	**23 35 24.1**	**-0.3**
VCA	**Vinchina**	**4.20**	**20**	*e*P	**Pn**	**23 35 30.1**	**-0.1**
TCA	**Tanti**	**4.66**	**74**	*e*P	**Pn**	**23 35 35.4**	**-0.8**

*TRN **10** 23:35:04.7, 18°.30N×63°.65W, h85km, MD3.8*
*ISCJB **10** 23:35:05.4±0.8, 18°.27N±0°.06×63°.65W±0°.04, h92km±7km, Error ellipse: s-maj=11.1km s-min=3.4km az=24.5*
*NEIC **10** 23:35:07.8±0.0, 18°.36N×63°.73W, h85km, MD3.3(RSPR), MD3.8(TRN), After RSPR.*
*RSPR **10** 23:35:07.8, 18°.36N×63°.73W, h85km±1km, MD3.3/8*
ISC 10 23:35:05.0±1.5**, 18°.35N**±0°.07×**63°.63W**±0°.03**, h97km**±9km**, n49, σ0s.84**/82**, 4C-21D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**	**0.61**	**120**	*e*P	**Pn**	**23 35 21.9**	**+0.5**
SMRT				*e*S	**Sn**	**23 35 33.5**	**-0.1**
SMRT	**St. Maarten**	**0.61**	**120**	*e*P	**Pn**	**23 35 21.9**	**+0.5**
SMRT				*e*S	**Sn**	**23 35 33.5**	**-0.1**
ABV	**Anegada**	**0.77**	**299**	⇓*e*P	**Pn**	**23 35 24.0**	**+1.2**
ABV	**Anegada**	**0.77**	**299**	*e*S	**Sn**	**23 35 35.1**	**-1.0**
ABV	**Anegada**	**0.77**	**299**	⇓*e*P	**Pn**	**23 35 24.0**	**+1.2**
ABV				*e*S	**Sn**	**23 35 35.1**	**-1.0**
ABVI	**Anegada Island**	**0.77**	**299**	⇓*e*P	**Pn**	**23 35 24.0**	**+1.2**
ABVI				*e*S	**Sn**	**23 35 35.1**	**-1.0**
SABA	**Saba**	**0.81**	**153**	*e*P	**Pn**	**23 35 24.4**	**+1.0**
SABA				*e*S	**Sn**	**23 35 36.5**	**-0.6**
SABA	**Saba**	**0.81**	**153**	*e*P	**Pn**	**23 35 24.4**	**+1.0**
SABA				*e*S	**Sn**	**23 35 36.5**	**-0.6**
TBVI	**Tortola**	**0.94**	**274**	⇓*e*P	**Pn**	**23 35 24.8**	**+0.2**
TBVI				*e*S	**Sn**	**23 35 38.2**	**-1.1**
TBVI	**Tortola**	**0.94**	**274**	⇓*e*P	**Pn**	**23 35 24.8**	**+0.2**
TBVI	**Tortola**	**0.94**	**274**	⇓*e*P	**Pn**	**23 35 24.8**	**+0.2**
TBVI				*e*S	**Sn**	**23 35 38.2**	**-1.1**
SEUS	**St. Eustatius**	**1.05**	**144**	*e*P	**Pn**	**23 35 27.2**	**+1.4**
SEUS				*e*S	**Sn**	**23 35 40.5**	**-1.0**
SEUS	**St. Eustatius**	**1.05**	**144**	*e*P	**Pn**	**23 35 27.2**	**+1.4**
SEUS				*e*S	**Sn**	**23 35 40.5**	**-1.0**
CDVI	**St. Croix**	**1.24**	**241**	⇓*e*P	**Pn**	**23 35 28.3**	**+0.4**
CDVI	**St. Croix**	**1.24**	**241**	⇓*e*P	**Pn**	**23 35 28.3**	**+0.4**
CDVI				*e*S	**Sn**	**23 35 44.7**	**-0.5**
CDVI	**St. Croix**	**1.24**	**241**	⇓*e*P	**Pn**	**23 35 28.3**	**+0.4**
CDVI	**St. Croix**	**1.24**	**241**	⇓*e*P	**Pn**	**23 35 28.3**	**+0.4**
CDVI				*e*S	**Sn**	**23 35 44.7**	**-0.5**
STVI	**Saint Thomas**	**1.26**	**270**	⇑*e*P	**Pn**	**23 35 28.6**	**+0.5**
STVI	**Saint Thomas**	**1.26**	**270**	⇓*e*P	**Pn**	**23 35 28.7**	**+0.5**
STVI				*e*S	**Sn**	**23 35 45.1**	**-0.6**
STVI	**Saint Thomas**	**1.26**	**270**	⇓*e*P	**Pn**	**23 35 28.7**	**+0.5**
STVI	**Saint Thomas**	**1.26**	**270**	⇑*e*P	**Pn**	**23 35 28.6**	**+0.5**
STVI				*e*S	**Sn**	**23 35 45.1**	**-0.6**
CUPR	**Culebra, Puert**	**1.57**	**269**	⇑*e*P	**Pn**	**23 35 32.7**	**+0.7**
CUPR	**Culebra, Puert**	**1.57**	**269**	*e*S	**Sn**	**23 35 51.7**	**-0.8**
CUPR	**Culebra, Puert**	**1.57**	**269**	⇑*e*P	**Pn**	**23 35 32.7**	**+0.7**
CUPR				*e*S	**Sn**	**23 35 51.7**	**-0.8**
MTP	**Monte Pirata**	**1.85**	**262**	⇓*e*P	**Pn**	**23 35 36.1**	**+0.6**
MTP	**Monte Pirata**	**1.85**	**262**	*e*S	**Sn**	**23 35 57.8**	**-0.9**
MTP	**Monte Pirata**	**1.85**	**262**	⇓*e*P	**Pn**	**23 35 36.1**	**+0.6**
MTP				*e*S	**Sn**	**23 35 57.8**	**-0.9**
MTP	**Monte Pirata**	**1.85**	**262**	⇓*e*P	**Pn**	**23 35 36.1**	**+0.6**
MTP				*e*S	**Sn**	**23 35 57.8**	**-0.9**
ANWB	**Willy Bob**	**1.88**	**111**	*e*P	**Pn**	**23 35 36.0**	**+0.1**
ANWB				*e*S	**Sn**	**23 35 58.3**	**-1.2**
ANWB	**Willy Bob**	**1.88**	**111**	*e*P	**Pn**	**23 35 36.0**	**+0.1**
ANWB				*e*S	**Sn**	**23 35 58.3**	**-1.2**
HUMP	**Col San Antoni**	**2.12**	**265**	⇓*e*P	**Pn**	**23 35 40.1**	**+1.0**
HUMP	**Col San Antoni**	**2.12**	**265**	*e*S	**Sn**	**23 36 04.6**	**-0.5**
HUMP	**Col San Antoni**	**2.12**	**265**	⇓*e*P	**Pn**	**23 35 40.1**	**+1.0**
HUMP				*e*S	**Sn**	**23 36 04.6**	**-0.5**
HUMP	**Col San Antoni**	**2.12**	**265**	⇓*e*P	**Pn**	**23 35 40.1**	**+1.0**
HUMP				*e*S	**Sn**	**23 36 04.6**	**-0.5**
MLYT	**Lee's Yard**	**2.12**	**140**	*e*P	**Pn**	**23 35 40.0**	**+0.8**
MLYT				*e*S	**Sn**	**23 36 04.6**	**-0.6**
BPA	**Boggy Peak**	**2.13**	**127**	*e*P	**Pn**	**23 35 40.5**	**+1.3**
BPA				*e*S	**Sn**	**23 36 05.1**	**-0.3**
BPA	**Boggy Peak**	**2.13**	**127**	*e*P	**Pn**	**23 35 40.5**	**+1.3**
BPA				*e*S	**Sn**	**23 36 05.1**	**-0.3**
CELP	**Cerrillos**	**2.82**	**265**	⇓*e*P	**Pn**	**23 35 49.4**	**+1.1**
CELP	**Cerrillos**	**2.82**	**265**	⇓*e*P	**Pn**	**23 35 49.4**	**+1.1**
CELP	**Cerrillos**	**2.82**	**265**	⇓*e*P	**Pn**	**23 35 49.4**	**+1.1**
TBG	**Guadaloupe-3**	**3.13**	**142**	*e*P	**Pn**	**23 35 52.8**	**+0.4**
TBG				*e*S	**Sn**	**23 36 28.3**	**-0.7**
MGG	**Marie-Galante**	**3.28**	**137**	*e*P	**Pn**	**23 35 55.0**	**+0.6**
MGG				*e*S	**Sn**	**23 36 31.6**	**-1.0**
MGG	**Marie-Galante**	**3.28**	**137**	*e*P	**Pn**	**23 35 55.0**	**+0.6**
MGG				*e*S	**Sn**	**23 36 31.6**	**-1.0**
MDPV	**Dominica, Penn**	**3.44**	**142**	*e*P	**Pn**	**23 35 58.0**	**+1.4**
MDPV				*e*S	**Sn**	**23 36 35.9**	**-0.5**
MDPO	**Dominica; Chan**	**3.46**	**143**	*e*P	**Pn**	**23 35 58.1**	**+1.3**
MDPO				*e*S	**Sn**	**23 36 36.9**	**-0.1**
BBL	**Barber's Block**	**3.49**	**143**	*e*P	**Pn**	**23 35 58.0**	**+0.7**
BBL				*e*S	**Sn**	**23 36 36.8**	**-1.0**
BBL	**Barber's Block**	**3.49**	**143**	*e*P	**Pn**	**23 35 58.0**	**+0.7**
BBL				*e*S	**Sn**	**23 36 36.8**	**-1.0**
DWS	**Wesley**	**3.55**	**141**	*e*P	**Pn**	**23 35 57.5**	**-0.6**
DWS				*e*S	**Sn**	**23 36 38.1**	**-0.9**
DWS	**Wesley**	**3.55**	**141**	*e*P	**Pn**	**23 35 57.5**	**-0.6**
DWS				*e*S	**Sn**	**23 36 38.1**	**-0.9**

*IDC **10** 23:42:39.7±4.1, 19°.06N×63°.62W, h0km, mb3.4/3, mb1 3.8/5, mb1mx3.4/51, mbtmp3.5/5, ML2.9/2, MS3.2/3, Ms1 3.1/3, ms1mx2.7/24, Error ellipse: s-maj=89.7km s-min=31.8km az=120.0*
*ISCJB **10** 23:42:45.6±1.7, 19°.66N±0°.04×64°.51W±0°.07, h8km±13km, mb3.6/4, MS3.1/3, Error ellipse: s-maj=12.0km s-min=6.7km az=163.0*
*NEIC **10** 23:42:47.9±0.0, 19°.65N×64°.33W, h58km, MD3.3(RSPR), After RSPR.*
*RSPR **10** 23:42:47.9, 19°.65N×64°.33W, h58km±11km, MD3.3/7*
ISC 10 23:42:46.4±2.1**, 19°.56N**±0°.06×**64°.39W**±0°.08**, h7km**±12km**, n29, σ0s.63**/31**, mb3.5**/4**, MS2.9**/3**, 4C-10D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.83**	**176**	*e*S	**Sn**	**23 43 16.8**	**-0.1**
ABV	**Anegada**	**0.83**	**176**	⇓*e*P	**Pn**	**23 43 03.8**	**-0.7**
ABVI	**Anegada Island**	**0.83**	**176**	⇓*e*P	**Pn**	**23 43 03.8**	**-0.7**
ABVI				*e*S	**Sn**	**23 43 16.8**	**-0.1**
TBVI	**Tortola**	**1.16**	**191**	⇓*e*P	**Pg**	**23 43 08.2**	**-0.4**
TBVI				*e*S	**Sg**	**23 43 24.7**	**+1.0**
TBVI	**Tortola**	**1.16**	**191**	⇓*e*P	**Pg**	**23 43 08.2**	**-0.4**
STVI	**Saint Thomas**	**1.32**	**204**	⇑*e*P	**Pn**	**23 43 10.5**	**-0.7**
STVI	**Saint Thomas**	**1.32**	**204**	⇑*e*P	**Pn**	**23 43 10.5**	**-0.7**
STVI				*e*S	**Sb**	**23 43 28.4**	**-0.1**
CUPR	**Culebra, Puert**	**1.51**	**214**	⇓*e*P	**Pn**	**23 43 13.7**	**-0.1**
CUPR	**Culebra, Puert**	**1.51**	**214**	⇓*e*P	**Pn**	**23 43 13.7**	**-0.1**
MTP	**Monte Pirata**	**1.83**	**217**	⇓*e*P	**Pn**	**23 43 18.2**	**0.0**
MTP	**Monte Pirata**	**1.83**	**217**	⇓*e*P	**Pn**	**23 43 18.2**	**0.0**
MTP				*e*S	**Sn**	**23 43 41.1**	**-0.5**
CDVI	**St. Croix**	**1.84**	**191**	*e*Pn	**Pn**	**23 43 18.7**	**+0.4**
CBYP	**Canovanas**	**1.89**	**228**	⇑*e*P	**Pn**	**23 43 18.6**	**-0.5**
CBYP	**Canovanas**	**1.89**	**228**	⇑*e*P	**Pn**	**23 43 18.6**	**-0.5**
HUMP	**Col San Antoni**	**1.98**	**225**	⇓*e*P	**Pn**	**23 43 19.8**	**-0.5**
HUMP	**Col San Antoni**	**1.98**	**225**	⇓*e*P	**Pn**	**23 43 19.8**	**-0.5**
HUMP				*e*S	**Sn**	**23 43 44.3**	**-1.0**
SJG	**San Juan**	**2.21**	**229**	Pn	**Pn**	**23 43 22.6**	**-0.8**
	6.5nm,0.3s,baz=67,slow=15,SNR=7.4						
SJG				Sn	**Sn**	**23 43 51.2**	**+0.3**
	11nm,0.3s,baz=283,slow=13,SNR=8.6						
SJG	**San Juan**	**2.21**	**229**	*e*Pn	**Pn**	**23 43 23.5**	**+0.1**
OBIP	**Obispado Ponce**	**2.59**	**235**	*e*Pn	**Pn**	**23 43 28.5**	**-0.2**
AGP	**Aguadilla**	**2.85**	**247**	*e*Pn	**Pn**	**23 43 32.0**	**-0.3**
MPR	**Mayaguez**	**2.93**	**243**	*e*Pn	**Pn**	**23 43 33.4**	**0.0**
SDDR	**Presa de Saban**	**6.54**	**266**	*e*Pn	**Pn**	**23 44 22.2**	**-0.9**
SDV	**Santo Domingo**	**12.21**	**211**	Pn	Pn	23 45 34.8	-6.3
	0.3nm,0.3s,baz=34,slow=7.3,SNR=1.9						
PTGA	**Pitinga**	**20.63**	**167**	LR	LR	23 54 39.8	
	comp=Z,52nm,19.6s,baz=98,slow=36						
TKL	**Tuckaleechee C**	**23.43**	**317**	P	P	23 48 12.9	+17
	7.0nm,0.8s,baz=124,slow=14,SNR=11						
TXAR	**Lajitas Array**	**36.91**	**293**	P	**P**	**23 49 57.9**	**+1.8**
	0.3nm,0.6s,baz=109,slow=11,SNR=5.2						
YKA	**Yellowknife Ar**	**54.91**	**334**	P	**P**	**23 52 16.9**	**-0.5**
	0.4nm,0.7s,baz=109,slow=7.6,SNR=6.5						

YKA				LR	LR	00 17 00.3	
	comp=Z,11nm,19.9s,baz=90,slow=37						
PLCA	Paso Flores	60.26	185	LR	LR	00 23 02.2	
	comp=Z,35nm,18.6s,baz=120,slow=40						
ILAR	Eielson Array	69.30	333	P	P	23 53 53.8	-0.3
	0.2nm,0.6s,baz=99,slow=4.4,SNR=4.4						

IDC ***10*** *23:48:02.9±0.8, 29°.06N×67°.31E, h0km, mb3.9/21, mb1 4.1/23, mb1mx4.0/48, mbtmp4.0/23, ML3.8/2, MS3.3/4, Ms1 3.3/4, ms1mx2.8/33, Error ellipse: s-maj=18.6km s-min=15.4km az=165.0*

ISCJB ***10*** *23:48:04.8±0.3, 28°.95N±0°.04×67°.51E±0°.04, h33km, mb4.0/29, MS3.4/3, Error ellipse: s-maj=6.0km s-min=4.6km az=178.1*

NEIC ***10*** *23:48:04.8±2.5, 29°.02N×67°.40E, h15km±16km, mb4.2/9, Error ellipse: s-maj=7.6km s-min=5.0km az=158.0*

ISC 10 23:48:07.1±0.4**, 29°.05N**±0°.06×**67°.44E**±0°.05**, h35**km**, n75, σ2^{s}14**/79**, mb4.1**/29**, MS3.3**/3**, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	Thamme Wali	5.25	44	P	Pn	23 49 24.3	+1.2
KBL	Kabul	5.64	14	ePn	Pn	23 49 31.1	+2.4
CEP	Cherat	6.10	38	P	Pn	23 49 35.9	+1.0
CEP				S	Sn	23 50 44.0	+0.5
NIL	Nilore	6.76	46	ePn	Pn	23 49 44.8	+1.0
NIL				eSn	Sn	23 50 56.0	-3.7
WSAR	Wadi Sarin	9.80	236	Pn	Pn	23 50 25.1	-0.5
	0.7nm,0.3s,baz=98,slow=4.5,SNR=11						
WSAR				Sn	Sn	23 52 06.1	-8.4
	1.1nm,0.3s,baz=267,slow=20,SNR=3.8						
WSAR				LR	LR	23 55 08.7	
	comp=Z,83nm,18.2s,baz=337,slow=44						
BTK	Batken	11.33	13	ePn	Pn	23 50 46.8	+0.4
POO	Poona	12.00	149	eP	Pn	23 50 53.0	-2.7
KSH	Kashi	12.59	32	P	Pn	23 50 58.6	-5.2
KSH				pP	P	23 51 03.8	-11
KSH				sP		23 51 07.2	
KSH				S	Sn	23 53 15.0	-7.8
KSH				sS		23 53 20.8	
KSH				pmax	pmax		
	comp=Z,12nm,0.6s						
KSH				pmax	pmax		
	comp=Z,140nm,3.9s						
KSH				LR	LR		
	comp=N,510nm,8.4s						
KSH				LR	LR		
	comp=E,250nm,10.0s						
KSH				LR	LR		
	comp=Z,170nm,7.9s						
JBP	Jabalpur	12.70	115	eP	Pn	23 51 05.4	+0.2
JBP				eS	Sn	23 52 26.0	-59
ARSB	Arslanbob	13.05	19	ePn	Pn	23 51 09.8	-0.3
PYUN	Piuthan	13.70	90	eP	Pn	23 51 17.4	-1.7
	comp=Z,57nm,0.6s						
KKAR	Karatay Array	14.24	9	ePn	Pn	23 51 26.4	+0.2
KOLN	Koldanda	14.28	91	eP	Pn	23 51 25.4	-1.6
	comp=Z,18nm,0.5s						
DANN	Dangsing	14.34	89	eP	Pn	23 51 26.1	-1.8
	comp=Z,40nm,0.6s						
AAK	Ala-Archa	14.71	21	Pn	Pn	23 51 31.6	-1.0
	comp=Z,0.5nm,0.3s,baz=173,slow=6.2,SNR=14						
AAK				Sn	Sn	23 54 08.6	-5.8
	comp=Z,0.2nm,0.3s,baz=356,slow=9.9,SNR=2.9						
AAK	Ala-Archa	14.71	21	ePn	Pn	23 51 31.3	-1.3
AAK				eSn	Sn	23 54 07.8	-6.7
KDJ	Kajisay	15.25	29	ePn	Pn	23 51 38.9	-1.0
	comp=Z,6.6nm,0.9s						
HYB	Hyderabad	15.43	136	i P	P	23 51 48.5	+2.1
DMN	Daman	15.62	91	eP	Pn	23 51 42.2	-2.7
	comp=Z,45nm,0.8s						
KKN	Kakani	15.75	90	eP	Pn	23 51 44.0	-2.5
	comp=Z,14nm,0.5s						
PKIN	Phulchoki	15.88	91	eP	Pn	23 51 45.7	-2.6
	comp=Z,11nm,0.5s						
GUN	Gumba	16.25	90	eP	Pn	23 51 50.4	-2.7
	comp=Z,79nm,0.6s						
JIRN	Jiri	16.57	90	eP	Pn	23 51 54.3	-2.8
	comp=Z,24nm,0.5s						
RAMN	Ramite	17.05	92	eP	Pn	23 52 01.5	-1.6
	comp=Z,32nm,0.5s						
RAYN	Ar Rayn	20.41	259	eP	P	23 52 42.0	+0.7
	comp=Z,11nm,1.5s						
LSA	Lhasa	20.67	82	eP	P	23 52 45.0	+0.5
	comp=Z,6.4nm,0.7s						
ABKAR	Akbulak array	20.98	346	eP	P	23 52 48.5	+1.4
MAKZ	Makanchi	21.05	29	eP	P	23 52 48.2	+0.2
	comp=Z,8.6nm,0.7s						
MK01	Makanchi Array	21.16	29	eP	P	23 52 49.5	+0.4
MKAR	Makanchi Array	21.17	29	P	P	23 52 50.2	+0.9
	comp=Z,1.2nm,0.4s,baz=213,slow=10.0,SNR=4.8						
MKAR				LR	LR	00 02 13.4	
	comp=Z,72nm,18.2s,baz=248,slow=40						
GNI	Garni	21.66	307	eP	P	23 52 54.3	-0.4
	comp=Z,14nm,1.0s						
AKTO	Aktyubinsk	22.52	344	P	P	23 53 03.6	0.0
	comp=Z,3.3nm,0.7s,baz=156,slow=10,SNR=13						
KURBB	Kurchatov Arra	23.12	18	P	P	23 53 10.0	+0.1
	comp=Z,6.4nm,0.8s,baz=212,slow=9.6,SNR=45						
KURK	Kurchatov	23.23	18	eP	P	23 53 11.2	+0.3
BVAR	Borovoye Array	24.05	4	P	P	23 53 19.4	+0.6
	comp=Z,2.2nm,0.6s,baz=168,slow=11,SNR=15						
BRVK	Borovoye	24.08	4	eP	P	23 53 19.5	+0.5
KIV	Kislovodsk	24.72	314	eP	P	23 53 25.7	+0.6
ZALV	Zalesovo Beam	27.92	22	P	P	23 53 54.6	+0.9
	comp=Z,1.9nm,0.5s,baz=233,slow=10,SNR=11						
ZALV	Zalesovo Beam	27.92	22	eP	P	23 53 54.1	+0.4
ATD	Arta Tunnel	28.81	238	eP	P	23 54 01.2	-0.9
	comp=Z,26nm,1.9s						
BRTR	Keskin Array B	29.70	300	P	P	23 54 10.3	+0.4
	comp=Z,0.6nm,0.8s,baz=110,slow=12,SNR=3.4						
SONM	Songino Array	35.34	47	P	P	23 55 01.6	+2.4
	comp=Z,0.9nm,1.0s,baz=248,slow=9.0,SNR=5.4						
SONA1	Songino Array	35.35	47	eP	P	23 54 59.4	+0.1
AKASG	Malin Array Be	35.88	318	P	P	23 55 02.9	-0.6
	comp=Z,0.2nm,0.2s,baz=102,slow=7.7,SNR=4.9						
KIEV	Kiev	35.88	318	eP	P	23 55 04.0	+0.4
	comp=Z,1.4nm,0.5s						
BUR04	Bucovina Ar. S	37.40	312	eP	P	23 55 18.2	+1.5
BUR08	Bucovina Ar. S	37.42	312	eP	P	23 55 18.4	+1.5
HHC	Hu-ho-hao-te	37.67	60	eP	P	23 55 17.2	-1.9
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,6.6s						
FINES	FINESS Array B	42.32	332	P	P	23 55 58.4	+1.2
	comp=Z,2.0nm,0.8s,baz=107,slow=9.8,SNR=6.9						
GEA0	GERESS Array S	45.19	311	eP	P	23 56 21.3	+0.7
GERES	GERESS Array B	45.19	311	P	P	23 56 21.1	+0.5
	comp=Z,0.4nm,0.5s,baz=111,slow=7.5,SNR=3.9						
ARCES	ARCESS Array B	47.05	341	P	P	23 56 36.1	+1.2
	comp=Z,2.7nm,0.7s,baz=111,slow=6.9,SNR=10						
ARCES	ARCESS Array B	47.05	341	eP	P	23 56 35.6	+0.7
NB2	NORSAR Subarra	48.78	327	P	P	23 56 48.4	0.0
	comp=Z,0.6nm,0.6s,baz=107,slow=7.9						
NOA	NORSAR Array B	48.78	327	P	P	23 56 48.7	+0.3
	comp=Z,0.8nm,0.7s,baz=107,slow=7.4,SNR=4.3						
NOA				LR	LR	00 21 33.3	
	comp=Z,31nm,18.1s,baz=255,slow=41						
KSAR	Wonju Array Be	50.49	64	P	P	23 57 03.8	+2.1
KSRS	Korea Array	50.52	64	P	P	23 57 03.8	+1.9
	comp=Z,1.4nm,0.6s,baz=270,slow=7.3,SNR=5.9						
TAM	Tamanrasset	55.50	279	eP	P	23 57 39.2	+0.2
	comp=Z,2.0nm,1.0s						
ESDC	Sonseca Array	58.49	301	P	P	23 58 00.6	+0.7
	comp=Z,1.0nm,0.6s,baz=68,slow=7.4,SNR=9.8						
MAJO	Matsushiro	58.76	63	eP	P	23 58 02.4	+0.7
PAB	San Pablo	58.81	301	eP	P	23 58 03.0	+0.9
	comp=Z,1.6nm,0.6s						
SEY	Seymchan	62.30	31	P	P	23 58 27.1	+1.7
	comp=Z,1.3nm,0.4s,baz=219,slow=3.8,SNR=4.7						
TOA0	Torodi Ar. Sit	62.64	270	eP	P	23 58 28.4	-0.1
TORD	Torodi Ar. Bea	62.64	270	P	P	23 58 27.9	-0.5
	comp=Z,1.4nm,0.8s,baz=59,slow=6.4,SNR=9.1						
DBIC	Dimbokro	71.32	267	P	P	23 59 23.6	-0.1
	comp=Z,2.3nm,0.7s,baz=153,slow=2.2,SNR=3.2						
IM3	Indian Mountai	80.15	16	eP	P	00 00 13.8	+0.5
WRA	Warramunga Arr	80.83	119	P	P	00 00 19.6	+2.0
	comp=Z,1.4nm,1.0s,baz=323,slow=4.7,SNR=6.6						
INK	Inuvik	81.69	8	eP	P	00 00 22.7	+1.3
	comp=Z,0.8nm,0.5s						
ASAR	Alice Springs	82.66	122	P	P	00 00 29.0	+1.8
	comp=Z,0.9nm,0.6s,baz=310,slow=5.1,SNR=8.9						
AS01	Alice Springs	82.69	122	eP	P	00 00 26.3	-1.1
ILAR	Eielson Array	82.73	14	P	P	00 00 27.3	+0.4
	comp=Z,0.1nm,0.5s,baz=314,slow=3.7,SNR=3.6						
YKA	Yellowknife Ar	88.76	1	P	P	00 00 58.4	+1.5
	comp=Z,0.6nm,0.5s,baz=352,slow=4.9,SNR=17						
YKB5	Yellowknife Ar	88.76	1	eP	P	00 00 58.0	+1.2
CTAO	Charters Tower	90.30	113	eP	P	00 01 05.4	+0.6
STKA	Stephens Creek	92.89	125	LR	LR	00 50 13.9	
	comp=Z,20nm,18.1s,baz=207,slow=40						

SOF ***11*** *00:30:12.9, 39°.22N×25°.73E, h2km, MD4.0*

BEO ***11*** *00:30:18.2±0.7, 39°.51N×25°.85E, h10km, ML4.7/15*

DDA ***11*** *00:30:19.8, 39°.68N×25°.52E, h27km±1km, ML4.6*

ISK ***11*** *00:30:19.8, 39°.69N×25°.50E, h8km, ML4.7/45*

IDC ***11*** *00:30:19.3±0.6, 39°.66N×25°.50E, h0km, mb3.9/19, mb1 4.1/30, mb1mx4.0/44, mbtmp4.0/30, ML3.8/12, MS3.4/16, Ms1 3.4/16, ms1mx3.2/46, Error ellipse: s-maj=11.2km s-min=9.8km az=170.0*

ATH ***11*** *00:30:20.5, 39°.66N×25°.51E, h30km, ML4.4/34, Error ellipse: s-maj=0.9km s-min=0.6km az=78.0*

PDG ***11*** *00:30:20.6±0.6, 39°.65N×25°.52E, h16km, ML4.0/9, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*

MED_RC ***11*** *00:30:20.0±0.4, 39°.68N×25°.50E, h10km, MW4.3/16, Moment Tensor Solution. Mantle waves: s16,c16; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.78±.24; $M_{\theta\theta}$3.01±.18; $M_{\phi\phi}$-2.24±.23; $M_{r\theta}$0.17±.79; $M_{\theta\phi}$-1.96±.28; $M_{\phi r}$-2.54±.64; Best double couple: $M_0$4.18000×10^{15} NP1:ϕ_s330.00000°, δ77.00000°, λ-35.00000°. NP2:ϕ_s69.00000°, δ56.00000°, λ-165.00000°. Principal axes: T 3.9000, Plg14.0000°, Azm23.0000°; N 0.5500, Plg53.0000°, Azm133.0000°; P -4.4500, Plg33.0000°, Azm284.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

MOS ***11*** *00:30:20.9±1.1, 39°.71N×25°.63E, h25km, mb4.2/19 Error ellipse: s-maj=4.8km s-min=3.8km az=95.1*

NEIC ***11*** *00:30:21.1±0.0, 39°.66N×25°.52E, h10km, mb4.3/6, MW4.3, ML4.4(THE), ML4.6(ISK), Moment Tensor Solution. s33 Moment tensor: Scale 10^{15}Nm; M_{rr}0.33; $M_{\theta\theta}$2.26; $M_{\phi\phi}$-2.59; $M_{r\theta}$-0.41; $M_{\theta\phi}$-1.87; $M_{\phi r}$-0.88; Best double couple: $M_0$3.20000×10^{15} NP1:ϕ_s333.00000°, δ78.00000°, λ-8.00000°. NP2:ϕ_s65.00000°, δ82.00000°, λ-168.00000°. Principal axes: T 2.9000, Plg3.0000°, Azm198.0000°; N 0.5700, Plg76.0000°, Azm99.0000°; P -3.4700, Plg14.0000°, Azm289.0000°; After THE.*

THE ***11*** *00:30:21.1, 39°.66N×25°.52E, h10km, ML4.4/16 Error ellipse: s-maj=0.8km s-min=0.3km az=76.0*

ISCJB ***11*** *00:30:21.2±0.2, 39°.662N±0°.009×25°.51E±0°.01, h24km±2km, mb4.2/36, MS3.4/11, Error ellipse: s-maj=1.5km s-min=1.4km az=5.3*

ISC 11 00:30:21.7±0.8**, 39°.67N**±0°.01×**25°.52E**±0°.01**, h15**km±5km**, n661, σ1^{s}32**/765**, mb4.1**/36**, MS3.4**/11**, 26C-21D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.35	312	P	Pg	00 30 28.6	-0.2
LIA				S	Sg	00 30 33.7	0.0
LIA	Limnos Island	0.35	312	P	Pg	00 30 28.7	-0.1
LIA				S	Sg	00 30 33.7	0.0
LIA				AML	AML	00 30 33.9	
LIA				AML	AML	00 30 34.1	
LIA	Limnos Island	0.35	312	P	Pg	00 30 28.6	-0.2
LIA				S	Sg	00 30 33.7	0.0
EFSA	Agios Efstrati	0.43	253	P	Pb	00 30 31.2	+0.2
EFSA				S	Sb	00 30 36.9	-0.4
EFSA				AML	AML	00 30 37.9	
EFSA				AML	AML	00 30 41.0	
BOZC	Bozcaada	0.45	67	PG	Pg	00 30 29.4	-1.2
BOZC				SG	Sg	00 30 35.2	-1.5
BOZC	Bozcaada	0.45	67	Pg	Pg	00 30 29.6	-1.1
BOZC	Bozcaada	0.45	67	⇑iP	Pg	00 30 29.9	-0.8
SIGR	SIGRI	0.53	150	PG	Pg	00 30 31.0	-1.1
SIGR				SG	Sg	00 30 38.6	-0.5
SIGR	SIGRI	0.53	150	P	Pg	00 30 31.0	-1.1
SIGR				S	Sg	00 30 38.6	-0.5
SIGR	SIGRI	0.53	150	P	Pg	00 30 31.3	-0.8
SIGR				S	Sg	00 30 38.9	-0.2
SIGR				AML	AML	00 30 39.5	
SIGR				AML	AML	00 30 39.5	
SIGR	SIGRI	0.53	150	P	Pg	00 30 31.0	-1.1
SIGR				S	Sg	00 30 38.6	-0.5
GADA	Gvkgeada	0.60	29	Pg	Pg	00 30 32.5	-0.9
GADA				S	Sb	00 30 41.7	-0.5
GADA	Gvkgeada	0.60	29	P	Pg	00 30 32.6	-0.9
GADA				S	Sb	00 30 41.7	-0.5
GOKC	Gokceada-Canak	0.61	30	PG	Pg	00 30 32.0	-1.7
GOKC				SG	Sg	00 30 41.3	-0.6
EZN	Ezine	0.64	75	PG	Pg	00 30 33.0	-1.2
EZN	Ezine	0.64	75	Pg	Pg	00 30 33.0	-1.2
EZN				S	Sg	00 30 41.5	-1.2
EZN	Ezine	0.64	75	P	Pg	00 30 33.0	-1.2
EZN				S	Sg	00 30 41.5	-1.2
EZN	Ezine	0.64	75	P	Pg	00 30 33.0	-1.2
EZN				S	Sg	00 30 41.5	-1.2
PRK	Paraskevi	0.72	126	P	Pb	00 30 35.7	-0.3
PRK				S	Sb	00 30 45.7	+0.1
PRK	Paraskevi	0.72	126	P	Pb	00 30 35.6	-0.3
PRK				S	Sb	00 30 46.0	+0.4
PRK				AML	AML	00 30 49.1	
PRK				AML	AML	00 30 50.4	
PRK	Paraskevi	0.72	126	P	Pb	00 30 35.7	-0.3
PRK				S	Sb	00 30 45.7	+0.1
PRK	Paraskevi	0.72	126	P	Pb	00 30 35.7	-0.3
PRK				S	Sb	00 30 45.7	+0.1
BAYC	CANAKKALE_Bayr	0.80	84	⇓iP	Pg	00 30 36.6	-0.5
BAYC				iS	Sg	00 30 46.8	-0.9
SMTH	Samothraki Isl	0.80	1	P	Pg	00 30 36.5	-0.8
SMTH				S	Sb	00 30 48.2	+0.1
SMTH	Samothraki Isl	0.80	1	P	Pg	00 30 36.5	-0.8
SMTH				S	Sg	00 30 47.7	-0.2
SMTH				AML	AML	00 30 50.1	
	comp=N,27032μm,0.5s						
SMTH				AML	AML	00 30 50.8	
	comp=E,36969μm,0.6s						
SMTH	Samothraki Isl	0.80	1	P	Pg	00 30 36.5	-0.8
SMTH				S	Sb	00 30 48.2	+0.1
AYVA	Ayvalik	0.97	111	IAML_P			
	comp=Z,72μm,0.4s						
AYVA				⇓iP	Pg	00 30 39.2	-1.3
AYVA				iS	Sn	00 30 54.4	0.0
GELI	Tayfur-Gelibol	1.03	45	PG	Pb	00 30 40.1	-1.2
GELI				SG	Sg	00 30 54.8	-0.4
GELI	Tayfur-Gelibol	1.03	45	Pn	Pb	00 30 40.1	-1.2
SKY	Skiros Island	1.09	224	P	Pb	00 30 41.4	-0.9
SKY				S	Sn	00 30 57.2	-0.1
SKY	Skiros Island	1.09	224	P	Pb	00 30 41.3	-0.9
SKY				S	Sb	00 30 56.0	-0.3
SKY				AML	AML	00 30 58.0	
	comp=N,86561μm,0.2s						
SKY				AML	AML	00 30 58.1	
	comp=E,91017μm,0.3s						
SKY	Skiros Island	1.09	224	P	Pb	00 30 41.4	-0.9
SKY				S	Sn	00 30 57.2	-0.1
THAS	Thassos island	1.12	327	P	Pb	00 30 41.8	-0.9
THAS				S	Sb	00 30 57.1	-0.1
THAS				AML	AML	00 30 58.1	
	comp=E,54113μm,0.8s						
THAS				AML	AML	00 30 59.5	
	comp=N,55003μm,0.4s						
THAS	Thassos island	1.12	327	P	Pb	00 30 41.9	-0.9
THAS				S	Sb	00 30 57.1	-0.1
PSRA	Psara	1.12	178	P	Pn	00 30 42.7	-0.2
PSRA				S	Sn	00 30 58.0	-0.1
PSRA				AML	AML	00 31 00.1	
	comp=E,54161μm,0.3s						
PSRA				AML	AML	00 31 00.2	
	comp=N,57169μm,0.3s						
ENEZ	Enez	1.17	24	PN	Pb	00 30 42.4	-1.3
LPK	Lapseki	1.18	53	PN	Pn	00 30 42.5	-1.3
DKL	Dikili	1.23	119	PN	Pn	00 30 44.1	-0.3
ERIK	Erikli-Kesan	1.26	37	PN	Pn	00 30 43.9	-0.9
ERIK	Erikli-Kesan	1.26	37	Pn	Pn	00 30 43.9	-0.9
ALN	Alexandroupoli	1.29	18	PN	Pn	00 30 44.2	-1.1
ALN	Alexandroupoli	1.29	18	ePn	Pn	00 30 44.1	-1.1
ALN	Alexandroupoli	1.29	18	P	Pn	00 30 44.4	-0.9
ALN				S	Sb	00 31 02.3	+0.1
ALN				AML	AML	00 31 10.6	
	comp=E,12256μm,0.8s						
ALN				AML	AML	00 31 13.5	
	comp=N,15728μm,1.0s						
ALN	Alexandroupoli	1.29	18	P	Pn	00 30 44.2	-1.1
ALN				S	Sn	00 31 02.7	+0.4
ALN	Alexandroupoli	1.29	18	eP	Pn	00 30 44.2	-1.1
FOCM	Foa	1.34	135	PN	Pb	00 30 46.1	-0.4
KRBN	Karaburun	1.34	143	PN	Pn	00 30 45.9	0.0
CHOS	Chios island	1.34	162	PN	Pn	00 30 45.0	-1.1
CHOS	Chios island	1.34	162	P	Pn	00 30 45.0	-1.1
CHOS	Chios island	1.34	162	P	Pn	00 30 45.2	-0.9
CHOS				S	Sb	00 31 03.5	-0.2
CHOS				AML	AML	00 31 11.9	
	comp=N,41385μm,0.7s						
CHOS				AML	AML	00 31 14.6	
	comp=E,57117μm,0.6s						
CHOS	Chios island	1.34	162	P	Pn	00 30 45.0	-1.1
CHOS				S	Sn	00 31 03.8	+0.1
AOS	Alonnisos	1.36	249	PN	Pn	00 30 45.3	-1.0
AOS	Alonnisos	1.36	249	P	Pn	00 30 45.2	-1.0
AOS	Alonnisos	1.36	249	P	Pn	00 30 45.4	-0.8
AOS				S	Sb	00 31 02.9	-1.3
AOS				AML	AML	00 31 06.9	
	comp=N,26605μm,0.8s						
AOS				AML	AML	00 31 11.9	
	comp=E,21157μm,0.4s						
AOS	Alonnisos	1.36	249	P	Pn	00 30 45.2	-1.0
AOS				S	Sb	00 31 03.3	-0.9
ALNA	Alonissos	1.38	248	P	Pn	00 30 45.5	-1.0
ALNA				S	Sb	00 31 04.7	0.0
ALNA				AML	AML	00 31 08.6	
	comp=E,57103μm,0.5s						
ALNA				AML	AML	00 31 10.3	
	comp=N,49052μm,0.7s						
PAIG	Paliouri	1.44	281	P	Pn	00 30 46.1	-1.2
PAIG	Paliouri	1.44	281	P	Pn	00 30 46.2	-1.1
PAIG				AML	AML	00 31 12.7	
	comp=E,8289μm,0.4s						
PAIG				AML	AML	00 31 16.6	
	comp=N,7938μm,0.5s						
PAIG	Paliouri	1.44	281	P	Pn	00 30 46.1	-1.2
PAIG				S	Sg	00 31 07.0	-1.2
PAIG	Paliouri	1.44	281	P	Pn	00 30 46.1	-1.2
KESN	Edirne-Kesan	1.46	37	⇑iP	Pn	00 30 47.7	-0.2
KESN				iS	Sn	00 31 06.9	-0.1
RDO	Rodhopi	1.48	1	PN	Pn	00 30 46.7	-1.1
RDO	Rodhopi	1.48	1	P	Pn	00 30 46.6	-1.2
RDO	Rodhopi	1.48	1	P	Pn	00 30 47.0	-0.8
RDO				S	Sb	00 31 07.5	0.0
RDO				AML	AML	00 31 09.0	
	comp=N,8296μm,0.6s						
RDO				AML	AML	00 31 14.1	
	comp=E,5753μm,0.6s						
RDO	Rodhopi	1.48	1	P	Pn	00 30 46.6	-1.2
RDO				S	Sg	00 31 08.3	-1.0
KAVA	Kavala	1.53	330	P	Pn	00 30 47.7	-0.9
KAVA	Kavala	1.53	330	P	Pn	00 30 48.4	-0.2
KAVA				S	Sn	00 31 06.7	-1.6
KAVA				AML	AML	00 31 12.8	
	comp=E,23568μm,0.4s						
KAVA				AML	AML	00 31 14.8	
	comp=N,13921μm,0.4s						
KAVA	Kavala	1.53	330	P	Pn	00 30 47.7	-0.9
KVLA	Kavala	1.54	326	P	Pn	00 30 48.5	-0.1
KVLA				S	Sn	00 31 08.5	+0.1
KVLA				AML	AML	00 31 12.8	
	comp=E,23794μm,0.4s						
KVLA				AML	AML	00 31 13.1	
	comp=N,20988μm,0.4s						
KRBG	Karabiga-Canak	1.54	61	PN	Pn	00 30 48.7	0.0
KRBG	Karabiga-Canak	1.54	61	Pn	Pn	00 30 48.7	0.0
URLA	Izmir	1.55	147	PN	Pn	00 30 47.9	-1.0
URLA	Izmir	1.55	147	⇑iP	Pn	00 30 48.7	-0.2
URLA				iS	Sn	00 31 07.5	-1.2
BALY	Balya	1.62	87	⇑iP	Pn	00 30 49.6	-0.3
BALY				iS	Sn	00 31 10.3	-0.2
SART	Tekirdag	1.63	51	⇑iP	Pn	00 30 49.5	-0.5
SART				iS	Sb	00 31 12.6	+0.6
KNL	Balıkesir	1.66	68	⇓iP	Pb	00 30 51.6	-0.3
KNL				iS	Sg	00 31 14.3	-0.7
SKIA	Skiathos	1.67	253	P	Pn	00 30 49.4	-1.0
SKIA				AML	AML	00 31 18.3	
	comp=N,25167μm,0.6s						
SKIA				AML	AML	00 31 19.0	
	comp=E,29112μm,0.4s						
SKIA	Skiathos	1.67	253	P	Pn	00 30 49.4	-1.0
SKIA				S	Sn	00 31 11.3	-0.3
GONE	Gonen-Balikesi	1.71	77	PN	Pn	00 30 51.1	+0.1
GONE	Gonen-Balikesi	1.71	77	Pn	Pn	00 30 51.1	+0.1
STEP	BALIKESIR_Sava	1.73	99	⇑iP	Pn	00 30 51.8	+0.6
STEP				iS	Sg	00 31 17.4	+0.1
PLG	Polygyros	1.74	295	P	Pn	00 30 51.3	-0.2
PLG	Polygyros	1.74	295	P	Pn	00 30 51.2	-0.2
PLG				S	Sn	00 31 12.2	-1.3
PLG				AML	AML	00 31 22.4	
	comp=E,6203μm,0.4s						
PLG				AML	AML	00 31 23.5	
	comp=N,6969μm,0.5s						
PLG	Polygyros	1.74	295	P	Pn	00 30 51.3	-0.2
PLG	Polygyros	1.74	295	P	Pn	00 30 51.3	-0.2
BLCB	Balcova	1.75	137	PN	Pn	00 30 51.3	-0.2
BLCB	Balcova	1.75	137	Pn	Pn	00 30 51.3	-0.2
EREA	Eretria	1.76	225	P	Pn	00 30 50.4	-1.3
EREA				AML	AML	00 31 20.4	
	comp=N,24502μm,0.4s						
EREA				AML	AML	00 31 20.8	
	comp=E,24388μm,0.5s						
EREA	Eretria	1.76	225	P	Pn	00 30 50.3	-1.3
EREA				S	Sn	00 31 12.4	-1.4
MRKA	Markates	1.78	238	P	Pn	00 30 50.8	-1.2
MRKA				AML	AML	00 31 19.1	
	comp=N,22516μm,0.6s						
MRKA				AML	AML	00 31 20.0	
	comp=E,23731μm,0.7s						
MRKA	Markates	1.78	238	P	Pn	00 30 50.8	-1.2
MRKA				S	Sn	00 31 15.0	+0.5
NEO	Neokhori	1.81	259	P	Pn	00 30 51.3	-1.1
NEO				S	Sn	00 31 15.1	-0.1
NEO	Neokhori	1.81	259	P	Pn	00 30 51.4	-1.1
NEO				AML	AML	00 31 21.0	
	comp=N,18586μm,0.6s						
NEO				AML	AML	00 31 23.6	
	comp=E,8657μm,0.3s						
NEO	Neokhori	1.81	259	P	Pn	00 30 51.3	-1.1
NEO				S	Sn	00 31 15.1	-0.1
BALB	Balikesir	1.82	90	PN	Pn	00 30 52.2	-0.3
BALB	Balikesir	1.82	90	Pn	Pn	00 30 52.2	-0.3
XOR	Xorichti	1.83	261	P	Pn	00 30 51.0	-1.6
XOR				S	Sn	00 31 16.3	+0.8
XOR	Xorichti	1.83	261	P	Pn	00 30 51.7	-1.0
XOR				AML	AML	00 31 21.4	
	comp=E,7888μm,0.5s						
XOR				AML	AML	00 31 26.7	
	comp=N,10159μm,0.8s						
XOR	Xorichti	1.83	261	P	Pn	00 30 51.0	-1.6
XOR				S	Sn	00 31 16.3	+0.8
KARY	Karystos	1.84	208	P	Pn	00 30 51.1	-1.7
EDC	Edincik	1.92	69	PN	Pn	00 30 53.9	-0.1
EDC	Edincik	1.92	69	Pn	Pn	00 30 53.9	-0.1
GMLD	Gumuldur	1.93	145	PN	Pn	00 30 54.2	+0.2
SBT4	Kumbag-Tekirda	1.93	52	PN	Pn	00 30 53.5	-0.4
DGB	zmir	1.93	146	i P	Pn	00 30 53.9	-0.1
DGB				iS	Sb	00 31 21.3	+0.8
AKHS	Akhisar	1.95	113	⇑iP	Pn	00 30 54.8	+0.5
AKHS				iS	Sg	00 31 24.9	+0.5
SMIA	Simia	1.96	247	P	Pn	00 30 53.9	-0.5
SMIA				AML	AML	00 31 27.9	
	comp=N,59526μm,0.6s						
SMIA				AML	AML	00 31 29.6	
	comp=E,52240μm,0.8s						
SMIA	Simia	1.96	247	P	Pn	00 30 53.6	-0.9
SMIA				S	Sn	00 31 17.7	-1.1
KDZ	Kurdzhali	1.98	358	Pn	Pn	00 30 52.7	-2.1
KDZ	Kurdzhali	1.98	358	P	Pn	00 30 52.7	-2.1
KDZ	Kurdzhali	1.98	358	i P	Pb	00 30 57.8	+0.3
FYTO	Fytoko, Volos	2.01	263	P	Pn	00 30 54.2	-1.0
FYTO				S	Sn	00 31 21.0	+0.9
FYTO	Fytoko, Volos	2.01	263	P	Pn	00 30 54.4	-0.7
FYTO	Fytoko, Volos	2.01	263	P	Pn	00 30 54.2	-1.0
FYTO				S	Sn	00 31 21.0	+0.9
DION	Dionisos Attik	2.01	218	P	Pn	00 30 53.7	-1.5
DION				AML	AML	00 31 28.2	
	comp=E,8309μm,0.4s						

DION				AML	AML	00 31 31.4	
	comp=N,10148µm,0.8s						
SOH	Sokhos	2.02	305	P	Pn	00 30 54.8	-0.5
SOH	Sokhos	2.02	305	P	Pn	00 30 55.1	-0.3
SOH				AML	AML	00 31 29.1	
	comp=N,9984µm,0.7s						
SOH				AML	AML	00 31 29.9	
	comp=E,17818µm,0.8s						
SOH	Sokhos	2.02	305	P	Pn	00 30 54.8	-0.5
SOH	Sokhos	2.02	305	P	Pn	00 30 54.8	-0.5
TKR	Tekirdag	2.03	49	PN	Pn	00 30 55.2	-0.2
TKR	Tekirdag	2.03	49	Pn	Pn	00 30 55.2	-0.2
SRS	Serrai	2.06	315	ePn	Pn	00 30 55.5	-0.4
SRS				eSn	Sg	00 31 26.3	-1.8
SRS	Serrai	2.06	315	P	Pn	00 30 55.5	-0.4
SRS	Serrai	2.06	315	P	Pn	00 30 55.3	-0.6
SRS				AML	AML	00 31 29.0	
	comp=N,8193µm,0.6s						
SRS				AML	AML	00 31 29.1	
	comp=E,18732µm,0.4s						
SRS	Serrai	2.06	315	P	Pn	00 30 55.5	-0.4
SRS	Serrai	2.06	315	P	Pn	00 30 55.5	-0.4
PTL	Penteli	2.07	219	P	Pn	00 30 54.3	-1.7
PTL	Penteli	2.07	219	P	Pn	00 30 54.5	-1.5
PTL				AML	AML	00 31 29.2	
	comp=E,8216µm,0.7s						
PTL				AML	AML	00 31 31.2	
	comp=N,8871µm,0.5s						
PTL	Penteli	2.07	219	P	Pn	00 30 54.3	-1.7
HORT	Hortiatis	2.08	297	PN	Pn	00 30 55.4	-0.7
HORT	Hortiatis	2.08	297	P	Pn	00 30 55.7	-0.4
HORT	Hortiatis	2.08	297	P	Pn	00 30 55.7	-0.4
HORT	Hortiatis	2.08	297	P	Pn	00 30 55.7	-0.4
GOMA	Golmarmara-Man	2.10	116	PN	Pn	00 30 56.7	+0.4
NVR	Nevrokopi	2.10	324	P	Pn	00 30 56.1	-0.4
NVR	Nevrokopi	2.10	324	P	Pn	00 30 56.2	-0.3
NVR				AML	AML	00 31 32.6	
	comp=E,9568µm,0.6s						
NVR				AML	AML	00 31 34.6	
	comp=N,5715µm,0.4s						
NVR	Nevrokopi	2.10	324	P	Pn	00 30 56.1	-0.4
RZN	Rozhen	2.11	343	iP	Pn	00 30 56.5	-0.2
TNSA	Tinos	2.14	188	P	Pn	00 30 55.9	-1.0
ATAL	Atalanti	2.17	244	P	Pn	00 30 56.4	-1.0
ATAL	Atalanti	2.17	244	P	Pn	00 30 56.7	-0.7
ATAL				AML	AML	00 31 31.9	
	comp=E,5431µm,0.5s						
ATAL				AML	AML	00 31 35.6	
	comp=N,5783µm,1.0s						
ATAL	Atalanti	2.17	244	P	Pn	00 30 56.4	-1.0
ATHU	Athens Univers	2.17	219	P	Pn	00 30 56.1	-1.3
ATHU	Athens Univers	2.17	219	P	Pn	00 30 55.9	-1.5
ATHU				AML	AML	00 31 32.4	
	comp=N,4140µm,0.6s						
ATHU				AML	AML	00 31 32.6	
	comp=E,1959µm,0.8s						
ATHU	Athens Univers	2.17	219	P	Pn	00 30 56.1	-1.3
THE	Thessaloniki	2.18	297	P	Pn	00 30 57.1	-0.4
THE	Thessaloniki	2.18	297	P	Pn	00 30 57.4	-0.1
THE	Thessaloniki	2.18	297	P	Pn	00 30 57.1	-0.4
THE	Thessaloniki	2.18	297	P	Pn	00 30 57.1	-0.4
ATH	Athens Observa	2.20	220	P	Pn	00 30 56.6	-1.2
ATH	Athens Observa	2.20	220	P	Pn	00 30 56.6	-1.2
ATH				AML	AML	00 31 31.7	
	comp=E,11522µm,0.8s						
ATH				AML	AML	00 31 35.5	
	comp=N,9108µm,0.6s						
ATH	Athens Observa	2.20	220	P	Pn	00 30 56.6	-1.2
ATH	Athens Observa	2.20	220	P	Pn	00 30 56.6	-1.2
LKR	Lokris	2.21	243	P	Pn	00 30 55.0	-2.8
LKR	Lokris	2.21	243	P	Pn	00 30 55.0	-2.8
SMG	Samos	2.21	152	P	Pn	00 30 57.4	-0.5
SMG				S	Sn	00 31 23.6	-1.4
SMG	Samos	2.21	152	P	Pn	00 30 57.3	-0.5
SMG				AML	AML	00 31 34.9	
	comp=E,10030µm,0.5s						
SMG				AML	AML	00 31 35.3	
	comp=N,15562µm,0.5s						
SMG	Samos	2.21	152	P	Pn	00 30 57.4	-0.5
SMG				S	Sn	00 31 23.6	-1.4
CRLT	Corlu	2.23	49	PN	Pn	00 30 57.7	-0.5
CRLT	Corlu	2.23	49	Pn	Pn	00 30 57.7	-0.5
KCTX	Karacabey (Bur	2.26	74	PN	Pn	00 30 58.6	0.0
VLY	Voula,Athens	2.26	217	P	Pn	00 30 57.0	-1.5
VLY	Voula,Athens	2.26	217	P	Pn	00 30 57.1	-1.5
VLY				AML	AML	00 31 32.8	
	comp=N,11401µm,0.7s						
VLY				AML	AML	00 31 42.0	
	comp=E,9517µm,0.8s						
VLY	Voula,Athens	2.26	217	P	Pn	00 30 57.0	-1.5
VIL2	Platees	2.28	231	P	Pn	00 30 57.6	-1.2
DURS	Dursunbey	2.28	91	⇑iP	Pn	00 30 59.0	+0.1
DURS				iS	Sn	00 31 27.0	+0.1
VILL	Villia	2.29	230	P	Pn	00 30 57.7	-1.3
MMB	Musomiste	2.35	325	P	Pn	00 30 59.4	-0.5
EDRB	Edirne	2.37	23	PN	Pn	00 30 58.9	-1.1
EDRB	Edirne	2.37	23	Pn	Pn	00 30 59.1	-0.9
LIT	Litokhoron	2.37	281	ePn	Pn	00 30 59.6	-0.5
LIT	Litokhoron	2.37	281	P	Pn	00 30 59.7	-0.5
LIT	Litokhoron	2.37	281	P	Pn	00 30 59.5	-0.6
LIT	Litokhoron	2.37	281	eP	Pn	00 30 59.6	-0.5
GCAM	G?zelcaml?	2.38	145	PN	Pn	00 31 00.3	+0.1
GCAM	G?zelcaml?	2.38	145	iP	Pn	00 31 00.6	+0.4
GCAM				iS	Sb	00 31 33.9	+0.4
DIM	Dimitrovgrad	2.38	0	iP	Pn	00 31 00.1	-0.1
DST	Dursunbey	2.39	91	PN	Pn	00 31 00.6	+0.1
DST	Dursunbey	2.39	91	P	Pn	00 31 00.6	+0.1
DST	Dursunbey	2.39	91	P	Pn	00 31 00.6	+0.1
LRSO	Larissa Observ	2.42	271	P	Pn	00 31 00.5	-0.2
PROD	Prodromos	2.48	236	P	Pn	00 31 00.4	-1.2
PROD	Prodromos	2.48	236	P	Pn	00 31 00.4	-1.2
PHSR	Pinarhisar	2.48	37	PN	Pn	00 31 01.5	-0.2
KNT	Kendrikon	2.50	308	P	Pn	00 31 02.2	+0.4
KNT	Kendrikon	2.50	308	P	Pn	00 31 02.1	+0.2
KNT	Kendrikon	2.50	308	P	Pn	00 31 02.2	+0.4
PLD	Plovdiv	2.51	346	ePn	Pn	00 31 01.7	-0.3
PLD	Plovdiv	2.51	346	P	Pn	00 31 02.0	0.0
PLD	Plovdiv	2.51	346	iP	Pn	00 31 02.5	+0.5
AYDB	Zeytinkoy-Aydi	2.53	132	PN	Pn	00 31 02.1	-0.3
DEMI	Demirci	2.56	103	⇑iP	Pn	00 31 03.3	+0.6
DEMI				iS	Sg	00 31 42.5	-1.4
AGG	Agios Georgios	2.56	256	ePn	Pn	00 31 02.1	-0.5
AGG	Agios Georgios	2.56	256	P	Pn	00 31 02.4	-0.3
AGG				AML	AML	00 31 48.0	
	comp=E,3434µm,1.5s						
AGG				AML	AML	00 31 52.4	
	comp=N,3036µm,0.7s						
AGG	Agios Georgios	2.56	256	P	Pn	00 31 01.9	-0.8
SLVT	Silivri	2.58	52	PN	Pn	00 31 02.5	-0.4
SLVT	Silivri	2.58	52	Pn	Pn	00 31 02.5	-0.4
LTK	Loutraki	2.58	231	P	Pn	00 31 02.0	-1.0
LTK	Loutraki	2.58	231	P	Pn	00 31 02.1	-1.0
LTK	Loutraki	2.58	231	P	Pn	00 31 02.0	-1.0
APE	Apeiranthos	2.59	180	P	Pn	00 31 01.2	-2.0
APE	Apeiranthos	2.59	180	P	Pn	00 31 01.5	-1.8
APE	Apeiranthos	2.59	180	P	Pn	00 31 01.2	-2.0
APE	Apeiranthos	2.59	180	c iP	Pn	00 31 01.0	-2.2
LOUT	Loutraki	2.60	231	P	Pn	00 31 02.3	-1.0
LOUT	Loutraki	2.60	231	P	Pn	00 31 02.2	-1.0
ORLT	Orhaneli	2.63	81	PN	Pn	00 31 03.4	-0.2
ORLT	Orhaneli	2.63	81	Pn	Pn	00 31 03.4	-0.2
SERI	Serifos	2.63	198	P	Pn	00 31 02.2	-1.5
SERI	Serifos	2.63	198	P	Pn	00 31 02.2	-1.5
MANT	Manisa	2.64	115	ePn	Pn	00 31 04.3	+0.3
MANT	Manisa	2.64	115	iP	Pn	00 31 04.2	+0.2
MANT				iS	Sb	00 31 42.3	+1.1
DSF	Desfina	2.65	243	P	Pn	00 31 02.8	-1.2
DSF	Desfina	2.65	243	P	Pn	00 31 02.8	-1.2
DSF	Desfina	2.65	243	P	Pn	00 31 02.8	-1.2
ELBA	Catalca	2.67	55	iP	Pn	00 31 04.8	+0.6
ELBA				iS	Sb	00 31 43.8	+2.0
MDNY	Mudanya-Bursa	2.68	74	PN	Pn	00 31 04.5	+0.2
KULA	Kula-Manisa	2.70	114	PN	Pn	00 31 05.0	+0.3
KULA	Kula-Manisa	2.70	114	Pn	Pn	00 31 05.0	+0.3
GRG	Griva	2.71	299	P	Pn	00 31 05.3	+0.5
GRG	Griva	2.71	299	P	Pn	00 31 05.5	+0.7
GRG	Griva	2.71	299	P	Pn	00 31 05.3	+0.5
GRG	Griva	2.71	299	P	Pn	00 31 05.3	+0.5
THL	Klokotos Trika	2.71	269	P	Pn	00 31 04.3	-0.4
THL	Klokotos Trika	2.71	269	P	Pn	00 31 04.3	-0.4
ARMT	Armutlu	2.71	70	PN	Pn	00 31 04.6	-0.2
ARMT	Armutlu	2.71	70	Pn	Pn	00 31 05.9	+1.0
AYDN	Tasoluk	2.73	137	iP	Pn	00 31 05.4	+0.4
AYDN				iS	Sg	00 31 47.1	-2.1
SBT5	Esenkoy-Cinarc	2.75	68	PN	Pn	00 31 05.7	+0.5
CTKS	Kestanelik-??a	2.77	55	PN	Pn	00 31 05.1	-0.4
CTKS	Kestanelik-??a	2.77	55	Pn	Pn	00 31 05.1	-0.4
CTYL	Yalikoy Yolu	2.78	49	PN	Pn	00 31 05.4	-0.2
CTYL	Yalikoy Yolu	2.78	49	Pn	Pn	00 31 05.4	-0.2
VAY	Valandovo	2.79	307	ePn	Pn	00 31 06.2	+0.3
VAY				eSn	Sb	00 31 43.3	-2.0
VAY	Valandovo	2.79	307	P	Pn	00 31 06.6	+0.7
VAY	Valandovo	2.79	307	P	Pn	00 31 06.6	+0.7
VAY	Valandovo	2.79	307	ePn	Pg	00 31 13.1	-2.1
VAY	Valandovo	2.79	307	P	Pn	00 31 06.6	+0.7
DID	Didima	2.80	220	P	Pn	00 31 04.8	-1.3
DID	Didima	2.80	220	P	Pn	00 31 05.0	-1.1
DID	Didima	2.80	220	P	Pn	00 31 04.8	-1.3
YDRA	Hydra	2.82	215	P	Pn	00 31 05.5	-0.8
AMGA	Amorgos Island	2.85	174	P	Pn	00 31 05.3	-1.4
AMGA	Amorgos Island	2.85	174	P	Pn	00 31 05.2	-1.5
KKB	Krupnik	2.87	321	iP	Pn	00 31 07.6	+0.6
BGKT	Bogazkoy	2.91	58	PN	Pn	00 31 07.9	+0.4
BGKT	Bogazkoy	2.91	58	Pn	Pn	00 31 07.9	+0.4
JMB	Yambol	2.91	16	ePn	Pn	00 31 07.2	-0.3
JMB				eSn	Sn	00 31 42.2	0.0
JMB	Yambol	2.91	16	iP	Pn	00 31 07.5	0.0
GEMT	Gemlik	2.92	74	PN	Pn	00 31 08.4	+0.8
GEMT	Gemlik	2.92	74	Pn	Pn	00 31 08.4	+0.8
KALE	Kalithea	2.92	245	P	Pn	00 31 07.3	-0.5
KALE	Kalithea	2.92	245	P	Pn	00 31 07.1	-0.6
KALE	Kalithea	2.92	245	P	Pn	00 31 07.3	-0.5
KRND	KRANIDI	2.94	220	P	Pn	00 31 06.5	-1.5
KRND	KRANIDI	2.94	220	P	Pn	00 31 06.6	-1.4
KZN	Kozani	2.95	284	P	Pn	00 31 08.1	0.0
KZN	Kozani	2.95	284	P	Pn	00 31 08.2	+0.1
KZN	Kozani	2.95	284	P	Pn	00 31 08.1	0.0
KZN	Kozani	2.95	284	P	Pn	00 31 08.1	0.0
BODT	Bodrum	2.96	151	P	Pn	00 31 07.4	-0.8
BODT	Bodrum	2.96	151	P	Pn	00 31 07.4	-0.8
EVR	Evrytania	2.98	257	P	Pn	00 31 08.6	+0.1
EVR	Evrytania	2.98	257	P	Pn	00 31 08.6	+0.1
EVR	Evrytania	2.98	257	P	Pn	00 31 08.6	+0.1
TRIZ	Trizonia	2.98	245	P	Pn	00 31 08.0	-0.5
TRIZ	Trizonia	2.98	245	P	Pn	00 31 07.8	-0.7
BUY	Buyukada	3.00	66	iP	Pn	00 31 08.4	-0.3
BUY				iS	Sg	00 31 55.0	-2.9
ANX	Ano Chora	3.00	250	P	Pn	00 31 08.8	0.0
ANX	Ano Chora	3.00	250	P	Pn	00 31 08.8	0.0
ALIK	Aliki, Aigiali	3.01	243	P	Pn	00 31 09.1	+0.3
BDRM	Kayabasi	3.01	149	⇑iP	Pn	00 31 08.6	-0.3
BDRM				iS	Sg	00 31 56.0	-2.2
GUR	Goura	3.02	236	P	Pn	00 31 08.2	-1.0
GUR	Goura	3.02	236	P	Pn	00 31 08.3	-0.9
GUR	Goura	3.02	236	P	Pn	00 31 08.2	-1.0
ISK	Istanbul-Kandi	3.04	62	PN	Pn	00 31 09.8	+0.5
ISK	Istanbul-Kandi	3.04	62	Pn	Pn	00 31 09.8	+0.5
ISK	Istanbul-Kandi	3.04	62	P	Pn	00 31 09.8	+0.5
KAVV	Kandilli-Istan	3.04	62	PN	Pn	00 31 09.6	+0.3
MHLA	Plaka, Milos I	3.04	197	P	Pn	00 31 07.7	-1.6
PGB	Panagyurishte	3.06	341	iP	Pn	00 31 09.2	-0.4
EFP	Efpalio	3.08	247	P	Pn	00 31 09.5	-0.2
EFP	Efpalio	3.08	247	P	Pn	00 31 09.7	-0.1
YLV	Yalova	3.09	72	PN	Pn	00 31 10.2	+0.2
KLV	Kalavryta, Ach	3.09	239	P	Pn	00 31 09.1	-1.0
KLV	Kalavryta, Ach	3.09	239	P	Pn	00 31 09.3	-0.8
KLV	Kalavryta, Ach	3.09	239	P	Pn	00 31 09.1	-1.0
MHLO	Agia Marina, M	3.10	197	P	Pn	00 31 08.4	-1.8
MHLO	Agia Marina, M	3.10	197	P	Pn	00 31 08.4	-1.8
LAKA	Lakka	3.11	244	P	Pn	00 31 09.9	-0.3
LAKA	Lakka	3.11	244	P	Pn	00 31 09.9	-0.3
LAKA	Lakka	3.11	244	P	Pn	00 31 09.9	-0.3
KLYT	Kilyos	3.12	58	PN	Pn	00 31 10.1	-0.3
KLYT	Kilyos	3.12	58	Pn	Pn	00 31 11.0	+0.6
GDZ	Gediz	3.12	99	iP	Pn	00 31 11.5	+0.9
GDZ				iS	Sb	00 31 56.3	+1.2
SAP4	Santorini-Oia	3.19	182	P	Pn	00 31 09.8	-1.6
THR2	Thira island,	3.22	181	P	Pn	00 31 10.0	-1.7
THR2	Thira island,	3.22	181	P	Pn	00 31 10.0	-1.7
UPR	University Cam	3.22	246	P	Pn	00 31 11.8	0.0
THT2	Imerovigli	3.23	181	P	Pn	00 31 11.0	-0.9
SAP3	Santorini-Thir	3.23	183	P	Pn	00 31 10.2	-1.7
SFIR	Foira Santorin	3.24	181	P	Pn	00 31 10.4	-1.7
THR7	Fira-Santorini	3.24	181	P	Pn	00 31 10.5	-1.6
STIP	Stip	3.24	310	iPn	Pn	00 31 11.1	-1.0
THR5	Thira Island,	3.25	182	P	Pn	00 31 10.5	-1.7
SAP2K	Karterados	3.25	181	P	Pn	00 31 10.4	-1.8
THR3	Thira Island,	3.25	182	P	Pn	00 31 10.7	-1.5
THR3	Thira Island,	3.25	182	P	Pn	00 31 10.7	-1.5
THR8	Santorini-Mono	3.26	181	P	Pn	00 31 10.4	-1.8
PVO	Paravola	3.28	253	P	Pn	00 31 12.9	+0.3
PVO	Paravola	3.28	253	P	Pn	00 31 13.0	+0.4
SANT	Santorini	3.29	181	ePn	Pn	00 31 11.1	-1.7
SANT	Santorini	3.29	181	P	Pn	00 31 11.2	-1.6
SANT	Santorini	3.29	181	P	Pn	00 31 10.9	-1.9
THR6	Thira Island,	3.31	182	P	Pn	00 31 11.4	-1.6
THR6	Thira Island,	3.31	182	P	Pn	00 31 11.4	-1.6
ANAF	Anafi Island	3.31	176	P	Pn	00 31 11.8	-1.3
ANAF	Anafi Island	3.31	176	P	Pn	00 31 11.4	-1.7
TRIP	Tripoli	3.32	231	P	Pn	00 31 13.0	-0.3
TRIP	Tripoli	3.32	231	P	Pn	00 31 12.8	-0.5
DAT	Datca	3.35	150	⇑iP	Pn	00 31 13.8	+0.1
DAT				iS	Sg	00 32 07.1	-2.3
KHAL	Karahalli	3.35	111	⇓iP	Pn	00 31 14.6	+0.9
KHAL				iS	Sg	00 32 11.3	+1.9
FNA	Florina	3.36	291	ePn	Pn	00 31 14.3	+0.5
FNA	Florina	3.36	291	ePn	Pn	00 31 14.3	+0.5
FNA	Florina	3.36	291	P	Pn	00 31 14.3	+0.5
FNA	Florina	3.36	291	P	Pn	00 31 14.2	+0.5
FNA	Florina	3.36	291	eP	Pn	00 31 14.3	+0.5
VLX	Vlachokerasia	3.37	228	P	Pn	00 31 13.6	-0.3
VLX	Vlachokerasia	3.37	228	P	Pn	00 31 13.1	-0.8
VLX	Vlachokerasia	3.37	228	P	Pn	00 31 13.6	-0.3
VTS	Vitosha	3.40	330	ePn	Pn	00 31 14.9	+0.5
VTS				eSn	Sn	00 31 58.2	+3.6
VTS	Vitosha	3.40	330	ePn	Pn	00 31 15.0	+0.6
VTS	Vitosha	3.40	330	P	Pn	00 31 14.9	+0.5
VTS	Vitosha	3.40	330	eP	Pn	00 31 15.0	+0.5
VTS	Vitosha	3.40	330	iP	Pn	00 31 15.1	+0.6
PENT	Pentalofos	3.41	280	P	Pn	00 31 14.9	+0.5
PENT	Pentalofos	3.41	280	P	Pn	00 31 15.0	+0.5
DRO	Drossia	3.43	241	P	Pn	00 31 14.5	-0.3
DRO	Drossia	3.43	241	P	Pn	00 31 14.5	-0.3
TAVA	DENIZLI_Tavas	3.45	129	iP	Pn	00 31 15.5	+0.5
TAVA				iS	Sb	00 32 08.0	+3.6
BIA	Bitola	3.48	294	P	Pn	00 31 16.4	+1.0
BIA	Bitola	3.48	294	P	Pn	00 31 16.4	+1.0
BIA	Bitola	3.48	294	iPn	Pn	00 31 16.6	+1.2
NEST	Nestorio	3.51	284	P	Pn	00 31 16.6	+0.7
NEST	Nestorio	3.51	284	P	Pn	00 31 16.6	+0.7
PDO	Prodromos	3.54	254	P	Pn	00 31 17.0	+0.9
PVL	Pavlikeni	3.55	358	P	Pn	00 31 15.5	-0.8
RLS	Riolos of Patr	3.55	244	P	Pn	00 31 17.2	+0.9
RLS	Riolos of Patr	3.55	244	P	Pn	00 31 17.2	+0.9
RLS	Riolos of Patr	3.55	244	P	Pn	00 31 17.2	+0.9
VLI	Veliai	3.58	215	P	Pn	00 31 15.2	-1.5
VLI	Veliai	3.58	215	P	Pn	00 31 15.2	-1.5
VLI	Veliai	3.58	215	P	Pn	00 31 15.2	-1.5
JAN	Janina	3.60	271	P	Pn	00 31 18.8	+1.7
JAN	Janina	3.60	271	P	Pn	00 31 19.0	+1.9
JAN	Janina	3.60	271	P	Pn	00 31 18.8	+1.7
JAN	Janina	3.60	271	P	Pn	00 31 18.8	+1.7
SZH	Strazhica	3.61	5	iP	Pn	00 31 17.1	0.0
AMT	Artemida-Makis	3.67	236	P	Pn	00 31 17.6	-0.4
AMT	Artemida-Makis	3.67	236	P	Pn	00 31 18.0	0.0
KRUS	Krusevo	3.67	299	iPn	Pn	00 31 18.9	+0.8
ROIA	ROIAK	3.70	22	iP	Pn	00 31 18.0	-0.3
GEYV	SAKARYA_Geyve	3.75	76	iP	Pn	00 31 19.3	+0.2
GEYV				iS	Sg	00 32 18.4	-3.8
ITM	Ithomi	3.76	230	ePn	Pn	00 31 19.9	+0.7
ITM	Ithomi	3.76	230	P	Pn	00 31 19.4	+0.2
ITM	Ithomi	3.76	230	P	Pn	00 31 20.2	+1.0
PRD	Provadia	3.80	21	iP	Pn	00 31 19.1	-0.6
BORA	Eskisehir	3.81	85	iP	Pn	00 31 20.1	+0.1
BORA				iS	Sg	00 32 21.9	-2.1
SKO	Skopje	3.86	308	ePn	Pn	00 31 21.3	+0.8
SKO	Skopje	3.86	308	P	Pn	00 31 21.6	+1.1
SKO	Skopje	3.86	308	P	Pn	00 31 21.6	+1.1
SKO	Skopje	3.86	308	iPn	Pn	00 31 21.4	+0.9
SKO	Skopje	3.86	308	P	Pn	00 31 21.6	+1.1
LKD2	Lefkada island	3.88	258	P	Pn	00 31 23.2	+2.4
LKD2	Lefkada island	3.88	258	P	Pn	00 31 23.2	+2.4
OHR	Ohrid	3.88	293	iPn	Pn	00 31 21.8	+0.8
KYTH	Kithira	3.92	211	P	Pn	00 31 20.4	-1.0
KYTH	Kithira	3.92	211	P	Pn	00 31 20.3	-1.0
KYTH	Kithira	3.92	211	P	Pn	00 31 20.4	-1.0
EVGI	Lefkada island	3.92	256	P	Pn	00 31 23.6	+2.1
KTHR	Kythira	3.94	211	P	Pn	00 31 19.7	-2.0
IGT	Igoumenitsa	4.01	270	ePn	Pn	00 31 25.0	+2.4
IGT	Igoumenitsa	4.01	270	P	Pn	00 31 25.1	+2.4
IGT	Igoumenitsa	4.01	270	P	Pn	00 31 25.1	+2.4
IGT	Igoumenitsa	4.01	270	P	Pn	00 31 25.1	+2.4
ARG	Arkhangelos	4.01	148	P	Pn	00 31 22.3	-0.4
ARG	Arkhangelos	4.01	148	P	Pn	00 31 22.5	-0.2
ARG	Arkhangelos	4.01	148	P	Pn	00 31 22.3	-0.4
ARG	Arkhangelos	4.01	148	P	Pn	00 31 22.3	-0.4
PYL	PYLOS	4.06	228	P	Pn	00 31 24.0	+0.7
PYL	PYLOS	4.06	228	P	Pn	00 31 24.0	+0.7
PYL	PYLOS	4.06	228	P	Pn	00 31 24.0	+0.7
VLS	Valsamata	4.12	250	P	Pn	00 31 25.6	+1.4
VLS	Valsamata	4.12	250	P	Pn	00 31 25.2	+1.0
VLS	Valsamata	4.12	250	P	Pn	00 31 25.6	+1.4
VLS	Valsamata	4.12	250	P	Pn	00 31 25.6	+1.4
ZAPS	Zavoj	4.21	330	ePn	Pn	00 31 26.9	+1.6
BARS	Barje	4.21	320	ePn	Pn	00 31 25.7	+0.4
BARS	Barje	4.21	320	ePn	Pb	00 31 36.6	+1.2
BARS				eSn	Sn	00 32 17.2	+3.0
SRN	Sarande	4.26	275	P	Pn	00 31 28.4	+2.4
SRN	Sarande	4.26	275	P	Pn	00 31 28.4	+2.4
SRN	Sarande	4.26	275	iPN	Pn	00 31 30.0	+4.0
TPE	Tepelena	4.28	280	iPN	Pn	00 31 30.3	+4.0
CHAN	Chania	4.30	196	P	Pn	00 31 25.3	-1.4
KARP	Karpathos	4.32	162	ePn	Pn	00 31 26.0	-0.8
KARP	Karpathos	4.32	162	P	Pn	00 31 26.1	-0.8
KARP	Karpathos	4.32	162	P	Pn	00 31 26.1	-0.8
PHP	Peshkopia	4.36	299	P	Pn	00 31 28.4	+1.0
PHP	Peshkopia	4.36	299	P	Pn	00 31 28.4	+1.0
PHP	Peshkopia	4.36	299	iPN	Pn	00 31 28.6	+1.2
KSTL	Kastelli Herak	4.37	185	P	Pn	00 31 28.7	+1.1
IMMV	Iera Moni Meta	4.37	197	P	Pn	00 31 27.2	-0.5
IMMV	Iera Moni Meta	4.37	197	P	Pn	00 31 27.2	-0.5
VAM	Vamos	4.38	194	P	Pn	00 31 26.4	-1.3
VAM	Vamos	4.38	194	P	Pn	00 31 26.3	-1.5
VAM	Vamos	4.38	194	P	Pn	00 31 26.4	-1.3
VAM	Vamos	4.38	194	P	Pn	00 31 26.4	-1.3
NPS	Neapolis	4.40	179	P	Pn	00 31 26.6	-1.4
NPS	Neapolis	4.40	179	P	Pn	00 31 26.6	-1.4
NPS	Neapolis	4.40	179	P	Pn	00 31 26.6	-1.4
NPS	Neapolis	4.40	179	P	Pn	00 31 26.6	-1.4
IDI	Anoyia	4.40	187	ePn	Pn	00 31 26.1	-1.9
KEK	Kerkira	4.41	272	P	Pn	00 31 30.8	+2.6
KEK	Kerkira	4.41	272	P	Pn	00 31 30.8	+2.6
PSN	Preselentsi	4.48	26	P	Pn	00 31 28.0	-1.1
STIA	Sitia Lasithi	4.48	174	P	Pn	00 31 27.9	-1.2
LAST	Lasithi	4.50	180	P	Pn	00 31 28.8	-0.6
LAST	Lasithi	4.50	180	P	Pn	00 31 28.8	-0.6
ZKR	Zakros	4.58	173	P	Pn	00 31 29.8	-0.7
ZKR	Zakros	4.58	173	P	Pn	00 31 29.8	-0.7
TIR	Tirane	4.63	293	ePn	Pn	00 31 32.2	+1.1
TIR	Tirane	4.63	293	ePn	Pn	00 31 32.6	+1.5
TIR	Tirane	4.63	293	eP	Pn	00 31 32.6	+1.5
TIR	Tirane	4.63	293	iPN	Pn	00 31 33.6	+2.5
TMBK	Timbaki Herakl	4.63	188	P	Pn	00 31 30.6	-0.5
SIVA	Sivas	4.68	187	P	Pn	00 31 32.0	+0.2
SIVA	Sivas	4.68	187	P	Pn	00 31 31.6	-0.2
SIVA	Sivas	4.68	187	P	Pn	00 31 32.0	+0.2
VLO	Vlora	4.69	282	iPN	Pn	00 31 36.3	+4.3
KSL	Kastellorizon	4.76	136	P	Pn	00 31 34.0	+1.1
KSL	Kastellorizon	4.76	136	P	Pn	00 31 34.0	+1.1
ZAGS	Zajecar	4.82	330	ePn	Pn	00 31 33.7	0.0
SELS	Selova	4.85	318	ePn	Pn	00 31 33.9	-0.3
PUK	Puka	4.88	301	iPN	Pn	00 31 36.7	+2.0
BOVS	Bovan	4.89	325	ePn	Pn	00 31 35.0	+0.3
GVD	Gavdhos	4.95	194	P	Pn	00 31 36.3	+0.7
GVD	Gavdhos	4.95	194	P	Pn	00 31 36.3	+0.7
PVY	Plav	5.12	307	⇑iPn	Pn	00 31 38.9	+0.9
PVY				eSn	Sn	00 32 36.9	+0.1
TIRR	Tirgusor	5.25	23	ePn	Pn	00 31 39.0	-0.6
TIRR	Tirgusor	5.25	23	eP	Pn	00 31 39.0	-0.6
ULC	Ulcinj	5.29	298	⇓iPn	Pn	00 31 41.4	+1.2
ULC				eSn	Sn	00 32 40.5	-0.3
IVA	Berane	5.31	309	⇑iPn	Pn	00 31 41.4	+0.8
IVA				eSn	Sn	00 32 41.4	-0.2
DRME	Dracevica, Mon	5.42	300	⇓iPn	Pn	00 31 42.6	+0.6
DRME				eSn	Sn	00 32 44.0	-0.1
DRME	Dracevica, Mon	5.42	300	⇑iPn	Pn	00 31 44.4	+2.4
PDG	Podgorica	5.48	302	ePn	Pn	00 31 43.1	+0.3
PDG	Podgorica	5.48	302	⇑iPn	Pn	00 31 45.1	+2.3
TTG	Podgorica	5.48	302	⇓iPn	Pn	00 31 44.1	+1.3
TTG				eSn	Sn	00 32 45.3	-0.3
TTG	Podgorica	5.48	302	ePn	Pn	00 31 43.5	+0.7
TTG	Podgorica	5.48	302	eP	Pn	00 31 43.5	+0.7
SJES	Sjenica	5.50	313	ePn	Pn	00 31 44.3	+1.1
KOME	Kolasin	5.53	307	⇑iPn	Pn	00 31 44.7	+1.1
KOME				eSn	Sn	00 32 46.7	-0.3
GRUS	Gruza	5.54	321	ePn	Pn	00 31 43.6	0.0
BR231	Keskin MP Arra	5.59	86	ePn	Pn	00 31 45.1	+0.6
IVAS	Ivanjica	5.61	316	ePn	Pn	00 31 44.8	+0.2
ANTO	Ankara	5.61	86	ePn	Pn	00 31 44.4	-0.3
ANTO	Ankara	5.61	86	eP	Pn	00 31 44.4	-0.3
BUM	Brajici-Budva	5.66	300	⇓iPn	Pn	00 31 46.6	+1.2
BUM				eSn	Sn	00 32 50.0	-0.2
CEME	Cevo	5.76	302	⇓iPn	Pn	00 31 47.2	+0.5
CEME				eSn	Sn	00 32 52.2	-0.3
MLR	Muntele Rosu	5.83	3	Pn	Pn	00 31 48.3	+0.6
	comp=N,7.1nm,0.3s,baz=204,slow=5.5,SNR=99						
MLR				Lg	Lg	00 33 27.9	
	comp=N,2.6nm,0.3s,baz=110,slow=2.2,SNR=4.3						
MLR				LR	LR	00 34 35.9	
	comp=N,504nm,18.0s,baz=172,slow=44						
MLR	Muntele Rosu	5.83	3	eP	Pn	00 31 48.1	+0.4
NKY	Niksic	5.84	305	⇓iPn	Pn	00 31 48.5	+0.7
NKY				eSn	Sn	00 32 54.2	-0.4
NKME	Niksic	5.84	304	⇓iPn	Pn	00 31 48.8	+1.0
NKME				eSn	Sn	00 32 54.2	-0.3
PLE	Pljevlja	5.88	310	⇑iPn	Pn	00 31 49.0	+0.6
PLE				eSn	Sn	00 32 55.1	-0.5
TRUS	Trudelj	5.94	322	ePn	Pn	00 31 49.6	+0.5
HCY	Herceg Novi	5.99	300	⇓iPn	Pn	00 31 50.2	+0.3
HCY				eSn	Sn	00 32 57.3	-0.9
DIVS	Divibare	6.05	319	ePn	Pn	00 31 50.7	0.0
DIVS	Divibare	6.05	319	ePn	Pn	00 31 51.2	+0.5
DIVS	Divibare	6.05	319	⇑iPn	Pn	00 31 50.3	-0.4
UPM	Unac-Piva	6.10	308	⇑iPn	Pn	00 31 52.4	+0.9
UPM				eSn	Sn	00 33 00.5	-0.6
UPM	Unac-Piva	6.10	308	⇑iPn	Pn	00 31 53.3	+1.8
BRY	Bratogost	6.17	304	⇑iPn	Pn	00 31 53.4	+1.0
BRY				eSn	Sn	00 33 02.1	-0.7
BRY	Bratogost	6.17	304	⇑iPn	Pn	00 31 54.8	+2.4
BBLS	Lazići	6.20	315	ePn	Pn	00 31 53.5	+0.7
BBLS	Lazići	6.20	315	ePn	Pn	00 31 53.1	+0.3
TREB	Trebinje	6.21	302	ePn	Pn	00 31 54.1	+1.3
BR131	Keskin Array S	6.26	87	ePn	Pn	00 31 54.1	+0.3
BRTR	Keskin Array B	6.26	87	Pn	Pn	00 31 54.0	+0.3
	comp=N,5.6nm,0.3s,baz=258,slow=12,SNR=166						
BRTR				Lg	Lg	00 33 40.8	
	comp=N,0.7nm,0.3s,baz=269,slow=22,SNR=11						
BRTR				LR	LR	00 34 51.2	
	comp=N,145nm,19.5s,baz=261,slow=43						
FASA	Fasano	6.35	283	eP	Pn	00 31 57.0	+2.2
ILGA	Ilgaz	6.41	75	ePn	Pn	00 31 55.9	+0.1
MASS	Massafra	6.49	281	eP	Pn	00 31 57.1	+0.4
HAPS	Han Pijesak,BI	6.60	314	⇑iPn	Pn	00 31 58.8	+0.5
BZS	Buzias	6.60	335	ePn	Pn	00 31 57.5	-0.7
STON	Ston	6.70	301	P	Pn	00 31 59.8	+0.2
BAI	Bari	6.75	285	eP	Pn	00 32 00.3	0.0
TIP	Timpagrande	6.80	269	ePn	Pn	00 32 01.6	+0.6
SG1	Sgolgore (BA)	6.86	283	eP	Pn	00 32 02.1	+0.2
FRGS	Fruska Gora	6.92	324	ePn	Pn	00 32 02.1	-0.6
FRGS	Fruska Gora	6.92	324	ePn	Pn	00 32 02.7	0.0
CUC	Castrocucco	7.48	276	ePn	Pn	00 32 12.2	+1.9
CEL	Celeste	7.63	262	ePn	Pn	00 32 12.9	+0.4
KIS	Kishinev	7.71	17	eP	Pn	00 32 12.0	-1.4
	comp=N,200nm,1.0s						
KIS				LRM	MLR	00 35 28.0	
	comp=N,900nm,12.0s						
KIS	Kishinev	7.71	17	eP	Pn	00 32 12.0	-1.4
KIS				e		00 33 49.0	
KIS				pmax	pmax		
	comp=Z,200nm,1.0s						

KIS MLR MLR
comp=Z,900nm,12.0s
KIS MLR MLR
comp=N,1μm,8.0s
SEV Sevastopol' 7.77 49 eP Pn 00 32 11.4 -2.9
SEV eS Sn 00 33 38.9 -3.1
CSS Mathiatis 7.79 125 ePn Pn 00 32 15.2 +0.5
BUR04 Bucovina Ar. S 7.95 358 ePn Pn 00 32 17.8 +1.0
BUR08 Bucovina Ar. S 7.98 358 ePn Pn 00 32 18.4 +1.2
BLY Banja Luka 8.00 312 ePn Pn 00 32 19.3 +1.9
BLY Banja Luka 8.00 312 ⇑Pn Pn 00 32 18.9 +1.5
YAL Yalta 8.03 50 eP Pn 00 32 16.5 -1.2
YAL eS Sn 00 33 43.8 -4.4
LTVH Ltavrtes, Hu 8.15 342 ePn Pn 00 32 18.0 -1.4
LTVH eSg Sg 00 34 49.0 +6.0
MORH Mrgy, Hungar 8.26 325 eSg Sg 00 34 52.0 +5.5
MORH ePn Pn 00 32 22.0 +1.1
MORH Mrgy, Hungar 8.26 325 ePn Pn 00 32 20.3 -0.6
SIM Simferopol' 8.27 48 eP Pn 00 32 19.8 -1.3
SIM eS Sn 00 33 53.3 -0.9
ALU Alushta 8.28 50 eP Pn 00 32 20.2 -1.0
ALU eS Sn 00 33 53.0 -1.5
UDBI Udbina 8.73 307 P Pn 00 32 29.1 +1.7
TRPA Tarpa 8.73 347 ⇓ePn Pn 00 32 28.0 +0.7
TRPA eSg Sg 00 35 03.1 +1.5
SUDU Sudak 8.75 50 eP Pn 00 32 27.7 0.0
SUDU eS Sn 00 34 06.4 +0.4
VAE Valguarnera 8.97 259 Pn Pn 00 32 32.5 +1.7
comp=N,2.9nm,0.3s,baz=351,slow=2.6,SNR=6.4
FEO Feodosiya 9.05 51 eP Pn 00 32 39.3 +7.5
FEO eS Sn 00 34 17.6 +4.2
TIH Tihany 9.12 325 eSg Sn 00 35 12.0 +57
BUD Budapest 9.12 331 ePn Pn 00 32 32.0 -0.7
PSZ Piszkesteto 9.19 336 ePn Pn 00 32 34.6 +0.8
PSZ Piszkesteto 9.19 336 ePn Pn 00 32 36.1 +2.2
PSZ eSg Sn 00 35 13.0 +56
PSZ Piszkesteto 9.19 336 eP Pn 00 32 34.6 +0.8
NVLJ Novalja 9.30 305 P Pn 00 32 36.3 +1.1
BEHE Becsehely 9.33 320 ePn Pn 00 32 36.0 +0.3
WDD Wied Dalam 9.51 250 ePn Pn 00 32 37.9 -0.2
AQU L'Aquila 9.55 290 ePn Pn 00 32 39.3 +0.6
AQU L'Aquila 9.55 290 eP Pn 00 32 39.3 +0.6
CRES Cresnjev 9.62 313 ePn Pn 00 32 40.5 +0.9
CLTB Caltabellotta 9.85 262 ePn Pn 00 32 43.5 +0.6
VYHS Vyhne 10.04 334 eP Pn 00 32 45.9 +0.5
VYHS Vyhne 10.04 334 ePN Pn 00 32 45.9 +0.5
VYHS esPN 00 32 49.2
CEY Cerknica 10.17 310 ePn Pn 00 32 48.4 +1.3
LVV L'vov 10.21 355 eP Pn 00 32 53.9 +6.3
LJU Ljubljana 10.28 312 ePn Pn 00 32 48.2 -0.4
SOP Sopron 10.30 324 ePn Pn 00 32 46.0 -3.0
MMAI Mount Meron Ar 10.37 127 Pn Pn 00 32 49.0 -1.0
comp=N,5.1nm,0.3s,baz=310,slow=11,SNR=40
MMAI LR LR 00 37 13.3
comp=N,122nm,19.8s,baz=150,slow=40
SOKA Soboth 10.37 316 ePn Pn 00 32 51.4 +1.4
comp=N,1.9nm,0.4s
SOKA Sn Sn 00 34 43.1 -2.9
comp=N,0.4nm,0.3s
ARSA Arzberg 10.49 320 ePn Pn 00 32 52.8 +1.2
comp=N,0.7nm,0.3s
ARSA eSn Sn 00 34 44.8 -4.1
MODS Modra-Piesok 10.53 328 eP Pn 00 32 56.6 +4.6
OBKA Obir 10.54 314 ePn Pn 00 32 54.0 +1.8
comp=N,2.4nm,0.5s
CONA Conrad Observa 10.80 323 ePn Pn 00 32 52.7 -3.2
comp=N,1.0nm,0.5s
CONA eSn Sn 00 34 55.7 -0.8
comp=N,2.4nm,0.5s
AK11 Malin Array Si 11.30 12 ePn Pn 00 33 04.0 +1.4
KIEV Kiev 11.33 12 ePn Pn 00 32 02.9 -0.1
KIEV Kiev 11.33 12⇑eP Pn 00 32 59.8 -3.1
KIEV pmax pmax
comp=Z,6.0nm,0.9s
AKASG Malin Array Be 11.34 12 Pn Pn 00 33 01.6 -1.5
comp=Z,3.8nm,0.3s,baz=199,slow=12,SNR=20
AKASG Malin Array Be 11.34 12 *i* P Pn 00 33 02.2 -0.9
AKASG pmax pmax
comp=Z,9.0nm,0.6s
AKBB Malin Array Si 11.34 12 ePn Pn 00 33 03.6 +0.5
AKBB Malin Array Si 11.34 12 eP Pn 00 33 03.6 +0.5
MOA Molln 11.53 319 ePn Pn 00 33 07.2 +1.5
comp=Z,1.1nm,0.7s
MOA Sn Sn 00 35 11.5 -2.7
comp=Z,1.4nm,0.3s
ABTA Abfaltersbach 11.83 311 ePn Pn 00 33 10.5 +0.6
comp=Z,4.3nm,0.7s
ASF Jabal al Asfar 11.87 126 Pn Pn 00 33 11.2 +0.7
comp=Z,0.3nm,0.3s,baz=262,slow=7.1,SNR=7.5
GERES GERESS Array B 12.47 321 Pn Pn 00 33 19.8 +1.0
comp=Z,0.1nm,0.3s,baz=116,slow=9.1,SNR=4.1
GERES LR LR 00 38 32.6
comp=Z,145nm,19.6s,baz=259,slow=40
EIL Elat 12.63 139 Pn Pn 00 33 20.7 -0.1
comp=Z,0.5nm,0.3s,baz=215,slow=7.4,SNR=8.0
WATA Walderalm 12.68 312 ePn Pn 00 33 25.5 +3.8
comp=Z,2.1nm,0.3s
KHC Kasperske Hory 12.73 322 eP Pn 00 33 31.2 +9.0
KHC Kasperske Hory 12.73 322 eP Pn 00 33 31.2 +9.0
GOPC GO Pecny, Ondr 12.75 327 eP Pn 00 33 26.7 +4.2
GOPC GO Pecny, Ondr 12.75 327 eP Pn 00 33 26.7 +4.2
SQTA Sankt Quirin 12.84 311 ePn Pn 00 33 21.4 -2.3
comp=Z,2.4nm,0.4s
MOTA Moosalm 12.96 311 ePn Pn 00 33 26.2 +0.8
comp=Z,3.7nm,0.6s
FETA Feichten 13.02 309 ePn Pn 00 33 27.2 +0.9
comp=Z,3.7nm,0.6s
FUORN Ofenpass-Fuorn 13.12 307 ePn Pn 00 33 28.6 +1.0
TAMR Tamra 13.14 264 ePn Pn 00 33 28.6 +0.8
RETA Reutte 13.23 311 ePn Pn 00 33 26.2 -2.9
comp=Z,0.2nm,0.2s
KEST Kesra 13.40 258 Pn Pn 00 33 32.2 +0.9
comp=Z,0.2nm,0.3s,baz=36,slow=8.7,SNR=3.8
DAVOX Davos/Dischmat 13.43 307 Pn Pn 00 33 32.0 +0.2
comp=Z,0.4nm,0.3s,baz=153,slow=17,SNR=11
DAVOX LR LR 00 39 41.4
comp=Z,169nm,21.7s,baz=106,slow=42
DAVOX Davos/Dischmat 13.43 307 P Pn 00 33 32.0 +0.2
DAVOX MLR MLR
comp=Z,169nm,21.7s
KIV Kislovodsk 13.50 66 eP Pn 00 33 29.0 -3.7
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,34nm,11.0s
KVAR Kislovodsk Arr 13.51 66 Pn Pn 00 33 35.5 +2.6
baz=217,slow=14,SNR=2.4
DAVA Damuels 13.66 309 ePn Pn 00 33 33.2 -1.8
comp=Z,2.3nm,0.6s
NCK Nalchik 14.06 68⇓eP Pn 00 33 38.9 -1.4
NCK pmax pmax
comp=Z,4.0nm,0.4s
ZEI Tsey 14.18 71 eP P 00 33 49.4 -0.3
ZEI pmax pmax
comp=Z,8.0nm,0.9s
SUW Suwalki 14.44 354 ePn Pn 00 33 47.1 +1.7
SUW Suwalki 14.44 354 eP Pn 00 33 47.1 +1.7
CLL Collm 14.55 327 e(P) Pn 00 33 48.0 +1.0
CLL LmH 00 38 00.0
comp=N,300nm,21.4s
CLL LmH 00 38 00.0
comp=E,500nm,18.6s
CLL Collm 14.55 327 eP Pn 00 33 48.0 +1.0
GNI Garni 14.76 82 Pn P 00 33 55.5 -0.6
comp=E,0.2nm,0.3s,baz=108,slow=16,SNR=4.7
GNI LR LR 00 39 34.2
comp=E,171nm,18.0s,baz=332,slow=38
GNI Garni 14.76 82 ePn Pn 00 33 51.7 +1.6
GNI Garni 14.76 82 eP Pn 00 33 51.7 +1.6
SENIN Lac Senin/Sane 14.90 303 ePn Pn 00 33 52.8 +0.8
BNI Bardonecchia 14.92 297 ePn Pn 00 33 53.6 +1.4
BNI Bardonecchia 14.92 297 eP Pn 00 33 53.6 +1.4
VSR Storozhevoye 14.97 35 eP Pn 00 33 49.3 -3.4
VSR eS Sn 00 36 35.4 -2.8
VSR pmax pmax
comp=Z,10.0nm,0.7s
BFO Black Forest 15.07 311 ePn Pn 00 33 56.1 +2.0
comp=Z,26nm,1.7s
BFO Black Forest 15.07 311 eP Pn 00 33 56.1 +2.0
BFO pmax pmax
comp=Z,26nm,1.7s
LPSR Galich'ya Gora 15.89 31 eP Pn 00 34 01.6 -3.1
LPSR pmax pmax
comp=Z,8.0nm,0.6s

VRH Novokhopyorsk 16.15 39 eP Pn 00 34 06.3 -1.8
VRH pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 17.13 22 P Pn 00 34 21.0 +0.6
comp=Z,0.3nm,0.3s,baz=191,slow=9.8,SNR=5.2
OBN Obninsk 17.13 22⇓eP Pn 00 34 18.2 -2.2
OBN eS Sn 00 37 27.1 -3.4
OBN pmax pmax
comp=Z,40nm,1.7s
OBN MLR MLR
comp=Z,150nm,15.0s
MOS Moscow 17.98 23 eP Pn 00 34 30.1 -0.8
MOS pmax pmax
comp=Z,18nm,1.1s
MOS MLR MLR
comp=Z,400nm,21.0s
VSU Vasula 18.83 2⇓eP Pn 00 34 41.6 +0.4
VSU pmax pmax
comp=Z,104nm,0.9s
HFS Hagfors 21.79 344 P P 00 35 12.2 -0.6
comp=Z,2.3nm,0.5s,baz=161,slow=9.4,SNR=8.8
HFS LR LR 00 44 30.0
comp=Z,123nm,20.7s,baz=160,slow=39
FINES FINESS Array B 21.80 1 P P 00 35 12.1 -0.9
comp=Z,7.4nm,0.8s,baz=158,slow=11,SNR=9.0
FINES LR LR 00 44 28.4
comp=Z,192nm,20.4s,baz=212,slow=39
FIA1 FINESS Array S 21.81 1 eP P 00 35 14.1 +1.1
ES19 SONSECA Array 22.60 280 eP P 00 35 22.0 +0.2
ESDC Sonseca Array 22.65 280 P P 00 35 20.9 -1.5
comp=Z,1.0nm,0.6s,baz=74,slow=10,SNR=13
NC602 NORSAR Array S 22.81 342 eP P 00 35 24.3 +0.5
KLMR Klimovskoe 22.92 18 eP P 00 35 22.0 -2.9
KLMR pmax pmax
comp=Z,16nm,1.0s
KLMR Klimovskoe 22.92 18 eP P 00 35 22.0 -2.9
KLMR AMP 00 35 25.6
comp=Z,16nm,1.1s
NAO01 NORSAR Array S 23.07 342 eP P 00 35 27.8 +1.4
NB201 NORSAR Array S 23.15 342 eP P 00 35 26.6 -0.6
NB2 NORSAR Subarra 23.16 342 P P 00 35 26.2 -1.2
comp=Z,3.5nm,0.8s,baz=147,slow=11
NOA NORSAR Array B 23.16 342 P P 00 35 25.9 -1.5
comp=Z,1.1nm,0.6s,baz=145,slow=9.3,SNR=8.4
NOA LR LR 00 45 34.8
comp=Z,85nm,19.9s,baz=165,slow=40
NBO00 NORSAR Array S 23.25 342 eP P 00 35 27.8 -0.6
NC303 NORSAR Array S 23.29 343 eP P 00 35 28.7 +0.1
RAYN Ar Rayn 23.34 128 eP P 00 35 30.2 +0.6
comp=Z,5.5nm,1.0s
RAYN Ar Rayn 23.34 128 eP P 00 35 30.2 +0.6
RAYN pmax pmax
comp=Z,5.0nm,1.0s
NC204 NORSAR Array S 23.47 342 eP P 00 35 32.0 +1.4
EKA Eskdalemuir Ar 24.67 319 P P 00 35 41.5 -0.3
comp=Z,1.2nm,0.5s,baz=114,slow=9.6,SNR=15
AKTO Aktyubinsk 25.16 54 P P 00 35 46.6 +0.4
comp=Z,2.8nm,0.8s,baz=251,slow=9.7,SNR=8.8
AKTO LR LR 00 48 11.7
comp=Z,60nm,21.9s,baz=271,slow=43
MDT Midelt 25.17 264 P P 00 35 47.9 +1.3
comp=Z,2.2nm,0.8s,baz=99,slow=11,SNR=8.1
MDT LR LR 00 45 23.7
comp=Z,73nm,18.5s,baz=72,slow=36
PRGR Permogore 25.21 23 eP P 00 35 45.1 -1.4
PRGR pmax pmax
comp=Z,16nm,0.8s
GEYT Alibeck 25.39 83 P P 00 35 49.4 +0.9
comp=Z,28nm,0.4s,baz=24,slow=44,SNR=8.1
ABKAR Akbulak array 26.17 57 eP P 00 35 57.7 +2.3
ARU Arti 27.36 41 P P 00 36 16.0 +10
ARU 00 37 05.4
ARCES ARCESS Array B 29.93 360 P P 00 36 28.4 -0.4
comp=Z,5.7nm,1.0s,baz=185,slow=10.0,SNR=4.3
BRVK Borovoye 33.10 51 eP P 00 36 58.7 +1.8
comp=Z,7.6nm,1.3s
BRVK Borovoye 33.10 51⇓eP P 00 36 56.6 -0.3
BRVK pmax pmax
comp=Z,6.0nm,1.2s
TOA0 Torodi Ar. Sit 33.75 225 eP P 00 37 03.0 +0.2
TORD Torodi Ar. Bea 33.75 225 P P 00 37 02.5 -0.3
comp=Z,1.3nm,0.7s,baz=53,slow=8.7,SNR=11
AAK Ala-Archa 36.59 69⇓eP P 00 37 23.4 -3.9
AAK pmax pmax
comp=Z,6.0nm,2.3s
KURBB Kurchatov Arra 38.19 55 P P 00 37 40.5 0.0
comp=Z,2.7nm,0.9s,baz=286,slow=9.2,SNR=6.8
KURK Kurchatov 38.24 55 P P 00 37 40.5 -0.4
KURK Kurchatov 38.24 55⇓eP P 00 37 37.1 -3.9
KURK pmax pmax
comp=Z,2.0nm,1.1s
MAKZ Makanchi 40.97 61 eP P 00 38 04.8 +1.0
comp=Z,7.9nm,1.8s
MAKZ Makanchi 40.97 61 eP P 00 38 04.9 +1.0
MAKZ pmax pmax
comp=Z,8.0nm,1.8s
MK31 Makanchi Array 41.19 61 eP P 00 38 06.0 +0.4
MK31 Makanchi Array 41.19 61 eP P 00 38 06.0 +0.4
MKAR Makanchi Array 41.19 61 P P 00 38 05.8 +0.2
comp=Z,1.8nm,0.5s,baz=281,slow=6.5,SNR=20
MKAR PP PnPn 00 39 49.6 +4.6
comp=Z,0.4nm,0.7s,baz=271,slow=6.9,SNR=3.6
MKAR Makanchi Array 41.19 61 eP P 00 38 06.0 +0.4
comp=Z,18nm,0.6s
MKAR PP PnPn 00 39 49.6 +4.6
MK01 Makanchi Array 41.20 61 eP P 00 38 05.8 +0.1
ZAA0 Zalesovo Array 41.77 50 eP P 00 38 10.9 +0.7
comp=Z,3.4nm,0.8s
ZALV Zalesovo Beam 41.77 50 P P 00 38 10.0 -0.3
comp=Z,1.7nm,0.7s,baz=275,slow=7.3,SNR=7.9
ZALV LR LR 00 56 09.8
comp=Z,56nm,20.5s,baz=33,slow=37
ZALV Zalesovo Beam 41.77 50 eP P 00 38 10.4 +0.2
DBIC Dimbokro 42.71 228 P P 00 38 17.5 -0.7
comp=Z,3.2nm,0.9s,baz=28,slow=8.7,SNR=5.2
DGZ Jazzator, Alta 43.99 56⇓eP P 00 38 26.2 -2.3
DGZ pmax pmax
comp=Z,1.0nm,0.5s
WMQ Urumqi 45.62 64 eP P 00 38 43.7 +2.3
WMQ LR LR
comp=N,170nm,20.3s
WMQ LR LR
comp=E,150nm,17.7s
WMQ LR LR
comp=Z,110nm,18.7s
ILULI Ilulissat 48.88 333 eP P 00 39 06.8 +0.4
comp=Z,91nm,1.7s
ILULI Ilulissat 48.88 333 eP P 00 39 06.8 +0.4
ILULI pmax pmax
comp=Z,91nm,1.7s
GTA Gaotai 55.67 65 eP P 00 40 05.2 +7.7
GTA pP sP 00 40 09.8 +5.9
GTA sP pP 00 40 12.2 +10
GTA pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 56.48 53 P P 00 40 01.6 -1.5
comp=Z,0.7nm,0.9s,baz=266,slow=5.9,SNR=4.5
ULN Ulaanbaatar 56.87 53⇓eP P 00 40 03.2 -2.7
ULN pmax pmax
comp=Z,2.0nm,1.2s
HHC Hu-ho-hao-te 62.96 58 eP P 00 40 50.1 +2.3
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,110nm,6.1s
CMAR Chiang Mai Arr 65.85 86 P P 00 41 07.0 +0.1
comp=Z,1.4nm,0.9s,baz=305,slow=7.3,SNR=7.0
CMAR LR LR 01 16 39.4
comp=Z,15nm,20.6s,baz=185,slow=42
CMAR Chiang Mai Arr 65.85 86 P P 00 41 07.0 +0.1
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CM01 Chiang Mai Arr 65.89 86 eP P 00 41 10.9 +3.8
YKA Yellowknife Ar 73.26 342 P P 00 41 52.0 +0.1
comp=Z,0.4nm,0.6s,baz=23,slow=5.9,SNR=6.5
IM3 Indian Mountai 74.68 360 eP P 00 42 01.4 +1.2
KSRS Korea Array 75.34 53 LR LR 01 21 50.2
comp=Z,19nm,19.1s,baz=310,slow=41
ULM Lac du Bonnet 76.74 326 P P 00 42 11.5 -0.7
comp=Z,2.2nm,0.9s,baz=66,slow=6.0,SNR=4.2
PETK Petropavlovsk- 78.77 27 LR LR 01 21 47.0
comp=Z,19nm,21.4s,baz=301,slow=39
STVI Saint Thomas 78.88 285 eP P 00 42 23.8 -0.8
comp=Z,56nm,1.0s
MJAR Matsushiro Arr 82.12 49 LR LR 01 22 25.6
comp=Z,26nm,18.3s,baz=265,slow=38

LRM Limekiln Ridge 86.93 332 eP P 00 43 02.1 -4.2
LKWY Lake 87.23 330 eP P 00 43 09.4 +1.6
comp=Z,7.6nm,0.6s
LKWY Lake 87.23 330 eP P 00 43 09.5 +1.6
LKWY pmax pmax
comp=Z,8.0nm,0.6s
BDFB Brasilia 87.68 248 P P 00 43 10.6 +0.5
comp=Z,2.3nm,0.6s,baz=45,slow=2.8,SNR=4.1
PDAR Pinedale Array 88.41 329 P P 00 43 11.7 -1.8
comp=Z,0.2nm,0.6s,baz=344,slow=3.0,SNR=2.9
P17A Butcher Ranch, 91.67 328 eP P 00 43 29.5 +0.8
comp=Z,6.0nm,0.8s

NNC ***11*** *00:49:39.1±3.7,54.°03N×86.°57E,h0km,mb3.6,mpv3.4, Error ellipse: s-maj=34.9km s-min=17.9km az=10.0, Suspected Mining explosion.*

KRAR 11 00:49:38.0±0.1,54.°01N×86.°31E,M2.9,5C-5D,Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array** 7.5nm,0.2s	**0.88**	**267**	⇑P	Pn	00 49 59.0	+1.3
ZAA0	135nm,1.1s			⇓S	Sn	00 50 13.2	+2.0
KURK	**Kurchatov** 4.8nm,1.0s	**5.75**	**238**	⇑Pn	Pb	00 51 12.0	-7.1
KURK	26nm,0.9s			⇓Lg	Lg	00 52 43.5	
KURBB	**Kurchatov Arra** 5.8nm,0.6s,baz=56,slow=13	**5.85**	**238**	⇑Pn	Pn	00 51 13.2	+7.3
KURBB	6.2nm,0.6s			⇓Sn	Sn	00 52 18.7	+5.0
KURBB	43nm,0.8s			⇑Lg	Lg	00 52 49.9	
MK31	**Makanchi Array** 1.4nm,0.8s,baz=23,slow=13,SNR=18	**7.67**	**201**	⇑Pn	Pn	00 51 38.9	+8.0
MK31	3.8nm,0.9s			⇓Sn	Sn	00 53 04.7	+6.3
MK31	13nm,0.8s,baz=24,slow=30			⇓Lg	Lg	00 53 47.7	

IDC ***11*** *01:20:12.7±2.5,37.°13N×143.°67E,h0km,mb3.6/5, mb1 3.7/6,mb1mx3.5/32,mbtmp3.6/6,ML3.5/1,MS2.6/2, Ms1 2.6/2,ms1mx2.2/36,Error ellipse: s-maj=71.2km s-min=25.5km az=62.0*

ISCJB ***11*** *01:20:14.1±0.8,37.°43N±0.°04×143.°50E±0.°06,h33km, mb3.5/5,MS2.7/1,Error ellipse: s-maj=7.3km s-min=5.1km az=2.0*

JMA ***11*** *01:20:14.8±0.2,37.°43N×143.°46E,h46km,M3.4*

ISC 11 01:20:16.5±1.2,37.°43N±0.°05×143.°53E±0.°08,h35km,n28, σ1s91/34,mb3.5/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.86**	**299**	P	Pn	**01 20 44.3**	**-1.5**
JIKH				eS	Sn	**01 21 06.2**	**-1.8**
JIO	**Ouri**	**2.00**	**301**	P	Pn	**01 20 46.6**	**-1.2**
JIO				eS	Sn	**01 21 09.5**	**-2.2**
JFK	**Kawauchi**	**2.12**	**269**	P	Pn	**01 20 47.8**	**-1.6**
JFK				eS	Sn	**01 21 12.5**	**-2.0**
JKMT	**Kesennumamotoy**	**2.13**	**311**	P	Pn	**01 20 48.1**	**-1.4**
JKMT				eS	Sn	**01 21 13.1**	**-1.6**
ONAJ	**Iwakimizuishiy**	**2.20**	**262**	P	Pn	**01 20 49.2**	**-1.4**
ONAJ				eS	Sn	**01 21 14.7**	**-2.0**
JMK	**Ichinoseki**	**2.37**	**311**	P	Pn	**01 20 51.7**	**-1.2**
JMK				S	Sn	**01 21 19.7**	**-1.0**
JFT	**Otama**	**2.54**	**273**	P	Pn	**01 20 55.0**	**-0.3**
JFT				eS	Sn	**01 21 24.5**	**-0.5**
JOM	**Ohasama**	**2.69**	**320**	P	Pn	**01 20 56.4**	**-0.9**
JOM				S	Sn	**01 21 27.6**	**-1.1**
JYK	**Kaneyama**	**2.91**	**302**	P	Pn	**01 20 59.7**	**-0.6**
JANG	**Nango**	**3.33**	**332**	eS	Sn	**01 21 42.2**	**-2.3**
JAG	**Ashikaga**	**3.42**	**254**	P	Pn	**01 21 06.6**	**-0.7**
JAG				S	Sn	**01 21 44.7**	**-1.9**
BSO1	**Boso 1**	**3.46**	**218**	P	Pn	**01 21 05.9**	**-1.4**
JRY	**Ryogami san**	**3.98**	**251**	P	Pn	**01 21 13.9**	**-1.1**
JRY				eS	Sn	**01 21 57.4**	**-3.0**
JOD2	**Odawara 2**	**4.19**	**240**	P	Pn	**01 21 17.2**	**-0.7**
JOD2				eS	Sn	**01 22 02.2**	**-3.4**
MJAR	**Matsushiro Arr** 2.6nm,0.3s,baz=91,slow=14,SNR=12	**4.35**	**260**	Pn	Pn	**01 21 20.9**	**+0.7**
MAT	**Matsushiro**	**4.35**	**260**	P	Pn	**01 21 19.9**	**-0.3**
JOT	**Ohata**	**4.39**	**335**	eS	Sn	**01 22 08.7**	**-1.8**
JCH	**Churui**	**5.18**	**359**	P	Pn	**01 21 30.3**	**-1.2**
JCH				S	Sn	**01 22 25.4**	**-4.6**
JHJ	**Hachijo jima 2** comp=Z,51nm,20.1s,baz=42,slow=43	**5.28**	**217**	LR	LR	01 23 51.9	
H11N2	**WAKE ISLAND Hy** baz=315,SNR=3.4	**26.94**	**124**	T	T	01 54 02.9	
H11N1	**WAKE ISLAND Hy** baz=315	**26.95**	**124**	T	T	01 54 12.9	
H11N3	**WAKE ISLAND Hy** baz=315	**26.95**	**124**	T	T	01 54 12.1	
SONM	**Songino Array** 0.4nm,0.6s,baz=107,slow=8.1,SNR=4.6	**28.98**	**303**	P	P	**01 26 15.1**	**+2.3**
ZALV	**Zalesovo Beam** 0.5nm,0.5s,baz=70,slow=12,SNR=2.5	**42.90**	**312**	P	P	**01 28 15.0**	**+3.7**
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=88,slow=10,SNR=3.7	**45.34**	**302**	P	P	01 28 35.2	+4.1
WRA	**Warramunga Arr** 0.9nm,0.8s,baz=12,slow=7.6,SNR=5.4	**57.72**	**190**	P	P	**01 30 03.1**	**-0.6**
ASAR	**Alice Springs** 0.3nm,0.4s,baz=14,slow=7.9,SNR=2.8	**61.44**	**190**	P	P	**01 30 29.0**	**-0.4**
YKA	**Yellowknife Ar** comp=Z,6.3nm,22.0s,baz=318,slow=36	**62.61**	**31**	LR	LR	01 58 24.8	

IDC 11 01:29:36.8±1.1,20.°69N×122.°29E,h0km,mb3.5/6, mb1 3.6/6,mb1mx3.5/34,mbtmp3.5/6,MS3.3/1,Ms1 3.3/1, ms1mx2.3/33,Error ellipse: s-maj=80.4km s-min=21.3km az=67.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array** 0.1nm,0.3s,baz=154,slow=8.0,SNR=2.0	**29.97**	**338**	P	P	01 35 46.3	-0.6
FITZ	**Fitzroy Crossi** comp=Z,35nm,18.0s,baz=281,slow=38	**38.69**	**175**	LR	LR	01 54 22.0	
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=116,slow=8.9,SNR=5.2	**41.58**	**318**	P	P	01 37 25.9	-0.5
WRA	**Warramunga Arr** 0.8nm,1.0s,baz=344,slow=9.2,SNR=6.4	**42.07**	**163**	P	P	01 37 29.8	-0.8
ZALV	**Zalesovo Beam** 0.9nm,0.5s,baz=120,slow=8.3,SNR=2.1	**43.73**	**329**	P	P	01 37 44.5	+0.9
ASAR	**Alice Springs** 0.1nm,0.3s,baz=355,slow=6.5,SNR=1.7	**45.52**	**165**	P	P	01 37 59.0	+0.7
YKA	**Yellowknife Ar** 0.1nm,0.4s,baz=315,slow=6.5,SNR=3.2	**85.77**	**23**	P	P	01 42 17.8	+0.1

ISCJB ***11*** *01:42:36.8±0.5,8.°12S±0.°06×115.°50E±0.°03,h10km, mb3.4/3,Error ellipse: s-maj=9.2km s-min=4.9km az=3.6*

DJA ***11*** *01:42:37.9±0.2,8.°5S±3.°×11.°5E±.°,h10km,M4.0/15,mb4.1/2, MLv3.9/15*

IDC ***11*** *01:42:39.1±2.7,8.°51S×115.°53E,h0km,mb3.3/3, mb1 3.8/4,mb1mx3.4/39,mbtmp3.5/4,ML3.6/1,MS2.9/1, Ms1 2.9/1,ms1mx2.4/17,Error ellipse: s-maj=159.6km s-min=26.9km az=50.0*

ISC 11 01:42:37.6±0.9,8.°22S±0.°07×115.°46E±0.°04,h10km,n17, σ1s49/18,mb3.6/3,Bali region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRBI	**Singaraja**	**0.28**	**300**	P	Pg	**01 42 42.8**	**-0.4**
SRBI				S	Sg	**01 42 46.3**	**-0.6**
DNP	**Denpasar**	**0.51**	**208**	P	Pb	**01 42 50.0**	**+1.3**
IGBI	**Denpasar**	**0.67**	**207**	P	Pb	**01 42 52.3**	**+1.0**
ABJI	**Asem Bagus**	**1.28**	**289**	P	Pn	**01 43 01.3**	**-0.2**
JAGI	**Jajag, Banyuwa**	**1.31**	**259**	P	Pn	**01 43 01.2**	**-0.8**
JAGI				S	Sn	**01 43 20.2**	**+0.6**
KMMI	**Kalianget**	**1.88**	**308**	P	Pn	**01 43 09.6**	**-0.2**
GMJI	**Gumukmas**	**1.99**	**268**	P	Pn	**01 43 11.8**	**+0.5**
PLAI	**Plampang**	**2.37**	**105**	P	Pn	**01 43 17.2**	**+0.6**
GRJI	**Gresik**	**3.22**	**294**	P	Pn	**01 43 28.1**	**-0.2**
PWJI	**Pagerwojo**	**3.62**	**273**	P	Pn	**01 43 33.7**	**0.0**
BKSI	**Bulukumba**	**5.46**	**58**	P	Pn	**01 43 59.2**	**+0.2**
BNSI	**Bone**	**5.98**	**51**	P	Pn	**01 44 06.5**	**+0.3**

LEM	**Lembang**	**7.89**	**280**	LR	LR	01 47 58.9	
	comp=Z,76nm,19.7s,baz=231,slow=40						
FITZ	**Fitzroy Crossi**	**13.95**	**136**	Pn	**Pn**	**01 45 56.6**	**+1.2**
	0.2nm,0.3s,baz=318,slow=14,SNR=2.1						
FITZ				Sn	**Sn**	**01 48 25.3**	**-5.1**
	baz=141,slow=15,SNR=3.1						
WRA	**Warramunga Arr**	**21.68**	**124**	P	**P**	**01 47 29.4**	**+0.6**
	0.4nm,0.3s,baz=298,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**23.41**	**133**	P	**P**	**01 47 47.1**	**+0.1**
	1.5nm,0.7s,baz=309,slow=9.5,SNR=9.2						
MKAR	**Makanchi Array**	**62.22**	**335**	P	P	01 53 04.6	+5.2
	0.1nm,0.2s,baz=142,slow=8.2,SNR=1.7						

*NEIC **11** 01:49:27.7±0.0, 16°.07N×97°.55W, h8^{km}, MD4.0(MEX), After MEX.*

MEX 11 01:49:28.0±0.6**, 16°.09N×97°.53W, h10**^{km}±7^{km}**, MD4.0, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.64**	**298**	*e*P	Pg	01 49 39.2	-1.3
PNIG				*e*S	Sg	01 49 47.6	-1.4
PNIG	**Pinotepa**	**0.64**	**298**	*e*P	Pg	01 49 39.2	-1.3
PNIG				*e*S	Sg	01 49 47.6	-1.4
VHO	**Vista Hermosa**	**1.24**	**38**	*e*P	Pn	01 49 48.5	-3.1
VHO				*e*S	Sb	01 50 03.9	-3.8
VHO	**Vista Hermosa**	**1.24**	**38**	*e*P	Pn	01 49 48.5	-3.1
VHO				*e*S	Sb	01 50 03.9	-3.8
HUIG	**Huatulco**	**1.41**	**103**	*e*P	Pn	01 49 50.0	-3.7
HUIG				*e*S	Sn	01 50 05.1	-7.3
HUIG	**Huatulco**	**1.41**	**103**	*e*P	Pn	01 49 50.0	-3.7
HUIG				*i* S	Sn	01 50 07.2	-5.1
TLIG	**Tlapa**	**1.77**	**326**	*e*P	Pn	01 49 57.7	-1.0
TLIG				*i* S	Sn	01 50 18.3	-3.0
TLIG	**Tlapa**	**1.77**	**326**	*i* P	Pn	01 49 55.6	-3.1
TLIG				*e*S	Sn	01 50 16.2	-5.1
CAIG	**El Cayaco**	**2.79**	**290**	*e*P	Pb	01 50 15.6	-2.3
CAIG	**El Cayaco**	**2.79**	**290**	*i* P	Pn	01 50 09.8	-2.9
CAIG				*i* S	Sn	01 50 42.6	-3.8

*ANF **11** 02:28:45.7±0.1, 37°.71N×88°.90W, h20^{km}±1^{km}, ML3.6/81, Error ellipse: s-maj=0.7km s-min=0.7km az=166.0*
*ISCJB **11** 02:28:46.4±0.2, 37°.71N±0°.01×88°.91W±0°.01, h22^{km}±2^{km}, Error ellipse: s-maj=1.7km s-min=1.7km az=158.0*
*NEIC **11** 02:28:46.6±0.0, 37°.71N×88°.90W, h16^{km}, MD2.7(CERI), After CERI.*
NEIC Felt [III] at Creal Springs, Goreville and Ozark; [II] at Carbondale, Carterville, Marion and Vienna. Also felt at Anna, Carmi, Centralia, Cypress, De Soto, Dongola, Eddyville, Eldorado, Energy, Grayville, Harrisburg, Herrin, Makanda, New Burnside, Pittsburg, Rosiclare, Simpson, Stonefort, Ullin and West Frankfort.
*CERI **11** 02:28:46.6, 37°.71N×88°.90W, h16^{km}, MD2.7*

ISC 11 02:28:45.6±0.8**, 37°.71N**±0°.01×**88°.91W**±0°.01**, h18**^{km}±6^{km}**, n148, σ2^{s}27**/253**, Southern Illinois**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIUC	**Southern Illin**	**0.24**	**271**	*e*Pg	**Pg**	**02 28 52.4**	**+1.1**
SIUC				*e*Sg	**Sg**	**02 28 56.2**	**+1.1**
S45A	**Carrier Mills**	**0.26**	**97**	P	**Pg**	**02 28 52.0**	**+0.4**
	baz=278,SNR=493						
S45A				S	**Sg**	**02 28 55.8**	**+0.1**
	baz=278						
S44A	**Carbondale**	**0.27**	**267**	P	**Pg**	**02 28 52.6**	**+0.9**
	baz=86,SNR=255						
S44A				S	**Sg**	**02 28 56.8**	**+0.9**
	baz=86						
T45A	**Paducah**	**0.72**	**163**	*e*Pg	**Pg**	**02 28 59.9**	**+0.1**
T45A				*e*Sn	**Sb**	**02 29 08.9**	**-0.1**
T45A	**Paducah**	**0.72**	**163**	P	**Pb**	**02 28 59.7**	**+0.1**
	baz=344,SNR=27						
T45A				S	**Sg**	**02 29 09.3**	**-0.1**
	baz=344						
R45A	**Skylar, Fairfi**	**0.77**	**40**	P	**Pg**	**02 29 00.7**	**0.0**
	baz=220,SNR=105						
R45A				S	**Sg**	**02 29 10.8**	**0.0**
	baz=220						
T44A	**Benton**	**0.82**	**221**	P	**Pb**	**02 29 01.7**	**+0.4**
	baz=41,SNR=42						
T44A				S	**Sg**	**02 29 12.9**	**+0.2**
	baz=41						
S43A	**Fulton Ridge,**	**0.94**	**262**	P	**Pb**	**02 29 03.6**	**+0.4**
	baz=81,SNR=176						
S43A				S	**Sb**	**02 29 15.9**	**+0.6**
	baz=81						
S46A	**Don Dixon Farm**	**0.95**	**91**	P	**Pb**	**02 29 03.2**	**-0.2**
	baz=272,SNR=194						
S46A				S	**Sb**	**02 29 15.6**	**-0.1**
	baz=272						
R43A	**Red Bud**	**0.98**	**305**	P	**Pb**	**02 29 04.1**	**0.0**
	baz=124						
R43A				S	**Sb**	**02 29 17.3**	**+0.6**
	baz=124						
USIN	**University of**	**1.02**	**75**	*e*Pb	**Pb**	**02 29 04.4**	**-0.3**
USIN				*e*Sn	**Sn**	**02 29 17.9**	**-0.8**
T46A	**Princeton**	**1.05**	**129**	P	**Pb**	**02 29 04.8**	**-0.4**
	baz=310,SNR=61						
Q44A	**Meyer Farm, Va**	**1.20**	**356**	*e*Pn	**Pb**	**02 29 08.0**	**+0.3**
Q44A				*e*Sn	**Sn**	**02 29 23.2**	**+0.1**
Q44A	**Meyer Farm, Va**	**1.20**	**356**	P	**Pb**	**02 29 07.9**	**+0.3**
	baz=175						
Q44A				S	**Sg**	**02 29 24.0**	**-0.5**
	baz=175						
OLIL	**Olney**	**1.21**	**32**	*e*Pn	**Pn**	**02 29 07.4**	**-0.2**
OLIL				*e*Sn	**Sn**	**02 29 23.3**	**-0.1**
R46A	**Gibon Southern**	**1.22**	**65**	Pb	**Pb**	**02 29 07.9**	**-0.1**
	baz=246						
R46A				S	**Sn**	**02 29 23.9**	**+0.3**
	baz=246						
PARMO	**Parma**	**1.24**	**213**	*e*Pn	**Pn**	**02 29 06.3**	**-1.7**
PARMO				*e*Sn	**Sg**	**02 29 26.0**	**+0.1**
T43A	**Greenville**	**1.26**	**241**	Pb	**Pb**	**02 29 09.3**	**+0.4**
	baz=60,SNR=131						
T43A				S	**Sb**	**02 29 25.5**	**+0.8**
	baz=60						
Q45A	**Warren Harvey,**	**1.32**	**26**	Pb	**Pb**	**02 29 09.9**	**0.0**
	baz=206						
Q45A				S	**Sg**	**02 29 27.4**	**-1.1**
	baz=206						
U44A	**Portageville**	**1.35**	**208**	Pb	**Pb**	**02 29 10.9**	**+0.5**
	baz=27,SNR=12						
U44A				Sb	**Sg**	**02 29 29.0**	**-0.4**
	baz=27						
U45A	**Rockin P Farm,**	**1.36**	**175**	Pb	**Pb**	**02 29 10.8**	**+0.3**
	baz=356,SNR=25						
U45A				Sb	**Sg**	**02 29 29.1**	**-0.6**
	baz=356						
UTMT	**University of**	**1.36**	**178**	*e*Pn	**Pn**	**02 29 09.2**	**-0.5**
UTMT				*e*Sn	**Sb**	**02 29 28.3**	**+0.7**
Q43A	**New Douglas**	**1.38**	**333**	Pb	**Pb**	**02 29 10.9**	**+0.1**
	baz=153						
Q43A				Sb	**Sg**	**02 29 29.3**	**-0.9**
	baz=153						
SLM	**Saint Louis**	**1.40**	**312**	*e*Pn	**Pn**	**02 29 10.0**	**-0.1**
SLM				*e*Sn	**Sb**	**02 29 28.4**	**-0.2**
U44B	**Burton Farm, H**	**1.41**	**195**	Pb	**Pb**	**02 29 11.8**	**+0.4**
	baz=15,SNR=84						
U44B				Sb	**Sg**	**02 29 30.9**	**-0.4**
	baz=15						
GLAT	**Glass**	**1.47**	**192**	*e*Pn	**Pb**	**02 29 12.9**	**+0.6**
GLAT				*e*Sn	**Sb**	**02 29 31.2**	**+0.5**
U46A	**Springville**	**1.47**	**156**	Pb	**Pb**	**02 29 12.5**	**+0.1**
	baz=337,SNR=26						
U46A				Sb	**Sg**	**02 29 31.9**	**-1.2**
	baz=337						
S42A	**Caledonia**	**1.49**	**273**	Pb	**Pb**	**02 29 12.9**	**+0.1**
	baz=92,SNR=259						
R42A	**Luebbering**	**1.59**	**292**	Pb	**Pb**	**02 29 14.7**	**+0.2**
	baz=110,SNR=70						
R42A				Sb	**Sg**	**02 29 36.2**	**-0.9**
	baz=110						
T47A	**Sharon Grove**	**1.61**	**116**	*e*Pn	**Pb**	**02 29 13.9**	**-0.9**
T47A				*e*Sn	**Sb**	**02 29 35.4**	**+0.7**
T47A	**Sharon Grove**	**1.61**	**116**	Pb	**Pb**	**02 29 14.6**	**-0.1**
	baz=298,SNR=60						
S47A	**Hartford**	**1.62**	**93**	Pb	**Pb**	**02 29 14.6**	**-0.3**
	baz=275,SNR=123						
S47A				Sb	**Sb**	**02 29 35.9**	**+0.9**
	baz=275						
Q42A	**Golden Eagle**	**1.75**	**314**	Pb	**Pb**	**02 29 16.9**	**-0.3**
	baz=133,SNR=34						
Q42A				Sb	**Sb**	**02 29 40.1**	**+1.2**
	baz=133						
Q46A	**CEJHS Indians,**	**1.79**	**42**	Pb	**Pb**	**02 29 17.6**	**-0.2**
	baz=223,SNR=11						
Q46A				Sb	**Sg**	**02 29 41.5**	**-1.9**
	baz=223						
U43A	**Rector**	**1.79**	**222**	Pb	**Pb**	**02 29 17.8**	**-0.1**
	baz=42						
U43A				Sb	**Sb**	**02 29 41.4**	**+1.4**
	baz=42						
WVT	**Waverly**	**1.80**	**151**	*e*Pn	**Pb**	**02 29 16.8**	**-1.2**
WVT				*e*Sn	**Sb**	**02 29 39.9**	**-0.3**
WVT	**Waverly**	**1.80**	**151**	Pb	**Pb**	**02 29 17.6**	**-0.4**
	baz=332						
U47A	**Clarksville**	**1.81**	**134**	Pb	**Pb**	**02 29 17.8**	**-0.4**
	baz=315,SNR=106						
U47A				Sb	**Sb**	**02 29 41.2**	**+0.6**
	baz=315						
HALT	**Halls**	**1.83**	**191**	*e*Pn	**Pb**	**02 29 17.7**	**-0.8**
HALT				*e*Sn	**Sn**	**02 29 39.2**	**+0.5**
T42A	**Van Buren**	**1.87**	**249**	*e*Pn	**Pb**	**02 29 18.4**	**-0.8**
T42A				*e*Sn	**Sb**	**02 29 42.1**	**0.0**
T42A	**Van Buren**	**1.87**	**249**	Pb	**Pb**	**02 29 18.5**	**-0.7**
	baz=68,SNR=135						
CCM	**Cathedral Cave**	**1.88**	**281**	*e*Pn	**Pb**	**02 29 18.8**	**-0.5**
CCM				*e*Sn	**Sb**	**02 29 42.2**	**-0.2**
CCM	**Cathedral Cave**	**1.88**	**281**	Pb	**Pb**	**02 29 19.2**	**-0.1**
	baz=100						
V45A	**Humboldt**	**1.97**	**181**	P	**Pn**	**02 29 19.2**	**+1.2**
	baz=1.4,SNR=24						
R47A	**Wooly Knot Far**	**1.97**	**72**	Pb	**Pb**	**02 29 20.0**	**-0.9**
	baz=253,SNR=116						
R47A				Sb	**Sb**	**02 29 46.3**	**+1.1**
	baz=253						
P43A	**Skaggs, Pawnee**	**1.99**	**346**	Pb	**Pb**	**02 29 21.0**	**-0.2**
	baz=166,SNR=52						
P43A				Sb	**Sb**	**02 29 47.0**	**+1.4**
	baz=166						
V46A	**Holladay**	**2.01**	**161**	P	**Pb**	**02 29 20.2**	**-1.4**
	baz=342,SNR=30						
V46A				S	**Sb**	**02 29 46.1**	**-0.1**
	baz=342						
P45A	**Graceland, Par**	**2.03**	**26**	*e*Pn	**Pb**	**02 29 20.9**	**-1.1**
P45A				*e*Sn	**Sb**	**02 29 48.2**	**+1.3**
P45A	**Graceland, Par**	**2.03**	**26**	Pb	**Pb**	**02 29 21.5**	**-0.5**
	baz=207,SNR=52						
P45A				Sb	**Sb**	**02 29 48.5**	**+1.6**
	baz=207						
R41A	**Rosebud**	**2.04**	**288**	Pb	**Pb**	**02 29 21.9**	**-0.2**
	baz=106,SNR=274						
R41A				Sb	**Sb**	**02 29 48.5**	**+1.5**
	baz=106						
T48A	**Bowling Green**	**2.09**	**106**	P	**Pb**	**02 29 21.6**	**-1.3**
	baz=288,SNR=52						
WCI	**Wyandotte Cave**	**2.13**	**75**	*e*Pn	**Pb**	**02 29 22.0**	**-1.7**
WCI				*e*Sn	**Sb**	**02 29 48.5**	**-1.3**
WCI	**Wyandotte Cave**	**2.13**	**75**	P	**Pb**	**02 29 22.5**	**-1.2**
	baz=257						
WCI				Sb	**Sb**	**02 29 50.5**	**+0.7**
	baz=257						
P42A	**Winchester**	**2.18**	**330**	*e*Pn	**Pb**	**02 29 23.2**	**-1.3**
P42A				*e*Sn	**Sb**	**02 29 52.2**	**+0.9**
P42A	**Winchester**	**2.18**	**330**	P	**Pb**	**02 29 23.9**	**-0.6**
	baz=148,SNR=16						
P42A				Sb	**Sb**	**02 29 52.5**	**+1.2**
	baz=148						
V47A	**Nunnelly**	**2.19**	**149**	P	**Pb**	**02 29 22.9**	**-1.7**
	baz=330,SNR=48						
V47A				Sb	**Sb**	**02 29 52.0**	**+0.8**
	baz=330						
Q41A	**Truxton**	**2.21**	**305**	P	**Pb**	**02 29 24.2**	**-0.8**
	baz=123,SNR=84						
Q41A				Sb	**Sb**	**02 29 53.0**	**+1.1**
	baz=123						
U48A	**Cassie Pea, Po**	**2.24**	**122**	P	**Pb**	**02 29 24.3**	**-1.3**
	baz=303,SNR=53						
S41A	**Jillco Farms,**	**2.25**	**268**	P	**Pb**	**02 29 24.2**	**-1.6**
	baz=86,SNR=71						
S48A	**Wiedeman Farm,**	**2.27**	**90**	P	**Pb**	**02 29 24.0**	**-1.9**
	baz=272,SNR=37						
U42A	**Revenden**	**2.30**	**235**	P	**Pb**	**02 29 24.8**	**-1.8**
	baz=53,SNR=36						
P46A	**Rosedale**	**2.33**	**34**	P	**Pb**	**02 29 24.8**	**-2.2**
	baz=215,SNR=41						
T41A	**Mountain View**	**2.37**	**255**	P	**Pn**	**02 29 25.5**	**+2.0**
	baz=73,SNR=20						
BLO	**Bloomington**	**2.38**	**51**	*e*Pn	**Pb**	**02 29 25.7**	**-2.1**
BLO				*e*Sn	**Sb**	**02 29 56.1**	**-0.7**
O44A	**Mansfield**	**2.46**	**8**	P	**Pb**	**02 29 27.1**	**-2.3**
	baz=188,SNR=55						
R48A	**Northridge Ran**	**2.50**	**73**	P	**Pb**	**02 29 27.6**	**-2.3**
	baz=255,SNR=18						
W45A	**Hickory Valley**	**2.56**	**185**	P	**Pn**	**02 29 26.8**	**+0.7**
	baz=5.1,SNR=7.5						
V48A	**Smith Brothers**	**2.58**	**139**	*e*Pn	**Pb**	**02 29 28.8**	**-2.6**
V48A				*e*Sn	**Sn**	**02 29 57.8**	**+0.3**
P41A	**Barry, Barry**	**2.59**	**320**	P	**Pb**	**02 29 29.6**	**-1.8**
	baz=139,SNR=13						
O43A	**Sugar Creek Fa**	**2.59**	**353**	P	**Pb**	**02 29 29.5**	**-2.0**
	baz=173,SNR=7.7						
W47A	**Westpoint**	**2.67**	**156**	P	**Pn**	**02 29 30.0**	**+2.3**
	baz=337,SNR=26						
O45A	**Potomac**	**2.70**	**20**	P	**Pn**	**02 29 30.0**	**+2.0**
	baz=200,SNR=16						
P47A	**Martinsville**	**2.73**	**49**	P	**Pn**	**02 29 30.5**	**+2.1**
	baz=230,SNR=11						
T49A	**Edmonton**	**2.76**	**102**	*e*Pn	**Pn**	**02 29 29.6**	**+0.7**
T49A	**Edmonton**	**2.76**	**102**	P	**Pn**	**02 29 29.5**	**+0.6**
	baz=284,SNR=5.9						
U41A	**Viola**	**2.77**	**241**	P	**Pn**	**02 29 31.2**	**+2.2**
	baz=60,SNR=13						
U49A	**Red Boiling Sp**	**2.77**	**115**	P	**Pn**	**02 29 31.5**	**+2.5**
	baz=297,SNR=43						
PLAL	**Pickwick Lake**	**2.80**	**166**	*e*Pn	**Pn**	**02 29 29.8**	**+0.3**
HDIL	**Hopedale**	**2.86**	**354**	*e*Pn	**Pn**	**02 29 31.9**	**+1.7**
HDIL				*e*Sn	**Sn**	**02 30 06.6**	**+2.4**
S49A	**Springfield**	**2.87**	**87**	P	**Pn**	**02 29 32.1**	**+1.7**
	baz=270,SNR=17						
SFIN	**Lafayette**	**3.02**	**27**	*e*Pn	**Pn**	**02 29 34.1**	**+1.6**
OXF	**Oxford**	**3.22**	**187**	*e*Pn	**Pn**	**02 29 36.9**	**+1.7**
OXF	**Oxford**	**3.22**	**187**	P	**Pn**	**02 29 36.6**	**+1.5**
	baz=7.2						
V41A	**Mountainview**	**3.24**	**235**	P	**Pn**	**02 29 37.5**	**+2.0**
	baz=53,SNR=24						
X47A	**Russelville**	**3.30**	**165**	P	**Pn**	**02 29 37.5**	**+1.2**
	baz=346						
N41A	**Harden Midland**	**3.35**	**334**	*e*Pn	**Pn**	**02 29 38.5**	**+1.4**
Q49A	**Aurora**	**3.41**	**66**	P	**Pn**	**02 29 39.9**	**+2.0**
	baz=249,SNR=10						
U40A	**Yellville**	**3.43**	**248**	P	**Pn**	**02 29 40.3**	**+2.1**
	baz=66,SNR=33						
SWET	**Sewanee**	**3.46**	**135**	*e*Pn	**Pn**	**02 29 40.3**	**+1.7**
X48A	**Hartselle**	**3.58**	**155**	*e*Pn	**Pn**	**02 29 43.1**	**+2.9**
X48A				*e*Sn	**Sb**	**02 30 29.9**	**-1.6**
WHAR	**Wooly Hollow**	**3.64**	**229**	*e*Pn	**Pn**	**02 29 42.9**	**+1.9**
WHAR				*e*Sg	**Sb**	**02 30 36.5**	**+3.4**
W41B	**Gary Mavity, V**	**3.69**	**228**	*e*Pn	**Pn**	**02 29 43.4**	**+1.7**
W41B				*e*Sn	**Sn**	**02 30 26.1**	**+1.3**
W41B				*e*Sg	**Sg**	**02 30 40.2**	**-4.0**
W41B	**Gary Mavity, V**	**3.69**	**228**	P	**Pn**	**02 29 43.7**	**+1.9**
	baz=46,SNR=14						
M43A	**Waltham Townsh**	**3.72**	**359**	P	**Pn**	**02 29 44.4**	**+2.2**
	baz=179,SNR=10						
M44A	**Midewin, Midew**	**3.73**	**10**	*e*Pn	**Pn**	**02 29 44.0**	**+1.7**
M44A				*e*Pb	**Pb**	**02 29 52.4**	**+1.4**
P49A	**Miami Univ. Ec**	**3.76**	**60**	P	**Pn**	**02 29 43.2**	**+0.6**
	baz=242						
W50A	**Signal Mountai**	**3.83**	**130**	*e*Pn	**Pn**	**02 29 45.6**	**+1.9**
W50A				*e*Pb	**Pb**	**02 29 54.4**	**+1.7**
W50A				*e*Sg	**Sb**	**02 30 41.7**	**+3.0**
O48A	**Farmland**	**3.88**	**48**	P	**Pn**	**02 29 45.3**	**+1.0**
	baz=230						
UALR	**University of**	**4.03**	**224**	*e*Pn	**Pn**	**02 29 48.3**	**+1.9**
UALR				*e*Sg	**Sg**	**02 30 53.7**	**-1.5**
Q50A	**Georgetown**	**4.04**	**72**	P	**Pn**	**02 29 48.3**	**+1.7**
	baz=255,SNR=8.7						
V51A	**Loudon**	**4.13**	**116**	*e*Pn	**Pn**	**02 29 50.0**	**+2.3**
V51A				*e*Pb	**Pb**	**02 29 58.6**	**+0.9**
V51A				*e*Sg	**Sg**	**02 30 53.2**	**-4.9**
V51A	**Loudon**	**4.13**	**116**	P	**Pn**	**02 29 49.9**	**+2.3**
	baz=299						
X50B	**Fort Payne**	**4.18**	**140**	P	**Pn**	**02 29 50.1**	**+1.7**
	baz=322						
CPCT	**Cooper Cave**	**4.19**	**121**	*e*Pn	**Pn**	**02 29 50.6**	**+2.1**
CPCT				*e*Sg	**Sb**	**02 30 54.1**	**+5.1**
S51A	**Beattyville**	**4.22**	**89**	*e*Pn	**Pn**	**02 29 50.7**	**+1.7**
S51A				*e*Pb	**Pb**	**02 29 59.7**	**+0.4**
S51A				*e*Sg	**Sb**	**02 30 54.8**	**+4.9**
S51A	**Beattyville**	**4.22**	**89**	P	**Pn**	**02 29 52.2**	**+3.2**
	baz=273,SNR=5.2						
HHAR	**Hobbs**	**4.27**	**252**	*e*Pn	**Pn**	**02 29 51.6**	**+1.9**
HHAR				*e*Sn	**Sn**	**02 30 40.2**	**+1.1**
L42A	**Oliver, Polo**	**4.33**	**353**	*e*Pn	**Pn**	**02 29 51.5**	**+1.1**
L42A				*e*Pb	**Pb**	**02 30 01.4**	**+0.3**
L42A				*e*Sg	**Sb**	**02 30 57.5**	**+4.6**
L42A	**Oliver, Polo**	**4.33**	**353**	P	**Pn**	**02 29 51.9**	**+1.5**
	baz=172						
O49A	**Covington**	**4.34**	**54**	*e*Pn	**Pn**	**02 29 51.6**	**+0.9**
O49A				*e*Pb	**Pb**	**02 30 02.8**	**+1.5**
O49A				*e*Sg	**Sb**	**02 30 58.6**	**+5.2**
Y49A	**Blount Mountai**	**4.35**	**151**	*e*Pn	**Pn**	**02 29 52.0**	**+1.2**
Y49A				*e*Pb	**Pg**	**02 30 05.1**	**-3.8**
Y49A				*e*Sg	**Sb**	**02 30 59.0**	**+5.4**
Y49A	**Blount Mountai**	**4.35**	**151**	P	**Pn**	**02 29 51.7**	**+1.0**
	baz=333						
Z45A	**Winona**	**4.38**	**189**	*e*Pn	**Pn**	**02 29 52.5**	**+1.3**
Z45A				*e*Pg	**Pg**	**02 30 06.0**	**-3.5**
Z45A				*e*Sg	**Sg**	**02 31 07.7**	**+1.6**
TZTN	**Tazewell**	**4.44**	**104**	*e*Pn	**Pn**	**02 29 54.2**	**+2.2**
TZTN				*e*Pb	**Pb**	**02 30 06.1**	**+3.1**
TZTN				*e*Sg	**Sg**	**02 31 03.7**	**-4.5**
TZTN	**Tazewell**	**4.44**	**104**	P	**Pn**	**02 29 54.6**	**+2.6**
	baz=287,SNR=7.4						
X40A	**Basin Creek Fa**	**4.52**	**226**	*e*Pn	**Pn**	**02 29 55.6**	**+2.5**
X40A				*e*Sn	**Sn**	**02 30 46.4**	**+1.2**
X40A				*e*Sg	**Sg**	**02 31 05.9**	**-4.8**
X51A	**Calhoun**	**4.54**	**133**	*e*Pn	**Pn**	**02 29 55.7**	**+2.3**
X51A				*e*Sg	**Sb**	**02 31 04.5**	**+5.4**
Q51A	**Peebles**	**4.57**	**72**	*e*Pn	**Pn**	**02 29 54.8**	**+1.1**
Q51A				*e*Pb	**Pb**	**02 30 07.4**	**+2.2**
Q51A				*e*Sn	**Sn**	**02 30 47.5**	**+1.2**
Q51A				*e*Sg	**Sg**	**02 31 06.9**	**-5.3**
TKL	**Tuckaleechee C**	**4.61**	**115**	*e*Pn	**Pn**	**02 29 56.4**	**+2.0**
TKL				*e*Pb	**Pb**	**02 30 08.1**	**+2.2**
TKL				*e*Sg	**Sb**	**02 31 06.5**	**+5.5**
V52A	**Sevierville**	**4.66**	**112**	*e*Pn	**Pn**	**02 29 56.6**	**+1.7**
V52A				*e*Pb	**Pb**	**02 30 07.7**	**+0.9**
V52A				*e*Sg	**Sg**	**02 31 09.6**	**-5.5**
V52A	**Sevierville**	**4.66**	**112**	P	**Pn**	**02 29 56.8**	**+1.8**
	baz=295,SNR=6.6						
W39A	**Magazine**	**4.66**	**239**	*e*Pn	**Pn**	**02 29 56.9**	**+1.9**
W39A				*e*Sg	**Sb**	**02 31 08.2**	**+5.6**
W39A	**Magazine**	**4.66**	**239**	P	**Pn**	**02 29 56.9**	**+1.9**
	baz=56,SNR=16						
L40A	**Anamosa**	**4.70**	**338**	*e*Pn	**Pn**	**02 29 57.5**	**+1.9**
L40A				*e*Pg	**Pg**	**02 30 12.4**	**-3.2**
L40A				*e*Sg	**Sb**	**02 31 09.5**	**+5.9**
N49A	**Columbus Grove**	**4.87**	**47**	*e*Pn	**Pn**	**02 29 58.7**	**+0.8**
N49A				*e*Sg	**Sg**	**02 31 15.0**	**-7.0**
P51A	**Williamsport**	**4.91**	**67**	*e*Pn	**Pn**	**02 30 00.2**	**+1.8**
P51A				*e*Sn	**Sn**	**02 30 53.4**	**-1.4**
P51A				*e*Sg	**Sb**	**02 31 15.4**	**+5.6**
LRAL	**Lakeview Retre**	**4.92**	**161**	*e*Pn	**Pn**	**02 29 59.4**	**+0.8**
LRAL				*e*Sg	**Sg**	**02 31 16.8**	**-6.8**
MIAR	**Mount Ida**	**4.92**	**231**	*e*Pn	**Pn**	**02 30 00.6**	**+2.0**
MIAR				*e*Sn	**Sn**	**02 30 55.1**	**+0.1**
MIAR				*e*Sg	**Sg**	**02 31 19.5**	**-4.1**
MIAR	**Mount Ida**	**4.92**	**231**	P	**Pn**	**02 30 00.6**	**+2.0**
	baz=49						
K41A	**Shullsburg**	**5.01**	**348**	P	**Pn**	**02 30 01.1**	**+1.3**
	baz=167						
K43A	**Burlington**	**5.01**	**5**	*e*Pn	**Pn**	**02 30 02.5**	**+2.7**
K42A	**Prairie Point,**	**5.08**	**356**	P	**Pn**	**02 30 02.3**	**+1.6**
	baz=176						
JFWS	**Jewell Farm**	**5.30**	**349**	*e*Pn	**Pn**	**02 30 04.2**	**+0.4**
JFWS				*e*Sn	**Sn**	**02 31 04.4**	**0.0**
JFWS	**Jewell Farm**	**5.30**	**349**	P	**Pn**	**02 30 05.2**	**+1.4**
	baz=168						
V53A	**Saluda**	**5.31**	**111**	*e*Pn	**Pn**	**02 30 04.7**	**+0.8**
V53A				*e*Sg	**Sg**	**02 31 29.1**	**-6.8**
V53A	**Saluda**	**5.31**	**111**	P	**Pn**	**02 30 05.5**	**+1.5**
	baz=294,SNR=6.7						
SCIA	**State Center**	**5.34**	**323**	*e*Pn	**Pn**	**02 30 06.4**	**+1.9**
SCIA				*e*Sg	**Sg**	**02 31 31.1**	**-6.0**
Y52A	**Lilburn**	**5.50**	**133**	*e*Pn	**Pn**	**02 30 08.1**	**+1.5**
Y52A				*e*Sg	**Sb**	**02 31 33.6**	**+6.9**
BG3	**Lake Jocassee**	**5.53**	**118**	*e*Pn	**Pn**	**02 30 08.5**	**+1.5**
P52A	**Corning**	**5.64**	**68**	P	**Pn**	**02 30 10.2**	**+1.7**
	baz=252						
TUL1	**Leonard**	**5.80**	**254**	*e*Pn	**Pn**	**02 30 10.9**	**+0.1**
TUL1				*e*Sn	**Sn**	**02 31 14.9**	**-1.9**
TUL1				*e*Sg	**Sg**	**02 31 46.5**	**-5.4**
TUL1	**Leonard**	**5.80**	**254**	P	**Pn**	**02 30 11.4**	**+0.7**
	baz=70,SNR=5.7						
N51A	**Ashland**	**6.00**	**56**	*e*Pn	**Pn**	**02 30 14.8**	**+1.4**
N51A				*e*Sn	**Sn**	**02 31 20.7**	**-0.9**
O52A	**Adamsville**	**6.02**	**64**	*e*Pn	**Pn**	**02 30 15.1**	**+1.4**
O52A				*e*Sg	**Sg**	**02 31 52.3**	**-6.4**
P53A	**Whipple**	**6.15**	**71**	*e*Pn	**Pn**	**02 30 18.6**	**+3.1**
P53A				*e*Sg	**Sg**	**02 31 56.8**	**-6.2**
I42A	**Draeger Farm,**	**6.17**	**360**	*e*Pn	**Pn**	**02 30 16.9**	**+1.1**
I42A				*e*Sg	**Sg**	**02 31 57.4**	**-6.3**
I39A	**Houston**	**6.45**	**343**	*e*Pn	**Pn**	**02 30 20.4**	**+0.8**
BLA	**Blacksburg**	**6.77**	**92**	*e*Pn	**Pn**	**02 30 24.3**	**+0.3**

*NIED **11** 02:48:00, 37°.80N×143°.50E, h8^{km}, Mw3.9 Best double couple: $M_0$8.99000×10^{14} NP1:ϕ_s171.00000°, δ55.00000°, λ-135.00000°. NP2:ϕ_s52.00000°, δ55.00000°, λ-45.00000°.*
*IDC **11** 02:48:43.7±0.9, 37°.72N×143°.61E, h0^{km}, mb3.9/10, mb1 4.0/13, mb1mx3.8/34, mbtmp3.9/13, ML4.1/3, MS2.9/5, Ms1 2.9/5, ms1mx2.6/42, Error ellipse: s-maj=23.6km s-min=18.0km az=113.0*
*ISCJB **11** 02:48:44.9±0.4, 37°.82N±0°.03×143°.50E±0°.04, h19^{km}, mb3.9/15, MS2.5/1, Error ellipse: s-maj=4.4km s-min=3.9km az=43.3*
*JMA **11** 02:48:46.9±0.1, 37°.81N×143°.46E, h49^{km}, M4.2*
*NEIC **11** 02:48:49.0±0.4, 37°.82N×143°.55E, h35^{km}, mb4.1/5, Error ellipse: s-maj=8.6km s-min=6.4km az=119.0*

ISC 11 02:48:46.8±0.7**, 37°.84N**±0°.05×**143°.51E**±0°.06**, h19**^{km}**, n62, σ1^{s}33**/70**, mb4.0**/15**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.68**	**287**	P	**Pn**	**02 49 14.3**	**-0.9**
JIKH				*e*S	**Sn**	**02 49 34.3**	**-1.9**
JIO	**Ouri**	**1.81**	**291**	P	**Pn**	**02 49 16.2**	**-0.8**
JIO				*e*S	**Sn**	**02 49 37.6**	**-1.8**
JKMT	**Kesennumamotoy**	**1.87**	**302**	P	**Pn**	**02 49 17.1**	**-0.7**
JKMT				*e*S	**Sn**	**02 49 39.0**	**-1.9**
OFUJ	**Ofunato**	**1.90**	**311**	P	**Pn**	**02 49 17.6**	**-0.7**
OFUJ				*e*S	**Sn**	**02 49 40.1**	**-1.6**
JMK	**Ichinoseki**	**2.12**	**302**	P	**Pn**	**02 49 20.6**	**-0.6**
JMK				*e*S	**Sn**	**02 49 45.6**	**-1.3**
JOM	**Ohasama**	**2.38**	**314**	P	**Pn**	**02 49 24.9**	**0.0**
JOM				S	**Sn**	**02 49 52.7**	**-0.8**
JFT	**Otama**	**2.54**	**264**	P	**Pn**	**02 49 26.7**	**-0.3**
JFT				*e*S	**Sn**	**02 49 56.1**	**-1.3**
JYK	**Kaneyama**	**2.70**	**294**	P	**Pn**	**02 49 29.4**	**+0.2**
JYK				*e*S	**Sn**	**02 50 01.5**	**+0.1**
JANG	**Nango**	**2.97**	**329**	*e*S	**Sn**	**02 50 06.2**	**-1.8**
JAG	**Ashikaga**	**3.54**	**248**	P	**Pn**	**02 49 40.1**	**-0.6**
JAG				*e*S	**Sn**	**02 50 20.3**	**-1.7**
BSO1	**Boso 1**	**3.78**	**214**	P	**Pn**	**02 49 42.2**	**-1.4**
JOT	**Ohata**	**4.02**	**333**	*e*S	**Sn**	**02 50 32.4**	**-1.4**
JRY	**Ryogami san**	**4.12**	**245**	P	**Pn**	**02 49 48.0**	**-0.7**
JRY				*e*S	**Sn**	**02 50 33.4**	**-2.9**
ERM	**Erimo**	**4.18**	**356**	*e*Pn	**Pn**	**02 49 48.8**	**-0.8**
ERM				*e*Sn	**Sn**	**02 50 38.5**	**+0.7**
JOD2	**Odawara 2**	**4.39**	**236**	P	**Pn**	**02 49 51.6**	**-0.9**
JOD2				S	**Sn**	**02 50 39.2**	**-3.9**
MJAR	**Matsushiro Arr**	**4.43**	**255**	Pn	**Pn**	**02 49 52.9**	**0.0**
	5.5nm,0.3s,baz=91,slow=15,SNR=18						
MJAR				Sn	**Sn**	**02 50 44.0**	**0.0**
	baz=144,slow=8.2,SNR=1.2						
MJAR				LR	LR	02 51 48.3	
	comp=Z,136nm,19.1s,baz=80,slow=42						
MAJO	**Matsushiro**	**4.43**	**255**	*e*Pn	**Pn**	**02 49 53.8**	**+0.8**
MAJO				*e*Sn	**Sn**	**02 50 44.0**	**0.0**
MAT	**Matsushiro**	**4.43**	**255**	P	**Pn**	**02 49 53.9**	**+0.9**
MAT				*e*S	**Sn**	**02 50 45.0**	**+1.0**
MJB9	**Matsu-Tunnel**	**4.43**	**255**	*e*Pn	**Pn**	**02 49 54.2**	**+1.1**
JKB	**Kayabe**	**4.47**	**336**	P	**Pn**	**02 49 55.4**	**+1.9**
JCH	**Churui**	**4.77**	**359**	P	**Pn**	**02 49 56.5**	**-1.2**
JCH				S	**Sn**	**02 50 48.6**	**-3.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	6.31	354	Pn	Pn	02 50 20.1	+1.3
	9.7nm,0.3s,baz=210,slow=7.7,SNR=23						
ASAJ				Sn	Sn	02 51 27.7	-2.6
	baz=174,slow=31,SNR=1.4						
ASAJ	Asahikawa	6.31	354	ePn	Pn	02 50 19.1	+0.3
ASAJ				Sn	Sn	02 51 27.7	-2.6
JNU	Nakatsue	11.32	249	LR	LR	02 56 13.0	
	comp=Z,100nm,18.7s,baz=110,slow=40						
KSRS	Korea Array	12.36	273	LR	LR	02 56 35.2	
	comp=Z,56nm,18.1s,baz=61,slow=38						
KLR	Kul'dur	14.21	327	Pn	Pn	02 52 06.2	-0.7
	0.1nm,0.3s,baz=134,slow=15,SNR=4.6						
PETK	Petropavlovsk-	18.17	28	LR	LR	03 00 52.3	
	comp=Z,19nm,19.2s,baz=224,slow=40						
MA2	Magadan	22.25	10	LR	LR	03 03 29.6	
	comp=Z,17nm,19.9s,baz=284,slow=40						
SEY	Seymchan	25.70	9	P	P	02 54 15.9	+0.4
	3.8nm,0.9s,baz=181,slow=7.4,SNR=7.5						
H11N2	WAKE ISLAND Hy	27.18	125	T	T	03 22 47.3	
	baz=317,slow=75,SNR=41						
H11N1	WAKE ISLAND Hy	27.19	125	T	T	03 22 49.7	
	baz=317,slow=75,SNR=29						
H11N3	WAKE ISLAND Hy	27.20	125	T	T	03 22 49.1	
	baz=317,slow=75,SNR=41						
H11S1	WAKE ISLAND Hy	27.95	127	T	T	03 23 45.3	
	baz=318,slow=76,SNR=17						
H11S3	WAKE ISLAND Hy	27.95	127	T	T	03 23 50.9	
	baz=318,slow=76,SNR=17						
H11S2	WAKE ISLAND Hy	27.97	127	T	T	03 23 46.5	
	baz=318,slow=76,SNR=16						
ULN	Ulaanbaatar	28.31	302	eP	P	02 54 38.1	-1.1
	1.0nm,0.5s						
SONA0	Songino Array	28.74	302	eP	P	02 54 44.5	+1.4
SONM	Songino Array	28.74	302	P	P	02 54 44.5	+1.4
	0.7nm,0.7s,baz=90,slow=7.2,SNR=4.2						
ZAA1	Zalesovo Array	42.62	312	eP	P	02 56 43.2	+1.6
ZALV	Zalesovo Beam	42.62	312	P	P	02 56 43.2	+1.6
	0.4nm,0.3s,baz=91,slow=7.4,SNR=2.6						
ZALV	Zalesovo Beam	42.62	312	eP	P	02 56 42.9	+1.3
MK01	Makanchi Array	45.11	302	eP	P	02 57 03.1	+1.3
MK32	Makanchi Array	45.11	302	eP	P	02 57 02.1	+0.4
MKAR	Makanchi Array	45.11	302	P	P	02 57 02.1	+0.4
	0.5nm,0.6s,baz=92,slow=10,SNR=11						
KURK	Kurchatov	46.75	308	eP	P	02 57 15.4	+0.8
IL1	Eielson Array	47.92	33	eP	P	02 57 22.9	-0.6
ILAR	Eielson Array	47.92	33	P	P	02 57 23.4	-0.1
	1.2nm,0.7s,baz=263,slow=6.8,SNR=15						
ILB	Eielson Array	47.92	33	eP	P	02 57 23.4	-0.1
AAK	Ala-Archa	51.58	298	eP	P	02 57 51.5	-0.4
	0.6nm,0.4s						
WRAB	Tennant Creek	58.11	190	eP	P	02 58 38.4	-0.7
	1.3nm,0.6s						
WB2	Warramunga Arr	58.12	190	eP	P	02 58 39.5	+0.4
WRA	Warramunga Arr	58.12	190	P	P	02 58 38.3	-0.8
	1.4nm,1.0s,baz=8.1,slow=7.1,SNR=8.1						
ABKAR	Akbulak array	58.69	310	eP	P	02 58 43.6	+0.7
RES	Resolute Bay	61.40	15	eP	P	02 59 01.0	-0.1
	1.6nm,0.8s						
AS31	Alice Springs	61.84	190	eP	P	02 59 03.8	-0.9
	6.0nm,1.9s						
ASAR	Alice Springs	61.84	190	P	P	02 59 03.8	-0.9
	0.2nm,0.4s,baz=7.8,slow=7.5,SNR=2.3						
YKA	Yellowknife Ar	62.27	31	P	P	02 59 07.6	+0.5
	0.4nm,0.8s,baz=301,slow=6.8,SNR=6.5						
YKB5	Yellowknife Ar	62.27	31	eP	P	02 59 07.6	+0.5
ARA0	ARCESS Array S	63.83	340	eP	P	02 59 18.1	+0.7
ARCES	ARCESS Array B	63.83	340	P	P	02 59 18.1	+0.7
	5.1nm,1.0s,baz=48,slow=8.7,SNR=1.8						
FIA0	FINESS Array S	68.87	333	eP	P	02 59 50.8	+1.0
FINES	FINESS Array B	68.87	333	P	P	02 59 50.8	+1.0
	2.4nm,0.7s,baz=54,slow=9.7,SNR=4.3						

TRN 11 02:54:19.2, 10°.91N×61°.97W, h67km, MD3.8, 2C, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.62	115	⇑iP	Pn	02 54 32.9	-0.1
TRN				eS	Sn	02 54 43.3	+0.1
TPP	Pointe-a-Pierr	0.78	139	eP	Pn	02 54 35.9	+1.0
TPP				eS	Sn	02 54 47.5	+1.1
TBH	Brigand Hill	0.98	115	eP	Pn	02 54 36.8	-0.6
TBH				eS	Sn	02 54 50.9	0.0
TPR	Prospect	1.21	77	eP	Pn	02 54 40.1	-0.1
TPR				eS	Sn	02 54 55.9	-0.1
BOT	Bacolet	1.26	78	⇑iP	Pn	02 54 40.7	-0.2
BOT				eS	Sn	02 54 57.2	+0.1
GRHS	Sauteurs	1.34	14	eP	Pn	02 54 41.8	-0.3
GRHS				eS	Sn	02 54 59.0	-0.3
GRSS	Sisters	1.42	14	eP	Pn	02 54 43.4	+0.2
GRSS				eS	Sn	02 55 00.9	-0.2
TOSP	Speyside	1.46	75	eP	Pn	02 54 43.2	-0.4
TOSP				eS	Sn	02 55 02.0	0.0
FCV	Fort Charlotte	2.34	18	eP	Pn	02 54 56.1	+0.6
FCV				eS	Sn	02 55 22.6	-0.6
SVB	Belmont	2.45	17	eP	Pn	02 54 56.6	-0.4
SVB				eS	Sn	02 55 25.1	-0.8
SVCV	St. Vincent, C	2.48	19	eP	Pn	02 54 57.4	0.0
SVCV				eS	Sn	02 55 26.6	-0.1
SVV	Soufriere Volc	2.50	17	eP	Pn	02 54 58.2	+0.5
SVV				eS	Sn	02 55 26.9	-0.3
SSV	Crater Summit	2.52	18	eP	Pn	02 54 57.9	-0.1
SSV				eS	Sn	02 55 27.1	-0.6
SFAN	Fancy Village	2.58	18	eS	Sn	02 55 28.1	-1.0
SLDE	Delcer	3.01	17	eP	Pn	02 55 05.5	+0.9
SLDE				eS	Sn	02 55 38.8	-0.7
SLB	Belfond	3.04	17	eP	Pn	02 55 05.8	+0.8
SLB				eS	Sn	02 55 39.0	-1.3
SLPA	Patience	3.10	19	eP	Pn	02 55 05.7	-0.1
SLPA				eS	Sn	02 55 41.6	-0.2
BBGH	Gun Hill	3.24	47	eP	Pn	02 55 08.4	+0.7
BBGH				eS	Sn	02 55 43.9	-1.3
SLW	Petit Monier	3.25	18	eP	Pn	02 55 08.2	+0.3
SLW				eS	Sn	02 55 44.3	-1.2
BBSP	Saint Philip	3.29	48	eP	Pn	02 55 08.9	+0.5
BBSP				eS	Sn	02 55 45.4	-0.9
FDF	Fort de France	3.88	12	eP	Pn	02 55 16.6	0.0
FDF				eS	Sn	02 55 58.9	-2.1
DLPL	La Plaine	4.45	9	eP	Pn	02 55 24.7	+0.4
DLPL	La Plaine	4.45	9	eS	Sn	02 56 13.0	-1.9
BBL	Barber's Block	4.61	6	eP	Pn	02 55 27.0	+0.4
TBG	Guadaloupe-3	4.92	4	eP	Pn	02 55 31.4	+0.7
TBG	Guadaloupe-3	4.92	4	eS	Sn	02 56 24.3	-2.1
MGG	Marie-Galante	5.02	7	eP	Pn	02 55 32.9	+0.8
MGG	Marie-Galante	5.02	7	eS	Sn	02 56 26.7	-2.0
MLYT	Lee's Yard	5.78	358	eP	Pn	02 55 43.0	+0.5
MLYT	Lee's Yard	5.78	358	eS	Sn	02 56 43.8	-3.6
ANWB	Willy Bob	6.72	2	eP	Pn	02 55 56.7	+1.4
ANWB	Willy Bob	6.72	2	eS	Sn	02 57 07.1	-3.4

ATH ***11*** *03:19:06.8, 41°.11N×20°.22E, h19km±3km, ML2.3/4, Error ellipse: s-maj=3.6km s-min=1.1km az=28.0*
THE ***11*** *03:19:07.8, 41°.09N×20°.24E, h10km±2km, ML2.3/3, Error ellipse: s-maj=2.1km s-min=1.0km az=266.0*
TIR ***11*** *03:19:07.1, 41°.08N×20°.24E, h8km, Md3.3/7*
SKO ***11*** *03:19:08.1, 41°.08N×20°.20E, h5km, M1.5, ML2.2*
BEO ***11*** *03:19:08.2±0.4, 41°.04N×20°.26E, h0km, ML2.4/5*
PDG ***11*** *03:19:08.6±0.5, 41°.18N×20°.24E, h0km±11km, ML2.6/10, Error ellipse: s-maj=0.8km s-min=1.1km az=0.0*
ISC 11 03:19:07.4±0.9, **41°.07N**±0°.02×**20°.22E**±0°.02, **h15**km±8km, **n79**, σ1**§32**/128, **6C-8D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.39	316	ePg	Pg	03 19 14.7	-0.5
TIR				eSg	Sb	03 19 21.6	-0.1
TIR	Tirane	0.39	316	P	Pg	03 19 14.5	-0.8
TIR				S	Sg	03 19 20.9	+0.4
TIR				AML	AML	03 19 24.1	
	comp=E,1590μm,0.4s						
TIR				AML	AML	03 19 29.1	
	comp=N,1352μm,0.5s						
TIR	Tirane	0.39	316	P	Pg	03 19 14.5	-0.8
TIR				S	Sb	03 19 22.0	+0.3
TIR	Tirane	0.39	316	i Pg	Pg	03 19 14.4	-0.8
TIR	Tirane	0.39	316	i PG	Pg	03 19 14.5	-0.8
TIR				i SG	Sb	03 19 22.5	+0.8
OHR	Ohrid	0.44	84	i Pg	Pg	03 19 16.1	-0.2
OHR				i Sg	Sb	03 19 23.4	-0.1
OHR				eLg	Lg	03 19 23.5	
	comp=N,103nm,0.3s						
OHR				eLg	Lg	03 19 23.6	
	comp=E,108nm,0.5s						
KBN	Korca	0.62	136	P	Pg	03 19 18.8	-0.8
KBN				S	Sn	03 19 29.8	-1.7
KBN	Korca	0.62	136	i PG	Pg	03 19 18.9	-0.8
KBN				i SG	Sn	03 19 29.8	-1.7
PHP	Peshkopia	0.64	15	P	Pg	03 19 19.0	-1.0
PHP				S	Sb	03 19 28.9	-0.2
PHP	Peshkopia	0.64	15	i PG	Pg	03 19 19.0	-1.0
PHP				i SG	Sb	03 19 29.0	0.0
TPE	Tepelena	0.79	192	P	Pb	03 19 22.3	-0.6
TPE				S	Sn	03 19 35.9	+0.3
KRUS	Krusevo	0.83	69	i Pg	Pb	03 19 22.5	-1.2
KRUS				i Sg	Sn	03 19 35.5	-1.3
KRUS				eLg	Lg	03 19 35.8	
	comp=N,43nm,0.3s						
KRUS				eLg	Lg	03 19 36.5	
	comp=E,47nm,0.3s						
BIA	Bitola	0.84	93	P	Pg	03 19 23.5	-0.2
BIA				S	Sn	03 19 35.8	-1.1
BIA	Bitola	0.84	93	i Pg	Pg	03 19 23.5	-0.2
BIA				i Sg	Sn	03 19 35.8	-1.1
BIA				eLg	Lg	03 19 35.9	
	comp=N,19nm,0.3s						
BIA				eLg	Lg	03 19 37.4	
	comp=E,27nm,0.3s						
NEST	Nestorio	0.91	136	P	Pb	03 19 24.1	-0.8
NEST				S	Sn	03 19 38.6	-0.1
NEST				AML	AML	03 19 43.6	
	comp=E,242μm,0.3s						
NEST				AML	AML	03 19 45.5	
	comp=N,268μm,0.6s						
NEST	Nestorio	0.91	136	P	Pb	03 19 24.2	-0.8
NEST				S	Sn	03 19 37.4	-1.3
FNA	Florina	0.92	108	ePg	Pb	03 19 24.7	-0.5
FNA				eSg	Sg	03 19 37.1	-0.3
FNA	Florina	0.92	108	P	Pb	03 19 24.4	-0.8
FNA				S	Sn	03 19 39.0	+0.1
FNA				AML	AML	03 19 41.8	
	comp=N,525μm,0.4s						
FNA				AML	AML	03 19 43.0	
	comp=E,712μm,0.3s						
FNA	Florina	0.92	108	P	Pb	03 19 24.6	-0.6
FNA				S	Sn	03 19 39.4	+0.4
FNA	Florina	0.92	108	i Pg	Pb	03 19 24.7	-0.5
PUK	Puka	1.00	346	i PG	Pb	03 19 25.8	-0.7
PUK				i SG	Sn	03 19 42.5	+1.5
PENT	Pentalofos	1.12	141	P	Pb	03 19 27.7	-0.8
PENT				S	Sg	03 19 45.8	+2.1
ULC	Ulcinj	1.15	321	⇓iPg	Pn	03 19 28.2	-0.9
ULC				eSg	Sg	03 19 45.6	+0.8
ULC	Ulcinj	1.15	321	i Pg	Pn	03 19 28.4	-0.7
SRN	Sarande	1.20	188	i PG	Pg	03 19 30.2	-0.4
SRN				i SG	Sg	03 19 51.4	+5.2
SKO	Skopje	1.29	45	ePg	Pb	03 19 30.9	-0.4
SKO				eSg	Sg	03 19 48.7	-0.3
SKO	Skopje	1.29	45	P	Pb	03 19 31.0	-0.4
SKO				S	Sg	03 19 49.0	0.0
SKO	Skopje	1.29	45	i Pg	Pg	03 19 31.6	-0.6
SKO				i Sg	Sg	03 19 48.9	0.0
SKO				eLg	Lg	03 19 49.6	
	comp=E,5.1nm,0.5s						
SKO				eLg	Lg	03 19 50.1	
	comp=N,11nm,0.4s						
DRME	Dracevica, Mon	1.36	326	⇑iPg	Pb	03 19 32.2	-0.4
DRME				eSg	Sg	03 19 52.2	+0.9
DRME	Dracevica, Mon	1.36	326	ePn	Pn	03 19 31.2	-0.7
KEK	Kerkira	1.39	193	P	Pg	03 19 33.8	-0.5
KZN	Kozani	1.41	122	P	Pb	03 19 33.1	-0.4
KZN				S	Sg	03 19 53.0	+0.2
KZN				AML	AML	03 19 55.5	
	comp=E,178μm,0.6s						
KZN				AML	AML	03 19 57.1	
	comp=N,133μm,0.4s						
KZN	Kozani	1.41	122	P	Pb	03 19 33.0	-0.4
KZN				S	Sg	03 19 53.6	+0.8
JAN	Janina	1.49	161	P	Pg	03 19 35.6	-0.5
JAN	Janina	1.49	161	P	Pb	03 19 34.5	-0.4
JAN				S	Sg	03 19 54.6	-0.9
PVY	Plav	1.54	353	⇑iPg	Pb	03 19 35.1	-0.6
PVY				eSg	Sg	03 19 57.5	+0.5
IGT	Igoumenitsa	1.54	177	ePn	Pg	03 19 36.5	-0.5
IGT	Igoumenitsa	1.54	177	P	Pg	03 19 36.3	-0.7
PDG	Podgorica	1.54	332	ePg	Pg	03 19 36.1	-0.9
PDG				eSg	Sg	03 19 59.0	+2.0
PDG	Podgorica	1.54	332	ePn	Pb	03 19 34.6	-1.0
TTG	Podgorica	1.54	332	⇓iPg	Pb	03 19 35.4	-0.2
TTG				eSg	Sg	03 19 58.8	+1.8
BUM	Brajici-Budva	1.58	322	⇑iPg	Pb	03 19 36.1	-0.3
BUM				eSg	Sg	03 20 00.3	+1.9
STIP	Stip	1.61	67	i Pg	Pg	03 19 40.7	+2.4
STIP				i Sg	Sg	03 20 05.7	+6.5
STIP				eLg	Lg	03 20 05.8	
	comp=E,3.4nm,0.3s						
STIP				eLg	Lg	03 20 06.8	
	comp=N,5.6nm,0.3s						
GRG	Griva	1.66	93	P	Pb	03 19 36.7	-1.0
CEME	Cevo	1.77	327	⇑iPn	Pb	03 19 39.1	-0.5
CEME				eSn	Sg	03 20 05.8	+1.5
VAY	Valandovo	1.79	81	ePn	Pb	03 19 39.5	-0.5
VAY	Valandovo	1.79	81	i Pg	Pg	03 19 41.3	-0.6
BEY	Berane	1.82	352	i Pg	Pb	03 19 40.7	+0.2
IVA	Berane	1.82	352	⇓iPn	Pb	03 19 40.5	0.0
IVA				eSn	Sg	03 20 06.3	+0.4
KOME	Kolasin	1.85	344	⇓iPn	Pb	03 19 41.0	-0.1
KOME				eSn	Sg	03 20 07.7	+0.6
HCY	Herceg Novi	1.89	317	⇓iPn	Pb	03 19 42.1	+0.5
HCY				eSn	Sg	03 20 09.3	+1.2
HCY	Herceg Novi	1.89	317	ePn	Pn	03 19 38.8	-0.3
NKME	Niksic	1.94	331	⇓iPn	Pb	03 19 42.5	0.0
NKME				eSn	Sg	03 20 09.7	-0.2
NKY	Niksic	1.97	333	⇓iPn	Pb	03 19 43.4	+0.4
NKY				eSn	Sg	03 20 10.8	+0.1
THL	Klokotos Trika	2.04	137	P	Pb	03 19 43.4	-0.8
BARS	Barje	2.11	34	ePn	Pb	03 19 45.0	-0.5
BARS				eSn	Sb	03 20 12.5	+1.0
BARS	Barje	2.11	34	ePg	Pg	03 19 46.6	-1.3
BARS				i Sg	Sg	03 20 15.3	-0.1
TREB	Trebinje	2.16	320	ePn	Pn	03 19 43.7	+0.8
SJES	Sjenica	2.20	355	ePn	Pb	03 19 47.1	+0.1
SJES				eSn	Sb	03 20 15.5	+1.5
BRY	Bratogost	2.22	326	⇓iPn	Pb	03 19 46.2	-1.1
BRY				eSn	Sb	03 20 16.4	+1.8
BRY	Bratogost	2.22	326	ePn	Pb	03 19 45.9	-1.4
SELS	Selova	2.25	17	ePn	Pb	03 19 47.0	-0.8
PLE	Pljevlja	2.34	345	⇑iPn	Pb	03 19 48.1	-1.3
PLE				eSn	Sb	03 20 18.6	+0.4
UPM	Unac-Piva	2.34	336	⇑iPn	Pb	03 19 48.8	-0.7
UPM				eSn	Sb	03 20 19.4	+1.1
UPM	Unac-Piva	2.34	336	ePn	Pb	03 19 49.0	-0.5
IVAS	Ivanjica	2.51	359	ePn	Pb	03 19 51.2	-1.0
STON	Ston	2.60	315	ePn	Pb	03 19 51.6	-2.1
STON				Sn	Sb	03 20 23.2	-2.3
AGG	Agios Georgios	2.61	141	P	Pb	03 19 50.9	-3.1
VTS	Vitosha	2.70	55	ePn	Pn	03 19 51.5	+1.0
BOVS	Bovan	2.79	23	ePn	Pn	03 19 53.5	+1.9
ZAPS	Zavoj	2.84	38	ePn	Pb	03 19 54.8	-3.1
BBLS	Lazići	2.86	348	ePn	Pb	03 19 56.2	-2.0
BBLS	Lazići	2.86	348	ePn	Pb	03 19 55.9	-2.3
DIVS	Divibare	3.03	357	ePn	Pb	03 19 58.0	-3.1
DIVS	Divibare	3.03	357	ePn	Pb	03 19 59.0	-2.1
HAPS	Han Pijesak,Bl	3.16	343	ePn	Pn	03 19 57.9	+1.2
UDBI	Udbina	4.76	318	ePn	Pn	03 20 19.5	+0.8
UDBI				Sn	Sn	03 21 15.6	+2.0
NVLJ	Novalja	5.26	313	ePn	Pn	03 20 25.8	+0.3
NVLJ				Sn	Sn	03 21 25.5	-0.2
CRES	Cresnjev	5.88	326	ePn	Pn	03 20 34.8	+0.8

NNC 11 03:38:21.5±1.8, **43°.98N×86°.25E, h0**km, **mb3.7, mpv3.3, 11C-3D, Error ellipse: s-maj=13.4km s-min=8.7km az=120.0, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	Zaisan	3.60	345	Pg	Pg	03 39 31.1	+0.5
	4.7nm,0.7s						
ZSN				Lg	Lg	03 40 23.7	
	5.9nm,0.6s						
MK31	Makanchi Array	3.96	317	Pn	Pn	03 39 23.6	0.0
	2.0nm,0.4s,baz=131,slow=14,SNR=40						
MK31				⇑Pg	Pb	03 39 32.9	+0.6
	3.3nm,0.4s,baz=132,slow=17,SNR=17						
MK31				⇑Sn	Sn	03 40 12.5	+1.6
	2.9nm,0.4s						
MK31				⇑Lg	Lg	03 40 27.3	
	24nm,0.6s,baz=134,slow=29						
MAKZ	Makanchi	4.13	315	⇑Pn	Pn	03 39 25.7	-0.2
	4.1nm,0.4s						
MAKZ				⇑Pg	Pb	03 39 36.0	+0.9
	2.7nm,0.5s						
MAKZ				⇑Sn	Sn	03 40 12.5	-2.5
	5.2nm,0.4s						
MAKZ				⇓Lg	Lg	03 40 31.8	
	9.0nm,0.7s						
DJR	Jarkent	4.67	277	Pg	Pb	03 39 46.4	+2.1
	0.8nm,0.3s						
DJR				Lg	Lg	03 40 49.0	
	5.3nm,0.4s						
PDGK	Podgornoye	4.95	265	Pg	Pb	03 39 51.9	+2.8
	1.0nm,0.4s						
PDGK				Lg	Lg	03 40 58.9	
	5.1nm,0.6s						
PDGK	Podgornoye	4.95	265	⇑Pg	Pg	03 39 55.1	-1.3
	1.4nm,0.5s						
PDGK				⇓Sn	Sn	03 40 31.1	-4.2
	3.8nm,0.7s						
PDGK				⇑Lg	Lg	03 40 55.4	
	7.2nm,0.5s						
SHLS	Shalkode	5.00	263	Pg	Pb	03 39 48.4	-1.7
	3.8nm,0.2s						
KAPS	Kapalarasan	5.09	287	Pg	Pb	03 39 54.1	+2.6
	3.3nm,0.6s						
KURBB	Kurchatov Arra	8.46	324	⇓Pn	Pn	03 40 24.1	-1.3
	1.7nm,0.6s						
KURBB				⇑Sn	Sn	03 42 00.2	-1.4
	4.5nm,0.8s						
KURBB				⇑Lg	Lg	03 42 48.9	
	10nm,0.7s						
KURK	Kurchatov	8.50	325	⇑Lg	Lg	03 42 50.1	
	6.7nm,1.0s						

MAN ***11*** *03:47:56.4, 5°.15N×126°.47E, h54km, mb4.7, ML3.6, MS3.5*
ISCJB ***11*** *03:47:59.3±0.6, 5°.29N±0°.04×126°.25E±0°.07, h82km±5km, mb4.0/18, Error ellipse: s-maj=11.1km s-min=5.8km az=174.3*
NEIC ***11*** *03:48:01.6±0.7, 5°.35N×126°.24E, h87km±6km, mb4.2/6, Error ellipse: s-maj=13.0km s-min=4.6km az=75.0*
IDC ***11*** *03:48:03.5±1.3, 5°.36N×126°.24E, h103km±11km, mb3.8/14, mb1 3.9/14, mb1mx3.8/39, mbtmp4.1/14, MS3.4/9, Ms1 3.4/9, ms1mx3.2/22, Error ellipse: s-maj=41.4km s-min=10.6km az=75.0*
DJA ***11*** *03:48:05.3±0.8, 5°N±5°×12°6E±°, h71km±27km, M4.5/3, mb4.5/1, MLv4.6/3*
ISC 11 03:47:59.8±1.1, **5°.31N**±0°.04×**126°.22E**±0°.07, **h68**km±9km, **n68**, σ1**§41**/69, **mb4.2**/23, **2C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	0.94	328	eP	Pn	03 48 15.2	-2.2
DDMP				eS	Sn	03 48 28.2	-2.3
GSPH	General Santos	1.48	302	⇓iP	Pn	03 48 23.2	-1.4
GSPH				i S	Sn	03 48 43.4	+0.2
MATI	Mati	1.63	1	eP	Pn	03 48 25.7	-0.7
MATI				eS	Sn	03 48 47.9	+1.3
SGSI	Sangihe	1.75	203	P	Pn	03 48 26.6	-1.5
DAV	Davao City (W)	1.86	340	P	Pn	03 48 34.0	+4.4
	112nm,0.3s,baz=89,slow=19,SNR=4.4						
DAV				S	Sn	03 48 57.6	+5.4
	234nm,0.3s,baz=283,slow=20,SNR=11						
DAV				LR	LR	03 49 29.5	
	comp=Z,1μm,18.2s,baz=180,slow=47						
DAV	Davao City (W)	1.86	340	ePn	Pn	03 48 32.9	+3.3
DAV				eSn	Sn	03 48 53.7	+1.5
DMPH	Davao City--Mi	1.90	338	⇑eP	Pn	03 48 30.9	+0.8
DMPH				eS	Sn	03 49 03.4	+10
SKMP	Bagumbayan, Su	2.05	306	eP	Pn	03 48 33.8	+1.6
SKMP				eS	Sn	03 49 01.0	+4.2
BUKP	Musuan	2.80	336	eP	Pn	03 48 42.2	-0.1
BUKP				eS	Sn	03 49 13.2	-1.8
BIPH	Bislig	2.86	3	⇓eP	Pn	03 48 43.4	+0.2
BIPH				eS	Sn	03 49 20.0	+3.5
CGP	Cagayan de Oro	3.47	334	⇓eP	Pn	03 48 54.0	+2.6
CGP				eS	Sn	03 49 38.8	+7.3
BUTP	Butuan	3.69	351	eP	Pn	03 48 58.5	+4.2
BUTP				eS	Sn	03 49 44.6	+8.0
DCPH	Dipolog City	4.32	319	⇑eP	Pn	03 49 12.6	+9.5
TNTI	Ternate	4.65	166	ePn	Pn	03 49 09.2	+1.6
TNTI	Ternate	4.65	166	P	Pn	03 49 07.1	-0.5
MRSI	Marisa	6.42	222	P	Pn	03 49 30.9	-0.9
LUWI	Luwuk	7.18	209	ePn	Pn	03 49 44.5	+2.2
SIJI	Sorong	7.94	140	LR	LR	03 53 09.9	
	comp=Z,184nm,21.2s,slow=38						
FITZ	Fitzroy Crossi	23.26	181	P	P	03 53 02.1	+0.5
	1.9nm,0.4s,baz=356,slow=8.5,SNR=11						
FITZ	Fitzroy Crossi	23.26	181	eP	P	03 53 02.1	+0.5
	12nm,0.9s						
WRAB	Tennant Creek	26.33	163	eP	P	03 53 29.8	+0.3
	4.5nm,0.8s						
WRA	Warramunga Arr	26.33	163	P	P	03 53 29.3	-0.2
	5.1nm,0.9s,baz=341,slow=10,SNR=17						
WRA				LR	LR	04 05 23.1	
	comp=Z,56nm,19.8s,baz=195,slow=39						
CMAR	Chiang Mai Arr	29.66	298	LR	LR	04 06 21.9	
	comp=Z,31nm,18.1s,baz=132,slow=37						
ASAR	Alice Springs	29.76	166	P	P	03 54 01.2	+1.2
	0.7nm,0.7s,baz=358,slow=6.7,SNR=8.0						
KS15	Wonju Array Si	32.02	3	eP	P	03 54 19.1	-0.7
KSAR	Wonju Array Be	32.02	3	P	P	03 54 19.9	+0.1
KSRS	Korea Array	32.03	3	P	P	03 54 19.9	0.0
	1.1nm,0.7s,baz=190,slow=10.0,SNR=3.6						
USRK	Ussuriysk Ar.	39.07	7	P	P	03 55 19.6	-0.5
	1.7nm,0.7s,baz=203,slow=7.2,SNR=4.9						
STKA	Stephens Creek	39.78	159	P	P	03 55 26.6	+0.3
	2.8nm,0.6s,baz=338,slow=10,SNR=6.3						
STKA				LR	LR	04 15 44.5	
	comp=Z,36nm,18.0s,baz=340,slow=42						
STKA	Stephens Creek	39.78	159	eP	P	03 55 25.7	-0.5
	1.2nm,1.0s						
JIRN	Jiri	44.05	305	eP	P	03 56 03.1	+1.5
	14nm,0.6s						
GUN	Gumba	44.40	305	eP	P	03 56 05.8	+1.4
	19nm,0.8s						
ULN	Ulaanbaatar	45.47	342	eP	P	03 56 11.9	-0.4
	1.9nm,0.6s						
SONA0	Songino Array	45.65	341	eP	P	03 56 13.4	-0.4
SONA0				ePcP	PcP	03 57 51.6	+0.7
SONM	Songino Array	45.65	341	P	P	03 56 13.4	-0.4
	0.9nm,0.6s,baz=155,slow=8.0,SNR=8.7						
SONM				PcP	PcP	03 57 51.6	+0.7
	0.3nm,0.4s,baz=154,slow=3.9,SNR=4.8						
KOLN	Koldanda	46.22	304	eP	P	03 56 20.0	+1.4
	12nm,0.6s						
DANN	Dangsing	46.30	305	eP	P	03 56 20.4	+1.1
	20nm,0.6s						
PYUN	Piuthan	46.84	304	eP	P	03 56 24.8	+1.3
	12nm,0.8s						
MK01	Makanchi Array	55.96	325	eP	P	03 57 31.1	-0.1
MK31	Makanchi Array	55.98	325	eP	P	03 57 30.9	-0.4
MK32	Makanchi Array	55.98	325	eP	P	03 57 30.9	-0.4
MKAR	Makanchi Array	55.98	325	P	P	03 57 30.9	-0.4
	2.3nm,0.5s,baz=123,slow=8.3,SNR=29						
MAKZ	Makanchi	56.16	325	eP	P	03 57 32.4	-0.2
	2.2nm,0.7s						
ZALV	Zalesovo Beam	58.96	333	P	P	03 57 49.9	-2.1
	0.9nm,0.5s,baz=132,slow=6.4,SNR=3.3						
ZALV				LR	LR	04 23 25.2	
	comp=Z,34nm,20.3s,baz=146,slow=36						
ZAA1	Zalesovo Array	58.96	333	eP	P	03 57 49.9	-2.1
KURK	Kurchatov	60.14	327	eP	P	03 57 59.8	-0.5
KK31	Karatay Array	61.74	317	eP	P	03 58 10.9	-0.4
KKAR	Karatay Array	61.74	317	eP	P	03 58 11.2	-0.1
BRVK	Borovoye	65.80	327	eP	P	03 58 37.3	-0.4
	8.6nm,1.3s						
GEYT	Alibeck	69.52	308	LR	LR	04 32 34.0	
	comp=Z,32nm,20.0s,baz=335,slow=38						
ABKAR	Akbulak array	70.61	321	eP	P	03 59 07.3	-0.6
ILAR	Eielson Array	83.91	25	P	P	04 00 20.4	-1.7
	0.6nm,0.9s,baz=246,slow=4.9,SNR=5.5						
ILB	Eielson Array	83.91	25	eP	P	04 00 20.4	-1.7
VNDA	Vanda	85.05	173	P	P	04 00 28.1	+0.6
	1.1nm,0.9s,baz=342,slow=6.7,SNR=2.9						
PPT	Papeete	86.08	108	LR	LR	04 32 46.0	
	comp=Z,26nm,18.7s,baz=10,slow=31						
ARA0	ARCESS Array S	88.80	340	eP	P	04 00 45.8	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B**	**88.80**	**340**	P	**P**	**04 00 45.8**	**-0.1**
	5.4nm,0.9s,baz=87,slow=6.9,SNR=5.9						
KMBO	**Kilima Mbogo**	**89.07**	**269**	LR	LR	04 42 56.4	
	comp=Z,18nm,19.0s,baz=84,slow=37						
FIA0	**FINESS Array S**	**90.21**	**332**	*e*P	**P**	**04 00 52.1**	**-0.5**
FINES	**FINESS Array B**	**90.21**	**332**	P	**P**	**04 00 52.1**	**-0.5**
	4.0nm,1.0s,baz=79,slow=2.9,SNR=9.6						
NB200	**NORSAR Array S**	**97.16**	**334**	*e*P	**P**	**04 01 23.8**	**-0.9**
NOA	**NORSAR Array B**	**97.16**	**334**	P	**P**	**04 01 23.8**	**-0.9**
	0.5nm,0.7s,baz=66,slow=4.6,SNR=2.6						
NOA				LR	LR	04 48 12.7	
	comp=Z,38nm,18.5s,baz=275,slow=37						
LTX	**Lajitas**	**121.03**	**51**	*e*PKPdf	**PKPdf**	**04 06 45.8**	**+0.3**
TXAR	**Lajitas Array**	**121.03**	**51**	PKP	**PKPdf**	**04 06 45.8**	**+0.3**
	0.1nm,0.4s,baz=328,slow=4.3,SNR=2.8						
TORD	**Torodi Ar. Bea**	**121.94**	**289**	PKP	**PKPdf**	**04 06 47.6**	**+0.2**
	0.5nm,0.6s,baz=112,slow=2.9,SNR=5.0						
TOA1	**Torodi Ar. Sit**	**121.94**	**289**	*e*PKPdf	**PKPdf**	**04 06 47.6**	**+0.1**
JTS	**JuntasAbangare**	**145.30**	**63**	*e*PKPbc	**PKPdf**	**04 07 30.5**	**-0.5**
LCO	**Las Campanas**	**151.50**	**148**	*e*PKPbc	**PKPbc**	**04 07 47.7**	**+0.5**
LCO				*e*PKPab	**PKPab**	**04 07 54.0**	**-1.7**

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*VAO **11** 04:18:38.9±2.8, 19°.15S×68°.43W, h179km, mb4.5*
*ISCJB **11** 04:18:42.9±0.3, 19°.19S±0°.02×67°.95W±0°.03, h190km±3km, mb3.4/6, Error ellipse: s-maj=5.7km s-min=3.5km az=26.2*
*GUC **11** 04:18:43.8±0.6, 19°.24S×68°.22W, h219km±5km, ML4.3*
*IDC **11** 04:18:43.1±0.7, 19°.13S×67°.82W, h176km±7km, mb3.3/6, mb1 3.7/13, mb1mx3.5/35, mbtmp4.1/13, Error ellipse: s-maj=13.8km s-min=7.7km az=95.0*
*SCB **11** 04:18:45.1±1.6, 19°.20S×67°.90W, h197km±10km, ML4.0/6, Error ellipse: s-maj=4.2km s-min=2.7km az=2.0*
ISC 11 04:18:43.0±0.6**, 19°.15S**±0°.03×**67°.92W**±0°.03**, h180**km±7km**, n57, σ1^{s}64**/87**, mb3.5**/6**, 2C, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**1.53**	**230**	*e*P	**Pn**	**04 19 17.5**	**+1.8**
PB08				*i* S	**Sn**	**04 19 43.0**	**+2.0**
PB08				IAML		04 19 45.1	
	comp=N,894nm,0.4s						
PB08	**IPOC Station P**	**1.53**	**230**	P	**Pn**	**04 19 17.5**	**+1.8**
MNMC	**Minye Minye**	**1.59**	**270**	⇑*i*P	**Pn**	**04 19 17.5**	**+1.4**
MNMC				*i* S	**Sn**	**04 19 43.3**	**+1.5**
MNMC	**Minye Minye**	**1.59**	**270**	P	**Pn**	**04 19 17.6**	**+1.4**
PB16	**IPOC Station P**	**1.71**	**298**	⇑*i*P	**Pn**	**04 19 19.7**	**+2.0**
PB16				*i* S	**Sn**	**04 19 46.9**	**+2.3**
PB11	**IPOC Station P**	**1.75**	**249**	*e*P	**Pn**	**04 19 18.6**	**+0.9**
PB11				*i* S	**Sn**	**04 19 45.3**	**+0.8**
PB11	**IPOC Station P**	**1.75**	**249**	P	**Pn**	**04 19 18.8**	**+1.1**
PB11				S	**Sn**	**04 19 45.1**	**+0.6**
PSGC	**Pisagua**	**2.13**	**258**	*e*P	**Pn**	**04 19 21.8**	**+0.1**
PSGC				*i* S	**Sn**	**04 19 50.7**	**-0.9**
PSGC	**Pisagua**	**2.13**	**258**	P	**Pn**	**04 19 22.2**	**+0.5**
PSGC				S	**Sn**	**04 19 50.9**	**-0.7**
BBOJ	**La Paz, Jacaqu**	**2.18**	**353**	P	**Pn**	**04 19 25.5**	**+2.8**
BBOJ				S	**Sn**	**04 19 53.4**	**-0.1**
BBOJ				AML	AML	04 19 54.9	
	comp=N,473nm,0.3s						
BS05	**Cuyupaya**	**2.32**	**24**	P	**Pn**	**04 19 25.7**	**+1.5**
BS05				S	**Sn**	**04 19 56.7**	**+0.6**
BS05				AML	AML	04 19 58.7	
	comp=N,487nm,0.5s						
BBOE	**La Paz, Chanca**	**2.33**	**358**	P	**Pn**	**04 19 27.1**	**+2.7**
PB12	**IPOC Station P**	**2.35**	**283**	*e*P	**Pn**	**04 19 24.2**	**+0.1**
PB12				*i* S	**Sn**	**04 19 55.3**	**-0.7**
PB01	**IPOC Station P**	**2.39**	**218**	*e*P	**Pn**	**04 19 25.4**	**+0.8**
PB01				*i* S	**Sn**	**04 19 56.7**	**-0.4**
PB01				IAML		04 19 59.5	
	comp=E,892nm,0.1s						
PB01	**IPOC Station P**	**2.39**	**218**	P	**Pn**	**04 19 25.6**	**+1.0**
PB01				S	**Sn**	**04 19 56.6**	**-0.4**
BS10	**CO. Tuti**	**2.58**	**50**	P	**Pn**	**04 19 28.5**	**+1.3**
BS10				S	**Sn**	**04 20 00.7**	**-0.8**
BS10				AML	AML	04 20 04.4	
	comp=E,372nm,0.6s						
BBOD	**La Paz, Gloria**	**2.58**	**345**	P	**Pn**	**04 19 29.9**	**+2.6**
BBOD				S	**Sn**	**04 20 02.7**	**+1.0**
BBOD				IAML		04 20 05.1	
	comp=E,428nm,0.6s						
BS02	**Patallajta**	**2.69**	**90**	P	**Pn**	**04 19 29.8**	**+1.5**
BS02				S	**Sn**	**04 20 01.4**	**-2.1**
BS02				AML	AML	04 20 07.8	
	comp=E,316nm,0.7s						
BB01	**Montecillos**	**2.74**	**67**	P	**Pn**	**04 19 30.5**	**+1.7**
BB01				S	**Sn**	**04 20 03.1**	**-1.3**
BB01				AML	AML	04 20 06.1	
	comp=E,454nm,0.7s						
PB02	**IPOC Station P**	**2.85**	**220**	*e*P	**Pn**	**04 19 30.1**	**+0.1**
PB02				*i* S	**Sn**	**04 20 05.1**	**-1.5**
PB02				IAML		04 20 09.1	
	comp=E,1µm,0.3s						
PB02	**IPOC Station P**	**2.85**	**220**	P	**Pn**	**04 19 31.1**	**+1.1**
PB02				S	**Sn**	**04 20 05.5**	**-1.1**
LPAZ	**La Paz**	**2.85**	**356**	P	**Pn**	**04 19 32.1**	**+1.5**
	comp=E,41nm,0.3s,baz=150,slow=5.6,SNR=1035						
LPAZ				S	**Sn**	**04 20 07.7**	**+0.1**
	comp=E,12nm,0.3s,baz=283,slow=21,SNR=20						
LPAZ	**La Paz**	**2.85**	**356**	P	**Pn**	**04 19 32.4**	**+1.8**
LPAZ				S	**Sn**	**04 20 07.5**	**-0.1**
PB09	**IPOC Station P**	**2.91**	**205**	*e*P	**Pn**	**04 19 31.9**	**+1.1**
PB09				*i* S	**Sn**	**04 20 08.0**	**-0.1**
MOCB	**Mochara**	**2.99**	**135**	P	**Pn**	**04 19 33.6**	**+1.6**
BBOB	**La Paz, Bander**	**3.00**	**356**	P	**Pn**	**04 19 34.0**	**+1.7**
PB07	**IPOC Station P**	**3.16**	**215**	*e*P	**Pn**	**04 19 33.8**	**0.0**
PB07				*i* S	**Sn**	**04 20 11.9**	**-1.6**
PB07				IAML		04 20 24.3	
	comp=E,358nm,0.6s						
PB03	**IPOC Station P**	**3.36**	**211**	*e*P	**Pn**	**04 19 36.5**	**+0.3**
PB03				*i* S	**Sn**	**04 20 16.1**	**-1.7**
LVC	**Limon Verde**	**3.56**	**195**	P	**Pn**	**04 19 40.3**	**+1.2**
	comp=E,25nm,0.3s,baz=10,slow=8.9,SNR=228						
LVC				S	**Sn**	**04 20 23.1**	**+0.3**
	comp=E,23nm,0.3s,baz=198,slow=16,SNR=16						
PB04	**IPOC Station P**	**3.79**	**213**	*e*P	**Pn**	**04 19 41.7**	**0.0**
PB04				*i* S	**Sn**	**04 20 24.9**	**-2.7**
PB04	**IPOC Station P**	**3.79**	**213**	P	**Pn**	**04 19 42.5**	**+0.8**
PB06	**IPOC Station P**	**3.86**	**203**	*e*P	**Pn**	**04 19 43.0**	**+0.5**
PB06				*i* S	**Sn**	**04 20 27.6**	**-1.6**
PB06	**IPOC Station P**	**3.86**	**203**	P	**Pn**	**04 19 43.3**	**+0.8**
PB05	**IPOC Station P**	**4.26**	**210**	*e*P	**Pn**	**04 19 47.6**	**0.0**
PB05				*i* S	**Sn**	**04 20 34.1**	**-4.1**
BB02	**La Guardia**	**4.53**	**75**	P	**Pn**	**04 19 52.6**	**+1.6**
SIV	**San Ignacio**	**7.24**	**65**	P	**Pn**	**04 20 24.9**	**-1.5**
	comp=E,10nm,0.3s,baz=272,slow=9.6,SNR=218						
SIV				S	**Sn**	**04 21 43.8**	**-4.4**
	comp=E,0.9nm,0.3s,baz=112,slow=23,SNR=5.4						
NNA	**Nana**	**11.16**	**308**	P	**Pn**	**04 21 16.9**	**-0.9**
	comp=E,5.6nm,0.3s,baz=130,slow=11,SNR=16						
NNA				S	**Sn**	**04 23 14.9**	**-7.1**
	comp=E,0.9nm,0.3s,baz=334,slow=12,SNR=3.1						
CPUP	**Villa Florida**	**12.10**	**128**	P	**Pn**	**04 21 30.3**	**+0.6**
	comp=E,0.7nm,0.3s,baz=315,slow=12,SNR=13						
CPUP	**Villa Florida**	**12.10**	**128**	*e*P	**Pn**	**04 21 29.5**	**-0.2**
TRCB	**Terra Rica**	**14.73**	**107**	*e*P	**P**	**04 22 04.0**	**-0.2**
ITRB	**Iturama**	**16.57**	**95**	*e*P	**Pn**	**04 22 26.8**	**+1.5**
ITAB	**Concordia**	**16.58**	**122**	*e*P	**Pn**	**04 22 26.4**	**+1.1**
FRTB	**Fartura**	**17.61**	**107**	*e*P	**Pn**	**04 22 38.1**	**+0.5**
BDFB	**Brasilia**	**19.31**	**83**	P	**P**	**04 22 55.4**	**+0.8**
	comp=E,0.6nm,0.3s,baz=259,slow=7.9,SNR=6.7						
PTGA	**Pitinga**	**19.90**	**24**	P	**P**	**04 22 59.3**	**-1.5**
	comp=E,3.2nm,0.3s,baz=204,slow=12,SNR=40						
PTGA	**Pitinga**	**19.90**	**24**	*e*P	**P**	**04 22 59.0**	**-1.8**
PLCA	**Paso Flores**	**21.63**	**185**	P	**P**	**04 23 20.4**	**+1.3**
	comp=E,1.4nm,0.6s,baz=24,slow=10,SNR=8.3						
BSCB	**Bom Sucesso**	**21.81**	**99**	*e*P	**P**	**04 23 22.9**	**+1.7**
JANB	**Januaria**	**22.92**	**83**	*e*P	**P**	**04 23 30.9**	**-0.6**
MCI8	**Montes Claros**	**22.96**	**88**	*e*P	**P**	**04 23 32.5**	**+0.5**
MCI7	**Montes Claros**	**23.04**	**88**	*e*P	**P**	**04 23 31.9**	**-0.7**
TXAR	**Lajitas Array**	**59.27**	**324**	P	**P**	**04 28 26.3**	**+0.4**
	comp=E,0.2nm,0.5s,baz=146,slow=8.3,SNR=3.6						
ULM	**Lac du Bonnet**	**73.38**	**342**	P	**P**	**04 29 54.5**	**-0.4**
	comp=E,0.8nm,0.4s,baz=134,slow=3.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**75.69**	**70**	P	**P**	**04 30 08.3**	**-0.8**
	comp=E,0.5nm,0.4s,baz=254,slow=5.5,SNR=12						
ESDC	**Sonseca Array**	**83.51**	**44**	P	**P**	**04 30 52.0**	**+1.2**
	comp=E,0.2nm,0.5s,baz=257,slow=6.0,SNR=3.1						
YKA	**Yellowknife Ar**	**89.30**	**340**	P	**P**	**04 31 19.0**	**+0.8**
	comp=E,0.2nm,0.4s,baz=132,slow=4.8,SNR=12						
SONM	**Songino Array**	**151.01**	**8**	PKPbc	**PKiKP**	**04 38 15.2**	**0.0**
	comp=E,0.3nm,0.8s,baz=78,slow=2.1,SNR=2.4						
SONM				PKPab	**PKPab**	**04 38 24.4**	**+1.7**
	comp=E,0.2nm,0.5s,baz=339,slow=2.3,SNR=2.9						

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*ISCJB **11** 04:19:41.3±0.5, 31°.43S±0°.02×69°.32W±0°.03, h120km±5km, Error ellipse: s-maj=4.8km s-min=3.7km az=18.1*
*SJA **11** 04:19:41.1±1.1, 31°.43S×69°.34W, h114km±4km, ML3.5, MW3.6*
*GUC **11** 04:19:42.2±0.7, 31°.37S×69°.67W, h122km±19km, ML3.5*
ISC 11 04:19:40.5±1.3**, 31°.43S**±0°.03×**69°.33W**±0°.03**, h128**km±7km**, n31, σ1^{s}46**/62**, 5C-1D, San Juan Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.37**	**176**	*i* P	**Pn**	**04 19 59.2**	**+0.2**
RTLS				IAML		04 19 59.8	
	comp=Z,2µm,0.1s						
RTLS				*e*S	**Sn**	**04 20 12.5**	**-0.6**
ZON	**Zonda**	**0.57**	**102**	*i* P	**Pn**	**04 20 00.2**	**+0.4**
ZON				*e*S	**Sn**	**04 20 13.3**	**-1.0**
ZON				IAML		04 20 16.8	
	comp=Z,731nm,0.3s						
SJA	**San Juan**	**0.67**	**98**	*i* P	**Pn**	**04 20 01.2**	**+0.8**
SJA				*e*S	**Sn**	**04 20 14.2**	**-1.3**
RTLL	**Cerro Villicun**	**0.74**	**82**	*i* P	**Pn**	**04 20 01.2**	**+0.2**
RTLL				*i* S	**Sn**	**04 20 15.6**	**-0.9**
RTLL				IAML		04 20 15.7	
	comp=Z,2µm,0.4s						
AUSP	**Uspallata**	**0.79**	**183**	*i* P	**Pn**	**04 20 02.4**	**+0.7**
AUSP				*i* S	**Sn**	**04 20 17.2**	**-0.5**
RTCV	**Cerro Valdivia**	**0.80**	**123**	*i* P	**Pn**	**04 20 02.2**	**+0.8**
RTCV				*e*S	**Sn**	**04 20 15.9**	**-1.4**
AMOG	**MOGNA**	**0.87**	**56**	*i* P	**Pn**	**04 20 02.6**	**+0.5**
AMOG				*e*S	**Sn**	**04 20 17.2**	**-1.2**
CFA	**Coronel Fontan**	**0.95**	**101**	*e*P	**Pn**	**04 20 03.4**	**+0.6**
CFA				*e*S	**Sn**	**04 20 19.2**	**-0.5**
ASAL	**Salagasta**	**1.23**	**160**	*e*P	**Pn**	**04 20 06.9**	**+1.3**
ASAL				*e*S	**Sn**	**04 20 23.6**	**-1.1**
ARCO	**CERRO ARCO**	**1.45**	**167**	*e*P	**Pn**	**04 20 09.4**	**+1.4**
ARCO				*e*S	**Sn**	**04 20 28.5**	**-0.4**
ARCO				IAML		04 20 33.0	
	comp=Z,989nm,0.4s						
AAGR	**Agrelo**	**1.70**	**166**	*e*P	**Pn**	**04 20 12.3**	**+1.4**
AAGR				*e*S	**Sn**	**04 20 34.9**	**+0.8**
GO04	**Tololo Observa**	**1.78**	**314**	*i* P	**Pn**	**04 20 12.6**	**+0.7**
GO04				*e*S	**Sn**	**04 20 36.3**	**+0.4**
GO04	**Tololo Observa**	**1.78**	**314**	⇑*i*P	**Pn**	**04 20 11.6**	**-0.3**
GO04				*e*S	**Sn**	**04 20 33.5**	**-2.4**
GO04				IAML		04 20 39.4	
	comp=E,844nm,0.6s						
ACAN	**Cantantal**	**2.01**	**115**	*i* P	**Pn**	**04 20 15.9**	**+1.4**
ACAN				*e*S	**Sn**	**04 20 40.5**	**0.0**
PEL	**Peldehue**	**2.06**	**214**	*i* P	**Pn**	**04 20 16.2**	**+1.0**
PEL				*i* S	**Sn**	**04 20 42.8**	**+1.3**
PEL	**Peldehue**	**2.06**	**214**	⇑*i*P	**Pn**	**04 20 16.1**	**+1.0**
PEL				*e*S	**Sn**	**04 20 42.2**	**+0.6**
PEL				IAML		04 20 43.7	
	comp=E,325nm,0.3s						
FCH	**Farellones**	**2.06**	**203**	⇑*i*P	**Pn**	**04 20 17.3**	**+1.9**
FCH				*e*S	**Sn**	**04 20 44.6**	**+2.5**
FCH				IAML		04 20 48.1	
	comp=E,358nm,0.2s						
AGUA	**GUANDACOL**	**2.07**	**21**	*i* P	**Pn**	**04 20 17.3**	**+1.9**
AGUA				*e*S	**Sn**	**04 20 43.8**	**+1.8**
ROCH	**El Roble**	**2.10**	**222**	⇑*i*P	**Pn**	**04 20 16.5**	**+0.8**
ROCH				*e*S	**Sn**	**04 20 42.5**	**-0.2**
ROCH				IAML		04 20 46.0	
	comp=N,654nm,0.3s						
ROC1	**El Roble**	**2.10**	**222**	*e*P	**Pn**	**04 20 16.6**	**+0.7**
ROC1				*e*S	**Sn**	**04 20 42.7**	**-0.2**
AVIZ	**Vizcacheras**	**2.15**	**162**	*e*P	**Pn**	**04 20 17.3**	**+1.0**
AVIZ				*e*S	**Sn**	**04 20 43.9**	**+0.2**
LSCH	**La Serena**	**2.24**	**312**	⇓*i*P	**Pn**	**04 20 17.7**	**+0.4**
LSCH				*e*S	**Sn**	**04 20 44.0**	**-1.6**
LSCH				IAML		04 20 44.8	
	comp=N,161nm,0.3s						
APLL	**PUNTA DE LOS L**	**2.62**	**68**	*i* P	**Pn**	**04 20 23.1**	**+0.9**
APLL				*e*S	**Sn**	**04 20 49.8**	**-4.5**
APLL				IAML		04 20 57.8	
	comp=Z,90nm,0.1s						
LCO	**Las Campanas**	**2.69**	**333**	*e*P	**Pn**	**04 20 24.0**	**+0.7**
LCO				*e*S	**Sn**	**04 20 54.2**	**-1.9**
LCO	**Las Campanas**	**2.69**	**333**	⇑*i*P	**Pn**	**04 20 23.9**	**+0.6**
LCO				*e*S	**Sn**	**04 20 55.2**	**-0.9**
LCO				IAML		04 20 57.7	
	comp=E,188nm,0.3s						
VCA	**Vinchina**	**2.86**	**20**	*e*P	**Pn**	**04 20 26.8**	**+1.4**
VCA				*e*S	**Sn**	**04 21 02.5**	**+2.6**
VCA				IAML		04 21 07.4	
	comp=Z,191nm,0.4s						
ACLC	**CERRO LA CRUZ**	**2.87**	**46**	*e*P	**Pn**	**04 20 26.8**	**+1.3**
ACLC				*e*S	**Sn**	**04 21 00.8**	**+0.6**
MRA	**San Martin**	**3.23**	**109**	*i* P	**Pn**	**04 20 31.2**	**+1.1**
MRA				*e*S	**Sn**	**04 21 07.3**	**-1.0**
RFA	**San Rafael**	**3.41**	**168**	*i* P	**Pn**	**04 20 32.8**	**+0.4**
RFA				*i* S	**Sn**	**04 21 11.4**	**-1.2**
RFA				IAML		04 21 13.2	
	comp=Z,98nm,0.4s						
TCA	**Tanti**	**4.05**	**90**	*i* P	**Pn**	**04 20 41.5**	**+0.5**
TCA				*e*S	**Sn**	**04 21 24.2**	**-3.6**
TCA				IAML		04 21 28.1	
	comp=Z,42nm,0.6s						
GO05	**Huala**	**4.18**	**211**	*e*P	**Pn**	**04 20 40.7**	**-1.9**
GO05				*e*S	**Sn**	**04 21 27.3**	**-3.5**

MEX 11 04:46:32.5±0.6**, 19°.11N**×**98°.74W, h2**km**, MD3.8, Central Mexico**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMVM	**AMECAMECA**	**0.04**	**295**	*e*P	Pg	04 46 32.7	-0.8
AMVM				*e*S	Sg	04 46 34.1	-0.2
PPM	**Popocatepetl**	**0.12**	**113**	*e*P	Pg	04 46 34.8	-0.2
PPM				*i* S	Sg	04 46 36.5	-0.1
YAIG	**Yautepec**	**0.40**	**231**	*e*P	Pg	04 46 39.1	-1.0
YAIG				*e*S	Sg	04 46 45.9	+0.6
PBVM	**Pinon**	**0.46**	**315**	*e*P	Pg	04 46 40.8	-0.6
PBVM				*e*S	Sg	04 46 47.2	-0.1
SZVM	**Salazar**	**0.64**	**289**	*e*P	Pg	04 46 45.1	+0.4
SZVM				*i* S	Sg	04 46 53.8	+0.7
VTVM	**Tizayuca**	**0.65**	**357**	*i* P	Pg	04 46 44.2	-0.9
VTVM				*i* S	Sg	04 46 53.7	+0.1
MAVM	**Malinalco, Edo**	**0.73**	**258**	*e*P	Pg	04 46 46.2	-0.3
MAVM				*e*S	Sg	04 46 56.8	+0.9
PLIG	**Platanillo**	**1.01**	**225**	*i* P	Pg	04 46 49.9	-2.1
PLIG				*i* S	Sg	04 47 03.6	-1.6
DEIG	**Demacu**	**1.21**	**347**	*e*P	Pg	04 46 53.7	-2.1
DEIG				*i* S	Sg	04 47 09.6	-2.0

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*IDC **11** 04:48:05.5±1.2, 12°.26N×143°.71E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.7/45, mbtmp4.0/6, MS2.8/2, Ms1 2.9/2, ms1mx2.4/39, Error ellipse: s-maj=47.4km s-min=24.8km az=122.0*
*ISCJB **11** 04:48:08.0±0.9, 12°.2N±0°.2×143°.7E±0°.2, h27km, mb4.0/7, MS2.6/1, Error ellipse: s-maj=34.0km s-min=10.7km az=41.1*
ISC 11 04:48:09.8±1.1**, 12°.2N**±0°.2×**143°.8E**±0°.2**, h27**km**, n16, σ0^{s}64**/9**, mb4.0**/7**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.72**	**39**	Pn	**Pn**	**04 48 38.1**	**+0.2**
	25nm,0.3s,baz=107,slow=5.5,SNR=15						
GUMO				Sn	**Sn**	**04 48 58.9**	**-0.1**
	96nm,0.3s,baz=79,slow=21,SNR=24						
JAY	**Jayapura**	**14.97**	**192**	LR	LR	04 57 16.2	
	comp=Z,52nm,18.4s,baz=307,slow=37						
H11S3	**WAKE ISLAND Hy**	**22.95**	**71**	T	T	05 17 06.1	
H11S1	**WAKE ISLAND Hy**	**22.97**	**71**	T	T	05 17 05.0	
H11S2	**WAKE ISLAND Hy**	**22.97**	**71**	T	T	05 17 05.0	
	SNR=4.2						
H11N1	**WAKE ISLAND Hy**	**23.43**	**69**	T	T	05 17 40.5	
	baz=255,slow=75,SNR=7.4						
H11N2	**WAKE ISLAND Hy**	**23.44**	**69**	T	T	05 17 48.0	
	baz=255,slow=75,SNR=3.4						
H11N3	**WAKE ISLAND Hy**	**23.44**	**69**	T	T	05 17 49.7	
	baz=255,slow=75,SNR=5.6						
WRA	**Warramunga Arr**	**33.30**	**196**	P	**P**	**04 54 45.4**	**0.0**
	0.5nm,0.9s,baz=22,slow=10,SNR=4.9						
CMAR	**Chiang Mai Arr**	**43.57**	**284**	LR	LR	05 14 26.7	
	comp=Z,7.4nm,18.4s,baz=335,slow=36						
MKAR	**Makanchi Array**	**61.71**	**317**	P	**P**	**04 58 26.0**	**+0.3**
	0.1nm,0.5s,baz=116,slow=6.6,SNR=2.1						
ILAR	**Eielson Array**	**70.24**	**25**	P	**P**	**04 59 19.4**	**-0.7**
	0.4nm,0.5s,baz=250,slow=5.9,SNR=9.5						
INK	**Inuvik**	**76.02**	**22**	P	**P**	**04 59 53.8**	**-0.4**
	0.7nm,0.3s,baz=239,slow=12,SNR=8.5						
YKA	**Yellowknife Ar**	**84.54**	**27**	P	**P**	**05 00 40.9**	**+0.7**
	0.4nm,0.4s,baz=286,slow=5.1,SNR=13						
ARCES	**ARCESS Array B**	**88.02**	**342**	P	**P**	**05 00 57.8**	**+0.5**
	3.8nm,0.9s,baz=78,slow=8.4,SNR=3.3						
FINES	**FINESS Array B**	**91.92**	**335**	P	**P**	**05 01 14.6**	**-0.9**
	5.3nm,1.0s,baz=81,slow=8.6,SNR=4.2						

IDC 11 04:54:52.4±1.8**, 5°.06S**×**141°.87E, h0**km**, mb3.6**/4**, mb1 3.9**/5**, mb1mx3.6**/28**, mbtmp3.7**/5**, ML3.4**/1**, Error ellipse: s-maj=51.2km s-min=24.0km az=94.0, New Guinea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.78**	**335**	Pn	Pn	04 55 39.0	+0.7
	6.6nm,0.3s,baz=198,slow=7.3,SNR=19						
JAY				Sn	Sn	04 56 12.8	+0.2
	3.7nm,0.3s,baz=289,slow=22,SNR=6.0						
WRA	**Warramunga Arr**	**16.51**	**206**	Pn	Pn	04 58 40.6	-4.9
	0.1nm,0.3s,baz=25,slow=13,SNR=7.4						
WRA				Sn	Sn	05 01 38.9	-11
	0.1nm,0.3s,baz=35,slow=23,SNR=1.9						
WRA				Lg	Lg	05 03 30.2	
	0.1nm,0.3s,baz=16,slow=29,SNR=2.5						
ASAR	**Alice Springs**	**20.02**	**202**	P	P	04 59 26.8	-0.2
	1.3nm,0.7s,baz=24,slow=9.9,SNR=14						
FITZ	**Fitzroy Crossi**	**20.48**	**229**	P	P	04 59 32.1	+0.2
	2.0nm,0.6s,baz=79,slow=17,SNR=2.0						
MKAR	**Makanchi Array**	**73.57**	**322**	P	P	05 06 27.8	+0.4
	0.3nm,0.7s,baz=111,slow=7.8,SNR=2.3						
ILAR	**Eielson Array**	**86.67**	**24**	P	P	05 07 37.2	-0.5
	0.6nm,0.8s,baz=264,slow=4.4,SNR=5.4						

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*ISCJB **11** 04:58:38.9±0.7, 52°.52N±0°.04×131°.87W±0°.08, h18km±4km, mb2.8/1, Error ellipse: s-maj=10.3km s-min=3.9km az=140.2*
*PGC **11** 04:58:40.0±0.1, 52°.54N×131°.91W, h9km, ML3.7/14, 79km south of Sandspit, Bc Haida Gwaii Region*
*IDC **11** 04:58:40.7±1.5, 52°.63N×131°.79W, h0km, mb3.1/1, mb1 3.5/5, mb1mx3.3/36, mbtmp3.2/5, ML3.4/4, MS2.5/1, Ms1 2.5/1, ms1mx2.1/15, Error ellipse: s-maj=22.1km s-min=6.4km az=38.0*
ISC 11 04:58:40.7±1.1**, 52°.58N**±0°.05×**131°.83W**±0°.05**, h9**km±5km**, n37, σ1^{s}48**/43**, Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.05**	**100**	P	**Pg**	**04 58 42.2**	**-0.4**
BNB				S	**Sg**	**04 58 43.7**	**-0.3**
HG3B	**Hotspring**	**0.23**	**92**	P	**Pg**	**04 58 45.5**	**+0.1**
HG3B				S	**Sg**	**04 58 49.5**	**+0.8**
HG1B	**Mitchell Dam**	**0.40**	**332**	P	**Pg**	**04 58 47.6**	**-0.8**
HG4B	**Hotspring**	**0.48**	**127**	P	**Pg**	**04 58 49.1**	**-0.9**
HG4B				S	**Sg**	**04 58 56.1**	**-0.3**
MOBC	**Moresby Island**	**0.57**	**351**	P	**Pg**	**04 58 51.2**	**-0.5**
MOBC				S	**Sg**	**04 58 59.2**	**0.0**
DIB	**Dawson Inlet,**	**0.73**	**328**	P	**Pg**	**04 58 53.4**	**-1.4**
DIB				S	**Sg**	**04 59 03.6**	**-0.8**
H02S1	**DAWSON INLET T**	**0.73**	**328**	Pg	**Pg**	**04 58 53.7**	**-1.1**
H02S1				Lg	Lg	04 59 03.5	
MASB	**Masset**	**1.44**	**355**	P	**Pn**	**04 59 07.0**	**+0.1**
NDB	**Naden**	**1.53**	**334**	P	**Pn**	**04 59 06.6**	**-1.6**
RUBB	**Prince Rupert**	**1.98**	**28**	Pn	**Pn**	**04 59 13.5**	**-0.9**
RUBB				Sn	**Sn**	**04 59 38.5**	**-0.8**
BBB	**Bella Bella**	**2.31**	**98**	Pn	**Pn**	**04 59 17.4**	**-1.4**
	6.8nm,0.3s,baz=282,slow=16,SNR=48						
BBB				Pg	**Pb**	**04 59 23.7**	**+1.2**
	28nm,0.3s,baz=274,slow=16,SNR=20						
BBB				Lg	Lg	04 59 51.2	
	70nm,0.3s,baz=190,slow=21,SNR=22						
BBB				LR	LR	05 00 13.0	
	comp=Z,117nm,20.4s,baz=183,slow=40						
BBB	**Bella Bella**	**2.31**	**98**	Pn	**Pn**	**04 59 17.2**	**-1.7**
BBB				Sn	**Sn**	**04 59 47.0**	**-0.4**
BCBC	**Bella Coola**	**3.11**	**92**	Sg	**Sb**	**05 00 14.7**	**+0.7**
PHC	**Port Hardy**	**3.32**	**123**	Pn	**Pn**	**04 59 30.7**	**-2.0**
PHC				Sn	**Sn**	**05 00 09.7**	**-2.6**
PACB	**Port Alice, BC**	**3.46**	**127**	Pn	**Pn**	**04 59 32.8**	**-1.8**
PACB				Sn	**Sn**	**05 00 13.0**	**-2.6**
TLCB	**Telegraph Cove**	**3.72**	**121**	Pn	**Pn**	**04 59 36.4**	**-1.9**
WOSB	**Woss**	**4.09**	**124**	Pn	**Pn**	**04 59 42.4**	**-1.0**
NCRB	**Newcastle Ridg**	**4.22**	**119**	Pn	**Pn**	**04 59 43.8**	**-1.4**
GDR	**Gold River**	**4.60**	**125**	Pn	**Pn**	**04 59 49.9**	**-0.4**
CBB	**Campbell River**	**4.79**	**120**	Pn	**Pn**	**04 59 50.9**	**-2.0**
CBB				Sn	**Sn**	**05 00 46.6**	**-1.9**
FSB	**Fort Saint Jam**	**4.86**	**64**	Pn	**Pn**	**04 59 53.4**	**-0.6**
FSB				Sg	**Sg**	**05 01 13.7**	**-2.9**
BTB	**Buttle Lake**	**5.06**	**126**	Pn	**Pn**	**04 59 55.7**	**-1.0**
TXB	**Texada**	**5.48**	**119**	Pn	**Pn**	**05 00 02.3**	**-0.1**
DLBC	**Dease Lake**	**5.96**	**9**	Pn	**Pn**	**05 00 11.3**	**+2.3**
	0.6nm,0.3s,baz=188,slow=16,SNR=4.4						
DLBC				Lg	Lg	05 01 45.3	
	2.4nm,0.3s,baz=320,slow=14,SNR=12						
DLBC	**Dease Lake**	**5.96**	**9**	Pn	**Pn**	**05 00 08.7**	**-0.3**
BMBC	**Bull Mountain**	**6.65**	**55**	Pn	**Pn**	**05 00 18.3**	**-0.2**
WHY	**Whitehorse**	**8.27**	**349**	Pn	**Pn**	**05 00 41.3**	**+0.6**
SLEB	**Sale Mountain**	**8.59**	**94**	Pn	**Pn**	**05 00 42.8**	**-2.5**
YKA	**Yellowknife Ar**	**13.52**	**36**	Pn	**Pn**	**05 01 51.6**	**-0.7**
	0.1nm,0.3s,baz=234,slow=12,SNR=11						
YKA				Lg	Lg	05 05 43.3	
	0.0nm,0.3s,baz=230,slow=35,SNR=3.2						
PDAR	**Pinedale Array**	**17.86**	**114**	P	**P**	**05 02 51.9**	**+1.8**
	0.0nm,0.3s,baz=315,slow=10,SNR=2.8						
TXAR	**Lajitas Array**	**31.14**	**127**	P	**P**	**05 05 02.3**	**+2.6**
	0.1nm,0.6s,baz=333,slow=9.1,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**57.17**	**259**	T	T	06 10 21.4	
	baz=39,slow=76,SNR=1350						
H11N3	**WAKE ISLAND Hy**	**57.17**	**259**	T	T	06 10 22.2	
	baz=39,slow=76,SNR=1188						
H11N1	**WAKE ISLAND Hy**	**57.19**	**259**	T	T	06 10 22.7	
	baz=39,slow=76,SNR=1193						
H11S1	**WAKE ISLAND Hy**	**58.23**	**259**	T	T	06 11 42.0	
	baz=52,slow=74,SNR=27						
H11S2	**WAKE ISLAND Hy**	**58.24**	**259**	T	T	06 11 48.9	
	baz=278,slow=74,SNR=17						
H11S3	**WAKE ISLAND Hy**	**58.25**	**259**	T	T	06 11 42.6	
	SNR=17						

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*ISK **11** 05:07:49.6, 38°.71N×43°.18E, h4km, ML2.2/7*
*ISCJB **11** 05:07:50.6±0.7, 38°.71N±0°.04×43°.09E±0°.05, h8km±8km, Error ellipse: s-maj=7.8km s-min=6.3km az=138.6*
*DDA **11** 05:07:51.0, 38°.67N×43°.19E, h7km±1km, ML2.9*
ISC 11 05:07:51.1±1.1**, 38°.69N**±0°.03×**43°.17E**±0°.03**, h17**km±10km**, n13, σ1^{s}05**/17**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**118**	PG	**Pg**	**05 07 55.6**	**-0.3**
VANB				SG	**Sg**	**05 07 59.9**	**+0.7**
TVAN	**Van**	**0.25**	**130**	IAML_P			
	comp=Z,12µm,0.1s						
TVAN				*i* P	**Pg**	**05 07 56.5**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.37**	**289**	IAML_P			
	comp=Z,2µm,0.1s						
ADCV				*i* P	**Pb**	**05 07 59.0**	**-0.3**
ADCV				*i* S	**Sb**	**05 08 07.0**	**+2.1**
GEVA	**Gevas**	**0.38**	**193**	IAML_P			
	comp=Z,4µm,0.1s						
GEVA				*i* P	**Pb**	**05 07 59.1**	**-0.5**
AKDM	**Akdamar-Van**	**0.39**	**202**	PG	**Pg**	**05 07 58.2**	**-0.9**
VMUR	**Van-Muradiye**	**0.44**	**46**	IAML_P			
	comp=Z,844nm,0.1s						
VMUR				*i* P	**Pb**	**05 08 00.2**	**-0.3**
VMUR				*i* S	**Sb**	**05 08 07.8**	**+1.0**
CLDR	**Caldiran**	**0.74**	**52**	PG	**Pg**	**05 08 03.8**	**-1.9**
CLDR	**Caldiran**	**0.74**	**52**	*i* P	**Pb**	**05 08 06.3**	**+0.6**
CLDR				*i* S	**Sb**	**05 08 16.3**	**+0.6**
TUTA	**Tutak**	**0.77**	**339**	*i* P	**Pg**	**05 08 05.7**	**-0.4**
AGRB	**Hanur-Agry**	**0.90**	**351**	PG	**Pg**	**05 08 07.5**	**-1.1**
GURO	**Guroymak-BITLI**	**0.90**	**262**	PG	**Pg**	**05 08 07.7**	**-0.9**
SIRT	**Sirnak**	**1.32**	**206**	PN	**Pg**	**05 08 15.7**	**-0.8**
CUKT	**Cukurca**	**1.48**	**166**	PN	**Pb**	**05 08 18.0**	**-0.2**

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*ISK **11** 05:14:22.9, 39°.66N×25°.56E, h8km, ML2.5/8*

ISCJB 11 05:14:23.7±0.5, 39°.69N±0°.03×25°.57E±0°.03, h9km±4km, Error ellipse: s-maj=4.5km s-min=3.8km az=29.6
ATH 11 05:14:23.6, 39°.69N×25°.54E, h26km±1km, ML2.1/3, Error ellipse: s-maj=2.1km s-min=1.2km az=242.0
DDA 11 05:14:24.3, 39°.78N×25°.62E, h24km±1km, ML3.0
ISC 11 05:14:23.8±0.9, 39°.68N±0°.02×25°.56E±0°.02, h16km±8km, n31, σ0s.61/40, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.37	308	P	Pg	05 14 31.3	0.0
LIA				S	Sg	05 14 36.7	+0.3
BOZC	Bozcaada	0.41	66	PG	Pg	05 14 32.1	0.0
BOZC	Bozcaada	0.41	66	IAML_P			
	comp=Z,3μm,0.1s						
BOZC				*i* P	Pg	05 14 32.5	+0.3
BOZC				*i* S	Sg	05 14 38.2	+0.4
EFSA	Agios Efstrati	0.46	253	P	Pb	05 14 34.1	+0.6
EFSA				S	Sb	05 14 40.4	+0.3
SIGR	SIGRI	0.52	154	PG	Pg	05 14 32.7	-1.3
SIGR				SG	Sg	05 14 41.0	+0.1
SIGR	SIGRI	0.52	154	P	Pg	05 14 33.9	-0.1
SIGR				S	Sb	05 14 41.6	-0.1
SIGR				AML	AML	05 14 41.9	
	comp=E,785μm,0.3s						
SIGR				AML	AML	05 14 42.1	
	comp=N,831μm,0.4s						
GADA	Gvkgeada	0.58	27	PG	Pg	05 14 34.9	-0.3
EZN	Ezine	0.61	75	PG	Pb	05 14 35.3	-0.7
EZN				SG	Sg	05 14 43.7	-0.1
PRK	Paraskevi	0.70	128	P	Pg	05 14 38.0	+0.6
PRK				S	Sn	05 14 48.2	-1.2
BAYC	CANAKKALE_Bayr	0.76	85	IAML_P			
	comp=Z,1μm,0.1s						
BAYC				*i* P	Pb	05 14 38.8	+0.1
SMTH	Samothraki Isl	0.80	358	P	Pg	05 14 39.3	0.0
SMTH				S	Sg	05 14 50.5	+0.7
SMTH				AML	AML	05 14 53.0	
	comp=E,299μm,0.2s						
SMTH				AML	AML	05 14 53.2	
	comp=N,243μm,0.3s						
AYVA	Ayvalik	0.95	112	IAML_P			
	comp=Z,480nm,0.2s						
AYVA				*i* P	Pg	05 14 43.6	+1.5
AYVA				*i* S	Sn	05 14 57.3	+1.7
GELI	Tayfur-Gelibol	1.01	44	PG	Pb	05 14 42.8	0.0
THAS	Thassos island	1.13	326	P	Pn	05 14 44.6	-0.4
THAS				AML	AML	05 15 00.9	
	comp=N,102μm,0.5s						
THAS				AML	AML	05 15 02.0	
	comp=E,83μm,0.3s						
ENEZ	Enez	1.15	23	PN	Pb	05 14 45.4	+0.1
LPK	Lapseki	1.16	52	PN	Pg	05 14 45.9	-0.1
DKL	Dikili	1.20	120	PN	Pb	05 14 46.5	+0.3
ERIK	Erikli-Kesan	1.23	36	PN	Pg	05 14 47.2	-0.3
ALN	Alexandroupoli	1.28	17	PN	Pb	05 14 47.2	-0.2
ALN	Alexandroupoli	1.28	17	P	Pb	05 14 47.2	-0.2
CHOS	Chios island	1.34	163	PN	Pb	05 14 48.3	-0.3
CHOS	Chios island	1.34	163	P	Pb	05 14 49.0	+0.4
AOS	Alonnisos	1.40	249	PN	Pb	05 14 49.3	-0.2
AOS	Alonnisos	1.40	249	P	Pn	05 14 48.5	-0.1
RDO	Rodhopi	1.47	359	PN	Pb	05 14 50.7	0.0
RDO	Rodhopi	1.47	359	P	Pb	05 14 50.9	+0.1
PAIG	Paliouri	1.47	280	P	Pb	05 14 50.2	-0.6
KRBG	Karabiga-Canak	1.51	61	PN	Pb	05 14 51.6	+0.1
URLA	Izmir	1.54	148	PN	Pb	05 14 51.2	-0.8
KAVA	Kavala	1.54	329	P	Pn	05 14 50.3	-0.3
BALB	Balikesir	1.79	90	PN	Pb	05 14 55.1	-1.1

GCMT 11 05:19:22.0±0.5, 16°.22S±0°.03×177°.48E±0°.03, h37km±2km, MW5.0/68, Moment Tensor Solution. s29,c33; s68,c88; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}0.93±.28; $M_{\theta\theta}$-2.75±.25; $M_{\phi\phi}$1.82±.22; $M_{r\theta}$-0.44±.33; $M_{\theta\phi}$3.66±.24; $M_{\phi r}$0.06±.26; Best double couple: $M_0$4.33400×10^16 NP1:ϕ_s74.00000°,δ89.00000°,λ-5.00000°. NP2: ϕ_s164.00000°,δ85.00000°,λ-179.00000°. Principal axes: T 3.8590, Plg3.0000°, Azm119.0000°; N 0.9530, Plg85.0000°, Azm246.0000°; P -4.8100, Plg4.0000°, Azm29.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function
IDC 11 05:19:18.8±1.3, 16°.33S×177°.51E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.9/37, mbtmp4.0/6, MS3.7/25, Ms1 3.7/25, ms1mx3.6/40 Error ellipse: s-maj=40.1km s-min=30.8km az=127.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	11.91	240	LR	LR	05 25 37.8	
	comp=Z,318nm,19.1s,baz=18,slow=32						
DZM	Mont Dzumac	11.91	240	*e*LQ	LQ	05 24 33.1	
	1μm,25.1s						
DZM				*e*LR	LR	05 25 03.5	
	comp=Z,450nm,25.4s						
HNR	Honiara	18.43	290	LR	LR	05 29 48.3	
	comp=Z,273nm,18.2s,baz=116,slow=34						
URZ	Urewera	21.85	181	LR	LR	05 30 38.5	
	comp=Z,240nm,19.8s,baz=8.0,slow=31						
RAR	Rarotonga	22.05	106	LR	LR	05 30 50.9	
	comp=Z,281nm,18.2s,baz=276,slow=31						
CTA	Charters Tower	29.90	258	LR	LR	05 36 37.8	
	comp=Z,290nm,20.3s,baz=106,slow=35						
PPT2	Papeete2	31.49	97	*e*LQ	LQ	05 32 41.7	
	263nm,26.5s						
PPT2				*e*LR	LR	05 34 01.9	
	comp=Z,407nm,30.5s						
PPT	Papeete	31.49	97	LR	LR	05 35 13.1	
	comp=Z,67nm,19.0s,baz=274,slow=30						
TBI	Tubuai	31.79	108	*e*LR	LR	05 34 16.4	
	comp=Z,460nm,31.0s						
STKA	Stephens Creek	36.05	238	P	P	05 26 22.2	0.0
	0.8nm,0.3s,baz=111,slow=7.9,SNR=4.2						
STKA				LR	LR	05 39 13.8	
	comp=Z,127nm,20.5s,baz=43,slow=33						
JAY	Jayapura	38.72	287	LR	LR	05 42 01.1	
	comp=Z,93nm,21.9s,baz=154,slow=35						
WRA	Warramunga Arr	41.10	258	P	P	05 27 04.1	-0.7
	0.9nm,0.9s,baz=93,slow=9.3,SNR=4.8						
WRA				LR	LR	05 43 00.6	
	comp=Z,79nm,19.5s,baz=75,slow=35						
ASAR	Alice Springs	41.49	253	P	P	05 27 08.2	+0.2
	1.4nm,0.7s,baz=85,slow=7.9,SNR=9.1						
ASAR				LR	LR	05 43 10.1	
	comp=Z,117nm,19.5s,baz=92,slow=34						
TAOE	Nuku Hiva Isla	41.92	85	*e*LR	LR	05 38 45.1	
	comp=Z,203nm,30.6s						
RKT	Rikitea	45.08	107	*e*LR	LR	05 40 19.4	
	comp=Z,367nm,26.5s						
FITZ	Fitzroy Crossi	49.44	260	LR	LR	05 47 25.9	
	comp=Z,108nm,20.3s,baz=62,slow=34						
VNDA	Vanda	61.72	184	LR	LR	05 52 08.1	
	comp=Z,72nm,21.1s,baz=7.0,slow=32						
MJAR	Matsushiro Arr	64.36	326	LR	LR	05 53 27.1	
	comp=Z,19nm,21.8s,baz=185,slow=32						
LEM	Lembang	68.85	269	LR	LR	05 59 32.5	
	comp=Z,69nm,21.5s,baz=210,slow=35						
KSRS	Korea Array	70.96	320	LR	LR	05 56 08.0	
	comp=Z,15nm,21.8s,baz=120,slow=31						
PETK	Petropavlovsk-	71.23	348	LR	LR	05 54 13.7	
	comp=Z,27nm,21.4s,baz=148,slow=29						
QSPA	South Pole Qui	73.71	180	P	P	05 30 54.6	+0.1
	8.9nm,1.1s,baz=29,slow=1.8,SNR=11						
YBH	Yreka Blue Hor	79.84	41	LR	LR	06 00 08.3	
	comp=Z,77nm,19.6s,baz=228,slow=31						
LPIG	La Paz	81.08	62	LR	LR	05 58 05.1	
	comp=Z,31nm,20.6s,baz=238,slow=29						
BBB	Bella Bella	82.87	30	LR	LR	06 00 27.7	
	comp=Z,106nm,20.1s,baz=192,slow=30						
CMAR	Chiang Mai Arr	84.68	291	LR	LR	06 04 28.0	
	comp=Z,15nm,22.0s,baz=155,slow=32						
ILAR	Eielson Array	85.29	14	P	P	05 31 57.0	-0.2
	0.8nm,0.9s,baz=200,slow=4.8,SNR=5.5						
ILAR				LR	LR	06 02 26.4	
	comp=Z,74nm,20.1s,baz=236,slow=30						
NEW	Newport	86.59	37	LR	LR	06 05 21.7	
	comp=Z,56nm,18.2s,baz=222,slow=32						
TXAR	Lajitas Array	88.49	59	LR	LR	06 05 03.9	
	comp=Z,21nm,19.1s,baz=0.0,slow=31						
PDAR	Pinedale Array	88.94	45	LR	LR	06 05 16.4	
	comp=Z,42nm,18.9s,baz=252,slow=31						
SONM	Songino Array	89.83	320	P	P	05 32 19.7	+0.1
	0.7nm,1.0s,baz=115,slow=6.5,SNR=2.7						
PLCA	Paso Flores	95.22	135	LR	LR	06 14 22.0	
	comp=Z,33nm,18.1s,baz=243,slow=35						

IDC 11 05:28:42.9±2.5, 54°.13N×86°.35E, h0km, mb1 2.9/2, mb1mx2.8/41, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=19.8km s-min=11.9km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.92	259	*i*		05 35 50.0	
	baz=79,slow=343,SNR=4.5						
ZALV	Zalesovo Beam	0.92	259	Pg	Pg	05 28 58.8	-1.7
	2.7nm,0.3s,baz=75,slow=17,SNR=39						
ZALV				Lg	Lg	05 29 14.1	
	4.3nm,0.3s,baz=80,slow=30,SNR=22						
ZALV				Rg	Rg	05 29 19.4	
	24nm,1.1s,baz=77,slow=32,SNR=16						
KURBB	Kurchatov Arra	5.94	237	Pn	Pn	05 30 13.0	+1.0
	0.2nm,0.3s,baz=57,slow=16,SNR=3.4						
MKAR	Makanchi Array	7.79	201	Pn	Pn	05 30 38.8	+1.3
	0.2nm,0.3s,baz=24,slow=14,SNR=9.5						
MKAR				Lg	Lg	05 32 49.0	
	0.0nm,0.3s,baz=26,slow=31,SNR=2.9						

GII 11 05:35:41.6±0.0, 34°.00N×34°.65E, h7km, MD2.3/4
ISCJB 11 05:35:42.7±0.6, 34°.02N±0°.02×34°.67E±0°.03, h26km±6km, Error ellipse: s-maj=5.4km s-min=2.3km az=150.8
GRAL 11 05:35:43.1±0.4, 33°.99N×34°.65E, h0km±13km, MD3.1
DDA 11 05:35:44.5, 34°.47N×34°.57E, h6km±2km, ML3.2
NSSC 11 05:35:44.5±0.7, 33°.98N×34°.88E, h2km±17km, ML2.8
ISK 11 05:35:45.3, 34°.38N×34°.53E, h7km, ML2.6/8
NIC 11 05:35:49.2±0.3, 34°.19N×34°.39E, h50km, ML3.1
ISC 11 05:35:39.5±1.1, 34°.21N±0°.03×34°.73E±0°.03, h15km±10km, n52, σ1s.36/73, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEYL	Beirut	0.72	118	*e*P	Pn	05 35 56.0	+0.9
BEYL				*e*S	Sb	05 36 05.4	+2.0
BHL	Bhannes	0.83	111	*e*P	Pn	05 35 58.0	+1.3
DQRL	Deir Qamar	0.86	125	*e*P	Pn	05 35 57.8	+0.7
DQRL				*e*S	Sb	05 36 08.6	+1.0
PHNC	Paralimni	0.98	324	P	Pn	05 36 05.2	+6.5
	baz=159						
PHNC				S	Sn	05 36 17.5	+5.2
HNTI	Hanita	1.18	162	Pg	Pn	05 36 01.3	-0.2
NATI	Neve Ativ	1.26	138	Pg	Pb	05 36 03.7	+0.7
KSDI	Kefar Szold	1.28	142	Pg	Pn	05 36 03.5	+0.7
BRBR	Barbar	1.29	128	*e*P	Pg	05 36 05.1	+0.7
BRBR				*e*S	Sb	05 36 19.7	-0.4
BRBR				AML	AML	05 36 20.9	
	comp=N,321nm,0.2s						
BRBR				AML	AML	05 36 22.2	
	comp=E,171nm,0.5s						
MMA0B	Mount Meron ar	1.32	155	Pg	Pn	05 36 03.5	+0.1
CSS	Mathiatis	1.38	303	PN	Pg	05 36 07.7	+1.7
CSS				SN	Sg	05 36 23.5	-0.5
CSS	Mathiatis	1.38	303	S	Sg	05 36 24.7	+0.7
	baz=131						
CSS	Mathiatis	1.38	303	Pn	Pg	05 36 07.8	+1.7
EREN	Erenkoy	1.40	341	PN	Pg	05 36 08.8	+2.4
EREN	Erenkoy	1.40	341	IAML_P			
	comp=Z,2μm,0.2s						
QASN	Qassioun	1.45	117	*e*P	Pg	05 36 08.5	+1.0
QASN				*e*S	Sn	05 36 25.1	+1.0
QASN				AML	AML	05 36 27.1	
	comp=N,466nm,0.3s						
QASN				AML	AML	05 36 27.5	
	comp=E,311nm,0.3s						
BLGI	Bet Lehem HaGe	1.52	165	Pn	Pn	05 36 06.0	-0.1
BLGI				Sn	Sn	05 36 24.1	-1.6
OFRI	`Ofer	1.60	172	Pn	Pn	05 36 06.7	-0.5
SZAC	Souni	1.62	290	P	Pg	05 36 11.7	+1.1
	baz=114						
SZAC				S	Sg	05 36 30.3	-1.4
TOTH	TOTAH	1.65	120	*e*P	Pg	05 36 11.1	-0.1
TOTH				*e*S	Sn	05 36 30.1	+1.2
TOTH				AML	AML	05 36 31.6	
	comp=N,116nm,0.5s						
TOTH				AML	AML	05 36 31.7	
	comp=E,144nm,0.4s						
LEF	Lefka	1.77	301	PN	Pg	05 36 14.7	+1.3
LEF	Lefka	1.77	301	IAML_P			
	comp=Z,1μm,0.3s						
LEF				*i* P	Pg	05 36 14.8	+1.4
LEF				*i* S	Sg	05 36 37.0	+0.6
MMLI	Mount Malkishu	1.86	162	Pn	Pn	05 36 11.4	+0.6
MMLI				Sn	Sn	05 36 32.6	-1.5
SLTI	Sal'it	1.98	172	Pn	Pn	05 36 12.0	-0.5
ALFC	Alefka	1.99	299	P	Pg	05 36 17.9	+0.1
	baz=122						
ALFC				S	Sb	05 36 39.6	-0.5
HMDT	Nahal Hemdat	2.06	161	Pn	Pn	05 36 14.6	+1.0
HMDT				Sn	Sn	05 36 38.0	-1.0
PPCY	Paphos	2.08	290	P	Pg	05 36 18.2	-1.2
	baz=111						
AKMC	Akamas	2.14	293	P	Pg	05 36 19.8	-0.8
	baz=115						
AKKU	Akkuyu-Mersin	2.17	334	PN	Pg	05 36 19.3	-1.9
AKKU				SN	Sb	05 36 45.0	-0.2
YESI	Yesilovacik-Me	2.17	336	PN	Pg	05 36 19.7	-1.5
GULN	MERSIN_Gulnar	2.20	334	IAML_P			
	comp=Z,746nm,0.1s						
GULN				*i* P	Pg	05 36 20.2	-1.4
GULN				*i* S	Sg	05 36 48.0	-2.2
IKL	Isikli	2.20	337	PN	Pg	05 36 19.7	-2.0
KIZK	Mersin	2.32	348	PN	Pg	05 36 22.1	-1.8
KIZK	Mersin	2.32	348	*i* P	Pg	05 36 23.0	-1.0
KIZK				*i* S	Sg	05 36 51.3	-2.7
TEKE	Tekeli-Mersin	2.34	326	PN	Pg	05 36 22.0	-2.4
KEBE	Keben-Mersin	2.38	340	PN	Pg	05 36 23.1	-2.1
KRTS	Karatas	2.42	12	PN	Pg	05 36 24.9	-1.0
TEVE	Tevekalti-Mers	2.46	335	PN	Pb	05 36 23.7	+0.3
BERE	Bereket-Mersin	2.46	330	PN	Pb	05 36 23.6	0.0
TAHT	Tahtakopru-Hat	2.47	28	PN	Pg	05 36 25.4	-1.4
AMAZ	Amatzia	2.67	177	Pn	Pn	05 36 22.1	+0.1
AMAZ				Sn	Sn	05 36 52.8	-1.4
DSI	Dead Sea	2.69	168	Pn	Pn	05 36 23.1	+0.9
DSI				Sn	Sn	05 36 53.6	-0.9
ERMK	Ermenek	2.84	329	IAML_P			
	comp=Z,426nm,0.2s						
ERMK				*i* P	Pb	05 36 30.9	+0.8
ERMK				*i* S	Sb	05 37 06.2	+1.4
YTIR	Yattir	2.86	173	Pn	Pn	05 36 25.4	+0.8
MZDA	Masada	2.94	169	Pn	Pn	05 36 26.6	+1.0
MZDA				Sn	Sn	05 36 59.8	-0.8
GULE	Gulek	3.07	1	IAML_P			
	comp=Z,310nm,0.2s						
GULE				*i* P	Pb	05 36 34.3	+0.4
GULE				*i* S	Sb	05 37 11.6	+0.4
KERG	Konya-Eregli	3.24	351	*i* P	Pb	05 36 36.2	-0.5
KERG				*i* S	Sb	05 37 16.9	+0.9
KZIT	Kziot	3.31	185	Pn	Pn	05 36 30.7	0.0
PRNI	Paran	3.85	176	Pn	Pn	05 36 38.8	+0.6
HRFI	Mount Harif	4.17	176	Pn	Pn	05 36 42.9	+0.3
MBRI	Mt Berech	4.40	178	Pn	Pn	05 36 46.0	+0.1
MBRI				Sn	Sn	05 37 34.9	-2.1
SUTC	Sutluce-Ispart	4.45	318	PN	Pb	05 36 52.1	-5.3
EIL	Elat	4.53	178	Pn	Pn	05 36 47.9	+0.4
EIL				Sn	Sn	05 37 38.1	-1.8

ISCJB 11 05:35:56.8±0.5, 39°.31S±0°.02×173°.55E±0°.03, h14km±3km, Error ellipse: s-maj=3.7km s-min=2.3km az=37.4
NEIC 11 05:35:57.0±0.0, 39°.31S×173°.69E, h11km, ML4.6(WEL), After WEL.
WEL 11 05:35:57.7, 39°S±1°×17°4E±°, h13km±1km, ML4.9/30
ISC 11 05:35:57.5±1.1, 39°.32S±0°.03×173°.63E±0°.04, h16km±7km, n168, σ1s.20/190, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBEZ	Newall Road No	0.20	74	P	Pg	05 36 02.8	+0.6
NBEZ				S	Sb	05 36 06.6	+0.3
NMEZ	Namu Road	0.22	115	P	Pg	05 36 02.2	-0.3
NMEZ				S	Sg	05 36 05.5	-0.3
KHEZ	Kahui Hut	0.30	85	P	Pg	05 36 04.2	+0.2
KHEZ				S	Sg	05 36 08.6	+0.3
PKE	Pukeiti	0.31	66	P	Pg	05 36 04.7	+0.7
PKE				S	Sb	05 36 09.6	+0.1
NEZ	North Egmont	0.37	82	P	Pg	05 36 05.1	-0.1
PREZ	Palmer Road	0.41	93	P	Pg	05 36 05.9	0.0
PREZ				S	Sg	05 36 11.9	+0.2
DREZ	Durham Road	0.47	74	P	Pg	05 36 07.1	+0.2
DREZ				S	Sb	05 36 13.8	-0.3
MHEZ	Mangahewa	0.59	66	P	Pg	05 36 09.4	+0.2
LREZ	Lake Rotokare	0.62	103	P	Pg	05 36 09.4	-0.3
LREZ				S	Sb	05 36 18.0	-0.4
VRZ	Vera Road	0.90	78	P	Pb	05 36 14.1	-0.8
WAZ	Wanganui	1.14	113	P	Pb	05 36 17.7	-1.2
HIZ	Hauiti	1.25	50	*e*Pn	Pn	05 36 19.8	-0.6
HIZ				*e*Sn	Sn	05 36 37.6	+0.6
HIZ	Hauiti	1.25	50	P	Pn	05 36 19.7	-0.7
PKVZ	Pokaka	1.34	89	P	Pn	05 36 20.8	-0.8
PKVZ				S	Sb	05 36 39.1	-0.1
TWVZ	Taurewa	1.43	81	P	Pn	05 36 22.1	-0.9
TWVZ				S	Sn	05 36 40.8	-0.7
MTVZ	Mangateitei	1.43	93	P	Pn	05 36 22.6	-0.4
MTVZ				S	Sb	05 36 42.0	0.0
TRVZ	Turoa	1.49	90	P	Pn	05 36 23.4	-0.5
COVZ	Chateau Observ	1.49	86	P	Pn	05 36 23.2	-0.6
COVZ				S	Sb	05 36 43.5	-0.3
DUWZ	D'Urville Isla	1.50	171	P	Pn	05 36 23.3	-0.5
FWVZ	Far West T-bar	1.50	88	P	Pn	05 36 23.5	-0.5
DRZ	Dome Shelter	1.50	89	P	Pn	05 36 23.9	-0.3
WHVZ	Whangaehu Hut	1.52	89	P	Pn	05 36 23.9	-0.5
WTVZ	West Tongariro	1.54	83	P	Pn	05 36 23.9	-0.5
NGZ	Ngauruhoe	1.54	85	P	Pn	05 36 24.0	-0.5
OHWZ	Ohakea	1.57	125	P	Pn	05 36 25.5	+0.7
OHWZ				S	Sb	05 36 46.2	+0.3
TUVZ	Tukino	1.58	89	P	Pn	05 36 25.0	0.0
TUVZ				S	Sn	05 36 45.7	+0.5
KRVZ	Karewarewa	1.58	82	P	Pn	05 36 24.6	-0.4
KATZ	Kakaramea	1.65	79	P	Pn	05 36 25.7	-0.2
MOVZ	Moawhango	1.65	94	P	Pn	05 36 25.5	-0.5
QRZ	Quartz Range	1.72	209	P	Pn	05 36 26.4	-0.5
RATZ	Rangitukua	1.73	75	P	Pn	05 36 27.0	-0.1
WATZ	Wairara	1.75	70	P	Pn	05 36 27.2	-0.1
RITZ	Rihia Road	1.77	80	P	Pn	05 36 28.0	+0.4
TLZ	Tolley Road	1.79	57	P	Pn	05 36 27.5	-0.4
KIW	Kapiti Island	1.83	148	P	Pn	05 36 28.4	0.0
BHHZ	Black Hill Sta	1.90	96	P	Pn	05 36 28.9	-0.4
NNZ	Nelson	1.90	186	P	Pn	05 36 29.4	+0.1
KUTZ	Kaahu Road	1.91	65	P	Pn	05 36 29.5	+0.1
OGWZ	Otaki Gorge	1.91	142	P	Pn	05 36 29.9	+0.5
WHTZ	Whakaora	1.93	71	P	Pn	05 36 31.5	+1.7
TSZ	Takapari Road	1.95	113	P	Pn	05 36 30.6	+0.6
TCW	Tory Channel	1.95	165	P	Pn	05 36 30.3	+0.3
POWZ	Post Office Ro	1.97	124	P	Pn	05 36 31.8	+1.5
HATZ	Hinemaiaia	1.97	78	P	Pn	05 36 30.5	+0.2
MRZ	Mangatainoka R	2.01	132	P	Pn	05 36 31.8	+0.9
CAW	Cannon Point	2.10	149	P	Pn	05 36 32.5	+0.4
TUWZ	Tuamarina	2.12	174	P	Pn	05 36 32.7	+0.3
WPRZ	Whakapapatarin	2.13	69	P	Pn	05 36 32.3	-0.3
HOWZ	Holdsworth Sta	2.14	138	P	Pn	05 36 34.4	+1.7
SNZO	South Karori	2.15	158	*e*Pn	Pn	05 36 33.5	+0.8
SNZO				*e*Sn	Sb	05 37 02.0	-0.6
TOZ	Tahuroa Road	2.17	43	P	Pn	05 36 32.8	-0.1
GRRZ	Galatos Road	2.17	64	P	Pn	05 36 32.9	-0.2
KWHZ	Kaweka Forest	2.17	94	P	Pn	05 36 33.6	+0.5
PRWZ	Pori Road	2.19	125	P	Pn	05 36 35.0	+1.7
DVHZ	Dannevirke	2.19	117	P	Pn	05 36 35.1	+1.8
MRHZ	Matea Rd	2.23	78	P	Pn	05 36 34.1	+0.2
BKZ	Black Stump Fm	2.23	87	*e*Pn	Pn	05 36 33.6	-0.3
BKZ	Black Stump Fm	2.23	87	P	Pn	05 36 33.9	0.0
ALRZ	Allen Road	2.25	71	P	Pn	05 36 35.2	+1.0
TIWZ	Tintock	2.26	131	P	Pb	05 36 36.9	-1.1
HRRZ	Handcock Road	2.27	67	P	Pn	05 36 36.3	+1.8
HSRZ	Hossack Road	2.28	65	P	Pn	05 36 34.6	0.0
BHW	Baring Head	2.29	156	P	Pn	05 36 35.6	+0.9
WPHZ	Waipukurau	2.30	110	P	Pn	05 36 36.9	+2.1
PRRZ	Plateau Road	2.31	70	P	Pb	05 36 37.8	-1.0
UTU	Utuhina	2.31	61	P	Pn	05 36 34.8	-0.1
MTW	Mount Morrison	2.33	143	P	Pn	05 36 36.7	+1.5
KMRZ	Kaimai	2.34	52	P	Pn	05 36 35.3	-0.1
NGRZ	Ngongotaha	2.34	60	P	Pn	05 36 35.4	-0.1
HLRZ	Highlands Stat	2.38	64	P	Pn	05 36 38.0	+2.0
MCHZ	McNeill Hill	2.38	94	P	Pn	05 36 38.3	+2.3
AWAZ	Awhitu Peninsu	2.39	20	P	Pn	05 36 37.0	+0.9
BSWZ	Blackbirch Sta	2.40	176	P	Pn	05 36 37.3	+1.1
KARZ	Kaharoa	2.43	58	P	Pn	05 36 37.4	+0.8
BFZ	Birch Farm	2.43	125	*e*Pn	Pn	05 36 38.2	+1.7
BFZ	Birch Farm	2.43	125	P	Pn	05 36 38.3	+1.7
MSWZ	Moikau Station	2.43	150	P	Pn	05 36 37.9	+1.2
KBAZ	Karaka Road Bo	2.44	25	P	Pn	05 36 37.6	+0.9
RRRZ	Republican Roa	2.46	67	P	Pb	05 36 41.1	-0.3
CMWZ	Cape Campbell	2.47	170	P	Pn	05 36 39.8	+2.6
OMRZ	Omania	2.47	61	P	Pb	05 36 42.3	+0.8
ANWZ	Angora Road	2.47	118	P	Pn	05 36 38.3	+1.2
PAWZ	Paruwai Farm	2.48	147	P	Pn	05 36 39.0	+1.7
NMHZ	Naumai	2.48	86	P	Pn	05 36 38.9	+1.5
TMWZ	Te Maipa	2.49	137	P	Pn	05 36 39.2	+1.8
TARZ	Mount Tarawera	2.50	65	P	Pn	05 36 38.0	+0.4
WTAZ	Waiatarua	2.50	18	P	Pn	05 36 38.8	+1.3
THZ	Tophouse	2.50	192	*e*Pn	Pn	05 36 38.4	+0.8
THZ	Tophouse	2.50	192	P	Pn	05 36 38.6	+1.0
PRHZ	Porangahau	2.50	113	P	Pn	05 36 38.9	+1.2
MKRZ	Makatiti	2.52	63	P	Pn	05 36 37.3	-0.6
MKAZ	Moumakai	2.52	29	P	Pn	05 36 38.6	+0.7
CPWZ	Castlepoint	2.53	130	P	Pb	05 36 41.8	-0.8
MTHZ	Maungataniwha	2.55	80	P	Pn	05 36 38.5	+0.3
MTHZ				P	Pb	05 36 39.7	-3.2
KAHZ	Kahuranaki	2.56	102	P	Pn	05 36 41.0	+2.6
PLWZ	Palliser	2.57	152	P	Pn	05 36 39.8	+1.2
ETAZ	East Tamaki Re	2.58	24	P	Pn	05 36 39.5	+0.8
EPAZ	Eden Park BICE	2.60	20	P	Pn	05 36 39.7	+0.8
PXZ	Pawanui	2.60	107	P	Pb	05 36 41.7	-2.0
TRWZ	Traveller	2.61	143	P	Pn	05 36 41.5	+2.5
TGRZ	Tauranga	2.61	53	P	Pn	05 36 38.6	-0.4
ARHZ	Aropaoanui	2.62	90	P	Pn	05 36 41.1	+1.9
HBAZ	Herne Bay Bore	2.62	20	P	Pn	05 36 40.8	+1.7
HBAZ				P	Pb	05 36 44.0	0.0
RVAZ	Riverhead Bore	2.66	17	P	Pn	05 36 40.6	+0.9
CKHZ	Cape Kidnapper	2.69	98	P	Pb	05 36 43.3	-2.1
RTZ	Ruatahuna	2.71	76	P	Pn	05 36 42.1	+1.6
RAHZ	Arahi	2.72	83	P	Pn	05 36 42.6	+1.9
OPRZ	Ohinepanea	2.73	58	P	Pn	05 36 40.3	-0.4
MBAZ	Motutapu North	2.74	22	P	Pn	05 36 41.8	+0.9
DSZ	Denniston Nort	2.79	209	P	Pn	05 36 42.0	+0.4
WIAZ	Waiheke Island	2.79	26	P	Pn	05 36 42.4	+0.9
WHHZ	Waihua	2.81	86	P	Pn	05 36 44.6	+2.7
ABAZ	Army Bay	2.88	20	P	Pn	05 36 43.7	+0.9
MYRZ	Mayor Island	2.90	46	P	Pn	05 36 43.2	+0.2
URZ	Urewera	2.92	70	*e*Pn	Pn	05 36 45.0	+1.7
URZ	Urewera	2.92	70	P	Pn	05 36 45.1	+1.7
SNGZ	Shannon Statio	2.94	81	P	Pn	05 36 46.3	+2.7
KUZ	Kuaotunu	3.06	33	P	Pn	05 36 45.2	0.0
RAGZ	Rawiri	3.07	76	P	Pn	05 36 47.4	+1.9
KHZ	Kahutara	3.09	181	*e*Pn	Pn	05 36 47.4	+1.7
KHZ	Kahutara	3.09	181	P	Pn	05 36 47.2	+1.5
MWZ	Matawai	3.20	73	P	Pn	05 36 48.1	+0.9
RIGZ	Rimuhau	3.28	81	P	Pn	05 36 50.4	+2.0
MHGZ	Mahia Peninsul	3.33	88	P	Pn	05 36 50.1	+1.1
PRGZ	Paritu Road	3.34	84	P	Pn	05 36 50.3	+1.2
GRZ	Great Barrier	3.39	26	P	Pn	05 36 50.1	+0.3
TKGZ	Te Karaka	3.41	76	P	Pn	05 36 52.3	+2.2
WCZ	Waipu Caves	3.42	10	P	Pn	05 36 51.4	+1.1
RUGZ	Raukumara Rang	3.45	68	P	Pn	05 36 51.9	+1.1
TWGZ	Tauwhareparae	3.59	73	P	Pn	05 36 54.9	+2.3
LTZ	Lake Taylor	3.61	196	*e*Pn	Pn	05 36 53.1	+0.3
LTZ	Lake Taylor	3.61	196	P	Pn	05 36 54.1	+1.3
HAZ	Te Kaha	3.62	66	P	Pn	05 36 54.9	+2.1
CNGZ	Carnagh Statio	3.67	78	P	Pn	05 36 55.3	+1.6
PKGZ	Pakihiroa	3.77	69	P	Pn	05 36 57.0	+1.9
INZ	Inchbonnie	3.78	205	P	Pn	05 36 55.9	+0.7
PUZ	Puketiti	3.83	72	P	Pn	05 36 57.7	+1.8
AMCZ	Amberley	3.92	190	P	Pn	05 36 58.0	+0.9
WMGZ	Waiomatatini S	4.04	70	P	Pn	05 37 00.4	+1.6
MXZ	Matakaoa Point	4.07	66	*e*Pn	Pn	05 37 02.2	+3.0
MXZ	Matakaoa Point	4.07	66	P	Pn	05 37 02.3	+3.2
OUZ	Omahuta	4.09	360	*e*Pn	Pn	05 37 00.7	+1.3
OUZ				*e*Sn	Sn	05 37 48.7	+1.6
OUZ	Omahuta	4.09	360	P	Pn	05 37 00.8	+1.3
OXZ	Oxford	4.18	196	*e*Pn	Pn	05 37 00.9	+0.3
OXZ	Oxford	4.18	196	P	Pn	05 37 00.9	+0.3
CRLZ	Canterbury Las	4.32	190	*e*Pn	Pn	05 37 02.9	+0.4
CRLZ				*e*Sn	Sn	05 37 53.6	+1.1
WVZ	Waitaha Valley	4.34	209	P	Pn	05 37 03.3	+0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**4.44**	**189**	*e*Pn	**Pn**	**05 37 03.7**	**-0.5**
MQZ				*e*Sn	**Sn**	**05 37 54.3**	**-1.3**
MQZ	**McQueen's Vall**	**4.44**	**189**	P	**Pn**	**05 37 03.2**	**-1.0**
AKCZ	**Akaroa Harbour**	**4.58**	**186**	P	**Pn**	**05 37 06.4**	**+0.2**
RPZ	**Rata Peaks**	**4.79**	**203**	*e*Pn	**Pn**	**05 37 10.0**	**+0.8**
RPZ	**Rata Peaks**	**4.79**	**203**	P	**Pn**	**05 37 09.8**	**+0.7**
FOZ	**Fox Glacier**	**5.09**	**213**	*e*Pn	**Pn**	**05 37 12.8**	**-0.3**
FOZ	**Fox Glacier**	**5.09**	**213**	P	**Pn**	**05 37 12.9**	**-0.3**
LBZ	**Lake Benmore**	**5.67**	**206**	*e*Pn	**Pn**	**05 37 22.8**	**+1.6**
LBZ				*e*Sn	**Sn**	**05 38 26.5**	**+0.4**
LBZ	**Lake Benmore**	**5.67**	**206**	P	**Pn**	**05 37 22.8**	**+1.6**
JCZ	**Jackson Bay**	**5.97**	**216**	P	**Pn**	**05 37 25.3**	**-0.1**
ODZ	**Otahua Downs**	**6.13**	**200**	*e*Pn	**Pn**	**05 37 27.5**	**+0.1**
ODZ				*e*Sn	**Sn**	**05 38 35.3**	**-1.9**
ODZ	**Otahua Downs**	**6.13**	**200**	P	**Pn**	**05 37 27.4**	**-0.1**
WKZ	**Wanaka**	**6.48**	**210**	*e*Pn	**Pn**	**05 37 33.2**	**+0.9**
WKZ	**Wanaka**	**6.48**	**210**	P	**Pn**	**05 37 33.1**	**+0.8**
TUZ	**Tuapeka**	**7.25**	**203**	P	**Pn**	**05 37 43.7**	**+0.9**
MLZ	**Mavora Lakes**	**7.29**	**212**	*e*Pn	**Pn**	**05 37 45.9**	**+2.5**
MLZ	**Mavora Lakes**	**7.29**	**212**	P	**Pn**	**05 37 45.6**	**+2.2**
DCZ	**Deep Cove**	**7.78**	**216**	*e*Pn	**Pn**	**05 37 50.4**	**+0.2**
WHZ	**Wether Hill Ro**	**7.79**	**211**	*e*Pn	**Pn**	**05 37 52.0**	**+1.8**
WHZ	**Wether Hill Ro**	**7.79**	**211**	P	**Pn**	**05 37 52.1**	**+1.9**
CTZ	**Chatham Island**	**8.54**	**124**	P	**Pn**	**05 38 01.7**	**+1.2**

*ISCJB **11** 05:47:10.1±0.6, 4°.6N±0°.1×122°.8E±0°.2, h582^{km}, mb3.7/10, Error ellipse: s-maj=34.9km s-min=10.8km az=153.0*
*IDC **11** 05:47:13.8±2.7, 4°.66N×123°.08E, h610^{km}±36^{km}, mb3.2/10, mb1 3.3/11, mb1mx3.0/45, mbtmp4.2/11, Error ellipse: s-maj=43.2km s-min=10.7km az=66.0*
ISC 11 05:47:11.5±0.7**, 4°.7N**±0°.2×**122°.9E**±0°.3**, h582**^{km}**, n12,** σ**0^{s}92**/14**, mb3.8**/10**, Celebes Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**19.14**	**111**	P	**P**	**05 50 59.8**	**+1.4**
	1.5nm,0.3s,baz=261,slow=8.4,SNR=6.0						
WRA	**Warramunga Arr**	**26.89**	**156**	P	**P**	**05 52 07.3**	**-0.1**
	4.2nm,0.5s,baz=336,slow=9.4,SNR=7.6						
ASAR	**Alice Springs**	**30.11**	**160**	P	**P**	**05 52 34.6**	**-0.6**
	0.8nm,0.4s,baz=340,slow=8.7,SNR=6.1						
ASAR				S	**S**	**05 56 53.7**	**-0.4**
	2.1nm,0.8s,baz=347,slow=22,SNR=4.6						
CTA	**Charters Tower**	**33.62**	**138**	P	**P**	**05 53 04.9**	**-0.1**
	3.1nm,0.8s,baz=283,slow=10.0,SNR=4.2						
SONM	**Songino Array**	**45.31**	**344**	P	**P**	**05 54 39.1**	**+0.7**
	1.0nm,0.7s,baz=156,slow=8.0,SNR=8.5						
MKAR	**Makanchi Array**	**54.67**	**327**	P	**P**	**05 55 48.0**	**+1.3**
	2.7nm,0.3s,baz=121,slow=7.7,SNR=86						
MKAR				PcP	**PcP**	**05 56 40.6**	**+0.3**
	1.4nm,0.7s,baz=130,slow=4.3,SNR=8.7						
ZALV	**Zalesovo Beam**	**58.09**	**335**	P	**P**	**05 56 09.6**	**-0.3**
	0.9nm,0.5s,baz=119,slow=9.2,SNR=4.6						
VNDA	**Vanda**	**84.83**	**172**	P	**P**	**05 58 45.9**	**+1.0**
	0.5nm,0.8s,baz=307,slow=5.1,SNR=2.0						
ILAR	**Eielson Array**	**85.91**	**25**	P	**P**	**05 58 48.8**	**-1.5**
	0.2nm,0.6s,baz=254,slow=5.4,SNR=1.8						
ARCES	**ARCESS Array B**	**88.28**	**340**	P	**P**	**05 59 00.7**	**-0.7**
	5.7nm,1.0s,baz=80,slow=6.7,SNR=4.4						
FINES	**FINESS Array B**	**89.23**	**332**	P	**P**	**05 59 05.1**	**-0.8**
	1.8nm,0.7s,baz=72,slow=6.2,SNR=6.7						
TORD	**Torodi Ar. Bea**	**119.03**	**288**	PKP	**PKPdf**	**06 04 55.6**	**-0.3**
	0.3nm,0.3s,baz=117,slow=2.9,SNR=3.8						

*IDC **11** 05:48:30.9±1.9, 7°.14S×129°.77E, h114^{km}±17^{km}, mb3.9/2, mb1 3.9/7, mb1mx3.6/37, mbtmp4.3/7, Error ellipse: s-maj=32.9km s-min=15.9km az=78.0*
*ISCJB **11** 05:48:31.6±0.5, 7°.24S±0°.05×129°.85E±0°.06, h150^{km}, mb4.1/5, Error ellipse: s-maj=8.7km s-min=5.7km az=153.3*
*NEIC **11** 05:48:32.8±0.9, 7°.14S×129°.77E, h136^{km}±11^{km}, mb4.1/5, Error ellipse: s-maj=13.4km s-min=10.8km az=70.0*
ISC 11 05:48:32.3±0.7**, 7°.25S**±0°.05×**129°.79E**±0°.06**, h150**^{km}**, n24,** σ**3^{s}08**/33**, mb4.1**/5**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.66**	**116**	*e*Pn	**Pn**	**05 49 06.4**	**+2.7**
SAUI				*e*Sn	**Sn**	**05 49 28.9**	**+1.3**
FAKI	**Fak Fak**	**4.95**	**30**	*e*Pn	**Pn**	**05 49 42.3**	**-2.8**
FAKI				*e*Sn	**Sn**	**05 50 36.4**	**-5.4**
SOEI	**Soe**	**6.01**	**245**	*e*Pn	**Pn**	**05 50 00.6**	**+1.3**
SIJI	**Sorong**	**6.50**	**13**	P	**Pn**	**05 50 02.9**	**-2.9**
	1.5nm,0.3s,baz=215,slow=22,SNR=17						
SIJI				S	Sn	05 51 07.3	-12
	3.3nm,0.3s,baz=224,slow=23,SNR=4.5						
BATI	**Baumata**	**6.73**	**244**	P	**Pn**	**05 50 09.6**	**+0.8**
	4.7nm,0.3s,baz=145,slow=1.4,SNR=7.2						
BATI				S	**Sn**	**05 51 19.5**	**-5.0**
	5.6nm,0.3s,baz=138,slow=10.0,SNR=2.4						
FITZ	**Fitzroy Crossi**	**11.52**	**200**	P	**Pn**	**05 51 12.2**	**-0.2**
	2.0nm,0.3s,baz=20,slow=9.2,SNR=50						
FITZ				S	Sn	05 53 11.9	-7.9
	2.2nm,0.3s,baz=173,slow=14,SNR=5.4						
FITZ	**Fitzroy Crossi**	**11.52**	**200**	*e*Pn	**Pn**	**05 51 11.3**	**-1.0**
FITZ				*e*Sn	**Sn**	**05 53 14.0**	**-5.8**
WRAB	**Tennant Creek**	**13.36**	**161**	*e*Pn	**Pn**	**05 51 35.9**	**-0.3**
WRAB				*e*Sn	Sn	05 53 58.3	-5.9
WR1	**Warramunga Arr**	**13.37**	**161**	*e*Pn	**Pn**	**05 51 36.1**	**-0.1**
WR1				*e*Sn	**Sn**	**05 53 59.5**	**-4.8**
WRA	**Warramunga Arr**	**13.37**	**161**	P	**Pn**	**05 51 36.1**	**-0.1**
	2.4nm,0.3s,baz=340,slow=13,SNR=79						
WRA				S	**Sn**	**05 53 59.5**	**-4.8**
	3.2nm,0.3s,baz=331,slow=23,SNR=11						
WB2	**Warramunga Arr**	**13.37**	**161**	*e*Pn	**Pn**	**05 51 36.4**	**+0.1**
WB2				*e*Sn	Sn	05 53 58.1	-6.3
COEN	**Coen**	**14.74**	**118**	*e*Pn	**P**	**05 51 56.0**	**+0.3**
COEN				*e*Sn	**Sn**	**05 54 32.2**	**-5.2**
AS31	**Alice Springs**	**16.80**	**167**	*e*P	**Pn**	**05 52 21.7**	**+2.9**
	1.7nm,0.6s						
ASAR	**Alice Springs**	**16.80**	**167**	P	**Pn**	**05 52 21.4**	**+2.5**
	1.1nm,0.3s,baz=336,slow=10,SNR=47						
ASAR				S	**S**	**05 55 24.1**	**-1.6**
	0.8nm,0.3s,baz=355,slow=27,SNR=6.7						
ASAR				ScP	**ScP**	**06 00 23.8**	**+4.9**
	0.1nm,0.3s,baz=2.8,slow=1.6,SNR=4.2						
AS01	**Alice Springs**	**16.80**	**167**	*e*P	**Pn**	**05 52 22.3**	**+3.4**
STKA	**Stephens Creek**	**26.86**	**157**	P	**P**	**05 54 02.3**	**+3.3**
	0.7nm,0.3s,baz=348,slow=14,SNR=2.2						
MK32	**Makanchi Array**	**68.32**	**327**	*e*P	**P**	**05 59 18.3**	**+1.0**
MKAR	**Makanchi Array**	**68.32**	**327**	P	**P**	**05 59 18.3**	**+1.0**
	1.4nm,0.4s,baz=114,slow=8.7,SNR=32						
MKAR	**Makanchi Array**	**68.32**	**327**	*e*P	**P**	**05 59 18.9**	**+1.6**
	10nm,0.5s						
MAKZ	**Makanchi**	**68.50**	**327**	*e*P	**P**	**05 59 20.2**	**+1.8**
	1.2nm,0.4s						
KURK	**Kurchatov**	**72.62**	**329**	*e*P	**P**	**05 59 44.2**	**+1.0**
	4.6nm,1.4s						
BILL	**Bilibino**	**79.40**	**13**	*e*P	**P**	**06 00 24.1**	**+2.8**
	2.4nm,0.5s						
CPUP	**Villa Florida**	**145.91**	**169**	PKPbc	**PKiKP**	**06 07 59.0**	**+0.7**
	1.4nm,0.8s,baz=239,slow=17,SNR=3.5						
LPAZ	**La Paz**	**150.65**	**143**	PKPbc	**PKiKP**	**06 08 12.9**	**+3.9**
	0.7nm,0.4s,baz=338,slow=1.5,SNR=6.6						

*KRAR **11** 06:07:56.5±0.1, 54°.08N×86°.30E, M2.6, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*NNC **11** 06:08:00.9±2.0, 54°.35N×86°.85E, h0^{km}, mb3.3, mpv3.1, Error ellipse: s-maj=11.8km s-min=8.3km az=53.0, Suspected Mining explosion.*
IDC 11 06:08:03.5±2.6**, 54°.25N×86°.66E, h0**^{km}**, mb1 3.2**/2**, mb1mx3.0**/44**, mbtmp3.2**/2**, ML3.1**/2**, 8C-5D, Error ellipse: s-maj=21.3km s-min=14.1km az=53.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.13**	**255**	*i*		06 16 58.2	
	baz=72,slow=354,SNR=2.5						
ZAA0	**Zalesovo Array**	**1.13**	**255**	⇑P	Pg	06 08 23.8	-1.2
	3.1nm,0.5s,baz=71,slow=16						
ZAA0				⇑S	Sn	06 08 42.0	-0.6
	29nm,0.8s,baz=71,slow=26						
ZALV	**Zalesovo Beam**	**1.13**	**255**	Pg	Pg	06 08 24.0	-1.0
	3.0nm,0.3s,baz=70,slow=17,SNR=20						
ZALV				Lg	Lg	06 08 40.4	
	1.3nm,0.3s,baz=69,slow=16,SNR=5.1						
KURK	**Kurchatov**	**6.05**	**237**	⇑Pn	Pn	06 09 36.0	+1.9
	3.2nm,0.9s						
KURK				⇑Sn	Sn	06 10 42.9	-1.2
	3.8nm,1.2s						
KURK				⇑Lg	Lg	06 11 17.1	
	7.7nm,0.8s						
KURBB	**Kurchatov Arra**	**6.16**	**237**	Pn	Pn	06 09 36.9	+1.3
	0.3nm,0.3s,baz=53,slow=13,SNR=19						
KURBB				Sn	Sn	06 10 46.4	-0.3
	baz=52,slow=24,SNR=2.7						
KURBB				Lg	Lg	06 11 18.9	
	0.0nm,0.3s,baz=50,slow=32,SNR=3.3						
KURBB	**Kurchatov Arra**	**6.16**	**237**	⇓Pn	Pn	06 09 36.2	+0.7
	3.3nm,0.7s						
KURBB				⇑Sn	Sn	06 10 47.6	+1.0
	10nm,0.7s						
KURBB				⇓Lg	Lg	06 11 23.7	
	8.5nm,0.7s						
MK31	**Makanchi Array**	**7.97**	**202**	Pn	Pn	06 10 01.5	+1.1
	0.1nm,0.3s,baz=29,slow=14,SNR=19						
MK31				⇓Sn	Sn	06 11 31.5	+0.3
	1.4nm,0.8s						
MK31				⇓Lg	Lg	06 12 18.5	
	4.7nm,1.0s						
MKAR	**Makanchi Array**	**7.97**	**202**	Pn	Pn	06 10 01.4	+1.0
	0.3nm,0.3s,baz=24,slow=12,SNR=20						
MKAR				Sn	Sn	06 11 29.2	-2.0
	0.1nm,0.3s,baz=23,slow=27,SNR=4.5						
MKAR				Lg	Lg	06 12 16.2	
	0.0nm,0.3s,baz=23,slow=28,SNR=3.9						
MAKZ	**Makanchi**	**8.02**	**204**	⇑Pn	Pn	06 10 02.8	+1.6
	0.6nm,0.7s						
MAKZ				⇓Sn	Sn	06 11 35.7	+3.1
	1.7nm,0.9s						
MAKZ				⇑Lg	Lg	06 12 14.5	
	12nm,1.9s						

*NIED **11** 06:14:00, 40°.00N×140°.50E, h5^{km}, Mw3.7 Best double couple: Mo4.40000×10^{14} NP1:φs314.00000°, δ20.00000°, λ74.00000°. NP2:φs151.00000°, δ71.00000°, λ96.00000°.*
*ISCJB **11** 06:14:20.8±0.5, 40°.07N±0°.03×140°.56E±0°.04, h20^{km}±5^{km}, mb3.6/4, Error ellipse: s-maj=6.2km s-min=5.0km az=36.1*
*JMA **11** 06:14:20.8, 40°.04N×140°.54E, h9^{km}±1^{km}, M3.5 Broadband fault plane solution: P waves. NP1: φs155.00000°, δ74.00000°, λ91.00000°. NP2: φs332.00000°, δ16.00000°, λ87.00000°. Principal axes: T Plg61.0000°, Azm66.0000°; N Plg1.0000°, Azm334.0000°; P Plg29.0000°, Azm244.0000°;*
JMA Felt II J1.
*IDC **11** 06:14:20.4±1.1, 40°.23N×140°.71E, h0^{km}, mb3.5/4, mb1 3.7/8, mb1mx3.4/45, mbtmp3.5/8, ML2.8/3, MS2.7/3, Ms1 2.7/3, ms1mx2.4/41 Error ellipse: s-maj=36.6km s-min=19.5km az=119.0*
ISC 11 06:14:21.6±0.9**, 40°.10N**±0°.04×**140°.64E**±0°.04**, h12**^{km}±6^{km}**, n20,** σ**1^{s}62**/23**, mb3.7**/4**, 1C-5D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAH	**Hinai**	**0.09**	**356**	⇓P	**Pg**	**06 14 24.4**	**+0.1**
JAH				S	**Sg**	**06 14 27.0**	**+0.8**
JNTW	**Noshirotokiwa**	**0.41**	**295**	P	**Pg**	**06 14 28.2**	**-1.4**
JNTW				*e*S	**Sg**	**06 14 34.3**	**-0.7**
JKZ	**Kuzumaki**	**0.54**	**102**	⇓P	**Pb**	**06 14 32.6**	**-0.4**
JKZ				S	**Sb**	**06 14 40.4**	**-0.3**
JIW	**Iwasaki**	**0.69**	**315**	⇓P	**Pg**	**06 14 33.6**	**-1.4**
JIW				S	**Sg**	**06 14 42.8**	**-1.2**
JRG	**Rokugo**	**0.71**	**181**	⇓P	**Pg**	**06 14 33.6**	**-1.6**
JRG				S	**Sg**	**06 14 42.7**	**-1.8**
JANG	**Nango**	**0.72**	**68**	P	**Pb**	**06 14 36.1**	**+0.1**
JANG				S	**Sb**	**06 14 46.6**	**+0.7**
JTM	**Tenmabayashi**	**0.76**	**25**	⇓P	**Pb**	**06 14 36.7**	**+0.1**
JTM				S	**Sb**	**06 14 47.5**	**+0.6**
JOM	**Ohasama**	**0.80**	**141**	⇑P	**Pg**	**06 14 36.1**	**-1.0**
MJAR	**Matsushiro Arr**	**4.04**	**209**	Pn	**Pn**	**06 15 27.4**	**+4.2**
	0.8nm,0.3s,baz=12,slow=12,SNR=3.4						
ASAJ	**Asahikawa**	**4.27**	**19**	Pn	**Pn**	**06 15 23.2**	**-3.1**
	baz=199,slow=14,SNR=2.4						
USRK	**Ussuriysk Ar.**	**7.62**	**305**	Pn	**Pn**	**06 16 11.4**	**-1.0**
	0.2nm,0.3s,baz=111,slow=14,SNR=3.8						
USRK				LR	LR	06 19 06.3	
	comp=Z,53nm,20.3s,baz=358,slow=38						
KSRS	**Korea Array**	**10.28**	**259**	Pn	**Pn**	**06 16 51.3**	**+2.5**
	0.5nm,0.3s,baz=64,slow=14,SNR=17						
KSRS				LR	LR	06 20 14.7	
	comp=Z,34nm,18.1s,baz=35,slow=34						
JNU	**Nakatsue**	**10.49**	**231**	LR	LR	06 21 01.1	
	comp=Z,39nm,18.4s,baz=196,slow=38						
H11N2	**WAKE ISLAND Hy**	**30.31**	**124**	T	T	06 51 25.0	
	baz=318,slow=76,SNR=7.7						
H11N1	**WAKE ISLAND Hy**	**30.32**	**124**	T	T	06 51 24.0	
	baz=318,slow=76,SNR=6.8						
H11N3	**WAKE ISLAND Hy**	**30.33**	**124**	T	T	06 51 26.8	
	baz=318,slow=76,SNR=6.8						
ILAR	**Eielson Array**	**47.26**	**34**	P	**P**	**06 22 54.7**	**+0.6**
	0.6nm,0.8s,baz=272,slow=6.3,SNR=5.7						
INK	**Inuvik**	**51.95**	**28**	P	**P**	**06 23 29.8**	**-0.1**
	1.8nm,0.8s,baz=291,slow=8.0,SNR=4.3						
WRA	**Warramunga Arr**	**60.02**	**187**	P	**P**	**06 24 28.9**	**+0.8**
	0.5nm,1.0s,baz=5.6,slow=7.5,SNR=3.3						
YKA	**Yellowknife Ar**	**61.47**	**31**	P	**P**	**06 24 37.3**	**-0.2**
	0.3nm,1.0s,baz=301,slow=6.5,SNR=4.8						

*ISCJB **11** 06:18:09.3±0.9, 55°.9S±0°.1×27°.3W±0°.5, h63^{km}, mb4.0/4, Error ellipse: s-maj=40.9km s-min=14.0km az=157.7*
*IDC **11** 06:18:16.1±11.0, 56°.05S×27°.10W, h115^{km}±105^{km}, mb3.7/4, mb1 3.9/4, mb1mx3.6/21, mbtmp4.0/4, Error ellipse: s-maj=41.6km s-min=24.6km az=75.0*
ISC 11 06:18:10.4±0.9**, 55°.9S**±0°.2×**27°.2W**±0°.3**, h63**^{km}**, n17,** σ**1^{s}25**/11**, mb4.0**/3**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.92**	**158**	P	**P**	**06 22 05.0**	**+1.3**
VNA3	**Neumayer Olymp**	**17.11**	**161**	P	**P**	**06 22 06.4**	**+0.5**
VNA2	**Neumayer--Watz**	**17.31**	**158**	P	**P**	**06 22 09.5**	**+1.4**
	baz=321,slow=13						
SNAA	**Sanae**	**18.86**	**156**	P	**Pn**	**06 22 26.0**	**-0.2**
VNDA	**Vanda**	**46.70**	**183**	P	**P**	**06 26 31.7**	**-0.5**
	1.3nm,0.7s,baz=198,slow=6.1,SNR=13						
H10S2	**ASCENSION HYDR**	**47.88**	**17**	T	T	07 18 44.6	
	baz=194,slow=75,SNR=6.9						
H10S3	**ASCENSION HYDR**	**47.88**	**17**	T	T	07 18 46.2	
	baz=194,slow=75,SNR=6.0						
H10S1	**ASCENSION HYDR**	**47.89**	**17**	T	T	07 18 45.2	
	baz=194,slow=75,SNR=7.0						
H10N1	**ASCENSION HYDR**	**48.99**	**17**	T	T	07 20 04.8	
	baz=193,slow=75,SNR=6.3						
H10N3	**ASCENSION HYDR**	**49.00**	**17**	T	T	07 20 04.8	
	baz=193,slow=75,SNR=6.6						
H10N2	**ASCENSION HYDR**	**49.01**	**17**	T	T	07 20 05.3	
	baz=193,slow=75,SNR=5.3						
LPAZ	**La Paz**	**50.30**	**305**	P	**P**	**06 27 01.9**	**+0.6**
	0.8nm,0.3s,baz=129,slow=3.7,SNR=8.3						
TORD	**Torodi Ar. Bea**	**72.94**	**29**	P	**P**	**06 29 33.6**	**+0.8**
	1.1nm,0.7s,baz=205,slow=6.2,SNR=7.6						
ASAR	**Alice Springs**	**99.11**	**162**	P	**Pdif**	**06 31 43.0**	**-1.7**
	0.3nm,0.7s,baz=180,slow=4.2,SNR=2.8						
YKA	**Yellowknife Ar**	**136.07**	**318**	PKP	**PKPdf**	**06 37 22.4**	**-0.3**
	0.1nm,0.4s,baz=135,slow=1.9,SNR=6.9						
ILAR	**Eielson Array**	**150.03**	**312**	PKPbc	**PKPbc**	**06 37 51.9**	**-0.3**
	1.2nm,0.7s,baz=147,slow=2.4,SNR=15						
SONM	**Songino Array**	**150.72**	**86**	PKPbc	**PKPbc**	**06 37 52.5**	**-2.0**
	0.3nm,0.5s,baz=233,slow=3.2,SNR=3.5						

*IDC **11** 06:47:34.1±1.2, 35°.48S×179°.46W, h0^{km}, mb4.3/4, mb1 4.5/7, mb1mx4.1/27, mbtmp4.3/7, ML4.0/3, MS3.3/4, Ms1 3.3/4, ms1mx2.9/26, Error ellipse: s-maj=32.6km s-min=26.1km az=94.0*
*WEL **11** 06:47:36.4±1.3, 36°S±8°×17°9W±1°3, h5^{km}, ML4.4/14*
*ISCJB **11** 06:47:37.9±0.5, 35°.55S±0°.04×179°.50W±0°.08, h33^{km}, mb4.7/14, MS3.2/3, Error ellipse: s-maj=10.4km s-min=4.4km az=27.2*
*NEIC **11** 06:47:41.5±1.2, 35°.78S×179°.60W, h54^{km}±11^{km}, mb4.8/10, Error ellipse: s-maj=12.9km s-min=12.0km az=146.0*
ISC 11 06:47:38.7±2.5**, 35°.77S**±0°.07×**179°.53W**±0°.09**, h26**^{km}±17^{km}**, n63,** σ**2^{s}11**/70**, mb4.7**/14**, MS3.4**/3**, East of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.50**	**224**	*e*Pn	**Pn**	**06 48 19.7**	**+2.1**
MXZ	**Matakaoa Point**	**2.50**	**224**	P	**Pn**	**06 48 19.6**	**+2.0**
MXZ				S	**Sb**	**06 48 52.5**	**-0.6**
WMGZ	**Waiomatatini S**	**2.63**	**218**	P	**Pn**	**06 48 22.1**	**+2.7**
WMGZ				S	**Sb**	**06 48 58.0**	**+1.1**
PKGZ	**Pakihiroa**	**2.86**	**222**	P	**Pn**	**06 48 25.0**	**+2.4**
PKGZ				S	**Sb**	**06 49 02.2**	**-1.4**
PUZ	**Puketiti**	**2.90**	**217**	P	**Pn**	**06 48 25.4**	**+2.2**
PUZ				S	**Sb**	**06 49 02.9**	**-1.9**
HAZ	**Te Kaha**	**2.93**	**227**	P	**Pn**	**06 48 26.0**	**+2.4**
HAZ				S	**Sb**	**06 49 05.6**	**-0.1**
TWGZ	**Tauwhareparae**	**3.12**	**219**	P	**Pn**	**06 48 28.8**	**+2.5**
TWGZ				S	**Sb**	**06 49 09.3**	**-1.9**
RUGZ	**Raukumara Rang**	**3.13**	**225**	P	**Pn**	**06 48 29.5**	**+3.0**
CNGZ	**Carnagh Statio**	**3.26**	**213**	P	**Pn**	**06 48 30.7**	**+2.6**
TKGZ	**Te Karaka**	**3.39**	**217**	P	**Pn**	**06 48 32.2**	**+2.3**
TKGZ				S	**Sb**	**06 49 15.5**	**-3.4**
MWZ	**Matawai**	**3.48**	**222**	P	**Pn**	**06 48 33.4**	**+2.3**
RIGZ	**Rimuhau**	**3.64**	**216**	P	**Pn**	**06 48 35.3**	**+1.9**
RAGZ	**Rawiri**	**3.66**	**221**	P	**Pn**	**06 48 35.8**	**+2.1**
URZ	**Urewera**	**3.66**	**226**	Pn	**Pn**	**06 48 35.7**	**+2.1**
	16nm,0.3s,baz=43,slow=8.1,SNR=59						
URZ				Sn	**Sn**	**06 49 19.6**	**+3.7**
	21nm,0.3s,baz=123,slow=16,SNR=10						
URZ	**Urewera**	**3.66**	**226**	*e*Pn	**Pn**	**06 48 36.0**	**+2.4**
URZ				Sn	**Sn**	**06 49 19.6**	**+3.7**
URZ	**Urewera**	**3.66**	**226**	P	**Pn**	**06 48 35.9**	**+2.3**
KUZ	**Kuaotunu**	**3.96**	**254**	P	**Pn**	**06 48 39.7**	**+1.9**
GRZ	**Great Barrier**	**4.10**	**262**	P	Pn	06 48 44.9	+5.3
TOZ	**Tahuroa Road**	**4.45**	**242**	P	**Pn**	**06 48 46.5**	**+2.1**
MKAZ	**Moumakai**	**4.49**	**251**	P	**Pn**	**06 48 48.3**	**+3.3**
BKZ	**Black Stump Fm**	**4.64**	**222**	*e*Pn	**Pn**	**06 48 48.7**	**+1.6**
BKZ				*e*Sn	**Sn**	**06 49 45.1**	**+5.0**
WCZ	**Waipu Caves**	**4.98**	**266**	P	**Pn**	**06 48 53.9**	**+2.1**
HIZ	**Hauiti**	**5.26**	**237**	*e*Pn	**Pn**	**06 48 58.4**	**+2.9**
OUZ	**Omahuta**	**5.64**	**274**	*e*Pn	**Pn**	**06 49 02.6**	**+1.8**
BFZ	**Birch Farm**	**5.92**	**213**	*e*Pn	**Pn**	**06 49 03.9**	**-0.8**
BFZ				*e*Sn	**Sn**	**06 50 12.7**	**+1.0**
THZ	**Tophouse**	**8.41**	**222**	*e*Pn	**Pn**	**06 49 37.4**	**-1.4**
THZ				*e*Sn	**Sn**	**06 51 11.6**	**-1.3**
LTZ	**Lake Taylor**	**9.46**	**220**	*e*Pn	**Pn**	**06 49 54.2**	**+1.0**
MQZ	**McQueen's Vall**	**9.95**	**215**	*e*Pn	**Pn**	**06 50 00.2**	**+0.4**
MQZ				*e*Sn	**Sn**	**06 51 44.5**	**-6.1**
RPZ	**Rata Peaks**	**10.74**	**220**	Pn	**Pn**	**06 50 12.1**	**+1.3**
	0.6nm,0.3s,baz=15,slow=20,SNR=2.2						
RPZ				Sn	Sn	06 52 02.6	-7.5
	1.3nm,0.3s,baz=136,slow=19,SNR=8.3						
ODZ	**Otahua Downs**	**11.90**	**216**	*e*Pn	**Pn**	**06 50 28.0**	**+1.3**
ODZ				*e*Sn	**Sn**	**06 52 34.6**	**-3.9**
PYZ	**Puysegur Point**	**14.69**	**221**	*e*Pn	**Pn**	**06 51 06.0**	**+1.4**
DZM	**Mont Dzumac**	**18.33**	**314**	P	**P**	**06 51 49.9**	**-1.3**
	0.6nm,0.3s,baz=156,slow=16,SNR=6.1						
DZM				LR	LR	06 57 35.1	
	comp=Z,114nm,19.1s,baz=137,slow=33						
DZM	**Mont Dzumac**	**18.33**	**314**	*e*LR	LR	06 56 06.5	
	comp=Z,156nm,25.6s						
DZM	**Mont Dzumac**	**18.33**	**314**	*e*P	**P**	**06 51 50.2**	**-1.0**
	9.0nm,0.8s						
NIUE	**Niue**	**18.67**	**30**	*e*P	**Pn**	**06 51 56.4**	**+1.2**
	132nm,1.1s						
PPT2	**Papeete2**	**32.12**	**64**	*e*LR	LR	07 02 43.6	
	comp=Z,39nm,22.5s						
PPT	**Papeete**	**32.14**	**64**	LR	LR	07 04 03.5	
	comp=Z,21nm,20.6s,baz=179,slow=31						
CTAO	**Charters Tower**	**33.83**	**288**	*e*P	**P**	**06 54 19.9**	**+1.0**
	14nm,1.0s						
COEN	**Coen**	**39.87**	**293**	*e*P	**P**	**06 55 10.2**	**-0.1**
	6.9nm,0.9s						
PMG	**Port Moresby**	**40.09**	**303**	LR	LR	07 10 10.2	
	comp=Z,62nm,18.4s,baz=166,slow=34						
AS01	**Alice Springs**	**41.81**	**274**	*e*P	**P**	**06 55 25.7**	**-0.7**
AS31	**Alice Springs**	**41.85**	**274**	*e*P	**P**	**06 55 26.0**	**-0.7**
	1.2nm,0.7s						
ASAR	**Alice Springs**	**41.85**	**274**	P	**P**	**06 55 26.0**	**-0.7**
	2.8nm,0.8s,baz=113,slow=7.5,SNR=28						
WB2	**Warramunga Arr**	**43.32**	**279**	*e*P	**P**	**06 55 37.8**	**-0.8**
	11nm,0.6s						
WRAB	**Tennant Creek**	**43.32**	**279**	*e*P	**P**	**06 55 37.7**	**-0.9**
	8.6nm,0.6s						
WR1	**Warramunga Arr**	**43.33**	**279**	*e*P	**P**	**06 55 37.9**	**-0.8**
	10nm,0.6s						
WRA	**Warramunga Arr**	**43.33**	**279**	P	**P**	**06 55 37.9**	**-0.8**
	5.5nm,0.5s,baz=119,slow=7.7,SNR=91						
WRA				LR	LR	07 13 04.6	
	comp=Z,47nm,18.3s,baz=120,slow=35						
PTCN	**Pitcairn Islan**	**43.54**	**90**	*e*P	**P**	**06 55 41.1**	**+0.8**
	128nm,0.8s						
FORT	**Forrest**	**43.68**	**261**	*e*P	**P**	**06 55 41.1**	**-0.3**
	8.2nm,0.7s						
QSPA	**South Pole Qui**	**54.35**	**180**	P	**P**	**06 57 04.9**	**+2.1**
	0.7nm,0.8s,baz=360,slow=1.3,SNR=1.9						
NPOC	**North of Pu'u**	**59.54**	**27**	*e*P	**P**	**06 57 41.0**	**+1.0**
	269nm,0.7s						
KIP	**Kipapa**	**60.42**	**23**	*e*P	**P**	**06 57 45.3**	**-0.6**
	32nm,1.0s						
PETK	**Petropavlovsk-**	**90.70**	**347**	P	**P**	**07 00 36.8**	**-1.7**
	4.2nm,0.8s,baz=163,slow=2.4,SNR=2.9						
PEA1	**Petropavlovsk-**	**90.71**	**347**	*e*P	**P**	**07 00 36.8**	**-1.7**
NIL	**Nilore**	**121.45**	**291**	*e*PKPdf	**PKPdf**	**07 06 30.9**	**+1.1**
KURK	**Kurchatov**	**123.74**	**312**	*e*PKPdf	**PKPdf**	**07 06 32.3**	**-1.2**
KURBB	**Kurchatov Arra**	**123.77**	**311**	PKP	**PKPdf**	**07 06 32.3**	**-1.3**
	0.6nm,0.6s,baz=114,slow=2.0,SNR=4.9						
ARA0	**ARCESS Array S**	**143.51**	**346**	*e*PKPpre	PKPpre	07 07 06.3	
ARCES	**ARCESS Array B**	**143.51**	**346**	PKP	PKPab	07 07 06.3	+0.1
	4.5nm,1.0s,baz=85,slow=2.6,SNR=5.8						
FIA0	**FINESS Array S**	**149.63**	**336**	*e*PKPbc	**PKPbc**	**07 07 24.2**	**-0.8**
FINES	**FINESS Array B**	**149.63**	**336**	PKPbc	**PKPbc**	**07 07 24.2**	**-0.8**
	2.4nm,0.5s,baz=33,slow=3.3,SNR=20						
BR101	**Keskin Array S**	**153.57**	**289**	*e*PKPbc	**PKPbc**	**07 07 34.3**	**-0.7**
BRTR	**Keskin Array B**	**153.57**	**289**	PKPbc	**PKPbc**	**07 07 34.3**	**-0.7**
	1.1nm,0.8s,baz=76,slow=5.2,SNR=3.8						

*KRNET **11** 06:57:54.9±0.1, 39°.16N×72°.11E, mb3.0*
*NNC **11** 06:57:55.5±1.5, 38°.98N×72°.48E, h0^{km}, mb3.6, mpv3.3, Error ellipse: s-maj=13.3km s-min=7.5km az=153.0*
ISC 11 06:57:57.4±2.6**, 39°.5N**±0°.1×**72°.09E**±0°.07**, h0**^{km}±13^{km}**, n21,** σ**2^{s}45**/34**, 22C-4D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.19**	**66**	⇑P	**Pg**	**06 58 20.0**	**-0.2**
	14nm,0.6s						
SFK				⇑S	**Sn**	**06 58 38.1**	**-0.4**
	26nm,0.3s						
SFK	**Sufi-Kurgan**	**1.19**	**66**	⇑*i*P	**Pg**	**06 58 20.1**	**-0.1**
	baz=51						
SFK				⇑*i*S	**Sn**	**06 58 38.6**	**+0.1**
	baz=51						
ARSB	**Arslanbob**	**1.91**	**21**	⇑*i*P	**Pg**	**06 58 34.1**	**+0.1**
	baz=17						
ARSB				⇑*i*S	**Sg**	**06 59 02.6**	**+3.8**
	baz=17						
ARK	**Arkit**	**2.26**	**358**	⇑*i*P	**Pb**	**06 58 39.2**	**0.0**
	baz=58						
ARK				⇑*i*S	**Sg**	**06 59 11.3**	**+1.3**
	baz=58						
AML	**Almayashu**	**2.86**	**25**	P	**Pb**	**06 58 47.8**	**-1.8**
	SNR=24						
AML	**Almayashu**	**2.86**	**25**	⇓*i*P	**Pb**	**06 58 47.6**	**-2.0**
	baz=22						
AML				⇓*i*S	**Sb**	**06 59 25.7**	**+0.4**
	baz=22						
ARLS	**Aral**	**2.88**	**35**	⇑*e*P	**Pn**	**06 58 47.2**	**+2.6**
	baz=31						
ARLS				⇑*i*S	**Sb**	**06 59 25.1**	**-0.4**
	baz=31						
UCH	**Uchtor**	**3.26**	**34**	P	**Pb**	**06 58 54.1**	**-2.2**
	SNR=18						
UCH	**Uchtor**	**3.26**	**34**	⇑*i*P	**Pn**	**06 58 53.0**	**+2.9**
	baz=30						
UCH				⇑*i*S	**Sb**	**06 59 34.5**	**-2.2**
	baz=30						
EKS2	**Erkin-Say**	**3.37**	**22**	P	**Pb**	**06 58 56.0**	**-2.1**
	SNR=19						
EKS2	**Erkin-Say**	**3.37**	**22**	⇑*i*P	**Pn**	**06 58 54.4**	**+3.0**
	baz=19						
EKS2				⇑*i*S	**Sb**	**06 59 37.7**	**-2.0**
	baz=19						
KZA	**Kyzart**	**3.49**	**42**	P	**Pb**	**06 58 57.9**	**-2.4**
	SNR=11						
KZA	**Kyzart**	**3.49**	**42**	⇑*e*P	**Pn**	**06 58 56.0**	**+2.7**
	baz=38						
KZA				⇑*i*S	**Sb**	**06 59 39.8**	**-3.6**
	baz=38						
AAK	**Ala-Archa**	**3.59**	**30**	P	**Pb**	**06 58 58.9**	**-2.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	SNR=5.8						
AAK	Ala-Archa	3.59	30	⇓P	Pn	06 58 57.5	+3.0
	2.8nm,0.4s						
AAK				⇑S	Sb	06 59 46.6	+0.6
	12nm,0.6s						
AAK	Ala-Archa	3.59	30	⇑*i*P	Pn	06 58 57.4	+3.0
	baz=27						
AAK				⇑*i*S	Sb	06 59 42.6	-3.4
	baz=27						
KK31	Karatay Array	3.75	342	⇑P	Pn	06 58 57.4	+0.8
	1.0nm,0.3s,baz=162,slow=12,SNR=40						
KK31				⇓Pg	Pg	06 59 09.1	-0.2
	12nm,0.6s,baz=154,slow=15,SNR=25						
KK31				⇑S	Sg	06 59 56.1	-1.9
	5.6nm,0.5s,baz=160,slow=29						
KBK	Karagaybulak	3.79	34	P	Pb	06 59 02.2	-3.1
	SNR=7.1						
CHMS	Chumysh	4.00	29	P	Pn	06 59 03.7	+3.8
	SNR=8.1						
USP	Ospenovka	4.14	25	P	Pn	06 59 05.4	+3.4
	SNR=8.2						
TKM2	Tokmak 2	4.29	37	⇑P	Pn	06 59 07.2	+3.1
	2.1nm,0.4s						

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*IDC **11** 06:58:09.7±1.9, 30.°44N×83.°20E, h0km, mb3.3/5, mb1 3.4/6, mb1mx3.2/60, mbtmp3.2/6, ML2.9/1, Error ellipse: s-maj=65.8km s-min=22.1km az=68.0*

*ISCJB **11** 06:58:12.7±1.7, 30.°5N±0.°2×83.°1E±0.°4, h33km, mb3.1/4, Error ellipse: s-maj=52.5km s-min=17.9km az=157.7*

ISC 11 06:58:14.8±2.2**, 30.°6N**±0.°2×**83.°2E**±0.°5**, h35km, n6, σ1.s69**/5**, mb3.2**/4**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	16.20	358	Pn	Pn	07 01 58.2	-1.4
	0.0nm,0.3s,baz=173,slow=12,SNR=2.6						
KURBB	Kurchatov Arra	20.32	351	P	Pn	07 02 48.9	-1.0
	1.1nm,0.8s,baz=172,slow=9.7,SNR=9.0						
BVAR	Borovoye Array	24.29	341	P	P	07 03 29.8	+1.0
	0.4nm,0.5s,baz=140,slow=9.2,SNR=2.6						
SONM	Songino Array	24.75	39	P	P	07 03 34.2	+1.1
	0.1nm,0.3s,baz=238,slow=8.3,SNR=2.1						
WRA	Warramunga Arr	70.30	129	P	P	07 09 23.9	-1.1
	0.4nm,0.6s,baz=323,slow=6.4,SNR=6.0						
ASAR	Alice Springs	72.64	132	P	P	07 09 39.5	+0.4
	0.2nm,0.7s,baz=324,slow=5.8,SNR=3.0						

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*NNC **11** 07:04:13.9±2.9, 54.°62N×86.°61E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=17.3km s-min=14.0km az=50.0, Suspected Mining explosion.*

IDC 11 07:04:16.4±2.8**, 54.°44N×86.°52E, h0km, mb1 3.1**/2**, mb1mx2.9**/56**, mbtmp3.1**/2**, ML2.8**/2**, 3C-3D, Error ellipse: s-maj=21.3km s-min=14.1km az=50.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.11	245	*i*		07 13 05.7	
	baz=63,slow=342,SNR=5.2						
ZAA0	Zalesovo Array	1.11	245	⇑P	Pg	07 04 36.8	-1.0
	1.7nm,0.3s,baz=57,slow=16						
ZAA0				⇑S	Sn	07 04 54.7	-0.6
	13nm,0.6s,baz=57,slow=27						
ZALV	Zalesovo Beam	1.11	245	Pg	Pg	07 04 37.0	-0.7
	1.7nm,0.3s,baz=64,slow=15,SNR=16						
ZALV				Lg	Lg	07 04 54.1	
	6.5nm,0.3s,baz=58,slow=28,SNR=38						
KURK	Kurchatov	6.09	235	⇓Pn	Pn	07 05 48.9	+1.3
	4.8nm,1.2s						
KURBB	Kurchatov Arra	6.19	235	Pn	Pn	07 05 50.0	+0.9
	0.1nm,0.3s,baz=50,slow=14,SNR=14						
KURBB				Sn	Sn	07 06 58.9	-1.6
	baz=38,slow=21,SNR=2.4						
KURBB				Lg	Lg	07 07 31.6	
	0.0nm,0.3s,baz=54,slow=32,SNR=2.7						
KURBB	Kurchatov Arra	6.19	235	⇓Pn	Pn	07 05 49.9	+0.9
	2.0nm,0.7s						
KURBB				⇓Sn	Sn	07 07 00.2	-0.3
	4.1nm,1.0s						
KURBB				⇑Lg	Lg	07 07 31.4	
	10nm,1.5s						
MK31	Makanchi Array	8.11	201	Pn	Pn	07 06 17.1	+1.7
	0.1nm,0.2s,baz=24,slow=14,SNR=14						
MKAR	Makanchi Array	8.11	201	Pn	Pn	07 06 16.4	+1.0
	0.2nm,0.3s,baz=24,slow=14,SNR=9.0						
MKAR				Sn	Sn	07 07 46.4	-1.3
	0.1nm,0.3s,baz=24,slow=25,SNR=4.0						
MKAR				Lg	Lg	07 08 32.8	
	0.1nm,0.3s,baz=22,slow=25,SNR=2.7						

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*IDC **11** 07:04:56.8±2.1, 39.°52N×71.°64E, h0km, mb3.5/1, mb1 3.4/6, mb1mx3.2/56, mbtmp3.4/6, ML3.2/4, Error ellipse: s-maj=37.8km s-min=15.6km az=145.0*

*ISCJB **11** 07:04:57.8±1.1, 39.°21N±0.°06×72.°03E±0.°07, h10km, mb3.7/1, Error ellipse: s-maj=9.3km s-min=7.4km az=146.9*

*NNC **11** 07:04:57.8±1.9, 39.°25N×72.°11E, h6km±10km, mb4.1, mpv3.7, Error ellipse: s-maj=18.6km s-min=6.3km az=177.0*

*KRNET **11** 07:04:59.7±0.1, 39.°35N×72.°08E, mb3.5*

ISC 11 07:04:57.9±1.6**, 39.°27N**±0.°09×**72.°13E**±0.°05**, h10km, n43, σ2.s92**/55**, 22C-12D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.30	55	⇑P	Pn	07 05 22.2	-0.1
	35nm,0.6s						
SFK				⇑S	Sg	07 05 40.3	+0.6
	54nm,0.3s						
SFK	Sufi-Kurgan	1.30	55	Lg	Lg	07 05 37.8	
	174nm,0.1s						
SFK	Sufi-Kurgan	1.30	55	⇑*i*P	Pg	07 05 24.0	+1.2
	baz=58						
SFK				⇑*i*S	Sg	07 05 40.9	+1.2
	baz=58						
ARSB	Arslanbob	2.16	17	⇑*i*P	Pb	07 05 36.7	-0.4
	baz=19						
ARSB				⇑*i*S	Sb	07 06 04.7	+0.7
	baz=19						
ARK	Arkit	2.53	357	⇑*i*P	Pn	07 05 41.2	+2.0
	baz=58						
ARK				⇑*i*S	Sb	07 06 12.9	-1.9
	baz=58						
ARLS	Aral	3.08	32	⇑*i*P	Pn	07 05 50.0	+3.2
	baz=33						
ARLS				⇑*i*S	Sn	07 06 27.0	+3.2
	baz=33						
AML	Almayashu	3.10	22	P	Pb	07 05 51.7	-1.6
	SNR=64						
AML	Almayashu	3.10	22	⇑*e*P	Pn	07 05 49.7	+2.5
	baz=23						
AML				⇑*i*S	Sn	07 06 28.0	+3.5
	baz=23						
UCH	Uchtor	3.47	31	P	Pb	07 05 56.7	-3.0
	SNR=37						
UCH	Uchtor	3.47	31	⇓*i*P	Pn	07 05 55.2	+2.8
	baz=32						
UCH				⇓*i*S	Sn	07 06 36.7	+3.0
	baz=32						
EKS2	Erkin-Say	3.61	20	P	Pn	07 05 57.1	+3.1
	SNR=18						
EKS2	Erkin-Say	3.61	20	⇑*i*P	Pn	07 05 56.4	+2.3
	baz=21						
EKS2				⇑*i*S	Sn	07 06 39.9	+3.1
	baz=21						
KZA	Kyzart	3.68	39	P	Pb	07 05 59.6	-3.6
	SNR=29						
KZA	Kyzart	3.68	39	⇓*i*P	Pn	07 05 58.2	+3.0
	baz=40						
KZA				⇓*i*S	Sn	07 06 42.2	+3.4
	baz=40						
AAK	Ala-Archa	3.81	27	Pn	Pn	07 06 00.3	+3.5
	4.7nm,0.3s,baz=184,slow=4.3,SNR=43						
AAK				Sn	Sb	07 06 47.6	-4.1
	3.6nm,0.3s,baz=123,slow=22,SNR=7.5						
AAK	Ala-Archa	3.81	27	P	Pb	07 06 01.5	-3.9
	SNR=14						
AAK	Ala-Archa	3.81	27	⇓P	Pn	07 06 00.3	+3.5
	5.9nm,0.4s						
AAK				⇑S	Sb	07 06 47.8	-3.9
	36nm,0.8s						
AAK	Ala-Archa	3.81	27	⇑*i*P	Pn	07 05 59.7	+2.8
	baz=28						
AAK				⇑*i*S	Sn	07 06 44.3	+2.5
	baz=28						
KBK	Karagaybulak	4.00	31	P	Pn	07 06 04.1	+4.6
	SNR=15						
KBK	Karagaybulak	4.00	31	⇑*i*P	Pn	07 06 02.1	+2.6
	baz=32						
KBK				⇑*i*S	Sn	07 06 49.5	+3.0
	baz=32						
KK31	Karatay Array	4.02	343	⇓P	Pn	07 05 59.6	0.0
	3.7nm,0.5s,baz=162,slow=13,SNR=122						
KK31				Pg	Pb	07 06 10.3	+1.4
	34nm,0.7s,baz=170,slow=15,SNR=15						
KK31				⇓S	Sn	07 06 49.0	+2.2
	16nm,0.5s,baz=164,slow=30						
CHMS	Chumysh	4.22	27	P	Pn	07 06 06.0	+3.7
	SNR=11						
CHMS	Chumysh	4.22	27	⇓*i*P	Pn	07 06 05.4	+3.1
	baz=28						
CHMS				⇓*i*S	Sn	07 06 54.2	+2.5
	baz=28						
ULHL	Ulahol	4.31	45	P	Pn	07 06 09.0	+5.3
	SNR=6.0						
ULHL	Ulahol	4.31	45	⇑*e*P	Pn	07 06 06.6	+2.8
	baz=46						
ULHL				⇑*i*S	Sn	07 06 57.0	+2.8
	baz=46						
USP	Ospenovka	4.38	23	P	Pn	07 06 07.2	+2.7
	SNR=44						
USP	Ospenovka	4.38	23	⇓*i*P	Pn	07 06 06.9	+2.4
	baz=24						
USP				⇓*i*S	Sn	07 06 57.8	+2.2
	baz=24						
TKM2	Tokmak 2	4.49	35	P	Pn	07 06 10.8	+4.6
	SNR=13						
TKM2	Tokmak 2	4.49	35	⇑P	Pn	07 06 09.1	+2.8
	4.3nm,0.4s						
TKM2				⇓Pg	Pg	07 06 20.9	-3.0
	12nm,0.9s						
KST	Kastek	4.75	36	Pg	Pg	07 06 26.4	-2.5
	6.5nm,0.5s						
KST				Lg	Lg	07 07 26.2	
	13nm,0.4s						
DGS	Degeres	4.83	33	Pg	Pb	07 06 25.8	+3.2
	7.3nm,0.5s						
DGS				Lg	Lg	07 07 25.8	
	17nm,0.5s						
IZV	Izvestkoviy	5.06	41	Pg	Pg	07 06 31.6	-3.3
	7.0nm,0.6s						
IZV				Lg	Lg	07 07 36.7	
	13nm,0.4s						
MDOK	Medeo	5.38	42	Pg	Pg	07 06 37.3	-3.6
	3.6nm,0.5s						
MDOK				Lg	Lg	07 07 45.7	
	12nm,0.5s						
KUU	Kurty	5.60	33	Pg	Pb	07 06 40.7	+5.0
	2.6nm,0.2s						
KUU				Lg	Lg	07 07 51.3	
	13nm,0.5s						
CHKK	Chushkaly	5.86	37	Pg	Pg	07 06 45.7	-4.3
	1.2nm,0.2s						
CHKK				Lg	Lg	07 07 59.9	
	6.8nm,0.4s						
SATY	Saty	6.07	49	Pg	Pg	07 06 50.9	-3.1
	6.5nm,0.6s						
SATY				Lg	Lg	07 08 09.4	
	14nm,1.0s						
KURS	Kuram	6.20	45	Pg	Pg	07 06 51.8	-4.8
	3.3nm,0.4s						
KURS				Lg	Lg	07 08 10.3	
	4.2nm,1.0s						
ARXS	Arharly	6.53	39	Pg	Pg	07 06 57.8	-5.0
	3.5nm,0.6s						
ARXS				Lg	Lg	07 08 20.2	
	6.6nm,0.4s						
MKAR	Makanchi Array	10.57	41	Pn	Pn	07 07 31.3	+1.9
	baz=229,slow=15,SNR=3.1						
BVAR	Borovoye Array	13.81	356	Pn	Pn	07 08 06.6	-7.1
	0.1nm,0.3s,baz=139,slow=11,SNR=2.1						
AKTO	Aktyubinsk	14.96	323	Pn	Pn	07 08 21.4	-8.0
	0.1nm,0.3s,baz=133,slow=16,SNR=1.9						
ZALV	Zalesovo Beam	17.04	26	Pn	P	07 08 57.6	-0.2
	0.2nm,0.3s,baz=216,slow=12,SNR=3.5						
TORD	Torodi Ar. Bea	66.69	268	P	P	07 15 47.6	-1.7
	0.3nm,0.4s,baz=33,slow=6.0,SNR=2.4						

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*IDC **11** 07:05:03.8±0.8, 14.°89S×172.°54E, h0km, mb4.2/10, mb1 4.4/11, mb1mx4.1/35, mbtmp4.1/11, ML3.4/1, MS3.4/6, Ms1 3.5/6, ms1mx3.1/27, Error ellipse: s-maj=34.4km s-min=18.4km az=136.0*

*ISCJB **11** 07:05:07.9±0.4, 14.°85S±0.°08×172.°43E±0.°09, h33km, mb4.3/24, MS3.5/5, Error ellipse: s-maj=14.4km s-min=8.2km az=39.6*

*NEIC **11** 07:05:10.1±2.0, 14.°80S×172.°45E, h38km±18km, mb4.4/14, Error ellipse: s-maj=11.4km s-min=8.7km az=135.0*

ISC 11 07:05:09.6±0.6**, 14.°8S**±0.°1×**172.°5E**±0.°1**, h35km, n39, σ0.s89**/38**, mb4.4**/24**, MS3.5**/5**, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.21	218	Pn	Pn	07 07 18.6	-1.5
	0.4nm,0.3s,baz=72,slow=20,SNR=4.3						
DZM				LR	LR	07 10 24.9	
	comp=Z,243nm,21.9s,baz=10,slow=35						
DZM	Mont Dzumac	9.21	218	*e*Pn	Pn	07 07 20.9	+0.8
BKZ	Black Stump Fm	24.50	172	*e*P	P	07 10 25.9	+0.2
	9.6nm,0.8s						
THZ	Tophouse	26.84	179	*e*P	P	07 10 47.6	+0.8
	4.2nm,0.8s						
PYZ	Puysegur Point	31.62	188	*e*P	P	07 11 30.5	+1.3
	76nm,1.1s						
STKA	Stephens Creek	32.90	234	P	P	07 11 38.9	-1.7
	1.4nm,0.4s,baz=60,slow=20,SNR=3.4						
STKA				LR	LR	07 23 54.3	
	comp=Z,42nm,18.1s,baz=25,slow=34						
STKA	Stephens Creek	32.90	234	*e*P	P	07 11 40.2	-0.4
	0.9nm,1.1s						
WB2	Warramunga Arr	36.70	256	*e*P	P	07 12 13.7	+0.1
	4.1nm,1.1s						
WR1	Warramunga Arr	36.71	256	*e*P	P	07 12 11.8	-1.9
	3.0nm,1.0s						
WRA	Warramunga Arr	36.71	256	P	P	07 12 11.8	-1.9
	0.6nm,0.8s,baz=84,slow=6.9,SNR=7.0						
AS01	Alice Springs	37.34	250	*e*P	P	07 12 19.4	+0.3
AS31	Alice Springs	37.38	250	*e*P	P	07 12 19.8	+0.4
	3.2nm,0.9s						
ASAR	Alice Springs	37.38	250	P	P	07 12 19.6	+0.2
	9.7nm,0.8s,baz=79,slow=9.3,SNR=90						
ASAR				PcP	PcP	07 14 38.0	0.0
	0.2nm,0.6s,baz=92,slow=2.1,SNR=4.1						
BBOO	Buckleboo	37.59	235	*e*P	P	07 12 22.1	+1.1
	7.4nm,0.9s						
FORT	Forrest	43.63	241	*e*P	P	07 13 11.2	+0.3
	19nm,0.8s						
HMH	Humu'ula Sheep	46.51	44	*e*P	P	07 13 33.1	-1.0
	66nm,1.1s						
VNDA	Vanda	62.94	183	P	P	07 15 31.1	-0.9
	0.6nm,0.7s,baz=7.3,slow=7.0,SNR=6.6						
VNDA				LR	LR	07 38 21.0	
	comp=Z,45nm,19.1s,baz=9.5,slow=32						
VNDA	Vanda	62.94	183	*e*P	P	07 15 31.5	-0.5
SBA	Scott Base	63.11	181	*e*P	P	07 15 33.8	+0.7
	6.3nm,0.8s						
PETK	Petropavlovsk-	68.85	350	LR	LR	07 40 32.1	
	comp=Z,29nm,20.1s,baz=157,slow=31						
QSPA	South Pole Qui	75.20	180	*e*P	P	07 16 47.8	-0.7
	6.2nm,1.1s						
SEY	Seymchan	79.09	351	P	P	07 17 10.5	+0.5
	0.6nm,0.6s,baz=188,slow=10,SNR=3.6						
CMAR	Chiang Mai Arr	79.64	292	P	P	07 17 15.1	+1.2
	0.9nm,0.3s,baz=110,slow=3.5,SNR=5.7						
IM3	Indian Mountai	84.43	13	*e*P	P	07 17 38.9	+0.9
MDM	Murphy Dome	84.92	16	*e*P	P	07 17 40.7	+0.1
	2.9nm,1.0s						
DOT	Dot Lake	85.08	18	*e*P	P	07 17 41.3	-0.1
	4.3nm,1.0s						
IL1	Eielson Array	85.13	16	*e*P	P	07 17 41.6	-0.1
ILAR	Eielson Array	85.13	16	P	P	07 17 40.8	-0.8
	3.0nm,0.7s,baz=233,slow=5.3,SNR=18						
ILAR				LR	LR	07 53 11.8	
	comp=Z,26nm,18.9s,baz=276,slow=34						
ILB	Eielson Array	85.13	16	*e*P	P	07 17 42.6	+1.0
TIXI	Tiksi	91.11	347	LR	LR	07 58 35.4	
	comp=Z,18nm,18.9s,baz=52,slow=35						
ANMO	Albuquerque	91.22	54	*e*P	P	07 18 12.6	+0.9
	2.7nm,0.9s						
PDAR	Pinedale Array	91.34	46	P	P	07 18 11.4	-0.8
	0.3nm,0.8s,baz=249,slow=7.6,SNR=2.6						
TX31	Lajitas Ar. Si	91.91	60	*e*P	P	07 18 15.7	+0.8
LTX	Lajitas	91.91	60	*e*P	P	07 18 15.6	+0.7
TXAR	Lajitas Array	91.91	60	P	P	07 18 15.6	+0.7
	1.2nm,0.8s,baz=212,slow=5.4,SNR=15						
YKA	Yellowknife Ar	95.35	26	P	P	07 18 29.6	-0.1
	0.9nm,0.8s,baz=254,slow=4.7,SNR=14						
YKB5	Yellowknife Ar	95.35	26	*e*P	P	07 18 29.6	-0.1
MK32	Makanchi Array	100.78	316	*e*Pdif	Pdif	07 18 54.4	-0.3
MKAR	Makanchi Array	100.78	316	P	Pdif	07 18 54.4	-0.3
	0.4nm,0.8s,baz=87,slow=4.9,SNR=2.7						

IDC 11 07:31:34.7±2.6**, 54.°13N×86.°34E, h0km, mb1 2.7**/2**, mb1mx2.7**/52**, mbtmp2.7**/2**, ML2.2**/2**, Error ellipse: s-maj=20.1km s-min=12.9km az=59.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.91	259	*i*		07 37 56.0	
	baz=77,slow=348,SNR=6.3						
ZALV	Zalesovo Beam	0.91	259	Pg	Pg	07 31 51.0	-1.1
	1.4nm,0.3s,baz=76,slow=17,SNR=13						
ZALV				Lg	Lg	07 32 05.5	
	2.5nm,0.3s,baz=78,slow=32,SNR=12						
KURBB	Kurchatov Arra	5.93	237	Pn	Pn	07 33 05.0	+1.3
	0.0nm,0.3s,baz=54,slow=14,SNR=6.8						
KURBB				Lg	Lg	07 34 40.6	
	0.0nm,0.3s,baz=54,slow=31,SNR=3.4						
MKAR	Makanchi Array	7.78	201	Pn	Pn	07 33 30.0	+0.9
	0.1nm,0.3s,baz=19,slow=14,SNR=4.1						
MKAR				Lg	Lg	07 35 39.5	
	0.0nm,0.3s,baz=22,slow=31,SNR=4.0						

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*ISCJB **11** 07:32:35.5±1.1, 37.°21N±0.°05×27.°99E±0.°08, h12km, Error ellipse: s-maj=9.0km s-min=6.9km az=17.9*

*DDA **11** 07:32:37.2, 37.°48N×27.°55E, h39km±3km, ML2.6*

ISC 11 07:32:33.5±1.4**, 37.°16N**±0.°06×**27.°93E**±0.°07**, h12km, n4, σ1.s49**/7**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AYDN	Tasoluk	0.50	355	IAML_P			
	comp=Z,2µm,0.3s						
AYDN				*i* P	Pn	07 32 47.0	+0.5
AYDN				*i* S	Sb	07 32 52.1	+0.5
BODT	Bodrum	0.51	259	*e*PG	Pn	07 32 45.4	-1.2
BODT				*e*SG	Sn	07 32 53.9	-1.4
DAT	Datca	0.52	214	*e*PG	Pn	07 32 47.5	+0.7
DAT				*e*SG	Sn	07 32 57.5	+1.9
TURN	Turunc	0.61	118	*e*PG	Pn	07 32 46.9	-1.1

IDC 11 07:37:08.5±4.5**, 55.°28N×86.°00E, h0km, mb1 2.7**/1**, mb1mx2.7**/59**, mbtmp2.7**/1**, ML2.6**/1**, 1C-1D, Error ellipse: s-maj=35.9km s-min=26.4km az=20.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.50	208	*i*		07 47 44.9	
	baz=27,slow=330,SNR=1.2						
ZAA0	Zalesovo Array	1.50	208	⇑P	Pn	07 37 35.7	-1.0
	2.0nm,0.4s,baz=29,slow=15						
ZAA0				⇓S	Sn	07 37 59.9	+3.0
	2.6nm,0.3s,baz=31,slow=28						
ZALV	Zalesovo Beam	1.50	208	Pg	Pn	07 37 35.8	-0.8
	2.1nm,0.3s,baz=28,slow=15,SNR=21						
ZALV				Lg	Lg	07 37 55.9	
	0.7nm,0.3s,baz=24,slow=28,SNR=4.1						
MKAR	Makanchi Array	8.81	197	Pn	Pn	07 39 17.2	+0.1
	0.1nm,0.3s,baz=16,slow=13,SNR=4.2						

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*KRSC **11** 07:39:14.9±0.8, 54.°45N×160.°79E, h127km±8km, ML4.3*

*ISCJB **11** 07:39:15.8±0.4, 54.°45N±0.°03×160.°78E±0.°09, h128km±3km, mb3.4/5, Error ellipse: s-maj=9.6km s-min=3.0km az=25.8*

*MOS **11** 07:39:15.7±0.6, 54.°46N×160.°72E, h130km, mb4.4/1, Error ellipse: s-maj=16.6km s-min=5.1km az=75.2*

*IDC **11** 07:39:17.7±1.4, 54.°69N×160.°11E, h139km±18km, mb3.3/5, mb1 3.6/7, mb1mx3.1/65, mbtmp3.8/7, Error ellipse: s-maj=122.2km s-min=15.9km az=131.0*

ISC 11 07:39:16.7±0.8**, 54.°45N**±0.°03×**160.°76E**±0.°05**, h125km**±6km**, n80, σ0.s63**/118**, mb3.5**/5**, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.58	79	*i* P	Pn	07 39 35.8	+0.2
MKZ				*e*S	Sn	07 39 49.8	-0.1
MKZ	Mys Kozlova	0.58	79	PN	Pn	07 39 35.8	+0.2
MKZ				S	Sn	07 39 49.8	-0.1
KZV	Kizimen	0.71	338	*i* P	Pn	07 39 36.7	-0.1
KZV				*e*S	Sn	07 39 51.4	-0.6
KZV	Kizimen	0.71	338	PN	Pn	07 39 36.7	-0.1
KZV				S	Sn	07 39 51.4	-0.6
TUMD	Tumrok D	0.78	345	*e*P	Pn	07 39 36.5	-0.7
TUMD				*e*S	Sn	07 39 51.9	-0.8
KII	Karymskiy	0.87	242	*e*P	Pn	07 39 38.0	0.0
KII				*e*S	Sn	07 39 55.2	+1.0
KII	Karymskiy	0.87	242	PN	Pn	07 39 38.0	0.0
KII				S	Sn	07 39 55.2	+1.0
TUMR	Tumrok	0.91	337	*e*P	Pn	07 39 38.4	+0.1
TUMR				*e*S	Sn	07 39 54.8	0.0
TUMR	Tumrok	0.91	337	PN	Pn	07 39 38.4	+0.1
TUMR				S	Sn	07 39 54.8	0.0
SPN	Mys Shipunski	1.43	198	*e*P	Pn	07 39 43.0	-0.5
SPN				*e*S	Sn	07 40 02.7	-1.2
SPN	Mys Shipunski	1.43	198	PN	Pn	07 39 43.0	-0.5
SPN				S	Sn	07 40 02.7	-1.2
BZGR	Bezymyannyi-Gr	1.49	359	*e*P	Pn	07 39 44.4	0.0
BZGR	Bezymyannyi-Gr	1.49	359	PN	Pn	07 39 44.4	0.0
NLC	Nalytchevo	1.53	214	*e*P	Pn	07 39 44.6	-0.1
NLC				*e*S	Sn	07 40 05.7	-0.4
NLC	Nalytchevo	1.53	214	PN	Pn	07 39 44.6	-0.1
NLC				S	Sn	07 40 05.7	-0.4
KPT	Kopyto	1.55	349	*e*P	Pn	07 39 44.6	-0.4
KPT	Kopyto	1.55	349	PN	Pn	07 39 44.6	-0.4
ZLN	Zelenaya	1.57	1	*e*P	Pn	07 39 45.6	+0.3
ZLN	Zelenaya	1.57	1	PN	Pn	07 39 45.6	+0.3
SDLR	Sedlovina	1.62	224	*e*P	Pn	07 39 46.0	+0.1
SDLR				*e*S	Sn	07 40 08.2	+0.1
SDLR	Sedlovina	1.62	224	PN	Pn	07 39 46.0	+0.1
SDLR				S	Sn	07 40 08.2	+0.1
LGNR	Loginova	1.64	359	*e*P	Pn	07 39 46.9	+0.7
LGNR	Loginova	1.64	359	PN	Pn	07 39 46.9	+0.7
KRX	Arik	1.66	230	*e*P	Pn	07 39 46.9	+0.5
KRX				*e*S	Sn	07 40 10.0	+1.0
KRX	Arik	1.66	230	PN	Pn	07 39 46.9	+0.5
KRX				S	Sn	07 40 10.0	+1.0
SMAR	Somma	1.66	225	*e*P	Pn	07 39 46.7	+0.2
SMAR	Somma	1.66	225	PN	Pn	07 39 46.7	+0.2
AVH	Avacha	1.69	226	*e*P	Pn	07 39 47.2	+0.5
AVH				*e*S	Sn	07 40 10.8	+1.3
AVH	Avacha	1.69	226	PN	Pn	07 39 47.2	+0.5
AVH				S	Sn	07 40 10.8	+1.3
KOZ	Kozyrevsk	1.69	343	*e*P	Pn	07 39 46.2	-0.4
KOZ				*e*S	Sn	07 40 09.2	-0.2
KOZ	Kozyrevsk	1.69	343	PN	Pn	07 39 46.2	-0.4
KOZ				S	Sn	07 40 09.2	-0.2
UGLR	Uglovaya	1.69	223	*e*P	Pn	07 39 47.1	+0.3
UGLR				*e*S	Sn	07 40 10.2	+0.6
UGLR	Uglovaya	1.69	223	PN	Pn	07 39 47.1	+0.3
UGLR				S	Sn	07 40 10.2	+0.6
KOK	Koryaka	1.71	228	*e*P	Pn	07 39 47.4	+0.4
KOK	Koryaka	1.71	228	PN	Pn	07 39 47.4	+0.4
KRSR	Krestovskiy	1.77	357	*e*P	Pn	07 39 47.0	-0.7
KRSR	Krestovskiy	1.77	357	PN	Pn	07 39 47.0	-0.7
GNL	Ganaly	1.82	247	*e*P	Pn	07 39 48.3	0.0
GNL				*e*S	Sn	07 40 12.9	+0.4
GNL	Ganaly	1.82	247	PN	Pn	07 39 48.3	0.0
GNL				S	Sn	07 40 12.9	+0.4
KLY	Klyuchi	1.87	358	*e*P	Pn	07 39 48.6	-0.1
KLY				*e*S	Sn	07 40 12.9	-0.2
KLY	Klyuchi	1.87	358	PN	Pn	07 39 48.6	-0.1
KLY				S	Sn	07 40 12.9	-0.2
ESO	Esso	1.89	322	*e*P	Pn	07 39 48.1	-0.9
ESO	Esso	1.89	322	PN	Pn	07 39 48.1	-0.9

PET	**Petropavlovsk**	**1.90**	**222**	*i* P	**Pn**	**07 39 49.2**	**+0.1**
PET				*e*S	**Sn**	**07 40 14.1**	**+0.2**
PET	**Petropavlovsk**	**1.90**	**222**	PN	**Pn**	**07 39 49.2**	**+0.1**
PET				S	**Sn**	**07 40 14.1**	**+0.2**
SRDR	**Sredinnyy**	**1.96**	**343**	*e*P	**Pn**	**07 39 49.1**	**-0.8**
SRDR	**Sredinnyy**	**1.96**	**343**	PN	**Pn**	**07 39 49.1**	**-0.8**
KBTR	**Krutoberegovo**	**2.12**	**33**	*e*P	**Pn**	**07 39 52.0**	**+0.2**
KBTR				*e*S	**Sn**	**07 40 18.6**	**-0.1**
KBTR	**Krutoberegovo**	**2.12**	**33**	PN	**Pn**	**07 39 52.0**	**+0.2**
KBTR				S	**Sn**	**07 40 18.6**	**-0.1**
BDR	**Baidarnaya**	**2.14**	**7**	*e*P	**Pn**	**07 39 52.1**	**0.0**
BDR				*e*S	**Sn**	**07 40 18.9**	**-0.3**
BDR	**Baidarnaya**	**2.14**	**7**	PN	**Pn**	**07 39 52.1**	**0.0**
BDR				S	**Sn**	**07 40 18.9**	**-0.3**
SMKR	**Semkarok**	**2.17**	**10**	*e*P	**Pn**	**07 39 52.5**	**0.0**
SMKR	**Semkarok**	**2.17**	**10**	PN	**Pn**	**07 39 52.5**	**0.0**
SRKR	**Sorokina**	**2.22**	**6**	*e*P	**Pn**	**07 39 53.2**	**+0.1**
SRKR				*e*S	**Sn**	**07 40 20.8**	**-0.3**
SRKR	**Sorokina**	**2.22**	**6**	PN	**Pn**	**07 39 53.2**	**+0.1**
SRKR				S	**Sn**	**07 40 20.8**	**-0.3**
KRMR	**Karymshinskiy**	**2.26**	**225**	*e*P	**Pn**	**07 39 53.5**	**0.0**
KRMR				*e*S	**Sn**	**07 40 21.7**	**0.0**
KRMR	**Karymshinskiy**	**2.26**	**225**	PN	**Pn**	**07 39 53.5**	**0.0**
KRMR				S	**Sn**	**07 40 21.7**	**0.0**
PETK	**Petropavlovsk-**	**2.26**	**235**	P	**Pn**	**07 39 53.6**	**0.0**
	14nm,0.3s,baz=62,slow=17,SNR=582						
PETK				S	**Sn**	**07 40 22.0**	**+0.1**
	5.2nm,0.3s,baz=87,slow=21,SNR=4.8						
RUS	**Russkaya**	**2.43**	**214**	*e*P	**Pn**	**07 39 55.0**	**-0.7**
RUS				*e*S	**Sn**	**07 40 24.5**	**-1.1**
RUS	**Russkaya**	**2.43**	**214**	PN	**Pn**	**07 39 55.0**	**-0.7**
RUS				S	**Sn**	**07 40 24.5**	**-1.1**
MTVR	**Mutnovka**	**2.50**	**219**	*e*P	**Pn**	**07 39 57.2**	**+0.4**
MTVR				*e*S	**Sn**	**07 40 27.9**	**+0.3**
MTVR	**Mutnovka**	**2.50**	**219**	PN	**Pn**	**07 39 57.2**	**+0.4**
MTVR				S	**Sn**	**07 40 27.9**	**+0.3**
APC	**Apacha**	**2.63**	**236**	*e*P	**Pn**	**07 39 58.7**	**+0.4**
APC	**Apacha**	**2.63**	**236**	PN	**Pn**	**07 39 58.7**	**+0.4**
KDTR	**Khodutka, Kamc**	**3.10**	**212**	*i* P	**Pn**	**07 40 03.5**	**-0.9**
KDTR				*e*S	**Sn**	**07 40 39.0**	**-2.2**
KDTR	**Khodutka, Kamc**	**3.10**	**212**	PN	**Pn**	**07 40 03.5**	**-0.9**
KDTR				S	**Sn**	**07 40 39.0**	**-2.2**
PAU	**Pauzhetka**	**3.83**	**220**	*e*P	**Pn**	**07 40 14.9**	**+1.0**
PAU	**Pauzhetka**	**3.83**	**220**	PN	**Pn**	**07 40 14.9**	**+1.0**
ASAJ	**Asahikawa**	**15.68**	**236**	P	**Pn**	**07 42 48.8**	**-1.7**
	1.4nm,0.3s,baz=38,slow=19,SNR=4.0						
ILAR	**Eielson Array**	**27.59**	**47**	P	**P**	**07 44 51.9**	**+0.2**
	0.7nm,0.7s,baz=269,slow=9.9,SNR=9.8						
H11N2	**WAKE ISLAND Hy**	**34.98**	**170**	T	T	08 23 33.4	
	baz=355,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hy**	**34.99**	**170**	T	T	08 23 34.7	
	baz=355,slow=76,SNR=19						
H11N1	**WAKE ISLAND Hy**	**34.99**	**170**	T	T	08 23 36.6	
	baz=355,slow=76,SNR=58						
H11S1	**WAKE ISLAND Hy**	**36.17**	**170**	T	T	08 24 54.2	
	baz=350						
H11S3	**WAKE ISLAND Hy**	**36.18**	**170**	T	T	08 24 51.0	
	baz=350						
H11S2	**WAKE ISLAND Hy**	**36.19**	**170**	T	T	08 24 51.5	
	baz=350						
YKA	**Yellowknife Ar**	**41.90**	**44**	P	**P**	**07 46 54.7**	**+0.5**
	0.6nm,0.7s,baz=301,slow=8.3,SNR=7.7						
TXAR	**Lajitas Array**	**69.75**	**68**	P	**P**	**07 50 14.4**	**+1.2**
	0.4nm,0.6s,baz=303,slow=5.9,SNR=6.3						
WRA	**Warramunga Arr**	**77.48**	**205**	P	**P**	**07 50 57.5**	**-0.6**
	0.5nm,0.5s,baz=18,slow=6.0,SNR=9.9						
ASAR	**Alice Springs**	**81.16**	**205**	P	**P**	**07 51 18.3**	**+0.2**
	0.4nm,0.5s,baz=16,slow=4.2,SNR=6.6						

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*IDC **11** 07:47:36.5±1.1, 9°.23S×114°.91E, h0^{km}, mb4.0/7, mb1 4.1/8, mb1mx3.8/43, mbtmp4.0/8, ML3.7/1, MS2.8/2, Ms1 2.8/2, ms1mx2.5/29, Error ellipse: s-maj=72.1km s-min=13.0km az=51.0*

*NEIC **11** 07:47:44.8±0.9, 9°.28S×115°.06E, h59^{km}±8^{km}, mb4.3/7, Error ellipse: s-maj=16.2km s-min=6.2km az=46.0*

NEIC Felt [III] at Kelurahan Sanur and Kuta. Also felt at Denpasar and Ubud.

*ISCJB **11** 07:47:45.3±0.5, 9°.28S±0°.06×114°.99E±0°.05, h85^{km}±4^{km}, mb4.2/14, Error ellipse: s-maj=10.9km s-min=6.4km az=30.7*

*DJA **11** 07:47:47.5±0.6, 9°S±4°×11°5E±°, h30^{km}±4^{km}, M4.3/9, MLv4.3/9*

ISC 11 07:47:44.2±0.9**, 9°.43S**±0°.06×**114°.98E**±0°.05**, h57**^{km}±8^{km}**, n75,** σ1^s**83**/81**, mb4.1**/14**, 1C, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**0.64**	**15**	P	**Pn**	**07 47 58.0**	**+0.5**
IGBI				S	**Sn**	**07 48 07.7**	**+0.6**
DNP	**Denpasar**	**0.79**	**17**	P	**Pn**	**07 48 00.2**	**+0.8**
DNP				S	**Sn**	**07 48 11.6**	**+1.2**
JAGI	**Jajag, Banyuwa**	**1.26**	**320**	*e*Pn	**Pn**	**07 48 06.9**	**+1.4**
JAGI				*e*Sn	**Sn**	**07 48 22.1**	**+0.6**
JAGI	**Jajag, Banyuwa**	**1.26**	**320**	P	**Pn**	**07 48 07.1**	**+1.5**
JAGI				S	**Sn**	**07 48 22.0**	**+0.5**
SRBI	**Singaraja**	**1.36**	**10**	P	**Pn**	**07 48 08.9**	**+2.0**
SRBI				S	**Sn**	**07 48 25.5**	**+1.5**
ABJI	**Asem Bagus**	**1.79**	**336**	P	**Pn**	**07 48 14.6**	**+1.9**
GMJI	**Gumukmas**	**1.90**	**307**	P	**Pn**	**07 48 16.2**	**+1.9**
GMJI				S	**Sn**	**07 48 38.4**	**+1.2**
PLAI	**Plampang**	**2.83**	**78**	P	**Pn**	**07 48 30.6**	**+3.6**
PWJI	**Pagerwojo**	**3.44**	**294**	P	**Pn**	**07 48 38.7**	**+3.5**
UGM	**Wanagama**	**4.66**	**289**	*e*Pn	**Pn**	**07 48 55.7**	**+3.7**
EDFI	**Ende, Flores**	**6.67**	**85**	P	Pn	07 49 30.1	+10
MBWA	**Marble Bar**	**12.52**	**159**	*e*Pn	**Pn**	**07 50 36.4**	**-3.3**
MBWA				*e*Sn	Sn	07 52 46.2	-11
GIRL	**Giralia**	**13.15**	**183**	*e*Pn	**Pn**	**07 50 48.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**13.46**	**131**	Pn	**Pn**	**07 50 49.8**	**-2.7**
	0.3nm,0.3s,baz=310,slow=9.8,SNR=13						
FITZ				Sn	Sn	07 53 09.8	-11
	0.7nm,0.3s,baz=280,slow=6.1,SNR=11						
FITZ				LR	LR	07 55 17.2	
	comp=Z,44nm,21.2s,baz=310,slow=34						
FITZ	**Fitzroy Crossi**	**13.46**	**131**	*e*Pn	**Pn**	**07 50 50.9**	**-1.6**
FITZ				Sn	Sn	07 53 09.8	-11
FAKI	**Fak Fak**	**18.34**	**70**	*e*P	**P**	**07 51 52.6**	**-1.7**
	31nm,1.2s						
WRA	**Warramunga Arr**	**21.42**	**121**	P	**P**	**07 52 28.3**	**+0.6**
	3.7nm,0.5s,baz=295,slow=12,SNR=34						
WRA				S	**S**	**07 56 20.0**	**-2.5**
	0.8nm,0.8s,baz=284,slow=22,SNR=4.3						
WRA				LR	LR	08 00 47.7	
	comp=Z,21nm,18.9s,baz=250,slow=37						
WR1	**Warramunga Arr**	**21.42**	**121**	*e*P	**P**	**07 52 28.3**	**+0.6**
WR1				*e*S	**S**	**07 56 20.0**	**-2.5**
WB2	**Warramunga Arr**	**21.43**	**121**	*e*P	**P**	**07 52 28.7**	**+1.0**
AS31	**Alice Springs**	**22.97**	**130**	*e*P	**P**	**07 52 46.0**	**+1.9**
	2.5nm,0.8s						
ASAR	**Alice Springs**	**22.97**	**130**	P	**P**	**07 52 45.5**	**+1.4**
	6.8nm,0.8s,baz=305,slow=9.3,SNR=50						
ASAR				PcP	**PcP**	**07 56 34.0**	**+1.4**
	0.7nm,0.5s,baz=312,slow=1.7,SNR=12						
ASAR				S	**S**	**07 56 58.1**	**+7.8**
	1.9nm,0.9s,baz=304,slow=22,SNR=7.4						
AS01	**Alice Springs**	**23.00**	**130**	*e*P	**P**	**07 52 45.6**	**+1.1**
FORT	**Forrest**	**24.49**	**152**	*e*P	**P**	**07 53 00.6**	**+2.4**
	9.7nm,0.8s						
CTAO	**Charters Tower**	**31.99**	**113**	*e*P	**P**	**07 54 07.9**	**+2.7**
	13nm,1.5s						
STKA	**Stephens Creek**	**33.28**	**136**	P	**P**	**07 54 18.1**	**+1.6**
	3.5nm,0.7s,baz=303,slow=9.1,SNR=9.9						
STKA	**Stephens Creek**	**33.28**	**136**	*e*P	**P**	**07 54 18.7**	**+2.3**
	0.6nm,0.6s						
H08S2	**Diego Garcia H**	**42.03**	**269**	T	T	08 40 17.0	
	baz=95,slow=76,SNR=5.8						
H08S3	**Diego Garcia H**	**42.04**	**269**	T	T	08 40 15.9	
	baz=95,slow=76,SNR=6.5						
H08S1	**Diego Carcia H**	**42.05**	**269**	T	T	08 40 16.5	
	baz=95,slow=76,SNR=5.3						
MNCI	**Minicoy**	**45.30**	**292**	*e*P	**P**	**07 55 53.6**	**-3.3**
LHI	**Lord Howe Isla**	**46.37**	**125**	*e*P	**P**	**07 56 02.5**	**-2.6**
	136nm,1.1s						
HHC	**Hu-ho-hao-te**	**50.13**	**357**	*e*P	**P**	**07 56 36.9**	**+3.0**
HHC				pmax	pmax		
	comp=Z,17nm,1.0s						
HHC				pmax	pmax		
	comp=Z,200nm,5.6s						
GTA	**Gaotai**	**50.60**	**345**	*e*P	**P**	**07 56 39.0**	**+1.5**
GTA				pP	pP	07 56 42.3	-9.0
GTA				sP	pwP	07 56 45.1	-11
SONA0	**Songino Array**	**57.52**	**353**	*e*P	**P**	**07 57 26.3**	**-1.5**
SONA0				*e*PcP	**PcP**	**07 58 20.7**	**-0.1**
SONM	**Songino Array**	**57.52**	**353**	P	**P**	**07 57 26.3**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=171,slow=8.2,SNR=4.9						
SONM				PcP	**PcP**	**07 58 20.7**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=177,slow=3.7,SNR=4.8						
SONA1	**Songino Array**	**57.53**	**353**	*e*P	**P**	**07 57 27.4**	**-0.5**
WMQ	**Urumqi**	**58.51**	**337**	*e*P	**P**	**07 57 36.6**	**+1.9**
WMQ				pP	sP	07 57 56.0	+1.1
WMQ				sP	pwP	07 58 04.8	+11
WMQ				pmax	pmax		
	comp=Z,23nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,310nm,6.1s						
WMQ				LR	LR		
	comp=N,110nm,17.1s						
WMQ				LR	LR		
	comp=E,120nm,17.5s						
WMQ				LR	LR		
	comp=Z,71nm,16.7s						
MK01	**Makanchi Array**	**63.09**	**335**	*e*P	**P**	**07 58 04.9**	**-0.8**
MK31	**Makanchi Array**	**63.11**	**335**	*e*P	**P**	**07 58 05.2**	**-0.7**
MK32	**Makanchi Array**	**63.11**	**335**	*e*P	**P**	**07 58 05.0**	**-1.0**
MKAR	**Makanchi Array**	**63.11**	**335**	P	**P**	**07 58 05.0**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=146,slow=6.3,SNR=7.6						
MKAR	**Makanchi Array**	**63.11**	**335**	*e*P	**P**	**07 58 04.8**	**-1.1**
	comp=Z,5.7nm,0.8s						
GAR	**Garm**	**63.59**	**322**	*e*P	**P**	**07 58 07.9**	**-1.5**
	comp=Z,2.3nm,1.1s						
ZALV	**Zalesovo Beam**	**68.10**	**341**	P	**P**	**07 58 35.7**	**-2.2**
	comp=Z,0.7nm,0.3s,baz=142,slow=5.1,SNR=4.1						
ZALV	**Zalesovo Beam**	**68.10**	**341**	*e*P	**P**	**07 58 36.4**	**-1.5**
ZAA1	**Zalesovo Array**	**68.11**	**341**	*e*P	**P**	**07 58 35.7**	**-2.2**
BVAR	**Borovoye Array**	**72.86**	**334**	P	**P**	**07 59 05.6**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=142,slow=7.5,SNR=4.5						
ABKAR	**Akbulak array**	**75.67**	**326**	*e*P	**P**	**07 59 22.9**	**-0.4**
SYO	**Syowa Base**	**76.02**	**201**	⇑*e*P	**P**	**07 59 22.4**	**-2.6**
GSTR	**Great Sitkin T**	**84.82**	**35**	*e*P	P	08 00 06.8	-5.8
YKA	**Yellowknife Ar**	**116.18**	**23**	PKP	**PKiKP**	**08 06 20.3**	**-0.5**
	comp=Z,0.1nm,0.5s,baz=316,slow=1.7,SNR=4.4						
YKB5	**Yellowknife Ar**	**116.18**	**23**	*e*PKPdf	**PKiKP**	**08 06 20.6**	**-0.1**
T42A	**Van Buren**	**143.79**	**37**	*e*PKPdf	PKPbc	08 07 11.3	+0.2
PKME	**Peaks-Kenny Pk**	**144.11**	**5**	*e*PKPdf	**PKPdf**	**08 07 12.9**	**-0.9**
ACSO	**Alum Creek Sta**	**145.42**	**25**	*e*PKPbc	**PKPab**	**08 07 16.7**	**+0.3**
WCI	**Wyandotte Cave**	**145.53**	**30**	*e*PKPdf	**PKPbc**	**08 07 16.6**	**0.0**
M54A	**Oil Creek Stat**	**145.54**	**20**	*e*PKPdf	**PKPdf**	**08 07 16.4**	**0.0**
N54A	**Moraine State**	**145.92**	**20**	*e*PKPdf	**PKPab**	**08 07 18.1**	**-0.2**
BINY	**Binghamton**	**145.97**	**15**	*e*PKPdf	**PKPbc**	**08 07 18.0**	**+0.1**
O52A	**Adamsville**	**145.98**	**23**	*e*PKPdf	**PKPbc**	**08 07 17.8**	**-0.2**
WVT	**Waverly**	**146.30**	**34**	*e*PKPdf	**PKPbc**	**08 07 19.2**	**+0.2**
P53A	**Whipple**	**146.69**	**23**	*e*PKPbc	**PKPbc**	**08 07 20.4**	**+0.3**
SSPA	**Standing Stone**	**146.89**	**18**	*e*PKPbc	**PKPbc**	**08 07 20.7**	**+0.1**
MCWV	**Mont Chateau**	**147.12**	**21**	*e*PKPbc	**PKPbc**	**08 07 21.3**	**0.0**
N59A	**State Game Lan**	**147.23**	**15**	*e*PKPbc	**PKPbc**	**08 07 21.9**	**+0.3**
S51A	**Beattyville**	**147.30**	**28**	*e*PKPbc	**PKPbc**	**08 07 21.4**	**-0.4**
MVL	**Millersville**	**147.93**	**17**	*e*PKPbc	**PKPbc**	**08 07 23.8**	**+0.4**
TZTN	**Tazewell**	**148.21**	**29**	*e*PKPbc	**PKPbc**	**08 07 24.8**	**+0.5**
W50A	**Signal Mountai**	**148.36**	**33**	*e*PKPbc	**PKPbc**	**08 07 25.2**	**+0.4**
Y49A	**Blount Mountai**	**148.74**	**36**	*e*PKPbc	**PKPbc**	**08 07 25.7**	**-0.1**
V52A	**Sevierville**	**148.74**	**30**	*e*PKPbc	**PKPbc**	**08 07 26.3**	**+0.6**
TKL	**Tuckaleechee C**	**148.80**	**30**	*e*PKPbc	**PKPbc**	**08 07 26.2**	**+0.3**
LRAL	**Lakeview Retre**	**148.97**	**38**	*e*PKPbc	**PKPbc**	**08 07 26.6**	**+0.2**
V53A	**Saluda**	**149.26**	**29**	*e*PKPbc	**PKPbc**	**08 07 27.6**	**+0.5**
LPAZ	**La Paz**	**154.26**	**173**	PKPab	**PKPab**	**08 07 53.8**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=139,slow=3.8,SNR=3.5						

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*ISCJB **11** 07:58:00.0±0.6, 35°.84N±0°.03×141°.04E±0°.06, h37^{km}±5^{km}, mb4.0/21, Error ellipse: s-maj=7.8km s-min=5.0km az=161.5*

*NIED **11** 07:58:00, 35°.90N×141°.00E, h32^{km}, Mw4.1 Best double couple: M$_0$1.61000×10^{15} NP1:φ$_s$322.00000°, δ38.00000°, λ-119.00000°. NP2:φ$_s$178.00000°, δ57.00000°, λ-69.00000°.*

*IDC **11** 07:58:01.4±4.7, 35°.82N×141°.06E, h33^{km}±37^{km}, mb3.5/10, mb1 3.8/15, mb1mx3.7/44, mbtmp3.8/15, ML4.0/3, MS3.1/7, Ms1 3.1/7, ms1mx2.9/39, Error ellipse: s-maj=22.8km s-min=15.9km az=93.0*

*JMA **11** 07:58:01.4±0.2, 35°.86N×140°.90E, h32^{km}±1^{km}, M3.6*

JMA Felt II J1.

*NEIC **11** 07:58:02.4±0.7, 35°.84N×141°.03E, h38^{km}±6^{km}, mb4.3/11, Error ellipse: s-maj=6.9km s-min=5.5km az=81.0*

ISC 11 07:58:01.1±1.1**, 35°.86N**±0°.04×**141°.00E**±0°.06**, h30**^{km}±7^{km}**, n70,** σ1^s**16**/68**, mb4.2**/21**, 2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.20**	**215**	⇓P	**Pn**	**07 58 07.2**	**-0.9**
CHOJ				S	**Sb**	**07 58 11.5**	**+0.1**
JIHU	**Itakohorinouch**	**0.40**	**285**	P	**Pb**	**07 58 09.8**	**-0.1**
JSMT	**Sammumatsuo**	**0.50**	**244**	P	**Pb**	**07 58 11.1**	**-0.4**
JHYU	**Hitachinakayam**	**0.58**	**325**	P	**Pn**	**07 58 12.6**	**-0.8**
JHYU				S	**Sb**	**07 58 20.7**	**-0.2**
JYT	**Yasato**	**0.75**	**299**	P	**Pn**	**07 58 14.0**	**-1.6**
JYT				S	**Sn**	**07 58 23.0**	**-3.0**
I30JP	**ISUMI INFRASON**	**0.79**	**225**	Pn	**Pn**	**07 58 13.4**	**-2.8**
	baz=88,slow=311,SNR=2.2						
JHO	**Hitachi**	**0.82**	**335**	⇓P	**Pn**	**07 58 16.0**	**-0.7**
BSO4	**Boso 4**	**1.02**	**212**	P	**Pb**	**07 58 20.6**	**+0.4**
BSO3	**Boso 3**	**1.13**	**201**	P	**Pn**	**07 58 20.8**	**+0.1**
MJAR	**Matsushiro Arr**	**2.36**	**288**	Pn	**Pn**	**07 58 38.1**	**+0.2**
	5.9nm,0.3s,baz=102,slow=9.3,SNR=44						
MJAR				Sn	**Sn**	**07 59 05.9**	**+0.2**
	8.0nm,0.3s,baz=112,slow=13,SNR=7.3						
MJAR				LR	LR	07 59 35.1	
	comp=Z,375nm,19.9s,baz=110,slow=39						
MAJO	**Matsushiro**	**2.36**	**288**	*e*Pn	**Pn**	**07 58 38.3**	**+0.4**
MAJO				*e*Sn	**Sn**	**07 59 05.9**	**+0.1**
MAT	**Matsushiro**	**2.36**	**288**	P	**Pn**	**07 58 38.3**	**+0.5**
MAT				*e*S	**Sn**	**07 59 09.5**	**+3.7**
MJB9	**Matsu-Tunnel**	**2.36**	**288**	*e*Pn	**Pn**	**07 58 38.3**	**+0.4**
JHJ	**Hachijo jima 2**	**2.92**	**200**	Sn	**Sn**	**07 59 20.3**	**+0.8**
	55nm,0.3s,baz=46,slow=18,SNR=2.9						
JHJ				LR	LR	08 00 05.3	
	comp=Z,253nm,20.9s,baz=71,slow=43						
INU	**Inuyama**	**3.29**	**262**	*e*Pn	**Pn**	**07 58 53.1**	**+2.5**
ERM	**Erimo**	**6.37**	**15**	*e*Pn	**Pn**	**07 59 34.5**	**+1.6**
ASAJ	**Asahikawa**	**8.33**	**8**	Pn	**Pn**	**07 59 60.0**	**+0.1**
	2.4nm,0.3s,baz=232,slow=11,SNR=5.1						
ASAJ				LR	LR	08 04 16.4	
	comp=Z,75nm,18.7s,baz=92,slow=45						
ASAJ	**Asahikawa**	**8.33**	**8**	*e*Pn	**Pn**	**08 00 01.6**	**+1.7**
JNU	**Nakatsue**	**8.79**	**255**	LR	LR	08 03 44.4	
	comp=Z,299nm,20.4s,baz=100,slow=39						
CBIJ	**Chichi jima**	**8.80**	**173**	*e*Pn	**Pn**	**08 00 07.6**	**+1.3**
JCJ	**Chichijima**	**8.80**	**173**	Pn	**Pn**	**08 00 05.1**	**-1.2**
	6.3nm,0.3s,baz=0.0,slow=10,SNR=2.9						
KSRS	**Korea Array**	**10.62**	**282**	Pn	**Pn**	**08 00 32.2**	**+0.9**
	baz=97,slow=13,SNR=2.5						
KSRS				LR	LR	08 04 32.8	
	comp=Z,142nm,20.2s,baz=114,slow=36						
KS15	**Wonju Array Si**	**10.65**	**282**	*e*Pn	**Pn**	**08 00 31.3**	**-0.4**
KSAR	**Wonju Array Be**	**10.65**	**282**	Pn	**Pn**	**08 00 32.2**	**+0.5**
USRK	**Ussuriysk Ar.**	**10.81**	**323**	Pn	**Pn**	**08 00 35.2**	**+1.4**
	baz=137,slow=12,SNR=6.2						
USRK				LR	LR	08 04 39.6	
	comp=Z,123nm,19.0s,baz=125,slow=37						
KLR	**Kul'dur**	**14.98**	**336**	LR	LR	08 07 04.9	
	comp=Z,53nm,20.4s,baz=96,slow=36						
ANA2	**Anatahan**	**19.89**	**167**	*e*P	**P**	**08 02 29.3**	**-0.9**
	144nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**27.86**	**118**	T	T	08 32 57.3	
	baz=311,slow=75,SNR=119						
H11N1	**WAKE ISLAND Hy**	**27.87**	**118**	T	T	08 32 55.0	
	baz=311,slow=75,SNR=94						
H11N3	**WAKE ISLAND Hy**	**27.88**	**118**	T	T	08 32 58.6	
	baz=311,slow=75,SNR=102						
SEY	**Seymchan**	**28.00**	**11**	P	**P**	**08 03 49.0**	**-0.1**
	0.3nm,0.3s,baz=128,slow=19,SNR=1.8						
SONA1	**Songino Array**	**28.18**	**306**	*e*P	**P**	**08 03 54.5**	**+3.4**
SONA0	**Songino Array**	**28.18**	**306**	*e*P	**P**	**08 03 52.3**	**+1.2**
SONM	**Songino Array**	**28.18**	**306**	P	**P**	**08 03 52.3**	**+1.2**
	0.9nm,0.7s,baz=109,slow=8.8,SNR=7.6						
H11S1	**WAKE ISLAND Hy**	**28.53**	**121**	T	T	08 33 42.6	
	baz=312,slow=75,SNR=213						
H11S3	**WAKE ISLAND Hy**	**28.53**	**121**	T	T	08 33 42.6	
	baz=312,slow=75,SNR=171						
H11S2	**WAKE ISLAND Hy**	**28.55**	**121**	T	T	08 33 43.8	
	baz=312,slow=75,SNR=156						
TIXI	**Tiksi**	**36.41**	**354**	*e*PcP	**PcP**	**08 07 25.4**	**-0.7**
ZAA0	**Zalesovo Array**	**42.46**	**313**	*e*P	**P**	**08 05 52.6**	**-0.6**
	3.7nm,0.8s						
ZAA1	**Zalesovo Array**	**42.46**	**313**	*e*P	**P**	**08 05 53.7**	**+0.5**
ZALV	**Zalesovo Beam**	**42.46**	**313**	P	**P**	**08 05 53.7**	**+0.5**
	0.8nm,0.5s,baz=116,slow=6.9,SNR=5.1						
MK01	**Makanchi Array**	**44.46**	**303**	*e*P	**P**	**08 06 10.7**	**+1.2**
MK31	**Makanchi Array**	**44.47**	**303**	*e*P	**P**	**08 06 09.8**	**+0.3**
MK32	**Makanchi Array**	**44.47**	**303**	*e*P	**P**	**08 06 08.8**	**-0.7**
MKAR	**Makanchi Array**	**44.47**	**303**	P	**P**	**08 06 08.8**	**-0.7**
	1.5nm,0.7s,baz=92,slow=10.0,SNR=16						
MKAR	**Makanchi Array**	**44.47**	**303**	*e*P	**P**	**08 06 10.0**	**+0.5**
	12nm,0.8s						
MAKZ	**Makanchi**	**44.68**	**303**	*e*P	**P**	**08 06 12.0**	**+0.8**
	3.7nm,1.1s						
KURK	**Kurchatov**	**46.40**	**309**	*e*P	**P**	**08 06 25.1**	**+0.4**
	4.2nm,0.9s						
WRH	**Wood River Hil**	**50.15**	**32**	*e*P	**P**	**08 06 54.6**	**+1.2**
ILAR	**Eielson Array**	**50.66**	**32**	P	**P**	**08 06 58.0**	**+0.7**
	0.5nm,0.7s,baz=274,slow=5.8,SNR=7.0						
DOT	**Dot Lake**	**51.96**	**33**	*e*P	**P**	**08 07 07.2**	**+0.1**
	2.6nm,0.9s						
DOT				*e*PcP	**PcP**	**08 08 17.2**	**-2.0**
KK31	**Karatay Array**	**53.43**	**301**	*e*P	**P**	**08 07 18.4**	**+0.2**
KKAR	**Karatay Array**	**53.43**	**301**	*e*P	**P**	**08 07 18.6**	**+0.3**
WRAB	**Tennant Creek**	**55.85**	**188**	*e*P	**P**	**08 07 35.8**	**-0.1**
	5.2nm,1.1s						
WB2	**Warramunga Arr**	**55.86**	**188**	*e*P	**P**	**08 07 35.7**	**-0.3**
WR1	**Warramunga Arr**	**55.86**	**188**	*e*P	**P**	**08 07 35.2**	**-0.7**
	3.3nm,0.8s						
WRA	**Warramunga Arr**	**55.86**	**188**	P	**P**	**08 07 35.2**	**-0.7**
	2.8nm,0.8s,baz=7.5,slow=7.4,SNR=22						
ABKAR	**Akbulak array**	**58.44**	**311**	*e*P	**P**	**08 07 54.2**	**+0.2**
AS01	**Alice Springs**	**59.58**	**187**	*e*P	**P**	**08 08 02.5**	**+0.4**
ASAR	**Alice Springs**	**59.59**	**188**	P	**P**	**08 08 02.2**	**+0.1**
	1.0nm,0.7s,baz=16,slow=8.4,SNR=17						
MBWA	**Marble Bar**	**60.18**	**203**	*e*P	**P**	**08 08 06.6**	**+0.3**
	4.9nm,0.9s						
YKA	**Yellowknife Ar**	**64.99**	**30**	P	**P**	**08 08 37.9**	**+0.1**
	0.2nm,0.7s,baz=300,slow=7.0,SNR=4.3						
AKBB	**Malin Array Si**	**75.02**	**322**	*e*P	**P**	**08 09 39.8**	**+0.2**
	2.9nm,1.1s						
KIEV	**Kiev**	**75.03**	**322**	*e*P	**P**	**08 09 39.7**	**+0.1**
	2.2nm,1.0s						
NB2	**NORSAR Subarra**	**75.13**	**337**	P	P	08 09 50.3	+10
	comp=Z,0.9nm,0.7s,baz=39,slow=6.2						
OUZ	**Omahuta**	**76.97**	**153**	*e*P	**P**	**08 09 50.5**	**-0.2**
	comp=Z,4.6nm,1.1s						
PDAR	**Pinedale Array**	**78.72**	**45**	P	**P**	**08 09 59.7**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=312,slow=4.3,SNR=2.9						
LTX	**Lajitas**	**91.10**	**52**	*e*P	**P**	**08 11 02.6**	**-0.6**
TXAR	**Lajitas Array**	**91.10**	**52**	P	**P**	**08 11 02.6**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=268,slow=3.4,SNR=3.4						
PB11	**IPOC Station P**	**148.67**	**67**	*e*PKPbc	**PKPab**	**08 17 49.5**	**-0.1**

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*ISCJB **11** 08:07:56.6±2.2, 56°.22S±0°.10×26°.9W±0°.2, h85^{km}±22^{km}, mb4.3/8, Error ellipse: s-maj=23.3km s-min=10.2km az=142.1*

*NEIC **11** 08:07:57.8±1.9, 56°.24S×26°.62W, h85^{km}±17^{km}, mb4.4/6, Error ellipse: s-maj=18.5km s-min=9.4km az=72.0*

*IDC **11** 08:07:59.0±0.9, 56°.23S×27°.44W, h98^{km}±7^{km}, mb3.8/3, mb1 4.0/3, mb1mx3.6/21, mbtmp4.0/3, Error ellipse: s-maj=59.9km s-min=26.4km az=101.0*

ISC 11 08:07:59.3±0.8**, 56°.3S**±0°.1×**26°.9W**±0°.1**, h98**^{km}±7^{km}**, h98**^{km}**:pP-P, n24,** σ1^s**07**/24**, mb4.3**/8**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.82**	**286**	*e*Pn	**Pn**	**08 09 23.5**	**+0.5**
HOPE				*e*Sn	**Sn**	**08 10 27.1**	**-1.2**
VNA3	**Neumayer Olymp**	**16.75**	**161**	P	**Pn**	**08 11 46.6**	**-0.8**
VNA2	**Neumayer--Watz**	**16.94**	**158**	P	**Pn**	**08 11 49.7**	**-0.1**
	baz=314,slow=13						
SNAA	**Sanae**	**18.49**	**156**	P	**Pn**	**08 12 10.3**	**+1.7**
SNAA	**Sanae**	**18.49**	**156**	*e*P	**P**	**08 12 06.0**	**-1.2**
	12nm,0.5s						
QSPA	**South Pole Qui**	**34.00**	**180**	*e*P	**P**	**08 14 33.1**	**-0.2**
	3.6nm,0.6s						
SBA	**Scott Base**	**45.89**	**184**	*e*P	**P**	**08 16 11.5**	**+0.5**
	4.4nm,0.9s						
VNDA	**Vanda**	**46.38**	**183**	P	**P**	**08 16 14.4**	**-0.5**
	3.1nm,0.7s,baz=187,slow=8.3,SNR=24						
VNDA	**Vanda**	**46.38**	**183**	*e*P	**P**	**08 16 15.0**	**+0.1**
	3.3nm,0.7s						
H10S2	**ASCENSION HYDR**	**48.15**	**16**	T	T	09 08 50.5	
	baz=190,slow=75,SNR=17						
H10S3	**ASCENSION HYDR**	**48.16**	**16**	T	T	09 08 49.1	
	baz=190,slow=75,SNR=20						
H10S1	**ASCENSION HYDR**	**48.17**	**16**	T	T	09 08 50.9	
	baz=190,slow=75,SNR=20						
MNMC	**Minye Minye**	**48.84**	**302**	*e*P	**P**	**08 16 35.9**	**+0.9**
	4.4nm,1.1s						
ASCN	**Ascension**	**49.20**	**17**	*e*P	**P**	**08 16 36.1**	**-1.3**
	93nm,0.9s						
H10N1	**ASCENSION HYDR**	**49.27**	**16**	T	T	09 10 12.5	
	baz=198,slow=75,SNR=30						
H10N3	**ASCENSION HYDR**	**49.27**	**16**	T	T	09 10 13.0	
	baz=198,slow=75,SNR=33						
H10N2	**ASCENSION HYDR**	**49.29**	**16**	T	T	09 10 14.0	
	baz=198,slow=75,SNR=40						
LPAZ	**La Paz**	**50.62**	**305**	*e*P	**P**	**08 16 50.1**	**+1.2**
	1.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**73.16**	**29**	P	**P**	**08 19 19.5**	**+0.5**
	0.5nm,0.7s,baz=202,slow=6.0,SNR=4.0						
TORD				pP	**pP**	**08 19 44.4**	**+0.4**
	0.9nm,0.6s,baz=196,slow=6.9,SNR=4.9						
TOA1	**Torodi Ar. Sit**	**73.16**	**29**	*e*P	**P**	**08 19 19.5**	**+0.4**
TOA1				*e*pP	**pP**	**08 19 44.4**	**+0.3**
ASAR	**Alice Springs**	**98.75**	**162**	P	**P**	**08 21 28.5**	**+0.8**
	0.2nm,0.6s,baz=182,slow=4.3,SNR=5.6						
ILAR	**Eielson Array**	**150.37**	**311**	PKPbc	**PKPbc**	**08 27 37.4**	**-0.2**
	0.3nm,0.5s,baz=131,slow=5.5,SNR=7.6						
ILAR				pPKPbc	**pPKPbc**	**08 28 02.0**	**-2.4**
	0.8nm,0.7s,baz=102,slow=1.7,SNR=4.0						
SONA0	**Songino Array**	**150.58**	**87**	*e*PKPbc	**PKPbc**	**08 27 37.9**	**-0.9**
SONA0				*e*pPKPab	**pPKPbc**	**08 28 06.8**	**+1.2**
SONM	**Songino Array**	**150.58**	**87**	PKPbc	**PKPbc**	**08 27 37.9**	**-0.9**
	0.5nm,0.6s,baz=230,slow=2.6,SNR=3.6						
SONM				pPKPbc	**pPKPbc**	**08 28 06.8**	**+1.2**
	0.5nm,0.6s,baz=242,slow=3.3,SNR=2.8						

IDC 11 08:08:05.2±3.1**, 54°.09N**×**87°.17E, h0**^{km}**, mb1 2.8**/1**, mb1mx2.8**/35**, mbtmp2.8**/1**, ML2.4**/1**, Error ellipse: s-maj=27.7km s-min=17.1km az=60.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.40**	**265**	*i*		08 18 12.5	
	baz=85,slow=356,SNR=13						
ZALV	**Zalesovo Beam**	**1.40**	**265**	Pg	Pn	08 08 30.8	-1.1
	2.0nm,0.3s,baz=82,slow=14,SNR=23						
ZALV				Lg	Lg	08 08 49.7	
	1.5nm,0.3s,baz=82,slow=25,SNR=10.0						
MKAR	**Makanchi Array**	**7.94**	**205**	Pn	Pn	08 10 03.3	+1.4
	0.1nm,0.3s,baz=23,slow=13,SNR=3.3						
MKAR				Lg	Lg	08 12 16.6	
	0.0nm,0.3s,baz=27,slow=26,SNR=2.6						

IDC 11 08:10:12.5±74.0**, 16°.93S**×**171°.76E, h0**^{km}**, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.5**/31**, mbtmp3.6**/3**, MS3.5**/6**, Ms1 3.5**/6**, ms1mx3.1**/23**, Error ellipse: s-maj=1273.0km s-min=143.9km az=72.0, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**26.71**	**181**	LR	LR	08 24 06.3	
	comp=Z,88nm,21.8s,baz=351,slow=31						
STKA	**Stephens Creek**	**31.11**	**236**	P	P	08 16 33.3	+0.4
	1.2nm,0.7s,baz=90,slow=8.1,SNR=2.7						
WRA	**Warramunga Arr**	**35.58**	**259**	P	P	08 17 10.5	-1.5
	0.3nm,0.8s,baz=94,slow=8.7,SNR=2.6						
ASAR	**Alice Springs**	**36.06**	**253**	P	P	08 17 16.7	+0.6
	0.8nm,0.8s,baz=82,slow=8.6,SNR=9.0						
MJAR	**Matsushiro Arr**	**61.91**	**330**	LR	LR	08 43 12.7	
	comp=Z,26nm,21.8s,baz=150,slow=32						
KSRS	**Korea Array**	**68.03**	**324**	LR	LR	08 50 18.7	
	comp=Z,18nm,18.3s,baz=132,slow=35						
MAW	**Mawson**	**81.46**	**202**	LR	LR	08 54 24.0	
	comp=Z,56nm,19.5s,baz=216,slow=33						
SONM	**Songino Array**	**86.85**	**322**	LR	LR	09 03 16.3	
	comp=Z,23nm,18.1s,baz=133,slow=37						
ILAR	**Eielson Array**	**87.33**	**16**	LR	LR	08 53 55.8	
	comp=Z,23nm,21.9s,baz=275,slow=30						

MEX 11 08:21:24.7±0.5, 14.30N×91.73W, h110km±12km, MD3.7, Guatemala

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THIG		**0.79**	**319**	*i* P	Pn	08 21 42.5	-1.4
THIG				*e*S	Sn	08 21 56.8	-1.6
PCIG		**2.00**	**314**	*i* P	Pn	08 21 56.8	-0.9
PCIG				*i* S	Sn	08 22 21.2	-1.7
CCIG	**Comitan**	**2.00**	**349**	*i* P	Pn	08 21 57.2	-0.7
CCIG				*i* S	Sn	08 22 21.5	-1.8

*IDC **11** 08:23:39.5±1.4, 52.50N×131.90W, h0km, mb3.3/2, mb1 3.4/8, mb1mx3.3/45, mbtmp3.2/8, ML3.1/6, MS2.9/5, Ms1 3.0/5, ms1mx2.6/24, Error ellipse: s-maj=20.2km s-min=7.3km az=40.0*

*PGC **11** 08:23:41.3±1.7, 52.53N×131.93W, h10km, ML3.8/14, 80km south of Sandspit, Bc Haida Gwaii Region*

ISC 11 08:23:41.5±0.8, 52.68N±0.03×131.66W±0.04, h14km±6km, n37, σ2.79/47, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.12**	**208**	P	**Pg**	**08 23 43.6**	**-1.3**
BNB				S	**Sg**	**08 23 45.3**	**-1.9**
HG3B	**Hotspring**	**0.17**	**128**	P	**Pg**	**08 23 47.0**	**+1.4**
HG3B				S	**Sg**	**08 23 51.1**	**+2.8**
HG1B	**Mitchell Dam**	**0.38**	**312**	P	**Pg**	**08 23 49.1**	**-0.1**
HG4B	**Hotspring**	**0.48**	**144**	P	**Pb**	**08 23 50.9**	**-0.9**
HG4B				S	**Sb**	**08 23 57.9**	**-0.7**
MOBC	**Moresby Island**	**0.50**	**338**	P	**Pb**	**08 23 52.7**	**+0.6**
MOBC				S	**Sb**	**08 24 00.8**	**+1.5**
DIB	**Dawson Inlet,**	**0.72**	**317**	P	**Pg**	**08 23 54.7**	**-0.8**
DIB				S	**Sg**	**08 24 04.6**	**-0.4**
H02S1	**DAWSON INLET T**	**0.72**	**317**	Pg	**Pg**	**08 23 54.9**	**-0.6**
H02S1				Lg	Lg	08 24 03.8	
MASB	**Masset**	**1.35**	**351**	P	**Pb**	**08 24 07.5**	**+0.9**
NDB	**Naden**	**1.49**	**329**	P	**Pn**	**08 24 07.8**	**-0.1**
RUBB	**Prince Rupert**	**1.85**	**26**	Pn	**Pn**	**08 24 15.1**	**+2.4**
RUBB				Sn	**Sg**	**08 24 42.8**	**+1.8**
BBB	**Bella Bella**	**2.23**	**101**	Pn	**Pn**	**08 24 19.0**	**+1.1**
	5.7nm,0.3s,baz=282,slow=14,SNR=22						
BBB				Lg	Lg	08 24 52.1	
	54nm,0.3s,baz=3.9,slow=22,SNR=17						
BBB				LR	LR	08 25 02.7	
	comp=Z,68nm,20.9s,baz=202,slow=36						
BBB	**Bella Bella**	**2.23**	**101**	Pn	**Pn**	**08 24 19.1**	**+1.1**
BBB				Sn	**Sb**	**08 24 50.0**	**+1.2**
PHC	**Port Hardy**	**3.29**	**125**	Pn	**Pn**	**08 24 31.9**	**-0.6**
PHC				Sn	**Sn**	**08 25 11.6**	**+0.2**
PACB	**Port Alice, BC**	**3.44**	**129**	Pn	**Pn**	**08 24 35.2**	**+0.7**
TLCB	**Telegraph Cove**	**3.69**	**123**	Pn	**Pn**	**08 24 38.2**	**+0.2**
TLCB				Sn	**Sn**	**08 25 20.9**	**-0.3**
EDB	**Eliza Dome**	**4.00**	**133**	Pn	**Pn**	**08 24 43.1**	**+0.8**
WOSB	**Woss**	**4.06**	**126**	Pn	**Pn**	**08 24 43.4**	**+0.1**
NCRB	**Newcastle Ridg**	**4.17**	**121**	Pn	**Pn**	**08 24 45.8**	**+1.0**
GDR	**Gold River**	**4.58**	**127**	Pn	**Pn**	**08 24 50.9**	**+0.7**
FSB	**Fort Saint Jam**	**4.72**	**65**	Pn	**Pn**	**08 24 53.3**	**+1.0**
CBB	**Campbell River**	**4.75**	**121**	Pn	**Pn**	**08 24 54.8**	**+2.1**
DLBC	**Dease Lake**	**5.84**	**8**	Pn	**Pn**	**08 25 11.5**	**+3.8**
	0.2nm,0.3s,baz=192,slow=13,SNR=9.2						
DLBC				Lg	Lg	08 26 44.4	
	0.7nm,0.3s,baz=280,slow=18,SNR=13						
DLBC				LR	LR	08 27 18.6	
	comp=Z,98nm,20.9s,baz=94,slow=36						
DLBC	**Dease Lake**	**5.84**	**8**	Sg	**Sg**	**08 26 45.6**	**-3.3**
BMBC	**Bull Mountain**	**6.51**	**55**	Sg	**Sg**	**08 27 08.3**	**-1.9**
PLBC	**Pleasant Camp**	**7.28**	**341**	Sg	**Sg**	**08 27 27.6**	**-7.4**
FNBB	**Fort Nelson**	**7.90**	**35**	Sg	**Sg**	**08 27 53.3**	**-1.4**
WHY	**Whitehorse**	**8.19**	**349**	Pn	**Pn**	**08 25 43.4**	**+3.4**
WHY				Sg	**Sg**	**08 27 57.9**	**-6.2**
PNT	**Penticton**	**8.31**	**109**	Sg	**Sg**	**08 28 00.8**	**-7.1**
SLEB	**Sale Mountain**	**8.50**	**95**	Pn	**Pn**	**08 25 47.7**	**+3.4**
SLEB				Sg	**Sg**	**08 28 09.1**	**-4.9**
YUK7	**Dusty Glacier**	**8.64**	**338**	Sg	**Sg**	**08 28 10.4**	**-7.9**
YKA	**Yellowknife Ar**	**13.38**	**36**	Pn	**Pn**	**08 26 52.3**	**+1.6**
	0.0nm,0.3s,baz=232,slow=12,SNR=10						
YKA				Lg	Lg	08 30 44.0	
	0.0nm,0.3s,baz=234,slow=26,SNR=3.4						
ILAR	**Eielson Array**	**14.41**	**333**	Pn	**Pn**	**08 27 06.2**	**+1.3**
	0.0nm,0.3s,baz=144,slow=7.8,SNR=2.7						
ILAR				LR	LR	08 32 41.4	
	comp=Z,76nm,18.9s,baz=202,slow=37						
INK	**Inuvik**	**15.71**	**357**	Pn	**Pn**	**08 27 23.8**	**+1.9**
	0.1nm,0.3s,baz=266,slow=17,SNR=4.2						
INK				LR	LR	08 33 09.4	
	comp=Z,70nm,18.4s,baz=266,slow=36						
PDAR	**Pinedale Array**	**17.80**	**115**	P	**Pn**	**08 27 49.6**	**+0.7**
	0.0nm,0.3s,baz=301,slow=7.3,SNR=2.7						
ULM	**Lac du Bonnet**	**22.29**	**82**	LR	LR	08 38 17.9	
	comp=Z,64nm,20.3s,baz=332,slow=39						
TXAR	**Lajitas Array**	**31.12**	**128**	P	**P**	**08 29 59.4**	**-0.1**
	0.3nm,0.8s,baz=331,slow=7.2,SNR=2.2						
MKAR	**Makanchi Array**	**76.74**	**337**	P	**P**	**08 35 32.6**	**+0.6**
	0.3nm,0.8s,baz=14,slow=3.0,SNR=2.7						

*ISCJB **11** 08:31:28.8±0.5, 31.70S±0.03×68.23W±0.03, h114km±4km, Error ellipse: s-maj=4.4km s-min=4.4km az=143.5*

*SJA **11** 08:31:28.8±1.1, 31.74S×68.23W, h111km±3km, ML3.5, MW3.7*

*GUC **11** 08:31:29.7±0.5, 31.71S×68.39W, h154km±19km, ML3.9*

ISC 11 08:31:29.1±1.3, 31.72S±0.03×68.24W±0.03, h114km±6km, n28, σ0.80/53, 3C, San Juan Province

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CFA	**Coronel Fontan**	**0.11**	**360**	*i* P	**Pn**	**08 31 45.1**	**+0.1**
CFA				*e*S	**Sn**	**08 31 56.5**	**-0.2**
RTCV	**Cerro Valdivia**	**0.30**	**240**	*i* P	**Pn**	**08 31 45.7**	**+0.3**
RTCV				*e*S	**Sn**	**08 31 56.9**	**-0.8**
SJA	**San Juan**	**0.33**	**304**	*i* P	**Pn**	**08 31 45.9**	**+0.3**
SJA				*e*S	**Sn**	**08 31 57.8**	**-0.2**
ZON	**Zonda**	**0.41**	**294**	*i* P	**Pn**	**08 31 46.0**	**0.0**
ZON				*e*S	**Sn**	**08 31 57.2**	**-1.4**
ZON				IAML		08 31 58.8	
	comp=Z,1µm,0.2s						
RTLL	**Cerro Villicun**	**0.44**	**332**	*i* P	**Pn**	**08 31 46.2**	**+0.1**
RTLL				*i* S	**Sn**	**08 31 58.7**	**-0.2**
RTLL				IAML		08 32 00.8	
	comp=Z,888nm,0.5s						
AMOG	**MOGNA**	**0.81**	**344**	*i* P	**Pn**	**08 31 49.4**	**+0.5**
AMOG				*e*S	**Sn**	**08 32 03.1**	**-0.7**
RTLS	**Leoncito**	**0.91**	**265**	*i* P	**Pn**	**08 31 50.7**	**+0.6**
RTLS				*i* S	**Sn**	**08 32 06.6**	**+0.7**
RTLS				IAML		08 32 09.3	
	comp=Z,519nm,0.2s						
ASAL	**Salagasta**	**1.01**	**210**	*i* P	**Pn**	**08 31 51.6**	**+0.8**
ASAL				*e*S	**Sn**	**08 32 06.5**	**-0.7**
ACAN	**Cantantal**	**1.05**	**122**	*i* P	**Pn**	**08 31 52.4**	**+1.2**
ACAN				*e*S	**Sn**	**08 32 07.8**	**-0.1**
AUSP	**Uspallata**	**1.10**	**242**	*e*P	**Pn**	**08 31 52.5**	**+0.6**
AUSP				*i* S	**Sn**	**08 32 09.4**	**+0.2**
ARCO	**CERRO ARCO**	**1.27**	**207**	*e*P	**Pn**	**08 31 54.4**	**+0.7**
ARCO				*e*S	**Sn**	**08 32 11.7**	**-0.6**
ARCO				IAML		08 32 13.7	
	comp=Z,786nm,0.2s						
AAGR	**Agrelo**	**1.45**	**200**	*i* P	**Pn**	**08 31 56.6**	**+0.9**
AAGR				*i* S	**Sn**	**08 32 15.8**	**-0.2**
AVIZ	**Vizcacheras**	**1.77**	**188**	*e*P	**Pn**	**08 32 00.3**	**+0.8**
AVIZ				*e*S	**Sn**	**08 32 21.7**	**-0.9**
MRA	**San Martin**	**2.25**	**109**	*i* P	**Pn**	**08 32 06.5**	**+0.9**
MRA				*i* S	**Sn**	**08 32 33.2**	**-0.3**
MRA				IAML		08 32 35.0	
	comp=Z,258nm,0.6s						
FCH	**Farellones**	**2.36**	**227**	⇑*e*P	**Pn**	**08 32 08.5**	**+1.2**
FCH				*e*S	**Sn**	**08 32 38.2**	**+1.8**
FCH				IAML		08 32 48.9	
	comp=E,80nm,0.1s						
CMCH	**Combarbala**	**2.42**	**282**	*e*P	**Pn**	**08 32 08.1**	**+0.3**
CMCH				*e*S	**Sn**	**08 32 37.2**	**-0.2**
CMCH				IAML		08 32 41.0	
	comp=E,1µm,0.7s						
ROCH	**El Roble**	**2.66**	**241**	*e*P	**Pn**	**08 32 10.3**	**-0.7**
ROCH				*i* S	**Sn**	**08 32 43.4**	**+0.3**
ROCH				IAML		08 32 47.5	
	comp=N,219nm,0.4s						
ROC1	**El Roble**	**2.67**	**241**	*e*P	**Pn**	**08 32 11.1**	**0.0**
ROC1				*e*S	**Sn**	**08 32 43.4**	**+0.1**
GO04	**Tololo Observa**	**2.69**	**304**	*e*P	**Pn**	**08 32 11.8**	**+0.5**
GO04				*e*S	**Sn**	**08 32 44.9**	**+1.1**
GO04	**Tololo Observa**	**2.69**	**304**	⇑*i*P	**Pn**	**08 32 11.8**	**+0.5**
GO04				*i* S	**Sn**	**08 32 43.6**	**-0.2**
GO04				IAML		08 32 48.9	
	comp=N,1µm,0.3s						
VCA	**Vinchina**	**2.97**	**1**	*e*P	**Pn**	**08 32 16.1**	**+1.1**
VCA				*e*S	**Sn**	**08 32 50.8**	**+0.4**
VCA				IAML		08 32 56.6	
	comp=Z,122nm,0.3s						
RFA	**San Rafael**	**3.05**	**184**	*e*P	**Pn**	**08 32 16.2**	**+0.2**
RFA				*e*S	Sn	08 32 43.7	-8.4
RFA				IAML		08 32 52.3	
	comp=Z,113nm,0.4s						
TCA	**Tanti**	**3.13**	**84**	*i* P	**Pn**	**08 32 17.4**	**+0.3**
TCA				*e*S	**Sn**	**08 32 52.6**	**-1.5**
TCA				IAML		08 32 55.3	
	comp=Z,80nm,0.4s						
LSCH	**La Serena**	**3.15**	**304**	*e*P	**Pn**	**08 32 17.0**	**-0.2**
LSCH				*e*S	**Sn**	**08 32 53.1**	**-1.2**
LSCH				IAML		08 32 54.0	
	comp=E,144nm,0.3s						
LCO	**Las Campanas**	**3.44**	**321**	*e*P	**Pn**	**08 32 21.6**	**+0.3**
LCO				*e*S	**Sn**	**08 33 02.1**	**+0.6**
LCO	**Las Campanas**	**3.44**	**321**	⇑*i*P	**Pn**	**08 32 21.5**	**+0.3**
LCO				*i* S	**Sn**	**08 33 00.8**	**-0.7**
LCO				IAML		08 33 04.9	
	comp=E,136nm,0.4s						
CYA	**Choya**	**3.89**	**34**	*e*P	**Pn**	**08 32 26.9**	**-0.2**
GO05	**Huala**	**4.51**	**222**	*e*P	**Pn**	**08 32 33.0**	**-2.4**

*NNC **11** 08:37:07.4±2.1, 39.09N×71.88E, h2km±8km, mb4.2, mpv3.8, Error ellipse: s-maj=19.2km s-min=9.8km az=16.0*

*SOME **11** 08:37:11.8, 39.43N×72.07E, h5km*

*KRNET **11** 08:37:11.1±0.1, 39.52N×71.94E, h22km, mb3.1*

ISC 11 08:37:08.7±1.4, 39.36N±0.08×72.01E±0.03, h10km, n65, σ2.72/102, 33C-19D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.20**	**306**	⇑*i*P	**Pg**	**08 37 12.5**	**-0.6**
	baz=50						
DRK				⇑*i*S	**Sg**	**08 37 15.4**	**-0.7**
	baz=50						
BTK	**Batken**	**1.15**	**307**	⇑*i*P	**Pn**	**08 37 31.0**	**0.0**
	baz=2.0						
BTK				⇑*i*S	**Sb**	**08 37 45.0**	**-0.9**
	baz=2.0						
SFK	**Sufi-Kurgan**	**1.32**	**60**	⇓Pn	**Pg**	**08 37 35.3**	**+1.2**
	45nm,0.5s						
SFK				Sn	**Sg**	**08 37 58.8**	**+7.5**
	99nm,0.5s						
SFK	**Sufi-Kurgan**	**1.32**	**60**	⇑*i*P	**Pg**	**08 37 36.3**	**+2.2**
	baz=67						
SFK				⇑*i*S	**Sg**	**08 37 54.1**	**+2.8**
	baz=67						
ARSB	**Arslanbob**	**2.10**	**20**	⇓*i*P	**Pb**	**08 37 47.4**	**+0.5**
	baz=23						
ARSB				⇓*i*S	**Sb**	**08 38 13.4**	**+0.4**
	baz=23						
ARK	**Arkit**	**2.43**	**359**	⇑*i*P	**Pb**	**08 37 51.9**	**-0.7**
	baz=1.0						
ARK				⇑*i*S	**Sn**	**08 38 21.1**	**+2.6**
	baz=1.0						
AML	**Almayashu**	**3.05**	**24**	P	**Pb**	**08 38 02.8**	**-0.4**
	SNR=59						
AML	**Almayashu**	**3.05**	**24**	⇓*i*P	**Pb**	**08 38 00.9**	**-2.3**
	baz=26						
AML				⇓*i*S	**Sn**	**08 38 37.1**	**+3.1**
	baz=26						
ARLS	**Aral**	**3.05**	**34**	⇑*e*P	**Pb**	**08 38 01.6**	**-1.6**
	baz=37						
ARLS				⇑*i*S	**Sb**	**08 38 38.2**	**-2.4**
	baz=37						
MNAS	**Manas**	**3.14**	**7**	Pn	**Pb**	**08 38 03.1**	**-1.6**
	7.4nm,0.3s						
MNAS				⇑Sn	**Sb**	**08 38 42.3**	**-0.9**
	46nm,0.6s						
MNAS	**Manas**	**3.14**	**7**	⇑*i*P	**Pn**	**08 38 01.8**	**+3.4**
	baz=8.0						
MNAS				⇑*i*S	**Sn**	**08 38 38.6**	**+2.5**
	baz=8.0						
IUG	**Iuzhnay**	**3.16**	**332**	*e*P	**Pb**	**08 38 07.5**	**+2.4**
	64nm,0.5s						
IUG				*e*S	**Sb**	**08 38 46.9**	**+3.2**
	200nm,0.6s						
UCH	**Uchtor**	**3.44**	**33**	P	**Pb**	**08 38 08.5**	**-1.3**
	SNR=27						
UCH	**Uchtor**	**3.44**	**33**	⇓*i*P	**Pb**	**08 38 06.7**	**-3.2**
	baz=35						
UCH				⇓*i*S	**Sn**	**08 38 47.2**	**+3.5**
	baz=35						
EKS2	**Erkin-Say**	**3.56**	**21**	P	**Pb**	**08 38 11.1**	**-0.7**
	SNR=29						
EKS2	**Erkin-Say**	**3.56**	**21**	⇑*i*P	**Pn**	**08 38 07.5**	**+3.4**
	baz=23						
EKS2				⇑*i*S	**Sn**	**08 38 48.9**	**+2.7**
	baz=23						
KZA	**Kyzart**	**3.66**	**41**	P	**Pb**	**08 38 12.1**	**-1.7**
	SNR=33						
KZA	**Kyzart**	**3.66**	**41**	⇓*i*P	**Pb**	**08 38 10.1**	**-3.6**
	baz=43						
KZA				⇓*i*S	**Sn**	**08 38 53.2**	**+4.0**
	baz=43						
NRN	**Naryn**	**3.68**	**55**	⇓*i*P	**Pb**	**08 38 10.3**	**-3.7**
	baz=57						
NRN				⇓*i*S	**Sb**	**08 38 53.9**	**-4.9**
	baz=57						
AAK	**Ala-Archa**	**3.77**	**29**	P	**Pb**	**08 38 14.7**	**-0.8**
	SNR=7.6						
AAK	**Ala-Archa**	**3.77**	**29**	⇑Pn	**Pb**	**08 38 14.4**	**-1.0**
	10nm,0.5s						
AAK				⇑Sn	**Sb**	**08 39 01.0**	**-0.3**
	49nm,0.8s						
AAK	**Ala-Archa**	**3.77**	**29**	⇑*i*P	**Pb**	**08 38 11.2**	**-4.3**
	baz=31						
AAK				⇑*i*S	**Sn**	**08 38 54.3**	**+2.7**
	baz=31						
KK31	**Karatay Array**	**3.91**	**344**	Pn	**Pn**	**08 38 12.9**	**+4.1**
	3.2nm,0.3s,baz=163,slow=13,SNR=135						
KK31				⇑Pg	**Pg**	**08 38 24.5**	**+1.0**
	39nm,0.6s,baz=160,slow=15,SNR=55						
KK31				⇑Sn	**Sb**	**08 39 02.9**	**-2.1**
	19nm,0.6s						
KBK	**Karagaybulak**	**3.97**	**33**	P	**Pb**	**08 38 16.7**	**-2.2**
	SNR=18						
KBK	**Karagaybulak**	**3.97**	**33**	⇑*i*P	Pb	08 38 14.0	-4.8
	baz=35						
KBK				⇑*i*S	**Sn**	**08 38 59.5**	**+3.0**
	baz=35						
FRU1	**Bishkek**	**3.97**	**29**	⇑*i*P	**Pn**	**08 38 13.4**	**+3.7**
	baz=31						
FRU1				⇑*i*S	**Sn**	**08 38 59.0**	**+2.6**
	baz=31						
CHMS	**Chumysh**	**4.18**	**29**	P	**Pb**	**08 38 19.2**	**-3.1**
	SNR=15						
CHMS	**Chumysh**	**4.18**	**29**	⇑*i*P	**Pn**	**08 38 16.7**	**+4.2**
	baz=30						
CHMS				⇑*i*S	**Sn**	**08 39 04.4**	**+2.9**
	baz=30						
ULHL	**Ulahol**	**4.31**	**47**	P	**Pb**	**08 38 22.3**	**-2.4**
	SNR=10.0						
ULHL	**Ulahol**	**4.31**	**47**	⇓*i*P	Pb	08 38 19.0	-5.7
	baz=49						
ULHL				⇓*i*S	**Sn**	**08 39 09.1**	**+4.1**
	baz=49						
BOOM	**Boomskoye usch**	**4.32**	**42**	⇑*i*P	Pb	08 38 19.2	-5.5
	baz=44						
BOOM				⇑*i*S	**Sn**	**08 39 08.6**	**+3.6**
	baz=44						
USP	**Ospenovka**	**4.33**	**25**	P	**Pb**	**08 38 20.7**	**-4.2**
	SNR=40						
USP	**Ospenovka**	**4.33**	**25**	⇑*i*P	**Pn**	**08 38 18.3**	**+3.7**
	baz=26						
USP				⇑*i*S	**Sn**	**08 39 07.3**	**+2.2**
	baz=26						
TKM2	**Tokmak 2**	**4.47**	**36**	P	**Pb**	**08 38 22.8**	**-4.5**
	SNR=19						
TKM2	**Tokmak 2**	**4.47**	**36**	⇑Pn	Pb	08 38 22.4	-5.0
	5.8nm,0.5s						
TKM2				⇓Pg	**Pg**	**08 38 35.6**	**+1.3**
	9.0nm,0.6s						
TKM2				⇓Lg	Lg	08 39 29.6	
	24nm,0.8s						
TKM2	**Tokmak 2**	**4.47**	**36**	⇓*i*P	Pn	08 38 21.0	+4.3
	baz=38						
TKM2				⇓*i*S	**Sn**	**08 39 11.4**	**+2.6**
	baz=38						
KST	**Kastek**	**4.73**	**38**	*e*P	**Pg**	**08 38 36.4**	**-3.0**
	11nm,0.6s						
KST				*e*S	**Sg**	**08 39 36.8**	**-3.9**
	25nm,0.6s						
DGS	**Degeres**	**4.80**	**35**	Pg	**Pg**	**08 38 39.0**	**-1.6**
	7.4nm,0.7s						
DGS				Lg	Lg	08 39 40.9	
	25nm,0.6s						
DGS	**Degeres**	**4.80**	**35**	*e*P	**Pg**	**08 38 39.0**	**-1.6**
	7.4nm,0.7s						
DGS				*e*S	**Sg**	**08 39 40.9**	**-1.9**
	25nm,0.6s						
MTBS	**Maitube**	**5.03**	**40**	Pg	**Pg**	**08 38 43.9**	**-1.0**
	6.7nm,0.3s						
MTBS				Lg	Lg	08 39 49.8	
	12nm,0.3s						
MTBS	**Maitube**	**5.03**	**40**	*e*P	**Pg**	**08 38 42.4**	**-2.5**
	6.7nm,0.3s						
MTBS				*e*S	**Sg**	**08 39 47.2**	**-2.8**
	12nm,0.3s						
IZV	**Izvestkoviy**	**5.05**	**42**	Pg	**Pg**	**08 38 43.5**	**-1.9**
	6.7nm,0.6s						
IZV				Lg	Lg	08 39 49.9	
	13nm,0.5s						
IZV	**Izvestkoviy**	**5.05**	**42**	*e*P	**Pg**	**08 38 43.9**	**-1.6**
	6.7nm,0.6s						
IZV				*e*S	**Sg**	**08 39 49.6**	**-1.2**
	17nm,0.8s						
TNSS	**Tian-Shan**	**5.23**	**44**	Pg	**Pg**	**08 38 48.1**	**-0.7**
	8.9nm,0.5s						
TNSS				Lg	Lg	08 39 56.7	
	16nm,0.6s						
TNSS	**Tian-Shan**	**5.23**	**44**	*e*P	**Pg**	**08 38 48.1**	**-0.7**
	8.9nm,0.5s						
TNSS				*e*S	**Sg**	**08 39 56.7**	**+0.2**
	16nm,0.6s						
MDOK	**Medeo**	**5.37**	**43**	Pg	**Pg**	**08 38 49.3**	**-2.2**
	5.7nm,0.5s						
MDOK				Lg	Lg	08 39 58.8	
	19nm,0.6s						
MDOK	**Medeo**	**5.37**	**43**	*e*P	**Pg**	**08 38 49.3**	**-2.2**
	5.7nm,0.5s						
MDOK				*e*S	**Sg**	**08 39 58.8**	**-2.2**
	19nm,0.6s						
KOTS	**Kotyrbulak**	**5.45**	**43**	Pg	**Pg**	**08 38 51.2**	**-1.9**
	7.2nm,0.5s						
KOTS				Lg	Lg	08 40 01.8	
	21nm,0.6s						
KOTS	**Kotyrbulak**	**5.45**	**43**	*e*P	**Pg**	**08 38 51.2**	**-1.9**
	7.2nm,0.5s						
KOTS				*e*S	**Sg**	**08 40 01.8**	**-1.8**
	21nm,0.6s						
KUU	**Kurty**	**5.57**	**34**	Pg	**Pg**	**08 38 52.7**	**-2.6**
	3.8nm,0.4s						
KUU				Lg	Lg	08 40 04.6	
	20nm,0.6s						
KUU	**Kurty**	**5.57**	**34**	*e*P	**Pg**	**08 38 52.7**	**-2.6**
	3.8nm,0.4s						
KUU				*e*S	**Sg**	**08 40 04.6**	**-2.8**
	20nm,0.6s						
KTBS	**Karatobe**	**5.58**	**37**	Pg	**Pg**	**08 38 53.7**	**-1.8**
	2.6nm,0.5s						
KTBS				Lg	Lg	08 40 06.4	
	13nm,0.4s						
KTBS	**Karatobe**	**5.58**	**37**	*e*P	**Pg**	**08 38 53.7**	**-1.8**
	2.6nm,0.5s						
KTBS				*e*S	**Sg**	**08 40 06.4**	**-1.4**
	13nm,0.4s						
CHKK	**Chushkaly**	**5.83**	**38**	Pg	**Pg**	**08 38 58.1**	**-2.3**
	3.1nm,0.6s						
CHKK				Lg	Lg	08 40 13.6	
	9.2nm,0.6s						
CHKK	**Chushkaly**	**5.83**	**38**	*e*P	**Pg**	**08 38 58.1**	**-2.3**
	3.1nm,0.6s						
CHKK				*e*S	**Sg**	**08 40 13.6**	**-2.3**
	9.2nm,0.6s						
SATY	**Saty**	**6.07**	**50**	Pg	**Pg**	**08 39 02.5**	**-2.4**
	7.2nm,0.6s						
SATY				Lg	Lg	08 40 21.7	
	21nm,1.1s						
SATY	**Saty**	**6.07**	**50**	*e*P	**Pg**	**08 39 02.5**	**-2.4**
	7.2nm,0.6s						
SATY				*e*S	**Sg**	**08 40 21.7**	**-1.9**
	21nm,1.1s						
KURS	**Kuram**	**6.20**	**46**	Pg	**Pg**	**08 39 07.0**	**-0.3**
	4.1nm,0.7s						
KURS	**Kuram**	**6.20**	**46**	*e*P	**Pg**	**08 39 07.0**	**-0.3**
	4.1nm,0.7s						
KURS				*e*S	**Sg**	**08 40 29.1**	**+1.6**
	9.7nm,1.6s						
ARXS	**Arharly**	**6.51**	**40**	Pg	**Pg**	**08 39 10.5**	**-2.7**
	10nm,0.8s						
ARXS				Lg	Lg	08 40 34.9	
	9.2nm,0.4s						
ARXS	**Arharly**	**6.51**	**40**	*e*P	**Pg**	**08 39 10.5**	**-2.7**
	10nm,0.8s						
ARXS				*e*S	**Sg**	**08 40 34.9**	**-2.6**
	9.2nm,0.4s						
MNBS	**Baschi**	**6.71**	**43**	Lg	Lg	08 40 40.1	
	9.0nm,0.7s						
MNBS	**Baschi**	**6.71**	**43**	*e*P	**Pg**	**08 39 13.1**	**-4.1**
	1.8nm,0.4s						
MNBS				*e*S	**Sg**	**08 40 40.1**	**-4.0**
	9.0nm,0.7s						
AB31	**Akbulak array**	**13.12**	**323**	P	**Pn**	**08 40 14.8**	**-0.2**
	1.5nm,0.6s,baz=128,slow=12,SNR=57						
AB31				⇑S	**Sn**	**08 42 35.0**	**-5.9**
	1.9nm,0.5s						
AKTO	**Aktyubinsk**	**14.84**	**323**	⇓P	**Pn**	**08 40 39.6**	**+1.2**
	4.9nm,0.8s						
AKTO				⇓S	**Sn**	**08 43 18.3**	**-4.4**
	3.7nm,1.1s						

MEX 11 08:49:19.7±0.5, 17.29N×100.42W, h38km±9km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.28**	**148**	*e*P	Pn	08 49 25.9	-2.0
CAIG				*i* S	Sn	08 49 31.6	-3.2
ACP2	**Acapulco**	**0.66**	**129**	*e*S	Sn	08 49 39.6	-2.2
ARIG	**Puente Sto Nin**	**0.99**	**4**	*e*P	Pn	08 49 35.4	-1.6
ARIG				*i* S	Sn	08 49 47.4	-2.4
MEIG	**Mezcala**	**0.99**	**50**	*e*P	Pn	08 49 35.1	-2.1
MEIG				*e*S	Sn	08 49 47.4	-2.6
PLIG	**Platanillo**	**1.40**	**39**	*i* P	Pn	08 49 41.7	-1.1
PLIG				*e*S	Sn	08 49 58.0	-2.1
TLIG	**Tlapa**	**1.79**	**81**	*i* P	Pn	08 49 47.0	-1.2
TLIG				*i* S	Sn	08 50 07.5	-2.3

*ISCJB **11** 09:01:02.8±0.8, 67.54N±0.04×33.9E±0.1, h0km, Error ellipse: s-maj=8.3km s-min=5.1km az=151.6*

*KOLA **11** 09:01:06.5, 67.64N×33.91E, h0km*

*NAO **11** 09:01:06.4±1.2, 67.65N×33.82E, ML3.0*

*HEL **11** 09:01:06.4±0.4, 67.67N×33.95E, h0km, ML2.6, Explosion*

*UPP **11** 09:01:07.1±3.1, 67.70N×33.64E, h0km, ML2.1, Suspected explosion*

*IDC **11** 09:01:08.0±1.8, 67.70N×33.62E, h0km, mb1 3.7/5, mb1mx3.2/56, mbtmp3.7/5, ML3.0/5, Error ellipse: s-maj=21.2km s-min=9.5km az=81.0*

ISC 11 09:01:03.5±1.2, 67.48N±0.04×33.96E±0.06, h0km, n44, σ2.05/75, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.23**	**294**	P	**Pb**	**09 01 10.2**	**+2.3**
APA				S	**Sg**	**09 01 12.9**	**+1.9**
APA0	**Apatity Array**	**0.40**	**290**	Pg	**Pb**	**09 01 12.8**	**-0.5**
	baz=90,slow=16						
APA0				Lg	Lg	09 01 17.5	
APA0				Rg	Rg	09 01 18.9	
APA0	**Apatity Array**	**0.40**	**290**	P	**Pb**	**09 01 12.8**	**-0.5**
APA0				S	**Sg**	**09 01 17.4**	**+1.3**
APA0	**Apatity Array**	**0.40**	**290**	Pg	**Pb**	**09 01 12.8**	**-0.5**
	baz=90,slow=16						
APA0				Sg	**Sg**	**09 01 17.5**	**+1.4**
VRF	**Varrio**	**1.69**	**281**	PG	**Pb**	**09 01 35.5**	**+0.2**
VRF				MSG		09 01 55.9	
	comp=Z,64nm,0.2s						
VRF				SG	**Sn**	**09 01 57.0**	**+0.5**
KU6	**Riekki**	**2.17**	**230**	PN	**Pg**	**09 01 45.2**	**+0.1**
KU6				MSG		09 02 14.6	
	comp=Z,40nm,0.2s						

KU6				SB	Sg	09 02 15.2	+1.9
MSF	Maaselka	2.51	234	PN	Pb	09 01 50.4	+1.0
MSF				SB	Sg	09 02 25.3	+1.3
SGF	Sodankyl	2.87	273	PN	Pn	09 01 52.2	+1.9
SGF				SB	Sb	09 02 32.2	+1.3
RNF	Rovaniemi	3.23	258	PN	Pn	09 01 57.9	+2.5
	baz=64						
RNF				SN	Sb	09 02 38.9	-2.7
KEV	Kevo	3.43	315	Pn	Pn	09 01 59.6	+1.6
KEV				Sn	Sn	09 02 38.2	-1.1
KEV				Lg	Lg	09 02 46.4	
KEV	Kevo	3.43	315	*e*P	Pn	09 01 59.5	+1.5
KEV				*e*S	Sn	09 02 38.5	-0.8
KEV	Kevo	3.43	315	PN	Pn	09 01 59.2	+1.2
KEV				SN	Sn	09 02 38.3	-0.9
ARA0	ARCESS Array S	3.74	307	Pn	Pn	09 02 03.4	+1.1
	baz=123,slow=16						
ARA0				Sn	Sn	09 02 45.3	-1.7
	baz=127,slow=28						
ARA0				Lg	Lg	09 02 56.4	
	baz=116,slow=37						
ARA0	ARCESS Array S	3.74	307	Pn	Pn	09 02 03.4	+1.1
	baz=123,slow=16						
ARA0				Sn	Sn	09 02 45.3	-1.7
	baz=127,slow=28						
ARA0				Sg	Sb	09 02 56.4	+0.3
	baz=116,slow=37						
ARCES	ARCESS Array B	3.74	307	Pn	Pn	09 02 03.3	+1.0
	comp=Z,10nm,0.3s,baz=123,slow=15,SNR=743						
ARCES				Sn	Sn	09 02 45.2	-1.7
	comp=Z,5.0nm,0.3s,baz=120,slow=25,SNR=12						
ARCES				Lg	Lg	09 02 56.7	
	comp=Z,12nm,0.3s,baz=116,slow=35,SNR=13						
ARE0	ARCESS Array S	3.74	307	*e*P	Pn	09 02 03.5	+1.2
ARE0				*e*S	Sn	09 02 45.3	-1.7
ARE0				IAML		09 03 02.5	
	comp=Z,25nm,0.3s						
ARE0	ARCESS Array S	3.74	307	PN	Pn	09 02 03.0	+0.7
HEF	Hetta	4.00	288	*e*P	Pn	09 02 07.3	+1.5
HEF	Hetta	4.00	288	PN	Pn	09 02 07.4	+1.5
	baz=95						
HEF				SG	Sb	09 03 07.2	+3.7
OUL	Oulu	4.05	237	PN	Pn	09 02 10.9	+4.4
TOF	Tornio	4.07	254	PN	Pn	09 02 08.9	+2.1
KTK1	Kautokeino	4.28	296	*e*P	Pn	09 02 11.4	+1.6
KTK1				IAML		09 03 15.6	
	comp=Z,25nm,0.4s						
KALU	Kalix	4.52	254	P	Pn	09 02 15.3	+2.3
LANU	Lannavaara	4.59	283	P	Pn	09 02 14.6	+0.6
LANU				S	Sn	09 03 06.5	-1.4
HAMF	Hammerfest	4.87	315	*e*P	Pn	09 02 18.6	+0.8
HAMF				*e*S	Sn	09 03 12.6	-2.1
HAMF				IAML		09 03 33.4	
	comp=Z,20nm,0.3s						
KIF	Kilpisjarvi	5.13	293	Pn	Pn	09 02 22.5	+1.1
KIF				Sn	Sn	09 03 18.1	-3.1
KIF				Lg	Lg	09 03 34.4	
KIF	Kilpisjarvi	5.13	293	*e*P	Pn	09 02 22.5	+1.1
KIF				*e*S	Sn	09 03 18.2	-3.0
KUA	Kurravaara	5.21	282	P	Pn	09 02 23.4	+0.9
KUA				S	Sn	09 03 21.0	-2.2
HARU	Harads	5.30	262	P	Pn	09 02 24.2	+0.5
SJUU	Sjulsmark	5.33	254	P	Pn	09 02 26.8	+2.7
FIA0	FINESS Array S	6.94	213	Pn	Pn	09 02 48.7	+2.4
	baz=21,slow=14						
FIA0				Sn	Sn	09 04 08.2	+2.3
	baz=30,slow=28						
FIA0				Lg	Lg	09 04 40.6	
	baz=28,slow=22						
FIA0	FINESS Array S	6.94	213	Pn	Pn	09 02 48.7	+2.4
	baz=21,slow=14						
FIA0				Sn	Sn	09 04 08.2	+2.3
	baz=30,slow=28						
FIA0				Sg	Sg	09 04 40.6	-5.6
	baz=28,slow=22						
FINES	FINESS Array B	6.94	213	Pn	Pn	09 02 49.9	+3.6
	comp=Z,0.3nm,0.3s,baz=29,slow=13,SNR=9.1						
FINES				Sn	Sn	09 04 08.6	+2.8
	comp=Z,0.5nm,0.3s,baz=37,slow=22,SNR=4.0						
KLMR	Klimovskoe	7.07	157	P	Pn	09 02 49.9	+1.8
KLMR				*i* S	Sn	09 04 08.9	-0.1
KLMR				*i* S	Sn	09 04 08.9	-0.1
KLMR				*i* S	Sn	09 04 08.9	-0.1
KLMR				AMP		09 04 10.8	
	comp=N,3.0nm,0.6s						
STEI	Steigen	7.13	282	*e*P	Pn	09 02 48.6	-0.3
HFS	Hagfors	11.54	240	Pn	Pn	09 03 49.3	+0.1
	baz=47,slow=11						
HFS				Sn	Sn	09 05 53.6	-5.0
	baz=45,slow=22						
HFS	Hagfors	11.54	240	Pn	Pn	09 03 49.3	+0.1
	comp=N,0.2nm,0.3s,baz=45,slow=15,SNR=5.0						
HFS	Hagfors	11.54	240	Pn	Pn	09 03 49.3	+0.1
	baz=47,slow=11						
HFS				Sn	Sn	09 05 53.6	-5.0
	baz=45,slow=22						
NOA	NORSAR Array B	11.75	248	Pn	Pn	09 03 52.6	+0.5
	comp=N,0.0nm,0.3s,baz=40,slow=10,SNR=4.7						
NRA0	NORESS Array S	11.84	246	Pn	Pn	09 03 53.6	+0.3
	baz=57,slow=14						
NRA0	NORESS Array S	11.84	246	Pn	Pn	09 03 53.6	+0.3
	baz=57,slow=14						
SPA0	Spitsbergen Ar	11.85	342	Pn	Pn	09 03 50.7	-2.7
	baz=125,slow=18						
SPA0	Spitsbergen Ar	11.85	342	Pn	Pn	09 03 50.7	-2.7
	baz=125,slow=18						
SPITS	Spitsbergen Ar	11.85	342	Pn	Pn	09 03 51.2	-2.2
	baz=122,slow=21,SNR=6.6						

*BJI **11** 09:10:11.1, 13°.03N×92°.32E, h32^{km}, mb4.6/50, mB4.9/35, Ms4.1/23, Ms7 3.9/24*
*ISCJB **11** 09:10:12.4±0.9, 13°.29N±0°.02×92°.31E±0°.02, h27^{km}±6^{km}, mb4.8/159, MS3.9/24, Error ellipse: s-maj=4.5km s-min=3.1km az=40.2*
*MOS **11** 09:10:13.0±0.8, 13°.29N×92°.38E, h33^{km}, mb5.0/59, Error ellipse: s-maj=8.6km s-min=4.7km az=115.1*
*NDI **11** 09:10:14.8±3.0, 13°.36N×92°.44E, h37^{km}±19^{km}, mb4.9, ML4.8, mb4.9(NEIC)*
*NEIC **11** 09:10:15.0±0.1, 13°.30N×92°.34E, h35^{km}, mb4.9/77, Error ellipse: s-maj=4.0km s-min=2.4km az=50.0*
*IDC **11** 09:10:15.2±4.4, 13°.30N×92°.38E, h33^{km}±33^{km}, mb4.6/34, mb1 4.7/37, mb1mx4.5/62, mbtmp4.7/37, ML4.2/3, MS3.8/20, Ms1 3.8/20, ms1mx3.6/45, Error ellipse: s-maj=15.4km s-min=9.6km az=51.0*
*DJA **11** 09:10:21.7±0.5, 13°N±4°×9°3E±°, h44^{km}±7^{km}, M4.9/9, mb4.9/9, mB6.4/1, Mw(mB)6.2/1*
*KLM **11** 09:10:23.9, 13°.68N×92°.87E, h88^{km}, mb5.0*
ISC 11 09:10:15.8±0.5**, 13°.31N**±0°.04×**92°.34E**±0°.04**, h41**^{km}±5^{km}**, n405,** σ1^{s}**46**/426**, mb4.8**/160**, MS3.8**/24**, 27C-17D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.69	166	*e*Pn	Pn	09 10 42.8	-0.1
PBA	Port Blair	1.69	166	*e*P	Pn	09 10 43.3	+0.4
PBA				*e*S	Sn	09 11 01.5	-1.9
PBA				IAML		09 11 25.8	
	comp=N,7µm,0.3s						
PBA				IAML		09 11 26.6	
	comp=E,8µm,1.2s						
CMBY	CAMPBELL BAY	6.46	166	*e*P	Pn	09 11 47.0	-1.3
CMBY				*e*S	Sn	09 12 55.1	-5.7
CMBY				IAML		09 13 04.4	
	comp=N,988nm,0.9s						
SRDT	SRDT	6.67	80	P	Pn	09 11 52.1	+0.8
	comp=N,85nm,0.6s,comp=N,2µmcomp=N,0.4nm						
UMPA	Umpang Tak	6.93	65	P	Pn	09 11 54.1	-0.9
	comp=N,98nm,0.6s,comp=N,2µmcomp=N,0.4nm						
PHET	Kaeng Krachan	7.12	92	P	Pn	09 11 58.5	+1.1
	comp=N,138nm,0.7s,comp=N,974nmcomp=N,0.4nm						
UTHA	Uthaitani	7.24	71	P	Pn	09 11 59.7	+0.6
	comp=N,49nm,0.7s,comp=N,526nmcomp=N,0.2nm						
PKDT	Phuket	7.99	132	P	Pn	09 12 12.0	+2.6
	comp=N,26nm,0.6s,comp=N,2µmcomp=N,0.1nm						
CMAR	Chiang Mai Arr	8.16	50	Pn	Pn	09 12 11.5	-0.2
	comp=N,0.8nm,0.3s,baz=238,slow=15,SNR=6.5						
CMAR				Sn	Sn	09 13 37.8	-4.9
	comp=N,4.3nm,0.3s,baz=238,slow=27,SNR=22						
CMAR				LR	LR	09 16 10.3	
	comp=N,306nm,19.2s,baz=236,slow=44						
CMAR	Chiang Mai Arr	8.16	50	*i* P	Pn	09 12 09.8	-1.9
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SUKH	Sukhothai	8.16	59	P	Pn	09 12 12.0	+0.2
	comp=Z,15nm,0.7s,comp=Z,0.2nm						
PATY	Pattaya	8.32	92	P	Pn	09 12 15.3	+1.4
	comp=Z,42nm,0.6s,comp=Z,1µmcomp=Z,0.2nm						
CHTO	Chiang Mai	8.38	48	*e*Pn	Pn	09 12 14.0	-0.8
CHTO				*e*Sn	Sn	09 13 41.5	-6.7
CHTO	Chiang Mai	8.38	48	*e*P	Pn	09 12 14.0	-0.8
CHTO				*e*		09 13 41.5	
CHTO	Chiang Mai	8.38	48	P	Pn	09 12 17.6	+2.8
	comp=Z,150nm,1.0s,comp=Z,2µmcomp=Z,1.0nm						
CMMT	Chiang Mai	8.38	48	P	Pn	09 12 17.5	+2.7
	comp=Z,33nm,0.8s,comp=Z,0.2nm						
LAMP	Lampang	8.72	53	P	Pn	09 12 23.7	+4.2
	comp=Z,25nm,0.8s,comp=Z,213nmcomp=Z,0.1nm						
PBKT	Sadao Pong	8.95	68	P	Pn	09 12 22.9	+0.3
	comp=Z,58nm,0.8s						
TRTT	Trang	9.05	126	P	Pn	09 12 27.8	+3.9
	comp=Z,6.2nm,0.5s						
BRDH	Bariadhala	9.34	356	LR	LR	09 16 34.0	
	comp=Z,622nm,20.5s,baz=170,slow=40						
CHAI	Chaiyaphum	9.69	73	P	Pn	09 12 35.4	+2.7
	comp=Z,9.4nm,0.9s						
SKLT	Songkhla	10.18	126	P	Pn	09 12 41.9	+2.4
	comp=Z,47nm,0.8s,comp=Z,1µm						
TPTI		11.08	154	P	Pn	09 12 53.2	+1.5
	comp=Z,13nm,0.6s						
KCSI	Kotacane, Aceh	11.11	151	P	Pn	09 12 51.0	-1.2
	comp=Z,36nm,0.7s						
NONG	Nongkai	11.43	64	P	Pn	09 12 57.8	+1.3
	comp=Z,0.5nm,0.8s						
KULM	Kulim	11.44	133	*e*Pn	Pn	09 12 56.2	-0.5
KULM	Kulim	11.44	133	P	Pn	09 12 59.1	+2.4
MDRS	Chennai	11.78	270	*e*P	Pn	09 13 02.3	+1.0
MDRS				IAmb	IAmb	09 15 04.3	
	comp=Z,225nm,0.5s						
BOK	Bokaro	12.08	331	*e*P	Pn	09 13 03.6	-1.9
BOK				IAmb	IAmb	09 15 26.4	
	comp=Z,153nm,1.3s						
SHL	Shillong	12.20	358	*e*Pn	Pn	09 13 04.5	-2.7
SHL				*e*Sn	Sn	09 15 14.7	-7.3
SHL	Shillong	12.20	358	*e*P	Pn	09 13 04.5	-2.7
SHL				*e*		09 15 14.7	
SHL	Shillong	12.20	358	*e*P	Pn	09 13 03.0	-4.2
SHL				IAmb	IAmb	09 13 06.0	
	comp=Z,12nm,0.4s						
IPM	Ipoh	12.27	135	*e*Pn	Pn	09 13 07.0	-1.1
PSI	Prapat	12.31	147	Pn	Pn	09 13 08.8	+0.1
	comp=Z,1.1nm,0.3s,baz=360,slow=11,SNR=7.9						
PSI				LR	LR	09 18 49.3	
	comp=Z,467nm,19.3s,baz=355,slow=42						
PALK	Pallekele	12.92	243	Pn	Pn	09 13 17.1	+0.1
	comp=Z,2.0nm,0.3s,baz=115,slow=9.0,SNR=4.0						
PALK				Sn	Sn	09 15 26.2	-13
	comp=Z,8.3nm,0.3s,baz=296,slow=23,SNR=10						
PALK				LR	LR	09 18 00.2	
	comp=Z,491nm,18.4s,baz=117,slow=36						
PALK	Pallekele	12.92	243	*e*Pn	Pn	09 13 16.2	-0.8
PALK				*e*Sn	Sn	09 15 28.3	-11
PALK	Pallekele	12.92	243	*e*P	Pn	09 13 16.2	-0.8
GSI	Gunungsitoli	13.01	156	*e*Pn	Pn	09 13 17.8	-0.4
KTGM	Kuala Trenggan	13.28	126	P	Pn	09 13 26.1	+4.3
FRIM	Kepong	13.58	137	P	P	09 13 35.7	+1.5
HYB	Hyderabad	13.90	289	*i* P	Pn	09 13 32.0	+1.6
HYB				*e*S	Sn	09 16 05.0	+1.5
HYB	Hyderabad	13.90	289	*e*P	Pn	09 13 29.8	-0.6
HYB				IAmb	IAmb	09 15 51.5	
	comp=Z,21nm,0.5s						
ODAN	Odare	14.25	342	*e*P	Pn	09 13 34.9	-0.4
	comp=Z,45nm,0.4s						
RAMN	Ramite	14.59	339	*e*P	Pn	09 13 37.9	-2.0
	comp=Z,82nm,0.5s						
NGP	Nagpur	14.89	303	⇑*i*P	Pn	09 13 42.8	-0.8
NGP				*e*x	x	09 16 16.1	
JBP	Jabalpur	15.28	312	*e*P	P	09 13 51.0	-1.9
JBP				*e*S	Sn	09 16 34.3	-2.5
KMI	Kunming	15.30	38	P	P	09 13 53.7	+0.2
KMI				pmax	pmax		
	comp=Z,15nm,0.5s						
KMI				LR	LR		
	comp=Z,330nm,16.8s						
KMI				LR	LR		
	comp=Z,220nm,22.3s						
KMI				LR	LR		
	comp=Z,240nm,19.8s						
JIRN	Jiri	15.39	339	*e*P	Pn	09 13 49.1	-1.4
	comp=Z,123nm,0.6s						
PKIN	Phulchoki	15.60	336	*e*P	Pn	09 13 50.9	-2.3
	comp=Z,58nm,0.6s						
GUN	Gumba	15.72	338	*e*P	Pn	09 13 53.7	-1.1
	comp=Z,70nm,0.8s						
DMN	Daman	15.75	336	*e*P	Pn	09 13 53.4	-1.6
	comp=Z,62nm,0.6s						
KKN	Kakani	15.84	336	*e*P	Pn	09 13 53.9	-2.2
	comp=Z,34nm,0.6s						
MYKOM	Kota Tinggi	16.15	134	*e*Pn	Pn	09 13 59.6	-0.4
	comp=Z,43nm,0.8s						
MYKOM	Kota Tinggi	16.15	134	P	P	09 14 03.6	+0.9
LSA	Lhasa	16.34	356	*e*Pn	Pn	09 14 01.6	-1.2
	comp=Z,31nm,0.7s						
LSA	Lhasa	16.34	356	*e*P	Pn	09 14 01.6	-1.2
LSA				pmax	pmax		
	comp=Z,31nm,0.7s						
KOLN	Koldanda	16.54	332	*e*P	Pn	09 14 03.9	-1.1
	comp=Z,99nm,0.6s						
DANN	Dangsing	16.96	333	*e*P	Pn	09 14 09.0	-1.4
	comp=Z,78nm,0.6s						
PYUN	Piuthan	17.10	331	*e*P	Pn	09 14 11.7	-0.4
	comp=Z,113nm,0.7s						
BHPL	Bhopal	17.25	307	*e*P	Pn	09 14 13.4	-0.3
BHPL				IAmb	IAmb	09 14 28.2	
	comp=Z,40nm,0.8s						
QIZ	Qiongzhong	17.74	69	P	Pn	09 14 18.6	-1.3
QIZ				S	Sn	09 17 30.4	-6.4
QIZ				LR	LR		
	comp=Z,2µm,20.6s						
QIZ				LR	LR		
	comp=Z,2µm,17.2s						
QIZ				LR	LR		
	comp=Z,420nm,22.1s						
GOA	Goa	18.06	279	*e*P	Pn	09 14 23.1	-0.6
POO	Poona	18.52	289	*e*P	P	09 14 28.6	-0.3
POO				*e*P	Pn	09 14 29.0	-0.4
	comp=Z,159nm,1.2s						
POO				IAmb	IAmb	09 14 30.7	
GYA	Guiyang	18.75	44	⇑*i*P	Pn	09 14 32.4	+0.2
GYA				pP	pP	09 14 41.0	-0.5
GYA				PP	sP	09 14 52.0	+5.3
GYA				S	Sn	09 17 56.3	-4.9
GYA				sS	S	09 18 10.0	+7.0
GYA				SS	SnSn	09 18 21.8	+6.2
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GYA				pmax	pmax		
	comp=Z,90nm,5.3s						
GYA				LR	LR		
	comp=Z,130nm,11.8s						
GYA				LR	LR		
	comp=Z,170nm,16.2s						
GYA				LR	LR		
	comp=Z,250nm,13.7s						
BOM	Bombay	19.56	289	*e*P	P	09 14 37.2	-3.0
BOM				*e*S	S	09 17 58.7	-20
MNCI	Minicoy	19.58	257	*e*P	P	09 14 40.9	+0.4
	comp=Z,25nm,0.9s						
CD2	Chengdu	20.43	29	*e*P	P	09 14 50.0	+0.3
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,4.8s						
PPBI	Pangkal Pinang	20.59	137	P	Pn	09 14 53.1	-0.8
	comp=Z,24nm,0.9s,comp=Z,17µm						
KSM	Kuching	21.33	122	*e*P	P	09 15 00.2	+0.8
	comp=Z,29nm,0.7s						
KSM	Kuching	21.33	122	P	P	09 15 02.4	+2.9
DDI	Dehra Dun	21.46	324	*e*P	P	09 15 00.8	0.0
DDI				IAmb	IAmb	09 15 06.2	
	comp=Z,2µm,0.1s						
SBUM	Sibu	22.43	117	*e*P	P	09 15 11.0	-0.3
	comp=Z,11nm,0.7s						
SBUM	Sibu	22.43	117	P	P	09 15 13.3	+2.0
SMLA	Simla	22.57	324	*e*P	P	09 15 13.2	+0.5
ENH	Enshi	23.15	40	*e*P	P	09 15 18.3	-0.4
	comp=Z,28nm,0.9s						
DHRM	DHARAMSHALA	23.90	325	*e*P	P	09 15 26.6	+0.5
KKM	Kota Kinabalu	24.60	105	*e*P	P	09 15 32.3	-0.3
	comp=Z,17nm,0.9s						
KKM	Kota Kinabalu	24.60	105	P	P	09 15 33.4	+0.8
KDM	Kudat	24.93	102	P	P	09 15 37.6	+2.3
LZH	Lanzhou	24.93	23	*e*P	P	09 15 37.0	+1.7
LZH				pP	pP	09 15 46.8	+0.5
LZH				sP	sP	09 15 51.7	+0.5
LZH				PP	PnPn	09 16 16.2	+6.6
LZH				S	S	09 19 57.8	+1.6
LZH				pmax	pmax		
	comp=Z,47nm,1.0s						
LZH				pmax	pmax		
	comp=Z,140nm,4.6s						
LZH				LR	LR		
	comp=Z,550nm,13.0s						
LZH				LR	LR		
	comp=Z,750nm,12.9s						
LZH				LR	LR		
	comp=Z,960nm,14.2s						
LEM	Lembang	25.11	142	LR	LR	09 26 48.2	
	comp=Z,266nm,18.5s,baz=221,slow=40						
XAN	Xi'an	25.55	33	P	P	09 15 40.4	-0.5
XAN				pP	pP	09 15 50.1	-1.6
XAN				pmax	pmax		
	comp=Z,12nm,1.0s						
XAN				pmax	pmax		
	comp=Z,150nm,4.8s						
XAN	Xi'an	25.55	33	*e*P	P	09 15 40.2	-0.6
	comp=Z,12nm,1.0s						
XAN	Xi'an	25.55	33	*e*P	P	09 15 40.3	-0.6
XAN				pmax	pmax		
	comp=Z,12nm,1.0s						
SDKM	Sandakan	25.66	105	P	P	09 15 42.8	+0.7
NIL	Nilore	26.67	323	*e*P	P	09 15 51.1	+0.1
	comp=Z,40nm,1.0s						
NIL	Nilore	26.67	323	*e*P	P	09 15 51.1	+0.1
NIL				pmax	pmax		
	comp=Z,40nm,1.0s						
GTA	Gaotai	26.82	13	P	P	09 15 53.6	+1.2
GTA				pP	pP	09 16 02.9	-0.3
GTA				sP	sP	09 16 06.8	-1.3
GTA				S	S	09 20 27.2	+1.2
GTA				sS	sS	09 20 43.0	-1.7
GTA				SS	SnSn	09 21 41.2	+8.1
GTA				pmax	pmax		
	comp=Z,15nm,1.2s						
GTA				pmax	pmax		
	comp=Z,120nm,5.1s						
GTA				LR	LR		
	comp=Z,97nm,16.1s						
GTA				LR	LR		
	comp=Z,120nm,16.2s						
GTA				LR	LR		
	comp=Z,100nm,15.1s						
H08S3	Diego Garcia H	28.66	225	T	T	09 45 59.3	
	baz=43,slow=76,SNR=217						
H08S2	Diego Garcia H	28.67	225	T	T	09 46 04.1	
	baz=43,slow=76,SNR=227						
H08S1	Diego Carcia H	28.68	225	T	T	09 46 06.5	
	baz=43,slow=76,SNR=206						
KSH	Kashi	29.83	334	P	P	09 16 19.0	-0.2
KSH				pP	pP	09 16 29.7	-0.2
KSH				PcP	PcP	09 19 22.7	+0.8
KSH				S	S	09 21 09.0	-4.3
KSH				PcS	PcS	09 23 00.7	-4.5
KSH				pmax	pmax		
	comp=Z,31nm,0.6s						
KSH				pmax	pmax		
	comp=Z,170nm,6.7s						
KSH				LR	LR		
	comp=Z,320nm,6.6s						
KSH				LR	LR		
	comp=Z,410nm,6.6s						
KSH				LR	LR		
	comp=Z,190nm,10.9s						
KBL	Kabul	29.86	319	*e*P	P	09 16 19.7	0.0
	comp=Z,12nm,1.0s						
KBL	Kabul	29.86	319	*e*P	P	09 16 19.7	0.0
KBL				pmax	pmax		
	comp=Z,12nm,1.0s						
NJ2	Nanjing	30.62	48	*e*P	P	09 16 26.0	-0.2
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
WMQ	Urumqi	30.66	353	*e*P	P	09 16 27.9	+1.4
WMQ				pP	pP	09 16 37.0	-0.3
WMQ				pmax	pmax		
	comp=Z,22nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,330nm,4.1s						
WMQ				LR	LR		
	comp=Z,290nm,21.9s						
WMQ				LR	LR		
	comp=Z,320nm,22.3s						
WMQ				LR	LR		
	comp=Z,240nm,18.5s						
WMQ	Urumqi	30.66	353	*e*P	P	09 16 27.5	+1.0
	comp=Z,6.4nm,0.7s						
WMQ	Urumqi	30.66	353	*e*P	P	09 16 27.5	+1.0
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
TARG	Taragay, Kyrgy	31.01	339	*e*P	P	09 16 29.1	-0.9
	comp=Z,8.6nm,0.8s						
KDJ	Kajisay	31.59	338	*e*P	P	09 16 36.0	+1.2
	comp=Z,12nm,0.8s						
KDJ	Kajisay	31.59	338	*e*P	P	09 16 36.0	+1.2
KDJ				pmax	pmax		
	comp=Z,12nm,0.8s						
GAR	Garm	32.16	327	*e*P	P	09 16 38.7	-1.0
	comp=Z,65nm,0.7s						
GAR	Garm	32.16	327	*e*P	P	09 16 38.7	-1.0
GAR				pmax	pmax		
	comp=Z,65nm,0.7s						
KZA	Kyzart	32.27	336	P	P	09 16 42.5	+1.4
	SNR=8.0						
ARSB	Arslanbob	32.62	332	*e*P	P	09 16 44.0	+0.2
	comp=Z,21nm,0.8s						
BTK	Batken	32.67	329	*e*P	P	09 16 45.1	+0.8
	comp=Z,42nm,0.6s						
BTK	Batken	32.67	329	*e*P	P	09 16 45.1	+0.8
BTK				pmax	pmax		
	comp=Z,42nm,0.6s						
UCH	Uchtor	32.70	335	P	P	09 16 46.1	+1.3
	SNR=9.2						
TKM2	Tokmak 2	32.86	337	P	P	09 16 48.5	+2.6
	SNR=7.0						
TKM2	Tokmak 2	32.86	337	P	P	09 16 47.7	+1.8
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KBK	Karagaybulak	32.88	336	P	P	09 16 48.4	+2.3
	SNR=6.2						
AML	Almayashu	32.96	334	P	P	09 16 48.4	+1.3
	SNR=16						
AAK	Ala-Archa	33.05	336	P	P	09 16 49.1	+1.5
	comp=Z,6.2nm,0.7s,baz=153,slow=8.5,SNR=21						
AAK	Ala-Archa	33.05	336	P	P	09 16 49.8	+2.2
	SNR=6.0						
AAK	Ala-Archa	33.05	336	*e*P	P	09 16 48.0	+0.4
	comp=Z,8.8nm,0.8s						
AAK	Ala-Archa	33.05	336	⇓*i*P	P	09 16 48.2	+0.6
AAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
EKS2	Erkin-Say	33.36	335	P	P	09 16 52.1	+1.9
	SNR=14						
USP	Ospenovka	33.58	336	P	P	09 16 53.3	+1.3
	SNR=12						
BJT	Baijiatuau	33.86	34	*e*P	P	09 16 55.4	+0.9
	comp=Z,22nm,0.4s						
BJT	Baijiatuau	33.86	34	*e*P	P	09 16 55.4	+0.9
BJT				pmax	pmax		
	comp=Z,22nm,0.4s						
MK31	Makanchi Array	34.43	348	*i* P	P	09 17 00.0	+0.7
MK31				pmax	pmax		
	comp=Z,12nm,0.8s						
MK32	Makanchi Array	34.43	348	*e*P	P	09 17 00.1	+0.8
MK32				*e*PcP	PcP	09 19 34.8	+0.6
MKAR	Makanchi Array	34.43	348	P	P	09 17 00.1	+0.8
	comp=Z,11nm,0.8s,baz=163,slow=8.9,SNR=45						
MKAR				PcP	PcP	09 19 34.8	+0.6
	comp=Z,1.5nm,0.7s,baz=159,slow=3.8,SNR=3.6						
MKAR				LR	LR	09 33 57.4	
	comp=Z,148nm,19.0s,baz=161,slow=41						
MKAR	Makanchi Array	34.43	348	*e*P	P	09 16 58.1	-1.2
	comp=Z,59nm,0.8s						
MAKZ	Makanchi	34.51	347	*e*P	P	09 16 59.3	-0.7
	comp=Z,9.4nm,0.8s						
MAKZ	Makanchi	34.51	347	*e*P	P	09 16 59.3	-0.7
MAKZ				pmax	pmax		

comp=Z,9.0nm,0.8s
KK31 Karatay Array 35.15 332 *i* P **P 09 17 06.1 +0.5**
KK31 pmax pmax
comp=Z,13nm,1.1s
KKAR Karatay Array 35.15 332 *eP* **P 09 17 05.1 -0.5**
KKAR Karatay Array 35.15 332 *eP* **P 09 17 05.1 -0.5**
JOW Kunigami 36.20 63 *eP* **P 09 17 14.4 -0.4**
comp=Z,13nm,0.7s
SONA0 Songino Array 36.36 16 *eP* **P 09 17 16.9 +0.8**
SONA0 *ePcP* **PcP 09 19 40.9 +0.9**
SONM Songino Array 36.36 16 P **P 09 17 16.9 +0.8**
comp=Z,5.3nm,0.8s,baz=204,slow=7.2,SNR=27
SONM PcP **PcP 09 19 40.9 +0.9**
comp=Z,0.8nm,0.7s,baz=197,slow=3.3,SNR=3.8
SONM LR LR 09 34 52.4
comp=Z,85nm,18.8s,baz=210,slow=41
EDFI Ende, Flores 36.47 125 P **P 09 17 20.1 +2.8**
comp=Z,14nm,0.6s
DGZ Jazzator, Alta 36.51 355⇑ *iP* **P 09 17 18.4 +1.1**
DGZ pmax pmax
comp=Z,3.0nm,0.8s
ULN Ulaanbaatar 36.57 17 *eP* **P 09 17 18.3 +0.4**
comp=Z,5.4nm,1.0s
ULN Ulaanbaatar 36.57 17⇑ *iP* **P 09 17 18.9 +1.1**
ULN pmax pmax
comp=Z,4.0nm,1.3s
ZAK Zakamensk 38.03 11 *eP* **P 09 17 31.3 +1.1**
ZAK *e* 09 19 44.3
ZAK pmax pmax
comp=Z,4.0nm,1.0s
ZAK pmax pmax
comp=Z,3.0nm,0.9s
OTUK Ortayu 38.59 338 P **P 09 17 35.7 +0.9**
OTUK pmax pmax
comp=Z,16nm,0.8s
KURBB Kurchatov Arra 38.87 346 P **P 09 17 37.7 +0.6**
comp=Z,12nm,0.8s,baz=163,slow=8.1,SNR=44
KURBB PcP **PcP 09 19 47.9 +0.5**
comp=Z,0.9nm,0.7s,baz=153,slow=2.9,SNR=5.8
KURK Kurchatov 38.94 346 *eP* **P 09 17 37.7 +0.2**
comp=Z,0.8nm,0.9s
KURK *e*PcP **PcP 09 19 47.9 +0.3**
KURK Kurchatov 38.94 346*d iP* **P 09 17 37.8 +0.2**
KURK pmax pmax
comp=Z,17nm,1.0s
GEYT Alibeck 39.05 315 P **P 09 17 40.6 +1.8**
comp=Z,40nm,0.6s,baz=140,slow=9.4,SNR=34
GEYT LR LR 09 34 37.3
comp=Z,152nm,20.3s,baz=330,slow=37
SOEI Soe 39.12 124 *eP* **P 09 17 39.0 -0.7**
comp=Z,16nm,0.7s
KSRS Korea Array 39.77 46 P **P 09 17 44.9 +0.1**
comp=Z,3.2nm,0.6s,baz=242,slow=8.9,SNR=13
KSRS LR LR 09 36 48.8
comp=Z,146nm,19.1s,baz=235,slow=40
ZALV Zalesovo Beam 40.97 353 P **P 09 17 54.8 +0.3**
comp=Z,17nm,0.7s,baz=177,slow=8.7,SNR=70
ZALV LR LR 09 39 55.1
comp=Z,94nm,18.2s,baz=246,slow=43
ZAA1 Zalesovo Array 40.98 353 *eP* **P 09 17 54.8 +0.3**
SIJI Sorong 41.08 107 P **P 09 17 55.8 -0.1**
comp=Z,7.8nm,0.5s,baz=312,slow=8.9,SNR=3.9
CN2 Changchun 41.56 37 *eP* **P 09 17 59.4 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
NVS Novosibirsk 42.04 352 *eP* **P 09 18 01.9 -1.3**
FAKI Fak Fak 42.76 109 *eP* **P 09 18 08.7 -0.9**
comp=Z,18nm,0.8s
BVA0 Borovoye Array 43.30 341 P **P 09 18 13.4 -0.1**
BVA0 pmax pmax
comp=Z,7.0nm,1.2s
BVAR Borovoye Array 43.30 341 P **P 09 18 13.8 +0.3**
comp=Z,1.8nm,0.5s,baz=139,slow=7.0,SNR=14
BVAR PcP **PcP 09 20 02.1 +0.2**
comp=Z,2.2nm,0.7s,baz=152,slow=6.7,SNR=5.5
BRVK Borovoye 43.36 341 *eP* **P 09 18 13.2 -0.7**
comp=Z,5.4nm,0.9s
BRVK Borovoye 43.36 341⇓ *iP* **P 09 18 13.9 -0.1**
BRVK pmax pmax
comp=Z,4.0nm,0.9s
MBWA Marble Bar 43.56 141 *eP* **P 09 18 15.5 -0.5**
MDJ Mudanjiang 44.48 38 P **P 09 18 23.2 +0.2**
MDJ pmax pmax
comp=Z,5.0nm,1.6s
MDJ pmax pmax
comp=Z,180nm,5.1s
AB31 Akbulak array 44.65 330 *i* P **P 09 18 24.7 +0.4**
AB31 pmax pmax
comp=Z,17nm,0.9s
ABKAR Akbulak array 44.65 330 *eP* **P 09 18 24.8 +0.5**
FITZ Fitzroy Crossi 45.31 133 P **P 09 18 29.2 -0.8**
comp=Z,16nm,0.5s,baz=328,slow=6.5,SNR=107
FITZ Fitzroy Crossi 45.31 133 *eP* **P 09 18 29.2 -0.8**
comp=Z,20nm,0.5s
RAYN Ar Rayn 45.41 290 *eP* **P 09 18 30.0 -0.8**
comp=Z,5.4nm,1.0s
RAYN Ar Rayn 45.41 290 *eP* **P 09 18 30.0 -0.8**
RAYN pmax pmax
comp=Z,5.0nm,1.0s
USRK Ussuriysk Ar. 45.73 40 P **P 09 18 33.0 0.0**
comp=Z,1.7nm,0.7s,baz=238,slow=10,SNR=6.2
USRK LR LR 09 40 29.2
comp=Z,71nm,18.2s,baz=228,slow=40
AKTO Aktyubinsk 46.37 330 P **P 09 18 38.5 +0.5**
comp=Z,6.5nm,0.6s,baz=124,slow=8.4,SNR=17
AKTO PcP **PcP 09 20 13.2 +0.8**
comp=Z,4.2nm,0.8s,baz=153,slow=5.0,SNR=4.1
AKTO Aktyubinsk 46.37 330 P **P 09 18 38.3 +0.4**
AKTO pmax pmax
comp=Z,7.0nm,0.6s
MJAR Matsushiro Arr 47.04 52 LR LR 09 41 05.6
comp=Z,104nm,18.4s,baz=230,slow=39
BOD Bodaibo 47.36 16 *eP* **P 09 18 46.3 +0.8**
BOD pmax pmax
comp=Z,11nm,1.5s
GNI Garni 49.45 312*d iP* **P 09 19 03.4 +1.3**
GNI pmax pmax
comp=Z,378nm,1.2s
SVE Sverdlovsk 49.73 338 *eP* **P 09 19 04.8 +1.1**
SVE pmax pmax
comp=Z,22nm,0.9s
TBLG Delisi 49.98 314 *eP* **P 09 19 06.8 +0.8**
comp=Z,16nm,0.9s
TBLG Delisi 49.98 314 *eP* **P 09 19 06.8 +0.8**
TBLG pmax pmax
comp=Z,16nm,0.9s
ARU Arti 50.23 336 *eP* **P 09 19 06.9 -0.6**
comp=Z,13nm,1.0s
ARU Arti 50.23 336*c iP* **P 09 19 07.8 +0.3**
ARU 09 20 59.6
ARU S **S 09 26 20.8 +4.1**
ARU SS **SS 09 29 50.8 +0.3**
ARU pmax pmax
comp=Z,15nm,1.0s
ARU MLR MLR
comp=Z,293nm,21.0s
SIRT Sirnak 50.40 308 *eP* **P 09 19 09.3 0.0**
comp=Z,40nm,0.8s
ZEI Tsey 50.93 315 *eP* **P 09 19 14.2 +0.8**
ZEI pmax pmax
comp=Z,10.0nm,0.6s
NWAO Narrogin (SRO) 51.77 153 *eP* **P 09 19 19.8 +0.4**
comp=Z,20nm,0.6s
NWAO Narrogin (SRO) 51.77 153 *eP* **P 09 19 19.8 +0.4**
NWAO pmax pmax
comp=Z,20nm,0.6s
KBZ Khabaz 51.94 316 P **P 09 19 21.7 +1.1**
comp=Z,4.5nm,0.7s,baz=110,slow=7.5,SNR=12
KBZ LR LR 09 45 19.1
comp=Z,65nm,18.8s,baz=99,slow=40
KIV Kislovodsk 52.16 316 *eP* **P 09 19 22.7 +0.3**
comp=Z,30nm,0.7s
KIV Kislovodsk 52.16 316 *eP* **P 09 19 23.7 +1.3**
KIV pmax pmax
comp=Z,41nm,1.0s
WRA Warramunga Arr 52.92 128 P **P 09 19 27.8 -0.5**
comp=Z,10nm,0.5s,baz=307,slow=8.3,SNR=207
WR1 Warramunga Arr 52.92 128 *eP* **P 09 19 27.8 -0.5**
comp=Z,19nm,0.6s
WRAB Tennant Creek 52.92 128 *eP* **P 09 19 27.6 -0.6**
comp=Z,20nm,0.6s
WRAB Tennant Creek 52.92 128*d iP* **P 09 19 27.9 -0.3**
WRAB pmax pmax
comp=Z,10.0nm,0.5s
OPO Ambohidratompo 54.63 236 LR LR 09 38 40.7
comp=Z,137nm,20.3s,baz=34,slow=31

ASAR Alice Springs 54.80 132 P **P 09 19 41.8 -0.2**
comp=Z,5.3nm,0.4s,baz=306,slow=6.6,SNR=82
ASAR LR LR 09 44 14.9
comp=Z,60nm,20.4s,baz=306,slow=37
AS31 Alice Springs 54.80 132 *eP* **P 09 19 41.3 -0.7**
comp=Z,3.0nm,0.6s
AS01 Alice Springs 54.83 132 *eP* **P 09 19 41.1 -1.1**
YAK Yakutsk 55.48 20 *eP* **P 09 19 45.3 -0.9**
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.4s
FORT Forrest 55.69 143 *eP* **P 09 19 48.3 +0.1**
comp=E,29nm,0.8s
KMBO Kilima Mbogo 56.45 260 LR LR 09 42 36.4
comp=E,102nm,19.1s,baz=92,slow=34
VSR Storozhevoye 56.98 323⇑ *iP* **P 09 19 56.7 -0.4**
VSR pmax pmax
comp=Z,10.0nm,0.5s
COEN Coen 57.18 116 *eP* **P 09 19 57.6 -1.5**
comp=Z,4.1nm,0.8s
BR101 Keskin Array S 57.61 309 *eP* **P 09 20 01.6 -0.3**
BR131 Keskin Array S 57.61 309 *eP* **P 09 20 01.4 -0.6**
BRTR Keskin Array B 57.61 309 P **P 09 20 01.6 -0.3**
comp=Z,10nm,0.7s,baz=122,slow=7.9,SNR=51
BRTR LR LR 09 48 05.6
comp=Z,78nm,18.3s,baz=92,slow=39
PMG Port Moresby 58.92 110 *eP* **P 09 20 10.2 -1.1**
comp=Z,23nm,0.8s
PMG Port Moresby 58.92 110*d iP* **P 09 20 12.5 +1.2**
PMG pmax pmax
comp=Z,23nm,0.6s
OBN Obninsk 59.87 327⇑ *eP* **P 09 20 17.6 +0.4**
OBN *e* 09 21 02.0
OBN *e* 09 22 33.5
OBN pmax pmax
comp=Z,12nm,1.3s
OBN MLR MLR
comp=Z,148nm,18.0s
KLMR Klimovskoe 60.82 333 *eP* **P 09 20 21.6 -2.0**
KLMR pmax pmax
comp=Z,15nm,1.3s
KLMR Klimovskoe 60.82 333 *eP* **P 09 20 21.6 -2.0**
KLMR AMP 09 20 24.5
comp=Z,15nm,1.3s
BBOO Buckleboo 62.03 139 *eP* **P 09 20 32.0 -0.2**
comp=Z,7.7nm,1.0s
TLCR 62.05 314⇑ *iP* **P 09 20 32.9 +0.7**
TIRR Tirgusor 62.22 313 *eP* **P 09 20 33.4 0.0**
comp=Z,21nm,0.9s
TIRR Tirgusor 62.22 313⇓ *iP* **P 09 20 33.7 +0.4**
KARP Karpathos 62.24 303 *eP* **P 09 20 32.8 -0.9**
comp=Z,70nm,0.9s
TIXI Tiksi 62.30 12 P **P 09 20 33.3 -0.1**
comp=Z,11nm,0.6s,baz=237,slow=4.5,SNR=3.6
TIXI Tiksi 62.30 12 *eP* **P 09 20 33.3 -0.1**
comp=Z,1.2nm,0.7s
TIXI Tiksi 62.30 12*d iP* **P 09 20 33.2 -0.2**
TIXI pmax pmax
comp=Z,9.0nm,0.6s
TLB Topalu 62.50 313⇑ *iP* **P 09 20 35.8 +0.6**
CFR Carcaliu 62.52 314⇓ *iP* **P 09 20 35.8 +0.5**
CTAO Charters Tower 62.56 121 *eP* **P 09 20 35.4 -0.6**
comp=Z,11nm,1.0s
CTAO Charters Tower 62.56 121 *eP* **P 09 20 35.4 -0.6**
CTAO pmax pmax
comp=Z,11nm,1.0s
MBAR Mbarara 62.57 262 *eP* **P 09 20 36.5 +0.1**
comp=Z,9.3nm,0.8s
HARR Harsova 62.59 314⇑ *iP* **P 09 20 36.7 +0.9**
AKASG Malin Array Be 62.84 320 P **P 09 20 36.8 -0.6**
comp=Z,1.1nm,0.5s,baz=88,slow=4.8,SNR=11
AKASG Malin Array Be 62.84 320*ce* **P 09 20 37.0 -0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 62.84 320 *eP* **P 09 20 36.8 -0.5**
AKBB Malin Array Si 62.84 320 *eP* **P 09 20 36.8 -0.5**
KIEV Kiev 62.84 320 *eP* **P 09 20 36.4 -0.9**
comp=Z,4.6nm,0.7s
KIEV Kiev 62.84 320⇑ *iP* **P 09 20 37.8 +0.4**
KIEV Kiev 62.84 320⇑ *eP* **P 09 20 37.3 -0.1**
KIEV pmax pmax
comp=Z,4.0nm,0.9s
MA2 Magadan 62.85 29⇓ *eP* **P 09 20 37.7 +0.4**
MA2 pmax pmax
comp=Z,8.0nm,1.1s
VRI Vrincioaia 63.60 315⇑ *iP* **P 09 20 44.3 +1.7**
ISR Istrita 63.63 314⇑ *iP* **P 09 20 44.7 +1.9**
PLOR Plostina 63.66 315⇓ *iP* **P 09 20 44.4 +1.5**
SANT Santorini 63.66 304 *eP* **P 09 20 43.0 -0.2**
comp=Z,74nm,0.9s
MLR Muntele Rosu 64.10 314 P **P 09 20 47.5 +1.5**
comp=Z,28nm,0.9s,baz=112,slow=1.9,SNR=32
MLR Muntele Rosu 64.10 314 *eP* **P 09 20 46.4 +0.4**
comp=Z,42nm,1.0s
MLR Muntele Rosu 64.10 314⇑ *iP* **P 09 20 47.5 +1.5**
MLR Muntele Rosu 64.10 314 *eP* **P 09 20 46.4 +0.4**
MLR pmax pmax
comp=Z,42nm,1.0s
BIZ Bicaz 64.18 316⇑ *iP* **P 09 20 47.4 +1.0**
DOPR Dopca 64.54 315⇑ *iP* **P 09 20 49.5 +0.8**
HUMR Humele 64.66 313⇑ *iP* **P 09 20 50.4 +0.9**
MTUR Matau 64.68 314⇑ *iP* **P 09 20 51.1 +1.4**
VOIR 64.72 314⇓ *iP* **P 09 20 50.5 +0.6**
BURAR Bucovina Array 64.88 316⇓ *iP* **P 09 20 52.1 +1.1**
BUR08 Bucovina Ar. S 64.89 317 *eP* **P 09 20 51.1 0.0**
ARR Arges 65.00 314⇓ *iP* **P 09 20 52.1 +0.3**
STKA Stephens Creek 65.15 135 P **P 09 20 53.3 +0.5**
comp=Z,6.5nm,0.6s,baz=308,slow=5.3,SNR=26
VTS Vitosha 65.77 311 *eP* **P 09 20 56.9 0.0**
comp=Z,10nm,0.9s
VTS Vitosha 65.77 311⇓ *iP* **P 09 20 57.3 +0.4**
VTS Vitosha 65.77 311 *eP* **P 09 20 56.9 0.0**
VTS pmax pmax
comp=Z,10.0nm,0.9s
APA Apatity 66.17 339⇓ *iP* **P 09 20 58.2 -0.6**
APA pmax pmax
comp=Z,5.0nm,0.9s
APA MLR MLR
comp=Z,500nm,17.0s
LIT Litokhoron 66.17 308 *eP* **P 09 20 58.6 -0.7**
comp=Z,17nm,1.0s
AGG Agios Georgios 66.25 307 *eP* **P 09 20 58.4 -1.5**
comp=Z,14nm,1.1s
AGG Agios Georgios 66.25 307 *eP* **P 09 20 58.4 -1.5**
AGG pmax pmax
comp=Z,14nm,1.1s
GZR Gura Zlata 66.30 314⇑ *iP* **P 09 21 00.7 +0.5**
DRGR 66.48 315⇑ *iP* **P 09 21 02.4 +1.1**
TRPA Tarpa 66.73 317⇑ *iP* **P 09 21 03.8 +1.1**
TRPA Tarpa 66.73 317⇓ *eP* **P 09 21 03.0 +0.3**
KWP Kalwaria Pacla 66.79 318 *eP* **P 09 21 03.7 +0.6**
KWP Kalwaria Pacla 66.79 318 *eP* **P 09 21 03.0 -0.1**
comp=Z,149nm,0.9s
KWP Kalwaria Pacla 66.79 318 *eP* **P 09 21 03.7 +0.6**
FNA Florina 67.04 309 *eP* **P 09 21 04.2 -0.8**
comp=Z,9.5nm,0.8s
FNA Florina 67.04 309 *eP* **P 09 21 04.2 -0.8**
FNA pmax pmax
comp=Z,10.0nm,0.8s
SUW Suwalki 67.10 323 *eP* **P 09 21 05.2 +0.2**
SUW Suwalki 67.10 323 *eP* **P 09 21 04.5 -0.5**
comp=Z,37nm,0.9s
SUW Suwalki 67.10 323 *eP* **P 09 21 05.2 +0.2**
FIA0 FINESS Array S 67.11 331 *eP* **P 09 21 05.1 +0.2**
FIA0 FINESS Array S 67.11 331 *eP* **P 09 21 05.1 +0.2**
FINES FINESS Array B 67.11 331 P **P 09 21 05.1 +0.2**
comp=Z,7.9nm,0.8s,baz=89,slow=6.5,SNR=19
SIRR Siria 67.15 315⇑ *iP* **P 09 21 06.9 +1.4**
DIVS Divibare 68.20 312 *eP* **P 09 21 11.6 -0.7**
comp=Z,5.5nm,0.8s
NIE Niedzica 68.33 318 *eP* **P 09 21 13.9 +1.0**
NIE Niedzica 68.33 318 *eP* **P 09 21 13.9 +1.0**
PSZ Piszkesteto 68.48 316 *eP* **P 09 21 14.2 +0.3**
comp=Z,6.9nm,0.8s
PSZ Piszkesteto 68.48 316 *eP* **P 09 21 14.2 +0.3**
PSZ pmax pmax
comp=Z,7.0nm,0.8s
PSZ Piszkesteto 68.48 316 *eP* **P 09 21 14.0 +0.1**
PDG Podgorica 68.68 311⇑ *iP* **P 09 21 14.9 -0.3**
OJC Ojcow 68.72 319 *eP* **P 09 21 15.6 +0.4**
OJC Ojcow 68.72 319 *eP* **P 09 21 15.2 -0.1**
comp=Z,16nm,0.8s

OJC Ojcow 68.72 319 *eP* **P 09 21 15.6 +0.4**
VYHS Vyhne 69.22 317 *eP* **P 09 21 19.0 +0.5**
VYHS pmax pmax
comp=Z,3.0nm,0.8s
VYHS Vyhne 69.22 317 *eP* **P 09 21 19.0 +0.5**
MORH Mrgy, Hungar 69.24 315 *eP* **P 09 21 18.0 -0.5**
LSZ Lusaka 69.53 248 *eP* **P 09 21 20.9 -0.1**
comp=Z,7.1nm,0.8s
LSZ Lusaka 69.53 248 *eP* **P 09 21 20.9 -0.1**
LSZ pmax pmax
comp=Z,7.0nm,0.8s
ARA0 ARCESS Array S 69.58 340 *eP* **P 09 21 20.9 +0.7**
ARCES ARCESS Array B 69.58 340 P **P 09 21 20.9 +0.7**
comp=Z,7.1nm,0.7s,baz=84,slow=5.3,SNR=17
ARCES LR LR 09 54 30.9
comp=Z,5.5nm,19.3s,baz=162,slow=38
JAVC Velka Javorina 70.01 317 *eP* **P 09 21 24.6 +1.2**
MORC Moravsky Berou 70.14 318 *eP* **P 09 21 24.5 +0.4**
comp=Z,12nm,0.8s
MORC Moravsky Berou 70.14 318 *eP* **P 09 21 24.5 +0.4**
MORC pmax pmax
comp=Z,12nm,0.8s
MORC Moravsky Berou 70.14 318 *eP* **P 09 21 24.8 +0.7**
MODS Modra-Piesok 70.25 317 *eP* **P 09 21 25.5 +0.7**
MODS pmax pmax
comp=Z,8.0nm,1.0s
MODS Modra-Piesok 70.25 317 *eP* **P 09 21 25.5 +0.7**
TIP Timpagrande 70.58 307 *eP* **P 09 21 27.0 0.0**
comp=Z,2.5nm,0.8s
KRLC Kraliky 70.64 319 *eP* **P 09 21 28.0 +0.8**
KRLC Kraliky 70.64 319 *eP* **P 09 21 28.0 +0.8**
VRAC Vranov 70.74 318 P **P 09 21 28.1 +0.4**
comp=Z,1.5nm,0.4s,baz=82,slow=5.9,SNR=3.7
VRAC Vranov 70.74 318 *eP* **P 09 21 27.7 0.0**
KRUC Moravsky 70.86 318 *eP* **P 09 21 28.7 +0.2**
DPC Dobruska-Polom 70.95 319 *eP* **P 09 21 30.1 +1.1**
DPC Dobruska-Polom 70.95 319 *eP* **P 09 21 30.1 +1.1**
KSP Ksiaz 70.99 319 *eP* **P 09 21 30.0 +0.8**
KSP Ksiaz 70.99 319 *eP* **P 09 21 30.0 +0.8**
UPC Upice 71.15 319 *eP* **P 09 21 31.4 +1.2**
UPC Upice 71.15 319 *eP* **P 09 21 31.4 +1.2**
CONA Conrad Observa 71.19 316 *eP* **P 09 21 30.9 +0.3**
comp=Z,3.7nm,0.9s
ARSA Arzberg 71.41 316 *eP* **P 09 21 32.5 +0.6**
comp=Z,4.8nm,1.0s
PERS Pernice 71.69 315 *i* P **P 09 21 34.0 +0.5**
BILL Bilibino 71.74 22 *eP* **P 09 21 33.6 +0.2**
comp=Z,5.2nm,0.7s
BILL Bilibino 71.74 22 *eP* **P 09 21 33.6 +0.2**
BILL pmax pmax
comp=Z,5.0nm,0.7s
SOKA Soboth 71.75 315 *eP* **P 09 21 34.6 +0.6**
comp=Z,13nm,1.3s
GOPC GO Pecny, Ondr 71.93 318 *eP* **P 09 21 35.3 +0.4**
GOPC GO Pecny, Ondr 71.93 318 *eP* **P 09 21 35.3 +0.4**
OBKA Obir 72.08 315 *eP* **P 09 21 36.5 +0.5**
comp=Z,6.8nm,0.7s,SNR=5.2
PRU Pruhonice 72.09 318 *eP* **P 09 21 36.1 +0.3**
PRU Pruhonice 72.09 318 *eP* **P 09 21 36.1 +0.3**
MOA Molln 72.26 316 *eP* **P 09 21 37.1 +0.1**
comp=Z,1.8nm,0.5s
CRNS Crni Vrh 72.28 314 *i* P **P 09 21 37.4 +0.2**
BRG Berggiesshubel 72.48 319 *eP* **P 09 21 38.7 +0.6**
comp=Z,10nm,0.8s
BRG Berggiesshubel 72.48 319 *eP* **P 09 21 38.8 +0.6**
comp=Z,7.3nm,0.8s,baz=88,slow=5.9
BRG Berggiesshubel 72.48 319 *eP* **P 09 21 38.7 +0.6**
BRG pmax pmax
comp=Z,10.0nm,0.8s
GEC2 GERESS Array S 72.63 317 *eP* **P 09 21 39.9 +0.6**
comp=Z,9.8nm,0.8s,baz=88,slow=5.9
GERES GERESS Array B 72.63 317 P **P 09 21 39.8 +0.5**
comp=Z,8.5nm,0.7s,baz=76,slow=5.6,SNR=56
TRI Trieste 72.64 314 *eP* **P 09 21 38.7 -0.5**
comp=Z,7.1nm,0.7s
TRI Trieste 72.64 314 *eP* **P 09 21 38.7 -0.5**
TRI pmax pmax
comp=Z,7.0nm,0.7s
MYKA Terra Mystica 72.70 315 *eP* **P 09 21 39.9 +0.2**
comp=Z,2.5nm,0.5s
KHC Kasperske Hory 72.71 318 *eP* **P 09 21 39.3 -0.4**
comp=Z,2.8nm,0.7s
KHC Kasperske Hory 72.71 318 *eP* **P 09 21 40.2 +0.6**
KHC Kasperske Hory 72.71 318 *eP* **P 09 21 40.2 +0.6**
HFS Hagfors 72.90 329 P **P 09 21 40.6 +0.2**
comp=Z,11nm,0.7s,baz=120,slow=8.9,SNR=12
CLL Collm 73.07 320 *eP* **P 09 21 42.0 +0.3**
comp=Z,3.9nm,0.8s,baz=88,slow=5.9
CLL *ep*P **pP 09 21 52.1 -1.3**
CLL Collm 73.07 320 *eP* **P 09 21 42.0 +0.3**
comp=Z,8.0nm,0.9s
CLL Collm 73.07 320 *eP* **P 09 21 40.0 -1.6**
CLL pmax pmax
comp=Z,4.0nm,0.9s
WET Wettzell 73.17 318 *eP* **P 09 21 42.7 +0.4**
comp=Z,5.6nm,0.8s,baz=88,slow=5.9
RJOB Jochberg 73.26 316 *eP* **P 09 21 43.5 +0.6**
comp=Z,5.4nm,0.7s,baz=88,slow=5.9
RJOB *ep*P **pP 09 21 53.6 -1.0**
TANN Tannenbergstha 73.42 319 *eP* **P 09 21 44.1 +0.2**
comp=Z,4.4nm,0.8s,baz=88,slow=5.9
ABTA Abfaltersbach 73.48 315 *eP* **P 09 21 43.8 -0.5**
comp=Z,6.0nm,1.1s
WERN Wernitzgruen 73.48 319 *eP* **P 09 21 44.9 +0.7**
comp=Z,4.6nm,0.8s,baz=88,slow=5.9
GUNZ Gunzen 73.50 319 *eP* **P 09 21 45.1 +0.8**
comp=Z,5.0nm,0.8s,baz=88,slow=5.9
MANZ Manzenberg 73.66 318 *eP* **P 09 21 46.1 +0.9**
comp=Z,67nm,0.8s,baz=88,slow=5.9
MOX Moxa 73.96 319 *eP* **P 09 21 47.7 +0.8**
comp=Z,5.7nm,0.7s,baz=88,slow=5.9
NB2 NORSAR Subarra 74.16 330 P **P 09 21 47.3 -0.6**
comp=Z,3.9nm,0.6s,baz=89,slow=5.9
NB200 NORSAR Array S 74.16 330 *eP* **P 09 21 47.6 -0.3**
NOA NORSAR Array B 74.16 330 P **P 09 21 47.6 -0.3**
comp=Z,6.2nm,0.7s,baz=90,slow=5.8,SNR=27
NOA LR LR 09 57 12.7
comp=Z,100nm,19.7s,baz=85,slow=38
SPA0 Spitsbergen Ar 74.18 348 *eP* **P 09 21 48.2 +0.4**
SPITS Spitsbergen Ar 74.18 348 P **P 09 21 48.3 +0.6**
comp=Z,10.0nm,0.6s,baz=99,slow=15,SNR=14
GRA1 Grafenberg Arr 74.24 318 *eP* **P 09 21 48.8 +0.2**
comp=Z,9.9nm,0.7s
GRF Grafenberg Arr 74.24 318 *eP* **P 09 21 49.3 +0.7**
comp=Z,8.7nm,0.7s,baz=88,slow=5.9
GRF Grafenberg Arr 74.24 318 *eP* **P 09 21 48.8 +0.2**
GRF pmax pmax
comp=Z,10.0nm,0.7s
SQTA Sankt Quirin 74.35 316 *eP* **P 09 21 49.1 -0.3**
comp=Z,8.2nm,0.6s
MOTA Moosalm 74.42 316 *eP* **P 09 21 50.4 +0.5**
comp=Z,8.1nm,0.8s
RETA Reutte 74.64 316 *i* P **P 09 21 50.8 -0.2**
comp=Z,4.5nm,0.6s,SNR=5.7
BSEG Bad Segeberg 74.67 323 *eP* **P 09 21 51.8 +0.9**
comp=Z,12nm,0.8s,baz=88,slow=5.9
FETA Feichten 74.69 315 *eP* **P 09 21 51.4 0.0**
comp=Z,9.5nm,0.9s,SNR=5.7
CLZ Clausthal 74.70 320 *eP* **P 09 21 52.2 +1.0**
comp=Z,8.5nm,0.8s,baz=88,slow=5.9
GTTG Gvttingen 74.97 320 *eP* **P 09 21 53.6 +0.8**
comp=Z,20nm,0.7s,baz=88,slow=5.9
FUORN Ofenpass-Fuorn 75.03 315 *eP* **P 09 21 53.7 +0.2**
comp=Z,7.6nm,1.1s
DAVA Damuels 75.25 316 *eP* **P 09 21 54.9 +0.2**
comp=Z,16nm,1.0s
DAVOX Davos/Dischmat 75.28 315 P **P 09 21 55.2 +0.3**
comp=Z,2.2nm,0.5s,baz=115,slow=10,SNR=6.1
TNS Taunus Mts 76.00 319 *eP* **P 09 21 59.3 +0.5**
comp=Z,4.5nm,0.8s,baz=88,slow=5.9
IBBN Ibbenburen 76.29 321 *eP* **P 09 22 01.0 +0.7**
comp=Z,11nm,0.7s,baz=88,slow=5.9
KEST Kesra 76.72 304 P **P 09 22 03.4 +0.2**
comp=Z,13nm,0.9s,baz=327,slow=3.8,SNR=6.5
AHRW Bad Neuenahr-A 76.85 319 *eP* **P 09 22 04.5 +1.0**
comp=Z,4.8nm,0.7s,baz=88,slow=5.9
AHRW *ep*P **PcP 09 22 14.7 +0.2**
BOSA Boshof 77.04 236 P **P 09 22 06.6 +1.6**
comp=Z,7.7nm,0.7s,baz=76,slow=4.7,SNR=14
BOSA LR LR 09 52 25.7
comp=Z,44nm,18.8s,baz=30,slow=33
BOSA Boshof 77.04 236 *eP* **P 09 22 05.3 +0.2**
comp=Z,10.0nm,0.8s
BOSA Boshof 77.04 236 *eP* **P 09 22 05.3 +0.2**
BOSA pmax pmax
comp=Z,10.0nm,0.8s

SENIN	Lac Senin/Sane	77.09	315	eP	P	09 22 05.5	+0.2
	comp=Z,5.2nm,0.8s						
BNI	Bardonecchia	77.67	314	eP	P	09 22 07.9	-0.5
	comp=Z,9.4nm,0.8s						
BNI	Bardonecchia	77.67	314	eP	P	09 22 07.9	-0.5
BNI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
DAG	Danmarks Havn	81.82	347	i P	P	09 22 29.6	-0.5
	comp=Z,5.7nm,1.0s						
DAG	Danmarks Havn	81.82	347	i P	P	09 22 29.6	-0.5
DAG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TAM	Tamanrasset	82.06	292	eP	P	09 22 32.6	0.0
	comp=Z,2.8nm,1.0s						
TAM	Tamanrasset	82.06	292	eP	P	09 22 32.6	0.0
TAM				pmax	pmax		
	comp=Z,3.0nm,1.0s						
EKA	Eskdalemuir Ar	82.27	325	P	P	09 22 33.3	+0.4
	comp=Z,3.1nm,0.6s,baz=92,slow=5.4,SNR=8.2						
RDOG	Red Dog Mine	83.18	21	eP	P	09 22 37.9	+0.5
	comp=Z,4.8nm,0.8s						
ESDC	Sonseca Array	86.39	310	P	P	09 22 54.4	+0.2
	comp=Z,2.9nm,0.8s,baz=57,slow=5.0,SNR=11						
TORD	Torodi Ar. Bea	87.65	283	P	P	09 23 00.0	-0.6
	comp=Z,4.3nm,0.9s,baz=57,slow=5.5,SNR=23						
TORD				PP	PP	09 26 23.6	-2.7
	comp=Z,2.0nm,1.1s,baz=90,slow=10,SNR=6.9						
TOA1	Torodi Ar. Sit	87.65	283	eP	P	09 23 00.0	-0.6
BORG	Borgarnes	87.76	337	LR	LR	10 03 37.3	
	comp=Z,75nm,20.8s,baz=40,slow=36						
SUMG	Summit	88.48	347	eP	P	09 23 04.5	+0.6
	comp=Z,7.1nm,0.8s						
SUMG	Summit	88.48	347	i P	P	09 23 04.4	+0.4
	comp=Z,21nm,0.9s						
SUMG	Summit	88.48	347	eP	P	09 23 04.6	+0.6
SUMG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MLY	Manley	88.85	22	eP	P	09 23 06.3	+0.8
	comp=Z,4.7nm,0.7s						
CAST	Castle Rocks	89.13	24	eP	P	09 23 07.7	+1.0
	comp=Z,18nm,0.8s						
TULEG	Thule	89.62	356	eP	P	09 23 08.6	-0.1
	comp=Z,5.8nm,0.8s						
MDM	Murphy Dome	89.80	22	eP	P	09 23 10.3	+0.4
	comp=Z,7.4nm,0.9s						
TRF	Thorofare Moun	89.81	24	eP	P	09 23 10.4	+0.3
	comp=Z,4.6nm,0.7s						
SYO	Syowa Base	90.06	197	⇑esP	sP	09 23 31.0	+3.5
MCK	McKinley	90.19	23	eP	P	09 23 11.3	-0.4
	comp=Z,6.6nm,0.7s						
MCK	McKinley	90.19	23	eP	P	09 23 11.3	-0.4
MCK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ILAR	Eielson Array	90.39	22	P	P	09 23 12.2	-0.4
	comp=Z,2.3nm,0.6s,baz=299,slow=4.4,SNR=36						
ILAR				PP	PP	09 26 50.5	+3.8
	comp=Z,0.4nm,0.7s,baz=310,slow=7.0,SNR=5.0						
ILB	Eielson Array	90.39	22	eP	P	09 23 12.2	-0.4
SUA	Susitna One	90.63	25	eP	P	09 23 13.8	-0.1
	comp=Z,20nm,0.9s						
SCRK	Sand Creek	91.88	22	eP	P	09 23 19.4	-0.2
	comp=Z,6.3nm,0.8s						
INK	Inuvik	92.27	15	eP	P	09 23 21.8	+0.6
	comp=Z,1.2nm,0.6s						
INK	Inuvik	92.27	15	eP	P	09 23 21.8	+0.6
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	101.55	12	PP	PKiKP	09 28 08.5	-18
	comp=Z,0.3nm,0.8s,baz=334,slow=8.1,SNR=3.9						
PDAR	Pinedale Array	120.69	19	PKP	PKPdf	09 29 03.4	-0.5
	comp=Z,0.4nm,0.7s,baz=294,slow=1.5,SNR=4.3						
ANMO	Albuquerque	128.80	20	⇑iPKIKP	PKiKP	09 29 21.2	+0.9
ANMO				pmax	pmax		
	comp=Z,5.0nm,2.5s						
LTX	Lajitas	134.87	20	ePKPdf	PKiKP	09 29 32.4	-0.2
TXAR	Lajitas Array	134.87	20	PKP	PKiKP	09 29 32.4	-0.2
	comp=Z,0.8nm,0.9s,baz=180,slow=1.3,SNR=6.1						
JCT	Junction City	134.92	15	ePKPdf	PKPdf	09 29 31.0	-0.1
JCT	Junction City	134.92	15	ePKIKP	PKPdf	09 29 31.0	-0.1
TRQA	Tornquist	146.41	218	ePKPdf	PKPdf	09 29 51.0	-0.4
TRQA	Tornquist	146.41	218	ePKP2	PKPdf	09 29 51.0	-0.4
CPUP	Villa Florida	148.76	241	PKPbc	PKPbc	09 29 59.9	+0.4
	comp=Z,3.7nm,0.8s,baz=98,slow=5.0,SNR=5.6						
CPUP	Villa Florida	148.76	241	ePKPdf	PKPdf	09 29 55.8	+0.2
CPUP	Villa Florida	148.76	241	ePKIKP	PKPdf	09 29 55.8	+0.2
PLCA	Paso Flores	148.84	206	PKPbc	PKiKP	09 30 00.5	-0.3
	comp=Z,2.2nm,0.7s,baz=84,slow=1.6,SNR=10						
LPAZ	La Paz	160.89	259	PKP	PKPdf	09 30 13.9	+0.6
	comp=Z,1.2nm,0.7s,baz=183,slow=6.0,SNR=5.0						
LPAZ				PKPab	PKPab	09 30 56.0	+0.1
	comp=Z,2.5nm,0.8s,baz=108,slow=5.8,SNR=6.5						
LPAZ	La Paz	160.89	259	ePKPdf	PKPdf	09 30 12.5	-0.8
LPAZ				ePKPab	PKPab	09 30 55.6	-0.3
LPAZ	La Paz	160.89	259	ePKIKP	PKPdf	09 30 12.5	-0.8
LPAZ				e		09 30 55.6	

KRSC 11 09:13:43.4±1.8, 53°.27N×162°.93E, h66km±24km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	1.47	332	eP	Pn	09 14 09.2	+1.4
MKZ				eS	Sn	09 14 27.7	+1.5
SPN	Mys Shipunski	1.76	266	eP	Pn	09 14 13.4	+1.8
SPN				eS	Sn	09 14 34.2	+1.2
NLC	Nalytchevo	2.16	269	eP	Pn	09 14 19.7	+2.7
NLC				eS	Sn	09 14 45.5	+2.8
KII	Karymskiy	2.21	292	eS	Sn	09 14 46.1	+2.0
KZV	Kizimen	2.41	321	eP	Pn	09 14 23.4	+2.8
KZV				eS	Sn	09 14 52.0	+2.9
SDLR	Sedlovina	2.43	272	eP	Pn	09 14 23.6	+2.8
SDLR				eS	Sn	09 14 52.4	+2.9
TUMD	Tumrok D	2.44	324	eP	Pn	09 14 23.6	+2.7
TUMD				eS	Sn	09 14 52.1	+2.4
UGLR	Uglovaya	2.47	270	eP	Pn	09 14 24.4	+3.0
UGLR				eS	Sn	09 14 53.8	+3.4
SMAR	Somma	2.48	272	eP	Pn	09 14 24.2	+2.6
AVH	Avacha	2.52	272	eP	Pn	09 14 25.2	+3.2
AVH				eS	Sn	09 14 54.7	+3.1
KRX	Arik	2.57	274	eP	Pn	09 14 25.7	+2.9
KRX				eS	Sn	09 14 55.7	+2.7
KOK	Koryaka	2.58	272	eP	Pn	09 14 25.8	+3.0
KOK				eS	Sn	09 14 56.1	+3.0
PET	Petropavlovsk	2.59	266	eP	Pn	09 14 26.0	+3.1
PET				eS	Sn	09 14 56.6	+3.5
TUMR	Tumrok	2.60	322	eP	Pn	09 14 26.1	+3.0
RUS	Russkaya	2.81	254	eP	Pn	09 14 28.2	+2.4
RUS				eS	Sn	09 15 00.4	+1.9
KRMR	Karymshinskiy	2.93	263	eP	Pn	09 14 30.5	+3.0
KRMR				eS	Sn	09 15 03.9	+2.4
KBTR	Krutoberegovo	2.95	359	eP	Pn	09 14 28.7	+1.0
MTVR	Mutnovka	2.98	257	eP	Pn	09 14 30.9	+2.5
MTVR				eS	Sn	09 15 05.0	+2.0
GNL	Ganaly	3.01	280	eP	Pn	09 14 32.2	+3.5
GNL				eS	Sn	09 15 07.9	+4.2
KDTR	Khodutka, Kamc	3.31	246	eP	Pn	09 14 34.1	+1.5
KDTR				eS	Sn	09 15 10.5	-0.2

TAP 11 09:13:54.9, 24°.64N×122°.69E, h84km, ML3.5, D
ISCJB 11 09:13:55.9±0.5, 24°.58N±0°.03×122°.66E±0°.02, h76km±5km, Error ellipse: s-maj=4.6km s-min=2.7km az=176.7
JMA 11 09:13:55.3±0.1, 24°.54N×122°.65E, h85km±1km, M2.5
ISC 11 09:13:56.5±1.3, 24°.57N±0°.04×122°.65E±0°.02, h74km±8km, n59, σ0s.96/108, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.29	114	P	Pn	09 14 08.1	0.0
JYNG				S	Sn	09 14 17.5	+1.0
YOJ	Yonaguni jima	0.34	108	eP	Pn	09 14 08.1	-0.3
	baz=125						
YOJ				eS	Sn	09 14 17.7	+0.5
	baz=125						
YOJ	Yonaguni jima	0.34	108	P	Pn	09 14 08.4	0.0
YOJ				eS	Sn	09 14 18.3	+1.2
EOS1	EOS1	0.48	268	eP	Pn	09 14 09.5	+0.1
	baz=252						
EOS1				eS	Sn	09 14 20.0	+1.1
	baz=252						
TWC	Suao	0.73	273	i P	Pn	09 14 11.2	-0.9
	baz=267						
TWC				S	Sn	09 14 23.0	-0.6
	baz=267						
TWB1	Santiao Chiao	0.74	306	P	Pn	09 14 11.2	-1.0
	baz=296						
TWB1				S	Sn	09 14 22.7	-1.1
	baz=296						
ENA	Nanau	0.84	261	i P	Pn	09 14 13.2	-0.1
	baz=252						
ENA				S	Sn	09 14 26.3	+0.4
	baz=252						
TIPB	Shuangxi	0.85	298	P	Pn	09 14 12.8	-0.6
	baz=288						
TIPB				S	Sn	09 14 25.6	-0.4
	baz=288						
TWE	Neicheng	0.91	280	i P	Pn	09 14 13.7	-0.4
	baz=277						
TWE				i S	Sn	09 14 28.0	+0.8
	baz=277						
NWF	Wu-fen Shan	0.94	302	P	Pn	09 14 14.0	-0.5
	baz=290						
NWF				S	Sn	09 14 27.8	-0.1
	baz=290						
WFSB	Wu-fen Shan	0.94	302	eP	Pn	09 14 13.9	-0.6
	baz=290						
WFSB				eS	Sn	09 14 27.8	0.0
	baz=290						
ENTT	Nioudou	0.99	274	i P	Pn	09 14 15.5	+0.3
	baz=265						
ENTT				eS	Sn	09 14 30.0	+1.0
	baz=265						
IRIF	Iriomote-Funau	1.01	103	P	Pn	09 14 14.7	-0.6
IRIF				S	Sn	09 14 29.3	-0.1
NACB	Ninganchiao	1.04	248	eP	Pn	09 14 15.2	-0.5
	baz=236						
NACB				eS	Sn	09 14 30.0	-0.1
	baz=236						
TWA	Mucha	1.05	293	eP	Pn	09 14 15.2	-0.7
	baz=280						
NWLT	Wulai	1.07	281	P	Pn	09 14 16.3	+0.2
	baz=283						
NWLT				S	Sn	09 14 31.2	+0.5
	baz=283						
TWD	Chiawan	1.08	243	P	Pn	09 14 15.5	-0.7
	baz=232						
TWD				S	Sn	09 14 30.6	-0.3
	baz=232						
YM07	YM07	1.11	303	eP	Pn	09 14 16.5	-0.2
	baz=298						
YM07				eS	Sn	09 14 31.3	-0.5
	baz=298						
TATO	Taipei	1.13	291	eP	Pn	09 14 16.4	-0.5
	baz=277						
TATO				eS	Sn	09 14 30.8	-1.4
	baz=277						
YM01	YM01	1.14	301	eP	Pn	09 14 17.5	+0.5
	baz=296						
NNSB	Datong	1.17	263	eP	Pn	09 14 16.9	-0.5
	baz=252						
YHNB	Yeheng	1.17	275	eP	Pn	09 14 17.5	+0.1
	baz=263						
YHNB				eS	Sn	09 14 33.5	+0.5
	baz=263						
HATJ	Hateruma jima	1.17	116	eS	Sn	09 14 33.7	+0.8
TWS1	Kuangyinshan	1.24	296	eP	Pn	09 14 18.3	+0.1
	baz=286						
TWS1				eS	Sn	09 14 35.2	+0.7
	baz=286						
JKRS	Kuro-shima	1.28	105	P	Pn	09 14 18.6	-0.2
JKRS				S	Sn	09 14 35.9	+0.5
WHF	Hehuan Shan	1.33	252	P	Pn	09 14 19.5	-0.3
	baz=248						
WHF				i S	Sn	09 14 36.7	-0.7
	baz=248						
ESL	Shilin	1.34	236	P	Pn	09 14 18.6	-1.0
	baz=233						
ESL				S	Sn	09 14 36.5	-0.4
	baz=233						
JIJ	Ishigaki jima	1.37	98	P	Pn	09 14 19.4	-0.6
JIJ				eS	Sn	09 14 37.1	-0.5
TDCB	Techi	1.40	257	eP	Pn	09 14 20.5	+0.1
	baz=249						
TDCB				eS	Sn	09 14 38.1	-0.3
	baz=249						
CHGB	Renai	1.44	250	eP	Pn	09 14 21.2	+0.2
	baz=239						
CHGB				eS	Sn	09 14 39.5	0.0
	baz=239						
LIOB	Emei	1.49	273	P	Pn	09 14 21.9	+0.3
	baz=269						
LIOB				S	Sn	09 14 40.1	-0.4
	baz=269						
NSTT	Nanjuang	1.50	273	eS	Sn	09 14 40.2	-0.4
	baz=269						
JISG	Ishigakijimahi	1.51	89	P	Pn	09 14 21.3	-0.4
JISG				eS	Sn	09 14 40.6	-0.2
HGSD	Ruisui	1.55	227	eP	Pn	09 14 21.6	-0.8
	baz=221						
HGSD				eS	Sn	09 14 41.6	-0.2
	baz=221						
VWDT	VWDT	1.60	240	eP	Pn	09 14 23.0	0.0
	baz=231						
VWDT				eS	Sn	09 14 43.0	+0.1
	baz=231						
EHY	Hungye	1.61	229	i P	Pn	09 14 22.2	-0.9
	baz=227						
EHY				S	Sn	09 14 42.0	-1.2
	baz=227						
YULB	Yu-li	1.71	227	eP	Pn	09 14 23.4	-0.9
	baz=233						
YULB				eS	Sn	09 14 43.5	-2.0
	baz=233						
TWF1	Yuli	1.73	226	i P	Pn	09 14 24.1	-0.7
	baz=233						
TWF1				S	Sn	09 14 44.8	-1.3
	baz=233						
SSLB	Suanglung	1.73	244	eP	Pn	09 14 25.2	+0.4
	baz=237						
SSLB				eS	Sn	09 14 45.9	-0.3
	baz=237						
SMLT	Sun Moon Lake	1.74	247	i P	Pn	09 14 25.6	+0.7
	baz=239						
SMLT				i S	Sn	09 14 47.6	+1.2
	baz=239						
TYC	Yuchr	1.77	248	i P	Pn	09 14 24.9	-0.2
	baz=240						
TYC				i S	Sn	09 14 48.4	+1.5
	baz=240						
FULB	Fuli	1.85	223	eS	Sn	09 14 47.9	-0.9
	baz=214						
JTJ	Tarama	1.87	87	P	Pn	09 14 26.5	0.0
JTJ				eS	Sn	09 14 49.8	+0.5
CHKT	Chengkung	1.88	219	eS	Sn	09 14 47.6	-2.0
	baz=213						
YUS	Yu-Shan	1.89	236	P	Pn	09 14 27.5	+0.2
	baz=227						
YUS				S	Sn	09 14 50.0	-0.6
	baz=227						
ALS	Alishan	1.99	238	P	Pn	09 14 28.9	+0.5
	baz=229						
ALS				S	Sn	09 14 53.9	+1.2
	baz=229						
ELDTW	Lidau	2.03	228	P	Pn	09 14 28.2	-0.6
	baz=226						
ELDTW				eS	Sn	09 14 52.1	-1.3
	baz=226						
CHN5	Tsauling	2.05	242	eS	Sn	09 14 55.9	+2.2
	baz=232						
CHN4	Tsaushan	2.24	238	P	Pn	09 14 32.8	+1.3
	baz=235						
CHN4				S	Sn	09 15 00.7	+2.4
	baz=235						
TPUB	Ta-pu	2.24	236	eP	Pn	09 14 32.0	+0.5
	baz=228						
TPUB				eS	Sn	09 14 59.8	+1.5
	baz=228						
TWGBT	Beinan	2.26	220	eP	Pn	09 14 31.4	-0.4
	baz=224						
TWGBT				eS	Sn	09 14 57.0	-1.8
	baz=224						
WTP	Ta-pu	2.28	235	P	Pn	09 14 32.9	+0.7
	baz=233						
WTP				S	Sn	09 15 01.1	+1.8
	baz=233						
TWK	Hsinying	2.37	237	eP	Pn	09 14 34.3	+1.0
	baz=235						
TWK				eS	Sn	09 15 03.0	+1.6
	baz=235						
CHN1	Nanshi	2.38	235	P	Pn	09 14 35.0	+1.5
	baz=233						
CHN1				S	Sn	09 15 03.6	+1.9
	baz=233						
SGST	Jiashian	2.41	232	eS	Sn	09 15 03.8	+1.5
	baz=241						
SLGT	Liugui	2.42	230	P	Pn	09 14 35.2	+1.3
	baz=234						
SLGT				S	Sn	09 15 04.4	+1.9
	baz=234						
MASBT	Mashibuluo	2.69	224	eP	Pn	09 14 38.2	+0.6
	baz=222						
MASBT				eS	Sn	09 15 10.6	+1.4
	baz=222						
EAST	Anshuo	2.73	218	eP	Pn	09 14 37.5	-0.8
	baz=216						
EAST				eS	Sn	09 15 08.6	-1.7
	baz=216						
PHUB	P'eng-hu	3.01	250	eS	Sn	09 15 14.3	-2.5
	baz=247						

ATH 11 09:18:56.3, 38°.39N×21°.99E, h10km±1km, ML1.5/3, Error ellipse: s-maj=1.8km s-min=0.8km az=55.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIZ	Trizonia	0.07	109	P	Pg	09 18 58.4	-0.1
TRIZ				S	Sg	09 19 00.1	0.0
EFP	Efpalio	0.08	300	P	Pg	09 18 58.5	-0.2
EFP				S	Sg	09 19 00.4	+0.1
EFP				AML	AML	09 19 00.9	
	comp=E,1061µm,0.1s						
EFP				AML	AML	09 19 01.4	
	comp=N,843µm,0.3s						
KALE	Kalithea	0.12	88	P	Pg	09 18 59.1	-0.1
KALE				S	Sg	09 19 01.5	+0.3
KALE				AML	AML	09 19 01.7	
	comp=N,1535µm,0.2s						
KALE				AML	AML	09 19 01.7	
	comp=E,664µm,0.1s						
LAKA	Lakka	0.15	184	P	Pg	09 18 59.7	0.0
LAKA				S	Sg	09 19 02.0	0.0
LAKA				AML	AML	09 19 02.7	
	comp=E,300µm,0.2s						
LAKA				AML	AML	09 19 02.7	
	comp=N,316µm,0.3s						
KLV	Kalavryta, Ach	0.36	160	P	Pg	09 19 03.2	-0.3
KLV				S	Sg	09 19 09.0	+0.6
DLFA	Delphi	0.41	77	P	Pg	09 19 04.7	+0.4
DLFA				S	Sg	09 19 10.6	+0.9
DSF	Desfina	0.42	87	P	Pg	09 19 04.1	-0.5
DSF				S	Sg	09 19 10.9	+0.7
PVO	Paravola	0.43	302	P	Pg	09 19 04.2	-0.5
PVO				S	Sb	09 19 11.7	-0.8
DRO	Drossia	0.49	207	P	Pg	09 19 05.6	-0.2
DRO				S	Sg	09 19 13.0	+0.8
GUR	Goura	0.53	148	P	Pg	09 19 06.3	-0.3
GUR				S	Sb	09 19 14.6	-0.9
RLS	Riolos of Patr	0.53	232	P	Pg	09 19 06.7	+0.1
PDO	Prodromos	0.67	289	P	Pb	09 19 09.7	-0.4
PDO				S	Sg	09 19 18.6	+0.6
AGG	Agios Georgios	0.69	23	P	Pg	09 19 08.8	-0.8
AGG				S	Sb	09 19 19.6	-0.4
AMT	Artemida-Makis	0.88	195	P	Pg	09 19 13.3	0.0
TRIP	Tripoli	0.89	166	P	Pg	09 19 12.6	-0.8

SOME 11 09:32:54.6, 43°.70N×69°.58E
NNC 11 09:32:54.3±1.2, 43°.60N×69°.57E, h0km, mb3.7, mpv3.3, 2C-3D, Error ellipse: s-maj=12.6km s-min=6.6km az=45.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	0.84	125	P	Pg	09 33 10.6	+0.1
	4.7nm,0.6s,baz=314,slow=17,SNR=56						
KK31				S	Sg	09 33 22.6	+1.2
	14nm,0.5s,baz=312,slow=27,SNR=97						
SGDS	Sogindy	3.68	91	Pg	Pg	09 34 02.7	-2.1
	3.8nm,0.6s						
SGDS				Lg	Lg	09 34 51.2	
	4.4nm,0.8s						
AAK	Ala-Archa	3.73	103	⇓Pn	Pb	09 34 00.1	-1.0
	3.5nm,0.5s						
AAK				⇓Lg	Lg	09 34 51.7	
	3.8nm,0.6s						
TKM2	Tokmak 2	4.45	97	⇓Pn	Pb	09 34 15.1	+1.6
	2.7nm,0.7s						
TKM2				⇑Lg	Lg	09 35 11.3	
	4.1nm,0.6s						
DGS	Degeres	4.53	92	Pg	Pb	09 34 16.4	+1.7
	2.7nm,0.5s						
DGS				Lg	Lg	09 35 15.6	
	3.8nm,0.7s						
SFK	Sufi-Kurgan	4.63	139	Pg	Pg	09 34 26.9	+3.8
KST	Kastek	4.70	95	Pg	Pb	09 34 20.2	+2.7
	6.2nm,0.6s						
KST				Lg	Lg	09 35 21.7	
	8.7nm,0.7s						
OTK	Orto-Tokoy	4.89	103	Pg	Pn	09 34 11.5	+2.3
	2.3nm,0.2s						
OTK				Lg	Lg	09 35 06.2	
	0.4nm,0.2s						
OTUK	Ortayu	5.03	22	⇑Pn	Pn	09 34 07.3	-3.7
	0.8nm,0.2s						
TNSS	Tian-Shan	5.41	93	Pg	Pg	09 34 34.0	-4.0
	1.6nm,0.1s						
TNSS				Lg	Lg	09 35 45.0	
	3.7nm,0.3s						

BJI 11 09:47:20.3, 16°.89S×176°.67W, h386km, mb4.9/38, mB5.1/23
MOS 11 09:47:20.9±1.2, 17°.15S×177°.37W, h376km, mb4.9/44, Error ellipse: s-maj=10.2km s-min=7.2km az=67.9
ISCJB 11 09:47:20.4±0.7, 17°.33S±0°.03×177°.41W±0°.03, h382km±6km, mb4.7/270, Error ellipse: s-maj=5.0km s-min=3.3km az=140.4
NEIC 11 09:47:21.8±0.4, 17°.30S×177°.37W, h386km±4km, mb4.8/228, Error ellipse: s-maj=3.2km s-min=2.0km az=138.0
IDC 11 09:47:22.6±0.6, 17°.23S×177°.39W, h384km±5km, mb4.3/23, mb1 4.5/24, mb1mx4.5/26, mbtmp5.0/24, Error ellipse: s-maj=12.1km s-min=9.4km az=119.0
GCMT 11 09:47:23.8±0.2, 17°.17S±0°.03×177°.29W±0°.02, h395km±1km, MW5.2/84, Moment Tensor Solution. s84,c123; Duration: 1s.0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.88±.02; $M_{\theta\theta}$0.35±.04; $M_{\phi\phi}$0.52±.04; $M_{r\theta}$-0.23±.04; $M_{\theta\phi}$-0.27±.04; $M_{\phi r}$0.33±.04; Best double couple: $M_0$0.89600×10^{17} NP1:ϕ_s144.00000°, δ58.00000°, λ-89.00000°. NP2:ϕ_s323.00000°, δ32.00000°, λ-91.00000°. Principal axes: T 0.8190, Plg13.0000°, Azm234.0000°; N 0.1520, Plg0.0000°, Azm324.0000°; P -0.9720, Plg77.0000°, Azm56.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function
ISC 11 09:47:22.2±0.4, 17°.29S±0°.04×177°.35W±0°.04, h390km±3km, h390km:pP-P, n819, σ0s.95/887, mb4.8/270, 33C-65D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	7.28	105	ePn	Pn	09 49 06.5	-2.3
NIUE				eS	S	09 50 36.9	+1.0
FUNA	Funafuti	9.34	338	ePn	Pn	09 49 32.4	-0.2
FUNA				eS	S	09 51 17.1	-2.6
RAO	Raoul Island	11.92	182	S	S	09 52 08.3	-4.3
	424nm,0.3s,baz=280,slow=23,SNR=11						
MARNC	Mare, Loyalty	14.40	251	eP	P	09 50 29.1	+0.6
MARNC				eS	S	09 52 59.9	-3.0
KNTN	Kanton	15.45	22	eP	P	09 50 38.2	-1.8
	171nm,0.9s						
KNTN				eS	S	09 53 22.9	-1.0
OUENC	Ouen Island, N	15.71	249	eP	P	09 50 43.0	+0.2
	57nm,1.0s						
DZM	Mont Dzumac	15.98	250	P	P	09 50 46.4	+0.7
	4.0nm,0.3s,baz=291,slow=23,SNR=40						
DZM	Mont Dzumac	15.98	250	eP	P	09 50 46.8	+1.0
	160nm,1.3s						
DZM	Mont Dzumac	15.98	250	eP	P	09 50 45.9	+0.1
	41nm,0.8s						
ONTNC	Ouen Toro	16.03	249	eP	P	09 50 45.8	-0.4
	98nm,1.1s						
OUZ	Omahuta	19.59	203	eP	P	09 51 23.9	+0.6

98nm,1.0s
MXZ Matakaoa Point 20.55 190 *e*P P **09 51 31.8 -0.4**
28nm,1.0s
URZ Urewera 21.45 192 P P **09 51 38.6 -1.7**
15nm,0.3s,baz=296,slow=3.3,SNR=50
URZ S **S 09 55 07.5 -3.2**
28nm,0.9s,baz=123,slow=20,SNR=6.8
URZ Urewera 21.45 192 *e*P P **09 51 38.7 -1.7**
46nm,1.1s
URZ *e*S **S 09 55 07.5 -3.2**
HIZ Hauiti 22.21 196 *e*P P **09 51 47.7 +0.3**
77nm,1.0s
BKZ Black Stump Fm 22.45 193 *e*P P **09 51 48.7 -0.8**
21nm,1.0s
HNR Honiara 23.41 287 P P **09 52 01.0 +2.6**
190nm,0.8s,baz=180,slow=2.9,SNR=9.2
BFZ Birch Farm 23.95 192 *e*P P **09 52 02.9 -0.2**
46nm,1.2s
SNZO South Karori 24.89 194 *e*P P **09 52 10.8 -0.6**
103nm,1.1s
LHI Lord Howe Isla 25.65 232 *e*P P **09 52 17.7 -0.6**
45nm,1.0s
THZ Tophouse 25.78 197 *e*P P **09 52 19.1 -0.3**
20nm,1.0s
PPT2 Papeete2 26.50 95 *e*S S **09 56 28.0 -3.2**
226nm,26.0s
TBI Tubuai 26.82 108 *e*S S **09 56 34.7 -1.3**
297nm,29.8s
LTZ Lake Taylor 26.90 197 *e*P P **09 52 28.7 -0.6**
22nm,1.0s
OXZ Oxford 27.47 197 *e*P P **09 52 33.8 -0.4**
22nm,1.0s
CRLZ Canterbury Las 27.54 196 *e*P P **09 52 34.4 -0.5**
MQZ McQueen's Vall 27.66 196 *e*P P **09 52 35.3 -0.6**
36nm,1.1s
RPZ Rata Peaks 28.11 198 *e*P P **09 52 39.8 -0.1**
14nm,0.8s
FOZ Fox Glacier 28.33 200 *e*P P **09 52 42.3 +0.5**
60nm,1.0s
LBZ Lake Benmore 28.98 199 *e*P P **09 52 47.2 -0.3**
4.7nm,0.9s
ODZ Otahua Downs 29.44 197 *e*P P **09 52 51.8 +0.2**
WKZ Wanaka 29.74 200 *e*P P **09 52 54.2 0.0**
32nm,1.1s
EIDS Eidsvold 30.42 249 *e*P P **09 53 00.1 -0.3**
38nm,1.0s
EIDS *e*S **S 09 57 32.1 -0.3**
MLZ Mavora Lakes 30.52 200 *e*P P **09 53 01.1 +0.1**
50nm,0.8s
DCZ Deep Cove 30.93 201 *e*P P **09 53 04.2 -0.3**
59nm,1.1s
WHZ Wether Hill Ro 31.04 200 *e*P P **09 53 05.7 +0.2**
80nm,0.9s
ARMA Armidale 31.12 239 *e*P P **09 53 07.1 +0.5**
18nm,0.8s
CTA Charters Tower 34.54 260 P P **09 53 36.3 +0.4**
28nm,0.9s,baz=90,slow=12,SNR=6.9
CTAO Charters Tower 34.54 260 *e*P P **09 53 35.8 -0.1**
18nm,0.8s
CTAO Charters Tower 34.54 260 *e*P P **09 53 35.8 -0.1**
CTAO pmax pmax
comp=Z,18nm,0.8s
CAN Canberra 34.87 232 *e*P P **09 53 38.8 +0.2**
comp=Z,22nm,0.9s
CAN Canberra 34.87 232 *e*P P **09 53 38.8 +0.2**
CAN pmax pmax
comp=Z,23nm,0.9s
PMG Port Moresby 35.36 278 *e*P P **09 53 42.7 -0.2**
comp=Z,95nm,0.8s
PMG Port Moresby 35.36 278 *d i*P P **09 53 44.8 +1.9**
PMG pmax pmax
comp=Z,471nm,1.0s
TAOE Nuku Hiva Isla 37.14 82 *e*LR LR 10 04 23.1
comp=Z,188nm,26.9s
COEN Coen 38.11 269 *e*P P **09 54 05.9 0.0**
comp=Z,39nm,0.7s
TOO Toolangi 38.34 231 *e*P P **09 54 08.0 +0.6**
comp=Z,81nm,1.1s
TOO Toolangi 38.34 231 *e*P P **09 54 08.0 +0.6**
TOO pmax pmax
comp=Z,81nm,1.1s
STKA Stephens Creek 39.81 241 P P **09 54 20.6 +1.1**
comp=Z,28nm,0.7s,baz=91,slow=9.9,SNR=54
STKA Stephens Creek 39.81 241 *e*P P **09 54 19.6 +0.1**
comp=Z,9.1nm,0.9s
STKA Stephens Creek 39.81 241 *e*P P **09 54 19.6 +0.1**
STKA pmax pmax
comp=Z,9.0nm,0.9s
BBOO Buckleboo 44.58 241 *e*P P **09 54 58.2 +0.7**
comp=Z,120nm,0.8s
WC3 Warramunga Arr 45.70 259 *e*P P **09 55 05.9 -0.6**
comp=Z,34nm,0.8s
WB2 Warramunga Arr 45.72 259 *e*P P **09 55 06.1 -0.4**
WRAB Tennant Creek 45.73 259 *e*P P **09 55 06.2 -0.4**
comp=Z,33nm,0.9s
WRAB Tennant Creek 45.73 259 *↓ i*P P **09 55 06.5 -0.1**
WRAB pmax pmax
comp=Z,42nm,1.0s
WR1 Warramunga Arr 45.73 259 *e*P P **09 55 06.4 -0.3**
comp=Z,40nm,0.8s
WR1 *e*PcP **PcP 09 56 37.8 +0.8**
WR1 *e*S **S 10 01 18.8 -1.5**
WRA Warramunga Arr 45.73 259 P P **09 55 06.4 -0.3**
comp=Z,26nm,0.9s,baz=94,slow=7.1,SNR=2.5
WRA PcP **PcP 09 56 37.8 +0.8**
comp=Z,4.9nm,0.7s,baz=97,slow=3.4,SNR=6.4
WRA ScP **ScP 09 59 56.4 +4.3**
comp=Z,4.2nm,1.1s,baz=89,slow=4.1,SNR=7.9
WRA S **S 10 01 18.8 -1.5**
comp=Z,0.7nm,0.7s,baz=96,slow=13,SNR=4.3
AS01 Alice Springs 45.88 254 *e*P P **09 55 07.5 -0.3**
AS01 *e*S **S 10 01 20.6 -1.8**
AS31 Alice Springs 45.93 254 *e*P P **09 55 08.2 +0.1**
comp=Z,52nm,0.6s
AS31 *e*S **S 10 01 21.1 -1.8**
ASAR Alice Springs 45.93 254 P P **09 55 08.3 +0.2**
comp=Z,177nm,0.7s,baz=90,slow=8.0,SNR=828
ASAR ScP **ScP 09 59 57.5 +4.7**
comp=Z,0.9nm,0.5s,baz=97,slow=4.2,SNR=3.9
ASAR S **S 10 01 21.2 -1.7**
comp=Z,8.5nm,1.0s,baz=88,slow=16,SNR=10
MTN Manton Dam 49.83 268 *e*P P **09 55 37.4 -0.3**
comp=Z,41nm,0.8s
FORT Forrest 51.18 244 *e*P P **09 55 47.3 -0.2**
comp=Z,142nm,0.7s
FITZ Fitzroy Crossi 54.12 260 *e*P P **09 56 09.1 +0.1**
comp=Z,37nm,1.1s
SOEI Soe 57.08 269 *e*P P **09 56 29.9 -0.1**
comp=Z,76nm,0.8s
MBWA Marble Bar 59.20 255 *e*P P **09 56 44.2 0.0**
comp=Z,23nm,0.9s
NWAO Narrogin (SRO) 60.39 242 P P **09 56 52.8 +0.8**
comp=Z,35nm,0.9s,baz=357,slow=6.7,SNR=5.3
NWAO Narrogin (SRO) 60.39 242 *e*P P **09 56 52.1 +0.1**
comp=Z,44nm,0.9s
NWAO Narrogin (SRO) 60.39 242 *e*P P **09 56 52.1 +0.1**
NWAO pmax pmax
comp=Z,44nm,0.9s
SBA Scott Base 61.09 184 *e*P P **09 56 56.5 +0.5**
comp=Z,37nm,1.0s
VNDA Vanda 61.14 185 P P **09 56 58.1 +1.9**
comp=Z,8.6nm,1.0s,baz=355,slow=7.5,SNR=19
VNDA PcP **PcP 09 57 35.9 +1.1**
comp=Z,4.5nm,0.9s,baz=43,slow=3.7,SNR=4.7
VNDA Vanda 61.14 185 *e*P P **09 56 56.2 -0.1**
comp=Z,12nm,1.1s
VNDA *e*PcP **PcP 09 57 36.2 +1.4**
VNDA Vanda 61.14 185 *e*P P **09 56 56.2 -0.1**
VNDA *e* 09 57 36.2
VNDA pmax pmax
comp=Z,12nm,1.1s
MORW Morawa 61.65 246 *e*P P **09 57 00.2 -0.2**
comp=Z,22nm,0.8s
APSI Ampana 62.11 278 P P **09 57 02.2 -1.5**
comp=Z,45nm,0.9s
MPSI Mapaga 64.17 279 P P **09 57 15.7 -1.4**
comp=Z,24nm,1.1s
MJAR Matsushiro Arr 68.02 323 P P **09 57 40.6 -0.3**
comp=Z,15nm,0.8s,baz=165,slow=6.3,SNR=35
MAJO Matsushiro 68.03 323 *e*P P **09 57 40.7 -0.2**
comp=Z,22nm,0.9s
MAJO Matsushiro 68.03 323 *d i*P P **09 57 40.8 -0.1**
MAJO pmax pmax
comp=Z,24nm,1.0s
MAT Matsushiro 68.03 323 P P **09 57 40.6 -0.3**
SDKM Sandakan 68.52 283 P P **09 57 45.9 +1.4**
ADK Adak 68.88 0 *e*P P **09 57 45.3 -0.4**
comp=Z,50nm,0.9s
ADK Adak 68.88 0 *e*P P **09 57 45.3 -0.4**
ADK pmax pmax
comp=Z,50nm,0.9s
GSTR Great Sitkin T 69.10 1 *e*P P **09 57 46.8 -0.3**
ATKA Atka Island 69.25 2 *e*P P **09 57 47.6 -0.4**
comp=Z,58nm,0.8s
PWJI Pagerwojo 69.42 268 P P **09 57 50.6 +0.7**
comp=Z,70nm,0.7s
NIKH Nikolski High 70.36 5 *e*P P **09 57 54.8 +0.2**
comp=Z,42nm,0.6s
JNU Nakatsue 70.40 316 *e*P P **09 57 55.5 +0.1**
comp=Z,21nm,0.9s
UGM Wanagama 70.67 268 *e*P P **09 57 57.2 -0.3**
comp=Z,55nm,0.8s
ASAJ Asahikawa 71.23 331 *e*P P **09 58 00.8 +0.8**
comp=Z,20nm,0.8s
UNV Unalaska Valle 71.46 7 *e*P P **09 58 00.4 -0.8**
comp=Z,37nm,0.9s
BTM Bintulu 71.54 279 P P **09 58 03.8 +1.2**
SBUM Sibu 72.11 278 P P **09 58 07.6 +1.7**
YULB Yu-li 72.29 302 *e*P P **09 58 06.2 -0.5**
comp=Z,35nm,1.1s
SSLB Suanglung 72.75 302 *e*P P **09 58 08.3 -1.2**
comp=Z,19nm,0.5s
QSPA South Pole Qui 72.76 180 P P **09 58 10.2 +1.3**
comp=Z,32nm,1.0s,baz=18,slow=1.0,SNR=77
QSPA South Pole Qui 72.76 180 *e*P P **09 58 09.5 +0.6**
comp=Z,41nm,1.0s
TPUB Ta-pu 72.78 302 *e*P P **09 58 09.2 -0.5**
comp=Z,56nm,0.8s
YSS Yuzh-Sakhalins 73.33 333 *e*P P **09 58 12.1 -0.1**
comp=Z,46nm,1.1s
YSS Yuzh-Sakhalins 73.33 333 *e*P P **09 58 13.1 +0.9**
YSS *e* 09 58 23.7
YSS pmax pmax
comp=Z,30nm,1.0s
PEA0B Petropavlovsk- 73.35 345 *e*P P **09 58 11.9 -0.4**
comp=Z,22nm,0.8s
PETK Petropavlovsk- 73.35 345 P P **09 58 12.4 +0.1**
comp=Z,20nm,0.8s,baz=116,slow=9.1,SNR=57
PETK Petropavlovsk- 73.35 345 *e*P P **09 58 11.9 -0.3**
PETK Petropavlovsk- 73.35 345 *e*P P **09 58 11.9 -0.3**
PEA1 Petropavlovsk- 73.35 345 *e*P P **09 58 12.4 +0.1**
CISI Cisompet, Garu 73.36 267 *e*P P **09 58 12.1 -1.1**
comp=Z,53nm,0.6s
KSM Kuching 73.61 277 *e*P P **09 58 14.3 -0.3**
comp=Z,31nm,0.8s
KSRS Korea Array 74.92 318 P P **09 58 22.9 +1.4**
comp=Z,8.8nm,0.8s,baz=128,slow=6.8,SNR=21
KS15 Wonju Array Si 74.94 318 *e*P P **09 58 21.8 +0.1**
KS01 Wonju Array Si 74.95 318 *e*P P **09 58 21.3 -0.5**
KMRM Mail Ridge 75.90 39 *e*P P **09 58 27.9 +0.7**
comp=Z,54nm,0.8s
MSHR Mys Shultsa 76.10 323 *↓ i*P P **09 58 29.0 +0.9**
ARVC Arvin 76.13 46 P P **09 58 29.7 +1.3**
baz=237
VES Vestal, Richgr 76.35 45 P P **09 58 30.4 +0.8**
baz=237
TYV Tymovskoe 76.39 335 *e*P P **09 58 28.8 -0.7**
TYV *e*S **S 10 07 34.1 -7.5**
TYV pmax pmax
comp=Z,300nm,5.2s
TYV pmax pmax
comp=Z,36nm,0.9s
TYV smax smax
comp=E,200nm,6.1s
O02D Mt. Diablo Mer 76.44 40 P P **09 58 31.4 +1.3**
baz=233
MURC Murrieta 76.47 48 P P **09 58 31.4 +1.0**
baz=238
BFSC Mount Baldy Ra 76.47 47 P P **09 58 31.5 +1.0**
baz=238
EDW2 Edwards Air Fo 76.58 47 P P **09 58 31.8 +0.8**
baz=238,SNR=5.4
MONP2 Monument Peak 76.65 49 P P **09 58 33.4 +1.7**
baz=239
ISA Isabella, Lake 76.67 46 *e*P P **09 58 31.6 +0.1**
comp=E,4.3nm,1.0s
ISA Isabella, Lake 76.67 46 P P **09 58 32.9 +1.4**
baz=237,SNR=5.8
USRK Ussuriysk Ar. 76.68 325 P P **09 58 32.8 +1.6**
comp=E,5.1nm,0.9s,baz=180,slow=4.7,SNR=9.4
CMB Columbia Colle 76.70 43 *e*P P **09 58 31.5 -0.1**
comp=E,9.1nm,0.9s
CMB Columbia Colle 76.70 43 *e*P P **09 58 31.5 -0.1**
CMB pmax pmax
comp=Z,9.0nm,0.9s
IKP In-Ko-Pah, Jac 76.76 49 P P **09 58 33.6 +1.5**
baz=239
WDC Whiskeytown Da 76.83 40 *e*P P **09 58 32.4 +0.2**
comp=Z,20nm,1.1s
WDC Whiskeytown Da 76.83 40 *e*P P **09 58 32.4 +0.2**
WDC pmax pmax
comp=Z,20nm,1.1s
AFDM Forest Hills D 76.85 42 *e*P P **09 58 32.5 +0.1**
comp=Z,12nm,1.1s
ORV Oroville 76.87 41 *e*P P **09 58 32.6 +0.2**
comp=Z,9.4nm,1.1s
ORV Oroville 76.87 41 *e*P P **09 58 32.6 +0.2**
ORV pmax pmax
comp=Z,9.0nm,1.1s
OHAK Old Harbor 76.90 13 *e*P P **09 58 32.7 +0.6**
comp=Z,17nm,0.8s
N02D Trinity Center 76.96 39 P P **09 58 34.9 +1.9**
baz=233
KASI Kota Agung 77.08 268 P P **09 58 34.2 0.0**
comp=Z,85nm,1.0s
O03E Paynes Creek 77.11 40 P P **09 58 34.6 +0.7**
baz=234
LRMC Laurel Mtn Rad 77.11 46 P P **09 58 35.3 +1.2**
baz=238
CWC Cottonwood Cre 77.36 45 P P **09 58 36.6 +1.2**
baz=237
SLBS Sierra La Lagu 77.38 60 *e*P P **09 58 35.9 +0.2**
comp=Z,12nm,0.9s
YBH Yreka Blue Hor 77.42 39 *e*P P **09 58 36.3 +0.8**
comp=Z,16nm,1.0s
YBH Yreka Blue Hor 77.42 39 *e*P P **09 58 36.3 +0.8**
YBH pmax pmax
comp=Z,16nm,1.0s
BELC Belle Mtn. Jos 77.53 48 P P **09 58 37.9 +1.5**
baz=239
MPMC Manual Prospec 77.55 46 P P **09 58 37.8 +1.2**
baz=238,SNR=8.3
PMBI Palembang 77.56 271 P P **09 58 39.3 +2.5**
WAKR Walker 77.59 43 *e*P P **09 58 37.2 +0.5**
comp=Z,15nm,1.0s
DAC Darwin (Calif) 77.60 46 *e*P P **09 58 37.3 +0.5**
comp=Z,7.7nm,1.1s
DAC Darwin (Calif) 77.60 46 *e*P P **09 58 37.3 +0.5**
DAC pmax pmax
comp=Z,8.0nm,1.1s
GSC Goldstone, Bar 77.63 47 *e*P P **09 58 37.4 +0.6**
comp=Z,8.5nm,1.1s
GSC Goldstone, Bar 77.63 47 *e*P P **09 58 37.4 +0.6**
GSC pmax pmax
comp=Z,9.0nm,1.1s
GSC Goldstone, Bar 77.63 47 P P **09 58 38.1 +1.3**
baz=238
MDSI Maura Dua 77.68 269 P P **09 58 36.3 -1.2**
comp=Z,20nm,0.8s
HEC Hector,Ludlow 77.71 47 P P **09 58 38.6 +1.3**
baz=239
BEKR Beckworth 77.77 41 *e*P P **09 58 37.8 +0.2**
comp=Z,9.3nm,1.0s
GLA Glamis 77.89 50 *e*P P **09 58 39.0 +0.8**
comp=Z,24nm,1.0s
GLA Glamis 77.89 50 *e*P P **09 58 39.0 +0.8**
GLA pmax pmax
comp=Z,24nm,1.0s
GLA Glamis 77.89 50 P P **09 58 40.2 +2.0**
baz=240
L04D Klamath Falls 77.95 39 P P **09 58 40.0 +1.5**
baz=233
YERR Yerington 77.98 43 *e*P P **09 58 38.5 -0.3**
comp=Z,16nm,0.9s
GRAC Grapevine Rang 78.14 45 P P **09 58 40.7 +1.2**
baz=238
GMRC Granite Mounta 78.17 48 P P **09 58 40.7 +0.9**
baz=239
FURC Furnace Creek, 78.20 46 P P **09 58 41.0 +1.3**
baz=238
RYN Ryan 78.25 43 *e*P P **09 58 41.0 +0.8**
comp=Z,9.5nm,0.9s
MDJ Mudanjiang 78.27 324 *e*P P **09 58 40.5 +0.5**
comp=Z,16nm,0.9s
NV01 Mina Array Sit 78.29 43 *e*P P **09 58 40.6 +0.1**
NVAR Mina Array Bea 78.29 43 P P **09 58 41.6 +1.1**
comp=Z,9.9nm,0.7s,baz=223,slow=8.4,SNR=28
PAHR Pah Rah Range 78.29 42 *e*P P **09 58 41.6 +1.2**
comp=Z,16nm,1.1s
SHOC Shoshone, Teco 78.31 47 P P **09 58 41.4 +1.0**
baz=238
TUQ Turquoise Moun 78.31 47 P P **09 58 41.7 +1.1**
baz=239
NJ2 Nanjing 78.33 309 *e*P P **09 58 41.8 +1.2**
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
NV11 Mina Array Sit 78.39 44 *e*P P **09 58 42.2 +1.2**
comp=Z,1.3nm,0.9s
Y12C Blythe 78.46 49 *e*P P **09 58 42.4 +1.2**
comp=Z,20nm,0.9s
Y12C Blythe 78.46 49 P P **09 58 42.6 +1.3**
baz=240
113A Mohawk Valley, 78.53 50 *e*P P **09 58 42.3 +0.7**
comp=Z,17nm,0.9s
LDFC Landfair 78.70 48 *e*P P **09 58 43.8 +1.1**
comp=Z,36nm,1.0s
KVN Kaiserville 78.76 43 *e*P P **09 58 43.8 +0.8**
comp=Z,15nm,0.9s
KVN Kaiserville 78.76 43 *e*P P **09 58 43.8 +0.8**
KVN pmax pmax
comp=Z,15nm,0.9s
214A Organ Pipe Nat 78.84 51 P P **09 58 44.3 +0.9**
baz=241
TPNV Topopah Spring 78.87 46 *e*P P **09 58 43.9 +0.3**
comp=Z,12nm,0.8s
TPNV Topopah Spring 78.87 46 *e*P P **09 58 43.9 +0.3**
TPNV pmax pmax
comp=Z,12nm,0.8s
TPNV Topopah Spring 78.87 46 P P **09 58 44.7 +1.1**
baz=238,SNR=13
GRNR Gornyy 78.96 332 *e*P P **09 58 42.0 -1.6**
MOD Modoc Plateau 78.97 40 *e*P P **09 58 44.1 +0.1**
comp=Z,12nm,1.0s
PDMCI Parker Dam,Lak 79.01 49 P P **09 58 45.5 +1.3**
baz=240
J05D Fort Rock, OR 79.22 38 P P **09 58 47.0 +1.7**
baz=234
SHPR Sheep Range 79.39 46 *e*P P **09 58 46.7 +0.3**
comp=Z,10nm,1.1s
W13A Hualapai Mount 79.58 48 *e*P P **09 58 47.7 +0.2**
comp=Z,10nm,1.1s
Y14A Wickenburg 79.65 50 *e*P P **09 58 48.0 +0.2**
comp=Z,11nm,0.9s
PINE Pine Mountain 79.69 38 *e*P P **09 58 48.6 +0.7**
comp=Z,17nm,0.9s
BRLK Bradley Lake 79.75 13 *e*P P **09 58 47.9 +0.3**
comp=Z,27nm,0.8s
MYKOM Kota Tinggi 79.84 275 P P **09 58 50.4 +1.3**
RSO Redoubt South 79.99 12 *e*P P **09 58 48.8 -0.3**
R11A Troy Canyon, C 80.05 45 *e*P P **09 58 49.8 -0.1**
comp=Z,4.6nm,0.9s
R11A Troy Canyon, C 80.05 45 P P **09 58 50.8 +0.9**
baz=239,SNR=7.0
SVW2 Sparrevohn 80.05 11 *e*P P **09 58 49.0 -0.1**
comp=Z,14nm,1.0s
BMN Battle Mountai 80.08 42 *e*P P **09 58 50.1 +0.1**
comp=Z,18nm,1.0s
BMN Battle Mountai 80.08 42 *e*P P **09 58 50.1 +0.1**
BMN pmax pmax
comp=Z,18nm,1.0s
KLR Kul'dur 80.10 329 P P **09 58 50.6 +0.9**
comp=Z,7.3nm,1.1s,baz=98,slow=3.1,SNR=17
KLR Kul'dur 80.10 329 *↑ e*P P **09 58 50.0 +0.3**
CN2 Changchun 80.16 322 *e*P P **09 58 50.9 +0.8**
CN2 pmax pmax
comp=Z,20nm,1.1s
NLWA Neilton Lookou 80.24 34 *e*P P **09 58 50.8 +0.3**
comp=Z,14nm,0.9s
WVOR Wild Horse Val 80.29 40 *e*P P **09 58 51.5 +0.5**
comp=Z,17nm,1.0s
WVOR Wild Horse Val 80.29 40 *e*P P **09 58 51.5 +0.5**
WVOR pmax pmax
comp=Z,17nm,1.0s
SEW Seward 80.37 14 *e*P P **09 58 51.2 +0.4**
comp=Z,22nm,0.9s
KGM Kluang 80.42 275 P P **09 58 53.3 +1.2**
TUC Tucson 80.53 52 *e*P P **09 58 52.3 -0.1**
comp=Z,22nm,0.9s
TUC Tucson 80.53 52 *e*P P **09 58 52.3 -0.1**
TUC pmax pmax
comp=Z,22nm,0.9s
TUC Tucson 80.53 52 P P **09 58 54.1 +1.7**
baz=243
F05D White Salmon 80.63 36 P P **09 58 53.5 +0.9**
baz=233
G06A Carlson Farm, 80.71 37 *e*P P **09 58 52.7 -0.4**
D03D Eldon 80.75 34 P P **09 58 54.2 +1.1**
baz=232
MA2 Magadan 80.88 344 *↓ e*P P **09 58 52.8 -0.7**
MA2 pmax pmax
comp=Z,22nm,1.1s
J08A Circle Bar Ran 80.91 39 *e*P P **09 58 54.0 -0.2**
comp=Z,25nm,1.1s
GAMB Gambell 80.93 3 *e*P P **09 58 54.4 +0.8**
comp=Z,18nm,0.9s
LON Longmire 80.96 35 *e*P P **09 58 54.5 +0.2**
comp=Z,5.5nm,0.9s
LON Longmire 80.96 35 *e*P P **09 58 54.5 +0.2**
LON pmax pmax
comp=Z,6.0nm,0.9s
X16A Lo Mia Camp, P 81.02 50 *e*P P **09 58 56.1 +1.0**
CCUT Cedar City 81.16 46 *e*P P **09 58 56.5 +0.6**
comp=Z,8.0nm,1.1s
RC01 Rabbit Creek A 81.19 13 *e*P P **09 58 55.3 +0.2**
comp=Z,30nm,1.1s
KNB Kanab 81.27 47 *e*P P **09 58 56.8 +0.4**
comp=Z,8.6nm,1.1s
KNB Kanab 81.27 47 *e*P P **09 58 56.8 +0.4**
KNB pmax pmax
comp=Z,9.0nm,1.1s
PSUT Pine Spring 81.31 45 *e*P P **09 58 57.1 +0.6**
comp=Z,7.0nm,1.0s
SUA Susitna One 81.31 13 *e*P P **09 58 55.8 -0.1**
comp=Z,50nm,0.9s
U15A North Rim 81.36 48 *e*P P **09 58 57.6 +0.7**
comp=Z,6.1nm,1.0s
SZCU Shurtz Canyon 81.37 46 *e*P P **09 58 57.7 +0.8**
comp=Z,5.4nm,1.0s
ELK Elko 81.52 43 *e*P P **09 58 58.0 +0.4**
comp=Z,10nm,1.0s
WUAZ Wupatki 81.58 49 *e*P P **09 58 58.8 +0.9**
comp=Z,15nm,1.0s
WUAZ Wupatki 81.58 49 P P **09 58 59.7 +1.7**
baz=242
GLI Glacier Island 81.61 14 *e*P P **09 58 57.3 0.0**
comp=Z,31nm,0.8s
KTGM Kuala Trenggan 81.61 278 P P **09 58 59.8 +1.4**
A04D Lummi Island 81.68 33 P P **09 58 58.8 +0.9**
baz=232
G08A Pilot Rock 81.71 37 *e*P P **09 58 58.6 +0.3**
comp=Z,18nm,1.0s
KNK Knik Glacier 81.76 14 *e*P P **09 58 58.2 +0.1**
comp=Z,15nm,0.8s
PMR Palmer 81.77 13 *e*P P **09 58 57.6 -0.5**
comp=Z,28nm,1.1s
PMR Palmer 81.77 13 *e*P P **09 58 57.6 -0.5**
PMR pmax pmax
comp=Z,28nm,1.1s
PKCU Pink Cliffs 81.84 47 *e*P P **09 58 59.9 +0.5**
comp=Z,13nm,1.0s
LTY Liberty 81.89 35 *e*P P **09 58 59.5 +0.4**
comp=Z,15nm,1.1s
E07A Sunnyside 81.93 36 *e*P P **09 59 00.0 +0.7**
comp=Z,21nm,1.0s
GHO Glory Hole Cre 81.98 13 *e*P P **09 58 59.2 0.0**
comp=Z,34nm,0.9s
HAWA Hanford 82.02 36 *e*P P **09 59 00.0 +0.3**
comp=Z,20nm,0.9s
ANM Nome 82.12 5 *e*P P **09 59 00.3 +0.5**
comp=Z,23nm,1.2s
ANM Nome 82.12 5 *e*P P **09 59 00.3 +0.5**
ANM pmax pmax
comp=Z,23nm,1.2s
DIV Divide 82.14 15 *e*P P **09 58 59.6 -0.5**
comp=Z,30nm,0.9s
X18A Snowflake 82.16 50 *e*P P **09 59 01.4 +0.3**
comp=Z,18nm,1.0s
MTPU Mount Pierson 82.21 46 *e*P P **09 59 01.6 +0.2**
comp=Z,24nm,1.1s
HPIG 82.25 59 *e*P P **09 59 01.8 +0.2**
comp=Z,7.1nm,0.9s

PDSI **Padang** 82.27 271 P P 09 59 01.0 -0.8
E08A **Dider Farm, El** 82.34 36 eP P 09 59 01.9 +0.6
comp=Z,21nm,1.0s
SCM **Sheep Creek Mo** 82.39 14 eP P 09 59 01.3 -0.1
comp=Z,36nm,0.9s
SCM **Sheep Creek Mo** 82.39 14 eP P 09 59 01.3 -0.1
SCM pmax pmax
comp=Z,36nm,0.9s
FRIM **Kepong** 82.40 276 P P 09 59 03.8 +1.3
BMO **Blue Mountains** 82.44 38 eP P 09 59 01.8 -0.2
comp=Z,19nm,1.1s
BMO **Blue Mountains** 82.44 38 eP P 09 59 01.8 -0.2
BMO pmax pmax
comp=Z,19nm,1.1s
MSU **Marysvale** 82.45 46 eP P 09 59 02.5 +0.1
MSU **Marysvale** 82.45 46 eP P 09 59 02.5 +0.1
W18A **Petrified Fore** 82.59 50 P P 09 59 04.5 +1.3
baz=243
D08A **Wollman Farm,** 82.74 36 eP P 09 59 04.0 +0.5
comp=Z,20nm,1.0s
DUG **Dugway, Tooele** 82.84 44 eP P 09 59 03.9 -0.4
comp=Z,10nm,1.0s
DUG **Dugway, Tooele** 82.84 44 eP P 09 59 03.9 -0.4
DUG pmax pmax
comp=Z,10.0nm,1.0s
DUG **Dugway, Tooele** 82.84 44 P P 09 59 05.1 +0.8
baz=240,SNR=11
E09A **Wood Farm, Sta** 82.87 37 eP P 09 59 04.3 +0.3
comp=Z,2.1nm,0.6s
121A **Cookes Peak, D** 82.90 53 P P 09 59 07.0 +2.2
baz=244
TRF **Thorofare Moun** 83.20 12 eP P 09 59 05.7 +0.1
comp=Z,43nm,0.8s
NLU **North Lily Min** 83.22 45 eP P 09 59 06.2 0.0
comp=Z,8.4nm,1.1s
ZAIG **Zacatecas** 83.24 64 eP P 09 59 07.1 +0.2
comp=Z,19nm,1.0s
BESE **Bessie Mountai** 83.26 21 eP P 09 59 06.3 +0.4
comp=Z,22nm,1.1s
B08A **Colville Reser** 83.26 35 eP P 09 59 05.7 -0.3
comp=Z,14nm,0.9s
Q16A **Castle Valley** 83.33 46 eP P 09 59 07.5 +0.7
comp=Z,11nm,1.1s
IPM **Ipoh** 83.34 277 eP P 09 59 07.3 0.0
comp=Z,40nm,1.0s
IPM **Ipoh** 83.34 277 P P 09 59 08.3 +1.1
HARP **HAARP** 83.40 14 eP P 09 59 06.2 -0.2
comp=Z,48nm,1.1s
SEY **Seymchan** 83.41 347 ⇓iP P 09 59 06.5 +0.1
RND **Reindeer** 83.45 12 eP P 09 59 06.5 -0.2
comp=Z,59nm,0.8s
RND **Reindeer** 83.45 12 eP P 09 59 06.5 -0.2
RND pmax pmax
comp=Z,59nm,0.8s
DHY **Denali Highway** 83.47 13 eP P 09 59 06.3 -0.6
comp=Z,22nm,1.1s
TMUT **Trail Mountain** 83.49 46 eP P 09 59 07.6 -0.2
comp=Z,29nm,0.9s
HLID **Hailey** 83.51 41 eP P 09 59 07.3 -0.3
comp=Z,18nm,0.9s
HLID **Hailey** 83.51 41 P P 09 59 08.9 +1.3
baz=239
C09A **Chrisman Ranch** 83.53 36 eP P 09 59 06.6 -0.7
comp=Z,10nm,0.9s
MPU **Maple Canyon** 83.54 45 eP P 09 59 07.9 0.0
comp=Z,15nm,1.1s
EPT **El Paso** 83.56 54 eP P 09 59 07.7 -0.4
comp=Z,34nm,1.1s
MNSI **Mandailing Nat** 83.61 273 P P 09 59 08.7 +0.1
HVU **Hansel Valley** 83.65 43 eP P 09 59 07.6 -0.8
comp=Z,16nm,0.9s
HVU **Hansel Valley** 83.65 43 eP P 09 59 07.6 -0.8
HVU pmax pmax
comp=Z,16nm,0.9s
MCK **McKinley** 83.72 12 eP P 09 59 08.0 0.0
comp=Z,68nm,1.0s
MCK **McKinley** 83.72 12 eP P 09 59 08.0 0.0
MCK pmax pmax
comp=Z,68nm,1.0s
SKAG **Skagway** 83.78 20 eP P 09 59 09.0 +0.7
comp=Z,23nm,1.0s
CTU **Camp Tracy** 83.79 44 eP P 09 59 09.5 +0.4
comp=Z,17nm,1.0s
SRU **San Rafael Swe** 83.87 46 eP P 09 59 09.5 0.0
comp=Z,21nm,1.0s
SRU **San Rafael Swe** 83.87 46 eP P 09 59 09.5 0.0
SRU pmax pmax
comp=Z,21nm,1.0s
P17A **Butcher Ranch,** 83.89 46 eP P 09 59 09.8 +0.1
comp=Z,7.2nm,1.1s
JLU **Jordanelle** 83.95 44 eP P 09 59 10.5 +0.5
comp=Z,14nm,1.0s
KULM **Kulim** 83.95 277 P P 09 59 11.9 +1.6
BJT **Baijiatuau** 84.05 315 eP P 09 59 10.7 +0.5
comp=Z,29nm,1.1s
BJT **Baijiatuau** 84.05 315 eP P 09 59 10.7 +0.5
BJT pmax pmax
comp=Z,29nm,1.1s
BJI **Beijing** 84.06 315 P P 09 59 11.5 +1.3
BJI pmax pmax
comp=Z,19nm,1.0s
HYT **Haines Junctio** 84.16 18 eP P 09 59 10.3 -0.1
comp=Z,17nm,0.9s
LAZ **Ladron** 84.19 51 eP P 09 59 11.5 +0.3
TCUT **Toone Canyon** 84.22 44 eP P 09 59 11.3 -0.1
comp=Z,39nm,0.9s
MNTX **Cornudas Mount** 84.40 55 eP P 09 59 12.0 -0.1
comp=Z,21nm,0.9s
MNTX **Cornudas Mount** 84.40 55 P P 09 59 13.8 +1.6
baz=246
MVCO **Mesa Verde** 84.42 48 eP P 09 59 12.1 -0.3
comp=Z,5.3nm,1.0s
MVCO **Mesa Verde** 84.42 48 P P 09 59 13.1 +0.7
baz=243
NEW **Newport** 84.42 36 eP P 09 59 11.1 -0.8
comp=Z,8.3nm,0.9s
NEW **Newport** 84.42 36 eP P 09 59 11.1 -0.8
NEW pmax pmax
comp=Z,8.0nm,0.9s
NEW **Newport** 84.42 36 P P 09 59 12.2 +0.3
baz=236
BNM **Barren Site** 84.47 52 eP P 09 59 13.3 +0.7
MLY **Manley** 84.55 11 eP P 09 59 11.2 -0.9
comp=Z,26nm,1.0s
SKLT **Songkhla** 84.56 279 P P 09 59 18.2 +5.0
comp=Z,50nm,0.9s
WRH **Wood River Hil** 84.56 12 eP P 09 59 11.3 -0.8
comp=Z,92nm,1.1s
PV19 **Morning Glory** 84.57 47 eP P 09 59 12.7 -0.4
comp=Z,15nm,0.9s
SKNT **Sakolnakorn** 84.61 290 P P 09 59 14.8 +1.4
comp=Z,22nm,1.2s
RIDG **Independ'e Rid** 84.62 14 eP P 09 59 12.3 -0.2
comp=Z,32nm,0.9s
PV11 **David Mesa, Pa** 84.64 47 eP P 09 59 13.6 +0.2
comp=Z,19nm,1.1s
PV12 **Saucer Basin,** 84.70 47 eP P 09 59 13.3 -0.4
comp=Z,32nm,1.1s
DOT **Dot Lake** 84.72 14 eP P 09 59 12.9 0.0
comp=Z,34nm,0.8s
HDA **Harding Lake** 84.74 13 eP P 09 59 12.6 -0.4
comp=Z,42nm,0.8s
HDA **Harding Lake** 84.74 13 P P 09 59 12.9 -0.1
baz=209,SNR=35
ENH **Enshi** 84.76 304 eP P 09 59 14.4 +0.4
comp=Z,40nm,0.8s
MAW **Mawson** 84.77 200 P P 09 59 13.7 +0.4
comp=Z,12nm,0.9s,baz=79,slow=9.3,SNR=8.5
MAW **Mawson** 84.77 200 eP P 09 59 13.5 +0.2
comp=Z,3.8nm,1.0s
LTX **Lajitas** 84.82 57 eP P 09 59 16.5 +2.2
TX31 **Lajitas Ar. Si** 84.82 57 eP P 09 59 15.1 +0.7
TXAR **Lajitas Array** 84.82 57 P P 09 59 16.5 +2.2
comp=Z,34nm,1.1s,baz=220,slow=6.6,SNR=157
PSI **Prapat** 84.84 275 eP P 09 59 13.6 -1.2
comp=Z,28nm,1.0s
WHY **Whitehorse** 84.84 20 eP P 09 59 14.1 +0.4
comp=Z,18nm,0.8s
DLBC **Dease Lake** 84.87 23 eP P 09 59 14.4 +0.5
comp=Z,19nm,0.9s
IM3 **Indian Mountai** 84.91 9 eP P 09 59 13.7 -0.1
ANMO **Albuquerque** 84.93 51 eP P 09 59 14.6 -0.3
comp=Z,12nm,1.1s
ANMO **Albuquerque** 84.93 51 deP P 09 59 16.2 +1.3
ANMO pmax pmax
comp=Z,20nm,1.3s
ANMO **Albuquerque** 84.93 51 P P 09 59 16.0 +1.1
baz=245
TCOL **CIGO, UAF Yank** 84.96 12 P P 09 59 13.6 -0.5
baz=208,SNR=23
MDM **Murphy Dome** 84.96 12 eP P 09 59 13.4 -0.8
comp=Z,33nm,0.9s
COLA **College** 84.96 12 eP P 09 59 13.4 -0.6
comp=Z,72nm,0.8s
COLA **College** 84.96 12 diP P 09 59 13.6 -0.4
COLA pmax pmax
comp=Z,62nm,0.8s
SCRK **Sand Creek** 85.02 14 eP P 09 59 14.1 -0.5
comp=Z,16nm,0.8s
ILAR **Eielson Array** 85.07 13 P P 09 59 14.2 -0.5
comp=Z,14nm,0.4s,baz=222,slow=5.3,SNR=364
ILAR pP pP 10 00 42.0 -1.4
comp=Z,3.5nm,1.1s,baz=235,slow=3.2,SNR=3.9
ILB **Eielson Array** 85.07 13 eP P 09 59 14.1 -0.5
IL1 **Eielson Array** 85.07 13 eP P 09 59 14.0 -0.7
ZEA **Zeya** 85.14 331 eP P 09 59 15.4 +0.2
ZEA pmax pmax
comp=Z,43nm,1.2s
AHID **Auburn Hatcher** 85.21 43 eP P 09 59 16.5 +0.4
comp=Z,4.4nm,1.1s
POKR **Poker Plat Res** 85.26 12 P P 09 59 15.2 -0.4
baz=209,SNR=14
SRAK **Srakaew** 85.39 286 P P 09 59 17.7 +0.4
comp=Z,32nm,1.3s
GDL2 **Guadalupe Moun** 85.40 54 eP P 09 59 17.7 +0.5
MSO **Missoula** 85.48 38 eP P 09 59 17.5 +0.3
comp=Z,3.3nm,1.0s
MSO **Missoula** 85.48 38 P P 09 59 17.0 -0.2
baz=239
DLMT **Dillon** 85.54 40 eP P 09 59 18.1 +0.5
comp=Z,18nm,0.9s
GYA **Guiyang** 85.61 299 eP P 09 59 20.0 +1.7
GYA pP pP 10 00 49.6 +2.0
GYA sP sP 10 01 29.2 +1.1
GYA PP **PP** **10 02 47.8 +3.9**
GYA SKS **SKSac** **10 09 04.2 -1.9**
GYA S **S** **10 09 18.0 +0.9**
GYA pmax pmax
comp=Z,10.0nm,1.0s
TRTT **Trang** 85.64 280 P P 09 59 20.7 +2.1
comp=Z,15nm,0.9s
TPAW **Teton Pass** 85.66 42 eP P 09 59 18.7 +0.4
comp=Z,2.2nm,0.8s
REDW **Red Top Meadow** 85.66 42 eP P 09 59 18.1 -0.2
comp=Z,11nm,1.1s
GSI **Gunungsitoli** 85.68 273 eP P 09 59 18.7 -0.1
comp=Z,15nm,0.7s
GSI **Gunungsitoli** 85.68 273 P P 09 59 19.9 +1.1
comp=Z,76nm,0.8s
NONG **Nongkai** 85.72 290 P P 09 59 20.9 +2.0
comp=Z,0.4nm,0.9s
SNOW **Snow King Moun** 85.77 42 eP P 09 59 19.2 +0.3
comp=Z,19nm,1.1s
S22A **4UR Ranch, Cre** 85.85 49 eP P 09 59 19.6 +0.2
comp=Z,14nm,1.0s
S22A **4UR Ranch, Cre** 85.85 49 P P 09 59 20.7 +1.2
baz=244
MOOW **Moose Ponds** 85.91 42 eP P 09 59 19.9 +0.4
comp=Z,1.4nm,0.8s
BILL **Bilibino** 85.93 354 eP P 09 59 18.6 -0.1
comp=Z,45nm,1.0s
BILL **Bilibino** 85.93 354 diP P 09 59 18.8 +0.1
BILL e*PP **pwP** **10 00 50.5 -0.3**
BILL e 10 02 44.1
BILL pmax pmax
comp=Z,43nm,0.9s
LOHW **Long Hollow** 85.94 42 eP P 09 59 19.6 -0.1
comp=Z,1.9nm,0.7s
FLWY **Flagg Ranch** 86.10 42 eP P 09 59 20.5 +0.1
comp=Z,16nm,0.9s
YHB **Horse Butte** 86.11 41 eP P 09 59 20.8 +0.4
comp=Z,40nm,1.2s
YPP **Pitchstone Pla** 86.12 41 eP P 09 59 21.1 +0.4
comp=Z,3.0nm,1.2s
KCSI **Kotacane, Aceh** 86.15 275 P P 09 59 20.9 -0.2
comp=Z,10.0nm,0.7s
YFT **Old Faithful** 86.19 41 eP P 09 59 21.2 +0.4
comp=Z,11nm,1.0s
YMR **Madison River** 86.21 41 eP P 09 59 21.4 +0.4
comp=Z,23nm,0.9s
BW06 **Boulder Array** 86.22 43 eP P 09 59 21.1 0.0
comp=Z,9.5nm,1.1s
BW06 **Boulder Array** 86.22 43 P P 09 59 21.4 +0.3
baz=242,SNR=7.0
PD31 **Pinedale Array** 86.22 43 eP P 09 59 20.8 -0.2
PDAR **Pinedale Array** 86.22 43 P P 09 59 21.5 +0.5
comp=Z,1.6nm,0.5s,baz=211,slow=3.5,SNR=22
PDAR **Pinedale Array** 86.22 43 eP P 09 59 21.4 +0.3
DAWY **Dawson** 86.22 16 eP P 09 59 19.8 -0.5
comp=Z,15nm,0.8s
H17A **Grant Village** 86.33 41 P P 09 59 24.0 +2.5
baz=242,SNR=11
SMCO **Snowmass** 86.36 47 eP P 09 59 21.8 -0.2
comp=Z,6.5nm,0.9s
YNR **Norris Junctio** 86.41 41 eP P 09 59 22.3 +0.3
comp=Z,7.2nm,1.0s
COLD **Coldfoot** 86.63 10 eP P 09 59 22.2 0.0
comp=Z,4.3nm,0.9s
TPTI 86.63 274 P P 09 59 24.1 +0.7
comp=Z,22nm,0.9s
WALA **Waterton Lakes** 86.65 36 eP P 09 59 23.0 +0.2
comp=Z,16nm,1.0s
LNIG **Linares** 86.66 63 eP P 09 59 22.9 -0.4
comp=Z,54nm,1.1s
HRY **Holter Researc** 86.67 39 eP P 09 59 23.2 +0.3
XAN **Xi'an** 86.69 307 P P 09 59 24.6 +1.3
XAN pP pP 10 00 52.7 +0.1
XAN PP **PP** **10 02 52.4 +0.1**
XAN S **S** **10 09 26.1 -0.9**
XAN pmax pmax
comp=Z,39nm,1.5s
XAN pmax pmax
comp=Z,290nm,5.7s
XAN **Xi'an** 86.69 307 eP P 09 59 22.9 -0.4
comp=Z,32nm,0.9s
XAN **Xi'an** 86.69 307 eP P 09 59 22.9 -0.4
XAN pmax pmax
comp=Z,32nm,0.9s
PBKT **Sadao Pong** 87.20 288 eP P 09 59 25.9 0.0
comp=Z,8.3nm,0.8s
PBKT **Sadao Pong** 87.20 288 P P 09 59 28.1 +2.2
comp=Z,15nm,1.4s,comp=Z,880nm
PHET **Kaeng Krachan** 87.27 284 P P 09 59 28.8 +2.5
comp=Z,15nm,0.8s,comp=Z,120nm
RWWY **Rawlins** 87.29 45 eP P 09 59 26.1 -0.2
comp=Z,15nm,1.0s
MSTX **Muleshoe** 87.32 53 eP P 09 59 26.2 -0.1
comp=Z,17nm,0.9s
MSTX **Muleshoe** 87.32 53 P P 09 59 27.0 +0.7
baz=247
T25A **Trinidad** 87.34 50 eP P 09 59 26.3 -0.2
comp=Z,5.5nm,1.0s
T25A **Trinidad** 87.34 50 P P 09 59 26.9 +0.4
baz=246
RLMT **Red Lodge** 87.49 41 eP P 09 59 27.5 +0.5
RLMT **Red Lodge** 87.49 41 P P 09 59 28.3 +1.3
baz=242,SNR=13
GCMT **Greycliff** 87.55 40 eP P 09 59 27.2 0.0
Q24A **Divide** 87.56 48 P P 09 59 27.9 +0.3
baz=246
HHC **Hu-ho-hao-te** 87.56 314 eP P 09 59 28.8 +1.5
HHC pP pP 10 00 55.3 -1.3
HHC SKS **SKSac** **10 09 19.7 +2.4**
HHC S **S** **10 09 32.2 -2.9**
HHC pmax pmax
comp=Z,30nm,1.4s
HHC pmax pmax
comp=Z,220nm,7.5s
ISCO **Idaho Springs** 87.58 47 eP P 09 59 27.8 +0.1
comp=Z,4.4nm,1.1s
ISCO **Idaho Springs** 87.58 47 eP P 09 59 27.8 +0.1
ISCO pmax pmax
comp=Z,4.0nm,1.1s
ISCO **Idaho Springs** 87.58 47 P P 09 59 28.3 +0.6
baz=245
N23A **Red Feather La** 87.81 46 eP P 09 59 28.8 +0.1
N23A **Red Feather La** 87.81 46 P P 09 59 29.9 +1.2
baz=245
833A **Chaparral WMA,** 87.92 60 eP P 09 59 29.4 +0.2
comp=Z,18nm,1.1s
833A **Chaparral WMA,** 87.92 60 P P 09 59 30.8 +1.7
baz=249
NANT **Nan** 88.16 290 P P 09 59 34.5 +4.1
comp=Z,3.0nm,0.8s
K22A **Casper** 88.17 44 eP P 09 59 30.6 +0.4
comp=Z,6.7nm,1.0s
K22A **Casper** 88.17 44 P P 09 59 31.4 +1.3
baz=244
UTHA **Uthaitani** 88.27 287 P P 09 59 33.3 +2.3
comp=Z,4.4nm,0.8s
JCT **Junction City** 88.36 57 eP P 09 59 31.4 +0.2
comp=Z,9.9nm,1.0s
JCT **Junction City** 88.36 57 eP P 09 59 31.4 +0.2
JCT pmax pmax
comp=Z,10.0nm,1.0s
JCT **Junction City** 88.36 57 P P 09 59 32.3 +1.1
baz=249
KMI **Kunming** 88.45 297 P P 09 59 34.0 +2.0
KMI pmax pmax
comp=Z,17nm,1.2s
AMTX **Amarillo** 88.50 53 eP P 09 59 31.8 0.0
comp=Z,16nm,1.1s
AMTX **Amarillo** 88.50 53 P P 09 59 32.7 +0.9
baz=248
EGMT **Eagleton** 88.54 38 eP P 09 59 32.1 +0.5
comp=Z,3.9nm,1.1s
EGMT **Eagleton** 88.54 38 P P 09 59 33.0 +1.4
baz=242
EPYK **Eagle Plains** 88.75 15 eP P 09 59 32.0 -0.2
comp=Z,10.0nm,0.8s
EPYK **Eagle Plains** 88.75 15 P P 09 59 32.2 0.0
baz=218
UMPA **Umpang Tak** 89.00 287 P P 09 59 37.4 +2.9
LAMP **Lampang** 89.03 290 P P 09 59 38.1 +3.6
comp=Z,5.3nm,1.1s
LAMP **Lampang** 89.03 290 P P 09 59 38.1 +3.6
ABTX **Abilene, Hawle** 89.25 56 eP P 09 59 34.8 -0.5
comp=Z,25nm,1.0s
ABTX **Abilene, Hawle** 89.25 56 P P 09 59 36.3 +1.0
baz=249
KSCO **Kaye Shedlock'** 89.38 49 eP P 09 59 37.0 +1.1
comp=Z,4.8nm,0.9s
KSCO **Kaye Shedlock'** 89.38 49 P P 09 59 37.4 +1.5
baz=247
CM01 **Chiang Mai Arr** 89.60 289 eP P 09 59 37.8 +0.6
CM31 **Chiang Mai Arr** 89.63 289 eP P 09 59 37.3 0.0
CMAR **Chiang Mai Arr** 89.63 289 P P 09 59 38.9 +1.6
comp=Z,8.4nm,0.9s,baz=105,slow=3.0,SNR=34
CMAR PKKPbc **PKKPbc** **10 17 09.9 +0.9**
comp=Z,0.4nm,0.3s,baz=289,slow=3.7,SNR=4.6
CMAR **Chiang Mai Arr** 89.63 289 iP P 09 59 39.5 +2.2
CMAR pmax pmax
comp=Z,8.0nm,0.9s
CMMT **Chiang Mai** 89.73 290 P P 09 59 39.5 +1.7
CMMT **Chiang Mai** 89.73 290 P P 09 59 39.5 +1.7
CHTO **Chiang Mai** 89.74 290 eP P 09 59 37.5 -0.3
comp=Z,13nm,1.0s
CHTO **Chiang Mai** 89.74 290 eP P 09 59 37.5 -0.3
CHTO pmax pmax
comp=Z,13nm,1.0s
CHTO **Chiang Mai** 89.74 290 P P 09 59 39.6 +1.8
SYO **Syowa Base** 89.97 193 ⇑iP P 09 59 37.3 -0.6
SYO **Syowa Base** 89.97 193 ⇑ePcP **PcP** **09 59 39.8 +0.9**
LAO **LASA Array** 90.09 41 eP P 09 59 39.4 +0.5
comp=Z,22nm,1.0s
LAO **LASA Array** 90.09 41 P P 09 59 40.6 +1.7
baz=245,SNR=6.8
435B **Jarrell** 90.25 58 eP P 09 59 40.9 +1.0
comp=Z,15nm,0.8s
435B **Jarrell** 90.25 58 P P 09 59 41.3 +1.3
baz=250
RSSD **Black Hills** 90.43 44 eP P 09 59 40.9 +0.2
comp=Z,16nm,0.9s
RSSD **Black Hills** 90.43 44 eP P 09 59 40.9 +0.2
RSSD pmax pmax
comp=Z,16nm,0.9s
RSSD **Black Hills** 90.43 44 P P 09 59 41.2 +0.4
baz=246
WMOK **Wichita Mounta** 90.67 54 eP P 09 59 42.3 +0.4
comp=Z,2.2nm,1.0s
WMOK **Wichita Mounta** 90.67 54 eP P 09 59 42.3 +0.4
WMOK pmax pmax
comp=Z,2.0nm,1.0s
WMOK **Wichita Mounta** 90.67 54 P P 09 59 42.6 +0.8
baz=249
WHTX **Lake Whitney,** 90.77 57 eP P 09 59 42.3 0.0
comp=Z,15nm,0.9s
WHTX **Lake Whitney,** 90.77 57 P P 09 59 43.3 +1.0
baz=250
GO06 **Curarrehue** 90.83 132 eP P 09 59 43.7 +1.0
comp=Z,13nm,1.0s
PLCA **Paso Flores** 91.02 133 P P 09 59 45.5 +2.0
comp=Z,10nm,0.9s,baz=252,slow=6.1,SNR=19
PLCA **Paso Flores** 91.02 133 eP P 09 59 43.5 -0.1
comp=Z,17nm,1.0s
INK **Inuvik** 91.03 15 eP P 09 59 42.5 -0.1
comp=Z,17nm,1.0s
INK **Inuvik** 91.03 15 eP P 09 59 42.5 -0.1
INK pmax pmax
comp=Z,17nm,1.0s
SNAA **Sanae** 91.18 178 P P 09 59 42.5 -1.1
SNAA **Sanae** 91.18 178 eP P 09 59 43.6 0.0
comp=Z,8.4nm,0.9s
SNAA **Sanae** 91.18 178 ⇑iP P 09 59 44.0 +0.4
SNAA pmax pmax
comp=Z,1μm,1.3s
VNA3 **Neumayer Olymp** 91.28 176 P P 09 59 44.4 +0.3
LZH **Lanzhou** 91.32 307 eP P 09 59 46.7 +1.7
LZH pP pwP 10 01 19.6 +2.3
LZH sP sP 10 01 53.3 -1.7
LZH pmax pmax
comp=Z,65nm,1.2s
LZH pmax pmax
comp=Z,130nm,4.7s
CBKS **Cedar Bluff** 91.40 50 eP P 09 59 46.1 +1.1
comp=Z,4.9nm,0.9s
CBKS **Cedar Bluff** 91.40 50 eP P 09 59 46.2 +1.1
CBKS pmax pmax
comp=Z,5.0nm,0.9s
CBKS **Cedar Bluff** 91.40 50 P P 09 59 45.7 +0.6
baz=249
VNA2 **Neumayer--Watz** 91.73 177 P P 09 59 46.7 +0.7
DGMT **Dagmar** 92.08 40 eP P 09 59 48.8 +0.8
comp=Z,65nm,0.9s
DGMT **Dagmar** 92.08 40 P P 09 59 49.3 +1.3
baz=246,SNR=18
NATX **Nacogdoches** 92.94 58 eP P 09 59 52.6 +0.3
comp=Z,11nm,1.0s
ULN **Ulaanbaatar** 93.35 319 ⇓eP P 09 59 54.2 +0.2
ULN pmax pmax
comp=Z,8.0nm,1.3s
YKA **Yellowknife Ar** 93.36 24 P P 09 59 53.6 +0.1
comp=Z,4.6nm,0.7s,baz=245,slow=4.5,SNR=100
YKA PKKP **PKiKP** **10 04 37.2 0.0**
comp=Z,0.2nm,0.6s,baz=262,slow=1.4,SNR=5.3
YKA PKKP **PKKPdf** **10 16 58.1 -1.4**
comp=Z,0.1nm,0.4s,baz=47,slow=2.2,SNR=4.8
YKA PKKPbc **PKKPbc** **10 17 03.3 +1.7**
comp=Z,0.1nm,0.4s,baz=44,slow=2.0,SNR=7.7
YKB5 **Yellowknife Ar** 93.36 24 eP P 09 59 52.9 -0.6
TUL1 **Leonard** 93.37 54 eP P 09 59 54.1 -0.1
comp=Z,10.0nm,1.1s
TUL1 **Leonard** 93.37 54 P P 09 59 54.7 +0.5
baz=251
YKW3 **Yellowknife Ar** 93.39 24 eP P 09 59 53.2 -0.4
comp=Z,8.2nm,0.9s
EFI **East Falkland** 93.43 147 ⇓iP P 09 59 55.6 +1.4
EFI pmax pmax
comp=Z,25nm,1.0s
BGNE **Belgrade** 93.44 48 eP P 09 59 54.3 -0.2
comp=Z,52nm,1.0s
BGNE **Belgrade** 93.44 48 P P 09 59 55.7 +1.2
baz=250
BOD **Bodaibo** 93.63 330 eP P 09 59 50.7 -4.2
BOD pmax pmax
comp=Z,7.0nm,1.9s
SONA1 **Songino Array** 93.75 319 eP P 09 59 55.2 -0.6
SONA0 **Songino Array** 93.75 319 eP P 09 59 56.2 +0.4
SONM **Songino Array** 93.75 319 P P 09 59 56.2 +0.4
comp=Z,0.7nm,0.6s,baz=142,slow=7.5,SNR=6.6
KSU1 **Kansas State U** 93.78 50 eP P 09 59 56.3 +0.2
comp=Z,20nm,0.8s
KSU1 **Kansas State U** 93.78 50 P P 09 59 57.1 +1.1
baz=251
SUSD **Miller** 93.93 45 P P 09 59 56.8 +0.2
baz=250
MIAR **Mount Ida** 94.66 55 P P 10 00 00.9 +0.7
baz=252
MDND **Maddock** 94.69 41 P P 10 00 00.2 +0.2
baz=250
ECSD **EROS Data Cent** 95.28 46 eP P 10 00 02.5 -0.3

ECSD EROS Data Cent 95.28 46 P P 10 00 03.0 +0.3
baz=251
GTA Gaotai 95.42 309 P P 10 00 04.5 +0.8
GTA pmax pmax
comp=Z,5.0nm,0.8s
U40A Yellville 95.77 54 P P 10 00 06.0 +0.8
baz=253
TIXI Tiksi 95.82 345 P P 10 00 03.8 -0.7
comp=Z,2.6nm,0.5s,baz=117,slow=4.5,SNR=7.9
244A Avery, Jackson 96.25 59 P P 10 00 09.5 +2.1
baz=254
U41A Viola 96.48 54 P P 10 00 08.8 +0.4
baz=253
T41A Mountain View 96.80 53 P P 10 00 08.7 -1.1
baz=254
S41A Jillco Farms, 96.97 53 P P 10 00 11.4 +0.9
baz=254
ULM Lac du Bonnet 97.80 40 P P 10 00 13.6 -0.3
comp=Z,1.7nm,0.6s,baz=324,slow=1.3,SNR=4.6
L40A Anamosa 98.58 49 P P 10 00 18.2 +0.6
baz=254
LPAZ La Paz 102.69 112 PKKPbc PKKPbc 10 16 34.6 0.0
comp=Z,0.9nm,0.8s,baz=17,slow=4.9,SNR=4.5
ZAA1 Zalesovo Array 108.37 322 ePKiKP PKiKP 10 05 04.2 -0.4
ZALV Zalesovo Beam 108.37 322 PKiKP PKiKP 10 05 04.2 -0.4
comp=Z,1.7nm,0.6s,baz=185,slow=1.3,SNR=5.6
MK32 Makanchi Array 109.43 314 ePKiKP PKiKP 10 05 06.4 -0.4
MK32 ePKKPbc PKKPbc 10 16 13.9 -0.5
MKAR Makanchi Array 109.43 314 PKiKP PKiKP 10 05 06.4 -0.5
comp=Z,2.0nm,0.6s,baz=68,slow=1.6,SNR=19
MKAR PKKPbc PKKPbc 10 16 13.9 -0.5
comp=Z,3.1nm,1.0s,baz=270,slow=3.6,SNR=15
KURK Kurchatov 112.04 318c iPKIKP PKiKP 10 05 11.4 -0.2
KURK pmax pmax
comp=Z,6.0nm,1.3s
KSH Kashi 113.53 306 PKP PKiKP 10 05 15.8 +0.8
KSH AMB AMB
comp=Z,250nm,6.0s
FRB Frobisher Bay 113.68 27 PKiKP PKiKP 10 05 14.1 -0.2
comp=Z,2.0nm,0.6s,baz=302,slow=4.5,SNR=11
AAK Ala-Archa 114.77 309 PKP PKiKP 10 05 17.7 +0.4
comp=Z,1.2nm,0.5s,baz=139,slow=4.5,SNR=5.3
AAK Ala-Archa 114.77 309⇑iPKIKP PKiKP 10 05 17.5 +0.2
AAK pmax pmax
comp=Z,4.0nm,1.7s
BVAR Borovoye Array 117.00 321 PKP PKPdf 10 05 21.1 0.0
comp=Z,5.6nm,0.4s,baz=128,slow=2.0,SNR=40
BRVK Borovoye 117.06 321 ePKPdf PKPdf 10 05 20.3 -0.9
BRVK Borovoye 117.06 321⇓iPKIKP PKPdf 10 05 21.0 -0.2
KK31 Karatay Array 117.70 310 ePKPdf PKPdf 10 05 22.0 -0.8
KK31 Karatay Array 117.70 310 ePKIKP PKPdf 10 05 22.0 -0.8
KKAR Karatay Array 117.70 310 ePKPdf PKPdf 10 05 22.0 -0.8
KKAR Karatay Array 117.70 310 ePKIKP PKPdf 10 05 22.0 -0.8
GAR Garm 117.90 305 ePKPdf PKiKP 10 05 23.5 0.0
GAR Garm 117.90 305 ePKIKP PKiKP 10 05 23.5 0.0
SPITS Spitsbergen Ar 118.72 357 PKP PKPdf 10 05 23.4 -0.3
comp=Z,12nm,0.9s,baz=78,slow=10,SNR=5.4
KBL Kabul 118.85 300 ePKPdf PKPdf 10 05 25.6 +0.1
KBL Kabul 118.85 300 ePKIKP PKPdf 10 05 25.6 +0.1
SFJD Kangerlussuaq 119.75 21 PKP PKPdf 10 05 25.6 -0.3
comp=Z,4.4nm,0.4s,baz=183,slow=3.2,SNR=7.9
BDFB Brasilia 120.29 120 PKP PKiKP 10 05 28.9 +0.1
comp=Z,2.5nm,0.5s,baz=113,slow=11,SNR=3.8
SVE Sverdlovsk 121.68 327 ePKIKP PKiKP 10 05 30.7 +0.6
SVE pmax pmax
comp=Z,20nm,0.9s
ARU Arti 122.89 327 ePKPdf PKPdf 10 05 32.0 -0.3
ARU Arti 122.89 327 i PKIKP PKPdf 10 05 32.4 +0.1
ARU 10 07 13.8
ARU 10 12 04.9
ABKAR Akbulak array 124.15 318 ePKPdf PKPdf 10 05 35.1 +0.2
SCO Scoresbysund 124.76 10 ePKPdf PKiKP 10 05 35.8 0.0
SCO Scoresbysund 124.76 10 ePKIKP PKiKP 10 05 35.8 0.0
AKTO Aktyubinsk 125.05 320 PKP PKiKP 10 05 37.2 +0.2
comp=Z,6.3nm,0.8s,baz=70,slow=3.7,SNR=22
ARA0 ARCESS Array S 125.89 350 ePKPdf PKiKP 10 05 38.0 -0.1
ARCES ARCESS Array B 125.89 350 PKP PKiKP 10 05 38.0 -0.1
comp=Z,13nm,0.7s,baz=302,slow=2.7,SNR=41
GEYT Alibeck 127.52 305 PKP PKiKP 10 05 42.6 +0.2
comp=Z,52nm,0.9s,baz=207,slow=0.7,SNR=14
GYA0B ALIBECK ARRAY 127.52 305 ePKPdf PKPdf 10 05 41.4 -0.4
KLMR Klimovskoe 129.18 338 ePKIKP PKPdf 10 05 42.5 -1.6
KLMR pmax pmax
comp=Z,20nm,1.3s
KLMR Klimovskoe 129.18 338 ePKPdf PKPdf 10 05 42.6 -1.6
KLMR AMP 10 05 45.8
comp=Z,20nm,1.3s
FIA0 FINESS Array S 132.87 345 ePKPdf PKPdf 10 05 51.6 +0.5
FIA0 FINESS Array S 132.87 345 ePKIKP PKPdf 10 05 51.6 +0.5
FINES FINESS Array B 132.87 345 PKhKP PKPpre 10 05 43.4
comp=Z,0.9nm,0.4s,baz=104,slow=3.9,SNR=7.6
FINES PKP PKPdf 10 05 51.6 +0.5
comp=Z,5.7nm,0.7s,baz=48,slow=3.3,SNR=8.5
OBN Obninsk 134.21 333⇑iPKIKP PKiKP 10 05 55.5 +0.3
OBN e 10 08 27.8
OBN eSS SS 10 26 15.0 +28
OBN pmax pmax
comp=Z,38nm,1.5s
VSR Storozhevoye 135.44 328⇑iPKIKP PKPdf 10 05 56.3 0.0
NB2 NORSAR Subarra 135.88 354 PKP PKPpre 10 05 51.6
comp=Z,2.5nm,0.7s,baz=17,slow=2.6
NB200 NORSAR Array S 135.88 354 ePKPdf PKPdf 10 05 57.2 +0.3
NOA NORSAR Array B 135.88 354 PKP PKPdf 10 05 57.2 +0.3
comp=Z,1.0nm,0.5s,baz=14,slow=4.0,SNR=7.1
HFS Hagfors 136.47 352 PKhKP PKPpre 10 05 46.7
comp=Z,2.2nm,0.6s,baz=64,slow=3.4,SNR=9.5
HFS PKP PKPdf 10 05 58.5 +0.6
comp=Z,2.1nm,0.4s,baz=85,slow=3.1,SNR=6.1
ZEI Tsey 136.78 315 i PKIKP PKPpre 10 05 53.7
ZEI pmax pmax
comp=Z,6.0nm,1.1s
KIV Kislovodsk 137.10 317 ePKIKP PKPdf 10 06 00.2 +0.5
KIV pmax pmax
comp=Z,10.0nm,1.1s
AKASG Malin Array Be 140.47 333 PKhKP PKPpre 10 06 03.5
comp=Z,6.3nm,0.9s,baz=43,slow=2.8,SNR=9.0
AKBB Malin Array Si 140.47 333 ePKPdf PKPdf 10 06 03.6 -1.9
AKBB Malin Array Si 140.47 333 ePKIKP PKPdf 10 06 03.6 -1.9
AK11 Malin Array Si 140.51 333 ePKPdf PKPdf 10 06 03.7 -1.9
TSUM Tsumeb 140.87 203 PKhKP PKPpre 10 06 04.8
comp=Z,2.3nm,0.8s,baz=197,slow=18,SNR=3.3
EKA Eskdalemuir Ar 141.77 5 PKhKP PKPpre 10 06 02.4
comp=Z,3.3nm,0.8s,baz=352,slow=3.5,SNR=6.8
BSEG Bad Segeberg 142.95 352 ePKPbc PKPdf 10 06 07.3 -2.4
baz=14,slow=3.0
LVV L'vov 143.25 337 ePKHKP PKPpre 10 06 08.1
RUE Ruedersdorf 143.81 348 ePKPbc PKPdf 10 06 10.7 -0.6
baz=14,slow=3.0
KWP Kalwaria Pacla 143.90 338 ePKPdf PKPbc 10 06 10.8 +0.5
KWP Kalwaria Pacla 143.90 338⇓ePKIKP PKPbc 10 06 10.8 +0.5
ILGA Ilgaz 144.31 318 ePKPbc PKPbc 10 06 11.0 -1.2
OJC Ojcow 144.37 341 i PKPdf PKPdf 10 06 12.3 -0.1
OJC Ojcow 144.37 341 ePKPbc PKPbc 10 06 11.2 -0.6
OJC Ojcow 144.37 341⇓iPKIKP PKPdf 10 06 12.3 -0.2
NRDL Niedersach Rie 144.38 352 ePKPbc PKPdf 10 06 12.4 +0.1
baz=14,slow=3.0
BUR08 Bucovina Ar. S 144.51 333 ePKPbc PKPbc 10 06 12.2 -0.3
BUR04 Bucovina Ar. S 144.53 333 ePKPbc PKPbc 10 06 11.9 -0.6
BURAR Bucovina Array 144.53 333⇑iP PKPdf 10 06 13.7 +0.8
KOZT Kozan 144.60 311 eP PKPbc 10 06 12.9 -0.1
TLCR 144.61 327⇑iP PKPab 10 06 13.9 +0.9
TLCR 144.61 327 ⇑PKIKP PKPab 10 06 13.9 +0.9
BIZ Bicaz 144.66 332⇓iP PKPab 10 06 14.0 +0.9
ASSE Asse, Remlinge 144.66 351 ePKPbc PKPab 10 06 13.2 +0.4
baz=14,slow=3.0
KSP Ksiaz 144.79 345 i PKPdf PKPab 10 06 14.1 +0.6
KSP Ksiaz 144.79 345⇓iPKIKP PKPab 10 06 14.1 +0.6
TAHT Tahtakopru-Hat 144.79 309 eP PKPab 10 06 14.7 +0.7
IBBN Ibbenburen 144.83 355 ePKPbc PKPab 10 06 14.0 +0.4
baz=14,slow=3.0
UZH Uzhgorod 144.88 337 ePKIKP PKPab 10 06 14.0 +0.1
NIE Niedzica 144.91 340 ePKPdf PKPab 10 06 14.6 +0.6
NIE Niedzica 144.91 340⇓ePKIKP PKPab 10 06 14.6 +0.6
CFR Carcaliu 144.96 328⇓iP PKPab 10 06 14.2 -0.1
CFR Carcaliu 144.96 328 ⇓PKIKP PKPab 10 06 14.2 -0.1
CLZ Clausthal 144.99 352 ePKPbc PKPbc 10 06 14.0 +0.2
baz=14,slow=3.0
PETR Petresti 145.03 329⇑iP PKPab 10 06 16.1 +1.6
BR101 Keskin Array S 145.05 316 ePKPdf PKPbc 10 06 14.4 -0.1
BR101 epPKPdf pPKPab 10 07 47.6 +0.8
BR131 Keskin Array S 145.05 316 ePKPdf PKPdf 10 06 13.2 -0.9
BRTR Keskin Array B 145.05 316 PKP PKPbc 10 06 14.4 -0.1
comp=Z,23nm,0.8s,baz=138,slow=3.3,SNR=90
BRTR pPKP pPKPab 10 07 47.6 +0.7
comp=Z,5.2nm,1.0s,baz=74,slow=1.6,SNR=5.1

CLL Collm 145.07 349 ePKPdf PKPdf 10 06 13.7 +0.1
CLL Collm 145.07 349 ePKPbc PKPab 10 06 14.4 -0.1
baz=14,slow=3.0
CLL Collm 145.07 349⇓iPKPbc PKPab 10 06 14.5 0.0
comp=Z,97nm,0.8s
CLL epPKPdf pPKPbc 10 07 48.0 +0.3
CLL Collm 145.07 349⇓iPKIKP PKPab 10 06 14.5 0.0
CLL e 10 07 48.0
CLL pmax pmax
comp=Z,8.0nm,0.8s
VRI Vrincioaia 145.16 330⇓iP PKPab 10 06 14.9 -0.2
VRI Vrincioaia 145.16 330 ⇓PKP2 PKPab 10 06 14.9 -0.2
UPC Upice 145.17 345 ePKP PKPab 10 06 15.2 +0.3
UPC Upice 145.17 345 ePKP2 PKPab 10 06 15.2 +0.3
TRPA Tarpa 145.20 336⇑iP PKPab 10 06 14.9 -0.2
OKC Ostrava-Krasne 145.21 342 ePKP PKPbc 10 06 14.8 +0.4
OKC Ostrava-Krasne 145.21 342 ePKIKP PKPbc 10 06 14.8 +0.4
PLOR Plostina 145.21 330⇓iP PKPab 10 06 15.3 0.0
PLOR Plostina 145.21 330 ⇓PKP2 PKPab 10 06 15.3 0.0
DPC Dobruska-Polom 145.24 345 ePKP PKPab 10 06 15.7 +0.4
DPC Dobruska-Polom 145.24 345 ePKP2 PKPab 10 06 15.7 +0.4
KARA Karaisali 145.25 311 eP PKPbc 10 06 15.3 +0.3
WTSB Winterswijk 145.25 355 i PKP PKPab 10 06 14.9 -0.2
BRG Berggiesshubel 145.30 347 i PKP PKPbc 10 06 15.1 +0.4
comp=Z,84nm,1.1s
BRG i pP pPKPdf 10 07 52.2 +3.3
comp=Z,11nm,0.8s
BRG eSKP 10 09 08.6
comp=Z,7.0nm,1.2s
BRG Berggiesshubel 145.30 347 ePKPbc PKPab 10 06 15.4 0.0
baz=14,slow=3.0
BRG Berggiesshubel 145.30 347 i PKP2 PKPbc 10 06 15.1 +0.4
BRG pmax pmax
comp=Z,84nm,1.1s
BRG pmax pmax
comp=Z,11nm,0.8s
BRG pmax pmax
comp=N,7.0nm,1.2s
ARCR ARCALIA 145.31 334⇓iP PKPab 10 06 15.5 -0.1
TIRR Tirgusor 145.32 327 ePKPdf PKPdf 10 06 14.4 +0.1
TIRR Tirgusor 145.32 327⇑iP PKPab 10 06 16.1 +0.4
TIRR Tirgusor 145.32 327 ⇑PKP2 PKPab 10 06 16.1 +0.4
GULA Gulagac 145.33 314 eP PKPdf 10 06 14.9 +0.3
YAYX Yaylak 145.33 315 eP PKPbc 10 06 15.4 +0.1
GTTG Gvttingen 145.33 352 ePKPbc PKPbc 10 06 15.1 +0.4
baz=14,slow=3.0
KRLC Kraliky 145.37 344 ePKP PKPab 10 06 15.9 +0.1
KRLC Kraliky 145.37 344 ePKP2 PKPab 10 06 15.9 +0.1
NEUB Neuenburg 145.39 350 ePKPbc PKPbc 10 06 15.2 +0.3
baz=14,slow=3.0
HARR Harsova 145.41 328⇓iP PKPab 10 06 16.4 +0.4
HARR Harsova 145.41 328 ⇓PKP2 PKPab 10 06 16.4 +0.4
LANS Liptovska Anna 145.41 340 ePKP2 PKPab 10 06 16.7 +0.7
LANS Liptovska Anna 145.41 340 ePKP PKPab 10 06 16.7 +0.7
TLB Topalu 145.42 327⇓iP PKPab 10 06 16.5 +0.4
TLB Topalu 145.42 327 ⇓PKP2 PKPab 10 06 16.5 +0.4
MORC Moravsky Berou 145.43 343 ePKPdf PKPbc 10 06 14.9 -0.3
MORC Moravsky Berou 145.43 343⇓iP PKPab 10 06 16.0 0.0
MORC Moravsky Berou 145.43 343 ⇓PKP2 PKPab 10 06 16.1 +0.1
MORC Moravsky Berou 145.43 343 ePKP PKPbc 10 06 15.6 +0.4
PVCC Panska Ves 145.49 347 ePKP PKPab 10 06 16.5 +0.4
PVCC Panska Ves 145.49 347 ePKP2 PKPab 10 06 16.5 +0.4
ANTO Ankara 145.53 317 ePKPdf PKPdf 10 06 15.2 +0.3
ANTO Ankara 145.53 317 ePKIKP PKPdf 10 06 15.2 +0.3
DOPR Dopca 145.72 331⇓iP PKPab 10 06 17.6 +0.4
BUG Bochum--Univer 145.73 355 ePKPbc PKPbc 10 06 16.4 +0.5
baz=14,slow=3.0
ISR Istrita 145.80 329⇓iP PKPab 10 06 17.5 -0.1
ISR Istrita 145.80 329 ⇓PKP2 PKPab 10 06 17.5 -0.1
MERS Mersin 145.80 311 eP PKPab 10 06 17.6 -0.3
MLR Muntele Rosu 145.81 330 PKPbc PKPbc 10 06 17.2 +0.6
comp=N,17nm,0.7s,baz=293,slow=7.3,SNR=4.0
MLR Muntele Rosu 145.81 330 ePKPdf PKPdf 10 06 15.9 +0.7
MLR Muntele Rosu 145.81 330⇓iP PKPab 10 06 17.7 -0.1
MLR Muntele Rosu 145.81 330 ⇓PKP2 PKPab 10 06 17.7 -0.1
KULU Kulu 145.82 316 eP PKPbc 10 06 17.0 +0.2
CJR Cluj-Napoca 145.92 334⇑iP PKPab 10 06 17.5 -0.5
CJR Cluj-Napoca 145.92 334 ⇑PKP2 PKPab 10 06 17.5 -0.5
MOX Moxa 145.96 350 ePKPbc PKPbc 10 06 16.8 +0.1
baz=14,slow=3.0
PRU Pruhonice 146.00 346 ePKP PKPbc 10 06 17.5 +0.7
PRU Pruhonice 146.00 346 ePKP2 PKPbc 10 06 17.5 +0.7
GOPC GO Pecny, Ondr 146.02 346 ePKP PKPab 10 06 17.7 -0.6
GOPC GO Pecny, Ondr 146.02 346 ePKP2 PKPab 10 06 17.7 -0.6
TANN Tannenbergstha 146.03 349 ePKPbc PKPbc 10 06 17.5 +0.5
baz=14,slow=3.0
UBBA Unterbreizbach 146.04 352 ePKPbc PKPbc 10 06 17.3 +0.6
baz=14,slow=3.0
SECR 146.09 330⇓iP PKPab 10 06 18.3 -0.4
GUNZ Gunzen 146.10 349 ePKPbc PKPbc 10 06 17.5 +0.4
baz=14,slow=3.0
VRAC Vranov 146.12 344 PKPbc PKPab 10 06 18.0 -0.6
comp=N,9.4nm,0.7s,baz=36,slow=4.2,SNR=14
VRAC pPKPbc pPKPdf 10 07 50.7 +0.2
comp=N,3.2nm,0.5s,baz=32,slow=5.1,SNR=2.5
VRAC Vranov 146.12 344⇓iP PKPab 10 06 18.3 -0.4
VRAC Vranov 146.12 344 ⇓PKP2 PKPab 10 06 18.3 -0.4
VRAC Vranov 146.12 344 ePKP PKPbc 10 06 17.7 +0.5
VRAC e 10 07 50.8
LEHL Lehliu 146.12 328⇓iP PKPab 10 06 18.5 -0.3
CHBY Cihanbeyli 146.13 315 eP PKPbc 10 06 17.1 -0.6
WERN Wernitzgruen 146.17 349 ePKPbc PKPbc 10 06 17.7 +0.4
baz=14,slow=3.0
WERN epPKPbc pPKPdf 10 07 50.4 -0.2
VYHS Vyhne 146.19 341 ePKP2 PKPab 10 06 18.4 -0.6
VYHS Vyhne 146.19 341 ePKP PKPab 10 06 18.4 -0.6
VYHS e 10 07 51.2
NKC Novy Kostel 146.21 349 ePKP PKPbc 10 06 18.2 +0.8
NKC Novy Kostel 146.21 349 ePKP2 PKPbc 10 06 18.2 +0.8
JAVC Velka Javorina 146.22 342 ePKP PKPab 10 06 19.0 -0.2
JAVC e 10 07 52.1
DRGR 146.22 335⇓iP PKPbc 10 06 17.2 -0.4
DRGR 146.22 335 ⇓PKIKP PKPbc 10 06 17.2 -0.4
VOIR 146.27 331⇑iP PKPab 10 06 19.0 -0.5
VOIR 146.27 331 ⇑PKP2 PKPab 10 06 19.0 -0.5
PSZ Piszkesteto 146.34 339 ePKPdf PKPdf 10 06 16.2 +0.2
PSZ ePKPbc PKPab 10 06 19.1 -0.5
PSZ Piszkesteto 146.34 339⇓iP PKPab 10 06 18.9 -0.8
PSZ Piszkesteto 146.34 339 ⇓PKP2 PKPab 10 06 18.9 -0.8
KRUC Moravsky 146.40 344 ePKP PKPbc 10 06 18.1 +0.2
KRUC e 10 07 51.4
TREC Trest 146.42 345 ePKP PKPbc 10 06 18.8 +0.8
TREC Trest 146.42 345 ePKP2 PKPbc 10 06 18.8 +0.8
HGN Heimansgroeve 146.50 356 i PKP PKPbc 10 06 18.6 +0.4
ARR Arges 146.51 331⇑iP PKPbc 10 06 17.7 -0.8
KEBE Keben-Mersin 146.57 311 eP PKPdf 10 06 16.8 +0.1
SMOL Smolenice 146.60 342 ePKP2 PKPab 10 06 20.2 -0.4
SMOL Smolenice 146.60 342 ePKP PKPab 10 06 20.2 -0.4
EREN Erenkoy 146.63 309 eP PKPbc 10 06 19.6 +0.6
MMAI Mount Meron Ar 146.64 304 PKPbc PKPab 10 06 20.5 -0.9
comp=N,31nm,0.5s,baz=82,slow=6.8,SNR=37
MMAI pPKPbc pPKPdf 10 07 53.2 +1.1
comp=N,11nm,0.9s,baz=27,slow=5.6,SNR=3.5
MEM Membach 146.65 356 ⇓PKPbc PKPbc 10 06 19.1 +0.5
MEM ⇓PKPab PKiKP 10 06 21.8 +0.9
SWQJ Swaqa 146.67 301 P PKPab 10 06 20.6 -1.0
LADK Ladik-KONYA 146.68 315 eP PKPbc 10 06 18.5 -0.7
IKL Isikli 146.68 311 eP PKPbc 10 06 19.9 +0.8
TEVE Tevekalti-Mers 146.77 311 eP PKPbc 10 06 20.2 +0.7
MODS Modra-Piesok 146.77 342 ePKP2 PKPbc 10 06 20.1 +1.1
MODS Modra-Piesok 146.77 342 ePKP PKPbc 10 06 20.1 +1.1
MODS e 10 06 23.0
MODS e 10 07 53.5
WALJ Wala 146.78 302 P PKiKP 10 06 20.8 -0.9
KONT Konya--Tatoy 146.81 314 eP PKPbc 10 06 19.1 -0.4
AKKU Akkuyu-Mersin 146.82 311 eP PKPbc 10 06 20.1 +0.6
MMLI Mount Malkishu 146.82 303 P PKiKP 10 06 21.1 -0.8
TNS Taunus Mts 146.82 353 ePKPbc PKPbc 10 06 19.6 +0.5
baz=14,slow=3.0
SNF Seneffe 146.84 358 ⇓PKPbc PKPbc 10 06 19.7 +0.7
SNF ⇑PKPab PKPab 10 06 21.8 +0.4
GRA1 Grafenberg Arr 146.94 350 ePKPdf PKPdf 10 06 17.2 +0.4
GRA1 ePKPbc PKiKP 10 06 20.6 -0.9
GRF Grafenberg Arr 146.94 350 ePKPbc PKPbc 10 06 20.0 +0.5
baz=14,slow=3.0
GRFO Grafenberg 146.95 350 ePKPdf PKPdf 10 06 17.2 +0.4
GRFO ePKPbc PKiKP 10 06 20.8 -0.8
SRO Srobarova 146.96 340 ePKP2 PKiKP 10 06 20.8 -0.8
SRO Srobarova 146.96 340 ePKP PKiKP 10 06 20.8 -0.8
BERE Bereket-Mersin 146.97 311 eP PKPbc 10 06 20.9 +0.8
KHC Kasperske Hory 147.02 347 ePKPdf PKPdf 10 06 17.2 +0.2
KHC ePKPbc PKiKP 10 06 21.0 -0.8

KHC Kasperske Hory 147.02 347 ePKP PKPdf 10 06 17.5 +0.5
KHC ex x 10 06 20.4
KHC epPKP pPKPdf 10 07 51.5 -0.6
KHC Kasperske Hory 147.02 347 ePKIKP PKPdf 10 06 17.5 +0.5
KHC e 10 06 20.4
KHC e 10 07 51.5
SIRR Siria 147.07 335⇑iP PKPbc 10 06 19.0 -0.9
MBAR Mbarara 147.11 240 PKPbc PKiKP 10 06 22.4 -0.8
comp=N,21nm,0.8s,baz=87,slow=4.5,SNR=14
MBAR Mbarara 147.11 240 ePKPbc PKPbc 10 06 21.8 +0.6
JDRJ Daraweish 147.14 300 P PKPbc 10 06 21.7 +0.9
TEKE Tekeli-Mersin 147.14 311 eP PKiKP 10 06 21.8 -0.6
LISJ El Lisan 147.14 301 P PKiKP 10 06 21.7 -0.7
WET Wettzell 147.16 348 ePKPbc PKPbc 10 06 20.6 +0.5
baz=14,slow=3.0
DOU Dourbes 147.24 358 ⇑PKPbc PKPbc 10 06 20.7 +0.5
DOU ⇑PKPab PKPab 10 06 23.1 +0.1
GEC2 GERESS Array S 147.27 346 ePKPdf PKPdf 10 06 16.9 -0.6
GEC2 ePKPbc PKPbc 10 06 21.1 +0.6
GEC2 GERESS Array S 147.27 346 ePKIKP PKPdf 10 06 16.9 -0.6
GEC2 e 10 06 21.1
GERES GERESS Array B 147.27 346 PKP PKPdf 10 06 18.1 +0.5
comp=N,11nm,0.8s,baz=22,slow=1.1,SNR=58
GERES PKPbc PKPbc 10 06 21.1 +0.6
comp=N,11nm,0.8s,baz=29,slow=3.0,SNR=58
GERES pPKPbc pPKPdf 10 07 53.7 +1.1
comp=N,3.1nm,1.0s,baz=64,slow=6.1,SNR=3.1
GEA0 GERESS Array S 147.27 346 ePKPdf PKPdf 10 06 17.3 -0.2
GEA0 ePKPbc PKPbc 10 06 21.1 +0.7
GZR Gura Zlata 147.32 333⇓iP PKPdf 10 06 18.2 +0.5
GZR Gura Zlata 147.32 333 ⇓PKHKP PKPpre 10 06 18.2
CSS Mathiatis 147.49 309 eP PKPbc 10 06 21.5 +0.1
CSS Mathiatis 147.49 309 ePKPbc PKPbc 10 06 21.7 +0.3
AMAZ Amatzia 147.51 302 P PKPbc 10 06 21.7 +0.1
CONA Conrad Observa 147.58 343 ePKiKP PKiKP 10 06 22.5 -0.5
comp=N,51nm,1.1s,SNR=16
CONA epPKPab pPKPbc 10 07 55.5 +0.4
comp=N,12nm,1.2s
WLF Walferdange 147.58 356 ePKPbc PKiKP 10 06 22.1 -0.7
WLF Walferdange 147.58 356 ePKPbc PKiKP 10 06 22.5 -0.4
baz=14,slow=3.0
WLF Walferdange 147.58 356 ⇑PKP PKiKP 10 06 22.4 -0.4
BZS Buzias 147.62 335⇓iP PKPdf 10 06 18.6 +0.5
BZS Buzias 147.62 335 ⇓PKIKP PKPdf 10 06 18.6 +0.5
VLAD Vladila 147.66 330⇑iP PKiKP 10 06 23.0 -0.2
SRE Strehaia 147.70 332⇑iP PKPbc 10 06 22.5 +0.9
SRE Strehaia 147.70 332 ⇑PKP2 PKPbc 10 06 22.5 +0.9
LEF Lefka 147.75 309 eP PKPbc 10 06 22.0 0.0
PVL Pavlikeni 147.78 328 i P PKiKP 10 06 23.4 0.0
HRFI Mount Harif 147.85 299 P PKPdf 10 06 18.8 -0.2
HERR Herculane 147.88 333⇓iP PKPbc 10 06 22.6 +0.5
SZAC Souni 147.92 309 P PKPbc 10 06 23.0 +0.5
AQBJ Aqaba 147.93 299 P PKiKP 10 06 23.9 -0.3
ALFC Alefka 147.95 310 P PKPbc 10 06 22.4 -0.2
SUTC Sutluce-Ispart 147.98 315 eP PKPdf 10 06 20.9 +1.8
EIL Elat 148.02 299 PKP PKPdf 10 06 19.6 +0.4
comp=N,24nm,0.9s,baz=357,slow=3.3,SNR=4.0
EIL PKPbc PKiKP 10 06 23.8 -0.6
comp=N,22nm,0.8s,baz=308,slow=3.2,SNR=22
EIL Elat 148.02 299 P PKiKP 10 06 23.8 -0.6
MOA Molln 148.07 345 ePKiKP PKPbc 10 06 23.2 +0.7
comp=N,21nm,0.8s,SNR=12
MOA epPKPab pPKPbc 10 07 57.0 +0.6
comp=N,12nm,1.2s
ISP Isparta 148.12 315 ePKPbc PKPbc 10 06 22.7 -0.4
ISP Isparta 148.12 315⇑iP PKPbc 10 06 23.5 +0.4
ISP Isparta 148.12 315 ⇑PKP2 PKPbc 10 06 23.5 +0.4
PUNG Punghina 148.13 332⇓iP PKPbc 10 06 23.1 +0.4
KZIT Kziot 148.13 301 P PKiKP 10 06 24.2 -0.4
STU Stuttgart 148.15 352 ePKPdf PKPdf 10 06 19.1 +0.2
STU ePKPbc PKiKP 10 06 23.9 -0.1
STU Stuttgart 148.15 352 ePKIKP PKPdf 10 06 19.1 +0.2
STU e 10 06 23.9
MORH Mrgy, Hungar 148.24 339⇓iP PKPbc 10 06 23.2 +0.3
PPCY Paphos 148.26 309 P PKPbc 10 06 22.4 -0.9
ARSA Arzberg 148.29 343 ePKiKP PKPbc 10 06 23.6 +0.6
comp=N,23nm,1.4s,SNR=9.4
ARSA epPKPab pPKPbc 10 07 57.6 +0.5
comp=N,5.0nm,1.3s
FUR Furstenfeldbru 148.41 349 ePKPbc PKiKP 10 06 24.4 -0.3
baz=14,slow=3.0
FUR epPKPbc pPKPbc 10 07 57.6 +0.3
RJOB Jochberg 148.51 347 ePKPbc PKiKP 10 06 24.5 -0.4
baz=14,slow=3.0
KORT Korkueli 148.67 314 eP PKPbc 10 06 24.6 +0.1
BFO Black Forest 148.70 353 ePKPdf PKPdf 10 06 20.1 +0.3
BFO ePKPbc PKiKP 10 06 25.0 -0.3
BFO Black Forest 148.70 353 ePKPbc PKiKP 10 06 25.1 -0.2
baz=14,slow=3.0
BFO Black Forest 148.70 353 ePKHKP PKPpre 10 06 20.1
FRGS Fruska Gora 148.72 336⇓iP PKPbc 10 06 24.7 +0.5
KOGS Kog 148.81 342 i PKPbc PKPbc 10 06 24.6 +0.2
PGB Panagyurishte 148.85 328 i P PKPbc 10 06 25.1 +0.4
ECH Echery 148.94 354 ePKPbc PKiKP 10 06 25.4 -0.4
SOKA Soboth 148.95 343 i PKiKP PKPbc 10 06 25.1 +0.2
comp=N,25nm,1.1s,SNR=12
SOKA epPKPbc pPKPdf 10 07 57.3 +1.9
comp=N,7.1nm,1.3s
KBA Koelnbreinsper 149.01 346 ePKiKP PKPbc 10 06 25.3 +0.2
comp=N,14nm,0.4s
MANT Manisa 149.03 318 ePKPbc PKiKP 10 06 26.2 -0.3
UBR Ueberruh 149.08 350 ePKPbc PKiKP 10 06 26.1 0.0
baz=14,slow=3.0
WATA Walderalm 149.15 348 ePKiKP PKPbc 10 06 25.7 +0.3
comp=N,8.0nm,0.5s,SNR=6.9
WATA epPKiKP pPKPbc 10 07 59.4 -0.1
comp=N,7.2nm,0.9s
RETA Reutte 149.16 349 ePKiKP PKiKP 10 06 26.0 -0.3
comp=N,15nm,0.6s,SNR=8.3
RETA epPKPbc pPKPbc 10 07 59.2 -0.3
comp=N,6.0nm,1.0s
MOTA Moosalm 149.23 349 ePKPdf PKPdf 10 06 20.9 +0.1
comp=N,7.4nm,1.1s
MOTA ePKiKP PKiKP 10 06 27.0 +0.5
comp=N,16nm,0.6s,SNR=13
MOTA epPKiKP pPKPbc 10 08 00.6 +0.9
comp=N,4.9nm,0.9s
OBKA Obir 149.24 344 ePKiKP PKPbc 10 06 25.9 +0.4
comp=N,24nm,1.7s
VTS Vitosha 149.29 329 ePKPbc PKPbc 10 06 26.1 +0.2
VTS Vitosha 149.29 329⇑iP PKiKP 10 06 26.6 -0.2
VTS Vitosha 149.29 329 ⇑PKP2 PKiKP 10 06 26.6 -0.2
VTS Vitosha 149.29 329 i P PKiKP 10 06 26.7 -0.1
SQTA Sankt Quirin 149.33 349 i PKiKP PKiKP 10 06 26.4 -0.3
comp=N,16nm,0.6s,SNR=11
SQTA epPKiKP pPKPbc 10 07 59.7 -0.2
comp=N,6.8nm,0.9s
CLF Chambon-Foret 149.35 1 ePKPbc PKiKP 10 06 26.9 +0.3
MYKA Terra Mystica 149.36 345 i PKPbc PKPbc 10 06 25.7 -0.1
SNR=9.9
MYKA epPKPbc pPKPbc 10 07 59.4 -0.4
comp=N,7.1nm,1.1s
DAVA Damuels 149.50 350 ePKiKP PKiKP 10 06 27.0 -0.1
comp=N,42nm,0.7s,SNR=12
DAVA epPKiKP pPKPbc 10 08 00.9 +0.4
comp=N,11nm,1.1s
ABTA Abfaltersbach 149.51 347 ePKPdf PKPdf 10 06 21.5 +0.3
comp=N,13nm,1.2s,SNR=25
ABTA i PKiKP PKPbc 10 06 26.3 +0.1
comp=N,75nm,1.1s
ABTA epPKPbc pPKPbc 10 07 59.2 -1.1
comp=N,8.3nm,1.0s
DIVS Divibare 149.53 335 ePKPdf PKPdf 10 06 21.2 -0.1
DIVS ePKPbc PKiKP 10 06 27.2 0.0
DIVS Divibare 149.53 335⇓iP PKiKP 10 06 26.9 -0.3
CRES Cresnjev 149.61 342⇓iP PKPbc 10 06 26.3 0.0
FETA Feichten 149.61 349 ePKPdf PKPdf 10 06 22.0 +0.6
comp=N,12nm,0.9s
FETA ePKiKP PKiKP 10 06 27.7 +0.4
comp=N,59nm,1.1s,SNR=8.1
FETA epPKPab pPKPab 10 08 04.1 -0.3
comp=N,19nm,1.2s
LJU Ljubljana 149.67 344 i PKPbc PKiKP 10 06 27.1 -0.2
LJU Ljubljana 149.67 344⇓iP PKPbc 10 06 26.8 +0.3
MMB Musomiste 149.77 328 i P PKPdf 10 06 17.6 -4.1
KKB Krupnik 149.89 329 i P PKiKP 10 06 28.1 +0.2
HAPS Han Pijesak,Bl 149.95 336 eP PKPbc 10 06 27.3 -0.1
BBLS Lazići 149.96 335⇓iP PKiKP 10 06 28.1 +0.1
BOJS Bojanci 149.96 342 i PKPbc PKiKP 10 06 28.1 +0.2
CEY Cerknica 149.98 343⇓iP PKPbc 10 06 27.4 +0.1
DAVOX Davos/Dischmat 149.99 350 PKP PKPdf 10 06 22.9 +0.8
comp=N,6.2nm,0.9s,baz=352,slow=2.7,SNR=5.7
DAVOX PKPbc PKiKP 10 06 28.4 +0.3
comp=N,66nm,0.7s,baz=309,slow=0.3,SNR=66

BLY	**Banja Luka**	**150.02**	**339**	ePKPbc	**PKiKP**	**10 06 28.0**	**-0.1**
BLY	**Banja Luka**	**150.02**	**339**	⇑iP	**PKiKP**	**10 06 28.6**	**+0.6**
BLY	**Banja Luka**	**150.02**	**339**	⇓iP	**PKiKP**	**10 06 28.1**	**+0.1**
FUORN	**Ofenpass-Fuorn**	**150.08**	**349**	ePKPdf	**PKPdf**	**10 06 22.9**	**+0.6**
FUORN				ePKPbc	**PKiKP**	**10 06 28.7**	**+0.3**
TRI	**Trieste**	**150.19**	**344**	ePKPdf	**PKPdf**	**10 06 22.2**	**0.0**
TRI				ePKPbc	**PKPbc**	**10 06 28.0**	**+0.3**
TRI	**Trieste**	**150.19**	**344**	ePKIKP	**PKPdf**	**10 06 22.2**	**0.0**
TUE	**Stuetta**	**150.38**	**351**	ePKPdf	**PKPdf**	**10 06 22.9**	**+0.1**
TUE				ePKPbc	**PKiKP**	**10 06 29.1**	**+0.1**
UPM	**Unac-Piva**	**150.71**	**335**	⇓iP	**PKPbc**	**10 06 29.0**	**-0.3**
SENIN	**Lac Senin/Sane**	**150.75**	**353**	ePKPdf	**PKPdf**	**10 06 23.3**	**0.0**
SENIN				ePKPbc	**PKiKP**	**10 06 30.1**	**+0.3**
BRY	**Bratogost**	**151.11**	**335**	⇓iP	**PKPbc**	**10 06 30.0**	**-0.1**
PDG	**Podgorica**	**151.21**	**334**	⇓iP	**PKPbc**	**10 06 30.3**	**+0.2**
PDG	**Podgorica**	**151.21**	**334**	eP	**PKPbc**	**10 06 29.8**	**-0.3**
TTG	**Podgorica**	**151.21**	**334**	ePKPbc	**PKPbc**	**10 06 30.0**	**-0.2**
TREB	**Trebinje**	**151.34**	**335**	eP	**PKPbc**	**10 06 30.3**	**-0.2**
DRME	**Dracevica, Mon**	**151.44**	**334**	eP	**PKPbc**	**10 06 30.9**	**+0.2**
LIT	**Litokhoron**	**151.50**	**327**	ePKPbc	**PKPbc**	**10 06 30.9**	**-0.1**
SSB	**Saint Sauveur**	**152.05**	**357**	ePKPbc	**PKiKP**	**10 06 32.8**	**+0.5**
BNI	**Bardonecchia**	**152.12**	**354**	ePKPbc	**PKiKP**	**10 06 33.5**	**+0.9**
AGG	**Agios Georgios**	**152.37**	**326**	ePKPdf	**PKPdf**	**10 06 25.0**	**-0.7**
AGG				ePKPbc	**PKPbc**	**10 06 32.7**	**-0.2**
AGG	**Agios Georgios**	**152.37**	**326**	ePKIKP	**PKPdf**	**10 06 25.0**	**-0.7**
AGG				e		10 06 32.7	
ES19	**SONSECA Array**	**156.96**	**13**	ePKPdf	**PKPdf**	**10 06 31.5**	**-0.5**
ESDC	**Sonseca Array**	**156.97**	**13**	PKP	**PKPdf**	**10 06 33.0**	**+1.0**
	comp=N,1.2nm,0.8s,baz=334,slow=2.2,SNR=7.6						
ESDC				PKPab	**PKPab**	**10 07 04.8**	**+0.5**
	comp=N,0.7nm,0.6s,baz=327,slow=4.0,SNR=5.9						
KEST	**Kesra**	**160.69**	**343**	PKPab	**PKPab**	**10 07 21.2**	**+0.5**
	comp=N,8.3nm,0.8s,baz=78,slow=0.5,SNR=4.5						
MDT	**Midelt**	**163.22**	**22**	PKP	**PKPdf**	**10 06 40.8**	**+1.6**
	comp=N,6.8nm,0.9s,baz=43,slow=0.2,SNR=14						
MDT				PKPab	**PKPab**	**10 07 33.1**	**+1.3**
	comp=N,3.1nm,0.8s,baz=337,slow=8.3,SNR=6.1						
LIC	**Lamto**	**166.69**	**145**	ePKIKP	**PKPdf**	**10 06 42.0**	**-0.5**
	comp=N,84nm,1.3s						
LIC	**Lamto**	**166.69**	**145**	eP	**PKPab**	**10 07 48.1**	**+0.6**
	comp=N,28nm,1.1s						
KIC	**Kosan Boka**	**166.96**	**146**	ePKIKP	**PKPdf**	**10 06 42.5**	**-0.3**
	comp=N,42nm,1.0s						
KIC	**Kosan Boka**	**166.96**	**146**	eP	**PKPab**	**10 07 48.7**	**0.0**
	comp=N,20nm,1.0s						
TIC	**Toumodi**	**167.04**	**144**	ePKIKP	**PKPdf**	**10 06 42.5**	**-0.3**
TIC	**Toumodi**	**167.04**	**144**	eP	**PKPab**	**10 07 46.2**	**-2.9**
DBIC	**Dimbokro**	**167.15**	**144**	PKP	**PKPdf**	**10 06 43.2**	**+0.4**
	comp=N,8.3nm,0.8s,baz=230,slow=1.1,SNR=10						
DBIC				PKPab	**PKPab**	**10 07 50.4**	**+0.8**
	comp=N,5.7nm,0.9s,baz=172,slow=7.8,SNR=4.8						
DBIC	**Dimbokro**	**167.15**	**144**	ePKPdf	**PKPdf**	**10 06 41.5**	**-1.4**
DBIC				ePKPab	**PKPab**	**10 07 49.9**	**+0.3**
DBIC	**Dimbokro**	**167.15**	**144**	ePKIKP	**PKPdf**	**10 06 41.5**	**-1.4**
DBIC				e		10 07 49.9	
TAM	**Tamanrasset**	**173.90**	**334**	ePKPdf	**PKPdf**	**10 06 45.3**	**-1.1**
TAM				ePKPab	**PKPab**	**10 08 20.0**	**+0.6**
TAM	**Tamanrasset**	**173.90**	**334**	ePKIKP	**PKPdf**	**10 06 45.3**	**-1.1**
TAM				e		10 08 20.0	
TOA0	**Torodi Ar. Sit**	**175.78**	**167**	ePKPdf	**PKPdf**	**10 06 44.9**	**-2.1**
TORD	**Torodi Ar. Bea**	**175.78**	**167**	PKP	**PKPdf**	**10 06 45.9**	**-1.1**
	comp=N,9.8nm,1.0s,baz=346,slow=0.6,SNR=33						
TORD				PKPab	**PKPab**	**10 08 28.0**	**+0.3**
	comp=N,2.0nm,0.9s,baz=180,slow=2.9,SNR=7.1						
TORD				pPKPab	**pPKPab**	**10 09 57.2**	**-0.7**
	comp=N,1.0nm,0.7s,baz=207,slow=9.5,SNR=3.4						
TORD				PP	**PP**	**10 12 19.8**	**+0.6**
	comp=N,1.0nm,1.0s,baz=178,slow=4.2,SNR=4.5						
TOA1	**Torodi Ar. Sit**	**175.78**	**167**	ePKPdf	**PKPdf**	**10 06 45.9**	**-1.1**
TOA1				ePKPab	**PKPab**	**10 08 28.0**	**+0.3**
TOA1				epPKPab	**pPKPab**	**10 09 57.2**	**-0.7**

*ISK **11** 09:47:57.2, 37°.57N×35°.57E, h8km, ML2.2/6*
*ISCJB **11** 09:47:58.7±0.7, 37°.52N±0°.06×35°.55E±0°.05, h5km±8km, Error ellipse: s-maj=11.1km s-min=5.3km az=149.7*
*DDA **11** 09:47:58.4, 37°.49N×35°.60E, h7km±3km, ML2.5*
ISC 11 09:47:58.6±0.9, **37°.48N**±0°.04×**35°.61E**±0°.03, **h13**km±9km, **n12**, σ0s78/18, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.18**	**90**	PG	**Pg**	**09 48 02.3**	**-0.4**
KOZT				SG	**Sg**	**09 48 05.9**	**+0.4**
CEYT	**Ceyhan**	**0.48**	**166**	PG	**Pb**	**09 48 08.9**	**-0.1**
CEYT				SG	**Sb**	**09 48 17.5**	**+1.5**
KARA	**Karaisali**	**0.49**	**244**	PG	**Pg**	**09 48 07.7**	**-0.6**
KARA				SG	**Sg**	**09 48 15.1**	**+0.3**
ANDN	**Andirin**	**0.60**	**80**	IAML_P			
	comp=Z,834nm,0.2s						
ANDN				iP	**Pb**	**09 48 10.6**	**-0.4**
SAIM	**ADANA**	**0.62**	**37**	IAML_P			
	comp=Z,1μm,0.1s						
SAIM				iP	**Pg**	**09 48 10.7**	**-0.1**
SAIM				iS	**Sb**	**09 48 20.2**	**0.0**
GULE	**Gulek**	**0.69**	**254**	IAML_P			
	comp=Z,721nm,0.1s						
GULE				iP	**Pb**	**09 48 12.8**	**+0.2**
GULE				iS	**Sb**	**09 48 22.5**	**+0.4**
MERS	**Mersin**	**1.06**	**235**	PN	**Pb**	**09 48 18.4**	**-0.5**
KERG	**Konya-Eregli**	**1.18**	**267**	IAML_P			
	comp=Z,63nm,0.1s						
KERG				iP	**Pn**	**09 48 20.3**	**-0.7**
GULA	**Gulagac**	**1.38**	**309**	PN	**Pn**	**09 48 22.7**	**-1.1**
AVNS	**Nevsehir-Avano**	**1.45**	**336**	IAML_P			
	comp=Z,370nm,0.2s						
AVNS				iP	**Pg**	**09 48 26.4**	**-0.2**
AVNS				iS	**Sg**	**09 48 47.2**	**+1.8**
CUSAR	**Sarkisla-SIVAS**	**2.00**	**14**	iP	**Pb**	**09 48 35.1**	**+0.1**
TEVE	**Tevekalti-Mers**	**2.02**	**240**	PN	**Pn**	**09 48 32.8**	**+0.3**

*NNC **11** 09:54:35.2±3.5, 53°.47N×87°.62E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=27.4km s-min=15.1km az=61.0, Suspected Mining explosion.*
KRAR 11 09:54:33.6±0.2, **53°.56N×87°.64E, M2.7, 4C-3D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.72**	**284**	⇑P	Pb	09 55 05.9	-0.2
	12nm,0.6s,baz=100,slow=14						
ZAA0				⇓S	Sg	09 55 30.0	+1.2
	71nm,0.9s						
KURBB	**Kurchatov Arra**	**6.34**	**246**	⇑Pn	Pn	09 56 10.5	+2.3
	3.1nm,0.6s						
KURBB				⇑Sn	Sn	09 57 20.0	-1.2
	5.4nm,0.5s						
KURBB				⇓Lg	Lg	09 57 54.4	
	16nm,0.7s						
MK31	**Makanchi Array**	**7.59**	**209**	Pn	Pn	09 56 28.2	+2.8
	1.0nm,0.6s,baz=29,slow=12,SNR=29						
MK31				⇑Sn	Sn	09 57 51.7	-0.5
	1.1nm,0.6s						
MK31				⇓Lg	Lg	09 58 31.9	
	3.3nm,0.7s						

*SJA **11** 09:57:31.6±1.0, 33°.50S×70°.08W, h124km±5km, ML2.4, MW2.9*
*ISCJB **11** 09:57:32.0±0.7, 33°.48S±0°.03×70°.07W±0°.04, h126km±5km, Error ellipse: s-maj=5.9km s-min=5.1km az=146.5*
*GUC **11** 09:57:33.3±0.6, 33°.41S×70°.05W, h110km±5km, ML3.2*
ISC 11 09:57:31.9±1.5, **33°.51S**±0°.04×**70°.09W**±0°.04, **h128**km±9km, **n24**, σ0s90/44, **2C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.25**	**318**	⇓iP	**Pn**	**09 57 50.1**	**0.0**
FCH				iS	**Sn**	**09 58 02.6**	**-1.0**
FCH				IAML		09 58 04.0	
	comp=N,831nm,0.3s						
LMEL	**Las Melosas**	**0.35**	**195**	⇑eP	**Pn**	**09 57 50.2**	**+0.1**
LMEL				iS	**Sn**	**09 58 03.9**	**-0.1**
LMEL				IAML		09 58 09.2	
	comp=N,475nm,0.1s						
PEL	**Peldehue**	**0.62**	**306**	eP	**Pn**	**09 57 51.8**	**+0.3**
PEL				eS	**Sn**	**09 58 06.2**	**-0.1**
PEL	**Peldehue**	**0.62**	**306**	eP	**Pn**	**09 57 51.5**	**-0.1**
PEL				eS	**Sn**	**09 58 05.6**	**-0.8**
PEL				IAML		09 58 06.5	
	comp=N,2μm,0.2s						
ROCH	**El Roble**	**0.94**	**305**	⇑iP	**Pn**	**09 57 54.8**	**+0.5**
ROCH				eS	**Sn**	**09 58 11.2**	**0.0**
ROCH				IAML		09 58 11.9	
	comp=N,907nm,0.4s						
ROC1	**El Roble**	**0.94**	**304**	eP	**Pn**	**09 57 54.8**	**+0.5**
ROC1				eS	**Sn**	**09 58 11.1**	**-0.2**
AAGR	**Agrelo**	**1.14**	**69**	iP	**Pn**	**09 57 56.4**	**+0.3**
ARCO	**CERRO ARCO**	**1.18**	**56**	iP	**Pn**	**09 57 57.1**	**+0.5**
ARCO				iS	**Sn**	**09 58 15.2**	**-0.1**
ARCO				IAML		09 58 16.8	
	comp=Z,43nm,0.5s						
AVIZ	**Vizcacheras**	**1.32**	**89**	iP	**Pn**	**09 57 58.6**	**+0.7**
AVIZ				eS	**Sn**	**09 58 18.0**	**+0.3**
ASAL	**Salagasta**	**1.40**	**49**	eP	**Pn**	**09 57 59.6**	**+0.8**
ASAL				eS	**Sn**	**09 58 18.6**	**-0.7**
AUSP	**Uspallata**	**1.42**	**25**	eP	**Pn**	**09 57 60.0**	**+0.8**
RTLS	**Leoncito**	**1.83**	**22**	iP	**Pn**	**09 58 05.8**	**+1.8**
RTLS				IAML		09 58 06.0	
	comp=Z,17nm,0.2s						
RTLS				eS	**Sn**	**09 58 30.6**	**+2.0**
RFA	**San Rafael**	**1.84**	**133**	iP	**Pn**	**09 58 04.7**	**+0.8**
RFA				iS	**Sn**	**09 58 28.0**	**-0.4**
RFA				IAML		09 58 30.4	
	comp=Z,9.2nm,0.5s						
RTCV	**Cerro Valdivia**	**2.10**	**39**	eP	**Pn**	**09 58 07.6**	**+0.6**
RTCV				eS	**Sn**	**09 58 33.5**	**-0.5**
GO05	**Huala**	**2.13**	**225**	eP	**Pn**	**09 58 07.8**	**+0.4**
GO05				eS	**Sn**	**09 58 34.6**	**0.0**
CMCH	**Combarbala**	**2.45**	**342**	eP	**Pn**	**09 58 12.3**	**+0.7**
CMCH				eS	**Sn**	**09 58 40.1**	**-1.8**
CMCH				IAML		09 58 42.3	
	comp=N,132nm,0.3s						
CFA	**Coronel Fontan**	**2.46**	**40**	eP	**Pn**	**09 58 12.1**	**+0.5**
CFA				eS	**Sn**	**09 58 41.1**	**-0.9**
RTLL	**Cerro Villicun**	**2.57**	**33**	iP	**Pn**	**09 58 14.0**	**+1.1**
RTLL				iS	**Sn**	**09 58 44.1**	**-0.4**
RTLL				IAML		09 58 45.7	
	comp=Z,28nm,0.3s						
ACAN	**Cantantal**	**2.74**	**64**	iP	**Pn**	**09 58 15.6**	**+0.5**
ACAN				iS	**Sn**	**09 58 46.4**	**-1.9**
AMOG	**MOGNA**	**2.90**	**28**	iP	**Pn**	**09 58 18.4**	**+1.2**
AMOG				eS	**Sn**	**09 58 52.0**	**-0.1**
GO04	**Tololo Observa**	**3.38**	**350**	eP	**Pn**	**09 58 24.1**	**+0.4**
GO04				eS	**Sn**	**09 59 02.2**	**-1.5**
MRA	**San Martin**	**3.84**	**75**	iP	**Pn**	**09 58 29.6**	**+0.1**
MRA				IAML		09 58 30.1	
	comp=Z,4.2nm,0.4s						
AGUA	**GUANDACOL**	**4.24**	**19**	eP	**Pn**	**09 58 36.1**	**+1.2**
APLL	**PUNTA DE LOS L**	**4.34**	**45**	eP	**Pn**	**09 58 35.8**	**-0.4**
APLL				eS	**Sn**	**09 59 24.3**	**-1.8**
APLL				IAML		09 59 26.0	
	comp=Z,5.2nm,0.2s						

*VIE **11** 10:03:46.5±1.4, 47°.40N×9°.55E, h6km, ml0.8/1, Error ellipse: s-maj=11.0km s-min=3.8km az=154.0 8 km SW of Sankt Margrethen*
ZUR 11 10:03:47.2, 47°.29N×9°.60E, h-0km±1km, **MLh0.6**/3, **1D, Error ellipse: s-maj=3.6km s-min=1.4km az=79.0, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIENZ	**Kamor/St.Gall**	**0.07**	**275**	⇓Pg	Pg	10 03 49.1	+0.6
LIENZ				Sg	Sg	10 03 50.5	+1.0
SGT05	**Eggersriet**	**0.18**	**328**	Pg	Pg	10 03 51.7	+1.1
SGT05				Sg	Sg	10 03 55.2	+2.2
DAVA	**Damuels**	**0.19**	**90**	Pg	Pg	10 03 51.8	+1.0
DAVA	**Damuels**	**0.19**	**90**	ePg	Pg	10 03 51.8	+1.0
	1.6nm,0.2s						
DAVA				eSg	Sg	10 03 55.3	+2.0
	2.4nm,0.2s						
SGT04	**Schlatt-Haslen**	**0.19**	**290**	Pg	Pg	10 03 51.7	+0.9
SGT04				Sg	Sg	10 03 55.3	+2.0

*NNC **11** 10:10:13.2±4.3, 36°.94N×70°.88E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=37.0km s-min=27.1km az=154.0*
ISC 11 10:10:10.7±3.7, **36°.7N**±0°.2×**70°.9E**±0°.1, **h10**km, **n10**, σ1s36/13, **4C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.89**	**31**	⇓P	**Pn**	**10 11 11.2**	**+0.4**
	2.9nm,0.3s						
SFK				⇑S	**Sn**	**10 11 58.1**	**+1.5**
	5.5nm,0.3s						
AML	**Almayashu**	**5.84**	**21**	P	**Pn**	**10 11 38.6**	**+0.9**
	SNR=24						
UCH	**Uchtor**	**6.19**	**26**	P	**Pn**	**10 11 43.2**	**+0.6**
	SNR=6.1						
KZA	**Kyzart**	**6.34**	**31**	P	**Pn**	**10 11 45.4**	**+0.8**
	SNR=5.4						
EKS2	**Erkin-Say**	**6.36**	**20**	P	**Pn**	**10 11 45.9**	**+1.4**
	SNR=14						
KK31	**Karatay Array**	**6.41**	**357**	⇑P	**Pn**	**10 11 47.3**	**+2.1**
	4.6nm,0.3s,baz=178,slow=13,SNR=140						
KK31				⇑S	**Sn**	**10 12 57.9**	**-0.4**
	2.7nm,0.3s						
AAK	**Ala-Archa**	**6.55**	**24**	P	**Pn**	**10 11 48.3**	**+1.1**
	SNR=5.7						
AAK	**Ala-Archa**	**6.55**	**24**	⇓P	**Pn**	**10 11 48.0**	**+0.8**
	3.7nm,0.6s						
AAK				⇑S	**Sn**	**10 12 59.9**	**-2.1**
	7.6nm,1.3s						
TKM2	**Tokmak 2**	**7.19**	**29**	P	**Pn**	**10 11 56.3**	**+0.2**
	SNR=5.6						
AB31	**Akbulak array**	**14.87**	**331**	P	**Pn**	**10 13 39.7**	**-1.3**
	0.3nm,0.3s,baz=138,slow=14,SNR=22						

IDC 11 10:10:56.4±2.2, **0°.59S×128°.04E, h0**km, **mb3.1**/3, **mb1 3.4**/3, **mb1mx3.2**/37, **mbtmp3.2**/3, **Error ellipse: s-maj=163.0km s-min=27.2km az=67.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.20**	**163**	P	P	10 15 33.3	+0.4
	0.3nm,0.6s,baz=342,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**23.63**	**166**	P	P	10 16 09.3	-0.2
	0.3nm,0.4s,baz=348,slow=12,SNR=6.7						
MKAR	**Makanchi Array**	**61.84**	**326**	P	P	10 21 17.4	-0.1
	0.1nm,0.3s,baz=118,slow=8.2,SNR=4.9						

IDC 11 10:12:43.3±1.9, **17°.75S×177°.49W, h0**km, **mb4.0**/6, **mb1 4.2**/6, **mb1mx3.8**/37, **mbtmp4.0**/6, **MS3.3**/1, **Ms1 3.3**/1, **ms1mx2.6**/25, **Error ellipse: s-maj=50.6km s-min=33.5km az=122.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.98**	**192**	P	P	10 17 28.1	0.0
	1.9nm,0.3s,baz=348,slow=15,SNR=8.7						
STKA	**Stephens Creek**	**39.48**	**241**	P	P	10 20 15.9	+0.3
	1.7nm,0.6s,baz=73,slow=11,SNR=4.2						
WRA	**Warramunga Arr**	**45.52**	**259**	P	P	10 21 05.5	+0.5
	0.5nm,0.3s,baz=98,slow=7.6,SNR=7.5						
ASAR	**Alice Springs**	**45.68**	**254**	P	P	10 21 06.2	-0.1
	2.3nm,0.8s,baz=84,slow=9.1,SNR=12						
FITZ	**Fitzroy Crossi**	**53.92**	**260**	P	P	10 22 08.1	-0.9
	4.9nm,1.1s,baz=100,slow=6.1,SNR=7.8						
FITZ				LR	LR	10 43 15.5	
	comp=Z,27nm,18.7s,baz=219,slow=34						
ILAR	**Eielson Array**	**85.54**	**13**	P	P	10 25 22.9	0.0
	0.9nm,1.1s,baz=226,slow=4.7,SNR=4.4						

*NIED **11** 10:23:00, 38°.40N×142°.20E, h32km, Mw3.8 Best double couple: Mo6.43000×10^{14} NP1:φs358.00000°, δ29.00000°, λ-133.00000°. NP2:φs225.00000°, δ69.00000°, λ-70.00000°.*
*ISCJB **11** 10:23:19.2±0.9, 38°.33N±0°.03×142°.22E±0°.05, h25km±5km, mb3.8/8, Error ellipse: s-maj=7.4km s-min=5.5km az=22.1*
*JMA **11** 10:23:19.8±0.1, 38°.40N×142°.23E, h28km±2km, M4.0*
JMA Felt I J1.
*IDC **11** 10:23:23.0±2.8, 38°.28N×142°.14E, h40km±26km, mb3.6/8, mb1 3.8/12, mb1mx3.6/61, mbtmp3.9/12, ML3.6/3, MS2.9/4, Ms1 2.9/4, ms1mx2.5/45, Error ellipse: s-maj=25.9km s-min=15.5km az=95.0*
ISC 11 10:23:18.2±1.6, **38°.34N**±0°.04×**142°.19E**±0°.06, **h6**km±10km, **n32**, σ1s08/37, **mb3.9**/8, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.57**	**267**	P	**Pb**	**10 23 31.5**	**+0.9**
JIKH				S	**Sb**	**10 23 39.4**	**+0.5**
JIO	**Ouri**	**0.67**	**280**	P	**Pb**	**10 23 33.2**	**+0.9**
JIO				S	**Sb**	**10 23 42.2**	**+0.4**
JKMT	**Kesennumamotoy**	**0.73**	**310**	P	**Pb**	**10 23 33.6**	**+0.3**
JKMT				S	**Sb**	**10 23 43.1**	**-0.5**
OFUJ	**Ofunato**	**0.84**	**331**	P	**Pb**	**10 23 34.7**	**-0.5**
OFUJ				S	**Sg**	**10 23 45.5**	**+0.2**
JMK	**Ichinoseki**	**0.97**	**309**	P	**Pb**	**10 23 37.4**	**0.0**
JMK				S	**Sg**	**10 23 49.9**	**+0.5**
JOU	**Okura**	**1.20**	**272**	P	**Pb**	**10 23 41.7**	**+0.4**
JOU				S	**Sb**	**10 23 57.6**	**+0.5**
JMM	**Marumori**	**1.20**	**247**	P	**Pg**	**10 23 41.1**	**-0.1**
JMM				S	**Sg**	**10 23 56.6**	**-0.1**
JOM	**Ohasama**	**1.33**	**329**	P	**Pg**	**10 23 42.4**	**-1.2**
JOM				S	**Sg**	**10 23 59.0**	**-1.9**
JFK	**Kawauchi**	**1.42**	**227**	P	**Pn**	**10 23 43.9**	**-0.8**
JFK				S	**Sb**	**10 24 01.3**	**-2.3**
JYK	**Kaneyama**	**1.54**	**292**	P	**Pn**	**10 23 46.3**	**0.0**
JYK				eS	**Sn**	**10 24 06.1**	**-0.5**
JRG	**Rokugo**	**1.60**	**311**	P	**Pn**	**10 23 47.1**	**0.0**
JRG				eS	**Sn**	**10 24 07.2**	**-1.0**
MJAR	**Matsushiro Arr**	**3.64**	**242**	Pn	**Pn**	**10 24 17.0**	**+1.9**
	3.3nm,0.3s,baz=85,slow=18,SNR=22						
MAT	**Matsushiro**	**3.64**	**242**	P	**Pn**	**10 24 16.2**	**+1.1**
MAT				eS	**Sn**	**10 24 58.0**	**-0.4**
JHJ	**Hachijo jima 2**	**5.57**	**201**	Pn	**Pn**	**10 24 41.7**	**+0.1**
	15nm,0.3s,baz=150,slow=24,SNR=7.3						
JHJ				Sn	**Sn**	**10 25 42.8**	**-3.1**
	10nm,0.3s,baz=74,slow=23,SNR=4.1						
JHJ				LR	LR	10 27 12.6	
	comp=Z,111nm,19.4s,baz=68,slow=42						
ASAJ	**Asahikawa**	**5.78**	**3**	Pn	**Pn**	**10 24 46.7**	**+2.3**
	1.5nm,0.3s,baz=229,slow=6.6,SNR=6.9						
ASAJ				LR	LR	10 27 14.8	
	comp=Z,116nm,20.2s,baz=132,slow=40						
USRK	**Ussuriysk Ar.**	**9.65**	**311**	Pn	**Pn**	**10 25 38.8**	**+1.2**
	0.3nm,0.3s,baz=140,slow=44,SNR=4.1						
KSRS	**Korea Array**	**11.31**	**270**	LR	LR	10 30 12.7	
	comp=Z,34nm,19.0s,baz=185,slow=36						
KLR	**Kul'dur**	**13.22**	**329**	LR	LR	10 31 19.0	
	comp=Z,82nm,19.8s,baz=182,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.33**	**124**	T	T	10 58 59.0	
	baz=316,slow=75,SNR=583						
H11N1	**WAKE ISLAND Hy**	**28.34**	**124**	T	T	10 58 56.0	
	baz=316,slow=75,SNR=493						
H11N3	**WAKE ISLAND Hy**	**28.35**	**124**	T	T	10 58 56.8	
	baz=316,slow=75,SNR=557						
H11S1	**WAKE ISLAND Hy**	**29.09**	**126**	T	T	11 00 26.2	
	baz=318,slow=76,SNR=197						
H11S3	**WAKE ISLAND Hy**	**29.09**	**126**	T	T	11 00 25.9	
	baz=318,slow=76,SNR=217						
H11S2	**WAKE ISLAND Hy**	**29.11**	**126**	T	T	11 00 00.4	
	baz=318,slow=76,SNR=173						
ZALV	**Zalesovo Beam**	**41.50**	**311**	P	**P**	**10 31 05.8**	**-0.2**
	1.5nm,0.4s,baz=85,slow=7.9,SNR=8.6						
MKAR	**Makanchi Array**	**43.96**	**301**	P	**P**	**10 31 25.8**	**-0.2**
	0.8nm,0.6s,baz=83,slow=10,SNR=14						
ILAR	**Eielson Array**	**48.06**	**33**	P	**P**	**10 31 59.0**	**+0.9**
	0.3nm,0.9s,baz=270,slow=6.0,SNR=3.1						
WRA	**Warramunga Arr**	**58.44**	**189**	P	**P**	**10 33 14.0**	**-0.9**
	2.6nm,0.7s,baz=6.7,slow=7.2,SNR=23						
ASAR	**Alice Springs**	**62.17**	**189**	P	**P**	**10 33 40.0**	**-0.4**
	1.7nm,0.7s,baz=10,slow=7.1,SNR=11						
HFS	**Hagfors**	**73.15**	**336**	P	**P**	**10 34 49.5**	**+0.2**
	0.9nm,0.4s,baz=72,slow=4.7,SNR=5.5						
PDAR	**Pinedale Array**	**76.32**	**46**	P	**P**	**10 35 08.1**	**-0.2**
	0.3nm,0.5s,baz=337,slow=1.5,SNR=4.9						
TXAR	**Lajitas Array**	**88.84**	**53**	P	**P**	**10 36 13.4**	**-0.2**
	0.1nm,0.6s,baz=328,slow=4.5,SNR=4.3						

*GII **11** 10:28:19.7±0.0, 36°.60N×27°.93E, h5km*
*IDC **11** 10:28:20.4±1.0, 36°.48N×27°.86E, h0km, mb4.0/8, mb1 4.1/12, mb1mx3.8/53, mbtmp4.0/12, ML4.0/4, MS3.1/1, Ms1 3.1/1, ms1mx2.2/42, Error ellipse: s-maj=23.6km s-min=17.5km az=165.0*
*ATH **11** 10:28:21.7, 36°.67N×27°.91E, h21km, ML3.8/7, Error ellipse: s-maj=0.7km s-min=0.5km az=211.0*
*ISK **11** 10:28:21.7, 36°.61N×27°.93E, h5km, ML3.8/25*
*ISCJB **11** 10:28:22.3±0.4, 36°.52N±0°.02×28°.00E±0°.02, h19km±3km, mb4.0/12, Error ellipse: s-maj=3.1km s-min=2.4km az=17.0*
*DDA **11** 10:28:22.7, 36°.66N×27°.96E, h7km±2km, ML3.9*
*THE **11** 10:28:22.8, 36°.64N×27°.96E, h3km±2km, ML3.6/5, Error ellipse: s-maj=2.3km s-min=0.8km az=224.0*
*NEIC **11** 10:28:23.9±0.0, 36°.55N×27°.96E, h10km, mb4.0/3, ML3.6(THE), ML3.8(ISK), ML3.8(ATH), After ATH.*
*NIC **11** 10:28:26.4±0.2, 36°.63N×28°.24E, h17km, mb4.1, ML3.6*
ISC 11 10:28:23.2±0.9, **36°.59N**±0°.02×**27°.92E**±0°.02, **h16**km±6km, **n169**, σ1s36/206, **mb4.0**/12, **4C-2D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DATC	**Datca-Mugla**	**0.27**	**308**	PG	**Pg**	**10 28 28.0**	**-1.0**
DATC				SG	**Sg**	**10 28 33.0**	**0.0**
DAT	**Datca**	**0.31**	**296**	PG	**Pg**	**10 28 29.1**	**-0.7**
DAT	**Datca**	**0.31**	**296**	iP	**Pg**	**10 28 30.0**	**+0.2**
DAT				iS	**Sb**	**10 28 34.9**	**-0.4**
ARG	**Arkhangelos**	**0.41**	**156**	PG	**Pg**	**10 28 30.9**	**-0.6**
ARG	**Arkhangelos**	**0.41**	**156**	P	**Pg**	**10 28 31.2**	**-0.2**
ARG				S	**Sb**	**10 28 38.9**	**+0.8**
ARG				AML	AML	10 28 40.1	
	comp=N,22706μm,0.3s						
ARG				AML	AML	10 28 42.5	
	comp=E,37607μm,0.6s						
ARG	**Arkhangelos**	**0.41**	**156**	P	**Pg**	**10 28 31.1**	**-0.4**
ARG				S	**Sb**	**10 28 38.9**	**+0.8**
BDRM	**Kayabasi**	**0.61**	**321**	iP	**Pg**	**10 28 34.4**	**-0.8**
BDRM				iS	**Sg**	**10 28 43.4**	**+0.1**
TURN	**Turunc**	**0.61**	**63**	PG	Pg	10 28 27.8	-7.4
TURN	**Turunc**	**0.61**	**63**	IAML_P			
	comp=Z,156μm,0.1s						
TURN				iP	Pg	10 28 28.4	-6.8
TURN				iS	Sg	10 28 32.2	-11
DALY	**Dalyan (Mula)**	**0.63**	**69**	PG	**Pg**	**10 28 34.1**	**-1.4**
DALY	**Dalyan (Mula)**	**0.63**	**69**	IAML_P			
	comp=Z,17μm,0.2s						
DALY				iP	**Pg**	**10 28 34.1**	**-1.4**
DALY				iS	**Sb**	**10 28 44.2**	**-0.1**
BODT	**Bodrum**	**0.68**	**314**	PG	**Pg**	**10 28 35.6**	**-0.9**
BODT	**Bodrum**	**0.68**	**314**	P	**Pg**	**10 28 35.4**	**-1.1**
MLSB	**Milas**	**0.71**	**351**	PG	**Pg**	**10 28 35.9**	**-1.2**
FETY	**Fethiye**	**0.94**	**87**	PG	**Pb**	**10 28 40.8**	**-0.2**
FETY	**Fethiye**	**0.94**	**87**	P	**Pb**	**10 28 40.2**	**-0.8**
FETY				S	**Sg**	**10 28 53.4**	**-0.2**
FETY	**Fethiye**	**0.94**	**87**	IAML_P			
	comp=Z,5μm,0.1s						
FETY				iP	**Pb**	**10 28 40.4**	**-0.7**
FETY				iS	**Sn**	**10 28 54.8**	**0.0**
AYDN	**Tasoluk**	**1.07**	**358**	iP	**Pb**	**10 28 42.5**	**-0.8**
AYDN				iS	**Sb**	**10 28 56.7**	**-0.4**
TAVA	**DENIZLI_Tavas**	**1.18**	**42**	iP	**Pn**	**10 28 44.7**	**-0.4**
TAVA				iS	**Sb**	**10 29 00.3**	**+0.1**
KARP	**Karpathos**	**1.21**	**211**	PN	**Pn**	**10 28 45.7**	**+0.2**
KARP	**Karpathos**	**1.21**	**211**	ePn	**Pn**	**10 28 45.1**	**-0.5**
KARP				eSn	**Sn**	**10 29 01.7**	**+0.1**
KARP	**Karpathos**	**1.21**	**211**	P	**Pb**	**10 28 46.0**	**+0.3**
KARP				S	**Sg**	**10 29 03.0**	**+0.6**
KARP				AML	AML	10 29 06.2	
	comp=E,12967μm,0.3s						
KARP				AML	AML	10 29 07.2	
	comp=N,12573μm,0.3s						
KARP	**Karpathos**	**1.21**	**211**	P	**Pb**	**10 28 46.1**	**+0.3**
KARP				S	**Sg**	**10 29 03.4**	**+1.0**
GCAM	**G?zelcaml?**	**1.23**	**334**	PN	**Pb**	**10 28 46.1**	**0.0**
GCAM	**G?zelcaml?**	**1.23**	**334**	iP	**Pn**	**10 28 45.6**	**-0.2**
GCAM				iS	**Sg**	**10 29 03.5**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.35**	**359**	PN	**Pn**	**10 28 46.9**	**-0.6**
AKAS	**Kas**	**1.40**	**104**	PN	**Pb**	**10 28 49.1**	**0.0**
AKAS	**Kas**	**1.40**	**104**	IAML_P			
	comp=Z,7μm,0.2s						
AKAS				iP	**Pb**	**10 28 49.2**	**0.0**
AKAS				iS	**Sg**	**10 29 10.0**	**+1.5**
KSL	**Kastellorizon**	**1.41**	**108**	P	**Pb**	**10 28 48.9**	**-0.2**
KSL				S	**Sg**	**10 29 09.0**	**+0.3**
KSL				AML	AML	10 29 18.9	

	comp=N,1908µm,0.7s						
KSL				AML	AML	10 29 19.1	
	comp=E,2133µm,0.6s						
KSL	Kastellorizon	1.41	108	P	Pb	10 28 49.0	-0.2
KSL				S	Sn	10 29 06.6	+0.1
SMG	Samos	1.41	322	P	Pn	10 28 47.3	-1.0
SMG				S	Sb	10 29 07.6	+0.6
SMG				AML	AML	10 29 17.3	
	comp=E,8613µm,0.4s						
SMG				AML	AML	10 29 17.6	
	comp=N,5942µm,0.3s						
SMG	Samos	1.41	322	P	Pn	10 28 47.1	-1.2
SMG				S	Sb	10 29 06.9	0.0
GOLH	Golhisar	1.46	63	IAML_P			
	comp=Z,22µm,0.5s						
GOLH				*i* P	Pg	10 28 52.4	+1.1
GOLH				*i* S	Sg	10 29 13.4	+3.1
ELL	Elmali	1.60	84	PN	Pb	10 28 52.3	-0.2
AMGA	Amorgos Island	1.65	279	P	Pn	10 28 51.6	+0.1
AMGA	Amorgos Island	1.65	279	P	Pn	10 28 51.3	-0.2
DGB	zmir	1.68	331	IAML_P			
	comp=Z,10µm,0.1s						
DGB				*i* P	Pn	10 28 51.3	-0.6
DGB				*i* S	Sg	10 29 18.9	+1.7
ANAF	Anafi Island	1.75	263	P	Pn	10 28 52.8	-0.1
ANAF				AML	AML	10 29 29.9	
	comp=N,5323µm,0.6s						
ANAF				AML	AML	10 29 33.1	
	comp=E,6120µm,0.5s						
ANAF	Anafi Island	1.75	263	P	Pn	10 28 52.9	0.0
BLCB	Balcova	1.92	339	PN	Pn	10 28 55.3	+0.1
MANT	Manisa	1.96	15	*e*Pn	Pn	10 28 56.4	+0.4
MANT				*e*Sn	Sn	10 29 21.1	+0.8
MANT	Manisa	1.96	15	IAML_P			
	comp=Z,2µm,0.0s						
MANT				*i* P	Pb	10 28 58.9	+0.3
MANT				*i* S	Sg	10 29 24.8	-1.5
APE	Apeiranthos	1.98	285	PN	Pb	10 28 57.7	-1.1
APE	Apeiranthos	1.98	285	P	Pn	10 28 55.7	-0.4
APE	Apeiranthos	1.98	285	⇑*i*P	Pb	10 28 57.8	-1.1
APE	Apeiranthos	1.98	285	P	Pn	10 28 55.7	-0.4
THR8	Santorini-Mono	1.98	265	P	Pn	10 28 56.1	+0.1
KORT	Korkueli	1.99	77	PN	Pb	10 28 58.3	-0.8
KORT	Korkueli	1.99	77	IAML_P			
	comp=Z,7µm,0.4s						
KORT				*i* P	Pb	10 28 59.4	+0.3
KORT				*i* S	Sg	10 29 29.9	+2.6
SANT	Santorini	2.00	264	PN	Pb	10 28 58.1	-1.1
SANT	Santorini	2.00	264	*e*Pn	Pb	10 28 58.8	-0.4
SANT	Santorini	2.00	264	⇑*i*P	Pb	10 29 00.1	+0.9
SANT	Santorini	2.00	264	P	Pn	10 28 56.3	0.0
KULA	Kula-Manisa	2.00	17	PN	Pb	10 28 58.1	-1.2
THR2	Thira island,	2.01	267	P	Pn	10 28 56.1	-0.4
THR7	Fira-Santorini	2.02	266	P	Pn	10 28 57.7	+1.1
ZKR	Zakros	2.02	224	PN	Pn	10 28 57.9	+1.3
ZKR	Zakros	2.02	224	P	Pn	10 28 58.0	+1.3
ZKR				S	Sb	10 29 24.5	-0.1
ZKR				AML	AML	10 29 34.6	
	comp=E,1983µm,0.5s						
ZKR				AML	AML	10 29 42.4	
	comp=N,781µm,0.7s						
ZKR	Zakros	2.02	224	P	Pn	10 28 57.9	+1.3
BRDR	BURDUR-Merkez	2.03	57	*i* P	Pb	10 28 58.8	-1.0
BRDR				*i* S	Sg	10 29 27.1	-1.5
STIA	Sitia Lasithi	2.04	228	P	Pb	10 28 58.4	-1.4
THR6	Thira Island,	2.05	264	P	Pn	10 28 57.3	+0.3
URLA	Izmir	2.06	329	PN	Pb	10 28 58.9	-1.3
URLA	Izmir	2.06	329	*i* P	Pb	10 29 01.3	+1.1
URLA				*i* S	Sg	10 29 32.2	+2.9
IOSP	Ios island	2.12	274	P	Pn	10 28 57.0	-1.0
KHAL	Karahalli	2.17	35	*i* S	Sb	10 29 27.7	-1.2
NPS	Neapolis	2.30	235	P	Pn	10 29 01.6	+1.2
NPS				S	Sn	10 29 30.0	+1.6
NPS				AML	AML	10 29 33.1	
	comp=E,2266µm,0.3s						
NPS				AML	AML	10 29 36.8	
	comp=N,1150µm,0.4s						
NPS	Neapolis	2.30	235	P	Pn	10 29 01.5	+1.1
BCK	Bucak	2.30	67	PN	Pb	10 29 02.8	-1.6
CHOS	Chios island	2.33	321	PN	Pn	10 29 02.2	+1.3
CHOS	Chios island	2.33	321	P	Pn	10 29 00.1	-0.7
ISP	Isparta	2.41	59	PN	Pn	10 29 04.1	+2.0
ISP	Isparta	2.41	59	*e*Pn	Pn	10 29 02.5	+0.4
ISP	Isparta	2.41	59	P	Pn	10 29 03.0	+0.9
ISP	Isparta	2.41	59	⇑*i*P	Pn	10 29 03.5	+1.4
ISP	Isparta	2.41	59	P	Pn	10 29 03.3	+1.2
ISP				S	Sn	10 29 30.9	-0.4
LAST	Lasithi	2.45	235	P	Pn	10 29 03.5	+1.0
LAST				S	Sb	10 29 35.0	-1.8
LAST	Lasithi	2.45	235	P	Pn	10 29 03.5	+1.0
LAST				S	Sn	10 29 33.6	+1.4
DKL	Dikili	2.60	342	PN	Pn	10 29 06.9	+2.3
SUTC	Sutluce-Ispart	2.62	69	PN	Pn	10 29 06.9	+2.0
GEDZ	Gediz	2.71	25	PN	Pn	10 29 08.7	+2.5
STEP	BALIKESIR_Sava	2.78	357	*i* P	Pg	10 29 15.3	-1.2
IDI	Anoyia	2.79	243	PN	Pn	10 29 08.9	+1.7
IDI	Anoyia	2.79	243	*e*Pn	Pn	10 29 07.8	+0.6
IDI	Anoyia	2.79	243	⇓*i*P	Pn	10 29 08.9	+1.7
SHUT	Suhut-Afyon	2.86	46	PN	Pn	10 29 10.4	+2.1
AYVA	Ayvalik	2.88	341	*i* P	Pg	10 29 17.9	-0.5
PRK	Paraskevi	2.95	334	P	Pn	10 29 09.2	-0.2
SIVA	Sivas	2.98	239	P	Pn	10 29 11.4	+1.6
SIVA	Sivas	2.98	239	P	Pn	10 29 11.3	+1.6
IMMV	Iera Moni Meta	3.39	252	PN	Pn	10 29 17.5	+2.1
GAZI	Gazipasa	3.56	94	PN	Pn	10 29 20.3	+2.5
GVD	Gavdhos	3.58	242	PN	Pn	10 29 20.8	+2.8
KONT	Konya--Tatoy	3.79	68	PN	Pn	10 29 23.8	+2.9
LADK	Ladik-KONYA	3.88	64	PN	Pn	10 29 25.1	+2.8
AKMC	Akamas	3.91	112	P	Pn	10 29 22.2	-0.4
	baz=296						
PPCY	Paphos	3.98	114	P	Pn	10 29 23.6	+0.1
	baz=298						
ALFC	Alefka	4.06	109	P	Pn	10 29 24.5	-0.2
	baz=293						
ALFC				S	Sn	10 30 09.8	-2.1
TEKE	Tekeli-Mersin	4.21	95	PN	Pn	10 29 29.8	+3.0
SZAC	Souni	4.43	113	P	Pn	10 29 29.7	-0.1
	baz=297						
SZAC				S	Sn	10 30 18.9	-2.3
MAMC	Mammari	4.53	107	P	Pn	10 29 30.7	-0.4
	baz=291						
ALN	Alexandroupoli	4.54	342	*e*Pn	Pn	10 29 31.5	+0.3
CSS	Mathiatis	4.69	109	*e*Pn	Pn	10 29 31.8	-1.5
CSS	Mathiatis	4.69	109	P	Pn	10 29 34.0	+0.6
CSS	Mathiatis	4.69	109	P	Pn	10 29 34.3	+1.0
CSS	Mathiatis	4.69	109	Pn	Pn	10 29 33.9	+0.6
ITM	Ithomi	4.84	279	*e*Pn	Pn	10 29 38.3	+2.9
BR231	Keskin MP Arra	5.01	48	*e*Pn	Pn	10 29 37.5	-0.3
ANTO	Ankara	5.04	48	*e*Pn	Pn	10 29 39.0	+0.9
ANTO	Ankara	5.04	48	⇓*i*P	Pn	10 29 40.5	+2.3
AGG	Agios Georgios	5.05	300	*e*Pn	Pn	10 29 41.4	+3.1
BRTR	Keskin Array B	5.48	54	Pn	Pn	10 29 45.8	+1.4
	comp=N,1.5nm,0.3s,baz=242,slow=17,SNR=42						
BR101	Keskin Array S	5.48	54	*e*Pn	Pn	10 29 45.8	+1.4
BR131	Keskin Array S	5.48	54	*e*Pn	Pn	10 29 44.7	+0.4
LIT	Litokhoron	5.52	311	*e*Pn	Pn	10 29 45.7	+0.9
VTS	Vitosha	7.01	330	*e*Pn	Pn	10 30 07.0	+1.8
OFRI	`Ofer	7.04	122	Pn	Pn	10 30 04.2	-1.5
MMA0B	Mount Meron ar	7.11	118	Pn	Pn	10 30 04.6	-2.1
MMAI	Mount Meron Ar	7.11	118	Pn	Pn	10 30 05.5	-1.1
	comp=N,13nm,0.3s,baz=306,slow=11,SNR=19						
MMAI				Sn	Sn	10 31 23.0	-4.2
	comp=N,7.4nm,0.3s,baz=305,slow=18,SNR=5.0						
KSDI	Kefar Szold	7.20	116	Pn	Pn	10 30 05.7	-2.1
NATI	Neve Ativ	7.23	115	Pn	Pn	10 30 07.0	-1.1
SLTI	Sal'it	7.31	124	Pn	Pn	10 30 07.3	-2.0
BRBR	Barbar	7.31	113	*e*P	Pn	10 30 08.8	-0.7
BRBR				*e*S	Sn	10 30 59.2	-33
BRBR				AML	AML	10 31 32.6	
	comp=N,29nm,0.6s						
BRBR				AML	AML	10 31 36.9	
	comp=E,49nm,0.7s						
MMLI	Mount Malkishu	7.45	122	Pn	Pn	10 30 09.4	-1.8
QASN	Qassioun	7.50	112	*e*P	Pn	10 30 13.3	+1.4
HMDT	Nahal Hemdat	7.63	122	Pn	Pn	10 30 11.8	-1.9
HMDT				Sn	Sn	10 31 38.6	-1.2
AMAZ	Amatzia	7.69	129	Pn	Pn	10 30 12.8	-1.7
AMAZ				Sn	Sn	10 31 40.9	-0.4
TOTH	TOTAH	7.69	112	*e*P	Pn	10 30 14.7	+0.2
TOTH				*e*S	Sn	10 31 06.1	-35
TOTH				AML	AML	10 31 41.2	
	comp=N,27nm,0.6s						
TOTH				AML	AML	10 31 41.4	
	comp=E,28nm,0.5s						
KZIT	Kziot	7.82	135	P	Pn	10 30 16.5	+0.1
	comp=E,84nm,0.9s,comp=E,0.3nm						
KZIT	Kziot	7.82	135	Pn	Pn	10 30 14.3	-2.1
KZIT				Sn	Sn	10 31 42.7	-1.9
DSI	Dead Sea	7.96	127	Pn	Pn	10 30 16.2	-2.0
DSI				Sn	Sn	10 31 45.7	-2.2
MZDA	Masada	8.12	128	Pn	Pn	10 30 18.3	-2.1
LISJ	El Lisan	8.24	128	P	Pn	10 30 22.0	0.0
	comp=E,10nm,0.7s,comp=E,0.1nm						
WALJ	Wala	8.24	125	P	Pn	10 30 21.8	-0.3
	comp=E,22nm,0.5s,comp=E,0.1nm						
GHAJ	Ghor Haditha	8.25	128	Pn	Pn	10 30 20.8	-1.4
GHAJ				Sn	Sn	10 31 55.3	+0.1
PRNI	Paran	8.58	134	Pn	Pn	10 30 24.8	-2.0
ASF	Jabal al Asfar	8.63	118	Pn	Pn	10 30 26.8	-0.7
	comp=E,1.0nm,0.3s,baz=246,slow=3.5,SNR=9.2						
ASF	Jabal al Asfar	8.63	118	P	Pn	10 30 26.8	-0.7
HRFI	Mount Harif	8.84	136	Pn	Pn	10 30 29.7	-0.6
MBRI	Mt Berech	8.96	137	Pn	Pn	10 30 29.7	-2.3
EIL	Elat	9.07	138	Pn	Pn	10 30 33.4	-0.1
	comp=E,1.7nm,0.3s,baz=324,slow=3.0,SNR=18						
EIL				Sn	Sn	10 32 11.1	-4.3
	comp=E,2.6nm,0.3s,baz=345,slow=14,SNR=8.1						
EIL	Elat	9.07	138	Pn	Pn	10 30 31.6	-1.9
AQBJ	Aqaba	9.08	137	P	Pn	10 30 33.5	-0.1
TIP	Timpagrande	9.20	290	*e*Pn	Pn	10 30 37.0	+1.7
TIP	Timpagrande	9.20	290	⇑*i*P	Pn	10 30 37.0	+1.7
DAVOX	Davos/Dischmat	16.85	313	LR	LR	10 39 05.5	
	comp=E,66nm,21.4s,baz=79,slow=38						
CLL	Collm	18.16	329	*e*(P)	P	10 32 38.0	+3.2
GEYT	Alibeck	24.02	78	P	P	10 33 38.3	+0.9
	comp=E,22nm,0.5s,baz=280,slow=8.7,SNR=4.6						
FIA0	FINESS Array S	24.90	358	*e*P	P	10 33 46.1	+1.1
FIA1	FINESS Array S	24.90	358	*e*P	P	10 33 46.4	+1.4
FINES	FINESS Array B	24.90	358	P	P	10 33 46.1	+1.1
	comp=E,3.9nm,0.9s,baz=153,slow=13,SNR=4.9						
ESDC	Sonseca Array	25.20	287	P	P	10 33 48.1	0.0
	comp=E,0.2nm,0.4s,baz=76,slow=9.1,SNR=5.7						
AKTO	Aktyubinsk	25.63	48	P	P	10 33 52.1	+0.3
	comp=E,2.2nm,0.6s,baz=259,slow=14,SNR=6.0						
KKAR	Karatay Array	33.06	65	*e*P	P	10 34 57.7	-0.3
TOA1	Torodi Ar. Sit	33.13	232	*e*P	P	10 34 56.7	-2.0
TOA0	Torodi Ar. Sit	33.13	232	*e*P	P	10 34 58.7	-0.1
	comp=E,1.7nm,0.6s						
TORD	Torodi Ar. Bea	33.13	232	P	P	10 34 56.7	-2.1
	comp=E,0.9nm,0.5s,baz=29,slow=9.2,SNR=13						
NIL	Nilore	36.93	81	*e*P	P	10 35 30.4	-1.1
	comp=E,12nm,0.8s						
KURK	Kurchatov	38.53	52	*e*P	P	10 35 44.0	-0.8
	comp=E,3.8nm,1.0s						
TARG	Taragay, Kyrgy	38.58	67	*e*P	P	10 35 44.8	-0.9
	comp=E,2.3nm,1.0s						
MK31	Makanchi Array	41.11	58	*e*P	P	10 36 05.0	-1.3
MK32	Makanchi Array	41.11	58	*e*P	P	10 36 06.4	+0.1
MKAR	Makanchi Array	41.11	58	P	P	10 36 06.4	+0.1
	comp=E,2.2nm,0.8s,baz=276,slow=7.3,SNR=14						
MKAR	Makanchi Array	41.11	58	*e*P	P	10 36 05.4	-0.9
	comp=E,13nm,0.8s						
MK01	Makanchi Array	41.12	58	*e*P	P	10 36 05.0	-1.4
ZAA1	Zalesovo Array	42.39	47	*e*P	P	10 36 17.7	+1.1
ZALV	Zalesovo Beam	42.39	47	P	P	10 36 17.7	+1.1
	comp=E,0.6nm,0.5s,baz=267,slow=9.7,SNR=3.7						
SONA0	Songino Array	56.84	52	*e*P	P	10 38 07.5	+0.5
SONM	Songino Array	56.84	52	P	P	10 38 07.5	+0.5
	comp=E,0.9nm,1.0s,baz=297,slow=8.3,SNR=4.4						

NEIC 11 10:30:25.9±0.0**, 55°.58N**×**135°.05W, h20**^{km}**, ML3.5**(AEIC)**, After AEIC., Off coast of southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	Craig	1.10	95	*e*Pn	Pn	10 30 45.6	-0.6
CRAG				*e*Sn	Sn	10 31 00.6	-0.2
SIT	Sitka	1.48	354	*e*Pn	Pn	10 30 51.2	-0.2
SIT				*e*Sn	Sn	10 31 10.2	0.0
WRAK	Wrangell Islan	1.74	60	*e*Pn	Pn	10 30 54.9	0.0
WRAK				*e*Sn	Sb	10 31 17.8	-0.6
NDB	Naden	2.04	142	P	Pn	10 30 58.3	-0.8
MASB	Masset	2.36	131	*e*Pn	Pn	10 31 03.3	-0.1
JIS	Juneau Island	2.72	7	*e*Pn	Pn	10 31 08.7	+0.2
JIS				*e*Sn	Sn	10 31 42.9	+2.1
DIB	Dawson Inlet,	2.82	147	*e*Pn	Pn	10 31 09.9	+0.1
DIB				*e*Sn	Sn	10 31 44.4	+1.3
BESE	Bessie Mountai	3.01	2	*e*Pn	Pn	10 31 12.5	+0.1
BNB	Barry Inlet	3.59	146	*e*Pn	Pn	10 31 20.2	-0.2
SKAG	Skagway	3.89	358	*e*Pn	Pn	10 31 24.8	+0.3
PLBC	Pleasant Camp	3.95	350	*e*Pn	Pn	10 31 26.3	+1.0
DLBC	Dease Lake	3.97	42	*e*Pn	Pn	10 31 26.1	+0.5
PNL	Peninsula	4.71	332	*e*Pn	Pn	10 31 36.9	+1.0
BCPM	Bancas Point	5.02	333	*e*Pn	Pn	10 31 41.6	+1.6
WHY	Whitehorse	5.09	1	*e*Pn	Pn	10 31 41.6	+0.6
YUK7	Dusty Glacier	5.22	343	*e*Pn	Pn	10 31 44.7	+1.7
PCA	Pinnacle	5.31	331	*e*Pn	Pn	10 31 44.6	+0.6
BBB	Bella Bella	5.33	127	*e*Pn	Pn	10 31 44.3	0.0
SAMH	Samovar Hills	5.49	329	P	Pn	10 31 48.3	+1.8
YUK5	Granite Creek	5.76	346	*e*Pn	Pn	10 31 51.5	+1.3
MESA	MESA	5.89	324	P	Pn	10 31 53.0	+0.9
YUK4	Talbot Arm	6.08	343	*e*Pn	Pn	10 31 58.0	+3.3
KULT	Kultieth River	6.21	322	P	Pn	10 31 57.0	+0.7
KHIT	Khitrov Hills	6.53	322	P	Pn	10 32 01.3	+0.5
HMT	Hamilton	6.83	318	*e*Pn	Pn	10 32 04.9	+0.1
YUK2	White River	6.91	337	P	Pn	10 32 07.7	+1.7
BMRM	Bremner River	7.38	321	*e*Pn	Pn	10 32 12.3	0.0
BCA3	Beaver Creek A	8.25	338	*e*Pn	Pn	10 32 25.2	+0.9
DAWY	Dawson	8.78	347	*e*Pn	Pn	10 32 31.7	+0.1
SCRK	Sand Creek	9.54	336	*e*Pn	Pn	10 32 42.3	+0.3
HDA	Harding Lake	10.65	331	*e*Pn	Pn	10 32 58.2	+1.1
IL1	Eielson Array	10.91	332	*e*Pn	Pn	10 33 00.3	-0.5
ILB	Eielson Array	10.91	332	*e*Pn	Pn	10 33 01.7	+1.0
TRF	Thorofare Moun	11.02	322	*e*Pn	Pn	10 33 03.7	+1.3
PPLA	Purkeypile	11.40	317	*e*Pn	Pn	10 33 08.2	+0.7
CAST	Castle Rocks	11.65	319	*e*Pn	Pn	10 33 11.0	+0.3

*IDC **11** 11:19:55.9±1.8, 3°.64S×149°.94E, h0^{km}, mb4.0/6, mb1 4.2/6, mb1mx3.8/27, mbtmp4.0/6, MS3.3/12, Ms1 3.3/12, ms1mx3.2/29, Error ellipse: s-maj=61.2km s-min=24.2km az=116.0*

*ISCJB **11** 11:19:57.3±1.6, 3°.6S±0°.2×149°.8E±0°.3, h19^{km}, mb3.8/6, MS3.4/9, Error ellipse: s-maj=49.1km s-min=19.5km az=24.5*

ISC 11 11:19:58.9±1.8**, 3°.6S**±0°.2×**149°.9E**±0°.4**, h19**^{km}**, n17,** σ1.s06/7**, mb3.9**/6**, MS3.3**/9**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.34	205	LR	LR	11 23 19.5	
	comp=Z,47nm,21.8s,baz=64,slow=32						
JAY	Jayapura	9.25	277	LR	LR	11 25 01.6	
	comp=Z,306nm,20.4s,baz=95,slow=33						
HNR	Honiara	11.52	120	LR	LR	11 27 18.5	
	comp=Z,226nm,18.7s,baz=292,slow=38						
WRA	Warramunga Arr	22.20	222	P	P	11 24 53.2	-1.2
	3.4nm,0.8s,baz=47,slow=10,SNR=23						
ASAR	Alice Springs	25.20	216	P	P	11 25 23.4	-0.3
	2.3nm,0.8s,baz=48,slow=8.1,SNR=19						
ASAR				LR	LR	11 35 40.4	
	comp=Z,134nm,20.1s,baz=53,slow=38						
FITZ	Fitzroy Crossi	27.76	237	P	P	11 25 48.2	+1.5
	4.7nm,0.9s,baz=58,slow=8.4,SNR=7.4						
STKA	Stephens Creek	29.15	195	LR	LR	11 38 17.5	
	comp=Z,112nm,18.9s,baz=25,slow=38						
JOW	Kunigami	36.80	327	LR	LR	11 38 56.0	
	comp=Z,33nm,21.3s,baz=263,slow=31						
MJAR	Matsushiro Arr	41.44	346	LR	LR	11 44 06.0	
	comp=Z,32nm,18.5s,baz=240,slow=35						
KSRS	Korea Array	45.71	335	LR	LR	11 46 24.3	
	comp=Z,24nm,18.8s,baz=158,slow=35						
USRK	Ussuriysk Ar.	50.27	343	LR	LR	11 48 49.2	
	comp=Z,26nm,18.1s,baz=184,slow=34						
CMAR	Chiang Mai Arr	54.77	296	P	P	11 29 27.2	-0.7
	0.6nm,0.3s,baz=124,slow=8.5,SNR=4.5						
KLR	Kul'dur	54.97	346	LR	LR	11 50 14.5	
	comp=Z,25nm,21.2s,baz=198,slow=33						
PETK	Petropavlovsk-	56.92	6	LR	LR	11 48 38.3	
	comp=Z,50nm,20.1s,baz=195,slow=30						
MKAR	Makanchi Array	77.56	319	P	P	11 31 54.2	+0.4
	0.6nm,1.0s,baz=79,slow=2.6,SNR=3.7						
ILAR	Eielson Array	82.20	23	P	P	11 32 18.3	-0.2
	0.7nm,0.9s,baz=256,slow=6.1,SNR=5.0						
ILAR				LR	LR	12 03 15.6	
	comp=Z,34nm,20.4s,baz=162,slow=32						
TORD	Torodi Ar. Bea	147.20	289	PKPbc	PKPbc	11 39 42.4	+0.4
	0.9nm,0.9s,baz=79,slow=3.1,SNR=4.8						

GUC 11 11:35:52.8±0.5**, 18°.61S**×**69°.66W, h101**^{km}±2^{km}**, ML3.6, 1C-2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	Minye Minye	0.53	174	⇓*i*P	Pn	11 36 09.1	-0.1
MNMC				*e*S	Sn	11 36 21.1	-0.3
MNMC				IAML		11 36 22.1	
	comp=E,5µm,0.3s						
PB12	IPOC Station P	0.64	269	⇑*i*P	Pn	11 36 09.0	-0.9
PB12				*i* S	Sn	11 36 22.0	-0.6
PB12				IAML		11 36 23.5	
	comp=N,1µm,0.2s						
PB11	IPOC Station P	1.15	180	⇓*i*P	Pn	11 36 14.8	-0.3
PB11				*e*S	Sn	11 36 31.8	-0.1
PB11				IAML		11 36 35.3	
	comp=E,739nm,0.1s						
PB08	IPOC Station P	1.60	163	*e*P	Pn	11 36 21.3	+0.5
PB08				*e*S	Sn	11 36 42.6	+0.8
PB08				IAML		11 36 43.9	
	comp=N,615nm,0.7s						
PB01	IPOC Station P	2.43	176	*e*P	Pn	11 36 31.1	-0.1
PB01				*e*S	Sn	11 37 00.8	+0.3
PB01				IAML		11 37 06.9	
	comp=E,316nm,0.2s						
PB02	IPOC Station P	2.71	185	*e*P	Pn	11 36 35.4	+0.5
PB02				*e*S	Sn	11 37 07.9	+0.8
PB02				IAML		11 37 17.9	
	comp=E,362nm,0.3s						
PB07	IPOC Station P	3.11	184	*e*P	Pn	11 36 40.6	+0.3
PB07				*e*S	Sn	11 37 17.3	+0.4
PB07				IAML		11 37 26.5	
	comp=E,286nm,0.6s						
PB03	IPOC Station P	3.43	181	*e*P	Pn	11 36 44.8	+0.3
PB03				IAML		11 37 38.1	
	comp=E,144nm,0.5s						

*IDC **11** 11:39:39.2±0.6, 17°.62S×173°.70W, h0^{km}, mb4.3/13, mb1 4.6/13, mb1mx4.3/35, mbtmp4.3/13, MS4.0/17, Ms1 4.0/17, ms1mx3.8/31, Error ellipse: s-maj=27.3km s-min=15.4km az=139.0*

*ISCJB **11** 11:39:42.8±0.2, 17°.68S±0°.05×173°.70W±0°.05, h39^{km}, mb4.5/73, MS4.0/16, Error ellipse: s-maj=8.9km s-min=4.7km az=44.9*

*NEIC **11** 11:39:43.9±0.1, 17°.73S×173°.56W, h35^{km}, mb4.6/59, Error ellipse: s-maj=6.8km s-min=3.8km az=133.0*

ISC 11 11:39:44.3±0.4**, 17°.76S**±0°.09×**173°.45W**±0°.06**, h39**^{km}**, n142,** σ1.s19/124**, mb4.5**/73**, MS4.0**/16**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	3.60	112	*e*Pn	Pn	11 40 36.5	-1.1
NIUE				*e*Sn	Sn	11 41 13.1	-5.7
RAR	Rarotonga	13.35	107	Pn	Pn	11 42 50.9	-0.4
	7.1nm,0.3s,baz=290,slow=8.2,SNR=9.6						
RAR	Rarotonga	13.35	107	*e*Pn	Pn	11 42 50.4	-0.9
DZM	Mont Dzumac	19.38	254	LR	LR	11 50 20.3	
	comp=Z,923nm,21.5s,baz=64,slow=33						
DZM	Mont Dzumac	19.38	254	*e*P	Pn	11 44 13.4	+5.0
	75nm,1.3s						
DZM	Mont Dzumac	19.38	254	*e*P	Pn	11 44 08.1	-0.3
	19nm,1.0s						
OUZ	Omahuta	20.86	211	*e*P	P	11 44 22.4	-0.6
	5.4nm,1.1s						
MXZ	Matakaoa Point	21.02	199	*e*P	P	11 44 26.7	+2.1
	43nm,1.0s						
URZ	Urewera	22.03	200	P	P	11 44 35.0	-0.5
	22nm,0.3s,baz=302,slow=3.2,SNR=49						
URZ	Urewera	22.03	200	*e*P	P	11 44 34.7	-0.8
	36nm,1.0s						
PAE	Paea	22.74	93	*e*T	T	12 08 02.3	
	14nm,0.4s						
PPT2	Papeete2	22.75	93	*e*P	P	11 44 45.3	+1.9
	80nm,1.4s						
PPT2				*e*S	S	11 48 45.4	-4.4
	138nm,27.9s						
PPT2				*e*LQ	LQ	11 49 07.9	
	342nm,29.2s						
PPT2				*e*LR	LR	11 50 00.0	
	comp=Z,1µm,27.2s,baz=263						
PPT2	Papeete2	22.75	93	*e*T	T	12 08 04.3	
	12nm,0.3s						
TIAR	Tiarei	22.97	93	*e*P	P	11 44 47.3	+1.6
	14nm,1.0s						
TVO	Taravao	23.05	94	*e*P	P	11 44 48.3	+1.8
	19nm,1.1s						
TVO	Taravao	23.05	94	*e*T	T	12 08 18.5	
	3.9nm,0.3s						
BKZ	Black Stump Fm	23.06	200	*e*P	P	11 44 46.4	0.0
	12nm,0.9s						
HIZ	Hauiti	23.07	204	*e*P	P	11 44 47.1	+0.7
	61nm,1.2s						
TBI	Tubuai	23.13	108	*e*LQ	LQ	11 49 25.3	
	419nm,29.0s						
TBI				*e*LR	LR	11 50 28.4	
	comp=Z,950nm,26.2s,baz=291						
TBI	Tubuai	23.13	108	*e*T	T	12 08 33.5	
	14nm,0.3s						
BFZ	Birch Farm	24.51	199	*e*P	P	11 45 00.8	+0.8
	21nm,1.1s						
PMOR	Pomariorio Ree	24.67	87	*e*P	P	11 45 03.8	+2.1
	55nm,1.1s						
PMOR	Pomariorio Ree	24.67	87	*e*T	T	12 10 26.4	
	7.3nm,0.3s						
VAH	Vaihoa	24.88	88	*e*T	T	12 10 42.1	
	11nm,0.2s						
THZ	Tophouse	26.62	203	*e*P	P	11 45 18.8	-0.5
	9.5nm,0.9s						
HNR	Honiara	27.12	284	LR	LR	11 54 25.9	
	comp=Z,507nm,21.4s,baz=106,slow=33						
OXZ	Oxford	28.30	203	*e*P	P	11 45 35.7	+1.6
	23nm,0.9s						
MQZ	McQueen's Vall	28.41	201	*e*P	P	11 45 36.0	+0.9
	7.4nm,0.9s						
RPZ	Rata Peaks	29.00	204	*e*P	P	11 45 41.7	+1.3
	24nm,1.1s						
FOZ	Fox Glacier	29.33	205	*e*P	P	11 45 44.0	+0.7
	21nm,1.0s						
WKZ	Wanaka	30.73	205	*e*P	P	11 45 55.4	-0.3
	3.3nm,0.8s						
MLZ	Mavora Lakes	31.53	205	*e*P	P	11 46 03.2	+0.4
WHZ	Wether Hill Ro	32.03	205	*e*P	P	11 46 06.7	-0.4
TAOE	Nuku Hiva Isla	33.55	79	*e*LR	LR	11 54 52.0	
	comp=Z,563nm,25.4s						
EIDS	Eidsvold	33.76	251	*e*P	P	11 46 21.3	-1.2
	2.5nm,0.7s						
ARMA	Armidale	34.14	242	*e*P	P	11 46 24.6	-1.2
	6.9nm,1.1s						
RKT	Rikitea	36.38	105	*e*LR	LR	11 56 29.7	
	comp=Z,793nm,26.8s						
RKT	Rikitea	36.38	105	*e*T	T	12 25 06.5	
	8.0nm,0.3s						
CTA	Charters Tower	38.12	260	P	P	11 47 00.5	+0.6
	6.7nm,0.7s,baz=86,slow=10,SNR=5.8						
CTA				LR	LR	12 01 52.6	
	comp=Z,304nm,19.6s,baz=52,slow=35						
CTAO	Charters Tower	38.12	260	*e*P	P	11 46 58.8	-1.2
	5.2nm,0.9s						
PMG	Port Moresby	39.11	277	LR	LR	12 01 26.6	
	comp=Z,112nm,19.5s,baz=109,slow=34						
COEN	Coen	41.83	269	*e*P	P	11 47 29.0	-1.8
	7.4nm,1.1s						
STKA	Stephens Creek	42.85	242	P	P	11 47 38.9	0.0
	0.7nm,0.4s,baz=96,slow=13,SNR=3.5						
STKA				LR	LR	12 04 18.9	
	comp=Z,173nm,18.6s,baz=39,slow=35						
STKA	Stephens Creek	42.85	242	*e*P	P	11 47 38.4	-0.6
MIDW	Midway	45.86	355	*e*P	P	11 48 02.3	-0.5
	35nm,0.6s						
JAY	Jayapura	47.43	283	LR	LR	12 06 27.0	
	comp=Z,111nm,21.0s,baz=106,slow=34						
BBOO	Buckleboo	47.62	242	*e*P	P	11 48 14.8	-1.9
	5.5nm,0.8s						
WB2	Warramunga Arr	49.28	259	*e*P	P	11 48 27.5	-2.3
	5.2nm,0.6s						
WRAB	Tennant Creek	49.29	259	*e*P	P	11 48 28.0	-1.7
	9.3nm,1.0s						
WR1	Warramunga Arr	49.30	259	*e*P	P	11 48 27.7	-2.1
	6.9nm,0.7s						
WRA	Warramunga Arr	49.30	259	P	P	11 48 27.7	-2.1

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	3.3nm,0.4s,baz=98,slow=7.4,SNR=84						
WRA				LR	LR	12 07 41.6	
	comp=Z,289nm,21.4s,baz=80,slow=34						
AS01	**Alice Springs**	**49.33**	**254**	*e*P	**P**	**11 48 27.6**	**-2.5**
AS31	**Alice Springs**	**49.37**	**254**	*e*P	**P**	**11 48 27.8**	**-2.6**
	7.8nm,1.0s						
ASAR	**Alice Springs**	**49.37**	**254**	P	**P**	**11 48 27.8**	**-2.6**
	16nm,0.5s,baz=90,slow=8.1,SNR=204						
GUMO	**Guam**	**51.59**	**304**	LR	LR	12 07 36.2	
	comp=Z,63nm,19.9s,baz=101,slow=33						
FORT	**Forrest**	**54.34**	**245**	*e*P	**P**	**11 49 05.5**	**-1.8**
	15nm,0.8s						
SIJI	**Sorong**	**56.82**	**281**	LR	LR	12 12 32.4	
	comp=Z,113nm,19.4s,baz=66,slow=35						
FITZ	**Fitzroy Crossi**	**57.70**	**259**	P	**P**	**11 49 31.3**	**-0.2**
	1.2nm,0.4s,baz=106,slow=11,SNR=7.8						
FITZ				LR	LR	12 12 29.5	
	comp=Z,234nm,21.8s,baz=113,slow=34						
SBA	**Scott Base**	**60.91**	**185**	*e*P	**P**	**11 49 52.5**	**-0.1**
	3.7nm,1.1s						
VNDA	**Vanda**	**61.04**	**186**	P	**P**	**11 49 56.3**	**+2.7**
	0.9nm,0.8s,baz=14,slow=8.7,SNR=5.2						
VNDA	**Vanda**	**61.04**	**186**	*e*P	**P**	**11 49 54.0**	**+0.4**
MJAR	**Matsushiro Arr**	**70.70**	**320**	LR	LR	12 16 33.5	
	comp=Z,48nm,21.9s,baz=145,slow=31						
QSPA	**South Pole Qui**	**72.30**	**180**	*e*P	**P**	**11 51 06.0**	**+0.2**
	14nm,0.9s						
ORV	**Oroville**	**74.82**	**39**	*e*P	**P**	**11 51 20.8**	**+0.1**
PETK	**Petropavlovsk-**	**74.85**	**342**	P	**P**	**11 51 20.2**	**-0.4**
	2.3nm,0.8s,baz=126,slow=9.0,SNR=5.6						
PEA1	**Petropavlovsk-**	**74.85**	**342**	*e*P	**P**	**11 51 20.2**	**-0.4**
WAKR	**Walker**	**75.44**	**41**	*e*P	**P**	**11 51 24.6**	**0.0**
	6.3nm,1.1s						
NV01	**Mina Array Sit**	**76.11**	**42**	*e*P	**P**	**11 51 28.2**	**-0.2**
NVAR	**Mina Array Bea**	**76.11**	**42**	P	**P**	**11 51 29.9**	**+1.5**
	5.3nm,0.9s,baz=226,slow=9.9,SNR=17						
NV11	**Mina Array Sit**	**76.21**	**42**	*e*P	**P**	**11 51 29.4**	**+0.5**
	0.9nm,1.1s						
KVN	**Kaiserville**	**76.61**	**41**	*e*P	**P**	**11 51 31.8**	**+0.6**
	4.4nm,1.0s						
SHPR	**Sheep Range**	**77.06**	**45**	*e*P	**P**	**11 51 34.3**	**+0.5**
	7.9nm,1.2s						
R11A	**Troy Canyon, C**	**77.81**	**43**	*e*P	**P**	**11 51 38.6**	**+0.6**
	3.9nm,1.1s						
X16A	**Lo Mia Camp, P**	**78.51**	**48**	*e*P	**P**	**11 51 42.6**	**+0.6**
	5.2nm,0.9s						
CCUT	**Cedar City**	**78.83**	**45**	*e*P	**P**	**11 51 43.4**	**-0.3**
	4.4nm,1.0s						
U15A	**North Rim**	**78.96**	**46**	*e*P	**P**	**11 51 44.5**	**0.0**
	5.9nm,1.1s						
PSUT	**Pine Spring**	**79.04**	**44**	*e*P	**P**	**11 51 44.9**	**+0.1**
	5.2nm,0.9s						
SZCU	**Shurtz Canyon**	**79.04**	**45**	*e*P	**P**	**11 51 44.9**	**+0.1**
	5.8nm,1.1s						
USRK	**Ussuriysk Ar.**	**79.23**	**323**	LR	LR	12 20 37.5	
	comp=Z,90nm,20.7s,baz=139,slow=31						
ELK	**Elko**	**79.38**	**41**	*e*P	**P**	**11 51 47.2**	**+0.6**
	4.4nm,1.0s						
MTPU	**Mount Pierson**	**79.88**	**45**	*e*P	**P**	**11 51 49.9**	**+0.4**
	9.2nm,1.2s						
W18A	**Petrified Fore**	**80.08**	**48**	*e*P	**P**	**11 51 50.6**	**+0.1**
	3.8nm,0.6s						
MSU	**Marysvale**	**80.14**	**44**	*e*P	**P**	**11 51 51.3**	**+0.5**
HLID	**Hailey**	**81.48**	**39**	*e*P	**P**	**11 51 58.2**	**+0.5**
	1.0nm,0.9s						
P17A	**Butcher Ranch,**	**81.59**	**44**	*e*P	**P**	**11 51 59.1**	**+0.6**
	5.5nm,1.2s						
LAZ	**Ladron**	**81.60**	**50**	*e*P	**P**	**11 51 59.0**	**+0.3**
MNTX	**Cornudas Mount**	**81.67**	**53**	*e*P	**P**	**11 51 58.9**	**0.0**
	4.3nm,1.1s						
LTX	**Lajitas**	**81.97**	**56**	*e*P	**P**	**11 52 02.8**	**+2.2**
TX31	**Lajitas Ar. Si**	**81.97**	**56**	*e*P	**P**	**11 52 00.7**	**+0.2**
TXAR	**Lajitas Array**	**81.97**	**56**	P	**P**	**11 52 02.8**	**+2.2**
	0.6nm,0.7s,baz=217,slow=8.1,SNR=7.9						
TXAR				LR	LR	12 20 09.7	
	comp=Z,49nm,21.8s,baz=0.0,slow=30						
TCUT	**Toone Canyon**	**82.01**	**42**	*e*P	**P**	**11 52 00.7**	**0.0**
	9.9nm,1.0s						
PV13	**Radium Mtn., P**	**82.22**	**46**	*e*P	**P**	**11 52 02.3**	**+0.4**
	7.7nm,1.0s						
ANMO	**Albuquerque**	**82.35**	**50**	*e*P	**P**	**11 52 03.0**	**+0.4**
	2.2nm,0.8s						
TRF	**Thorofare Moun**	**82.94**	**10**	*e*P	**P**	**11 52 05.2**	**+0.3**
	8.2nm,1.2s						
S22A	**4UR Ranch, Cre**	**83.40**	**47**	*e*P	**P**	**11 52 08.4**	**+0.4**
	8.5nm,0.9s						
MCK	**McKinley**	**83.44**	**11**	*e*P	**P**	**11 52 07.4**	**+0.1**
	8.2nm,1.0s						
REDW	**Red Top Meadow**	**83.54**	**41**	*e*P	**P**	**11 52 09.2**	**+0.6**
	0.5nm,0.6s						
LNIG	**Linares**	**83.58**	**61**	*e*P	**P**	**11 52 09.2**	**+0.2**
	6.5nm,1.0s						
SMCO	**Snowmass**	**83.98**	**46**	*e*P	**P**	**11 52 11.6**	**+0.4**
	5.4nm,1.0s						
FLWY	**Flagg Ranch**	**84.02**	**40**	*e*P	**P**	**11 52 11.7**	**+0.7**
	4.4nm,1.0s						
BW06	**Boulder Array**	**84.05**	**42**	*e*P	**P**	**11 52 11.0**	**-0.2**
	2.9nm,0.7s						
PD31	**Pinedale Array**	**84.05**	**42**	*e*P	**P**	**11 52 11.4**	**+0.2**
PDAR	**Pinedale Array**	**84.05**	**42**	P	**P**	**11 52 12.1**	**+0.9**
	1.7nm,0.9s,baz=211,slow=3.7,SNR=12						
PDAR				LR	LR	12 22 09.2	
	comp=Z,80nm,19.9s,baz=250,slow=30						
PDAR	**Pinedale Array**	**84.05**	**42**	*e*P	**P**	**11 52 11.2**	**0.0**
WRH	**Wood River Hil**	**84.26**	**11**	*e*P	**P**	**11 52 11.5**	**0.0**
	10.0nm,1.0s						
MSTX	**Muleshoe**	**84.64**	**52**	*e*P	**P**	**11 52 14.3**	**0.0**
	8.4nm,0.8s						
COLA	**College**	**84.67**	**11**	*e*P	**P**	**11 52 13.7**	**+0.2**
	11nm,0.8s						
MDM	**Murphy Dome**	**84.69**	**10**	*e*P	**P**	**11 52 13.6**	**0.0**
	10nm,1.2s						
IL1	**Eielson Array**	**84.75**	**11**	*e*P	**P**	**11 52 13.5**	**-0.4**
ILAR	**Eielson Array**	**84.75**	**11**	P	**P**	**11 52 13.9**	**0.0**
	1.4nm,0.9s,baz=233,slow=5.6,SNR=18						
ILB	**Eielson Array**	**84.75**	**11**	*e*P	**P**	**11 52 13.9**	**0.0**
IM3	**Indian Mountai**	**84.80**	**8**	*e*P	**P**	**11 52 14.4**	**+0.3**
PRP	**Porcupine Dome**	**85.68**	**11**	*e*P	**P**	**11 52 18.9**	**+0.1**
	6.7nm,1.0s						
ABTX	**Abilene, Hawle**	**86.47**	**54**	*e*P	**P**	**11 52 23.4**	**+0.1**
	14nm,0.9s						
PLCA	**Paso Flores**	**87.98**	**132**	LR	LR	12 23 52.4	
	comp=Z,67nm,21.8s,baz=242,slow=30						
YKA	**Yellowknife Ar**	**92.27**	**23**	P	**P**	**11 52 50.3**	**+0.5**
	0.6nm,0.9s,baz=234,slow=5.3,SNR=6.1						
CMAR	**Chiang Mai Arr**	**93.30**	**288**	P	**P**	**11 52 57.9**	**+2.3**
	0.8nm,0.6s,baz=88,slow=2.8,SNR=5.9						
ULM	**Lac du Bonnet**	**95.79**	**39**	LR	LR	12 30 13.2	
	comp=Z,128nm,18.9s,baz=264,slow=32						
LPAZ	**La Paz**	**99.05**	**110**	LR	LR	12 28 14.9	
	comp=Z,93nm,21.7s,baz=195,slow=29						
MK32	**Makanchi Array**	**112.42**	**314**	*e*PKiKP	**PKiKP**	**11 58 16.2**	**0.0**
MKAR	**Makanchi Array**	**112.42**	**314**	PKiKP	**PKiKP**	**11 58 16.2**	**0.0**
	0.4nm,0.7s,baz=64,slow=2.8,SNR=4.2						
FINES	**FINESS Array B**	**134.22**	**347**	SKPbc	**SKPab**	**12 02 25.6**	**-1.1**
	4.5nm,1.1s,baz=20,slow=6.1,SNR=3.5						
KMBO	**Kilima Mbogo**	**144.42**	**241**	PKP	**PKPdf**	**11 59 17.5**	**-0.2**
	2.1nm,0.5s,baz=80,slow=6.2,SNR=5.3						
KMBO	**Kilima Mbogo**	**144.42**	**241**	*e*PKPdf	PKPbc	11 59 16.2	0.0
VYHS	**Vyhne**	**147.75**	**345**	*e*PKP	**PKPab**	**11 59 26.5**	**-0.7**
VYHS				*e*		11 59 38.7	
VYHS				*e*		11 59 55.7	
BR101	**Keskin Array S**	**147.91**	**319**	*e*PKPbc	**PKPbc**	**11 59 26.0**	**+0.2**
BRTR	**Keskin Array B**	**147.91**	**319**	PKPbc	**PKPbc**	**11 59 26.0**	**+0.2**
	2.3nm,0.9s,baz=99,slow=1.6,SNR=8.3						
MODS	**Modra-Piesok**	**148.23**	**346**	*e*PKP	**PKPab**	**11 59 28.4**	**-0.8**
MODS				*e*		11 59 42.4	
GERES	**GERESS Array B**	**148.45**	**351**	PKPbc	**PKPbc**	**11 59 27.5**	**+0.7**
	1.0nm,0.8s,baz=41,slow=4.3,SNR=6.0						
CONA	**Conrad Observa**	**148.96**	**348**	*i* PKPab	**PKPab**	**11 59 30.2**	**-2.0**
	6.2nm,1.1s						
MOA	**Molln**	**149.33**	**350**	*e*PKiKP	**PKiKP**	**11 59 30.4**	**+0.2**
	2.7nm,1.1s						
ARSA	**Arzberg**	**149.67**	**348**	*i* PKiKP	**PKiKP**	**11 59 31.4**	**+0.5**
	2.6nm,0.9s						
RETA	**Reutte**	**150.15**	**354**	*i* PKiKP	**PKiKP**	**11 59 32.5**	**+0.6**
	9.5nm,1.5s						
MOTA	**Moosalm**	**150.25**	**354**	*i* PKiKP	**PKiKP**	**11 59 32.4**	**+0.1**
	2.8nm,0.8s						
SOKA	**Soboth**	**150.32**	**348**	*e*PKiKP	**PKiKP**	**11 59 32.5**	**+0.2**
	2.8nm,1.0s						
SQTA	**Sankt Quirin**	**150.37**	**354**	*e*PKiKP	**PKiKP**	**11 59 33.1**	**+0.6**
	12nm,1.4s						
FETA	**Feichten**	**150.61**	**354**	*e*PKiKP	**PKiKP**	**11 59 34.0**	**+1.0**
	4.2nm,1.1s						
ABTA	**Abfaltersbach**	**150.67**	**352**	*e*PKiKP	**PKiKP**	**11 59 33.3**	**+0.2**
	9.0nm,1.7s						
FUORN	**Ofenpass-Fuorn**	**151.05**	**355**	*e*PKPdf	**PKPdf**	**11 59 28.5**	**+0.8**
TOA0	**Torodi Ar. Sit**	**173.45**	**134**	*e*PKPdf	**PKPdf**	**11 59 49.4**	**-1.1**
TOA0				*e*PKPab	**PKPab**	**12 01 19.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**173.45**	**134**	PKP	**PKPdf**	**11 59 50.1**	**-0.3**
	0.7nm,0.7s,baz=325,slow=2.3,SNR=5.2						
TORD				PKPab	**PKPab**	**12 01 20.1**	**+1.0**
	1.3nm,0.8s,baz=270,slow=4.3,SNR=6.8						
TOA1	**Torodi Ar. Sit**	**173.45**	**134**	*e*PKPdf	**PKPdf**	**11 59 50.1**	**-0.3**
TOA1				*e*PKPab	**PKPab**	**12 01 20.1**	**+0.9**

*DDA **11** 11:42:13.9, 37°.16N×43°.77E, h3km±3km, ML3.4*
*TEH **11** 11:42:13.3, 37°.11N×43°.77E, h2km, ML3.4*
*ISK **11** 11:42:13.9, 37°.14N×43°.69E, h5km, ML3.3/11*
*ISCJB **11** 11:42:14.6±0.4, 37°.11N±0°.03×43°.78E±0°.03, h10km, Error ellipse: s-maj=4.3km s-min=3.4km az=140.1*
*ISN **11** 11:42:21.6±0.7, 36°.82N×43°.41E, h0km±4km, ML3.3*
ISC 11 11:42:14.2±0.8**, 37°.09N**±0°.03×**43°.73E**±0°.03**, h10km, n59, σ1s.44**/74**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**0.19**	**329**	PG	**Pg**	**11 42 16.5**	**-1.8**
CUKT				SG	**Sg**	**11 42 19.1**	**-2.0**
CUKT	**Cukurca**	**0.19**	**329**	IAML_P			
	comp=Z,117μm,0.2s						
CUKT				*i* P	**Pg**	**11 42 17.1**	**-1.2**
CUKT				*i* S	**Sg**	**11 42 19.4**	**-1.8**
CUKT	**Cukurca**	**0.19**	**329**	*e*Pg	**Pg**	**11 42 16.5**	**-1.8**
YOVA	**Hakkari_Yksek**	**0.67**	**42**	IAML_P			
	comp=Z,10μm,0.1s						
YOVA				*i* P	**Pg**	**11 42 25.4**	**-1.8**
YOVA				*i* S	**Sb**	**11 42 35.8**	**-1.8**
YOVA	**Hakkari_Yksek**	**0.67**	**42**	*e*Pg	**Pg**	**11 42 25.2**	**-2.0**
MSL	**Mosul**	**0.85**	**216**	*e*Pg	**Pn**	**11 42 32.3**	**+0.1**
	baz=30						
MSL				*e*Sg	**Sg**	**11 42 39.7**	**-1.9**
BASK	**Baskale_VAN**	**0.99**	**13**	IAML_P			
	comp=Z,3μm,0.2s						
BASK				*i* P	**Pg**	**11 42 32.2**	**-1.0**
BASK				*i* S	**Sg**	**11 42 45.2**	**-1.0**
BASK	**Baskale_VAN**	**0.99**	**13**	*e*Pg	**Pg**	**11 42 31.6**	**-1.7**
SIRT	**Sirnak**	**1.11**	**292**	PG	**Pg**	**11 42 35.3**	**-0.3**
SIRT	**Sirnak**	**1.11**	**292**	*e*Pg	**Pg**	**11 42 35.2**	**-0.3**
SIRN	**Sırnak**	**1.13**	**292**	*i* P	**Pn**	**11 42 36.1**	**-0.1**
SIRN				*i* S	**Sn**	**11 42 53.4**	**+1.6**
SIRN	**Sırnak**	**1.13**	**292**	*e*Pg	**Pn**	**11 42 36.0**	**-0.1**
GEVA	**Gevas**	**1.33**	**337**	IAML_P			
	comp=Z,3μm,0.3s						
GEVA				*i* P	**Pg**	**11 42 39.6**	**-0.2**
GEVA				*i* S	**Sg**	**11 42 59.2**	**+2.0**
GEVA	**Gevas**	**1.33**	**337**	*e*Pg	**Pg**	**11 42 39.3**	**-0.6**
AKDM	**Akdamar-Van**	**1.38**	**335**	PN	**Pg**	**11 42 39.9**	**-0.8**
TVAN	**Van**	**1.46**	**350**	IAML_P			
	comp=Z,1μm,0.3s						
TVAN				*i* P	**Pb**	**11 42 41.0**	**-0.7**
TVAN				*i* S	**Sg**	**11 43 02.5**	**+1.1**
TVAN	**Van**	**1.46**	**350**	*e*Pg	**Pn**	**11 42 40.5**	**-0.4**
VANB	**Van**	**1.53**	**350**	PN	**Pn**	**11 42 41.3**	**-0.5**
VANB	**Van**	**1.53**	**350**	*e*Pn	**Pn**	**11 42 41.2**	**-0.5**
SRTM	**Siirt_Merkez**	**1.70**	**303**	IAML_P			
	comp=Z,2μm,0.2s						
SRTM				*i* P	**Pb**	**11 42 44.7**	**-0.9**
SRTM				*i* S	**Sg**	**11 43 10.7**	**+1.9**
SRTM	**Siirt_Merkez**	**1.70**	**303**	*e*Pn	**Pn**	**11 42 44.3**	**+0.3**
ADCV	**BITLIS_Adilcev**	**1.89**	**335**	IAML_P			
	comp=Z,941nm,0.3s						
ADCV				*i* P	**Pg**	**11 42 49.5**	**-1.0**
ADCV				*i* S	**Sg**	**11 43 17.2**	**+2.0**
ADCV	**BITLIS_Adilcev**	**1.89**	**335**	*e*Pn	**Pg**	**11 42 49.2**	**-1.4**
VMUR	**Van-Muradiye**	**1.91**	**356**	IAML_P			
	comp=Z,2μm,0.4s						
VMUR				*i* P	**Pg**	**11 42 50.0**	**-0.7**
VMUR				*i* S	**Sg**	**11 43 17.6**	**+2.1**
VMUR	**Van-Muradiye**	**1.91**	**356**	*e*Pg	**Pg**	**11 42 49.5**	**-1.3**
GURO	**Guroymak-BITLI**	**1.99**	**318**	PN	**Pn**	**11 42 48.6**	**+0.6**
GURO	**Guroymak-BITLI**	**1.99**	**318**	*e*Pn	**Pn**	**11 42 48.6**	**+0.6**
CLDR	**Caldiran**	**2.06**	**4**	PN	**Pb**	**11 42 50.3**	**-1.6**
CLDR	**Caldiran**	**2.06**	**4**	*i* P	**Pg**	**11 42 52.9**	**-0.8**
CLDR				*i* S	**Sg**	**11 43 20.8**	**+0.4**
CLDR	**Caldiran**	**2.06**	**4**	*e*Pn	**Pb**	**11 42 50.2**	**-1.6**
BTMN	**Batman**	**2.12**	**293**	IAML_P			
	comp=Z,375nm,0.2s						
BTMN				*i* P	**Pb**	**11 42 51.2**	**-1.5**
BTMN				*i* S	**Sg**	**11 43 22.0**	**-0.2**
BTMN	**Batman**	**2.12**	**293**	*e*Pn	**Pb**	**11 42 51.1**	**-1.6**
ITBZ	**Tabriz**	**2.23**	**58**	*e*Pn	**Pn**	**11 42 52.0**	**+0.6**
ITBZ				IAMB	IAmb	11 43 32.5	
	comp=Z,518nm,0.4s						
SVAN	**Silvan-Diyarba**	**2.27**	**299**	PN	**Pb**	**11 42 53.3**	**-2.1**
SVAN	**Silvan-Diyarba**	**2.27**	**299**	*e*Pn	**Pb**	**11 42 53.2**	**-2.1**
MARD	**Mardin**	**2.37**	**276**	IAML_P			
	comp=Z,1μm,0.2s						
MARD				*i* P	**Pb**	**11 42 57.0**	**0.0**
TUTA	**Tutak**	**2.42**	**343**	*i* P	**Pn**	**11 42 55.1**	**+1.0**
TUTA	**Tutak**	**2.42**	**343**	*e*Pn	**Pn**	**11 42 55.0**	**+0.9**
IBST	**Bostanabad**	**2.59**	**75**	*e*Pn	**Pn**	**11 42 57.3**	**+0.9**
IBST				IAMB	IAmb	11 43 38.0	
	comp=Z,761nm,0.5s						
BNGL	**BINGOL**	**2.76**	**313**	*i* P	**Pb**	**11 43 03.7**	**-0.1**
BNGL				*i* S	**Sg**	**11 43 42.8**	**-0.1**
EATA	**Eleskirt**	**2.94**	**341**	*i* P	**Pb**	**11 43 07.6**	**+0.7**
EATA	**Eleskirt**	**2.94**	**341**	*e*Pn	**Pb**	**11 43 07.2**	**+0.3**
HANI	**Diyarbakir_Han**	**2.96**	**298**	*i* P	**Pg**	**11 43 09.2**	**-1.6**
DIYA	**Diyarbakir**	**2.99**	**287**	*i* P	**Pb**	**11 43 07.2**	**-0.4**
KARO	**Karliova-Bingo**	**3.06**	**317**	PN	**Pn**	**11 43 04.1**	**+1.2**
GNI	**Garni**	**3.16**	**14**	PN	**Pn**	**11 43 05.9**	**+1.7**
GNI	**Garni**	**3.16**	**14**	*e*Pn	**Pn**	**11 43 05.9**	**+1.7**
ISRB	**Sarab**	**3.22**	**76**	IAMB	IAmb	11 43 23.4	
	comp=Z,613nm,0.4s						
ISRB				*e*Pn	**Pn**	**11 43 06.8**	**+1.8**
KOPR	**Koprukoy-ERZUR**	**3.25**	**334**	PN	**Pn**	**11 43 06.9**	**+1.4**
ILIN	**Lien**	**3.40**	**129**	*e*Pn	**Pn**	**11 43 09.1**	**+1.6**
ILIN				IAMB	IAmb	11 48 46.5	
	comp=Z,957nm,0.1s						
IGHG	**Ghaleghazi**	**3.59**	**139**	*e*Pn	**Pn**	**11 43 12.3**	**+2.1**
IGHG				IAMB	IAmb	11 44 19.9	
	comp=Z,1μm,0.9s						
IVIS	**Veis**	**3.60**	**134**	*e*Pn	**Pn**	**11 43 11.5**	**+1.4**
IVIS				IAMB	IAmb	11 44 17.4	
	comp=Z,729nm,0.6s						
BHD	**Baghdad**	**3.84**	**172**	*e*Pn	**Pb**	**11 43 20.0**	**-2.1**
BHD				*e*Sn	**Sn**	**11 44 02.0**	**+3.4**
PTK	**Pertek**	**3.87**	**299**	PN	**Pn**	**11 43 16.0**	**+2.0**
PTK	**Pertek**	**3.87**	**299**	*e*Pn	**Pn**	**11 43 16.0**	**+2.0**
URFA	**Urfa**	**3.93**	**277**	PN	**Pn**	**11 43 16.8**	**+2.1**
IKOM	**Komasi**	**4.23**	**132**	*e*Pn	**Pn**	**11 43 20.2**	**+1.3**
IKOM				IAMB	IAmb	11 45 06.5	
	comp=Z,0.0nm,1.2s						
IKFM	**Kafar-mosalman**	**4.89**	**135**	*e*Pn	**Pn**	**11 43 28.8**	**+1.0**
IKFM				IAMB	IAmb	11 45 10.3	
	comp=Z,0.0nm,0.9s						
IPIR	**Pirpir**	**7.34**	**125**	IAMB	IAmb	11 44 04.5	
	comp=Z,104nm,0.3s						
IPIR				*e*Pn	**Pn**	**11 44 04.1**	**+2.4**

*ISCJB **11** 11:44:48.5±0.7, 5°.36S±0°.09×68°.6E±0°.1, h13km, mb4.4/26, MS3.9/18, Error ellipse: s-maj=18.7km s-min=6.9km az=139.5*
*IDC **11** 11:44:49.4±1.4, 5°.29S×68°.58E, h0km, mb4.1/9, mb1 4.2/9, mb1mx3.8/48, mbtmp4.1/9, MS3.8/17, Ms1 3.8/17, ms1mx3.5/42, Error ellipse: s-maj=42.4km s-min=19.7km az=51.0*
*NEIC **11** 11:44:50.3±0.4, 5°.33S×68°.55E, h10km, mb4.7/17, Error ellipse: s-maj=12.8km s-min=7.5km az=51.0*
ISC 11 11:44:50.6±0.8**, 5°.4S**±0°.1×**68°.6E**±0°.1**, h13km, n70, σ0s.99**/55**, mb4.5**/26**, MS3.8**/18**, Chagos Archipelago region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**2.62**	**111**	Pn	Pn	11 45 23.7	-8.6
H08N2				T	T	11 48 08.0	
	baz=292,slow=74,SNR=474						
H08N3	**Diego Garcia H**	**2.62**	**112**	Pn	Pn	11 45 23.7	-8.6
H08N3				T	T	11 48 04.5	
	baz=292,slow=74,SNR=453						
H08N1	**Diego Carcia H**	**2.64**	**111**	Pn	Pn	11 45 23.7	-8.8
H08N1				T	T	11 48 09.2	
	baz=292,slow=74,SNR=459						
DGAR	**Diego Garcia**	**4.38**	**118**	*e*Pn	**Pn**	**11 45 55.7**	**-1.1**
H08S1	**Diego Carcia H**	**4.51**	**120**	Pn	**Pn**	**11 45 57.9**	**-0.5**
	baz=316,slow=20,SNR=109						
H08S1				T	T	11 50 54.7	
	baz=311,slow=74,SNR=74						
H08S3	**Diego Garcia H**	**4.51**	**120**	Pn	**Pn**	**11 45 57.9**	**-0.5**
	baz=316,slow=20,SNR=201						
H08S3				T	T	11 50 45.4	
	baz=311,slow=74,SNR=3.5						
H08S2	**Diego Garcia H**	**4.52**	**120**	Pn	**Pn**	**11 45 58.1**	**-0.5**
	baz=316,slow=20,SNR=151						
H08S2				T	T	11 50 51.6	
	baz=311,slow=74,SNR=60						
KMBO	**Kilima Mbogo**	**31.52**	**277**	LR	LR	12 01 35.7	
	comp=Z,153nm,21.6s,baz=89,slow=32						
FURI	**Furi**	**32.98**	**295**	*e*P	**P**	**11 51 25.4**	**-0.6**
	28nm,0.6s						
CM31	**Chiang Mai Arr**	**38.20**	**51**	*e*P	**P**	**11 52 10.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**38.20**	**51**	P	**P**	**11 52 11.4**	**+1.0**
	0.4nm,0.4s,baz=241,slow=11,SNR=6.3						
CMAR				LR	LR	12 05 53.7	
	comp=Z,106nm,19.9s,baz=218,slow=33						
NIL	**Nilore**	**39.07**	**6**	*e*P	**P**	**11 52 17.9**	**+0.4**
	13nm,0.9s						
KBL	**Kabul**	**39.71**	**1**	*e*P	**P**	**11 52 22.7**	**-0.2**
	23nm,1.6s						
LSA	**Lhasa**	**41.08**	**31**	*e*P	**P**	**11 52 35.5**	**+0.8**
	6.6nm,1.3s						
GEYT	**Alibeck**	**44.16**	**348**	LR	LR	12 09 47.4	
	comp=Z,191nm,21.4s,baz=285,slow=34						
GAR	**Garm**	**44.18**	**2**	*e*P	**P**	**11 52 58.9**	**-0.5**
	30nm,1.3s						
BOSA	**Boshof**	**47.04**	**235**	LR	LR	12 10 15.8	
	comp=Z,160nm,21.6s,baz=32,slow=32						
NRN	**Naryn**	**47.08**	**8**	*e*P	**P**	**11 53 21.9**	**-0.7**
	9.4nm,1.4s						
AAK	**Ala-Archa**	**48.09**	**6**	P	**P**	**11 53 30.5**	**+0.3**
	2.8nm,1.0s,baz=196,slow=12,SNR=4.3						
FRU1	**Bishkek**	**48.28**	**6**	*e*P	**P**	**11 53 32.0**	**+0.4**
	11nm,0.8s						
KK31	**Karatay Array**	**48.29**	**2**	*e*P	**P**	**11 53 31.3**	**-0.2**
KKAR	**Karatay Array**	**48.29**	**2**	*e*P	**P**	**11 53 31.8**	**+0.2**
PRZ	**Przheval'sk**	**48.47**	**10**	*e*P	**P**	**11 53 33.2**	**+0.1**
	12nm,1.0s						
GTA	**Gaotai**	**53.10**	**30**	*e*P	**P**	**11 54 10.7**	**+2.6**
GTA				pP	sP	11 54 15.9	+2.1
GTA	**Gaotai**	**53.10**	**30**	*e*P	P	11 54 15.9	+7.8
GTA				sP	sP	11 54 18.6	+4.8
GTA				pP	pP	11 54 25.5	+13
GTA				sP	PcP	11 54 30.1	-46
GTA				S	**S**	**12 01 34.6**	**-3.7**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,3.0nm,1.7s						
GTA				pmax	pmax		
	comp=Z,55nm,5.3s						
GTA				LR	LR		
	comp=N,140nm,16.1s						
GTA				LR	LR		
	comp=E,140nm,18.6s						
GTA				LR	LR		
	comp=Z,220nm,16.8s						
MAKZ	**Makanchi**	**53.31**	**11**	*e*P	**P**	**11 54 08.2**	**-1.1**
	comp=Z,4.8nm,1.3s						
MK01	**Makanchi Array**	**53.33**	**12**	*e*P	**P**	**11 54 08.3**	**-1.3**
MK31	**Makanchi Array**	**53.35**	**12**	*e*P	**P**	**11 54 08.7**	**-1.0**
MK32	**Makanchi Array**	**53.35**	**12**	*e*P	**P**	**11 54 08.8**	**-0.9**
MKAR	**Makanchi Array**	**53.35**	**12**	P	**P**	**11 54 08.8**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=194,slow=7.5,SNR=16						
MKAR				LR	LR	12 16 12.3	
	comp=Z,70nm,20.3s,baz=189,slow=35						
MKAR	**Makanchi Array**	**53.35**	**12**	*e*P	**P**	**11 54 08.8**	**-0.9**
	comp=Z,14nm,0.9s						
KBZ	**Khabaz**	**54.09**	**337**	P	**P**	**11 54 16.7**	**+1.7**
	comp=Z,5.8nm,1.1s,baz=148,slow=5.7,SNR=3.7						
BATI	**Baumata**	**54.77**	**99**	LR	LR	12 15 16.8	
	comp=Z,150nm,22.0s,baz=140,slow=33						
BR101	**Keskin Array S**	**55.22**	**327**	*e*P	**P**	**11 54 23.2**	**-0.4**
BRTR	**Keskin Array B**	**55.22**	**327**	P	**P**	**11 54 23.2**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=148,slow=8.5,SNR=5.3						
BRVK	**Borovoye**	**58.23**	**1**	*e*P	**P**	**11 54 44.3**	**-0.2**
	comp=Z,5.0nm,1.2s						
DAV	**Davao City (W)**	**58.24**	**78**	LR	LR	12 18 09.2	
	comp=Z,78nm,20.1s,baz=172,slow=34						
ZAA0	**Zalesovo Array**	**60.67**	**11**	*e*P	**P**	**11 55 00.5**	**-0.8**
	comp=Z,3.3nm,1.0s						
ZALV	**Zalesovo Beam**	**60.67**	**11**	P	**P**	**11 55 00.6**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=198,slow=7.2,SNR=13						
ZALV				LR	LR	12 21 02.7	
	comp=Z,75nm,18.5s,baz=252,slow=36						
ZALV	**Zalesovo Beam**	**60.67**	**11**	*e*P	**P**	**11 55 00.3**	**-1.0**
ZAA1	**Zalesovo Array**	**60.67**	**11**	*e*P	**P**	**11 55 00.6**	**-0.7**
ARU	**Arti**	**62.14**	**354**	*e*P	**P**	**11 55 11.6**	**+0.4**
	comp=Z,5.4nm,0.9s						
MAW	**Mawson**	**62.25**	**182**	LR	LR	12 15 56.0	
	comp=Z,100nm,19.4s,baz=46,slow=30						
SONA0	**Songino Array**	**62.55**	**28**	*e*P	**P**	**11 55 15.0**	**+0.6**
SONM	**Songino Array**	**62.55**	**28**	P	**P**	**11 55 15.0**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=220,slow=6.1,SNR=11						
SONM				LR	LR	12 22 11.9	
	comp=Z,207nm,19.7s,baz=182,slow=36						
SONA1	**Songino Array**	**62.57**	**28**	*e*P	**P**	**11 55 14.7**	**+0.2**
ULN	**Ulaanbaatar**	**62.88**	**28**	*e*P	**P**	**11 55 16.1**	**-0.5**
	comp=Z,6.2nm,1.3s						
ASAR	**Alice Springs**	**65.30**	**113**	P	**P**	**11 55 33.7**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=279,slow=6.5,SNR=6.2						
ASAR				LR	LR	12 21 35.0	
	comp=Z,58nm,19.7s,baz=304,slow=34						
AS31	**Alice Springs**	**65.31**	**113**	*e*P	**P**	**11 55 32.9**	**0.0**
	comp=Z,2.1nm,1.4s						
WRA	**Warramunga Arr**	**65.44**	**109**	P	**P**	**11 55 34.8**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=286,slow=6.2,SNR=11						
WR1	**Warramunga Arr**	**65.44**	**109**	*e*P	**P**	**11 55 34.8**	**+1.0**
	comp=Z,13nm,1.5s						
WB2	**Warramunga Arr**	**65.45**	**109**	*e*P	**P**	**11 55 34.1**	**+0.2**
OBN	**Obninsk**	**65.86**	**341**	LR	LR	12 25 35.4	
	comp=Z,17nm,19.2s,baz=285,slow=37						
TORD	**Torodi Ar. Bea**	**68.89**	**286**	LR	LR	12 24 37.5	
	comp=Z,34nm,19.4s,baz=305,slow=35						
STKA	**Stephens Creek**	**72.79**	**122**	LR	LR	12 25 10.9	
	comp=Z,49nm,20.1s,baz=323,slow=33						
DBIC	**Dimbokro**	**74.23**	**278**	LR	LR	12 27 32.8	
	comp=Z,40nm,19.8s,baz=116,slow=34						
VNDA	**Vanda**	**85.50**	**167**	LR	LR	12 31 14.1	
	comp=Z,74nm,19.8s,baz=205,slow=32						
TIXI	**Tiksi**	**86.11**	**16**	*e*P	**P**	**11 57 30.2**	**-0.6**
	comp=Z,4.9nm,1.1s						
PETK	**Petropavlovsk-**	**93.75**	**37**	LR	LR	12 44 17.7	
	comp=Z,53nm,18.7s,baz=246,slow=38						
YKA	**Yellowknife Ar**	**122.96**	**2**	PKP	**PKPdf**	**12 03 46.5**	**+0.1**
	comp=Z,0.1nm,0.6s,baz=353,slow=2.0,SNR=4.1						
DUG	**Dugway, Tooele**	**145.31**	**2**	*e*PKPbc	**PKPdf**	**12 04 29.4**	**+0.5**
AFDM	**Forest Hills D**	**145.49**	**13**	*e*PKPbc	**PKPab**	**12 04 30.6**	**+1.4**
NLU	**North Lily Min**	**145.57**	**1**	*e*PKPdf	**PKPab**	**12 04 30.6**	**+0.9**
SMCO	**Snowmass**	**146.11**	**354**	*e*PKPdf	**PKPdf**	**12 04 29.2**	**-1.4**
NV01	**Mina Array Sit**	**146.51**	**10**	*e*PKPdf	**PKPdf**	**12 04 30.7**	**-0.4**
NVAR	**Mina Array Bea**	**146.51**	**10**	PKPbc	**PKPab**	**12 04 33.9**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=356,slow=2.7,SNR=7.5						
NV11	**Mina Array Sit**	**146.54**	**10**	*e*PKPdf	**PKPdf**	**12 04 30.4**	**-0.6**
MNTX	**Cornudas Mount**	**153.20**	**348**	*e*PKPdf	**PKPdf**	**12 04 39.9**	**-1.6**
MNTX				*e*PKPbc	**PKiKP**	**12 04 49.4**	**+0.2**
MNTX				*e*PKPab	**PKPab**	**12 04 59.8**	**-0.7**
LTX	**Lajitas**	**155.06**	**344**	*e*PKPbc		12 04 54.4	
TXAR	**Lajitas Array**	**155.06**	**344**	PKPbc		12 04 54.4	
	comp=Z,0.3nm,0.7s,baz=85,slow=1.4,SNR=4.0						

*IDC **11** 11:45:46.3±0.8, 50°.21N×73°.24E, h0km, mb1 2.7/5, mb1mx2.6/45, mbtmp2.7/5, ML2.0/4, Error ellipse: s-maj=12.8km s-min=7.8km az=54.0*
*NNC **11** 11:45:49.8±2.0, 50°.19N×73°.31E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=31.6km s-min=17.7km az=104.0, Suspected Mining explosion.*
ISC 11 11:45:45.8±0.9**, 50°.28N**±0°.05×**73°.27E**±0°.05**, h0km, n13, σ1s.51**/18**, 8C-5D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OTUK	**Ortayu**	**2.12**	**197**	⇑Pn	**Pb**	**11 46 24.0**	**-1.2**
	1.8nm,0.3s						
OTUK				⇑Sn	**Sg**	**11 46 53.0**	**-1.0**
	13nm,0.5s						
BVA0	**Borovoye Array**	**3.29**	**328**	Pn	**Pb**	**11 46 44.3**	**-0.7**
	1.2nm,0.5s,baz=142,slow=17,SNR=11						
BVA0				⇓Pg	**Pg**	**11 46 49.5**	**+0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.3nm,0.5s,baz=155,slow=20,SNR=3.8						
BVA0				⇑Lg	Lg	11 47 28.5	
	18nm,0.8s,baz=139,slow=26						
BVAR	Borovoye Array	3.29	328	Pn	Pn	11 46 39.6	+1.1
	0.1nm,0.3s,baz=147,slow=14,SNR=2.7						
BVAR				Pg	Pb	11 46 45.1	+0.1
	0.7nm,0.3s,baz=140,slow=16,SNR=14						
BVAR				Lg	Lg	11 47 29.3	
	1.6nm,0.3s,baz=140,slow=26,SNR=8.7						
BRVK	Borovoye	3.35	327	⇓Pn	Pb	11 46 45.0	-1.0
	2.0nm,0.7s						
BRVK				⇑Lg	Lg	11 47 30.3	
	20nm,0.9s						
KURBB	Kurchatov Arra	3.38	82	Pn	Pn	11 46 40.1	+0.4
	0.2nm,0.3s,baz=262,slow=16,SNR=15						
KURBB				Pg	Pb	11 46 46.6	+0.1
	0.3nm,0.3s,baz=267,slow=16,SNR=14						
KURBB				Lg	Lg	11 47 27.6	
	0.2nm,0.3s,baz=268,slow=30,SNR=4.9						
KURBB	Kurchatov Arra	3.38	82	⇑Pn	Pb	11 46 45.7	-0.8
	3.2nm,0.5s,baz=260,slow=14						
KURBB				⇓Lg	Lg	11 47 28.4	
	30nm,0.7s						
KURK	Kurchatov	3.44	81	⇓Pn	Pb	11 46 44.8	-2.8
	5.5nm,1.1s						
KURK				⇑Lg	Lg	11 47 29.4	
	18nm,1.0s						
MAKZ	Makanchi	6.74	118	⇑Pn	Pb	11 47 46.5	+2.8
	1.1nm,1.0s						
MAKZ				⇑Lg	Lg	11 49 10.3	
	4.7nm,0.9s						
MK31	Makanchi Array	6.92	117	Pn	Pb	11 47 49.2	+2.3
	0.2nm,0.3s,baz=289,slow=14,SNR=9.6						
MK31				⇓Lg	Lg	11 49 17.7	
	11nm,0.9s						
MKAR	Makanchi Array	6.92	117	Pn	Pn	11 47 27.8	-0.7
	0.1nm,0.3s,baz=299,slow=14,SNR=3.2						
MKAR				Pg	Pb	11 47 48.4	+1.5
	0.4nm,0.3s,baz=292,slow=14,SNR=11						
MKAR				Lg	Lg	11 49 20.1	
	0.3nm,0.3s,baz=300,slow=25,SNR=11						
AAK	Ala-Archa	7.69	173	Pn	Pn	11 47 39.6	+0.5
	0.4nm,0.3s,baz=25,slow=3.7,SNR=5.4						
AAK				Sn	Sn	11 49 04.9	-2.0
	0.1nm,0.3s,baz=54,slow=19,SNR=5.0						
AAK				Lg	Lg	11 49 46.6	
	0.2nm,0.3s,baz=44,slow=18,SNR=4.5						
ZALV	Zalesovo Beam	8.00	58	Pn	Pn	11 47 43.2	0.0
	0.1nm,0.3s,baz=253,slow=12,SNR=2.4						
I46RU	ZALESOVO INFRA	8.00	58	*i*		12 33 10.0	
	baz=241,slow=322,SNR=1.0						

*NSSC **11** 11:57:47.2±4.3,33°.89N×35°.65E,h2km±999km,ML1.6*
*GRAL **11** 11:57:50.9±0.3,33°.38N×35°.49E,h12km±16km,MD2.7*
ISC 11 11:57:48.7±2.4,**33°.9N**±0°.1×**35°.91E**±0°.07,**h6km,n6,**
σ0s.83/9,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BHL	Bhannes	0.21	271	*e*P	Pg	11 58 00.8	+7.9
DQRL	Deir Qamar	0.34	236	*e*P	Pb	11 57 57.2	0.0
DQRL				*e*S	Sb	11 58 01.9	-1.2
RCY	Rachaya	0.41	189	*e*P	Pg	11 57 56.9	+0.3
RCY				*e*S	Sg	11 58 01.4	-0.6
QASN	Qassioun	0.48	140	*e*P	Pg	11 57 57.0	-0.9
QASN				AML	AML	11 58 11.1	
	comp=E,29nm,0.3s						
QASN				AML	AML	11 58 11.8	
	comp=N,142nm,0.5s						
BRBR	Barbar	0.49	176	*e*P	Pg	11 57 58.5	+0.4
BRBR				*e*S	Sg	11 58 04.9	+0.3
BRBR				AML	AML	11 58 07.8	
	comp=N,50nm,0.5s						
BRBR				AML	AML	11 58 09.6	
	comp=E,49nm,0.7s						
TOTH	TOTAH	0.69	141	*e*P	Pn	11 58 06.2	+1.1
TOTH				*e*S	Sn	11 58 15.8	-0.4
TOTH				AML	AML	11 58 19.2	
	comp=E,14nm,0.2s						
TOTH				AML	AML	11 58 21.8	
	comp=N,15nm,0.9s						

MEX 11 12:14:45.1±0.5,**15°.98N**×**97°.68W,h16km**±7km,**MD3.5,**
Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.59	313	*e*P	Pg	12 14 54.9	-2.0
PNIG				*e*S	Sg	12 15 02.5	-2.3
VHO	Vista Hermosa	1.41	40	*i* P	Pn	12 15 07.2	-3.2
VHO				*i* S	Sn	12 15 23.9	-4.8
HUIG	Huatulco	1.52	98	*i* P	Pn	12 15 08.9	-2.8
HUIG				*i* S	Sn	12 15 26.6	-4.6
TLIG	Tlapa	1.79	332	*i* P	Pn	12 15 12.1	-3.3
TLIG				*i* S	Sn	12 15 32.5	-5.4

*ISK **11** 12:15:11.6,39°.73N×25°.44E,h5km,ML2.5/9*
*DDA **11** 12:15:12.4,39°.72N×25°.54E,h6km±4km,ML2.7*
*ISCJB **11** 12:15:14.5±0.4,39°.71N±0°.02×25°.62E±0°.03,h5km±5km, Error ellipse: s-maj=4.4km s-min=3.9km az=140.9*
*ATH **11** 12:15:14.4,39°.72N×25°.63E,h23km±2km,ML2.1/1,Error ellipse: s-maj=2.7km s-min=1.2km az=234.0*
ISC 11 12:15:13.1±1.4,**39°.72N**±0°.03×**25°.58E**±0°.03,**h5km**±13km,
n30,σ**0s.97**/39,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.35	301	P	Pn	12 15 22.4	-2.5
LIA				S	Sb	12 15 28.4	+0.6
LIA				AML	AML	12 15 33.4	
	comp=N,655µm,0.5s						
LIA				AML	AML	12 15 36.4	
	comp=E,716µm,0.5s						
BOZC	Bozcaada	0.39	71	PG	Pb	12 15 22.1	-0.4
BOZC	Bozcaada	0.39	71	IAML_P			
	comp=Z,4µm,0.2s						
BOZC				*e*P	Pb	12 15 21.4	-1.1
EFSA	Agios Efstrati	0.49	249	P	Pn	12 15 25.7	-1.1
EFSA				S	Sb	12 15 33.4	+1.8
GADA	Gvkgeada	0.53	28	PG	Pb	12 15 23.8	-1.2
GADA				SG	Sb	12 15 32.7	-0.3
SIGR	SIGRI	0.55	157	PG	Pb	12 15 24.0	-1.2
SIGR	SIGRI	0.55	157	P	Pb	12 15 24.4	-0.9
SIGR				S	Sb	12 15 32.5	-0.9
EZN	Ezine	0.59	79	PG	Pb	12 15 25.8	-0.1
PRK	Paraskevi	0.71	131	P	Pb	12 15 28.4	+0.3
PRK				S	Sb	12 15 37.9	-0.3
BAYC	CANAKKALE_Bayr	0.75	88	*i* P	Pb	12 15 28.4	-0.3
SMTH	Samothraki Isl	0.75	357	P	Pn	12 15 29.3	-1.2
GELI	Tayfur-Gelibol	0.97	45	PG	Pn	12 15 32.7	-0.7
THAS	Thassos island	1.10	324	P	Pn	12 15 36.5	+1.3
ENEZ	Enez	1.11	23	PN	Pb	12 15 34.1	-0.7
ERIK	Erikli-Kesan	1.19	37	PN	Pn	12 15 36.3	-0.2
DKL	Dikili	1.22	122	PN	Pn	12 15 37.6	+0.8
ALN	Alexandroupoli	1.23	17	PN	Pn	12 15 36.6	-0.4
ALN	Alexandroupoli	1.23	17	P	Pn	12 15 37.8	+0.8
ALN				S	Sn	12 15 54.7	+0.7
CHOS	Chios island	1.38	164	PN	Pg	12 15 39.3	-0.2
CHOS	Chios island	1.38	164	P	Pg	12 15 39.8	+0.3
KESN	Edirne-Kesan	1.39	37	IAML_P			
	comp=Z,103nm,0.2s						
KESN				*e*P	Pn	12 15 38.6	-1.0
KESN				*i* S	Sn	12 15 59.8	+1.2
AOS	Alonnisos	1.42	248	PN	Pn	12 15 38.2	-1.4
AOS	Alonnisos	1.42	248	P	Pg	12 15 41.9	+1.5
RDO	Rodhopi	1.43	359	PN	Pb	12 15 39.3	-0.9
RDO	Rodhopi	1.43	359	P	Pg	12 15 40.8	+0.4
PAIG	Paliouri	1.48	279	P	Pg	12 15 42.0	+0.6
KRBG	Karabiga-Canak	1.48	62	PN	Pg	12 15 41.5	0.0
BALY	Balya	1.58	89	IAML_P			
	comp=Z,520nm,0.2s						
BALY				*e*P	Pb	12 15 42.1	-0.7
BALY				*i* S	Sg	12 16 03.8	+0.1
MRMT	Marmara Adasi	1.78	60	PN	Pb	12 15 45.8	-0.5
DURS	Dursunbey	2.24	92	IAML_P			
	comp=Z,190nm,0.2s						
DURS				*i* P	Pb	12 15 54.3	+0.2
DURS				*i* S	Sb	12 16 22.6	+0.4

*ISK **11** 12:24:41.1,39°.65N×25°.61E,h9km,ML2.5/9*
*ISCJB **11** 12:24:42.9±0.4,39°.69N±0°.03×25°.63E±0°.03,h8km±4km, Error ellipse: s-maj=4.5km s-min=3.6km az=10.6*
*THE **11** 12:24:43.4,39°.71N×25°.63E,h6km±2km,ML2.4/3,Error ellipse: s-maj=2.9km s-min=1.0km az=193.0*
*ATH **11** 12:24:43.2,39°.71N×25°.63E,h16km±4km,ML2.4/3,Error ellipse: s-maj=4.0km s-min=1.1km az=203.0*
*DDA **11** 12:24:45.8,39°.80N×25°.88E,h5km±2km,ML2.9*
ISC 11 12:24:42.7±1.0,**39°.68N**±0°.02×**25°.64E**±0°.02,**h9km**±9km,
n41,σ**0s.69**/57,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.36	63	PG	Pg	12 24 49.6	-0.2
BOZC	Bozcaada	0.36	63	*i* P	Pb	12 24 50.9	-0.4
BOZC				*i* S	Sb	12 24 56.7	-0.4
LIA	Limnos Island	0.41	302	P	Pg	12 24 50.8	0.0
LIA				S	Sg	12 24 56.7	+0.5
LIA				AML	AML	12 25 04.4	
	comp=E,1050µm,0.5s						
LIA				AML	AML	12 25 04.5	
	comp=N,1080µm,0.5s						
LIA	Limnos Island	0.41	302	P	Pg	12 24 50.7	-0.1
LIA				S	Sg	12 24 56.8	+0.6
SIGR	SIGRI	0.50	160	PG	Pg	12 24 50.2	-2.1
SIGR				SG	Sg	12 24 57.9	-0.9
SIGR	SIGRI	0.50	160	P	Pg	12 24 52.6	+0.3
SIGR				S	Sb	12 25 00.8	-0.2
SIGR				AML	AML	12 25 01.2	
	comp=E,1155µm,0.6s						
SIGR				AML	AML	12 25 01.2	
	comp=N,1645µm,0.4s						
SIGR	SIGRI	0.50	160	P	Pg	12 24 52.6	+0.3
SIGR				S	Sb	12 25 00.7	-0.2
EFSA	Agios Efstrati	0.52	255	P	Pg	12 24 53.8	+1.1
EFSA				S	Sb	12 25 01.4	-0.2
GADA	Gvkgeada	0.55	21	PG	Pg	12 24 52.8	-0.5
GADA	Gvkgeada	0.55	21	P	Pg	12 24 53.9	+0.6
EZN	Ezine	0.55	74	PG	Pg	12 24 53.1	-0.2
EZN				SG	Sg	12 25 01.4	+0.9
EZN	Ezine	0.55	74	P	Pg	12 24 53.4	+0.1
EZN				S	Sg	12 25 01.5	+0.9
PRK	Paraskevi	0.65	131	P	Pb	12 24 56.9	+0.6
PRK				S	Sb	12 25 05.9	+0.4
PRK				AML	AML	12 25 10.3	
	comp=E,658µm,0.5s						
PRK				AML	AML	12 25 11.1	
	comp=N,831µm,0.4s						
PRK	Paraskevi	0.65	131	P	Pb	12 24 56.9	+0.6
PRK				S	Sb	12 25 06.9	+1.4
BAYC	CANAKKALE_Bayr	0.70	85	IAML_P			
	comp=Z,3µm,0.1s						
BAYC				*i* P	Pg	12 24 56.4	+0.1
SMTH	Samothraki Isl	0.80	354	P	Pg	12 24 57.9	-0.1
SMTH	Samothraki Isl	0.80	354	P	Pg	12 24 57.9	-0.1
AYVA	Ayvalik	0.89	114	IAML_P			
	comp=Z,622nm,0.2s						
AYVA				*i* P	Pn	12 25 01.3	-0.2
AYVA				*i* S	Sn	12 25 15.7	+1.2
GELI	Tayfur-Gelibol	0.96	42	PG	Pg	12 25 00.7	-0.5
ENEZ	Enez	1.13	20	PN	Pb	12 25 03.7	-0.7
DKL	Dikili	1.15	121	PN	Pb	12 25 03.5	-1.3
THAS	Thassos island	1.16	323	P	Pb	12 25 04.4	-0.6
ERIK	Erikli-Kesan	1.20	34	PN	Pb	12 25 05.3	-0.2
ALN	Alexandroupoli	1.26	14	PN	Pn	12 25 05.8	-0.7
ALN	Alexandroupoli	1.26	14	P	Pn	12 25 06.3	-0.2
ALN				S	Sn	12 25 23.9	+0.4
ALN	Alexandroupoli	1.26	14	P	Pn	12 25 06.3	-0.2
ALN				S	Sb	12 25 22.4	-0.5
CHOS	Chios island	1.33	166	PN	Pn	12 25 06.1	-1.4
KESN	Edirne-Kesan	1.40	34	IAML_P			
	comp=Z,259nm,0.3s						
KESN				*i* P	Pb	12 25 09.1	-0.1
KESN				*i* S	Sg	12 25 28.2	+0.5
AOS	Alonnisos	1.45	250	PN	Pn	12 25 08.5	-0.7
AOS	Alonnisos	1.45	250	P	Pb	12 25 10.2	+0.3
AOS	Alonnisos	1.45	250	P	Pb	12 25 10.2	+0.3
KRBG	Karabiga-Canak	1.46	60	PN	Pn	12 25 08.7	-0.6
RDO	Rodhopi	1.47	357	PN	Pn	12 25 08.7	-0.7
RDO	Rodhopi	1.47	357	P	Pb	12 25 10.4	+0.3
KAVA	Kavala	1.57	327	P	Pb	12 25 12.4	+0.4
STEP	BALIKESIR_Sava	1.64	100	*e*P	Pg	12 25 14.8	+0.8
STEP				*i* S	Sb	12 25 34.5	+0.7
SKIA	Skiathos	1.76	254	P	Pb	12 25 15.1	-0.1
MRMT	Marmara Adasi	1.76	58	PN	Pn	12 25 12.7	-0.8
NVR	Nevrokopi	2.15	322	P	Pb	12 25 20.5	-1.3
EDRB	Edirne	2.32	21	PN	Pn	12 25 20.9	-0.2
KNT	Kendrikon	2.56	306	PN	Pn	12 25 24.2	-0.3

*ISCJB **11** 12:38:20.9±0.3,2°.10S±0°.04×68°.20E±0°.04,h15km, mb4.6/73,MS4.0/25,Error ellipse: s-maj=6.4km s-min=5.4km az=150.4*
*IDC **11** 12:38:20.4±0.6,2°.06S×68°.22E,h0km,mb4.3/19, mb1 4.4/19,mb1mx4.2/58,mbtmp4.3/19,MS4.0/22, Ms1 4.0/22,ms1mx4.0/30,Error ellipse: s-maj=16.8km s-min=14.8km az=14.0*
*BJI **11** 12:38:21.8,1°.90S×68°.20E,h10km,mb4.6/38,mB5.0/24, Ms4.7/11,Ms7 4.4/11*
*NEIC **11** 12:38:22.3±0.3,2°.06S×68°.21E,h10km,mb4.7/48,Error ellipse: s-maj=6.8km s-min=6.3km az=142.0*
*GCMT **11** 12:38:23.3±0.3,2°.07S±0°.02×68°.27E±0°.02,h16km±1km, MW4.9/82,Moment Tensor Solution. s16,c17; s82,c114; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.05±.10; $M_{\theta\theta}$2.15±.09; $M_{\phi\phi}$-2.20±.10; $M_{r\theta}$-0.23±.30; $M_{\theta\phi}$1.03±.10; $M_{\phi r}$0.09±.28; Best double couple: $M_0$2.42000×10^{16} NP1:ϕ_s302.00000°,δ89.00000°,λ6.00000°. NP2: ϕ_s212.00000°,δ84.00000°,λ179.00000°. Principal axes: T 2.4000, Plg5.0000°, Azm167.0000°; N 0.0400, Plg84.0000°, Azm314.0000°; P -2.4400, Plg3.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 11 12:38:23.3±0.4,**2°.08S**±0°.07×**68°.19E**±0°.07,**h15km,n148,**
σ**1s.46**/128,**mb4.7**/83,**MS4.1**/25,**5C,Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	5.06	146	Pn	Pn	12 39 30.5	-7.9
H08N2				T	T	12 44 40.5	
	baz=326,slow=75,SNR=2676						
H08N3	Diego Garcia H	5.07	147	Pn	Pn	12 39 30.7	-7.9
H08N3				T	T	12 44 51.4	
	baz=326,slow=75,SNR=8341						
H08N1	Diego Carcia H	5.08	146	Pn	Pn	12 39 30.8	-7.9
H08N1				T	T	12 44 45.4	
	baz=326,slow=75						
DGAR	Diego Garcia	6.79	141	*e*Pn	Pn	12 40 02.9	+0.4
H08S3	Diego Garcia H	6.97	142	Pn	Pn	12 40 03.3	-1.5
	baz=335,slow=20,SNR=12						
H08S3				T	T	12 47 14.9	
	baz=313,slow=73,SNR=32						
H08S1	Diego Carcia H	6.98	142	Pn	Pn	12 40 04.1	-0.8
	baz=335,slow=20,SNR=8.5						
H08S1				T	T	12 47 26.6	
	baz=313,slow=73,SNR=28						
H08S2	Diego Garcia H	6.99	142	Pn	Pn	12 40 04.1	-1.0
	baz=335,slow=20,SNR=13						
H08S2				T	T	12 47 16.2	
	baz=313,slow=73,SNR=29						
MNCI	Minicoy	11.38	25	*e*Pn	Pn	12 41 04.0	-1.6
PALK	Pallekele	15.56	53	LR	LR	12 46 41.4	
	comp=Z,565nm,21.4s,baz=296,slow=32						
PALK	Pallekele	15.56	53	*e*Pn	Pn	12 42 00.7	-1.8
	8.6nm,0.8s						
POO	Poona	21.23	15	*e*P	P	12 43 14.0	+5.1
HYB	Hyderabad	21.91	27	*i* P	P	12 43 18.0	+1.8
RER	Riviere de l'E	22.51	212	*e*P	P	12 43 22.0	-0.8
	76nm,1.1s						
OPO	Ambohidratompo	26.31	230	LR	LR	12 52 09.9	
	comp=Z,783nm,18.6s,baz=42,slow=32						
ABPO	Ambohimpanom	26.55	229	*e*P	P	12 44 01.3	+0.2
	5.2nm,1.1s						
WSAR	Wadi Sarin	26.84	340	LR	LR	12 52 49.8	
	comp=Z,802nm,18.3s,baz=176,slow=32						
ATD	Arta Tunnel	28.60	299	LR	LR	12 53 26.7	
	comp=Z,144nm,19.5s,baz=90,slow=32						
COCO	West Island	30.11	111	*e*P	P	12 44 33.0	+0.3
	74nm,1.0s						
KMBO	Kilima Mbogo	30.94	271	LR	LR	12 55 38.5	
	comp=Z,336nm,18.5s,baz=96,slow=34						
KMBO	Kilima Mbogo	30.94	271	*e*P	P	12 44 40.2	-0.2
PSI	Prapat	31.10	81	*e*P	P	12 44 41.7	0.0
	2.3nm,0.9s						
KOLN	Koldanda	33.18	25	*e*P	P	12 44 59.0	-0.8
	40nm,1.2s						
PYUN	Piuthan	33.21	24	*e*P	P	12 44 59.9	-0.2
	66nm,1.4s						
IPM	Ipoh	33.45	79	*e*P	P	12 45 02.2	0.0
	6.3nm,0.9s						
RAYN	Ar Rayn	33.70	320	*e*P	P	12 45 04.9	+0.7
	6.6nm,1.1s						
DMN	Daman	33.71	28	*e*P	P	12 45 04.2	-0.3
	54nm,0.9s						
DANN	Dangsing	33.75	25	*e*P	P	12 45 04.8	-0.1
	56nm,1.1s						
PKIN	Phulchoki	33.82	28	*e*P	P	12 45 05.0	-0.5
	31nm,1.2s						
KKN	Kakani	33.95	28	*e*P	P	12 45 06.5	0.0
	41nm,0.8s						
JIRN	Jiri	34.27	29	*e*P	P	12 45 09.8	+0.3
	47nm,1.0s						
GUN	Gumba	34.33	28	*e*P	P	12 45 10.1	+0.1
	89nm,0.9s						
NIL	Nilore	35.86	7	*e*P	P	12 45 22.2	-0.5
	17nm,1.0s						
CM01	Chiang Mai Arr	36.50	55	*e*P	P	12 45 28.4	+0.1
CM31	Chiang Mai Arr	36.50	55	*e*P	P	12 45 27.0	-1.4
CMAR	Chiang Mai Arr	36.50	55	P	P	12 45 28.6	+0.1
	1.6nm,0.8s,baz=244,slow=10,SNR=12						
CMAR				LR	LR	12 58 43.0	
	comp=Z,129nm,20.9s,baz=240,slow=34						
CHTO	Chiang Mai	36.69	54	*e*P	P	12 45 29.6	-0.3
	5.5nm,0.8s						
CHTO	Chiang Mai	36.69	54	P	P	12 45 34.6	+4.6
	36nm,1.2s						
CMMT	Chiang Mai	36.69	54	P	P	12 45 34.6	+4.6
	8.0nm,1.1s						
PBKT	Sadao Pong	37.29	59	P	P	12 45 41.7	+6.6
CHAI	Chaiyaphum	37.88	61	P	P	12 45 45.8	+5.6
LSA	Lhasa	38.48	33	*e*P	P	12 45 46.6	+1.0
	10nm,0.8s						
GEYT	Alibeck	40.89	348	P	P	12 46 05.0	0.0
	11nm,1.0s,baz=182,slow=8.6,SNR=7.7						
GEYT				LR	LR	13 01 55.7	
	comp=Z,512nm,21.7s,baz=170,slow=35						
GYA0B	ALIBECK ARRAY	40.89	348	*e*P	P	12 46 05.0	0.0
	9.5nm,1.0s						
GAR	Garm	40.93	3	*e*P	P	12 46 05.1	-0.4
	50nm,1.0s						
LSZ	Lusaka	41.56	249	P	P	12 46 11.1	+0.1
	7.7nm,0.8s,baz=66,slow=6.5,SNR=8.9						
LSZ	Lusaka	41.56	249	*e*P	P	12 46 10.7	-0.3
	10nm,0.9s						
BTK	Batken	42.01	3	*e*P	P	12 46 14.3	+0.1
	23nm,1.1s						
KSH	Kashi	42.01	9	P	P	12 46 09.6	-4.7
KSH				pP	pP	12 46 13.4	-4.4
KSH				PcP	PcP	12 48 07.8	-1.5
KSH				S	S	12 52 21.7	-11
KSH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KSH				pmax	pmax		
	comp=Z,200nm,5.5s						
KSH				LR	LR		
	comp=N,230nm,8.6s						
KSH				LR	LR		
	comp=E,160nm,5.9s						
KSH				LR	LR		
	comp=Z,310nm,10.0s						
KMI	Kunming	43.04	49	P	P	12 46 25.7	+2.7
KMI				pmax	pmax		
	comp=Z,11nm,0.5s						
ARSB	Arslanbob	43.42	5	*e*P	P	12 46 25.6	-0.2
	4.3nm,0.8s						
NRN	Naryn	43.89	8	*e*P	P	12 46 29.4	-0.4
	7.4nm,1.1s						
TARG	Taragay, Kyrgy	44.47	10	*e*P	P	12 46 34.1	-0.5
	2.2nm,1.1s						
KDJ	Kajisay	44.76	10	*e*P	P	12 46 36.7	+0.2
	12nm,1.1s						
AAK	Ala-Archa	44.88	7	*e*P	P	12 46 38.0	+0.6
	10nm,1.1s						
KK31	Karatay Array	45.03	2	*e*P	P	12 46 38.8	+0.3
KKAR	Karatay Array	45.03	2	*e*P	P	12 46 38.9	+0.5
FRU1	Bishkek	45.06	7	*e*P	P	12 46 39.9	+1.1
	14nm,0.5s						
PRZ	Przheval'sk	45.31	11	*e*P	P	12 46 43.0	+2.0
	7.2nm,1.1s						
SIRT	Sirnak	46.05	331	*e*P	P	12 46 49.2	+2.4
	38nm,1.1s						
CD2	Chengdu	47.14	43	*e*P	P	12 46 55.0	-0.3
BOSA	Boshof	48.66	233	P	P	12 47 07.0	-0.3
	3.5nm,0.6s,baz=51,slow=9.1,SNR=8.9						
BOSA				LR	LR	13 04 11.0	
	comp=Z,139nm,21.7s,baz=42,slow=32						
WMQ	Urumqi	48.93	19	*e*P	P	12 47 10.1	+1.1
WMQ				sP	pwP	12 47 18.2	+0.7
WMQ				pmax	pmax		
	comp=Z,22nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,360nm,4.9s						
WMQ				LR	LR		
	comp=N,800nm,14.5s						
WMQ				LR	LR		
	comp=E,870nm,19.1s						
WMQ				LR	LR		
	comp=Z,450nm,17.3s						
WMQ	Urumqi	48.93	19	*e*P	P	12 47 10.0	+0.9
	6.5nm,0.4s						
MAKZ	Makanchi	50.18	12	*e*P	P	12 47 17.0	-1.4
	3.7nm,0.9s						
MK01	Makanchi Array	50.21	13	*e*P	P	12 47 16.9	-1.8
MK31	Makanchi Array	50.23	13	*e*P	P	12 47 17.4	-1.4
MK32	Makanchi Array	50.23	13	*e*P	P	12 47 17.4	-1.5
MKAR	Makanchi Array	50.23	13	P	P	12 47 17.4	-1.5
	1.6nm,0.7s,baz=189,slow=6.2,SNR=12						
MKAR	Makanchi Array	50.23	13	*e*P	P	12 47 17.5	-1.3
	12nm,0.8s						
LZH	Lanzhou	50.46	38	*e*P	P	12 47 25.4	+4.4
LZH				pP	pwP	12 47 29.2	-0.1
LZH				sP	sP	12 47 31.6	+5.6
LZH				pmax	pmax		
	comp=Z,25nm,1.1s						
GTA	Gaotai	50.48	32	P	P	12 47 22.0	+1.1
GTA				pP	sP	12 47 25.7	-0.3
GTA				sP	pwP	12 47 27.9	-1.4
GTA				pmax	pmax		
	comp=Z,2.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,98nm,5.1s						
GTA				LR	LR		
	comp=N,100nm,15.8s						
GTA				LR	LR		
	comp=E,120nm,16.1s						
GTA				LR	LR		
	comp=Z,190nm,16.8s						
ENH	Enshi	50.84	47	*e*P	P	12 47 25.2	+1.5
	17nm,1.1s						
KBZ	Khabaz	50.94	336	P	P	12 47 24.3	+0.1
	9.8nm,0.9s,baz=134,slow=5.9,SNR=12						
KBZ				LR	LR	13 09 18.3	
	comp=Z,226nm,20.8s,baz=142,slow=36						
ABKAR	Akbulak array	51.63	353	*e*P	P	12 47 28.7	-0.5
BR101	Keskin Array S	52.28	326	*e*P	P	12 47 33.7	-0.8
BRTR	Keskin Array B	52.28	326	P	P	12 47 33.7	-0.8
	1.7nm,0.8s,baz=126,slow=6.3,SNR=7.2						
BRTR				LR	LR	13 09 26.3	
	comp=Z,139nm,20.5s,baz=122,slow=36						
XAN	Xi'an	52.50	43	*e*P	P	12 47 35.0	-1.1
	19nm,0.9s						
AKTO	Aktyubinsk	53.04	352	P	P	12 47 38.8	-0.9
	6.4nm,0.9s,baz=170,slow=6.6,SNR=14						
KURK	Kurchatov	53.35	8	*e*P	P	12 47 41.1	-0.8
	14nm,1.1s						
H01W3	Cape Leeuwin H	53.71	133	T	T	13 45 42.0	
	baz=291						
H01W2	Cape Leeuwin H	53.72	133	T	T	13 45 42.4	
	baz=291						
H01W1	Cape Leeuwin H	53.73	133	T	T	13 45 43.1	
	baz=291						
BRVK	Borovoye	54.97	2	*e*P	P	12 47 53.2	-0.6
	12nm,1.1s						
ZAA0	Zalesovo Array	57.53	12	*e*P	P	12 48 10.7	-1.3
	4.8nm,0.9s						
ZALV	Zalesovo Beam	57.53	12	P	P	12 48 10.2	-1.8
	3.9nm,0.8s,baz=205,slow=7.6,SNR=13						
ZALV				LR	LR	13 13 20.2	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,182nm,18.4s,baz=250,slow=36						
ZAA1	Zalesovo Array	57.53	12	eP	P	12 48 10.2	-1.9
HHC	Hu-ho-hao-te	58.16	38	eP	P	12 48 17.4	+0.5
HHC				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC				pmax	pmax		
	comp=Z,250nm,4.7s						
NJ2	Nanjing	58.74	50	eP	P	12 48 21.8	+0.8
NJ2				pmax	pmax		
	comp=Z,11nm,0.9s						
ARU	Arti	58.85	354	eP	P	12 48 20.0	-1.2
	13nm,1.1s						
SONA0	Songino Array	59.84	29	eP	P	12 48 28.2	-0.3
SONM	Songino Array	59.84	29	P	P	12 48 28.2	-0.3
	6.0nm,0.9s,baz=220,slow=7.4,SNR=24						
SONM				LR	LR	13 14 23.9	
	comp=Z,256nm,18.4s,baz=35,slow=36						
SONA1	Songino Array	59.85	29	eP	P	12 48 28.3	-0.3
ULN	Ulaanbaatar	60.18	29	eP	P	12 48 31.0	+0.2
	3.8nm,1.1s						
BJI	Beijing	60.63	41⇑	eP	P	12 48 34.3	+0.5
BJI				pmax	pmax		
	comp=Z,8.0nm,1.3s						
AKASG	Malin Array Be	62.21	333	P	P	12 48 42.5	-1.8
	1.6nm,0.7s,baz=132,slow=5.7,SNR=6.0						
AKASG				LR	LR	13 17 55.2	
	comp=Z,92nm,19.6s,baz=305,slow=38						
AKBB	Malin Array Si	62.21	333	eP	P	12 48 42.6	-1.7
	6.9nm,1.0s						
KIEV	Kiev	62.21	333	eP	P	12 48 42.6	-1.7
	6.6nm,1.0s						
MAW	Mawson	65.50	182	LR	LR	13 10 31.9	
	comp=Z,216nm,21.1s,baz=9.5,slow=30						
TAM	Tamanrasset	65.83	296	eP	P	12 49 09.8	+1.0
	1.8nm,1.0s						
VYHS	Vyhne	66.04	326	eP	P	12 49 07.3	-2.3
KLMR	Klimovskoe	66.56	345	eP	P	12 49 11.1	-1.5
KLMR				AMP		12 49 19.4	
	comp=Z,32nm,1.2s						
WRA	Warramunga Arr	66.89	111	P	P	12 49 14.9	-0.7
	comp=Z,3.0nm,0.8s,baz=282,slow=6.3,SNR=20						
WRA				LR	LR	13 14 30.4	
	comp=Z,95nm,21.9s,baz=290,slow=32						
WR1	Warramunga Arr	66.89	111	eP	P	12 49 14.9	-0.7
	comp=Z,6.3nm,0.8s						
WRAB	Tennant Creek	66.90	111	eP	P	12 49 15.9	+0.2
	comp=Z,4.7nm,0.8s						
WB2	Warramunga Arr	66.91	111	eP	P	12 49 15.7	0.0
	comp=Z,6.5nm,0.8s						
ASAR	Alice Springs	66.97	115	P	P	12 49 14.9	-1.1
	comp=Z,1.9nm,0.8s,baz=284,slow=5.8,SNR=14						
AS31	Alice Springs	66.97	115	eP	P	12 49 13.7	-2.4
	comp=Z,1.4nm,0.9s						
SUW	Suwalki	67.18	333	eP	P	12 49 14.9	-1.7
	comp=Z,22nm,1.0s						
TRI	Trieste	67.57	322	eP	P	12 49 16.8	-2.5
	comp=Z,4.6nm,0.8s						
TOA0	Torodi Ar. Sit	67.66	285	eP	P	12 49 21.0	+0.5
	comp=Z,3.6nm,1.1s						
HIA	Hailar	67.68	34	eP	P	12 49 18.2	-1.8
	comp=Z,5.0nm,0.6s						
KS01	Wonju Array Si	67.71	48	eP	P	12 49 19.7	-0.7
KSRS	Korea Array	67.73	48	P	P	12 49 19.4	-1.0
	comp=Z,1.2nm,0.8s,baz=255,slow=7.9,SNR=4.1						
KSRS				LR	LR	13 20 11.4	
	comp=Z,110nm,19.3s,baz=236,slow=37						
GERES	GERESS Array B	69.12	325	LR	LR	13 22 10.1	
	comp=Z,83nm,18.4s,baz=110,slow=38						
FUORN	Ofenpass-Fuorn	70.15	322	eP	P	12 49 35.3	-0.4
	comp=Z,6.5nm,0.8s						
DAVOX	Davos/Dischmat	70.46	322	P	P	12 49 36.3	-1.2
	comp=Z,4.0nm,0.6s,baz=124,slow=14,SNR=6.7						
CLL	Collm	70.73	327	eP	P	12 49 38.0	-0.8
CLL				e(sP)	sP	12 49 44.0	0.0
	comp=Z,14nm,1.3s						
SENIN	Lac Senin/Sane	71.90	320	eP	P	12 49 44.6	-1.7
	comp=Z,10nm,0.8s						
JAY	Jayapura	72.45	92	LR	LR	13 21 25.9	
	comp=Z,70nm,21.1s,baz=318,slow=36						
USRK	Ussuriysk Ar.	73.00	42	LR	LR	13 25 43.9	
	comp=Z,25nm,18.1s,baz=224,slow=39						
DBIC	Dimbokro	73.42	278	P	P	12 49 55.4	-0.3
	comp=Z,3.3nm,0.9s,baz=94,slow=7.1,SNR=3.8						
DBIC	Dimbokro	73.42	278	eP	P	12 49 56.5	+0.8
	comp=Z,6.8nm,1.1s						
WLF	Walferdange	73.92	323	⇑PcP	PcP	12 50 16.0	+2.7
MEM	Membach	74.38	324	⇑PcP	PcP	12 50 17.4	+2.2
	comp=Z,30nm,0.9s						
KLR	Kul'dur	74.67	37	P	P	12 50 01.3	-1.0
	comp=Z,4.5nm,0.8s,baz=260,slow=6.8,SNR=11						
HFS	Hagfors	74.98	335	P	P	12 50 03.8	0.0
	comp=Z,4.7nm,0.8s,baz=64,slow=3.4,SNR=4.4						
DOU	Dourbes	75.01	323	⇑P	P	12 50 03.6	-0.7
	comp=Z,31nm,0.9s						
MAJO	Matsushiro	75.31	51	eP	P	12 50 06.5	+0.2
MJAR	Matsushiro Arr	75.31	51	P	P	12 50 06.5	+0.2
	comp=Z,1.9nm,0.7s,baz=239,slow=3.7,SNR=3.4						
MJAR				LR	LR	13 24 47.4	
	comp=Z,93nm,18.7s,baz=250,slow=37						
SNF	Seneffe	75.35	324	⇑pP	P	12 50 07.9	+1.7
	comp=Z,52nm,0.8s						
ARCES	ARCESS Array B	77.02	346	LR	LR	13 25 16.8	
	comp=Z,6.0nm,20.6s,baz=157,slow=37						
GUMO	Guam	77.56	76	LR	LR	13 26 09.4	
	comp=Z,29nm,18.2s,baz=246,slow=37						
ES19	SONSECA Array	77.64	311	eP	P	12 50 19.0	-0.5
ESDC	Sonseca Array	77.68	311	P	P	12 50 19.5	-0.2
	comp=Z,1.9nm,0.7s,baz=90,slow=4.6,SNR=9.1						
TIXI	Tiksi	83.06	16	eP	P	12 50 46.9	-1.0
	comp=Z,8.8nm,1.1s						
QSPA	South Pole Qui	87.91	180	eP	P	12 51 15.9	+3.5
	comp=Z,0.9nm,1.0s						
VNDA	Vanda	88.78	167	LR	LR	13 26 56.6	
	comp=Z,113nm,18.2s,baz=236,slow=33						
DZM	Mont Dzumac	96.87	112	eLR	LR	13 23 24.2	
	comp=Z,142nm,26.4s						
PPT2	Papeete2	137.96	119	eLR	LR	13 42 27.1	
	comp=Z,96nm,26.0s						
PD31	Pinedale Array	139.44	357	ePKPdf	PKiKP	12 57 52.3	-0.9
PDAR	Pinedale Array	139.44	357	PKP	PKPdf	12 57 51.6	+0.7
	comp=Z,0.8nm,0.7s,baz=32,slow=3.6,SNR=5.1						
MTPU	Mount Pierson	144.21	1	ePKPdf	PKPdf	12 57 58.9	-0.8
LCMT	Little Creek M	145.22	2	ePKPbc	PKPdf	12 58 02.0	+0.8
WMOK	Wichita Mounta	145.32	341	ePKPbc	PKPbc	12 58 00.5	-0.5
MNTX	Cornudas Mount	149.93	349	ePKPbc	PKiKP	12 58 14.5	-0.3
LTX	Lajitas	151.81	345	ePKPbc	PKPbc	12 58 17.9	-0.5
TX31	Lajitas Ar. Si	151.81	345	ePKPbc	PKPbc	12 58 18.4	0.0
TXAR	Lajitas Array	151.81	345	PKPbc	PKPbc	12 58 17.9	-0.5
	comp=Z,2.2nm,0.8s,baz=111,slow=1.1,SNR=12						

*NIED **11** 12:38:00, 37°.80N×143°.60E, h8km, Mw3.7 Best double couple: M0 4.38000×10^14 NP1:φs327.00000°, δ56.00000°, λ-170.00000°. NP2:φs232.00000°, δ82.00000°, λ-34.00000°.*
*IDC **11** 12:38:27.8±1.2, 37°.70N×143°.69E, h0km, mb3.7/5, mb1 3.9/9, mb1mx3.6/56, mbtmp3.8/9, ML3.9/4, MS2.7/1, Ms1 2.7/1, ms1mx2.2/25, Error ellipse: s-maj=30.7km s-min=19.6km az=89.0*
*ISCJB **11** 12:38:28.9±0.5, 37°.74N±0°.03×143°.59E±0°.05, h19km, mb4.1/9, Error ellipse: s-maj=5.4km s-min=4.4km az=5.5*
*JMA **11** 12:38:30.5±0.2, 37°.82N×143°.62E, h52km, M3.8*
*NEIC **11** 12:38:32.8±0.7, 37°.75N×143°.70E, h35km, mb4.7/5, Error ellipse: s-maj=13.8km s-min=9.1km az=108.0*
ISC 11 12:38:31.0±1.0**, 37°.78N**±0°.04×**143°.56E**±0°.08**, h19**km**, n46, σ1s.44**/55**, mb4.1**/9**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.73	289	P	Pn	12 38 59.6	-0.5
JIKH				S	Sn	12 39 20.6	-1.1
JIO	Ouri	1.87	292	P	Pn	12 39 01.4	-0.5
JIO				S	Sn	12 39 24.3	-0.7
JKMT	Kesennumamotoy	1.94	303	P	Pn	12 39 02.1	-0.8
JKMT				S	Sn	12 39 25.1	-1.6
OFUJ	Ofunato	1.97	312	P	Pn	12 39 02.3	-1.1
JMK	Ichinoseki	2.18	303	P	Pn	12 39 05.7	-0.5
JMK				S	Sn	12 39 32.1	-0.6
JOM	Ohasama	2.45	314	P	Pn	12 39 09.6	-0.4
JOM				S	Sn	12 39 38.4	-1.0
JFT	Otama	2.57	265	P	Pn	12 39 12.2	+0.6
JFT				eS	Sn	12 39 42.7	+0.4
JYK	Kaneyama	2.76	295	P	Pn	12 39 13.6	-0.6
JYK				S	Sn	12 39 47.6	+0.6
JAG	Ashikaga	3.54	249	P	Pn	12 39 25.3	+0.3
JAG				S	Sn	12 40 05.6	-0.8
BSO1	Boso 1	3.75	215	P	Pn	12 39 26.8	-0.5
BSO1				S	Sn	12 40 10.0	-0.6
JOT	Ohata	4.09	333	P	Pn	12 39 33.2	+0.7
JRY	Ryogami san	4.12	246	P	Pn	12 39 33.3	+0.3
JRY				S	Sn	12 40 18.3	-2.4
ERM	Erimo	4.25	356	ePn	Pn	12 39 32.9	-1.7
JOD2	Odawara 2	4.38	236	P	Pn	12 39 36.9	+0.3
JOD2				S	Sn	12 40 24.3	-2.9
MJAR	Matsushiro Arr	4.44	256	Pn	Pn	12 39 38.7	+1.3
	6.0nm,0.3s,baz=90,slow=15,SNR=54						
MJAR				LR	LR	12 41 35.2	
	comp=Z,82nm,18.5s,baz=255,slow=42						
MAJO	Matsushiro	4.45	256	ePn	Pn	12 39 39.5	+2.1
MAT	Matsushiro	4.45	256	P	Pn	12 39 39.0	+1.6
MAT				S	Sn	12 40 28.3	-0.3
MJB9	Matsu-Tunnel	4.45	256	ePn	Pn	12 39 39.5	+2.0
JKB	Kayabe	4.54	335	P	Pn	12 39 39.0	+0.3
JCH	Churui	4.83	358	P	Pn	12 39 40.7	-2.0
JHJ2	Mitsune	5.56	214	ePn	Pn	12 39 51.4	-1.4
JHJ	Hachijo jima 2	5.57	215	Pn	Pn	12 39 50.4	-2.5
	16nm,0.3s,baz=89,slow=16,SNR=6.6						
JHJ				Sn	Sn	12 40 52.1	-4.4
	19nm,0.3s,baz=28,slow=24,SNR=5.6						
INU	Inuyama	5.79	247	ePn	Pn	12 39 57.7	+1.8
ASAJ	Asahikawa	6.38	354	Pn	Pn	12 40 03.4	-0.5
	3.1nm,0.3s,baz=198,slow=9.9,SNR=29						
ASAJ				Sn	Sn	12 41 13.8	-2.3
	0.7nm,0.3s,baz=285,slow=28,SNR=2.7						
KSRS	Korea Array	12.40	273	LR	LR	12 46 13.6	
	comp=Z,19nm,20.3s,baz=320,slow=37						
KLR	Kul'dur	14.28	327	Pn	Pn	12 41 51.0	-1.0
	0.1nm,0.3s,baz=150,slow=14,SNR=4.2						
H11N2	WAKE ISLAND Hy	27.12	125	T	T	13 12 29.4	
	baz=319,slow=74,SNR=5.1						
H11N1	WAKE ISLAND Hy	27.13	125	T	T	13 12 29.5	
	baz=319						
H11N3	WAKE ISLAND Hy	27.14	125	T	T	13 12 30.4	
	baz=319,slow=74,SNR=4.3						
SONA0	Songino Array	28.81	302	eP	P	12 44 29.1	+1.2
SONM	Songino Array	28.81	302	P	P	12 44 29.1	+1.2
	0.7nm,0.6s,baz=93,slow=10,SNR=6.6						
ZALV	Zalesovo Beam	42.68	312	eP	P	12 46 29.1	+2.8
MK01	Makanchi Array	45.17	302	eP	P	12 46 47.1	+0.7
MK31	Makanchi Array	45.17	302	eP	P	12 46 47.9	+1.4
MK32	Makanchi Array	45.17	302	eP	P	12 46 47.0	+0.6
MKAR	Makanchi Array	45.17	302	P	P	12 46 47.0	+0.5
	0.9nm,0.6s,baz=78,slow=11,SNR=4.6						
MKAR	Makanchi Array	45.17	302	eP	P	12 46 47.0	+0.5
	12nm,0.8s						
MAKZ	Makanchi	45.38	302	eP	P	12 46 51.1	+3.0
	3.7nm,0.9s						
KURK	Kurchatov	46.82	308	eP	P	12 47 00.3	+1.0
	14nm,1.1s						
ILAR	Eielson Array	47.95	33	P	P	12 47 08.1	+0.1
	0.3nm,0.9s,baz=249,slow=5.8,SNR=4.3						
ILB	Eielson Array	47.95	33	eP	P	12 47 08.1	+0.1
WR1	Warramunga Arr	58.06	190	eP	P	12 48 22.1	-0.8
	34nm,1.7s						
WRA	Warramunga Arr	58.06	190	P	P	12 48 22.1	-0.8
	0.8nm,0.5s,baz=8.4,slow=7.1,SNR=14						
AS31	Alice Springs	61.78	190	eP	P	12 48 48.0	-0.5
	1.4nm,0.9s						
ASAR	Alice Springs	61.79	190	P	P	12 48 48.0	-0.5
	0.2nm,0.4s,baz=4.6,slow=7.0,SNR=8.3						
CLL	Collm	81.29	331	epP	pP	12 50 56.0	+5.7

*ISCJB **11** 12:46:56.2±0.4, 22°.56N±0°.09×45°.08W±0°.06, h14km, mb4.4/37, MS3.7/16, Error ellipse: s-maj=12.7km s-min=7.6km az=178.4*
*IDC **11** 12:46:56.2±0.7, 22°.59N×45°.10W, h0km, mb3.9/14, mb1 4.2/14, mb1mx4.0/50, mbtmp3.9/14, MS3.7/17, Ms1 3.7/17, ms1mx3.5/30, Error ellipse: s-maj=22.1km s-min=17.0km az=161.0*
*NEIC **11** 12:46:57.4±0.4, 22°.53N×45°.11W, h10km, mb4.7/19, Error ellipse: s-maj=11.3km s-min=7.3km az=183.0*
ISC 11 12:46:58.0±0.6**, 22°.5N**±0°.1×**45°.16W**±0°.09**, h14**km**, n77, σ1s.35**/57**, mb4.4**/41**, MS3.7**/16**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MDP	Montagnes des	18.73	204	LR	LR	12 56 57.0	
	comp=Z,71nm,21.9s,baz=350,slow=32						
SJG	San Juan	20.16	261	LR	LR	12 57 40.5	
	comp=Z,286nm,21.2s,baz=90,slow=32						
PTGA	Pitinga	27.21	214	LR	LR	13 02 27.1	
	comp=Z,127nm,18.1s,baz=75,slow=34						
SDV	Santo Domingo	27.94	245	LR	LR	13 02 37.8	
	comp=Z,90nm,20.0s,baz=70,slow=34						
ROSC	El Rosal	33.20	242	LR	LR	13 08 08.0	
	comp=Z,78nm,19.5s,baz=106,slow=38						
SCHQ	Schefferville	36.16	339	LR	LR	13 08 24.9	
	comp=Z,131nm,18.1s,baz=98,slow=36						
SWET	Sewanee	37.65	299	eP	P	12 54 12.0	-0.9
	18nm,0.5s						
BDFB	Brasilia	37.98	184	LR	LR	13 08 36.3	
	comp=Z,106nm,19.3s,baz=245,slow=34						
V48A	Smith Brothers	38.45	300	eP	P	12 54 19.4	-0.1
	8.2nm,0.8s						
ESDC	Sonseca Array	38.84	54	P	P	12 54 23.2	+0.4
	0.4nm,0.5s,baz=254,slow=7.8,SNR=5.1						
PLAL	Pickwick Lake	39.36	298	eP	P	12 54 28.1	+0.9
	6.3nm,0.7s						
P45A	Graceland, Par	39.86	305	eP	P	12 54 28.7	-2.5
	18nm,0.7s						
DBIC	Dimbokro	41.88	106	LR	LR	13 09 36.3	
	comp=Z,150nm,18.3s,baz=252,slow=32						
H10N3	ASCENSION HYDR	42.54	132	T	T	13 39 56.7	
	baz=316,slow=75,SNR=97						
H10N2	ASCENSION HYDR	42.54	132	T	T	13 39 56.7	
	baz=316,slow=75,SNR=108						
H10N1	ASCENSION HYDR	42.56	132	T	T	13 40 02.1	
	baz=316,slow=75,SNR=23						
W41B	Gary Mavity, V	42.79	298	eP	P	12 54 54.6	-0.7
	7.4nm,0.9s						
WHAR	Wooly Hollow	42.83	298	eP	P	12 54 55.1	-0.6
	18nm,1.1s						
H10S3	ASCENSION HYDR	43.23	133	T	T	13 40 45.5	
	baz=317,slow=75,SNR=70						
H10S1	ASCENSION HYDR	43.23	133	T	T	13 40 48.7	
	baz=317,slow=75,SNR=76						
H10S2	ASCENSION HYDR	43.24	133	T	T	13 40 48.4	
	baz=317,slow=75,SNR=86						
LPAZ	La Paz	44.61	212	P	P	12 55 12.4	+1.6
	5.1nm,0.9s,baz=19,slow=8.7,SNR=14						
LPAZ				LR	LR	13 12 47.0	
	comp=Z,81nm,20.8s,baz=16,slow=35						
TOA1	Torodi Ar. Sit	45.40	94	eP	P	12 55 15.3	-1.2
TOA0	Torodi Ar. Sit	45.41	94	eP	P	12 55 15.7	-0.9
	4.6nm,1.0s						
TORD	Torodi Ar. Bea	45.41	94	P	P	12 55 15.3	-1.3
	1.6nm,0.8s,baz=301,slow=9.2,SNR=11						
ULM	Lac du Bonnet	48.13	318	LR	LR	13 13 11.5	
	comp=Z,206nm,21.2s,baz=94,slow=33						
PB11	IPOC Station P	48.32	212	eP	P	12 55 39.3	-0.1
	38nm,1.0s						
CPUP	Villa Florida	49.93	194	P	P	12 55 52.8	+1.3
	3.1nm,1.1s,baz=6.4,slow=11,SNR=2.8						
CPUP				LR	LR	13 16 17.8	
	comp=Z,24nm,19.1s,baz=21,slow=35						
SCO	Scoresbysund	49.93	10	eP	P	12 55 52.0	+1.0
	6.0nm,1.0s						
FCC	Fort Churchill	50.13	329	eP	P	12 55 53.6	+1.1
	15nm,1.0s						
DAVA	Damuels	50.26	47	epP	P	12 55 54.7	+0.6
	11nm,1.2s						
LVC	Limon Verde	50.43	209	eP	P	12 55 51.5	-4.2
	14nm,0.9s						
FETA	Feichten	50.79	47	epP	P	12 55 58.5	+0.4
	7.9nm,1.1s						
ABTA	Abfaltersbach	51.97	48	eP	P	12 56 05.4	-1.4
	6.4nm,1.2s						
LTX	Lajitas	52.62	290	eP	P	12 56 12.5	+0.6
TXAR	Lajitas Array	52.62	290	P	P	12 56 12.5	+0.6
	0.7nm,0.8s,baz=88,slow=8.9,SNR=7.5						
TXAR				LR	LR	13 17 58.4	
	comp=Z,75nm,20.3s,baz=0.0,slow=35						
MYKA	Terra Mystica	52.73	48	eP	P	12 56 11.9	-0.5
	11nm,1.6s						
GO02	Mina Guanaco	52.96	208	eP	P	12 56 10.8	-3.7
	7.2nm,0.8s						
GERES	GERESS Array B	53.03	45	P	P	12 56 14.5	-0.2
	0.2nm,0.4s,baz=266,slow=5.4,SNR=5.9						
MOA	Molln	53.28	46	epP	P	12 56 17.0	+0.5
	7.1nm,1.5s						
OBKA	Obir	53.34	48	eP	P	12 56 16.7	-0.3
	11nm,1.6s						
SOKA	Soboth	53.68	48	epP	P	12 56 20.0	+0.5
	4.6nm,1.7s						
CONA	Conrad Observa	54.36	46	eP	P	12 56 23.2	-1.2
	6.8nm,1.9s						
NB2	NORSAR Subarra	54.45	30	P	P	12 56 24.7	-0.1
	comp=Z,1.2nm,0.8s,baz=251,slow=7.4						
NB200	NORSAR Array S	54.45	30	eP	P	12 56 24.9	+0.1
NOA	NORSAR Array B	54.45	30	P	P	12 56 24.9	+0.1
	comp=Z,2.5nm,0.9s,baz=250,slow=7.3,SNR=4.1						
NOA				LR	LR	13 15 52.8	
	comp=Z,66nm,19.2s,baz=125,slow=32						
TULEG	Thule	55.39	353	eP	P	12 56 23.6	-7.7
	comp=Z,9.4nm,0.9s						
VYHS	Vyhne	56.39	46	eP	P	12 56 37.4	-1.5
BW06	Boulder Array	56.53	307	eP	P	12 56 40.7	+0.4
	comp=Z,2.9nm,1.0s						
PD31	Pinedale Array	56.53	307	eP	P	12 56 40.8	+0.4
PDAR	Pinedale Array	56.53	307	P	P	12 56 40.2	-0.1
	comp=Z,0.9nm,0.8s,baz=104,slow=6.3,SNR=8.0						
PDAR	Pinedale Array	56.53	307	eP	P	12 56 40.7	+0.4
GCMT	Greycliff	56.63	311	eP	P	12 56 42.0	+1.2
SRU	San Rafael Swe	57.40	303	eP	P	12 56 48.0	+1.5
	comp=Z,4.7nm,1.0s						
YKA	Yellowknife Ar	60.83	330	P	P	12 57 08.9	-0.7
	comp=Z,1.4nm,0.7s,baz=98,slow=7.3,SNR=30						
YKB5	Yellowknife Ar	60.83	330	eP	P	12 57 08.5	-1.0
ELK	Elko	60.88	305	eP	P	12 57 11.5	+0.9
MLR	Muntele Rosu	61.26	49	eP	P	12 57 13.8	+0.8
	comp=Z,10nm,0.9s						
NEW	Newport	61.70	314	eP	P	12 57 14.4	-1.4
	comp=Z,5.5nm,0.9s						
D08A	Wollman Farm,	62.99	313	eP	P	12 57 26.0	+1.6
AK11	Malin Array Si	63.11	43	eP	P	12 57 23.7	-1.4
AKASG	Malin Array Be	63.15	43	P	P	12 57 24.6	-0.8
	comp=Z,0.7nm,0.4s,baz=269,slow=6.1,SNR=4.9						
NVAR	Mina Array Bea	63.52	303	P	P	12 57 28.7	+0.4
	comp=Z,0.2nm,0.4s,baz=84,slow=4.1,SNR=3.9						
H09W1	TRISTAN DA CUN	66.85	152	T	T	14 10 36.0	
	SNR=12						
BR101	Keskin Array S	67.63	55	eP	P	12 57 54.0	-0.8
BRTR	Keskin Array B	67.63	55	P	P	12 57 54.0	-0.8
	comp=Z,0.7nm,0.8s,baz=226,slow=6.9,SNR=3.7						
IL1	Eielson Array	74.76	334	eP	P	12 58 36.6	-0.8
ILAR	Eielson Array	74.76	334	P	P	12 58 37.3	-0.1
	comp=Z,2.1nm,0.8s,baz=71,slow=4.9,SNR=24						
ILAR				LR	LR	13 30 55.5	
	comp=Z,129nm,19.8s,baz=55,slow=35						
ILB	Eielson Array	74.76	334	eP	P	12 58 35.5	-1.8
COLA	College	75.11	334	eP	P	12 58 37.8	-1.5
	comp=Z,22nm,0.4s						
AKTO	Aktyubinsk	80.94	39	P	P	12 59 12.4	+0.4
	comp=Z,0.7nm,0.4s,baz=327,slow=3.6,SNR=3.8						
KMBO	Kilima Mbogo	83.41	94	P	P	12 59 28.9	+3.0
	comp=Z,0.8nm,0.3s,baz=312,slow=0.6,SNR=6.5						
KMBO	Kilima Mbogo	83.41	94	eP	P	12 59 28.8	+3.0
	comp=Z,3.4nm,1.0s						
BOSA	Boshof	84.75	124	LR	LR	13 32 15.1	
	comp=Z,55nm,18.9s,baz=222,slow=32						
ZALV	Zalesovo Beam	92.56	27	LR	LR	13 38 43.3	
	comp=Z,34nm,20.2s,baz=250,slow=34						
MKAR	Makanchi Array	96.33	33	LR	LR	13 41 19.4	
	comp=Z,38nm,20.3s,baz=294,slow=34						
CMAR	Chiang Mai Arr	126.27	44	PKP	PKPdf	13 06 01.2	+0.1
	comp=Z,1.1nm,0.8s,baz=291,slow=3.2,SNR=6.6						

*DDA **11** 12:58:07.1, 40°.92N×33°.81E, h7km±2km, ML2.6*
*ISK **11** 12:58:07.8, 40°.88N×33°.82E, h9km, ML2.3/7*
ISC 11 12:58:08.0±1.0**, 40°.91N**±0°.03×**33°.78E**±0°.04**, h13**km±9km**, n14, σ0s.89**/20**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILGA	Ilgaz	0.15	343	i P	Pg	12 58 11.3	-0.6
CANT	Cankiri	0.32	202	PG	Pg	12 58 14.4	-0.2
CANT				SG	Sg	12 58 19.6	+0.6
ELDT	Eldivan	0.49	213	i P	Pg	12 58 17.4	-0.3
ELDT				i S	Sb	12 58 25.6	-0.2
KBUK	KARABUK-Merkez	0.93	291	IAML_P			
	comp=Z,960nm,0.2s						
KBUK				i P	Pg	12 58 24.9	-1.1
KBUK				i S	Sb	12 58 39.6	+1.4
CORM	Corum	0.97	138	PG	Pb	12 58 26.2	-0.6
BZK	Bozkurt	1.07	9	PN	Pn	12 58 28.9	+0.3
COAL	Corum-Alaca	1.13	125	IAML_P			
	comp=Z,130nm,0.3s						
COAL				i P	Pn	12 58 29.1	-0.5
COAL				i S	Sn	12 58 44.9	-0.1
DIKM	Dikmen	1.34	56	PN	Pg	12 58 33.5	-0.3
CDAG	Cicekdag	1.36	160	IAML_P			
	comp=Z,869nm,0.3s						
CDAG				i P	Pb	12 58 33.0	-0.4
HAVZ	Havza	1.48	83	eP	Pg	12 58 35.0	-1.3
HAVZ				i S	Sg	12 58 57.7	+2.1
KAMT	Kaman	1.54	182	PN	Pb	12 58 35.7	-0.7
AFSR	Afar-Bala (An	1.55	201	PN	Pb	12 58 36.1	-0.6
YOZ	Yozgat	1.73	136	PN	Pn	12 58 38.1	+0.2
KKUL	Konya-Kulu	1.85	201	i P	Pg	12 58 43.3	-0.3
KKUL				i S	Sb	12 59 05.9	+1.0

*BEO **11** 13:36:14.5±1.0, 39°.34N×25°.98E, h5km, ML3.3/4*
*ISK **11** 13:36:18.2, 39°.68N×25°.39E, h5km, ML3.6/32*
*ISCJB **11** 13:36:19.7±0.4, 39°.65N±0°.02×25°.44E±0°.02, h3km±3km, Error ellipse: s-maj=2.7km s-min=2.4km az=137.9*
*DDA **11** 13:36:20.0, 39°.70N×25°.52E, h7km±3km, ML3.4*
*ATH **11** 13:36:20.3, 39°.67N×25°.51E, h30km, ML3.3/8, Error ellipse: s-maj=1.3km s-min=0.8km az=224.0*
*THE **11** 13:36:21.0, 39°.66N×25°.51E, h10km±1km, ML3.2/8, Error ellipse: s-maj=1.1km s-min=0.5km az=74.0*
ISC 11 13:36:20.0±1.1**, 39°.66N**±0°.02×**25°.50E**±0°.02**, h4**km±10km**, n129, σ1s.07**/162**, 12C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIA	Limnos Island	0.34	314	P	Pb	13 36 28.6	-0.1
LIA				S	Sb	13 36 33.5	-0.9
LIA				AML	AML	13 36 33.6	
	comp=E,8763μm,0.3s						
LIA				AML	AML	13 36 34.1	
	comp=N,8822μm,0.3s						
LIA	Limnos Island	0.34	314	P	Pb	13 36 28.5	-0.2
LIA				S	Sb	13 36 33.4	-1.1
EFSA	Agios Efstrati	0.41	254	P	Pb	13 36 30.9	+1.0
EFSA				S	Sb	13 36 37.2	+0.7
EFSA				AML	AML	13 36 37.5	
	comp=N,12836μm,0.3s						
EFSA				AML	AML	13 36 39.1	
	comp=E,16159μm,0.3s						
BOZC	Bozcaada	0.46	67	PG	Pg	13 36 29.5	+0.6
BOZC	Bozcaada	0.46	67	i P	Pb	13 36 30.3	-0.4
SIGR	SIGRI	0.52	148	PG	Pb	13 36 31.1	-0.7
SIGR	SIGRI	0.52	148	P	Pb	13 36 30.9	-0.9
SIGR				S	Sb	13 36 38.4	-1.2
SIGR				AML	AML	13 36 38.8	
	comp=N,14921μm,0.6s						
SIGR				AML	AML	13 36 39.0	
	comp=E,11469μm,0.6s						
SIGR	SIGRI	0.52	148	P	Pb	13 36 30.9	-0.9
SIGR				S	Sb	13 36 38.2	-1.5
GPNR	Gulpinar-Canak	0.53	112	PG	Pb	13 36 31.2	-0.6
GADA	Gvkgeada	0.61	30	PG	Pg	13 36 32.1	+0.3
GADA				SG	Sb	13 36 41.7	-0.6
GADA	Gvkgeada	0.61	30	P	Pb	13 36 32.5	-0.8
GADA				S	Sb	13 36 41.5	-0.8
GOKC	Gokceada-Canak	0.63	31	PG	Pb	13 36 32.6	-1.0
EZN	Ezine	0.66	75	PG	Pg	13 36 33.0	+0.3
EZN	Ezine	0.66	75	P	Pg	13 36 32.9	+0.3
PRK	Paraskevi	0.72	124	P	Pb	13 36 35.5	+0.3
PRK				S	Sb	13 36 45.8	+0.4
PRK				AML	AML	13 36 48.7	
	comp=N,6650μm,0.6s						
PRK				AML	AML	13 36 50.0	
	comp=E,7064μm,0.6s						
PRK	Paraskevi	0.72	124	P	Pb	13 36 35.5	+0.3
PRK				S	Sb	13 36 45.7	+0.3
BAYC	CANAKKALE_Bayr	0.81	84	i P	Pb	13 36 36.6	-0.1
BAYC				i S	Sb	13 36 46.7	-1.2

SMTH	Samothraki Isl	0.81	2	P	Pb	13 36 36.5	-0.2
SMTH				S	Sb	13 36 48.0	0.0
SMTH				AML	AML	13 36 50.2	
	comp=N,2619µm,0.3s						
SMTH				AML	AML	13 36 50.7	
	comp=E,2196µm,0.4s						
SMTH	Samothraki Isl	0.81	2	P	Pb	13 36 36.5	-0.2
SMTH				S	Sb	13 36 47.2	-0.8
AYVA	Ayvalik	0.98	110	iP	Pb	13 36 39.2	-0.4
AYVA				iS	Sn	13 36 53.8	-1.1
GELI	Tayfur-Gelibol	1.05	45	PN	Pb	13 36 40.5	-0.2
SKY	Skiros Island	1.07	224	P	Pg	13 36 40.9	+0.3
SKY	Skiros Island	1.07	224	P	Pg	13 36 41.0	+0.3
PSRA	Psara	1.12	178	P	Pn	13 36 42.2	-0.2
THAS	Thassos island	1.12	328	P	Pb	13 36 41.7	-0.2
THAS				S	Sb	13 36 56.2	-0.6
THAS				AML	AML	13 36 59.2	
	comp=E,3243µm,0.4s						
THAS				AML	AML	13 36 59.4	
	comp=N,2964µm,0.3s						
THAS	Thassos island	1.12	328	P	Pn	13 36 41.9	-0.6
THAS				S	Sb	13 36 56.3	-0.6
ENEZ	Enez	1.19	25	PN	Pb	13 36 42.7	-0.4
LPK	Lapseki	1.20	53	PN	Pg	13 36 42.8	-0.3
DKL	Dikili	1.24	118	PN	Pg	13 36 43.9	+0.2
ERIK	Erikli-Kesan	1.27	37	PN	Pg	13 36 44.3	-0.2
ALN	Alexandroupoli	1.30	18	PN	Pn	13 36 43.9	-1.1
ALN	Alexandroupoli	1.30	18	P	Pn	13 36 44.1	-0.9
ALN				S	Sn	13 37 02.3	-0.6
ALN				AML	AML	13 37 02.8	
	comp=N,720µm,0.5s						
ALN				AML	AML	13 37 03.9	
	comp=E,749µm,0.4s						
ALN	Alexandroupoli	1.30	18	P	Pn	13 36 44.1	-0.9
ALN				S	Sn	13 37 02.1	-0.8
CHOS	Chios island	1.34	161	PN	Pg	13 36 45.8	+0.1
CHOS	Chios island	1.34	161	P	Pn	13 36 44.7	-0.9
CHOS				S	Sn	13 37 03.4	-0.5
CHOS				AML	AML	13 37 05.8	
	comp=E,4155µm,0.8s						
CHOS				AML	AML	13 37 06.3	
	comp=N,4624µm,0.6s						
CHOS	Chios island	1.34	161	P	Pn	13 36 44.7	-0.9
CHOS				S	Sn	13 37 03.5	-0.4
AOS	Alonnisos	1.35	249	PN	Pn	13 36 43.9	-1.7
AOS	Alonnisos	1.35	249	P	Pn	13 36 45.2	-0.4
AOS	Alonnisos	1.35	249	P	Pn	13 36 45.2	-0.4
PAIG	Paliouri	1.43	281	P	Pn	13 36 46.1	-0.6
PAIG	Paliouri	1.43	281	P	Pn	13 36 46.0	-0.7
KESN	Edirne-Kesan	1.47	37	iP	Pg	13 36 48.0	-0.3
KESN				iS	Sg	13 37 07.0	-0.5
RDO	Rodhopi	1.49	1	PN	Pn	13 36 46.8	-0.7
RDO	Rodhopi	1.49	1	P	Pn	13 36 46.8	-0.7
RDO	Rodhopi	1.49	1	P	Pn	13 36 46.8	-0.7
RDO				S	Sg	13 37 07.3	-0.5
KAVA	Kavala	1.54	331	P	Pn	13 36 47.7	-0.5
KAVA	Kavala	1.54	331	P	Pn	13 36 47.7	-0.5
URLA	Izmir	1.55	146	PN	Pb	13 36 49.1	-0.2
URLA	Izmir	1.55	146	iP	Pn	13 36 47.3	-1.1
URLA				iS	Sb	13 37 09.1	-0.2
KRBG	Karabiga-Canak	1.56	61	PN	Pb	13 36 49.2	-0.3
SART	Tekirdag	1.65	51	iP	Pb	13 36 50.0	-1.0
SART				iS	Sg	13 37 13.0	0.0
SKIA	Skiathos	1.65	253	P	Pn	13 36 49.9	+0.1
KNL	Balıkesir	1.67	68	iP	Pb	13 36 51.3	0.0
KNL				iS	Sg	13 37 13.4	-0.3
STEP	BALIKESIR_Sava	1.74	99	IAML_P			
	comp=Z,1µm,0.1s						
STEP				iP	Pb	13 36 51.4	-1.1
STEP				iS	Sg	13 37 16.9	+1.1
EREA	Eretria	1.74	225	P	Pn	13 36 50.0	-1.0
EREA	Eretria	1.74	225	P	Pn	13 36 49.8	-1.2
BLCB	Balcova	1.75	136	PN	Pb	13 36 51.8	-0.8
XOR	Xorichti	1.81	261	P	Pn	13 36 51.4	-0.6
XOR	Xorichti	1.81	261	P	Pn	13 36 51.5	-0.5
BALB	Balikesir	1.84	90	PN	Pb	13 36 53.4	-0.7
MRMT	Marmara Adasi	1.86	59	PN	Pb	13 36 53.4	-1.2
DGB	zmir	1.93	146	iP	Pb	13 36 56.2	+0.4
DGB				iS	Sg	13 37 22.8	+0.7
EDC	Edincik	1.94	68	PN	Pb	13 36 54.6	-1.3
SBT4	Kumbag-Tekirda	1.95	52	PN	Pb	13 36 54.6	-1.3
AKHS	Akhisar	1.96	113	iP	Pn	13 36 54.4	+0.5
AKHS				iS	Sg	13 37 23.2	+0.4
DION	Dionisos Attik	2.00	218	P	Pn	13 36 53.4	-1.1
SOH	Sokhos	2.01	306	P	Pn	13 36 54.7	-0.1
SOH	Sokhos	2.01	306	P	Pn	13 36 55.0	+0.2
TKR	Tekirdag	2.05	49	PN	Pb	13 36 56.1	-1.6
SRS	Serrai	2.06	316	ePn	Pn	13 36 55.6	+0.2
SRS				eSn	Sg	13 37 27.5	+1.2
SRS	Serrai	2.06	316	P	Pn	13 36 55.2	-0.3
HORT	Hortiatis	2.07	298	PN	Pn	13 36 53.8	-1.8
HORT	Hortiatis	2.07	298	P	Pn	13 36 55.6	0.0
NVR	Nevrokopi	2.10	324	P	Pn	13 36 55.9	-0.1
NVR	Nevrokopi	2.10	324	P	Pn	13 36 55.9	-0.1
VLY	Voula,Athens	2.24	217	P	Pn	13 36 57.3	-0.6
VIL2	Platees	2.26	231	P	Pn	13 36 57.3	-0.9
VILL	Villia	2.27	230	P	Pn	13 36 57.2	-1.1
KCTX	Karacabey (Bur	2.28	74	PN	Pn	13 36 59.4	+1.0
DURS	Dursunbey	2.30	90	iP	Pn	13 36 59.0	+0.3
DURS				iS	Sn	13 37 26.6	-0.8
GCAM	G?zelcaml?	2.38	145	PN	Pn	13 37 00.8	+1.0
EDRB	Edirne	2.38	23	PN	Pn	13 37 00.2	+0.4
KNT	Kendrikon	2.49	308	P	Pn	13 37 01.7	+0.3
KNT	Kendrikon	2.49	308	P	Pn	13 37 01.8	+0.5
PHSR	Pinarhisar	2.50	37	PN	Pn	13 37 01.9	+0.5
PLD	Plovdiv	2.52	346	ePn	Pn	13 37 01.7	0.0
PLD				eSn	Sb	13 37 36.5	-0.6
PLD	Plovdiv	2.52	346	PN	Pn	13 37 01.3	-0.4
AGG	Agios Georgios	2.54	257	P	Pn	13 37 02.1	+0.1
APE	Apeiranthos	2.59	179⇑	iP	Pn	13 37 01.3	-1.4
SLVT	Silivri	2.59	52	PN	Pn	13 37 03.7	+1.0
MANT	Manisa	2.65	115	eP	Pn	13 37 04.4	+0.7
MANT				iS	Sb	13 37 42.7	+1.6
MDNY	Mudanya-Bursa	2.69	74	PN	Pn	13 37 05.9	+1.8
KULA	Kula-Manisa	2.71	114	PN	Pn	13 37 05.9	+1.5
SBT5	Esenkoy-Cinarc	2.77	68	PN	Pn	13 37 06.6	+1.6
CTKS	Kestanelik-??a	2.78	55	PN	Pn	13 37 06.6	+1.3
VAY	Valandovo	2.79	308	ePn	Pn	13 37 06.8	+1.4
VAY	Valandovo	2.79	308	ePn	Pg	13 37 13.7	+0.3
VAY				eSn	Sg	13 37 50.3	+0.8
CTYL	Yalikoy Yolu	2.79	49	PN	Pn	13 37 06.4	+1.0
KALE	Kalithea	2.91	245	P	Pn	13 37 07.1	0.0
BGKT	Bogazkoy	2.92	58	PN	Pn	13 37 08.7	+1.5
KAVV	Kandilli-Istan	3.06	62	PN	Pn	13 37 10.5	+1.4
ISK	Istanbul-Kandi	3.06	62	PN	Pn	13 37 10.7	+1.6
LAKA	Lakka	3.09	244	P	Pn	13 37 10.2	+0.6
GEDZ	Gediz	3.09	100	PN	Pn	13 37 11.2	+1.5
YLV	Yalova	3.10	72	PN	Pn	13 37 11.4	+1.6
KLYT	Kilyos	3.13	58	PN	Pn	13 37 11.6	+1.4
GDZ	Gediz	3.14	99	iP	Pn	13 37 12.8	+2.5
GDZ				iS	Sg	13 37 59.6	-1.2
STIP	Stip	3.24	310	ePn	Pb	13 37 19.1	+1.0
STIP				eSn	Sg	13 38 01.8	-2.3
VTS	Vitosha	3.40	330	ePn	Pn	13 37 14.5	+0.5
VTS				eSn	Sb	13 37 59.3	-3.4
VTS	Vitosha	3.40	330⇑	iP	Pn	13 37 15.4	+1.4
IGT	Igoumenitsa	4.00	270	ePn	Pn	13 37 21.3	-0.7
BARS	Barje	4.20	320	ePn	Pn	13 37 25.8	+0.9
ZAPS	Zavoj	4.21	330	ePn	Pn	13 37 25.4	+0.5
ZAPS				eSn	Sn	13 38 19.1	+4.6
ZAGS	Zajecar	4.82	331	ePn	Pn	13 37 33.3	0.0
SELS	Selova	4.85	319	ePn	Pn	13 37 33.6	-0.1
BOVS	Bovan	4.89	326	ePn	Pn	13 37 34.7	+0.5
TIRR	Tirgusor	5.26	23⇑	iP	Pg	13 37 58.7	-2.1
TLB	Topalu	5.27	20⇑	iP	Pb	13 37 55.2	+2.5
GRUS	Gruza	5.54	321	ePn	Pn	13 37 43.9	+0.7
IVAS	Ivanjica	5.60	316	ePn	Pn	13 37 43.9	-0.2
VOIR		5.79	357⇑	iP	Pn	13 37 49.0	+2.3
MLR	Muntele Rosu	5.84	3⇑	iP	Pn	13 37 51.9	+4.5
MDVR	Moldovita	5.84	332⇑	iP	Pn	13 37 47.9	+0.5
DIVS	Divibare	6.05	319	ePn	Pn	13 37 50.6	+0.3
GZR	Gura Zlata	6.07	342⇑	iP	Pn	13 37 50.3	-0.3
VRI	Vrincioaia	6.27	8⇑	iP	Pn	13 37 59.1	+5.8
DOPR	Dopca	6.31	359⇑	iP	Pn	13 37 57.0	+3.2
BANR	Banloc	6.57	332⇑	iP	Pn	13 37 47.7	-10
BURAR	Bucovina Array	7.96	359⇑	iP	Pn	13 38 18.9	+2.4

*ISCJB **11** 13:36:52.9±1.4, 7°.7S±0°.1×106°.63E±0°.09, h49km±19km, mb3.4/4, Error ellipse: s-maj=27.0km s-min=7.4km az=27.6*

*DJA **11** 13:36:53.5±1.0, 8°S±6°×10°7E±°, h22km±7km, M3.9/9, MLv3.9/9*

*IDC **11** 13:36:53.1±6.0, 7°.53S×106°.31E, h65km±51km, mb3.1/4, mb1 3.4/4, mb1mx3.1/36, mbtmp3.4/4, Error ellipse: s-maj=53.2km s-min=20.8km az=52.0*

ISC 11 13:36:52.3±1.9**, 7°.7S**±0°.1×**106°.55E**±0°.08**, h50**km±18km**, n20, σ2.09**/19**, mb3.3**/4**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	Sukabumi	0.72	1	P	Pn	13 37 05.9	-0.4
SKJI				S	Sn	13 37 14.8	-1.6
DBJI	Dramaga	1.18	10	P	Pn	13 37 13.4	+0.9
DBJI				S	Sn	13 37 26.6	-0.9
CISI	Cisompet, Garu	1.27	82	P	Pn	13 37 13.4	-0.3
CISI				S	Sn	13 37 28.5	-1.1
LEM	Lembang	1.39	50	P	Pn	13 37 17.1	+1.8
	410nm,0.3s,baz=297,slow=4.5,SNR=135						
LEM				S	Sn	13 37 36.2	+3.5
	224nm,0.3s,baz=83,slow=19,SNR=12						
LEM				LR	LR	13 37 53.1	
	comp=Z,283nm,18.5s,baz=208,slow=41						
LEM	Lembang	1.39	50	P	Pn	13 37 17.0	+1.6
SBJI	Serang	1.65	345	P	Pn	13 37 20.3	+1.5
CMJI	Cimerak	1.88	92	P	Pn	13 37 22.0	0.0
CMJI				S	Sn	13 37 42.6	-2.0
KPJI	Karang Pucung	2.39	81	P	Pn	13 37 31.0	+2.0
KASI	Kota Agung	2.99	317	P	Pn	13 37 39.1	+1.9
MDSI	Maura Dua	3.99	324	P	Pn	13 37 53.1	+2.2
CMAR	Chiang Mai Arr	27.08	344	P	P	13 42 27.3	-3.0
	0.6nm,0.6s,baz=180,slow=8.8,SNR=5.8						
H01W3	Cape Leeuwin H	27.91	167	T	T	14 12 15.2	
	baz=342,slow=78,SNR=26						
H01W1	Cape Leeuwin H	27.93	167	T	T	14 12 19.4	
	baz=342,slow=78,SNR=17						
H01W2	Cape Leeuwin H	27.93	167	T	T	14 12 07.5	
	baz=342,slow=78,SNR=25						
WRA	Warramunga Arr	29.53	117	P	P	13 42 53.9	+1.6
	0.3nm,0.5s,baz=291,slow=11,SNR=3.1						
ASAR	Alice Springs	30.64	124	P	P	13 43 04.7	+2.6
	0.2nm,0.7s,baz=305,slow=8.6,SNR=3.3						
H08S2	Diego Garcia H	33.74	268	T	T	14 19 02.4	
	baz=91,slow=76,SNR=34						
H08S3	Diego Garcia H	33.76	268	T	T	14 18 58.4	
	baz=91,slow=76,SNR=34						
H08S1	Diego Carcia H	33.76	268	T	T	14 19 02.7	
	baz=91,slow=76,SNR=41						
MKAR	Makanchi Array	58.42	341	P	P	13 46 40.5	-2.2
	0.4nm,0.5s,baz=154,slow=8.0,SNR=6.2						

*IDC **11** 14:09:30.6±1.1, 21°.91S×63°.74W, h544km±14km, mb2.9/2, mb1 2.7/6, mb1mx2.6/32, mbtmp3.5/6, Error ellipse: s-maj=26.9km s-min=18.2km az=135.0*

*ISCJB **11** 14:09:31.3±0.9, 21°.9S±0°.1×63°.6W±0°.1, h528km, mb3.5/2, Error ellipse: s-maj=16.6km s-min=11.4km az=143.7*

ISC 11 14:09:30.9±0.9**, 21°.9S**±0°.1×**63°.7W**±0°.1**, h528**km**, n8, σ1.55**/10**, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	4.90	261	P	P	14 11 00.3	+1.3
	0.3nm,0.3s,baz=95,slow=11,SNR=3.0						
LVC				S	S	14 12 10.2	-0.6
	1.0nm,0.3s,baz=6.1,slow=20,SNR=8.9						
SIV	San Ignacio	6.39	23	P	P	14 11 13.5	+1.1
	0.4nm,0.3s,baz=223,slow=9.9,SNR=14						
SIV				S	S	14 12 36.0	+0.7
	0.1nm,0.3s,baz=96,slow=8.3,SNR=7.6						
LPAZ	La Paz	7.02	322	P	P	14 11 19.7	+0.8
	0.3nm,0.3s,baz=143,slow=10,SNR=6.8						
CPUP	Villa Florida	7.26	128	P	P	14 11 22.1	+1.5
	0.2nm,0.3s,baz=318,slow=7.8,SNR=4.5						
PTGA	Pitinga	21.38	10	P	P	14 13 39.7	-0.9
	1.1nm,0.3s,baz=173,slow=15,SNR=4.1						
TORD	Torodi Ar. Bea	72.96	68	P	P	14 20 05.1	-2.0
	0.3nm,0.5s,baz=267,slow=5.2,SNR=2.8						
ASAR	Alice Springs	131.56	202	PKP	PKPdf	14 27 42.4	-1.8
	0.7nm,1.1s,baz=137,slow=1.5,SNR=5.5						
WRA	Warramunga Arr	134.82	204	PKP	PKPdf	14 27 49.1	-1.3
	0.5nm,0.9s,baz=154,slow=1.6,SNR=3.5						

IDC 11 14:09:34.5±2.4**, 7°.87S**×**123°.61E, h277**km±26km**, mb3.3**/2**, mb1 3.6**/6**, mb1mx3.2**/31**, mbtmp4.1**/6**, Error ellipse: s-maj=94.3km s-min=19.1km az=58.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	2.33	179	P	Pn	14 10 22.1	-0.1
	98nm,0.3s,baz=1.7,slow=3.5,SNR=164						
BATI				S	S	14 11 00.6	+0.4
	113nm,0.3s,baz=313,slow=19,SNR=9.7						
FITZ	Fitzroy Crossi	10.36	169	P	Pn	14 11 57.5	+0.2
	1.5nm,0.3s,baz=7.1,slow=16,SNR=30						
FITZ				S	S	14 13 53.3	-0.5
	0.6nm,0.3s,baz=233,slow=16,SNR=5.9						
WRA	Warramunga Arr	15.88	140	P	P	14 13 01.4	-1.2
	1.0nm,0.3s,baz=313,slow=13,SNR=48						
ASAR	Alice Springs	18.55	149	P	P	14 13 31.9	+0.3
	0.8nm,0.3s,baz=330,slow=11,SNR=92						
STKA	Stephens Creek	29.18	147	P	P	14 15 10.9	+0.2
	1.0nm,0.3s,baz=319,slow=11,SNR=6.1						
MKAR	Makanchi Array	65.64	330	P	P	14 19 49.3	0.0
	0.5nm,0.5s,baz=119,slow=7.3,SNR=6.0						

MEX 11 14:11:11.6±0.6**, 16°.04N**×**98°.48W, h17**km±49km**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.49	44	iP	Pg	14 11 19.8	-1.6
PNIG				iS	Sg	14 11 26.0	-2.0
TLIG	Tlapa	1.52	357	eP	Pn	14 11 33.9	-4.3
TLIG				eS	Sn	14 11 52.6	-5.0
ACP2	Acapulco	1.59	302	iP	Pn	14 11 35.1	-3.9
ACP2				iS	Sn	14 11 54.9	-4.3
VHO	Vista Hermosa	1.96	58	iP	Pn	14 11 42.1	-2.3
VHO				eS	Sn	14 12 05.1	-3.6
CAIG	El Cayaco	1.99	301	iP	Pn	14 11 41.9	-2.6
CAIG				iS	Sn	14 12 04.8	-4.2
HUIG	Huatulco	2.29	96	iP	Pn	14 11 45.2	-3.5
HUIG				iS	Sn	14 12 12.0	-4.6
ARIG	Puente Sto Nin	2.86	322	iP	Pn	14 11 53.7	-2.8
ARIG				iS	Sn	14 12 27.0	-3.6

*JMA **11** 14:19:00.9±0.1, 24°.58N×122°.52E, h105km±2km, M2.2*

*ISCJB **11** 14:19:01.3±0.5, 24°.66N±0°.02×122°.55E±0°.02, h97km±4km, Error ellipse: s-maj=3.9km s-min=2.7km az=172.8*

*TAP **11** 14:19:01.2, 24°.65N×122°.56E, h97km, ML3.1, C*

ISC 11 14:19:01.6±1.4**, 24°.65N**±0°.04×**122°.55E**±0°.03**, h98**km±8km**, n74, σ0.58**/135**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	EOS1	0.40	255	eP	Pn	14 19 17.1	+0.7
	baz=255						
EOS1				eS	Sn	14 19 28.7	+1.2
	baz=255						
JYNG	Yonagunijimaku	0.41	119	P	Pn	14 19 16.7	+0.1
JYNG				S	Sn	14 19 28.6	+0.9
YOJ	Yonaguni jima	0.46	114	eP	Pn	14 19 16.4	-0.5
	baz=114						
YOJ				eS	Sn	14 19 27.7	-0.6
	baz=114						
YOJ	Yonaguni jima	0.46	114	P	Pn	14 19 17.1	+0.2
YOJ				eS	Sn	14 19 28.8	+0.5
TWB1	Santiao Chiao	0.62	305	eP	Pn	14 19 18.4	+0.3
	baz=304						
TWB1				eS	Sn	14 19 30.4	0.0
	baz=304						
TWC	Suao	0.64	266	eP	Pn	14 19 17.8	-0.5
	baz=265						
TWC				iS	Sn	14 19 30.2	-0.5
	baz=265						
NTC	Toucheng	0.68	287	eS	Sn	14 19 31.6	+0.2
	baz=286						
TIPB	Shuangxi	0.73	296	P	Pn	14 19 19.1	-0.1
	baz=295						
TIPB				S	Sn	14 19 32.0	-0.2
	baz=295						
ILA	Ilan	0.73	279	eS	Sn	14 19 33.4	+1.2
	baz=278						
ENA	Nanau	0.77	253	iP	Pn	14 19 19.5	0.0
	baz=252						
ENA				eS	Sn	14 19 31.9	-0.9
	baz=252						
TWE	Neicheng	0.80	275	P	Pn	14 19 19.7	-0.1
	baz=274						
TWE				S	Sn	14 19 33.2	-0.2
	baz=274						
NWF	Wu-fen Shan	0.81	301	eP	Pn	14 19 20.4	+0.4
	baz=300						
NWF				eS	Sn	14 19 33.3	-0.5
	baz=300						
WFSB	Wu-fen Shan	0.81	301	eP	Pn	14 19 20.0	+0.1
	baz=300						
WFSB				eS	Sn	14 19 33.1	-0.5
	baz=300						
SLBB	Yuanshan	0.83	277	eP	Pn	14 19 20.3	+0.1
	baz=276						
SLBB				eS	Sn	14 19 33.2	-0.9
	baz=276						
ENTT	Nioudou	0.89	269	P	Pn	14 19 21.1	+0.4
	baz=269						
ENTT				eS	Sn	14 19 35.5	+0.4
	baz=269						
TWA	Mucha	0.93	291	eP	Pn	14 19 21.3	+0.2
	baz=290						
TWA				eS	Sn	14 19 35.3	-0.6
	baz=290						
NWLT	Wulai	0.96	278	eP	Pn	14 19 21.4	-0.1
	baz=277						
NWLT				eS	Sn	14 19 36.0	-0.3
	baz=277						
NACB	Ninganchiao	0.99	241	eP	Pn	14 19 21.0	-0.8
	baz=241						
YM01	YM01	1.01	299	eP	Pn	14 19 22.9	+0.9
	baz=298						
YM01				eS	Sn	14 19 38.2	+0.8
	baz=298						
YM08	YM08	1.02	302	eS	Sn	14 19 37.3	-0.3
	baz=301						
YM11	YM11	1.02	300	eP	Pn	14 19 21.7	-0.5
	baz=299						
YM11				eS	Sn	14 19 37.4	-0.3
	baz=299						
YM05	YM05	1.02	300	eP	Pn	14 19 21.9	-0.4
	baz=299						
YM05				eS	Sn	14 19 37.4	-0.3
	baz=299						
TWD	Chiawan	1.04	237	eP	Pn	14 19 22.5	+0.2
	baz=236						
TWD				eS	Sn	14 19 37.6	-0.2
	baz=236						
YM04	YM04	1.04	299	eP	Pn	14 19 21.7	-0.7
	baz=298						
YM04				eS	Sn	14 19 37.1	-0.9
	baz=298						
TWY	Chenhua	1.06	306	P	Pn	14 19 22.4	-0.1
	baz=305						
TWY				eS	Sn	14 19 38.5	+0.2
	baz=305						
PCYT	Pengchaiyu	1.06	336	eP	Pn	14 19 22.3	-0.3
	baz=336						
PCYT				S	Sn	14 19 38.3	-0.1
	baz=336						
YHNB	Yeheng	1.07	271	eP	Pn	14 19 22.7	0.0
	baz=270						
YHNB				eS	Sn	14 19 38.7	+0.1
	baz=270						
NSK	Sanguang	1.08	271	iP	Pn	14 19 22.9	0.0
	baz=271						
NSK				iS	Sn	14 19 38.7	-0.1
	baz=271						
NNSB	Datong	1.08	258	eP	Pn	14 19 22.6	-0.3
	baz=258						
NNSB				eS	Sn	14 19 38.8	-0.2
	baz=258						
NNS	Nan Shan	1.09	259	P	Pn	14 19 22.6	-0.4
	baz=258						
NNS				S	Sn	14 19 38.7	-0.4
	baz=258						
TWS1	Kuangyinshan	1.12	294	eS	Sn	14 19 39.4	-0.1
	baz=293						
IRIF	Iriomote-Funau	1.12	106	P	Pn	14 19 23.3	0.0
IRIF				S	Sn	14 19 39.6	0.0
ENLB	Shoufeng	1.14	229	eS	Sn	14 19 40.6	+0.7
	baz=229						
WLTB	Daxi	1.19	280	eP	Pn	14 19 24.3	+0.2
	baz=279						
WLTB				eS	Sn	14 19 41.3	+0.3
	baz=279						
WHF	Hehuan Shan	1.27	247	P	Pn	14 19 24.9	-0.5
	baz=246						
WHF				S	Sn	14 19 42.6	-0.8
	baz=246						
NCU	National Centr	1.27	285	eS	Sn	14 19 43.1	+0.4
	baz=284						
HATJ	Hateruma jima	1.29	117	eS	Sn	14 19 44.1	+1.0
TWT	Tachien	1.31	253	eP	Pn	14 19 26.3	+0.6
	baz=252						
TWT				S	Sn	14 19 44.1	+0.3
	baz=252						
ESL	Shilin	1.32	231	eP	Pn	14 19 24.4	-1.2
	baz=230						
ESL				eS	Sn	14 19 41.9	-1.7
	baz=230						
TDCB	Techi	1.33	253	eP	Pn	14 19 26.3	+0.5
	baz=252						
TDCB				eS	Sn	14 19 43.6	-0.5
	baz=252						
CHGB	Renai	1.39	245	eP	Pn	14 19 26.7	+0.1
	baz=244						
CHGB				eS	Sn	14 19 45.2	-0.2
	baz=244						
LIOB	Emei	1.39	270	P	Pn	14 19 26.5	0.0
	baz=269						
LIOB				S	Sn	14 19 45.2	-0.1
	baz=269						
JKRS	Kuro-shima	1.40	107	P	Pn	14 19 26.8	+0.3
JKRS				S	Sn	14 19 45.8	+0.5
NSTT	Nanjuang	1.41	269	P	Pn	14 19 26.5	-0.1
	baz=269						
NSTT				S	Sn	14 19 45.3	-0.2
	baz=269						
JIJ	Ishigaki jima	1.48	101	P	Pn	14 19 27.4	-0.1
JIJ				S	Sn	14 19 46.8	-0.4
HGSD	Ruisui	1.55	222	eP	Pn	14 19 27.9	-0.5
	baz=221						
HGSD				eS	Sn	14 19 48.0	-0.7
	baz=221						
VWDT	VWDT	1.57	235	eP	Pn	14 19 28.4	-0.2
	baz=235						
VWDT				eS	Sn	14 19 48.7	-0.3
	baz=235						
EHY	Hungye	1.60	225	eP	Pn	14 19 28.0	-1.1
	baz=224						
NMLH	Miaoli	1.60	266	P	Pn	14 19 28.6	-0.5
	baz=265						
NMLH				eS	Sn	14 19 49.6	-0.2
	baz=265						
JISG	Ishigakijimahi	1.61	92	P	Pn	14 19 29.1	0.0
JISG				S	Sn	14 19 49.5	-0.4
TWQ1	Liyutan	1.64	260	eP	Pn	14 19 29.5	-0.1
	baz=259						
TWQ1				eS	Sn	14 19 50.5	-0.4
	baz=259						
SMLT	Sun Moon Lake	1.69	243	P	Pn	14 19 30.9	+0.7
	baz=242						
SMLT				eS	Sn	14 19 52.0	+0.1
	baz=242						
SSLB	Suanglung	1.69	240	eP	Pn	14 19 30.9	+0.7
	baz=239						
SSLB				eS	Sn	14 19 51.9	-0.1
	baz=239						
YULB	Yu-li	1.70	223	eP	Pn	14 19 28.8	-1.5
	baz=222						
TYC	Yuchr	1.71	245	P	Pn	14 19 30.9	+0.5
	baz=244						
TYC				S	Sn	14 19 52.5	+0.1
	baz=244						
TWF1	Yuli	1.73	222	P	Pn	14 19 29.9	-0.8
	baz=221						
TWF1				S	Sn	14 19 50.9	-1.8
	baz=221						
FULB	Fuli	1.85	219	eP	Pn	14 19 32.3	+0.1
	baz=218						
FULB				eS	Sn	14 19 55.0	-0.5
	baz=218						

WJS	**Zhushan**	**1.86**	**244**	*e*P	**Pn**	**14 19 33.0**	**+0.7**
	baz=243						
WJS				*e*S	**Sn**	**14 19 55.4**	**-0.2**
	baz=243						
WNT	**Mingjian**	**1.87**	**246**	*e*S	**Sn**	**14 19 55.5**	**-0.4**
	baz=245						
WCHH	**Zhanghua**	**1.90**	**253**	*e*P	**Pn**	**14 19 33.4**	**+0.6**
	baz=252						
JTJ	**Tarama**	**1.96**	**90**	*e*S	**Sn**	**14 19 56.8**	**-1.2**
CHN5	**Tsauling**	**2.01**	**239**	P	**Pn**	**14 19 34.8**	**+0.5**
	baz=238						
CHN5				*e*S	**Sn**	**14 19 59.0**	**-0.2**
	baz=238						
ELDTW	**Lidau**	**2.02**	**224**	*e*P	**Pn**	**14 19 34.9**	**+0.3**
	baz=223						
ELDTW				*e*S	**Sn**	**14 19 59.2**	**-0.4**
	baz=223						
WDLH	**Douliu**	**2.07**	**243**	*e*P	**Pn**	**14 19 36.0**	**+0.9**
	baz=242						
WDLH				*e*S	**Sn**	**14 20 01.3**	**+0.7**
	baz=242						
CHN4	**Tsaushan**	**2.21**	**234**	*e*P	**Pn**	**14 19 36.9**	**0.0**
	baz=234						
CHN4				*e*S	**Sn**	**14 20 03.9**	**+0.1**
	baz=234						
STYT	**Tauyuan**	**2.21**	**228**	*e*P	**Pn**	**14 19 37.4**	**+0.4**
	baz=227						
STYT				*e*S	**Sn**	**14 20 04.1**	**+0.1**
	baz=227						
TPUB	**Ta-pu**	**2.21**	**233**	*e*P	**Pn**	**14 19 36.9**	**0.0**
	baz=232						
TPUB				*e*S	**Sn**	**14 20 03.9**	**0.0**
	baz=232						
WTP	**Ta-pu**	**2.26**	**232**	*e*P	**Pn**	**14 19 38.5**	**+1.0**
	baz=231						
WTP				*e*S	**Sn**	**14 20 04.8**	**-0.2**
	baz=231						
TWK	**Hsinying**	**2.34**	**234**	*e*P	**Pn**	**14 19 39.2**	**+0.6**
	baz=233						
TWK				*e*S	**Sn**	**14 20 07.0**	**+0.1**
	baz=233						
CHN1	**Nanshi**	**2.36**	**232**	*e*P	**Pn**	**14 19 39.4**	**+0.6**
	baz=231						
CHN1				*e*S	**Sn**	**14 20 08.4**	**+1.1**
	baz=231						
SGST	**Jiashian**	**2.38**	**229**	*e*P	**Pn**	**14 19 39.9**	**+0.7**
	baz=228						
SGST				*e*S	**Sn**	**14 20 09.1**	**+1.2**
	baz=228						
SLGT	**Liugui**	**2.40**	**227**	*e*P	**Pn**	**14 19 39.7**	**+0.3**
	baz=226						
SLGT				*e*S	**Sn**	**14 20 09.4**	**+1.0**
	baz=226						
SSD	**Sandimen**	**2.59**	**223**	*e*P	**Pn**	**14 19 42.3**	**+0.4**
	baz=222						
SSD				*e*S	**Sn**	**14 20 11.8**	**-0.9**
	baz=222						
MASBT	**Mashibuluo**	**2.69**	**221**	*e*P	**Pn**	**14 19 43.1**	**-0.1**
	baz=220						
MASBT				*e*S	**Sn**	**14 20 15.4**	**+0.3**
	baz=220						

*DDA **11** 14:24:56.2, 36°.76N×36°.22E, h17km±2km, ML2.8*

*ISK **11** 14:24:56.4, 36°.84N×36°.31E, h5km, ML2.4/4*

ISC 11 14:24:57.2±1.2**, 36°.86N**±0°.04×**36°.29E**±0°.03**, h0**km±12km**,**
n13, σ0s.65/21**, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.46**	**289**	PG	**Pg**	**14 25 06.0**	**+0.1**
TAHT	**Tahtakopru-Hat**	**0.49**	**190**	PG	**Pg**	**14 25 06.3**	**-0.2**
TAHT				SG	**Sg**	**14 25 12.8**	**-0.1**
KUZU	**Kuzuini**	**0.64**	**97**	IAML_P			
	comp=Z,3μm,0.1s						
KUZU				*i* P	**Pb**	**14 25 10.9**	**-0.4**
KUZU				*i* S	**Sb**	**14 25 20.9**	**+0.2**
ANDN	**Andirin**	**0.72**	**4**	IAML_P			
	comp=Z,604nm,0.2s						
ANDN				*i* P	**Pb**	**14 25 12.3**	**-0.4**
KOZT	**Kozan**	**0.72**	**330**	PG	**Pg**	**14 25 11.4**	**+0.4**
KRTS	**Karatas**	**0.79**	**249**	PG	**Pg**	**14 25 12.7**	**+0.5**
GAZ	**Gaziantep**	**0.80**	**67**	PG	**Pg**	**14 25 12.1**	**-0.5**
GAZ				SG	**Sg**	**14 25 24.0**	**+1.0**
KMRS	**Kahramanmaras**	**0.81**	**37**	PG	**Pg**	**14 25 12.3**	**-0.4**
SAIM	**ADANA**	**1.13**	**352**	IAML_P			
	comp=Z,1μm,0.2s						
SAIM				*i* P	**Pb**	**14 25 18.6**	**-0.9**
SAIM				*i* S	**Sn**	**14 25 37.5**	**+1.0**
GZT	**Gaziantep**	**1.14**	**64**	IAML_P			
	comp=Z,1μm,0.2s						
GZT				*i* P	**Pn**	**14 25 20.0**	**-0.5**
GZT				*i* S	**Sn**	**14 25 36.9**	**+0.1**
GULE	**Gulek**	**1.28**	**290**	*i* P	**Pg**	**14 25 22.2**	**+0.5**
GULE				*i* S	**Sn**	**14 25 41.2**	**+0.8**
KERG	**Konya-Eregli**	**1.81**	**288**	IAML_P			
	comp=Z,52nm,0.2s						
KERG				*i* P	**Pn**	**14 25 29.0**	**-0.7**
KERG				*i* S	**Sg**	**14 25 55.1**	**-0.3**
SURC	**SANLIURFA_SURC**	**1.87**	**89**	*i* P	**Pb**	**14 25 32.4**	**+0.2**
SURC				*i* S	**Sg**	**14 25 58.2**	**+1.1**

*ISCJB **11** 14:34:06.0±1.1, 34°.82S±0°.08×178°.7W±0°.1, h42km, mb3.9/2, Error ellipse: s-maj=19.2km s-min=8.2km az=26.4*

*IDC **11** 14:34:05.1±2.9, 34°.64S×179°.22W, h0km, mb4.1/2, mb1 4.3/3, mb1mx3.9/21, mbtmp4.1/3, ML3.9/1, Error ellipse: s-maj=69.5km s-min=35.5km az=122.0*

*WEL **11** 14:34:07.3±1.0, 35°S±9°×17°9W±1°2, h5km, ML4.3/25*

ISC 11 14:34:06.6±1.9**, 34°.8S**±0°.1×**178°.6W**±0°.2**, h42**km**, n35,**
σ**0s.63**/44**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.71**	**221**	P	**Pn**	**14 35 02.1**	**+0.8**
MXZ				S	**Sn**	**14 35 42.2**	**-1.5**
WMGZ	**Waiomatatini S**	**3.84**	**218**	P	**Pn**	**14 35 03.9**	**+0.7**
WMGZ				S	**Sn**	**14 35 48.3**	**+1.2**
PKGZ	**Pakihiroa**	**4.07**	**220**	P	**Pn**	**14 35 06.6**	**+0.3**
PKGZ				S	**Sn**	**14 35 53.2**	**+0.4**
PUZ	**Puketiti**	**4.12**	**217**	P	**Pn**	**14 35 07.1**	**+0.1**
PUZ				S	**Sn**	**14 35 53.6**	**-0.3**
TWGZ	**Tauwhareparae**	**4.34**	**218**	P	**Pn**	**14 35 10.2**	**+0.2**
RUGZ	**Raukumara Rang**	**4.34**	**222**	P	**Pn**	**14 35 11.1**	**+0.9**
RUGZ				S	**Sn**	**14 36 00.4**	**+0.9**
CNGZ	**Carnagh Statio**	**4.47**	**214**	P	**Pn**	**14 35 12.6**	**+0.8**
TKGZ	**Te Karaka**	**4.60**	**217**	P	**Pn**	**14 35 14.1**	**+0.4**
MWZ	**Matawai**	**4.69**	**220**	P	**Pn**	**14 35 14.7**	**-0.2**
MWZ				S	**Sn**	**14 36 08.2**	**+0.2**
RIGZ	**Rimuhau**	**4.85**	**216**	P	**Pn**	**14 35 17.2**	**+0.1**
URZ	**Urewera**	**4.86**	**224**	Pn	**Pn**	**14 35 17.2**	**-0.1**
	5.0nm,0.3s,baz=276,slow=4.1,SNR=77						
URZ				Sn	**Sn**	**14 36 10.6**	**-1.7**
	6.1nm,0.3s,baz=195,slow=22,SNR=7.8						
URZ	**Urewera**	**4.86**	**224**	P	**Pn**	**14 35 17.1**	**-0.1**
URZ				S	**Sn**	**14 36 11.9**	**-0.3**
RAGZ	**Rawiri**	**4.87**	**220**	P	**Pn**	**14 35 17.6**	**+0.3**
OPRZ	**Ohinepanea**	**4.93**	**231**	P	**Pn**	**14 35 18.0**	**-0.2**
PRGZ	**Paritu Road**	**4.97**	**213**	P	**Pn**	**14 35 18.8**	**0.0**
KUZ	**Kuaotunu**	**4.99**	**245**	P	**Pn**	**14 35 19.5**	**+0.6**
GRZ	**Great Barrier**	**5.03**	**252**	P	**Pn**	**14 35 19.7**	**+0.2**
SNGZ	**Shannon Statio**	**5.12**	**218**	P	**Pn**	**14 35 21.0**	**+0.2**
KNZ	**Kokohu**	**5.15**	**214**	P	**Pn**	**14 35 20.8**	**-0.4**
MHGZ	**Mahia Peninsul**	**5.15**	**212**	P	**Pn**	**14 35 21.2**	**0.0**
RTZ	**Ruatahuna**	**5.19**	**222**	P	**Pn**	**14 35 22.0**	**+0.2**
MUGZ	**Murupara**	**5.21**	**224**	P	**Pn**	**14 35 21.9**	**0.0**
MUGZ				S	**Sn**	**14 36 19.6**	**-1.2**
KMRZ	**Kaimai**	**5.33**	**234**	P	**Pn**	**14 35 23.6**	**-0.1**
RAHZ	**Arahi**	**5.35**	**219**	P	**Pn**	**14 35 24.2**	**+0.2**
WHHZ	**Waihua**	**5.40**	**217**	P	**Pn**	**14 35 25.6**	**+1.0**
MTHZ	**Maungataniwha**	**5.43**	**221**	P	**Pn**	**14 35 25.9**	**+0.7**
ALRZ	**Allen Road**	**5.51**	**226**	P	**Pn**	**14 35 26.1**	**0.0**
MKAZ	**Moumakai**	**5.54**	**244**	P	**Pn**	**14 35 27.1**	**+0.7**
TOZ	**Tahuroa Road**	**5.57**	**237**	P	**Pn**	**14 35 27.3**	**+0.4**
NMHZ	**Naumai**	**5.63**	**219**	P	**Pn**	**14 35 28.5**	**+0.7**
MRHZ	**Matea Rd**	**5.65**	**223**	P	**Pn**	**14 35 27.8**	**-0.3**
BKZ	**Black Stump Fm**	**5.85**	**220**	P	**Pn**	**14 35 30.3**	**-0.5**
ASAR	**Alice Springs**	**42.53**	**272**	P	**P**	**14 41 58.7**	**+0.4**
	1.1nm,0.4s,baz=115,slow=7.7,SNR=32						
WRA	**Warramunga Arr**	**43.92**	**277**	P	**P**	**14 42 09.7**	**+0.2**
	1.2nm,0.4s,baz=118,slow=7.7,SNR=37						
FINES	**FINESS Array B**	**149.04**	**337**	PKPbc	**PKPab**	**14 53 52.7**	**-0.8**
	3.3nm,1.1s,baz=63,slow=6.4,SNR=3.0						

MEX 11 14:43:58.8±0.6**, 16°.67N**×**98°.38W, h6**km±6km**, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.37**	**138**	*e*P	Pg	14 44 05.1	-0.9
PNIG				*e*S	Sg	14 44 11.0	+0.2
TLIG	**Tlapa**	**0.91**	**349**	*e*P	Pg	14 44 13.7	-2.5
TLIG				*i* S	Sg	14 44 25.8	-2.2
MEIG	**Mezcala**	**1.72**	**317**	*e*P	Pn	14 44 26.1	-3.4
MEIG				*e*S	Sn	14 44 46.7	-5.1
PLIG	**Platanillo**	**2.02**	**328**	*e*P	Pn	14 44 30.6	-2.9
PLIG				*e*S	Sn	14 44 54.6	-4.6
HUIG	**Huatulco**	**2.36**	**112**	*e*P	Pn	14 44 35.4	-2.7
HUIG				*e*S	Sn	14 45 02.7	-4.7

NEIC 11 14:59:23.5±0.0**, 54°.49N**×**164°.34W, h135**km**, ML2.8**(AEIC)**, After AEIC., Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.14**	**263**	P	Pn	14 59 42.7	+0.8
WESP	**Westdahl Peak**	**0.22**	**271**	P	Pn	14 59 42.9	+0.8
WESP				S	Sn	14 59 58.0	+1.9
WECS	**Westdahl Cape**	**0.26**	**280**	P	Pn	14 59 42.9	+0.8
WEBT	**Westdahl Beart**	**0.26**	**293**	P	Pn	14 59 42.7	+0.6
SSBA	**Shishaldin**	**0.31**	**24**	P	Pn	14 59 42.3	0.0
SSBA				S	Sn	14 59 58.1	+1.5
SSLN	**Shishaldin Nor**	**0.38**	**32**	P	Pn	14 59 43.1	+0.6
FALS	**False Pass**	**0.65**	**55**	P	Pn	14 59 44.5	+0.6
AKSA	**Akutan Strait**	**0.87**	**246**	P	Pn	14 59 46.5	+0.9
AKSA				S	Sn	15 00 03.9	+1.4
AKUT	**Akutan**	**0.91**	**248**	P	Pn	14 59 47.4	+1.4
AHB	**Akutan Harbor**	**0.94**	**247**	P	Pn	14 59 46.9	+0.6
HSB	**Akutan Spr's B**	**0.97**	**252**	P	Pn	14 59 47.0	+0.4
AKLV	**Akutan Long Va**	**1.00**	**252**	P	Pn	14 59 47.2	+0.4
AKGG	**Akutan Green G**	**1.01**	**254**	P	Pn	14 59 47.4	+0.6
ZRO	**Akutan Zero**	**1.04**	**248**	P	Pn	14 59 47.9	+0.8
DRIA	**Deer Island**	**1.30**	**68**	P	Pn	14 59 50.6	+0.9
DRIA				S	Sn	15 00 10.9	+1.2
DT1	**Dutton Round H**	**1.35**	**62**	P	Pn	14 59 50.9	+0.7
UNV	**Unalaska Valle**	**1.42**	**244**	P	Pn	14 59 51.8	+0.8
UNV				S	Sn	15 00 12.4	+0.5
MTBL	**Makushin Table**	**1.47**	**250**	P	Pn	14 59 52.6	+1.0
MSW	**Makushin Switc**	**1.54**	**249**	P	Pn	14 59 52.8	+0.4
MSW				S	Sn	15 00 15.3	+0.9
MREP	**Makushin Rep't**	**1.57**	**245**	P	Pn	14 59 53.6	+0.9
DOL	**Dolgoi Island**	**1.58**	**64**	P	Pn	14 59 53.9	+1.1
MCIR	**Makushin Cirqu**	**1.59**	**251**	P	Pn	14 59 54.1	+1.2
PS4A	**Pavlof South-4**	**1.67**	**58**	P	Pn	14 59 54.9	+1.1
SDPT	**Sand Point**	**2.39**	**67**	P	Pn	15 00 03.5	+1.1
SDPT				S	Sn	15 00 32.9	+0.5
OKER	**Okmok East Rim**	**2.42**	**246**	P	Pn	15 00 03.9	+0.9
NIKH	**Nikolski High**	**3.08**	**242**	P	Pn	15 00 12.6	+1.4
VNSS	**Veniaminof 8**	**3.29**	**56**	P	Pn	15 00 16.1	+1.9
CHGN	**Chignik**	**3.84**	**59**	P	Pn	15 00 22.8	+1.7
CHGN				S	Sn	15 01 06.5	+0.7

*MOS **11** 14:59:52.8±1.0, 62°.50N×151°.49W, h98km, mb4.1/9, Error ellipse: s-maj=15.2km s-min=7.6km az=92.7*

*ISCJB **11** 14:59:53.3±0.2, 62°.53N±0°.02×151°.34W±0°.04, h99km±1km, mb4.0/21, Error ellipse: s-maj=3.0km s-min=2.6km az=165.4*

*NEIC **11** 14:59:54.3±0.0, 62°.50N×151°.39W, h93km, MW4.2, ML4.1(AEIC), Moment Tensor Solution. s32 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.24; $M_{\theta\theta}$0.31; $M_{\phi\phi}$0.93; $M_{r\theta}$1.46; $M_{\theta\phi}$0.63; $M_{\phi r}$1.12; Best double couple: $M_0$2.20000×10^{15} NP1:ϕ_s228.00000°, δ73.00000°, λ-80.00000°. NP2:ϕ_s16.00000°, δ20.00000°, λ-120.00000°. Principal axes: T 2.2200, Plg27.0000°, Azm310.0000°; N 0.0400, Plg10.0000°, Azm45.0000°; P -2.2600, Plg61.0000°, Azm153.0000°; After AEIC.*

NEIC Felt at Willow.

*AEIC **11** 14:59:54.3, 62°.50N×151°.39W, h93km, ML4.1, MW4.2(USGS)*

*IDC **11** 14:59:55.1±0.8, 62°.66N×151°.41W, h99km±6km, mb3.7/13, mb1 3.9/16, mb1mx3.7/52, mbtmp4.0/16, MS2.9/3, Ms1 3.0/3, ms1mx2.6/29, Error ellipse: s-maj=19.3km s-min=11.9km az=23.0*

ISC 11 14:59:54.4±0.5**, 62°.51N**±0°.03×**151°.41W**±0°.03**, h97**km±4km**, h97**km**:pP-P, n212,** σ**1s.19**/249**, mb4.0**/21**, 7C-5D, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PPLA	**Purkeypile**	**0.53**	**317**	*e*Pn	**Pn**	**15 00 09.9**	**-0.3**
PPLA				*e*Sn	**Sn**	**15 00 21.2**	**-0.8**
HUR	**Hurricane**	**0.94**	**60**	P	**Pn**	**15 00 13.7**	**-0.2**
CAST	**Castle Rocks**	**0.96**	**342**	*e*Pn	**Pn**	**15 00 13.7**	**-0.5**
CAST				*e*Sn	**Sn**	**15 00 27.7**	**-1.3**
TRF	**Thorofare Moun**	**1.07**	**28**	*e*Pn	**Pn**	**15 00 15.4**	**-0.1**
TRF				*e*Sn	**Sn**	**15 00 32.0**	**+0.6**
SUA	**Susitna One**	**1.10**	**163**	*e*Pn	**Pn**	**15 00 15.3**	**-0.5**
SUA				*e*Sn	**Sn**	**15 00 31.3**	**-0.6**
SPNN	**North Nagishla**	**1.30**	**208**	P	**Pn**	**15 00 17.6**	**-0.6**
SPNN				S	**Sn**	**15 00 36.8**	**+0.6**
SPWE	**Spurr West**	**1.36**	**204**	P	**Pn**	**15 00 18.4**	**-0.4**
CKT	**Bend**	**1.37**	**196**	P	**Pn**	**15 00 18.3**	**-0.6**
GHO	**Glory Hole Cre**	**1.39**	**121**	*e*Pn	**Pn**	**15 00 19.1**	**0.0**
GHO				*e*Sn	**Sn**	**15 00 37.1**	**-0.7**
PMR	**Palmer**	**1.42**	**130**	*e*Pn	**Pn**	**15 00 18.5**	**-0.9**
PMR	**Palmer**	**1.42**	**130**	*e*P	**Pn**	**15 00 18.5**	**-0.9**
CHUM	**Lake Minchumin**	**1.43**	**344**	P	**Pn**	**15 00 19.4**	**-0.2**
CHUM				S	**Sn**	**15 00 38.2**	**-0.5**
RND	**Reindeer**	**1.47**	**51**	*e*Pn	**Pn**	**15 00 20.0**	**-0.2**
RND				*e*Sn	**Sn**	**15 00 39.5**	**-0.2**
RND	**Reindeer**	**1.47**	**51**	*e*P	**Pn**	**15 00 20.0**	**-0.2**
RND				*e*		15 00 39.5	
BPAW	**Bear Paw Mtn.**	**1.60**	**7**	*e*Pn	**Pn**	**15 00 21.3**	**-0.4**
BPAW				*e*Sn	**Sn**	**15 00 41.2**	**-1.3**
SML	**Sawmill**	**1.61**	**115**	*e*Pn	**Pn**	**15 00 21.3**	**-0.6**
SML	**Sawmill**	**1.61**	**115**	*e*P	**Pn**	**15 00 21.3**	**-0.6**
RC01	**Rabbit Creek A**	**1.64**	**150**	*e*Pn	**Pn**	**15 00 21.2**	**-0.9**
RC01				*e*Sn	**Sn**	**15 00 41.4**	**-1.8**
MCK	**McKinley**	**1.66**	**42**	*e*Pn	**Pn**	**15 00 22.7**	**+0.2**
MCK				*e*Sn	**Sn**	**15 00 42.0**	**-1.9**
MCK	**McKinley**	**1.66**	**42**	*e*P	**Pn**	**15 00 22.7**	**+0.2**
MCK				*e*		15 00 42.0	
NKA	**Nikishka**	**1.78**	**177**	P	**Pn**	**15 00 25.8**	**+1.8**
KNK	**Knik Glacier**	**1.78**	**127**	*e*Pn	**Pn**	**15 00 23.5**	**-0.6**
KNK				*e*Sn	**Sn**	**15 00 46.1**	**-0.5**
DHY	**Denali Highway**	**1.94**	**71**	*e*Pn	**Pn**	**15 00 25.9**	**-0.2**
DHY				*e*Sn	**Sn**	**15 00 47.1**	**-3.2**
RDT	**Redoubt**	**2.00**	**194**	P	**Pn**	**15 00 26.9**	**0.0**
PTE	**Portage**	**2.01**	**144**	P	**Pn**	**15 00 26.3**	**-0.6**
DFR	**Drift River**	**2.02**	**198**	P	**Pn**	**15 00 26.9**	**-0.3**
SCM	**Sheep Creek Mo**	**2.03**	**108**	*e*Pn	**Pn**	**15 00 26.5**	**-0.8**
SCM				*e*Sn	**Sn**	**15 00 52.5**	**+0.1**
SCM	**Sheep Creek Mo**	**2.03**	**108**	*e*P	**Pn**	**15 00 26.5**	**-0.8**
SCM				*e*		15 00 52.5	
SLKM	**Skilak Lake**	**2.09**	**164**	P	**Pn**	**15 00 27.4**	**-0.7**
SLKM	**Skilak Lake**	**2.09**	**164**	P	**Pn**	**15 00 27.4**	**-0.7**
RDN	**Redoubt North**	**2.11**	**198**	P	**Pn**	**15 00 28.2**	**-0.1**
RDWB	**Redoubt West**	**2.15**	**199**	P	**Pn**	**15 00 28.5**	**-0.3**
RSO	**Redoubt South**	**2.16**	**198**	*e*Pn	**Pn**	**15 00 29.1**	**+0.1**
TT01	**Tatalina**	**2.16**	**283**	P	**Pn**	**15 00 28.3**	**-0.6**
PWL	**Port Wells**	**2.21**	**137**	P	**Pn**	**15 00 28.5**	**-1.1**
NEA	**Nenana**	**2.32**	**26**	P	**Pn**	**15 00 30.2**	**-0.8**
SVW2	**Sparrevohn**	**2.44**	**236**	*e*Pn	**Pn**	**15 00 32.1**	**-0.4**
SVW2				*e*Sn	**Sn**	**15 00 55.6**	**-6.2**
WRH	**Wood River Hil**	**2.47**	**36**	*e*Pn	**Pn**	**15 00 32.5**	**-0.4**
MLY	**Manley**	**2.54**	**6**	*e*Pn	**Pn**	**15 00 33.5**	**-0.5**
SEW	**Seward**	**2.60**	**158**	*e*Pn	**Pn**	**15 00 34.2**	**-0.4**
SEW				*e*Sn	**Sn**	**15 01 00.7**	**-4.8**
ILW	**Iliamna West**	**2.60**	**199**	P	**Pn**	**15 00 35.1**	**+0.3**
IVE	**Iliamna Volcan**	**2.62**	**198**	P	**Pn**	**15 00 35.3**	**+0.2**
GLI	**Glacier Island**	**2.63**	**127**	*e*Pn	**Pn**	**15 00 33.7**	**-1.3**
GLI				*e*Sn	**Sn**	**15 01 04.9**	**-1.5**
ILS	**Iliamna Low So**	**2.69**	**198**	P	**Pn**	**15 00 36.4**	**+0.5**
JPK	**Jack Peak**	**2.71**	**120**	P	**Pn**	**15 00 34.9**	**-1.4**
PS10	**TAPS Pump St10**	**2.73**	**68**	P	**Pn**	**15 00 37.0**	**+0.5**
HDA	**Harding Lake**	**2.76**	**45**	*e*Pn	**Pn**	**15 00 36.6**	**-0.2**
HDA				*e*Sn	**Sn**	**15 01 06.6**	**-2.9**
HDA	**Harding Lake**	**2.76**	**45**	P	**Pn**	**15 00 36.6**	**-0.2**
	baz=228,SNR=204						
BRLK	**Bradley Lake**	**2.77**	**174**	*e*Pn	**Pn**	**15 00 38.2**	**+1.2**
BRLK				*e*Sn	**Sn**	**15 01 11.5**	**+1.7**
PAX	**Paxson**	**2.77**	**78**	*e*Pn	**Pn**	**15 00 37.4**	**+0.4**
PAX	**Paxson**	**2.77**	**78**	*e*P	**Pn**	**15 00 37.4**	**+0.4**
KLU	**Klutina**	**2.79**	**109**	*e*Pn	**Pn**	**15 00 35.9**	**-1.4**
KLU				*e*Sn	**Sn**	**15 01 07.4**	**-2.8**
PS11	**TAPS Pump St11**	**2.81**	**96**	P	**Pn**	**15 00 37.5**	**+0.1**
MDM	**Murphy Dome**	**2.83**	**29**	*e*Pn	**Pn**	**15 00 37.5**	**-0.3**
TCOL	**CIGO, UAF Yank**	**2.85**	**32**	P	**Pn**	**15 00 37.8**	**-0.1**
	baz=215,SNR=250						
COLA	**College**	**2.85**	**32**	*e*Pn	**Pn**	**15 00 37.9**	**0.0**
COLA	**College**	**2.85**	**32***d*	*i*P	**Pn**	**15 00 37.7**	**-0.2**
HOM	**Homer**	**2.87**	**182**	*e*Pn	**Pn**	**15 00 40.5**	**+2.3**
PS08	**TAPS Pump Stn8**	**2.89**	**43**	P	**Pn**	**15 00 38.4**	**-0.2**
HARP	**HAARP**	**2.91**	**89**	*e*Pn	**Pn**	**15 00 38.9**	**+0.1**
HARP				*e*Sn	Sn	15 01 02.6	-10
DIV	**Divide**	**3.02**	**115**	*e*Pn	**Pn**	**15 00 38.5**	**-1.8**
DIV				*e*Sn	**Sn**	**15 01 13.7**	**-1.9**
ILAR	**Eielson Array**	**3.03**	**40**	P	**Pn**	**15 00 40.0**	**-0.4**
	20nm,0.3s,baz=222,slow=14,SNR=1310						
ILB	**Eielson Array**	**3.03**	**40**	*e*Pn	**Pn**	**15 00 40.1**	**-0.3**
IL1	**Eielson Array**	**3.04**	**40**	*e*Pn	**Pn**	**15 00 39.5**	**-0.9**
PS12	**TAPS Pump St12**	**3.13**	**107**	P	**Pn**	**15 00 40.7**	**-1.1**
POKR	**Poker Plat Res**	**3.15**	**32**	P	**Pn**	**15 00 42.1**	**+0.1**
	baz=216,SNR=71						
HIN	**Hinchinbrook I**	**3.17**	**130**	P	**Pn**	**15 00 41.1**	**-1.3**
RIDG	**Independ'e Rid**	**3.23**	**65**	*e*Pn	**Pn**	**15 00 43.9**	**+0.8**
AUL	**Augustine Lava**	**3.29**	**198**	P	**Pn**	**15 00 44.7**	**+0.7**
GCSA	**Galena City Sc**	**3.31**	**315**	P	**Pn**	**15 00 44.3**	**+0.2**
EYAK	**Cordova Ski Ar**	**3.35**	**123**	*e*Pn	**Pn**	**15 00 43.3**	**-1.4**
PS06	**TAPS Pump Stn6**	**3.43**	**12**	P	**Pn**	**15 00 45.8**	**0.0**
DOT	**Dot Lake**	**3.53**	**68**	*e*Pn	**Pn**	**15 00 46.8**	**-0.3**
BMRM	**Bremner River**	**3.59**	**113**	*e*Pn	**Pn**	**15 00 46.4**	**-1.6**
SGAM	**Sherman Glacie**	**3.59**	**121**	P	**Pn**	**15 00 46.5**	**-1.5**
IM3	**Indian Mountai**	**3.63**	**345**	*e*Pn	**Pn**	**15 00 48.3**	**-0.1**
SCRK	**Sand Creek**	**3.67**	**63**	*e*Pn	**Pn**	**15 00 49.1**	**0.0**
PRP	**Porcupine Dome**	**3.98**	**38**	P	**Pn**	**15 00 53.1**	**-0.1**
HMT	**Hamilton**	**4.07**	**119**	*e*Pn	**Pn**	**15 00 53.3**	**-1.1**
NICHA	**Nichawak Mount**	**4.25**	**119**	P	**Pn**	**15 00 56.0**	**-0.9**
PS05	**TAPS Pump Stn5**	**4.33**	**4**	P	**Pn**	**15 00 58.5**	**+0.6**
KHIT	**Khitrov Hills**	**4.43**	**114**	P	**Pn**	**15 00 58.1**	**-1.2**
BCA3	**Beaver Creek A**	**4.46**	**79**	P	**Pn**	**15 00 58.9**	**-0.8**
KABU	**Katmai Buttres**	**4.67**	**206**	P	**Pn**	**15 01 03.1**	**+0.5**
KULT	**Kultieth River**	**4.76**	**115**	P	**Pn**	**15 01 03.0**	**-0.8**
COLD	**Coldfoot**	**4.76**	**6**	*e*Pn	**Pn**	**15 01 04.8**	**+1.1**
KDAK	**Kodiak Island**	**4.78**	**188**	P	**Pn**	**15 01 02.1**	**-1.9**
	2.0nm,0.3s,baz=46,slow=13,SNR=64						
KDAK				S	**Sn**	**15 01 55.0**	**-3.1**
	4.8nm,0.3s,baz=11,slow=6.2,SNR=4.0						
KDAK				LR	LR	15 03 30.5	
	comp=Z,90nm,18.8s,baz=328,slow=44						
KDAK	**Kodiak Island**	**4.78**	**188**	P	**Pn**	**15 01 02.3**	**-1.7**
FYU	**Fort Yukon**	**4.86**	**31**	*e*Pn	**Pn**	**15 01 05.7**	**+0.7**
CAHL	**Cahill**	**4.88**	**205**	P	**Pn**	**15 01 05.8**	**+0.5**
MESA	**MESA**	**5.12**	**113**	P	**Pn**	**15 01 07.9**	**-0.9**
RKAV	**Rock Avalanche**	**5.32**	**110**	P	**Pn**	**15 01 11.0**	**-0.5**
CHX	**Chaix Hills**	**5.54**	**112**	P	**Pn**	**15 01 13.7**	**-0.7**
DAWY	**Dawson**	**5.64**	**69**	*e*Pn	**Pn**	**15 01 14.9**	**-0.8**
SAMH	**Samovar Hills**	**5.65**	**110**	P	**Pn**	**15 01 15.8**	**-0.1**
BM3	**Burnt Mountain**	**5.71**	**27**	P	**Pn**	**15 01 16.7**	**+0.1**
BCPM	**Bancas Point**	**6.24**	**109**	P	**Pn**	**15 01 22.8**	**-1.0**
PNL	**Peninsula**	**6.49**	**111**	P	**Pn**	**15 01 26.7**	**-0.4**
ANM	**Nome**	**6.57**	**294**	*e*Pn	**Pn**	**15 01 28.6**	**+0.4**
ANM	**Nome**	**6.57**	**294**	*e*P	**Pn**	**15 01 28.6**	**+0.4**
HYT	**Haines Junctio**	**6.83**	**98**	*e*Pn	**Pn**	**15 01 31.6**	**-0.4**
DHAK	**Deception Hill**	**7.31**	**112**	P	**Pn**	**15 01 36.6**	**-1.7**
EPYK	**Eagle Plains**	**7.43**	**52**	P	**Pn**	**15 01 39.3**	**-0.7**
	baz=245						
WHY	**Whitehorse**	**8.10**	**96**	*e*Pn	**Pn**	**15 01 47.7**	**-1.5**
SKAG	**Skagway**	**8.39**	**104**	*e*Pn	**Pn**	**15 01 51.7**	**-1.3**
GAMB	**Gambell**	**9.26**	**287**	*e*Pn	**Pn**	**15 02 05.3**	**+0.6**
INK	**Inuvik**	**9.42**	**44**	P	**Pn**	**15 02 07.6**	**+0.7**
	0.4nm,0.3s,baz=240,slow=15,SNR=9.8						
INK				LR	LR	15 05 36.6	
	comp=Z,61nm,20.0s,baz=82,slow=37						
INK	**Inuvik**	**9.42**	**44**	*e*Pn	**Pn**	**15 02 08.2**	**+1.2**
INK	**Inuvik**	**9.42**	**44**	*e*P	**Pn**	**15 02 08.2**	**+1.2**
DLBC	**Dease Lake**	**11.29**	**102**	P	**Pn**	**15 02 30.6**	**-1.9**
	0.3nm,0.3s,baz=309,slow=18,SNR=3.6						
YKA	**Yellowknife Ar**	**16.85**	**74**	P	**Pn**	**15 03 42.7**	**-1.2**
	0.3nm,0.3s,baz=282,slow=10,SNR=15						
YKA				PcP	**PcP**	**15 08 24.9**	**-0.3**
	0.2nm,0.3s,baz=286,slow=1.3,SNR=11						
YKA				ScP	**ScP**	**15 11 50.9**	**+0.3**
	0.0nm,0.3s,baz=293,slow=2.0,SNR=8.9						
BILL	**Bilibino**	**18.22**	**306**⇓	*i*P	**P**	**15 03 57.4**	**-2.1**
BILL				*e*S	S	15 07 09.6	-13
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
RES	**Resolute Bay**	**22.77**	**35**	P	**P**	**15 04 47.8**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=253,slow=14,SNR=6.2						
SEY	**Seymchan**	**25.07**	**296**	P	**P**	**15 05 09.2**	**-0.1**
	comp=Z,4.3nm,0.7s,baz=82,slow=8.3,SNR=19						
SEY	**Seymchan**	**25.07**	**296**⇑	*i*P	**P**	**15 05 10.9**	**+1.6**
K02D	**Willamette Mer**	**25.68**	**128**	P	**P**	**15 05 17.5**	**+2.4**
	baz=330						
J05D	**Fort Rock, OR**	**26.09**	**123**	P	**P**	**15 05 20.8**	**+2.0**
	baz=328						
MSO	**Missoula**	**26.25**	**109**	P	**P**	**15 05 20.6**	**+0.4**
	baz=320						
N02D	**Trinity Center**	**27.53**	**128**	P	**P**	**15 05 34.4**	**+2.7**
	baz=331						
HLID	**Hailey**	**28.64**	**114**	P	**P**	**15 05 42.4**	**+0.8**
	baz=324						
RLMT	**Red Lodge**	**29.64**	**106**	P	**P**	**15 05 52.7**	**+2.2**
	baz=321						
TIXI	**Tiksi**	**29.95**	**321**⇑	*e*P	**P**	**15 05 53.5**	**+0.8**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.3s						
BW06	**Boulder Array**	**31.37**	**109**	P	**P**	**15 06 07.0**	**+1.2**
	baz=324						
PDAR	**Pinedale Array**	**31.37**	**109**	P	**P**	**15 06 07.2**	**+1.3**
	comp=Z,1.5nm,0.8s,baz=316,slow=6.2,SNR=10						
PDAR				PcP	**PcP**	**15 08 56.7**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=196,slow=0.8,SNR=5.4						
PDAR				LR	LR	15 19 59.9	
	comp=Z,45nm,19.5s,baz=62,slow=38						
PDAR	**Pinedale Array**	**31.37**	**109**	*e*P	**P**	**15 06 07.0**	**+1.2**
NVAR	**Mina Array Bea**	**31.40**	**125**	P	**P**	**15 06 06.9**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=316,slow=7.9,SNR=7.3						
NVAR				PcP	**PcP**	**15 08 57.4**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=323,slow=2.2,SNR=4.2						
DUG	**Dugway, Tooele**	**32.09**	**116**	P	**P**	**15 06 13.3**	**+1.3**
	baz=327						
R11A	**Troy Canyon, C**	**32.53**	**121**	P	**P**	**15 06 17.5**	**+1.6**
	baz=330						
RSSD	**Black Hills**	**32.77**	**102**	P	**P**	**15 06 19.1**	**+1.1**
	baz=321						
K22A	**Casper**	**32.80**	**106**	P	**P**	**15 06 19.3**	**+1.0**
	baz=323						
MPMC	**Manual Prospec**	**33.79**	**126**	P	**P**	**15 06 28.8**	**+1.8**
	baz=332						
PKM	**Mcpherson Peak**	**33.98**	**130**	P	**P**	**15 06 31.1**	**+2.6**
	baz=334						
O20A	**White River Ci**	**34.09**	**111**	P	**P**	**15 06 30.4**	**+0.9**
	baz=326						
ECSD	**EROS Data Cent**	**36.47**	**95**	P	**P**	**15 06 49.8**	**+0.1**
	baz=320,SNR=5.4						
F38A	**Pierce - Schro**	**36.98**	**88**	P	**P**	**15 06 54.3**	**+0.3**
	baz=318						
H39A	**Augusta**	**38.22**	**89**	P	**P**	**15 07 04.6**	**+0.2**
	baz=320						
G40A	**Rib Lake**	**38.28**	**87**	P	**P**	**15 07 05.2**	**+0.3**
	baz=319						
H40A	**Chili**	**38.68**	**88**	P	**P**	**15 07 08.9**	**+0.6**
	baz=320						
ANMO	**Albuquerque**	**39.21**	**113**⇑	*e*P	**P**	**15 07 12.4**	**-0.6**
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.1s						
K39A	**Oelwein**	**39.46**	**92**	P	**P**	**15 07 14.9**	**+0.1**
	baz=321						
L39A	**Vinton**	**39.86**	**92**	P	**P**	**15 07 18.0**	**-0.1**
	baz=322						
KSU1	**Kansas State U**	**40.13**	**99**	P	**P**	**15 07 20.7**	**+0.3**
	baz=324						
L40A	**Anamosa**	**40.27**	**92**	P	**P**	**15 07 21.6**	**+0.2**
	baz=322						
K41A	**Shullsburg**	**40.27**	**90**	P	**P**	**15 07 21.5**	**0.0**
	baz=321						
M39A	**Webster**	**40.29**	**93**	P	**P**	**15 07 21.9**	**+0.2**
	baz=322						
MSTX	**Muleshoe**	**41.63**	**110**	P	**P**	**15 07 33.9**	**+1.1**
	baz=328,SNR=5.1						
D52A	**ZEK Kipawa Sen**	**42.40**	**76**	P	**P**	**15 07 38.4**	**-0.4**
	baz=319						
MNTX	**Cornudas Mount**	**42.46**	**115**	P	**P**	**15 07 40.3**	**+0.8**

	baz=330						
D53A	**Lac Vacive, Po**	**42.64**	**76**	P	**P**	**15 07 40.7**	**-0.1**
	baz=319						
WMOK	**Wichita Mounta**	**42.74**	**105**	*e*P	**P**	**15 07 42.0**	**+0.2**
WMOK	**Wichita Mounta**	**42.74**	**105**	*e*P	**P**	**15 07 42.0**	**+0.2**
WMOK	**Wichita Mounta**	**42.74**	**105**	P	**P**	**15 07 42.3**	**+0.5**
	baz=327,SNR=6.1						
E53A	**Dumoine, Ponti**	**43.19**	**76**	P	**P**	**15 07 44.9**	**-0.3**
	baz=320						
E54A	**Lac Daplat, Po**	**43.36**	**76**	P	**P**	**15 07 46.4**	**-0.2**
	baz=320						
Q43A	**New Douglas**	**43.45**	**93**	P	**P**	**15 07 47.2**	**-0.2**
	baz=324						
S41A	**Jillco Farms,**	**43.60**	**96**	P	**P**	**15 07 48.0**	**-0.6**
	baz=325,SNR=5.8						
N47A	**Urbana**	**43.76**	**88**	P	**P**	**15 07 49.3**	**-0.5**
	baz=322						
S42A	**Caledonia**	**43.89**	**95**	P	**P**	**15 07 49.8**	**-1.1**
	baz=324						
T41A	**Mountain View**	**44.03**	**97**	P	**P**	**15 07 51.3**	**-0.8**
	baz=325						
O47A	**Sheridan**	**44.05**	**89**	P	**P**	**15 07 51.3**	**-0.9**
	baz=323						
N48A	**Decatur**	**44.09**	**87**	P	**P**	**15 07 52.2**	**-0.3**
	baz=322						
U40A	**Yellville**	**44.09**	**98**	P	**P**	**15 07 51.9**	**-0.7**
	baz=325						
T42A	**Van Buren**	**44.35**	**96**	P	**P**	**15 07 53.7**	**-0.9**
	baz=325						
S43A	**Fulton Ridge,**	**44.38**	**95**	P	**P**	**15 07 54.6**	**-0.3**
	baz=324						
O48A	**Farmland**	**44.51**	**88**	P	**P**	**15 07 55.2**	**-0.6**
	baz=323						
V41A	**Mountainview**	**44.88**	**98**	P	**P**	**15 07 57.7**	**-1.1**
	baz=326						
TX31	**Lajitas Ar. Si**	**45.23**	**114**	*e*P	**P**	**15 08 03.2**	**+1.4**
TXAR	**Lajitas Array**	**45.24**	**114**	P	**P**	**15 08 03.3**	**+1.5**
	comp=Z,3.2nm,0.7s,baz=327,slow=6.0,SNR=34						
P50A	**Jamestown**	**45.65**	**87**	P	**P**	**15 08 04.5**	**-0.4**
	baz=323						
JCT	**Junction City**	**45.91**	**110**	P	**P**	**15 08 07.9**	**+0.9**
	baz=330						
O52A	**Adamsville**	**46.16**	**85**	P	**P**	**15 08 08.9**	**+0.1**
	baz=323						
S48A	**Wiedeman Farm,**	**46.17**	**91**	P	**P**	**15 08 08.9**	**-0.1**
	baz=324						
Q51A	**Peebles**	**46.33**	**87**	P	**P**	**15 08 09.7**	**-0.5**
	baz=324						
T48A	**Bowling Green**	**46.46**	**92**	P	**P**	**15 08 11.2**	**-0.1**
	baz=325						
O54A	**Avella**	**46.78**	**84**	P	**P**	**15 08 13.6**	**-0.1**
	baz=323						
U48A	**Cassie Pea, Po**	**46.88**	**92**	P	**P**	**15 08 14.8**	**+0.3**
	baz=325						
S50A	**Richmond**	**46.92**	**89**	P	**P**	**15 08 15.2**	**+0.3**
	baz=324						
N55A	**Marion Center**	**46.94**	**82**	P	**P**	**15 08 15.2**	**+0.3**
	baz=323						
V47A	**Nunnelly**	**46.99**	**94**	P	**P**	**15 08 15.5**	**+0.2**
	baz=325						
OXF	**Oxford**	**47.20**	**96**	P	**P**	**15 08 17.4**	**+0.4**
	baz=326,SNR=6.2						
U49A	**Red Boiling Sp**	**47.23**	**92**	P	**P**	**15 08 17.3**	**+0.1**
	baz=325						
T50A	**Nancy**	**47.26**	**90**	P	**P**	**15 08 17.7**	**+0.2**
	baz=325						
X46A	**Booneville**	**47.54**	**96**	P	**P**	**15 08 20.1**	**+0.4**
	baz=326,SNR=6.0						
Y45A	**Yeager Farm, C**	**47.67**	**97**	P	**P**	**15 08 21.4**	**+0.7**
	baz=326						
Y46A	**Houston**	**47.97**	**96**	P	**P**	**15 08 24.0**	**+1.0**
	baz=326,SNR=6.4						
ARCES	**ARCESS Array B**	**48.22**	**1**	P	**P**	**15 08 24.1**	**-0.4**
	comp=Z,3.2nm,0.9s,baz=21,slow=7.7,SNR=3.6						
V50A	**Pikevile**	**48.24**	**92**	P	**P**	**15 08 24.9**	**-0.1**
	baz=325						
Y47A	**UCPARC, Winfie**	**48.42**	**95**	P	**P**	**15 08 26.6**	**+0.1**
	baz=326						
KSRS	**Korea Array**	**53.39**	**282**	P	**P**	**15 09 04.1**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=31,slow=7.4,SNR=4.8						
KSAR	**Wonju Array Be**	**53.42**	**282**	P	**P**	**15 09 04.1**	**+0.2**
KSAR	**Wonju Array Be**	**53.42**	**282**	P	**P**	**15 09 04.1**	**+0.2**
ULN	**Ulaanbaatar**	**53.67**	**305**	⇑*e*P	**P**	**15 09 07.1**	**+1.4**
ULN				*i* *PP	**pP**	**15 09 30.2**	**+0.6**
ULN				pmax	pmax		
	comp=Z,1.0nm,1.1s						
SONM	**Songino Array**	**53.94**	**305**	P	**P**	**15 09 08.2**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=38,slow=12,SNR=3.8						
SONM				pP	**pP**	**15 09 33.0**	**+1.4**
	comp=Z,2.1nm,0.8s,baz=39,slow=7.3,SNR=7.9						
ZALV	**Zalesovo Beam**	**55.80**	**324**	P	**P**	**15 09 20.3**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=23,slow=7.0,SNR=5.7						
FINES	**FINESS Array B**	**56.35**	**1**	P	**P**	**15 09 24.2**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=354,slow=9.6,SNR=6.1						
DGZ	**Jazzator, Alta**	**58.81**	**319**	⇓*e*P	**P**	**15 09 42.9**	**+0.6**
DGZ				*i* *PP	**pP**	**15 10 06.8**	**+0.2**
DGZ				pmax	pmax		
	comp=Z,2.0nm,1.9s						
ARU	**Arti**	**59.12**	**341**	*e*P	**P**	**15 09 43.7**	**-0.3**
ARU				S	**S**	**15 17 45.0**	**+1.8**
ARU				SS	**SS**	**15 21 34.5**	**-3.2**
KURK	**Kurchatov**	**60.37**	**326**	⇑*i*P	**P**	**15 09 51.9**	**-0.8**
KURK				*i* *PP	**pP**	**15 10 18.2**	**+1.0**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
OBN	**Obninsk**	**62.54**	**355**	⇓*e*P	**P**	**15 10 07.5**	**+0.3**
OBN				*e**PP	**pP**	**15 10 31.7**	**-0.5**
OBN				*e*		15 12 29.4	
OBN				*e*S	**S**	**15 18 20.7**	**-6.0**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MK31	**Makanchi Array**	**62.94**	**322**	*e*P	**P**	**15 10 09.3**	**-0.8**
MK31	**Makanchi Array**	**62.94**	**322**	*e*P	**P**	**15 10 09.3**	**-0.8**
MKAR	**Makanchi Array**	**62.94**	**322**	P	**P**	**15 10 09.1**	**-1.0**
	comp=Z,1.4nm,0.5s,baz=42,slow=6.5,SNR=26						
MKAR				pP	**pP**	**15 10 33.7**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=51,slow=6.7,SNR=3.5						
MKAR	**Makanchi Array**	**62.94**	**322**	*e*P	**P**	**15 10 09.3**	**-0.8**
MK01	**Makanchi Array**	**62.96**	**322**	*e*P	**P**	**15 10 09.1**	**-1.1**
GTA	**Gaotai**	**63.61**	**305**	P	**P**	**15 10 14.7**	**0.0**
GTA				pP	pP	15 10 39.6	+0.2
GTA				sP	PcP	15 10 49.5	-0.8
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
WMQ	**Urumqi**	**63.97**	**316**	*e*P	**P**	**15 10 20.1**	**+3.1**
VSR	**Storozhevoye**	**66.31**	**353**	⇑*i*P	**P**	**15 10 31.8**	**0.0**
VSR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AKASG	**Malin Array Be**	**67.13**	**360**	P	**P**	**15 10 36.2**	**-0.9**
	comp=Z,2.1nm,0.5s,baz=2.3,slow=6.3,SNR=13						
AKASG				pP	**pP**	**15 11 00.8**	**-1.4**
	comp=Z,3.8nm,0.6s,baz=1.9,slow=6.3,SNR=5.8						
AAK	**Ala-Archa**	**68.92**	**325**	⇓*e*P	**P**	**15 10 49.1**	**+0.5**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.7s						
CMAR	**Chiang Mai Arr**	**82.49**	**296**	P	**P**	**15 12 07.3**	**+1.2**
	comp=Z,1.4nm,1.0s,baz=5.4,slow=6.4,SNR=8.2						
CMAR				pP	**pP**	**15 12 31.0**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=15,slow=6.1,SNR=2.8						
CMAR	**Chiang Mai Arr**	**82.49**	**296**	*ce*P	**P**	**15 12 07.8**	**+1.7**
CMAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRA	**Warramunga Arr**	**100.48**	**247**	*i* P	**Pdif**	**15 13 30.4**	**0.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						

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*KRNET **11** 15:04:11.9±0.1, 40°.44N×73°.47E, h14km, mb3.0*
*SOME **11** 15:04:12.7, 40°.48N×73°.47E, h5km*
*NNC **11** 15:04:13.2±0.7, 40°.27N×73°.87E, h0km±7km, mb3.6, mpv3.3, Error ellipse: s-maj=15.6km s-min=5.2km az=142.0*
ISC 11 15:04:09.2±1.4**, 40°.30N**±0°.04×**73°.64E**±0°.03**, h8**km±12km**,**
n52, σ**1s.45**/84**, 26C-11D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.31**	**200**	⇓P	**Pn**	**15 04 20.3**	**-0.1**
	16nm,0.1s						
SFK				⇓S	**Sn**	**15 04 26.1**	**+6.6**
	116nm,0.2s						
SFK	**Sufi-Kurgan**	**0.31**	**200**	Pg	**Pn**	**15 04 20.6**	**+0.3**
	58nm,0.1s						
SFK				Lg	Lg	15 04 26.2	
	273nm,0.2s						
SFK	**Sufi-Kurgan**	**0.31**	**200**	⇑*i*P	**Pn**	**15 04 20.2**	**-0.1**
	baz=77						
SFK				⇑*i*S	**Sn**	**15 04 26.1**	**+6.6**
	baz=77						
ARSB	**Arslanbob**	**1.14**	**334**	⇑*i*P	**Pb**	**15 04 30.2**	**-1.0**
	baz=37						
ARSB				⇑*i*S	**Sb**	**15 04 44.0**	**-2.2**
	baz=37						
ARLS	**Aral**	**1.64**	**18**	⇑*i*P	**Pg**	**15 04 41.0**	**+0.3**
	baz=24						
ARLS				⇑*i*S	**Sg**	**15 05 02.0**	**0.0**
	baz=24						
AML	**Almayashu**	**1.83**	**1**	P	**Pg**	**15 04 43.9**	**-0.4**
	SNR=88						
AML	**Almayashu**	**1.83**	**1**	⇑*i*P	**Pg**	**15 04 43.7**	**-0.6**
	baz=6.0						
AML				⇑*i*S	**Sb**	**15 05 06.8**	**+0.5**
	baz=6.0						
ARK	**Arkit**	**1.96**	**320**	⇓*e*P	**Pb**	**15 04 44.5**	**-0.7**
	baz=20						
ARK				⇓*i*S	**Sn**	**15 05 08.3**	**+0.6**
	baz=20						
UCH	**Uchtor**	**2.03**	**19**	P	**Pg**	**15 04 48.2**	**0.0**
	SNR=27						
UCH	**Uchtor**	**2.03**	**19**	⇑*i*P	**Pg**	**15 04 48.0**	**-0.2**
	baz=23						
UCH				⇑*i*S	**Sg**	**15 05 14.8**	**+0.2**
	baz=23						
KZA	**Kyzart**	**2.15**	**34**	P	**Pg**	**15 04 50.8**	**+0.4**
	SNR=11						
KZA	**Kyzart**	**2.15**	**34**	⇑*i*P	**Pg**	**15 04 50.7**	**+0.2**
	baz=39						
KZA				⇑*i*S	**Sg**	**15 05 18.8**	**+0.5**
	baz=39						
BTK	**Batken**	**2.17**	**264**	⇑*i*P	**Pb**	**15 04 49.6**	**+0.7**
	baz=60						
BTK				⇑*i*S	**Sb**	**15 05 17.0**	**+1.0**
	baz=60						
EKS2	**Erkin-Say**	**2.36**	**2**	P	**Pg**	**15 04 53.6**	**-0.8**
	SNR=14						
EKS2	**Erkin-Say**	**2.36**	**2**	⇑*i*P	**Pb**	**15 04 51.9**	**-0.2**
	baz=6.0						
EKS2				⇑*i*S	**Sb**	**15 05 21.3**	**-0.1**
	baz=6.0						
AAK	**Ala-Archa**	**2.42**	**15**	P	**Pb**	**15 04 53.8**	**+0.7**
	SNR=34						
AAK	**Ala-Archa**	**2.42**	**15**	Pn	**Pb**	**15 04 53.8**	**+0.7**
	14nm,0.4s						
AAK				Sn	**Sb**	**15 05 24.5**	**+1.4**
	36nm,0.7s						
AAK	**Ala-Archa**	**2.42**	**15**	⇓*i*P	**Pb**	**15 04 53.3**	**+0.2**
	baz=19						
AAK				⇓*i*S	**Sb**	**15 05 23.6**	**+0.4**
	baz=19						
MRKS	**Merke**	**2.46**	**353**	⇓*i*P	**Pb**	**15 04 53.0**	**-0.8**
	26nm,0.4s						
MRKS				*e*S	**Sb**	**15 05 23.0**	**-1.2**
	44nm,0.3s						
KBK	**Karagaybulak**	**2.55**	**22**	P	**Pg**	**15 04 56.6**	**-1.5**
	SNR=22						
KBK	**Karagaybulak**	**2.55**	**22**	⇑*e*P	**Pb**	**15 04 55.6**	**+0.3**
	baz=26						
KBK				⇑*i*S	**Sb**	**15 05 27.4**	**+0.5**
	baz=26						
ULHL	**Ulahol**	**2.76**	**44**	P	**Pg**	**15 05 03.5**	**+1.4**
	SNR=6.7						
ULHL	**Ulahol**	**2.76**	**44**	⇑*i*P	**Pb**	**15 04 59.5**	**+0.6**
	baz=48						
ULHL				⇑*i*S	**Sb**	**15 05 34.0**	**+1.0**
	baz=48						
BOOM	**Boomskoye usch**	**2.79**	**38**	⇓*i*P	**Pb**	**15 04 59.4**	**0.0**
	baz=41						
BOOM				⇓*i*S	**Sb**	**15 05 33.9**	**+0.1**
	baz=41						
CHMS	**Chumysh**	**2.82**	**17**	⇑*i*P	**Pb**	**15 04 59.0**	**-0.9**
	baz=20						
CHMS				⇑*i*S	**Sb**	**15 05 33.2**	**-1.3**
	baz=20						
TKM2	**Tokmak 2**	**3.00**	**29**	P	**Pg**	**15 05 07.0**	**+0.3**
	SNR=7.2						
TKM2	**Tokmak 2**	**3.00**	**29**	⇑Pn	**Pb**	**15 05 03.8**	**+0.8**
	4.2nm,0.4s						
TKM2				⇑Sn	**Sb**	**15 05 41.6**	**+1.7**
	16nm,0.8s						
KDJ	**Kajisay**	**3.23**	**55**	⇓*i*P	**Pb**	**15 05 06.1**	**-0.9**
	baz=58						
KDJ				⇓*i*S	**Sb**	**15 05 46.2**	**-0.5**
	baz=58						
KST	**Kastek**	**3.24**	**32**	Pg	**Pg**	**15 05 12.5**	**+1.1**
	6.3nm,0.5s						
KST				Lg	Lg	15 05 54.2	
	18nm,0.5s						
KST	**Kastek**	**3.24**	**32**	*e*P	**Pg**	**15 05 11.6**	**+0.2**
	6.3nm,0.5s						
KST				*e*S	**Sg**	**15 05 53.5**	**+0.1**
	18nm,0.5s						
IUG	**Iuzhnay**	**3.29**	**305**	*e*P	**Pb**	**15 05 08.9**	**+1.1**
	11nm,0.3s						
IUG				*e*S	**Sb**	**15 05 49.5**	**+1.4**
	49nm,0.4s						
MTBS	**Maitube**	**3.51**	**36**	*e*P	**Pg**	**15 05 15.9**	**-0.6**
	4.1nm,0.3s						
MTBS				*e*S	**Sg**	**15 06 01.6**	**-0.4**
	14nm,0.3s						
IZV	**Izvestkoviy**	**3.52**	**38**	Pg	**Pg**	**15 05 17.8**	**+1.0**
	3.8nm,0.4s						
IZV				Lg	Lg	15 06 03.6	
	28nm,0.8s						
IZV	**Izvestkoviy**	**3.52**	**38**	*e*P	**Pg**	**15 05 17.8**	**+1.0**
	3.8nm,0.4s						
IZV				*e*S	**Sg**	**15 06 03.6**	**+1.2**
	28nm,0.8s						
KK31	**Karatay Array**	**3.65**	**321**	Pn	**Pb**	**15 05 14.3**	**+0.4**
	0.7nm,0.2s,baz=140,slow=15,SNR=16						
KK31				⇑S	**Sb**	**15 05 59.2**	**+0.9**
	3.5nm,0.3s,baz=135,slow=29,SNR=8.1						
TNSS	**Tian-Shan**	**3.69**	**41**	Pg	**Pg**	**15 05 21.6**	**+1.7**
	6.4nm,0.2s						
TNSS	**Tian-Shan**	**3.69**	**41**	*e*P	**Pg**	**15 05 20.1**	**+0.2**
	6.4nm,0.2s						
TNSS				*e*S	**Sg**	**15 06 08.1**	**+0.4**
	21nm,0.8s						
MDOK	**Medeo**	**3.83**	**41**	Pg	**Pg**	**15 05 23.1**	**+0.5**
	2.3nm,0.4s						
MDOK				Lg	Lg	15 06 12.4	
	11nm,0.4s						
MDOK	**Medeo**	**3.83**	**41**	*e*P	**Pg**	**15 05 23.1**	**+0.5**
	2.3nm,0.4s						
MDOK				*e*S	**Sg**	**15 06 12.4**	**+0.2**
	11nm,0.4s						
KOTS	**Kotyrbulak**	**3.91**	**40**	Pg	**Pg**	**15 05 24.4**	**+0.2**
	3.2nm,0.4s						
KOTS	**Kotyrbulak**	**3.91**	**40**	*e*P	**Pg**	**15 05 24.4**	**+0.2**
	3.2nm,0.4s						
KOTS				*e*S	**Sg**	**15 06 15.5**	**+0.6**
	24nm,0.5s						
KTBS	**Karatobe**	**4.09**	**33**	Lg	Lg	15 06 19.9	
	18nm,0.8s						
KTBS	**Karatobe**	**4.09**	**33**	*e*P	**Pg**	**15 05 27.3**	**-0.3**
	1.5nm,0.3s						
KTBS				*e*S	**Sg**	**15 06 19.9**	**-0.7**
	18nm,0.8s						
KUU	**Kurty**	**4.11**	**28**	*e*P	**Pg**	**15 05 26.7**	**-1.3**
	3.0nm,0.4s						
KUU				*e*S	**Sg**	**15 06 19.5**	**-1.7**
	14nm,0.6s						
CHKK	**Chushkaly**	**4.34**	**34**	Lg	Lg	15 06 27.8	
	7.5nm,0.3s						
CHKK	**Chushkaly**	**4.34**	**34**	*e*P	**Pg**	**15 05 31.7**	**-0.5**
	1.4nm,0.4s						
CHKK				*e*S	**Sg**	**15 06 27.8**	**-0.7**
	7.5nm,0.3s						
SATY	**Saty**	**4.51**	**51**	*e*P	**Pg**	**15 05 36.2**	**+0.7**
	4.2nm,0.3s						
SATY				⇑*i*S	**Sg**	**15 06 35.4**	**+1.5**
	18nm,0.5s						
BTLS	**Baital**	**4.74**	**3**	*e*P	**Pb**	**15 05 34.5**	**+1.8**
	3.5nm,0.5s						
BTLS				*e*S	**Sb**	**15 06 32.5**	**+2.7**
	6.4nm,0.7s						
MNBS	**Baschi**	**5.17**	**42**	Pg	**Pg**	**15 05 50.0**	**+1.7**
	0.8nm,0.6s						
MNBS	**Baschi**	**5.17**	**42**	*e*P	**Pg**	**15 05 46.5**	**-1.8**
	0.8nm,0.6s						
MNBS				*e*S	**Sg**	**15 06 53.2**	**-2.0**
	8.3nm,0.4s						
KTMS	**Ketmen**	**5.91**	**56**	Pg	**Pg**	**15 06 00.8**	**-1.6**
KTMS	**Ketmen**	**5.91**	**56**	*e*P	**Pg**	**15 06 00.8**	**-1.6**
	0.3nm,0.1s						
KTMS				*e*S	**Sg**	**15 07 17.1**	**-2.0**
	2.9nm,0.4s						

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*SOF **11** 15:07:26.8, 39°.45N×25°.98E, h2km*
*BEO **11** 15:07:27.1±0.8, 39°.52N×26°.10E, h5km, ML3.8/12*
*ISCJB **11** 15:07:30.8±0.4, 39°.70N±0°.01×25°.57E±0°.02, h7km±3km, mb3.6/5, MS2.8/1, Error ellipse: s-maj=2.2km s-min=2.0km az=34.0*
*ISK **11** 15:07:30.9, 39°.69N×25°.60E, h10km, ML4.0/34*
*ATH **11** 15:07:31.4, 39°.70N×25°.59E, h30km, ML3.7/7, Error ellipse: s-maj=1.0km s-min=0.7km az=69.0*
*DDA **11** 15:07:31.1, 39°.68N×25°.63E, h22km, ML3.9*
*IDC **11** 15:07:32.9±1.4, 39°.09N×25°.94E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.4/39, mbtmp3.7/6, ML3.7/1, MS3.1/2, Ms1 3.1/2, ms1mx2.5/31, Error ellipse: s-maj=61.6km s-min=21.4km az=150.0*
*THE **11** 15:07:32.0, 39°.70N×25°.62E, h12km, ML3.7/9, Error ellipse: s-maj=1.0km s-min=0.4km az=77.0*
ISC 11 15:07:32.0±1.0**, 39°.70N**±0°.02×**25°.60E**±0°.02**, h6**km±8km**,**
n211, σ**1s.07**/247**, mb3.6**/5**, 8C-13D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.38**	**67**	PG	**Pg**	**15 07 39.2**	**-0.1**
BOZC				SG	**Sg**	**15 07 44.2**	**0.0**
BOZC	**Bozcaada**	**0.38**	**67**	IAML_P			
	comp=Z,45μm,0.1s						
BOZC				*i* S	**Sg**	**15 07 44.5**	**+0.3**
LIA	**Limnos Island**	**0.38**	**302**	P	**Pg**	**15 07 40.2**	**+0.8**
LIA				S	**Sg**	**15 07 45.6**	**+1.2**
LIA				AML	AML	15 07 45.8	
	comp=N,28221μm,0.3s						
LIA				AML	AML	15 07 46.2	
	comp=E,39457μm,0.4s						
LIA	**Limnos Island**	**0.38**	**302**	P	**Pg**	**15 07 40.1**	**+0.8**
LIA				S	**Sg**	**15 07 45.6**	**+1.2**
GPNR	**Gulpinar-Canak**	**0.47**	**120**	PG	**Pg**	**15 07 40.7**	**-0.4**
GPNR				SG	**Sg**	**15 07 47.1**	**-0.2**
EFSA	**Agios Efstrati**	**0.50**	**252**	P	**Pb**	**15 07 42.7**	**-0.4**
SIGR	**SIGRI**	**0.52**	**158**	PG	**Pg**	**15 07 41.7**	**-0.2**
SIGR				SG	**Sg**	**15 07 49.7**	**+0.9**
SIGR	**SIGRI**	**0.52**	**158**	P	**Pg**	**15 07 41.8**	**-0.2**
SIGR				S	**Sg**	**15 07 49.7**	**+0.9**
SIGR				AML	AML	15 07 50.1	
	comp=E,21922μm,0.4s						
SIGR				AML	AML	15 07 50.2	
	comp=N,20716μm,0.4s						
SIGR	**SIGRI**	**0.52**	**158**	P	**Pg**	**15 07 41.8**	**-0.2**
SIGR				S	**Sg**	**15 07 49.4**	**+0.6**
GADA	**Gvkgeada**	**0.55**	**25**	PG	**Pg**	**15 07 42.5**	**0.0**
GADA	**Gvkgeada**	**0.55**	**25**	P	**Pg**	**15 07 42.2**	**-0.3**
GADA				S	**Sg**	**15 07 49.5**	**-0.1**
GOKC	**Gokceada-Canak**	**0.56**	**26**	PG	**Pg**	**15 07 42.5**	**-0.2**
EZN	**Ezine**	**0.57**	**77**	PG	**Pg**	**15 07 42.7**	**-0.3**
EZN				SG	**Sg**	**15 07 50.5**	**0.0**
EZN	**Ezine**	**0.57**	**77**	P	**Pg**	**15 07 42.4**	**-0.6**
EZN				S	**Sg**	**15 07 50.4**	**0.0**
PRK	**Paraskevi**	**0.69**	**131**	P	**Pb**	**15 07 46.0**	**-0.3**
PRK				S	**Sb**	**15 07 56.2**	**+0.1**
PRK				AML	AML	15 07 59.4	
	comp=E,25116μm,0.5s						
PRK				AML	AML	15 07 59.8	
	comp=N,20892μm,0.3s						
PRK	**Paraskevi**	**0.69**	**131**	P	**Pb**	**15 07 45.9**	**-0.4**
PRK				S	**Sb**	**15 07 55.5**	**-0.5**
BAYC	**CANAKKALE_Bayr**	**0.73**	**86**	IAML_P			
	comp=Z,34μm,0.1s						
BAYC				*i* P	**Pg**	**15 07 45.7**	**-0.3**
BAYC				*i* S	**Sb**	**15 07 56.4**	**-1.0**
SMTH	**Samothraki Isl**	**0.78**	**356**	P	**Pg**	**15 07 46.8**	**-0.1**
SMTH				S	**Sb**	**15 07 58.3**	**-0.5**
SMTH				AML	AML	15 07 59.8	
	comp=N,11280μm,0.4s						
SMTH				AML	AML	15 07 59.8	
	comp=E,9800μm,0.4s						
SMTH	**Samothraki Isl**	**0.78**	**356**	P	**Pg**	**15 07 46.9**	**0.0**
SMTH				S	**Sb**	**15 07 58.4**	**-0.3**
AYVA	**Ayvalik**	**0.93**	**114**	IAML_P			
	comp=Z,6μm,0.1s						
AYVA				*i* P	**Pb**	**15 07 49.9**	**-0.6**
AYVA				*i* S	**Sn**	**15 08 04.5**	**-0.6**
GELI	**Tayfur-Gelibol**	**0.97**	**43**	PG	**Pg**	**15 07 50.0**	**-0.6**
LPK	**Lapseki**	**1.12**	**52**	PN	**Pg**	**15 07 53.2**	**-0.2**
ENEZ	**Enez**	**1.12**	**22**	PN	**Pb**	**15 07 52.6**	**-1.2**
THAS	**Thassos island**	**1.13**	**324**	P	**Pb**	**15 07 52.9**	**-1.0**
THAS				S	**Sb**	**15 08 08.1**	**-0.9**
THAS				AML	AML	15 08 09.8	
	comp=N,7850μm,0.9s						
THAS				AML	AML	15 08 10.3	
	comp=E,7130μm,0.3s						
THAS	**Thassos island**	**1.13**	**324**	P	**Pb**	**15 07 53.0**	**-1.0**
THAS				S	**Sb**	**15 08 08.2**	**-0.8**
PSRA	**Psara**	**1.15**	**182**	P	**Pn**	**15 07 54.1**	**-0.5**
SKY	**Skiros Island**	**1.16**	**225**	P	**Pb**	**15 07 53.1**	**-1.2**
SKY				S	**Sb**	**15 08 08.5**	**-1.1**
SKY				AML	AML	15 08 11.7	
	comp=N,6441μm,0.5s						
SKY				AML	AML	15 08 12.0	
	comp=E,10575μm,0.5s						
SKY	**Skiros Island**	**1.16**	**225**	P	**Pb**	**15 07 53.0**	**-1.3**
SKY				S	**Sb**	**15 08 09.1**	**-0.5**
ERIK	**Erikli-Kesan**	**1.20**	**35**	PN	**Pn**	**15 07 54.1**	**-1.2**
ALN	**Alexandroupoli**	**1.25**	**16**	P	**Pn**	**15 07 54.3**	**-1.6**
ALN				S	**Sb**	**15 08 11.3**	**-0.9**
ALN				AML	AML	15 08 18.2	
	comp=E,2927μm,0.5s						
ALN				AML	AML	15 08 20.0	
	comp=N,2941μm,0.6s						
ALN	**Alexandroupoli**	**1.25**	**16**	P	**Pn**	**15 07 54.4**	**-1.6**
ALN				S	**Sb**	**15 08 11.2**	**-1.1**
CHOS	**Chios island**	**1.35**	**165**	PN	**Pn**	**15 07 56.4**	**-1.1**
CHOS	**Chios island**	**1.35**	**165**	P	**Pn**	**15 07 56.1**	**-1.4**
CHOS	**Chios island**	**1.35**	**165**	P	**Pn**	**15 07 56.3**	**-1.2**
CHOS				S	**Sn**	**15 08 14.8**	**-1.0**
KESN	**Edirne-Kesan**	**1.40**	**36**	IAML_P			
	comp=Z,5μm,0.2s						
KESN				*i* P	**Pn**	**15 07 57.3**	**-1.1**
KESN				*i* S	**Sg**	**15 08 16.8**	**-0.2**
AOS	**Alonnisos**	**1.43**	**249**	P	**Pn**	**15 07 57.4**	**-1.2**
AOS	**Alonnisos**	**1.43**	**249**	P	**Pn**	**15 07 57.2**	**-1.3**
RDO	**Rodhopi**	**1.45**	**358**	P	**Pn**	**15 07 57.7**	**-1.0**
RDO	**Rodhopi**	**1.45**	**358**	P	**Pn**	**15 07 57.5**	**-1.2**
KRBG	**Karabiga-Canak**	**1.48**	**61**	PN	**Pn**	**15 07 58.1**	**-1.0**
PAIG	**Paliouri**	**1.50**	**279**	P	**Pn**	**15 07 57.9**	**-1.5**
PAIG	**Paliouri**	**1.50**	**279**	P	**Pn**	**15 07 57.9**	**-1.5**
URLA	**Izmir**	**1.54**	**150**	PN	**Pn**	**15 07 58.4**	**-1.6**
URLA	**Izmir**	**1.54**	**150**	*i* P	**Pn**	**15 07 59.7**	**-0.3**
URLA				*i* S	**Sb**	**15 08 19.9**	**-0.8**
KAVA	**Kavala**	**1.54**	**328**	P	**Pn**	**15 07 58.9**	**-1.1**
KAVA				S	**Sn**	**15 08 18.2**	**-2.2**
KAVA	**Kavala**	**1.54**	**328**	P	**Pn**	**15 07 58.9**	**-1.1**
KAVA				S	**Sn**	**15 08 18.3**	**-2.1**
KVLA	**Kavala**	**1.55**	**324**	P	**Pn**	**15 07 59.4**	**-0.7**
SART	**Tekirdag**	**1.56**	**50**	*i* S	**Sg**	**15 08 21.8**	**-0.5**
STEP	**BALIKESIR_Sava**	**1.67**	**100**	IAML_P			
	comp=Z,5μm,0.2s						
STEP				*i* P	**Pb**	**15 08 02.7**	**-0.4**
STEP				*i* S	**Sb**	**15 08 23.9**	**-0.4**
BLCB	**Balcova**	**1.72**	**139**	PN	**Pn**	**15 08 01.9**	**-0.6**
SKIA	**Skiathos**	**1.74**	**253**	P	**Pn**	**15 08 01.3**	**-1.5**
SKIA	**Skiathos**	**1.74**	**253**	P	**Pn**	**15 08 01.2**	**-1.5**
BALB	**Balikesir**	**1.76**	**91**	PN	**Pn**	**15 08 02.2**	**-0.8**
MRMT	**Marmara Adasi**	**1.78**	**59**	PN	**Pn**	**15 08 03.1**	**-0.2**
PLG	**Polygyros**	**1.79**	**293**	P	**Pn**	**15 08 02.7**	**-0.8**
PLG	**Polygyros**	**1.79**	**293**	P	**Pn**	**15 08 02.4**	**-1.1**
EREA	**Eretria**	**1.82**	**226**	P	**Pn**	**15 08 02.3**	**-1.6**
EREA	**Eretria**	**1.82**	**226**	P	**Pn**	**15 08 02.3**	**-1.6**
MRKA	**Markates**	**1.85**	**238**	P	**Pn**	**15 08 02.8**	**-1.5**
MRKA	**Markates**	**1.85**	**238**	P	**Pn**	**15 08 02.8**	**-1.5**
EDC	**Edincik**	**1.85**	**69**	PN	**Pn**	**15 08 03.7**	**-0.6**
SBT4	**Kumbag-Tekirda**	**1.86**	**52**	PN	**Pn**	**15 08 04.2**	**-0.1**
NEO	**Neokhori**	**1.88**	**259**	P	**Pn**	**15 08 03.1**	**-1.6**
NEO	**Neokhori**	**1.88**	**259**	P	**Pn**	**15 08 03.2**	**-1.5**
XOR	**Xorichti**	**1.89**	**261**	P	**Pn**	**15 08 03.2**	**-1.7**
XOR	**Xorichti**	**1.89**	**261**	P	**Pn**	**15 08 03.1**	**-1.8**
AKHS	**Akhisar**	**1.90**	**115**	*i* P	**Pn**	**15 08 04.7**	**-0.2**
AKHS				*i* S	**Sg**	**15 08 31.8**	**-1.2**
DGB	**zmir**	**1.92**	**148**	*i* P	**Pn**	**15 08 04.3**	**-0.9**
DGB				*i* S	**Sb**	**15 08 31.7**	**+0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KDZ	Kurdzhali	1.96	356	iP	Pg	15 08 11.2	+1.7
TKR	Tekirdag	1.96	48	PN	Pn	15 08 05.4	-0.4
GOMA	Golmarmara-Man	2.05	118	PN	Pn	15 08 06.3	-0.7
SOH	Sokhos	2.06	304	P	Pn	15 08 06.7	-0.4
SOH	Sokhos	2.06	304	P	Pn	15 08 06.5	-0.6
DION	Dionisos Attik	2.08	219	P	Pn	15 08 05.8	-1.6
FYTO	Fytoko, Volos	2.08	263	P	Pn	15 08 06.2	-1.2
FYTO	Fytoko, Volos	2.08	263	P	Pn	15 08 06.2	-1.2
SRS	Serrai	2.09	313	ePn	Pn	15 08 06.9	-0.7
SRS				eSn	Sg	15 08 39.3	+0.2
SRS	Serrai	2.09	313	P	Pn	15 08 06.7	-0.9
SRS	Serrai	2.09	313	P	Pn	15 08 06.7	-0.9
RZN	Rozhen	2.10	342	iP	Pn	15 08 07.8	-0.1
NVR	Nevrokopi	2.12	322	P	Pn	15 08 07.1	-0.9
NVR	Nevrokopi	2.12	322	P	Pn	15 08 07.1	-0.9
HORT	Hortiatis	2.12	296	PN	Pn	15 08 06.9	-1.1
HORT	Hortiatis	2.12	296	P	Pn	15 08 07.5	-0.6
HORT	Hortiatis	2.12	296	P	Pn	15 08 07.3	-0.7
PTL	Penteli	2.13	220	P	Pn	15 08 06.7	-1.5
CRLT	Corlu	2.17	48	PN	Pn	15 08 08.6	0.0
KCTX	Karacabey (Bur	2.19	74	PN	Pn	15 08 08.1	-0.9
SMG	Samos	2.21	154	P	Pn	15 08 08.2	-1.0
DURS	Dursunbey	2.22	92	IAML_P			
	comp=Z,2μm,0.3s						
DURS				iP	Pn	15 08 09.4	-0.1
DURS				iS	Sn	15 08 37.4	+0.2
ATAL	Atalanti	2.24	244	P	Pn	15 08 08.3	-1.3
ATAL	Atalanti	2.24	244	P	Pn	15 08 08.2	-1.4
EDRB	Edirne	2.32	22	PN	Pn	15 08 10.3	-0.4
VLY	Voula,Athens	2.32	218	P	Pn	15 08 09.0	-1.7
VLY	Voula,Athens	2.32	218	P	Pn	15 08 09.1	-1.7
DST	Dursunbey	2.33	91	PN	Pn	15 08 10.7	-0.2
VIL2	Platees	2.35	232	P	Pn	15 08 09.6	-1.5
VILL	Villia	2.35	230	P	Pn	15 08 09.8	-1.4
DIM	Dimitrovgrad	2.35	359	iP	Pn	15 08 10.8	-0.4
GCAM	G?zelcaml?	2.37	147	PN	Pn	15 08 10.3	-1.0
MMB	Musomiste	2.37	324	P	Pn	15 08 12.6	+1.2
PHSR	Pinarhisar	2.42	36	PN	Pn	15 08 11.4	-0.7
AYDB	Zeytinkoy-Aydi	2.50	134	PN	Pn	15 08 12.7	-0.6
DEMI	Demirci	2.50	104	IAML_P			
	comp=Z,728nm,0.1s						
DEMI				iP	Pn	15 08 13.2	0.0
PLD	Plovdiv	2.50	344	ePn	Pn	15 08 13.2	0.0
PLD				eSn	Sb	15 08 45.5	-2.9
PLD	Plovdiv	2.50	344	PN	Pn	15 08 12.4	-0.8
SLVT	Silivri	2.51	52	PN	Pn	15 08 12.5	-0.8
KNT	Kendrikon	2.53	306	PN	Pn	15 08 13.1	-0.5
KNT	Kendrikon	2.53	306	P	Pn	15 08 13.4	-0.3
KNT	Kendrikon	2.53	306	P	Pn	15 08 13.3	-0.3
ORLT	Orhaneli	2.56	81	PN	Pn	15 08 13.9	-0.1
MANT	Manisa	2.59	117	iP	Pb	15 08 16.9	-2.1
MANT				iS	Sb	15 08 52.5	+1.2
MDNY	Mudanya-Bursa	2.61	74	PN	Pn	15 08 14.1	-0.6
APE	Apeiranthos	2.62	181	PN	Pn	15 08 13.9	-1.0
APE	Apeiranthos	2.62	181	⇑iP	Pn	15 08 15.6	+0.7
AGG	Agios Georgios	2.62	256	PN	Pn	15 08 13.6	-1.3
AGG	Agios Georgios	2.62	256	P	Pn	15 08 14.2	-0.8
AGG	Agios Georgios	2.62	256	P	Pn	15 08 14.0	-0.9
ARMT	Armutlu	2.65	70	PN	Pn	15 08 15.1	-0.1
LTK	Loutraki	2.65	232	P	Pn	15 08 14.0	-1.3
LTK	Loutraki	2.65	232	P	Pn	15 08 13.9	-1.3
KULA	Kula-Manisa	2.66	115	PN	Pn	15 08 15.0	-0.4
SBT5	Esenkoy-Cinarc	2.68	69	PN	Pn	15 08 15.6	0.0
CTKS	Kestanelik-??a	2.70	54	PN	Pn	15 08 14.7	-1.2
AYDN	Tasoluk	2.70	138	iP	Pn	15 08 15.5	-0.5
CTYL	Yalikoy Yolu	2.71	48	PN	Pn	15 08 15.3	-0.8
GRG	Griva	2.75	298	PN	Pn	15 08 16.3	-0.4
VAY	Valandovo	2.83	306	ePn	Pn	15 08 18.3	+0.6
VAY				eSn	Sb	15 08 57.3	-0.4
VAY	Valandovo	2.83	306	ePn	Pb	15 08 24.0	+1.2
VAY				iSn	Sg	15 09 03.7	+1.0
BGKT	Bogazkoy	2.84	57	PN	Pn	15 08 17.0	-0.8
DID	Didima	2.87	221	P	Pn	15 08 16.6	-1.7
DID	Didima	2.87	221	P	Pn	15 08 16.9	-1.4
JMB	Yambol	2.87	15	P	Pn	15 08 19.3	+1.1
SHAP	Saphane-Kutahy	2.88	102	PN	Pn	15 08 18.0	-0.6
KKB	Krupnik	2.89	319	P	Pb	15 08 22.3	-1.7
BUY	Buyukada	2.93	66	iP	Pn	15 08 18.6	-0.5
BUY				iS	Sb	15 09 02.2	+1.6
MLSB	Milas	2.94	144	PN	Pn	15 08 18.7	-0.6
BODT	Bodrum	2.95	152	PN	Pn	15 08 18.6	-0.8
ISK	Istanbul-Kandi	2.97	61	PN	Pn	15 08 19.0	-0.7
KAVV	Kandilli-Istan	2.97	62	PN	Pn	15 08 18.5	-1.2
KALE	Kalithea	2.99	245	P	Pn	15 08 19.2	-0.8
KALE	Kalithea	2.99	245	P	Pn	15 08 19.2	-0.8
YLV	Yalova	3.02	72	PN	Pn	15 08 20.2	-0.2
GEDZ	Gediz	3.02	101	PN	Pn	15 08 20.2	-0.2
KLYT	Kilyos	3.05	58	PN	Pn	15 08 19.7	-1.0
PGB	Panagyurishte	3.05	340	P	Pn	15 08 20.2	-0.6
TRIZ	Trizonia	3.05	245	P	Pn	15 08 20.0	-0.8
GDZ	Gediz	3.07	100	iP	Pn	15 08 21.8	+0.7
GUR	Goura	3.09	236	P	Pn	15 08 20.2	-1.2
EFP	Efpalio	3.14	247	P	Pn	15 08 21.7	-0.4
EFP	Efpalio	3.14	247	P	Pn	15 08 21.5	-0.5
KLV	Kalavryta, Ach	3.16	240	P	Pn	15 08 21.1	-1.3
LAKA	Lakka	3.18	244	P	Pn	15 08 22.0	-0.6
STIP	Stip	3.28	309	ePn	Pn	15 08 22.8	-1.1
CAVI	Cavuskoy	3.30	80	PN	Pn	15 08 24.1	-0.1
SILT	Sile	3.41	63	PN	Pn	15 08 25.1	-0.6
FNA	Florina	3.41	290	ePn	Pn	15 08 26.5	+0.7
FNA	Florina	3.41	290	PN	Pn	15 08 25.4	-0.4
VTS	Vitosha	3.41	329	ePn	Pn	15 08 26.6	+0.7
VTS				eSn	Sb	15 09 10.1	-4.6
VTS	Vitosha	3.41	329	⇓iP	Pn	15 08 26.4	+0.5
VTS	Vitosha	3.41	329	iP	Pn	15 08 28.6	+2.7
DRO	Drossia	3.50	241	P	Pn	15 08 26.3	-0.7
DRO	Drossia	3.50	241	P	Pn	15 08 26.4	-0.7
PVL	Pavlikeni	3.52	357	iP	Pn	15 08 25.7	-1.6
TURN	Turunc	3.68	139	PN	Pn	15 08 27.2	-2.1
KRUS	Krusevo	3.71	298	ePn	Pn	15 08 30.0	0.0
BORA	Eskisehir	3.74	86	PN	Pn	15 08 30.3	-0.1
SAUV	Serdivan-Sakar	3.77	72	PN	Pn	15 08 31.1	+0.5
ITM	Ithomi	3.83	230	PN	Pn	15 08 31.2	-0.2
GULT	Gulveren	3.84	77	PN	Pn	15 08 31.8	+0.1
ARG	Arkhangelos	4.00	149	PN	Pn	15 08 33.8	-0.1
IGT	Igoumenitsa	4.07	269	ePn	Pn	15 08 35.2	+0.4
ZAPS	Zavoj	4.21	329	ePn	Pn	15 08 37.8	+1.0
BARS	Barje	4.23	319	ePn	Pn	15 08 37.1	+0.2
PSN	Preselentsi	4.43	25	PN	Pn	15 08 38.4	-1.3
ZAGS	Zajecar	4.82	330	ePn	Pn	15 08 44.6	-0.5
SELS	Selova	4.87	318	ePn	Pn	15 08 45.5	-0.3
TLB	Topalu	5.21	20	⇓iP	Pn	15 08 50.0	-0.4
SRE	Strehaia	5.27	341	⇑iP	Pn	15 08 51.0	-0.3
HARR	Harsova	5.28	18	⇓iP	Pn	15 08 50.9	-0.5
ISR	Istrita	5.46	7	⇑iP	Pn	15 08 48.0	-6.0
SJES	Sjenica	5.53	312	ePn	Pn	15 08 54.9	0.0
KUBS	Kucevo	5.55	329	ePn	Pn	15 08 53.4	-1.7
GRUS	Gruza	5.56	321	ePn	Pn	15 08 54.9	-0.3
IVAS	Ivanjica	5.63	315	ePn	Pn	15 08 55.7	-0.6
HERR	Herculane	5.70	337	⇓iP	Pn	15 08 56.3	-0.8
VOIR		5.75	356	⇓iP	Pn	15 08 57.8	-0.2
CFR	Carcaliu	5.79	18	⇓iP	Pn	15 08 57.5	-0.9
MLR	Muntele Rosu	5.80	2	⇓iP	Pn	15 08 59.4	+0.8
LOT	Lotru	5.91	347	⇓iP	Pn	15 08 59.3	-0.8
TRUS	Trudelj	5.96	321	ePn	Pn	15 09 00.1	-0.6
GZR	Gura Zlata	6.06	341	⇓iP	Pn	15 09 01.3	-0.9
DIVS	Divibare	6.07	318	ePn	Pn	15 09 02.1	-0.3
BRTR	Keskin Array B	6.20	87	Pn	Pn	15 09 04.7	+0.5
	comp=Z,2.1nm,0.3s,baz=262,slow=12,SNR=42						
BRTR				Sn	Sn	15 10 12.4	-3.0
	comp=Z,0.9nm,0.3s,baz=267,slow=20,SNR=7.5						
PLOR	Plostina	6.20	7	⇑iP	Pn	15 09 04.7	+0.6
VRI	Vrincioaia	6.22	7	⇓iP	Pn	15 09 05.1	+0.7
BBLS	Lazići	6.23	314	ePn	Pn	15 09 04.3	-0.2
DOPR	Dopca	6.27	359	⇑iP	Pn	15 09 05.7	+0.7
BZS	Buzias	6.61	335	⇓iP	Pn	15 09 08.7	-0.9
TIP	Timpagrande	6.87	268	⇑iP	Pn	15 09 12.0	-1.2
SIRR	Siria	7.17	338	⇓iP	Pn	15 09 17.0	-0.4
BIZ	Bicaz	7.25	3	⇓iP	Pn	15 09 19.5	+1.1
DRGR		7.40	344	⇑iP	Pn	15 09 21.2	+0.6
BURAR	Bucovina Array	7.92	358	⇑iP	Pn	15 09 29.5	+1.8
GERES	GERESS Array B	12.49	321	LR	LR	15 15 36.8	
	comp=Z,89nm,18.0s,baz=118,slow=37						
NOA	NORSAR Array B	23.15	342	LR	LR	15 23 35.8	
	comp=Z,30nm,18.7s,baz=330,slow=40						
TORD	Torodi Ar. Bea	33.81	225	P	P	15 14 14.5	-0.5
	comp=Z,0.8nm,0.7s,baz=35,slow=10,SNR=8.6						
KURBB	Kurchatov Arra	38.12	55	P	P	15 14 55.0	+3.3
	comp=Z,0.3nm,0.2s,baz=284,slow=9.2,SNR=5.0						
MKAR	Makanchi Array	41.12	61	P	P	15 15 18.3	+1.7
	comp=Z,0.8nm,0.6s,baz=281,slow=5.8,SNR=10						
ZALV	Zalesovo Beam	41.71	50	P	P	15 15 24.6	+3.2
	comp=Z,0.5nm,0.4s,baz=286,slow=8.5,SNR=3.8						
CMAR	Chiang Mai Arr	65.79	86	P	P	15 18 19.5	+1.3
	comp=Z,0.4nm,0.6s,baz=306,slow=6.6,SNR=4.9						

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*ISCJB **11** 15:13:49.2±0.7, 7.°61S±0.°06×128.°83E±0.°08, h150km, mb3.2/4, Error ellipse: s-maj=10.8km s-min=8.3km az=2.0*
*IDC **11** 15:13:51.0±2.0, 7.°53S×128.°71E, h143km±22km, mb3.1/4, mb1 3.3/8, mb1mx3.2/34, mbtmp3.6/8, Error ellipse: s-maj=23.1km s-min=19.0km az=116.0*
ISC 11 15:13:50.2±0.8, **7.°69S**±0.°06×**128.°88E**±0.°10, **h150**km, **n9**, σ**2.s18**/13, **mb3.3**/4, **Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	Baumata	5.73	244	P	Pn	15 15 14.4	+1.1
	31nm,0.3s,baz=228,slow=0.3,SNR=46						
BATI				S	Sn	15 16 17.7	-0.7
	14nm,0.3s,baz=89,slow=20,SNR=8.3						
SIJI	Sorong	7.18	19	P	Pn	15 15 31.9	-0.8
	2.1nm,0.3s,baz=36,slow=23,SNR=30						
FITZ	Fitzroy Crossi	10.82	197	P	Pn	15 16 21.9	+0.9
	0.7nm,0.3s,baz=32,slow=7.9,SNR=29						
FITZ				S	Sn	15 18 17.7	-3.1
	1.5nm,0.3s,baz=100,slow=23,SNR=5.5						
WRA	Warramunga Arr	13.28	157	P	P	15 16 55.9	-1.5
	1.0nm,0.3s,baz=339,slow=10,SNR=43						
WRA				S	Sn	15 19 17.9	-2.2
	1.1nm,0.3s,baz=327,slow=24,SNR=8.8						
ASAR	Alice Springs	16.60	164	P	Pn	15 17 39.3	+4.9
	0.2nm,0.3s,baz=338,slow=10,SNR=22						
ASAR				S	S	15 20 39.6	+0.6
	0.5nm,0.3s,baz=346,slow=26,SNR=4.4						
CMAR	Chiang Mai Arr	39.34	312	P	P	15 21 03.8	-1.3
	0.3nm,0.6s,baz=123,slow=6.5,SNR=3.2						
SONM	Songino Array	58.75	342	P	P	15 23 33.5	+1.0
	0.2nm,0.6s,baz=170,slow=8.8,SNR=2.5						
MKAR	Makanchi Array	68.20	327	P	P	15 24 34.1	-0.3
	0.3nm,0.5s,baz=109,slow=8.7,SNR=7.6						
ZALV	Zalesovo Beam	71.71	334	P	P	15 24 56.0	+0.3
	0.3nm,0.3s,baz=123,slow=5.3,SNR=2.7						

IDC 11 15:19:06.2±1.5, **26.°13N**×**142.°17E**, **h0**km, **mb3.5**/3, **mb1 3.9**/3, **mb1mx3.4**/28, **mbtmp3.5**/3, **MS2.5**/1, **Ms1 2.5**/1, **ms1mx2.1**/21, **Error ellipse: s-maj=89.8km s-min=19.5km az=94.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	0.97	1	Pn	Pn	15 19 27.8	+0.8
	14nm,0.3s,baz=116,slow=23,SNR=12						
JCJ				Sn	Sn	15 19 40.6	-0.9
	34nm,0.3s,baz=301,slow=23,SNR=13						
GUMO	Guam	12.73	168	LR	LR	15 26 26.8	
	comp=Z,20nm,18.1s,baz=134,slow=35						
WRA	Warramunga Arr	46.42	190	P	P	15 27 34.4	-0.3
	0.5nm,0.8s,baz=11,slow=8.6,SNR=5.0						
ILAR	Eielson Array	58.57	28	P	P	15 29 04.3	-0.1
	0.3nm,0.7s,baz=281,slow=6.3,SNR=3.2						
YKA	Yellowknife Ar	73.00	28	P	P	15 30 37.4	0.0
	0.3nm,0.5s,baz=296,slow=6.3,SNR=4.1						

ISC 11 15:35:49.4±0.9, **50.°23N**±0.°04×**18.°76E**±0.°02, **h0**km, **n15**, σ**0.s83**/25, **Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHZP	Chorzow	0.16	67	ePg	Pg	15 35 52.1	-0.4
CHZP				eSg	Sg	15 35 55.6	+1.0
OKC	Ostrava-Krasne	0.56	225	ePG	Pg	15 36 01.2	+1.2
OKC				eSG	Sg	15 36 06.4	-0.8
	comp=Z,18nm,0.6s						
OJC	Ojcow	0.67	90	ePg	Pg	15 36 01.7	-0.5
OJC				eSg	Sg	15 36 10.6	-0.3
MORC	Moravsky Berou	0.91	241	ePG	Pg	15 36 07.1	+0.4
MORC				eSG	Sb	15 36 20.0	-0.6
LANS	Liptovska Anna	1.17	157	ePG	Pg	15 36 12.5	+0.7
LANS				eSG	Sb	15 36 29.0	+0.7
KRLC	Kraliky	1.28	264	ePG	Pg	15 36 13.2	-0.7
KRLC				eSG	Sg	15 36 30.7	+0.2
	comp=Z,2.4nm,0.3s						
DPC	Dobruska-Polom	1.57	275	ePG	Pn	15 36 17.9	-0.6
DPC				eSG	Sn	15 36 39.7	+0.2
	comp=Z,9.1nm,0.5s						
VRAC	Vranov	1.68	238	ePN	Pn	15 36 20.6	+0.6
VRAC				eSG	Sn	15 36 42.3	+0.1
KSP	Ksiaz	1.69	292	ePg	Pn	15 36 21.2	+1.1
KSP				eSg	Sg	15 36 44.2	+0.6
VYHS	Vyhne	1.74	178	ePN	Pn	15 36 20.4	-0.4
VYHS				eSN	Sn	15 36 43.3	-0.4
VYHS				eLG	Lg	15 36 50.1	
UPC	Upice	1.78	280	eSG	Sg	15 36 47.5	+0.9
KRUC	Moravsky	1.93	234	eSG	Sb	15 36 49.8	-0.2
PRU	Pruhonice	2.73	267	eSG	Sg	15 37 16.4	-0.5
BRG	Berggiesshubel	3.14	284	SG	Sg	15 37 30.2	+0.1
	2.4nm,0.7s						
KHC	Kasperske Hory	3.54	254	eSG	Sg	15 37 40.5	-2.5

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*TAP **11** 15:41:36.8, 24.°21N×122.°71E, h49km, ML3.0, C*
*JMA **11** 15:41:36.6±0.1, 24.°14N×122.°68E, h45km±3km, M2.3*
ISC 11 15:41:35.5±1.2, **24.°13N**±0.°03×**122.°70E**±0.°02, **h19**km±3km, **n84**, σ**0.s69**/152, **Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.39	36	P	Pn	15 41 46.3	+0.2
JYNG				S	Sn	15 41 53.3	+0.3
YOJ	Yonaguni jima	0.43	41	iP	Pn	15 41 46.9	+0.1
	baz=40						
YOJ				iS	Sn	15 41 54.1	0.0
	baz=40						
YOJ	Yonaguni jima	0.43	41	P	Pn	15 41 46.8	+0.1
YOJ				eS	Sn	15 41 54.0	-0.1
EOS1	EOS1	0.66	309	iP	Pn	15 41 50.1	+0.2
	baz=309						
EOS1				iS	Sn	15 42 00.1	+0.4
	baz=309						
TWC	Suao	0.91	302	P	Pg	15 41 53.2	-0.1
	baz=287						
TWC				S	Sn	15 42 05.8	+0.1
	baz=287						
ENA	Nanau	0.92	289	P	Pg	15 41 53.5	0.0
	baz=283						
ENA				eS	Sg	15 42 05.8	+0.1
	baz=283						
IRIF	Iriomote-Funau	0.96	78	P	Pn	15 41 54.1	+0.1
IRIF				S	Sn	15 42 07.5	+0.3
NACB	Ninganchiao	1.01	272	eP	Pn	15 41 54.6	0.0
	baz=255						
NACB				eS	Sb	15 42 07.8	+0.6
	baz=255						
TWD	Chiawan	1.01	267	P	Pn	15 41 54.8	+0.2
	baz=250						
TWD				eS	Sg	15 42 08.0	-0.4
	baz=250						
ENLB	Shoufeng	1.03	257	eP	Pn	15 41 55.2	+0.3
	baz=243						
ENLB				eS	Sn	15 42 08.7	0.0
	baz=243						
NTC	Toucheng	1.07	312	eP	Pb	15 41 55.4	0.0
	baz=315						
TWE	Neicheng	1.11	302	eP	Pg	15 41 56.8	-0.3
	baz=305						
TWE				eS	Sg	15 42 11.2	-0.4
	baz=305						
ENTT	Nioudou	1.15	296	eP	Pb	15 41 57.2	+0.5
	baz=280						
ENTT				eS	Sb	15 42 10.8	-0.4
	baz=280						
SLBB	Yuanshan	1.15	303	P	Pb	15 41 56.9	+0.1
	baz=308						
SLBB				eS	Sb	15 42 11.4	+0.1
	baz=308						
TIPB	Shuangxi	1.15	317	eP	Pn	15 41 56.0	-0.6
	baz=312						
TIPB				eS	Sb	15 42 11.2	-0.2
	baz=312						
ESL	Shilin	1.20	255	P	Pn	15 41 57.5	+0.2
	baz=250						
ESL				eS	Sb	15 42 12.9	+0.2
	baz=250						
JKRS	Kuro-shima	1.20	85	P	Pb	15 41 58.3	+0.6
JKRS				S	Sg	15 42 14.2	-0.4
NNSB	Datong	1.23	284	eP	Pb	15 41 58.6	+0.3
	baz=269						
NNSB				eS	Sb	15 42 13.8	-0.1
	baz=269						
NNS	Nan Shan	1.25	284	eP	Pb	15 41 58.6	+0.1
	baz=269						
NNS				S	Sb	15 42 13.6	-0.7
	baz=269						
NWF	Wu-fen Shan	1.25	318	eP	Pn	15 41 58.2	+0.2
	baz=314						
NWF				eS	Sb	15 42 14.0	-0.3
	baz=314						
WFSB	Wu-fen Shan	1.25	318	eP	Pn	15 41 57.7	-0.3
	baz=315						
NWLT	Wulai	1.26	301	P	Pb	15 41 58.6	-0.1
	baz=306						
NWLT				S	Sb	15 42 14.5	-0.1
	baz=306						
WHF	Hehuan Shan	1.31	271	P	Pn	15 41 59.2	+0.1
	baz=254						
WHF				S	Sb	15 42 15.9	-0.4
	baz=254						
YHNB	Yeheng	1.32	294	eP	Pb	15 41 59.8	+0.1
	baz=277						
YHNB				eS	Sn	15 42 16.2	+0.1
	baz=277						
TWA	Mucha	1.32	310	eP	Pn	15 41 59.3	+0.4
	baz=306						
TWA				eS	Sn	15 42 15.5	-0.5
	baz=306						
HGSD	Ruisui	1.33	242	eP	Pb	15 42 00.2	+0.4
	baz=237						
HGSD				eS	Sn	15 42 15.5	-0.7
	baz=237						
NSK	Sanguang	1.33	294	P	Pn	15 41 59.6	+0.4
	baz=277						
NSK				S	Sn	15 42 16.1	-0.4
	baz=277						
JIJ	Ishigaki jima	1.34	80	P	Pn	15 41 59.2	0.0
JIJ				eS	Sn	15 42 15.9	-0.5
CHGB	Renai	1.39	267	P	Pn	15 42 00.7	+0.6
	baz=253						
CHGB				eS	Sn	15 42 17.4	-0.7
	baz=253						
TWT	Tachien	1.40	275	eP	Pb	15 42 00.8	-0.2
	baz=270						
TWT				eS	Sn	15 42 18.4	+0.3
	baz=270						
EHY	Hungye	1.41	244	eP	Pb	15 42 00.8	-0.4
	baz=251						
EHY				eS	Sb	15 42 18.7	0.0
	baz=251						
TDCB	Techi	1.41	275	P	Pn	15 42 00.6	+0.3
	baz=270						
TDCB				eS	Sn	15 42 18.0	-0.5
	baz=270						
YM01	YM01	1.44	315	P	Pn	15 42 00.8	+0.2
	baz=311						
YM01				eS	Sn	15 42 18.5	-0.5
	baz=311						
YM11	YM11	1.45	315	eP	Pn	15 42 01.2	+0.4
	baz=311						
YM11				eS	Sn	15 42 18.5	-0.8
	baz=311						
YM05	YM05	1.45	315	eP	Pn	15 42 01.2	+0.4
	baz=311						
YM05				eS	Sn	15 42 19.2	-0.1
	baz=311						
YM04	YM04	1.47	314	eP	Pn	15 42 00.6	-0.3
	baz=311						
YM04				eS	Sn	15 42 19.6	-0.1
	baz=311						
VWDT	VWDT	1.47	255	P	Pb	15 42 01.9	-0.3
	baz=251						
VWDT				eS	Sn	15 42 19.8	+0.1
	baz=251						
YULB	Yu-li	1.48	240	P	Pn	15 42 01.5	+0.4
	baz=249						
YULB				S	Sn	15 42 19.4	-0.6
	baz=249						
TWF1	Yuli	1.50	239	P	Pn	15 42 02.1	+0.7
	baz=235						
TWF1				S	Sn	15 42 20.6	+0.2
	baz=235						
JISG	Ishigakijimahi	1.54	73	P	Pn	15 42 01.8	-0.1
JISG				S	Sn	15 42 21.0	-0.4
CHKT	Chengkung	1.60	230	eS	Sn	15 42 23.0	+0.2
	baz=227						
NCU	National Centr	1.61	302	eP	Pn	15 42 03.3	+0.4
	baz=297						
LIOB	Emei	1.62	289	P	Pn	15 42 03.1	+0.1
	baz=284						
LIOB				S	Sn	15 42 23.8	+0.5
	baz=284						
NSTT	Nanjuang	1.62	288	P	Pn	15 42 03.5	+0.4
	baz=283						
NSTT				eS	Sn	15 42 22.2	-1.2
	baz=283						
SSLB	Suanglung	1.63	258	P	Pn	15 42 04.1	+0.9
	baz=254						
SSLB				S	Sn	15 42 23.8	+0.1
	baz=254						
SMLT	Sun Moon Lake	1.66	262	P	Pn	15 42 04.2	+0.5
	baz=257						
SMLT				S	Sn	15 42 24.8	+0.2
	baz=257						
TYC	Yuchr	1.70	263	eP	Pn	15 42 04.7	+0.6
	baz=258						
TYC				eS	Sn	15 42 24.9	-0.4
	baz=258						
YUS	Yu-Shan	1.72	248	eP	Pb	15 42 06.1	-0.7
	baz=244						
YUS				eS	Sn	15 42 26.1	-0.5
	baz=244						
TWQ1	Liyutan	1.77	277	eP	Pn	15 42 06.0	+0.9
	baz=273						
TWQ1				eS	Sn	15 42 27.1	0.0
	baz=273						
ELDTW	Lidau	1.81	239	P	Pn	15 42 06.5	+0.9
	baz=235						
ELDTW				eS	Sn	15 42 26.7	-1.4
	baz=235						
WJS	Zhushan	1.83	261	P	Pb	15 42 08.0	-0.3
	baz=256						
WJS				S	Sb	15 42 30.9	0.0
	baz=256						
ALS	Alishan	1.84	251	eP	Pn	15 42 07.1	+0.8
	baz=246						
ALS				eS	Sn	15 42 29.2	-0.1
	baz=246						
PTSB	Yuanli	1.84	280	eS	Sn	15 42 29.1	+0.2
	baz=276						
TCU	Taichung	1.85	271	eS	Sn	15 42 29.0	0.0
	baz=256						
WNT	Mingjian	1.86	263	S	Sb	15 42 31.3	-0.4
	baz=258						
JTJ	Tarama	1.90	74	eS	Sn	15 42 30.3	+0.1
CHN5	Tsauling	1.92	254	eP	Pb	15 42 09.3	-0.8
	baz=250						
CHN5				eS	Sn	15 42 32.2	+1.2
	baz=250						
WCHH	Zhanghua	1.96	269	eS	Sn	15 42 32.1	+0.5
	baz=264						
TWGBT	Beinan	1.98	229	eP	Pn	15 42 08.7	+0.7
	baz=236						
TWGBT				eS	Sn	15 42 31.7	-0.6
	baz=236						
TWG	Pinlang	1.98	229	eS	Sn	15 42 31.8	-0.6
	baz=236						
WGK	Gukeng	2.00	258	S	Sb	15 42 34.8	-1.1
	baz=253						
STYT	Tauyuan	2.02	242	eP	Pn	15 42 09.5	+0.8
	baz=232						
STYT				eS	Sn	15 42 33.5	0.0
	baz=232						
WDLH	Douliu	2.02	258	S	Sb	15 42 35.3	-1.2
	baz=253						
TPUB	Ta-pu	2.07	247	eP	Pn	15 42 11.0	+1.7
	baz=243						
TPUB				eS	Sn	15 42 35.3	+0.8
	baz=243						
CHN4	Tsaushan	2.08	248	eP	Pb	15 42 11.5	-1.1
	baz=245						
CHN4				eS	Sn	15 42 34.8	0.0
	baz=245						
WTP	Ta-pu	2.10	246	eP	Pb	15 42 11.6	-1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=242						
WTP				eS	Sn	15 42 35.4	0.0
	baz=242						
RLNB	Erlin	2.15	264	eP	Pn	15 42 11.8	+1.5
	baz=260						
RLNB				S	Sn	15 42 38.3	+1.8
	baz=260						
CHY	Chiayi	2.18	254	eS	Sn	15 42 38.4	+1.3
	baz=249						
SLGT	Liugui	2.20	239	eP	Pn	15 42 12.4	+1.4
	baz=230						
SLGT				eS	Sn	15 42 38.1	+0.4
	baz=230						
TWK	Hsinying	2.20	247	eP	Pb	15 42 13.6	-1.2
	baz=243						
TWK				S	Sn	15 42 39.4	+1.6
	baz=243						
CHN1	Nanshi	2.20	245	eP	Pn	15 42 12.2	+1.1
	baz=241						
CHN1				S	Sb	15 42 40.0	-1.6
	baz=241						
SGST	Jiashian	2.20	242	eP	Pn	15 42 11.4	+0.3
	baz=238						
SGST				eS	Sn	15 42 38.3	+0.5
	baz=238						
ECL	Taimali	2.21	227	eS	Sn	15 42 37.4	-0.7
	baz=233						
WLGB	Puzi	2.29	254	eP	Pn	15 42 13.7	+1.4
	baz=250						
WLGB				S	Sb	15 42 42.4	-1.7
	baz=250						
WSF	Szhu	2.32	258	eP	Pn	15 42 12.5	-0.1
	baz=254						
WSF				eS	Sn	15 42 42.2	+1.6
	baz=254						
SSD	Sandimen	2.35	234	eP	Pn	15 42 14.3	+1.3
	baz=229						
SSD				eS	Sn	15 42 41.6	+0.3
	baz=229						
CHN8	Yiju	2.41	252	eP	Pn	15 42 14.9	+1.0
	baz=248						
CHN8				eS	Sn	15 42 43.0	+0.1
	baz=248						
MASBT	Mashibuluo	2.43	232	P	Pn	15 42 14.5	+0.4
	baz=226						
MASBT				eS	Sn	15 42 43.9	+0.6
	baz=226						
EAST	Anshuo	2.44	225	P	Pn	15 42 15.3	+1.0
	baz=229						
EAST				eS	Sn	15 42 43.0	-0.6
	baz=229						
HEN	Hengchun	2.78	221	eS	Sn	15 42 52.4	+0.4
	baz=218						
PHUB	P'eng-hu	2.93	258	eP	Pn	15 42 22.4	+1.4
	baz=254						
PHUB				eS	Sn	15 42 55.2	-0.5
	baz=254						
PNG	Penghu	2.93	260	eS	Sn	15 42 54.2	-1.6
	baz=255						
PTMZ	Houxiangcun	3.38	286	eP	Pn	15 42 28.2	+1.0
	baz=281						
PTMZ				eS	Sn	15 43 06.5	-0.3
	baz=281						
KNMB	Chin-men Tao	3.94	276	eP	Pn	15 42 36.3	+1.2
	baz=261						
KNMB				eS	Sn	15 43 19.6	-1.2
	baz=261						

NNC ***11*** *15:47:19.6±0.9, 42°.44N×80°.52E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=5.2km s-min=4.5km az=142.0*
SOME ***11*** *15:47:19.8, 42°.38N×80°.52E, h15km*
KRNET ***11*** *15:47:20.4±0.1, 42°.48N×80°.53E, h16km, mb2.9*
ISCJB ***11*** *15:47:21.6±1.0, 42°.46N±0°.04×80°.61E±0°.07, h10km, Error ellipse: s-maj=8.4km s-min=5.1km az=34.5*
ISC 11 15:47:23.3±1.5**, 42°.59N**±0°.05×**80°.36E**±0°.05**, h10**km**, n50, σ1.s46**/85**, 17C-6D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	0.86	360	P	Pg	15 47 39.1	-0.8
	6.7nm,0.1s						
KTMS				S	Sb	15 47 53.0	+0.9
	16nm,0.1s						
KTMS	Ketmen	0.86	360	⇓eP	Pg	15 47 39.2	-0.8
	baz=52						
KTMS				⇓eS	Sb	15 47 53.0	+0.9
	baz=52						
KTMS	Ketmen	0.86	360	⇓eP	Pg	15 47 39.2	-0.8
	6.7nm,0.1s						
KTMS				eS	Sb	15 47 53.0	+0.9
	16nm,0.1s						
SHLS	Shalkode	0.87	311	P	Pg	15 47 36.7	-3.6
	49nm,0.1s						
SHLS				S	Sg	15 47 49.2	-2.4
	186nm,0.3s						
SHLS	Shalkode	0.87	311	⇑eP	Pg	15 47 36.6	-3.6
	baz=25						
SHLS				⇑eS	Sg	15 47 48.2	-3.4
	baz=25						
SHLS	Shalkode	0.87	311	⇑eP	Pg	15 47 36.6	-3.6
	49nm,0.1s						
SHLS				eS	Sg	15 47 49.2	-2.4
	186nm,0.3s						
PDGK	Podgornoye	0.98	320	P	Pg	15 47 41.5	-0.7
	1.8nm,0.1s						
PDGK				S	Sn	15 47 57.6	+0.2
	4.6nm,0.1s						
PDGK	Podgornoye	0.98	320	⇑P	Pg	15 47 41.4	-0.8
	1.4nm,0.4s						
PDGK				⇓S	Sn	15 47 57.9	+0.6
	11nm,0.3s						
PDGK	Podgornoye	0.98	320	⇑iP	Pg	15 47 41.4	-0.8
	baz=18						
PDGK				⇑iS	Sb	15 47 57.0	+1.4
	baz=18						
UZB	Uzynbulak	1.13	300	P	Pb	15 47 44.1	-1.0
	4.8nm,0.1s						
UZB				S	Sn	15 48 02.1	+0.9
	19nm,0.2s						
UZB	Uzynbulak	1.13	300	eP	Pb	15 47 44.1	-1.0
	baz=2.0						
UZB				eS	Sn	15 48 02.0	+0.9
	baz=2.0						
UZB	Uzynbulak	1.13	300	eP	Pb	15 47 44.1	-1.0
	4.8nm,0.1s						
UZB				eS	Sn	15 48 02.1	+0.9
	19nm,0.2s						
PRZ	Przheval'sk	1.45	267	⇑iP	Pn	15 47 49.4	-0.4
	baz=71						
PRZ				⇑iS	Sg	15 48 11.0	+0.9
	baz=71						
SATY	Saty	1.51	289	S	Sg	15 48 14.4	+2.3
	40nm,0.1s						
SATY	Saty	1.51	289	eP	Pb	15 47 51.2	-0.4
	9.5nm,0.2s						
SATY				eS	Sg	15 48 14.4	+2.3
	40nm,0.1s						
DJR	Jarkent	1.79	347	Pg	Pb	15 47 56.2	-0.2
	0.6nm,0.2s						
DJR				Lg	Lg	15 48 22.2	
	6.4nm,0.3s						
DJR	Jarkent	1.79	347	eP	Pb	15 47 56.2	-0.2
	0.6nm,0.2s						
DJR				eS	Sg	15 48 22.2	+1.2
	6.4nm,0.3s						
KURS	Kuram	1.84	300	Pg	Pb	15 47 56.8	-0.4
	4.1nm,0.3s						
KURS				Lg	Lg	15 48 23.7	
	9.9nm,0.4s						
KURS	Kuram	1.84	300	eP	Pb	15 47 56.8	-0.4
	baz=1.0						
KURS				eS	Sg	15 48 22.8	+0.2
	baz=1.0						
KURS	Kuram	1.84	300	eP	Pb	15 47 56.8	-0.4
	4.1nm,0.3s						
KURS				eS	Sg	15 48 23.7	+1.2
	9.9nm,0.4s						
MNBS	Baschi	2.07	317	Pg	Pb	15 48 00.6	-0.4
	3.1nm,0.1s						
MNBS	Baschi	2.07	317	eP	Pb	15 48 00.6	-0.4
	3.1nm,0.1s						
MNBS				eS	Sg	15 48 30.5	+0.7
	23nm,0.3s						
TARG	Taragay, Kyrgy	2.08	247	⇑iP	Pn	15 47 58.7	0.0
	baz=51						
TARG				⇑iS	Sb	15 48 27.2	-0.4
	baz=51						
KDJ	Kajisay	2.40	260	⇑iP	Pn	15 48 03.5	+0.6
	baz=63						
KDJ				⇑iS	Sb	15 48 35.1	-1.4
	baz=63						
ARXS	Arharly	2.46	312	eP	Pb	15 48 06.9	-0.9
	1.9nm,0.2s						
ARXS				eS	Sb	15 48 41.3	+3.2
	21nm,0.5s						
KOTS	Kotyrbulak	2.47	286	Pg	Pb	15 48 07.7	-0.3
	2.5nm,0.2s						
KOTS				Lg	Lg	15 48 42.8	
	11nm,0.6s						
KOTS	Kotyrbulak	2.47	286	eP	Pb	15 48 07.7	-0.3
	2.5nm,0.2s						
KOTS				eS	Sg	15 48 42.8	0.0
	11nm,0.6s						
MDOK	Medeo	2.50	284	Pn	Pb	15 48 06.9	-1.6
	1.7nm,0.5s						
MDOK				⇑Lg	Lg	15 48 42.8	
	4.5nm,0.4s						
MDOK	Medeo	2.50	284	Pg	Pb	15 48 07.6	-0.8
	2.6nm,0.3s						
MDOK				Lg	Lg	15 48 42.6	
	7.8nm,0.6s						
MDOK	Medeo	2.50	284	eP	Pb	15 48 07.6	-0.8
	2.6nm,0.3s						
MDOK				eS	Sg	15 48 42.6	-1.1
	7.8nm,0.6s						
TNSS	Tian-Shan	2.55	281	Pg	Pb	15 48 09.3	-0.2
TNSS				Lg	Lg	15 48 44.7	
TNSS	Tian-Shan	2.55	281	eP	Pb	15 48 09.3	-0.2
	2.0nm,0.2s						
TNSS				eS	Sg	15 48 44.7	-0.7
	13nm,0.5s						
CHKK	Chushkaly	2.77	298	Pg	Pb	15 48 12.8	-0.2
	0.7nm,0.1s						
CHKK				Lg	Lg	15 48 50.7	
	8.6nm,0.2s						
CHKK	Chushkaly	2.77	298	eP	Pb	15 48 12.8	-0.2
	0.7nm,0.1s						
CHKK				eS	Sg	15 48 50.7	-1.7
	8.6nm,0.2s						
IZV	Izvestkoviy	2.79	281	Pg	Pb	15 48 12.9	-0.6
	3.2nm,0.2s						
IZV				Lg	Lg	15 48 50.6	
	16nm,0.6s						
IZV	Izvestkoviy	2.79	281	eP	Pb	15 48 12.9	-0.6
	3.2nm,0.2s						
IZV				eS	Sb	15 48 50.6	+2.8
	16nm,0.6s						
KAPS	Kapalarasan	2.79	345	Pg	Pb	15 48 13.6	+0.2
	0.4nm,0.1s						
KAPS				Lg	Lg	15 48 51.7	
	3.4nm,0.2s						
KAPS	Kapalarasan	2.79	345	eP	Pb	15 48 13.6	+0.2
	0.4nm,0.2s						
KAPS				eS	Sg	15 48 51.7	-1.4
	3.4nm,0.2s						
KTBS	Karatobe	2.92	294	Pg	Pb	15 48 16.0	+0.5
	1.5nm,0.3s						
KTBS				Lg	Lg	15 48 56.0	
	8.2nm,0.4s						
KTBS	Karatobe	2.92	294	eP	Pb	15 48 16.0	+0.5
	1.5nm,0.3s						
KTBS				eS	Sg	15 48 56.0	-1.0
	8.2nm,0.4s						
MTBS	Maitube	2.94	282	eP	Pb	15 48 15.6	-0.3
	3.5nm,0.4s						
MTBS				eS	Sg	15 48 55.5	-2.3
	6.1nm,0.2s						
ULHL	Ulahol	3.07	265	⇑iP	Pn	15 48 13.0	+0.9
	baz=67						
ULHL				⇑iS	Sn	15 48 51.5	+2.5
	baz=67						
KUU	Kurty	3.22	295	Pg	Pb	15 48 21.1	+0.5
	1.2nm,0.4s						
KUU				Lg	Lg	15 49 04.9	
	5.2nm,0.4s						
KUU	Kurty	3.22	295	eP	Pb	15 48 21.1	+0.5
	1.2nm,0.4s						
KUU				eS	Sg	15 49 04.9	-1.8
	5.2nm,0.4s						
KST	Kastek	3.27	280	Pg	Pb	15 48 21.8	+0.2
	1.8nm,0.2s						
KST				Lg	Lg	15 49 05.0	
	4.6nm,0.5s						
KST	Kastek	3.27	280	eP	Pb	15 48 21.8	+0.2
	1.8nm,0.2s						
KST				eS	Sg	15 49 06.0	-2.3
	4.6nm,0.5s						
BOOM	Boomskoye usch	3.27	270	⇑iP	Pn	15 48 16.2	+1.4
	baz=72						
BOOM				⇑iS	Sn	15 48 56.8	+3.0
	baz=72						
DGS	Degeres	3.43	283	Pg	Pb	15 48 24.0	-0.3
	1.3nm,0.5s						
DGS				Lg	Lg	15 49 10.0	
	9.0nm,0.6s						
DGS	Degeres	3.43	283	eP	Pb	15 48 24.1	-0.3
	1.3nm,0.5s						
DGS				eS	Sb	15 49 10.0	+3.9
	9.0nm,0.6s						
MK31	Makanchi Array	4.43	17	Pn	Pn	15 48 29.9	-0.7
	0.1nm,0.2s,baz=203,slow=14,SNR=23						
MK31				⇓Pg	Pb	15 48 40.9	-0.3
	0.1nm,0.2s,baz=199,slow=16,SNR=3.0						
MK31				⇓Lg	Lg	15 49 38.2	
	1.7nm,0.6s						

IDC ***11*** *16:04:07.0±1.3, 3°.61S×149°.86E, h0km, mb3.9/7, mb1 4.2/8, mb1mx3.8/43, mbtmp3.9/8, ML3.5/1, MS3.7/8, Ms1 3.7/8, ms1mx3.4/20, Error ellipse: s-maj=41.6km s-min=20.5km az=122.0*
ISCJB ***11*** *16:04:08.4±1.1, 3°.6S±0°.1×149°.8E±0°.2, h19km, mb3.9/7, MS3.8/8, Error ellipse: s-maj=27.8km s-min=16.8km az=35.5*
ISC 11 16:04:09.8±1.3**, 3°.6S**±0°.2×**149°.8E**±0°.2**, h19**km**, n15, σ1.s20**/9**, mb3.9**/7**, MS3.8**/8**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	11.60	120	LR	LR	16 11 30.2	
	comp=Z,340nm,21.4s,baz=322,slow=38						
SIJI	Sorong	18.74	278	P	Pn	16 08 28.9	+0.6
	0.2nm,0.3s,baz=83,slow=10,SNR=3.7						
WRA	Warramunga Arr	22.17	222	P	P	16 09 04.2	-0.8
	2.8nm,0.8s,baz=48,slow=10,SNR=22						
WRA				LR	LR	16 17 26.8	
	comp=Z,81nm,20.1s,baz=175,slow=36						
DZM	Mont Dzumac	24.43	140	LR	LR	16 18 03.6	
	comp=Z,296nm,18.9s,baz=326,slow=34						
ASAR	Alice Springs	25.18	216	P	P	16 09 34.2	-0.1
	2.2nm,0.7s,baz=48,slow=8.0,SNR=30						
ASAR				LR	LR	16 20 22.3	
	comp=Z,230nm,18.7s,baz=46,slow=39						
BATI	Baumata	26.76	254	LR	LR	16 20 25.4	
	comp=Z,271nm,21.0s,baz=110,slow=36						
FITZ	Fitzroy Crossi	27.71	237	P	P	16 09 59.0	+1.8
	5.4nm,0.7s,baz=25,slow=7.5,SNR=9.9						
STKA	Stephens Creek	29.16	194	LR	LR	16 22 47.6	
	comp=Z,222nm,18.8s,baz=24,slow=38						
CMAR	Chiang Mai Arr	54.69	296	P	P	16 13 37.1	-1.1
	0.2nm,0.3s,baz=131,slow=6.0,SNR=4.7						
PETK	Petropavlovsk-	56.90	6	LR	LR	16 34 00.4	
	comp=Z,64nm,21.3s,baz=221,slow=32						
SONM	Songino Array	63.76	329	P	P	16 14 41.2	+0.5
	0.4nm,0.4s,baz=27,slow=40,SNR=3.8						
SONM				LR	LR	16 44 00.2	
	comp=Z,33nm,18.9s,baz=176,slow=38						
ILAR	Eielson Array	82.20	23	P	P	16 16 29.6	+0.2
	1.0nm,0.8s,baz=233,slow=5.4,SNR=9.4						
NVAR	Mina Array Bea	93.69	52	LR	LR	16 51 05.2	
	comp=Z,551nm,21.6s,baz=128,slow=30						
YKA	Yellowknife Ar	95.77	28	P	P	16 17 34.8	+0.3
	0.5nm,0.7s,baz=274,slow=4.8,SNR=6.7						
TORD	Torodi Ar. Bea	147.12	289	PKPbc	PKPab	16 23 52.7	-1.6
	1.5nm,0.9s,baz=81,slow=2.9,SNR=7.2						

ISK ***11*** *16:18:54.3, 39°.64N×25°.55E, h8km, ML2.6/15*
ISCJB ***11*** *16:18:55.4±0.5, 39°.67N±0°.02×25°.57E±0°.03, h7km±4km, Error ellipse: s-maj=3.9km s-min=3.3km az=160.4*
THE ***11*** *16:18:55.9, 39°.68N×25°.58E, h7km±2km, ML2.2/6, Error ellipse: s-maj=2.1km s-min=0.7km az=167.0*
ATH ***11*** *16:18:55.3, 39°.67N×25°.55E, h28km±1km, ML2.3/5, Error ellipse: s-maj=2.2km s-min=0.9km az=238.0*
DDA ***11*** *16:18:58.2, 39°.76N×25°.75E, h7km±3km, ML2.6*
ISC 11 16:18:55.4±1.0**, 39°.66N**±0°.02×**25°.56E**±0°.02**, h11**km±9km**, n47, σ0.s49**/68**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.38	309	P	Pb	16 19 04.0	-0.1
LIA				AML	AML	16 19 09.3	
	comp=N,785μm,0.3s						
LIA				S	Sb	16 19 09.5	-0.5
LIA				AML	AML	16 19 09.9	
	comp=E,1032μm,0.3s						
LIA	Limnos Island	0.38	309	P	Pb	16 19 04.0	-0.1
LIA				S	Sg	16 19 08.9	+1.0
BOZC	Bozcaada	0.42	64	PG	Pg	16 19 03.6	-0.1
BOZC				SG	Sg	16 19 09.3	0.0
BOZC	Bozcaada	0.42	64	IAML_P			
	comp=Z,6μm,0.2s						
BOZC				iP	Pg	16 19 04.1	+0.4
BOZC				iS	Sg	16 19 07.9	-1.4
GPNR	Gulpinar-Canak	0.49	114	PG	Pg	16 19 05.1	+0.2
SIGR	SIGRI	0.50	153	PG	Pg	16 19 03.7	-1.5
SIGR				SG	Sg	16 19 11.5	-0.3
SIGR	SIGRI	0.50	153	P	Pg	16 19 05.7	+0.5
SIGR				S	Sb	16 19 13.4	-0.1
SIGR				AML	AML	16 19 13.7	
	comp=E,1092μm,0.6s						
SIGR				AML	AML	16 19 13.9	
	comp=N,1267μm,0.6s						
SIGR	SIGRI	0.50	153	P	Pg	16 19 05.7	+0.5
SIGR				S	Sb	16 19 13.1	-0.4
GADA	Gvkgeada	0.59	26	PG	Pg	16 19 06.8	-0.1
GADA	Gvkgeada	0.59	26	P	Pg	16 19 06.8	-0.1
GADA				S	Sg	16 19 14.6	-0.1
GOKC	Gokceada-Canak	0.61	27	PG	Pg	16 19 07.1	-0.1
EZN	Ezine	0.61	74	PG	Pg	16 19 06.9	-0.3
EZN	Ezine	0.61	74	P	Pg	16 19 07.0	-0.3
EZN				S	Sg	16 19 14.9	-0.5
PRK	Paraskevi	0.69	127	P	Pb	16 19 10.0	+0.6
PRK				S	Sb	16 19 19.8	+1.0
PRK				AML	AML	16 19 23.3	
	comp=N,1317μm,0.4s						
PRK				AML	AML	16 19 25.1	
	comp=E,1092μm,0.4s						
PRK	Paraskevi	0.69	127	P	Pb	16 19 10.0	+0.6
PRK				S	Sb	16 19 19.7	+0.8
BAYC	CANAKKALE_Bayr	0.77	84	IAML_P			
	comp=Z,4μm,0.1s						
BAYC				iP	Pb	16 19 10.8	0.0
SMTH	Samothraki Isl	0.81	358	P	Pg	16 19 11.1	+0.1
SMTH				S	Sg	16 19 22.1	+0.4
SMTH				AML	AML	16 19 24.0	
	comp=E,208μm,0.2s						
SMTH				AML	AML	16 19 24.5	
	comp=N,283μm,0.2s						
SMTH	Samothraki Isl	0.81	358	P	Pg	16 19 11.1	+0.1
SMTH				S	Sg	16 19 21.9	+0.2
AYVA	Ayvalik	0.94	111	iP	Pn	16 19 14.8	+0.3
AYVA				iS	Sn	16 19 27.5	-0.5
GELI	Tayfur-Gelibol	1.02	43	PG	Pb	16 19 14.7	-0.3
SKY	Skiros Island	1.11	225	P	Pb	16 19 16.6	+0.1
SKY	Skiros Island	1.11	225	P	Pb	16 19 16.6	+0.1
SKY				S	Sn	16 19 32.7	+0.6
THAS	Thassos island	1.15	326	P	Pn	16 19 17.7	+0.3
THAS				S	Sg	16 19 32.9	+0.6
LPK	Lapseki	1.17	52	PN	Pb	16 19 17.3	-0.2
ENEZ	Enez	1.17	23	PN	Pb	16 19 17.5	-0.1
DKL	Dikili	1.20	119	PN	Pn	16 19 17.8	-0.2
ERIK	Erikli-Kesan	1.25	36	PN	Pb	16 19 18.9	0.0
ALN	Alexandroupoli	1.29	17	P	Pn	16 19 19.1	-0.2
ALN				S	Sb	16 19 36.2	-0.1
ALN	Alexandroupoli	1.29	17	P	Pn	16 19 19.2	-0.2
ALN				S	Sn	16 19 36.5	-0.1
CHOS	Chios island	1.33	163	PN	Pn	16 19 18.9	-1.0
CHOS	Chios island	1.33	163	P	Pn	16 19 19.8	-0.1
CHOS	Chios island	1.33	163	P	Pn	16 19 19.6	-0.3
AOS	Alonnisos	1.39	250	PN	Pn	16 19 20.5	-0.2
KESN	Edirne-Kesan	1.45	36	IAML_P			
	comp=Z,144nm,0.2s						
KESN				iP	Pg	16 19 23.2	0.0
KESN				iS	Sg	16 19 41.6	-0.4
RDO	Rodhopi	1.48	359	PN	Pn	16 19 21.9	-0.1
RDO	Rodhopi	1.48	359	P	Pn	16 19 21.8	-0.2
KRBG	Karabiga-Canak	1.52	61	PN	Pb	16 19 23.1	-0.5
URLA	Izmir	1.53	148	PN	Pn	16 19 22.7	+0.1
KAVA	Kavala	1.56	329	P	Pn	16 19 22.8	-0.2
KAVA				S	Sn	16 19 42.4	-0.8
KAVA				AML	AML	16 19 48.3	
	comp=N,96μm,0.2s						
KAVA				AML	AML	16 19 48.5	
	comp=E,115μm,0.2s						
KAVA	Kavala	1.56	329	P	Pn	16 19 22.8	-0.2
SART	Tekirdag	1.61	50	IAML_P			
	comp=Z,925nm,0.2s						
SART				iP	Pb	16 19 25.4	+0.2
SART				iS	Sb	16 19 46.0	+0.4
STEP	BALIKESIR_Sava	1.69	99	IAML_P			
	comp=Z,84nm,0.1s						
STEP				iP	Pb	16 19 26.7	+0.2
MRMT	Marmara Adasi	1.82	58	PN	Pn	16 19 27.2	+0.4
EDC	Edincik	1.90	68	PN	Pn	16 19 28.3	+0.6
SBT4	Kumbag-Tekirda	1.91	52	PN	Pn	16 19 28.4	+0.7
KCTX	Karacabey (Bur	2.23	73	PN	Pn	16 19 32.9	+0.6
EDRB	Edirne	2.36	22	PN	Pn	16 19 34.9	+0.8

MOS ***11*** *16:30:38.4±1.3, 14°.79N×92°.46W, h61km, mb5.2/21, Error ellipse: s-maj=15.4km s-min=6.1km az=103.4*
VAO ***11*** *16:30:39.5±0.6, 14°.40N×91°.82W, h10km, mb5.2*
ISCJB ***11*** *16:30:39.5±0.2, 14°.82N±0°.02×92°.68W±0°.02, h65km, mb4.8/90, Error ellipse: s-maj=3.4km s-min=1.6km az=138.0*
IDC ***11*** *16:30:40.3±0.6, 14°.97N×92°.33W, h64km±4km, mb4.3/19, mb1 4.5/20, mb1mx4.3/30, mbtmp4.6/20, MS4.3/21, Ms1 4.3/21, ms1mx4.2/25, Error ellipse: s-maj=21.8km s-min=9.9km az=60.0*
MEX ***11*** *16:30:40.2±0.7, 14°.61N×92°.87W, h28km±30km, MD5.4*
UCR ***11*** *16:30:41.5±2.4, 14°.69N×92°.63W, h20km±157km, ML5.1, mb5.1(NEIC)*
GCMT ***11*** *16:30:41.2±0.2, 14°.83N±0°.01×92°.75W±0°.01, h77km±1km, MW5.4/116, Moment Tensor Solution. s100,c161; s116,c214; Duration: 1.s2 Moment tensor: Scale 10^{17} Nm; Mrr-0.12±.02; Mθθ-0.52±.03; Mφφ0.64±.03; Mrθ0.99±.02; Mθφ-0.12±.03; Mφr-0.85±.02; Best double couple: M0 1.43900×10^{17} NP1:φs312.00000°, δ87.00000°, λ-114.00000°. NP2:φs216.00000°, δ24.00000°, λ-6.00000°. Principal axes: T 1.4370, Plg38.0000°, Azm63.0000°; N 0.0050, Plg24.0000°, Azm313.0000°; P -1.4420, Plg43.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
SNET ***11*** *16:30:41.0±0.0, 14°.60N×92°.45W, h32km*
NEIC ***11*** *16:30:42.2±0.5, 14°.80N×92°.61W, h79km±4km, mb5.1/88, MW5.3, MD5.4(MEX), MD5.6(SNET), Error ellipse: s-maj=6.8km s-min=4.4km az=46.0 Best double couple: NP1:φs318.00000°, δ77.00000°, λ-103.00000°. NP2: φs182.00000°, δ18.00000°, λ-47.00000°. Principal axes: T 1.1600, Plg31.0000°, Azm59.0000°; N 0.0300, Plg12.0000°, Azm321.0000°; P -1.1900, Plg57.0000°, Azm212.0000°;*
NEIC Felt at Puerto Escondido, Tapachula and Tuxtla Gutierrez. Also felt at Guatemala, Mixco, Quetzaltenango, Retalhuleu and San Juan La Laguna, Guatemala. Felt [II] at San Salvador, El Salvador.
ISC 11 16:30:40.2±0.5**, 14°.81N**±0°.05×**92°.71W**±0°.05**, h67**km±3km**, h67**km**:pP-P, n606, σ1.s63**/599**, mb5.0**/90**, 4C-4D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THIG		0.45	77	eP	Pn	16 30 51.6	-0.6
THIG				eS	Sn	16 30 59.6	-1.4
THIG		0.45	77	eP	Pn	16 30 51.6	-0.6
THIG				eS	Sn	16 30 59.6	-1.4
PCIG		1.02	331	eP	Pn	16 30 58.3	-0.5
PCIG				eS	Sn	16 31 11.4	-1.2
PCIG		1.02	331	eP	Pn	16 30 58.3	-0.5

PCIG eS Sn 16 31 11.4 -1.2
CCIG Comitan 1.57 21 ePn Pn **16 31 08.2 +2.1**
CCIG eS Sn **16 31 29.6 +3.8**
CCIG Comitan 1.57 21 eP Pn **16 31 07.7 +1.5**
CCIG eS Sn **16 31 29.6 +3.8**
APG El Apazote 2.18 85 P Pn **16 31 15.9 +1.4**
204nm,0.3s,baz=5.5,slow=9.6,SNR=299
CMIG Matias Romero 3.09 318 P Pn **16 31 26.3 -0.3**
74nm,0.3s,baz=135,slow=12,SNR=219
CMIG S Sn **16 32 01.2 -1.1**
558nm,0.3s,baz=108,slow=13,SNR=9.5
CMIG LR LR 16 32 48.3
comp=Z,5µm,18.9s,baz=156,slow=40
CMIG Matias Romero 3.09 318 eP Pn **16 31 26.2 -0.3**
CMIG *i* S Sn **16 32 01.2 -1.1**
RTR El Retiro 3.11 107 eP Pn **16 31 28.8 +1.8**
SBLS San Blas 3.15 107 eP Pn **16 31 28.9 +1.3**
CEVE Cerro Verde 3.15 108 eP Pn **16 31 29.2 +1.6**
CEVE eS Sn **16 32 06.2 +2.0**
CEDA San Andres 3.37 107 IAML 16 32 29.4
comp=Z,26µm,0.5s
BOQS Boqueron 3.50 107 eP Pn **16 31 33.9 +1.5**
CLUB San Salvador 3.52 108 IAML 16 32 22.5
comp=Z,28µm,0.5s
SNET Serv Nac Est T 3.56 108 eP Pn **16 31 35.4 +2.3**
SNET eS Sn **16 32 15.5 +1.6**
SNET IAML 16 32 32.2
comp=Z,14µm,0.5s
OPAM San Salvador 3.57 107 eP Pn **16 31 34.4 +1.1**
OPAM IAML 16 32 27.8
comp=Z,12µm,0.4s
LOMA San Marcos 3.62 108 eP Pn **16 31 35.4 +1.5**
LOMA eS Sn **16 32 17.9 +2.6**
LFU La Fuente 3.64 106 eP Pn **16 31 35.5 +1.2**
LBRS Las Brisas 3.71 106 eP Pn **16 31 36.6 +1.4**
LFRS El Faro 3.73 108 eP Pn **16 31 36.9 +1.4**
PAVA Las Pavas 3.82 106 eP Pn **16 31 38.4 +1.7**
PAVA eS Sn **16 32 21.5 +1.0**
PAVA IAML 16 32 39.7
comp=Z,8µm,0.5s
SNVI San Vicente 3.94 107 eP Pn **16 31 40.2 +1.8**
SNVI eS Sn **16 32 25.3 +1.8**
CAHU Cacacuatique 4.48 103 eP Pn **16 31 47.2 +1.3**
CAHU IAML 16 32 51.9
comp=Z,5µm,0.7s
VSM San Miguel 4.52 107 eP Pn **16 31 49.0 +2.6**
CNCH Conchagua 4.97 107 eP Pn **16 31 54.4 +1.9**
CNCH eS Sn **16 32 53.6 +4.8**
CNCH IAML 16 32 54.8
comp=Z,5µm,0.6s
CRIN San Cristobal 5.89 110 eP Pn **16 32 07.5 +2.6**
LVIG Laguna Verde 6.04 325 ePn Pn **16 32 04.6 -2.3**
TELN Telica 6.12 110 eP Pn **16 32 09.8 +1.7**
TLIG Tlapa 6.26 297 ePn Pn **16 32 11.8 +1.7**
CNGN Cerro Negro 6.28 111 eP Pn **16 32 11.6 +1.3**
CNGN IAML 16 33 32.2
comp=E,2µm,0.7s
ESTN Estel 6.39 105 ePn Pn **16 32 13.9 +2.1**
ESTN Estel 6.39 105 eP Pn **16 32 13.2 +1.4**
ESTN eS Sn **16 33 28.4 +5.0**
ESTN IAML 16 33 31.6
comp=N,823nm,0.8s
MOMN Momotombo 6.46 111 eP Pn **16 32 14.5 +1.7**
COPN Copaltepe 6.50 113 eP Pn **16 32 14.2 +0.9**
BRAN Las Pilas 6.52 108 eP Pn 16 32 21.5 +8.0
MYIG Mrida 6.74 24 ePn Pn **16 32 17.6 +1.1**
MGAN Managua 6.82 112 eP Pn **16 32 19.5 +1.8**
MATN Matagalpa 6.85 105 eP Pn **16 32 19.6 +1.5**
TEIG Tepich 6.85 38 ePn Pn **16 32 18.7 +0.7**
MASN Masaya 6.97 113 eP Pn **16 32 21.1 +1.4**
BOAB BOACO BROADBAN 7.24 108 ePn Pn **16 32 24.6 +1.2**
BOAB BOACO BROADBAN 7.24 108 eP Pn **16 32 24.5 +1.2**
CONN Concepcion 7.62 114 eP Pn **16 32 31.8 +3.2**
BUEV Buena Vista 8.16 118 eP Pn **16 32 38.5 +2.4**
MESS Mesas 8.37 118 eP Pn **16 32 40.7 +1.7**
CUI Cuipilapa 8.44 118 eP Pn **16 32 41.8 +1.9**
PLVR Palo Verde 8.44 121 eP Pn **16 32 42.5 +2.4**
ESPN Las Esperanzas 8.58 107 eP Pn **16 32 43.3 +1.5**
JTS JuntasAbangare 8.80 120 P Pn **16 32 46.6 +1.8**
comp=N,8.7nm,0.3s,baz=351,slow=7.3,SNR=44
JTS S Sn **16 34 24.1 +1.5**
baz=251,slow=22,SNR=2.1
JTS JuntasAbangare 8.80 120 eP Pn **16 32 46.2 +1.3**
JTS eP Pn **16 32 46.7 +1.9**
ARE1 Arenal 1 8.92 118 eP Pn **16 32 48.4 +2.0**
CEDE Laguna Cedeo 8.92 118 eP Pn **16 32 48.8 +2.4**
JRQG Juriquilla Cam 9.41 310 ePn Pn **16 32 57.7 +4.3**
MOIG Morelia 9.44 302 ePn Pn **16 32 57.4 +3.8**
HDC Heredia 9.66 119 eP Pn **16 32 59.5 +2.8**
LCR2 La Lucha 2 9.89 120 eP Pn **16 33 01.3 +1.5**
EDDO Dominical 10.26 122 eP Pn **16 33 07.6 +2.9**
ICCO Coco Island 10.76 148 eP Pn 16 33 16.6 +5.2
EDBA Buenos Aires 10.80 120 eP Pn **16 33 13.9 +1.8**
BRU2 Volcan 11.48 120 eP Pn **16 33 23.2 +1.6**
WBCY West Bay, Gran 11.73 66 ePn Pn **16 33 25.9 +1.2**
LNIG Linares 11.88 329 ePn Pn **16 33 28.4 +1.7**
ZAIG Zacatecas 12.23 312 ePn Pn **16 33 34.9 +3.0**
PNME Penonome 13.66 116 eP Pn **16 33 53.2 +2.3**
833A Chaparral WMA, 14.81 336 ePn Pn **16 34 07.2 +1.3**
833A Chaparral WMA, 14.81 336 P Pn **16 34 06.9 +0.9**
baz=154,SNR=16
MTDJ Mount Denham 14.95 75 eP P **16 34 12.5 +0.6**
comp=N,159nm,0.8s
PAYG Puerto Ayora 15.57 171 ePn P **16 34 19.5 +0.8**
comp=N,218nm,1.4s
059Z Ave Maria 15.57 41 P Pn **16 34 15.8 +0.1**
baz=224
061Z Ochoppi 15.60 43 P Pn **16 34 15.9 -0.1**
baz=227,SNR=12
058A Arcadia 15.87 38 P Pn **16 34 19.0 -0.5**
baz=222,SNR=5.1
957A Wimauma 16.09 36 P Pn **16 34 22.4 +0.2**
baz=219
059A Moore Haven 16.21 40 P Pn **16 34 23.9 +0.1**
baz=224
958A Wauchula 16.30 37 P Pn **16 34 23.9 -1.0**
baz=220,SNR=11
435B Jarrell 16.52 345 P Pn **16 34 28.4 +0.7**
baz=163
857A Zephyrhills 16.55 34 P Pn **16 34 27.8 -0.3**
baz=218
448A Bay Minette 16.66 15 P P **16 34 31.8 +1.1**
baz=196
060A Indiantown 16.75 41 P Pn **16 34 29.5 -1.0**
baz=226
DWPF Disney Wildern 16.88 37 eP P **16 34 33.3 +0.1**
comp=N,397nm,0.8s
DWPF Disney Wildern 16.88 37 P Pn **16 34 31.9 -0.3**
baz=220
DWPF Disney Wildern 16.88 37 eP P **16 34 33.2 +0.1**
JCT Junction City 16.91 339 ePn P **16 34 34.4 +0.9**
comp=N,43nm,0.6s
JCT Junction City 16.91 339 eP P **16 34 34.4 +0.9**
JCT pmax pmax
comp=Z,43nm,0.6s
JCT Junction City 16.91 339 P P **16 34 34.2 +0.6**
baz=156,SNR=6.6
NATX Nacogdoches 16.97 354 P Pn **16 34 32.5 -0.7**
baz=173
858A St. Cloud 17.00 36 P Pn **16 34 33.8 +0.2**
baz=220,SNR=8.7
655A Horseshoe Beac 17.04 29 P Pn **16 34 33.5 -0.6**
baz=212
BRAL Brewton 17.09 17 ePn P **16 34 36.3 +0.8**
comp=Z,347nm,0.9s
BRAL Brewton 17.09 17 P P **16 34 36.5 +1.0**
baz=198,SNR=7.6
348A Jackson 17.11 14 ePn P **16 34 38.0 +2.3**
comp=Z,217nm,0.9s
348A Jackson 17.11 14 P P **16 34 36.9 +1.2**
baz=196
859A Kempfer Cattle 17.15 38 P Pn **16 34 35.4 -0.1**
baz=222
757A Oxford 17.17 33 P Pn **16 34 35.3 -0.4**
baz=217
349A Repton 17.23 16 P P **16 34 37.9 +0.9**
baz=198,SNR=18
244A Avery, Jackson 17.26 6 P P **16 34 37.4 0.0**
baz=186
656A Willston 17.27 31 P Pn **16 34 37.1 +0.1**
baz=215,SNR=9.0
245A Little AP, Sta 17.34 8 P P **16 34 38.2 0.0**
baz=189
452A Marianna 17.40 22 P P **16 34 39.5 +0.6**
baz=205,SNR=14
246A Jackson Lee, B 17.44 10 P Pn **16 34 39.1 +0.1**
baz=191
VBMS Vicksburg 17.45 6 P P **16 34 39.8 +0.3**
baz=187
350A Dozier 17.54 18 P P **16 34 41.4 +1.0**
baz=200
247A Quitman 17.57 12 P P **16 34 41.3 +0.5**
baz=193
351A Pinckard 17.64 20 P P **16 34 42.4 +0.9**
baz=203,SNR=6.6
TXAR Lajitas Array 17.65 327 P P **16 34 43.1 +1.4**
comp=Z,0.5nm,0.3s,baz=150,slow=10,SNR=51
TXAR LR LR 16 42 52.6
comp=Z,329nm,19.4s,baz=0.0,slow=41
WHTX Lake Whitney, 17.65 347 eP P **16 34 45.0 +3.4**
comp=Z,71nm,0.6s
TX31 Lajitas Ar. Si 17.65 327 eP P **16 34 43.4 +1.6**
555A McAlpin 17.69 29 P P **16 34 43.8 +1.8**
baz=212,SNR=5.8
453A Whigham 17.73 24 eP Pn **16 34 44.6 +2.0**
comp=Z,403nm,0.9s
453A Whigham 17.73 24 P Pn **16 34 43.6 +1.0**
baz=207,SNR=6.9
657A Interlachen 17.79 32 P P **16 34 43.2 0.0**
baz=216
248A Dixon Mills 17.80 14 P Pn **16 34 43.9 +0.5**
baz=196
249A Camden 17.84 16 P Pn **16 34 44.7 +0.8**
baz=198,SNR=15
556A Lake Butler 17.86 30 P P **16 34 43.4 -0.5**
baz=214,SNR=6.2
144A Alexander Plac 17.87 6 P Pn **16 34 44.8 +0.6**
baz=187
454A Quitman 17.90 26 P Pn **16 34 45.7 +1.2**
baz=203,SNR=5.3
145A Houston Renfro 17.90 8 P Pn **16 34 44.7 +0.1**
baz=188
DBBC Dabeiba 17.95 114 eP Pn **16 34 45.7 +0.2**
DBBC Dabeiba 17.95 114 eP Pn **16 34 45.7 +0.2**
658A Bunnell 17.98 34 P P **16 34 45.2 -0.2**
baz=218
146A Union 18.06 10 P Pn **16 34 47.0 +0.5**
baz=191
352A Blakely 18.06 22 P Pn **16 34 47.3 +0.7**
baz=205,SNR=20
250A Grady 18.08 18 P Pn **16 34 46.5 -0.2**
baz=200,SNR=12
455A Stateville 18.19 28 P Pn **16 34 48.2 +0.1**
baz=211
557A Orange Park 18.21 32 P P **16 34 47.9 +0.1**
baz=216
353A Camilla 18.21 24 P Pn **16 34 49.0 +0.6**
baz=207,SNR=23
UREC San Jos de Ur 18.24 111 eP P **16 34 46.5 -1.8**
UREC San Jos de Ur 18.24 111 eP P **16 34 46.5 -1.8**
147A Livingston 18.24 12 P Pn **16 34 49.9 +1.2**
baz=194,SNR=7.5
148A Greensboro 18.37 14 P Pn **16 34 51.2 +1.0**
baz=196,SNR=12
Z41A Richland Creek 18.37 360 P Pn **16 34 52.4 +2.1**
baz=179,SNR=7.2
Z43A Armstrong Fami 18.37 4 P Pn **16 34 52.1 +1.8**
baz=184
251A Midway 18.45 20 P Pn **16 34 52.2 +0.8**
baz=202,SNR=35
149A Jones 18.52 16 P Pn **16 34 53.6 +1.6**
baz=198
TIGA Tifton 18.54 25 eP Pn **16 34 53.0 +0.6**
comp=Z,439nm,0.8s
TIGA Tifton 18.54 25 P Pn **16 34 53.9 +1.5**
baz=208,SNR=12
252A Lumpkin 18.60 22 P Pn **16 34 54.0 +0.9**
baz=204,SNR=19
Z46A Louisville 18.62 10 P Pn **16 34 54.9 +1.5**
baz=191,SNR=6.9
Z45A Winona 18.68 8 eP Pn **16 34 56.1 +2.0**
comp=Z,154nm,0.9s
Z45A Winona 18.68 8 P Pn **16 34 55.4 +1.3**
baz=189,SNR=11
150A Eclectic 18.74 18 P Pn **16 34 56.3 +1.6**
baz=200,SNR=39
355A Pearson 18.78 27 P Pn **16 34 57.7 +2.6**
baz=211
Z47A Carrollton 18.79 12 P Pn **16 34 57.7 +2.3**
baz=194
ABTX Abilene, Hawle 18.83 342 eP Pn **16 34 57.5 +1.7**
comp=Z,76nm,1.0s
ABTX Abilene, Hawle 18.83 342 P Pn **16 34 57.6 +1.7**
baz=159
LRAL Lakeview Retre 18.88 15 eP Pn **16 34 56.5 +0.1**
LRAL Lakeview Retre 18.88 15 P Pn **16 34 58.3 +2.0**
baz=197,SNR=20
253A Americus 18.88 23 P Pn **16 34 57.1 +0.7**
baz=206
151A Opelika 18.88 20 P Pn **16 34 57.9 +1.4**
baz=202,SNR=116
HELC Santa Helena 18.93 115 eP P **16 34 56.3 +0.1**
HELC Santa Helena 18.93 115 eP P **16 34 56.3 +0.1**
ZARC Zaragoza, Cauc 18.96 111 eP P **16 34 53.0 -3.1**
ZARC Zaragoza, Cauc 18.96 111 eP P **16 34 53.0 -3.1**
Y41A Eaglette Beard 18.99 0 P Pn **16 34 59.0 +1.3**
baz=180
Z48A Northport 19.07 13 P Pn **16 35 00.3 +1.6**
baz=195,SNR=14
254A Abbeville 19.11 25 P Pn **16 35 00.4 +1.3**
baz=208,SNR=13
Z49A Columbiana 19.15 16 P Pn **16 35 01.4 +1.8**
baz=198,SNR=27
Y45A Yeager Farm, C 19.19 8 P Pn **16 35 01.7 +1.6**
baz=189,SNR=24
Y44A Strider, Charl 19.21 6 P Pn **16 35 01.6 +1.3**
baz=187,SNR=7.9
152A Waverly Hall 19.21 21 P P **16 34 59.3 +0.5**
baz=204,SNR=35
Y46A Houston 19.31 10 P Pn **16 35 02.9 +1.4**
baz=191,SNR=26
YOTC Yotoco, Valle 19.38 122 eP P **16 35 01.2 +0.3**
YOTC Yotoco, Valle 19.38 122 eP P **16 35 01.2 +0.3**
255A Hazlehurst 19.44 27 P Pn **16 35 04.0 +0.9**
baz=211
Y47A UCPARC, Winfie 19.52 12 P Pn **16 35 05.2 +1.2**
baz=194,SNR=14
153A Fort Valley 19.52 23 P P **16 35 02.3 +0.1**
baz=206,SNR=6.5
Z51A Franklin 19.66 19 P Pn **16 35 06.3 +0.7**
baz=202,SNR=8.8
MIAR Mount Ida 19.67 358 eP Pn **16 35 06.8 +1.0**
comp=Z,138nm,0.9s
MIAR Mount Ida 19.67 358 eP Pn **16 35 06.8 +1.0**
MIAR pmax pmax
comp=Z,138nm,0.9s
MIAR Mount Ida 19.67 358 P Pn **16 35 06.5 +0.8**
baz=177,SNR=59
Y48A Jasper 19.67 14 P Pn **16 35 06.0 +0.2**
baz=196,SNR=16
X43A Marvell 19.70 4 P Pn **16 35 08.5 +2.5**
baz=185,SNR=5.0
PTBC PUERTO BERRIO, 19.72 113 eP P **16 35 03.7 -0.8**
PTBC PUERTO BERRIO, 19.72 113 eP P **16 35 03.7 -0.8**
RREF El Recreo 19.72 118 eP Pn **16 35 07.8 +0.6**
RREF El Recreo 19.72 118 eP Pn **16 35 07.8 +0.6**
X45A UM Field Stati 19.76 8 P Pn **16 35 07.7 +0.9**
baz=189
154A Montrose 19.77 25 P P **16 35 05.3 +0.4**
baz=208,SNR=17
Z52A Williamson 19.79 21 P P **16 35 05.8 +0.7**
baz=204,SNR=28
NORC Norcasia 19.80 116 eP P **16 35 05.3 -0.1**
NORC Norcasia 19.80 116 eP P **16 35 05.3 -0.1**
Y49A Blount Mountai 19.81 16 P P **16 35 06.0 +0.7**
baz=198,SNR=10
OXF Oxford 19.85 8 eP Pn **16 35 07.5 -0.3**
comp=Z,142nm,1.0s
OXF Oxford 19.85 8 eP Pn **16 35 07.5 -0.3**
OXF pmax pmax
comp=Z,142nm,1.0s
OXF Oxford 19.85 8 P Pn **16 35 08.2 +0.4**
baz=189,SNR=17
UALR University of 19.89 1 eP Pn **16 35 09.0 +0.7**
comp=Z,187nm,0.9s
ANIL Santa Ana 19.89 119 eP Pn **16 35 08.6 -0.2**
ANIL Santa Ana 19.89 119 eP Pn **16 35 08.6 -0.2**
POPC Popayan, Colom 19.97 126 eP P **16 35 07.8 +0.3**
POPC Popayan, Colom 19.97 126 eP P **16 35 07.8 +0.3**
X46A Booneville 20.02 10 P Pn **16 35 10.9 +1.1**
baz=191,SNR=10
Y50A Piedmont 20.02 17 P Pn **16 35 09.8 -0.2**
baz=200,SNR=20
155A Kite 20.04 26 P Pn 16 35 09.5 -0.6
baz=210,SNR=8.2
OCAC Ocana 20.08 107 eP P **16 35 08.6 0.0**
OCAC Ocana 20.08 107 eP P **16 35 08.6 0.0**
X47A Russelville 20.11 12 P Pn 16 35 11.5 +0.6
baz=193,SNR=11
CMBC Cumbal 20.16 132 eP Pn 16 35 11.9 -0.2
CMBC Cumbal 20.16 132 eP Pn 16 35 11.9 -0.2
Z53A Monticello 20.18 23 P P **16 35 09.1 -0.2**
baz=206,SNR=39
OTAV Otavalo 20.21 135 eP Pn 16 35 12.9 +0.1
comp=Z,36nm,1.1s
OTAV Otavalo 20.21 135 eP P **16 35 10.2 0.0**
OTAV Otavalo 20.21 135 eP P **16 35 10.2 0.0**
X48A Hartselle 20.22 14 eP P **16 35 10.5 +0.8**
comp=Z,82nm,0.9s
X48A Hartselle 20.22 14 P Pn 16 35 11.6 -0.6
baz=196,SNR=29
Y51A Rockmart 20.23 19 P P **16 35 09.7 -0.2**
baz=202,SNR=37
SOTA Rioblanco 20.28 127 eP Pn 16 35 14.3 +0.7
SOTA Rioblanco 20.28 127 eP Pn 16 35 14.3 +0.7
W41B Gary Mavity, V 20.29 1 P Pn 16 35 13.5 +0.6
baz=181,SNR=16
GCUF Volcan Galeras 20.31 130 eP P **16 35 12.7 +1.3**
GCUF Volcan Galeras 20.31 130 eP P **16 35 12.7 +1.3**
PCON Cinco Dias 20.32 126 eP Pn 16 35 15.2 +1.0
PCON Cinco Dias 20.32 126 eP Pn 16 35 15.2 +1.0
W39A Magazine 20.33 357 P Pn 16 35 13.2 -0.2
baz=177,SNR=7.4
GOGA Godfrey 20.33 23 eP P **16 35 11.5 +0.5**
comp=Z,195nm,0.8s
GOGA Godfrey 20.33 23 eP P **16 35 11.5 +0.5**
GOGA pmax pmax
comp=Z,195nm,0.8s
GOGA Godfrey 20.33 23 P P **16 35 11.2 +0.2**
baz=206,SNR=54
MARP Paez Belalcaza 20.36 124 eP P **16 35 11.1 -0.7**
MARP Paez Belalcaza 20.36 124 eP P **16 35 11.1 -0.7**
CRUC La Cruz 20.38 129 eP Pn 16 35 15.2 +0.5
CRUC La Cruz 20.38 129 eP Pn 16 35 15.2 +0.5
MNTX Cornudas Mount 20.42 328 eP Pn 16 35 13.8 -0.9
comp=Z,36nm,1.0s
MNTX Cornudas Mount 20.42 328 P Pn 16 35 13.7 -0.9
baz=142,SNR=26
Z54A Sparta 20.42 24 P P **16 35 11.6 -0.3**
baz=208,SNR=30
X49A Woodville 20.45 15 P Pn 16 35 14.6 -0.3
baz=198,SNR=46
156A Sylvania 20.49 28 P P **16 35 13.3 +0.6**
baz=212,SNR=5.4
W45A Hickory Valley 20.51 8 P Pn 16 35 17.5 +1.9
baz=189,SNR=13
PLAL Pickwick Lake 20.52 11 eP P **16 35 14.1 +1.1**
comp=Z,54nm,1.0s
Y52A Lilburn 20.53 21 P P **16 35 13.6 +0.5**
baz=204,SNR=20
X50B Fort Payne 20.58 17 P Pn 16 35 15.9 -0.6
baz=199,SNR=42
WMOK Wichita Mounta 20.59 346 eP Pn 16 35 15.7 -0.9
comp=Z,94nm,1.2s
WMOK Wichita Mounta 20.59 346 eP Pn 16 35 15.7 -0.9
WMOK pmax pmax
comp=Z,94nm,1.2s
WMOK Wichita Mounta 20.59 346 P Pn 16 35 16.2 -0.3
baz=163,SNR=11
ROSC El Rosal 20.63 117 eP P **16 35 16.0 +1.2**
ROSC El Rosal 20.63 117 eP P **16 35 16.0 +1.2**
Y53A Monroe 20.69 22 P P **16 35 15.0 +0.2**
baz=205,SNR=32
BARC Barichara 20.84 111 eP Pn 16 35 19.3 -0.7
BARC Barichara 20.84 111 eP Pn 16 35 19.3 -0.7
BETC Betania 20.87 124 eP P **16 35 15.2 -1.8**
BETC Betania 20.87 124 eP P **16 35 15.2 -1.8**
W47A Westpoint 20.87 12 P P **16 35 17.7 +0.9**
baz=194,SNR=12
V41A Mountainview 20.90 1 P P **16 35 10.1 -7.0**
baz=181,SNR=6.9
W48A Pulaski 20.90 13 P P **16 35 18.3 +1.2**
baz=196
X51A Calhoun 20.91 18 P P **16 35 18.4 +1.2**
baz=201,SNR=23
SDDR Presa de Saban 20.91 76 eP P **16 35 18.2 +0.8**
comp=Z,64nm,0.8s
V42A Cord 20.95 3 P P **16 35 18.9 +1.4**
baz=183,SNR=10
Y54A Tignall 21.03 24 P P **16 35 18.2 -0.3**
baz=208,SNR=51
W49A Belvidere 21.04 15 P P **16 35 19.0 +0.4**
baz=197,SNR=7.8
MSTX Muleshoe 21.14 336 P P **16 35 20.6 +0.8**
baz=152
TUL1 Leonard 21.20 353 eP P **16 35 22.4 +2.2**
comp=Z,153nm,0.8s
TUL1 Leonard 21.20 353 P P **16 35 22.0 +1.7**
baz=172,SNR=6.8
SWET Sewanee 21.22 15 eP P **16 35 20.7 +0.2**
comp=Z,108nm,1.0s
RUSC La Rusia 21.23 113 eP P **16 35 21.7 +0.4**
RUSC La Rusia 21.23 113 eP P **16 35 21.7 +0.4**
CHIC Chingaza 21.25 117 eP P **16 35 21.7 +0.3**
CHIC Chingaza 21.25 117 eP P **16 35 21.7 +0.3**
X52A Dahlonega 21.26 20 P P **16 35 20.8 -0.2**
baz=204,SNR=20
V46A Holladay 21.31 10 P P **16 35 21.6 +0.2**
baz=192,SNR=10
FLOC Florencia 21.37 126 eP P **16 35 23.4 +1.1**
FLOC Florencia 21.37 126 eP P **16 35 23.4 +1.1**
W50A Signal Mountai 21.37 17 P P **16 35 22.7 +0.6**
baz=200,SNR=19
X53A Estanollee 21.37 22 P P **16 35 23.7 +1.5**
baz=205,SNR=23
V47A Nunnelly 21.45 12 P P **16 35 23.7 +0.8**
baz=194,SNR=12
NHSC New Hope 21.48 30 eP P **16 35 25.2 +1.9**
comp=Z,328nm,1.0s
NHSC New Hope 21.48 30 P P **16 35 25.0 +1.7**
baz=215
W51A Cleveland 21.49 18 P P **16 35 26.2 +2.8**
baz=201,SNR=18
U42A Revenden 21.50 3 P P **16 35 25.7 +2.3**
baz=184,SNR=16
V48A Smith Brothers 21.50 13 P P **16 35 23.8 +0.3**
baz=195
VILC Villavicencio, 21.54 118 eP P **16 35 24.2 -0.1**
VILC Villavicencio, 21.54 118 eP P **16 35 24.2 -0.1**
GRTK Grand Turk 21.55 69 eP P **16 35 24.3 +0.1**
comp=Z,121nm,0.6s
AMTX Amarillo 21.56 340 eP P **16 35 26.3 +2.0**
comp=Z,95nm,0.8s
AMTX Amarillo 21.56 340 P P **16 35 25.8 +1.5**
baz=156
WVT Waverly 21.68 11 P P **16 35 26.0 +0.6**
baz=193
W52A Murphy 21.69 20 P P **16 35 26.4 +0.8**
baz=203,SNR=9.3
U45A Rockin P Farm, 21.74 9 P P **16 35 32.5 +6.4**
baz=190
V49A McMinnville 21.75 15 P P **16 35 27.0 +0.8**
baz=198,SNR=9.9
CPCT Cooper Cave 21.83 18 eP P **16 35 27.5 +0.4**
comp=Z,67nm,0.9s
U46A Springville 21.84 10 P P **16 35 27.7 +0.5**
baz=192
V50A Pikevile 21.87 17 P P **16 35 29.9 +2.5**
baz=200,SNR=9.1
JSC Jenkinsville 21.98 26 eP P **16 35 29.0 +0.4**
comp=Z,92nm,0.9s
JSC Jenkinsville 21.98 26 eP P **16 35 29.0 +0.4**
JSC pmax pmax
comp=Z,92nm,0.9s
HSIG 22.01 313 eP P **16 35 31.1 +2.1**
comp=Z,27nm,0.9s
W53A Cullowhee 22.02 21 P P **16 35 30.3 +1.1**
baz=205,SNR=12
U47A Clarksville 22.08 12 P P **16 35 31.9 +2.2**
baz=194,SNR=8.2
T41A Mountain View 22.16 2 P P **16 35 31.1 +0.5**
baz=182,SNR=7.7
T42A Van Buren 22.18 3 P P **16 35 32.4 +1.6**
baz=184
V51A Loudon 22.21 18 eP P **16 35 32.5 +1.4**
comp=Z,82nm,0.8s
V51A Loudon 22.21 18 P P **16 35 31.9 +0.7**
baz=202,SNR=24

TKL Tuckaleechee C 22.26 20 P P 16 35 31.5 -0.2
comp=Z,27nm,0.9s,baz=203,slow=10,SNR=18
TKL Tuckaleechee C 22.26 20 eP P 16 35 32.5 +0.8
comp=Z,92nm,0.9s
TKL Tuckaleechee C 22.26 20 eP P 16 35 32.5 +0.8
TKL pmax pmax
comp=Z,92nm,0.9s
121A Cookes Peak, D 22.36 325 P P 16 35 35.1 +2.2
baz=138,SNR=26
T44A Benton 22.36 7 P P 16 35 33.9 +1.2
baz=188
SDV Santo Domingo 22.39 103 P P 16 35 30.2 -3.3
comp=Z,18nm,0.6s,baz=292,slow=6.0,SNR=10
SDV Santo Domingo 22.39 103 eP P 16 35 30.2 -3.3
comp=Z,38nm,0.6s
V52A Sevierville 22.48 20 P P 16 35 34.7 +0.6
baz=203,SNR=8.9
U49A Red Boiling Sp 22.49 15 P P 16 35 33.4 -0.7
baz=197,SNR=12
V53A Saluda 22.59 21 P P 16 35 36.0 +0.6
baz=205,SNR=8.0
U50A Jamestown 22.64 17 P P 16 35 34.9 -0.9
baz=200,SNR=11
KMSC Kings Mountain 22.69 25 P P 16 35 35.7 -0.6
baz=209,SNR=7.0
S41A Jillco Farms, 22.71 2 P P 16 35 35.0 -1.4
baz=182
S43A Fulton Ridge, 22.80 5 P P 16 35 36.5 -0.9
baz=186,SNR=6.4
U51A La Follette 22.85 18 P P 16 35 37.2 -0.7
baz=202,SNR=10.0
S42A Caledonia 22.94 4 P P 16 35 38.0 -0.8
baz=184
BNM Barren Site 23.00 329 eP P 16 35 42.5 +2.8
S44A Carbondale 23.00 7 P P 16 35 39.5 +0.1
baz=188,SNR=7.7
U52A Thorn Hill 23.06 20 P P 16 35 40.8 +0.7
baz=203,SNR=8.5
T49A Edmonton 23.11 15 P P 16 35 41.3 +0.8
baz=198,SNR=6.4
TZTN Tazewell 23.14 19 eP P 16 35 40.2 -0.6
comp=Z,62nm,0.8s
TZTN Tazewell 23.14 19 P P 16 35 42.1 +1.2
baz=203,SNR=8.1
CCM Cathedral Cave 23.19 3 eP P 16 35 42.2 +0.9
comp=Z,329nm,0.9s
CCM Cathedral Cave 23.19 3 eP P 16 35 42.2 +0.9
CCM pmax pmax
comp=Z,329nm,0.9s
CCM Cathedral Cave 23.19 3 P P 16 35 41.8 +0.5
baz=183
T50A Nancy 23.21 16 P P 16 35 41.5 +0.1
baz=199,SNR=8.9
U53A Fall Branch 23.30 21 P P 16 35 41.2 -1.2
baz=205,SNR=15
T51A Gray 23.41 18 P P 16 35 44.9 +1.5
baz=202,SNR=14
R41A Rosebud 23.43 3 P P 16 35 42.6 -0.9
baz=183,SNR=7.9
R43A Red Bud 23.51 5 P P 16 35 46.1 +1.9
baz=186,SNR=5.3
S48A Wiedeman Farm, 23.51 13 P P 16 35 45.4 +1.1
baz=196
ANMO Albuquerque 23.56 331 P P 16 35 46.2 +1.2
comp=Z,12nm,0.8s,baz=145,slow=12,SNR=18
ANMO Albuquerque 23.56 331 eP P 16 35 46.4 +1.4
comp=Z,16nm,0.7s
ANMO Albuquerque 23.56 331 c iP P 16 35 47.0 +2.0
ANMO pmax pmax
comp=Z,15nm,1.0s
ANMO Albuquerque 23.56 331 P P 16 35 46.2 +1.2
baz=145
R45A Skylar, Fairfi 23.72 9 P P 16 35 46.2 +0.1
baz=190
S49A Springfield 23.82 15 P P 16 35 47.0 0.0
baz=198,SNR=5.2
TUC Tucson 23.98 320 eP P 16 35 52.0 +3.4
comp=Z,40nm,1.3s
TUC Tucson 23.98 320 eP P 16 35 52.0 +3.4
TUC pmax pmax
comp=Z,40nm,1.3s
TUC Tucson 23.98 320 P P 16 35 50.5 +1.8
baz=132
WCI Wyandotte Cave 24.01 12 eP P 16 35 49.3 +0.5
comp=Z,146nm,1.1s
WCI Wyandotte Cave 24.01 12 eP P 16 35 49.3 +0.5
WCI pmax pmax
comp=Z,146nm,1.1s
WCI Wyandotte Cave 24.01 12 P P 16 35 48.9 +0.2
baz=195
R47A Wooly Knot Far 24.03 12 P P 16 35 49.2 +0.3
baz=194,SNR=8.4
Q41A Truxton 24.09 3 P P 16 35 49.0 -0.4
baz=183,SNR=7.1
S51A Beattyville 24.14 18 P P 16 35 51.0 +1.1
baz=202,SNR=7.7
Q43A New Douglas 24.19 6 P P 16 35 50.9 +0.6
baz=187,SNR=6.3
Q44A Meyer Farm, Va 24.22 7 P P 16 35 51.5 +0.8
baz=188
R48A Northridge Ran 24.27 13 P P 16 36 07.2 +16
baz=196,SNR=6.4
CNNC Cliffs of the 24.32 31 P P 16 35 50.9 -0.7
baz=217
R49A Shelbyville 24.33 15 P P 16 35 53.2 +1.6
baz=198,SNR=6.3
Q45A Warren Harvey, 24.33 9 P P 16 35 53.5 +1.9
baz=190,SNR=5.9
KSU1 Kansas State U 24.44 353 eP P 16 35 52.3 -0.4
comp=Z,80nm,0.8s
KSU1 Kansas State U 24.44 353 P P 16 35 52.0 -0.6
baz=171
R50A Paris 24.53 16 P P 16 35 53.2 -0.3
baz=200
T25A Trinidad 24.56 337 eP P 16 35 56.9 +2.9
comp=Z,74nm,0.9s
T25A Trinidad 24.56 337 P P 16 35 56.6 +2.6
baz=152,SNR=9.1
Q47A Bedord North L 24.67 12 P P 16 35 55.1 +0.4
baz=194,SNR=7.8
CBKS Cedar Bluff 24.70 347 eP P 16 35 55.1 +0.1
comp=Z,41nm,0.8s
CBKS Cedar Bluff 24.70 347 eP P 16 35 55.2 +0.1
CBKS pmax pmax
comp=Z,41nm,0.8s
R51A Hillsboro 24.75 17 P P 16 35 56.7 +1.2
baz=201,SNR=13
P42A Winchester 24.77 4 P P 16 35 56.5 +0.9
baz=185,SNR=6.6
Q48A North Vernon 24.80 13 P P 16 35 57.0 +1.0
baz=196,SNR=6.8
P41A Barry, Barry 24.82 3 P P 16 35 57.5 +1.5
baz=184,SNR=5.2
P45A Graceland, Par 25.01 9 P P 16 35 58.9 +1.1
baz=191,SNR=5.4
Q49A Aurora 25.07 14 P P 16 35 59.7 +1.3
baz=198,SNR=5.8
Q50A Georgetown 25.15 16 P P 16 35 58.9 -0.2
baz=200,SNR=5.7
P46A Rosedale 25.19 10 P P 16 35 59.5 +0.1
baz=192
P48A Milroy 25.38 13 P P 16 36 00.9 -0.3
baz=196,SNR=7.5
Q51A Peebles 25.50 17 eP P 16 36 02.1 -0.1
comp=Z,93nm,0.8s
Q51A Peebles 25.50 17 P P 16 36 01.9 -0.4
baz=201,SNR=18
P49A Miami Univ. Ec 25.61 14 P P 16 36 03.3 -0.1
baz=198
Q52A Bidwell 25.76 19 P P 16 36 04.1 -0.5
baz=204,SNR=18
X16A Lo Mia Camp, P 25.82 322 eP P 16 36 07.9 +2.4
comp=Z,15nm,0.8s
P50A Jamestown 25.92 16 P P 16 36 05.7 -0.4
baz=200,SNR=6.9
O47A Sheridan 25.97 11 P P 16 36 06.3 -0.3
baz=194
N40A Mertquake, Sal 26.00 2 P P 16 36 07.2 +0.4
baz=182
P51A Williamsport 26.00 17 P P 16 36 07.1 +0.2
baz=201,SNR=9.2
ATAH Atahualpa 26.02 146 P P 16 36 08.7 +1.1
comp=Z,17nm,0.7s,baz=332,slow=8.6,SNR=15
S22A 4UR Ranch, Cre 26.05 334 P P 16 36 10.4 +2.7
baz=147,SNR=6.1
O48A Farmland 26.20 13 P P 16 36 09.5 +0.9
baz=196,SNR=5.2
O49A Covington 26.33 15 eP P 16 36 11.4 +1.7
comp=Z,54nm,0.9s
O49A Covington 26.33 15 P P 16 36 10.7 +0.9
baz=198,SNR=6.5
MVCO Mesa Verde 26.36 331 eP P 16 36 12.6 +2.2
comp=Z,40nm,0.8s
MVCO Mesa Verde 26.36 331 P P 16 36 12.4 +2.0
baz=144,SNR=30
P52A Corning 26.42 19 P P 16 36 11.8 +1.2
baz=203
P53A Whipple 26.52 20 P P 16 36 13.9 +2.3
baz=205,SNR=8.4
M40A Post Highland 26.52 2 P P 16 36 10.5 -1.0
baz=182
R58B Mineral 26.55 27 P P 16 36 10.3 -1.5
baz=213
WUAZ Wupatki 26.56 324 eP P 16 36 14.5 +2.3
comp=Z,20nm,0.8s
WUAZ Wupatki 26.56 324 P P 16 36 14.2 +2.0
baz=136
M39A Webster 26.58 1 P P 16 36 13.2 +1.1
baz=181
N47A Urbana 26.69 12 P P 16 36 14.5 +1.5
baz=195
M43A Waltham Townsh 26.73 6 P P 16 36 14.9 +1.5
baz=188
O51A Pataskala 26.75 17 P P 16 36 14.2 +0.6
baz=202,SNR=6.8
N48A Decatur 26.81 13 P P 16 36 14.8 +0.7
baz=196,SNR=10
O52A Adamsville 26.95 19 P P 16 36 16.4 +1.0
baz=203,SNR=11
GLA Glamis 27.07 316 P P 16 36 18.8 +2.1
baz=127
L39A Vinton 27.23 1 P P 16 36 19.6 +1.7
baz=181
O53A New Philadelph 27.27 19 P P 16 36 18.3 +0.1
baz=205
PV13 Radium Mtn., P 27.28 331 eP P 16 36 21.4 +2.7
comp=Z,175nm,1.8s
ISCO Idaho Springs 27.35 338 P P 16 36 17.6 -1.7
comp=Z,13nm,0.9s
ISCO Idaho Springs 27.35 338 P P 16 36 17.6 -1.7
ISCO pmax pmax
comp=Z,13nm,0.9s
PDMCI Parker Dam,Lak 27.40 319 P P 16 36 21.5 +2.0
baz=130,SNR=7.0
O54A Avella 27.49 21 P P 16 36 20.9 +0.7
baz=206
M49A Liberty Center 27.63 14 P P 16 36 21.4 -0.1
baz=198
K39A Oelwein 27.81 1 P P 16 36 25.1 +2.0
baz=182,SNR=6.4
BC3 Big Chuckawall 27.86 316 P P 16 36 26.0 +2.3
baz=127,SNR=9.1
N53A Lisbon 27.89 20 P P 16 36 24.6 +0.8
baz=205
IRM Iron Mountain 27.96 318 P P 16 36 26.1 +1.5
baz=128,SNR=6.0
L48A N Adams 27.97 13 P P 16 36 25.0 +0.5
baz=197,SNR=9.3
O56A Blue Knob Stat 28.22 23 P P 16 36 25.9 -0.9
baz=210
N54A Moraine State 28.32 21 P P 16 36 29.1 +1.5
baz=206,SNR=6.2
O20A White River Ci 28.66 335 P P 16 36 33.0 +2.2
baz=147
GMRC Granite Mounta 28.68 318 P P 16 36 33.4 +2.4
baz=128
SSPA Standing Stone 28.80 24 eP P 16 36 30.6 -1.3
comp=Z,200nm,1.5s
SSPA Standing Stone 28.80 24 P P 16 36 33.6 +1.7
baz=211
SRU San Rafael Swe 28.84 330 eP P 16 36 35.1 +2.6
comp=Z,31nm,1.3s
SRU San Rafael Swe 28.84 330 eP P 16 36 35.1 +2.6
SRU pmax pmax
comp=Z,31nm,1.3s
K48A Perry 28.86 13 P P 16 36 33.6 +1.2
baz=197
MVL Millersville 28.90 27 eP P 16 36 32.1 -0.6
comp=Z,39nm,0.9s
SZCU Shurtz Canyon 29.02 325 eP P 16 36 36.9 +2.8
comp=Z,14nm,1.1s
ECSD EROS Data Cent 29.02 354 eP P 16 36 32.8 -1.0
comp=Z,12nm,0.8s
CCUT Cedar City 29.14 325 eP P 16 36 38.2 +3.0
comp=Z,9.1nm,0.9s
MSU Marysvale 29.20 328 eP P 16 36 38.2 +2.5
MSU Marysvale 29.20 328 eP P 16 36 38.3 +2.5
TUQ Turquoise Moun 29.25 319 P P 16 36 38.1 +2.0
baz=129
J49A Marlette 29.62 14 P P 16 36 40.0 +0.9
baz=199
I46A Reed City 29.69 11 P P 16 36 41.2 +1.5
baz=194
H38A Maiden Rock 29.77 1 P P 16 36 42.5 +2.0
baz=181
N59A State Game Lan 29.90 26 P P 16 36 43.5 +1.8
baz=214
J52A Paris 30.22 18 P P 16 36 46.1 +1.7
baz=204
EDW2 Edwards Air Fo 30.28 316 P P 16 36 47.4 +2.3
baz=125
TPNV Topopah Spring 30.41 321 P P 16 36 49.5 +3.0
baz=130
G40A Rib Lake 30.44 4 P P 16 36 47.1 +0.8
baz=185
K55A Perry 30.55 22 P P 16 36 47.8 +0.5
baz=208
MPMC Manual Prospec 30.64 318 P P 16 36 50.6 +2.2
baz=127,SNR=6.8
DUG Dugway, Tooele 30.80 329 P P 16 36 52.0 +2.3
baz=140
PAL Palisades 30.80 28 P P 16 36 47.7 -1.9
baz=217
TCUT Toone Canyon 30.84 332 eP P 16 36 53.4 +3.1
comp=Z,46nm,0.9s
BINY Binghamton 30.88 25 eP P 16 36 49.6 -0.7
comp=Z,37nm,0.7s
BINY Binghamton 30.88 25 P P 16 36 49.4 -0.9
baz=213
R11A Troy Canyon, C 30.95 324 eP P 16 36 53.8 +2.6
comp=Z,9.9nm,1.3s
R11A Troy Canyon, C 30.95 324 P P 16 36 53.5 +2.4
baz=133,SNR=8.3
ARVC Arvin 30.98 315 P P 16 36 53.9 +2.7
baz=124
ISA Isabella, Lake 31.05 317 P P 16 36 54.6 +2.7
baz=125
F38A Pierce - Schro 31.06 1 P P 16 36 54.3 +2.5
baz=181
GRAC Grapevine Rang 31.14 320 P P 16 36 55.4 +2.8
baz=129
F43A Flat Rock, Esc 31.28 7 P P 16 36 55.6 +1.9
baz=190
COWI Conover 31.34 5 eP P 16 36 54.8 +0.5
comp=Z,19nm,0.8s
PDAR Pinedale Array 31.41 336 P P 16 36 55.9 +0.8
comp=Z,0.8nm,0.6s,baz=138,slow=8.7,SNR=7.9
PDAR pP pP 16 37 11.7 +0.3
comp=Z,5.4nm,1.0s,baz=134,slow=8.5,SNR=11
PDAR PcP PcP 16 39 48.4 +1.0
comp=Z,1.1nm,0.6s,baz=156,slow=4.7,SNR=4.8
PDAR ScP ScP 16 43 28.6 +3.8
comp=Z,1.3nm,0.9s,baz=103,slow=3.2,SNR=4.8
PDAR LR LR 16 53 07.5
comp=Z,376nm,18.1s,baz=157,slow=43
VES Vestal, Richgr 31.56 316 P P 16 36 59.3 +3.0
baz=125
H52A Wyevale 31.67 18 P P 16 36 58.2 +1.0
baz=204
E38A The Farm, Brul 31.72 2 P P 16 36 59.1 +1.6
baz=182
I55A Frankford 31.99 21 P P 16 37 01.5 +1.5
baz=208
HVU Hansel Valley 32.00 331 eP P 16 37 02.3 +2.0
comp=Z,27nm,1.0s
HVU Hansel Valley 32.00 331 eP P 16 37 02.3 +2.0
HVU pmax pmax
comp=Z,27nm,1.0s
SADO Sadowa 32.01 18 P P 16 36 59.5 -0.7
comp=Z,14nm,0.9s,baz=222,slow=7.4,SNR=3.7
AHID Auburn Hatcher 32.04 334 eP P 16 37 01.4 +0.7
comp=Z,19nm,0.9s
REDW Red Top Meadow 32.42 335 eP P 16 37 05.1 +1.0
comp=Z,85nm,0.9s
ELK Elko 32.44 327 eP P 16 37 06.8 +2.5
comp=Z,8.7nm,1.0s
ELK Elko 32.44 327 eP P 16 37 06.8 +2.5
ELK pmax pmax
comp=Z,9.0nm,1.0s
SNOW Snow King Moun 32.47 335 eP P 16 37 06.8 +2.3
comp=Z,129nm,0.9s
G53A Haliburton 32.49 19 P P 16 37 04.1 -0.2
baz=206
NV11 Mina Array Sit 32.52 321 eP P 16 37 07.7 +2.7
comp=Z,1.4nm,0.9s
TPAW Teton Pass 32.57 335 eP P 16 37 07.6 +2.2
comp=Z,43nm,0.9s
NV01 Mina Array Sit 32.61 321 eP P 16 37 08.0 +2.2
NVAR Mina Array Bea 32.61 321 P P 16 37 08.4 +2.6
comp=Z,24nm,0.9s,baz=138,slow=8.8,SNR=53
MOOW Moose Ponds 32.70 335 eP P 16 37 08.3 +1.8
comp=Z,24nm,0.9s
D47A Chapleau 33.14 12 P P 16 37 10.7 +0.7
baz=197
H17A Grant Village 33.17 336 P P 16 37 13.4 +2.7
baz=147
E51A G1948 Merrick 33.51 17 P P 16 37 14.2 +0.9
baz=203
D48A Paudash Townsh 33.53 14 P P 16 37 14.3 +0.9
baz=199
F55A Otter Lake 33.86 21 P P 16 37 15.2 -1.1
baz=209
D50A G1974 Best Tow 34.00 16 P P 16 37 18.3 +0.8
baz=202
D51A Lot 18 Range I 34.06 16 P P 16 37 18.9 +0.9
baz=203
PAHR Pah Rah Range 34.07 322 eP P 16 37 19.8 +1.4
comp=Z,16nm,1.1s
HLID Hailey 34.14 331 eP P 16 37 21.2 +2.2
comp=Z,20nm,0.9s
HLID Hailey 34.14 331 P P 16 37 20.9 +1.9
baz=140,SNR=24
BEKR Beckworth 34.76 321 eP P 16 37 27.0 +2.7
comp=Z,15nm,1.0s
DLMT Dillon 34.78 335 eP P 16 37 26.9 +2.4
comp=Z,43nm,1.0s
ULM Lac du Bonnet 35.44 356 P P 16 37 28.3 -1.6
comp=Z,2.6nm,0.5s,baz=186,slow=8.8,SNR=6.8
ULM ScP ScP 16 43 39.8 +1.3
comp=Z,3.2nm,0.7s,baz=180,slow=2.0,SNR=3.7
ULM LR LR 16 54 30.3
comp=Z,302nm,21.6s,baz=170,slow=40
PTGA Pitinga 35.88 113 eP P 16 37 31.1 -3.0
O03E Paynes Creek 35.90 321 P P 16 37 35.4 +1.4
baz=127
J08A Circle Bar Ran 35.99 327 eP P 16 37 36.6 +1.8
comp=Z,56nm,0.9s
MOD Modoc Plateau 36.01 324 eP P 16 37 35.9 +0.8
comp=Z,11nm,1.0s
BMO Blue Mountains 36.48 330 eP P 16 37 39.4 +0.4
comp=Z,9.4nm,1.0s
BMO Blue Mountains 36.48 330 eP P 16 37 39.4 +0.4
BMO pmax pmax
comp=Z,9.0nm,1.0s
MSO Missoula 36.52 335 P P 16 37 40.4 +1.2
baz=144
I04A Tendick Farm, 38.41 325 P P 16 37 56.3 +1.1
baz=130
F05D White Salmon 39.28 328 P P 16 38 04.5 +2.1
baz=133
LPAZ La Paz 39.29 141 P P 16 38 03.6 0.0
comp=Z,3.7nm,0.5s,baz=319,slow=6.0,SNR=17
LPAZ LR LR 16 54 36.0
comp=Z,322nm,20.5s,baz=322,slow=37
LPAZ La Paz 39.29 141 eP P 16 38 03.5 0.0
comp=Z,8.9nm,0.9s
LPAZ La Paz 39.29 141 eP P 16 38 00.9 -2.6
LTY Liberty 39.84 330 eP P 16 38 08.5 +1.3
comp=Z,31nm,1.1s
B08A Colville Reser 40.01 332 eP P 16 38 09.9 +1.4
comp=Z,9.3nm,0.9s
C06D Leavenworth 40.41 331 P P 16 38 13.4 +1.6
baz=135
FFC Flin Flon 40.48 352 eP P 16 38 16.3 +4.1
MNMC Minye Minye 40.69 145 eP P 16 38 16.0 +1.3
comp=Z,57nm,1.0s
FCC Fort Churchill 43.89 359 eP P 16 38 40.1 +0.3
comp=Z,2.6nm,0.6s
FCC Fort Churchill 43.89 359 eP P 16 38 40.1 +0.3
FCC pmax pmax
comp=Z,3.0nm,0.6s
LVC Limon Verde 43.89 147 eP P 16 38 42.3 +1.5
comp=Z,24nm,0.7s
LVC Limon Verde 43.89 147 eP P 16 38 40.1 -0.7
SCHQ Schefferville 44.72 21 P P 16 38 45.5 -1.1
comp=Z,9.5nm,0.9s,baz=224,slow=5.7,SNR=6.6
SCHQ LR LR 16 58 13.1
comp=Z,2µm,21.9s,baz=228,slow=37
LCO Las Campanas 48.48 154 eP P 16 39 17.2 +0.6
LCO Las Campanas 48.48 154 eP P 16 39 17.2 +0.6
LCO Las Campanas 48.48 154 eP P 16 39 17.4 +0.8
GO04 Tololo Observa 49.45 155 eP P 16 39 24.7 +0.7
comp=Z,109nm,1.8s
YKA Yellowknife Ar 50.09 347 P P 16 39 27.1 -1.0
comp=Z,14nm,0.9s,baz=152,slow=7.1,SNR=65
YKA pP pP 16 39 44.2 -1.0
comp=Z,8.9nm,0.7s,baz=149,slow=7.5,SNR=12
YKA ScP ScP 16 44 38.6 +1.7
comp=Z,1.2nm,0.9s,baz=145,slow=4.2,SNR=5.8
YKB5 Yellowknife Ar 50.09 347 eP P 16 39 27.0 -1.1
AQDB Aquidauana 50.52 133 eP P 16 39 31.8 -0.2
DLBC Dease Lake 51.64 336 eP P 16 39 41.6 +1.6
comp=Z,53nm,1.4s
TAOE Nuku Hiva Isla 52.58 246 eS S 16 47 20.8 +11
comp=Z,198nm,28.7s
TAOE eLR LR 16 54 43.2
comp=Z,2µm,28.0s,baz=64
TAOE Nuku Hiva Isla 52.58 246 eT T 17 35 33.3
comp=Z,131nm,0.3s
CPUP Villa Florida 53.44 140 P P 16 39 52.3 -1.3
comp=Z,4.2nm,0.7s,baz=352,slow=8.7,SNR=7.1
CPUP LR LR 17 04 07.7
comp=Z,163nm,18.5s,baz=332,slow=38
CPUP Villa Florida 53.44 140 eP P 16 39 52.8 -0.8
BDFB Brasilia 53.53 123 P P 16 39 54.6 0.0
comp=Z,10nm,0.6s,baz=292,slow=10,SNR=16
BDFB LR LR 17 04 20.0
comp=Z,264nm,19.9s,baz=286,slow=38
ITRB Iturama 53.96 128 eP P 16 39 57.2 -0.4
IPMB Ipameri, GO 54.65 125 eP P 16 40 01.8 -0.8
PTGB Pitanga 55.82 134 eP P 16 40 10.9 -0.1
RKT Rikitea 55.95 228 eS S 16 48 08.6 +14
comp=Z,295nm,28.2s
RKT eLR LR 16 56 42.5
comp=Z,2µm,28.0s,baz=46
RKT Rikitea 55.95 228 eT T 17 40 01.0
comp=Z,4.4nm,0.3s
BB19B Bebedouro 56.15 128 eP P 16 40 14.3 +0.9
JANB Januaria 56.30 120 eP P 16 40 14.1 -0.4
PMNB Patos De Minas 56.36 125 eP P 16 40 15.3 +0.4
FRTB Fartura 56.73 131 eP P 16 40 18.6 +1.1
ITAB Concordia 57.42 137 eP P 16 40 21.6 -0.6
MCI8 Montes Claros 57.42 121 eP P 16 40 21.3 -1.2
MCI9 Montes Claros 57.47 121 eP P 16 40 21.9 -0.9
MCI6 Montes Claros 57.52 121 eP P 16 40 22.7 -0.5
MCI7 Montes Claros 57.57 121 eP P 16 40 23.7 +0.3
DAWY Dawson 58.67 338 eP P 16 40 31.1 +0.6
comp=Z,22nm,1.6s
PLCA Paso Flores 58.96 160 P P 16 40 33.0 +0.2
comp=Z,10nm,0.9s,baz=356,slow=7.8,SNR=14
PLCA LR LR 17 01 25.9
comp=Z,223nm,18.9s,baz=358,slow=31
PLCA Paso Flores 58.96 160 eP P 16 40 33.0 +0.2
comp=Z,29nm,1.1s
PLCA Paso Flores 58.96 160 eP P 16 40 33.0 +0.2
PLCA pmax pmax
comp=Z,29nm,1.1s
PLCA Paso Flores 58.96 160 eP P 16 40 33.2 +0.4
BSCB Bom Sucesso 59.00 126 eP P 16 40 33.4 -0.1
INK Inuvik 59.47 344 eP P 16 40 35.9 +0.1
comp=Z,25nm,1.0s
INK Inuvik 59.47 344 eP P 16 40 35.9 +0.1
INK pmax pmax
comp=Z,25nm,1.0s
PLTB Pedras Altas 59.59 141 eP P 16 40 36.2 -1.0
RES Resolute Bay 59.89 359 eP P 16 40 38.5 -0.1
comp=Z,9.1nm,0.4s
RES Resolute Bay 59.89 359 eP P 16 40 38.5 -0.1
RES pmax pmax
comp=Z,9.0nm,0.4s
RCBR Riachuelo 59.92 106 eP P 16 40 40.4 +0.5
SJMB Sao Joao De Ma 60.70 122 eP P 16 40 44.8 -0.2

VAS01	**Vassouras-RJ**	**60.74**	**126**	*e*P	**P**	**16 40 44.9**	**-0.4**
BSFB	**Barra de Sao F**	**61.04**	**122**	*e*P	**P**	**16 40 47.4**	**0.0**
DUB01	**Friburgo-RJ**	**61.47**	**126**	*e*P	**P**	**16 40 51.0**	**+0.8**
RIB01	**Linhares ES**	**61.65**	**122**	*e*P	**P**	**16 40 51.4**	**-0.1**
HDA	**Harding Lake**	**61.69**	**336**	P	**P**	**16 40 51.3**	**+0.3**
	baz=117						
IL1	**Eielson Array**	**61.83**	**337**	*e*P	**P**	**16 40 51.8**	**-0.1**
ILAR	**Eielson Array**	**61.83**	**337**	P	**P**	**16 40 52.4**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=127,slow=5.2,SNR=35						
ILAR				pP	**pP**	**16 41 09.1**	**-0.5**
	comp=Z,10.0nm,1.0s,baz=125,slow=5.6,SNR=13						
ILAR				LR	LR	17 11 38.8	
	comp=Z,231nm,18.1s,baz=128,slow=40						
ILB	**Eielson Array**	**61.83**	**337**	*e*P	**P**	**16 40 52.6**	**+0.7**
CAM01	**Campos-RJ**	**61.90**	**125**	*e*P	**P**	**16 40 53.4**	**+0.3**
RND	**Reindeer**	**62.01**	**335**	*e*P	**P**	**16 40 54.5**	**+1.2**
	comp=Z,50nm,1.1s						
RND	**Reindeer**	**62.01**	**335**	*e*P	**P**	**16 40 54.5**	**+1.2**
RND				pmax	pmax		
	comp=Z,50nm,1.1s						
PMOR	**Pomariorio Ree**	**62.07**	**244**	*e*T	T	17 47 26.1	
	comp=Z,2.7nm,0.2s						
MCK	**McKinley**	**62.18**	**335**	*e*P	**P**	**16 40 55.1**	**+0.7**
	comp=Z,41nm,1.2s						
MCK	**McKinley**	**62.18**	**335**	*e*P	**P**	**16 40 55.1**	**+0.7**
MCK				pmax	pmax		
	comp=Z,41nm,1.2s						
COLA	**College**	**62.24**	**337**⇓	*e*P	**P**	**16 40 55.0**	**+0.3**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
COLA	**College**	**62.24**	**337**	*e*P	P	16 41 06.5	+12
BPAW	**Bear Paw Mtn.**	**63.16**	**335**	*e*P	**P**	**16 41 01.4**	**+0.5**
	comp=Z,22nm,1.2s						
CAST	**Castle Rocks**	**63.35**	**334**	*e*P	**P**	**16 41 02.3**	**+0.2**
	comp=Z,27nm,1.2s						
PPT	**Papeete**	**64.65**	**242**	LR	LR	17 01 29.0	
	comp=Z,181nm,19.4s,baz=52,slow=28						
PPT2	**Papeete2**	**64.66**	**242**	*e*S	S	16 49 57.1	+10
	comp=Z,467nm,31.5s						
PPT2	**Papeete2**	**64.66**	**242**	*e*LR	LR	17 00 24.0	
	comp=Z,2μm,28.2s,baz=54						
TBI	**Tubuai**	**67.21**	**236**	*e*LR	LR	17 01 47.7	
	comp=Z,1μm,29.5s,baz=54						
ESDC	**Sonseca Array**	**79.76**	**52**	P	**P**	**16 42 38.6**	**-2.7**
	comp=Z,2.3nm,0.6s,baz=286,slow=5.8,SNR=13						
ESDC				pP	**pP**	**16 42 56.9**	**-2.7**
	comp=Z,1.8nm,0.6s,baz=290,slow=5.9,SNR=5.0						
ESDC				LR	LR	17 12 39.0	
	comp=Z,295nm,21.4s,baz=325,slow=32						
BILL	**Bilibino**	**80.46**	**338**	*e*P	**P**	**16 42 44.8**	**+0.3**
	comp=Z,17nm,0.8s						
BILL	**Bilibino**	**80.46**	**338***c*	*i*P	**P**	**16 42 45.0**	**+0.6**
BILL				*e*		16 45 47.1	
BILL				*e*S	**S**	**16 52 41.1**	**-4.2**
BILL				*e*SS	SS	16 58 08.3	+11
BILL				pmax	pmax		
	comp=Z,13nm,1.0s						
PMSA	**Palmer Station**	**82.29**	**168**	LR	LR	17 12 02.5	
	comp=Z,177nm,19.1s,baz=304,slow=30						
NB2	**NORSAR Subarra**	**83.77**	**28**	P	**P**	**16 43 00.4**	**-1.6**
	comp=Z,1.0nm,0.7s,baz=291,slow=5.3						
NOA	**NORSAR Array B**	**83.77**	**28**	P	**P**	**16 43 00.7**	**-1.3**
	comp=Z,1.2nm,0.7s,baz=290,slow=5.2,SNR=8.2						
NOA				pP	**pP**	**16 43 18.6**	**-1.8**
	comp=Z,1.5nm,0.7s,baz=290,slow=5.0,SNR=4.8						
NOA				LR	LR	17 18 44.9	
	comp=Z,480nm,21.8s,baz=285,slow=35						
ARCES	**ARCESS Array B**	**85.59**	**18**	P	**P**	**16 43 11.0**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=299,slow=5.4,SNR=8.8						
ARCES				LR	LR	17 21 15.4	
	comp=Z,20nm,22.0s,baz=336,slow=36						
TIC	**Toumodi**	**86.11**	**84**	*e*P	**P**	**16 43 13.7**	**-0.9**
LIC	**Lamto**	**86.20**	**85**	*e*P	**P**	**16 43 11.2**	**-3.8**
	comp=Z,21nm,0.9s						
DBIC	**Dimbokro**	**86.26**	**84**	P	**P**	**16 43 13.4**	**-2.0**
	comp=Z,2.5nm,0.6s,baz=260,slow=4.3,SNR=5.5						
DBIC				LR	LR	17 18 54.9	
	comp=Z,100nm,21.2s,baz=272,slow=34						
KIC	**Kosan Boka**	**86.45**	**84**	*e*P	**P**	**16 43 13.3**	**-3.0**
	comp=Z,13nm,0.8s						
SEY	**Seymchan**	**87.74**	**335**⇑	*i*P	**P**	**16 43 22.2**	**+0.7**
CLL	**Collm**	**88.09**	**37**	*e*P	**P**	**16 43 22.0**	**-1.4**
CLL				*e*SKSac	**SKSac**	**16 53 40.0**	**-6.2**
CLL				*e*S	**SKKSac**	**16 53 57.0**	**+0.3**
CLL				*e*PS	**PS**	**16 55 13.0**	**-0.2**
CLL				LmV		17 21 00.0	
	comp=Z,400nm,20.2s						
CLL	**Collm**	**88.09**	**37**	*e*P	**P**	**16 43 21.0**	**-2.4**
CLL				*e**PP	**sP**	**16 43 48.0**	**-1.3**
CLL				*e*S	**S**	**16 53 55.0**	**-7.1**
KHC	**Kasperske Hory**	**89.24**	**39**	*e*P	P	16 43 45.5	+17
KHC				*e*x	x	16 44 18.5	
TIXI	**Tiksi**	**89.33**	**348**	*e*P	**P**	**16 43 28.4**	**-0.4**
	comp=Z,7.6nm,0.6s						
TIXI	**Tiksi**	**89.33**	**348**⇓	*i*P	**P**	**16 43 28.6**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GERES	**GERESS Array B**	**89.42**	**39**	P	**P**	**16 43 26.4**	**-3.5**
	comp=Z,0.4nm,0.7s,baz=263,slow=6.5,SNR=3.4						
GERES				LR	LR	17 20 15.1	
	comp=Z,357nm,22.0s,baz=289,slow=33						
FINES	**FINESS Array B**	**90.06**	**25**	P	**P**	**16 43 30.0**	**-2.5**
	comp=Z,2.7nm,0.8s,baz=340,slow=3.7,SNR=12						
FINES				LR	LR	17 25 01.2	
	comp=Z,217nm,19.5s,baz=314,slow=36						
FINES	**FINESS Array B**	**90.06**	**25**	P	**P**	**16 43 30.0**	**-2.5**
MA2	**Magadan**	**90.07**	**333**⇓	*e*P	**P**	**16 43 33.6**	**+1.1**
MA2				pmax	pmax		
	comp=Z,11nm,0.9s						
TORD	**Torodi Ar. Bea**	**90.86**	**76**	LR	LR	17 20 04.5	
	comp=Z,134nm,21.3s,baz=300,slow=33						
KEST	**Kesra**	**90.96**	**53**	LR	LR	17 19 51.7	
	comp=Z,148nm,19.6s,baz=294,slow=33						
KIEV	**Kiev**	**97.43**	**33**⇓	*e*P	**P**	**16 44 04.7**	**-1.8**
KIEV				pmax	pmax		
	comp=Z,2.0nm,1.1s						
AKASG	**Malin Array Be**	**97.43**	**33**	LR	LR	17 28 33.7	
	comp=Z,174nm,20.4s,baz=315,slow=36						
VSR	**Storozhevoye**	**102.04**	**29**⇑	*e*P	**Pdif**	**16 44 28.3**	**+1.2**
VSR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
DZM	**Mont Dzumac**	**105.29**	**251**	*e*LR	LR	17 19 32.3	
	comp=Z,682nm,24.4s						
BRTR	**Keskin Array B**	**106.29**	**40**	PKKPbc	PKKPbc	17 00 18.5	-1.0
	comp=Z,0.7nm,0.7s,baz=190,slow=5.0,SNR=4.3						
SONM	**Songino Array**	**115.35**	**346**	PKP	**PKPdf**	**16 49 14.7**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=314,slow=3.7,SNR=4.5						
SONM				pPKP	**pPKiKP**	**16 49 34.1**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=339,slow=1.6,SNR=8.5						
SONM				PKKPbc	**PKKPbc**	**16 59 48.0**	**-2.4**
	comp=Z,0.6nm,1.1s,baz=199,slow=4.1,SNR=3.5						
KSRS	**Korea Array**	**115.49**	**325**	pPKP	pPKiKP	16 49 35.5	+1.2
	comp=Z,2.2nm,0.8s,baz=317,slow=1.2,SNR=5.8						
KSAR	**Wonju Array Be**	**115.52**	**325**	pPKP	pPKiKP	16 49 35.5	+1.2
MKAR	**Makanchi Array**	**118.52**	**4**	PKP	**PKPdf**	**16 49 19.6**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=3.7,slow=1.9,SNR=8.9						
MKAR				pPKP	**pPKPdf**	**16 49 38.7**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=4.5,slow=1.3,SNR=5.5						
HHC	**Hu-ho-hao-te**	**120.22**	**339**	*e*PKP	**PKPdf**	**16 49 20.9**	**-3.2**
HHC				LR	LR		
	comp=Z,1μm,18.7s						
HHC				LR	LR		
	comp=Z,1μm,16.6s						
HHC				LR	LR		
	comp=Z,1μm,19.9s						
GEYT	**Alibeck**	**120.82**	**27**	PKP	**PKPdf**	**16 49 25.1**	**-0.2**
	comp=Z,50nm,0.7s,baz=213,slow=5.1,SNR=5.0						
BOSA	**Boshof**	**121.32**	**115**	PKP	**PKiKP**	**16 49 26.6**	**0.0**
	comp=Z,4.8nm,0.8s,baz=301,slow=5.2,SNR=8.1						
WMQ	**Urumqi**	**121.66**	**360**	*e*PKP	**PKiKP**	**16 49 27.1**	**+0.2**
WMQ				LR	LR		
	comp=Z,610nm,26.1s						
WMQ				LR	LR		
	comp=Z,520nm,25.7s						
WMQ				LR	LR		
	comp=Z,730nm,23.5s						
NJ2	**Nanjing**	**124.45**	**327**	*e*PKP	**PKiKP**	**16 49 32.5**	**-0.1**
GTA	**Gaotai**	**124.81**	**348**	PKP	**PKiKP**	**16 49 33.9**	**+0.6**
GTA				sPKP		16 50 10.9	
GTA				LR	LR		
	comp=Z,210nm,22.3s						
GTA				LR	LR		
	comp=Z,130nm,19.9s						
GTA				LR	LR		
	comp=Z,280nm,19.2s						
KSH	**Kashi**	**124.94**	**11**	PKP	**PKiKP**	**16 49 36.2**	**+2.6**
KSH				sPKP		16 50 12.9	
KSH				PP	**PP**	**16 51 26.8**	**+6.0**
KSH				SKS	**SKSdf**	**16 56 36.5**	**-3.1**
KSH				AMB	AMB		
	comp=Z,290nm,5.3s						
KSH				LR	LR		
	comp=Z,160nm,8.0s						
KSH				LR	LR		
	comp=Z,110nm,8.7s						
KSH				LR	LR		
	comp=Z,440nm,19.7s						
LZH	**Lanzhou**	**127.02**	**343**	*e*PKP	**PKiKP**	**16 49 37.9**	**0.0**
LZH				LR	LR		
	comp=Z,210nm,14.0s						
LZH				LR	LR		
	comp=Z,270nm,17.9s						
LZH				LR	LR		
	comp=Z,360nm,18.2s						
STKA	**Stephens Creek**	**127.85**	**241**	PKP	**PKPdf**	**16 49 38.5**	**-0.3**
	comp=Z,7.2nm,0.8s,baz=72,slow=1.4,SNR=13						
STKA				pPKP	**pPKPdf**	**16 49 58.6**	**+0.5**
	comp=Z,6.1nm,0.8s,baz=76,slow=3.1,SNR=6.4						
CD2	**Chengdu**	**131.87**	**341**	PKP	**PKPdf**	**16 49 46.0**	**-0.6**
GYA	**Guiyang**	**134.86**	**335**	*e*Pdif	**Pdif**	**16 46 51.8**	**-2.0**
GYA				PKP	**PKPdf**	**16 49 52.0**	**-0.4**
GYA				sPKP		16 50 27.6	
GYA				PP	**PP**	**16 52 28.9**	**+3.3**
GYA				AMB	AMB		
	comp=Z,120nm,7.9s						
WRA	**Warramunga Arr**	**134.92**	**257**	PKhKP	PKPpre	16 49 41.6	
	comp=Z,0.8nm,0.7s,baz=88,slow=3.2,SNR=7.3						
WRA				PKP	**PKPdf**	**16 49 52.5**	**0.0**
	comp=Z,2.2nm,0.8s,baz=86,slow=2.5,SNR=16						
ASAR	**Alice Springs**	**135.28**	**251**	PKP	**PKPdf**	**16 49 53.2**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=89,slow=1.5,SNR=12						
LSA	**Lhasa**	**135.60**	**355**	*e*PKPdf	**PKiKP**	**16 49 55.8**	**+0.1**
LSA	**Lhasa**	**135.60**	**355**	*e*PKIKP	**PKiKP**	**16 49 55.8**	**+0.1**
KMI	**Kunming**	**137.55**	**339**	PKP	**PKiKP**	**16 49 58.8**	**-0.7**
KMI				PP	**PP**	**16 52 47.9**	**+5.4**
KMI				LR	LR		
	comp=Z,380nm,21.7s						
KMI				LR	LR		
	comp=Z,160nm,26.0s						
KMI				LR	LR		
	comp=Z,380nm,21.7s						
CHTO	**Chiang Mai**	**144.67**	**341**	*e*PKPdf	**PKPab**	**16 50 08.2**	**-0.6**
CHTO	**Chiang Mai**	**144.67**	**341**	*e*PKIKP	**PKPab**	**16 50 08.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**145.01**	**340**	PKP	**PKPab**	**16 50 09.9**	**-0.2**
	comp=Z,16nm,0.8s,baz=339,slow=3.4,SNR=72						
HYB	**Hyderabad**	**146.84**	**15**	*i* PKP	**PKPbc**	**16 50 16.0**	**+0.2**
HYB				*e*		16 50 34.0	
HYB				*e*		16 50 52.0	

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*ISCJB **11** 16:33:11.9±0.7, 4°.63S±0°.09×138°.25E±0°.09, h33^{km}, mb3.6/3, Error ellipse: s-maj=15.8km s-min=8.3km az=135.1*

*IDC **11** 16:33:16.3±2.2, 4°.53S×138°.33E, h66^{km}±23^{km}, mb3.4/3, mb1 3.7/7, mb1mx3.4/21, mbtmp3.8/7, Error ellipse: s-maj=20.3km s-min=14.7km az=113.0*

ISC 11 16:33:13.3±0.8, **4°.70S**±0°.08×**138°.3E**±0°.1, **h35^{km}, n8, σ2^{s}.40**/11, **mb3.6**/3, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.22**	**48**	P	**Pn**	**16 34 01.8**	**+0.3**
	3.4nm,0.3s,baz=227,slow=10,SNR=22						
JAY				S	**Sn**	**16 34 39.7**	**+1.1**
	5.1nm,0.3s,baz=128,slow=22,SNR=4.7						
SIJI	**Sorong**	**8.01**	**298**	P	**Pn**	**16 35 08.3**	**+0.9**
	1.2nm,0.3s,baz=28,slow=21,SNR=7.6						
WRA	**Warramunga Arr**	**15.64**	**194**	P	**Pn**	**16 36 50.8**	**-0.4**
	0.3nm,0.3s,baz=15,slow=13,SNR=22						
WRA				S	**Sn**	**16 39 38.9**	**-4.6**
	0.3nm,0.3s,baz=12,slow=22,SNR=3.5						
FITZ	**Fitzroy Crossi**	**18.20**	**222**	P	**Pn**	**16 37 24.8**	**+1.5**
	0.1nm,0.3s,baz=46,slow=16,SNR=6.3						
ASAR	**Alice Springs**	**19.33**	**192**	P	**Pn**	**16 37 39.6**	**+2.6**
	1.3nm,0.3s,baz=22,slow=9.5,SNR=144						
ASAR				S	**S**	**16 41 15.8**	**+3.0**
	0.1nm,0.3s,baz=15,slow=18,SNR=4.1						
CMAR	**Chiang Mai Arr**	**45.12**	**302**	P	**P**	**16 41 26.5**	**-0.2**
	0.2nm,0.3s,baz=131,slow=6.6,SNR=4.6						
MKAR	**Makanchi Array**	**71.13**	**323**	P	**P**	**16 44 27.1**	**-1.3**
	0.2nm,0.3s,baz=101,slow=7.1,SNR=7.2						
ILAR	**Eielson Array**	**87.79**	**24**	P	**P**	**16 45 56.8**	**-1.8**
	0.7nm,0.8s,baz=248,slow=3.0,SNR=5.3						

SJA 11 16:33:27.3±0.3, **28°.79S**×**67°.25W, h142^{km}**±2^{km}, **ML3.4, MW3.6, La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.84**	**273**	*e*P	Pn	16 33 50.6	+0.4
VCA				IAML		16 33 52.8	
	comp=Z,910nm,0.2s						
VCA				*e*S	Sn	16 34 08.2	+0.5
AGUA	**GUANDACOL**	**1.29**	**237**	*e*P	Pn	16 33 55.0	+0.8
AGUA				*e*S	Sn	16 34 15.4	+0.7
CYA	**Choya**	**1.32**	**75**	*e*P	Pn	16 33 55.1	+0.7
CYA				*e*S	Sn	16 34 15.7	+0.6
APLL	**PUNTA DE LOS L**	**1.72**	**159**	*e*P	Pn	16 33 59.2	+0.4
APLL				*e*S	Sn	16 34 23.4	+0.5
APLL				IAML		16 34 24.4	
	comp=Z,184nm,0.4s						
ACCO	**Cerro Coronel**	**2.39**	**221**	*e*P	Pn	16 34 08.3	+1.4
ACCO				*e*S	Sn	16 34 38.8	+1.3
AMOG	**MOGNA**	**2.40**	**206**	*e*P	Pn	16 34 07.8	+0.9
AMOG				*e*S	Sn	16 34 37.6	+0.3
RTLL	**Cerro Villicun**	**2.74**	**202**	*e*P	Pn	16 34 12.1	+1.0
RTLL				*e*S	Sn	16 34 45.3	+0.3
FSA	**Cafayete**	**2.90**	**23**	*e*P	Pn	16 34 14.5	+1.2
RTCV	**Cerro Valdivia**	**3.26**	**200**	*e*P	Pn	16 34 18.8	+1.1
ACAN	**Cantantal**	**3.47**	**179**	*e*P	Pn	16 34 21.6	+1.1
RTLS	**Leoncito**	**3.48**	**210**	*e*P	Pn	16 34 22.2	+1.4
RTLS				IAML		16 34 25.0	
	comp=Z,36nm,0.2s						

MAN 11 16:36:18.9, 17°.37N×**122°.63E, h26^{km}, mb4.6, ML3.5, MS3.4, 1C, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.36**	**213**	*e*P	Pb	16 36 25.6	-1.4
PALP				*e*S	Sb	16 36 31.0	-1.5
CAUP	**Cauayan**	**0.88**	**241**	*e*P	Pn	16 36 35.7	0.0
CAUP				*e*S	Sn	16 36 50.2	+2.6
SGCP	**Mt. Cagua**	**1.03**	**327**	*e*P	Pn	16 36 37.6	-0.1
SGCP				*e*S	Sb	16 36 51.1	-0.1
APYP	**Conner**	**1.41**	**290**	*e*P	Pn	16 36 42.4	-0.5
APYP				*e*S	Sb	16 37 02.2	0.0
ABRA	**Dolores**	**1.85**	**279**	*e*P	Pn	16 36 48.9	-0.1
ABRA				*e*S	Sn	16 37 12.0	+0.4
BALP	**Baler**	**1.91**	**212**	*e*P	Pn	16 36 49.8	0.0
SMPP	**San Manuel, Pa**	**2.23**	**237**	*e*P	Pn	16 36 54.0	-0.2
PCPH	**Palayan**	**2.33**	**220**⇑	*e*P	Pn	16 36 56.9	+1.4
PCPH				*e*S	Sn	16 37 24.6	+1.3

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*NIED **11** 16:49:00, 37°.80N×143°.70E, h5^{km}, Mw3.6 Best double couple: $M_0$2.45000×10^{14} NP1:ϕ_s1.00000°, δ27.00000°, λ-85.00000°. NP2:ϕ_s176.00000°, δ63.00000°, λ-93.00000°.*

*IDC **11** 16:49:47.5±1.2, 37°.68N×143°.91E, h0^{km}, mb3.5/3, mb1 3.8/6, mb1mx3.4/36, mbtmp3.7/6, ML3.6/3, MS2.7/2, Ms1 2.7/2, ms1mx2.3/27, Error ellipse: s-maj=43.1km s-min=22.2km az=111.0*

*ISCJB **11** 16:49:49.7±0.8, 37°.79N±0°.06×143°.81E±0°.08, h33^{km}, mb3.6/3, MS2.7/1, Error ellipse: s-maj=9.5km s-min=8.0km az=168.0*

*JMA **11** 16:49:50.9±0.2, 37°.79N×143°.73E, h45^{km}, M3.5*

ISC 11 16:49:51.9±1.2, **37°.74N**±0°.06×**143°.7E**±0°.1, **h35^{km}, n18, σ1^{s}.27**/17, **mb3.6**/3, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.86**	**289**	P	**Pn**	**16 50 21.5**	**+0.3**
JIKH				*e*S	**Sn**	**16 50 43.5**	**0.0**
JIO	**Ouri**	**1.99**	**292**	P	**Pn**	**16 50 22.8**	**-0.3**
JKMT	**Kesennumamotoy**	**2.06**	**302**	P	**Pn**	**16 50 23.8**	**-0.2**
JKMT				S	**Sn**	**16 50 47.8**	**-0.6**
JOU	**Okura**	**2.48**	**286**	P	**Pn**	**16 50 30.7**	**+0.9**
JFT	**Otama**	**2.68**	**266**	P	**Pn**	**16 50 33.8**	**+1.2**
JAG	**Ashikaga**	**3.64**	**250**	P	**Pn**	**16 50 45.9**	**+0.1**
JRY	**Ryogami san**	**4.22**	**247**	P	**Pn**	**16 50 54.4**	**+0.7**
MJAR	**Matsushiro Arr**	**4.55**	**256**	Pn	**Pn**	**16 50 59.7**	**+1.4**
	2.0nm,0.3s,baz=91,slow=15,SNR=22						
MJAR				LR	LR	16 53 08.8	
	comp=Z,44nm,18.1s,baz=60,slow=43						
JNBK	**Urakawa-nobuka**	**4.60**	**351**	*e*S	**Sn**	**16 51 48.9**	**-2.1**
JHJ	**Hachijo jima 2**	**5.61**	**216**	Pn	**Pn**	**16 51 12.6**	**-0.2**
	5.0nm,0.3s,baz=128,slow=21,SNR=6.4						
JHJ				Sn	**Sn**	**16 52 12.7**	**-3.4**
	4.2nm,0.3s,baz=87,slow=23,SNR=2.5						
ASAJ	**Asahikawa**	**6.43**	**353**	Pn	**Pn**	**16 51 23.6**	**-0.4**
	1.6nm,0.3s,baz=189,slow=4.8,SNR=16						
GUMO	**Guam**	**24.07**	**177**	LR	LR	17 01 57.8	
	comp=Z,28nm,20.8s,baz=83,slow=30						
H11N2	**WAKE ISLAND Hy**	**27.00**	**125**	T	T	17 23 39.6	
	baz=317,slow=74,SNR=5.2						
H11N1	**WAKE ISLAND Hy**	**27.01**	**125**	T	T	17 23 41.5	
	baz=317,slow=74,SNR=3.4						
H11N3	**WAKE ISLAND Hy**	**27.02**	**125**	T	T	17 23 44.9	
	baz=317,slow=74,SNR=6.0						
ILAR	**Eielson Array**	**47.92**	**33**	P	**P**	**16 58 27.3**	**+0.9**
	0.5nm,0.8s,baz=250,slow=6.8,SNR=5.3						
WRA	**Warramunga Arr**	**58.04**	**190**	P	**P**	**16 59 41.8**	**+0.4**
	1.0nm,0.8s,baz=8.8,slow=7.2,SNR=9.7						
ASAR	**Alice Springs**	**61.77**	**190**	P	**P**	**17 00 07.8**	**+0.8**
	0.2nm,0.7s,baz=3.0,slow=6.2,SNR=2.9						

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*IDC **11** 17:03:45.9±1.4, 40°.43S×91°.82W, h0^{km}, mb3.8/4, mb1 4.1/4, mb1mx3.8/25, mbtmp3.8/4, MS3.7/5, Ms1 3.7/5, ms1mx3.3/28, Error ellipse: s-maj=60.5km s-min=31.4km az=107.0*

*ISCJB **11** 17:03:46.2±0.8, 40°.4S±0°.1×91°.9W±0°.4, h15^{km}, mb4.1/6, MS3.7/3, Error ellipse: s-maj=41.6km s-min=17.1km az=10.6*

*NEIC **11** 17:03:47.2±0.6, 40°.44S×91°.84W, h10^{km}, mb4.8/1, Error ellipse: s-maj=33.8km s-min=14.4km az=100.0*

ISC 11 17:03:48.0±0.9, **40°.4S**±0°.1×**91°.9W**±0°.3, **h15^{km}, n15, σ0^{s}.76**/10, **mb3.9**/6, **MS3.6**/3, **West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**16.19**	**98**	LR	LR	17 12 13.4	
	comp=Z,338nm,20.4s,baz=355,slow=31						
RPN	**Rapa Nui**	**19.63**	**307**	LR	LR	17 13 47.9	
	comp=Z,188nm,20.4s,baz=127,slow=31						
LVC	**Limon Verde**	**26.30**	**54**	LR	LR	17 16 50.3	
	comp=Z,182nm,21.0s,baz=289,slow=30						
LPAZ	**La Paz**	**31.66**	**47**	P	**P**	**17 10 11.4**	**0.0**
	0.9nm,0.6s,baz=212,slow=4.3,SNR=4.9						
LPAZ	**La Paz**	**31.66**	**47**	*e*P	**P**	**17 10 11.3**	**-0.1**
CPUP	**Villa Florida**	**31.86**	**75**	LR	LR	17 21 31.6	
	comp=Z,102nm,19.2s,baz=298,slow=34						
BDFB	**Brasilia**	**45.29**	**70**	LR	LR	17 30 15.8	
	comp=Z,158nm,18.5s,baz=291,slow=35						
QSPA	**South Pole Qui**	**49.80**	**180**	*e*P	**P**	**17 12 39.5**	**-0.3**
	22nm,1.8s						
VNDA	**Vanda**	**54.27**	**195**	P	**P**	**17 13 13.1**	**+0.3**
	0.5nm,0.7s,baz=115,slow=4.8,SNR=4.0						
TEIG	**Tepich**	**60.43**	**4**	*e*P	**P**	**17 13 55.6**	**-1.2**
	154nm,1.8s						
BANI	**BANI**	**61.85**	**23**	*e*P	**P**	**17 14 07.4**	**+0.8**
LTX	**Lajitas**	**70.27**	**349**	*e*P	**P**	**17 15 01.3**	**+0.8**
TXAR	**Lajitas Array**	**70.27**	**349**	P	**P**	**17 15 01.3**	**+0.8**
	0.1nm,0.5s,baz=183,slow=8.8,SNR=3.0						
PD31	**Pinedale Array**	**84.35**	**347**	*e*P	**P**	**17 16 18.6**	**-0.7**
PDAR	**Pinedale Array**	**84.35**	**347**	P	**P**	**17 16 19.2**	**-0.1**
	0.7nm,0.7s,baz=177,slow=5.1,SNR=7.7						

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*ISCJB **11** 17:18:48.5±0.5, 5°.27N±0°.04×82°.63W±0°.05, h12^{km}, mb3.7/6, MS3.3/6, Error ellipse: s-maj=7.8km s-min=3.5km az=141.8*

*NEIC **11** 17:18:49.8±0.6, 5°.16N×82°.74W, h10^{km}, mb4.6/1, Error ellipse: s-maj=12.3km s-min=8.0km az=66.0*

*IDC **11** 17:18:49.3±1.1, 5°.23N×82°.74W, h0^{km}, mb3.8/6, mb1 4.2/8, mb1mx3.9/25, mbtmp4.0/8, ML3.6/2, MS3.4/9, Ms1 3.4/9, ms1mx3.1/30, Error ellipse: s-maj=42.4km s-min=18.9km az=61.0*

*UCR **11** 17:18:51.3±2.6, 5°.28N×82°.59W, h26^{km}±72^{km}, MD4.0, mb4.6(NEIC)*

ISC 11 17:18:49.8±0.7, **5°.17N**±0°.06×**82°.67W**±0°.06, **h12^{km}, n72, σ1^{s}.59**/72, **mb3.9**/6, **MS3.3**/6, **1C-1D, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AZU	**Azuero**	**3.53**	**42**	*e*P	**Pn**	**17 19 43.8**	**-0.8**
AZU				*i* S	**Sn**	**17 20 21.0**	**-5.3**
BRU2	**Volcan**	**3.60**	**360**⇑	*e*P	**Pn**	**17 19 44.7**	**-1.0**
	baz=169,slow=3.1						
BRU2				*e*S	**Sn**	**17 20 25.1**	**-3.1**
ZANG	**Zanguenga, Cho**	**4.68**	**36**	*i* P	**Pn**	**17 19 59.1**	**-1.2**
LCR2	**La Lucha 2**	**4.73**	**344**	*e*P	**Pn**	**17 19 59.5**	**-1.9**
LCR2				*e*S	**Sn**	**17 20 55.4**	**-0.8**
BCIP	**Isla Barro Col**	**4.87**	**35**	*e*Pn	**Pn**	**17 20 03.5**	**+0.6**
BCIP	**Isla Barro Col**	**4.87**	**35**	*e*P	**Pn**	**17 20 01.6**	**-1.4**
	baz=215,slow=12						
BCIP				*i* S	**Sn**	**17 20 55.6**	**-3.6**
UPA	**Univ. de Panam**	**4.90**	**39**	*e*P	**Pn**	**17 20 03.4**	**-0.1**
HDC	**Heredia**	**5.01**	**343**	*e*Pn	**Pn**	**17 20 04.2**	**-0.9**
HDC				*e*Sn	**Sn**	**17 21 03.1**	**+0.1**
HDC	**Heredia**	**5.01**	**343**⇓	*i*P	**Pn**	**17 20 04.8**	**-0.3**
	baz=168,slow=7.9						
HDC				*i* S	**Sn**	**17 21 02.3**	**-0.7**
JTS	**JuntasAbangare**	**5.57**	**336**	Pn	**Pn**	**17 20 11.8**	**-0.8**
	11nm,0.3s,baz=159,slow=11,SNR=35						
JTS				Sn	**Sn**	**17 21 16.1**	**-0.6**
	8.6nm,0.3s,baz=18,slow=23,SNR=24						
JTS	**JuntasAbangare**	**5.57**	**336**	*e*Pn	**Pn**	**17 20 11.2**	**-1.4**
JTS				*e*Sn	**Sn**	**17 21 15.5**	**-1.2**
JTS	**JuntasAbangare**	**5.57**	**336**	*e*P	**Pn**	**17 20 11.2**	**-1.4**
JTS				*e*S	**Sn**	**17 21 14.8**	**-1.9**
UPD2	**Meteti**	**5.71**	**54**	*e*P	**Pn**	**17 20 14.4**	**-0.1**
PLVR	**Palo Verde**	**5.79**	**333**	*e*P	**Pn**	**17 20 14.5**	**-1.3**
PLVR				*e*S	**Sn**	**17 21 19.2**	**-3.2**
CMBC	**Cumbal**	**6.41**	**131**	*e*P	**Pn**	**17 20 21.1**	**-3.5**
CMBC	**Cumbal**	**6.41**	**131**	*e*P	**Pn**	**17 20 21.1**	**-3.5**
YOTC	**Yotoco, Valle**	**6.41**	**100**	*e*P	**Pn**	**17 20 22.7**	**-1.6**
YOTC	**Yotoco, Valle**	**6.41**	**100**	*e*P	**Pn**	**17 20 22.7**	**-1.6**
OTAV	**Otavalo**	**6.46**	**139**	*e*Pn	**Pn**	**17 20 23.9**	**-1.4**
OTAV	**Otavalo**	**6.46**	**139**	*e*P	**Pn**	**17 20 24.4**	**-0.9**
OTAV	**Otavalo**	**6.46**	**139**	*e*P	**Pn**	**17 20 24.4**	**-0.9**
POPC	**Popayan, Colom**	**6.53**	**113**	*e*P	**Pn**	**17 20 23.5**	**-2.4**
POPC	**Popayan, Colom**	**6.53**	**113**	*e*P	**Pn**	**17 20 23.5**	**-2.4**
GCUF	**Volcan Galeras**	**6.60**	**126**	*e*P	**Pn**	**17 20 28.5**	**+1.2**
GCUF	**Volcan Galeras**	**6.60**	**126**	*e*P	**Pn**	**17 20 28.5**	**+1.2**
DBBC	**Dabeiba**	**6.68**	**74**	*e*P	**Pn**	**17 20 28.5**	**+0.5**
DBBC	**Dabeiba**	**6.68**	**74**	*e*P	**Pn**	**17 20 28.5**	**+0.5**
CRUC	**La Cruz**	**6.74**	**122**	*e*P	**Pn**	**17 20 30.1**	**+1.2**
CRUC	**La Cruz**	**6.74**	**122**	*e*P	**Pn**	**17 20 30.1**	**+1.2**
SOTA	**Rioblanco**	**6.76**	**116**	*e*P	**Pn**	**17 20 29.3**	**-0.1**
SOTA	**Rioblanco**	**6.76**	**116**	*e*P	**Pn**	**17 20 29.3**	**-0.1**
PCON	**Cinco Dias**	**6.87**	**114**	*e*P	**Pn**	**17 20 31.0**	**0.0**
PCON	**Cinco Dias**	**6.87**	**114**	*e*P	**Pn**	**17 20 31.0**	**0.0**
ESPN	**Las Esperanzas**	**7.17**	**347**	*e*Pn	**Pn**	**17 20 34.5**	**0.0**
ANIL	**Santa Ana**	**7.27**	**95**	*e*P	**Pn**	**17 20 36.8**	**+0.5**
ANIL	**Santa Ana**	**7.27**	**95**	*e*P	**Pn**	**17 20 36.8**	**+0.5**
RREF	**El Recreo**	**7.30**	**92**	*e*P	**Pn**	**17 20 37.6**	**+0.6**
RREF	**El Recreo**	**7.30**	**92**	*e*P	**Pn**	**17 20 37.6**	**+0.6**
TOLC	**Tolima**	**7.35**	**94**	*e*P	**Pn**	**17 20 37.6**	**+0.2**
TOLC	**Tolima**	**7.35**	**94**	*e*P	**Pn**	**17 20 37.6**	**+0.2**
BETC	**Betania**	**7.62**	**109**	*e*P	**Pn**	**17 20 41.7**	**+0.8**
BETC	**Betania**	**7.62**	**109**	*e*P	**Pn**	**17 20 41.7**	**+0.8**
NORC	**Norcasia**	**7.78**	**87**	*e*P	**Pn**	**17 20 44.2**	**+1.2**
NORC	**Norcasia**	**7.78**	**87**	*e*P	**Pn**	**17 20 44.2**	**+1.2**
BOAB	**BOACO BROADBAN**	**7.82**	**338**	*e*Pn	**Pn**	**17 20 44.7**	**+1.2**
CHIC	**Chingaza**	**8.92**	**93**	*e*P	**Pn**	**17 21 00.7**	**+1.7**
CHIC	**Chingaza**	**8.92**	**93**	*e*P	**Pn**	**17 21 00.7**	**+1.7**
VILC	**Villavicencio,**	**9.01**	**96**	*e*P	**Pn**	**17 21 00.7**	**+0.7**
VILC	**Villavicencio,**	**9.01**	**96**	*e*P	**Pn**	**17 21 00.7**	**+0.7**
PAYG	**Puerto Ayora**	**9.57**	**233**	*e*Pn	**Pn**	**17 21 06.4**	**-1.2**
TGUH	**Tegucigalpa,Un**	**9.93**	**333**	*e*Pn	**Pn**	**17 21 10.7**	**-1.8**
APG	**El Apazote**	**12.42**	**322**	LR	LR	17 26 01.1	
	comp=Z,220nm,19.6s,baz=92,slow=35						
SDV	**Santo Domingo**	**12.50**	**72**	Pn	**Pn**	**17 21 49.7**	**+1.7**
	0.7nm,0.3s,baz=258,slow=15,SNR=4.9						
SDV	**Santo Domingo**	**12.50**	**72**	*e*Pn	**Pn**	**17 21 49.0**	**+1.1**
ATAH	**Atahualpa**	**12.94**	**161**	LR	LR	17 26 19.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,302nm,21.4s,baz=343,slow=34						
TEIG	**Tepich**	**15.93**	**340**	*e*Pn	**Pn**	**17 22 34.1**	**+0.1**
	80nm,1.6s						
CMIG	**Matias Romero**	**16.84**	**316**	LR	LR	17 28 06.0	
	comp=Z,114nm,19.9s,baz=136,slow=33						
SJG	**San Juan**	**20.64**	**50**	LR	LR	17 31 17.9	
	comp=Z,82nm,19.9s,baz=132,slow=36						
PTGA	**Pitinga**	**23.42**	**104**	LR	LR	17 33 10.7	
	comp=Z,68nm,19.4s,baz=64,slow=37						
LPAZ	**La Paz**	**25.72**	**146**	P	**P**	**17 24 23.1**	**+2.1**
	1.4nm,0.6s,baz=325,slow=11,SNR=6.1						
LPAZ				LR	LR	17 35 37.5	
	comp=Z,142nm,20.0s,baz=330,slow=39						
LPAZ	**La Paz**	**25.72**	**146**	*e*P	**P**	**17 24 22.2**	**+1.2**
LPAZ				*e*sP	**P**	**17 24 22.9**	**+1.9**
CPUP	**Villa Florida**	**39.79**	**143**	LR	LR	17 44 05.0	
	comp=Z,43nm,18.0s,baz=14,slow=38						
BDFB	**Brasilia**	**40.06**	**122**	LR	LR	17 42 31.9	
	comp=Z,62nm,19.0s,baz=37,slow=35						
PDAR	**Pinedale Array**	**44.38**	**332**	LR	LR	17 46 41.8	
	comp=Z,41nm,19.7s,baz=39,slow=38						
NVAR	**Mina Array Bea**	**46.28**	**321**	P	**P**	**17 27 17.2**	**+1.5**
	1.7nm,0.8s,baz=139,slow=8.8,SNR=5.3						
PLCA	**Paso Flores**	**47.01**	**167**	P	**P**	**17 27 22.6**	**+1.5**
	2.8nm,1.1s,baz=9.5,slow=6.1,SNR=3.1						
YKA	**Yellowknife Ar**	**61.86**	**344**	P	**P**	**17 29 08.9**	**+0.2**
	0.7nm,0.8s,baz=142,slow=6.3,SNR=11						
ILAR	**Eielson Array**	**74.54**	**336**	P	**P**	**17 30 29.4**	**+1.1**
	0.3nm,0.7s,baz=104,slow=4.6,SNR=4.4						
ESDC	**Sonseca Array**	**78.03**	**51**	P	**P**	**17 30 50.6**	**+1.9**
	0.1nm,0.3s,baz=291,slow=4.1,SNR=4.2						
H11N3	**WAKE ISLAND Hy**	**107.30**	**292**	T	T	19 33 08.7	
	baz=78,slow=75,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**107.31**	**292**	T	T	19 33 06.4	
	baz=78,slow=75,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**107.32**	**292**	T	T	19 33 08.0	
	baz=78,slow=75,SNR=5.0						

NSSP ***11*** *17:37:06.6, 38°.50N×46°.73E, h10km, Ms3.0*
THR ***11*** *17:37:09.1, 38°.60N×46°.49E, h33km, ML2.6*
ISCJB ***11*** *17:37:12.2±1.0, 38°.40N±0°.06×46°.78E±0°.07, h10km, Error ellipse: s-maj=10.1km s-min=6.4km az=40.2*
ISC 11 17:37:07.8±1.2**, 38°.39N**±0°.09×**46°.51E**±0°.08**, h10km, n4, σ2s.08**/7**, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GRMI	**Germi**	**1.16**	**69**	*e*AML	AML	17 37 45.6	
	comp=E,158nm,0.2s						
GRMI				*e*Pg	**Pn**	**17 37 30.1**	**-0.1**
GRMI				*e*Sg	**Sn**	**17 37 45.0**	**-1.2**
GRMI				*e*AML	AML	17 37 48.3	
	comp=N,109nm,0.2s						
MAKU	**Maku**	**1.72**	**304**	*e*Pn	**Pn**	**17 37 37.1**	**-0.9**
GNI	**Garni**	**2.23**	**322**	*i* P	**Pg**	**17 37 50.4**	**-0.2**
GNI				*i* S	**Sg**	**17 38 22.2**	**+2.8**
ZNJK	**Zanjan**	**2.44**	**134**	*e*Pn	**Pb**	**17 37 51.1**	**-0.8**
ZNJK				*e*Sg	**Sg**	**17 38 28.7**	**+2.6**

ISCJB ***11*** *17:40:09.2±0.9, 21°.3S±0°.2×175°.6W±0°.1, h10km, mb4.2/3, MS2.6/1, Error ellipse: s-maj=23.3km s-min=13.2km az=155.2*
NEIC ***11*** *17:40:11.2±0.7, 21°.29S×175°.62W, h10km, mb4.4/4, Error ellipse: s-maj=20.0km s-min=11.5km az=149.0*
IDC ***11*** *17:40:11.1±6.2, 21°.70S×175°.90W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/26, mbtmp3.8/2, MS2.7/1, Ms1 2.7/1, ms1mx2.5/30, Error ellipse: s-maj=292.0km s-min=48.2km az=148.0*
ISC 11 17:40:11.6±0.9**, 21°.3S**±0°.2×**175°.8W**±0°.1**, h10km, n12, σ1s.41**/11**, mb4.2**/3**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.89**	**69**	*e*P	**Pn**	**17 41 37.0**	**-2.0**
NIUE				*e*Sn	Sn	17 42 29.5	-17
RAR	**Rarotonga**	**14.90**	**93**	*e*Pn	**P**	**17 43 51.0**	**+2.8**
ONTNC	**Ouen Toro**	**16.56**	**263**	*e*Pn	**Pn**	**17 44 05.1**	**+1.0**
	28nm,1.0s						
OUZ	**Omahuta**	**16.74**	**212**	*e*Pn	**P**	**17 44 08.4**	**-0.2**
	38nm,1.8s						
MXZ	**Matakaoa Point**	**17.02**	**196**	*e*Pn	**Pn**	**17 44 08.4**	**-1.4**
	43nm,1.1s						
PPT	**Papeete**	**24.95**	**86**	LR	LR	17 53 12.4	
	comp=Z,19nm,21.2s,baz=219,slow=31						
ASAR	**Alice Springs**	**46.39**	**257**	P	**P**	**17 48 38.5**	**-0.1**
	1.9nm,0.8s,baz=99,slow=8.1,SNR=17						
WR1	**Warramunga Arr**	**46.58**	**262**	*e*P	**P**	**17 48 40.4**	**+0.3**
	20nm,1.6s						
WRA	**Warramunga Arr**	**46.58**	**262**	P	**P**	**17 48 40.4**	**+0.3**
	1.1nm,0.9s,baz=100,slow=8.6,SNR=8.4						
AKASG	**Malin Array Be**	**144.70**	**332**	PKPbc	**PKPdf**	**17 59 48.4**	**0.0**
	0.6nm,0.4s,baz=44,slow=4.5,SNR=7.1						
AKBB	**Malin Array Si**	**144.70**	**332**	*e*PKPdf	**PKPdf**	**17 59 47.7**	**-0.8**
BRTR	**Keskin Array B**	**148.91**	**313**	PKPbc	**PKiKP**	**18 00 01.2**	**-0.2**
	1.2nm,0.8s,baz=138,slow=4.1,SNR=5.5						

IDC 11 17:43:41.3±4.2**, 2°.38S**×**67°.94E, h0km, mb3.5**/5**, mb1 3.7**/5**, mb1mx3.3**/43**, mbtmp3.5**/5**, Error ellipse: s-maj=114.3km s-min=33.2km az=74.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**4.97**	**142**	T	T	17 49 50.3	
	baz=325,slow=75,SNR=411						
H08N3	**Diego Garcia H**	**4.98**	**142**	T	T	17 49 50.3	
	baz=325,slow=75,SNR=483						
H08N1	**Diego Carcia H**	**4.99**	**142**	T	T	17 49 52.2	
	baz=325,slow=75,SNR=455						
CMAR	**Chiang Mai Arr**	**36.88**	**55**	P	P	17 50 51.8	-0.1
	0.5nm,0.8s,baz=247,slow=9.7,SNR=4.3						
MKAR	**Makanchi Array**	**50.58**	**13**	P	P	17 52 41.6	-0.2
	0.8nm,1.2s,baz=190,slow=5.9,SNR=3.6						
SONM	**Songino Array**	**60.23**	**29**	P	P	17 53 51.5	+0.1
	0.4nm,0.7s,baz=218,slow=6.6,SNR=3.8						
WRA	**Warramunga Arr**	**67.03**	**111**	P	P	17 54 37.0	+0.2
	0.6nm,0.7s,baz=285,slow=6.3,SNR=3.8						
ASAR	**Alice Springs**	**67.07**	**115**	P	P	17 54 37.0	-0.1
	0.5nm,0.8s,baz=289,slow=5.8,SNR=3.5						

ISCJB ***11*** *17:54:31.1±1.4, 31°.1N±0°.1×85°.8E±0°.2, h26km, mb3.3/4, Error ellipse: s-maj=34.9km s-min=13.1km az=149.2*
IDC ***11*** *17:54:37.7±8.3, 31°.22N×86°.25E, h59km±78km, mb3.1/5, mb1 3.4/6, mb1mx3.1/40, mbtmp3.4/6, ML3.5/1, Error ellipse: s-maj=73.8km s-min=25.6km az=65.0*
ISC 11 17:54:33.5±1.9**, 31°.1N**±0°.2×**86°.0E**±0°.3**, h26km, n9, σ1s.24**/8**, mb3.5**/4**, Xizang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.69**	**106**	Pg	**Pn**	**17 55 43.9**	**+0.9**
LSA				Sg	Sn	17 56 08.8	-28
LSA				smax	smax		
	comp=E,44nm,0.9s						
WMQ	**Urumqi**	**12.81**	**6**	*e*P	Pn	17 57 27.4	-6.5
WMQ				smax	smax		
	comp=N,32nm,1.3s						
WMQ				smax	smax		
	comp=E,38nm,1.1s						
MKAR	**Makanchi Array**	**15.96**	**351**	P	**P**	**17 58 21.5**	**+2.0**
	comp=E,0.1nm,0.3s,baz=165,slow=12,SNR=6.1						
CMAR	**Chiang Mai Arr**	**17.20**	**134**	P	**P**	**17 58 33.1**	**-0.4**
	comp=E,0.1nm,0.3s,baz=316,slow=12,SNR=7.8						
KURBB	**Kurchatov Arra**	**20.31**	**346**	P	**P**	**17 59 07.0**	**-0.3**
	comp=E,2.8nm,1.1s,baz=162,slow=10.0,SNR=8.6						
ZALV	**Zalesovo Beam**	**22.89**	**358**	P	**P**	**17 59 35.1**	**+0.2**
	comp=E,1.0nm,0.8s,baz=176,slow=12,SNR=2.9						
SONM	**Songino Array**	**22.90**	**37**	P	**P**	**17 59 33.7**	**-1.6**
	comp=E,0.4nm,0.8s,baz=232,slow=9.0,SNR=4.1						
WRA	**Warramunga Arr**	**68.77**	**131**	P	**P**	**18 05 35.4**	**0.0**
	comp=E,0.4nm,0.9s,baz=327,slow=6.5,SNR=5.0						
ASAR	**Alice Springs**	**71.21**	**134**	P	**P**	**18 05 50.0**	**-0.4**
	comp=E,0.5nm,0.8s,baz=314,slow=6.0,SNR=4.7						

KRSC 11 18:00:33.5±1.0**, 54°.40N**×**161°.83E, h36km±7km, ML3.6, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.17**	**339**	*i* P	Pn	18 00 40.9	-2.5
MKZ				*e*S	Sn	18 00 45.5	-7.5
KZV	**Kizimen**	**1.15**	**309**	*i* P	Pn	18 00 54.8	+1.7
KZV				*e*S	Sn	18 01 09.4	+1.8
TUMD	**Tumrok D**	**1.16**	**315**	*e*P	Pn	18 00 54.5	+1.3
TUMD				*e*S	Sn	18 01 08.8	+1.1
TUMR	**Tumrok**	**1.32**	**313**	*e*P	Pn	18 00 57.3	+1.8
KII	**Karymskiy**	**1.45**	**256**	*e*P	Pn	18 00 59.1	+1.9
KII				*e*S	Sn	18 01 16.9	+2.0
SPN	**Mys Shipunski**	**1.69**	**220**	*e*P	Pn	18 01 01.1	+0.7
SPN				*e*S	Sn	18 01 21.1	+0.4
ZLN	**Zelenaya**	**1.73**	**340**	*e*P	Pn	18 01 03.6	+2.5
KBTR	**Krutoberegovo**	**1.90**	**17**	*e*P	Pn	18 01 05.1	+1.8
NLC	**Nalytchevo**	**1.92**	**231**	*e*P	Pn	18 01 05.7	+2.1
NLC				*e*S	Sn	18 01 28.9	+2.5
KOZ	**Kozyrevsk**	**2.01**	**327**	*e*P	Pn	18 01 08.0	+3.2
KLY	**Klyuchi**	**2.04**	**341**	*e*P	Pn	18 01 07.1	+1.9
KLY				*e*S	Sn	18 01 33.0	+3.7
SDLR	**Sedlovina**	**2.08**	**239**	*e*P	Pn	18 01 08.5	+2.6
SDLR				*e*S	Sn	18 01 33.7	+3.2
SMAR	**Somma**	**2.13**	**239**	*e*P	Pn	18 01 09.5	+2.9
UGLR	**Uglovaya**	**2.15**	**238**	*e*P	Pn	18 01 09.6	+2.8
KRX	**Arik**	**2.15**	**242**	*e*P	Pn	18 01 09.7	+2.8
KRX				*e*S	Sn	18 01 35.4	+3.0
AVH	**Avacha**	**2.16**	**240**	*e*P	Pn	18 01 10.2	+3.3
AVH				*e*S	Sn	18 01 35.9	+3.5
KOK	**Koryaka**	**2.19**	**241**	*e*P	Pn	18 01 10.4	+3.0
KOK				*e*S	Sn	18 01 37.3	+3.9
SMKR	**Semkarok**	**2.20**	**355**	*e*P	Pn	18 01 09.9	+2.4
SRDR	**Sredinnyy**	**2.27**	**329**	*e*P	Pn	18 01 10.7	+2.2
SRKR	**Sorokina**	**2.29**	**351**	*e*P	Pn	18 01 10.9	+2.1
PET	**Petropavlovsk**	**2.34**	**235**	*e*P	Pn	18 01 12.5	+3.2
PET				*e*S	Sn	18 01 40.7	+4.0
ESO	**Esso**	**2.36**	**312**	*e*P	Pn	18 01 11.8	+2.1
ESO				*e*S	Sn	18 01 39.5	+2.1
GNL	**Ganaly**	**2.40**	**255**	*e*P	Pn	18 01 13.9	+3.6
KRMR	**Karymshinskiy**	**2.71**	**236**	*e*P	Pn	18 01 17.9	+3.5
KRMR				*e*S	Sn	18 01 49.7	+3.9
RUS	**Russkaya**	**2.80**	**227**	*e*P	Pn	18 01 18.4	+2.8
MTVR	**Mutnovka**	**2.91**	**230**	*e*P	Pn	18 01 20.9	+3.6
MTVR				*e*S	Sn	18 01 54.7	+3.7
KDTR	**Khodutka, Kamc**	**3.44**	**223**	*e*P	Pn	18 01 27.8	+3.3
KDTR				*e*S	Sn	18 02 09.5	+5.6

ISCJB ***11*** *18:13:41.5±0.6, 6°.03N±0°.03×126°.89E±0°.07, h118km±5km, mb3.8/11, Error ellipse: s-maj=11.3km s-min=5.2km az=166.2*
MAN ***11*** *18:13:41.5, 6°.00N×126°.90E, h101km, mb4.7, ML3.6, MS3.5*
DJA ***11*** *18:13:41.2±0.6, 6°N±4°×12°7E±°, h10km, M4.5/8, mb4.4/7, mB4.9/3, MLv4.6/8, Mw(mB)4.2/3*
IDC ***11*** *18:13:42.9±1.6, 6°.06N×127°.00E, h117km±15km, mb3.6/11, mb1 3.7/12, mb1mx3.5/37, mbtmp4.0/12, Error ellipse: s-maj=33.6km s-min=10.1km az=67.0*
ISC 11 18:13:41.7±0.8**, 6°.01N**±0°.05×**126°.99E**±0°.08**, h107km**±8km**, n34, σ1s.49**/46**, mb4.1**/16**, 3C, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.18**	**322**	*e*P	**Pn**	**18 14 03.7**	**-0.9**
MATI				*e*S	**Sn**	**18 14 21.0**	**-0.9**
DDMP	**Don Marcelino,**	**1.27**	**274**	*e*P	**Pn**	**18 14 04.2**	**-1.4**
DDMP				*e*S	**Sn**	**18 14 23.7**	**-0.1**
DAV	**Davao City (W)**	**1.75**	**307**	P	**Pn**	**18 14 12.1**	**+0.7**
	248nm,0.3s,baz=136,slow=3.5,SNR=9.4						
DAV				S	**Sn**	**18 14 36.1**	**+2.1**
	94nm,0.3s,baz=287,slow=23,SNR=6.8						
DAV				LR	LR	18 15 01.3	
	comp=Z,150nm,18.8s,baz=53,slow=45						
DMPH	**Davao City--Mi**	**1.81**	**306**⇑	*e*P	**Pn**	**18 14 12.3**	**+0.1**
DMPH				*e*S	**Sn**	**18 14 36.2**	**+0.8**
BIPH	**Bislig**	**2.24**	**344**⇑	*e*P	**Pn**	**18 14 17.9**	**+0.2**
BIPH				*e*S	**Sn**	**18 14 41.5**	**-3.8**
SKMP	**Bagumbayan, Su**	**2.48**	**282**	*e*P	**Pn**	**18 14 20.4**	**-0.4**
SKMP				*e*S	**Sn**	**18 14 48.3**	**-2.5**
BUKP	**Musuan**	**2.66**	**314**	*e*P	**Pn**	**18 14 22.8**	**-0.4**
BUKP				*e*S	**Sn**	**18 14 54.4**	**-0.7**
SGSI	**Sangihe**	**2.73**	**212**	P	**Pn**	**18 14 24.7**	**+0.6**
SGSI				S	**Sn**	**18 14 56.5**	**-0.2**
BUTP	**Butuan**	**3.23**	**335**	*e*P	Pn	18 14 35.2	+4.4
BUTP				*e*S	**Sn**	**18 15 09.3**	**+0.7**
CGP	**Cagayan de Oro**	**3.33**	**317**⇑	*e*P	**Pn**	**18 14 31.7**	**-0.3**
CGP				*e*S	**Sn**	**18 15 10.3**	**-0.5**
PAGZ	**Pagadian**	**4.02**	**297**	*e*P	**Pn**	**18 14 42.2**	**+0.9**
MSLP	**Maasin**	**4.60**	**333**	*e*P	**Pn**	**18 14 49.4**	**+0.2**
TNTI	**Ternate**	**5.22**	**176**	P	**Pn**	**18 14 58.6**	**+1.1**
TNTI				S	**Sn**	**18 15 54.5**	**-2.1**
MRSI	**Marisa**	**7.46**	**223**	P	**Pn**	**18 15 28.4**	**+0.5**
SIJI	**Sorong**	**8.06**	**148**	P	**Pn**	**18 15 37.8**	**+1.7**
	2.6nm,0.3s,baz=3.0,slow=22,SNR=32						
SIJI				S	**Sn**	**18 17 01.5**	**-4.2**
	0.7nm,0.3s,baz=16,slow=24,SNR=2.6						
SANI	**Sanana**	**8.07**	**187**	P	**Pn**	**18 15 33.1**	**-3.1**
SANI				S	Sn	18 16 54.2	-12
FAKI	**Fak Fak**	**10.31**	**149**	P	**Pn**	**18 16 10.1**	**+3.4**
TTSI	**Tana Toraja**	**11.50**	**219**	P	**Pn**	**18 16 23.9**	**+1.2**
FITZ	**Fitzroy Crossi**	**24.00**	**183**	P	**P**	**18 18 47.4**	**+0.8**
	1.4nm,0.4s,baz=354,slow=7.5,SNR=13						
WRA	**Warramunga Arr**	**26.79**	**165**	P	**P**	**18 19 12.6**	**+0.6**
	0.3nm,0.3s,baz=345,slow=10,SNR=12						
ASAR	**Alice Springs**	**30.26**	**167**	P	**P**	**18 19 42.8**	**0.0**
	0.2nm,0.3s,baz=339,slow=7.1,SNR=14						
USRK	**Ussuriysk Ar.**	**38.29**	**6**	P	**P**	**18 20 51.2**	**-0.6**
	1.3nm,0.5s,baz=177,slow=7.4,SNR=8.5						
STKA	**Stephens Creek**	**40.17**	**161**	P	**P**	**18 21 08.5**	**+1.0**
	1.4nm,0.4s,baz=342,slow=10,SNR=6.7						
RAMN	**Ramite**	**43.69**	**303**	*e*P	**P**	**18 21 36.9**	**+0.3**
	8.0nm,0.5s						
JIRN	**Jiri**	**44.28**	**304**	*e*P	**P**	**18 21 40.5**	**-1.0**
	6.7nm,0.7s						
GUN	**Gumba**	**44.63**	**304**	*e*P	**P**	**18 21 42.9**	**-1.4**
	3.6nm,0.4s						
SONM	**Songino Array**	**45.24**	**341**	P	**P**	**18 21 49.0**	**+0.5**
	0.5nm,0.4s,baz=160,slow=7.3,SNR=4.7						
DANN	**Dangsing**	**46.54**	**304**	*e*P	**P**	**18 21 57.9**	**-1.3**
	7.0nm,0.5s						
PYUN	**Piuthan**	**47.09**	**303**	*e*P	**P**	**18 22 02.4**	**-1.0**
	2.5nm,0.4s						
MKAR	**Makanchi Array**	**55.85**	**324**	P	**P**	**18 23 08.0**	**-0.2**
	2.1nm,0.6s,baz=114,slow=7.4,SNR=43						
MKAR				PcP	**PcP**	**18 24 05.2**	**-0.7**
	0.8nm,0.7s,baz=122,slow=4.0,SNR=4.6						
ZALV	**Zalesovo Beam**	**58.69**	**332**	P	**P**	**18 23 27.1**	**-0.9**
	1.1nm,0.4s,baz=123,slow=7.1,SNR=10.0						
ILAR	**Eielson Array**	**82.94**	**26**	P	**P**	**18 25 54.5**	**-0.1**
	0.3nm,0.7s,baz=247,slow=4.5,SNR=3.9						
ARCES	**ARCESS Array B**	**88.41**	**340**	P	**P**	**18 26 20.3**	**-1.2**
	2.7nm,0.9s,baz=82,slow=6.5,SNR=3.9						
FINES	**FINESS Array B**	**89.95**	**332**	P	**P**	**18 26 29.7**	**+0.8**
	1.4nm,0.8s,baz=72,slow=4.5,SNR=5.3						

NEIC ***11*** *18:17:14.5±0.0, 51°.89N×170°.67W, h25km, ML3.6(AEIC), After AEIC.*
ISCJB ***11*** *18:17:16.3±0.6, 52°.2N±0°.1×170°.80W±0°.07, h42km, mb3.7/9, Error ellipse: s-maj=15.9km s-min=3.3km az=161.8*
IDC ***11*** *18:17:23.5±8.5, 52°.22N×170°.93W, h94km±78km, mb3.4/9, mb1 3.7/10, mb1mx3.4/35, mbtmp3.8/10, ML3.4/1, Error ellipse: s-maj=33.4km s-min=17.3km az=177.0*
ISC 11 18:17:18.0±0.8**, 52°.2N**±0°.1×**170°.85W**±0°.05**, h42km, n43, σ1s.15**/39**, mb3.6**/9**, Fox Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.42**	**58**	*e*Pn	**Pn**	**18 17 39.9**	**-1.4**
NIKH				*e*Sn	**Sn**	**18 17 57.2**	**-1.5**
KOFP	**Korovin Flat P**	**2.00**	**272**	*e*Pn	**Pn**	**18 17 49.8**	**+0.5**
OKWE	**Okmok W'ng Wal**	**2.00**	**51**	P	**Pn**	**18 17 50.1**	**+0.7**
OKAK	**Okmok**	**2.02**	**47**	*e*Pn	**Pn**	**18 17 48.6**	**-0.9**
ATKA	**Atka Island**	**2.06**	**270**	*e*Pn	**Pn**	**18 17 49.5**	**-0.6**
ATKA				*e*Sn	**Sn**	**18 18 15.5**	**+1.0**
MREP	**Makushin Rep't**	**2.93**	**56**	P	**Pn**	**18 18 02.6**	**+0.4**
MSW	**Makushin Switc**	**2.97**	**54**	*e*Sn	**Sn**	**18 18 39.7**	**+2.7**
UNV	**Unalaska Valle**	**3.08**	**57**	*e*Pn	**Pn**	**18 18 04.1**	**+0.1**
UNV				*e*Sn	**Sn**	**18 18 40.5**	**+1.0**
GSTR	**Great Sitkin T**	**3.21**	**269**	*e*Pn	**Pn**	**18 18 06.3**	**+0.4**
GSMY	**Great Sitkin M**	**3.21**	**268**	*e*Pn	**Pn**	**18 18 06.8**	**+0.8**
GSTD	**Great Sitkin T**	**3.27**	**269**	*e*Sn	**Sn**	**18 18 45.9**	**+1.5**
AKRB	**Akutan Reef Bi**	**3.44**	**55**	*e*Pn	**Pn**	**18 18 09.8**	**+0.7**
ETKA	**Kagalaska Isla**	**3.45**	**266**	*e*Pn	**Pn**	**18 18 09.7**	**+0.5**
AKGG	**Akutan Green G**	**3.52**	**54**	P	**Pn**	**18 18 11.2**	**+1.1**
AHB	**Akutan Harbor**	**3.56**	**56**	P	**Pn**	**18 18 11.1**	**+0.3**
AKUT	**Akutan**	**3.59**	**56**	*e*Pn	**Pn**	**18 18 12.9**	**+1.8**
ADK	**Adak**	**3.62**	**267**	*e*Pn	**Pn**	**18 18 11.7**	**+0.2**
KIWB	**Kanaga Island**	**3.91**	**267**	*e*Pn	**Pn**	**18 18 16.1**	**+0.6**
KIKV	**Kanaga Island**	**3.92**	**267**	*e*Pn	**Pn**	**18 18 16.1**	**+0.4**
KIMD	**Kanaga Island**	**3.98**	**266**	P	**Pn**	**18 18 16.8**	**+0.3**
SPIA	**Saint Paul Isl**	**4.96**	**4**	*e*Pn	**Pn**	**18 18 29.8**	**-0.1**
FALS	**False Pass**	**5.15**	**56**	*e*Pn	**Pn**	**18 18 31.8**	**-0.7**
SDPT	**Sand Point**	**6.89**	**59**	*e*Pn	**Pn**	**18 18 55.9**	**-0.4**
CHGN	**Chignik**	**8.33**	**56**	*e*Pn	**Pn**	**18 19 16.2**	**+0.1**
CAHL	**Cahill**	**10.62**	**51**	P	**Pn**	**18 19 48.4**	**+0.9**
KBM	**Katmai Bkd Mtn**	**10.77**	**50**	P	**Pn**	**18 19 45.8**	**-3.7**
KVTA	**Katmai Vly 10**	**10.77**	**49**	P	Pn	18 19 44.8	-4.7
PETK	**Petropavlovsk-**	**19.02**	**285**	P	**Pn**	**18 21 37.0**	**-0.1**
	0.6nm,0.3s,baz=90,slow=13,SNR=15						
YKA	**Yellowknife Ar**	**31.01**	**49**	P	**P**	**18 23 32.4**	**+1.3**
	0.1nm,0.3s,baz=270,slow=7.4,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**36.80**	**217**	T	T	19 03 29.0	
	baz=23,slow=75,SNR=6.7						
H11N3	**WAKE ISLAND Hy**	**36.81**	**217**	T	T	19 03 35.4	
	baz=23,slow=75,SNR=7.8						
H11N1	**WAKE ISLAND Hy**	**36.82**	**217**	T	T	19 03 45.1	
	baz=23,slow=75,SNR=6.1						
H11S1	**WAKE ISLAND Hy**	**37.99**	**216**	T	T	19 05 05.3	
	baz=22,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**38.01**	**216**	T	T	19 05 10.4	
	baz=22,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**38.01**	**216**	T	T	19 05 04.9	
	baz=22,slow=76,SNR=12						
PDAR	**Pinedale Array**	**41.32**	**78**	P	**P**	**18 25 00.3**	**+0.7**
	0.4nm,0.6s,baz=289,slow=5.9,SNR=5.1						
SONM	**Songino Array**	**50.58**	**300**	P	**P**	**18 26 12.4**	**+0.1**
	0.3nm,0.5s,baz=67,slow=4.8,SNR=4.3						
TXAR	**Lajitas Array**	**53.66**	**88**	P	**P**	**18 26 35.6**	**+0.2**
	0.4nm,0.7s,baz=290,slow=3.7,SNR=3.9						
ARCES	**ARCESS Array B**	**57.95**	**353**	P	**P**	**18 27 04.7**	**-0.7**
	7.4nm,0.9s,baz=8.6,slow=6.7,SNR=2.7						
MKAR	**Makanchi Array**	**63.23**	**313**	P	**P**	**18 27 41.0**	**-0.8**
	0.2nm,0.5s,baz=54,slow=4.9,SNR=4.2						
CMAR	**Chiang Mai Arr**	**75.76**	**282**	P	**P**	**18 28 59.6**	**+0.2**
	1.4nm,0.6s,baz=28,slow=6.8,SNR=12						
WRA	**Warramunga Arr**	**86.22**	**230**	P	**P**	**18 29 53.1**	**-1.8**
	0.2nm,0.7s,baz=36,slow=6.1,SNR=4.9						
ASAR	**Alice Springs**	**89.62**	**229**	P	**P**	**18 30 10.1**	**-1.0**
	1.0nm,0.8s,baz=22,slow=4.8,SNR=14						

DDA ***11*** *19:01:43.6, 36°.61N×27°.97E, h7km±2km, ML3.1*
THE ***11*** *19:01:43.9, 36°.65N×27°.96E, h0km±1km, ML2.8/3, Error ellipse: s-maj=3.2km s-min=0.8km az=65.0*
ATH ***11*** *19:01:43.7, 36°.68N×27°.92E, h10km±31km, ML2.9/2, Error ellipse: s-maj=31.6km s-min=1.6km az=0.0*
ISK ***11*** *19:01:43.6, 36°.62N×27°.97E, h4km, ML2.8/13*
ISC 11 19:01:43.1±1.2**, 36°.66N**±0°.03×**28°.00E**±0°.02**, h0km**±11km**, n34, σ2s.14**/46**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DATC	**Datca-Mugla**	**0.29**	**290**	PG	**Pg**	**19 01 49.7**	**+1.1**
DAT	**Datca**	**0.34**	**281**	PG	**Pg**	**19 01 50.8**	**+1.1**
DAT				SG	**Sb**	**19 01 56.3**	**-1.9**
DAT	**Datca**	**0.34**	**281**	IAML_P			
	comp=Z,3μm,0.2s						
DAT				*i* P	**Pb**	**19 01 51.8**	**-0.3**
ARG	**Arkhangelos**	**0.46**	**167**	PG	**Pg**	**19 01 52.5**	**+0.6**
ARG	**Arkhangelos**	**0.46**	**167**	P	**Pg**	**19 01 53.1**	**+1.2**
ARG				S	**Sb**	**19 02 00.1**	**-1.3**
ARG				AML	AML	19 02 01.9	
	comp=N,3209μm,0.3s						
ARG				AML	AML	19 02 02.0	
	comp=E,2988μm,0.3s						
ARG	**Arkhangelos**	**0.46**	**167**	P	**Pg**	**19 01 53.1**	**+1.2**
ARG				S	**Sb**	**19 02 00.8**	**-0.6**
TURN	**Turunc**	**0.53**	**66**	PG	**Pg**	**19 01 49.7**	**-3.6**
TURN				SG	**Sg**	**19 01 54.1**	**-6.1**
TURN	**Turunc**	**0.53**	**66**	IAML_P			
	comp=Z,26μm,0.1s						
TURN				*i* P	**Pg**	**19 01 50.5**	**-2.9**
TURN				*i* S	**Sg**	**19 01 54.5**	**-5.7**
DALY	**Dalyan (Mula)**	**0.55**	**74**	PG	**Pg**	**19 01 55.4**	**+1.7**
DALY	**Dalyan (Mula)**	**0.55**	**74**	IAML_P			
	comp=Z,2μm,0.3s						
DALY				*i* P	**Pg**	**19 01 55.4**	**+1.7**
BDRM	**Kayabasi**	**0.60**	**312**	IAML_P			
	comp=Z,9μm,0.2s						
BDRM				*i* P	**Pb**	**19 01 56.2**	**-0.2**
BDRM				*i* S	**Sb**	**19 02 06.0**	**+0.5**
MLSB	**Milas**	**0.66**	**345**	PG	**Pb**	**19 01 57.4**	**-0.1**
BODT	**Bodrum**	**0.68**	**306**	PG	**Pg**	**19 01 57.1**	**+0.9**
BODT	**Bodrum**	**0.68**	**306**	P	**Pg**	**19 01 57.1**	**+0.9**
BODT				S	**Sb**	**19 02 07.5**	**-0.3**
YKAV	**Yalikavak-Bodr**	**0.74**	**309**	PG	**Pb**	**19 01 58.6**	**-0.2**
FETY	**Fethiye**	**0.88**	**91**	PG	**Pb**	**19 02 01.7**	**+0.5**
FETY	**Fethiye**	**0.88**	**91**	*i* P	**Pb**	**19 02 01.4**	**+0.1**
AYDN	**Tasoluk**	**1.00**	**355**	IAML_P			
	comp=Z,14μm,0.3s						
AYDN				*i* P	**Pn**	**19 02 04.1**	**-0.4**
TAVA	**DENIZLI_Tavas**	**1.09**	**42**	IAML_P			
	comp=Z,462nm,0.2s						
TAVA				*i* P	**Pn**	**19 02 06.0**	**+0.3**
TAVA				*i* S	**Sn**	**19 02 22.7**	**+1.2**
GCAM	**G?zelcaml?**	**1.20**	**330**	PN	**Pn**	**19 02 07.6**	**+0.5**
GCAM	**G?zelcaml?**	**1.20**	**330**	IAML_P			
	comp=Z,5μm,0.3s						
GCAM				*i* P	**Pn**	**19 02 07.6**	**+0.5**
GCAM				*i* S	**Sn**	**19 02 24.4**	**+0.2**
KARP	**Karpathos**	**1.30**	**212**	P	**Pn**	**19 02 08.0**	**-0.6**
KARP				S	**Sn**	**19 02 25.2**	**-1.4**
KARP				AML	AML	19 02 29.0	
	comp=N,908μm,0.7s						
KARP				AML	AML	19 02 29.6	
	comp=E,970μm,0.6s						
KARP	**Karpathos**	**1.30**	**212**	P	**Pb**	**19 02 08.1**	**-0.4**
KARP				S	**Sn**	**19 02 25.8**	**-0.9**
AKAS	**Kas**	**1.37**	**108**	PN	**Pg**	**19 02 10.5**	**+1.2**
AKAS	**Kas**	**1.37**	**108**	IAML_P			
	comp=Z,1μm,0.4s						
AKAS				*i* P	**Pg**	**19 02 11.7**	**+2.4**
GOLH	**Golhisar**	**1.38**	**65**	*i* P	Pg	19 02 15.7	+6.1
GOLH				*i* S	**Sg**	**19 02 35.2**	**+7.7**
SMG	**Samos**	**1.40**	**319**	P	**Pn**	**19 02 09.0**	**-0.9**
SMG	**Samos**	**1.40**	**319**	P	**Pn**	**19 02 09.0**	**-0.9**
SMG				S	**Sg**	**19 02 29.4**	**+1.4**
ELL	**Elmali**	**1.54**	**86**	PN	**Pb**	**19 02 12.9**	**+0.3**
BLCB	**Balcova**	**1.88**	**337**	PN	**Pb**	**19 02 17.9**	**-0.4**
KORT	**Korkueli**	**1.92**	**79**	PN	**Pn**	**19 02 18.4**	**+1.2**
KORT	**Korkueli**	**1.92**	**79**	IAML_P			
	comp=Z,870nm,0.4s						
KORT				*i* P	**Pg**	**19 02 21.5**	**+1.6**
KULA	**Kula-Manisa**	**1.92**	**16**	PN	**Pn**	**19 02 18.2**	**+1.0**
BRDR	**BURDUR-Merkez**	**1.95**	**57**	IAML_P			
	comp=Z,652nm,0.2s						
BRDR				*i* P	**Pg**	**19 02 21.2**	**+0.8**

ISCJB ***11*** *19:11:34.4±0.5, 16°.46N±0°.07×93°.74W±0°.04, h149km±4km, mb4.0/7, Error ellipse: s-maj=11.2km s-min=6.4km az=9.3*
IDC ***11*** *19:11:35.6±0.9, 16°.52N×93°.68W, h141km±10km, mb3.9/6, mb1 4.1/7, mb1mx3.5/42, mbtmp4.3/7, Error ellipse: s-maj=40.7km s-min=13.0km az=47.0*
NEIC ***11*** *19:11:36.4±0.9, 16°.52N×93°.58W, h145km±8km, MD4.3(MEX), Error ellipse: s-maj=18.6km s-min=10.2km az=216.0*
MEX ***11*** *19:11:37.3±0.7, 16°.42N×93°.79W, h142km±7km, MD4.3*
ISC 11 19:11:35.7±0.8**, 16°.43N**±0°.07×**93°.73W**±0°.04**, h142km**±6km**, n27, σ1s.34**/35**, mb4.0**/7**, Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TGBT	**Tuxtla Gutierr**	**0.70**	**61**	*e*P	**Pn**	**19 11 57.5**	**+0.1**
TGBT				*e*S	**Sn**	**19 12 13.7**	**-0.2**
CMIG	**Matias Romero**	**1.28**	**301**	P	**Pn**	**19 12 02.9**	**+0.4**
	105nm,0.3s,baz=117,slow=11,SNR=569						
CMIG				S	**Sn**	**19 12 22.5**	**-0.4**
	184nm,0.3s,baz=351,slow=20,SNR=33						
CMIG	**Matias Romero**	**1.28**	**301**	*i* P	**Pn**	**19 12 03.0**	**+0.6**
CMIG				*e*S	**Sn**	**19 12 21.9**	**-0.9**
CCIG	**Comitan**	**1.54**	**95**	*e*P	**Pn**	**19 12 05.8**	**+0.5**
CCIG				*e*Sn	**Sn**	**19 12 25.1**	**-2.8**
CCIG	**Comitan**	**1.54**	**95**	*e*P	**Pn**	**19 12 05.9**	**+0.7**
CCIG				*i* S	**Sn**	**19 12 29.5**	**+1.6**
TUIG	**Tuzandepetl**	**1.73**	**338**	*i* P	**Pn**	**19 12 07.0**	**-0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TUIG				eS	Sn	19 12 31.1	-0.2
HUIG	Huatulco	2.38	254	i P	Pn	19 12 14.2	-0.7
HUIG				eS	Sn	19 12 43.7	-1.4
VHO	Vista Hermosa	2.95	283	eP	Pn	19 12 22.1	-0.2
VHO				i S	Sn	19 12 56.4	-1.8
APG	El Apazote	3.45	114	P	Pn	19 12 28.6	-0.3
LVIG	Laguna Verde	4.15	322	eP	Pn	19 12 37.0	-0.8
LVIG				e		19 13 20.6	
TLIG	Tlapa	4.76	284	ePn	Pn	19 12 47.1	+1.1
TEIG	Tepich	6.41	53	eP	Pn	19 13 05.9	-1.9
TXAR	Lajitas Array	15.76	326	P	P	19 15 12.9	+1.9
	0.1nm,0.3s,baz=149,slow=13,SNR=7.2						
LTX	Lajitas	15.76	326	ePn	P	19 15 12.9	+1.9
CPCT	Cooper Cave	20.65	22	eP	P	19 16 02.1	-2.1
PFO	Pinyon Flats O	26.67	314	P	P	19 17 00.6	-1.0
	4.5nm,0.3s,baz=102,slow=4.1,SNR=6.8						
NVAR	Mina Array Bea	30.74	320	P	P	19 17 41.1	+3.4
	0.8nm,0.3s,baz=131,slow=9.7,SNR=3.2						
LPAZ	La Paz	41.17	141	P	P	19 19 07.6	+0.6
	3.2nm,0.8s,baz=348,slow=7.3,SNR=11						
YKA	Yellowknife Ar	48.29	347	P	P	19 20 01.2	-0.9
	1.3nm,0.5s,baz=152,slow=7.3,SNR=34						
YKB5	Yellowknife Ar	48.29	347	eP	P	19 20 01.2	-1.0
CPUP	Villa Florida	55.31	140	P	P	19 20 53.6	-1.1
	1.4nm,0.6s,baz=300,slow=8.3,SNR=4.3						
ILAR	Eielson Array	59.96	337	P	P	19 21 26.8	+0.1
	0.5nm,0.7s,baz=135,slow=5.0,SNR=9.4						
ARA0	ARCESS Array S	84.36	18	eP	P	19 23 51.0	-0.6
ARCES	ARCESS Array B	84.36	18	P	P	19 23 51.0	-0.6
	11nm,1.1s,baz=319,slow=5.3,SNR=4.5						
ARCES	ARCESS Array B	84.36	18	P	P	19 23 51.0	-0.6
WR1	Warramunga Arr	134.31	258	ePKPpre	PKPdf	19 30 38.8	+1.3
WRA	Warramunga Arr	134.31	258	PKP	PKPdf	19 30 38.8	+1.3
	0.3nm,0.8s,baz=67,slow=2.1,SNR=3.8						

*ISK **11** 19:11:39.9, 39.69N×25.68E, h6km, ML2.4/11*
*ISCJB **11** 19:11:40.5±0.5, 39.72N±0.02×25.68E±0.03, h9km±4km, Error ellipse: s-maj=4.7km s-min=3.7km az=153.6*
*THE **11** 19:11:40.8, 39.73N×25.68E, h18km±2km, ML1.9/5, Error ellipse: s-maj=3.0km s-min=1.0km az=249.0*
*ATH **11** 19:11:40.3, 39.71N×25.64E, h27km±2km, ML2.3/1, Error ellipse: s-maj=3.3km s-min=1.1km az=242.0*
*DDA **11** 19:11:43.2, 39.75N×25.89E, h6km±4km, ML2.7*
ISC 11 19:11:40.6±0.9**, 39.73N**±0.02×**25.68E**±0.02**, h17**km±9km**, n35,** σ**0.57**/50**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.31	68	PG	Pg	19 11 47.1	-0.2
BOZC				SG	Sg	19 11 51.8	0.0
BOZC	Bozcaada	0.31	68	IAML_P			
	comp=Z,4μm,0.1s						
BOZC				i P	Pb	19 11 48.1	+0.3
LIA	Limnos Island	0.42	294	P	Pg	19 11 49.4	+0.3
LIA				S	Sg	19 11 55.0	+0.1
LIA	Limnos Island	0.42	294	P	Pg	19 11 49.4	+0.3
LIA				S	Sb	19 11 55.5	-0.1
GADA	Gvkgeada	0.49	20	PG	Pg	19 11 50.6	+0.1
GADA	Gvkgeada	0.49	20	P	Pg	19 11 50.6	+0.1
GADA				S	Sb	19 11 57.8	-0.1
GOKC	Gokceada-Canak	0.51	21	PG	Pb	19 11 51.1	0.0
EZN	Ezine	0.51	79	PG	Pg	19 11 50.5	-0.3
EZN	Ezine	0.51	79	P	Pg	19 11 50.6	-0.3
EZN				S	Sg	19 11 57.8	+0.1
SIGR	SIGRI	0.53	165	PG	Pg	19 11 50.3	-1.0
SIGR				SG	Sg	19 11 57.1	-1.3
SIGR	SIGRI	0.53	165	P	Pg	19 11 50.7	-0.5
SIGR				S	Sg	19 11 58.6	+0.2
SIGR				AML	AML	19 11 58.8	
	comp=E,714μm,0.5s						
SIGR				AML	AML	19 11 58.9	
	comp=N,846μm,0.4s						
SIGR	SIGRI	0.53	165	P	Pg	19 11 50.8	-0.5
SIGR				S	Sg	19 11 58.6	+0.2
PRK	Paraskevi	0.67	136	P	Pg	19 11 54.6	+0.9
PRK				S	Sg	19 12 03.7	+1.2
PRK	Paraskevi	0.67	136	P	Pg	19 11 54.6	+0.9
PRK				S	Sg	19 12 04.0	+1.5
BAYC	CANAKKALE_Bayr	0.67	89	IAML_P			
	comp=Z,881nm,0.1s						
BAYC				i P	Pg	19 11 54.2	+0.4
BAYC				i S	Sb	19 12 02.2	-0.8
SMTH	Samothraki Isl	0.75	351	P	Pg	19 11 55.4	0.0
SMTH				S	Sg	19 12 05.8	+0.5
SMTH	Samothraki Isl	0.75	351	P	Pg	19 11 55.4	0.0
SMTH				S	Sg	19 12 05.8	+0.5
AYVA	Ayvalik	0.89	118	IAML_P			
	comp=Z,318nm,0.1s						
AYVA				i P	Pn	19 11 58.8	+0.4
GELI	Tayfur-Gelibol	0.91	42	PG	Pg	19 11 58.3	0.0
LPK	Lapseki	1.05	52	PG	Pg	19 12 00.9	-0.1
ENEZ	Enez	1.07	20	PN	Pg	19 12 01.4	0.0
ERIK	Erikli-Kesan	1.14	34	PN	Pb	19 12 02.2	+0.3
THAS	Thassos island	1.15	320	P	Pn	19 12 01.7	-0.2
THAS				S	Sb	19 12 15.8	-0.8
DKL	Dikili	1.16	124	PN	Pn	19 12 02.0	0.0
ALN	Alexandroupoli	1.20	13	P	Pb	19 12 03.4	+0.5
ALN				S	Sg	19 12 19.8	+0.2
KESN	Edirne-Kesan	1.34	35	IAML_P			
	comp=Z,218nm,0.1s						
KESN				i P	Pg	19 12 06.4	-0.1
CHOS	Chios island	1.37	167	PN	Pn	19 12 05.4	+0.3
CHOS	Chios island	1.37	167	P	Pn	19 12 05.3	+0.3
KRBG	Karabiga-Canak	1.41	61	PN	Pb	19 12 06.9	+0.4
RDO	Rodhopi	1.42	356	PN	Pb	19 12 07.2	+0.5
AOS	Alonnisos	1.50	249	PN	Pb	19 12 08.3	+0.3
STEP	BALIKESIR_Sava	1.62	102	IAML_P			
	comp=Z,628nm,0.1s						
STEP				i P	Pb	19 12 09.9	-0.2
BALB	Balikesir	1.70	92	PN	Pb	19 12 10.7	-0.8
MRMT	Marmara Adasi	1.71	59	PN	Pb	19 12 11.6	-0.1
EDRB	Edirne	2.27	21	PN	Pb	19 12 19.6	-1.5

*NEIC **11** 19:27:08.9±0.0, 17.80N×101.53W, h36km, MD4.2(MEX), After MEX.*
MEX 11 19:27:08.8±0.5**, 17.79N×101.53W, h39**km±5km**, MD4.2, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.19	161	i P	Pn	19 27 14.2	-2.9
ZIIG				i S	Sn	19 27 19.3	-4.9
ARIG	Puente Sto Nin	1.23	66	eP	Pn	19 27 27.6	-1.9
ARIG				eS	Sn	19 27 42.3	-2.5
ARIG	Puente Sto Nin	1.23	66	eP	Pn	19 27 27.6	-1.9
ARIG				eS	Sn	19 27 42.3	-2.5
CAIG	El Cayaco	1.41	121	eP	Pn	19 27 30.4	-1.5
CAIG				eS	Sn	19 27 47.2	-2.1
MEIG	Mezcala	1.82	85	eP	Pn	19 27 36.7	-1.0
MEIG				eS	Sn	19 27 57.6	-2.1
MOIG	Morelia	1.91	10	ePn	Pn	19 27 38.1	-1.0
PLIG	Platanillo	2.02	72	ePn	Pn	19 27 39.6	-0.8
PLIG				eSn	Sn	19 28 02.2	-2.2
PLIG	Platanillo	2.02	72	eP	Pn	19 27 39.6	-0.8
PLIG				i S	Sn	19 28 02.2	-2.2
UNM	Universidad Na	2.71	55	ePn	Pn	19 27 47.7	-2.3
TLIG	Tlapa	2.83	94	ePn	Pn	19 27 49.2	-2.4
TLIG				eSn	Sn	19 28 25.7	+1.1
TLIG	Tlapa	2.83	94	eP	Pn	19 27 50.8	-0.9
TLIG				eS	Sn	19 28 22.9	-1.7
ZAIG	Zacatecas	5.05	349	ePn	Pn	19 28 20.3	-2.0

IDC 11 19:33:35.1±3.3**, 10.99S×165.54E, h0**km**, mb3.8**/3**, mb1 4.0**/4**, mb1mx3.6**/23**, mbtmp3.9**/4**, ML4.3**/1**, Error ellipse: s-maj=66.5km s-min=43.3km az=81.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	11.05	176	Pn	Pn	19 36 14.5	-0.1
	2.0nm,0.3s,baz=326,slow=23,SNR=22						
WRA	Warramunga Arr	31.31	250	P	P	19 39 57.7	+0.4
	2.5nm,0.8s,baz=82,slow=9.1,SNR=16						
ASAR	Alice Springs	32.63	243	P	P	19 40 08.6	-0.4
	0.4nm,0.6s,baz=63,slow=10.0,SNR=8.9						
MKAR	Makanchi Array	93.34	317	P	P	19 46 52.0	-0.2
	0.2nm,0.6s,baz=88,slow=6.5,SNR=3.8						

KRSC 11 19:43:30.0±0.8**, 52.35N×159.91E, h44**km±11km**, ML3.9, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.75	5	eP	Pn	19 43 45.2	+1.0
SPN				eS	Sn	19 43 56.0	+1.5
RUS	Russkaya	0.86	276	eP	Pn	19 43 46.3	+0.7
RUS				eS	Sn	19 43 58.0	+1.0
NLC	Nalytchevo	0.89	338	eP	Pn	19 43 47.0	+0.9
NLC				eS	Sn	19 43 59.1	+1.3
PET	Petropavlovsk	1.02	312	eP	Pn	19 43 48.7	+0.9
PET				eS	Sn	19 44 02.0	+1.1
MTVR	Mutnovka	1.06	278	eP	Pn	19 43 49.7	+1.1
MTVR				eS	Sn	19 44 03.9	+1.6
UGLR	Uglovaya	1.08	323	eP	Pn	19 43 50.0	+1.2
UGLR				eS	Sn	19 44 04.3	+1.6
SDLR	Sedlovina	1.11	327	eP	Pn	19 43 50.2	+0.9
SDLR				eS	Sn	19 44 04.5	+1.0
SMAR	Somma	1.13	324	eP	Pn	19 43 50.5	+0.9
GRL	Gorelyy	1.14	281	i P	Pn	19 43 52.0	+2.4
AVH	Avacha	1.16	323	eP	Pn	19 43 51.5	+1.7
AVH				eS	Sn	19 44 06.3	+1.8
KRMR	Karymshinskiy	1.18	295	i P	Pn	19 43 51.3	+1.2
KRMR				eS	Sn	19 44 05.7	+0.7
KOK	Koryaka	1.22	321	eP	Pn	19 43 52.2	+1.5
KDTR	Khodutka, Kamc	1.25	245	eP	Pn	19 43 52.3	+1.3
KDTR				eS	Sn	19 44 08.0	+1.3
KRX	Arik	1.26	323	eP	Pn	19 43 52.7	+1.3
KII	Karymskiy	1.71	351	eP	Pn	19 44 00.2	+2.8
KII				eS	Sn	19 44 21.3	+3.3
APC	Apacha	1.77	290	eP	Pn	19 44 00.5	+2.4
APC				eS	Sn	19 44 22.1	+2.7
GNL	Ganaly	1.79	319	eP	Pn	19 44 00.8	+2.2
GNL				eS	Sn	19 44 22.9	+2.7
PAU	Pauzhetka	2.11	246	eP	Pn	19 44 05.7	+2.9
PAU				eS	Sn	19 44 29.9	+2.1
MKZ	Mys Kozlova	2.46	26	eP	Pn	19 44 10.1	+2.5
TUMD	Tumrok D	2.87	6	eP	Pn	19 44 16.2	+2.9
TUMR	Tumrok	2.94	3	eP	Pn	19 44 17.9	+3.6
ESO	Esso	3.65	349	eP	Pn	19 44 27.3	+3.4
KBTR	Krutoberegovo	4.22	23	eP	Pn	19 44 34.1	+2.3
SMKR	Semkarok	4.33	12	eP	Pn	19 44 38.3	+4.9
SRKR	Sorokina	4.37	9	eP	Pn	19 44 39.2	+5.3

*IDC **11** 19:52:29.2±1.7, 9.59S×107.15E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/32, mbtmp3.8/7, ML4.0/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/31, Error ellipse: s-maj=55.5km s-min=19.5km az=59.0*
*ISCJB **11** 19:52:30.2±0.4, 9.63S±0.05×107.26E±0.04, h23km, mb4.0/12, Error ellipse: s-maj=6.5km s-min=6.1km az=175.0*
*NEIC **11** 19:52:33.8±0.6, 9.54S×107.25E, h35km, mb4.5/7, Error ellipse: s-maj=12.9km s-min=9.4km az=51.0*
ISC 11 19:52:32.0±0.6**, 9.62S**±0.06×**107.28E**±0.05**, h23**km**, n37,** σ**1.46**/38**, mb4.3**/17**, South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
XMIS	Christmas Isla	1.81	242	ePn	Pn	19 53 01.6	-0.3
XMIS				eSn	Sn	19 53 21.6	-2.6
CISI	Cisompet, Garu	2.11	15	ePn	Pn	19 53 04.1	-2.0
LEM	Lembang	2.79	7	Pn	Pn	19 53 15.4	0.0
	22nm,0.3s,baz=40,slow=4.0,SNR=29						
LEM				Sn	Sn	19 53 50.7	+2.2
	16nm,0.3s,baz=346,slow=11,SNR=6.4						
LEM				LR	LR	19 54 47.2	
	comp=Z,115nm,18.1s,baz=230,slow=50						
UGM	Wanagama	3.63	62	ePn	Pn	19 53 26.8	-0.1
UGM				eSn	Sn	19 54 05.3	-3.8
SMRI	Semarang	4.04	51	ePn	Pn	19 53 28.6	-3.8
MNAI	Manna	6.75	320	ePn	Pn	19 54 07.0	-2.8
JAGI	Jajag, Banyuwa	6.89	81	ePn	Pn	19 54 12.8	+1.1
JAGI				eSn	Sn	19 55 29.0	-0.4
GIRL	Giralia	14.57	154	ePn	Pn	19 55 55.9	-1.0
MORW	Morawa	21.03	158	eP	P	19 57 14.1	-0.2
	30nm,1.3s						
PBKT	Sadao Pong	26.75	346	eP	P	19 58 10.5	+0.3
	3.3nm,0.7s						
WRA	Warramunga Arr	28.07	115	P	P	19 58 24.0	+1.9
	0.2nm,0.5s,baz=288,slow=10,SNR=5.3						
WR1	Warramunga Arr	28.07	115	eP	P	19 58 24.0	+1.9
	19nm,1.6s						
WRAB	Tennant Creek	28.07	115	eP	P	19 58 23.3	+1.1
	5.7nm,1.2s						
WB2	Warramunga Arr	28.08	115	eP	P	19 58 24.1	+2.0
ASAR	Alice Springs	29.02	122	P	P	19 58 31.5	+1.0
	0.3nm,0.6s,baz=302,slow=9.3,SNR=5.2						
CM31	Chiang Mai Arr	29.08	344	eP	P	19 58 31.1	+0.2
CMAR	Chiang Mai Arr	29.08	344	P	P	19 58 31.1	+0.2
	2.1nm,0.6s,baz=178,slow=8.6,SNR=25						
CHTO	Chiang Mai	29.42	344	eP	P	19 58 34.1	+0.1
	18nm,2.0s						
H08S2	Diego Garcia H	34.43	270	T	T	20 36 02.2	
	baz=95						
H08S3	Diego Garcia H	34.45	271	T	T	20 36 10.9	
	baz=95						
H08S1	Diego Carcia H	34.45	270	T	T	20 36 22.1	
	baz=95						
JIRN	Jiri	42.31	332	eP	P	20 00 25.3	+0.6
	3.7nm,0.3s						
GUN	Gumba	42.67	332	eP	P	20 00 27.9	+0.4
	6.7nm,0.7s						
KOLN	Koldanda	43.67	329	eP	P	20 00 35.9	+0.5
	12nm,0.8s						
DANN	Dangsing	44.06	330	eP	P	20 00 38.5	-0.2
	7.4nm,0.6s						
PYUN	Piuthan	44.25	329	eP	P	20 00 40.2	+0.1
	7.4nm,0.8s						
SONA0	Songino Array	57.20	359	eP	P	20 02 17.7	+0.3
SONM	Songino Array	57.20	359	P	P	20 02 17.7	+0.3
	0.4nm,0.5s,baz=180,slow=9.0,SNR=7.1						
ARSB	Arslanbob	59.70	331	eP	P	20 02 34.9	-0.1
	12nm,1.6s						
MK32	Makanchi Array	60.42	341	eP	P	20 02 39.7	0.0
MKAR	Makanchi Array	60.42	341	P	P	20 02 39.7	0.0
	0.6nm,0.5s,baz=144,slow=8.0,SNR=14						
MKAR	Makanchi Array	60.42	341	eP	P	20 02 39.3	-0.4
	5.5nm,0.8s						
ABKAR	Akbulak array	71.79	330	eP	P	20 03 52.2	-0.4
PETK	Petropavlovsk-	75.74	29	P	P	20 04 16.1	+0.4
	4.3nm,1.0s,baz=191,slow=6.8,SNR=4.5						
PEA1	Petropavlovsk-	75.74	29	eP	P	20 04 16.1	+0.4
LTX	Lajitas	145.03	52	ePKPbc	PKPdf	20 12 09.8	+1.5
TXAR	Lajitas Array	145.03	52	PKPbc	PKPdf	20 12 09.8	+1.5
	0.2nm,0.7s,baz=238,slow=1.7,SNR=3.1						

*MDD **11** 20:11:48.0±1.3, 37.33N×12.71W, h0km, mb4.4/30, Error ellipse: s-maj=12.2km s-min=7.6km az=64.0, PRXIMO*
*INMG **11** 20:11:48.9±1.7, 37.07N×13.09W, h10km, ML3.0, Error ellipse: s-maj=4.6km s-min=3.4km az=111.0*
*IGIL **11** 20:11:48.2, 37.37N×12.71W, h0km, ML3.1*
*LDG **11** 20:11:50.6±0.3, 37.31N×12.79W, h20km, Ml3.3/3, Error ellipse: s-maj=6.2km s-min=4.8km az=57.0*
ISC 11 20:11:46.4±0.8**, 37.42N**±0.03×**12.67W**±0.04**, h10**km**, n103,** σ**2.15**/116**, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMST	Lisbon--Monsan	3.05	63	ePn	Pn	20 12 36.6	+1.9
PMST				eSn	Sn	20 13 14.3	+3.1
PMST				A	A	20 13 19.1	
	41nm,0.5s						
PMAFR	Mafra	3.08	59	ePn	Pb	20 12 37.9	-3.4
PMAFR				eSn	Sn	20 13 15.2	+3.2
PMAFR				A	A	20 13 23.6	
	49nm,0.5s						
PMAFR	Mafra	3.08	59	P	Pb	20 12 37.8	-3.4
	20nm,0.2s,SNR=17						
PMAFR				S	Sn	20 13 15.2	+3.2
	20nm,0.2s,SNR=8.3						
PFVI	Vila Bisbo	3.08	94	ePn	Pn	20 12 35.9	+0.8
PFVI				eSn	Sn	20 13 11.7	-0.3
PFVI				A	A	20 13 19.0	
	18nm,0.7s						
PFVI	Vila Bisbo	3.08	94	P	Pn	20 12 35.9	+0.8
	8.4nm,0.1s,SNR=15						
PFVI				S	Sn	20 13 11.7	-0.3
	6.9nm,0.1s,SNR=7.9						
PTEO	Sao Teotonio	3.14	87	ePn	Pb	20 12 37.6	-4.8
PTEO				eSn	Sn	20 13 13.8	+0.3
PTEO				A	A	20 13 22.7	
	19nm,0.3s						
PTEO	Sao Teotonio	3.14	87	P	Pb	20 12 37.6	-4.8
PTEO				S	Sn	20 13 13.8	+0.3
	9.7nm,0.3s						
MORF	Marmelete	3.21	91	eP	Pb	20 12 38.1	-5.4
MORF				eS	Sn	20 13 15.2	0.0
MORF				AML	AML	20 13 23.5	
	comp=N,62nm,0.0s						
MORF	Marmelete	3.21	91	ePn	Pb	20 12 38.1	-5.4
MORF				eSn	Sn	20 13 15.5	+0.3
MORF				A	A	20 13 23.5	
	comp=N,32nm,0.1s						
MORF	Marmelete	3.21	91	P	Pb	20 12 38.1	-5.4
MORF				S	Sn	20 13 15.5	+0.3
	comp=N,32nm,0.1s						
PNCL	Nicolau / Gran	3.35	77	ePn	Pn	20 12 40.7	+1.8
PNCL				eSn	Sn	20 13 19.9	+1.1
PNCL				A	A	20 13 20.9	
	comp=N,24nm,0.4s						
PNCL	Nicolau / Gran	3.35	77	P	Pn	20 12 40.7	+1.8
PNCL				S	Sn	20 13 19.9	+1.1
	comp=N,24nm,0.4s						
MESJ	Messejana	3.56	82	eP	Pn	20 12 43.2	+1.5
MESJ				eS	Sn	20 13 23.6	-0.2
MESJ				AML	AML	20 13 30.9	
	comp=N,47nm,0.5s						
MESJ	Messejana	3.56	82	ePn	Pn	20 12 43.7	+2.0
MESJ				eSn	Sn	20 13 24.2	+0.4
MESJ				A	A	20 13 29.8	
	comp=N,13nm,0.1s						
MESJ	Messejana	3.56	82	P	Pn	20 12 43.7	+2.0
MESJ				S	Sn	20 13 24.2	+0.4
	comp=N,13nm,0.1s						
ALMR	Almeirim	3.66	61	eP	Pn	20 12 45.1	+2.0
ALMR	Almeirim	3.66	61	eP	Pn	20 12 45.1	+2.0
ALMR	Almeirim	3.66	61	P	Pn	20 12 45.1	+2.0
PBDV	Barranco-do-Ve	3.78	91	ePn	Pn	20 12 46.5	+1.7
PBDV				eSn	Sn	20 13 29.8	+0.4
PBDV				A	A	20 13 37.7	
	comp=N,14nm,0.5s						
PBDV	Barranco-do-Ve	3.78	91	P	Pn	20 12 46.5	+1.7
PBDV				S	Sn	20 13 29.8	+0.4
	comp=N,14nm,0.5s						
EVO	Evora	3.84	72	ePn	Pb	20 12 49.9	-4.4
EVO				eSn	Sn	20 13 33.9	+3.0
EVO				A	A	20 13 39.3	
	comp=N,24nm,0.1s						
EVO	Evora	3.84	72	P	Pb	20 12 50.1	-4.3
EVO				S	Sn	20 13 33.8	+3.0
EVO	Evora	3.84	72	eP	Pb	20 12 50.1	-4.3
EVO				eS	Sn	20 13 33.8	+3.0
PBEJ	Beja	3.86	80	ePn	Pb	20 12 49.0	-5.6
PBEJ				eSn	Sn	20 13 32.2	+1.0
PBEJ				A	A	20 13 38.0	
	comp=N,28nm,0.2s						
PBEJ	Beja	3.86	80	P	Pb	20 12 49.0	-5.6
PBEJ				S	Sn	20 13 32.2	+1.0
	comp=N,14nm,0.2s						
PVAQ	Vaqueiros	3.94	89	ePn	Pn	20 12 48.9	+1.9
PVAQ				eSn	Sn	20 13 33.4	+0.1
PVAQ				A	A	20 13 38.9	
	comp=N,25nm,0.3s						
PVAQ	Vaqueiros	3.94	89	P	Pn	20 12 48.9	+1.9
PVAQ				S	Sn	20 13 33.4	+0.1
	comp=N,25nm,0.3s						
PTOM	Tomar	4.00	55	ePn	Pn	20 12 51.3	+3.6
PTOM				eSn	Sn	20 13 37.7	+3.1
PTOM				A	A	20 13 43.1	
	comp=N,24nm,0.4s						
PTOM	Tomar	4.00	55	P	Pn	20 12 51.3	+3.6
PTOM				S	Sn	20 13 37.7	+3.1
	comp=N,12nm,0.4s						
EGRO	El Granado	4.13	87	P	Pn	20 12 51.3	+1.7
	comp=N,17nm,0.3s,SNR=37						
EGRO				S	Sn	20 13 38.9	+1.0
	comp=N,22nm,0.3s,SNR=9.0						
PCAS	Casmilo, Conde	4.19	50	ePn	Pn	20 12 53.4	+3.0
PCAS				eSn	Sn	20 13 41.8	+2.4
PCAS				A	A	20 13 53.6	
	comp=N,14nm,0.5s						
PCAS	Casmilo, Conde	4.19	50	P	Pn	20 12 53.4	+3.0
PCAS				S	Sn	20 13 41.8	+2.4
	comp=N,14nm,0.5s						
PESTR	Estremoz	4.26	69	ePn	Pn	20 12 54.1	+2.8
PESTR				eSn	Sn	20 13 42.7	+1.6
PESTR				A	A	20 13 47.9	
	comp=N,12nm,0.4s						
PBAR	Barrancos	4.52	79	ePn	Pn	20 12 57.6	+2.6
PBAR				eSn	Sn	20 13 48.1	+0.5
PBAR				A	A	20 13 58.7	
	comp=N,27nm,0.8s						
PBAR	Barrancos	4.52	79	P	Pn	20 12 57.6	+2.6
PBAR				S	Sn	20 13 48.1	+0.5
	comp=N,27nm,0.8s						
PMRV	Marv??o	4.60	63	ePn	Pb	20 13 00.9	-6.4
PMRV				eSn	Sn	20 13 53.2	+3.6
PMRV				A	A	20 14 04.3	
	comp=N,12nm,0.5s						
PMRV	Marv??o	4.60	63	P	Pb	20 13 00.9	-6.4
PMRV				S	Sn	20 13 53.2	+3.6
	comp=N,12nm,0.5s						
EBAD	Badajoz	4.66	72	P	Pn	20 12 58.8	+2.0
	comp=N,5.4nm,0.1s,SNR=45						
EBAD				S	Sn	20 13 50.6	-0.3
	comp=N,4.0nm,0.1s,SNR=4.8						
PCBR	Castelo Branco	4.73	58	ePn	Pn	20 13 00.9	+3.1
PCBR				eSn	Sn	20 13 54.0	+1.3
PCBR				A	A	20 13 58.8	
	comp=N,8.9nm,0.6s						
PCBR	Castelo Branco	4.73	58	P	Pn	20 13 00.9	+3.1
PCBR				S	Sn	20 13 54.0	+1.3
	comp=N,4.4nm,0.6s						
EMIN	Mina Concepcio	4.78	84	P	Pn	20 13 00.2	+1.7
	comp=N,3.4nm,0.1s,SNR=44						
EMIN				S	Sn	20 13 53.2	-0.7
	comp=N,3.7nm,0.1s,SNR=10						
PVIS	Viseu	4.96	47	ePn	Pn	20 13 04.1	+3.0
PVIS				eSn	Sn	20 13 59.7	+1.2
PVIS				A	A	20 14 04.1	
	comp=N,9.8nm,0.3s						
PVIS	Viseu	4.96	47	P	Pn	20 13 04.1	+3.0
PVIS				S	Sn	20 13 59.7	+1.2
	comp=N,4.9nm,0.3s						
MTE	Manteigas	4.98	52	ePn	Pn	20 13 04.6	+3.3
MTE				eSn	Sn	20 14 00.6	+1.6
MTE				A	A	20 14 07.5	
	comp=N,18nm,0.5s						
MTE	Manteigas	4.98	52	P	Pn	20 13 04.6	+3.3
MTE				S	Sn	20 14 00.6	+1.6
	comp=N,9.2nm,0.5s						
PVRL	Vila Real	5.44	43	eSn	Sn	20 14 12.3	+2.1
PVRL				A	A	20 14 17.4	
	comp=N,6.8nm,0.1s						
PVRL	Vila Real	5.44	43	S	Sn	20 14 12.3	+2.1
	comp=N,3.4nm,0.1s						
POLO	Lamas de Olo	5.46	42	ePn	Pn	20 13 10.6	+2.7
POLO				eSn	Sn	20 14 12.7	+1.8
POLO				A	A	20 14 17.8	
	comp=N,2.8nm,0.4s						
POLO	Lamas de Olo	5.46	42	P	Pn	20 13 10.6	+2.7
POLO				S	Sn	20 14 12.7	+1.8
	comp=N,2.8nm,0.4s						
ESPR	Espera	5.47	94	P	Pn	20 13 09.8	+1.8
	comp=N,8.6nm,0.2s,SNR=16						
ESPR				S	Sn	20 14 10.8	-0.2
	comp=N,5.4nm,0.2s						
PCAB	Cabril	5.59	39	ePn	Pn	20 13 13.0	+3.4
PCAB				eSn	Sn	20 14 15.5	+1.7
PCAB				A	A	20 14 19.4	
	comp=N,4.8nm,0.2s						
PCAB	Cabril	5.59	39	P	Pn	20 13 13.0	+3.4
PCAB				S	Sn	20 14 15.5	+1.7
	comp=N,2.4nm,0.2s						
EZAM	Zamans	5.63	32	P	Pn	20 13 12.4	+2.3
	comp=N,3.1nm,0.2s,SNR=7.9						
EZAM				S	Sn	20 14 13.4	-1.4
	comp=N,9.7nm,0.4s,SNR=7.9						
PGAV	Gavieira, Arco	5.67	35	ePn	Pn	20 13 14.0	+3.3
PGAV				eSn	Sn	20 14 16.8	+0.9
PGAV				A	A	20 14 20.0	
	comp=N,8.4nm,0.3s						
PGAV	Gavieira, Arco	5.67	35	P	Pn	20 13 14.0	+3.3
PGAV				S	Sn	20 14 16.8	+0.9

	comp=N,8.4nm,0.3s								
ELOB	**Lobios**	**5.69**	**37**	P		Pn	20 13 14.6	+3.6
	comp=N,1.8nm,0.2s,SNR=6.3								
ELOB				S		**Sn**	**20 14 16.0**	**-0.4**
	comp=N,1.7nm,0.1s								
MVO	**Moncorvo**	**5.75**	**48**	*e*Pn		Pn	20 13 14.7	+2.7
MVO				*e*Sn		**Sn**	**20 14 18.2**	**+0.2**
MVO				A		A	20 14 20.2	
	comp=N,7.9nm,0.3s								
MVO	**Moncorvo**	**5.75**	**48**	P		Pn	20 13 14.6	+2.7
	comp=N,8.5nm,0.4s,SNR=14								
MVO				S		**Sn**	**20 14 18.2**	**+0.2**
	comp=N,3.6nm,0.2s								
ECAB	**El Cabril**	**5.79**	**81**	P		**Pn**	**20 13 14.2**	**+1.8**
	comp=N,7.7nm,0.4s,SNR=80								
ECAB				S		**Sn**	**20 14 17.8**	**-1.0**
	comp=N,1.6nm,0.2s								
EPLA	**Plasencia**	**5.79**	**61**	P		Pn	20 13 15.3	+2.9
	comp=N,8.4nm,0.3s,SNR=26								
EPLA				S		**Sn**	**20 14 18.2**	**-0.7**
	comp=N,4.4nm,0.2s,SNR=5.9								
PMAR	**Madeira**	**5.84**	**218**	*e*Sn		Sn	20 13 57.9	-22
PMAR	**Madeira**	**5.84**	**218**	S		Sn	20 13 57.9	-22
EMAZ	**Mazaricos**	**6.20**	**26**	S		**Sn**	**20 14 25.8**	**-3.2**
	comp=N,4.4nm,0.1s,SNR=7.9								
PBRG	**Braganca**	**6.33**	**44**	*e*Pn		Pn	20 13 22.7	+2.8
PBRG				*e*Sn		**Sn**	**20 14 33.0**	**+0.7**
PBRG				A		A	20 14 37.8	
	comp=N,4.4nm,0.4s								
PBRG	**Braganca**	**6.33**	**44**	P		Pn	20 13 22.7	+2.8
PBRG				S		**Sn**	**20 14 33.0**	**+0.7**
	comp=N,2.2nm,0.4s								
EMIJ	**Mijas**	**6.38**	**95**	P		Pn	20 13 23.1	+2.6
	comp=N,0.6nm,0.2s,SNR=7.9								
EMIJ				S		**Sn**	**20 14 31.2**	**-2.2**
	comp=N,0.7nm,0.4s,SNR=7.9								
EAGO	**Agolada(Pontev**	**6.42**	**32**	P		**Pn**	**20 13 23.0**	**+1.9**
	comp=N,1.8nm,0.2s,SNR=7.9								
EAGO				S		**Sn**	**20 14 31.7**	**-2.6**
	comp=N,1.8nm,0.2s,SNR=7.9								
ECAL	**Calabor**	**6.43**	**44**	P		Pn	20 13 24.3	+3.1
	comp=N,5.9nm,0.3s,SNR=7.3								
ECAL				S		**Sn**	**20 14 34.2**	**-0.4**
	comp=N,1.2nm,0.2s								
EADA	**Adamuz**	**6.45**	**81**	P		Pn	20 13 23.6	+2.1
	comp=N,3.6nm,0.1s,SNR=48								
EADA				S		**Sn**	**20 14 33.1**	**-2.2**
	comp=N,2.8nm,0.3s,SNR=6.3								
EGOR	**Sierra Gorda,**	**6.84**	**90**	P		Pn	20 13 28.9	+2.0
	comp=N,1.4nm,0.4s,SNR=7.9								
EGOR				S		**Sn**	**20 14 43.1**	**-1.7**
	comp=N,0.3nm,0.2s,SNR=7.9								
PAB	**San Pablo**	**6.87**	**69**	P		**Pn**	**20 13 29.0**	**+1.8**
	comp=N,2.1nm,0.2s,SNR=7.9								
PAB				S		**Sn**	**20 14 44.0**	**-1.5**
	comp=N,0.9nm,0.3s,SNR=7.9								
ESDC	**Sonseca Array**	**7.19**	**69**	P		**Pn**	**20 13 33.6**	**+2.1**
	comp=N,3.6nm,0.3s,baz=254,slow=13,SNR=57								
ESDC				S		**Sn**	**20 14 50.7**	**-2.6**
	comp=N,0.7nm,0.3s,baz=256,slow=23,SNR=4.4								
ELGU	**Los Guajares,**	**7.25**	**92**	P		Pn	20 13 34.6	+2.2
	comp=N,1.2nm,0.3s,SNR=7.9								
ELGU				S		**Sn**	**20 14 51.5**	**-3.4**
	comp=N,4.8nm,0.3s,SNR=7.9								
EPON	**Pontenova**	**7.25**	**34**	P		**Pn**	**20 13 34.7**	**+2.3**
	comp=N,2.0nm,0.3s,SNR=4.0								
EPON				S		**Sn**	**20 14 53.7**	**-1.0**
	comp=N,0.6nm,0.2s,SNR=7.9								
GUD	**Guadarrama**	**7.37**	**62**	P		**Pn**	**20 13 36.6**	**+2.5**
	comp=N,1.7nm,0.3s,SNR=14								
GUD				S		**Sn**	**20 14 55.9**	**-2.0**
	comp=N,0.3nm,0.3s								
EQES	**Quesada**	**7.63**	**84**	P		**Pn**	**20 13 39.2**	**+1.5**
	comp=N,1.7nm,0.3s,SNR=12								
EQES				S		**Sn**	**20 15 02.7**	**-1.6**
	comp=N,0.8nm,0.3s,SNR=7.9								
EBER	**Berja**	**7.83**	**91**	P		Pn	20 13 43.7	+3.2
	comp=N,0.6nm,0.2s,SNR=7.9								
EBER				S		**Sn**	**20 15 06.8**	**-2.5**
	comp=N,0.9nm,0.4s,SNR=4.0								
SESP	**Santiago Espad**	**8.05**	**82**	P		**Pn**	**20 13 44.3**	**+0.8**
	comp=N,2.3nm,0.4s,SNR=7.9								
ETOB	**Tobarra**	**8.86**	**79**	P		**Pn**	**20 13 55.7**	**+1.0**
	comp=N,1.9nm,0.3s,SNR=8.5								
ETOR	**Torete**	**8.92**	**64**	P		**Pn**	**20 13 57.7**	**+2.3**
	comp=N,4.7nm,0.2s,SNR=35								
EMOS	**Mosqueruela**	**9.95**	**69**	P		**Pn**	**20 14 11.0**	**+1.4**
	comp=N,0.7nm,0.3s,SNR=7.9								
EMOS				S		**Sn**	**20 16 00.5**	**-1.0**
	comp=N,0.3nm,0.3s,SNR=7.9								
IELO	**Elcoad**	**10.29**	**55**	P		Pn	20 14 17.0	+2.9
	comp=N,3.1nm,0.2s,SNR=7.9								
ESAC	**San Caprasio**	**10.35**	**62**	P		Pn	20 14 17.5	+2.5
	comp=N,7.7nm,0.4s,SNR=4.0								
SJPF	**Ste Jean**	**10.43**	**53**	*e*Pn		Pn	20 14 18.6	+2.6
SJPF				*e*Sn		**Sn**	**20 16 09.0**	**-3.8**
	comp=N,1.7nm,0.3s								
SJPF	**Ste Jean**	**10.43**	**53**	P		Pn	20 14 18.6	+2.6
SJPF				S		**Sn**	**20 16 09.0**	**-3.8**
	comp=N,0.9nm,0.3s								
ERTA	**Horta de San J**	**10.69**	**67**	P		Pn	20 14 22.5	+2.8
	comp=N,1.2nm,0.3s,SNR=7.9								
ATE	**Arette**	**10.75**	**55**	P		Pn	20 14 23.9	+3.5
	comp=N,2.1nm,0.3s,SNR=8.5								
ETSF	**Etsaut**	**10.76**	**56**	*e*Pn		Pn	20 14 23.4	+2.8
ETSF				*e*Sn		**Sn**	**20 16 17.3**	**-3.8**
	comp=N,0.6nm,0.3s								
ETSF	**Etsaut**	**10.76**	**56**	P		Pn	20 14 23.4	+2.8
ETSF				S		**Sn**	**20 16 17.3**	**-3.8**
	comp=N,0.3nm,0.3s								
ECHI	**Chisagues Biel**	**11.16**	**58**	P		Pn	20 14 29.3	+3.1
	comp=N,2.9nm,0.3s,SNR=7.9								
EPF	**Esparros**	**11.41**	**57**	*e*Pn		Pn	20 14 32.4	+2.9
EPF				*e*Sn		**Sn**	**20 16 32.8**	**-4.2**
	comp=N,0.6nm,0.3s								
EPF	**Esparros**	**11.41**	**57**	P		Pn	20 14 32.4	+2.9
EPF				S		**Sn**	**20 16 32.8**	**-4.2**
	comp=N,0.3nm,0.3s								
CSOR	**Sort**	**11.70**	**61**	P		Pn	20 14 36.5	+3.0
	comp=N,3.8nm,0.6s,SNR=7.9								
CLLI	**Llivia**	**12.32**	**61**	P		**Pn**	**20 14 44.4**	**+2.5**
	comp=N,0.9nm,0.4s,SNR=7.9								
CFON	**Fontmartina**	**12.43**	**65**	P		**Pn**	**20 14 45.3**	**+1.8**
	comp=N,1.4nm,0.3s,SNR=7.9								
MTLF	**Montolieu**	**12.79**	**58**	*e*Pn		**Pn**	**20 14 50.6**	**+2.3**
MTLF	**Montolieu**	**12.79**	**58**	P		**Pn**	**20 14 50.6**	**+2.3**
MFF	**Saint Martin d**	**13.06**	**41**	*e*Pn		**Pn**	**20 14 54.2**	**+2.3**
MFF	**Saint Martin d**	**13.06**	**41**	P		**Pn**	**20 14 54.2**	**+2.3**
LASF	**Ste Croix**	**14.17**	**57**	*e*Pn		**Pn**	**20 15 08.0**	**+0.8**
LASF	**Ste Croix**	**14.17**	**57**	P		**Pn**	**20 15 08.0**	**+0.8**
HYF	**Humbligny**	**14.97**	**44**	*e*Pn		**P**	**20 15 20.5**	**-3.1**
HYF	**Humbligny**	**14.97**	**44**	P		**P**	**20 15 20.5**	**-3.1**

*ISCJB **11** 20:15:56.3±0.8, 15°.79N±0°.06×95°.86W±0°.04, h13km±7km, mb3.4/2, Error ellipse: s-maj=11.0km s-min=5.9km az=11.7*
*IDC **11** 20:15:56.4±2.4, 15°.88N×96°.05W, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.4/45, mbtmp3.4/4, ML2.9/2, MS2.4/1, Ms1 2.4/1, ms1mx2.1/32, Error ellipse: s-maj=35.8km s-min=17.5km az=155.0*
*MEX **11** 20:15:58.5±0.7, 15°.67N×95°.92W, h8km±4km, MD4.2*
*NEIC **11** 20:15:59.3±0.0, 15°.76N×95°.92W, h4km, MD4.2(MEX), After MEX.*

ISC 11 20:15:57.3±1.1, **15°.69N**±0°.08×**95°.88W**±0°.04, **h16**km±7km, **n21**, σ**1**°**97**/**31**, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.23**	**289**	*e*Sg	**Sg**	**20 16 05.1**	**-1.0**
HUIG	**Huatulco**	**0.23**	**289**	*i* P	**Pg**	**20 16 02.5**	**-0.1**
HUIG				*e*S	**Sg**	**20 16 05.1**	**-1.0**
VHO	**Vista Hermosa**	**1.59**	**329**	*e*Pn	**Pn**	**20 16 23.6**	**-1.5**
VHO				*e*Sn	**Sn**	**20 16 42.2**	**-3.3**
VHO	**Vista Hermosa**	**1.59**	**329**	*e*P	**Pn**	**20 16 23.6**	**-1.5**
VHO				*e*S	**Sn**	**20 16 43.0**	**-2.5**
CMIG	**Matias Romero**	**1.69**	**34**	Pg	**Pn**	**20 16 25.4**	**-0.8**
	67nm,0.3s,baz=227,slow=11,SNR=137						
CMIG				Lg	Lg	20 16 49.4	
	173nm,0.3s,baz=294,slow=6.4,SNR=17						
CMIG	**Matias Romero**	**1.69**	**34**	*e*Pn	**Pn**	**20 16 25.2**	**-1.0**
CMIG				*e*Sn	**Sn**	**20 16 46.1**	**-1.4**
CMIG	**Matias Romero**	**1.69**	**34**	*e*P	**Pn**	**20 16 25.2**	**-1.0**
CMIG				*e*S	**Sn**	**20 16 46.1**	**-1.4**
PNIG	**Pinotepa**	**2.27**	**288**	*e*P	**Pn**	**20 16 32.1**	**-2.1**
PNIG				*e*S	**Sn**	**20 16 59.7**	**-2.2**
TLIG	**Tlapa**	**3.17**	**306**	*e*Pn	**Pn**	**20 16 48.2**	**+1.5**
TLIG				*e*Sn	**Sb**	**20 17 32.6**	**+0.6**
CCIG	**Comitan**	**3.65**	**80**	*e*Pn	**Pn**	**20 16 54.7**	**+1.3**
CCIG				*e*Sn	**Sb**	**20 17 44.0**	**-1.8**
LVIG	**Laguna Verde**	**4.04**	**353**	*e*Pn	**Pn**	**20 17 02.0**	**+3.5**
LVIG				*e*Sg	**Sb**	**20 17 58.8**	**+2.1**
APG	**El Apazote**	**5.27**	**97**	Pn	**Pn**	**20 17 19.6**	**+3.8**
	1.1nm,0.3s,baz=327,slow=14,SNR=7.0						
APG				LR	LR	20 19 11.2	
	comp=Z,40nm,20.8s,baz=7.5,slow=36						
TEIG	**Tepich**	**8.53**	**57**	*e*Pn	**Pn**	**20 17 59.4**	**-0.8**
TEIG				*e*Sn	**Sn**	**20 19 32.2**	**-3.9**
BOAB	**BOACO BROADBAN**	**10.42**	**107**	*e*Pn	**Pn**	**20 18 27.6**	**+1.3**
JTS	**JuntasAbangare**	**11.93**	**115**	*e*Pn	**Pn**	**20 18 48.0**	**+1.1**
TXAR	**Lajitas Array**	**15.35**	**333**	Pn	**Pn**	**20 19 34.8**	**+1.3**
	0.0nm,0.3s,baz=151,slow=11,SNR=2.8						
WMOK	**Wichita Mounta**	**19.14**	**353**	*e*P	**Pn**	**20 20 21.9**	**+1.0**
X18A	**Snowflake**	**22.62**	**329**	*e*P	**P**	**20 20 59.3**	**+1.5**
X16A	**Lo Mia Camp, P**	**23.31**	**326**	*e*P	**P**	**20 21 06.6**	**+1.7**
NVAR	**Mina Array Bea**	**30.04**	**323**	P	**P**	**20 22 05.9**	**0.0**
	0.9nm,0.8s,baz=141,slow=8.7,SNR=3.3						
YKA	**Yellowknife Ar**	**48.58**	**349**	P	**P**	**20 24 39.2**	**-0.5**
	0.1nm,0.4s,baz=155,slow=7.5,SNR=2.4						

*GUC **11** 20:30:21.6±0.5, 37°.20S×74°.30W, h7km±14km, ML3.4*
*ISCJB **11** 20:30:27.3±1.0, 37°.40S±0°.07×74°.0W±0°.1, h33km, mb3.7/5, MS3.4/2, Error ellipse: s-maj=13.7km s-min=9.3km az=7.2*
*IDC **11** 20:30:28.4±6.0, 37°.48S×74°.07W, h35km±49km, mb3.6/5, mb1 3.8/6, mb1mx3.6/37, mbtmp3.8/6, ML3.6/1, MS3.3/3, Ms1 3.3/3, ms1mx2.9/21, Error ellipse: s-maj=50.4km s-min=28.4km az=66.0*

ISC 11 20:30:29.3±1.2, **37°.28S**±0°.06×**73°.9W**±0°.1, **h35**km, **n18**, σ**2**°**25**/**15**, **mb3.7**/**5**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.78**	**57**	*e*P	**Pn**	**20 30 39.2**	**-4.6**
CCHI	**Chillan**	**1.62**	**66**	*e*P	**Pn**	**20 30 53.6**	**-1.8**
CCHI				*e*S	**Sn**	**20 31 17.1**	**+2.0**
CCHI				IAML		20 31 40.1	
	comp=E,798nm,0.6s						
TMU	**Temuco**	**1.79**	**145**	*e*P	**Pn**	**20 30 56.0**	**-1.7**
GO06	**Curarrehue**	**3.00**	**141**	*e*P	**Pn**	**20 31 13.6**	**-0.9**
GO06				IAML		20 32 10.0	
	comp=N,50nm,0.8s						
PLCA	**Paso Flores**	**4.33**	**144**	Pn	**Pn**	**20 31 32.3**	**-0.5**
	comp=N,0.8nm,0.3s,baz=319,slow=9.9,SNR=11						
PLCA				Lg	Lg	20 32 43.0	
	comp=N,0.6nm,0.3s,baz=266,slow=18,SNR=1.9						
FCH	**Farellones**	**4.93**	**38**	*e*P	**Pn**	**20 31 38.7**	**-2.5**
RFA	**San Rafael**	**5.08**	**62**	*e*P	Pn	20 32 00.1	+17
RFA				*e*S	Sn	20 32 56.8	+16
AAGR	**Agrelo**	**5.91**	**46**	*e*P	Pn	20 31 58.7	+4.3
ARCO	**CERRO ARCO**	**6.03**	**44**	*e*P	**Pn**	**20 31 59.1**	**+3.0**
ARCO				IAML		20 32 52.9	
	comp=Z,80nm,0.3s						
ASAL	**Salagasta**	**6.27**	**43**	*e*P	**Pn**	**20 32 01.0**	**+1.6**
AUSP	**Uspallata**	**6.27**	**38**	*e*P	**Pn**	**20 31 57.8**	**-1.8**
CPUP	**Villa Florida**	**17.80**	**57**	LR	LR	20 41 07.2	
	comp=Z,46nm,19.5s,baz=224,slow=36						
LPAZ	**La Paz**	**21.53**	**15**	P	**P**	**20 35 17.5**	**+1.5**
	comp=Z,3.0nm,1.0s,baz=160,slow=8.2,SNR=5.6						
SIV	**San Ignacio**	**24.06**	**32**	P	**P**	**20 35 43.2**	**+1.7**
	comp=Z,2.8nm,0.9s,baz=204,slow=15,SNR=8.2						
SIV				LR	LR	20 47 06.2	
	comp=Z,157nm,18.1s,baz=130,slow=41						
ATAH	**Atahualpa**	**30.28**	**351**	LR	LR	20 46 54.6	
	comp=Z,49nm,18.9s,baz=61,slow=32						
TXAR	**Lajitas Array**	**71.89**	**333**	P	**P**	**20 41 48.9**	**0.0**
	comp=Z,0.3nm,0.6s,baz=141,slow=7.6,SNR=3.7						
DBIC	**Dimbokro**	**77.67**	**72**	P	**P**	**20 42 23.0**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=227,slow=8.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**86.75**	**71**	P	**P**	**20 43 08.8**	**-1.2**
	comp=Z,0.4nm,0.9s,baz=216,slow=4.6,SNR=3.1						

*VAO **11** 20:32:12.6±0.7, 17°.21N×93°.01W, h10km, mb5.3*
*UCR **11** 20:32:48.2±2.0, 14°.74N×91°.96W, h278km±26km, ML4.0, mb4.9(NEIC)*
*MEX **11** 20:32:51.9±0.6, 15°.30N×91°.97W, h231km±5km, MD5.0*
*ISCJB **11** 20:32:51.4±0.2, 15°.45N±0°.02×91°.64W±0°.02, h240km±2km, mb4.8/149, Error ellipse: s-maj=3.8km s-min=2.3km az=144.1*
*IDC **11** 20:32:52.2±0.5, 15°.57N×91°.43W, h228km±2km, mb4.2/19, mb1 4.3/21, mb1mx4.1/41, mbtmp4.8/21, Error ellipse: s-maj=16.2km s-min=6.1km az=55.0*
*NEIC **11** 20:32:52.0±0.2, 15°.46N×91°.65W, mb4.9/197, MD5.0(MEX), Error ellipse: s-maj=4.0km s-min=2.6km az=219.0*
NEIC Felt at Santa Cruz La Laguna.

ISC 11 20:32:50.8±0.3, **15°.42N**±0°.05×**91°.75W**±0°.05, **h223**km±2km, **h223**km:**pP-P**, **n685**, σ**1**°**43**/**803**, **mb4.8**/**152**, **1C**, **Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**0.93**	**337**	*e*Pn	**Pn**	**20 33 23.5**	**+0.7**
CCIG				*e*S	**S**	**20 33 47.8**	**0.0**
CCIG	**Comitan**	**0.93**	**337**	*e*P	**Pn**	**20 33 23.5**	**+0.7**
CCIG				*e*S	**S**	**20 33 48.0**	**+0.2**
APG	**El Apazote**	**1.31**	**108**	P	**Pn**	**20 33 25.8**	**+0.4**
	484nm,0.3s,baz=211,slow=13,SNR=1910						
APG				S	**S**	**20 33 52.2**	**0.0**
	214nm,0.3s,baz=354,slow=14,SNR=14						
PCIG		**1.44**	**281**	*e*Pn	**Pn**	**20 33 25.7**	**-0.4**
PCIG				*e*S	**S**	**20 33 51.5**	**-1.9**
PCIG		**1.44**	**281**	*i* P	**Pn**	**20 33 25.7**	**-0.4**
PCIG				*e*S	**S**	**20 33 51.5**	**-1.9**
IXG	**Ixpaco**	**1.77**	**135**	*e*P	**Pn**	**20 33 29.9**	**+0.8**
TGIG		**1.88**	**316**	*e*Pn	**Pn**	**20 33 30.3**	**+0.2**
TGIG		**1.88**	**316**	*i* P	**Pn**	**20 33 30.2**	**+0.2**
TGIG				*i* S	**S**	**20 34 00.4**	**-0.2**
RTR	**El Retiro**	**2.54**	**126**	*e*P	**Pn**	**20 33 37.5**	**+0.6**
SNJE	**San Jose**	**2.59**	**126**	*e*P	**Pn**	**20 33 38.5**	**+1.1**
SNJE				*e*S	**S**	**20 34 19.3**	**+5.6**
SBLS	**San Blas**	**2.59**	**127**	*e*P	**Pn**	**20 33 38.2**	**+0.7**
SBLS				*e*S	**S**	**20 34 19.2**	**+5.4**
CEVE	**Cerro Verde**	**2.60**	**127**	*e*P	**Pn**	**20 33 38.5**	**+0.9**
CEVE				*e*S	**S**	**20 34 18.9**	**+4.9**
CEDA	**San Andres**	**2.79**	**125**	*e*P	**Pn**	**20 33 40.5**	**+1.0**
CEDA				IAML		20 34 30.6	
	comp=Z,671nm,0.5s						
BOQS	**Boqueron**	**2.92**	**125**	*e*P	**Pn**	**20 33 42.2**	**+1.1**
UEES	**San Salvador**	**2.96**	**124**	IAML		20 34 31.2	
	comp=Z,569nm,0.2s						
SNET	**Serv Nac Est T**	**2.99**	**125**	*e*P	**Pn**	**20 33 43.0**	**+1.3**
SNET				*e*S	**S**	**20 34 21.9**	**+0.5**
LFU	**La Fuente**	**3.05**	**123**	*e*P	**Pn**	**20 33 43.2**	**+0.9**
LOMA	**San Marcos**	**3.06**	**125**	IAML		20 34 33.9	
	comp=Z,798nm,0.2s						
LBRS	**Las Brisas**	**3.11**	**122**	*e*P	**Pn**	**20 33 43.8**	**+0.7**
LFRS	**El Faro**	**3.16**	**124**	*e*P	**Pn**	**20 33 44.2**	**+0.5**
PAVA	**Las Pavas**	**3.21**	**122**	*e*P	**Pn**	**20 33 46.1**	**+1.8**
PAVA				IAML		20 33 53.9	
	comp=Z,492nm,0.5s						
CMIG	**Matias Romero**	**3.44**	**299**	P	**Pn**	**20 33 45.8**	**-0.9**
	comp=Z,975nm,0.3s,baz=106,slow=7.3,SNR=4080						
CMIG				S	**S**	**20 34 26.3**	**-4.2**
	comp=Z,359nm,0.3s,baz=289,slow=21,SNR=18						
CMIG	**Matias Romero**	**3.44**	**299**	*e*Pn	**Pn**	**20 33 45.9**	**-0.9**
CMIG				*e*S	**S**	**20 34 25.0**	**-5.5**
CMIG	**Matias Romero**	**3.44**	**299**	*i* P	**Pn**	**20 33 45.9**	**-0.9**
CMIG				*i* S	**S**	**20 34 27.0**	**-3.6**
TECA	**Tecapa**	**3.69**	**121**	*e*P	**Pn**	**20 33 51.2**	**+1.3**
CAHU	**Cacacuatique**	**3.80**	**115**	*e*P	**Pn**	**20 33 52.8**	**+1.4**
PACA	**Pacayal**	**3.85**	**120**	*e*P	**Pn**	**20 33 52.3**	**+0.5**
PACA				*e*S	**S**	**20 34 45.9**	**+6.3**
VSM	**San Miguel**	**3.91**	**120**	*e*P	**Pn**	**20 33 54.3**	**+1.6**
LCND	**La Caada**	**4.29**	**119**	IAML		20 34 57.4	
	comp=Z,397nm,0.3s						
TGUH	**Tegucigalpa,Un**	**4.54**	**107**	*e*Pn	**Pn**	**20 34 01.4**	**+1.3**
TGUH	**Tegucigalpa,Un**	**4.54**	**107**	*e*P	**Pn**	**20 34 01.4**	**+1.3**
ESTN	**Estel**	**5.71**	**113**	*e*Pn	**Pn**	**20 34 15.3**	**+0.5**
ESTN	**Estel**	**5.71**	**113**	*e*P	**Pn**	**20 34 15.7**	**+0.8**
TEIG	**Tepich**	**5.81**	**34**	*e*Pn	**Pn**	**20 34 14.9**	**-1.1**
MYIG	**Mrida**	**5.83**	**19**	*e*Pn	**Pn**	**20 34 15.9**	**-0.4**
LVIG	**Laguna Verde**	**6.17**	**315**	*e*Pn	**Pn**	**20 34 19.7**	**-0.9**
MATN	**Matagalpa**	**6.17**	**113**	*e*P	**Pn**	**20 34 22.2**	**+1.4**
MATN				*e*S	**S**	**20 35 34.0**	**+1.8**
MATN				IAML		20 35 36.1	
	comp=N,194nm,3.2s						
BOAB	**BOACO BROADBAN**	**6.61**	**116**	*e*Pn	**Pn**	**20 34 27.4**	**+1.1**
TLIG	**Tlapa**	**6.87**	**289**	*e*Pn	**Pn**	**20 34 30.8**	**+1.0**
ESPN	**Las Esperanzas**	**7.92**	**113**	*e*Pn	**Pn**	**20 34 44.2**	**+1.2**
UNM	**Universidad Na**	**8.08**	**300**	*e*Pn	**Pn**	**20 34 46.9**	**+1.4**
JTS	**JuntasAbangare**	**8.37**	**127**	P	**Pn**	**20 34 49.7**	**+0.9**
	comp=N,20nm,0.3s,baz=21,slow=13,SNR=37						
JTS				S	**S**	**20 36 15.9**	**-7.6**
	comp=N,5.5nm,0.3s,baz=31,slow=17,SNR=3.2						
JTS	**JuntasAbangare**	**8.37**	**127**	*e*Pn	**Pn**	**20 34 49.2**	**+0.3**
JTS				*e*S	**S**	**20 36 18.8**	**-4.8**
HDC	**Heredia**	**9.20**	**125**	*e*Pn	**Pn**	**20 35 00.2**	**+0.6**
MOIG	**Morelia**	**9.94**	**297**	*e*Pn	**Pn**	**20 35 11.2**	**+2.0**
WBCY	**West Bay, Gran**	**10.64**	**67**	*e*Pn	**Pn**	**20 35 17.1**	**-0.8**
LNIG	**Linares**	**11.88**	**324**	*e*Pn	**Pn**	**20 35 35.7**	**+2.0**
ZAIG	**Zacatecas**	**12.56**	**307**	*e*Pn	**P**	**20 35 44.5**	**-1.0**
BCIP	**Isla Barro Col**	**13.20**	**117**	*e*Pn	**P**	**20 35 52.6**	**+0.2**
KVTX	**Kingsville**	**13.34**	**336**	*e*Pn	**P**	**20 35 53.9**	**0.0**
MTDJ	**Mount Denham**	**13.89**	**76**	*e*Pn	**P**	**20 36 02.0**	**+1.8**
061Z	**Ochoppi**	**14.52**	**43**	*e*Pn	**P**	**20 36 08.5**	**+1.6**
061Z	**Ochoppi**	**14.52**	**43**	P	**P**	**20 36 08.3**	**+1.4**
	baz=226						
833A	**Chaparral WMA,**	**14.66**	**332**	*e*Pn	**P**	**20 36 08.9**	**+0.4**
833A	**Chaparral WMA,**	**14.66**	**332**	P	**P**	**20 36 10.8**	**+2.3**
	baz=149						
058A	**Arcadia**	**14.82**	**37**	P	**P**	**20 36 11.6**	**+1.3**
	baz=220						
957A	**Wimauma**	**15.05**	**34**	*e*Pn	**Pn**	**20 36 10.6**	**-2.1**
059A	**Moore Haven**	**15.15**	**39**	*e*Pn	**Pn**	**20 36 11.5**	**-2.4**
	comp=N,210nm,1.4s						
958A	**Wauchula**	**15.25**	**36**	P	**Pn**	**20 36 16.1**	**+1.0**
	baz=219,SNR=7.6						
857A	**Zephyrhills**	**15.53**	**33**	P	**Pn**	**20 36 19.8**	**+1.4**
	baz=216,SNR=6.2						
060A	**Indiantown**	**15.68**	**41**	*e*P	**P**	**20 36 18.7**	**-1.1**
	comp=N,833nm,1.8s						
DWPF	**Disney Wildern**	**15.84**	**35**	*e*P	**Pn**	**20 36 22.6**	**+0.4**
	comp=N,101nm,0.5s						
DWPF	**Disney Wildern**	**15.84**	**35**	P	**Pn**	**20 36 23.0**	**+0.9**
	baz=219						
858A	**St. Cloud**	**15.96**	**35**	P	**Pn**	**20 36 24.7**	**+1.1**
	baz=219,SNR=5.9						
757A	**Oxford**	**16.16**	**32**	P	**Pn**	**20 36 26.7**	**+0.7**
	baz=215						
553A	**Crawfordville**	**16.16**	**23**	P	**Pn**	**20 36 27.3**	**+1.2**
	baz=206						
435B	**Jarrell**	**16.20**	**342**	*e*P	**Pn**	**20 36 27.3**	**+0.8**
	comp=N,56nm,0.6s						
435B	**Jarrell**	**16.20**	**342**	P	**Pn**	**20 36 27.2**	**+0.7**
	baz=159,SNR=7.1						
BRAL	**Brewton**	**16.25**	**15**	*e*P	**Pn**	**20 36 31.9**	**+4.9**
	comp=N,155nm,1.4s						
656A	**Williston**	**16.27**	**30**	*e*P	**Pn**	**20 36 30.5**	**+3.1**
	comp=N,68nm,1.0s						
348A	**Jackson**	**16.30**	**12**	*e*P	**Pn**	**20 36 28.4**	**+0.8**
	comp=N,63nm,1.0s						
GTBY	**Guantanamo Bay**	**16.48**	**72**	*e*Pn	**Pn**	**20 36 31.3**	**+1.5**
	comp=N,224nm,1.3s						
NATX	**Nacogdoches**	**16.48**	**351**	*e*P	**Pn**	**20 36 29.6**	**-0.

152A	Waverly Hall	18.32	19	eP		P	20 36 49.7	+1.1	
	comp=N,33nm,0.6s								
152A	Waverly Hall	18.32	19	P		Pn	20 36 50.2	-1.2	
	baz=202,SNR=8.8								
ZARC	Zaragoza, Cauc	18.33	114	eP		P	20 36 47.6	-1.2	
ZARC	Zaragoza, Cauc	18.33	114	eP		P	20 36 47.6	-1.2	
Y42A	Garnett, Star	18.33	360	P		P	20 36 50.1	+1.4	
	baz=180								
HELC	Santa Helena	18.37	118	eP		P	20 36 49.0	-0.7	
HELC	Santa Helena	18.37	118	eP		P	20 36 49.0	-0.7	
Y41A	Eaglette Beard	18.39	358	P		P	20 36 50.8	+1.4	
	baz=177								
CCAR	Cane Creek	18.41	360	eP		P	20 36 50.8	+1.2	
	comp=N,267nm,1.6s								
Y45A	Yeager Farm, C	18.47	6	P		Pn	20 36 52.0	-1.2	
	baz=186,SNR=17								
255A	Hazlehurst	18.48	26	eP		Pn	20 36 51.8	-1.4	
	comp=N,90nm,1.5s								
255A	Hazlehurst	18.48	26	P		P	20 36 51.6	+1.3	
	baz=209								
357A	Townsend	18.49	29	P		P	20 36 51.9	+1.5	
	baz=212								
Y44A	Strider, Charl	18.51	4	P		P	20 36 52.1	+1.4	
	baz=184,SNR=5.7								
ABTX	Abilene, Hawle	18.57	339	eP		P	20 36 52.2	+0.9	
	comp=N,243nm,1.4s								
ABTX	Abilene, Hawle	18.57	339	P		P	20 36 52.8	+1.5	
	baz=155,SNR=24								
Y46A	Houston	18.57	8	P		P	20 36 52.4	+1.2	
	baz=188,SNR=19								
LGNH	Logne	18.57	78	eP		Pn	20 36 53.5	-0.9	
	comp=N,226nm,0.6s								
Y47A	UCPARC, Winfie	18.73	10	P		P	20 36 54.7	+1.6	
	baz=192,SNR=19								
256A	Glennville	18.77	27	P		P	20 36 54.6	+1.1	
	baz=210								
154A	Montrose	18.83	23	eP		P	20 36 54.6	+0.5	
	comp=N,51nm,0.6s								
Y48A	Jasper	18.87	12	P		P	20 36 55.5	+0.9	
	baz=193,SNR=12								
Z52A	Williamson	18.90	19	P		P	20 36 56.1	+1.3	
	baz=202,SNR=8.4								
YOTC	Yotoco, Valle	18.95	125	eP		P	20 36 56.4	+0.7	
YOTC	Yotoco, Valle	18.95	125	eP		P	20 36 56.4	+0.7	
Y49A	Blount Mountai	18.98	14	eP		P	20 36 56.5	+0.8	
	comp=N,44nm,1.3s								
Y49A	Blount Mountai	18.98	14	P		P	20 36 57.0	+1.3	
	baz=196,SNR=11								
SLBS	Sierra La Lagu	19.00	298	eP		Pn	20 36 59.1	-0.5	
X40A	Basin Creek Fa	19.01	357	eP		P	20 36 56.1	+0.1	
	comp=N,47nm,1.4s								
X40A	Basin Creek Fa	19.01	357	P		P	20 36 57.1	+1.1	
	baz=176,SNR=8.6								
X43A	Marvell	19.03	2	eP		P	20 36 56.1	-0.1	
	comp=N,45nm,0.8s								
X45A	UM Field Stati	19.04	6	P		P	20 36 57.0	+0.7	
	baz=187,SNR=7.8								
X44A	Crenshaw	19.05	4	P		P	20 36 57.0	+0.5	
	baz=184,SNR=5.3								
155A	Kite	19.09	25	P		Pn	20 37 00.4	-0.1	
	baz=208								
MIAR	Mount Ida	19.11	355	eP		P	20 36 57.0	-0.1	
	comp=N,18nm,0.8s								
MIAR	Mount Ida	19.11	355	P		P	20 36 57.3	+0.2	
	baz=174,SNR=18								
PTBC	PUERTO BERRIO,	19.12	116	eP		P	20 36 56.0	-1.4	
PTBC	PUERTO BERRIO,	19.12	116	eP		P	20 36 56.0	-1.4	
OXF	Oxford	19.12	6	eP		P	20 36 57.4	+0.2	
	comp=N,126nm,1.1s								
OXF	Oxford	19.12	6	P		P	20 36 57.6	+0.3	
	baz=187,SNR=22								
Y50A	Piedmont	19.18	15	P		P	20 36 58.1	+0.3	
	baz=198,SNR=6.6								
RREF	El Recreo	19.22	121	eP		P	20 36 59.4	+0.3	
RREF	El Recreo	19.22	121	eP		P	20 36 59.4	+0.3	
Z53A	Monticello	19.26	21	P		P	20 36 59.3	+0.6	
	baz=204,SNR=7.4								
X46A	Booneville	19.27	8	P		P	20 36 59.7	+1.0	
	baz=189,SNR=21								
UALR	University of	19.28	359	eP		P	20 36 59.7	+0.8	
	comp=N,51nm,0.6s								
X47A	Russelville	19.34	10	P		P	20 36 59.9	+0.4	
	baz=191,SNR=21								
X37A	Clayton	19.36	351	eP		P	20 37 00.1	+0.4	
	comp=N,53nm,0.7s								
Y51A	Rockmart	19.36	17	P		P	20 37 00.8	+1.0	
	baz=200,SNR=14								
ANIL	Santa Ana	19.41	122	eP		P	20 37 02.1	+1.4	
ANIL	Santa Ana	19.41	122	eP		P	20 37 02.1	+1.4	
X48A	Hartselle	19.42	12	eP		P	20 37 00.8	+0.4	
	comp=N,34nm,0.6s								
X48A	Hartselle	19.42	12	P		P	20 37 00.8	+0.4	
	baz=193,SNR=16								
GOGA	Godfrey	19.42	21	eP		P	20 37 01.6	+1.2	
	comp=N,11nm,0.6s								
GOGA	Godfrey	19.42	21	P		P	20 37 01.5	+1.2	
	baz=204,SNR=7.0								
TOLC	Tolima	19.42	122	eP		P	20 37 02.3	+1.3	
TOLC	Tolima	19.42	122	eP		P	20 37 02.3	+1.3	
Z54A	Sparta	19.49	23	P		Pn	20 37 03.7	-1.5	
	baz=206,SNR=7.1								
W43A	Forest City	19.61	3	P		P	20 37 03.0	+0.7	
	baz=183								
POPC	Popayan, Colom	19.61	129	eP		P	20 37 04.0	+1.1	
POPC	Popayan, Colom	19.61	129	eP		P	20 37 04.0	+1.1	
X49A	Woodville	19.63	13	P		P	20 37 03.3	+0.7	
	baz=195,SNR=8.1								
Y52A	Lilburn	19.63	19	eP		P	20 37 03.3	+0.6	
	comp=N,18nm,0.6s								
Y52A	Lilburn	19.63	19	P		P	20 37 03.7	+1.0	
	baz=202,SNR=9.1								
W41B	Gary Mavity, V	19.67	359	eP		P	20 37 03.5	+0.4	
	comp=N,21nm,0.9s								
W41B	Gary Mavity, V	19.67	359	P		P	20 37 03.3	+0.2	
	baz=178								
X50B	Fort Payne	19.74	15	P		P	20 37 04.7	+0.9	
	baz=197,SNR=23								
PLAL	Pickwick Lake	19.75	9	eP		P	20 37 03.6	-0.4	
	comp=N,36nm,0.6s								
W42A	Bald Knob	19.77	1	P		P	20 37 04.3	+0.2	
	baz=180								
W39A	Magazine	19.77	355	eP		P	20 37 04.2	0.0	
	comp=N,26nm,1.0s								
W39A	Magazine	19.77	355	P		P	20 37 04.7	+0.5	
	baz=174,SNR=8.3								
Y53A	Monroe	19.78	20	P		P	20 37 04.9	+0.7	
	baz=204,SNR=5.5								
W45A	Hickory Valley	19.79	6	P		P	20 37 04.5	+0.2	
	baz=187,SNR=8.8								
WHAR	Wooly Hollow	19.79	359	eP		P	20 37 04.6	+0.3	
	comp=N,25nm,1.0s								
W46A	Michie	19.86	8	P		P	20 37 05.3	+0.2	
	baz=189,SNR=26								
SDDR	Presa de Saban	19.86	77	eP		P	20 37 06.3	+0.9	
	comp=N,177nm,1.1s								
OTAV	Otavalo	20.01	138	eP		P	20 37 08.9	+1.5	
	comp=N,124nm,1.4s								
OTAV	Otavalo	20.01	138	eP		P	20 37 09.2	+1.8	
X51A	Calhoun	20.05	17	eP		P	20 37 07.1	0.0	
	comp=N,59nm,1.7s								
CRUC	La Cruz	20.07	132	eP		P	20 37 08.2	+0.3	
CRUC	La Cruz	20.07	132	eP		P	20 37 08.2	+0.3	
HBAR	Harrisburg	20.07	3	eP		P	20 37 07.7	+0.4	
	comp=N,91nm,0.5s								
W47A	Westpoint	20.09	10	P		P	20 37 07.4	-0.2	
	baz=191,SNR=18								
Y54A	Tignall	20.10	22	P		P	20 37 09.2	+1.4	
	baz=206,SNR=5.0								
W48A	Pulaski	20.10	12	P		P	20 37 08.1	+0.3	
	baz=193,SNR=9.0								
ROSC	El Rosal	20.11	120	P		P	20 37 09.9	+1.5	
	comp=N,5.9nm,0.3s,baz=97,slow=19,SNR=11								
ROSC	El Rosal	20.11	120	eP		P	20 37 08.8	+0.4	
	comp=N,25nm,0.6s								
ROSC	El Rosal	20.11	120	eP		P	20 37 09.6	+1.2	
ROSC	El Rosal	20.11	120	eP		P	20 37 09.6	+1.2	
W49A	Belvidere	20.22	13	P		P	20 37 09.6	+0.6	
	baz=195,SNR=11								
WMOK	Wichita Mounta	20.25	343	eP		P	20 37 08.6	-0.7	
	comp=N,34nm,1.4s								
WMOK	Wichita Mounta	20.25	343	P		P	20 37 08.8	-0.5	
	baz=160,SNR=18								
GDL2	Guadalupe Moun	20.27	328	eP		P	20 37 09.2	-0.5	
V41A	Mountainview	20.28	359	P		P	20 37 09.2	-0.4	
	baz=179,SNR=20								
V42A	Cord	20.30	1	P		P	20 37 09.9	+0.1	
	baz=181,SNR=31								
X52A	Dahlonega	20.37	19	P		P	20 37 11.0	+0.4	
	baz=202,SNR=10.0								
V45A	Humboldt	20.39	7	P		P	20 37 10.1	-0.6	
	baz=187								
V44A	Blytheville	20.39	4	P		P	20 37 10.8	0.0	
	baz=185								
SWET	Sewanee	20.39	14	eP		P	20 37 10.3	-0.5	
	comp=N,34nm,0.7s								
MNTX	Cornudas Mount	20.42	325	eP		P	20 37 12.0	+0.7	
	comp=N,28nm,0.6s								
MNTX					eP	pP	20 37 49.4	+1.8	
MNTX	Cornudas Mount	20.42	325	P		P	20 37 12.2	+1.0	
	baz=139,SNR=34								
GRTK	Grand Turk	20.46	70	eP		P	20 37 13.6	+1.9	
	comp=N,157nm,0.7s								
X53A	Estanollee	20.47	20	P		P	20 37 13.3	+1.7	
	baz=204								
GNAR	Gosnell	20.52	4	eP		P	20 37 12.2	+0.1	
	comp=N,170nm,0.4s								
HALT	Halls	20.52	6	eP		P	20 37 11.8	-0.4	
	comp=N,165nm,0.5s								
W50A	Signal Mountai	20.52	15	eP		P	20 37 12.9	+0.6	
	comp=N,11nm,0.6s								
W50A	Signal Mountai	20.52	15	P		P	20 37 12.9	+0.6	
	baz=198								
V46A	Holladay	20.55	8	P		P	20 37 11.8	-0.7	
	baz=190,SNR=81								
HODGE	Hodges	20.59	23	eP		P	20 37 13.8	+0.9	
	comp=N,14nm,0.9s								
RUSC	La Rusia	20.63	115	eP		P	20 37 12.6	-1.5	
RUSC	La Rusia	20.63	115	eP		P	20 37 12.6	-1.5	
V47A	Nunnelly	20.67	10	P		P	20 37 13.4	-0.4	
	baz=191,SNR=25								
V48A	Smith Brothers	20.71	11	eP		P	20 37 13.9	-0.3	
	comp=N,41nm,0.6s								
V48A	Smith Brothers	20.71	11	P		P	20 37 13.9	-0.3	
	baz=193,SNR=18								
CHIC	Chingaza	20.71	119	eP		P	20 37 14.8	-0.1	
CHIC	Chingaza	20.71	119	eP		P	20 37 14.8	-0.1	
TUL1	Leonard	20.72	351	eP		P	20 37 12.3	-2.0	
	comp=N,28nm,0.7s								
W52A	Murphy	20.81	18	eP		P	20 37 14.8	-0.5	
	comp=N,12nm,0.8s								
W52A	Murphy	20.81	18	P		P	20 37 16.0	+0.7	
	baz=201								
U41A	Viola	20.84	360	P		P	20 37 15.0	-0.5	
	baz=179,SNR=23								
U42A	Revenden	20.85	1	P		P	20 37 15.4	-0.2	
	baz=181,SNR=29								
HHAR	Hobbs	20.86	355	eP		P	20 37 14.8	-1.0	
	comp=N,24nm,1.1s								
U40A	Yellville	20.87	358	P		P	20 37 15.6	-0.3	
	baz=177,SNR=22								
GLAT	Glass	20.88	6	eP		P	20 37 15.7	-0.2	
	comp=N,688nm,1.2s								
U43A	Rector	20.90	3	P		P	20 37 15.6	-0.5	
	baz=183								
WVT	Waverly	20.92	9	eP		P	20 37 15.4	-0.9	
	comp=N,82nm,0.5s								
WVT					eS	S	20 40 57.6	+1.7	
WVT	Waverly	20.92	9	P		P	20 37 15.8	-0.6	
	baz=190								
V49A	McMinnville	20.93	13	P		P	20 37 16.9	+0.4	
	baz=196,SNR=6.7								
U44B	Burton Farm, H	20.94	5	P		P	20 37 15.9	-0.6	
	baz=186,SNR=8.6								
CPCT	Cooper Cave	20.97	17	eP		P	20 37 17.0	+0.1	
	comp=N,9.9nm,0.7s								
MSTX	Muleshoe	20.98	334	eP		P	20 37 16.4	-0.7	
	comp=N,38nm,0.7s								
MSTX	Muleshoe	20.98	334	P		P	20 37 16.1	-1.1	
	baz=149								
UTMT	University of	20.99	7	eP		P	20 37 16.9	-0.3	
	comp=N,273nm,1.0s								
U45A	Rockin T Farm,	21.01	7	P		P	20 37 16.8	-0.5	
	baz=188,SNR=6.9								
JSC	Jenkinsville	21.03	25	eP		P	20 37 18.4	+0.9	
	comp=N,46nm,1.5s								
V50A	Pikeville	21.03	15	P		P	20 37 17.4	-0.1	
	baz=198								
BG3	Lake Jocassee	21.04	21	eP		P	20 37 19.0	+1.4	
	comp=N,9.1nm,0.7s								
U44A	Portageville	21.08	5	P		P	20 37 17.7	-0.2	
	baz=185,SNR=6.3								
U46A	Springville	21.09	8	P		P	20 37 17.7	-0.4	
	baz=189,SNR=30								
SDD	Santo Domingo	21.11	79	eP		P	20 37 20.3	+1.8	
	comp=N,506nm,1.3s								
EPT	El Paso	21.12	323	eP		P	20 37 19.3	+0.7	
	comp=N,23nm,1.0s								
PAULI	Pauline	21.28	23	eP		P	20 37 20.7	+0.6	
	comp=N,9.2nm,0.7s								
U47A	Clarksville	21.31	10	P		P	20 37 19.5	-0.8	
	baz=192,SNR=12								
AMTX	Amarillo	21.33	337	eP		P	20 37 20.4	-0.3	
	comp=N,81nm,1.2s								
V51A	Loudon	21.35	17	eP		P	20 37 21.9	+1.1	
	comp=N,18nm,1.1s								
V51A	Loudon	21.35	17	P		P	20 37 21.5	+0.8	
	baz=200								
TKL	Tuckaleechee C	21.38	18	eP		P	20 37 21.4	+0.3	
	comp=N,11nm,0.6s								
U48A	Cassie Pea, Po	21.51	12	P		P	20 37 22.1	-0.2	
	baz=194,SNR=24								
T42A	Van Buren	21.53	1	eP		P	20 37 22.1	-0.4	
	comp=N,47nm,0.4s								
T42A	Van Buren	21.53	1	P		P	20 37 21.8	-0.7	
	baz=182,SNR=40								
T41A	Mountain View	21.53	360	P		P	20 37 22.3	-0.2	
	baz=180,SNR=29								
V52A	Sevierville	21.60	18	eP		P	20 37 23.4	+0.1	
T43A	Greenville	21.61	3	P		P	20 37 22.7	-0.6	
	baz=184,SNR=12								
SDV	Santo Domingo	21.63	105	P		P	20 37 22.6	-1.4	
	comp=N,18nm,0.4s,baz=148,slow=3.6,SNR=25								
SDV	Santo Domingo	21.63	105	eP		P	20 37 22.4	-1.6	
	comp=N,27nm,0.9s								
SDV	Santo Domingo	21.63	105	eP		P	20 37 21.7	-2.3	
SDV	Santo Domingo	21.63	105	eP		P	20 37 21.7	-2.3	
SDV	Santo Domingo	21.63	105	eP		P	20 37 21.6	-2.4	
T44A	Benton	21.66	5	P		P	20 37 23.5	-0.3	
	baz=185,SNR=25								
U49A	Red Boiling Sp	21.67	13	P		P	20 37 23.9	0.0	
	baz=196,SNR=14								
T45A	Paducah	21.69	7	eP		P	20 37 24.3	+0.2	
	comp=N,242nm,0.5s								
T45A	Paducah	21.69	7	P		P	20 37 24.1	0.0	
	baz=188,SNR=9.0								
V53A	Saluda	21.69	20	eP		P	20 37 25.3	+1.1	
	comp=N,21nm,1.4s								
KMSC	Kings Mountain	21.75	24	eP		P	20 37 24.5	-0.2	
	comp=N,18nm,0.6s								
KMSC	Kings Mountain	21.75	24	P		P	20 37 25.4	+0.7	
	baz=208,SNR=7.7								
U50A	Jamestown	21.80	15	P		P	20 37 25.3	+0.1	
	baz=198,SNR=6.0								
T46A	Princeton	21.80	8	P		P	20 37 24.9	-0.3	
	baz=190,SNR=32								
T47A	Sharon Grove	21.87	10	eP		P	20 37 26.2	+0.4	
	comp=N,65nm,0.6s								
T47A	Sharon Grove	21.87	10	P		P	20 37 26.4	+0.5	
	baz=192,SNR=9.0								
U51A	La Follette	21.98	17	P		P	20 37 27.5	+0.6	
	baz=200,SNR=7.1								
S41A	Jillco Farms,	22.08	0	P		P	20 37 27.3	-0.5	
	baz=180,SNR=18								
S43A	Fulton Ridge,	22.11	4	P		P	20 37 27.8	-0.3	
	baz=184,SNR=28								
T48A	Bowling Green	22.12	11	P		P	20 37 28.9	+0.7	
	baz=194,SNR=5.5								
TZTN	Tazewell	22.27	18	eP		P	20 37 29.3	-0.3	
	comp=N,18nm,0.6s								
TZTN	Tazewell	22.27	18	P		P	20 37 29.3	-0.3	
	baz=201,SNR=6.1								
S42A	Caledonia	22.27	2	P		P	20 37 28.9	-0.7	
	baz=182,SNR=26								
HSIG		22.29	311	eP		P	20 37 31.4	+1.6	
	comp=N,47nm,1.1s								
T49A	Edmonton	22.29	13	eP		P	20 37 28.9	-0.9	
	comp=N,27nm,0.4s								
T49A	Edmonton	22.29	13	P		P	20 37 29.8	0.0	
	baz=196,SNR=13								
S44A	Carbondale	22.29	5	P		P	20 37 30.4	+0.7	
	baz=186,SNR=81								
SIUC	Southern Illin	22.32	5	eP		P	20 37 30.2	+0.3	
	comp=N,261nm,0.6s								
S45A	Carrier Mills	22.34	7	P		P	20 37 30.3	+0.1	
	baz=188,SNR=9.9								
T50A	Nancy	22.37	15	P		P	20 37 30.5	0.0	
	baz=198,SNR=5.8								
U53A	Fall Branch	22.41	20	P		P	20 37 31.2	+0.3	
	baz=204,SNR=5.5								
SRIG	Santa Rosalia	22.41	305	eP		P	20 37 33.5	+2.5	
	comp=N,78nm,0.6s								
121A	Cookes Peak, D	22.41	322	P		P	20 37 33.3	+2.2	
	baz=136,SNR=20								
S46A	Don Dixon Farm	22.46	8	P		P	20 37 32.3	+1.1	
	baz=190,SNR=13								
FVM	French Village	22.50	3	eP		P	20 37 49.9	+18	
S47A	Hartford	22.50	10	P		P	20 37 32.4	+0.7	
	baz=192,SNR=7.4								
CCM	Cathedral Cave	22.55	1	eP		P	20 37 31.4	-0.7	
	comp=N,55nm,0.6s								
CCM	Cathedral Cave	22.55	1	P		P	20 37 31.3	-0.8	
	baz=181								
T51A	Gray	22.55	16	P		P	20 37 32.4	+0.3	
	baz=200,SNR=5.4								
S48A	Wiedeman Farm,	22.71	12	P		P	20 37 33.4	-0.2	
	baz=194								
USIN	University of	22.74	8	eP		P	20 37 34.3	+0.5	
	comp=N,91nm,0.6s								
R42A	Luebbering	22.78	2	P		P	20 37 34.6	+0.4	
	baz=182,SNR=20								
R41A	Rosebud	22.79	1	P		P	20 37 34.4	+0.1	
	baz=181,SNR=32								
R43A	Red Bud	22.82	4	P		P	20 37 34.8	+0.3	
	baz=184,SNR=34								
T52A	Hallie	22.96	18	P		P	20 37 36.4	+0.6	
	baz=202,SNR=5.4								
BNM	Barren Site	22.97	327	eP		P	20 37 38.1	+1.9	
BNM					eP	pP	20 38 19.0	+3.2	
R45A	Skylar, Fairfi	22.99	7	P		P	20 37 36.4	+0.4	
	baz=188,SNR=31								
S49A	Springfield	23.00	13	P		P	20 37 36.6	+0.5	
	baz=196								
R46A	Gibon Southern	23.01	9	P		P	20 37 36.8	+0.6	
	baz=190,SNR=8.3								
LPM	Los Pinos Moun	23.10	327	eP		P	20 37 37.8	+0.5	
LPM					eP	pP	20 38 20.7	+3.6	
S50A	Richmond	23.11	15	P		P	20 37 37.3	+0.2	
	baz=198								
SLM	Saint Louis	23.16	3	eP		P	20 37 37.9	+0.3	
	comp=N,202nm,0.6s								
LENM	Lemitar	23.17	326	eP		P	20 37 39.7	+1.7	
LENM					eP	pP	20 38 20.9	+3.1	
WCI	Wyandotte Cave	23.22	11	eP		P	20 37 38.6	+0.5	
	comp=N,75nm,0.7s								
WCI	Wyandotte Cave	23.22	11	P		P	20 37 38.5	+0.3	
	baz=193								
R47A	Wooly Knot Far	23.25	10	P		P	20 37 38.7	+0.3	
	baz=193,SNR=9.7								
S51A	Beattyville	23.28	17	eP		P	20 37 39.0	+0.3	
	comp=N,18nm,0.6s								
S51A	Beattyville	23.28	17	P		P	20 37 38.7	0.0	
	baz=200								
Q42A	Golden Eagle	23.42	2	P		P	20 37 40.7	+0.7	
	baz=183,SNR=16								
LAZ	Ladron	23.43	327	eP		P	20 37 39.0	-1.4	
LAZ					eP	pP	20 38 24.5	+3.7	
OLIL	Olney	23.44	7	eP		P	20 37 40.2	0.0	
	comp=N,155nm,0.8s								
Q41A	Truxton	23.45	1	P		P	20 37 40.1	0.0	
	baz=181,SNR=36								
Q43A	New Douglas	23.50	4	P		P	20 37 40.9	+0.3	
	baz=185,SNR=23								
ANMO	Albuquerque	23.50	328	P		P	20 37 42.6	+1.6	
	comp=N,3.1nm,0.5s,baz=135,slow=12,SNR=13								
ANMO					pP	pP	20 38 24.8	+3.3	
	comp=N,12nm,0.9s,baz=138,slow=11,SNR=10.0								
ANMO					ScP	ScP	20 44 38.1	+1.0	
	comp=N,0.9nm,0.5s,baz=158,slow=4.8,SNR=5.0								
ANMO	Albuquerque	23.50	328	eP		P	20 37 42.7	+1.7	
ANMO					epP	pP	20 38 24.4	+2.8	
ANMO					eScP	ScP	20 44 36.5	-0.6	
ANMO	Albuquerque	23.50	328	P		P	20 37 42.1	+1.1	
	baz=142								
R49A	Shelbyville	23.51	13	P		P	20 37 41.4	+0.6	
	baz=196,SNR=5.1								
Q44A	Meyer Farm, Va	23.51	5	eP		P	20 37 41.1	+0.3	
	comp=N,107nm,0.6s								
Q44A	Meyer Farm, Va	23.51	5	P		P	20 37 41.0	+0.3	
	baz=186,SNR=30								
Q45A	Warren Harvey,	23.59	7	P		P	20 37 41.7	+0.2	
	baz=188,SNR=28								
R50A	Paris	23.69	15	P		P	20 37 42.7	+0.2	
	baz=198								
MPR	Mayaguez	23.72	80	eP		P	20 37 43.0	+0.1	
	comp=N,106nm,1.4s								
AGP	Aguadilla	23.73	79	eP		P	20 37 44.3	+1.3	
	comp=N,389nm,1.4s								
CRPR	Cabo Rojo, PR	23.74	80	eP		P	20 37 44.3	+1.3	
	comp=N,65nm,0.7s								
Q47A	Bedord North L	23.89	10	P		P	20 37 44.6	+0.4	
	baz=192								
R51A	Hillsboro	23.90	16	P		P	20 37 44.5	+0.1	
	baz=200,SNR=5.5								
BLA	Blacksburg	23.92	23	eP		P	20 37 44.7	+0.1	
	comp=N,31nm,1.4s								
KSU1	Kansas State U	23.97	351	eP		P	20 37 44.5	-0.5	
	comp=N,27nm,0.9s								
KSU1					epP	pP	20 38 30.1	+3.8	
KSU1	Kansas State U	23.97	351	P		P	20 37 45.2	+0.2	
	baz=168,SNR=5.5								
Q48A	North Vernon	24.01	12	P		P	20 37 45.0	-0.3	
	baz=194,SNR=6.0								
BLO	Bloomington	24.10	10	eP		P	20 37 45.8	-0.3	
	comp=N,54nm,0.6s								
P42A	Winchester	24.10	3	eP		P	20 37 46.2	+0.1	
	comp=N,37nm,0.6s								
P42A	Winchester

comp=N,24nm,0.6s
P51A **Williamsport** 25.15 16 P P 20 37 54.9 -0.7
baz=200
SFIN **Lafayette** 25.19 8 eP P 20 37 55.9 -0.2
comp=N,52nm,0.6s
SFIN **Lafayette** 25.19 8 P P 20 37 55.8 -0.2
baz=190,SNR=11
O47A **Sheridan** 25.20 10 P P 20 37 55.8 -0.3
baz=192,SNR=8.9
N41A **Harden Midland** 25.20 2 eP P 20 37 55.6 -0.5
comp=N,21nm,1.0s
N41A **Harden Midland** 25.20 2 P P 20 37 56.7 +0.6
baz=182
MTP **Monte Pirata** 25.22 80 eP P 20 37 55.4 -1.1
comp=N,56nm,0.4s
214A **Organ Pipe Nat** 25.27 314 P P 20 37 59.0 +2.1
baz=126,SNR=8.0
N42A **Yates City** 25.36 3 P P 20 37 57.8 +0.3
baz=184,SNR=5.7
N40A **Mertquake, Sal** 25.37 0 P P 20 37 57.5 -0.1
baz=180,SNR=8.3
W18A **Petrified Fore** 25.40 324 eP P 20 38 00.6 +2.5
comp=N,77nm,1.6s
O48A **Farmland** 25.40 12 P P 20 37 57.3 -0.6
baz=195
N44A **Piper City** 25.48 6 P P 20 37 58.1 -0.4
baz=188,SNR=14
CUPR **Culebra, Puert** 25.48 80 eP P 20 37 58.6 -0.3
comp=N,89nm,1.4s
O49A **Covington** 25.51 13 eP P 20 37 58.8 -0.1
comp=N,30nm,1.0s
O49A **Covington** 25.51 13 P P 20 37 59.3 +0.5
baz=196
N43A **Stutzman Famil** 25.52 5 P P 20 37 59.3 +0.4
baz=186,SNR=12
P52A **Corning** 25.55 17 P P 20 37 59.5 +0.3
baz=202
N45A **Kentland** 25.60 7 P P 20 37 59.8 +0.1
baz=189,SNR=5.5
O50A **Cable** 25.64 15 P P 20 37 59.7 -0.3
baz=198
P53A **Whipple** 25.64 19 eP P 20 38 00.8 +0.8
comp=N,90nm,1.9s
P53A **Whipple** 25.64 19 P P 20 38 00.3 +0.3
baz=203
N46A **Monticello** 25.75 9 P P 20 38 01.0 0.0
baz=191,SNR=11
STVI **Saint Thomas** 25.80 80 eP P 20 38 01.9 +0.2
comp=N,124nm,1.5s
ACSO **Alum Creek Sta** 25.88 16 eP P 20 38 02.2 0.0
comp=N,20nm,0.5s
ACSO **Alum Creek Sta** 25.88 16 P P 20 38 01.9 -0.2
baz=199
M41A **Milan** 25.88 2 P P 20 38 02.6 +0.4
baz=182,SNR=5.5
O51A **Pataskala** 25.89 16 P P 20 38 02.2 -0.2
baz=200,SNR=5.4
N47A **Urbana** 25.91 11 P P 20 38 02.3 -0.1
baz=193
X16A **Lo Mia Camp, P** 25.92 320 eP P 20 38 05.1 +2.3
comp=N,25nm,0.8s
X16A ePP pP 20 38 50.5 +3.1
S22A **4UR Ranch, Cre** 25.93 332 eP P 20 38 04.1 +1.1
S22A ePP pP 20 38 50.7 +3.0
S22A **4UR Ranch, Cre** 25.93 332 P P 20 38 04.2 +1.2
baz=145
CDVI **St. Croix** 25.96 81 eP P 20 38 02.0 -1.1
M39A **Webster** 25.97 359 P P 20 38 03.2 +0.2
baz=179
N48A **Decatur** 26.01 12 P P 20 38 02.8 -0.5
baz=195,SNR=12
ATAH **Atahualpa** 26.03 149 P P 20 38 07.5 +3.3
comp=N,18nm,0.9s,baz=323,slow=7.3,SNR=9.6
M43A **Waltham Townsh** 26.03 5 P P 20 38 04.1 +0.6
baz=186,SNR=11
M44A **Midewin, Midew** 26.07 6 eP P 20 38 03.2 -0.7
comp=N,35nm,0.6s
M44A **Midewin, Midew** 26.07 6 P P 20 38 03.4 -0.5
baz=188,SNR=5.3
O52A **Adamsville** 26.08 17 eP P 20 38 03.8 -0.2
comp=N,17nm,0.6s
O52A **Adamsville** 26.08 17 P P 20 38 04.0 0.0
baz=202
Q24A **Divide** 26.24 336 eP P 20 38 04.9 -0.9
Q24A ePP pP 20 38 51.6 +1.1
Q24A ePP PP 20 39 11.3 +1.4
N49A **Columbus Grove** 26.25 13 eP P 20 38 05.2 -0.2
comp=N,22nm,1.3s
MCWV **Mont Chateau** 26.30 21 eP P 20 38 06.0 +0.1
comp=N,4.7nm,0.8s
MVCO **Mesa Verde** 26.30 329 eP P 20 38 07.5 +1.2
MVCO ePP pP 20 38 53.5 +2.3
M46A **Old House Fiel** 26.31 9 eP P 20 38 06.9 +0.9
comp=N,12nm,0.8s
M47A **Cromwell** 26.39 10 P P 20 38 06.7 0.0
baz=193,SNR=5.6
O53A **New Philadelph** 26.39 18 P P 20 38 06.5 -0.3
baz=203
113A **Mohawk Valley,** 26.40 315 eP P 20 38 08.6 +1.7
comp=N,13nm,0.9s
113A ePP pP 20 38 52.5 +1.0
SCIA **State Center** 26.42 358 eP P 20 38 05.7 -1.3
SCIA ePP pP 20 38 55.9 +4.3
L42A **Oliver, Polo** 26.55 3 eP P 20 38 07.8 -0.3
comp=N,23nm,0.9s
L42A **Oliver, Polo** 26.55 3 P P 20 38 07.8 -0.3
baz=184
L40A **Anamosa** 26.55 1 eP P 20 38 07.4 -0.7
comp=N,15nm,0.6s
L40A ePP sP 20 39 17.4 -1.2
L40A **Anamosa** 26.55 1 P P 20 38 07.6 -0.5
baz=181,SNR=5.9
L41A **Preston** 26.58 2 P P 20 38 08.4 0.0
baz=182
O54A **Avella** 26.59 20 P P 20 38 08.5 0.0
baz=205
Y14A **Wickenburg** 26.60 318 eP P 20 38 10.2 +1.4
comp=N,12nm,0.9s
Y14A ePP pP 20 38 55.0 +1.6
WUAZ **Wupatki** 26.63 322 eP P 20 38 11.6 +2.5
comp=N,29nm,0.9s
WUAZ ePP pP 20 38 57.5 +3.3
WUAZ **Wupatki** 26.63 322 P P 20 38 11.4 +2.3
baz=134,SNR=14
M48A **Edgerton** 26.67 12 eP P 20 38 08.2 -1.0
comp=N,25nm,0.6s
L44A **Lake County Fo** 26.87 6 P P 20 38 11.7 +0.7
baz=188
PCRV **Puerto La Cruz** 26.94 98 P P 20 38 10.7 -1.3
comp=N,9.9nm,0.5s,baz=218,slow=7.6,SNR=8.0
N53A **Lisbon** 27.01 18 P P 20 38 12.3 0.0
baz=203
ISCO **Idaho Springs** 27.14 336 eP P 20 38 14.2 +0.3
ISCO ePP pP 20 39 00.7 +2.2
L48A **N Adams** 27.17 12 P P 20 38 13.2 -0.5
baz=195,SNR=5.8
SMCO **Snowmass** 27.18 333 eP P 20 38 14.9 +0.7
SMCO ePP pP 20 39 02.3 +3.3
PV02 **Paradox Valley** 27.20 330 eP P 20 38 13.4 -0.9
PV02 ePP pP 20 39 00.8 +1.6
PV13 **Radium Mtn., P** 27.20 330 eP P 20 38 15.2 +0.9
PV13 ePP pP 20 38 59.5 +0.3
GLA **Glamis** 27.30 314 eP P 20 38 16.6 +1.6
comp=N,24nm,0.8s
GLA ePP pP 20 39 01.8 +2.3
GLA **Glamis** 27.30 314 P P 20 38 17.5 +2.5
baz=124,SNR=8.2
PV12 **Saucer Basin,** 27.32 330 eP P 20 38 16.4 +1.1
PV12 ePP pP 20 39 02.0 +1.8
PV11 **David Mesa, Pa** 27.34 330 eP P 20 38 16.8 +1.4
PV11 ePP pP 20 39 01.5 +1.1
K42A **Prairie Point,** 27.34 4 P P 20 38 15.8 +0.6
baz=185
PV17 **East Wray Mesa** 27.36 330 eP P 20 38 16.9 +1.2
PV17 ePP pP 20 39 02.8 +2.2
PV16 **Nyswonger Mesa** 27.37 330 eP P 20 38 16.9 +1.2
PV16 ePP pP 20 39 02.2 +1.5
PV19 **Morning Glory** 27.40 330 eP P 20 38 16.1 +0.1
PV19 ePP pP 20 39 02.7 +1.8
PV20 **West Nyswonger** 27.42 330 ePP pP 20 39 04.0 +2.9
JFWS **Jewell Farm** 27.43 2 eP P 20 38 15.3 -0.6
comp=N,112nm,2.0s
PV23 **Carpenter Ridg** 27.52 330 eP P 20 38 18.1 +0.9
PV23 ePP pP 20 39 04.4 +2.2
PDMCI **Parker Dam,Lak** 27.57 317 P P 20 38 19.3 +2.0
baz=127,SNR=17

PV21 **Cone Mtn., Par** 27.59 330 eP P 20 38 18.4 +0.6
PV21 ePP pP 20 39 04.8 +2.1
PV09 **Paradox Valley** 27.62 330 eP P 20 38 19.1 +1.0
PV09 ePP pP 20 39 05.1 +2.1
U15A **North Rim** 27.79 323 eP P 20 38 21.7 +2.1
comp=N,29nm,1.4s
U15A ePP pP 20 39 06.7 +2.1
J42A **Columbus** 27.89 4 P P 20 38 19.7 -0.3
baz=185
J40A **Soldiers Grove** 27.89 2 P P 20 38 21.2 +1.1
baz=182
W13A **Hualapai Mount** 27.89 319 eP P 20 38 22.6 +2.1
comp=N,16nm,1.0s
W13A ePP pP 20 39 07.0 +1.7
BC3 **Big Chuckawall** 28.07 315 P P 20 38 24.4 +2.4
baz=124,SNR=15
IRM **Iron Mountain** 28.15 316 P P 20 38 25.4 +2.9
baz=126,SNR=10
K49A **Clarkson** 28.18 13 P P 20 38 21.7 -0.9
baz=197
MONP2 **Monument Peak** 28.33 312 P P 20 38 26.7 +2.3
baz=122
I42A **Draeger Farm,** 28.48 4 eP P 20 38 24.0 -1.2
comp=N,16nm,0.8s
I42A **Draeger Farm,** 28.48 4 P P 20 38 24.2 -1.0
baz=186
KNB **Kanab** 28.51 323 eP P 20 38 28.3 +2.5
comp=N,18nm,0.8s
O20A **White River Ci** 28.52 333 eP P 20 38 26.9 +1.0
O20A ePP pP 20 39 11.8 +0.8
ECSD **EROS Data Cent** 28.52 353 P P 20 38 24.5 -1.1
baz=170
LDFC **Landfair** 28.67 317 eP P 20 38 30.5 +3.3
comp=N,49nm,0.6s
LCMT **Little Creek M** 28.75 322 eP P 20 38 30.2 +2.3
comp=N,15nm,1.0s
J49A **Marlette** 28.80 13 P P 20 38 26.7 -1.4
baz=197
GMRC **Granite Mounta** 28.86 316 P P 20 38 31.2 +2.3
baz=126,SNR=16
MTPU **Mount Pierson** 28.86 325 eP P 20 38 31.6 +2.4
MTPU ePP pP 20 39 18.9 +4.5
SZCU **Shurtz Canyon** 29.06 323 eP P 20 38 33.3 +2.6
comp=N,17nm,1.0s
SZCU ePP pP 20 39 22.7 +6.6
H38A **Maiden Rock** 29.16 359 P P 20 38 30.9 -0.4
baz=179
P17A **Butcher Ranch,** 29.16 329 eP P 20 38 33.6 +2.0
P17A ePP pP 20 39 19.3 +2.3
CCUT **Cedar City** 29.19 323 eP P 20 38 34.6 +2.7
comp=N,27nm,1.3s
MSU **Marysvale** 29.20 326 eP P 20 38 33.8 +1.8
MSU ePP pP 20 39 22.7 +5.4
RWWY **Rawlins** 29.39 336 eP P 20 38 34.5 +0.9
comp=N,10nm,1.0s
RWWY ePP pP 20 39 21.5 +2.8
TUQ **Turquoise Moun** 29.42 317 P P 20 38 36.3 +2.5
baz=126,SNR=5.1
SHPR **Sheep Range** 29.58 320 eP P 20 38 37.5 +2.2
comp=N,17nm,1.1s
SHPR ePP pP 20 39 24.6 +4.3
SPMN **Marine on St.** 29.72 359 eP P 20 38 35.7 -0.5
comp=N,13nm,0.6s
SPMN **Marine on St.** 29.72 359 P P 20 38 35.7 -0.5
baz=178,SNR=6.9
I51A **Listowel** 29.73 16 P P 20 38 35.4 -0.9
baz=201
G39A **Holcombe** 29.77 1 P P 20 38 35.7 -1.0
baz=181,SNR=6.7
GSC **Goldstone, Bar** 29.92 316 eP P 20 38 40.2 +2.0
comp=N,8.5nm,1.0s
GSC **Goldstone, Bar** 29.92 316 P P 20 38 40.8 +2.5
baz=125
G43A **Wallace** 29.94 6 P P 20 38 36.9 -1.2
baz=188
K22A **Casper** 29.95 338 eP P 20 38 38.9 +0.4
comp=N,7.6nm,0.9s
K22A **Casper** 29.95 338 P P 20 38 39.2 +0.7
baz=150
G45A **Suttons Bay** 29.97 9 P P 20 38 38.4 0.0
baz=192
PSUT **Pine Spring** 30.14 324 eP P 20 38 42.5 +2.2
comp=N,6.7nm,0.9s
RSSD **Black Hills** 30.45 342 eP P 20 38 43.6 +0.7
comp=N,4.1nm,0.6s
RSSD **Black Hills** 30.45 342 P P 20 38 43.4 +0.5
baz=156
EDW2 **Edwards Air Fo** 30.50 314 P P 20 38 45.6 +2.3
baz=123
TPNV **Topopah Spring** 30.54 319 eP P 20 38 46.5 +2.7
comp=N,23nm,1.3s
TPNV **Topopah Spring** 30.54 319 P P 20 38 46.3 +2.5
baz=128,SNR=8.2
F43A **Flat Rock, Esc** 30.56 6 P P 20 38 42.4 -1.1
baz=188,SNR=5.1
LRMC **Laurel Mtn Rad** 30.61 316 P P 20 38 47.0 +2.6
baz=124,SNR=6.7
FURC **Furnace Creek,** 30.64 318 P P 20 38 47.1 +2.8
baz=126
COWI **Conover** 30.66 4 eP P 20 38 43.4 -1.1
comp=N,12nm,0.6s
MPMC **Manual Prospec** 30.81 317 P P 20 38 48.4 +2.2
baz=125,SNR=14
E39A **Mellen** 30.88 2 P P 20 38 46.3 0.0
baz=182
E40A **Wakefield** 30.97 2 P P 20 38 46.6 -0.5
baz=183
DAC **Darwin (Calif)** 31.01 317 eP P 20 38 49.8 +1.9
comp=N,11nm,1.0s
R11A **Troy Canyon, C** 31.02 322 eP P 20 38 50.1 +2.1
comp=N,29nm,1.3s
R11A **Troy Canyon, C** 31.02 322 P P 20 38 50.7 +2.8
baz=131,SNR=24
E42A **Champion** 31.08 5 P P 20 38 46.6 -1.5
baz=187
E43A **Lone Tree Farm** 31.11 6 P P 20 38 47.3 -1.1
baz=189
SADO **Sadowa** 31.14 18 P P 20 38 48.4 -0.3
comp=N,7.5nm,0.5s,baz=220,slow=9.5,SNR=10
SADO **Sadowa** 31.14 18 eP P 20 38 47.7 -0.9
comp=N,47nm,1.5s
PD31 **Pinedale Array** 31.24 334 eP P 20 38 49.4 -0.5
PD31 eScP ScP 20 45 00.6 0.0
PDAR **Pinedale Array** 31.24 334 P P 20 38 50.1 +0.2
comp=N,1.1nm,0.5s,baz=130,slow=8.2,SNR=11
PDAR ScP ScP 20 45 00.3 -0.3
comp=N,1.2nm,0.7s,baz=141,slow=5.2,SNR=7.3
PDAR **Pinedale Array** 31.24 334 eP P 20 38 49.8 -0.1
PDAR ScP ScP 20 45 00.3 -0.3
ISA **Isabella, Lake** 31.25 315 eP P 20 38 52.0 +2.1
comp=N,14nm,1.1s
ISA ePP pP 20 39 37.5 +2.4
ISA **Isabella, Lake** 31.25 315 P P 20 38 52.7 +2.8
baz=123,SNR=6.5
CWC **Cottonwood Cre** 31.42 317 P P 20 38 53.9 +2.4
baz=125
G53A **Haliburton** 31.61 18 P P 20 38 52.1 -0.7
baz=204
D41A **Chassel** 31.66 4 P P 20 38 52.0 -1.1
baz=186
VES **Vestal, Richgr** 31.77 315 P P 20 38 57.2 +2.9
baz=123
HVU **Hansel Valley** 31.92 330 eP P 20 38 57.4 +1.6
comp=N,36nm,2.0s
D46A **Sault St. Mari** 32.03 10 P P 20 38 55.9 -0.5
baz=194,SNR=5.3
E50A **Wahnapitae** 32.25 14 P P 20 38 57.3 -1.1
baz=200
REDW **Red Top Meadow** 32.28 333 eP P 20 38 59.5 +0.6
comp=N,11nm,0.8s
REDW ePP pP 20 39 44.4 0.0
SNOW **Snow King Moun** 32.31 334 eP P 20 38 59.8 +0.6
comp=N,19nm,0.6s
SNOW ePP pP 20 39 46.8 +2.0
D47A **Chapleau** 32.35 11 P P 20 38 58.3 -1.0
baz=196
LOHW **Long Hollow** 32.37 334 eP P 20 39 00.6 +0.9
comp=N,4.6nm,0.7s
LOHW ePP pP 20 39 47.4 +2.1
TPAW **Teton Pass** 32.42 333 eP P 20 39 01.4 +1.2
comp=N,4.7nm,0.7s
ELK **Elko** 32.45 326 P P 20 39 02.8 +2.4
comp=N,2.1nm,0.8s,baz=124,slow=3.0,SNR=6.0
ELK ScP ScP 20 45 05.7 +0.9
comp=N,0.5nm,0.3s,baz=64,slow=4.6,SNR=5.3
ELK **Elko** 32.45 326 eP P 20 39 02.4 +2.0
comp=N,8.2nm,1.3s

ELK ScP ScP 20 45 05.7 +0.9
MOOW **Moose Ponds** 32.54 334 eP P 20 39 01.7 +0.5
MOOW ePP pP 20 39 48.4 +1.6
NV11 **Mina Array Sit** 32.64 320 eP P 20 39 04.6 +2.5
comp=N,2.3nm,0.9s
NV11 ePP pP 20 39 48.4 +0.8
E51A **G1948 Merrick** 32.67 16 P P 20 39 01.3 -0.6
baz=202
OMMB **Old Mammoth Mi** 32.70 318 eP P 20 39 04.8 +2.0
comp=N,36nm,1.8s
NV01 **Mina Array Sit** 32.73 320 eP P 20 39 04.8 +1.9
NV01 ePP pP 20 39 50.3 +1.8
NV01 eScP ScP 20 45 05.9 +0.1
NVAR **Mina Array Bea** 32.73 320 P P 20 39 05.7 +2.7
comp=N,32nm,0.7s,baz=135,slow=8.3,SNR=81
NVAR ScP ScP 20 45 06.5 +0.8
comp=N,1.2nm,0.5s,baz=138,slow=5.0,SNR=4.7
MDND **Maddock** 32.98 350 eP P 20 39 03.9 -0.7
MDND ePP pP 20 39 53.0 +2.9
MDND eSP sP 20 40 16.2 0.0
KVN **Kaiserville** 32.99 321 eP P 20 39 06.5 +1.4
comp=N,35nm,1.2s
KVN ePP pP 20 39 53.0 +2.4
KVN eSP sP 20 40 15.3 -1.1
RYN **Ryan** 32.99 320 eP P 20 39 06.3 +1.2
comp=N,59nm,1.8s
RYN ePP pP 20 39 53.2 +2.5
H17A **Grant Village** 33.00 335 P P 20 39 06.7 +1.4
baz=145
RLMT **Red Lodge** 33.09 337 eP P 20 39 05.9 0.0
comp=N,4.8nm,0.6s
RLMT **Red Lodge** 33.09 337 P P 20 39 06.0 0.0
baz=148
D51A **Lot 18 Range I** 33.21 16 P P 20 39 06.0 -0.7
baz=202
E54A **Lac Daplat, Po** 33.23 19 P P 20 39 06.7 -0.1
baz=206
BMN **Battle Mountai** 33.34 323 eP P 20 39 09.8 +1.7
D52A **ZEK Kipawa Sen** 33.37 17 P P 20 39 07.8 -0.2
baz=204
WAKR **Walker** 33.49 319 eP P 20 39 12.5 +3.0
comp=N,54nm,1.7s
YERR **Yerington** 33.65 320 eP P 20 39 12.8 +1.9
comp=N,18nm,0.5s
D53A **Lac Vacive, Po** 33.66 17 P P 20 39 10.4 -0.2
baz=205
CMB **Columbia Colle** 33.84 317 eP P 20 39 13.1 +0.8
comp=N,12nm,1.1s
PNTR **Pine Nut** 33.94 319 eP P 20 39 16.3 +2.9
comp=N,18nm,0.8s
HLID **Hailey** 34.06 330 eP P 20 39 15.4 +1.1
comp=N,20nm,1.9s
HLID ePP pP 20 40 00.8 +0.5
HLID ePP PP 20 40 31.5 -4.8
HLID **Hailey** 34.06 330 P P 20 39 15.4 +1.1
baz=138
PAHR **Pah Rah Range** 34.18 320 eP P 20 39 17.5 +2.2
comp=N,11nm,0.9s
MCMT **McKenzie Canyo** 34.31 333 eP P 20 39 18.2 +1.7
MCMT ePP pP 20 40 00.9 -1.7
DGMT **Dagmar** 34.51 345 P P 20 39 18.1 +0.3
baz=158
BEKR **Beckworth** 34.87 320 eP P 20 39 23.2 +1.9
comp=N,28nm,1.2s
BEKR ePP pP 20 40 07.0 -0.2
ULM **Lac du Bonnet** 34.90 355 P P 20 39 19.9 -1.2
comp=N,2.5nm,0.5s,baz=174,slow=12,SNR=5.6
ULM ScP ScP 20 45 11.3 -1.5
comp=N,2.5nm,0.6s,baz=183,slow=3.7,SNR=5.6
LRM **Limekiln Ridge** 34.93 334 eP P 20 39 22.9 +1.1
LRM ePP pP 20 40 10.0 +2.3
PTGA **Pitinga** 35.28 114 eP P 20 39 22.2 -2.6
comp=N,9.2nm,0.6s
PTGA ePP pP 20 40 10.7 -0.2
PTGA **Pitinga** 35.28 114 eP P 20 39 22.8 -2.1
ORV **Oroville** 35.41 319 eP P 20 39 28.1 +2.4
comp=N,21nm,1.5s
WVOR **Wild Horse Val** 35.46 325 eP P 20 39 27.7 +1.5
comp=N,17nm,1.1s
WVOR ePP pP 20 40 12.5 -0.1
EGMT **Eagleton** 35.74 339 eP P 20 39 28.8 +0.3
comp=N,13nm,0.6s
EGMT ePP pP 20 40 13.0 -1.5
EGMT eSP sP 20 40 35.8 -4.5
EGMT **Eagleton** 35.74 339 P P 20 39 29.0 +0.5
baz=149
J08A **Circle Bar Ran** 35.99 326 eP P 20 39 31.9 +1.2
comp=N,72nm,1.6s
O03E **Paynes Creek** 36.02 319 P P 20 39 32.7 +1.8
baz=125
MOD **Modoc Plateau** 36.07 323 eP P 20 39 32.5 +1.1
comp=N,8.1nm,0.8s
MATQ **Matagami** 36.12 16 P P 20 39 30.8 -0.7
baz=203,SNR=9.8
MSO **Missoula** 36.36 334 P P 20 39 34.2 +0.5
baz=142
M04C **Macdoel** 36.91 321 P P 20 39 40.0 +1.5
baz=126
F10A **Beach Ranch, E** 37.19 330 eP P 20 39 41.1 +0.4
comp=N,8.3nm,0.6s
F10A ePP pP 20 40 24.7 -2.7
M02C **Callahan** 37.30 320 P P 20 39 42.0 +0.2
baz=125
L04D **Klamath Falls** 37.45 322 P P 20 39 44.8 +1.7
baz=126
PINE **Pine Mountain** 37.63 325 eP P 20 39 45.4 +0.9
comp=N,12nm,0.8s
J04D **Umpqua Nationa** 37.95 323 P P 20 39 49.0 +1.7
baz=128
WALA **Waterton Lakes** 38.13 336 eP P 20 39 49.3 +0.7
comp=N,11nm,1.5s
WALA eS S 20 45 25.5 +0.8
D08A **Wollman Farm,** 38.78 330 eP P 20 39 54.0 +0.1
comp=N,334nm,0.8s
H04A **Detroit Lake** 38.88 325 eP P 20 39 55.5 +0.7
comp=N,21nm,0.9s
C09A **Chrisman Ranch** 39.02 331 eP P 20 39 56.6 +0.8
comp=N,37nm,0.9s
LPAZ **La Paz** 39.20 142 P P 20 39 58.6 +0.2
comp=N,37nm,0.6s,baz=341,slow=5.5,SNR=148
LPAZ ScP ScP 20 45 30.1 -0.1
comp=N,0.9nm,0.4s,baz=350,slow=8.5,SNR=4.5
LPAZ **La Paz** 39.20 142 eP P 20 39 58.2 -0.2
LPAZ eScP ScP 20 45 29.9 -0.4
LPAZ **La Paz** 39.20 142 eP P 20 39 58.7 +0.4
FFC **Flin Flon** 40.02 351 eP P 20 40 03.9 -0.1
FFC ePP pP 20 40 52.6 +1.7
MNMC **Minye Minye** 40.68 147 eP P 20 40 11.3 +1.3
comp=N,39nm,0.7s
PB11 **IPOC Station P** 41.17 147 eP P 20 40 14.4 +0.4
comp=N,39nm,1.0s
PB01 **IPOC Station P** 42.32 148 eP P 20 40 23.5 +0.3
comp=N,12nm,0.6s
FCC **Fort Churchill** 43.30 358 eP P 20 40 29.9 -0.5
comp=N,15nm,1.2s
SIV **San Ignacio** 43.50 135 P P 20 40 31.7 -0.9
comp=N,15nm,0.6s,baz=317,slow=8.3,SNR=49
SIV pP pP 20 41 21.3 +0.9
comp=N,5.4nm,0.8s,baz=341,slow=11,SNR=2.8
SIV PcP PcP 20 42 16.7 +0.2
comp=N,4.3nm,0.6s,baz=242,slow=5.3,SNR=5.5
SIV ScP ScP 20 45 47.0 +0.3
comp=N,1.2nm,0.6s,baz=0.0,slow=5.1,SNR=4.0
SCHQ **Schefferville** 43.81 21 P P 20 40 33.9 -0.7
comp=N,5.8nm,0.8s,baz=220,slow=5.5,SNR=9.2
SCHQ **Schefferville** 43.81 21 eP P 20 40 33.8 -0.8
comp=N,23nm,1.3s
LVC **Limon Verde** 43.92 149 P P 20 40 38.0 +1.7
comp=N,14nm,0.5s,baz=294,slow=4.2,SNR=25
LVC **Limon Verde** 43.92 149 eP P 20 40 36.5 +0.2
comp=N,17nm,0.6s
LVC **Limon Verde** 43.92 149 eP P 20 40 36.9 +0.6
GO02 **Mina Guanaco** 45.76 152 eP P 20 40 51.7 +1.1
comp=N,22nm,0.8s
LCO **Las Campanas** 48.63 155 eP P 20 41 14.3 +1.6
GO04 **Tololo Observa** 49.62 156 eP P 20 41 21.3 +1.1
comp=N,23nm,0.7s
YKA **Yellowknife Ar** 49.71 346 P P 20 41 19.9 -0.1
comp=N,14nm,0.7s,baz=148,slow=7.6,SNR=262
YKA pP pP 20 42 10.1 +1.0
comp=N,6.7nm,0.8s,baz=146,slow=7.7,SNR=9.4
YKA sP sP 20 42 33.5 -0.8
comp=N,5.2nm,0.9s,baz=145,slow=7.8,SNR=4.3
YKA ScP ScP 20 46 10.2 -1.6
comp=N,0.8nm,0.6s,baz=148,slow=4.3,SNR=11
YKB5 **Yellowknife Ar** 49.71 346 eP P 20 41 19.2 -0.8

YKB5				*e*pP	**pP**	20 42 08.8	-0.2
YKB5				*e*sP	**sP**	20 42 32.2	-2.1
YKB5				*e*ScP	**ScP**	20 46 10.3	-1.5
YKW3	**Yellowknife Ar**	**49.77**	**346**	*e*P	**P**	20 41 20.1	-0.4
	comp=N,17nm,0.8s						
YKW3				*e*pP	**pP**	20 42 10.1	+0.6
YKW3				*e*sP	**sP**	20 42 32.0	-2.7
AQDB	**Aquidauana**	**50.27**	**134**	*e*P	**P**	20 41 23.8	-1.1
DLBC	**Dease Lake**	**51.46**	**335**	*e*P	**P**	20 41 34.8	+1.5
DLBC				*e*pP	**pP**	20 42 24.2	+1.3
ROC1	**El Roble**	**52.05**	**158**	*e*P	**P**	20 41 38.5	+0.3
	comp=N,221nm,0.5s						
PEL	**Peldehue**	**52.32**	**158**	*e*P	**P**	20 41 41.1	+1.2
	comp=N,37nm,0.8s						
BDFB	**Brasilia**	**53.09**	**124**	*e*P	**P**	20 41 44.6	-1.4
CPUP	**Villa Florida**	**53.32**	**141**	P	**P**	20 41 45.8	-1.5
	comp=N,20nm,0.7s,baz=330,slow=8.2,SNR=38						
CPUP	**Villa Florida**	**53.32**	**141**	*e*P	**P**	20 41 45.6	-1.6
	comp=N,23nm,0.9s						
CPUP	**Villa Florida**	**53.32**	**141**	*e*P	**P**	20 41 46.6	-0.7
GO05	**Huala**	**53.57**	**160**	*e*P	**P**	20 41 49.8	+0.8
	comp=N,285nm,1.1s						
ITRB	**Ituirama**	**53.62**	**129**	*e*P	**P**	20 41 49.3	-0.4
IPMB	**Ipameri, GO**	**54.25**	**126**	*e*P	**P**	20 41 53.8	-0.5
PTGB	**Pitanga**	**55.59**	**135**	*e*P	**P**	20 42 02.8	-1.0
JANB	**Januaria**	**55.81**	**121**	*e*P	**P**	20 42 04.3	-1.1
MCI8	**Montes Claros**	**56.95**	**122**	*e*P	**P**	20 42 13.0	-0.5
MCI9	**Montes Claros**	**57.00**	**122**	*e*P	**P**	20 42 12.8	-1.0
MCI6	**Montes Claros**	**57.05**	**122**	*e*P	**P**	20 42 13.2	-1.0
MCI7	**Montes Claros**	**57.10**	**122**	*e*P	**P**	20 42 13.7	-0.8
ITAB	**Concordia**	**57.24**	**138**	*e*P	**P**	20 42 14.4	-0.8
GO06	**Curarrehue**	**57.90**	**162**	*e*P	**P**	20 42 20.2	+0.5
	comp=N,12nm,0.9s						
BSCB	**Bom Sucesso**	**58.62**	**127**	*e*P	**P**	20 42 24.7	-0.3
CPSB	**Cacapava Do Su**	**58.62**	**141**	*e*P	**P**	20 42 24.2	-0.5
INK	**Inuvik**	**59.15**	**343**	P	**P**	20 42 27.8	0.0
	comp=N,5.8nm,0.7s,baz=122,slow=4.7						
INK				ScP	**ScP**	20 46 52.1	-0.9
	comp=N,2.0nm,1.0s,baz=135,slow=5.7,SNR=3.6						
INK	**Inuvik**	**59.15**	**343**	*e*P	**P**	20 42 27.6	-0.2
	comp=N,5.4nm,0.6s						
INK				*e*pP	**pP**	20 43 17.0	-1.8
INK				ScP	**ScP**	20 46 52.1	-0.9
PLCA	**Paso Flores**	**59.24**	**161**	P	**P**	20 42 30.3	+1.4
	comp=N,17nm,0.8s,baz=359,slow=7.6,SNR=26						
PLCA	**Paso Flores**	**59.24**	**161**	*e*P	**P**	20 42 29.3	+0.4
	comp=N,21nm,0.8s						
PLCA	**Paso Flores**	**59.24**	**161**	*e*P	**P**	20 42 29.8	+0.9
CNLB	**Canela**	**59.48**	**138**	*e*P	**P**	20 42 30.1	-0.7
PLTB	**Pedras Altas**	**59.50**	**142**	*e*P	**P**	20 42 30.1	-0.7
DOT	**Dot Lake**	**60.02**	**336**	*e*P	**P**	20 42 34.7	+0.8
DOT				*e*pP	**pP**	20 43 23.2	-1.9
TER01	**Tubaro-SC**	**60.08**	**137**	*e*P	**P**	20 42 34.9	+0.2
SJMB	**Sao Joao De Ma**	**60.24**	**123**	*e*P	**P**	20 42 34.9	-1.1
VAS01	**Vassouras-RJ**	**60.36**	**127**	*e*P	**P**	20 42 35.7	-1.1
BSFB	**Barra de Sao F**	**60.58**	**122**	*e*P	**P**	20 42 37.4	-0.9
DUB01	**Friburgo-RJ**	**61.08**	**126**	*e*P	**P**	20 42 40.5	-1.2
RIB01	**Linhares ES**	**61.19**	**123**	*e*P	**P**	20 42 41.2	-1.2
CAM01	**Campos-RJ**	**61.50**	**126**	*e*P	**P**	20 42 43.5	-1.0
HDA	**Harding Lake**	**61.50**	**336**	P	**P**	20 42 43.9	+0.1
	baz=116						
ALF01	**Guarapari-ES**	**61.60**	**124**	*e*P	**P**	20 42 44.2	-0.9
IL1	**Eielson Array**	**61.64**	**336**	*e*P	**P**	20 42 44.3	-0.4
IL1				*e*pP	**pP**	20 43 34.5	-1.6
IL1				*e*sP	**sP**	20 43 57.7	-3.0
ILAR	**Eielson Array**	**61.64**	**336**	P	**P**	20 42 44.5	-0.2
	comp=N,2.0nm,0.4s,baz=110,slow=5.4,SNR=51						
ILAR				pP	**pP**	20 43 37.5	+1.3
	comp=N,3.9nm,1.1s,baz=118,slow=4.8,SNR=7.4						
ILAR				sP	**sP**	20 44 01.2	+0.5
	comp=N,1.8nm,1.0s,baz=118,slow=4.2,SNR=3.1						
ILB	**Eielson Array**	**61.64**	**336**	*e*P	**P**	20 42 44.5	-0.2
ILB				*e*pP	**pP**	20 43 36.6	+0.5
RND	**Reindeer**	**61.85**	**335**	*e*P	**P**	20 42 46.6	+0.3
	comp=N,26nm,1.5s						
RND				*e*pP	**pP**	20 43 38.5	+0.8
POKR	**Poker Flat Res**	**62.00**	**337**	P	**P**	20 42 47.2	+0.1
	baz=116						
TRF	**Thorofare Moun**	**62.46**	**334**	*e*P	**P**	20 42 50.9	+0.5
	comp=N,39nm,1.6s						
MLY	**Manley**	**63.24**	**336**	*e*P	**P**	20 42 55.2	-0.2
	comp=N,10nm,0.5s						
MLY				*e*pP	**pP**	20 43 47.0	-0.1
ESDC	**Sonseca Array**	**78.65**	**52**	P	**P**	20 44 27.3	-1.2
	comp=N,0.4nm,0.4s,baz=281,slow=5.7,SNR=8.0						
ESDC				pP	**pP**	20 45 21.3	-0.4
	comp=N,0.4nm,0.5s,baz=297,slow=6.9,SNR=3.4						
ES19	**SONSECA Array**	**78.70**	**52**	*e*P	**P**	20 44 27.2	-1.5
ES19				*e*pP	**pP**	20 45 21.0	-1.0
BILL	**Bilibino**	**80.23**	**338**	*e*P	**P**	20 44 36.1	-0.2
	comp=N,18nm,1.8s						
PMSA	**Palmer Station**	**82.70**	**168**	*e*P	**P**	20 44 45.5	-3.5
HOPE	**Hope Point**	**83.79**	**151**	*e*P	**P**	20 44 55.6	+0.7
	comp=N,599nm,2.0s						
KHC	**Kasperske Hory**	**88.18**	**39**	*e*P	**P**	20 45 16.6	-0.1
GERES	**GERESS Array B**	**88.36**	**40**	pP	pP	20 46 12.9	+0.6
	comp=N,1.2nm,0.9s,baz=329,slow=2.3,SNR=5.0						
GEA0	**GERESS Array S**	**88.36**	**40**	*e*P	**P**	20 45 16.4	-1.1
GEA0				*e*pP	**pP**	20 46 12.3	0.0
TIXI	**Tiksi**	**88.92**	**348**	*e*P	**P**	20 45 20.4	+0.8
	comp=N,8.3nm,0.4s						
TOA0	**Torodi Ar. Sit**	**89.81**	**76**	*e*P	**P**	20 45 22.2	-2.7
HHC	**Hu-ho-hao-te**	**119.98**	**340**	*e*PKP	**PKiKP**	20 51 15.7	+0.3
BOSA	**Boshof**	**120.73**	**114**	PKP	**PKPdf**	20 51 15.9	-1.1
	comp=N,2.1nm,0.6s,baz=246,slow=3.2,SNR=3.8						
BOSA	**Boshof**	**120.73**	**114**	*e*P	PKPpre	20 51 08.1	
WMQ	**Urumqi**	**121.04**	**0**	*e*PKP	**PKiKP**	20 51 18.2	+0.9
LZH	**Lanzhou**	**126.69**	**344**	*e*PKP	**PKiKP**	20 51 29.5	+0.6
LZH				sPKP		20 52 49.7	
CD2	**Chengdu**	**131.58**	**342**	PKP	**PKPdf**	20 51 37.0	-0.7
WR1	**Warramunga Arr**	**135.96**	**257**	*e*PKPdf	**PKPdf**	20 51 46.7	+0.7
WR1				*e*SKPbc	**SKPbc**	20 54 58.4	+1.6
WRA	**Warramunga Arr**	**135.96**	**257**	PKP	**PKPdf**	20 51 46.7	+0.6
	comp=N,0.9nm,0.6s,baz=84,slow=3.0,SNR=12						
WRA				SKPbc	**SKPbc**	20 54 58.4	+1.6
	comp=N,0.8nm,0.7s,baz=86,slow=2.4,SNR=7.0						
ASAR	**Alice Springs**	**136.35**	**252**	PKP	**PKPdf**	20 51 46.7	0.0
	comp=N,0.5nm,0.5s,baz=108,slow=2.3,SNR=7.5						
ASAR				SKPbc	**SKPbc**	20 54 58.6	+0.7
	comp=N,1.4nm,0.9s,baz=103,slow=3.1,SNR=6.3						
CM31	**Chiang Mai Arr**	**144.72**	**342**	*e*PKPbc	**PKPab**	20 51 59.7	-1.6
CMAR	**Chiang Mai Arr**	**144.72**	**342**	PKP	**PKPab**	20 52 00.3	-0.9
	comp=N,1.2nm,0.6s,baz=340,slow=3.2,SNR=13						
MBWA	**Marble Bar**	**149.60**	**254**	*e*P	PKPpre	20 51 57.5	

MAN 11 20:34:02.3, 10.02N×123.12E, h20km, mb4.3, ML3.1, MS2.8, 1C, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.80**	**319**	*e*P	Pb	20 34 17.6	+0.2
GUIM				*e*S	Sn	20 34 30.3	+0.6
TBP	**Tagbilaran**	**0.80**	**114**	*e*P	Pb	20 34 17.6	-0.1
DCPH	**Dipolog City**	**1.45**	**171**⇑	*e*P	Pb	20 34 35.6	+7.0
DCPH				*e*S	Sb	20 34 48.8	+2.2
MSLP	**Maasin**	**1.72**	**86**	*e*P	Pn	20 34 30.4	-0.7
MSLP				*e*S	Sb	20 34 53.8	-0.7

*ISCJB **11** 21:12:45.3±0.7, 10.53N±0.05×126.76E±0.05, h10km, mb3.9/10, Error ellipse: s-maj=7.7km s-min=6.8km az=172.5*
*MAN **11** 21:12:47.0, 10.49N×126.55E, h1km, mb4.9, ML3.8, MS3.7*
*IDC **11** 21:12:46.0±1.0, 10.42N×126.40E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.8/41, mbtmp3.9/10, Error ellipse: s-maj=59.6km s-min=15.0km az=69.0*

ISC 11 21:12:47.1±0.8, 10.51N±0.05×126.56E±0.07, h10km, n22, σ1s82/28, mb3.9/10, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**1.54**	**315**	*e*P	**Pn**	21 13 09.9	-4.8
PLP	**Palo**	**1.68**	**293**⇓	*e*P	**Pb**	21 13 17.4	-0.7
PLP				*e*S	**Sg**	21 13 42.4	+1.2
MSLP	**Maasin**	**1.71**	**258**	*e*P	**Pb**	21 13 17.6	-1.0
MSLP				*e*S	**Sg**	21 13 41.2	-1.0
BUTP	**Butuan**	**1.79**	**211**	*e*P	**Pn**	21 13 17.6	-0.4
BUTP				*e*S	**Sb**	21 13 42.9	+0.5
OCLP	**Ormoc**	**1.99**	**286**	*e*P	**Pb**	21 13 23.0	-0.3
LLP	**Lapu-Lapu**	**2.56**	**266**	*e*P	**Pn**	21 13 29.9	+1.3
LLP				*e*S	**Sg**	21 14 08.2	-1.0
TBP	**Tagbilaran**	**2.77**	**253**	*e*P	**Pb**	21 13 36.9	+0.1
BUKP	**Musuan**	**3.00**	**210**	*e*P	**Pn**	21 13 36.7	+1.9
BUKP				*e*S	**Sb**	21 14 13.7	-3.7
DCPH	**Dipolog City**	**3.69**	**239**⇓	*e*P	**Pn**	21 13 46.5	+2.2
RCP	**Roxas**	**3.89**	**286**⇑	*e*P	**Pn**	21 13 49.7	+2.8
GUIM	**Jordan**	**3.90**	**272**	*e*P	**Pn**	21 13 48.7	+1.6
PAGZ	**Pagadian**	**4.10**	**230**	*e*P	**Pb**	21 13 55.8	-3.6
CMAR	**Chiang Mai Arr**	**27.85**	**290**	P	**P**	21 18 36.3	-0.8
	0.5nm,0.5s,baz=92,slow=7.3,SNR=4.7						
FITZ	**Fitzroy Crossi**	**28.44**	**182**	P	**P**	21 18 42.7	+0.5
	2.3nm,0.6s,baz=355,slow=7.5,SNR=7.9						
WRA	**Warramunga Arr**	**31.21**	**166**	P	**P**	21 19 06.8	0.0
	0.2nm,0.5s,baz=348,slow=9.3,SNR=4.1						
ASAR	**Alice Springs**	**34.72**	**168**	P	**P**	21 19 36.3	-1.1
	0.3nm,0.3s,baz=346,slow=7.2,SNR=5.0						
SONM	**Songino Array**	**40.90**	**339**	P	**P**	21 20 31.4	+1.8
	0.3nm,0.5s,baz=150,slow=9.5,SNR=3.2						
STKA	**Stephens Creek**	**44.54**	**162**	P	**P**	21 21 00.0	+0.9
	0.7nm,0.4s,baz=15,slow=7.2,SNR=3.3						
MKAR	**Makanchi Array**	**52.01**	**323**	P	**P**	21 21 57.2	+0.4
	1.1nm,0.7s,baz=119,slow=8.6,SNR=15						
MKAR				PcP	**PcP**	21 23 09.3	+0.3
	0.8nm,0.6s,baz=108,slow=4.6,SNR=4.9						
ZALV	**Zalesovo Beam**	**54.55**	**331**	P	**P**	21 22 15.4	+0.1
	2.5nm,0.6s,baz=116,slow=6.8,SNR=13						
ARCES	**ARCESS Array B**	**84.07**	**340**	P	**P**	21 25 17.9	+0.2
	4.8nm,0.9s,baz=61,slow=5.7,SNR=6.1						
FINES	**FINESS Array B**	**85.82**	**332**	P	**P**	21 25 26.7	+0.1
	4.8nm,1.0s,baz=177,slow=3.8,SNR=5.0						

IDC 11 21:25:18.1±6.7, 20.45S×178.77W, h564km±73km, mb3.0/5, mb1 3.4/5, mb1mx3.0/32, mbtmp3.9/5, Error ellipse: s-maj=98.0km s-min=28.9km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.83**	**257**	P	P	21 32 35.1	-0.1
	1.8nm,0.7s,baz=98,slow=7.9,SNR=20						
ASAR				PcP	PcP	21 34 08.9	-0.2
	0.5nm,0.6s,baz=100,slow=3.6,SNR=6.6						
WRA	**Warramunga Arr**	**43.89**	**262**	P	P	21 32 35.5	-0.3
	0.8nm,0.3s,baz=96,slow=7.3,SNR=93						
TXAR	**Lajitas Array**	**87.64**	**58**	P	P	21 37 07.9	+0.4
	0.4nm,0.8s,baz=242,slow=3.9,SNR=2.2						
ILAR	**Eielson Array**	**88.42**	**13**	P	P	21 37 09.8	-0.4
	0.3nm,0.4s,baz=217,slow=5.2,SNR=7.4						
PDAR	**Pinedale Array**	**89.42**	**44**	P	P	21 37 15.3	-0.3
	0.3nm,0.6s,baz=222,slow=2.0,SNR=4.0						
AKASG	**Malin Array Be**	**142.62**	**331**	PKP	PKPdf	21 43 44.3	-3.0
	0.6nm,0.6s,baz=42,slow=4.3,SNR=13						
BRTR	**Keskin Array B**	**146.27**	**312**	PKPbc	PKPbc	21 43 56.6	+0.1
	0.4nm,0.5s,baz=112,slow=4.2,SNR=2.8						
GERES	**GERESS Array B**	**149.95**	**343**	PKPbc	PKPbc	21 44 05.4	0.0
	0.4nm,0.5s,baz=31,slow=3.1,SNR=4.4						

*IDC **11** 21:25:21.6±21.0, 30.48N×71.96E, h0km, mb4.2/3, mb1 4.1/4, mb1mx3.4/43, mbtmp4.1/4, ML3.8/1, Error ellipse: s-maj=403.5km s-min=55.4km az=162.0*
*ISCJB **11** 21:26:30.5±0.7, 36.52N±0.03×70.62E±0.10, h204km, mb3.9/2, Error ellipse: s-maj=11.2km s-min=4.0km az=170.5*
*NNC **11** 21:26:31.6±6.7, 37.05N×69.95E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=54.3km s-min=43.5km az=174.0*

ISC 11 21:26:30.8±1.1, 36.53N±0.06×70.7E±0.1, h204km, n31, σ1s96/37, 3C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.89**	**159**	P	**Pn**	21 27 19.9	+0.4
CEP				S	**S**	21 27 57.0	+0.1
CHCP	**Chirah Chowk**	**3.57**	**143**	P	**Pn**	21 27 29.1	+1.6
THW	**Thamme Wali**	**3.83**	**166**	P	**Pn**	21 27 30.5	-0.2
SFK	**Sufi-Kurgan**	**4.13**	**32**	⇑P	**Pn**	21 27 35.6	+1.1
	4.0nm,0.4s						
SFK				⇓S	**S**	21 28 25.2	+1.1
	51nm,0.4s						
AML	**Almayashu**	**6.06**	**22**	P	**Pn**	21 27 59.9	+0.7
	SNR=87						
DHRM	**DHARAMSHALA**	**6.32**	**131**	*e*P	**Pn**	21 28 03.3	+0.9
DHRM				*e*S	**S**	21 29 13.5	-1.2
DHRM				IAML		21 29 16.4	
	comp=E,160nm,0.0s						
DHRM				IAML		21 29 16.9	
	comp=N,142nm,0.1s						
UCH	**Uchtor**	**6.42**	**26**	P	**Pn**	21 28 04.8	+1.0
	SNR=26						
KK31	**Karatay Array**	**6.57**	**359**	P	**Pn**	21 28 04.2	-1.1
	comp=N,5.4nm,0.6s,baz=178,slow=12,SNR=46						
KK31				⇓S	**S**	21 29 14.4	-5.8
	comp=N,14nm,0.5s,baz=189,slow=26						
EKS2	**Erkin-Say**	**6.58**	**20**	P	**Pn**	21 28 06.5	+1.0
	SNR=12						
KZA	**Kyzart**	**6.58**	**31**	P	**Pn**	21 28 06.7	+0.8
	SNR=9.1						
AAK	**Ala-Archa**	**6.78**	**25**	P	**Pn**	21 28 09.5	+1.3
	SNR=6.3						
AAK	**Ala-Archa**	**6.78**	**25**	⇓P	**Pn**	21 28 09.2	+1.0
	comp=N,4.1nm,0.7s						
AAK				⇓S	**S**	21 29 24.8	-0.6
	comp=N,26nm,0.6s						
USP	**Ospenovka**	**7.34**	**22**	P	**Pn**	21 28 16.7	+1.3
	SNR=6.4						
TKM2	**Tokmak 2**	**7.42**	**29**	P	**Pn**	21 28 17.9	+1.2
	SNR=20						
TKM2	**Tokmak 2**	**7.42**	**29**	⇑P	**Pn**	21 28 17.8	+1.2
	comp=N,6.8nm,0.5s						
TKM2				⇑S	**S**	21 29 39.0	-1.7
	comp=N,8.3nm,0.8s						
SMLA	**Simla**	**7.63**	**133**	*e*P	**Pn**	21 28 19.9	+0.7
SMLA				*e*S	**S**	21 29 41.7	-3.8
SMLA				IAML		21 29 47.3	
	comp=E,42nm,0.6s						
SMLA				IAML		21 29 48.6	
	comp=N,50nm,0.8s						
DDI	**Dehra Dun**	**8.74**	**133**	*e*S	**S**	21 30 08.4	-3.7
BHGR	**Bahadurgarh**	**9.44**	**144**	*ex*	x	21 29 44.8	
JOSI	**Joshimath**	**9.51**	**126**	*e*P	**Pn**	21 28 44.2	+0.4
JOSI				*e*S	**S**	21 30 25.2	-5.5
JOSI				IAML		21 30 29.2	
	comp=E,17nm,0.1s						
JOSI				IAML		21 30 30.4	
	comp=N,21nm,0.6s						
KUDL	**Kundal**	**9.70**	**148**	*e*P	Pn	21 28 41.0	-5.2
KUDL				*e*S	S	21 30 16.2	-19
PYUN	**Piuthan**	**13.38**	**125**	*e*P	**Pn**	21 29 34.2	+1.1
	comp=N,7.0nm,0.5s						
MKAR	**Makanchi Array**	**13.42**	**37**	P	**Pn**	21 29 35.1	+1.8
	comp=N,0.3nm,0.3s,baz=216,slow=7.5,SNR=16						
DANN	**Dangsing**	**13.73**	**123**	*e*P	**Pn**	21 29 38.5	+1.0
	comp=N,3.7nm,0.3s						
KKN	**Kakani**	**15.12**	**121**	*e*P	**P**	21 29 56.1	+1.1
	comp=N,6.9nm,0.3s						
PKIN	**Phulchoki**	**15.34**	**121**	*e*P	**P**	21 29 58.9	+1.5
	comp=N,7.1nm,0.4s						
GUN	**Gumba**	**15.46**	**119**	*e*P	**P**	21 30 00.6	+1.7
	comp=N,10nm,0.5s						
JIRN	**Jiri**	**15.83**	**120**	*e*P	**Pn**	21 30 04.8	+1.5
	comp=N,26nm,0.5s						
RAMN	**Ramite**	**16.56**	**121**	*e*P	**Pn**	21 30 12.9	+1.0
	comp=N,6.1nm,0.3s						
ZALV	**Zalesovo Beam**	**20.00**	**25**	P	**P**	21 30 48.9	+1.3
	comp=N,2.2nm,0.4s,baz=213,slow=11,SNR=14						
FINES	**FINESS Array B**	**37.31**	**326**	P	**P**	21 33 22.4	-0.5
	comp=N,2.9nm,0.9s,baz=118,slow=11,SNR=3.4						
ARCES	**ARCESS Array B**	**41.02**	**338**	P	**P**	21 33 54.0	+0.5
	comp=N,5.0nm,0.9s,baz=104,slow=7.5,SNR=4.9						

IDC 11 21:28:14.7±28.0, 19.31S×178.32W, h432km±262km, mb2.8/3, mb1 3.1/3, mb1mx2.9/34, mbtmp3.6/3, Error ellipse: s-maj=293.1km s-min=79.0km az=136.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.48**	**261**	P	P	21 35 46.1	-0.1
	0.3nm,0.3s,baz=96,slow=7.7,SNR=30						
ASAR	**Alice Springs**	**44.51**	**256**	P	P	21 35 46.2	-0.2
	0.5nm,0.5s,baz=102,slow=8.6,SNR=6.8						
ILAR	**Eielson Array**	**87.22**	**13**	P	P	21 40 13.6	+0.2
	0.4nm,0.8s,baz=220,slow=6.1,SNR=4.1						
AKASG	**Malin Array Be**	**141.83**	**332**	PKhKP	PKPpre	21 46 50.6	
	0.2nm,0.4s,baz=44,slow=4.7,SNR=4.8						
GERES	**GERESS Array B**	**148.98**	**345**	PKPbc	PKPbc	21 47 12.1	-0.8
	0.4nm,0.5s,baz=0.0,slow=1.3,SNR=4.8						

IDC 11 21:31:17.1±1.9, 0.45N×125.98E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/36, mbtmp3.5/3, Error ellipse: s-maj=171.0km s-min=25.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.86**	**158**	P	P	21 36 10.6	-1.0
	0.8nm,0.5s,baz=337,slow=11,SNR=9.2						
ASAR	**Alice Springs**	**25.18**	**163**	P	P	21 36 45.2	+0.8
	0.6nm,0.6s,baz=345,slow=11,SNR=7.2						
MKAR	**Makanchi Array**	**59.84**	**327**	P	P	21 41 24.4	-0.1
	0.3nm,0.6s,baz=119,slow=7.6,SNR=7.4						

IDC 11 21:34:17.4±2.0, 3.31N×126.80E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/39, mbtmp3.6/3, MS2.9/1, Ms1 2.9/1, ms1mx2.3/42, Error ellipse: s-maj=154.7km s-min=25.8km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**23.90**	**122**	LR	LR	21 48 54.3	
	comp=Z,31nm,21.0s,baz=286,slow=37						
WRA	**Warramunga Arr**	**24.27**	**163**	P	P	21 39 36.4	-0.1
	1.4nm,0.4s,baz=342,slow=10,SNR=19						
ASAR	**Alice Springs**	**27.69**	**166**	P	P	21 40 07.7	+0.2
	0.4nm,0.5s,baz=348,slow=7.1,SNR=6.1						
MKAR	**Makanchi Array**	**57.94**	**325**	P	P	21 44 11.6	-0.1
	0.1nm,0.3s,baz=120,slow=7.8,SNR=6.2						

*IDC **11** 21:37:02.1±3.1, 35.26S×179.63W, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.8/34, mbtmp4.0/3, ML3.6/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/22, Error ellipse: s-maj=71.7km s-min=36.0km az=123.0*
*ISCJB **11** 21:37:03.3±1.1, 35.42S±0.06×179.2W±0.1, h41km, mb3.9/2, MS2.5/1, Error ellipse: s-maj=15.9km s-min=7.8km az=21.6*
*WEL **11** 21:37:04.9±1.0, 35.2S×179.1W±1.1, h33km, ML4.1/25*

ISC 11 21:37:03.3±1.9, 35.41S±0.09×179.1W±0.1, h41km, n38, σ0s79/45, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.02**	**224**	P	**Pn**	21 37 48.8	+0.2
MXZ				S	**Sn**	21 38 22.3	-1.1
WMGZ	**Waiomatatini S**	**3.14**	**219**	P	**Pn**	21 37 51.3	+1.0
PKGZ	**Pakihiroa**	**3.37**	**222**	P	**Pn**	21 37 54.0	+0.4
PKGZ				S	**Sn**	21 38 32.3	-0.1
PUZ	**Puketiti**	**3.42**	**218**	P	**Pn**	21 37 54.6	+0.5
PUZ				S	**Sn**	21 38 33.3	-0.1
HAZ	**Te Kaha**	**3.45**	**226**	P	**Pn**	21 37 55.3	+0.8
TWGZ	**Tauwhareparae**	**3.64**	**220**	P	**Pn**	21 37 58.0	+0.8
TWGZ				S	**Sn**	21 38 39.9	+1.0
RUGZ	**Raukumara Rang**	**3.65**	**225**	P	**Pn**	21 37 58.0	+0.6
RUGZ				S	**Sn**	21 38 39.1	-0.3
CNGZ	**Carnagh Statio**	**3.77**	**215**	P	**Pn**	21 37 59.8	+0.9
TKGZ	**Te Karaka**	**3.90**	**218**	P	**Pn**	21 38 02.0	+1.2
MWZ	**Matawai**	**4.00**	**222**	P	**Pn**	21 38 02.2	+0.1
MWZ				S	**Sn**	21 38 47.0	-0.7
RIGZ	**Rimuhau**	**4.15**	**217**	P	**Pn**	21 38 05.4	+1.1
RIGZ				S	**Sn**	21 38 51.7	+0.1
RAGZ	**Rawiri**	**4.17**	**221**	P	**Pn**	21 38 05.6	+1.0
URZ	**Urewera**	**4.18**	**226**	Pn	**Pn**	21 38 04.4	-0.2
	4.0nm,0.3s,baz=351,slow=1.4,SNR=20						
URZ				Sn	**Sn**	21 38 50.9	-1.3
	3.3nm,0.3s,baz=350,slow=22,SNR=6.5						
URZ	**Urewera**	**4.18**	**226**	P	**Pn**	21 38 04.3	-0.2
MYRZ	**Mayor Island**	**4.22**	**242**	P	**Pn**	21 38 06.0	+0.8
PRGZ	**Paritu Road**	**4.27**	**214**	P	**Pn**	21 38 06.3	+0.5
OPRZ	**Ohinepanea**	**4.28**	**234**	P	**Pn**	21 38 05.9	0.0

GADA	**Gvkgeada**	**0.20**	**186**	Pg		**Pb**	**21 56 21.9**	**-1.3**
GADA	**Gvkgeada**	**0.20**	**186**	P		**Pb**	**21 56 21.9**	**-1.3**
GADA				S		**Sg**	**21 56 25.1**	**+0.6**
SMTH	**Samothraki Isl**	**0.31**	**284**	P		**Pg**	**21 56 23.4**	**-0.3**
SMTH				AML	AML		21 56 28.2	
	comp=E,19317µm,0.1s							
SMTH				AML	AML		21 56 29.0	
	comp=N,27504µm,0.1s							
SMTH	**Samothraki Isl**	**0.31**	**284**	P		**Pg**	**21 56 23.3**	**-0.3**
SMTH				S		**Sg**	**21 56 28.1**	**+0.3**
ENEZ	**Enez**	**0.38**	**27**	PG		**Pg**	**21 56 24.7**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.42**	**89**	PG		**Pg**	**21 56 25.3**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.42**	**89**	*e*P		**Pg**	**21 56 25.4**	**-0.2**
ALN	**Alexandroupoli**	**0.51**	**10**	PG		**Pg**	**21 56 26.0**	**-1.3**
ALN	**Alexandroupoli**	**0.51**	**10**	*e*Pg		**Pg**	**21 56 26.7**	**-0.6**
ALN	**Alexandroupoli**	**0.51**	**10**	P		**Pg**	**21 56 26.9**	**-0.4**
ALN				S		**Sb**	**21 56 34.5**	**-1.4**
ALN				AML	AML		21 56 35.6	
	comp=E,7635µm,0.3s							
ALN				AML	AML		21 56 36.0	
	comp=N,8868µm,0.5s							
ALN	**Alexandroupoli**	**0.51**	**10**	P		**Pg**	**21 56 26.9**	**-0.4**
ALN				S		**Sb**	**21 56 34.5**	**-1.4**
ERIK	**Erikli-Kesan**	**0.52**	**58**	PG		**Pg**	**21 56 26.9**	**-0.6**
ERIK				SG		**Sg**	**21 56 34.2**	**-0.3**
BOZC	**Bozcaada**	**0.56**	**170**	PG		**Pg**	**21 56 28.0**	**-0.2**
BOZC	**Bozcaada**	**0.56**	**170**	⇑*i*P		**Pg**	**21 56 28.0**	**-0.2**
BOZC				*i* S		**Sb**	**21 56 36.6**	**-0.7**
LPK	**Lapseki**	**0.64**	**92**	PG		**Pg**	**21 56 29.3**	**-0.4**
EZN	**Ezine**	**0.65**	**152**	PG		**Pg**	**21 56 29.4**	**-0.4**
EZN	**Ezine**	**0.65**	**152**	P		**Pg**	**21 56 29.2**	**-0.6**
EZN				S		**Sg**	**21 56 37.8**	**-0.5**
KESN	**Edirne-Kesan**	**0.72**	**53**	IAML_P				
	comp=Z,18µm,0.1s							
KESN				⇑*i*P		**Pg**	**21 56 30.4**	**-0.8**
KESN				*i* S		**Sg**	**21 56 39.8**	**-0.8**
LIA	**Limnos Island**	**0.76**	**229**	P		**Pg**	**21 56 31.5**	**-0.4**
LIA				S		**Sb**	**21 56 42.1**	**-0.8**
LIA				AML	AML		21 56 44.4	
	comp=E,16484µm,0.6s							
LIA				AML	AML		21 56 44.9	
	comp=N,11575µm,0.6s							
LIA	**Limnos Island**	**0.76**	**229**	P		**Pg**	**21 56 31.5**	**-0.4**
LIA				S		**Sb**	**21 56 42.2**	**-0.8**
BAYC	**CANAKKALE_Bayr**	**0.81**	**144**	IAML_P				
	comp=Z,41µm,0.2s							
BAYC				⇓*i*P		**Pb**	**21 56 32.7**	**-0.7**
BAYC				*i* S		**Sb**	**21 56 43.7**	**-0.7**
RDO	**Rodhopi**	**0.81**	**339**	PG		**Pg**	**21 56 30.9**	**-2.0**
RDO	**Rodhopi**	**0.81**	**339**	P		**Pg**	**21 56 32.1**	**-0.9**
RDO				S		**Sb**	**21 56 43.6**	**-0.8**
RDO				AML	AML		21 56 47.1	
	comp=N,9611µm,0.2s							
RDO				AML	AML		21 56 47.7	
	comp=E,9248µm,0.2s							
RDO	**Rodhopi**	**0.81**	**339**	P		**Pg**	**21 56 32.0**	**-0.9**
RDO				S		**Sn**	**21 56 45.4**	**-1.4**
THAS	**Thassos island**	**0.94**	**283**	P		**Pg**	**21 56 34.6**	**-1.0**
THAS				S		**Sb**	**21 56 47.7**	**-0.6**
THAS				AML	AML		21 56 49.6	
	comp=E,3947µm,0.3s							
THAS				AML	AML		21 56 50.1	
	comp=N,5819µm,0.3s							
THAS	**Thassos island**	**0.94**	**283**	P		**Pg**	**21 56 34.5**	**-1.0**
THAS				S		**Sn**	**21 56 48.7**	**-1.5**
GPNR	**Gulpinar-Canak**	**0.95**	**170**	PG		**Pg**	**21 56 35.0**	**-0.6**
SART	**Tekirdag**	**1.00**	**72**	IAML_P				
	comp=Z,30µm,0.2s							
SART				⇑*i*P		**Pg**	**21 56 35.9**	**-0.6**
SART				*i* S		**Sn**	**21 56 50.6**	**-1.1**
KRBG	**Karabiga-Canak**	**1.05**	**90**	PG		**Pb**	**21 56 36.3**	**-1.2**
PRK	**Paraskevi**	**1.18**	**167**	P		**Pg**	**21 56 39.4**	**-0.5**
PRK				AML	AML		21 56 57.6	
	comp=E,34602µm,0.5s							
PRK				AML	AML		21 56 58.7	
	comp=N,35829µm,0.6s							
SIGR	**SIGRI**	**1.18**	**183**	PN		**Pb**	**21 56 38.9**	**-1.0**
SIGR	**SIGRI**	**1.18**	**183**	P		**Pb**	**21 56 38.9**	**-1.0**
SIGR				S		**Sn**	**21 56 55.5**	**-0.6**
SIGR				AML	AML		21 56 57.0	
	comp=E,25665µm,0.5s							
SIGR				AML	AML		21 56 57.3	
	comp=N,37926µm,0.5s							
SIGR	**SIGRI**	**1.18**	**183**	P		**Pb**	**21 56 38.9**	**-1.0**
SIGR				S		**Sn**	**21 56 55.4**	**-0.6**
KNL	**Balıkesir**	**1.23**	**95**	IAML_P				
	comp=Z,125µm,0.2s							
KNL				⇓*i*P		**Pg**	**21 56 40.8**	**-0.1**
KNL				*i* S		**Sn**	**21 56 59.5**	**+2.3**
KAVA	**Kavala**	**1.23**	**300**	P		**Pn**	**21 56 39.4**	**-1.2**
KAVA				S		**Sb**	**21 56 54.6**	**-2.0**
KAVA				AML	AML		21 56 57.5	
	comp=N,4548µm,0.3s							
KAVA				AML	AML		21 56 59.3	
	comp=E,2808µm,0.2s							
KAVA	**Kavala**	**1.23**	**300**	P		**Pn**	**21 56 39.4**	**-1.2**
KAVA				S		**Sg**	**21 56 56.3**	**-0.7**
AYVA	**Ayvalik**	**1.23**	**151**	IAML_P				
	comp=Z,41µm,0.5s							
AYVA				⇓*i*P		**Pb**	**21 56 40.2**	**-0.5**
AYVA				*i* S		**Sn**	**21 56 57.6**	**+0.3**
MRMT	**Marmara Adasi**	**1.29**	**80**	PN		**Pn**	**21 56 40.2**	**-1.3**
SBT4	**Kumbag-Tekirda**	**1.30**	**70**	PN		**Pn**	**21 56 40.9**	**-0.5**
TKR	**Tekirdag**	**1.36**	**64**	PN		**Pn**	**21 56 41.9**	**-0.5**
GONE	**Gonen-Balikesi**	**1.39**	**104**	PN		**Pn**	**21 56 42.5**	**-0.3**
EDC	**Edincik**	**1.48**	**91**	PN		**Pn**	**21 56 43.7**	**-0.3**
DKL	**Dikili**	**1.52**	**150**	PN		**Pn**	**21 56 43.9**	**-0.7**
CRLT	**Corlu**	**1.56**	**61**	PN		**Pn**	**21 56 44.1**	**-1.0**
EDRB	**Edirne**	**1.58**	**23**	PN		**Pn**	**21 56 44.4**	**-1.0**
RZN	**Rozhen**	**1.58**	**325**	P		**Pn**	**21 56 44.9**	**-0.7**
BALB	**Balikesir**	**1.68**	**116**	PN		**Pn**	**21 56 46.2**	**-0.5**
DIM	**Dimitrovgrad**	**1.68**	**350**	P		**Pn**	**21 56 46.2**	**-0.6**
STEP	**BALIKESİR_Sava**	**1.71**	**126**	IAML_P				
	comp=Z,2µm,0.2s							
STEP				⇓*i*P		**Pn**	**21 56 47.2**	**-0.1**
STEP				*i* S		**Sg**	**21 57 12.0**	**-0.4**
PHSR	**Pinarhisar**	**1.73**	**44**	PN		**Pn**	**21 56 46.3**	**-1.1**
PAIG	**Paliouri**	**1.79**	**256**	P		**Pn**	**21 56 47.0**	**-1.2**
PAIG	**Paliouri**	**1.79**	**256**	P		**Pn**	**21 56 46.4**	**-1.8**
FOCM	**Foa**	**1.79**	**159**	PN		**Pn**	**21 56 47.7**	**-0.6**
NVR	**Nevrokopi**	**1.83**	**302**	P		**Pn**	**21 56 48.1**	**-0.8**
NVR				AML	AML		21 57 16.4	
	comp=N,894µm,0.5s							
NVR				AML	AML		21 57 18.8	
	comp=E,1512µm,0.5s							
NVR	**Nevrokopi**	**1.83**	**302**	P		**Pn**	**21 56 48.1**	**-0.8**
SKY	**Skiros Island**	**1.85**	**216**	P		**Pn**	**21 56 47.8**	**-1.3**
SKY	**Skiros Island**	**1.85**	**216**	P		**Pn**	**21 56 48.0**	**-1.1**
KCTX	**Karacabey (Bur**	**1.86**	**93**	PN		**Pn**	**21 56 48.2**	**-1.1**
KRBN	**Karaburun**	**1.86**	**165**	PN		**Pn**	**21 56 48.9**	**-0.4**
PLG	**Polygyros**	**1.90**	**270**	P		**Pn**	**21 56 48.5**	**-1.3**
PLG	**Polygyros**	**1.90**	**270**	P		**Pn**	**21 56 48.5**	**-1.3**
SRS	**Serrai**	**1.92**	**293**	*e*Pn		**Pn**	**21 56 49.0**	**-1.1**
SRS				*e*Sn		**Sg**	**21 57 18.8**	**-0.1**
SRS	**Serrai**	**1.92**	**293**	P		**Pn**	**21 56 48.9**	**-1.1**
SRS	**Serrai**	**1.92**	**293**	P		**Pn**	**21 56 48.8**	**-1.2**
SLVT	**Silivri**	**1.92**	**64**	PN		**Pn**	**21 56 49.0**	**-1.1**
PLD	**Plovdiv**	**1.94**	**332**	*e*Pn		**Pn**	**21 56 50.1**	**-0.3**
PLD				*e*Sn		**Sg**	**21 57 18.9**	**-0.9**
PLD	**Plovdiv**	**1.94**	**332**	PN		**Pn**	**21 56 48.8**	**-1.6**
PLD	**Plovdiv**	**1.94**	**332**	P		**Pn**	**21 56 50.1**	**-0.3**
PLD				Pg		**Pg**	**21 56 53.5**	**-1.1**
AOS	**Alonnisos**	**2.00**	**233**	PN		**Pn**	**21 56 49.9**	**-1.2**
AOS	**Alonnisos**	**2.00**	**233**	P		**Pn**	**21 56 50.6**	**-0.5**
SOH	**Sokhos**	**2.00**	**283**	P		**Pn**	**21 56 50.4**	**-0.9**
SOH	**Sokhos**	**2.00**	**283**	P		**Pn**	**21 56 50.4**	**-0.9**
CHOS	**Chios island**	**2.01**	**177**	PN		**Pn**	**21 56 50.2**	**-1.2**
CHOS	**Chios island**	**2.01**	**177**	P		**Pn**	**21 56 50.9**	**-0.5**
CHOS	**Chios island**	**2.01**	**177**	P		**Pn**	**21 56 50.6**	**-0.8**
CHOS				S		**Sn**	**21 57 15.2**	**-1.4**
MMB	**Musomiste**	**2.05**	**306**	P		**Pn**	**21 56 50.9**	**-1.0**
CTYL	**Yalikoy Yolu**	**2.09**	**58**	PN		**Pn**	**21 56 51.2**	**-1.2**
URLA	**Izmir**	**2.10**	**166**	PN		**Pn**	**21 56 51.7**	**-0.8**
URLA	**Izmir**	**2.10**	**166**	IAML_P				
	comp=Z,10µm,0.5s							
URLA				⇑*i*P		**Pn**	**21 56 52.5**	**-0.1**
URLA				*i* S		**Sn**	**21 57 19.2**	**+0.6**
AKHS	**Akhisar**	**2.10**	**136**	IAML_P				
	comp=Z,5µm,0.3s							
AKHS				*i* P		**Pn**	**21 56 52.9**	**+0.3**
AKHS				*i* S		**Sg**	**21 57 24.1**	**-0.8**
DURS	**Dursunbey**	**2.11**	**111**	IAML_P				
	comp=Z,10µm,0.4s							
DURS				⇓*i*P		**Pn**	**21 56 53.5**	**+0.7**
DURS				*i* S		**Sg**	**21 57 23.6**	**-1.6**
JMB	**Yambol**	**2.13**	**13**	*e*Pn		**Pn**	**21 56 50.8**	**-2.1**
JMB				*e*Sn		**Sn**	**21 57 19.0**	**-0.4**
JMB	**Yambol**	**2.13**	**13**	P		**Pn**	**21 56 52.6**	**-0.3**
JMB				Pg		**Pb**	**21 56 55.9**	**-0.1**
CTKS	**Kestanelik-??a**	**2.13**	**66**	PN		**Pn**	**21 56 51.7**	**-1.2**
HORT	**Hortiatis**	**2.17**	**276**	PN		**Pn**	**21 56 51.2**	**-2.3**
HORT	**Hortiatis**	**2.17**	**276**	P		**Pn**	**21 56 52.6**	**-0.9**
BLCB	**Balcova**	**2.19**	**156**	PN		**Pn**	**21 56 52.9**	**-0.8**
DST	**Dursunbey**	**2.21**	**110**	PN		**Pn**	**21 56 53.9**	**-0.3**
ARMT	**Armutlu**	**2.24**	**85**	PN		**Pn**	**21 56 53.9**	**-0.7**
MDNY	**Mudanya-Bursa**	**2.26**	**90**	PN		**Pn**	**21 56 53.9**	**-0.8**
SKIA	**Skiathos**	**2.26**	**238**	P		**Pn**	**21 56 53.9**	**-0.8**
SBT5	**Esenkoy-Cinarc**	**2.26**	**83**	PN		**Pn**	**21 56 53.7**	**-1.0**
GOMA	**Golmarmara-Man**	**2.28**	**137**	PN		**Pn**	**21 56 54.4**	**-0.6**
BGKT	**Bogazkoy**	**2.30**	**69**	PN		**Pn**	**21 56 53.9**	**-1.4**
ORLT	**Orhaneli**	**2.30**	**98**	PN		**Pn**	**21 56 54.9**	**-0.4**
XOR	**Xorichti**	**2.34**	**245**	P		**Pn**	**21 56 54.0**	**-1.9**
XOR	**Xorichti**	**2.34**	**245**	P		**Pn**	**21 56 53.8**	**-2.1**
NEO	**Neokhori**	**2.35**	**243**	P		**Pn**	**21 56 53.9**	**-2.1**
NEO	**Neokhori**	**2.35**	**243**	P		**Pn**	**21 56 53.9**	**-2.1**
KNT	**Kendrikon**	**2.42**	**289**	PN		**Pn**	**21 56 56.0**	**-1.0**
KNT	**Kendrikon**	**2.42**	**289**	P		**Pn**	**21 56 56.2**	**-0.8**
KNT	**Kendrikon**	**2.42**	**289**	P		**Pn**	**21 56 56.6**	**-0.4**
DGB	**zmir**	**2.45**	**162**	IAML_P				
	comp=Z,5µm,0.3s							
DGB				*i* P		**Pn**	**21 56 57.0**	**-0.4**
DGB				*i* S		**Sg**	**21 57 34.3**	**-1.9**
ISK	**Istanbul-Kandi**	**2.47**	**73**	PN		**Pn**	**21 56 56.4**	**-1.3**
KAVV	**Kandilli-Istan**	**2.47**	**73**	PN		**Pn**	**21 56 56.4**	**-1.3**
MRKA	**Markates**	**2.47**	**228**	P		**Pn**	**21 56 56.3**	**-1.4**
GEMT	**Gemlik**	**2.49**	**88**	PN		**Pn**	**21 56 57.2**	**-0.7**
FYTO	**Fytoko, Volos**	**2.50**	**248**	P		**Pn**	**21 56 56.8**	**-1.3**
FYTO	**Fytoko, Volos**	**2.50**	**248**	P		**Pn**	**21 56 56.5**	**-1.6**
EREA	**Eretria**	**2.51**	**219**	P		**Pn**	**21 56 56.9**	**-1.3**
KLYT	**Kilyos**	**2.51**	**69**	PN		**Pn**	**21 56 56.9**	**-1.3**
PGB	**Panagyurishte**	**2.53**	**329**	P		**Pn**	**21 56 58.1**	**-0.4**
PGB				Pg		**Pb**	**21 57 03.1**	**+0.3**
DEMI	**Demirci**	**2.54**	**121**	IAML_P				
	comp=Z,8µm,0.3s							
DEMI				⇓*i*P		**Pn**	**21 56 59.0**	**+0.3**
DEMI				*i* S		**Sg**	**21 57 36.6**	**-2.3**
SMIA	**Simia**	**2.59**	**235**	P		**Pn**	**21 56 58.8**	**-0.5**
KKB	**Krupnik**	**2.60**	**305**	P		**Pn**	**21 56 58.9**	**-0.6**
YLV	**Yalova**	**2.63**	**85**	PN		**Pn**	**21 56 58.6**	**-1.4**
LIT	**Litokhoron**	**2.65**	**265**	*e*Pn		**Pn**	**21 56 59.2**	**-0.9**
LIT	**Litokhoron**	**2.65**	**265**	P		**Pn**	**21 56 58.7**	**-1.4**
VAY	**Valandovo**	**2.71**	**291**	P		**Pn**	**21 57 00.9**	**0.0**
VAY	**Valandovo**	**2.71**	**291**	*e*Pn		**Pn**	**21 57 01.2**	**+0.3**
GRG	**Griva**	**2.74**	**283**	P		**Pn**	**21 57 00.2**	**-1.2**
SMG	**Samos**	**2.77**	**165**	P		**Pn**	**21 57 01.6**	**-0.2**
SMG	**Samos**	**2.77**	**165**	P		**Pn**	**21 57 01.3**	**-0.5**
DION	**Dionisos Attik**	**2.78**	**214**	P		**Pn**	**21 57 00.5**	**-1.5**
MANT	**Manisa**	**2.79**	**132**	*e*Pn		**Pn**	**21 57 02.6**	**+0.4**
ATAL	**Atalanti**	**2.82**	**234**	P		**Pn**	**21 57 01.0**	**-1.5**
ATAL	**Atalanti**	**2.82**	**234**	P		**Pn**	**21 57 00.9**	**-1.5**
PTL	**Penteli**	**2.84**	**215**	P		**Pn**	**21 57 01.4**	**-1.3**
PTL	**Penteli**	**2.84**	**215**	P		**Pn**	**21 57 01.2**	**-1.5**
PVL	**Pavlikeni**	**2.85**	**351**	P		**Pn**	**21 57 01.9**	**-1.0**
PVL				Pg		**Pb**	**21 57 08.6**	**+0.2**
LKR	**Lokris**	**2.86**	**233**	P		**Pn**	**21 57 01.6**	**-1.3**
GCAM	**G?zelcaml?**	**2.88**	**159**	PN		**Pn**	**21 57 02.6**	**-0.6**
GCAM	**G?zelcaml?**	**2.88**	**159**	IAML_P				
	comp=Z,3µm,0.4s							
GCAM				*i* P		**Pn**	**21 57 03.3**	**+0.1**
GCAM				*i* S		**Sg**	**21 57 47.7**	**-2.0**
ROIA	**ROIAK**	**2.91**	**21**	P		**Pn**	**21 57 03.2**	**-0.5**
ATH	**Athens Observa**	**2.97**	**216**	P		**Pn**	**21 57 03.5**	**-0.9**
VTS	**Vitosha**	**3.00**	**318**	*e*Pn		**Pn**	**21 57 05.2**	**+0.1**
VTS				*e*Sn		**Sb**	**21 57 45.5**	**-2.1**
VTS	**Vitosha**	**3.00**	**318**	*e*Pn		**Pn**	**21 57 05.1**	**+0.1**
VTS				*e*Sn		**Sn**	**21 57 41.2**	**+0.1**
VTS	**Vitosha**	**3.00**	**318**	⇑*i*P		**Pn**	**21 57 05.1**	**+0.1**
VTS	**Vitosha**	**3.00**	**318**	P		**Pn**	**21 57 05.1**	**+0.1**
VIL2	**Platees**	**3.00**	**224**	P		**Pn**	**21 57 04.3**	**-0.6**
PRD	**Provadia**	**3.01**	**21**	P		**Pn**	**21 57 04.1**	**-1.0**
VLY	**Voula,Athens**	**3.03**	**214**	P		**Pn**	**21 57 05.4**	**0.0**
VLY	**Voula,Athens**	**3.03**	**214**	P		**Pn**	**21 57 03.9**	**-1.5**
GDZ	**Gediz**	**3.03**	**114**	*i* P		**Pn**	**21 57 06.2**	**+0.6**
GDZ				*i* S		**Sg**	**21 57 53.1**	**-1.7**
AGG	**Agios Georgios**	**3.10**	**245**	*e*Pn		**Pn**	**21 57 05.7**	**-0.6**
AGG	**Agios Georgios**	**3.10**	**245**	P		**Pn**	**21 57 05.0**	**-1.3**
AGG	**Agios Georgios**	**3.10**	**245**	P		**Pn**	**21 57 05.0**	**-1.3**
STIP	**Stip**	**3.11**	**296**	*i* Pn		**Pn**	**21 57 04.2**	**-2.2**
THL	**Klokotos Trika**	**3.12**	**256**	P		**Pn**	**21 57 05.6**	**-0.9**
PROD	**Prodromos**	**3.17**	**229**	P		**Pn**	**21 57 06.5**	**-0.8**
KZN	**Kozani**	**3.18**	**270**	P		**Pn**	**21 57 06.7**	**-0.8**
ZIMR		**3.29**	**353**	⇑*i*P		**Pn**	**21 57 09.2**	**+0.4**
LTK	**Loutraki**	**3.30**	**225**	P		**Pn**	**21 57 07.7**	**-1.4**
LOUT	**Loutraki**	**3.32**	**225**	P		**Pn**	**21 57 08.1**	**-1.3**
LOUT	**Loutraki**	**3.32**	**225**	P		**Pn**	**21 57 08.2**	**-1.2**
APE	**Apeiranthos**	**3.34**	**185**	P		**Pn**	**21 57 08.7**	**-0.9**
APE	**Apeiranthos**	**3.34**	**185**	⇑*i*P		**Pn**	**21 57 09.3**	**-0.3**
MPEP	**Malo Peshtene**	**3.38**	**332**	P		**Pn**	**21 57 09.9**	**-0.3**
MPEP				Pg		**Pg**	**21 57 19.3**	**-2.8**
FNA	**Florina**	**3.49**	**278**	*e*Pn		**Pn**	**21 57 11.2**	**-0.5**
FNA				*e*Sn		**Sn**	**21 57 55.9**	**+2.8**
FNA	**Florina**	**3.49**	**278**	*e*Pn		**Pn**	**21 57 11.6**	**-0.1**
KALE	**Kalithea**	**3.55**	**237**	P		**Pn**	**21 57 12.2**	**-0.4**
AMGA	**Amorgos Island**	**3.56**	**180**	P		**Pn**	**21 57 13.1**	**+0.4**
DID	**Didima**	**3.57**	**217**	P		**Pn**	**21 57 11.1**	**-1.7**
TRIZ	**Trizonia**	**3.61**	**237**	P		**Pn**	**21 57 12.2**	**-1.1**
KRUS	**Krusevo**	**3.68**	**287**	*i* Pn		**Pn**	**21 57 14.0**	**-0.3**
PSN	**Preselentsi**	**3.69**	**26**	P		**Pn**	**21 57 13.7**	**-0.7**
LAKA	**Lakka**	**3.74**	**236**	P		**Pn**	**21 57 14.5**	**-0.7**
KLV	**Kalavryta, Ach**	**3.76**	**233**	P		**Pn**	**21 57 14.4**	**-1.0**
VLAD	**Vladila**	**3.77**	**343**	⇓*i*P		**Pn**	**21 57 15.3**	**-0.3**
ZAPS	**Zavoj**	**3.79**	**321**	*e*Pn		**Pn**	**21 57 16.5**	**+0.7**
SGRR	**Singureni**	**3.83**	**1**	⇓*i*P		**Pn**	**21 57 15.8**	**-0.5**
BARS	**Barje**	**3.92**	**309**	*e*Pn		**Pn**	**21 57 17.7**	**+0.1**
RASA	**Rasa**	**3.92**	**13**	⇑*i*P		**Pn**	**21 57 17.4**	**-0.2**
ICOR	**Ion Corvin**	**3.97**	**20**	⇑*i*P		**Pn**	**21 57 18.1**	**-0.1**
SANT	**Santorini**	**4.04**	**185**	*e*Pn		**Pn**	**21 57 18.5**	**-0.7**
DRO	**Drossia**	**4.08**	**235**	P		**Pn**	**21 57 19.5**	**-0.4**
LEHL	**Lehliu**	**4.13**	**9**	⇑*i*P		**Pn**	**21 57 21.0**	**+0.6**
HUMR	**Humele**	**4.19**	**351**	⇑*i*P		**Pn**	**21 57 20.6**	**-0.7**
MFTR	**Murfatlar**	**4.21**	**25**	⇓*i*P		**Pn**	**21 57 19.8**	**-1.7**
SULR		**4.29**	**3**	⇓*i*P		**Pn**	**21 57 23.6**	**+1.0**
AMRR	**Amara**	**4.34**	**13**	⇑*i*P		**Pn**	**21 57 23.5**	**+0.2**
ZAGS	**Zajecar**	**4.38**	**322**	*e*Pn		**Pn**	**21 57 23.7**	**-0.2**
TIRR	**Tirgusor**	**4.46**	**24**	*e*Pn		**Pn**	**21 57 24.3**	**-0.6**
TIRR	**Tirgusor**	**4.46**	**24**	⇑*i*P		**Pn**	**21 57 24.3**	**-0.6**
PUNG	**Punghina**	**4.47**	**331**	⇓*i*P		**Pn**	**21 57 24.8**	**-0.3**
TLB	**Topalu**	**4.47**	**20**	⇓*i*P		**Pn**	**21 57 24.7**	**-0.4**
ITM	**Ithomi**	**4.48**	**226**	*e*Pn		**Pn**	**21 57 25.7**	**+0.4**
GOLR		**4.50**	**351**	⇑*i*P		**Pn**	**21 57 24.2**	**-1.3**
BOVS	**Bovan**	**4.51**	**317**	*e*Pn		**Pn**	**21 57 25.9**	**+0.2**
HARR	**Harsova**	**4.54**	**18**	⇓*i*P		**Pn**	**21 57 25.5**	**-0.6**
SELS	**Selova**	**4.57**	**310**	*e*Pn		**Pn**	**21 57 26.1**	**-0.4**
ISR	**Istrita**	**4.74**	**5**	⇓*i*P		**Pn**	**21 57 28.8**	**-0.1**
MTUR	**Matau**	**4.87**	**353**	⇓*i*P		**Pn**	**21 57 30.1**	**-0.6**
GRER		**5.04**	**8**	⇑*i*P		**Pn**	**21 57 33.2**	**+0.2**
CFR	**Carcaliu**	**5.05**	**18**	⇓*i*P		**Pn**	**21 57 32.7**	**-0.3**
ARR	**Arges**	**5.06**	**350**	⇑*i*P		**Pn**	**21 57 32.7**	**-0.6**
VOIR		**5.08**	**353**	⇑*i*P		**Pn**	**21 57 33.1**	**-0.5**
MLR	**Muntele Rosu**	**5.09**	**0**	Pn		**Pn**	**21 57 35.1**	**+1.2**
	comp=Z,4.2nm,0.3s,baz=186,slow=6.6,SNR=84							
MLR				Lg		Lg	21 58 59.5	
	comp=Z,3.8nm,0.3s,baz=199,slow=12,SNR=3.1							
MLR	**Muntele Rosu**	**5.09**	**0**	⇑*i*P		**Pn**	**21 57 34.7**	**+0.9**
KUBS	**Kucevo**	**5.10**	**323**	*e*Pn		**Pn**	**21 57 32.9**	**-0.9**
IDI	**Anoyia**	**5.16**	**189**	*e*Pn		**Pn**	**21 57 33.1**	**-1.7**
HERR	**Herculiane**	**5.18**	**331**	⇓*i*P		**Pn**	**21 57 33.9**	**-0.9**
GRUS	**Gruza**	**5.21**	**314**	*e*Pn		**Pn**	**21 57 35.0**	**-0.4**
TLCR		**5.24**	**23**	⇑*i*P		**Pn**	**21 57 36.9**	**+1.2**
BR231	**Keskin MP Arra**	**5.28**	**94**	*e*Pn		**Pn**	**21 57 36.6**	**+0.3**
ANTO	**Ankara**	**5.29**	**93**	*e*Pn		**Pn**	**21 57 36.5**	**0.0**
ANTO	**Ankara**	**5.29**	**93**	⇑*i*P		**Pn**	**21 57 35.8**	**-0.7**
LOT	**Lotru**	**5.29**	**343**	⇓*i*P		**Pn**	**21 57 35.8**	**-0.7**
IVAS	**Ivanjica**	**5.35**	**308**	*e*Pn		**Pn**	**21 57 36.6**	**-0.7**
MDVR	**Moldovita**	**5.38**	**326**	⇑*i*P		**Pn**	**21 57 37.0**	**-0.6**
PETR	**Petresti**	**5.41**	**10**	⇑*i*P		**Pn**	**21 57 39.0**	**+1.0**
ODBI	**Odobesti**	**5.43**	**8**	⇑*i*P		**Pn**	**21 57 40.2**	**+1.9**
PLOR	**Plostina**	**5.48**	**5**	⇓*i*P		**Pn**	**21 57 40.2**	**+1.2**
VRI	**Vrincioaia**	**5.50**	**6**	⇓*i*P		**Pn**	**21 57 40.0**	**+0.7**
GZR	**Gura Zlata**	**5.50**	**336**	⇑*i*P		**Pn**	**21 57 38.3**	**-1.1**
DOPR	**Dopca**	**5.58**	**356**	⇓*i*P		**Pn**	**21 57 40.8**	**+0.3**
TRUS	**Trudelj**	**5.60**	**315**	*e*Pn		**Pn**	**21 57 39.5**	**-1.2**
DIVS	**Divibare**	**5.75**	**312**	*e*Pn		**Pn**	**21 57 42.3**	**-0.5**
DIVS	**Divibare**	**5.75**	**312**	*e*Pn		**Pn**	**21 57 42.1**	**-0.7**
BR101	**Keskin Array S**	**5.95**	**94**	*e*Pn		**Pn**	**21 57 45.5**	**-0.1**
BR101				*e*Sn		**Sn**	**21 58 52.3**	**-1.7**
BR101				*e*Lg		Lg	21 59 27.6	
BR131	**Keskin Array S**	**5.95**	**94**	*e*Pn		**Pn**	**21 57 45.7**	**0.0**
BR131				*e*Sn		**Sn**	**21 58 52.5**	**-1.4**
BRTR	**Keskin Array B**	**5.95**	**94**	Pn		**Pn**	**21 57 45.5**	**-0.1**
	comp=Z,2.7nm,0.3s,baz=267,slow=12,SNR=102							
BRTR				Sn		**Sn**	**21 58 52.3**	**-1.7**
	comp=Z,1.7nm,0.3s,baz=283,slow=25,SNR=5.9							
BRTR				Lg		Lg	21 59 27.6	
	comp=Z,0.6nm,0.3s,baz=281,slow=23,SNR=6.9							
BIR	**Birlad**	**6.00**	**11**	⇓*i*P		**Pn**	**21 57 46.5**	**+0.4**
BZS	**Buzias**	**6.10**	**330**	⇓*i*P		**Pn**	**21 57 46.7**	**-0.8**
CJR	**Cluj-Napoca**	**6.54**	**346**	⇓*i*P

TKR	Tekirdag	1.34	64	PN		Pg	22 10 56.8	-0.3
CRLT	Corlu	1.54	62	PN		Pb	22 10 59.7	+0.2
EDRB	Edirne	1.56	22	PN		Pb	22 10 59.7	-0.2
BALB	Balikesir	1.67	117	PN		Pb	22 11 01.3	-0.5
DURS	Dursunbey	2.10	112	IAML_P				
	comp=Z,202nm,0.2s							
DURS				*i* P		Pb	22 11 09.9	+0.8

MAN 11 22:11:33.6, 9.56N×121.98E, h30km, mb4.1, ML2.9, MS2.6, 1C, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
GUIM	Jordan	1.22	29	*e*P Pn	22 11 54.0	-0.6
GUIM				*e*S Sn	22 12 10.3	+0.3
CUYO	Cuyo Island	1.60	324	*e*P Pn	22 12 00.4	+0.5
RCP	Roxas	2.12	21	⇑*e*P Pn	22 12 08.8	+1.7
PAGZ	Pagadian	2.19	141	*e*P Pn	22 12 08.6	+0.6
BUSP	Coron	3.00	324	*e*P Pn	22 12 19.4	+0.4

SJA 11 22:20:38.9±0.4, 33.06S×68.87W, h21km±1km, ML2.8, MW3.8, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
AAGR	Agrelo	0.04	124	*e*P Pb	22 20 42.9	+0.1
AAGR				*e*S Sb	22 20 46.4	+1.0
ARCO	CERRO ARCO	0.22	347	*e*P Pb	22 20 44.8	-0.3
ARCO				*e*S Sb	22 20 49.5	+0.1
ARCO				IAML	22 20 50.1	
	comp=Z,1μm,0.2s					
ASAL	Salagasta	0.47	4	*e*P Pb	22 20 48.9	+0.5
AVIZ	Vizcacheras	0.51	144	*e*P Pb	22 20 49.7	+0.4
AUSP	Uspallata	0.94	332	*e*P Pn	22 20 57.9	+0.8
RTCV	Cerro Valdivia	1.23	13	*e*P Pb	22 21 02.2	+0.8
ACAN	Cantantal	1.62	62	*e*P Pb	22 21 08.6	+0.5

IDC 11 22:25:20.3±6.3, 11.88S×166.28E, h140km±58km, mb3.4/5, mb1 3.6/6, mb1mx3.3/38, mbtmp3.9/6, Error ellipse: s-maj=43.1km s-min=40.2km az=92.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
DZM	Mont Dzumac	10.14	179	P Pn	22 27 43.9	+1.5
	1.5nn,0.3s,baz=343,slow=20,SNR=14					
DZM				S Sn	22 29 32.8	-1.7
	0.3nn,0.3s,baz=342,slow=20,SNR=5.4					
WRA	Warramunga Arr	31.70	251	P P	22 31 30.8	-0.1
	0.4nn,0.5s,baz=84,slow=9.4,SNR=5.7					
WRA				PcP PcP	22 34 19.6	+0.1
	0.3nn,0.7s,baz=76,slow=3.1,SNR=3.8					
ASAR	Alice Springs	32.90	245	P P	22 31 40.9	-0.5
	0.4nn,0.5s,baz=84,slow=8.5,SNR=6.2					
ASAR				PcP PcP	22 34 22.4	-0.3
	0.3nn,0.6s,baz=67,slow=2.4,SNR=3.3					
CMAR	Chiang Mai Arr	72.92	294	P P	22 36 36.0	+1.3
	0.5nn,0.3s,baz=126,slow=4.5,SNR=6.3					
SONM	Songino Array	79.64	324	P P	22 37 11.6	-0.6
	0.3nn,0.7s,baz=129,slow=5.7,SNR=2.4					
MKAR	Makanchi Array	94.48	317	P P	22 38 23.8	-0.9
	0.9nn,0.6s,baz=86,slow=6.0,SNR=14					

NIED ***11*** *22:54:00, 37.30N×141.20E, h17km, Mw3.4 Best double couple: M₀1.24000×10¹⁴ NP1:φ₀74.00000°, δ43.00000°, λ-54.00000°. NP2:φ₀210.00000°, δ56.00000°, λ-119.00000°.*

IDC ***11*** *22:54:37.4±2.2, 37.31N×141.47E, h0km, mb3.5/2, mb1 3.6/5, mb1mx3.2/73, mbtmp3.6/5, ML2.9/3, MS2.2/3, Ms1 2.2/3, ms1mx2.1/44, Error ellipse: s-maj=41.1km s-min=24.1km az=69.0*

ISCJB ***11*** *22:54:40.6±0.9, 37.28N±0.03×141.30E±0.06, h25km±4km, mb3.6/2, MS2.4/1, Error ellipse: s-maj=8.3km s-min=4.6km az=13.7*

JMA ***11*** *22:54:43.0±0.1, 37.32N×141.12E, h29km±1km, M3.5*

JMA Felt II J1.

ISC 11 22:54:40.5±1.5, 37.31N±0.03×141.29E±0.06, h14km±9km, n19, σ0.89/31, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
JFK	Kawauchi	0.33	281	P Pb	22 54 48.9	+0.7
JFK				S Sb	22 54 52.9	-0.6
ONAJ	Iwakimizuishiy	0.44	243	P Pb	22 54 50.6	+0.5
ONAJ				S Sg	22 54 55.8	+0.6
JFFD	Fukushimafurud	0.62	250	P Pb	22 54 53.0	-0.1
JFFD				S Sg	22 55 00.1	-0.7
JMM	Marumori	0.68	325	P Pb	22 54 54.5	+0.3
JMM				S Sb	22 55 03.1	-0.4
JFT	Otama	0.79	286	P Pb	22 54 56.0	+0.1
JFT				S Sg	22 55 05.0	-1.1
JHO	Hitachi	0.90	220	P Pb	22 54 57.4	-0.5
JHO				*e*S Sb	22 55 09.0	-0.7
JSB	Shiboa	1.14	253	P Pg	22 55 02.3	-0.2
JSB				S Sb	22 55 15.9	-0.8
JIO	Ouri	1.15	2	P Pg	22 55 02.7	+0.1
JIO				S Sn	22 55 16.9	-0.7
JOU	Okura	1.17	335	P Pg	22 55 02.9	-0.1
JOU				S Sn	22 55 17.7	-0.4
JFY	Yanaizu	1.27	275	P Pn	22 55 03.3	-0.4
JFY				S Sb	22 55 18.5	-1.7
JYS	Shirataka	1.33	314	P Pb	22 55 04.9	-0.3
JYS				*e*S Sb	22 55 21.2	-0.9
MJAR	Matsushiro Arr	2.58	254	Pn Pn	22 55 22.8	+0.9
	2.1nn,0.3s,baz=76,slow=14,SNR=17					
MJAR				Sn Sn	22 55 55.1	+2.0
	2.4nn,0.3s,baz=75,slow=33,SNR=5.9					
MJAR				LR LR	22 56 09.0	
	comp=Z,20nm,21.4s,baz=80,slow=34					
MAT	Matsushiro	2.58	254	P Pn	22 55 22.4	+0.5
MAT				S Sn	22 55 53.8	+0.7
JHJ	Hachijo jima 2	4.36	197	Pn Pn	22 55 46.6	+0.4
	7.2nn,0.3s,baz=85,slow=19,SNR=3.3					
JHJ				Sn Sn	22 56 35.5	-1.2
	5.1nn,0.3s,baz=72,slow=19,SNR=2.9					
USRK	Ussuriysk Ar.	9.85	317	Pn Pn	22 57 03.2	+1.6
	0.3nn,0.3s,baz=136,slow=21,SNR=5.5					
KSRS	Korea Array	10.64	275	LR LR	23 01 18.8	
	comp=Z,15nn,18.1s,baz=330,slow=37					
MA2	Magadan	23.11	12	LR LR	23 09 50.5	
	comp=Z,14nn,20.1s,baz=53,slow=40					
KURBB	Kurchatov Arra	45.76	308	P P	23 03 00.1	-1.1
	0.5nn,0.5s,baz=84,slow=8.2,SNR=5.1					
WRA	Warramunga Arr	57.32	188	P P	23 04 27.4	-0.6
	0.2nn,0.5s,baz=5.5,slow=7.3,SNR=6.5					

ISCJB ***11*** *23:03:07.3±0.4, 38.06N±0.04×71.35E±0.06, h10km, mb3.7/11, MS2.8/3, Error ellipse: s-maj=7.1km s-min=5.3km az=137.8*

IDC ***11*** *23:03:07.4±1.0, 38.06N×71.49E, h0km, mb3.8/11, mb1 3.9/16, mb1mx3.7/63, mbtmp3.8/16, ML3.1/6, MS2.7/5, Ms1 2.8/5, ms1mx2.5/43, Error ellipse: s-maj=21.9km s-min=13.3km az=146.0*

NNC ***11*** *23:03:09.9±1.4, 38.08N×71.35E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=18.8km s-min=8.0km az=153.0*

ISC 11 23:03:09.2±0.5, 38.09N±0.04×71.32E±0.05, h10km, n44, σ1.78/48, mb3.6/11, MS2.8/3, 8C-10D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
SFK	Sufi-Kurgan	2.56	41	⇓Pn Pn	23 03 52.8	+1.8
	154nn,0.4s					
SFK				⇑Sn Sb	23 04 26.0	-1.0
	211nn,0.8s					
KSH	Kashi	3.90	67	Pn Pn	23 04 09.9	+0.6
KSH				Sn Sn	23 04 53.7	-1.5
KSH				smax smax		
	comp=N,720nm,1.0s					
KSH				smax smax		
	comp=E,770nm,0.7s					
CEP	Cherat	4.28	173	P Pb	23 04 24.1	-0.6
CEP				S Sg	23 05 29.0	+2.3
CHCP	Chirah Chowk	4.69	160	P Pb	23 04 28.5	-3.1
KK31	Karatay Array	5.05	353	⇑Pn Pn	23 04 26.6	+1.7
	comp=E,7.2nn,0.6s,baz=176,slow=13,SNR=29					
KK31				⇑Pg Pg	23 04 46.0	+0.2
	comp=E,7.5nn,0.5s,baz=171,slow=14,SNR=5.3					
KK31				⇑Lg Lg	23 05 37.4	
	comp=E,46nm,0.8s					
AAK	Ala-Archa	5.15	27	Pn Pn	23 04 28.2	+1.7
	comp=E,1.0nn,0.3s,baz=193,slow=9.2,SNR=20					
AAK				Sn Sn	23 05 21.0	-5.0
	comp=E,1.4nn,0.3s,baz=205,slow=17,SNR=2.3					
AAK				Lg Lg	23 05 50.4	
	comp=E,1.0nn,0.3s,baz=319,slow=23,SNR=3.6					
AAK				LR LR	23 05 55.2	
	comp=E,11nm,18.9s,baz=246,slow=33					
AAK	Ala-Archa	5.15	27	⇓Pn Pn	23 04 28.3	+1.9
	comp=E,8.3nn,0.6s					
AAK				⇑Pg Pb	23 04 43.7	+4.3
	comp=E,15nn,0.6s					
AAK				⇓Lg Lg	23 05 48.2	
	comp=E,40nm,0.8s					
THW	Thamme Wali	5.29	176	P Pb	23 04 36.8	-5.0
TKM2	Tokmak 2	5.82	33	⇓Pn Pn	23 04 37.8	+2.1
	comp=E,6.9nn,0.7s					
TKM2				⇑Lg Lg	23 06 13.4	
	comp=E,19nm,0.9s					
KNDC	Almaty	6.68	38	⇓Pn Pn	23 04 52.6	+5.2
	comp=E,16nm,0.7s					
KNDC				⇓Lg Lg	23 06 33.0	
	comp=E,56nm,1.2s					
MDOK	Medeo	6.68	39	⇓Pn Pn	23 04 50.6	+3.1
	comp=E,9.6nn,0.8s					
MDOK				⇓Lg Lg	23 06 31.6	
	comp=E,33nm,1.6s					
PDGK	Podgornoye	8.11	47	Pn Pn	23 05 08.1	+1.0
	comp=E,4.3nn,1.0s					
PDGK				⇑Lg Lg	23 06 16.1	
	comp=E,10nm,0.8s					
GEYT	Alibeck	10.42	273	Pn Pn	23 05 41.1	+2.4
	comp=E,0.9nn,0.3s,baz=99,slow=9.6,SNR=8.0					
GEYT				Sn Sn	23 07 32.6	-3.0
	comp=E,0.4nn,0.3s,baz=130,slow=13,SNR=6.9					
GEYT				LR LR	23 11 03.0	
	comp=E,51nn,18.0s,baz=335,slow=45					
MKAR	Makanchi Array	11.88	39	Pn Pn	23 05 59.3	+0.8
	comp=E,0.1nn,0.3s,baz=228,slow=12,SNR=28					
MKAR				Lg Lg	23 09 21.5	
	comp=E,0.1nn,0.3s,baz=232,slow=20,SNR=3.5					
MK31	Makanchi Array	11.88	39	P Pn	23 05 59.2	+0.7
	comp=E,5.5nn,0.8s,baz=218,slow=6.9,SNR=45					
KURBB	Kurchatov Arra	13.54	20	Pn Pn	23 06 19.9	-1.3
	comp=E,0.0nn,0.3s,baz=214,slow=12,SNR=2.5					
AB31	Akbulak array	13.85	327	P Pn	23 06 23.3	-2.2
	comp=E,0.6nn,0.5s,baz=23,slow=3.3,SNR=19					
PYUN	Piuthan	13.95	132	*e*P Pn	23 06 26.6	-0.5
	comp=E,9.8nn,0.5s					
DANN	Dangsing	14.22	129	*e*P Pn	23 06 31.1	+0.2
	comp=E,13nm,0.6s					
BVA0	Borovoye Array	14.95	358	⇓P Pn	23 06 42.2	+1.8
	comp=E,3.7nn,1.1s,baz=163,slow=11,SNR=16					
BVAR	Borovoye Array	14.95	358	Pn Pn	23 06 39.8	-0.6
	comp=E,0.2nn,0.3s,baz=149,slow=6.7,SNR=7.5					
BRVK	Borovoye	14.99	358	⇓P Pn	23 06 41.8	+0.8
	comp=E,5.0nn,1.4s					
AKTO	Aktyubinsk	15.56	327	Pn Pn	23 06 48.2	-0.3
	comp=E,0.1nn,0.3s,baz=122,slow=16,SNR=2.4					
AKTO				Sn Sn	23 09 38.3	-2.6
	comp=E,0.1nn,0.3s,baz=192,slow=20,SNR=3.5					
AKTO	Aktyubinsk	15.56	327	⇑P P	23 06 52.9	+0.1
	comp=E,6.6nn,0.8s					
KKN	Kakani	15.56	127	*e*P Pn	23 06 47.9	-1.0
	comp=E,9.0nn,0.6s					
DMN	Dan	15.58	128	*e*P Pn	23 06 47.9	-1.3
	comp=E,10nm,0.7s					
PKIN	Phulchoki	15.79	127	*e*P Pn	23 06 49.9	-1.9
	comp=E,5.3nn,0.5s					
GUN	Gumba	15.86	126	*e*P Pn	23 06 51.6	-1.2
	comp=E,23nm,0.8s					
JIRN	Jiri	16.23	125	*e*P Pn	23 06 55.9	-1.8
	comp=E,15nm,0.5s					
ZALV	Zalesovo Beam	18.37	26	P Pn	23 07 22.4	-1.4
	comp=E,2.2nn,0.3s,baz=222,slow=11,SNR=9.6					
SONM	Songino Array	27.24	58	P P	23 08 54.1	+0.6
	comp=E,0.2nn,0.6s,baz=273,slow=8.5,SNR=2.8					
CMAR	Chiang Mai Arr	31.02	121	LR LR	23 25 34.6	
	comp=E,12nn,18.3s,baz=20,slow=44					
FINES	FINESS Array B	36.32	325	P P	23 10 13.7	+1.0
	comp=E,1.8nn,0.6s,baz=112,slow=9.2,SNR=13					
ARCES	ARCESS Array B	39.78	337	P P	23 10 42.7	+0.8
	comp=E,4.6nn,0.9s,baz=110,slow=7.8,SNR=10					
HFS	Hagfors	41.99	321	P P	23 11 01.0	+0.9
	comp=E,3.1nn,0.6s,baz=110,slow=12,SNR=10					
NB2	NORSAR Subarra	43.28	322	P P	23 11 11.2	+0.5
	comp=Z,0.5nn,0.6s,baz=94,slow=8.6					
NOA	NORSAR Array B	43.28	322	P P	23 11 11.1	+0.4
	comp=Z,0.8nn,0.7s,baz=93,slow=8.0,SNR=4.4					
NOA				LR LR	23 30 13.4	
	comp=Z,23nm,20.6s,baz=305,slow=38					
KSRS	Korea Array	44.14	73	LR LR	23 32 03.7	
	comp=Z,13nm,21.8s,baz=335,slow=40					
TIXI	Tiksi	44.21	23	P P	23 11 17.1	-0.8
	comp=Z,2.4nn,0.6s,baz=279,slow=4.5,SNR=6.2					
ESDC	Sonseca Array	56.95	297	P P	23 12 55.4	+0.7
	comp=Z,0.3nn,0.6s,baz=45,slow=8.7,SNR=3.8					
TORD	Torodi Ar. Bea	66.02	268	P P	23 13 56.0	-0.2
	comp=Z,1.0nn,0.5s,baz=47,slow=5.6,SNR=15					
ILAR	Eielson Array	73.18	16	P P	23 14 38.6	-1.1
	comp=Z,0.5nn,0.7s,baz=348,slow=4.0,SNR=3.8					
YKA	Yellowknife Ar	79.65	3	P P	23 15 15.8	-0.6
	comp=Z,0.5nn,0.7s,baz=348,slow=6.0,SNR=8.1					
WRA	Warramunga Arr	82.61	122	P P	23 15 32.8	0.0
	comp=Z,0.3nn,0.7s,baz=325,slow=4.9,SNR=5.6					

ISCJB ***11*** *23:07:04.9±0.4, 40.41N±0.02×25.94E±0.03, h5km±4km, Error ellipse: s-maj=3.6km s-min=3.1km az=178.6*

ISK ***11*** *23:07:04.6, 40.41N×25.96E, h8km, ML2.0/11*

ATH ***11*** *23:07:05.2, 40.41N×25.92E, h17km±7km, ML1.7/3, Error ellipse: s-maj=7.9km s-min=0.9km az=306.0*

DDA ***11*** *23:07:06.6, 40.34N×26.07E, h7km±4km, ML2.5*

ISC 11 23:07:05.2±0.9, 40.41N±0.02×25.94E±0.02, h12km±8km, n32, σ0.42/45, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
GOKC	Gokceada-Canak	0.21	185	PG Pg	23 07 09.5	-0.2
GOKC				SG Sg	23 07 13.1	+0.4
GADA	Gvkgeada	0.22	189	PG Pg	23 07 09.9	0.0
SMTH	Samothraki Isl	0.32	282	P Pg	23 07 11.4	-0.3
SMTH				S Sg	23 07 16.2	+0.1
SMTH				AML AML	23 07 16.6	
	comp=E,531μm,0.1s					
SMTH				AML AML	23 07 17.1	
	comp=N,536μm,0.1s					
ENEZ	Enez	0.36	26	PG Pg	23 07 12.6	0.0
GELI	Tayfur-Gelibol	0.41	91	PG Pg	23 07 13.1	-0.2
ALN	Alexandroupoli	0.49	9	PG Pg	23 07 14.4	-0.6
ALN	Alexandroupoli	0.49	9	P Pg	23 07 14.8	-0.1
ALN				S Sg	23 07 22.0	+0.4
ALN				AML AML	23 07 23.5	
	comp=E,112μm,0.3s					
ALN				AML AML	23 07 23.8	
	comp=N,82μm,0.4s					
ERIK	Erikli-Kesan	0.51	59	PG Pg	23 07 14.8	-0.4
ERIK				SG Sg	23 07 22.1	+0.2
BOZC	Bozcaada	0.57	172	PG Pg	23 07 15.9	-0.5
BOZC	Bozcaada	0.57	172	*i* P Pg	23 07 16.1	-0.3
BOZC				IAML_P		
	comp=Z,827nm,0.1s					
LPK	Lapseki	0.62	93	PG Pg	23 07 17.2	-0.2
EZN	Ezine	0.65	153	PG Pg	23 07 17.2	-0.7
KESN	Edirne-Kesan	0.70	53	*i* P Pn	23 07 20.7	-0.7
KESN				IAML_P		
	comp=Z,437nm,0.1s					
LIA	Limnos Island	0.77	229	P Pg	23 07 19.7	-0.5
LIA				S Sg	23 07 30.5	+0.2
RDO	Rodhopi	0.80	337	PG Pg	23 07 20.1	-0.6
RDO	Rodhopi	0.80	337	P Pg	23 07 20.4	-0.3
RDO				S Sb	23 07 32.2	+0.3
RDO				AML AML	23 07 35.0	
	comp=N,115μm,0.1s					
RDO				AML AML	23 07 37.1	
	comp=E,116μm,0.1s					
BAYC	CANAKKALE_Bayr	0.81	145	*i* P Pg	23 07 20.7	-0.2
BAYC				*i* S Sg	23 07 31.6	+0.1
BAYC				IAML_P		
	comp=Z,765nm,0.2s					
THAS	Thassos island	0.95	282	P Pg	23 07 23.3	-0.3
THAS				S Sg	23 07 36.0	-0.1
SART	Tekirdag	0.98	73	*i* P Pn	23 07 25.1	+0.1
SART				*i* S Sn	23 07 38.5	-0.4
SART				IAML_P		
	comp=Z,572nm,0.2s					
KRBG	Karabiga-Canak	1.03	90	PG Pg	23 07 24.2	-1.0
PRK	Paraskevi	1.19	168	P Pn	23 07 28.1	+0.4
PRK				S Sn	23 07 44.0	+0.2
SIGR	SIGRI	1.20	183	P Pb	23 07 27.3	-0.5
SIGR				S Sg	23 07 43.4	-0.4
AYVA	Ayvalik	1.24	152	*i* P Pg	23 07 28.8	-0.3
AYVA				*i* S Sn	23 07 45.7	+0.6
AYVA				IAML_P		
	comp=Z,241nm,0.2s					
SBT4	Kumbag-Tekirda	1.28	70	PN Pb	23 07 29.3	+0.1
TKR	Tekirdag	1.34	64	PN Pn	23 07 29.8	-0.1
BALY	Balya	1.45	117	*i* P Pg	23 07 33.3	+0.3
BALY				*i* S Sb	23 07 50.8	+0.1
BALY				IAML_P		
	comp=Z,320nm,0.2s					
CRLT	Corlu	1.54	62	PN Pn	23 07 33.1	+0.5
EDRB	Edirne	1.56	23	PN Pn	23 07 32.8	-0.1
BALB	Balikesir	1.67	117	PN Pn	23 07 34.9	+0.5
STEP	BALIKESIR_Sava	1.71	126	*i* P Pn	23 07 34.8	-0.2
PLD	Plovdiv	1.94	332	PN Pn	23 07 38.9	+0.9
DURS	Dursunbey	2.10	112	*i* P Pn	23 07 41.0	+0.5

IDC ***11*** *23:12:58.6±0.6, 15.28S×173.77W, h0km, mb4.3/11, mb1 4.6/12, mb1mx4.2/33, mbtmp4.3/12, ML4.0/1, MS3.1/3, Ms1 3.2/3, ms1mx2.8/22, Error ellipse: s-maj=29.4km s-min=15.8km az=129.0*

NEIC ***11*** *23:13:04.7±1.7, 15.30S×173.87W, h38km±15km, mb4.4/7, Error ellipse: s-maj=11.8km s-min=6.9km az=144.0*

ISCJB ***11*** *23:13:09.0±0.5, 15.39S±0.09×173.9W±0.1, h94km, mb4.2/18, Error ellipse: s-maj=16.5km s-min=9.4km az=37.9*

ISC 11 23:13:11.0±0.6, 15.3S±0.1×174.0W±0.2, h94km, n56, σ0.76/52, mb4.3/18, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
NIUE	Niue	5.37	135	*e*Pn Pn	23 14 22.0	-6.6
NIUE				*e*Sn Sn	23 15 14.7	-14
RAO	Raoul Island	14.34	194	LR LR	23 21 07.2	
	comp=Z,2μm,20.6s,baz=174,slow=34					
DZM	Mont Dzumac	19.73	247	P P	23 17 32.8	-0.6
	0.4nn,0.3s,baz=78,slow=20,SNR=4.2					
DZM				LR LR	23 23 50.3	
	comp=Z,100nn,18.9s,baz=236,slow=33					
OUZ	Omahuta	22.75	207	*e*P P	23 18 03.9	-1.5
	1.9nn,0.6s					
PPT	Papeete	23.49	99	LR LR	23 25 55.5	
	comp=Z,28nn,18.0s,baz=144,slow=33					
URZ	Urewera	24.18	197	P P	23 18 16.4	-2.1
	4.5nn,0.4s,baz=5.6,slow=11,SNR=3.0					
BKZ	Black Stump Fm	25.20	198	*e*P P	23 18 26.1	-1.7
	5.4nn,1.3s					
THZ	Tophouse	28.69	201	*e*P P	23 18 58.6	-0.6
	2.8nn,0.5s					
OXZ	Oxford	30.38	200	*e*P P	23 19 12.9	-1.1
	15nn,0.9s					
ARMA	Armidale	34.93	239	*e*P P	23 19 53.4	-0.7
	6.5nn,1.1s					
TOO	Toolangi	42.10	230	*e*P P	23 20 54.9	+1.0
	14nn,0.9s					
STKA	Stephens Creek	43.61	240	P P	23 21 06.5	+0.3
	2.7nn,0.6s,baz=90,slow=14,SNR=3.4					
WB2	Warramunga Arr	49.33	257	*e*P P	23 21 50.6	-0.5
WRA	Warramunga Arr	49.34	257	P P	23 21 51.1	0.0
	6.2nn,0.5s,baz=91,slow=7.0,SNR=202					
WRA				PcP PcP	23 23 13.2	+0.6
	1.0nn,0.7s,baz=91,slow=4.0,SNR=4.7					
AS01	Alice Springs	49.58	252	*e*P P	23 21 52.9	0.0
AS31	Alice Springs	49.62	252	*e*P P	23 21 53.7	+0.4
	6.5nn,0.6s					
ASAR	Alice Springs	49.63	252	P P	23 21 53.5	+0.2
	24nn,0.6s,baz=87,slow=7.9,SNR=282					
VNDA	Vanda	63.40	186	P P	23 23 30.2	+0.1
	1.9nn,0.7s,baz=12,slow=7.0,SNR=9.4					
PETK	Petropavlovsk-	72.39	343	P P	23 24 27.0	+0.3
	5.0nn,0.9s,baz=150,slow=9.5,SNR=3.0					
PETK	Petropavlovsk-	72.39	343	P P	23 24 27.0	+0.3
PEA1	Petropavlovsk-	72.39	343	*e*P P	23 24 27.0	+0.3
NV01	Mina Array Sit	74.63	42	*e*P P	23 24 40.2	-0.1
NVAR	Mina Array Bea	74.63	42	P P	23 24 39.4	-1.0
	0.7nn,0.7s,baz=227,slow=12,SNR=4.9					
QSPA	South Pole Qui	74.72	180	*e*P P	23 24 41.5	+1.1
LTX	Lajitas	81.01	56	*e*P P	23 25 15.9	0.0
TXAR	Lajitas Array	81.01	56	P P	23 25 15.9	0.0
	0.4nn,0.7s,baz=207,slow=7.9,SNR=4.5					
ILAR	Eielson Array	82.47	11	P P	23 25 21.5	-1.1
	0.5nn,0.8s,baz=233,slow=5.4,SNR=7.1					
PDAR	Pinedale Array	82.56	42	P P	23 25 22.9	-1.0
	0.3nn,0.6s,baz=266,slow=2.6,SNR=2.9					
MAW	Mawson	87.70	199	P P	23 25 49.8	+1.0
	5.8nn,0.6s,baz=147,slow=7.1,SNR=6.8					
CMAR	Chiang Mai Arr	92.08	288	LR LR	00 08 07.9	
	comp=Z,6.6nn,18.2s,baz=185,slow=36					
BVAR	Borovoye Array	117.49	322	PKP PKPdf	23 31 44.9	-0.8
	0.2nn,0.4s,baz=100,slow=3.4,SNR=3.3					
DPC	Dobruska-Polom	144.08	349	*e*PKP PKPdf	23 32 35.0	-0.7
MORC	Moravsky Berou	144.38	347	*e*PKP PKPbc	23 32 35.3	+0.5
PRU	Pruhonice	144.74	350	*e*PKP PKPdf	23 32 37.9	+1.1
VRAC	Vranov	145.02	348	*e*PKP PKPdf	23 32 37.6	+0.3
KMBO	Kilima Mbogo	145.09	245	PKPbc PKPdf	23 32 39.2	+0.4
	0.7nn,0.4s,baz=85,slow=3.6,SNR=5.9					
JAVC	Velka Javorina	145.22	347	*e*PKP PKPab	23 32 39.3	+1.6
KRUC	Moravsky	145.30	348	*e*PKP PKPab	23 32 38.3	+0.4
MLR	Muntele Rosu	145.57	335	PKPbc PKPbc	23 32 39.1	+0.2
	1.7nn,0.5s,baz=194,slow=5.0,SNR=5.3					
KHC	Kasperske Hory	145.72	351	*e*PKP PKPdf	23 32 40.0	+0.5
KHC	Kasperske Hory	145.72	351	*e*PKP PKPab	23 32 39.9	+0.4
BR101	Keskin Array S	145.75	321	*e*PKPdf PKPbc	23 32 39.4	-0.2
BR131	Keskin Array S	145.75	321	*e*PKPdf PKPab	23 32 40.5	+0.4
BRTR	Keskin Array B	145.75	321	PKPbc PKPbc	23 32 39.4	-0.2
	4.3nn,0.7s,baz=100,slow=3.0,SNR=23					
GERES	GERESS Array

	8.6nm,0.6s,baz=141,slow=6.5,SNR=2.8						
ASAR	**Alice Springs**	**46.84**	**256**	P	**P**	**23 36 54.4**	**-0.9**
	2.3nm,0.5s,baz=96,slow=8.3,SNR=31						
ASAR				PcP	**PcP**	**23 38 24.8**	**-0.1**
	0.4nm,0.6s,baz=100,slow=4.3,SNR=2.7						
WRA	**Warramunga Arr**	**46.91**	**261**	P	**P**	**23 36 54.4**	**-1.4**
	1.1nm,0.4s,baz=95,slow=7.5,SNR=33						
WRA				PcP	**PcP**	**23 38 24.1**	**-1.1**
	0.4nm,0.6s,baz=90,slow=3.3,SNR=2.9						
MJAR	**Matsushiro Arr**	**71.12**	**322**	P	**P**	**23 39 41.3**	**-0.4**
	2.5nm,0.8s,baz=154,slow=7.0,SNR=6.0						
KURBB	**Kurchatov Arra**	**115.16**	**317**	PKP	**PKPdf**	**23 47 00.7**	**-1.5**
	0.2nm,0.6s,baz=91,slow=1.0,SNR=3.5						
BVAR	**Borovoye Array**	**120.09**	**320**	PKP	**PKPdf**	**23 47 10.9**	**-0.7**
	0.6nm,0.4s,baz=109,slow=1.8,SNR=14						
BRTR	**Keskin Array B**	**148.09**	**315**	PKPbc	**PKPdf**	**23 48 07.5**	**+3.6**
	0.5nm,0.6s,baz=116,slow=3.4,SNR=3.8						

*ATH **11** 23:33:57.0,40˚.40N×25˚.91E,h17km±5km,ML2.0/8,Error ellipse: s-maj=5.6km s-min=0.9km az=303.0*
*ISCJB **11** 23:33:56.8±0.3,40˚.41N±0˚.02×25˚.94E±0˚.02,h6km±3km, Error ellipse: s-maj=3.2km s-min=2.6km az=166.4*
*ISK **11** 23:33:56.3,40˚.43N×25˚.92E,h8km,ML2.7/22*
*THE **11** 23:33:57.2,40˚.39N×25˚.92E,h9km±1km,ML1.9/5,Error ellipse: s-maj=1.7km s-min=0.6km az=318.0*
*DDA **11** 23:33:57.2,40˚.40N×26˚.01E,h6km±3km,ML2.9*
*SOF **11** 23:33:58.5,40˚.55N×26˚.43E,h6km*
ISC 11 23:33:57.3±0.9,40˚.41N±0˚.02×25˚.93E±0˚.02,h12km±7km, n55,σ0s58/77,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GOKC	**Gokceada-Canak**	**0.21**	**182**	PG	**Pg**	**23 34 01.5**	**-0.3**
GOKC				SG	**Sg**	**23 34 05.0**	**+0.2**
GADA	**Gvkgeada**	**0.22**	**185**	PG	**Pg**	**23 34 01.9**	**0.0**
GADA				SG	**Sg**	**23 34 05.2**	**+0.1**
GADA	**Gvkgeada**	**0.22**	**185**	P	**Pg**	**23 34 01.8**	**-0.1**
GADA				S	**Sg**	**23 34 04.8**	**-0.3**
SMTH	**Samothraki Isl**	**0.31**	**282**	P	**Pg**	**23 34 03.3**	**-0.3**
SMTH				S	**Sg**	**23 34 08.0**	**+0.2**
SMTH				AML	AML	23 34 08.5	
	comp=N,509μm,0.4s						
SMTH				AML	AML	23 34 11.3	
	comp=E,297μm,0.2s						
SMTH	**Samothraki Isl**	**0.31**	**282**	P	**Pg**	**23 34 03.2**	**-0.3**
SMTH				S	**Sg**	**23 34 07.9**	**+0.2**
ENEZ	**Enez**	**0.37**	**28**	PG	**Pg**	**23 34 04.4**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.42**	**91**	PG	**Pg**	**23 34 05.2**	**-0.4**
ALN	**Alexandroupoli**	**0.50**	**11**	PG	**Pg**	**23 34 05.8**	**-1.2**
ALN	**Alexandroupoli**	**0.50**	**11**	P	**Pg**	**23 34 06.8**	**-0.3**
ALN				S	**Sg**	**23 34 14.5**	**+0.9**
ALN				AML	AML	23 34 15.4	
	comp=E,239μm,0.2s						
ALN				AML	AML	23 34 16.3	
	comp=N,176μm,0.4s						
ALN	**Alexandroupoli**	**0.50**	**11**	P	**Pg**	**23 34 06.8**	**-0.3**
ALN				S	**Sb**	**23 34 14.7**	**-0.5**
ERIK	**Erikli-Kesan**	**0.52**	**60**	PG	**Pg**	**23 34 06.8**	**-0.6**
ERIK				SG	**Sg**	**23 34 14.2**	**-0.1**
BOZC	**Bozcaada**	**0.57**	**170**	PG	**Pg**	**23 34 07.9**	**-0.6**
BOZC	**Bozcaada**	**0.57**	**170**	*i* P	**Pg**	**23 34 08.0**	**-0.5**
BOZC				*i* S	**Sg**	**23 34 15.9**	**-0.2**
BOZC				IAML_P			
	comp=Z,2μm,0.1s						
LPK	**Lapseki**	**0.64**	**93**	PG	**Pg**	**23 34 09.3**	**-0.4**
EZN	**Ezine**	**0.66**	**152**	PG	**Pg**	**23 34 09.1**	**-1.0**
EZN	**Ezine**	**0.66**	**152**	P	**Pg**	**23 34 09.3**	**-0.8**
EZN				S	**Sg**	**23 34 18.2**	**-0.5**
KESN	**Edirne-Kesan**	**0.71**	**54**	*i* P	**Pg**	**23 34 10.1**	**-1.0**
KESN				IAML_P			
	comp=Z,775nm,0.1s						
LIA	**Limnos Island**	**0.76**	**228**	P	**Pg**	**23 34 11.6**	**-0.5**
LIA				S	**Sb**	**23 34 22.8**	**-0.1**
LIA				AML	AML	23 34 24.6	
	comp=N,270μm,0.5s						
LIA				AML	AML	23 34 25.1	
	comp=E,288μm,0.6s						
LIA	**Limnos Island**	**0.76**	**228**	P	**Pg**	**23 34 11.5**	**-0.5**
LIA				S	**Sb**	**23 34 22.8**	**-0.1**
RDO	**Rodhopi**	**0.79**	**338**	PG	**Pg**	**23 34 10.6**	**-2.1**
RDO	**Rodhopi**	**0.79**	**338**	P	**Pg**	**23 34 11.9**	**-0.7**
RDO				S	**Sg**	**23 34 23.5**	**+0.4**
RDO				AML	AML	23 34 26.6	
	comp=N,172μm,0.5s						
RDO				AML	AML	23 34 30.8	
	comp=E,156μm,0.3s						
RDO	**Rodhopi**	**0.79**	**338**	P	**Pg**	**23 34 12.0**	**-0.7**
BAYC	**CANAKKALE_Bayr**	**0.82**	**144**	*i* P	**Pg**	**23 34 12.8**	**-0.4**
BAYC				*i* S	**Sg**	**23 34 23.5**	**-0.4**
BAYC				IAML_P			
	comp=Z,2μm,0.1s						
THAS	**Thassos island**	**0.94**	**282**	P	**Pg**	**23 34 15.0**	**-0.4**
THAS				S	**Sg**	**23 34 27.6**	**-0.1**
THAS				AML	AML	23 34 29.1	
	comp=E,121μm,0.4s						
THAS				AML	AML	23 34 29.4	
	comp=N,189μm,0.3s						
THAS	**Thassos island**	**0.94**	**282**	P	**Pg**	**23 34 15.1**	**-0.4**
THAS				S	**Sg**	**23 34 27.8**	**+0.1**
GPNR	**Gulpinar-Canak**	**0.96**	**170**	PG	**Pg**	**23 34 15.5**	**-0.4**
SART	**Tekirdag**	**1.00**	**73**	*i* P	**Pg**	**23 34 16.4**	**-0.1**
SART				IAML_P			
	comp=Z,2μm,0.2s						
KRBG	**Karabiga-Canak**	**1.05**	**90**	PG	**Pg**	**23 34 16.6**	**-0.9**
PRK	**Paraskevi**	**1.19**	**167**	P	**Pn**	**23 34 20.1**	**+0.3**
PRK				S	**Sg**	**23 34 35.4**	**-0.3**
PRK				AML	AML	23 34 37.5	
	comp=E,658μm,0.5s						
PRK				AML	AML	23 34 38.7	
	comp=N,486μm,0.5s						
SIGR	**SIGRI**	**1.20**	**183**	P	**Pg**	**23 34 19.3**	**-1.0**
SIGR				S	**Sb**	**23 34 35.7**	**+0.3**
SIGR				AML	AML	23 34 37.2	
	comp=N,386μm,0.6s						
SIGR				AML	AML	23 34 37.6	
	comp=E,364μm,0.4s						
SIGR	**SIGRI**	**1.20**	**183**	P	**Pg**	**23 34 19.3**	**-1.0**
SIGR				S	**Sb**	**23 34 35.7**	**+0.3**
KAVA	**Kavala**	**1.22**	**299**	P	**Pb**	**23 34 20.1**	**-0.3**
KAVA				S	**Sg**	**23 34 36.3**	**-0.4**
KAVA				AML	AML	23 34 37.6	
	comp=N,71μm,0.3s						
KAVA				AML	AML	23 34 38.1	
	comp=E,65μm,0.3s						
AYVA	**Ayvalik**	**1.25**	**152**	*i* P	**Pn**	**23 34 20.8**	**+0.3**
AYVA				*i* S	**Sb**	**23 34 36.5**	**-0.2**
AYVA				IAML_P			
	comp=Z,439nm,0.2s						
SBT4	**Kumbag-Tekirda**	**1.29**	**71**	PN	**Pn**	**23 34 20.9**	**-0.2**
KDZ	**Kurdzhali**	**1.30**	**343**	P	**Pg**	**23 34 24.1**	**+1.8**
TKR	**Tekirdag**	**1.35**	**64**	PN	**Pn**	**23 34 22.2**	**+0.1**
GONE	**Gonen-Balikesi**	**1.40**	**104**	PN	**Pn**	**23 34 22.8**	**+0.2**
BALY	**Balya**	**1.46**	**117**	*i* P	**Pn**	**23 34 23.9**	**+0.3**
BALY				IAML_P			
	comp=Z,679nm,0.2s						
EDC	**Edincik**	**1.48**	**92**	PN	**Pn**	**23 34 24.2**	**+0.4**
DKL	**Dikili**	**1.54**	**150**	PN	**Pn**	**23 34 25.1**	**+0.6**
CRLT	**Corlu**	**1.55**	**62**	PN	**Pn**	**23 34 24.9**	**+0.1**
EDRB	**Edirne**	**1.56**	**23**	PN	**Pn**	**23 34 24.8**	**-0.1**
DIM	**Dimitrovgrad**	**1.67**	**350**	P	**Pb**	**23 34 28.0**	**+0.1**
BALB	**Balikesir**	**1.69**	**116**	PN	**Pn**	**23 34 26.9**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.72**	**126**	*i* P	**Pb**	**23 34 29.2**	**+0.4**
STEP				*i* S	**Sn**	**23 34 49.1**	**0.0**
STEP				IAML_P			
	comp=Z,627nm,0.2s						
KCTX	**Karacabey (Bur**	**1.86**	**94**	PN	**Pn**	**23 34 29.4**	**+0.3**
SLVT	**Silivri**	**1.92**	**64**	PN	**Pn**	**23 34 30.0**	**+0.2**
PLD	**Plovdiv**	**1.93**	**332**	PN	**Pn**	**23 34 30.3**	**+0.3**
PLD	**Plovdiv**	**1.93**	**332**	P	**Pg**	**23 34 33.7**	**-0.6**
CHOS	**Chios island**	**2.02**	**177**	PN	**Pn**	**23 34 32.0**	**+0.7**
CTYL	**Yalikoy Yolu**	**2.08**	**58**	PN	**Pn**	**23 34 32.2**	**+0.1**
DURS	**Dursunbey**	**2.12**	**112**	*i* P	**Pb**	**23 34 36.6**	**+1.0**
DURS				IAML_P			
	comp=Z,574nm,0.3s						
CTKS	**Kestanelik-??a**	**2.13**	**66**	PN	**Pn**	**23 34 33.1**	**+0.5**
HORT	**Hortiatis**	**2.16**	**276**	PN	**Pn**	**23 34 33.4**	**+0.1**
MDNY	**Mudanya-Bursa**	**2.26**	**90**	PN	**Pn**	**23 34 34.9**	**+0.4**

SJA 11 23:42:03.4±0.5,28˚.48S×67˚.49W,h131km±4km,ML4.1, MW3.8,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VCA	**Vinchina**	**0.68**	**247**	*e*P	Pn	23 42 24.8	+0.8
VCA				*e*S	Sn	23 42 40.1	+0.5
VCA				IAML		23 42 44.5	
	comp=Z,314nm,0.3s						
AGUA	**GUANDACOL**	**1.34**	**221**	*e*P	Pn	23 42 30.7	+0.8
AGUA				*e*S	Sn	23 42 51.0	+0.9
CYA	**Choya**	**1.49**	**89**	*e*P	Pn	23 42 32.4	+0.9
CYA				*e*S	Sn	23 42 53.4	+0.5
CYA				IAML		23 42 54.5	
	comp=Z,70nm,0.7s						
AROD	**Rodeo**	**2.42**	**225**	*e*P	Pn	23 42 44.1	+1.2
ACCO	**Cerro Coronel**	**2.51**	**213**	*e*P	Pn	23 42 45.4	+1.3
ACCO				IAML		23 42 45.9	
	comp=Z,219μm,0.2s						
AMOG	**MOGNA**	**2.60**	**199**	*e*P	Pn	23 42 46.2	+1.2

*ISK **11** 23:42:30.3,39˚.67N×25˚.59E,h13km,ML2.4/12*
*ISCJB **11** 23:42:31.5±0.4,39˚.69N±0˚.02×25˚.63E±0˚.03,h9km±4km, Error ellipse: s-maj=4.1km s-min=3.5km az=40.0*
*ATH **11** 23:42:31.7,39˚.70N×25˚.61E,h20km±8km,ML2.1/3,Error ellipse: s-maj=8.6km s-min=1.0km az=235.0*
*THE **11** 23:42:31.9,39˚.71N×25˚.63E,h6km±2km,ML1.9/5,Error ellipse: s-maj=3.0km s-min=0.8km az=213.0*
*DDA **11** 23:42:34.2,39˚.71N×25˚.88E,h6km±3km,ML2.5*
ISC 11 23:42:31.7±0.9,39˚.69N±0˚.02×25˚.63E±0˚.02,h14km±9km, n41,σ0s51/58,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOZC	**Bozcaada**	**0.36**	**65**	PG	**Pg**	**23 42 38.7**	**-0.3**
BOZC				SG	**Sb**	**23 42 44.7**	**-0.7**
BOZC	**Bozcaada**	**0.36**	**65**	*i* P	**Pg**	**23 42 39.3**	**+0.4**
BOZC				*i* S	**Sg**	**23 42 43.8**	**-0.1**
BOZC				IAML_P			
	comp=Z,1μm,0.1s						
LIA	**Limnos Island**	**0.40**	**301**	P	**Pg**	**23 42 39.7**	**-0.1**
LIA				S	**Sg**	**23 42 45.8**	**+0.5**
LIA				AML	AML	23 42 51.0	
	comp=N,451μm,0.6s						
LIA				AML	AML	23 42 54.0	
	comp=E,330μm,0.5s						
LIA	**Limnos Island**	**0.40**	**301**	P	**Pg**	**23 42 39.7**	**-0.1**
LIA				S	**Sg**	**23 42 45.8**	**+0.5**
GPNR	**Gulpinar-Canak**	**0.45**	**121**	PG	**Pg**	**23 42 40.5**	**-0.2**
SIGR	**SIGRI**	**0.51**	**160**	PG	**Pg**	**23 42 40.5**	**-1.2**
SIGR				SG	**Sg**	**23 42 48.0**	**-0.5**
SIGR	**SIGRI**	**0.51**	**160**	P	**Pg**	**23 42 41.4**	**-0.4**
SIGR				S	**Sg**	**23 42 49.1**	**+0.6**
SIGR				AML	AML	23 42 49.5	
	comp=N,1197μm,0.5s						
SIGR				AML	AML	23 42 49.6	
	comp=E,864μm,0.4s						
SIGR	**SIGRI**	**0.51**	**160**	P	**Pg**	**23 42 41.6**	**-0.1**
SIGR				S	**Sg**	**23 42 48.9**	**+0.4**
EFSA	**Agios Efstrati**	**0.52**	**253**	P	**Pb**	**23 42 42.8**	**+0.2**
EFSA				S	**Sg**	**23 42 49.7**	**+0.8**
GADA	**Gvkgeada**	**0.54**	**22**	PG	**Pg**	**23 42 42.1**	**-0.3**
GADA	**Gvkgeada**	**0.54**	**22**	P	**Pg**	**23 42 42.0**	**-0.3**
EZN	**Ezine**	**0.55**	**76**	PG	**Pg**	**23 42 42.0**	**-0.5**
EZN	**Ezine**	**0.55**	**76**	P	**Pg**	**23 42 42.1**	**-0.5**
EZN				S	**Sg**	**23 42 50.0**	**+0.1**
GOKC	**Gokceada-Canak**	**0.55**	**23**	PG	**Pg**	**23 42 42.8**	**+0.2**
PRK	**Paraskevi**	**0.66**	**132**	P	**Pb**	**23 42 45.5**	**+0.4**
PRK				S	**Sb**	**23 42 54.7**	**+0.6**
PRK	**Paraskevi**	**0.66**	**132**	P	**Pb**	**23 42 45.5**	**+0.4**
PRK				S	**Sb**	**23 42 55.2**	**+1.0**
BAYC	**CANAKKALE_Bayr**	**0.71**	**86**	*i* P	**Pb**	**23 42 45.9**	**0.0**
BAYC				IAML_P			
	comp=Z,1μm,0.1s						
SMTH	**Samothraki Isl**	**0.78**	**354**	P	**Pg**	**23 42 46.7**	**-0.3**
SMTH				S	**Sb**	**23 42 58.2**	**+0.5**
SMTH	**Samothraki Isl**	**0.78**	**354**	P	**Pg**	**23 42 46.6**	**-0.3**
AYVA	**Ayvalik**	**0.90**	**115**	*i* P	**Pb**	**23 42 49.6**	**+0.5**
AYVA				IAML_P			
	comp=Z,684nm,0.1s						
GELI	**Tayfur-Gelibol**	**0.96**	**42**	PG	**Pb**	**23 42 49.9**	**-0.2**
LPK	**Lapseki**	**1.10**	**51**	PN	**Pb**	**23 42 52.5**	**-0.1**
ENEZ	**Enez**	**1.12**	**21**	PN	**Pb**	**23 42 52.5**	**-0.3**
THAS	**Thassos island**	**1.15**	**323**	P	**Pb**	**23 42 53.3**	**-0.1**
THAS				S	**Sb**	**23 43 08.2**	**-0.1**
THAS				AML	AML	23 43 10.7	
	comp=N,167μm,0.2s						
THAS				AML	AML	23 43 11.9	
	comp=E,146μm,0.3s						
THAS	**Thassos island**	**1.15**	**323**	P	**Pb**	**23 42 53.3**	**-0.1**
THAS				S	**Sb**	**23 43 08.3**	**+0.1**
DKL	**Dikili**	**1.16**	**122**	PN	**Pn**	**23 42 52.9**	**-0.7**
ERIK	**Erikli-Kesan**	**1.19**	**34**	PN	**Pn**	**23 42 53.7**	**-0.2**
ALN	**Alexandroupoli**	**1.25**	**15**	PN	**Pn**	**23 42 53.8**	**-0.9**
ALN	**Alexandroupoli**	**1.25**	**15**	P	**Pn**	**23 42 54.8**	**+0.1**
ALN				S	**Sg**	**23 43 12.1**	**+0.2**
ALN	**Alexandroupoli**	**1.25**	**15**	P	**Pn**	**23 42 54.7**	**0.0**
ALN				S	**Sg**	**23 43 11.7**	**-0.2**
CHOS	**Chios island**	**1.34**	**166**	PN	**Pn**	**23 42 55.3**	**-0.8**
CHOS	**Chios island**	**1.34**	**166**	P	**Pn**	**23 42 56.9**	**+0.8**
KESN	**Edirne-Kesan**	**1.39**	**35**	*i* P	**Pg**	**23 42 59.6**	**+1.2**
KESN				IAML_P			
	comp=Z,163nm,0.2s						
AOS	**Alonnisos**	**1.45**	**250**	PN	**Pn**	**23 42 56.6**	**-1.0**
RDO	**Rodhopi**	**1.46**	**357**	PN	**Pn**	**23 42 57.1**	**-0.5**
KRBG	**Karabiga-Canak**	**1.46**	**61**	PN	**Pn**	**23 42 57.5**	**-0.1**
BALY	**Balya**	**1.53**	**88**	*i* P	**Pb**	**23 42 59.6**	**-0.3**
BALY				IAML_P			
	comp=Z,204nm,0.2s						
SART	**Tekirdag**	**1.55**	**49**	*i* P	**Pb**	**23 43 00.8**	**+0.6**
SART				*i* S	**Sg**	**23 43 21.3**	**-0.4**
SART				IAML_P			
	comp=Z,456nm,0.2s						
STEP	**BALIKESIR_Sava**	**1.64**	**100**	*i* P	**Pb**	**23 43 01.7**	**-0.1**
STEP				IAML_P			
	comp=Z,144nm,0.1s						
BALB	**Balikesir**	**1.73**	**91**	PN	**Pn**	**23 43 01.2**	**-0.2**
EDRB	**Edirne**	**2.31**	**21**	PN	**Pn**	**23 43 09.9**	**+0.5**

*SOME **12** 00:11:00.8,44˚.08N×85˚.53E,h5km*
*NNC **12** 00:11:01.4±1.6,44˚.12N×85˚.51E,h0km,mb3.5,mpv3.3, Error ellipse: s-maj=11.9km s-min=5.6km az=126.0*
ISC 12 00:10:59.4±2.6,44˚.05N±0˚.09×85˚.54E±0˚.10,h10km,n32, σ2s14/33,3C-4D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**3.43**	**352**	Pg	**Pg**	**00 12 03.8**	**-1.3**
	1.5nm,0.3s						
ZSN				Lg	Lg	00 12 49.0	
	5.2nm,0.5s						
ZSN	**Zaisan**	**3.43**	**352**	*e*P	**Pg**	**00 12 03.8**	**-1.3**
	1.5nm,0.3s						
ZSN				*e*S	**Sg**	**00 12 49.0**	**-0.6**
	5.2nm,0.5s						
MK31	**Makanchi Array**	**3.57**	**321**	⇓Pg	**Pb**	**00 12 03.8**	**+1.1**
	1.4nm,0.3s,baz=137,slow=15,SNR=30						
MK31				Lg	Lg	00 12 54.6	
	3.8nm,0.4s,baz=138,slow=27,SNR=9.7						
MAKZ	**Makanchi**	**3.73**	**319**	⇑Pg	**Pb**	**00 12 07.4**	**+2.1**
	1.7nm,0.3s						
MAKZ				⇑Lg	Lg	00 13 00.3	
	5.3nm,0.5s						
KTMS	**Ketmen**	**3.81**	**263**	Pg	**Pb**	**00 12 10.3**	**+3.6**
	2.7nm,0.1s						
KTMS				Lg	Lg	00 12 60.0	
	12nm,0.4s						
KTMS	**Ketmen**	**3.81**	**263**	*e*P	**Pb**	**00 12 10.3**	**+3.6**
	2.7nm,0.1s						
KTMS				*e*S	**Sg**	**00 12 60.0**	**-1.7**
	12nm,0.4s						
DJR	**Jarkent**	**4.15**	**276**	Pg	**Pg**	**00 12 17.5**	**-1.3**
	0.7nm,0.3s						
DJR				Lg	Lg	00 13 12.6	
	5.1nm,0.3s						
DJR	**Jarkent**	**4.15**	**276**	*e*P	**Pg**	**00 12 17.5**	**-1.3**
	0.7nm,0.3s						
DJR				*e*S	**Sg**	**00 13 12.6**	**+0.1**
	5.1nm,0.3s						
PDGK	**Podgornoye**	**4.45**	**263**	Pg	**Pg**	**00 12 23.2**	**-1.3**
	1.1nm,0.3s						
PDGK				Lg	Lg	00 13 21.9	
	4.1nm,0.6s						
PDGK	**Podgornoye**	**4.45**	**263**	⇓Lg	Lg	00 13 20.6	

	4.2nm,0.5s						
SHLS	**Shalkode**	**4.50**	**261**	Pg	**Pb**	**00 12 17.2**	**-1.4**
	4.6nm,0.5s						
SHLS				Lg	Lg	00 13 12.1	
	20nm,0.3s						
SHLS	**Shalkode**	**4.50**	**261**	*e*P	**Pb**	**00 12 17.2**	**-1.4**
	4.6nm,0.5s						
SHLS				*e*S	**Sb**	**00 13 12.1**	**-0.9**
	20nm,0.3s						
KAPS	**Kapalarasan**	**4.58**	**288**	Pg	**Pg**	**00 12 25.5**	**-1.6**
	2.4nm,0.4s						
KAPS				Lg	Lg	00 13 26.1	
	8.2nm,0.5s						
KAPS	**Kapalarasan**	**4.58**	**288**	*e*P	**Pg**	**00 12 25.5**	**-1.6**
	2.4nm,0.4s						
KAPS				*e*S	**Sg**	**00 13 26.1**	**-0.3**
	8.2nm,0.5s						
UZB	**Uzynbulak**	**4.82**	**261**	Pg	**Pb**	**00 12 28.8**	**+4.8**
	1.8nm,0.2s						
UZB				Lg	Lg	00 13 31.7	
	6.7nm,0.6s						
UZB	**Uzynbulak**	**4.82**	**261**	*e*P	**Pb**	**00 12 28.8**	**+4.8**
	1.8nm,0.2s						
UZB				*e*S	**Sg**	**00 13 31.7**	**-2.4**
	6.7nm,0.6s						
MNBS	**Baschi**	**5.14**	**273**	Pg	Pb	00 12 34.7	+5.2
	2.2nm,0.3s						
MNBS				Lg	Lg	00 13 42.1	
	9.2nm,0.3s						
MNBS	**Baschi**	**5.14**	**273**	*e*P	Pb	00 12 34.7	+5.2
	2.2nm,0.3s						
MNBS				*e*S	**Sg**	**00 13 42.1**	**-2.5**
	9.2nm,0.3s						
TDK	**Taldyqorghan**	**5.19**	**283**	Pg	**Pg**	**00 12 37.2**	**-1.5**
	16nm,0.2s						
TDK				Lg	Lg	00 13 46.4	
	29nm,0.5s						
TDK	**Taldyqorghan**	**5.19**	**283**	*e*P	**Pg**	**00 12 37.2**	**-1.5**
	16nm,0.2s						
TDK				*e*S	**Sg**	**00 13 46.4**	**+0.5**
	29nm,0.5s						
ARXS	**Arharly**	**5.55**	**274**	Pg	**Pg**	**00 12 44.1**	**-1.6**
	1.6nm,0.3s						
ARXS				Lg	Lg	00 13 58.4	
	8.8nm,0.6s						
ARXS	**Arharly**	**5.55**	**274**	*e*P	**Pg**	**00 12 44.1**	**-1.6**
	1.6nm,0.3s						
ARXS				*e*S	**Sg**	**00 13 58.4**	**+0.7**
	8.8nm,0.6s						
MDOK	**Medeo**	**6.23**	**265**	Lg	Lg	00 14 19.1	
	2.9nm,0.7s						
MDOK	**Medeo**	**6.23**	**265**	Pg	Pb	00 12 54.9	+6.9
	2.6nm,0.7s						
MDOK				Lg	Lg	00 14 16.7	
	2.0nm,0.4s						
MDOK	**Medeo**	**6.23**	**265**	*e*P	Pb	00 12 54.9	+6.9
	2.6nm,0.7s						
MDOK				*e*S	**Sg**	**00 14 16.7**	**-2.6**
	2.0nm,0.4s						
KTBS	**Karatobe**	**6.41**	**270**	Pg	**Pg**	**00 13 00.9**	**-1.2**
	0.8nm,0.6s						
KTBS				Lg	Lg	00 14 27.3	
	5.4nm,0.3s						
KTBS	**Karatobe**	**6.41**	**270**	*e*P	**Pg**	**00 13 00.9**	**-1.2**
	0.8nm,0.6s						
KTBS				*e*S	**Sg**	**00 14 27.3**	**+2.2**
	5.4nm,0.3s						
KUU	**Kurty**	**6.64**	**272**	Pg	Pg	00 13 03.3	-3.2
	0.6nm,0.4s						
KUU				Lg	Lg	00 14 31.3	
	2.3nm,0.3s						
KUU	**Kurty**	**6.64**	**272**	*e*P	Pg	00 13 03.3	-3.2
	0.5nm,0.5s						
KUU				*e*S	**Sg**	**00 14 31.1**	**-1.4**
	3.2nm,0.5s						
KURBB	**Kurchatov Arra**	**8.12**	**327**	⇓Lg	Lg	00 15 18.2	
	14nm,0.8s						
KURK	**Kurchatov**	**8.15**	**327**	⇑Lg	Lg	00 15 18.3	
	2.6nm,0.6s						
OTUK	**Ortayu**	**10.07**	**299**	⇓Lg	Lg	00 16 16.8	
	1.2nm,0.7s						

IDC 12 00:16:25.6±8.4,21˚.62N×143˚.09E,h323km±87km,mb3.1/9, mb1 3.3/9,mb1mx2.9/40,mbtmp3.8/9,Error ellipse: s-maj=28.5km s-min=19.0km az=87.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLR	**Kul'dur**	**29.00**	**345**	P	P	00 21 56.0	-0.1
	0.9nm,0.5s,baz=148,slow=9.5,SNR=4.8						
WRA	**Warramunga Arr**	**42.18**	**192**	P	P	00 23 47.5	-0.2
	0.3nm,0.8s,baz=14,slow=9.2,SNR=4.5						
MKAR	**Makanchi Array**	**54.69**	**313**	P	P	00 25 22.2	+0.1
	0.3nm,0.8s,baz=89,slow=8.5,SNR=3.1						
KURBB	**Kurchatov Arra**	**57.53**	**317**	P	P	00 25 41.9	0.0
	0.5nm,0.5s,baz=93,slow=7.8,SNR=5.7						
ILAR	**Eielson Array**	**62.15**	**27**	P	P	00 26 12.7	-0.2
	0.1nm,0.4s,baz=272,slow=5.3,SNR=3.5						
BVAR	**Borovoye Array**	**62.68**	**320**	P	P	00 26 16.7	+0.1
	0.8nm,0.3s,baz=99,slow=8.0,SNR=13						
YKA	**Yellowknife Ar**	**76.57**	**28**	P	P	00 27 41.2	+0.6
	0.3nm,0.5s,baz=291,slow=5.7,SNR=4.5						
ARCES	**ARCESS Array B**	**78.97**	**341**	P	P	00 27 53.5	-0.1
	6.3nm,0.8s,baz=46,slow=7.0,SNR=4.1						
FINES	**FINESS Array B**	**83.22**	**334**	P	P	00 28 15.1	-0.9
	0.9nm,0.5s,baz=77,slow=4.3,SNR=6.3						

*HEL **12** 00:17:12.1,67˚.89N×19˚.97E,h0km,ML1.7,Explosion*
**

KEV	**Kevo**	**3.13**	**49**	*e*S	Sn	00 18 42.6	+1.1
KEV				MSG		00 18 45.1	
	comp=Z,1.8nm,0.2s						
KU6	**Riekki**	**4.22**	**111**	*e*PG	Pb	00 18 28.9	+0.7

UPP 12 00:17:17.2±0.1, 67°90N×20°16E, h0km, ML1.9, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.09**	**51**	P	Pg	00 17 19.1	+0.2
KUA				S	Sg	00 17 20.7	+0.7
RATU	**Laukkuluspa**	**0.23**	**251**	P	Pg	00 17 21.8	+0.2
NIKU	**Nikkaluokta**	**0.42**	**266**	P	Pg	00 17 25.4	+0.1
LANU	**Lannavaara**	**0.71**	**77**	P	Pg	00 17 30.6	-0.1
SALU	**Saltoluokta**	**0.82**	**231**	P	Pg	00 17 32.3	-0.5

*ISCJB **12** 01:10:42.2±0.4, 20°59S±0°07×178°11W±0°07, h550km, mb4.4/31, Error ellipse: s-maj=10.4km s-min=7.7km az=146.0*
*NEIC **12** 01:10:43.1±0.8, 20°63S×178°03W, h557km±10km, mb4.3/7, Error ellipse: s-maj=11.0km s-min=7.4km az=159.0*
*IDC **12** 01:10:44.0±2.9, 20°68S×178°03W, h563km±32km, mb3.9/18, mb1 4.0/20, mb1mx3.7/42, mbtmp4.8/20, Error ellipse: s-maj=19.2km s-min=16.0km az=161.0*

ISC 12 01:10:42.6±0.5, 20°79S±0°10×178°02W±0°08, h550km, n75, σ1°27/82, mb4.7/31, 12C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.81**	**79**	*e*P	**P**	**01 12 38.0**	**-0.5**
DZM	**Mont Dzumac**	**14.52**	**262**	P	**P**	**01 13 47.8**	**+0.4**
	0.5nm,0.3s,baz=86,slow=18,SNR=4.9						
OUZ	**Omahuta**	**16.15**	**205**	*e*P	**P**	**01 14 06.1**	**+2.6**
	31nm,1.3s						
MXZ	**Matakaoa Point**	**17.01**	**190**	*e*P	**P**	**01 14 12.9**	**+1.6**
	34nm,0.9s						
URZ	**Urewera**	**17.91**	**193**	P	**P**	**01 14 19.5**	**+0.1**
	5.1nm,0.3s,baz=292,slow=2.6,SNR=18						
URZ				S	**S**	**01 17 12.1**	**-3.9**
	0.2nm,0.3s,baz=356,slow=19,SNR=6.0						
URZ	**Urewera**	**17.91**	**193**	*e*P	**P**	**01 14 20.2**	**+0.7**
	29nm,0.5s						
URZ				S	**S**	**01 17 12.1**	**-3.9**
BKZ	**Black Stump Fm**	**18.91**	**193**	*e*P	**P**	**01 14 30.4**	**+1.7**
	7.8nm,0.9s						
THZ	**Tophouse**	**22.27**	**198**	*e*P	**P**	**01 15 01.7**	**+2.7**
	49nm,1.6s						
EIDS	**Eidsvold**	**28.75**	**255**	*e*P	**P**	**01 15 57.2**	**+0.9**
	7.7nm,0.6s						
CTA	**Charters Tower**	**33.44**	**265**	P	**P**	**01 16 37.6**	**+1.0**
	41nm,0.6s,baz=91,slow=11,SNR=115						
CTAO	**Charters Tower**	**33.44**	**265**	*e*P	**P**	**01 16 37.3**	**+0.8**
PMG	**Port Moresby**	**35.39**	**283**	P	**P**	**01 16 53.0**	**+0.1**
	24nm,0.8s,baz=113,slow=6.5,SNR=8.7						
PMG	**Port Moresby**	**35.39**	**283**	*e*P	**P**	**01 16 52.4**	**-0.5**
COEN	**Coen**	**37.58**	**274**	*e*P	**P**	**01 17 10.9**	**-0.1**
	20nm,0.8s						
STKA	**Stephens Creek**	**37.64**	**244**	P	**P**	**01 17 12.8**	**+1.6**
	2.9nm,0.5s,baz=82,slow=11,SNR=10						
STKA	**Stephens Creek**	**37.64**	**244**	*e*P	**P**	**01 17 12.3**	**+1.1**
	12nm,1.9s						
JAY	**Jayapura**	**44.12**	**289**	P	**P**	**01 18 03.1**	**+0.1**
	74nm,0.6s,baz=144,slow=4.8,SNR=42						
AS01	**Alice Springs**	**44.39**	**257**	*e*P	**P**	**01 18 04.7**	**-0.3**
AS31	**Alice Springs**	**44.43**	**257**	*e*P	**P**	**01 18 05.3**	**+0.1**
	6.0nm,0.7s						
ASAR	**Alice Springs**	**44.43**	**257**	P	**P**	**01 18 06.0**	**+0.8**
	28nm,0.8s,baz=98,slow=7.8,SNR=200						
ASAR				PcP	**PcP**	**01 19 37.7**	**+0.7**
	1.9nm,0.5s,baz=109,slow=3.6,SNR=6.7						
ASAR				S	**S**	**01 23 59.5**	**-1.1**
	4.0nm,1.0s,baz=95,slow=16,SNR=17						
WRAB	**Tennant Creek**	**44.53**	**262**	*e*P	**P**	**01 18 05.5**	**-0.6**
WRA	**Warramunga Arr**	**44.54**	**262**	P	**P**	**01 18 06.1**	**0.0**
	12nm,0.6s,baz=97,slow=8.1,SNR=197						
WRA				PcP	**PcP**	**01 19 36.8**	**-0.6**
	1.0nm,0.7s,baz=90,slow=3.4,SNR=2.7						
WRA				S	**S**	**01 23 59.1**	**-3.0**
	0.8nm,0.8s,baz=98,slow=12,SNR=4.8						
FORT	**Forrest**	**49.16**	**247**	*e*P	**P**	**01 18 40.5**	**-0.2**
	60nm,1.4s						
FAKI	**Fak Fak**	**51.54**	**283**	*e*P	**P**	**01 18 57.3**	**-1.1**
	38nm,1.3s						
SIJI	**Sorong**	**53.29**	**285**	P	**P**	**01 19 10.9**	**0.0**
	64nm,0.7s,baz=93,slow=6.9,SNR=25						
SOEI	**Soe**	**56.49**	**272**	*e*P	**P**	**01 19 32.9**	**-0.5**
	52nm,0.8s						
MJAR	**Matsushiro Arr**	**70.43**	**324**	P	**P**	**01 21 00.7**	**-1.2**
	5.3nm,0.5s,baz=167,slow=6.0,SNR=16						
MAT	**Matsushiro**	**70.43**	**324**	P	**P**	**01 21 00.8**	**-1.1**
LEM	**Lembang**	**73.01**	**269**	P	**P**	**01 21 17.8**	**+0.2**
	15nm,0.5s,baz=142,slow=20,SNR=3.8						
TPUB	**Ta-pu**	**74.12**	**303**	*e*P	**P**	**01 21 22.0**	**-1.5**
	35nm,0.9s						
PETK	**Petropavlovsk-**	**76.55**	**345**	P	**P**	**01 21 34.9**	**-1.4**
	1.9nm,0.8s,baz=166,slow=7.1,SNR=4.8						
KSRS	**Korea Array**	**77.09**	**319**	P	**P**	**01 21 39.1**	**-0.5**
	2.7nm,0.6s,baz=125,slow=5.6,SNR=8.7						
KSAR	**Wonju Array Be**	**77.11**	**319**	P	**P**	**01 21 39.1**	**-0.6**
USRK	**Ussuriysk Ar.**	**79.19**	**326**	P	**P**	**01 21 51.1**	**+0.4**
	5.5nm,0.8s,baz=129,slow=2.5,SNR=18						
YBH	**Yreka Blue Hor**	**80.53**	**39**	P	**P**	**01 21 58.3**	**+0.4**
	4.3nm,0.7s,baz=48,slow=5.4,SNR=9.4						
NV01	**Mina Array Sit**	**81.25**	**43**	*e*P	**P**	**01 22 01.4**	**-0.5**
NVAR	**Mina Array Bea**	**81.25**	**43**	P	**P**	**01 22 02.2**	**+0.3**
	2.0nm,0.8s,baz=217,slow=8.1,SNR=8.8						
B08A	**Colville Reser**	**86.48**	**35**	*e*P	**P**	**01 22 26.5**	**-0.7**
MNTX	**Cornudas Mount**	**86.94**	**55**	*e*P	**P**	**01 22 29.7**	**0.0**
	1.4nm,0.8s						
TXAR	**Lajitas Array**	**87.23**	**57**	P	**P**	**01 22 32.2**	**+0.9**
	1.4nm,0.9s,baz=216,slow=5.6,SNR=11						
PBKT	**Sadao Pong**	**87.69**	**289**	P	**P**	**01 22 37.2**	**+3.7**
XAN	**Xi'an**	**88.29**	**307**	P	**P**	**01 22 36.6**	**+0.5**
XAN				pP	PcP	01 22 42.1	+4.9
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,63nm,4.8s						
PDAR	**Pinedale Array**	**89.19**	**43**	P	**P**	**01 22 40.0**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=188,slow=2.2,SNR=9.6						
HHC	**Hu-ho-hao-te**	**89.54**	**314**	*e*P	**P**	**01 22 42.9**	**+1.1**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,250nm,6.4s						
CMAR	**Chiang Mai Arr**	**90.19**	**290**	P	**P**	**01 22 46.1**	**+1.0**
	comp=Z,2.8nm,0.6s,baz=124,slow=2.7,SNR=18						
CMMT	**Chiang Mai**	**90.32**	**290**	P	**P**	**01 22 47.2**	**+1.4**
	comp=Z,12nm,1.0s						
CHTO	**Chiang Mai**	**90.32**	**290**	*e*P	**P**	**01 22 46.3**	**+0.6**
	comp=Z,2.1nm,0.6s						
CHTO	**Chiang Mai**	**90.32**	**290**	P	**P**	**01 22 47.3**	**+1.5**
	comp=Z,52nm,1.1s						
SONM	**Songino Array**	**95.96**	**319**	P	**P**	**01 23 11.0**	**0.0**
	comp=Z,0.5nm,1.0s,baz=104,slow=6.1,SNR=2.6						
ZALV	**Zalesovo Beam**	**110.71**	**321**	PKiKP	**PKiKP**	**01 28 11.7**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=146,slow=2.8,SNR=3.4						
MKAR	**Makanchi Array**	**111.38**	**313**	PKiKP	**PKiKP**	**01 28 13.4**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=86,slow=0.4,SNR=8.5						
ARU	**Arti**	**125.43**	**325**	*e*PKPdf	**PKPdf**	**01 28 40.4**	**-0.6**
ARCES	**ARCESS Array B**	**129.21**	**350**	PKP	**PKPdf**	**01 28 47.8**	**-0.1**
	comp=Z,3.6nm,0.9s,baz=72,slow=2.9,SNR=3.7						
FINES	**FINESS Array B**	**136.05**	**344**	PKhKP	PKPpre	01 28 47.4	
	comp=Z,2.1nm,0.9s,baz=75,slow=1.6,SNR=2.1						
FINES				PKP	**PKPdf**	**01 28 58.6**	**-2.3**
	comp=Z,2.6nm,1.0s,baz=57,slow=5.1,SNR=4.2						
AKASG	**Malin Array Be**	**143.26**	**331**	PKP	PKPab	01 29 11.2	-1.2
	comp=Z,3.5nm,0.6s,baz=43,slow=4.3,SNR=25						
KIEV	**Kiev**	**143.27**	**331**	*e*PKPdf	PKPab	01 29 11.0	-1.3
LEOM	**Leova**	**146.61**	**326**	*i*P	**PKPbc**	**01 29 22.7**	**0.0**
BRTR	**Keskin Array B**	**147.02**	**312**	PKPbc	**PKPdf**	**01 29 23.8**	**+2.5**
	comp=Z,2.3nm,0.7s,baz=148,slow=5.9,SNR=14						
BURAR	**Bucovina Array**	**147.31**	**330**	*i*P	**PKPbc**	**01 29 25.2**	**+0.5**
TRPA	**Tarpa**	**148.09**	**334**	*i*P	**PKPbc**	**01 29 26.5**	**0.0**
CLL	**Collm**	**148.34**	**347**	*i* PKPbc	**PKPbc**	**01 29 26.9**	**-0.2**
	comp=Z,9.0nm,0.8s						
CLL				*i* PKPab	**PKPab**	**01 29 31.4**	**-0.9**
	comp=Z,5.0nm,0.9s						
UPC	**Upice**	**148.34**	**343**	*e*PKP	**PKPbc**	**01 29 27.3**	**+0.2**
DPC	**Dobruska-Polom**	**148.40**	**342**	*e*PKP	**PKPbc**	**01 29 27.7**	**+0.4**
DPC				*e*PKPAB	**PKPab**	**01 29 32.4**	**-0.3**
BRG	**Berggiesshubel**	**148.54**	**345**	*e*P	**PKPbc**	**01 29 27.1**	**-0.4**
	comp=Z,3.4nm,0.8s						
PVCC	**Panska Ves**	**148.71**	**344**	*e*PKP	**PKPbc**	**01 29 28.3**	**+0.3**
PRU	**Pruhonice**	**149.21**	**344**	*e*PKP	**PKPdf**	**01 29 27.5**	**+3.2**
PRU				*ex*	x	01 29 29.5	
GOPC	**GO Pecny, Ondr**	**149.21**	**344**	*e*PKP	**PKPbc**	**01 29 29.5**	**+0.2**
VYHS	**Vyhne**	**149.22**	**338**	*e*PKP	**PKPbc**	**01 29 29.4**	**0.0**
VYHS				*e*		01 29 36.2	
TREC	**Trest**	**149.59**	**342**	*e*PKP	**PKPbc**	**01 29 30.0**	**-0.2**
HUMR	**Humele**	**149.62**	**326**	*i*P	**PKPbc**	**01 29 29.9**	**-0.5**
KHC	**Kasperske Hory**	**150.24**	**345**	*i*PKP	**PKPbc**	**01 29 31.9**	**+0.1**
KHC				*e*PKPAB	**PKPab**	**01 29 40.6**	**+0.2**
VLAD	**Vladila**	**150.28**	**326**	*i*P	**PKPbc**	**01 29 32.5**	**+0.5**
GERES	**GERESS Array B**	**150.48**	**344**	PKPbc	**PKPbc**	**01 29 31.9**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=45,slow=2.3,SNR=10						
VTS	**Vitosha**	**151.89**	**325**	*i*P	**PKPbc**	**01 29 35.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**172.39**	**178**	PKP	**PKPdf**	**01 29 48.9**	**-0.6**
	comp=Z,0.8nm,1.0s,baz=141,slow=0.9,SNR=4.2						

IDC 12 01:14:28.5±24.0, 21°03S×176°77W, h285km±229km, mb3.5/4, mb1 3.6/5, mb1mx3.2/35, mbtmp4.2/5, Error ellipse: s-maj=308.0km s-min=97.8km az=64.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.97**	**196**	P	P	01 18 18.6	+0.1
	0.6nm,0.3s,baz=108,slow=20,SNR=5.1						
CTA	**Charters Tower**	**34.58**	**265**	P	P	01 20 51.5	+0.5
	2.3nm,0.6s,baz=95,slow=11,SNR=3.9						
STKA	**Stephens Creek**	**38.60**	**245**	P	P	01 21 23.6	-1.1
	1.9nm,0.6s,baz=100,slow=12,SNR=4.9						
ASAR	**Alice Springs**	**45.52**	**257**	P	P	01 22 20.4	0.0
	3.3nm,0.8s,baz=89,slow=8.2,SNR=18						
WRA	**Warramunga Arr**	**45.66**	**262**	P	P	01 22 21.5	0.0
	1.4nm,0.7s,baz=95,slow=8.3,SNR=16						

*NEIC **12** 01:15:47.9±0.0, 14°95N×93°22W, h53km, MD4.0(MEX), After MEX.*

MEX 12 01:15:48.1±0.6, 14°96N×93°21W, h53km±13km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.74**	**359**	*e*P	Pn	01 16 00.9	-1.7
PCIG				*e*S	Sn	01 16 11.3	-1.8
PCIG		**0.74**	**359**	*e*P	Pn	01 16 00.9	-1.7
PCIG				*e*S	Sn	01 16 11.3	-1.8
THIG		**0.91**	**93**	*e*P	Pn	01 16 03.2	-1.5
THIG				*e*S	Sn	01 16 15.8	-1.2
THIG		**0.91**	**93**	*e*P	Pn	01 16 03.2	-1.5
THIG				*e*S	Sn	01 16 15.8	-1.2
CCIG	**Comitan**	**1.67**	**38**	*e*P	Pn	01 16 14.8	-0.4
CCIG				*e*S	Sn	01 16 28.6	-7.1
CCIG	**Comitan**	**1.67**	**38**	*e*P	Pn	01 16 14.5	-0.7
CCIG				*i* S	Sn	01 16 33.3	-2.4
TGIG		**1.81**	**3**	*e*P	Pn	01 16 15.1	-2.0
TGIG				*e*S	Sn	01 16 37.1	-1.8
TGIG		**1.81**	**3**	*e*P	Pn	01 16 15.1	-2.0
TGIG				*e*S	Sn	01 16 37.1	-1.8

KRSC 12 01:23:24.9±1.4, 49°69N×156°89E, h50km±23km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.11**	**334**	*e*P	Pn	01 23 43.9	-0.2
SKR				*e*S	Sn	01 23 58.8	+0.3
PAU	**Pauzhetka**	**1.78**	**358**	*e*P	Pn	01 24 02.2	+2.6
PAU				*e*S	Sn	01 24 18.2	+3.6
KDTR	**Khodutka, Kamc**	**2.25**	**19**	*e*P	Pn	01 24 02.2	+2.6
KDTR				*e*S	Sn	01 24 30.4	+4.2
MTVR	**Mutnovka**	**2.92**	**16**	*e*P	Pn	01 24 12.4	+3.5
MTVR				*e*S	Sn	01 24 47.4	+4.7
RUS	**Russkaya**	**2.94**	**20**	*e*P	Pn	01 24 11.7	+2.8
RUS				*e*S	Sn	01 24 46.5	+3.6
KRMR	**Karymshinskiy**	**3.24**	**13**	*e*P	Pn	01 24 16.4	+3.2
KRMR				*e*S	Sn	01 24 54.3	+3.8
APC	**Apacha**	**3.25**	**3**	*e*P	Pn	01 24 16.8	+3.6
PET	**Petropavlovsk**	**3.52**	**18**	*e*P	Pn	01 24 21.3	+4.3
PET				*e*S	Sn	01 25 02.6	+5.3
UGLR	**Uglovaya**	**3.73**	**18**	*e*P	Pn	01 24 24.2	+4.2
AVH	**Avacha**	**3.77**	**17**	*e*P	Pn	01 24 24.2	+3.8
AVH				*e*S	Sn	01 25 08.0	+4.5
KOK	**Koryaka**	**3.77**	**16**	*e*P	Pn	01 24 24.8	+4.3
SMAR	**Somma**	**3.78**	**18**	*e*P	Pn	01 24 24.4	+3.7
SDLR	**Sedlovina**	**3.81**	**18**	*e*P	Pn	01 24 24.5	+3.5
NLC	**Nalytchevo**	**3.81**	**23**	*e*S	Sn	01 25 07.3	+2.8
KRX	**Arik**	**3.84**	**16**	*e*P	Pn	01 24 24.7	+3.2
SPN	**Mys Shipunski**	**3.94**	**29**	*e*P	Pn	01 24 26.1	+3.4
SPN				*e*S	Sn	01 25 11.4	+3.8
GNL	**Ganaly**	**4.07**	**9**	*e*P	Pn	01 24 28.4	+3.8

RSNC 12 01:28:29.2±0.5, 11°16N×71°92W, h62km±33km, ML3.5, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRC	**Santa Marta, M**	**2.26**	**270**	*e*P	Pn	01 29 03.2	-1.0
SMRC				*e*S	Sn	01 29 30.6	-0.3
SMRC				*i*		01 29 33.1	
	comp=N,84nm,0.3s						
SDV	**Santo Domingo**	**2.59**	**150**	*e*P	Pn	01 29 08.9	-0.1
SDV				*e*S	Sn	01 29 39.0	-0.4
OCAC	**Ocana**	**3.21**	**206**	*e*P	Pn	01 29 17.0	-0.3
OCAC				*e*S	Sn	01 29 53.8	-0.6
OCAC				*i*		01 29 55.5	
	comp=N,1μm,0.3s						
SJCC	**San Jacinto, C**	**3.44**	**249**	*e*S	Sn	01 29 59.3	-0.7
BRRC	**Barranca, Sant**	**4.39**	**204**	*e*P	Pn	01 29 32.6	-0.9
BRRC				*e*S	Sn	01 30 23.1	-0.3
BRRC				*i*		01 30 26.7	
	comp=N,44nm,0.3s						
TAMC	**Tame, Arauca**	**4.69**	**178**	*e*P	Pn	01 29 36.9	-0.7
TAMC				*e*S	Sn	01 30 29.6	-1.2
TAMC				*i*		01 30 30.8	
	comp=N,39nm,0.6s						
BARC	**Barichara**	**4.70**	**195**	*e*P	Pn	01 29 37.6	-0.2
BARC				*e*S	Sn	01 30 30.1	-1.2
BARC				*i*		01 30 34.4	
	comp=Z,33nm,0.3s						
RUSC	**La Rusia**	**5.35**	**192**	*e*P	Pn	01 29 46.6	-0.4
CHIC	**Chingaza**	**6.73**	**196**	*e*P	Pn	01 30 05.5	-0.2

*NEIC **12** 02:02:06.3±0.0, 14°77N×95°09W, h23km, MD4.0(MEX), After MEX.*

MEX 12 02:02:06.1±0.6, 14°76N×95°09W, h22km±18km, MD4.0, Off coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.41**	**316**	*e*P	Pn	02 02 27.8	-2.6
HUIG				*e*S	Sn	02 02 43.4	-4.9
HUIG	**Huatulco**	**1.41**	**316**	*e*P	Pn	02 02 27.8	-2.6
HUIG				*e*S	Sn	02 02 43.4	-4.9
PCIG		**2.03**	**62**	*e*P	Pn	02 02 36.6	-2.5
PCIG				*e*S	Sn	02 02 60.0	-3.8
PCIG		**2.03**	**62**	*e*P	Pn	02 02 36.6	-2.5
PCIG				*e*S	Sn	02 02 60.0	-3.8
CMIG	**Matias Romero**	**2.33**	**5**	*e*P	Pn	02 02 41.3	-1.8
CMIG				*e*S	Sn	02 03 08.3	-2.7
CMIG	**Matias Romero**	**2.33**	**5**	*e*P	Pn	02 02 41.3	-1.8
CMIG				*e*S	Sn	02 03 08.3	-2.7
TGIG		**2.76**	**43**	*e*P	Pn	02 02 48.0	-1.0
TGIG		**2.76**	**43**	*e*P	Pn	02 02 47.7	-1.4
TGIG				*i* S	Sn	02 03 19.2	-2.5
PNIG	**Pinotepa**	**3.35**	**299**	*e*P	Pn	02 02 55.2	-1.9
PNIG				*e*S	Sn	02 03 29.9	-6.4
PNIG	**Pinotepa**	**3.35**	**299**	*e*P	Pn	02 02 55.2	-1.9
PNIG				*i* S	Sn	02 03 33.5	-2.8

*NEIC **12** 02:17:37.2±0.0, 15°06N×93°64W, h16km, MD4.1(MEX), After MEX.*

MEX 12 02:17:37.4±0.4, 15°08N×93°61W, h38km±17km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.73**	**31**	*i* P	Pn	02 17 49.6	-1.6
PCIG				*e*S	Sn	02 17 58.9	-2.2
PCIG		**0.73**	**31**	*i* P	Pn	02 17 49.7	-1.6
PCIG				*e*S	Sn	02 17 58.8	-2.3
TGIG		**1.76**	**15**	*e*P	Pn	02 18 04.2	-1.2
TGIG				*e*S	Sn	02 18 24.1	-2.5
TGIG		**1.76**	**15**	*e*P	Pn	02 18 04.2	-1.2
TGIG				*e*S	Sn	02 18 24.1	-2.5
CMIG	**Matias Romero**	**2.35**	**329**	*e*P	Pn	02 18 11.9	-1.6
CMIG				*e*S	Sn	02 18 39.5	-1.6
CMIG	**Matias Romero**	**2.35**	**329**	*e*P	Pn	02 18 11.9	-1.6
CMIG				*e*S	Sn	02 18 39.5	-1.6
HUIG	**Huatulco**	**2.50**	**286**	*e*P	Pn	02 18 09.3	-6.3
HUIG				*e*S	Sn	02 18 42.8	-2.1
HUIG	**Huatulco**	**2.50**	**286**	*i* P	Pn	02 18 14.9	-0.7
HUIG				*e*S	Sn	02 18 42.8	-2.1

*SOME **12** 02:34:17.4, 41°45N×72°90E, h0km*
*KRNET **12** 02:34:17.6±0.1, 41°46N×72°99E, h12km, mb2.7*
*KNET **12** 02:34:22.7±0.6, 41°52N×73°33E, h0km, ml1.8, Error ellipse: s-maj=6.0km s-min=3.6km az=125.0*

ISC 12 02:34:17.5±1.0, 41°44N±0°03×72°98E±0°03, h7km±10km, n23, σ0°99/44, 23C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.12**	**177**	*i*P	**Pg**	**02 34 19.8**	**-0.3**
	baz=81						
ARSB				⇑*i*S	**Sg**	**02 34 21.6**	**-0.4**
	baz=81						
AML	**Almayashu**	**0.87**	**38**	⇑P	**Pb**	**02 34 35.0**	**-0.2**
	2.1nm,0.1s						
AML				⇓S	**Sg**	**02 34 45.9**	**+0.2**
	8.7nm,0.3s						
AML	**Almayashu**	**0.87**	**38**	*i* P	**Pb**	**02 34 34.9**	**-0.3**
	baz=38						
AML				*i* S	**Sg**	**02 34 46.1**	**+0.4**
	baz=38						
ARLS	**Aral**	**1.09**	**67**	⇑*i*P	**Pg**	**02 34 38.5**	**0.0**
	baz=67						
ARLS				⇑*i*S	**Sn**	**02 34 54.0**	**-0.8**
	baz=67						
EKS2	**Erkin-Say**	**1.36**	**26**	⇓*i*P	**Pg**	**02 34 43.6**	**+0.1**
	baz=26						
EKS2				⇓*i*S	**Sg**	**02 35 01.4**	**+0.3**
	baz=26						
UCH	**Uchtor**	**1.39**	**55**	⇑P	**Pg**	**02 34 44.7**	**+0.5**
	0.8nm,0.2s,SNR=11						
UCH				⇑S	**Sn**	**02 35 02.0**	**-0.6**
	4.8nm,0.3s						
UCH	**Uchtor**	**1.39**	**55**	⇑*i*P	**Pb**	**02 34 44.1**	**0.0**
	baz=56						
UCH				⇑*i*S	**Sg**	**02 35 03.1**	**+0.8**
	baz=56						
SFK	**Sufi-Kurgan**	**1.48**	**164**	⇓*i*P	**Pg**	**02 34 46.1**	**+0.2**
	baz=65						
SFK				⇓*i*S	**Sg**	**02 35 07.1**	**+2.0**
	baz=65						
AAK	**Ala-Archa**	**1.65**	**43**	⇑P	**Pg**	**02 34 50.1**	**+1.1**
	1.1nm,0.2s,SNR=11						
AAK				⇑S	**Sg**	**02 35 11.0**	**+0.6**
	1.9nm,0.2s						
AAK	**Ala-Archa**	**1.65**	**43**	⇑*i*P	**Pg**	**02 34 48.8**	**-0.2**
	baz=43						
AAK				⇑*i*S	**Sg**	**02 35 10.9**	**+0.6**
	baz=43						
KZA	**Kyzart**	**1.82**	**69**	⇑*i*P	**Pb**	**02 34 51.6**	**+0.3**
	baz=69						
KZA				⇑*i*S	**Sg**	**02 35 16.1**	**+0.2**
	baz=69						
CHMS	**Chumysh**	**2.04**	**40**	⇑P	**Pg**	**02 34 56.8**	**+0.3**
	12nm,0.4s,SNR=9.8						
BTK	**Batken**	**2.14**	**231**	⇑*i*P	**Pb**	**02 34 56.7**	**+0.1**
	baz=30						
BTK				⇑*i*S	**Sg**	**02 35 25.6**	**-0.7**
	baz=30						
USP	**Ospenovka**	**2.15**	**31**	⇑P	**Pg**	**02 34 59.3**	**+0.7**
	17nm,0.3s,SNR=24						
USP				⇑S	**Sg**	**02 35 28.6**	**+2.2**
	3.9nm,0.2s						
USP	**Ospenovka**	**2.15**	**31**	⇑*e*P	**Pb**	**02 34 57.1**	**+0.4**
	baz=31						
USP				⇑*i*S	**Sg**	**02 35 25.7**	**-0.7**
	baz=31						
IUG	**luzhnay**	**2.31**	**289**	*e*P	**Pg**	**02 35 01.2**	**-0.5**
	11nm,0.3s						
IUG				*e*S	**Sg**	**02 35 32.6**	**+0.8**
	30nm,0.4s						
TKM2	**Tokmak 2**	**2.45**	**52**	⇓P	**Pg**	**02 35 03.8**	**-0.5**
	6.0nm,0.2s,SNR=6.4						
TKM2	**Tokmak 2**	**2.45**	**52**	⇓*e*P	**Pb**	**02 35 01.6**	**-0.3**
	baz=52						
TKM2				⇓*i*S	**Sg**	**02 35 34.2**	**-1.8**
	baz=52						
KST	**Kastek**	**2.73**	**53**	⇓*i*P	**Pg**	**02 35 08.6**	**-1.3**
	9.9nm,0.7s						
KST				⇑*i*S	**Sg**	**02 35 45.5**	**+0.2**
	12nm,0.9s						
DGS	**Degeres**	**2.75**	**48**	*e*P	**Pg**	**02 35 09.1**	**-1.0**
	7.4nm,0.4s						
DGS				*e*S	**S

MRKS				S	Sg	02 55 28.3	+0.9	
	4.7nm,0.4s							
MRKS	**Merke**	**1.33**	**9**	*e*P	**Pn**	**02 55 09.8**	**-0.5**	
	1.8nm,0.3s							
MRKS				*e*S	**Sg**	**02 55 28.3**	**+0.9**	
	4.9nm,0.5s							
EKS2	**Erkin-Say**	**1.38**	**27**⇑	*i*P	**Pn**	**02 55 11.0**	**0.0**	
	baz=24							
EKS2				⇑*i*S	**Sg**	**02 55 29.9**	**+0.9**	
	baz=24							
UCH	**Uchtor**	**1.42**	**56**⇑	*i*P	**Pn**	**02 55 11.7**	**-0.2**	
	baz=54							
UCH				⇑*i*S	**Sn**	**02 55 30.4**	**-0.9**	
	baz=54							
SFK	**Sufi-Kurgan**	**1.48**	**163**	⇑P	**Pg**	**02 55 14.2**	**+1.0**	
	2.9nm,0.4s							
SFK				⇓S	**Sg**	**02 55 34.7**	**+2.2**	
	14nm,0.6s							
SFK	**Sufi-Kurgan**	**1.48**	**163**	Pg	**Pg**	**02 55 14.4**	**+1.1**	
	3.1nm,0.2s							
SFK				Lg	Lg	02 55 36.4		
	7.6nm,0.5s							
SFK	**Sufi-Kurgan**	**1.48**	**163**	⇓*i*P	**Pb**	**02 55 12.8**	**-0.3**	
	baz=65							
SFK				⇓*i*S	**Sg**	**02 55 32.6**	**+0.1**	
	baz=65							
AAK	**Ala-Archa**	**1.67**	**44**⇑	*i*P	**Pb**	**02 55 16.1**	**-0.2**	
	baz=42							
AAK				⇑*i*S	**Sg**	**02 55 39.3**	**+0.8**	
	baz=42							
KZA	**Kyzart**	**1.85**	**69**⇑	*i*P	**Pb**	**02 55 19.1**	**-0.3**	
	baz=68							
KZA				⇑*i*S	**Sb**	**02 55 43.8**	**+0.7**	
	baz=68							
BTK	**Batken**	**2.12**	**230**⇑	*e*P	**Pb**	**02 55 23.7**	**-0.1**	
	baz=32							
BTK				⇑*i*S	**Sg**	**02 55 52.5**	**-0.2**	
	baz=32							
USP	**Ospenovka**	**2.17**	**32**⇑	*i*P	**Pb**	**02 55 24.6**	**-0.1**	
	baz=30							
USP				⇑*i*S	**Sb**	**02 55 53.0**	**+1.1**	
	baz=30							
IUG	**Iuzhnay**	**2.28**	**289**	*e*P	**Pb**	**02 55 26.8**	**+0.1**	
	6.4nm,0.2s							
IUG				*e*S	**Sg**	**02 55 57.6**	**-0.5**	
	14nm,0.4s							
SGDS	**Sogindy**	**2.37**	**31**	Pg	**Pb**	**02 55 28.6**	**+0.4**	
	5.4nm,0.4s							
SGDS				Lg	Lg	02 56 00.7		
	4.7nm,0.5s							
TKM2	**Tokmak 2**	**2.47**	**52**⇓	*i*P	**Pb**	**02 55 29.1**	**-0.9**	
	baz=51							
TKM2				⇓*i*S	**Sb**	**02 56 00.4**	**-0.5**	
	baz=51							
KST	**Kastek**	**2.76**	**53**	Pg	**Pb**	**02 55 36.1**	**+1.2**	
	3.6nm,0.4s							
KST				Lg	Lg	02 56 13.6		
	4.5nm,0.6s							
KST	**Kastek**	**2.76**	**53**	*e*P	**Pb**	**02 55 35.7**	**+0.8**	
	3.4nm,0.5s							
KST				*e*S	**Sg**	**02 56 12.9**	**-0.6**	
	5.1nm,0.9s							
DGS	**Degeres**	**2.77**	**48**	Pg	**Pg**	**02 55 37.4**	**-0.5**	
	2.2nm,0.5s							
DGS				Lg	Lg	02 56 15.8		
	6.1nm,0.5s							
DGS	**Degeres**	**2.77**	**48**	*e*P	**Pg**	**02 55 37.5**	**-0.5**	
	2.2nm,0.5s							
DGS				*e*S	**Sg**	**02 56 15.8**	**+2.0**	
	6.1nm,0.5s							

IDC 12 03:18:39.4±1.6,5°10.5×141°87.6E,h0km,mb3.7/3, mb1 4.0/4,mb1mx3.6/28,mbtmp3.8/4,ML3.7/2,MS3.0/1, Ms1 3.0/1,ms1mx2.4/24,Error ellipse: s-maj=48.1km s-min=23.3km az=96.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**2.82**	**336**	Pn	Pn	03 19 25.5	-0.3
	7.9nm,0.3s,baz=184,slow=7.2,SNR=21						
JAY				Sn	Sn	03 20 00.8	+0.4
	7.3nm,0.3s,baz=131,slow=20,SNR=5.3						
WRA	**Warramunga Arr**	**16.48**	**206**	Pn	Pn	03 22 27.4	-4.8
	0.2nm,0.3s,baz=31,slow=11,SNR=10						
WRA				Sn	Sn	03 25 23.2	-13
	0.1nm,0.3s,baz=34,slow=23,SNR=3.5						
WRA				Lg	Lg	03 27 13.8	
	0.0nm,0.3s,baz=21,slow=28,SNR=3.1						
ASAR	**Alice Springs**	**20.00**	**202**	P	P	03 23 14.0	+0.3
	0.4nm,0.3s,baz=32,slow=11,SNR=24						
ASAR				S	S	03 26 47.6	-12
	0.1nm,0.3s,baz=18,slow=27,SNR=3.6						
ASAR				Lg	Lg	03 29 07.9	
	0.0nm,0.3s,baz=18,slow=30,SNR=3.2						
FITZ	**Fitzroy Crossi**	**20.46**	**230**	P	P	03 23 18.1	-0.6
	1.9nm,0.7s,baz=59,slow=11,SNR=7.1						
FITZ				S	S	03 26 53.6	-15
	3.9nm,1.0s,baz=156,slow=18,SNR=2.1						
FITZ				LR	LR	03 31 34.0	
	comp=Z,40nm,18.4s,baz=34,slow=38						
MKAR	**Makanchi Array**	**73.60**	**322**	P	P	03 30 15.1	+0.5
	0.8nm,0.7s,baz=112,slow=7.1,SNR=7.4						
ILAR	**Eielson Array**	**86.70**	**24**	P	P	03 31 24.6	-0.3
	0.5nm,0.7s,baz=259,slow=4.6,SNR=9.9						

TEH ***12*** *03:25:02.8,31°.90N×51°.09E,h5km,ML5.1*
ISCJB ***12*** *03:25:02.7±0.4,31°.77N±0°.01×50°.94E±0°.01,h3km±2km, mb5.3/292,MS4.4/82,Error ellipse: s-maj=2.4km s-min=1.5km az=25.8*
BJI ***12*** *03:25:03.3,31°.80N×51°.00E,h4km,mb5.3/70,mB5.4/44, Ms5.0/66,Ms7 4.7/62*
GII ***12*** *03:25:03.2±0.0,31°.93N×51°.07E,h9km*
NEIC ***12*** *03:25:04.4±0.6,31°.83N×50°.95E,h4km±3km,mb5.4/153, ML4.8(THR),MN5.2(TEH),Error ellipse: s-maj=2.7km s-min=1.9km az=189.0*
NEIC Felt at Borujen and Esfahan.
MOS ***12*** *03:25:04.4±0.9,31°.85N×50°.95E,h15km,mb5.5/113, MS4.2/47,Error ellipse: s-maj=4.3km s-min=3.0km az=108.5*
GCMT ***12*** *03:25:05.4±0.3,31°.75N±0°.01×50°.95E±0°.02,h21km±1km, MW5.0/83,Moment Tensor Solution. s27,c30; s83,c119; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.00±.20; Mθθ-3.64±.13; Mφφ1.64±.12; Mrθ-0.45±.18; Mθφ1.01±.09; Mφr-0.75±.27; Best double couple: M=3.29600×10^16 NP1:φ=247.00000°,δ61.00000°,λ40.00000°. NP2: φ=135.00000°,δ56.00000°,λ144.00000°. Principal axes: T 2.7480, Plg48.0000°, Azm103.0000°; N 1.0950, Plg42.0000°, Azm277.0000°; P -3.8430, Plg3.0000°, Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
THR ***12*** *03:25:05.8,31°.85N×51°.02E,h14km,ML4.8*
IDC ***12*** *03:25:06.7±2.2,31°.90N×50°.96E,h18km±13km,mb5.0/42, mb1 5.1/46,mb1mx5.0/54,mbtmp5.1/46,ML4.0/4,MS4.2/29, Ms1 4.2/29,ms1mx4.1/36,Error ellipse: s-maj=10.3km s-min=8.8km az=8.0*
JSO ***12*** *03:25:06.7±0.5,32°.N±7°×5°.1E±°,h10km,M5.3/19, mb5.4/19,Mjma5.3/9*
OMAN ***12*** *03:25:06.2±0.6,31°.69N×50°.94E,h10km,Error ellipse: s-maj=12.1km s-min=5.1km az=73.0*
DSN ***12*** *03:25:06.4±0.3,31°.78N×50°.86E,h15km,mb5.3/7,ML4.7/8, Error ellipse: s-maj=5.7km s-min=4.1km az=37.0*

ISC 12 03:25:06.1±0.5,31°.87N±0°.02×51°.01E±0°.02,h14km±2km, n1130,σ1§43/1248,mb5.4/326,MS4.4/82,64C-44D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZNGN	**Zangian**	**0.28**	**332**	*e*Sg	**Sg**	**03 25 14.0**	**-2.5**
ZNGN				*e*Pg	**Pg**	**03 25 09.3**	**-2.9**
ROKH	**ROKH**	**0.48**	**3**	*e*Pg	**Pg**	**03 25 12.8**	**-2.9**
IPIR	**Pirpir**	**0.82**	**353**	Pg	**Pg**	**03 25 19.3**	**-2.8**
IPIR	**Pirpir**	**0.82**	**353**	*e*Pg	**Pg**	**03 25 19.4**	**-2.7**
IPIR				IAMB	IAmb	03 25 44.9	
	comp=Z,99μm,1.0s						
KLNJ	**Kolanjah**	**0.99**	**150**	*e*Pg	**Pg**	**03 25 22.9**	**-2.4**
IGAR	**Gharneh**	**1.03**	**58**	*e*Pg	**Pg**	**03 25 23.0**	**-3.0**
IGAR				IAMB	IAmb	03 25 41.5	
	comp=Z,59μm,0.5s						
IRAM	**Ramesheh**	**1.17**	**92**	Pg	**Pg**	**03 25 25.0**	**-3.7**
IRAM	**Ramesheh**	**1.17**	**92**	*e*Pg	**Pg**	**03 25 25.0**	**-3.7**
IRAM				IAMB	IAmb	03 25 53.5	
	comp=Z,87μm,0.8s						
IZEF	**Zefreh**	**1.52**	**47**	Pn	**Pn**	**03 25 31.3**	**-1.8**
IZEF	**Zefreh**	**1.52**	**47**	*e*Pn	**Pn**	**03 25 31.2**	**-1.8**
IZEF				IAMB	IAmb	03 26 06.3	
	comp=Z,44μm,1.0s						
IKLH	**Kolahrood**	**1.53**	**18**	Pn	**Pn**	**03 25 31.4**	**-1.8**
IKLH	**Kolahrood**	**1.53**	**18**	*e*Pn	**Pn**	**03 25 31.2**	**-2.0**
IKLH				IAMB	IAmb	03 26 14.2	
	comp=Z,5μm,0.9s						
SHGR	**Shooshtar-Gavs**	**1.89**	**278**	*e*Pn	**Pb**	**03 25 40.4**	**0.0**
SHGR	**Shooshtar-Gavs**	**1.89**	**278**	*e*AML	AML	03 26 17.0	
	comp=N,7μm,0.7s						
SHGR				*e*Pg	**Pb**	**03 25 40.4**	**0.0**
SHGR				*e*AML	AML	03 26 24.2	
	comp=E,1μm,0.7s						
KHMZ	**Khomeyn**	**2.07**	**335**	Pn	**Pb**	**03 25 42.0**	**-1.5**
KHMZ				Sg	**Sg**	**03 26 11.0**	**-1.6**
KHMZ	**Khomeyn**	**2.07**	**335**	*e*Pn	**Pb**	**03 25 42.4**	**-1.1**
KHMZ	**Khomeyn**	**2.07**	**335**	*e*Pn	**Pb**	**03 25 42.4**	**-1.1**
KHMZ				*e*Sg	**Sg**	**03 26 11.6**	**-1.0**
AHWZ	**Ahwaz**	**2.09**	**256**	*e*Pn	**Pb**	**03 25 42.6**	**-1.1**
AHWZ				IAMB	IAmb	03 26 24.1	
	comp=Z,0.0nm,1.0s						
IKAZ	**Kazeroun**	**2.20**	**161**	Pn	**Pb**	**03 25 44.5**	**-1.3**
IKAZ	**Kazeroun**	**2.20**	**161**	*e*Pn	**Pb**	**03 25 44.2**	**-1.6**
IKAZ				IAMB	IAmb	03 26 24.3	
	comp=Z,80μm,0.8s						
ISAD	**Sadrabad**	**2.28**	**88**	Pn	**Pb**	**03 25 44.9**	**-2.2**
ISAD	**Sadrabad**	**2.28**	**88**	*e*Pn	**Pn**	**03 25 44.1**	**+0.6**
ISAD				IAMB	IAmb	03 26 27.9	
	comp=Z,96μm,0.9s						
SHI	**Shiraz**	**2.57**	**149**	*e*Pn	**Pn**	**03 25 48.0**	**+0.6**
SHI				IAMB	IAmb	03 26 54.1	
	comp=Z,1066μm,2.9s						
ANAR	**Anarak**	**2.65**	**59**	*e*Pn	**Pb**	**03 25 49.9**	**-3.5**
IPAR	**Pars**	**2.67**	**138**	*e*Pn	**Pn**	**03 25 49.9**	**+0.9**
IPAR				IAMB	IAmb	03 26 57.2	
	comp=Z,96μm,1.0s						
IKMR	**Kamar-syah**	**2.76**	**307**	*e*Pn	**Pn**	**03 25 51.2**	**+1.3**
IKMR				IAMB	IAmb	03 27 08.3	
	comp=Z,0.0nm,2.5s						
ASAO	**Ashtian**	**2.80**	**343**	Pn	**Pn**	**03 25 52.0**	**+1.3**
ASAO	**Ashtian**	**2.80**	**343**	*e*Pn	**Pb**	**03 25 52.8**	**-3.2**
ASAO	**Ashtian**	**2.80**	**343**	*e*Pn	**Pb**	**03 25 52.8**	**-3.2**
ICHK	**Chekchek**	**2.91**	**82**	Pn	**Pb**	**03 25 54.2**	**-3.6**
ICHK	**Chekchek**	**2.91**	**82**	*e*Pn	**Pb**	**03 25 54.3**	**-3.6**
ICHK				IAMB	IAmb	03 26 60.0	
	comp=Z,57μm,0.7s						
YZKH	**Yazd**	**3.08**	**79**	*e*Pn	**Pn**	**03 25 56.0**	**+1.6**
YZKH	**Yazd**	**3.08**	**79**	*e*Pn	**Pn**	**03 25 56.0**	**+1.6**
HSAM	**Samen**	**3.09**	**320**	*e*Pn	**Pn**	**03 25 56.4**	**+1.7**
IKFM	**Kafar-mosalman**	**3.14**	**303**	*e*Pn	**Pn**	**03 25 56.3**	**+1.2**
IKFM				IAMB	IAmb	03 26 59.7	
	comp=Z,0.0nm,2.2s						
IRAZ	**Razeghan**	**3.64**	**346**	*e*Pn	**Pn**	**03 26 03.7**	**+1.5**
IRAZ				IAMB	IAmb	03 27 27.3	
	comp=Z,41μm,0.8s						
IKOM	**Komasi**	**3.73**	**309**	*e*Pn	**Pn**	**03 26 04.3**	**+0.9**
IKOM				IAMB	IAmb	03 27 18.8	
	comp=Z,0.0nm,2.4s						
IDMV	**Damavand**	**3.80**	**13**	*e*Pn	**Pn**	**03 26 05.4**	**+1.0**
IDMV				IAMB	IAmb	03 27 36.8	
	comp=Z,32μm,0.8s						
IMHD	**Mahdasht**	**3.82**	**356**	IAMB	IAmb	03 26 21.5	
	comp=Z,26μm,0.7s						
IMHD				*e*Pn	**Pn**	**03 26 06.3**	**+1.7**
ILAS	**Lasjerd**	**3.87**	**24**	*e*Pn	**Pn**	**03 26 05.9**	**+0.6**
ILAS				IAMB	IAmb	03 27 18.7	
	comp=Z,47μm,1.0s						
TEH	**Tehran**	**3.87**	**4**	*e*Pn	**Pn**	**03 26 07.1**	**+1.8**
HKZM	**Kohzaman**	**3.92**	**334**	*e*Pn	**Pn**	**03 26 07.3**	**+1.2**
JHRM	**Jahrom**	**4.02**	**146**	*e*Pn	**Pn**	**03 26 08.1**	**+0.8**
CHTH	**Charan**	**4.03**	**1**	Pn	**Pn**	**03 26 10.0**	**+2.4**
CHTH	**Charan**	**4.03**	**1**	*e*Pn	**Pn**	**03 26 10.2**	**+2.5**
CHTH	**Charan**	**4.03**	**1**	*e*Pn	**Pn**	**03 26 10.2**	**+2.5**
IFIR	**Firoozkooh**	**4.04**	**21**	*e*Pn	**Pn**	**03 26 09.0**	**+1.3**
IFIR				IAMB	IAmb	03 27 32.6	
	comp=Z,11μm,1.0s						
IANJ	**Anjilo**	**4.33**	**33**	*e*Pn	**Pn**	**03 26 12.3**	**+0.6**
IANJ				IAMB	IAmb	03 27 50.9	
	comp=Z,30μm,0.8s						
ISHM	**Shahmirzad**	**4.37**	**25**	*e*Pn	**Pn**	**03 26 13.3**	**+1.1**
ISHM				IAMB	IAmb	03 26 39.3	
	comp=Z,26μm,0.5s						
IVIS	**Veis**	**4.38**	**308**	Pn	**Pn**	**03 26 12.6**	**+0.3**
IVIS	**Veis**	**4.38**	**308**	*e*Pn	**Pn**	**03 26 12.5**	**+0.3**
IVIS				IAMB	IAmb	03 28 04.2	
	comp=Z,52μm,1.6s						
SNGE	**Sanandaj**	**4.44**	**317**	Pn	**Pn**	**03 26 15.0**	**+1.9**
SNGE	**Sanandaj**	**4.44**	**317**	*e*Pn	**Pn**	**03 26 15.1**	**+1.9**
SNGE	**Sanandaj**	**4.44**	**317**	*e*Pn	**Pn**	**03 26 15.1**	**+1.9**
IALA	**Alasht**	**4.46**	**19**	*e*Pn	**Pn**	**03 26 15.6**	**+2.0**
IALA				IAMB	IAmb	03 27 42.5	
	comp=Z,25μm,1.0s						
IPRN	**Peran**	**4.50**	**14**	*e*Pn	**Pn**	**03 26 16.1**	**+2.1**
IPRN				IAMB	IAmb	03 26 36.5	
	comp=Z,35μm,0.7s						
ILIN	**Lien**	**4.55**	**313**	Pn	**Pn**	**03 26 15.7**	**+1.0**
ILIN	**Lien**	**4.55**	**313**	*e*Pn	**Pn**	**03 26 15.8**	**+1.0**
ILIN				IAMB	IAmb	03 28 07.1	
	comp=Z,16μm,1.2s						
IKIA	**Kiasar**	**4.87**	**26**	*e*Pn	**Pn**	**03 26 20.9**	**+1.8**
IKIA				IAMB	IAmb	03 28 12.8	
	comp=Z,25μm,1.3s						
KHGB	**Koh Gabri**	**4.92**	**106**	*e*Pn	**Pn**	**03 26 20.6**	**+0.8**
TPRV	**Parvadeh(Tabas**	**4.94**	**75**	*e*Pn	**Pn**	**03 26 21.1**	**+1.2**
TNSJ	**Nastanj**	**5.15**	**65**	*e*Pn	**Pn**	**03 26 24.4**	**+1.5**
TVBK	**TV Kerman**	**5.29**	**109**	*e*Pn	**Pn**	**03 26 26.6**	**+1.7**
NGRK	**Negar Kerman**	**5.40**	**113**	*e*Pn	**Pn**	**03 26 29.4**	**+2.9**
TKDS	**Koohdasht(Taba**	**5.44**	**70**	*e*Pn	**Pn**	**03 26 28.1**	**+1.3**
TABS	**Tabas**	**5.45**	**69**	Pn	**Pn**	**03 26 28.0**	**+1.1**
TABS	**Tabas**	**5.45**	**69**	*e*Pn	**Pn**	**03 26 28.9**	**+2.0**
TABS	**Tabas**	**5.45**	**69**	*e*Pn	**Pn**	**03 26 28.9**	**+2.0**
CHMN	**Cheshme madani**	**5.96**	**108**	*e*Pn	**Pn**	**03 26 36.6**	**+2.4**
GENO	**Geno**	**6.32**	**133**	*e*Pn	**Pn**	**03 26 39.7**	**+0.7**
ISRB	**Sarab**	**6.55**	**336**	*e*Pn	**Pn**	**03 26 42.5**	**+0.3**
ISRB				IAMB	IAmb	03 29 06.0	
	comp=Z,6μm,1.2s						
ITEG	**Tejag**	**6.63**	**79**	*e*Pn	**Pn**	**03 26 44.0**	**+0.8**
NIAN	**Nian**	**6.64**	**129**	*e*Pn	**Pn**	**03 26 43.9**	**+0.7**
IKOO	**Kooshah**	**6.80**	**83**	*e*Pn	**Pn**	**03 26 47.3**	**+1.6**
SHME	**Shamm**	**7.33**	**141**	*i*P	**Pn**	**03 26 53.6**	**+0.8**
	SNR=16						
IMON	**Monand**	**7.43**	**77**	*e*Pn	Pn	03 26 59.1	+4.8
ITBZ	**Tabriz**	**7.50**	**329**	*e*Pn	**Pn**	**03 26 56.2**	**+1.0**
BANOM	**Banah**	**7.52**	**141**	*i*P	**Pn**	**03 26 55.3**	**0.0**
	SNR=39						
UMQ	**Umm Al-Quwin**	**7.52**	**146**	P	**Pn**	**03 26 56.0**	**+0.7**
UMQ				S	**Sn**	**03 28 20.9**	**+0.5**
UMQ	**Umm Al-Quwin**	**7.52**	**146**	*e*Pn	**Pn**	**03 26 57.6**	**+2.3**
IDAH	**Dahanechah**	**7.55**	**81**	*e*Pn	**Pn**	**03 26 59.7**	**+3.7**
ISHB	**Shabestar**	**7.78**	**327**	*e*Pn	**Pn**	**03 26 59.7**	**+0.6**
IAKL	**Akhelmad**	**7.96**	**52**	*e*Pn	**Pn**	**03 27 04.1**	**+2.4**
NAZ	**Nazwa, Dubai**	**7.98**	**148**	*i*P	**Pn**	**03 27 02.4**	**+0.7**
	SNR=91						
NAZ	**Nazwa, Dubai**	**7.98**	**148**	P	**Pn**	**03 27 02.2**	**+0.5**
	SNR=21						
NAZ				S	**Sn**	**03 28 32.8**	**+1.1**
NAZ	**Nazwa, Dubai**	**7.98**	**148**	*e*Pn	**Pn**	**03 27 02.1**	**+0.5**
MDH	**Madha**	**8.03**	**143**	*i*P	**Pn**	**03 27 02.1**	**-0.2**
	SNR=27						
MDH	**Madha**	**8.03**	**143**	P	**Pn**	**03 27 01.7**	**-0.5**
	SNR=9.7						
MDH				S	**Sn**	**03 28 30.6**	**-2.2**
IPAY	**Payeh**	**8.04**	**53**	*e*Pn	**Pn**	**03 27 03.7**	**+1.0**
IMOG	**Moghan**	**8.11**	**56**	*e*Pn	**Pn**	**03 27 03.1**	**-0.5**
ASUD	**Al Ashush, Dub**	**8.15**	**151**	*i*P	**Pn**	**03 27 05.4**	**+1.3**
	SNR=42						
ASUD	**Al Ashush, Dub**	**8.15**	**151**	P	**Pn**	**03 27 05.4**	**+1.3**
	SNR=41						
ASUD				S	**Sn**	**03 28 37.0**	**+1.0**
ASUD	**Al Ashush, Dub**	**8.15**	**151**	*e*Pn	**Pn**	**03 27 05.6**	**+1.6**
FAQ	**Al Faqa, Dubai**	**8.16**	**149**	*i*P	**Pn**	**03 27 04.4**	**+0.3**
	SNR=15						
FAQ	**Al Faqa, Dubai**	**8.16**	**149**	P	**Pn**	**03 27 05.1**	**+0.9**
	SNR=16						
FAQ				S	**Sn**	**03 28 34.5**	**-1.7**
FAQ	**Al Faqa, Dubai**	**8.16**	**149**	*e*Pn	**Pn**	**03 27 05.3**	**+1.2**
HATD	**Hatta, Dubai**	**8.34**	**146**	*i*P	**Pn**	**03 27 07.7**	**+1.1**
	SNR=25						
HATD	**Hatta, Dubai**	**8.34**	**146**	P	**Pn**	**03 27 06.8**	**+0.2**
	SNR=13						
HATD				S	**Sn**	**03 28 38.2**	**-2.3**
HATD	**Hatta, Dubai**	**8.34**	**146**	*e*Pn	**Pn**	**03 27 06.8**	**+0.2**
IEMG	**Emamgholi**	**8.38**	**47**	*e*Pn	**Pn**	**03 27 07.9**	**+0.5**
GEYT	**Alibeck**	**8.40**	**42**	Pn	**Pn**	**03 27 09.1**	**+1.6**
	comp=Z,3.6nm,0.3s,baz=234,slow=13,SNR=47						
GEYT				Lg	Lg	03 29 31.4	
	comp=Z,0.9nm,0.3s,baz=227,slow=25,SNR=2.0						
ASHO	**Ashiyiah**	**8.42**	**147**	*i*P	**Pn**	**03 27 07.3**	**-0.5**
	SNR=89						
ASHO	**Ashiyiah**	**8.42**	**147**	P	**Pn**	**03 27 07.8**	**0.0**
	SNR=32						
ASHO	**Ashiyiah**	**8.42**	**147**	*e*Pn	**Pn**	**03 27 07.8**	**0.0**
JRKH	**Jarkhoshk**	**8.75**	**60**	*e*Pn	**Pn**	**03 27 13.3**	**+1.1**
IMYA	**Miami**	**8.76**	**57**	*e*Pn	**Pn**	**03 27 14.2**	**+1.7**
SIRT	**Sirnak**	**9.02**	**311**	*e*P	**Pn**	**03 27 16.0**	**0.0**
SOHO	**SOHO**	**9.12**	**146**	P	**Pn**	**03 27 16.1**	**-1.1**
	SNR=16						
SOHO				S	**Sn**	**03 28 57.8**	**-1.9**
VANB	**Van**	**9.16**	**319**	*e*P	**Pn**	**03 27 18.9**	**+1.0**
AKDM	**Akdamar-Van**	**9.21**	**317**	*e*P	**Pn**	**03 27 20.2**	**+1.6**
CLDR	**Caldiran**	**9.28**	**323**	*e*P	**Pn**	**03 27 22.4**	**+2.8**
RAYN	**Ar Rayn**	**9.63**	**212**	*e*Pn	**Pn**	**03 27 21.9**	**-2.5**
RAYN	**Ar Rayn**	**9.63**	**212**	*i*P	**Pn**	**03 27 21.7**	**-2.7**
	SNR=258						
RAYN	**Ar Rayn**	**9.63**	**212**	*e*P	**Pn**	**03 27 21.9**	**-2.5**
GNI	**Garni**	**9.70**	**330**	*e*P	**Pn**	**03 27 26.9**	**+1.6**
GNI	**Garni**	**9.70**	**330**	*e*Pn	**Pn**	**03 27 28.3**	**+3.0**
GNI	**Garni**	**9.70**	**330**⇑	*e*P	**Pn**	**03 27 24.3**	**-1.0**
ARQ	**Araqi**	**9.80**	**149**	P	**Pn**	**03 27 26.2**	**-0.5**
	SNR=15						
GURO	**Guroymak-BITLI**	**9.92**	**315**	*e*P	**Pn**	**03 27 29.4**	**+1.1**
AKT	**Akhty**	**9.95**	**346**⇓	*i*P	**Pn**	**03 27 31.1**	**+2.4**
HOQ	**Hoqain**	**9.96**	**144**	P	**Pn**	**03 27 28.9**	**+0.1**
	SNR=15						
HOQ				S	**Sn**	**03 29 19.3**	**-1.1**
HOQ	**Hoqain**	**9.96**	**144**	*e*Pn	**Pn**	**03 27 29.2**	**+0.4**
SVAN	**Silvan-Diyarba**	**10.20**	**311**	*e*P	**Pn**	**03 27 31.8**	**-0.2**
BIDO	**Bidbid**	**10.43**	**141**	*e*Pn	**Pn**	**03 27 34.7**	**-0.5**
BSY	**Bisya**	**10.62**	**147**	P	**Pn**	**03 27 38.4**	**+0.6**
	SNR=24						
BNGL	**BINGOL**	**10.71**	**314**	*i*P	**Pn**	**03 27 40.9**	**+1.8**
SMDO	**Samad**	**10.77**	**143**	P	**Pn**	**03 27 40.5**	**+0.6**
	SNR=15						
KARO	**Karliova-Bingo**	**10.99**	**315**	*e*P	**Pn**	**03 27 43.8**	**+0.8**
TBLG	**Delisi**	**11.05**	**335**	*e*Pn	**Pn**	**03 27 44.0**	**+0.3**
TBLG	**Delisi**	**11.05**	**335**	*e*P	**Pn**	**03 27 44.0**	**+0.3**
ECAT	**Cat-ERZURUM**	**11.22**	**316**	*i*P	Pn	03 27 53.6	+7.4
JMDO	**Jabal Madar**	**11.37**	**145**	P	**Pn**	**03 27 48.7**	**+0.6**
	SNR=7.7						
MAK	**Makhachkala**	**11.42**	**347**	*e*P	**Pn**	**03 27 51.9**	**+3.2**
MAK				*e*S	Sn	03 30 04.9	+8.9
MAK				pmax	pmax		
	comp=Z,168nm,0.7s						
MAK				MLR	MLR		
	comp=Z,2μm,18.0s						
BTLR	**Botlikh**	**11.43**	**342**⇓	*e*P	**Pn**	**03 27 51.7**	**+2.8**
URFA	**Urfa**	**11.47**	**302**	*e*P	**Pn**	**03 27 49.5**	**0.0**
WBK	**Wadi Bani Khal**	**11.62**	**141**	P	**Pn**	**03 27 51.2**	**-0.4**
	SNR=9.0						
PTK	**Pertek**	**11.79**	**310**	*i*P	**Pn**	**03 27 52.6**	**-1.3**
GROC	**Groznyy**	**12.05**	**341**	*e*P	**Pn**	**03 27 56.5**	**-0.7**
GROC				*e*S	**Sn**	**03 30 10.4**	**-0.9**
GROC				pmax	pmax		
	comp=Z,34nm,1.5s						
JLN	**Jalan Bani Buh**	**12.23**	**140**	P	**Pn**	**03 27 59.2**	**-0.6**
	SNR=7.3						
ZEI	**Tsey**	**12.28**	**335**	*e*P	**Pn**	**03 28 01.8**	**+1.2**
ZEI				pmax	pmax		
	comp=Z,93nm,1.4s						
TOTH	**TOTAH**	**12.39**	**281**	*e*P	**Pn**	**03 27 59.9**	**-2.1**
TOTH				*e*S	Sn	03 29 48.1	-32
TOTH				AML	AML	03 31 00.7	
	comp=N,62nm,0.7s						
TOTH				AML	AML	03 31 39.3	
	comp=E,77nm,0.7s						
MHTO	**MHTO**	**12.49**	**148**	P	**Pn**	**03 28 02.9**	**-0.6**
	SNR=40						
QASN	**Qassioun**	**12.52**	**282**

RBK	Rabkut	14.59	168	P		Pn	03 28 29.7	-2.5		
	SNR=7.0									
ABTO	Aybut	14.60	171	P		Pn	03 28 30.0	-2.3		
	SNR=7.4									
KIZK	Mersin	14.70	293	*e*P		Pn	03 28 33.9	+0.4		
SOC	Sochi	14.70	326	*e*P		Pn	03 28 31.8	-1.7		
SOC				*e*			03 31 13.4			
SOC				pmax		pmax				
	comp=Z,40nm,0.9s									
SOC				MLR		MLR				
	comp=Z,736nm,10.0s									
IKL	Isikli	15.01	292	*e*P		Pn	03 28 37.8	+0.1		
KEBE	Keben-Mersin	15.03	292	*e*P		Pn	03 28 38.1	0.0		
CSS	Mathiatis	15.09	287	*e*P		Pn	03 28 39.1	+0.3		
CSS	Mathiatis	15.09	287	*e*Pn		Pn	03 28 37.5	-1.2		
	comp=Z,106nm,0.9s									
CSS	Mathiatis	15.09	287	P		Pn	03 28 38.5	-0.3		
	comp=Z,32nm,0.9s									
CSS	Mathiatis	15.09	287	Pn		Pn	03 28 37.4	-1.4		
AKKU	Akkuyu-Mersin	15.10	291	*e*P		Pn	03 28 39.0	+0.1		
MAMC	Mammari	15.20	287	P		Pn	03 28 40.9	+0.6		
TEVE	Tevekalti-Mers	15.24	292	*i* P		Pn	03 28 41.2	+0.3		
BERE	Bereket-Mersin	15.39	292	*e*P		Pn	03 28 43.2	+0.2		
SZAC	Souni	15.43	286	P		Pn	03 28 38.6	-4.7		
LEF	Lefka	15.46	287	*e*P		Pn	03 28 45.1	+1.4		
CORM	Corum	15.62	307	*e*P		Pn	03 28 45.4	-0.5		
SULT	Sultanhani-AKS	15.65	299	*e*P		Pn	03 28 46.1	-0.2		
ERMK	Ermenek	15.70	293	*i* P		P	03 28 49.4	-1.7		
ALFC	Alefka	15.70	287	P		Pn	03 28 46.2	-0.7		
SERE	Sereflikochisa	15.87	301	*e*P		Pn	03 28 48.6	-0.5		
PPCY	Paphos	15.88	286	P		Pn	03 28 40.7	-8.4		
KAMT	Kaman	15.92	303	*e*P		Pn	03 28 49.5	-0.2		
BR131	Keskin Array S	16.11	304	*e*Pn		Pn	03 28 51.7	-0.5		
BR131	Keskin Array S	16.11	304	P		P	03 28 55.0	-0.5		
	SNR=20									
BRTR	Keskin Array B	16.11	304	Pn		Pn	03 28 52.0	-0.3		
	comp=Z,2.7nm,0.3s,baz=128,slow=13,SNR=102									
BRTR				LR		LR	03 35 31.2			
	comp=Z,561nm,18.8s,baz=110,slow=39									
SNOP	Sinop	16.17	313	*e*P		Pn	03 28 52.9	+0.1		
KULU	Kulu	16.31	301	*e*P		Pn	03 28 54.4	-0.4		
AFSR	Afar-Bala (An	16.41	302	*e*P		Pn	03 28 55.9	-0.1		
KKUL	Konya-Kulu	16.42	301	*i* P		Pn	03 28 57.2	+1.0		
KONT	Konya--Tatoy	16.45	297	*e*P		Pn	03 28 56.9	+0.5		
CANT	Cankiri	16.50	307	*e*P		Pn	03 28 57.3	+0.2		
LADK	Ladik-KONYA	16.52	298	*e*P		Pn	03 28 57.6	+0.2		
ILGA	Ilgaz	16.64	308	*e*Pn		Pn	03 28 59.8	+0.8		
	comp=Z,91nm,1.0s									
ANN	Anapa	16.71	324	*e*P		P	03 29 11.3	+9.4		
ANN				pmax		pmax				
	comp=Z,218nm,1.3s									
ANN				MLR		MLR				
	comp=Z,1μm,14.0s									
ANTO	Ankara	16.77	303	*e*P		Pn	03 29 00.6	+0.1		
ANTO	Ankara	16.77	303	*e*Pn		Pn	03 28 59.5	-1.0		
	comp=Z,77nm,0.7s									
ANTO	Ankara	16.77	303	⇑*i* P		P	03 29 03.4	+0.7		
ANTO	Ankara	16.77	303	*e*P		Pn	03 28 59.5	-1.0		
ANTO				pmax		pmax				
	comp=Z,77nm,0.7s									
ANTO	Ankara	16.77	303	P		P	03 29 02.4	-0.3		
	SNR=16									
ANTO	Ankara	16.77	303	*e*P		P	03 29 03.2	+0.5		
BR231	Keskin MP Arra	16.77	303	*e*Pn		Pn	03 29 00.6	0.0		
SVRH	Sivrihisar-ESK	17.53	301	*i* P		P	03 29 11.0	-0.2		
THW	Thamme Wali	17.55	81	P		P	03 29 10.3	-1.1		
CEP	Cherat	17.67	78	P		Pn	03 29 11.5	-0.4		
BTK	Batken	17.97	57	*e*Pn		P	03 29 16.5	+0.4		
	comp=Z,345nm,1.8s									
BTK	Batken	17.97	57	*e*P		P	03 29 16.5	+0.4		
BTK				pmax		pmax				
	comp=Z,345nm,1.8s									
CHM	Chimkent	18.10	50	*e*P		P	03 29 16.8	-0.5		
CHM				pmax		pmax				
	comp=Z,1μm,1.6s									
CHM				MLR		MLR				
	comp=Z,772nm,13.0s									
CHM	Chimkent	18.10	50	*e*P		P	03 29 16.9	-0.5		
	comp=Z,1μm,1.6s									
CHM				*e*LRM		MLR	03 37 12.7			
	comp=Z,772nm,13.4s									
MDUB	Mudurnu	18.13	304	*e*P		P	03 29 18.3	+0.5		
DAMY	Dhamar	18.25	201	*e*Pn		Pn	03 29 17.4	-1.9		
	comp=Z,260nm,1.1s									
IUG	Iuzhnay	18.30	51	*e*P		P	03 29 18.9	-0.7		
IUG				pmax		pmax				
	comp=Z,964nm,1.6s									
IUG				MLR		MLR				
	comp=Z,1μm,13.0s									
IUG	Iuzhnay	18.30	51	*e*P		Pn	03 29 18.1	-1.4		
	comp=Z,964nm,1.6s									
IUG				*e*LRM		MLR	03 37 27.6			
	comp=Z,1μm,13.1s									
SARP	Sargodha	18.40	84	P		Pn	03 29 19.9	-0.8		
SIM	Simferopol'	18.55	320	*c i*P		Pn	03 29 22.6	+0.1		
SIM				*e*S		Sn	03 32 50.0	+0.4		
SIM				pmax		pmax				
	comp=Z,45nm,1.0s									
SIM				MLR		MLR				
	comp=Z,500nm,15.0s									
AB31	Akbulak array	18.63	19	*i* P		P	03 29 22.1	-1.0		
AB31				pmax		pmax				
	comp=Z,25nm,0.7s									
ABKAR	Akbulak array	18.63	19	*e*P		Pn	03 29 22.6	-0.8		
NIL	Nilore	18.79	79	*e*P		Pn	03 29 26.2	+0.7		
	comp=Z,155nm,1.1s									
NIL	Nilore	18.79	79	*e*P		Pn	03 29 26.2	+0.7		
NIL				pmax		pmax				
	comp=Z,155nm,1.1s									
CHCP	Chirah Chowk	18.80	79	P		Pn	03 29 25.7	0.0		
CHCP				S		Sn	03 32 54.0	-1.8		
AKTO	Aktyubinsk	19.27	14	P		P	03 29 29.7	-0.4		
AKTO				pmax		pmax				
	comp=Z,106nm,1.5s									
MANT	Manisa	19.48	296	*e*P		P	03 29 33.0	+0.2		
	comp=Z,1μm,1.6s									
SFK	Sufi-Kurgan	19.91	60	P		Pn	03 29 39.9	+0.8		
SFK				pmax		pmax				
	comp=Z,150nm,1.4s									
ARSB	Arslanbob	19.96	56	*e*P		Pn	03 29 38.8	-0.8		
	comp=Z,89nm,0.8s									
VRH	Novokhopyorsk	20.50	343	*e*P		P	03 29 43.2	-0.3		
VRH				*e*S		S	03 33 32.7	+0.3		
VRH				pmax		pmax				
	comp=Z,440nm,0.7s									
VRH				smax		smax				
	comp=N,640nm,2.8s									
AML	Almayashu	20.76	54	P		Pn	03 29 48.3	-1.0		
	SNR=55									
EKS2	Erkin-Say	21.02	53	P			03 29 51.5			
	SNR=27									
STIA	Sitia Lasithi	21.02	286	P		P	03 29 52.6	+3.3		
VSR	Storozhevoye	21.22	339	*e*P		P	03 29 49.6	-1.7		
VSR				*e*S		S	03 33 43.1	-3.5		
VSR				pmax		pmax				
	comp=Z,140nm,0.7s									
VSR				smax		smax				
	comp=N,410nm,1.2s									
AMGA	Amorgos Island	21.30	290	P		P	03 29 51.8	-0.5		
UCH	Uchtor	21.36	54	P		P	03 29 54.8	+1.4		
	SNR=79									
EFOR	EFORIE	21.37	311	⇑*i* P		P	03 29 53.7	+0.8		
CHOS	Chios island	21.39	295	P		P	03 29 53.9	+0.6		
CHOS	Chios island	21.39	295	P		P	03 29 53.9	+0.6		
NPS	Neapolis	21.41	286	P		P	03 29 54.4	+0.8		
NPS	Neapolis	21.41	286	P		P	03 29 54.4	+0.8		
NPS	Neapolis	21.41	286	P		P	03 29 54.4	+0.8		
PSN	Preselentsi	21.48	310	P		P	03 29 54.1	-0.1		
AAK	Ala-Archa	21.50	53	P		P	03 29 54.6	+0.1		
	comp=N,12nm,1.0s,baz=238,slow=10,SNR=18									
AAK				PcP		PcP	03 33 58.4	+1.3		
	comp=N,6.5nm,0.7s,baz=241,slow=2.0,SNR=5.8									
AAK				LR		LR	03 39 26.0			
	comp=N,796nm,21.8s,baz=254,slow=40									
AAK	Ala-Archa	21.50	53	P		P	03 29 56.0	+1.5		
	SNR=16									
AAK	Ala-Archa	21.50	53	*e*P		P	03 29 55.3	+0.8		
	comp=N,88nm,1.1s									
AAK				*e*S		S	03 33 54.6	+1.9		
AAK				*e*ScP		ScP	03 37 34.2	+0.5		
AAK	Ala-Archa	21.50	53	*i* P		P	03 29 56.0	+1.5		
	SNR=36									
AAK	Ala-Archa	21.50	53	⇓*i* P		P	03 29 55.6	+1.0		
AAK				pmax		pmax				
	comp=Z,34nm,1.7s									
AAK	Ala-Archa	21.50	53	P		P	03 29 56.2	+1.6		
	SNR=65									
LAST	Lasithi	21.52	286	P		P	03 29 55.5	+0.7		
LAST	Lasithi	21.52	286	P		P	03 29 55.5	+0.7		
MFTR	Murfatlar	21.55	311	⇑*i* P		P	03 29 56.0	+1.1		
ATD	Arta Tunnel	21.59	202	P		P	03 29 56.1	+0.5		
	comp=Z,62nm,0.9s,baz=34,slow=7.2,SNR=12									
ATD				LR		LR	03 38 54.1			
	comp=Z,1μm,20.5s,baz=16,slow=38									
ATD	Arta Tunnel	21.59	202	*e*P		P	03 29 55.2	-0.4		
	comp=Z,155nm,1.1s									
SANT	Santorini	21.60	289	*e*P		P	03 29 54.2	-1.4		
	comp=Z,266nm,0.6s									
VORR	Voronezh	21.61	340	*e*P		P	03 29 55.0	-0.4		
VORR				pmax		pmax				
	comp=Z,350nm,1.2s									
APE	Apeiranthos	21.61	291	P		P	03 29 55.5	-0.2		
APE	Apeiranthos	21.61	291	⇑*i* P		P	03 29 57.0	+1.3		
APE	Apeiranthos	21.61	291	P		P	03 29 55.5	-0.2		
APE	Apeiranthos	21.61	291	*ce*P		P	03 29 56.8	+1.1		
APE				pmax		pmax				
	comp=Z,146nm,0.7s									
SAP2K	Karterados	21.62	289	P		P	03 29 55.8	+0.1		
KSH	Kashi	21.62	62	P		P	03 29 53.8	-2.1		
KSH				sP		sP	03 29 59.0	-3.7		
KSH				S		S	03 33 43.2	-12		
KSH				sS		sS	03 33 50.8	-12		
KSH				PcP		PcP	03 33 57.2	-0.1		
KSH				PcS		PcS	03 37 35.7	0.0		
KSH				pmax		pmax				
	comp=Z,110nm,1.0s									
KSH				LR		LR				
	comp=Z,5μm,12.6s									
KSH				LR		LR				
	comp=Z,5μm,9.4s									
KSH				LR		LR				
	comp=Z,6μm,15.1s									
THR2	Thira island,	21.63	289	P		P	03 29 56.0	+0.2		
THR2	Thira island,	21.63	289	P		P	03 29 56.0	+0.2		
THR6	Thira Island,	21.65	289	P		P	03 29 53.9	-2.1		
THR6	Thira Island,	21.65	289	P		P	03 29 53.9	-2.1		
FRU	Bishkek	21.66	53	*e*P		P	03 29 59.0	+2.9		
FRU				*e*			03 30 18.0			
FRU				*e*S		S	03 33 57.0	+1.5		
FRU				pmax		pmax				
	comp=Z,170nm,2.0s									
TIRR	Tirgusor	21.68	312	*e*P		P	03 29 56.1	-0.1		
	comp=Z,85nm,0.8s									
TIRR	Tirgusor	21.68	312	⇑*i* P		P	03 29 56.7	+0.4		
TIRR	Tirgusor	21.68	312	*e*P		P	03 29 56.2	-0.1		
TIRR				pmax		pmax				
	comp=Z,85nm,0.8s									
USP	Ospenovka	21.75	52	P		P	03 29 58.7	+1.6		
	SNR=18									
TLCR		21.78	314	⇑*i* P		P	03 29 58.0	+0.6		
PRD	Provadia	21.80	308	P		P	03 29 57.5	-0.1		
CHMS	Chumysh	21.81	53	P		P	03 30 01.9	+4.1		
	SNR=55									
KBK	Karagaybulak	21.82	54	P		P	03 30 02.9	+4.9		
	SNR=28									
KZA	Kyzart	21.82	55	P		P	03 30 00.3	+2.1		
	SNR=33									
KSTL	Kastelli Herak	21.86	286	P		P	03 30 01.0	+2.7		
CVDA	Cernavoda	21.86	311	⇓*i* P		P	03 29 59.2	+0.9		
ICOR	Ion Corvin	21.92	311	⇑*i* P		P	03 29 59.3	+0.4		
ALN	Alexandroupoli	21.97	301	*e*P		P	03 29 59.0	-0.4		
	comp=Z,232nm,1.9s									
ALN	Alexandroupoli	21.97	301	P		P	03 29 54.2	-5.2		
ALN	Alexandroupoli	21.97	301	*e*P		P	03 29 59.0	-0.4		
ALN				pmax		pmax				
	comp=Z,232nm,1.9s									
TLB	Topalu	21.98	312	⇑*i* P		P	03 29 59.3	-0.2		
IDI	Anoyia	22.01	286	*e*P		P	03 29 60.0	0.0		
	comp=Z,165nm,0.7s									
IDI	Anoyia	22.01	286	⇑*i* P		P	03 30 00.5	+0.5		
JMB	Yambol	22.08	306	P		P	03 30 00.9	+0.3		
HARR	Harsova	22.09	312	⇑*i* P		P	03 30 00.7	0.0		
CFR	Carcaliu	22.20	313	⇑*i* P		P	03 30 01.7	-0.1		
GIUM	Giurgiulesti	22.30	314	⇓*i* P		P	03 30 04.3	+1.3		
TKM2	Tokmak 2	22.36	53	P		P	03 30 07.8	+3.9		
	SNR=87									
RASA	Rasa	22.39	310	⇑*i* P		P	03 30 04.4	+0.6		
AMRR	Amara	22.44	311	⇓*i* P		P	03 30 05.4	+1.0		
LPSR	Galich'ya Gora	22.51	341	*e*P		P	03 30 03.9	-1.2		
LPSR				*e*S		S	03 34 09.2	-2.3		
LPSR				pmax		pmax				
	comp=Z,180nm,0.9s									
LPSR				smax		smax				
	comp=E,170nm,1.5s									
ULHL	Ulahol	22.57	56	P		P	03 30 10.4	+4.3		
	SNR=15									
KDZ	Kurdzhali	22.64	303	P		P	03 30 09.5	+2.9		
LEHL	Lehliu	22.71	311	⇑*i* P		P	03 30 09.3	+2.0		
KIS	Kishinev	22.74	318	⇓*i* P		P	03 30 06.0	-1.6		
	comp=E,630nm,2.0s									
KIS				*e*S		S	03 34 08.0	-7.8		
KIS				*i* SS		SnSn	03 34 53.0	+6.9		
KIS				*i* Li			03 36 28.0			
KIS				*i* Rg		Rg	03 38 54.0			
KIS				LRM		MLR	03 40 26.0			
	comp=E,600nm,18.0s									
KIS	Kishinev	22.74	318	⇓*i* P		P	03 30 06.0	-1.6		
KIS				*i*			03 30 14.0			
KIS				*i*			03 30 29.5			
KIS				*e*S		S	03 34 08.0	-7.8		
KIS				*i* SS		SnSn	03 34 53.0	+6.9		
KIS				pmax		pmax				
	comp=Z,630nm,2.0s									
KIS				MLR		MLR				
	comp=Z,600nm,18.0s									
LEOM	Leova	22.79	316	⇑*i* P		P	03 30 08.6	+0.5		
PGOR	Pogoanele	22.79	312	⇑*i* P		P	03 30 09.4	+1.2		
SZH	Strazhica	22.82	307	P		P	03 30 07.7	-0.8		
NDI	New Delhi	22.84	91	*e*P		P	03 30 10.5	+1.7		
OTUK	Ortayu	22.99	38	P		P	03 30 11.1	+0.8		
OTUK				pmax		pmax				
	comp=Z,192nm,1.2s									
MTBS	Maitube	23.00	54	*e*P		P	03 30 11.5	+1.0		
MTBS				pmax		pmax				
	comp=Z,182nm,0.6s									
MTBS	Maitube	23.00	54	*e*P		P	03 30 11.6	+1.0		
	comp=Z,182nm,0.6s									
PETR	Petresti	23.02	314	⇓*i* P		P	03 30 10.5	0.0		
EREA	Eretria	23.04	294	P		P	03 30 10.9	0.0		
BIR	Birlad	23.05	315	⇑*i* P		P	03 30 11.1	+0.3		
ATHU	Athens Univers	23.09	293	P		P	03 30 11.8	+0.4		
ATHU	Athens Univers	23.09	293	P		P	03 30 11.8	+0.4		
ODBI	Odobesti	23.15	314	⇓*i* P		P	03 30 13.5	+1.7		
RZN	Rozhen	23.15	302	P		P	03 30 12.9	+0.7		
SULR		23.16	311	⇑*i* P		P	03 30 13.2	+1.2		
DESE	Dese	23.17	209	*i* P		P	03 30 14.7	+2.1		
DESE				*e*S		ScP	03 37 56.7	+18		
DESE	Dese	23.17	209	*i* P		P	03 30 14.7	+2.1		
DESE				*e*S		ScP	03 37 56.7	+18		
ISR	Istrita	23.17	312	⇑*i* P		P	03 30 13.6	+1.4		
KDJ	Kajisay	23.20	56	*e*P		P	03 30 13.1	+0.5		
	comp=Z,327nm,1.5s									
KDJ	Kajisay	23.20	56	*e*P		P	03 30 13.1	+0.5		
KDJ				pmax		pmax				
	comp=Z,327nm,1.5s									
PVL	Pavlikeni	23.21	307	P		P	03 30 14.1	+1.6		
KUU	Kurty	23.22	52	*e*P		P	03 30 12.6	0.0		
KUU				pmax		pmax				
	comp=Z,489nm,1.8s									
KUU				MLR		MLR				
	comp=Z,644nm,14.0s									
KUU	Kurty	23.22	52	*e*P		P	03 30 12.7	0.0		
	comp=Z,489nm,1.8s									
KUU				*e*LRM		MLR	03 40 26.7			
	comp=Z,644nm,13.6s									
PLD	Plovdiv	23.28	303	P		P	03 30 12.9	-0.4		
TNSS	Tian-Shan	23.32	54	*e*P		P	03 30 15.5	+1.4		
TNSS				pmax		pmax				
	comp=Z,338nm,0.7s									
TNSS	Tian-Shan	23.32	54	*e*P		P	03 30 15.5	+1.4		
	comp=Z,338nm,0.7s									
AAA	Alma-Ata	23.36	54	*e*P		P	03 30 18.2	+4.1		
AAA				*e*S		S	03 34 32.2	+5.6		
AAA				pmax		pmax				
	comp=Z,600nm,3.3s									
AAA				smax		smax				
	comp=E,1μm,8.1s									
AAA				MLR		MLR				
	comp=Z,2μm,13.0s									
AAA	Alma-Ata	23.36	54	*e*P		P	03 30 15.3	+1.2		
	comp=Z,399nm,1.5s									
AAA				*e*LRM		MLR	03 40 44.1			
	comp=Z,952nm,12.3s									
VRI	Vrincioaia	23.40	314	⇓*i* P		P	03 30 14.6	+0.2		
PLAR	PLOIESTI	23.41	311	⇑*i* P		P	03 30 16.5	+2.0		
SECR		23.43	311	⇑*i* P		P	03 30 16.2	+1.4		
MDOK	Medeo	23.44	54	*e*P		P	03 30 14.7	-0.3		
MDOK				pmax		pmax				
	comp=Z,324nm,1.7s									
MDOK				MLR		MLR				
	comp=Z,1μm,12.0s									
MDOK	Medeo	23.44	54	*e*P		P	03 30 14.7	-0.3		
	comp=Z,324nm,1.7s									
MDOK				*e*LRM		MLR	03 40 36.5			
	comp=Z,1μm,11.7s									
BOM	Bombay	23.50	118	*e*P		P	03 30 14.1	-1.5		
BOM				*e*S		S	03 34 28.1	-0.9		
IAS	Iasi	23.57	317	⇑*i* P		P	03 30 17.1	+1.1		
CHKK	Chushkaly	23.64	52	*e*P		P	03 30 17.0	+0.2		
CHKK				pmax		pmax				
	comp=Z,248nm,1.2s									
CHKK	Chushkaly	23.64	52	*e*P		P	03 30 17.0	+0.2		
	comp=Z,248nm,1.2s									
MLR	Muntele Rosu	23.71	312	P		P	03 30 18.3	+0.7		
	comp=Z,124nm,0.7s,baz=143,slow=6.4,SNR=78									
MLR	Muntele Rosu	23.71	312	*e*P		P	03 30 17.8	+0.2		
	comp=Z,142nm,0.8s									
MLR	Muntele Rosu	23.71	312	⇓*i* P		P	03 30 19.2	+1.6		
MLR	Muntele Rosu	23.71	312	*e*P		P	03 30 17.8	+0.2		
MLR				pmax		pmax				
	comp=Z,142nm,0.8s									
ATAL	Atalanti	23.79	294	P		P	03 30 17.8	-0.5		
ATAL	Atalanti	23.79	294	P		P	03 30 17.8	-0.5		
PGB	Panagyurishte	23.80	304	P		P	03 30 18.4	0.0		
MMB	Musomiste	23.84	302	P		P	03 30 17.4	-1.4		
HUMR	Humele	23.93	309	⇑*i* P		P	03 30 20.0	+0.4		
GOLR		24.07	310	⇓*i* P		P	03 30 21.9	+1.0		
VLAD	Vladila	24.12	308	⇑*i* P		P	03 30 21.1	-0.2		
MTUR	Matau	24.16	311	⇑*i* P		P	03 30 23.0	+1.2		
PRZ	Przheval'sk	24.16	56	*e*P		P	03 30 23.1	+1.0		
	comp=Z,358nm,1.6s									
GUR	Goura	24.22	292	P		P	03 30 22.4	-0.1		
GUR	Goura	24.22	292	P		P	03 30 22.4	-0.1		
VOIR		24.26	311	⇑*i* P		P	03 30 23.6	+0.9		
DOPR	Dopca	24.27	313	⇑*i* P		P	03 30 23.1	+0.3		
BIZ	Bicaz	24.29	315	⇓*i* P		P	03 30 23.2	+0.3		
SATY	Saty	24.34	55	*e*P		P	03 30 24.1	+0.5		
SATY				pmax		pmax				
	comp=Z,1μm,1.2s									
SATY				MLR		MLR				
	comp=Z,399nm,11.0s									
SATY	Saty	24.34	55	*e*P		P	03 30 24.1	+0.5		
	comp=Z,1μm,1.2s									
SATY				*e*LRM		MLR	03 41 00.3			
	comp=Z,399nm,11.2s									
MPEP	Malo Peshtene	24.35	306	P		P	03 30 23.7	+0.2		
AGG	Agios Georgios	24.37	295	*e*P		P	03 30 22.6	-1.1		
	comp=Z,111nm,0.7s									
AGG	Agios Georgios	24.37	295	P		P	03 30 23.6	-0.1		
AGG	Agios Georgios	24.37	295	*e*P		P	03 30 22.6	-1.1		
AGG				pmax		pmax				
	comp=Z,111nm,0.7s									
KKB	Krupnik	24.38	302	P		P	03 30 22.7	-1.1		
ZHN	Zhinishke	24.40	55	*e*P		P	03 30 24.0	0.0		
ZHN				pmax		pmax				
	comp=Z,1μm,1.2s									
ZHN	Zhinishke	24.40	55	*e*P		P	03 30 24.1	0.0		
	comp=Z,1μm,1.2s									
LIT	Litokhoron	24.42	298	*e*P		P	03 30 23.4	-0.8		
	comp=Z,62nm,0.8s									
LIT	Litokhoron	24.42	298	*e*P		P	03 30 23.4	-0.8		
LIT				pmax		pmax				
	comp=Z,62nm,0.8s									
PRAR	RASCA	24.43	316	⇓*i* P		P	03 30 24.5	+0.3		
VTS	Vitosha	24.49	304	*e*P		P	03 30 24.5	-0.4		
	comp=Z,38nm,1.0s									
VTS	Vitosha	24.49	304	⇑*i* P		P	03 30 24.9	0.0		
VTS	Vitosha	24.49	304	*e*P		P	03 30 24.5	-0.4		
VTS				pmax		pmax				
	comp=Z,38nm,1.0s									
VTS	Vitosha	24.49	304	P		P	03 30 24.5	-0.4		
ITM	Ithomi	24.49	291	*e*P		P	03 30 24.6	-0.2		
	comp=Z,175nm,0.6s									
ARR	Arges	24.50	311	⇑*i* P		P	03 30 25.2	+0.3		
ANKE	Ethiopia-Afar	24.51	208	*i* P		P	03 30 23.2	-2.3		
ANKE	Ethiopia-Afar	24.51	208	*i* P		P	03 30 23.2	-2.3		
VAY	Valandovo	24.62	301	*i* P		P	03 30 25.4	-0.5		
CRAR	CRAIOVA	24

SNR=40
BVA0 Borovoye Array 25.37 28 P **P** **03 30 33.0 +0.4**
BVA0 pmax pmax
comp=Z,124nm,1.5s
FNA Florina 25.38 299 *eP* **P** **03 30 32.8 -0.1**
comp=Z,56nm,0.7s
FNA Florina 25.38 299 *eP* **P** **03 30 32.8 -0.1**
FNA pmax pmax
comp=Z,56nm,0.7s
OBN Obninsk 25.39 340 P **P** **03 30 32.8 +0.1**
comp=Z,8.3nm,0.4s,baz=130,slow=5.1,SNR=18
OBN LR LR 03 41 53.7
comp=Z,177nm,18.0s,baz=166,slow=40
OBN Obninsk 25.39 340 *eP* **P** **03 30 32.6 -0.1**
OBN Obninsk 25.39 340⇑ *iP* **P** **03 30 34.3 +1.6**
OBN Obninsk 25.39 340 *i* P **P** **03 30 32.3 -0.4**
OBN *i* 03 31 06.1
OBN *i* 03 34 04.8
OBN *i* S **S** **03 34 52.7 -6.0**
OBN pmax pmax
comp=Z,127nm,1.0s
OBN MLR MLR
comp=Z,635nm,17.0s
ARCR ARCALIA 25.42 314⇑ *iP* **P** **03 30 34.6 +1.5**
BIA Bitola 25.47 299 *i* P **P** **03 30 34.3 +0.6**
FURI Furi 25.57 209 *eP* **P** **03 30 34.8 -0.3**
comp=Z,132nm,1.1s
SKO Skopje 25.59 302 *i* P **P** **03 30 34.7 0.0**
KRUS Krusevo 25.60 300 *i* P **P** **03 30 34.7 -0.2**
MOS Moscow 25.65 342 *eP* **P** **03 30 35.8 +0.7**
MOS *eS* **S** **03 35 09.7 +6.8**
MOS pmax pmax
comp=Z,300nm,1.4s
MOS pmax pmax
comp=Z,134nm,1.2s
MOS MLR MLR
comp=Z,400nm,17.0s
GZR Gura Zlata 25.71 310⇓ *iP* **P** **03 30 35.9 +0.1**
CJR Cluj-Napoca 25.71 313⇓ *iP* **P** **03 30 37.0 +1.1**
HERR Herculane 25.76 308⇑ *iP* **P** **03 30 37.8 +1.6**
DEV Deva 25.81 311⇑ *iP* **P** **03 30 37.7 +1.0**
SVE Sverdlovsk 25.84 12⇓ *eP* **P** **03 30 37.2 +0.4**
SVE pmax pmax
comp=Z,60nm,1.1s
SVE MLR MLR
comp=Z,801nm,12.0s
OHR Ohrid 25.88 299 *i* P **P** **03 30 37.2 -0.2**
MDVR Moldovita 26.20 308⇓ *iP* **P** **03 30 40.5 +0.2**
BMR Baia Mare 26.20 315⇑ *iP* **P** **03 30 41.4 +1.2**
DRGR 26.30 313⇑ *iP* **P** **03 30 41.6 +0.4**
BZS Buzias 26.55 310⇓ *iP* **P** **03 30 43.4 0.0**
TIR Tirane 26.61 300 *eP* **P** **03 30 43.6 -0.3**
comp=Z,129nm,0.8s
TIR Tirane 26.61 300⇓ *iP* **P** **03 30 45.1 +1.1**
TIR Tirane 26.61 300 *eP* **P** **03 30 43.7 -0.3**
TIR pmax pmax
comp=Z,129nm,0.8s
SIRR Siria 26.76 311⇑ *iP* **P** **03 30 46.3 +1.0**
BANR Banloc 26.79 309⇓ *iP* **P** **03 30 46.8 +1.3**
CEI Carei 26.84 314⇑ *iP* **P** **03 30 46.9 +1.0**
LVV L'vov 26.95 320 *eP* **P** **03 30 46.8 -0.1**
LVV *eS* **S** **03 35 19.8 -3.7**
LVV MLR MLR
comp=Z,200nm,15.0s
TRPA Tarpa 26.98 315⇓ *iP* **P** **03 30 47.9 +0.7**
TRPA Tarpa 26.98 315⇓ *eP* **P** **03 30 47.0 -0.2**
LTVH Ltavrtes, Hu 27.05 313 *eP* **P** **03 30 49.0 +1.2**
JBP Jabalpur 27.05 101 *eP* **P** **03 30 50.5 +2.4**
JBP *eS* **S** **03 35 28.1 +2.5**
DIVS Divibare 27.16 306 *eP* **P** **03 30 49.4 +0.4**
comp=Z,28nm,0.9s
DIVS Divibare 27.16 306 *eP* **P** **03 30 48.0 -1.0**
PDG Podgorica 27.27 302⇓ *iP* **P** **03 30 51.3 +1.4**
PDG Podgorica 27.27 302 *eP* **P** **03 30 50.6 +0.7**
DRME Dracevica, Mon 27.28 301 *eP* **P** **03 30 48.6 -1.4**
UZH Uzhgorod 27.36 316 *eP* **P** **03 30 53.6 +3.0**
UZH *e* 03 30 57.1
UZH *e* 03 31 54.3
UZH *eS* **S** **03 35 33.0 +3.1**
BBLS Lazići 27.51 305 *eP* **P** **03 30 53.2 +1.1**
KWP Kalwaria Pacla 27.59 318 *eP* **P** **03 30 53.2 +0.5**
KWP Kalwaria Pacla 27.59 318 *eP* **P** **03 30 53.2 +0.5**
FRGS Fruska Gora 27.60 308 *eP* **P** **03 30 49.7 -3.1**
KURBB Kurchatov Arra 27.67 39 P **P** **03 30 53.2 -0.1**
comp=Z,20nm,1.1s,baz=242,slow=9.0,SNR=48
KURBB PcP **PcP** **03 34 10.7 +0.5**
comp=Z,5.5nm,0.6s,baz=241,slow=2.9,SNR=10
KURBB ScP **ScP** **03 37 49.5 -1.0**
comp=Z,6.1nm,1.1s,baz=245,slow=3.9,SNR=9.8
KURBB PKiKP **PKiKP** **03 41 45.3 -1.3**
comp=Z,0.6nm,0.6s,baz=234,slow=1.3,SNR=5.0
KURK Kurchatov 27.77 39 *eP* **P** **03 30 54.8 +0.6**
comp=Z,42nm,1.1s
KURK PcP **PcP** **03 34 10.7 +0.2**
KURK ScP **ScP** **03 37 49.5 -1.3**
KURK PKiKP **PKiKP** **03 41 45.3 -1.4**
KURK LR LR
comp=Z,1μm,21.0s
KURK Kurchatov 27.77 39 *eP* **P** **03 30 54.8 +0.6**
KURK 03 34 10.7
KURK *i* 03 41 45.3
KURK pmax pmax
comp=Z,41nm,1.1s
KURK MLR MLR
comp=Z,1μm,21.0s
KURK Kurchatov 27.77 39 P **P** **03 30 55.3 +1.0**
SNR=24
HAPS Han Pijesak,BI 27.88 305 *eP* P 03 30 48.2 -7.3
PYUN Piuthan 27.90 89 *eP* **P** **03 30 56.4 +0.5**
comp=Z,270nm,1.1s
MICGM Minsk 27.98 331 *e* **P** **03 30 55.0 -1.0**
MNK Minsk 27.98 331 *eP* **P** **03 30 55.0 -1.0**
TREB Trebinje 27.99 302 *eP* **P** **03 30 55.3 -1.0**
MAKZ Makanchi 28.00 49 *eP* **P** **03 30 56.9 +0.5**
comp=Z,126nm,1.5s
MAKZ Makanchi 28.00 49 P **P** **03 30 57.2 +0.8**
MAKZ pmax pmax
comp=Z,98nm,1.6s
MK01 Makanchi Array 28.19 49 *eP* **P** **03 30 58.6 +0.5**
MK31 Makanchi Array 28.19 49 *eP* **P** **03 30 58.7 +0.5**
MK31 Makanchi Array 28.19 49 *eP* **P** **03 30 58.7 +0.5**
MKAR Makanchi Array 28.19 49 P **P** **03 30 59.2 +1.0**
comp=Z,12nm,0.7s,baz=244,slow=7.8,SNR=81
MKAR PcP **PcP** **03 34 11.8 +0.1**
comp=Z,4.1nm,0.7s,baz=256,slow=2.4,SNR=5.3
MKAR ScP **ScP** **03 37 51.8 -0.4**
comp=Z,3.7nm,1.1s,baz=256,slow=4.9,SNR=4.7
MKAR PKiKP **PKiKP** **03 41 46.7 -0.4**
comp=Z,0.6nm,0.8s,baz=226,slow=3.6,SNR=3.9
MKAR LR LR 03 42 57.4
comp=Z,614nm,18.7s,baz=250,slow=38
MKAR P3KPbc 04 03 18.2
comp=Z,0.7nm,0.7s,baz=62,slow=4.4,SNR=7.3
DANN Dangsing 28.49 88 *eP* **P** **03 31 02.1 +0.8**
comp=Z,281nm,0.8s
SEM Semipalatinsk 28.50 41 *eP* **P** **03 31 00.4 -0.6**
SEM pmax pmax
comp=Z,423nm,1.1s
SEM MLR MLR
comp=Z,2μm,13.0s
SEM Semipalatinsk 28.50 41 *eP* **P** **03 31 00.5 -0.6**
comp=Z,423nm,1.1s
SEM *e*LRM MLR 03 43 25.1
comp=Z,2μm,13.4s
KOLN Koldanda 28.51 90 *eP* **P** **03 31 02.1 +0.7**
comp=Z,252nm,1.6s
PSZ Piszkesteto 28.51 313 *eP* **P** **03 31 01.7 +0.7**
comp=Z,25nm,0.8s
PSZ Piszkesteto 28.51 313⇑ *iP* **P** **03 31 02.4 +1.4**
PSZ Piszkesteto 28.51 313 *eP* **P** **03 31 02.1 +1.1**
PSZ Piszkesteto 28.51 313 *eP* **P** **03 31 01.7 +0.7**
PSZ pmax pmax
comp=Z,25nm,0.8s
TIP Timpagrande 28.69 294 *eP* **P** **03 31 02.4 -0.3**
comp=Z,71nm,1.2s
TIP Timpagrande 28.69 294⇑ *iP* **P** **03 31 02.9 +0.2**
MORH Mrgy, Hungar 28.70 309 *eP* **P** **03 31 01.1 -1.6**
MORH Mrgy, Hungar 28.70 309 *eP* **P** **03 31 02.5 -0.1**
NACGM Naroch 28.71 330 *e* **P** **03 31 02.0 -0.6**
NACGM *e*LQ LQ 03 40 18.0
NACGM *e*LR LR 03 42 24.0
HYB Hyderabad 28.77 113 *i* P **P** **03 31 04.0 +0.5**
MATE Matera 28.87 297⇑ *iP* **P** **03 31 04.4 +0.2**
NIE Niedzica 28.88 316 *eP* **P** **03 31 06.3 +2.0**

NIE Niedzica 28.88 316 *eP* **P** **03 31 06.3 +2.0**
BUD Budapest 28.89 312 *eP* **P** **03 31 04.0 -0.3**
IDID Didziasalis 29.02 331 *eP* **P** **03 31 05.7 +0.4**
IDID IAmb IAmb 03 31 11.5
comp=Z,35nm,1.1s
IIGN Ignalina 29.26 331 *eP* **P** **03 31 08.1 +0.6**
IIGN IAmb IAmb 03 31 12.9
comp=Z,33nm,0.7s
LANS Liptovska Anna 29.26 315 *eP* **P** **03 31 08.5 +0.9**
LANS Liptovska Anna 29.26 315 *eP* **P** **03 31 08.5 +0.9**
BLY Banja Luka 29.27 306 *eP* **P** **03 31 07.5 -0.2**
comp=Z,87nm,1.8s
BLY Banja Luka 29.27 306⇑ *iP* **P** **03 31 07.9 +0.1**
BLY Banja Luka 29.27 306 *eP* **P** **03 31 06.5 -1.2**
VYHS Vyhne 29.38 314 *eP* **P** **03 31 08.7 0.0**
VYHS *e* 03 37 56.5
VYHS pmax pmax
comp=Z,19nm,0.9s
VYHS Vyhne 29.38 314 *eP* **P** **03 31 08.7 0.0**
VYHS *e*SCP **ScP** **03 37 56.5 +0.6**
ISAL Salakas 29.45 331 *eP* **P** **03 31 09.8 +0.7**
ISAL IAmb IAmb 03 31 13.6
comp=Z,40nm,0.8s
IZAR Zarasai 29.52 331 *eP* **P** **03 31 09.9 +0.1**
IZAR IAmb IAmb 03 31 16.1
comp=Z,36nm,0.7s
OJC Ojcow 29.53 318 *eP* **P** **03 31 09.9 0.0**
OJC Ojcow 29.53 318 *eP* **P** **03 31 09.9 0.0**
comp=Z,156nm,1.0s
OJC Ojcow 29.53 318 *eP* **P** **03 31 09.9 0.0**
KOLL Kolacno 29.68 314 *eP* **P** **03 31 12.8 +1.5**
KOLL Kolacno 29.68 314 *eP* **P** **03 31 12.8 +1.5**
BEL Belsk 29.75 321 *eP* **P** **03 31 12.6 +0.7**
BEL Belsk 29.75 321 *eP* **P** **03 31 12.6 +0.7**
SUW Suwalki 29.75 326 *eP* **P** **03 31 12.2 +0.4**
SUW Suwalki 29.75 326 *eP* **P** **03 31 11.2 -0.6**
comp=Z,362nm,1.1s
SUW Suwalki 29.75 326 *eP* **P** **03 31 12.2 +0.4**
DMN Daman 29.84 89 *eP* **P** **03 31 13.6 +0.4**
comp=Z,222nm,1.0s
KKN Kakani 29.93 89 *eP* **P** **03 31 14.3 +0.3**
comp=Z,207nm,0.9s
KLMR Klimovskoe 29.97 349 *eP* **P** **03 31 11.7 -1.9**
KLMR pmax pmax
comp=Z,89nm,1.1s
KLMR Klimovskoe 29.97 349 *eP* **P** **03 31 11.8 -1.9**
KLMR AMP 03 31 14.7
comp=Z,89nm,1.1s
PRGR Permogore 29.99 355 *eP* **P** **03 31 09.6 -4.2**
PRGR pmax pmax
comp=Z,33nm,0.6s
BEHE Becsehely 30.02 309 *eP* **P** **03 31 14.0 -0.3**
BEHE Becsehely 30.02 309 *eP* **P** **03 31 16.0 +1.7**
ZSN Zaisan 30.07 49 *eP* **P** **03 31 14.4 -0.4**
ZSN pmax pmax
comp=Z,52nm,1.1s
ZSN MLR MLR
comp=Z,493nm,12.0s
ZSN Zaisan 30.07 49 *eP* **P** **03 31 14.5 -0.4**
comp=Z,52nm,1.1s
ZSN *e*LRM MLR 03 44 29.8
comp=Z,493nm,12.0s
PKIN Phulchoki 30.09 89 *eP* **P** **03 31 15.8 +0.3**
comp=Z,275nm,1.1s
JAVC Velka Javorina 30.24 314 *eP* **P** **03 31 17.2 +0.9**
SMOL Smolenice 30.26 313 *eP* **P** **03 31 18.1 +1.7**
SMOL Smolenice 30.26 313 *eP* **P** **03 31 18.1 +1.7**
MODS Modra-Piesok 30.30 313 *eP* **P** **03 31 16.8 -0.1**
MODS pmax pmax
comp=Z,31nm,1.3s
MODS Modra-Piesok 30.30 313 *eP* **P** **03 31 16.8 -0.1**
PABE Paberze 30.32 329 *eP* **P** **03 31 16.8 0.0**
PABE IAmb IAmb 03 31 20.9
comp=Z,109nm,0.7s
OKC Ostrava-Krasne 30.33 316 *eP* **P** **03 31 16.7 -0.3**
OKC AMS AMS 03 45 20.0
comp=Z,600nm,20.9s
OKC Ostrava-Krasne 30.33 316 *eP* **P** **03 31 16.7 -0.3**
OKC MLR MLR
comp=Z,600nm,20.9s
GUN Gumba 30.41 88 *eP* **P** **03 31 19.2 +0.8**
comp=Z,384nm,0.9s
SOP Sopron 30.53 311 *eP* **P** **03 31 18.0 -0.8**
MORC Moravsky Berou 30.66 315 *eP* **P** **03 31 19.5 -0.5**
comp=Z,48nm,0.9s
MORC Moravsky Berou 30.66 315⇓ *iP* **P** **03 31 19.9 -0.1**
MORC Moravsky Berou 30.66 315 *eP* **P** **03 31 19.5 -0.5**
MORC pmax pmax
comp=Z,48nm,0.9s
MORC Moravsky Berou 30.66 315 *eP* **P** **03 31 19.4 -0.6**
CRES Cresnjev 30.73 307 *eP* **P** **03 31 20.3 -0.3**
JIRN Jiri 30.74 89 *eP* **P** **03 31 22.0 +0.6**
comp=Z,194nm,0.8s
BOJS Bojanci 30.79 307 *i* P **P** **03 31 21.0 -0.1**
CONA Conrad Observa 31.05 311 *epP* **P** **03 31 23.4 -0.1**
comp=Z,17nm,0.7s,SNR=10
VRAC Vranov 31.06 314 P **P** **03 31 23.5 0.0**
comp=Z,31nm,0.8s,baz=101,slow=8.5,SNR=37
VRAC PcP **PcP** **03 34 18.9 0.0**
comp=Z,3.0nm,0.7s,baz=56,slow=3.6,SNR=3.7
VRAC LR LR 03 45 37.3
comp=Z,453nm,18.7s,baz=144,slow=40
VRAC Vranov 31.06 314⇑ *iP* **P** **03 31 23.5 0.0**
VRAC Vranov 31.06 314 *eP* **P** **03 31 23.3 -0.2**
ARSA Arzberg 31.07 310 *epP* **P** **03 31 23.7 +0.2**
comp=Z,12nm,0.7s,SNR=7.3
ARSA *e*PcP **PcP** **03 34 19.5 +0.5**
comp=Z,6.5nm,0.9s
WMQ Urumqi 31.09 57⇑ *iP* **P** **03 31 25.5 +1.6**
WMQ pP sP 03 31 32.1 +0.9
WMQ sP pP 03 31 34.4 +5.3
WMQ PP **PnPn** **03 32 28.1 +2.9**
WMQ S **S** **03 36 32.1 +3.3**
WMQ pmax pmax
comp=Z,67nm,1.3s
WMQ pmax pmax
comp=Z,630nm,3.8s
WMQ LR LR
comp=Z,2μm,19.5s
WMQ LR LR
comp=Z,1μm,20.5s
WMQ LR LR
comp=Z,1μm,19.5s
WMQ Urumqi 31.09 57 *eP* **P** **03 31 24.5 +0.6**
comp=Z,68nm,1.3s
WMQ Urumqi 31.09 57 *eP* **P** **03 31 24.5 +0.6**
WMQ pmax pmax
comp=Z,68nm,1.3s
KRUC Moravsky 31.09 314 *eP* **P** **03 31 23.4 -0.4**
VISS Visnje 31.14 307 *iP* **P** **03 31 24.6 +0.3**
PERS Pernice 31.16 309 *eP* **P** **03 31 25.3 +0.8**
KRLC Kraliky 31.23 316 *eP* **P** **03 31 25.8 +0.7**
KRLC Kraliky 31.23 316 *eP* **P** **03 31 25.8 +0.7**
VSU Vasula 31.28 335 *ceP* **P** **03 31 26.1 +0.8**
VSU pmax pmax
comp=Z,140nm,0.8s
VSU Vasula 31.28 335 *eP* **P** **03 31 25.3 0.0**
VSU IAmb IAmb 03 31 30.3
comp=Z,241nm,1.1s
RAMN Ramite 31.30 90 *eP* **P** **03 31 26.3 +0.2**
comp=Z,204nm,0.9s
CEY Cerknica 31.40 307 *eP* **P** **03 31 26.7 +0.1**
LJU Ljubljana 31.41 307 *eP* **P** **03 31 26.2 -0.4**
CLTB Caltabellotta 31.43 291 *eP* **P** **03 31 27.3 +0.3**
comp=Z,38nm,0.6s
OBKA Obir 31.51 308 *epP* **P** **03 31 28.1 +0.6**
comp=Z,21nm,1.0s
AQU L'Aquila 31.54 300 *eP* **P** **03 31 23.6 -4.2**
PBUR Paburg 31.54 329 *eP* **P** **03 31 26.2 -1.5**
PBUR IAmb IAmb 03 31 30.0
comp=Z,164nm,0.6s
DPC Dobruska-Polom 31.61 316 *eP* **P** **03 31 28.2 -0.2**
DPC Dobruska-Polom 31.61 316 *eP* **P** **03 31 28.2 -0.2**
JAVS Javornik 31.69 307 *eP* **P** **03 31 28.9 -0.3**
TREC Trest 31.73 314 *eP* **P** **03 31 28.4 -1.0**
TREC *epP* **pP** **03 31 31.2 -3.5**
TREC AMS AMS 03 45 30.0
comp=Z,800nm,17.8s
TREC Trest 31.73 314 *eP* **P** **03 31 28.4 -1.0**
TREC *e* 03 31 31.2
TREC MLR MLR
comp=Z,800nm,17.8s
KSP Ksiaz 31.82 317 *eP* **P** **03 31 30.3 +0.1**
KSP Ksiaz 31.82 317 *eP* **P** **03 31 30.3 +0.1**

TRI Trieste 31.85 307 *eP* **P** **03 31 30.7 +0.2**
comp=Z,36nm,0.8s
TRI Trieste 31.85 307 *eP* **P** **03 31 30.7 +0.2**
TRI pmax pmax
comp=Z,36nm,0.8s
UPC Upice 31.86 316 *eP* **P** **03 31 29.7 -0.8**
UPC AMS AMS 03 44 40.0
comp=Z,600nm,20.2s
UPC Upice 31.86 316 *eP* **P** **03 31 29.7 -0.8**
UPC MLR MLR
comp=Z,600nm,20.2s
MOA Molln 32.05 311 *epP* **P** **03 31 32.2 -0.1**
comp=Z,34nm,0.6s,SNR=17
NVS Novosibirsk 32.34 35⇑ *iP* **P** **03 31 35.8 +1.2**
NVS *e* 03 34 23.1
NVS *eS* **S** **03 36 40.0 -7.9**
NVS pmax pmax
comp=N,23nm,1.3s
NVS pmax pmax
comp=Z,34nm,1.3s
NVS smax smax
comp=E,18nm,1.4s
GKP Gorka Klasztor 32.34 321 *eP* **P** **03 31 36.0 +1.3**
GKP Gorka Klasztor 32.34 321 *eP* **P** **03 31 36.0 +1.3**
GOPC GO Pecny, Ondr 32.37 314 *eP* **P** **03 31 36.6 +1.5**
GOPC AMS AMS 03 46 00.0
comp=E,600nm,18.5s
GOPC GO Pecny, Ondr 32.37 314 *eP* **P** **03 31 36.6 +1.5**
GOPC MLR MLR
comp=Z,600nm,18.5s
SLIT Slitere, Latvi 32.40 331 *eP* **P** **03 31 35.4 +0.3**
SLIT IAmb IAmb 03 31 39.8
comp=Z,286nm,0.8s
DGZ Jazzator, Alta 32.42 46*d iP* **P** **03 31 36.9 +1.2**
DGZ pmax pmax
comp=Z,20nm,1.1s
KBA Koelnbreinsper 32.45 309 *epP* **P** **03 31 36.0 +0.1**
comp=Z,46nm,0.7s,SNR=11
PRU Pruhonice 32.55 315 *eP* **P** **03 31 36.1 -0.4**
PRU AMS AMS 03 46 00.0
comp=Z,800nm,18.9s
PRU Pruhonice 32.55 315 *eP* **P** **03 31 36.1 -0.4**
PRU MLR MLR
comp=Z,800nm,18.9s
PRA Prague 32.64 315 *eP* **P** **03 31 39.4 +2.0**
PRA AMS AMS 03 46 10.0
comp=Z,600nm,19.6s
PRA Prague 32.64 315 *eP* **P** **03 31 39.4 +2.0**
PRA MLR MLR
comp=Z,600nm,19.6s
ZAA0 Zalesovo Array 32.68 38 *eP* **P** **03 31 38.0 +0.4**
comp=Z,26nm,0.8s
ZALV Zalesovo Beam 32.68 38 P **P** **03 31 38.0 +0.3**
comp=Z,17nm,0.5s,baz=249,slow=7.6,SNR=64
ZALV PcP **PcP** **03 34 22.3 -0.9**
comp=Z,2.7nm,0.4s,baz=233,slow=3.8,SNR=6.7
ZALV LR LR 03 45 55.3
comp=Z,336nm,20.9s,baz=246,slow=38
GEA0 GERESS Array S 32.70 312 *eP* **P** **03 31 37.4 -0.7**
GEA0 *e*PcP **PcP** **03 34 23.7 +0.3**
GEC2 GERESS Array S 32.70 312 *eP* **P** **03 31 37.2 -0.9**
comp=Z,17nm,0.6s
GEC2 GERESS Array S 32.70 312 *eP* **P** **03 31 37.4 -0.7**
comp=Z,14nm,0.6s,baz=108,slow=8.7
GEC2 GERESS Array S 32.70 312 *eP* **P** **03 31 37.2 -0.9**
GEC2 pmax pmax
comp=Z,17nm,0.6s
GERES GERESS Array B 32.70 312 P **P** **03 31 36.0 -2.0**
comp=Z,11nm,0.6s,baz=111,slow=8.7,SNR=80
GERES PcP **PcP** **03 34 23.2 -0.3**
comp=Z,4.7nm,0.6s,baz=130,slow=2.7,SNR=11
GERES ScP **ScP** **03 38 05.8 -1.2**
comp=Z,2.2nm,1.0s,baz=106,slow=3.2,SNR=4.0
GERES LR LR 03 47 10.5
comp=Z,222nm,18.3s,baz=114,slow=40
PVCC Panska Ves 32.72 315 *eP* **P** **03 31 37.6 -0.4**
PVCC Panska Ves 32.72 315 *eP* **P** **03 31 37.6 -0.4**
KHC Kasperske Hory 32.87 313 *eP* **P** **03 31 38.5 -0.8**
comp=Z,59nm,1.8s
KHC Kasperske Hory 32.87 313 *eP* **P** **03 31 38.6 -0.8**
KHC *ex* x 03 31 49.0
KHC *ex* x 03 32 00.0
KHC AMS AMS 03 47 10.0
comp=Z,600nm,16.2s
KHC Kasperske Hory 32.87 313 *eP* **P** **03 31 38.6 -0.8**
KHC *e* 03 31 49.0
KHC MLR MLR
comp=Z,600nm,16.2s
ABTA Abfaltersbach 32.93 308 *epP* **P** **03 31 39.9 -0.1**
comp=Z,13nm,0.5s
ABTA *e*PcP **PcP** **03 34 24.4 +0.2**
comp=Z,12nm,1.1s
RJOB Jochberg 32.98 310 *eP* **P** **03 31 38.9 -1.5**
baz=108,slow=8.7
BRG Berggiesshubel 33.21 316 *i* P **P** **03 31 41.8 -0.6**
comp=Z,27nm,1.0s
comp=N,630nm,22.4s
comp=E,601nm,23.6s
comp=Z,640nm,17.8s
BRG Berggiesshubel 33.21 316 *eP* **P** **03 31 42.3 -0.1**
comp=Z,18nm,0.9s,baz=108,slow=8.7
BRG Berggiesshubel 33.21 316 *i P* **P** **03 31 41.8 -0.6**
BRG pmax pmax
comp=Z,27nm,1.0s
BRG MLR MLR
comp=N,630nm,22.4s
BRG MLR MLR
comp=E,601nm,23.6s
BRG MLR MLR
comp=Z,640nm,17.8s
WET Wettzell 33.31 312 *eP* **P** **03 31 42.9 -0.4**
comp=Z,16nm,0.7s,baz=108,slow=8.7
FBE Freiberg 33.58 316 *eP* **P** **03 31 45.7 +0.2**
baz=108,slow=8.7
WATA Walderalm 33.68 309 *i* P **P** **03 31 45.6 -1.0**
comp=Z,23nm,0.4s,SNR=27
WATA *e*PcP **PcP** **03 34 27.4 +1.1**
comp=Z,13nm,1.0s
WATA *eS* **S** **03 37 09.1 -0.3**
comp=Z,18nm,1.3s
FIA1 FINESS Array S 33.75 339 *eP* **P** **03 31 47.0 +0.2**
FINES FINESS Array B 33.75 339 P **P** **03 31 46.5 -0.3**
comp=Z,14nm,0.5s,baz=143,slow=9.7,SNR=70
FINES PcP **PcP** **03 34 25.6 -0.3**
comp=Z,5.4nm,0.7s,baz=129,slow=2.7,SNR=3.8
FINES LR LR 03 46 55.9
comp=Z,607nm,18.1s,baz=144,slow=39
RUE Ruedersdorf 33.90 318 *eP* **P** **03 31 48.4 +0.1**
comp=Z,106nm,0.8s,baz=108,slow=8.7
RUE Ruedersdorf 33.90 318 *eP* **P** **03 31 47.3 -1.0**
RUE IAmb IAmb 03 31 51.5
comp=Z,148nm,0.8s
NKC Novy Kostel 33.90 314 *eP* **P** **03 31 47.9 -0.5**
NKC Novy Kostel 33.90 314 *eP* **P** **03 31 47.9 -0.5**
SQTA Sankt Quirin 33.90 309 *i* P **P** **03 31 47.5 -1.1**
comp=Z,85nm,0.5s,SNR=37
SQTA *e*PcP **PcP** **03 34 27.2 +0.3**
comp=Z,7.5nm,0.8s
CLL Collm 33.92 316 *eP* **P** **03 31 47.9 -0.5**
comp=Z,57nm,0.9s
CLL Collm 33.92 316 *eP* **P** **03 31 48.9 +0.4**
comp=Z,44nm,0.8s,baz=108,slow=8.7
CLL Collm 33.92 316 *eP* **P** **03 31 48.0 -0.5**
comp=Z,17nm,1.0s
CLL *i* Pmax 03 31 50.4
comp=Z,57nm,0.9s
CLL *e*PPP PPP 03 33 12.0
CLL *e*PPPP 03 33 18.0
CLL *e*PcP **PcP** **03 34 27.0 +0.3**
CLL *eS* **S** **03 37 20.0 +7.4**
CLL *e*PcS **PcS** **03 38 13.0 +0.5**
CLL LmV 03 47 00.0
comp=Z,500nm,19.2s
CLL Collm 33.92 316 *eP* **P** **03 31 48.0 -0.5**
CLL *e* 03 34 27.0
CLL *eS* **S** **03 37 20.0 +7.4**
CLL pmax pmax
comp=Z,57nm,0.9s
CLL MLR MLR
comp=Z,500nm,19.2s
VLC Villacollemand 33.95 303 *eP* **P** **03 31 48.4 -0.5**
comp=Z,75nm,1.2s
TANN Tannenbergstha 33.95 314 *eP* **P** **03 31 49.4 +0.5**
baz=108,slow=8.7
WERN Wernitzgruen 33.96 314 *eP* **P** **03 31 49.9 +1.0**
baz=108,slow=8.7

MOTA Moosalm 34.00 309 *i* pP **P 03 31 49.1 -0.3**
comp=Z,17nm,0.5s,SNR=25
MOTA *i* PcP **PcP 03 34 29.5 +2.3**
comp=Z,13nm,0.9s
MOTA *e*S **S 03 37 11.9 -2.3**
comp=Z,14nm,0.8s
GUNZ Gunzen 34.01 314 *e*P **P 03 31 50.3 +0.9**
baz=108,slow=8.7
MANZ Manzenberg 34.04 314 *e*P **P 03 31 50.4 +0.8**
baz=108,slow=8.7
FUR Furstenfeldbru 34.07 310 *e*P **P 03 31 49.9 0.0**
baz=108,slow=8.7
FETA Feichten 34.18 308 *e*P **P 03 31 49.2 -1.8**
comp=Z,48nm,0.5s,SNR=31
FETA *e*PcP **PcP 03 34 28.0 +0.3**
comp=Z,11nm,0.9s
FETA *e*S **S 03 37 15.0 -2.0**
comp=Z,30nm,1.2s
RETA Reutte 34.26 309 *i* P **P 03 31 50.3 -1.2**
comp=Z,19nm,0.4s,SNR=6.6
RETA *e*S **S 03 37 15.9 -2.1**
comp=Z,21nm,1.2s
BSD Bornholm Skovb 34.41 323 *i* P **P 03 31 52.0 -0.7**
comp=Z,249nm,0.5s
BSD Bornholm Skovb 34.41 323 *i* P **P 03 31 52.0 -0.7**
BSD pmax pmax
comp=Z,250nm,0.5s
FUORN Ofenpass-Fuorn 34.42 307 *e*P **P 03 31 52.9 -0.3**
comp=Z,84nm,1.7s
LSA Lhasa 34.42 83 *e*P **P 03 31 54.1 +0.5**
comp=Z,57nm,1.3s
LSA LR LR
comp=Z,431nm,19.0s
LSA Lhasa 34.42 83 *i* P **P 03 31 55.1 +1.5**
SNR=11
GRA1 Grafenberg Arr 34.50 313 *e*P **P 03 31 53.1 -0.5**
comp=Z,36nm,0.7s
GRF Grafenberg Arr 34.50 313 *e*P **P 03 31 53.7 +0.1**
baz=108,slow=8.7
GRF Grafenberg Arr 34.50 313 *e*P **P 03 31 53.1 -0.5**
GRF pmax pmax
comp=Z,36nm,0.7s
GRFO Grafenberg 34.50 313 *e*P **P 03 31 53.4 -0.2**
comp=Z,30nm,0.7s
GRFO Grafenberg 34.50 313 *e*P **P 03 31 53.4 -0.2**
GRFO pmax pmax
comp=Z,30nm,0.7s
MOX Moxa 34.53 315 *e*P **P 03 31 54.3 +0.4**
baz=108,slow=8.7
MOX *e*L L 03 46 40.7
comp=Z,347nm,21.1s
NEUB Neuenburg 34.62 316 *e*P **P 03 31 55.3 +0.8**
comp=Z,37nm,0.8s,baz=108,slow=8.7
KEST Kesra 34.65 288 P **P 03 31 56.3 +1.1**
comp=Z,36nm,0.8s,baz=80,slow=1.8,SNR=26
KEST PcP **PcP 03 34 29.2 0.0**
comp=Z,6.2nm,0.7s,baz=156,slow=2.2,SNR=5.0
KEST Kesra 34.65 288 *e*P **P 03 31 55.1 -0.1**
comp=Z,38nm,0.8s
KEST PcP **PcP 03 34 29.2 0.0**
DAVOX Davos/Dischmat 34.70 307 P **P 03 31 54.6 -1.1**
comp=Z,30nm,0.5s,baz=106,slow=9.4
DAVOX PcP **PcP 03 34 29.5 +0.2**
comp=Z,4.6nm,0.7s,baz=146,slow=3.6,SNR=3.8
DAVOX S **S 03 37 22.0 -3.2**
comp=Z,6.4nm,1.0s,baz=85,slow=24,SNR=8.7
DAVA Damuels 34.80 308 *i* P **P 03 31 55.1 -1.3**
comp=Z,128nm,0.4s,SNR=53
DAVA *i* S **S 03 37 24.1 -2.6**
comp=Z,28nm,1.0s
RGN Rugen 34.99 322 *e*P **P 03 31 56.4 -1.2**
RGN IAmb IAmb 03 32 01.9
comp=Z,406nm,1.0s
TUE Stuetta 35.01 307 *e*P **P 03 31 58.4 +0.1**
comp=Z,26nm,0.7s
KMBO Kilima Mbogo 35.31 204 P **P 03 32 01.1 0.0**
comp=Z,2.0nm,0.7s,baz=24,slow=12,SNR=5.8
KMBO PcP **PcP 03 34 31.9 +0.4**
comp=Z,1.6nm,0.8s,baz=359,slow=3.9,SNR=2.5
KMBO LR LR 03 47 07.9
comp=Z,697nm,18.1s,baz=14,slow=37
KMBO Kilima Mbogo 35.31 204 *e*P **P 03 31 59.9 -1.2**
comp=Z,15nm,1.4s
KMBO PcP **PcP 03 34 31.9 +0.4**
KMBO Kilima Mbogo 35.31 204 P **P 03 32 01.7 +0.6**
ASSE Asse, Remlinge 35.56 317 *e*P **P 03 32 03.3 +0.7**
comp=Z,21nm,0.8s,baz=108,slow=8.7
UBBA Unterbreizbach 35.57 314 *e*P **P 03 32 03.4 +0.8**
baz=108,slow=8.7
CLZ Clausthal 35.65 316 *e*P **P 03 32 03.7 +0.3**
comp=Z,56nm,0.8s,baz=108,slow=8.7
GTTG Gvttingen 35.80 315 *e*P **P 03 32 05.4 +0.7**
comp=Z,23nm,0.8s,baz=108,slow=8.7
COP Copenhagen 35.93 323 *i* P **P 03 32 06.9 +1.1**
comp=Z,139nm,0.8s
COP Copenhagen 35.93 323 *i* P **P 03 32 06.9 +1.1**
COP pmax pmax
comp=Z,140nm,0.8s
NRDL Niedersach Rie 36.01 317 *e*P **P 03 32 07.1 +0.7**
comp=Z,86nm,0.9s,baz=108,slow=8.7
BFO Black Forest 36.03 310 *e*P **P 03 32 06.7 -0.1**
comp=Z,31nm,1.5s
BFO Black Forest 36.03 310 *e*P **P 03 32 05.9 -0.8**
baz=108,slow=8.7
BFO Black Forest 36.03 310 *e*P **P 03 32 06.7 -0.1**
BFO pmax pmax
comp=Z,31nm,1.5s
SHL Shillong 36.23 89 *e*P **P 03 32 08.8 -0.2**
comp=Z,97nm,0.8s
SHL Shillong 36.23 89 *e*P **P 03 32 08.8 -0.2**
SHL pmax pmax
comp=Z,97nm,0.8s
SHL Shillong 36.23 89 *i* P **P 03 32 10.0 +1.0**
SHL *e*S **S 03 37 45.0 -4.1**
TNS Taunus Mts 36.37 313 *e*P **P 03 32 10.1 +0.4**
comp=Z,18nm,0.7s,baz=108,slow=8.7
BSEG Bad Segeberg 36.38 319 *e*P **P 03 32 09.7 +0.1**
comp=Z,39nm,0.9s,baz=108,slow=8.7
SENIN Lac Senin/Sane 36.40 306 *e*P **P 03 32 09.5 -0.7**
comp=Z,35nm,0.6s
BNI Bardonecchia 36.68 304 *e*P **P 03 32 10.7 -1.8**
comp=Z,105nm,0.7s
ECH Echery 36.78 309 *e*P **P 03 32 10.4 -2.8**
comp=Z,17nm,0.8s
ECH Echery 36.78 309 *e*P **P 03 32 10.4 -2.8**
ECH pmax pmax
comp=Z,17nm,0.8s
PALK Pallekele 36.93 125 *e*P **P 03 32 15.8 +1.0**
comp=Z,35nm,0.6s
PALK Pallekele 36.93 125 P **P 03 32 15.8 +1.0**
PALK Pallekele 36.93 125 *e*P **P 03 32 15.8 +1.0**
PALK pmax pmax
comp=Z,35nm,0.6s
CTEI Djebel Teioual 36.99 289 P **P 03 32 17.7 +2.5**
AHRW Bad Neuenahr-A 37.30 313 *e*P **P 03 32 18.0 +0.5**
comp=Z,22nm,0.6s,baz=108,slow=8.7
LVZ Lovozero 37.32 350 *e*P **P 03 32 17.9 +0.4**
comp=Z,83nm,1.1s
LVZ Lovozero 37.32 350‖ *e*P **P 03 32 17.7 +0.2**
LVZ pmax pmax
comp=Z,12nm,1.0s
IBBN Ibbenburen 37.33 316 *e*P **P 03 32 18.7 +1.0**
comp=Z,37nm,0.8s,baz=108,slow=8.7
DFRA Djebel Bou Aff 37.36 290 P **P 03 32 20.8 +2.4**
BUG Bochum–Univer 37.39 315 *e*P **P 03 32 19.1 +0.8**
comp=Z,28nm,1.0s,baz=108,slow=8.7
HFS Hagfors 37.48 330 P **P 03 32 18.7 -0.3**
comp=Z,82nm,0.5s,baz=126,slow=9.3,SNR=230
HFS S **S 03 38 05.2 -1.9**
comp=Z,26nm,1.1s,baz=129,slow=21,SNR=5.5
MBAR Mbarara 37.57 215 *e*P **P 03 32 20.0 -0.3**
comp=Z,28nm,0.9s
MBAR Mbarara 37.57 215*c* *i*P **P 03 32 20.7 +0.4**
MBAR pmax pmax
comp=Z,35nm,1.0s
WLF Walferdange 37.70 311 *e*P **P 03 32 20.1 -0.8**
comp=Z,118nm,0.7s
WLF Walferdange 37.70 311 *e*P **P 03 32 20.7 -0.2**
comp=Z,57nm,0.7s,baz=108,slow=8.7
WLF Walferdange 37.70 311 *e*P **P 03 32 20.1 -0.8**
WLF pmax pmax
comp=Z,118nm,0.7s
WLF Walferdange 37.70 311‖ P **P 03 32 19.9 -1.0**
CKHR Kef el Ahmar 37.71 289 P **P 03 32 22.8 +1.4**
SET Setif 37.78 289 P **P 03 32 25.0 +3.1**
WTSB Winterswijk 37.81 315 *e*P **P 03 32 22.3 +0.5**
comp=Z,186nm,1.4s

MUD Monsted U'grnd 37.92 323 *i* P **P 03 32 23.6 +1.0**
comp=Z,132nm,0.8s
MUD Monsted U'grnd 37.92 323 *i* P **P 03 32 23.6 +1.0**
MUD pmax pmax
comp=Z,130nm,0.8s
MEM Membach 37.98 313‖ P **P 03 32 23.6 +0.4**
HGN Heimansgroeve 38.06 313 *e*P **P 03 32 25.8 +1.8**
comp=Z,129nm,1.6s
SSB Saint Sauveur 38.20 304 *e*P **P 03 32 24.1 -1.2**
comp=Z,22nm,0.6s
SSB Saint Sauveur 38.20 304 *e*P **P 03 32 24.1 -1.2**
SSB pmax pmax
comp=Z,22nm,0.6s
BEBN Eben Emael 38.22 313 ⇑P **P 03 32 26.2 +0.9**
OSL Oslo 38.67 329 *e*P **P 03 32 28.8 -0.1**
NC602 NORSAR Array S 38.71 330 *e*P **P 03 32 29.1 -0.2**
NC602 *e*S **S 03 38 32.4 +6.8**
DOU Dourbes 38.77 312 ⇑P **P 03 32 30.4 +0.5**
comp=Z,16nm,0.7s
NC405 NORSAR Array S 38.83 331 *e*P **P 03 32 29.8 -0.5**
HOMB Homborsund 38.97 325 *e*P **P 03 32 31.9 +0.4**
NB201 NORSAR Array S 38.97 330 *e*P **P 03 32 30.6 -0.9**
NB2 NORSAR Subarra 39.00 330 P **P 03 32 30.6 -1.2**
comp=Z,46nm,0.8s,baz=121,slow=8.6
NB2 NORSAR Subarra 39.00 330 P **P 03 32 30.6 -1.2**
baz=121,slow=8.6
NOA NORSAR Array B 39.00 330 P **P 03 32 30.8 -1.0**
comp=Z,18nm,0.5s,baz=122,slow=8.4,SNR=147
NOA S **S 03 38 29.7 -0.4**
comp=Z,5.8nm,1.3s,baz=125,slow=15,SNR=3.1
NOA LR LR 03 49 54.0
comp=Z,461nm,21.9s,baz=130,slow=38
NC303 NORSAR Array S 39.03 331 *e*P **P 03 32 32.1 +0.1**
UCC Uccle 39.04 313 *e*P **P 03 32 32.2 0.0**
comp=Z,27nm,1.0s
NAO01 NORSAR Array S 39.04 330 *e*P **P 03 32 32.1 0.0**
KONO Kongsberg 39.05 328 *e*P **P 03 32 31.5 -0.6**
comp=Z,76nm,0.9s
KONO Kongsberg 39.05 328‖ *e*P **P 03 32 31.6 -0.5**
KONO pmax pmax
comp=Z,86nm,1.0s
KONO Kongsberg 39.05 328 *e*P **P 03 32 31.4 -0.8**
NBO00 NORSAR Array S 39.18 330 *e*P **P 03 32 32.8 -0.5**
NC204 NORSAR Array S 39.31 330 *e*P **P 03 32 33.9 -0.5**
NC204 *e*S **S 03 38 39.6 +4.8**
SNART Snartemo 39.62 325 *e*P **P 03 32 37.5 +0.5**
GTA Gaotai 39.97 65 ‖P **P 03 32 41.7 +1.4**
GTA pP sP 03 32 45.9 -1.8
GTA sP pP 03 32 48.7 +3.1
GTA PP **PnPn 03 34 18.9 +3.4**
GTA PcP **PcP 03 34 47.4 +2.0**
GTA PcS **PcS 03 38 35.7 -0.1**
GTA S **S 03 38 49.4 +4.0**
GTA sS sS 03 38 56.3 +2.5
GTA ScS **ScS 03 42 47.9 +0.6**
GTA pmax pmax
comp=Z,45nm,1.0s
GTA pmax pmax
comp=Z,340nm,4.5s
GTA LR LR
comp=Z,760nm,14.8s
GTA LR LR
comp=Z,540nm,13.1s
GTA LR LR
comp=Z,900nm,12.0s
CLF Chambon-Foret 40.00 308 *e*P **P 03 32 39.8 -0.4**
comp=Z,202nm,1.9s
ARCES ARCESS Array B 40.37 346 P **P 03 32 43.4 +0.4**
comp=Z,10nm,0.6s,baz=152,slow=8.8,SNR=28
ARCES PP **PP 03 34 14.7 -1.1**
comp=Z,18nm,1.0s,baz=148,slow=7.1,SNR=3.5
ARCES LR LR 03 51 27.6
comp=Z,13nm,21.8s,baz=141,slow=39
ARCES ARCESS Array B 40.37 346 *e*P **P 03 32 43.0 0.0**
ARCES PP **PP 03 34 14.7 -1.1**
ARCES ARCESS Array B 40.37 346 *e*P **P 03 32 43.0 0.0**
ARCES 03 34 14.7
ARE0 ARCESS Array S 40.37 346 *e*P **P 03 32 44.5 +1.5**
DOMB Dombas 40.39 331 *e*P **P 03 32 43.9 +0.5**
BLS5 Blasjo 40.40 326 *e*P **P 03 32 43.9 +0.5**
KTK1 Kautokeino 40.42 345 *e*P **P 03 32 43.5 +0.1**
ODD1 Odda 40.52 327 *e*P **P 03 32 45.4 +0.9**
NSS Namsos 40.58 335 *e*P **P 03 32 44.7 -0.1**
MOR8 Moi Rana 40.74 338 *e*P **P 03 32 45.9 -0.3**
KMY Karmoy 40.90 326 *e*P **P 03 32 48.3 +0.9**
TAM Tamanrasset 41.16 269 *e*P **P 03 32 50.0 -0.3**
comp=Z,89nm,1.8s
TAM Tamanrasset 41.16 269 *e*P **P 03 32 50.0 -0.3**
TAM pmax pmax
comp=Z,89nm,1.8s
HYA Hoyanger 41.23 329 *e*P **P 03 32 50.9 +0.8**
MOY Mondy 41.26 46 *e*P **P 03 32 52.6 +1.9**
MOY pmax pmax
comp=Z,122nm,2.0s
MOL Molde 41.27 331 *e*P **P 03 32 51.2 +0.8**
BER Bergen 41.30 327 *e*P **P 03 32 51.0 +0.3**
AKN Aaknes 41.32 330 *e*P **P 03 32 52.9 +1.9**
KONS Konsvik 41.36 338 *e*P **P 03 32 52.2 +1.1**
ASK Askoy 41.40 328 *e*P **P 03 32 51.8 +0.3**
STEI Steigen 41.64 341 *e*P **P 03 32 54.2 +0.7**
SUE Sulen 41.82 328 *e*P **P 03 32 55.7 +0.7**
TRO Tromso 41.88 344 *e*P **P 03 32 54.6 -0.8**
FOO Floro 41.91 329 *e*P **P 03 32 56.2 +0.5**
ZAK Zakamensk 42.53 49 *e*P **P 03 33 02.5 +1.4**
ZAK *e* 03 34 51.8
ZAK pmax pmax
comp=Z,29nm,1.5s
WOL Wolverton 42.60 313 *e*P **P 03 33 01.0 -0.5**
WOL IAmb IAmb 03 33 03.1
comp=Z,82nm,0.7s
CART Cartagena 42.68 293 *e*P **P 03 33 01.2 -1.2**
comp=Z,23nm,1.1s
SWN1 Swindon 42.98 313 *e*P **P 03 33 04.4 -0.3**
SWN1 IAmb IAmb 03 33 09.0
comp=Z,90nm,0.8s
LBWR Ladybower, Pea 43.17 316 *e*P **P 03 33 05.3 -0.9**
LBWR IAmb IAmb 03 33 08.5
comp=Z,38nm,0.8s
STRD Stroud 43.24 313 *e*P **P 03 33 05.9 -0.8**
STRD IAmb IAmb 03 33 08.5
comp=Z,81nm,0.8s
IRK Irkutsk 43.34 46 *e*P **P 03 33 08.1 +0.5**
IRK pmax pmax
comp=Z,141nm,2.1s
EDMD Edmundbyers 43.53 318 *e*P **P 03 33 09.0 -0.1**
EDMD IAmb IAmb 03 33 11.5
comp=Z,45nm,0.6s
LZH Lanzhou 43.58 69 *e*P **P 03 33 11.7 +1.8**
LZH pP sP 03 33 17.1 -0.2
LZH sP pP 03 33 20.6 +5.4
LZH PP **PP 03 34 49.4 -1.8**
LZH S S 03 39 48.8 +10
LZH SS **SS 03 42 51.1 -2.4**
LZH pmax pmax
comp=Z,120nm,1.0s
LZH pmax pmax
comp=Z,620nm,4.3s
LZH LR LR
comp=Z,2μm,11.9s
LZH LR LR
comp=Z,1μm,14.1s
LZH LR LR
comp=Z,2μm,15.2s
MONM Monmouth 43.64 313 *e*P **P 03 33 09.7 -0.3**
HLM1 Long Mynd 43.76 314 *e*P **P 03 33 11.2 +0.3**
MCH1 Michaelchurch 43.77 314 *e*P **P 03 33 10.6 -0.4**
MCH1 IAmb IAmb 03 33 12.7
comp=Z,32nm,0.8s
FOEL Foel Wylfa 43.99 315 *e*P **P 03 33 13.5 +0.7**
FOEL IAmb IAmb 03 33 15.2
comp=Z,48nm,0.7s
ESY Stoneypath 44.09 319 *e*P **P 03 33 13.5 0.0**
KESW Keswick, Cumbr 44.15 317 *e*P **P 03 33 14.0 0.0**
LRW Lerwick 44.28 326 *e*P **P 03 33 14.4 -0.5**
LRW IAmb IAmb 03 33 17.1
comp=Z,107nm,0.7s
EKA Eskdalemuir Ar 44.29 318 P **P 03 33 14.2 -0.9**
comp=Z,32nm,0.8s,baz=110,slow=8.0,SNR=50
EKA PcP **PcP 03 34 59.2 0.0**
comp=Z,9.6nm,0.9s,baz=92,slow=5.0,SNR=4.8
ESK Eskdalemuir 44.32 318 *e*P **P 03 33 15.8 +0.5**
comp=Z,34nm,0.9s
ESK Eskdalemuir 44.32 318 *e*P **P 03 33 15.9 +0.5**
ESK Eskdalemuir 44.32 318 *e*P **P 03 33 15.8 +0.5**

ESK pmax pmax
comp=Z,34nm,0.9s
EDI Edinburgh 44.40 319 *e*P **P 03 33 16.0 0.0**
EDU Dundee 44.42 320 *e*P **P 03 33 16.9 +0.8**
SONM Songino Array 44.45 52 P **P 03 33 16.9 +0.2**
comp=Z,12nm,0.9s,baz=271,slow=9.4,SNR=73
SONM PcP **PcP 03 35 01.1 +1.0**
comp=Z,3.8nm,0.7s,baz=264,slow=4.8,SNR=6.9
SONM LR LR 03 53 13.7
comp=Z,482nm,18.4s,baz=228,slow=38
SONA1 Songino Array 44.45 52 *e*P **P 03 33 17.6 +0.8**
MME1 Meikle Cairn 44.53 321 *e*P **P 03 33 16.9 -0.1**
ES19 SONSECA Array 44.63 296 *e*P **P 03 33 17.7 -0.5**
CD2 Chengdu 44.66 77 P **P 03 33 19.2 +0.7**
CD2 pP sP 03 33 23.5 -2.4
CD2 PP **PP 03 35 03.3 +0.5**
CD2 S **S 03 39 55.3 +0.7**
CD2 pmax pmax
comp=Z,70nm,0.5s
CD2 pmax pmax
comp=Z,140nm,4.8s
CD2 LR LR
comp=Z,920nm,19.9s
CD2 LR LR
comp=Z,1μm,13.9s
CD2 LR LR
comp=Z,890nm,14.9s
ESDC Sonseca Array 44.68 296 P **P 03 33 17.5 -1.1**
comp=Z,6.2nm,0.5s,baz=73,slow=8.0,SNR=74
ESDC PcP **PcP 03 35 01.3 +0.3**
comp=Z,2.6nm,0.6s,baz=55,slow=3.5,SNR=4.6
ESLA Sonseca Array 44.68 296 *e*P **P 03 33 18.4 -0.1**
comp=Z,19nm,0.8s
WME Myndd Eilian 44.71 316 *e*P **P 03 33 19.0 +0.5**
MCD Coleburn Disti 44.74 322 *e*P **P 03 33 19.0 +0.3**
WPS Cemaes, Angles 44.82 316 *e*P **P 03 33 20.0 +0.6**
WPS IAmb IAmb 03 33 20.8
comp=Z,28nm,0.6s
ULN Ulaanbaatar 44.89 52 *e*P **P 03 33 20.9 +0.6**
comp=Z,58nm,1.1s
ULN LR LR
comp=Z,438nm,20.0s
ULN Ulaanbaatar 44.89 52*d* *i*P **P 03 33 21.0 +0.7**
ULN pmax pmax
comp=Z,91nm,1.7s
ULN Ulaanbaatar 44.89 52 P **P 03 33 21.2 +0.9**
SNR=32
CHTO Chiang Mai 44.90 95 *e*P **P 03 33 20.5 +0.1**
CHTO LR LR
comp=Z,260nm,20.0s
CHTO Chiang Mai 44.90 95 *e*P **P 03 33 20.5 +0.1**
CHTO MLR MLR
comp=Z,260nm,20.0s
CHTO Chiang Mai 44.90 95 P **P 03 33 21.2 +0.7**
SNR=23
CHTO Chiang Mai 44.90 95 P **P 03 33 21.5 +1.1**
comp=Z,257nm,1.5s,comp=Z,4μm
CHTO Chiang Mai 44.90 95 *e*P **P 03 33 20.8 +0.3**
CMMT Chiang Mai 44.90 95 P **P 03 33 21.4 +0.9**
comp=Z,56nm,1.4s,comp=Z,1μm
MLA1 Latheron 44.94 323 *e*P **P 03 33 20.4 +0.2**
INVG Invergeldie, C 44.96 320 *e*P **P 03 33 20.3 -0.2**
INVG IAmb IAmb 03 33 24.3
comp=Z,65nm,0.9s
PAB San Pablo 45.00 296 *e*P **P 03 33 21.0 -0.1**
comp=Z,77nm,1.5s
PAB San Pablo 45.00 296 *e*P **P 03 33 21.0 -0.1**
PAB pmax pmax
comp=Z,77nm,1.5s
CMAR Chiang Mai Arr 45.05 95 P **P 03 33 21.3 -0.4**
comp=Z,10nm,0.6s,baz=291,slow=8.1,SNR=27
CMAR PcP **PcP 03 35 02.7 +0.2**
comp=Z,8.5nm,0.8s,baz=289,slow=4.7,SNR=8.5
CMAR LR LR 03 55 33.5
comp=Z,175nm,20.9s,baz=300,slow=40
CM01 Chiang Mai Arr 45.08 95 *e*P **P 03 33 22.1 +0.2**
CM01 *e*PcP **PcP 03 35 02.7 +0.1**
EAB Aberfoyle 45.09 320 *e*P **P 03 33 21.7 +0.2**
PGBU Glenifferbraes 45.11 319 *e*P **P 03 33 22.1 +0.5**
KMI Kunming 45.61 85 P **P 03 33 27.0 +0.7**
KMI pP pP 03 33 29.6 -2.0
KMI sP sP 03 33 31.5 -2.2
KMI S **S 03 40 09.7 +1.0**
KMI SS **ScS 03 43 25.1 +2.3**
KMI pmax pmax
comp=Z,100nm,1.2s
KMI pmax pmax
comp=Z,350nm,3.1s
KMI LR LR
comp=Z,440nm,15.6s
KMI LR LR
comp=Z,290nm,17.6s
KMI LR LR
comp=Z,270nm,23.7s
KMI Kunming 45.61 85 *e*P **P 03 33 27.1 +0.7**
comp=Z,72nm,0.7s
KMI Kunming 45.61 85 *e*P **P 03 33 27.1 +0.7**
KMI pmax pmax
comp=Z,72nm,0.7s
LAWE Loch Awe, Argy 45.68 319 *e*P **P 03 33 27.2 +1.1**
KAC Achnashellach 45.81 321 *e*P **P 03 33 27.3 +0.1**
DSB Dublin 45.93 315 *e*P **P 03 33 28.5 +0.3**
UMPA Umpang Tak 46.03 98 P **P 03 33 32.0 +2.5**
comp=Z,20nm,1.0s,comp=Z,2μm
SUKH Sukhothai 46.08 96 P **P 03 33 31.7 +1.9**
comp=Z,5.6nm,0.8s
NANT Nan 46.39 94 P **P 03 33 33.7 +1.4**
comp=Z,24nm,1.1s,comp=Z,219nm
PBRG Braganca 46.50 299 *e*P **P 03 33 32.7 -0.2**
comp=Z,62nm,1.5s
IDGL Inch Island, C 46.74 318 *e*P **P 03 33 35.5 +1.0**
UTTA Uttaradit 46.74 95 P **P 03 33 36.6 +1.6**
comp=Z,16nm,0.9s,comp=Z,142nm
MVO Moncorvo 46.80 299 *e*P **P 03 33 35.1 -0.2**
comp=Z,49nm,0.9s
UTHA Uthaitani 46.83 99 P **P 03 33 37.5 +1.8**
comp=Z,12nm,1.0s,comp=Z,106nm
SRDT SRDT 47.16 100 P **P 03 33 40.5 +2.2**
comp=Z,19nm,1.1s
PVRL Vila Real 47.30 299 *e*P **P 03 33 39.3 +0.1**
comp=Z,68nm,0.6s
MTE Manteigas 47.30 298 *e*P **P 03 33 39.6 +0.4**
comp=Z,134nm,1.3s
MTE Manteigas 47.30 298 *e*P **P 03 33 38.6 -0.6**
comp=Z,69nm,0.6s
PCBR Castelo Branco 47.34 297 *e*P **P 03 33 39.7 +0.3**
comp=Z,176nm,2.4s
PMRV Marv??o 47.34 296 *e*P **P 03 33 41.5 +2.0**
comp=Z,68nm,1.2s
POLO Lamas de Olo 47.34 299 *e*P **P 03 33 39.5 -0.1**
comp=Z,43nm,1.5s
PVIS Viseu 47.51 298 *e*P **P 03 33 41.1 +0.2**
comp=Z,74nm,1.9s
PESTR Estremoz 47.59 296 *e*P **P 03 33 40.8 -0.6**
comp=Z,65nm,1.5s
PESTR Estremoz 47.59 296 *e*P **P 03 33 41.0 -0.4**
comp=Z,32nm,1.2s
BTO Baotou 47.61 62 *e*P **P 03 33 41.5 -0.2**
PGAV Gavieira, Arco 47.61 300 *e*P **P 03 33 41.7 0.0**
comp=Z,88nm,1.4s
PBKT Sadao Pong 47.64 96 *e*P **P 03 33 43.0 +1.1**
PBKT Sadao Pong 47.64 96 P **P 03 33 43.1 +1.1**
comp=Z,66nm,1.2s,comp=Z,1μm
PBEJ Beja 47.96 294 *e*P **P 03 33 45.3 +1.0**
comp=Z,107nm,1.2s
PVAQ Vaqueiros 47.97 294 *e*P **P 03 33 44.8 +0.4**
comp=Z,55nm,1.4s
EVO Evora 47.98 295 *e*P **P 03 33 46.8 +2.4**
comp=Z,49nm,1.1s
PTO Porto 47.98 299 *e*P **P 03 33 46.2 +1.8**
comp=Z,85nm,1.7s
PCAS Casmilo, Conde 48.08 297 *e*P **P 03 33 45.4 +0.2**
comp=Z,81nm,1.4s
XAN Xi'an 48.08 71 P **P 03 33 45.5 +0.1**
XAN pP sP 03 33 51.5 -1.3
XAN pmax pmax
comp=Z,83nm,1.1s
XAN LR LR
comp=Z,750nm,18.6s
XAN LR LR
comp=Z,590nm,21.6s
XAN LR LR
comp=Z,630nm,15.2s
PTOM Tomar 48.09 297 *e*P **P 03 33 45.6 +0.4**
comp=Z,198nm,1.3s
PBDV Barranco-do-Ve 48.17 293 *e*P **P 03 33 44.8 -1.2**

VAL **Valentia** 48.25 313 *e*P **P** 03 33 46.8 +0.5
MESJ **Messejana** 48.27 294 *e*P **P** 03 33 46.5 -0.2
MESJ AMb AMB 03 33 49.5
comp=Z,47nm,1.7s
MESJ **Messejana** 48.27 294 *e*P **P** 03 33 46.2 -0.5
comp=Z,47nm,1.7s
MESJ **Messejana** 48.27 294 *e*P **P** 03 33 46.5 -0.2
MESJ pmax pmax
comp=Z,47nm,1.7s
ALMR **Almeirim** 48.30 296 *e*P **P** 03 33 46.5 -0.4
ALMR AMb AMB 03 33 47.9
comp=Z,88nm,1.0s
ALMR **Almeirim** 48.30 296 *e*P **P** 03 33 46.5 -0.4
comp=Z,88nm,1.0s
ALMR **Almeirim** 48.30 296 *e*P **P** 03 33 46.4 -0.4
ALMR pmax pmax
comp=Z,88nm,1.0s
PHET **Kaeng Krachan** 48.31 102 P **P** 03 33 49.0 +1.7
comp=Z,28nm,0.7s,comp=Z,267nm
PNCL **Nicolau / Gran** 48.46 295 *e*P **P** 03 33 48.3 +0.2
comp=Z,62nm,1.5s
GYA **Guiyang** 48.46 81⇑ *i*P **P** 03 33 48.5 +0.1
GYA pP sP 03 33 53.8 -2.0
GYA PP **PP** **03 35 40.0 -1.1**
GYA S **S** **03 40 51.7 +2.5**
GYA sS sS 03 40 55.0 -2.8
GYA ScS **ScS** **03 43 36.6 -4.7**
GYA SS **SS** **03 44 14.0 -4.9**
GYA pmax pmax
comp=Z,60nm,0.7s
GYA pmax pmax
comp=Z,120nm,5.9s
GYA LR LR
comp=Z,220nm,14.6s
GYA LR LR
comp=Z,330nm,14.6s
GYA LR LR
comp=Z,190nm,14.6s
MORF **Marmelete** 48.72 294 *e*P **P** 03 33 50.1 -0.2
MORF AMb AMB 03 33 53.8
comp=Z,35nm,1.8s
MORF **Marmelete** 48.72 294 *e*P **P** 03 33 51.5 +1.3
comp=Z,52nm,1.5s
MORF **Marmelete** 48.72 294 *e*P **P** 03 33 50.0 -0.2
MORF pmax pmax
comp=Z,35nm,1.8s
PTEO **Sao Teotonio** 48.73 294 *e*P **P** 03 33 52.0 +1.8
HHC **Hu-ho-hao-te** 48.73 62 *e*P **P** 03 33 51.8 +1.5
HHC PP **PP** **03 35 44.8 +1.5**
HHC S **S** **03 40 52.7 +0.1**
HHC pmax pmax
comp=Z,24nm,0.6s
HHC pmax pmax
comp=Z,420nm,5.5s
HHC LR LR
comp=Z,590nm,13.0s
HHC LR LR
comp=Z,470nm,10.4s
HHC LR LR
comp=Z,760nm,11.2s
TOA0 **Torodi Ar. Sit** 48.77 259 *e*P **P** 03 33 48.4 -2.4
TOA0 **Torodi Ar. Sit** 48.77 259 P **P** 03 33 50.3 -0.5
SNR=39
TORD **Torodi Ar. Bea** 48.77 259 P **P** 03 33 48.5 -2.3
comp=Z,103nm,1.0s,baz=62,slow=8.5,SNR=108
TORD PcP **PcP** **03 35 15.4 -0.2**
comp=Z,5.1nm,0.7s,baz=69,slow=2.7,SNR=5.5
TORD LR LR 03 57 33.4
comp=Z,553nm,18.8s,baz=10.0,slow=40
NONG **Nongkai** 48.80 93 P **P** 03 33 52.0 +1.1
comp=Z,1.2nm,1.4s
CHAI **Chaiyaphum** 48.81 97 P **P** 03 33 52.6 +1.5
comp=Z,6.6nm,0.9s
SPA0 **Spitsbergen Ar** 48.82 351 *e*P **P** 03 33 51.8 +1.5
SPITS **Spitsbergen Ar** 48.82 351 P **P** 03 33 50.3 -0.1
comp=Z,30nm,0.5s,baz=116,slow=13,SNR=64
SPITS **Spitsbergen Ar** 48.82 351 P **P** 03 33 50.3 -0.1
SPITS pmax pmax
comp=Z,29nm,0.5s
PMAFR **Mafra** 48.87 296 *e*P **P** 03 33 53.1 +1.8
comp=Z,259nm,1.7s
PFVI **Vila Bisbo** 48.89 294 *e*P **P** 03 33 50.8 -0.7
comp=Z,89nm,2.4s
PFVI **Vila Bisbo** 48.89 294 *e*P **P** 03 33 51.0 -0.5
comp=Z,50nm,0.9s
CIT **Chita** 49.04 47 *e*P **P** 03 33 53.8 +1.3
CIT *e* 03 34 00.3
BOD **Bodaibo** 49.41 39⇓ *i*P **P** 03 33 55.5 +0.3
BOD pmax pmax
comp=Z,109nm,1.5s
ENH **Enshi** 49.58 76 *e*P **P** 03 33 57.8 +0.9
comp=Z,67nm,1.3s
SRAK **Srakaew** 49.78 99 P P 03 34 03.8 +5.3
comp=Z,164nm,1.0s,comp=Z,1µm
SKNT **Sakolnakorn** 50.00 94 P **P** 03 34 01.4 +1.2
comp=Z,24nm,1.6s
TIY **Taiyuan** 50.00 65 *e*P **P** 03 34 02.2 +2.2
TIY pmax pmax
comp=Z,28nm,0.6s
TIY LR LR
comp=Z,410nm,11.1s
TIY LR LR
comp=Z,310nm,11.3s
TIY LR LR
comp=Z,430nm,11.9s
KRAB **Krabi** 50.49 107 P **P** 03 34 05.5 +1.6
comp=Z,20nm,1.1s,comp=Z,518nm
ABPO **Ambohimpanom** 50.72 185 *e*P **P** 03 34 05.5 -0.1
comp=Z,28nm,1.0s
ABPO LR LR
comp=Z,179nm,20.0s
ABPO **Ambohimpanom** 50.72 185 *e*P **P** 03 34 05.5 -0.1
ABPO pmax pmax
comp=Z,28nm,1.0s
ABPO MLR MLR
comp=Z,179nm,20.0s
TRTT **Trang** 51.11 107 P **P** 03 34 09.1 +0.5
comp=Z,19nm,1.6s,comp=Z,313nm
LSZ **Lusaka** 51.73 208 *e*P **P** 03 34 13.4 +0.2
comp=Z,47nm,1.3s
LSZ LR LR
comp=Z,538nm,21.0s
LSZ **Lusaka** 51.73 208 *e*P **P** 03 34 13.4 +0.2
LSZ pmax pmax
comp=Z,47nm,1.3s
LSZ MLR MLR
comp=Z,538nm,21.0s
LSZ **Lusaka** 51.73 208 P **P** 03 34 14.1 +0.9
SNR=5.1
TPTI 51.83 114 P **P** 03 34 13.1 -0.9
KCSI **Kotacane, Aceh** 52.13 113 P **P** 03 34 13.3 -2.9
SKLT **Songkhla** 52.25 107 P **P** 03 34 17.9 +0.8
comp=Z,56nm,1.4s,comp=Z,1µm
BJT **Baijiatuau** 52.34 62 *e*P **P** 03 34 17.6 +0.2
comp=Z,28nm,0.8s
BJT *e*PcP **PcP** **03 35 28.8 +0.3**
BJT LR LR
comp=Z,387nm,20.0s
BJT **Baijiatuau** 52.34 62 *e*P **P** 03 34 17.6 +0.2
BJT *e* 03 35 28.8
BJT pmax pmax
comp=Z,28nm,0.8s
BJT MLR MLR
comp=Z,387nm,20.0s
HIA **Hailar** 53.19 50 *e*P **P** 03 34 24.0 +0.3
comp=Z,62nm,1.2s
HIA LR LR
comp=Z,2µm,20.0s
HIA **Hailar** 53.19 50 *e*P **P** 03 34 24.0 +0.3
HIA pmax pmax
comp=Z,62nm,1.2s
HIA MLR MLR
comp=Z,2µm,20.0s
KULM **Kulim** 53.36 109 P **P** 03 34 26.2 +0.9
GSI **Gunungsitoli** 53.37 115 *e*P **P** 03 34 26.3 +1.0
comp=Z,64nm,0.8s
GSI **Gunungsitoli** 53.37 115 P **P** 03 34 27.0 +1.7
PSI **Prapat** 53.48 113 LR LR 03 59 29.6
comp=Z,142nm,19.3s,baz=74,slow=38
PSI **Prapat** 53.48 113 *e*P **P** 03 34 25.5 -0.8
comp=Z,44nm,0.7s
PSI **Prapat** 53.48 113 *e*P **P** 03 34 25.5 -0.8
PSI pmax pmax
comp=Z,44nm,0.7s
WHN **Wuhan** 53.48 74 P **P** 03 34 26.8 +0.8
WHN S **S** **03 42 02.7 +4.3**
WHN LR LR
comp=Z,1µm,10.2s
WHN LR LR
comp=Z,740nm,10.6s
WHN LR LR
comp=Z,1µm,12.5s
TIA **Tai'an** 54.01 66 P **P** 03 34 30.8 +0.9
TIA pmax pmax
comp=Z,29nm,1.3s
TIA LR LR
comp=Z,280nm,18.4s
TIA LR LR
comp=Z,140nm,13.9s
TIA LR LR
comp=Z,190nm,18.6s
IPM **Ipoh** 54.14 110 P **P** 03 34 30.7 -0.3
DAG **Danmarks Havn** 54.59 345⇓ *i*P **P** 03 34 32.9 -0.6
comp=Z,19nm,0.6s
DAG **Danmarks Havn** 54.59 345⇓ *i*P **P** 03 34 32.9 -0.6
DAG pmax pmax
comp=Z,13nm,0.6s
SCO **Scoresbysund** 54.65 337 *i*P **P** 03 34 36.0 +2.1
SCO **Scoresbysund** 54.65 337 *i*P **P** 03 34 36.0 +2.1
MNSI **Mandailing Nat** 55.23 114 P **P** 03 34 39.4 +0.5
FRIM **Kepong** 55.35 110 P **P** 03 34 39.5 -0.4
BLWY **Bulawayo** 55.99 206 *i*P **P** 03 34 44.4 0.0
BLWY **Bulawayo** 55.99 206 *i*P **P** 03 34 44.4 0.0
SISI **Saibi** 56.20 116 P **P** 03 34 48.1 +2.2
TIXI **Tiksi** 56.29 22 P **P** 03 34 45.2 -0.5
comp=Z,14nm,1.0s,baz=294,slow=5.0,SNR=15
TIXI **Tiksi** 56.29 22 *e*P **P** 03 34 45.2 -0.5
TIXI LR LR
comp=Z,868nm,19.0s
TIXI **Tiksi** 56.29 22⇑ *e*P **P** 03 34 45.7 0.0
TIXI pmax pmax
comp=Z,44nm,1.7s
MATP **Matopo** 56.29 206 *i*P **P** 03 34 47.5 +1.0
MATP **Matopo** 56.29 206 *i*P **P** 03 34 47.5 +1.0
NJ2 **Nanjing** 56.64 70 *e*P **P** 03 34 49.5 +0.7
NJ2 pmax pmax
comp=Z,27nm,1.2s
BKNI **Bangkinang** 56.66 113 P **P** 03 34 50.0 +0.8
DAL2 **Dalian** 56.71 62 P **P** 03 34 49.5 +0.3
DAL2 pP **sP** **03 35 00.1 +3.4**
DAL2 sP pP 03 35 02.5 +7.9
DAL2 *e*S **S** **03 42 41.9 +0.5**
DAL2 pmax pmax
comp=Z,70nm,1.0s
DAL2 pmax pmax
comp=Z,150nm,4.8s
DAL2 LR LR
comp=Z,710nm,19.6s
DAL2 LR LR
comp=Z,440nm,21.3s
DAL2 LR LR
comp=Z,510nm,15.2s
PDSI **Padang** 56.99 115 P **P** 03 34 51.6 0.0
ZEA **Zeya** 57.12 43 *e*P **P** 03 34 52.6 +0.7
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=Z,41nm,1.0s
ZEA MLR MLR
comp=E,700nm,15.0s
ZEA MLR MLR
comp=Z,1µm,15.0s
ZEA MLR MLR
comp=N,400nm,14.0s
YAK **Yakutsk** 57.17 33 *e*P **P** 03 34 51.7 -0.4
YAK *e**PP **sP** **03 35 00.1 +0.5**
YAK *e* 03 35 47.1
YAK *e* 03 36 57.6
YAK *e*S **S** **03 42 45.5 -1.3**
YAK *e**SS **sS** **03 42 59.1 +3.5**
YAK *e* 03 44 38.7
YAK *e*SSS SSS 03 48 55.1
YAK pmax pmax
comp=Z,54nm,1.0s
YAK pmax pmax
comp=E,18nm,1.0s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=Z,123nm,4.1s
YAK pmax pmax
comp=N,67nm,3.8s
YAK pmax pmax
comp=E,123nm,3.8s
YAK smax smax
comp=E,220nm,4.8s
YAK smax smax
comp=N,126nm,4.2s
YAK MLR MLR
comp=Z,391nm,16.0s
YAK MLR MLR
comp=E,201nm,14.0s
DBIC **Dimbokro** 57.66 257 P **P** 03 34 55.2 -1.1
comp=E,61nm,0.9s,baz=32,slow=7.8,SNR=44
DBIC LR LR 04 02 47.1
comp=E,325nm,20.9s,baz=40,slow=39
DBIC **Dimbokro** 57.66 257 *e*P **P** 03 34 55.8 -0.5
comp=E,67nm,0.9s
DBIC **Dimbokro** 57.66 257 *e*P **P** 03 34 55.8 -0.5
DBIC pmax pmax
comp=Z,67nm,0.9s
KIC **Kosan Boka** 57.74 256 *e*P **P** 03 34 56.2 -0.6
comp=Z,178nm,0.9s
SDSI **Sungai Dareh** 57.75 114 P **P** 03 34 56.8 -0.1
TIC **Toumodi** 57.81 257 *e*P **P** 03 34 56.7 -0.7
LIC **Lamto** 58.05 256 *e*P **P** 03 34 58.3 -0.7
comp=Z,235nm,0.9s
CN2 **Changchun** 58.15 55 *e*P **P** 03 34 59.9 +0.5
CN2 *e*pP sP 03 35 04.4 -2.4
CN2 *e*PP **PP** **03 37 10.1 +2.2**
CN2 *e*S **S** **03 42 58.2 -2.1**
CN2 *e*SS **SS** **03 46 49.8 -1.7**
CN2 pmax pmax
comp=Z,20nm,1.4s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,420nm,13.0s
CN2 LR LR
comp=Z,840nm,13.0s
CN2 LR LR
comp=Z,1µm,13.0s
KRJI **Kerinci** 58.51 115 P **P** 03 35 03.8 +1.5
SSE **Sheshan** 58.83 71 P **P** 03 35 06.2 +1.9
SSE S **S** **03 43 09.7 +0.2**
SSE pmax pmax
comp=Z,28nm,0.6s
SSE pmax pmax
comp=Z,130nm,3.5s
SSE LR LR
comp=Z,330nm,17.5s
SSE LR LR
comp=Z,160nm,16.7s
MASI **Maura Aman, Be** 59.77 116 P **P** 03 35 12.5 +1.5
SUMG **Summit** 59.78 340 *e*P **P** 03 35 10.4 -0.3
comp=Z,46nm,0.8s
SUMG **Summit** 59.78 340 *i*P **P** 03 35 11.2 +0.5
comp=Z,116nm,0.8s
SUMG **Summit** 59.78 340 *e*P **P** 03 35 10.4 -0.3
SUMG pmax pmax
comp=Z,46nm,0.8s
TSUM **Tsumeb** 60.04 217 *e*P **P** 03 35 12.6 -0.2
comp=Z,18nm,0.9s
KLR **Kul'dur** 60.89 48⇓ *e*P **P** 03 35 18.5 +0.3
TPUB **Ta-pu** 61.38 79 *e*P **P** 03 35 22.7 +0.8
comp=Z,52nm,1.0s
YHNB **Yeheng** 61.43 77 *e*P **P** 03 35 23.1 +0.8
comp=Z,109nm,1.0s
SSLB **Suanglung** 61.44 78 *e*P **P** 03 35 25.7 +3.3
comp=Z,113nm,1.4s
LBTB **Lobatse** 61.55 206 *e*P **P** 03 35 23.0 +0.1
comp=Z,56nm,0.6s
LBTB **Lobatse** 61.55 206 *e*P **P** 03 35 23.0 +0.1
LBTB pmax pmax
comp=Z,56nm,0.6s
KS01 **Wonju Array Si** 61.84 62 *e*P **P** 03 35 24.3 -0.4
KS15 **Wonju Array Si** 61.85 62 *e*P **P** 03 35 25.4 +0.5
KSAR **Wonju Array Be** 61.85 62 P **P** 03 35 24.9 +0.2
KSAR **Wonju Array Be** 61.85 62 P **P** 03 35 25.0 +0.2
KSRS **Korea Array** 61.87 62 P **P** 03 35 24.9 0.0
comp=Z,19nm,0.6s,baz=283,slow=6.4,SNR=47
KSRS LR LR 04 03 37.2
comp=Z,229nm,19.6s,baz=292,slow=37
KSRS **Korea Array** 61.87 62 P **P** 03 35 25.0 0.0
KSRS pmax pmax
comp=Z,19nm,0.6s
KSRS MLR MLR
comp=Z,229nm,19.6s
MDSI **Maura Dua** 62.12 115 P **P** 03 35 26.6 -0.3
LWLI **Liwa** 62.36 116 P **P** 03 35 28.8 +0.1
USA0B **Ussuriysk Arra** 62.55 53 *e*P **P** 03 35 29.7 +0.3
comp=Z,16nm,1.0s
USRK **Ussuriysk Ar.** 62.55 53 P **P** 03 35 28.8 -0.6
comp=Z,2.8nm,0.6s,baz=271,slow=6.2,SNR=14
USRK LR LR 04 05 23.2
comp=Z,405nm,18.0s,baz=285,slow=39
KASI **Kota Agung** 63.02 116 P **P** 03 35 33.5 +0.6
GRNR **Gornyy** 63.32 45 *e*P **P** 03 35 34.1 -0.3
GRNR pmax pmax
comp=Z,42nm,1.2s
ILULI **Ilulissat** 64.72 337 *e*P **P** 03 35 43.7 +0.4
comp=Z,29nm,0.7s
ILULI **Ilulissat** 64.72 337 *e*P **P** 03 35 43.7 +0.4
ILULI pmax pmax
comp=Z,29nm,0.7s
BOSA **Boshof** 64.94 205 *i*P **P** 03 35 46.0 +0.6
BOSA **Boshof** 64.94 205 P **P** 03 35 45.4 0.0
comp=Z,47nm,0.6s,baz=21,slow=6.3,SNR=83
BOSA LR LR 04 05 26.9
comp=Z,357nm,19.0s,baz=30,slow=37
BOSA **Boshof** 64.94 205 *e*P **P** 03 35 45.4 0.0
comp=Z,49nm,0.6s
BOSA **Boshof** 64.94 205 *i*P **P** 03 35 46.0 +0.6
BOSA **Boshof** 64.94 205 *e*P **P** 03 35 45.8 +0.4
NKL **Nikolayevsk** 65.02 42 *e*P **P** 03 35 45.0 -0.5
NKL pmax pmax
comp=Z,60nm,1.0s
TEY **Ternei** 65.36 51 *e*P **P** 03 35 45.6 -2.3
SFJD **Kangerlussuaq** 65.44 335 *e*P **P** 03 35 47.5 -0.5
comp=Z,38nm,1.4s
SFJD **Kangerlussuaq** 65.44 335 *e*P **P** 03 35 47.5 -0.5
SFJD pmax pmax
comp=Z,38nm,1.4s
SKJI **Sukabumi** 65.53 116 P **P** 03 35 51.2 +1.8
NRS **Narsarsuaq** 65.59 328 *e*P **P** 03 35 48.7 -0.3
comp=Z,32nm,0.9s
NRS **Narsarsuaq** 65.59 328 *e*P **P** 03 35 48.7 -0.3
NRS pmax pmax
comp=Z,33nm,0.9s
TULEG **Thule** 65.70 347 *e*P **P** 03 35 49.9 +0.4
comp=Z,122nm,1.7s
JNU **Nakatsue** 65.71 65 P **P** 03 35 50.7 +0.3
comp=Z,16nm,1.0s,baz=304,slow=3.6,SNR=5.1
JNU **Nakatsue** 65.71 65 *e*P **P** 03 35 50.8 +0.4
comp=Z,32nm,1.0s
KKM **Kota Kinabalu** 65.81 98 P **P** 03 35 52.9 +1.6
JOW **Kunigami** 66.20 72 *e*P **P** 03 35 54.0 +0.4
comp=Z,132nm,1.4s
IVI **Ivigtut** 66.80 329 *e*P **P** 03 35 57.2 +0.4
comp=Z,84nm,1.6s
CISI **Cisompet, Garu** 66.84 116 P **P** 03 35 58.0 +0.1
SDKM **Sandakan** 66.84 98 P **P** 03 35 59.3 +1.4
TYV **Tymovskoe** 66.99 43 *e*P **P** 03 35 59.9 +1.7
TYV *e*S **S** **03 44 53.0 +1.9**
TYV pmax pmax
comp=Z,18nm,0.8s
TYV pmax pmax
comp=Z,200nm,2.5s
TYV smax smax
comp=E,200nm,5.5s
TYV MLR MLR
comp=Z,1µm,16.0s
SEY **Seymchan** 67.02 29⇑ *e*P **P** 03 35 59.4 +1.2
KPJI **Karang Pucung** 67.57 115 P **P** 03 36 03.5 +1.1
MA2 **Magadan** 67.74 33 P **P** 03 36 02.2 -0.6
comp=Z,24nm,1.0s,baz=275,slow=3.5,SNR=8.2
MA2 **Magadan** 67.74 33 *e*P **P** 03 36 03.1 +0.3
comp=Z,38nm,1.1s
MA2 LR LR
comp=Z,294nm,19.0s
MA2 **Magadan** 67.74 33⇑ *e*P **P** 03 36 03.3 +0.5
MA2 pmax pmax
comp=Z,62nm,1.7s
YSS **Yuzh-Sakhalins** 68.59 47⇓ *i*P **P** 03 36 08.7 +0.3
YSS pmax pmax
comp=Z,75nm,1.7s
INU **Inuyama** 69.45 61 *e*P **P** 03 36 14.7 +0.7
comp=Z,70nm,1.5s
BILL **Bilibino** 69.50 21 *e*P **P** 03 36 14.1 +0.4
comp=Z,42nm,0.8s
BILL **Bilibino** 69.50 21 *d i*P **P** 03 36 14.1 +0.4
BILL *i* 03 36 18.9
BILL *i* 03 36 23.5
BILL *i* 03 36 37.4
BILL *i* 03 38 53.2
BILL pmax pmax
comp=Z,44nm,1.0s
BILL MLR MLR
comp=Z,386nm,18.0s
MJB9 **Matsu-Tunnel** 69.82 59 *e*P **P** 03 36 17.1 +0.8
comp=Z,38nm,1.3s
MAJO **Matsushiro** 69.82 59 *e*P **P** 03 36 16.0 -0.3
comp=Z,34nm,1.3s
MAJO **Matsushiro** 69.82 59 *d i*P **P** 03 36 16.4 +0.1
MAJO pmax pmax
comp=Z,36nm,1.6s
MAJO **Matsushiro** 69.82 59 *e*P **P** 03 36 16.7 +0.4
MAT **Matsushiro** 69.82 59 P **P** 03 36 16.1 -0.2
MAT *e*S S 03 45 35.6 +10
MJAR **Matsushiro Arr** 69.82 59 P **P** 03 36 15.6 -0.7
comp=Z,4.1nm,1.0s,baz=291,slow=11,SNR=12
MJAR LR LR 04 09 39.6
comp=Z,245nm,18.6s,baz=300,slow=38
MJAR **Matsushiro Arr** 69.82 59 P **P** 03 36 15.6 -0.7
MJAR pmax pmax
comp=Z,6.0nm,1.0s
MJAR MLR MLR
comp=Z,245nm,18.6s
SUR **Sutherland** 69.99 207 *e*P **P** 03 36 17.2 -0.1
BKB **Balikpapan** 70.36 104 P **P** 03 36 22.8 +3.0
KBKI **Kotabaru** 70.92 107 P **P** 03 36 25.1 +1.9
RES **Resolute Bay** 71.39 351 *e*P **P** 03 36 24.9 -0.2
comp=Z,16nm,1.3s
RES **Resolute Bay** 71.39 351 *e*P **P** 03 36 24.9 -0.2
RES pmax pmax
comp=Z,16nm,1.3s
MPSI **Mapaga** 71.97 101 P **P** 03 36 31.4 +1.8
MRSI **Marisa** 73.60 100 P **P** 03 36 41.8 +2.5
TTSI **Tana Toraja** 73.78 104 P P 03 36 45.7 +5.4
PETK **Petropavlovsk-** 74.23 37 P **P** 03 36 40.6 -1.7
comp=Z,13nm,1.1s,baz=346,slow=4.0,SNR=5.7
PETK LR LR 04 12 22.8
comp=Z,331nm,18.9s,baz=298,slow=38
PETK **Petropavlovsk-** 74.23 37 *e*P **P** 03 36 41.7 -0.7
PETK **Petropavlovsk-** 74.23 37 *e*P **P** 03 36 41.7 -0.7
RDOG **Red Dog Mine** 77.21 12 *e*P **P** 03 36 59.3 +0.2
comp=Z,37nm,1.2s
TNTI **Ternate** 78.01 97 P **P** 03 37 07.3 +2.8
SANI **Sanana** 78.36 100 P **P** 03 37 07.7 +1.3
EDFI **Ende, Flores** 78.53 108 P P 03 37 14.3 +6.8
SCHQ **Schefferville** 78.55 329 P **P** 03 37 06.7 -0.1
comp=Z,7.4nm,0.4s,baz=47,slow=3.5,SNR=32
SCHQ LR LR 04 11 18.7
comp=Z,122nm,21.6s,baz=30,slow=35
SCHQ **Schefferville** 78.55 329 *e*P **P** 03 37 07.3 +0.5
comp=Z,110nm,1.9s
GAMB **Gambell** 78.88 18 *e*P **P** 03 37 08.6 +0.2
comp=Z,31nm,1.6s
ANM **Nome** 79.74 15 *e*P **P** 03 37 13.4 +0.2
comp=Z,45nm,1.1s
ANM **Nome** 79.74 15 *e*P **P** 03 37 13.4 +0.2
ANM pmax pmax
comp=Z,45nm,1.1s
COLD **Coldfoot** 79.91 8 *e*P **P** 03 37 14.3 +0.2
comp=Z,14nm,0.7s
INK **Inuvik** 80.08 2 *e*P **P** 03 37 14.3 -0.6
comp=Z,23nm,1.3s
INK **Inuvik** 80.08 2 *e*P **P** 03 37 14.3 -0.6
INK pmax pmax
comp=Z,23nm,1.3s
IM3 **Indian Mountai** 80.61 10 *e*P **P** 03 37 17.1 -0.8
BATI **Baumata** 80.95 108 P **P** 03 37 20.8 +0.2
comp=Z,107nm,0.7s,baz=276,slow=1.6,SNR=11
BATI **Baumata** 80.95 108 P **P** 03 37 21.9 +1.4
FYU **Fort Yukon** 81.09 7 *e*P **P** 03 37 20.8 +0.4
comp=Z,92nm,1.6s
SOEI **Soe** 81.19 107 *e*P **P** 03 37 22.0 +0.1
comp=Z,88nm,1.0s

SOEI	Soe	81.19	107	P		P		03 37 23.4	+1.5
EPYK	Eagle Plains	81.90	3	P		P		03 37 25.2	+0.5
	baz=353								
MLY	Manley	81.94	9	*e*P		P		03 37 25.5	+0.5
	comp=Z,48nm,1.5s								
SIJI	Sorong	82.18	96	P		P		03 37 26.8	-0.2
	comp=Z,15nm,0.6s,baz=321,slow=6.4,SNR=14								
POKR	Poker Plat Res	82.27	8	P		P		03 37 27.0	+0.3
	baz=344								
MDM	Murphy Dome	82.33	8	*e*P		P		03 37 27.5	+0.5
	comp=Z,34nm,1.0s								
TCOL	CIGO, UAF Yank	82.45	8	P		P		03 37 28.2	+0.6
	baz=344								
COLA	College	82.45	8	*e*P		P		03 37 27.6	0.0
	comp=Z,22nm,0.8s								
COLA	College	82.45	8⇑	*e*P		P		03 37 27.8	+0.3
COLA					pmax	pmax			
	comp=Z,26nm,1.0s								
COLA	College	82.45	8	*e*P		P		03 37 27.9	+0.3
IL1	Eielson Array	82.67	8	*e*P		P		03 37 27.8	-0.9
ILAR	Eielson Array	82.67	8	P		P		03 37 27.9	-0.8
	comp=Z,5.7nm,0.8s,baz=336,slow=3.1,SNR=57								
ILAR					PP	PP		03 40 38.6	+1.0
	comp=Z,0.7nm,0.8s,baz=346,slow=7.1,SNR=4.2								
ILAR					PKKPbc	PKKPbc		03 55 52.4	-1.5
	comp=Z,2.2nm,0.9s,baz=190,slow=3.1,SNR=12								
ILAR					LR	LR		04 19 56.2	
	comp=Z,84nm,20.4s,baz=338,slow=40								
ILB	Eielson Array	82.67	8	*e*P		P		03 37 28.6	-0.1
BPAW	Bear Paw Mtn.	82.79	10	*e*P		P		03 37 29.8	+0.4
	comp=Z,55nm,1.2s								
WRH	Wood River Hil	82.81	8	*e*P		P		03 37 29.5	0.0
	comp=Z,61nm,2.0s								
HDA	Harding Lake	83.01	8	*e*P		P		03 37 30.0	-0.5
	comp=Z,7.4nm,0.6s								
HDA	Harding Lake	83.01	8	P		P		03 37 29.9	-0.6
	baz=345								
BATG	Bathurst New B	83.04	322	*e*P		P		03 37 31.4	+0.4
	comp=Z,42nm,1.2s								
CAST	Castle Rocks	83.28	10	*e*P		P		03 37 32.3	+0.4
	comp=Z,37nm,1.0s								
MCK	McKinley	83.42	9	*e*P		P		03 37 32.6	-0.1
	comp=Z,24nm,1.0s								
MCK	McKinley	83.42	9	*e*P		P		03 37 32.6	-0.1
MCK					pmax	pmax			
	comp=Z,24nm,1.0s								
TRF	Thorofare Moun	83.51	9	*e*P		P		03 37 33.7	+0.4
	comp=Z,46nm,1.4s								
RND	Reindeer	83.74	9	*e*P		P		03 37 34.1	-0.3
	comp=Z,25nm,1.0s								
RND	Reindeer	83.74	9	*e*P		P		03 37 34.1	-0.3
RND					pmax	pmax			
	comp=Z,25nm,1.0s								
SCRK	Sand Creek	83.75	7	*e*P		P		03 37 34.9	+0.5
	comp=Z,28nm,0.8s								
PPLA	Purkeypile	83.75	10	*e*P		P		03 37 35.5	+0.9
	comp=Z,27nm,1.2s								
RIDG	Independ'e Rid	83.89	7	*e*P		P		03 37 35.1	-0.1
	comp=Z,10nm,0.8s								
DAWY	Dawson	84.04	5	*e*P		P		03 37 36.1	+0.2
	comp=Z,18nm,1.0s								
DOT	Dot Lake	84.06	7	*e*P		P		03 37 36.5	+0.6
	comp=Z,24nm,0.8s								
DHY	Denali Highway	84.25	8	*e*P		P		03 37 37.1	0.0
	comp=Z,24nm,1.3s								
PAX	Paxson	84.57	7	*e*P		P		03 37 39.0	+0.3
	comp=Z,26nm,1.5s								
PAX	Paxson	84.57	7	*e*P		P		03 37 39.0	+0.3
PAX					pmax	pmax			
	comp=Z,26nm,1.5s								
SVW2	Sparrevohn	84.86	13	*e*P		P		03 37 40.9	+0.8
	comp=Z,73nm,2.0s								
FCC	Fort Churchill	85.14	343	*e*P		P		03 37 42.0	+0.6
	comp=Z,15nm,0.9s								
HARP	HAARP	85.16	7	*e*P		P		03 37 42.3	+0.8
	comp=Z,58nm,0.9s								
YKW3	Yellowknife Ar	85.19	353	*e*P		P		03 37 41.8	+0.1
	comp=Z,30nm,1.5s								
YKA	Yellowknife Ar	85.26	353	P		P		03 37 41.2	-0.7
	comp=Z,6.0nm,0.7s,baz=13,slow=5.4,SNR=76								
YKA					PP	PP		03 40 56.2	-2.5
	comp=Z,0.6nm,0.6s,baz=15,slow=6.8,SNR=3.7								
YKA					PKKPbc	PKKPbc		03 55 46.2	-1.7
	comp=Z,0.3nm,0.6s,baz=178,slow=2.3,SNR=7.0								
YKA					PKPPKP	P'P'df		04 03 47.2	-12
	comp=Z,0.4nm,0.9s,baz=218,slow=2.4,SNR=4.9								
YKB5	Yellowknife Ar	85.26	353	*e*P		P		03 37 41.5	-0.4
CHGQ	Chibougamau	85.28	328	P		P		03 37 43.1	+0.8
	baz=44								
GHO	Glory Hole Cre	85.30	9	*e*P		P		03 37 42.5	+0.2
	comp=Z,33nm,1.0s								
SUA	Susitna One	85.33	10	*e*P		P		03 37 42.7	+0.1
	comp=Z,56nm,1.1s								
SML	Sawmill	85.35	9	*e*P		P		03 37 43.0	+0.4
	comp=Z,34nm,0.9s								
PMR	Palmer	85.45	10	*e*P		P		03 37 43.0	+0.1
	comp=Z,46nm,1.4s								
PMR	Palmer	85.45	10	*e*P		P		03 37 43.0	+0.1
PMR					pmax	pmax			
	comp=Z,47nm,1.4s								
SCM	Sheep Creek Mo	85.46	9	*e*P		P		03 37 43.4	+0.3
	comp=Z,106nm,1.6s								
SCM	Sheep Creek Mo	85.46	9	*e*P		P		03 37 43.4	+0.3
SCM					pmax	pmax			
	comp=Z,106nm,1.6s								
KNK	Knik Glacier	85.71	9	*e*P		P		03 37 44.5	+0.2
	comp=Z,55nm,1.3s								
RC01	Rabbit Creek A	85.84	10	*e*P		P		03 37 45.1	+0.1
	comp=Z,32nm,0.6s								
RSO	Redoubt South	85.96	12	*e*P		P		03 37 46.5	+0.8
KLU	Klutina	85.96	8	*e*P		P		03 37 46.5	+0.9
	comp=Z,44nm,0.7s								
DIV	Divide	86.33	8	*e*P		P		03 37 47.4	0.0
	comp=Z,60nm,1.3s								
BMRM	Bremner River	86.62	8	*e*P		P		03 37 49.5	+0.7
	comp=Z,74nm,1.4s								
SEW	Seward	86.83	10	*e*P		P		03 37 50.2	+0.5
	comp=Z,33nm,0.7s								
MATQ	Matagami	86.83	330	P		P		03 37 50.5	+0.5
	baz=42								
FITZ	Fitzroy Crossi	87.00	113	P		P		03 37 51.4	+0.1
	comp=Z,31nm,0.7s,baz=263,slow=2.8,SNR=31								
FITZ	Fitzroy Crossi	87.00	113	*e*P		P		03 37 51.3	+0.1
	comp=Z,35nm,0.8s								
HYT	Haines Junctio	87.38	4	*e*P		P		03 37 53.4	+0.7
	comp=Z,32nm,1.0s								
MOQ	Mont Orford	87.54	324	*e*P		P		03 37 53.7	+0.1
LBNH	Lisbon	88.12	323	*e*P		P		03 37 56.2	-0.2
	comp=Z,109nm,2.0s								
LBNH	Lisbon	88.12	323	*e*P		P		03 37 56.2	-0.2
LBNH					pmax	pmax			
	comp=Z,109nm,2.0s								
LBNH	Lisbon	88.12	323	P		P		03 37 57.4	+1.0
	baz=46								
KDAK	Kodiak Island	88.52	12	P		P		03 37 57.9	+0.1
	comp=Z,8.3nm,0.6s,baz=304,slow=2.7,SNR=11								
FRNY	Flat Rock	88.54	324	*e*P		P		03 37 58.6	+0.3
	comp=Z,58nm,1.8s								
NWAO	Narrogin (SRO)	89.75	130	*e*P		P		03 38 02.9	-1.1
NWAO	Narrogin (SRO)	89.75	130	*e*P		P		03 38 02.9	-1.1
DLBC	Dease Lake	90.04	1	P		P		03 38 05.7	+0.5
	comp=Z,8.3nm,1.1s,baz=69,slow=0.9,SNR=7.3								
DLBC	Dease Lake	90.04	1	*e*P		P		03 38 05.7	+0.5
	comp=Z,31nm,1.4s								
FFC	Flin Flon	90.68	345	*e*P		P		03 38 08.3	+0.2
	comp=Z,1.6nm,0.5s								
FFC	Flin Flon	90.68	345	*e*P		P		03 38 08.3	+0.2
FFC					pmax	pmax			
	comp=Z,2.0nm,0.5s								
JAY	Jayapura	91.05	92	LR		LR		04 22 58.0	
	comp=Z,42nm,22.0s,baz=316,slow=38								
D47A	Chapleau	91.24	331	P		P		03 38 11.6	+0.7
	baz=38								
D46A	Sault St. Mari	91.75	331	P		P		03 38 14.2	+1.0
	baz=37								
E46A	Sault Ste Mari	92.29	331	P		P		03 38 16.3	+0.6
	baz=37								
ULM	Lac du Bonnet	93.14	339	P		P		03 38 19.4	-0.2
	comp=Z,5.1nm,1.0s,baz=26,slow=6.6,SNR=7.4								
ULM					LR	LR		04 21 20.5	
	comp=Z,78nm,18.8s,baz=60,slow=36								
ULM	Lac du Bonnet	93.14	339	*e*P		P		03 38 19.6	0.0
	comp=Z,29nm,1.8s								
ULM	Lac du Bonnet	93.14	339	*e*P		P		03 38 19.6	0.0
ULM					pmax	pmax			
	comp=Z,29nm,1.8s								
E39A	Mellen	94.72	334	P		P		03 38 27.0	0.0
	baz=32								
WRA	Warramunga Arr	94.88	110	P		P		03 38 27.8	-0.2
	comp=Z,7.5nm,0.8s,baz=315,slow=4.0,SNR=25								
WRA					PP	PP		03 42 18.1	+0.8
	comp=Z,0.8nm,0.6s,baz=305,slow=8.3,SNR=5.3								
WRA					PKiKP	PKiKP		03 43 10.9	+0.8
	comp=Z,0.6nm,0.8s,baz=297,slow=1.5,SNR=4.9								
WRA					PKKP	PKKPdf		03 55 23.8	0.0
	comp=Z,1.1nm,0.7s,baz=121,slow=2.5,SNR=7.9								
WRA					LR	LR		04 27 05.8	
	comp=Z,83nm,18.4s,baz=65,slow=39								
WRAB	Tennant Creek	94.89	110	*e*P		P		03 38 28.4	+0.3
	comp=Z,18nm,0.8s								
WRAB	Tennant Creek	94.89	110⇑	*i*P		P		03 38 28.4	+0.3
WRAB					pmax	pmax			
	comp=Z,20nm,0.9s								
WB2	Warramunga Arr	94.89	110	*e*P		P		03 38 28.1	0.0
F39A	Loretta	95.25	334	P		P		03 38 30.1	+0.7
	baz=32								
G40A	Rib Lake	95.53	334	*e*P		P		03 38 31.4	+0.7
	comp=Z,6.3nm,0.9s								
G40A	Rib Lake	95.53	334	P		P		03 38 31.2	+0.6
	baz=32								
O51A	Pataskala	96.46	326	P		P		03 38 35.1	+0.1
	baz=38								
ASAR	Alice Springs	96.50	114	P		P		03 38 35.3	-0.1
	comp=Z,3.5nm,0.6s,baz=307,slow=4.7,SNR=31								
ASAR					PKiKP	PKiKP		03 43 12.8	-0.2
	comp=Z,0.7nm,0.6s,baz=314,slow=1.3,SNR=8.5								
AS01	Alice Springs	96.53	114	*e*P		P		03 38 35.5	-0.1
MAW	Mawson	99.56	175	LR		LR		04 19 51.1	
	comp=Z,112nm,19.8s,baz=6.5,slow=33								
PDAR	Pinedale Array	103.62	345	PP		PKiKP		03 43 22.4	-3.1
	comp=Z,1.2nm,1.0s,baz=12,slow=6.5,SNR=5.1								
PDAR					PKKPbc	PKKPbc		03 54 58.2	-1.3
	comp=Z,0.8nm,0.8s,baz=177,slow=3.0,SNR=5.7								
BDFB	Brasilia	105.62	261	PP		PKiKP		03 43 38.2	+8.6
	comp=Z,3.5nm,0.8s,baz=35,slow=6.9,SNR=3.7								
STKA	Stephens Creek	106.47	117	PKiKP		PKiKP		03 43 30.6	0.0
	comp=Z,1.3nm,0.5s,baz=295,slow=4.2,SNR=5.3								
NVAR	Mina Array Bea	109.36	351	PKiKP		PKiKP		03 43 37.6	+1.2
	comp=Z,1.4nm,0.7s,baz=327,slow=0.8,SNR=9.3								
NVAR					PKKPbc	PKKPbc		03 54 41.2	-0.7
	comp=Z,1.6nm,0.7s,baz=196,slow=6.2,SNR=10								
MNTX	Cornudas Mount	112.95	338	*e*PKP		PKiKP		03 43 43.4	+0.3
TXAR	Lajitas Array	114.55	336	PKP		PKiKP		03 43 44.5	-1.7
	comp=Z,0.6nm,0.7s,baz=96,slow=1.3,SNR=6.9								
TXAR					PKKPbc	PKKPbc		03 54 25.1	+0.7
	comp=Z,0.6nm,0.8s,baz=202,slow=6.3,SNR=5.3								
CPUP	Villa Florida	118.17	255	PKP		PKPdf		03 43 51.8	-1.2
	comp=Z,2.7nm,0.7s,baz=136,slow=2.4,SNR=6.5								
DZM	Mont Dzumac	122.36	97	PKP		PKiKP		03 44 02.2	+0.7
	comp=Z,7.2nm,0.6s,baz=272,slow=12,SNR=8.9								
DZM	Mont Dzumac	122.36	97	*e*LR		LR		04 21 36.0	
	comp=Z,170nm,23.8s								
OTAV	Otavalo	122.59	294	*e*PKPdf		PKPdf		03 44 02.0	-0.4
OTAV	Otavalo	122.59	294	*e*PKiKP		PKPdf		03 44 02.1	-0.4
OTAV	Otavalo	122.59	294	*e*P		PKiKP		03 44 04.1	+1.4
LPAZ	La Paz	122.98	271	PKP		PKPdf		03 44 03.3	0.0
	comp=Z,2.6nm,0.7s,baz=104,slow=0.9,SNR=9.9								
LPAZ	La Paz	122.98	271	*e*P		PKiKP		03 44 04.1	+0.6
VNDA	Vanda	125.36	166	PKP		PKiKP		03 44 05.8	+0.1
	comp=Z,3.1nm,0.7s,baz=295,slow=2.6,SNR=13								
PB11	IPOC Station P	125.82	268	*e*PKPdf		PKPdf		03 44 07.7	-0.4
LVC	Limon Verde	126.37	264	*e*PKPdf		PKPdf		03 44 08.6	-0.8
LVC	Limon Verde	126.37	264	*e*PKiKP		PKPdf		03 44 08.6	-0.8
LVC	Limon Verde	126.37	264	*e*P		PKiKP		03 44 10.6	+0.8
PMSA	Palmer Station	128.99	210	*e*P		PKiKP		03 44 13.9	+0.7
LCO	Las Campanas	130.18	257	*e*PKPdf		PKPdf		03 44 16.0	-0.3
LCO	Las Campanas	130.18	257	*e*PKiKP		PKPdf		03 44 16.0	-0.3
LCO	Las Campanas	130.18	257	*e*P		PKPdf		03 44 16.6	+0.3
PLCA	Paso Flores	132.84	242	PKP		PKiKP		03 44 22.1	+0.2
	comp=Z,3.9nm,0.7s,baz=155,slow=3.0,SNR=10.0								
PLCA	Paso Flores	132.84	242	*e*P		PKiKP		03 44 22.1	+0.2
GO06	Curarrehue	133.36	244	*e*PKPdf		PKPdf		03 44 22.3	+0.5
URZ	Urewera	135.94	114	*e*PKPdf		PKPdf		03 44 26.4	-0.1
TAOE	Nuku Hiva Isla	154.87	27	*e*LR		LR		04 37 17.5	
	comp=Z,224nm,24.1s								
PPT2	Papeete2	156.57	58	*e*LR		LR		04 37 46.8	
	comp=Z,135nm,23.2s								

IDC 12 03:28:10.6±1.8, 5°16S×141°82E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/33, mbtmp3.8/4, ML3.5/2, Error ellipse: s-maj=52.3km s-min=23.5km az=96.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAY	Jayapura	2.85	337	Pn		Pn	03 28 56.3	-1.1
	4.5nm,0.3s,baz=158,slow=11,SNR=12							
JAY				Sn		Sn	03 29 32.9	+0.4
	6.7nm,0.3s,baz=286,slow=18,SNR=7.6							
WRA	Warramunga Ar	16.40	206	Pn		Pn	03 31 58.1	-4.2
	0.1nm,0.3s,baz=26,slow=11,SNR=5.5							
WRA				Sn		Sn	03 34 53.3	-12
	0.0nm,0.3s,baz=25,slow=22,SNR=2.6							
WRA				Lg		Lg	03 36 44.6	
	baz=39,slow=28,SNR=3.2							
ASAR	Alice Springs	19.92	202	P		P	03 32 44.4	+0.3
	0.2nm,0.3s,baz=33,slow=10,SNR=12							
ASAR				S		S	03 36 18.7	-11
	baz=19,slow=26,SNR=3.5							
FITZ	Fitzroy Crossi	20.38	230	P		P	03 32 48.1	-1.0
	2.4nm,0.9s,baz=70,slow=12,SNR=2.5							
MKAR	Makanchi Array	73.61	322	P		P	03 39 46.9	+1.0
	1.1nm,0.9s,baz=105,slow=5.6,SNR=3.3							
ILAR	Eielson Array	86.78	24	P		P	03 40 56.0	-0.5
	0.9nm,0.9s,baz=252,slow=4.6,SNR=4.7							

*ISCJB **12** 03:29:16.4±1.1, 6°32S±0°09×146°2E±0°2, h100km, mb3.8/4, Error ellipse: s-maj=22.8km s-min=11.5km az=159.8*
*IDC **12** 03:29:18.7±4.3, 6°31S×146°25E, h113km±43km, mb3.6/5, mb1 3.7/7, mb1mx3.5/37, mbtmp4.0/7, Error ellipse: s-maj=47.6km s-min=24.9km az=127.0*
ISC 12 03:29:17.7±1.1, 6°3S±0°1×146°2E±0°2, h100km, n9, σ0°89/10, mb3.9/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	Port Moresby	3.22	164	P		Pn	03 30 07.7	+1.2
	9.3nm,0.3s,baz=353,slow=6.2,SNR=35							
PMG				S		Sn	03 30 43.0	-1.1
	7.4nm,0.3s,baz=307,slow=20,SNR=4.3							
CTA	Charters Tower	13.71	180	P		P	03 32 32.9	-0.3
	1.0nm,0.3s,baz=354,slow=15,SNR=3.2							
WRA	Warramunga Ar	17.82	219	P		P	03 33 18.1	-0.6
	0.4nm,0.3s,baz=47,slow=12,SNR=7.5							
ASAR	Alice Springs	20.95	213	P		P	03 33 52.9	+0.1
	1.4nm,0.6s,baz=51,slow=9.0,SNR=7.6							
FITZ	Fitzroy Crossi	23.26	238	P		P	03 34 15.8	-0.8
	2.7nm,0.4s,baz=55,slow=13,SNR=7.7							
STKA	Stephens Creek	25.82	189	P		P	03 34 40.0	+0.3
	1.3nm,0.3s,baz=11,slow=8.3,SNR=5.3							
MKAR	Makanchi Array	77.24	321	P		P	03 41 01.7	+0.7
	0.3nm,0.5s,baz=109,slow=5.9,SNR=5.0							
ILAR	Eielson Array	86.05	23	P		P	03 41 45.9	-1.0
	1.8nm,0.6s,baz=249,slow=5.0,SNR=20							
TORD	Torodi Ar. Bea	144.42	284	PKP		PKPab	03 48 42.1	+0.3
	0.4nm,0.8s,baz=71,slow=3.6,SNR=5.3							

*MOS **12** 03:30:46.4±2.0, 42°02N×40°87E, h10km, mb4.2/1, Error ellipse: s-maj=11.1km s-min=8.5km az=70.0*
*ISCJB **12** 03:30:49.1±0.9, 42°38N±0°03×40°87E±0°03, h15km±9km, Error ellipse: s-maj=5.6km s-min=3.8km az=7.8*
*TIF **12** 03:30:49.6, 42°17N×40°75E, h24km±2km*
*NORS **12** 03:30:50.3±0.0, 42°51N×41°33E, h6km, MPVA4.1*
*ISK **12** 03:30:50.4, 42°25N×40°95E, h8km, ML3.4/4*
*DDA **12** 03:30:51.7, 42°08N×40°92E, h8km±4km, ML2.8*
ISC 12 03:30:48.0±1.2, 42°35N±0°02×41°06E±0°03, h6km±10km, n38, σ1°03/59, 3C-2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BCA	Borcka	0.99	155	PG		Pn	03 31 08.5	-0.1
BCA				SG		Sn	03 31 22.9	0.0
DBOC	Borcka	1.10	155	*i* P		Pn	03 31 10.3	+0.3
DBOC				*i* S		Sn	03 31 25.6	+0.1
ARTV	Artvin	1.33	150	IAML_P				
	comp=Z,9μm,0.1s							
ARTV				*i* P		Pg	03 31 14.4	+0.8
ARTV				*i* S		Sg	03 31 30.8	0.0
DBAD	Bademkaya	1.41	160	IAML_P				
	comp=Z,5μm,0.3s							
DBAD				*i* P		Pg	03 31 15.5	+0.5
DBAD				*i* S		Sg	03 31 33.7	+0.4
DAGI	Agillar	1.42	153	IAML_P				
	comp=Z,517nm,0.3s							
DAGI				*i* P		Pb	03 31 15.0	+0.1
RPOR	Krasnaya Polya	1.47	337⇓	*i* PN		Pb	03 31 15.7	-0.2
NEY	Neytrino	1.52	53⇑	*i* PN		Pb	03 31 16.6	-0.2
NEY	Neytrino	1.52	53	*i* Pg		Pb	03 31 16.6	-0.2
NEY				*e*Sg		Sn	03 31 35.6	-0.6
SOC	Sochi	1.58	322	*e*PN		Pb	03 31 17.2	-0.5
SOC				pmax	pmax			
	comp=Z,93nm,0.2s							
KTUT	Trabzon	1.67	216	PN		Pb	03 31 19.2	+0.1
KTUT				SN		Sn	03 31 38.9	-0.6
SHA1	Shidzhatmaz	1.82	40	*e*PN		Pb	03 31 22.2	+0.3
SHA1	Shidzhatmaz	1.82	40	*e*Pg		Pb	03 31 22.2	+0.3
SHA1				*e*Sg		Sb	03 31 44.6	-0.4
DIGR	Digorskoe uzhe	1.94	73	*e*PN		Pb	03 31 23.8	-0.2
DIGR				*e*S		Sb	03 31 48.6	+0.1
DIGR	Digorskoe uzhe	1.94	73	*e*Pg		Pb	03 31 23.8	-0.2
DIGR				*e*Sg		Sb	03 31 48.6	+0.1
KIV	Kislovodsk	2.00	36⇑	*i* PN		Pb	03 31 25.0	+0.1
BAYT	Aydintepe-Bayb	2.07	200	PN		Pb	03 31 25.1	-1.0
ZEI	Tsey	2.15	77	*i* PN		Pb	03 31 26.6	-0.8
ZEI				*e*S		Sb	03 31 55.2	+0.8
ZEI				pmax	pmax			
	comp=Z,60nm,0.5s							
ZEI				smax	smax			
	comp=E,248nm,0.4s							
ZEI	Tsey	2.15	77	*e*Pg		Pb	03 31 26.9	-0.5
ZEI				*e*Sg		Sb	03 31 55.2	+0.8
BAYB	BAYBURT	2.17	196	IAML_P				
	comp=Z,47nm,0.2s							
BAYB				*i* P		Pb	03 31 27.8	-0.1
BGD	Bogdanovka	2.19	119	P		Pg	03 31 29.2	-0.7
BGD				S		Sb	03 31 56.7	+1.2
NCK	Nalchik	2.19	57⇓	*e*PN		Pg	03 31 29.6	-0.4
LSNR	Lesken	2.24	64	*e*PN		Pb	03 31 29.6	+0.7
LSNR				*e*S		Sg	03 31 58.7	-1.3
LSNR				pmax	pmax			
	comp=Z,33nm,0.5s							
LSNR				smax	smax			
	comp=N,32nm,0.6s							
KOPT	Kop Dagi	2.36	190	IAML_P				
	comp=Z,226nm,0.2s							
KOPT				*i* P		Pg	03 31 33.4	+0.1
TRLG	Trialeti	2.41	109	P		Pb	03 31 32.7	+0.8
TRLG				S		Sg	03 32 04.9	-0.6
KOPR	Koprukoy-ERZUR	2.43	165	PN		Pb	03 31 30.7	-1.5
LACR	Lac	2.44	78	*e*PN		Pb	03 31 31.9	-0.5
LACR				*e*S		Sb	03 32 02.8	0.0
LACR	Lac	2.44	78	*e*Pg		Pb	03 31 31.9	-0.5
LACR				*e*Sg		Sb	03 32 02.8	0.0
EAK	Akyaka	2.53	130	IAML_P				
	comp=Z,393nm,0.5s							
EAK				*i* P		Pg	03 31 35.9	-0.7
GUDG	Gudauri	2.54	86	P		Pb	03 31 35.0	+0.9
GUDG				S		Sg	03 32 08.7	-0.8
KELT	Kelkit	2.58	212	*i* P		Pb	03 31 33.8	-1.0
TBLG	Delisi	2.81	101	PN		Pb	03 31 37.8	-0.8
TBLG	Delisi	2.81	101	P		Sb	03 32 15.5	+2.2
GOF	Gofitskoye	3.07	27	*e*PN		Pg	03 31 47.4	+0.6
GOF				*e*S		Sg	03 32 25.2	-1.4
GOF				pmax	pmax			
	comp=Z,10.0nm,0.5s							
GOF				smax	smax			
	comp=N,100nm,0.7s							
GOF				smax	smax			
	comp=E,90nm,1.0s							
ANN	Anapa	3.60	314	*e*PN		Pn	03 31 48.1	+3.8
ANN				*e*			03 32 31.4	
SUDU	Sudak	5.08	302	*e*PN		Pn	03 32 05.2	+0.5
SUDU				*e*S		Sn	03 33 02.0	-1.6
ALU	Alushta	5.37	298	*e*P		Pn	03 32 11.0	+2.3
ALU				*e*S		Sn	03 33 09.2	-1.7
SEV	Sevastopol'	5.81	295	*e*P		Pn	03 32 15.9	+1.2
SEV				*e*S		Sn	03 33 19.2	-2.4
AAK	Ala-Archa	24.57	78⇑	*e*P		P	03 36 08.3	-0.5

*IDC **12** 03:33:19.9±0.9, 31°89N×50°83E, h0km, mb3.9/17, mb1 4.0/18, mb1mx3.9/52, mbtmp4.0/18, ML3.8/1, Error ellipse: s-maj=21.8km s-min=16.

comp=Z,1µm,0.5s
ILAS Lasjerd 3.81 24 *e*Pn **Pb** 03 34 24.2 -4.0
ILAS IAMB IAmb 03 35 32.2
comp=E,2µm,0.9s
HKZM Kohzaman 3.91 333 *e*Pn **Pn** 03 34 24.0 +3.1
HKZM IAMB IAmb 03 35 37.3
comp=Z,0.0nm,1.4s
IFIR Firoozkooh 3.99 20 *e*Pn **Pn** 03 34 25.2 +3.1
IFIR IAMB IAmb 03 34 46.5
comp=Z,375nm,0.4s
IANJ Anjilo 4.28 33 *e*Pn **Pn** 03 34 28.7 +2.7
IANJ IAMB IAmb 03 35 52.4
comp=Z,712nm,0.8s
ISHM Shahmirzad 4.32 25 *e*Pn Pb 03 34 30.5 -6.2
ISHM IAMB IAmb 03 34 58.4
comp=Z,1µm,0.5s
IVIS Veis 4.39 308 *e*Pn **Pn** 03 34 28.6 +1.1
IVIS IAMB IAmb 03 34 53.8
comp=Z,778nm,0.4s
IALA Alasht 4.42 19 *e*Pn Pb 03 34 32.1 -6.4
IALA IAMB IAmb 03 35 03.3
comp=Z,907nm,0.5s
IPRN Peran 4.46 13 *e*Pn Pb 03 34 33.2 -5.9
IPRN IAMB IAmb 03 35 00.3
comp=Z,1µm,0.6s
GEYT Alibeck 8.35 42 Pn Pn 03 35 27.0 +5.2
comp=Z,0.5nm,0.3s,baz=219,slow=16,SNR=2.6
BRTR Keskin Array B 16.13 304 Pn **P** 03 37 08.4 -2.4
comp=Z,0.4nm,0.3s,baz=127,slow=11,SNR=16
MFTR Murfatlar 21.55 311 *j*P **P** 03 38 10.8 +0.7
TLB Topalu 21.98 312 *j*P **P** 03 38 15.6 +0.9
CFR Carcaliu 22.20 313 *j*P **P** 03 38 17.4 +0.4
VRI Vrincioaia 23.40 314 *j*P **P** 03 38 29.7 +0.1
PLOR Plostina 23.44 313 *j*P **P** 03 38 30.6 +0.6
MLR Muntele Rosu 23.72 312 P **P** 03 38 34.6 +1.7
comp=Z,6.2nm,0.7s,baz=86,slow=19,SNR=5.6
MLR Muntele Rosu 23.72 312 *i*P **P** 03 38 33.8 +0.9
VOIR 24.27 311 *i*P **P** 03 38 39.4 +1.4
DOPR Dopca 24.28 313 *j*P **P** 03 38 39.6 +1.6
BIZ Bicaz 24.30 315 *j*P **P** 03 38 40.0 +1.9
PRAR RASCA 24.43 316 *i*P **P** 03 38 39.8 +0.4
ARR Arges 24.50 311 *j*P **P** 03 38 41.7 +1.6
AKASG Malin Array Be 24.78 326 P **P** 03 38 41.4 -1.0
comp=Z,0.4nm,0.3s,baz=138,slow=8.7,SNR=5.5
BURAR Bucovina Array 25.15 316 *i*P **P** 03 38 47.5 +1.5
GZR Gura Zlata 25.72 310 *i*P **P** 03 38 51.9 +0.8
MDVR Moldovita 26.21 308 *i*P **P** 03 38 56.9 +1.3
DRGR 26.31 313 *i*P **P** 03 38 58.4 +1.9
SIRR Siria 26.77 311 *i*P **P** 03 39 01.1 +0.5
TRPA Tarpa 26.99 315 *i*P **P** 03 39 04.5 +2.0
MKAR Makanchi Array 28.14 49 P **P** 03 39 15.3 +2.5
comp=Z,1.1nm,0.8s,baz=240,slow=7.9,SNR=3.6
VRAC Vranov 31.07 314 P **P** 03 39 38.2 -0.5
comp=Z,1.8nm,0.4s,baz=104,slow=4.2,SNR=4.2
ZALV Zalesovo Beam 32.63 38 P **P** 03 39 54.6 +2.2
comp=Z,0.5nm,0.4s,baz=236,slow=10,SNR=3.3
GERES GERESS Array B 32.71 312 P **P** 03 39 53.0 -0.3
comp=Z,0.4nm,0.6s,baz=101,slow=8.1,SNR=4.0
WATA Walderalm 33.69 309 *i*P **P** 03 40 02.0 0.0
comp=Z,1.6nm,0.4s
FINES FINESS Array B 33.73 339 P **P** 03 40 02.5 +0.6
comp=Z,2.5nm,0.9s,baz=179,slow=7.6,SNR=3.9
SQTA Sankt Quirin 33.91 308 *i*P **P** 03 40 03.6 -0.2
comp=Z,5.9nm,0.4s
MOTA Moosalm 34.01 309 *i*pP **P** 03 40 05.4 +0.6
comp=Z,1.6nm,0.4s
FETA Feichten 34.19 308 *i*P **P** 03 40 06.4 0.0
comp=Z,4.1nm,0.5s
RETA Reutte 34.27 309 *i*P **P** 03 40 06.9 +0.1
comp=Z,1.8nm,0.4s
DAVOX Davos/Dischmat 34.72 307 P **P** 03 40 10.8 -0.1
comp=Z,2.5nm,0.6s,baz=124,slow=4.4,SNR=11
DAVA Damuels 34.81 308 *i*P **P** 03 40 11.4 -0.3
comp=Z,9.5nm,0.4s
HFS Hagfors 37.47 330 P **P** 03 40 34.6 +0.5
comp=Z,3.9nm,0.6s,baz=127,slow=9.4,SNR=13
NB2 NORSAR Subarra 38.99 330 P **P** 03 40 46.7 -0.2
comp=Z,0.7nm,0.5s,baz=120,slow=8.6
NOA NORSAR Array B 38.99 330 P **P** 03 40 46.8 -0.2
comp=Z,1.2nm,0.7s,baz=122,slow=8.3,SNR=5.1
EKA Eskdalemuir Ar 44.30 318 P **P** 03 41 29.3 -1.0
comp=Z,1.3nm,0.8s,baz=104,slow=7.8,SNR=3.5
SONM Songino Array 44.39 52 P **P** 03 41 33.9 +2.5
comp=Z,0.2nm,0.4s,baz=284,slow=5.8,SNR=3.7
ESDC Sonseca Array 44.71 296 P **P** 03 41 34.1 +0.1
comp=Z,0.6nm,0.5s,baz=88,slow=9.1,SNR=5.6
TORD Torodi Ar. Bea 48.82 259 P **P** 03 42 05.5 -0.9
comp=Z,3.6nm,0.8s,baz=55,slow=8.5,SNR=17
DBIC Dimbokro 57.71 257 P **P** 03 43 11.3 -0.6
comp=Z,2.2nm,0.8s,baz=42,slow=12,SNR=2.7
KSRS Korea Array 61.82 62 P **P** 03 43 41.3 +1.5
comp=Z,1.4nm,0.7s,baz=294,slow=7.4,SNR=3.3
BOSA Boshof 65.00 205 P **P** 03 44 01.4 +0.4
comp=Z,3.6nm,0.9s,baz=51,slow=5.6,SNR=5.5
YKA Yellowknife Ar 85.23 353 P **P** 03 45 57.1 0.0
comp=Z,0.2nm,0.7s,baz=10,slow=5.1,SNR=3.5

*ISCJB **12** 03:40:53.2±0.5, 60.59N±0.02×141.47W±0.03, h7km±4km, Error ellipse: s-maj=4.1km s-min=2.6km az=0.8*
*PGC **12** 03:40:54.7±0.5, 60.52N× 141.50W, h5km, ML2.7/7, 176km Wnw of Yakutat, Ak Southeastern Alaska*
*NEIC **12** 03:40:55.4±0.0, 60.47N× 141.54W, h9km, ML2.7(AEIC), After AEIC.*
ISC 12 03:40:55.0±0.9, 60.47N±0.04×141.54W±0.02, h17km±7km, n52, σ0.95/74, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RKAV	**Rock Avalanche**	**0.19**	**150**	P		**Pg**		**03 40 59.9**	**0.0**
RKAV				S		**Sg**		**03 41 04.3**	**+1.1**
MESA	**MESA**	**0.35**	**215**	P		**Pg**		**03 41 03.1**	**+0.6**
MESA				S		**Sb**		**03 41 09.7**	**+1.5**
CHX	**Chaix Hills**	**0.46**	**152**	P		**Pb**		**03 41 05.2**	**+0.6**
SAMH	**Samovar Hills**	**0.51**	**131**	P		**Pg**		**03 41 05.6**	**+0.4**
KULT	**Kultieth River**	**0.63**	**250**	P		**Pg**		**03 41 06.9**	**-0.5**
KULT				S		**Sg**		**03 41 16.5**	**+0.8**
SNH	**Sunshine Point**	**0.71**	**247**	P		**Pg**		**03 41 08.3**	**-0.5**
SNH				S		**Sb**		**03 41 19.3**	**+1.1**
PCA	**Pinnacle**	**0.74**	**120**	P		**Pg**		**03 41 08.6**	**-0.8**
PCA				S		**Sb**		**03 41 20.1**	**+0.8**
PCA	**Pinnacle**	**0.74**	**120**	P		**Pg**		**03 41 08.7**	**-0.8**
PCA				S		**Sg**		**03 41 19.7**	**+0.4**
KHIT	**Khitrov Hills**	**0.85**	**269**	P		**Pg**		**03 41 10.0**	**-1.4**
KHIT				S		**Sg**		**03 41 22.5**	**-0.2**
BGLC	**Bering Glacier**	**0.93**	**249**	P		**Pg**		**03 41 12.4**	**-0.6**
BCPM	**Bancas Point**	**1.08**	**118**	P		**Pg**		**03 41 13.6**	**-2.4**
BCPM				S		**Sg**		**03 41 28.9**	**-1.2**
SUCK	**Suckling Hills**	**1.18**	**251**	P		**Pb**		**03 41 16.6**	**-0.3**
NICHA	**Nichawak Mount**	**1.23**	**260**	P		**Pn**		**03 41 16.9**	**-0.4**
NICHA				S		**Sb**		**03 41 33.9**	**+0.7**
PNL	**Peninsula**	**1.34**	**126**	P		**Pn**		**03 41 17.8**	**-1.1**
PNL	**Peninsula**	**1.34**	**126**	P		**Pn**		**03 41 17.6**	**-1.3**
PNL				S		**Sb**		**03 41 36.0**	**-0.5**
HMT	**Hamilton**	**1.36**	**266**	P		**Pn**		**03 41 18.4**	**-0.7**
BMRM	**Bremner River**	**1.59**	**290**	P		**Pn**		**03 41 21.0**	**-1.3**
YUK6	**Outpost Mounta**	**1.64**	**72**	P		**Pn**		**03 41 23.2**	**0.0**
YUK6	**Outpost Mounta**	**1.64**	**72**	Pn		**Pn**		**03 41 23.1**	**0.0**
YUK6				Sg		**Sn**		**03 41 44.4**	**+0.5**
YUK4	**Talbot Arm**	**1.67**	**57**	P		**Pn**		**03 41 25.2**	**+1.6**
YUK4	**Talbot Arm**	**1.67**	**57**	Pn		**Pn**		**03 41 24.9**	**+1.4**
YUK7	**Dusty Glacier**	**1.69**	**86**	P		**Pn**		**03 41 23.4**	**-0.4**
YUK7	**Dusty Glacier**	**1.69**	**86**	Pn		**Pn**		**03 41 23.6**	**-0.1**
YUK7				Sg		**Sn**		**03 41 45.2**	**+0.2**
SGAM	**Sherman Glacie**	**1.81**	**273**	P		**Pn**		**03 41 25.5**	**+0.2**
SGAM				S		**Sn**		**03 41 49.5**	**+1.5**
YUK5	**Granite Creek**	**1.93**	**68**	P		**Pn**		**03 41 27.4**	**+0.3**
YUK5	**Granite Creek**	**1.93**	**68**	Pn		**Pn**		**03 41 27.5**	**+0.5**
YUK5				Sg		**Sn**		**03 41 52.5**	**+1.6**
HYT	**Haines Junctio**	**2.02**	**78**	P		**Pn**		**03 41 28.6**	**+0.3**
HYT	**Haines Junctio**	**2.02**	**78**	Pn		**Pn**		**03 41 28.5**	**+0.1**
HYT				Sg		**Sn**		**03 41 54.5**	**+1.3**
PS12	**TAPS Pump St12**	**2.03**	**302**	P		**Pn**		**03 41 26.8**	**-1.5**
EYAK	**Cordova Ski Ar**	**2.08**	**274**	P		**Pn**		**03 41 28.8**	**-0.3**
DIV	**Divide**	**2.18**	**290**	P		**Pn**		**03 41 30.2**	**-0.2**
DIV	**Divide**	**2.18**	**290**	Pn		**Pn**		**03 41 30.3**	**-0.2**
DIV				Sg		**Sn**		**03 41 58.8**	**+1.8**
PS11	**TAPS Pump St11**	**2.49**	**312**	P		**Pn**		**03 41 35.3**	**+0.6**
JPK	**Jack Peak**	**2.55**	**286**	P		**Pn**		**03 41 36.3**	**+0.7**
HARP	**HAARP**	**2.61**	**320**	P		**Pn**		**03 41 37.0**	**+0.7**
HARP	**HAARP**	**2.61**	**320**	Pn		**Pn**		**03 41 36.4**	**+0.1**
BCA3	**Beaver Creek A**	**2.61**	**358**	P		**Pn**		**03 41 35.8**	**-0.6**
GLI	**Glacier Island**	**2.76**	**281**	P		**Pn**		**03 41 38.6**	**+0.2**
PLBC	**Pleasant Camp**	**2.79**	**109**	Pn		**Pn**		**03 41 39.1**	**+0.3**
PLBC				Sn		**Sn**		**03 42 12.3**	**+0.3**
SCM	**Sheep Creek Mo**	**3.12**	**299**	P		**Pn**		**03 41 42.5**	**-0.9**
WHY	**Whitehorse**	**3.29**	**84**	Pn		**Pn**		**03 41 45.2**	**-0.6**
WHY				Sn		**Sn**		**03 42 24.5**	**-0.1**
WHY				Sg		**Sb**		**03 42 35.5**	**+2.7**
DOT	**Dot Lake**	**3.41**	**341**	Pn		**Pn**		**03 41 47.0**	**-0.3**
DOT				Sn		**Sn**		**03 42 27.1**	**-0.2**
KNK	**Knik Glacier**	**3.50**	**289**	P		**Pn**		**03 41 49.3**	**+0.7**
SML	**Sawmill**	**3.56**	**295**	P		**Pn**		**03 41 49.1**	**-0.3**
RIDG	**Independ'e Rid**	**3.63**	**336**	P		**Pn**		**03 41 50.4**	**0.0**
SCRK	**Sand Creek**	**3.70**	**343**	P		**Pn**		**03 41 50.6**	**-0.9**
DAWY	**Dawson**	**3.75**	**15**	P		**Pn**		**03 41 51.9**	**-0.1**
DAWY	**Dawson**	**3.75**	**15**	Pn		**Pn**		**03 41 51.9**	**-0.1**
DAWY				Sn		**Sn**		**03 42 34.6**	**-1.1**
DAWY				Sg		**Sb**		**03 42 46.8**	**+1.0**
GHO	**Glory Hole Cre**	**3.81**	**293**	P		**Pn**		**03 41 51.9**	**-1.0**
RND	**Reindeer**	**4.54**	**314**	P		**Pn**		**03 42 02.3**	**-0.6**
ILB	**Eielson Array**	**4.97**	**333**	P		**Pn**		**03 42 07.9**	**-0.8**
INK	**Inuvik**	**8.60**	**20**	*e*Pn		**Pn**		**03 43 00.7**	**+2.3**
	18nm,1.0s								

*ISCJB **12** 03:45:37.0±0.8, 5.96S±0.06×128.8E±0.1, h322km, mb3.5/1, Error ellipse: s-maj=16.5km s-min=7.5km az=9.9*
*IDC **12** 03:45:38.2±1.6, 5.98S×128.75E, h301km±22km, mb3.2/1, mb1 3.4/5, mb1mx3.0/33, mbtmp4.0/5, Error ellipse: s-maj=32.2km s-min=17.9km az=90.0*
ISC 12 03:45:37.2±0.9, 6.00S±0.07×128.7E±0.1, h322km, n6, σ3.03/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.68**	**26**	P		**Pn**		**03 47 03.8**	**+0.3**
	1.9nm,0.3s,baz=193,slow=12,SNR=15								
SIJI				S		**S**		**03 48 08.4**	**-4.7**
	5.6nm,0.3s,baz=126,slow=23,SNR=19								
BATI	**Baumata**	**6.54**	**230**	P		**Pn**		**03 47 14.2**	**+0.7**
	56nm,0.3s,baz=90,slow=2.4,SNR=19								
BATI				S		**S**		**03 48 27.1**	**-4.5**
	7.1nm,0.3s,baz=108,slow=20,SNR=2.3								
FITZ	**Fitzroy Crossi**	**12.40**	**194**	P		**Pn**		**03 48 24.4**	**+0.2**
	1.1nm,0.3s,baz=21,slow=12,SNR=19								
FITZ				S		**S**		**03 50 39.9**	**-2.1**
	0.2nm,0.3s,baz=3.2,slow=18,SNR=2.1								
WRA	**Warramunga Ar**	**14.89**	**159**	P		**Pn**		**03 48 54.0**	**+0.3**
	0.7nm,0.3s,baz=340,slow=12,SNR=38								
WRA				S		**S**		**03 51 30.9**	**-2.8**
	0.2nm,0.3s,baz=338,slow=20,SNR=7.6								
ASAR	**Alice Springs**	**18.26**	**165**	P		**P**		**03 49 31.4**	**+3.0**
	0.7nm,0.3s,baz=345,slow=11,SNR=40								
ASAR				S		**S**		**03 52 40.6**	**+0.2**
	0.5nm,0.3s,baz=353,slow=22,SNR=34								
MKAR	**Makanchi Array**	**66.71**	**327**	P		**P**		**03 55 57.2**	**+2.9**
	0.6nm,0.5s,baz=124,slow=7.8,SNR=8.9								

*TIF **12** 03:47:46.2, 42.32N×40.89E, h41km±1km*
*NORS **12** 03:47:47.9±0.0, 42.49N×41.31E, h7km, MPVA3.6*
*ISK **12** 03:47:47.4, 42.35N×41.19E, h5km, ML3.0/4*
*MOS **12** 03:47:48.9±0.0, 42.53N×41.12E, h10km, MPVA3.8*
*DDA **12** 03:47:49.1, 42.10N×40.95E, h8km±3km, ML2.9*
ISC 12 03:47:45.8±1.2, 42.35N±0.02×41.14E±0.03, h3km±11km, n22, σ0.82/36, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BCA	**Borcka**	**0.97**	**158**	PG		**Pn**		**03 48 05.9**	**-0.5**
BCA				SG		**Sn**		**03 48 20.0**	**-0.7**
DOMR	**Dombai**	**1.00**	**21**	*i* Pg		**Pb**		**03 48 05.9**	**-0.1**
DOMR				*i* Sg		**Sg**		**03 48 18.1**	**0.0**
DBOC	**Borcka**	**1.08**	**158**	*i* P		**Pn**		**03 48 08.2**	**+0.4**
ARTV	**Artvin**	**1.31**	**153**	IAML_P					
	comp=Z,8µm,0.1s								
ARTV				*i* P		**Pb**		**03 48 11.3**	**+0.2**
ARTV				*i* S		**Sn**		**03 48 29.8**	**+0.7**
DBAD	**Bademkaya**	**1.40**	**162**	IAML_P					
	comp=Z,3µm,0.2s								
DBAD				*i* P		**Pb**		**03 48 12.5**	**0.0**
DBAD				*i* S		**Sb**		**03 48 30.2**	**-0.6**
DAGI	**Agillar**	**1.40**	**155**	IAML_P					
	comp=Z,614nm,0.1s								
DAGI				*i* P		**Pg**		**03 48 13.1**	**+0.5**
DAGI				*i* S		**Sb**		**03 48 30.4**	**-0.5**
RPOR	**Krasnaya Polya**	**1.49**	**335**	*i* Pg		**Pn**		**03 48 13.2**	**-0.3**
RPOR				*i* Sg		**Sn**		**03 48 32.3**	**-1.2**
SOC	**Sochi**	**1.61**	**320**	*e*Pg		**Pn**		**03 48 15.6**	**+0.4**
SOC				*e*Sg		**Sn**		**03 48 36.5**	**+0.1**
KTUT	**Trabzon**	**1.71**	**217**	PN		**Pg**		**03 48 18.9**	**+0.4**
KTUT				SN		**Sg**		**03 48 41.3**	**+0.7**
SHA1	**Shidzhatmaz**	**1.78**	**38**	*i* Pg		**Pg**		**03 48 19.6**	**-0.2**
SHA1				*i* Sg		**Sg**		**03 48 42.2**	**-0.7**
LZRR	**Lazarevskoye**	**2.04**	**321**	*i* Pg		**Pb**		**03 48 23.3**	**-0.1**
LZRR				*i* Sg		**Sb**		**03 48 49.0**	**-0.2**
BAYT	**Aydıntepe-Bayb**	**2.10**	**201**	PN		**Pb**		**03 48 24.3**	**-0.2**
BAYB	**BAYBURT**	**2.19**	**198**	IAML_P					
	comp=Z,136nm,0.1s								
BAYB				*i* P		**Pb**		**03 48 25.1**	**-1.1**
TRLG	**Trialeti**	**2.35**	**109**	P		**Pg**		**03 48 30.3**	**-0.6**
TRLG				S		**Sg**		**03 49 02.2**	**+0.8**
KOPT	**Kop Dagi**	**2.38**	**192**	IAML_P					
	comp=Z,37nm,0.1s								
KOPT				*i* P		**Pn**		**03 48 26.3**	**+0.4**
KOPR	**Koprukoy-ERZUR**	**2.42**	**167**	PN		**Pb**		**03 48 28.7**	**-1.3**
GUDG	**Gudauri**	**2.48**	**86**	P		**Pg**		**03 48 33.2**	**-0.1**
GUDG				S		**Sg**		**03 49 05.3**	**0.0**
EAK	**Akyaka**	**2.49**	**131**	IAML_P					
	comp=Z,240nm,0.3s								
EAK				*i* P		**Pb**		**03 48 31.5**	**+0.2**
TBLG	**Delisi**	**2.75**	**102**	PN		**Pn**		**03 48 32.8**	**+2.0**
TBLG	**Delisi**	**2.75**	**102**	P		**Pg**		**03 48 40.0**	**+1.5**
TBLG				S		**Sg**		**03 49 12.4**	**-1.8**
SEAG	**Tbilisi Sea**	**2.79**	**101**	P		**Sg**		**03 49 14.4**	**-1.1**
VOZR	**Vozrozhdenie**	**3.06**	**317**	*e*Pn		**Pn**		**03 48 36.3**	**+1.3**
VOZR				*e*Sn		**Sn**		**03 49 12.4**	**+0.4**

*ISCJB **12** 03:53:31.1±0.6, 21.66S±0.03×68.49W±0.08, h131km±6km, mb3.6/6, Error ellipse: s-maj=13.0km s-min=5.1km az=4.1*
*IDC **12** 03:53:31.0±0.8, 21.69S×68.21W, h114km±8km, mb3.5/6, mb1 3.7/8, mb1mx3.5/27, mbtmp3.9/8, Error ellipse: s-maj=23.1km s-min=12.5km az=106.0*
*GUC **12** 03:53:31.9±0.4, 21.65S×68.51W, h133km±3km, ML3.4*
ISC 12 03:53:31.3±0.9, 21.62S±0.04×68.34W±0.07, h118km±8km, n26, σ1.49/42, mb3.8/6, 11C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.86**	**258**	⇑*i*P		**Pn**		**03 53 52.4**	**+0.4**
PB09				*i* S		**Sn**		**03 54 07.7**	**+0.1**
PB09				IAML				03 54 11.4	
	comp=E,874nm,0.4s								
LVC	**Limon Verde**	**1.12**	**208**	P		**Pn**		**03 53 54.8**	**+0.1**
	comp=E,138nm,0.3s,baz=11,slow=7.2,SNR=1049								
LVC				S		**Sn**		**03 54 11.6**	**-0.8**
	comp=E,52nm,0.3s,baz=209,slow=19,SNR=31								
LVC				LR		LR		03 54 28.8	
	comp=E,86nm,19.8s,baz=348,slow=51								
PB01	**IPOC Station P**	**1.22**	**298**	⇑*i*P		**Pn**		**03 53 55.5**	**+0.1**
PB01				*i* S		**Sn**		**03 54 13.5**	**-0.3**
PB01				IAML				03 54 15.2	
	comp=E,738nm,0.3s								
PB03	**IPOC Station P**	**1.38**	**252**	⇑*i*P		**Pn**		**03 53 57.0**	**-0.4**
PB03				*i* S		**Sn**		**03 54 15.8**	**-1.3**
PB03				IAML				03 54 18.2	
	comp=E,853nm,0.5s								
PB07	**IPOC Station P**	**1.44**	**266**	⇑*i*P		**Pn**		**03 53 57.6**	**-0.5**
PB07				*i* S		**Sn**		**03 54 17.3**	**-1.1**
PB07				IAML				03 54 18.7	
	comp=E,884nm,0.3s								
PB02	**IPOC Station P**	**1.48**	**281**	⇑*i*P		**Pn**		**03 53 58.1**	**-0.3**
PB02				*i* S		**Sn**		**03 54 18.2**	**-0.9**
PB06	**IPOC Station P**	**1.57**	**226**	⇑*i*P		**Pn**		**03 53 59.5**	**-0.1**
PB06				*i* S		**Sn**		**03 54 20.6**	**-0.5**
PB06				IAML				03 54 21.9	
	comp=E,1µm,0.4s								
PB08	**IPOC Station P**	**1.66**	**332**	⇑*i*P		**Pn**		**03 54 02.5**	**+1.7**
PB08				*i* S		**Sn**		**03 54 25.1**	**+1.8**
PB08				IAML				03 54 26.9	
	comp=E,301nm,0.2s								
PB04	**IPOC Station P**	**1.82**	**247**	⇑*i*P		**Pn**		**03 54 01.9**	**-0.7**
PB04				*i* S		**Sn**		**03 54 25.0**	**-1.5**
PB04				IAML				03 54 32.7	
	comp=E,581nm,0.4s								
PATCX	**Punta Patache**	**1.87**	**295**	⇑*i*P		**Pn**		**03 54 03.0**	**-0.1**
PATCX				*e*S		**Sn**		**03 54 26.3**	**-1.0**
PB15	**IPOC Station P**	**1.90**	**213**	⇑*i*P		**Pn**		**03 54 03.6**	**+0.1**
PB15				*i* S		**Sn**		**03 54 28.2**	**0.0**
PB05	**IPOC Station P**	**2.12**	**234**	⇑*i*P		**Pn**		**03 54 05.3**	**-0.9**
PB05				*i* S		**Sn**		**03 54 31.1**	**-1.9**
PB05				IAML				03 54 37.1	
	comp=N,290nm,0.4s								
PB11	**IPOC Station P**	**2.23**	**326**	*e*P		**Pn**		**03 54 08.1**	**+0.4**
PB11				*i* S		**Sn**		**03 54 35.4**	**0.0**
PSGC	**Pisagua**	**2.62**	**320**	*e*P		**Pn**		**03 54 11.8**	**-0.8**
MNMC	**Minye Minye**	**2.74**	**334**	*e*P		**Pn**		**03 54 15.3**	**+0.8**
MNMC				*i* S		**Sn**		**03 54 48.6**	**+1.1**
PB10	**IPOC Station P**	**2.78**	**227**	*e*P		**Pn**		**03 54 14.0**	**-0.7**
LPAZ	**La Paz**	**5.31**	**2**	P		**Pn**		**03 54 51.1**	**+2.1**
	comp=N,1.2nm,0.3s,baz=179,slow=4.7,SNR=23								
LPAZ				S		**Sn**		**03 55 51.0**	**+1.6**
	baz=280,slow=18,SNR=1.8								
SIV	**San Ignacio**	**8.87**	**52**	P		**Pn**		**03 55 35.1**	**-1.5**
	comp=N,4.6nm,0.3s,baz=244,slow=11,SNR=96								
SIV				S		**Sn**		**03 57 07.9**	**-7.0**
	comp=N,0.1nm,0.3s,baz=302,slow=18,SNR=3.1								
TXAR	**Lajitas Array**	**61.03**	**325**	P		**P**		**04 03 33.0**	**+0.3**
	comp=N,0.4nm,0.8s,baz=156,slow=9.6,SNR=3.4								
DBIC	**Dimbokro**	**68.26**	**73**	P		**P**		**04 04 19.5**	**-0.4**
	comp=N,0.9nm,0.6s,baz=190,slow=6.1,SNR=3.0								
PDAR	**Pinedale Array**	**74.48**	**330**	P		**P**		**04 04 58.1**	**+1.1**
	comp=N,0.2nm,0.7s,baz=104,slow=7.5,SNR=2.5								
ULM	**Lac du Bonnet**	**75.59**	**342**	P		**P**		**04 05 02.6**	**-0.3**
	comp=N,1.6nm,0.7s,baz=124,slow=7.5,SNR=3.5								
TORD	**Torodi Ar. Bea**	**76.89**	**70**	P		**P**		**04 05 10.0**	**-1.0**
	comp=N,1.3nm,0.9s,baz=252,slow=5.3,SNR=6.1								
YKA	**Yellowknife Ar**	**91.48**	**340**	P		**P**		**04 06 24.7**	**+0.8**
	comp=N,1.3nm,0.7s,baz=133,slow=4.6,SNR=33								
WRA	**Warramunga Arr**	**133.12**	**210**	PKP		**PKPdf**		**04 12 34.5**	**+0.6**
	comp=N,0.2nm,0.6s,baz=151,slow=1.8,SNR=4.4								
MKAR	**Makanchi Array**	**145.42**	**36**	PKPbc		**PKPab**		**04 12 56.4**	**+0.6**
	comp=N,0.4nm,0.6s,baz=326,slow=3.3,SNR=6.2								

*IDC **12** 04:07:38.8±1.8, 14.02N×92.43W, h0km, mb3.7/6, mb1 4.0/10, mb1mx3.8/35, mbtmp3.7/10, ML3.4/4, MS2.5/1, Ms1 2.5/1, ms1mx2.2/24, Error ellipse: s-maj=38.7km s-min=20.3km az=17.0*
*ISCJB **12** 04:07:41.8±1.4, 14.03N±0.06×92.47W±0.04, h26km±9km, mb4.0/17, Error ellipse: s-maj=10.0km s-min=5.4km az=25.6*
*NEIC **12** 04:07:43.2±0.0, 14.01N×92.42W, h10km, mb4.1/10, MD4.0(MEX), After MEX.*
*MEX **12** 04:07:43.5±0.4, 14.02N×92.43W, h10km±16km, MD4.0*
*UCR **12** 04:07:44.0±0.6, 13.80N×92.07W, h0km±16km, MD3.6, mb4.1(NEIC)*
ISC 12 04:07:42.0±2.0, 14.06N±0.09×92.38W±0.05, h19km±8km, n41, σ1.37/56, mb4.2/17, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**0.85**	**8**	*e*P		**Pb**		**04 07 58.3**	**+0.1**
THIG				*e*S		**Sb**		**04 08 10.0**	**+0.7**
THIG		**0.85**	**8**	*e*P		**Pb**		**04 07 58.5**	**+0.2**
THIG				*e*S		**Sb**		**04 08 10.0**	**+0.7**
FUG	**Fuego 3**	**1.54**	**75**	*e*P		**Pn**		**04 08 09.1**	**+0.3**
PCG	**Pacaya**	**1.75**	**79**	*e*P		**Pn**		**04 08 12.5**	**+0.7**
PCG				*e*S		**Sn**		**04 08 35.1**	**+1.4**
PCIG		**1.82**	**334**	*e*P		**Pn**		**04 08 11.3**	**-1.1**
PCIG				*e*S		**Sn**		**04 08 33.8**	**-1.2**
PCIG		**1.82**	**334**	*e*P		**Pn**		**04 08 11.3**	**-1.1**
PCIG				*e*S		**Sn**		**04 08 33.8**	**-1.2**
IXG	**Ixpaco**	**1.88**	**86**	*e*P		**Pn**		**04 08 13.6**	**+0.3**
NBG	**Las Nubes**	**2.04**	**75**	*e*P		**Pb**		**04 08 17.8**	**-1.0**
APG	**El Apazote**	**2.08**	**63**	Pn		**Pn**		**04 08 17.7**	**+1.5**
	22nm,0.3s,baz=243,slow=8.8,SNR=284								
APG				Sn		**Sb**		**04 08 44.5**	**-0.5**
	26nm,0.3s,baz=229,slow=19,SNR=6.5								
APG				LR		LR		04 09 03.2	
	comp=Z,107nm,21.5s,baz=201,slow

DZM	**Mont Dzumac**	**11.56**	**162**	P	**Pn**	**04 12 40.4**	**+1.1**
	0.7nm,0.3s,baz=62,slow=11,SNR=23						
DZM				S	**Sn**	**04 14 45.6**	**-1.6**
	0.3nm,0.3s,baz=323,slow=20,SNR=3.7						
DZM				LR	LR	04 16 20.0	
	comp=Z,194nm,18.6s,baz=66,slow=33						
PMG	**Port Moresby**	**15.21**	**275**	LR	LR	04 19 15.3	
	comp=Z,236nm,18.2s,baz=66,slow=37						
CTA	**Charters Tower**	**18.03**	**238**	P	**P**	**04 14 05.8**	**+1.6**
	0.5nm,0.3s,baz=73,slow=13,SNR=12						
STKA	**Stephens Creek**	**28.31**	**220**	LR	LR	04 27 00.3	
	comp=Z,164nm,18.4s,baz=334,slow=36						
WRA	**Warramunga Arr**	**28.51**	**249**	P	**P**	**04 15 46.7**	**-1.5**
	1.8nm,1.1s,baz=79,slow=9.2,SNR=8.4						
WRA				PcP	**PcP**	**04 18 59.9**	**+0.6**
	0.4nm,0.8s,baz=76,slow=3.5,SNR=2.6						
ILAR	**Eielson Array**	**84.57**	**19**	P	**P**	**04 22 24.0**	**-0.8**
	0.5nm,0.8s,baz=238,slow=5.4,SNR=3.5						
MKAR	**Makanchi Array**	**91.39**	**317**	P	**P**	**04 22 59.2**	**+1.2**
	0.4nm,0.8s,baz=121,slow=4.3,SNR=3.1						

*ISCJB **12** 04:15:46.3±0.6,6°.85N±0°.04×73°.12W±0°.05,h150km±5km, mb2.8/2,Error ellipse: s-maj=8.1km s-min=5.6km az=24.1*
*IDC **12** 04:15:46.7±1.2,6°.79N×72°.93W,h166km±16km,mb2.5/2, mb1 3.0/4,mb1mx2.8/24,mbtmp3.1/4,Error ellipse: s-maj=42.6km s-min=14.4km az=131.0*
*RSNC **12** 04:15:48.6±1.1,6°.80N×73°.16W,h140km±5km,ML3.4, Mw3.5*

ISC 12 04:15:46.2±0.9,**6°.84N**±0°.04×**73°.11W**±0°.05,**h151**km±7km, **n21,σ0s98/33,1C,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**198**	*eP*	**Pn**		**04 16 07.6**	**+0.5**
BARC				*eS*	**Sn**		**04 16 22.2**	**-0.8**
BARC				*i*			04 16 25.3	
	comp=Z,593nm,0.4s							
BRRC	**Barranca, Sant**	**0.66**	**294**	*iP*	**Pn**		**04 16 09.6**	**+1.0**
BRRC				*eS*	**Sn**		**04 16 25.5**	**-0.2**
BRRC				*i*			04 16 26.9	
	comp=N,1μm,0.3s							
RUSC	**La Rusia**	**0.94**	**179**	*eP*	**Pn**		**04 16 11.6**	**+0.4**
RUSC				*eS*	**Sn**		**04 16 29.9**	**-0.4**
RUSC				*i*			04 16 31.6	
	comp=N,411nm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.38**	**258**	*eP*	**Pn**		**04 16 14.2**	**-0.4**
PTBC				*eS*	**Sn**		**04 16 35.2**	**-1.2**
PTBC				*i*			04 16 37.9	
	comp=N,305nm,0.1s							
OCAC	**Ocana**	**1.41**	**351**	*eP*	**Pn**		**04 16 15.9**	**+0.7**
OCAC				*eS*	**Sn**		**04 16 38.2**	**+0.8**
OCAC				*i*			04 16 41.2	
	comp=Z,117nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.86**	**291**	*eP*	**Pn**		**04 16 20.6**	**+0.7**
ZARC				*eS*	**Sn**		**04 16 46.0**	**+0.4**
ZARC				*i*			04 16 51.2	
	comp=N,337nm,0.3s							
CHIC	**Chingaza**	**2.28**	**196**	*eP*	**Pn**		**04 16 25.8**	**+0.7**
CHIC				*eS*	**Sn**		**04 16 55.0**	**-0.1**
CHIC				*i*			04 17 00.0	
	comp=N,115nm,0.5s							
ROSC	**El Rosal**	**2.32**	**211**	P	**Pn**		**04 16 27.4**	**+1.8**
	comp=N,7.5nm,0.3s,baz=330,slow=20,SNR=35							
ROSC				S	**Sn**		**04 16 54.4**	**-1.6**
	comp=N,7.4nm,0.3s,baz=46,slow=14,SNR=6.8							
ROSC	**El Rosal**	**2.32**	**211**	*eP*	**Pn**		**04 16 27.9**	**+2.2**
HELC	**Santa Helena**	**2.49**	**255**	*eP*	**Pn**		**04 16 28.3**	**+0.7**
HELC				*eS*	**Sn**		**04 16 58.6**	**-1.0**
HELC				*i*			04 17 07.2	
	comp=N,70nm,0.3s							
UREC	**San Jos de Ur**	**2.58**	**291**	*eP*	**Pn**		**04 16 28.6**	**+0.2**
UREC				*i*			04 17 13.0	
	comp=N,285nm,0.3s							
VILC	**Villavicencio,**	**2.77**	**192**	*eP*	**Pn**		**04 16 31.5**	**+0.6**
VILC				*eS*	**Sn**		**04 17 05.0**	**-0.4**
RREF	**El Recreo**	**2.94**	**229**	*eP*	**Pn**		**04 16 34.6**	**+1.0**
RREF				*eS*	**Sn**		**04 17 10.2**	**+0.2**
RREF				*i*			04 17 20.4	
	comp=Z,66nm,0.4s							
DBBC	**Dabeiba**	**3.09**	**274**	*eP*	**Pn**		**04 16 35.5**	**+0.7**
TOLC	**Tolima**	**3.14**	**225**	*eP*	**Pn**		**04 16 36.9**	**+1.1**
SDV	**Santo Domingo**	**3.19**	**50**	P	**Pn**		**04 16 37.1**	**+0.9**
	comp=Z,2.6nm,0.3s,baz=234,slow=8.7,SNR=34							
SDV				S	**Sn**		**04 17 14.3**	**-0.5**
	comp=Z,11nm,0.3s,baz=248,slow=21,SNR=34							
SDV	**Santo Domingo**	**3.19**	**50**	*eP*	**Pn**		**04 16 36.7**	**+0.5**
ANIL	**Santa Ana**	**3.27**	**225**	*eP*	**Pn**		**04 16 39.0**	**+1.7**
ANIL				*i*			04 17 22.7	
	comp=Z,56nm,0.3s							
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**		**04 22 37.3**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=130,slow=8.9,SNR=2.5							
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**		**04 25 57.9**	**-0.4**
	comp=Z,0.1nm,0.5s,baz=132,slow=6.5,SNR=5.8							
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc	**PKPbc**		**04 35 19.3**	**-1.3**
	comp=Z,0.5nm,0.9s,baz=105,slow=2.5,SNR=4.3							

*IDC **12** 04:19:23.5±1.9,2°.47N×90°.31E,h0km,mb3.6/3,mb1 3.9/5, mb1mx3.5/28,mbtmp3.8/5,ML3.7/2,Error ellipse: s-maj=54.1km s-min=26.1km az=40.0*
*ISCJB **12** 04:19:25.6±1.4,2°.4N±0°.2×90°.3E±0°.1,h33km,mb3.7/3, Error ellipse: s-maj=37.5km s-min=14.1km az=21.0*

ISC 12 04:19:28.2±1.4,**2°.5N**±0°.3×**90°.3E**±0°.1,**h35**km,**n12,σ0s69/6, mb3.5/3,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.61**	**88**	Pn	**Pn**		**04 21 30.0**	**-0.6**
	0.6nm,0.3s,baz=180,slow=17,SNR=3.4							
PALK	**Pallekele**	**10.70**	**297**	Pn	**Pn**		**04 21 58.8**	**-0.3**
	0.8nm,0.3s,baz=115,slow=15,SNR=4.0							
PALK				Sn	Sn		04 23 43.6	-14
	3.9nm,0.3s,baz=116,slow=2.6,SNR=9.0							
H08S2	**Diego Garcia H**	**20.41**	**240**	T	T		04 44 58.0	
	baz=60,slow=75,SNR=66							
H08S3	**Diego Garcia H**	**20.41**	**240**	T	T		04 44 54.1	
	baz=60,slow=75,SNR=89							
H08S1	**Diego Garcia H**	**20.43**	**240**	T	T		04 45 00.8	
	baz=60,slow=75,SNR=33							
H01W3	**Cape Leeuwin H**	**43.36**	**151**	T	T		05 13 43.1	
	baz=323,slow=76							
H01W2	**Cape Leeuwin H**	**43.37**	**151**	T	T		05 13 44.0	
	baz=323,slow=76							
H01W1	**Cape Leeuwin H**	**43.38**	**151**	T	T		05 14 13.2	
	baz=323,slow=76							
MKAR	**Makanchi Array**	**44.70**	**352**	P	**P**		**04 27 37.5**	**-0.4**
	0.5nm,0.7s,baz=176,slow=9.7,SNR=4.1							
SONM	**Songino Array**	**47.29**	**15**	P	**P**		**04 27 59.2**	**+0.8**
	1.2nm,0.5s,baz=195,slow=9.1,SNR=13							
WRA	**Warramunga Arr**	**48.60**	**119**	P	**P**		**04 28 09.2**	**+0.4**
	0.6nm,1.1s,baz=297,slow=8.7,SNR=4.5							
TXAR	**Lajitas Array**	**145.67**	**22**	PKPbc	**PKPdf**		**04 39 03.8**	**0.0**
	0.1nm,0.4s,baz=358,slow=2.2,SNR=2.8							

*ISK **12** 04:46:27.8,35°.90N×28°.07E,h72km±2km,ML2.9/17*
*ISCJB **12** 04:46:28.9±0.6,36°.00N±0°.04×28°.08E±0°.05,h76km±7km, Error ellipse: s-maj=7.3km s-min=4.7km az=135.4*
*DDA **12** 04:46:28.1,35°.90N×28°.09E,h51km±4km,ML3.5*
*ATH **12** 04:46:29.3,36°.01N×28°.02E,h72km±3km,ML2.7/2,Error ellipse: s-maj=5.7km s-min=1.5km az=120.0*

ISC 12 04:46:29.4±1.4,**35°.98N**±0°.04×**28°.09E**±0°.04,**h71**km±8km, **n37,σ0s92/51,Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.24**	**7**	PG	**Pn**		**04 46 40.2**	**-0.2**
ARG				SG	**Sn**		**04 46 47.9**	**-0.5**
ARG	**Arkhangelos**	**0.24**	**7**	P	**Pn**		**04 46 40.5**	**+0.1**
ARG				S	**Sn**		**04 46 48.9**	**+0.5**
ARG				AML	AML		04 46 49.6	
	comp=N,1153μm,0.1s							
ARG				AML	AML		04 46 50.3	
	comp=E,1426μm,0.3s							
DATC	**Datca-Mugla**	**0.85**	**336**	PG	**Pn**		**04 46 46.4**	**+0.2**
DAT	**Datca**	**0.86**	**331**	PG	**Pn**		**04 46 46.8**	**+0.4**
DAT				SG	**Sn**		**04 46 59.5**	**+0.6**
DAT	**Datca**	**0.86**	**331**	IAML_P				
	comp=Z,6μm,0.1s							
DAT				*i* P	**Pn**		**04 46 47.8**	**+1.4**
DAT				*i* S	**Sn**		**04 46 59.9**	**+1.0**
KARP	**Karpathos**	**0.87**	**241**	P	**Pn**		**04 46 46.7**	**+0.3**
KARP				S	**Sn**		**04 46 59.2**	**+0.1**
KARP				AML	AML		04 47 00.1	
	comp=N,972μm,0.1s							
KARP				AML	AML		04 47 00.4	
	comp=E,1246μm,0.3s							
DALY	**Dalyan (Mula)**	**0.95**	**28**	PG	**Pn**		**04 46 47.6**	**+0.2**
DALY	**Dalyan (Mula)**	**0.95**	**28**	IAML_P				
	comp=Z,8μm,0.2s							
DALY				*i* P	**Pn**		**04 46 48.2**	**+0.8**
DALY				*i* S	**Sn**		**04 47 01.3**	**+0.5**
TURN	**Turunc**	**0.98**	**25**	PG	**Pn**		**04 46 46.2**	**-1.6**
TURN				SG	**Sn**		**04 46 58.9**	**-2.5**
TURN	**Turunc**	**0.98**	**25**	IAML_P				
	comp=Z,8μm,0.2s							
TURN				*i* P	**Pn**		**04 46 46.6**	**-1.2**
FETY	**Fethiye**	**1.04**	**50**	PN	**Pn**		**04 46 48.3**	**-0.2**
FETY	**Fethiye**	**1.04**	**50**	*i* P	Pn		04 46 38.2	-10
BDRM	**Kayabasi**	**1.20**	**335**	IAML_P				
	comp=Z,3μm,0.1s							
BDRM				*i* P	**Pn**		**04 46 51.5**	**+0.9**
BDRM				*i* S	**Sn**		**04 47 05.2**	**-1.3**
BODT	**Bodrum**	**1.25**	**330**	PN	**Pn**		**04 46 51.4**	**+0.2**
AKAS	**Kas**	**1.25**	**78**	PN	**Pn**		**04 46 50.8**	**-0.5**
AKAS	**Kas**	**1.25**	**78**	IAML_P				
	comp=Z,207nm,0.2s							
AKAS				*i* P	**Pn**		**04 46 51.2**	**-0.1**
YKAV	**Yalikavak-Bodr**	**1.32**	**331**	PN	**Pn**		**04 46 51.5**	**-0.5**
MLSB	**Milas**	**1.34**	**349**	PN	**Pn**		**04 46 52.8**	**+0.4**
TAVA	**DENIZLI_Tavas**	**1.63**	**24**	*i* P	**Pn**		**04 46 56.9**	**+0.7**
ELL	**Elmali**	**1.66**	**62**	PN	**Pn**		**04 46 56.6**	**0.0**
AYDN	**Tasoluk**	**1.69**	**354**	IAML_P				
	comp=Z,2μm,0.1s							
AYDN				*i* P	**Pn**		**04 46 58.0**	**+1.0**
AYDN				*i* S	**Sn**		**04 47 18.1**	**+0.2**
GOLH	**Golhisar**	**1.73**	**43**	IAML_P				
	comp=Z,3μm,0.2s							
GOLH				*i* P	Pn		04 47 01.9	+4.4
GOLH				*i* S	**Sn**		**04 47 21.7**	**+2.9**
ZKR	**Zakros**	**1.75**	**241**	PN	**Pn**		**04 46 56.6**	**-1.2**
ZKR	**Zakros**	**1.75**	**241**	P	**Pn**		**04 46 58.4**	**+0.6**
ZKR				S	**Sn**		**04 47 19.3**	**0.0**
GCAM	**G?zelcaml?**	**1.85**	**338**	PN	**Pn**		**04 46 59.4**	**+0.3**
GCAM	**G?zelcaml?**	**1.85**	**338**	IAML_P				
	comp=Z,3μm,0.1s							
GCAM				*i* P	**Pn**		**04 47 00.1**	**+1.0**
GCAM				*i* S	**Sn**		**04 47 20.4**	**-1.2**
AYDB	**Zeytinkoy-Aydi**	**1.97**	**355**	PN	**Pn**		**04 47 00.9**	**0.0**
SMG	**Samos**	**2.00**	**330**	P	**Pn**		**04 47 01.3**	**+0.2**
SMG				S	**Sn**		**04 47 25.5**	**+0.3**
KORT	**Korkueli**	**2.09**	**60**	PN	**Pn**		**04 47 02.8**	**+0.4**
KORT	**Korkueli**	**2.09**	**60**	IAML_P				
	comp=Z,392nm,0.2s							
KORT				*i* P	**Pn**		**04 47 04.1**	**+1.7**
NPS	**Neapolis**	**2.14**	**251**	P	**Pn**		**04 47 03.5**	**+0.5**
NPS				S	**Sn**		**04 47 27.8**	**-0.8**
BLCB	**Balcova**	**2.54**	**341**	PN	**Pn**		**04 47 08.6**	**+0.2**
KULA	**Kula-Manisa**	**2.57**	**10**	PN	**Pn**		**04 47 08.6**	**-0.3**
KHAL	**Karahalli**	**2.64**	**25**	IAML_P				
	comp=Z,357nm,0.1s							
KHAL				*i* P	**Pn**		**04 47 09.6**	**-0.2**
KHAL				*i* S	**Sn**		**04 47 39.7**	**-1.1**
URLA	**Izmir**	**2.66**	**334**	PN	**Pn**		**04 47 10.3**	**+0.2**
SUTC	**Sutluce-Ispart**	**2.78**	**57**	PN	**Pn**		**04 47 12.1**	**+0.4**
AKHS	**Akhisar**	**2.91**	**356**	*i* P	**Pn**		**04 47 13.0**	**-0.3**
AKHS				*i* S	**Sn**		**04 47 46.0**	**-1.1**

*ISK **12** 04:53:04.2,38°.92N×43°.54E,h10km,ML2.1/4*
*DDA **12** 04:53:05.3,38°.93N×43°.44E,h7km±4km,ML2.5*

ISC 12 04:53:05.2±1.1,**38°.92N**±0°.04×**43°.52E**±0°.06,**h16**km±10km, **n10,σ1s02/13,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.08**	**29**	IAML_P				
	comp=Z,4μm,0.1s							
VMUR				*i* P	**Pg**		**04 53 08.9**	**+0.2**
VANB	**Van**	**0.34**	**198**	PG	**Pb**		**04 53 13.1**	**+0.1**
VANB				SG	**Sb**		**04 53 19.4**	**+1.1**
CLDR	**Caldiran**	**0.38**	**54**	PG	**Pg**		**04 53 12.0**	**-1.1**
CLDR	**Caldiran**	**0.38**	**54**	*i* P	**Pg**		**04 53 12.0**	**-1.1**
TVAN	**Van**	**0.40**	**193**	IAML_P				
	comp=Z,2μm,0.1s							
TVAN				*i* P	**Pb**		**04 53 13.8**	**-0.3**
TVAN				*i* S	**Sb**		**04 53 20.9**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.63**	**260**	IAML_P				
	comp=Z,232nm,0.2s							
ADCV				*i* P	**Pb**		**04 53 17.8**	**-0.3**
DYDN	**Diyadin**	**0.63**	**12**	IAML_P				
	comp=Z,512nm,0.1s							
DYDN				*i* P	**Pg**		**04 53 17.2**	**-0.6**
DYDN				*i* S	**Sb**		**04 53 28.5**	**+1.7**
AKDM	**Akdamar-Van**	**0.73**	**216**	PG	**Pg**		**04 53 18.8**	**-0.7**
TUTA	**Tutak**	**0.73**	**311**	IAML_P				
	comp=Z,953nm,0.2s							
TUTA				*i* P	**Pg**		**04 53 18.6**	**-1.0**
GURO	**Guroymak-BITLI**	**1.22**	**253**	PN	**Pn**		**04 53 28.0**	**+0.2**

*IDC **12** 04:57:39.8±1.6,55°.68N×135°.90W,h0km,mb3.1/2, mb1 3.4/4,mb1mx3.2/42,mbtmp3.1/4,ML2.5/1,Error ellipse: s-maj=32.3km s-min=19.4km az=53.0*
*ISCJB **12** 04:57:40.6±0.6,55°.89N±0°.04×135°.36W±0°.09,h14km, mb3.4/1,Error ellipse: s-maj=8.4km s-min=4.4km az=147.0*
*NEIC **12** 04:57:43.5±0.0,56°.01N×135°.27W,h20km,ML3.1(AEIC), After AEIC.*

ISC 12 04:57:42.1±1.0,**55°.92N**±0°.05×**135°.29W**±0°.07,**h14**km,**n20, σ1s14/25,Off coast of southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIT	**Sitka**	**1.14**	**359**	P	**Pb**		**04 58 02.3**	**-1.3**
SIT				S	**Sb**		**04 58 16.3**	**-1.9**
CRAG	**Craig**	**1.30**	**109**	P	**Pn**		**04 58 05.9**	**+0.1**
CRAG				S	**Sg**		**04 58 24.3**	**+0.3**
WRAK	**Wrangell Islan**	**1.72**	**72**	P	**Pn**		**04 58 11.4**	**-0.1**
WRAK				S	**Sn**		**04 58 32.6**	**-0.6**
JIS	**Juneau Island**	**2.42**	**11**	P	**Pn**		**04 58 21.3**	**+0.2**
JIS				S	**Sn**		**04 58 49.9**	**-0.5**
BESE	**Bessie Mountai**	**2.68**	**5**	P	**Pn**		**04 58 24.6**	**-0.2**
H02S1	**DAWSON INLET T**	**3.17**	**148**	Pn	**Pn**		**04 58 31.4**	**-0.2**
H02S1				Sn	**Sn**		**04 59 07.2**	**-1.9**
SKAG	**Skagway**	**3.55**	**360**	P	**Pn**		**04 58 35.9**	**-0.8**
PLBC	**Pleasant Camp**	**3.60**	**351**	P	**Pn**		**04 58 37.9**	**+0.6**
DLBC	**Dease Lake**	**3.82**	**46**	P	**Pn**		**04 58 40.8**	**+0.4**
PNL	**Peninsula**	**4.36**	**331**	P	**Pn**		**04 58 48.1**	**+0.4**
BCPM	**Bancas Point**	**4.66**	**332**	P	**Pn**		**04 58 52.7**	**+0.8**
WHY	**Whitehorse**	**4.76**	**2**	P	**Pn**		**04 58 54.5**	**+1.0**
PCA	**Pinnacle**	**4.95**	**330**	P	**Pn**		**04 58 57.2**	**+1.2**
SAMH	**Samovar Hills**	**5.13**	**328**	P	**Pn**		**04 58 60.0**	**+1.4**
YUK6	**Outpost Mounta**	**5.29**	**343**	P	**Pn**		**04 59 01.6**	**+0.8**
BBB	**Bella Bella**	**5.64**	**129**	P	**Pn**		**04 59 06.5**	**+1.1**
ILAR	**Eielson Array**	**10.56**	**332**	Pn	**Pn**		**05 00 12.0**	**-0.7**
	baz=156,slow=13,SNR=5.1							
YKA	**Yellowknife Ar**	**12.44**	**50**	Pn	**Pn**		**05 00 41.1**	**+2.7**
	0.0nm,0.3s,baz=245,slow=13,SNR=3.7							
NVAR	**Mina Array Bea**	**20.86**	**140**	P	**P**		**05 02 22.9**	**-0.7**
	0.1nm,0.4s,baz=332,slow=10.0,SNR=2.7							
MKAR	**Makanchi Array**	**72.90**	**334**	P	**P**		**05 09 11.8**	**+1.4**
	0.3nm,0.6s,baz=36,slow=6.7,SNR=3.9							

IDC 12 05:05:26.1±2.0,**1°.61N×127°.33E,h0km,mb3.6/3, mb1 3.8/4,mb1mx3.4/39,mbtmp3.6/4,ML3.4/1,MS3.1/1, Ms1 3.1/1,ms1mx2.2/35,Error ellipse: s-maj=113.5km s-min=23.9km az=70.0,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.66**	**185**	P	Pn		05 09 57.8	-0.2
	0.1nm,0.3s,baz=17,slow=11,SNR=3.4							
WRA	**Warramunga Arr**	**22.50**	**163**	P	P		05 10 27.5	+0.1
	0.8nm,0.4s,baz=340,slow=11,SNR=22							
WRA				LR	LR		05 19 37.7	
	comp=Z,44nm,19.8s,baz=145,slow=38							
ASAR	**Alice Springs**	**25.93**	**166**	P	P		05 10 59.5	-0.7
	0.3nm,0.3s,baz=348,slow=7.6,SNR=6.2							
MKAR	**Makanchi Array**	**59.63**	**326**	P	P		05 15 32.0	0.0
	0.3nm,0.3s,baz=117,slow=8.2,SNR=7.0							

*IDC **12** 05:09:06.6±1.7,55°.11N×165°.52E,h0km,mb3.7/6, mb1 4.0/7,mb1mx3.5/49,mbtmp3.7/7,ML3.1/1,MS2.5/2, Ms1 2.5/2,ms1mx2.1/46,Error ellipse: s-maj=69.7km s-min=28.6km az=153.0*
*ISCJB **12** 05:09:09.4±0.5,54°.97N±0°.03×165°.26E±0°.05,h34km, mb3.6/6,MS3.3/2,Error ellipse: s-maj=4.8km s-min=3.6km az=145.3*
*MOS **12** 05:09:09.2±2.2,55°.05N×165°.18E,h82km,mb4.0/2,Error ellipse: s-maj=10.2km s-min=7.3km az=142.1*
*KRSC **12** 05:09:09.2±2.5,55°.05N×165°.18E,h82km±26km,ML4.2*

ISC 12 05:09:06.1±1.4,**54°.94N**±0°.04×**165°.18E**±0°.07,**h34**km,**n70, σ4s24/96,mb3.6/6,Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.85**	**315**	*eP*	**Pb**		**05 09 37.9**	**-1.3**
KBTR				*eS*	**Sb**		**05 09 59.4**	**-2.6**
KBTR	**Krutoberegovo**	**1.85**	**315**	PN	**Pb**		**05 09 37.9**	**-1.3**
KBTR				S	**Sb**		**05 09 59.4**	**-2.6**
MKZ	**Mys Kozlova**	**2.03**	**261**	*eP*	**Pb**		**05 09 43.7**	**+1.3**
MKZ				*eS*	**Sb**		**05 10 07.2**	**0.0**
MKZ	**Mys Kozlova**	**2.03**	**261**	PN	**Pb**		**05 09 43.7**	**+1.3**
MKZ				S	**Sb**		**05 10 07.2**	**0.0**
SMKR	**Semkarok**	**2.67**	**310**	*eP*	**Pb**		**05 09 52.1**	**-1.1**
SMKR				*eS*	**Sb**		**05 10 22.7**	**-2.8**
SMKR	**Semkarok**	**2.67**	**310**	PN	**Pb**		**05 09 52.1**	**-1.1**
SMKR				S	**Sb**		**05 10 22.7**	**-2.8**
ZLN	**Zelenaya**	**2.71**	**295**	*eS*	**Sb**		**05 10 25.2**	**-1.7**
TUMD	**Tumrok D**	**2.76**	**278**	*eP*	**Pb**		**05 09 54.4**	**-0.3**
TUMD				*eS*	**Sb**		**05 10 26.9**	**-1.2**
BDR	**Baidarnaya**	**2.77**	**308**	*eP*	**Pb**		**05 09 52.8**	**-2.2**
BDR				*eS*	**Sb**		**05 10 23.9**	**-4.7**
BDR	**Baidarnaya**	**2.77**	**308**	PN	**Pb**		**05 09 52.8**	**-2.2**
BDR				S	**Sb**		**05 10 23.9**	**-4.7**
CIRR	**Tsirk**	**2.78**	**297**	*eP*	**Pb**		**05 09 53.5**	**-1.7**
CIRR	**Tsirk**	**2.78**	**297**	PN	**Pb**		**05 09 53.5**	**-1.7**
LGNR	**Loginova**	**2.80**	**296**	*eS*	**Sb**		**05 10 27.2**	**-2.3**
KZV	**Kizimen**	**2.82**	**276**	*eP*	**Pb**		**05 09 55.0**	**-0.8**
KZV				*eS*	**Sb**		**05 10 27.5**	**-2.3**
KZV	**Kizimen**	**2.82**	**276**	PN	**Pb**		**05 09 55.0**	**-0.8**
KZV				S	**Sb**		**05 10 27.5**	**-2.3**
SRKR	**Sorokina**	**2.84**	**309**	*eP*	**Pb**		**05 09 54.4**	**-1.8**
SRKR				*eS*	**Sb**		**05 10 27.0**	**-3.5**
SRKR	**Sorokina**	**2.84**	**309**	PN	**Pb**		**05 09 54.4**	**-1.8**
SRKR				S	**Sb**		**05 10 27.0**	**-3.5**
TUMR	**Tumrok**	**2.91**	**279**	*eP*	**Pb**		**05 09 57.0**	**-0.3**
TUMR				*eS*	**Sb**		**05 10 31.3**	**-1.2**
TUMR	**Tumrok**	**2.91**	**279**	PN	**Pb**		**05 09 54.4**	**-2.9**
TUMR				S	**Sb**		**05 10 26.9**	**-5.6**
KRSR	**Krestovskiy**	**2.92**	**298**	*eS*	**Sb**		**05 10 29.2**	**-3.4**
KOZ	**Kozyrevsk**	**3.22**	**293**	*eP*	**Pb**		**05 09 59.6**	**-2.9**
KOZ	**Kozyrevsk**	**3.22**	**293**	PN	**Pb**		**05 09 59.6**	**-2.9**
SRDR	**Sredinnyy**	**3.39**	**296**	*eP*	**Pb**		**05 10 03.0**	**-2.5**
SRDR				*eS*	**Sb**		**05 10 42.6**	**-3.6**
SRDR	**Sredinnyy**	**3.39**	**296**	PN	**Pb**		**05 10 03.0**	**-2.5**
SRDR				S	**Sb**		**05 10 42.6**	**-3.6**
KII	**Karymskiy**	**3.46**	**257**	*eP*	**Pb**		**05 10 04.9**	**-1.8**
KII				*eS*	**Sb**		**05 10 44.1**	**-4.1**
KII	**Karymskiy**	**3.46**	**257**	PN	**Pb**		**05 10 04.9**	**-1.8**
KII				S	**Sb**		**05 10 44.1**	**-4.1**
SPN	**Mys Shipunski**	**3.55**	**241**	*eP*	**Pb**		**05 10 04.6**	**-3.6**
SPN				*eS*	**Sn**		**05 10 44.3**	**+4.7**
SPN	**Mys Shipunski**	**3.55**	**241**	PN	**Pb**		**05 10 04.6**	**-3.6**
SPN				S	**Sn**		**05 10 44.3**	**+4.7**
NLC	**Nalytchevo**	**3.86**	**245**	*eP*	**Pb**		**05 10 09.5**	**-4.0**
NLC				*eS*	**Sn**		**05 10 52.8**	**+5.6**
NLC	**Nalytchevo**	**3.86**	**245**	PN	**Pb**		**05 10 09.5**	**-4.0**
NLC				S	**Sn**		**05 10 52.8**	**+5.6**
SDLR	**Sedlovina**	**4.06**	**248**	*eP*	**Pb**		**05 10 12.7**	**-4.2**
SDLR				*eS*	**Sn**		**05 10 57.8**	**+5.6**
SDLR	**Sedlovina**	**4.06**	**248**	PN	**Pb**		**05 10 12.7**	**-4.2**
SDLR				S	**Sn**		**05 10 57.8**	**+5.6**
SMAR	**Somma**	**4.11**	**249**	*eP*	**Pb**		**05 10 13.5**	**-4.3**
SMAR				*eS*	**Sn**		**05 10 59.5**	**+5.9**
SMAR	**Somma**	**4.11**	**249**	PN	**Pb**		**05 10 13.5**	**-4.3**
SMAR				S	**Sn**		**05 10 59.5**	**+5.9**
UGLR	**Uglovaya**	**4.12**	**248**	*eP*	**Pb**		**05 10 13.9**	**-4.0**
UGLR	**Uglovaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.18 121**		Pn	Pn	05 15 50.2	-0.2
	0.3nm,0.3s,baz=301,slow=17,SNR=3.1						
STKA				Sn	Sn	05 16 28.4	-0.7
	2.8nm,0.3s,baz=306,slow=19,SNR=7.4						
ASAR	**Alice Springs**	**7.71 328**		Pn	Pn	05 16 53.5	+0.7
	0.1nm,0.3s,baz=150,slow=12,SNR=7.9						
ASAR				Sn	Sn	05 18 20.4	-0.5
	0.2nm,0.3s,baz=151,slow=22,SNR=6.2						
ASAR				Lg	Lg	05 19 05.5	
	baz=153,slow=27,SNR=3.0						
WRA	**Warramunga Arr**	**10.94 340**		Pn	Pn	05 17 37.0	0.0
	0.1nm,0.3s,baz=161,slow=12,SNR=6.0						
WRA				Sn	Sn	05 19 38.8	-1.2
	0.1nm,0.3s,baz=164,slow=24,SNR=3.8						
FITZ	**Fitzroy Crossi**	**16.79 313**		Pn	Pn	05 18 55.5	-0.1
	0.2nm,0.3s,baz=138,slow=9.2,SNR=4.3						

IDC 12 05:32:08.0±3.2, 54°49N×86°52E, h0km, mb1 2.8/2, mb1mx2.7/36, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=25.2km s-min=15.3km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.13 242**	*i*			05 40 40.0	
	baz=62,slow=344,SNR=3.2						
ZALV	**Zalesovo Beam**	**1.13 242**		Pg	Pg	05 32 28.5	-1.2
	1.1nm,0.3s,baz=57,slow=16,SNR=15						
ZALV				Lg	Lg	05 32 45.3	
	2.3nm,0.3s,baz=62,slow=28,SNR=18						
KURBB	**Kurchatov Arra**	**6.22 235**		Pn	Pn	05 33 42.0	+1.1
	0.1nm,0.3s,baz=53,slow=14,SNR=5.9						
KURBB				Lg	Lg	05 35 26.2	
	0.0nm,0.3s,baz=46,slow=31,SNR=3.0						
MKAR	**Makanchi Array**	**8.15 201**		Pn	Pn	05 34 08.4	+0.9
	0.1nm,0.3s,baz=24,slow=12,SNR=5.2						

*IDC **12** 05:42:11.0±0.4, 19°.47N×64°.38W, h0km, mb4.0/23, mb1 4.3/27, mb1mx4.2/41, mbtmp4.1/27, ML3.8/3, MS3.7/30, Ms1 3.7/30, ms1mx3.7/41, Error ellipse: s-maj=13.0km s-min=10.2km az=64.0*

*ISCJB **12** 05:42:14.2±1.2, 19°.47N±0°.02×64°.41W±0°.02, h32km±9km, mb4.1/29, MS3.7/25, Error ellipse: s-maj=4.1km s-min=3.0km az=139.6*

*NEIC **12** 05:42:14.7±0.0, 19°.68N×64°.44W, h34km, mb4.3/10, MD4.5(RSPR), After RSPR.*

*RSPR **12** 05:42:14.7, 19°.68N×64°.44W, h34km±27km, MD4.5/15*

*GCMT **12** 05:42:16.6±0.4, 19°.72N±0°.02×64°.47W±0°.03, h26km±1km, MW4.8/68, Moment Tensor Solution. s18,c18; s68,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.27±.17; $M_{\theta\theta}$-1.24±.11; $M_{\phi\phi}$-0.02±.10; $M_{r\theta}$-0.61±.16; $M_{\theta\phi}$1.44±.07; $M_{\phi r}$0.90±.17; Best double couple: M_o2.10600×10^{16} NP1:ϕ_s325.00000°,δ65.00000°,λ118.00000°. NP2: ϕ_s94.00000°,δ37.00000°,λ45.00000°. Principal axes: T 1.7420, Plg60.0000°, Azm277.0000°; N 0.7350, Plg25.0000°, Azm133.0000°; P -2.4710, Plg15.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 05:42:15.8±0.6, 19°.41N±0°.03×64°.45W±0°.03, h32km±4km, n223, σ1ŝ40/226, mb4.1/29, MS3.8/25, 10C-11D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABVI	**Anegada Island**	**0.68 170**		*e*Pn	**Pn**	**05 42 29.2**	**0.0**
TBVI	**Tortola**	**1.00 189**		*e*P	**Pb**	**05 42 34.2**	**-0.3**
TBVI				*e*S	**Sb**	**05 42 50.0**	**+2.7**
TBVI	**Tortola**	**1.00 189**		*e*Pn	**Pb**	**05 42 34.2**	**-0.3**
STVI	**Saint Thomas**	**1.15 204**		*e*P	**Pn**	**05 42 35.6**	**-0.1**
STVI	**Saint Thomas**	**1.15 204**		*e*S	**Sb**	**05 42 53.2**	**+1.5**
STVI	**Saint Thomas**	**1.15 204**		*e*Pn	**Pn**	**05 42 35.6**	**-0.1**
STVI				*e*Sn	**Sb**	**05 42 53.2**	**+1.5**
STVI				*e*Sn	**Sn**	**05 42 54.7**	**+4.4**
CUPR	**Culebra, Puert**	**1.35 216**		*e*P	**Pn**	**05 42 38.6**	**+0.3**
CUPR	**Culebra, Puert**	**1.35 216**		*e*S	**Sb**	**05 42 58.5**	**+1.2**
CUPR	**Culebra, Puert**	**1.35 216**		*e*Pn	**Pn**	**05 42 38.2**	**-0.1**
CUPR				*e*Sn	**Sb**	**05 42 57.8**	**+0.6**
MTP	**Monte Pirata**	**1.67 219**		*e*P	**Pn**	**05 42 43.2**	**+0.4**
MTP	**Monte Pirata**	**1.67 219**		*e*S	**Sb**	**05 43 05.1**	**-1.4**
MTP	**Monte Pirata**	**1.67 219**		*e*P	**Pn**	**05 42 43.2**	**+0.4**
MTP				*e*S	**Sb**	**05 43 05.1**	**-1.4**
CDVI	**St. Croix**	**1.67 190**		*e*P	**Pb**	**05 42 44.4**	**-1.5**
CDVI	**St. Croix**	**1.67 190**		*e*S	**Sb**	**05 43 07.4**	**+0.8**
CDVI	**St. Croix**	**1.67 190**		*e*Pn	**Pb**	**05 42 44.4**	**-1.5**
CDVI				*e*Sn	**Sb**	**05 43 07.4**	**+0.8**
CBYP	**Canovanas**	**1.74 230**		*e*P	**Pn**	**05 42 43.7**	**-0.2**
CBYP	**Canovanas**	**1.74 230**		*e*P	**Pn**	**05 42 44.0**	**+0.1**
CBYP	**Canovanas**	**1.74 230**		*e*Pn	**Pn**	**05 42 43.6**	**-0.3**
HUMP	**Col San Antoni**	**1.82 227**		*e*P	**Pn**	**05 42 45.4**	**+0.4**
HUMP				*e*S	**Sb**	**05 43 09.2**	**-1.8**
HUMP	**Col San Antoni**	**1.82 227**		*e*P	**Pn**	**05 42 45.2**	**+0.2**
HUMP	**Col San Antoni**	**1.82 227**		*e*Pn	**Pn**	**05 42 44.9**	**0.0**
HUMP				*e*Sn	**Sb**	**05 43 09.9**	**-1.1**
SMRT	**St. Maarten**	**1.88 136**		*e*S	**Sb**	**05 43 10.8**	**-1.7**
SMRT	**St. Maarten**	**1.88 136**		*e*Pn	**Pn**	**05 42 45.7**	**0.0**
SMRT	**St. Maarten**	**1.88 136**		*e*P	**Pn**	**05 42 45.6**	**0.0**
SMRT				*e*S	**Sb**	**05 43 10.8**	**-1.7**
SJG	**San Juan**	**2.06 232**		*e*P	**Pn**	**05 42 48.0**	**-0.2**
SJG	**San Juan**	**2.06 232**		Pn	**Pn**	**05 42 47.7**	**-0.5**
	26nm,0.3s,baz=55,slow=13,SNR=25						
SJG				Sn	**Sn**	**05 43 14.1**	**+1.3**
	64nm,0.3s,baz=323,slow=19,SNR=8.2						
SJG				LR	LR	05 43 44.0	
	comp=Z,2μm,21.0s,baz=80,slow=43						
SABA	**Saba**	**2.11 147**		*e*Pn	**Pn**	**05 42 50.4**	**+1.4**
SABA	**Saba**	**2.11 147**		*e*P	**Pn**	**05 42 49.2**	**+0.2**
SABA				*e*S	**Sb**	**05 43 20.6**	**+1.3**
EMPR	**Esperanza - Ma**	**2.17 245**		*e*P	**Pn**	**05 42 50.2**	**+0.5**
EMPR	**Esperanza - Ma**	**2.17 245**		*e*Pn	**Pn**	**05 42 50.0**	**+0.3**
SEUS	**St. Eustatius**	**2.36 143**		*e*Pn	**Pb**	**05 42 54.4**	**+2.1**
SEUS	**St. Eustatius**	**2.36 143**		*e*P	**Pb**	**05 42 59.4**	**+1.8**
SEUS				*e*S	**Sb**	**05 43 25.2**	**-1.2**
CELP	**Cerrillos**	**2.41 237**		*e*P	**Pn**	**05 42 53.0**	**-0.1**
CELP	**Cerrillos**	**2.41 237**		*e*Pn	**Pn**	**05 42 53.0**	**-0.1**
OBIP	**Obispado Ponce**	**2.45 237**		*e*P	**Pn**	**05 42 53.6**	**+0.1**
OBIP	**Obispado Ponce**	**2.45 237**		*e*S	**Sn**	**05 43 24.1**	**+1.7**
OBIP	**Obispado Ponce**	**2.45 237**		*e*Pn	**Pn**	**05 42 53.4**	**-0.2**
AGPR	**Aguadilla, PR**	**2.68 250**		*e*P	**Pn**	**05 42 56.8**	**+0.1**
AGPR	**Aguadilla, PR**	**2.68 250**		*e*S	**Sn**	**05 43 29.2**	**+1.0**
AGPR	**Aguadilla, PR**	**2.68 250**		*e*P	**Pn**	**05 42 56.8**	**+0.1**
AGPR				*e*S	**Sn**	**05 43 29.2**	**+1.0**
AGP	**Aguadilla**	**2.73 249**		*e*Pn	**Pn**	**05 42 55.3**	**-2.1**
LSP	**Las Mesas**	**2.78 244**		*e*P	**Pn**	**05 42 58.0**	**-0.1**
LSP	**Las Mesas**	**2.78 244**		*e*Pn	**Pn**	**05 42 58.0**	**-0.1**
MPR	**Mayaguez**	**2.81 245**		*e*Pn	**Pn**	**05 42 57.5**	**-1.0**
CRPR	**Cabo Rojo, PR**	**2.88 242**		*e*P	**Pn**	**05 42 59.8**	**+0.3**
CRPR	**Cabo Rojo, PR**	**2.88 242**		*e*Pn	**Pn**	**05 42 59.3**	**-0.1**
ANWB	**Willy Bob**	**3.06 124**		*e*Pn	**Pn**	**05 43 01.0**	**-1.0**
ANWB	**Willy Bob**	**3.06 124**		*e*P	**Pn**	**05 43 00.5**	**-1.5**
ANWB				*e*S	**Sn**	**05 43 37.6**	**+0.1**
BPA	**Boggy Peak**	**3.41 133**		*e*P	**Pn**	**05 43 08.0**	**+1.3**
BPA				*e*S	**Sn**	**05 43 46.5**	**+0.4**
MLYT	**Lee's Yard**	**3.43 141**		*e*P	**Pn**	**05 43 08.1**	**+1.1**
MLYT				*e*S	**Sn**	**05 43 50.7**	**+4.1**
H05N1	**Guadeloupe/Mar**	**4.46 133**		Pn	**Pn**	**05 43 20.9**	**-0.4**
H05N1				Sn	**Sn**	**05 44 13.2**	**+1.1**
DR12	**Loma Pena Alta**	**4.70 263**		*e*P	**Pn**	**05 43 23.4**	**-1.2**
DR12				*e*S	**Sn**	**05 44 17.1**	**-1.0**
DR12	**Loma Pena Alta**	**4.70 263**		*e*Pn	**Pn**	**05 43 23.4**	**-1.2**
MDPO	**Dominica; Chan**	**4.76 143**		*e*P	Pb	05 43 32.5	-6.1
MDPO	**Dominica; Chan**	**4.76 143**		*e*S	**Sn**	**05 44 23.2**	**+3.6**
SDD	**Santo Domingo**	**5.25 261**		*e*Pn	**Pn**	**05 43 33.5**	**+1.4**
FDF	**Fort de France**	**5.62 145**		*e*Pn	**Pn**	**05 43 38.3**	**+1.1**
FDF	**Fort de France**	**5.62 145**		*e*P	**Pn**	**05 43 37.0**	**-0.2**
FDF	**Fort de France**	**5.62 145**		*e*S	**Sn**	**05 44 34.6**	**-6.1**
BANI	**BANI**	**5.68 261**		*e*Pn	**Pn**	**05 43 39.9**	**+1.8**
H05S1	**Guadeloupe/Mar**	**6.04 145**		Pn	**Pn**	**05 43 43.2**	**+0.2**
H05S1				Sn	**Sn**	**05 44 51.7**	**+0.6**
	SNR=8.6						
SDDR	**Presa de Saban**	**6.47 267**		*e*Pn	**Pn**	**05 43 48.8**	**-0.2**
GRTK	**Grand Turk**	**6.60 290**		*e*Pn	**Pn**	**05 43 47.5**	**-3.2**
SVB	**Belmont**	**6.83 153**		*e*Pn	**Pn**	**05 43 54.8**	**+1.0**
PCRV	**Puerto La Cruz**	**9.18 181**		Pn	**Pn**	**05 44 26.8**	**+0.7**
	2.3nm,0.3s,baz=93,slow=4.6,SNR=10						
PCRV				Sn	**Sn**	**05 46 09.0**	**+0.6**
	baz=24,slow=20,SNR=2.0						
PCRV				LR	LR	05 47 54.0	
	comp=Z,1μm,20.0s,baz=354,slow=37						
GTBY	**Guantanamo Bay**	**10.06 275**		*e*Pn	**Pn**	**05 44 36.7**	**-1.4**
SDV	**Santo Domingo**	**12.05 211**		Pn	**Pn**	**05 45 09.3**	**+3.7**
	1.5nm,0.3s,baz=38,slow=7.7,SNR=13						
SDV				Sn	**Sn**	**05 47 16.7**	**-2.4**
	0.9nm,0.3s,baz=347,slow=18,SNR=2.3						
SDV				LR	LR	05 51 06.0	
	comp=Z,624nm,18.4s,baz=69,slow=44						
SDV	**Santo Domingo**	**12.05 211**		*e*Pn	Pn	05 45 10.4	+4.8
SDV				Sn	**Sn**	**05 47 16.7**	**-2.4**
BBSR	**BB Station**	**12.91 359**		*e*Pn	Pn	05 45 10.6	-6.5
OCAC	**Ocana**	**14.04 219**		*e*P	**Pn**	**05 45 33.6**	**+0.9**
OCAC	**Ocana**	**14.04 219**		*e*P	**Pn**	**05 45 33.6**	**+0.9**
BARC	**Barichara**	**15.31 215**		*e*P	**Pn**	**05 45 51.5**	**+1.7**
BARC	**Barichara**	**15.31 215**		*e*P	**Pn**	**05 45 51.5**	**+1.7**
ZARC	**Zaragoza, Cauc**	**15.57 222**		*e*P	**Pn**	**05 45 52.2**	**-0.8**
ZARC	**Zaragoza, Cauc**	**15.57 222**		*e*P	**Pn**	**05 45 52.2**	**-0.8**
UREC	**San Jos de Ur**	**15.80 224**		*e*P	**Pn**	**05 45 56.9**	**+0.7**
UREC	**San Jos de Ur**	**15.80 224**		*e*P	**Pn**	**05 45 56.9**	**+0.7**
RUSC	**La Rusia**	**15.84 213**		*e*P	**Pn**	**05 45 56.9**	**-0.2**
RUSC	**La Rusia**	**15.84 213**		*e*P	**Pn**	**05 45 56.9**	**-0.2**
PTBC	**PUERTO BERRIO,**	**16.07 219**		*e*P	**Pn**	**05 45 59.5**	**0.0**
PTBC	**PUERTO BERRIO,**	**16.07 219**		*e*P	**Pn**	**05 45 59.5**	**0.0**
061Z	**Ochoppi**	**16.49 296**		*e*Pn	**Pn**	**05 46 03.2**	**-1.5**
	103nm,1.0s						
DBBC	**Dabeiba**	**16.80 224**		*e*P	**P**	**05 46 12.2**	**+1.4**
DBBC	**Dabeiba**	**16.80 224**		*e*P	**P**	**05 46 12.2**	**+1.4**
HELC	**Santa Helena**	**16.99 221**		*e*P	**Pn**	**05 46 11.5**	**-0.1**
HELC	**Santa Helena**	**16.99 221**		*e*P	**Pn**	**05 46 11.5**	**-0.1**
CHIC	**Chingaza**	**17.25 213**		*e*P	**P**	**05 46 18.8**	**+2.7**
CHIC	**Chingaza**	**17.25 213**		*e*P	**P**	**05 46 18.8**	**+2.7**
859A	**Kempfer Cattle**	**17.33 303**		P	**Pn**	**05 46 14.7**	**-0.6**
	baz=116						
ROSC	**El Rosal**	**17.38 215**		P	**P**	**05 46 18.6**	**+1.0**
	3.4nm,0.3s,baz=67,slow=11,SNR=20						
ROSC				S	**S**	**05 49 34.9**	**-2.2**
	0.6nm,0.3s,baz=108,slow=20,SNR=2.2						
ROSC				LR	LR	05 53 23.4	
	comp=Z,583nm,21.9s,baz=27,slow=38						
ROSC	**El Rosal**	**17.38 215**		*e*P	**P**	**05 46 19.5**	**+1.9**
ROSC	**El Rosal**	**17.38 215**		*e*P	**P**	**05 46 19.5**	**+1.9**
858A	**St. Cloud**	**17.77 303**		P	**Pn**	**05 46 20.3**	**-0.5**
	baz=115						
658A	**Bunnell**	**18.25 306**		P	**Pn**	**05 46 27.6**	**+1.0**
	baz=119						
MDP	**Montagnes des**	**18.29 139**		P	**P**	**05 46 26.8**	**-0.4**
	baz=0.0,slow=13						
MDP				S	Sn	05 49 38.8	-12
	baz=0.0,slow=11						
MDP				LR	LR	05 54 23.1	
	comp=Z,227nm,21.4s,baz=0.0,slow=40						
PLMC	**San Jos del P**	**18.46 220**		*e*P	**Pn**	**05 46 29.4**	**+0.1**
PLMC	**San Jos del P**	**18.46 220**		*e*P	**Pn**	**05 46 29.4**	**+0.1**
757A	**Oxford**	**18.65 304**		P	**Pn**	**05 46 32.9**	**+1.4**
	baz=116						
657A	**Interlachen**	**18.79 306**		P	**Pn**	**05 46 34.5**	**+1.3**
	baz=118						
557A	**Orange Park**	**18.89 307**		P	**Pn**	**05 46 36.1**	**+1.6**
	baz=120						
457A	**Yulee**	**19.08 309**		P	**Pn**	**05 46 39.1**	**+2.5**
	baz=121						
656A	**Willston**	**19.20 305**		P	**Pn**	**05 46 39.7**	**+1.5**
	baz=116						
357A	**Townsend**	**19.46 311**		P	**Pn**	**05 46 43.7**	**+2.4**
	baz=123						
456A	**Hilliard**	**19.47 309**		P	**Pn**	**05 46 44.1**	**+2.6**
	baz=121						
NHSC	**New Hope**	**19.59 317**		P	**Pn**	**05 46 47.0**	**+4.2**
	baz=130,SNR=12						
655A	**Horseshoe Beac**	**19.83 304**		P	**Pn**	**05 46 50.1**	**+4.4**
	baz=116						
256A	**Glennville**	**20.06 312**		P	Pn	05 46 52.2	+3.9
	baz=124						
156A	**Sylvania**	**20.18 314**		P	Pn	05 46 55.0	+5.3
	baz=126,SNR=10						
455A	**Stateville**	**20.23 308**		P	Pn	05 46 54.9	+4.5
	baz=119						
355A	**Pearson**	**20.40 309**		P	Pn	05 46 57.2	+4.8
	baz=121						
255A	**Hazlehurst**	**20.44 311**		P	Pn	05 46 57.1	+4.3
	baz=123						
PTGA	**Pitinga**	**20.49 167**		P	**P**	**05 46 50.2**	**-1.0**
	4.5nm,0.6s,baz=349,slow=14,SNR=8.9						
PTGA				LR	LR	05 55 03.8	
	comp=Z,197nm,18.1s,baz=344,slow=38						
PTGA	**Pitinga**	**20.49 167**		*e*P	**P**	**05 46 50.7**	**-0.5**
	9.4nm,0.9s						
POPC	**Popayan, Colom**	**20.59 217**		*e*P	**P**	**05 46 50.7**	**-1.9**
POPC	**Popayan, Colom**	**20.59 217**		*e*P	**P**	**05 46 50.7**	**-1.9**
155A	**Kite**	**20.82 313**		P	Pn	05 47 02.8	+5.5
	baz=124						
FLOC	**Florencia**	**20.83 213**		*e*P	**P**	**05 46 54.7**	**-0.3**
FLOC	**Florencia**	**20.83 213**		*e*P	**P**	**05 46 54.7**	**-0.3**
Z55A	**Blythe**	**20.95 315**		P	Pn	05 47 05.1	+6.4
	baz=126						
254A	**Abbeville**	**21.04 310**		P	P	05 47 05.6	+8.6
	baz=121						
154A	**Montrose**	**21.26 312**		P	P	05 47 07.7	+8.2
	baz=123						
Z54A	**Sparta**	**21.43 314**		P	**P**	**05 47 00.7**	**-0.6**
	baz=125,SNR=5.4						
Z54A				P	**sP**	**05 47 12.3**	**-1.5**
	baz=125						
CRUC	**La Cruz**	**21.54 216**		*e*P	**P**	**05 47 05.3**	**+2.4**
CRUC	**La Cruz**	**21.54 216**		*e*P	**P**	**05 47 05.3**	**+2.4**
KMSC	**Kings Mountain**	**21.65 320**		P	**P**	**05 47 03.0**	**-0.6**
	baz=132,SNR=9.5						
KMSC				P	**sP**	**05 47 15.4**	**-0.7**
	baz=132						
Y54A	**Tignall**	**21.70 315**		P	**P**	**05 47 03.4**	**-0.7**
	baz=127,SNR=14						
Y54A				P	**sP**	**05 47 15.4**	**-1.3**
	baz=127						
JTS	**JuntasAbangare**	**21.77 248**		P	**P**	**05 47 05.4**	**+0.4**
	5.7nm,0.8s,baz=39,slow=18,SNR=2.4						
JTS				LR	LR	05 57 22.9	
	comp=Z,116nm,18.1s,baz=122,slow=42						
CBN	**Corbin Frederi**	**21.84 332**		P	**P**	**05 47 05.8**	**+0.2**
	baz=145,SNR=7.6						
CBN				P	**sP**	**05 47 16.6**	**-1.5**
	baz=145						
R58B	**Mineral**	**21.88 330**		P	**P**	**05 47 05.7**	**-0.2**
	baz=144,SNR=6.1						
R58B				P	**sP**	**05 47 16.7**	**-1.8**
	baz=144						
Z53A	**Monticello**	**21.96 313**		P	P	05 47 18.3	+11
	baz=124						
GOGA	**Godfrey**	**21.96 313**		P	**P**	**05 47 06.8**	**-0.1**
	baz=124						
GOGA				P	**sP**	**05 47 18.4**	**-1.1**
	baz=124						
GCUF	**Volcan Galeras**	**22.04 216**		*e*P	**P**	**05 47 08.6**	**+0.2**
GCUF	**Volcan Galeras**	**22.04 216**		*e*P	**P**	**05 47 08.6**	**+0.2**
252A	**Lumpkin**	**22.12 309**		P	**P**	**05 47 07.8**	**-0.8**
	baz=119						
Y53A	**Monroe**	**22.30 314**		P	**P**	**05 47 10.8**	**+0.2**
	baz=125						
Y53A				P	**sP**	**05 47 22.2**	**-0.9**
	baz=125						
351A	**Pinckard**	**22.43 306**		P	**P**	**05 47 11.9**	**0.0**
	baz=116						
X53A	**Estanollee**	**22.49 316**		P	**P**	**05 47 12.7**	**+0.1**
	baz=127,SNR=20						
X53A				P	**sP**	**05 47 26.1**	**+1.0**
	baz=127						
BLA	**Blacksburg**	**22.58 325**		P	**P**	**05 47 13.1**	**-0.5**
	baz=137,SNR=5.7						
BLA				P	**sP**	**05 47 28.7**	**+2.6**
	baz=137						
Y52A	**Lilburn**	**22.63 313**		P	**P**	**05 47 13.5**	**-0.6**
	baz=124,SNR=6.3						
Y52A				P	**sP**	**05 47 28.3**	**+1.7**
	baz=124						
251A	**Midway**	**22.66 308**		P	**P**	**05 47 14.1**	**-0.4**
	baz=118						
W53A	**Cullowhee**	**22.81 317**		P	**P**	**05 47 15.8**	**-0.3**
	baz=128,SNR=18						
W53A				P	**sP**	**05 47 30.7**	**+2.1**
	baz=128						
V53A	**Saluda**	**22.90 319**		P	P	05 47 32.0	+15
	baz=130,SNR=10						
X52A	**Dahlonega**	**22.94 315**		P	P	05 47 32.0	+15
	baz=126,SNR=15						
PAL	**Palisades**	**23.00 341**		P	P	05 47 34.4	+17
	baz=156						
U53A	**Fall Branch**	**23.21 320**		P	**P**	**05 47 36.5**	**+16**
	baz=132,SNR=7.2						
W52A	**Murphy**	**23.26 316**		P	P	05 47 36.6	+16
	baz=127,SNR=5.8						
Y51A	**Rockmart**	**23.34 312**		P	P	05 47 38.2	+17
	baz=123						
OTAV	**Otavalo**	**23.48 217**		*e*P	**P**	**05 47 23.8**	**+0.5**
	6.2nm,0.6s						
TKL	**Tuckaleechee C**	**23.50 317**		P	**P**	**05 47 23.6**	**+0.6**
	2.8nm,0.6s,baz=141,slow=8.7,SNR=5.8						
TKL				S	**S**	**05 51 38.4**	**+3.6**
	7.0nm,0.8s,baz=199,slow=15,SNR=3.6						
TKL				LR	LR	05 57 07.8	
	comp=Z,121nm,19.3s,baz=114,slow=38						
V52A	**Sevierville**	**23.50 318**		P	P	05 47 39.7	+17
	baz=129,SNR=7.8						
N59A	**State Game Lan**	**23.52 338**		P	P	05 47 39.8	+17
	baz=152						
349A	**Repton**	**23.69 305**		P	P	05 47 41.6	+17
	baz=114						
149A	**Jones**	**23.93 308**		P	P	05 47 44.3	+17
	baz=117						
X50B	**Fort Payne**	**24.05 313**		P	**P**	**05 47 29.2**	**+1.0**
	baz=123						
O56A	**Blue Knob Stat**	**24.07 333**		P	**P**	**05 47 28.7**	**+0.4**
	baz=145						
SSPA	**Standing Stone**	**24.09 334**		P	**P**	**05 47 29.4**	**+1.0**
	baz=147						
U50A	**Jamestown**	**24.65 318**		P	**P**	**05 47 33.9**	**+0.2**
	baz=128						
O54A	**Avella**	**24.82 330**		P	**P**	**05 47 35.6**	**+0.5**
	baz=142						
Q52A	**Bidwell**	**24.85 325**		P	**P**	**05 47 35.4**	**0.0**
	baz=136						
APG	**El Apazote**	**25.22 264**		P	**P**	**05 47 41.6**	**+2.4**
	3.8nm,0.7s,baz=87,slow=5.8,SNR=5.5						
N54A	**Moraine State**	**25.26 332**		P	**P**	**05 47 40.0**	**+0.9**
	baz=143						
P52A	**Corning**	**25.27 327**		P	**P**	**05 47 38.0**	**-1.2**
	baz=138						
O53A	**New Philadelph**	**25.27 329**		P	**P**	**05 47 40.9**	**+1.7**
	baz=140						
X47A	**Russelville**	**25.64 311**		P	**P**	**05 47 42.4**	**-0.2**
	baz=120						
O51A	**Pataskala**	**25.89 327**		P	**P**	**05 47 45.6**	**+0.7**
	baz=137						
ACSO	**Alum Creek Sta**	**26.15 326**		P	**P**	**05 47 48.4**	**+1.2**
	baz=137						
ERPA	**Erie**	**26.20 333**		P	**P**	**05 47 47.6**	**0.0**
	baz=145						
SADO	**Sadowa**	**28.09 337**		P	**P**	**05 48 04.0**	**-0.5**
	4.3nm,0.9s,baz=141,slow=18,SNR=4.1						
L48A	**N Adams**	**28.15 327**		P	**P**	**05 48 04.6**	**-0.5**
	baz=137						
CMIG	**Matias Romero**	**28.98 270**		LR	LR	06 01 30.7	
	comp=Z,104nm,20.4s,baz=82,slow=40						
ATAH	**Atahualpa**	**29.73 209**		LR	LR	06 02 23.5	
	comp=Z,267nm,19.2s,baz=15,slow=41						
E48A	**Lockeyer**	**30.68 336**		P	**P**	**05 48 27.4**	**0.0**
	baz=146						
G39A	**Holcombe**	**33.99 325**		P	**P**	**05 48 56.5**	**-0.1**
	baz=130						
F39A	**Loretta**	**34.27 326**		P	**P**	**05 48 59.3**	**+0.3**
	baz=132						
E39A	**Mellen**	**34.40 327**		P	**P**	**05 48 59.9**	**-0.1**
	baz=132						
F38A	**Pierce - Schro**	**34.81 326**		P	**P**	**05 49 03.6**	**0.0**
	baz=130						
SCHQ	**Schefferville**	**35.41 358**		LR	LR	06 03 49.0	
	comp=Z,94nm,18.0s,baz=322,slow=37						
LPAZ	**La Paz**	**35.65 186**		P	**P**	**05 49 13.4**	**+1.7**
	2.0nm,0.9s,baz=276,slow=3.3,SNR=6.7						
LPAZ				LR	LR	06 04 38.0	
	comp=Z,164nm,18.9s,baz=66,slow=38						
ECSD	**EROS Data Cent**	**36.22 319**		P	**P**	**05 49 14.7**	**-1.1**
	baz=122						
TXAR	**Lajitas Array**	**36.91 293**		P	**P**	**05 49 22.1**	**+0.2**
	2.0nm,0.9s,baz=107,slow=10.0,SNR=18						
MSTX	**Muleshoe**	**36.95 301**		P	**P**	**05 49 21.1**	**-1.2**
	baz=103						
AGMN	**Agassiz Nation**	**38.39 326**		P	**P**	**05 49 33.6**	**-0.5**
	baz=128						
BDFB	**Brasilia**	**38.40 154**		P	**P**	**05 49 35.4**	**+0.9**
	4.4nm,0.7s,baz=314,slow=10,SNR=6.5						
BDFB				LR	LR	06 06 26.3	
	comp=Z,174nm,18.7s,baz=277,slow=38						
BDFB	**Br

comp=Z,64nm,21.8s,baz=250,slow=33
BRTR Keskin Array B 83.81 50 P **P** 05 54 41.9 -0.6
0.2nm,0.5s,baz=277,slow=7.5,SNR=3.4
BRTR LR LR 06 30 46.5
comp=Z,12nm,18.9s,baz=281,slow=35
KBZ Khabaz 88.66 44 LR LR 06 29 41.5
comp=Z,28nm,21.8s,baz=320,slow=32
TIXI Tiksi 88.72 356 LR LR 06 31 41.4
comp=Z,56nm,21.1s,baz=44,slow=34
PPT Papeete 91.29 252 LR LR 06 28 02.3
comp=Z,32nm,19.7s,baz=70,slow=30
AKTO Aktyubinsk 94.02 33 LR LR 06 38 46.4
comp=Z,58nm,18.1s,baz=318,slow=36
BVAR Borovoye Array 97.98 26 LR LR 06 35 31.3
comp=Z,32nm,21.9s,baz=318,slow=33
BOSA Boshof 98.81 117 LR LR 06 29 54.4
comp=Z,22nm,22.0s,baz=208,slow=29
WRA Warramunga Arr 162.29 265 PKP **PKPdf** **06 02 14.7 -0.3**
0.9nm,0.9s,baz=51,slow=1.3,SNR=5.0
WRA PKPab **PKPab** **06 03 01.7 -0.6**
0.8nm,0.7s,baz=88,slow=4.0,SNR=8.9
ASAR Alice Springs 162.41 253 PKP **PKPdf** **06 02 15.6 +0.6**
0.5nm,0.9s,baz=90,slow=0.9,SNR=3.8
ASAR PKPab **PKPab** **06 03 02.6 -0.2**
0.6nm,0.5s,baz=108,slow=4.3,SNR=7.8

*ISK **12** 05:44:57.3,39.66N×25.58E,h5km,ML2.5/11*
*ISCJB **12** 05:44:58.6±0.4,39.68N±0.02×25.64E±0.03,h11km±4km, Error ellipse: s-maj=4.3km s-min=3.8km az=143.5*
*ATH **12** 05:44:58.4,39.69N×25.61E,h28km±2km, ML2.0/4, Error ellipse: s-maj=3.0km s-min=1.1km az=219.0*
ISC 12 05:44:57.7±1.2,39.66N±0.02×25.57E±0.03,h9km±11km, n26,σ0s60/35,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.38**	**309**	P	**Pb**	**05 45 06.7**	**0.0**
LIA				S	**Sb**	**05 45 12.9**	**+0.2**
LIA				AML	AML	05 45 19.3	
	comp=E,423μm,0.3s						
LIA				AML	AML	05 45 21.4	
	comp=N,240μm,0.3s						
BOZC	**Bozcaada**	**0.42**	**64**	PG	**Pg**	**05 45 05.9**	**0.0**
BOZC				SG	**Sg**	**05 45 11.9**	**+0.5**
EFSA	**Agios Efstrati**	**0.46**	**255**	P	**Pn**	**05 45 09.6**	**-0.9**
EFSA				S	**Sb**	**05 45 17.0**	**+2.0**
GPNR	**Gulpinar-Canak**	**0.48**	**115**	PG	**Pg**	**05 45 07.2**	**+0.1**
SIGR	**SIGRI**	**0.50**	**153**	PG	**Pg**	**05 45 06.8**	**-0.6**
SIGR				SG	**Sb**	**05 45 14.8**	**-1.3**
SIGR	**SIGRI**	**0.50**	**153**	P	**Pb**	**05 45 08.5**	**-0.2**
SIGR				S	**Sb**	**05 45 16.1**	**+0.1**
SIGR				AML	AML	05 45 16.3	
	comp=E,321μm,0.2s						
SIGR				AML	AML	05 45 16.8	
	comp=N,420μm,0.2s						
GADA	**Gvkgeada**	**0.59**	**25**	PG	**Pg**	**05 45 09.2**	**0.0**
GADA				SG	**Sg**	**05 45 17.2**	**+0.3**
GOKC	**Gokceada-Canak**	**0.60**	**26**	PG	**Pb**	**05 45 09.7**	**-0.8**
EZN	**Ezine**	**0.61**	**74**	PG	**Pg**	**05 45 09.4**	**-0.1**
PRK	**Paraskevi**	**0.68**	**127**	P	**Pb**	**05 45 12.4**	**+0.5**
PRK				S	**Sb**	**05 45 22.1**	**+0.7**
PRK				AML	AML	05 45 25.7	
	comp=E,609μm,0.4s						
PRK				AML	AML	05 45 25.9	
	comp=N,466μm,0.3s						
SMTH	**Samothraki Isl**	**0.81**	**358**	P	**Pb**	**05 45 13.9**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.01**	**43**	PG	**Pb**	**05 45 16.9**	**-0.6**
THAS	**Thassos island**	**1.15**	**326**	P	**Pn**	**05 45 20.1**	**+0.1**
THAS				S	**Sn**	**05 45 35.8**	**-0.1**
THAS				AML	AML	05 45 41.7	
	comp=E,78μm,0.3s						
THAS				AML	AML	05 45 41.7	
	comp=N,88μm,0.3s						
LPK	**Lapseki**	**1.16**	**52**	PN	**Pg**	**05 45 19.4**	**-0.6**
ENEZ	**Enez**	**1.17**	**22**	PN	**Pg**	**05 45 19.6**	**-0.5**
DKL	**Dikili**	**1.19**	**119**	PN	**Pn**	**05 45 20.5**	**-0.1**
ERIK	**Erikli-Kesan**	**1.24**	**35**	PN	**Pg**	**05 45 20.9**	**-0.7**
ALN	**Alexandroupoli**	**1.29**	**16**	P	**Pg**	**05 45 22.1**	**-0.4**
ALN				S	**Sb**	**05 45 39.0**	**+0.1**
CHOS	**Chios island**	**1.33**	**163**	PN	**Pb**	**05 45 22.7**	**-0.1**
CHOS	**Chios island**	**1.33**	**163**	P	**Pg**	**05 45 22.8**	**-0.4**
AOS	**Alonnisos**	**1.40**	**250**	PN	**Pg**	**05 45 24.4**	**-0.1**
RDO	**Rodhopi**	**1.49**	**359**	PN	**Pn**	**05 45 24.9**	**+0.3**
KRBG	**Karabiga-Canak**	**1.52**	**61**	PN	**Pn**	**05 45 25.3**	**+0.2**
GONE	**Gonen-Balikesi**	**1.68**	**76**	PN	**Pn**	**05 45 27.6**	**+0.4**
BALB	**Balikesir**	**1.79**	**90**	PN	**Pn**	**05 45 29.1**	**+0.4**
EDC	**Edincik**	**1.89**	**68**	PN	**Pn**	**05 45 30.6**	**+0.4**

*IDC **12** 05:54:44.9±0.7,19.54N×64.30W,h0km,mb3.8/11, mb1 4.1/14,mb1mx3.9/37,mbtmp3.9/14,ML3.2/3,MS3.5/2, Ms1 3.5/2,ms1mx2.9/31,Error ellipse: s-maj=21.5km s-min=13.5km az=56.0*
*ISCJB **12** 05:54:45.5±1.0,19.63N±0.03×64.35W±0.03,h20km±7km, mb3.8/11,MS3.5/1,Error ellipse: s-maj=5.1km s-min=3.9km az=17.5*
*NEIC **12** 05:54:46.2±0.0,19.74N×64.26W,h29km, mb4.0/2, MD3.9(RSPR),After RSPR.*
*RSPR **12** 05:54:46.2,19.74N×64.26W,h29km±23km,MD3.9/12*
ISC 12 05:54:48.6±1.4,19.55N±0.05×64.41W±0.03,h26km±11km, n87,σ1s73/106,mb3.9/11,13C-1D,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABV	**Anegada**	**0.82**	**175**	*e*S	**Sb**	**05 55 14.9**	**0.0**
ABV	**Anegada**	**0.82**	**175**	*e*P	**Pb**	**05 55 02.2**	**-2.0**
ABVI	**Anegada Island**	**0.82**	**175**	*e*Pn	**Pb**	**05 55 02.1**	**-2.1**
ABVI				*e*Sn	**Sb**	**05 55 14.9**	**0.0**
TBVI	**Tortola**	**1.14**	**190**	*e*P	**Pn**	**05 55 07.2**	**-1.8**
TBVI				*e*S	**Sb**	**05 55 24.5**	**+0.4**
TBVI	**Tortola**	**1.14**	**190**	*e*Pn	**Pn**	**05 55 07.2**	**-1.8**
STVI	**Saint Thomas**	**1.30**	**203**	*e*S	**Sn**	**05 55 28.5**	**+0.9**
STVI	**Saint Thomas**	**1.30**	**203**	*e*P	**Pn**	**05 55 09.5**	**-1.6**
STVI	**Saint Thomas**	**1.30**	**203**	*e*Pn	**Pn**	**05 55 09.5**	**-1.6**
STVI				*e*Sn	**Sn**	**05 55 28.5**	**+0.9**
CUPR	**Culebra, Puert**	**1.48**	**214**	*e*P	**Pn**	**05 55 12.5**	**-1.2**
CUPR	**Culebra, Puert**	**1.48**	**214**	*e*S	**Sn**	**05 55 33.2**	**+1.0**
CUPR	**Culebra, Puert**	**1.48**	**214**	*e*Pn	**Pn**	**05 55 12.6**	**-1.0**
CUPR				*e*Sn	**Sn**	**05 55 32.9**	**+0.6**
MTP	**Monte Pirata**	**1.80**	**217**	*e*P	**Pn**	**05 55 17.3**	**-0.8**
MTP				*e*S	**Sn**	**05 55 40.9**	**+0.8**
MTP	**Monte Pirata**	**1.80**	**217**	*e*Pn	**Pn**	**05 55 17.3**	**-0.8**
MTP				*e*Sn	**Sb**	**05 55 42.7**	**-0.4**
CDVI	**St. Croix**	**1.82**	**191**	*e*P	**Pn**	**05 55 17.3**	**-1.0**
CDVI	**St. Croix**	**1.82**	**191**	*e*S	**Sn**	**05 55 41.1**	**+0.6**
CDVI	**St. Croix**	**1.82**	**191**	*e*Pn	**Pn**	**05 55 18.0**	**-0.2**
CDVI				*e*Sn	**Sb**	**05 55 45.2**	**+1.6**
CBYP	**Canovanas**	**1.87**	**227**	*e*P	**Pn**	**05 55 18.1**	**-0.9**
CBYP	**Canovanas**	**1.87**	**227**	*e*P	**Pn**	**05 55 18.6**	**-0.4**
CBYP				*e*S	**Sn**	**05 55 43.0**	**+1.2**
CBYP	**Canovanas**	**1.87**	**227**	*e*S	**Sn**	**05 55 43.2**	**+1.5**
CBYP	**Canovanas**	**1.87**	**227**	*e*Pn	**Pn**	**05 55 17.6**	**-1.4**
HUMP	**Col San Antoni**	**1.95**	**224**	*e*P	**Pn**	**05 55 18.8**	**-1.3**
HUMP	**Col San Antoni**	**1.95**	**224**	*e*S	**Sn**	**05 55 45.2**	**+1.5**
HUMP	**Col San Antoni**	**1.95**	**224**	*e*Pn	**Pn**	**05 55 18.7**	**-1.4**
HUMP				*e*S	**Sn**	**05 55 45.2**	**+1.5**
SMRT	**St. Maarten**	**1.96**	**139**	*e*Pn	**Pn**	**05 55 19.3**	**-0.9**
SMRT	**St. Maarten**	**1.96**	**139**	*e*P	**Pn**	**05 55 21.2**	**+1.0**
SMRT				*e*S	**Sn**	**05 55 44.0**	**0.0**
SJG	**San Juan**	**2.18**	**229**	*e*P	**Pn**	**05 55 22.2**	**-1.1**
SJG	**San Juan**	**2.18**	**229**	*e*S	**Sn**	**05 55 50.0**	**+0.6**
SJG	**San Juan**	**2.18**	**229**	*e*Pn	**Pn**	**05 55 22.3**	**-0.9**
	14nm,0.3s,baz=55,slow=14,SNR=25						
SJG					**Sn**	**05 55 48.4**	**-1.0**
	39nm,0.3s,baz=328,slow=19,SNR=9.9						
SJG	**San Juan**	**2.18**	**229**	*e*Pn	**Pn**	**05 55 22.2**	**-1.1**
SJG				*e*Sn	**Sn**	**05 55 50.0**	**+0.6**
SABA	**Saba**	**2.22**	**150**	*e*Pn	**Pn**	**05 55 23.6**	**-0.2**
SABA	**Saba**	**2.22**	**150**	*e*P	**Pb**	**05 55 30.7**	**+2.7**
SABA				*e*S	**Sb**	**05 56 02.0**	**+6.9**
EMPR	**Esperanza - Ma**	**2.27**	**242**	*e*P	**Pn**	**05 55 23.9**	**-0.5**
EMPR	**Esperanza - Ma**	**2.27**	**242**	*e*S	**Sn**	**05 55 51.8**	**+0.2**
EMPR	**Esperanza - Ma**	**2.27**	**242**	*e*S	**Sn**	**05 55 51.8**	**+0.2**
SEUS	**St. Eustatius**	**2.46**	**146**	*e*P	**Pb**	**05 55 30.7**	**-1.4**
SEUS				*e*S	**Sb**	**05 56 07.2**	**+5.3**
CELP	**Cerrillos**	**2.52**	**235**	*e*P	**Pn**	**05 55 27.3**	**-0.7**
CELP				*e*S	**Sn**	**05 55 59.6**	**+1.8**
CELP	**Cerrillos**	**2.52**	**235**	*e*Pn	**Pn**	**05 55 27.3**	**-0.7**
OBIP	**Obispado Ponce**	**2.56**	**235**	*e*Pn	**Pn**	**05 55 27.6**	**-0.9**
AGPR	**Aguadilla, PR**	**2.77**	**248**	*e*P	**Pn**	**05 55 30.8**	**-0.6**
AGPR	**Aguadilla, PR**	**2.77**	**248**	*e*S	**Sn**	**05 56 04.2**	**+0.2**
AGPR	**Aguadilla, PR**	**2.77**	**248**	*e*P	**Pn**	**05 55 30.8**	**-0.6**
AGPR				*e*S	**Sn**	**05 56 04.2**	**+0.2**
AGP	**Aguadilla**	**2.82**	**247**	*e*Pn	Pn	05 55 30.1	-2.0
MPR	**Mayaguez**	**2.91**	**243**	*e*Pn	**Pn**	**05 55 33.0**	**-0.2**
CRPR	**Cabo Rojo, PR**	**2.98**	**239**	*e*Pn	**Pn**	**05 55 33.4**	**-0.8**
ANWB	**Willy Bob**	**3.12**	**126**	*e*Pn	**Pn**	**05 55 34.0**	**-2.1**
ANWB	**Willy Bob**	**3.12**	**126**	*e*P	**Pn**	**05 55 34.4**	**-1.7**
ANWB				*e*S	**Sn**	**05 56 09.3**	**-3.2**
BPA	**Boggy Peak**	**3.48**	**135**	*e*P	**Pn**	**05 55 41.5**	**+0.4**
BPA				*e*S	**Sn**	**05 56 20.4**	**-1.1**
MLYT	**Lee's Yard**	**3.52**	**143**	*e*S	**Sn**	**05 56 21.2**	**-1.3**
H05N1	**Guadeloupe/Mar**	**4.53**	**135**	Pn	**Pn**	**05 55 54.5**	**-1.2**
H05N1				Sn	**Sn**	**05 56 46.6**	**-0.9**
	SNR=5.2						
MDPO	**Dominica; Chan**	**4.86**	**144**	*e*P	**Pn**	**05 56 03.0**	**+2.9**
MDPO	**Dominica; Chan**	**4.86**	**144**	*e*S	**Sn**	**05 56 54.1**	**-1.4**
SDDR	**Presa de Saban**	**6.52**	**266**	*e*Pn	**Pn**	**05 56 22.3**	**-0.7**
GRTK	**Grand Turk**	**6.59**	**288**	*e*Pn	**Pn**	**05 56 22.0**	**-1.9**
LGNH	**Logne**	**7.82**	**264**	*e*Pn	**Pn**	**05 56 40.7**	**0.0**
PCRV	**Puerto La Cruz**	**9.32**	**181**	Pn	**Pn**	**05 57 04.4**	**+2.9**
	0.8nm,0.3s,baz=354,slow=9.2,SNR=3.9						
SDV	**Santo Domingo**	**12.19**	**210**	Pn	**Pn**	**05 57 42.9**	**+2.0**
	0.5nm,0.3s,baz=24,slow=9.6,SNR=3.2						
SDV				Sn	**Sn**	**05 59 51.5**	**-4.7**
	0.2nm,0.3s,baz=45,slow=20,SNR=2.2						
SDV	**Santo Domingo**	**12.19**	**210**	*e*Pn	**Pn**	**05 57 44.9**	**+4.0**
SDV				Sn	**Sn**	**05 59 51.5**	**-4.7**
BBSR	**BB Station**	**12.77**	**359**	*e*Pn	**Pn**	**05 57 46.3**	**-2.2**
OCAC	**Ocana**	**14.18**	**219**	*e*P	**Pn**	**05 58 06.8**	**-1.2**
OCAC	**Ocana**	**14.18**	**219**	*e*P	**Pn**	**05 58 06.8**	**-1.2**
BARC	**Barichara**	**15.45**	**215**	*e*P	**Pn**	**05 58 24.8**	**-0.3**
BARC	**Barichara**	**15.45**	**215**	*e*P	**Pn**	**05 58 24.8**	**-0.3**
ZARC	**Zaragoza, Cauc**	**15.70**	**222**	*e*P	**Pn**	**05 58 29.2**	**+1.0**
ZARC	**Zaragoza, Cauc**	**15.70**	**222**	*e*P	**Pn**	**05 58 29.2**	**+1.0**
RUSC	**La Rusia**	**15.98**	**213**	*e*P	**Pn**	**05 58 34.2**	**+1.8**
RUSC	**La Rusia**	**15.98**	**213**	*e*P	**Pn**	**05 58 34.2**	**+1.8**
PTBC	**PUERTO BERRIO,**	**16.20**	**218**	*e*P	**Pn**	**05 58 32.7**	**-2.0**
PTBC	**PUERTO BERRIO,**	**16.20**	**218**	*e*P	**Pn**	**05 58 32.7**	**-2.0**
ROSC	**El Rosal**	**17.52**	**215**	P	**P**	**05 58 53.6**	**+1.0**
	1.9nm,0.3s,baz=127,slow=23,SNR=6.8						
ROSC				LR	LR	06 06 06.7	
	comp=Z,199nm,20.1s,baz=41,slow=39						
ROSC	**El Rosal**	**17.52**	**215**	*e*Pn	**Pn**	**05 58 51.5**	**-0.2**
	8.0nm,0.8s						
ROSC	**El Rosal**	**17.52**	**215**	*e*P	**P**	**05 58 54.6**	**+2.0**
ROSC	**El Rosal**	**17.52**	**215**	*e*P	**P**	**05 58 54.6**	**+2.0**
MDP	**Montagnes des**	**18.38**	**140**	P	**P**	**05 59 00.9**	**-0.7**
	baz=0.0,slow=11						
PTGA	**Pitinga**	**20.62**	**167**	P	**P**	**05 59 23.9**	**-2.3**
	1.4nm,0.3s,baz=319,slow=20,SNR=3.5						
OTAV	**Otavalo**	**23.62**	**217**	*e*P	**P**	**05 59 58.7**	**+0.4**
	9.0nm,1.3s						
APG	**El Apazote**	**25.27**	**264**	P	**P**	**06 00 14.9**	**+1.7**
	6.4nm,0.9s,baz=25,slow=12,SNR=5.0						
TXAR	**Lajitas Array**	**36.89**	**293**	P	**P**	**06 01 56.4**	**+1.0**
	1.1nm,0.9s,baz=112,slow=11,SNR=11						
BDFB	**Brasilia**	**38.51**	**154**	P	**P**	**06 02 10.1**	**+1.0**
	2.3nm,0.8s,baz=320,slow=16,SNR=3.7						
ULM	**Lac du Bonnet**	**39.52**	**328**	P	**P**	**06 02 18.9**	**+1.7**
	1.7nm,0.7s,baz=126,slow=2.6,SNR=4.4						
PDAR	**Pinedale Array**	**44.37**	**312**	P	**P**	**06 02 57.5**	**+0.3**
	0.4nm,0.6s,baz=104,slow=6.3,SNR=4.9						
CPUP	**Villa Florida**	**46.12**	**171**	P	**P**	**06 03 09.8**	**-1.1**
	1.4nm,0.7s,baz=356,slow=7.9,SNR=4.2						
NVAR	**Mina Array Bea**	**50.03**	**304**	P	**P**	**06 03 41.9**	**+0.6**
	0.5nm,0.7s,baz=102,slow=6.5,SNR=3.7						
YKA	**Yellowknife Ar**	**54.91**	**334**	P	**P**	**06 04 16.6**	**-0.2**
	0.7nm,0.7s,baz=109,slow=7.5,SNR=12						
TORD	**Torodi Ar. Bea**	**63.43**	**85**	P	**P**	**06 05 16.0**	**-0.7**
	0.9nm,1.0s,baz=281,slow=6.0,SNR=4.3						
ILAR	**Eielson Array**	**69.30**	**333**	P	**P**	**06 05 54.8**	**+1.4**
	0.5nm,0.5s,baz=109,slow=4.3,SNR=10						
FINES	**FINESS Array B**	**73.27**	**30**	LR	LR	06 33 21.0	
	comp=Z,28nm,21.7s,baz=290,slow=32						
WRA	**Warramunga Arr**	**162.34**	**266**	PKPab	**PKPab**	**06 15 36.3**	**0.0**
	0.3nm,0.6s,baz=81,slow=3.7,SNR=3.9						

*IDC **12** 05:56:38.8±6.5,26.56N×55.49E,h0km,mb3.5/3, mb1 3.5/3,mb1mx3.1/44,mbtmp3.5/3,Error ellipse: s-maj=128.9km s-min=50.9km az=112.0*
*OMAN **12** 05:56:44.6±1.0,27.04N×55.47E,h71km±45km,ml3.1/7, Error ellipse: s-maj=50.0km s-min=10.3km az=81.0*
*DSN **12** 05:56:44.1±0.7,26.92N×55.35E,h15km,ML2.8/5,Error ellipse: s-maj=11.7km s-min=4.3km az=47.0*
ISC 12 05:56:43.2±1.0,26.62N±0.08×55.05E±0.08,h12km,n14, σ0s65/18,mb3.3/3,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHME	**Shamm**	**1.13**	**120**	*e*P	**Pg**	**05 57 04.9**	**0.0**
	SNR=17						
SHME				S	**Sn**	**05 57 20.8**	**+0.4**
BANOM	**Banah**	**1.32**	**122**	*e*P	**Pn**	**05 57 07.4**	**0.0**
	SNR=6.1						
BANOM	**Banah**	**1.32**	**122**	P	**Pb**	**05 57 07.7**	**-0.2**
	SNR=66						
MSFE	**Esma-Masafi**	**1.60**	**141**	*e*P	**Pg**	**05 57 13.8**	**-0.2**
	SNR=5.8						
MSFE				S	**Sg**	**05 57 35.8**	**+1.0**
MDH	**Madha**	**1.73**	**139**	P	**Pb**	**05 57 15.2**	**+0.3**
MDH	**Madha**	**1.73**	**139**	P	**Pb**	**05 57 15.4**	**+0.5**
MDH				S	**Sg**	**05 57 38.0**	**-0.8**
FAQ	**Al Faqa, Dubai**	**1.93**	**165**	P	**Pg**	**05 57 20.1**	**-0.1**
UOSS	**Minazif**	**1.96**	**148**	P	**Pb**	**05 57 19.7**	**+0.8**
HATD	**Hatta, Dubai**	**2.04**	**151**	P	**Pb**	**05 57 19.6**	**-0.5**
HATD				S	**Sg**	**05 57 47.6**	**-1.0**
ASHO	**Ashiyiah**	**2.13**	**155**	*e*P	**Pb**	**05 57 21.9**	**+0.1**
	SNR=6.6						
ASHO	**Ashiyiah**	**2.13**	**155**	P	**Pb**	**05 57 21.9**	**+0.1**
	SNR=23						
BRTR	**Keskin Array B**	**22.11**	**312**	P	**P**	**06 01 39.6**	**+1.0**
	0.9nm,0.8s,baz=124,slow=12,SNR=4.6						
FINES	**FINESS Array B**	**39.90**	**339**	P	**P**	**06 04 15.6**	**-1.1**
	1.1nm,0.7s,baz=145,slow=9.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**51.60**	**266**	P	**P**	**06 05 50.1**	**+0.3**
	0.2nm,0.5s,baz=63,slow=7.2,SNR=2.5						

*IDC **12** 06:09:53.2±1.9,4.38S×151.31E,h0km,mb3.9/4, mb1 4.2/4,mb1mx3.6/43,mbtmp3.9/4,Error ellipse: s-maj=111.7km s-min=26.0km az=128.0*
*ISCJB **12** 06:10:21.3±0.8,4.05S±0.1×150.1E±0.1,h250km,mb4.0/9, Error ellipse: s-maj=24.9km s-min=12.3km az=39.8*
*NEIC **12** 06:10:23.0±0.9,4.18S×150.38E,h262km±14km,mb4.0/5, Error ellipse: s-maj=38.4km s-min=9.8km az=123.0*
ISC 12 06:10:22.6±0.9,4.1S±0.2×150.2E±0.2,h250km,n14, σ1s00/14,mb4.0/9,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.92**	**94**	*e*Pn	**Pn**	**06 11 04.7**	**+0.3**
COEN	**Coen**	**12.05**	**215**	*e*Pn	**Pn**	**06 13 07.4**	**+0.5**
WRAB	**Tennant Creek**	**22.11**	**223**	*e*P	**P**	**06 14 57.6**	**-0.2**
	3.7nm,0.8s						
WB2	**Warramunga Arr**	**22.12**	**223**	*e*P	**P**	**06 14 57.6**	**-0.2**
	4.9nm,0.6s						
WR1	**Warramunga Arr**	**22.12**	**223**	*e*P	**P**	**06 14 57.6**	**-0.3**
	5.9nm,0.5s						
WRA	**Warramunga Arr**	**22.12**	**223**	P	**P**	**06 14 57.6**	**-0.3**
	2.9nm,0.5s,baz=51,slow=9.8,SNR=47						
AS01	**Alice Springs**	**25.05**	**217**	*e*P	**P**	**06 15 23.1**	**-1.3**
AS31	**Alice Springs**	**25.07**	**217**	*e*P	**P**	**06 15 23.0**	**-1.6**
	0.8nm,0.3s						
ASAR	**Alice Springs**	**25.07**	**217**	P	**P**	**06 15 22.9**	**-1.8**
	0.8nm,0.4s,baz=51,slow=8.7,SNR=22						
FITZ	**Fitzroy Crossi**	**27.82**	**238**	P	**P**	**06 15 50.4**	**+1.2**
	3.9nm,1.1s,baz=62,slow=14,SNR=10						
FITZ	**Fitzroy Crossi**	**27.82**	**238**	*e*P	**P**	**06 15 50.5**	**+1.3**
	4.6nm,1.1s						
CBIJ	**Chichi jima**	**31.94**	**346**	*e*P	**P**	**06 16 25.0**	**-0.2**
	61nm,0.9s						
ILAR	**Eielson Array**	**82.45**	**23**	P	**P**	**06 22 16.8**	**0.0**
	0.4nm,0.8s,baz=251,slow=5.5,SNR=3.9						
ILB	**Eielson Array**	**82.45**	**23**	*e*P	**P**	**06 22 16.8**	**0.0**

*NIED **12** 06:12:00,24.40N×123.40E,h5km,Mw3.9 Best double couple: Mo7.81000×10^14 NP1:φs148.00000°,δ42.00000°, λ-44.00000°. NP2:φs274.00000°,δ62.00000°, λ-123.00000°.*

*ISCJB **12** 06:12:28.7±0.5,24.35N±0.06×123.42E±0.03,h21km±4km, mb3.7/5,MS2.8/1,Error ellipse: s-maj=10.0km s-min=4.1km az=6.2*
*JMA **12** 06:12:28.7,24.37N×123.43E,h19km±2km,M3.9*
JMA Felt I J1.
*IDC **12** 06:12:36.8±4.8,24.40N×123.69E,h76km±46km,mb3.4/5, mb1 3.6/6,mb1mx3.2/45,mbtmp3.7/6,ML3.0/1,MS2.8/4, Ms1 2.8/4,ms1mx2.6/28,Error ellipse: s-maj=33.7km s-min=19.6km az=78.0*
ISC 12 06:12:29.0±1.1,24.35N±0.06×123.44E±0.03,h11km±8km, n18,σ0s89/23,mb3.9/5,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.26**	**94**	P	**Pg**	**06 12 34.8**	**+0.4**
IRIF				S	**Sb**	**06 12 39.2**	**-1.1**
YOJ	**Yonaguni jima**	**0.41**	**285**	P	**Pg**	**06 12 36.9**	**-0.1**
YOJ				S	**Sg**	**06 12 42.3**	**-0.1**
HATJ	**Hateruma jima**	**0.44**	**132**	P	**Pg**	**06 12 37.7**	**0.0**
HATJ				S	**Sb**	**06 12 44.6**	**-0.9**
JYNG	**Yonagunijimaku**	**0.46**	**282**	P	**Pg**	**06 12 37.6**	**-0.4**
JYNG				S	**Sg**	**06 12 43.9**	**-0.3**
JKRS	**Kuro-shima**	**0.53**	**102**	P	**Pg**	**06 12 39.6**	**+0.3**
JKRS				S	**Sb**	**06 12 47.5**	**-0.5**
JIJ	**Ishigaki jima**	**0.64**	**89**	P	**Pg**	**06 12 40.9**	**-0.5**
JIJ				S	**Sb**	**06 12 50.0**	**-1.1**
JISG	**Ishigakijimahi**	**0.82**	**73**	P	**Pg**	**06 12 44.4**	**-0.5**
JISG				S	**Sb**	**06 12 55.8**	**-0.7**
JTJ	**Tarama**	**1.18**	**76**	P	**Pb**	**06 12 50.8**	**-0.6**
JTJ				S	**Sb**	**06 13 06.2**	**-0.6**
JOW	**Kunigami**	**5.01**	**59**	P	**Pn**	**06 13 46.5**	**+2.3**
	1.5nm,0.3s,baz=140,slow=17,SNR=4.5						
JOW				S	**Sn**	**06 14 41.7**	**-0.5**
	1.0nm,0.3s,baz=128,slow=19,SNR=2.8						
JNU	**Nakatsue**	**10.90**	**35**	LR	LR	06 20 01.4	
	comp=Z,45nm,18.2s,baz=259,slow=41						
KSRS	**Korea Array**	**13.61**	**15**	LR	LR	06 20 58.5	
	comp=Z,40nm,19.8s,baz=182,slow=37						
MJAR	**Matsushiro Arr**	**17.57**	**43**	LR	LR	06 23 13.1	
	comp=Z,27nm,21.4s,baz=60,slow=37						
KLR	**Kul'dur**	**25.67**	**13**	LR	LR	06 28 13.9	
	comp=Z,27nm,18.8s,baz=267,slow=37						
MKAR	**Makanchi Array**	**39.66**	**315**	P	**P**	**06 20 02.3**	**+1.3**
	0.2nm,0.4s,baz=93,slow=10.0,SNR=3.4						
WRA	**Warramunga Arr**	**45.29**	**166**	P	**P**	**06 20 46.6**	**-0.3**
	3.0nm,0.8s,baz=348,slow=8.5,SNR=12						
ASAR	**Alice Springs**	**48.80**	**167**	P	**P**	**06 21 14.4**	**+0.1**
	0.6nm,0.5s,baz=350,slow=7.9,SNR=12						
STKA	**Stephens Creek**	**58.55**	**162**	P	**P**	**06 22 25.6**	**+0.1**
	0.6nm,0.4s,baz=319,slow=11,SNR=3.1						
YKA	**Yellowknife Ar**	**82.00**	**23**	P	**P**	**06 24 47.5**	**-1.3**
	0.2nm,0.5s,baz=302,slow=5.3,SNR=9.5						

*NEIC **12** 06:12:51.6±0.0,16.07N×99.17W,h33km,MD4.2(MEX), After MEX.*
MEX 12 06:12:50.5±0.7,16.01N×99.21W,h20km±39km,MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACP2	**Acapulco**	**1.08**	**323**	*i* P	**Pb**	06 13 08.0	-2.5
ACP2				*i* S	**Sb**	06 13 21.1	-3.1
PNIG	**Pinotepa**	**1.11**	**70**	*e*P	**Pn**	06 13 08.1	-2.9
PNIG				*e*S	**Sb**	06 13 21.2	-4.0
PNIG	**Pinotepa**	**1.11**	**70**	*e*P	**Pn**	06 13 08.1	-2.9
PNIG				*e*S	**Sb**	06 13 21.2	-4.0
CAIG	**El Cayaco**	**1.45**	**316**	*e*P	**Pn**	06 13 11.8	-3.7
CAIG				*e*S	**Sn**	06 13 30.5	-3.5
CAIG	**El Cayaco**	**1.45**	**316**	*e*P	**Pn**	06 13 11.8	-3.

STVI				*e*S	**Sn**	06 14 55.5	+1.1
STVI	**Saint Thomas**	**1.32**	**206**⇑	*e*P	**Pn**	06 14 37.2	-0.6
STVI	**Saint Thomas**	**1.32**	**206**	*e*S	**Sn**	06 14 56.1	+1.8
STVI	**Saint Thomas**	**1.32**	**206**	*e*Pn	**Pn**	06 14 36.9	-0.9
STVI				*e*Sn	**Sn**	06 14 56.1	+1.8
CUPR	**Culebra, Puert**	**1.52**	**216**⇑	*e*P	**Pn**	06 14 40.2	-0.3
CUPR	**Culebra, Puert**	**1.52**	**216**	*e*S	**Sn**	06 15 00.9	+1.8
CUPR	**Culebra, Puert**	**1.52**	**216**	*e*Pn	**Pn**	06 14 39.8	-0.7
CUPR				*e*Sn	**Sn**	06 15 00.2	+1.0
CDVI	**St. Croix**	**1.83**	**193**	*e*Pn	**Pn**	06 14 45.6	+1.0
MTP	**Monte Pirata**	**1.84**	**219**⇓	*e*P	**Pn**	06 14 45.2	+0.3
MTP	**Monte Pirata**	**1.84**	**219**	*e*Pn	**Pn**	06 14 44.7	-0.2
SMRT	**St. Maarten**	**1.91**	**141**	*e*Pn	**Pn**	06 14 47.3	+1.5
CBYP	**Canovanas**	**1.92**	**229**⇑	*e*P	**Pn**	06 14 45.3	-0.6
CBYP	**Canovanas**	**1.92**	**229**⇓	*e*P	**Pn**	06 14 45.4	-0.6
CBYP	**Canovanas**	**1.92**	**229**	*e*Pn	**Pn**	06 14 45.0	-0.9
HUMP	**Col San Antoni**	**2.00**	**226**⇑	*e*P	**Pn**	06 14 46.8	-0.2
HUMP	**Col San Antoni**	**2.00**	**226**⇑	*e*P	**Pn**	06 14 46.8	-0.2
HUMP	**Col San Antoni**	**2.00**	**226**	*e*Pn	**Pn**	06 14 46.6	-0.4
SABA	**Saba**	**2.17**	**151**	*e*Pn	**Pn**	06 14 48.2	-1.2
SJG	**San Juan**	**2.23**	**231**⇑	*e*P	**Pn**	06 14 49.7	-0.5
SJG	**San Juan**	**2.23**	**231**	Pn	**Pn**	06 14 49.6	-0.5
	6.2nm,0.3s,baz=64,slow=15,SNR=16						
SJG				Sn	**Sn**	06 15 15.2	-1.4
	9.6nm,0.3s,baz=43,slow=18,SNR=3.5						
EMPR	**Esperanza - Ma**	**2.33**	**243**⇑	*e*P	**Pn**	06 14 51.1	-0.4
EMPR	**Esperanza - Ma**	**2.33**	**243**	*e*Pn	**Pn**	06 14 48.3	-3.2
CELP	**Cerrillos**	**2.58**	**236**⇑	*e*P	**Pn**	06 14 54.5	-0.4
CELP				*e*S	**Sn**	06 15 26.1	+1.0
CELP	**Cerrillos**	**2.58**	**236**	*e*Pn	**Pn**	06 14 54.5	-0.4
OBIP	**Obispado Ponce**	**2.62**	**236**⇑	*e*P	**Pn**	06 14 55.1	-0.4
OBIP	**Obispado Ponce**	**2.62**	**236**	*e*Pn	**Pn**	06 14 54.9	-0.5
AGPR	**Aguadilla, PR**	**2.83**	**248**⇑	*e*P	**Pn**	06 14 58.2	-0.2
AGPR	**Aguadilla, PR**	**2.83**	**248**⇑	*e*P	**Pn**	06 14 58.2	-0.2
AGP	**Aguadilla**	**2.88**	**247**	*e*Pn	**Pn**	06 14 58.1	-1.0
LSP	**Las Mesas**	**2.94**	**243**⇑	*e*P	**Pn**	06 14 59.5	-0.3
LSP	**Las Mesas**	**2.94**	**243**	*e*Pn	**Pn**	06 14 59.5	-0.3
MPR	**Mayaguez**	**2.97**	**244**	*e*Pn	**Pn**	06 14 59.4	-0.9
CRPR	**Cabo Rojo, PR**	**3.04**	**240**⇑	*e*P	**Pn**	06 15 01.1	-0.2
CRPR	**Cabo Rojo, PR**	**3.04**	**240**	*e*Pn	**Pn**	06 15 01.0	-0.2
BANI	**BANI**	**5.81**	**260**	*e*Pn	**Pn**	06 15 42.0	+2.7
SDDR	**Presa de Saban**	**6.59**	**266**	*e*Pn	**Pn**	06 15 50.3	+0.3
SIV	**San Ignacio**	**35.46**	**175**	P	**P**	06 21 05.8	-1.1
	0.3nm,0.5s,baz=5.2,slow=11,SNR=5.9						
TXAR	**Lajitas Array**	**36.96**	**293**	P	P	06 21 23.3	+3.4
	0.4nm,0.9s,baz=112,slow=9.8,SNR=4.1						
YKA	**Yellowknife Ar**	**54.94**	**334**	P	P	06 23 43.4	+2.7
	0.1nm,0.4s,baz=104,slow=7.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**63.36**	**85**	P	P	06 24 43.9	+4.2
	0.6nm,0.7s,baz=281,slow=8.7,SNR=4.6						

TEH **12** *06:29:00.8,31°.92N×51°.10E,h4km,ML3.2*
ISCJB **12** *06:29:01.6±0.4,31°.88N±0°.04×51°.00E±0°.03,h10km, mb3.8/10,MS2.9/1,Error ellipse: s-maj=5.3km s-min=4.0km az=3.9*
THR **12** *06:29:02.5,31°.77N×51°.05E,h46km,ML3.3*
IDC **12** *06:29:02.4±2.1,32°.20N×50°.65E,h0km,mb3.4/5, mb1 3.6/6,mb1mx3.3/43,mbtmp3.4/6,ML2.9/1,MS3.1/1, Ms1 3.1/1,ms1mx2.3/30,Error ellipse: s-maj=52.5km s-min=27.9km az=164.0*

ISC 12 06:29:01.7±0.6,31°.92N±0°.04×51°.08E±0°.03,h10km,n49, σ1°67/48,mb3.8/10,3C-5D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZNGN	**Zangian**	**0.28**	**316**	*e*Pg	**Pg**	**06 29 06.3**	**-1.1**
ROKH	**ROKH**	**0.43**	**355**	*e*Sg	**Sb**	**06 29 16.8**	**-1.2**
ROKH				*e*Pg	**Pg**	**06 29 09.8**	**-0.3**
ROKH				IAMB	IAmb	06 29 18.2	
	comp=Z,0.0nm,0.4s						
IPIR	**Pirpir**	**0.78**	**348**	*e*Pg	**Pb**	**06 29 16.3**	**-1.2**
IPIR				IAMB	IAmb	06 29 34.3	
	comp=Z,12μm,0.5s						
IGAR	**Gharneh**	**0.95**	**59**	*e*Pg	**Pn**	**06 29 20.2**	**-1.1**
IGAR				*e*Sg	**Sn**	**06 29 34.3**	**-0.7**
IGAR				IAMB	IAmb	06 29 35.6	
	comp=Z,8μm,0.2s						
KLNJ	**Kolanjah**	**1.01**	**154**	*e*Pg	**Pb**	**06 29 20.6**	**-0.8**
KLNJ				IAMB	IAmb	06 29 50.1	
	comp=Z,0.0nm,0.4s						
IRAM	**Ramesheh**	**1.11**	**95**	*e*Pg	**Pn**	**06 29 22.6**	**-0.9**
IRAM				IAMB	IAmb	06 29 46.9	
	comp=Z,4μm,0.6s						
IZEF	**Zefreh**	**1.44**	**47**	*e*Pn	**Pg**	**06 29 28.4**	**-0.8**
IZEF				IAMB	IAmb	06 29 54.8	
	comp=Z,2μm,0.6s						
IKLH	**Kolahrood**	**1.46**	**17**	*e*Pn	**Pb**	**06 29 28.2**	**-0.8**
IKLH				IAMB	IAmb	06 30 03.0	
	comp=Z,4μm,0.4s						
SHGR	**Shooshtar-Gavs**	**1.95**	**276**	*e*AML	AML	06 30 20.5	
	comp=N,262nm,0.5s						
SHGR				*e*AML	AML	06 30 21.3	
	comp=E,218nm,0.6s						
SHGR	**Shooshtar-Gavs**	**1.95**	**276**	*e*Pg	**Pg**	**06 29 37.7**	**-1.3**
SHGR				*e*Sg	**Sg**	**06 30 03.2**	**-1.0**
KHMZ	**Khomeyn**	**2.04**	**333**	*e*Pn	**Pn**	**06 29 36.8**	**+0.4**
KHMZ	**Khomeyn**	**2.04**	**333**	*e*AML	AML	06 30 12.9	
	comp=E,157nm,0.6s						
KHMZ				*e*AML	AML	06 30 13.6	
	comp=N,161nm,0.6s						
KHMZ	**Khomeyn**	**2.04**	**333**	*e*Pn	**Pn**	**06 29 36.8**	**+0.4**
KHMZ				*e*Sg	**Sg**	**06 30 10.2**	**+2.8**
ISAD	**Sadrabad**	**2.21**	**89**	*e*Pn	**Pg**	**06 29 42.3**	**-1.9**
ISAD				IAMB	IAmb	06 30 30.7	
	comp=Z,1μm,0.6s						
IKAZ	**Kazeroun**	**2.23**	**163**	*e*Pn	**Pb**	**06 29 42.0**	**-0.3**
IKAZ				IAMB	IAmb	06 30 24.3	
	comp=Z,4μm,0.6s						
ANAR	**Anarak**	**2.57**	**60**	*e*Pn	**Pb**	**06 29 47.3**	**-0.6**
ASAO	**Ashtian**	**2.77**	**342**	*e*Pn	**Pn**	**06 29 47.1**	**+0.8**
ASAO	**Ashtian**	**2.77**	**342**	*e*Pn	**Pn**	**06 29 47.1**	**+0.8**
IKMR	**Kamar-syah**	**2.78**	**306**	*e*Pn	**Pb**	**06 29 48.4**	**-3.0**
IKMR				IAMB	IAmb	06 30 31.8	
	comp=Z,0.0nm,0.5s						
ICHK	**Chekchek**	**2.84**	**83**	*e*Pn	**Pb**	**06 29 50.7**	**-1.9**
ICHK				IAMB	IAmb	06 30 44.8	
	comp=E,930nm,0.6s						
HSAM	**Samen**	**3.09**	**318**	*e*Pn	**Pb**	**06 29 54.2**	**-2.7**
HSAM				IAMB	IAmb	06 31 13.2	
	comp=Z,0.0nm,1.5s						
IKFM	**Kafar-mosalman**	**3.16**	**301**	IAMB	IAmb		
	comp=Z,0.0nm,0.0s						
IKFM				*e*Pn	**Pn**	**06 29 53.2**	**+1.7**
IRAZ	**Razeghan**	**3.60**	**345**	*e*Pn	**Pb**	**06 30 01.4**	**-4.2**
IRAZ				IAMB	IAmb	06 30 34.9	
	comp=Z,704nm,0.6s						
IKOM	**Komasi**	**3.75**	**308**	*e*Pn	**Pn**	**06 30 01.9**	**+2.2**
IKOM				IAMB	IAmb	06 31 26.3	
	comp=Z,0.0nm,0.8s						
HKZM	**Kohzaman**	**3.90**	**333**	*e*Pn	**Pn**	**06 30 04.2**	**+2.3**
HKZM				IAMB	IAmb	06 31 18.2	
	comp=Z,0.0nm,1.3s						
IFIR	**Firoozkooh**	**3.96**	**20**	IAMB	IAmb	06 30 30.2	
	comp=Z,208nm,0.3s						
IFIR				*e*Pn	**Pn**	**06 30 05.4**	**+2.6**
ISHM	**Shahmirzad**	**4.29**	**25**	*e*Pn	Pn	06 30 11.3	+4.0
ISHM				IAMB	IAmb	06 30 39.4	
	comp=Z,428nm,0.4s						
GEYT	**Alibeck**	**8.32**	**42**	Pn	Pn	06 31 10.5	+8.1
	baz=218,slow=9.1,SNR=2.4						
BRTR	**Keskin Array B**	**16.13**	**304**	Pn	**Pn**	**06 32 49.1**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=76,slow=6.1,SNR=2.1						
ATD	**Arta Tunnel**	**21.67**	**202**	LR	LR	06 44 00.0	
	comp=Z,47nm,18.7s,baz=28,slow=41						
MLR	**Muntele Rosu**	**23.72**	**312**	P	**P**	**06 34 14.1**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=130,slow=7.9,SNR=3.9						
MLR	**Muntele Rosu**	**23.72**	**312**⇑	*i* P	**P**	**06 34 14.1**	**+0.2**
VOIR		**24.27**	**311**⇓	*i* P	**P**	**06 34 20.5**	**+1.5**
DOPR	**Dopca**	**24.28**	**313**⇓	*i* P	**P**	**06 34 19.2**	**+0.1**
BIZ	**Bicaz**	**24.30**	**315**⇓	*i* P	**P**	**06 34 20.8**	**+1.6**
AKASG	**Malin Array Be**	**24.77**	**326**	P	**P**	**06 34 24.4**	**+0.9**
	comp=Z,0.7nm,0.4s,baz=122,slow=7.4,SNR=4.9						
KIEV	**Kiev**	**24.78**	**326**⇓	*i* P	**P**	**06 34 24.5**	**+1.0**
BURAR	**Bucovina Array**	**25.15**	**316**⇓	*i* P	**P**	**06 34 28.7**	**+1.7**
GZR	**Gura Zlata**	**25.72**	**310**⇑	*i* P	**P**	**06 34 34.9**	**+2.7**
DRGR		**26.31**	**313**⇑	*i* P	**P**	**06 34 38.7**	**+1.2**
MKAR	**Makanchi Array**	**28.11**	**49**	P	**P**	**06 34 56.8**	**+3.1**
	comp=Z,0.4nm,0.7s,baz=243,slow=9.5,SNR=2.7						
GERES	**GERESS Array B**	**32.71**	**312**	P	**P**	**06 35 33.7**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=114,slow=9.8,SNR=2.5						
SQTA	**Sankt Quirin**	**33.91**	**308**	*i* P	**P**	**06 35 44.9**	**0.0**
	comp=Z,1.6nm,0.4s						
FETA	**Feichten**	**34.19**	**308**	*i* P	**P**	**06 35 47.7**	**+0.3**
	comp=Z,2.2nm,0.6s						
DAVA	**Damuels**	**34.81**	**308**	*i* P	**P**	**06 35 52.7**	**-0.1**
	comp=Z,3.8nm,0.4s						
NB2	**NORSAR Subarra**	**38.98**	**330**	P	**P**	**06 36 28.1**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=125,slow=8.6						
NOA	**NORSAR Array B**	**38.98**	**330**	P	**P**	**06 36 24.6**	**-3.3**
	comp=Z,0.4nm,0.6s,baz=125,slow=8.5,SNR=3.2						
TORD	**Torodi Ar. Bea**	**48.84**	**259**	P	**P**	**06 37 47.0**	**-0.6**
	comp=Z,1.2nm,0.9s,baz=61,slow=7.8,SNR=8.5						
YKA	**Yellowknife Ar**	**85.21**	**353**	P	**P**	**06 41 39.7**	**+1.7**
	comp=Z,0.1nm,0.7s,baz=20,slow=6.1,SNR=3.4						

KRSC 12 06:31:51.0±1.1,53°.86N×166°.48E,h16km±20km,ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**2.87**	**286**	*e*P	Pn	06 32 37.7	+1.6
MKZ				*e*S	Sn	06 33 12.9	+2.6
SPN	**Mys Shipunski**	**3.93**	**261**	*e*P	Pn	06 32 54.6	+4.0
SPN				*e*S	Sn	06 33 41.3	+4.9
NLC	**Nalytchevo**	**4.31**	**264**	*e*S	Sn	06 33 51.6	+5.8
SDLR	**Sedlovina**	**4.56**	**266**	*e*P	Pn	06 33 03.6	+4.1
UGLR	**Uglovaya**	**4.61**	**265**	*e*P	Pn	06 33 04.5	+4.4
SMAR	**Somma**	**4.62**	**266**	*e*P	Pn	06 33 04.9	+4.6
AVH	**Avacha**	**4.65**	**266**	*e*P	Pn	06 33 05.1	+4.5
KOK	**Koryaka**	**4.71**	**266**	*e*P	Pn	06 33 05.4	+4.0
RUS	**Russkaya**	**5.00**	**257**	*e*P	Pn	06 33 10.0	+4.7
GNL	**Ganaly**	**5.07**	**272**	*e*P	Pn	06 33 11.3	+5.0
KRMR	**Karymshinskiy**	**5.11**	**262**	*e*P	Pn	06 33 10.9	+4.1
KRMR				*e*S	Sn	06 34 10.1	+4.8

SJA 12 06:34:16.0±0.5,28°.65S×68°.66W,h117km±6km,ML3.4, MW3.5,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGUA	**GUANDACOL**	**0.85**	**170**	*e*P	Pn	06 34 37.1	+0.7
AGUA				*e*S	Sn	06 34 53.0	+1.0
ACDV	**Cuesta del Vie**	**1.57**	**195**	*e*P	Pn	06 34 45.5	+1.2
AROD	**Rodeo**	**1.67**	**205**	*e*P	Pn	06 34 47.3	+1.7
AROD				*e*S	Sn	06 35 09.8	+1.6
ACCO	**Cerro Coronel**	**1.96**	**190**	*e*P	Pn	06 34 50.7	+1.5
ACCO				IAML		06 34 51.8	
	comp=Z,9μm,0.2s						
AMOG	**MOGNA**	**2.29**	**176**	*e*P	Pn	06 34 54.3	+1.3
CYA	**Choya**	**2.52**	**86**	*e*P	Pn	06 34 57.0	+1.0
CYA				IAML		06 34 57.7	
	comp=Z,3.1nm,0.2s						

IDC **12** *06:36:37.9±4.3,20°.77N×121°.21E,h0km,mb3.8/3, mb1 4.1/3,mb1mx3.4/38,mbtmp3.8/3,MS2.9/1,Ms1 3.1/1, ms1mx2.3/42,Error ellipse: s-maj=280.4km s-min=31.4km az=88.0*
TAP **12** *06:36:39.6,21°.15N×119°.90E,h12km±1km,ML3.6,D*
NEIC **12** *06:36:42.1±0.6,20°.82N×120°.76E,h35km,mb4.2/3,Error ellipse: s-maj=22.1km s-min=8.2km az=86.0*

ISC 12 06:36:40.1±2.1,20°.96N±0°.07×120°.15E±0°.10,h25km±15km, n30,σ1°60/45,mb4.0/6,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWK1	**Hengchun**	**1.15**	**32**	P	**Pn**	**06 36 59.9**	**-0.8**
	baz=47						
TWK1				*e*S	**Sn**	**06 37 15.8**	**+0.1**
	baz=47						
TWKBT	**Hengchun**	**1.15**	**32**	*e*P	**Pb**	**06 37 01.6**	**+0.2**
	baz=47						
TWKBT				*e*S	**Sn**	**06 37 15.7**	**0.0**
	baz=47						
TSEB	**Hengchuen, Pin**	**1.17**	**36**	P	**Pb**	**06 37 00.8**	**-0.8**
	baz=49						
TSEB				*e*S	**Sn**	**06 37 16.2**	**+0.2**
	baz=49						
SCZT	**Fangliau**	**1.47**	**17**	P	**Pn**	**06 37 04.4**	**-0.7**
	baz=29						
SCZT				S	**Sn**	**06 37 22.8**	**-0.7**
	baz=29						
EAST	**Anshuo**	**1.56**	**24**	P	**Pn**	**06 37 06.5**	**+0.2**
	baz=35						
EAST				*e*S	**Sn**	**06 37 25.8**	**+0.1**
	baz=35						
LAY	**Lan-yu**	**1.69**	**50**	*e*P	**Pb**	**06 37 10.4**	**-0.1**
	baz=60						
LAY				*e*S	**Sb**	**06 37 32.9**	**+1.5**
	baz=60						
MASBT	**Mashibuluo**	**1.70**	**15**	*e*P	**Pn**	**06 37 08.2**	**-0.1**
	baz=25						
SSD	**Sandimen**	**1.83**	**14**	P	**Pn**	**06 37 09.4**	**-0.6**
	baz=23						
SSD				*e*S	**Sn**	**06 37 31.4**	**-1.1**
	baz=23						
TWG	**Pinlang**	**2.04**	**25**	*e*Pn	**Pn**	**06 37 13.4**	**+0.5**
TWG				*e*Sn	**Sn**	**06 37 38.0**	**+0.4**
TWG	**Pinlang**	**2.04**	**25**	*e*P	**Pn**	**06 37 13.0**	**+0.1**
	baz=33						
TWG				*e*S	**Sn**	**06 37 37.8**	**+0.2**
	baz=33						
SLGT	**Liugui**	**2.08**	**13**	*e*P	**Pn**	**06 37 12.9**	**-0.5**
	baz=20						
SLGT				*e*S	**Sn**	**06 37 37.5**	**-0.9**
	baz=20						
SGST	**Jiashian**	**2.15**	**11**	*e*P	**Pn**	**06 37 14.0**	**-0.4**
	baz=18						
SGST				*e*S	**Sn**	**06 37 39.8**	**-0.6**
	baz=18						
TWK	**Hsinying**	**2.32**	**8**	*e*P	**Pn**	**06 37 16.1**	**-0.7**
	baz=14						
TWK				*e*S	**Sn**	**06 37 43.5**	**-1.0**
	baz=14						
TPUB	**Ta-pu**	**2.37**	**11**	*e*Pn	**Pn**	**06 37 17.0**	**-0.5**
FULB	**Fuli**	**2.47**	**25**	*e*P	**Pn**	**06 37 19.0**	**+0.2**
	baz=32						
FULB				*e*S	**Sn**	**06 37 49.4**	**+1.2**
	baz=32						
YULB	**Yu-li**	**2.64**	**23**	*e*Pn	**Pn**	**06 37 22.1**	**+0.9**
YULB				*e*Sn	**Sn**	**06 37 50.5**	**-2.0**
CHN5	**Tsauling**	**2.67**	**10**	*e*P	**Pn**	**06 37 21.2**	**-0.4**
	baz=16						
CHN5				*e*S	**Sn**	**06 37 51.6**	**-1.7**
	baz=16						
SSLB	**Suanglung**	**2.91**	**15**	*e*Pn	**Pb**	**06 37 28.2**	**-3.2**
TYC	**Yuchr**	**3.00**	**12**	*e*P	**Pn**	**06 37 25.9**	**-0.2**
	baz=18						
TYC				*e*S	**Sn**	**06 38 00.8**	**-0.5**
	baz=18						
NACB	**Ninganchiao**	**3.47**	**22**	*e*Pn	**Pn**	**06 37 33.9**	**+1.3**
YHNB	**Yeheng**	**3.86**	**17**	*e*Pn	**Pn**	**06 37 39.4**	**+1.4**
KMI	**Kunming**	**16.55**	**288**	*e*P	**P**	**06 40 39.8**	**+6.5**
	14nm,0.4s						
CMAR	**Chiang Mai Arr**	**20.12**	**267**	LR	LR	06 50 21.2	
	comp=Z,28nm,18.3s,baz=115,slow=39						
SAUI	**Saumlaki**	**30.78**	**158**	*e*P	**P**	**06 42 53.8**	**-0.1**
	138nm,0.8s						
WRA	**Warramunga Arr**	**42.95**	**160**	P	P	**06 44 34.6**	**-2.7**
	1.6nm,0.6s,baz=342,slow=9.1,SNR=18						
WR1	**Warramunga Arr**	**42.96**	**160**	*e*P	**P**	**06 44 34.6**	**-2.7**
	3.7nm,0.7s						
WB2	**Warramunga Arr**	**42.96**	**160**	*e*P	**P**	**06 44 34.6**	**-2.7**
	2.8nm,0.9s						
ASAR	**Alice Springs**	**46.34**	**162**	P	**P**	**06 45 02.2**	**-2.1**
	0.3nm,0.4s,baz=346,slow=7.1,SNR=6.6						
AS01	**Alice Springs**	**46.35**	**162**	*e*P	**P**	**06 45 02.5**	**-1.9**
YKA	**Yellowknife Ar**	**86.30**	**22**	P	**P**	**06 49 20.3**	**+0.7**
	0.4nm,0.7s,baz=311,slow=4.3,SNR=11						

ISK **12** *06:50:04.8,40°.42N×25°.93E,h6km,ML2.0/8*
ISCJB **12** *06:50:05.3±0.4,40°.41N±0°.02×25°.94E±0°.03,h10km±5km, Error ellipse: s-maj=4.6km s-min=3.7km az=32.6*
DDA **12** *06:50:05.2,40°.39N×25°.94E,h6km±2km,ML2.8*
ATH **12** *06:50:06.0,40°.43N×25°.89E,h17km±6km,ML1.6/3,Error ellipse: s-maj=6.1km s-min=1.2km az=307.0*

ISC 12 06:50:05.6±1.0,40°.41N±0°.02×25°.93E±0°.02,h14km±9km, n27,σ0°61/33,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GOKC	**Gokceada-Canak**	**0.21**	**182**	PG	**Pg**	**06 50 10.3**	**0.0**
GOKC				SG	**Sg**	**06 50 13.3**	**-0.2**
SMTH	**Samothraki Isl**	**0.31**	**281**	P	**Pg**	**06 50 11.9**	**-0.1**
SMTH				S	**Sg**	**06 50 16.7**	**+0.3**
SMTH				AML	AML	06 50 17.5	
	comp=N,459μm,0.1s						
SMTH				AML	AML	06 50 22.5	
	comp=E,455μm,0.1s						
ENEZ	**Enez**	**0.37**	**28**	PG	**Pg**	**06 50 12.4**	**-0.7**
GELI	**Tayfur-Gelibol**	**0.42**	**92**	PG	**Pg**	**06 50 13.7**	**-0.3**
ALN	**Alexandroupoli**	**0.49**	**11**	PG	**Pg**	**06 50 14.6**	**-0.8**
ALN	**Alexandroupoli**	**0.49**	**11**	P	**Pg**	**06 50 15.3**	**-0.1**
ALN				S	**Sg**	**06 50 22.6**	**+0.6**
ALN				AML	AML	06 50 24.2	
	comp=E,112μm,0.2s						
ALN				AML	AML	06 50 25.8	
	comp=N,58μm,0.2s						
ERIK	**Erikli-Kesan**	**0.52**	**60**	PG	**Pg**	**06 50 15.0**	**-0.8**
ERIK				SG	**Sg**	**06 50 22.9**	**+0.2**
BOZC	**Bozcaada**	**0.58**	**170**	PG	**Pg**	**06 50 16.3**	**-0.6**
BOZC	**Bozcaada**	**0.58**	**170**	*i* P	**Pg**	**06 50 16.8**	**-0.1**
BOZC				*i* S	**Sg**	**06 50 24.4**	**-0.2**
LPK	**Lapseki**	**0.64**	**93**	PG	**Pg**	**06 50 17.7**	**-0.4**
EZN	**Ezine**	**0.66**	**152**	PG	**Pg**	**06 50 17.9**	**-0.6**
KESN	**Edirne-Kesan**	**0.71**	**54**	IAML_P			
	comp=Z,244nm,0.1s						
KESN				*i* P	**Pg**	**06 50 19.7**	**+0.2**
KESN				*i* S	**Sg**	**06 50 30.4**	**+1.5**
LIA	**Limnos Island**	**0.77**	**228**	P	**Pg**	**06 50 20.9**	**+0.4**
LIA				S	**Sg**	**06 50 31.0**	**+0.4**
RDO	**Rodhopi**	**0.79**	**338**	PG	**Pg**	**06 50 20.3**	**-0.7**
RDO	**Rodhopi**	**0.79**	**338**	P	**Pg**	**06 50 21.0**	**0.0**
RDO				AML	AML	06 50 36.9	
	comp=N,124μm,0.2s						
RDO				AML	AML	06 50 36.9	
	comp=E,118μm,0.2s						
BAYC	**CANAKKALE_Bayr**	**0.82**	**144**	IAML_P			
	comp=Z,651nm,0.1s						
BAYC				*i* P	**Pg**	**06 50 21.7**	**+0.2**
THAS	**Thassos island**	**0.94**	**282**	P	**Pg**	**06 50 23.4**	**-0.4**
THAS				S	**Sg**	**06 50 35.7**	**-0.4**
KRBG	**Karabiga-Canak**	**1.05**	**91**	PG	**Pg**	**06 50 25.5**	**-0.3**
SIGR	**SIGRI**	**1.20**	**183**	PN	**Pg**	**06 50 27.7**	**-1.0**
KAVA	**Kavala**	**1.22**	**299**	P	**Pg**	**06 50 28.4**	**-0.7**
MRMT	**Marmara Adasi**	**1.29**	**81**	PN	**Pg**	**06 50 29.4**	**-1.0**
SBT4	**Kumbag-Tekirda**	**1.29**	**71**	PN	**Pg**	**06 50 29.7**	**-0.8**
KDZ	**Kurdzhali**	**1.30**	**343**	PN	**Pg**	**06 50 29.8**	**-0.8**
EDRB	**Edirne**	**1.56**	**23**	PN	**Pn**	**06 50 33.3**	**+0.4**
DURS	**Dursunbey**	**2.12**	**112**	*i* P	Pg	06 50 54.5	+8.2
DURS				*i* S	Sn	06 50 57.7	-9.1
VAY	**Valandovo**	**2.70**	**291**	*i* Pg	**Sb**	**06 51 26.8**	**+0.1**
STIP	**Stip**	**3.10**	**296**	*i* Pg	Pg	06 51 19.8	+15
STIP				*i* Sg	Sn	06 51 23.7	-7.3

IDC 12 06:58:37.3±2.6,4°.56S×154°.40E,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.4/33,mbtmp3.4/3,Error ellipse: s-maj=192.9km s-min=31.0km az=128.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.80**	**230**	P	P	07 04 02.1	+0.8
	0.4nm,0.5s,baz=55,slow=9.4,SNR=7.4						
ASAR	**Alice Springs**	**27.41**	**224**	P	P	07 04 24.1	-0.8
	0.2nm,0.3s,baz=54,slow=9.0,SNR=5.9						
ILAR	**Eielson Array**	**81.35**	**22**	P	P	07 10 55.5	0.0
	0.2nm,0.4s,baz=226,slow=3.6,SNR=4.4						

IDC **12** *07:03:03.7±5.1,14°.68S×167°.47E,h65km±43km,mb3.9/9, mb1 4.1/10,mb1mx3.8/36,mbtmp4.2/10,ML3.6/1,Error ellipse: s-maj=26.5km s-min=24.2km az=44.0*
ISCJB **12** *07:03:10.0±0.4,14°.83S±0°.05×167°.40E±0°.07,h129km, mb4.3/33,Error ellipse: s-maj=9.7km s-min=6.2km az=150.1*
NEIC **12** *07:03:16.8±1.5,14°.85S×167°.32E,h177km±13km, mb4.4/26,Error ellipse: s-maj=9.1km s-min=6.1km az=61.0*

ISC 12 07:03:11.1±0.6,14°.79S±0°.07×167°.48E±0°.10,h129km,n58, σ0°92/60,mb4.3/32,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res

	2.7nm,0.8s								
ILAR	**Eielson Array**	**86.52**	**18**	P		**P**	**07 15 38.8**	**-0.4**	
	0.7nm,0.6s,baz=247,slow=4.8,SNR=9.2								
ILB	**Eielson Array**	**86.52**	**18**	*e*P		**P**	**07 15 38.8**	**-0.4**	
VNA3	**Neumayer Olymp**	**94.16**	**181**	P		**P**	**07 16 13.8**	**-1.1**	
VNA2	**Neumayer--Watz**	**94.43**	**182**	P		**P**	**07 16 15.2**	**-0.9**	
	baz=186,slow=4.9								
MK32	**Makanchi Array**	**97.38**	**316**	*e*P		Pdif	07 16 30.3	+0.2	
MKAR	**Makanchi Array**	**97.38**	**316**	P		Pdif	07 16 30.3	+0.2	
	1.0nm,0.7s,baz=78,slow=6.6,SNR=6.5								
YKA	**Yellowknife Ar**	**97.51**	**27**	P		**P**	**07 16 29.4**	**-0.6**	
	0.2nm,0.7s,baz=262,slow=4.9,SNR=3.7								
ARA0	**ARCESS Array S**	**120.36**	**345**	*e*PKPdf		**PKPdf**	**07 21 46.3**	**-0.2**	
ARCES	**ARCESS Array B**	**120.36**	**345**	PKP		**PKPdf**	**07 21 46.3**	**-0.2**	
	2.1nm,0.5s,baz=70,slow=1.9,SNR=24								
ARCES	**ARCESS Array B**	**120.36**	**345**	*e*PKPdf		**PKPdf**	**07 21 46.6**	**0.0**	
ARE0	**ARCESS Array S**	**120.36**	**345**	*e*PKPdf		**PKPdf**	**07 21 46.4**	**-0.2**	
FIA0	**FINESS Array S**	**125.85**	**338**	*e*PKPdf		**PKPdf**	**07 21 56.7**	**-0.6**	
FINES	**FINESS Array B**	**125.85**	**338**	PKP		**PKPdf**	**07 21 56.7**	**-0.6**	
	1.4nm,0.8s,baz=145,slow=4.7,SNR=5.5								
FUORN	**Ofenpass-Fuorn**	**142.98**	**334**	*e*PKPdf		**PKPdf**	**07 22 28.6**	**-1.5**	
SENIN	**Lac Senin/Sane**	**144.41**	**336**	*e*PKPdf		**PKPdf**	**07 22 32.1**	**-0.3**	
TIP	**Timpagrande**	**144.62**	**319**	*e*PKPdf		**PKPdf**	**07 22 33.0**	**+0.1**	
VLC	**Villacollemand**	**144.82**	**331**	*e*PKPbc		**PKPdf**	**07 22 32.8**	**-0.2**	
BNI	**Bardonecchia**	**145.73**	**336**	*e*PKPdf		**PKPab**	**07 22 36.7**	**+0.9**	
TOA0	**Torodi Ar. Sit**	**166.10**	**265**	*e*PKPdf		**PKPdf**	**07 23 02.2**	**+0.4**	

IDC ***12*** *07:06:09.0±0.6, 1.°95S×68.°02E, h0km, mb4.2/17, mb1 4.3/18, mb1mx4.1/43, mbtmp4.2/18, ML4.1/1, MS3.9/24, Ms1 3.9/24, ms1mx3.9/27, Error ellipse: s-maj=17.5km s-min=14.6km az=154.0*

ISCJB ***12*** *07:06:09.6±0.4, 1.°93S±0.°06×67.°97E±0.°06, h15km, mb4.4/36, MS4.0/23, Error ellipse: s-maj=8.9km s-min=7.7km az=148.6*

BJI ***12*** *07:06:09.0, 1.°90S×68.°00E, h10km, mb4.6/8, Ms4.4/1, Ms7 4.2/1*

NEIC ***12*** *07:06:10.5±0.3, 1.°92S×67.°97E, h10km, mb4.6/22, Error ellipse: s-maj=8.0km s-min=7.2km az=152.0*

GCMT ***12*** *07:06:11.5±0.3, 2.°03S±0.°02×67.°97E±0.°01, h13km±1km, MW4.8/74, Moment Tensor Solution. s19,c21; s74,c105; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.78±.11; Mθθ=1.24±.07; Mϕϕ=2.02±.10; Mrθ=0.61±.23; Mϕθ=-1.26±.08; Mϕr=0.11±.18; Best double couple: M₀2.21600×10¹⁶ NP1:ϕs=300.00000°, δ70.00000°, λ=-159.00000°. NP2: ϕs=203.00000°, δ70.00000°, λ=-19.00000°. Principal axes: T 2.4530, Plg2.0000°, Azm71.0000°; N -0.4710, Plg63.0000°, Azm338.0000°; P -1.9790, Plg27.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 07:06:11.4±0.5, 1.°95S±0.°08×67.°96E±0.°08, h15km, n93, σ1s17/73, mb4.5/44, MS4.0/23, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**5.29**	**145**	T	T	07 12 55.3	
	baz=326,slow=75,SNR=3023						
H08N3	**Diego Garcia H**	**5.31**	**145**	T	T	07 12 54.4	
	baz=326,slow=75,SNR=3130						
H08N1	**Diego Garcia H**	**5.32**	**145**	T	T	07 13 00.4	
	baz=326,slow=75,SNR=3147						
DGAR	**Diego Garcia**	**7.03**	**141**	*e*Pn	**Pn**	**07 07 55.3**	**+1.4**
H08S3	**Diego Garcia H**	**7.22**	**142**	T	T	07 15 32.5	
	baz=300,slow=79,SNR=23						
H08S1	**Diego Garcia H**	**7.22**	**142**	T	T	07 15 39.2	
	baz=300,slow=79,SNR=16						
H08S2	**Diego Garcia H**	**7.24**	**142**	T	T	07 15 28.8	
	baz=300,slow=79,SNR=21						
PALK	**Pallekele**	**15.67**	**54**	Pn	**Pn**	**07 09 50.4**	**-1.6**
	0.8nm,0.3s,baz=296,slow=6.8,SNR=3.5						
PALK				LR	LR	07 14 33.0	
	comp=Z,873nm,21.4s,baz=296,slow=32						
PALK	**Pallekele**	**15.67**	**54**	*e*Pn	**Pn**	**07 09 50.3**	**-1.7**
	22nm,1.0s						
HYB	**Hyderabad**	**21.90**	**28**	*i* P	**P**	**07 11 05.0**	**+0.8**
WSAR	**Wadi Sarin**	**26.64**	**341**	LR	LR	07 20 30.7	
	comp=Z,492nm,18.4s,baz=170,slow=32						
LHMI	**Lhok Sumawe**	**29.82**	**76**	*e*P	**P**	**07 12 17.8**	**-0.4**
	62nm,1.0s						
KMBO	**Kilima Mbogo**	**30.71**	**271**	P	**P**	**07 12 27.3**	**+0.9**
	2.3nm,0.7s,baz=58,slow=12,SNR=7.9						
KMBO	**Kilima Mbogo**	**30.71**	**271**	*e*P	**P**	**07 12 27.3**	**+0.9**
	5.0nm,0.9s						
KOLN	**Koldanda**	**33.16**	**26**	*e*P	**P**	**07 12 48.1**	**+0.3**
	22nm,1.1s						
PYUN	**Piuthan**	**33.19**	**25**	*e*P	**P**	**07 12 48.9**	**+0.9**
	22nm,1.1s						
DMN	**Daman**	**33.71**	**28**	*e*P	**P**	**07 12 53.0**	**+0.4**
	43nm,1.1s						
DANN	**Dangsing**	**33.74**	**26**	*e*P	**P**	**07 12 52.9**	**+0.1**
	26nm,1.0s						
RAMN	**Ramite**	**33.90**	**31**	*e*P	**P**	**07 12 54.9**	**+0.7**
	8.7nm,0.7s						
KKN	**Kakani**	**33.94**	**28**	*e*P	**P**	**07 12 54.7**	**+0.1**
	23nm,0.8s						
JIRN	**Jiri**	**34.27**	**30**	*e*P	**P**	**07 12 57.3**	**-0.3**
	17nm,0.8s						
GUN	**Gumba**	**34.33**	**29**	*e*P	**P**	**07 12 58.4**	**+0.3**
	54nm,1.1s						
NIL	**Nilore**	**35.76**	**8**	*e*P	**P**	**07 13 10.7**	**+0.7**
	16nm,1.0s						
SHL	**Shillong**	**35.84**	**39**	*e*P	**P**	**07 13 11.2**	**+0.2**
	15nm,1.0s						
CMAR	**Chiang Mai Arr**	**36.62**	**55**	P	**P**	**07 13 18.1**	**+0.7**
	1.3nm,0.3s,baz=244,slow=11,SNR=7.5						
CMAR				LR	LR	07 26 46.4	
	comp=Z,198nm,20.6s,baz=236,slow=34						
CHTO	**Chiang Mai**	**36.80**	**54**	*e*P	**P**	**07 13 18.9**	**-0.2**
	6.6nm,1.1s						
CHTO	**Chiang Mai**	**36.80**	**54**	P	**P**	**07 13 22.7**	**+3.7**
	22nm,0.6s						
CMMT	**Chiang Mai**	**36.80**	**54**	P	**P**	**07 13 22.6**	**+3.5**
	5.0nm,0.5s						
MBAR	**Mbarara**	**37.24**	**272**	P	**P**	**07 13 24.6**	**+1.6**
	3.2nm,0.2s,baz=37,slow=20,SNR=4.9						
MBAR	**Mbarara**	**37.24**	**272**	*e*P	**P**	**07 13 24.6**	**+1.6**
	3.8nm,0.9s						
PBKT	**Sadao Pong**	**37.43**	**59**	*e*P	**P**	**07 13 25.2**	**+0.8**
	12nm,1.2s						
PBKT	**Sadao Pong**	**37.43**	**59**	P	**P**	**07 13 27.1**	**+2.7**
	4.1nm,0.8s						
CHAI	**Chaiyaphum**	**38.02**	**61**	P	**P**	**07 13 31.1**	**+1.7**
	4.6nm,1.0s						
LSA	**Lhasa**	**38.50**	**33**	*e*P	**P**	**07 13 34.9**	**+1.1**
	11nm,1.1s						
GEYT	**Alibeck**	**40.72**	**348**	P	**P**	**07 13 51.3**	**-0.4**
	1.8nm,1.0s,baz=151,slow=3.3,SNR=2.8						
GEYT				LR	LR	07 29 37.8	
	comp=Z,295nm,21.8s,baz=165,slow=35						
LSZ	**Lusaka**	**41.39**	**249**	P	**P**	**07 13 58.0**	**+0.4**
	4.7nm,0.5s,baz=58,slow=6.5,SNR=11						
LSZ	**Lusaka**	**41.39**	**249**	*e*P	**P**	**07 13 57.8**	**+0.1**
	7.4nm,0.8s						
BTK	**Batken**	**41.89**	**3**	*e*P	**P**	**07 14 01.8**	**+0.4**
	8.7nm,0.8s						
MATP	**Matopo**	**42.66**	**242**	P	**P**	**07 14 07.8**	**-0.2**
	2.6nm,0.9s,baz=34,slow=12,SNR=3.3						
AAK	**Ala-Archa**	**44.78**	**7**	P	**P**	**07 14 25.3**	**+0.6**
	2.2nm,0.7s,baz=232,slow=7.1,SNR=5.6						
BOSA	**Boshof**	**48.56**	**233**	LR	LR	07 32 06.7	
	comp=Z,193nm,20.8s,baz=66,slow=32						
MAKZ	**Makanchi**	**50.10**	**13**	*e*P	**P**	**07 15 04.7**	**-1.2**
	8.3nm,1.0s						
MK01	**Makanchi Array**	**50.14**	**13**	*e*P	**P**	**07 15 04.6**	**-1.6**
MK31	**Makanchi Array**	**50.16**	**13**	*e*P	**P**	**07 15 05.0**	**-1.4**
MK32	**Makanchi Array**	**50.16**	**13**	*e*P	**P**	**07 15 05.1**	**-1.2**
MKAR	**Makanchi Array**	**50.16**	**13**	P	**P**	**07 15 05.1**	**-1.3**
	1.8nm,0.8s,baz=189,slow=6.9,SNR=19						
MKAR	**Makanchi Array**	**50.16**	**13**	*e*P	**P**	**07 15 05.1**	**-1.3**
	26nm,0.9s						
KBZ	**Khabaz**	**50.73**	**337**	P	**P**	**07 15 11.6**	**+0.9**
	3.6nm,1.0s,baz=243,slow=4.5,SNR=3.2						
KBZ				LR	LR	07 36 58.1	
	comp=Z,131nm,19.2s,baz=143,slow=36						
ENH	**Enshi**	**50.93**	**48**	*e*P	**P**	**07 15 11.9**	**-0.6**
	22nm,1.1s						
ABKAR	**Akbulak array**	**51.48**	**353**	*e*P	**P**	**07 15 15.6**	**-0.5**
BR101	**Keskin Array S**	**52.05**	**327**	*e*P	**P**	**07 15 20.6**	**-0.2**
BRTR	**Keskin Array B**	**52.05**	**327**	P	**P**	**07 15 20.6**	**-0.2**
	0.9nm,0.9s,baz=62,slow=3.4,SNR=3.5						
BRTR				LR	LR	07 37 14.9	
	comp=Z,116nm,18.7s,baz=116,slow=36						
XAN	**Xi'an**	**52.57**	**43**	*e*P	**P**	**07 15 24.8**	**+0.1**
	12nm,0.8s						
KURK	**Kurchatov**	**53.26**	**8**	*e*P	**P**	**07 15 28.4**	**-1.0**
	8.5nm,0.9s						
ZAA0	**Zalesovo Array**	**57.45**	**12**	*e*P	**P**	**07 15 58.5**	**-1.1**
	12nm,0.9s						
ZALV	**Zalesovo Beam**	**57.45**	**12**	P	**P**	**07 15 58.2**	**-1.3**
	4.5nm,0.8s,baz=217,slow=7.1,SNR=16						
ZALV				LR	LR	07 40 53.5	
	comp=Z,72nm,19.6s,baz=240,slow=36						
ZAA1	**Zalesovo Array**	**57.45**	**12**	*e*P	**P**	**07 15 58.2**	**-1.3**
SONA0	**Songino Array**	**59.84**	**29**	*e*P	**P**	**07 16 16.4**	**-0.1**
SONM	**Songino Array**	**59.84**	**29**	P	**P**	**07 16 16.4**	**-0.1**
	3.2nm,0.8s,baz=222,slow=7.1,SNR=20						
SONM				LR	LR	07 42 18.7	
	comp=Z,238nm,18.5s,baz=150,slow=36						
SONA1	**Songino Array**	**59.85**	**29**	*e*P	**P**	**07 16 16.1**	**-0.5**
AKASG	**Malin Array Be**	**61.99**	**333**	P	**P**	**07 16 32.8**	**+1.9**
	0.9nm,0.6s,baz=120,slow=5.6,SNR=4.0						
AKASG				LR	LR	07 44 43.7	
	comp=Z,55nm,20.2s,baz=265,slow=37						
MAW	**Mawson**	**65.62**	**182**	LR	LR	07 39 01.3	
	comp=Z,65nm,19.8s,baz=23,slow=30						
MAW	**Mawson**	**65.62**	**182**	*e*P	**P**	**07 16 52.6**	**-1.9**
	1.1nm,1.0s						
VYHS	**Vyhne**	**65.81**	**327**	*e*P	P	07 17 01.1	+5.0
WR1	**Warramunga Arr**	**67.16**	**111**	*e*P	**P**	**07 17 04.7**	**-0.6**
	1.8nm,0.8s						
WRA	**Warramunga Arr**	**67.16**	**111**	P	**P**	**07 17 04.7**	**-0.6**
	1.4nm,0.7s,baz=287,slow=6.0,SNR=10						
WRA				LR	LR	07 41 54.5	
	comp=Z,87nm,21.8s,baz=120,slow=32						
ASAR	**Alice Springs**	**67.23**	**115**	P	**P**	**07 17 06.4**	**+0.6**
	1.1nm,0.7s,baz=285,slow=6.0,SNR=9.9						
ASAR				LR	LR	07 43 21.2	
	comp=Z,62nm,21.1s,baz=290,slow=33						
TOA0	**Torodi Ar. Sit**	**67.41**	**285**	*e*P	**P**	**07 17 05.9**	**-1.0**
TORD	**Torodi Ar. Bea**	**67.41**	**285**	LR	LR	07 46 47.9	
	comp=Z,182nm,18.2s,baz=50,slow=36						
KSRS	**Korea Array**	**67.81**	**48**	LR	LR	07 48 03.5	
	comp=Z,127nm,20.1s,baz=244,slow=37						
GERES	**GERESS Array B**	**68.89**	**325**	LR	LR	07 46 49.6	
	comp=Z,23nm,18.4s,baz=121,slow=35						
CLL	**Collm**	**70.50**	**327**	*e*P	**P**	**07 17 27.0**	**+1.5**
GRFO	**Grafenberg**	**70.72**	**325**	*e*P	**P**	**07 17 27.7**	**+0.8**
	7.3nm,1.0s						
FINES	**FINESS Array B**	**70.86**	**340**	LR	LR	07 50 57.0	
	comp=Z,73nm,19.3s,baz=137,slow=38						
BNI	**Bardonecchia**	**71.55**	**319**	*e*P	**P**	**07 17 31.9**	**-0.3**
	2.8nm,0.8s						
USRK	**Ussuriysk Ar.**	**73.07**	**43**	LR	LR	07 54 25.7	
	comp=Z,34nm,18.1s,baz=229,slow=40						
DBIC	**Dimbokro**	**73.18**	**278**	P	**P**	**07 17 42.1**	**-0.2**
	1.5nm,0.6s,baz=86,slow=5.4,SNR=3.6						
DBIC				LR	LR	07 49 39.4	
	comp=Z,103nm,18.2s,baz=79,slow=36						
STKA	**Stephens Creek**	**75.09**	**122**	LR	LR	07 49 56.9	
	comp=Z,86nm,18.1s,baz=222,slow=35						
MJAR	**Matsushiro Arr**	**75.41**	**52**	LR	LR	07 51 33.7	
	comp=Z,86nm,20.2s,baz=250,slow=36						
NB200	**NORSAR Array S**	**76.28**	**335**	*e*P	**P**	**07 17 58.0**	**-1.4**
NOA	**NORSAR Array B**	**76.28**	**335**	P	**P**	**07 17 58.0**	**-1.4**
	0.8nm,0.9s,baz=111,slow=6.0,SNR=2.6						
NOA				LR	LR	07 52 24.7	
	comp=Z,55nm,18.5s,baz=95,slow=36						
QSPA	**South Pole Qui**	**88.04**	**180**	P	**P**	**07 19 00.5**	**-0.6**
	1.5nm,0.9s,baz=233,slow=2.7,SNR=5.0						
QSPA	**South Pole Qui**	**88.04**	**180**	*e*P	**P**	**07 19 01.6**	**+0.5**
	2.2nm,1.1s						
VNDA	**Vanda**	**88.95**	**167**	LR	LR	07 53 45.5	
	comp=Z,76nm,19.1s,baz=241,slow=32						
PETK	**Petropavlovsk-**	**91.39**	**37**	LR	LR	08 01 41.2	
	comp=Z,51nm,20.4s,baz=252,slow=36						
YKA	**Yellowknife Ar**	**119.58**	**1**	PKP	**PKPdf**	**07 24 58.5**	**-1.9**
	0.3nm,0.9s,baz=354,slow=2.0,SNR=4.1						
YKB5	**Yellowknife Ar**	**119.58**	**1**	*e*PKPdf	**PKPdf**	**07 25 00.1**	**-0.4**
ULM	**Lac du Bonnet**	**129.96**	**347**	PKP	**PKPdf**	**07 25 20.2**	**-0.5**
	1.4nm,0.7s,baz=297,slow=4.5,SNR=3.1						
PDAR	**Pinedale Array**	**139.31**	**357**	PKhKP	PKPpre	07 25 35.8	
	0.2nm,0.5s,baz=289,slow=2.8,SNR=2.3						
PKCU	**Pink Cliffs**	**144.68**	**0**	*e*PKPdf	**PKPdf**	**07 25 48.8**	**+0.2**
LTX	**Lajitas**	**151.63**	**344**	*e*PKPbc	**PKPbc**	**07 26 05.9**	**-0.2**
TX31	**Lajitas Ar. Si**	**151.63**	**344**	*e*PKPbc	**PKPbc**	**07 26 06.8**	**+0.6**
TXAR	**Lajitas Array**	**151.63**	**344**	PKPbc	**PKPbc**	**07 26 05.9**	**-0.2**
	1.1nm,0.9s,baz=71,slow=1.7,SNR=11						

ATH ***12*** *07:12:12.7, 39.°68N×25.°57E, h26km±2km, ML2.0/1, Error ellipse: s-maj=3.0km s-min=1.1km az=255.0*

ISCJB ***12*** *07:12:13.9±0.6, 39.°66N±0.°03×25.°53E±0.°05, h21km±12km, Error ellipse: s-maj=7.1km s-min=5.0km az=152.0*

DDA ***12*** *07:12:14.1, 39.°77N×25.°63E, h7km±3km, ML3.0*

ISC 12 07:12:13.4±1.0, 39.°70N±0.°03×25.°58E±0.°04, h17km±10km, n10, σ0s58/17, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.36**	**303**	P	**Pg**	**07 12 20.7**	**-0.2**
LIA				S	**Sg**	**07 12 26.3**	**+0.3**
BOZC	**Bozcaada**	**0.39**	**69**	*i* P	**Pb**	**07 12 22.1**	**+0.2**
EFSA	**Agios Efstrati**	**0.49**	**251**	P	**Pg**	**07 12 23.3**	**+0.2**
EFSA				S	**Sg**	**07 12 29.9**	**+0.2**
SIGR	**SIGRI**	**0.53**	**157**	P	**Pg**	**07 12 23.5**	**-0.5**
SIGR				S	**Sg**	**07 12 30.8**	**-0.4**
SIGR				AML	AML	07 12 31.3	
	comp=E,372μm,0.3s						
SIGR				AML	AML	07 12 31.5	
	comp=N,488μm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.75**	**87**	IAML_P			
	comp=Z,2μm,0.1s						
BAYC				*i* P	**Pb**	**07 12 28.3**	**+0.3**
SMTH	**Samothraki Isl**	**0.77**	**357**	P	**Pb**	**07 12 28.5**	**+0.1**
SMTH				S	**Sn**	**07 12 39.5**	**-1.3**
AYVA	**Ayvalik**	**0.94**	**114**	IAML_P			
	comp=Z,262nm,0.1s						
AYVA				*i* P	**Pn**	**07 12 32.2**	**+0.3**
AYVA				*i* S	**Sn**	**07 12 46.0**	**+1.0**
THAS	**Thassos island**	**1.12**	**324**	P	**Pn**	**07 12 34.4**	**0.0**
THAS				S	**Sg**	**07 12 50.0**	**+0.3**
ALN	**Alexandroupoli**	**1.25**	**16**	P	**Pg**	**07 12 37.0**	**-0.5**
ALN				S	**Sg**	**07 12 54.3**	**+0.6**
CHOS	**Chios island**	**1.36**	**164**	P	**Pn**	**07 12 37.4**	**-0.4**

TAP 12 07:21:01.6, 21.°43N×121.°78E, h142km, ML3.8, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.65**	**341**	*e*P	Pn	07 21 22.7	-0.2
	baz=341						
LAY				*e*S	Sn	07 21 38.3	-0.9
	baz=341						
TWKBT	**Hengchun**	**1.04**	**300**	*e*P	Pn	07 21 26.6	+0.7
	baz=297						
TWKBT				*e*S	Sn	07 21 44.7	+0.2
	baz=297						
TWK1	**Hengchun**	**1.04**	**300**	*e*P	Pn	07 21 26.7	+0.7
	baz=297						
TWK1				*e*S	Sn	07 21 44.8	+0.2
	baz=297						
EAST	**Anshuo**	**1.29**	**318**	P	Pn	07 21 28.4	0.0
	baz=318						
EAST				S	Sn	07 21 47.7	-1.1
	baz=318						
ECL	**Taimali**	**1.40**	**327**	P	Pn	07 21 29.1	-0.4
	baz=323						
ECL				*e*S	Sn	07 21 49.4	-1.4
	baz=323						
SCZT	**Fangliau**	**1.43**	**311**	P	Pn	07 21 30.3	+0.5
	baz=317						
SCZT				*e*S	Sn	07 21 50.7	-0.7
	baz=317						
TWGBT	**Beinan**	**1.53**	**335**	*e*P	Pn	07 21 30.8	-0.1
	baz=330						
TWGBT				*e*S	Sn	07 21 52.1	-1.3
	baz=330						
TWG	**Pinlang**	**1.54**	**335**	P	Pn	07 21 30.8	-0.2
	baz=330						
TWG				S	Sn	07 21 52.2	-1.3
	baz=330						
MASBT	**Mashibuluo**	**1.59**	**318**	*e*P	Pn	07 21 32.2	+0.6
	baz=318						
MASBT				*e*S	Sn	07 21 53.2	-1.3
	baz=318						
WLCH	**Liuqiu**	**1.59**	**306**	*e*P	Pn	07 21 33.3	+1.7
	baz=305						
WLCH				*e*S	Sn	07 21 57.4	+2.8
	baz=305						
TWP	**Hsiaoliuchiu**	**1.60**	**305**	*e*S	Sn	07 21 56.9	+2.2
	baz=305						
SSD	**Sandimen**	**1.69**	**321**	*e*P	Pn	07 21 33.2	+0.5
	baz=321						
SSD				*e*S	Sn	07 21 55.8	-0.7
	baz=321						
FULB	**Fuli**	**1.82**	**346**	*e*P	Pn	07 21 35.0	+0.7
	baz=339						
TWM1	**Shoushan**	**1.88**	**318**	*e*P	Pn	07 21 36.7	+1.9
	baz=325						
TWM1				*e*S	Sn	07 22 02.8	+2.5
	baz=325						
SLGT	**Liugui**	**1.88**	**326**	*e*P	Pn	07 21 35.5	+0.7
	baz=326						
SLGT				*e*S	Sn	07 22 00.3	-0.2
	baz=326						
TWF1	**Yuli**	**1.97**	**347**	*e*P	Pn	07 21 37.0	+1.1
	baz=341						
STYT	**Tauyuan**	**1.97**	**331**	*e*P	Pn	07 21 36.6	+0.6
	baz=332						
STYT				*e*S	Sn	07 22 02.0	-0.4
	baz=332						
SGST	**Jiashian**	**1.99**	**326**	*e*P	Pn	07 21 37.0	+0.9
	baz=326						
SGST				*e*S	Sn	07 22 03.3	+0.6
	baz=326						
YULB	**Yu-li**	**2.01**	**347**	*e*P	Pn	07 21 36.1	-0.2
	baz=342						
HGSD	**Ruisui**	**2.08**	**351**	*e*P	Pn	07 21 38.4	+1.1
	baz=352						
CHN1	**Nanshi**	**2.10**	**327**	P	Pn	07 21 37.8	+0.3
	baz=327						
CHN1				*e*S	Sn	07 22 04.8	-0.3
	baz=327						
WTP	**Ta-pu**	**2.11**	**329**	P	Pn	07 21 38.2	+0.6
	baz=329						
WTP				*e*S	Sn	07 22 05.2	-0.1
	baz=329						
EHY	**Hungye**	**2.11**	**349**	*e*P	Pn	07 21 37.5	-0.1
	baz=343						
TPUB	**Ta-pu**	**2.15**	**330**	*e*P	Pn	07 21 38.6	+0.5
	baz=330						
TPUB				*e*S	Sn	07 22 05.3	-0.8
	baz=330						
TWK	**Hsinying**	**2.19**	**327**	P	Pn	07 21 39.0	+0.4
	baz=327						
TWK				*e*S	Sn	07 22 06.2	-0.8
	baz=327						
YUS	**Yu-Shan**	**2.19**	**340**	P	Pn	07 21 39.9	+0.8
	baz=332						
YUS				S	Sn	07 22 08.8	+1.0
	baz=332						
CHN4	**Tsaushan**	**2.21**	**330**	P	Pn	07 21 39.3	+0.5
	baz=330						
CHN4				*e*S	Sn	07 22 07.1	-0.3
	baz=330						
CHN5	**Tsauling**	**2.39**	**335**	P	Pn	07 21 41.4	+0.3
	baz=328						
CHN5				*e*S	Sn	07 22 11.4	-0.1
	baz=328						
VWDT	**VWDT**	**2.39**	**346**	*e*P	Pn	07 21 42.4	+1.4
	baz=350						
CHY	**Chiayi**	**2.42**	**329**	*e*P	Pn	07 21 41.4	+0.1
	baz=329						
CHY				*e*S	Sn	07 22 11.2	-0.6
	baz=329						
SSLB	**Suanglung**	**2.47**	**342**	*e*P	Pn	07 21 42.5	+0.4
	baz=333						
SMLT	**Sun Moon Lake**	**2.58**	**342**	*e*P	Pn	07 21 43.8	+0.4
	baz=334						
TYC	**Yuchr**	**2.61**	**341**	*e*P	Pn	07 21 44.6	+0.8
	baz=333						
TYC				*e*S	Sn	07 22 16.4	+0.2
	baz=333						
WNT	**Mingjian**	**2.64**	**338**	*e*P	Pn	07 21 44.8	+0.7
	baz=338						
WNT				*e*S	Sn	07 22 16.9	-0.1
	baz=338						
CHGB	**Renai**	**2.68**	**348**	*e*P	Pn	07 21 46.4	+1.5
	baz=353						
WDGT	**Dungji**	**2.68**	**313**	*e*P	Pn	07 21 44.7	+0.1
	baz=313						
NACB	**Ninganchiao**	**2.74**	**356**	*e*P	Pn	07 21 45.5	+0.1
	baz=2.0						
WHF	**Hehuan Shan**	**2.75**	**350**	*e*P	Pn	07 21 47.6	+1.7
	baz=354						
VCHM	**Qimei**	**2.81**	**310**	*e*P	Pn	07 21 45.8	-0.5
	baz=309						
VCHM				*e*S	Sn	07 22 19.1	-1.5
	baz=309						
PHUB	**P'eng-hu**	**2.91**	**316**	*e*P	Pn	07 21 47.2	-0.3
	baz=321						
PHUB				*e*S	Sn	07 22 20.9	-2.1
	baz=321						
PNG	**Penghu**	**2.96**	**316**	*e*P	Pn	07 21 48.2	0.0
	baz=316						
YHNB	**Yeheng**	**3.25**	**353**	*e*P	Pn	07 21 53.5	+1.5
	baz=353						

ISCJB ***12*** *07:31:05.4±0.4, 66.°07N±0.°06×174.°94W±0.°09, h10km, mb4.0/19, MS3.7/2, Error ellipse: s-maj=9.6km s-min=4.4km az=20.5*

NEIC ***12*** *07:31:07.6±0.6, 66.°10N×175.°02W, h10km, mb4.1/10, Error ellipse: s-maj=16.2km s-min=5.8km az

TIXI	**Tiksi**	**20.32**	**311**	P		**P**	**07 35 42.8**	**-0.6**
	2.4nm,0.6s,baz=91,slow=11,SNR=6.7							
YKA	**Yellowknife Ar**	**25.49**	**69**	P		**P**	**07 36 33.9**	**-1.6**
	0.2nm,0.7s,baz=306,slow=9.0,SNR=4.6							
RES	**Resolute Bay**	**25.95**	**37**	P		**P**	**07 36 37.5**	**-2.1**
	1.8nm,1.0s,baz=119,slow=21,SNR=4.9							
RES	**Resolute Bay**	**25.95**	**37**	*e*P		**P**	**07 36 41.0**	**+1.4**
	2.8nm,1.1s							
J08A	**Circle Bar Ran**	**37.87**	**98**	*e*P		**P**	**07 38 26.0**	**+1.5**
	4.9nm,0.9s							
BEKR	**Beckworth**	**40.07**	**103**	*e*P		**P**	**07 38 44.1**	**+1.2**
	3.3nm,0.6s							
NVAR	**Mina Array Bea**	**42.12**	**102**	P		**P**	**07 39 02.3**	**+2.4**
	0.4nm,0.6s,baz=306,slow=6.8,SNR=3.7							
SONM	**Songino Array**	**43.26**	**285**	P		**P**	**07 39 08.8**	**-0.1**
	0.4nm,0.6s,baz=49,slow=8.2,SNR=4.3							
ZALV	**Zalesovo Beam**	**46.11**	**306**	P		**P**	**07 39 29.5**	**-1.9**
	1.0nm,0.5s,baz=28,slow=6.7,SNR=5.3							
ZALV	**Zalesovo Beam**	**46.11**	**306**	*e*P		**P**	**07 39 30.4**	**-1.0**
BRVK	**Borovoye**	**51.36**	**315**	*e*P		**P**	**07 40 10.7**	**-1.0**
	1.8nm,0.7s							
FIA1	**FINESS Array S**	**51.85**	**347**	*e*P		**P**	**07 40 12.6**	**-2.7**
	18nm,1.4s							
FINES	**FINESS Array B**	**51.85**	**347**	P		**P**	**07 40 11.9**	**-3.4**
	1.6nm,0.9s,baz=29,slow=4.4,SNR=5.0							
MK31	**Makanchi Array**	**53.06**	**303**	*e*P		**P**	**07 40 24.0**	**-0.5**
MKAR	**Makanchi Array**	**53.06**	**303**	P		**P**	**07 40 23.0**	**-1.5**
	0.5nm,0.6s,baz=52,slow=7.8,SNR=8.2							
MKAR	**Makanchi Array**	**53.06**	**303**	*e*P		**P**	**07 40 24.0**	**-0.5**
	14nm,1.4s							
MK01	**Makanchi Array**	**53.07**	**303**	*e*P		**P**	**07 40 23.4**	**-1.2**
NB2	**NORSAR Subarra**	**53.11**	**356**	P		**P**	**07 40 26.1**	**+1.4**
	comp=Z,3.8nm,0.8s,baz=1.5,slow=7.9							
NOA	**NORSAR Array B**	**53.11**	**356**	P		**P**	**07 40 22.6**	**-2.1**
	comp=Z,2.8nm,0.8s,baz=1.8,slow=7.5,SNR=8.0							
TXAR	**Lajitas Array**	**55.95**	**94**	P		**P**	**07 40 48.1**	**+2.3**
	comp=Z,0.2nm,0.5s,baz=316,slow=3.5,SNR=4.5							
ABKAR	**Akbulak array**	**57.61**	**321**	*e*P		**P**	**07 40 55.7**	**-1.5**
GUMO	**Guam**	**58.96**	**227**	LR		LR	08 05 28.4	
	comp=Z,23nm,18.8s,baz=94,slow=35							
AKASG	**Malin Array Be**	**62.10**	**343**	P		**P**	**07 41 25.6**	**-2.4**
	comp=Z,2.9nm,0.7s,baz=15,slow=6.4,SNR=7.2							
CLL	**Collm**	**62.79**	**354**	*e*P		**P**	**07 41 34.0**	**+1.4**
GERES	**GERESS Array B**	**65.22**	**354**	P		**P**	**07 41 50.6**	**+1.8**
	comp=Z,1.4nm,0.9s,baz=20,slow=4.3,SNR=8.3							
KBZ	**Khabaz**	**66.72**	**331**	P		**P**	**07 41 58.4**	**0.0**
	comp=Z,3.5nm,0.9s,baz=255,slow=4.7,SNR=4.4							
GEYT	**Alibeck**	**66.61**	**317**	P		**P**	**07 42 12.1**	**+1.6**
	comp=Z,1.7nm,0.7s,baz=0.0,slow=3.3,SNR=3.7							
BRTR	**Keskin Array B**	**72.25**	**337**	P		**P**	**07 42 34.4**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=22,slow=3.9,SNR=5.8							
ESDC	**Sonseca Array**	**74.34**	**7**	P		**P**	**07 42 47.0**	**+1.9**
	comp=Z,1.7nm,0.8s,baz=351,slow=5.8,SNR=8.8							
ROSC	**El Rosal**	**89.87**	**78**	LR		LR	08 28 11.1	
	comp=Z,57nm,20.1s,baz=86,slow=38							

SJA 12 07:41:02.4±0.3, 31°.91S×68°.14W, h117km±2km, ML4.5, MW3.9, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RTCV	**Cerro Valdivia**	**0.34**	**278**	*e*P		Pn	07 41 19.8	+0.5
RTCV				*e*S		Sn	07 41 32.8	+0.9
RTLL	**Cerro Villicun**	**0.64**	**334**	*e*P		Pn	07 41 21.8	+0.7
RTLL				IAML			07 41 22.6	
	comp=Z,1μm,0.3s							
ASAL	**Salagasta**	**0.90**	**221**	*e*P		Pn	07 41 24.2	+0.9
ASAL				*e*S		Sn	07 41 40.2	+1.1
AUSP	**Uspallata**	**1.10**	**253**	*e*P		Pn	07 41 26.8	+1.2
ACCO	**Cerro Coronel**	**1.54**	**329**	*e*P		Pn	07 41 31.9	+1.5
ACCO				IAML			07 41 33.2	
	comp=Z,28μm,0.4s							

MAN 12 07:50:18.8, 8°.49N×125°.91E, h43km, mb4.4, ML3.2, MS3.0, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BIPH	**Bislig**	**0.54**	**124**	⇑*i*P		Pn	07 50 30.6	+0.5
BIPH				*i* S		Sn	07 50 38.7	+0.5
BUTP	**Butuan**	**0.56**	**329**	*e*P		Pn	07 50 31.8	+1.3
BUTP				*e*S		Sn	07 50 41.3	+2.6
BUKP	**Musuan**	**1.03**	**234**	*e*P		Pn	07 50 36.5	-0.4
BUKP				*e*S		Sn	07 50 51.3	+1.1
CGP	**Cagayan de Oro**	**1.20**	**269**	⇓*e*P		Pn	07 50 40.3	+1.2
CGP				*e*S		Sn	07 50 55.6	+1.3

ISK 12 07:51:08.9, 36°.74N×34°.25E, h13km±2km, ML2.0/6
ISCJB 12 07:51:09.5±0.6, 36°.71N±0°.08×34°.26E±0°.10, h15km, Error ellipse: s-maj=15.6km s-min=3.9km az=135.1
DDA 12 07:51:09.5, 36°.77N×34°.23E, h7km±1km, ML2.7
ISC 12 07:51:09.4±1.0, 36°.74N±0°.05×34°.25E±0°.06, h15km, n10, σ0°.38/14, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MERS	**Mersin**	**0.25**	**58**	PG		**Pg**	**07 51 14.4**	**-0.6**
MERS				SG		**Sg**	**07 51 18.8**	**0.0**
KIZK	**Mersin**	**0.27**	**199**	PG		**Pg**	**07 51 14.9**	**-0.3**
KIZK				SG		**Sg**	**07 51 19.4**	**+0.3**
KIZK	**Mersin**	**0.27**	**199**	IAML_P				
	comp=Z,3μm,0.1s							
KIZK				*i* P		**Pg**	**07 51 15.0**	**-0.1**
KEBE	**Keben-Mersin**	**0.52**	**237**	PG		**Pg**	**07 51 19.7**	**0.0**
KEBE				SG		**Sb**	**07 51 27.4**	**-0.3**
IKL	**Isikli**	**0.67**	**223**	PG		**Pb**	**07 51 22.6**	**-0.3**
KERG	**Konya-Eregli**	**0.69**	**352**	IAML_P				
	comp=Z,274nm,0.1s							
KERG				*i* P		**Pg**	**07 51 22.5**	**-0.3**
GULE	**Gulek**	**0.69**	**37**	*i* P		**Pb**	**07 51 23.5**	**+0.2**
GULE				*i* S		**Sb**	**07 51 33.4**	**+0.7**
GULN	**MERSIN_Gulnar**	**0.79**	**226**	*i* P		**Pb**	**07 51 25.2**	**+0.3**
AKKU	**Akkuyu-Mersin**	**0.81**	**225**	PG		**Pb**	**07 51 25.1**	**0.0**
BERE	**Bereket-Mersin**	**0.92**	**245**	PG		**Pg**	**07 51 26.9**	**-0.3**

DJA 12 07:52:08.2±1.6, 10°S±9°×11°5E±°, h13km±10km, M3.6/9, MLv3.6/9, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IGBI	**Denpasar**	**0.70**	**359**	P		Pb	07 52 22.2	0.0
DNP	**Denpasar**	**0.84**	**3**	P		Pb	07 52 24.7	+0.1
DNP				S		Sb	07 52 36.4	+0.6
SRBI	**Singaraja**	**1.43**	**2**	P		Pn	07 52 33.7	-0.1
JAGI	**Jajag, Banyuwa**	**1.44**	**316**	P		Pn	07 52 33.5	-0.5
GMJI	**Gumukmas**	**2.10**	**306**	P		Pn	07 52 43.2	+0.1
PLAI	**Plampang**	**2.67**	**75**	P		Pn	07 52 51.3	+0.3

ISCJB 12 08:16:24.1±0.3, 42°.94N±0°.02×76°.05E±0°.02, h2km±3km, Error ellipse: s-maj=3.3km s-min=1.9km az=160.8
KNET 12 08:16:24.8±0.8, 42°.87N×76°.01E, h16km±3km, ml2.7, Error ellipse: s-maj=6.2km s-min=1.9km az=42.0
SOME 12 08:16:24.5, 42°.95N×76°.07E, h15km
KRNET 12 08:16:24.2±0.1, 42°.94N×76°.06E, h21km, mb3.5
NNC 12 08:16:24.7±0.6, 42°.98N×76°.09E, h0km, mb3.8, mpv3.7, Error ellipse: s-maj=5.2km s-min=2.3km az=10.0
ISC 12 08:16:24.9±0.8, 42°.97N±0°.02×76°.04E±0°.01, h16km±4km, n82, σ1°.24/150, 23C-42D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KST	**Kastek**	**0.09**	**321**	P		**Pg**	**08 16 28.0**	**-0.3**
	1μm,0.2s							
KST				S		**Sg**	**08 16 30.8**	**+0.2**
	4μm,0.3s							
KST	**Kastek**	**0.09**	**321**	⇓*i*P		**Pg**	**08 16 28.0**	**-0.3**
	baz=28							
KST				⇓*e*S		**Sg**	**08 16 30.6**	**0.0**
	baz=28							
KST	**Kastek**	**0.09**	**321**	⇓*i*P		**Pg**	**08 16 28.0**	**-0.3**
	1μm,0.2s							
KST				*e*S		**Sg**	**08 16 30.6**	**0.0**
	3μm,0.4s							
MTBS	**Maitube**	**0.33**	**61**	*e*P		**Pg**	**08 16 31.0**	**-0.7**
	baz=55							
MTBS				*e*S		**Sg**	**08 16 35.9**	**-0.5**
	baz=55							
MTBS	**Maitube**	**0.33**	**61**	*e*P		**Pg**	**08 16 31.0**	**-0.7**
	369nm,0.2s							
MTBS				*e*S		**Sg**	**08 16 35.9**	**-0.5**
	2μm,0.2s							
TKM2	**Tokmak 2**	**0.33**	**261**	⇓P		**Pg**	**08 16 31.5**	**-0.4**
	144nm,0.1s,SNR=1005							
TKM2				⇑S		**Sg**	**08 16 36.8**	**+0.1**
	735nm,0.1s							
TKM2	**Tokmak 2**	**0.33**	**261**	⇓*i*P		**Pg**	**08 16 31.5**	**-0.4**
	baz=67							
TKM2				⇓*i*S		**Sg**	**08 16 36.8**	**+0.1**
	baz=67							
DGS	**Degeres**	**0.34**	**324**	P		**Pg**	**08 16 31.8**	**-0.1**
	652nm,0.1s							
DGS				S		**Sb**	**08 16 37.2**	**-0.6**
	582nm,0.2s							
DGS	**Degeres**	**0.34**	**324**	*e*P		**Pg**	**08 16 31.8**	**-0.1**
	baz=26							
DGS				*e*S		**Sb**	**08 16 37.1**	**-0.6**
	baz=26							
DGS	**Degeres**	**0.34**	**324**	*e*P		**Pg**	**08 16 31.8**	**-0.1**
	652nm,0.1s							
DGS				*e*S		**Sb**	**08 16 37.1**	**-0.6**
	582nm,0.2s							
IZV	**Izvestkoviy**	**0.42**	**81**	P		**Pg**	**08 16 32.7**	**-0.8**
	259nm,0.2s							
IZV				S		**Sg**	**08 16 38.8**	**-0.7**
	1μm,0.2s							
IZV	**Izvestkoviy**	**0.42**	**81**	*e*P		**Pg**	**08 16 32.7**	**-0.8**
	baz=76							
IZV				*e*S		**Sg**	**08 16 38.7**	**-0.7**
	baz=76							
IZV	**Izvestkoviy**	**0.42**	**81**	*e*P		**Pg**	**08 16 32.6**	**-0.8**
	259nm,0.2s							
IZV				*e*S		**Sg**	**08 16 38.7**	**-0.7**
	1μm,0.2s							
BOOM	**Boomskoye usch**	**0.49**	**189**	⇓*i*P		**Pg**	**08 16 33.3**	**-1.3**
	baz=91							
BOOM				⇓*i*S		**Sg**	**08 16 39.8**	**-1.4**
	baz=91							
TNSS	**Tian-Shan**	**0.67**	**84**	P		**Pg**	**08 16 36.8**	**-1.3**
	74nm,0.2s							
TNSS				S		**Sg**	**08 16 46.0**	**-1.1**
	344nm,0.3s							
TNSS	**Tian-Shan**	**0.67**	**84**	*e*P		**Pg**	**08 16 36.8**	**-1.3**
	baz=81							
TNSS				*e*S		**Sg**	**08 16 45.9**	**-1.1**
	baz=81							
TNSS	**Tian-Shan**	**0.67**	**84**	*e*P		**Pg**	**08 16 36.8**	**-1.3**
	80nm,0.1s							
TNSS				*e*S		**Sg**	**08 16 45.9**	**-1.1**
	340nm,0.3s							
AAA	**Alma-Ata**	**0.68**	**69**	P		**Pg**	**08 16 37.7**	**-0.6**
	50nm,0.1s							
AAA				S		**Sb**	**08 16 47.3**	**-0.5**
	374nm,0.1s							
AAA	**Alma-Ata**	**0.68**	**69**	*e*P		**Pg**	**08 16 37.6**	**-0.6**
	baz=66							
AAA				*e*S		**Sb**	**08 16 47.2**	**-0.5**
	baz=66							
AAA	**Alma-Ata**	**0.68**	**69**	*e*P		**Pg**	**08 16 37.6**	**-0.6**
	37nm,0.1s							
AAA				*e*S		**Sb**	**08 16 47.3**	**-0.5**
	374nm,0.1s							
KNDC	**Almaty**	**0.72**	**70**	⇓P		**Pg**	**08 16 38.0**	**-1.0**
	12nm,0.2s							
KNDC				⇓S		**Sb**	**08 16 48.2**	**-0.6**
	120nm,0.3s							
ULHL	**Ulahol**	**0.74**	**168**	⇓P		**Pg**	**08 16 37.6**	**-1.7**
	28nm,0.1s,SNR=203							
ULHL				⇓S		**Sg**	**08 16 47.2**	**-2.0**
	86nm,0.1s							
ULHL	**Ulahol**	**0.74**	**168**	⇓*i*P		**Pg**	**08 16 37.6**	**-1.7**
	baz=69							
ULHL				⇓*i*S		**Sg**	**08 16 47.0**	**-2.2**
	baz=69							
MDOK	**Medeo**	**0.76**	**75**	P		**Pg**	**08 16 38.3**	**-1.5**
	12nm,0.2s							
MDOK				⇑S		**Sg**	**08 16 48.6**	**-1.2**
	62nm,0.3s							
MDOK	**Medeo**	**0.76**	**75**	Pg		**Pg**	**08 16 38.6**	**-1.2**
	43nm,0.2s							
MDOK				Lg		Lg	08 16 48.7	
	263nm,0.2s							
MDOK	**Medeo**	**0.76**	**75**	⇓*i*P		**Pg**	**08 16 38.6**	**-1.2**
	baz=73							
MDOK				⇑*i*S		**Sg**	**08 16 48.7**	**-1.2**
	baz=73							
MDOK	**Medeo**	**0.76**	**75**	⇓*i*P		**Pg**	**08 16 38.6**	**-1.2**
	49nm,0.2s							
MDOK				⇑*i*S		**Sg**	**08 16 48.7**	**-1.2**
	341nm,0.6s							
KOTS	**Kotyrbulak**	**0.83**	**71**	P		**Pg**	**08 16 39.9**	**-1.1**
	25nm,0.3s							
KOTS				S		**Sg**	**08 16 51.0**	**-0.9**
	153nm,0.3s							
KOTS	**Kotyrbulak**	**0.83**	**71**	*e*P		**Pg**	**08 16 39.9**	**-1.1**
	baz=69							
KOTS				*e*S		**Sg**	**08 16 51.1**	**-0.9**
	baz=69							
KOTS	**Kotyrbulak**	**0.83**	**71**	*e*P		**Pg**	**08 16 39.9**	**-1.1**
	28nm,0.2s							
KOTS				*e*S		**Sg**	**08 16 51.0**	**-0.9**
	249nm,0.2s							
KBK	**Karagaybulak**	**0.86**	**249**	⇑P		**Pg**	**08 16 40.8**	**-0.9**
	42nm,0.1s,SNR=127							
KBK				⇓S		**Sg**	**08 16 53.0**	**-0.1**
	232nm,0.2s							
KBK	**Karagaybulak**	**0.86**	**249**	⇓*i*P		**Pg**	**08 16 40.6**	**-1.1**
	baz=51							
KBK				⇓*i*S		**Sg**	**08 16 52.6**	**-0.5**
	baz=51							
KTBS	**Karatobe**	**0.88**	**32**	P		**Pg**	**08 16 41.0**	**-0.9**
	23nm,0.2s							
KTBS				S		**Sb**	**08 16 52.9**	**-0.4**
	286nm,0.2s							
KTBS	**Karatobe**	**0.88**	**32**	*e*P		**Pg**	**08 16 41.0**	**-0.9**
	baz=22							
KTBS				*e*S		**Sb**	**08 16 52.9**	**-0.4**
	baz=22							
KTBS	**Karatobe**	**0.88**	**32**	*e*P		**Pg**	**08 16 41.0**	**-0.9**
	16nm,0.1s							
KTBS				*e*S		**Sb**	**08 16 52.9**	**-0.4**
	286nm,0.2s							
KUU	**Kurty**	**0.95**	**13**	P		**Pg**	**08 16 42.3**	**-0.9**
	15nm,0.1s							
KUU				S		**Sb**	**08 16 55.2**	**-0.1**
	255nm,0.2s							
KUU	**Kurty**	**0.95**	**13**	⇓*i*P		**Pg**	**08 16 42.3**	**-0.9**
	baz=12							
KUU				⇑*i*S		**Sb**	**08 16 55.2**	**-0.1**
	baz=12							
KUU	**Kurty**	**0.95**	**13**	⇓*i*P		**Pg**	**08 16 42.3**	**-0.9**
	14nm,0.2s							
KUU				⇑*i*S		**Sb**	**08 16 55.2**	**-0.1**
	310nm,0.3s							
CHMS	**Chumysh**	**0.95**	**272**	⇓P		**Pg**	**08 16 41.8**	**-1.4**
	48nm,0.1s,SNR=27							
CHMS	**Chumysh**	**0.95**	**272**	⇓*i*P		**Pg**	**08 16 41.8**	**-1.4**
	baz=74							
CHMS				⇓*i*S		**Sg**	**08 16 55.1**	**-0.5**
	baz=74							
FRU1	**Bishkek**	**1.05**	**262**	⇓*i*P		**Pb**	**08 16 43.7**	**-1.0**
	baz=64							
FRU1				⇓*i*S		**Sb**	**08 16 58.4**	**+0.1**
	baz=64							
KZA	**Kyzart**	**1.07**	**213**	⇑P		**Pb**	**08 16 44.3**	**-0.9**
	18nm,0.2s,SNR=48							
KZA				⇓S		**Sg**	**08 16 58.7**	**-0.9**
	31nm,0.1s							
KZA	**Kyzart**	**1.07**	**213**	⇑*i*P		**Pb**	**08 16 43.9**	**-1.3**
	baz=15							
KZA				⇑*i*S		**Sg**	**08 16 58.1**	**-1.5**
	baz=15							
SGDS	**Sogindy**	**1.14**	**295**	P		**Pb**	**08 16 45.5**	**-0.7**
	64nm,0.2s							
SGDS				S		**Sb**	**08 17 00.9**	**0.0**
	251nm,0.2s							
USP	**Ospenovka**	**1.17**	**285**	⇓*i*P		**Pb**	**08 16 45.8**	**-0.9**
	baz=87							
USP				⇓*i*S		**Sb**	**08 17 01.9**	**+0.3**
	baz=87							
AAK	**Ala-Archa**	**1.19**	**254**	⇑P		**Pn**	**08 16 46.2**	**-0.8**
	21nm,0.2s,SNR=26							
AAK				⇑S		**Sb**	**08 17 02.2**	**-0.1**
	36nm,0.1s							
AAK	**Ala-Archa**	**1.19**	**254**	⇑*i*P		**Pn**	**08 16 46.2**	**-0.8**
	baz=56							
AAK				⇑*i*S		**Sb**	**08 17 02.4**	**+0.1**
	baz=56							
KDJ	**Kajisay**	**1.19**	**135**	⇑*i*P		**Pb**	**08 16 46.4**	**-0.8**
	baz=34							
KDJ				⇑*i*S		**Sb**	**08 17 01.9**	**-0.5**
	baz=34							
UCH	**Uchtor**	**1.35**	**237**	⇑*i*P		**Pn**	**08 16 49.1**	**-0.4**
	baz=39							
UCH				⇑*i*S		**Sb**	**08 17 07.1**	**-0.2**
	baz=39							
KURS	**Kuram**	**1.64**	**71**	P		**Pb**	**08 16 54.5**	**-0.2**
	7.3nm,0.3s							
KURS				S		**Sg**	**08 17 16.0**	**-1.6**
	32nm,0.4s							
KURS	**Kuram**	**1.64**	**71**	*e*P		**Pb**	**08 16 54.6**	**-0.2**
	baz=70							
KURS				*e*S		**Sg**	**08 17 16.1**	**-1.6**
	baz=70							
KURS	**Kuram**	**1.64**	**71**	*e*P		**Pb**	**08 16 54.5**	**-0.2**
	7.3nm,0.3s							
KURS				*e*S		**Sg**	**08 17 16.0**	**-1.6**
	32nm,0.4s							
ARLS	**Aral**	**1.69**	**229**	⇓*i*P		**Pn**	**08 16 54.3**	**+0.4**
	baz=31							
ARLS				⇓*i*S		**Sn**	**08 17 16.0**	**+0.7**
	baz=31							
EKS2	**Erkin-Say**	**1.69**	**260**	P		**Pb**	**08 16 55.5**	**-0.3**
	20nm,0.1s,SNR=110							
EKS2	**Erkin-Say**	**1.69**	**260**	⇓*i*P		**Pn**	**08 16 55.0**	**+1.1**
	baz=61							
EKS2				⇓*i*S		**Sb**	**08 17 17.2**	**+0.3**
	baz=61							
SATY	**Saty**	**1.74**	**86**	P		**Pb**	**08 16 56.0**	**-0.5**
	27nm,0.2s							
SATY				S		**Sg**	**08 17 19.0**	**-1.8**
	156nm,0.1s							
SATY	**Saty**	**1.74**	**86**	⇑*i*P		**Pb**	**08 16 56.0**	**-0.5**
	27nm,0.2s							
SATY				⇑*i*S		**Sg**	**08 17 19.0**	**-1.8**
	156nm,0.1s							
ARXS	**Arharly**	**1.79**	**46**	P		**Pb**	**08 16 57.2**	**-0.2**
	8.7nm,0.2s							
ARXS				S		**Sg**	**08 17 20.6**	**-2.1**
	69nm,0.3s							
ARXS	**Arharly**	**1.79**	**46**	*e*P		**Pb**	**08 16 57.2**	**-0.2**
	8.7nm,0.2s							
ARXS				*e*S		**Sg**	**08 17 20.6**	**-2.1**
	69nm,0.3s							
AML	**Almayashu**	**1.93**	**245**	⇑P		**Pb**	**08 16 59.6**	**-0.3**
	13nm,0.1s,SNR=29							
AML	**Almayashu**	**1.93**	**245**	⇓*i*P		**Pn**	**08 16 58.2**	**+0.8**
	baz=46							
AML				⇓*i*S		**Sn**	**08 17 23.0**	**+1.5**
	baz=46							
MNBS	**Baschi**	**2.04**	**56**	Pg		**Pb**	**08 17 02.0**	**+0.3**
	13nm,0.3s							
MNBS				Lg		Lg	08 17 28.3	
	70nm,0.4s							
MNBS	**Baschi**	**2.04**	**56**	*e*P		**Pb**	**08 17 01.5**	**-0.2**
	baz=59							
MNBS				*e*S		**Sg**	**08 17 28.3**	**-2.3**
	baz=59							
MNBS	**Baschi**	**2.04**	**56**	*e*P		**Pb**	**08 17 01.5**	**-0.2**
	6.3nm,0.2s							
MNBS				*e*S		**Sg**	**08 17 28.3**	**-2.3**
	70nm,0.4s							
MRKS	**Merke**	**2.08**	**265**	*e*P		**Pb**	**08 17 02.2**	**-0.1**
	baz=66							
MRKS				*e*S		**Sb**	**08 17 29.0**	**+1.0**
	baz=66							
MRKS	**Merke**	**2.08**	**265**	*e*P		**Pb**	**08 17 02.2**	**-0.1**
	25nm,0.2s							
MRKS				*e*S		**Sb**	**08 17 29.0**	**+1.0**
	140nm,0.2s							
UZB	**Uzynbulak**	**2.19**	**84**	Pg		**Pb**	**08 17 04.3**	**+0.1**
	20nm,0.3s							
UZB				Lg		Lg	08 17 32.8	
	67nm,0.2s							
UZB	**Uzynbulak**	**2.19**	**84**	*e*P		**Pb**	**08 17 03.4**	**-0.9**
	baz=84							
UZB				*e*S		**Sb**	**08 17 31.7**	**+0.5**
	baz=84							
UZB	**Uzynbulak**	**2.19**	**84**	*e*P		**Pb**	**08 17 03.4**	**-0.9**
	16nm,0.2s							
UZB				*e*S		**Sb**	**08 17 31.6**	**+0.5**
	67nm,0.2s							
SHLS	**Shalkode**	**2.51**	**85**	Pg		**Pg**	**08 17 15.6**	**+2.6**
	34nm,0.6s							
SHLS				Lg		Lg	08 17 52.4	
	72nm,0.4s							
SHLS	**Shalkode**	**2.51**	**85**	*e*P		**Pg**	**08 17 14.9**	**+1.8**
	baz=84							
SHLS				*e*S		**Sg**	**08 17 51.2**	**+5.5**
	baz=84							
SHLS	**Shalkode**	**2.51**	**85**	*e*P		**Pg**	**08 17 14.9**	**+1.8**
	34nm,0.6s							
SHLS				*e*S		**Sg**	**08 17 51.2**	**+5.5**
	72nm,0.4s							
PDGK	**Podgornoye**	**2.55**	**81**	Pg		**Pb**	**08 17 10.0**	**-0.3**
	5.4nm,0.3s							
PDGK				Lg		Lg	08 17 42.7	
	34nm,0.5s							
PDGK	**Podgornoye**	**2.55**	**81**	⇑Pn		**Pb**	**08 17 09.5**	**-0.8**
	7.3nm,0.5s							
PDGK				⇓Lg		Lg	08 17 43.0	
	65nm,0.7s							
ARSB	**Arslanbob**	**2.81**	**235**	⇓*i*P		**Pn**	**08 17 10.2**	**+0.9**
	baz=36							
ARSB				⇓*i*S		**Sn**	**08 17 44.5**	**+1.6**
	baz=36							
KTMS	**Ketmen**	**3.19**	**80**	Pg		**Pb**	**08 17 22.1**	**+0.9**
	4.3nm,0.1s							
KTMS				Lg		Lg	08 18 03.6	
	36nm,0.3s							
KTMS	**Ketmen**	**3.19**	**80**	*e*P		**Pb**	**08 17 21.1**	**-0.1**
	baz=79							
KTMS				*e*S		**Sb**	**08 18 02.0**	**+2.1**
	baz=79							
KTMS	**Ketmen**	**3.19**	**80**	*e*P		**Pb**	**08 17 21.1**	**-0.1**
	4.3nm,0.1s							
KTMS				*e*S		**Sb**	**08 18 02.0**	**+2.1**
	36nm,0.3s							
SFK	**Sufi-Kurgan**	**3.52**	**214**	⇑Pn		**Pn**	**08 17

ACCO	**Cerro Coronel**	**2.10**	**122**	*e*P		Pb	08 33 03.5	-0.4
ACCO				IAML			08 33 16.3	
	comp=Z,21μm,0.2s							
AGUA	**GUANDACOL**	**2.29**	**91**	*e*P		Pb	08 33 05.7	-1.4

IDC **12** *08:54:58.2±2.3,32.09S×67.89W,h0km,mb3.5/2, mb1 3.8/4,mb1mx3.7/17,mbtmp3.6/4,ML3.8/2,Error ellipse: s-maj=68.6km s-min=41.0km az=14.0*
SJA **12** *08:55:00.2±0.9,31.61S×67.87W,h10km±9km,ML3.4*
NEIC **12** *08:55:02.0±0.0,31.72S×68.04W,h242km,ML4.3(GUC), After GUC.*

ISC 12 08:55:01.3±1.4,31.65S±0.03×67.87W±0.04,h7km±11km, n24,σ1967/36,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJA	**San Juan**	**0.60**	**281**	*i* P	**Pg**	**08 55 13.4**	**+0.5**
SJA				*i* S	**Sb**	**08 55 22.8**	**-0.1**
RTCV	**Cerro Valdivia**	**0.61**	**249**	*i* P	**Pb**	**08 55 13.5**	**-0.8**
RTCV				*i* S	**Sb**	**08 55 23.6**	**+0.4**
ACAN	**Cantantal**	**0.85**	**137**	*i* P	**Pb**	**08 55 17.9**	**-0.6**
AMOG	**MOGNA**	**0.88**	**323**	*i* P	**Pg**	**08 55 18.2**	**-0.1**
AMOG				*i* S	**Sg**	**08 55 31.5**	**+1.7**
ARCO	**CERRO ARCO**	**1.49**	**217**	*i* P	**Pg**	**08 55 30.4**	**+0.4**
ARCO				*i* S	**Sg**	**08 55 52.7**	**+3.3**
ARCO				IAML		08 55 58.0	
	comp=Z,522nm,0.3s						
AAGR	**Agrelo**	**1.65**	**209**	*i* P	**Pg**	**08 55 33.2**	**+0.3**
FCH	**Farellones**	**2.65**	**230**	*e*P	**Pb**	**08 55 48.7**	**-0.5**
FCH				*e*S	**Sg**	**08 56 25.7**	**-0.7**
FCH				IAML		08 56 27.0	
	comp=N,327nm,0.4s						
CMCH	**Combarbala**	**2.72**	**279**	*e*P	**Pb**	**08 55 49.5**	**-0.8**
CMCH				*e*S	**Sb**	**08 56 26.0**	**+2.1**
PEL	**Peldehue**	**2.81**	**237**	*e*Pn	**Pb**	**08 55 51.2**	**-0.7**
PEL				*e*S	**Sg**	**08 56 30.5**	**-1.2**
PEL	**Peldehue**	**2.81**	**237**	*e*P	**Pb**	**08 55 51.2**	**-0.7**
PEL				*i* S	**Sg**	**08 56 28.4**	**-3.2**
PEL				IAML		08 56 34.5	
	comp=E,180nm,0.4s						
CLCH	**Cerro Calan**	**2.85**	**232**	*e*P	**Pb**	**08 55 52.0**	**-0.6**
CLCH				*e*S	**Sg**	**08 56 30.3**	**-2.6**
GO04	**Tololo Observa**	**2.92**	**300**	*e*Pn	**Pb**	**08 55 51.9**	**-1.9**
GO04				*e*S	**Sb**	**08 56 31.8**	**+2.1**
ROC1	**El Roble**	**2.98**	**243**	*e*Pn	**Pb**	**08 55 52.9**	**-1.9**
ROC1				*e*S	**Sg**	**08 56 34.5**	**-2.4**
LCO	**Las Campanas**	**3.59**	**316**	*e*Pn	**Pn**	**08 56 01.1**	**+3.4**
LCO				*e*S	**Sb**	**08 56 46.7**	**-2.5**
GO05	**Huala**	**4.78**	**224**	*e*Pn	**Pn**	**08 56 16.1**	**+2.5**
GO02	**Mina Guanaco**	**6.63**	**346**	*e*Pn	**Pn**	**08 56 41.3**	**+1.8**
TRQA	**Tornquist**	**8.02**	**144**	*e*Pn	**Pn**	**08 56 58.5**	**+0.3**
PB10	**IPOC Station P**	**8.44**	**343**	*e*Pn	**Pn**	**08 57 04.2**	**+0.2**
CPUP	**Villa Florida**	**10.64**	**63**	Pn	**Pn**	**08 57 33.3**	**-0.9**
	comp=E,0.1nm,0.3s,baz=260,slow=17,SNR=2.0						
CPUP	**Villa Florida**	**10.64**	**63**	*e*Pn	**Pn**	**08 57 33.5**	**-0.6**
LPAZ	**La Paz**	**15.29**	**359**	Pn	**P**	**08 58 43.6**	**+0.4**
	comp=E,0.3nm,0.3s,baz=148,slow=9.6,SNR=11						
TXAR	**Lajitas Array**	**69.54**	**327**	P	**P**	**09 06 10.8**	**-0.1**
	comp=E,0.2nm,0.6s,baz=158,slow=9.7,SNR=4.5						
TORD	**Torodi Ar. Bea**	**80.09**	**68**	P	**P**	**09 07 11.9**	**-0.3**
	comp=E,0.6nm,0.7s,baz=232,slow=7.0,SNR=3.5						
MKAR	**Makanchi Array**	**152.58**	**48**	PKPbc	**PKPbc**	**09 14 56.9**	**-1.4**
	comp=E,0.6nm,0.7s,baz=264,slow=2.9,SNR=4.0						

ISK **12** *09:07:43.0,37.93N×37.95E,h3km,ML2.0/5*
DDA **12** *09:07:44.0,37.93N×37.94E,h7km±3km,ML2.5*

ISC 12 09:07:43.7±1.3,37.94N±0.04×37.97E±0.03,h1km±12km, n12,σ0950/19,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.35**	**354**	IAML_P			
	comp=Z,2μm,0.1s						
ATAB	**Bozova**	**0.54**	**151**	IAML_P			
	comp=Z,2μm,0.2s						
ATAB				*i* P	**Pg**	**09 07 54.4**	**+0.5**
ATAB				*i* S	**Sg**	**09 08 01.1**	**+0.2**
GZT	**Gaziantep**	**0.67**	**209**	IAML_P			
	comp=Z,1μm,0.1s						
GZT				*i* P	**Pg**	**09 07 56.3**	**-0.3**
GZT				*i* S	**Sg**	**09 08 05.1**	**-0.1**
DARE	**Darende-Malaty**	**0.74**	**329**	PG	**Pg**	**09 07 58.3**	**+0.5**
DARE				SG	**Sb**	**09 08 08.9**	**-1.1**
URFA	**Urfa**	**0.84**	**126**	PG	**Pg**	**09 07 59.6**	**-0.2**
KMRS	**Kahramanmaras**	**0.96**	**243**	PG	**Pg**	**09 08 01.5**	**-0.5**
KMRS				SG	**Sg**	**09 08 14.7**	**+0.3**
GAZ	**Gaziantep**	**0.98**	**218**	PG	**Pg**	**09 08 02.1**	**-0.3**
GAZ				SG	**Sb**	**09 08 16.7**	**-0.2**
SANL	**SANLIURFA_Merk**	**1.12**	**133**	*i* P	**Pn**	**09 08 06.5**	**0.0**
SANL				*i* S	**Sn**	**09 08 22.9**	**+0.4**
SURC	**SANLIURFA_SURC**	**1.18**	**154**	IAML_P			
	comp=Z,233nm,0.2s						
SURC				*i* P	**Pn**	**09 08 07.4**	**0.0**
SURC				*i* S	**Sb**	**09 08 22.2**	**-0.4**
ANDN	**Andirin**	**1.34**	**255**	IAML_P			
	comp=Z,91nm,0.1s						
ANDN				*i* P	**Pb**	**09 08 10.5**	**+0.8**
KUZU	**Kuzuini**	**1.37**	**212**	*i* P	**Pb**	**09 08 09.9**	**-0.2**
KUZU				*i* S	**Sn**	**09 08 29.2**	**+0.5**
PTK	**Pertek**	**1.46**	**49**	PN	**Pb**	**09 08 11.6**	**-0.2**

DJA 12 09:07:55.7±1.7,9°S±9°×11°3E±°,h17km±13km,M3.7/7, MLv3.7/7,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**0.78**	**33**	P	Pg	09 08 11.1	+0.1
JAGI	**Jajag, Banyuwa**	**1.22**	**68**	P	Pn	09 08 17.4	-0.6
PWJI	**Pagerwojo**	**1.50**	**307**	P	Pn	09 08 20.4	-1.4
PWJI				S	Sn	09 08 38.7	-2.2
PCJI	**Pacitan**	**1.95**	**292**	P	Pn	09 08 27.9	-0.2
KMMI	**Kalianget**	**2.09**	**27**	P	Pn	09 08 29.7	-0.3

ISCJB **12** *09:10:13.2±0.4,18.13S±0.08×65.11E±0.07,h10km, mb4.4/25,MS3.8/17,Error ellipse: s-maj=11.9km s-min=8.3km az=150.6*
IDC **12** *09:10:13.4±0.6,18.09S×65.06E,h0km,mb4.2/15, mb1 4.3/16,mb1mx4.1/57,mbtmp4.2/16,ML3.5/1,MS3.8/18, Ms1 3.8/18,ms1mx3.5/51,Error ellipse: s-maj=22.1km s-min=17.0km az=132.0*
NEIC **12** *09:10:14.6±0.3,18.10S×65.05E,h10km,mb4.6/5,Error ellipse: s-maj=11.2km s-min=6.9km az=151.0*

ISC 12 09:10:14.6±0.5,18.18S±0.1×65.01E±0.10,h10km,n93, σ090/77,mb4.6/32,MS3.8/17,6C-3D,Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRIV	**Mauritius Mete**	**7.42**	**252**	*e*Pn	**Pn**	**09 12 01.0**	**-2.0**
H08S1	**Diego Garcia H**	**12.71**	**36**	T	T	09 26 02.2	
	baz=213,slow=75,SNR=381						
H08S2	**Diego Garcia H**	**12.72**	**36**	T	T	09 25 53.8	
	baz=213,slow=75,SNR=652						
H08S3	**Diego Garcia H**	**12.73**	**36**	T	T	09 26 03.7	
	baz=213,slow=75,SNR=573						
DGAR	**Diego Garcia**	**12.89**	**35**	*e*Pn	Pn	09 13 11.1	-7.0
H08N3	**Diego Garcia H**	**13.09**	**27**	T	T	09 26 26.5	
	baz=205,slow=75,SNR=661						
H08N1	**Diego Garcia H**	**13.11**	**27**	T	T	09 26 24.5	
	baz=205,slow=75,SNR=635						
H08N2	**Diego Garcia H**	**13.11**	**27**	T	T	09 26 24.0	
	baz=205,slow=75,SNR=639						
ABPO	**Ambohidratompo**	**16.88**	**264**	*e*Pn	**Pn**	**09 14 11.8**	**+0.4**
	22nm,1.3s						
OPO	**Ambohidratompo**	**16.92**	**266**	Pn	**P**	**09 14 14.5**	**+0.7**
	0.2nm,0.3s,baz=103,slow=18,SNR=3.3						
OPO				LR	LR	09 19 12.7	
	comp=Z,622nm,19.9s,baz=49,slow=32						
PALK	**Pallekele**	**29.62**	**33**	LR	LR	09 26 04.6	
	comp=Z,82nm,18.9s,baz=285,slow=32						
LBTB	**Lobatse**	**37.18**	**252**	P	**P**	**09 17 27.4**	**+1.1**
	5.0nm,1.0s,baz=122,slow=9.4,SNR=4.8						
LBTB	**Lobatse**	**37.18**	**252**	*e*P	**P**	**09 17 26.6**	**+0.2**
	11nm,1.0s						
BOSA	**Boshof**	**37.80**	**247**	P	**P**	**09 17 32.2**	**+0.7**
	6.3nm,1.0s,baz=65,slow=11,SNR=4.9						
BOSA				LR	LR	09 30 57.8	
	comp=Z,128nm,18.3s,baz=8.0,slow=33						
PSI	**Prapat**	**39.36**	**62**	LR	LR	09 31 51.0	
	comp=Z,230nm,18.2s,baz=254,slow=33						
H01W3	**Cape Leeuwin H**	**46.55**	**121**	T	T	10 08 20.1	
	baz=278,slow=75,SNR=19						
H01W2	**Cape Leeuwin H**	**46.55**	**121**	T	T	10 08 19.2	
	baz=278,slow=75,SNR=18						
H01W1	**Cape Leeuwin H**	**46.57**	**121**	T	T	10 08 26.4	
	baz=278,slow=75,SNR=19						
KOLN	**Koldanda**	**49.06**	**22**	*e*P	**P**	**09 19 03.6**	**+1.2**
	21nm,1.0s						
PYUN	**Piuthan**	**49.15**	**21**	*e*P	**P**	**09 19 04.3**	**+1.2**
	30nm,0.9s						
CM01	**Chiang Mai Arr**	**49.33**	**44**	*e*P	**P**	**09 19 02.3**	**-2.1**
CM31	**Chiang Mai Arr**	**49.34**	**44**	*e*P	**P**	**09 19 02.6**	**-1.8**
CMAR	**Chiang Mai Arr**	**49.34**	**44**	P	**P**	**09 19 06.0**	**+1.5**
	0.8nm,0.5s,baz=231,slow=7.6,SNR=9.4						
CMAR				LR	LR	09 37 01.3	
	comp=Z,172nm,20.7s,baz=215,slow=33						
MAW	**Mawson**	**49.47**	**181**	LR	LR	09 35 09.2	
	comp=Z,102nm,19.6s,baz=1.0,slow=30						
DMN	**Daman**	**49.47**	**24**	*e*P	**P**	**09 19 06.9**	**+1.3**
	16nm,0.9s						
RAMN	**Ramite**	**49.47**	**26**	*e*P	**P**	**09 19 06.8**	**+1.2**
	19nm,0.9s						
DANN	**Dangsing**	**49.65**	**22**	*e*P	**P**	**09 19 08.0**	**+1.0**
	23nm,0.9s						
KKN	**Kakani**	**49.70**	**24**	*e*P	**P**	**09 19 07.9**	**+0.6**
JIRN	**Jiri**	**49.94**	**25**	*e*P	**P**	**09 19 09.7**	**+0.4**
	18nm,0.8s						
GUN	**Gumba**	**50.04**	**24**	*e*P	**P**	**09 19 10.1**	**+0.1**
	30nm,1.1s						
AAK	**Ala-Archa**	**61.10**	**8**	P	**P**	**09 20 30.0**	**+0.9**
	1.0nm,0.5s,baz=318,slow=15,SNR=3.2						
AAK				LR	LR	09 46 10.0	
	comp=Z,92nm,18.0s,baz=164,slow=35						
BR101	**Keskin Array S**	**64.58**	**334**	*e*P	**P**	**09 20 51.5**	**-0.9**
BRTR	**Keskin Array B**	**64.58**	**334**	P	**P**	**09 20 51.5**	**-0.9**
	1.1nm,0.9s,baz=147,slow=7.1,SNR=3.9						
BRTR				LR	LR	09 46 55.3	
	comp=Z,19nm,20.9s,baz=105,slow=34						
WR1	**Warramunga Arr**	**65.12**	**104**	*e*P	**P**	**09 20 56.2**	**-0.1**
	46nm,1.0s						
WRA	**Warramunga Arr**	**65.12**	**104**	P	**P**	**09 20 56.2**	**-0.1**
	5.6nm,0.8s,baz=260,slow=5.2,SNR=3.1						
WRA				LR	LR	09 47 38.2	
	comp=Z,111nm,18.5s,baz=315,slow=34						
SNAA	**Sanae**	**65.99**	**199**	P	**P**	**09 21 01.6**	**+0.7**
	2.6nm,0.8s,baz=203,slow=8.6,SNR=4.5						
SNAA	**Sanae**	**65.99**	**199**	*e*P	**P**	**09 21 01.4**	**+0.4**
	31nm,1.8s						
MK01	**Makanchi Array**	**66.46**	**13**	*e*P	**P**	**09 21 03.2**	**-1.0**
MK32	**Makanchi Array**	**66.48**	**13**	*e*P	**P**	**09 21 04.0**	**-0.3**
MKAR	**Makanchi Array**	**66.48**	**13**	P	**P**	**09 21 04.0**	**-0.3**
	0.9nm,0.8s,baz=210,slow=7.0,SNR=7.5						
AKTO	**Aktyubinsk**	**68.55**	**355**	LR	LR	09 49 34.4	
	comp=Z,24nm,18.5s,baz=316,slow=34						
STKA	**Stephens Creek**	**69.50**	**118**	LR	LR	09 46 45.7	
	comp=Z,108nm,20.2s,baz=313,slow=32						
TORD	**Torodi Ar. Bea**	**69.75**	**292**	LR	LR	09 51 49.4	
	comp=Z,41nm,18.0s,baz=320,slow=36						
QSPA	**South Pole Qui**	**71.97**	**180**	*e*P	**P**	**09 21 38.6**	**+0.2**
	9.6nm,1.0s						
VRI	**Vrincioaia**	**72.53**	**333**	*i*P	**P**	**09 21 42.8**	**+1.1**
PLOR	**Plostina**	**72.55**	**333**	*i*P	**P**	**09 21 42.9**	**+1.0**
VOIR		**72.93**	**332**	*i*P	**P**	**09 21 44.5**	**+0.3**
ARR	**Arges**	**73.07**	**331**	*i*P	**P**	**09 21 44.6**	**-0.4**
DBIC	**Dimbokro**	**73.17**	**283**	LR	LR	09 51 12.8	
	comp=Z,59nm,21.8s,baz=91,slow=34						
ZALV	**Zalesovo Beam**	**73.78**	**12**	P	**P**	**09 21 47.6**	**-1.3**
	2.8nm,1.0s,baz=222,slow=4.0,SNR=6.9						
ZALV				LR	LR	09 51 32.3	
	comp=Z,97nm,21.5s,baz=254,slow=34						
ZALV	**Zalesovo Beam**	**73.78**	**12**	*e*P	**P**	**09 21 47.2**	**-1.7**
ZAA1	**Zalesovo Array**	**73.79**	**12**	*e*P	**P**	**09 21 47.6**	**-1.3**
VNDA	**Vanda**	**73.90**	**167**	P	**P**	**09 21 49.8**	**+0.3**
	2.0nm,0.9s,baz=265,slow=7.6,SNR=4.7						
VNDA	**Vanda**	**73.90**	**167**	*e*P	**P**	**09 21 49.9**	**+0.5**
GZR	**Gura Zlata**	**73.94**	**330**	*i*P	**P**	**09 21 51.4**	**+1.3**
BZS	**Buzias**	**74.66**	**330**	*i*P	**P**	**09 21 55.0**	**+0.8**
DRGR		**75.02**	**331**	*i*P	**P**	**09 21 57.3**	**+0.9**
SONA0	**Songino Array**	**75.40**	**27**	*e*P	**P**	**09 21 58.3**	**-0.3**
SONM	**Songino Array**	**75.40**	**27**	P	**P**	**09 21 58.3**	**-0.3**
	1.3nm,1.0s,baz=233,slow=6.9,SNR=6.4						
SONM				LR	LR	09 53 07.6	
	comp=Z,126nm,19.3s,baz=175,slow=34						
AKASG	**Malin Array Be**	**75.42**	**337**	P	**P**	**09 21 58.5**	**0.0**
	4.3nm,0.9s,baz=141,slow=5.1,SNR=12						
AKBB	**Malin Array Si**	**75.42**	**337**	*e*P	**P**	**09 21 58.7**	**+0.2**
	7.4nm,1.0s						
KIEV	**Kiev**	**75.42**	**337**	*e*P	**P**	**09 21 58.8**	**+0.4**
	6.5nm,1.0s						
KIEV	**Kiev**	**75.42**	**337**	*i*P	P	09 21 53.3	-5.2
TRPA	**Tarpa**	**76.10**	**332**	*i*P	**P**	**09 22 03.1**	**+0.7**
ARSA	**Arzberg**	**78.79**	**328**	*e*P	**P**	**09 22 18.4**	**+0.8**
	5.0nm,1.0s						
CONA	**Conrad Observa**	**79.08**	**329**	*e*P	**P**	**09 22 20.8**	**+1.6**
	14nm,1.6s						
MOA	**Molln**	**79.83**	**328**	*e*P	**P**	**09 22 23.5**	**+0.2**
	8.6nm,1.2s						
ABTA	**Abfaltersbach**	**80.01**	**326**	*e*P	**P**	**09 22 25.8**	**+1.4**
	7.5nm,1.0s						
KS15	**Wonju Array Si**	**80.92**	**46**	*e*P	**P**	**09 22 28.7**	**-0.6**
KSAR	**Wonju Array Be**	**80.92**	**46**	P	**P**	**09 22 29.4**	**0.0**
KSRS	**Korea Array**	**80.95**	**46**	P	**P**	**09 22 29.4**	**-0.1**
	2.7nm,1.1s,baz=246,slow=7.0,SNR=4.2						
KSRS				LR	LR	09 57 22.5	
	comp=Z,36nm,20.2s,baz=201,slow=35						
FETA	**Feichten**	**81.13**	**326**	*e*P	**P**	**09 22 30.7**	**+0.3**
	6.3nm,1.3s						
MOTA	**Moosalm**	**81.13**	**326**	*i* P	**P**	**09 22 31.9**	**+1.5**
	1.8nm,0.7s						
ES19	**SONSECA Array**	**86.15**	**314**	*e*P	**P**	**09 22 56.5**	**+0.3**
ESDC	**Sonseca Array**	**86.18**	**314**	P	**P**	**09 22 56.9**	**+0.5**
	1.5nm,0.8s,baz=98,slow=3.4,SNR=5.2						
USRK	**Ussuriysk Ar.**	**86.99**	**42**	LR	LR	10 03 43.0	
	comp=Z,44nm,18.1s,baz=193,slow=37						
MAJO	**Matsushiro**	**87.83**	**50**	*e*P	**P**	**09 23 04.5**	**+0.1**
MJAR	**Matsushiro Arr**	**87.83**	**50**	P	**P**	**09 23 04.5**	**+0.1**
	3.4nm,0.9s,baz=217,slow=5.3,SNR=5.7						
MJAR				LR	LR	10 02 04.8	
	comp=Z,39nm,20.1s,baz=255,slow=35						
YKA	**Yellowknife Ar**	**135.69**	**360**	PKP	**PKPdf**	**09 29 33.9**	**-1.0**
	0.6nm,0.9s,baz=2.0,slow=2.1,SNR=5.6						
YKB5	**Yellowknife Ar**	**135.69**	**360**	*e*PKPdf	**PKPdf**	**09 29 34.4**	**-0.6**
Q51A	**Peebles**	**145.55**	**314**	*e*PKPdf	**PKPab**	**09 29 53.7**	**-0.1**
L40A	**Anamosa**	**148.71**	**325**	*e*PKPdf	**PKPdf**	**09 29 58.3**	**-0.3**
152A	**Waverly Hall**	**149.19**	**304**	*e*PKPbc	**PKPbc**	**09 30 04.3**	**+0.4**
CCM	**Cathedral Cave**	**151.29**	**319**	*e*PKPdf	**PKPdf**	**09 30 02.0**	**-0.9**
CCM				*e*PKPbc	**PKPbc**	**09 30 08.0**	**-0.8**
MSO	**Missoula**	**151.37**	**358**	*e*PKPdf	**PKPdf**	**09 30 02.4**	**-0.4**
MSO				*e*PKPbc	**PKPbc**	**09 30 09.1**	**+0.2**
T42A	**Van Buren**	**151.79**	**317**	*e*PKPdf	**PKPdf**	**09 30 02.8**	**-0.9**
T42A				*e*PKPbc	**PKiKP**	**09 30 10.2**	**-0.2**
RSSD	**Black Hills**	**152.50**	**343**	*e*PKPbc	**PKiKP**	**09 30 11.9**	**0.0**
DLMT	**Dillon**	**152.78**	**356**	*e*PKPbc	**PKiKP**	**09 30 13.2**	**+0.9**
Q16A	**Castle Valley**	**159.03**	**352**	*e*PKPdf	**PKPdf**	**09 30 12.0**	**-1.6**
NV01	**Mina Array Sit**	**159.57**	**7**	*e*PKPab	**PKPab**	**09 30 52.1**	**-0.2**
NVAR	**Mina Array Bea**	**159.57**	**7**	PKPab	**PKPab**	**09 30 52.9**	**+0.6**
	0.3nm,0.7s,baz=47,slow=2.6,SNR=3.6						
LTX	**Lajitas**	**164.79**	**319**	*e*PKPab	**PKPab**	**09 31 16.3**	**+0.9**
TXAR	**Lajitas Array**	**164.79**	**319**	PKPab	**PKPab**	**09 31 16.3**	**+1.0**
	0.9nm,1.0s,baz=90,slow=2.8,SNR=6.0						

IDC **12** *09:15:07.3±0.5,1.94S×139.01E,h0km,mb4.6/20, mb1 4.7/23,mb1mx4.6/36,mbtmp4.6/23,ML4.9/4,MS3.7/16, Ms1 3.7/16,ms1mx3.5/43,Error ellipse: s-maj=16.4km s-min=10.6km az=84.0*
ISCJB **12** *09:15:09.8±0.2,2.03S±0.02×138.98E±0.02,h29km, mb4.8/83,MS3.8/14,Error ellipse: s-maj=3.7km s-min=3.3km az=144.6*
BJI **12** *09:15:10.8,2.24S×139.03E,h49km,mb4.8/46,mB5.1/32, Ms4.6/10,Ms7 4.4/12*
MOS **12** *09:15:10.5±0.9,2.00S×138.94E,h34km,mb4.9/30,Error ellipse: s-maj=10.8km s-min=6.2km az=110.3*
DJA **12** *09:15:11.2±0.7,2.2°S±5°×13.9E±°,h33km±5km,M5.2/32, mB5.7/6,mb5.1/32,MLV5.2/5,Mw(mB)5.2/6*
NEIC **12** *09:15:13.1±0.7,2.02S×138.96E,h40km±6km,mb5.0/37, Error ellipse: s-maj=5.6km s-min=4.9km az=46.0*
NEIC Felt [III] at Sarmi.

ISC 12 09:15:11.7±0.3,2.03S±0.04×138.96E±0.04,h29km,n253, σ145/260,mb5.0/92,MS3.8/14,7C-2D,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.33**	**115**	P	**Pn**	**09 15 33.2**	**-1.1**
JAY	**Jayapura**	**1.81**	**106**	Pn	**Pn**	**09 15 39.0**	**-2.0**
	107nm,0.3s,baz=224,slow=12,SNR=144						
JAY				Sn	**Sn**	**09 16 00.8**	**-2.2**
	301nm,0.3s,baz=93,slow=19,SNR=22						
JAY				LR	LR	09 16 37.8	
	comp=Z,3μm,18.7s,baz=318,slow=51						
JAY	**Jayapura**	**1.81**	**106**	P	**Pn**	**09 15 38.4**	**-2.5**
SRPI	**Serui, Papua**	**2.72**	**273**	P	**Pn**	**09 15 53.4**	**-0.1**
BAKI	**Biak**	**2.97**	**286**	P	**Pn**	**09 15 55.5**	**-1.4**
RKPI	**Ransiki, Papua**	**4.81**	**276**	P	**Pn**	**09 16 22.1**	**-0.1**
FAKI	**Fak Fak**	**6.76**	**262**	*e*Pn	**Pn**	**09 16 50.5**	**+1.5**
FAKI				*e*Sn	**Sn**	**09 18 05.1**	**-0.1**
FAKI	**Fak Fak**	**6.76**	**262**	P	**Pn**	**09 16 50.4**	**+1.3**
	183nm,0.8s,0.7nm						
SIJI	**Sorong**	**7.78**	**278**	Pn	**Pn**	**09 17 02.9**	**-0.1**
	2.5nm,0.3s,baz=8.6,slow=21,SNR=4.5						
SIJI				LR	LR	09 20 18.8	
	comp=Z,873nm,18.7s,baz=12,slow=40						
MANU	**Manus Island**	**8.40**	**90**	*e*Pn	**Pn**	**09 17 15.0**	**+3.4**
SAUI	**Saumlaki**	**9.65**	**232**	*e*Pn	**Pn**	**09 17 28.3**	**-0.5**
SAUI				*e*Sn	**Sn**	**09 19 19.8**	**+3.4**
SAUI	**Saumlaki**	**9.65**	**232**	P	**Pn**	**09 17 32.2**	**+3.4**
	317nm,0.7s						
PMG	**Port Moresby**	**10.96**	**132**	Pn	Pn	09 17 53.9	+7.2
	1.0nm,0.3s,baz=301,slow=7.7,SNR=14						
PMG				LR	LR	09 23 11.1	
	comp=Z,934nm,19.6s,baz=3.0,slow=44						
PMG	**Port Moresby**	**10.96**	**132**	*e*Pn	**Pn**	**09 17 47.9**	**+1.2**
PMG	**Port Moresby**	**10.96**	**132**	*e*P	**Pn**	**09 17 47.9**	**+1.2**
NLAI	**Namlea**	**11.91**	**264**	P	**Pn**	**09 18 02.2**	**+2.6**
	37nm,0.5s						
TNTI	**Ternate**	**11.92**	**283**	*e*Pn	**Pn**	**09 18 03.1**	**+3.3**
KDU	**Kakadu**	**12.39**	**211**	P	**Pn**	**09 18 05.3**	**-0.9**
	baz=12						
COEN	**Coen**	**12.57**	**161**	P	**Pn**	**09 18 08.7**	**0.0**
	baz=12						
COEN	**Coen**	**12.57**	**161**	*e*Pn	**Pn**	**09 18 09.9**	**+1.2**
LUWI	**Luwuk**	**16.21**	**273**	*e*Pn	**Pn**	**09 18 57.5**	**-0.1**
	59nm,0.8s						
SOEI	**Soe**	**16.50**	**242**	*e*Pn	**Pn**	**09 19 01.0**	**-0.4**
	141nm,0.8s						
SOEI	**Soe**	**16.50**	**242**	P	**Pn**	**09 19 02.1**	**+0.8**
	221nm,1.2s,3μm						
GUMO	**Guam**	**16.58**	**21**	LR	LR	09 25 35.8	
	comp=Z,203nm,18.1s,baz=156,slow=38						
GUMO	**Guam**	**16.58**	**21**	*e*Pn	**Pn**	**09 19 02.0**	**-0.3**
	430nm,1.3s						
GUMO	**Guam**	**16.58**	**21**	*e*P	**Pn**	**09 19 02.0**	**-0.3**
GUMO				pmax	pmax		
	comp=Z,430nm,1.3s						
MTSU	**Mount Surprise**	**16.85**	**162**	P	**Pn**	**09 19 06.6**	**+1.0**
	baz=16						
KNRA	**Kununurra**	**16.88**	**216**	P	**Pn**	**09 19 03.9**	**-2.2**
	baz=16						
BATI	**Baumata**	**17.23**	**241**	P	**P**	**09 19 12.6**	**+0.8**
	comp=Z,20nm,0.3s,baz=103,slow=2.1,SNR=26						
BATI				S	**Sn**	**09 22 23.9**	**+2.4**
	comp=Z,7.2nm,0.3s,baz=301,slow=5.9,SNR=3.1						
BATI				LR	LR	09 27 10.3	
	comp=Z,99nm,19.1s,baz=78,slow=42						
BATI	**Baumata**	**17.23**	**241**	P	**P**	**09 19 14.3**	**+2.5**
	comp=Z,115nm,0.5s,comp=Z,2μm						
WRAB	**Tennant Creek**	**18.36**	**194**	*e*P	**P**	**09 19 23.7**	**-0.4**
	comp=Z,60nm,0.8s						
WRAB	**Tennant Creek**	**18.36**	**194**	*ce*P	**P**	**09 19 24.3**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,79nm,1.0s						
WB2	**Warramunga Arr**	**18.37**	**194**	*e*P	**P**	**09 19 23.4**	**-0.9**
WRA	**Warramunga Arr**	**18.37**	**194**	P	**P**	**09 19 23.9**	**-0.4**
	comp=Z,7.3nm,0.3s,baz=14,slow=11,SNR=92						
WRA				S	**Sn**	**09 22 42.1**	**-6.8**
	comp=Z,1.3nm,0.3s,baz=11,slow=22,SNR=7.0						
WRA				LR	LR	09 26 46.0	
	comp=Z,306nm,20.2s,baz=5.0,slow=38

MEEK	**Meekatharra**	**31.31**	**217**	P		**P**	**09 21 28.9**	**-0.8**
	baz=31								
YNG	**Young**	**33.29**	**166**	P		**P**	**09 21 47.5**	**+0.6**
	baz=33								
DZM	**Mont Dzumac**	**33.33**	**129**	LR		LR	09 35 23.4		
	comp=Z,130nm,19.5s,baz=240,slow=36								
DZM	**Mont Dzumac**	**33.33**	**129**	*e*LR		LR	09 30 43.9		
	comp=Z,142nm,21.9s								
DZM	**Mont Dzumac**	**33.33**	**129**	*e*P		**P**	**09 21 46.4**	**-1.1**
	comp=Z,15nm,1.0s								
CAN	**Canberra**	**34.42**	**165**	P		**P**	**09 21 57.1**	**+0.4**
	baz=34								
CNB	**Canberra Magne**	**34.51**	**165**	P		**P**	**09 21 58.0**	**+0.5**
	baz=34								
MORW	**Morawa**	**34.64**	**217**	P		**P**	**09 21 58.1**	**-0.5**
	baz=34								
ARPS	**Mount Arapiles**	**34.67**	**176**	P		**P**	**09 21 58.6**	**-0.2**
	baz=34								
JHJ	**Hachijo jima 2**	**34.96**	**1**	LR		LR	09 33 48.3		
	comp=Z,147nm,18.7s,baz=150,slow=32								
BLDU	**Ballidu**	**35.39**	**214**	P		**P**	**09 22 04.4**	**-0.7**
	baz=35								
LHSI	**Lahat**	**35.43**	**266**	P		**P**	**09 22 07.0**	**+1.3**
	comp=Z,74nm,1.0s								
QIZ	**Qiongzhong**	**35.45**	**307**	P		**P**	**09 22 06.1**	**+0.3**
QIZ				S		**S**	**09 27 36.5**	**-2.8**
KLBR	**Kellerberrin**	**35.57**	**212**	P		**P**	**09 22 08.6**	**+1.9**
	baz=35								
JNU	**Nakatsue**	**35.78**	**348**	P		**P**	**09 22 06.1**	**-2.3**
	comp=Z,10nm,0.9s,baz=233,slow=20,SNR=3.9								
KTGM	**Kuala Trenggan**	**36.52**	**282**	P		**P**	**09 22 15.7**	**+0.7**
NWAO	**Narrogin (SRO)**	**36.89**	**211**	P		**P**	**09 22 18.0**	**+0.1**
	comp=Z,9.8nm,0.8s,baz=273,slow=7.8,SNR=11								
NWAO	**Narrogin (SRO)**	**36.89**	**211**	P		**P**	**09 22 17.6**	**-0.3**
	baz=36								
FRIM	**Kepong**	**37.69**	**278**	P		**P**	**09 22 25.7**	**+0.8**
MJAR	**Matsushiro Arr**	**38.38**	**359**	LR		LR	09 36 12.8		
	comp=Z,100nm,19.9s,baz=205,slow=33								
IPM	**Ipoh**	**38.45**	**280**	*e*P		**P**	**09 22 29.9**	**-1.5**
	comp=Z,83nm,1.6s								
PDSI	**Padang**	**38.50**	**271**	P		**P**	**09 22 30.2**	**-1.6**
	comp=Z,41nm,0.9s								
PPI	**Padang Panjang**	**38.58**	**272**	P		**P**	**09 22 32.9**	**+0.4**
	comp=Z,43nm,1.1s,comp=Z,3µm								
NJ2	**Nanjing**	**38.89**	**332**	*e*P		**P**	**09 22 34.9**	**+0.2**
KULM	**Kulim**	**38.95**	**281**	*e*P		**P**	**09 22 34.6**	**-1.0**
	comp=Z,28nm,0.9s								
SKLT	**Songkhla**	**39.34**	**284**	P		**P**	**09 22 39.7**	**+0.9**
	comp=Z,58nm,1.0s,comp=Z,781nm								
SKNT	**Sakolnakorn**	**39.34**	**300**	P		**P**	**09 22 39.0**	**+0.3**
	comp=Z,16nm,2.2s								
MNSI	**Mandailing Nat**	**39.47**	**274**	P		**P**	**09 22 38.2**	**-1.7**
	comp=Z,17nm,0.6s								
SRAK	**Srakaew**	**39.91**	**295**	P		**P**	**09 22 40.0**	**-3.5**
PSI	**Prapat**	**40.31**	**277**	P		**P**	**09 22 46.4**	**-0.6**
	comp=Z,27nm,0.8s,baz=1.8,slow=0.8,SNR=15								
PSI	**Prapat**	**40.31**	**277**	*e*P		**P**	**09 22 46.7**	**-0.4**
	comp=Z,48nm,1.1s								
TRTT	**Trang**	**40.38**	**285**	P		**P**	**09 22 47.7**	**+0.3**
	comp=Z,29nm,0.8s								
KSAR	**Wonju Array Be**	**40.59**	**346**	P		**P**	**09 22 48.9**	**+0.1**
KSAR				PcP		**PcP**	**09 24 51.9**	**+1.2**
KSAR	**Wonju Array Be**	**40.59**	**346**	P		**P**	**09 22 48.9**	**+0.1**
KSAR							09 24 51.9		
KSRS	**Korea Array**	**40.59**	**346**	P		**P**	**09 22 48.9**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=161,slow=7.6,SNR=4.4								
KSRS				PcP		**PcP**	**09 24 51.9**	**+1.2**
	comp=Z,2.7nm,1.1s,baz=188,slow=4.5,SNR=4.7								
KSRS				LR		LR	09 40 31.5		
	comp=Z,57nm,18.1s,baz=160,slow=38								
CHAI	**Chaiyaphum**	**40.65**	**297**	P		**P**	**09 22 49.5**	**-0.2**
	comp=Z,6.3nm,0.9s								
KRAB	**Krabi**	**40.94**	**285**	P		**P**	**09 22 52.4**	**+0.3**
	comp=Z,32nm,0.7s								
GSI	**Gunungsitoli**	**41.51**	**274**	*e*P		**P**	**09 22 55.6**	**-1.2**
	comp=Z,61nm,0.7s								
GSI	**Gunungsitoli**	**41.51**	**274**	P		**P**	**09 22 55.5**	**-1.3**
	comp=Z,95nm,0.7s								
KCSI	**Kotacane, Aceh**	**41.54**	**278**	P		**P**	**09 22 56.3**	**-0.7**
PHET	**Kaeng Krachan**	**41.76**	**292**	P		**P**	**09 22 59.5**	**+0.7**
	comp=Z,12nm,0.9s								
GYA	**Guiyang**	**42.12**	**314**	*e*P		**P**	**09 23 02.2**	**+0.5**
GYA				pmax		pmax			
	comp=Z,10.0nm,0.9s								
UTTA	**Uttaradit**	**42.63**	**299**	P		**P**	**09 23 06.4**	**+0.5**
	comp=Z,4.0nm,1.1s								
UTHA	**Uthaitani**	**42.80**	**295**	P		**P**	**09 23 07.5**	**+0.2**
	comp=Z,8.4nm,0.8s								
NANT	**Nan**	**42.94**	**301**	P		**P**	**09 23 09.4**	**+1.1**
	comp=Z,5.4nm,1.0s								
SUKH	**Sukhothai**	**43.34**	**298**	P		**P**	**09 23 13.4**	**+1.8**
	comp=Z,2.3nm,0.8s								
LAMP	**Lampang**	**43.75**	**300**	P		**P**	**09 23 16.1**	**+1.2**
	comp=Z,7.5nm,0.8s								
KMI	**Kunming**	**44.27**	**310**	P		**P**	**09 23 21.1**	**+1.8**
KMI				pmax		pmax			
	comp=Z,12nm,0.8s								
CM01	**Chiang Mai Arr**	**44.29**	**299**	*e*P		**P**	**09 23 19.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**44.32**	**299**	P		**P**	**09 23 19.8**	**+0.2**
	comp=Z,6.9nm,0.8s,baz=119,slow=6.5,SNR=35								
CMAR				PcP		**PcP**	**09 25 05.1**	**+1.6**
	comp=Z,1.3nm,0.3s,baz=180,slow=2.5,SNR=5.8								
CMMT	**Chiang Mai**	**44.46**	**300**	P		**P**	**09 23 21.3**	**+0.7**
	comp=Z,9.3nm,0.9s								
CHTO	**Chiang Mai**	**44.46**	**300**	*e*P		**P**	**09 23 20.9**	**+0.3**
	comp=Z,10nm,1.0s								
CHTO	**Chiang Mai**	**44.46**	**300**	*e*P		**P**	**09 23 20.9**	**+0.3**
CHTO				pmax		pmax			
	comp=Z,10.0nm,1.0s								
CHTO	**Chiang Mai**	**44.46**	**300**	P		**P**	**09 23 21.4**	**+0.8**
	comp=Z,42nm,0.9s								
ASAJ	**Asahikawa**	**46.05**	**4**	P		**P**	**09 23 32.7**	**-0.1**
	comp=Z,5.5nm,1.0s,baz=119,slow=18,SNR=3.1								
ASAJ				LR		LR	09 41 00.7		
	comp=Z,46nm,19.9s,baz=172,slow=34								
USRK	**Ussuriysk Ar.**	**46.44**	**353**	P		**P**	**09 23 35.8**	**0.0**
	comp=Z,3.5nm,0.9s,baz=188,slow=7.8,SNR=7.6								
BJI	**Beijing**	**46.77**	**336**	*e*P		**P**	**09 23 38.2**	**-0.3**
BJI				pmax		pmax			
	comp=Z,8.0nm,0.9s								
CD2	**Chengdu**	**46.85**	**317**	*e*P		**P**	**09 23 39.6**	**+0.2**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2				pmax		pmax			
	comp=Z,120nm,5.0s								
CN2	**Changchun**	**47.21**	**347**	*e*P		**P**	**09 23 43.5**	**+1.6**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.8s								
CN2				pmax		pmax			
	comp=Z,200nm,3.0s								
YSS	**Yuzh-Sakhalins**	**48.89**	**3**	*e*P		**P**	**09 23 57.9**	**+3.1**
HHC	**Hu-ho-hao-te**	**49.44**	**333**	*e*P		**P**	**09 24 01.8**	**+2.5**
HHC				pmax		pmax			
	comp=Z,19nm,0.6s								
HHC				pmax		pmax			
	comp=Z,150nm,5.9s								
URZ	**Urewera**	**50.18**	**141**	LR		LR	09 44 34.4		
	comp=Z,158nm,19.8s,baz=312,slow=35								
KLR	**Kul'dur**	**51.43**	**354**	P		**P**	**09 24 13.5**	**-0.6**
	comp=Z,5.6nm,0.9s,baz=200,slow=3.8,SNR=14								
KLR	**Kul'dur**	**51.43**	**354**	⇑*i*P		**P**	**09 24 15.9**	**+1.8**
SHL	**Shillong**	**53.16**	**304**	*e*P		**P**	**09 24 27.6**	**+0.1**
	comp=Z,16nm,1.0s								
SHL	**Shillong**	**53.16**	**304**	*e*P		**P**	**09 24 27.6**	**+0.1**
SHL				pmax		pmax			
	comp=Z,16nm,1.0s								
SHL	**Shillong**	**53.16**	**304**	*e*P		**P**	**09 24 30.0**	**+2.5**
GTA	**Gaotai**	**54.67**	**323**	⇑P		**P**	**09 24 38.4**	**+0.1**
GTA				pP		sP	09 24 49.8	-0.9
GTA				sP		pP	09 24 55.4	+8.1
GTA				S		**S**	**09 32 12.2**	**-4.6**
GTA				pmax		pmax			
	comp=Z,7.0nm,1.1s								
GTA				pmax		pmax			
	comp=Z,140nm,5.1s								
GTA				LR		LR			
	comp=Z,110nm,15.5s								
GTA				LR		LR			
	comp=Z,96nm,16.5s								
GTA				LR		LR			
	comp=Z,130nm,18.6s								
LSA	**Lhasa**	**55.48**	**309**	*e*P		**P**	**09 24 46.0**	**+1.2**
	comp=Z,8.0nm,0.6s								
LSA	**Lhasa**	**55.48**	**309**	*e*P		**P**	**09 24 46.0**	**+1.2**
LSA				pmax		pmax			
	comp=Z,8.0nm,0.6s								
ZEA	**Zeya**	**56.42**	**352**	*e*P		**P**	**09 24 52.0**	**+1.6**
ZEA				pmax		pmax			
	comp=Z,24nm,1.6s								
ULN	**Ulaanbaatar**	**56.95**	**335**	*e*P		**P**	**09 24 55.0**	**+0.4**
	comp=Z,5.0nm,0.8s								
ULN	**Ulaanbaatar**	**56.95**	**335**	*ce*P		**P**	**09 24 53.7**	**-0.9**
ULN				pmax		pmax			
	comp=Z,6.0nm,1.0s								
PETK	**Petropavlovsk-**	**57.14**	**13**	P		**P**	**09 24 55.4**	**-0.2**
	comp=Z,6.4nm,1.0s,baz=185,slow=9.7,SNR=3.3								
PETK	**Petropavlovsk-**	**57.14**	**13**	P		**P**	**09 24 55.4**	**-0.2**
PETK				pmax		pmax			
	comp=Z,5.0nm,0.9s								
SONM	**Songino Array**	**57.21**	**334**	P		**P**	**09 24 56.4**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=157,slow=6.9,SNR=18								
SONA1	**Songino Array**	**57.22**	**334**	*e*P		**P**	**09 24 56.3**	**-0.1**
TAPN	**Taplejung**	**57.29**	**304**	*e*P		**P**	**09 24 57.6**	**+0.1**
	comp=Z,24nm,0.8s								
ODAN	**Odare**	**57.38**	**304**	*e*P		**P**	**09 24 58.2**	**+0.2**
	comp=Z,40nm,0.9s								
RAMN	**Ramite**	**58.06**	**304**	*e*P		**P**	**09 25 03.0**	**+0.1**
	comp=Z,24nm,0.7s								
JIRN	**Jiri**	**58.66**	**304**	*e*P		**P**	**09 25 07.4**	**+0.2**
	comp=Z,45nm,0.7s								
GUN	**Gumba**	**59.01**	**304**	*e*P		**P**	**09 25 09.8**	**+0.2**
	comp=Z,45nm,0.7s								
KKN	**Kakani**	**59.46**	**304**	*e*P		**P**	**09 25 12.4**	**-0.2**
	comp=Z,48nm,0.9s								
DMN	**Daman**	**59.54**	**304**	*e*P		**P**	**09 25 13.3**	**+0.1**
	comp=Z,42nm,0.8s								
ZAK	**Zakamensk**	**60.48**	**335**	*e*P		**P**	**09 25 17.8**	**-1.2**
ZAK				pmax		pmax			
	comp=Z,11nm,1.2s								
KOLN	**Koldanda**	**60.85**	**303**	*e*P		**P**	**09 25 22.4**	**+0.3**
	comp=Z,42nm,0.9s								
DANN	**Dangsing**	**60.91**	**304**	*e*P		**P**	**09 25 22.5**	**-0.1**
	comp=Z,43nm,0.8s								
PYUN	**Piuthan**	**61.47**	**304**	*e*P		**P**	**09 25 26.5**	**+0.2**
	comp=Z,105nm,0.8s								
MOY	**Mondy**	**62.41**	**334**	*e*P		**P**	**09 25 32.5**	**+0.5**
MOY				pmax		pmax			
	comp=Z,30nm,1.9s								
RAR	**Rarotonga**	**62.55**	**113**	LR		LR	09 51 39.3		
	comp=Z,32nm,18.3s,baz=268,slow=35								
HYB	**Hyderabad**	**62.57**	**291**	*i*P		**P**	**09 25 33.0**	**-0.6**
BOD	**Bodaibo**	**62.92**	**345**	*e*P		**P**	**09 25 33.3**	**-1.8**
BOD				pmax		pmax			
	comp=Z,9.0nm,1.6s								
KNGR	**Kungurtug, Tuv**	**63.24**	**332**	*i*P		**P**	**09 25 37.5**	**0.0**
YAK	**Yakutsk**	**64.28**	**355**	*e*P		**P**	**09 25 42.5**	**-1.5**
YAK				*e**PP		**pP**	**09 25 51.6**	**-1.4**
YAK				*e*			09 26 21.2		
YAK				*e*			09 28 15.0		
YAK				*e*PPP		PPP	09 29 35.5		
YAK				*e*S		**S**	**09 34 18.5**	**-1.2**
YAK				*e**SS		**sS**	**09 34 35.0**	**+0.8**
YAK				*e*			09 35 37.8		
YAK				*e*SS		**SS**	**09 38 28.9**	**-0.9**
YAK				pmax		pmax			
	comp=Z,32nm,0.9s								
YAK				pmax		pmax			
	comp=E,2.0nm,0.8s								
YAK				pmax		pmax			
	comp=N,9.0nm,1.0s								
YAK				pmax		pmax			
	comp=Z,204nm,4.2s								
YAK				pmax		pmax			
	comp=N,67nm,3.8s								
YAK				pmax		pmax			
	comp=E,71nm,4.2s								
YAK				smax		smax			
	comp=N,52nm,3.2s								
YAK				smax		smax			
	comp=E,41nm,2.7s								
YAK				MLR		MLR			
	comp=Z,65nm,17.0s								
YAK				MLR		MLR			
	comp=N,91nm,21.0s								
WMQ	**Urumqi**	**64.63**	**321**	⇓*i*P		**P**	**09 25 47.5**	**+0.7**
WMQ				pP		sP	09 25 59.0	-0.3
WMQ				sP		pP	09 26 08.3	+12
WMQ				pmax		pmax			
	comp=N,22nm,1.1s								
WMQ				pmax		pmax			
	comp=N,340nm,5.7s								
WMQ				LR		LR			
	comp=N,240nm,20.1s								
WMQ				LR		LR			
	comp=N,270nm,22.9s								
WMQ				LR		LR			
	comp=N,230nm,19.5s								
SEY	**Seymchan**	**65.58**	**7**	*i*P		**P**	**09 25 53.0**	**+0.6**
DGZ	**Jazzator, Alta**	**67.85**	**327**	*ci*P		**P**	**09 26 07.4**	**-0.1**
DGZ				pmax		pmax			
	comp=Z,4.0nm,0.9s								
MK01	**Makanchi Array**	**69.39**	**322**	*e*P		**P**	**09 26 17.0**	**0.0**
MK31	**Makanchi Array**	**69.40**	**322**	*e*P		**P**	**09 26 17.2**	**+0.2**
MK31	**Makanchi Array**	**69.40**	**322**	*e*P		**P**	**09 26 17.3**	**+0.2**
MKAR	**Makanchi Array**	**69.40**	**322**	P		**P**	**09 26 17.3**	**+0.2**
	comp=Z,8.0nm,0.8s,baz=112,slow=7.5,SNR=55								
MKAR	**Makanchi Array**	**69.40**	**322**	*e*P		**P**	**09 26 17.2**	**+0.2**
	comp=Z,38nm,0.9s								
MAKZ	**Makanchi**	**69.60**	**322**	*e*P		**P**	**09 26 18.4**	**+0.2**
	comp=Z,12nm,0.8s								
MAKZ	**Makanchi**	**69.60**	**322**	*e*P		**P**	**09 26 18.4**	**+0.2**
MAKZ				pmax		pmax			
	comp=Z,12nm,0.8s								
KSH	**Kashi**	**70.80**	**313**	P		**P**	**09 26 26.8**	**+0.9**
KSH				pP		sP	09 26 39.9	+1.5
KSH				sP		PcP	09 26 48.7	+2.2
KSH				S		**S**	**09 35 34.8**	**-4.4**
KSH				SKS		**SKiKP**	**09 36 16.4**	**+9.4**
KSH				pmax		pmax			
	comp=Z,18nm,0.8s								
KSH				pmax		pmax			
	comp=Z,370nm,3.7s								
KSH				LR		LR			
	comp=Z,190nm,8.4s								
KSH				LR		LR			
	comp=Z,280nm,4.6s								
KSH				LR		LR			
	comp=Z,330nm,5.8s								
NIL	**Nilore**	**71.12**	**307**	*e*P		**P**	**09 26 28.1**	**+0.3**
	comp=Z,57nm,0.8s								
NIL	**Nilore**	**71.12**	**307**	*e*P		**P**	**09 26 28.1**	**+0.3**
NIL				pmax		pmax			
	comp=Z,57nm,0.8s								
ZAA0	**Zalesovo Array**	**71.47**	**330**	*e*P		**P**	**09 26 28.5**	**-1.0**
	comp=Z,3.1nm,0.8s								
ZALV	**Zalesovo Beam**	**71.47**	**330**	P		**P**	**09 26 28.4**	**-1.1**
	comp=Z,3.2nm,0.7s,baz=112,slow=5.9,SNR=12								
PPT2	**Papeete2**	**71.72**	**108**	*e*LR		LR	09 48 36.0		
	comp=Z,75nm,26.5s								
NVS	**Novosibirsk**	**72.73**	**330**	*e*P		**P**	**09 26 36.6**	**-0.3**
NVS				pmax		pmax			
	comp=N,6.0nm,1.2s								
NVS				pmax		pmax			
	comp=E,6.0nm,1.2s								
NVS				pmax		pmax			
	comp=Z,9.0nm,1.2s								
AAK	**Ala-Archa**	**72.89**	**316**	P		**P**	**09 26 38.0**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=146,slow=5.0,SNR=3.9								
AAK	**Ala-Archa**	**72.89**	**316**	*ce*P		**P**	**09 26 36.5**	**-1.9**
AAK				pmax		pmax			
	comp=Z,7.0nm,1.3s								
TIXI	**Tiksi**	**73.84**	**357**	*i*P		**P**	**09 26 42.5**	**-0.7**
TIXI				pmax		pmax			
	comp=Z,4.0nm,0.9s								
VNDA	**Vanda**	**76.44**	**175**	P		**P**	**09 26 58.5**	**+0.4**
	comp=Z,8.5nm,0.6s,baz=323,slow=6.9,SNR=64								
BRVK	**Borovoye**	**78.97**	**325**	*e*P		**P**	**09 27 12.8**	**+0.2**
	comp=Z,11nm,0.8s								
BRVK	**Borovoye**	**78.97**	**325**	*ci*P		**P**	**09 27 12.5**	**-0.2**
BRVK				pmax		pmax			
	comp=Z,13nm,0.9s								
MAW	**Mawson**	**82.85**	**202**	P		**P**	**09 27 33.4**	**+0.4**
	comp=Z,7.5nm,0.7s,baz=83,slow=7.2,SNR=8.6								
MAW				LR		LR	10 03 12.8		
	comp=Z,67nm,18.7s,baz=55,slow=35								
KNK	**Knik Glacier**	**83.51**	**28**	*e*P		**P**	**09 27 39.2**	**+2.6**
	comp=Z,30nm,1.3s								
RND	**Reindeer**	**83.90**	**26**	*e*P		**P**	**09 27 39.9**	**+1.2**
	comp=Z,15nm,1.3s								
RND	**Reindeer**	**83.90**	**26**	*e*P		**P**	**09 27 39.9**	**+1.2**
RND				pmax		pmax			
	comp=Z,15nm,1.3s								
GEYT	**Alibeck**	**84.02**	**308**	P		**P**	**09 27 40.7**	**+0.9**
	comp=Z,4.2nm,0.7s,baz=182,slow=4.3,SNR=4.7								
ABKAR	**Akbulak array**	**84.36**	**320**	*e*P		**P**	**09 27 41.0**	**-0.3**
ILAR	**Eielson Array**	**85.11**	**24**	P		**P**	**09 27 43.2**	**-1.4**
	comp=Z,2.4nm,0.9s,baz=262,slow=4.7,SNR=12								
ILAR	**Eielson Array**	**85.11**	**24**	P		**P**	**09 27 43.3**	**-1.4**
ILAR				pmax		pmax			
	comp=Z,3.0nm,0.9s								
ILB	**Eielson Array**	**85.11**	**24**	*e*P		**P**	**09 27 46.2**	**+1.6**
IL1	**Eielson Array**	**85.11**	**24**	*e*P		**P**	**09 27 42.6**	**-2.0**
DOT	**Dot Lake**	**86.04**	**26**	*e*P		**P**	**09 27 50.7**	**+1.3**
	comp=Z,8.2nm,1.1s								
ARU	**Arti**	**86.36**	**327**	*e*P		**P**	**09 27 50.0**	**-1.0**
	comp=Z,6.4nm,1.1s								
ARU	**Arti**	**86.36**	**327**	P		**P**	**09 27 49.6**	**-1.4**
ARU							09 31 11.8		
ARU				S		**SKSac**	**09 38 12.3**	**-3.0**
QSPA	**South Pole Qui**	**87.92**	**180**	*e*P		**P**	**09 27 58.3**	**-0.2**
	comp=Z,48nm,0.8s								
DAWY	**Dawson**	**88.15**	**26**	*e*P		**P**	**09 28 00.2**	**+0.6**
	comp=Z,5.8nm,0.8s								
RAYN	**Ar Rayn**	**93.97**	**293**	*e*P		**P**	**09 28 27.6**	**0.0**
	comp=Z,5.8nm,1.0s								
RAYN	**Ar Rayn**	**93.97**	**293**	*e*P		**P**	**09 28 27.6**	**0.0**
RAYN				pmax		pmax			
	comp=Z,6.0nm,1.0s								
YKA	**Yellowknife Ar**	**99.34**	**27**	P		**Pdif**	**09 28 49.6**	**-1.4**
	comp=Z,0.3nm,0.8s,baz=288,slow=4.7,SNR=4.1								
YKA				PKKPbc		**PKKPbc**	**09 45 13.8**	**-3.4**
	comp=Z,0.2nm,0.6s,baz=104,slow=2.7,SNR=8.1								
MNTX	**Cornudas Mount**	**112.78**	**56**	P		**PKiKP**	**09 33 47.1**	**+0.8**
	baz=282								
CLL	**Collm**	**113.31**	**326**	*e*PP		PKiKP	09 34 34.0	+47
TXAR	**Lajitas Array**	**114.73**	**59**	PKP		PKPdf	09 33 50.1	-0.1
	comp=Z,0.7nm,1.0s,baz=186,slow=2.2,SNR=6.6								
ECSD	**EROS Data Cent**	**115.70**	**42**	*e*Pdif		**Pdif**	**09 30 05.8**	**+1.6**
JCT	**Junction City**	**117.72**	**56**	*e*PKPdf		**PKiKP**	**09 33 56.1**	**+0.2**
JCT	**Junction City**	**117.72**	**56**	*e*PKIKP		**PKiKP**	**09 33 56.1**	**+0.2**
JCT	**Junction City**	**117.72**	**56**	P		**PKPdf**	**09 33 55.9**	**0.0**
	baz=285								
W39A	**Magazine**	**121.04**	**50**	P		**PKPdf**	**09 34 01.8**	**-0.3**
	baz=292								
U40A	**Yellville**	**121.30**	**48**	P		**PKPdf**	**09 34 02.5**	**-0.1**
	baz=293								
Q41A	**Truxton**	**121.39**	**45**	P		**PKiKP**	**09 34 03.3**	**+0.5**
	baz=296								
MIAR	**Mount Ida**	**121.44**	**50**	P		**PKiKP**	**09 34 03.5**	**+0.5**
	baz=292								
R41A	**Rosebud**	**121.57**	**45**	P		**PKPdf**	**09 34 02.8**	**-0.2**
	baz=296								
S41A	**Jillco Farms,**	**121.61**	**46**	P		**PKPdf**	**09 34 01.9**	**-1.2**
	baz=295								
CCM	**Cathedral Cave**	**121.77**	**46**	*e*PKPdf		**PKPdf**	**09 34 03.0**	**-0.4**
CCM	**Cathedral Cave**	**121.77**	**46**	*e*PKIKP		**PKPdf**	**09 34 03.0**	**-0.4**
CCM	**Cathedral Cave**	**121.77**	**46**	P		**PKPdf**	**09 34 03.0**	**-0.4**
	baz=296								
R42A	**Luebbering**	**121.99**	**45**	P		**PKPdf**	**09 34 03.8**	**0.0**
	baz=296								
T42A	**Van Buren**	**122.31**	**47**	P		**PKPdf**	**09 34 04.7**	**+0.2**
	baz=295								
T43A	**Greenville**	**122.87**	**46**	P		**PKPdf**	**09 34 04.4**	**-1.2**
	baz=296								
244A	**Avery, Jackson**	**124.62**	**52**	P		**PKiKP**	**09 34 09.4**	**+0.1**
	baz=292								
U46A	**Springville**	**124.71**	**46**	P		**PKPdf**	**09 34 08.9**	**-0.2**
	baz=297								
W47A	**Westpoint**	**125.64**	**47**	P		**PKPdf**	**09 34 10.1**	**-0.8**
	baz=297								
Y47A	**UCPARC, Winfie**	**126.04**	**49**	P		**PKPdf**	**09 34 11.6**	**-0.1**
	baz=296								
U50A	**Jamestown**	**127.05**	**44**	P		**PKPdf**	**09 34 13.7**	**0.0**
	baz=300								
LRAL	**Lakeview Retre**	**127.06**	**49**	P		**PKPdf**	**09 34 13.5**	**-0.1**
	baz=296								
W50A	**Signal Mountai**	**127.31**	**46**	P		**PKPdf**	**09 34 14.1**	**-0.1**
	baz=299								
Z49A	**Columbiana**	**127.34**	**49**	P		**PKPdf**	**09 34 14.1**	**-0.1**
	baz=296								
Z51A	**Franklin**	**128.30**	**48**	P		**PKPdf**	**09 34 16.0**	**0.0**
	baz=298								
X52A	**Dahlonega**	**128.62**	**46**	P		**PKiKP**	**09 34 17.3**	**0.0**
	baz=300								
251A	**Midway**	**128.68**	**49**	P		**PKPdf**	**09 34 17.1**	**+0.3**
	baz=297								
W53A	**Cullowhee**	**128.86**	**45**	P		**PKiKP**	**09 34 17.9**	**0.0**
	baz=301								
Y52A	**Lilburn**	**128.86**	**47**	P		**PKiKP**	**09 34 17.9**	**+0.2**
	baz=299								
PLCA	**Paso Flores**	**129.65**	**151**	PKP		**PKiKP**	**09 34 19.4**	**+0.2**
	comp=Z,3.6nm,1.2s,baz=162,slow=3.2,SNR=3.7								
TORD	**Torodi Ar. Bea**	**136.30**	**287**	PKhKP		PKPpre	09 34 19.3		
	comp=Z,0.6nm,0.7s,baz=77,slow=5.3,SNR=3.8								
TORD				PKP		**PKiKP**	**09 34 33.3**	**0.0**
	comp=Z,2.8nm,0.7s,baz=61,slow=1.8,SNR=15								
KIC	**Kosan Boka**	**143.55**	**278**	*e*PKP2		PKPab	09 34 41.5	+0.2
	comp=Z,37nm,0.9s								
DBIC	**Dimbokro**	**143.64**	**278**	PKP		PKPbc	09 34 42.6	+0.2
	comp=Z,18nm,0.6s,baz=73,slow=3.8,SNR

0.9nm,0.3s,baz=233,slow=15,SNR=5.1
PSI Prapat 10.78 140 LR LR 09 53 29.9
comp=Z,129nm,19.4s,baz=92,slow=43
PALK Pallekele 11.73 252 Sn Sn 09 50 28.6 -12
1.8nm,0.3s,baz=115,slow=17,SNR=7.6
PALK LR LR 09 52 45.4
comp=Z,107nm,19.6s,baz=302,slow=36
ODAN Odare 16.24 345 eP **P 09 49 33.9 -0.4**
RAMN Ramite 16.53 343 eP **P 09 49 39.9 +2.3**
10nm,0.5s
JIRN Jiri 17.32 343 eP **Pn 09 49 41.6 -3.6**
PKI Pulchoki 17.48 340 eP **P 09 49 47.8 -0.4**
PKIN Phulchoki 17.49 340 eP **P 09 49 47.9 -0.3**
14nm,0.7s
DMN Daman 17.62 340 eP **P 09 49 50.1 +0.5**
14nm,0.7s
KOLN Koldanda 18.32 336 eP **Pn 09 50 01.0 +3.6**
DANN Dangsing 18.78 337 eP **P 09 49 59.0 -3.5**
16nm,0.6s
PYUN Piuthan 18.86 335 eP **Pn 09 50 04.3 +0.3**
40nm,1.0s
H08S3 Diego Garcia H 26.86 227 T T 10 19 24.2
baz=46,slow=75,SNR=298
H08S2 Diego Garcia H 26.87 227 T T 10 19 28.8
baz=46,slow=75,SNR=414
H08S1 Diego Carcia H 26.88 227 T T 10 19 32.8
baz=46,slow=75,SNR=243
AAK Ala-Archa 34.89 337 P **P 09 52 35.2 +0.9**
0.9nm,0.4s,baz=133,slow=19,SNR=2.9
MKAR Makanchi Array 36.48 349 P **P 09 52 48.0 +0.3**
0.5nm,0.7s,baz=177,slow=7.3,SNR=5.7
MKAR pP **pwP 09 52 56.5 -0.9**
2.7nm,0.8s,baz=168,slow=8.3,SNR=18
SONM Songino Array 38.56 16 P **P 09 53 05.9 +0.4**
0.2nm,0.4s,baz=202,slow=11,SNR=2.4
SONM pP **pP 09 53 14.2 +1.1**
1.3nm,0.8s,baz=200,slow=8.9,SNR=6.9
KURBB Kurchatov Arra 40.90 347 P **P 09 53 24.9 +0.2**
0.5nm,0.6s,baz=156,slow=6.8,SNR=3.9
KURBB pP **pP 09 53 33.5 +1.1**
1.8nm,0.8s,baz=162,slow=7.7,SNR=8.8
ZALV Zalesovo Beam 43.10 354 P **P 09 53 42.9 +0.3**
0.4nm,0.5s,baz=181,slow=7.2,SNR=2.9
ZALV pP **pP 09 53 50.8 +0.4**
2.0nm,0.6s,baz=175,slow=10,SNR=7.6
ZALV LR LR 10 15 51.4
comp=Z,27nm,21.4s,baz=72,slow=42
FITZ Fitzroy Crossi 44.15 131 P **P 09 53 50.9 -0.7**
6.3nm,0.8s,baz=343,slow=5.9,SNR=9.3
FITZ pP **pP 09 53 59.7 +0.2**
1.7nm,0.4s,baz=308,slow=4.0,SNR=2.1
BVAR Borovoye Array 45.24 342 pP pP 09 54 08.7 +1.2
1.5nm,0.8s,baz=141,slow=9.6,SNR=5.4
AKTO Aktyubinsk 48.08 331 pP pP 09 54 30.5 +0.7
1.8nm,0.7s,baz=124,slow=7.3,SNR=4.8
WRA Warramunga Arr 51.91 126 P **P 09 54 51.7 +0.1**
0.7nm,0.5s,baz=301,slow=10,SNR=13
WRA pP **pP 09 54 59.8 0.0**
1.1nm,0.4s,baz=302,slow=10,SNR=8.6
ASAR Alice Springs 53.65 130 P **P 09 55 04.3 -0.1**
1.0nm,0.7s,baz=309,slow=7.2,SNR=7.6
ASAR pP **pP 09 55 12.4 -0.2**
1.1nm,0.4s,baz=308,slow=7.1,SNR=7.5
ASAJ Asahikawa 54.47 43 LR LR 10 20 25.9
comp=Z,36nm,18.3s,baz=228,slow=38
BRTR Keskin Array B 58.69 310 P **P 09 55 39.5 -0.9**
0.5nm,0.7s,baz=116,slow=7.5,SNR=3.1
BRTR pP **pP 09 55 48.7 +0.4**
1.6nm,0.8s,baz=115,slow=7.4,SNR=6.3
STKA Stephens Creek 63.90 134 P **P 09 56 16.0 +0.4**
1.5nm,0.9s,baz=45,slow=1.4,SNR=2.8
AKASG Malin Array Be 64.28 321 pP pP 09 56 25.5 -0.2
1.2nm,0.7s,baz=81,slow=6.0,SNR=3.3
TIXI Tiksi 64.52 12 pP pP 09 56 26.4 -0.6
2.7nm,0.7s,baz=197,slow=3.9,SNR=2.9
FINES FINESS Array B 68.85 332 P **P 09 56 47.2 +0.5**
2.7nm,0.9s,baz=140,slow=8.9,SNR=4.1
FINES pP **pwP 09 56 55.9 -1.0**
3.7nm,0.6s,baz=98,slow=7.0,SNR=5.6
ARCES ARCESS Array B 71.50 340 pP pP 09 57 12.2 +1.4
4.4nm,0.7s,baz=119,slow=5.2,SNR=3.1
GERES GERESS Array B 73.98 318 P **P 09 57 18.3 +0.2**
0.2nm,0.3s,baz=108,slow=3.4,SNR=3.8
GERES pP **pP 09 57 26.7 +0.5**
1.0nm,0.7s,baz=92,slow=8.0,SNR=5.2
NB2 NORSAR Subarra 75.86 330 P P 09 57 36.6 +7.9
comp=Z,0.7nm,0.6s,baz=96,slow=5.3
NOA NORSAR Array B 75.86 330 P **P 09 57 27.3 -1.3**
comp=Z,0.7nm,0.8s,baz=117,slow=4.5,SNR=2.8
NOA pP **pP 09 57 36.9 +0.2**
comp=Z,0.9nm,0.6s,baz=94,slow=5.6,SNR=4.3
TORD Torodi Ar. Bea 77.25 283 P **P 09 58 32.7 +0.6**
comp=Z,0.3nm,0.5s,baz=79,slow=7.5,SNR=3.3
ILAR Eielson Array 92.56 22 P **P 09 58 53.0 -0.6**
comp=Z,0.4nm,0.7s,baz=285,slow=4.3,SNR=5.0
ILAR pP **pP 09 59 01.6 -0.4**
comp=Z,0.8nm,0.7s,baz=296,slow=4.5,SNR=8.0
TXAR Lajitas Array 137.06 20 pPKP pPKPdf 10 05 16.5 +1.6
comp=Z,0.3nm,0.7s,baz=105,slow=1.3,SNR=2.8

*NEIC **12** 09:46:23.2±0.0, 19°.63N×64°.30W, h17km, MD2.6(RSPR), After RSPR.*

RSPR 12 09:46:23.2, 19°.63N×64°.30W, h17km±11km, 3C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABV	**Anegada**	**0.90**	**182**	⇑*eP*	Pb	09 46 38.0	-2.4
ABV	**Anegada**	**0.90**	**182**	*eS*	Sb	09 46 49.9	-2.2
ABVI	**Anegada Island**	**0.90**	**182**	*eP*g	Pb	09 46 37.5	-2.9
ABVI				*eS*g	Sb	09 46 49.9	-2.2
STVI	**Saint Thomas**	**1.42**	**206**	⇑*eP*	Pn	09 46 45.7	-2.5
STVI	**Saint Thomas**	**1.42**	**206**	*eS*	Sn	09 47 02.7	-3.8
STVI	**Saint Thomas**	**1.42**	**206**	*eP*n	Pn	09 46 46.1	-2.1
STVI				*eS*n	Sn	09 47 02.7	-3.8
STVI				*eS*n	Sb	09 47 03.8	-3.2
CUPR	**Culebra, Puert**	**1.61**	**215**	*eP*n	Pn	09 46 47.6	-3.3
CUPR				*eS*n	Sn	09 47 07.8	-3.5
CDVI	**St. Croix**	**1.92**	**193**	*eP*n	Pn	09 46 54.5	-0.6
MTP	**Monte Pirata**	**1.94**	**218**	⇑*eP*	Pn	09 46 52.6	-2.7
MTP	**Monte Pirata**	**1.94**	**218**	*eS*	Sn	09 47 15.7	-3.5
MTP	**Monte Pirata**	**1.94**	**218**	*eP*n	Pn	09 46 52.6	-2.7
MTP				*eS*n	Sn	09 47 15.7	-3.5
MTP				*eS*n	Sb	09 47 18.2	-3.7
CBYP	**Canovanas**	**2.00**	**228**	*eP*n	Pn	09 46 52.5	-3.8
HUMP	**Col San Antoni**	**2.09**	**225**	*eP*n	Pn	09 46 54.2	-3.2
SDDR	**Presa de Saban**	**6.63**	**266**	*eP*n	Pn	09 47 59.5	-0.5

*BGR **12** 10:21:40.2±0.0, 20°.61S×169°.95E, h33km*
*BJI **12** 10:22:05.8, 18°.45S×169°.86E, h212km, mb4.6/29, mB4.9/19*
*NEIC **12** 10:22:10.0±0.9, 18°.86S×169°.17E, h235km±9km, mb4.7/83, Error ellipse: s-maj=5.9km s-min=5.4km az=47.0*
*ISCJB **12** 10:22:10.4±0.2, 18°.91S±0°.04×169°.13E±0°.05, h250km, mb4.6/103, Error ellipse: s-maj=6.4km s-min=5.3km az=42.4*
*IDC **12** 10:22:11.0±1.5, 19°.00S×169°.17E, h246km±13km, mb4.0/19, mb1 4.2/21, mb1mx4.1/30, mbtmp4.7/21, Error ellipse: s-maj=12.6km s-min=9.7km az=150.0*

ISC 12 10:22:11.4±0.4, 19°.00S±0°.07×169°.12E±0°.08, h250km, n178, σ1s21/184, mb4.7/103, 3C-3D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.95**	**219**	P	**Pn**	**10 23 12.8**	**-1.8**
	43nm,0.3s,baz=301,slow=7.8,SNR=188						
HNR	**Honiara**	**13.02**	**316**	P	**Pn**	**10 25 06.6**	**-1.0**
	5.4nm,0.3s,baz=230,slow=6.7,SNR=5.6						
OUZ	**Omahuta**	**16.63**	**167**	*eP*	**Pn**	**10 25 50.4**	**-0.5**
	24nm,0.9s						
EIDS	**Eidsvold**	**17.86**	**246**	*eP*	**Pn**	**10 26 03.4**	**-1.9**
	22nm,0.7s						
URZ	**Urewera**	**20.41**	**162**	P	**P**	**10 26 29.5**	**-0.2**
	4.4nm,0.4s,baz=20,slow=4.8,SNR=5.9						
URZ	**Urewera**	**20.41**	**162**	*eP*	**P**	**10 26 31.0**	**+1.3**
	26nm,1.4s						
BKZ	**Black Stump Fm**	**21.08**	**164**	*eP*	**P**	**10 26 36.8**	**0.0**
	13nm,1.1s						
CTA	**Charters Tower**	**21.58**	**263**	P	**P**	**10 26 42.1**	**+0.4**
	13nm,0.7s,baz=86,slow=12,SNR=20						
CTAO	**Charters Tower**	**21.58**	**263**	*eP*	**P**	**10 26 42.1**	**+0.4**
	12nm,0.8s						
BFZ	**Birch Farm**	**22.45**	**166**	*eP*	**P**	**10 26 50.5**	**+1.1**
	93nm,1.3s						
SNZO	**South Karori**	**22.74**	**169**	*eP*	**P**	**10 26 53.3**	**+1.4**
	155nm,1.4s						
THZ	**Tophouse**	**22.91**	**173**	*eP*	**P**	**10 26 55.7**	**+2.0**
	51nm,1.4s						
PMG	**Port Moresby**	**23.31**	**291**	P	**P**	**10 26 58.3**	**+0.9**
	20nm,0.8s,baz=107,slow=6.7,SNR=11						
PMG	**Port Moresby**	**23.31**	**291**	*eP*	**P**	**10 26 58.3**	**+0.9**
	22nm,0.9s						
LTZ	**Lake Taylor**	**23.85**	**174**	*eP*	**P**	**10 27 04.1**	**+1.9**
	86nm,1.8s						
CRLZ	**Canterbury Las**	**24.67**	**174**	*eP*	**P**	**10 27 11.8**	**+2.3**
	118nm,1.5s						
RPZ	**Rata Peaks**	**24.69**	**177**	*eP*	**P**	**10 27 11.3**	**+1.6**
	60nm,1.7s						
STKA	**Stephens Creek**	**27.88**	**237**	P	**P**	**10 27 39.0**	**+0.7**
	4.5nm,0.6s,baz=64,slow=8.7,SNR=12						
STKA				PcP	**PcP**	**10 30 48.5**	**+1.1**
	4.0nm,0.8s,baz=309,slow=3.0,SNR=5.9						
STKA	**Stephens Creek**	**27.88**	**237**	*eP*	**P**	**10 27 39.3**	**+1.0**
	2.1nm,1.0s						
STKA				PcP	**PcP**	**10 30 48.5**	**+1.1**
WRAB	**Tennant Creek**	**32.77**	**263**	*eP*	**P**	**10 28 20.8**	**-0.6**
	8.2nm,0.6s						
WRA	**Warramunga Arr**	**32.77**	**262**	P	**P**	**10 28 21.0**	**-0.5**
	4.1nm,0.4s,baz=89,slow=8.5,SNR=72						
WRA				PcP	**PcP**	**10 31 00.5**	**0.0**
	1.6nm,0.8s,baz=93,slow=2.8,SNR=7.4						
WRA				S	**S**	**10 33 19.7**	**0.0**
	1.0nm,0.8s,baz=90,slow=18,SNR=4.8						
AS31	**Alice Springs**	**33.08**	**256**	*eP*	**P**	**10 28 24.3**	**+0.3**
	25nm,0.4s						
ASAR	**Alice Springs**	**33.08**	**256**	P	**P**	**10 28 24.4**	**+0.3**
	37nm,0.5s,baz=83,slow=8.9,SNR=577						
ASAR				S	**S**	**10 33 25.4**	**+1.0**
	1.5nm,0.8s,baz=89,slow=18,SNR=8.2						
FITZ	**Fitzroy Crossi**	**41.16**	**264**	P	**P**	**10 29 32.8**	**+1.0**
	7.6nm,0.7s,baz=91,slow=7.1						
MBWA	**Marble Bar**	**46.29**	**259**	*eP*	**P**	**10 30 13.6**	**+1.1**
VNDA	**Vanda**	**58.66**	**182**	P	**P**	**10 31 42.7**	**+0.5**
	0.8nm,0.5s,baz=356,slow=8.2,SNR=9.3						
MJAR	**Matsushiro Arr**	**62.49**	**332**	P	**P**	**10 32 08.0**	**-0.5**
	4.1nm,0.9s,baz=180,slow=7.9,SNR=8.9						
MAT	**Matsushiro**	**62.50**	**332**	P	**P**	**10 32 08.1**	**-0.4**
JNU	**Nakatsue**	**63.41**	**324**	P	**P**	**10 32 14.6**	**-0.1**
	6.7nm,0.7s,baz=55,slow=3.9,SNR=5.3						
NJ2	**Nanjing**	**69.96**	**316**	*eP*	**P**	**10 32 56.3**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
QSPA	**South Pole Qui**	**71.05**	**180**	*eP*	**P**	**10 33 02.4**	**+0.2**
	23nm,1.0s						
USRK	**Ussuriysk Ar.**	**71.48**	**333**	P	**P**	**10 33 05.8**	**+1.1**
	2.6nm,0.6s,baz=127,slow=6.6,SNR=7.8						
PETK	**Petropavlovsk-**	**72.49**	**353**	P	**P**	**10 33 10.8**	**+0.3**
	22nm,0.8s,baz=150,slow=6.5,SNR=54						
CN2	**Changchun**	**74.20**	**329**	*eP*	**P**	**10 33 19.9**	**-0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
BJI	**Beijing**	**76.69**	**321**	⇓*eP*	**P**	**10 33 35.9**	**+1.0**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
XAN	**Xi'an**	**77.87**	**313**	P	**P**	**10 33 42.6**	**+0.9**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,140nm,5.0s						
KMI	**Kunming**	**78.06**	**302**	P	**P**	**10 33 45.3**	**+2.2**
KMI				pmax	pmax		
	comp=Z,23nm,0.8s						
CM01	**Chiang Mai Arr**	**78.28**	**294**	*eP*	**P**	**10 33 45.8**	**+1.6**
CMAR	**Chiang Mai Arr**	**78.31**	**294**	P	**P**	**10 33 46.0**	**+1.7**
	2.2nm,0.7s,baz=133,slow=4.1,SNR=11						
HHC	**Hu-ho-hao-te**	**79.97**	**319**	*eP*	**P**	**10 33 55.4**	**+2.4**
HHC				pmax	pmax		
	comp=Z,22nm,0.6s						
HHC				pmax	pmax		
	comp=Z,150nm,6.4s						
KDAK	**Kodiak Island**	**82.85**	**20**	P	**P**	**10 34 07.5**	**+0.1**
	20nm,1.0s,baz=201,slow=5.6,SNR=8.0						
GAMB	**Gambell**	**83.86**	**8**	*eP*	**P**	**10 34 12.3**	**-0.2**
	11nm,0.6s						
SVW2	**Sparrevohn**	**84.71**	**16**	*eP*	**P**	**10 34 16.8**	**0.0**
	51nm,1.6s						
SYO	**Syowa Base**	**85.13**	**196**	⇑*eP*	**P**	**10 34 18.7**	**-0.2**
ANM	**Nome**	**85.59**	**11**	*eP*	**P**	**10 34 21.4**	**+0.3**
	6.6nm,0.7s						
ULN	**Ulaanbaatar**	**86.61**	**323**	*eP*	**P**	**10 34 27.1**	**+0.4**
	12nm,1.0s						
WDC	**Whiskeytown Da**	**86.77**	**45**	*eP*	**P**	**10 34 27.0**	**-0.5**
	9.9nm,1.1s						
BILL	**Bilibino**	**86.82**	**359**	*eP*	**P**	**10 34 27.0**	**0.0**
	9.5nm,0.8s						
GTA	**Gaotai**	**86.89**	**313**	⇓P	**P**	**10 34 29.3**	**+1.1**
GTA				pP	pP	10 35 18.9	-9.4
GTA				sP	sP	10 35 41.1	-13
GTA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SONM	**Songino Array**	**86.97**	**323**	P	**P**	**10 34 29.0**	**+0.6**
	5.8nm,0.8s,baz=143,slow=5.1,SNR=25						
SONA1	**Songino Array**	**86.97**	**323**	*eP*	**P**	**10 34 28.4**	**0.0**
ORV	**Oroville**	**87.00**	**46**	*eP*	**P**	**10 34 28.5**	**-0.1**
	13nm,1.2s						
CMB	**Columbia Colle**	**87.08**	**48**	*eP*	**P**	**10 34 28.9**	**-0.2**
	9.7nm,1.0s						
AFDM	**Forest Hills D**	**87.08**	**47**	*eP*	**P**	**10 34 28.9**	**-0.1**
	11nm,1.1s						
YBH	**Yreka Blue Hor**	**87.21**	**44**	*eP*	**P**	**10 34 29.7**	**+0.1**
	6.3nm,0.8s						
ISA	**Isabella, Lake**	**87.42**	**51**	*eP*	**P**	**10 34 30.9**	**+0.2**
	8.2nm,0.9s						
HUMO	**Hull Mountain**	**87.46**	**43**	*eP*	**P**	**10 34 31.2**	**+0.5**
	7.2nm,0.9s						
CAST	**Castle Rocks**	**87.56**	**16**	*eP*	**P**	**10 34 28.9**	**-1.8**
	7.1nm,0.7s						
BEKR	**Beckworth**	**87.92**	**47**	*eP*	**P**	**10 34 33.2**	**0.0**
	18nm,1.4s						
WAKR	**Walker**	**87.96**	**48**	*eP*	**P**	**10 34 33.7**	**+0.3**
	10nm,1.2s						
PFO	**Pinyon Flats O**	**88.06**	**54**	*eP*	**P**	**10 34 32.0**	**-1.9**
	42nm,1.8s						
TRF	**Thorofare Moun**	**88.07**	**17**	*eP*	**P**	**10 34 32.0**	**-1.3**
	7.2nm,0.8s						
XPFO	**Pion Flat**	**88.07**	**54**	*eP*	**P**	**10 34 32.1**	**-1.8**
	45nm,1.8s						
XPFO				*eS*	**S**	**10 45 02.0**	**+5.6**
YERR	**Yerington**	**88.31**	**48**	*eP*	**P**	**10 34 34.6**	**-0.5**
	4.8nm,0.9s						
RND	**Reindeer**	**88.44**	**18**	*eP*	**P**	**10 34 32.9**	**-2.0**
	7.1nm,0.6s						
PAHR	**Pah Rah Range**	**88.53**	**47**	*eP*	**P**	**10 34 36.0**	**0.0**
	7.5nm,1.0s						
NV01	**Mina Array Sit**	**88.73**	**49**	*eP*	**P**	**10 34 37.0**	**-0.1**
NVAR	**Mina Array Bea**	**88.73**	**49**	P	**P**	**10 34 37.4**	**+0.3**
	4.0nm,0.8s,baz=229,slow=7.9,SNR=16						
NV11	**Mina Array Sit**	**88.83**	**49**	*eP*	**P**	**10 34 37.5**	**0.0**
	0.7nm,1.1s						
MOD	**Modoc Plateau**	**88.88**	**45**	*eP*	**P**	**10 34 37.5**	**-0.1**
	14nm,1.0s						
H04A	**Detroit Lake**	**88.94**	**42**	*eP*	**P**	**10 34 37.4**	**-0.2**
	20nm,1.1s						
KVN	**Kaiserville**	**89.14**	**48**	*eP*	**P**	**10 34 38.7**	**-0.2**
	8.8nm,1.1s						
MLY	**Manley**	**89.20**	**16**	*eP*	**P**	**10 34 36.9**	**-1.5**
	14nm,1.6s						
IM3	**Indian Mountai**	**89.23**	**14**	*eP*	**P**	**10 34 38.0**	**-0.5**
PINE	**Pine Mountain**	**89.32**	**43**	*eP*	**P**	**10 34 39.0**	**-0.6**
	26nm,1.1s						
WRH	**Wood River Hil**	**89.47**	**17**	*eP*	**P**	**10 34 38.0**	**-1.6**
	29nm,1.8s						
TPNV	**Topopah Spring**	**89.59**	**51**	*eP*	**P**	**10 34 41.1**	**+0.1**
	10nm,0.9s						
Y12C	**Blythe**	**89.60**	**54**	*eP*	**P**	**10 34 39.7**	**-1.2**
	14nm,1.1s						
HDA	**Harding Lake**	**89.75**	**18**	*eP*	**P**	**10 34 39.1**	**-1.7**
	6.0nm,0.8s						
MDM	**Murphy Dome**	**89.81**	**17**	*eP*	**P**	**10 34 39.4**	**-1.8**
	13nm,1.4s						
COLA	**College**	**89.85**	**17**	*eP*	**P**	**10 34 39.3**	**-2.0**
	11nm,1.0s						
RIDG	**Independ'e Rid**	**89.87**	**19**	*eP*	**P**	**10 34 40.5**	**-1.0**
	53nm,1.9s						
ILAR	**Eielson Array**	**90.04**	**17**	P	**P**	**10 34 40.2**	**-2.0**
	3.0nm,0.7s,baz=238,slow=5.0,SNR=62						
ILB	**Eielson Array**	**90.04**	**17**	*eP*	**P**	**10 34 40.1**	**-2.1**
IL1	**Eielson Array**	**90.04**	**17**	*eP*	**P**	**10 34 40.2**	**-2.0**
LON	**Longmire**	**90.15**	**40**	*eP*	**P**	**10 34 42.5**	**-0.8**
	13nm,1.2s						
G06A	**Carlson Farm,**	**90.17**	**42**	*eP*	**P**	**10 34 42.9**	**-0.5**
	6.3nm,0.9s						
SHPR	**Sheep Range**	**90.21**	**51**	*eP*	**P**	**10 34 44.0**	**+0.1**
	7.7nm,1.1s						
WVOR	**Wild Horse Val**	**90.23**	**45**	*eP*	**P**	**10 34 43.8**	**0.0**
	13nm,1.0s						
D05A	**Enumclaw**	**90.25**	**40**	*eP*	**P**	**10 34 44.3**	**+0.7**
	42nm,1.3s						
SCRK	**Sand Creek**	**90.30**	**19**	*eP*	**P**	**10 34 41.5**	**-2.2**
	6.0nm,0.8s						
W13A	**Hualapai Mount**	**90.61**	**53**	*eP*	**P**	**10 34 45.5**	**-0.4**
	6.3nm,0.9s						
R11A	**Troy Canyon, C**	**90.64**	**50**	*eP*	**P**	**10 34 45.7**	**-0.2**
	4.7nm,1.0s						
HSIG		**90.65**	**60**	*eP*	**P**	**10 34 46.1**	**+0.2**
	13nm,1.0s						
J08A	**Circle Bar Ran**	**90.73**	**44**	*eP*	**P**	**10 34 46.0**	**-0.1**
	14nm,1.0s						
Y14A	**Wickenburg**	**90.84**	**54**	*eP*	**P**	**10 34 46.7**	**-0.1**
	3.4nm,0.9s						
F07A	**Phinny Hill Vi**	**90.92**	**41**	*eP*	**P**	**10 34 46.6**	**-0.1**
	9.3nm,0.8s						
LTY	**Liberty**	**91.07**	**40**	*eP*	**P**	**10 34 46.2**	**-1.3**
	5.4nm,0.8s						
WHY	**Whitehorse**	**91.21**	**24**	*eP*	**P**	**10 34 47.1**	**-0.8**
	44nm,2.0s						
E07A	**Sunnyside**	**91.26**	**41**	*eP*	**P**	**10 34 48.7**	**+0.4**
	12nm,0.8s						
G08A	**Pilot Rock**	**91.26**	**42**	*eP*	**P**	**10 34 48.5**	**-0.1**
	12nm,1.0s						
HAWA	**Hanford**	**91.38**	**41**	*eP*	**P**	**10 34 48.8**	**-0.2**
	10nm,0.9s						
EGAK	**Eagle**	**91.74**	**19**	*eP*	**P**	**10 34 49.9**	**-0.2**
	8.0nm,0.6s						
DAWY	**Dawson**	**91.81**	**20**	*eP*	**P**	**10 34 49.5**	**-1.0**
	19nm,1.8s						
LCMT	**Little Creek M**	**91.82**	**51**	*eP*	**P**	**10 34 51.2**	**-0.1**
	9.5nm,0.9s						
DLBC	**Dease Lake**	**91.88**	**27**	*eP*	**P**	**10 34 50.9**	**-0.1**
	15nm,1.0s						
CCUT	**Cedar City**	**91.94**	**51**	*eP*	**P**	**10 34 51.9**	**-0.1**
	4.4nm,0.9s						
TUC	**Tucson**	**91.97**	**57**	*eP*	**P**	**10 34 52.2**	**+0.1**
	8.6nm,1.0s						
KNB	**Kanab**	**92.14**	**52**	*eP*	**P**	**10 34 53.2**	**+0.4**
	6.1nm,0.9s						
SZCU	**Shurtz Canyon**	**92.16**	**51**	*eP*	**P**	**10 34 52.8**	**-0.2**
	3.0nm,0.8s						
U15A	**North Rim**	**92.31**	**52**	*eP*	**P**	**10 34 54.5**	**+0.6**
	9.4nm,0.8s						
MFID	**Camas Ranch**	**92.51**	**45**	*eP*	**P**	**10 34 54.1**	**-0.2**
	2.7nm,0.8s						
WUAZ	**Wupatki**	**92.67**	**53**	*eP*	**P**	**10 34 55.7**	**+0.4**
	6.9nm,0.9s						
PKCU	**Pink Cliffs**	**92.67**	**51**	*eP*	**P**	**10 34 55.6**	**+0.1**
	9.5nm,1.0s						
MTPU	**Mount Pierson**	**92.99**	**51**	*eP*	**P**	**10 34 57.2**	**+0.2**
	29nm,1.9s						
HLID	**Hailey**	**93.51**	**45**	*eP*	**P**	**10 34 59.0**	**0.0**
	3.9nm,1.0s						
HVU	**Hansel Valley**	**93.95**	**47**	*eP*	**P**	**10 35 00.3**	**-0.7**
	4.4nm,1.1s						
DLMT	**Dillon**	**95.40**	**44**	*eP*	**P**	**10 35 06.9**	**-0.6**
	8.3nm,1.4s						
INK	**Inuvik**	**96.36**	**18**	*eP*	**P**	**10 35 10.2**	**-0.9**
	8.6nm,1.3s						
PDAR	**Pinedale Array**	**96.54**	**47**	P	**P**	**10 35 11.4**	**-1.5**
	0.4nm,0.7s,baz=108,slow=2.9,SNR=3.1						
TXAR	**Lajitas Array**	**96.75**	**61**	P	**P**	**10 35 14.4**	**+0.4**
	0.6nm,0.7s,baz=215,slow=6.4,SNR=7.8						
WMQ	**Urumqi**	**96.97**	**314**	*eP*	**P**	**10 35 16.0**	**+1.4**
WMQ				LR	LR		
	comp=N,30nm,14.3s						
WMQ				LR	LR		
	comp=E,74nm,16.7s						
WMQ				LR	LR		
	comp=Z,48nm,20.3s						
YKA	**Yellowknife Ar**	**100.51**	**27**	P	**Pdif**	**10 35 29.2**	**-0.6**
	2.1nm,0.8s,baz=253,slow=4.6,SNR=38						
YKB5	**Yellowknife Ar**	**100.51**	**27**	*ePdif*	**Pdif**	**10 35 29.2**	**-0.7**
MK31	**Makanchi Array**	**101.49**	**316**	*ePdif*	**Pdif**	**10 35 36.5**	**+1.8**
MKAR	**Makanchi Array**	**101.49**	**316**	P	**Pdif**	**10 35 36.5**	**+1.8**
	0.7nm,0.6s,baz=92,slow=6.7,SNR=8.2						
GEYT	**Alibeck**	**117.80**	**303**	PKP	**PKiKP**	**10 40 27.9**	**-0.4**
	47nm,0.7s,baz=46,slow=4.3,SNR=4.1						
AKTO	**Aktyubinsk**	**117.82**	**318**	PKP	**PKiKP**	**10 40 27.1**	**-0.8**
	1.7nm,0.7s,baz=56,slow=7.3						
BOSA	**Boshof**	**121.17**	**217**	PKP	**PKiKP**	**10 40 35.0**	**-0.4**
	1.6nm,0.7s,baz=207,slow=2.3,SNR=3.6						
ARCES	**ARCESS Array B**	**124.81**	**345**	PKP	**PKiKP**	**10 40 39.9**	**-1.2**
	3.8nm,0.5s,baz=74,slow=1.9,SNR=26						
FINES	**FINESS Array B**	**130.33**	**338**	PKP	**PKiKP**	**10 40 51.4**	**-0.9**
	0.8nm,0.5s,baz=78,slow=2.3,SNR=5.7						
NB2	**NORSAR Subarra**	**135.19**	**345**	PKPdf	**PKiKP**	**10 41 00.9**	**-1.3**
	comp=Z,1.7nm,0.8s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**135.19**	**345**	PKP	**PKiKP**	**10 41 01.4**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=32,slow=2.0,SNR=6.1						
BRTR	**Keskin Array B**	**136.58**	**308**	PKP	**PKiKP**	**10 41 05.5**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=124,slow=3.4,SNR=3.8						
BRG	**Bergqiesshubel**	**142.61**	**334**	*ePKP*	**PKPdf**	**10 41 12.5**	**-1.9**
	comp=Z,2.2nm,0.7s						
PRU	**Pruhonice**	**143.02**	**333**	*ePKP*	**PKPdf**	**10 41 12.8**	**-2.4**
NEUB	**Neuenburg**	**143.22**	**336**	*ePKPbc*	PKPbc	10 41 12.6	-0.7

WLF	**Walferdange**	**146.50**	**340**	⇓PKP	**PKPab**	**10 41 23.5**	**-1.1**
MOTA	**Moosalm**	**146.51**	**333**	*i* PKPab	**PKiKP**	**10 41 24.2**	**-1.8**
	comp=Z,14nm,1.0s,SNR=5.7						
RETA	**Reutte**	**146.55**	**333**	*i* PKPab	**PKPab**	**10 41 23.3**	**-1.7**
	comp=Z,4.1nm,0.5s						
SQTA	**Sankt Quirin**	**146.56**	**332**	*i* PKPab	**PKPab**	**10 41 23.5**	**-1.5**
	comp=Z,12nm,0.6s,SNR=6.8						
DOU	**Dourbes**	**146.60**	**342**	⇑PKP	**PKPab**	**10 41 23.2**	**-1.8**
BFO	**Black Forest**	**146.86**	**336**	*e*PKPbc	**PKPab**	**10 41 23.9**	**-2.2**
BFO	**Black Forest**	**146.86**	**336**	*e*PKPbc	**PKPab**	**10 41 24.0**	**-2.1**
	baz=35,slow=3.1						
FETA	**Feichten**	**146.92**	**333**	*i* PKPab	**PKPab**	**10 41 24.6**	**-1.9**
	comp=Z,6.1nm,0.5s,SNR=10						
TORD	**Torodi Ar. Bea**	**166.59**	**246**	PKP	**PKPdf**	**10 41 45.9**	**-1.8**
	comp=Z,1.5nm,0.9s,baz=125,slow=1.0,SNR=9.5						
TORD				PKPab	**PKPab**	**10 42 51.0**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=112,slow=5.5,SNR=4.6						

IDC ***12*** *10:25:27.3±1.1,35°.61N×82°.42E,h0km,mb3.5/6, mb1 3.8/8,mb1mx3.6/42,mbtmp3.6/8,ML3.3/2,MS3.1/1, Ms1 3.1/1,ms1mx2.3/37,Error ellipse: s-maj=34.6km s-min=20.3km az=62.0*

BJI ***12*** *10:25:29.2,35°.84N×82°.62E,h11km,mb3.8/1,ML3.7/6*

ISCJB ***12*** *10:25:31.4±0.5,35°.74N±0°.04×82°.7E±0°.2,h33km,mb3.5/7, MS3.1/1,Error ellipse: s-maj=18.7km s-min=5.7km az=173.7*

ISC 12 10:25:33.6±0.8,35°.77N±0°.07×82°.8E±0°.1,h35km,n19, σ1ᵍ92/19,mb3.6/7,Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**7.45**	**173**	*e*P		**Pn**		**10 27 21.2**	**+1.1**
	7.6nm,0.6s								
PYUN	**Piuthan**	**7.65**	**179**	*e*P		**Pn**		**10 27 24.1**	**+1.3**
	7.2nm,0.5s								
KOLN	**Koldanda**	**8.01**	**175**	*e*P		**Pn**		**10 27 28.4**	**+0.7**
	9.3nm,0.7s								
GUN	**Gumba**	**8.27**	**161**	*e*P		**Pn**		**10 27 30.6**	**-0.8**
	5.7nm,0.3s								
PKIN	**Phulchoki**	**8.47**	**164**	*e*P		**Pn**		**10 27 34.1**	**0.0**
	6.4nm,0.5s								
JIRN	**Jiri**	**8.59**	**159**	*e*P		**Pn**		**10 27 35.3**	**-0.6**
	11nm,0.6s								
WMQ	**Urumqi**	**8.89**	**24**	*e*P		**Pn**		**10 27 40.7**	**+1.1**
WMQ					smax	smax			
	comp=N,23nm,0.7s								
WMQ					smax	smax			
	comp=E,24nm,1.3s								
MKAR	**Makanchi Array**	**11.02**	**358**	Pn		**Pn**		**10 28 07.3**	**-1.5**
	0.8nm,0.3s,baz=180,slow=12,SNR=19								
MKAR					Sn	**Sn**		**10 30 14.6**	**+3.9**
	0.2nm,0.3s,baz=181,slow=24,SNR=3.7								
GTA	**Gaotai**	**13.99**	**70**	*e*P		**Pn**		**10 28 46.5**	**-3.0**
GTA					pmax	pmax			
	comp=Z,2.0nm,0.9s								
KURBB	**Kurchatov Arra**	**15.16**	**350**	Pn		**Pn**		**10 29 05.3**	**+0.3**
	0.1nm,0.3s,baz=172,slow=12,SNR=4.1								
ZALV	**Zalesovo Beam**	**18.23**	**4**	P		**Pn**		**10 29 44.4**	**+0.7**
	0.1nm,0.3s,baz=186,slow=12,SNR=4.4								
SONM	**Songino Array**	**21.25**	**48**	P		**P**		**10 30 19.2**	**+2.4**
	0.4nm,0.3s,baz=239,slow=11,SNR=3.1								
CMAR	**Chiang Mai Arr**	**22.41**	**136**	P		**P**		**10 30 32.9**	**+3.6**
	0.7nm,0.3s,baz=315,slow=12,SNR=4.8								
AKTO	**Aktyubinsk**	**23.12**	**317**	P		**P**		**10 30 35.4**	**-1.1**
	0.8nm,0.6s,baz=127,slow=6.0,SNR=4.0								
EIL	**Elat**	**40.37**	**275**	LR		LR		10 53 33.0	
	comp=Z,26nm,20.7s,baz=72,slow=42								
GERES	**GERESS Array B**	**51.04**	**307**	P		**P**		**10 34 29.9**	**-2.4**
	0.7nm,0.7s,baz=64,slow=6.1,SNR=5.5								
WRA	**Warramunga Arr**	**73.84**	**130**	P		**P**		**10 37 05.0**	**+0.1**
	0.4nm,0.6s,baz=325,slow=6.2,SNR=4.7								
ASAR	**Alice Springs**	**76.37**	**133**	P		**P**		**10 37 19.3**	**-0.1**
	0.4nm,0.6s,baz=316,slow=5.1,SNR=4.7								
YKA	**Yellowknife Ar**	**81.08**	**8**	P		**P**		**10 37 44.0**	**-0.7**
	0.3nm,0.7s,baz=339,slow=5.2,SNR=9.1								

IDC 12 10:27:02.5±11.0,6°.41S×129°.73E,h212km±126km, mb3.1/1,mb1 3.3/4,mb1mx3.0/31,mbtmp3.8/4,Error ellipse: s-maj=66.8km s-min=48.6km az=33.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.28**	**199**	P		**Pn**		**10 29 50.9**	**+0.2**
	0.2nm,0.3s,baz=38,slow=12,SNR=2.2								
FITZ					S	S		10 32 07.0	+0.2
	0.6nm,0.3s,baz=218,slow=18,SNR=7.1								
WRA	**Warramunga Arr**	**14.18**	**162**	P		Pn		10 30 14.1	-0.1
	0.5nm,0.3s,baz=342,slow=11,SNR=10								
WRA					S	S		10 32 37.8	-14
	0.4nm,0.3s,baz=334,slow=22,SNR=7.3								
ASAR	**Alice Springs**	**17.62**	**167**	P		P		10 30 53.6	+0.2
	0.6nm,0.3s,baz=346,slow=9.5,SNR=16								
MKAR	**Makanchi Array**	**67.59**	**327**	P		P		10 37 36.3	0.0
	0.3nm,0.4s,baz=121,slow=8.0,SNR=4.9								

MOS ***12*** *10:48:00.4±0.0,43°.54N×147°.38E,h34km,mb4.2/1,Error ellipse: s-maj=43.2km s-min=26.1km az=43.9*

ISCJB ***12*** *10:48:01.1±1.0,43°.59N±0°.07×147°.32E±0°.08, h52km±12km,Error ellipse: s-maj=13.1km s-min=6.6km az=145.7*

SKHL ***12*** *10:48:01.0±0.4,43°.55N×147°.42E,h45km±5km,mb4.8/5*

JMA ***12*** *10:48:01.3±0.2,43°.51N×147°.27E,h32km,M3.6*

ISC 12 10:48:01.0±2.0,43°.56N±0°.09×147°.43E±0°.09,h44km±27km, n26,σ1ᵍ13/32,4D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.53**	**306**	⇓*i*P		Pn		10 48 12.0	-0.3
SHO					AMB	AMB		10 48 12.0	
	280nm,0.3s								
SHO					AMB	AMB		10 48 12.0	
	350nm,0.3s								
SHO					AMB	AMB		10 48 12.0	
	940nm,0.3s								
SHO				*i* S		**Sn**		**10 48 20.0**	**-0.3**
SHO					A	A		10 48 20.0	
	3μm,0.3s								
SHO					A	A		10 48 20.0	
	3μm,0.3s								
SHO	**Shikotan**	**0.53**	**306**	*d* iPN		Pn		10 48 12.3	0.0
SHO				*i* S		**Sn**		**10 48 20.3**	**0.0**
SHO					pmax	pmax			
	comp=N,282nm,0.2s								
SHO					pmax	pmax			
	comp=E,352nm,0.2s								
SHO					pmax	pmax			
	comp=Z,939nm,0.2s								
SHO					smax	smax			
	comp=E,3μm,0.3s								
SHO					smax	smax			
	comp=N,3μm,0.4s								
YUK	**Yuzh-Kuril'sk**	**1.23**	**293**	⇓*i*P		Pn		10 48 21.0	-0.6
YUK					AMB	AMB		10 48 21.0	
	comp=N,140nm,0.2s								
YUK					AMB	AMB		10 48 21.0	
	comp=N,210nm,0.2s								
YUK					AMB	AMB		10 48 21.0	
	comp=N,280nm,0.2s								
YUK					*e*S	**Sn**		**10 48 36.0**	**-1.1**
YUK					A	A		10 48 36.0	
	comp=N,670nm,0.2s								
YUK					A	A		10 48 36.0	
	comp=N,440nm,0.2s								
YUK	**Yuzh-Kuril'sk**	**1.23**	**293**	*d* iPN		Pn		10 48 21.1	-0.6
YUK					*e*S	**Sn**		**10 48 36.3**	**-0.8**
YUK					pmax	pmax			
	comp=N,139nm,0.1s								
YUK					pmax	pmax			
	comp=E,208nm,0.1s								
YUK					pmax	pmax			
	comp=Z,483nm,0.1s								
YUK					smax	smax			
	comp=E,438nm,0.3s								
YUK					smax	smax			
	comp=N,666nm,0.2s								
NEM2	**Nemuro 2**	**1.24**	**262**	P		Pn		10 48 21.2	-0.6
NEM2					*e*S	**Sn**		**10 48 35.8**	**-1.5**
GRPR	**Tuman**	**1.27**	**291**	*e*P		Pn		10 48 21.0	-1.3
GRPR					AMB	AMB		10 48 22.0	
	comp=N,120nm,0.2s								
GRPR					AMB	AMB		10 48 22.0	
	comp=N,250nm,0.2s								
GRPR					*e*S	**Sn**		**10 48 36.0**	**-2.2**
GRPR					A	A		10 48 38.0	
	comp=N,610nm,0.2s								
GRPR					A	A		10 48 38.0	
	comp=N,1μm,0.2s								
GRPR	**Tuman**	**1.27**	**291**	*e*PN		Pn		10 48 21.8	-0.5
GRPR					*e*S	**Sn**		**10 48 36.8**	**-1.4**
GRPR					pmax	pmax			
	comp=N,124nm,0.1s								
GRPR					pmax	pmax			
	comp=Z,247nm,0.1s								
GRPR					smax	smax			
	comp=N,605nm,0.1s								
GRPR					smax	smax			
	comp=E,1μm,0.3s								
GLVR	**Golovnino**	**1.40**	**278**	*e*P		Pn		10 48 23.0	-0.9
GLVR					AMB	AMB		10 48 24.0	
	comp=E,180nm,0.3s								
GLVR					*e*S	**Sn**		**10 48 40.0**	**-1.1**
GLVR					A	A		10 48 41.0	
	comp=E,2μm,0.3s								
GLVR					A	A		10 48 41.0	
	comp=E,870nm,0.3s								
GLVR	**Golovnino**	**1.40**	**278**	*e*PN		Pn		10 48 23.4	-0.5
GLVR					*e*S	**Sn**		**10 48 40.3**	**-0.8**
GLVR					pmax	pmax			
	comp=Z,177nm,0.1s								
GLVR					smax	smax			
	comp=N,2μm,0.4s								
GLVR					smax	smax			
	comp=E,873nm,0.3s								
KUR	**Kuril'sk**	**1.71**	**11**	*e*P		Pn		10 48 28.0	-0.2
KUR					AMB	AMB		10 48 29.9	
	comp=E,20nm,0.1s								
KUR					AMB	AMB		10 48 29.9	
	comp=E,40nm,0.1s								
KUR				*i* S		**Sn**		**10 48 48.0**	**-0.8**
KUR					A	A		10 48 50.0	
	comp=E,370nm,0.2s								
KUR					A	A		10 48 50.0	
	comp=E,300nm,0.2s								
KUR	**Kuril'sk**	**1.71**	**11**	*e*PN		**Pn**		**10 48 28.5**	**+0.3**
KUR					*e*S	**Sn**		**10 48 47.8**	**-1.0**
KUR					pmax	pmax			
	comp=N,6.0nm,0.1s								
KUR					pmax	pmax			
	comp=E,9.0nm,0.1s								
KUR					pmax	pmax			
	comp=Z,27nm,0.1s								
KUR					smax	smax			
	comp=N,199nm,0.2s								
KUR					smax	smax			
	comp=E,211nm,0.2s								
JRA	**Rausu**	**1.71**	**284**	P		**Pn**		**10 48 28.4**	**+0.1**
JRA					*e*S	**Sn**		**10 48 48.3**	**-0.6**
JKHN	**Kushirohamanak**	**1.72**	**255**	P		**Pn**		**10 48 28.4**	**0.0**
JNK	**Nakash**	**1.97**	**272**	P		Pn		10 48 31.4	-0.4
JNK					*e*S	**Sn**		**10 48 54.0**	**-1.2**
JAK	**Akkeshi**	**2.07**	**255**	P		Pn		10 48 32.9	-0.3
JAK					*e*S	**Sn**		**10 48 56.4**	**-1.3**
JTKR	**Abashiri--Toko**	**2.58**	**280**	P		**Pn**		**10 48 40.9**	**+0.7**
JAR	**Ashorobuto**	**2.68**	**266**	P		**Pn**		**10 48 42.2**	**+0.7**
JAR					*e*S	**Sn**		**10 49 12.0**	**-0.7**
JOB	**Onbets**	**2.70**	**257**	P		**Pn**		**10 48 42.3**	**+0.4**
JOB					*e*S	**Sn**		**10 49 12.4**	**-0.9**
JMP	**Maruseppu**	**2.98**	**280**	P		**Pn**		**10 48 46.8**	**+1.1**
JCH	**Churui**	**3.12**	**254**	P		**Pn**		**10 48 47.8**	**+0.2**
JCH					*e*S	**Sn**		**10 49 22.2**	**-1.4**
HRK	**Horoka**	**3.13**	**270**	*e*P		**Pn**		**10 48 49.2**	**+1.4**
HRK					*e*S	**Sn**		**10 49 24.8**	**+0.9**
JKK2	**Kamakawa 2**	**3.41**	**277**	P		**Pn**		**10 48 53.8**	**+2.3**
JEM	**Erimo**	**3.50**	**245**	P		**Pn**		**10 48 54.5**	**+1.7**
JFR	**Furan**	**3.54**	**265**	*e*S		**Sn**		**10 49 34.3**	**+0.2**
JNBK	**Urakawa-nobuka**	**3.66**	**251**	P		**Pn**		**10 48 55.2**	**+0.2**
JSE	**Soyaes**	**3.75**	**294**	P		**Pn**		**10 48 57.2**	**+1.0**

SOME ***12*** *10:53:32.8,42°.15N×76°.18E,h15km*

KRNET ***12*** *10:53:32.1±0.1,42°.13N×76°.18E,h18km,mb2.9*

NNC ***12*** *10:53:33.1±0.6,42°.18N×76°.23E,h0km,mb2.7,mpv3.0, Error ellipse: s-maj=3.6km s-min=3.0km az=171.0*

KNET ***12*** *10:53:33.4±0.6,42°.21N×76°.06E,h0km,ml1.7,Error ellipse: s-maj=5.2km s-min=2.5km az=172.0*

ISC 12 10:53:32.4±0.9,42°.15N±0°.03×76°.17E±0°.02,h10km±6km, n61,σ0ᵍ75/113,35C-21D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.11**	**31**	⇓P		**Pg**		**10 53 35.2**	**-0.2**
	115nm,0.1s,SNR=15								
ULHL					⇑S	**Sg**		**10 53 37.4**	**-0.1**
	584nm,0.2s								
ULHL	**Ulahol**	**0.11**	**31**	⇓*i*P		**Pg**		**10 53 35.2**	**-0.2**
	baz=20								
ULHL					⇓*i*S	**Sg**		**10 53 37.2**	**-0.3**
	baz=20								
BOOM	**Boomskoye usch**	**0.38**	**334**	⇓*i*P		**Pg**		**10 53 40.2**	**+0.2**
	baz=34								
BOOM					⇓*i*S	**Sg**		**10 53 45.9**	**+0.9**
	baz=34								
KZA	**Kyzart**	**0.69**	**264**	⇑P		**Pg**		**10 53 45.6**	**-0.2**
	13nm,0.2s,SNR=35								
KZA					⇑S	**Sg**		**10 53 55.3**	**+0.5**
	19nm,0.1s								
KZA	**Kyzart**	**0.69**	**264**	⇑*i*P		**Pg**		**10 53 45.6**	**-0.2**
	baz=66								
KZA					⇑*i*S	**Sg**		**10 53 55.1**	**+0.3**
	baz=66								
KDJ	**Kajisay**	**0.75**	**91**	⇑*i*P		**Pg**		**10 53 46.5**	**-0.5**
	baz=90								
KDJ					⇑*i*S	**Sg**		**10 53 56.9**	**0.0**
	baz=90								
TKM2	**Tokmak 2**	**0.88**	**331**	⇓P		**Pg**		**10 53 49.2**	**-0.1**
	5.6nm,0.1s,SNR=55								
TKM2					⇓S	**Sb**		**10 54 01.7**	**0.0**
	26nm,0.1s								
TKM2	**Tokmak 2**	**0.88**	**331**	⇓*i*P		**Pg**		**10 53 49.1**	**-0.2**
	baz=32								
TKM2					⇓*i*S	**Sb**		**10 54 01.3**	**-0.4**
	baz=32								
KST	**Kastek**	**0.90**	**351**	P		**Pb**		**10 53 49.8**	**-0.4**
	6.9nm,0.2s								
KST					S	**Sb**		**10 54 02.0**	**-0.4**
	5.5nm,0.2s								
KST	**Kastek**	**0.90**	**351**	*e*P		**Pb**		**10 53 49.8**	**-0.4**
	baz=50								
KST					*e*S	**Sb**		**10 54 02.0**	**-0.4**
	baz=50								
KST	**Kastek**	**0.90**	**351**	*e*P		**Pb**		**10 53 49.8**	**-0.4**
	8.1nm,0.1s								
KST					*e*S	**Sb**		**10 54 02.0**	**-0.4**
	5.7nm,0.2s								
IZV	**Izvestkoviy**	**0.94**	**20**	P		**Pb**		**10 53 50.6**	**-0.3**
	4.2nm,0.1s								
IZV					S	**Sg**		**10 54 03.5**	**+0.5**
	21nm,0.1s								
IZV	**Izvestkoviy**	**0.94**	**20**	*e*P		**Pb**		**10 53 50.6**	**-0.3**
	baz=19								
IZV					*e*S	**Sg**		**10 54 03.4**	**+0.5**
	baz=19								
IZV	**Izvestkoviy**	**0.94**	**20**	*e*P		**Pb**		**10 53 50.6**	**-0.3**
	4.2nm,0.1s								
IZV					*e*S	**Sg**		**10 54 03.5**	**+0.5**
	21nm,0.1s								
TNSS	**Tian-Shan**	**1.06**	**33**	*e*P		**Pb**		**10 53 52.4**	**-0.6**
	baz=32								
TNSS					*e*S	**Sg**		**10 54 06.7**	**+0.2**
	baz=32								
TNSS	**Tian-Shan**	**1.06**	**33**	*e*P		**Pb**		**10 53 52.4**	**-0.6**
	5.6nm,0.1s								
TNSS					*e*S	**Sg**		**10 54 06.7**	**+0.2**
	13nm,0.2s								
DGS	**Degeres**	**1.13**	**345**	P		**Pb**		**10 53 54.0**	**-0.1**
	6.4nm,0.1s								
DGS					S	**Sn**		**10 54 09.5**	**-0.5**
	14nm,0.2s								
DGS	**Degeres**	**1.13**	**345**	*e*P		**Pb**		**10 53 54.0**	**-0.1**
	baz=45								
DGS					*e*S	**Sn**		**10 54 09.5**	**-0.5**
	baz=45								
DGS	**Degeres**	**1.13**	**345**	*e*P		**Pb**		**10 53 54.0**	**-0.1**
	6.4nm,0.1s								
DGS					*e*S	**Sn**		**10 54 09.5**	**-0.5**
	14nm,0.2s								
MDOK	**Medeo**	**1.20**	**32**	⇑P		**Pb**		**10 53 55.1**	**-0.2**
	2.4nm,0.6s								
MDOK					S	**Sb**		**10 54 10.5**	**-0.5**
	2.1nm,0.3s								
MDOK	**Medeo**	**1.20**	**32**	Pg		**Pn**		**10 53 54.8**	**-0.7**
	2.8nm,0.5s								
MDOK					Lg	Lg		10 54 10.9	
	7.1nm,0.2s								
MDOK	**Medeo**	**1.20**	**32**	⇑*i*P		**Pn**		**10 53 54.8**	**-0.7**
	baz=31								
MDOK					⇑*e*S	**Sn**		**10 54 10.9**	**-1.0**
	baz=31								
MDOK	**Medeo**	**1.20**	**32**	⇑*i*P		**Pn**		**10 53 54.8**	**-0.7**
	4.1nm,0.2s								
MDOK					*e*S	**Sn**		**10 54 10.9**	**-1.0**
	7.2nm,0.2s								
KNDC	**Almaty**	**1.22**	**29**	⇑P		**Pg**		**10 53 56.1**	**+0.3**
	12nm,0.3s								
KNDC					⇓S	**Sg**		**10 54 12.2**	**+0.6**
	14nm,0.5s								
UCH	**Uchtor**	**1.23**	**274**	⇓P		**Pn**		**10 53 55.3**	**-0.8**
	1.2nm,0.1s,SNR=9.7								
UCH					⇑S	**Sb**		**10 54 12.0**	**-0.1**
	6.6nm,0.2s								
UCH	**Uchtor**	**1.23**	**274**	⇓*i*P		**Pn**		**10 53 55.2**	**-0.8**
	baz=75								
UCH					⇓*i*S	**Sb**		**10 54 11.9**	**-0.2**
	baz=75								
KOTS	**Kotyrbulak**	**1.29**	**33**	P		**Pg**		**10 53 57.1**	**-0.1**
	3.4nm,0.2s								
KOTS					S	**Sg**		**10 54 14.2**	**+0.4**
	21nm,0.4s								
KOTS	**Kotyrbulak**	**1.29**	**33**	*e*P		**Pg**		**10 53 57.1**	**-0.1**
	baz=32								
KOTS					*e*S	**Sg**		**10 54 14.3**	**+0.4**
	baz=32								
KOTS	**Kotyrbulak**	**1.29**	**33**	*e*P		**Pg**		**10 53 57.1**	**-0.1**
	3.4nm,0.2s								
KOTS					*e*S	**Sg**		**10 54 14.2**	**+0.4**
	21nm,0.4s								
TARG	**Taragay, Kyrgy**	**1.29**	**109**	⇑*i*P		**Pn**		**10 53 55.6**	**-1.3**
	baz=8.0								
TARG					⇑*i*S	**Sb**		**10 54 12.5**	**-1.4**
	baz=8.0								
AAK	**Ala-Archa**	**1.33**	**292**	⇓P		**Pn**		**10 53 57.3**	**+0.1**
	2.4nm,0.2s,SNR=5.9								
AAK					⇑S	**Sn**		**10 54 15.0**	**0.0**
	9.6nm,0.2s								
AAK	**Ala-Archa**	**1.33**	**292**	⇑*i*P		**Pn**		**10 53 57.2**	**+0.1**
	baz=93								
AAK					⇑*i*S	**Sb**		**10 54 14.8**	**+0.1**
	baz=93								
CHMS	**Chumysh**	**1.34**	**309**	⇑P		**Pb**		**10 53 57.9**	**+0.1**
	1.9nm,0.1s								
CHMS	**Chumysh**	**1.34**	**309**	⇑*i*P		**Pb**		**10 53 57.8**	**+0.1**
	baz=10.0								
CHMS					⇑*i*S	**Sg**		**10 54 15.9**	**+0.2**
	baz=10.0								
ARLS	**Aral**	**1.40**	**259**	⇑*i*P		**Pn**		**10 53 58.0**	**-0.2**
	baz=60								
ARLS					⇑*i*S	**Sn**		**10 54 16.9**	**+0.1**
	baz=60								
KTBS	**Karatobe**	**1.60**	**13**	P		**Pb**		**10 54 02.4**	**+0.2**
	6.2nm,0.1s								
KTBS					S	**Sg**		**10 54 23.7**	**-0.3**
	18nm,0.4s								
KTBS	**Karatobe**	**1.60**	**13**	*e*P		**Pb**		**10 54 02.4**	**+0.2**
	baz=8.0								
KTBS					*e*S	**Sg**		**10 54 23.7**	**-0.3**
	baz=8.0								
KTBS	**Karatobe**	**1.60**	**13**	*e*P		**Pb**		**10 54 02.4**	**+0.2**
	6.2nm,0.1s								
KTBS					*e*S	**Sg**		**10 54 23.7**	**-0.3**
	18nm,0.4s								
USP	**Ospenovka**	**1.66**	**313**	⇑P		**Pb**		**10 54 03.2**	**+0.1**
	6.8nm,0.2s,SNR=13								
USP	**Ospenovka**	**1.66**	**313**	⇑*i*P		**Pb**		**10 54 03.2**	**+0.1**
	baz=13								
USP					⇑*i*S	**Sg**		**10 54 25.1**	**-0.6**
	baz=13								
PRZ	**Przheval'sk**	**1.69**	**78**	⇓*i*P		**Pn**		**10 54 02.6**	**+0.5**
	baz=77								
PRZ					⇓*i*S	**Sb**		**10 54 24.9**	**-0.2**
	baz=77								
SGDS	**Sogindy**	**1.72**	**319**	P		**Pb**		**10 54 04.4**	**+0.2**
	7.8nm,0.2s								
SGDS					S	**Sg**		**10 54 27.2**	**-0.6**
	11nm,0.1s								
KUU	**Kurty**	**1.75**	**4**	P		**Pb**		**10 54 04.9**	**+0.4**
	5.4nm,0.1s								
KUU					S	**Sg**		**10 54 28.0**	**-0.5**
	11nm,0.1s								
KUU	**Kurty**	**1.75**	**4**	⇑*i*P		**Pb**		**10 54 04.9**	**+0.4**
	baz=4.0								
KUU					⇓*i*S	**Sg**		**10 54 28.1**	**-0.5**
	baz=4.0								
KUU	**Kurty**	**1.75**	**4**	⇑*i*P		**Pb**		**10 54 04.9**	**+0.4**
	5.4nm,0.1s								
KUU					⇓*i*S	**Sg**		**10 54 28.0**	**-0.5**
	11nm,0.1s								
AML	**Almayashu**	**1.84**	**270**	⇑*i*P		**Pb**		**10 54 06.5**	**+0.2**
	baz=71								
AML					⇑*i*S	**Sb**		**10 54 30.7**	**+1.2**
	baz=71								
EKS2	**Erkin-Say**	**1.84**	**287**	⇑*i*P		**Pb**		**10 54 06.1**	**-0.1**
	baz=88								
EKS2					⇑*i*S	**Sb**		**10 54 30.7**	**+1.3**
	baz=88								
MRKS	**Merke**	**2.25**	**286**	*e*P		**Pb**		**10 54 14.4**	**+1.1**
	baz=87								
MRKS					*e*S	**Sg**		**10 54 44.1**	**-0.8**
	baz=87								
MRKS	**Merke**	**2.25**	**286**	*e*P		**Pb**		**10 54 14.4**	**+1.1**
	1.8nm,0.2s								
MRKS					*e*S	**Sg**		**10 54 44.1**	**-0.8**
	12nm,0.6s								
UZB	**Uzynbulak**	**2.33**	**64**	Pg		**Pb**		**10 54 14.9**	**+0.4**
	1.5nm,0.1s								
UZB					Lg	Lg		10 54 45.3	
	16nm,0.3s								
UZB	**Uzynbulak**	**2.33**	**64**	*e*P		**Pb**		**10 54 14.9**	**+0.4**
	baz=63								
UZB					*e*S	**Sg**		**10 54 45.3**	**-2.0**
	baz=63								
UZB	**Uzynbulak**	**2.33**	**64**	*e*P		**Pb**		**10 54 14.9**	**+0.4**
	1.5nm,0.1s								
UZB

n8,σ0⅝53/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIZK	**Mersin**	**0.26**	**193**	PG	**Pg**	**10 53 43.0**	**0.0**
KIZK				SG	**Sg**	**10 53 46.3**	**-0.4**
KIZK	**Mersin** comp=Z,2μm,0.1s	**0.26**	**193**	IAML_P			
KIZK				*i* P	**Pg**	**10 53 42.9**	**0.0**
KEBE	**Keben-Mersin**	**0.50**	**235**	PG	**Pb**	**10 53 47.5**	**-0.4**
KEBE				SG	**Sb**	**10 53 54.6**	**-0.5**
IKL	**Isikli**	**0.66**	**221**	PG	**Pb**	**10 53 50.9**	**+0.3**
IKL				SG	**Sb**	**10 53 59.4**	**-0.1**
KERG	**Konya-Eregli** comp=Z,192nm,0.1s	**0.68**	**354**	IAML_P			
KERG				*i* P	**Pg**	**10 53 50.4**	**-0.3**
KERG				*i* S	**Sg**	**10 54 00.1**	**+0.4**
GULE	**Gulek**	**0.71**	**39**	*i* P	**Pg**	**10 53 50.6**	**-0.6**
GULE				*i* S	**Sg**	**10 54 01.3**	**+0.8**
AKKU	**Akkuyu-Mersin**	**0.79**	**223**	PG	**Pb**	**10 53 53.4**	**+0.6**
BERE	**Bereket-Mersin**	**0.89**	**244**	PG	**Pb**	**10 53 55.2**	**+0.5**

*IDC **12** 11:13:58.9±1.7,6°92S×104°17E,h0km,mb3.8/5, mb1 3.9/6,mb1mx3.7/46,mbtmp3.8/6,ML3.6/1,Error ellipse: s-maj=62.4km s-min=20.4km az=47.0*
*ISCJB **12** 11:14:00.1±0.6,6°98S±0.05×104°21E±0.06,h24km, mb4.1/8,Error ellipse: s-maj=9.4km s-min=5.8km az=147.5*
*NEIC **12** 11:14:03.2±0.5,7°04S×104°14E,h35km,mb4.6/5,Error ellipse: s-maj=14.0km s-min=5.4km az=223.0*
*DJA **12** 11:14:05.1±0.7,7°S±4×10°5E±°,h10km,M4.0/6,MLv4.0/6*

ISC 12 11:14:01.9±0.8,6°94S±0.06×104°21E±0.07,h24km,n32, σ1§19/35,mb4.5/8,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.44**	**11**	P	**Pn**	**11 14 26.7**	**+0.2**
KASI				S	**Sn**	**11 14 43.0**	**-1.6**
BLSI	**Bandar Lampung**	**1.87**	**33**	P	**Pn**	**11 14 31.8**	**-0.7**
BLSI				S	**Sn**	**11 14 52.3**	**-3.0**
LWLI	**Liwa**	**1.92**	**355**	P	**Pb**	**11 14 36.0**	**-0.3**
KLI	**Kotabumi**	**2.16**	**17**	P	**Pn**	**11 14 37.3**	**+0.8**
MDSI	**Maura Dua**	**2.44**	**359**	P	**Pn**	**11 14 42.2**	**+1.9**
CBJI	**Citeko**	**2.67**	**79**	P	**Pn**	**11 14 44.5**	**+1.1**
MNAI	**Manna**	**2.85**	**334**	*e*Pn	**Pn**	**11 14 47.2**	**+1.3**
MNAI	**Manna**	**2.85**	**334**	P	**Pb**	**11 14 49.8**	**-2.4**
LEM	**Lembang** 5.7nm,0.3s,baz=300,slow=20,SNR=2.8	**3.38**	**88**	Pn	**Pn**	**11 14 54.3**	**+0.9**
CISI	**Cisompet, Garu**	**3.62**	**100**	*e*Pn	**Pn**	**11 14 58.8**	**+2.1**
CISI				*e*Sn	**Sn**	**11 15 37.0**	**-1.7**
CISI	**Cisompet, Garu**	**3.62**	**100**	P	**Pn**	**11 14 57.9**	**+1.2**
XMIS	**Christmas Isla**	**3.79**	**158**	*e*Pn	**Pn**	**11 14 57.6**	**-1.3**
UGM	**Wanagama**	**6.33**	**99**	*e*Pn	**Pn**	**11 15 35.4**	**+1.5**
JAGI	**Jajag, Banyuwa**	**9.97**	**99**	*e*Pn	**Pn**	**11 15 24.2**	**+0.4**
SOEI	**Soe** 60nm,1.5s	**20.04**	**99**	*e*P	**P**	**11 18 32.6**	**-0.9**
WR1	**Warramunga Arr** 8.6nm,1.3s	**31.95**	**117**	*e*P	**P**	**11 20 26.7**	**+0.5**
WRA	**Warramunga Arr** 0.7nm,0.5s,baz=288,slow=12,SNR=9.4	**31.95**	**117**	P	**P**	**11 20 26.7**	**+0.5**
WRAB	**Tennant Creek** 9.3nm,1.4s	**31.96**	**117**	*e*P	**P**	**11 20 26.4**	**+0.1**
WB2	**Warramunga Ar**	**31.96**	**117**	*e*P	**P**	**11 20 26.1**	**-0.2**
ASAR	**Alice Springs** 0.3nm,0.7s,baz=294,slow=7.9,SNR=3.9	**33.00**	**124**	P	**P**	**11 20 36.1**	**+0.7**
SONA0	**Songino Array**	**54.57**	**2**	*e*P	**P**	**11 23 28.6**	**+0.3**
SONM	**Songino Array** 0.3nm,0.4s,baz=184,slow=11,SNR=3.2	**54.57**	**2**	P	**P**	**11 23 28.6**	**+0.3**
MK32	**Makanchi Array**	**56.94**	**342**	*e*P	**P**	**11 23 45.8**	**+0.6**
MKAR	**Makanchi Array** 0.8nm,0.4s,baz=150,slow=8.0,SNR=12	**56.94**	**342**	P	**P**	**11 23 45.8**	**+0.6**
MKAR	**Makanchi Array** 9.7nm,0.5s	**56.94**	**342**	*e*P	**P**	**11 23 45.5**	**+0.3**
ZAA0	**Zalesovo Array** 4.5nm,1.3s	**62.83**	**347**	*e*P	**P**	**11 24 25.1**	**-0.4**
ZALV	**Zalesovo Beam** 1.4nm,0.3s,baz=153,slow=5.5,SNR=7.3	**62.83**	**347**	P	**P**	**11 24 25.4**	**-0.1**
ZALV	**Zalesovo Beam**	**62.83**	**347**	*e*P	**P**	**11 24 25.1**	**-0.4**
ZAA1	**Zalesovo Array**	**62.83**	**347**	*e*P	**P**	**11 24 25.4**	**-0.1**
ABKAR	**Akbulak array**	**67.97**	**330**	*e*P	**P**	**11 24 59.7**	**+0.8**
BDFB	**Brasilia** 1.8nm,0.4s,baz=117,slow=2.3,SNR=3.3	**144.50**	**231**	PKP	**PKPdf**	**11 33 38.5**	**+1.0**
TXAR	**Lajitas Array** 0.7nm,0.7s,baz=275,slow=1.0,SNR=8.9	**145.56**	**46**	PKPbc	**PKPab**	**11 33 40.5**	**+1.0**

*NEIC **12** 11:14:24.9±0.0, 17°99N×101°75W,h24km,MD4.0(MEX), After MEX.*

MEX 12 11:14:25.1±0.5,17°99N×101°73W,h24km±14km,MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.46**	**146**	*e*Pg	Pb	11 14 33.1	-1.6
ZIIG				*e*Sg	Sb	11 14 39.2	-2.0
ZIIG	**Zihuatanejo**	**0.46**	**146**	*i* P	Pb	11 14 33.2	-1.5
ZIIG				*e*S	Sb	11 14 39.2	-2.0
ARIG	**Puente Sto Nin**	**1.35**	**78**	*e*P	Pn	11 14 45.6	-2.8
ARIG				*e*S	Sn	11 15 01.3	-4.3
ARIG	**Puente Sto Nin**	**1.35**	**78**	*e*P	Pn	11 14 45.6	-2.8
ARIG				*e*S	Sn	11 15 01.3	-4.3
CAIG	**El Cayaco**	**1.69**	**124**	*e*Pn	Pn	11 14 50.5	-2.6
CAIG				*e*Sn	Sn	11 15 10.4	-3.5
CAIG	**El Cayaco**	**1.69**	**124**	*e*P	Pn	11 14 50.5	-2.6
CAIG				*e*S	Sn	11 15 10.4	-3.5
MOIG	**Morelia**	**1.75**	**17**	*e*Pn	Pn	11 14 54.0	-0.2
MEIG	**Mezcala**	**2.01**	**92**	*e*Pn	Pn	11 14 54.9	-2.7
MEIG				*e*Sn	Sn	11 15 19.4	-2.8
MEIG	**Mezcala**	**2.01**	**92**	*e*P	Pn	11 14 54.9	-2.7
MEIG				*e*S	Sn	11 15 19.4	-2.8
PLIG	**Platanillo**	**2.16**	**79**	*e*Pn	Pn	11 14 58.0	-1.7
PLIG				*e*Sn	Sn	11 15 24.0	-1.7
PLIG	**Platanillo**	**2.16**	**79**	*e*P	Pn	11 14 58.0	-1.7
PLIG				*e*S	Sn	11 15 22.9	-2.8
UNM	**Universidad Na**	**2.76**	**61**	*e*Pn	Pn	11 15 06.7	-1.4
JRQG	**Juriquilla Cam**	**2.96**	**24**	*e*Pn	Pn	11 15 10.7	-0.1
ZAIG	**Zacatecas**	**4.81**	**351**	*e*Pn	Pn	11 15 35.7	-0.7

*ANF **12** 11:19:48.4±1.5,43°47N×127°28W,ML3.8/19,Error ellipse: s-maj=15.2km s-min=14.4km az=150.0*
*ISCJB **12** 11:19:49.2±0.3,43°62N±0.02×127°32W±0.04,h10km, mb4.0/30,MS3.5/10,Error ellipse: s-maj=4.2km s-min=2.7km az=154.2*
*NEIC **12** 11:19:50.4±0.3,43°61N×127°43W,h10km,mb4.1/43, Error ellipse: s-maj=4.1km s-min=2.3km az=61.0*
*IDC **12** 11:19:50.1±2.0,43°72N×127°15W,h0km,mb3.7/4, mb1 4.0/10,mb1mx3.8/36,mbtmp3.7/10,ML3.5/6,MS3.5/16, Ms1 3.5/16,ms1mx3.3/43,Error ellipse: s-maj=30.7km s-min=15.1km az=60.0*

ISC 12 11:19:50.5±0.8,43°56N±0.06×127°37W±0.07,h10km, n247,σ1§21/239,mb4.3/30,MS3.5/10,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.32**	**106**	*e*Pn	**Pn**	**11 20 25.9**	**-2.9**
KEBM				*e*Sn	**Sn**	**11 20 55.0**	**-2.4**
J01E	**Myrtle Point** baz=281,SNR=18	**2.54**	**98**	P	**Pn**	**11 20 29.2**	**-2.5**
I02D	**Swisshome** baz=260,SNR=196	**2.61**	**77**	P	**Pn**	**11 20 31.1**	**-1.6**
K02D	**Willamette Mer** baz=290,SNR=103	**2.84**	**106**	P	**Pn**	**11 20 33.6**	**-2.5**
K02D	baz=290			S	**Sn**	**11 21 08.3**	**-2.1**
I03D	**Drain, OR** baz=270,SNR=291	**2.92**	**86**	P	**Pn**	**11 20 35.4**	**-1.6**
I03D	baz=270			S	**Sn**	**11 21 11.8**	**-0.4**
L02E	**Cave Junction** baz=299,SNR=14	**3.10**	**115**	P	**Pn**	**11 20 38.3**	**-1.3**
COR	**Corvallis**	**3.11**	**69**	*e*Pn	**Pn**	**11 20 38.9**	**-0.7**
COR				*e*Sn	**Sn**	**11 21 17.1**	**+0.4**
HUMO	**Hull Mountain**	**3.37**	**105**	*e*Pn	**Pn**	**11 20 41.6**	**-1.6**
HUMO				*e*Sn	**Sn**	**11 21 21.9**	**-1.3**
G03D	**McMinnville, O** baz=243,SNR=111	**3.38**	**59**	P	**Pn**	**11 20 42.5**	**-0.8**
H04D	**Lebanon** baz=256,SNR=50	**3.48**	**72**	P	**Pn**	**11 20 44.4**	**-0.3**
I04A	**Tendick Farm,** baz=269,SNR=47	**3.60**	**85**	P	**Pn**	**11 20 45.8**	**-0.6**
JCC	**Jacoby Creek,**	**3.69**	**137**	*e*Pn	**Pn**	**11 20 47.5**	**-0.1**
KHMM	**Horse Mountain**	**3.81**	**134**	*e*Pn	**Pn**	**11 20 49.8**	**+0.4**
J04D	**Umpqua Nationa** baz=277,SNR=33	**3.85**	**93**	P	**Pn**	**11 20 49.8**	**-0.1**
YBH	**Yreka Blue Hor** 1.2nm,0.3s,baz=293,slow=13,SNR=55	**3.89**	**116**	Pn	**Pn**	**11 20 50.4**	**0.0**
YBH	0.6nm,0.3s,baz=121,slow=12,SNR=3.4			Sn	**Sn**	**11 21 38.8**	**+2.6**
H04A	**Detroit Lake**	**3.90**	**71**	*e*Pn	**Pn**	**11 20 50.3**	**-0.2**
L04D	**Klamath Falls** baz=292,SNR=9.5	**3.95**	**108**	P	**Pn**	**11 20 51.8**	**+0.5**
F04D	**Rainier, OR** baz=233,SNR=11	**4.00**	**49**	P	**Pn**	**11 20 51.7**	**-0.2**
K04D	**Chiloquin, OR** baz=285,SNR=10	**4.22**	**101**	P	**Pn**	**11 20 55.7**	**+0.7**
KMRM	**Mail Ridge**	**4.31**	**139**	*e*Pn	**Pn**	**11 20 55.9**	**-0.3**
I05D	**Terrebonne, OR** baz=263,SNR=30	**4.42**	**78**	P	**Pn**	**11 20 57.6**	**-0.2**
J05D	**Fort Rock, OR** baz=276,SNR=12	**4.48**	**91**	P	**Pn**	**11 20 57.6**	**-1.0**
E04D	**Cinebar** baz=231,SNR=123	**4.54**	**47**	P	**Pn**	**11 20 59.0**	**-0.2**
NLWA	**Neilton Lookou**	**4.56**	**31**	*e*Pn	**Pn**	**11 20 58.6**	**-1.0**
NLWA				*e*Sn	**Sn**	**11 21 52.9**	**+0.4**
G05D	**Wamic, OR** baz=252,SNR=42	**4.65**	**67**	P	**Pn**	**11 21 01.3**	**+0.4**
WDC	**Whiskeytown Da**	**4.66**	**128**	*e*Pn	**Pn**	**11 21 01.9**	**+0.9**
PINE	**Pine Mountain**	**4.67**	**85**	*e*Pn	**Pn**	**11 21 00.3**	**-1.0**
KCPM	**Cahto Peak**	**4.80**	**142**	*e*Pn	**Pn**	**11 21 03.2**	**+0.3**
F05D	**White Salmon** baz=244,SNR=37	**4.81**	**59**	P	**Pn**	**11 21 03.7**	**+0.7**
D04E	**Lakebay** baz=224,SNR=13	**4.86**	**40**	P	**Pn**	**11 21 03.9**	**+0.2**
D03D	**Eldon** baz=219,SNR=12	**4.99**	**36**	P	**Pn**	**11 21 04.9**	**-0.5**
LON	**Longmire**	**5.07**	**49**	*e*Pn	**Pn**	**11 21 06.7**	**+0.1**
LON				*e*Sn	**Sn**	**11 22 07.8**	**+2.7**
G06A	**Carlson Farm,**	**5.11**	**68**	*e*Pn	**Pn**	**11 21 06.6**	**-0.6**
D05A	**Enumclaw**	**5.25**	**44**	*e*Pn	**Pn**	**11 21 09.0**	**0.0**
MOD	**Modoc Plateau**	**5.46**	**105**	*e*Pn	**Pn**	**11 21 11.5**	**-0.6**
HOPS	**Hopland Field**	**5.59**	**143**	*e*Pn	**Pn**	**11 21 14.3**	**+0.6**
I07A	**Izee**	**5.71**	**82**	*e*Pn	**Pn**	**11 21 16.0**	**+0.5**
PGC	**Sidney**	**5.78**	**27**	*e*Pn	**Pn**	**11 21 15.5**	**-0.7**
F07A	**Phinny Hill Vi**	**5.79**	**64**	*e*Pn	**Pn**	**11 21 16.1**	**-0.4**
ORV	**Oroville**	**5.95**	**130**	*e*Pn	**Pn**	**11 21 20.4**	**+1.8**
B05A	**Bryant** baz=220,SNR=7.0	**5.97**	**36**	P	**Pn**	**11 21 18.9**	**-0.1**
LTY	**Liberty**	**5.99**	**50**	*e*Pn	**Pn**	**11 21 19.2**	**-0.1**
E07A	**Sunnyside**	**6.11**	**58**	*e*Pn	**Pn**	**11 21 20.9**	**0.0**
HAWA	**Hanford**	**6.24**	**60**	*e*Pn	**Pn**	**11 21 23.0**	**+0.3**
G08A	**Pilot Rock**	**6.27**	**71**	*e*Pn	**Pn**	**11 21 22.9**	**-0.3**
C06D	**Leavenworth** baz=229,SNR=20	**6.29**	**44**	P	**Pn**	**11 21 24.2**	**+0.8**
BEKR	**Beckworth**	**6.41**	**123**	*e*Pn	**Pn**	**11 21 26.5**	**+1.4**
B06A	**Marblemount**	**6.43**	**37**	*e*Pn	**Pn**	**11 21 25.1**	**-0.1**
J08A	**Circle Bar Ran**	**6.48**	**89**	*e*Pn	**Pn**	**11 21 25.7**	**-0.3**
WVOR	**Wild Horse Val**	**6.50**	**97**	*e*Pn	**Pn**	**11 21 25.1**	**-1.2**
E08A	**Dider Farm, El**	**6.58**	**61**	*e*Pn	**Pn**	**11 21 26.9**	**-0.4**
AFDM	**Forest Hills D**	**6.66**	**132**	*e*Pn	**Pn**	**11 21 29.4**	**+1.0**
D08A	**Wollman Farm,**	**6.91**	**57**	*e*Pn	**Pn**	**11 21 31.9**	**+0.1**
PAHR	**Pah Rah Range**	**7.11**	**120**	*e*Pn	**Pn**	**11 21 34.1**	**-0.6**
E09A	**Wood Farm, Sta**	**7.17**	**62**	*e*Pn	**Pn**	**11 21 34.9**	**-0.5**
VCNR	**Virginia City**	**7.19**	**124**	*e*Pn	**Pn**	**11 21 37.0**	**+1.1**
BMO	**Blue Mountains**	**7.35**	**76**	*e*Pn	**Pn**	**11 21 37.7**	**-0.2**
PNTR	**Pine Nut**	**7.35**	**125**	*e*Pn	**Pn**	**11 21 39.0**	**+0.9**
B08A	**Colville Reser**	**7.38**	**47**	*e*Pn	**Pn**	**11 21 37.5**	**-0.8**
F10A	**Beach Ranch, E**	**7.61**	**68**	*e*Pn	**Pn**	**11 21 40.9**	**-0.7**
YERR	**Yerington**	**7.64**	**124**	*e*Pn	**Pn**	**11 21 43.0**	**+1.0**
CMB	**Columbia Colle**	**7.64**	**134**	*e*Pn	**Pn**	**11 21 43.5**	**+1.6**
C09A	**Chrisman Ranch**	**7.65**	**53**	*e*Pn	**Pn**	**11 21 42.1**	**+0.1**
WAKR	**Walker**	**7.83**	**127**	*e*Pn	**Pn**	**11 21 45.7**	**+1.0**
RYN	**Ryan**	**8.29**	**122**	*e*Pn	**Pn**	**11 21 52.0**	**+0.9**
KVN	**Kaiserville**	**8.30**	**120**	*e*Pn	**Pn**	**11 21 51.9**	**+0.8**
MFID	**Camas Ranch**	**8.39**	**87**	*e*Pn	**Pn**	**11 21 52.4**	**+0.1**
NEW	**Newport** 0.6nm,0.3s,baz=232,slow=12,SNR=16	**8.55**	**53**	Pn	**Pn**	**11 21 53.7**	**-0.8**
NEW	comp=Z,593nm,20.2s,baz=244,slow=39			LR	LR	11 25 15.2	
NEW	**Newport**	**8.55**	**53**	*e*Pn	**Pn**	**11 21 54.2**	**-0.2**
NEW	**Newport** baz=241	**8.55**	**53**	P	**Pn**	**11 21 54.7**	**+0.3**
NV01	**Mina Array Sit**	**8.55**	**124**	*e*Pn	**Pn**	**11 21 55.3**	**+0.7**
NVAR	**Mina Array Bea** 0.3nm,0.3s,baz=290,slow=14,SNR=13	**8.55**	**124**	Pn	**Pn**	**11 21 56.8**	**+2.2**
NV11	**Mina Array Sit**	**8.64**	**123**	*e*Pn	**Pn**	**11 21 57.6**	**+1.9**
BBB	**Bella Bella** comp=Z,315nm,18.3s,baz=182,slow=34	**8.65**	**357**	LR	LR	11 24 38.8	
HLID	**Hailey**	**9.41**	**86**	*e*Pn	**Pn**	**11 22 07.0**	**+0.7**
ELK	**Elko** 0.1nm,0.3s,baz=296,slow=13,SNR=7.2	**9.44**	**103**	Pn	**Pn**	**11 22 09.0**	**+2.2**
ELK	comp=Z,61nm,20.6s,baz=286,slow=36			LR	LR	11 25 30.3	
ELK	**Elko**	**9.44**	**103**	*e*Pn	**Pn**	**11 22 07.5**	**+0.8**
VES	**Vestal, Richgr** baz=323	**10.00**	**138**	P	**Pn**	**11 22 16.7**	**+2.5**
MSO	**Missoula**	**10.03**	**66**	*e*Pn	**Pn**	**11 22 13.9**	**-0.7**
MSO	**Missoula** baz=256	**10.03**	**66**	P	**Pn**	**11 22 14.4**	**-0.3**
CWC	**Cottonwood Cre** baz=318	**10.06**	**132**	P	**Pn**	**11 22 20.2**	**+5.1**
R11A	**Troy Canyon, C**	**10.32**	**116**	*e*Pn	**Pn**	**11 22 19.6**	**+0.9**
DAC	**Darwin (Calif)**	**10.44**	**131**	*e*Pn	**Pn**	**11 22 21.0**	**+0.5**
ISA	**Isabella, Lake**	**10.45**	**136**	*e*Pn	**Pn**	**11 22 21.3**	**+0.9**
ISA	**Isabella, Lake** baz=322	**10.45**	**136**	P	**Pn**	**11 22 23.7**	**+3.3**
MPMC	**Manual Prospec** baz=318	**10.66**	**131**	P	**Pn**	**11 22 28.3**	**+4.8**
DLMT	**Dillon**	**10.72**	**75**	*e*Pn	**Pn**	**11 22 24.1**	**0.0**
TPNV	**Topopah Spring**	**10.75**	**124**	*e*Pn	**Pn**	**11 22 26.4**	**+1.7**
WALA	**Waterton Lakes**	**10.81**	**55**	*e*Pn	**Pn**	**11 22 26.0**	**+0.6**
LRM	**Limekiln Ridge**	**10.86**	**73**	*e*Pn	**Pn**	**11 22 27.0**	**+0.7**
HVU	**Hansel Valley**	**10.89**	**94**	*e*Pn	**Pn**	**11 22 27.2**	**+0.6**
BGU	**Big Grassy Mou**	**10.95**	**99**	*e*Pn	**Pn**	**11 22 27.8**	**+0.4**
DUG	**Dugway, Tooele**	**11.36**	**102**	*e*Pn	**Pn**	**11 22 34.8**	**+1.9**
HRY	**Holter Researc**	**11.42**	**69**	*e*Pn	**Pn**	**11 22 32.2**	**-1.5**
GSC	**Goldstone, Bar**	**11.60**	**132**	*e*Pn	**Pn**	**11 22 38.3**	**+2.1**
YHB	**Horse Butte**	**11.68**	**79**	*e*Pn	**Pn**	**11 22 36.9**	**-0.5**
SHPR	**Sheep Range**	**11.70**	**123**	*e*Pn	**Pn**	**11 22 40.0**	**+2.3**
YMR	**Madison River**	**11.85**	**79**	*e*Pn	**Pn**	**11 22 40.8**	**+1.1**
YFT	**Old Faithful**	**11.94**	**80**	*e*Pn	Pn	**11 22 46.0**	**+5.0**
YPP	**Pitchstone Pla**	**11.97**	**81**	*e*Pn	**Pn**	**11 22 44.8**	**+3.3**
TUQ	**Turquoise Moun** baz=316	**11.99**	**129**	P	**Pn**	**11 22 45.5**	**+4.0**
REDW	**Red Top Meadow**	**12.01**	**85**	*e*Pn	**Pn**	**11 22 43.4**	**+1.5**
MOOW	**Moose Ponds**	**12.05**	**83**	*e*Pn	**Pn**	**11 22 42.6**	**+0.2**
YNR	**Norris Junctio**	**12.05**	**79**	*e*Pn	**Pn**	**11 22 44.8**	**+2.3**
FLWY	**Flagg Ranch**	**12.06**	**82**	*e*Pn	**Pn**	**11 22 44.3**	**+1.7**
SNOW	**Snow King Moun**	**12.07**	**85**	*e*Pn	**Pn**	**11 22 43.6**	**+0.9**
H17A	**Grant Village**	**12.13**	**80**	*e*Pn	**Pn**	**11 22 44.4**	**+0.8**
H17A	**Grant Village** baz=272	**12.13**	**80**	P	**Pn**	**11 22 46.8**	**+3.2**
LOHW	**Long Hollow**	**12.16**	**84**	*e*Pn	**Pn**	**11 22 45.5**	**+1.5**
JLU	**Jordanelle**	**12.19**	**99**	*e*Pn	**Pn**	**11 22 45.0**	**+0.6**
HEC	**Hector,Ludlow** baz=319	**12.20**	**132**	P	**Pn**	**11 22 47.9**	**+3.4**
CCUT	**Cedar City**	**12.22**	**115**	*e*Pn	**Pn**	**11 22 45.3**	**+0.5**
LKWY	**Lake**	**12.25**	**79**	*e*Pn	**Pn**	**11 22 45.8**	**+0.5**
MSU	**Marysvale**	**12.52**	**109**	*e*Pn	**Pn**	**11 22 48.9**	**-0.1**
LCMT	**Little Creek M**	**12.60**	**116**	*e*Pn	**Pn**	**11 22 52.0**	**+2.1**
GMRC	**Granite Mounta** baz=318	**12.61**	**130**	P	**Pn**	**11 22 52.8**	**+2.8**
MTPU	**Mount Pierson**	**12.75**	**110**	*e*Pn	**Pn**	**11 22 51.0**	**-1.2**
TMUT	**Trail Mountain**	**12.85**	**104**	*e*Pn	**Pn**	**11 22 52.6**	**-0.9**
KNB	**Kanab**	**12.88**	**116**	*e*Pn	**Pn**	**11 22 54.8**	**+1.1**
PKCU	**Pink Cliffs**	**12.98**	**113**	*e*Pn	**Pn**	**11 22 57.2**	**+2.0**
BW06	**Boulder Array**	**13.03**	**87**	*e*Pn	**Pn**	**11 22 58.0**	**+2.1**
PD31	**Pinedale Array**	**13.03**	**87**	*e*Pn	**Pn**	**11 22 56.9**	**+1.0**
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=267,slow=13,SNR=12	**13.03**	**87**	Pn	**Pn**	**11 22 58.0**	**+2.1**
PDAR	comp=Z,348nm,19.3s,baz=284,slow=40			LR	LR	11 28 20.2	
PDAR	**Pinedale Array**	**13.03**	**87**	*e*Pn	**Pn**	**11 22 57.7**	**+1.8**
Q16A	**Castle Valley**	**13.04**	**105**	*e*Pn	**Pn**	**11 22 56.2**	**+0.2**
RLMT	**Red Lodge**	**13.05**	**77**	*e*Pn	**Pn**	**11 22 56.6**	**+0.4**
RLMT	**Red Lodge** baz=270	**13.05**	**77**	P	**Pn**	**11 22 57.2**	**+1.1**
EGMT	**Eagleton**	**13.07**	**64**	*e*Pn	**Pn**	**11 22 57.1**	**+0.8**
PFO	**Pinyon Flats O** comp=Z,393nm,20.7s,baz=323,slow=37	**13.08**	**136**	LR	LR	11 27 49.3	
P17A	**Butcher Ranch,**	**13.11**	**102**	*e*Pn	**Pn**	**11 22 58.8**	**+1.9**
SRU	**San Rafael Swe**	**13.41**	**104**	*e*Pn	**Pn**	**11 23 02.2**	**+1.1**
W13A	**Hualapai Mount**	**13.41**	**124**	*e*Pn	**Pn**	**11 23 01.8**	**+0.7**
U15A	**North Rim**	**13.56**	**117**	*e*Pn	**Pn**	**11 23 03.7**	**+0.5**
Y12C	**Blythe**	**14.01**	**130**	*e*Pn	**Pn**	**11 23 10.1**	**+1.2**
GLA	**Glamis**	**14.37**	**133**	*e*Pn	**Pn**	**11 23 14.2**	**+0.2**
PV09	**Paradox Valley**	**14.66**	**104**	*e*Pn	**Pn**	**11 23 19.0**	**+0.8**
O20A	**White River Ci**	**14.66**	**97**	*e*Pn	**Pn**	**11 23 18.6**	**+0.5**
O20A	**White River Ci** baz=290	**14.66**	**97**	P	**Pn**	**11 23 21.2**	**+3.1**
WUAZ	**Wupatki**	**14.71**	**118**	*e*Pn	**Pn**	**11 23 19.8**	**+1.0**
Y14A	**Wickenburg**	**14.74**	**126**	*e*Pn	**Pn**	**11 23 19.7**	**+0.7**
PV23	**Carpenter Ridg**	**14.76**	**104**	*e*Pn	**Pn**	**11 23 20.0**	**+0.4**
PV14	**Lion Creek, Pa**	**14.79**	**104**	*e*Pn	**Pn**	**11 23 20.6**	**+0.7**
PV05	**Paradox Valley**	**14.87**	**105**	*e*Pn	**Pn**	**11 23 22.4**	**+1.4**
PV17	**East Wray Mesa**	**14.88**	**104**	*e*Pn	**Pn**	**11 23 23.0**	**+2.0**
PV11	**David Mesa, Pa**	**14.93**	**104**	*e*Pn	**Pn**	**11 23 22.7**	**+0.9**
PV03	**Paradox Valley**	**14.96**	**104**	*e*Pn	**Pn**	**11 23 23.5**	**+1.2**
DLBC	**Dease Lake** 0.1nm,0.3s,baz=186,slow=12,SNR=3.5	**14.99**	**355**	Pn	**Pn**	**11 23 23.9**	**+1.6**
DLBC	comp=Z,137nm,21.4s,baz=124,slow=34			LR	LR	11 28 21.0	
DLBC	**Dease Lake**	**14.99**	**355**	*e*Pn	**Pn**	**11 23 22.6**	**+0.2**
PV01	**Paradox Valley**	**15.21**	**104**	*e*Pn	**Pn**	**11 23 26.3**	**+0.7**
LAO	**LASA Array** 20nm,0.9s	**15.25**	**71**	*e*Pn	**Pn**	**11 23 26.8**	**+0.9**
LAO	**LASA Array** baz=266	**15.25**	**71**	P	**P**	**11 23 29.4**	**-1.4**
X16A	**Lo Mia Camp, P** 4.7nm,1.0s	**15.36**	**121**	*e*Pn	**Pn**	**11 23 27.4**	**-0.1**
SMCO	**Snowmass** 1.6nm,0.8s	**15.92**	**99**	*e*Pn	**Pn**	**11 23 34.5**	**-0.4**
N23A	**Red Feather La** 14nm,1.0s	**16.09**	**92**	*e*Pn	**Pn**	**11 23 36.5**	**-0.5**
N23A	**Red Feather La** baz=287	**16.09**	**92**	P	**Pn**	**11 23 36.5**	**-0.5**
X18A	**Snowflake** 3.2nm,1.1s	**16.23**	**118**	*e*Pn	**Pn**	**11 23 40.3**	**+1.5**
214A	**Organ Pipe Nat** baz=320	**16.30**	**130**	P	**Pn**	**11 23 40.5**	**+0.9**
S22A	**4UR Ranch, Cre** 4.1nm,1.1s	**16.62**	**103**	*e*Pn	**Pn**	**11 23 42.8**	**-1.0**
ISCO	**Idaho Springs** 13nm,1.0s	**16.67**	**96**	*e*Pn	**Pn**	**11 23 43.2**	**-1.3**
ISCO	**Idaho Springs** baz=290	**16.67**	**96**	P	**Pn**	**11 23 44.1**	**-0.4**
DGMT	**Dagmar** 29nm,1.1s	**16.81**	**65**	*e*Pn	**Pn**	**11 23 44.2**	**-1.6**
RSSD	**Black Hills** 2.7nm,0.7s	**16.84**	**80**	*e*Pn	**Pn**	**11 23 47.6**	**+1.1**
TUC	**Tucson** 6.6nm,1.1s	**17.20**	**125**	*e*Pn	**P**	**11 23 52.7**	**+0.2**
TUC	**Tucson** baz=316	**17.20**	**125**	P	**P**	**11 23 53.2**	**+0.6**
Q24A	**Divide** 13nm,1.1s	**17.31**	**98**	*e*Pn	**Pn**	**11 23 53.5**	**+0.9**
Q24A	**Divide** baz=293	**17.31**	**98**	P	**Pn**	**11 23 53.4**	**+0.8**
SDCO	**Great Sand Dun** 7.8nm,0.9s	**17.56**	**102**	*e*Pn	**Pn**	**11 23 56.0**	**+0.3**
SDCO	**Great Sand Dun** baz=296	**17.56**	**102**	P	**P**	**11 23 56.9**	**+0.2**
LAZ	**Ladron**	**18.16**	**113**	*e*Pn	**P**	**11 24 04.9**	**+1.7**
ANMO	**Albuquerque** 0.1nm,0.3s,baz=297,slow=10,S

9.2nm,1.1s
X37A Clayton 26.27 99 *e*P P 11 25 25.9 0.0
10nm,1.0s
COLD Coldfoot 26.71 340 *e*P P 11 25 28.6 -1.0
0.1nm,0.7s
IM3 Indian Mountai 26.74 336 *e*P P 11 25 29.2 -0.6
Y52A Lilburn 34.81 91 P P 11 26 41.8 +0.4
baz=299
Z52A Williamson 34.88 93 P P 11 26 41.7 -0.4
baz=300
252A Lumpkin 35.26 95 P P 11 26 45.2 -0.1
baz=302
Z53A Monticello 35.45 92 P P 11 26 46.5 -0.5
baz=300
GOGA Godfrey 35.47 92 P P 11 26 47.1 +0.1
baz=300
253A Americus 35.67 94 P P 11 26 48.8 0.0
baz=302
254A Abbeville 36.34 94 P P 11 26 53.7 -0.8
baz=302
SCHQ Schefferville 39.92 52 LR LR 11 44 21.8
comp=Z,143nm,20.5s,baz=344,slow=37
PETK Petropavlovsk- 48.57 309 LR LR 11 46 10.1
comp=Z,20nm,21.8s,baz=88,slow=32
H11N3 WAKE ISLAND Hy 59.21 269 T T 12 33 38.2
baz=51
H11N2 WAKE ISLAND Hy 59.21 269 T T 12 33 39.1
baz=51
H11N1 WAKE ISLAND Hy 59.23 269 T T 12 33 39.8
baz=51
H11S1 WAKE ISLAND Hy 60.13 268 T T 12 34 44.7
baz=49
H11S2 WAKE ISLAND Hy 60.14 268 T T 12 34 43.8
baz=49
H11S3 WAKE ISLAND Hy 60.15 268 T T 12 34 45.8
baz=49
SONM Songino Array 77.42 326 P P 11 31 44.3 -1.5
0.6nm,0.4s,baz=195,slow=4.2,SNR=5.8
SONM LR LR 12 05 07.5
comp=Z,48nm,19.1s,baz=38,slow=35
ZALV Zalesovo Beam 79.04 341 LR LR 12 07 25.8
comp=Z,25nm,21.9s,baz=36,slow=36
HHC Hu-ho-hao-te 80.63 319 *e*P P 11 32 02.9 -0.6
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,130nm,5.2s
MKAR Makanchi Array 86.28 340 P P 11 32 30.6 -1.8
comp=Z,0.6nm,1.0s,baz=44,slow=5.4,SNR=4.2
MKAR LR LR 12 13 34.1
comp=Z,21nm,18.5s,baz=12,slow=37
WMQ Urumqi 87.53 335 *e*P P 11 32 40.1 +1.5

SJA 12 11:26:36.1±2.2, 50°.50S×72°.39W, h70km, MD3.6, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO09	**Cerro Castillo**	**0.78**	**177**	*e*P	Pn	11 26 54.3	+2.4
	baz=358,slow=6.9						
GO09				*e*S	Sn	11 27 07.2	+3.7
GO08	**Villa O'Higgin**	**2.04**	**357**	*e*P	Pn	11 27 06.5	-1.7
GO08				*i* S	Sn	11 27 33.8	+1.1

IDC 12 11:42:08.4±3.0, 7°.69S×124°.95E, h448km±41km, mb2.5/1, mb1 2.9/5, mb1mx2.6/35, mbtmp3.6/5, Error ellipse: s-maj=104.1km s-min=21.8km az=53.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.80**	**207**	P	P	11 43 15.0	+1.1
	8.1nm,0.3s,baz=295,slow=4.4,SNR=10						
BATI				S	S	11 44 07.0	-0.1
	6.2nm,0.3s,baz=331,slow=19,SNR=3.9						
FITZ	**Fitzroy Crossi**	**10.36**	**176**	P	P	11 44 31.0	+1.5
	0.4nm,0.3s,baz=0.1,slow=10,SNR=33						
WRA	**Warramunga Arr**	**15.20**	**144**	P	P	11 45 20.2	-1.6
	0.5nm,0.3s,baz=323,slow=11,SNR=35						
ASAR	**Alice Springs**	**18.05**	**153**	P	P	11 45 51.9	0.0
	0.2nm,0.3s,baz=340,slow=14,SNR=9.6						
MKAR	**Makanchi Array**	**66.17**	**329**	P	P	11 52 10.2	-0.1
	0.1nm,0.4s,baz=125,slow=6.7,SNR=3.6						

*ISCJB **12** 11:48:49.9±0.6, 26°.39N±0°.07×127°.35E±0°.05, h57km±4km, mb3.7/6, MS3.3/1, Error ellipse: s-maj=12.3km s-min=6.3km az=163.6*
*JMA **12** 11:48:50.9±0.2, 26°.33N×127°.35E, h46km±2km, M3.5*
JMA Felt I J1.
*IDC **12** 11:48:50.2±4.6, 26°.36N×127°.35E, h47km±32km, mb3.6/6, mb1 3.6/7, mb1mx3.3/35, mbtmp3.8/7, ML3.4/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/22, Error ellipse: s-maj=70.4km s-min=30.5km az=178.0*
ISC 12 11:48:50.7±0.9, 26°.36N±0°.07×127°.36E±0°.04, h51km±7km, n17, σ0°63/25, mb3.8/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.25**	**336**	P	**Pn**	**11 48 59.7**	**+0.2**
JAGN				S	**Sn**	**11 49 05.8**	**+0.1**
JJT3	**Tamagusuku3**	**0.44**	**119**	P	**Pn**	**11 49 01.4**	**+0.1**
JJT3				S	**Sn**	**11 49 09.2**	**+0.3**
JKE	**Kume jima 2**	**0.51**	**266**	P	**Pn**	**11 49 02.1**	**-0.1**
JKE				S	**Sn**	**11 49 10.2**	**-0.2**
JNTH	**Nagotoyohara**	**0.62**	**75**	P	**Pn**	**11 49 03.3**	**-0.1**
JNTH				*e*S	**Sn**	**11 49 12.1**	**-0.5**
JIH	**Iheya**	**0.86**	**39**	P	**Pn**	**11 49 06.7**	**+0.1**
JIH				S	**Sn**	**11 49 17.7**	**-0.6**
JOW	**Kunigami**	**0.95**	**60**	P	**Pn**	**11 49 08.0**	**+0.3**
	130nm,0.3s,baz=122,slow=21,SNR=626						
JOW				S	**Sn**	**11 49 20.1**	**-0.2**
	332nm,0.3s,baz=323,slow=20,SNR=88						
JOW	**Kunigami**	**0.95**	**60**	P	**Pn**	**11 49 07.9**	**+0.2**
JOW				*e*S	**Sn**	**11 49 20.1**	**-0.2**
JYRO	**Yoronjima**	**1.18**	**56**	P	**Pn**	**11 49 11.1**	**+0.2**
JYRO				*e*S	**Sn**	**11 49 25.4**	**-0.5**
JOKE	**Okinoerabujima**	**1.47**	**47**	P	**Pn**	**11 49 14.6**	**-0.3**
JOKE				S	**Sn**	**11 49 33.0**	**0.0**
JNU	**Nakatsue**	**7.40**	**24**	P	**Pn**	**11 50 36.7**	**+0.6**
	0.5nm,0.3s,baz=247,slow=5.9,SNR=6.7						
SONM	**Songino Array**	**27.02**	**328**	P	**P**	**11 54 29.7**	**+1.6**
	1.0nm,0.6s,baz=144,slow=10,SNR=7.7						
MKAR	**Makanchi Array**	**40.86**	**312**	P	**P**	**11 56 27.0**	**-0.6**
	0.8nm,0.5s,baz=96,slow=10,SNR=21						
ZALV	**Zalesovo Beam**	**41.67**	**323**	P	**P**	**11 56 32.3**	**-1.7**
	0.8nm,0.3s,baz=114,slow=9.8,SNR=7.4						
KURBB	**Kurchatov Arra**	**44.22**	**317**	P	**P**	**11 56 54.1**	**-0.7**
	0.5nm,0.3s,baz=105,slow=9.1,SNR=4.8						
WRA	**Warramunga Arr**	**46.52**	**171**	LR	LR	12 18 25.0	
	comp=Z,35nm,19.8s,baz=270,slow=38						
FINES	**FINESS Array B**	**72.36**	**330**	P	**P**	**12 00 10.8**	**-0.2**
	1.6nm,0.8s,baz=45,slow=5.7,SNR=4.4						
YKA	**Yellowknife Ar**	**78.73**	**25**	P	**P**	**12 00 48.1**	**+0.7**
	0.2nm,0.6s,baz=300,slow=4.8,SNR=4.0						

*ISCJB **12** 11:56:19.4±2.5, 37°.8N±0°.1×35°.45E±0°.06, h4km±9km, Error ellipse: s-maj=18.4km s-min=8.5km az=177.6*
*ISK **12** 11:56:19.7, 37°.77N×35°.41E, h6km, ML2.2/4*
*DDA **12** 11:56:22.9, 37°.63N×35°.46E, h7km±4km, ML2.5*
ISC 12 11:56:21.5±2.3, 37°.7N±0°.1×35°.41E±0°.05, h7km±14km, n7, σ0°66/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.40**	**124**	PG	**Pg**	**11 56 28.8**	**-0.4**
KOZT				SG	**Sg**	**11 56 34.9**	**+0.4**
KARA	**Karaisali**	**0.53**	**213**	PG	**Pg**	**11 56 31.5**	**-0.2**
KARA				SG	**Sb**	**11 56 39.9**	**-0.9**
SAIM	**ADANA**	**0.60**	**63**	IAML_P			
	comp=Z,2μm,0.1s						
GULE	**Gulek**	**0.66**	**231**	IAML_P			
	comp=Z,989nm,0.1s						
GULE				*i* P	**Pb**	**11 56 35.4**	**0.0**
GULE				*i* S	**Sb**	**11 56 46.0**	**+1.2**
CEYT	**Ceyhan**	**0.74**	**159**	PG	**Pg**	**11 56 35.7**	**-0.1**
CEYT				SG	**Sb**	**11 56 47.3**	**+0.3**
ANDN	**Andirin**	**0.75**	**99**	IAML_P			
	comp=Z,291nm,0.1s						
ANDN				*i* P	**Pb**	**11 56 37.2**	**+0.3**
TAHT	**Tahtakopru-Hat**	**1.46**	**155**	PN	**Pn**	**11 56 47.9**	**-0.4**
TAHT				SN	**Sg**	**11 57 08.8**	**+0.3**

*IDC **12** 12:13:37.9±1.7, 37°.34N×143°.76E, h0km, mb3.4/3, mb1 3.5/6, mb1mx3.3/32, mbtmp3.4/6, ML3.2/3, Error ellipse: s-maj=36.9km s-min=24.5km az=73.0*
*ISCJB **12** 12:13:40.1±0.7, 37°.44N±0°.04×143°.59E±0°.06, h33km, mb3.3/3, Error ellipse: s-maj=6.9km s-min=5.0km az=11.1*
*JMA **12** 12:13:41.2±0.2, 37°.44N×143°.50E, h47km, M3.2*
ISC 12 12:13:42.9±1.4, 37°.45N±0°.05×143°.5E±0°.1, h35km, n22, σ1°66/37, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.83**	**299**	P	**Pn**	**12 14 11.1**	**-0.8**
JIKH				S	**Sn**	**12 14 33.5**	**-0.3**
JIO	**Ouri**	**1.98**	**301**	P	**Pn**	**12 14 13.3**	**-0.6**
JIO				S	**Sn**	**12 14 36.6**	**-0.9**
JFK	**Kawauchi**	**2.10**	**269**	P	**Pn**	**12 14 15.1**	**-0.5**
JFK				S	**Sn**	**12 14 39.4**	**-1.1**
JKMT	**Kesennumamotoy**	**2.10**	**311**	P	**Pn**	**12 14 15.0**	**-0.6**
JKMT				S	**Sn**	**12 14 40.0**	**-0.5**
JMK	**Ichinoseki**	**2.35**	**310**	P	**Pn**	**12 14 18.5**	**-0.4**
JFT	**Otama**	**2.52**	**273**	P	**Pn**	**12 14 21.8**	**+0.4**
JFT				S	**Sn**	**12 14 50.7**	**-0.3**
JOM	**Ohasama**	**2.67**	**320**	P	**Pn**	**12 14 23.2**	**-0.2**
JOM				S	**Sn**	**12 14 54.0**	**-0.4**
JYK	**Kaneyama**	**2.88**	**302**	P	**Pn**	**12 14 26.5**	**+0.2**
JANG	**Nango**	**3.31**	**333**	P	**Pn**	**12 14 32.2**	**0.0**
JANG				*e*S	**Sn**	**12 15 09.6**	**-0.7**
JAG	**Ashikaga**	**3.41**	**254**	P	**Pn**	**12 14 33.6**	**+0.1**
JAG				S	**Sn**	**12 15 12.9**	**+0.2**
JRY	**Ryogami san**	**3.97**	**250**	P	**Pn**	**12 14 40.9**	**-0.4**
JRY				S	**Sn**	**12 15 23.9**	**-2.7**
JOD2	**Odawara 2**	**4.18**	**240**	P	**Pn**	**12 14 43.5**	**-0.7**
JOD2				S	**Sn**	**12 15 29.3**	**-2.6**
MJAR	**Matsushiro Arr**	**4.34**	**260**	Pn	**Pn**	**12 14 47.8**	**+1.4**
	1.4nm,0.3s,baz=88,slow=14,SNR=19						
MJAR				Sn	**Sn**	**12 15 39.6**	**+3.8**
	0.0nm,0.3s,baz=338,slow=27,SNR=2.3						
JOT	**Ohata**	**4.37**	**335**	P	**Pn**	**12 14 46.2**	**-0.5**
JKB	**Kayabe**	**4.83**	**337**	P	**Pn**	**12 14 53.4**	**+0.4**
JCH	**Churui**	**5.16**	**359**	P	**Pn**	**12 14 56.3**	**-1.3**
JCH				S	**Sn**	**12 15 51.5**	**-4.4**
JHJ2	**Mitsune**	**5.28**	**216**	P	**Pn**	**12 14 58.7**	**-0.6**
JHJ2				S	**Sn**	**12 15 55.6**	**-3.2**
JHJ	**Hachijo jima 2**	**5.29**	**216**	Pn	**Pn**	**12 14 57.6**	**-1.8**
	1.2nm,0.3s,baz=205,slow=19,SNR=4.6						
JHJ				Sn	**Sn**	**12 15 55.4**	**-3.7**
	7.1nm,0.3s,baz=175,slow=23,SNR=6.7						
ASAJ	**Asahikawa**	**6.70**	**354**	Pn	**Pn**	**12 15 18.2**	**-0.5**
	0.5nm,0.3s,baz=192,slow=15,SNR=7.8						
ASAJ				Sn	**Sn**	**12 16 32.6**	**-1.1**
	0.1nm,0.3s,baz=68,slow=19,SNR=2.2						
SONM	**Songino Array**	**28.95**	**303**	P	**P**	**12 19 41.6**	**+2.6**
	0.2nm,0.7s,baz=101,slow=7.6,SNR=2.6						
WRA	**Warramunga Arr**	**57.73**	**190**	P	**P**	**12 23 29.9**	**-0.4**
	0.6nm,0.8s,baz=9.8,slow=7.1,SNR=4.1						
ASAR	**Alice Springs**	**61.46**	**190**	P	**P**	**12 23 55.9**	**0.0**
	0.2nm,0.6s,baz=8.5,slow=6.9,SNR=3.6						

*IDC **12** 12:15:55.3±0.6, 37°.24N×144°.96E, h0km, mb3.8/15, mb1 4.1/21, mb1mx4.0/33, mbtmp4.0/21, ML4.0/5, MS2.6/4, Ms1 2.6/4, ms1mx2.4/38, Error ellipse: s-maj=17.8km s-min=15.2km az=107.0*
*NEIC **12** 12:15:56.5±0.2, 37°.24N×144°.93E, h10km, mb4.5/11, Error ellipse: s-maj=4.4km s-min=3.8km az=127.0*
*ISCJB **12** 12:15:58.7±0.3, 37°.29N±0°.03×144°.67E±0°.03, h33km, mb4.1/31, Error ellipse: s-maj=4.7km s-min=3.6km az=1.9*
*JMA **12** 12:16:00.4±0.2, 37°.48N×144°.61E, h48km, M5.0*
*NIED **12** 12:16:00, 37°.50N×144°.60E, h8km, Mw4.0 Best double couple: Mo1.06000×10^15 NP1:φs=8.00000°, δ40.00000°, λ-83.00000°. NP2:φs=179.00000°, δ50.00000°, λ-96.00000°.*
*BJI **12** 12:16:00.5, 37°.28N×144°.61E, h31km, mb4.4/24, mB4.8/9, Ms4.5/1, Ms7 4.3/1*
ISC 12 12:15:60.0±0.5, 37°.29N±0°.05×144°.87E±0°.06, h35km, n106, σ2°42/115, mb4.2/31, 6C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.88**	**292**	P	**Pn**	**12 16 41.6**	**-1.8**
JIKH				*e*S	**Sn**	**12 17 12.1**	**-4.7**
JIO	**Ouri**	**3.02**	**294**	↑↑P	**Pn**	**12 16 43.5**	**-1.7**
JIO				S	**Sn**	**12 17 15.6**	**-4.5**
JKMT	**Kesennumatoy**	**3.08**	**301**	P	**Pn**	**12 16 44.2**	**-1.9**
JKMT				S	**Sn**	**12 17 16.8**	**-4.8**
OFUJ	**Ofunato**	**3.09**	**306**	P	**Pn**	**12 16 44.1**	**-2.1**
OFUJ				S	**Sn**	**12 17 17.0**	**-4.9**
MIYJ	**Miyakonagasawa**	**3.31**	**315**	↑↑P	**Pn**	**12 16 46.7**	**-2.5**
JMK	**Ichinoseki**	**3.32**	**301**	P	**Pn**	**12 16 47.9**	**-1.5**
JMK				S	**Sn**	**12 17 23.8**	**-3.8**
JOM	**Ohasama**	**3.55**	**309**	↑↑P	**Pn**	**12 16 51.0**	**-1.6**
JOM				*e*S	**Sn**	**12 17 29.5**	**-3.9**
JKZ	**Kuzumaki**	**3.86**	**315**	↑↑P	**Pn**	**12 16 55.2**	**-1.7**
JAG	**Ashikaga**	**4.43**	**260**	P	**Pn**	**12 17 03.5**	**-1.1**
JHK	**Hiroka**	**4.67**	**271**	↑↑P	**Pn**	**12 17 07.5**	**-0.4**
ERM	**Erimo**	**4.90**	**345**	*e*Pn	**Pn**	**12 17 09.1**	**-2.0**
ERM				*e*Sn	**Sn**	**12 17 59.8**	**-6.8**
JRY	**Ryogami san**	**4.96**	**257**	*e*S	**Sn**	**12 18 03.9**	**-4.3**
JGK	**Kuni**	**5.04**	**264**	↑↑P	**Pn**	**12 17 14.3**	**+1.2**
JOD2	**Odawara 2**	**5.09**	**248**	*e*S	**Sn**	**12 18 07.2**	**-4.1**
JSI2	**Shiura 2**	**5.11**	**319**	P	**Pn**	**12 17 13.6**	**-0.4**
MJAR	**Matsushiro Arr**	**5.39**	**264**	Pn	**Pn**	**12 17 17.8**	**-0.1**
	28nm,0.3s,baz=88,slow=15,SNR=252						
MJAR				Sn	**Sn**	**12 18 16.8**	**-1.8**
	7.6nm,0.3s,baz=74,slow=28,SNR=6.9						
MJAR				LR	LR	12 20 01.1	
	comp=Z,86nm,18.1s,baz=95,slow=45						
MAJO	**Matsushiro**	**5.39**	**264**	*e*Pn	**Pn**	**12 17 17.6**	**-0.3**
MAJO				*e*Sn	**Sn**	**12 18 16.8**	**-1.9**
MAT	**Matsushiro**	**5.39**	**264**	P	**Pn**	**12 17 18.2**	**+0.3**
MAT				S	**Sn**	**12 18 16.2**	**-2.5**
MJB9	**Matsu-Tunnel**	**5.39**	**264**	*e*Pn	**Pn**	**12 17 17.7**	**-0.2**
JCH	**Churui**	**5.44**	**348**	*e*S	**Sn**	**12 18 12.9**	**-7.0**
JKB	**Kayabe**	**5.46**	**328**	*e*S	**Sn**	**12 18 12.8**	**-7.6**
JNG	**Nsakai**	**5.50**	**263**	P	**Pn**	**12 17 19.6**	**+0.2**
JHJ2	**Mitsune**	**5.87**	**226**	*e*Pn	**Pn**	**12 17 23.0**	**-1.5**
JHJ2				*e*Sn	**Sn**	**12 18 25.9**	**-4.6**
JHJ	**Hachijo jima 2**	**5.88**	**226**	Pn	**Pn**	**12 17 22.5**	**-2.2**
	18nm,0.3s,baz=1.2,slow=23,SNR=30						
JHJ				Sn	**Sn**	**12 18 24.3**	**-6.5**
	166nm,0.3s,baz=226,slow=23,SNR=15						
NEM2	**Nemuro 2**	**6.10**	**6**	*e*S	**Sn**	**12 18 27.4**	**-8.8**
INU	**Inuyama**	**6.63**	**255**	*e*Pn	**Pn**	**12 17 33.7**	**-1.2**
ASAJ	**Asahikawa**	**7.03**	**347**	Pn	**Pn**	**12 17 38.6**	**-1.8**
	3.1nm,0.3s,baz=198,slow=18,SNR=31						
ASAJ				Sn	**Sn**	**12 18 55.9**	**-3.2**
	2.6nm,0.3s,baz=44,slow=32,SNR=4.2						
ASAJ	**Asahikawa**	**7.03**	**347**	*e*Pn	**Pn**	**12 17 38.7**	**-1.7**
ASAJ				*e*Sn	**Sn**	**12 18 58.2**	**-0.9**
JHE	**Heguri**	**7.89**	**253**	P	**Pn**	**12 17 52.0**	**-0.3**
CBIJ	**Chichi jima**	**10.41**	**193**	*e*Pn	**Pn**	**12 18 24.4**	**-2.4**
CBIJ				*e*Sn	**Sn**	**12 20 14.3**	**-8.0**
USA0B	**Ussuriysk Arra**	**11.95**	**309**	*e*Pn	**Pn**	**12 18 47.2**	**-0.5**
USRK	**Ussuriysk Ar.**	**11.95**	**309**	Pn	**Pn**	**12 18 48.0**	**+0.2**
	0.5nm,0.3s,baz=118,slow=14,SNR=6.6						
USRK	**Ussuriysk Ar.**	**11.95**	**309**	Pn	**Pn**	**12 18 48.0**	**+0.2**
JNU	**Nakatsue**	**12.17**	**254**	Pn	**Pn**	**12 18 51.4**	**+0.5**
	0.3nm,0.3s,baz=89,slow=13,SNR=4.7						
JNU				LR	LR	12 24 02.1	
	comp=Z,34nm,18.1s,baz=118,slow=40						
JNU	**Nakatsue**	**12.17**	**254**	*e*Pn	**Pn**	**12 18 50.3**	**-0.6**
KSRS	**Korea Array**	**13.48**	**276**	Pn	**Pn**	**12 19 10.7**	**+2.0**
	0.4nm,0.3s,baz=82,slow=14,SNR=13						
KSRS				LR	LR	12 24 17.1	
	comp=Z,24nm,21.1s,baz=99,slow=37						
KS01	**Wonju Array Si**	**13.50**	**276**	*e*Pn	**Pn**	**12 19 08.9**	**-0.1**
KSAR	**Wonju Array Be**	**13.51**	**276**	Pn	**Pn**	**12 19 10.7**	**+1.6**
KLR	**Kul'dur**	**15.26**	**326**	Pn	**P**	**12 19 37.4**	**+0.3**
	0.1nm,0.3s,baz=141,slow=13,SNR=5.3						
KLR				LR	LR	12 24 56.6	
	comp=Z,17nm,21.3s,baz=150,slow=35						
NJ2	**Nanjing**	**21.99**	**264**	*e*P	**P**	**12 20 52.2**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**25.99**	**126**	T	T	12 48 35.9	
	baz=317,slow=76,SNR=43						
H11N1	**WAKE ISLAND Hy**	**26.00**	**126**	T	T	12 48 36.7	
	baz=317,slow=76,SNR=34						
H11N3	**WAKE ISLAND Hy**	**26.01**	**126**	T	T	12 48 40.4	
	baz=317,slow=76,SNR=44						
H11S1	**WAKE ISLAND Hy**	**26.77**	**128**	T	T	12 49 21.6	
	baz=319,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**26.77**	**128**	T	T	12 49 28.4	
	baz=319,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**26.78**	**128**	T	T	12 49 27.6	
	baz=319,slow=76,SNR=13						
SONA1	**Songino Array**	**29.94**	**303**	*e*P	**P**	**12 22 05.5**	**+0.7**
SONA0	**Songino Array**	**29.95**	**303**	*e*P	**P**	**12 22 06.7**	**+1.8**
SONM	**Songino Array**	**29.95**	**303**	P	**P**	**12 22 06.7**	**+1.8**
	0.9nm,0.5s,baz=92,slow=7.3,SNR=3.5						
LZH	**Lanzhou**	**32.74**	**281**	*e*P	**P**	**12 22 32.2**	**+2.6**
LZH				pP	sP	12 22 42.3	-1.6
LZH				sP	pP	12 22 47.1	+7.4
LZH				pmax	pmax		
	comp=Z,28nm,1.0s						
LZH				pmax	pmax		
	comp=Z,120nm,4.7s						
CD2	**Chengdu**	**34.43**	**272**	*e*P	**P**	**12 22 43.0**	**-1.2**
GTA	**Gaotai**	**35.12**	**288**	P	P	12 22 56.6	+6.4
GTA				pP	sP	12 23 06.3	+1.8
GTA				sP	pP	12 23 10.2	+10
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KMI	**Kunming**	**37.73**	**264**	P	**P**	**12 23 13.9**	**+1.2**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
WMQ	**Urumqi**	**43.18**	**297**	*e*P	**P**	**12 23 58.8**	**+1.4**
WMQ				sP	sP	12 24 12.6	+0.7
ZAA1	**Zalesovo Array**	**43.78**	**312**	*e*P	**P**	**12 24 03.4**	**+1.4**
ZALV	**Zalesovo Beam**	**43.78**	**312**	P	**P**	**12 24 03.4**	**+1.4**
	0.3nm,0.3s,baz=90,slow=4.3,SNR=2.5						
ZALV				PcP	**PcP**	**12 25 48.6**	**+0.5**
	1.1nm,0.5s,baz=82,slow=3.9,SNR=5.2						
ZALV	**Zalesovo Beam**	**43.78**	**312**	*e*P	**P**	**12 24 02.8**	**+0.9**
CMAR	**Chiang Mai Arr**	**44.24**	**258**	P	**P**	**12 24 07.3**	**+1.2**
	0.8nm,0.8s,baz=52,slow=7.2,SNR=4.2						
IM3	**Indian Mountai**	**45.03**	**31**	*e*P	**P**	**12 24 12.5**	**+0.7**
MK01	**Makanchi Array**	**46.31**	**302**	*e*P	**P**	**12 24 23.1**	**+0.8**
MK31	**Makanchi Array**	**46.31**	**303**	*e*P	**P**	**12 24 22.5**	**+0.3**
MK32	**Makanchi Array**	**46.31**	**303**	*e*P	**P**	**12 24 23.4**	**+1.1**
MKAR	**Makanchi Array**	**46.31**	**303**	P	**P**	**12 24 23.4**	**+1.1**
	1.0nm,0.7s,baz=85,slow=8.5,SNR=9.7						
MKAR	**Makanchi Array**	**46.31**	**303**	*e*P	**P**	**12 24 22.2**	**0.0**
	7.8nm,0.6s						
IL1	**Eielson Array**	**47.80**	**33**	*e*P	**P**	**12 24 34.5**	**+0.9**
ILAR	**Eielson Array**	**47.80**	**33**	P	**P**	**12 24 34.2**	**+0.7**
	0.6nm,0.9s,baz=257,slow=6.0,SNR=5.5						
ILB	**Eielson Array**	**47.80**	**33**	*e*P	**P**	**12 24 34.3**	**+0.7**
KURK	**Kurchatov**	**47.94**	**308**	*e*P	**P**	**12 24 35.2**	**+0.4**
	3.1nm,0.6s						
HYT	**Haines Junctio**	**52.44**	**37**	*e*P	**P**	**12 25 10.1**	**+1.1**
	3.2nm,1.1s						
WRAB	**Tennant Creek**	**57.77**	**192**	*e*P	**P**	**12 25 47.5**	**-0.1**
	8.3nm,0.9s						
WB2	**Warramunga Arr**	**57.78**	**192**	*e*P	**P**	**12 25 47.5**	**-0.2**
WR1	**Warramunga Arr**	**57.78**	**192**	*e*P	**P**	**12 25 47.7**	**0.0**
	6.1nm,0.5s						
WRA	**Warramunga Arr**	**57.78**	**192**	P	**P**	**12 25 47.7**	**0.0**
	5.1nm,0.4s,baz=9.4,slow=7.1,SNR=75						
FITZ	**Fitzroy Crossi**	**58.00**	**202**	*e*P	**P**	**12 25 49.1**	**-0.1**
ABKAR	**Akbulak array**	**59.87**	**311**	*e*P	**P**	**12 26 02.4**	**+0.4**
AS01	**Alice Springs**	**61.49**	**191**	*e*P	**P**	**12 26 12.8**	**-0.5**
AS31	**Alice Springs**	**61.50**	**191**	*e*P	**P**	**12 26 13.0**	**-0.3**
	1.0nm,0.6s						
ASAR	**Alice Springs**	**61.50**	**191**	P	**P**	**12 26 13.7**	**+0.4**
	2.9nm,0.8s,baz=8.0,slow=7.2,SNR=29						
YKA	**Yellowknife Ar**	**62.18**	**31**	P	**P**	**12 26 18.0**	**+0.6**
	0.2nm,0.7s,baz=299,slow=6.4,SNR=5.3						
STKA	**Stephens Creek**	**68.88**	**183**	P	**P**	**12 27 01.2**	**+0.3**
	1.3nm,0.6s,baz=46,slow=2.0,SNR=3.7						
STKA	**Stephens Creek**	**68.88**	**183**	*e*P	**P**	**12 27 01.0**	**+0.1**
FORT	**Forrest**	**69.52**	**195**	*e*P	**P**	**12 27 05.0**	**+0.1**
	13nm,0.6s						
FIA1	**FINESS Array S**	**69.85**	**333**	*e*P	**P**	**12 27 07.3**	**+0.7**
FIA0	**FINESS Array S**	**69.85**	**333**	*e*P	**P**	**12 27 07.6**	**+0.9**
FINES	**FINESS Array B**	**69.85**	**333**	P	**P**	**12 27 07.6**	**+0.9**
	0.9nm,0.7s,baz=145,slow=37,SNR=3.8						
KBZ	**Khabaz**	**72.80**	**312**	P	**P**	**12 27 26.8**	**+2.0**
	2.2nm,0.8s,baz=43,slow=2.7,SNR=4.4						
NC204	**NORSAR Array S**	**74.92**	**339**	*e*P	**P**	**12 27 37.5**	**+0.5**
NB201	**NORSAR Array S**	**74.95**	**339**	*e*P	**P**	**12 27 37.5**	**+0.3**
NB2	**NORSAR Subarra**	**74.98**	**339**	P	**P**	**12 27 38.0**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=38,slow=5.9						
NB200	**NORSAR Array S**	**74.98**	**339**	*e*P	**P**	**12 27 38.3**	**+0.9**
NOA	**NORSAR Array B**	**74.98**	**339**	P	**P**	**12 27 38.3**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=38,slow=5.7,SNR=5.4						
PDAR	**Pinedale Array**	**75.50**	**47**	P	**P**	**12 27 42.0**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=325,slow=1.8,SNR=4.7						
PDAR	**Pinedale Array**	**75.50**	**47**	*e*P	**P**	**12 27 41.3**	**+0.4**
AKASG	**Malin Array Be**	**75.75**	**324**	P	**P**	**12 27 42.7**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=44,slow=5.8,SNR=4.1			

HELC				*e*S		**Sn**	**12 20 30.9**	**-0.6**
UREC	**San Jos de Ur**	**2.53**	**290**	*e*P		**Pn**	**12 19 59.7**	**-0.6**
VILC	**Villavicencio,**	**2.80**	**191**	*e*P		**Pn**	**12 20 03.0**	**-0.7**
VILC				*e*S		**Sn**	**12 20 37.5**	**-1.0**
RREF	**El Recreo**	**2.94**	**228**	*e*P		**Pn**	**12 20 06.3**	**+0.3**
RREF				*e*S		**Sn**	**12 20 42.0**	**-0.5**
RREF				*i*			12 20 53.7	
	comp=Z,133nm,0.3s							
TOLC	**Tolima**	**3.14**	**224**	*e*P		**Pn**	**12 20 09.0**	**+0.7**
SDV	**Santo Domingo**	**3.19**	**51**	*e*P		**Pn**	**12 20 09.3**	**+0.5**
ANIL	**Santa Ana**	**3.27**	**224**	*e*P		**Pn**	**12 20 11.0**	**+1.2**
ANIL				*e*S		**Sn**	**12 20 49.1**	**-0.2**
ANIL				*i*			12 20 58.6	
	comp=N,227nm,0.6s							
SJCC	**San Jacinto, C**	**3.62**	**326**	*e*P		**Pn**	**12 20 13.7**	**-0.5**
SJAC	**San Juan de Ar**	**3.67**	**193**	*e*P		**Pn**	**12 20 15.7**	**+0.8**
PLMC	**San Jos del P**	**3.69**	**238**	*e*P		**Pn**	**12 20 15.7**	**+0.6**
PLMC				*i*			12 20 18.3	
	comp=Z,210nm,0.1s							
YOTC	**Yotoco, Valle**	**4.29**	**228**	*e*P		**Pn**	**12 20 22.6**	**-0.4**
SMRC	**Santa Marta, M**	**4.40**	**346**	*e*P		**Pn**	**12 20 25.2**	**+0.9**
MARP	**Paez Belalcaza**	**4.89**	**215**	*e*P		**Pn**	**12 20 31.1**	**0.0**
PCON	**Cinco Dias**	**5.56**	**216**	*e*P		**Pn**	**12 20 40.2**	**0.0**
FLOC	**Florencia**	**5.82**	**206**	*e*P		**Pn**	**12 20 42.9**	**-0.3**
SOTA	**Rioblanco**	**5.84**	**216**	*e*P		**Pn**	**12 20 45.3**	**+1.4**
TXAR	**Lajitas Array**	**36.41**	**312**	P		**P**	**12 26 09.5**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=135,slow=12,SNR=2.8							
YKA	**Yellowknife Ar**	**63.21**	**340**	P		**P**	**12 29 30.4**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=133,slow=6.6,SNR=6.3							

NIED **12** *12:34:00,23.˚90N×122.˚30E,h35km,Mw4.4 Best double couple: M₀3.97000×10¹⁵ NP1:φ₈306.00000°,δ39.00000°, λ167.00000°. NP2:φ₈46.00000°,δ82.00000°,λ52.00000°.*
IDC **12** *12:34:13.3±0.5,24.˚14N×122.˚43E,h0km,mb4.3/25, mb1 4.4/27,mb1mx4.3/45,mbtmp4.3/27,ML3.4/2,MS3.5/21, Ms1 3.6/21,ms1mx3.4/40,Error ellipse: s-maj=15.8km s-min=12.5km az=61.0*
JMA **12** *12:34:16.5±0.2,23.˚93N×122.˚35E,h17km±4km,M4.6*
BJI **12** *12:34:16.8,24.˚07N×122.˚31E,h20km,mb4.4/43,mB4.7/29, ML4.0/9,Ms4.1/35,Ms7 4.0/34*
TAP **12** *12:34:17.5,24.˚02N×122.˚35E,h25km,ML4.8,D*
NEIC **12** *12:34:18.0±0.5,24.˚03N×122.˚37E,h35km±4km,mb4.4/13, MW4.3,ML4.9(TAP),Error ellipse: s-maj=5.3km s-min=4.1km az=147.0,Moment Tensor Solution. s17 Moment tensor: Scale 10¹⁵Nm; Mrr 1.79; Mθθ-2.72; Mφφ0.93; Mrθ1.69; Mφθ0.28; Mφr1.25; Best double couple: M₀3.20000×10¹⁵ NP1:φs66.00000°,δ69.00000°, λ60.00000°. NP2:φs305.00000°,δ36.00000°,λ143.00000°. Principal axes: T 3.1000, Plg55.0000°, Azm297.0000°; N 0.1900, Plg28.0000°, Azm77.0000°; P -3.2900, Plg19.0000°, Azm178.0000°;*
NEIC Felt at Taipei. Recorded [1 TAP] in Hualien, Taipei and Yilan.
ISCJB **12** *12:34:18.1±0.2,23.˚99N±0.˚01×122.˚37E±0.˚01,h50km±2km, mb4.3/40,MS3.6/20 Error ellipse: s-maj=2.4km s-min=1.7km az=153.3*
ISC 12 12:34:17.9±0.8,23.˚99N±0.˚02×122.˚35E±0.˚02,h33km±3km, n229,σ1ŝ19/336,mb4.3/40,MS3.6/20,53C-8D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.59**	**340**		⇓P		**Pb**	**12 34 29.0**	**-0.9**
	baz=330								
EOS1					*e*S		**Sb**	**12 34 38.0**	**-0.1**
	baz=330								
HWA	**Hwalien**	**0.68**	**269**		*e*P		**Pn**	**12 34 30.7**	**-0.5**
	baz=253								
HWA					*e*S		**Sn**	**12 34 41.2**	**+0.5**
	baz=253								
ENLB	**Shoufeng**	**0.69**	**263**		P		**Pn**	**12 34 31.0**	**-0.4**
	baz=249								
ENLB					S		**Sn**	**12 34 41.1**	**+0.2**
	baz=249								
TWD	**Chiawan**	**0.69**	**277**	⇑	*i*P		**Pn**	**12 34 30.8**	**-0.7**
	baz=275								
TWD					S		**Sb**	**12 34 40.2**	**-0.7**
	baz=275								
ENA	**Nanau**	**0.71**	**308**	⇓	*i*P		**Pn**	**12 34 30.7**	**-0.8**
	baz=314								
ENA					S		**Sb**	**12 34 41.1**	**-0.2**
	baz=314								
JYNG	**Yonagunijimaku**	**0.71**	**50**		P		**Pn**	**12 34 30.9**	**-0.7**
JYNG					S		**Sb**	**12 34 39.6**	**-1.8**
NACB	**Ninganchiao**	**0.71**	**285**		*e*Pn		**Pn**	**12 34 31.1**	**-0.5**
NACB	**Ninganchiao**	**0.71**	**285**	⇑	P		**Pn**	**12 34 31.1**	**-0.5**
	baz=268								
NACB					S		**Sb**	**12 34 40.5**	**-1.1**
	baz=268								
YOJ	**Yonaguni jima**	**0.76**	**52**		*e*Pn		**Pn**	**12 34 31.8**	**-0.6**
YOJ					*e*Sn		**Sn**	**12 34 41.3**	**-1.4**
YOJ	**Yonaguni jima**	**0.76**	**52**	⇑	P		**Pn**	**12 34 31.8**	**-0.6**
	baz=61								
YOJ					*e*S		**Sn**	**12 34 41.3**	**-1.4**
	baz=61								
YOJ	**Yonaguni jima**	**0.76**	**52**		P		**Pn**	**12 34 31.7**	**-0.6**
YOJ					S		**Sn**	**12 34 41.3**	**-1.4**
TWC	**Suao**	**0.77**	**323**	⇓	*i*P		**Pn**	**12 34 31.4**	**-1.0**
	baz=321								
TWC					S		**Sn**	**12 34 40.7**	**-2.1**
	baz=321								
ESL	**Shilin**	**0.86**	**258**	⇑	*i*P		**Pn**	**12 34 32.7**	**-1.0**
	baz=246								
EGS		**0.93**	**336**	⇓	*i*P		**Pn**	**12 34 34.7**	**0.0**
	baz=324								
EGS					*e*S		**Sb**	**12 34 48.4**	**+0.8**
	baz=324								
ILA	**Ilan**	**0.95**	**325**	⇓	*i*P		**Pn**	**12 34 35.1**	**+0.2**
	baz=322								
ILA					S		**Sb**	**12 34 47.9**	**-0.1**
	baz=322								
TWE	**Neicheng**	**0.96**	**319**	⇓	*i*P		**Pn**	**12 34 35.2**	**+0.2**
	baz=325								
TWE					S		**Sb**	**12 34 48.5**	**+0.2**
	baz=325								
ENTT	**Nioudou**	**0.96**	**312**	⇑	*i*P		**Pn**	**12 34 35.5**	**+0.3**
	baz=309								
ENTT					S		**Sb**	**12 34 49.4**	**+0.8**
	baz=309								
NTC	**Toucheng**	**0.98**	**331**		*e*P		**Pn**	**12 34 35.5**	**+0.2**
	baz=328								
NTC					*e*S		**Sb**	**12 34 48.9**	**-0.1**
	baz=328								
HGSD	**Ruisui**	**0.98**	**240**	⇑	*e*P		**Pn**	**12 34 34.9**	**-0.5**
	baz=239								
HGSD					*e*S		**Sn**	**12 34 46.2**	**-2.0**
	baz=239								
NNSB	**Datong**	**0.98**	**296**	⇑	P		**Pn**	**12 34 35.7**	**+0.1**
	baz=281								
NNSB					S		**Sn**	**12 34 48.5**	**+0.1**
	baz=281								
NNS	**Nan Shan**	**1.00**	**297**	⇑	*i*P		**Pn**	**12 34 35.8**	**+0.1**
	baz=282								
NNS					*i*S		**Sb**	**12 34 49.5**	**-0.2**
	baz=282								
WHF	**Hehuan Shan**	**1.00**	**279**	⇑	*i*P		**Pn**	**12 34 35.7**	**-0.3**
	baz=264								
WHF					*e*S		**Sn**	**12 34 48.4**	**-0.9**
	baz=264								
EHY	**Hungye**	**1.06**	**243**	⇑	P		**Pn**	**12 34 36.0**	**-0.4**
	baz=242								
EHY					S		**Sn**	**12 34 49.6**	**-0.5**
	baz=242								
CHGB	**Renai**	**1.08**	**274**	⇑	P		**Pn**	**12 34 37.0**	**+0.1**
	baz=260								
CHGB					S		**Sn**	**12 34 50.4**	**-0.5**
	baz=260								
TIPB	**Shuangxi**	**1.09**	**334**	⇑	*i*P		**Pn**	**12 34 37.1**	**+0.2**
	baz=331								
TIPB					S		**Sn**	**12 34 51.1**	**+0.3**
	baz=331								
NWLT	**Wulai**	**1.10**	**315**		*e*P		**Pn**	**12 34 37.3**	**+0.3**
	baz=313								
TWT	**Tachien**	**1.10**	**284**		P		**Pn**	**12 34 37.6**	**+0.4**
	baz=271								
TWT					S		**Sb**	**12 34 52.5**	**-0.3**
	baz=271								
YHNB	**Yeheng**	**1.12**	**307**		*e*Pn		**Pn**	**12 34 37.8**	**+0.5**
YHNB					*e*Sn		**Sb**	**12 34 53.6**	**+0.6**
YHNB	**Yeheng**	**1.12**	**307**	⇑	P		**Pn**	**12 34 37.7**	**+0.4**
	baz=304								
YHNB					S		**Sb**	**12 34 53.4**	**+0.4**
	baz=304								
TDCB	**Techi**	**1.12**	**284**	⇑	P		**Pn**	**12 34 37.7**	**+0.3**
	baz=272								
TDCB					S		**Sn**	**12 34 51.5**	**-0.3**
	baz=272								
VWDT	**VWDT**	**1.13**	**258**	⇑	P		**Pn**	**12 34 37.6**	**+0.2**
	baz=257								
VWDT					*e*S		**Sn**	**12 34 51.0**	**-0.8**
	baz=257								
NSK	**Sanguang**	**1.13**	**307**	⇑	*i*P		**Pn**	**12 34 37.9**	**+0.4**
	baz=304								
NSK					S		**Sn**	**12 34 52.8**	**+0.8**
	baz=304								
YULB	**Yu-li**	**1.14**	**238**		*e*Pn		**Pn**	**12 34 37.4**	**-0.1**
YULB					*e*Sn		**Sn**	**12 34 51.4**	**-0.6**
YULB	**Yu-li**	**1.14**	**238**	⇑	P		**Pn**	**12 34 37.3**	**-0.1**
	baz=254								
YULB					*e*S		**Sn**	**12 34 51.0**	**-0.9**
	baz=254								
TWF1	**Yuli**	**1.16**	**237**	⇑	*i*P		**Pn**	**12 34 37.8**	**0.0**
	baz=236								
TWF1					S		**Sn**	**12 34 52.3**	**-0.2**
	baz=236								
NWF	**Wu-fen Shan**	**1.19**	**334**	⇑	*i*P		**Pn**	**12 34 38.7**	**+0.4**
	baz=331								
NWF					*e*S		**Sb**	**12 34 55.0**	**-0.2**
	baz=331								
WFSB	**Wu-fen Shan**	**1.19**	**334**	⇑	P		**Pn**	**12 34 38.7**	**+0.5**
	baz=332								
WFSB					S		**Sb**	**12 34 55.1**	**0.0**
	baz=332								
FULB	**Fuli**	**1.25**	**231**		*e*P		**Pn**	**12 34 39.0**	**-0.1**
	baz=219								
FULB					*e*S		**Sn**	**12 34 54.3**	**-0.5**
	baz=219								
TATO	**Taipei**	**1.25**	**321**		*e*Pn		**Pn**	**12 34 40.1**	**+1.0**
TATO	**Taipei**	**1.25**	**321**	⇑	P		**Pb**	**12 34 40.3**	**-0.7**
	baz=318								
TATO					S		**Sb**	**12 34 56.5**	**-0.3**
	baz=318								
CHKT	**Chengkung**	**1.27**	**226**		*e*P		**Pn**	**12 34 38.5**	**-0.8**
	baz=225								
CHKT					*e*S		**Sn**	**12 34 53.1**	**-2.1**
	baz=225								
SSLB	**Suanglung**	**1.29**	**261**		*e*Pn		**Pn**	**12 34 39.6**	**-0.1**
SSLB	**Suanglung**	**1.29**	**261**	⇑	*e*P		**Pn**	**12 34 39.9**	**+0.2**
	baz=260								
SSLB					*e*S		**Sn**	**12 34 54.7**	**-1.2**
	baz=260								
IRIF	**Iriomote-Funau**	**1.30**	**75**		P		**Pn**	**12 34 40.4**	**+0.6**
IRIF					*e*S		**Sb**	**12 34 57.9**	**-0.4**
WLTB	**Daxi**	**1.32**	**311**	⇑	P		**Pb**	**12 34 41.6**	**-0.5**
	baz=295								
WLTB					*e*S		**Sb**	**12 34 59.9**	**+1.3**
	baz=295								
HATJ	**Hateruma jima**	**1.33**	**87**		P		**Pn**	**12 34 40.8**	**+0.6**
HATJ					*e*S		**Sb**	**12 34 58.3**	**-0.7**
SMLT	**Sun Moon Lake**	**1.33**	**266**	⇑	*i*P		**Pn**	**12 34 40.9**	**+0.6**
	baz=254								
SMLT					S		**Sn**	**12 34 56.9**	**-0.1**
	baz=254								
YM01	**YM01**	**1.35**	**328**	⇑	P		**Pb**	**12 34 41.8**	**-0.9**
	baz=340								
YM01					*e*S		**Sb**	**12 35 00.7**	**+1.0**
	baz=340								
YM11	**YM11**	**1.37**	**329**	⇑	P		**Pn**	**12 34 41.0**	**+0.2**
	baz=341								
YM05	**YM05**	**1.37**	**329**	⇑	P		**Pn**	**12 34 40.9**	**+0.2**
	baz=340								
YM05					S		**Sb**	**12 34 59.5**	**-0.7**
	baz=340								
TYC	**Yuchr**	**1.37**	**267**	⇑	*i*P		**Pn**	**12 34 41.4**	**+0.7**
	baz=265								
TYC					*e*S		**Sn**	**12 34 56.5**	**-1.2**
	baz=265								
YM04	**YM04**	**1.37**	**328**	⇑	P		**Pn**	**12 34 41.1**	**+0.3**
	baz=339								
YM04					S		**Sb**	**12 34 59.3**	**-1.0**
	baz=339								
YUS	**Yu-Shan**	**1.38**	**249**		*e*P		**Pn**	**12 34 41.7**	**+0.5**
	baz=248								
YUS					*e*S		**Sn**	**12 34 57.7**	**-0.8**
	baz=248								
YM08	**YM08**	**1.38**	**330**	⇑	P		**Pn**	**12 34 40.7**	**-0.2**
	baz=327								
YM08					*e*S		**Sb**	**12 34 60.0**	**-0.4**
	baz=327								
LIOB	**Emei**	**1.38**	**298**	⇑	*i*P		**Pb**	**12 34 42.6**	**-0.6**
	baz=296								
LIOB					S		**Sb**	**12 34 59.8**	**-0.6**
	baz=296								
NSTT	**Nanjuang**	**1.39**	**298**	⇑	*i*P		**Pb**	**12 34 42.5**	**-0.7**
	baz=295								
NSTT					S		**Sb**	**12 35 00.0**	**-0.6**
	baz=295								
TWS1	**Kuangyinshan**	**1.39**	**323**		*e*P		**Pn**	**12 34 41.9**	**+0.9**
	baz=331								
TWS1					*e*S		**Sb**	**12 35 00.5**	**-0.3**
	baz=331								
NTST	**Danshui**	**1.43**	**325**		*e*P		**Pn**	**12 34 42.3**	**+0.8**
	baz=339								
NCU	**National Centr**	**1.44**	**313**		*e*P		**Pn**	**12 34 42.9**	**+1.2**
	baz=310								
NCU					*e*S		**Sb**	**12 35 02.2**	**0.0**
	baz=310								
NCUH	**Zhongli**	**1.44**	**313**		*e*P		**Pn**	**12 34 42.8**	**+1.2**
	baz=310								
TWY	**Chenhua**	**1.45**	**332**		*e*P		**Pb**	**12 34 43.2**	**-1.0**
	baz=329								
TWY					*e*S		**Sb**	**12 35 02.5**	**+0.1**
	baz=329								
ELDTW	**Lidau**	**1.46**	**237**	⇑	P		**Pn**	**12 34 41.7**	**-0.4**
	baz=236								
SBCB	**Hsinchu**	**1.48**	**303**		P		**Pb**	**12 34 43.8**	**-1.0**
	baz=301								
TWQ1	**Liyutan**	**1.48**	**284**	⇑	*i*P		**Pb**	**12 34 44.3**	**-0.5**
	baz=281								
TWQ1					S		**Sb**	**12 35 03.2**	**-0.2**
	baz=281								
ALS	**Alishan**	**1.50**	**252**	⇑	*i*P		**Pn**	**12 34 43.6**	**+0.9**
	baz=250								
ALS					S		**Sn**	**12 35 01.6**	**+0.4**
	baz=250								
HSN	**Hsinchu**	**1.50**	**303**		*e*P		**Pn**	**12 34 43.7**	**+1.3**
	baz=301								
HSN					*e*S		**Sb**	**12 35 04.0**	**+0.3**
	baz=301								
WJS	**Zhushan**	**1.50**	**264**		*e*P		**Pb**	**12 34 44.5**	**-0.6**
	baz=262								
WJS					*e*S		**Sb**	**12 35 04.6**	**+1.0**
	baz=262								
NSY	**Sanyi**	**1.51**	**287**	⇑	*i*P		**Pb**	**12 34 44.8**	**-0.5**
	baz=284								
NSY					S		**Sb**	**12 35 04.7**	**+0.5**
	baz=284								
NMLH	**Miaoli**	**1.52**	**291**	⇑	*i*P		**Pb**	**12 34 44.9**	**-0.7**
	baz=288								
NMLH					*e*S		**Sb**	**12 35 04.2**	**-0.3**
	baz=288								
WNT	**Mingjian**	**1.53**	**266**	⇑	P		**Pb**	**12 34 44.8**	**-0.8**
	baz=264								
WNT					*e*S		**Sb**	**12 35 04.1**	**-0.6**
	baz=264								
JKRS	**Kuro-shima**	**1.54**	**81**		P		**Pn**	**12 34 44.0**	**+1.0**
JKRS					S		**Sb**	**12 35 04.5**	**-0.3**
TCU	**Taichung**	**1.54**	**276**		*e*P		**Pb**	**12 34 45.1**	**-0.7**
	baz=274								
TCU					*e*S		**Sb**	**12 35 04.7**	**-0.2**
	baz=274								
PTSB	**Yuanli**	**1.57**	**287**	⇑	*i*P		**Pb**	**12 34 45.4**	**-0.9**
	baz=284								
PTSB					S		**Sb**	**12 35 04.6**	**-1.2**
	baz=284								
CHN5	**Tsauling**	**1.58**	**256**	⇑	*i*P		**Pb**	**12 34 45.2**	**-1.4**
	baz=244								
CHN5					S		**Sb**	**12 35 05.5**	**-0.8**
	baz=244								
WCHH	**Zhanghua**	**1.64**	**273**	⇑	*e*P		**Pb**	**12 34 46.6**	**-0.9**
	baz=271								
WCHH					*e*S		**Sb**	**12 35 08.8**	**+0.9**
	baz=271								
PCYT	**Pengchaiyu**	**1.65**	**351**		*e*P		**Pn**	**12 34 43.9**	**-0.7**
	baz=349								
TWGBT	**Beinan**	**1.65**	**225**		*e*P		**Pn**	**12 34 44.0**	**-0.6**
	baz=236								
TWG	**Pinlang**	**1.66**	**225**		*e*Pn		**Pn**	**12 34 44.4**	**-0.2**
TWG	**Pinlang**	**1.66**	**225**		P		**Pn**	**12 34 44.1**	**-0.5**
	baz=236								
JIJ	**Ishigaki jima**	**1.68**	**77**		P		**Pn**	**12 34 45.2**	**+0.3**
JIJ					*e*S		**Sn**	**12 35 05.8**	**+0.5**
STYT	**Tauyuan**	**1.68**	**241**	⇑	P		**Pn**	**12 34 46.0**	**+1.0**
	baz=230								
STYT					*e*S		**Sn**	**12 35 06.6**	**+1.2**
	baz=230								
WDLH	**Douliu**	**1.69**	**260**		*e*P		**Pb**	**12 34 46.9**	**-1.4**
	baz=259								
WDLH					*e*S		**Sb**	**12 35 08.9**	**-0.2**
	baz=259								
TPUB	**Ta-pu**	**1.72**	**247**		*e*Pn		**Pn**	**12 34 44.1**	**-1.5**
TPUB	**Ta-pu**	**1.72**	**247**	⇑	P		**Pn**	**12 34 47.1**	**+1.6**
	baz=246								
TPUB					*e*S		**Sn**	**12 35 07.9**	**+1.5**
	baz=246								
CHN4	**Tsaushan**	**1.73**	**249**		*e*P		**Pb**	**12 34 48.1**	**-1.0**
	baz=248								
CHN4					*e*S		**Sb**	**12 35 09.3**	**-1.2**
	baz=248								
WTP	**Ta-pu**	**1.76**	**245**	⇑	P		**Pn**	**12 34 47.8**	**+1.7**
	baz=245								
WTP					*e*S		**Sb**	**12 35 10.9**	**-0.4**
	baz=245								
CHN2	**Minshiung**	**1.78**	**255**		*e*P		**Pn**	**12 34 48.0**	**+1.7**
	baz=254								
CHN2					*e*S		**Sb**	**12 35 12.1**	**+0.3**
	baz=254								
RLNB	**Erlin**	**1.82**	**267**	⇑	P		**Pb**	**12 34 49.1**	**-1.5**
	baz=265								
RLNB					S		**Sb**	**12 35 12.5**	**-0.6**
	baz=265								
CHY	**Chiayi**	**1.83**	**255**		*e*P		**Pb**	**12 34 49.2**	**-1.5**
	baz=254								
CHY					*e*S		**Sb**	**12 35 13.2**	**-0.1**
	baz=254								
SLGT	**Liugui**	**1.85**	**238**		*e*P		**Pb**	**12 34 49.5**	**-1.6**
	baz=228								
TWK	**Hsinying**	**1.85**	**247**	⇑	P		**Pn**	**12 34 49.2**	**+1.8**
	baz=246								
TWK					S		**Sb**	**12 35 12.6**	**-1.4**
	baz=246								
CHN1	**Nanshi**	**1.85**	**245**		P		**Pb**	**12 34 49.4**	**-1.7**
	baz=244								
CHN1					*e*S		**Sb**	**12 35 13.2**	**-0.8**
	baz=244								
SGST	**Jiashian**	**1.86**	**241**	⇑	P		**Pb**	**12 34 49.7**	**-1.5**
	baz=231								
SGST					*e*S		**Sb**	**12 35 13.1**	**-1.0**
	baz=231								
JISG	**Ishigakijimahi**	**1.88**	**71**		P		**Pn**	**12 34 48.0**	**+0.2**
JISG					*e*S		**Sn**	**12 35 11.1**	**+0.7**
ECL	**Taimali**	**1.89**	**223**		*e*P		**Pn**	**12 34 47.5**	**-0.4**
	baz=233								
WTCT	**Ta-ch'eng**	**1.90**	**267**		P		**Pb**	**12 34 50.0**	**-1.9**
	baz=265								
WTCT					S		**Sb**	**12 35 14.5**	**-0.7**
	baz=265								
WMLT	**Mailiao**	**1.96**	**265**		*e*P		**Pn**	**12 34 50.3**	**+1.5**
	baz=264								
WSF	**Szhu**	**1.98**	**260**		*e*P		**Pn**	**12 34 51.0**	**+2.0**
	baz=259								
WSF					S		**Sb**	**12 35 16.9**	**-0.7**
	baz=259								
SSD	**Sandimen**	**2.01**	**232**		*e*P		**Pn**	**12 34 50.7**	**+1.2**
	baz=223								
CHN3	**Shinhua**	**2.04**	**244**		*e*P		**Pb**	**12 34 53.4**	**-0.8**
	baz=243								
CHN3					*e*S		**Sb**	**12 35 19.2**	**0.0**
	baz=243								
CHN8	**Yiju**	**2.06**	**252**	⇓	P		**Pn**	**12 34 52.1**	**+1.9**
	baz=251								
CHN8					*e*S		**Sb**	**12 35 17.6**	**-2.4**
	baz=251								
LAY	**Lan-yu**	**2.08**	**201**		*e*P		**Pn**	**12 34 49.3**	**-1.2**
	baz=202								
MASBT	**Mashibuluo**	**2.09**	**229**		*e*P		**Pn**	**12 34 51.5**	**+0.9**
	baz=224								
MASBT					*e*S		**Sn**	**12 35 17.4**	**+1.9**
	baz=224								
TAW	**Tawu**	**2.11**	**220**		*e*P		**Pn**	**12 34 51.8**	**+1.0**
	baz=230								
EAST	**Anshuo**	**2.12**	**221**		*e*P		**Pn**	**12 34 50.8**	**-0.2**
	baz=221								
TWM1	**Shoushan**	**2.12**	**237**		*e*P		**Pb**	**12 34 54.7**	**-1.0**
	baz=236								
TWM1					*e*S		**Sb**	**12 35 23.1**	**+1.5**
	baz=236								
SGLT	**Jiouru**	**2.12**	**234**		*e*P		**Pb**	**12 34 55.1**	**-0.6**
	baz=234								
SCLT	**Jiali**	**2.14**	**248**		*e*P		**Pn**	**12 34 52.8**	**+1.5**
	baz=247								
SCLT					S		**Sb**	**12 35 19.7**	**-2.4**
	baz=247								
JTJ	**Tarama**	**2.24**	**73**		P		**Pn**	**12 34 53.9**	**+1.2**
JTJ					*e*S		**Sn**	**12 35 19.5**	**+0.3**
SCZT	**Fangliau**	**2.27**	**225**		*e*P		**Pn**	**12 34 55.1**	**+2.1**
	baz=219								
SCZT					*e*S		**Sb**	**12 35 22.9**	**-2.8**
	baz=219								
HEN	**Hengchun**	**2.47**	**217**		*e*P		**Pn**	**12 34 58.2**	**+2.3**
	baz=217								
TSEB	**Hengchuen, Pin**	**2.48**	**213**		*e*P		**Pn**	**12 34 56.4**	**+0.5**
	baz=214								
TWKBT	**Hengchun**	**2.49**	**215**		*e*P		**Pn**	**12 34 56.9**	**+0.8**
	baz=217								
TWKBT					*e*S		**Sn**	**12 35 25.2**	**-0.1**
	baz=217								
TWK1	**Hengchun**	**2.49**	**215**		*e*P		**Pn**	**12 34 56.3**	**+0.2**
	baz=216								
WDGT	**Dungji**	**2.57**	**254**		*e*P		**Pn**	**12 34 57.7**	**+0.4**
	baz=242								
WDGT					*e*S		**Sn**	**12 35 27.8**	**+0.4**
	baz=242								
PHUB	**P'eng-hu**	**2.59**	**260**	⇑	P		**Pn**	**12 34 58.5**	**+1.1**
	baz=258								
PHUB					S		**Sn**	**12 35 29.0**	**+1.1**
	baz=258								
PNG	**Penghu**	**2.60**	**261**	⇓	P		**Pn**	**12 34 58.5**	**+1.0**
	baz=259								
PNG					*e*S		**Sn**	**12 35 29.5**	**+1.5**
	baz=259								
JIRB	**Irabujima**	**2.70**	**71**		P		**Pn**	**12 35 00.7**	**+1.6**
JIRB				

NJ2 pmax pmax
comp=E,17nm,0.7s
NJ2 smax smax
comp=E,67nm,1.1s
NJ2 smax smax
comp=E,62nm,1.4s
NJ2 LR LR
comp=E,870nm,10.8s
NJ2 LR LR
comp=E,440nm,13.7s
NJ2 LR LR
comp=E,700nm,12.7s
WHN Wuhan 9.65 314 *e*P **Pn 12 36 34.8 +0.3**
WHN S **Sn 12 38 19.9 -1.9**
WHN LR LR
comp=E,2μm,16.8s
WHN LR LR
comp=E,960nm,10.3s
WHN LR LR
comp=E,2μm,16.6s
JNU Nakatsue 11.78 38 LR LR 12 41 54.2
comp=E,188nm,18.9s,baz=201,slow=40
QIZ Qiongzhong 12.64 249 P **Pn 12 37 16.4 +0.9**
QIZ S **Sn 12 39 37.8 +2.6**
QIZ pmax pmax
comp=E,55nm,2.0s
KSAR Wonju Array Be 14.22 18 Pn **Pn 12 37 39.2 +2.3**
KSRS Korea Array 14.24 18 Pn **Pn 12 37 39.2 +2.0**
comp=E,0.9nm,0.3s,baz=202,slow=13,SNR=30
KSRS LR LR 12 43 18.2
comp=E,153nm,20.2s,baz=192,slow=39
GYA Guiyang 14.41 283 P **Pn 12 37 41.5 +1.8**
GYA pP P 12 37 46.3 +0.1
GYA S **Sn 12 40 18.0 -0.4**
GYA SS **S 12 40 37.5 -0.1**
GYA pmax pmax
comp=E,10.0nm,0.7s
GYA pmax pmax
comp=E,90nm,4.3s
GYA LR LR
comp=E,280nm,12.1s
GYA LR LR
comp=E,520nm,14.0s
XAN Xi'an 15.42 314 P **P 12 37 59.3 +2.0**
XAN sP pP 12 38 08.0 +2.1
XAN PP **sP 12 38 11.3 +1.2**
XAN pmax pmax
comp=E,16nm,0.8s
XAN pmax pmax
comp=E,250nm,6.6s
XAN LR LR
comp=E,330nm,6.1s
XAN LR LR
comp=E,320nm,4.5s
XAN LR LR
comp=E,350nm,15.9s
BJI Beijing 16.83 343⇑ *e*P **P 12 38 14.6 +1.8**
DAV Davao City (W) 17.11 169 LR LR 12 44 41.8
comp=E,97nm,20.8s,baz=349,slow=36
JHJ Hachijo jima 2 17.79 55 LR LR 12 44 38.7
comp=E,69nm,21.1s,baz=65,slow=35
CD2 Chengdu 17.87 297 *e*P **Pn 12 38 23.0 -1.0**
CD2 S **Sn 12 41 42.0 -0.4**
CD2 pmax pmax
comp=E,10.0nm,0.5s
CD2 LR LR
comp=E,430nm,12.4s
CD2 LR LR
comp=E,480nm,12.4s
KMI Kunming 17.88 278 P **P 12 38 27.9 +3.1**
KMI pP sP 12 38 36.3 -1.3
KMI S **Sn 12 41 38.5 -4.4**
KMI pmax pmax
comp=E,8.0nm,1.3s
KMI pmax pmax
comp=E,100nm,3.5s
KMI LR LR
comp=E,110nm,8.8s
KMI LR LR
comp=E,450nm,14.2s
KMI LR LR
comp=E,420nm,15.0s
JCJ Chichijima 18.16 76 LR LR 12 44 56.7
comp=E,3μm,19.6s,baz=273,slow=36
MAJO Matsushiro 18.52 44 *e*P **P 12 38 30.2 -1.3**
MJAR Matsushiro Arr 18.52 44 P **P 12 38 30.2 -1.3**
comp=E,0.1nm,0.3s,baz=46,slow=32,SNR=4.1
HHC Hu-ho-hao-te 19.09 334 *e*P **Pn 12 38 39.6 +0.8**
HHC PP **PnPn 12 38 56.4 +4.5**
HHC S **Sn 12 42 08.3 -3.5**
HHC pmax pmax
comp=E,14nm,0.7s
HHC pmax pmax
comp=E,97nm,6.3s
HHC LR LR
comp=E,2μm,12.1s
HHC LR LR
comp=E,1μm,12.1s
HHC LR LR
comp=E,1μm,13.0s
CN2 Changchun 19.92 7 *e*P **Pn 12 38 47.9 -0.7**
CN2 *e*PP **PnPn 12 39 07.4 +4.2**
CN2 *e*S **S 12 42 26.6 -2.6**
CN2 pmax pmax
comp=E,10.0nm,0.8s
CN2 pmax pmax
comp=E,200nm,5.0s
CN2 LR LR
comp=E,360nm,16.0s
CN2 LR LR
comp=E,150nm,16.0s
CN2 LR LR
comp=E,440nm,16.0s
LZH Lanzhou 20.01 311 *e*P **Pn 12 38 51.5 +1.6**
LZH pP sP 12 39 01.2 +0.3
LZH sP pP 12 39 05.9 +9.2
LZH pmax pmax
comp=E,34nm,1.0s
LZH pmax pmax
comp=E,140nm,4.3s
LZH LR LR
comp=E,340nm,12.5s
LZH LR LR
comp=E,590nm,14.6s
LZH LR LR
comp=E,670nm,13.6s
USRK Ussuriysk Ar. 21.65 19 P **P 12 39 04.1 -1.3**
comp=E,3.5nm,0.7s,baz=201,slow=12,SNR=9.4
USRK LR LR 12 48 08.7
comp=E,134nm,18.1s,baz=192,slow=39
CM01 Chiang Mai Arr 22.49 260 *e*P **P 12 39 14.9 +0.2**
CMAR Chiang Mai Arr 22.49 260 P **P 12 39 16.4 +1.7**
comp=E,0.8nm,0.4s,baz=65,slow=9.0,SNR=8.1
CMAR LR LR 12 48 53.9
comp=E,86nm,18.9s,baz=68,slow=39
GUMO Guam 23.66 112 LR LR 12 47 51.1
comp=E,72nm,19.8s,baz=76,slow=35
GTA Gaotai 24.48 314 P **P 12 39 36.0 +1.9**
GTA pP sP 12 39 47.0 -0.6
GTA sP pP 12 39 51.3 +7.7
GTA S **S 12 43 55.2 +2.8**
GTA pmax pmax
comp=E,8.0nm,1.4s
GTA pmax pmax
comp=E,110nm,5.4s
GTA LR LR
comp=E,110nm,13.1s
GTA LR LR
comp=E,150nm,16.2s
GTA LR LR
comp=E,290nm,15.5s
ASAJ Asahikawa 26.03 35 LR LR 12 49 28.3
comp=E,75nm,21.5s,baz=224,slow=35
SIJI Sorong 26.19 159 P **P 12 39 49.6 0.0**
comp=E,13nm,0.8s,baz=356,slow=8.3,SNR=3.3
KLR Kul'dur 26.25 14 LR LR 12 51 13.4
comp=E,141nm,18.1s,baz=195,slow=39
ULN Ulaanbaatar 26.75 337 *e*P **P 12 39 53.5 -1.2**
comp=E,10nm,1.1s
SONA0 Songino Array 26.97 336 *e*P **P 12 39 56.4 -0.2**
SONM Songino Array 26.97 336 P **P 12 39 56.4 -0.2**
comp=E,12nm,0.7s,baz=148,slow=9.7,SNR=59
SONM LR LR 12 51 47.8
comp=E,270nm,18.2s,baz=188,slow=39
SONA1 Songino Array 26.97 336 *e*P **P 12 39 55.7 -0.9**
LSA Lhasa 28.36 288 *e*P **P 12 40 08.8 -0.9**
comp=E,3.5nm,0.6s
JAY Jayapura 31.83 143 LR LR 12 50 39.4
comp=E,64nm,20.4s,baz=321,slow=31
WMQ Urumqi 34.56 313 *e*P **P 12 41 05.6 +2.1**
WMQ pP pP 12 41 13.8 +0.8
WMQ sP sP 12 41 17.7 +0.7
WMQ pmax pmax
comp=E,17nm,1.1s
WMQ LR LR
comp=E,99nm,19.7s
WMQ LR LR
comp=E,140nm,16.9s
WMQ LR LR
comp=E,110nm,14.1s
MK01 Makanchi Array 39.20 316 *e*P **P 12 41 42.9 -0.1**
MK32 Makanchi Array 39.22 316 *e*P **P 12 41 43.2 +0.2**
MK32 *e*PcP **PcP 12 43 51.7 -0.1**
MKAR Makanchi Array 39.22 316 P **P 12 41 43.2 +0.2**
comp=E,4.7nm,0.5s,baz=105,slow=10,SNR=81
MKAR PcP **PcP 12 43 51.7 -0.1**
comp=E,0.8nm,0.6s,baz=81,slow=5.2,SNR=4.3
MKAR LR LR 12 59 16.8
comp=E,105nm,18.9s,baz=104,slow=38
MKAR Makanchi Array 39.22 316 *e*P **P 12 41 43.2 +0.2**
comp=E,61nm,1.0s
MKAR PcP **PcP 12 43 51.7 -0.1**
MAKZ Makanchi 39.42 316 *e*P **P 12 41 44.6 -0.1**
comp=E,9.8nm,0.6s
PETK Petropavlovsk- 39.44 33 P **P 12 41 44.2 -0.5**
comp=E,5.3nm,1.0s,baz=192,slow=4.5,SNR=3.6
PETK LR LR 12 58 50.7
comp=E,39nm,18.9s,baz=229,slow=38
PEA1 Petropavlovsk- 39.44 33 *e*P **P 12 41 44.2 -0.6**
ZAA0 Zalesovo Array 40.99 327 *e*P **P 12 41 56.2 -1.3**
comp=E,13nm,0.8s
ZALV Zalesovo Beam 40.99 327 P **P 12 41 56.4 -1.2**
comp=E,14nm,0.6s,baz=111,slow=7.9,SNR=81
ZALV LR LR 13 00 06.2
comp=E,101nm,21.4s,baz=64,slow=38
ZALV Zalesovo Beam 40.99 327 *e*P **P 12 41 56.0 -1.5**
ZAA1 Zalesovo Array 40.99 327 *e*P **P 12 41 56.4 -1.2**
PMG Port Moresby 41.10 141 LR LR 12 58 24.4
comp=E,52nm,20.2s,baz=292,slow=35
KURK Kurchatov 42.92 320 *e*P **P 12 42 12.9 -0.5**
KURBB Kurchatov Arra 42.94 320 P **P 12 42 12.5 -1.1**
comp=E,3.5nm,0.7s,baz=113,slow=8.6,SNR=13
AAK Ala-Archa 43.47 307 P **P 12 42 18.9 +0.7**
comp=E,3.5nm,0.7s,baz=130,slow=4.3,SNR=9.1
NIL Nilore 43.74 294 *e*P **P 12 42 20.3 0.0**
comp=E,5.4nm,1.0s
WR1 Warramunga Arr 45.20 164 *e*P **P 12 42 32.9 +0.9**
WRA Warramunga Arr 45.20 164 P **P 12 42 32.9 +0.9**
comp=E,2.9nm,0.8s,baz=346,slow=8.6,SNR=14
TIXI Tiksi 47.83 3 P **P 12 42 50.3 -1.7**
comp=E,2.4nm,0.6s,baz=191,slow=3.7,SNR=8.3
TIXI Tiksi 47.83 3 *e*P **P 12 42 50.7 -1.2**
BVAR Borovoye Array 48.50 321 P **P 12 42 57.2 -0.3**
comp=E,4.2nm,0.5s,baz=103,slow=7.7,SNR=31
BVAR PcP **PcP 12 44 22.6 -0.5**
comp=E,1.1nm,0.6s,baz=85,slow=5.1,SNR=4.1
BRVK Borovoye 48.57 321 *e*P **P 12 42 57.5 -0.5**
comp=E,6.9nm,0.6s
AS31 Alice Springs 48.68 166 *e*P **P 12 42 58.8 -0.4**
comp=E,1.0nm,0.9s
ASAR Alice Springs 48.68 166 P **P 12 43 01.2 +2.1**
comp=E,1.0nm,0.8s,baz=354,slow=14,SNR=12
ABKAR Akbulak array 54.34 314 *e*P **P 12 43 40.6 -0.5**
AKTO Aktyubinsk 55.66 316 P **P 12 43 50.8 +0.1**
comp=E,1.3nm,0.6s,baz=97,slow=6.3,SNR=5.5
GEYT Aibek 55.81 301 P **P 12 43 53.7 +1.6**
comp=E,39nm,0.7s,baz=13,slow=2.0,SNR=7.1
GEYT LR LR 13 10 41.9
comp=E,63nm,18.4s,baz=50,slow=39
ARU Arti 55.90 323 *e*P **P 12 43 51.4 -1.0**
STKA Stephens Creek 58.52 161 P **P 12 44 12.5 +1.4**
comp=E,1.8nm,0.7s,baz=316,slow=8.1,SNR=3.6
STKA LR LR 13 11 32.6
comp=E,19nm,20.2s,baz=14,slow=38
STKA Stephens Creek 58.52 161 *e*P **P 12 44 10.7 -0.4**
comp=E,0.6nm,1.0s
IM3 Indian Mountai 65.88 26 *e*P **P 12 44 59.5 -0.5**
KBZ Khabaz 66.43 309 P **P 12 45 04.4 +0.5**
comp=E,4.8nm,0.9s,baz=139,slow=4.4,SNR=8.6
MLY Manley 67.23 27 *e*P **P 12 45 08.6 -0.1**
RND Reindeer 68.30 29 *e*P **P 12 45 14.7 -0.9**
comp=E,3.5nm,0.8s
IL1 Eielson Array 68.89 27 *e*P **P 12 45 18.2 -1.0**
ILAR Eielson Array 68.89 27 P **P 12 45 19.0 -0.1**
comp=E,0.3nm,0.6s,baz=272,slow=6.7,SNR=6.4
DHY Dehi Highway 69.02 29 *e*P **P 12 45 19.9 -0.3**
comp=E,3.0nm,1.2s
SCM Sheep Creek Mo 69.30 30 *e*P **P 12 45 20.6 -1.2**
comp=E,4.4nm,0.8s
ARA0 ARCESS Array S 70.11 338 *e*P **P 12 45 25.9 -0.7**
ARCES ARCESS Array B 70.11 338 P **P 12 45 25.9 -0.7**
comp=E,6.7nm,0.9s,baz=64,slow=6.1,SNR=3.5
FIA1 FINESS Array S 72.15 330 *e*P **P 12 45 37.8 -1.1**
FIA0 FINESS Array S 72.15 330 *e*P **P 12 45 38.9 -0.1**
FINES FINESS Array B 72.15 330 P **P 12 45 38.9 -0.1**
comp=E,1.5nm,0.5s,baz=38,slow=5.9,SNR=12
FINES LR LR 13 20 38.2
comp=E,136nm,18.8s,baz=72,slow=39
DAWY Dawson 72.22 27 *e*P **P 12 45 38.4 -1.1**
comp=E,1.1nm,0.8s
AKASG Malin Array Be 73.72 319 P **P 12 45 47.8 -0.7**
comp=E,1.7nm,0.7s,baz=59,slow=6.4,SNR=6.0
BR101 Keskin Array S 74.14 307 *e*P **P 12 45 52.0 +0.6**
BR131 Keskin Array S 74.14 307 *e*P **P 12 45 51.0 -0.4**
BRTR Keskin Array B 74.14 307 P **P 12 45 52.0 +0.6**
comp=E,5.7nm,0.8s,baz=107,slow=5.8,SNR=28
BRTR LR LR 13 22 00.3
comp=E,27nm,18.1s,baz=96,slow=39
BUR04 Bucovina Ar. S 77.24 317 *e*P **P 12 46 08.2 -0.8**
NC405 NORSAR Array S 78.64 332 *e*P **P 12 46 15.2 -1.2**
NB2 NORSAR Subarra 78.89 332 P **P 12 46 16.6 -1.1**
comp=E,2.0nm,0.6s,baz=57,slow=5.3
NB2 NORSAR Subarra 78.89 332 P **P 12 46 16.4 -1.3**
comp=E,2.2nm,0.8s,baz=61,slow=5.6
NB200 NORSAR Array S 78.89 332 *e*P **P 12 46 16.8 -1.0**
NOA NORSAR Array B 78.89 332 P **P 12 46 16.8 -1.0**
comp=E,1.0nm,0.6s,baz=58,slow=5.6,SNR=8.9
NOA LR LR 13 25 09.1
comp=E,59nm,19.0s,baz=65,slow=39
VYHS Vyhne 80.81 319 *e*P **P 12 46 28.5 +0.2**
YKA Yellowknife Ar 82.73 23 P **P 12 46 37.7 -0.4**
comp=E,0.6nm,0.6s,baz=307,slow=5.0,SNR=22
YKB5 Yellowknife Ar 82.73 23 *e*P **P 12 46 37.7 -0.4**
GERES GERESS Array B 83.67 321 P **P 12 46 43.8 +0.4**
comp=E,1.0nm,0.7s,baz=87,slow=2.9,SNR=10
GEA0 GERESS Array S 83.67 321 *e*P **P 12 46 42.7 -0.7**
B08A Colville Reser 89.32 36 *e*P **P 12 47 10.9 -0.1**
comp=E,5.5nm,0.8s
NV01 Mina Array Sit 95.84 43 *e*P **P 12 47 40.2 -1.4**
NVAR Mina Array Bea 95.84 43 P **P 12 47 42.0 +0.4**
comp=E,0.9nm,0.8s,baz=287,slow=4.9,SNR=5.7
ESDC Sonseca Array 99.26 321 LR LR 13 37 30.4
comp=E,52nm,19.9s,baz=145,slow=38

MAN 12 12:45:36.9, 16°22.N×122°54.E, h55 km, mb4.7, ML3.6, MS3.5, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALP	**Palanan**	**0.85**	**352**	*e*P	Pn	12 45 53.7	+0.8
PALP				*e*S	Sn	12 46 07.0	+2.5
CAUP	**Cauayan**	**1.00**	**316**	*e*P	Pn	12 45 54.0	-0.8
CAUP				*e*S	Sn	12 46 05.7	-2.3
BALP	**Baler**	**1.04**	**243**	*e*P	Pn	12 45 56.8	+1.5
BALP				*e*S	Sn	12 46 10.4	+1.4
PCPH	**Palayan**	**1.54**	**245**⇓	*e*P	Pn	12 46 05.9	+3.9
PCPH				*e*S	Sn	12 46 26.3	+5.4
SMPP	**San Manuel, Pa**	**1.79**	**268**	*e*P	Pn	12 46 05.9	+0.4
APYP	**Conner**	**2.06**	**323**	*e*P	Pn	12 46 10.1	+1.0
APYP				*e*S	Sn	12 46 34.9	+1.3

*IDC **12** 12:46:13.9±1.0, 9.46S×118.54E, h0 km, mb3.8/7, mb1 3.9/10, mb1mx3.7/42, mbtmp3.9/10, ML3.9/3, MS3.3/1, Ms1 3.3/1, ms1mx2.4/32, Error ellipse: s-maj=40.3km s-min=17.5km az=50.0*
*ISCJB **12** 12:46:21.1±0.5, 9.81S±0.06×118.79E±0.04, h48 km, mb3.9/6, MS3.2/1, Error ellipse: s-maj=9.2km s-min=4.7km az=19.5*
*DJA **12** 12:46:22.0±0.8, 10°S±4°×11°9E±°, h13 km±6 km, M4.7/15, mb4.9/1, MLv4.5/15*

ISC 12 12:46:20.7±0.7, 9.66S±0.07×118.78E±0.04, h48 km, n23, σ3.34/28, mb3.9/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.29**	**310**	P	**Pn**	**12 46 44.7**	**+2.4**
PLAI				S	**Sn**	**12 47 02.2**	**+3.8**
WSI	**Waingapu**	**1.50**	**91**	P	**Pn**	**12 46 47.1**	**+2.0**
WSI				S	**Sn**	**12 47 08.3**	**+4.8**
BASI	**Baing, Sumba**	**1.86**	**108**	P	**Pn**	**12 46 54.0**	**+4.0**
BASI				S	**Sn**	**12 47 17.8**	**+5.5**
EDFI	**Ende, Flores**	**3.01**	**73**	P	**Pn**	**12 47 07.3**	**+1.3**
EDFI				S	**Sn**	**12 47 44.7**	**+3.8**
MMRI	**Maumere**	**3.56**	**74**	P	**Pn**	**12 47 15.4**	**+2.0**
DNP	**Denpasar**	**3.66**	**285**	P	**Pn**	**12 47 18.7**	**+3.9**
IGBI	**Denpasar**	**3.68**	**283**	P	**Pn**	**12 47 19.1**	**+4.0**
SRBI	**Singaraja**	**3.86**	**294**	P	**Pn**	**12 47 20.7**	**+3.2**
BKSI	**Bulukumba**	**4.51**	**17**	P	**Pn**	**12 47 27.2**	**+0.8**
JAGI	**Jajag, Banyuwa**	**4.72**	**284**	P	**Pn**	**12 47 30.4**	**+1.0**
BATI	**Baumata**	**4.84**	**97**	Pn	**Pn**	**12 47 33.6**	**+2.6**
	33nm,0.3s,baz=298,slow=4.2,SNR=20						
BATI				Sn	**Sn**	**12 48 28.0**	**+2.1**
	9.5nm,0.3s,baz=40,slow=22,SNR=7.6						
BATI	**Baumata**	**4.84**	**97**	P	Pn	12 47 36.2	+5.1
BNSI	**Bone**	**5.38**	**14**	P	**Pn**	**12 47 40.8**	**+2.3**
SPSI	**Sidrap Palu**	**5.74**	**10**	P	Pn	12 47 53.4	+10
FITZ	**Fitzroy Crossi**	**10.71**	**142**	Pn	**Pn**	**12 48 52.5**	**+1.0**
	0.5nm,0.3s,baz=326,slow=10,SNR=22						
FITZ				Sn	**Sn**	**12 50 44.5**	**-5.5**
	1.5nm,0.3s,baz=200,slow=22,SNR=9.2						
WRA	**Warramunga Arr**	**18.17**	**126**	P	**P**	**12 50 30.3**	**+0.8**
	0.2nm,0.3s,baz=300,slow=12,SNR=9.1						
WRA				S	Sn	12 53 40.9	-11
	0.2nm,0.3s,baz=293,slow=25,SNR=5.2						
ASAR	**Alice Springs**	**20.07**	**136**	P	**P**	**12 50 52.2**	**+2.0**
	0.7nm,0.6s,baz=311,slow=9.7,SNR=17						
ASAR				S	**S**	**12 54 26.9**	**-6.5**
	1.4nm,0.7s,baz=305,slow=22,SNR=6.7						
PSI	**Prapat**	**23.33**	**301**	P	**P**	**12 51 21.1**	**-4.0**
	2.1nm,0.4s,baz=180,slow=11,SNR=3.1						
PSI				LR	LR	13 00 15.5	
	comp=Z,78nm,19.3s,baz=107,slow=37						
SONM	**Songino Array**	**58.28**	**350**	P	**P**	**12 56 09.3**	**-1.3**
	0.6nm,0.6s,baz=164,slow=7.3,SNR=5.0						
MKAR	**Makanchi Array**	**64.94**	**333**	P	**P**	**12 56 53.0**	**-2.3**
	0.8nm,0.5s,baz=155,slow=7.0,SNR=13						
ZALV	**Zalesovo Beam**	**69.57**	**339**	P	**P**	**12 57 23.1**	**-1.4**
	0.4nm,0.3s,baz=145,slow=6.0,SNR=3.3						
PETK	**Petropavlovsk-**	**70.76**	**24**	P	**P**	**12 57 30.9**	**-0.9**
	4.3nm,0.9s,baz=214,slow=10,SNR=2.8						
QSPA	**South Pole Qui**	**80.34**	**180**	P	**P**	**12 58 28.4**	**+1.7**
	0.5nm,0.7s,baz=286,slow=5.1,SNR=3.4						

*NEIC **12** 13:14:13.8±0.0, 16.37N×99.77W, h66 km, MD4.0(MEX), After MEX.*

MEX 12 13:14:15.1±0.4, 16.47N×99.70W, h5 km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.79**	**316**	*e*P	Pg	13 14 29.2	-1.1
CAIG				*e*S	Sg	13 14 39.9	-0.7
CAIG	**El Cayaco**	**0.79**	**316**	*e*P	Pg	13 14 29.2	-1.1
CAIG				*e*S	Sg	13 14 39.9	-0.7
MEIG	**Mezcala**	**1.45**	**3**	*e*P	Pn	13 14 37.8	-4.3
MEIG				*e*S	Sb	13 14 55.4	-6.0
MEIG	**Mezcala**	**1.45**	**3**	*e*P	Pn	13 14 37.8	-4.3
MEIG				*i* S	Sb	13 14 56.7	-4.7
PNIG	**Pinotepa**	**1.51**	**93**	*e*P	Pn	13 14 39.4	-3.4
PNIG				*e*S	Sn	13 14 53.4	-9.5
PNIG	**Pinotepa**	**1.51**	**93**	*e*P	Pn	13 14 39.4	-3.4
PNIG				*i* S	Sn	13 14 57.9	-5.0
ARIG	**Puente Sto Nin**	**1.90**	**341**	*e*P	Pn	13 14 46.6	-1.6
ARIG				*e*S	Sn	13 15 08.2	-4.4
ARIG	**Puente Sto Nin**	**1.90**	**341**	*i* P	Pn	13 14 44.0	-4.2
ARIG				*i* S	Sn	13 15 07.3	-5.3
PLIG	**Platanillo**	**1.92**	**6**	*e*P	Pn	13 14 44.6	-3.9
PLIG				*e*S	Sn	13 15 08.8	-4.3
PLIG	**Platanillo**	**1.92**	**6**	*e*P	Pn	13 14 44.6	-3.9
PLIG				*e*S	Sn	13 15 08.8	-4.3

IDC 12 13:28:02.9±1.6, 20.08S×163.86E, h0 km, mb3.7/3, mb1 4.0/3, mb1mx3.5/38, mbtmp3.7/3, ML1.7/1, Error ellipse: s-maj=45.3km s-min=17.0km az=28.0, New Caledonia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.12**	**130**	Pn	Pn	13 28 53.0	-0.5
	0.1nm,0.3s,baz=342,slow=20,SNR=7.5						
DZM				Sn	Sn	13 29 30.8	-0.8
	0.2nm,0.3s,baz=81,slow=12,SNR=1.8						
DZM				Lg	Lg	13 29 43.1	
	0.5nm,0.3s,baz=134,slow=23,SNR=20						
WRA	**Warramunga Arr**	**27.73**	**265**	P	P	13 33 52.7	-0.6
	0.1nm,0.3s,baz=95,slow=7.0,SNR=4.7						
ASAR	**Alice Springs**	**28.00**	**257**	P	P	13 33 56.2	+0.4
	0.6nm,0.6s,baz=82,slow=8.3,SNR=9.1						
ILAR	**Eielson Array**	**92.60**	**19**	P	P	13 41 16.1	+0.1
	1.0nm,1.1s,baz=210,slow=5.2,SNR=4.1						

TRN 12 13:28:56.3, 17.88N×61.63W, h22 km, MD3.6, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANWB	**Willy Bob**	**0.26**	**216**	*e*P	Pn	13 29 04.0	-0.8
ANWB				*e*S	Sn	13 29 09.3	-0.8
BPA	**Boggy Peak**	**0.86**	**195**	*e*P	Pn	13 29 14.7	+1.6
BPA				*e*S	Sn	13 29 28.2	+3.2
NEV	**Hard Times**	**1.17**	**231**	*e*P	Pb	13 29 19.1	+1.4
NEV				*e*S	Sn	13 29 35.4	+2.9
MLYT	**Lee's Yard**	**1.27**	**205**	*e*P	Pn	13 29 19.1	+0.3
MLYT				*e*S	Sb	13 29 38.6	+3.0
SEUS	**St. Eustatius**	**1.35**	**254**	*e*P	Pb	13 29 21.7	+0.8
SEUS				*e*S	Sb	13 29 39.9	+2.2
SMRT	**St. Maarten**	**1.39**	**277**	*e*P	Pb	13 29 22.3	+0.7
SMRT				*e*S	Sb	13 29 41.0	+2.1
SMRT	**St. Maarten**	**1.39**	**277**	*e*	Sb	13 29 42.0	+3.1
SABA	**Saba**	**1.56**	**261**	*e*P	Pb	13 29 24.9	+0.3
SABA				*e*S	Sb	13 29 43.9	0.0
DEG	**La Desirade**	**1.65**	**161**	*e*P	Pb	13 29 25.1	-0.9
MGG	**Marie-Galante**	**1.97**	**171**	*e*P	Pb	13 29 30.8	-0.7
TBG	**Guadaloupe-3**	**2.02**	**181**	*e*P	Pb	13 29 30.9	-1.4
TBG	**Guadaloupe-3**	**2.02**	**181**	*e*	Pb	13 29 43.0	+11
TBG	**Guadaloupe-3**	**2.02**	**181**	*e*	Pb	13 29 43.1	+11
BBL	**Barber's Block**	**2.34**	**176**	*e*P	Pn	13 29 35.0	+1.5
BBL	**Barber's Block**	**2.34**	**176**	*e*	Pb	13 29 43.1	+5.2

*ISCJB **12** 13:36:50.1±0.8, 62.24S±0.2×158.5W±0.3, h10 km, mb4.3/7, MS3.9/7, Error ellipse: s-maj=23.2km s-min=16.6km az=13.5*
*IDC **12** 13:36:50.7±0.8, 62.48S×158.43W, h0 km, mb4.4/7, mb1 4.6/8, mb1mx4.4/19, mbtmp4.4/8, ML4.3/1, MS3.9/8, Ms1 3.9/8, ms1mx3.7/27, Error ellipse: s-maj=31.3km s-min=18.7km az=17.0*
*GCMT **12** 13:36:58.0±0.3, 62.75S±0.02×158.55W±0.04, h21 km±1 km, MW5.0/71, Moment Tensor Solution. s27,c31; s71,c87; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.47±.22; Mθθ4.17±.20; Mϕϕ-2.70±.15; Mrθ0.18±.31; Mrϕ1.28±.14; Mθϕ2.12±.39; Best double couple: M04.42500×10^16 NP1: ϕs221.00000°, δ70.00000°, λ-149.00000°. NP2: ϕs119.00000°, δ61.00000°, λ-23.00000°. Principal axes: T 4.4580, Plg6.0000°, Azm348.0000°; N -0.0650, Plg54.0000°, Azm250.0000°; P -4.3920, Plg35.0000°, Azm82.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 12 13:36:52.1±0.8, 62.5S±0.2×158.4W±0.1, h10 km, n31, σ0.66/11, mb4.5/7, MS3.9/7, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**19.59**	**204**	P	**Pn**	**13 41 21.6**	**+0.5**
	0.8nm,0.3s,baz=73,slow=17,SNR=36						
VNDA				LR	LR	13 46 49.2	
	comp=Z,496nm,20.4s,baz=64,slow=30						

RPZ	**Rata Peaks**	**25.85**	**302**	LR	LR	13 50 14.5			
	comp=Z,112nm,21.3s,baz=133,slow=31								
QSPA	**South Pole Qui**	**27.63**	**180**	P	**P**	**13 42 39.1**	**-0.5**		
	8.7nm,0.9s,baz=58,slow=3.3,SNR=29								
QSPA				LR	LR	13 51 35.3			
	comp=Z,295nm,21.0s,baz=56,slow=32								
URZ	**Urewera**	**28.49**	**317**	LR	LR	13 51 15.4			
	comp=Z,343nm,21.1s,baz=166,slow=30								
TBI	**Tubuai**	**39.59**	**13**	*e*LR	LR	13 54 56.7			
	comp=Z,488nm,25.2s,baz=183								
TBI	**Tubuai**	**39.59**	**13**	*e*T	T	14 26 27.0			
	97nm,0.3s								
RKT	**Rikitea**	**42.44**	**33**	*e*LQ	LQ	13 54 29.6			
	906nm,29.2s								
RKT				*e*LR	LR	13 56 16.0			
	comp=Z,342nm,27.2s								
RKT	**Rikitea**	**42.44**	**33**	*e*T	T	14 30 02.3			
	19nm,0.2s								
TVO	**Taravao**	**45.12**	**12**	*e*T	T	14 33 21.1			
	8.9nm,0.3s								
PAE	**Paea**	**45.21**	**12**	*e*T	T	14 33 27.4			
	8.2nm,0.3s								
PPT2	**Papeete2**	**45.28**	**12**	*e*S	S	13 51 42.0	-8.0		
	129nm,26.0s								
PPT2				*e*LR	LR	13 57 34.0			
	comp=Z,559nm,25.5s,baz=193								
PPT2	**Papeete2**	**45.28**	**12**	*e*T	T	14 33 32.9			
	14nm,0.3s								
TIAR	**Tiarei**	**45.34**	**12**	*e*T	T	14 33 36.8			
	7.2nm,0.2s								
MAW	**Mawson**	**46.81**	**200**	LR	LR	14 03 02.0			
	comp=Z,152nm,18.3s,baz=154,slow=34								
DZM	**Mont Dzumac**	**46.91**	**313**	LR	LR	14 01 06.4			
	comp=Z,282nm,20.6s,baz=198,slow=31								
DZM	**Mont Dzumac**	**46.91**	**313**	*e*LR	LR	13 58 29.3			
	comp=Z,508nm,25.0s								
VAH	**Vaihoa**	**47.81**	**14**	*e*T	T	14 36 43.0			
	248nm,0.2s								
PMOR	**Pomariorio Ree**	**48.01**	**14**	*e*T	T	14 36 56.2			
	14nm,0.3s								
STKA	**Stephens Creek**	**48.46**	**280**	P	**P**	**13 45 35.4**	**+0.8**		
	6.0nm,0.9s,baz=133,slow=7.5,SNR=6.0								
PLCA	**Paso Flores**	**53.93**	**110**	P	**P**	**13 46 15.8**	**+0.2**		
	2.2nm,0.9s,baz=291,slow=4.9,SNR=4.1								
PLCA				LR	LR	14 03 46.2			
	comp=Z,113nm,21.4s,baz=234,slow=30								
TAOE	**Nuku Hiva Isla**	**55.17**	**22**	*e*LR	LR	14 02 11.2			
	comp=Z,280nm,25.9s								
H01W1	**Cape Leeuwin H**	**58.56**	**254**	T	T	14 50 34.2			
	baz=146,slow=76,SNR=25								
H01W2	**Cape Leeuwin H**	**58.57**	**254**	T	T	14 50 35.1			
	baz=146,slow=76,SNR=26								
H01W3	**Cape Leeuwin H**	**58.58**	**254**	T	T	14 50 35.1			
	baz=146,slow=76,SNR=24								
ASAR	**Alice Springs**	**58.98**	**278**	P	**P**	**13 46 51.2**	**-0.5**		
	6.1nm,1.1s,baz=146,slow=6.9,SNR=20								
WRA	**Warramunga Arr**	**62.01**	**281**	P	**P**	**13 47 11.2**	**-1.1**		
	3.7nm,0.9s,baz=157,slow=5.9,SNR=13								
CPUP	**Villa Florida**	**71.91**	**112**	P	**P**	**13 48 14.9**	**-0.4**		
	1.6nm,0.7s,baz=209,slow=10,SNR=4.9								
CPUP				LR	LR	14 15 35.3			
	comp=Z,96nm,20.3s,baz=208,slow=32								
LPAZ	**La Paz**	**75.85**	**98**	P	**P**	**13 48 39.3**	**+0.1**		
	3.0nm,0.8s,baz=194,slow=3.7,SNR=9.2								
ILAR	**Eielson Array**	**127.24**	**6**	PKP	**PKPdf**	**13 55 55.7**	**+0.7**		
	0.8nm,0.9s,baz=253,slow=2.1,SNR=5.7								
MKAR	**Makanchi Array**	**143.09**	**274**	PKP	**PKPdf**	**13 56 24.8**	**-0.3**		
	0.4nm,0.7s,baz=139,slow=2.9,SNR=3.3								
ZALV	**Zalesovo Beam**	**146.92**	**285**	PKPbc	**PKPab**	**13 56 34.8**	**0.0**		
	0.4nm,0.3s,baz=97,slow=4.6,SNR=2.4								

BJI ***12*** *13:37:18.3,47.˚48N×153.˚97E,h36km,mb4.9/65,mB5.0/51, Ms4.6/61,Ms7 4.5/57*

JMA ***12*** *13:37:22.9±1.0,47.˚08N×153.˚93E,h30km,M5.6*

ISCJB ***12*** *13:37:23.3±0.4,47.˚37N±0.˚02×153.˚50E±0.˚02,h53km±3km, mb5.2/424,MS4.3/40,Error ellipse: s-maj=3.8km s-min=1.9km az=157.9*

MOS ***12*** *13:37:24.0±1.1,47.˚44N×153.˚41E,h59km,mb5.4/96, MS4.2/19,Error ellipse: s-maj=5.9km s-min=4.1km az=83.3*

SKHL ***12*** *13:37:25.5±0.4,47.˚28N×153.˚73E,h78km±5km,mb5.6/18, mbh6.0/1,Ms4.6/12*

NEIC ***12*** *13:37:26.9±0.4,47.˚42N×153.˚43E,h69km±4km,mb5.2/297, Error ellipse: s-maj=3.6km s-min=1.8km az=157.0*

IDC ***12*** *13:37:26.3±0.5,47.˚43N×153.˚46E,h63km±4km,mb4.7/32, mb1 4.8/38,mb1mx4.8/42,mbtmp5.0/38,MS4.2/27, Ms1 4.2/27,ms1mx4.0/39,Error ellipse: s-maj=11.1km s-min=8.0km az=138.0*

GCMT ***12*** *13:37:27.9±0.2,47.˚43N±0.˚01×153.˚74E±0.˚02,h62km±1km, MW5.1/107,Moment Tensor Solution. s91,c139; s107,c173; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr4.45±.14; Mθθ-0.82±.12; Mφφ-3.63±.12; Mrθ-2.30±.09; Mθφ0.72±.11; Mφr-3.42±.09; Best double couple: M≈5.69200×10^16^ NP1:φs195.00000°,δ67.00000°, λ108.00000°. NP2:φs335.00000°,δ28.00000°,λ54.00000°. Principal axes: T 6.4960, Plg63.0000°, Azm134.0000°; N -1.6060, Plg16.0000°, Azm8.0000°; P -4.8870, Plg21.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 13:37:25.7±0.4,47.˚37N±0.˚04×153.˚53E±0.˚03,h61km±2km, h61km:pP-P,n1333,σ1s30/1397,mb5.2/442,36C-54D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.73**	**26**	⇑*i*P		**Pn**	**13 38 20.6**	**-0.1**
SKR					AMB	AMB	13 38 24.0	
	4μm,0.7s							
SKR				*i* S		**Sn**	**13 39 02.3**	**-1.1**
SKR					A	A	13 39 07.0	
	3μm,0.6s							
SKR					A	A	13 39 07.0	
	4μm,0.6s							
SKR					AMS	AMS	13 39 35.0	
	7μm,16.0s							
SKR					AMS	AMS	13 39 35.0	
	9μm,16.0s							
SKR					AMS	AMS	13 39 35.0	
	5μm,16.0s							
SKR	**Severo-Kuril's**	**3.73**	**26**	*e*PN		**Pn**	**13 38 21.6**	**+0.9**
SKR				*e*S		**Sn**	**13 39 02.2**	**-1.1**
SKR					pmax	pmax		
	comp=Z,4μm,0.7s							
SKR					smax	smax		
	comp=N,3μm,0.6s							
SKR					smax	smax		
	comp=E,4μm,0.6s							
KUR	**Kuril'sk**	**4.47**	**244**	⇓*i*P		**Pn**	**13 38 32.4**	**+1.6**
KUR					AMB	AMB	13 38 34.0	
	comp=E,610nm,0.5s							
KUR					AMB	AMB	13 38 34.0	
	comp=E,300nm,0.5s							
KUR					AMB	AMB	13 38 34.0	
	comp=E,4μm,0.5s							
KUR				*i* S		**Sn**	**13 39 22.3**	**+0.8**
KUR					A	A	13 39 30.0	
	comp=E,980nm,0.5s							
KUR					A	A	13 39 30.0	
	comp=E,1μm,0.5s							
KUR					AMS	AMS	13 40 07.8	
	comp=E,5μm,19.0s							
KUR					AMS	AMS	13 40 07.8	
	comp=E,4μm,19.0s							
KUR					AMS	AMS	13 40 07.8	
	comp=E,5μm,19.0s							
KUR	**Kuril'sk**	**4.47**	**244**	*d i*PN		**Pn**	**13 38 33.3**	**+2.5**
KUR				*i* S		**Sn**	**13 39 24.6**	**+3.1**
KUR					pmax	pmax		
	comp=E,301nm,0.5s							
KUR					pmax	pmax		
	comp=Z,4μm,0.5s							
KUR					pmax	pmax		
	comp=N,613nm,0.4s							
KUR					smax	smax		
	comp=N,975nm,0.5s							
KUR					smax	smax		
	comp=E,1μm,0.5s							
KUR					MLR	MLR		
	comp=N,2μm,13.0s							
KUR					MLR	MLR		
	comp=Z,3μm,13.0s							
PAU	**Pauzhetka**	**4.63**	**26**	*e*P		**Pn**	**13 38 33.5**	**+0.5**
PAU					AMB	AMB	13 38 35.5	
	comp=Z,320nm,0.5s							
PAU				*e*S		**Sn**	**13 39 24.5**	**-0.9**
PAU					A	A	13 39 28.0	
	comp=Z,3μm,0.3s							
PAU					A	A	13 39 28.0	
	comp=Z,3μm,0.3s							
PAU					AMS	AMS	13 41 14.5	
	comp=Z,18μm,17.0s							
PAU					AMS	AMS	13 41 14.5	
	comp=Z,13μm,17.0s							
PAU					AMS	AMS	13 41 14.5	
	comp=Z,5μm,17.0s							
SHO	**Shikotan**	**5.86**	**236**	⇓*i*P		**Pn**	**13 38 48.8**	**-1.1**
SHO					AMB	AMB	13 38 58.0	
	comp=Z,320nm,0.5s							
SHO					AMB	AMB	13 38 58.0	
	comp=Z,460nm,0.5s							
SHO					AMB	AMB	13 38 58.0	
	comp=Z,550nm,0.5s							
SHO				*i* S		**Sn**	**13 39 52.5**	**-3.1**
SHO					A	A	13 39 58.0	
	comp=Z,900nm,0.5s							
SHO					A	A	13 39 58.0	
	comp=Z,810nm,0.5s							
SHO					AMS	AMS	13 41 20.0	
	comp=Z,2μm,19.0s							
SHO					AMS	AMS	13 41 20.0	
	comp=Z,2μm,19.0s							
SHO					AMS	AMS	13 41 20.0	
	comp=Z,2μm,19.0s							
SHO	**Shikotan**	**5.86**	**236**	*d i*PN		**Pn**	**13 38 48.4**	**-1.5**
SHO					pmax	pmax		
	comp=Z,554nm,0.4s							
SHO					pmax	pmax		
	comp=N,320nm,0.5s							
SHO					pmax	pmax		
	comp=E,459nm,0.5s							
SHO					MLR	MLR		
	comp=Z,1μm,20.0s							
YUK	**Yuzh-Kuril'sk**	**6.32**	**241**	⇓*i*P		**Pn**	**13 38 57.4**	**+1.2**
YUK					AMB	AMB	13 39 07.0	
	comp=Z,670nm,0.4s							
YUK					AMB	AMB	13 39 07.0	
	comp=Z,480nm,0.4s							
YUK					AMB	AMB	13 39 07.0	
	comp=Z,1μm,0.4s							
YUK				*e*S		**Sn**	**13 40 06.0**	**-0.9**
YUK					A	A	13 40 22.0	
	comp=Z,510nm,0.5s							
YUK					A	A	13 40 22.0	
	comp=Z,1μm,0.5s							
YUK					AMS	AMS	13 41 25.0	
	comp=Z,4μm,17.0s							
YUK					AMS	AMS	13 41 25.0	
	comp=Z,4μm,17.0s							
YUK					AMS	AMS	13 41 25.0	
	comp=Z,3μm,17.0s							
YUK	**Yuzh-Kuril'sk**	**6.32**	**241**	*d i*PN		**Pn**	**13 38 56.8**	**+0.6**
YUK				*e*S		**Sn**	**13 40 06.7**	**-0.2**
YUK					pmax	pmax		
	comp=E,475nm,0.4s							
YUK					pmax	pmax		
	comp=Z,1μm,0.4s							
YUK					pmax	pmax		
	comp=N,672nm,0.3s							
YUK					smax	smax		
	comp=E,1μm,0.6s							
YUK					smax	smax		
	comp=N,506nm,0.4s							
YUK					MLR	MLR		
	comp=E,860nm,17.0s							
YUK					MLR	MLR		
	comp=Z,3μm,17.0s							
YUK					MLR	MLR		
	comp=N,1μm,16.0s							
PEA0B	**Petropavlovsk-**	**6.34**	**23**	*e*Pn		**Pn**	**13 38 57.0**	**+0.5**
PETK	**Petropavlovsk-**	**6.34**	**23**	P		**Pn**	**13 38 56.9**	**+0.4**
	comp=N,17nm,0.3s,baz=173,slow=12,SNR=290							
PETK					S	**Sn**	**13 40 12.4**	**+5.0**
	baz=158,slow=23,SNR=1.9							
PETK					LR	LR	13 41 34.6	
	comp=N,1μm,18.0s,baz=213,slow=39							
GRPR	**Tuman**	**6.40**	**241**	*e*P		**Pn**	**13 38 57.0**	**-0.3**
GRPR					AMB	AMB	13 39 04.0	
	comp=N,520nm,0.4s							
GRPR					AMB	AMB	13 39 04.0	
	comp=N,2μm,0.4s							
GRPR					AMB	AMB	13 39 04.0	
	comp=N,1μm,0.4s							
GRPR				*i* S		**Sn**	**13 40 08.0**	**-0.8**
GRPR	**Tuman**	**6.40**	**241**	*e*PN		**Pn**	**13 38 57.9**	**+0.6**
GRPR				*i* S		**Sn**	**13 40 08.8**	**0.0**
GRPR					pmax	pmax		
	comp=Z,1μm,0.5s							
GRPR					pmax	pmax		
	comp=E,2μm,0.4s							
GRPR					pmax	pmax		
	comp=N,521nm,0.2s							
PET	**Petropavlovsk**	**6.55**	**28**	*e*Pn		**Pn**	**13 38 59.5**	**+0.2**
PET				*e*Sn		**Sn**	**13 40 07.8**	**-4.6**
PET	**Petropavlovsk**	**6.55**	**28**	⇑*i*P		**Pn**	**13 38 59.7**	**+0.4**
PET					AMB	AMB	13 39 02.7	
	comp=N,130nm,0.6s							
PET				*i* S		**Sn**	**13 40 09.4**	**-3.1**
PET					A	A	13 40 11.5	
	comp=N,420nm,0.7s							
PET					A	A	13 40 11.5	
	comp=N,350nm,0.7s							
PET	**Petropavlovsk**	**6.55**	**28**	*e*PN		**Pn**	**13 38 58.1**	**-1.2**
PET					pmax	pmax		
	comp=Z,127nm,0.6s							
PET					MLR	MLR		
	comp=Z,700nm,16.0s							
GLVR	**Golovnino**	**6.69**	**240**	*e*P		**Pn**	**13 39 01.0**	**-0.3**
GLVR					AMB	AMB	13 39 18.0	
	comp=Z,670nm,0.4s							
GLVR					AMB	AMB	13 39 18.0	
	comp=Z,1μm,0.4s							
GLVR					AMB	AMB	13 39 18.0	
	comp=Z,1μm,0.4s							
GLVR				*e*S		**Sn**	**13 40 14.0**	**-2.1**
GLVR	**Golovnino**	**6.69**	**240**	*e*PN		**Pn**	**13 39 01.4**	**+0.1**
GLVR					pmax	pmax		
	comp=N,666nm,0.4s							
GLVR					pmax	pmax		
	comp=Z,1μm,0.4s							
GLVR					pmax	pmax		
	comp=E,1μm,0.3s							
NEM2	**Nemuro 2**	**6.79**	**237**	⇓P		**Pn**	**13 39 00.7**	**-1.9**
NEM2				*e*S		**Sn**	**13 40 12.9**	**-5.5**
JRA	**Rausu**	**6.82**	**243**	⇓P		**Pn**	**13 39 04.2**	**+1.2**
JNK	**Nakash**	**7.25**	**242**	⇓P		**Pn**	**13 39 09.3**	**+0.3**
YSS	**Yuzh-Sakhalins**	**7.36**	**271**	*e*Pn		**Pn**	**13 39 14.7**	**+4.3**
YSS				*e*Sn		**Sn**	**13 40 38.8**	**+6.4**
YSS	**Yuzh-Sakhalins**	**7.36**	**271**	⇓*i*P		**Pn**	**13 39 14.7**	**+4.3**
YSS					AMB	AMB	13 39 17.5	
	comp=E,120nm,0.5s							
YSS				*i* S		**Sn**	**13 40 35.1**	**+2.7**
YSS					A	A	13 40 53.5	
	comp=E,150nm,1.0s							
YSS					AMS	AMS	13 42 27.0	
	comp=E,1μm,14.0s							
YSS					AMS	AMS	13 42 27.0	
	comp=E,2μm,14.0s							
YSS	**Yuzh-Sakhalins**	**7.36**	**271**	*d i*PN		**Pn**	**13 39 14.9**	**+4.5**
YSS				*e*S		**Sn**	**13 40 35.6**	**+3.2**
YSS					pmax	pmax		
	comp=Z,1.0nm,0.5s							
YSS					smax	smax		
	comp=N,1.0nm,3.0s							
YSS					MLR	MLR		
	comp=Z,2μm,13.0s							
YSS					MLR	MLR		
	comp=N,1μm,12.0s							
YSS					MLR	MLR		
	comp=E,2μm,15.0s							
JTKR	**Abashiri--Toko**	**7.55**	**247**	⇓P		**Pn**	**13 39 14.5**	**+1.5**
JAK	**Akkeshi**	**7.62**	**238**	P		**Pn**	**13 39 12.3**	**-1.7**
JAK				*e*S		**Sn**	**13 40 33.5**	**-5.3**
JMP	**Maruseppu**	**7.87**	**248**	P		**Pn**	**13 39 19.5**	**+2.0**
TYV	**Tymovskoe**	**7.95**	**300**	⇓*e*P		**Pn**	**13 39 22.1**	**+3.7**
TYV					AMB	AMB	13 39 23.9	
	comp=E,150nm,1.0s							
TYV				*i* S		**Sn**	**13 40 47.7**	**+1.0**
TYV					A	A	13 40 52.6	
	comp=E,160nm,0.7s							
TYV					AMS	AMS	13 42 14.1	
	comp=E,3μm,17.0s							
TYV					AMS	AMS	13 42 14.1	
	comp=E,2μm,17.0s							
TYV					AMS	AMS	13 42 14.1	
	comp=E,3μm,17.0s							
TYV	**Tymovskoe**	**7.95**	**300**	*e*PN		Pn	13 39 23.1	+4.7
TYV				*e*S		**Sn**	**13 40 50.8**	**+4.1**
TYV					pmax	pmax		
	comp=Z,150nm,1.1s							
TYV					pmax	pmax		
	comp=Z,2μm,3.0s							
TYV					smax	smax		
	comp=E,156nm,0.7s							
JSE	**Soyaes**	**7.97**	**256**	P		**Pn**	**13 39 22.8**	**+4.0**
JAR	**Ashorobuto**	**7.99**	**243**	P		**Pn**	**13 39 19.5**	**+0.4**
JAR				*e*S		**Sn**	**13 40 47.3**	**-0.6**
JOB	**Onbets**	**8.18**	**240**	P		**Pn**	**13 39 21.1**	**-0.5**
JOB				*e*S		**Sn**	**13 40 48.6**	**-3.9**
HRK	**Horoka**	**8.29**	**246**	*e*P		**Pn**	**13 39 24.4**	**+1.2**
JKA	**Kamikawa-asahi**	**8.31**	**251**	*e*P		**Pn**	**13 39 25.5**	**+2.1**
JWK2	**Keihoku**	**8.31**	**260**	P		Pn	13 39 29.0	+5.6
ASAJ	**Asahikawa**	**8.31**	**251**	P		**Pn**	**13 39 25.5**	**+2.1**
	comp=E,10nm,0.3s,baz=80,slow=14,SNR=108							
ASAJ					LR	LR	13 42 31.5	
	comp=E,2μm,19.5s,baz=58,slow=37							
ASAJ	**Asahikawa**	**8.31**	**251**	*e*Pn		**Pn**	**13 39 26.4**	**+2.9**
ASAJ	**Asahikawa**	**8.31**	**251**	P		**Pn**	**13 39 26.2**	**+2.8**
JKK2	**Kamakawa 2**	**8.32**	**249**	P		**Pn**	**13 39 25.8**	**+2.1**
JCH	**Churui**	**8.63**	**240**	P		**Pn**	**13 39 26.4**	**-1.4**
JCH				*e*S		**Sn**	**13 40 57.7**	**-5.9**
JSS	**Shosan**	**8.67**	**254**	P		Pn	13 39 34.0	+5.7
JFR	**Furan**	**8.78**	**245**	P		**Pn**	**13 39 32.0**	**+2.1**
JAB	**Ashibetsu**	**8.84**	**248**	P		**Pn**	**13 39 33.3**	**+2.6**
JHR	**Hokuryu**	**9.04**	**251**	P		**Pn**	**13 39 36.8**	**+3.4**
ERM	**Erimo**	**9.12**	**238**	*e*Pn		**Pn**	**13 39 34.0**	**-0.5**
ERM				*e*Sn		**Sn**	**13 41 12.7**	**-2.9**
ERM	**Erimo**	**9.12**	**238**	*i* P		**Pn**	**13 39 33.8**	**-0.7**
ERM	**Erimo**	**9.12**	**238**	*i* PN		**Pn**	**13 39 33.8**	**-0.7**
JEM	**Erimo**	**9.12**	**238**	P		**Pn**	**13 39 33.4**	**-1.1**
JBT2	**Biratori 2**	**9.13**	**244**	P		**Pn**	**13 39 34.4**	**-0.3**
OKH	**Okha**	**9.16**	**316**	⇓*i*P		**Pn**	**13 39 39.1**	**+4.1**
OKH					AMB	AMB	13 39 40.1	
	comp=E,3μm,3.0s							
OKH				*i* S		**Sn**	**13 41 18.6**	**+2.2**
OKH					AMS	AMS	13 42 36.0	
	comp=E,2μm,16.0s							
OKH					AMS	AMS	13 42 36.0	
	comp=E,2μm,16.0s							
OKH	**Okha**	**9.16**	**316**	⇓*i*PN		**Pn**	**13 39 39.1**	**+4.1**
OKH					pmax	pmax		
	comp=Z,3μm,2.9s							
JNBK	**Urakawa-nobuka**	**9.19**	**240**	P		**Pn**	**13 39 33.1**	**-2.4**
JEW	**Eniwo**	**9.66**	**246**	P		**Pn**	**13 39 43.3**	**+1.3**
NKL	**Nikolayevsk**	**10.05**	**310**	⇓*i*P		**Pn**	**13 39 51.0**	**+3.8**
NKL					AMB	AMB	13 39 52.6	
	comp=Z,100nm,1.2s							
NKL					AMB	AMB	13 39 52.6	
	comp=Z,170nm,1.2s							
NKL					AMB	AMB	13 39 52.6	
	comp=Z,310nm,1.2s							
NKL					AMB	AMB	13 39 53.0	
	comp=Z,1μm,3.0s							
NKL					AMB	AMB	13 39 53.0	
	comp=Z,2μm,3.0s							
NKL					AMB	AMB	13 39 53.0	
	comp=Z,2μm,3.0s							
NKL	**Nikolayevsk**	**10.05**	**310**	*i* PN		**Pn**	**13 39 51.0**	**+3.8**
NKL				*e*S		Sn	13 41 48.0	+10
NKL					pmax	pmax		
	comp=N,100nm,1.2s							
NKL					pmax	pmax		
	comp=E,170nm,1.2s							
NKL					pmax	pmax		
	comp=Z,300nm,1.2s							
NKL					pmax	pmax		
	comp=N,1μm,3.0s							
NKL					pmax	pmax		
	comp=E,2μm,3.0s							
NKL					pmax	pmax		
	comp=Z,2μm,3.0s							
JNB	**Noboribetsu**	**10.12**	**246**	P		**Pn**	**13 39 47.3**	**-0.9**
JNB				*e*S		**Sn**	**13 41 36.3**	**-3.7**
JKB	**Kayabe**	**10.45**	**243**	P		**Pn**	**13 39 50.4**	**-2.3**
JKB				*e*S		**Sn**	**13 41 40.4**	**-7.7**
JSH	**Shimam**	**10.65**	**249**	P		**Pn**	**13 39 55.6**	**+0.2**
JYM2	**Yakumo 2**	**10.73**	**246**	P		**Pn**	**13 39 55.0**	**-1.5**
JSR	**Shiriuchi**	**11.04**	**243**	P		**Pn**	**13 39 57.9**	**-2.8**
JTM	**Tenmabayashi**	**11.11**	**238**	P		**Pn**	**13 39 57.8**	**-3.9**
JTM				*e*S		Sn	13 41 52.1	-12
JANG	**Nango**	**11.13**	**235**	P		Pn	13 39 56.8	-5.2
JANG				*e*S		Sn	13 41 52.5	-12
JTH	**Tanohata**	**11.24**	**233**	P		Pn	13 39 58.3	-5.2
JTH				*e*S		Sn	13 41 54.6	-13
JOSM	**Okushiri--Mats**	**11.30**	**247**	P		**Pn**	**13 40 03.6**	**-0.7**
JKZ	**Kuzumaki**	**11.50**	**235**	P		Pn	13 40 02.5	-4.6
GRNR	**Gornyy**	**11.72**	**293**	⇓*e*P		**Pn**	**13 40 13.6**	**+3.5**
GRNR					AMB	AMB	13 40 15.9	
	comp=Z,20nm,0.6s							
GRNR	**Gornyy**	**11.72**	**293**	*e*PN		**Pn**	**13 40 14.0**	**+3.9**
GRNR					pmax	pmax		
	comp=Z,25nm,1.0s							
TEY	**Ternei**	**11.96**	**265**	⇑*e*P		**Pn**	**13 40 16.1**	**+2.8**
TEY					AMB	AMB	13 40 17.8	
	comp=Z,30nm,0.7s							
TEY					AMB	AMB	13 40 22.5	
	comp=Z,700nm,8.0s							
TEY	**Ternei**	**11.96**	**265**	⇑*e*PN		**Pn**	**13 40 16.7**	**+3.4**
TEY				*e*S		**Sn**	**13 42 29.7**	**+4.8**
TEY					pmax	pmax		
	comp=Z,30nm,0.7s							
TEY					pmax	pmax		
	comp=Z,700nm,8.0s							
OFUJ	**Ofunato**	**11.96**	**230**	P		Pn	13 40 08.4	-5.0
JRG	**Rokugo**	**12.29**	**234**	P		**Pn**	**13 40 13.9**	**-4.0**
JRG				*e*S		Sn	13 42 24.0	-9.2
MA2	**Magadan**	**12.34**	**353**	P		**Pn**	**13 40 18.8**	**+0.4**
	comp=Z,26nm,0.3s,baz=171,slow=9.5,SNR=190							
MA2					LR	LR	13 45 04.5	
	comp=Z,1μm,19.8s,baz=171,slow=37							
MA2	**Magadan**	**12.34**	**353**	*e*Pn		**Pn**	**13 40 19.7**	**+1.3**
MA2				*e*Sn		**Sn**	**13 42 26.2**	**-7.8**
MA2	**Magadan**	**12.34**	**353**	⇑*i*P		**Pn**	**13 40 20.3**	**+1.9**
MA2	**Magadan**	**12.34**	**353**	*c i*PN		**Pn**	**13 40 20.3**	**+1.9**
JIO	**Ouri**	**12.60**	**229**	*e*S		Sn	13 42 27.5	-13
JYA	**Atsumi**	**13.37**	**234**	P		Pn	13 40 28.1	-4.4
JFK	**Kawauchi**	**13.67**	**228**	*e*S		Sn	13 42 53.2	-14
JFY	**Yanaizu**	**14.24**	**231**	P		**Pn**	**13 40 40.9**	**-3.3**
SMY	**Shemya**	**14.24**	**60**	*e*Pn		**Pn**	**13 40 41.9**	**-2.1**
SMY	**Shemya**	**14.24**	**60**	*e*P		**Pn**	**13 40 41.9**	**-2.1**
EKMR	**Ekimchan**	**14.34**	**301**	⇓*i*P		**P**	**13 40 47.7**	**-3.0**
EKMR					AMB	AMB	13 40 48.9	
	comp=Z,30nm,1.0s							
KLR	**Kul'dur**	**14.61**	**285**	P		**Pn**	**13 40 50.5**	**+1.6**
	comp=Z,0

comp=Z,240nm,3.6s
MDJ LR LR
comp=Z,1μm,18.5s
MDJ LR LR
comp=Z,830nm,24.0s
MDJ LR LR
comp=Z,2μm,25.0s
MDJ Mudanjiang 16.84 269 *e*Pn **Pn 13 41 17.2 -0.1**
comp=Z,52nm,0.9s
BMKR Bomnak 17.11 305⇓ *e*P **P 13 41 21.3 -0.1**
BMKR AMB AMB 13 41 26.3
comp=Z,40nm,0.7s
INU Inuyama 17.21 232 *e*Pn **Pn 13 41 21.4 -0.6**
comp=Z,156nm,1.2s
JHJ Hachijo jima 2 17.64 221 P **Pn 13 41 27.1 -0.1**
comp=Z,3.0nm,0.3s,baz=42,slow=13,SNR=3.4
JHJ S Sn 13 44 25.6 -17
comp=Z,3.3nm,0.3s,baz=270,slow=20,SNR=4.2
ZEA Zeya 17.81 301 *e*P **Pn 13 41 28.2 -0.9**
ZEA AMB AMB 13 41 30.8
comp=Z,30nm,1.2s
ZEA AMB AMB 13 41 30.8
comp=Z,40nm,1.2s
ZEA AMB AMB 13 41 34.0
comp=Z,400nm,5.0s
ZEA AMB AMB 13 41 34.0
comp=Z,800nm,8.0s
ZEA AMS AMS 13 49 10.0
comp=Z,400nm,15.0s
ZEA AMS AMS 13 49 10.0
comp=Z,900nm,15.0s
ZEA AMS AMS 13 49 10.0
comp=Z,1μm,15.0s
ZEA Zeya 17.81 301 *e*P **Pn 13 41 26.5 -2.6**
ZEA pmax pmax
comp=E,29nm,1.2s
ZEA pmax pmax
comp=Z,43nm,1.2s
ZEA pmax pmax
comp=Z,800nm,8.0s
ZEA pmax pmax
comp=E,400nm,5.0s
ZEA MLR MLR
comp=E,900nm,16.0s
ZEA MLR MLR
comp=Z,1μm,16.0s
ZEA MLR MLR
comp=N,400nm,14.0s
JKY Yasaka 18.06 236 P **P 13 41 30.9 -1.1**
KROS Kirovskiy 18.11 303⇓ *e*P **P 13 41 30.0 -2.4**
KROS AMB AMB 13 41 35.6
comp=N,40nm,0.6s
JWT Wachi 18.14 235 P **P 13 41 32.2 -0.7**
JAD Aida 19.09 236 P **P 13 41 43.0 -0.2**
CN2 Changchun 19.93 270 *e*P **P 13 41 50.7 -1.6**
CN2 *e*S **S 13 45 26.5 -6.6**
CN2 pmax pmax
comp=N,10.0nm,0.7s
CN2 pmax pmax
comp=N,200nm,3.0s
CN2 LR LR
comp=N,670nm,15.0s
CN2 LR LR
comp=N,920nm,15.0s
CN2 LR LR
comp=N,1μm,16.0s
JGT2 ShimaneMisato 19.95 240 P **Pn 13 41 54.5 -0.4**
YAK Yakutsk 19.96 326 *e*P **P 13 41 52.4 -0.1**
YAK Yakutsk 19.96 326 *e*P **P 13 41 52.4 -0.1**
YAK *e*S **Sn 13 45 35.8 -2.5**
YAK pmax pmax
comp=Z,34nm,0.8s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK pmax pmax
comp=Z,333nm,1.0s
YAK pmax pmax
comp=N,185nm,1.5s
YAK pmax pmax
comp=E,301nm,1.5s
YAK smax smax
comp=E,144nm,2.7s
YAK smax smax
comp=N,125nm,2.1s
YAK MLR MLR
comp=Z,1μm,25.0s
YAK MLR MLR
comp=N,330nm,22.0s
YAK MLR MLR
comp=E,871nm,21.0s
MRT2 Murotomisaki 2 20.25 233 P **P 13 41 57.3 +1.4**
JKU Kubokawa 20.90 235 P **P 13 42 04.3 +1.3**
UWA2 Uwa jima 2 21.22 236 P **P 13 42 08.2 +1.8**
KSRS Korea Array 21.26 252 P **P 13 42 08.3 +1.6**
comp=E,76nm,0.6s,baz=59,slow=10.0,SNR=295
KSRS LR LR 13 50 18.1
comp=E,576nm,18.1s,baz=60,slow=36
KSRS Korea Array 21.26 252 P **P 13 42 08.3 +1.6**
KSRS pmax pmax
comp=Z,73nm,0.6s
KSRS MLR MLR
comp=Z,576nm,18.1s
KS01 Wonju Array Si 21.26 252 *e*P **P 13 42 07.1 +0.3**
KS15 Wonju Array Si 21.29 252 *e*P **P 13 42 07.5 +0.5**
KSAR Wonju Array Be 21.29 252 P **P 13 42 08.3 +1.2**
KSAR Wonju Array Be 21.29 252 *e*P **P 13 42 08.3 +1.2**
KSAR Wonju Array Be 21.29 252 P **P 13 42 08.3 +1.2**
BILL Bilibino 21.73 13 *e*P **P 13 42 09.5 -1.9**
comp=Z,15nm,0.6s
BILL Bilibino 21.73 13 ⇓ *i*P **P 13 42 09.5 -1.9**
BILL Bilibino 21.73 13 *i* P **P 13 42 09.1 -2.4**
BILL *i* 13 46 07.0
BILL *i* S Sn 13 46 15.3 -5.2
BILL pmax pmax
comp=Z,9.0nm,1.0s
BILL MLR MLR
comp=Z,714nm,18.0s
SNY Shenyang 21.95 266 ⇑ P **P 13 42 13.1 -1.0**
SNY S **S 13 46 14.1 +1.2**
SNY pmax pmax
comp=Z,20nm,1.3s
SNY pmax pmax
comp=Z,320nm,5.9s
SNY LR LR
comp=Z,630nm,14.9s
SNY LR LR
comp=Z,1μm,18.6s
SNY LR LR
comp=Z,2μm,16.2s
CBIJ Chichi jima 22.11 208 P **P 13 42 16.2 +0.3**
JCJ Chichijima 22.11 208 P **P 13 42 16.2 +0.3**
comp=Z,717nm,0.7s,baz=178,slow=20,SNR=4.9
JNU Nakatsue 22.28 238 P **P 13 42 18.8 +0.9**
comp=Z,22nm,0.8s,baz=239,slow=3.0,SNR=14
JNU Nakatsue 22.28 238 *e*P **P 13 42 15.9 -1.9**
comp=Z,33nm,0.9s
HIA Hailar 22.45 287 *e*P **P 13 42 17.6 -1.8**
comp=Z,12nm,0.8s
HIA Hailar 22.45 287 *e*P **P 13 42 17.6 -1.8**
HIA pmax pmax
comp=Z,13nm,0.8s
DL2 Dalian 24.63 262 P **P 13 42 40.6 +0.3**
DL2 pP **pP 13 42 50.2 -4.4**
DL2 S **S 13 46 58.2 +1.0**
DL2 sS sS 13 47 12.7 -8.6
DL2 pmax pmax
comp=Z,34nm,0.6s
DL2 pmax pmax
comp=Z,120nm,4.2s
DL2 LR LR
comp=Z,610nm,19.9s
DL2 LR LR
comp=Z,480nm,19.4s
DL2 LR LR
comp=Z,910nm,24.7s
GAMB Gambell 25.16 37 *e*P **P 13 42 45.2 +0.4**
comp=Z,66nm,1.4s
BOD Bodaibo 25.82 309 *e*P **P 13 42 49.1 -1.8**
BOD pmax pmax
comp=Z,17nm,1.4s
TIXI Tiksi 26.96 343 P **P 13 42 59.3 -1.7**
comp=Z,6.6nm,0.5s,baz=145,slow=10,SNR=18
TIXI Tiksi 26.96 343 *i* P **P 13 42 58.5 -2.5**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
BJT Baijiatuau 27.79 268 *e*P **P 13 43 08.3 -0.4**
comp=Z,20nm,0.5s
BJT Baijiatuau 27.79 268 *e*P **P 13 43 08.3 -0.4**
BJT Baijiatuau 27.79 268 *e*P **P 13 43 08.3 -0.4**
BJT pmax pmax
comp=Z,20nm,0.5s
ANM Nome 28.03 37 *e*P **P 13 43 11.6 +1.0**
comp=Z,16nm,0.8s
ANM Nome 28.03 37 *e*P **P 13 43 11.6 +1.0**
ANM pmax pmax
comp=Z,16nm,0.8s
JOW Kunigami 28.52 233 P **P 13 43 17.6 +2.2**
comp=Z,30nm,0.8s,baz=93,slow=6.9,SNR=3.7
TIA Tai'an 29.09 261 P **P 13 43 20.3 -0.1**
TIA pmax pmax
comp=Z,7.0nm,0.6s
H11N2 WAKE ISLAND Hy 29.64 154 T T 14 15 24.0
baz=341,slow=76
H11N1 WAKE ISLAND Hy 29.66 154 T T 14 15 22.3
baz=341,slow=76,SNR=8896
H11N3 WAKE ISLAND Hy 29.66 154 T T 14 15 25.3
baz=341,slow=76,SNR=5582
RDOG Red Dog Mine 30.14 31 *e*P **P 13 43 26.5 -2.9**
comp=Z,11nm,0.8s
NJ2 Nanjing 30.45 252 *e*P **P 13 43 31.9 -0.5**
NJ2 pmax pmax
comp=Z,12nm,0.6s
HHC Hu-ho-hao-te 30.54 273 *e*P **P 13 43 34.3 +1.0**
HHC PP **PnPn 13 44 34.2 -0.1**
HHC S **S 13 48 31.5 +1.0**
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,110nm,5.6s
HHC LR LR
comp=Z,3μm,16.4s
HHC LR LR
comp=Z,3μm,14.7s
HHC LR LR
comp=Z,3μm,15.6s
H11S1 WAKE ISLAND Hy 30.74 155 T T 14 16 49.8
baz=342,slow=76,SNR=3896
H11S3 WAKE ISLAND Hy 30.75 155 T T 14 16 45.9
baz=342,slow=76,SNR=2878
H11S2 WAKE ISLAND Hy 30.76 155 T T 14 16 47.3
baz=342,slow=76,SNR=4763
ULN Ulaanbaatar 30.97 288 *e*P **P 13 43 33.2 -3.8**
comp=Z,3.8nm,0.7s
ULN Ulaanbaatar 30.97 288 *ce*P **P 13 43 35.5 -1.6**
ULN pmax pmax
comp=Z,4.0nm,0.6s
SONA1 Songino Array 31.39 289 *e*P **P 13 43 38.7 -2.1**
SONM Songino Array 31.40 289 P **P 13 43 39.8 -1.0**
comp=Z,2.9nm,0.6s,baz=61,slow=9.3,SNR=20
SONM LR LR 13 56 49.4
comp=Z,752nm,21.8s,baz=47,slow=37
SVW2 Sparrevohn 31.86 46 *e*P **P 13 43 46.0 +1.5**
comp=Z,23nm,1.0s
ZAK Zakamensk 32.68 294 *e*P **P 13 43 49.9 -2.1**
IM3 Indian Mountai 33.10 37 *e*P **P 13 43 54.8 -0.6**
IM3 *e*PcP **PcP 13 46 37.3 +0.2**
OHAK Old Harbor 33.17 53 *e*P **P 13 43 55.5 -0.5**
comp=Z,261nm,1.7s
RSO Redoubt South 33.24 47 *e*P **P 13 43 55.9 -1.0**
KDAK Kodiak Island 33.49 52 P **P 13 43 58.3 -0.5**
comp=Z,38nm,0.7s,baz=330,slow=1.9,SNR=28
KDAK Kodiak Island 33.49 52 *e*P **P 13 43 58.0 -0.8**
comp=Z,51nm,0.8s
KDAK Kodiak Island 33.49 52 *e*P **P 13 43 58.0 -0.8**
KDAK pmax pmax
comp=Z,51nm,0.8s
PPLA Purkeypile 33.52 42 *e*P **P 13 44 01.0 +1.8**
comp=Z,100nm,1.4s
CAST Castle Rocks 33.58 41 *e*P **P 13 44 01.0 +1.4**
comp=Z,7.8nm,0.6s
SUA Susitna One 34.19 45 *e*P **P 13 44 05.8 +0.8**
comp=Z,109nm,1.7s
MLY Manley 34.25 39 *e*P **P 13 44 06.8 +1.4**
comp=Z,9.6nm,0.8s
WHN Wuhan 34.36 255 P **P 13 44 07.3 +0.7**
WHN S **S 13 49 32.5 +2.6**
WHN pmax pmax
comp=Z,62nm,0.6s
WHN LR LR
comp=Z,1μm,21.6s
TRF Thorofare Moun 34.39 41 *e*P **P 13 44 07.7 +0.9**
comp=Z,26nm,1.2s
GUMO Guam 34.44 195 LR LR 13 57 30.8
comp=Z,188nm,20.0s,baz=326,slow=35
COLD Coldfoot 34.66 35 *e*P **P 13 44 10.0 +1.2**
comp=Z,5.0nm,0.8s
COLD *e*PcP **PcP 13 46 43.1 +1.6**
RC01 Rabbit Creek A 34.69 46 *e*P **P 13 44 10.2 +1.0**
comp=Z,69nm,1.4s
PMR Palmer 34.96 45 *e*P **P 13 44 12.3 +0.8**
comp=Z,23nm,1.0s
MCK McKinley 35.00 41 *e*P **P 13 44 12.5 +0.7**
comp=Z,58nm,1.5s
MCK *e*PcP **PcP 13 46 43.0 +0.4**
MCK McKinley 35.00 41 *e*P **P 13 44 12.5 +0.7**
RND Reindeer 35.03 41 *e*P **P 13 44 12.1 -0.1**
comp=Z,72nm,1.5s
RND *e*PcP **PcP 13 46 42.2 -0.6**
RND Reindeer 35.03 41 *e*P **P 13 44 12.1 -0.1**
RND *e* 13 46 42.2
RND pmax pmax
comp=Z,72nm,1.5s
GHO Glory Hole Cre 35.05 44 *e*P **P 13 44 13.0 +0.7**
comp=Z,44nm,1.4s
KNK Knik Glacier 35.29 45 *e*P **P 13 44 14.9 +0.5**
comp=Z,86nm,1.1s
MDM Murphy Dome 35.32 39 *e*P **P 13 44 15.5 +0.9**
comp=Z,15nm,0.6s
SML Sawmill 35.33 44 *e*P **P 13 44 15.5 +0.8**
comp=Z,132nm,1.1s
SML Sawmill 35.33 44 *e*P **P 13 44 15.5 +0.8**
SML Sawmill 35.33 44 *e*P **P 13 44 15.5 +0.8**
SML pmax pmax
comp=Z,132nm,1.1s
WRH Wood River Hil 35.37 40 *e*P **P 13 44 15.9 +0.9**
comp=Z,68nm,1.9s
TCOL CIGO, UAF Yank 35.47 39 P **P 13 44 16.6 +0.8**
baz=269
COLA College 35.48 39 *e*P **P 13 44 16.8 +0.9**
comp=Z,36nm,0.6s
COLA College 35.48 39 *c i*P **P 13 44 12.5 -3.3**
COLA pmax pmax
comp=Z,13nm,1.0s
POKR Poker Plat Res 35.66 38 P **P 13 44 18.5 +1.0**
baz=270
DHY Denali Highway 35.71 42 *e*P **P 13 44 18.5 +0.4**
comp=Z,46nm,1.3s
SCM Sheep Creek Mo 35.80 44 *e*P **P 13 44 19.7 +0.9**
comp=Z,42nm,1.0s
XAN Xi'an 35.85 265 P **P 13 44 19.6 +0.1**
XAN pP pP 13 44 28.9 -5.2
XAN sP sP 13 44 32.3 -8.7
XAN PP **PnPn 13 45 39.6 -1.7**
XAN S **S 13 49 56.4 +3.5**
XAN pmax pmax
comp=Z,33nm,1.3s
XAN pmax pmax
comp=Z,180nm,4.9s
XAN LR LR
comp=Z,540nm,20.0s
XAN LR LR
comp=Z,590nm,19.0s
XAN LR LR
comp=Z,630nm,24.0s
XAN Xi'an 35.85 265 *e*P **P 13 44 19.8 +0.3**
comp=Z,159nm,1.8s
HDA Harding Lake 35.87 40 *e*P **P 13 44 19.8 +0.6**
comp=Z,20nm,0.6s
HDA Harding Lake 35.87 40 P **P 13 44 19.7 +0.5**
baz=271
IL1 Eielson Array 35.89 39 *e*P **P 13 44 20.1 +0.7**
ILAR Eielson Array 35.89 39 P **P 13 44 19.4 -0.1**
comp=Z,4.3nm,0.8s,baz=259,slow=7.3,SNR=43
ILAR LR LR 14 02 24.0
comp=Z,247nm,18.3s,baz=275,slow=42
ILB Eielson Array 35.89 39 *e*P **P 13 44 19.7 +0.2**
GLI Glacier Island 35.99 46 *e*P **P 13 44 20.6 +0.2**
comp=Z,33nm,0.9s
PRP Porcupine Dome 36.46 38 *e*P **P 13 44 25.4 +0.9**
comp=Z,18nm,0.9s
PRP *e*PcP **PcP 13 46 48.8 +1.7**
KLU Klutina 36.50 45 *e*P **P 13 44 25.7 +0.9**
comp=Z,52nm,1.2s
FYU Fort Yukon 36.58 36 *e*P **P 13 44 26.9 +1.7**
comp=Z,23nm,0.7s
DIV Divide 36.61 45 *e*P **P 13 44 26.6 +0.9**
comp=Z,37nm,0.9s
HARP HAARP 36.77 43 *e*P **P 13 44 27.9 +0.9**
comp=Z,67nm,1.3s
RIDG Independ'e Rid 36.82 41 *e*P **P 13 44 27.4 0.0**
comp=Z,41nm,1.3s
DOT Dot Lake 37.17 41 *e*P **P 13 44 31.6 +1.2**
comp=Z,15nm,0.8s
BMRM Bremner River 37.19 45 *e*P **P 13 44 31.8 +1.2**
comp=Z,46nm,1.0s
HMT Hamilton 37.45 46 *e*P **P 13 44 34.1 +1.3**
comp=Z,46nm,1.0s
ENH Enshi 37.76 259 *e*P **P 13 44 35.6 -0.2**
comp=Z,43nm,1.0s
LZH Lanzhou 38.16 271 *e*P **P 13 44 40.7 +1.5**
LZH pP pP 13 44 51.4 -2.5
LZH sP pwP 13 44 55.0 -1.5
LZH PP **PnPn 13 46 15.4 +6.1**
LZH pmax pmax
comp=Z,88nm,1.1s
LZH pmax pmax
comp=Z,300nm,4.3s
LZH LR LR
comp=Z,960nm,13.6s
LZH LR LR
comp=Z,910nm,14.1s
LZH LR LR
comp=Z,1μm,16.3s
EGAK Eagle 38.34 39 *e*P **P 13 44 40.4 +0.2**
comp=Z,14nm,0.7s
GTA Gaotai 39.16 279 P **P 13 44 47.6 +0.1**
GTA pP pP 13 44 55.5 -6.8
GTA sP pwP 13 44 59.8 -5.1
GTA PcP **PcP 13 46 59.7 +3.9**
GTA ScP **ScP 13 50 39.3 +0.6**
GTA S **S 13 50 45.1 +2.1**
GTA PcS **PcS 13 50 47.3 +1.6**
GTA sS sS 13 50 59.9 -8.0
GTA ScS **ScS 13 54 49.0 -1.5**
GTA pmax pmax
comp=Z,4.0nm,1.4s
GTA pmax pmax
comp=Z,110nm,5.6s
GTA LR LR
comp=Z,420nm,14.8s
GTA LR LR
comp=Z,360nm,17.5s
GTA LR LR
comp=Z,480nm,19.2s
DAWY Dawson 39.18 40 *e*P **P 13 44 47.8 +0.5**
comp=Z,7.1nm,0.8s
EPYK Eagle Plains 40.00 36 *e*P **P 13 44 55.4 +1.3**
comp=Z,62nm,1.4s
EPYK Eagle Plains 40.00 36 P **P 13 44 55.3 +1.3**
baz=277
HYT Haines Junctio 40.63 45 *e*P **P 13 45 01.6 +2.1**
comp=Z,30nm,1.0s
INK Inuvik 40.98 33 P **P 13 45 03.1 +1.1**
comp=Z,10nm,0.7s,baz=287,slow=7.1,SNR=44
INK Inuvik 40.98 33 *e*P **P 13 45 03.3 +1.3**
comp=Z,12nm,0.8s
INK Inuvik 40.98 33 *e*P **P 13 45 03.3 +1.3**
INK Inuvik 40.98 33 *e*P **P 13 45 03.3 +1.3**
INK pmax pmax
comp=Z,12nm,0.8s
CD2 Chengdu 41.22 265 P **P 13 45 04.8 +0.3**
CD2 pP pP 13 45 14.9 -4.5
CD2 sP pwP 13 45 19.3 -2.7
CD2 PP **PP 13 46 40.0 -0.5**
CD2 S **S 13 51 15.8 +2.1**
CD2 SS **SS 13 54 20.2 +1.6**
CD2 pmax pmax
comp=Z,250nm,4.6s
CD2 LR LR
comp=Z,640nm,12.7s
CD2 LR LR
comp=Z,800nm,16.1s
CD2 LR LR
comp=Z,790nm,16.3s
WHY Whitehorse 41.92 44 *e*P **P 13 45 11.8 +1.8**
comp=Z,37nm,1.2s
SKAG Skagway 42.03 46 *e*P **P 13 45 13.0 +2.3**
comp=Z,55nm,1.4s
GYA Guiyang 42.13 257⇓ *i*P **P 13 45 11.8 -0.3**
GYA pP pP 13 45 22.0 -5.0
GYA PP **PP 13 46 52.8 +2.3**
GYA S **S 13 51 24.4 -3.0**
GYA sS sS 13 51 46.0 -6.5
GYA SS **SS 13 54 29.8 -7.0**
GYA pmax pmax
comp=Z,50nm,1.0s
GYA pmax pmax
comp=Z,170nm,6.5s
GYA LR LR
comp=Z,240nm,14.8s
GYA LR LR
comp=Z,260nm,15.2s
GYA LR LR
comp=Z,290nm,14.9s
ZAA0 Zalesovo Array 42.48 305 *e*P **P 13 45 12.8 -1.7**
comp=Z,11nm,0.6s
ZALV Zalesovo Beam 42.48 305 P **P 13 45 12.8 -1.6**
comp=Z,11nm,0.5s,baz=64,slow=7.0,SNR=47
ZALV pP **pP 13 45 30.4 +1.0**
comp=Z,7.1nm,0.6s,baz=65,slow=6.1,SNR=6.1
ZALV PcP **PcP 13 47 08.1 +2.0**
comp=Z,1.8nm,0.3s,baz=76,slow=2.4,SNR=4.9
ZALV ScP **ScP 13 50 50.4 -1.0**
comp=Z,0.4nm,0.4s,baz=60,slow=3.5,SNR=3.9
ZALV LR LR 14 03 50.2
comp=Z,555nm,21.1s,baz=70,slow=37
ZALV Zalesovo Beam 42.48 305 *e*P **P 13 45 13.2 -1.3**
ZALV *e*PcP **PcP 13 47 07.8 +1.7**
ZALV ScP **ScP 13 50 50.4 -1.0**
BESE Bessie Mountai 42.52 47 *e*P **P 13 45 14.8 0.0**
comp=Z,37nm,1.2s
DGZ Jazzator, Alta 42.55 299 *c i*P **P 13 45 14.8 -0.5**
DGZ pmax pmax
comp=Z,3.0nm,1.0s
JIS Juneau Island 42.85 48 *e*P **P 13 45 18.2 +0.8**
comp=Z,64nm,1.2s
NVS Novosibirsk 43.04 307⇑ *i*P **P 13 45 18.0 -1.0**
NVS Novosibirsk 43.04 307⇑ *i*P **P 13 45 18.0 -1.0**
NVS *e*S **S 13 51 35.7 -4.2**
NVS pmax pmax
comp=N,5.0nm,0.6s
NVS pmax pmax
comp=E,14nm,0.6s
NVS pmax pmax
comp=Z,16nm,0.6s
NVS smax smax
comp=N,9.0nm,1.5s
NVS smax smax
comp=E,10.0nm,1.5s
WRAK Wrangell Islan 44.51 50 *e*P **P 13 45 33.2 +2.5**
comp=E,40nm,1.1s
DLBC Dease Lake 44.96 46 P **P 13 45 36.0 +1.6**
comp=E,18nm,0.8s,baz=287,slow=8.1,SNR=31
DLBC Dease Lake 44.96 46 *e*P **P 13 45 36.6 +2.1**
comp=E,41nm,1.1s
WMQ Urumqi 44.97 291 P **P 13 45 34.5 -0.2**
WMQ pP pP 13 45 42.0 -7.8
WMQ S S 13 52 17.2 +8.7
WMQ SS **ScS 13 55 27.7 +1.8**
WMQ pmax pmax
comp=E,28nm,1.5s
WMQ pmax pmax
comp=E,280nm,4.3s
WMQ LR LR
comp=E,750nm,26.3s
WMQ LR LR
comp=E,780nm,24.5s
WMQ LR LR
comp=E,1μm,26.3s
WMQ Urumqi 44.97 291 *e*P **P 13 45 35.2 +0.5**
comp=E,42nm,1.6s
WMQ Urumqi 44.97 291 *e*P **P 13 45 35.2 +0.5**
WMQ pmax pmax
comp=Z,41nm,1.6s
QIZ Qiongzhong 45.35 247 P **P 13 45 35.9 -2.0**
QIZ pP **pP 13 45 47.6 -5.3**
QIZ S **S 13 52 19.6 +5.3**

QIZ LR LR
comp=Z,500nm,15.2s
KMI Kunming 45.64 259 P **P** **13 45 40.8 +0.5**
KMI pP pP 13 45 51.1 -4.3
KMI sP pwP 13 45 55.0 -2.9
KMI PP **PP** **13 47 28.1 +0.1**
KMI S **S** **13 52 19.5 +0.8**
KMI SS **ScS** **13 55 34.9 +3.9**
KMI pmax pmax
comp=Z,59nm,1.3s
KMI pmax pmax
comp=Z,270nm,3.9s
KMI LR LR
comp=Z,530nm,21.4s
KMI LR LR
comp=Z,300nm,16.2s
KMI LR LR
comp=Z,290nm,23.6s
KMI Kunming 45.64 259 *e*P **P** **13 45 41.4 +1.1**
comp=Z,94nm,1.3s
KMI Kunming 45.64 259 *e*P **P** **13 45 41.4 +1.1**
KMI pmax pmax
comp=Z,94nm,1.3s
DIB Dawson Inlet, 45.68 54 *e*P **P** **13 45 40.8 +0.7**
comp=Z,78nm,1.4s
MK31 Makanchi Array 46.91 297 *e*P **P** **13 45 49.1 -0.8**
MK31 *e*PcP **PcP** **13 47 25.9 +4.3**
MK31 Makanchi Array 46.91 297 *e*P **P** **13 45 49.1 -0.8**
MK31 *e* 13 47 25.9
MKAR Makanchi Array 46.91 297 P **P** **13 45 49.1 -0.8**
comp=Z,10nm,0.7s,baz=67,slow=8.0,SNR=112
MKAR PcP **PcP** **13 47 24.3 +2.7**
comp=Z,4.4nm,0.7s,baz=57,slow=4.3,SNR=5.7
MKAR ScP **ScP** **13 51 07.1 -2.8**
comp=Z,0.5nm,0.7s,baz=40,slow=2.5,SNR=3.3
MKAR LR LR 14 08 31.2
comp=Z,261nm,18.3s,baz=62,slow=40
MKAR Makanchi Array 46.91 297 *e*P **P** **13 45 49.2 -0.7**
comp=Z,99nm,0.8s
MKAR *e*PcP **PcP** **13 47 25.8 +4.2**
MKAR ScP **ScP** **13 51 07.0 -2.8**
MKAR Makanchi Array 46.91 297 *e*P **P** **13 45 49.2 -0.7**
MKAR Makanchi Array 46.91 297 *e*P **P** **13 45 49.2 -0.7**
MKAR *e* 13 47 25.8
MKAR pmax pmax
comp=Z,99nm,0.8s
MK01 Makanchi Array 46.92 297 *e*P **P** **13 45 48.1 -1.8**
MK01 *e*PcP **PcP** **13 47 25.5 +3.9**
MAKZ Makanchi 47.09 297 *e*P **P** **13 45 49.6 -1.7**
comp=Z,13nm,0.9s
MAKZ Makanchi 47.09 297 *e*P **P** **13 45 49.6 -1.7**
MAKZ pmax pmax
comp=Z,13nm,0.9s
KURK Kurchatov 47.26 303 *e*P **P** **13 45 51.0 -1.4**
comp=Z,45nm,0.8s
KURK *e*PcP **PcP** **13 47 27.1 +4.4**
KURK Kurchatov 47.26 303 *d i*P **P** **13 45 50.8 -1.6**
KURK pmax pmax
comp=Z,45nm,0.9s
KURK Kurchatov 47.26 303 P **P** **13 45 50.9 -1.6**
SNR=12
RES Resolute Bay 50.16 19 P **P** **13 46 15.2 +0.8**
comp=Z,24nm,0.8s,baz=308,slow=7.8,SNR=60
RES Resolute Bay 50.16 19 *e*P **P** **13 46 15.2 +0.8**
comp=Z,29nm,0.7s
YKW3 Yellowknife Ar 50.22 37 *e*P **P** **13 46 15.7 +0.7**
comp=Z,33nm,1.1s
YKA Yellowknife Ar 50.26 37 P **P** **13 46 15.9 +0.7**
comp=Z,20nm,1.0s,baz=298,slow=7.4,SNR=127
YKA PcP **PcP** **13 47 33.3 0.0**
comp=Z,1.0nm,0.4s,baz=305,slow=3.6,SNR=7.7
YKB5 Yellowknife Ar 50.26 37 *e*P **P** **13 46 15.1 -0.1**
NONG Nongkai 50.33 252 P **P** **13 46 17.9 +1.6**
comp=Z,0.7nm,0.8s
PDGK Podgornoye 50.37 294 P **P** **13 46 15.4 -1.2**
PDGK pmax pmax
comp=Z,28nm,2.3s
LSA Lhasa 50.52 273 *e*P **P** **13 46 20.1 +1.8**
comp=Z,25nm,0.6s
LSA Lhasa 50.52 273 *i* P **P** **13 46 19.8 +1.5**
SNR=11
SKNT Sakolnakorn 50.59 250 P **P** **13 46 21.0 +2.7**
comp=Z,8.8nm,1.1s
BVA0 Borovoye Airay 50.69 309 *e*P **P** **13 46 17.6 -1.1**
BVA0 pmax pmax
comp=Z,21nm,1.3s
BRVK Borovoye 50.73 309 *e*P **P** **13 46 18.0 -1.0**
comp=Z,21nm,1.0s
BRVK Borovoye 50.73 309 *d i*P **P** **13 46 17.3 -1.6**
BRVK pmax pmax
comp=Z,18nm,1.0s
BRVK Borovoye 50.73 309 P **P** **13 46 17.4 -1.5**
SNR=8.7
JAY Jayapura 50.93 197 LR LR 14 05 38.6
comp=Z,108nm,21.6s,baz=322,slow=33
GENI Genyem 51.12 197 P **P** **13 46 20.9 -1.3**
OTUK Ortayu 52.04 303 P **P** **13 46 27.9 -1.0**
OTUK pmax pmax
comp=Z,42nm,1.4s
UTTA Uttaradit 52.25 254 P **P** **13 46 32.4 +1.7**
comp=Z,4.5nm,0.8s
LAMP Lampang 52.29 256 P **P** **13 46 33.4 +2.3**
comp=Z,10nm,0.9s,comp=Z,122nm
CMMT Chiang Mai 52.54 257 P **P** **13 46 33.9 +1.0**
comp=Z,49nm,1.1s,comp=Z,654nm
CHTO Chiang Mai 52.54 257 *e*P **P** **13 46 34.0 +1.1**
comp=Z,84nm,1.4s
CHTO Chiang Mai 52.54 257 *e*P **P** **13 46 34.0 +1.1**
CHTO pmax pmax
comp=Z,84nm,1.4s
CHTO Chiang Mai 52.54 257 P **P** **13 46 34.0 +1.1**
SNR=13
CHTO Chiang Mai 52.54 257 P **P** **13 46 34.0 +1.1**
comp=Z,219nm,1.1s,comp=Z,3µm
CHAI Chaiyaphum 52.66 251 P **P** **13 46 34.9 +1.1**
comp=Z,7.0nm,0.7s
SHL Shillong 52.67 268 *e*P **P** **13 46 34.1 +0.1**
comp=Z,88nm,0.6s
SHL Shillong 52.67 268 *e*P **P** **13 46 34.1 +0.1**
SHL pmax pmax
comp=Z,88nm,0.6s
SHL Shillong 52.67 268 *e*P **P** **13 46 34.0 0.0**
CM31 Chiang Mai Arr 52.79 256 *e*P **P** **13 46 36.6 +1.8**
CM31 Chiang Mai Arr 52.79 256 P **P** **13 46 36.4 +1.6**
SNR=11
CMAR Chiang Mai Arr 52.79 256 P **P** **13 46 36.1 +1.3**
comp=Z,13nm,0.8s,baz=32,slow=7.6,SNR=63
CMAR pP **pP** **13 46 51.2 +1.0**
comp=Z,11nm,0.8s,baz=31,slow=8.9,SNR=8.3
CMAR ScP **ScP** **13 51 36.3 +0.9**
comp=Z,0.9nm,0.6s,baz=19,slow=4.4,SNR=8.8
CMAR LR LR 14 11 13.2
comp=Z,295nm,18.1s,baz=49,slow=38
CM01 Chiang Mai Arr 52.81 256 *e*P **P** **13 46 35.9 +1.0**
PBKT Sadao Pong 52.83 253 *e*P **P** **13 46 36.6 +1.6**
PBKT Sadao Pong 52.83 253 P **P** **13 46 36.4 +1.4**
comp=Z,25nm,1.4s
ULHL Ulahol 52.96 295 P **P** **13 46 35.7 -0.3**
SNR=9.4
SUKH Sukhothai 53.04 255 P **P** **13 46 39.9 +3.3**
comp=Z,4.0nm,0.6s
NLWA Neilton Lookou 53.30 57 *e*P **P** **13 46 39.1 +0.9**
comp=Z,60nm,1.3s
CHMS Chumysh 53.46 296 P **P** **13 46 38.9 -0.5**
SNR=6.7
USP Ospenovka 53.46 297 P **P** **13 46 39.2 -0.3**
SNR=18
TULEG Thule 53.47 11 *e*P **P** **13 46 38.3 -0.6**
comp=Z,32nm,0.7s
KBK Karagaybulak 53.53 296 P **P** **13 46 39.6 -0.5**
SNR=8.7
SVE Sverdlovsk 53.57 317⇑ *e*P **P** **13 46 38.8 -1.2**
SVE Sverdlovsk 53.57 317⇑ *e*P **P** **13 46 38.8 -1.2**
SVE pmax pmax
comp=Z,29nm,1.3s
D03D Eldon 53.67 57 P **P** **13 46 41.6 +0.8**
baz=303,SNR=9.7
AAK Ala-Archa 53.81 296 P **P** **13 46 41.9 -0.2**
SNR=12
AAK Ala-Archa 53.81 296 *e*P **P** **13 46 42.0 -0.2**
comp=Z,14nm,0.8s
AAK Ala-Archa 53.81 296 *e*P **P** **13 46 42.0 -0.2**
AAK Ala-Archa 53.81 296 *i* P **P** **13 46 41.6 -0.6**
SNR=15
AAK Ala-Archa 53.81 296 *e*P **P** **13 46 42.0 -0.2**
AAK pmax pmax
comp=Z,14nm,0.8s
B05A Bryant 53.83 55 P **P** **13 46 42.6 +0.6**
baz=303,SNR=11
B06A Marblemount 54.03 55 *e*P **P** **13 46 44.1 +0.6**
comp=Z,49nm,1.3s
SRAK Srakaew 54.03 250 P **P** **13 46 43.1 -0.8**
comp=Z,69nm,0.8s
MRSI Marisa 54.19 220 P **P** **13 46 45.1 +0.1**
EKS2 Erkin-Say 54.24 297 P **P** **13 46 45.0 -0.2**
SNR=12
UMPA Umpang Tak 54.47 254 P P 13 46 52.5 +5.4
D05A Enumclaw 54.48 57 *e*P **P** **13 46 47.2 +0.5**
comp=Z,77nm,1.4s
E04D Cinebar 54.51 57 P **P** **13 46 47.8 +0.9**
baz=304,SNR=11
KSH Kashi 54.68 292 P **P** **13 46 52.1 +3.6**
KSH pP pP 13 47 01.5 -2.4
KSH sP pwP 13 47 07.3 +0.6
KSH PcP **PcP** **13 47 54.5 +3.9**
KSH PP **PP** **13 48 53.4 +2.2**
KSH PcS **PcS** **13 51 51.1 +0.7**
KSH S **S** **13 54 28.9 +4.8**
KSH ScS **ScS** **13 56 32.5 +0.4**
KSH pmax pmax
comp=Z,26nm,0.8s
KSH pmax pmax
comp=Z,270nm,6.4s
KSH LR LR
comp=Z,610nm,11.3s
KSH LR LR
comp=Z,590nm,9.3s
KSH LR LR
comp=Z,2µm,18.8s
C06D Leavenworth 54.69 55 P **P** **13 46 48.7 +0.4**
baz=304
ARU Arti 54.75 317 *e*P **P** **13 46 47.1 -1.5**
comp=Z,29nm,0.9s
ARU *e*PcP **PcP** **13 47 53.0 +2.6**
ARU Arti 54.75 317 *d i*P **P** **13 46 46.9 -1.7**
ARU *PP **sP** **13 47 09.6 -1.0**
ARU 13 47 45.9
ARU 13 48 51.8
ARU S **S** **13 54 21.8 -2.4**
ARU SS **SS** **13 58 06.9 -0.3**
ARU pmax pmax
comp=Z,57nm,1.6s
ARU MLR MLR
comp=Z,505nm,21.0s
CHBT CHBT 54.80 249 P **P** **13 46 45.6 -3.8**
comp=Z,27nm,1.4s
LON Longmire 54.83 57 *e*P **P** **13 46 49.9 +0.5**
comp=Z,12nm,1.2s
LON Longmire 54.83 57 *e*P **P** **13 46 49.9 +0.5**
LON pmax pmax
comp=Z,12nm,1.2s
JIRN Jiri 55.18 274 *e*P **P** **13 46 53.2 +0.7**
comp=Z,306nm,0.5s
LTY Liberty 55.19 56 *e*P **P** **13 46 52.1 +0.1**
comp=Z,44nm,1.5s
GUN Gumba 55.23 275 *e*P **P** **13 46 53.2 +0.3**
comp=Z,115nm,0.5s
B08A Colville Reser 55.31 54 *e*P **P** **13 46 53.1 +0.3**
comp=Z,53nm,1.4s
RAMN Ramite 55.36 273 *e*P **P** **13 46 54.2 +0.5**
comp=Z,245nm,0.4s
ARSB Arslanbob 55.49 296 *e*P **P** **13 46 54.2 -0.1**
comp=Z,15nm,0.8s
ARSB *e*PcP **PcP** **13 47 55.8 +2.0**
F05D White Salmon 55.52 58 P **P** **13 46 55.2 +1.0**
baz=305
H04D Lebanon 55.56 60 P **P** **13 46 55.7 +1.2**
baz=305
J01E Myrtle Point 55.63 62 P **P** **13 46 56.3 +1.2**
baz=305
I03D Drain, OR 55.67 61 P **P** **13 46 56.4 +1.1**
baz=305,SNR=5.4
KKN Kakani 55.71 275 *e*P **P** **13 46 56.7 +0.5**
comp=Z,115nm,0.6s
PKI Pulchoki 55.77 275 *e*P **P** **13 46 57.0 +0.3**
comp=Z,91nm,0.5s
PKIN Phulchoki 55.77 275 *e*P **P** **13 46 56.9 +0.2**
comp=Z,84nm,0.4s
H04A Detroit Lake 55.79 59 *e*P **P** **13 46 57.1 +0.8**
comp=Z,79nm,1.4s
SFK Sufi-Kurgan 55.94 294 P **P** **13 46 56.6 -1.0**
SFK pmax pmax
comp=Z,1.0nm,0.1s
DMN Daman 55.95 275 *e*P **P** **13 46 58.5 +0.6**
comp=Z,154nm,0.4s
KK31 Karatay Array 55.95 299 *e*P **P** **13 46 56.6 -0.8**
KK31 Karatay Array 55.95 299 *e*P **P** **13 46 56.6 -0.8**
KKAR Karatay Array 55.95 299 *e*P **P** **13 46 56.6 -0.8**
KKAR Karatay Array 55.95 299 *e*P **P** **13 46 56.6 -0.8**
G05D Wamic, OR 55.97 58 P **P** **13 46 58.3 +0.7**
baz=305,SNR=5.6
DAG Danmarks Havn 56.04 358 *i* P **P** **13 46 56.1 -1.4**
DAG Danmarks Havn 56.04 358 *i* P **P** **13 46 56.1 -1.4**
comp=Z,11nm,0.8s
DAG Danmarks Havn 56.04 358 *i* P **P** **13 46 56.1 -1.4**
DAG pmax pmax
comp=Z,8.0nm,0.8s
E07A Sunnyside 56.05 56 *e*P **P** **13 46 58.7 +0.6**
comp=Z,51nm,1.4s
K02D Willamette Mer 56.06 62 P **P** **13 46 59.5 +1.2**
baz=306,SNR=5.8
I04A Tendick Farm, 56.17 60 P **P** **13 46 59.9 +0.8**
baz=306,SNR=9.5
C09A Chrisman Ranch 56.21 54 *e*P **P** **13 46 59.5 +0.3**
comp=Z,51nm,1.3s
D08A Wollman Farm, 56.28 55 *e*P **P** **13 46 60.0 +0.2**
comp=Z,13nm,0.8s
HAWA Hanford 56.32 56 *e*P **P** **13 46 59.7 -0.3**
comp=Z,29nm,1.1s
G06A Carlson Farm, 56.37 58 *e*P **P** **13 47 01.1 +0.6**
comp=Z,71nm,1.7s
DANN Dangsing 56.38 277 *e*P **P** **13 47 01.9 +0.9**
comp=Z,112nm,0.5s
PHET Kaeng Krachan 56.40 251 P **P** **13 47 03.5 +2.6**
comp=Z,12nm,0.8s,comp=Z,94nm
L02E Cave Junction 56.41 62 P **P** **13 47 02.1 +1.4**
baz=306
I05D Terrebonne, OR 56.48 59 P **P** **13 47 02.1 +0.9**
baz=306,SNR=9.1
HUMO Hull Mountain 56.54 62 *e*P **P** **13 47 03.3 +1.6**
comp=Z,30nm,1.4s
NEW Newport 56.58 53 P **P** **13 47 01.9 0.0**
comp=Z,19nm,1.1s,baz=304,slow=6.6,SNR=14
NEW Newport 56.58 53 *e*P **P** **13 47 02.1 +0.3**
comp=Z,28nm,1.1s
NEW Newport 56.58 53 *e*P **P** **13 47 02.1 +0.3**
NEW Newport 56.58 53 *e*P **P** **13 47 02.1 +0.3**
NEW pmax pmax
comp=Z,28nm,1.1s
NEW Newport 56.58 53 P **P** **13 47 02.0 +0.1**
baz=306,SNR=14
KULLO Kullorsuaq 56.61 9⇓ *i*P **P** **13 47 01.0 -0.6**
comp=Z,71nm,0.7s
KULLO Kullorsuaq 56.61 9⇓ *i*P **P** **13 47 01.0 -0.6**
KULLO pmax pmax
comp=Z,71nm,0.7s
J04D Umpqua Nationa 56.67 61 P **P** **13 47 03.9 +1.1**
baz=306,SNR=11
KOLN Koldanda 56.86 276 *e*P **P** **13 47 04.9 +0.5**
comp=Z,140nm,0.6s
APA Apatity 56.88 337⇑ *i*P **P** **13 47 01.9 -1.7**
APA Apatity 56.88 337⇑ *i*P **P** **13 47 01.9 -1.7**
APA pmax pmax
comp=Z,11nm,1.3s
PRGR Permogore 57.00 327 *e*P **P** **13 47 02.8 -1.7**
PRGR pmax pmax
comp=Z,12nm,0.6s
E09A Wood Farm, Sta 57.03 55 *e*P **P** **13 47 05.5 +0.5**
comp=Z,61nm,1.3s
PINE Pine Mountain 57.03 59 *e*P **P** **13 47 06.4 +1.0**
comp=Z,63nm,1.2s
PYUN Piuthan 57.06 277 *e*P **P** **13 47 06.2 +0.4**
KHMM Horse Mountain 57.09 64 *e*P **P** **13 47 07.7 +1.9**
comp=Z,52nm,1.4s
L04D Klamath Falls 57.16 62 P **P** **13 47 07.1 +0.9**
baz=307,SNR=11
J05D Fort Rock, OR 57.16 60 P **P** **13 47 07.5 +1.3**
baz=306,SNR=18
YBH Yreka Blue Hor 57.20 62 *e*P **P** **13 47 07.8 +1.4**
comp=Z,46nm,1.5s
G08A Pilot Rock 57.29 57 *e*P **P** **13 47 07.6 +0.5**
comp=Z,16nm,1.0s
M02C Callahan 57.32 63 P **P** **13 47 08.4 +1.2**
baz=307,SNR=5.9
ARCES ARCESS Array B 57.36 341 P **P** **13 47 06.1 -0.9**
comp=Z,6.5nm,0.6s,baz=39,slow=7.6,SNR=33
ARCES LR LR 14 14 48.7
comp=Z,24nm,21.9s,baz=355,slow=39
N02D Trinity Center 57.66 63 P **P** **13 47 10.9 +1.3**
baz=307
M04C Macdoel 57.70 62 P **P** **13 47 10.7 +0.8**
baz=307,SNR=8.0
WALA Waterton Lakes 57.83 51 *e*P **P** **13 47 11.4 +0.7**
BOK Bokaro 57.92 271 *e*P **P** **13 47 12.2 +0.7**
WDC Whiskeytown Da 57.99 63 *e*P **P** **13 47 13.0 +1.1**
comp=Z,9.6nm,1.1s
WDC Whiskeytown Da 57.99 63 *e*P **P** **13 47 13.0 +1.1**
WDC pmax pmax
comp=Z,10.0nm,1.1s
O02D Mt. Diablo Mer 58.09 64 P **P** **13 47 13.8 +1.1**
baz=308
AB31 Akbulak array 58.25 310 *e*P **P** **13 47 12.5 -1.0**
AB31 pmax pmax
comp=Z,7.0nm,0.7s
ABKAR Akbulak array 58.25 310 *e*P **P** **13 47 12.6 -0.9**
BMO Blue Mountains 58.49 57 *e*P **P** **13 47 16.3 +0.9**
comp=Z,52nm,1.4s
BMO Blue Mountains 58.49 57 *e*P **P** **13 47 16.3 +0.9**
BMO pmax pmax
comp=Z,53nm,1.4s
AKTO Aktyubinsk 58.53 312 P **P** **13 47 14.6 -0.9**
AKTO pmax pmax
comp=Z,15nm,1.3s
MOD Modoc Plateau 58.54 61 *e*P **P** **13 47 16.5 +0.7**
comp=Z,46nm,1.4s
O03E Paynes Creek 58.62 63 P **P** **13 47 16.3 0.0**
baz=308,SNR=9.7
J08A Circle Bar Ran 58.73 59 *e*P **P** **13 47 18.1 +1.0**
comp=Z,22nm,1.1s
DHRM DHARAMSHALA 58.88 285 *e*P **P** **13 47 18.2 -0.3**
DDI Dehra Dun 58.95 282 *e*P **P** **13 47 18.8 +0.1**
SMLA Simla 59.02 284 *e*P **P** **13 47 18.9 -0.2**
MSO Missoula 59.16 53 *e*P **P** **13 47 20.7 +0.6**
comp=Z,79nm,1.4s
MSO Missoula 59.16 53 P **P** **13 47 20.5 +0.4**
baz=308,SNR=36
WVOR Wild Horse Val 59.20 59 *e*P **P** **13 47 21.1 +0.7**
comp=Z,34nm,1.2s
ORV Oroville 59.25 64 *e*P **P** **13 47 20.7 0.0**
comp=Z,42nm,1.8s
ORV Oroville 59.25 64 *e*P **P** **13 47 20.7 0.0**
ORV pmax pmax
comp=Z,43nm,1.8s
BNSI Bone 59.35 220 P **P** **13 47 23.2 +1.7**
STKI Sintang 59.63 231 P **P** **13 47 24.0 +0.5**
KLMR Klimovskoe 59.73 329 *e*P **P** **13 47 21.8 -1.7**
KLMR pmax pmax
comp=Z,11nm,1.4s
KLMR Klimovskoe 59.73 329 *e*P **P** **13 47 21.9 -1.6**
KLMR AMP 13 47 27.4
comp=Z,11nm,1.4s
BEKR Beckworth 59.75 63 *e*P **P** **13 47 24.6 +0.3**
comp=Z,28nm,1.4s
AFDM Forest Hills D 59.95 64 *e*P **P** **13 47 26.1 +0.6**
comp=Z,17nm,1.3s
NIL Nilore 59.98 288 *e*P **P** **13 47 26.6 +0.8**
comp=Z,54nm,0.6s
SUMG Summit 60.06 4 *e*P **P** **13 47 26.5 +0.3**
comp=Z,90nm,0.9s
SUMG Summit 60.06 4⇓ *i*P **P** **13 47 26.6 +0.4**
comp=Z,204nm,0.8s
SUMG Summit 60.06 4⇓ *i*P **P** **13 47 26.6 +0.4**
SUMG pmax pmax
comp=Z,200nm,0.8s
FFC Flin Flon 60.08 40 *e*P **P** **13 47 26.8 +0.7**
comp=Z,41nm,1.1s
FFC Flin Flon 60.08 40 *e*P **P** **13 47 26.8 +0.7**
FFC Flin Flon 60.08 40 *e*P **P** **13 47 26.8 +0.7**
FFC pmax pmax
comp=Z,41nm,1.1s
MFID Camas Ranch 60.22 57 *e*P **P** **13 47 27.9 +0.6**
comp=Z,13nm,0.9s
KRAB Krabi 60.23 248 P P 13 47 34.2 +6.6
PAHR Pah Rah Range 60.44 62 *e*P **P** **13 47 29.5 +0.5**
comp=Z,30nm,1.4s
FCC Fort Churchill 60.59 34 *e*P **P** **13 47 29.6 +0.1**
comp=Z,39nm,1.4s
FCC Fort Churchill 60.59 34 *e*P **P** **13 47 29.6 +0.1**
FCC Fort Churchill 60.59 34 *e*P **P** **13 47 29.6 +0.1**
FCC pmax pmax
comp=Z,39nm,1.4s
LRM Limekiln Ridge 60.60 53 *e*P **P** **13 47 30.7 +0.6**
EGMT Eagleton 60.64 50 *e*P **P** **13 47 29.7 -0.5**
comp=Z,59nm,1.1s
EGMT Eagleton 60.64 50 P **P** **13 47 30.8 +0.6**
baz=309,SNR=20
PNTR Pine Nut 60.70 63 *e*P **P** **13 47 32.0 +1.2**
comp=Z,89nm,1.8s
DLMT Dillon 60.81 54 *e*P **P** **13 47 31.9 +0.5**
comp=Z,56nm,1.6s
CMB Columbia Colle 60.88 64 *e*P **P** **13 47 32.7 +0.8**
comp=Z,30nm,1.4s
CMB Columbia Colle 60.88 64 *e*P **P** **13 47 32.7 +0.8**
CMB pmax pmax
comp=Z,30nm,1.4s
HLID Hailey 60.93 56 *e*P **P** **13 47 33.1 +0.8**
comp=Z,29nm,1.4s
HLID Hailey 60.93 56 P **P** **13 47 33.2 +0.9**
baz=309,SNR=23
YERR Yerington 60.98 63 *e*P **P** **13 47 33.3 +0.6**
comp=Z,43nm,1.4s
WAKR Walker 61.16 63 *e*P **P** **13 47 35.2 +1.2**
comp=Z,31nm,1.5s
BMN Battle Mountai 61.27 61 *e*P **P** **13 47 35.6 +1.0**
BMN Battle Mountai 61.27 61 *e*P **P** **13 47 35.6 +1.0**
KULM Kulim 61.60 245 *e*P **P** **13 47 38.2 +1.3**
comp=Z,25nm,0.7s
KVN Kaiserville 61.62 62 *e*P **P** **13 47 37.7 +0.6**
comp=Z,18nm,1.0s
KVN Kaiserville 61.62 62 *e*P **P** **13 47 37.7 +0.6**
KVN pmax pmax
comp=Z,18nm,1.0s
RYN Ryan 61.64 63 *e*P **P** **13 47 37.6 +0.5**
comp=Z,13nm,1.0s
COEN Coen 61.74 191 *e*P **P** **13 47 37.9 +0.2**
comp=Z,21nm,0.8s
PBA Port Blair 61.82 256 *e*P P 13 47 37.9 -0.5
NV01 Mina Array Sit 61.90 63 *e*P **P** **13 47 39.5 +0.6**
NVAR Mina Array Bea 61.90 63 P **P** **13 47 39.5 +0.6**
comp=Z,6.9nm,0.7s,baz=297,slow=7.2,SNR=47
YHB Horse Butte 61.96 54 *e*P **P** **13 47 39.9 +0.6**
comp=Z,37nm,1.1s
NV11 Mina Array Sit 61.98 63 *e*P **P** **13 47 38.8 -0.7**
comp=Z,1.0nm,1.1s
MLAC Mammoth, Mammo 62.08 64 P **P** **13 47 41.0 +0.8**
baz=310
KBL Kabul 62.10 292 *e*P **P** **13 47 39.1 -1.3**
comp=Z,37nm,0.7s
KBL Kabul 62.10 292 *e*P **P** **13 47 39.1 -1.3**
KBL pmax pmax
comp=Z,37nm,0.7s
GCMT Greycliff 62.12 52 *e*P **P** **13 47 41.5 +1.3**
YMR Madison River 62.14 53 *e*P **P** **13 47 41.6 +1.1**
comp=Z,84nm,1.6s
ELK Elko 62.24 59 *e*P **P** **13 47 42.0 +0.7**
comp=Z,5.8nm,0.8s
ELK Elko 62.24 59 *e*P **P** **13 47 42.0 +0.7**
ELK pmax pmax
comp=Z,6.0nm,0.8s
YNR Norris Junctio 62.27 53 *e*P **P** **13 47 43.4 +2.0**
comp=Z,42nm,1.4s
JBP Jabalpur 62.35 275⇑ *e*P **P** **13 47 43.4 +1.6**
JBP *ex* x 13 51 01.1
SCO Scoresbysund 62.42 358 *e*P **P** **13 47 42.3 +0.7**
comp=Z,24nm,0.9s
SCO Scoresbysund 62.42 358 *i* P **P** **13 47 42.0 +0.4**
comp=Z,21nm,0.8s
SCO Scoresbysund 62.42 358 *e*P **P** **13 47 42.3 +0.7**
SCO pmax pmax
comp=Z,24nm,0.9s
LKWY Lake 62.52 53 P **P** **13 47 44.7 +1.6**
comp=Z,18nm,1.1s
LKWY Lake 62.52 53 P **P** **13 47 44.7 +1.6**
LKWY pmax pmax
comp=Z,18nm,1.1s
H17A Grant Village 62.53 53 *e*P **P** **13 47 45.7 +2.5**
comp=Z,59nm,1.4s
H17A Grant Village 62.53 53 P **P** **13 47 45.5 +2.4**
baz=310,SNR=24

FLWY **Flagg Ranch** 62.66 54 *e*P P 13 47 45.7 +1.7
comp=Z,35nm,1.4s
RLMT **Red Lodge** 62.77 52 *e*P P 13 47 45.8 +1.1
comp=Z,27nm,0.9s
RLMT **Red Lodge** 62.77 52 P P 13 47 45.7 +1.1
baz=311,SNR=24
SMMC **Simmler** 62.85 67 P P 13 47 45.8 +0.6
baz=310
MOOW **Moose Ponds** 62.85 54 *e*P P 13 47 46.6 +1.4
comp=Z,49nm,1.6s
HVU **Hansel Valley** 62.99 57 *e*P P 13 47 47.2 +1.1
comp=Z,12nm,0.9s
HVU **Hansel Valley** 62.99 57 *e*P P 13 47 47.2 +1.1
HVU pmax pmax
comp=Z,12nm,0.9s
LOHW **Long Hollow** 63.02 54 *e*P P 13 47 47.7 +1.4
comp=Z,44nm,1.4s
SNOW **Snow King Moun** 63.04 54 *e*P P 13 47 48.1 +1.6
comp=Z,59nm,1.4s
REDW **Red Top Meadow** 63.05 55 *e*P P 13 47 47.9 +1.3
comp=Z,95nm,1.5s
VES **Vestal, Richgr** 63.08 66 P P 13 47 46.3 -0.3
baz=311
DGMT **Dagmar** 63.18 47 *e*P P 13 47 47.8 +0.7
comp=Z,135nm,1.4s
DGMT **Dagmar** 63.18 47 P P 13 47 47.7 +0.7
baz=312,SNR=15
PKM **Mcpherson Peak** 63.24 67 P P 13 47 48.6 +0.7
baz=311
AHID **Auburn Hatcher** 63.30 55 *e*P P 13 47 49.1 +0.9
comp=Z,27nm,1.3s
CWC **Cottonwood Cre** 63.31 64 P P 13 47 48.7 +0.4
baz=311
LAO **LASA Array** 63.34 49 *e*P P 13 47 49.3 +1.1
comp=Z,70nm,1.2s
LAO **LASA Array** 63.34 49 P P 13 47 49.3 +1.1
baz=312,SNR=25
GRAC **Grapevine Rang** 63.39 64 P P 13 47 49.4 +0.7
baz=311
ISA **Isabella, Lake** 63.57 65 *e*P P 13 47 49.3 -0.7
comp=Z,8.0nm,0.9s
ISA **Isabella, Lake** 63.57 65 *e*P P 13 47 49.3 -0.7
ISA pmax pmax
comp=Z,8.0nm,0.9s
ISA **Isabella, Lake** 63.57 65 P P 13 47 49.3 -0.7
baz=311,SNR=6.6
R11A **Troy Canyon, C** 63.58 61 *e*P P 13 47 50.5 +0.3
comp=Z,11nm,0.8s
R11A **Troy Canyon, C** 63.58 61 P P 13 47 50.4 +0.3
baz=311,SNR=20
FIA1 **FINESS Array S** 63.60 335 *e*P P 13 47 48.3 -1.3
FINES **FINESS Array B** 63.60 335 P P 13 47 48.2 -1.4
comp=Z,21nm,0.5s,baz=35,slow=7.1,SNR=133
FINES pP **pP** 13 48 06.4 +1.1
comp=Z,3.8nm,0.4s,baz=44,slow=8.3,SNR=2.3
FINES LR LR 14 20 06.1
comp=Z,353nm,18.5s,baz=30,slow=40
DAC **Darwin (Calif)** 63.72 64 *e*P P 13 47 51.5 +0.5
comp=Z,24nm,1.6s
DAC **Darwin (Calif)** 63.72 64 *e*P P 13 47 51.5 +0.5
DAC pmax pmax
comp=Z,25nm,1.6s
MPMC **Manual Prospec** 63.92 64 P P 13 47 52.6 +0.2
baz=311,SNR=11
DUG **Dugway, Tooele** 64.01 58 *e*P P 13 47 53.6 +0.8
comp=Z,66nm,1.4s
DUG **Dugway, Tooele** 64.01 58 *e*P P 13 47 53.6 +0.8
DUG pmax pmax
comp=Z,66nm,1.4s
DUG **Dugway, Tooele** 64.01 58 P P 13 47 53.4 +0.6
baz=311,SNR=27
BHPL **Bhopal** 64.03 277 *e*P P 13 47 52.9 -0.1
FURC **Furnace Creek,** 64.04 64 P P 13 47 53.5 +0.7
baz=311,SNR=14
TPNV **Topopah Spring** 64.09 63 *e*P P 13 47 54.0 +0.5
comp=Z,49nm,1.5s
TPNV **Topopah Spring** 64.09 63 *e*P P 13 47 54.0 +0.5
TPNV pmax pmax
comp=Z,49nm,1.5s
TPNV **Topopah Spring** 64.09 63 P P 13 47 53.9 +0.5
baz=311,SNR=11
OSI **Osito Audit: C** 64.10 66 P P 13 47 53.7 +0.3
baz=311
BW06 **Boulder Array** 64.15 54 *e*P P 13 47 54.4 +0.5
comp=Z,31nm,1.1s
BW06 **Boulder Array** 64.15 54 P P 13 47 54.3 +0.4
baz=312,SNR=19
PD31 **Pinedale Array** 64.15 54 *e*P P 13 47 54.4 +0.4
PDAR **Pinedale Array** 64.15 54 P P 13 47 54.2 +0.4
comp=Z,12nm,0.8s,baz=288,slow=1.9,SNR=96
PDAR LR LR 14 17 26.8
comp=Z,45nm,19.2s,baz=326,slow=37
TCUT **Toone Canyon** 64.20 57 *e*P P 13 47 55.5 +1.2
comp=Z,81nm,1.6s
CTU **Camp Tracy** 64.29 57 *e*P P 13 47 55.7 +1.0
comp=Z,33nm,1.5s
EDW2 **Edwards Air Fo** 64.38 66 P P 13 47 55.7 +0.5
baz=311,SNR=11
PSUT **Pine Spring** 64.49 60 *e*P P 13 47 56.6 +0.5
comp=Z,5.2nm,0.8s
SFJD **Kangerlussuaq** 64.49 10 *e*P P 13 47 54.7 -0.6
comp=Z,15nm,0.8s
SFJD **Kangerlussuaq** 64.49 10 *i*P P 13 47 56.1 +0.8
comp=Z,14nm,0.8s
SFJD **Kangerlussuaq** 64.49 10 *i*P P 13 47 56.1 +0.8
SFJD pmax pmax
comp=Z,14nm,0.8s
JLU **Jordanelle** 64.52 57 *e*P P 13 47 57.4 +1.0
comp=Z,27nm,1.2s
DECC **Green Verdugo** 64.58 66 P P 13 47 56.7 +0.2
baz=311
NLU **North Lily Min** 64.59 58 *e*P P 13 47 57.5 +0.7
comp=Z,15nm,0.9s
MWC **Mount Wilson** 64.77 66 *e*P P 13 47 58.4 +0.5
comp=Z,44nm,1.4s
MWC **Mount Wilson** 64.77 66 *e*P P 13 47 58.4 +0.5
MWC pmax pmax
comp=Z,44nm,1.4s
MPU **Maple Canyon** 64.80 58 *e*P P 13 47 58.9 +0.8
comp=Z,48nm,1.5s
GSC **Goldstone, Bar** 64.84 65 *e*P P 13 47 58.8 +0.5
comp=Z,12nm,0.9s
GSC **Goldstone, Bar** 64.84 65 *e*P P 13 47 58.4 +0.5
GSC pmax pmax
comp=Z,12nm,0.9s
GSC **Goldstone, Bar** 64.84 65 P P 13 47 58.4 +0.2
baz=312,SNR=5.1
OBN **Obninsk** 64.96 326 *i*P P 13 47 56.9 -1.7
OBN **Obninsk** 64.96 326 *i*P P 13 47 56.9 -1.7
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,312nm,22.0s
BFSC **Mount Baldy Ra** 65.01 66 P P 13 47 59.5 +0.1
baz=312
SHPR **Sheep Range** 65.05 63 *e*P P 13 48 00.7 +1.0
comp=Z,28nm,1.4s
TUQ **Turquoise Moun** 65.29 64 P P 13 48 01.4 +0.2
baz=312
CCUT **Cedar City** 65.43 61 *e*P P 13 48 02.9 +0.7
comp=Z,27nm,1.3s
HEC **Hector,Ludlow** 65.44 65 P P 13 48 02.3 +0.2
baz=312
BBRC **Big Bear Solar** 65.45 66 P P 13 48 02.5 +0.1
baz=312
MSU **Marysvale** 65.49 59 *e*P P 13 48 03.5 +0.9
MSU **Marysvale** 65.49 59 *e*P P 13 48 03.5 +0.9
TMUT **Trail Mountain** 65.53 58 *e*P P 13 48 03.6 +0.7
comp=Z,29nm,1.4s
SZCU **Shurtz Canyon** 65.56 61 *e*P P 13 48 03.7 +0.6
comp=Z,60nm,1.9s
P17A **Butcher Ranch,** 65.68 58 *e*P P 13 48 04.5 +0.7
comp=Z,59nm,1.4s
VRH **Novokhopyorsk** 65.72 320 *e*P P 13 48 02.8 -0.7
VRH pmax pmax
comp=Z,20nm,0.6s
MURC **Murrieta** 65.72 66 P P 13 48 04.0 0.0
baz=312
MNSI **Mandailing Nat** 65.79 242 P P 13 48 04.0 -0.5
MTPU **Mount Pierson** 65.80 60 *e*P P 13 48 05.8 +1.0
comp=Z,11nm,0.8s
VSU **Vasula** 65.80 333 *i*P P 13 48 01.8 -2.1
VSU pmax pmax
comp=Z,32nm,0.9s
Q16A **Castle Valley** 65.80 58 *e*P P 13 48 05.3 +0.7
comp=Z,44nm,1.4s
MDND **Maddock** 65.84 45 *e*P P 13 48 05.5 +1.1
comp=Z,108nm,1.1s
MDND **Maddock** 65.84 45 P P 13 48 04.9 +0.4
baz=315
LCMT **Little Creek M** 65.86 61 *e*P P 13 48 05.7 +0.8
comp=Z,18nm,0.8s
ULM **Lac du Bonnet** 65.87 41 P P 13 48 04.5 -0.1
comp=Z,9.1nm,0.8s,baz=317,slow=7.9,SNR=15
ULM LR LR 14 17 08.9
comp=Z,173nm,21.9s,baz=272,slow=36
ULM **Lac du Bonnet** 65.87 41 *e*P P 13 48 04.3 -0.2
comp=Z,17nm,1.1s
ULM **Lac du Bonnet** 65.87 41 *e*P P 13 48 04.4 -0.1
ULM pmax pmax
comp=Z,17nm,1.1s
GMRC **Granite Mounta** 65.88 64 P P 13 48 05.4 +0.3
baz=312,SNR=9.9
LPSR **Galich'ya Gora** 65.88 323 *e*P P 13 48 03.5 -1.1
LPSR pmax pmax
comp=Z,20nm,0.7s
K22A **Casper** 65.89 53 *e*P P 13 48 05.3 +0.2
comp=Z,23nm,0.8s
K22A **Casper** 65.89 53 P P 13 48 05.2 +0.2
baz=313,SNR=14
LDFC **Landfair** 66.02 64 *e*P P 13 48 06.2 +0.3
comp=Z,114nm,1.5s
SRU **San Rafael Swe** 66.05 58 *e*P P 13 48 06.7 +0.6
comp=Z,34nm,1.0s
SRU **San Rafael Swe** 66.05 58 *e*P P 13 48 06.7 +0.6
SRU pmax pmax
comp=Z,35nm,1.0s
KNB **Kanab** 66.11 61 *e*P P 13 48 07.5 +1.0
comp=Z,40nm,1.2s
PKCU **Pink Cliffs** 66.12 60 *e*P P 13 48 07.8 +1.0
comp=Z,56nm,1.9s
RWWY **Rawlins** 66.17 54 *e*P P 13 48 07.5 +0.5
comp=Z,46nm,1.4s
PFO **Pinyon Flats O** 66.17 66 P P 13 48 06.8 -0.2
baz=312
BELC **Belle Mtn. Jos** 66.20 65 P P 13 48 06.8 -0.4
baz=312
RSSD **Black Hills** 66.21 50 *e*P P 13 48 07.4 +0.2
comp=Z,88nm,1.4s
RSSD **Black Hills** 66.21 50 *e*P P 13 48 07.4 +0.2
RSSD pmax pmax
comp=Z,88nm,1.4s
RSSD **Black Hills** 66.21 50 P P 13 48 07.3 +0.2
baz=314
GEYT **Alibeck** 66.53 301 P P 13 48 09.1 0.0
comp=Z,43nm,0.6s,baz=28,slow=3.5,SNR=37
GEYT LR LR 14 19 08.5
comp=Z,300nm,19.9s,baz=65,slow=38
GYA0B **ALIBECK ARRAY** 66.53 301 *e*P P 13 48 09.2 +0.1
comp=Z,14nm,0.8s
IRM **Iron Mountain** 66.62 65 P P 13 48 09.9 +0.2
baz=312,SNR=14
O20A **White River Ci** 66.65 56 *e*P P 13 48 10.2 +0.1
comp=Z,24nm,1.2s
O20A **White River Ci** 66.65 56 P P 13 48 10.1 +0.1
baz=313,SNR=8.5
W13A **Hualapai Mount** 66.75 63 *e*P P 13 48 11.0 +0.3
comp=Z,12nm,1.1s
BC3 **Big Chuckawall** 66.77 65 P P 13 48 10.7 0.0
baz=312
VSR **Storozhevoye** 66.81 321 *e*P P 13 48 09.0 -1.5
VSR pmax pmax
comp=Z,10.0nm,0.7s
U15A **North Rim** 66.82 61 *e*P P 13 48 11.9 +0.7
comp=Z,21nm,1.1s
IKP **In-Ko-Pah, Jac** 67.03 66 P P 13 48 12.3 -0.1
baz=313
MOL **Molde** 67.10 344 *e*P P 13 48 12.3 +0.1
PDMCI **Parker Dam,Lak** 67.13 64 P P 13 48 13.1 +0.2
baz=313,SNR=7.5
PV09 **Paradox Valley** 67.26 58 *e*P P 13 48 14.8 +0.8
HYB **Hyderabad** 67.27 271 *i*P P 13 48 13.0 -1.0
HYB *e* 13 48 32.0
HYB **Hyderabad** 67.27 271 *e*P P 13 48 13.7 -0.3
HYB IAmb IAmb 13 48 14.8
comp=Z,25nm,0.6s
Y12C **Blythe** 67.27 65 *e*P P 13 48 14.2 +0.4
comp=Z,54nm,1.6s
Y12C **Blythe** 67.27 65 P P 13 48 14.1 +0.4
baz=313,SNR=7.9
AGMN **Agassiz Nation** 67.28 43 *e*P P 13 48 13.4 -0.2
comp=Z,45nm,1.3s
AGMN **Agassiz Nation** 67.28 43 P P 13 48 13.4 -0.2
baz=317,SNR=8.4
DOMB **Dombas** 67.28 343 *e*P P 13 48 12.9 -0.5
PV21 **Cone Mtn., Par** 67.31 57 *e*P P 13 48 14.7 +0.5
comp=Z,73nm,1.6s
PV23 **Carpenter Ridg** 67.36 58 *e*P P 13 48 15.1 +0.5
comp=Z,71nm,1.5s
PHWY **Pilot Hill** 67.39 53 *e*P P 13 48 15.2 +0.4
comp=Z,15nm,1.4s
PV10 **Paradox Valley** 67.40 58 *e*P P 13 48 15.9 +1.1
N23A **Red Feather La** 67.41 54 *e*P P 13 48 15.7 +0.8
comp=Z,53nm,1.5s
N23A **Red Feather La** 67.41 54 P P 13 48 15.6 +0.8
baz=314,SNR=13
PV14 **Lion Creek, Pa** 67.41 58 *e*P P 13 48 15.3 +0.4
comp=Z,116nm,1.7s
PV17 **East Wray Mesa** 67.51 58 *e*P P 13 48 15.9 +0.4
comp=Z,156nm,1.5s
PV16 **Nyswonger Mesa** 67.51 58 *e*P P 13 48 16.0 +0.5
comp=Z,66nm,1.4s
NC303 **NORSAR Array S** 67.54 341 *e*P P 13 48 14.7 -0.3
PV11 **David Mesa, Pa** 67.55 58 *e*P P 13 48 16.2 +0.5
comp=Z,94nm,1.4s
GLA **Glamis** 67.56 65 *e*P P 13 48 16.1 +0.4
comp=Z,94nm,1.8s
GLA **Glamis** 67.56 65 P P 13 48 15.9 +0.3
baz=313,SNR=8.2
NC405 **NORSAR Array S** 67.56 341 *e*P P 13 48 15.0 -0.2
AKN **Aaknes** 67.56 344 *e*P P 13 48 16.0 +0.8
PV05 **Paradox Valley** 67.57 58 *e*P P 13 48 16.5 +0.6
PV12 **Saucer Basin,** 67.57 57 *e*P P 13 48 15.8 -0.1
comp=Z,112nm,1.7s
PV03 **Paradox Valley** 67.59 58 *e*P P 13 48 16.2 +0.2
NC204 **NORSAR Array S** 67.62 342 *e*P P 13 48 14.6 -1.0
PV13 **Radium Mtn., P** 67.67 58 *e*P P 13 48 16.9 +0.4
comp=Z,100nm,1.5s
PV02 **Paradox Valley** 67.69 58 *e*P P 13 48 17.4 +0.8
comp=Z,48nm,1.5s
NB201 **NORSAR Array S** 67.71 341 *e*P P 13 48 15.9 -0.2
NB2 **NORSAR Subarra** 67.73 341 P P 13 48 15.6 -0.7
comp=Z,38nm,0.7s,baz=27,slow=6.5
NB2 **NORSAR Subarra** 67.73 341 P P 13 48 15.6 -0.7
baz=27,slow=6.5
NOA **NORSAR Array B** 67.73 341 P P 13 48 16.1 -0.2
comp=Z,35nm,0.7s,baz=26,slow=6.4,SNR=240
NOA LR LR 14 22 26.1
comp=Z,187nm,18.8s,baz=10.0,slow=40
PV01 **Paradox Valley** 67.83 58 *e*P P 13 48 17.8 +0.3
NBO00 **NORSAR Array S** 67.84 341 *e*P P 13 48 16.9 0.0
NC602 **NORSAR Array S** 67.94 341 *e*P P 13 48 16.9 -0.5
NC602 **NORSAR Array S** 67.94 341 *e*P P 13 48 16.7 -0.8
WUAZ **Wupatki** 67.98 61 *e*P P 13 48 19.1 +0.7
comp=Z,66nm,1.8s
WUAZ **Wupatki** 67.98 61 P P 13 48 19.1 +0.7
baz=313,SNR=8.2
NAO01 **NORSAR Array S** 67.98 341 *e*P P 13 48 17.6 -0.2
SMCO **Snowmass** 68.02 56 *e*P P 13 48 19.3 +0.3
comp=Z,47nm,1.5s
Y14A **Wickenburg** 68.07 63 *e*P P 13 48 19.2 +0.3
comp=Z,32nm,1.4s
IDID **Didziasalis** 68.34 330 *e*P P 13 48 20.0 -0.1
IDID IAmb IAmb 13 48 22.2
comp=Z,6.0nm,0.6s
ISCO **Idaho Springs** 68.35 54 *e*P P 13 48 21.6 +0.8
comp=Z,64nm,1.6s
ISCO **Idaho Springs** 68.35 54 *e*P P 13 48 21.6 +0.8
ISCO pmax pmax
comp=Z,64nm,1.6s
ISCO **Idaho Springs** 68.35 54 P P 13 48 21.6 +0.8
baz=314,SNR=21
113A **Mohawk Valley,** 68.40 65 *e*P P 13 48 20.9 +0.1
comp=Z,20nm,1.4s
FOO **Floro** 68.46 344 *e*P P 13 48 20.8 +0.1
IIGN **Ignalina** 68.49 331 *e*P P 13 48 20.9 -0.1
IIGN IAmb IAmb 13 48 22.6
comp=Z,9.4nm,0.5s
MVCO **Mesa Verde** 68.51 58 *e*P P 13 48 22.1 +0.3
comp=Z,63nm,1.6s
MVCO **Mesa Verde** 68.51 58 P P 13 48 22.1 +0.3
baz=314,SNR=14
SUSD **Miller** 68.58 47 P P 13 48 21.6 -0.2
baz=316
HYA **Hoyanger** 68.65 344 *e*P P 13 48 22.0 +0.1
X16A **Lo Mia Camp, P** 68.69 62 *e*P P 13 48 23.8 +0.8
comp=Z,15nm,1.1s
OSL **Oslo** 68.83 341 *e*P P 13 48 23.5 +0.4
SUE **Sulen** 69.02 344 *e*P P 13 48 24.3 +0.1
S22A **4UR Ranch, Cre** 69.09 57 *e*P P 13 48 26.4 +0.9
comp=Z,37nm,1.4s
S22A **4UR Ranch, Cre** 69.09 57 P P 13 48 26.3 +0.9
baz=314,SNR=20
WRAB **Tennant Creek** 69.18 199 *e*P P 13 48 25.4 -0.2
comp=Z,11nm,1.0s
WRAB **Tennant Creek** 69.18 199 *i*P P 13 48 21.4 -4.2
WRAB pmax pmax
comp=Z,4.0nm,1.3s
WB2 **Warramunga Arr** 69.19 199 *e*P P 13 48 24.3 -1.4
MDRS **Chennai** 69.19 267 *e*P P 13 48 27.6 +1.6
Q24A **Divide** 69.19 55 *e*P P 13 48 26.4 +0.4
comp=Z,6.8nm,0.8s
Q24A **Divide** 69.19 55 P P 13 48 26.2 +0.2
baz=315
WRA **Warramunga Arr** 69.19 199 P P 13 48 25.2 -0.5
comp=Z,4.5nm,0.7s,baz=16,slow=6.4,SNR=35
WRA pP **pP** 13 48 43.5 +2.0
comp=Z,4.4nm,0.5s,baz=14,slow=6.7,SNR=7.4
WRA LR LR 14 16 10.8
comp=Z,41nm,21.2s,baz=10.0,slow=34
W18A **Petrified Fore** 69.23 61 P P 13 48 26.6 +0.3
baz=314
BHJ **Bhuj** 69.23 282 *e*P P 13 48 27.1 +0.9
KONO **Kongsberg** 69.34 341 *e*P P 13 48 26.4 +0.2
comp=Z,48nm,0.8s
KONO **Kongsberg** 69.34 341 *e*P P 13 48 26.4 +0.2
KONO pmax pmax
comp=Z,48nm,0.8s
KONO **Kongsberg** 69.34 341 *e*P P 13 48 26.5 +0.2
ASK **Askoy** 69.47 344 *e*P P 13 48 27.4 +0.4
X18A **Snowflake** 69.51 61 *e*P P 13 48 28.8 +0.8
comp=Z,60nm,1.8s
EYMN **Ely** 69.51 41 *e*P P 13 48 27.7 +0.1
comp=Z,29nm,1.1s
EYMN **Ely** 69.51 41 P P 13 48 27.3 -0.2
baz=319
BER **Bergen** 69.54 344 *e*P P 13 48 27.8 +0.4
214A **Organ Pipe Nat** 69.55 65 P P 13 48 28.3 +0.2
baz=314
GOF **Gofitskoye** 69.59 315 *e*P P 13 48 27.8 -0.2
POO **Poona** 69.68 276 *e*P P 13 48 29.1 0.0
POO IAmb IAmb 13 48 30.4
comp=Z,29nm,0.8s
ODD1 **Odda** 69.72 343 *e*P P 13 48 28.9 +0.3
SDCO **Great Sand Dun** 69.84 56 *e*P P 13 48 30.6 +0.5
comp=Z,48nm,1.9s
SDCO **Great Sand Dun** 69.84 56 P P 13 48 30.7 +0.5
baz=315,SNR=12
DZM **Mont Dzumac** 70.09 167 *e*LR LR 14 09 50.4
comp=Z,370nm,26.4s
BLS5 **Blasjo** 70.21 343 *e*P P 13 48 32.0 +0.4
ECSD **EROS Data Cent** 70.25 46 *e*P P 13 48 32.0 -0.1
comp=Z,73nm,1.3s
ECSD **EROS Data Cent** 70.25 46 P P 13 48 32.0 -0.1
baz=317,SNR=32
LGD **Lagodekhi** 70.34 311 P P 13 48 32.5 -0.2
LGD **Lagodekhi** 70.34 311 *e*P P 13 48 32.5 -0.2
IVI **Ivigtut** 70.37 11 *e*P P 13 48 34.7 +2.2
comp=Z,38nm,0.6s
NCK **Nalchik** 70.47 313 *i*P P 13 48 30.5 -3.0
NCK pmax pmax
comp=Z,25nm,0.8s
E38A **The Farm, Brul** 70.50 42 *e*P P 13 48 33.6 0.0
comp=Z,73nm,1.3s
E38A **The Farm, Brul** 70.50 42 P P 13 48 33.3 -0.3
baz=319
TUC **Tucson** 70.54 63 *e*P P 13 48 34.1 -0.1
comp=Z,23nm,1.5s
TUC **Tucson** 70.54 63 *e*P P 13 48 34.1 -0.1
TUC pmax pmax
comp=Z,23nm,1.5s
TUC **Tucson** 70.54 63 P P 13 48 34.5 +0.3
baz=314
KSCO **Kaye Shedlock'** 70.54 53 *e*P P 13 48 35.2 +1.0
comp=Z,44nm,1.4s
KSCO **Kaye Shedlock'** 70.54 53 P P 13 48 34.1 0.0
baz=316
KIV **Kislovodsk** 70.57 314 *e*P P 13 48 35.2 +1.0
comp=Z,25nm,0.8s
KIV **Kislovodsk** 70.57 314 *e*P P 13 48 32.7 -1.5
KIV pmax pmax
comp=Z,31nm,1.0s
KIV MLR MLR
comp=Z,289nm,18.0s
KBZ **Khabaz** 70.64 314 P P 13 48 34.5 0.0
comp=Z,19nm,0.9s,baz=57,slow=5.6,SNR=33
KBZ LR LR 14 23 27.5
comp=Z,382nm,19.5s,baz=34,slow=39
KMY **Karmoy** 70.64 343 *e*P P 13 48 34.3 +0.1
F37A **Hinrichs Farm,** 70.68 43 P P 13 48 34.5 -0.2
baz=319
GUDG **Gudauri** 70.78 312 P P 13 48 37.1 +1.5
ZEI **Tsey** 70.83 313 *e*P P 13 48 33.8 -2.2
ZEI pmax pmax
comp=Z,12nm,0.6s
HOMB **Homborsund** 70.83 341 *e*P P 13 48 35.2 -0.2
F38A **Pierce - Schro** 70.84 42 P P 13 48 36.0 +0.3
baz=319,SNR=10
T25A **Trinidad** 70.89 56 *e*P P 13 48 36.7 +0.3
comp=Z,50nm,1.5s
T25A **Trinidad** 70.89 56 P P 13 48 36.7 +0.3
baz=316,SNR=8.4
SPMN **Marine on St.** 70.97 43 *e*P P 13 48 36.8 +0.3
comp=Z,44nm,1.1s
SPMN **Marine on St.** 70.97 43 P P 13 48 36.2 -0.2
baz=319,SNR=6.1
SNART **Snartemo** 71.05 342 *e*P P 13 48 37.2 +0.5
NEY **Neytrino** 71.08 314 *i*P P 13 48 33.4 -4.0
E39A **Mellen** 71.12 41 P P 13 48 36.9 -0.5
baz=320,SNR=6.0
BGNE **Belgrade** 71.18 49 P P 13 48 37.4 -0.5
baz=317
TBLG **Delisi** 71.19 312 P P 13 48 38.8 +0.9
TBLG **Delisi** 71.19 312 *e*P P 13 48 38.6 +0.7
comp=Z,34nm,0.7s
TBLG **Delisi** 71.19 312 *e*P P 13 48 38.8 +0.9
AKASG **Malin Array Be** 71.19 326 P P 13 48 37.1 -0.5
comp=Z,21nm,0.5s,baz=34,slow=6.2,SNR=36
AKASG pP **pP** 13 48 55.0 +1.3
comp=Z,3.7nm,0.5s,baz=35,slow=6.1,SNR=2.5
AKASG LR LR 14 21 52.4
comp=Z,286nm,20.1s,baz=30,slow=38
AKASG **Malin Array Be** 71.19 326 P P 13 48 37.2 -0.5
AKASG *PP **pP** 13 48 55.0 +1.3
AKASG pmax pmax
comp=Z,20nm,0.5s
AKASG MLR MLR
comp=Z,286nm,20.1s
AKBB **Malin Array Si** 71.19 326 *e*P P 13 48 36.6 -1.1
comp=Z,21nm,0.7s
KIEV **Kiev** 71.20 326 *e*P P 13 48 36.5 -1.2
comp=Z,20nm,0.7s
KIEV **Kiev** 71.20 326 *i*P P 13 48 36.9 -0.9
KIEV **Kiev** 71.20 326 *i*P P 13 48 36.9 -0.9
SNR=20
KIEV **Kiev** 71.20 326 *e*P P 13 48 36.5 -1.2
KIEV pmax pmax
comp=Z,20nm,0.7s
AK11 **Malin Array Si** 71.23 326 *e*P P 13 48 37.0 -1.0
LAZ **Ladron** 71.25 59 *e*P P 13 48 39.5 +0.8
ANMO **Albuquerque** 71.27 59 *e*P P 13 48 39.2 +0.5
comp=Z,8.1nm,0.9s
ANMO **Albuquerque** 71.27 59 *e*P P 13 48 39.2 +0.5
ANMO pmax pmax
comp=Z,8.0nm,0.9s
ANMO **Albuquerque** 71.27 59 P P 13 48 39.2 +0.5
baz=315
F39A **Loretta** 71.31 42 P P 13 48 38.4 -0.1
baz=320,SNR=7.7
G38A **Ridgeland** 71.45 43 P P 13 48 38.8 -0.6
baz=320,SNR=7.8
D41A **Chassel** 71.47 40 P P 13 48 39.5 0.0
baz=321
LENM **Lemitar** 71.52 60 *e*P P 13 48 40.9 +0.7
H38A **Maiden Rock** 71.63 43 P P 13 48 40.3 -0.2
baz=319
F40A **Park Falls** 71.67 41 P P 13 48 40.2 -0.5
baz=320
G39A **Holcombe** 71.68 42 P P 13 48 40.2 -0.6
baz=320,SNR=5.1

BNM **Barren Site** 71.73 59 *e*P P 13 48 42.5 +1.0
E41A **Kenton** 71.76 40 P P 13 48 41.0 -0.2
baz=321
GOA **Goa** 71.83 273 *e*P P 13 48 42.2 +0.2
GOA IAmb IAmb 13 48 44.0
comp=Z,24nm,0.5s
BSD **Bornholm Skovb** 72.11 336 *i* P P 13 48 42.9 -0.2
comp=Z,49nm,0.7s
BSD **Bornholm Skovb** 72.11 336 *i* P P 13 48 42.9 -0.2
BSD pmax pmax
comp=Z,49nm,0.7s
G40A **Rib Lake** 72.13 42 *e*P P 13 48 43.5 0.0
comp=Z,23nm,1.1s
G40A **Rib Lake** 72.13 42 P P 13 48 43.1 -0.4
baz=320
121A **Cookes Peak, D** 72.19 61 P P 13 48 44.9 +0.7
baz=315,SNR=5.8
E42A **Champion** 72.25 40 P P 13 48 44.2 0.0
baz=321,SNR=6.4
CBKS **Cedar Bluff** 72.25 52 P P 13 48 43.7 -0.6
baz=317
COP **Copenhagen** 72.25 338 *i* P P 13 48 44.2 +0.3
comp=Z,67nm,0.7s
COP **Copenhagen** 72.25 338 *i* P P 13 48 44.2 +0.3
COP pmax pmax
comp=Z,67nm,0.7s
F41A **Three Lakes** 72.26 41 *e*P P 13 48 44.3 0.0
comp=Z,39nm,1.0s
F41A **Three Lakes** 72.26 41 P P 13 48 44.0 -0.2
baz=321,SNR=5.2
SOC **Sochi** 72.28 316 *e*P P 13 48 42.5 -1.8
SOC *e* 13 51 34.1
SOC *e*S S 13 57 50.5 -12
SOC pmax pmax
comp=Z,54nm,0.9s
MUD **Monsted U'grnd** 72.34 340 *i* P P 13 48 44.6 +0.1
comp=Z,32nm,0.7s
MUD **Monsted U'grnd** 72.34 340 *i* P P 13 48 44.6 +0.1
MUD pmax pmax
comp=Z,32nm,0.7s
GNI **Garni** 72.35 310 *e*P P 13 48 46.4 +1.3
comp=Z,16nm,0.9s
GNI **Garni** 72.35 310 *i* P P 13 48 44.0 -1.1
GNI pmax pmax
comp=Z,63nm,0.9s
ANN **Anapa** 72.41 318 *e*P P 13 48 43.9 -1.2
ANN *e**PP sP 13 49 07.3 -0.3
ANN *e*S S 13 57 59.9 -4.0
ANN pmax pmax
comp=Z,169nm,1.8s
EIDS **Eidsvold** 72.43 182 *e*P P 13 48 45.8 +0.5
comp=Z,52nm,1.5s
H40A **Chili** 72.54 42 P P 13 48 45.7 -0.3
baz=320,SNR=6.0
I39A **Houston** 72.61 43 *e*P P 13 48 45.8 -0.6
comp=Z,86nm,1.3s
I39A **Houston** 72.61 43 P P 13 48 45.6 -0.7
baz=320,SNR=11
SCHQ **Schefferville** 72.63 23 P P 13 48 47.0 +0.7
comp=Z,12nm,0.8s,baz=351,slow=7.0,SNR=9.3
SCHQ LR LR 14 26 51.9
comp=Z,124nm,18.9s,baz=336,slow=41
E43A **Lone Tree Farm** 72.68 39 P P 13 48 46.3 -0.4
baz=322
AS01 **Alice Springs** 72.87 199 *e*P P 13 48 48.8 +0.8
H41A **Junction City** 72.88 42 *e*P P 13 48 47.5 -0.4
comp=Z,53nm,1.3s
H41A **Junction City** 72.88 42 P P 13 48 47.4 -0.6
baz=321
AS31 **Alice Springs** 72.88 199 *e*P P 13 48 48.6 +0.6
comp=Z,6.0nm,0.6s
ASAR **Alice Springs** 72.88 199 P P 13 48 48.6 +0.6
comp=Z,17nm,0.8s,baz=9.2,slow=5.3,SNR=138
ASAR pP **pP** 13 49 05.0 +1.1
comp=Z,10nm,0.6s,baz=13,slow=5.5,SNR=10.0
J39A **Decorah** 72.92 44 P P 13 48 47.3 -0.9
baz=320,SNR=12
G42A **Mountain** 72.95 41 P P 13 48 48.2 -0.1
baz=321
I40A **Norwalk** 73.00 43 P P 13 48 48.1 -0.5
baz=320,SNR=7.5
GKP **Gorka Klasztor** 73.07 334 *e*P P 13 48 48.8 0.0
GKP **Gorka Klasztor** 73.07 334 *e*P P 13 48 48.8 0.0
BEL **Belsk** 73.21 332 *e*P P 13 48 49.9 +0.2
BEL **Belsk** 73.21 332 *e*P P 13 48 49.9 +0.2
I41A **Arkdale** 73.21 42 *e*P P 13 48 49.9 0.0
comp=Z,48nm,1.3s
G43A **Wallace** 73.26 40 *e*P P 13 48 50.5 +0.3
comp=Z,89nm,1.4s
G43A **Wallace** 73.26 40 P P 13 48 49.9 -0.2
baz=322
SCIA **State Center** 73.28 46 *e*P P 13 48 50.9 +0.5
comp=Z,253nm,1.5s
SCIA **State Center** 73.28 46 P P 13 48 50.4 0.0
baz=320,SNR=6.1
K39A **Oelwein** 73.31 44 P P 13 48 49.4 -1.2
baz=320,SNR=7.5
J40A **Soldiers Grove** 73.32 43 P P 13 48 49.7 -0.9
baz=320
D46A **Sault St. Mari** 73.52 37 P P 13 48 50.8 -0.8
baz=323
K40A **Colesburg** 73.67 44 P P 13 48 51.9 -0.7
baz=320,SNR=9.3
KSU1 **Kansas State U** 73.68 50 *e*P P 13 48 52.0 -0.7
comp=Z,31nm,1.4s
KSU1 **Kansas State U** 73.68 50 P P 13 48 51.6 -1.1
baz=318
J41A **Loganville** 73.68 43 P P 13 48 52.0 -0.7
baz=321,SNR=6.4
L39A **Vinton** 73.70 45 P P 13 48 52.5 -0.3
baz=320,SNR=14
I42A **Draeger Farm,** 73.78 42 P P 13 48 52.8 -0.4
baz=321
LVV **L'vov** 73.82 329 *e*P P 13 48 53.4 +0.1
JFWS **Jewell Farm** 73.92 43 *e*P P 13 48 53.6 -0.5
comp=Z,44nm,1.4s
JFWS **Jewell Farm** 73.92 43 *e*P P 13 48 53.6 -0.5
JFWS pmax pmax
comp=Z,44nm,1.4s
JFWS **Jewell Farm** 73.92 43 P P 13 48 53.2 -0.9
baz=321
MDO **Dochfour** 73.95 348 *e*P P 13 48 54.1 +0.1
KAC **Achnashellach** 74.03 348 *e*P P 13 48 54.8 +0.4
AMTX **Amarillo** 74.04 56 *e*P P 13 48 54.8 -0.3
comp=Z,36nm,1.0s
AMTX **Amarillo** 74.04 56 P P 13 48 55.3 +0.3
baz=317
MSTX **Muleshoe** 74.09 57 *e*P P 13 48 55.8 +0.4
comp=Z,32nm,1.3s
MSTX **Muleshoe** 74.09 57 P P 13 48 55.5 +0.1
baz=317,SNR=7.8
M39A **Webster** 74.11 45 P P 13 48 54.7 -0.5
baz=320,SNR=10
F46A **Macinaw City C** 74.11 38 P P 13 48 54.9 -0.2
baz=323
L40A **Anamosa** 74.12 44 *e*P P 13 48 54.7 -0.6
comp=Z,64nm,1.2s
L40A **Anamosa** 74.12 44 P P 13 48 54.4 -0.9
baz=320,SNR=9.4
J42A **Columbus** 74.13 42 P P 13 48 54.6 -0.7
baz=321,SNR=6.3
K41A **Shullsburg** 74.13 44 P P 13 48 54.4 -0.9
baz=321,SNR=8.7
E47A **Iron Bridge** 74.18 37 P P 13 48 54.7 -0.8
baz=324
MNTX **Cornudas Mount** 74.21 60 *e*P P 13 48 56.2 +0.2
comp=Z,21nm,1.3s
MNTX **Cornudas Mount** 74.21 60 P P 13 48 56.2 +0.2
baz=316,SNR=11
KPL **Plockton** 74.23 348 *e*P P 13 48 55.5 -0.1
D49A **Beulah Townshi** 74.29 35 P P 13 48 55.9 -0.2
baz=325
BSEG **Bad Segeberg** 74.36 338 *e*P P 13 48 56.9 +0.5
comp=Z,21nm,0.8s,baz=26,slow=5.8
MILM **Milestii Mici** 74.42 324 ⇑*i*P P 13 48 56.4 -0.5
KWP **Kalwaria Pacla** 74.44 329 *e*P P 13 48 57.3 +0.3
KWP **Kalwaria Pacla** 74.44 329 *e*P P 13 48 57.3 +0.3
K42A **Prairie Point,** 74.45 43 P P 13 48 56.2 -0.9
baz=321,SNR=5.5
L41A **Preston** 74.45 44 P P 13 48 56.4 -0.8
baz=321,SNR=6.9
M40A **Post Highland** 74.48 45 P P 13 48 56.9 -0.5
baz=320,SNR=12
CHGQ **Chibougamau** 74.64 30 P P 13 48 57.6 -0.5
baz=329,SNR=6.1
TRD **Trivandrum** 74.69 266 *e*P P 13 48 58.8 -0.2
RUE **Ruedersdorf** 74.75 336 *e*P P 13 48 59.0 +0.3
comp=Z,51nm,0.7s,baz=26,slow=5.8
RUE **Ruedersdorf** 74.75 336 *e*P P 13 48 58.7 0.0
RUE IAmb IAmb 13 48 59.5
comp=Z,64nm,0.8s
N40A **Mertquake, Sal** 74.85 45 P P 13 48 59.3 -0.3
baz=320,SNR=9.1
INVG **Invergeldie, C** 74.89 347 *e*P P 13 48 59.2 -0.2
INVG IAmb IAmb 13 49 00.7
comp=Z,17nm,0.7s
L42A **Oliver, Polo** 74.90 44 *e*P P 13 48 59.4 -0.4
comp=Z,46nm,1.1s
L42A **Oliver, Polo** 74.90 44 P P 13 48 59.0 -0.8
baz=321
H46A **Fife Lake** 74.91 39 P P 13 48 59.6 -0.2
baz=323,SNR=6.7
OJC **Ojcow** 74.92 331 *e*P P 13 48 59.7 0.0
OJC **Ojcow** 74.92 331 *e*P P 13 48 59.6 -0.1
comp=Z,37nm,0.7s
OJC **Ojcow** 74.92 331 *e*P P 13 48 59.7 0.0
OJC **Ojcow** 74.92 331 *e*P P 13 48 59.7 0.0
D50A **G1974 Best Tow** 74.96 35 P P 13 48 59.0 -1.1
baz=326
M41A **Milan** 74.97 44 P P 13 48 59.6 -0.6
baz=321,SNR=6.3
VLDQ **Val d'Or** 75.07 33 *e*P P 13 48 59.1 -1.5
comp=Z,29nm,1.0s
ESY **Stoneypath** 75.16 346 *e*P P 13 49 01.7 +0.7
EAB **Aberfoyle** 75.16 347 *e*P P 13 49 01.3 +0.3
L43A **Garden Prairie** 75.19 43 P P 13 49 00.6 -0.8
baz=322
D51A **Lot 18 Range I** 75.21 34 P P 13 49 00.3 -1.2
baz=326
BUR08 **Bucovina Ar. S** 75.21 327 *e*P P 13 49 01.7 +0.1
BUR04 **Bucovina Ar. S** 75.23 327 *e*P P 13 49 01.8 +0.1
BURAR **Bucovina Array** 75.23 327 ⇓*i*P P 13 49 01.2 -0.5
LAWE **Loch Awe, Argy** 75.25 348 *e*P P 13 49 02.0 +0.5
LAWE IAmb IAmb 13 49 06.1
comp=Z,47nm,1.2s
N41A **Harden Midland** 75.34 45 *e*P P 13 49 02.2 -0.1
comp=Z,120nm,1.3s
N41A **Harden Midland** 75.34 45 P P 13 49 02.0 -0.4
baz=321,SNR=7.4
BIR **Birlad** 75.42 325 ⇑*i*P P 13 49 03.5 +0.8
UZH **Uzhgorod** 75.43 329 *e*P P 13 49 03.6 +0.9
UZH **Uzhgorod** 75.43 329 *e*P P 13 49 03.6 +0.9
UZH *e* 13 49 12.0
UZH *i* 13 49 25.2
NIE **Niedzica** 75.44 331 *e*P P 13 49 03.1 +0.3
NIE **Niedzica** 75.44 331 *e*P P 13 49 03.1 +0.3
BIZ **Bicaz** 75.46 326 ⇑*i*P P 13 49 03.3 +0.4
KSP **Ksiaz** 75.48 334 *e*P P 13 49 03.0 +0.1
KSP **Ksiaz** 75.48 334 *e*P P 13 49 03.0 +0.1
PGBU **Glenifferbraes** 75.55 347 *e*P P 13 49 03.9 +0.7
PGBU IAmb IAmb 13 49 05.0
comp=Z,37nm,0.6s
E51A **G1948 Merrick** 75.62 35 P P 13 49 02.7 -1.2
baz=326
N42A **Yates City** 75.64 45 P P 13 49 03.6 -0.5
baz=321,SNR=6.4
D52A **ZEK Kipawa Sen** 75.67 34 P P 13 49 03.2 -0.9
baz=327
J46A **Howard City** 75.67 40 P P 13 49 03.9 -0.2
baz=323
M43A **Waltham Townsh** 75.67 43 P P 13 49 04.0 -0.2
baz=322
NRDL **Niedersach Rie** 75.72 338 *e*P P 13 49 04.6 +0.4
comp=Z,17nm,0.8s,baz=26,slow=5.8
WMOK **Wichita Mounta** 75.76 54 P P 13 49 04.6 -0.3
baz=318
TRPA **Tarpa** 75.77 329 ⇓*i*P P 13 49 04.6 0.0
TRPA **Tarpa** 75.77 329 ⇓*e*P P 13 49 04.1 -0.5
OKC **Ostrava-Krasne** 75.78 332 *e*P P 13 49 05.1 +0.4
OKC **Ostrava-Krasne** 75.78 332 *e*P P 13 49 05.1 +0.4
O41A **Passleys Farm,** 75.78 46 P P 13 49 04.6 -0.3
baz=321,SNR=13
ESK **Eskdalemuir** 75.83 347 *e*P P 13 49 05.6 +0.8
D53A **Lac Vacive, Po** 75.85 33 P P 13 49 04.4 -0.8
baz=327
UPC **Upice** 75.86 334 *e*P P 13 49 05.4 +0.3
UPC **Upice** 75.86 334 *e*P P 13 49 05.4 +0.3
DPC **Dobruska-Polom** 75.90 333 *e*P P 13 49 05.9 +0.5
DPC AMS AMS 14 27 10.0
comp=Z,400nm,16.7s
DPC **Dobruska-Polom** 75.90 333 *e*P P 13 49 05.9 +0.5
DPC MLR MLR
comp=Z,400nm,16.7s
ASSE **Asse, Remlinge** 75.91 337 *e*P P 13 49 05.7 +0.4
comp=Z,17nm,0.8s,baz=26,slow=5.8
LANS **Liptovska Anna** 75.95 331 *e*P P 13 49 06.5 +0.8
LANS **Liptovska Anna** 75.95 331 *e*P P 13 49 06.5 +0.8
N43A **Stutzman Famil** 75.96 44 P P 13 49 05.4 -0.5
baz=322
ARCR **ARCALIA** 75.99 327 ⇑*i*P P 13 49 07.1 +1.1
KRLC **Kraliky** 76.00 333 *e*P P 13 49 06.5 +0.5
KRLC **Kraliky** 76.00 333 *e*P P 13 49 06.5 +0.5
BANOM **Banah** 76.00 293 *i*P P 13 49 06.8 +0.4
SNR=10.0
SHME **Shamm** 76.01 293 P P 13 49 06.1 -0.3
CLL **Collm** 76.02 336 *e*P P 13 49 06.1 +0.1
comp=Z,78nm,0.7s
CLL **Collm** 76.02 336 *e*P P 13 49 05.9 -0.1
comp=Z,72nm,0.7s,baz=26,slow=5.8
CLL **Collm** 76.02 336 ⇓*i*P P 13 49 05.6 -0.4
comp=Z,90nm,0.7s
CLL *e*pP **pwP** 13 49 24.0 -1.1
CLL *e*sP **sP** 13 49 35.0 +6.4
CLL *e*S **S** 13 58 36.0 -8.1
CLL *e*PS **PnS** 13 59 30.0 +2.2
CLL *e* 14 04 30.0
CLL *e*SSS SSS 14 06 48.0
CLL **Collm** 76.02 336 ⇓*i*P P 13 49 05.6 -0.4
CLL **Collm** 76.02 336 ⇓*i*P P 13 49 05.6 -0.4
CLL *e**PP **pwP** 13 49 24.0 -1.1
CLL *e*S S 13 58 33.0 -11
CLL pmax pmax
comp=Z,90nm,0.7s
MORC **Moravsky Berou** 76.03 332 *e*P P 13 49 06.3 +0.2
comp=Z,32nm,0.7s
MORC **Moravsky Berou** 76.03 332 ⇓*i*P P 13 49 06.1 0.0
MORC **Moravsky Berou** 76.03 332 *e*P P 13 49 06.3 +0.2
MORC pmax pmax
comp=Z,32nm,0.7s
MORC **Moravsky Berou** 76.03 332 *e*P P 13 49 06.3 +0.2
P41A **Barry, Barry** 76.04 46 P P 13 49 06.0 -0.3
baz=321,SNR=10
VRI **Vrincioaia** 76.11 325 ⇑*i*P P 13 49 07.2 +0.6
CFR **Carcaliu** 76.11 324 ⇑*i*P P 13 49 06.1 -0.5
J47A **Sunmer** 76.11 40 P P 13 49 06.9 +0.2
baz=324,SNR=6.1
K46A **Dorr** 76.13 41 P P 13 49 06.3 -0.5
baz=323
M44A **Midewin, Midew** 76.14 43 *e*P P 13 49 06.8 -0.1
comp=Z,52nm,1.3s
M44A **Midewin, Midew** 76.14 43 P P 13 49 06.4 -0.5
baz=322
BRG **Berggiesshubel** 76.14 335 *i*P P 13 49 06.4 -0.3
comp=Z,19nm,0.8s
BRG **Berggiesshubel** 76.14 335 *e*P P 13 49 06.6 -0.1
comp=Z,15nm,0.7s,baz=26,slow=5.8
BRG **Berggiesshubel** 76.14 335 *i*P P 13 49 06.4 -0.3
BRG pmax pmax
comp=Z,19nm,0.8s
PLOR **Plostina** 76.15 325 ⇑*i*P P 13 49 06.7 -0.2
E52A **Mamawa** 76.15 34 P P 13 49 05.8 -1.0
baz=327
HDIL **Hopedale** 76.20 44 *e*P P 13 49 07.1 -0.2
comp=Z,124nm,1.3s
HDIL **Hopedale** 76.20 44 P P 13 49 06.9 -0.3
baz=322,SNR=10
CLZ **Clausthal** 76.25 337 *e*P P 13 49 08.0 +0.7
baz=26,slow=5.8
FBE **Freiberg** 76.27 335 *e*P P 13 49 07.7 +0.3
comp=Z,32nm,0.7s,baz=26,slow=5.8
PVCC **Panska Ves** 76.27 334 *e*P P 13 49 07.8 +0.4
PVCC **Panska Ves** 76.27 334 *e*P P 13 49 07.8 +0.4
O43A **Sugar Creek Fa** 76.41 44 P P 13 49 07.9 -0.5
baz=322
NEUB **Neuenburg** 76.45 336 *e*P P 13 49 08.5 +0.1
comp=Z,28nm,0.7s,baz=26,slow=5.8
E53A **Dumoine, Ponti** 76.45 34 P P 13 49 08.1 -0.4
baz=327
MDH **Madha** 76.45 293 P P 13 49 09.1 +0.2
P42A **Winchester** 76.46 46 *e*P P 13 49 08.5 -0.2
comp=Z,32nm,1.0s
P42A **Winchester** 76.46 46 P P 13 49 08.3 -0.4
baz=321,SNR=9.4
IBBN **Ibbenburen** 76.48 339 *e*P P 13 49 09.1 +0.6
comp=Z,29nm,0.7s,baz=26,slow=5.8
CLGH **Cloghs, Cushen** 76.49 348 *e*P P 13 49 09.2 +0.7
K47A **Vermontville** 76.49 40 P P 13 49 08.5 -0.3
baz=324
MSFE **Esma-Masafi** 76.50 293 P P 13 49 09.4 +0.2
TUL1 **Leonard** 76.50 51 *e*P P 13 49 09.0 -0.1
comp=Z,99nm,1.8s
TUL1 **Leonard** 76.50 51 P P 13 49 08.8 -0.2
baz=319,SNR=5.8
Q41A **Truxton** 76.51 46 P P 13 49 08.8 -0.3
baz=321,SNR=17
N44A **Piper City** 76.56 43 P P 13 49 09.0 -0.3
baz=322
CJR **Cluj-Napoca** 76.59 327 ⇑*i*P P 13 49 09.6 +0.2
GTTG **Gvttingen** 76.62 338 *e*P P 13 49 09.9 +0.5
comp=Z,27nm,0.7s,baz=25,slow=5.8
PRA **Prague** 76.72 334 *e*P P 13 49 10.5 +0.5
PRA **Prague** 76.72 334 *e*P P 13 49 10.5 +0.5
VYHS **Vyhne** 76.73 331 *e*P P 13 49 10.6 +0.5
VYHS pmax pmax
comp=Z,11nm,0.7s
VYHS **Vyhne** 76.73 331 *e*P P 13 49 10.6 +0.5
VRAC **Vranov** 76.73 333 ⇑*i*P P 13 49 10.5 +0.3
VRAC **Vranov** 76.73 333 *e*P P 13 49 10.4 +0.3
J49A **Marlette** 76.74 39 P P 13 49 10.1 -0.2
baz=324
GOPC **GO Pecny, Ondr** 76.75 334 *e*P P 13 49 10.6 +0.4
GOPC **GO Pecny, Ondr** 76.75 334 *e*P P 13 49 10.6 +0.4
PRU **Pruhonice** 76.76 334 *e*P P 13 49 10.8 +0.6
PRU **Pruhonice** 76.76 334 *e*P P 13 49 10.8 +0.6
PRU **Pruhonice** 76.76 334 *e*P P 13 49 10.8 +0.6
UOSS **Minazif** 76.77 292 *e*P P 13 49 10.9 +0.2
comp=Z,64nm,0.8s
MDB **Medias** 76.78 326 ⇓*i*P P 13 49 11.2 +0.8
JAVC **Velka Javorina** 76.79 332 *e*P P 13 49 11.6 +1.1
ISR **Istrita** 76.80 324 ⇑*i*P P 13 49 11.1 +0.5
N45A **Kentland** 76.81 43 P P 13 49 10.5 -0.2
baz=322
P43A **Skaggs, Pawnee** 76.81 45 P P 13 49 10.1 -0.6
baz=322
DRGR 76.84 328 ⇓*i*P P 13 49 10.6 -0.3
ABTX **Abilene, Hawle** 76.85 56 *e*P P 13 49 11.2 +0.1
comp=Z,45nm,1.5s
ABTX **Abilene, Hawle** 76.85 56 P P 13 49 10.9 -0.2
baz=318,SNR=7.4
PSZ **Piszkesteto** 76.87 330 *e*P P 13 49 11.3 +0.3
comp=Z,16nm,0.7s
PSZ **Piszkesteto** 76.87 330 ⇑*i*P P 13 49 11.1 +0.1
PSZ **Piszkesteto** 76.87 330 ⇓*e*P P 13 49 11.0 +0.1
Q42A **Golden Eagle** 76.89 46 P P 13 49 11.1 0.0
baz=321,SNR=11
HATD **Hatta, Dubai** 76.90 292 *i*P P 13 49 11.9 +0.5
SNR=19
HATD **Hatta, Dubai** 76.90 292 P P 13 49 11.7 +0.2
SNR=5.2
O44A **Mansfield** 76.91 44 P P 13 49 10.7 -0.6
baz=322
TX31 **Lajitas Ar. Si** 76.94 61 *e*P P 13 49 12.0 +0.3
TXAR **Lajitas Array** 76.94 61 P P 13 49 11.9 +0.2
comp=Z,11nm,0.6s,baz=299,slow=4.7,SNR=182
R41A **Rosebud** 76.95 47 P P 13 49 11.1 -0.4
baz=321,SNR=7.9
L47A **Sherwood** 76.96 41 P P 13 49 11.1 -0.4
baz=324
TANN **Tannenbergstha** 76.97 336 *e*P P 13 49 11.7 +0.2
comp=Z,16nm,0.7s,baz=26,slow=5.8
MOX **Moxa** 77.00 336 *e*P P 13 49 11.9 +0.3
comp=Z,21nm,0.7s,baz=26,slow=5.8
MOX *e*L L 14 25 39.8
comp=Z,161nm,20.0s
KRUC **Moravsky** 77.01 333 *e*P P 13 49 11.8 +0.1
WTSB **Winterswijk** 77.02 340 *e*P P 13 49 12.0 +0.3
comp=Z,66nm,0.6s
ASHO **Ashiyiah** 77.05 292 *i*P P 13 49 12.7 +0.4
SNR=10
ASHO **Ashiyiah** 77.05 292 P P 13 49 11.7 -0.6
SNR=5.2
GUNZ **Gunzen** 77.06 336 *e*P P 13 49 12.3 +0.4
comp=Z,22nm,0.7s,baz=26,slow=5.8
NAZ **Nazwa, Dubai** 77.08 293 *i*P P 13 49 12.6 +0.2
SNR=6.7
TREC **Trest** 77.09 333 *e*P P 13 49 12.5 +0.4
TREC **Trest** 77.09 333 *e*P P 13 49 12.5 +0.4
WERN **Wernitzgruen** 77.11 336 *e*P P 13 49 12.7 +0.5
comp=Z,32nm,0.7s,baz=26,slow=5.8
G53A **Haliburton** 77.13 35 P P 13 49 11.9 -0.5
baz=327
NKC **Novy Kostel** 77.14 336 *e*P P 13 49 12.8 +0.4
NKC **Novy Kostel** 77.14 336 *e*P P 13 49 12.8 +0.4
SMOL **Smolenice** 77.17 332 *e*P P 13 49 13.8 +1.2
SMOL **Smolenice** 77.17 332 *e*P P 13 49 13.8 +1.2
O45A **Potomac** 77.19 43 P P 13 49 12.6 -0.1
baz=322,SNR=5.3
HHAR **Hobbs** 77.19 50 *e*P P 13 49 12.3 -0.6
comp=Z,46nm,1.5s
CCM **Cathedral Cave** 77.20 47 *e*P P 13 49 10.9 -2.0
comp=Z,253nm,1.5s
CCM **Cathedral Cave** 77.20 47 *e*P P 13 49 10.9 -2.0
CCM pmax pmax
comp=Z,253nm,1.5s
CCM **Cathedral Cave** 77.20 47 P P 13 49 12.5 -0.5
baz=321
R42A **Luebbering** 77.25 47 P P 13 49 12.9 -0.3
baz=321,SNR=5.8
M47A **Cromwell** 77.27 41 P P 13 49 13.1 -0.1
baz=323
Q43A **New Douglas** 77.27 46 P P 13 49 12.9 -0.4
baz=322
SULR 77.28 324 ⇓*i*P P 13 49 13.7 +0.5
FAQ **Al Faqa, Dubai** 77.29 293 *i*P P 13 49 14.1 +0.5
SNR=16
S41A **Jillco Farms,** 77.31 48 P P 13 49 12.7 -0.9
baz=321,SNR=6.7
L48A **N Adams** 77.33 40 P P 13 49 13.3 -0.2
baz=324
ARR **Arges** 77.33 326 ⇑*i*P P 13 49 14.3 +0.7
MODS **Modra-Piesok** 77.34 332 *e*P P 13 49 14.3 +0.8
MODS pmax pmax
comp=Z,26nm,0.9s
MODS **Modra-Piesok** 77.34 332 *e*P P 13 49 14.3 +0.8
SFIN **Lafayette** 77.37 43 *e*P P 13 49 13.4 -0.5
comp=Z,34nm,1.1s
SFIN **Lafayette** 77.37 43 P P 13 49 13.5 -0.4
baz=323,SNR=7.4
P44A **Sand Creek, Wi** 77.38 45 P P 13 49 13.7 -0.2
baz=322
BUG **Bochum--Univer** 77.39 339 *e*P P 13 49 14.0 +0.3
comp=Z,26nm,0.7s,baz=26,slow=5.8
LBWR **Ladybower, Pea** 77.42 345 *e*P P 13 49 14.8 +0.9
ARMA **Armidale** 77.44 182 *e*P P 13 49 15.0 +0.8
comp=Z,19nm,0.9s
MANZ **Manzenberg** 77.46 336 *e*P P 13 49 14.5 +0.3
comp=Z,124nm,0.8s,baz=26,slow=5.8
L49A **Milan** 77.48 40 P P 13 49 14.6 +0.2
baz=324
BUD **Budapest** 77.54 330 ⇓*e*P P 13 49 14.1 -0.5
ASUD **Al Ashush, Dub** 77.55 293 *i*P P 13 49 15.7 +0.6
SNR=9.8
N47A **Urbana** 77.62 42 P P 13 49 14.5 -0.7
baz=324
Q44A **Meyer Farm, Va** 77.63 45 *e*P P 13 49 15.4 +0.1
comp=Z,49nm,1.1s
Q44A **Meyer Farm, Va** 77.63 45 P P 13 49 14.9 -0.4
baz=322
S42A **Caledonia** 77.65 47 P P 13 49 15.1 -0.4
baz=321,SNR=15
SIRR **Siria** 77.67 328 ⇑*i*P P 13 49 15.4 0.0
R43A **Red Bud** 77.68 46 P P 13 49 15.3 -0.3
baz=322
ALNE **Al Ain** 77.69 292 *i*P P 13 49 16.5 +0.7
SNR=18
U40A **Yellville** 77.70 49 P P 13 49 15.2 -0.6
baz=321,SNR=30
BSY **Bisya** 77.72 290 P P 13 49 17.5 +1.5
SNR=5.3
T41A **Mountain View** 77.72 48 P P 13 49 14.9 -0.9
baz=321,SNR=11
P45A **Graceland, Par** 77.75 44 *e*P P 13 49 15.6 -0.3
comp=Z,17nm,0.8s
P45A **Graceland, Par** 77.75 44 P P 13 49 15.6 -0.3
baz=323,SNR=5.6
G55A **Calabogie** 77.75 34 P P 13 49 14.7 -1.2
baz=328
SGRR **Singureni** 77.77 324 ⇑*i*P P 13 49 16.6 +0.7

AJN	Ajban		77.81	293	P		P	13 49 16.9	+0.4
KHC	Kasperske Hory		77.81	334	*e*P		P	13 49 16.6	+0.4
	comp=Z,13nm,0.8s								
KHC	Kasperske Hory		77.81	334	*e*P		P	13 49 16.8	+0.6
KHC					*ex*		x	13 49 20.9	
KHC					*ex*		x	13 49 31.0	
KHC	Kasperske Hory		77.81	334	*e*P		P	13 49 16.8	+0.6
KHC	Kasperske Hory		77.81	334	*e*P		P	13 49 16.8	+0.6
KHC					*e*			13 49 31.0	
O47A	Sheridan		77.91	43	P		P	13 49 16.1	-0.8
	baz=323								
P46A	Rosedale		77.93	44	P		P	13 49 16.8	-0.1
	baz=323,SNR=7.2								
N48A	Decatur		77.94	41	P		P	13 49 16.4	-0.5
	baz=324,SNR=9.0								
J52A	Paris		77.95	37	P		P	13 49 16.5	-0.6
	baz=326								
GRA1	Grafenberg Arr		77.97	336	*e*P		P	13 49 17.5	+0.5
	comp=Z,67nm,0.7s								
GRF	Grafenberg Arr		77.97	336	*e*P		P	13 49 17.9	+0.9
	comp=Z,61nm,0.7s,baz=26,slow=5.8								
GRF	Grafenberg Arr		77.97	336	*e*P		P	13 49 17.5	+0.5
GRF					pmax		pmax		
	comp=Z,67nm,0.7s								
GRFO	Grafenberg		77.97	336	*e*P		P	13 49 17.6	+0.6
	comp=Z,58nm,0.7s								
GRFO	Grafenberg		77.97	336	*e*P		P	13 49 17.6	+0.6
GRFO					pmax		pmax		
	comp=Z,58nm,0.7s								
CWF	Charnwood Fore		77.98	345	*e*P		P	13 49 17.5	+0.5
CWF					lAmb		lAmb	13 49 18.9	
	comp=Z,14nm,0.6s								
WET	Wettzell		78.00	335	*e*P		P	13 49 18.0	+0.8
	comp=Z,20nm,0.8s,baz=26,slow=5.8								
GEC2	GERESS Array S		78.03	334	*e*P		P	13 49 17.7	+0.3
	comp=Z,12nm,0.7s								
GEC2	GERESS Array S		78.03	334	*e*P		P	13 49 17.6	+0.1
	comp=Z,9.9nm,0.7s,baz=26,slow=5.8								
GEC2	GERESS Array S		78.03	334	*e*P		P	13 49 17.7	+0.3
GEC2					pmax		pmax		
	comp=Z,13nm,0.7s								
GERES	GERESS Array B		78.03	334	P		P	13 49 17.6	+0.1
	comp=Z,9.1nm,0.6s,baz=33,slow=5.5,SNR=108								
GERES					LR		LR	14 27 31.1	
	comp=Z,233nm,18.9s,baz=33,slow=38								
GEA0	GERESS Array S		78.03	334	*e*P		P	13 49 17.1	-0.4
Q45A	Warren Harvey,		78.05	45	P		P	13 49 17.5	-0.1
	baz=322,SNR=12								
T42A	Van Buren		78.07	48	*e*P		P	13 49 17.1	-0.7
	comp=Z,18nm,1.3s								
T42A	Van Buren		78.07	48	P		P	13 49 17.0	-0.7
	baz=321,SNR=6.7								
W39A	Magazine		78.11	51	*e*P		P	13 49 17.9	-0.1
	comp=Z,21nm,1.3s								
W39A	Magazine		78.11	51	P		P	13 49 17.5	-0.5
	baz=320								
BRTR	Keskin Array B		78.13	317	P		P	13 49 18.5	+0.3
	comp=Z,20nm,0.8s,baz=62,slow=3.7,SNR=48								
BRTR					LR		LR	14 30 43.7	
	comp=Z,80nm,18.0s,baz=51,slow=41								
S43A	Fulton Ridge,		78.16	47	P		P	13 49 17.8	-0.5
	baz=322,SNR=6.0								
FOEL	Foel Wylfa		78.17	346	*e*P		P	13 49 19.0	+1.0
SOP	Sopron		78.18	332	⇓*e*P		P	13 49 19.0	+0.9
CONA	Conrad Observa		78.18	332	*e*P		P	13 49 19.0	+0.7
	comp=Z,23nm,0.8s,SNR=16								
U41A	Viola		78.19	49	P		P	13 49 17.5	-0.9
	baz=321,SNR=5.8								
OLIL	Olney		78.20	45	*e*P		P	13 49 18.7	+0.2
	comp=Z,61nm,1.4s								
TNS	Taunus Mts		78.22	338	*e*P		P	13 49 19.0	+0.6
	comp=Z,29nm,0.7s,baz=26,slow=5.8								
BZS	Buzias		78.24	328	⇓*i*P		P	13 49 17.9	-0.7
N49A	Columbus Grove		78.26	41	*e*P		P	13 49 18.5	-0.3
	comp=Z,35nm,1.4s								
N49A	Columbus Grove		78.26	41	P		P	13 49 18.4	-0.4
	baz=324,SNR=5.7								
AHRW	Bad Neuenahr-A		78.27	339	*e*P		P	13 49 19.4	+0.7
	comp=Z,21nm,0.8s,baz=26,slow=5.8								
HGN	Heimansgroeve		78.34	340	*e*P		P	13 49 19.5	+0.5
	comp=Z,38nm,0.7s								
JCT	Junction City		78.36	58	*e*P		P	13 49 19.3	-0.2
	comp=Z,84nm,1.6s								
JCT	Junction City		78.36	58	*e*P		P	13 49 19.3	-0.2
JCT					pmax		pmax		
	comp=Z,84nm,1.6s								
JCT	Junction City		78.36	58	P		P	13 49 19.2	-0.2
	baz=319,SNR=11								
O48A	Farmland		78.36	42	P		P	13 49 18.7	-0.7
	baz=324,SNR=9.4								
BEBN	Eben Emael		78.37	340	⇑P		P	13 49 19.6	+0.5
ANTO	Ankara		78.41	318	*e*P		P	13 49 20.3	+0.6
	comp=Z,41nm,0.6s								
ANTO	Ankara		78.41	318	⇑*i*P		P	13 49 20.3	+0.6
TIH	Tihany		78.43	331	⇓*e*P		P	13 49 20.1	+0.5
T43A	Greenville		78.43	47	P		P	13 49 19.3	-0.4
	baz=322,SNR=6.4								
BR231	Keskin MP Arra		78.44	318	*e*P		P	13 49 21.0	+1.1
S44A	Carbondale		78.47	46	P		P	13 49 19.7	-0.2
	baz=322								
R45A	Skylar, Fairfi		78.47	45	P		P	13 49 19.7	-0.2
	baz=322								
MEM	Membach		78.47	340	⇑P		P	13 49 20.2	+0.5
	comp=Z,49nm,0.7s								
SIUC	Southern Illin		78.47	46	*e*P		P	13 49 20.1	+0.2
	comp=Z,60nm,1.4s								
P47A	Martinsville		78.47	43	P		P	13 49 19.4	-0.5
	baz=323,SNR=5.6								
MHTO	MHTO		78.49	288	P		P	13 49 21.1	+0.8
	SNR=12								
V41A	Mountainview		78.50	49	P		P	13 49 19.2	-1.0
	baz=321,SNR=8.8								
WHTX	Lake Whitney,		78.55	55	*e*P		P	13 49 20.8	+0.3
	comp=Z,58nm,1.4s								
WHTX	Lake Whitney,		78.55	55	P		P	13 49 20.2	-0.3
	baz=319,SNR=8.4								
MIAR	Mount Ida		78.71	51	*e*P		P	13 49 21.1	-0.3
	comp=Z,45nm,1.6s								
MIAR	Mount Ida		78.71	51	*e*P		P	13 49 21.1	-0.3
MIAR					pmax		pmax		
	comp=Z,45nm,1.6s								
MIAR	Mount Ida		78.71	51	P		P	13 49 21.2	-0.3
	baz=320,SNR=7.9								
MOA	Molln		78.75	333	*e*P		P	13 49 21.6	+0.2
	comp=Z,13nm,0.8s,SNR=6.7								
MORH	Mrgy, Hungar		78.77	330	⇓*i*P		P	13 49 20.3	-1.2
MORH	Mrgy, Hungar		78.77	330	⇓*e*P		P	13 49 20.1	-1.4
T44A	Benton		78.78	47	P		P	13 49 21.6	-0.1
	baz=322								
O49A	Covington		78.79	41	*e*P		P	13 49 21.1	-0.6
	comp=Z,17nm,1.0s								
O49A	Covington		78.79	41	P		P	13 49 21.3	-0.4
	baz=324,SNR=5.2								
M51A	Elyria		78.81	39	P		P	13 49 20.8	-1.0
	baz=325								
S45A	Carrier Mills		78.81	46	P		P	13 49 21.6	-0.2
	baz=322								
WHAR	Wooly Hollow		78.81	50	*e*P		P	13 49 21.3	-0.6
	comp=Z,58nm,1.4s								
Q47A	Bedord North L		78.84	43	P		P	13 49 21.8	-0.2
	baz=323,SNR=9.8								
N50A	Nevada		78.84	40	P		P	13 49 21.8	-0.1
	baz=325,SNR=5.4								
V42A	Cord		78.87	49	P		P	13 49 21.3	-0.9
	baz=321,SNR=7.7								
P48A	Milroy		78.88	43	P		P	13 49 21.7	-0.5
	baz=324,SNR=6.1								
ARSA	Arzberg		78.89	332	*i* P		P	13 49 22.6	+0.5
	comp=Z,11nm,0.7s,SNR=8.0								
R46A	Gibon Southern		78.90	45	P		P	13 49 22.2	-0.2
	baz=323								
W41B	Gary Mavity, V		78.92	50	*e*P		P	13 49 21.9	-0.6
	comp=Z,38nm,1.3s								
W41B	Gary Mavity, V		78.92	50	P		P	13 49 22.1	-0.4
	baz=321,SNR=8.6								
U43A	Rector		78.93	48	P		P	13 49 22.1	-0.5
	baz=322								
SNF	Seneffe		78.96	341	⇑P		P	13 49 21.4	-1.0
	comp=Z,28nm,0.6s								
MCH1	Michaelchurch		78.99	345	*e*P		P	13 49 22.9	+0.3
J55A	Hilton		79.00	36	P		P	13 49 22.1	-0.7
	baz=327								
USIN	University of		79.02	45	*e*P		P	13 49 23.5	+0.5
	comp=Z,119nm,1.5s								
PARMO	Parma		79.03	47	*e*P		P	13 49 23.7	+0.6
	comp=Z,142nm,0.5s								
N51A	Ashland		79.06	40	*e*P		P	13 49 23.2	0.0
	comp=Z,65nm,1.4s								
N51A	Ashland		79.06	40	P		P	13 49 22.6	-0.6
	baz=325								
O50A	Cable		79.14	41	P		P	13 49 23.3	-0.3
	baz=325,SNR=6.0								
P49A	Miami Univ. Ec		79.14	42	P		P	13 49 23.3	-0.3
	baz=324,SNR=6.1								
X40A	Basin Creek Fa		79.15	50	*e*P		P	13 49 23.8	0.0
	comp=Z,28nm,1.4s								
X40A	Basin Creek Fa		79.15	50	P		P	13 49 23.5	-0.2
	baz=321,SNR=5.8								
Q48A	North Vernon		79.17	43	P		P	13 49 23.4	-0.3
	baz=324								
BEHE	Becsehely		79.17	331	*e*P		P	13 49 27.3	+3.6
S46A	Don Dixon Farm		79.22	45	P		P	13 49 24.0	0.0
	baz=323								
DOU	Dourbes		79.28	340	⇑*i*P		P	13 49 24.6	+0.5
FRGS	Fruska Gora		79.29	329	⇓*i*P		P	13 49 23.2	-1.1
RJOB	Jochberg		79.29	334	*e*P		P	13 49 25.2	+0.8
	comp=Z,98nm,0.8s,baz=26,slow=5.8								
R47A	Wooly Knot Far		79.30	44	P		P	13 49 24.4	-0.1
	baz=323,SNR=9.3								
WLF	Walferdange		79.31	339	*e*P		P	13 49 25.7	+1.4
	baz=26,slow=5.8								
WLF	Walferdange		79.31	339	⇓P		P	13 49 25.0	+0.6
MOQ	Mont Orford		79.33	31	*e*P		P	13 49 24.9	+0.3
WOL	Wolverton		79.33	344	*e*P		P	13 49 25.0	+0.6
FUR	Furstenfeldbru		79.34	335	*e*P		P	13 49 25.3	+0.7
	comp=Z,24nm,0.7s,baz=26,slow=5.8								
ACSO	Alum Creek Sta		79.36	41	*e*P		P	13 49 24.9	+0.1
	comp=Z,61nm,1.5s								
ACSO	Alum Creek Sta		79.36	41	P		P	13 49 24.5	-0.3
	baz=325								
K55A	Perry		79.36	36	P		P	13 49 24.1	-0.7
	baz=327								
STU	Stuttgart		79.36	337	*e*P		P	13 49 24.9	+0.2
	comp=Z,28nm,0.8s								
STU	Stuttgart		79.36	337	*e*P		P	13 49 25.1	+0.5
	comp=Z,20nm,0.8s,baz=26,slow=5.8								
STU	Stuttgart		79.36	337	*e*P		P	13 49 24.9	+0.2
STU					pmax		pmax		
	comp=Z,28nm,0.8s								
GNAR	Gosnell		79.44	48	*e*P		P	13 49 26.5	+1.2
	comp=Z,184nm,1.5s								
WCI	Wyandotte Cave		79.46	44	*e*P		P	13 49 25.3	-0.1
	comp=Z,82nm,1.4s								
WCI	Wyandotte Cave		79.46	44	*e*P		P	13 49 25.3	-0.1
WCI					pmax		pmax		
	comp=Z,82nm,1.4s								
WCI	Wyandotte Cave		79.46	44	P		P	13 49 25.4	-0.1
	baz=324								
U44B	Burton Farm, H		79.48	47	P		P	13 49 25.7	+0.2
	baz=322								
Q49A	Aurora		79.49	42	P		P	13 49 25.4	-0.2
	baz=324								
P50A	Jamestown		79.50	41	P		P	13 49 25.3	-0.3
	baz=325,SNR=6.6								
R48A	Northridge Ran		79.52	43	P		P	13 49 25.8	+0.1
	baz=324								
SOKA	Soboth		79.55	332	*i* P		P	13 49 26.0	+0.2
	comp=Z,21nm,0.7s,SNR=13								
GLAT	Glass		79.57	47	*e*P		P	13 49 26.8	+0.8
	comp=Z,148nm,1.4s								
O51A	Pataskala		79.59	40	P		P	13 49 25.8	-0.3
	baz=325,SNR=5.4								
STKA	Stephens Creek		79.61	190	P		P	13 49 26.3	+0.3
	comp=Z,4.0nm,0.8s,baz=327,slow=7.0,SNR=7.3								
STKA					LR		LR	14 20 58.8	
	comp=Z,48nm,21.9s,baz=23,slow=33								
STKA	Stephens Creek		79.61	190	*e*P		P	13 49 26.1	+0.1
	comp=Z,1.4nm,0.9s								
STKA	Stephens Creek		79.61	190	*e*P		P	13 49 26.1	+0.1
T46A	Princeton		79.64	46	P		P	13 49 26.8	+0.4
	baz=323,SNR=17								
S47A	Hartford		79.69	45	P		P	13 49 26.2	-0.4
	baz=323								
KBA	Koelnbreinsper		79.72	334	*i* P		P	13 49 27.5	+0.6
	comp=Z,44nm,0.7s,SNR=8.5								
M54A	Oil Creek Stat		79.73	38	*e*P		P	13 49 26.8	0.0
	comp=Z,20nm,1.0s								
M54A	Oil Creek Stat		79.73	38	P		P	13 49 26.6	-0.2
	baz=327								
N53A	Lisbon		79.81	39	P		P	13 49 27.1	-0.2
	baz=326,SNR=6.2								
OBKA	Obir		79.85	333	*i* P		P	13 49 27.6	+0.1
	comp=Z,9.5nm,0.7s								
MZR	Muzera		79.88	293	*i* P		P	13 49 28.5	+0.5
	SNR=45								
MZR	Muzera		79.88	293	P		P	13 49 28.4	+0.5
	SNR=8.3								
P51A	Williamsport		79.93	41	*e*P		P	13 49 27.4	-0.5
	comp=Z,57nm,1.4s								
P51A	Williamsport		79.93	41	P		P	13 49 27.3	-0.6
	baz=325,SNR=6.4								
O52A	Adamsville		79.95	40	*e*P		P	13 49 27.6	-0.4
	comp=Z,24nm,0.8s								
O52A	Adamsville		79.95	40	P		P	13 49 27.4	-0.6
	baz=326,SNR=8.0								
BFO	Black Forest		80.00	337	*e*P		P	13 49 28.4	+0.3
	comp=Z,23nm,0.8s								
BFO	Black Forest		80.00	337	*e*P		P	13 49 28.6	+0.4
	comp=Z,16nm,0.8s,baz=26,slow=5.8								
BFO	Black Forest		80.00	337	*e*P		P	13 49 28.4	+0.3
BFO					pmax		pmax		
	comp=Z,23nm,0.8s								
WATA	Walderalm		80.01	335	*i* P		P	13 49 28.7	+0.3
	comp=Z,21nm,0.6s,SNR=9.7								
MYKA	Terra Mystica		80.03	333	*i* P		P	13 49 28.3	-0.1
	comp=Z,13nm,0.9s								
S48A	Wiedeman Farm,		80.03	44	P		P	13 49 28.0	-0.5
	baz=324,SNR=7.0								
Q50A	Georgetown		80.04	42	P		P	13 49 28.4	-0.2
	baz=325								
N54A	Moraine State		80.05	38	*e*P		P	13 49 28.7	+0.2
	comp=Z,52nm,1.3s								
N54A	Moraine State		80.05	38	P		P	13 49 28.3	-0.2
	baz=326,SNR=6.2								
RETA	Reutte		80.10	335	*i* P		P	13 49 29.6	+0.8
	comp=Z,18nm,0.8s								
O53A	New Philadelph		80.11	39	P		P	13 49 28.4	-0.5
	baz=326								
MOTA	Mosalm		80.13	335	*i* P		P	13 49 30.6	+1.5
	comp=Z,22nm,0.7s,SNR=17								
DIVS	Divibare		80.14	328	*e*P		P	13 49 29.1	0.0
	comp=Z,16nm,0.7s								
DIVS	Divibare		80.14	328	⇓*i*P		P	13 49 28.5	-0.6
CRES	Cresnjev		80.17	332	⇓*i*P		P	13 49 28.4	-0.7
Q51A	Peebles		80.18	41	*e*P		P	13 49 29.5	+0.2
	comp=Z,69nm,1.5s								
Q51A	Peebles		80.18	41	P		P	13 49 28.9	-0.3
	baz=325,SNR=8.2								
833A	Chaparral WMA,		80.20	59	P		P	13 49 29.9	+0.4
	baz=319								
SQTA	Sankt Quirin		80.22	335	*i* P		P	13 49 30.1	+0.6
	comp=Z,25nm,0.8s,SNR=12								
P52A	Corning		80.22	40	P		P	13 49 28.9	-0.6
	baz=326								
ABTA	Abfaltersbach		80.26	334	*i* P		P	13 49 29.5	-0.2
	comp=Z,9.4nm,0.8s								
NATX	Nacogdoches		80.27	53	*e*P		P	13 49 30.6	+0.7
	comp=Z,176nm,1.5s								
NATX	Nacogdoches		80.27	53	P		P	13 49 30.2	+0.4
	baz=320,SNR=5.7								
S49A	Springfield		80.29	43	P		P	13 49 29.9	0.0
	baz=324,SNR=9.3								
T48A	Bowling Green		80.31	45	P		P	13 49 29.7	-0.3
	baz=324								
R50A	Paris		80.34	43	P		P	13 49 29.9	-0.2
	baz=324								
WVT	Waverly		80.40	46	*e*P		P	13 49 30.9	+0.4
	comp=Z,10nm,0.8s								
WVT	Waverly		80.40	46	*e*P		P	13 49 30.9	+0.4
WVT					pmax		pmax		
	comp=Z,10.0nm,0.8s								
WVT	Waverly		80.40	46	P		P	13 49 30.4	-0.1
	baz=323								
ECH	Echery		80.40	338	*e*P		P	13 49 31.1	+0.8
	comp=Z,20nm,0.8s								
U47A	Clarksville		80.42	46	P		P	13 49 30.6	0.0
	baz=323,SNR=6.6								
W45A	Hickory Valley		80.50	48	P		P	13 49 30.9	-0.1
	baz=322								
V46A	Holladay		80.52	46	P		P	13 49 30.9	-0.3
	baz=323,SNR=8.3								
X44A	Crenshaw		80.53	49	P		P	13 49 31.2	0.0
	baz=322								
DAVA	Damuels		80.53	336	*i* P		P	13 49 31.6	+0.4
	comp=Z,25nm,0.8s,SNR=6.5								
FETA	Feichten		80.53	335	*i* P		P	13 49 31.9	+0.7
	comp=Z,12nm,0.8s,SNR=5.9								
BBLS	Lazići		80.55	328	⇓*i*P		P	13 49 31.2	-0.1
BLY	Banja Luka		80.55	330	*e*P		P	13 49 28.6	-2.6
CEY	Cerknica		80.58	332	*e*P		P	13 49 30.7	-0.6
N55A	Marion Center		80.61	38	P		P	13 49 31.3	-0.3
	baz=327,SNR=5.9								
R51A	Hillsboro		80.66	42	P		P	13 49 31.9	+0.1
	baz=325,SNR=8.5								
P53A	Whipple		80.67	40	P		P	13 49 31.6	-0.3
	baz=326								
Q52A	Bidwell		80.71	41	P		P	13 49 31.6	-0.5
	baz=326								
U48A	Cassie Pea, Po		80.72	45	P		P	13 49 32.1	-0.1
	baz=324,SNR=6.1								
T49A	Edmonton		80.72	44	*e*P		P	13 49 32.5	+0.2
	comp=Z,54nm,1.6s								
T49A	Edmonton		80.72	44	P		P	13 49 32.0	-0.2
	baz=324,SNR=7.3								
S50A	Richmond		80.79	43	P		P	13 49 32.2	-0.4
	baz=324								
V47A	Nunnelly		80.79	46	P		P	13 49 32.3	-0.3
	baz=323,SNR=7.2								
OXF	Oxford		80.89	48	*e*P		P	13 49 33.0	-0.2
	comp=Z,81nm,1.4s								
OXF	Oxford		80.89	48	*e*P		P	13 49 33.0	-0.2
OXF					pmax		pmax		
	comp=Z,81nm,1.4s								
OXF	Oxford		80.89	48	P		P	13 49 32.8	-0.4
	baz=322,SNR=7.8								
Y44A	Strider, Charl		80.92	49	P		P	13 49 33.4	+0.1
	baz=322								
W46A	Michie		80.92	47	P		P	13 49 32.8	-0.5
	baz=323								
TAOE	Nuku Hiva Isla		80.93	114	*e*LR		LR	14 14 51.0	
	comp=Z,440nm,22.8s								
O55A	Ligonier		80.96	38	P		P	13 49 33.1	-0.4
	baz=327								
X45A	UM Field Stati		80.97	48	P		P	13 49 33.1	-0.5
	baz=322								
FUORN	Ofenpass-Fuorn		81.03	335	*e*P		P	13 49 35.2	+1.2
	comp=Z,22nm,0.9s								
R52A	Catlettsburg		81.06	41	P		P	13 49 33.6	-0.4
	baz=325								
U49A	Red Boiling Sp		81.08	45	P		P	13 49 34.0	-0.1
	baz=324,SNR=8.5								
FORT	Forrest		81.10	202	*e*P		P	13 49 34.9	+0.9
	comp=Z,33nm,0.8s								
T50A	Nancy		81.12	44	P		P	13 49 34.1	-0.2
	baz=324,SNR=9.1								
PMOR	Pomariorio Ree		81.15	123	*e*T		T	15 19 03.1	
	comp=Z,37nm,0.2s								
SSPA	Standing Stone		81.19	37	*e*P		P	13 49 34.7	+0.1
	comp=Z,29nm,1.3s								
MCWV	Mont Chateau		81.19	39	*e*P		P	13 49 35.2	+0.5
	comp=Z,36nm,1.5s								
MCWV	Mont Chateau		81.19	39	P		P	13 49 34.8	+0.2
	baz=327								
PLAL	Pickwick Lake		81.19	47	*e*P		P	13 49 34.5	-0.2
	comp=Z,46nm,1.6s								
S51A	Beattyville		81.19	42	*e*P		P	13 49 34.5	-0.3
	comp=Z,87nm,1.9s								
S51A	Beattyville		81.19	42	P		P	13 49 34.5	-0.3
	baz=325								
V48A	Smith Brothers		81.20	46	*e*P		P	13 49 34.4	-0.4
	comp=Z,44nm,1.5s								
V48A	Smith Brothers		81.20	46	P		P	13 49 34.5	-0.2
	baz=324,SNR=6.4								
W47A	Westpoint		81.21	46	P		P	13 49 34.5	-0.4
	baz=323,SNR=7.5								
O56A	Blue Knob Stat		81.22	38	*e*P		P	13 49 34.7	-0.2
	comp=Z,51nm,1.4s								
O56A	Blue Knob Stat		81.22	38	P		P	13 49 34.6	-0.2
	baz=327								
UPM	Unac-Piva		81.31	328	*e*P		P	13 49 34.8	-0.7
P55A	Reedsville		81.32	39	P		P	13 49 35.8	+0.4
	baz=327,SNR=9.8								
Y45A	Yeager Farm, C		81.33	49	P		P	13 49 35.6	+0.1
	baz=322,SNR=5.8								
S52A	Salyersville		81.40	42	P		P	13 49 35.5	-0.3
	baz=325								
TUE	Stuetta		81.42	336	*e*P		P	13 49 37.1	+1.0
	comp=Z,26nm,0.8s								
T51A	Gray		81.58	43	P		P	13 49 36.4	-0.4
	baz=325								
U50A	Jamestown		81.61	44	P		P	13 49 36.8	-0.2
	baz=324,SNR=6.7								
V49A	McMinnville		81.63	45	P		P	13 49 36.6	-0.5
	baz=324,SNR=5.2								
W48A	Pulaski		81.63	46	P		P	13 49 36.7	-0.3
	baz=324,SNR=13								
Q55A	Buckhannon		81.64	39	P		P	13 49 37.1	0.0
	baz=327								
X47A	Russelville		81.67	47	P		P	13 49 36.5	-0.8
	baz=323								
Y46A	Houston		81.67	48	P		P	13 49 37.1	-0.2
	baz=323,SNR=8.1								
BRY	Bratogost		81.70	328	*e*P		P	13 49 36.6	-0.9
N59A	State Game Lan		81.80	35	*e*P		P	13 49 37.8	-0.1
N59A	State Game Lan		81.80	35	P		P	13 49 37.8	-0.1
	baz=329								
PDG	Podgorica		81.85	328	⇓*i*P		P	13 49 37.7	-0.4
PDG	Podgorica		81.85	328	*e*P		P	13 49 37.9	-0.2
TTG	Podgorica		81.85	328	*e*P		P	13 49 37.7	-0.4

Z47A	**Carrollton**	**82.61**	**48**	P		**P**	**13 49 41.9**	**-0.3**
	baz=323,SNR=7.3							
V52A	**Sevierville**	**82.66**	**43**	*e*P		**P**	**13 49 42.4**	**0.0**
	comp=Z,35nm,1.4s							
V52A	**Sevierville**	**82.66**	**43**	P		**P**	**13 49 42.2**	**-0.2**
	baz=325,SNR=6.2							
W51A	**Cleveland**	**82.66**	**45**	P		**P**	**13 49 42.0**	**-0.5**
	baz=324							
U53A	**Fall Branch**	**82.70**	**42**	P		**P**	**13 49 42.3**	**-0.4**
	baz=326,SNR=5.8							
TKL	**Tuckaleechee C**	**82.73**	**44**	*e*P		**P**	**13 49 42.9**	**+0.1**
	comp=Z,34nm,1.6s							
TKL	**Tuckaleechee C**	**82.73**	**44**	*e*P		**P**	**13 49 42.9**	**+0.1**
TKL				pmax	pmax			
	comp=Z,34nm,1.6s							
Z48A	**Northport**	**82.73**	**48**	P		**P**	**13 49 42.1**	**-0.7**
	baz=323							
LNIG	**Linares**	**82.73**	**61**	*e*P		**P**	**13 49 42.5**	**-0.5**
	comp=Z,13nm,1.2s							
X50B	**Fort Payne**	**82.80**	**46**	P		**P**	**13 49 42.9**	**-0.4**
	baz=324,SNR=5.1							
Y49A	**Blount Mountai**	**82.91**	**47**	*e*P		**P**	**13 49 43.3**	**-0.5**
	comp=Z,13nm,0.8s							
Y49A	**Blount Mountai**	**82.91**	**47**	P		**P**	**13 49 43.3**	**-0.5**
	baz=324,SNR=6.6							
147A	**Livingston**	**82.93**	**49**	*e*P		**P**	**13 49 44.0**	**+0.2**
147A	**Livingston**	**82.93**	**49**	P		**P**	**13 49 44.0**	**+0.2**
	baz=323,SNR=5.3							
BLA	**Blacksburg**	**82.98**	**41**	*e*P		**P**	**13 49 44.2**	**+0.1**
	comp=Z,23nm,1.0s							
BLA	**Blacksburg**	**82.98**	**41**	*e*P		**P**	**13 49 44.2**	**+0.1**
BLA				pmax	pmax			
	comp=Z,23nm,1.0s							
BLA	**Blacksburg**	**82.98**	**41**	P		**P**	**13 49 43.8**	**-0.3**
	baz=327							
V53A	**Saluda**	**83.17**	**43**	*e*P		**P**	**13 49 44.9**	**-0.2**
V53A	**Saluda**	**83.17**	**43**	P		**P**	**13 49 44.9**	**-0.2**
	baz=326							
Y50A	**Piedmont**	**83.22**	**46**	P		**P**	**13 49 44.9**	**-0.5**
	baz=324,SNR=8.2							
247A	**Quitman**	**83.25**	**49**	P		**P**	**13 49 46.4**	**+0.9**
	baz=323							
LRAL	**Lakeview Retre**	**83.28**	**47**	*e*P		**P**	**13 49 45.3**	**-0.4**
	comp=Z,8.1nm,0.9s							
LRAL	**Lakeview Retre**	**83.28**	**47**	P		**P**	**13 49 44.9**	**-0.7**
	baz=324							
Z49A	**Columbiana**	**83.39**	**47**	P		**P**	**13 49 45.7**	**-0.5**
	baz=324,SNR=6.0							
W53A	**Cullowhee**	**83.41**	**44**	P		**P**	**13 49 46.4**	**-0.1**
	baz=325,SNR=5.1							
X52A	**Dahlonega**	**83.53**	**44**	P		**P**	**13 49 46.5**	**-0.4**
	baz=325							
Y51A	**Rockmart**	**83.54**	**46**	P		**P**	**13 49 46.5**	**-0.5**
	baz=324,SNR=10.0							
248A	**Dixon Mills**	**83.66**	**48**	P		**P**	**13 49 48.1**	**+0.4**
	baz=323							
BG3	**Lake Jocassee**	**83.66**	**44**	*e*P		**P**	**13 49 48.1**	**+0.5**
	comp=Z,60nm,1.5s							
149A	**Jones**	**83.73**	**48**	P		**P**	**13 49 47.8**	**-0.2**
	baz=324							
SSB	**Saint Sauveur**	**83.80**	**339**	*e*P		**P**	**13 49 48.8**	**+0.6**
SSB	**Saint Sauveur**	**83.80**	**339**	*e*P		**P**	**13 49 48.8**	**+0.6**
X53A	**Estanollee**	**83.89**	**44**	P		**P**	**13 49 49.0**	**+0.2**
	baz=325,SNR=8.4							
AQU	**L'Aquila**	**83.94**	**331**	*e*P		**P**	**13 49 49.7**	**+0.7**
	comp=Z,109nm,1.8s							
AQU	**L'Aquila**	**83.94**	**331**	*e*P		**P**	**13 49 49.7**	**+0.7**
AQU				pmax	pmax			
	comp=Z,109nm,1.8s							
AQU	**L'Aquila**	**83.94**	**331**	*e*P		**P**	**13 49 49.0**	**0.0**
Z51A	**Franklin**	**83.96**	**46**	P		**P**	**13 49 48.6**	**-0.6**
	baz=324							
Y52A	**Lilburn**	**84.05**	**45**	*e*P		**P**	**13 49 50.0**	**+0.4**
Y52A	**Lilburn**	**84.05**	**45**	P		**P**	**13 49 49.4**	**-0.2**
	baz=325							
249A	**Camden**	**84.07**	**48**	P		**P**	**13 49 50.0**	**+0.3**
	baz=324,SNR=7.3							
150A	**Eclectic**	**84.11**	**47**	P		**P**	**13 49 49.5**	**-0.4**
	baz=324,SNR=6.7							
OUZ	**Omahuta**	**84.16**	**164**	*e*P		**P**	**13 49 51.2**	**+1.4**
	comp=Z,50nm,1.9s							
KMSC	**Kings Mountain**	**84.28**	**42**	*e*P		**P**	**13 49 50.4**	**-0.4**
	comp=Z,8.7nm,0.7s							
KMSC	**Kings Mountain**	**84.28**	**42**	P		**P**	**13 49 50.3**	**-0.4**
	baz=326							
Y53A	**Monroe**	**84.29**	**45**	P		**P**	**13 49 50.5**	**-0.3**
	baz=325							
RAYN	**Ar Rayn**	**84.38**	**299**	*e*P		**P**	**13 49 51.7**	**+0.2**
	comp=Z,36nm,0.8s							
RAYN	**Ar Rayn**	**84.38**	**299**	*i* P		**P**	**13 49 52.1**	**+0.6**
	SNR=40							
RAYN	**Ar Rayn**	**84.38**	**299**	*e*P		**P**	**13 49 51.7**	**+0.2**
RAYN				pmax	pmax			
	comp=Z,36nm,0.8s							
Z52A	**Williamson**	**84.43**	**46**	P		**P**	**13 49 51.1**	**-0.4**
	baz=325,SNR=5.8							
250A	**Grady**	**84.50**	**48**	*e*P		**P**	**13 49 52.1**	**+0.2**
250A	**Grady**	**84.50**	**48**	P		**P**	**13 49 51.8**	**-0.1**
	baz=324,SNR=6.5							
151A	**Opelika**	**84.52**	**47**	P		**P**	**13 49 51.2**	**-0.8**
	baz=324							
152A	**Waverly Hall**	**84.70**	**46**	*e*P		**P**	**13 49 52.9**	**0.0**
152A	**Waverly Hall**	**84.70**	**46**	P		**P**	**13 49 52.5**	**-0.5**
	baz=325							
Y54A	**Tignall**	**84.71**	**44**	P		**P**	**13 49 53.2**	**+0.2**
	baz=326,SNR=20							
Z53A	**Monticello**	**84.76**	**45**	P		**P**	**13 49 53.1**	**-0.2**
	baz=325							
251A	**Midway**	**84.83**	**47**	P		**P**	**13 49 53.4**	**-0.2**
	baz=324							
350A	**Dozier**	**84.91**	**48**	P		**P**	**13 49 54.0**	**0.0**
	baz=324							
JSC	**Jenkinsville**	**85.03**	**43**	*e*P		**P**	**13 49 54.4**	**-0.1**
	comp=Z,24nm,1.4s							
JSC	**Jenkinsville**	**85.03**	**43**	*e*P		**P**	**13 49 54.4**	**-0.1**
JSC				pmax	pmax			
	comp=Z,24nm,1.4s							
Z54A	**Sparta**	**85.15**	**44**	P		**P**	**13 49 55.1**	**0.0**
	baz=326,SNR=6.0							
351A	**Pinckard**	**85.39**	**48**	P		**P**	**13 49 56.7**	**+0.3**
	baz=324							
154A	**Montrose**	**85.53**	**45**	P		**P**	**13 49 57.1**	**+0.1**
	baz=326							
IDI	**Anoyia**	**85.72**	**320**	⇓*i* P		**P**	**13 49 56.3**	**-1.8**
155A	**Kite**	**85.83**	**45**	P		**P**	**13 49 58.7**	**+0.1**
	baz=326							
254A	**Abbeville**	**85.99**	**46**	P		**P**	**13 49 59.4**	**0.0**
	baz=325,SNR=6.1							
353A	**Camilla**	**86.03**	**46**	P		**P**	**13 49 59.8**	**+0.3**
	baz=325							
TIGA	**Tifton**	**86.26**	**46**	*e*P		**P**	**13 50 01.2**	**+0.6**
156A	**Sylvania**	**86.27**	**44**	P		**P**	**13 50 01.2**	**+0.5**
	baz=326							
355A	**Pearson**	**86.70**	**46**	P		**P**	**13 50 03.1**	**+0.3**
	baz=326							
454A	**Quitman**	**86.83**	**46**	P		**P**	**13 50 03.7**	**+0.2**
	baz=325							
TBI	**Tubuai**	**87.07**	**129**	*e*LR		LR	14 17 17.0	
	comp=Z,552nm,33.0s,baz=333							
TBI	**Tubuai**	**87.07**	**129**	*e*T		T	15 26 24.9	
	comp=Z,37nm,0.2s							
555A	**McAlpin**	**87.64**	**46**	P		**P**	**13 50 06.7**	**-0.7**
	baz=326							
556A	**Lake Butler**	**88.02**	**46**	P		**P**	**13 50 10.0**	**+0.8**
	baz=326							
656A	**Willston**	**88.47**	**46**	P		**P**	**13 50 12.1**	**+0.7**
	baz=326							
658A	**Bunnell**	**89.06**	**45**	P		**P**	**13 50 14.8**	**+0.8**
	baz=326							
ES19	**SONSECA Array**	**91.01**	**343**	*e*P		**P**	**13 50 23.2**	**+0.1**
ESDC	**Sonseca Array**	**91.05**	**343**	P		**P**	**13 50 22.9**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=337,slow=3.7,SNR=7.3							
ESDC				LR		LR	14 37 46.9	
	comp=Z,162nm,18.8s,baz=130,slow=40							
KEST	**Kesra**	**91.26**	**332**	P		**P**	**13 50 27.8**	**+3.4**
	comp=Z,4.2nm,0.5s,baz=28,slow=3.9,SNR=7.2							
RKT	**Rikitea**	**95.03**	**119**	*e*LR		LR	14 20 57.1	
	comp=Z,423nm,33.0s							
RKT	**Rikitea**	**95.03**	**119**	*e*T		T	15 36 02.9	
	comp=Z,0.9nm,0.2s							
TORD	**Torodi Ar. Bea**	**114.71**	**330**	PKP		**PKiKP**	**13 55 59.0**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=45,slow=1.2,SNR=3.1							
VNDA	**Vanda**	**124.72**	**178**	PKP		**PKPdf**	**13 56 16.1**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=19,slow=3.5,SNR=5.4							
LPAZ	**La Paz**	**133.80**	**62**	PKP		**PKPdf**	**13 56 37.1**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=26,slow=6.3,SNR=4.8							
BOSA	**Boshof**	**136.02**	**276**	PKP		**PKiKP**	**13 56 41.1**	**-0.3**
	comp=Z,2.5nm,0.9s,baz=12,slow=19,SNR=1.8							

BDFB	**Brasilia**	**143.68**	**37**	PKhKP		PKPpre	13 56 50.8	
	comp=Z,2.3nm,0.3s,baz=225,slow=6.3,SNR=5.5							
GO06	**Curarrehue**	**146.82**	**93**	*e*PKPdf		**PKPbc**	**13 57 00.3**	**-0.3**
CPUP	**Villa Florida**	**147.91**	**60**	PKPbc		**PKPbc**	**13 57 03.2**	**-0.6**
	comp=Z,7.4nm,0.8s,baz=310,slow=2.5,SNR=13							
CPUP	**Villa Florida**	**147.91**	**60**	*e*PKPdf		**PKPbc**	**13 57 03.8**	**-0.1**
PLCA	**Paso Flores**	**147.98**	**94**	PKPbc		**PKPbc**	**13 57 03.4**	**-0.3**
	comp=Z,12nm,0.8s,baz=322,slow=2.8,SNR=20							
PLCA	**Paso Flores**	**147.98**	**94**	*e*PKPdf		**PKPdf**	**13 57 01.0**	**+0.5**
NVL	**N'lazarevskaya**	**150.31**	**205**	*e*PKP2		PKPab	13 57 25.4	+10
NVL				pmax	pmax			
	comp=Z,8.0nm,0.7s							
SNAA	**Sanae**	**153.23**	**196**	PKP		**PKPbc**	**13 57 14.0**	**-1.1**
SNAA	**Sanae**	**153.23**	**196**	*e*PKPbc		**PKPbc**	**13 57 14.1**	**-1.1**
SNAA	**Sanae**	**153.23**	**196**	*e*PKIKP		**PKPbc**	**13 57 14.1**	**-1.1**
VNA2	**Neumayer--Watz**	**154.67**	**195**	PKP		**PKPbc**	**13 57 17.7**	**-0.6**
VNA3	**Neumayer Olymp**	**154.76**	**193**	PKP		**PKPbc**	**13 57 17.8**	**-0.6**
VNA1	**Neumayer--Stat**	**155.06**	**194**	PKP		PKPdf	13 57 20.0	+10

BEO **12** *13:47:36.4±0.9, 39.°47N×25.°88E, h5km, ML3.5/3*
ISK **12** *13:47:36.9, 39.°65N×25.°52E, h5km, ML3.8/39*
ISCJB **12** *13:47:38.5±0.4, 39.°66N±0.°01×25.°55E±0.°02, h5km±3km, mb2.9/2, Error ellipse: s-maj=2.4km s-min=2.0km az=24.8*
DDA **12** *13:47:38.4, 39.°65N×25.°67E, h7km±6km, ML4.0*
ATH **12** *13:47:39.0, 39.°69N×25.°60E, h30km, ML3.5/7, Error ellipse: s-maj=1.4km s-min=0.9km az=78.0*
THE **12** *13:47:39.6, 39.°71N×25.°62E, h10km±1km, ML3.3/5, Error ellipse: s-maj=1.9km s-min=0.6km az=53.0*
IDC **12** *13:47:41.7±4.1, 39.°21N×26.°03E, h0km, mb3.1/2, mb1 3.3/4, mb1mx3.1/36, mbtmp3.2/4, ML3.6/2, Error ellipse: s-maj=62.6km s-min=25.7km az=32.0*
SOF **12** *13:47:44.4, 39.°93N×25.°24E, h2km, MD3.5*

ISC 12 13:47:39.2±1.1, 39.°65N±0.°02×25.°59E±0.°02, h6km±9km, n163, σ1°12/195, 9C-17D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.40**	**309**	P		**P**	**Pg**	**13 47 47.4**	**+0.4**
LIA				S			**Sg**	**13 47 54.2**	**+2.0**
LIA				AML		AML		13 48 01.0	
	comp=E,15243μm,0.7s								
LIA				AML		AML		13 48 01.0	
	comp=N,18498μm,0.6s								
LIA	**Limnos Island**	**0.40**	**309**	P		**P**	**Pg**	**13 47 47.2**	**+0.2**
LIA				S			**Sg**	**13 47 52.8**	**+0.6**
BOZC	**Bozcaada**	**0.41**	**61**	PG		**Pg**	**Pg**	**13 47 46.5**	**-0.6**
BOZC	**Bozcaada**	**0.41**	**61**	⇓*i* P		**Pg**	**Pg**	**13 47 46.9**	**-0.2**
EFSA	**Agios Efstrati**	**0.47**	**257**	P		**Pb**	**Pb**	**13 47 50.3**	**+0.3**
EFSA				S		**Sb**	**Sb**	**13 47 57.7**	**+0.5**
EFSA				AML		AML		13 47 58.0	
	comp=E,16588μm,0.6s								
EFSA				AML		AML		13 48 02.5	
	comp=N,14011μm,0.7s								
SIGR	**SIGRI**	**0.48**	**154**	PG		**Pg**	**Pg**	**13 47 48.6**	**+0.2**
SIGR				SG		**Sb**	**Sb**	**13 47 56.2**	**-1.2**
SIGR	**SIGRI**	**0.48**	**154**	P		**Pb**	**Pb**	**13 47 49.1**	**-0.9**
SIGR				S		**Sb**	**Sb**	**13 47 57.3**	**0.0**
SIGR				AML		AML		13 47 57.6	
	comp=E,17927μm,0.5s								
SIGR				AML		AML		13 47 58.1	
	comp=N,21741μm,0.4s								
SIGR	**SIGRI**	**0.48**	**154**	P		**Pb**	**Pb**	**13 47 49.1**	**-0.9**
GADA	**Gvkgeada**	**0.59**	**24**	PG		**Pg**	**Pg**	**13 47 50.2**	**-0.4**
GADA	**Gvkgeada**	**0.59**	**24**	P		**Pg**	**Pg**	**13 47 50.0**	**-0.6**
GADA				S		**Sg**	**Sg**	**13 47 58.0**	**-0.4**
EZN	**Ezine**	**0.60**	**72**	PG		**Pg**	**Pg**	**13 47 50.1**	**-0.6**
EZN	**Ezine**	**0.60**	**72**	P		**Pg**	**Pg**	**13 47 50.0**	**-0.6**
EZN				S		**Sg**	**Sg**	**13 47 58.1**	**-0.3**
GOKC	**Gokceada-Canak**	**0.61**	**25**	PG		**Pg**	**Pg**	**13 47 50.5**	**-0.4**
GOKC				SG		**Sg**	**Sg**	**13 47 59.7**	**+0.9**
PRK	**Paraskevi**	**0.66**	**127**	P		**Pb**	**Pb**	**13 47 53.4**	**+0.2**
PRK				S		**Sb**	**Sb**	**13 48 03.0**	**+0.4**
PRK				AML		AML		13 48 06.4	
	comp=N,14967μm,0.5s								
PRK				AML		AML		13 48 10.2	
	comp=E,13210μm,0.6s								
PRK	**Paraskevi**	**0.66**	**127**	P		**Pb**	**Pb**	**13 47 53.3**	**+0.2**
PRK				S		**Sb**	**Sb**	**13 48 03.2**	**+0.6**
BAYC	**CANAKKALE_Bayr**	**0.75**	**82**	IAML_P					
	comp=Z,48μm,0.1s								
BAYC				⇓*i* P		**Pg**	**Pg**	**13 47 53.7**	**+0.2**
BAYC				*i* S		**Sb**	**Sb**	**13 48 04.0**	**-1.1**
SMTH	**Samothraki Isl**	**0.83**	**357**	P		**Pg**	**Pg**	**13 47 54.3**	**-0.8**
SMTH	**Samothraki Isl**	**0.83**	**357**	P		**Pg**	**Pg**	**13 47 54.3**	**-0.8**
SMTH				S		**Sg**	**Sg**	**13 48 04.6**	**-1.2**
AYVA	**Ayvalik**	**0.92**	**111**	IAML_P					
	comp=Z,10μm,0.1s								
AYVA				⇑*i* P		**Pb**	**Pb**	**13 47 57.4**	**-0.1**
AYVA				*i* S		**Sb**	**Sb**	**13 48 10.0**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.01**	**42**	PG		**Pg**	**Pg**	**13 47 57.7**	**-0.9**
PSRA	**Psara**	**1.10**	**181**	P		**Pn**	**Pn**	**13 48 01.4**	**+0.3**
PSRA				S		**Sn**	**Sn**	**13 48 15.8**	**-0.9**
SKY	**Skiros Island**	**1.11**	**227**	P		**Pb**	**Pb**	**13 48 00.7**	**-0.2**
LPK	**Lapseki**	**1.16**	**51**	PN		**Pg**	**Pg**	**13 48 00.9**	**-0.5**
THAS	**Thassos island**	**1.17**	**326**	P		**Pb**	**Pb**	**13 48 00.4**	**-1.4**
THAS				S		**Sg**	**Sg**	**13 48 15.7**	**-1.0**
THAS				AML		AML		13 48 17.3	
	comp=N,3038μm,0.8s								
THAS				AML		AML		13 48 23.5	
	comp=E,2041μm,0.4s								
THAS	**Thassos island**	**1.17**	**326**	P		**Pb**	**Pb**	**13 48 00.4**	**-1.4**
DKL	**Dikili**	**1.17**	**119**	PN		**Pb**	**Pb**	**13 48 01.4**	**-0.4**
ENEZ	**Enez**	**1.17**	**21**	PN		**Pb**	**Pb**	**13 48 01.4**	**-0.5**
ERIK	**Erikli-Kesan**	**1.25**	**34**	PN		**Pb**	**Pb**	**13 48 01.8**	**-1.4**
FOCM	**Foa**	**1.29**	**136**	PN		**Pn**	**Pn**	**13 48 03.2**	**-0.5**
KRBN	**Karaburun**	**1.29**	**144**	PN		**Pn**	**Pn**	**13 48 02.9**	**-0.9**
ALN	**Alexandroupoli**	**1.30**	**15**	PN		**Pn**	**Pn**	**13 48 02.9**	**-1.0**
ALN	**Alexandroupoli**	**1.30**	**15**	P		**Pn**	**Pn**	**13 48 02.3**	**-1.6**
ALN				S		**Sb**	**Sb**	**13 48 19.6**	**-1.4**
ALN				AML		AML		13 48 25.2	
	comp=E,1856μm,0.8s								
ALN				AML		AML		13 48 32.0	
	comp=N,1677μm,0.7s								
CHOS	**Chios island**	**1.31**	**164**	PN		**Pn**	**Pn**	**13 48 02.7**	**-1.4**
CHOS	**Chios island**	**1.31**	**164**	P		**Pn**	**Pn**	**13 48 03.6**	**-0.6**
CHOS	**Chios island**	**1.31**	**164**	P		**Pn**	**Pn**	**13 48 03.5**	**-0.6**
AOS	**Alonnisos**	**1.41**	**251**	PN		**Pn**	**Pn**	**13 48 03.7**	**-1.7**
AOS	**Alonnisos**	**1.41**	**251**	P		**Pn**	**Pn**	**13 48 04.5**	**-0.9**
ALNA	**Alonissos**	**1.42**	**250**	P		**Pb**	**Pb**	**13 48 00.9**	**-0.2**
KESN	**Edirne-Kesan**	**1.45**	**35**	⇓*i* P		**Pn**	**Pn**	**13 48 05.2**	**-1.1**
KESN				*i* S		**Sb**	**Sb**	**13 48 24.7**	**-0.9**
PAIG	**Paliouri**	**1.50**	**281**	P		**Pn**	**Pn**	**13 48 05.7**	**-1.0**
PAIG	**Paliouri**	**1.50**	**281**	P		**Pn**	**Pn**	**13 48 05.8**	**-0.8**
PAIG				S		**Sn**	**Sn**	**13 48 26.1**	**-0.4**
RDO	**Rodhopi**	**1.50**	**359**	PN		**Pn**	**Pn**	**13 48 05.9**	**-0.8**
RDO	**Rodhopi**	**1.50**	**359**	P		**Pn**	**Pn**	**13 48 05.2**	**-1.5**
URLA	**Izmir**	**1.50**	**148**	PN		**Pn**	**Pn**	**13 48 06.4**	**-0.3**
URLA	**Izmir**	**1.50**	**148**	⇑*i* P		**Pn**	**Pn**	**13 48 06.4**	**-0.3**
URLA				*i* S		**Sn**	**Sn**	**13 48 25.8**	**-0.9**
KRBG	**Karabiga-Canak**	**1.51**	**60**	PN		**Pn**	**Pn**	**13 48 06.3**	**-0.5**
BALY	**Balya**	**1.57**	**86**	⇓*i* P		**Pn**	**Pn**	**13 48 07.5**	**-0.2**
BALY				*i* S		**Sb**	**Sb**	**13 48 28.5**	**-0.3**
KAVA	**Kavala**	**1.58**	**329**	P		**Pn**	**Pn**	**13 48 06.2**	**-1.6**
KAVA				S		**Sn**	**Sn**	**13 48 25.7**	**-2.8**
KVLA	**Kavala**	**1.58**	**325**	P		**Pn**	**Pn**	**13 48 06.8**	**-1.1**
SART	**Tekirdag**	**1.60**	**49**	⇓*i* P		**Pn**	**Pn**	**13 48 07.8**	**-0.4**
SART				*i* S		**Sb**	**Sb**	**13 48 30.4**	**+0.5**
KNL	**Balıkesir**	**1.61**	**67**	IAML_P					
	comp=Z,14μm,0.5s								
KNL				⇓*i* P		**Pn**	**Pn**	**13 48 08.5**	**+0.2**
KNL				*i* S		**Sb**	**Sb**	**13 48 30.1**	**+0.1**
GONE	**Gonen-Balikesi**	**1.66**	**75**	PN		**Pn**	**Pn**	**13 48 08.9**	**0.0**
STEP	**BALIKESIR_Sava**	**1.67**	**99**	IAML_P					
	comp=Z,5μm,0.2s								
STEP				⇓*i* P		**Pn**	**Pn**	**13 48 09.1**	**0.0**
STEP				*i* S		**Sb**	**Sb**	**13 48 31.2**	**-0.5**
BLCB	**Balcova**	**1.69**	**138**	PN		**Pn**	**Pn**	**13 48 09.2**	**-0.1**
SKIA	**Skiathos**	**1.71**	**254**	P		**Pn**	**Pn**	**13 48 09.0**	**-0.6**
SKIA				AML		AML		13 48 39.1	
	comp=E,2366μm,0.5s								
SKIA				AML		AML		13 48 49.2	
	comp=N,1907μm,0.7s								
SKIA	**Skiathos**	**1.71**	**254**	P		**Pn**	**Pn**	**13 48 09.7**	**+0.1**
SKIA				S		**Sn**	**Sn**	**13 48 31.9**	**+0.1**
BALB	**Balikesir**	**1.77**	**89**	PN		**Pn**	**Pn**	**13 48 10.5**	**+0.1**
EREA	**Eretria**	**1.78**	**227**	P		**Pn**	**Pn**	**13 48 09.9**	**-0.7**
PLG	**Polygyros**	**1.80**	**295**	P		**Pn**	**Pn**	**13 48 10.3**	**-0.5**
MRMT	**Marmara Adasi**	**1.81**	**57**	PN		**Pn**	**Pn**	**13 48 11.2**	**+0.2**
MRKA	**Markates**	**1.82**	**240**	P		**Pn**	**Pn**	**13 48 10.2**	**-0.9**
XOR	**Xorichti**	**1.88**	**262**	P		**Pn**	**Pn**	**13 48 11.0**	**-0.9**

EDC	**Edincik**	**1.88**	**67**	PN		**Pn**	**13 48 11.9**	**-0.1**
AKHS	**Akhisar**	**1.89**	**113**	⇑*i* P		**Pb**	**13 48 12.8**	**-1.3**
AKHS				*i* S		**Sg**	**13 48 41.9**	**+2.0**
SBT4	**Kumbag-Tekirda**	**1.90**	**51**	PN		**Pn**	**13 48 12.4**	**+0.4**
SMIA	**Simia**	**2.00**	**248**	P		**Pn**	**13 48 14.1**	**+0.5**
TKR	**Tekirdag**	**2.00**	**47**	PN		**Pn**	**13 48 14.2**	**+0.6**
KDZ	**Kurdzhali**	**2.01**	**356**	PN		**Pn**	**13 48 12.7**	**-1.0**
KDZ	**Kurdzhali**	**2.01**	**356**	P		**Pb**	**13 48 16.4**	**+0.3**
DION	**Dionisos Attik**	**2.03**	**220**	P		**Pn**	**13 48 12.7**	**-1.3**
GOMA	**Golmarmara-Man**	**2.04**	**117**	PN		**Pn**	**13 48 14.3**	**+0.2**
FYTO	**Fytoko, Volos**	**2.06**	**264**	P		**Pn**	**13 48 13.9**	**-0.5**
SOH	**Sokhos**	**2.08**	**305**	P		**Pn**	**13 48 13.8**	**-0.9**
SRS	**Serrai**	**2.12**	**315**	*e*Pn		**Pn**	**13 48 16.0**	**+0.8**
SRS				*e*Sn		**Sg**	**13 48 46.6**	**-0.6**
SRS	**Serrai**	**2.12**	**315**	P		**Pn**	**13 48 14.4**	**-0.8**
HORT	**Hortiatis**	**2.13**	**297**	PN		**Pn**	**13 48 14.5**	**-1.0**
HORT	**Hortiatis**	**2.13**	**297**	P		**Pn**	**13 48 14.9**	**-0.6**
RZN	**Rozhen**	**2.15**	**342**	P		**Pn**	**13 48 15.0**	**-0.7**
NVR	**Nevrokopi**	**2.15**	**323**	P		**Pn**	**13 48 14.4**	**-1.3**
ATHU	**Athens Univers**	**2.19**	**221**	P		**Pn**	**13 48 15.6**	**-0.5**
ATAL	**Atalanti**	**2.21**	**245**	P		**Pn**	**13 48 15.8**	**-0.7**
KCTX	**Karacabey (Bur**	**2.22**	**73**	PN		**Pn**	**13 48 16.9**	**+0.3**
DURS	**Dursunbey**	**2.23**	**90**	⇓*i* P		**Pn**	**13 48 16.8**	**0.0**
DURS				*i* S		**Sn**	**13 48 44.9**	**+0.1**
VIL2	**Platees**	**2.31**	**232**	P		**Pn**	**13 48 16.7**	**-1.1**
GCAM	**G?zelcaml?**	**2.33**	**146**	PN		**Pn**	**13 48 17.9**	**-0.2**
DST	**Dursunbey**	**2.34**	**90**	PN		**Pn**	**13 48 18.6**	**+0.3**
EDRB	**Edirne**	**2.37**	**21**	PN		**Pn**	**13 48 19.1**	**+0.5**
MMB	**Musomiste**	**2.40**	**324**	P		**Pn**	**13 48 20.2**	**+1.1**
LIT	**Litohoron**	**2.43**	**282**	P		**Pn**	**13 48 18.0**	**-1.5**
PHSR	**Pinarhisar**	**2.47**	**36**	PN		**Pn**	**13 48 20.4**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**2.47**	**133**	PN		**Pn**	**13 48 19.9**	**-0.3**
PLD	**Plovdiv**	**2.55**	**345**	*e*Pn		**Pn**	**13 48 21.6**	**+0.5**
PLD				*e*Sn		**Sb**	**13 48 55.3**	**-1.6**
PLD	**Plovdiv**	**2.55**	**345**	PN		**Pn**	**13 48 20.9**	**-0.2**
PLD	**Plovdiv**	**2.55**	**345**	P		**Pn**	**13 48 22.9**	**+1.8**
PLD				Pg		**Pg**	**13 48 28.5**	**+0.5**
SLVT	**Silivri**	**2.55**	**51**	PN		**Pn**	**13 48 21.7**	**+0.6**
KNT	**Kendrikon**	**2.55**	**307**	PN		**Pn**	**13 48 20.6**	**-0.6**
APE	**Apeiranthos**	**2.57**	**181**	PN		**Pn**	**13 48 20.9**	**-0.6**
APE	**Apeiranthos**	**2.57**	**181**	⇓*i

JNU	**Nakatsue**	**4.20 276**	Pn	**Pn**	**13 55 00.7**	**0.0**
	0.5nm,0.3s,baz=111,slow=6.9,SNR=16					
JNU			Sn	**Sn**	**13 55 48.4**	**-0.6**
	0.3nm,0.3s,baz=254,slow=7.4,SNR=2.0					
MJAR	**Matsushiro Arr**	**4.21 27**	Pn	**Pn**	**13 55 02.1**	**+1.4**
	0.4nm,0.3s,baz=205,slow=16,SNR=12					
MJAR			Sn	**Sn**	**13 55 49.2**	**+0.1**
	0.7nm,0.3s,baz=180,slow=18,SNR=6.1					
SONM	**Songino Array**	**26.82 313**	P	**P**	**13 59 38.6**	**+2.0**
	0.2nm,0.5s,baz=95,slow=7.2,SNR=2.7					
WRA	**Warramunga Arr**	**52.46 182**	P	**P**	**14 03 09.5**	**+0.4**
	0.3nm,0.9s,baz=359,slow=7.9,SNR=8.2					

MEX 12 14:17:01.9±0.7, 16°63'N×98°22'W, h10km±4km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.25**	**158**	*eP*	Pg	14 17 06.2	-0.9
PNIG				*eS*	Sg	14 17 11.2	+0.6
MEIG	**Mezcala**	**1.86**	**314**	*i P*	Pn	14 17 30.1	-3.7
MEIG				*i S*	Sn	14 17 52.6	-4.8
CAIG	**El Cayaco**	**2.00**	**282**	*i P*	Pn	14 17 32.6	-3.2
CAIG				*i S*	Sn	14 17 55.9	-4.9
PLIG	**Platanillo**	**2.14**	**325**	*i P*	Pn	14 17 35.0	-2.7
PLIG				*eS*	Sn	14 17 59.9	-4.5
HUIG	**Huatulco**	**2.21**	**113**	*i P*	Pn	14 17 35.3	-3.2
HUIG				*i S*	Sn	14 18 00.6	-5.3

*ISCJB **12** 14:22:41.6±0.4, 0°.06N±0°.05×16°.83W±0°.08, h13km, mb4.2/17, MS3.9/10, Error ellipse: s-maj=11.2km s-min=7.4km az=17.7*
*IDC **12** 14:22:41.3±0.7, 0°.03N×16°.94W, h0km, mb4.1/17, mb1 4.3/18, mb1mx4.1/44, mbtmp4.1/18, ML4.4/1, MS3.8/11, Ms1 3.8/11, ms1mx3.5/32, Error ellipse: s-maj=19.3km s-min=17.4km az=100.0*
*GCMT **12** 14:22:42.0±0.4, 0°.13N±0°.03×17°.02W±0°.03, h13km±1km, MW4.8/69, Moment Tensor Solution. s25,c28; s69,c92; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=1.88±.17; Mθθ=0.75±.10; Mφφ=1.13±.11; Mrθ=1.65±.35; Mθφ=-0.67±.06; Mφr=1.00±.30; Best double couple: M0=2.34900×10^16 NP1:φs=285.00000°, δ=62.00000°, λ=-122.00000°. NP2: φs=159.00000°, δ=42.00000°, λ=-45.00000°. Principal axes: T 1.6790, Plg=11.0000°, Azm=38.0000°; N 1.3400, Plg=28.0000°, Azm=302.0000°; P -3.0190, Plg=59.0000°, Azm=147.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 12 14:22:43.0±0.5, 0°.07N±0°.08×17°.00W±0°.09, h13km, n39, σ1§60/31, mb4.2/17, MS3.8/10, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.24**	**162**	Pn	**Pn**	**14 24 43.1**	**+1.1**
	baz=339,slow=13,SNR=3.0						
H10N2				T	T	14 32 53.8	
	baz=342,slow=74,SNR=311						
H10N3	**ASCENSION HYDR**	**8.24**	**162**	Pn	**Pn**	**14 24 43.0**	**+0.8**
	baz=339,slow=13,SNR=4.4						
H10N3				T	T	14 32 57.5	
	baz=342,slow=74,SNR=292						
H10N1	**ASCENSION HYDR**	**8.26**	**162**	Pn	**Pn**	**14 24 42.7**	**+0.4**
	baz=339,slow=13,SNR=4.9						
H10N1				T	T	14 32 52.4	
	baz=342,slow=74,SNR=591						
H10S1	**ASCENSION HYDR**	**9.25**	**165**	T	T	14 34 01.1	
	baz=345,slow=74						
H10S3	**ASCENSION HYDR**	**9.26**	**165**	T	T	14 34 10.6	
	baz=345						
H10S2	**ASCENSION HYDR**	**9.27**	**165**	T	T	14 34 02.3	
	baz=345,slow=74						
LIC	**Lamto**	**13.42**	**63**	*eP*	**Pn**	**14 25 53.0**	**-0.4**
	71nm,1.1s						
TIC	**Toumodi**	**13.62**	**61**	*eP*	**Pn**	**14 25 53.2**	**-2.9**
KIC	**Kosan Boka**	**13.74**	**63**	*eP*	**Pn**	**14 25 55.7**	**-2.0**
	79nm,1.3s						
DBIC	**Dimbokro**	**13.78**	**61**	Pn	**Pn**	**14 25 55.5**	**-2.7**
	2.0nm,0.3s,baz=233,slow=14,SNR=20						
DBIC				LR	LR	14 30 13.7	
	comp=Z,516nm,21.1s,baz=215,slow=33						
RCBR	**Riachuelo**	**19.75**	**252**	P	**P**	**14 27 07.8**	**-5.2**
	4.4nm,0.3s,baz=146,slow=0.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**22.63**	**54**	P	**P**	**14 27 43.0**	**-0.9**
	11nm,0.9s,baz=237,slow=10,SNR=20						
TORD				LR	LR	14 35 41.6	
	comp=Z,362nm,19.3s,baz=310,slow=34						
BDFB	**Brasilia**	**34.37**	**242**	P	**P**	**14 29 30.3**	**+0.1**
	2.2nm,0.6s,baz=169,slow=8.7,SNR=3.1						
MDT	**Midelt**	**34.60**	**19**	P	**P**	**14 29 32.5**	**+0.5**
	2.0nm,0.9s,baz=281,slow=6.0,SNR=2.6						
TSUM	**Tsumeb**	**38.96**	**121**	P	**P**	**14 30 09.7**	**+0.4**
	6.0nm,1.0s,baz=267,slow=8.9,SNR=4.7						
ESDC	**Sonseca Array**	**41.18**	**15**	LR	LR	14 47 52.9	
	comp=Z,109nm,20.4s,baz=0.0,slow=37						
KEST	**Kesra**	**43.13**	**32**	LR	LR	14 49 34.2	
	comp=Z,337nm,20.6s,baz=204,slow=37						
CPUP	**Villa Florida**	**46.87**	**233**	P	**P**	**14 31 13.4**	**+0.2**
	1.4nm,0.7s,baz=53,slow=13,SNR=3.5						
SUR	**Sutherland**	**48.10**	**136**	P	**P**	**14 31 22.6**	**-0.4**
	10.0nm,0.9s,baz=0.0,slow=2.0,SNR=3.7						
LBTB	**Lobatse**	**48.14**	**124**	P	**P**	**14 31 22.9**	**-0.4**
	7.6nm,0.9s,baz=282,slow=7.2,SNR=7.5						
BOSA	**Boshof**	**49.45**	**129**	P	**P**	**14 31 32.8**	**-0.6**
	12nm,0.9s,baz=293,slow=7.0,SNR=11						
GERES	**GERESS Array B**	**55.33**	**24**	P	**P**	**14 32 15.3**	**-1.3**
	0.4nm,0.6s,baz=198,slow=6.2,SNR=4.8						
BRTR	**Keskin Array B**	**60.67**	**43**	P	**P**	**14 32 55.7**	**+1.4**
	0.7nm,0.7s,baz=293,slow=4.1,SNR=4.4						
BRTR				LR	LR	15 00 44.6	
	comp=Z,44nm,20.8s,baz=209,slow=38						
AKASG	**Malin Array Be**	**63.84**	**31**	P	**P**	**14 33 16.4**	**+1.3**
	1.8nm,0.6s,baz=283,slow=10.0,SNR=7.8						
AKASG				LR	LR	15 03 21.4	
	comp=Z,75nm,18.6s,baz=220,slow=38						
NB2	**NORSAR Subarra**	**64.54**	**15**	P	**P**	**14 33 21.5**	**+1.9**
	comp=Z,5.9nm,1.4s,baz=211,slow=6.5						
NOA	**NORSAR Array B**	**64.54**	**15**	P	**P**	**14 33 21.1**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=206,slow=6.7,SNR=2.7						
NOA				LR	LR	15 02 52.8	
	comp=Z,64nm,20.6s,baz=205,slow=37						
KBZ	**Khabaz**	**68.63**	**42**	P	**P**	**14 33 46.3**	**+0.3**
	comp=Z,1.6nm,0.9s,baz=188,slow=7.7,SNR=2.6						
KBZ				LR	LR	15 05 15.4	
	comp=Z,46nm,20.0s,baz=307,slow=37						
FINES	**FINESS Array B**	**69.39**	**21**	P	**P**	**14 33 50.1**	**-0.2**
	comp=Z,4.1nm,1.1s,baz=132,slow=2.1,SNR=2.9						
FINES				LR	LR	15 04 46.7	
	comp=Z,96nm,19.2s,baz=252,slow=36						
VNA1	**Neumayer--Stat**	**70.83**	**177**	P	**P**	**14 34 01.3**	**+2.3**
VNA2	**Neumayer--Watz**	**71.16**	**177**	P	**P**	**14 34 01.2**	**+0.2**
	baz=340,slow=7.8						
VNA3	**Neumayer Olymp**	**71.36**	**178**	P	**P**	**14 34 02.4**	**+0.2**
SNAA	**Sanae**	**72.20**	**175**	P	**P**	**14 34 07.2**	**-0.2**
GEYT	**Alibeck**	**78.24**	**51**	LR	LR	15 12 27.5	
	comp=Z,76nm,19.6s,baz=0.0,slow=38						
RES	**Resolute Bay**	**86.74**	**345**	P	**P**	**14 35 27.9**	**+1.5**
	comp=Z,2.2nm,1.1s,baz=45,slow=7.1,SNR=4.1						
TXAR	**Lajitas Array**	**97.05**	**299**	P	**P**	**14 35 30.2**	**+1.1**
	comp=Z,1.1nm,0.9s,baz=116,slow=5.7,SNR=7.3						
YKA	**Yellowknife Ar**	**93.46**	**333**	P	**P**	**14 35 58.1**	**0.0**
	comp=Z,0.8nm,0.9s,baz=82,slow=5.1,SNR=8.7						
ZALV	**Zalesovo Beam**	**96.90**	**36**	LR	LR	15 22 33.3	
	comp=Z,35nm,21.1s,baz=246,slow=37						
ASAR	**Alice Springs**	**143.29**	**132**	PKhKP	PKPpre	14 42 14.1	
	comp=Z,2.0nm,0.8s,baz=228,slow=2.4,SNR=22						
WRA	**Warramunga Arr**	**145.68**	**127**	PKPbc	**PKPbc**	**14 42 21.8**	**-0.8**
	comp=Z,6.1nm,1.0s,baz=246,slow=2.5,SNR=25						

*IDC **12** 14:22:53.5±0.8, 19°.50N×64°.46W, h0km, mb3.9/11, mb1 4.1/14, mb1mx3.9/45, mbtmp4.0/14, ML2.8/3, MS3.3/2, Ms1 3.3/2, ms1mx2.9/25, Error ellipse: s-maj=21.9km s-min=16.6km az=117.0*
*NEIC **12** 14:22:54.5±0.0, 19°.61N×64°.28W, h74km, MD3.3(RSPR), After RSPR.*
*RSPR **12** 14:22:54.5, 19°.61N×64°.28W, h73km±3km, MD3.3/3*
*ISCJB **12** 14:22:55.7±0.5, 19°.57N±0°.03×64°.46W±0°.05, h27km, mb3.9/10, Error ellipse: s-maj=6.6km s-min=4.4km az=16.0*
ISC 12 14:22:57.5±0.6, 19°.49N±0°.05×64°.53W±0°.06, h27km, n64, σ1§22/73, mb4.0/10, 20C-6D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.78**	**166**	*eP*	**Pn**	**14 23 10.9**	**-1.9**
ABV	**Anegada**	**0.78**	**166**	*eS*	**Sn**	**14 23 23.9**	**+0.3**
ABVI	**Anegada Island**	**0.78**	**166**	*eP*	**Pn**	**14 23 10.9**	**-1.8**
ABVI				*eS*	**Sn**	**14 23 23.9**	**+0.3**
TBVI	**Tortola**	**1.07**	**184**	*eP*	**Pn**	**14 23 15.2**	**-1.6**
TBVI	**Tortola**	**1.07**	**184**	*eS*	**Pn**	**14 23 15.2**	**-1.6**
STVI	**Saint Thomas**	**1.20**	**200**	*eP*	**Pn**	**14 23 17.6**	**-1.1**
STVI	**Saint Thomas**	**1.20**	**200**	*eS*	**Sb**	**14 23 35.6**	**+0.8**
STVI	**Saint Thomas**	**1.20**	**200**	*eP*	**Pn**	**14 23 17.6**	**-1.1**
STVI				*eS*	**Sb**	**14 23 35.6**	**+0.8**
CUPR	**Culebra, Puert**	**1.38**	**211**	*eP*	**Pn**	**14 23 20.2**	**-0.8**
CUPR	**Culebra, Puert**	**1.38**	**211**	*eS*	**Sb**	**14 23 40.4**	**+0.6**
CUPR	**Culebra, Puert**	**1.38**	**211**	*eP*	**Pn**	**14 23 20.2**	**-0.8**
CUPR				*eS*	**Sb**	**14 23 40.4**	**+0.6**
MTP	**Monte Pirata**	**1.69**	**215**	*eP*	**Pn**	**14 23 24.7**	**-0.6**
MTP	**Monte Pirata**	**1.69**	**215**	*eS*	**Sb**	**14 23 48.0**	**-0.9**
MTP	**Monte Pirata**	**1.69**	**215**	*eP*	**Pn**	**14 23 24.7**	**-0.6**
MTP				*eS*	**Sb**	**14 23 48.0**	**-0.9**
CBYP	**Canovanas**	**1.75**	**226**	*eP*	**Pn**	**14 23 25.2**	**-1.0**
CBYP	**Canovanas**	**1.75**	**226**	*eP*	**Pn**	**14 23 25.2**	**-1.0**
HUMP	**Col San Antoni**	**1.83**	**223**	*eP*	**Pn**	**14 23 27.0**	**-0.3**
HUMP	**Col San Antoni**	**1.83**	**223**	*eS*	**Sb**	**14 23 51.9**	**-1.1**
HUMP	**Col San Antoni**	**1.83**	**223**	*eP*	**Pn**	**14 23 27.0**	**-0.3**
HUMP				*eS*	**Sb**	**14 23 51.9**	**-1.1**
SJG	**San Juan**	**2.06**	**228**	*eP*	**Pn**	**14 23 29.9**	**-0.4**
SJG	**San Juan**	**2.06**	**228**	*eS*	**Sb**	**14 23 57.7**	**-1.8**
SJG	**San Juan**	**2.06**	**228**	Pn	**Pn**	**14 23 30.0**	**-0.4**
	5.1nm,0.3s,baz=99,slow=19,SNR=7.9						
SJG				Sn	**Sb**	**14 23 58.9**	**-0.5**
	28nm,0.3s,baz=257,slow=18,SNR=8.5						
SJG	**San Juan**	**2.06**	**228**	*eP*	**Pn**	**14 23 29.9**	**-0.4**
SJG				*eS*	**Sb**	**14 23 57.7**	**-1.8**
SJG				Sn	**Sb**	**14 23 58.9**	**-0.5**
EMPR	**Esperanza - Ma**	**2.15**	**242**	*eP*	**Pn**	**14 23 31.3**	**-0.3**
EMPR	**Esperanza - Ma**	**2.15**	**242**	*eS*	**Sb**	**14 23 59.8**	**-2.1**
EMPR	**Esperanza - Ma**	**2.15**	**242**	*eP*	**Pn**	**14 23 31.3**	**-0.3**
EMPR				*eS*	**Sb**	**14 23 59.8**	**-2.1**
CELP	**Cerrillos**	**2.40**	**234**	*eP*	**Pn**	**14 23 34.8**	**-0.3**
CELP	**Cerrillos**	**2.40**	**234**	*eP*	**Pn**	**14 23 34.8**	**-0.3**
OBIP	**Obispado Ponce**	**2.44**	**234**	*eP*	**Pn**	**14 23 35.2**	**-0.4**
OBIP	**Obispado Ponce**	**2.44**	**234**	*eS*	**Sb**	**14 24 07.3**	**-3.1**
OBIP	**Obispado Ponce**	**2.44**	**234**	*eP*	**Pn**	**14 23 35.2**	**-0.4**
OBIP				*eS*	**Sb**	**14 24 07.3**	**-3.1**
LSP	**Las Mesas**	**2.75**	**242**	*eP*	**Pn**	**14 23 39.5**	**-0.4**
LSP	**Las Mesas**	**2.75**	**242**	*eP*	**Pn**	**14 23 39.5**	**-0.4**
CRPR	**Cabo Rojo, PR**	**2.86**	**239**	*eP*	**Pn**	**14 23 40.9**	**-0.5**
CRPR	**Cabo Rojo, PR**	**2.86**	**239**	*eP*	**Pn**	**14 23 40.9**	**-0.5**
SDV	**Santo Domingo**	**12.09**	**210**	Pn	**Pn**	**14 25 49.9**	**+1.6**
	0.4nm,0.3s,baz=28,slow=6.1,SNR=8.1						
SDV				Sn	**Sn**	**14 28 04.2**	**+1.8**
	0.4nm,0.3s,baz=336,slow=20,SNR=2.7						
SDV				LR	LR	14 31 30.2	
	comp=Z,129nm,20.9s,baz=104,slow=43						
SDV	**Santo Domingo**	**12.09**	**210**	*eP*	**Pn**	**14 25 51.0**	**+2.7**
SDV	**Santo Domingo**	**12.09**	**210**	*eP*	**Pn**	**14 25 51.0**	**+2.7**
NORC	**Norcasia**	**17.12**	**217**	*eP*	**Pn**	**14 26 55.0**	**-0.1**
NORC	**Norcasia**	**17.12**	**217**	*eP*	**Pn**	**14 26 55.0**	**-0.1**
CHIC	**Chingaza**	**17.28**	**212**	*eP*	**Pn**	**14 26 55.8**	**-1.7**
CHIC	**Chingaza**	**17.28**	**212**	*eP*	**Pn**	**14 26 55.8**	**-1.7**
ROSC	**El Rosal**	**17.41**	**214**	P	**P**	**14 27 00.6**	**+0.4**
	0.9nm,0.3s,baz=158,slow=19,SNR=4.2						
ROSC				LR	LR	14 34 03.1	
	comp=Z,103nm,20.5s,baz=37,slow=38						
BETC	**Betania**	**19.82**	**214**	*eP*	**Pn**	**14 27 29.9**	**+1.9**
BETC	**Betania**	**19.82**	**214**	*eP*	**Pn**	**14 27 29.9**	**+1.9**
MARP	**Paez Belalcaza**	**19.96**	**215**	*eP*	**Pn**	**14 27 29.9**	**0.0**
MARP	**Paez Belalcaza**	**19.96**	**215**	*eP*	**Pn**	**14 27 29.9**	**0.0**
PTGA	**Pitinga**	**20.59**	**167**	P	**P**	**14 27 32.9**	**-1.8**
	2.2nm,0.4s,baz=315,slow=20,SNR=3.8						
PCON	**Cinco Dias**	**20.63**	**216**	*eP*	**P**	**14 27 35.8**	**+0.1**
PCON	**Cinco Dias**	**20.63**	**216**	*eP*	**P**	**14 27 35.8**	**+0.1**
SOTA	**Rioblanco**	**20.91**	**216**	*eP*	Pn	14 27 43.2	+2.0
SOTA	**Rioblanco**	**20.91**	**216**	*eP*	Pn	14 27 43.2	+2.0
TXAR	**Lajitas Array**	**36.81**	**293**	P	**P**	**14 30 04.4**	**+0.8**
	0.8nm,0.8s,baz=102,slow=12,SNR=8.5						
ULM	**Lac du Bonnet**	**39.51**	**328**	P	**P**	**14 30 25.6**	**-0.2**
	2.2nm,0.8s,baz=144,slow=8.9,SNR=4.1						
PDAR	**Pinedale Array**	**44.33**	**312**	P	**P**	**14 31 06.2**	**+0.6**
	0.7nm,1.0s,baz=50,slow=4.6,SNR=3.7						
NVAR	**Mina Array Bea**	**49.97**	**304**	P	**P**	**14 31 50.0**	**+0.3**
	0.5nm,0.8s,baz=105,slow=5.7,SNR=2.8						
YKA	**Yellowknife Ar**	**54.91**	**334**	P	**P**	**14 32 25.2**	**-0.4**
	1.1nm,0.8s,baz=109,slow=7.4,SNR=9.5						
TORD	**Torodi Ar. Bea**	**63.55**	**85**	P	**P**	**14 33 25.5**	**-0.7**
	1.4nm,0.9s,baz=222,slow=5.6,SNR=5.3						
ILAR	**Eielson Array**	**69.30**	**333**	P	**P**	**14 34 01.5**	**-0.7**
	1.2nm,1.0s,baz=103,slow=3.3,SNR=6.8						
ARCES	**ARCESS Array B**	**71.92**	**22**	P	**P**	**14 34 19.1**	**+1.0**
	7.2nm,1.2s,baz=307,slow=7.8,SNR=3.6						
FINES	**FINESS Array B**	**73.38**	**30**	P	**P**	**14 34 28.6**	**+1.8**
	3.2nm,1.0s,baz=258,slow=4.1,SNR=2.3						
SEY	**Seymchan**	**92.87**	**344**	P	**P**	**14 36 07.9**	**+0.2**
	1.0nm,0.6s,baz=58,slow=9.5,SNR=3.5						
WRA	**Warramunga Arr**	**162.23**	**265**	PKPab	**PKPab**	**14 43 44.0**	**-0.6**
	0.4nm,0.7s,baz=83,slow=4.0,SNR=3.6						
ASAR	**Alice Springs**	**162.36**	**253**	PKPab	**PKPab**	**14 43 45.1**	**0.0**
	0.5nm,1.0s,baz=100,slow=4.3,SNR=4.7						

IDC 12 14:23:31.0±2.3, 5°.45S×130°.25E, h175km±36km, mb2.6/1, mb1 3.2/5, mb1mx2.9/35, mbtmp3.6/5, Error ellipse: s-maj=77.7km s-min=15.7km az=87.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.67**	**13**	P	Pn	14 24 42.5	+1.9
	2.8nm,0.3s,baz=234,slow=22,SNR=46						
SIJI				S	Sn	14 25 34.6	-0.6
	2.5nm,0.3s,baz=218,slow=22,SNR=8.2						
FITZ	**Fitzroy Crossi**	**13.35**	**199**	P	Pn	14 26 32.7	-1.1
	0.1nm,0.3s,baz=23,slow=12,SNR=6.5						
FITZ				S	Sn	14 28 50.3	-12
	0.1nm,0.3s,baz=245,slow=14,SNR=3.8						
WRA	**Warramunga Arr**	**14.94**	**165**	P	Pn	14 26 52.5	-1.2
	0.2nm,0.3s,baz=350,slow=12,SNR=15						
WRA				S	Sn	14 29 28.0	-12
	0.1nm,0.3s,baz=337,slow=23,SNR=6.9						
ASAR	**Alice Springs**	**18.45**	**169**	P	P	14 27 34.4	+0.8
	0.5nm,0.3s,baz=347,slow=9.7,SNR=80						
ASAR				S	S	14 30 54.1	-1.0
	0.0nm,0.3s,baz=352,slow=27,SNR=3.6						
MKAR	**Makanchi Array**	**67.08**	**326**	P	P	14 34 05.5	-0.1
	0.1nm,0.4s,baz=124,slow=6.7,SNR=2.8						

*IDC **12** 14:23:58.7±4.0, 19°.34N×63°.82W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.5/42, mbtmp3.5/4, Error ellipse: s-maj=90.7km s-min=60.6km az=113.0*
*ISCJB **12** 14:24:04.8±0.7, 19°.54N±0°.04×64°.52W±0°.05, h27km, mb3.5/4, Error ellipse: s-maj=6.9km s-min=5.8km az=167.2*
*NEIC **12** 14:24:05.5±0.0, 19°.17N×64°.22W, h101km, MD3.5(RSPR), After RSPR.*
*RSPR **12** 14:24:05.5, 19°.17N×64°.22W, h101km±3km, MD3.5/5*
ISC 12 14:24:05.4±0.8, 19°.46N±0°.06×64°.37W±0°.05, h27km, n29, σ1§18/42, mb3.6/4, 8C-9D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.73**	**177**	*eP*	**Pn**	**14 24 20.2**	**+0.3**
ABV	**Anegada**	**0.73**	**177**	*eS*	**Sn**	**14 24 32.7**	**+2.6**
ABV	**Anegada**	**0.73**	**177**	*eP*	**Pn**	**14 24 20.2**	**+0.3**
ABV				*eS*	**Sn**	**14 24 32.7**	**+2.6**
ABVI	**Anegada Island**	**0.73**	**177**	*eP*	**Pn**	**14 24 20.2**	**+0.3**
ABVI				*eS*	**Sn**	**14 24 32.7**	**+2.6**
TBVI	**Tortola**	**1.06**	**193**	*eP*	**Pn**	**14 24 23.8**	**-0.7**
TBVI				*eS*	**Sb**	**14 24 38.5**	**-0.1**
TBVI	**Tortola**	**1.06**	**193**	*eP*	**Pn**	**14 24 23.8**	**-0.7**
TBVI	**Tortola**	**1.06**	**193**	*eP*	**Pn**	**14 24 23.8**	**-0.7**
TBVI				*eS*	**Sb**	**14 24 38.5**	**-0.1**
STVI	**Saint Thomas**	**1.23**	**207**	*eP*	**Pn**	**14 24 26.4**	**-0.4**
STVI	**Saint Thomas**	**1.23**	**207**	*eS*	**Sn**	**14 24 42.3**	**-0.3**
STVI	**Saint Thomas**	**1.23**	**207**	*eP*	**Pn**	**14 24 26.4**	**-0.4**
STVI				*eS*	**Sn**	**14 24 42.3**	**-0.3**
STVI	**Saint Thomas**	**1.23**	**207**	*eP*	**Pn**	**14 24 26.4**	**-0.4**
STVI				*eS*	**Sn**	**14 24 42.3**	**-0.3**
CUPR	**Culebra, Puert**	**1.44**	**217**	*eP*	**Pn**	**14 24 29.2**	**-0.5**
CUPR	**Culebra, Puert**	**1.44**	**217**	*eS*	**Sn**	**14 24 47.6**	**0.0**
CUPR	**Culebra, Puert**	**1.44**	**217**	*eP*	**Pn**	**14 24 29.2**	**-0.5**
CUPR				*eS*	**Sn**	**14 24 47.6**	**0.0**
MTP	**Monte Pirata**	**1.76**	**220**	*eP*	**Pn**	**14 24 33.8**	**-0.4**
MTP	**Monte Pirata**	**1.76**	**220**	*eS*	**Sn**	**14 24 54.0**	**-1.6**
MTP	**Monte Pirata**	**1.76**	**220**	*eP*	**Pn**	**14 24 33.8**	**-0.4**
MTP				*eS*	**Sn**	**14 24 54.0**	**-1.6**
MTP	**Monte Pirata**	**1.76**	**220**	*eP*	**Pn**	**14 24 33.8**	**-0.4**
MTP				*eS*	**Sn**	**14 24 54.0**	**-1.6**
HUMP	**Col San Antoni**	**1.92**	**227**	*eP*	**Pn**	**14 24 36.0**	**-0.3**
HUMP	**Col San Antoni**	**1.92**	**227**	*eS*	**Sn**	**14 24 59.8**	**+0.2**
HUMP	**Col San Antoni**	**1.92**	**227**	*eP*	**Pn**	**14 24 36.0**	**-0.3**
HUMP				*eS*	**Sn**	**14 24 59.8**	**+0.2**
HUMP	**Col San Antoni**	**1.92**	**227**	*eP*	**Pn**	**14 24 36.0**	**-0.3**
HUMP				*eS*	**Sn**	**14 24 59.8**	**+0.2**
SJG	**San Juan**	**2.15**	**232**	Sn	**Sn**	**14 25 05.2**	**-0.2**
	4.8nm,0.3s,baz=348,slow=20,SNR=1.8						
ANWB	**Willy Bob**	**3.03**	**126**	*eP*	**Sn**	**14 25 27.5**	**+0.4**
ANWB				*eS*	**Sb**	**14 25 32.2**	**-3.0**
ANWB				*eS*	**Sb**	**14 25 32.2**	**-3.0**
TXAR	**Lajitas Array**	**36.97**	**293**	P	**P**	**14 31 14.1**	**+1.4**
	0.6nm,0.8s,baz=115,slow=11,SNR=5.0						
PDAR	**Pinedale Array**	**44.46**	**312**	P	**P**	**14 32 15.7**	**+1.2**
	0.6nm,0.9s,baz=108,slow=8.9,SNR=2.0						
YKA	**Yellowknife Ar**	**55.00**	**334**	P	**P**	**14 33 33.9**	**-0.2**
	0.6nm,0.8s,baz=102,slow=7.4,SNR=3.3						
ILAR	**Eielson Array**	**69.40**	**333**	P	**P**	**14 35 10.4**	**-0.3**
	0.5nm,0.7s,baz=107,slow=3.8,SNR=4.7						
WRA	**Warramunga Arr**	**162.38**	**265**	PKPab	**PKPab**	**14 44 52.7**	**-0.4**
	0.2nm,0.7s,baz=87,slow=3.1,SNR=3.1						

*ISCJB **12** 14:32:36.6±0.3, 53°.06S±0°.05×46°.91W±0°.09, h10km, mb5.0/40, MS4.3/16, Error ellipse: s-maj=8.8km s-min=5.7km az=138.8*
*IDC **12** 14:32:36.9±0.6, 53°.07S×46°.77W, h0km, mb4.4/11, mb1 4.5/11, mb1mx4.4/25, mbtmp4.4/11, MS4.2/15, Ms1 4.2/15, ms1mx4.1/21, Error ellipse: s-maj=24.1km s-min=15.9km az=62.0*
*NEIC **12** 14:32:38.0±0.2, 53°.11S×46°.94W, h10km, mb5.0/38, Error ellipse: s-maj=9.6km s-min=6.4km az=45.0*
*BJI **12** 14:32:40.0, 53°.10S×47°.00W, h15km, mB5.2/7, Ms5.4/7, Ms7 5.1/7*
ISC 12 14:32:38.1±0.3, 53°.18S±0°.07×47°.04W±0°.06, h10km, n128, σ1§52/110, mb5.0/40, MS4.3/16, 1C-3D, South Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.36**	**104**	*eP*	**Pn**	**14 34 12.4**	**+0.7**
HOPE				*eS*	**Sn**	**14 35 21.8**	**-2.5**
EFI	**East Falkland**	**6.91**	**278**	*eP*	**Pn**	**14 34 18.4**	**-0.9**
EFI				*eS*	Sn	14 35 28.8	-9.1
USHA	**Ushuaia**	**12.69**	**254**	Pn	Pn	14 35 31.2	-7.1
	0.9nm,0.3s,baz=86,slow=14,SNR=4.0						
USHA				Sn	Sn	14 37 47.4	-12
	7.7nm,0.3s,baz=217,slow=21,SNR=9.8						
USHA				LR	LR	14 41 36.4	
	comp=Z,896nm,19.7s,baz=78,slow=42						
PMSA	**Palmer Station**	**14.50**	**210**	Pn	**P**	**14 36 08.4**	**-1.3**
	0.9nm,0.3s,baz=18,slow=20,SNR=2.3						
PMSA				LR	LR	14 40 43.4	
	comp=Z,3μm,18.7s,baz=26,slow=33						
PMSA	**Palmer Station**	**14.50**	**210**	*eP*	**Pn**	**14 35 59.7**	**-3.2**
TRQA	**Tornquist**	**18.32**	**320**	*eP*	**P**	**14 36 53.5**	**+1.2**
	47nm,1.3s						

LBTB Lobatse 60.08 92 *e*P **P 14 42 44.5 -0.9**
33nm,1.2s
SOTA Rioblanco 60.42 325‖ *e*P **P 14 42 49.3 +1.1**
SOTA Rioblanco 60.42 325‖ *e*P **P 14 42 49.3 +1.1**
PCON Cinco Dias 60.53 326 *e*P **P 14 42 51.0 +2.0**
PCON Cinco Dias 60.53 326 *e*P **P 14 42 51.0 +2.0**
POPC Popayan, Colom 60.82 326 *e*P **P 14 42 53.5 +2.8**
POPC Popayan, Colom 60.82 326 *e*P **P 14 42 53.5 +2.8**
ROSC El Rosal 62.21 329 LR LR 15 13 53.7
comp=Z,105nm,18.7s,baz=272,slow=40
RUSC La Rusia 62.83 331 *e*P **P 14 43 03.5 -1.0**
RUSC La Rusia 62.83 331 *e*P **P 14 43 03.5 -1.0**
ZARC Zaragoza, Cauc 64.88 329 *e*P **P 14 43 15.9 -1.5**
ZARC Zaragoza, Cauc 64.88 329 *e*P **P 14 43 15.9 -1.5**
LIC Lamto 68.98 45 *e*P **P 14 43 43.5 0.0**
98nm,1.2s
LSZ Lusaka 69.07 88 *e*P **P 14 43 44.0 -0.3**
28nm,0.9s
KIC Kosan Boka 69.23 46 *e*P **P 14 43 44.7 -0.3**
51nm,1.1s
TIC Toumodi 69.36 45 *e*P **P 14 43 45.6 -0.3**
DBIC Dimbokro 69.45 45 P **P 14 43 46.0 -0.5**
8.2nm,1.0s,baz=202,slow=6.9,SNR=10
DBIC LR LR 15 07 23.9
comp=Z,187nm,20.8s,baz=184,slow=30
DBIC Dimbokro 69.45 45 *e*P **P 14 43 45.8 -0.6**
15nm,1.1s
RKT Rikitea 70.63 257 *e*LR LR 15 05 21.1
comp=Z,250nm,27.0s
WHZ Wether Hill Ro 76.88 204 *e*P **P 14 44 30.9 +0.9**
191nm,1.9s
PYZ Puysegur Point 76.93 203 *e*P **P 14 44 28.1 -2.1**
123nm,1.2s
TOA0 Torodi Ar. Sit 78.09 48 *e*P **P 14 44 35.7 -1.4**
TORD Torodi Ar. Bea 78.09 48 P **P 14 44 36.5 -0.5**
12nm,1.0s,baz=199,slow=5.2,SNR=33
TORD LR LR 15 12 23.3
comp=Z,293nm,21.3s,baz=265,slow=31
LTZ Lake Taylor 78.61 208 *e*P **P 14 44 40.9 +1.1**
54nm,1.5s
TBI Tubuai 78.72 246 *e*LR LR 15 09 11.5
comp=Z,228nm,33.0s
THZ Tophouse 79.36 209 *e*P **P 14 44 43.7 -0.3**
86nm,1.9s
BKZ Black Stump Fm 80.62 213 *e*P **P 14 44 51.9 +1.2**
31nm,1.6s
URZ Urewera 81.23 214 *e*P **P 14 44 53.9 -0.1**
20nm,1.3s
TEIG Tepich 81.34 321 *e*P **P 14 44 55.4 +0.9**
66nm,1.5s
HIZ Hauiti 81.74 212 *e*P **P 14 44 56.7 0.0**
140nm,1.6s
PPT2 Papeete2 83.39 250 *e*LR LR 15 11 21.4
comp=Z,284nm,26.2s
PPT Papeete 83.40 250 LR LR 15 14 00.2
comp=Z,97nm,21.1s,baz=156,slow=30
TAOE Nuku Hiva Isla 84.85 262 *e*LR LR 15 11 56.9
comp=Z,268nm,26.5s
OUZ Omahuta 85.16 212 *e*P **P 14 45 14.6 +0.4**
24nm,1.5s
KMBO Kilima Mbogo 85.67 86 LR LR 15 20 16.8
comp=Z,256nm,20.6s,baz=104,slow=33
TAM Tamanrasset 88.27 47 *e*P **P 14 45 30.6 +1.0**
14nm,1.5s
NWAO Narrogin (SRO) 93.17 167 LR LR 15 23 47.9
comp=Z,111nm,22.0s,baz=305,slow=33
TXAR Lajitas Array 95.74 313 LR LR 15 25 33.4
comp=Z,72nm,21.3s,baz=0.0,slow=33
DZM Mont Dzumac 99.64 211 *e*LR LR 15 18 55.7
comp=Z,166nm,26.4s
ESDC Sonseca Array 99.69 32 LR LR 15 24 41.5
comp=Z,43nm,21.8s,baz=145,slow=31
ASAR Alice Springs 103.48 181 Pdiff **Pdif 14 46 37.9 -1.0**
1.1nm,0.9s,baz=172,slow=4.3,SNR=8.3
ASAR PKiKP **PKiKP 14 50 57.1 -0.6**
0.6nm,0.9s,baz=184,slow=3.7,SNR=4.4
WRA Warramunga Arr 107.18 181 Pdiff **Pdif 14 46 54.7 -0.8**
0.8nm,0.9s,baz=186,slow=4.2,SNR=5.7
WRA PKiKP **PKiKP 14 51 03.7 -0.8**
0.3nm,0.5s,baz=198,slow=1.4,SNR=12
YKA Yellowknife Ar 126.91 328 PKP **PKPdf 14 51 40.4 -0.2**
0.6nm,0.6s,baz=137,slow=2.2,SNR=19
YKB5 Yellowknife Ar 126.91 328 *e*PKPdf **PKPdf 14 51 40.1 -0.5**
FINES FINESS Array B 128.05 36 PKP **PKPdf 14 51 42.0 -0.8**
1.2nm,0.7s,baz=203,slow=1.5,SNR=3.4
AKTO Aktyubinsk 135.55 62 PKP **PKPdf 14 51 55.4 -2.0**
0.4nm,0.4s,baz=284,slow=8.3,SNR=2.7
ABKAR Akbulak array 135.93 64 *e*PKPpre PKPpre 14 51 46.3
ABKAR *e*PKPdf **PKPdf 14 51 57.2 -0.9**
CMAR Chiang Mai Arr 136.46 130 PKP **PKPdf 14 52 00.7 +0.6**
0.5nm,0.3s,baz=182,slow=4.2,SNR=4.7
KSH Kashi 139.44 86 PKP **PKPdf 14 52 05.2 +0.1**
KSH PP **PP 14 55 01.7 +1.5**
KSH PKS **PKSdf 14 55 35.1 -6.1**
KSH AMB AMB
comp=Z,400nm,5.2s
KSH LR LR
comp=N,220nm,7.9s
KSH LR LR
comp=E,270nm,5.6s
KSH LR LR
comp=Z,300nm,6.8s
IL1 Eielson Array 139.96 319 *e*PKPpre PKPpre 14 51 57.1
IL1 *e*PKPdf **PKPdf 14 52 05.3 +0.2**
ILAR Eielson Array 139.96 319 PKhKP PKPpre 14 51 57.1
0.3nm,0.5s,baz=96,slow=2.1,SNR=6.2
AAK Ala-Archa 140.46 81 PKP **PKPdf 14 52 05.1 -1.9**
1.9nm,0.8s,baz=236,slow=15,SNR=2.8
QIZ Qiongzhong 141.49 143 PKP **PKPdf 14 52 09.6 +0.3**
QIZ PP **PP 14 55 14.1 +2.2**
QIZ SS SS 15 13 45.5 +3.8
IM3 Indian Mountai 143.08 319 *e*PKPpre PKPpre 14 52 07.7
IM3 *e*PKPdf **PKPdf 14 52 11.7 +1.1**
BVAR Borovoye Array 143.50 64 PKP PKPbc 14 52 09.3 +0.1
0.8nm,0.5s,baz=150,slow=3.3,SNR=7.8
KMI Kunming 143.97 129 PKP **PKiKP 14 52 16.0 -1.3**
GYA Guiyang 146.89 133 *e*PKPbc **PKiKP 14 52 29.0 +5.9**
GYA PKPab sPKPab 14 53 24.0 +58
GYA PP PP 14 55 25.2 -19
GYA AMB AMB
comp=Z,120nm,7.9s
KURK Kurchatov 147.09 72 *e*PKPdf **PKPbc 14 52 19.8 -0.3**
MK01 Makanchi Array 147.38 80 *e*PKPdf **PKPdf 14 52 18.9 +0.2**
MK31 Makanchi Array 147.39 80 *e*PKPdf **PKPdf 14 52 18.7 0.0**
MKAR Makanchi Array 147.39 80 PKPbc **PKPdf 14 52 19.6 +0.9**
comp=Z,0.8nm,0.6s,baz=267,slow=2.4,SNR=9.2
MKAR Makanchi Array 147.39 80 *e*PKPdf **PKPdf 14 52 18.9 +0.2**
WMQ Urumqi 149.05 89 *e*PKPbc **PKPdf 14 52 22.4 +0.8**
WMQ LR LR
comp=Z,160nm,26.7s
WMQ LR LR
comp=Z,180nm,23.7s
CD2 Chengdu 149.29 125 PKPbc **PKPdf 14 52 22.0 -0.3**
GAMB Gambell 150.17 313 *e*PKPbc **PKiKP 14 52 28.8 +0.3**
ZALV Zalesovo Beam 151.83 69 PKPbc **PKiKP 14 52 32.4 +0.2**
comp=Z,2.0nm,0.8s,baz=283,slow=2.6,SNR=5.8
ZALV Zalesovo Beam 151.83 69 *e*pPKPdf **PKPbc 14 52 30.2 -1.6**
LZH Lanzhou 153.41 118 *e*PKPbc **PKPdf 14 52 27.7 -0.9**
LZH pPKP PKPbc 14 52 35.1 -1.1
LZH sPKP 14 52 39.3
LZH LR LR
comp=Z,180nm,12.8s
LZH LR LR
comp=Z,200nm,14.0s
LZH LR LR
comp=Z,220nm,16.5s
GTA Gaotai 153.56 108 *e*P **PKPab 14 52 49.0 +0.1**
GTA pP sPKPab 14 52 52.6 0.0
GTA sP pPKPdf 14 52 55.2 +3.5
GTA pmax pmax
comp=Z,6.0nm,1.4s
GTA Gaotai 153.56 108 PKPbc **PKPbc 14 52 35.8 -0.6**
GTA LR LR
comp=Z,98nm,19.2s
GTA LR LR
comp=Z,110nm,20.3s
GTA LR LR
comp=Z,130nm,17.9s
NJ2 Nanjing 156.56 149 *e*PKP **PKPdf 14 52 34.3 +1.5**
HHC Hu-ho-hao-te 160.99 122 *e*PKP **PKPdf 14 52 39.8 +1.9**
KSAR Wonju Array Be 163.87 165 PKPab **PKPab 14 53 34.9 +1.6**
KSRS Korea Array 163.89 165 PKPab **PKPab 14 53 34.9 +1.5**
comp=Z,1.9nm,0.8s,baz=181,slow=4.1,SNR=4.6
USRK Ussuriysk Ar. 170.99 176 PKPab **PKPab 14 54 04.4 -0.2**
comp=Z,10.0nm,1.3s,baz=222,slow=7.8,SNR=5.9

MAN 12 14:39:22.3, 10°.22N×125°.87E, h45km, mb4.3, ML3.2, MS2.9, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.57**	**221**	*e*P	Pn	14 39 35.2	+1.0
SCPH				*e*S	Sn	14 39 44.9	+2.2
MSLP	**Maasin**	**0.99**	**265**	*e*P	Pn	14 39 41.3	+1.5
MSLP				*e*S	Sn	14 39 54.4	+1.7
BUTP	**Butuan**	**1.26**	**191**	*e*P	Pn	14 39 45.7	+2.2
BUTP				*e*S	Sn	14 40 04.0	+4.7
BESP	**Borongan**	**1.44**	**343**	*e*P	Pn	14 39 46.2	+0.3
BESP				*e*S	Sn	14 40 05.4	+1.7
CNP	**Catarman**	**2.57**	**333**	*e*P	Pn	14 40 01.6	+0.3
GUIM	**Jordan**	**3.25**	**277**	*e*P	Pn	14 40 12.0	+1.3

NIED ***12*** *14:46:00, 37°.80N×143°.70E, h8km, Mw3.5 Best double couple: M□2.08000×10^14 NP1:φs=343.00000°, δ50.00000°, λ=-152.00000°. NP2:φs=233.00000°, δ69.00000°, λ=-44.00000°.*

IDC ***12*** *14:46:26.9±1.4, 37°.58N×143°.88E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.4/40, mbtmp3.6/4, ML3.7/2, Error ellipse: s-maj=37.9km s-min=24.6km az=122.0*

ISCJB ***12*** *14:46:29.9±0.8, 37°.78N±0°.04×143°.74E±0°.06, h33km, mb3.6/2, Error ellipse: s-maj=6.9km s-min=5.3km az=29.1*

JMA ***12*** *14:46:31.0±0.2, 37°.75N×143°.65E, h54km, M3.9*

ISC 12 14:46:31.2±1.2, 37°.75N±0°.05×143°.77E±0°.08, h35km, n26, σ1854/36, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.90**	**288**	P	Pn	**14 47 00.7**	**-0.4**
JIKH				S	Sn	**14 47 22.1**	**-1.7**
JIO	**Ouri**	**2.03**	**291**	P	Pn	**14 47 02.8**	**-0.1**
JIO				S	Sn	**14 47 25.9**	**-1.1**
JKMT	**Kesennumamotoy**	**2.09**	**301**	P	Pn	**14 47 03.4**	**-0.3**
JKMT				S	Sn	**14 47 27.3**	**-1.2**
OFUJ	**Ofunato**	**2.12**	**310**	P	Pn	**14 47 03.8**	**-0.3**
JMK	**Ichinoseki**	**2.34**	**302**	P	Pn	**14 47 07.1**	**+0.1**
JMK				S	Sn	**14 47 33.8**	**-0.7**
JOM	**Ohasama**	**2.59**	**312**	P	Pn	**14 47 11.0**	**+0.4**
JOM				S	Sn	**14 47 40.6**	**-0.3**
JFT	**Otama**	**2.73**	**266**	P	Pn	**14 47 12.8**	**+0.3**
JFT				S	Sn	**14 47 43.7**	**-0.6**
JYK	**Kaneyama**	**2.92**	**295**	P	Pn	**14 47 16.0**	**+0.9**
JYK				S	Sn	**14 47 49.3**	**+0.3**
JANG	**Nango**	**3.15**	**327**	P	Pn	**14 47 18.3**	**0.0**
JANG				S	Sn	**14 47 53.1**	**-1.6**
JAG	**Ashikaga**	**3.69**	**250**	P	Pn	**14 47 25.6**	**-0.1**
JAG				S	Sn	**14 48 06.4**	**-1.6**
JOT	**Ohata**	**4.19**	**331**	P	Pn	**14 47 33.6**	**+1.0**
JOT				*e*S	Sn	**14 48 17.5**	**-2.8**
JRY	**Ryogami san**	**4.26**	**248**	P	Pn	**14 47 33.2**	**-0.4**
JRY				S	Sn	**14 48 19.0**	**-3.2**
JOD2	**Odawara 2**	**4.51**	**238**	P	Pn	**14 47 36.0**	**-1.0**
JOD2				S	Sn	**14 48 24.0**	**-4.2**
MJAR	**Matsushiro Arr**	**4.60**	**257**	Pn	Pn	**14 47 39.6**	**+1.4**
	3.8nm,0.3s,baz=74,slow=9.1,SNR=42						
MJAR				Sn	Sn	**14 48 32.4**	**+2.0**
	1.1nm,0.3s,baz=50,slow=27,SNR=5.2						
MAT	**Matsushiro**	**4.60**	**257**	P	Pn	**14 47 39.8**	**+1.6**
MAT				S	Sn	**14 48 32.1**	**+1.7**
JKB	**Kayabe**	**4.64**	**334**	P	Pn	**14 47 40.0**	**+1.3**
JKB				*e*S	Sn	**14 48 29.7**	**-1.6**
JCH	**Churui**	**4.87**	**356**	P	Pn	**14 47 41.5**	**-0.4**
JCH				S	Sn	**14 48 34.3**	**-2.7**
ASAJ	**Asahikawa**	**6.42**	**352**	Pn	Pn	**14 48 03.9**	**+0.7**
	1.3nm,0.3s,baz=230,slow=12,SNR=15						
H11N2	**WAKE ISLAND Hy**	**26.96**	**125**	T	T	15 20 31.0	
	baz=320						
H11N1	**WAKE ISLAND Hy**	**26.97**	**125**	T	T	15 20 35.0	
	baz=320						
H11N3	**WAKE ISLAND Hy**	**26.98**	**125**	T	T	15 20 26.1	
	baz=320						
H11S1	**WAKE ISLAND Hy**	**27.74**	**127**	T	T	15 21 40.1	
	baz=330						
H11S3	**WAKE ISLAND Hy**	**27.74**	**127**	T	T	15 21 41.9	
	baz=330						
H11S2	**WAKE ISLAND Hy**	**27.75**	**127**	T	T	15 21 40.6	
	baz=330						
WRA	**Warramunga Arr**	**58.06**	**190**	P	P	**14 56 20.4**	**-0.4**
	1.1nm,0.7s,baz=12,slow=7.4,SNR=9.9						
YKA	**Yellowknife Ar**	**62.24**	**31**	P	P	**14 56 51.0**	**+2.1**
	0.1nm,0.4s,baz=301,slow=7.2,SNR=4.0						

DDA ***12*** *14:46:55.7, 37°.41N×36°.78E, h7km±3km, ML3.1*

ISK ***12*** *14:46:55.7, 37°.40N×36°.76E, h8km, ML2.4/5*

ISCJB ***12*** *14:46:56.1±0.6, 37°.39N±0°.03×36°.74E±0°.04, h8km±5km, Error ellipse: s-maj=6.0km s-min=4.5km az=23.5*

ISC 12 14:46:56.0±1.0, 37°.39N±0°.03×36°.78E±0°.03, h11km±8km, n16, σ960/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMRS	**Kahramanmaras**	**0.15**	**40**	PG	**Pg**	**14 46 59.6**	**+0.1**
KMRS				SG	**Sg**	**14 47 02.0**	**-0.1**
ANDN	**Andirin**	**0.39**	**299**	IAML_P			
	comp=Z,2μm,0.1s						
ANDN				*i* P	**Pb**	**14 47 04.5**	**-0.5**
ANDN				*i* S	**Sg**	**14 47 09.2**	**+0.2**
GAZ	**Gaziantep**	**0.41**	**122**	PG	**Pb**	**14 47 04.9**	**-0.4**
GAZ				SG	**Sg**	**14 47 10.7**	**+1.2**
GZT	**Gaziantep**	**0.63**	**93**	IAML_P			
	comp=Z,3μm,0.1s						
GZT				*i* P	**Pb**	**14 47 09.1**	**0.0**
GZT				*i* S	**Sb**	**14 47 17.5**	**-0.4**
KUZU	**Kuzuini**	**0.66**	**159**	IAML_P			
	comp=Z,3μm,0.1s						
KUZU				*i* P	**Pn**	**14 47 10.9**	**-0.4**
KUZU				*i* S	**Sb**	**14 47 19.9**	**+1.2**
KOZT	**Kozan**	**0.76**	**277**	PG	**Pg**	**14 47 10.4**	**-0.3**
SAIM	**ADANA**	**0.81**	**317**	IAML_P			
	comp=Z,2μm,0.2s						
SAIM				*i* P	**Pg**	**14 47 11.1**	**-0.4**
CEYT	**Ceyhan**	**0.90**	**246**	PG	**Pb**	**14 47 13.7**	**+0.1**
ELBS	**KAHRAMANMARAS**	**0.98**	**17**	IAML_P			
	comp=Z,330nm,0.1s						
ELBS				*i* P	**Pn**	**14 47 15.6**	**-0.1**
ELBS				*i* S	**Sb**	**14 47 28.8**	**+0.8**
TAHT	**Tahtakopru-Hat**	**1.12**	**205**	PN	**Pg**	**14 47 17.1**	**-0.3**
ATAB	**Bozova**	**1.21**	**86**	IAML_P			
	comp=Z,7μm,0.2s						
ATAB				*i* P	**Pn**	**14 47 19.4**	**+0.5**
ATAB				*i* S	**Sn**	**14 47 35.9**	**+0.5**
AKCD	**Akcadag**	**1.28**	**45**	IAML_P			
	comp=Z,2μm,0.1s						
AKCD				*i* P	**Pg**	**14 47 20.3**	**-0.4**
DARE	**Darende-Malaty**	**1.31**	**25**	PN	**Pg**	**14 47 20.7**	**-0.4**
SURC	**SANLIURFA_SURC**	**1.55**	**109**	*i* P	**Pn**	**14 47 22.5**	**-1.1**
SURC				*i* S	**Sg**	**14 47 45.8**	**-0.2**
URFA	**Urfa**	**1.63**	**88**	PN	**Pb**	**14 47 25.7**	**-0.4**
BNN	**Bunyan**	**1.64**	**334**	PN	**Pn**	**14 47 25.2**	**+0.4**

ISCJB ***12*** *14:49:10.7±0.4, 18°.18S±0°.05×177°.81W±0°.08, h550km, mb4.0/25, Error ellipse: s-maj=10.4km s-min=6.5km az=4.9*

NEIC ***12*** *14:49:11.5±4.2, 18°.30S×177°.71W, h553km±47km, mb4.7/9, Error ellipse: s-maj=29.6km s-min=17.0km az=221.0*

WEL ***12*** *14:49:12.0, 18°.32S×177°.77W, h566km*

IDC ***12*** *14:49:14.0±2.6, 18°.34S×177°.76W, h583km±32km, mb3.5/19, mb1 3.7/20, mb1mx3.5/36, mbtmp4.4/20, Error ellipse: s-maj=14.9km s-min=13.8km az=11.0*

ISC 12 14:49:12.0±0.5, 18°.17S±0°.09×177°.87W±0°.10, h550km, n109, σ2826/104, mb4.0/25, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**11.04**	**180**	P	**P**	**14 51 42.0**	**+1.5**
DZM	**Mont Dzumac**	**15.24**	**253**	P	**P**	**14 52 26.7**	**+2.7**
	0.7nm,0.3s,baz=261,slow=22,SNR=7.5						
KUZ	**Kuaotunu**	**19.35**	**196**	P	**P**	**14 53 03.6**	**+1.6**
WIAZ	**Waiheke Island**	**19.55**	**197**	P	**P**	**14 53 06.0**	**+2.2**
MXZ	**Matakaoa Point**	**19.61**	**189**	P	**P**	**14 53 03.6**	**-0.7**
ETAZ	**East Tamaki Re**	**19.76**	**197**	P	**P**	**14 53 07.8**	**+2.2**
MKAZ	**Moumakai**	**19.83**	**197**	P	**P**	**14 53 08.3**	**+1.9**
WMGZ	**Waiomatatini S**	**19.84**	**189**	P	**P**	**14 53 06.7**	**+0.3**
HAZ	**Te Kaha**	**19.88**	**190**	P	**P**	**14 53 06.1**	**-0.7**
PKGZ	**Pakihiroa**	**19.96**	**189**	P	**P**	**14 53 07.9**	**+0.3**
RUGZ	**Raukumara Rang**	**20.10**	**190**	P	**P**	**14 53 08.8**	**-0.2**
PUZ	**Puketiti**	**20.12**	**189**	P	**P**	**14 53 08.5**	**-0.4**
TWGZ	**Tauwhareparae**	**20.26**	**189**	P	**P**	**14 53 11.0**	**+0.7**
TOZ	**Tahuroa Road**	**20.34**	**195**	P	**P**	**14 53 12.3**	**+1.4**
MWZ	**Matawai**	**20.49**	**190**	P	**P**	**14 53 10.3**	**-2.1**
URZ	**Urewera**	**20.49**	**191**	P	**P**	**14 53 10.0**	**-2.3**
	12nm,0.3s,baz=284,slow=2.0,SNR=55						
URZ	**Urewera**	**20.49**	**191**	*e*P	**P**	**14 53 09.8**	**-2.5**
	19nm,0.4s						
URZ	**Urewera**	**20.49**	**191**	P	**P**	**14 53 10.0**	**-2.3**
CNGZ	**Carnegie Statio**	**20.53**	**189**	P	**P**	**14 53 13.4**	**+0.8**
TKGZ	**Te Karaka**	**20.54**	**190**	P	**P**	**14 53 13.2**	**+0.4**
RTZ	**Ruatahuna**	**20.86**	**191**	P	P	14 53 06.9	-8.8
SNGZ	**Shannon Statio**	**20.96**	**191**	P	**P**	**14 53 11.1**	**-5.4**
MTHZ	**Maungataniwha**	**21.12**	**192**	P	P	14 53 10.2	-7.8
RAHZ	**Arahi**	**21.13**	**191**	P	**P**	**14 53 13.4**	**-4.8**
KNZ	**Kokohu**	**21.14**	**190**	P	**P**	**14 53 13.0**	**-5.0**
MRHZ	**Matea Rd**	**21.18**	**192**	P	**P**	**14 53 14.4**	**-4.2**
HIZ	**Hauiti**	**21.24**	**196**	P	**P**	**14 53 22.6**	**+3.5**
NMHZ	**Naumai**	**21.36**	**191**	P	P	14 53 10.1	-10
BKZ	**Black Stump Fm**	**21.49**	**192**	P	P	14 53 13.3	-8.0
MCHZ	**McNeill Hill**	**21.72**	**191**	P	**P**	**14 53 22.1**	**-1.3**
BHHZ	**Black Hill Sta**	**21.89**	**193**	P	**P**	**14 53 22.7**	**-2.2**
PXZ	**Pawanui**	**22.26**	**191**	P	**P**	**14 53 26.9**	**-1.3**
THZ	**Tophouse**	**24.80**	**197**	*e*P	**P**	**14 53 50.8**	**-0.1**
	13nm,0.6s						
LTZ	**Lake Taylor**	**25.92**	**197**	*e*P	**P**	**14 53 59.4**	**-1.3**
	17nm,0.7s						
RPZ	**Rata Peaks**	**27.13**	**198**	P	P	**14 54 09.5**	**-1.8**
	3.6nm,0.4s,baz=342,slow=3.2,SNR=4.8						
CTAO	**Charters Tower**	**33.91**	**261**	*e*P	**P**	**14 55 10.9**	**+1.1**
	11nm,0.7s						
PMG	**Port Moresby**	**35.01**	**280**	P	**P**	**14 55 19.8**	**+0.7**
	19nm,0.8s,baz=60,slow=6.7,SNR=11						
PMG	**Port Moresby**	**35.01**	**280**	*e*P	**P**	**14 55 21.2**	**+2.1**
	19nm,0.8s						
COEN	**Coen**	**37.62**	**271**	*e*P	**P**	**14 55 42.3**	**+1.7**
	25nm,0.6s						
STKA	**Stephens Creek**	**38.96**	**242**	P	P	**14 55 52.5**	**+1.3**
	5.6nm,0.7s,baz=98,slow=11,SNR=12						
STKA	**Stephens Creek**	**38.96**	**242**	*e*P	**P**	**14 55 51.2**	**-0.1**
	1.2nm,0.9s						
JAY	**Jayapura**	**43.47**	**286**	P	**P**	**14 56 28.7**	**+1.4**
	baz=120,slow=4.4,SNR=24						
WB2	**Warramunga Arr**	**45.08**	**260**	*e*P	**P**	**14 56 39.3**	**-0.3**
WRAB	**Tennant Creek**	**45.08**	**260**	*e*P	P	14 56 37.5	-2.1
	8.1nm,0.6s						
WRA	**Warramunga Arr**	**45.09**	**260**	P	**P**	**14 56 39.7**	**0.0**
	6.4nm,0.4s,baz=97,slow=6.9,SNR=290						
WRA				PcP	**PcP**	**14 58 07.4**	**-1.3**
	0.6nm,0.4s,baz=100,slow=3.4,SNR=3.6						
WRA				S	**S**	**15 02 33.4**	**-5.8**
	0.3nm,0.7s,baz=101,slow=13,SNR=3.2						
AS01	**Alice Springs**	**45.17**	**254**	*e*P	**P**	**14 56 40.1**	**-0.1**
AS31	**Alice Springs**	**45.22**	**254**	*e*P	**P**	**14 56 40.3**	**-0.3**
	3.2nm,0.6s						
ASAR	**Alice Springs**	**45.22**	**254**	P	**P**	**14 56 40.8**	**+0.2**
	38nm,1.1s,baz=93,slow=7.7,SNR=419						
ASAR				PcP	**PcP**	**14 58 07.5**	**-1.6**
	1.4nm,0.4s,baz=106,slow=3.9,SNR=8.4						
ASAR				S	**S**	**15 02 36.7**	**-4.2**
	1.2nm,0.7s,baz=92,slow=16,SNR=8.8						
FITZ	**Fitzroy Crossi**	**53.49**	**261**	P	P	**14 57 41.7**	**+0.1**
	1.6nm,0.3s,baz=71,slow=6.5,SNR=21						
VNDA	**Vanda**	**60.23**	**185**	P	P	**14 58 26.3**	**-0.4**
	0.8nm,0.4s,baz=359,slow=7.6,SNR=6.2						
MJAR	**Matsushiro Arr**	**68.42**	**323**	P	P	**14 59 19.1**	**-0.1**
	2.3nm,0.6s,baz=162,slow=6.1,SNR=15						
QSPA	**South Pole Qui**	**71.89**	**180**	*e*P	P	**14 59 38.4**	**-1.1**
	5.8nm,0.8s						
PETK	**Petropavlovsk-**	**74.06**	**345**	P	P	**14 59 51.8**	**0.0**
	4.4nm,0.6s,baz=121,slow=8.4,SNR=17						
YBH	**Yreka Blue Hor**	**78.40**	**39**	P	P	**15 00 15.9**	**-0.2**
	1.4nm,0.6s,baz=180,slow=3.7,SNR=5.4						
NVAR	**Mina Array Bea**	**79.26**	**44**	P	P	**15 00 21.2**	**+0.3**
	1.2nm,0.7s,baz=223,slow=9.2,SNR=9.2						
ELK	**Elko**	**82.50**	**43**	P	P	**15 00 37.3**	**-0.2**
	1.0nm,0.8s,baz=244,slow=5.2,SNR=6.2						
TXAR	**Lajitas Array**	**85.70**	**57**	P	P	**15 00 54.5**	**+1.1**
	1.7nm,0.8s,baz=220,slow=6.1,SNR=18						
IL1	**Eielson Array**	**86.03**	**13**	*e*P	P	15 00 52.4	-1.6
ILAR	**Eielson Array**	**86.03**	**13**	P	P	**15 00 52.7**	**-1.3**
	0.3nm,0.5s,baz=218,slow=4.9,SNR=13						
PDAR	**Pinedale Array**	**87.19**	**43**	P	P	**15 00 60.0**	**-0.4**
	0.9nm,0.7s,baz=222,slow=3.6,SNR=7.0						
PDAR	**Pinedale Array**	**87.19**	**43**	*e*P	P	**15 00 59.7**	**-0.6**
CM01	**Chiang Mai Arr**	**89.43**	**289**	*e*P	P	**15 01 11.5**	**+0.5**
CMAR	**Chiang Mai Arr**	**89.46**	**290**	P	P	**15 01 11.9**	**+0.8**
	1.2nm,0.8s,baz=107,slow=2.9,SNR=9.1						
INK	**Inuvik**	**92.00**	**15**	P	P	15 01 19.3	-2.4
	1.5nm,0.9s,baz=204,slow=0.6,SNR=5.0						
YKA	**Yellowknife Ar**	**94.35**	**25**	P	P	**15 01 31.6**	**-1.0**
	0.3nm,0.6s,baz=241,slow=4.4,SNR=8.2						
MKAR	**Makanchi Array**	**109.69**	**314**	PKiKP	**PKiKP**	**15 06 37.6**	**-2.9**
	0.2nm,0.5s,baz=223,slow=1.0,SNR=5.3						
ARCES	**ARCESS Array B**	**126.66**	**350**	PKP	**PKPdf**	**15 07 09.7**	**-2.7**
	3.9nm,0.8s,baz=357,slow=2.4,SNR=6.5						
FINES	**FINESS Array B**	**133.58**	**344**	PKP	**PKPdf**	**15 07 24.4**	**-1.2**
	0.7nm,0.5s,baz=48,slow=2.8,SNR=5.4						
AKASG	**Malin Array Be**	**141.03**	**333**	PKhKP	PKPpre	15 07 32.7	
	1.2nm,0.5s,baz=42,slow=4.0,SNR=8.6						
BSEG	**Bad Segeberg**	**143.75**	**352**	*e*PKPbc	PKPbc	15 07 42.4	-1.0
	baz=14,slow=2.7						
BUR08	**Bucovina Ar. S**	**145.07**	**332**	*e*PKPdf	**PKPdf**	**15 07 48.1**	**+1.0**
BUR04	**Bucovina Ar. S**	**145.08**	**332**	*e*PKPdf	**PKPdf**	**15 07 47.0**	**-0.1**
NRDL	**Niedersach Rie**	**145.18**	**351**	*e*PKPbc	**PKPdf**	**15 07 46.9**	**0.0**
	baz=14,slow=2.7						
BR131	**Keskin Array S**	**145.33**	**315**	*e*PKPdf	**PKPdf**	**15 07 47.8**	**0.0**
BRTR	**Keskin Array B**	**145.33**	**315**	PKPbc	**PKPdf**	**15 07 47.6**	**-0.2**
	2.5nm,0.8s,baz=140,slow=3.8,SNR=9.7						
IBBN	**Ibbenburen**	**145.65**	**354**	*e*PKPbc	**PKPdf**	**15 07 48.4**	**+0.6**
	baz=14,slow=2.7						
CLZ	**Clausthal**	**145.78**	**351**	*e*PKPbc	**PKPdf**	**15 07 48.5**	**+0.4**
	baz=14,slow=2.7						
CLL	**Collm**	**145.83**	**348**	*e*PKP

WATA	**Walderalm**	**149.90**	**347**	*e*PKPbc	**PKPdf**	**15 07 59.1**	**+4.0**
	comp=Z,1.4nm,0.5s						
MYKA	**Terra Mystica**	**150.07**	**344**	*e*PKPbc	**PKPdf**	**15 07 58.8**	**+3.6**
	comp=Z,4.7nm,0.8s						
SQTA	**Sankt Quirin**	**150.08**	**348**	*i* PKPbc	**PKPdf**	**15 07 59.8**	**+4.5**
	comp=Z,5.1nm,0.6s						
ABTA	**Abfaltersbach**	**150.24**	**346**	*i* PKPbc	**PKPdf**	**15 07 59.5**	**+4.0**
	comp=Z,4.6nm,0.6s						
FETA	**Feichten**	**150.37**	**348**	*e*PKPbc	**PKPdf**	**15 08 00.6**	**+4.8**
	comp=Z,4.2nm,0.9s						

BEO **12** *14:59:56.4±1.0,39.˚38N×26.˚01E,h10km,ML3.7/3*
DDA **12** *15:00:00.3,39.˚68N×25.˚64E,h20km±1km,ML3.9*
ISCJB **12** *15:00:00.3±0.3,39.˚69N±0.˚01×25.˚57E±0.˚02,h8km±3km, mb3.1/2,Error ellipse: s-maj=2.2km s-min=2.0km az=145.5*
ISK **12** *15:00:00.3,39.˚69N×25.˚63E,h4km,ML3.9/29*
ATH **12** *15:00:00.7,39.˚69N×25.˚59E,h30km,ML3.5/13,Error ellipse: s-maj=1.1km s-min=0.7km az=81.0*
THE **12** *15:00:01.2,39.˚70N×25.˚63E,h7km±1km,ML3.4/7,Error ellipse: s-maj=1.0km s-min=0.6km az=45.0*
IDC **12** *15:00:01.2±3.9,39.˚72N×25.˚69E,h0km,mb3.2/2, mb1 3.4/4,mb1mx3.1/36,mbtmp3.3/4,ML3.7/2,Error ellipse: s-maj=56.5km s-min=22.9km az=31.0*
SOF **12** *15:00:07.4,39.˚99N×25.˚06E,h11km,MD3.7*

ISC 12 15:00:00.8±1.0,39.˚68N±0.˚01×25.˚60E±0.˚02,h7km±8km, n175,σ0§96/214,15C-8D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.39**	**305**	P	**Pb**	**15 00 09.3**	**-0.6**
LIA				S	**Sb**	**15 00 15.0**	**-1.1**
LIA				AML	AML	15 00 15.5	
	comp=E,14285μm,0.4s						
LIA				AML	AML	15 00 19.5	
	comp=N,15804μm,0.4s						
LIA	**Limnos Island**	**0.39**	**305**	P	**Pb**	**15 00 09.4**	**-0.6**
LIA				S	**Sb**	**15 00 14.9**	**-1.2**
BOZC	**Bozcaada**	**0.39**	**65**	PG	**Pg**	**15 00 08.0**	**-0.4**
BOZC				SG	**Sg**	**15 00 13.7**	**+0.2**
BOZC	**Bozcaada**	**0.39**	**65**	IAML_P			
	comp=Z,101μm,0.1s						
BOZC				*i* P	**Pg**	**15 00 08.7**	**+0.4**
GPNR	**Gulpinar-Canak**	**0.47**	**118**	PG	**Pg**	**15 00 09.6**	**-0.3**
EFSA	**Agios Efstrati**	**0.49**	**254**	P	**Pb**	**15 00 11.3**	**-0.4**
EFSA				S	**Sb**	**15 00 19.5**	**+0.5**
EFSA				AML	AML	15 00 19.7	
	comp=E,22652μm,0.4s						
EFSA				AML	AML	15 00 20.0	
	comp=N,13552μm,0.3s						
SIGR	**SIGRI**	**0.51**	**157**	PG	**Pg**	**15 00 10.6**	**0.0**
SIGR				SG	**Sg**	**15 00 17.9**	**+0.7**
SIGR	**SIGRI**	**0.51**	**157**	P	**Pg**	**15 00 11.0**	**+0.4**
SIGR				S	**Sb**	**15 00 18.9**	**-0.7**
SIGR				AML	AML	15 00 19.2	
	comp=N,55538μm,0.6s						
SIGR				AML	AML	15 00 19.2	
	comp=E,40986μm,0.5s						
SIGR	**SIGRI**	**0.51**	**157**	P	**Pg**	**15 00 11.0**	**+0.4**
GADA	**Gvkgeada**	**0.56**	**24**	PG	**Pg**	**15 00 11.4**	**-0.2**
GADA	**Gvkgeada**	**0.56**	**24**	P	**Pg**	**15 00 11.7**	**+0.1**
GADA				S	**Sb**	**15 00 20.1**	**-1.1**
GOKC	**Gokceada-Canak**	**0.58**	**25**	PG	**Pg**	**15 00 11.6**	**-0.3**
EZN	**Ezine**	**0.58**	**75**	PG	**Pg**	**15 00 11.6**	**-0.4**
EZN				SG	**Sg**	**15 00 19.5**	**-0.1**
EZN	**Ezine**	**0.58**	**75**	P	**Pg**	**15 00 11.9**	**-0.1**
EZN				S	**Sg**	**15 00 19.5**	**-0.1**
PRK	**Paraskevi**	**0.68**	**129**	P	**Pb**	**15 00 15.2**	**+0.3**
PRK				S	**Sn**	**15 00 25.2**	**-2.4**
PRK				AML	AML	15 00 28.6	
	comp=E,12050μm,0.5s						
PRK				AML	AML	15 00 31.5	
	comp=N,7185μm,0.5s						
BAYC	**CANAKKALE_Bayr**	**0.74**	**85**	*i* P	**Pb**	**15 00 15.8**	**-0.2**
BAYC				*i* S	**Sb**	**15 00 24.9**	**-1.3**
SMTH	**Samothraki Isl**	**0.79**	**356**	P	**Pg**	**15 00 16.2**	**+0.2**
SMTH				S	**Sb**	**15 00 27.0**	**-0.9**
SMTH				AML	AML	15 00 29.1	
	comp=N,8289μm,0.3s						
SMTH				AML	AML	15 00 29.3	
	comp=E,5907μm,0.4s						
SMTH	**Samothraki Isl**	**0.79**	**356**	P	**Pg**	**15 00 15.9**	**-0.1**
SMTH				S	**Sb**	**15 00 27.0**	**-0.9**
AYVA	**Ayvalik**	**0.92**	**113**	*i* P	**Pn**	**15 00 19.1**	**-1.1**
AYVA				*i* S	**Sn**	**15 00 33.7**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.98**	**43**	PG	**Pb**	**15 00 19.1**	**-1.1**
LPK	**Lapseki**	**1.13**	**52**	PN	**Pb**	**15 00 21.8**	**-0.9**
PSRA	**Psara**	**1.14**	**181**	P	**Pg**	**15 00 23.0**	**+0.4**
PSRA				S	**Sn**	**15 00 38.1**	**-0.7**
ENEZ	**Enez**	**1.14**	**22**	PN	**Pn**	**15 00 22.3**	**-0.8**
ENEZ				SN	**Sn**	**15 00 38.2**	**-0.8**
SKY	**Skiros Island**	**1.14**	**226**	P	**Pb**	**15 00 22.4**	**-0.3**
SKY	**Skiros Island**	**1.14**	**226**	P	**Pb**	**15 00 22.5**	**-0.3**
SKY				S	**Sn**	**15 00 40.2**	**+1.2**
THAS	**Thassos island**	**1.14**	**324**	P	**Pb**	**15 00 21.9**	**-0.9**
THAS				S	**Sg**	**15 00 37.8**	**+0.2**
THAS				AML	AML	15 00 39.4	
	comp=N,3937μm,0.5s						
THAS				AML	AML	15 00 40.2	
	comp=E,4660μm,0.3s						
THAS	**Thassos island**	**1.14**	**324**	P	**Pb**	**15 00 22.0**	**-0.9**
DKL	**Dikili**	**1.18**	**120**	PN	**Pb**	**15 00 23.1**	**-0.4**
DKL				SN	**Sn**	**15 00 39.8**	**-0.2**
ERIK	**Erikli-Kesan**	**1.22**	**35**	PN	**Pn**	**15 00 23.4**	**-0.8**
ALN	**Alexandroupoli**	**1.27**	**16**	PN	**Pg**	**15 00 24.7**	**-0.4**
ALN	**Alexandroupoli**	**1.27**	**16**	P	**Pn**	**15 00 24.0**	**-0.9**
ALN				S	**Sn**	**15 00 41.0**	**-1.1**
ALN				AML	AML	15 00 41.8	
	comp=N,2504μm,0.5s						
ALN				AML	AML	15 00 42.3	
	comp=E,2246μm,0.4s						
ALN	**Alexandroupoli**	**1.27**	**16**	P	**Pn**	**15 00 23.6**	**-1.3**
ALN				S	**Sg**	**15 00 41.2**	**-0.3**
FOCM	**Foa**	**1.31**	**137**	PN	**Pg**	**15 00 25.6**	**-0.2**
KRBN	**Karaburun**	**1.31**	**145**	PN	**Pb**	**15 00 25.7**	**-0.1**
CHOS	**Chios island**	**1.34**	**164**	PN	**Pn**	**15 00 25.8**	**-0.3**
CHOS	**Chios island**	**1.34**	**164**	P	**Pn**	**15 00 25.3**	**-0.7**
CHOS				AML	AML	15 00 46.4	
	comp=N,6983μm,0.5s						
CHOS				AML	AML	15 00 48.2	
	comp=E,10725μm,0.8s						
CHOS	**Chios island**	**1.34**	**164**	P	**Pn**	**15 00 25.4**	**-0.5**
CHOS				S	**Sg**	**15 00 44.4**	**+0.6**
KESN	**Edirne-Kesan**	**1.42**	**36**	IAML_P			
	comp=Z,2μm,0.2s						
KESN				*i* P	**Pb**	**15 00 26.8**	**-0.9**
KESN				*i* S	**Sg**	**15 00 47.2**	**+0.9**
AOS	**Alonnisos**	**1.42**	**250**	PN	**Pb**	**15 00 27.8**	**+0.2**
AOS	**Alonnisos**	**1.42**	**250**	P	**Pb**	**15 00 26.0**	**-1.0**
AOS				S	**Sn**	**15 00 44.9**	**-1.1**
AOS				AML	AML	15 00 50.7	
	comp=E,2460μm,0.4s						
AOS				AML	AML	15 00 50.8	
	comp=N,3012μm,0.7s						
ALNA	**Alonissos**	**1.44**	**249**	P	**Pn**	**15 00 26.8**	**-0.4**
ALNA				AML	AML	15 00 58.2	
	comp=N,3632μm,0.7s						
ALNA				AML	AML	15 00 59.2	
	comp=E,3742μm,0.6s						
RDO	**Rodhopi**	**1.47**	**358**	PN	**Pn**	**15 00 26.7**	**-0.9**
RDO	**Rodhopi**	**1.47**	**358**	P	**Pn**	**15 00 27.0**	**-0.6**
RDO				S	**Sn**	**15 00 44.9**	**-2.1**
RDO				AML	AML	15 00 47.2	
	comp=E,2031μm,0.6s						
RDO				AML	AML	15 00 56.1	
	comp=N,2367μm,1.0s						
RDO	**Rodhopi**	**1.47**	**358**	P	**Pn**	**15 00 27.0**	**-0.6**
RDO				S	**Sg**	**15 00 47.1**	**-0.8**
KRBG	**Karabiga-Canak**	**1.49**	**61**	PN	**Pn**	**15 00 27.6**	**-0.3**
PAIG	**Paliouri**	**1.50**	**280**	P	**Pn**	**15 00 27.4**	**-0.6**
PAIG				AML	AML	15 00 53.0	
	comp=E,1278μm,0.4s						
PAIG				AML	AML	15 00 54.4	
	comp=N,1941μm,0.6s						
URLA	**Izmir**	**1.53**	**149**	PN	**Pb**	**15 00 28.7**	**-0.8**
URLA	**Izmir**	**1.53**	**149**	*i* P	**Pn**	**15 00 28.0**	**-0.5**
URLA				*i* S	**Sn**	**15 00 47.5**	**-1.2**
KAVA	**Kavala**	**1.56**	**328**	P	**Pn**	**15 00 27.9**	**-1.0**
KAVA	**Kavala**	**1.56**	**328**	P	**Pn**	**15 00 27.8**	**-1.0**
KAVA				S	**Sb**	**15 00 49.1**	**-0.6**
KVLA	**Kavala**	**1.56**	**324**	P	**Pn**	**15 00 28.0**	**-0.9**
KNL	**Balıkesir**	**1.60**	**68**	IAML_P			
	comp=Z,30μm,0.4s						
KNL				*i* P	**Pb**	**15 00 29.9**	**-0.7**
KNL				*i* S	**Sg**	**15 00 52.0**	**-0.2**
GONE	**Gonen-Balikesi**	**1.65**	**76**	PN	**Pb**	**15 00 30.2**	**-1.3**
STEP	**BALIKESIR_Sava**	**1.67**	**100**	IAML_P			
	comp=Z,14μm,0.2s						
STEP				*i* P	**Pb**	**15 00 31.4**	**-0.4**
BLCB	**Balcova**	**1.71**	**138**	PN	**Pb**	**15 00 31.3**	**-1.3**
SKIA	**Skiathos**	**1.73**	**253**	P	**Pn**	**15 00 31.0**	**-0.3**
BALB	**Balikesir**	**1.76**	**91**	PN	**Pb**	**15 00 31.9**	**-1.5**
PLG	**Polygyros**	**1.79**	**293**	P	**Pn**	**15 00 32.1**	**0.0**
EREA	**Eretria**	**1.81**	**226**	P	**Pn**	**15 00 31.4**	**-0.9**
MRKA	**Markates**	**1.84**	**239**	P	**Pn**	**15 00 31.9**	**-0.9**
EDC	**Edincik**	**1.86**	**68**	PN	**Pn**	**15 00 33.3**	**+0.2**
SBT4	**Kumbag-Tekirda**	**1.88**	**52**	PN	**Pn**	**15 00 33.4**	**+0.3**
XOR	**Xorichti**	**1.89**	**261**	P	**Pn**	**15 00 32.3**	**-1.1**
AKHS	**Akhisar**	**1.90**	**114**	IAML_P			
	comp=Z,5μm,0.2s						
AKHS				*i* P	**Pb**	**15 00 34.2**	**-1.5**
AKHS				*i* S	**Sg**	**15 01 03.4**	**+1.7**
DGB	**zmir**	**1.91**	**148**	*i* P	**Pg**	**15 00 37.8**	**+0.4**
DGB				*i* S	**Sg**	**15 01 03.8**	**+1.6**
KDZ	**Kurdzhali**	**1.97**	**356**	PN	**Pn**	**15 00 34.8**	**+0.2**
KDZ	**Kurdzhali**	**1.97**	**356**	P	**Pg**	**15 00 37.8**	**-0.8**
KDZ				Pg	**Pb**	**15 00 41.3**	**+4.3**
TKR	**Tekirdag**	**1.98**	**48**	PN	**Pn**	**15 00 35.1**	**+0.4**
DION	**Dionisos Attik**	**2.06**	**220**	P	**Pn**	**15 00 34.8**	**-1.0**
SOH	**Sokhos**	**2.06**	**304**	P	**Pn**	**15 00 35.8**	**-0.1**
SRS	**Serrai**	**2.10**	**314**	*e*Pn	**Pb**	**15 00 38.6**	**-0.6**
SRS				*e*Sn	**Sg**	**15 01 08.5**	**+0.3**
SRS	**Serrai**	**2.10**	**314**	P	**Pn**	**15 00 35.7**	**-0.6**
PTL	**Penteli**	**2.12**	**220**	P	**Pn**	**15 00 35.8**	**-0.7**
RZN	**Rozhen**	**2.12**	**342**	P	**Pn**	**15 00 36.8**	**+0.1**
RZN				Pg	**Pg**	**15 00 40.5**	**-0.8**
HORT	**Hortiatis**	**2.12**	**296**	PN	**Pn**	**15 00 37.5**	**+0.8**
HORT	**Hortiatis**	**2.12**	**296**	P	**Pn**	**15 00 36.6**	**-0.1**
NVR	**Nevrokopi**	**2.13**	**322**	P	**Pn**	**15 00 36.2**	**-0.6**
NVR				AML	AML	15 01 10.3	
	comp=N,988μm,0.5s						
NVR				AML	AML	15 01 11.7	
	comp=E,921μm,0.4s						
CRLT	**Corlu**	**2.18**	**48**	PN	**Pn**	**15 00 38.0**	**+0.5**
SMG	**Samos**	**2.19**	**153**	P	**Pn**	**15 00 37.2**	**-0.4**
KCTX	**Karacabey (Bur**	**2.20**	**74**	PN	**Pn**	**15 00 37.9**	**+0.1**
ATHU	**Athens Univers**	**2.22**	**220**	P	**Pn**	**15 00 37.4**	**-0.6**
DURS	**Dursunbey**	**2.22**	**91**	IAML_P			
	comp=Z,2μm,0.2s						
DURS				*i* P	**Pn**	**15 00 38.3**	**+0.2**
DURS				*i* S	**Sn**	**15 01 05.9**	**0.0**
ATAL	**Atalanti**	**2.23**	**245**	P	**Pn**	**15 00 37.4**	**-0.7**
VLY	**Voula,Athens**	**2.30**	**218**	P	**Pn**	**15 00 38.4**	**-0.8**
VIL2	**Platees**	**2.33**	**232**	P	**Pn**	**15 00 38.8**	**-0.8**
EDRB	**Edirne**	**2.33**	**22**	PN	**Pn**	**15 00 40.2**	**+0.6**
DST	**Dursunbey**	**2.34**	**91**	PN	**Pn**	**15 00 40.2**	**+0.6**
GCAM	**G?zelcaml?**	**2.35**	**147**	PN	**Pn**	**15 00 40.5**	**+0.7**
MMB	**Musomiste**	**2.38**	**324**	P	**Pn**	**15 00 39.9**	**-0.3**
PHSR	**Pinarhisar**	**2.44**	**36**	PN	**Pn**	**15 00 41.5**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**2.49**	**133**	PN	**Pn**	**15 00 42.3**	**+0.5**
DEMI	**Demirci**	**2.50**	**104**	IAML_P			
	comp=Z,1μm,0.1s						
DEMI				*i* P	**Pn**	**15 00 43.3**	**+1.3**
PLD	**Plovdiv**	**2.52**	**345**	*e*Pn	**Pn**	**15 00 42.7**	**+0.6**
PLD				*e*Sn	**Sb**	**15 01 17.4**	**0.0**
PLD	**Plovdiv**	**2.52**	**345**	PN	**Pn**	**15 00 42.9**	**+0.8**
PLD	**Plovdiv**	**2.52**	**345**	P	**Pb**	**15 00 46.0**	**-0.3**
SLVT	**Silivri**	**2.53**	**51**	PN	**Pn**	**15 00 42.6**	**+0.4**
KNT	**Kendrikon**	**2.54**	**307**	P	**Pn**	**15 00 42.8**	**+0.5**
ORLT	**Orhaneli**	**2.57**	**81**	PN	**Pn**	**15 00 43.5**	**+0.7**
APE	**Apeiranthos**	**2.61**	**181**	P	**Pn**	**15 00 43.3**	**0.0**
APE	**Apeiranthos**	**2.61**	**181**	⇑*i*P	**Pn**	**15 00 44.7**	**+1.3**
APE	**Apeiranthos**	**2.61**	**181**	S	**Sb**	**15 01 18.1**	**-2.0**
AGG	**Agios Georgios**	**2.62**	**257**	P	**Pn**	**15 00 43.1**	**-0.4**
MDNY	**Mudanya-Bursa**	**2.62**	**74**	PN	**Pn**	**15 00 44.1**	**+0.7**
LTK	**Loutraki**	**2.64**	**232**	P	**Pn**	**15 00 43.3**	**-0.5**
KULA	**Kula-Manisa**	**2.65**	**115**	PN	**Pn**	**15 00 44.6**	**+0.6**
LOUT	**Loutraki**	**2.65**	**231**	P	**Pn**	**15 00 44.0**	**+0.1**
ARMT	**Armutlu**	**2.66**	**69**	PN	**Pn**	**15 00 44.8**	**+0.8**
SBT5	**Esenkoy-Cinarc**	**2.69**	**68**	PN	**Pn**	**15 00 45.3**	**+0.9**
CTKS	**Kestanelik-??a**	**2.71**	**54**	PN	**Pn**	**15 00 45.4**	**+0.7**
CTYL	**Yalikoy Yolu**	**2.73**	**48**	PN	**Pn**	**15 00 45.8**	**+0.9**
THL	**Klokotos Trika**	**2.77**	**269**	P	**Pn**	**15 00 45.0**	**-0.5**
VAY	**Valandovo**	**2.83**	**306**	*e*Pn	**Pn**	**15 00 48.0**	**+1.6**
VAY	**Valandovo**	**2.83**	**306**	*e*Pn	**Pn**	**15 00 47.8**	**+1.4**
DID	**Didima**	**2.85**	**221**	P	**Pn**	**15 00 46.1**	**-0.6**
BGKT	**Bogazkoy**	**2.85**	**57**	PN	**Pn**	**15 00 47.4**	**+0.7**
JMB	**Yambol**	**2.88**	**15**	P	**Pg**	**15 00 56.0**	**0.0**
SHAP	**Saphane-Kutahy**	**2.89**	**102**	PN	**Pn**	**15 00 47.9**	**+0.6**
KKB	**Krupnik**	**2.90**	**320**	P	**Pn**	**15 00 48.2**	**+0.8**
KKB				Pg	**Pg**	**15 00 56.2**	**-1.1**
KALE	**Kalithea**	**2.98**	**246**	P	**Pn**	**15 00 47.9**	**-0.7**
ISK	**Istanbul-Kandi**	**2.99**	**61**	PN	**Pn**	**15 00 49.0**	**+0.5**
KAVV	**Kandilli-Istan**	**2.99**	**61**	PN	**Pn**	**15 00 49.0**	**+0.5**
YLV	**Yalova**	**3.03**	**72**	PN	**Pn**	**15 00 50.0**	**+0.8**
IZI	**Iznik**	**3.05**	**76**	PN	**Pn**	**15 00 50.4**	**+0.9**
KLYT	**Kilyos**	**3.06**	**58**	PN	**Pn**	**15 00 50.5**	**+0.9**
PGB	**Panagyurishte**	**3.06**	**340**	P	**Pn**	**15 00 49.4**	**-0.3**
GUR	**Goura**	**3.08**	**237**	P	**Pn**	**15 00 49.6**	**-0.3**
KLV	**Kalavryta, Ach**	**3.15**	**240**	P	**Pn**	**15 00 50.4**	**-0.4**
LAKA	**Lakka**	**3.17**	**244**	P	**Pn**	**15 00 51.5**	**+0.5**
STIP	**Stip**	**3.28**	**309**	*i* Pn	**Pn**	**15 00 51.5**	**-1.1**
FNA	**Florina**	**3.41**	**290**	*e*Pn	**Pn**	**15 00 55.2**	**+0.7**
VTS	**Vitosha**	**3.42**	**329**	*e*Pn	**Pn**	**15 00 55.9**	**+1.2**
VTS				*e*Sn	**Sb**	**15 01 39.8**	**-3.9**
VTS	**Vitosha**	**3.42**	**329**	⇑*i*P	**Pn**	**15 00 55.7**	**+1.0**
VTS	**Vitosha**	**3.42**	**329**	S	**Sn**	**15 01 38.3**	**+2.7**
VTS	**Vitosha**	**3.42**	**329**	P	**Pn**	**15 00 55.7**	**+1.0**
KRUS	**Krusevo**	**3.72**	**298**	*e*Pn	**Pn**	**15 00 59.8**	**+1.1**
MPEP	**Malo Peshtene**	**3.93**	**340**	P	**Pn**	**15 01 02.1**	**+0.6**
IGT	**Igoumenitsa**	**4.07**	**270**	*e*Pn	**Pn**	**15 01 02.7**	**-0.7**
ZAPS	**Zavoj**	**4.22**	**329**	*e*Pn	**Pn**	**15 01 07.0**	**+1.4**
BARS	**Barje**	**4.24**	**319**	*e*Pn	**Pn**	**15 01 06.6**	**+0.9**
SGRR	**Singureni**	**4.55**	**3**	⇑*i*P	**Pn**	**15 01 11.1**	**+1.1**
ICOR	**Ion Corvin**	**4.73**	**20**	⇑*i*P	**Pn**	**15 01 12.9**	**+0.4**
ZAGS	**Zajecar**	**4.84**	**330**	*e*Pn	**Pn**	**15 01 14.1**	**+0.2**
SELS	**Selova**	**4.88**	**318**	*e*Pn	**Pn**	**15 01 14.5**	**-0.1**
BOVS	**Bovan**	**4.91**	**325**	*e*Pn	**Pn**	**15 01 15.6**	**+0.6**
TIRR	**Tirgusor**	**5.21**	**23**	⇓*i*P	**Pn**	**15 01 19.0**	**-0.1**
TLB	**Topalu**	**5.23**	**20**	⇓*i*P	**Pn**	**15 01 19.2**	**-0.1**
SRE	**Strehaia**	**5.29**	**341**	⇓*i*P	**Pn**	**15 01 21.2**	**+1.1**
SJES	**Sjenica**	**5.54**	**312**	*e*Pn	**Pn**	**15 01 24.4**	**+0.7**
KUBS	**Kucevo**	**5.56**	**330**	*e*Pn	**Pn**	**15 01 23.9**	**0.0**
GRUS	**Gruza**	**5.57**	**321**	*e*Pn	**Pn**	**15 01 24.3**	**+0.3**
IVAS	**Ivanjica**	**5.64**	**315**	*e*Pn	**Pn**	**15 01 25.4**	**+0.4**
HERC	**Herculane**	**5.71**	**37**	⇑*i*P	**Pn**	**15 01 25.5**	**+0.6**
ARR	**Arges**	**5.73**	**353**	⇑*i*P	**Pn**	**15 01 26.3**	**0.0**
VOIR		**5.77**	**356**	⇓*i*P	**Pn**	**15 01 27.1**	**+0.3**
CFR	**Carcaliu**	**5.81**	**18**	⇓*i*P	**Pn**	**15 01 27.5**	**+0.2**
CFR	**Carcaliu**	**5.81**	**18**	S	**Sn**	**15 02 37.0**	**+2.9**
MLR	**Muntele Rosu**	**5.81**	**2**	⇓*i*P	**Pn**	**15 01 28.7**	**+1.2**
MDVR	**Moldovita**	**5.86**	**332**	⇑*i*P	**Pn**	**15 01 28.5**	**+0.5**
TRUS	**Trudelj**	**5.96**	**321**	*e*Pn	**Pn**	**15 01 29.9**	**+0.4**
GZR	**Gura Zlata**	**6.08**	**341**	⇑*i*P	**Pn**	**15 01 31.2**	**+0.1**
DIVS	**Divibare**	**6.08**	**318**	*e*Pn	**Pn**	**15 01 31.4**	**+0.3**
BRTR	**Keskin Array B**	**6.20**	**87**	Pn	**Pn**	**15 01 33.5**	**+0.7**
	comp=Z,2.5nm,0.3s,baz=274,slow=11,SNR=97						
BRTR				Sn	**Sn**	**15 02 41.2**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=271,slow=23,SNR=2.7						
BRTR				Lg	Lg	15 03 18.0	
	baz=270,slow=24,SNR=7.9						
PLOR	**Plostina**	**6.22**	**7**	⇑*i*P	**Pn**	**15 01 34.5**	**+1.5**
BBLS	**Lazići**	**6.24**	**314**	*e*Pn	**Pn**	**15 01 33.5**	**+0.2**
VRI	**Vrincioaia**	**6.24**	**7**	⇓*i*P	**Pn**	**15 01 35.1**	**+1.9**
DOPR	**Dopca**	**6.29**	**359**	⇓*i*P	**Pn**	**15 01 35.0**	**+1.1**
MDB	**Medias**	**6.52**	**353**	⇑*i*P	**Pn**	**15 01 38.6**	**+1.5**
BZS	**Buzias**	**6.62**	**335**	⇑*i*P	**Pn**	**15 01 39.0**	**+0.6**
CJR	**Cluj-Napoca**	**7.18**	**349**	⇑*i*P	**Pn**	**15 01 47.5**	**+1.3**
SIRR	**Siria**	**7.19**	**338**	⇑*i*P	**Pn**	**15 01 46.1**	**-0.2**
BIZ	**Bicaz**	**7.27**	**3**	⇑*i*P	**Pn**	**15 01 48.8**	**+1.5**
BURAR	**Bucovina Array**	**7.94**	**358**	⇑*i*P	**Pn**	**15 01 58.2**	**+1.6**
AKASG	**Malin Array Be**	**11.31**	**12**	Pn	**Pn**	**15 02 41.8**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=196,slow=13,SNR=2.2						
NOA	**NORSAR Array B**	**23.16**	**342**	P	**P**	**15 05 09.2**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=140,slow=10,SNR=2.9						
MKAR	**Makanchi Array**	**41.13**	**61**	P	**P**	**15 07 46.7**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=285,slow=6.7,SNR=5.3						

ISK **12** *15:22:16.9,40.˚41N×25.˚94E,h8km,ML2.7/11*
ISCJB **12** *15:22:17.2±0.3,40.˚42N±0.˚02×25.˚91E±0.˚03,h5km±4km, Error ellipse: s-maj=3.6km s-min=3.2km az=2.4*
DDA **12** *15:22:17.4,40.˚39N×25.˚98E,h7km±2km,ML2.8*
ATH **12** *15:22:17.1,40.˚41N×25.˚92E,h18km±4km,ML1.9/3,Error ellipse: s-maj=5.0km s-min=1.0km az=296.0*

ISC 12 15:22:17.5±0.9,40.˚41N±0.˚02×25.˚92E±0.˚02,h12km±8km, n36,σ0§66/50,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.08**	**205**	Pn	**Pn**	**15 27 14.4**	**+0.1**
	3.7nm,0.3s,baz=36,slow=10,SNR=16						
PMG				Sn	**Sn**	**15 28 14.1**	**+2.3**
	6.5nm,0.3s,baz=30,slow=16,SNR=9.1						
PMG				LR	LR	15 29 27.1	
	comp=Z,584nm,18.5s,baz=34,slow=42						
HNR	**Honiara**	**11.46**	**114**	LR	LR	15 32 29.9	
	comp=Z,327nm,21.8s,baz=280,slow=34						
WRA	**Warramunga Arr**	**21.00**	**223**	P	**P**	**15 30 39.4**	**-1.9**
	36nm,0.8s,baz=49,slow=11,SNR=121						
WRA				LR	LR	15 39 43.9	
	comp=Z,127nm,18.0s,baz=180,slow=40						
DZM	**Mont Dzumac**	**23.84**	**138**	P	**P**	**15 31 10.9**	**0.0**
	5.7nm,0.5s,baz=322,slow=12,SNR=11						
DZM	**Mont Dzumac**	**23.84**	**138**	*e*P	**P**	**15 31 11.7**	**+0.8**
	51nm,1.4s						
DZM				*e*LR	LR	15 37 07.7	
	comp=Z,578nm,24.1s						
ASAR	**Alice Springs**	**23.97**	**217**	P	**P**	**15 31 11.2**	**-0.7**
	9.7nm,0.8s,baz=57,slow=8.4,SNR=69						
ASAR				LR	LR	15 41 51.1	
	comp=Z,232nm,18.4s,baz=59,slow=40						
FITZ	**Fitzroy Crossi**	**26.70**	**238**	P	**P**	**15 31 35.8**	**-1.1**
	15nm,0.8s,baz=58,slow=10,SNR=11						
STKA	**Stephens Creek**	**27.91**	**194**	P	**P**	**15 31 45.5**	**-2.1**
	1.3nm,0.8s,baz=35,slow=13,SNR=2.5						
STKA				LR	LR	15 43 00.4	
	comp=Z,152nm,19.2s,baz=22,slow=37						
H11S3	**WAKE ISLAND Hy**	**28.76**	**36**	T	T	16 02 44.1	
	baz=225						
H11S2	**WAKE ISLAND Hy**	**28.77**	**36**	T	T	16 02 08.2	
	baz=225,slow=74						
H11S1	**WAKE ISLAND Hy**	**28.78**	**36**	T	T	16 02 22.8	
	baz=225,slow=74						
H11N1	**WAKE ISLAND Hy**	**29.84**	**35**	T	T	16 03 50.8	
	baz=220						
H11N3	**WAKE ISLAND Hy**	**29.85**	**35**	T	T	16 03 52.8	
	baz=220,slow=74						
H11N2	**WAKE ISLAND Hy**	**29.85**	**35**	T	T	16 03 52.1	
	baz=220,slow=74						
PSI	**Prapat**	**50.96**	**277**	LR	LR	16 02 14.1	
	comp=Z,85nm,18.0s,baz=263,slow=43						
USRK	**Ussuriysk Ar.**	**51.22**	**344**	LR	LR	15 56 18.4	
	comp=Z,48nm,18.1s,baz=170,

comp=Z,25nm,21.0s,baz=280,slow=32
TORD Torodi Ar. Bea 147.04 287 PKPbc **PKPbc 15 45 41.2 +0.3**
0.6nm,0.6s,baz=59,slow=2.7,SNR=6.6

IDC 12 15:42:21.7±1.8,15°29S×177°28W,h0km,mb3.6/5, mb1 4.0/5,mb1mx3.7/42,mbtmp3.6/5,MS3.5/5,Ms1 3.5/5, ms1mx3.2/28,Error ellipse: s-maj=112.5km s-min=24.0km az=151.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.83**	**244**	LR	LR	15 51 18.7	
	comp=Z,114nm,21.3s,baz=50,slow=32						
HNR	**Honiara**	**22.99**	**282**	LR	LR	15 54 59.0	
	comp=Z,512nm,22.0s,baz=130,slow=33						
PPT	**Papeete**	**26.66**	**99**	LR	LR	15 56 17.4	
	comp=Z,66nm,18.0s,baz=259,slow=31						
STKA	**Stephens Creek**	**40.87**	**239**	LR	LR	16 05 19.4	
	comp=Z,53nm,21.1s,baz=21,slow=34						
WRA	**Warramunga Arr**	**46.23**	**257**	P	P	15 50 49.2	+0.2
	0.5nm,1.0s,baz=91,slow=6.2,SNR=3.1						
ASAR	**Alice Springs**	**46.59**	**252**	P	P	15 50 51.4	-0.5
	0.8nm,0.7s,baz=84,slow=8.5,SNR=21						
KSRS	**Korea Array**	**73.50**	**317**	LR	LR	16 20 13.7	
	comp=Z,24nm,21.4s,baz=315,slow=31						
NVAR	**Mina Array Bea**	**76.80**	**44**	P	P	15 54 14.8	-0.9
	0.6nm,0.7s,baz=210,slow=8.6,SNR=3.8						
ILAR	**Eielson Array**	**83.11**	**13**	P	P	15 54 49.4	+0.4
	0.3nm,0.6s,baz=219,slow=5.6,SNR=3.2						
TXAR	**Lajitas Array**	**83.68**	**57**	P	P	15 54 53.4	+0.5
	0.6nm,1.0s,baz=217,slow=4.3,SNR=3.6						

NIED ***12*** *15:47:00,31.80N×142.10E,h5km,Mw4.2 Best double couple: M₀2.03000×10¹⁵ NP1:φs172.00000°,δ34.00000°, λ80.00000°. NP2:φs4.00000°,δ57.00000°,λ97.00000°.*
NEIC ***12*** *15:47:36.0±2.9,31.72N×141.92E,h4km±18km,mb4.5/3, Error ellipse: s-maj=10.5km s-min=6.8km az=80.0*
IDC ***12*** *15:47:35.4±0.6,31.73N×141.87E,h0km,mb3.9/17, mb1 4.1/25,mb1mx4.0/51,mbtmp4.0/25,ML3.4/6,MS3.6/9, Ms1 3.6/9,ms1mx3.2/46,Error ellipse: s-maj=17.3km s-min=13.5km az=66.0*
ISCJB ***12*** *15:47:37.5±0.4,31.71N±0.04×141.86E±0.06,h29km, mb4.0/20,MS3.7/7, Error ellipse: s-maj=8.0km s-min=4.0km az=152.0*
JMA ***12*** *15:47:37.4±0.4,31.84N×142.07E,h41km,M3.9*
ISC 12 15:47:39.3±0.5,31.71N±0.05×141.87E±0.08,h29km,n66, σ0.99/72,mb4.2/30,MS3.7/7,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.94**	**293**	P	**Pn**	**15 48 10.7**	**+0.3**
JHCJ	**Hachijojimakas**	**2.22**	**308**	P	**Pn**	**15 48 13.0**	**-1.2**
JHCJ				eS	**Sn**	**15 48 40.3**	**-0.3**
JHJ2	**Mitsune**	**2.23**	**309**	*e*Pn	**Pn**	**15 48 13.7**	**-0.6**
JHJ2				*e*Sn	**Sn**	**15 48 38.6**	**-2.2**
JHJ2	**Mitsune**	**2.23**	**309**	P	**Pn**	**15 48 13.7**	**-0.6**
JHJ	**Hachijo jima 2**	**2.26**	**309**	Pn	**Pn**	**15 48 13.4**	**-1.2**
	110nm,0.3s,baz=252,slow=23,SNR=51						
JHJ				Sn	**Sn**	**15 48 40.9**	**-0.7**
	118nm,0.3s,baz=247,slow=20,SNR=7.6						
BSO1	**Boso 1**	**3.03**	**346**	P	**Pn**	**15 48 24.0**	**-0.9**
JOD2	**Odawara 2**	**4.24**	**328**	P	**Pn**	**15 48 41.7**	**-0.3**
CBIJ	**Chichi jima**	**4.60**	**176**	*e*Pn	**Pn**	**15 48 47.0**	**-0.1**
CBIJ				*e*Sn	**Sn**	**15 49 37.9**	**-1.6**
CBIJ	**Chichi jima**	**4.60**	**176**	P	**Pn**	**15 48 46.9**	**-0.1**
CBIJ				eS	**Sn**	**15 49 37.6**	**-1.9**
JCJ	**Chichijima**	**4.61**	**176**	Pn	**Pn**	**15 48 46.6**	**-0.4**
	25nm,0.3s,baz=1.4,slow=23,SNR=5.5						
JCJ				Sn	**Sn**	**15 49 37.4**	**-2.1**
	58nm,0.3s,baz=356,slow=22,SNR=4.5						
JRY	**Ryogami san**	**4.96**	**331**	P	**Pn**	**15 48 51.9**	**+0.1**
JIE	**Ise**	**5.09**	**303**	P	**Pn**	**15 48 54.3**	**+0.6**
INU	**Inuyama**	**5.44**	**313**	*e*Pn	**Pn**	**15 49 00.1**	**+1.7**
JTNC	**Tanabenakahech**	**5.67**	**293**	P	**Pn**	**15 49 03.2**	**+1.5**
MJAR	**Matsushiro Arr**	**5.70**	**329**	Pn	**Pn**	**15 49 02.4**	**+0.4**
	2.4nm,0.3s,baz=156,slow=11,SNR=34						
MJAR				Sn	**Sn**	**15 50 06.6**	**+0.1**
	1.3nm,0.3s,baz=163,slow=17,SNR=4.8						
MAJO	**Matsushiro**	**5.70**	**329**	*e*Pn	**Pn**	**15 49 01.5**	**-0.5**
MAT	**Matsushiro**	**5.70**	**329**	P	**Pn**	**15 49 02.6**	**+0.6**
MAT				eS	**Sn**	**15 50 06.8**	**+0.3**
MJB9	**Matsu-Tunnel**	**5.70**	**329**	*e*Pn	**Pn**	**15 49 01.7**	**-0.4**
JMK	**Ichinoseki**	**7.25**	**356**	P	**Pn**	**15 49 21.3**	**-2.0**
JNU	**Nakatsue**	**9.40**	**282**	Pn	**Pn**	**15 49 51.3**	**-1.5**
	0.1nm,0.3s,baz=68,slow=11,SNR=2.2						
JNU				LR	LR	15 53 47.5	
	comp=Z,200nm,18.3s,baz=124,slow=40						
ASAJ	**Asahikawa**	**12.40**	**2**	Pn	**Pn**	**15 50 31.9**	**-1.9**
	0.5nm,0.3s,baz=207,slow=16,SNR=6.2						
ASAJ				Sn	Sn	15 52 40.6	-10
	0.3nm,0.3s,baz=267,slow=17,SNR=3.6						
KSRS	**Korea Array**	**12.84**	**300**	Pn	**Pn**	**15 50 41.1**	**+1.3**
	0.1nm,0.3s,baz=111,slow=13,SNR=7.8						
KSRS				LR	LR	15 56 04.2	
	comp=Z,205nm,18.8s,baz=130,slow=40						
KSAR	**Wonju Array Be**	**12.86**	**300**	Pn	**Pn**	**15 50 41.1**	**+0.9**
USRK	**Ussuriysk Ar.**	**14.69**	**331**	Pn	**Pn**	**15 51 03.2**	**-1.8**
	0.1nm,0.3s,baz=154,slow=13,SNR=4.5						
KLR	**Kul'dur**	**19.00**	**339**	P	**P**	**15 51 58.3**	**-1.3**
	0.3nm,0.3s,baz=139,slow=12,SNR=9.1						
ULN	**Ulaanbaatar**	**30.92**	**312**	*e*P	**P**	**15 53 54.4**	**+0.7**
	7.6nm,1.1s						
SONA1	**Songino Array**	**31.33**	**311**	*e*P	**P**	**15 53 58.7**	**+1.4**
SONM	**Songino Array**	**31.33**	**311**	P	**P**	**15 53 59.0**	**+1.7**
	1.7nm,0.6s,baz=114,slow=8.1,SNR=15						
TIXI	**Tiksi**	**40.61**	**354**	P	**P**	**15 55 15.2**	**-0.9**
	1.3nm,0.3s,baz=139,slow=5.6,SNR=5.2						
CMAR	**Chiang Mai Arr**	**40.80**	**262**	P	**P**	**15 55 17.9**	**-0.4**
	0.7nm,0.7s,baz=56,slow=7.0,SNR=5.7						
CMAR				LR	LR	16 13 50.3	
	comp=Z,74nm,18.3s,baz=184,slow=39						
ZALV	**Zalesovo Beam**	**45.90**	**316**	P	**P**	**15 55 59.4**	**+0.3**
	0.6nm,0.4s,baz=111,slow=16,SNR=4.6						
ZALV				LR	LR	16 16 14.8	
	comp=Z,98nm,19.6s,baz=76,slow=38						
ZALV	**Zalesovo Beam**	**45.90**	**316**	*e*P	**P**	**15 55 59.2**	**+0.1**
MK01	**Makanchi Array**	**47.42**	**306**	*e*P	**P**	**15 56 11.4**	**+0.3**
MK31	**Makanchi Array**	**47.42**	**306**	*e*P	**P**	**15 56 11.9**	**+0.7**
MKAR	**Makanchi Array**	**47.42**	**306**	P	**P**	**15 56 12.0**	**+0.8**
	2.3nm,0.7s,baz=88,slow=9.2,SNR=19						
MKAR				LR	LR	16 16 51.9	
	comp=Z,68nm,18.1s,baz=56,slow=37						
RAMN	**Ramite**	**47.99**	**279**	*e*P	**P**	**15 56 15.8**	**-0.3**
	7.1nm,0.5s						
JIRN	**Jiri**	**48.10**	**280**	*e*P	**P**	**15 56 17.4**	**+0.3**
	19nm,0.5s						
GUN	**Gumba**	**48.28**	**281**	*e*P	**P**	**15 56 18.7**	**+0.2**
	10nm,0.5s						
PKI	**Pulchoki**	**48.79**	**280**	*e*P	**P**	**15 56 21.8**	**-0.5**
	3.5nm,0.6s						
PKIN	**Phulchoki**	**48.80**	**280**	*e*P	**P**	**15 56 22.1**	**-0.2**
	1.8nm,0.4s						
KKN	**Kakani**	**48.82**	**281**	*e*P	**P**	**15 56 22.4**	**-0.1**
	4.4nm,0.5s						
DMN	**Daman**	**49.03**	**281**	*e*P	**P**	**15 56 24.0**	**-0.1**
	2.5nm,0.4s						
KURK	**Kurchatov**	**49.64**	**312**	*e*P	**P**	**15 56 28.5**	**+0.5**
	17nm,1.3s						
KURBB	**Kurchatov Arra**	**49.70**	**312**	P	**P**	**15 56 29.1**	**+0.6**
	11nm,1.2s,baz=88,slow=7.4,SNR=25						
DANN	**Dangsing**	**49.91**	**282**	*e*P	**P**	**15 56 31.3**	**+0.4**
	12nm,0.6s						
KOLN	**Koldanda**	**50.23**	**281**	*e*P	**P**	**15 56 33.4**	**+0.2**
	7.4nm,0.8s						
PYUN	**Piuthan**	**50.63**	**282**	*e*P	**P**	**15 56 36.5**	**+0.2**
	18nm,0.5s						
WB2	**Warramunga Arr**	**51.86**	**189**	*e*P	**P**	**15 56 44.2**	**-0.9**
WRA	**Warramunga Arr**	**51.86**	**189**	P	**P**	**15 56 45.2**	**+0.1**
	2.8nm,0.7s,baz=6.4,slow=7.7,SNR=49						
ILAR	**Eielson Array**	**53.84**	**30**	P	**P**	**15 56 59.7**	**+0.4**
	1.1nm,1.0s,baz=284,slow=6.5,SNR=7.7						
AS31	**Alice Springs**	**55.59**	**189**	*e*P	**P**	**15 57 13.2**	**+0.8**
	2.6nm,1.3s						
ASAR	**Alice Springs**	**55.59**	**189**	P	**P**	**15 57 12.9**	**+0.6**
	0.8nm,0.5s,baz=358,slow=6.1,SNR=39						
DZM	**Mont Dzumac**	**58.43**	**153**	LR	LR	16 19 10.5	
	comp=Z,25nm,20.3s,baz=38,slow=32						
ABKAR	**Akbulak array**	**61.73**	**313**	*e*P	**P**	**15 57 55.4**	**+0.5**
YKA	**Yellowknife Ar**	**68.24**	**29**	P	**P**	**15 58 38.0**	**+1.0**
	0.1nm,0.5s,baz=295,slow=6.1,SNR=3.4						
FINES	**FINESS Array B**	**73.71**	**333**	P	**P**	**15 59 10.6**	**+0.4**
	1.1nm,0.8s,baz=98,slow=3.9,SNR=4.6						
NVAR	**Mina Array Bea**	**77.91**	**52**	P	**P**	**15 59 35.2**	**+0.2**
	0.6nm,0.7s,baz=281,slow=4.1,SNR=4.7						
AKASG	**Malin Array Be**	**78.76**	**323**	P	**P**	**15 59 38.9**	**-0.1**
	0.6nm,0.4s,baz=50,slow=5.4,SNR=5.8						
AKASG				LR	LR	16 37 43.1	
	comp=Z,95nm,18.2s,baz=35,slow=38						
NB2	**NORSAR Subarra**	**79.24**	**338**	P	**P**	**15 59 40.1**	**-1.5**
	comp=Z,0.8nm,0.9s,baz=43,slow=5.1						
NOA	**NORSAR Array B**	**79.24**	**338**	P	**P**	**15 59 41.3**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=45,slow=5.0,SNR=2.6						
PDAR	**Pinedale Array**	**81.14**	**45**	P	**P**	**15 59 53.1**	**+0.7**
	comp=Z,0.8nm,1.0s,baz=267,slow=3.0,SNR=4.1						
BRTR	**Keskin Array B**	**82.69**	**312**	P	**P**	**16 00 00.2**	**-0.3**
	comp=Z,1.2nm,1.0s,baz=316,slow=3.4,SNR=4.7						
SCHQ	**Schefferville**	**90.34**	**16**	LR	LR	16 42 02.1	
	comp=Z,32nm,21.9s,baz=338,slow=36						
TX31	**Lajitas Ar. Si**	**93.05**	**53**	*e*P	**P**	**16 00 51.1**	**+0.4**
TXAR	**Lajitas Array**	**93.06**	**53**	P	**P**	**16 00 51.9**	**+1.1**
	comp=Z,1.5nm,0.9s,baz=297,slow=2.2,SNR=7.5						
TXAR				LR	LR	16 41 17.7	
	comp=Z,25nm,19.0s,baz=0.0,slow=35						
TORD	**Torodi Ar. Bea**	**121.29**	**313**	PKP	**PKiKP**	**16 06 33.0**	**+2.5**
	comp=Z,0.1nm,0.4s,baz=180,slow=0.4,SNR=2.7						

IDC 12 15:53:44.8±3.5,31.20N×140.48E,h0km,mb3.2/3, mb1 3.3/4,mb1mx3.2/41,mbtmp3.1/4,ML2.7/1,MS3.7/1, Ms1 3.7/1,ms1mx2.7/20,Error ellipse: s-maj=142.3km s-min=26.0km az=73.0,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**5.66**	**341**	Pn	Pn	15 55 09.5	-0.7
	0.2nm,0.3s,baz=157,slow=11,SNR=4.3						
TIXI	**Tiksi**	**40.99**	**354**	LR	LR	16 19 16.0	
	comp=Z,84nm,18.1s,baz=272,slow=37						
MKAR	**Makanchi Array**	**46.77**	**307**	P	P	16 02 16.0	0.0
	0.1nm,0.6s,baz=86,slow=9.7,SNR=2.3						
WRA	**Warramunga Arr**	**51.19**	**187**	P	P	16 02 49.2	-0.7
	0.3nm,0.6s,baz=5.9,slow=7.7,SNR=4.9						
ASAR	**Alice Springs**	**54.91**	**187**	P	P	16 03 17.8	+0.4
	0.1nm,0.5s,baz=0.1,slow=6.3,SNR=4.6						

GUC ***12*** *15:57:16.2±0.8,18.78S×70.72W,h42km±4km,ML4.1*
IDC ***12*** *15:57:16.4±4.2,18.54S×70.39W,h34km±32km,mb3.6/6, mb1 3.8/8,mb1mx3.5/43,mbtmp3.9/8,ML3.9/2,MS2.8/6, Ms1 2.8/6,ms1mx2.7/23,Error ellipse: s-maj=33.1km s-min=21.8km az=75.0*
ISC 12 15:57:14.3±1.0,18.68S±0.05×70.75W±0.07,h25km±6km, n27,σ1.942/29,mb4.0/5,2C-7D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB12	**IPOC Station P**	**0.40**	**81**	↓*i*P	**Pn**	**15 57 25.6**	**+0.9**
PB12				*i* S	**Sb**	**15 57 32.0**	**+3.0**
PSGC	**Pisagua**	**1.09**	**147**	↓*i*P	**Pn**	**15 57 34.2**	**+0.1**
PSGC				*i* S	**Sb**	**15 57 47.3**	**-1.1**
MNMC	**Minye Minye**	**1.18**	**113**	↓*i*P	**Pn**	**15 57 36.6**	**+1.0**
MNMC				*i* S	**Sb**	**15 57 51.7**	**+0.5**
PB11	**IPOC Station P**	**1.49**	**136**	↓*i*P	**Pn**	**15 57 40.9**	**+1.2**
PB11				*i* S	**Sn**	**15 57 59.5**	**+1.0**
PB08	**IPOC Station P**	**2.10**	**134**	↑*i*P	**Pn**	**15 57 50.0**	**+1.8**
PB08				*i* S	**Sn**	**15 58 15.4**	**+1.7**
PB08				IAML		15 58 21.2	
	comp=N,1μm,0.5s						
PATCX	**Punta Patache**	**2.21**	**165**	↓*i*P	**Pn**	**15 57 50.1**	**+0.7**
PATCX				*i* S	**Sn**	**15 58 16.6**	**+0.5**
PB01	**IPOC Station P**	**2.64**	**153**	↓*i*P	**Pn**	**15 57 56.5**	**+1.1**
PB01				*i* S	**Sn**	**15 58 27.0**	**+0.4**
PB01				IAML		15 58 39.8	
	comp=N,733nm,0.1s						
LPAZ	**La Paz**	**3.45**	**47**	Pg	**Pb**	**15 58 13.2**	**-1.8**
	comp=N,1.8nm,0.3s,baz=250,slow=4.0,SNR=20						
LPAZ				Lg	Lg	15 59 00.9	
	comp=N,1.3nm,0.3s,baz=228,slow=22,SNR=2.1						
LPAZ				LR	LR	15 59 35.5	
	comp=N,89nm,18.1s,baz=270,slow=45						
PB03	**IPOC Station P**	**3.48**	**165**	↓*i*P	**Pn**	**15 58 07.9**	**+0.8**
PB03				IAML		15 59 04.5	
	comp=E,366nm,0.7s						
PB04	**IPOC Station P**	**3.68**	**171**	↑*i*P	**Pn**	**15 58 10.4**	**+0.5**
PB04				IAML		15 59 18.3	
	comp=N,324nm,0.6s						
LVC	**Limon Verde**	**4.28**	**157**	Pn	**Pn**	**15 58 20.0**	**+1.8**
	comp=N,17nm,0.3s,baz=6.4,slow=7.3,SNR=139						
LVC				Sn	**Sn**	**15 59 08.0**	**+0.5**
	comp=N,14nm,0.3s,baz=223,slow=8.2,SNR=6.3						
LVC				Lg	Lg	15 59 18.3	
	comp=N,14nm,0.3s,baz=160,slow=23,SNR=5.4						
LVC				LR	LR	16 00 23.1	
	comp=N,88nm,20.3s,baz=10,slow=44						
ATAH	**Atahualpa**	**13.67**	**326**	LR	LR	16 05 38.2	
	comp=N,31nm,18.4s,baz=70,slow=36						
CPUP	**Villa Florida**	**14.55**	**124**	Pn	**Pn**	**16 00 37.0**	**-1.7**
	comp=N,0.1nm,0.3s,baz=336,slow=10.0,SNR=2.0						
CPUP				LR	LR	16 06 52.7	
	comp=N,22nm,18.5s,baz=25,slow=40						
PTGA	**Pitinga**	**20.74**	**32**	P	**P**	**16 01 52.3**	**-0.9**
	comp=N,3.0nm,0.3s,baz=149,slow=23,SNR=7.4						
PTGA				LR	LR	16 10 43.3	
	comp=N,45nm,20.2s,baz=276,slow=40						
BDFB	**Brasilia**	**21.93**	**86**	P	**P**	**16 02 04.2**	**-2.1**
	comp=N,2.2nm,0.6s,baz=249,slow=8.6,SNR=2.1						
BDFB				LR	LR	16 11 06.1	
	comp=N,41nm,21.3s,baz=155,slow=38						
TXAR	**Lajitas Array**	**57.34**	**326**	P	**P**	**16 07 01.6**	**+1.1**
	comp=N,0.1nm,0.4s,baz=143,slow=7.9,SNR=2.5						
ULM	**Lac du Bonnet**	**72.12**	**343**	P	**P**	**16 08 36.2**	**-0.2**
	comp=N,0.6nm,0.4s,baz=135,slow=5.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**78.08**	**72**	P	**P**	**16 09 09.5**	**-2.1**
	comp=N,1.3nm,0.7s,baz=236,slow=4.9,SNR=8.1						
YKA	**Yellowknife Ar**	**87.97**	**341**	P	**P**	**16 10 03.2**	**+1.6**
	comp=N,0.3nm,0.5s,baz=135,slow=4.9,SNR=8.2						
YKA				pP	**sP**	**16 10 12.9**	**+0.2**
	comp=N,0.7nm,0.6s,baz=137,slow=5.0,SNR=8.5						
H11S2	**WAKE ISLAND Hyd**	**25.76**	**280**	T	T	18 35 20.5	
	baz=103						
H11S1	**WAKE ISLAND Hyd**	**25.76**	**280**	T	T	18 35 24.1	
	baz=103						
H11N3	**WAKE ISLAND Hyd**	**25.77**	**281**	T	T	18 35 23.9	
	baz=100						
H11S3	**WAKE ISLAND Hyd**	**25.77**	**280**	T	T	18 35 22.3	
	baz=103						
H11N2	**WAKE ISLAND Hyd**	**25.78**	**281**	T	T	18 35 31.1	
	baz=100						
H11N1	**WAKE ISLAND Hyd**	**25.79**	**281**	T	T	18 35 27.3	
	baz=100						
WRA	**Warramunga Arr**	**134.41**	**214**	PKP	**PKPdf**	**16 16 32.7**	**+1.6**
	comp=N,0.6nm,1.0s,baz=139,slow=1.8,SNR=2.6						
MKAR	**Makanchi Array**	**144.27**	**32**	PKP	**PKPab**	**16 16 47.0**	**+0.8**
	comp=N,0.2nm,0.6s,baz=336,slow=3.2,SNR=3.7						

PGC 12 16:05:38.9±2.0,50.65N×130.38W,h10km,MLSn3.2/29, Mw3.8/29,209km west of Pt. Hardy, Bc Vancouver Island, Canada Region,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HG4B	**Hotspring**	**1.73**	**343**	Pn	Pn	16 06 06.7	-2.3
HG4B				Sn	Sn	16 06 27.6	-3.5
PACB	**Port Alice, BC**	**1.85**	**95**	Pn	Pn	16 06 08.8	-1.9
PACB				Sn	Sn	16 06 29.7	-4.5
PHC	**Port Hardy**	**1.88**	**87**	Pn	Pn	16 06 09.4	-1.6
PHC				Sn	Sn	16 06 30.9	-3.8
HG3B	**Hotspring**	**2.04**	**341**	Pn	Pn	16 06 11.3	-2.0
HG3B				Sn	Sn	16 06 36.0	-2.8
BBB	**Bella Bella**	**2.10**	**42**	Pn	Pn	16 06 12.6	-1.4
BBB				Sn	Sn	16 06 35.9	-4.2
BNB	**Barry Inlet**	**2.11**	**337**	Pn	Pn	16 06 12.5	-1.8
EDB	**Eliza Dome**	**2.23**	**109**	Pn	Pn	16 06 13.8	-2.0
TLCB	**Telegraph Cove**	**2.26**	**91**	Pn	Pn	16 06 15.1	-1.2
TLCB				Sn	Sn	16 06 41.0	-3.1
WOSB	**Woss**	**2.48**	**100**	Pn	Pn	16 06 18.3	-1.2
HG1B	**Mitchell Dam**	**2.54**	**335**	Pn	Pn	16 06 19.1	-1.0
MOBC	**Moresby Island**	**2.69**	**339**	Pn	Pn	16 06 20.3	-2.0
MOBC				Sn	Sn	16 06 53.3	-1.6
NCRB	**Newcastle Ridg**	**2.77**	**93**	Pn	Pn	16 06 22.0	-1.4
ETB	**Estevan Point**	**2.78**	**116**	Pn	Pn	16 06 21.8	-1.7
BCBC	**Bella Coola**	**2.85**	**51**	Pn	Pn	16 06 24.2	-0.2
BCBC				Sn	Sn	16 06 58.1	-0.6
DIB	**Dawson Inlet,**	**2.87**	**334**	Pn	Pn	16 06 23.1	-1.6
GDR	**Gold River**	**2.92**	**106**	Pn	Pn	16 06 23.7	-1.7
TOFB	**Tofino**	**3.25**	**116**	Pn	Pn	16 06 28.0	-1.9
CBB	**Campbell River**	**3.27**	**99**	Pn	Pn	16 06 29.3	-0.9
CBB				Sn	Sn	16 07 06.5	-2.6
BTB	**Buttle Lake**	**3.34**	**109**	Pn	Pn	16 06 30.0	-1.3
NDB	**Naden**	**3.67**	**336**	Pn	Pn	16 06 34.6	-1.1
RUBB	**Prince Rupert**	**3.69**	**1**	Pn	Pn	16 06 35.0	-0.9
RUBB				Sn	Sn	16 07 17.9	-1.5
B927	**Port Alberni**	**3.87**	**110**	Pn	Pn	16 06 37.1	-1.3
TXB	**Texada**	**3.94**	**102**	Pn	Pn	16 06 38.4	-1.0
MGB	**Mount Grey**	**4.03**	**112**	Pn	Pn	16 06 39.2	-1.6
GHNB	**Nanoose**	**4.18**	**106**	Pn	Pn	16 06 43.3	+0.6
SHB	**Sechelt**	**4.32**	**102**	Pn	Pn	16 06 44.1	-0.6
YOUB	**Youbou, Lake C**	**4.33**	**111**	Pn	Pn	16 06 44.2	-0.6
NLLB	**Nanaimo Lost L**	**4.37**	**107**	Pn	Pn	16 06 44.9	-0.4
PFB	**Port Renfrew**	**4.38**	**116**	Pn	Pn	16 06 45.5	0.0
B926	**Mesachie Lake**	**4.45**	**112**	Pn	Pn	16 06 45.6	-0.7
BPCB	**Bare Point**	**4.66**	**109**	Pn	Pn	16 06 48.9	-0.3
BPCB				Sn	Sn	16 07 42.0	-1.2
WPB	**Watts Point**	**4.71**	**99**	Pn	Pn	16 06 50.0	0.0
GOBB	**Galiano Island**	**4.76**	**108**	Pn	Pn	16 06 50.6	-0.1
B009	**North Saanich**	**4.92**	**111**	Pn	Pn	16 06 53.2	+0.3
B010	**North Saanich**	**4.92**	**111**	Pn	Pn	16 06 53.2	+0.3
PGC	**Sidney**	**4.92**	**111**	Pn	Pn	16 06 53.2	+0.3
PA12	**PA12 Sannich**	**4.93**	**111**	Pn	Pn	16 06 53.4	+0.5
SNB	**Saturna Island**	**5.04**	**109**	Pn	Pn	16 06 55.0	+0.5
MCW	**Mount Constitu**	**5.28**	**109**	Pn	Pn	16 06 59.0	+1.1
FSB	**Fort Saint Jam**	**5.32**	**42**	Pn	Pn	16 06 58.9	+0.4
VDB	**Vedder Mountai**	**5.59**	**104**	Pn	Pn	16 07 02.6	+0.4
HOPB	**Hope**	**5.91**	**99**	Pn	Pn	16 07 06.3	-0.2
JCW	**Jim Creek**	**6.03**	**111**	Pn	Pn	16 07 08.9	+0.7
GPW	**Glacier Peak**	**6.54**	**109**	Pn	Pn	16 07 16.4	+1.0
FMW	**Mount Fremont**	**6.85**	**120**	Pn	Pn	16 07 21.0	+1.5
LON	**Longmire**	**6.88**	**121**	Pn	Pn	16 07 21.4	+1.6
LTY	**Liberty**	**7.24**	**114**	Pn	Pn	16 07 26.0	+1.3
BMBC	**Bull Mountain**	**7.32**	**39**	Sn	Sn	16 08 48.7	-0.2
B08A	**Colville Reser**	**7.55**	**103**	Pn	Pn	16 07 30.0	+1.0
DLBC	**Dease Lake**	**7.81**	**1**	Pn	Pn	16 07 34.9	+2.3

ISCJB ***12*** *16:10:52.0±0.5,34.18S±0.04×148.79E±0.04,h10km, Error ellipse: s-maj=6.3km s-min=4.9km az=179.9*
AUST ***12*** *16:10:52.9±0.7,34.22S×148.92E,h4km±5km,Error ellipse: s-maj=5.0km s-min=3.2km az=4.0*
IDC ***12*** *16:10:55.0±7.2,33.845S×148.71E,h0km,mb1 3.4/3, mb1mx3.3/27,mbtmp3.2/3,ML3.1/3,Error ellipse: s-maj=123.0km s-min=46.6km az=4.0*
ISC 12 16:10:52.4±0.9,34.19S±0.05×148.85E±0.04,h10km,n14, σ1.958/20,New South Wales

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YNG	**Young**	**0.39**	**254**	P	**Pb**	**16 11 01.5**	**0.0**
	baz=0.4,SNR=1000						
YNG				S	**Sb**	**16 11 08.0**	**+0.4**
	baz=0.4						
CNB	**Canberra Magne**	**1.20**	**160**	P	**Pb**	**16 11 14.1**	**-1.1**
	baz=1.1,SNR=310						
CNB				S	**Sb**	**16 11 29.2**	**-1.6**
	baz=1.1,SNR=5.9						
RIV	**Riverview**	**1.95**	**80**	P	**Pn**	**16 11 25.9**	**+0.3**
	baz=1.9,SNR=51						
RIV				S	**Sn**	**16 11 51.3**	**+1.2**
	baz=1.9,SNR=13						
MGCD	**Mangrove Creek**	**2.12**	**63**	P	**Pn**	**16 11 28.7**	**+0.8**
	baz=2.1,SNR=124						
MGCD				S	**Sb**	**16 11 57.2**	**-0.1**
	baz=2.1,SNR=8.6						
MILA	**Mila**	**2.87**	**175**	P	**Pn**	**16 11 39

ISC 12 16:41:20.4±0.5, 3°36N±0°06×93°02E±0°05, h35km, n129, σ1s24/114, mb4.5/35, MS3.7/19, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**3.43**	**106**	P	**Pn**	**16 42 10.8**	**-0.7**
SNSI				S	Sn	16 42 35.0	-16
CMBY	**CAMPBELL BAY**	**3.74**	**14**	*e*P	**Pn**	**16 42 15.4**	**-0.4**
CMBY				*e*S	**Sn**	**16 42 54.1**	**-4.5**
CMBY	comp=E,3μm,0.6s			IAML		16 42 59.8	
CMBY	comp=N,3μm,0.4s			IAML		16 42 60.0	
TPTI		**4.15**	**91**	P	**Pn**	**16 42 20.6**	**-0.8**
TPTI				S	Sn	16 42 52.7	-16
LHMI	**Lhok Sumawe**	**4.34**	**64**	*e*Pn	**Pn**	**16 42 24.9**	**+1.0**
LHMI	**Lhok Sumawe**	**4.34**	**64**	P	**Pn**	**16 42 25.0**	**+1.1**
KCSI	**Kotacane, Aceh**	**4.75**	**88**	P	**Pn**	**16 42 31.1**	**+1.5**
KCSI				S	Sn	16 43 10.5	-13
GSI	**Gunungsitoli**	**4.99**	**114**	*e*Pn	**Pn**	**16 42 32.7**	**-0.2**
GSI	**Gunungsitoli**	**4.99**	**114**	P	**Pn**	**16 42 32.4**	**-0.5**
	comp=N,317nm,0.7s,comp=N,6μmcomp=N,1.6nm						
TSI	**Tuntungan**	**5.54**	**88**	P	**Pn**	**16 42 41.0**	**+0.6**
PSI	**Prapat**	**5.92**	**95**	Pn	**Pn**	**16 42 46.6**	**+0.8**
	comp=N,16nm,0.3s,baz=358,slow=1.9,SNR=90						
PSI				Sn	**Sn**	**16 43 50.5**	**-2.0**
	comp=N,42nm,0.3s,baz=360,slow=16,SNR=11						
PSI	**Prapat**	**5.92**	**95**	*e*Pn	**Pn**	**16 42 47.0**	**+1.2**
PSI				Sn	**Sn**	**16 43 50.5**	**-2.0**
PKDT	**Phuket**	**6.95**	**49**	P	**Pn**	**16 42 59.9**	**+0.1**
	comp=N,59nm,0.8s,comp=N,738nmcomp=N,0.3nm						
MNSI	**Mandailing Nat**	**7.03**	**111**	P	**Pn**	**16 43 01.0**	**+0.1**
SISI	**Saibi**	**7.64**	**127**	P	**Pn**	**16 43 09.5**	**+0.1**
KULM	**Kulim**	**7.85**	**76**	*e*Pn	**Pn**	**16 43 12.7**	**+0.5**
KULM	**Kulim**	**7.85**	**76**	P	**Pn**	**16 43 12.9**	**+0.8**
TRTT	**Trang**	**7.99**	**56**	P	**Pn**	**16 43 14.0**	**-0.2**
	comp=N,50nm,0.9s,comp=N,554nmcomp=N,0.2nm						
IPM	**Ipoh**	**8.06**	**82**	*e*Pn	**Pn**	**16 43 15.6**	**+0.4**
IPM	**Ipoh**	**8.06**	**82**	P	**Pn**	**16 43 15.7**	**+0.5**
PBA	**Port Blair**	**8.25**	**358**	*e*Pn	Pn	16 43 17.0	-0.7
PBA	**Port Blair**	**8.25**	**358**	*e*P	Pn	16 43 16.1	-1.7
PBA				*e*S	Sn	16 44 41.4	-8.4
PPI	**Padang Panjang**	**8.29**	**117**	P	**Pn**	**16 43 18.9**	**+0.7**
SKLT	**Songkhla**	**8.46**	**63**	P	**Pn**	**16 43 21.2**	**+0.6**
	comp=N,83nm,0.9s,comp=N,1μmcomp=N,0.4nm						
BKNI	**Bangkinang**	**8.56**	**110**	P	**Pn**	**16 43 21.7**	**-0.3**
PDSI	**Padang**	**8.56**	**120**	P	**Pn**	**16 43 22.7**	**+0.7**
	comp=N,47nm,0.5s,comp=N,815nm						
FRIM	**Kepong**	**8.59**	**91**	P	**Pn**	**16 43 22.5**	**+0.1**
PPSI	**Pulau Pagai**	**9.26**	**131**	P	**Pn**	**16 43 31.1**	**-0.4**
KRJI	**Kerinci**	**10.02**	**123**	P	**Pn**	**16 43 42.9**	**+0.8**
	comp=N,103nm,0.7s,comp=N,2μm						
KTGM	**Kuala Trenggan**	**10.27**	**79**	P	**Pn**	**16 43 45.6**	**+0.2**
KGM	**Kluang**	**10.37**	**97**	P	**Pn**	**16 43 47.1**	**+0.2**
MYKOM	**Kota Tinggi**	**10.93**	**98**	*e*Pn	**Pn**	**16 43 54.6**	**+0.1**
MYKOM	**Kota Tinggi**	**10.93**	**98**	P	**Pn**	**16 43 54.9**	**+0.4**
MASI	**Maura Aman, Be**	**11.25**	**125**	P	**Pn**	**16 43 59.3**	**+0.4**
	comp=N,127nm,0.8s						
MNAI	**Manna**	**12.54**	**128**	*e*Pn	**Pn**	**16 44 16.1**	**-0.4**
MNAI				*e*Sn	**Sn**	**16 46 27.5**	**-7.6**
LHSI	**Lahat**	**12.69**	**124**	P	**Pn**	**16 44 20.3**	**+1.7**
	comp=N,68nm,0.8s						
PALK	**Pallekele**	**12.87**	**288**	Pn	**Pn**	**16 44 19.0**	**-2.0**
	comp=N,1.2nm,0.3s,baz=117,slow=16,SNR=9.3						
PALK				Sn	Sn	16 46 27.1	-16
	comp=N,8.6nm,0.3s,baz=296,slow=3.8,SNR=9.8						
PALK				LR	LR	16 48 23.0	
	comp=N,310nm,20.6s,baz=116,slow=33						
PALK	**Pallekele**	**12.87**	**288**	*e*Pn	**Pn**	**16 44 20.6**	**-0.4**
PALK				*e*Sn	Sn	16 46 28.5	-15
MDSI	**Maura Dua**	**13.60**	**125**	P	**Pn**	**16 44 30.3**	**-0.7**
	comp=N,17nm,0.8s						
UTHA	**Uthaitani**	**13.68**	**27**	P	**P**	**16 44 40.9**	**+0.6**
LWLI	**Liwa**	**13.81**	**127**	P	P	16 44 54.9	+13
SRAK	**Srakaew**	**13.84**	**40**	P	**P**	**16 44 41.7**	**-0.4**
UMPA	**Umpang Tak**	**14.00**	**24**	P	**P**	**16 44 43.8**	**-0.1**
CHAI	**Chaiyaphum**	**15.27**	**35**	P	**Pn**	**16 44 55.5**	**+1.9**
	comp=N,5.7nm,0.7s						
PBKT	**Sadao Pong**	**15.28**	**30**	P	**Pn**	**16 44 54.3**	**+0.6**
	comp=N,20nm,0.7s,comp=N,898nm						
SUKH	**Sukhothai**	**15.46**	**24**	P	**P**	**16 45 01.0**	**+0.8**
MDRS	**Chennai**	**15.89**	**308**	*e*P	**Pn**	**16 44 59.8**	**-1.8**
CM01	**Chiang Mai Arr**	**16.06**	**21**	*e*Pn	**P**	**16 45 07.1**	**+0.3**
CM31	**Chiang Mai Arr**	**16.09**	**21**	*e*Pn	**Pn**	**16 45 05.4**	**+1.3**
CMAR	**Chiang Mai Arr**	**16.09**	**21**	Pn	**Pn**	**16 45 03.0**	**-1.1**
	comp=N,0.2nm,0.3s,baz=216,slow=13,SNR=52						
CMAR				LR	LR	16 52 28.4	
	comp=N,180nm,18.6s,baz=218,slow=42						
UTTA	**Uttaradit**	**16.09**	**27**	P	**P**	**16 45 06.5**	**-0.7**
	comp=N,7.1nm,0.7s,comp=N,66nm						
LAMP	**Lampang**	**16.41**	**23**	P	**P**	**16 45 11.4**	**+0.8**
	comp=N,8.7nm,0.8s						
CHTO	**Chiang Mai**	**16.42**	**20**	*e*Pn	**P**	**16 45 10.3**	**-0.5**
	comp=N,10nm,0.9s						
CHTO	**Chiang Mai**	**16.42**	**20**	P	**Pn**	**16 45 07.3**	**-1.0**
	comp=N,58nm,1.0s						
CMMT	**Chiang Mai**	**16.42**	**20**	P	**Pn**	**16 45 07.2**	**-1.2**
	comp=N,13nm,1.0s						
VIS	**Vishakhapatnam**	**17.15**	**327**	*i* P	**Pn**	**16 45 16.4**	**-1.1**
VIS				*i* x	x	16 47 29.1	
SKNT	**Sakolnakorn**	**17.29**	**38**	P	**Pn**	**16 45 19.6**	**+0.3**
	comp=N,10nm,0.7s						
KSM	**Kuching**	**17.37**	**96**	*e*P	**P**	**16 45 22.9**	**+1.5**
	comp=N,38nm,0.8s						
NONG	**Nongkai**	**17.67**	**33**	P	**Pn**	**16 45 23.7**	**-0.2**
	comp=N,0.8nm,0.9s						
LEM	**Lembang**	**17.74**	**125**	LR	LR	16 51 24.9	
	comp=N,116nm,21.2s,baz=222,slow=34						
STKI	**Sintang**	**17.73**	**109**	P	**Pn**	**16 45 39.1**	**+2.1**
	comp=N,56nm,1.3s,comp=N,6μm						
SBUM	**Sibu**	**19.20**	**92**	*e*P	**Pn**	**16 45 43.3**	**+0.7**
	comp=N,11nm,0.9s						
BRDH	**Bariadhala**	**19.25**	**356**	P	**P**	**16 45 41.1**	**-0.9**
	comp=N,32nm,0.3s,baz=62,slow=17,SNR=3.1						
HYB	**Hyderabad**	**19.92**	**316**	*e*P	**P**	**16 45 49.3**	**0.0**
BOK	**Bokaro**	**21.46**	**342**	*e*P	**P**	**16 46 07.3**	**+1.4**
BOK				IAmb	IAmb	16 46 07.8	
	comp=Z,18nm,0.7s						
SHL	**Shillong**	**22.11**	**357**	*e*P	**P**	**16 46 12.2**	**-0.9**
GOA	**Goa**	**22.42**	**304**	*e*P	**P**	**16 46 15.2**	**-1.1**
H08S2	**Diego Garcia H**	**23.21**	**242**	T	T	17 11 34.4	
	baz=61,slow=75,SNR=20						
H08S3	**Diego Garcia H**	**23.21**	**242**	T	T	17 11 46.9	
	baz=61,slow=75,SNR=32						
H08S1	**Diego Garcia H**	**23.23**	**242**	T	T	17 11 46.5	
	baz=61,slow=75,SNR=28						
SDKM	**Sandakan**	**24.20**	**84**	P	**P**	**16 46 35.7**	**+1.6**
RAMN	**Ramite**	**24.25**	**346**	*e*P	**P**	**16 46 35.9**	**+1.3**
	comp=Z,21nm,0.6s						
TSM	**Tawau**	**24.81**	**87**	P	**P**	**16 46 41.1**	**+1.5**
BHPL	**Bhopal**	**24.87**	**324**	*e*P	**P**	**16 46 41.3**	**+1.3**
JIRN	**Jiri**	**25.04**	**346**	*e*P	**P**	**16 46 42.6**	**+0.8**
	comp=Z,74nm,0.7s						
PKIN	**Phulchoki**	**25.16**	**344**	*e*P	**P**	**16 46 43.4**	**+0.5**
	comp=Z,22nm,0.9s						
DMN	**Daman**	**25.28**	**343**	*e*P	**P**	**16 46 44.8**	**+0.9**
	comp=Z,49nm,0.8s						
GUN	**Gumba**	**25.35**	**345**	*e*P	**P**	**16 46 45.3**	**+0.6**
	comp=Z,45nm,0.8s						
KKN	**Kakani**	**25.40**	**344**	*e*P	**P**	**16 46 45.5**	**+0.5**
	comp=Z,45nm,0.9s						
KOLN	**Koldanda**	**25.89**	**341**	*e*P	**P**	**16 46 50.3**	**+0.9**
	comp=Z,36nm,0.9s						
LSA	**Lhasa**	**26.26**	**356**	*e*P	**P**	**16 46 55.0**	**+1.9**
	comp=Z,26nm,1.0s						
DANN	**Dangsing**	**26.38**	**341**	*e*P	**P**	**16 46 54.5**	**+0.6**
	comp=Z,42nm,0.7s						
PYUN	**Piuthan**	**26.40**	**340**	*e*P	**P**	**16 46 54.5**	**+0.4**
	comp=Z,29nm,0.9s						
MPSI	**Mapaga**	**27.03**	**96**	P	P	16 47 11.6	+12
TGY	**Tagaytay City**	**29.55**	**67**	LR	LR	17 00 12.4	
	comp=Z,50nm,18.8s,baz=140,slow=38						
SMLA	**Simla**	**31.41**	**333**	*e*P	**P**	**16 47 38.7**	**+0.3**
DAV	**Davao City (W)**	**32.63**	**82**	LR	LR	17 03 18.8	
	comp=Z,63nm,18.4s,baz=260,slow=40						
DHRM	**DHARAMSHALA**	**32.75**	**333**	*e*P	**P**	**16 47 50.2**	**-0.2**
XAN	**Xi'an**	**33.94**	**24**	P	**P**	**16 48 00.0**	**-0.5**
XAN				pP	pP	16 48 09.9	-0.7
XAN				sP	sP	16 48 13.4	-1.5
XAN	comp=Z,11nm,0.8s			pmax	pmax		
XAN	comp=Z,160nm,4.5s			pmax	pmax		
GTA	**Gaotai**	**36.42**	**9**	*e*P	**P**	**16 48 22.8**	**+0.9**
GTA				pP	pP	16 48 31.9	-0.2
GTA				sP	sP	16 48 36.1	-0.2
GTA	comp=Z,6.0nm,0.9s			pmax	pmax		
GTA	comp=Z,35nm,5.8s			pmax	pmax		
GTA				LR	LR		
GTA	comp=Z,99nm,14.8s			LR	LR		
	comp=Z,130nm,15.8s						
ARSB	**Arslanbob**	**41.87**	**337**	*e*P	**P**	**16 49 08.3**	**+0.8**
	comp=Z,28nm,1.3s						
AAK	**Ala-Archa**	**42.46**	**340**	P	**P**	**16 49 13.3**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=174,slow=10,SNR=3.7						
H01W3	**Cape Leeuwin H**	**42.90**	**154**	T	T	17 35 28.6	
	baz=331,slow=76,SNR=3.1						
H01W2	**Cape Leeuwin H**	**42.91**	**154**	T	T	17 35 29.1	
	baz=331,slow=76,SNR=9.0						
H01W1	**Cape Leeuwin H**	**42.92**	**154**	T	T	17 35 25.9	
	baz=331,slow=76,SNR=3.6						
MK01	**Makanchi Array**	**44.24**	**349**	*e*P	**P**	**16 49 26.9**	**+0.5**
MK31	**Makanchi Array**	**44.26**	**349**	*e*P	**P**	**16 49 27.3**	**+0.7**
MKAR	**Makanchi Array**	**44.26**	**349**	P	**P**	**16 49 27.1**	**+0.6**
	comp=Z,4.6nm,0.6s,baz=168,slow=8.5,SNR=74						
MKAR				PcP	**PcP**	**16 51 11.5**	**+0.9**
	comp=Z,2.5nm,1.0s,baz=159,slow=4.5,SNR=3.1						
MKAR				LR	LR	17 11 45.4	
	comp=Z,30nm,20.4s,baz=174,slow=41						
MAKZ	**Makanchi**	**44.33**	**349**	*e*P	**P**	**16 49 27.1**	**0.0**
	comp=Z,3.6nm,0.7s						
SONM	**Songino Array**	**45.79**	**13**	P	**P**	**16 49 39.7**	**+0.9**
	comp=Z,3.0nm,0.8s,baz=195,slow=9.0,SNR=19						
SONM				PcP	**PcP**	**16 51 15.6**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=191,slow=5.5,SNR=2.3						
SONM				LR	LR	17 10 41.6	
	comp=Z,66nm,20.9s,baz=179,slow=39						
SONA1	**Songino Array**	**45.80**	**13**	*e*P	**P**	**16 49 39.8**	**+0.8**
KSAR	**Wonju Array Be**	**46.59**	**39**	P	**P**	**16 49 45.3**	**+0.1**
KSRS	**Korea Array**	**46.63**	**39**	P	**P**	**16 49 45.3**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=224,slow=7.5,SNR=5.7						
WRA	**Warramunga Arr**	**46.71**	**121**	P	**P**	**16 49 47.0**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=304,slow=8.5,SNR=8.6						
GEYT	**Alibeck**	**46.92**	**322**	P	**P**	**16 49 48.8**	**+1.0**
	comp=Z,24nm,0.5s,baz=161,slow=9.4,SNR=10.0						
GEYT				LR	LR	17 09 56.8	
	comp=Z,61nm,21.9s,baz=85,slow=37						
ASAR	**Alice Springs**	**48.02**	**126**	P	**P**	**16 49 57.1**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=298,slow=7.4,SNR=8.6						
KURK	**Kurchatov**	**48.73**	**348**	*e*P	**P**	**16 50 01.6**	**+0.1**
	comp=Z,5.1nm,0.9s						
ZAA0	**Zalesovo Array**	**50.88**	**354**	*e*P	**P**	**16 50 17.5**	**-0.2**
	comp=Z,11nm,1.3s						
ZALV	**Zalesovo Beam**	**50.88**	**354**	P	**P**	**16 50 18.6**	**+0.8**
	comp=Z,3.5nm,0.4s,baz=180,slow=7.5,SNR=20						
ZALV				LR	LR	17 14 21.8	
	comp=Z,64nm,18.8s,baz=248,slow=39						
BRVK	**Borovoye**	**52.98**	**343**	*e*P	**P**	**16 50 32.8**	**-0.7**
	comp=Z,2.7nm,0.6s						
MJAR	**Matsushiro Arr**	**53.05**	**46**	P	**P**	**16 50 35.2**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=228,slow=5.0,SNR=8.1						
MJAR				LR	LR	17 14 40.1	
	comp=Z,98nm,19.5s,baz=260,slow=38						
ABKAR	**Akbulak array**	**53.70**	**334**	*e*P	**P**	**16 50 37.9**	**-0.9**
KMBO	**Kilima Mbogo**	**55.92**	**266**	P	**P**	**16 50 57.3**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=57,slow=16,SNR=2.9						
KMBO				LR	LR	17 12 41.9	
	comp=Z,97nm,18.7s,baz=95,slow=34						
KLR	**Kul'dur**	**56.33**	**30**	P	**P**	**16 50 58.1**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=255,slow=10,SNR=6.3						
STKA	**Stephens Creek**	**57.90**	**131**	LR	LR	17 17 19.6	
	comp=Z,35nm,19.1s,baz=252,slow=37						
KBZ	**Khabaz**	**59.73**	**320**	P	**P**	**16 51 21.4**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=239,slow=5.9,SNR=3.6						
BRTR	**Keskin Array B**	**64.59**	**313**	P	**P**	**16 51 53.1**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=116,slow=5.6,SNR=4.2						
AKASG	**Malin Array Be**	**71.02**	**323**	P	**P**	**16 52 33.6**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=89,slow=5.2,SNR=4.8						
AKASG				LR	LR	17 27 30.6	
	comp=Z,25nm,18.8s,baz=265,slow=39						
BOSA	**Boshof**	**72.28**	**239**	P	**P**	**16 52 44.1**	**+1.2**
	comp=Z,1.8nm,0.9s,baz=153,slow=6.8,SNR=2.3						
BOSA				LR	LR	17 19 04.6	
	comp=Z,39nm,18.7s,baz=54,slow=31						
PETK	**Petropavlovsk-**	**72.31**	**35**	LR	LR	17 27 45.8	
	comp=Z,36nm,18.8s,baz=245,slow=39						
MAW	**Mawson**	**73.91**	**192**	LR	LR	17 18 09.8	
	comp=Z,32nm,21.1s,baz=40,slow=30						
FINES	**FINESS Array B**	**76.18**	**333**	P	**P**	**16 53 03.8**	**-1.0**
	comp=Z,2.3nm,0.9s,baz=115,slow=9.5,SNR=3.8						
FINES				LR	LR	17 30 39.8	
	comp=Z,45nm,18.2s,baz=68,slow=39						
VYHS	**Vyhne**	**77.03**	**319**	*e*P	**P**	**16 53 10.3**	**+0.3**
GEA0	**GERESS Array S**	**80.45**	**319**	*e*P	**P**	**16 53 29.0**	**+0.1**
GERES	**GERESS Array B**	**80.45**	**319**	P	**P**	**16 53 29.6**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=99,slow=5.8,SNR=17						
NOA	**NORSAR Array B**	**83.11**	**331**	LR	LR	17 32 28.8	
	comp=Z,24nm,19.6s,baz=20,slow=37						
RPZ	**Rata Peaks**	**83.68**	**134**	LR	LR	17 29 43.0	
	comp=Z,42nm,18.9s,baz=225,slow=35						
VNDA	**Vanda**	**88.76**	**168**	LR	LR	17 29 47.3	
	comp=Z,62nm,18.3s,baz=254,slow=33						
DBIC	**Dimbokro**	**97.42**	**277**	LR	LR	17 36 54.6	
	comp=Z,33nm,19.3s,baz=67,slow=34						
TXAR	**Lajitas Array**	**143.77**	**25**	PKP	PKPbc	17 00 51.0	+0.7
	comp=Z,0.3nm,0.5s,baz=156,slow=2.3,SNR=5.2						

MEX 12 16:42:26.6±0.7, 16°49N×98°51W, h3km±8km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.38**	**105**	*e*P	Pg	16 42 33.5	-0.5
PNIG				*e*S	Sg	16 42 39.8	+0.8
CAIG	**El Cayaco**	**1.77**	**288**	*e*P	Pn	16 42 54.9	-3.2
CAIG				*i* S	Sn	16 43 16.4	-4.8
MEIG	**Mezcala**	**1.78**	**324**	*e*P	Pn	16 42 55.2	-3.1
MEIG				*i* S	Sn	16 43 17.2	-4.2
PLIG	**Platanillo**	**2.11**	**334**	*i* P	Pn	16 42 59.4	-3.6
PLIG				*i* S	Sn	16 43 25.1	-4.7
YAIG	**Yautepec**	**2.42**	**347**	*i* P	Pn	16 43 04.8	-2.4
YAIG				*i* S	Sn	16 43 33.8	-3.6

IDC 12 16:43:32.3±2.0, 1°46N×126°04E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/44, mbtmp3.4/3, Error ellipse: s-maj=172.3km s-min=25.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.77**	**159**	P	P	16 48 36.8	+0.2
	0.9nm,0.5s,baz=338,slow=11,SNR=15						
ASAR	**Alice Springs**	**26.12**	**163**	P	P	16 49 08.1	-0.2
	0.2nm,0.3s,baz=358,slow=10,SNR=8.7						
MKAR	**Makanchi Array**	**59.03**	**326**	P	P	16 53 34.1	0.0
	0.2nm,0.4s,baz=121,slow=8.0,SNR=4.9						

TRN 12 17:09:14.1, 10°87N×59°13W, h79km, MD3.8, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOSP	**Speyside**	**1.44**	**287**	*e*P	Pn	17 09 38.1	-0.5
TOSP				*e*S	Sn	17 09 56.1	-1.0
BOT	**Bacolet**	**1.58**	**281**	*e*P	Pn	17 09 40.9	+0.4
BOT				*e*S	Sn	17 10 00.7	+0.3
TPR	**Prospect**	**1.65**	**281**	*e*P	Pn	17 09 42.4	+1.1
TPR				*e*S	Sn	17 10 01.9	-0.1
TBH	**Brigand Hill**	**1.94**	**259**	*e*P	Pn	17 09 45.9	+0.7
TRN	**Trinidad (W)**	**2.24**	**265**	*e*P	Pn	17 09 50.0	+0.9
TRN				*e*S	Sn	17 10 15.1	-0.9
BBSP	**Saint Philip**	**2.25**	**352**	*e*P	Pn	17 09 49.8	+0.5
BBSP				*e*S	Sn	17 10 16.1	0.0
BBGH	**Gun Hill**	**2.30**	**350**	*e*P	Pn	17 09 50.2	+0.1
BBGH				*e*S	Sn	17 10 16.1	-1.4
TPP	**Pointe-a-Pierr**	**2.34**	**257**	*e*P	Pn	17 09 51.5	+0.9
TPP				*e*S	Sn	17 10 17.1	-1.4
GRGR	**Grenville**	**2.77**	**297**	*e*P	Pn	17 09 56.1	-0.3
GRGR				*e*S	Sn	17 10 28.6	-0.3
GRHS	**Sauteurs**	**2.81**	**299**	*e*P	Pn	17 09 57.0	+0.2
GRHS				*e*S	Sn	17 10 29.0	-0.6
GRSS	**Sisters**	**2.82**	**301**	*e*P	Pn	17 09 57.1	+0.1
GRSS				*e*S	Sn	17 10 29.4	-0.5
FCV	**Fort Charlotte**	**3.08**	**318**	*e*P	Pn	17 10 00.0	-0.5
FCV				*e*S	Sn	17 10 34.6	-1.6
SVCV	**St. Vincent, C**	**3.10**	**321**	*e*P	Pn	17 10 00.3	-0.4
SVCV				*e*S	Sn	17 10 34.6	-2.2
SVB	**Belmont**	**3.17**	**319**	*e*P	Pn	17 10 01.4	-0.3
SVB				*e*S	Sn	17 10 36.9	-1.5
SSV	**Crater Summit**	**3.17**	**321**	*e*P	Pn	17 10 02.0	+0.2
SSV				*e*S	Sn	17 10 37.5	-1.1
SVV	**Soufriere Volc**	**3.18**	**320**	*e*P	Pn	17 10 01.9	+0.1
SVV				*e*S	Sn	17 10 37.2	-1.5
SFAN	**Fancy Village**	**3.20**	**322**	*e*P	Pn	17 10 02.7	+0.5
SFAN				*e*S	Sn	17 10 37.6	-1.6
SLPA	**Patience**	**3.44**	**330**	*e*P	Pn	17 10 06.0	+0.5
SLPA				*e*S	Sn	17 10 43.6	-1.6
SLDE	**Delcer**	**3.47**	**327**	*e*P	Pn	17 10 06.6	+0.8
SLDE				*e*S	Sn	17 10 45.3	-0.6
SLB	**Belfond**	**3.48**	**328**	*e*P	Pn	17 10 06.3	+0.3
SLB				*e*S	Sn	17 10 45.0	-1.3
SLW	**Petit Monier**	**3.60**	**331**	*e*P	Pn	17 10 08.7	+1.1
SLW				*e*S	Sn	17 10 47.9	-1.0
FDF	**Fort de France**	**4.32**	**333**	*e*P	Pn	17 10 17.5	+0.1
FDF	**Fort de France**	**4.32**	**333**	*e*S	Sn	17 11 04.5	-2.1
DLPL	**La Plaine**	**4.89**	**335**	*e*P	Pn	17 10 25.5	+0.3
DLPL	**La Plaine**	**4.89**	**335**	*e*S	Sn	17 11 18.1	-2.5
DWS	**Wesley**	**5.13**	**336**	*e*P	Pn	17 10 29.7	+1.2
BBL	**Barber's Block**	**5.16**	**334**	*e*P	Pn	17 10 28.4	-0.5
BBL	**Barber's Block**	**5.16**	**334**	*e*S	Sn	17 11 25.0	-2.1
MDPO	**Dominica; Chan**	**5.20**	**335**	*e*P	Pn	17 10 30.5	+1.2
MGG	**Marie-Galante**	**5.45**	**337**	*e*P	Pn	17 10 33.0	+0.1
MGG	**Marie-Galante**	**5.45**	**337**	*e*S	Sn	17 11 31.6	-2.7
TBG	**Guadaloupe-3**	**5.53**	**334**	*e*P	Pn	17 10 33.8	0.0
MLYT	**Lee's Yard**	**6.54**	**333**	*e*P	Pn	17 10 47.4	-0.3
MLYT	**Lee's Yard**	**6.54**	**333**	*e*S	Sn	17 11 57.0	-3.7
ANWB	**Willy Bob**	**7.24**	**339**	*e*P	Pn	17 10 58.2	+1.0
ANWB	**Willy Bob**	**7.24**	**339**	*e*S	Sn	17 12 12.9	-5.0

IDC 12 17:17:25.4±4.2, 18°82S×168°61E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/48, mbtmp3.5/5, ML2.7/1, Error ellipse: s-maj=99.4km s-min=36.4km az=113.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.82**	**212**	Pn	Pn	17 18 24.0	-1.6
	0.5nm,0.3s,baz=100,slow=12,SNR=26						
DZM				Sn	Sn	17 19 05.9	-5.3
	10nm,0.3s,baz=103,slow=23,SNR=14						
STKA	**Stephens Creek**	**27.57**	**237**	P	P	17 23 14.3	0.0
	0.9nm,0.5s,baz=55,slow=8.4,SNR=5.5						
WRA	**Warramunga Arr**	**32.31**	**262**	P	P	17 23 56.4	-0.1
	0.2nm,0.9s,baz=89,slow=8.3,SNR=2.7						
ASAR	**Alice Springs**	**32.65**	**255**	P	P	17 23 59.9	+0.4
	0.5nm,0.6s,baz=80,slow=8.5,SNR=12						
SONM	**Songino Array**	**28.93**	**302**	P	P	17 30 10.5	0.0
	0.4nm,0.8s,baz=138,slow=5.0,SNR=3.1						

*IDC **12** 17:18:39.2±2.0, 43°22N×105°36W, h0km, mb2.5/1, mb1 3.5/3, mb1mx3.2/43, mbtmp3.3/3, ML3.6/2, MS2.7/1, Ms1 2.7/1, ms1mx2.2/10, Error ellipse: s-maj=37.8km s-min=8.8km az=155.0*

*ISCJB **12** 17:18:40.4±0.5, 43°56N±0°05×105°31W±0°06, h0km, Error ellipse: s-maj=7.8km s-min=6.6km az=174.9*

*NEIC **12** 17:18:42.1±0.4, 43°55N×105°33W, h0km, ML3.3, Error ellipse: s-maj=7.0km s-min=5.7km az=168.0, Suspected Mining explosion.*

NEIC 78 km [49 miles] ENE of Midwest.

ISC 12 17:18:41.4±1.0, 43°56N±0°08×105°38W±0°06, h0km, n21, σ1s22/18, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.

BJI **12** *17:33:35.0, 3.°00S×129.°80E, h6km, mb4.9/62, mB5.2/46, Ms4.7/39, Ms7 4.4/41*

IDC **12** *17:33:35.7±0.4, 3.°02S×129.°78E, h0km, mb5.0/28, mb1 5.0/35, mb1mx5.0/43, mbtmp5.0/35, ML4.6/5, MS4.3/23, Ms1 4.3/23, ms1mx4.2/37, Error ellipse: s-maj=13.5km s-min=9.4km az=83.0*

ISCJB **12** *17:33:37.5±0.8, 3.°03S±0.°02×129.°85E±0.°02, h21km±5km, mb5.3/256, MS4.4/36, Error ellipse: s-maj=3.0km s-min=2.6km az=135.4*

MOS **12** *17:33:38.9±1.1, 3.°05S×129.°75E, h33km, mb5.3/68, MS4.4/16, Error ellipse: s-maj=8.0km s-min=4.5km az=113.4*

NEIC **12** *17:33:39.1±1.6, 3.°04S×129.°80E, h20km±9km, mb5.4/168, Error ellipse: s-maj=3.8km s-min=2.8km az=52.0*

GCMT **12** *17:33:40.1±0.2, 2.°95S±0.°01×129.°95E±0.°01, h14km, MW5.2/94, Moment Tensor Solution. s75,c93; s94,c138; Duration: 1s8 Moment tensor: Scale 10^16 Nm; Mrr 4.55±.10; Mθθ 1.26±.08; Mϕϕ 3.29±.10; Mrθ -1.92±.21; Mθϕ 2.19±.07; Mϕr 5.84±.21; Best double couple: M 7.69000×10^16 NP1: ϕ 339.00000°, δ 72.00000°, λ 97.00000°. NP2: ϕ 136.00000°, δ 20.00000°, λ 69.00000°. Principal axes: T 7.7160, Plg62.0000°, Azm260.0000°; N -0.0510, Plg7.0000°, Azm157.0000°; P -7.6650, Plg26.0000°, Azm63.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA **12** *17:33:41.3±0.3, 3.°S×2.°×13.°0E±.°, h34km±3km, M5.3/84, mb5.6/84, mB5.7/40, MLv5.7/15, Mw(mB)5.3/40, Mwp5.7/1*

KLM **12** *17:33:42.4, 2.°99S×129.°88E, h38km, mb5.4*

ISC 12 17:33:40.3±0.5, 3.°07S±0.°03×129.°88E±0.°03, h30km±3km, h30km: pP-P, n656, σ1§56/719, mb5.3/264, MS4.4/38, 19C-4D, Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.45**	**179**	P		**Pb**	**Pn**	**17 34 08.4**	**+1.8**
FAKI	**Fak Fak**	**2.37**	**87**	*e*Pn		**Pn**	**Pn**	**17 34 18.1**	**+1.0**
FAKI	**Fak Fak**	**2.37**	**87**	P		**Pn**	**Pn**	**17 34 18.4**	**+1.3**
SIJI	**Sorong**	**2.58**	**32**	Pn		**Pn**	**Pn**	**17 34 18.9**	**-1.2**
	223nm,0.3s,baz=208,slow=5.1,SNR=264								
SIJI				Sn			**Sn**	**17 34 48.4**	**-2.1**
	251nm,0.3s,baz=254,slow=7.6,SNR=6.8								
SIJI				LR		LR	LR	17 35 32.8	
	comp=Z,5μm,18.8s,baz=154,slow=45								
SWI	**Sorong**	**2.58**	**32**	P		**Pn**	**Pn**	**17 34 18.9**	**-1.2**
NLAI	**Namlea**	**2.78**	**266**	P		**Pn**	**Pn**	**17 34 23.4**	**+0.6**
SANI	**Sanana**	**4.02**	**284**	P		**Pn**	**Pn**	**17 34 37.8**	**-2.0**
RKPI	**Ransiki, Papua**	**4.56**	**70**	P		**Pn**	**Pn**	**17 34 47.7**	**+0.4**
TNTI	**Ternate**	**4.57**	**327**	*e*Pn		**Pn**	**Pn**	**17 34 45.8**	**-1.5**
TNTI	**Ternate**	**4.57**	**327**	P		**Pn**	**Pn**	**17 34 44.9**	**-2.4**
SAUI	**Saumlaki**	**5.08**	**164**	*e*Pn		**Pn**	**Pn**	**17 34 56.8**	**+2.4**
SAUI	**Saumlaki**	**5.08**	**164**	P		**Pn**	**Pn**	**17 34 57.4**	**+2.9**
	1μm,1.0s,10μm5.0nm								
SRPI	**Serui, Papua**	**6.46**	**80**	P		**Pn**	**Pn**	**17 35 13.0**	**-0.4**
	2μm,0.7s,14μm6.3nm								
KMSI	**Cibinong**	**6.92**	**301**	P		**Pn**	**Pn**	**17 35 17.8**	**-1.9**
	916nm,0.9s,6μm9.5nm								
KDI	**Kendari**	**7.30**	**263**	P		**Pn**	**Pn**	**17 35 25.5**	**+0.5**
	507nm,0.9s,4μm1.7nm								
LUWI	**Luwuk**	**7.38**	**286**	*e*Pn		**Pn**	**Pn**	**17 35 24.3**	**-1.8**
LUWI	**Luwuk**	**7.38**	**286**	P		**Pn**	**Pn**	**17 35 23.9**	**-2.2**
	511nm,1.0s,5μm2.6nm								
BBSI	**Bau Bau**	**7.68**	**251**	P		Pb		17 35 41.7	-11
SGSI	**Sangihe**	**7.99**	**327**	P		Pn		17 35 42.5	+8.0
SOEI	**Soe**	**8.68**	**220**	*e*Pn		**Pn**	**Pn**	**17 35 48.3**	**+4.4**
SOEI	**Soe**	**8.68**	**220**	P		**Pn**	**Pn**	**17 35 48.1**	**+4.2**
	668nm,1.6s,7μm								
MRSI	**Marisa**	**8.68**	**294**	P		**Pn**	**Pn**	**17 35 41.3**	**-2.6**
	237nm,0.9s,2μm								
MMRI	**Maumere**	**9.40**	**234**	*e*Pn		**Pn**	**Pn**	**17 35 56.5**	**+2.7**
MMRI	**Maumere**	**9.40**	**234**	P		**Pn**	**Pn**	**17 35 56.9**	**+3.1**
	343nm,1.1s,5μm								
BATI	**Baumata**	**9.40**	**221**	Pn		**Pn**	**Pn**	**17 35 55.7**	**+1.9**
	10.0nm,0.3s,baz=21,slow=1.5,SNR=24								
BATI				LR		LR	LR	17 39 38.0	
	comp=Z,11μm,20.8s,baz=36,slow=39								
BATI	**Baumata**	**9.40**	**221**	P		**Pn**	**Pn**	**17 35 57.5**	**+3.7**
	115nm,0.8s								
BNSI	**Bone**	**9.85**	**262**	P		**Pn**	**Pn**	**17 36 00.9**	**+1.0**
	240nm,0.8s,2μm								
KDU	**Kakadu**	**9.90**	**165**	P		**Pn**	**Pn**	**17 35 59.5**	**-1.1**
	baz=10.0,SNR=148								
EDFI	**Ende, Flores**	**9.91**	**235**	P		**Pn**	**Pn**	**17 36 03.3**	**+2.4**
	228nm,0.9s,3μm								
BKSI	**Bulukumba**	**9.99**	**257**	P		**Pn**	**Pn**	**17 36 03.5**	**+1.7**
	222nm,0.7s,2μm								
TTSI	**Tana Toraja**	**10.05**	**270**	P		**Pn**	**Pn**	**17 36 05.0**	**+2.3**
	163nm,0.9s,2μm								
SPSI	**Sidrap Palu**	**10.13**	**265**	P		**Pn**	**Pn**	**17 36 06.5**	**+2.7**
	128nm,0.7s,2μm								
PCI	**Palu**	**10.27**	**282**	P		**Pn**	**Pn**	**17 36 06.9**	**+1.3**
	467nm,1.0s,3μm								
GENI	**Genyem**	**10.28**	**88**	P		**Pn**	**Pn**	**17 36 07.9**	**+2.0**
	975nm,0.7s,11μm								
JAY	**Jayapura**	**10.82**	**87**	Pn		**Pn**	**Pn**	**17 36 14.0**	**+0.7**
	10nm,0.3s,baz=152,slow=1.6,SNR=56								
JAY				Sn			**Sn**	**17 38 15.4**	**+1.9**
	0.7nm,0.3s,baz=128,slow=19,SNR=2.3								
JAY	**Jayapura**	**10.82**	**87**	P		**Pn**	**Pn**	**17 36 14.2**	**+0.9**
	2μm,0.8s,17μm								
DAV	**Davao City (W)**	**10.95**	**337**	Pn		**Pn**	**Pn**	**17 36 14.3**	**-0.6**
	8.9nm,0.3s,baz=135,slow=10.0,SNR=2.9								
DAV	**Davao City (W)**	**10.95**	**337**	*e*Pn		**Pn**	**Pn**	**17 36 13.7**	**-1.3**
DAV	**Davao City (W)**	**10.95**	**337**	P		**Pn**	**Pn**	**17 36 17.9**	**+2.9**
	SNR=6.8								
DAV	**Davao City (W)**	**10.95**	**337**	*e*P		**Pn**	**Pn**	**17 36 12.7**	**-2.2**
PALU	**Palau**	**11.31**	**24**	P		**Pn**	**Pn**	**17 36 20.1**	**+0.2**
	baz=11,SNR=12								
WSI	**Waingapu**	**11.56**	**235**	P		**Pn**	**Pn**	**17 36 26.6**	**+3.2**
	817nm,1.1s,26μm								
BASI	**Baing, Sumba**	**11.65**	**232**	P		Pn		17 36 36.2	+12
KNRA	**Kununurra**	**12.58**	**185**	P		**Pn**	**Pn**	**17 36 38.0**	**+0.7**
	baz=13,SNR=11								
BKB	**Balikpapan**	**13.10**	**278**	P		**Pn**	**Pn**	**17 36 45.5**	**+1.1**
	262nm,0.8s								
PLAI	**Plampang**	**13.33**	**244**	P		**Pn**	**Pn**	**17 36 50.1**	**+2.6**
	325nm,1.1s,5μm								
KBKI	**Kotabaru**	**13.70**	**269**	P		**Pn**	**Pn**	**17 36 53.9**	**+1.3**
	16nm,0.7s,231nm								
TSM	**Tawau**	**14.05**	**301**	P		**Pn**	**Pn**	**17 36 54.6**	**-2.9**
SDKM	**Sandakan**	**15.34**	**304**	P		**Pn**	**Pn**	**17 37 13.9**	**-1.0**
SRBI	**Singaraja**	**15.42**	**251**	P		**P**	**P**	**17 37 18.5**	**-1.6**
	198nm,0.9s								
FITZ	**Fitzroy Crossi**	**15.51**	**195**	Pn		**Pn**	**Pn**	**17 37 16.4**	**-0.6**
	1.0nm,0.3s,baz=34,slow=10,SNR=39								
FITZ				Sn			**Sn**	**17 40 10.0**	**+2.1**
	0.6nm,0.3s,baz=219,slow=6.9,SNR=2.5								
FITZ				LR		LR	LR	17 44 55.2	
	comp=Z,1μm,18.1s,baz=22,slow=44								
FITZ	**Fitzroy Crossi**	**15.51**	**195**	P		**Pn**	**Pn**	**17 37 16.9**	**0.0**
	baz=16,SNR=79								
FITZ	**Fitzroy Crossi**	**15.51**	**195**	*e*Pn		**Pn**	**Pn**	**17 37 16.6**	**-0.3**
	87nm,1.1s								
FITZ				Sn			**Sn**	**17 40 10.0**	**+2.1**
IGBI	**Denpasar**	**15.73**	**248**	P		**P**	**P**	**17 37 22.2**	**-1.3**
	681nm,0.9s								
RCP	**Roxas**	**16.17**	**334↓**	*e*P		**P**	**P**	**17 37 29.1**	**+0.7**
KMMI	**Kalianget**	**16.34**	**255**	P		**P**	**P**	**17 37 29.2**	**-1.1**
	161nm,0.8s,1μm								
KKM	**Kota Kinabalu**	**16.38**	**304**	*e*Pn		**Pn**	**Pn**	**17 37 28.1**	**-0.1**
	141nm,1.4s								
KKM	**Kota Kinabalu**	**16.38**	**304**	P		**P**	**P**	**17 37 31.4**	**+0.6**
JAGI	**Jajag, Banyuwa**	**16.54**	**250**	*e*Pn		**Pn**	**Pn**	**17 37 29.8**	**-0.5**
	248nm,0.8s								
JAGI	**Jajag, Banyuwa**	**16.54**	**250**	P		**Pn**	**Pn**	**17 37 31.3**	**+1.1**
	327nm,0.8s								
COEN	**Coen**	**17.01**	**130**	P		**Pn**	**Pn**	**17 37 36.6**	**+0.5**
	baz=17,SNR=55								
COEN	**Coen**	**17.01**	**130**	*e*Pn		**Pn**	**Pn**	**17 37 36.1**	**0.0**
	91nm,0.8s								
GMJI	**Gumukmas**	**17.15**	**252**	P		**Pn**	**Pn**	**17 37 38.4**	**+0.5**
	243nm,0.9s								
WRAB	**Tennant Creek**	**17.32**	**166**	*e*Pn		**Pn**	**Pn**	**17 37 38.1**	**-1.9**
	161nm,1.1s								
WRAB	**Tennant Creek**	**17.32**	**166**	*ce*P		**Pn**	**Pn**	**17 37 38.3**	**-1.7**
WRAB				pmax		pmax	pmax		
	comp=Z,128nm,1.3s								
WR1	**Warramunga Arr**	**17.33**	**166**	*e*Pn		**Pn**	**Pn**	**17 37 38.1**	**-2.0**
	comp=Z,117nm,0.9s								
WR1				*e*Sn			**Sn**	**17 40 49.3**	**-2.8**
WRA	**Warramunga Arr**	**17.33**	**166**	P		**Pn**	**Pn**	**17 37 38.1**	**-2.0**
	comp=Z,1.2nm,0.3s,baz=350,slow=12,SNR=56								
WRA				S			**Sn**	**17 40 49.3**	**-2.8**
	comp=Z,1.5nm,0.3s,baz=354,slow=23,SNR=4.5								
WB2	**Warramunga Arr**	**17.33**	**166**	*e*Pn		**Pn**	**Pn**	**17 37 37.6**	**-2.5**
	comp=Z,124nm,0.9s								
MANU	**Manus Island**	**17.50**	**87**	*e*Pn		**P**	**P**	**17 37 43.8**	**+0.6**
	comp=Z,160nm,0.7s								
GRJI	**Gresik**	**17.75**	**257**	P		**P**	**P**	**17 37 46.9**	**+1.0**
	comp=Z,720nm,0.8s,comp=Z,5μm								
PBKI	**Pangkalan Bun**	**18.19**	**271**	P		**P**	**P**	**17 37 51.9**	**+1.1**
	comp=Z,612nm,0.9s								
PMG	**Port Moresby**	**18.29**	**111**	P		**Pn**	**Pn**	**17 37 52.4**	**+0.6**
	comp=Z,1.7nm,0.3s,baz=270,slow=5.6,SNR=22								
PMG				S			**Sn**	**17 41 06.2**	**-9.2**
	comp=Z,0.1nm,0.3s,baz=290,slow=16,SNR=1.8								
PMG				LR		LR	LR	17 47 44.1	
	comp=Z,2μm,20.2s,baz=298,slow=46								
PMG	**Port Moresby**	**18.29**	**111**	*e*P		**Pn**	**Pn**	**17 37 53.6**	**+1.7**
	comp=Z,98nm,0.9s								
PMG				*e*Sn			**Sn**	**17 41 06.2**	**-9.2**
SBUM	**Sibu**	**18.49**	**287**	*e*P		**Pn**	**Pn**	**17 37 54.2**	**-0.1**
	comp=Z,47nm,1.1s								
SBUM	**Sibu**	**18.49**	**287**	P		**Pn**	**Pn**	**17 37 56.5**	**+2.2**
PWJI	**Pagerwojo**	**18.65**	**254**	P		**Pn**	**Pn**	**17 37 56.3**	**0.0**
	comp=Z,347nm,0.7s								
STKI	**Sintang**	**18.66**	**279**	P		**Pn**	**Pn**	**17 37 56.7**	**+0.3**
	comp=Z,113nm,0.8s								
NGJI	**Ngawi**	**18.83**	**256**	P		**Pn**	**Pn**	**17 37 59.2**	**+0.7**
	comp=Z,315nm,1.0s								
TGY	**Tagaytay City**	**19.23**	**333**	P		**P**	**P**	**17 38 02.3**	**+0.1**
	comp=Z,24nm,0.3s,baz=291,slow=12,SNR=4.0								
TGY				LR		LR	LR	17 45 20.0	
	comp=Z,739nm,20.3s,baz=142,slow=37								
PCJI	**Pacitan**	**19.29**	**254**	P		**Pn**	**Pn**	**17 38 04.3**	**+0.2**
	comp=Z,437nm,0.9s								
WOJI	**Wonogiri, Jawa**	**19.45**	**255**	P		**Pn**	**Pn**	**17 38 06.0**	**0.0**
	comp=Z,634nm,0.9s								
SMRI	**Semarang**	**19.76**	**258**	*e*P		**P**	**P**	**17 38 08.0**	**-0.1**
	comp=Z,357nm,0.9s								
SMRI	**Semarang**	**19.76**	**258**	P		**Pn**	**Pn**	**17 38 09.4**	**-0.3**
	comp=Z,415nm,1.3s								
QIS	**Mount Isa**	**19.80**	**152**	P		**Pn**	**Pn**	**17 38 09.6**	**-0.5**
	baz=20,SNR=85								
UGM	**Wanagama**	**19.86**	**255**	*e*P		**Pn**	**Pn**	**17 38 10.8**	**0.0**
	comp=Z,376nm,0.7s								
UGM	**Wanagama**	**19.86**	**255**	P		**Pn**	**Pn**	**17 38 10.7**	**-0.2**
	comp=Z,600nm,0.8s								
KSM	**Kuching**	**20.08**	**283**	*e*P		**P**	**P**	**17 38 12.0**	**+0.4**
	comp=Z,152nm,0.8s								
KSM	**Kuching**	**20.08**	**283**	P		Pn		17 38 12.5	-1.0
MBWA	**Marble Bar**	**20.52**	**208**	*e*P		**P**	**P**	**17 38 15.2**	**-1.1**
	comp=Z,208nm,1.1s								
MTSU	**Mount Surprise**	**20.60**	**138**	P		Pn		17 38 19.1	-0.4
	baz=21,SNR=72								
AS31	**Alice Springs**	**20.84**	**170**	*e*P		**P**	**P**	**17 38 20.1**	**+0.3**
	comp=Z,178nm,0.6s								
AS31				*e*S			**S**	**17 42 09.7**	**-1.2**
ASAR	**Alice Springs**	**20.85**	**170**	P		**P**	**P**	**17 38 20.2**	**+0.4**
	comp=Z,451nm,0.7s,baz=352,slow=10,SNR=3654								
ASAR				S			**S**	**17 42 10.3**	**-0.6**
	comp=Z,60nm,1.0s,baz=352,slow=22,SNR=13								
ASAR				PcP			**PcP**	**17 42 26.6**	**-1.3**
	comp=Z,7.7nm,0.6s,baz=357,slow=1.9,SNR=4.9								
ASAR				PKiKP			**PKiKP**	**17 50 15.1**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=226,slow=0.9,SNR=4.7								
AS01	**Alice Springs**	**20.85**	**169**	*e*P		**P**	**P**	**17 38 20.4**	**+0.6**
KPJI	**Kang Pucung**	**21.29**	**258**	P		**P**	**P**	**17 38 23.8**	**-0.8**
	comp=Z,189nm,0.8s								
JCJI	**Jatiwangi**	**21.80**	**260**	P		**P**	**P**	**17 38 30.1**	**0.0**
	comp=Z,199nm,0.8s								
CMJI	**Cimerak**	**21.84**	**257**	P		**P**	**P**	**17 38 29.2**	**-1.3**
	comp=Z,205nm,1.0s								
WRKA	**Warakurna**	**21.90**	**184**	P		**P**	**P**	**17 38 30.7**	**-0.4**
	baz=22,SNR=324								
GUMO	**Guam**	**22.25**	**42**	LR		LR	LR	17 47 15.7	
	comp=Z,155nm,21.2s,baz=223,slow=37								
RABL	**Rabaul**	**22.26**	**94**	*e*P		**P**	**P**	**17 38 34.4**	**-0.7**
	comp=Z,164nm,0.8s								
CISI	**Cisompet, Garu**	**22.41**	**258**	*e*P		**P**	**P**	**17 38 33.3**	**-3.4**
	comp=Z,223nm,0.7s								
CISI	**Cisompet, Garu**	**22.41**	**258**	P		**P**	**P**	**17 38 34.0**	**-2.8**
	comp=Z,316nm,0.8s								
LEM	**Lembang**	**22.49**	**260**	P		**P**	**P**	**17 38 35.8**	**-1.9**
	comp=Z,129nm,0.8s,baz=2.4,slow=14,SNR=17								
LEM				LR		LR	LR	17 48 52.9	
	comp=Z,4μm,20.5s,baz=90,slow=41								
CBJI	**Citeko**	**23.19**	**261**	P		**P**	**P**	**17 38 41.9**	**-2.9**
	comp=Z,204nm,0.8s								
CTA	**Charters Tower**	**23.27**	**138**	P		**P**	**P**	**17 38 46.2**	**+0.7**
	comp=Z,33nm,0.8s,baz=315,slow=11,SNR=36								
CTAO	**Charters Tower**	**23.27**	**138**	*e*P		**P**	**P**	**17 38 46.4**	**+0.9**
	comp=Z,96nm,0.9s								
CTAO	**Charters Tower**	**23.27**	**138**	*e*P		**P**	**P**	**17 38 46.4**	**+0.9**
CTAO				pmax		pmax	pmax		
	comp=Z,96nm,0.9s								
PPBI	**Pangkal Pinang**	**23.74**	**272**	P		**P**	**P**	**17 38 51.4**	**+1.3**
	comp=Z,119nm,1.0s,comp=Z,1μm								
BLSI	**Bandar Lampung**	**24.68**	**264**	P		**P**	**P**	**17 38 59.4**	**+0.6**
	comp=Z,102nm,0.6s								
GIRL	**Giralia**	**24.68**	**217**	*e*P		**P**	**P**	**17 38 58.8**	**+0.1**
	comp=Z,3μm,2.0s								
KLI	**Kotabumi**	**25.03**	**265**	P		**P**	**P**	**17 39 02.6**	**+0.6**
	comp=Z,224nm,0.5s,comp=Z,3μm								
PMBI	**Palembang**	**25.08**	**270**	P		**P**	**P**	**17 39 04.7**	**+2.3**
	comp=Z,674nm,1.0s,comp=Z,5μm								
XMIS	**Christmas Isla**	**25.15**	**252**	*e*P		**P**	**P**	**17 39 00.1**	**-3.0**
	comp=Z,152nm,1.0s								
KASI	**Kota Agung**	**25.43**	**264**	P		**P**	**P**	**17 39 03.3**	**-2.3**
	comp=Z,171nm,0.9s								
TPRI	**Tanjung Pinang**	**25.65**	**278**	P		**P**	**P**	**17 39 08.2**	**+0.5**
	comp=Z,106nm,1.1s,comp=Z,3μm								
MDSI	**Maura Dua**	**25.69**	**266**	P		**P**	**P**	**17 39 07.5**	**-0.5**
	comp=Z,57nm,0.7s								
MEEK	**Meekatharra**	**25.81**	**204**	P		**P**	**P**	**17 39 08.2**	**-0.7**
	baz=26,SNR=14								
LWLI	**Liwa**	**25.83**	**265**	P		**P**	**P**	**17 39 09.0**	**-0.4**
	comp=Z,49nm,0.8s								
JMBI	**JAMBI**	**26.26**	**273**	P		**P**	**P**	**17 39 15.4**	**+2.3**
	comp=Z,1μm,0.9s,comp=Z,7μm								
LHSI	**Lahat**	**26.32**	**268**	P		**P**	**P**	**17 39 14.3**	**+0.6**
	comp=Z,343nm,0.8s,comp=Z,3μm								
MYKOM	**Kota Tinggi**	**26.47**	**280**	*e*P		**P**	**P**	**17 39 15.6**	**+0.6**
	comp=Z,685nm,0.9s								
MYKOM	**Kota Tinggi**	**26.47**	**280**	P		**P**	**P**	**17 39 16.3**	**+1.3**
MNAI	**Manna**	**26.90**	**266**	*e*P		**P**	**P**	**17 39 19.2**	**+0.2**
	comp=Z,493nm,1.1s								
TWG	**Pinlang**	**27.13**	**342**	*e*P		**P**	**P**	**17 39 22.5**	**+1.7**
	comp=Z,287nm,1.4s								
QLP	**Quilpie**	**27.13**	**151**	P		**P**	**P**	**17 39 21.7**	**+0.8**
	baz=27,SNR=16								
YULB	**Yu-li**	**27.60**	**343**	*e*P		**P**	**P**	**17 39 26.8**	**+1.7**
	comp=Z,36nm,1.3s								
MASI	**Maura Aman, Be**	**27.60**	**269**	P		**P**	**P**	**17 39 26.2**	**+0.9**
	comp=Z,446nm,0.7s								
FORT	**Forrest**	**27.62**	**183**	P		**P**	**P**	**17 39 24.3**	**-0.9**
	baz=28,SNR=21								
FORT	**Forrest**	**27.62**	**183**	*e*P		**P**	**P**	**17 39 24.2**	**-1.0**
	comp=Z,91nm,0.8s								
TPUB	**Ta-pu**	**27.72**	**341**	*e*P		**P**	**P**	**17 39 28.6**	**+2.5**
	comp=Z,50nm,1.1s								
SSLB	**Sungilung**	**28.07**	**342**	*e*P		**P**	**P**	**17 39 29.2**	**-0.1**
	comp=Z,121nm,1.8s								
YOJ	**Yonaguni jima**	**28.17**	**347**	*e*P		**P**	**P**	**17 39 30.7**	**+0.6**
	comp=Z,148nm,1.1s								
YOJ	**Yonaguni jima**	**28.17**	**347**	*e*P		**P**	**P**	**17 39 30.7**	**+0.6**
YOJ				pmax		pmax	pmax		
	comp=Z,148nm,1.1s								
KRJI	**Kerinci**	**28.41**	**271**	P		**P**	**P**	**17 39 33.4**	**+0.8**
	comp=Z,561nm,0.8s,comp=Z,5μm								
SDSI	**Sungai Dareh**	**28.51**	**274**	P		**P**	**P**	**17 39 35.4**	**+2.0**
	comp=Z,75nm,0.7s								
YHNB	**Yeheng**	**28.78**	**344**	*e*P		**P**	**P**	**17 39 35.5**	**-0.2**
	comp=Z,286nm,1.9s								
FRIM	**Kepong**	**28.93**	**282**	P		**P**	**P**	**17 39 38.3**	**+1.2**
MORW	**Morawa**	**29.02**	**206**	P		**P**	**P**	**17 39 36.4**	**-1.3**
	baz=29,SNR=5.6								
MORW	**Morawa**	**29.02**	**206**	*e*P		**P**	**P**	**17 39 35.9**	**-1.8**
	comp=Z,37nm,1.1s								
BKNI	**Bangkinang**	**29.03**	**276**	*e*P		**P**	**P**	**17 39 38.2**	**+0.3**
	comp=Z,177nm,1.0s								
BKNI	**Bangkinang**	**29.03**	**276**	P		**P**	**P**	**17 39 39.1**	**+1.1**
	comp=Z,188nm,1.0s								
PDSI	**Padang**	**29.48**	**274**	P		**P**	**P**	**17 39 41.2**	**-0.8**
	comp=Z,197nm,0.9s,comp=Z,1μm								
RMQ	**Roma**	**29.49**	**144**	P		**P**	**P**	**17 39 42.9**	**+0.9**
	baz=30,SNR=34								
QIZ	**Qiongzhong**	**29.51**	**319**	P		**P**	**P**	**17 39 44.0**	**+1.9**
QIZ				S			**S**	**17 44 40.3**	**+5.2**
QIZ				LR		LR	LR		
	comp=Z,480nm,19.2s								
JOW	**Kunigami**	**29.76**	**357**	LR		LR		17 50 47.6	
	comp=Z,979nm,20.6s,baz=104,slow=35								
IPM	**Ipoh**	**29.79**	**284**	*e*P		**P**	**P**	**17 39 44.8**	**+0.1**
	comp=Z,85nm,0.8s								
EIDS	**Eidsvold**	**30.13**	**139**	P		**P**	**P**	**17 39 48.2**	**+0.6**
	baz=30,SNR=4.6								
EIDS	**Eidsvold**	**30.13**	**139**	*e*P		**P**	**P**	**17 39 48.5**	**+0.9**
	comp=Z,24nm,1.1s								
BBOO	**Buckleboo**	**30.15**	**170**	P		**P**	**P**	**17 39 48.0**	**+0.3**
	baz=30,SNR=27								
BBOO	**Buckleboo**	**30.15**	**170**	*e*P		**P**	**P**	**17 39 47.9**	**+0.3**
	comp=Z,37nm,0.8s								
KULM	**Kulim**	**30.36**	**286**	*e*P		**P**	**P**	**17 39 49.4**	**-0.3**
	comp=Z,43nm,0.8s								
HNR	**Honiara**	**30.53**	**103**	*e*P		**P**	**P**	**17 39 53.2**	**+1.9**
	comp=Z,61nm,0.8s								
HNR	**Honiara**	**30.53**	**103**	*e*P		**P**	**P**	**17 39 53.2**	**+1.9**
HNR				pmax		pmax	pmax		
	comp=Z,61nm,0.8s								
MNSI	**Mandailing Nat**	**30.53**	**277**	P		**P**	**P**	**17 39 51.1**	**-0.2**
	comp=Z,101nm,0.6s,comp=Z,1μm								
KLBR	**Kellerberrin**	**30.59**	**201**	P		**P**	**P**	**17 39 50.3**	**-1.3**
	baz=31,SNR=16								
GZH	**Guangzhou**	**30.59**	**329**	*e*P		**P**	**P**	**17 39 55.5**	**+3.8**
STKA	**Stephens Creek**	**30.71**	**160**	P		**P**	**P**	**17 39 53.4**	**+0.7**
	comp=Z,22nm,0.5s,baz=331,slow=9.1,SNR=68								
STKA				LR		LR	LR	17 55 28.9	
	comp=Z,785nm,18.6s,baz=328,slow=43								
STKA	**Stephens Creek**	**30.71**	**160**	P		**P**	**P**	**17 39 53.1**	**+0.5**
	baz=31,SNR=71								
STKA	**Stephens Creek**	**30.71**	**160**	*e*P		**P**	**P**	**17 39 53.3**	**+0.7**
	comp=Z,7.1nm,0.6s								
STKA	**Stephens Creek**	**30.71**	**160**	*e*P		**P**	**P**	**17 39 53.3**	**+0.7**
STKA				pmax		pmax	pmax		
	comp=Z,7.0nm,0.6s								
SISI	**Saibi**	**30.82**	**273**	P		**P**	**P**	**17 39 53.0**	**-0.8**
	comp=Z,163nm,1.0s,comp=Z,1μm								
HTT	**Hallett**	**31.37**	**165**	P		**P**	**P**	**17 39 59.5**	**+1.0**
	baz=32,SNR=12								
PSI	**Prapat**	**31.49**	**280**	P		**P**	**P**	**17 39 59.0**	**-0.9**
	comp=Z,47nm,0.8s,baz=178,slow=1.0,SNR=57								
PSI	**Prapat**	**31.49**	**280**	*e*P		**P**	**P**	**17 39 58.5**	**-1.4**
	comp=Z,56nm,0.7s								
PSI	**Prapat**	**31.49**	**280**	*e*P		**P**	**P**	**

CMAR pmax pmax
comp=Z,24nm,0.9s
CMAR pmax pmax
comp=Z,5.0nm,0.9s
CMAR pmax pmax
comp=N,2.0nm,0.9s
CMMT Chiang Mai 37.41 307 P **P** **17 40 51.1 +0.2**
comp=N,99nm,1.1s,comp=N,848nm
CHTO Chiang Mai 37.41 307 *e*P **P** **17 40 50.8 -0.2**
comp=N,78nm,0.8s
CHTO Chiang Mai 37.41 307 *e*P **P** **17 40 50.8 -0.2**
CHTO pmax pmax
comp=Z,78nm,0.8s
CHTO Chiang Mai 37.41 307 P **P** **17 40 51.4 +0.4**
SNR=31
CHTO Chiang Mai 37.41 307 P **P** **17 40 51.2 +0.2**
comp=Z,437nm,0.9s,comp=Z,4µm
CHTO Chiang Mai 37.41 307 *e*P **P** **17 40 51.4 +0.4**
ENH Enshi 38.46 331 *e*P **P** **17 40 59.1 -0.5**
comp=Z,32nm,1.3s
KMI Kunming 38.46 318 P **P** **17 41 00.6 +0.7**
KMI pP pP 17 41 04.4 -4.5
KMI PP **PP** **17 42 28.0 -0.3**
KMI S **S** **17 46 57.6 +3.9**
KMI SS **SnSn** **17 49 36.6 -4.8**
KMI pmax pmax
comp=Z,34nm,1.3s
KMI pmax pmax
comp=Z,190nm,3.3s
KMI LR LR
comp=Z,190nm,24.3s
KMI LR LR
comp=Z,300nm,19.1s
KMI LR LR
comp=Z,350nm,18.7s
KMI Kunming 38.46 318 *e*P **P** **17 41 00.3 +0.4**
comp=Z,56nm,1.3s
KMI Kunming 38.46 318 *e*P **P** **17 41 00.3 +0.4**
KMI pmax pmax
comp=Z,56nm,1.3s
INU Inuyama 38.79 9 *e*P **P** **17 41 02.2 -0.2**
comp=Z,20nm,0.9s
PBA Port Blair 39.72 292 *e*P P 17 41 09.0 -1.4
comp=Z,204nm,1.2s
MJAR Matsushiro Arr 40.16 10 P **P** **17 41 11.5 -2.3**
comp=Z,12nm,0.9s,baz=195,slow=10,SNR=27
MJAR LR LR 17 55 44.2
comp=Z,466nm,21.9s,baz=220,slow=33
MAJO Matsushiro 40.16 10 *e*P **P** **17 41 12.0 -1.8**
comp=Z,31nm,1.0s
MAJO Matsushiro 40.16 10 *d i*P **P** **17 41 12.1 -1.7**
MAJO pmax pmax
comp=Z,26nm,0.9s
MAT Matsushiro 40.16 10 P **P** **17 41 12.3 -1.5**
MAT *e*S **S** **17 47 14.0 -4.6**
MJB9 Matsu-Tunnel 40.16 10 *e*P **P** **17 41 12.1 -1.7**
comp=Z,30nm,1.0s
DZM Mont Dzumac 40.20 121 *e*P **P** **17 41 15.3 +0.9**
comp=Z,75nm,1.1s
DZM *e*S **S** **17 47 20.0 +0.3**
comp=Z,243nm,35.9s
DZM *e*LR LR 17 52 21.0
comp=Z,721nm,22.1s
DZM Mont Dzumac 40.20 121 *e*P **P** **17 41 15.2 +0.8**
comp=Z,33nm,1.0s
ONTNC Ouen Toro 40.30 121 *e*P **P** **17 41 16.2 +1.2**
comp=Z,40nm,1.0s
KS15 Wonju Array Si 40.34 358 *e*P **P** **17 41 15.7 +0.5**
KSAR Wonju Array Be 40.34 358 P **P** **17 41 13.4 -1.8**
KSAR PcP **PcP** **17 43 19.1 +0.9**
KSAR ScP **ScP** **17 47 07.9 +2.3**
KSAR Wonju Array Be 40.34 358 P **P** **17 41 13.4 -1.8**
KSAR 17 43 19.2
KSRS Korea Array 40.35 358 P **P** **17 41 13.4 -1.8**
comp=Z,3.6nm,0.8s,baz=176,slow=10,SNR=13
KSRS PcP **PcP** **17 43 19.1 +0.9**
comp=Z,1.8nm,0.8s,baz=190,slow=2.7,SNR=4.6
KSRS ScP **ScP** **17 47 07.9 +2.3**
comp=Z,3.8nm,1.0s,baz=196,slow=3.6,SNR=7.4
KSRS LR LR 17 56 56.9
comp=Z,558nm,20.8s,baz=178,slow=35
KS01 Wonju Array Si 40.38 358 *e*P **P** **17 41 14.8 -0.7**
MARNC Mare, Loyalty 41.34 119 *e*P **P** **17 41 24.9 +1.2**
comp=Z,220nm,1.3s
XAN Xi'an 41.86 334 P **P** **17 41 26.8 -1.0**
XAN sP pP 17 41 33.6 -3.3
XAN PP **PP** **17 43 07.6 +2.5**
XAN S **S** **17 47 40.7 -3.3**
XAN pmax pmax
comp=Z,13nm,1.5s
XAN LR LR
comp=Z,280nm,17.1s
XAN LR LR
comp=Z,290nm,26.3s
XAN LR LR
comp=Z,290nm,18.6s
XAN Xi'an 41.86 334 *e*P **P** **17 41 26.0 -1.9**
comp=Z,20nm,1.0s
XAN Xi'an 41.86 334 *e*P **P** **17 41 26.0 -1.9**
XAN pmax pmax
comp=Z,20nm,1.0s
CD2 Chengdu 41.98 326 P **P** **17 41 30.0 +1.2**
CD2 S **S** **17 47 48.9 +3.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.8s
CD2 LR LR
comp=Z,610nm,11.9s
CD2 LR LR
comp=Z,430nm,13.9s
DL2 Dalian 42.45 350 *e*P P 17 41 24.5 -8.0
DL2 S S 17 47 41.9 -11
DL2 pmax pmax
comp=Z,34nm,0.8s
DL2 LR LR
comp=N,400nm,16.8s
DL2 LR LR
comp=E,450nm,18.9s
DL2 LR LR
comp=Z,480nm,19.3s
TAU Tasmania Unive 42.61 161 *e*P **P** **17 41 33.6 -0.1**
comp=Z,111nm,1.4s
TAU Tasmania Unive 42.61 161 *e*P **P** **17 41 33.6 -0.1**
TAU pmax pmax
comp=Z,111nm,1.4s
TARA Tarawa 43.25 85 *e*P **P** **17 41 38.7 -0.7**
comp=Z,128nm,1.0s
TIY Taiyuan 43.69 340 *e*P **P** **17 41 45.7 +3.1**
TIY pmax pmax
comp=Z,22nm,0.5s
BJT Baijiatuau 44.69 345 *e*P **P** **17 41 49.8 -0.7**
comp=Z,160nm,0.3s
BJT Baijiatuau 44.69 345 *e*P **P** **17 41 49.8 -0.7**
BJT pmax pmax
comp=Z,160nm,0.3s
BJI Beijing 44.70 345⇑ *e*P **P** **17 41 51.0 +0.4**
BJI pmax pmax
comp=Z,17nm,0.8s
LZH Lanzhou 45.92 330 *e*P **P** **17 42 00.7 +0.1**
LZH pP pP 17 42 05.0 -4.7
LZH sP sP 17 42 09.6 -3.7
LZH S **S** **17 48 44.0 +0.5**
LZH sS pS 17 48 54.3 +0.5
LZH SS **ScS** **17 52 01.2 +6.5**
LZH pmax pmax
comp=Z,69nm,1.4s
LZH pmax pmax
comp=Z,420nm,4.8s
LZH LR LR
comp=Z,710nm,13.6s
LZH LR LR
comp=Z,670nm,12.6s
LZH LR LR
comp=Z,860nm,14.5s
ERM Erimo 46.46 14 *i* P **P** **17 42 05.4 +0.9**
ERM pmax pmax
comp=Z,14nm,0.9s
SHL Shillong 46.53 310 *e*P **P** **17 42 04.4 -1.2**
comp=Z,34nm,1.0s
SHL Shillong 46.53 310 *e*P **P** **17 42 04.4 -1.2**
SHL pmax pmax
comp=Z,34nm,1.0s
SHL Shillong 46.53 310 *e*P **P** **17 42 08.0 +2.4**
CN2 Changchun 46.83 356 *e*P **P** **17 42 08.7 +1.4**
CN2 *e*PP **PP** **17 43 58.8 +0.9**
CN2 *e*S **S** **17 48 59.0 +3.2**
CN2 *e*SS **SS** **17 52 18.6 -4.2**
CN2 pmax pmax
comp=Z,10.0nm,1.4s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,480nm,19.0s
CN2 LR LR
comp=Z,300nm,19.0s
CN2 LR LR
comp=Z,560nm,20.0s
USA0B Ussuriysk Arra 47.09 2 *e*P **P** **17 42 09.2 -0.2**
USRK Ussuriysk Ar. 47.09 2 P **P** **17 42 08.7 -0.7**
comp=Z,26nm,1.0s,baz=187,slow=6.5,SNR=21
USRK LR LR 18 02 58.8
comp=Z,303nm,18.9s,baz=169,slow=38
MDJ Mudanjiang 47.47 360 *e*P **P** **17 42 12.4 +0.1**
comp=Z,22nm,0.9s
TEY Ternei 48.26 6⇑ *e*P **P** **17 42 19.2 +0.8**
TEY pmax pmax
comp=Z,20nm,1.2s
ASAJ Asahikawa 48.34 12 P **P** **17 42 18.9 -0.2**
comp=Z,10nm,0.8s,baz=244,slow=18,SNR=4.5
ASAJ Asahikawa 48.34 12 *e*P **P** **17 42 19.7 +0.6**
comp=Z,56nm,1.2s
LSA Lhasa 49.34 314 *e*P **P** **17 42 27.1 -0.5**
comp=Z,17nm,0.9s
LSA Lhasa 49.34 314 *i* P **P** **17 42 27.6 0.0**
SNR=11
LSA Lhasa 49.34 314 *e*P **P** **17 42 27.1 -0.5**
LSA pmax pmax
comp=Z,17nm,0.9s
PALK Pallekele 50.14 282 P **P** **17 42 32.5 -0.9**
comp=Z,14nm,0.8s,baz=116,slow=5.3,SNR=6.4
PALK Pallekele 50.14 282 *e*P **P** **17 42 32.8 -0.7**
comp=Z,127nm,2.0s
PALK Pallekele 50.14 282 P **P** **17 42 29.1 -4.4**
GTA Gaotai 50.51 330⇑ P **P** **17 42 35.2 -0.7**
GTA pP pP 17 42 38.5 -6.6
GTA sP sP 17 42 41.2 -7.5
GTA PcP **PcP** **17 43 55.0 +1.3**
GTA ScP **ScP** **17 47 50.4 +2.6**
GTA PcS **PcS** **17 47 53.1 +2.0**
GTA S **S** **17 49 47.3 -0.9**
GTA sS pS 17 49 54.8 -4.2
GTA SS **SS** **17 53 19.0 -3.7**
GTA pmax pmax
comp=Z,19nm,1.4s
GTA pmax pmax
comp=Z,51nm,4.4s
GTA LR LR
comp=Z,130nm,18.2s
GTA LR LR
comp=Z,110nm,19.6s
GTA LR LR
comp=Z,270nm,20.6s
YSS Yuzh-Sakhalins 51.09 11 *e*P **P** **17 42 39.5 -0.4**
comp=Z,35nm,1.2s
YSS Yuzh-Sakhalins 51.09 11⇓ *i*P **P** **17 42 40.3 +0.4**
YSS *e* 17 42 45.8
YSS *e* 17 44 42.1
YSS *e* 17 49 56.9
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,500nm,17.0s
RAMN Ramite 51.32 308 *e*P **P** **17 42 42.0 -0.4**
comp=Z,87nm,0.8s
OUZ Omahuta 51.58 134 *e*P **P** **17 42 46.3 +2.4**
comp=Z,12nm,0.9s
JIRN Jiri 51.98 309 *e*P **P** **17 42 46.6 -0.9**
comp=Z,105nm,1.2s
KLR Kul'dur 52.11 2 P **P** **17 42 47.2 -0.3**
comp=Z,13nm,0.9s,baz=214,slow=4.3,SNR=30
KLR Kul'dur 52.11 2⇑ *i*P **P** **17 42 48.7 +1.1**
GUN Gumba 52.34 309 *e*P **P** **17 42 49.3 -0.8**
comp=Z,92nm,1.0s
PKIN Phulchoki 52.56 308 *e*P **P** **17 42 50.1 -1.6**
comp=Z,19nm,0.8s
KKN Kakani 52.75 309 *e*P **P** **17 42 52.1 -0.9**
comp=Z,30nm,0.9s
DMN Daman 52.80 308 *e*P **P** **17 42 52.6 -0.8**
comp=Z,47nm,0.9s
HIA Hailar 52.86 352 *e*P **P** **17 42 52.8 -0.3**
comp=Z,6.9nm,0.9s
HIA Hailar 52.86 352 *e*P **P** **17 42 52.8 -0.3**
HIA pmax pmax
comp=Z,7.0nm,0.9s
PYZ Puysegur Point 53.56 149 *e*P **P** **17 43 00.5 +2.1**
comp=Z,492nm,1.8s
FOZ Fox Glacier 53.60 145 *e*P **P** **17 42 59.0 +0.2**
comp=Z,79nm,1.2s
MLZ Mavora Lakes 53.80 147 *e*P **P** **17 43 01.1 +0.9**
comp=Z,59nm,1.3s
GRNR Gornyy 53.92 5 *e*P **P** **17 43 00.0 -0.9**
WKZ Wanaka 53.95 146 *e*P **P** **17 43 03.5 +2.2**
comp=Z,196nm,1.5s
HIZ Hauiti 54.05 137 *e*P **P** **17 43 04.4 +2.3**
comp=Z,88nm,1.3s
WHZ Wether Hill Ro 54.05 148 *e*P **P** **17 43 03.3 +1.3**
comp=Z,68nm,1.4s
KOLN Koldanda 54.06 308 *e*P **P** **17 43 02.1 -0.5**
comp=Z,116nm,0.9s
DANN Dangsing 54.20 308 *e*P **P** **17 43 02.9 -0.8**
comp=Z,76nm,0.7s
LBZ Lake Benmore 54.33 145 *e*P **P** **17 43 04.6 +0.5**
comp=Z,53nm,1.2s
RPZ Rata Peaks 54.44 144 *e*P **P** **17 43 07.0 +2.1**
comp=Z,159nm,1.9s
THZ Tophouse 54.45 141 *e*P **P** **17 43 07.1 +2.1**
comp=Z,134nm,2.0s
ULN Ulaanbaatar 54.52 341 *e*P **P** **17 43 05.3 -0.2**
comp=Z,49nm,1.1s
ULN Ulaanbaatar 54.52 341 *ce*P **P** **17 43 05.3 -0.2**
ULN pmax pmax
comp=Z,45nm,1.0s
ULN Ulaanbaatar 54.52 341 P **P** **17 43 05.6 +0.1**
SNR=21
HYB Hyderabad 54.56 294 *i* P **P** **17 43 04.0 -2.2**
HYB *e* 17 43 07.0
LTZ Lake Taylor 54.62 143 *e*P **P** **17 43 08.1 +1.8**
comp=Z,89nm,1.8s
PYUN Piuthan 54.69 308 *e*P **P** **17 43 06.6 -0.6**
comp=Z,122nm,0.9s
SONA0 Songino Array 54.70 341 *e*P **P** **17 43 06.6 -0.2**
SONA0 *e*PcP **PcP** **17 44 09.7 +0.4**
SONM Songino Array 54.70 341 P **P** **17 43 06.6 -0.2**
comp=Z,20nm,1.1s,baz=160,slow=7.2,SNR=32
SONM PcP **PcP** **17 44 09.7 +0.4**
comp=Z,4.0nm,1.0s,baz=156,slow=5.3,SNR=2.7
SONM LR LR 18 07 36.0
comp=Z,250nm,19.5s,baz=164,slow=37
SONA1 Songino Array 54.71 341 *e*P **P** **17 43 06.2 -0.7**
OXZ Oxford 54.79 143 *e*P **P** **17 43 09.2 +1.7**
comp=Z,68nm,1.7s
TYV Tymovskoe 54.83 10 *e*P **P** **17 43 08.9 +1.5**
TYV pmax pmax
comp=Z,17nm,0.8s
ODZ Otahua Downs 54.99 146 *e*P **P** **17 43 12.0 +3.2**
comp=Z,60nm,1.5s
SNZO South Karori 55.35 140 *e*P **P** **17 43 12.6 +1.1**
comp=Z,68nm,1.0s
MQZ McQueen's Vall 55.38 143 *e*P **P** **17 43 13.2 +1.7**
comp=Z,105nm,1.9s
BKZ Black Stump Fm 55.48 137 *e*P **P** **17 43 13.8 +1.3**
comp=Z,29nm,0.7s
URZ Urewera 55.49 135 *e*P **P** **17 43 13.6 +1.1**
comp=Z,14nm,0.7s
MXZ Matakaoa Point 56.02 134 *e*P **P** **17 43 17.6 +1.2**
comp=Z,34nm,0.6s
BFZ Birch Farm 56.04 138 *e*P **P** **17 43 17.2 +0.7**
comp=Z,83nm,1.5s
MCQ Macquarie Isla 56.48 160 *e*P **P** **17 43 19.7 +0.4**
comp=Z,340nm,1.9s
MCQ Macquarie Isla 56.48 160 *e*P **P** **17 43 19.7 +0.4**
MCQ pmax pmax
comp=Z,340nm,1.9s
ZEA Zeya 56.64 358 *e*P **P** **17 43 20.8 +0.4**
ZEA pmax pmax
comp=Z,17nm,1.0s
ZEA MLR MLR
comp=N,200nm,16.0s
ZEA MLR MLR
comp=Z,400nm,16.0s
NKL Nikolayevsk 56.74 8 *e*P **P** **17 43 21.0 -0.1**
NKL pmax pmax
comp=N,16nm,1.0s
NKL pmax pmax
comp=Z,39nm,1.0s
DGAR Diego Garcia 57.32 263 *e*P **P** **17 43 25.4 -0.6**
comp=Z,149nm,0.8s
DGAR Diego Garcia 57.32 263 *i* P **P** **17 43 23.6 -2.4**
DGAR pmax pmax
comp=Z,150nm,0.9s
MNCI Minicoy 57.78 282 *e*P **P** **17 43 28.6 -0.6**
comp=Z,120nm,1.1s
ZAK Zakamensk 57.94 340 *e*P **P** **17 43 28.8 -1.0**
ZAK pmax pmax
comp=Z,13nm,1.2s
KNTN Kanton 58.32 91 *e*P **P** **17 43 33.6 +0.6**
comp=Z,240nm,1.3s
IRK Irkutsk 59.22 342 *e*P **P** **17 43 37.8 -0.8**
IRK pmax pmax
comp=Z,53nm,2.2s
MOY Mondy 59.80 340 *e*P **P** **17 43 43.3 +0.5**
MOY pmax pmax
comp=Z,54nm,1.7s
WMQ Urumqi 60.07 326 P **P** **17 43 44.6 -0.1**
WMQ pP pP 17 43 52.1 -1.9
WMQ sP sP 17 43 54.2 -3.4
WMQ S **S** **17 51 58.8 +2.9**
WMQ SS **SS** **17 55 56.4 +3.2**
WMQ pmax pmax
comp=Z,59nm,1.1s
WMQ pmax pmax
comp=Z,170nm,3.7s
WMQ LR LR
comp=Z,670nm,23.9s
WMQ LR LR
comp=Z,440nm,23.9s
WMQ LR LR
comp=Z,340nm,23.9s
WMQ Urumqi 60.07 326 *e*P **P** **17 43 44.2 -0.5**
comp=Z,27nm,0.9s
WMQ Urumqi 60.07 326 *e*P **P** **17 43 44.2 -0.5**
WMQ pmax pmax
comp=Z,27nm,0.9s
PEA0B Petropavlovsk- 60.65 19 *e*P **P** **17 43 49.9 +1.5**
PETK Petropavlovsk- 60.65 19 P **P** **17 43 49.5 +1.0**
comp=Z,18nm,0.9s,baz=197,slow=4.6,SNR=12
PETK PcP **PcP** **17 44 32.9 +0.5**
comp=Z,10.0nm,1.0s,baz=193,slow=5.3,SNR=2.9
PETK LR LR 18 06 23.9
comp=Z,182nm,21.4s,baz=194,slow=32
PEA1 Petropavlovsk- 60.66 19 *e*P **P** **17 43 49.5 +1.0**
PEA1 *e*PcP **PcP** **17 44 32.9 +0.4**
PET Petropavlovsk 60.90 19 *e*P P 17 43 58.5 +8.5
PET *e*S **S** **17 52 12.7 +6.9**
PET *e*SS **SS** **17 56 03.1 -2.5**
PET MLR MLR
comp=Z,300nm,18.0s
PET MLR MLR
comp=Z,600nm,15.0s
BOD Bodaibo 62.02 350 *e*P **P** **17 43 57.4 -0.1**
BOD pmax pmax
comp=Z,19nm,1.2s
DGZ Jazzator, Alta 64.02 331 *c i*P **P** **17 44 10.7 -0.5**
DGZ pmax pmax
comp=Z,16nm,1.1s
MA2 Magadan 64.59 12 P **P** **17 44 15.2 +0.7**
comp=Z,21nm,0.9s,baz=183,slow=5.6,SNR=15
MA2 Magadan 64.59 12 *e*P **P** **17 44 15.5 +0.9**
comp=Z,21nm,0.9s
MA2 Magadan 64.59 12 *ce*P **P** **17 44 16.2 +1.7**
MA2 pmax pmax
comp=Z,28nm,1.3s
NIL Nilore 64.61 310 *e*P **P** **17 44 14.2 -1.0**
comp=Z,28nm,1.1s
NIL Nilore 64.61 310 *e*P **P** **17 44 14.2 -1.0**
NIL pmax pmax
comp=Z,28nm,1.1s
PDGK Podgornoye 64.64 322 P **P** **17 44 14.9 -0.5**
PDGK pmax pmax
comp=Z,36nm,1.6s
TARG Taragay, Kyrgy 64.90 319 *e*P **P** **17 44 18.5 +1.1**
comp=Z,18nm,1.1s
MK31 Makanchi Array 64.91 326 *e*P **P** **17 44 16.4 -0.5**
MK31 pmax pmax
comp=Z,32nm,1.1s
MK32 Makanchi Array 64.91 326 *e*P **P** **17 44 16.5 -0.4**
MKAR Makanchi Array 64.91 326 P **P** **17 44 16.5 -0.4**
comp=Z,6.1nm,0.4s,baz=113,slow=8.0,SNR=197
MKAR LR LR 18 14 24.1
comp=Z,144nm,19.8s,baz=121,slow=38
MKAR Makanchi Array 64.91 326 *e*P **P** **17 44 16.0 -0.9**
comp=Z,95nm,0.9s
YAK Yakutsk 64.92 360 *e*P **P** **17 44 16.3 -0.3**
YAK *e**PP **pP** **17 44 25.8 -0.2**
YAK *e* 17 44 50.1
YAK *e* 17 46 42.1
YAK *e*S **S** **17 52 54.9 -1.0**
YAK *e**SS **sS** **17 53 15.0 +4.0**
YAK *e* 17 54 08.7
YAK *e*SS **SS** **17 57 06.9 -1.2**
YAK *e*SSS SSS 18 00 05.9
YAK pmax pmax
comp=Z,81nm,0.9s
YAK pmax pmax
comp=N,17nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=Z,124nm,5.2s
YAK pmax pmax
comp=N,118nm,4.3s
YAK pmax pmax
comp=E,72nm,4.2s
YAK smax smax
comp=E,173nm,3.3s
YAK smax smax
comp=N,50nm,2.6s
YAK MLR MLR
comp=N,205nm,18.0s
YAK MLR MLR
comp=E,211nm,24.0s
KSH Kashi 65.08 316 P **P** **17 44 19.0 +0.7**
KSH PcP **PcP** **17 44 52.7 +1.7**
KSH PcS 17 48 51.5
KSH S **S** **17 52 57.8 -1.3**
KSH SKS **SKSac** **17 54 07.1 -4.3**
KSH pmax pmax
comp=E,30nm,0.9s
KSH pmax pmax
comp=E,350nm,5.5s
KSH LR LR
comp=E,1µm,13.6s
KSH LR LR
comp=E,340nm,7.5s
KSH LR LR
comp=E,210nm,12.3s
MAKZ Makanchi 65.09 326 *e*P **P** **17 44 17.3 -0.8**
comp=E,42nm,1.3s
MAKZ Makanchi 65.09 326 *e*P **P** **17 44 17.3 -0.8**
MAKZ pmax pmax
comp=Z,42nm,1.3s
KDJ Kajisay 65.51 319 *e*P **P** **17 44 22.6 +1.5**
comp=Z,115nm,1.9s
KDJ Kajisay 65.51 319 *e*P **P** **17 44 22.6 +1.5**
KDJ pmax pmax
comp=Z,115nm,1.9s
TKM2 Tokmak 2 66.91 320 P **P** **17 44 29.9 -0.2**
SNR=16
SFK Sufi-Kurgan 67.01 316 P **P** **17 44 30.3 -0.5**
SFK pmax pmax
comp=Z,10.0nm,0.8s
KBK Karagaybulak 67.21 319 P **P** **17 44 32.0 0.0**
SNR=7.6
UCH Uchtor 67.30 319 P **P** **17 44 33.1 +0.2**
SNR=14
AAK Ala-Archa 67.50 319 P **P** **17 44 34.3 +0.5**
SNR=6.5
AAK Ala-Archa 67.50 319 *e*P **P** **17 44 33.6 -0.3**
comp=Z,13nm,1.0s
AAK Ala-Archa 67.50 319 *i* P **P** **17 44 33.4 -0.4**
SNR=9.3
AAK Ala-Archa 67.50 319 *ce*P **P** **17 44 33.5 -0.3**
AAK pmax pmax
comp=Z,16nm,1.7s
AAK Ala-Archa 67.50 319 P **P** **17 44 34.6 +0.8**
SNR=7.0
USP Ospenovka 67.78 320 P **P** **17 44 35.3 -0.1**
SNR=22

AML	Almayashu	67.80	318		P		P		17 44 36.2	+0.2
	SNR=18									
EKS2	Erkin-Say	67.98	319		P		P		17 44 37.1	+0.3
	SNR=12									
SEY	Seymchan	67.99	11		P		P		17 44 36.8	+0.5
	comp=Z,24nm,0.9s,baz=214,slow=4.8,SNR=66									
SEY	Seymchan	67.99	11	*ce*	P		P		17 44 37.2	+1.0
ZALV	Zalesovo Beam	68.03	333		P		P		17 44 35.7	-1.0
	comp=Z,46nm,1.1s,baz=108,slow=4.8,SNR=71									
ZALV					LR		LR		18 15 14.1	
	comp=Z,116nm,21.3s,baz=97,slow=37									
ZAA1	Zalesovo Array	68.04	333		*e*P		P		17 44 35.7	-1.0
KBL	Kabul	68.18	309		*e*P		P		17 44 36.8	-1.5
	comp=Z,10nm,0.8s									
KBL	Kabul	68.18	309		*e*P		P		17 44 36.8	-1.5
KBL					pmax		pmax			
	comp=Z,10.0nm,0.8s									
BTK	Batken	68.90	315		*e*P		P		17 44 41.5	-1.1
	comp=Z,18nm,1.3s									
BTK	Batken	68.90	315		*e*P		P		17 44 41.5	-1.1
BTK					pmax		pmax			
	comp=Z,18nm,1.3s									
KURK	Kurchatov	69.13	328		*e*P		P		17 44 43.0	-0.6
	comp=Z,63nm,0.8s									
KURK	Kurchatov	69.13	328	*ce*	P		P		17 44 43.3	-0.3
KURK					pmax		pmax			
	comp=Z,66nm,0.9s									
KURK	Kurchatov	69.13	328		P		P		17 44 43.4	-0.3
	SNR=25									
NVS	Novosibirsk	69.32	333	⇑	*i*P		P		17 44 43.8	-0.9
NVS					pmax		pmax			
	comp=N,21nm,1.3s									
NVS					pmax		pmax			
	comp=E,21nm,1.3s									
NVS					pmax		pmax			
	comp=Z,41nm,1.3s									
KK31	Karatay Array	70.34	318		*e*P		P		17 44 51.0	-0.3
KK31	Karatay Array	70.34	318		*e*P		P		17 44 51.0	-0.3
KKAR	Karatay Array	70.34	318		*e*P		P		17 44 51.0	-0.3
KKAR	Karatay Array	70.34	318		*e*P		P		17 44 51.0	-0.3
KIWB	Kanaga Island	70.65	32		*e*P		P		17 44 54.2	+1.3
ATKA	Atka Island	72.39	32		*e*P		P		17 45 04.3	+0.8
	comp=Z,104nm,1.0s									
MRIV	Mauritius Mete	72.42	250		*e*P		P		17 45 04.1	-0.3
	comp=Z,19nm,0.9s									
RER	Riviere de l'E	74.11	249		*e*P		P		17 45 13.9	-0.4
	comp=Z,106nm,0.9s									
HON	Honolulu	74.53	67		*e*P		P		17 45 17.9	+1.2
	comp=Z,175nm,1.0s									
KIP	Kipapa	74.54	67		*e*P		P		17 45 18.3	+1.6
	comp=Z,182nm,1.6s									
TIXI	Tiksi	74.58	360		*e*P		P		17 45 15.6	-0.4
	comp=Z,10nm,0.8s									
TIXI	Tiksi	74.58	360	*ce*	P		P		17 45 16.1	+0.2
TIXI					pmax		pmax			
	comp=Z,14nm,1.0s									
BVA0	Borovoye Array	74.70	327		*i* P		P		17 45 16.2	-0.8
BVA0					pmax		pmax			
	comp=Z,29nm,1.0s									
BRVK	Borovoye	74.77	327		*e*P		P		17 45 16.6	-0.8
	comp=Z,30nm,0.8s									
BRVK	Borovoye	74.77	327	*c*	*i*P		P		17 45 16.9	-0.5
BRVK					pmax		pmax			
	comp=Z,29nm,0.9s									
BRVK	Borovoye	74.77	327		P		P		17 45 17.3	-0.1
	SNR=16									
BILL	Bilibino	75.34	13		*e*P		P		17 45 20.1	-0.3
	comp=Z,6.5nm,0.9s									
BILL	Bilibino	75.34	13		*i* P		P		17 45 21.0	+0.6
BILL					*i*				17 45 26.2	
BILL					*i*				17 45 37.7	
BILL					pmax		pmax			
	comp=Z,3.0nm,1.0s									
BILL					MLR		MLR			
	comp=Z,424nm,20.0s									
VNDA	Vanda	76.34	173		P		P		17 45 26.4	+0.4
	comp=Z,7.5nm,0.7s,baz=328,slow=6.2,SNR=30									
VNDA					LR		LR		18 19 58.6	
	comp=Z,265nm,18.0s,baz=343,slow=36									
VNDA	Vanda	76.34	173		*e*P		P		17 45 26.0	0.0
VNDA					*e*PcP		pP		17 45 26.5	-9.2
VNDA	Vanda	76.34	173		*e*P		P		17 45 26.0	0.0
KHU	Kahuku	76.43	69		*e*P		P		17 45 26.9	-1.0
	comp=Z,358nm,1.7s									
KHU	Kahuku	76.43	69		*e*P		P		17 45 26.9	-1.0
KHU					pmax		pmax			
	comp=Z,358nm,1.7s									
UOSS	Minazif	76.56	296		*e*P		P		17 45 28.5	+0.2
	comp=Z,35nm,1.4s									
HATD	Hatta, Dubai	76.60	296		P		P		17 45 26.7	-1.8
HMH	Humu'ula Sheep	76.60	69		*e*P		P		17 45 27.4	-1.5
	comp=Z,264nm,1.4s									
ASHO	Ashiyiah	76.64	296		P		P		17 45 26.6	-2.2
MLH	Mauna Loa	76.68	69		*e*P		P		17 45 27.7	-1.6
	comp=Z,263nm,1.4s									
MLH	Mauna Loa	76.68	69		*e*P		P		17 45 27.7	-1.6
MLH					pmax		pmax			
	comp=Z,263nm,1.4s									
FAQ	Al Faqa, Dubai	77.07	296		P		P		17 45 30.5	-0.7
SBA	Scott Base	77.22	173		*e*P		P		17 45 32.9	+1.9
	comp=Z,39nm,1.3s									
SBA	Scott Base	77.22	173		*e*P		P		17 45 32.9	+1.9
SBA					pmax		pmax			
	comp=Z,39nm,1.3s									
UNV	Unalaska Valle	77.28	33		*e*P		P		17 45 33.0	+1.3
	comp=Z,265nm,1.5s									
GEYT	Alibeck	77.61	310		P		P		17 45 34.0	+0.1
	comp=Z,7.6nm,0.8s,baz=149,slow=3.1,SNR=19									
AKUT	Akutan	77.79	33		*e*P		P		17 45 35.6	+1.1
	comp=Z,572nm,1.6s									
MAW	Mawson	78.55	201		P		P		17 45 38.4	-0.1
	comp=Z,9.1nm,0.8s,baz=62,slow=4.6,SNR=9.4									
MAW					LR		LR		18 17 24.7	
	comp=Z,366nm,21.1s,baz=60,slow=34									
MAW	Mawson	78.55	201		P		P		17 45 39.0	+0.6
	baz=78,SNR=6.4									
GAMB	Gambell	79.35	23		*e*P		P		17 45 43.9	+1.0
	comp=Z,18nm,1.0s									
AB31	Akbulak array	79.38	321		*i* P		P		17 45 43.0	-0.4
AB31					pmax		pmax			
	comp=Z,16nm,0.6s									
ABKAR	Akbulak array	79.38	321		*e*P		P		17 45 43.0	-0.4
CRZF	Crozet Islands	79.53	223		*e*P		P		17 45 44.5	+0.1
	comp=Z,255nm,1.6s									
PPT	Papeete	80.07	107		LR		LR		18 18 04.0	
	comp=Z,98nm,21.6s,baz=272,slow=33									
PPT2	Papeete2	80.07	107		*e*P		P		17 45 47.5	-0.4
	comp=Z,65nm,1.2s									
PPT2					*e*S		S		17 55 46.8	-4.1
	comp=Z,327nm,26.8s									
PPT2	Papeete2	80.07	107		*e*LR		LR		18 10 54.0	
	comp=Z,200nm,23.8s									
TBI	Tubuai	80.22	113		*e*LR		LR		18 10 42.4	
	comp=Z,280nm,27.0s									
TIAR	Tiarei	80.29	107		*e*P		P		17 45 47.5	-1.5
	comp=Z,11nm,1.0s									
AKTO	Aktyubinsk	80.91	322		P		P		17 45 51.3	-0.4
AKTO					pmax		pmax			
	comp=Z,24nm,0.8s									
SDPT	Sand Point	81.09	33		*e*P		P		17 45 53.4	+1.0
	comp=Z,503nm,1.7s									
SVE	Sverdlovsk	81.36	329	⇓	*e*P		P		17 45 53.9	0.0
SVE					pmax		pmax			
	comp=Z,38nm,1.1s									
PMOR	Pomariorio Ree	81.71	105		*e*P		P		17 45 54.8	-1.8
	comp=Z,65nm,1.2s									
ABPO	Ambohimpanom	82.07	251		*e*P		P		17 45 58.9	+0.2
	comp=Z,12nm,0.7s									
ANM	Nome	82.18	23		*e*P		P		17 45 59.9	+1.8
	comp=Z,12nm,1.2s									
ARU	Arti	82.33	328		*e*P		P		17 45 58.0	-1.0
	comp=Z,26nm,0.9s									
ARU	Arti	82.33	328	*c*	*i*P		P		17 45 58.3	-0.7
ARU									17 49 01.8	
ARU					S		S		17 56 15.3	+2.6
ARU					SS		SS		18 01 29.0	-4.6
ARU					pmax		pmax			
	comp=Z,33nm,1.0s									
RDOG	Red Dog Mine	84.48	20		*e*P		P		17 46 11.1	+1.3
	comp=Z,20nm,1.1s									
SVW2	Sparrevohn	85.24	28		*e*P		P		17 46 15.7	+1.9
	comp=Z,15nm,1.0s									
OHAK	Old Harbor	85.46	32		*e*P		P		17 46 16.1	+1.2
	comp=Z,299nm,1.9s									
KDAK	Kodiak Island	85.95	32		*e*P		P		17 46 18.5	+1.2
	comp=Z,267nm,1.9s									
KDAK	Kodiak Island	85.95	32		*e*P		P		17 46 18.5	+1.2
KDAK					pmax		pmax			
	comp=Z,267nm,1.9s									
RAYN	Ar Rayn	86.06	294		*e*P		P		17 46 19.0	+0.2
	comp=Z,43nm,0.8s									
RAYN	Ar Rayn	86.06	294		*i* P		P		17 46 19.0	+0.2
	SNR=6.6									
DAMY	Dhamar	86.40	285		*e*P		P		17 46 21.9	+1.0
	comp=Z,25nm,0.8s									
RSO	Redoubt South	86.44	29		*e*P		P		17 46 21.2	+1.2
QSPA	South Pole Qui	86.89	180		*e*P		P		17 46 21.8	-0.3
	comp=Z,14nm,0.8s									
BRLK	Bradley Lake	87.21	30		*e*P		P		17 46 25.5	+1.9
	comp=Z,73nm,1.0s									
PPLA	Purkeypile	87.22	27		*e*P		P		17 46 24.6	+0.9
	comp=Z,26nm,1.3s									
IM3	Indian Mountai	87.26	23		*e*P		P		17 46 24.2	+0.6
SYO	Syowa Base	87.26	201	⇑	*e*P		P		17 46 23.9	+0.3
SYO	Syowa Base	87.26	201	⇑	*i*PcP		PcP		17 46 26.0	+0.3
CAST	Castle Rocks	87.38	26		*e*P		P		17 46 24.8	+0.5
	comp=Z,10nm,1.1s									
SUA	Susitna One	87.60	28		*e*P		P		17 46 26.3	+0.7
	comp=Z,26nm,1.0s									
ATD	Arta Tunnel	87.70	282		*e*P		P		17 46 27.8	+0.8
	comp=Z,18nm,0.8s									
GROC	Groznyy	87.77	313		*e*P		P		17 46 21.8	-4.8
GROC					*e*				17 49 50.0	
GROC					pmax		pmax			
	comp=Z,44nm,1.0s									
SEW	Seward	87.99	30		*e*P		P		17 46 28.1	+0.9
	comp=Z,48nm,1.2s									
BPAW	Bear Paw Mtn.	88.00	26		*e*P		P		17 46 28.4	+1.2
	comp=Z,39nm,2.0s									
RC01	Rabbit Creek A	88.01	29		*e*P		P		17 46 28.4	+1.0
	comp=Z,44nm,1.2s									
TRF	Thorofare Moun	88.18	26		*e*P		P		17 46 28.9	+0.6
	comp=Z,11nm,1.1s									
GNI	Garni	88.24	310		*e*P		P		17 46 28.7	-0.4
	comp=Z,26nm,1.1s									
GNI	Garni	88.24	310		P		P		17 46 30.3	+1.2
GNI	Garni	88.24	310		*i* P		P		17 46 27.6	-1.5
GNI					pmax		pmax			
	comp=Z,76nm,1.3s									
MLY	Manley	88.28	25		*e*P		P		17 46 30.0	+1.4
	comp=Z,11nm,1.0s									
PMR	Palmer	88.39	28		*e*P		P		17 46 29.2	+0.1
	comp=Z,24nm,1.2s									
PMR	Palmer	88.39	28		*e*P		P		17 46 29.2	+0.1
PMR					pmax		pmax			
	comp=Z,24nm,1.2s									
TBLG	Delisi	88.39	312		*e*P		P		17 46 30.7	+1.0
	comp=Z,24nm,1.1s									
GHO	Glory Hole Cre	88.51	28		*e*P		P		17 46 30.4	+0.5
	comp=Z,52nm,1.7s									
BWN	Browne	88.67	26		*e*P		P		17 46 32.8	+2.4
	comp=Z,36nm,1.1s									
KNK	Knik Glacier	88.68	28		*e*P		P		17 46 31.4	+0.9
	comp=Z,21nm,0.9s									
SML	Sawmill	88.80	28		*e*P		P		17 46 32.2	+1.1
	comp=Z,20nm,0.9s									
RND	Reindeer	88.81	26		*e*P		P		17 46 32.0	+0.8
	comp=Z,13nm,0.8s									
MCK	McKinley	88.82	26		*e*P		P		17 46 31.7	+0.5
	comp=Z,16nm,1.0s									
MCK	McKinley	88.82	26		*e*P		P		17 46 31.7	+0.5
MCK					pmax		pmax			
	comp=Z,16nm,1.0s									
COLD	Coldfoot	88.90	23		*e*P		P		17 46 32.7	+1.2
	comp=Z,4.9nm,1.0s									
ZEI	Tsey	89.11	313		*e*P		P		17 46 32.8	-0.4
ZEI					pmax		pmax			
	comp=Z,12nm,0.8s									
GLI	Glacier Island	89.26	29		*e*P		P		17 46 34.4	+1.2
	comp=Z,34nm,1.2s									
SCM	Sheep Creek Mo	89.27	28		*e*P		P		17 46 34.6	+1.2
	comp=Z,21nm,0.9s									
SCM	Sheep Creek Mo	89.27	28		*e*P		P		17 46 34.6	+1.2
SCM					pmax		pmax			
	comp=Z,21nm,0.9s									
WRH	Wood River Hil	89.31	25		*e*P		P		17 46 33.6	+0.3
	comp=Z,15nm,1.3s									
MDM	Murphy Dome	89.32	25		*e*P		P		17 46 34.5	+1.0
	comp=Z,37nm,2.0s									
NCK	Nalchik	89.39	313		*i* P		P		17 46 33.9	-0.4
NCK					pmax		pmax			
	comp=Z,13nm,0.9s									
DHY	Denali Highway	89.42	27		*e*P		P		17 46 35.6	+1.4
	comp=Z,13nm,0.8s									
MID	Middleton Isla	89.45	31		*e*P		P		17 46 36.1	+2.0
	comp=Z,434nm,1.1s									
COLA	College	89.47	25		*e*P		P		17 46 35.8	+1.7
COLA					pmax		pmax			
	comp=Z,3.0nm,0.8s									
COLA	College	89.47	25		*e*P		P		17 46 36.9	+2.8
TAOE	Nuku Hiva Isla	89.50	99	*e*	LR		LR		18 15 13.0	
	comp=Z,258nm,21.0s									
HDA	Harding Lake	89.79	26		*e*P		P		17 46 35.5	-0.1
	comp=Z,7.6nm,1.0s									
HDA	Harding Lake	89.79	26		P		P		17 46 35.8	+0.1
	baz=263									
SIRT	Sirnak	89.81	307		*e*P		P		17 46 36.7	+0.2
	comp=Z,127nm,1.1s									
IL1	Eielson Array	89.86	25		*e*P		P		17 46 35.0	-1.0
ILAR	Eielson Array	89.86	25		P		P		17 46 35.5	-0.5
	comp=Z,2.5nm,0.9s,baz=268,slow=4.2,SNR=19									
ILAR					PKKPbc		PKKPbc		18 04 09.0	-2.0
	comp=Z,0.8nm,0.7s,baz=18,slow=1.6,SNR=9.3									
ILAR					LR		LR		18 21 15.9	
	comp=Z,151nm,21.9s,baz=269,slow=32									
ILB	Eielson Array	89.86	25		*e*P		P		17 46 34.6	-1.4
KLU	Klutina	89.90	29		*e*P		P		17 46 37.8	+1.5
	comp=Z,66nm,2.0s									
KBZ	Khabaz	89.92	314		P		P		17 46 36.0	-0.6
	comp=Z,4.1nm,0.8s,baz=68,slow=4.9,SNR=6.9									
DIV	Divide	89.93	29		*e*P		P		17 46 37.8	+1.4
	comp=Z,12nm,0.8s									
PRGR	Permogore	89.94	332		*e*P		P		17 46 34.4	-2.0
PRGR					pmax		pmax			
	comp=Z,9.0nm,1.0s									
NEY	Neytrino	90.01	313		*i* P		P		17 46 37.8	+0.4
NEY					pmax		pmax			
	comp=Z,3.0nm,1.0s									
KIV	Kislovodsk	90.08	314		*e*P		P		17 46 40.1	+2.5
	comp=Z,12nm,1.0s									
KIV	Kislovodsk	90.08	314		*e*P		P		17 46 38.2	+0.6
KIV					pmax		pmax			
	comp=Z,8.0nm,1.0s									
RIDG	Independ'e Rid	90.63	26		*e*P		P		17 46 40.2	+0.6
	comp=Z,111nm,1.0s									
FYU	Fort Yukon	90.75	23		*e*P		P		17 46 41.6	+1.6
	comp=Z,15nm,0.9s									
SCRK	Sand Creek	91.03	26		*e*P		P		17 46 42.6	+1.0
	comp=Z,9.9nm,1.3s									
KMBO	Kilima Mbogo	92.57	269		P		P		17 46 50.6	+0.6
	comp=Z,14nm,1.0s,baz=62,slow=6.4,SNR=25									
KMBO					LR		LR		18 24 23.2	
	comp=Z,440nm,21.7s,baz=94,slow=33									
KMBO	Kilima Mbogo	92.57	269		*e*P		P		17 46 50.5	+0.6
KMBO					*e*PcP		PcP		17 46 50.7	0.0
KMBO	Kilima Mbogo	92.57	269		*i* P		P		17 46 50.4	+0.5
	SNR=12									
VSR	Storozhevoye	92.82	321		*i* P		P		17 46 50.4	+0.4
VSR					pmax		pmax			
	comp=Z,5.0nm,0.9s									
KLMR	Klimovskoe	92.83	331		*e*P		P		17 46 47.0	-2.8
KLMR					*e*				17 50 26.6	
KLMR					pmax		pmax			
	comp=Z,26nm,1.5s									
KLMR	Klimovskoe	92.83	331		*e*P		P		17 46 47.1	-2.8
KLMR					AMP				17 47 05.7	
	comp=Z,26nm,1.4s									
KLMR					*e*PP		PP		17 50 26.6	-5.6
DAWY	Dawson	93.05	26		*e*P		P		17 46 51.3	+0.5
	comp=Z,33nm,1.7s									
RKT	Rikitea	93.54	113		*e*LR		LR		18 16 55.5	
	comp=Z,117nm,35.8s									
HYT	Haines Junctio	93.94	29		*e*P		P		17 46 56.1	+1.0
	comp=Z,10nm,1.2s									
EPYK	Eagle Plains	94.16	24		*e*P		P		17 46 56.1	+0.2
	comp=Z,19nm,1.0s									
EPYK	Eagle Plains	94.16	24		P		P		17 46 56.3	+0.4
	baz=272									
OBN	Obninsk	94.40	325		*i* P		P		17 46 54.9	-2.2
OBN					pmax		pmax			
	comp=Z,5.0nm,0.8s									
OBN					MLR		MLR			
	comp=Z,122nm,19.0s									
INK	Inuvik	95.28	22		*e*P		P		17 47 01.1	+0.2
	comp=Z,11nm,1.1s									
INK	Inuvik	95.28	22		*e*P		P		17 47 01.1	+0.2
INK					pmax		pmax			
	comp=Z,11nm,1.1s									
APA	Apatity	95.30	337	⇑	*i*P		P		17 46 51.1	-10
APA					pmax		pmax			
	comp=Z,12nm,1.1s									
APA					MLR		MLR			
	comp=Z,2μm,20.0s									
BR101	Keskin Array S	96.75	309		*e*P		P		17 47 06.8	-1.7
BR101					*e*PP		PP		17 51 00.3	-3.2
BRTR	Keskin Array B	96.75	309		P		P		17 47 06.8	-1.7
	comp=Z,1.0nm,0.8s,baz=152,slow=5.6,SNR=5.8									
BRTR					PP		PP		17 51 00.3	-3.2
	comp=Z,1.9nm,1.1s,baz=118,slow=7.1,SNR=3.7									
BRTR					LR		LR		18 37 45.2	
	comp=Z,50nm,20.5s,baz=97,slow=40									
ARA0	ARCESS Array S	97.87	340		*e*P		P		17 47 11.8	-0.9
ARCES	ARCESS Array B	97.87	340		P		P		17 47 11.8	-0.9
	comp=Z,4.1nm,0.9s,baz=69,slow=6.6,SNR=7.5									
ARCES					LR		LR		18 35 43.6	
	comp=Z,8.3nm,18.2s,baz=208,slow=38									
MBAR	Mbarara	99.10	269		*i* P		Pdif		17 47 16.6	-3.0
MBAR					pmax		pmax			
	comp=Z,2.0nm,1.1s									
AKASG	Malin Array Be	99.12	321		LR		LR		18 37 48.6	
	comp=Z,60nm,20.1s,baz=80,slow=39									
FIA0	FINESS Array S	99.27	332		*e*P		Pdif		17 47 17.2	-1.9
FIA0	FINESS Array S	99.27	332		*e*P		Pdif		17 47 17.2	-1.9
FINES	FINESS Array B	99.27	332		P		Pdif		17 47 17.2	-1.9
	comp=Z,2.9nm,1.1s,baz=66,slow=3.4,SNR=3.3									
SNAA	Sanae	99.44	194		*i* P		Pdif		17 47 19.3	-0.5
SNAA					pmax		pmax			
	comp=Z,270nm,1.0s									
VSU	Vasula	99.47	329		*i* P		Pdif		17 47 20.1	+0.1
VSU					pmax		pmax			
	comp=Z,20nm,0.9s									
LSZ	Lusaka	100.45	254		*e*Pdif		Pdif		17 47 24.1	-1.4
LSZ	Lusaka	100.45	254		*e*P		Pdif		17 47 24.1	-1.4
BOSA	Boshof	101.33	240		P		Pdif		17 47 27.5	-1.7
	comp=Z,7.9nm,0.8s,baz=118,slow=5.2,SNR=10									
BUR04	Bucovina Ar. S	102.14	318		*e*Pdif		Pdif		17 47 31.6	-0.7
YKA	Yellowknife Ar	104.28	26		Pdiff		Pdif		17 47 40.8	-0.5
	comp=Z,1.0nm,1.1s,baz=287,slow=4.9,SNR=6.2									
YKA					PKiKP		PKiKP		17 51 57.9	0.0
	comp=Z,0.4nm,0.6s,baz=306,slow=1.8,SNR=7.6									
YKA					PKKPbc		PKKPbc		18 03 28.5	-2.6
	comp=Z,1.2nm,0.8s,baz=105,slow=2.7,SNR=17									
YKB5	Yellowknife Ar	104.28	26		*e*Pdif		Pdif		17 47 42.6	+1.3
YKB5					*e*PKiKP		PKiKP		17 51 54.1	-3.7
YKB5					*e*PKKPbc		PKKPbc		18 03 27.9	-3.3
NVAR	Mina Array Bea	108.92	50		PKKPbc		PKKPbc		18 03 15.5	-0.8
	comp=Z,0.9nm,0.8s,baz=115,slow=5.2,SNR=5.0									
NV01	Mina Array Sit	108.92	50		*e*PKKPbc		PKKPbc		18 03 15.2	-1.1
NV01					*e*PKKPab		PKKPab		18 03 27.2	-0.9
CLL	Collm	108.95	324		*e*pPP				17 52 38.0	
BOJS	Bojanci	109.30	317		*i* PKiKP		PKiKP		17 52 08.2	+0.5
BOJS					*i* pPKiKP		pPKiKP		17 52 16.3	-1.4
BOJS					*i* PP		PP		17 52 40.4	+3.5
GERES	GERESS Array B	109.33	321		PKiKP		PKiKP		17 52 08.0	+0.2
	comp=Z,0.3nm,0.5s,baz=5.7,slow=1.3,SNR=3.7									
VISS	Visnje	109.49	318		*i* PKiKP		PKiKP		17 52 08.4	+0.3
VISS					*i* pPKiKP		pPKiKP		17 52 17.0	-1.1
PD31	Pinedale Array	114.19	44		*e*PKiKP		PKPdf		17 52 16.0	-1.4
PD31					*e*PKKPbc		PKKPbc		18 02 57.3	-1.8
PDAR	Pinedale Array	114.19	44		PKiKP		PKPdf		17 52 16.9	-0.5
	comp=Z,0.7nm,0.8s,baz=218,slow=1.9,SNR=6.3									
PDAR					PKKPbc		PKKPbc		18 02 58.3	-0.8
	comp=Z,1.2nm,0.7s,baz=108,slow=4.6,SNR=12									
O20A	White River Ci	116.00	46		*e*PKPdf		PKPdf		17 52 20.7	-0.2
O20A	White River Ci	116.00	46		P		PKiKP		17 52 22.4	+1.5
	baz=290									
MVCO	Mesa Verde	116.74	50		P		PKiKP		17 52 24.1	+1.6
	baz=288									
RSSD	Black Hills	117.41	41		P		PKiKP		17 52 23.7	+0.1
	baz=295									
S22A	4UR Ranch, Cre	117.83	49		P		PKiKP		17 52 26.1	+1.4
	baz=289									
SDCO	Great Sand Dun	118.82	48		P		PKiKP		17 52 28.3	+1.7
	baz=290									
ANMO	Albuquerque	119.01	51		*e*PKPdf		PKiKP		17 52 27.6	+0.7
ANM

W50A	**Signal Mountai**	**134.33**	**41**	*e*PKPdf	**PKPdf**	**17 52 56.4**	**+0.5**
LRAL	**Lakeview Retre**	**134.41**	**45**	*e*PKPdf	**PKiKP**	**17 52 56.8**	**-0.6**
LRAL	**Lakeview Retre**	**134.41**	**45**	P	**PKPdf**	**17 52 56.3**	**+0.3**
	baz=303						
Z49A	**Columbiana**	**134.65**	**44**	P	**PKPdf**	**17 52 56.9**	**+0.4**
	baz=304						
KIC	**Kosan Boka**	**134.67**	**276**	*e*PKIKP	PKPpre	17 52 48.2	
	comp=Z,14nm,0.8s						
DBIC	**Dimbokro**	**134.77**	**276**	PKhKP	PKPpre	17 52 48.9	
	comp=Z,4.3nm,0.6s,baz=123,slow=3.9,SNR=8.0						
DBIC				PKP	**PKiKP**	**17 52 58.7**	**0.0**
	comp=Z,3.4nm,0.6s,baz=114,slow=1.1,SNR=5.8						
DBIC	**Dimbokro**	**134.77**	**276**	*e*PKPpre	PKPpre	17 52 48.2	
DBIC				*e*PKPdf	**PKiKP**	**17 52 59.1**	**+0.4**
DBIC	**Dimbokro**	**134.77**	**276**	*e*P	**PKiKP**	**17 53 00.0**	**+1.4**
TIC	**Toumodi**	**134.94**	**276**	*e*PKIKP	PKPpre	17 52 48.9	
LIC	**Lamto**	**134.96**	**276**	*e*PKIKP	PKPpre	17 52 48.5	
	comp=Z,32nm,0.8s						
V52A	**Sevierville**	**135.05**	**39**	P	**PKiKP**	**17 52 59.2**	**+0.6**
	baz=309						
TKL	**Tuckaleechee C**	**135.05**	**40**	*e*PKPdf	**PKiKP**	**17 52 58.5**	**-0.2**
TKL	**Tuckaleechee C**	**135.05**	**40**	*e*PKIKP	**PKiKP**	**17 52 58.5**	**-0.2**
150A	**Eclectic**	**135.33**	**45**	P	**PKiKP**	**17 52 59.5**	**+0.2**
	baz=304						
X52A	**Dahlonega**	**135.62**	**41**	P	**PKiKP**	**17 53 00.4**	**+0.5**
	baz=308						
V53A	**Saluda**	**135.65**	**39**	P	**PKiKP**	**17 53 00.2**	**+0.3**
	baz=310						
Y52A	**Lilburn**	**135.95**	**42**	*e*PKPdf	**PKiKP**	**17 53 00.3**	**-0.2**
Y52A	**Lilburn**	**135.95**	**42**	P	**PKiKP**	**17 53 01.3**	**+0.8**
	baz=307						
152A	**Waverly Hall**	**136.21**	**44**	*e*PKPdf	**PKiKP**	**17 53 00.7**	**-0.4**
152A	**Waverly Hall**	**136.21**	**44**	P	**PKiKP**	**17 53 01.4**	**+0.3**
	baz=305						
KMSC	**Kings Mountain**	**136.91**	**38**	P	**PKiKP**	**17 53 02.5**	**0.0**
	baz=311						
LCO	**Las Campanas**	**142.49**	**150**	*e*P	**PKiKP**	**17 53 15.0**	**+0.6**
TCA	**Tanti**	**143.11**	**159**	*i* P	PKPbc	17 53 09.9	+0.9
GO03	**Copiap**	**143.87**	**149**	*e*PKPdf	**PKPdf**	**17 53 13.4**	**-0.1**
JTS	**JuntasAbangare**	**144.69**	**77**	*e*PKPdf	**PKPdf**	**17 53 15.5**	**+0.3**
JTS	**JuntasAbangare**	**144.69**	**77**	*e*PKIKP	**PKPdf**	**17 53 15.5**	**+0.3**
GO02	**Mina Guanaco**	**146.17**	**147**	*e*PKPdf	**PKPab**	**17 53 19.4**	**-0.1**
CPSB	**Cacapava Do Su**	**146.57**	**175**	*e*P	**PKPab**	**17 53 20.8**	**+0.4**
PB05	**IPOC Station P**	**147.63**	**144**	*e*P	**PKiKP**	**17 53 24.7**	**-0.3**
CNLB	**Canela**	**147.80**	**179**	*e*P	**PKiKP**	**17 53 24.9**	**-0.1**
PB04	**IPOC Station P**	**148.06**	**143**	*e*PKPbc	**PKiKP**	**17 53 25.4**	**-0.5**
PB04	**IPOC Station P**	**148.06**	**143**	*e*P	**PKiKP**	**17 53 25.5**	**-0.4**
PB06	**IPOC Station P**	**148.11**	**144**	*e*P	**PKiKP**	**17 53 25.9**	**0.0**
PB03	**IPOC Station P**	**148.51**	**143**	*e*P	**PKiKP**	**17 53 27.0**	**+0.2**
LVC	**Limon Verde**	**148.57**	**145**	*e*PKPbc	**PKiKP**	**17 53 27.3**	**+0.1**
LVC	**Limon Verde**	**148.57**	**145**	*e*P	**PKPbc**	**17 53 26.1**	**+0.4**
TER01	**Tubaro-SC**	**148.57**	**182**	*e*P	**PKPbc**	**17 53 25.0**	**0.0**
SLA	**San Lorenzo**	**148.59**	**152**	*e*P	**PKiKP**	**17 53 26.8**	**-0.1**
PB07	**IPOC Station P**	**148.67**	**143**	*e*P	**PKiKP**	**17 53 27.4**	**+0.3**
PB02	**IPOC Station P**	**148.97**	**142**	*e*P	**PKiKP**	**17 53 28.3**	**+0.6**
AZAP	**Zapla**	**149.22**	**153**	*e*P	**PKiKP**	**17 53 28.3**	**0.0**
PB01	**IPOC Station P**	**149.43**	**142**	*e*PKPdf	**PKPdf**	**17 53 24.3**	**+1.2**
PB01				*e*PKPbc	**PKiKP**	**17 53 29.1**	**+0.5**
PB01	**IPOC Station P**	**149.43**	**142**	*e*P	**PKiKP**	**17 53 29.6**	**+0.9**
NNA	**Nana**	**149.51**	**120**	*e*PKPdf	**PKPdf**	**17 53 22.7**	**-0.6**
NNA				*e*PKPbc	**PKiKP**	**17 53 29.2**	**+0.3**
NNA	**Nana**	**149.51**	**120**	*e*PKHKP	PKPpre	17 53 22.7	
NNA				*e*		17 53 29.2	
ITAB	**Concordia**	**149.81**	**176**	*e*P	**PKPbc**	**17 53 27.4**	**-0.7**
CPUP	**Villa Florida**	**149.96**	**167**	PKP	**PKPdf**	**17 53 24.2**	**+0.5**
	comp=Z,24nm,0.7s,baz=156,slow=1.7,SNR=52						
CPUP				PKPbc	**PKiKP**	**17 53 29.5**	**+0.1**
	comp=Z,24nm,0.7s,baz=202,slow=2.3,SNR=56						
CPUP	**Villa Florida**	**149.96**	**167**	*e*PKPdf	**PKPdf**	**17 53 24.7**	**+1.1**
CPUP				*e*PKPbc	**PKiKP**	**17 53 29.8**	**+0.3**
CPUP	**Villa Florida**	**149.96**	**167**	PKIKP	**PKPdf**	**17 53 24.2**	**+0.5**
CPUP						17 53 29.5	
CPUP				pmax	pmax		
	comp=Z,24nm,0.7s						
CPUP				pmax	pmax		
	comp=Z,24nm,0.7s						
CPUP	**Villa Florida**	**149.96**	**167**	*e*P	**PKiKP**	**17 53 29.2**	**-0.2**
PSGCX	**Pisagua**	**150.10**	**140**	*e*P	**PKiKP**	**17 53 30.6**	**+0.6**
PB11	**IPOC Station P**	**150.28**	**141**	*e*PKPbc	**PKiKP**	**17 53 31.1**	**+0.6**
PB11	**IPOC Station P**	**150.28**	**141**	*e*P	**PKiKP**	**17 53 31.1**	**+0.6**
PB08	**IPOC Station P**	**150.32**	**142**	*e*P	**PKPdf**	**17 53 26.6**	**+1.7**
YJA	**Yavi**	**150.74**	**150**	*e*P	**PKPbc**	**17 53 31.3**	**+0.2**
MNMC	**Minye Minye**	**150.78**	**140**	*e*PKPdf	**PKPdf**	**17 53 25.2**	**-0.3**
MNMC				*e*PKPbc	**PKiKP**	**17 53 32.4**	**+0.7**
TIJ01	**Guaruva-PR**	**151.76**	**182**	*e*P	**PKPbc**	**17 53 30.7**	**-2.2**
PTGB	**Pitanga**	**152.32**	**176**	*e*P	**PKPbc**	**17 53 31.5**	**-2.7**
LPAZ	**La Paz**	**153.79**	**138**	PKP	**PKPdf**	**17 53 30.7**	**+0.3**
	comp=Z,1.6nm,0.9s,baz=180,slow=5.1,SNR=3.9						
LPAZ				PKPbc	**pPKPdf**	**17 53 40.2**	**-0.3**
	comp=Z,3.8nm,0.8s,baz=92,slow=1.3,SNR=12						
LPAZ	**La Paz**	**153.79**	**138**	*e*PKPdf	**PKPdf**	**17 53 29.6**	**-0.8**
LPAZ				*ep*PKPdf	**PKPdf**	**17 53 30.5**	**+0.1**
LPAZ				*e*PKPbc	**pPKPdf**	**17 53 40.0**	**-0.5**
LPAZ				*e*PKPab	**pPKPbc**	**17 53 46.6**	**-1.9**
LPAZ	**La Paz**	**153.79**	**138**	*e*PKIKP	**PKPdf**	**17 53 29.6**	**-0.8**
LPAZ				*e*		17 53 30.5	
LPAZ				*e*		17 53 40.0	
LPAZ				*e*		17 53 46.6	
LPAZ	**La Paz**	**153.79**	**138**	*e*P	**PKPdf**	**17 53 33.3**	**+2.8**
SDV	**Santo Domingo**	**158.80**	**73**	*e*PKPdf	**PKPdf**	**17 53 36.0**	**-0.5**
SDV				*e*PKPab	**PKPab**	**17 54 12.2**	**-0.1**
SDV	**Santo Domingo**	**158.80**	**73**	*e*P	**PKPdf**	**17 53 39.5**	**+3.0**
BDFB	**Brasilia**	**161.30**	**186**	PKP	**PKPdf**	**17 53 39.9**	**+0.7**
	comp=Z,2.6nm,0.8s,baz=158,slow=5.4,SNR=3.0						

MAN 12 17:34:33.7, 9°.03N × 126°.35E, h27km, mb4.5, ML3.4, MS3.2, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.72**	**266**	*e*P	Pb	17 34 47.7	-0.1
BUTP				*e*S	Sn	17 34 59.5	+1.0
BIPH	**Bislig**	**0.84**	**179**	*e*P	Pb	17 34 49.2	-0.4
BIPH				*e*S	Sb	17 35 00.2	-0.3
SCPH	**Surigao**	**1.14**	**311**	*e*P	Pn	17 34 53.1	-0.7
BUKP	**Musuan**	**1.71**	**228**	*e*P	Pb	17 35 03.2	-1.4
BUKP				*e*S	Sb	17 35 29.8	+4.1
MATI	**Mati**	**2.07**	**183**	*e*P	Pn	17 35 07.6	+0.9

MEX 12 17:41:19.1±0.6, 19°.20N × 103°.93W, h43km±6km, MD3.7, Jalisco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
R15V		**0.06**	**245**	*e*P	Pn	17 41 24.7	-1.3
R15V				*e*S	Sn	17 41 28.9	-1.9
CJM	**Chamela**	**1.10**	**286**	*e*P	Pn	17 41 36.3	-1.8
CJM				*e*S	Sn	17 41 49.7	-2.3

IDC ***12*** *17:44:19.1±1.9, 37°.68N × 143°.84E, h0km, mb3.4/4, mb1 3.6/7, mb1mx3.4/37, mbtmp3.5/7, ML3.4/3, MS4.1/1, Ms1 4.1/1, ms1mx2.7/29, Error ellipse: s-maj=45.7km s-min=22.4km az=75.0*

ISCJB ***12*** *17:44:21.9±0.8, 37°.75N±0°.04 × 143°.57E±0°.06, h33km, mb3.3/4, MS4.1/1, Error ellipse: s-maj=7.1km s-min=5.4km az=16.9*

JMA ***12*** *17:44:23.0±0.2, 37°.77N × 143°.50E, h52km, M3.1*

ISC 12 17:44:23.9±1.3, 37°.75N±0°.05 × 143°.54E±0°.09, h35km, n21, σ0s96/29, mb3.4/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.73**	**289**	P	**Pn**	**17 44 51.1**	**-0.4**
JIKH				*e*S	**Sn**	**17 45 11.3**	**-1.0**
JIO	**Ouri**	**1.87**	**293**	P	**Pn**	**17 44 52.9**	**-0.4**
JIO				*e*S	**Sn**	**17 45 15.0**	**-0.7**
JKMT	**Kesennumamotoy**	**1.94**	**304**	P	**Pn**	**17 44 53.8**	**-0.5**
JKMT				*e*S	**Sn**	**17 45 16.4**	**-1.1**
OFUJ	**Ofunato**	**1.98**	**313**	P	**Pn**	**17 44 54.2**	**-0.7**
JMK	**Ichinoseki**	**2.18**	**304**	P	**Pn**	**17 44 57.4**	**-0.3**
JOM	**Ohasama**	**2.46**	**315**	P	**Pn**	**17 45 01.3**	**-0.2**
JOM				*e*S	**Sn**	**17 45 30.1**	**-0.3**
JFT	**Otama**	**2.56**	**266**	P	**Pn**	**17 45 03.4**	**+0.6**
JFT				*e*S	**Sn**	**17 45 32.4**	**-0.3**
JYK	**Kaneyama**	**2.76**	**296**	P	**Pn**	**17 45 06.3**	**+0.7**
JANG	**Nango**	**3.06**	**330**	P	**Pn**	**17 45 10.5**	**+0.8**
JAG	**Ashikaga**	**3.53**	**249**	P	**Pn**	**17 45 16.5**	**+0.3**
JAG				*e*S	**Sn**	**17 45 57.1**	**+0.4**
BSO1	**Boso 1**	**3.72**	**215**	P	**Pn**	**17 45 18.0**	**-0.4**
JRY	**Ryogami san**	**4.10**	**246**	P	**Pn**	**17 45 24.7**	**+0.6**
JRY				*e*S	**Sn**	**17 46 09.5**	**-1.4**
MJAR	**Matsushiro Arr**	**4.43**	**256**	Pn	**Pn**	**17 45 30.4**	**+1.9**
	2.2nm,0.3s,baz=91,slow=15,SNR=35						
MJAR				Sn	**Sn**	**17 46 19.5**	**+0.5**
	0.1nm,0.3s,baz=342,slow=15,SNR=2.5						
JCH	**Churui**	**4.86**	**358**	P	**Pn**	**17 45 33.4**	**-1.0**
JHJ	**Hachijo jima 2**	**5.55**	**215**	Pn	**Pn**	**17 45 44.3**	**+0.4**
	6.5nm,0.3s,baz=131,slow=22,SNR=6.4						
JHJ				Sn	**Sn**	**17 46 43.4**	**-3.1**
	4.1nm,0.3s,baz=72,slow=20,SNR=2.4						
ASAJ	**Asahikawa**	**6.40**	**354**	Pn	**Pn**	**17 45 55.9**	**+0.3**
	0.6nm,0.3s,baz=198,slow=18,SNR=8.6						
ASAJ				Sn	**Sn**	**17 47 08.1**	**+0.7**
	0.0nm,0.3s,baz=253,slow=20,SNR=2.4						
SONM	**Songino Array**	**28.81**	**302**	P	**P**	**17 50 19.1**	**+0.4**
	0.1nm,0.3s,baz=108,slow=9.3,SNR=3.8						
MKAR	**Makanchi Array**	**45.18**	**302**	P	P	17 52 41.0	+3.9
	0.3nm,0.7s,baz=78,slow=9.6,SNR=3.5						
AAK	**Ala-Archa**	**51.64**	**298**	LR	LR	18 16 22.4	
	comp=Z,202nm,20.7s,baz=92,slow=37						
WRA	**Warramunga Arr**	**58.04**	**190**	P	**P**	**17 54 13.5**	**+0.1**
	0.4nm,0.7s,baz=7.2,slow=7.6,SNR=4.7						
ASAR	**Alice Springs**	**61.76**	**190**	P	**P**	**17 54 39.1**	**+0.1**
	0.3nm,0.8s,baz=3.7,slow=6.3,SNR=2.9						

ISCJB ***12*** *17:50:58.9±0.6, 38°.73N±0°.04 × 43°.12E±0°.05, h8km±8km, Error ellipse: s-maj=7.1km s-min=5.6km az=142.1*

DDA ***12*** *17:50:58.8, 38°.69N × 43°.19E, h7km±2km, ML2.5*

ISK ***12*** *17:50:58.4, 38°.70N × 43°.17E, h7km, ML2.3/7*

ISC 12 17:50:59.1±1.2, 38°.71N±0°.03 × 43°.17E±0°.04, h18km±5km, n15, σ0s72/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.20**	**123**	PG	**Pg**	**17 51 03.9**	**-0.3**
VANB				SG	**Sg**	**17 51 08.4**	**+0.8**
TVAN	**Van**	**0.25**	**134**	*i* P	**Pg**	**17 51 04.9**	**-0.1**
ERCV	**ERCIS-VAN**	**0.34**	**22**	PG	**Pg**	**17 51 05.5**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.36**	**286**	IAML_P			
	comp=Z,840nm,0.1s						
ADCV				*i* P	**Pb**	**17 51 07.0**	**-0.2**
GEVA	**Gevas**	**0.40**	**193**	IAML_P			
	comp=Z,3μm,0.2s						
GEVA				*i* P	**Pb**	**17 51 07.7**	**-0.2**
AKDM	**Akdamar-Van**	**0.41**	**202**	PG	**Pg**	**17 51 06.8**	**-0.8**
VMUR	**Van-Muradiye**	**0.42**	**48**	*i* P	**Pb**	**17 51 07.8**	**-0.3**
VMUR				*i* S	**Sb**	**17 51 14.2**	**-0.1**
MLAZ	**Malazgirt-MUS**	**0.65**	**312**	PG	**Pb**	**17 51 12.1**	**0.0**
CLDR	**Caldiran**	**0.73**	**53**	PG	**Pg**	**17 51 12.7**	**-0.7**
CLDR				SG	**Sb**	**17 51 23.7**	**+0.6**
CLDR	**Caldiran**	**0.73**	**53**	IAML_P			
	comp=Z,646nm,0.1s						
CLDR				*i* P	**Pg**	**17 51 12.2**	**-1.2**
CLDR				*i* S	**Sb**	**17 51 23.9**	**+0.8**
TUTA	**Tutak**	**0.75**	**338**	*i* P	**Pg**	**17 51 13.6**	**-0.3**
AGRB	**Hanur-Agry**	**0.88**	**351**	PG	**Pg**	**17 51 15.7**	**-0.6**
GURO	**Guroymak-BITLI**	**0.91**	**261**	PG	**Pg**	**17 51 16.1**	**-0.7**
EATA	**Eleskirt**	**1.27**	**336**	IAML_P			
	comp=Z,363nm,0.2s						
EATA				*i* P	**Pb**	**17 51 23.9**	**+1.2**
SIRT	**Sirnak**	**1.33**	**206**	PN	**Pb**	**17 51 23.9**	**+0.2**

ISK ***12*** *17:53:33.4, 42°.35N × 40°.94E, h10km, ML3.0/5*

NORS ***12*** *17:53:35.9±0.0, 42°.53N × 41°.35E, h6km, MPVA3.6*

MOS ***12*** *17:53:36.9±0.0, 42°.58N × 41°.08E, h10km, MPVA4.1*

DDA ***12*** *17:53:53.4, 41°.33N × 41°.67E, h9km±1km, ML2.3*

ISC 12 17:53:34.8±1.2, 42°.40N±0°.03 × 41°.04E±0°.03, h23km±18km, n24, σ0s88/38, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATM	**Batumi**	**0.93**	**148**	PG	**Pn**	**17 53 51.6**	**-0.9**
DOMR	**Dombai**	**0.99**	**25**	*i* Pg	**Pn**	**17 53 53.0**	**-0.6**
DOMR				*i* Sg	**Sb**	**17 54 05.3**	**-0.9**
BCA	**Borcka**	**1.04**	**155**	PG	**Pn**	**17 53 53.6**	**-0.5**
BCA				SG	**Sn**	**17 54 08.5**	**+0.5**
DBOC	**Borcka**	**1.15**	**156**	IAML_P			
	comp=Z,11μm,0.2s						
DBOC				*i* P	**Pb**	**17 53 55.6**	**-0.5**
DBOC				*i* S	**Sb**	**17 54 11.3**	**+0.8**
CHOM	**Cayeli-Rize**	**1.31**	**189**	PN	**Pn**	**17 53 57.6**	**-0.2**
CHOM				SN	**Sb**	**17 54 15.0**	**-0.2**
ARTV	**Artvin**	**1.38**	**151**	IAML_P			
	comp=Z,5μm,0.2s						
RPOR	**Krasnaya Polya**	**1.42**	**337**	*i* Pg	**Pb**	**17 54 00.3**	**-0.4**
RPOR				*i* Sg	**Sb**	**17 54 18.3**	**-0.1**
DBAD	**Bademkaya**	**1.46**	**160**	IAML_P			
	comp=Z,3μm,0.1s						
DBAD				*i* P	**Pb**	**17 54 01.0**	**-0.4**
DAGI	**Agillar**	**1.47**	**153**	IAML_P			
	comp=Z,1μm,0.1s						
DAGI				*i* P	**Pn**	**17 54 00.1**	**0.0**
DAGI				*i* S	**Sb**	**17 54 19.8**	**0.0**
NEY	**Neytrino**	**1.50**	**55**	*e*Pg	**Pb**	**17 54 01.5**	**-0.6**
NEY				*e*Sg	**Sb**	**17 54 20.5**	**-0.3**
SOC	**Sochi**	**1.53**	**321**	*e*Pg	**Pb**	**17 54 02.9**	**+0.3**
SOC				*i* Sg	**Sb**	**17 54 22.6**	**+1.1**
KTUT	**Trabzon**	**1.70**	**215**	PN	**Pn**	**17 54 02.6**	**-0.5**
SHA1	**Shidzhatmaz**	**1.79**	**41**	*i* Pg	**Pb**	**17 54 07.0**	**-0.1**
SHA1				*i* Sg	**Sb**	**17 54 29.4**	**+0.2**
DIGR	**Digorskoe uzhe**	**1.94**	**74**	*e*Pg	**Pb**	**17 54 08.9**	**-0.8**
DIGR				*e*Sg	**Sb**	**17 54 33.5**	**+0.1**
LZRR	**Lazarevskoye**	**1.96**	**322**	*e*Pg	**Pb**	**17 54 10.7**	**+0.9**
LZRR				*e*Sg	**Sb**	**17 54 34.5**	**+0.6**
BAYT	**Aydıntepe-Bayb**	**2.11**	**199**	PN	**Pn**	**17 54 09.1**	**+0.2**
ZEI	**Tsey**	**2.15**	**79**	*e*Pg	**Pb**	**17 54 12.1**	**-1.1**
ZEI				*e*Sg	**Sb**	**17 54 40.5**	**+1.0**
BGD	**Bogdanovka**	**2.22**	**120**	P	**Sb**	**17 54 42.4**	**+0.9**
ESPY	**Espiye-Giresun**	**2.28**	**230**	PN	**Pn**	**17 54 10.8**	**-0.3**
KORR	**Kora**	**2.33**	**72**	*e*Pg	**Pb**	**17 54 16.4**	**+0.2**
KORR				*e*Sg	**Sb**	**17 54 44.6**	**0.0**
TRLG	**Trialeti**	**2.44**	**110**	P	**Pb**	**17 54 17.7**	**-0.4**
TRLG				S	**Sb**	**17 54 49.7**	**+2.0**
LACR	**Lac**	**2.44**	**79**	*e*Pg	**Pb**	**17 54 17.5**	**-0.6**
LACR				*e*Sg	**Sb**	**17 54 48.3**	**+0.5**
GUDG	**Gudauri**	**2.54**	**87**	P	**Sb**	**17 54 53.9**	**+3.0**
LGD	**Lagodekhi**	**3.91**	**96**	P	**Pn**	**17 54 34.9**	**+1.4**

IDC 12 17:55:32.8±1.6, 2°.97S × 129°.85E, h0km, mb3.4/2, mb1 3.8/5, mb1mx3.5/29, mbtmp3.6/5, ML3.4/3, Error ellipse: s-maj=46.2km s-min=21.4km az=99.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**2.52**	**34**	Pn	Pn	17 56 15.9	+0.8
	5.6nm,0.3s,baz=42,slow=20,SNR=30						
SIJI				Sn	Sn	17 56 46.0	-0.4
	6.8nm,0.3s,baz=240,slow=23,SNR=12						
FITZ	**Fitzroy Crossi**	**15.59**	**195**	Pn	Pn	17 59 13.2	-1.0
	0.1nm,0.3s,baz=23,slow=13,SNR=3.5						
WRA	**Warramunga Arr**	**17.43**	**166**	P	Pn	17 59 37.0	-0.7
	0.2nm,0.3s,baz=350,slow=12,SNR=15						
ASAR	**Alice Springs**	**20.95**	**170**	P	P	18 00 17.8	+0.3
	2.2nm,0.6s,baz=350,slow=12,SNR=42						
MKAR	**Makanchi Array**	**64.81**	**326**	P	P	18 06 13.5	0.0
	0.3nm,0.9s,baz=114,slow=6.5,SNR=2.0						

IDC ***12*** *17:58:12.4±1.2, 3°.01S × 129°.81E, h0km, mb3.7/3, mb1 3.9/6, mb1mx3.6/38, mbtmp3.8/6, ML3.2/3, Error ellipse: s-maj=37.7km s-min=20.5km az=92.0*

DJA ***12*** *17:58:15.9±0.3, 3°.3S × 13°.0E, h10km, M3.5/4, MLv3.5/4*

ISC 12 17:58:14.9±0.8, 2°.87S±0°.05 × 130°.0E±0°.1, h25km, n10, σ1s90/14, mb4.0/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.65**	**183**	P	**Pb**	**17 58 45.2**	**+0.6**
BNDI				S	**Sb**	**17 59 07.9**	**+2.9**
SIJI	**Sorong**	**2.36**	**33**	Pn	**Pb**	**17 58 55.9**	**-0.9**
	11nm,0.3s,baz=217,slow=18,SNR=19						
SIJI				Sn	**Sb**	**17 59 26.6**	**+1.1**
	7.1nm,0.3s,baz=19,slow=24,SNR=6.6						
SWI	**Sorong**	**2.36**	**33**	P	**Pb**	**17 58 57.0**	**+0.2**
SWI				S	**Sb**	**17 59 27.7**	**+2.1**
NLAI	**Namlea**	**2.91**	**263**	P	**Pn**	**17 58 59.3**	**-0.4**
SANI	**Sanana**	**4.08**	**281**	P	**Pn**	**17 59 14.6**	**-1.2**
FITZ	**Fitzroy Crossi**	**15.73**	**195**	Pn	**Pn**	**18 01 53.3**	**-1.7**
	0.0nm,0.3s,baz=25,slow=12,SNR=1.6						
WRA	**Warramunga Arr**	**17.50**	**166**	P	**Pn**	**18 02 15.2**	**-2.2**
	0.1nm,0.3s,baz=347,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**21.02**	**170**	P	**P**	**18 02 57.3**	**+0.3**
	5.0nm,0.7s,baz=351,slow=10,SNR=32						
ASAR				S	**S**	**18 06 46.9**	**-3.2**
	0.6nm,1.0s,baz=353,slow=23,SNR=4.0						
MKAR	**Makanchi Array**	**64.80**	**326**	P	**P**	**18 08 52.8**	**+1.2**
	0.1nm,0.4s,baz=111,slow=6.8,SNR=4.5						
KURBB	**Kurchatov Arra**	**69.02**	**328**	P	**P**	**18 09 20.2**	**+1.9**
	0.8nm,0.5s,baz=128,slow=5.9,SNR=11						

NIED ***12*** *18:05:00.24°.40N × 127°.20E, h5km, Mw3.9 Best double couple: M0 8.81000×10^14 NP1:φ=234.00000°, δ=39.00000°, λ=-66.00000°. NP2:φ=24.00000°, δ=55.00000°, λ=-108.00000°.*

IDC ***12*** *18:05:09.2±0.8, 24°.32N × 127°.23E, h0km, mb3.8/12, mb1 4.0/15, mb1mx3.8/46, mbtmp3.9/15, ML3.8/3, Error ellipse: s-maj=28.1km s-min=16.7km az=81.0*

ISCJB ***12*** *18:05:10.7±1.2, 24°.38N±0°.03 × 127°.21E±0°.03, h22km±9km, mb4.3/27, Error ellipse: s-maj=5.4km s-min=3.5km az=146.6*

NEIC ***12*** *18:05:10.7±0.2, 24°.31N × 127°.18E, h10km, mb4.7/14, Error ellipse: s-maj=5.3km s-min=4.2km az=134.0*

JMA ***12*** *18:05:13.1±0.3, 24°.44N × 127°.18E, h72km, M3.7*

ISC 12 18:05:11.1±3.2, 24°.33N±0°.05 × 127°.24E±0°.04, h14km±20km, n85, σ1s98/108, mb4.2/35, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**1.72**	**285**	P	**Pb**	**18 05 40.9**	**-1.6**
JOGS				*e*S	**Sn**	**18 06 00.8**	**-1.6**
JMJ	**Miyako jima 2**	**1.84**	**286**	P	**Pn**	**18 05 42.3**	**+0.2**
JMJ				*e*S	**Sn**	**18 06 03.4**	**-1.8**
JJT3	**Tamagusuku3**	**1.87**	**15**	P	**Pn**	**18 05 42.4**	**-0.2**
JJT3				*e*S	**Sn**	**18 06 04.2**	**-1.8**
JIKM	**Ikemajima**	**1.91**	**288**	P	**Pn**	**18 05 43.2**	**+0.1**
JIKM				*e*S	**Sn**	**18 06 05.0**	**-1.7**
JIRB	**Irabujima**	**1.95**	**285**	P	**Pn**	**18 05 43.5**	**-0.2**
JIRB				S	**Sn**	**18 06 05.6**	**-2.3**
JKE	**Kume jima 2**	**2.03**	**348**	P	**Pn**	**18 05 44.8**	**0.0**
JKE				*e*S	**Sn**	**18 06 07.3**	**-2.6**
JAGN	**Aguni-jima**	**2.25**	**0**	P	**Pn**	**18 05 48.1**	**+0.3**
JAGN				*e*S	**Sn**	**18 06 12.5**	**-2.8**
JNTH	**Nagotoyohara**	**2.29**	**18**	P	**Pn**	**18 05 47.5**	**-0.9**
JNTH				*e*S	**Sn**	**18 06 12.9**	**-3.5**
JTJ	**Tarama**	**2.33**	**278**	P	**Pn**	**18 05 48.7**	**-0.3**
JTJ				S	**Sn**	**18 06 14.6**	**-2.8**
JOW	**Kunigami**	**2.66**	**20**	Pn	**Pn**	**18 05 54.0**	**+0.5**
	47nm,0.3s,baz=114,slow=26,SNR=201						
JOW				Sn	**Sn**	**18 06 21.4**	**-4.2**
	69nm,0.3s,baz=127,slow=23,SNR=21						
JOW	**Kunigami**	**2.66**	**20**	*e*Pn	**Pn**	**18 05 53.1**	**-0.4**
JOW				*e*Sn	**Sn**	**18 06 22.6**	**-3.0**
JOW	**Kunigami**	**2.66**	**20**	P	**Pn**	**18 05 53.0**	**-0.5**
JOW				S	**Sn**	**18 06 22.4**	**-3.1**
JISG	**Ishigakijimahi**	**2.68**	**276**	P	**Pn**	**18 05 53.3**	**-0.5**
JISG				*e*S	**Sn**	**18 06 22.6**	**-3.4**
JIH	**Iheya**	**2.77**	**14**	P	**Pn**	**18 05 55.8**	**+0.8**
JI

DZM	**Mont Dzumac**	**59.83**	**137**	*e*P	**P**	**18**	**15**	**17.3 +1.0**
	54nm,1.8s							
FIA0	**FINESS Array S**	**74.07**	**331**	*e*P	**P**	**18**	**16**	**47.4 +1.1**
FINES	**FINESS Array B**	**74.07**	**331**	P	**P**	**18**	**16**	**47.4 +1.1**
	1.8nm,0.7s,baz=138,slow=30,SNR=7.3							
BR101	**Keskin Array S**	**77.49**	**308**	*e*P	**P**	**18**	**17**	**07.4 +0.9**
BRTR	**Keskin Array B**	**77.49**	**308**	P	**P**	**18**	**17**	**07.4 +0.9**
	0.7nm,0.8s,baz=74,slow=9.1,SNR=3.8							
NB2	**NORSAR Subarra**	**80.61**	**334**	P	**P**	**18**	**17**	**23.8 +0.7**
	comp=Z,1.3nm,0.9s,baz=54,slow=6.2							
NB200	**NORSAR Array S**	**80.61**	**334**	*e*P	**P**	**18**	**17**	**23.7 +0.6**
NOA	**NORSAR Array B**	**80.61**	**334**	P	**P**	**18**	**17**	**23.7 +0.6**
	comp=Z,0.6nm,0.7s,baz=55,slow=5.0,SNR=3.8							
YKA	**Yellowknife Ar**	**80.62**	**25**	P	**P**	**18**	**17**	**23.2 +0.2**
	comp=Z,0.1nm,0.7s,baz=299,slow=4.8,SNR=4.0							
GERES	**GERESS Array B**	**86.16**	**323**	P	**P**	**18**	**17**	**52.6 +0.6**
	comp=Z,0.6nm,0.7s,baz=46,slow=5.8,SNR=5.9							

IDC ***12*** *18:35:50.6±1.4, 6.6°S × 155.5°E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/30, mbtmp3.6/7, ML1.7/1, Error ellipse: s-maj=45.2km s-min=25.1km az=130.0*

ISCJB ***12*** *18:35:55.0±1.3, 6.6°S±0.2° × 155.1°E±0.2°, h33km, mb3.4/6, Error ellipse: s-maj=37.7km s-min=12.1km az=145.9*

ISC 12 18:35:56.1±1.3, 6.7°S±0.3° × 155.3°E±0.2°, h35km, n8, σ0.985/11, mb3.3/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.48**	**251**	Pn	**Pn**	**18 37 57.1**	**+0.5**
	0.5nm,0.3s,baz=78,slow=6.0,SNR=3.5						
PMG				Sn	**Sn**	**18 39 31.0**	**-0.1**
	0.2nm,0.3s,baz=207,slow=20,SNR=1.7						
WRA	**Warramunga Arr**	**24.23**	**235**	P	**P**	**18 41 09.9**	**0.0**
	0.6nm,0.7s,baz=57,slow=9.9,SNR=9.5						
WRA				PcP	**PcP**	**18 44 50.5**	**+0.6**
	0.5nm,0.6s,baz=60,slow=2.5,SNR=8.4						
ASAR	**Alice Springs**	**26.60**	**228**	P	**P**	**18 41 30.9**	**-0.5**
	0.2nm,0.5s,baz=57,slow=9.0,SNR=10						
ASAR				PcP	**PcP**	**18 44 55.3**	**+0.1**
	0.4nm,0.8s,baz=71,slow=2.5,SNR=3.5						
CMAR	**Chiang Mai Arr**	**60.88**	**295**	P	**P**	**18 46 06.3**	**+0.6**
	1.3nm,0.7s,baz=121,slow=5.4,SNR=14						
SONM	**Songino Array**	**69.20**	**327**	P	**P**	**18 46 59.2**	**-0.2**
	0.1nm,0.5s,baz=129,slow=5.4,SNR=2.2						
MKAR	**Makanchi Array**	**83.33**	**319**	P	**P**	**18 48 18.7**	**-0.9**
	0.2nm,0.7s,baz=96,slow=4.3,SNR=3.2						
YKA	**Yellowknife Ar**	**95.91**	**28**	P	**P**	**18 49 20.0**	**+1.0**
	0.3nm,0.6s,baz=264,slow=4.6,SNR=4.7						
TORD	**Torodi Ar. Bea**	**153.19**	**286**	PKPbc	**PKPbc**	**18 55 49.7**	**-1.6**
	0.2nm,0.4s,baz=116,slow=3.0,SNR=3.8						

ISCJB ***12*** *19:13:23.6±0.5, 43.78°N±0.03° × 105.23°W±0.06, h0km, mb3.6/1, Error ellipse: s-maj=6.1km s-min=4.4km az=170.1*

ANF ***12*** *19:13:24.7±0.4, 43.79°N × 105.28°W, ML3.5/9, Error ellipse: s-maj=6.8km s-min=5.2km az=130.0*

NEIC ***12*** *19:13:24.7±0.3, 43.80°N × 105.19°W, h0km, ML3.4, Error ellipse: s-maj=3.8km s-min=3.5km az=79.0, Suspected Mining explosion.*

NEIC 60 km [37 miles] SSE of Gillette.

IDC ***12*** *19:13:24.1±1.3, 43.75°N × 105.36°W, h0km, mb3.6/1, mb1 3.5/6, mb1mx3.3/41, mbtmp3.3/6, ML3.3/5, Error ellipse: s-maj=29.2km s-min=8.4km az=146.0*

ISC 12 19:13:24.2±0.9, 43.80°N±0.05° × 105.21°W±0.07°, h0km, n55, σ0.986/55, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.91**	**69**	*e*Pg	**Pb**	**19 13 42.6**	**-0.4**
RSSD	**Black Hills**	**0.91**	**69**	P	**Pb**	**19 13 43.2**	**+0.1**
	baz=249						
K22A	**Casper**	**1.49**	**220**	*e*Pn	**Pn**	**19 13 50.7**	**-1.8**
K22A	**Casper**	**1.49**	**220**	P	**Pn**	**19 13 50.9**	**-1.6**
	baz=40						
PHWY	**Pilot Hill**	**2.50**	**184**	*e*Pn	**Pn**	**19 14 06.7**	**+0.2**
RWWY	**Rawlins**	**2.57**	**216**	*e*Pn	**Pn**	**19 14 08.4**	**+1.1**
N23A	**Red Feather La**	**2.95**	**191**	*e*Pn	**Pn**	**19 14 13.2**	**+0.6**
N23A	**Red Feather La**	**2.95**	**191**	P	**Pn**	**19 14 13.4**	**+0.8**
	baz=11						
LAO	**LASA Array**	**2.98**	**346**	*e*Pn	**Pn**	**19 14 13.3**	**+0.5**
LAO	**LASA Array**	**2.98**	**346**	P	**Pn**	**19 14 13.3**	**+0.5**
	baz=166						
LAO				Sb	**Sb**	**19 14 56.2**	**+1.0**
	baz=166						
RLMT	**Red Lodge**	**3.19**	**296**	*e*Pn	**Pn**	**19 14 16.1**	**+0.2**
RLMT	**Red Lodge**	**3.19**	**296**	P	**Pn**	**19 14 16.2**	**+0.3**
	baz=113						
BW06	**Boulder Array**	**3.34**	**254**	*e*Pn	**Pn**	**19 14 18.0**	**+0.1**
BW06	**Boulder Array**	**3.34**	**254**	P	**Pn**	**19 14 18.1**	**+0.1**
	baz=70						
PD31	**Pinedale Array**	**3.34**	**254**	*e*Pn	**Pn**	**19 14 18.2**	**+0.3**
PDAR	**Pinedale Array**	**3.34**	**254**	Pn	**Pn**	**19 14 18.1**	**+0.3**
	4.3nm,0.3s,baz=78,slow=14,SNR=74						
PDAR				Lg	Lg	19 15 04.1	
	20nm,0.3s,baz=76,slow=29,SNR=13						
OGNE	**Ogallala**	**3.69**	**139**	*e*Pn	**Pn**	**19 14 23.8**	**+1.1**
GCMT	**Greycliff**	**3.75**	**304**	*e*Pn	**Pn**	**19 14 24.0**	**+0.6**
LKWY	**Lake**	**3.81**	**283**	*e*Pn	**Pn**	**19 14 25.5**	**+1.1**
H17A	**Grant Village**	**3.91**	**281**	*e*Pn	**Pn**	**19 14 27.1**	**+1.3**
H17A	**Grant Village**	**3.91**	**281**	P	**Pn**	**19 14 27.0**	**+1.2**
	baz=97						
LOHW	**Long Hollow**	**3.92**	**269**	*e*Pn	**Pn**	**19 14 27.0**	**+1.2**
FLWY	**Flagg Ranch**	**3.98**	**276**	*e*Pn	**Pn**	**19 14 27.2**	**+0.6**
ISCO	**Idaho Springs**	**4.00**	**184**	*e*Pn	**Pn**	**19 14 27.8**	**+0.7**
ISCO	**Idaho Springs**	**4.00**	**184**	P	**Pn**	**19 14 28.3**	**+1.1**
	baz=4.3						
MOOW	**Moose Ponds**	**4.01**	**271**	*e*Pn	**Pn**	**19 14 27.6**	**+0.5**
SNOW	**Snow King Moun**	**4.04**	**267**	*e*Pn	**Pn**	**19 14 28.8**	**+1.3**
YPP	**Pitchstone Pla**	**4.06**	**279**	*e*Pn	**Pn**	**19 14 28.5**	**+0.6**
REDW	**Red Top Meadow**	**4.12**	**266**	*e*Pn	**Pn**	**19 14 29.5**	**+0.9**
TPAW	**Teton Pass**	**4.18**	**268**	*e*Pn	**Pn**	**19 14 30.3**	**+0.8**
YMR	**Madison River**	**4.23**	**284**	*e*Pn	**Pn**	**19 14 29.3**	**-0.8**
O20A	**White River Ci**	**4.30**	**213**	*e*Pn	**Pn**	**19 14 31.8**	**+0.7**
O20A	**White River Ci**	**4.30**	**213**	P	**Pn**	**19 14 32.1**	**+1.0**
	baz=31						
KSCO	**Kaye Shedlock'**	**5.16**	**157**	*e*Pn	**Pn**	**19 14 43.0**	**+0.2**
EGMT	**Eagleton**	**5.29**	**325**	*e*Pn	**Pn**	**19 14 44.5**	**0.0**
HRY	**Holter Researc**	**5.51**	**304**	*e*Pn	**Pn**	**19 14 47.9**	**+0.2**
LRM	**Limekiln Ridge**	**5.54**	**294**	*e*Pn	**Pn**	**19 14 49.0**	**+0.9**
HVU	**Hansel Valley**	**5.92**	**253**	*e*Pn	**Pn**	**19 14 52.8**	**-0.5**
P17A	**Butcher Ranch,**	**5.98**	**226**	*e*Pn	**Pn**	**19 14 55.3**	**+1.1**
SDCO	**Great Sand Dun**	**6.05**	**182**	*e*Pn	**Pn**	**19 14 55.5**	**+0.3**
PV09	**Paradox Valley**	**6.06**	**211**	*e*Pn	**Pn**	**19 14 55.8**	**+0.4**
MPU	**Maple Canyon**	**6.10**	**234**	*e*Pn	**Pn**	**19 14 56.7**	**+0.9**
PV12	**Saucer Basin,**	**6.11**	**208**	*e*Pn	**Pn**	**19 14 56.9**	**+1.0**
SRU	**San Rafael Swe**	**6.15**	**222**	*e*Pn	**Pn**	**19 14 57.4**	**+0.8**
TMUT	**Trail Mountain**	**6.36**	**227**	*e*Pn	**Pn**	**19 15 00.1**	**+0.6**
BGU	**Big Grassy Mou**	**6.46**	**246**	*e*Pn	**Pn**	**19 15 00.9**	**+0.2**
Q16A	**Castle Valley**	**6.62**	**225**	*e*Pn	**Pn**	**19 15 03.1**	**+0.1**
DUG	**Dugway, Tooele**	**6.71**	**240**	*e*Pn	**Pn**	**19 15 04.3**	**+0.2**
MSU	**Marysvale**	**7.45**	**227**	*e*Pn	**Pn**	**19 15 14.9**	**+0.6**
ELK	**Elko**	**8.04**	**251**	Pn	**Pn**	**19 15 23.9**	**+1.5**
	0.5nm,0.3s,baz=69,slow=13,SNR=8.6						
I10CA	**LAC DU BONNET**	**8.96**	**41**	*i*		20 08 00.0	
	baz=224,slow=329,SNR=0.6						
ULM	**Lac du Bonnet**	**9.07**	**41**	Pn	**Pn**	**19 15 35.6**	**-0.7**
	0.8nm,0.3s,baz=228,slow=12,SNR=8.3						
ULM				Pg		19 16 11.5	
	1.0nm,0.3s,baz=216,slow=12,SNR=5.6						
ULM				Lg	Lg	19 18 05.7	
	0.4nm,0.3s,baz=131,slow=20,SNR=2.4						
NVAR	**Mina Array Bea**	**11.23**	**246**	Pn	**Pn**	**19 16 08.1**	**+1.8**
	0.3nm,0.3s,baz=49,slow=14,SNR=6.5						
YKA	**Yellowknife Ar**	**19.52**	**347**	P	**Pn**	**19 17 54.0**	**0.0**
	0.1nm,0.3s,baz=152,slow=12,SNR=6.3						
YKA				Lg	Lg	19 23 31.0	
	0.0nm,0.3s,baz=153,slow=28,SNR=2.7						
MKAR	**Makanchi Array**	**89.55**	**355**	P	**P**	**19 26 22.2**	**-1.2**
	0.3nm,0.7s,baz=5.4,slow=4.6,SNR=3.6						

JMA ***12*** *19:21:21.4±0.2, 23.29°N × 122.46°E, h33km*

TAP ***12*** *19:21:21.6, 23.31°N × 122.47°E, h43km± 1km, ML3.1, D*

ISC 12 19:21:18.0±1.2, 23.31°N±0.03° × 122.48°E±0.02°, h16km±10km, n51, σ0.962/90, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.99**	**281**	*e*P	**Pg**	**19 21 37.7**	**+0.5**
	baz=281						
HGSD				*e*S	**Sb**	**19 21 49.7**	**+0.1**
	baz=281						
EHY	**Hungye**	**1.08**	**281**	*e*P	**Pg**	**19 21 39.5**	**+0.5**
	baz=281						
ESL	**Shilin**	**1.09**	**298**	P	**Pg**	**19 21 39.1**	**0.0**
	baz=298						
ESL				S	**Sb**	**19 21 52.1**	**-0.4**
	baz=298						
TWF1	**Yuli**	**1.09**	**273**	P	**Pg**	**19 21 39.5**	**+0.4**
	baz=266						
TWF1				S	**Sn**	**19 21 53.2**	**-0.3**
	baz=266						
YULB	**Yu-li**	**1.09**	**275**	*e*P	**Pg**	**19 21 39.7**	**+0.6**
	baz=275						
YULB				*e*S	**Sn**	**19 21 53.1**	**-0.4**
	baz=275						
FULB	**Fuli**	**1.10**	**265**	*e*P	**Pg**	**19 21 39.2**	**-0.1**
	baz=265						
FULB				*e*S	**Sb**	**19 21 52.5**	**-0.2**
	baz=265						
NACB	**Ninganchiao**	**1.19**	**317**	*e*P	**Pg**	**19 21 40.9**	**-0.1**
	baz=309						
NACB				*e*S	**Sb**	**19 21 54.1**	**-1.2**
	baz=309						
JYNG	**Yonagunijimaku**	**1.22**	**20**	P	**Pg**	**19 21 42.9**	**+1.3**
ENA	**Nanau**	**1.31**	**329**	*e*P	**Pg**	**19 21 43.4**	**+0.2**
	baz=320						
ENA				*e*S	**Sg**	**19 21 59.8**	**-0.5**
	baz=320						
VWDT	**VWDT**	**1.31**	**290**	*e*P	**Pg**	**19 21 43.3**	**+0.1**
	baz=297						
VWDT				*e*S	**Sn**	**19 21 57.7**	**-1.1**
	baz=297						
ELDTW	**Lidau**	**1.35**	**265**	P	**Pb**	**19 21 43.2**	**+0.2**
	baz=265						
ELDTW				S	**Sn**	**19 21 58.8**	**-1.3**
	baz=265						
TWGBT	**Beinan**	**1.38**	**250**	*e*P	**Pb**	**19 21 43.9**	**+0.5**
	baz=250						
TWGBT				*e*S	**Sn**	**19 22 00.1**	**-0.5**
	baz=250						
TWG	**Pinlang**	**1.39**	**250**	*e*P	**Pb**	**19 21 43.9**	**+0.4**
	baz=250						
TWG				*e*S	**Sn**	**19 22 00.2**	**-0.5**
	baz=250						
WHF	**Hehuan Shan**	**1.39**	**307**	P	**Pb**	**19 21 44.5**	**+0.6**
	baz=307						
WHF				*e*S	**Sb**	**19 22 01.7**	**0.0**
	baz=307						
CHGB	**Renai**	**1.42**	**302**	*e*P	**Pg**	**19 21 44.9**	**-0.4**
	baz=302						
CHGB				*e*S	**Sb**	**19 22 02.0**	**-0.1**
	baz=302						
HATJ	**Hateruma jima**	**1.43**	**58**	*e*S	**Sg**	**19 22 04.0**	**-0.1**
SSLB	**Suanglung**	**1.48**	**289**	*e*P	**Pb**	**19 21 45.0**	**-0.2**
	baz=289						
SSLB				*e*S	**Sn**	**19 22 02.8**	**-0.4**
	baz=289						
NNSB	**Datong**	**1.50**	**318**	*e*P	**Pg**	**19 21 46.5**	**-0.6**
	baz=308						
NNSB				*e*S	**Sb**	**19 22 04.2**	**-0.4**
	baz=308						
NNS	**Nan Shan**	**1.52**	**318**	*e*P	**Pb**	**19 21 46.6**	**+0.7**
	baz=309						
NNS				*e*S	**Sn**	**19 22 04.0**	**-0.1**
	baz=309						
IRIF	**Iriomote-Funau**	**1.54**	**48**	P	**Pg**	**19 21 47.9**	**+0.3**
TDCB	**Techi**	**1.54**	**308**	*e*P	**Pg**	**19 21 47.1**	**-0.5**
	baz=308						
TDCB				*e*S	**Sb**	**19 22 05.1**	**-0.4**
	baz=308						
SMLT	**Sun Moon Lake**	**1.56**	**292**	*e*P	**Pb**	**19 21 47.2**	**+0.5**
	baz=298						
SMLT				*e*S	**Sn**	**19 22 04.9**	**-0.3**
	baz=298						
ENTT	**Nioudou**	**1.57**	**328**	*e*P	**Pg**	**19 21 47.6**	**-0.7**
	baz=319						
ENTT				*e*S	**Sb**	**19 22 06.3**	**0.0**
	baz=319						
ECL	**Taimali**	**1.57**	**244**	*e*P	**Pb**	**19 21 46.3**	**-0.5**
	baz=255						
ECL				*e*S	**Sn**	**19 22 04.6**	**-0.8**
	baz=255						
STYT	**Tauyuan**	**1.59**	**265**	*e*P	**Pb**	**19 21 47.6**	**+0.5**
	baz=259						
TYC	**Yuchr**	**1.60**	**292**	*e*P	**Pg**	**19 21 48.5**	**-0.4**
	baz=300						
TYC				*e*S	**Sn**	**19 22 06.6**	**+0.5**
	baz=300						
JKRS	**Kuro-shima**	**1.68**	**56**	P	**Pg**	**19 21 50.0**	**-0.3**
JKRS				*e*S	**Sg**	**19 22 10.8**	**-1.4**
CHN5	**Tsauling**	**1.68**	**280**	P	**Pg**	**19 21 50.2**	**-0.2**
	baz=287						
CHN5				*e*S	**Sb**	**19 22 08.9**	**-0.7**
	baz=287						
YHNB	**Yeheng**	**1.69**	**324**	*e*P	**Pb**	**19 21 49.5**	**+0.6**
	baz=312						
YHNB				*e*S	**Sn**	**19 22 08.7**	**+0.3**
	baz=312						
TPUB	**Ta-pu**	**1.70**	**270**	*e*P	**Pg**	**19 21 50.2**	**-0.6**
	baz=266						
TPUB				*e*S	**Sb**	**19 22 10.6**	**+0.4**
	baz=266						
NSK	**Sanguang**	**1.71**	**323**	*e*P	**Pb**	**19 21 49.7**	**+0.6**
	baz=323						
WTP	**Ta-pu**	**1.72**	**268**	*e*P	**Pg**	**19 21 50.4**	**-0.7**
	baz=261						
WTP				*e*S	**Sb**	**19 22 11.7**	**+1.1**
	baz=261						
CHN4	**Tsaushan**	**1.74**	**272**	*e*P	**Pg**	**19 21 51.6**	**+0.2**
	baz=268						
CHN4				*e*S	**Sb**	**19 22 12.1**	**+1.0**
	baz=268						
WNT	**Mingjian**	**1.75**	**289**	*e*P	**Pg**	**19 21 51.0**	**-0.5**
	baz=289						
SGST	**Jiashian**	**1.76**	**263**	*e*P	**Pg**	**19 21 51.7**	**-0.2**
	baz=260						
SGST				*e*S	**Sb**	**19 22 11.4**	**-0.4**
	baz=260						
EAST	**Anshuo**	**1.76**	**239**	*e*P	**Pn**	**19 21 48.8**	**+0.8**
	baz=238						
TIPB	**Shuangxi**	**1.76**	**340**	*e*P	**Pb**	**19 21 50.9**	**+0.9**
	baz=352						
SSD	**Sandimen**	**1.79**	**252**	*e*P	**Pb**	**19 21 50.3**	**-0.2**
	baz=256						
SSD				*e*S	**Sn**	**19 22 10.6**	**-0.2**
	baz=256						
CHN1	**Nanshi**	**1.80**	**267**	*e*P	**Pg**	**19 21 53.1**	**+0.4**
	baz=262						
CHN1				*e*S	**Sb**	**19 22 13.8**	**+0.8**
	baz=262						
WGK	**Gukeng**	**1.80**	**283**	*e*S	**Sb**	**19 22 13.3**	**+0.3**
	baz=282						
TWK	**Hsinying**	**1.83**	**269**	*e*P	**Pb**	**19 21 51.0**	**-0.2**
	baz=269						
TWK				*e*S	**Sb**	**19 22 15.3**	**+1.4**
	baz=269						
MASBT	**Mashibuluo**	**1.84**	**248**	*e*P	**Pb**	**19 21 51.0**	**-0.3**
	baz=248						
MASBT				*e*S	**Sn**	**19 22 11.9**	**0.0**
	baz=248						
JIJ	**Ishigaki jima**	**1.85**	**55**	P	**Pb**	**19 21 52.1**	**+0.6**
JIJ				*e*S	**Sb**	**19 22 15.1**	**+0.7**
TWA	**Mucha**	**1.86**	**334**	*e*P	**Pg**	**19 21 52.9**	**-0.8**
	baz=333						
TWQ1	**Liyutan**	**1.88**	**304**	*e*P	**Pg**	**19 21 53.4**	**-0.8**
	baz=303						
TWQ1				*e*S	**Sb**	**19 22 15.4**	**+0.2**
	baz=303						
NSTT	**Nanjuang**	**1.89**	**315**	*e*P	**Pb**	**19 21 53.3**	**+1.1**
	baz=314						
NSTT				*e*S	**Sb**	**19 22 15.2**	**-0.4**
	baz=314						
LIOB	**Emei**	**1.89**	**315**	*e*P	**Pb**	**19 21 53.4**	**+1.1**
	baz=314						
LIOB				*e*S	**Sb**	**19 22 15.0**	**-0.7**
	baz=314						
WLTB	**Daxi**	**1.91**	**324**	*e*P	**Pg**	**19 21 54.0**	**-0.7**
	baz=323						
WLTB				*e*S	**Sb**	**19 22 15.7**	**-0.3**
	baz=323						
RLNB	**Erlin**	**2.03**	**287**	*e*P	**Pb**	**19 21 55.6**	**+1.0**
	baz=287						
RLNB				*e*S	**Sb**	**19 22 19.4**	**-0.2**
	baz=287						
JISG	**Ishigakijimahi**	**2.10**	**52**	P	**Pb**	**19 21 56.0**	**+0.2**
JISG				S	**Sb**	**19 22 21.1**	**-0.6**
JTJ	**Tarama**	**2.43**	**56**	*e*S	**Sb**	**19 22 29.8**	**-1.2**

NEIC ***12*** *19:24:32.1±0.0, 15.04°N × 94.01°W, h16km, MD4.1(MEX), After MEX.*

MEX 12 19:24:31.7±0.3, 15.07°N × 94.04°W, h15km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.01**	**51**	*e*Pg	Pb	19 24 47.4	-3.5
PCIG				*e*Sn	Sb	19 24 59.9	-4.1
PCIG		**1.01**	**51**	*e*P	Pb	19 24 47.5	-3.4
PCIG				*e*S	Sb	19 24 59.7	-4.3
TGIG		**1.91**	**27**	*e*Pn	Pn	19 25 00.8	-3.0
TGIG				*e*Sn	Sb	19 25 29.6	-0.5
TGIG		**1.91**	**27**	*e*P	Pn	19 25 00.8	-3.0
TGIG				*i* S	Sn	19 25 23.2	-4.5
CCIG	**Comitan**	**2.19**	**56**	*e*Pn	Pn	19 25 07.7	-0.1
CCIG				*e*Sn	Sn	19 25 34.8	0.0
CCIG	**Comitan**	**2.19**	**56**	*e*P	Pn	19 25 04.7	-3.1
CCIG				*i* S	Sn	19 25 30.1	-4.6
TEIG	**Tepich**	**7.51**	**46**	*e*Pn	Pn	19 26 18.9	-1.9
MOIG	**Morelia**	**8.22**	**305**	*e*Pn	Pn	19 26 29.4	-1.4

WEL 12 19:25:00.1, 40°S±1°× 175.7°E±1°, 0, h48km±5km, ML3.9/34, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSZ	**Takapari Road**	**0.21**	**106**	P	Pn	19 25 08.2	-0.1
TSZ				S	Sn	19 25 14.5	+0.4
OHWZ	**Ohakea**	**0.36**	**235**	P	Pn	19 25 10.0	+0.5
OHWZ				S	Sn	19 25 18.3	+2.0
POWZ	**Post Office Ro**	**0.40**	**172**	P	Pn	19 25 10.0	+0.1
DVHZ	**Dannevirke**	**0.47**	**130**	P	Pn	19 25 11.2	+0.4
DVHZ				S	Sn	19 25 20.1	+1.7
WPHZ	**Waipukurau**	**0.57**	**97**	P	Pn	19 25 12.6	+0.5
WPHZ				S	Sn	19 25 23.6	+2.8
BHHZ	**Black Hill Sta**	**0.58**	**29**	P	Pn	19 25 11.8	-0.5
PRWZ	**Pori Road**	**0.59**	**159**	P	Pn	19 25 12.9	+0.6
PRWZ				S	Sn	19 25 23.1	+1.9
MOVZ	**Moawhango**	**0.59**	**4**	P	Pn	19 25 11.8	-0.6
WAZ	**Wanganui**	**0.60**	**294**	P	Pn	19 25 12.7	+0.3
MTVZ	**Mangateitei**	**0.64**	**344**	P	Pn	19 25 13.0	0.0
MRZ	**Mangatainoka R**	**0.67**	**188**	P	Pn	19 25 13.4	+0.2
TRVZ	**Turoa**	**0.71**	**351**	P	Pn	19 25 14.0	-0.1
TRVZ				S	Sn	19 25 25.0	+0.8
WHVZ	**Whangaehu Hut**	**0.72**	**353**	P	Pn	19 25 14.2	-0.1
DRZ	**Dome Shelter**	**0.73**	**352**	P	Pn	19 25 14.6	+0.2
TUVZ	**Tukino**	**0.73**	**357**	P	Pn	19 25 14.3	0.0
ANWZ	**Angora Road**	**0.75**	**128**	P	Pn	19 25 15.1	+0.7
FWVZ	**Far West T-bar**	**0.75**	**351**	P	Pn	19 25 14.6	-0.1
PKVZ	**Pokaka**	**0.76**	**339**	P	Pn	19 25 14.6	0.0
PRHZ	**Porangahau**	**0.77**	**111**	P	Pn	19 25 14.9	+0.3
PRHZ				S	Sn	19 25 26.9	+1.7
TIWZ	**Tintock**	**0.79**	**169**	P	Pn	19 25 15.3	+0.4
BFZ	**Birch Farm**	**0.80**	**148**	P	Pn	19 25 15.3	+0.3
KWHZ	**Kaweka Forest**	**0.80**	**44**	P	Pn	19 25 15.8	+0.7
COVZ	**Chateau Observ**	**0.81**	**351**	P	Pn	19 25 15.4	+0.1
NGZ	**Ngauruhoe**	**0.83**	**355**	P	Pn	19 25 15.7	+0.1
WTVZ	**West Tongariro**	**0.89**	**355**	P	Pn	19 25 16.6	+0.3
PXZ	**Pawanui**	**0.90**	**92**	P	Pn	19 25 16.3	0.0
KRVZ	**Karewarewa**	**0.91**	**357**	P	Pn	19 25 16.8	+0.2
HOWZ	**Holdsworth Sta**	**0.91**	**189**	P	Pn	19 25 16.4	-0.1
OGWZ	**Otaki Gorge**	**0.91**	**206**	P	Pn	19 25 16.9	+0.4
OGWZ				S	Sn	19 25 29.9	+1.3
KAHZ	**Kahuranaki**	**0.93**	**78**	P	Pn	19 25 17.2	+0.4
TWVZ	**Taurewa**	**0.95**	**348**	P	Pn	19 25 17.0	-0.1
MCHZ	**McNeill Hill**	**0.95**	**55**	P	Pn	19 25 17.9	+0.8
CPWZ	**Castlepoint**	**0.99**	**157**	P	Pn	19 25 18.5	+1.0
KATZ	**Kakaramea**	**1.02**	**360**	P	Pn	19 25 18.7	+0.5
RITZ	**Rihia Road**	**1.03**	**7**	P	Pn	19 25 18.6	+0.4
BKZ	**Black Stump Fm**	**1.04**	**37**	P	Pn	19 25 18.8	+0.5
KIW	**Kapiti Island**	**1.05**	**215**	P	Pn	19 25 18.7	+0.3
TMWZ	**Te Maipa**	**1.11**	**172**	P	Pn	19 25 19.1	-0.2
CKHZ	**Cape Kidnapper**	**1.12**	**73**	P	Pn	19 25 19.5	+0.2
LREZ	**Lake Rotokare**	**1.13**	**298**	P	Pn	19 25 20.3	+0.8
RATZ	**Rangitukua**	**1.13**	**3**	P	Pn	19 25 19.7	+0.1
VRZ	**Vera Road**	**1.14**	**320**	P	Pn	19 25 19.9	+0.3
HATZ	**Hinemaiaia**	**1.15**	**16**	P	Pn	19 25 20.0	+0.2
MTW	**Mount Morrison**	**1.17**	**187**	P	Pn	19 25 19.6	-0.3
CAW	**Cannon Point**	**1.21**	**203**	P	Pn	19 25 20.3	-0.2
ARHZ	**Aropaoanui**	**1.25**	**54**	P	Pn	19 25 21.3	+0.2
NMHZ	**Naumai**	**1.25**	**44**	P	Pn	19 25 21.8	+0.7
WATZ	**Wairara**	**1.29**	**1**	P	Pn	19 25 21.6	-0.1
MRHZ	**Matea Rd**	**1.29**	**26**	P	Pn	19 25 21.8	0.0
WHTZ	**Whakaora**	**1.35**	**9**	P	Pn	19 25 22.9	+0.4
PREZ	**

THE ***12*** *19:36:45.3, 38°.85N×25°.93E, h6km±1km, ML3.0/5, Error ellipse: s-maj=1.6km s-min=0.6km az=76.0*

ISC 12 19:36:43.4±1.2, 38°.84N±0°.02×25°.89E±0°.02, h3km±11km, n87, σ098/107, 6C-5D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.38**	**356**	PG	**Pb**	**19 36 52.7**	**0.0**
SIGR				SG	**Sb**	**19 36 56.8**	**-2.2**
SIGR	**SIGRI**	**0.38**	**356**	P	**Pb**	**19 36 52.7**	**0.0**
SIGR				S	**Sb**	**19 36 58.1**	**-0.9**
SIGR				AML	AML	19 36 58.8	
	comp=N,4923µm,0.5s						
SIGR				AML	AML	19 37 00.9	
	comp=E,3717µm,0.4s						
SIGR	**SIGRI**	**0.38**	**356**	P	**Pb**	**19 36 52.7**	**0.0**
SIGR				S	**Sb**	**19 36 58.1**	**-0.9**
PSRA	**Psara**	**0.39**	**221**	P	**Pn**	**19 36 55.1**	**-0.8**
PSRA				S	**Sb**	**19 37 01.0**	**+1.7**
PSRA				AML	AML	19 37 01.7	
	comp=E,16863µm,0.2s						
PSRA				AML	AML	19 37 02.3	
	comp=N,13592µm,0.2s						
CHOS	**Chios island**	**0.47**	**164**	PG	**Pb**	**19 36 54.4**	**+0.2**
CHOS	**Chios island**	**0.47**	**164**	P	**Pb**	**19 36 54.5**	**+0.2**
CHOS				S	**Sb**	**19 37 00.9**	**-0.7**
CHOS				AML	AML	19 37 05.4	
	comp=N,3877µm,0.3s						
CHOS				AML	AML	19 37 07.8	
	comp=E,5175µm,0.3s						
CHOS	**Chios island**	**0.47**	**164**	P	**Pb**	**19 36 54.5**	**+0.2**
CHOS				S	**Sb**	**19 37 00.8**	**-0.7**
PRK	**Paraskevi**	**0.51**	**36**	P	**Pb**	**19 36 55.1**	**+0.1**
PRK				S	**Sb**	**19 37 01.9**	**-0.8**
PRK				AML	AML	19 37 03.1	
	comp=N,8725µm,0.4s						
PRK				AML	AML	19 37 05.7	
	comp=E,5753µm,0.7s						
PRK	**Paraskevi**	**0.51**	**36**	P	**Pb**	**19 36 55.0**	**+0.1**
PRK				S	**Sb**	**19 37 02.1**	**-0.6**
KRBN	**Karaburun**	**0.57**	**115**	PG	**Pg**	**19 36 54.4**	**0.0**
GPNR	**Gulpinar-Canak**	**0.65**	**17**	PG	**Pb**	**19 36 56.9**	**-0.5**
FOCM	**Foa**	**0.67**	**100**	PG	**Pb**	**19 36 56.2**	**0.0**
URLA	**Izmir**	**0.73**	**131**	PG	**Pb**	**19 36 58.1**	**-0.6**
URLA	**Izmir**	**0.73**	**131**	IAML_P			
	comp=Z,26µm,0.2s						
URLA				*i* P	**Pb**	**19 36 58.4**	**-0.3**
AYVA	**Ayvalik**	**0.78**	**52**	*i* P	**Pb**	**19 36 59.7**	**+0.1**
DKL	**Díkili**	**0.82**	**73**	PG	**Pb**	**19 36 59.6**	**-0.7**
BLCB	**Balcova**	**1.01**	**116**	PG	**Pb**	**19 37 03.1**	**-0.3**
BOZC	**Bozcaada**	**1.01**	**7**	PG	**Pb**	**19 37 03.5**	**-0.1**
BOZC	**Bozcaada**	**1.01**	**7**	*i* P	**Pn**	**19 37 03.9**	**-0.6**
BOZC				*i* S	**Sn**	**19 37 18.6**	**-0.7**
BAYC	**CANAKKALE_Bayr**	**1.04**	**29**	*i* P	**Pn**	**19 37 04.2**	**-0.7**
BAYC				*i* S	**Sb**	**19 37 18.0**	**0.0**
EZN	**Ezine**	**1.04**	**19**	PG	**Pb**	**19 37 03.9**	**-0.2**
EZN	**Ezine**	**1.04**	**19**	P	**Pb**	**19 37 04.0**	**-0.2**
EZN				S	**Sb**	**19 37 18.4**	**+0.2**
SKY	**Skiros Island**	**1.05**	**273**	P	**Pn**	**19 37 05.7**	**+0.7**
DGB	**zmir**	**1.10**	**135**	*i* P	**Pn**	**19 37 05.5**	**-0.1**
DGB				*i* S	**Sb**	**19 37 19.0**	**-0.8**
GMLD	**Gumuldur**	**1.10**	**133**	PG	**Pb**	**19 37 04.9**	**-0.2**
LIA	**Limnos Island**	**1.20**	**333**	P	**Pn**	**19 37 07.7**	**+0.7**
LIA				S	**Sn**	**19 37 23.5**	**-0.3**
LIA				AML	AML	19 37 26.6	
	comp=N,1502µm,0.3s						
LIA				AML	AML	19 37 27.2	
	comp=E,994µm,0.4s						
LIA	**Limnos Island**	**1.20**	**333**	P	**Pn**	**19 37 07.7**	**+0.7**
LIA				S	**Sn**	**19 37 24.8**	**+1.1**
SMG	**Samos**	**1.35**	**146**	P	**Pn**	**19 37 08.3**	**-0.8**
SMG				S	**Sn**	**19 37 27.0**	**-0.5**
SMG				AML	AML	19 37 30.2	
	comp=E,3482µm,0.3s						
SMG				AML	AML	19 37 30.4	
	comp=N,2546µm,0.4s						
SMG	**Samos**	**1.35**	**146**	P	**Pb**	**19 37 09.8**	**+0.5**
SMG				S	**Sn**	**19 37 28.5**	**+1.0**
GADA	**Gvkgeada**	**1.35**	**0**	PN	**Pb**	**19 37 09.5**	**+0.1**
AKHS	**Akhisar**	**1.50**	**88**	IAML_P			
	comp=Z,1µm,0.2s						
AKHS				*i* P	**Pn**	**19 37 11.2**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.52**	**69**	*i* P	**Pn**	**19 37 11.5**	**0.0**
GCAM	**G?zelcami?**	**1.55**	**137**	PN	**Pb**	**19 37 12.3**	**-0.4**
GCAM	**G?zelcami?**	**1.55**	**137**	IAML_P			
	comp=Z,2µm,0.2s						
GCAM				*i* P	**Pg**	**19 37 14.1**	**+1.0**
GCAM				*i* S	**Sg**	**19 37 34.2**	**+1.1**
EREA	**Eretria**	**1.59**	**256**	P	**Pg**	**19 37 13.6**	**-0.3**
AOS	**Alonnisos**	**1.60**	**283**	PN	**Pg**	**19 37 13.5**	**-0.7**
GELI	**Tayfur-Gelibol**	**1.62**	**16**	PN	**Pb**	**19 37 13.2**	**-0.8**
SMTH	**Samothraki Isl**	**1.66**	**350**	P	**Pb**	**19 37 13.5**	**-1.1**
LPK	**Lapseki**	**1.68**	**23**	PN	**Pn**	**19 37 13.7**	**+0.1**
DION	**Dionisos Attik**	**1.71**	**244**	P	**Pb**	**19 37 14.9**	**-0.6**
BALB	**Balikesir**	**1.74**	**62**	PN	**Pn**	**19 37 13.9**	**-0.6**
PTL	**Penteli**	**1.77**	**244**	P	**Pb**	**19 37 15.6**	**-1.0**
PTL				S	**Sg**	**19 37 40.2**	**-0.3**
APE	**Apeiranthos**	**1.79**	**189**	PN	**Pb**	**19 37 16.1**	**-0.7**
APE	**Apeiranthos**	**1.79**	**189**	P	**Pn**	**19 37 14.9**	**-0.2**
APE	**Apeiranthos**	**1.79**	**189**	⇑*i*P	**Pb**	**19 37 15.4**	**-1.4**
APE				S	**Sn**	**19 37 36.8**	**-1.6**
APE	**Apeiranthos**	**1.79**	**189**	P	**Pn**	**19 37 15.3**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.80**	**119**	PN	**Pn**	**19 37 14.6**	**-0.9**
GONE	**Gonen-Balikesi**	**1.84**	**48**	PN	**Pn**	**19 37 15.8**	**-0.1**
ERIK	**Erikli-Kesan**	**1.90**	**14**	PN	**Pn**	**19 37 16.9**	**+0.3**
KRBG	**Karabiga-Canak**	**1.90**	**34**	PN	**Pn**	**19 37 16.2**	**-0.4**
ENEZ	**Enez**	**1.91**	**6**	PN	**Pb**	**19 37 17.5**	**-1.4**
AYDN	**Tasoluk**	**1.95**	**126**	IAML_P			
	comp=Z,240nm,0.1s						
AYDN				*i* P	**Pn**	**19 37 17.9**	**+0.4**
THAS	**Thassos island**	**1.99**	**333**	P	**Pn**	**19 37 18.1**	**+0.2**
THAS	**Thassos island**	**1.99**	**333**	P	**Pn**	**19 37 18.1**	**+0.2**
AMGA	**Amorgos Island**	**2.00**	**180**	P	**Pn**	**19 37 17.8**	**-0.3**
ALN	**Alexandroupoli**	**2.06**	**3**	PN	**Pn**	**19 37 19.3**	**+0.4**
ALN	**Alexandroupoli**	**2.06**	**3**	P	**Pn**	**19 37 18.8**	**-0.1**
KESN	**Edirne-Kesan**	**2.08**	**17**	IAML_P			
	comp=Z,252nm,0.2s						
KESN				*i* P	**Pb**	**19 37 20.8**	**-1.2**
BODT	**Bodrum**	**2.10**	**147**	PN	**Pn**	**19 37 19.0**	**-0.4**
SART	**Tekirdag**	**2.10**	**28**	IAML_P			
	comp=Z,2µm,0.2s						
SART				*i* P	**Pb**	**19 37 21.9**	**-0.2**
SART				*i* S	**Sg**	**19 37 50.4**	**-0.5**
MANT	**Manisa**	**2.11**	**99**	IAML_P			
	comp=Z,198nm,0.2s						
MANT				*i* P	**Pn**	**19 37 19.4**	**-0.4**
MLSB	**Milas**	**2.14**	**135**	PN	**Pn**	**19 37 19.9**	**-0.1**
EDC	**Edincik**	**2.14**	**45**	PN	**Pn**	**19 37 19.8**	**-0.3**
DURS	**Dursunbey**	**2.15**	**68**	IAML_P			
	comp=Z,1µm,0.2s						
DURS				*i* P	**Pn**	**19 37 19.6**	**-0.6**
KULA	**Kula-Manisa**	**2.19**	**98**	PN	**Pn**	**19 37 20.3**	**-0.5**
DEMI	**Demirci**	**2.21**	**84**	IAML_P			
	comp=Z,446nm,0.1s						
DEMI				*i* P	**Pn**	**19 37 20.1**	**-0.9**
RDO	**Rodhopi**	**2.33**	**353**	PN	**Pn**	**19 37 22.2**	**-0.3**
RDO	**Rodhopi**	**2.33**	**353**	P	**Pn**	**19 37 23.0**	**+0.5**
SBT4	**Kumbag-Tekirda**	**2.36**	**32**	PN	**Pn**	**19 37 23.5**	**+0.7**
KCTX	**Karacabey (Bur**	**2.38**	**52**	PN	**Pn**	**19 37 23.2**	**-0.1**
KAVA	**Kavala**	**2.41**	**334**	P	**Pn**	**19 37 24.4**	**+0.7**
CRLT	**Corlu**	**2.69**	**31**	PN	**Pn**	**19 37 28.1**	**+0.5**
MDNY	**Mudanya-Bursa**	**2.77**	**56**	PN	**Pn**	**19 37 29.4**	**+0.7**
ARMT	**Armutlu**	**2.87**	**52**	PN	**Pn**	**19 37 30.3**	**+0.3**
NVR	**Nevrokopi**	**2.96**	**329**	P	**Pn**	**19 37 32.4**	**+1.1**
BORA	**Eskisehir**	**3.69**	**72**	IAML_P			
	comp=Z,418nm,0.1s						
BORA				*i* P	**Pn**	**19 37 41.8**	**+0.5**
VTS	**Vitosha**	**4.27**	**332**	⇓*i*P	**Pn**	**19 37 50.2**	**+0.8**
VTS	**Vitosha**	**4.27**	**332**	S	**Sn**	**19 38 39.8**	**0.0**
ARR	**Arges**	**6.59**	**352**	⇑*i*P	**Pn**	**19 38 22.0**	**+0.7**
VOIR		**6.63**	**355**	⇓*i*P	**Pn**	**19 38 24.9**	**+3.2**
MLR	**Muntele Rosu**	**6.65**	**0**	⇓*i*P	**Pn**	**19 38 24.0**	**+1.9**
GZR	**Gura Zlata**	**6.95**	**342**	⇑*i*P	**Pn**	**19 38 27.6**	**+1.5**
PLOR	**Plostina**	**7.03**	**4**	⇑*i*P	**Pn**	**19 38 30.1**	**+2.8**
VRI	**Vrincioaia**	**7.05**	**5**	⇓*i*P	**Pn**	**19 38 30.0**	**+2.5**
BZS	**Buzias**	**7.48**	**336**	⇓*i*P	**Pn**	**19 38 34.6**	**+1.2**
BIZ	**Bicaz**	**8.10**	**1**	⇑*i*P	**Pn**	**19 38 45.2**	**+3.3**
BURAR	**Bucovina Array**	**8.79**	**357**	⇑*i*P	**Pn**	**19 38 55.1**	**+3.7**

JMA 12 19:54:55.2±0.1, 38°.30N×142°.00E, h47km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.42**	**272**	P	Pn	19 55 05.3	0.0
JIKH				S	Sn	19 55 12.3	-0.2
JIO	**Ouri**	**0.53**	**287**	P	Pn	19 55 06.7	0.0
JIO				S	Sn	19 55 14.8	-0.1
JKMT	**Kesennumamotoy**	**0.66**	**321**	P	Pn	19 55 08.4	+0.2
JKMT				S	Sn	19 55 17.6	0.0
OFUJ	**Ofunato**	**0.82**	**342**	P	Pn	19 55 10.5	+0.1
OFUJ				S	Sn	19 55 21.4	-0.2
JMK	**Ichinoseki**	**0.89**	**317**	P	Pn	19 55 11.7	+0.3
JMK				S	Sn	19 55 23.7	+0.5
JOFO	**Osakifurukawao**	**0.91**	**290**	P	Pn	19 55 12.2	+0.6
JOFO				eS	Sn	19 55 24.5	+0.9
JMM	**Marumori**	**1.05**	**246**	P	Pn	19 55 13.1	-0.4
JMM				S	Sn	19 55 26.1	-0.8
JOU	**Okura**	**1.05**	**274**	P	Pn	19 55 13.9	+0.3
JOU				S	Sn	19 55 27.6	+0.4
JOM	**Ohasama**	**1.29**	**335**	S	Sn	19 55 34.4	+1.4

ISCJB ***12*** *20:17:11.9±0.3, 8°.62N±0°.03×71°.68W±0°.02, h8km, mb4.3/39, MS3.2/7, Error ellipse: s-maj=5.0km s-min=3.0km az=153.1*

IDC ***12*** *20:17:11.8±0.6, 8°.44N×71°.68W, h0km, mb4.0/14, mb1 4.2/17, mb1mx4.0/39, mbtmp4.1/17, ML4.3/3, MS3.2/12, Ms1 3.2/12, ms1mx3.0/33, Error ellipse: s-maj=15.4km s-min=10.2km az=170.0*

NEIC ***12*** *20:17:12.6±1.1, 8°.40N×71°.59W, h11km±7km, mb4.5/27, MW4.2(CAR), Error ellipse: s-maj=5.7km s-min=4.7km az=146.0*

CAR ***12*** *20:17:14.6±0.0, 8°.40N×71°.72W, h5km*

ISC 12 20:17:12.3±0.4, 8°.43N±0°.05×71°.57W±0°.04, h8km, n117, σ1§49/125, mb4.4/39, MS3.3/7, 4C, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**1.04**	**64**	Pg	**Pn**	**20 17 34.2**	**+0.9**
	319nm,0.3s,baz=159,slow=3.9,SNR=337						
SDV				Lg	Lg	20 17 48.6	
	1µm,0.3s,baz=108,slow=20,SNR=28						
SDV	**Santo Domingo**	**1.04**	**64**	*e*Pg	**Pn**	**20 17 34.2**	**+0.9**
SDV				*e*Sg	**Sn**	**20 17 47.7**	**-0.4**
SDV	**Santo Domingo**	**1.04**	**64**	⇑*i*P	**Pn**	**20 17 34.3**	**+0.9**
SDV				*e*S	**Sn**	**20 17 47.9**	**-0.2**
SDV				*i*		20 17 56.3	
	comp=Z,837nm,0.4s						
SDV	**Santo Domingo**	**1.04**	**64**	⇑*i*P	**Pn**	**20 17 34.3**	**+0.9**
SDV				*e*S	**Sn**	**20 17 47.9**	**-0.2**
SDV				*i*		20 17 56.3	
	comp=Z,837nm,0.4s						
OCAC	**Ocana**	**1.74**	**264**	*e*P	**Pn**	**20 17 43.9**	**+0.9**
OCAC				*e*S	**Sn**	**20 18 04.6**	**-0.8**
OCAC				*i*		20 18 09.8	
	comp=Z,11µm,0.6s						
OCAC	**Ocana**	**1.74**	**264**	*e*P	**Pn**	**20 17 43.9**	**+0.9**
OCAC				*e*S	**Sn**	**20 18 04.6**	**-0.8**
OCAC				*i*		20 18 09.8	
	comp=Z,11µm,0.6s						
BARC	**Barichara**	**2.42**	**221**	*e*P	**Pn**	**20 17 54.3**	**+1.8**
BARC	**Barichara**	**2.42**	**221**	*e*P	**Pn**	**20 17 54.3**	**+1.8**
BRRC	**Barranca, Sant**	**2.49**	**238**	*e*P	**Pn**	**20 17 54.9**	**+1.6**
BRRC	**Barranca, Sant**	**2.49**	**238**	*e*P	**Pn**	**20 17 54.9**	**+1.6**
RUSC	**La Rusia**	**2.93**	**211**	⇑*e*P	**Pn**	**20 18 01.0**	**+1.3**
RUSC	**La Rusia**	**2.93**	**211**	⇑*e*P	**Pn**	**20 18 01.0**	**+1.3**
URIC	**Uribia, Colomb**	**3.28**	**353**	*e*P	**Pn**	**20 18 04.6**	**+0.5**
URIC	**Uribia, Colomb**	**3.28**	**353**	*e*P	**Pn**	**20 18 04.6**	**+0.5**
ZARC	**Zaragoza, Cauc**	**3.38**	**254**	*e*P	**Pn**	**20 18 06.5**	**+0.9**
ZARC	**Zaragoza, Cauc**	**3.38**	**254**	*e*P	**Pn**	**20 18 06.5**	**+0.9**
PTBC	**PUERTO BERRIO,**	**3.42**	**237**	*e*P	**Pn**	**20 18 05.9**	**-0.1**
PTBC	**PUERTO BERRIO,**	**3.42**	**237**	*e*P	**Pn**	**20 18 05.9**	**-0.1**
UREC	**San Jos de Ur**	**3.98**	**261**	*e*P	**Pn**	**20 18 15.8**	**+2.1**
UREC				*e*P	**Pn**	**20 18 15.8**	**+2.1**
UREC	**San Jos de Ur**	**3.98**	**261**	*e*P	**Pn**	**20 18 15.8**	**+2.1**
UREC				*e*P	**Pn**	**20 18 15.8**	**+2.1**
NORC	**Norcasia**	**4.33**	**229**	*e*P	**Pn**	**20 18 18.8**	**+0.2**
NORC	**Norcasia**	**4.33**	**229**	*e*P	**Pn**	**20 18 18.8**	**+0.2**
CHIC	**Chingaza**	**4.34**	**210**	*e*P	**Pn**	**20 18 20.2**	**+1.2**
CHIC	**Chingaza**	**4.34**	**210**	*e*P	**Pn**	**20 18 20.2**	**+1.2**
ROSC	**El Rosal**	**4.49**	**218**	Pn	**Pn**	**20 18 24.7**	**+3.6**
	comp=Z,10nm,0.3s,baz=84,slow=11,SNR=24						
ROSC				Lg	Lg	20 19 36.6	
	comp=Z,16nm,0.3s,baz=165,slow=20,SNR=4.5						
ROSC				LR	LR	20 19 40.9	
	comp=Z,55nm,21.4s,baz=86,slow=34						
ROSC	**El Rosal**	**4.49**	**218**	*e*Pn	**Pn**	**20 18 20.4**	**-0.6**
VILC	**Villavicencio,**	**4.78**	**206**	*e*P	**Pn**	**20 18 25.8**	**+1.0**
VILC	**Villavicencio,**	**4.78**	**206**	*e*P	**Pn**	**20 18 25.8**	**+1.0**
PCRV	**Puerto La Cruz**	**7.07**	**75**	Pn	**Pn**	**20 19 00.1**	**+4.0**
	comp=Z,4.9nm,0.3s,baz=171,slow=1.1,SNR=20						
PCRV				Sn	**Sn**	**20 20 21.6**	**+4.9**
	comp=Z,13nm,0.3s,baz=248,slow=19,SNR=9.3						
PCRV				Lg	Lg	20 21 09.2	
	comp=Z,3.4nm,0.3s,baz=148,slow=19,SNR=3.5						
BCIP	**Isla Barro Col**	**8.20**	**276**	*e*Pn	**Pn**	**20 19 11.9**	**+0.2**
BCIP				*e*Sn	**Sn**	**20 20 43.6**	**-1.1**
CRPR	**Cabo Rojo, PR**	**10.46**	**24**	*e*Pn	**Pn**	**20 19 42.7**	**-0.1**
SDDR	**Presa de Saban**	**10.50**	**1**	*e*Pn	**Pn**	**20 19 44.2**	**+0.9**
SDDR				*e*Sn	**Sn**	**20 21 38.2**	**-3.0**
MPR	**Mayaguez**	**10.64**	**23**	*e*Pn	**Pn**	**20 19 44.7**	**-0.4**
OBIP	**Obispado Ponce**	**10.71**	**26**	*e*Pn	**Pn**	**20 19 45.9**	**-0.2**
AGP	**Aguadilla**	**10.82**	**23**	*e*Pn	**Pn**	**20 19 48.7**	**+1.1**
SJG	**San Juan**	**10.98**	**28**	Pn	**Pn**	**20 19 49.2**	**-0.6**
	comp=Z,6.6nm,0.3s,baz=198,slow=10,SNR=11						
SJG				Sn	**Sn**	**20 21 48.2**	**-4.7**
	comp=Z,1.2nm,0.3s,baz=16,slow=23,SNR=3.6						
SJG				LR	LR	20 24 32.4	
	comp=Z,135nm,19.7s,baz=224,slow=40						
SJG	**San Juan**	**10.98**	**28**	*e*Pn	**Pn**	**20 19 49.9**	**+0.1**
SJG				*e*Sn	**Sn**	**20 21 48.2**	**-4.7**
HUMP	**Col San Antoni**	**11.15**	**29**	*e*Pn	**Pn**	**20 19 51.9**	**-0.2**
CBYP	**Canovanas**	**11.25**	**29**	*e*Pn	**Pn**	**20 19 53.6**	**-0.1**
MTP	**Monte Pirata**	**11.26**	**31**	*e*Pn	**Pn**	**20 19 53.5**	**-0.1**
MTDJ	**Mount Denham**	**11.33**	**330**	*e*Pn	**Pn**	**20 19 54.9**	**+0.1**
CDVI	**St. Croix**	**11.39**	**35**	*e*Pn	**Pn**	**20 19 56.0**	**+0.5**
CUPR	**Culebra, Puert**	**11.57**	**31**	*e*Pn	**Pn**	**20 19 57.6**	**-0.3**
STVI	**Saint Thomas**	**11.78**	**32**	*e*Pn	**Pn**	**20 20 00.4**	**-0.4**
GTBY	**Guantanamo Bay**	**11.93**	**344**	*e*Pn	**Pn**	**20 20 03.2**	**+0.3**
FDF	**Fort de France**	**11.98**	**58**	*e*Pn	**Pn**	**20 20 03.0**	**-0.6**
PTGA	**Pitinga**	**14.72**	**128**	Pn	**Pn**	**20 20 39.6**	**-1.4**
	comp=Z,1.1nm,0.3s,baz=314,slow=16,SNR=12						
PTGA				Sn	**Sn**	**20 23 17.0**	**-7.4**
	comp=Z,1.4nm,0.3s,baz=347,slow=19,SNR=4.7						
PTGA				Lg	Lg	20 24 52.7	
	comp=Z,1.3nm,0.3s,baz=229,slow=19,SNR=3.3						
PTGA				LR	LR	20 27 14.2	
	comp=Z,52nm,20.0s,baz=315,slow=41						
ATAH	**Atahualpa**	**16.89**	**204**	LR	LR	20 28 51.1	
	comp=Z,89nm,20.3s,baz=24,slow=42						
MDP	**Montagnes des**	**19.09**	**99**	LR	LR	20 29 41.5	
	comp=Z,33nm,18.3s,baz=336,slow=39						
APG	**El Apazote**	**19.61**	**291**	P	**P**	**20 21 42.2**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=128,slow=16,SNR=3.6						
TEIG	**Tepich**	**19.96**	**308**	*e*P	**P**	**20 21 44.6**	**-0.5**
	comp=Z,40nm,1.3s						
NNA	**Nana**	**20.95**	**195**	LR	LR	20 31 16.9	
	comp=Z,134nm,19.2s,baz=11,slow=40						
CCIG	**Comitan**	**21.54**	**293**	*e*P	**P**	**20 22 02.2**	**-0.2**
	comp=Z,55nm,1.3s						
CMIG	**Matias Romero**	**24.29**	**293**	LR	LR	20 33 37.1	
	comp=Z,56nm,18.7s,baz=122,slow=41						
LPAZ	**La Paz**	**24.79**	**172**	P	**P**	**20 22 38.5**	**+2.8**
	comp=Z,2.4nm,0.5s,baz=349,slow=13,SNR=11						
LPAZ				LR	LR	20 33 05.1	
	comp=Z,113nm,19.3s,baz=344,slow=38						
LPAZ	**La Paz**	**24.79**	**172**	*e*P	**P**	**20 22 34.3**	**-1.3**
SIV	**San Ignacio**	**26.40**	**157**	P	**P**	**20 22 50.9**	**+1.3**
	comp=Z,3.6nm,0.8s,baz=342,slow=10.0,SNR=17						
SIV				LR	LR	20 33 48.0	
	comp=Z,97nm,19.9s,baz=324,slow=38						
HODGE	**Hodges**	**27.50**	**341**	*e*P	**P**	**20 22 59.4**	**+0.1**
	comp=Z,5.7nm,0.8s						
TKL	**Tuckaleechee C**	**29.31**	**339**	LR	LR	20 35 45.4	
	comp=Z,28nm,18.6s,baz=352,slow=38						
W50A	**Signal Mountai**	**29.47**	**337**	*e*P	**P**	**20 23 17.1**	**+0.2**
	comp=Z,6.3nm,0.6s						
X48A	**Hartselle**	**29.55**	**333**	*e*P	**P**	**20 23 17.6**	**0.0**
	comp=Z,4.7nm,0.6s						
PLAL	**Pickwick Lake**	**30.46**	**333**	*e*P	**P**	**20 23 25.7**	**+0.1**
	comp=Z,5.4nm,0.8s						
V48A	**Smith Brothers**	**30.55**	**335**	*e*P	**P**	**20 23 26.1**	**-0.3**
	comp=Z,6.7nm,0.7s						
T49A	**Edmonton**	**31.23**	**338**	*e*P	**P**	**20 23 33.0**	**+0.5**
	comp=Z,6.7nm,1.1s						
WHAR	**Wooly Hollow**	**32.78**	**328**	*e*P	**P**	**20 23 46.4**	**+0.3**
	comp=Z,6.6nm,1.0s						
KSPA	**Keystone Colle**	**33.20**	**354**	*e*P	**P**	**20 23 50.3**	**+0.6**
	comp=Z,16nm,1.5s						
SIUC	**Southern Illin**	**33.24**	**334**	*e*P	**P**	**20 23 49.6**	**-0.5**
	comp=Z,9.0nm,0.8s						
N54A	**Moraine State**	**33.25**	**348**	*e*P	**P**	**20 23 50.8**	**+0.7**
	comp=Z,9.2nm,1.3s						
BDFB	**Brasilia**	**33.41**	**136**	LR	LR	20 38 24.3	
	comp=Z,67nm,19.4s,baz=253,slow=38						
P45A	**Graceland, Par**	**34.19**	**337**	*e*P	**P**	**20 24 00.1**	**+1.9**
	comp=Z,13nm,0.8s						
LTX	**Lajitas**	**36.60**	**309**	*e*P	**P**	**20 24 19.1**	**-0.2**
TXAR	**Lajitas Array**	**36.60**	**309**	P	**P**	**20 24 19.1**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=129,slow=9.8,SNR=5.5						
TXAR				PcP	**PcP**	**20 26 43.5**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=134,slow=5.7,SNR=4.7						
TX31	**Lajitas Ar. Si**	**36.60**	**309**	*e*P	**P**	**20 24 19.0**	**-0.4**
CPUP	**Villa Florida**	**37.22**	**159**	LR	LR	20 41 59.0	
	comp=Z,36nm,18.4s,baz=345,slow=40						
I42A	**Draeger Farm,**	**38.43**	**340**	*e*P	**P**	**20 24 34.8**	**+0.3**
	comp=Z,26nm,1.2s						
BATG	**Bathurst New B**	**39.00**	**6**	*e*P	**P**	**20 24 39.9**	**+0.7**
	comp=Z,14nm,1.3s						
ULM	**Lac du Bonnet**	**46.33**	**339**	P	**P**	**20 25 39.1**	**+0.4**
	comp=Z,5.0nm,0.6s,baz=138,slow=8.2,SNR=13						
ULM	**Lac du Bonnet**	**46.33**	**339**	*e*P	**P**	**20 25 38.7**	**0.0**
	comp=Z,6.9nm,0.8s						
SCHQ	**Schefferville**	**46.43**	**4**	P	**P**	**20 25 40.6**	**+1.1**
	comp=Z,4.3nm,0.5s,baz=191,slow=6.7,SNR=17						
SCHQ	**Schefferville**	**46.43**	**4**	*e*P	**P**	**20 25 39.9**	**+0.4**
	comp=Z,1.5nm,0.8s						
BW06	**Boulder Array**	**47.72**	**322**	*e*P	**P**	**20 25 49.4**	**-0.7**
	comp=Z,3.0nm,1.1s						
PD31	**Pinedale Array**	**47.72**	**322**	*e*P	**P**	**20 25 49.7**	**-0.4**
PDAR	**Pinedale Array**	**47.72**	**322**	P	**P**	**20 25 51.0**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=118,slow=8.1,SNR=10						
REDW	**Red Top Meadow**	**48.84**	**322**	*e*P	**P**	**20 25 58.1**	**-0.6**
	comp=Z,6.3nm,1.4s						
RLMT	**Red Lodge**	**48.92**	**325**	*e*P	**P**	**20 25 58.8**	**-0.5**
	comp=Z,1.9nm,1.3s						
BGU	**Big Grassy Mou**	**48.94**	**318**	*e*P	**P**	**20 25 58.1**	**-1.3**
	comp=Z,2.5nm,0.8s						
MOOW	**Moose Ponds**	**48.99**	**323**	*e*P	**P**	**20 25 58.8**	**-1.1**
	comp=Z,1.5nm,0.9s						
GCMT	**Greycliff**	**49.55**	**325**	*e*P	**P**	**20 26 04.0**	**+0.1**
MCMT	**McKenzie Canyo**	**50.85**	**323**	*e*P	**P**	**20 26 12.9**	**-1.1**
HRY	**Holter Researc**	**51.30**	**325**	*e*P	**P**	**20 26 16.2**	**-1.0**
NV01	**Mina Array Sit**	**51.48**	**313**	*e*P	**P**	**20 26 18.3**	**-0.6**
NVAR	**Mina Array Bea**	**51.48**	**313**	P	**P**	**20 26 19.3**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=116,slow=7.2,SNR=4.5						
NVAR				PcP	**PcP**	**20 27 34.0**	**+0.8**
	comp=Z,

ECSD	**EROS Data Cent**	**6.37**	**85**	*e*Pn	**Pn**	**20 36 21.2**	**+1.5**
T25A	**Trinidad**	**6.43**	**173**	*e*Pn	**Pn**	**20 36 22.0**	**+1.4**
I10CA	**LAC DU BONNET**	**9.25**	**41**	*i*		21 30 50.0	
	baz=223,slow=329,SNR=1.2						
ULM	**Lac du Bonnet**	**9.35**	**41**	Pn	**Pn**	**20 37 00.7**	**+0.2**
	0.5nm,0.3s,baz=219,slow=14,SNR=5.2						
ULM				Lg	Lg	20 39 34.2	
	0.2nm,0.3s,baz=116,slow=15,SNR=3.2						
YKA	**Yellowknife Ar**	**19.75**	**347**	P	**Pn**	**20 39 17.8**	**+0.7**
	0.2nm,0.6s,baz=161,slow=12,SNR=3.4						

IDC 12 *20:44:16.3*±11.0, **19.00S**×**168.23E**, **h0km**, **mb3.9/3, mb1 4.0/4, mb1mx3.7/33, mbtmp3.8/4, ML3.1/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/29, Error ellipse: s-maj=206.9km s-min=44.1km az=88.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.49**	**208**	Pn	Pn	20 45 10.0	-1.9
	1.9nm,0.3s,baz=73,slow=10.0,SNR=35						
DZM				Sn	Sn	20 45 53.7	-0.3
	13nm,0.3s,baz=142,slow=23,SNR=7.1						
RPZ	**Rata Peaks**	**24.76**	**175**	LR	LR	20 58 23.1	
	comp=Z,82nm,18.1s,baz=346,slow=34						
STKA	**Stephens Creek**	**27.18**	**237**	P	P	20 50 02.3	+0.7
	2.5nm,0.6s,baz=73,slow=12,SNR=10						
WRA	**Warramunga Arr**	**31.94**	**263**	P	P	20 50 43.7	-0.4
	0.2nm,0.4s,baz=90,slow=8.6,SNR=5.4						
ASAR	**Alice Springs**	**32.26**	**256**	P	P	20 50 47.2	+0.3
	1.2nm,0.6s,baz=82,slow=8.4,SNR=23						

ISCJB **12** *20:50:10.8*±*0.3, 38.84N*±*0.01*×*25.95E*±*0.02, h13km*±*3km, mb4.2/2, MS3.1/1, Error ellipse: s-maj=2.5km s-min=2.0km az=176.0*

ATH **12** *20:50:10.8, 38.84N*×*26.00E, h30km, ML3.9/7, Error ellipse: s-maj=1.2km s-min=0.6km az=94.0*

NEIC **12** *20:50:10.3*±*0.0, 38.85N*×*25.97E, h11km, ML3.5(THE), ML4.1(DDA), ML4.2(ISK), After ISK.*

ISK **12** *20:50:10.9, 38.86N*×*26.00E, h11km, ML4.1/23*

IDC **12** *20:50:11.9*±*1.0, 38.80N*×*26.29E, h0km, mb3.8/6, mb1 3.9/10, mb1mx3.6/45, mbtmp3.7/10, ML4.1/3, MS2.9/3, Ms1 2.9/3, ms1mx2.4/45, Error ellipse: s-maj=18.9km s-min=15.6km az=32.0*

DDA **12** *20:50:11.2, 38.85N*×*26.05E, h33km, ML4.1*

THE **12** *20:50:12.1, 38.85N*×*25.99E, h13km, ML3.5/8, Error ellipse: s-maj=1.8km s-min=0.6km az=97.0*

ISC 12 20:50:11.7±1.0, **38.84N**±0.02×**25.99E**±0.02, **h7**km±7km, **n176,** σ1§**09**/211, **26C-23D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIGR	**SIGRI**	**0.39**	**345**	PG	**Pg**	**20 50 19.4**	**+0.1**
SIGR				SG	**Sg**	**20 50 24.7**	**+0.3**
SIGR	**SIGRI**	**0.39**	**345**	P	**Pg**	**20 50 19.3**	**+0.1**
SIGR				S	**Sb**	**20 50 26.2**	**-0.8**
SIGR				AML	AML	20 50 27.9	
	comp=E,14824μm,0.7s						
SIGR				AML	AML	20 50 32.7	
	comp=N,23522μm,0.5s						
SIGR	**SIGRI**	**0.39**	**345**	P	**Pg**	**20 50 19.2**	**-0.1**
SIGR				S	**Sg**	**20 50 25.0**	**+0.6**
PSRA	**Psara**	**0.44**	**228**	P	**Pb**	**20 50 21.4**	**-0.4**
PSRA				S	**Sb**	**20 50 27.6**	**-1.0**
PSRA				AML	AML	20 50 28.7	
	comp=E,91263μm,0.3s						
PSRA				AML	AML	20 50 29.3	
	comp=N,61046μm,0.2s						
CHOS	**Chios island**	**0.45**	**173**	PG	**Pg**	**20 50 20.8**	**+0.3**
CHOS				SG	**Sb**	**20 50 27.8**	**-1.2**
CHOS	**Chios island**	**0.45**	**173**	P	**Pb**	**20 50 21.1**	**-0.9**
CHOS				S	**Sg**	**20 50 27.0**	**+0.6**
CHOS				AML	AML	20 50 30.6	
	comp=N,31292μm,0.6s						
CHOS				AML	AML	20 50 34.6	
	comp=E,47000μm,0.5s						
CHOS	**Chios island**	**0.45**	**173**	P	**Pb**	**20 50 21.1**	**-0.9**
CHOS				S	**Sb**	**20 50 28.0**	**-1.0**
PRK	**Paraskevi**	**0.46**	**29**	P	**Pb**	**20 50 21.7**	**-0.6**
PRK				S	**Sg**	**20 50 27.5**	**+0.7**
PRK				AML	AML	20 50 29.8	
	comp=N,68477μm,0.4s						
PRK				AML	AML	20 50 32.3	
	comp=E,57642μm,0.7s						
PRK	**Paraskevi**	**0.46**	**29**	P	**Pb**	**20 50 21.6**	**-0.6**
PRK				S	**Sb**	**20 50 28.3**	**-1.0**
KRBN	**Karaburun**	**0.51**	**119**	PG	**Pg**	**20 50 21.2**	**-0.3**
FOCM	**Foa**	**0.59**	**102**	PG	**Pg**	**20 50 23.1**	**-0.1**
GPNR	**Gulpinar-Canak**	**0.63**	**10**	PG	**Pg**	**20 50 23.1**	**-0.7**
URLA	**Izmir**	**0.68**	**135**	PG	**Pg**	**20 50 24.0**	**-0.7**
URLA	**Izmir**	**0.68**	**135**	⇓*i*P	**Pg**	**20 50 24.4**	**-0.3**
AYVA	**Ayvalik**	**0.72**	**49**	IAML_P			
	comp=Z,7μm,0.1s						
AYVA				⇑*i*P	**Pb**	**20 50 25.9**	**-0.6**
AYVA				*i* S	**Sg**	**20 50 35.3**	**+0.3**
DKL	**Dikili**	**0.75**	**72**	PG	**Pg**	**20 50 25.9**	**-0.3**
BLCB	**Balcova**	**0.94**	**118**	PG	**Pg**	**20 50 29.3**	**-0.5**
BLCB				SG	**Sb**	**20 50 43.2**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**1.00**	**26**	⇑*i*P	**Pg**	**20 50 30.3**	**-0.6**
BAYC				*i* S	**Sb**	**20 50 44.5**	**-0.3**
BOZC	**Bozcaada**	**1.00**	**3**	PG	**Pg**	**20 50 29.9**	**-1.1**
BOZC	**Bozcaada**	**1.00**	**3**	⇑*i*P	**Pg**	**20 50 30.2**	**-0.7**
BOZC				*i* S	**Sb**	**20 50 44.7**	**-0.1**
EZN	**Ezine**	**1.02**	**15**	PG	**Pg**	**20 50 30.5**	**-0.8**
EZN	**Ezine**	**1.02**	**15**	*e*Pn	**Pg**	**20 50 30.5**	**-0.8**
EZN	**Ezine**	**1.02**	**15**	P	**Pg**	**20 50 30.5**	**-0.8**
EZN				S	**Sg**	**20 50 44.5**	**-0.1**
DGB	**zmir**	**1.05**	**138**	IAML_P			
	comp=Z,23μm,0.2s						
DGB				⇓*i*P	**Pb**	**20 50 31.7**	**-0.5**
DGB				*i* S	**Sb**	**20 50 46.0**	**-0.2**
GMLD	**Gumuldur**	**1.05**	**136**	PG	**Pb**	**20 50 31.7**	**-0.5**
LIA	**Limnos Island**	**1.23**	**330**	P	**Pg**	**20 50 34.2**	**-1.0**
LIA				S	**Sg**	**20 50 50.0**	**-1.2**
LIA				AML	AML	20 50 53.3	
	comp=N,6211μm,0.6s						
LIA				AML	AML	20 50 59.5	
	comp=E,3771μm,0.6s						
LIA	**Limnos Island**	**1.23**	**330**	P	**Pg**	**20 50 34.1**	**-1.2**
LIA				S	**Sb**	**20 50 51.8**	**+0.6**
SMG	**Samos**	**1.31**	**149**	P	**Pn**	**20 50 34.8**	**-1.6**
SMG				S	**Sg**	**20 50 52.8**	**-1.1**
SMG				AML	AML	20 50 57.0	
	comp=E,28809μm,0.4s						
SMG				AML	AML	20 50 57.0	
	comp=N,27248μm,0.6s						
GADA	**Gvkgeada**	**1.35**	**357**	PN	**Pn**	**20 50 35.8**	**-1.2**
GADA	**Gvkgeada**	**1.35**	**357**	*e*Pn	**Pn**	**20 50 35.8**	**-1.2**
GADA	**Gvkgeada**	**1.35**	**357**	P	**Pn**	**20 50 35.8**	**-1.2**
GADA				S	**Sb**	**20 50 53.5**	**-1.3**
GOKC	**Gokceada-Canak**	**1.36**	**358**	PN	**Pn**	**20 50 36.0**	**-1.1**
AKHS	**Akhisar**	**1.43**	**88**	⇑*i*P	**Pn**	**20 50 37.2**	**-0.8**
AKHS				*i* S	**Sg**	**20 50 58.1**	**+0.5**
STEP	**BALIKESIR_Sava**	**1.45**	**68**	IAML_P			
	comp=Z,18μm,0.2s						
STEP				⇓*i*P	**Pn**	**20 50 37.9**	**-0.5**
STEP				*i* S	**Sg**	**20 50 59.0**	**+0.6**
GCAM	**G?zelcaml?**	**1.50**	**139**	PN	**Pn**	**20 50 38.5**	**-0.5**
GCAM	**G?zelcaml?**	**1.50**	**139**	⇑P	**Pg**	**20 50 40.5**	**0.0**
GCAM				*i* S	**Sg**	**20 51 00.5**	**+0.6**
GOMA	**Golmarmara-Man**	**1.52**	**94**	PN	**Pn**	**20 50 38.4**	**-0.8**
BALY	**Balya**	**1.56**	**54**	⇓*i*P	**Pn**	**20 50 39.1**	**-0.7**
BALY				*i* S	**Sn**	**20 50 59.3**	**-1.0**
GELI	**Tayfur-Gelibol**	**1.60**	**13**	PN	**Pn**	**20 50 39.4**	**-1.0**
LPK	**Lapseki**	**1.65**	**21**	PN	**Pn**	**20 50 40.0**	**-1.0**
EREA	**Eretria**	**1.66**	**256**	P	**Pn**	**20 50 40.0**	**-1.2**
EREA	**Eretria**	**1.66**	**256**	P	**Pn**	**20 50 40.1**	**-1.2**
SMTH	**Samothraki Isl**	**1.67**	**348**	P	**Pn**	**20 50 39.9**	**-1.5**
SMTH				S	**Sn**	**20 51 01.1**	**-1.8**
SMTH				AML	AML	20 51 06.7	
	comp=E,1838μm,0.9s						
SMTH				AML	AML	20 51 07.0	
	comp=N,1827μm,0.8s						
SMTH	**Samothraki Isl**	**1.67**	**348**	P	**Pn**	**20 50 40.0**	**-1.3**
SMTH				S	**Sn**	**20 51 01.2**	**-1.8**
AOS	**Alonnisos**	**1.67**	**282**	PN	**Pn**	**20 50 41.0**	**-0.4**
BALB	**Balikesir**	**1.68**	**61**	PN	**Pn**	**20 50 40.6**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**1.74**	**120**	PN	**Pn**	**20 50 41.4**	**-1.0**
DION	**Dionisos Attik**	**1.78**	**245**	P	**Pn**	**20 50 41.3**	**-1.6**
GONE	**Gonen-Balikesi**	**1.79**	**47**	PN	**Pn**	**20 50 41.9**	**-1.0**
APE	**Apeiranthos**	**1.80**	**192**	PN	**Pn**	**20 50 43.2**	**0.0**
APE	**Apeiranthos**	**1.80**	**192**	P	**Pn**	**20 50 41.4**	**-1.8**
APE	**Apeiranthos**	**1.80**	**192**	⇑*i*P	**Pn**	**20 50 41.0**	**-2.2**
APE	**Apeiranthos**	**1.80**	**192**	S	**Sn**	**20 51 03.4**	**-2.9**
APE	**Apeiranthos**	**1.80**	**192**	P	**Pn**	**20 50 41.4**	**-1.8**
PTL	**Penteli**	**1.84**	**245**	P	**Pn**	**20 50 42.4**	**-1.3**
KRBG	**Karabiga-Canak**	**1.85**	**33**	PN	**Pn**	**20 50 42.8**	**-1.0**
ERIK	**Erikli-Kesan**	**1.88**	**12**	PN	**Pn**	**20 50 43.2**	**-0.9**
MRKA	**Markates**	**1.88**	**267**	P	**Pn**	**20 50 42.9**	**-1.4**
AYDN	**Tasoluk**	**1.90**	**128**	*i* P	**Pn**	**20 50 43.9**	**-0.6**
AYDN				*i* S	**Sn**	**20 51 06.9**	**-1.8**
ENEZ	**Enez**	**1.90**	**4**	PN	**Pn**	**20 50 43.6**	**-0.9**
ATHU	**Athens Univers**	**1.94**	**244**	P	**Pn**	**20 50 43.7**	**-1.3**
VLY	**Voula,Athens**	**1.98**	**241**	P	**Pn**	**20 50 44.2**	**-1.5**
AMGA	**Amorgos Island**	**2.00**	**182**	P	**Pn**	**20 50 44.0**	**-1.9**
THAS	**Thassos island**	**2.02**	**331**	P	**Pn**	**20 50 44.9**	**-1.2**
THAS	**Thassos island**	**2.02**	**331**	P	**Pn**	**20 50 44.9**	**-1.2**
THAS				S	**Sn**	**20 51 09.9**	**-1.6**
MANT	**Manisa**	**2.04**	**99**	*e*Pn	**Pn**	**20 50 45.4**	**-1.2**
MANT	**Manisa**	**2.04**	**99**	*e*P	**Pn**	**20 50 46.6**	**0.0**
MANT				*i* S	**Sb**	**20 51 15.5**	**+0.6**
SERI	**Serifos**	**2.05**	**216**	P	**Pn**	**20 50 44.7**	**-1.9**
KESN	**Edirne-Kesan**	**2.06**	**15**	*i* P	**Pn**	**20 50 46.9**	**-0.1**
KESN				*i* S	**Sb**	**20 51 15.6**	**+0.2**
ALN	**Alexandroupoli**	**2.06**	**1**	PN	**Pn**	**20 50 45.9**	**-0.7**
ALN	**Alexandroupoli**	**2.06**	**1**	*e*Pn	**Pn**	**20 50 45.9**	**-0.7**
ALN	**Alexandroupoli**	**2.06**	**1**	P	**Pn**	**20 50 45.7**	**-1.0**
ALN	**Alexandroupoli**	**2.06**	**1**	P	**Pn**	**20 50 45.7**	**-1.0**
ALN				S	**Sn**	**20 51 10.3**	**-2.2**
SART	**Tekirdag**	**2.06**	**26**	*i* P	**Pn**	**20 50 46.7**	**-0.1**
SART				*i* S	**Sg**	**20 51 17.3**	**-0.8**
DURS	**Dursunbey**	**2.08**	**68**	IAML_P			
	comp=Z,7μm,0.3s						
DURS				⇓*i*P	**Pn**	**20 50 46.4**	**-0.6**
DURS				*i* S	**Sg**	**20 51 17.9**	**-0.6**
EDC	**Edincik**	**2.09**	**43**	PN	**Pn**	**20 50 46.5**	**-0.6**
PAIG	**Paliouri**	**2.09**	**302**	P	**Pn**	**20 50 46.0**	**-1.1**
PAIG	**Paliouri**	**2.09**	**302**	P	**Pn**	**20 50 46.3**	**-0.8**
PAIG				S	**Sn**	**20 51 11.9**	**-1.5**
BDRM	**Kayabasi**	**2.11**	**146**	⇓*i*P	**Pn**	**20 50 46.4**	**-1.0**
BDRM				*i* S	**Sg**	**20 51 19.7**	**+0.2**
DEMI	**Demirci**	**2.14**	**84**	*i* P	**Pn**	**20 50 46.2**	**-1.6**
DEMI				*i* S	**Sb**	**20 51 18.0**	**+0.4**
DST	**Dursunbey**	**2.18**	**69**	PN	**Pn**	**20 50 47.7**	**-0.7**
VIL2	**Platees**	**2.22**	**255**	P	**Pn**	**20 50 47.7**	**-1.2**
SBT4	**Kumbag-Tekirda**	**2.32**	**30**	PN	**Pn**	**20 50 49.8**	**-0.3**
ATAL	**Atalanti**	**2.32**	**267**	P	**Pn**	**20 50 49.5**	**-0.8**
KCTX	**Karacabey (Bur**	**2.32**	**51**	PN	**Pn**	**20 50 49.3**	**-1.0**
RDO	**Rodhopi**	**2.33**	**352**	PN	**Pn**	**20 50 49.7**	**-0.7**
RDO	**Rodhopi**	**2.33**	**352**	P	**Pn**	**20 50 49.5**	**-0.9**
RDO	**Rodhopi**	**2.33**	**352**	P	**Pn**	**20 50 49.7**	**-0.7**
RDO				S	**Sn**	**20 51 17.6**	**-1.7**
MHLA	**Plaka, Milos I**	**2.43**	**211**	P	**Pn**	**20 50 49.8**	**-1.9**
KAVA	**Kavala**	**2.44**	**333**	P	**Pn**	**20 50 50.7**	**-1.1**
KAVA	**Kavala**	**2.44**	**333**	P	**Pn**	**20 50 50.1**	**-1.7**
ANAF	**Anafi Island**	**2.48**	**184**	P	**Pn**	**20 50 50.7**	**-1.8**
MHLO	**Agia Marina, M**	**2.48**	**211**	P	**Pn**	**20 50 50.9**	**-1.6**
SANT	**Santorini**	**2.50**	**190**	*e*Pn	**Pn**	**20 50 50.9**	**-1.8**
SANT	**Santorini**	**2.50**	**190**	P	**Pn**	**20 50 51.3**	**-1.5**
SANT	**Santorini**	**2.50**	**190**	⇑*i*P	**Pn**	**20 50 51.1**	**-1.6**
LTK	**Loutraki**	**2.51**	**252**	P	**Pn**	**20 50 52.0**	**-0.9**
DID	**Didima**	**2.54**	**239**	P	**Pn**	**20 50 52.1**	**-1.2**
AGG	**Agios Georgios**	**2.86**	**275**	*e*Pn	**Pn**	**20 50 57.5**	**-0.2**
SRS	**Serrai**	**2.93**	**322**	P	**Pn**	**20 50 58.0**	**-0.6**
LIT	**Litokoron**	**2.99**	**296**	*e*Pn	**Pn**	**20 51 00.1**	**+0.6**
NVR	**Nevrokopi**	**2.99**	**328**	P	**Pn**	**20 50 58.9**	**-0.6**
GUR	**Goura**	**3.00**	**254**	P	**Pn**	**20 50 58.9**	**-0.8**
KALE	**Kalithea**	**3.05**	**263**	P	**Pn**	**20 50 59.7**	**-0.6**
KLV	**Kalavryta, Ach**	**3.11**	**256**	P	**Pn**	**20 51 00.2**	**-1.0**
LAKA	**Lakka**	**3.20**	**260**	P	**Pn**	**20 51 02.4**	**0.0**
VLI	**Veliai**	**3.21**	**230**	P	**Pn**	**20 51 01.1**	**-1.4**
EFP	**Efpalio**	**3.22**	**264**	P	**Pn**	**20 51 02.5**	**-0.2**
KNT	**Kendrikon**	**3.32**	**315**	P	**Pn**	**20 51 04.2**	**+0.2**
GRG	**Griva**	**3.48**	**309**	P	**Pn**	**20 51 06.3**	**+0.1**
NPS	**Neapolis**	**3.58**	**185**	P	**Pn**	**20 51 06.0**	**-1.6**
ITM	**Ithomi**	**3.61**	**244**	*e*Pn	**Pn**	**20 51 08.1**	**+0.1**
IDI	**Anoyia**	**3.65**	**194**	*e*Pn	**Pn**	**20 51 07.6**	**-1.1**
IDI	**Anoyia**	**3.65**	**194**	⇓*i*P	**Pn**	**20 51 07.5**	**-1.1**
GEYV	**SAKARYA_Geyve**	**3.71**	**62**	*i* P	**Pn**	**20 51 09.0**	**-0.3**
GEYV				*i* S	**Sg**	**20 52 12.9**	**+2.0**
FNA	**Florina**	**4.05**	**300**	*e*Pn	**Pn**	**20 51 13.3**	**-0.8**
VTS	**Vitosha**	**4.30**	**332**	*e*Pn	**Pn**	**20 51 17.7**	**0.0**
VTS	**Vitosha**	**4.30**	**332**	⇑*i*P	**Pn**	**20 51 18.1**	**+0.4**
VTS	**Vitosha**	**4.30**	**332**	S	**Sn**	**20 52 09.2**	**+1.1**
VLAD	**Vladila**	**5.29**	**348**	⇑*i*P	**Pn**	**20 51 32.0**	**+0.9**
BR231	**Keskin MP Arra**	**5.36**	**77**	*e*Pg	**Pb**	**20 51 44.3**	**-1.4**
SGRR	**Singureni**	**5.38**	**360**	⇑*i*P	**Pn**	**20 51 33.3**	**+1.0**
RASA	**Rasa**	**5.44**	**9**	⇓*i*P	**Pn**	**20 51 33.3**	**+0.2**
ICOR	**Ion Corvin**	**5.45**	**14**	⇑*i*P	**Pn**	**20 51 33.6**	**+0.4**
MFTR	**Murfatlar**	**5.64**	**18**	⇑*i*P	**Pn**	**20 51 36.1**	**+0.2**
SULR		**5.84**	**2**	⇑*i*P	**Pn**	**20 51 39.7**	**+1.1**
PUNG	**Punghina**	**5.90**	**338**	⇓*i*P	**Pn**	**20 51 39.8**	**+0.4**
TIRR	**Tirgusor**	**5.90**	**17**	*e*Pn	**Pn**	**20 51 38.9**	**-0.6**
TIRR	**Tirgusor**	**5.90**	**17**	⇑*i*P	**Pn**	**20 51 38.8**	**-0.6**
TLB	**Topalu**	**5.95**	**14**	⇓*i*P	**Pn**	**20 51 39.8**	**-0.2**
BR131	**Keskin Array S**	**6.00**	**79**	*e*Pn	**Pn**	**20 51 39.3**	**-1.7**
BRTR	**Keskin Array B**	**6.00**	**79**	Pn	**Pn**	**20 51 41.2**	**+0.2**
	comp=Z,1.4nm,0.3s,baz=254,slow=13,SNR=66						
BRTR				Lg	Lg	20 53 28.7	
	comp=Z,0.3nm,0.3s,baz=262,slow=32,SNR=4.0						
HARR	**Harsova**	**6.03**	**13**	⇑*i*P	**Pn**	**20 51 40.8**	**-0.3**
ISR	**Istrita**	**6.29**	**4**	⇑*i*P	**Pn**	**20 51 45.9**	**+1.0**
MTUR	**Matau**	**6.42**	**354**	⇑*i*P	**Pn**	**20 51 47.9**	**+1.2**
CFR	**Carcaliu**	**6.53**	**13**	⇓*i*P	**Pn**	**20 51 47.8**	**-0.3**
HERR	**Herculane**	**6.60**	**337**	⇑*i*P	**Pn**	**20 51 48.1**	**-0.9**
ARR	**Arges**	**6.60**	**352**	⇓*i*P	**Pn**	**20 51 49.4**	**+0.2**
VOIR		**6.63**	**354**	⇓*i*P	**Pn**	**20 51 49.1**	**-0.5**
MLR	**Muntele Rosu**	**6.65**	**360**	Pn	**Pn**	**20 51 52.1**	**+2.3**
	comp=Z,3.2nm,0.3s,baz=265,slow=5.8,SNR=44						
MLR				Lg	Lg	20 53 47.4	
	comp=Z,0.3nm,0.3s,baz=108,slow=20,SNR=3.1						
MLR				LR	LR	20 54 23.4	
	comp=Z,79nm,18.3s,baz=84,slow=38						
MLR	**Muntele Rosu**	**6.65**	**360**	*e*Pn	**Pn**	**20 51 50.8**	**+0.9**
MLR	**Muntele Rosu**	**6.65**	**360**	⇓*i*P	**Pn**	**20 51 51.0**	**+1.1**
TLCR		**6.68**	**17**	⇑*i*P	**Pn**	**20 51 49.6**	**-0.6**
MDVR	**Moldovita**	**6.74**	**333**	⇓*i*P	**Pn**	**20 51 50.9**	**-0.1**
LOT	**Lotru**	**6.81**	**347**	⇓*i*P	**Pn**	**20 51 52.6**	**+0.6**
DIVS	**Divibare**	**6.92**	**321**	*e*Pn	**Pn**	**20 51 53.0**	**-0.5**
ODBI	**Odobesti**	**6.97**	**6**	⇓*i*P	**Pn**	**20 51 55.1**	**+1.0**
GZR	**Gura Zlata**	**6.97**	**341**	⇑*i*P	**Pn**	**20 51 53.2**	**-1.0**
PLOR	**Plostina**	**7.03**	**4**	⇓*i*P	**Pn**	**20 51 56.1**	**+1.2**
VRI	**Vrincioaia**	**7.05**	**4**	⇑*i*P	**Pn**	**20 51 56.4**	**+1.2**
DOPR	**Dopca**	**7.14**	**357**	⇓*i*P	**Pn**	**20 51 56.5**	**0.0**
MDB	**Medias**	**7.39**	**351**	⇑*i*P	**Pn**	**20 52 00.5**	**+0.5**
BZS	**Buzias**	**7.51**	**336**	⇑*i*P	**Pn**	**20 52 00.8**	**-0.7**
CUC	**Castrocucco**	**7.98**	**282**	*e*Pn	**Pn**	**20 52 08.2**	**+0.4**
CJR	**Cluj-Napoca**	**8.06**	**348**	⇓*i*P	**Pn**	**20 52 10.1**	**+0.9**
SIRR	**Siria**	**8.08**	**338**	⇑*i*P	**Pn**	**20 52 09.6**	**+0.2**
BIZ	**Bicaz**	**8.10**	**1**	⇓*i*P	**Pn**	**20 52 10.4**	**+0.8**
DRGR		**8.30**	**344**	⇓*i*P	**Pn**	**20 52 12.8**	**+0.3**
ARCR	**ARCALIA**	**8.33**	**352**	⇑*i*P	**Pn**	**20 52 14.0**	**+1.2**
MILM	**Milestii Mici**	**8.34**	**13**	⇓*i*P	**Pn**	**20 52 13.0**	**+0.1**
BURAR	**Bucovina Array**	**8.79**	**357**	⇑*i*P	**Pn**	**20 52 20.8**	**+1.6**
BUR04	**Bucovina Ar. S**	**8.79**	**357**	*e*Pn	**Pn**	**20 52 18.6**	**-0.7**
BUR08	**Bucovina Ar. S**	**8.82**	**357**	*e*Pn	**Pn**	**20 52 20.7**	**+1.0**
MMAI	**Mount Meron Ar**	**9.59**	**124**	Pn	**Pn**	**20 52 28.1**	**-2.1**
	comp=Z,1.1nm,0.3s,baz=310,slow=11,SNR=9.7						
PSZ	**Piszkesteto**	**10.10**	**336**	*e*Pn	**Pn**	**20 52 37.1**	**0.0**
VYHS	**Vyhne**	**10.95**	**334**	*e*Pn	**Pn**	**20 52 48.6**	**-0.1**
VRAC	**Vranov**	**12.45**	**330**	LR	LR	20 58 31.4	
	comp=Z,33nm,18.9s,baz=146,slow=40						
GERES	**GERESS Array B**	**13.35**	**322**	Pn	**Pn**	**20 53 25.1**	**+3.6**
	baz=144,slow=15,SNR=3.5						
FINES	**FINESS Array B**	**22.63**	**0**	LR	LR	21 05 05.3	
	comp=Z,63nm,18.4s,baz=221,slow=39						
ESDC	**Sonseca Array**	**23.16**	**282**	P	**P**	**20 55 22.4**	**+3.8**
	comp=Z,1.0nm,0.7s,baz=88,slow=9.5,SNR=4.9						
GEYT	**Alibeck**	**25.14**	**82**	P	**P**	**20 55 37.1**	**-0.2**
	comp=Z,46nm,0.9s,baz=278,slow=10,SNR=5.0						
AKTO	**Aktyubinsk**	**25.37**	**52**	P	**P**	**20 55 39.9**	**+0.7**
	comp=Z,2.9nm,0.9s,baz=252,slow=8.7,SNR=7.6						
TORD	**Torodi Ar. Bea**	**33.43**	**227**	P	**P**	**20 56 54.5**	**+3.3**
	comp=Z,0.3nm,0.5s,baz=28,slow=9.6,SNR=5.8						
MKAR	**Makanchi Array**	**41.28**	**60**	P	**P**	**20 57 57.2**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=269,slow=7.3,SNR=3.5						
SONM	**Songino Array**	**56.69**	**53**	P	**P**	**20 59 55.3**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=291,slow=8.6,SNR=3.7						
CMAR	**Chiang Mai Arr**	**65.56**	**85**	P	**P**	**21 00 55.5**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=301,slow=7.7,SNR=17						

IDC **12** *20:50:25.2*×*2.7, 6.39S*×*147.40E, h0km, mb3.8/3, mb1 4.1/6, mb1mx3.7/40, mbtmp3.9/6, ML3.7/2, MS3.3/6, Ms1 3.3/6, ms1mx2.9/31, Error ellipse: s-maj=57.1km s-min=24.9km az=83.0*

ISC 12 20:50:33.6±2.4, **6.5S**±0.1×**147.3E**±0.3, **h63**km, **n12,** σ1§**83**/**8, mb3.7/3, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.90**	**182**	Pn	**Pn**	**20 51 15.9**	**-1.5**
	4.8nm,0.3s,baz=13,slow=6.6,SNR=17						
PMG				Sn	**Sn**	**20 51 53.8**	**+2.7**
	5.2nm,0.3s,baz=212,slow=9.1,SNR=4.6						
JAY	**Jayapura**	**7.63**	**301**	LR	LR	20 55 52.6	
	comp=Z,290nm,18.0s,slow=42						
SIJI	**Sorong**	**16.90**	**289**	P	**Pn**	**20 54 25.7**	**-0.4**
	0.5nm,0.3s,baz=57,slow=6.0,SNR=6.4						
SIJI				LR	LR	21 03 16.4	
	comp=Z,118nm,19.0s,baz=328,slow=45						
WRA	**Warramunga Arr**	**18.33**	**222**	P	**Pn**	**20 54 42.5**	**-1.1**
	0.2nm,0.3s,baz=45,slow=12,SNR=8.9						
WRA				LR	LR	21 02 54.3	
	comp=Z,118nm,18.1s,baz=50,slow=40						
ASAR	**Alice Springs**	**21.36**	**216**	P	**P**	**20 55 15.9**	**0.0**
	1.6nm,0.5s,baz=51,slow=8.5,SNR=32						
FITZ	**Fitzroy Crossi**	**24.03**	**239**	P	**P**	**20 55 42.4**	**-0.6**
	5.8nm,0.9s,baz=54,slow=7.3,SNR=7.3						
STKA	**Stephens Creek**	**25.80**	**191**	LR	LR	21 05 43.3	
	comp=Z,66nm,18.9s,baz=26,slow=35						
JOW	**Kunigami**	**37.89**	**332**	LR	LR	21 13 55.8	
	comp=Z,23nm,18.8s,baz=98,slow=37						
KSRS	**Korea Array**	**47.30**	**339**	LR	LR	21 17 11.3	
	comp=Z,23nm,20.4s,baz=30,slow=34						
CMAR	**Chiang Mai Arr**	**53.70**	**298**	P	**P**	**20 59 51.8**	**+2.1**
	0.4nm,0.5s,baz=122,slow=5.5,SNR=4.9						
INK	**Inuvik**	**92.02**	**21**

KURS 129nm,0.8s *e*S **Sb** **20 52 38.2 +1.5**
KST 181nm,1.2s **Kastek** **3.31 329** Pg **Pb** **20 51 57.3 0.0**
KST 118nm,0.7s Lg Lg 20 52 39.1
KST 211nm,0.7s **Kastek** **3.31 329** *e*P **Pb** **20 51 57.3 0.0**
KST 118nm,0.7s ⇑*i*S **Sb** **20 52 39.1 +1.1**
TKM2 211nm,0.7s **Tokmak 2** **3.37 324** P **Pn** **20 51 53.6 +2.1**
TKM2 SNR=34 **Tokmak 2** **3.37 324**⇑*i*P **Pn** **20 51 53.4 +1.9**
TKM2 baz=24 ⇑*i*S **Sn** **20 52 33.0 +1.0**
ARLS baz=24 **Aral** **3.41 300**⇑*i*P **Pn** **20 51 54.1 +2.1**
ARLS baz=0.0 ⇑*i*S **Sn** **20 52 34.1 +1.1**
UCH baz=0.0 **Uchtor** **3.48 307** P **Pn** **20 51 55.0 +1.8**
UCH SNR=30 **Uchtor** **3.48 307**⇓*e*P **Pn** **20 51 54.8 +1.6**
UCH baz=6.0 ⇓*e*S **Sn** **20 52 36.0 +1.0**
KBK baz=6.0 **Karagaybulak** **3.49 315** P **Pn** **20 51 55.5 +2.3**
KBK SNR=14 **Karagaybulak** **3.49 315**⇑*e*P **Pn** **20 51 54.9 +1.7**
KBK baz=15 ⇑*i*S **Sn** **20 52 36.3 +1.3**
DGS baz=15 **Degeres** **3.56 329** Pg **Pb** **20 52 01.4 -0.1**
DGS 135nm,0.5s Lg Lg 20 52 45.9
DGS 171nm,0.6s **Degeres** **3.56 329** *e*P **Pb** **20 52 01.4 -0.1**
DGS 135nm,0.5s *e*S **Sb** **20 52 45.9 +0.9**
KTMS 171nm,0.6s **Ketmen** **3.58 25** Pg **Pb** **20 52 02.6 +0.7**
KTMS 4.4nm,0.1s Lg Lg 20 52 47.9
KTMS 263nm,0.7s **Ketmen** **3.58 25** *e*P **Pb** **20 52 02.6 +0.7**
KTMS 4.4nm,0.1s *e*S **Sb** **20 52 47.9 +2.2**
SFK 263nm,0.7s **Sufi-Kurgan** **3.67 268** ⇑Pn **Pn** **20 51 57.2 +1.6**
SFK 18nm,0.4s ⇑Lg Lg 20 52 50.8
SFK 74nm,0.7s **Sufi-Kurgan** **3.67 268**⇑*i*P **Pn** **20 51 57.8 +2.2**
SFK baz=67 ⇑*i*S **Sn** **20 52 41.1 +1.7**
KTBS baz=67 **Karatobe** **3.69 342** Pg **Pb** **20 52 03.7 0.0**
KTBS 66nm,0.3s Lg Lg 20 52 50.1
KTBS 266nm,0.6s **Karatobe** **3.69 342** *e*P **Pb** **20 52 03.7 0.0**
KTBS 66nm,0.3s *e*S **Sb** **20 52 50.1 +1.3**
AAK 266nm,0.6s **Ala-Archa** **3.73 312** Pn **Pn** **20 51 58.2 +1.8**
AAK 1.3nm,0.3s,baz=98,slow=10,SNR=28 Pg **Pb** **20 52 04.4 -0.1**
AAK 7.2nm,0.3s,baz=126,slow=14,SNR=79 Lg Lg 20 52 51.3
AAK 10nm,0.3s,baz=330,slow=20,SNR=19 LR LR 20 53 32.2
AAK comp=Z,92nm,18.3s,baz=136,slow=41 **Ala-Archa** **3.73 312** P **Pn** **20 51 58.7 +2.2**
AAK SNR=7.0 **Ala-Archa** **3.73 312**⇑*i*P **Pn** **20 51 58.1 +1.6**
AAK baz=11 ⇑*i*S **Sn** **20 52 41.7 +0.8**
FRU1 baz=11 **Bishkek** **3.77 315**⇓*e*P **Pn** **20 51 58.7 +1.8**
FRU1 baz=14 ⇓*i*S **Sn** **20 52 42.5 +0.8**
CHMS baz=14 **Chumysh** **3.83 318** P **Pn** **20 51 60.0 +2.2**
KUU SNR=5.8 **Kurty** **3.95 339** Pg **Pb** **20 52 08.1 0.0**
KUU 38nm,0.8s Lg Lg 20 52 57.4
KUU 197nm,0.7s **Kurty** **3.95 339** *e*P **Pb** **20 52 08.1 0.0**
KUU 38nm,0.8s *e*S **Sb** **20 52 57.4 +1.3**
AML 197nm,0.7s **Almayashu** **3.95 300** P **Pg** **20 52 13.7 +0.1**
AML SNR=6.1 **Almayashu** **3.95 300**⇓*i*P **Pn** **20 52 01.4 +1.7**
AML baz=0.0 ⇓*i*S **Sn** **20 52 47.6 +0.9**
ARXS baz=0.0 **Arharly** **4.01 355** Pg **Pb** **20 52 10.2 +1.0**
ARXS 103nm,0.5s Lg Lg 20 53 01.0
ARXS 159nm,0.7s **Arharly** **4.01 355** *e*P **Pb** **20 52 10.2 +1.0**
ARXS 103nm,0.5s *e*S **Sb** **20 53 01.1 +3.1**
USP 159nm,0.7s **Ospenovka** **4.16 318** P **Pb** **20 52 11.6 0.0**
USP SNR=79 **Ospenovka** **4.16 318**⇑*e*P **Pn** **20 52 04.0 +1.8**
USP baz=18 ⇑*i*S **Sn** **20 52 51.7 +0.5**
EKS2 baz=18 **Erkin-Say** **4.17 307** P **Pn** **20 52 04.8 +2.3**
EKS2 SNR=15 **Erkin-Say** **4.17 307**⇓*e*P **Pn** **20 52 04.5 +2.0**
EKS2 baz=7.0 ⇓*i*S **Sn** **20 52 52.4 +0.7**
SGDS baz=7.0 **Sogindy** **4.23 321** Pg **Pb** **20 52 13.3 +0.5**
SGDS 39nm,0.5s Lg Lg 20 53 06.4
DJR 62nm,1.1s **Jarkent** **4.26 15** *e*P **Pb** **20 52 14.3 +0.8**
DJR 4.8nm,0.4s *e*S **Sb** **20 53 07.7 +2.4**
TDK 50nm,0.6s **Taldyqorghan** **4.78 1** Pg **Pb** **20 52 25.9 +3.6**
TDK 174nm,0.8s Lg Lg 20 53 28.0
TDK 273nm,0.7s **Taldyqorghan** **4.78 1** *e*P **Pb** **20 52 25.9 +3.6**
TDK 174nm,0.8s *e*S **Sg** **20 53 28.0 -3.5**
KAPS 273nm,0.7s **Kapalarasan** **5.13 9** Pg **Pb** **20 52 32.1 +3.9**
KAPS 25nm,0.7s Lg Lg 20 53 38.6
KAPS 89nm,0.6s **Kapalarasan** **5.13 9** *e*P **Pb** **20 52 32.1 +3.9**
KAPS 25nm,0.7s *e*S **Sg** **20 53 38.6 -3.9**
MAKZ 89nm,0.6s **Makanchi** **7.12 21** ⇑Pn **Pn** **20 52 42.8 0.0**
MAKZ 2.8nm,1.1s ⇑Lg Lg 20 54 41.2
MK31 8.9nm,0.8s **Makanchi Array** **7.19 23** ⇑Pn **Pn** **20 52 43.3 -0.5**
MK31 1.0nm,0.5s,baz=206,slow=13,SNR=39 ⇓Lg Lg 20 54 43.5
MKAR 5.2nm,0.5s,baz=209,slow=26 **Makanchi Array** **7.19 23** Pn **Pn** **20 52 44.7 +0.8**
MKAR 0.5nm,0.3s,baz=197,slow=13,SNR=28 Sn **Sn** **20 54 04.8 -1.1**
MKAR 1.0nm,0.3s,baz=202,slow=21,SNR=6.1 Lg Lg 20 54 46.3
CHCP 1.3nm,0.3s,baz=196,slow=31,SNR=4.8 **Chirah Chowk** **7.68 213** P **Pn** **20 52 53.5 +3.0**
WMQ **Urumqi** **7.88 60** *e*P Pn 20 52 58.1 +4.8
WMQ S **Sn** **20 54 26.4 +3.4**
WMQ comp=N,58nm,1.3s smax smax
WMQ comp=E,65nm,1.1s smax smax
CEP **Cherat** **8.16 221** ⇑P **Pn** **20 52 59.0 +1.7**
THW **Thamme Wali** **9.08 217** P **Pn** **20 53 10.5 +0.7**
KURBB **Kurchatov Arra** **10.41 1** Pn **Pn** **20 53 27.4 -0.5**
0.1nm,0.3s,baz=189,slow=12,SNR=12

KURBB Lg Lg 20 56 24.4
KURBB 0.1nm,0.3s,baz=187,slow=30,SNR=7.5 **Kurchatov Arra** **10.41 1** ⇓Lg Lg 20 56 24.7
KURK 28nm,0.8s **Kurchatov** **10.50 1** ⇑Lg Lg 20 56 25.0
DANN 23nm,1.0s **Dangsing** **12.67 157** *e*P **Pn** **20 53 57.4 -1.8**
PYUN 5.9nm,0.3s **Piuthan** **12.70 161** *e*P **Pn** **20 53 57.3 -2.2**
KOLN 11nm,0.5s **Koldanda** **13.17 159** *e*P **Pn** **20 54 03.4 -2.6**
DMN 6.3nm,0.4s **Daman** **13.79 154** *e*P **Pn** **20 54 12.8 -1.6**
GUN 5.7nm,0.6s **Gumba** **13.79 151** *e*P **Pn** **20 54 12.9 -1.6**
BVAR 9.9nm,0.5s **Borovoye Array** **13.90 340** Pn **Pn** **20 54 13.5 -2.0**
BVAR 0.2nm,0.3s,baz=150,slow=15,SNR=7.6 Lg Lg 20 58 14.8
BVAR 0.1nm,0.3s,baz=71,slow=20,SNR=3.8 LR LR 20 59 58.4
PKIN comp=Z,34nm,18.9s,baz=92,slow=39 **Phulchoki** **13.92 153** *e*P **Pn** **20 54 14.6 -1.6**
PKI 9.2nm,0.6s **Pulchoki** **13.93 153** *e*P **Pn** **20 54 14.5 -1.9**
JIRN 7.3nm,0.5s **Jiri** **14.13 150** *e*P **Pn** **20 54 17.0 -2.2**
ZALV 16nm,0.4s **Zalesovo Beam** **14.43 16** Pn **Pn** **20 54 25.2 +2.3**
ZALV 0.2nm,0.3s,baz=210,slow=11,SNR=1.8 Lg Lg 20 58 34.0
RAMN 0.2nm,0.3s,baz=197,slow=30,SNR=2.6 **Ramite** **14.93 150** *e*P **Pn** **20 54 26.0 -4.0**
GEYT 16nm,0.6s **Alibeck** **15.82 268** LR LR 21 01 39.0
comp=Z,25nm,19.2s,baz=150,slow=41
GTA **Gaotai** **16.57 86** *e*P **P** **20 54 58.9 +5.1**
GTA pP sP 20 55 03.2 +7.7
GTA sP pP 20 55 05.8 +11
GTA pmax pmax
comp=Z,2.0nm,1.2s
SONM **Songino Array** **21.52 60** P **P** **20 55 48.7 +0.7**
4.3nm,0.8s,baz=260,slow=8.9,SNR=8.0
WSAR **Wadi Sarin** **23.70 230** LR LR 21 06 27.2
comp=Z,22nm,19.2s,baz=6.5,slow=40
BRTR **Keskin Array B** **33.94 284** P **P** **20 57 41.6 -0.7**
1.3nm,0.7s,baz=91,slow=9.3,SNR=7.0
FINES **FINESS Array B** **37.85 322** P **P** **20 58 14.1 -1.3**
1.2nm,0.8s,baz=120,slow=8.2,SNR=3.3
GERES **GERESS Array B** **45.57 303** P **P** **20 59 17.5 -1.4**
0.3nm,0.7s,baz=74,slow=9.8,SNR=3.8
TORD **Torodi Ar. Bea** **71.43 272** P **P** **21 02 16.3 -3.4**
0.8nm,0.5s,baz=40,slow=5.7,SNR=18
YKA **Yellowknife Ar** **77.11 6** P **P** **21 02 52.9 +0.9**
0.2nm,0.6s,baz=346,slow=5.6,SNR=2.8
ASAR **Alice Springs** **81.97 130** P **P** **21 03 17.5 -1.5**
0.3nm,0.7s,baz=305,slow=5.0,SNR=4.1

MEX 12 20:56:18.9±0.7, 17.90N×99.89W, h57km±6km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.26**	**85**	*eP*		Pn		20 56 26.7	-1.8
MEIG				*i* S		Sn		20 56 33.5	-1.8
ARIG	**Puente Sto Nin**	**0.58**	**311**	*eP*		Pn		20 56 29.9	-1.6
ARIG				*e*S		Sn		20 56 39.0	-1.7
PLIG	**Platanillo**	**0.61**	**37**	*eP*		Pn		20 56 30.5	-1.5
PLIG				*e*S		Sn		20 56 40.0	-1.5
CAIG	**El Cayaco**	**0.93**	**203**	*eP*		Pn		20 56 33.7	-2.1
CAIG				*i* S		Sn		20 56 47.0	-1.4

IDC 12 21:06:22.4±1.9, 3.86N×126.24E, h0km, mb3.4/5, mb1 3.7/5, mb1mx3.4/36, mbtmp3.5/5, Error ellipse: s-maj=87.5km s-min=20.5km az=63.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.82**	**182**	P		P	P	21 11 16.3	-0.1
WRA	3.6nm,0.9s,baz=0.0,slow=9.1,SNR=8.8 **Warramunga Arr**	**24.95**	**162**	P		P		21 11 48.0	+0.3
ASAR	0.4nm,0.6s,baz=338,slow=10,SNR=5.7 **Alice Springs**	**28.36**	**165**	P		P		21 12 18.1	-0.3
CMAR	0.1nm,0.3s,baz=345,slow=8.0,SNR=4.8 **Chiang Mai Arr**	**30.39**	**301**	P		P	P	21 12 37.2	+0.7
MKAR	0.2nm,0.4s,baz=111,slow=9.9,SNR=2.8 **Makanchi Array**	**57.18**	**325**	P		P	P	21 16 10.6	-0.6
	0.2nm,0.4s,baz=121,slow=7.7,SNR=7.1								

TAP 12 21:29:01.4, 22.29N×122.48E, h47km±1km, ML3.5, D
JMA 12 21:29:01.2±0.3, 22.37N×122.46E, h38km, M3.7
ISC 12 21:28:59.1±3.1, 22.31N±0.04×122.52E±0.03, h14km±22km, n73, σ1.940/131, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.94**	**254**	P		P	**Pb**	**21 29 17.3**	**+0.2**
LAY	baz=254			*e*S			**Sb**	**21 29 28.9**	**-0.5**
CHKT	baz=254 **Chengkung**	**1.32**	**307**	*e*P		**Pn**		**21 29 22.2**	**-0.9**
CHKT	baz=309			*e*S			**Sb**	**21 29 37.9**	**-2.7**
TWGBT	baz=309 **Beinan**	**1.42**	**291**	*e*P		**Pn**		**21 29 24.5**	**-0.1**
TWGBT	baz=292			*e*S			**Sn**	**21 29 41.9**	**-1.1**
TWG	baz=292 **Pinlang**	**1.43**	**291**	P		**Pn**		**21 29 25.1**	**+0.4**
TWG	baz=292			S			**Sn**	**21 29 41.8**	**-1.5**
FULB	baz=292 **Fuli**	**1.44**	**308**	*e*P		**Pn**		**21 29 23.9**	**-0.9**
FULB	baz=310			*e*S			**Sn**	**21 29 41.2**	**-2.2**
ECL	baz=310 **Taimali**	**1.48**	**282**	*e*P		**Pn**		**21 29 25.7**	**+0.4**
ECL	baz=282			*e*S			**Sn**	**21 29 43.3**	**-1.0**
TWF1	baz=282 **Yuli**	**1.53**	**313**	P		**Pn**		**21 29 25.9**	**-0.2**
TWF1	baz=315			S			**Sn**	**21 29 44.3**	**-1.5**
EAST	baz=315 **Anshuo**	**1.55**	**273**	*e*P		**Pn**		**21 29 26.8**	**+0.5**
EAST	baz=274			*e*S			**Sn**	**21 29 44.9**	**-1.3**
HGSD	baz=274 **Ruisui**	**1.55**	**320**	*e*P		**Pn**		**21 29 25.6**	**-0.7**
HGSD	baz=321			*e*S			**Sn**	**21 29 43.6**	**-2.6**
YULB	baz=321 **Yu-li**	**1.56**	**314**	*e*P		**Pn**		**21 29 26.6**	**+0.1**
YULB	baz=316			*e*S			**Sn**	**21 29 45.3**	**-1.2**
EHY	baz=316 **Hungye**	**1.62**	**317**	P		**Pn**		**21 29 27.2**	**-0.1**
EHY	baz=319			S			**Sn**	**21 29 46.5**	**-1.5**
TWKBT	baz=319 **Hengchun**	**1.62**	**257**	*e*S		**Sn**		**21 29 47.4**	**-0.6**
TWK1	baz=257 **Hengchun**	**1.63**	**257**	*e*P		**Pn**		**21 29 28.1**	**+0.7**
TWK1	baz=257			*e*S			**Sn**	**21 29 47.5**	**-0.6**
ELDTW	baz=257 **Lidau**	**1.64**	**303**	*e*P		**Pn**		**21 29 27.7**	**+0.1**
ELDTW	baz=312			*e*S			**Sn**	**21 29 46.1**	**-2.5**
HEN	baz=312 **Hengchun**	**1.68**	**260**	*e*P		**Pn**		**21 29 28.6**	**+0.6**
HEN	baz=260			*e*S			**Sn**	**21 29 48.4**	**-1.0**
SCZT	baz=260 **Fangliau**	**1.76**	**272**	*e*P		**Pn**		**21 29 30.1**	**+0.9**
MASBT	baz=272 **Mashibuluo**	**1.77**	**280**	*e*P		**Pn**		**21 29 30.5**	**+1.2**
SSD	baz=280 **Sandimen**	**1.80**	**284**	*e*P		**Pn**		**21 29 31.0**	**+1.3**
ESL	baz=285 **Shilin**	**1.80**	**327**	*i* P		**Pn**		**21 29 30.0**	**+0.3**
ESL	baz=337			*i* S			**Sn**	**21 29 50.6**	**-1.8**
STYT	baz=337 **Tauyuan**	**1.83**	**298**	*e*P		**Pn**		**21 29 31.3**	**+1.0**

STYT baz=305 S **Sn** **21 29 53.0 -0.4**
SLGT baz=305 **Liugui** **1.86 292** *e*P **Pn** **21 29 31.7 +1.2**
VWDT baz=298 **VWDT** **1.92 319** P **Pn** **21 29 32.3 +1.0**
VWDT baz=328 S **Sn** **21 29 54.4 -0.8**
SGST baz=328 **Jiashian** **1.95 294** *e*P **Pn** **21 29 34.0 +2.2**
SGST baz=300 *e*S **Sn** **21 29 57.6 +1.6**
TWD baz=300 **Chiawan** **1.96 334** *e*P **Pn** **21 29 32.0 +0.1**
TWD baz=336 *e*S **Sn** **21 29 54.2 -2.0**
ALS baz=336 **Alishan** **1.98 307** *e*P **Pn** **21 29 33.7 +1.2**
ALS baz=314 *e*S **Sn** **21 29 57.5 +0.2**
WTP baz=314 **Ta-pu** **1.99 298** *e*P **Pn** **21 29 34.1 +1.7**
WTP baz=304 *e*S **Sn** **21 29 58.6 +1.4**
TPUB baz=304 **Ta-pu** **2.00 300** P **Pn** **21 29 34.5 +2.0**
TPUB baz=305 *e*S **Sn** **21 29 59.3 +1.8**
CHN1 baz=305 **Nanshi** **2.03 296** P **Pb** **21 29 35.6 -0.2**
CHN1 baz=297 S **Sb** **21 30 01.1 0.0**
NACB baz=297 **Ninganchiao** **2.04 336** *e*P **Pn** **21 29 33.4 +0.3**
NACB baz=346 *e*S **Sn** **21 29 56.6 -1.7**
SSLB baz=346 **Suanglung** **2.06 316** *e*P **Pn** **21 29 34.1 +0.8**
SSLB baz=325 *e*S **Sn** **21 29 58.1 -0.7**
TWK baz=325 **Hsinying** **2.10 297** *e*P **Pb** **21 29 36.5 -0.6**
TWK baz=310 *e*S **Sb** **21 30 02.6 -0.4**
HATJ baz=310 **Hateruma jima** **2.10 34** P **Pn** **21 29 35.2 +1.3**
HATJ *e*S **Sn** **21 29 59.3 -0.6**
CHN5 baz=314 **Tsauling** **2.13 307** *e*P **Pb** **21 29 37.0 -0.5**
CHN5 baz=314 *e*S **Sn** **21 30 02.3 +1.8**
CHGB baz=314 **Renai** **2.14 325** *e*P **Pn** **21 29 35.6 +1.1**
CHGB baz=326 *e*S **Sn** **21 29 59.8 -1.2**
WHF baz=326 **Hehuan Shan** **2.16 328** P **Pn** **21 29 35.6 +0.5**
WHF baz=330 *e*S **Sn** **21 30 01.1 -0.8**
SMLT baz=330 **Sun Moon Lake** **2.16 317** *e*P **Pn** **21 29 36.1 +1.2**
SMLT baz=324 *e*S **Sn** **21 30 01.9 +0.4**
TYC baz=324 **Yuchr** **2.21 316** *e*P **Pn** **21 29 37.2 +1.9**
TYC baz=324 *e*S **Sn** **21 30 03.3 +1.0**
ENA baz=324 **Nanau** **2.23 341** P **Pn** **21 29 36.6 +1.0**
ENA baz=343 *e*S **Sn** **21 30 02.2 -0.7**
WJS baz=343 **Zhushan** **2.23 313** *e*P **Pb** **21 29 38.6 -0.7**
EOS1 baz=314 **EOS1** **2.26 351** *e*S **Sn** **21 30 03.9 +0.2**
WDLH baz=352 **Douliu** **2.28 307** *e*P **Pb** **21 29 39.8 -0.3**
WDLH baz=318 *e*S **Sb** **21 30 07.7 -0.6**
TWT baz=318 **Tachien** **2.30 328** *e*S **Sn** **21 30 04.4 -0.4**
WNT baz=329 **Mingjian** **2.30 313** *e*P **Pn** **21 29 39.4 +2.8**
WNT baz=315 *e*S **Sb** **21 30 07.4 -1.3**
IRIF baz=315 **Iriomote-Funau** **2.30 29** P **Pn** **21 29 38.0 +1.3**
IRIF *e*S **Sn** **21 30 04.9 +0.1**
TDCB **Techi** **2.31 327** *e*P **Pn** **21 29 37.9 +1.1**
TDCB baz=329 *e*S **Sn** **21 30 04.0 -1.0**
NNSB baz=329 **Datong** **2.35 334** *e*P **Pn** **21 29 38.6 +1.1**
NNSB baz=335 *e*S **Sn** **21 30 05.4 -0.8**
WLGB baz=335 **Puzi** **2.35 300** *e*S **Sb** **21 30 09.8 -0.5**
JKRS baz=301 **Kuro-shima** **2.36 35** P **Pn** **21 29 38.9 +1.5**
JKRS *e*S **Sn** **21 30 05.7 -0.5**
NNS baz=335 **Nan Shan** **2.37 334** P **Pn** **21 29 38.9 +1.2**
NNS baz=335 *e*S **Sn** **21 30 05.5 -1.0**
TWC baz=356 **Suao** **2.37 345** *e*P **Pn** **21 29 39.0 +1.4**
TWC baz=356 *e*S **Sn** **21 30 06.0 -0.5**
ENTT baz=341 **Nioudou** **2.48 340** P **Pn** **21 29 41.0 +1.8**
ENTT baz=341 *e*S **Sn** **21 30 09.1 -0.1**
TCU baz=319 **Taichung** **2.50 318** *e*P **Pn** **21 29 41.9 +2.6**
TCU baz=319 *e*S **Sn** **21 30 12.3 +2.7**
TWE baz=344 **Neicheng** **2.53 342** P **Pn** **21 29 41.4 +1.7**
TWE baz=344 *e*S **Sn** **21 30 11.2 +0.9**
JIJ **Ishigaki jima** **2.53 36** P **Pn** **21 29 40.6 +0.8**
JIJ *e*S **Sn** **21 30 09.5 -0.9**
YHNB baz=337 **Yeheng** **2.57 336** *e*P **Pn** **21 29 42.1 +1.6**
YHNB baz=337 *e*S **Sn** **21 30 11.2 -0.5**
NSK baz=337 **Sanguang** **2.59 336** P **Pn** **21 29 42.2 +1.6**
NSK baz=337 *e*S **Sn** **21 30 11.8 0.0**
TWQ1 baz=332 **Liyutan** **2.59 322** P **Pb** **21 29 44.0 -1.3**
TWQ1 baz=332 S **Sn** **21 30 14.9 +3.1**
NWLT baz=341 **Wulai** **2.63 339** *e*P **Pn** **21 29 42.4 +1.2**
NSY baz=332 **Sanyi** **2.65 323** *e*P **Pb** **21 29 45.3 -1.1**
NSY baz=332 *e*S **Sn** **21 30 16.2 +2.9**
NSTT baz=339 **Nanjuang** **2.70 329** *e*P **Pn** **21 29 44.9 +2.8**
NSTT baz=339 *e*S **Sn** **21 30 15.5 +0.9**
LIOB baz=339 **Emei** **2.71 330** *e*P **Pn** **21 29 45.5 +3.3**
LIOB baz=339 *e*S **Sn** **21 30 16.2 +1.4**
TIPB baz=356 **Shuangxi** **2.73 347** *e*P **Pn** **21 29 44.5 +1.9**
TIPB baz=356 *e*S **Sn** **21 30 14.6 -0.7**
NMLH baz=337 **Miaoli** **2.73 325** *e*S **Sn** **21 30 18.0 +2.7**
WLTB baz=344 **Daxi** **2.79 336** *e*P **Pn** **21 29 45.6 +2.3**
WLTB baz=344 *e*S **Sn** **21 30 17.3 +0.6**
JISG baz=331 **Ishigakijimahi** **2.80 36** P **Pn** **21 29 44.2 +0.7**
JISG S **Sn** **21 30 16.2 -0.9**
YM01 baz=354 **YM01** **2.96 343** *e*P **Pn** **21 29 48.2 +2.5**
YM01 baz=354 *e*S **Sn** **21 30 21.8 +0.8**
YM04 baz=344 **YM04** **2.97 343** *e*S **Sn** **21 30 22.5 +1.1**
YM05 baz=331 **YM05** **2.97 343** *e*P **Pn** **21 29 48.5 +2.5**
JTJ **Tarama** **3.07 40** P **Pn** **21 29 48.1 +0.9**

JTJ S **Sn** **21 30 23.1 -0.5**
JIRB Irabujima 3.50 44 *e*S **Sn** **21 30 33.3 -0.9**
VWUC VWUC 3.88 314 *e*P **Pn** **21 30 00.7 +2.3**
baz=316
VWUC *e*S **Sn** **21 30 43.0 -0.7**
baz=316
PTMZ Houxiangcun 4.13 312 *e*P **Pn** **21 30 04.8 +3.0**
baz=313
PTMZ *e*S **Sn** **21 30 50.8 +0.9**
baz=313
MATB Ma-tsu 4.49 329 *e*P **Pn** **21 30 08.2 +1.5**
baz=330

IDC 12 21:42:42.6±45.0, 15°56'S×162°57'E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/34, mbtmp3.7/3, Error ellipse: s-maj=751.8km s-min=97.3km az=63.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**25.08**	**226**	P	P	21 48 08.8	-0.2
	0.6nm,0.4s,baz=51,slow=7.6,SNR=5.2						
WRA	**Warramunga Arr**	**27.22**	**257**	P	P	21 48 28.8	+0.2
	0.1nm,0.4s,baz=86,slow=9.5,SNR=4.0						
ASAR	**Alice Springs**	**28.14**	**249**	P	P	21 48 36.8	0.0
	0.6nm,0.4s,baz=74,slow=9.2,SNR=15						

*IDC **12** 21:43:33.3±1.4, 61°.87N×150°.95W, h46km±15km, mb3.7/13, mb1 3.7/17, mb1mx3.5/53, mbtmp3.8/17, ML2.9/4, MS2.4/1, Ms1 2.4/1, ms1mx2.2/33, Error ellipse: s-maj=23.7km s-min=9.7km az=112.0*
*ISCJB **12** 21:43:34.6±0.2, 61°.82N±0°.02×150°.58W±0°.04, h74km±3km, mb3.9/20, Error ellipse: s-maj=3.7km s-min=3.1km az=142.2*
*NEIC **12** 21:43:36.6±0.0, 61°.81N×150°.58W, h59km, ML3.5(AEIC), After AEIC.*
NEIC Felt at Anchorage.
ISC 12 21:43:35.8±0.7, 61°.81N±0°.03×150°.59W±0°.03, h71km±7km, n98, σ0s84/112, mb4.1/20, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.35**	**192**	P	**Pn**	**21 43 46.9**	**-0.8**
SUA				S	**Sn**	**21 43 55.4**	**-0.9**
PMR	**Palmer**	**0.73**	**106**	P	**Pn**	**21 43 50.0**	**-1.1**
PMR				S	**Sn**	**21 44 01.5**	**-0.9**
GHO	**Glory Hole Cre**	**0.79**	**92**	P	**Pn**	**21 43 51.6**	**-0.3**
GHO				S	**Sn**	**21 44 03.4**	**-0.5**
RC01	**Rabbit Creek A**	**0.83**	**150**	P	**Pn**	**21 43 51.3**	**-0.9**
RC01				S	**Sn**	**21 44 04.2**	**-0.2**
CRP	**Crater Peak**	**0.92**	**235**	P	**Pn**	**21 43 53.3**	**-0.3**
CRP				S	**Sn**	**21 44 06.7**	**0.0**
SPU	**Mount Spurr**	**0.94**	**229**	*e*Pn	**Pn**	**21 43 53.2**	**-0.5**
SPU				*e*Sn	**Sn**	**21 44 05.2**	**-1.7**
CKT	**Bend**	**0.98**	**233**	P	**Pn**	**21 43 53.8**	**-0.5**
SML	**Sawmill**	**1.07**	**89**	P	**Pn**	**21 43 54.7**	**-0.6**
SML				S	**Sn**	**21 44 09.4**	**-0.4**
SPWE	**Spurr West**	**1.08**	**241**	P	**Pn**	**21 43 55.3**	**-0.2**
KNK	**Knik Glacier**	**1.09**	**110**	P	**Pn**	**21 43 55.3**	**-0.2**
SPNN	**North Nagishla**	**1.10**	**247**	P	**Pn**	**21 43 55.4**	**-0.4**
SPNN				S	**Sn**	**21 44 10.9**	**+0.3**
NKA	**Nikishka**	**1.11**	**197**	P	**Pn**	**21 43 56.9**	**+1.2**
HUR	**Hurricane**	**1.26**	**20**	P	**Pn**	**21 43 57.5**	**-0.1**
SLKM	**Skilak Lake**	**1.31**	**172**	P	**Pn**	**21 43 57.4**	**-1.0**
PPLA	**Purkeypile**	**1.32**	**327**	P	**Pn**	**21 43 58.1**	**-0.5**
PPLA				S	**Sn**	**21 44 15.2**	**-0.5**
PWL	**Port Wells**	**1.44**	**130**	P	**Pn**	**21 43 59.3**	**-0.8**
PWL				S	**Sn**	**21 44 17.8**	**-0.6**
RDT	**Redoubt**	**1.52**	**216**	P	**Pn**	**21 44 00.8**	**-0.3**
SCM	**Sheep Creek Mo**	**1.55**	**88**	P	**Pn**	**21 44 01.2**	**-0.3**
DFR	**Drift River**	**1.58**	**221**	P	**Pn**	**21 44 01.8**	**-0.2**
RDJH	**Redoubt Jeurge**	**1.62**	**222**	P	**Pn**	**21 44 02.6**	**+0.1**
TRF	**Thorofare Moun**	**1.66**	**5**	P	**Pn**	**21 44 02.8**	**-0.3**
RDN	**Redoubt North**	**1.67**	**220**	P	**Pn**	**21 44 03.0**	**-0.2**
RSO	**Redoubt South**	**1.71**	**219**	*e*Pn	**Pn**	**21 44 03.6**	**-0.1**
RDWB	**Redoubt West**	**1.71**	**221**	P	**Pn**	**21 44 03.8**	**0.0**
CAST	**Castle Rocks**	**1.76**	**338**	P	**Pn**	**21 44 04.1**	**-0.2**
SEW	**Seward**	**1.80**	**161**	P	**Pn**	**21 44 05.0**	**+0.4**
RND	**Reindeer**	**1.80**	**26**	P	**Pn**	**21 44 04.5**	**-0.3**
GLI	**Glacier Island**	**1.92**	**117**	P	**Pn**	**21 44 05.1**	**-1.3**
DHY	**Denali Highway**	**1.97**	**48**	P	**Pn**	**21 44 06.9**	**-0.3**
BRLK	**Bradley Lake**	**2.05**	**184**	P	**Pn**	**21 44 08.9**	**+0.7**
JPK	**Jack Peak**	**2.06**	**110**	P	**Pn**	**21 44 07.4**	**-0.9**
MCK	**McKinley**	**2.08**	**21**	P	**Pn**	**21 44 08.7**	**+0.2**
ILW	**Iliamna West**	**2.15**	**216**	P	**Pn**	**21 44 09.4**	**-0.2**
IVE	**Iliamna Volcan**	**2.15**	**215**	P	**Pn**	**21 44 09.6**	**0.0**
ILS	**Iliamna Low So**	**2.21**	**214**	P	**Pn**	**21 44 10.8**	**+0.3**
HOM	**Homer**	**2.22**	**194**	P	**Pn**	**21 44 10.7**	**+0.3**
CHUM	**Lake Minchumin**	**2.23**	**340**	P	**Pn**	**21 44 11.4**	**-0.1**
KLU	**Klutina**	**2.25**	**96**	P	**Pn**	**21 44 10.3**	**-0.6**
BPAW	**Bear Paw Mtn.**	**2.31**	**356**	P	**Pn**	**21 44 11.0**	**-0.7**
DIV	**Divide**	**2.41**	**104**	P	**Pn**	**21 44 11.9**	**-1.2**
PS11	**TAPS Pump St11**	**2.44**	**81**	P	**Pn**	**21 44 13.9**	**+0.6**
SVW2	**Sparrevohn**	**2.50**	**256**	P	**Pn**	**21 44 13.6**	**-0.6**
HARP	**HAARP**	**2.63**	**74**	P	**Pn**	**21 44 16.6**	**+0.7**
PAX	**Paxson**	**2.66**	**62**	P	**Pn**	**21 44 16.9**	**+0.5**
EYAK	**Cordova Ski Ar**	**2.66**	**116**	*e*Pn	**Pn**	**21 44 15.0**	**-1.4**
TT01	**Tatalina**	**2.76**	**296**	P	**Pn**	**21 44 17.4**	**-0.3**
NEA	**Nenana**	**2.87**	**13**	P	**Pn**	**21 44 18.9**	**-0.2**
WRH	**Wood River Hil**	**2.91**	**22**	P	**Pn**	**21 44 19.5**	**-0.2**
BMRM	**Bremner River**	**3.00**	**104**	P	**Pn**	**21 44 21.3**	**+0.3**
HDA	**Harding Lake**	**3.09**	**31**	P	**Pn**	**21 44 22.5**	**+0.2**
PS08	**TAPS Pump Stn8**	**3.24**	**30**	P	**Pn**	**21 44 24.1**	**-0.1**
MLY	**Manley**	**3.24**	**359**	P	**Pn**	**21 44 23.8**	**-0.5**
RIDG	**Independ'e Rid**	**3.28**	**51**	P	**Pn**	**21 44 25.1**	**+0.3**
COLA	**College**	**3.32**	**21**	P	**Pn**	**21 44 25.2**	**0.0**
MDM	**Murphy Dome**	**3.34**	**18**	P	**Pn**	**21 44 25.6**	**0.0**
HMT	**Hamilton**	**3.41**	**113**	*e*Pn	**Pn**	**21 44 24.8**	**-1.8**
IL1	**Eielson Array**	**3.42**	**28**	*e*Pn	**Pn**	**21 44 26.5**	**-0.1**
ILAR	**Eielson Array**	**3.42**	**28**	P	**Pn**	**21 44 26.0**	**-0.6**
	4.3nm,0.3s,baz=210,slow=14,SNR=118						
ILAR				S	**Sn**	**21 45 03.8**	**-2.1**
	12nm,0.3s,baz=220,slow=21,SNR=8.0						
ILB	**Eielson Array**	**3.42**	**28**	P	**Pn**	**21 44 26.3**	**-0.3**
DOT	**Dot Lake**	**3.53**	**56**	*e*Pn	**Pn**	**21 44 28.2**	**0.0**
PS07	**TAPS Pump Stn7**	**3.67**	**15**	P	**Pn**	**21 44 30.5**	**+0.5**
SCRK	**Sand Creek**	**3.73**	**51**	P	**Pn**	**21 44 30.9**	**-0.1**
KHIT	**Khitrov Hills**	**3.81**	**108**	P	**Pn**	**21 44 31.5**	**-0.7**
PS06	**TAPS Pump Stn6**	**4.08**	**5**	P	**Pn**	**21 44 36.2**	**+0.5**
GCSA	**Galena City Sc**	**4.09**	**319**	P	**Pn**	**21 44 35.2**	**-0.7**
KDAK	**Kodiak Island**	**4.16**	**195**	P	**Pn**	**21 44 35.5**	**-1.2**
	2.2nm,0.3s,baz=32,slow=6.5,SNR=107						
KDAK				S	**Sn**	**21 45 21.3**	**-2.8**
	4.5nm,0.3s,baz=10,slow=18,SNR=2.7						
KDAK				LR	LR	21 46 33.3	
	comp=Z,49nm,19.7s,baz=342,slow=43						
BCA3	**Beaver Creek A**	**4.28**	**69**	P	**Pn**	**21 44 38.5**	**0.0**
PRP	**Porcupine Dome**	**4.36**	**29**	P	**Pn**	**21 44 39.9**	**+0.4**
IM3	**Indian Mountai**	**4.42**	**343**	P	**Pn**	**21 44 40.0**	**-0.3**
PCA	**Pinnacle**	**5.32**	**104**	*e*Pn	**Pn**	**21 44 52.9**	**+0.3**
FYU	**Fort Yukon**	**5.32**	**24**	*e*Pn	**Pn**	**21 44 53.2**	**+0.6**
COLD	**Coldfoot**	**5.45**	**2**	*e*Pn	**Pn**	**21 44 55.3**	**+1.0**
DAWY	**Dawson**	**5.59**	**61**	P	**Pn**	**21 44 56.4**	**0.0**
BM3	**Burnt Mountain**	**6.19**	**22**	P	**Pn**	**21 45 03.9**	**-0.6**
ANM	**Nome**	**7.23**	**299**	*e*Pn	**Pn**	**21 45 19.1**	**+0.4**
RDOG	**Red Dog Mine**	**8.15**	**326**	*e*Pn	**Pn**	**21 45 31.8**	**+0.6**
RDOG				*e*Sn	**Sn**	**21 47 02.4**	**+0.7**
INK	**Inuvik**	**9.69**	**40**	P	**Pn**	**21 45 50.2**	**-1.9**
	0.1nm,0.3s,baz=237,slow=15,SNR=4.1						
INK				S	**Sn**	**21 47 42.6**	**+3.5**
	0.2nm,0.3s,baz=102,slow=24,SNR=2.6						
YKA	**Yellowknife Ar**	**16.70**	**72**	P	**Pn**	**21 47 25.2**	**+0.4**
	0.0nm,0.3s,baz=280,slow=12,SNR=2.5						
RES	**Resolute Bay**	**23.14**	**34**	P	**P**	**21 48 35.1**	**-0.4**
	0.2nm,0.3s,baz=258,slow=9.3,SNR=2.5						
NVAR	**Mina Array Bea**	**30.68**	**125**	P	**P**	**21 49 45.9**	**+2.3**
	0.6nm,0.6s,baz=314,slow=8.6,SNR=4.2						
ARCES	**ARCESS Array B**	**48.92**	**2**	P	**P**	**21 52 12.9**	**-1.0**
	3.2nm,0.8s,baz=354,slow=7.3,SNR=1.7						
SONM	**Songino Array**	**54.67**	**306**	P	**P**	**21 52 57.5**	**+0.3**
	1.7nm,0.7s,baz=36,slow=7.5,SNR=16						
ZALV	**Zalesovo Beam**	**56.60**	**324**	P	**P**	**21 53 09.9**	**-0.8**
	1.1nm,0.4s,baz=26,slow=8.2,SNR=5.0						
NOA	**NORSAR Array B**	**56.69**	**10**	P	**P**	**21 53 10.5**	**-0.8**
	0.3nm,0.6s,baz=350,slow=7.0,SNR=3.2						
FINES	**FINESS Array B**	**57.05**	**2**	P	**P**	**21 53 12.8**	**-1.0**
	0.8nm,0.7s,baz=12,slow=8.4,SNR=4.0						
MKAR	**Makanchi Array**	**63.74**	**322**	P	**P**	**21 53 58.1**	**-1.5**
	0.5nm,0.4s,baz=31,slow=6.5,SNR=21						
GTA	**Gaotai**	**64.34**	**306**	*e*P	**P**	**21 54 03.6**	**-0.2**
GTA				pP	pP	21 54 08.6	-14
GTA				sP	sP	21 54 11.6	-19
GTA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
AKASG	**Malin Array Be**	**67.84**	**0**	P	**P**	**21 54 25.2**	**-0.7**
	comp=Z,1.6nm,0.4s,baz=3.9,slow=6.6,SNR=8.3						
GERES	**GERESS Array B**	**68.98**	**11**	P	**P**	**21 54 33.1**	**0.0**
	comp=Z,0.7nm,0.6s,baz=355,slow=8.0,SNR=5.9						
CONA	**Conrad Observa**	**70.08**	**10**	*i* P	**P**	**21 54 40.4**	**+0.5**
	comp=Z,2.3nm,0.7s						
WATA	**Walderalm**	**70.27**	**13**	*i* P	**P**	**21 54 41.2**	**0.0**
	comp=Z,1.6nm,0.6s						
SQTA	**Sankt Quirin**	**70.34**	**13**	*i* P	**P**	**21 54 42.5**	**+0.9**
	comp=Z,6.1nm,1.2s						
KBA	**Koelnbreinsper**	**70.70**	**12**	*i* P	**P**	**21 54 44.3**	**+0.5**
	comp=Z,3.2nm,0.5s						
SOKA	**Soboth**	**71.25**	**10**	*i* P	**P**	**21 54 48.1**	**+1.1**
	comp=Z,1.2nm,0.6s						
OBKA	**Obir**	**71.38**	**11**	*i* P	**P**	**21 54 48.3**	**+0.5**
	comp=Z,3.9nm,0.5s						
ESDC	**Sonseca Array**	**75.32**	**26**	P	**P**	**21 55 11.4**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=348,slow=6.9,SNR=3.7						
BRTR	**Keskin Array B**	**78.76**	**357**	P	**P**	**21 55 30.4**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=228,slow=1.5,SNR=4.3						
KEST	**Kesra**	**81.45**	**16**	P	**P**	**21 55 45.5**	**+0.6**
	comp=Z,2.3nm,0.9s,baz=0.0,slow=6.1,SNR=3.2						

IDC 12 21:49:48.3±1.8, 7°.09S×144°.96E, h293km±33km, mb3.0/4, mb1 3.2/7, mb1mx3.0/33, mbtmp3.7/7, Error ellipse: s-maj=57.2km s-min=12.3km az=106.0, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.17**	**137**	P	Pn	21 50 44.7	-0.6
	3.2nm,0.3s,baz=326,slow=11,SNR=28						
WRA	**Warramunga Ar**	**16.41**	**218**	P	P	21 53 20.8	-0.5
	0.4nm,0.3s,baz=31,slow=11,SNR=19						
WRA				S	S	21 56 15.6	-2.5
	0.1nm,0.3s,baz=43,slow=21,SNR=3.1						
ASAR	**Alice Springs**	**19.61**	**212**	P	P	21 53 56.2	+0.7
	0.5nm,0.3s,baz=38,slow=8.0,SNR=33						
ASAR				S	S	21 57 21.4	+0.8
	0.1nm,0.3s,baz=28,slow=20,SNR=10						
CMAR	**Chiang Mai Arr**	**52.01**	**300**	P	P	21 58 28.1	-0.5
	1.1nm,0.6s,baz=120,slow=5.6,SNR=9.8						
SONM	**Songino Array**	**64.39**	**332**	P	P	21 59 55.3	+1.7
	0.2nm,0.5s,baz=145,slow=5.3,SNR=2.5						
MKAR	**Makanchi Array**	**77.06**	**321**	P	P	22 01 09.1	-0.3
	0.1nm,0.4s,baz=112,slow=7.0,SNR=3.2						
ZALV	**Zalesovo Beam**	**78.86**	**329**	P	P	22 01 17.9	-1.1
	0.5nm,0.3s,baz=116,slow=3.4,SNR=2.8						

*IDC **12** 21:50:15.6±0.4, 0°.03N×17°.08W, h0km, mb4.6/28, mb1 4.7/28, mb1mx4.6/35, mbtmp4.6/28, MS4.4/33, Ms1 4.4/33, ms1mx4.3/36, Error ellipse: s-maj=13.6km s-min=11.6km az=143.0*
*BJI **12** 21:50:15.5, 0°.00N×17°.00W, h10km, mb5.1/2, mB5.5/1, Ms5.0/4, Ms7 4.6/4*
*MOS **12** 21:50:15.7±0.9, 0°.05N×17°.03W, h10km, mb5.1/58, MS4.4/13, Error ellipse: s-maj=10.6km s-min=5.7km az=55.3*
*ISCJB **12** 21:50:16.1±0.2, 0°.02N±0°.04×17°.00W±0°.03, h13km, mb4.8/115, MS4.4/45, Error ellipse: s-maj=6.0km s-min=4.0km az=150.5*
*NEIC **12** 21:50:17.5±0.1, 0°.00N×17°.06W, h10km, mb5.1/70, MW5.1, Error ellipse: s-maj=5.2km s-min=3.9km az=145.0, Moment Tensor Solution. s12 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.92; $M_{\theta\theta}$2.01; $M_{\phi\phi}$ 1.91; $M_{r\theta}$-0.23; $M_{\theta\phi}$-3.05; $M_{\phi r}$2.30; Best double couple: M_o5.10000×10^{16} NP1: ϕ_s293.00000°, δ38.00000°, λ-124.00000°. NP2: ϕ_s154.00000°, δ59.00000°, λ-66.00000°. Principal axes: T 5.3600, Plg11.0000°, Azm227.0000°; N -0.5400, Plg20.0000°, Azm321.0000°; P -4.8200, Plg67.0000°, Azm110.0000°;*
*GCMT **12** 21:50:17.5±0.1, 0°.18N±0°.01×17°.00W±0°.01, h12km, MW5.1/110, Moment Tensor Solution. s58,c94; s110,c180; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.03±.09; $M_{\theta\theta}$2.82±.09; $M_{\phi\phi}$3.21±.10; $M_{r\theta}$2.06±.27; $M_{\theta\phi}$-3.13±.08; $M_{\phi r}$-0.23±.28; Best double couple: M_o6.43300×10^{16} NP1:ϕ_s305.00000°,δ53.00000°, λ-104.00000°. NP2:ϕ_s148.00000°,δ39.00000°, λ-71.00000°. Principal axes: T 6.3560, Plg7.0000°, Azm45.0000°; N 0.1540, Plg12.0000°, Azm314.0000°; P -6.5100, Plg76.0000°, Azm167.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 12 21:50:17.7±0.3, 0°.03S±0°.05×166°.95W±0°.05, h13km, n380, σ1s45/357, mb4.9/115, MS4.5/47, 20C-16D, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.13**	**163**	T	T	22 00 30.6	
	baz=342						
H10N3	**ASCENSION HYDP**	**8.13**	**163**	T	T	22 00 25.4	
	baz=342,slow=74						
H10N1	**ASCENSION HYDR**	**8.15**	**162**	T	T	22 00 30.5	
	baz=342,slow=74						
ASCN	**Ascension**	**8.27**	**162**	*e*Pn	**Pn**	**21 52 17.6**	**+0.2**
ASCN				*e*Sn	**Sn**	**21 53 44.3**	**-6.4**
LIC	**Lamto**	**13.42**	**62**	*e*P	**Pn**	**21 53 25.2**	**-2.8**
	88nm,0.7s						
TIC	**Toumodi**	**13.62**	**61**	*e*P	**Pn**	**21 53 26.7**	**-4.1**
KIC	**Koan Boka**	**13.73**	**62**	*e*P	**Pn**	**21 53 28.5**	**-3.8**
	136nm,1.4s						
DBIC	**Dimbokro**	**13.78**	**61**	Pn	**Pn**	**21 53 29.7**	**-3.2**
	3.2nm,0.3s,baz=233,slow=13,SNR=49						
DBIC				Sn	Sn	21 55 51.4	-14
	1.2nm,0.3s,baz=139,slow=22,SNR=3.5						
DBIC				LR	LR	21 57 47.9	
	comp=Z,3μm,21.2s,baz=226,slow=33						
DBIC	**Dimbokro**	**13.78**	**61**	*e*Pn	**Pn**	**21 53 30.3**	**-2.6**
DBIC				*e*Sn	Sn	21 55 51.4	-14
DBIC	**Dimbokro**	**13.78**	**61**	*e*P	**Pn**	**21 53 30.3**	**-2.6**
DBIC	**Dimbokro**	**13.78**	**61**	*e*P	**Pn**	**21 53 28.5**	**-4.4**
RCBR	**Riachuelo**	**19.78**	**253**	S	S	21 58 11.7	-19
	2.3nm,0.3s,baz=46,slow=0.3,SNR=2.6						
RCBR	**Riachuelo**	**19.78**	**253**	*e*P	**P**	**21 54 48.0**	**+0.1**
	24nm,0.4s						
RCBR				*e*S	S	21 58 11.7	-19
RCBR	**Riachuelo**	**19.78**	**253**	*e*P	**P**	**21 54 48.0**	**+0.1**
RCBR				pmax	pmax		
	comp=Z,24nm,0.4s						
RCBR	**Riachuelo**	**19.78**	**253**	*e*P	Pn	21 54 59.5	+10
TOA0	**Torodi Ar. Sit**	**22.64**	**54**	*e*P	**P**	**21 55 17.0**	**-1.8**
	comp=Z,70nm,1.0s						
TORD	**Torodi Ar. Bea**	**22.64**	**54**	P	**P**	**21 55 15.8**	**-3.0**
	comp=Z,9.1nm,0.6s,baz=237,slow=11,SNR=43						
TORD				S	**S**	**21 59 21.2**	**-5.5**
	comp=Z,6.9nm,1.0s,baz=238,slow=22,SNR=4.9						
TORD				LR	LR	22 03 06.5	
	comp=Z,2μm,20.8s,baz=270,slow=34						
TOA1	**Torodi Ar. Sit**	**22.64**	**54**	*e*P	**P**	**21 55 15.8**	**-3.0**
TOA1				*e*S	**S**	**21 59 21.2**	**-5.5**
JANB	**Januaria**	**30.89**	**240**	*e*P	P	21 56 42.0	+7.6
MCI7	**Montes Claros**	**31.28**	**237**	*e*P	P	21 56 45.1	+7.4
MCI9	**Montes Claros**	**31.30**	**237**	*e*P	P	21 56 46.1	+8.2
MCI8	**Montes Claros**	**31.31**	**237**	*e*P	P	21 56 45.8	+7.8
MCI6	**Montes Claros**	**31.36**	**237**	*e*P	P	21 56 46.8	+8.4
TAM	**Tamanrasset**	**31.50**	**42**	*e*P	**P**	**21 56 40.8**	**+1.0**
	comp=Z,18nm,1.4s						
TAM	**Tamanrasset**	**31.50**	**42**	*e*P	**P**	**21 56 40.8**	**+1.0**
TAM				pmax	pmax		
	comp=Z,18nm,1.4s						
CAM01	**Campos-RJ**	**32.41**	**226**	*e*P	P	21 56 54.9	+7.3
VAS01	**Vassouras-RJ**	**33.99**	**228**	*e*P	P	21 57 09.5	+8.1
BSCB	**Bom Sucesso**	**34.26**	**231**	*e*P	P	21 57 11.8	+8.0
BDFB	**Brasilia**	**34.37**	**242**	P	**P**	**21 57 01.5**	**-3.4**
	comp=Z,4.4nm,0.9s,baz=68,slow=16,SNR=3.5						
BDFB				LR	LR	22 08 43.4	
	comp=Z,760nm,21.5s,baz=81,slow=32						
BDFB	**Brasilia**	**34.37**	**242**	*e*P	**P**	**21 57 05.5**	**+0.6**
	comp=Z,32nm,1.4s						
BDFB	**Brasilia**	**34.37**	**242**	*e*P	**P**	**21 57 05.5**	**+0.6**
BDFB				pmax	pmax		
	comp=Z,32nm,1.4s						
IPMB	**Ipameri, GO**	**35.54**	**238**	*e*P	P	21 57 22.7	+7.8
MDP	**Montagnes des**	**36.01**	**279**	P	**P**	**21 57 17.0**	**-2.0**
	comp=Z,13nm,1.0s						
BB19B	**Bebedouro**	**37.27**	**234**	*e*P	P	21 57 38.2	+8.6
PFVI	**Vila Bisbo**	**37.73**	**11**	*e*P	**P**	**21 57 31.3**	**-1.9**
	comp=Z,87nm,1.5s						
ITRB	**Iturama**	**38.13**	**237**	*e*P	P	21 57 45.3	+8.4
TSUM	**Tsumeb**	**38.86**	**121**	P	**P**	**21 57 43.9**	**+0.7**
	comp=Z,15nm,1.0s,baz=248,slow=5.1,SNR=12						
TSUM	**Tsumeb**	**38.86**	**121**	*e*P	**P**	**21 57 44.5**	**+1.4**
ESDC	**Sonseca Array**	**41.26**	**15**	P	**P**	**21 58 02.5**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=206,slow=7.5,SNR=3.2						
ESDC				PP	**PP**	**21 59 40.1**	**+2.0**
	comp=Z,0.6nm,0.6s,baz=190,slow=10.0,SNR=4.2						
ESDC				PcP	**PcP**	**22 00 01.8**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=195,slow=2.0,SNR=8.3						
ESDC				LR	LR	22 15 37.1	
	comp=Z,495nm,19.7s,baz=200,slow=37						
ES19	**SONSECA Array**	**41.30**	**15**	*e*P	**P**	**21 58 04.8**	**+1.7**
ES19				*e*PcP	**PcP**	**22 00 02.6**	**+1.0**
TRCB	**Terra Rica**	**41.44**	**234**	*e*P	P	21 58 13.2	+8.8
AQDB	**Aquidauana**	**43.00**	**239**	*e*P	P	21 58 23.6	+6.4
PTGA	**Pitinga**	**43.02**	**269**	P	**P**	**21 58 16.2**	**-1.3**
	comp=Z,5.2nm,0.9s,baz=95,slow=13,SNR=9.7						
PTGA	**Pitinga**	**43.02**	**269**	*e*P	**P**	**21 58 17.2**	**-0.3**
	comp=Z,6.8nm,0.9s						
PTGA	**Pitinga**	**43.02**	**269**	*e*P	P	21 58 27.1	+10
KEST	**Kesra**	**43.18**	**32**	P	**P**	**21 58 18.7**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=127,slow=9.2,SNR=5.0						
KEST				LR	LR	22 17 19.3	
	comp=Z,2μm,20.5s,baz=173,slow=38						
KEST	**Kesra**	**43.18**	**32**	*e*P	**P**	**21 58 18.7**	**+0.2**
	comp=Z,23nm,1.4s						
ITAB	**Concordia**	**43.29**	**228**	*e*P	P	21 58 28.7	+9.3
CPSB	**Cacapava Do Su**	**45.99**	**226**	*e*P	P	21 58 46.9	+5.9
SIV	**San Ignacio**	**46.33**	**248**	P	**P**	**21 58 43.3**	**-0.6**
	comp=Z,3.5nm,0.9s,baz=89,slow=7.2,SNR=12						
SIV				LR	LR	22 16 27.5	
	comp=Z,1μm,21.1s,baz=88,slow=34						
CPUP	**Villa Florida**	**46.86**	**233**	P	**P**	**21 58 47.5**	**-0.3**
	comp=Z,3.2nm,0.8s,baz=73,slow=6.6,SNR=8.9						
CPUP				LR	LR	22 16 17.8	
	comp=Z,767nm,20.0s,baz=66,slow=33						
CPUP	**Villa Florida**	**46.86**	**233**	*e*P	**P**	**21 58 48.3**	**+0.5**
	comp=Z,4.7nm,0.9s						
CPUP	**Villa Florida**	**46.86**	**233**	*e*P	**P**	**21 58 48.3**	**+0.5**
CPUP				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LSZ	**Lusaka**	**47.08**	**111**	*e*P	**P**	**21 58 51.4**	**+1.5**
	comp=Z,8.9nm,1.1s						
LSZ	**Lusaka**	**47.08**	**111**	*e*P	**P**	**21 58 51.4**	**+1.5**
LSZ				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MBAR	**Mbarara**	**47.69**	**91**	*e*P	**P**	**21 58 56.6**	**+1.9**
	comp=Z,30nm,1.3s						
MBAR	**Mbarara**	**47.69**	**91**	*d* iP	**P**	**21 58 55.2**	**+0.5**
MBAR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
SUR	**Sutherland**	**47.99**	**136**	P	**P**	**21 58 57.8**	**+0.9**
	comp=Z,29nm,1.0s,baz=304,slow=4.3,SNR=7.4						
SUR	**Sutherland**	**47.99**	**136**	*e*P	**P**	**21 58 58.3**	**+1.5**
	comp=Z,49nm,1.0s						
LBTB	**Lobatse**	**48.04**	**124**	*e*P	**P**	**21 58 58.4**	**+1.2**
	comp=Z,37nm,1.2s						
LBTB	**Lobatse**	**48.04**	**124**	*e*P	**P**	**21 58 58.4**	**+1.2**
LBTB				pmax	pmax		
	comp=Z,37nm,1.2s						
BOSA	**Boshof**	**49.34**	**129**	P	**P**	**21 59 07.7**	**+0.5**
	comp=Z,18nm,0.7s,baz=298,slow=7.8,SNR=44						
BOSA				LR	LR	22 16 16.1	
	comp=Z,89nm,21.4s,baz=252,slow=32						
BOSA	**Boshof**	**49.34**	**129**	*e*P	**P**	**21 59 07.5**	**+0.3**
TIP	**Timpagrande**	**49.74**	**34**	*e*P	**P**	**21 59 11.5**	**+1.6**

comp=Z,30nm,1.5s
VTS Vitosha 55.66 35⇓ *i*P P 21 59 55.9 +2.1
VTS Vitosha 55.66 35 ⇓P P 21 59 55.9 +2.1
TRQA Tornquist 56.07 222 *e*P P 21 59 57.4 +0.7
comp=Z,12nm,1.3s
TRQA Tornquist 56.07 222 *e*P P 21 59 57.4 +0.7
TRQA pmax pmax
comp=Z,12nm,1.3s
TRQA Tornquist 56.07 222 *e*P P 22 00 02.9 +6.2
MDVR Moldovita 56.24 32⇓ *i*P P 21 59 59.3 +1.5
MODS Modra-Piesok 56.57 27 *e*P P 22 00 00.8 +0.8
MODS *e* 22 00 00.8
MODS pmax pmax
comp=Z,56nm,2.0s
MODS Modra-Piesok 56.57 27 *e*P P 22 00 00.8 +0.8
MODS *e* 22 00 08.8
PRU Pruhonice 56.63 24 *e*S S 22 07 53.7 +1.5
PRU AMS AMS 22 24 10.0
comp=Z,600nm,24.3s
GO02 Mina Guanaco 56.63 240 *e*P P 22 00 01.8 +0.5
comp=Z,65nm,1.3s
GOPC GO Peony, Ondr 56.67 24 AMS AMS 22 24 20.0
comp=Z,500nm,19.6s
HERR Herculane 56.68 33⇓ *i*P P 22 00 02.8 +1.9
KRUC Moravsky 56.69 26 *e*P P 22 00 00.8 -0.1
KRUC *e* 22 00 09.1
BZS Buzias 56.74 32⇓ *i*P P 22 00 02.0 +0.8
BZS Buzias 56.74 32 ⇓P P 22 00 02.1 +0.8
VRAC Vranov 56.96 26⇑ *i*P P 22 00 03.5 +0.7
VRAC Vranov 56.96 26 ⇑P P 22 00 03.6 +0.7
VRAC Vranov 56.96 26 *e*P P 22 00 02.9 +0.1
PVCC Panska Ves 57.06 23 *e*P P 22 00 04.8 +1.3
PVCC AMS AMS 22 24 50.0
comp=Z,500nm,15.8s
PVCC Panska Ves 57.06 23 *e*P P 22 00 04.8 +1.3
PVCC MLR MLR
comp=Z,500nm,15.8s
CLL Collm 57.08 22 *e*P P 22 00 05.0 +1.4
CLL *e* 22 00 11.0
CLL *e*S **S 22 07 56.0 -2.1**
comp=N,300nm,24.4s
CLL *e*S **S 22 07 56.0 -2.1**
comp=E,200nm,24.4s
CLL *e*(SSS) 22 13 54.0
CLL Lm MLR 22 24 00.0
comp=N,300nm,18.7s
CLL Lm MLR 22 24 00.0
comp=E,200nm,18.6s
CLL Lm MLR 22 24 00.0
comp=Z,300nm,20.9s
CLL Collm 57.08 22 *e*P P 22 00 05.0 +1.4
CLL *e* 22 00 11.0
CLL *e*S **S 22 07 56.0 -2.1**
CLL MLR MLR
comp=Z,300nm,20.9s
BRG Berggiesshubel 57.09 23 *e*P P 22 00 04.1 +0.5
comp=Z,10nm,1.4s
BRG *e* 22 00 12.5
comp=Z,19nm,1.6s
BRG *e* 22 02 14.0
comp=Z,18nm,1.4s
BRG S **S 22 07 54.0 -4.3**
comp=N,445nm,23.8s
comp=E,365nm,19.5s
comp=Z,516nm,20.1s
BRG Berggiesshubel 57.09 23 *e*P P 22 00 04.1 +0.5
BRG *e* 22 00 12.5
BRG *e* 22 02 14.0
BRG S **S 22 07 54.0 -4.3**
BRG pmax pmax
comp=Z,10.0nm,1.5s
BRG pmax pmax
comp=Z,19nm,1.6s
BRG pmax pmax
comp=Z,18nm,1.4s
BRG MLR MLR
comp=N,445nm,23.8s
BRG MLR MLR
comp=E,365nm,19.5s
BRG MLR MLR
comp=Z,516nm,20.1s
JAVC Velka Javorina 57.10 27 *e*P P 22 00 05.0 +1.1
JAVC *e* 22 00 13.3
GZR Gura Zlata 57.21 32⇓ *i*P P 22 00 05.9 +1.2
GZR Gura Zlata 57.21 32 ⇓P P 22 00 05.9 +1.2
VYHS Vyhne 57.37 28 *e*P P 22 00 06.0 +0.3
VYHS *e* 22 00 14.7
VYHS pmax pmax
comp=Z,18nm,1.8s
VYHS Vyhne 57.37 28 *e*P P 22 00 06.0 +0.3
VYHS *e* 22 00 14.7
PSZ Piszkesteto 57.45 29 *e*P P 22 00 07.6 +1.2
comp=Z,21nm,1.4s
PSZ Piszkesteto 57.45 29⇑ *i*P P 22 00 06.0 -0.4
PSZ Piszkesteto 57.45 29 ⇑P P 22 00 06.0 -0.4
ROSC El Rosal 57.51 276 P **P 22 00 07.3 -0.5**
comp=Z,4.5nm,0.5s,baz=138,slow=12,SNR=3.3
ROSC LR LR 22 21 44.7
comp=Z,260nm,21.7s,baz=102,slow=33
ROSC El Rosal 57.51 276 *e*P P 22 00 07.3 -0.5
comp=Z,12nm,1.3s
EIL Elat 57.53 54 LR LR 22 26 40.4
comp=Z,367nm,18.1s,baz=254,slow=38
KRLC Kraliky 57.62 25 *e*P P 22 00 09.1 +1.6
KRLC Kraliky 57.62 25 *e*P P 22 00 09.1 +1.6
UPC Upice 57.63 24 AMS AMS 22 24 50.0
comp=Z,500nm,22.5s
DPC Dobruska-Polom 57.64 25 *e*P P 22 00 08.5 +0.9
DPC *e*S **S 22 08 07.6 +2.0**
DPC Dobruska-Polom 57.64 25 *e*P P 22 00 08.5 +0.9
DPC *e*S **S 22 08 07.6 +2.0**
MORC Moravsky Berou 57.73 26 *e*P P 22 00 09.2 +1.0
comp=Z,20nm,1.5s
MORC Moravsky Berou 57.73 26⇑ *i*P P 22 00 09.3 +1.0
MORC Moravsky Berou 57.73 26 ⇑P P 22 00 09.3 +1.0
MORC Moravsky Berou 57.73 26 *e*P P 22 00 08.3 +0.1
MORC *e* 22 00 16.6
HUMR Humele 57.87 34⇑ *i*P P 22 00 10.6 +1.3
DRGR 58.09 31⇑ *i*P P 22 00 11.1 +0.2
DRGR 58.09 31 ⇑P P 22 00 11.1 +0.2
ARR Arges 58.20 33⇑ *i*P P 22 00 12.2 +0.5
VOIR 58.47 34⇑ *i*P P 22 00 14.0 +0.4
VOIR 58.47 34 ⇑P P 22 00 14.0 +0.4
CJR Cluj-Napoca 58.50 32⇓ *i*P P 22 00 15.1 +1.4
CJR Cluj-Napoca 58.50 32 ⇓P P 22 00 15.2 +1.5
NIE Niedzica 58.70 28 *e*P P 22 00 16.6 +1.5
NIE Niedzica 58.70 28 *e*P P 22 00 16.6 +1.5
LCO Las Campanas 58.80 236 *e*P P 22 00 13.6 -2.8
comp=Z,23nm,1.4s
LCO Las Campanas 58.80 236 *e*P P 22 00 13.6 -2.8
LCO pmax pmax
comp=Z,23nm,1.4s
TRPA Tarpa 58.89 30⇑ *i*P P 22 00 16.3 0.0
DOPR Dopca 58.99 33⇓ *i*P P 22 00 17.9 +0.8
MLR Muntele Rosu 59.00 34 LR LR 22 28 10.1
comp=Z,583nm,18.9s,baz=230,slow=38
MLR Muntele Rosu 59.00 34 *e*P P 22 00 17.4 +0.1
comp=Z,42nm,1.2s
MLR Muntele Rosu 59.00 34⇑ *i*P P 22 00 17.6 +0.2
MLR Muntele Rosu 59.00 34 ⇑P P 22 00 17.6 +0.2
OJC Ojcow 59.04 27 *e*P P 22 00 18.7 +1.3
OJC Ojcow 59.04 27 *e*P P 22 00 18.4 +1.0
comp=Z,12nm,1.0s
OJC Ojcow 59.04 27 *e*P P 22 00 18.4 +1.0
OJC pmax pmax
comp=Z,12nm,1.0s
UZH Uzhgorod 59.11 29⇓ *i*P P 22 00 25.2 +7.4
UZH *i* 22 00 30.4
MMAI Mount Meron Ar 59.14 51 LR LR 22 27 41.5
comp=Z,380nm,19.9s,baz=255,slow=38
GO04 Tololo Observa 59.27 234 *e*P P 22 00 19.4 -0.2
comp=Z,58nm,1.5s
VRI Vrincioaia 59.67 34⇑ *i*P P 22 00 21.9 +0.1
VRI Vrincioaia 59.67 34 ⇑P P 22 00 21.9 +0.1
BUR04 Bucovina Ar. S 59.92 32 *e*P P 22 00 24.3 +0.7
BURAR Bucovina Array 59.92 32⇓ *i*P P 22 00 25.1 +1.5
BURAR Bucovina Array 59.92 32 ⇓P P 22 00 25.1 +1.5
BUR08 Bucovina Ar. S 59.93 32 *e*P P 22 00 24.4 +0.7
BIZ Bicaz 59.98 33⇑ *i*P P 22 00 24.8 +0.9
PRAR RASCA 60.30 32⇓ *i*P P 22 00 25.1 -1.0
ATD Arta Tunnel 60.46 77 LR LR 22 26 39.4
comp=Z,113nm,19.1s,baz=268,slow=36
NNA Nana 60.60 256 LR LR 22 25 43.4
comp=Z,464nm,18.6s,baz=72,slow=35

BR101 Keskin Array S 60.70 43 *e*P P 22 00 29.6 +0.4
BR131 Keskin Array S 60.70 43 *e*P P 22 00 29.9 +0.8
BRTR Keskin Array B 60.70 43 P **P 22 00 29.6 +0.4**
comp=Z,4.8nm,0.9s,baz=233,slow=6.3,SNR=17
BRTR LR LR 22 28 31.1
comp=Z,141nm,21.6s,baz=218,slow=38
BRTR Keskin Array B 60.70 43 *i*P P 22 00 30.0 +0.8
BRTR pmax pmax
comp=Z,5.0nm,0.9s
MILM Milestii Mici 61.45 34⇑ *i*P P 22 00 32.5 -1.4
PLCA Paso Flores 63.18 223 LR LR 22 24 02.9
comp=Z,429nm,22.0s,baz=104,slow=32
SUW Suwalki 63.20 25 *e*P P 22 00 45.2 -0.2
comp=Z,31nm,0.9s
SUW Suwalki 63.20 25 *e*P P 22 00 45.3 -0.2
SUW pmax pmax
comp=Z,31nm,0.9s
AK11 Malin Array Si 63.85 31 *e*P P 22 00 50.6 +0.7
KIEV Kiev 63.88 31 *e*P P 22 00 49.4 -0.7
comp=Z,24nm,1.2s
KIEV Kiev 63.88 31 *i*P P 22 00 49.5 -0.6
KIEV pmax pmax
comp=Z,9.0nm,0.9s
AKASG Malin Array Be 63.90 31 P **P 22 00 49.8 -0.3**
comp=Z,5.3nm,0.9s,baz=233,slow=6.2,SNR=19
AKASG LR LR 22 31 04.7
comp=Z,357nm,18.3s,baz=235,slow=38
AKASG Malin Array Be 63.90 31 *i*P P 22 00 50.4 +0.2
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 63.90 31 *e*P P 22 00 50.0 -0.2
comp=Z,23nm,1.1s
AKBB Malin Array Si 63.90 31 *e*P P 22 00 50.0 -0.2
AKBB pmax pmax
comp=Z,23nm,1.1s
NBO00 NORSAR Array S 64.50 15 *e*P P 22 00 53.9 -0.1
NB2 NORSAR Subarra 64.62 15 P **P 22 00 54.4 -0.4**
comp=Z,23nm,2.0s,baz=208,slow=6.9
NB200 NORSAR Array S 64.62 15 *e*P P 22 00 54.7 -0.1
NOA NORSAR Array B 64.62 15 P **P 22 00 54.7 -0.1**
comp=Z,3.2nm,1.1s,baz=219,slow=9.2,SNR=6.4
NOA LR LR 22 31 07.9
comp=Z,328nm,19.6s,baz=210,slow=38
NC204 NORSAR Array S 64.71 14 *e*P P 22 00 56.3 +0.9
NC405 NORSAR Array S 64.81 15 *e*P P 22 00 56.5 +0.6
RAYN Ar Rayn 64.89 64 *e*P P 22 00 58.8 +1.5
comp=Z,11nm,1.4s
RAYN Ar Rayn 64.89 64 *e*P P 22 00 58.8 +1.5
RAYN pmax pmax
comp=Z,11nm,1.4s
MOQ Mont Orford 66.34 321 *e*P P 22 01 05.4 -0.9
VSU Vasula 67.68 23 *i*P P 22 01 13.6 -0.8
VSU pmax pmax
comp=Z,22nm,0.9s
SCHQ Schefferville 68.14 332 P **P 22 01 17.2 -0.2**
comp=Z,4.8nm,0.9s,baz=132,slow=4.2,SNR=3.9
SCHQ LR LR 22 27 34.0
comp=Z,194nm,18.7s,baz=315,slow=33
SCHQ Schefferville 68.14 332 *e*P P 22 01 17.2 -0.2
comp=Z,19nm,1.4s
NEY Neytrino 68.37 43 *i*P P 22 01 18.3 -1.0
NEY pmax pmax
comp=Z,1.0nm,0.9s
KIV Kislovodsk 68.61 42 *e*P P 22 01 20.9 +0.2
comp=Z,40nm,1.3s
KIV Kislovodsk 68.61 42 *e*P P 22 01 20.0 -0.7
KIV *e*S **S 22 10 24.0 +0.8**
KIV pmax pmax
comp=Z,21nm,1.0s
KIV MLR MLR
comp=Z,95nm,17.0s
KBZ Khabaz 68.66 42 P **P 22 01 21.2 +0.4**
comp=Z,7.7nm,0.9s,baz=265,slow=0.8,SNR=10.0
KBZ LR LR 22 33 44.8
comp=Z,134nm,20.4s,baz=266,slow=38
GNI Garni 68.70 46 *i*P P 22 01 21.5 +0.1
GNI pmax pmax
comp=Z,185nm,1.5s
NCK Nalchik 69.05 43 *i*P P 22 01 22.9 -0.5
NCK pmax pmax
comp=Z,5.0nm,0.9s
GOF Gofitskoye 69.26 41 *e*P P 22 01 34.2 +10
GOF pmax pmax
comp=Z,40nm,1.4s
KMSC Kings Mountain 69.27 308 P **P 22 01 25.0 +0.2**
baz=106
FIA0 FINESS Array S 69.46 20 *e*P P 22 01 25.3 -0.1
FIA0 FINESS Array S 69.46 20 *e*P P 22 01 25.3 -0.1
FINES FINESS Array B 69.46 20 P **P 22 01 25.3 -0.1**
comp=Z,5.6nm,0.7s,baz=221,slow=6.1,SNR=20
FINES LR LR 22 32 11.5
comp=Z,367nm,21.0s,baz=230,slow=36
FIA1 FINESS Array S 69.46 20 *e*P P 22 01 25.6 +0.1
VSR Storozhevoye 69.50 34 *i*P P 22 01 25.0 -0.9
VSR pmax pmax
comp=Z,17nm,0.9s
LPSR Galich'ya Gora 70.01 32 *e*P P 22 01 28.8 -0.3
LPSR pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 70.05 29 *i*P P 22 01 27.4 -1.8
OBN *i* 22 01 48.1
OBN *i*SS SS 22 15 11.0 +1.8
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN MLR MLR
comp=Z,373nm,19.0s
V53A Saluda 70.57 308 P **P 22 01 33.8 +0.9**
baz=105
VNA1 Neumayer--Stat 70.73 177 P **P 22 01 34.9 +1.8**
Y53A Monroe 70.75 306 P **P 22 01 34.6 +0.6**
baz=104
MOS Moscow 70.89 29 *e*P P 22 01 32.2 -2.1
MOS pmax pmax
comp=Z,39nm,0.8s
MOS MLR MLR
comp=Z,500nm,18.0s
MOS MLR MLR
comp=N,400nm,19.0s
MOS MLR MLR
comp=E,400nm,19.0s
VRH Novokhopyorsk 70.93 35 *e*P P 22 01 33.5 -1.2
VRH pmax pmax
comp=Z,10.0nm,0.8s
SFJD Kangerlussuaq 70.94 347 *e*P P 22 01 37.6 +3.2
VNA2 Neumayer--Watz 71.05 177 P **P 22 01 35.9 +0.8**
baz=338,slow=6.7
Y52A Lilburn 71.14 306 P **P 22 01 36.8 +0.4**
baz=103
X52A Dahlonega 71.17 307 P **P 22 01 36.9 +0.3**
baz=104
VNA3 Neumayer Olymp 71.25 178 P **P 22 01 37.8 +1.5**
251A Midway 71.86 304 P **P 22 01 41.1 +0.4**
baz=102
151A Opelika 71.88 304 P **P 22 01 41.6 +0.7**
baz=102
Z51A Franklin 71.92 305 P **P 22 01 41.5 +0.4**
baz=102
SNAA Sanae 72.10 175 P **P 22 01 41.9 +0.4**
SNAA Sanae 72.10 175 P **P 22 01 41.9 +0.4**
comp=Z,7.7nm,0.9s,baz=357,slow=8.2,SNR=10
SNAA Sanae 72.10 175 *e*P P 22 01 42.0 +0.5
comp=Z,12nm,1.0s
SNAA Sanae 72.10 175 *e*P P 22 01 42.0 +0.5
SNAA pmax pmax
comp=Z,12nm,1.0s
V50A Pikevile 72.38 308 P **P 22 01 44.0 +0.2**
baz=103
W50A Signal Mountai 72.44 307 P **P 22 01 44.7 +0.5**
baz=103
150A Eclectic 72.47 304 P **P 22 01 44.9 +0.5**
baz=102
T50A Nancy 72.49 309 P **P 22 01 45.0 +0.5**
baz=104
PMSA Palmer Station 73.01 199 LR LR 22 26 06.4
comp=Z,320nm,21.4s,baz=16,slow=30
T49A Edmonton 73.05 309 P **P 22 01 47.5 -0.2**
baz=103
NVL N'lazarevskaya 73.09 170 *e*P P 22 01 46.1 -1.1
NVL pmax pmax
comp=Z,8.0nm,1.0s
U49A Red Boiling Sp 73.11 308 P **P 22 01 48.3 +0.2**
baz=103
W49A Belvidere 73.19 307 P **P 22 01 48.8 +0.2**
baz=102
LRAL Lakeview Retre 73.36 305 P **P 22 01 49.4 -0.3**
baz=101

S48A Wiedeman Farm, 73.58 309 P **P 22 01 50.8 -0.1**
baz=103
Y48A Jasper 73.67 305 P **P 22 01 51.4 -0.1**
baz=101
X48A Hartselle 73.68 306 P **P 22 01 51.5 -0.1**
baz=102
U48A Cassie Pea, Po 73.70 308 P **P 22 01 52.1 +0.5**
baz=102
V48A Smith Brothers 73.76 307 P **P 22 01 51.2 -0.8**
baz=102
R47A Wooly Knot Far 74.08 310 P **P 22 01 53.9 +0.1**
baz=103
Y47A UCPARC, Winfie 74.23 305 P **P 22 01 54.7 0.0**
baz=101
Z47A Carrollton 74.28 304 P **P 22 01 54.6 -0.4**
baz=101
W47A Westpoint 74.28 307 P **P 22 01 54.1 -1.0**
baz=102
KLMR Klimovskoe 74.33 25 *e*P P 22 01 52.4 -2.4
KLMR pmax pmax
comp=Z,35nm,1.5s
KLMR Klimovskoe 74.33 25 *e*P P 22 01 52.4 -2.4
KLMR AMP 22 02 05.1
comp=Z,35nm,1.5s
V47A Nunnelly 74.34 307 P **P 22 01 54.5 -0.8**
baz=102
X47A Russelville 74.35 306 P **P 22 01 54.7 -0.7**
baz=101
WVT Waverly 74.64 308 *e*P P 22 01 56.7 -0.4
comp=Z,15nm,1.3s
WVT Waverly 74.64 308 *e*P P 22 01 56.7 -0.4
WVT pmax pmax
comp=Z,15nm,1.3s
WVT Waverly 74.64 308 P **P 22 01 56.4 -0.7**
baz=102
V46A Holladay 74.81 307 P **P 22 01 57.2 -0.8**
baz=101
T46A Princeton 74.88 308 P **P 22 01 57.6 -0.8**
baz=102
P46A Rosedale 74.90 311 P **P 22 01 57.9 -0.6**
baz=103
ARCES ARCESS Array B 74.99 14 P **P 22 01 58.4 0.0**
comp=Z,4.9nm,0.8s,baz=44,slow=9.2,SNR=9.6
ARCES LR LR 22 37 10.8
comp=Z,13nm,19.6s,baz=266,slow=38
ARCES ARCESS Array B 74.99 14 *e*P P 22 01 59.5 +1.1
ARCES ARCESS Array B 74.99 14 *e*P P 22 01 59.5 +1.1
Y46A Houston 75.05 305 P **P 22 01 58.2 -1.3**
baz=100
CCIG Comitan 75.80 287 *e*P P 22 02 04.0 -0.4
comp=Z,17nm,0.9s
S42A Caledonia 77.28 309 P **P 22 02 10.4 -1.7**
baz=100
PRGR Permogore 77.32 26 *e*P P 22 02 08.5 -3.3
PRGR pmax pmax
comp=Z,32nm,1.5s
U42A Revenden 77.39 307 P **P 22 02 11.6 -1.2**
baz=100
CCM Cathedral Cave 77.68 309 *e*P P 22 02 13.3 -1.1
comp=Z,19nm,1.3s
CCM Cathedral Cave 77.68 309 *e*P P 22 02 13.3 -1.1
CCM pmax pmax
comp=Z,19nm,1.3s
CCM Cathedral Cave 77.68 309 P **P 22 02 13.2 -1.1**
baz=100
Q41A Truxton 77.83 310 P **P 22 02 13.6 -1.5**
baz=100
U41A Viola 77.94 307 P **P 22 02 14.7 -1.1**
baz=99
GEYT Alibeck 78.26 51 P **P 22 02 17.9 +0.3**
comp=Z,1.3nm,0.7s,baz=289,slow=4.4,SNR=3.8
GEYT LR LR 22 39 51.6
comp=Z,361nm,19.3s,baz=230,slow=38
SYO Syowa Base 78.51 162⇑ *e*P P 22 02 18.0 -0.3
U40A Yellville 78.68 307 P **P 22 02 18.9 -1.1**
baz=98
J39A Decorah 78.96 314 P **P 22 02 20.2 -1.2**
baz=101
ABKAR Akbulak array 81.47 40 *e*P P 22 02 35.0 +0.2
ARU Arti 82.03 33 *e*P P 22 02 37.7 +0.2
comp=Z,32nm,1.5s
ARU Arti 82.03 33 *e*P P 22 02 37.3 -0.2
ARU 22 05 44.5
ARU S **S 22 12 53.2 +1.7**
ARU SS **SS 22 18 06.1 -4.5**
ECSD EROS Data Cent 82.55 314 *e*P P 22 02 39.1 -1.4
comp=Z,3.0nm,0.8s
ECSD EROS Data Cent 82.55 314 P **P 22 02 39.2 -1.3**
baz=97
AGMN Agassiz Nation 82.64 319 *e*P P 22 02 40.5 -0.5
comp=Z,72nm,1.9s
AGMN Agassiz Nation 82.64 319 P **P 22 02 40.5 -0.5**
baz=98
ULM Lac du Bonnet 82.94 321 P **P 22 02 41.4 -1.0**
comp=Z,4.7nm,0.9s,baz=94,slow=6.7,SNR=6.8
ULM LR LR 22 34 39.1
comp=Z,71nm,20.5s,baz=112,slow=32
ULM Lac du Bonnet 82.94 321 *e*P P 22 02 41.2 -1.2
comp=Z,14nm,1.1s
ULM Lac du Bonnet 82.94 321 *e*P P 22 02 41.2 -1.2
ULM pmax pmax
comp=Z,14nm,1.1s
LNIG Linares 83.22 295 *e*P P 22 02 43.8 -0.7
comp=Z,6.5nm,1.0s
WMOK Wichita Mounta 83.30 305 *e*P P 22 02 44.1 -0.6
comp=Z,7.3nm,0.9s
WMOK Wichita Mounta 83.30 305 *e*P P 22 02 44.1 -0.6
WMOK pmax pmax
comp=Z,7.0nm,0.9s
FCC Fort Churchill 83.36 329 *e*P P 22 02 44.1 -0.3
comp=Z,11nm,0.9s
FCC Fort Churchill 83.36 329 *e*P P 22 02 44.1 -0.3
FCC pmax pmax
comp=Z,11nm,0.9s
JCT Junction City 83.85 301 *e*P P 22 02 48.1 +0.5
comp=Z,25nm,1.3s
JCT Junction City 83.85 301 *e*P P 22 02 48.1 +0.5
JCT pmax pmax
comp=Z,25nm,1.3s
JCT Junction City 83.85 301 P **P 22 02 47.7 0.0**
baz=94
ABTX Abilene, Hawle 83.86 303 *e*P P 22 02 48.2 +0.6
comp=Z,12nm,0.9s
CBKS Cedar Bluff 84.39 309 *e*P P 22 02 49.1 -1.1
comp=Z,15nm,0.8s
CBKS Cedar Bluff 84.39 309 *e*P P 22 02 49.1 -1.1
CBKS pmax pmax
comp=Z,15nm,0.8s
MAW Mawson 86.09 158 P **P 22 02 58.0 +0.1**
comp=Z,8.5nm,0.9s,baz=252,slow=4.5,SNR=6.2
MAW LR LR 22 34 09.0
comp=Z,123nm,19.0s,baz=278,slow=31
MAW Mawson 86.09 158 *e*P P 22 02 59.2 +1.3
comp=Z,6.3nm,1.4s
MAW Mawson 86.09 158 *e*P P 22 02 59.2 +1.3
MAW pmax pmax
comp=Z,6.0nm,1.4s
MSTX Muleshoe 86.55 304 *e*P P 22 03 01.5 +0.4
comp=Z,45nm,1.4s
MSTX Muleshoe 86.55 304 P **P 22 03 00.9 -0.2**
baz=92
RES Resolute Bay 86.85 345 LR LR 22 34 32.6
comp=Z,71nm,20.2s,baz=211,slow=31
RES Resolute Bay 86.85 345 *e*P P 22 03 02.6 +1.0
comp=Z,7.0nm,0.9s
RES Resolute Bay 86.85 345 *e*P P 22 03 02.6 +1.0
RES pmax pmax
comp=Z,7.0nm,0.9s
LTX Lajitas 87.15 299 *e*P P 22 03 03.8 -0.4
LTX Lajitas 87.15 299 *e*P P 22 03 03.8 -0.4
TXAR Lajitas Array 87.15 299 P **P 22 03 03.8 -0.4**
comp=Z,3.3nm,1.0s,baz=122,slow=5.8,SNR=16
TXAR LR LR 22 41 15.9
comp=Z,14nm,18.9s,baz=0.0,slow=35
TXAR Lajitas Array 87.15 299 P **P 22 03 03.8 -0.4**
TXAR pmax pmax
comp=Z,2.0nm,0.9s
TXAR MLR MLR
comp=Z,14nm,18.9s
TX31 Lajitas Ar. Si 87.15 299 *e*P P 22 03 03.8 -0.4
BTK Batken 88.30 50 *e*P P 22 03 10.8 +1.4
comp=Z,15nm,1.3s
BTK Batken 88.30 50 *e*P P 22 03 10.8 +1.4
BTK pmax pmax
comp=Z,15nm,1.3s
BRVK Borovoye 88.35 37 *e*P P 22 03 11.2 +1.9
comp=Z,7.8nm,1.2s

BRVK	**Borovoye**	**88.35**	**37**	*e*P		**P**		**22 03 11.2**	**+1.9**
BRVK				pmax		pmax			
	comp=Z,8.0nm,1.2s								
SDCO	**Great Sand Dun**	**88.87**	**308**	*e*P		**P**		**22 03 13.1**	**+0.6**
	comp=Z,22nm,1.5s								
SDCO	**Great Sand Dun**	**88.87**	**308**	P		**P**		**22 03 13.0**	**+0.6**
	baz=91								
PHWY	**Pilot Hill**	**88.90**	**311**	*e*P		**P**		**22 03 16.4**	**+3.9**
	comp=Z,13nm,0.6s								
ISCO	**Idaho Springs**	**88.99**	**310**	*e*P		**P**		**22 03 12.6**	**-0.4**
	comp=Z,12nm,1.5s								
ISCO	**Idaho Springs**	**88.99**	**310**	*e*P		**P**		**22 03 12.6**	**-0.4**
ISCO				pmax		pmax			
	comp=Z,12nm,1.5s								
LAO	**LASA Array**	**89.52**	**316**	*e*P		**P**		**22 03 15.2**	**+0.2**
	comp=Z,29nm,1.2s								
ANMO	**Albuquerque**	**89.61**	**305**	*i* P		**P**		**22 03 13.9**	**-2.0**
ANMO				pmax		pmax			
	comp=Z,1.0nm,1.3s								
BNM	**Barren Site**	**89.75**	**304**	*e*P		**P**		**22 03 16.1**	**-0.5**
S22A	**4UR Ranch, Cre**	**89.92**	**308**	*e*P		**P**		**22 03 20.1**	**+2.8**
	comp=Z,18nm,1.8s								
LENM	**Lemitar**	**90.04**	**304**	*e*P		**P**		**22 03 17.6**	**-0.2**
SMCO	**Snowmass**	**90.04**	**309**	*e*P		**P**		**22 03 18.5**	**+0.4**
	comp=Z,26nm,1.8s								
QSPA	**South Pole Qui**	**90.04**	**180**	P		**P**		**22 03 18.1**	**+1.1**
	comp=Z,14nm,0.7s,baz=210,slow=1.7,SNR=69								
QSPA	**South Pole Qui**	**90.04**	**180**	*e*P		**P**		**22 03 18.2**	**+1.1**
	comp=Z,59nm,1.4s								
LAZ	**Ladron**	**90.17**	**304**	*e*P		**P**		**22 03 18.8**	**+0.3**
NIL	**Nilore**	**90.18**	**57**	*e*P		**P**		**22 03 20.2**	**+1.9**
	comp=Z,12nm,1.1s								
NIL	**Nilore**	**90.18**	**57**	*e*P		**P**		**22 03 20.2**	**+1.9**
NIL				pmax		pmax			
	comp=Z,12nm,1.1s								
RWWY	**Rawlins**	**90.22**	**311**	*e*P		**P**		**22 03 18.1**	**-0.5**
	comp=Z,14nm,0.6s								
AAK	**Ala-Archa**	**91.08**	**48**	*e*P		**P**		**22 03 23.4**	**+0.9**
	comp=Z,16nm,1.4s								
AAK	**Ala-Archa**	**91.08**	**48**	*e*P		**P**		**22 03 23.4**	**+0.9**
AAK				pmax		pmax			
	comp=Z,15nm,1.4s								
MVCO	**Mesa Verde**	**91.26**	**307**	P		**P**		**22 03 24.0**	**+0.5**
	baz=89								
PV02	**Paradox Valley**	**91.43**	**308**	*e*P		**P**		**22 03 24.6**	**+0.3**
	comp=Z,21nm,1.6s								
RLMT	**Red Lodge**	**91.66**	**315**	*e*P		**P**		**22 03 24.6**	**-0.7**
	comp=Z,11nm,0.8s								
PV05	**Paradox Valley**	**91.72**	**308**	*e*P		**P**		**22 03 25.4**	**-0.2**
PDAR	**Pinedale Array**	**91.94**	**313**	PKKP		**PKKPbc**		**22 20 45.0**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=222,slow=2.0,SNR=4.6								
PDAR				LR		LR		22 43 39.9	
	comp=Z,41nm,18.7s,baz=88,slow=35								
KSH	**Kashi**	**92.28**	**51**	P		**P**		**22 03 27.0**	**-1.1**
KSH				sP		pwP		22 03 35.9	-0.7
KSH				PP		**PP**		**22 07 09.1**	**+0.6**
KSH				SKS		**SKSac**		**22 13 54.6**	**-7.0**
KSH				S		**SKKSac**		**22 14 23.7**	**+4.9**
KSH				pmax		pmax			
	comp=Z,11nm,0.8s								
KSH				LR		LR			
	comp=Z,260nm,13.3s								
KSH				LR		LR			
	comp=Z,520nm,6.1s								
YKW3	**Yellowknife Ar**	**93.57**	**333**	*e*P		**P**		**22 03 33.2**	**-0.1**
	comp=Z,7.2nm,1.2s								
YKA	**Yellowknife Ar**	**93.57**	**333**	P		**P**		**22 03 33.0**	**-0.3**
	comp=Z,3.7nm,0.9s,baz=82,slow=5.2,SNR=55								
YKA				LR		LR		22 41 00.7	
	comp=Z,13nm,20.0s,baz=72,slow=33								
YKB5	**Yellowknife Ar**	**93.57**	**333**	*e*P		**P**		**22 03 32.0**	**-1.3**
MK32	**Makanchi Array**	**96.35**	**43**	*e*P		**P**		**22 03 46.4**	**-0.1**
MKAR	**Makanchi Array**	**96.35**	**43**	P		**P**		**22 03 46.4**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=270,slow=4.3,SNR=3.1								
MKAR				LR		LR		22 53 53.2	
	comp=Z,142nm,18.2s,baz=280,slow=40								
ZALV	**Zalesovo Beam**	**96.94**	**36**	LR		LR		22 52 17.9	
	comp=Z,161nm,18.8s,baz=358,slow=38								
WMQ	**Urumqi**	**100.56**	**45**	*e*P		**Pdif**		**22 04 07.0**	**+1.5**
WMQ				LR		LR			
	comp=Z,180nm,22.1s								
WMQ				LR		LR			
	comp=Z,230nm,34.7s								
WMQ				LR		LR			
	comp=Z,210nm,31.5s								
RKT	**Rikitea**	**115.62**	**244**	*e*SS		SS		22 25 58.2	-4.8
	comp=Z,175nm,29.5s								
CD2	**Chengdu**	**116.05**	**55**	PKP		**PKPdf**		**22 09 00.4**	**-0.9**
KMI	**Kunming**	**116.69**	**62**	PKP		**PKiKP**		**22 09 04.5**	**+1.6**
HHC	**Hu-ho-hao-te**	**118.21**	**42**	*e*PKP		**PKiKP**		**22 09 07.0**	**+1.7**
GYA	**Guiyang**	**119.76**	**59**	*e*Pdif		**Pdif**		**22 05 31.0**	**-0.3**
GYA				PKP		**PKiKP**		**22 09 08.7**	**0.0**
GYA				PP		**PP**		**22 10 36.4**	**+4.7**
GYA				AMB		AMB			
	comp=Z,120nm,7.6s								
KLR	**Kulʾdur**	**124.09**	**24**	PKP		**PKPdf**		**22 09 16.1**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=346,slow=2.1,SNR=4.3								
NJ2	**Nanjing**	**127.52**	**48**	*e*PKP		**PKPdf**		**22 09 23.0**	**-0.2**
TBI	**Tubuai**	**128.38**	**240**	*e*SS		SS		22 28 42.8	-2.7
	comp=Z,262nm,25.5s								
TBI	**Tubuai**	**128.38**	**240**	*e*LR		LR		22 49 37.9	
	comp=Z,281nm,34.5s								
PPT2	**Papeete2**	**130.23**	**247**	*e*SS		SS		22 29 12.2	+3.3
	comp=Z,124nm,32.8s								
PPT2	**Papeete2**	**130.23**	**247**	*e*LR		LR		22 50 43.0	
	comp=Z,226nm,24.2s								
FITZ	**Fitzroy Crossi**	**139.05**	**118**	PKhKP		PKPpre		22 09 37.0	
	comp=Z,2.9nm,0.9s,baz=238,slow=11,SNR=3.4								
FITZ				PKP		**PKPdf**		**22 09 45.6**	**+0.4**
	comp=Z,3.5nm,0.8s,baz=254,slow=5.2,SNR=3.6								
STKA	**Stephens Creek**	**142.33**	**149**	PKhKP		PKPpre		22 09 44.9	
	comp=Z,2.4nm,0.6s,baz=263,slow=4.2,SNR=5.0								
ASAR	**Alice Springs**	**143.18**	**132**	PKhKP		PKPpre		22 09 48.6	
	comp=Z,4.6nm,0.5s,baz=223,slow=2.6,SNR=13								
AS01	**Alice Springs**	**143.22**	**132**	*e*PKPpre		PKPpre		22 09 48.2	
WR1	**Warramunga Arr**	**145.58**	**127**	*e*PKPdf		**PKPdf**		**22 09 56.5**	**-0.3**
WRA	**Warramunga Arr**	**145.58**	**127**	PKPbc		**PKPdf**		**22 09 56.5**	**-0.3**
	comp=Z,12nm,0.9s,baz=247,slow=2.5,SNR=59								
WB2	**Warramunga Arr**	**145.59**	**127**	*e*PKPdf		**PKPdf**		**22 09 56.6**	**-0.2**
WRAB	**Tennant Creek**	**145.59**	**127**	*e*PKPdf		**PKPdf**		**22 09 56.8**	**0.0**
WRAB	**Tennant Creek**	**145.59**	**127**	*e*PKP2		**PKPdf**		**22 09 56.8**	**0.0**
SIJI	**Sorong**	**148.20**	**92**	PKPbc		**PKPbc**		**22 10 05.2**	**+0.5**
	comp=Z,3.8nm,0.6s,baz=168,slow=2.3,SNR=3.7								
CTA	**Charters Tower**	**154.11**	**142**	PKPab		**PKPab**		**22 10 31.6**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=219,slow=6.5,SNR=3.0								

*ISCJB **12** 21:53:17.5±1.1,34˚.58N±0˚.07×33˚.25E±0˚.05,h10km±4km, Error ellipse: s-maj=11.0km s-min=6.6km az=174.2*
*DDA **12** 21:53:17.9,34˚.82N×33˚.42E,h5km±1km,ML2.9*
*NIC **12** 21:53:18.6±0.1,34˚.62N×33˚.23E,h22km,ML2.9*
*ISK **12** 21:53:22.9,35˚.04N×33˚.21E,h11km,ML2.8/17*
ISC 12 21:53:19.3±1.5,34.73N±0˚.07×33.22E±0˚.04,h29km±9km, n31,σ1§51/40,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
CSS	**Mathiatis**	**0.25**	**21**	PG	**Pn**	**21 53 26.1**		**-1.0**
CSS				SG	**Sb**	**21 53 30.7**		**0.0**
SZAC	**Souni**	**0.28**	**275**	P	**Pb**	**21 53 25.9**		**-0.6**
	baz=114							
SZAC				S	**Sb**	**21 53 31.2**		**-0.2**
AKIN	**Akıncılar- Kıb**	**0.35**	**35**	PG	**Pn**	**21 53 27.4**		**-1.0**
MAMC	**Mammari**	**0.44**	**359**	P	**Pn**	**21 53 29.6**		**-0.1**
	baz=178							
LEF	**Lefka**	**0.47**	**325**	PG	**Pb**	**21 53 29.0**		**-0.3**
LEF	**Lefka**	**0.47**	**325**	IAML_P				
	comp=Z,8μm,0.2s							
LEF				*i* P	**Pb**	**21 53 29.0**		**-0.3**
AKDN	**Akdeniz- Kıbrı**	**0.60**	**340**	PG	**Pb**	**21 53 30.7**		**-0.8**
ALFC	**Alefka**	**0.67**	**310**	P	**Pb**	**21 53 32.2**		**-0.3**
	baz=135							
ALFC				S	**Sn**	**21 53 42.8**		**+0.5**
PPCY	**Paphos**	**0.74**	**282**	P	**Pb**	**21 53 32.7**		**-1.0**
	baz=109							
EREN	**Erenkoy**	**1.11**	**44**	PG	**Pb**	**21 53 40.6**		**+0.6**
EREN	**Erenkoy**	**1.11**	**44**	*i* P	**Pb**	**21 53 41.5**		**+1.6**
BOZY	**Bozyazi-Mersin**	**1.39**	**352**	PG	**Pb**	**21 53 44.9**		**+0.3**
TEKE	**Tekeli-Mersin**	**1.41**	**356**	PN	**Pb**	**21 53 44.9**		**-0.2**
AKK2	**Akkuyu-Mersin**	**1.43**	**11**	PN	**Pb**	**21 53 45.0**		**-0.3**
AKKU	**Akkuyu-Mersin**	**1.45**	**11**	PN	**Pb**	**21 53 45.5**		**-0.2**
GULN	**MERSIN_Gulnar**	**1.47**	**10**	IAML_P				
	comp=Z,314nm,0.2s							
GULN				*i* P	**Pb**	**21 53 45.5**		**-0.6**
GULN				*i* S	**Sb**	**21 54 05.2**		**+0.8**
YESI	**Yesilovacik-Me**	**1.50**	**13**	PN	**Pb**	**21 53 46.3**		**-0.3**
IKL	**Işikli**	**1.55**	**14**	PN	**Pb**	**21 53 46.4**		**-1.0**
BERE	**Bereket-Mersin**	**1.61**	**360**	PN	**Pb**	**21 53 47.8**		**-0.8**
TEVE	**Tevekalti-Mers**	**1.71**	**6**	PN	**Pb**	**21 53 49.5**		**-0.7**
KEBE	**Keben-Mersin**	**1.76**	**13**	PN	**Pb**	**21 53 50.2**		**-0.8**
KIZK	**Mersin**	**1.90**	**23**	PN	**Pb**	**21 53 51.9**		**-1.4**
KIZK	**Mersin**	**1.90**	**23**	IAML_P				
	comp=Z,397nm,0.1s							
KIZK				*i* P	**Pb**	**21 53 52.7**		**-0.7**
KIZK				*i* S	**Sb**	**21 54 17.4**		**+0.8**
ERMK	**Ermenek**	**1.92**	**353**	*i* P	**Pb**	**21 53 52.1**		**-1.8**
ERMK				*i* S	**Sb**	**21 54 19.6**		**+2.0**
MERS	**Mersin**	**2.38**	**26**	PN	**Pb**	**21 53 58.7**		**-2.9**
KERG	**Konya-Eregli**	**2.78**	**15**	*i* P	**Pb**	**21 54 06.4**		**-2.0**
KERG				*i* S	**Sb**	**21 54 41.4**		**-0.6**
GULE	**Gulek**	**2.84**	**26**	IAML_P				
	comp=Z,261nm,0.3s							
GULE				*i* P	**Pb**	**21 54 06.8**		**-2.6**
GULE				*i* S	**Sb**	**21 54 44.5**		**+0.6**
TAHT	**Tahtakopru-Hat**	**2.92**	**55**	PN	**Pb**	**21 54 08.5**		**-2.2**
KARA	**Karaisali**	**2.93**	**30**	PN	**Pn**	**21 54 06.8**		**+2.9**
KMER	**Konya-Meram**	**3.11**	**347**	IAML_P				
	comp=Z,58nm,0.3s							
KMER				*i* P	**Pb**	**21 54 10.3**		**-3.7**
KMER				*i* S	**Sb**	**21 54 49.7**		**-1.8**
KONT	**Konya--Tatoy**	**3.28**	**348**	PN	**Pn**	**21 54 12.1**		**+3.3**

*ISK **12** 21:54:44.8,38˚.71N×43˚.20E,h6km,ML2.2/7*
*ISCJB **12** 21:54:45.5±0.5,38˚.71N±0˚.04×43˚.16E±0˚.05,h15km, Error ellipse: s-maj=6.0km s-min=5.5km az=0.7*
*DDA **12** 21:54:45.5,38˚.74N×43˚.23E,h7km±2km,ML2.5*
ISC 12 21:54:45.9±0.9,38.72N±0˚.03×43.20E±0˚.04,h15km,n14, σ0§79/17,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
VANB	**Van**	**0.19**	**130**	PG	**Pg**	**21 54 50.4**		**-0.1**
VANB				SG	**Sg**	**21 54 54.7**		**+1.1**
TVAN	**Van**	**0.25**	**140**	*i* P	**Pg**	**21 54 50.5**		**-1.0**
ERCV	**ERCIS-VAN**	**0.32**	**20**	PG	**Pg**	**21 54 51.6**		**-1.0**
ADCV	**BITLIS_Adilcev**	**0.38**	**284**	IAML_P				
	comp=Z,530nm,0.1s							
ADCV				*i* P	**Pb**	**21 54 54.4**		**-0.1**
VMUR	**Van-Muradiye**	**0.40**	**47**	*i* P	**Pg**	**21 54 53.5**		**-0.5**
VMUR				*i* S	**Sb**	**21 55 00.6**		**-0.1**
GEVA	**Gevas**	**0.42**	**195**	*i* P	**Pg**	**21 54 54.0**		**-0.5**
AKDM	**Akdamar-Van**	**0.43**	**204**	PG	**Pg**	**21 54 53.6**		**-0.9**
MLAZ	**Malazgirt-MUS**	**0.66**	**310**	PG	**Pg**	**21 54 58.4**		**-0.5**
TUTA	**Tutak**	**0.74**	**336**	*i* P	**Pg**	**21 55 00.3**		**-0.2**
GURO	**Guroymak-BITLI**	**0.93**	**260**	PG	**Pb**	**21 55 02.9**		**-0.9**
EATA	**Eleskirt**	**1.27**	**334**	*i* P	**Pn**	**21 55 09.2**		**-0.2**
EATA				*i* S	**Sg**	**21 55 28.4**		**+1.4**
SIRT	**Sirnak**	**1.36**	**207**	PN	**Pn**	**21 55 10.9**		**+0.5**
SIRN	**Sirnak**	**1.37**	**207**	IAML_P				
	comp=Z,153nm,0.2s							
SIRN				*i* P	**Pg**	**21 55 12.3**		**0.0**
TASB	**TASBURUN-IGDIR**	**1.50**	**32**	PN	**Pn**	**21 55 13.0**		**+0.7**

*IDC **12** 21:55:13.4±0.8,23˚.27S×174˚.96W,h0km,mb4.3/14, mb1 4.4/16,mb1mx4.2/43,mbtmp4.3/16,ML3.5/2,MS3.1/4, Ms1 3.1/4,ms1mx2.9/26,Error ellipse: s-maj=28.2km s-min=20.3km az=156.0*
*NEIC **12** 21:55:14.6±0.6,23˚.53S×174˚.96W,h10km,mb4.7/11, Error ellipse: s-maj=26.9km s-min=9.6km az=155.0*
*ISCJB **12** 21:55:16.5±0.6,23˚.39S±0˚.09×175˚.12W±0˚.10,h29km, mb4.4/22,MS3.1/3,Error ellipse: s-maj=15.1km s-min=10.7km az=135.6*
ISC 12 21:55:18.2±0.6,23˚.4S±0˚.1×175˚.1W±0˚.1,h29km,n51, σ1§09/52,mb4.6/22,MS3.1/3,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
NIUE	**Niue**	**6.43**	**50**	*e*Pn	Pn	21 56 40.5		-10
NIUE				*e*Sn	Sn	21 57 43.2		-20
RAR	**Rarotonga**	**14.35**	**84**	Pn	Pn	21 58 27.9		-11
	4.5nm,0.3s,baz=256,slow=10,SNR=7.2							
RAR				LR	LR	22 05 15.2		
	comp=Z,35nm,18.0s,baz=143,slow=42							
URZ	**Urewera**	**16.28**	**202**	Pn	**Pn**	**21 59 04.2**		**-0.5**
	0.3nm,0.3s,baz=54,slow=8.7,SNR=2.6							
URZ				Sn	Sn	22 01 51.8		-13
	1.5nm,0.3s,baz=324,slow=23,SNR=9.3							
DZM	**Mont Dzumac**	**17.08**	**271**	P	**P**	**21 59 17.3**		**+0.7**
	0.1nm,0.3s,baz=98,slow=19,SNR=1.9							
DZM	**Mont Dzumac**	**17.08**	**271**	*e*Pn	**P**	**21 59 17.3**		**+0.7**
	26nm,1.3s							
THZ	**Tophouse**	**20.92**	**206**	*e*P	**P**	**21 59 59.5**		**+1.1**
	38nm,1.3s							
PPT	**Papeete**	**24.57**	**81**	LR	LR	22 08 27.0		
	comp=Z,38nm,20.6s,baz=226,slow=32							
HNR	**Honiara**	**27.59**	**296**	LR	LR	22 11 02.4		
	comp=Z,45nm,18.2s,baz=163,slow=34							
ARMA	**Armidale**	**30.42**	**249**	*e*P	**P**	**22 01 26.1**		**-2.2**
	26nm,1.5s							
CTA	**Charters Tower**	**35.98**	**268**	P	**P**	**22 02 17.1**		**+0.4**
	6.6nm,0.8s,baz=105,slow=11,SNR=12							
CTAO	**Charters Tower**	**35.98**	**268**	*e*P	**P**	**22 02 17.9**		**+1.2**
	17nm,1.2s							
PMG	**Port Moresby**	**38.64**	**285**	P	**P**	**22 02 39.6**		**+0.3**
	14nm,0.9s,baz=152,slow=17,SNR=2.6							
PMG	**Port Moresby**	**38.64**	**285**	*e*P	**P**	**22 02 39.7**		**+0.3**
	17nm,1.0s							
STKA	**Stephens Creek**	**39.09**	**248**	P	**P**	**22 02 44.4**		**+1.4**
	0.9nm,0.3s,baz=106,slow=19,SNR=3.2							
BBOO	**Buckleboo**	**43.79**	**246**	*e*P	**P**	**22 03 20.7**		**-0.7**
	0.9nm,0.5s							
AS31	**Alice Springs**	**46.55**	**259**	*e*P	**P**	**22 03 44.4**		**+0.7**
	2.3nm,1.3s							
AS31				*e*PcP	**PcP**	**22 05 19.2**		**+1.5**
ASAR	**Alice Springs**	**46.56**	**259**	P	**P**	**22 03 43.8**		**+0.2**
	1.8nm,0.8s,baz=97,slow=7.8,SNR=20							
ASAR				PcP	**PcP**	**22 05 19.2**		**+1.5**
	0.7nm,0.9s,baz=94,slow=4.7,SNR=3.2							
WB2	**Warramunga Arr**	**46.92**	**264**	*e*P	**P**	**22 03 46.1**		**-0.4**
WRAB	**Tennant Creek**	**46.93**	**264**	*e*P	**P**	**22 03 45.3**		**-1.2**
	7.2nm,0.9s							
WR1	**Warramunga Arr**	**46.93**	**264**	*e*P	**P**	**22 03 46.5**		**-0.1**
	7.0nm,0.8s							
WR1				*e*PcP	**PcP**	**22 05 20.3**		**+1.3**
WRA	**Warramunga Arr**	**46.93**	**264**	P	**P**	**22 03 46.5**		**-0.1**
	5.0nm,0.7s,baz=102,slow=8.2,SNR=51							
WRA				PcP	**PcP**	**22 05 20.3**		**+1.3**
	0.8nm,0.8s,baz=94,slow=3.3,SNR=3.0							
WRA				LR	LR	22 24 02.2		
	comp=Z,41nm,18.0s,baz=240,slow=37							
JAY	**Jayapura**	**47.51**	**289**	P	**P**	**22 03 51.7**		**+0.5**
	11nm,0.8s,baz=87,slow=17,SNR=3.4							
FORT	**Forrest**	**50.70**	**249**	*e*P	**P**	**22 04 15.0**		**-0.3**
	12nm,0.8s							
FITZ	**Fitzroy Crossi**	**55.36**	**264**	P	**P**	**22 04 50.8**		**+1.0**
	6.3nm,0.9s,baz=118,slow=8.6,SNR=7.0							
SIJI	**Sorong**	**56.58**	**285**	P	**P**	**22 04 59.0**		**+0.3**
	14nm,0.8s,baz=97,slow=16,SNR=10.0							
MORW	**Morawa**	**61.27**	**249**	*e*P	**P**	**22 05 29.1**		**-2.0**
	21nm,1.4s							
QSPA	**South Pole Qui**	**66.73**	**180**	P	**P**	**22 06 07.2**		**+0.8**
	1.5nm,0.8s,baz=53,slow=6.7,SNR=5.0							
MJAR	**Matsushiro Arr**	**74.10**	**322**	P	**P**	**22 06 52.0**		**+0.3**
	1.0nm,0.7s,baz=152,slow=5.5,SNR=2.9							
MAJO	**Matsushiro**	**74.10**	**322**	*e*P	**P**	**22 06 52.0**		**+0.3**
PETK	**Petropavlovsk-**	**79.73**	**344**	P	**P**	**22 07 23.3**		**+0.3**
	4.2nm,0.8s,baz=120,slow=8.5,SNR=2.8							
PEA1	**Petropavlovsk-**	**79.74**	**344**	*e*P	**P**	**22 07 23.3**		**+0.3**
NV01	**Mina Array Sit**	**81.30**	**42**	*e*P	**P**	**22 07 34.3**		**+2.2**
NVAR	**Mina Array Bea**	**81.30**	**42**	P	**P**	**22 07 34.3**		**+2.2**
	0.6nm,0.8s,baz=232,slow=2.2,SNR=2.8							
LTX	**Lajitas**	**86.36**	**56**	*e*P	**P**	**22 07 57.3**		**-0.7**
TXAR	**Lajitas Array**	**86.36**	**56**	P	**P**	**22 07 57.3**		**-0.7**
	1.0nm,1.0s,baz=205,slow=5.3,SNR=4.8							
ILAR	**Eielson Array**	**90.52**	**12**	P	**P**	**22 08 16.1**		**-0.7**
	0.7nm,0.9s,baz=202,slow=6.8,SNR=4.4							
ILB	**Eielson Array**	**90.52**	**12**	*e*P	**P**	**22 08 16.1**		**-0.7**
CM31	**Chiang Mai Arr**	**93.59**	**288**	*e*P	**P**	**22 08 31.4**		**-0.7**
CMAR	**Chiang Mai Arr**	**93.59**	**288**	P	**P**	**22 08 31.4**		**-0.7**
	0.9nm,0.4s,baz=112,slow=1.0,SNR=2.8							
MK32	**Makanchi Array**	**115.11**	**312**	*e*PKiKP	**PKPdf**	**22 13 55.8**		**-0.7**
MKAR	**Makanchi Array**	**115.11**	**312**	PKP	**PKPdf**	**22 13 55.8**		**-0.7**
	0.4nm,0.9s,baz=112,slow=1.6,SNR=3.4							
KURK	**Kurchatov**	**117.91**	**316**	*e*PKPdf	**PKPdf**	**22 13 59.8**		**-1.9**
KURBB	**Kurchatov Arra**	**117.96**	**316**	PKP	**PKPdf**	**22 13 59.8**		**-2.0**
	0.2nm,0.6s,baz=69,slow=1.7,SNR=2.8							
BVAR	**Borovoye Array**	**122.99**	**319**	PKP	**PKPdf**	**22 14 10.7**		**-0.7**
	0.3nm,0.6s,baz=82,slow=5.0,SNR=2.6							
KBL	**Kabul**	**123.60**	**297**	*e*PKPdf	**PKPdf**	**22 14 12.1**		**-1.3**
AKASG	**Malin Array Be**	**146.80**	**331**	PKPbc	**PKPbc**	**22 14 56.0**		**-1.2**
	1.0nm,0.5s,baz=41,slow=4.2,SNR=6.9							
AKBB	**Malin Array Si**	**146.80**	**331**	*e*PKPdf	**PKPbc**	**22 14 56.0**		**-1.2**
BR101	**Keskin Array S**	**150.74**	**311**	*e*PKPbc	**PKPbc**	**22 15 08.0**		**0.0**
BRTR	**Keskin Array B**	**150.74**	**311**	PKPbc	**PKPbc**	**22 15 08.0**		**0.0**
	1.0nm,0.7s,baz=90,slow=1.6,SNR=5.3							
CLL	**Collm**	**151.40**	**349**	*e*PKPbc	**PKPbc**	**22 15 09.0**		**+0.1**
CLL				e(PKPab)	**PKPab**	**22 15 16.0**		**-1.1**
MMAI	**Mount Meron Ar**	**151.53**	**297**	PKPbc	**PKPbc**	**22 15 11.2**		**+1.3**
	0.9nm,0.4s,baz=98,slow=8.9,SNR=3.3							

*ISCJB **12** 22:12:03.1±0.3,35˚.43N±0˚.04×60˚.97E±0˚.04,h14km, mb3.5/5,MS4.2/2,Error ellipse: s-maj=5.5km s-min=4.5km az=170.2*
*TEH **12** 22:12:03.4,35˚.44N×60˚.75E,h10km,ML4.0*
*IDC **12** 22:12:04.5±1.4,35˚.44N×61˚.08E,h0km,mb3.6/5, mb1 3.7/10,mb1mx3.5/47,mbtmp3.6/10,ML3.4/5,MS3.6/3, Ms1 3.6/3,ms1mx2.8/39,Error ellipse: s-maj=31.2km s-min=18.9km az=172.0*
*THR **12** 22:12:11.6,35˚.10N×60˚.74E,h14km,ML3.9*
ISC 12 22:12:04.3±0.6,35˚.46N±0˚.03×60˚.84E±0˚.05,h14km,n54, σ1§97/49,mb3.8/9,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
JRKH	**Jarkhoshk**	**0.60**	**318**	*e*Pg	**Pg**	**22 12 15.1**		**-1.0**
JRKH				IAMB	IAmb	22 12 27.1		
	comp=Z,0.0nm,0.1s							
IMYA	**Miami**	**1.06**	**326**	*e*Pg	**Pb**	**22 12 23.2**		**-1.4**
IMYA				IAMB	IAmb	22 12 40.6		
	comp=Z,21μm,0.5s							
IMOG	**Moghan**	**1.38**	**298**	*e*Pg	**Pn**	**22 12 28.5**		**-1.0**
IMOG				IAMB	IAmb	22 12 49.3		
	comp=Z,17μm,0.4s							
IPAY	**Payeh**	**1.79**	**304**	*e*Pn	**Pb**	**22 12 35.6**		**-1.5**
IPAY				IAMB	IAmb	22 13 06.6		
	comp=Z,15μm,0.4s							
SHRT	**Shahrakht**	**1.87**	**194**	*e*Pg	**Pg**	**22 12 39.1**		**-1.1**
SHRT	**Shahrakht**	**1.87**	**194**	*e*AML	AML	22 13 04.5		
	comp=E,719nm,0.6s							
SHRT	**Shahrakht**	**1.87**	**194**	*e*Pg	**Pg**	**22 12 39.1**		**-1.1**
SHRT				*e*Sg	**Sn**	**22 12 59.3**		**-0.1**
IAKL	**Akhelmad**	**2.04**	**304**	*e*Pn	**Pn**	**22 12 38.8**		**+0.3**
IAKL				IAMB	IAmb	22 13 15.9		
	comp=Z,11μm,0.5s							
IKRD	**Kardeh**	**2.30**	**305**	*e*Pn	Pn	22 12 34.2		-7.8
IKRD				IAMB	IAmb	22 13 07.8		
	comp=Z,20μm,0.5s							
IMON	**Monand**	**2.47**	**204**	*e*Pn	**Pn**	**22 12 44.8**		**+0.5**
IMON				IAMB	IAmb	22 12 50.5		
	comp=Z,17μm,0.4s							
IEMG	**Emamgholi**

KRSC 12 22:12:59.6±0.6, 53°.14N×159°.68E, h82km±5km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLC	**Nalytchevo**	**0.20**	**280**	*e*P	Pn	22 13 12.5	+1.0
NLC				*e*S	Sn	22 13 21.6	+1.2
SPN	**Mys Shipunski**	**0.21**	**100**	*e*P	Pn	22 13 12.7	+1.1
SPN				*e*S	Sn	22 13 21.7	+1.2
SDLR	**Sedlovina**	**0.50**	**287**	*e*P	Pn	22 13 14.6	+1.0
SDLR				*e*S	Sn	22 13 25.3	+1.3
UGLR	**Uglovaya**	**0.52**	**279**	*e*P	Pn	22 13 15.2	+1.4
UGLR				*e*S	Sn	22 13 26.1	+1.8
SMAR	**Somma**	**0.54**	**284**	*e*P	Pn	22 13 15.1	+1.0
AVH	**Avacha**	**0.58**	**283**	*e*P	Pn	22 13 15.7	+1.4
AVH				*e*S	Sn	22 13 26.9	+1.7
PET	**Petropavlovsk**	**0.63**	**260**	*e*P	Pn	22 13 15.7	+1.1
PET				*e*S	Sn	22 13 26.6	+0.9
KOK	**Koryaka**	**0.64**	**285**	*e*P	Pn	22 13 16.1	+1.2
KOK				*e*S	Sn	22 13 27.4	+1.1
KRX	**Arik**	**0.66**	**290**	*e*P	Pn	22 13 16.0	+0.9
KRX				*e*S	Sn	22 13 27.1	+0.5
KII	**Karymskiy**	**0.91**	**352**	*e*P	Pn	22 13 17.5	-0.3
KRMR	**Karymshinskiy**	**0.98**	**252**	*e*P	Pn	22 13 19.7	+1.2
KRMR				*e*S	Sn	22 13 33.8	+1.2
RUS	**Russkaya**	**1.00**	**226**	*e*P	Pn	22 13 19.7	+1.1
RUS				*e*S	Sn	22 13 33.9	+1.0
MTVR	**Mutnovka**	**1.12**	**235**	*e*P	Pn	22 13 21.9	+1.6
MTVR				*e*S	Sn	22 13 37.4	+1.7
GRL	**Gorelyy**	**1.13**	**240**	*e*P	Pn	22 13 21.0	+0.6
GNL	**Ganaly**	**1.18**	**299**	*e*P	Pn	22 13 22.1	+1.1
GNL				*e*S	Sn	22 13 37.4	+0.3
APC	**Apacha**	**1.53**	**263**	*e*P	Pn	22 13 27.0	+1.7
APC				*e*S	Sn	22 13 47.0	+2.2
KDTR	**Khodutka, Kamc**	**1.65**	**217**	*e*P	Pn	22 13 28.4	+1.6
KDTR				*e*S	Sn	22 13 48.7	+1.2
MKZ	**Mys Kozlova**	**1.87**	**40**	*e*P	Pn	22 13 30.9	+1.1
MKZ				*e*S	Sn	22 13 53.1	+0.4
KZV	**Kizimen**	**2.02**	**10**	*e*P	Pn	22 13 33.7	+1.9
TUMD	**Tumrok D**	**2.12**	**11**	*e*P	Pn	22 13 36.3	+3.3
TUMD				*e*S	Sn	22 14 02.0	+3.4
TUMR	**Tumrok**	**2.17**	**7**	*e*P	Pn	22 13 36.0	+2.1
KBTR	**Krutoberegovo**	**3.58**	**29**	*e*P	Pn	22 13 55.1	+2.4

MEX 12 22:17:02.9±0.6, 14°.96N×92°.60W, h102km±7km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.33**	**99**	*e*P	Pn	22 17 16.5	-1.3
THIG				*e*S	Sn	22 17 27.8	-1.2
PCIG		**0.95**	**321**	*e*P	Pn	22 17 22.0	-0.9
PCIG				*e*S	Sn	22 17 36.2	-1.7
CCIG	**Comitan**	**1.39**	**19**	*e*P	Pn	22 17 27.1	-1.0
CCIG				*e*S	Sn	22 17 45.8	-1.3

NEIC 12 22:20:29.8±0.0, 55°.11N×134°.70W, h20km, ML3.5(AEIC), After AEIC., Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRAG	**Craig**	**0.97**	**67**	P	Pb	22 20 47.4	-0.5
CRAG				S	Sb	22 20 59.9	-0.4
NDB	**Naden**	**1.54**	**138**	P	Pn	22 20 55.6	-0.5
WRAK	**Wrangell Islan**	**1.87**	**44**	P	Pn	22 21 00.9	+0.3
SIT	**Sitka**	**1.99**	**350**	P	Pn	22 21 02.5	+0.3
SIT				S	Sn	22 21 26.6	+0.1
BNB	**Barry Inlet**	**3.08**	**144**	P	Pn	22 21 17.3	0.0
JIS	**Juneau Island**	**3.18**	**3**	P	Pn	22 21 19.5	+0.9
JIS				S	Sn	22 21 56.2	+0.2
BESE	**Bessie Mountai**	**3.48**	**359**	P	Pn	22 21 23.7	+0.9
DLBC	**Dease Lake**	**4.21**	**36**	P	Pn	22 21 34.5	+1.6
PLBC	**Pleasant Camp**	**4.46**	**349**	P	Pn	22 21 37.8	+1.7
BBB	**Bella Bella**	**4.89**	**124**	P	Pn	22 21 41.3	-0.8
WHY	**Whitehorse**	**5.57**	**359**	P	Pn	22 21 53.5	+1.9
PCA	**Pinnacle**	**5.83**	**331**	P	Pn	22 21 56.7	+1.7
CHX	**Chaix Hills**	**6.05**	**328**	P	Pn	22 21 59.1	+1.0

*ISCJB **12** 22:24:09.8±0.2, 46°.398N±0°.009×6°.36E±0°.01, h5km±1km, Error ellipse: s-maj=1.7km s-min=1.5km az=166.1*
*STR **12** 22:24:11.8±0.2, 46°.N±1°×±°, h17km±3km, M2.7/7, MLv2.7/7*
*ZUR **12** 22:24:11.5, 46°.42N×6°.48E, h8km±3km, MLh2.5/18, Error ellipse: s-maj=6.6km s-min=1.4km az=163.0*
*ROM **12** 22:24:12.2±0.2, 46°.41N±0°.01×6°.47E±0°.02, h10km, ML2.3/17*
*LDG **12** 22:24:12.3±0.1, 46°.40N×6°.50E, h8km, Md3.0/2, Ml2.9/48, Error ellipse: s-maj=1.0km s-min=0.9km az=47.0*
*PRU **12** 22:24:15.2±0.0, 46°.36N×6°.60E, h0km*

ISC 12 22:24:11.5±0.8, 46°.38N±0°.01×6°.48E±0°.01, h16km±6km, n136, σ1°65/235, 4C-5D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GIMEL	**St. Georges /**	**0.21**	**316**	P	**Pg**	**22 24 16.3**	**-0.3**
GIMEL				S	**Sg**	**22 24 19.6**	**-0.3**
GIMEL				AML	AML		
	comp=E,1175μm,1.1s						
GIMEL				AML	AML		
	comp=N,1222μm,0.8s						
NOV1	**NOV1**	**0.23**	**88**	Pg	**Pg**	**22 24 16.3**	**-0.4**
NOV4	**La Tour-de-Pel**	**0.27**	**76**	Pg	**Pg**	**22 24 17.4**	**0.0**
NOV3	**NOV3**	**0.32**	**81**	⇓Pg	**Pg**	**22 24 18.6**	**+0.3**
AIGLE	**Aigle**	**0.33**	**97**	⇓Pg	**Pg**	**22 24 18.6**	**+0.2**
CABF	**La Chapelle**	**0.35**	**310**	*e*Pg	**Pg**	**22 24 18.8**	**-0.1**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**22 24 23.7**	**-0.3**
	comp=N,336nm,0.5s						
SALAN	**Lac Salanfe**	**0.42**	**125**	⇓Pg	**Pg**	**22 24 20.2**	**+0.2**
GRYON	**Gryon**	**0.46**	**106**	Pg	**Pg**	**22 24 20.8**	**+0.1**
BRANT	**Les Verrieres**	**0.56**	**360**	⇓Pg	**Pg**	**22 24 21.7**	**-0.8**
SENIN	**Lac Senin/Sane**	**0.57**	**92**	Pg	**Pg**	**22 24 22.9**	**+0.1**
RSL	**Roselend**	**0.70**	**172**	Pg	**Pg**	**22 24 25.6**	**+0.3**
RSL				Sg	**Sg**	**22 24 34.4**	**-0.1**
RSL	**Roselend**	**0.70**	**172**	⇑Pg	**Pg**	**22 24 25.4**	**+0.2**
DIX	**Grande Dixence**	**0.71**	**115**	Pg	**Pg**	**22 24 25.7**	**+0.2**
DIX	**Grande Dixence**	**0.71**	**115**	P	**Pg**	**22 24 25.9**	**+0.4**
DIX				S	**Sb**	**22 24 36.0**	**+0.8**
DIX				AML	AML		
	comp=E,164μm,0.4s						
DIX				AML	AML		
	comp=N,196μm,0.3s						
DIX				AML	AML		
	comp=E,164μm,0.4s						
DIX				AML	AML		
	comp=N,196μm,0.3s						
DIX				AML	AML		
	comp=E,164μm,0.4s						
DIX				AML	AML		
	comp=N,196μm,0.3s						
OG35	**Corcelles**	**0.71**	**242**	Pg	**Pg**	**22 24 25.9**	**+0.4**
OG35				Sg	**Sg**	**22 24 35.6**	**+0.6**
OG35	**Corcelles**	**0.71**	**242**	Pg	**Pg**	**22 24 25.8**	**+0.3**
REMY	**Saint-Rhmy-en**	**0.72**	**139**	P	**Pg**	**22 24 26.1**	**+0.5**
REMY				S	**Sg**	**22 24 29.7**	**-5.4**
REMY	**Saint-Rhmy-en**	**0.72**	**139**	P	**Pg**	**22 24 26.1**	**+0.5**
REMY				AML	AML		
	comp=E,379μm,0.4s						
REMY				AML	AML		
	comp=N,402μm,0.7s						
REMY				AML	AML		
	comp=E,379μm,0.4s						
REMY				AML	AML		
	comp=N,402μm,0.7s						
REMY				AML	AML		
	comp=N,402μm,0.7s						
REMY				AML	AML		
	comp=E,379μm,0.4s						
MRGE	**Morge**	**0.73**	**146**	⇑Pg	**Pg**	**22 24 26.2**	**+0.4**
MRGE	**Morge**	**0.73**	**146**	P	**Pg**	**22 24 26.2**	**+0.4**
MRGE				AML	AML		
	comp=E,526μm,0.5s						
MRGE				AML	AML		
	comp=N,355μm,0.8s						
MRGE				AML	AML		
	comp=E,526μm,0.5s						
MRGE				AML	AML		
	comp=N,355μm,0.8s						
MRGE				AML	AML		
	comp=N,355μm,0.8s						
VANNI	**Vissoie, Val d**	**0.79**	**102**	⇑Pg	**Pb**	**22 24 27.5**	**+0.6**
LKBD	**Leukerbad**	**0.79**	**89**	Pg	**Pg**	**22 24 27.2**	**+0.2**
LKBD2	**Leukerbad 2**	**0.81**	**90**	⇑Pg	**Pg**	**22 24 27.6**	**+0.4**
WIMIS	**Wimmis**	**0.84**	**70**	Pg	**Pg**	**22 24 27.9**	**0.0**
CHMF	**Charmoille**	**0.88**	**8**	Pg	**Pg**	**22 24 28.2**	**-0.3**
CHMF				Sg	**Sg**	**22 24 40.4**	**+0.4**
LPL	**La Plagne**	**0.88**	**168**	*e*Pg	**Pg**	**22 24 29.2**	**+0.5**
LPL	**La Plagne**	**0.88**	**168**	*e*P	**Pn**	**22 24 31.3**	**+1.9**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**22 24 40.2**	**-0.1**
	comp=N,420nm,0.3s,SNR=1.0						
LAUCH	**Lauchernalp**	**0.90**	**87**	Pg	**Pg**	**22 24 29.1**	**+0.1**
LPG	**La Plagne**	**0.90**	**168**	*e*Pg	**Pb**	**22 24 29.9**	**+1.0**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**22 24 40.9**	**-0.1**
	comp=N,223nm,0.3s,SNR=1.0						
EMBD	**Embd, Matterta**	**0.95**	**99**	Pg	**Pg**	**22 24 30.1**	**+0.1**
LOMF	**Lomont**	**1.00**	**14**	Pg	**Pg**	**22 24 30.8**	**-0.1**
LOMF				Sg	**Sn**	**22 24 45.2**	**+0.5**
LSD	**Lago del Serru**	**1.03**	**153**	P	**Pg**	**22 24 31.5**	**0.0**
LSD				S	**Sg**	**22 24 39.8**	**-5.1**
LSD	**Lago del Serru**	**1.03**	**153**	P	**Pg**	**22 24 31.7**	**+0.3**
LSD				S	**Sg**	**22 24 45.1**	**+0.2**
LSD				AML	AML		
	comp=E,176μm,0.3s						
LSD				AML	AML		
	comp=N,124μm,0.2s						
LSD				AML	AML		
	comp=E,176μm,0.3s						
LSD				AML	AML		
	comp=N,124μm,0.2s						
MMK	**Mattmark**	**1.08**	**107**	P	**Pg**	**22 24 32.9**	**+0.4**
MMK				AML	AML		
	comp=E,70μm,0.7s						
MMK				AML	AML		
	comp=N,127μm,0.9s						
MMK				AML	AML		
	comp=N,127μm,0.9s						
MMK				AML	AML		
	comp=E,70μm,0.7s						
CIRO	**Champorcher**	**1.09**	**135**	P	**Pb**	**22 24 32.7**	**+0.6**
CIRO				S	**Sg**	**22 24 41.3**	**-5.5**
CIRO	**Champorcher**	**1.09**	**135**	P	**Pb**	**22 24 32.9**	**+0.8**
CIRO				S	**Sg**	**22 24 46.7**	**-0.1**
CIRO				AML	AML		
	comp=E,132μm,0.6s						
CIRO				AML	AML		
	comp=N,116μm,0.4s						
CIRO				AML	AML		
	comp=N,116μm,0.4s						
CIRO				AML	AML		
	comp=E,132μm,0.6s						
SATI	**Passo dei Sala**	**1.09**	**117**	P	**Pb**	**22 24 32.7**	**+0.5**
SATI				S	**Sg**	**22 24 42.2**	**-4.7**
SATI	**Passo dei Sala**	**1.09**	**117**	P	**Pb**	**22 24 32.6**	**+0.5**
SATI				S	**Sb**	**22 24 47.2**	**+1.0**
SATI				AML	AML		
	comp=E,97μm,0.9s						
SATI				AML	AML		
	comp=N,236μm,0.5s						
SATI				AML	AML		
	comp=N,236μm,0.5s						
SATI				AML	AML		
	comp=E,97μm,0.9s						
FIESA	**Fiescheralp**	**1.13**	**87**	⇓Pn	**Pb**	**22 24 33.3**	**+0.6**
GDM	**Grand'Maison**	**1.21**	**192**	Pg	**Pn**	**22 24 34.8**	**+1.0**
GDM				Sg	**Sb**	**22 24 49.6**	**+0.3**
TRAV	**Traversella**	**1.24**	**134**	P	**Pn**	**22 24 35.3**	**+1.1**
TRAV				S	**Sb**	**22 24 45.6**	**-4.7**
TRAV	**Traversella**	**1.24**	**134**	P	**Pg**	**22 24 35.7**	**+0.3**
TRAV				S	**Sg**	**22 24 52.0**	**+0.4**
TRAV				AML	AML		
	comp=E,178μm,0.4s						
TRAV				AML	AML		
	comp=N,272μm,0.9s						
TRAV				AML	AML		
	comp=E,178μm,0.4s						
TRAV				AML	AML		
	comp=N,272μm,0.9s						
BNI	**Bardonecchia**	**1.34**	**174**	P	**Pb**	**22 24 37.4**	**+1.1**
BNI				AML	AML		
	comp=E,36μm,0.5s						
BNI				AML	AML		
	comp=N,47μm,0.4s						
BNI				AML	AML		
	comp=N,47μm,0.4s						
BNI				AML	AML		
	comp=E,36μm,0.5s						
RSP	**Reno Superiore**	**1.35**	**156**	P	**Pg**	**22 24 37.9**	**+0.4**
RSP				AML	AML		
	comp=E,104μm,0.7s						
RSP				AML	AML		
	comp=N,101μm,0.4s						
RSP				AML	AML		
	comp=N,101μm,0.4s						
RSP				AML	AML		
	comp=E,104μm,0.7s						
HINF	**Hinteralfeld**	**1.46**	**10**	*e*Pn	**Pn**	**22 24 36.9**	**-0.3**
	SNR=1.0						
HINF	**Hinteralfeld**	**1.46**	**10**	*e*Pg	**Pb**	**22 24 38.8**	**+0.6**
HINF				*e*Sn	**Sn**	**22 24 55.4**	**-0.6**
	comp=E,8.4nm,0.2s,SNR=1.0						
HINF				*e*Sg	**Sb**	**22 24 57.9**	**+1.3**
	comp=E,32nm,0.2s						
RRL	**Rocca Remolon**	**1.48**	**171**	P	**Pg**	**22 24 40.2**	**+0.2**
RRL				AML	AML		
	comp=E,57μm,0.7s						
RRL				AML	AML		
	comp=N,57μm,0.4s						
RRL				AML	AML		
	comp=N,57μm,0.4s						
RRL				AML	AML		
	comp=E,57μm,0.7s						
FUSIO	**Fusio**	**1.51**	**86**	P	**Pb**	**22 24 40.3**	**+1.1**
FUSIO				AML	AML		
	comp=E,51μm,0.6s						
FUSIO				AML	AML		
	comp=N,52μm,0.8s						
FUSIO				AML	AML		
	comp=N,52μm,0.8s						
FUSIO				AML	AML		
	comp=E,51μm,0.6s						
ORIF	**Oris-en-Rattie**	**1.52**	**196**	*e*Pg	**Pb**	**22 24 41.0**	**+1.6**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**22 24 58.2**	**+0.6**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**22 25 01.1**	**+0.5**
	comp=E,42nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.52**	**196**	Pg	**Pn**	**22 24 39.6**	**+1.5**
ORIF	**Oris-en-Rattie**	**1.52**	**196**	P	**Pb**	**22 24 40.9**	**+1.5**
ORIF				S	**Sb**	**22 24 59.9**	**+1.5**
ORIF				AML	AML		
	comp=E,171μm,0.4s						
ORIF				AML	AML		
	comp=N,80μm,0.4s						
ORIF				AML	AML		
	comp=N,80μm,0.4s						
ORIF				AML	AML		
	comp=E,171μm,0.4s						
MOF	**Molkenrain**	**1.54**	**17**	Pg	**Pb**	**22 24 40.0**	**+0.4**
HAU	**Haudompre**	**1.63**	**357**	*e*Pn	**Pn**	**22 24 39.5**	**0.0**
	SNR=1.0						
HAU	**Haudompre**	**1.63**	**357**	*e*Pg	**Pb**	**22 24 41.8**	**+0.7**
HAU				*e*Sn	**Sn**	**22 24 59.7**	**-0.4**
	comp=E,11nm,0.2s,SNR=1.0						
HAU				*e*Sg	**Sg**	**22 25 03.5**	**-0.4**
	comp=E,46nm,0.2s						
BHB	**Bricherasio**	**1.64**	**160**	P	**Pb**	**22 24 42.3**	**+1.0**
BHB				AML	AML		
	comp=E,77μm,1.5s						
BHB				AML	AML		
	comp=N,63μm,1.5s						
BHB				AML	AML		
	comp=N,63μm,1.5s						
BHB				AML	AML		
	comp=E,77μm,1.5s						
MBDF	**Montbardon**	**1.67**	**173**	*e*Pn	**Pn**	**22 24 40.9**	**+0.8**
	SNR=1.0						
MBDF	**Montbardon**	**1.67**	**173**	*e*Pg	**Pb**	**22 24 43.1**	**+1.2**
MBDF				*e*Sn	**Sn**	**22 25 01.0**	**-0.2**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**22 25 05.1**	**-0.1**
	comp=E,18nm,0.3s,SNR=1.0						
MUGIO	**Muggio**	**1.84**	**104**	P	**Pb**	**22 24 45.5**	**+0.7**
MUGIO				AML	AML		
	comp=E,42μm,0.4s						
MUGIO				AML	AML		
	comp=N,52μm,0.6s						
MUGIO				AML	AML		
	comp=N,52μm,0.6s						
MUGIO				AML	AML		
	comp=E,42μm,0.4s						
SMF	**Signal de Mont**	**1.84**	**279**	*e*Pn	**Pn**	**22 24 42.5**	**+0.1**
	SNR=1.0						
SMF	**Signal de Mont**	**1.84**	**279**	*e*Pg	**Pb**	**22 24 45.8**	**+1.1**
SMF				*e*Sn	**Sn**	**22 25 02.5**	**-2.8**
	SNR=1.0						
SMF				*e*Sg	**Sb**	**22 25 09.7**	**+2.2**
	comp=E,34nm,0.2s,SNR=1.0						
KIZ	**Kirchzarten**	**1.86**	**31**	Pg	**Pb**	**22 24 46.2**	**+1.2**
KIZ				Sg	**Sg**	**22 25 10.5**	**-0.8**
THEF	**They Montfort**	**1.88**	**350**	Pn	**Pn**	**22 24 44.2**	**+1.3**
THEF				Sg	**Sb**	**22 25 10.7**	**+2.1**
ECH	**Echery**	**1.89**	**14**	Pn	**Pn**	**22 24 43.3**	**+0.2**
ECH				Sg	**Sb**	**22 25 10.4**	**+1.3**
SURF	**Saint Ours**	**1.92**	**173**	Pg	**Pb**	**22 24 46.7**	**+0.6**
OGAG	**Argentiere**	**1.93**	**179**	Pg	**Pn**	**22 24 41.7**	**-2.0**
PZZ	**Stroppo**	**1.93**	**166**	P	**Pb**	**22 24 46.7**	**+0.4**
PZZ				AML	AML		
	comp=E,85μm,0.6s						
PZZ				AML	AML		
	comp=N,103μm,0.9s						
PZZ				AML	AML		
	comp=E,85μm,0.6s						
PZZ				AML	AML		
	comp=N,103μm,0.9s						
DOI	**San Damiano**	**1.95**	**164**	P	**Pb**	**22 24 46.9**	**+0.2**
DOI				AML	AML		
	comp=E,59μm,0.8s						
DOI				AML	AML		
	comp=N,72μm,0.4s						
DOI				AML	AML		
	comp=N,72μm,0.4s						
DOI				AML	AML		
	comp=E,59μm,0.8s						
VIVF	**Saint-Julien-l**	**1.98**	**220**	*e*Pn	**Pn**	**22 24 43.0**	**-1.4**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**1.98**	**220**	*e*Pg	**Pb**	**22 24 48.6**	**+1.4**
VIVF				*e*Sn	**Sn**	**22 25 08.8**	**-0.1**
VIVF				*e*Sg	**Sg**	**22 25 15.1**	**-0.2**
	comp=E,87nm,0.3s						
LOR	**Lormes**	**2.01**	**297**	*e*Pn	**Pn**	**22 24 45.0**	**+0.4**
	baz=120,SNR=1.0						
LOR	**Lormes**	**2.01**	**297**	*e*Pg	**Pb**	**22 24 49.1**	**+1.5**
	baz=118						
LOR				*e*Sn	**Sn**	**22 25 09.4**	**0.0**
	comp=E,6.9nm,0.2s						
LOR				*e*Sg	**Sb**	**22 25 14.7**	**+2.4**
	comp=E,21nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.01**	**297**	Pn	**Pn**	**22 24 45.1**	**+0.4**
LOR				Sg	**Sb**	**22 25 13.9**	**+1.6**
SFTF	**Sexfontaines**	**2.07**	**332**	*e*Pn	**Pn**	**22 24 46.1**	**+0.5**
	baz=142						
SFTF	**Sexfontaines**	**2.07**	**332**	*e*Pg	**Pb**	**22 24 50.4**	**+1.7**
	baz=143						
SFTF				*e*Sn	**Sn**	**22 25 10.8**	**-0.2**
	comp=E,19nm,0.2s						
SFTF				*e*Sg	**Sg**	**22 25 18.0**	**-0.1**
	comp=E,19nm,0.2s						
CDF	**Champ du Feu**	**2.10**	**15**	*e*Pn	**Pn**	**22 24 45.5**	**-0.6**
	SNR=1.0						
CDF	**Champ du Feu**	**2.10**	**15**	*e*Pg	**Pb**	**22 24 50.5**	**+1.2**
CDF				*e*Sn	**Sn**	**22 25 11.5**	**-0.4**
	comp=E,5.4nm,0.3s,SNR=1.0						
CDF				*e*Sg	**Sg**	**22 25 18.8**	**-0.3**
	comp=E,13nm,0.3s						
SSF	**Saint Saulge**	**2.16**	**289**	*e*Pn	**Pn**	**22 24 47.2**	**+0.5**
	SNR=1.0						
SSF	**Saint Saulge**	**2.16**	**289**	*e*Pg	**Pb**	**22 24 51.3**	**+1.2**
SSF				*e*Sn	**Sn**	**22 25 12.8**	**-0.3**
	comp=E,5.6nm,0.3s,SNR=1.0						
SSF				*e*Sg	**Sb**	**22 25 19.7**	**+3.1**
	comp=E,9.2nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.19**	**282**	*e*Pn	**Pn**	**22 24 47.8**	**+0.6**
	SNR=1.0						
AVF	**Avril sur Loir**	**2.19**	**282**	*e*Pg	**Pb**	**22 24 53.0**	**+2.2**
AVF				*e*Sn	**Sn**	**22 25 13.8**	**-0.2**
	comp=E,3.5nm,0.2s,SNR=1.0						
AVF				*e*Sg	**Sb**	**22 25 20.4**	**+2.7**
	comp=E,6.0nm,0.2s						
PAGF	**Fort de Pagny**	**2.23**	**347**	*e*Pn	**Pn**	**22 24 47.8**	**0.0**
PAGF	**Fort de Pagny**	**2.23**	**347**	*e*Pg	**Pg**	**22 24 53.9**	**-0.4**
	baz=167						
PAGF				*e*Sn	**Sn**	**22 25 14.5**	**-0.5**
	comp=E,1.8nm,0.1s,baz=162						
PAGF				*e*Sg	**Sb**	**22 25 21.9**	**+3.1**
	comp=E,7.6nm,0.2s,baz=164						
MEZF	**Maizieres J'vi**	**2.33**	**336**	*e*Pn	**Pn**	**22 24 49.0**	**-0.1**
	baz=146						
MEZF	**Maizieres J'vi**	**2.33**	**336**	*e*Pg	**Pg**	**22 24 55.6**	**-0.6**
	baz=147,SNR=1.0						
MEZF				*e*Sn	**Sn**	**22 25 16.4**	**-1.0**
	comp=E,6.5nm,0.2s,SNR=1.0						
MEZF				*e*Sg	**Sb**	**22 25 25.0**	**+3.4**
	comp=E,14nm,0.2s,SNR=1.0						
AGO	**Saint Agoulin**	**2.35**	**263**	Pn	**Pn**	**22 24 49.6**	**+0.2**
SMRF	**Simiane la Rot**	**2.49**	**195**	*e*Pn	**Pn**	**22 24 52.2**	**+0.9**
	SNR=1.0						
SMRF	**Simiane la Rot**	**2.49**	**195**	*e*Pg	**Pg**	**22 25 00.0**	**+0.8**
	SNR=1.0						
SMRF				*e*Sn	**Sn**	**22 25 21.5**	**+0.1**
	comp=E,6.4nm,0.4s,SNR=1.0						
SMRF				*e*Sg	**Sg**	**22 25 30.9**	**-0.6**
	comp=E,4.3nm,0.3s						
PYM	**Petit Puy Mans**	**2.50**	**257**	Pn	**Pn**	**22 24 51.3**	**-0.2**
PYM				Pg	**Pb**	**22 24 58.4**	**+2.4**
DAVA	**Damuels**	**2.50**	**68**	*i* Pn	**Pn**	**22 24 53.4**	**+1.8**
	comp=E,0.3nm,0.1s						
DAVA				*e*Pg	**Pg**	**22 24 58.8**	**-0.7**
	comp=E,1.7nm,0.2s						
DAVA				Sg	**Sg**	**22 25 32.4**	**+0.4**
	comp=E,11nm,0.4s						
BGF	**Bois d'Agland**	**2.52**	**275**	*e*Pn	**Pn**	**22 24 52.2**	**+0.5**
BGF	**Bois d'Agland**	**2.52**	**275**	*e*Pg	**Pb**	**22 24 59.0**	**+2.7**
BGF				*e*Sn	**Sn**	**22 25 22.0**	**0.0**
	comp=E,26nm,0.3s,SNR=1.0						
BGF				*e*Sg	**Sg**	**22 25 31.5**	**-0.9**
	comp=E,27nm,0.3s						
LBL	**Lubilhac**	**2.54**	**244**	Pn	**Pn**	**22 24 52.1**	**+0.1**
LBL				Pg	**Pg**	**22 25 00.3**	**+0.2**
SBF	**Sospel**	**2.61**	**165**	*e*Pn	**Pn**	**22 24 54.5**	**+1.5**
SBF	**Sospel**	**2.61**	**165**	*e*Pg	**Pg**	**22 25 01.6**	**+0.1**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**22 25 23.3**	**-1.0**
SBF				*e*Sg	**Sg**	**22 25 34.7**	**-0.6**
	comp=E,7.7nm,0.2s						
HYF	**Humbligny**	**2.78**	**290**	*e*Pn	**Pn**	**22 24 56.4**	**+1.1**
HYF	**Humbligny**	**2.78**	**290**	*e*Pg	**Pb**	**22 25 03.6**	**+2.8**
HYF				*e*Sn	**Sn**	**22 25 27.4**	**-1.1**
HYF				*e*Sg	**Sg**	**22 25 40.6**	**-0.2**
FRF	**La Foret Royal**	**2.82**	**178**	*e*Pn	**Pn**	**22 24 56.9**	**+1.0**
	SNR=1.0						
FRF	**La Foret Royal**	**2.82**	**178**	*e*Pg	**Pg**	**22 25 05.2**	**-0.4**
FRF				*e*Sn	**Sn**	**22 25 29.5**	**0.0**
	comp=

LMR					*e*Sg		**Sg**	**22 25 47.3**	**-2.1**
	comp=E,3.2nm,0.2s,SNR=1.0									
RETA	**Reutte**	**3.14**	**68**	*e*Pg			**Pg**	**22 25 10.7**	**-0.8**
	comp=E,1.1nm,0.3s									
RETA					*e*Sg		**Sg**	**22 25 50.9**	**-1.3**
	comp=E,1.0nm,0.2s									
MOTA	**Moosalm**	**3.31**	**71**	*i* Pn			**Pn**	**22 25 06.2**	**+3.4**
	comp=E,0.6nm,0.1s									
MOTA					*i* Sn		**Sn**	**22 25 43.3**	**+1.4**
	comp=E,0.7nm,0.1s									
MOTA					Sg		**Sg**	**22 25 60.0**	**+2.0**
	comp=E,3.1nm,0.6s									
CAF	**Calviac**	**3.42**	**246**	*e*Pn			**Pn**	**22 25 04.5**	**+0.4**
	SNR=1.0									
CAF	**Calviac**	**3.42**	**246**	*e*Pg			**Pg**	**22 25 16.0**	**-1.0**
CAF					*e*Sn		**Sn**	**22 25 44.2**	**-0.1**
	SNR=1.0									
CAF					*e*Sg		**Sg**	**22 25 59.6**	**-1.7**
	comp=E,6.5nm,0.2s,SNR=1.0									
RJF	**Les Rejaudoux**	**3.63**	**255**	*e*Pn			**Pn**	**22 25 07.6**	**+0.6**
RJF	**Les Rejaudoux**	**3.63**	**255**	*e*Pg			**Pg**	**22 25 20.0**	**-1.0**
RJF					*e*Sn		**Sn**	**22 25 48.6**	**-0.9**
	SNR=1.0									
RJF					*e*Sg		**Sg**	**22 26 06.5**	**-1.6**
	comp=E,4.0nm,0.2s,SNR=1.0									
GIVF	**Givet**	**3.88**	**344**	*e*Pn			**Pn**	**22 25 10.4**	**0.0**
GIVF	**Givet**	**3.88**	**344**	*e*Pg			**Pg**	**22 25 23.9**	**-1.9**
GIVF					*e*Sn		**Sn**	**22 25 53.9**	**-1.8**
	comp=E,1.9nm,0.2s									
GIVF					*e*Sg		**Sg**	**22 26 13.5**	**-2.6**
	comp=E,3.8nm,0.3s									
BAIF	**Baives**	**3.98**	**338**	*e*Pn			**Pn**	**22 25 12.8**	**+1.0**
	SNR=1.0									
ABTA	**Abfaltersbach**	**4.18**	**83**	*e*Pg			**Pg**	**22 25 31.1**	**-0.4**
	comp=E,2.2nm,0.5s									
LFF	**La Frestale**	**4.28**	**252**	*e*Pn			**Pn**	**22 25 16.2**	**+0.4**
LFF	**La Frestale**	**4.28**	**252**	*e*Pg			**Pg**	**22 25 31.5**	**-1.8**
LFF					*e*Sn		**Sn**	**22 26 04.0**	**-1.3**
LFF					*e*Sg		**Sg**	**22 26 26.9**	**-1.8**
	comp=E,11nm,0.4s									
MTLF	**Montolieu**	**4.29**	**226**	*e*Pn			**Pn**	**22 25 17.6**	**+1.5**
	SNR=1.0									
MTLF	**Montolieu**	**4.29**	**226**	*e*Pg			Pb	22 25 31.0	+4.5	
MTLF					*e*Sn		**Sn**	**22 26 04.4**	**-1.4**
MTLF					*e*Sg		**Sg**	**22 26 26.9**	**-2.3**
	comp=E,3.0nm,0.3s									
MFF	**Saint Martin d**	**4.58**	**275**	*e*Pn			**Pn**	**22 25 20.1**	**+0.1**
	SNR=1.0									
MFF	**Saint Martin d**	**4.58**	**275**	*e*Pg			**Pg**	**22 25 37.1**	**-2.1**
MFF					*e*Sn		**Sn**	**22 26 11.1**	**-1.8**
MFF					*e*Sg		**Sg**	**22 26 36.1**	**-2.4**
	comp=E,4.0nm,0.4s,SNR=1.0									
LDF	**La Druitiere**	**4.99**	**299**	*e*Pn			**Pn**	**22 25 27.1**	**+1.4**
	SNR=1.0									
LDF	**La Druitiere**	**4.99**	**299**	*e*Pg			**Pg**	**22 25 44.0**	**-3.0**
LDF					*e*Sn		**Sn**	**22 26 19.9**	**-3.1**
LDF					*e*Sg		**Sg**	**22 26 48.2**	**-3.4**
FLN	**La Foliniere**	**5.28**	**299**	*e*Pn			**Pn**	**22 25 30.6**	**+1.0**
	SNR=1.0									
FLN	**La Foliniere**	**5.28**	**299**	*e*Pg			**Pg**	**22 25 49.3**	**-3.2**
FLN					*e*Sn		**Sn**	**22 26 27.7**	**-2.3**
FLN					*e*Sg		**Sg**	**22 26 57.1**	**-3.7**
GRR	**Gorron**	**5.37**	**295**	*e*Pn			**Pn**	**22 25 31.4**	**+0.5**
	SNR=1.0									
GRR					*e*Sn		**Sn**	**22 26 28.4**	**-4.0**
GRR					*e*Sg		**Sg**	**22 27 00.7**	**-3.1**
EPF	**Esparros**	**5.51**	**235**	*e*Pn			**Pn**	**22 25 33.4**	**+0.5**
EPF	**Esparros**	**5.51**	**235**	*e*Pg			**Pg**	**22 25 57.1**	**+0.1**
EPF					*e*Sn		**Sn**	**22 26 32.9**	**-3.0**
EPF					*e*Sg		**Sg**	**22 27 05.0**	**-3.3**
	comp=E,4.6nm,0.4s									
KHC	**Kasperske Hory**	**5.52**	**58**	*e*PG			**Pg**	**22 25 55.5**	**-1.6**
KHC					*e*SG		**Sg**	**22 27 08.0**	**-0.6**
ETSF	**Etsaut**	**6.11**	**238**	*e*Pn			**Pn**	**22 25 41.5**	**+0.4**
ETSF	**Etsaut**	**6.11**	**238**	*e*Pg			**Pg**	**22 26 06.1**	**-2.3**
ETSF					*e*Sn		**Sn**	**22 26 46.9**	**-3.8**
ETSF					*e*Sg		**Sg**	**22 27 23.2**	**-4.3**
SJPF	**Ste Jean**	**6.38**	**242**	*e*Pn			**Pn**	**22 25 45.6**	**+0.8**
SJPF	**Ste Jean**	**6.38**	**242**	*e*Pg			**Pg**	**22 26 11.4**	**-2.3**
SJPF					*e*Sn		**Sn**	**22 26 53.0**	**-4.4**
SJPF					*e*Sg		**Sg**	**22 27 31.9**	**-4.4**
SGMF	**Saint Gilles**	**6.42**	**290**	*e*Pn			**Pn**	**22 25 45.7**	**+0.4**
	SNR=1.0									
SGMF	**Saint Gilles**	**6.42**	**290**	*e*Pg			Pb	22 26 09.6	+6.8	
SGMF					*e*Sn		**Sn**	**22 26 55.0**	**-3.2**
	comp=E,6.9nm,0.8s,SNR=1.0									
SGMF					*e*Sg		**Sg**	**22 27 32.9**	**-4.6**
BRG	**Berggiesshubel**	**6.68**	**45**	SG			**Sg**	**22 27 46.9**	**+1.2**
	comp=E,5.6nm,1.2s									
QUIF	**Quistinic**	**6.75**	**287**	*e*Pn			**Pn**	**22 25 49.7**	**-0.2**
	SNR=1.0									

TAP 12 22:47:28.0, 22°.33N×119°.88E, h42km, ML3.6, 10C-6D, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWP	**Hsiaoliuchiu**	**0.45**	**88**	⇑P	Pn	22 47 38.7	+0.6
	baz=88						
TWP				S	Sn	22 47 46.8	+1.6
	baz=88						
KAU	**Kaohsiung**	**0.46**	**59**	⇑P	Pn	22 47 39.2	+0.9
	baz=60						
KAU				*e*S	Sn	22 47 47.5	+1.9
	baz=60						
WLCH	**Liuqiu**	**0.46**	**88**	⇑P	Pn	22 47 39.0	+0.7
	baz=88						
WLCH				*e*S	Sn	22 47 46.9	+1.3
	baz=88						
SCZT	**Fangliau**	**0.68**	**87**	⇑*i*P	Pn	22 47 41.8	+0.5
	baz=87						
SCZT				*e*S	Sn	22 47 50.4	-0.4
	baz=87						
SGLT	**Jiouru**	**0.69**	**55**	*e*P	Pn	22 47 42.8	+1.5
	baz=46						
SGLT				*e*S	Sn	22 47 53.7	+2.9
	baz=46						
TWM1	**Shoushan**	**0.70**	**46**	*e*P	Pn	22 47 43.8	+2.3
	baz=54						
MASBT	**Mashibuluo**	**0.75**	**68**	⇑P	Pn	22 47 42.8	+0.6
	baz=68						
MASBT				*e*S	Sn	22 47 53.4	+1.0
	baz=68						
TAI1	**Yung-k'ang**	**0.77**	**24**	*e*P	Pn	22 47 43.5	+1.1
	baz=14						
SSD	**Sandimen**	**0.81**	**59**	⇑*i*P	Pn	22 47 43.7	+0.8
	baz=73						
SSD				*e*S	Sn	22 47 55.8	+2.0
	baz=73						
HEN	**Hengchun**	**0.86**	**112**	*e*P	Pn	22 47 44.6	+1.0
	baz=101						
CHN3	**Shinhua**	**0.86**	**31**	*e*P	Pn	22 47 45.2	+1.5
	baz=31						
SCLT	**Jiali**	**0.89**	**19**	*e*P	Pn	22 47 44.8	+0.8
	baz=20						
SCLT				S	Sn	22 47 57.3	+1.6
	baz=20						
EAST	**Anshuo**	**0.90**	**87**	⇑*i*P	Pn	22 47 45.1	+0.9
	baz=87						
EAST				*e*S	Sn	22 47 55.4	-0.7
	baz=87						
TWK1	**Hengchun**	**0.94**	**114**	⇑P	Pn	22 47 45.8	+1.0
	baz=101						
TWK1				*e*S	Sn	22 47 58.2	+1.2
	baz=101						
WDGT	**Dungji**	**0.94**	**348**	*e*P	Pn	22 47 45.4	+0.6
	baz=348						
TWKBT	**Hengchun**	**0.95**	**114**	P	Pn	22 47 45.7	+0.9
	baz=101						
TWKBT				S	Sn	22 47 58.3	+1.2
	baz=101						
SLGT	**Liugui**	**0.96**	**47**	*e*P	Pn	22 47 45.5	+0.4
	baz=47						
VCHM	**Qimei**	**0.97**	**334**	⇓P	Pn	22 47 45.1	0.0
	baz=335						
SGST	**Jiashian**	**0.99**	**41**	⇓P	Pn	22 47 46.5	+1.1
	baz=41						
SGST				*e*S	Sn	22 47 59.8	+1.6
	baz=41						
ECL	**Taimali**	**1.03**	**75**	⇑P	Pn	22 47 46.8	+0.9
	baz=87						
ECL				S	Sn	22 47 59.2	+0.1
	baz=87						
CHN1	**Nanshi**	**1.04**	**35**	⇓P	Pn	22 47 46.8	+0.7
	baz=24						
CHN1				*e*S	Sn	22 47 59.9	+0.4
	baz=24						
TSEB	**Hengchuen, Pin**	**1.04**	**114**	*e*P	Pn	22 47 46.0	-0.1
	baz=103						
TSEB				*e*S	Sn	22 47 59.6	+0.3
	baz=103						
CHN8	**Yiju**	**1.05**	**17**	*e*P	Pn	22 47 46.9	+0.6
	baz=18						
CHN8				*e*S	Sn	22 48 01.5	+1.7
	baz=18						
TWK	**Hsinying**	**1.08**	**31**	⇓P	Pn	22 47 47.4	+0.6
	baz=21						
TWK				*e*S	Sn	22 48 00.2	-0.4
	baz=21						
WTP	**Ta-pu**	**1.13**	**36**	*e*P	Pn	22 47 48.1	+0.7
	baz=37						
WTP				*e*S	Sn	22 48 01.7	-0.1
	baz=37						
TPUB	**Ta-pu**	**1.19**	**35**	*e*P	Pn	22 47 48.6	+0.5
	baz=23						
TPUB				*e*S	Sn	22 48 02.4	-0.6
	baz=23						
WLGB	**Puzi**	**1.20**	**19**	*e*P	Pn	22 47 47.8	-0.5
	baz=19						
TWGBT	**Beinan**	**1.21**	**66**	P	Pn	22 47 49.6	+1.2
	baz=66						
TWGBT				S	Sn	22 48 03.6	0.0
	baz=66						
PHUB	**P'eng-hu**	**1.21**	**346**	P	Pn	22 47 48.5	0.0
	baz=347						
PHUB				*e*S	Sn	22 48 03.2	-0.4
	baz=347						
CHY	**Chiayi**	**1.26**	**23**	*e*P	Pn	22 47 49.8	+0.6
	baz=24						
PNG	**Penghu**	**1.27**	**346**	*e*P	Pn	22 47 49.1	-0.1
	baz=347						
PNG				*e*S	Sn	22 48 06.7	+1.7
	baz=347						
WSF	**Szhu**	**1.34**	**13**	*e*P	Pn	22 47 50.7	+0.5
	baz=4.0						
WSF				*e*S	Sn	22 48 07.9	+1.2
	baz=4.0						
ELDTW	**Lidau**	**1.35**	**51**	*e*P	Pn	22 47 51.5	+1.0
	baz=51						
ALS	**Alishan**	**1.45**	**36**	⇓P	Pn	22 47 52.6	+0.6
	baz=25						
ALS				*e*S	Sn	22 48 11.2	+1.2
	baz=25						
CHN5	**Tsauling**	**1.46**	**30**	⇓P	Pn	22 47 52.4	+0.4
	baz=20						
CHN5				*e*S	Sn	22 48 09.9	+0.1
	baz=20						
WDLH	**Douliu**	**1.48**	**24**	*e*P	Pn	22 47 52.9	+0.7
	baz=24						
WDLH				*e*S	Sn	22 48 11.3	+1.0
	baz=24						
YUS	**Yu-Shan**	**1.52**	**40**	*e*P	Pn	22 47 53.7	+0.6
	baz=50						
FULB	**Fuli**	**1.56**	**56**	*e*P	Pn	22 47 55.3	+2.0
	baz=47						
FULB				*e*S	Sn	22 48 14.4	+2.1
	baz=47						
WTCT	**Ta-ch'eng**	**1.57**	**13**	*e*P	Pn	22 47 54.5	+1.2
	baz=5.0						
WTCT				*e*S	Sn	22 48 13.9	+1.4
	baz=5.0						
LAY	**Lan-yu**	**1.57**	**100**	P	Pn	22 47 53.5	0.0
	baz=89						
RLNB	**Erlin**	**1.61**	**16**	*e*P	Pn	22 47 54.7	+0.8
	baz=7.0						
RLNB				*e*S	Sn	22 48 14.8	+1.3
	baz=7.0						
TWF1	**Yuli**	**1.65**	**52**	*e*P	Pn	22 47 55.9	+1.4
	baz=52						
TWF1				*e*S	Sn	22 48 15.7	+1.1
	baz=52						
WJS	**Zhushan**	**1.67**	**28**	*e*P	Pn	22 47 55.7	+0.8
	baz=28						
WJS				*e*S	Sn	22 48 16.0	+0.9
	baz=28						
YULB	**Yu-li**	**1.68**	**51**	*e*P	Pn	22 47 56.0	+1.1
	baz=63						
YULB				*e*S	Sn	22 48 16.2	+1.0
	baz=63						
WNT	**Mingjian**	**1.71**	**25**	*e*P	Pn	22 47 56.1	+0.9
	baz=26						
WNT				*e*S	Sn	22 48 16.7	+0.8
	baz=26						
SSLB	**Suanglung**	**1.75**	**34**	⇑P	Pn	22 47 57.1	+1.1
	baz=27						
SSLB				*e*S	Sn	22 48 16.4	-0.7
	baz=27						
TYC	**Yuchr**	**1.80**	**30**	*e*P	Pn	22 47 57.7	+1.1
	baz=21						
TYC				*e*S	Sn	22 48 19.2	+1.0
	baz=21						
SMLT	**Sun Moon Lake**	**1.81**	**31**	*e*P	Pn	22 47 57.6	+0.9
	baz=32						
SMLT				*e*S	Sn	22 48 18.6	+0.2
	baz=32						
VWDT	**VWDT**	**1.83**	**39**	*e*P	Pn	22 47 58.5	+1.5
	baz=52						
HGSD	**Ruisui**	**1.83**	**51**	*e*P	Pn	22 47 59.0	+2.0
	baz=51						
WCHH	**Zhanghua**	**1.85**	**20**	*e*P	Pn	22 47 57.9	+0.8
	baz=30						
WCHH				*e*S	Sn	22 48 21.1	+1.8
	baz=30						
TCU	**Taichung**	**1.95**	**22**	*e*P	Pn	22 48 00.1	+1.5
	baz=23						
CHGB	**Renai**	**2.09**	**34**	*e*P	Pn	22 48 02.0	+1.2
	baz=35						
TWQ1	**Liyutan**	**2.17**	**22**	*e*P	Pn	22 48 03.3	+1.7
	baz=23						
TWQ1				*e*S	Sn	22 48 28.5	+1.2
	baz=23						
WHF	**Hehuan Shan**	**2.21**	**35**	*e*P	Pn	22 48 03.5	+0.9
	baz=36						
NSY	**Sanyi**	**2.23**	**21**	*e*P	Pn	22 48 04.2	+1.7
	baz=22						
TDCB	**Techi**	**2.24**	**31**	*e*P	Pn	22 48 03.8	+1.0
	baz=32						
TDCB				*e*S	Sn	22 48 30.2	+0.9
	baz=32						
NACB	**Ninganchiao**	**2.42**	**40**	*e*P	Pn	22 48 07.0	+2.0
	baz=53						
NNSB	**Datong**	**2.50**	**33**	*e*P	Pn	22 48 07.4	+1.1
	baz=34						
NNS	**Nan Shan**	**2.50**	**33**	*e*P	Pn	22 48 08.1	+1.8
	baz=34						
NSTT	**Nanjuang**	**2.51**	**24**	*e*P	Pn	22 48 06.6	+0.3
	baz=25						
NSTT				*e*S	Sn	22 48 34.9	-0.7
	baz=25						
KNMB	**Chin-men Tao**	**2.53**	**327**	*e*P	Pn	22 48 07.7	+1.2
	baz=328						
LIOB	**Emei**	**2.53**	**24**	*e*P	Pn	22 48 07.5	+0.9
	baz=25						
VWUC	**VWUC**	**2.68**	**352**	*e*P	Pn	22 48 09.4	+0.9
	baz=352						
ENA	**Nanau**	**2.70**	**39**	*e*P	Pn	22 48 11.1	+2.2
	baz=50						
NSK	**Sanguang**	**2.70**	**30**	*e*P	Pn	22 48 10.5	+1.5
	baz=20						
YHNB	**Yeheng**	**2.70**	**30**	*e*P	Pn	22 48 10.4	+1.4
	baz=19						
YHNB				*e*S	Sn	22 48 41.3	+0.8
	baz=19						
ENTT	**Nioudou**	**2.77**	**34**	*e*P	Pn	22 48 12.4	+2.5
	baz=23						
PTMZ	**Houxiangcun**	**2.78**	**346**	*e*P	Pn	22 48 11.1	+1.0
	baz=346						
WLTB	**Daxi**	**2.81**	**26**	*e*P	Pn	22 48 12.0	+1.6
	baz=27						
TWE	**Neicheng**	**2.89**	**34**	*e*P	Pn	22 48 13.5	+2.1
	baz=26						
TWA	**Mucha**	**3.06**	**30**	*e*P	Pn	22 48 15.5	+1.6
	baz=18						
AXDP	**Jialang**	**3.10**	**326**	*e*P	Pn	22 48 15.9	+1.5
	baz=326						
TIPB	**Shuangxi**	**3.17**	**34**	*e*P	Pn	22 48 17.5	+2.1
	baz=22						
YM04	**YM04**	**3.19**	**28**	*e*P	Pn	22 48 16.6	+0.9
	baz=17						
YM01	**YM01**	**3.20**	**29**	*e*P	Pn	22 48 17.5	+1.7
	baz=17						
YM05	**YM05**	**3.21**	**28**	*e*P	Pn	22 48 17.0	+1.0
	baz=17						
YM11	**YM11**	**3.22**	**28**	*e*P	Pn	22 48 16.9	+0.8
	baz=17						
MATB	**Ma-tsu**	**3.80**	**1**	*e*P	Pn	22 48 24.8	+0.7
	baz=1.0						
MHZQ	**Yeshan**	**3.83**	**348**	*e*P	Pn	22 48 25.2	+0.7
	baz=348						
LYJJ	**Jianjiangzhen**	**4.20**	**359**	*e*P	Pn	22 48 30.3	+0.8
	baz=359						
XPSS	**Dashiqiu**	**4.58**	**3**	*e*P	Pn	22 48 35.3	+0.5
	baz=5.0						

IDC 12 23:04:52.8±1.6, 0°.46N×129°.42E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/34, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=44.9km s-min=17.8km az=43.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.27**	**126**	Pn	Pb	23 05 33.2	-1.5
	4.9nm,0.3s,baz=304,slow=16,SNR=12						
SIJI				Lg	Lg	23 06 03.7	
	1.3nm,0.3s,baz=194,slow=15,SNR=3.5						
WRA	**Warramunga Arr**	**20.84**	**167**	P	P	23 09 36.5	+0.2
	0.7nm,0.6s,baz=347,slow=12,SNR=8.2						
ASAR	**Alice Springs**	**24.38**	**170**	P	P	23 10 12.8	-0.1
	1.0nm,0.6s,baz=353,slow=11,SNR=18						
MKAR	**Makanchi Array**	**61.75**	**325**	P	P	23 15 12.8	-0.4
	0.1nm,0.5s,baz=112,slow=7.1,SNR=4.4						

*DDA **12** 23:11:10.4, 41°.36N×43°.89E, h7km±2km, ML2.8*
*TIF **12** 23:11:10.2, 41°.34N×43°.94E, h20km±1km*
*ISK **12** 23:11:10.1, 41°.33N×43°.99E, h6km, ML2.2/3*
*NORS **12** 23:11:12.5±0.0, 41°.43N×44°.01E, h4km, MPVA3.0*

ISC 12 23:11:11.2±1.0, 41°.34N±0°.02×43°.97E±0°.03, h9km±9km, n22, σ0°.43/38, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRLG	**Trialeti**	**0.23**	**27**	P	**Pg**	**23 11 16.2**	**+0.4**
TRLG				S	**Sg**	**23 11 19.9**	**+0.8**
BGD	**Bogdanovka**	**0.28**	**255**	P	**Pg**	**23 11 16.6**	**-0.3**
BGD				S	**Sg**	**23 11 20.4**	**-0.4**
TBLG	**Delisi**	**0.70**	**56**	PG	**Pg**	**23 11 24.3**	**-0.4**
TBLG				SG	**Sg**	**23 11 33.2**	**-0.7**
TBLG	**Delisi**	**0.70**	**56**	P	**Pg**	**23 11 24.8**	**+0.1**
TBLG				S	**Sb**	**23 11 35.2**	**-0.3**
TBLG	**Delisi**	**0.70**	**56**	*i* P	**Pb**	**23 11 25.7**	**0.0**
TBLG				IAML_P			
	comp=Z,2μm,0.1s						
EAK	**Akyaka**	**0.70**	**203**	*i* P	**Pg**	**23 11 24.5**	**-0.3**
EAK				*i* S	**Sg**	**23 11 34.5**	**+0.5**
SEAG	**Tbilisi Sea**	**0.76**	**56**	P	**Sb**	**23 11 37.4**	**+0.2**
KARS	**Kars**	**0.98**	**224**	PG	**Pg**	**23 11 29.6**	**-0.4**
KARS				SG	**Sg**	**23 11 43.1**	**+0.4**
DIGO	**Kars**	**1.02**	**206**	*i* P	**Pg**	**23 11 30.8**	**-0.2**
GUDG	**Gudauri**	**1.19**	**19**	P	**Pg**	**23 11 33.8**	**-0.2**
GUDG				S	**Sg**	**23 11 49.0**	**-0.5**
GNI	**Garni**	**1.33**	**153**	PN	**Pn**	**23 11 35.7**	**-0.4**
GNI				SN	**Sn**	**23 11 54.2**	**+0.2**
TASB	**TASBURUN-IGDIR**	**1.37**	**171**	PN	**Pn**	**23 11 36.6**	**0.0**
ZEI	**Tsey**	**1.45**	**358**	*e*Pg	**Pn**	**23 11 38.0**	**+0.1**
ZEI				*e*Sg	**Sg**	**23 11 57.6**	**-0.3**
LACR	**Lac**	**1.51**	**9**	*e*Pg	**Pb**	**23 11 39.1**	**-0.3**
LACR				*e*Sg	**Sb**	**23 11 58.8**	**0.0**
ARTV	**Artvin**	**1.54**	**265**	*i* P	**Pn**	**23 11 38.6**	**-0.5**
ARTV				IAML_P			
	comp=Z,848nm,0.1s						
DAGI	**Agillar**	**1.57**	**261**	*i* P	**Pn**	**23 11 39.7**	**+0.3**
DAGI				*i* S	**Sb**	**23 12 00.9**	**+0.4**
DIGR	**Digorskoe uzhe**	**1.59**	**350**	*e*Pg	**Pg**	**23 11 41.5**	**-0.2**
DIGR				*e*Sg	**Sg**	**23 12 01.9**	**-0.3**
DBAD	**Bademkaya**	**1.74**	**260**	*i* P	**Pb**	**23 11 43.3**	**-0.2**
DBAD				*i* S	**Sn**	**23 12 04.8**	**+0.6**
DBAD				IAML_P			
	comp=Z,347nm,0.1s						
KORR	**Kora**	**1.75**	**2**	*e*Pg	**Pb**	**23 11 43.6**	**+0.1**
KORR				*e*Sg	**Sg**	**23 12 07.1**	**-0.3**
BCA	**Borcka**	**1.77**	**274**	PN	**Pn**	**23 11 42.5**	**+0.5**
LGD	**Lagodekhi**	**1.78**	**73**	P	**Pb**	**23 11 43.7**	**-0.3**
LGD				S	**Sg**	**23 12 09.3**	**+1.0**
LSNR	**Lesken**	**1.94**	**357**	*e*Pg	**Pb**	**23 11 47.3**	**+0.5**
LSNR				*e*Sg	**Sg**	**23 12 13.1**	**-0.5**

IDC 12 23:12:48.9±2.2, 6°.88S×129°.05E, h0km, mb3.5/1, mb1 3.8/3, mb1mx3.4/34, mbtmp3.6/3, ML3.2/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/21, Error ellipse: s-maj=106.3km s-min=27.3km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.63**	**196**	Pn	Pn	23 15 37.4	+1.1
	0.1nm,0.3s,baz=25,slow=12,SNR=5.6						
FITZ				Sn	Sn	23 17 34.2	-13
	0.2nm,0.3s,baz=277,slow=22,SNR=4.3						
WRA	**Warramunga Arr**	**13.96**	**159**	Pn	Pn	23 16 07.2	-1.0
	0.1nm,0.3s,baz=330,slow=14,SNR=6.0						
WRA				Sn	Sn	23 18 29.9	-14
	0.7nm,0.3s,baz=332,slow=23,SNR=10						
ASAR	**Alice Springs**	**17.33**	**165**	P	Pn	23 16 52.2	-0.2
	0.2nm,0.3s,baz=337,slow=9.1,SNR=23						
ASAR				S	Sn	23 19 51.1	-15
	0.1nm,0.3s,baz=348,slow=26,SNR=4.9						
MJAR	**Matsushiro Arr**	**44.04**	**11**	LR	LR	23 38 28.2	
	comp=Z,38nm,21.5s,baz=250,slow=35						
MKAR	**Makanchi Array**	**67.61**	**327**	P	P	23 23 47.6	0.0
	0.2nm,0.4s,baz=115,slow=8.0,SNR=10.0						

SJA 12 23:26:35.0±0.3, 30°.34S×69°.01W, h28km±1km, ML3.1, MW4.1, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACDV	**Cuesta del Vie**	**0.20**	**330**	*e*P	Pb	23 26 41.7	+0.6
ACDV				*e*S	Sb	23 26 46.6	+1.3
ACDV				IAML		23 26 47.8	
	comp=Z,44nm,0.1s						
ACCO	**Cerro Coronel**	**0.25**	**192**	*e*P	Pn	23 26 42.7	-0.5
ACCO				IAML		23 26 42.9	
	comp=Z,104μm,0.2s						
ACCO				*e*S	Sn	23 26 48.5	0.0
AROD	**Rodeo**	**0.44**	**293**	*e*P	Pn	23 26 45.5	-0.3
AROD				*e*S	Sn	23 26 53.2	+0.2
AMOG	**MOGNA**	**0.74**	**144**	*e*P	Pn	23 26 49.9	+0.2
AGUA	**GUANDACOL**	**0.96**	**28**	*e*P	Pb	23 26 53.6	+0.5
RTCV	**Cerro Valdivia**	**1.57**	**165**	*e*P	Pb	23 27 03.2	-0.2

LIA				S	Sg	23 49 43.7	+0.6		
EFSA	**Agios Efstrati**	**0.43**	**256**	P	Pb	23 49 41.3	+0.3		
EFSA				S	Sb	23 49 47.9	+0.2		
EFSA				AML	AML	23 49 48.2			
	comp=N,9509µm,0.3s								
EFSA				AML	AML	23 49 49.6			
	comp=E,13598µm,0.4s								
BOZC	**Bozcaada**	**0.45**	**64**	PG	Pg	23 49 39.2	-0.5		
BOZC	**Bozcaada**	**0.45**	**64**	IAML_P					
	comp=Z,19µm,0.2s								
SIGR	**SIGRI**	**0.50**	**150**	PG	Pg	23 49 40.1	-0.6		
SIGR				SG	Sg	23 49 47.7	+0.5		
SIGR	**SIGRI**	**0.50**	**150**	P	Pg	23 49 40.9	+0.2		
SIGR				S	Sg	23 49 48.6	+1.4		
SIGR				AML	AML	23 49 49.1			
	comp=N,11488µm,0.7s								
SIGR				AML	AML	23 49 49.1			
	comp=E,7164µm,0.7s								
SIGR	**SIGRI**	**0.50**	**150**	P	Pg	23 49 40.9	+0.2		
SIGR				S	Sg	23 49 48.5	+1.3		
GPNR	**Gulpinar-Canak**	**0.50**	**112**	PG	Pg	23 49 40.8	+0.1		
GADA	**Gvkgeada**	**0.61**	**27**	PG	Pg	23 49 42.6	-0.2		
GADA	**Gvkgeada**	**0.61**	**27**	P	Pg	23 49 42.6	-0.2		
GOKC	**Gokceada-Canak**	**0.63**	**28**	PG	Pg	23 49 42.5	-0.6		
GOKC				SG	Sb	23 49 51.9	-1.5		
EZN	**Ezine**	**0.64**	**73**	PG	Pg	23 49 42.7	-0.6		
EZN	**Ezine**	**0.64**	**73**	P	Pg	23 49 42.7	-0.6		
EZN				S	Sg	23 49 51.3	-0.3		
PRK	**Paraskevi**	**0.70**	**125**	P	Pb	23 49 45.6	0.0		
PRK				S	Sb	23 49 55.6	+0.2		
PRK				AML	AML	23 49 59.2			
	comp=N,12389µm,0.4s								
PRK				AML	AML	23 49 59.8			
	comp=E,12085µm,0.4s								
BAYC	**CANAKKALE_Bayr**	**0.79**	**83**	*i* P	Pg	23 49 46.3	+0.1		
BAYC				*i* S	Sb	23 49 58.1	+0.1		
BAYC				IAML_P					
	comp=Z,8µm,0.2s								
SMTH	**Samothraki Isl**	**0.82**	**360**	P	Pg	23 49 46.6	-0.3		
SMTH				S	Sb	23 49 57.9	-1.2		
SMTH				AML	AML	23 50 06.2			
	comp=E,2650µm,0.8s								
SMTH				AML	AML	23 50 06.6			
	comp=N,2133µm,0.6s								
SMTH	**Samothraki Isl**	**0.82**	**360**	P	Pg	23 49 46.6	-0.3		
SMTH				S	Sb	23 49 58.0	-1.1		
AYVA	**Ayvalik**	**0.96**	**110**	*i* P	Pg	23 49 49.1	-0.3		
AYVA				*i* S	Sn	23 50 05.0	+0.1		
AYVA				IAML_P					
	comp=Z,621nm,0.1s								
GELI	**Tayfur-Gelibol**	**1.04**	**44**	PN	Pg	23 49 50.2	-0.8		
PSRA	**Psara**	**1.10**	**179**	P	Pb	23 49 52.6	+0.2		
PSRA				S	Sg	23 50 06.8	+0.4		
PSRA				AML	AML	23 50 11.3			
	comp=E,2183µm,0.3s								
PSRA				AML	AML	23 50 11.4			
	comp=N,1925µm,0.2s								
THAS	**Thassos island**	**1.14**	**327**	P	Pg	23 49 52.1	-0.9		
THAS				S	Sg	23 50 07.4	-0.4		
THAS				AML	AML	23 50 08.6			
	comp=N,1494µm,0.7s								
THAS				AML	AML	23 50 09.3			
	comp=E,1170µm,0.4s								
THAS	**Thassos island**	**1.14**	**327**	P	Pg	23 49 52.1	-0.9		
THAS				S	Sg	23 50 07.6	-0.2		
ENEZ	**Enez**	**1.19**	**23**	PN	Pg	23 49 53.1	-0.7		
LPK	**Lapseki**	**1.19**	**52**	PN	Pg	23 49 52.5	-1.4		
DKL	**Dikili**	**1.21**	**118**	PN	Pg	23 49 53.9	-0.3		
ERIK	**Erikli-Kesan**	**1.27**	**36**	PN	Pg	23 49 54.1	-1.3		
ALN	**Alexandroupoli**	**1.31**	**17**	PN	Pn	23 49 53.7	-2.1		
ALN	**Alexandroupoli**	**1.31**	**17**	P	Pn	23 49 54.2	-1.5		
ALN				S	Sg	23 50 12.2	-1.0		
ALN				AML	AML	23 50 13.5			
	comp=E,844µm,0.6s								
ALN				AML	AML	23 50 20.2			
	comp=N,800µm,0.5s								
ALN	**Alexandroupoli**	**1.31**	**17**	P	Pn	23 49 54.5	-1.3		
ALN				S	Sb	23 50 12.8	-0.2		
FOCM	**Foa**	**1.32**	**135**	PN	Pn	23 49 55.1	-0.8		
KRBN	**Karaburun**	**1.32**	**143**	PN	Pn	23 49 54.9	-1.0		
CHOS	**Chios island**	**1.32**	**162**	PN	Pn	23 49 53.8	-2.2		
CHOS	**Chios island**	**1.32**	**162**	P	Pn	23 49 54.8	-1.2		
CHOS				S	Sg	23 50 13.2	-0.3		
CHOS				AML	AML	23 50 16.5			
	comp=E,3272µm,0.4s								
CHOS				AML	AML	23 50 17.2			
	comp=N,1504µm,0.5s								
CHOS	**Chios island**	**1.32**	**162**	P	Pn	23 49 55.0	-1.0		
CHOS				S	Sn	23 50 14.4	+0.4		
AOS	**Alonnisos**	**1.36**	**250**	PN	Pn	23 49 54.2	-2.3		
PAIG	**Paliouri**	**1.46**	**282**	P	Pn	23 49 56.3	-1.4		
PAIG	**Paliouri**	**1.46**	**282**	P	Pn	23 49 56.2	-1.6		
KESN	**Edirne-Kesan**	**1.47**	**36**	*i* P	Pn	23 49 57.4	-0.9		
KESN				*i* S	Sn	23 50 18.6	+0.5		
KESN				IAML_P					
	comp=Z,578nm,0.1s								
RDO	**Rodhopi**	**1.50**	**0**	PN	Pn	23 49 55.5	-2.9		
RDO	**Rodhopi**	**1.50**	**0**	P	Pn	23 49 57.1	-1.3		
RDO	**Rodhopi**	**1.50**	**0**	P	Pn	23 49 57.1	-1.3		
RDO				S	Sn	23 50 17.7	-0.5		
URLA	**Izmir**	**1.53**	**147**	PN	Pn	23 49 57.9	-0.9		
URLA	**Izmir**	**1.53**	**147**	*i* P	Pn	23 49 58.3	-0.5		
URLA				IAML_P					
	comp=Z,3µm,0.2s								
KRBG	**Karabiga-Canak**	**1.55**	**61**	PN	Pn	23 49 58.4	-0.6		
KAVA	**Kavala**	**1.56**	**330**	P	Pn	23 49 57.9	-1.3		
KAVA	**Kavala**	**1.56**	**330**	P	Pn	23 49 57.9	-1.3		
KAVA				S	Sb	23 50 19.8	-0.3		
KNL	**Balıkesir**	**1.66**	**67**	*i* P	Pb	23 50 01.4	-0.5		
KNL				*i* S	Sg	23 50 23.1	-1.1		
KNL				IAML_P					
	comp=Z,10µm,0.5s								
SKIA	**Skiathos**	**1.67**	**254**	P	Pn	23 50 00.3	-0.5		
GONE	**Gonen-Balikesi**	**1.71**	**76**	PN	Pn	23 50 01.0	-0.2		
STEP	**BALIKESIR_Sava**	**1.71**	**98**	*i* P	Pn	23 50 01.3	-0.1		
STEP				IAML_P					
	comp=Z,4µm,0.4s								
BLCB	**Balcova**	**1.72**	**136**	PN	Pn	23 50 00.8	-0.7		
PLG	**Polygyros**	**1.76**	**295**	P	Pn	23 50 01.5	-0.6		
MRKA	**Markates**	**1.78**	**239**	P	Pn	23 50 00.8	-1.5		
MRKA				S	Sn	23 50 26.1	+0.9		
BALB	**Balikesir**	**1.81**	**89**	PN	Pn	23 50 02.2	-0.5		
EDC	**Edincik**	**1.92**	**68**	PN	Pn	23 50 03.2	-1.0		
AKHS	**Akhisar**	**1.93**	**113**	*i* P	Pn	23 50 04.1	-0.3		
SBT4	**Kumbag-Tekirda**	**1.94**	**52**	PN	Pn	23 50 04.1	-0.1		
DION	**Dionisos Attik**	**2.00**	**219**	P	Pn	23 50 04.0	-1.4		
TKR	**Tekirdag**	**2.04**	**48**	PN	Pn	23 50 04.8	-1.0		
SOH	**Sokhos**	**2.04**	**306**	P	Pn	23 50 05.4	-0.5		
SRS	**Serrai**	**2.09**	**315**	*e*Pn	Pn	23 50 06.7	+0.2		
SRS				*e*Sn	Sb	23 50 35.2	-0.2		
SRS	**Serrai**	**2.09**	**315**	P	Pn	23 50 05.5	-1.0		
HORT	**Hortiatis**	**2.09**	**298**	PN	Pn	23 50 04.4	-2.3		
NVR	**Nevrokopi**	**2.13**	**324**	P	Pn	23 50 06.2	-0.9		
ATAL	**Atalanti**	**2.17**	**245**	P	Pn	23 50 07.4	-0.3		
CRLT	**Corlu**	**2.24**	**48**	PN	Pn	23 50 07.9	-0.7		
VLY	**Voula,Athens**	**2.25**	**218**	P	Pn	23 50 07.8	-0.9		
KCTX	**Karacabey (Bur**	**2.26**	**73**	PN	Pn	23 50 08.4	-0.4		
DURS	**Dursunbey**	**2.27**	**90**	*i* P	Pn	23 50 09.1	0.0		
GCAM	**G?zelcaml?**	**2.36**	**145**	PN	Pn	23 50 09.4	-0.7		
EDRB	**Edirne**	**2.38**	**22**	PN	Pn	23 50 09.3	-1.3		
AYDB	**Zeytinkoy-Aydi**	**2.50**	**132**	PN	Pn	23 50 12.1	-0.3		
KNT	**Kendrikon**	**2.52**	**308**	P	Pn	23 50 12.3	-0.1		
PLD	**Plovdiv**	**2.54**	**346**	*e*Pn	Pn	23 50 13.1	+0.5		
PLD				*e*Sn	Sn	23 50 45.5	+1.7		
DEMI	**Demirci**	**2.54**	**103**	*i* P	Pn	23 50 13.2	+0.4		
APE	**Apeiranthos**	**2.57**	**180**	⇓ *i* P	Pn	23 50 11.7	-1.5		
APE	**Apeiranthos**	**2.57**	**180**	S	Sn	23 50 42.4	-2.4		
SLVT	**Silivri**	**2.58**	**51**	PN	Pn	23 50 12.6	-0.7		
MDNY	**Mudanya-Bursa**	**2.67**	**73**	PN	Pn	23 50 14.6	+0.1		
KULA	**Kula-Manisa**	**2.68**	**114**	PN	Pn	23 50 14.3	-0.5		
AYDN	**Tasoluk**	**2.70**	**136**	*i* P	Pn	23 50 15.2	+0.2		
AYDN				IAML_P					
	comp=Z,555nm,0.2s								
ARMT	**Armutlu**	**2.71**	**69**	PN	Pn	23 50 15.3	+0.2		
SBT5	**Esenkoy-Cinarc**	**2.75**	**68**	PN	Pn	23 50 15.7	+0.2		
CTKS	**Kestanelik-??a**	**2.77**	**54**	PN	Pn	23 50 15.9	0.0		
VAY	**Valandovo**	**2.81**	**307**	*e*Pn	Pn	23 50 16.8	+0.4		
VAY	**Valandovo**	**2.81**	**307**	*e*Pn	Pg	23 50 23.9	-0.9		
STIP	**Stip**	**3.27**	**310**	*i* Pn	Pn	23 50 21.3	-1.4		
KHAL	**Karahalli**	**3.34**	**111**	*i* P	Pn	23 50 24.4	+0.7		
VTS	**Vitosha**	**3.43**	**330**	*e*Pn	Pn	23 50 26.1	+1.1		
VTS				*e*Sn	Sn	23 51 06.2	+0.2		
VTS	**Vitosha**	**3.43**	**330**	⇑ *i* P	Pn	23 50 27.5	+2.5		
VTS	**Vitosha**	**3.43**	**330**	S	Sn	23 51 06.7	+0.7		
KRUS	**Krusevo**	**3.69**	**299**	*e*Pn	Pn	23 50 28.8	+0.1		
IGT	**Igoumenitsa**	**4.02**	**270**	*e*Pn	Pn	23 50 32.4	-0.6		
ZAPS	**Zavoj**	**4.23**	**330**	*e*Pn	Pn	23 50 36.1	+0.1		
BARS	**Barje**	**4.23**	**320**	*e*Pn	Pn	23 50 36.1	+0.2		
VLAD	**Vladila**	**4.43**	**349**	⇑ *i* P	Pn	23 50 40.5	+1.8		
BOVS	**Bovan**	**4.91**	**326**	*e*Pn	Pn	23 50 45.2	-0.1		
TIRR	**Tirgusor**	**5.26**	**23**	⇑ *i* P	Pn	23 50 50.3	+0.2		
TLB	**Topalu**	**5.28**	**20**	⇓ *i* P	Pn	23 50 51.4	+1.1		
SRE	**Strehaia**	**5.30**	**342**	⇑ *i* P	Pn	23 50 53.1	+2.4		
GRUS	**Gruza**	**5.56**	**321**	*e*Pn	Pn	23 50 55.0	+0.8		
HERR	**Herculane**	**5.72**	**337**	⇑ *i* P	Pn	23 50 57.3	+0.9		
ARR	**Arges**	**5.76**	**354**	⇓ *i* P	Pn	23 50 57.5	+0.5		
VOIR		**5.80**	**357**	⇑ *i* P	Pn	23 50 58.5	+0.9		
MLR	**Muntele Rosu**	**5.85**	**3**	⇓ *i* P	Pn	23 51 00.5	+2.2		
CFR	**Carcaliu**	**5.85**	**18**	⇑ *i* P	Pn	23 51 00.3	+2.1		
MDVR	**Moldovita**	**5.86**	**332**	⇑ *i* P	Pn	23 50 58.8	+0.4		
MDVR	**Moldovita**	**5.86**	**332**	S	Sn	23 52 09.0	+3.1		
DIVS	**Divibare**	**6.07**	**319**	*e*Pn	Pn	23 51 01.4	+0.1		
GZR	**Gura Zlata**	**6.09**	**341**	⇑ *i* P	Pn	23 51 02.4	+0.8		
PLOR	**Plostina**	**6.26**	**7**	⇓ *i* P	Pn	23 51 06.5	+2.7		
VRI	**Vrincioaia**	**6.28**	**8**	⇑ *i* P	Pn	23 51 06.8	+2.7		
DOPR	**Dopca**	**6.32**	**359**	⇓ *i* P	Pn	23 51 07.6	+3.0		
BZS	**Buzias**	**6.63**	**335**	⇓ *i* P	Pn	23 51 09.5	+0.6		
BIZ	**Bicaz**	**7.30**	**3**	⇓ *i* P	Pn	23 51 20.9	+2.8		
DRGR		**7.43**	**345**	⇑ *i* P	Pn	23 51 22.6	+2.6		
BURAR	**Bucovina Array**	**7.97**	**358**	⇑ *i* P	Pn	23 51 30.8	+3.4		

BEO ***12*** *23:57:21.6±0.9, 39°.73N×26°.23E, h5km, ML3.3/3*
ISK ***12*** *23:57:23.8, 39°.67N×25°.55E, h7km, ML3.7/20*
DDA ***12*** *23:57:24.8, 39°.66N×25°.65E, h26km±1km, ML3.8*
ISCJB ***12*** *23:57:24.6±0.4, 39°.69N±0°.01×25°.56E±0°.02, h10km±3km, Error ellipse: s-maj=2.3km s-min=2.2km az=149.4*
ATH ***12*** *23:57:24.8, 39°.68N×25°.55E, h27km, ML3.5/8, Error ellipse: s-maj=1.3km s-min=0.6km az=58.0*
THE ***12*** *23:57:25.3, 39°.69N×25°.62E, h3km±1km, ML3.1/10, Error ellipse: s-maj=1.4km s-min=0.6km az=70.0*

ISC 12 23:57:24.9±1.0, 39°.67N±0°.02×25°.61E±0°.02, h9km±9km, n155, σ0.883/184, 15C-9D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOZC	**Bozcaada**	**0.39**	**63**	PG	**Pg**	**23 57 32.7**	**+0.2**
BOZC				SG	**Sb**	**23 57 38.5**	**-1.6**
BOZC	**Bozcaada**	**0.39**	**63**	*i* P	**Pb**	**23 57 33.3**	**-0.7**
BOZC				*i* S	**Sb**	**23 57 38.8**	**-1.3**
BOZC				IAML_P			
	comp=Z,54µm,0.2s						
LIA	**Limnos Island**	**0.40**	**305**	P	**Pb**	**23 57 33.5**	**-0.7**
LIA				S	**Sg**	**23 57 38.3**	**+0.3**
LIA				AML	AML	23 57 42.6	
	comp=N,8176µm,0.6s						
LIA				AML	AML	23 57 45.4	
	comp=E,9171µm,0.4s						
LIA	**Limnos Island**	**0.40**	**305**	P	**Pb**	**23 57 33.4**	**-0.7**
LIA				S	**Sg**	**23 57 38.9**	**+0.9**
GPNR	**Gulpinar-Canak**	**0.46**	**117**	PG	**Pb**	**23 57 34.6**	**-0.6**
EFSA	**Agios Efstrati**	**0.49**	**255**	P	**Pb**	**23 57 35.9**	**+0.1**
EFSA				S	**Sb**	**23 57 43.3**	**+0.2**
EFSA				AML	AML	23 57 43.7	
	comp=E,16822µm,0.3s						
EFSA				AML	AML	23 57 44.0	
	comp=N,11984µm,0.3s						
SIGR	**SIGRI**	**0.49**	**157**	PG	**Pg**	**23 57 34.1**	**-0.4**
SIGR				SG	**Sg**	**23 57 41.8**	**+0.8**
SIGR	**SIGRI**	**0.49**	**157**	P	**Pb**	**23 57 35.3**	**-0.6**
SIGR				S	**Sb**	**23 57 43.0**	**-0.2**
SIGR				AML	AML	23 57 43.3	
	comp=E,34667µm,0.5s						
SIGR				AML	AML	23 57 43.3	
	comp=N,47439µm,0.6s						
SIGR	**SIGRI**	**0.49**	**157**	P	**Pb**	**23 57 35.2**	**-0.6**
SIGR				S	**Sb**	**23 57 42.9**	**-0.2**
GADA	**Gvkgeada**	**0.57**	**23**	PG	**Pg**	**23 57 36.1**	**+0.1**
GADA	**Gvkgeada**	**0.57**	**23**	P	**Pg**	**23 57 36.0**	**+0.1**
EZN	**Ezine**	**0.58**	**74**	PG	**Pg**	**23 57 36.2**	**+0.1**
EZN	**Ezine**	**0.58**	**74**	P	**Pg**	**23 57 36.2**	**+0.1**
EZN				S	**Sg**	**23 57 44.0**	**+0.3**
GOKC	**Gokceada-Canak**	**0.58**	**24**	PG	**Pg**	**23 57 36.3**	**+0.1**
PRK	**Paraskevi**	**0.67**	**129**	P	**Pb**	**23 57 39.5**	**+0.8**
PRK				S	**Sb**	**23 57 49.4**	**+1.3**
PRK				AML	AML	23 57 53.0	
	comp=E,7505µm,0.5s						
PRK				AML	AML	23 57 54.0	
	comp=N,10664µm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.73**	**84**	*i* P	**Pb**	**23 57 39.4**	**-0.5**
SMTH	**Samothraki Isl**	**0.80**	**356**	P	**Pg**	**23 57 40.5**	**+0.1**
SMTH				S	**Sb**	**23 57 51.6**	**-0.5**
SMTH				AML	AML	23 57 53.4	
	comp=N,2692µm,0.3s						
SMTH				AML	AML	23 57 53.6	
	comp=E,2847µm,0.4s						
SMTH	**Samothraki Isl**	**0.80**	**356**	P	**Pg**	**23 57 40.5**	**+0.1**
SMTH				S	**Sb**	**23 57 52.3**	**+0.2**
AYVA	**Ayvalik**	**0.91**	**113**	*i* P	**Pn**	**23 57 43.4**	**-0.5**
AYVA				*i* S	**Sn**	**23 57 57.3**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.99**	**42**	PG	**Pg**	**23 57 43.3**	**-0.6**
PSRA	**Psara**	**1.12**	**182**	P	**Pn**	**23 57 47.3**	**+0.4**
PSRA				S	**Sn**	**23 58 02.7**	**+0.2**
PSRA				AML	AML	23 58 05.2	
	comp=N,6307µm,0.2s						
PSRA				AML	AML	23 58 05.9	
	comp=E,7580µm,0.2s						
LPK	**Lapseki**	**1.13**	**51**	PN	**Pg**	**23 57 46.2**	**-0.5**
SKY	**Skiros Island**	**1.14**	**226**	P	**Pg**	**23 57 46.4**	**-0.3**
SKY	**Skiros Island**	**1.14**	**226**	P	**Pg**	**23 57 46.5**	**-0.3**
SKY				S	**Sn**	**23 58 03.0**	**+0.2**
ENEZ	**Enez**	**1.15**	**21**	PN	**Pg**	**23 57 46.5**	**-0.5**
THAS	**Thassos island**	**1.16**	**324**	P	**Pg**	**23 57 46.3**	**-0.9**
THAS				S	**Sg**	**23 58 01.7**	**-0.5**
THAS				AML	AML	23 58 04.3	
	comp=N,2640µm,0.3s						
THAS				AML	AML	23 58 04.5	
	comp=E,2532µm,0.3s						
THAS	**Thassos island**	**1.16**	**324**	P	**Pg**	**23 57 46.3**	**-0.9**
THAS				S	**Sn**	**23 58 03.1**	**-0.2**
DKL	**Dikili**	**1.17**	**120**	PN	**Pn**	**23 57 47.7**	**+0.2**
ERIK	**Erikli-Kesan**	**1.22**	**34**	PN	**Pn**	**23 57 47.7**	**-0.5**
ALN	**Alexandroupoli**	**1.27**	**15**	PN	**Pn**	**23 57 48.4**	**-0.5**
ALN	**Alexandroupoli**	**1.27**	**15**	P	**Pn**	**23 57 48.2**	**-0.7**
ALN	**Alexandroupoli**	**1.27**	**15**	P	**Pn**	**23 57 48.2**	**-0.7**
ALN				S	**Sg**	**23 58 05.4**	**-0.5**
FOCM	**Foa**	**1.29**	**137**	PN	**Pn**	**23 57 48.9**	**-0.3**
KRBN	**Karaburun**	**1.30**	**145**	PN	**Pn**	**23 57 49.2**	**-0.1**
CHOS	**Chios island**	**1.33**	**165**	PN	**Pn**	**23 57 49.1**	**-0.6**
CHOS	**Chios island**	**1.33**	**165**	P	**Pn**	**23 57 49.5**	**-0.2**
CHOS				S	**Sn**	**23 58 08.1**	**+0.5**
CHOS				AML	AML	23 58 10.5	
	comp=N,5626µm,0.4s						
CHOS				AML	AML	23 58 12.0	
	comp=E,10241µm,0.7s						
CHOS	**Chios island**	**1.33**	**165**	P	**Pn**	**23 57 49.6**	**-0.2**
CHOS				S	**Sn**	**23 58 09.4**	**+1.8**
KESN	**Edirne-Kesan**	**1.42**	**35**	*i* P	**Pb**	**23 57 51.4**	**-0.4**
KESN				IAML_P			
	comp=Z,2µm,0.2s						
AOS	**Alonnisos**	**1.43**	**250**	PN	**Pn**	**23 57 49.5**	**-1.5**
AOS	**Alonnisos**	**1.43**	**250**	P	**Pn**	**23 57 50.5**	**-0.6**
RDO	**Rodhopi**	**1.48**	**358**	PN	**Pn**	**23 57 51.1**	**-0.6**
RDO	**Rodhopi**	**1.48**	**358**	P	**Pn**	**23 57 51.2**	**-0.6**
RDO	**Rodhopi**	**1.48**	**358**	P	**Pn**	**23 57 51.3**	**-0.5**
RDO				S	**Sb**	**23 58 11.2**	**-0.3**
KRBG	**Karabiga-Canak**	**1.49**	**60**	PN	**Pb**	**23 57 52.2**	**-0.6**
PAIG	**Paliouri**	**1.51**	**281**	P	**Pn**	**23 57 51.5**	**-0.6**
PAIG	**Paliouri**	**1.51**	**281**	P	**Pn**	**23 57 52.1**	**0.0**
PAIG				S	**Sg**	**23 58 14.4**	**+1.0**
URLA	**Izmir**	**1.52**	**149**	PN	**Pn**	**23 57 52.1**	**-0.2**
URLA	**Izmir**	**1.52**	**149**	*i* P	**Pn**	**23 57 52.5**	**+0.2**
KAVA	**Kavala**	**1.57**	**328**	P	**Pn**	**23 57 52.2**	**-0.8**
KAVA	**Kavala**	**1.57**	**328**	P	**Pn**	**23 57 52.8**	**-0.2**
KAVA				S	**Sb**	**23 58 14.3**	**+0.2**
SART	**Tekirdag**	**1.58**	**49**	*i* P	**Pb**	**23 57 54.3**	**-0.1**
SART				IAML_P			
	comp=Z,9µm,0.2s						
KNL	**Balıkesir**	**1.59**	**67**	*i* P	**Pb**	**23 57 54.5**	**-0.1**
KNL				*i* S	**Sg**	**23 58 15.5**	**-0.7**
KNL				IAML_P			
	comp=Z,13µm,0.4s						
GONE	**Gonen-Balikesi**	**1.65**	**76**	PN	**Pb**	**23 57 54.5**	**-0.9**
STEP	**BALIKESIR_Sava**	**1.66**	**99**	*i* P	**Pb**	**23 57 55.6**	**-0.1**
BLCB	**Balcova**	**1.70**	**138**	PN	**Pn**	**23 57 54.9**	**+0.1**
BALB	**Balikesir**	**1.76**	**90**	PN	**Pn**	**23 57 55.9**	**+0.3**
EREA	**Eretria**	**1.80**	**227**	P	**Pn**	**23 57 55.4**	**-0.9**
MRKA	**Markates**	**1.84**	**239**	P	**Pn**	**23 57 55.9**	**-0.8**
MRKA	**Markates**	**1.84**	**239**	P	**Pn**	**23 57 56.0**	**-0.8**
MRKA				S	**Sb**	**23 58 22.9**	**+1.0**
EDC	**Edincik**	**1.86**	**68**	PN	**Pn**	**23 57 57.4**	**+0.4**
SBT4	**Kumbag-Tekirda**	**1.88**	**51**	PN	**Pn**	**23 57 57.8**	**+0.7**
NEO	**Neokhori**	**1.88**	**260**	P	**Pn**	**23 57 56.7**	**-0.6**
AKHS	**Akhisar**	**1.89**	**114**	*i* P	**Pb**	**23 57 58.7**	**-0.9**
AKHS				IAML_P			
	comp=Z,15µm,0.2s						
GMLD	**Gumuldur**	**1.89**	**147**	PN	**Pn**	**23 57 57.1**	**-0.3**
XOR	**Xorichti**	**1.89**	**262**	P	**Pn**	**23 57 56.8**	**-0.7**
DGB	**zmir**	**1.90**	**148**	*i* P	**Pn**	**23 57 57.9**	**+0.4**
TKR	**Tekirdag**	**1.98**	**48**	PN	**Pn**	**23 57 59.1**	**+0.4**
KDZ	**Kurdzhali**	**1.98**	**356**	PN	**Pn**	**23 57 58.4**	**-0.4**
SMIA	**Simia**	**2.02**	**248**	P	**Pn**	**23 57 59.0**	**-0.3**
GOMA	**Golmarmara-Man**	**2.04**	**117**	PN	**Pn**	**23 57 59.9**	**+0.5**
DION	**Dionisos Attik**	**2.06**	**220**	P	**Pn**	**23 57 58.9**	**-0.9**
PTL	**Penteli**	**2.11**	**221**	P	**Pn**	**23 57 59.3**	**-1.2**
SRS	**Serrai**	**2.11**	**314**	*e*Pn	**Pn**	**23 58 00.9**	**+0.4**
SRS				*e*Sn	**Sg**	**23 58 33.2**	**+0.4**
SRS	**Serrai**	**2.11**	**314**	P	**Pn**	**23 58 00.1**	**-0.4**
HORT	**Hortiatis**	**2.13**	**297**	PN	**Pn**	**23 58 00.0**	**-0.9**
NVR	**Nevrokopi**	**2.14**	**322**	P	**Pn**	**23 58 00.5**	**-0.5**
SMG	**Samos**	**2.18**	**153**	P	**Pn**	**23 58 01.2**	**-0.2**
CRLT	**Corlu**	**2.19**	**47**	PN	**Pn**	**23 58 01.9**	**+0.4**
KCTX	**Karacabey (Bur**	**2.20**	**73**	PN	**Pn**	**23 58 01.9**	**+0.2**
ATHU	**Athens Univers**	**2.22**	**221**	P	**Pn**	**23 58 01.4**	**-0.5**
DURS	**Dursunbey**	**2.22**	**91**	*i* P	**Pn**	**23 58 02.9**	**+0.9**
DURS				*i* S	**Sb**	**23 58 30.9**	**-1.9**
DURS				IAML_P			
	comp=Z,4µm,0.2s						
ATAL	**Atalanti**	**2.23**	**245**	P	**Pn**	**23 58 01.3**	**-0.8**
VLY	**Voula,Athens**	**2.30**	**219**	P	**Pn**	**23 58 02.3**	**-0.8**
DST	**Dursunbey**	**2.33**	**91**	PN	**Pn**	**23 58 04.1**	**+0.6**
VIL2	**Platees**	**2.33**	**232**	P	**Pn**	**23 58 03.0**	**-0.6**
EDRB	**Edirne**	**2.34**	**21**	PN	**Pn**	**23 58 02.7**	**-0.9**
GCAM	**G?zelcaml?**	**2.34**	**147**	PN	**Pn**	**23 58 04.4**	**+0.8**
PHSR	**Pinarhisar**	**2.44**	**36**	PN	**Pn**	**23 58 05.2**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**2.48**	**133**	PN	**Pn**	**23 58 06.2**	**+0.6**
DEMI	**Demirci**	**2.49**	**104**	*i* P	**Pn**	**23 58 07.0**	**+1.2**
DEMI				IAML_P			
	comp=Z,3µm,0.2s						
SLVT	**Silivri**	**2.53**	**51**	PN	**Pn**	**23 58 06.5**	**+0.3**
PLD	**Plovdiv**	**2.53**	**345**	*e*Pn	**Pn**	**23 58 04.7**	**-1.5**
PLD				*e*Sn	**Sn**	**23 58 36.7**	**-0.5**

Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**23**	P	Pg	00 18 47.3	+0.2
KUA				S	Sg	00 18 49.3	+0.4
KUA	**Kurravaara**	**0.14**	**23**	*i* P	Pg	00 18 47.3	+0.2
KUA				*i* S	Sg	00 18 49.3	+0.4
RATU	**Laukkuluspa**	**0.23**	**269**	P	Pg	00 18 49.1	+0.2
RATU	**Laukkuluspa**	**0.23**	**269**	*i* P	Pg	00 18 49.1	+0.2
NIKU	**Nikkaluokta**	**0.44**	**276**	P	Pg	00 18 53.0	+0.1
NIKU	**Nikkaluokta**	**0.44**	**276**	*i* P	Pg	00 18 53.0	+0.1
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	00 18 57.9	-0.2
LANU	**Lannavaara**	**0.71**	**71**	*e*P	Pg	00 18 57.8	-0.4
LANU				*e*S	Sg	00 19 07.2	-0.1
DUNU	**Dundret**	**0.72**	**168**	P	Pg	00 18 58.0	-0.3
DUNU	**Dundret**	**0.72**	**168**	*i* P	Pg	00 18 58.0	-0.3
MASU	**Masugnsbyn**	**0.78**	**118**	P	Pg	00 18 59.4	-0.1
MASU	**Masugnsbyn**	**0.78**	**118**	*i* P	Pg	00 18 59.4	-0.1
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	00 18 59.3	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	00 18 59.3	-0.2
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	Pg	00 19 07.6	+0.1
KIF	**Kilpisjarvi** baz=194	**1.20**	**10**	*e*PB	Pg	00 19 07.5	-0.1
KIF				MSG		00 19 22.8	
	comp=Z,7.9nm,0.2s						
KIF				*e*S	Sg	00 19 23.5	+0.4
PAJU	**Pajala**	**1.39**	**124**	P	Pg	00 19 09.8	-1.2
PAJU	**Pajala**	**1.39**	**124**	*e*P	Pg	00 19 09.8	-1.2
HEF	**Hetta**	**1.42**	**64**	*e*P	Pn	00 19 10.7	-0.9
HEF	**Hetta** baz=238	**1.42**	**64**	*e*PG	Pn	00 19 10.5	-1.1
HEF				MSG		00 19 27.9	
	comp=Z,3.5nm,0.2s						
ERTU	**Ertsjaerv**	**1.50**	**148**	P	Pn	00 19 11.7	-0.9
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*P	Pn	00 19 11.6	-0.9
ERTU				*e*SN	Sg	00 19 32.1	-0.3
HARU	**Harads**	**1.70**	**169**	P	Pn	00 19 15.3	0.0
HARU	**Harads**	**1.70**	**169**	*e*P	Pn	00 19 15.3	0.0
KALU	**Kalix** baz=315	**2.34**	**146**	*e*PB	Pn	00 19 25.1	+1.0
KALU				*e*SG	Sb	00 19 57.0	+0.3
TOF	**Tornio** baz=316	**2.39**	**135**	*e*PB	Pn	00 19 26.1	+1.3
TOF				MSG		00 19 55.4	
	comp=Z,2.3nm,0.2s						
TOF				*e*SB	Sb	00 19 57.7	-0.6
SGF	**Sodankyl** baz=282	**2.45**	**96**	*e*PB	Pn	00 19 27.5	+1.8
SGF				*e*SG	Sb	00 19 59.5	-0.6
RNF	**Rovaniemi** baz=310	**2.57**	**116**	*e*PB	Pn	00 19 29.0	+1.6
RNF				*e*SG	Sb	00 20 03.4	-0.2
ARE0	**ARCESS Array S** baz=228	**2.59**	**46**	*e*P	Pn	00 19 28.8	+1.2
ARE0				*e*SB	Sn	00 20 01.6	+1.9
KEV	**Kevo**	**3.14**	**49**	*e*P	Pn	00 19 36.8	+1.7
KEV				MSG		00 20 17.4	
	comp=Z,2.1nm,0.2s						
BURU	**Burvik**	**3.29**	**171**	*e*P	Pn	00 19 39.1	+1.9

UPP 13 00:18:54.5±0.1, 67°.83N×20°.20E, h0km, ML1.6, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**23**	P	Pg	00 18 57.3	+0.2
KUA				S	Sg	00 18 59.3	+0.4
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	00 19 07.9	-0.2
DUNU	**Dundret**	**0.72**	**168**	P	Pg	00 19 08.1	-0.2
PAJU	**Pajala**	**1.39**	**124**	P	Pg	00 19 20.0	-1.1

IDC 13 00:27:21.1±2.1, 6°.44S×128°.96E, h0km, mb3.4/1, mb1 3.2/3, mb1mx3.1/33, mbtmp3.1/3, ML2.7/2, Error ellipse: s-maj=128.4km s-min=31.9km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.40**	**159**	Pn	Pn	00 30 46.4	-0.1
	0.0nm,0.3s,baz=338,slow=13,SNR=3.0						
ASAR	**Alice Springs**	**17.77**	**165**	P	Pn	00 31 30.2	+0.1
	0.0nm,0.3s,baz=341,slow=8.9,SNR=4.1						
MKAR	**Makanchi Array**	**67.20**	**327**	P	P	00 38 17.2	0.0
	0.2nm,0.4s,baz=130,slow=8.3,SNR=6.0						

*NEIC **13** 00:45:02.0±1.9, 4°.77S×137°.66E, h65km±15km, mb4.5/7, Error ellipse: s-maj=20.3km s-min=7.1km az=65.0*
*ISCJB **13** 00:45:21.9±0.4, 6°.48S±0°.03×130°.63E±0°.06, h100km, mb4.2/6, Error ellipse: s-maj=9.1km s-min=4.4km az=0.9*
*IDC **13** 00:45:23.6±2.3, 6°.53S×130°.52E, h111km±24km, mb3.7/3, mb1 4.2/8, mb1mx3.6/38, mbtmp4.5/8, Error ellipse: s-maj=34.0km s-min=20.3km az=93.0*
*DJA **13** 00:45:27.6±0.3, 6°.5±2°×13°.1E±°, h120km, M4.8/10, mB5.3/4, mb4.7/7, MLv4.8/10, Mw(mB)4.8/4*

ISC 13 00:45:26.2±0.8, 6°.21S±0°.05×130°.60E±0°.08, h100km, n34, σ2°.66/30, mb4.6/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.89**	**158**	P	**Pn**	**00 45 58.7**	**+1.3**
SAUI				S	**Sn**	**00 46 23.9**	**+2.7**
FAKI	**Fak Fak**	**3.66**	**27**	*e*Pn	**Pn**	**00 46 24.5**	**+3.7**
FAKI				*e*Sn	**Sn**	**00 47 05.9**	**+2.8**
FAKI	**Fak Fak**	**3.66**	**27**	P	**Pn**	**00 46 22.7**	**+1.8**
FAKI				S	**Sn**	**00 47 05.0**	**+1.8**
NLAI	**Namlea**	**4.57**	**310**	P	**Pn**	**00 46 34.7**	**+1.6**
SIJI	**Sorong** 18nm,0.3s,baz=118,slow=23,SNR=75	**5.35**	**7**	P	**Pn**	**00 46 45.4**	**+1.7**
SIJI				S	**Sn**	**00 47 44.6**	**+0.5**
	26nm,0.3s,baz=117,slow=22,SNR=16						
SWI	**Sorong**	**5.36**	**7**	P	**Pn**	**00 46 45.4**	**+1.6**
SWI				S	**Sn**	**00 47 44.6**	**+0.4**
RKPI	**Ransiki, Papua**	**5.88**	**38**	P	**Pn**	**00 46 51.9**	**+1.0**
RKPI				S	**Sn**	**00 47 58.2**	**+1.2**
SANI	**Sanana** 18nm,0.7s,0.1nm	**6.18**	**312**	P	**Pn**	**00 46 56.5**	**+1.4**
SOEI	**Soe** 86nm,1.3s,0.8nm	**7.19**	**240**	P	**Pn**	**00 47 11.2**	**+2.3**
TNTI	**Ternate** 46nm,0.7s,0.4nm	**7.65**	**335**	P	**Pn**	**00 47 16.8**	**+1.8**
BATI	**Baumata** 24nm,0.3s,baz=95,slow=5.2,SNR=6.5	**7.93**	**240**	P	Pn	00 47 14.2	-4.7
BATI				S	Sn	00 48 35.9	-11
	31nm,0.3s,baz=332,slow=23,SNR=7.6						
BATI	**Baumata** 32nm,0.4s,0.2nm	**7.93**	**240**	P	**Pn**	**00 47 20.6**	**+1.8**
MMRI	**Maumere**	**8.63**	**253**	P	**Pn**	**00 47 30.6**	**+2.2**
EDFI	**Ende, Flores**	**9.19**	**254**	P	Pn	00 47 47.3	+11
BASI	**Baing, Sumba**	**10.69**	**247**	P	**Pn**	**00 47 59.1**	**+2.8**
FITZ	**Fitzroy Crossi** 3.7nm,0.3s,baz=11,slow=8.6,SNR=110	**12.77**	**202**	P	Pn	00 48 15.4	-8.7
FITZ				S	Sn	00 50 23.6	-21
	4.6nm,0.3s,baz=112,slow=12,SNR=10						
WRAB	**Tennant Creek** 34nm,1.3s	**14.12**	**165**	*e*Pn	Pn	00 48 35.0	-6.8
WRA	**Warramunga Arr** 2.6nm,0.3s,baz=337,slow=14,SNR=60	**14.12**	**165**	P	Pn	00 48 34.4	-7.4
WRA				S	Sn	00 50 59.5	-18
	3.1nm,0.3s,baz=346,slow=23,SNR=9.8						
WB2	**Warramunga Arr** 33nm,1.1s	**14.13**	**165**	*e*Pn	Pn	00 48 35.7	-6.2
WB2				*e*Sn	Sn	00 51 01.0	-17
WC3	**Warramunga Arr**	**14.15**	**165**	*e*Pn	Pn	00 48 35.3	-6.8
WC3				*e*Sn	Sn	00 51 03.9	-14
AS31	**Alice Springs** 4.4nm,0.6s	**17.64**	**170**	*e*P	**P**	**00 49 20.4**	**-4.8**
ASAR	**Alice Springs** 1.4nm,0.3s,baz=351,slow=10,SNR=71	**17.64**	**170**	P	P	00 49 19.8	-5.5
ASAR				S	Sn	00 52 28.8	-14
	0.9nm,0.3s,baz=354,slow=27,SNR=6.7						
AS01	**Alice Springs**	**17.65**	**170**	*e*P	**P**	**00 49 20.6**	**-4.7**
FORT	**Forrest** 23nm,0.9s	**24.55**	**185**	*e*P	**P**	**00 50 42.0**	**+5.3**
CMAR	**Chiang Mai Arr** 0.7nm,0.3s,baz=132,slow=7.2,SNR=7.4	**39.70**	**309**	P	**P**	**00 52 46.1**	**-2.8**
PBA	**Port Blair** 47nm,1.0s	**41.63**	**295**	*e*P	P	00 53 31.1	+26
WMQ	**Urumqi**	**63.07**	**326**	*e*P	**P**	**00 55 43.4**	**+0.3**
KSH	**Kashi**	**67.85**	**317**	P	P	00 56 24.5	+10
KSH				pP	pP	00 56 33.6	-4.6
KSH				S	SKiKP	01 05 44.2	-17
KSH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KSH				pmax	pmax		
	comp=Z,100nm,5.6s						
MK01	**Makanchi Array**	**67.88**	**326**	*e*P	**P**	**00 56 11.3**	**-2.7**
MK31	**Makanchi Array**	**67.90**	**326**	*e*P	**P**	**00 56 11.6**	**-2.5**
MKAR	**Makanchi Array** comp=Z,0.9nm,0.4s,baz=122,slow=6.7,SNR=46	**67.90**	**326**	P	**P**	**00 56 11.6**	**-2.5**
MKAR	**Makanchi Array** comp=Z,8.6nm,0.4s	**67.90**	**326**	*e*P	**P**	**00 56 11.7**	**-2.5**
MAKZ	**Makanchi** comp=Z,4.0nm,1.4s	**68.08**	**326**	*e*P	**P**	**00 56 12.7**	**-2.6**
SEY	**Seymchan** comp=Z,1.1nm,0.7s,baz=167,slow=2.9,SNR=4.0	**70.93**	**10**	P	**P**	**00 56 30.4**	**-1.9**

*SJA **13** 01:02:56.6±0.8, 35°.02S×69°.83W, h190km±11km, ML2.9, MW3.0*
*ISCJB **13** 01:02:57.3±1.2, 34°.95S±0°.1×70°.3W±0°.2, h170km±14km, Error ellipse: s-maj=24.9km s-min=9.8km az=36.0*
*GUC **13** 01:02:58.9±0.5, 34°.91S×70°.35W, h158km±7km, ML2.9*

ISC 13 01:02:55.0±2.4, 35°.1S±0°.1×70°.2W±0°.1, h172km±19km, n14, σ1°.96/26, 5C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**1.20**	**358**	*i* P	**Pn**	**01 03 24.5**	**+0.7**
LMEL				IAML		01 03 55.5	
	comp=N,107nm,0.3s						
GO05	**Huala**	**1.45**	**271**	*i* P	**Pn**	**01 03 26.9**	**+1.1**
GO05				*i* S	**Sn**	**01 03 48.2**	**-1.5**
CLCH	**Cerro Calan**	**1.68**	**349**	*i* P	**Pn**	**01 03 29.3**	**+1.1**
CLCH				*i* S	**Sn**	**01 03 52.1**	**-1.8**
CLCH				IAML		01 03 56.5	
	comp=E,145nm,0.2s						
FCH	**Farellones**	**1.72**	**356**	*i* P	**Pn**	**01 03 30.0**	**+1.1**
FCH				*i* S	**Sn**	**01 03 54.1**	**-1.0**
PEL	**Peldehue**	**1.95**	**347**	*i* P	**Pn**	**01 03 32.2**	**+1.1**
PEL				*i* S	**Sn**	**01 03 57.1**	**-1.8**
ROCH	**El Roble**	**2.19**	**341**	*i* P	**Pn**	**01 03 35.0**	**+1.1**
ROCH				*i* S	**Sn**	**01 04 02.0**	**-2.0**
ROCH				IAML		01 04 07.3	
	comp=N,126nm,0.5s						
AAGR	**Agrelo**	**2.25**	**30**	*i* P	**Pn**	**01 03 36.0**	**+1.5**
ASAL	**Salagasta**	**2.69**	**25**	*e*P	**Pn**	**01 03 41.5**	**+1.9**
ASAL				*i* S	**Sn**	**01 04 14.5**	**+0.2**
AUSP	**Uspallata**	**2.89**	**13**	*i* P	**Pn**	**01 03 44.6**	**+2.3**
AUSP				*i* S	**Sn**	**01 04 20.0**	**+1.0**
RTLS	**Leoncito**	**3.32**	**13**	*i* P	**Pn**	**01 03 50.5**	**+3.0**
RTLS				*i* S	**Sn**	**01 04 30.0**	**+1.5**
RTLS				IAML		01 04 31.6	
	comp=Z,21nm,0.3s						
RTLL	**Cerro Villicun**	**3.97**	**21**	*e*P	**Pn**	**01 03 56.9**	**+1.4**
RTLL				*e*S	**Sn**	**01 04 41.5**	**-1.4**
APLL	**PUNTA DE LOS L**	**5.56**	**34**	*e*P	**Pn**	**01 04 16.3**	**+0.1**
APLL				IAML		01 04 17.9	
	comp=Z,4.1nm,0.3s						
APLL				*e*S	**Sn**	**01 05 17.5**	**-2.5**
AGUA	**GUANDACOL**	**5.72**	**15**	*i* P	**Pn**	**01 04 21.0**	**+2.6**
AGUA				*e*S	**Sn**	**01 05 21.0**	**-2.9**
ACLC	**CERRO LA CRUZ**	**6.23**	**27**	*i* P	**Pn**	**01 04 25.2**	**0.0**
ACLC				*e*S	**Sn**	**01 05 31.9**	**-4.1**

IDC 13 01:07:13.3±2.1, 6°.74S×129°.15E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.3/27, mbtmp3.3/3, ML3.4/2, Error ellipse: s-maj=123.0km s-min=31.6km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.05**	**159**	Pn	Pn	01 10 34.0	+0.1
	0.2nm,0.3s,baz=338,slow=13,SNR=15						
WRA				Sn	Sn	01 12 58.7	-12
	0.5nm,0.3s,baz=335,slow=25,SNR=9.6						
ASAR	**Alice Springs**	**17.44**	**165**	P	Pn	01 11 18.1	-0.1
	0.1nm,0.3s,baz=345,slow=9.2,SNR=9.2						
ASAR				S	Sn	01 14 22.5	-11
	0.1nm,0.3s,baz=359,slow=27,SNR=6.4						
MKAR	**Makanchi Array**	**67.55**	**327**	P	P	01 18 11.7	0.0
	0.2nm,0.3s,baz=117,slow=8.0,SNR=6.1						

*ATH **13** 01:20:09.9, 39°.65N×25°.52E, h29km±1km, ML2.4/6, Error ellipse: s-maj=2.3km s-min=0.7km az=236.0*
*ISK **13** 01:20:09.4, 39°.67N×25°.57E, h7km, ML2.8/23*
*ISCJB **13** 01:20:10.3±0.4, 39°.68N±0°.02×25°.58E±0°.02, h9km±3km, Error ellipse: s-maj=3.6km s-min=2.9km az=37.7*
*DDA **13** 01:20:10.0, 39°.67N×25°.62E, h27km±1km, ML2.9*
*THE **13** 01:20:10.8, 39°.68N×25°.61E, h6km±1km, ML2.2/5, Error ellipse: s-maj=1.1km s-min=0.5km az=9.0*

ISC 13 01:20:10.8±1.0, 39°.67N±0°.02×25°.61E±0°.02, h19km±3km, n63, σ0°.78/86, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.39**	**64**	PG	**Pg**	**01 20 17.9**	**-1.0**
BOZC				SG	**Sg**	**01 20 24.1**	**-0.2**
BOZC	**Bozcaada** comp=Z,8μm,0.1s	**0.39**	**64**	IAML_P			
BOZC				*i* P	**Pg**	**01 20 18.8**	**-0.1**
LIA	**Limnos Island**	**0.40**	**305**	P	**Pg**	**01 20 18.5**	**-0.5**
LIA				S	**Sg**	**01 20 24.0**	**-0.6**
LIA				AML	AML	01 20 26.5	
	comp=E,926μm,0.2s						
LIA				AML	AML	01 20 30.2	
	comp=N,964μm,0.3s						
LIA	**Limnos Island**	**0.40**	**305**	P	**Pg**	**01 20 18.5**	**-0.5**
LIA				S	**Sg**	**01 20 24.1**	**-0.6**
GPNR	**Gulpinar-Canak**	**0.46**	**118**	PG	**Pg**	**01 20 18.9**	**-1.5**
EFSA	**Agios Efstrati**	**0.49**	**255**	P	**Pg**	**01 20 21.4**	**+0.6**
EFSA				S	**Sg**	**01 20 27.9**	**+0.4**
SIGR	**SIGRI**	**0.50**	**157**	PG	**Pg**	**01 20 20.4**	**-0.6**
SIGR				SG	**Sg**	**01 20 27.3**	**-0.6**
SIGR	**SIGRI**	**0.50**	**157**	P	**Pg**	**01 20 20.4**	**-0.6**
SIGR				S	**Sg**	**01 20 28.1**	**+0.5**
SIGR				AML	AML	01 20 28.4	
	comp=N,1947μm,0.4s						
SIGR				AML	AML	01 20 28.5	
	comp=E,1035μm,0.6s						
SIGR	**SIGRI**	**0.50**	**157**	P	**Pb**	**01 20 20.5**	**-0.6**
SIGR				S	**Sg**	**01 20 28.1**	**+0.5**
GADA	**Gvkgeada**	**0.57**	**23**	PG	**Pb**	**01 20 21.4**	**-0.7**
GADA	**Gvkgeada**	**0.57**	**23**	P	**Pb**	**01 20 21.3**	**-0.8**
GADA				S	**Sg**	**01 20 29.8**	**0.0**
EZN	**Ezine**	**0.58**	**74**	PG	**Pb**	**01 20 21.6**	**-0.7**
EZN	**Ezine**	**0.58**	**74**	P	**Pb**	**01 20 21.5**	**-0.7**
EZN				S	**Sb**	**01 20 29.6**	**-0.4**
GOKC	**Gokceada-Canak**	**0.58**	**24**	PG	**Pb**	**01 20 21.6**	**-0.7**
PRK	**Paraskevi**	**0.67**	**129**	P	**Pn**	**01 20 24.6**	**-0.7**
PRK				S	**Sn**	**01 20 34.9**	**-0.4**
PRK				AML	AML	01 20 37.2	
	comp=E,856μm,0.4s						
PRK				AML	AML	01 20 38.8	
	comp=N,729μm,0.5s						
BAYC	**CANAKKALE_Bayr**	**0.73**	**84**	*i* P	**Pg**	**01 20 24.9**	**-0.3**
BAYC				*i* S	**Sg**	**01 20 35.5**	**+0.6**
SMTH	**Samothraki Isl**	**0.80**	**356**	P	**Pb**	**01 20 25.7**	**-0.5**
SMTH				S	**Sg**	**01 20 37.5**	**+0.4**
SMTH	**Samothraki Isl**	**0.80**	**356**	P	**Pb**	**01 20 25.9**	**-0.3**
SMTH				S	**Sn**	**01 20 38.1**	**-0.5**
AYVA	**Ayvalik**	**0.92**	**113**	*i* P	**Pg**	**01 20 29.3**	**+0.6**
AYVA				*i* S	**Sn**	**01 20 43.1**	**+1.8**
GELI	**Tayfur-Gelibol**	**0.99**	**42**	PG	**Pb**	**01 20 28.8**	**-0.5**
LPK	**Lapseki**	**1.13**	**51**	PN	**Pb**	**01 20 31.6**	**-0.2**
ENEZ	**Enez**	**1.14**	**21**	PN	**Pb**	**01 20 31.9**	**-0.1**
THAS	**Thassos island**	**1.15**	**324**	P	**Pn**	**01 20 31.7**	**-0.3**
THAS				S	**Sb**	**01 20 46.6**	**-0.2**
THAS				AML	AML	01 20 48.8	
	comp=N,283μm,0.3s						
THAS				AML	AML	01 20 49.0	
	comp=E,292μm,0.3s						
THAS	**Thassos island**	**1.15**	**324**	P	**Pb**	**01 20 31.9**	**-0.3**
DKL	**Dikili**	**1.17**	**120**	PN	**Pg**	**01 20 32.8**	**-0.7**
ERIK	**Erikli-Kesan**	**1.22**	**35**	PN	**Pb**	**01 20 33.0**	**-0.2**
ALN	**Alexandroupoli**	**1.27**	**15**	PN	**Pb**	**01 20 33.8**	**-0.4**
ALN	**Alexandroupoli**	**1.27**	**15**	P	**Pb**	**01 20 33.5**	**-0.6**
ALN				S	**Sg**	**01 20 51.7**	**-0.3**
ALN				AML	AML	01 20 58.3	
	comp=E,149μm,0.4s						
ALN				AML	AML	01 21 01.3	
	comp=N,120μm,0.5s						
ALN	**Alexandroupoli**	**1.27**	**15**	P	**Pb**	**01 20 34.2**	**0.0**
ALN				S	**Sg**	**01 20 51.2**	**-0.8**
CHOS	**Chios island**	**1.33**	**165**	PN	**Pb**	**01 20 34.7**	**-0.6**
CHOS	**Chios island**	**1.33**	**165**	P	**Pb**	**01 20 34.6**	**-0.6**
CHOS				S	**Sb**	**01 20 52.2**	**+0.3**
CHOS				AML	AML	01 20 55.9	
	comp=N,299μm,0.9s						
CHOS				AML	AML	01 20 57.4	
	comp=E,450μm,0.6s						
CHOS	**Chios island**	**1.33**	**165**	P	**Pb**	**01 20 34.7**	**-0.6**
CHOS				S	**Sg**	**01 20 53.9**	**0.0**
KESN	**Edirne-Kesan** comp=Z,386nm,0.2s	**1.42**	**35**	IAML_P			
KESN				*i* P	**Pb**	**01 20 37.0**	**+0.1**
AOS	**Alonnisos**	**1.43**	**250**	PN	**Pn**	**01 20 35.7**	**0.0**
RDO	**Rodhopi**	**1.47**	**358**	P	**Pn**	**01 20 36.5**	**+0.1**
RDO	**Rodhopi**	**1.47**	**358**	P	**Pn**	**01 20 36.5**	**+0.1**
KRBG	**Karabiga-Canak**	**1.49**	**60**	PN	**Pb**	**01 20 37.6**	**-0.2**
URLA	**Izmir**	**1.52**	**149**	PN	**Pb**	**01 20 37.6**	**-0.8**
URLA	**Izmir** comp=Z,905nm,0.2s	**1.52**	**149**	IAML_P			
URLA				*i* P	**Pb**	**01 20 38.0**	**-0.5**
BALY	**Balya** comp=Z,523nm,0.2s	**1.56**	**87**	IAML_P			
BALY				*i* P	**Pb**	**01 20 38.5**	**-0.5**
BALY				*i* S	**Sb**	**01 20 59.5**	**+1.1**
KAVA	**Kavala**	**1.56**	**328**	P	**Pn**	**01 20 38.0**	**+0.4**
KAVA	**Kavala**	**1.56**	**328**	P	**Pn**	**01 20 38.0**	**+0.4**
SART	**Tekirdag** comp=Z,1μm,0.3s	**1.58**	**49**	IAML_P			
SART				*i* P	**Pb**	**01 20 39.8**	**+0.4**
SART				*i* S	**Sg**	**01 21 02.0**	**+0.2**
KNL	**Balıkesir**	**1.59**	**67**	*i* P	**Pn**	**01 20 36.5**	**-1.5**
KNL				*i* S	**Sg**	**01 21 02.6**	**+0.3**
GONE	**Gonen-Balikesi**	**1.65**	**76**	PN	**Pb**	**01 20 39.8**	**-0.7**
STEP	**BALIKESIR_Sava** comp=Z,488nm,0.1s	**1.66**	**100**	IAML_P			
STEP				*i* P	**Pb**	**01 20 40.4**	**-0.5**
BLCB	**Balcova**	**1.70**	**138**	PN	**Pn**	**01 20 39.5**	**0.0**
BALB	**Balikesir**	**1.76**	**90**	PN	**Pb**	**01 20 41.5**	**-0.9**
EDC	**Edincik**	**1.86**	**68**	PN	**Pb**	**01 20 42.9**	**-1.3**
SBT4	**Kumbag-Tekirda**	**1.88**	**51**	PN	**Pb**	**01 20 43.4**	**-1.0**
AKHS	**Akhisar** comp=Z,607nm,0.2s	**1.89**	**114**	IAML_P			
AKHS				*i* P	**Pb**	**01 20 43.4**	**-1.3**
KDZ	**Kurdzhali**	**1.98**	**356**	PN	**Pn**	**01 20 44.2**	**+0.8**
HORT	**Hortiatis**	**2.13**	**297**	PN	**Pn**	**01 20 45.6**	**+0.1**
NVR	**Nevrokopi**	**2.14**	**322**	P	**Pn**	**01 20 45.8**	**+0.2**
CRLT	**Corlu**	**2.18**	**48**	PN	**Pn**	**01 20 47.5**	**+1.3**
KCTX	**Karacabey (Bur**	**2.20**	**73**	PN	**Pn**	**01 20 47.6**	**+1.2**
DURS	**Dursunbey** comp=Z,194nm,0.3s	**2.22**	**91**	IAML_P			
DURS				*i* P	**Pn**	**01 20 48.2**	**+1.5**
DURS				*i* S	**Sb**	**01 21 15.7**	**-1.7**
EDRB	**Edirne**	**2.34**	**21**	PN	**Pn**	**01 20 49.3**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**2.48**	**133**	PN	**Pn**	**01 20 51.3**	**+0.9**
SLVT	**Silivri**	**2.52**	**51**	PN	**Pn**	**01 20 52.3**	**+1.5**
ARMT	**Armutlu**	**2.65**	**69**	PN	**Pn**	**01 20 54.1**	**+1.5**
CTKS	**Kestanelik-??a**	**2.71**	**54**	PN	**Pn**	**01 20 54.6**	**+1.2**
STIP	**Stip**	**3.29**	**309**	*e*Pn	**Pn**	**01 21 03.0**	**+1.6**

*SOF **13** 01:40:37.8, 40°.17N×26°.05E, h12km*
*DDA **13** 01:40:40.8, 40°.38N×25°.99E, h6km±2km, ML3.0*
*THE **13** 01:40:40.5, 40°.40N×25°.95E, h10km±1km, ML2.0/7, Error ellipse: s-maj=1.3km s-min=0.6km az=61.0*
*ISCJB **13** 01:40:40.4±0.3, 40°.41N±0°.02×25°.95E±0°.02, h7km±3km, Error ellipse: s-maj=3.0km s-min=2.5km az=153.4*
*ATH **13** 01:40:40.4, 40°.40N×25°.93E, h15km±7km, ML2.1/6, Error ellipse: s-maj=7.2km s-min=0.9km az=290.0*
*ISK **13** 01:40:40.2, 40°.41N×25°.95E, h8km, ML2.7/24*
*BEO **13** 01:40:42.5±1.2, 40°.57N×26°.07E, h5km, ML2.3/3*

ISC 13 01:40:40.8±0.9, 40°.40N±0°.02×25°.95E±0°.02, h11km±7km, n73, σ0°.76/98, 2C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOKC	**Gokceada-Canak**	**0.20**	**186**	PG	**Pg**	**01 40 45.1**	**0.0**
GOKC				SG	**Sg**	**01 40 48.5**	**+0.5**
GADA	**Gvkgeada**	**0.21**	**190**	PG	**Pg**	**01 40 45.4**	**+0.1**
GADA	**Gvkgeada**	**0.21**	**190**	P	**Pg**	**01 40 45.3**	**0.0**
GADA				S	**Sg**	**01 40 48.9**	**+0.6**
SMTH	**Samothraki Isl**	**0.33**	**283**	P	**Pg**	**01 40 46.8**	**-0.5**
SMTH				S	**Sg**	**01 40 51.4**	**-0.3**
SMTH				AML	AML	01 40 52.1	
	comp=E,867μm,0.1s						
SMTH				AML	AML	01 40 52.6	
	comp=N,983μm,0.1s						
SMTH	**Samothraki Isl**	**0.33**	**283**	P	**Pg**	**01 40 46.9**	**-0.5**
SMTH				S	**Sg**	**01 40 52.0**	**+0.3**
ENEZ	**Enez**	**0.37**	**25**	PG	**Pg**	**01 40 48.2**	**0.0**
GELI	**Tayfur-Gelibol**	**0.40**	**90**	PG	**Pg**	**01 40 48.8**	**0.0**
GELI				SG	**Sb**	**01 40 54.8**	**-1.4**
ALN	**Alexandroupoli**	**0.50**	**9**	PG	**Pg**	**01 40 50.3**	**-0.3**
ALN	**Alexandroupoli**	**0.50**	**9**	P	**Pg**	**01 40 50.3**	**-0.3**
ALN				S	**Sg**	**01 40 57.4**	**+0.2**
ALN				AML	AML	01 40 59.0	
	comp=E,176μm,0.3s						
ALN				AML	AML	01 41 00.5	
	comp=N,175μm,0.2s						
ALN	**Alexandroupoli**	**0.50**	**9**	P	**Pg**	**01 40 50.3**	**-0.3**
ALN				S	**Sg**	**01 40 56.5**	**-0.8**
ERIK	**Erikli-Kesan**	**0.51**	**58**	PG	**Pg**	**01 40 50.2**	**-0.6**
ERIK				S

KAVA				S	Sb	01 41 20.3	+0.1	
KAVA				AML	AML	01 41 21.8		
	comp=E,96µm,0.3s							
KAVA				AML	AML	01 41 21.8		
	comp=N,125µm,0.2s							
KAVA	**Kavala**	**1.24**	**299**	P	**Pn**	**01 41 03.4**	**-0.7**	
KAVA				S	**Sb**	**01 41 20.4**	**+0.1**	
SBT4	**Kumbag-Tekirda**	**1.28**	**70**	PN	**Pb**	**01 41 04.4**	**-0.5**	
KDZ	**Kurdzhali**	**1.31**	**342**	P	**Pg**	**01 41 08.9**	**+2.9**	
TKR	**Tekirdag**	**1.34**	**62**	PN	**Pb**	**01 41 05.8**	**-0.2**	
GONE	**Gonen-Balikesi**	**1.38**	**104**	PN	**Pb**	**01 41 06.3**	**-0.3**	
BALY	**Balya**	**1.44**	**117**	IAML_P				
	comp=Z,850nm,0.2s							
BALY				*i* P	**Pb**	**01 41 07.6**	**-0.1**	
BALY				*i* S	**Sg**	**01 41 27.4**	**+0.1**	
EDC	**Edincik**	**1.47**	**91**	PN	**Pn**	**01 41 07.0**	**-0.2**	
DKL	**Dikili**	**1.52**	**151**	PN	**Pn**	**01 41 07.8**	**-0.1**	
CRLT	**Corlu**	**1.54**	**61**	PN	**Pb**	**01 41 08.7**	**-0.7**	
EDRB	**Edirne**	**1.57**	**22**	PN	**Pn**	**01 41 08.1**	**-0.5**	
RZN	**Rozhen**	**1.59**	**325**	P	**Pn**	**01 41 09.0**	**-0.1**	
BALB	**Balikesir**	**1.67**	**116**	PN	**Pn**	**01 41 10.4**	**+0.4**	
DIM	**Dimitrovgrad**	**1.68**	**349**	P	**Pb**	**01 41 11.2**	**-0.5**	
STEP	**BALIKESIR_Sava**	**1.70**	**126**	IAML_P				
	comp=Z,498nm,0.2s							
STEP				*i* P	**Pb**	**01 41 11.1**	**-1.1**	
SLVT	**Silivri**	**1.91**	**64**	PN	**Pn**	**01 41 13.9**	**+0.6**	
SRS	**Serrai**	**1.93**	**293**	*e*Pn	**Pb**	**01 41 16.1**	**+0.1**	
SRS				*e*Sn	**Sb**	**01 41 41.5**	**+1.5**	
PLD	**Plovdiv**	**1.94**	**332**	*e*Pn	**Pb**	**01 41 15.2**	**-1.1**	
PLD				*e*Sn	**Sn**	**01 41 38.8**	**+0.6**	
PLD	**Plovdiv**	**1.94**	**332**	PN	**Pn**	**01 41 14.3**	**+0.5**	
CHOS	**Chios island**	**2.01**	**178**	PN	**Pn**	**01 41 15.2**	**+0.4**	
CHOS	**Chios island**	**2.01**	**178**	P	**Pn**	**01 41 14.8**	**0.0**	
MMB	**Musomiste**	**2.06**	**306**	P	**Pn**	**01 41 16.0**	**+0.6**	
CTYL	**Yalikoy Yolu**	**2.07**	**58**	PN	**Pn**	**01 41 15.9**	**+0.3**	
URLA	**Izmir**	**2.10**	**166**	PN	**Pn**	**01 41 16.3**	**+0.3**	
DURS	**Dursunbey**	**2.10**	**112**	*i* P	**Pn**	**01 41 16.0**	**0.0**	
CTKS	**Kestanelik-??a**	**2.12**	**66**	PN	**Pn**	**01 41 16.8**	**+0.7**	
JMB	**Yambol**	**2.12**	**13**	P	**Pn**	**01 41 16.0**	**-0.2**	
HORT	**Hortiatis**	**2.18**	**276**	PN	**Pn**	**01 41 17.3**	**+0.2**	
BLCB	**Balcova**	**2.18**	**157**	PN	**Pn**	**01 41 17.5**	**+0.4**	
ARMT	**Armutlu**	**2.23**	**85**	PN	**Pn**	**01 41 18.1**	**+0.3**	
MDNY	**Mudanya-Bursa**	**2.24**	**90**	PN	**Pn**	**01 41 18.6**	**+0.7**	
BGKT	**Bogazkoy**	**2.28**	**69**	PN	**Pn**	**01 41 18.6**	**+0.1**	
DEMI	**Demirci**	**2.53**	**122**	*i* P	**Pn**	**01 41 22.8**	**+0.9**	
VTS	**Vitosha**	**3.00**	**318**	*e*Pn	**Pn**	**01 41 29.9**	**+1.4**	
VTS				*e*Sn	**Sn**	**01 42 05.2**	**+0.6**	
VTS	**Vitosha**	**3.00**	**318**	*i* P	**Pn**	**01 41 25.2**	**-3.3**	
VTS	**Vitosha**	**3.00**	**318**	S	**Sn**	**01 42 03.8**	**-0.8**	
ZAPS	**Zavoj**	**3.79**	**320**	*e*Pn	**Pn**	**01 41 40.5**	**+1.3**	
BARS	**Barje**	**3.93**	**309**	*e*Pn	**Pn**	**01 41 42.3**	**+1.2**	
BOVS	**Bovan**	**4.52**	**317**	*e*Pn	**Pn**	**01 41 50.8**	**+1.6**	
MLR	**Muntele Rosu**	**5.09**	**360**	*i* P	**Pn**	**01 41 58.9**	**+1.8**	
BZS	**Buzias**	**6.10**	**330**	*i* P	Pn	01 42 04.4	-6.5	

MAN 13 01:40:42.6, 8.65N×126.20E, h94km, mb4.3, ML3.2, MS2.9, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
BIPH	**Bislig**	**0.49**	**161**	*e*P	Pn	01 40 58.9		+1.2
BIPH				*e*S	Sn	01 41 11.2		+2.3
BUTP	**Butuan**	**0.65**	**299**	*e*P	Pn	01 40 59.5		+0.5
BUTP				*e*S	Sn	01 41 14.2		+3.0
SCPH	**Surigao**	**1.32**	**328**	*e*P	Pn	01 41 07.1		+0.7
SCPH				*e*S	Sn	01 41 25.8		+1.4
BUKP	**Musuan**	**1.36**	**236**	*e*P	Pn	01 41 08.1		+1.2
BUKP				*e*S	Sn	01 41 26.5		+1.2
CGP	**Cagayan de Oro**	**1.50**	**263**	*e*P	Pn	01 41 08.4		-0.1
CGP				*e*S	Sn	01 41 28.7		+0.5
DMPH	**Davao City--Mi**	**1.70**	**204**	*e*P	Sn	01 41 29.5		-3.3

NEIC ***13*** *01:41:12.3±0.0, 19.46N×66.25W, h63km, MD3.4(RSPR), After RSPR.*

RSPR 13 01:41:12.3, 19.46N×66.25W, h63km±7km, MD3.4/6, 18C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
EMPR	**Esperanza - Ma**	**1.01**	**195**	*e*P	Pn	01 41 29.5		-1.1
EMPR	**Esperanza - Ma**	**1.01**	**195**	*e*S	Sn	01 41 43.7		-0.4
EMPR	**Esperanza - Ma**	**1.01**	**195**	*e*P	Pn	01 41 29.5		-1.1
EMPR				*e*S	Sn	01 41 43.7		-0.4
CBYP	**Canovanas**	**1.23**	**162**	*e*P	Pn	01 41 32.4		-1.2
CBYP	**Canovanas**	**1.23**	**162**	*e*S	Sn	01 41 48.0		-1.5
CBYP	**Canovanas**	**1.23**	**162**	*e*P	Pn	01 41 32.4		-1.2
CBYP				*e*S	Sn	01 41 48.0		-1.5
SJG	**San Juan**	**1.34**	**176**	*e*P	Pn	01 41 34.3		-0.6
SJG	**San Juan**	**1.34**	**176**	*e*S	Sn	01 41 51.4		-0.5
SJG	**San Juan**	**1.34**	**176**	*e*P	Pn	01 41 34.3		-0.6
SJG				*e*S	Sn	01 41 51.4		-0.5
HUMP	**Col San Antoni**	**1.36**	**164**	*e*P	Pn	01 41 34.2		-1.0
HUMP	**Col San Antoni**	**1.36**	**164**	*e*S	Sn	01 41 51.8		-0.5
HUMP	**Col San Antoni**	**1.36**	**164**	*e*P	Pn	01 41 34.2		-1.0
HUMP				*e*S	Sn	01 41 51.8		-0.5
CELP	**Cerrillos**	**1.41**	**193**	*e*P	Pn	01 41 35.1		-0.8
CELP				*e*S	Sn	01 41 52.3		-1.3
CELP	**Cerrillos**	**1.41**	**193**	*e*P	Pn	01 41 35.1		-0.8
OBIP	**Obispado Ponce**	**1.45**	**194**	*e*P	Pn	01 41 35.7		-0.7
OBIP	**Obispado Ponce**	**1.45**	**194**	*e*S	Sn	01 41 53.6		-0.8
OBIP	**Obispado Ponce**	**1.45**	**194**	*e*P	Pn	01 41 35.7		-0.7
OBIP				*e*S	Sn	01 41 53.6		-0.8
CUPR	**Culebra, Puert**	**1.46**	**141**	*e*P	Pn	01 41 35.4		-1.2
CUPR	**Culebra, Puert**	**1.46**	**141**	*e*S	Sn	01 41 53.9		-0.9
CUPR	**Culebra, Puert**	**1.46**	**141**	*e*P	Pn	01 41 35.4		-1.2
CUPR				*e*S	Sn	01 41 53.9		-0.9
LSP	**Las Mesas**	**1.50**	**212**	*e*P	Pn	01 41 36.5		-0.7
LSP	**Las Mesas**	**1.50**	**212**	*e*P	Pn	01 41 36.5		-0.7
MTP	**Monte Pirata**	**1.50**	**154**	*e*P	Pn	01 41 36.4		-0.8
MTP	**Monte Pirata**	**1.50**	**154**	*e*S	Sn	01 41 55.3		-0.5
MTP	**Monte Pirata**	**1.50**	**154**	*e*P	Pn	01 41 36.4		-0.8
MTP				*e*S	Sn	01 41 55.3		-0.5
STVI	**Saint Thomas**	**1.65**	**132**	*e*P	Pn	01 41 38.8		-0.3
STVI				*e*S	Sn	01 41 59.5		+0.3
STVI	**Saint Thomas**	**1.65**	**132**	*e*P	Pn	01 41 38.8		-0.3
CRPR	**Cabo Rojo, PR**	**1.66**	**210**	*e*P	Pn	01 41 38.7		-0.5
CRPR	**Cabo Rojo, PR**	**1.66**	**210**	*e*S	Sn	01 41 59.0		-0.5
CRPR	**Cabo Rojo, PR**	**1.66**	**210**	*e*P	Pn	01 41 38.7		-0.5
CRPR				*e*S	Sn	01 41 59.0		-0.5
SDDR	**Presa de Saban**	**4.79**	**265**	*e*Pn	Pn	01 42 22.7		+0.7
SDDR				*e*Sn	Sn	01 43 14.2		-1.9

IDC 13 02:03:34.8±0.9, 1.98S×67.95E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/45, mbtmp3.8/7, MS3.5/12, Ms1 3.5/12, ms1mx3.2/33, Error ellipse: s-maj=30.7km s-min=25.3km az=112.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
PALK	**Pallekele**	**15.70**	**54**	LR	LR	02 11 59.6		
	comp=Z,197nm,20.5s,baz=296,slow=32							
OPO	**Ambohidratompo**	**26.19**	**230**	LR	LR	02 17 12.0		
	comp=Z,190nm,19.2s,baz=359,slow=31							
WSAR	**Wadi Sarin**	**26.66**	**341**	LR	LR	02 18 11.1		
	comp=Z,36nm,19.6s,baz=180,slow=33							
PSI	**Prapat**	**31.33**	**81**	LR	LR	02 20 38.6		
	comp=Z,106nm,18.6s,baz=93,slow=33							
CMAR	**Chiang Mai Arr**	**36.64**	**55**	LR	LR	02 23 39.9		
	comp=Z,58nm,19.4s,baz=225,slow=33							
GEYT	**Alibeck**	**40.74**	**348**	LR	LR	02 27 06.6		
	comp=Z,44nm,21.4s,baz=245,slow=35							
BOSA	**Boshof**	**48.53**	**233**	P	P	02 12 19.9		-0.3
	2.0nm,0.8s,baz=108,slow=13,SNR=2.5							
BOSA				LR	LR	02 30 38.2		
	comp=Z,43nm,18.7s,baz=45,slow=33							
MKAR	**Makanchi Array**	**50.19**	**13**	P	P	02 12 31.9		-0.4
	0.7nm,0.8s,baz=181,slow=5.9,SNR=6.3							
ZALV	**Zalesovo Beam**	**57.48**	**12**	P	P	02 13 24.8		-0.7
	1.0nm,0.6s,baz=205,slow=6.6,SNR=4.9							
SONM	**Songino Array**	**59.87**	**29**	P	P	02 13 43.0		+0.6
	1.2nm,0.9s,baz=218,slow=6.0,SNR=8.6							
MAW	**Mawson**	**65.59**	**182**	LR	LR	02 35 25.0		
	comp=Z,63nm,20.5s,baz=336,slow=29							
WRA	**Warramunga Arr**	**67.16**	**111**	P	P	02 14 31.3		+0.2
	0.7nm,0.7s,baz=290,slow=5.8,SNR=7.1							
ASAR	**Alice Springs**	**67.22**	**115**	P	P	02 14 31.2		-0.3
	0.7nm,0.9s,baz=294,slow=6.3,SNR=4.3							
TORD	**Torodi Ar. Bea**	**67.40**	**285**	LR	LR	02 42 58.1		
	comp=Z,40nm,18.4s,baz=320,slow=35							

KSRS	**Korea Array**	**67.84**	**48**	P	P	02 14 34.6		-0.4
	0.5nm,0.5s,baz=256,slow=5.4,SNR=4.1							
KSRS				LR	LR	02 46 56.1		
	comp=Z,29nm,18.2s,baz=242,slow=38							
DBIC	**Dimbokro**	**73.17**	**278**	LR	LR	02 46 01.3		
	comp=Z,21nm,18.5s,baz=76,slow=35							
MJAR	**Matsushiro Arr**	**75.43**	**52**	LR	LR	02 49 22.3		
	comp=Z,15nm,20.2s,baz=290,slow=36							
TXAR	**Lajitas Array**	**151.65**	**344**	PKPbc	PKPbc	02 23 32.1	0.0	
	0.6nm,1.0s,baz=46,slow=2.6,SNR=3.0							
TXAR				PKPab	PKPab	02 23 40.5	0.0	
	0.9nm,0.9s,baz=50,slow=2.0,SNR=6.9							

IDC ***13*** *02:08:47.9±1.3, 21.57S×169.96E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/34, mbtmp3.7/5, ML3.8/1, MS3.0/3, Ms1 2.9/3, ms1mx2.7/21, Error ellipse: s-maj=37.8km s-min=32.6km az=0.0*

ISCJB ***13*** *02:08:52.5±1.3, 21.6S±0.3×169.7E±0.1, h36km, mb3.7/4, MS2.9/1, Error ellipse: s-maj=38.6km s-min=14.0km az=175.3*

ISC 13 02:08:53.7±1.1, 21.6S±0.3×169.8E±0.1, h36km, n15, σ0.674/13, mb3.7/4, 1C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
DZM	**Mont Dzumac**	**3.11**	**260**	Pn	**Pn**	**02 09 40.4**		**0.0**
	11nm,0.3s,baz=112,slow=6.5,SNR=484							
DZM				Sn	**Sn**	**02 10 15.5**		**-0.9**
	21nm,0.3s,baz=109,slow=24,SNR=5.5							
DZM				LR	LR	02 10 50.9		
	comp=Z,126nm,19.0s,baz=66,slow=37							
URZ	**Urewera**	**17.79**	**161**	LR	LR	02 18 25.4		
	comp=Z,58nm,18.9s,baz=325,slow=32							
STKA	**Stephens Creek**	**27.09**	**242**	LR	LR	02 23 53.5		
	comp=Z,36nm,20.0s,baz=201,slow=33							
ASAR	**Alice Springs**	**33.10**	**259**	P	**P**	**02 15 27.6**		**+1.1**
	0.4nm,0.6s,baz=79,slow=7.9,SNR=6.3							
WRA	**Warramunga Arr**	**33.11**	**266**	P	**P**	**02 15 27.9**		**+1.3**
	0.7nm,1.1s,baz=96,slow=8.1,SNR=6.3							
QSPA	**South Pole Qui**	**68.48**	**180**	P	**P**	**02 19 51.9**		**-0.3**
	0.8nm,0.7s,baz=17,slow=0.7,SNR=5.1							
SYO	**Syowa Base**	**82.83**	**196**	*e*P	P	02 21 20.0		+6.1
SONM	**Songino Array**	**89.37**	**323**	P	**P**	**02 21 46.2**		**-0.4**
	0.3nm,0.3s,baz=116,slow=3.4,SNR=2.6							
ARCES	**ARCESS Array B**	**127.44**	**345**	PKP	**PKPdf**	**02 27 53.6**		**-0.5**
	11nm,1.1s,baz=20,slow=3.9,SNR=4.5							
CONA	**Conrad Observa**	**146.38**	**328**	*e*PKPdf	**PKPab**	**02 28 31.5**		**-0.2**
	1.8nm,0.7s							
GERES	**GERESS Array B**	**146.77**	**331**	PKPbc	**PKPbc**	**02 28 32.3**		**+0.4**
	2.1nm,0.7s,baz=29,slow=3.0,SNR=21							
ABTA	**Abfaltersbach**	**148.84**	**329**	*e*PKPdf	**PKPbc**	**02 28 36.8**		**-0.7**
	2.9nm,0.8s							
WATA	**Walderalm**	**148.84**	**331**	*e*PKPdf	**PKPbc**	**02 28 37.5**		**-0.2**
	1.1nm,0.4s							
MOTA	**Moosalm**	**149.05**	**331**	*e*PKPbc	**PKPbc**	**02 28 39.0**		**+0.8**
	3.2nm,0.8s							
SQTA	**Sankt Quirin**	**149.10**	**331**	*e*PKPdf	**PKPbc**	**02 28 38.2**		**-0.1**
	5.1nm,0.8s							

MEX 13 02:26:02.8±0.6, 15.81N×95.14W, h44km±17km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
HUIG	**Huatulco**	**0.93**	**268**	*e*P	Pn	02 26 18.0		-1.5
HUIG				*e*S	Sn	02 26 29.7		-2.0
CMIG	**Matias Romero**	**1.30**	**11**	*e*P	Pn	02 26 22.5		-2.0
CMIG				*e*S	Sn	02 26 38.4		-2.3
PCIG		**1.85**	**93**	*e*P	Pn	02 26 30.6		-1.6
PCIG				*e*S	Sn	02 26 51.8		-2.6
TGIG		**2.17**	**63**	*e*P	Pn	02 26 35.5		-1.0
TGIG				*e*S	Sn	02 27 00.5		-1.6
CCIG	**Comitan**	**2.93**	**80**	*e*P	Pn	02 26 45.9		-1.1
CCIG				*i* S	Sn	02 27 18.9		-2.2
PNIG	**Pinotepa**	**2.93**	**282**	*e*P	Pn	02 26 46.2		-0.7
PNIG				*i* S	Sn	02 27 18.2		-2.6

DDA ***13*** *02:46:25.6, 39.68N×25.62E, h7km±2km, ML2.5*
ISK ***13*** *02:46:25.4, 39.65N×25.61E, h9km, ML2.3/13*
ISCJB ***13*** *02:46:26.4±0.5, 39.68N±0.02×25.65E±0.04, h10km±4km, Error ellipse: s-maj=4.8km s-min=4.1km az=164.4*
ATH ***13*** *02:46:26.3, 39.66N×25.61E, h25km±3km, ML2.1/2, Error ellipse: s-maj=4.0km s-min=1.3km az=228.0*

ISC 13 02:46:26.1±1.2, 39.67N±0.02×25.63E±0.03, h11km±11km, n31, σ0.963/39, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
BOZC	**Bozcaada**	**0.37**	**61**	PG	**Pg**	**02 46 33.6**		**+0.2**
BOZC				SG	**Sg**	**02 46 39.2**		**+0.8**
BOZC	**Bozcaada**	**0.37**	**61**	IAML_P				
	comp=Z,3µm,0.2s							
BOZC				*i* P	**Pb**	**02 46 34.2**		**-0.5**
LIA	**Limnos Island**	**0.42**	**304**	P	**Pb**	**02 46 35.0**		**-0.5**
GPNR	**Gulpinar-Canak**	**0.44**	**118**	PG	**Pg**	**02 46 34.9**		**+0.2**
SIGR	**SIGRI**	**0.48**	**159**	PG	**Pg**	**02 46 34.9**		**-0.7**
SIGR				SG	**Sb**	**02 46 42.5**		**-1.2**
SIGR	**SIGRI**	**0.48**	**159**	P	**Pg**	**02 46 35.6**		**0.0**
SIGR				S	**Sb**	**02 46 42.6**		**-1.2**
SIGR				AML	AML	02 46 43.2		
	comp=E,475µm,0.4s							
SIGR				AML	AML	02 46 47.7		
	comp=N,712µm,0.4s							
EFSA	**Agios Efstrati**	**0.51**	**256**	P	**Pb**	**02 46 37.5**		**+0.3**
EFSA				S	**Sb**	**02 46 45.1**		**+0.5**
EZN	**Ezine**	**0.56**	**73**	PG	**Pg**	**02 46 37.1**		**+0.1**
GADA	**Gvkgeada**	**0.56**	**21**	PG	**Pb**	**02 46 37.4**		**-0.6**
PRK	**Paraskevi**	**0.65**	**130**	P	**Pb**	**02 46 39.9**		**+0.5**
PRK				S	**Sb**	**02 46 49.5**		**+1.0**
PRK				AML	AML	02 46 50.7		
	comp=E,291µm,1.0s							
PRK				AML	AML	02 46 52.4		
	comp=N,282µm,0.4s							
BAYC	**CANAKKALE_Bayr**	**0.71**	**84**	*i* P	**Pb**	**02 46 40.4**		**-0.1**
SMTH	**Samothraki Isl**	**0.81**	**354**	P	**Pb**	**02 46 42.1**		**-0.1**
SMTH				S	**Sb**	**02 46 53.4**		**+0.2**
AYVA	**Ayvalik**	**0.89**	**113**	*i* P	**Pb**	**02 46 43.5**		**-0.1**
GELI	**Tayfur-Gelibol**	**0.98**	**41**	PG	**Pb**	**02 46 45.1**		**+0.1**
LPK	**Lapseki**	**1.12**	**50**	PN	**Pn**	**02 46 47.7**		**0.0**
ENEZ	**Enez**	**1.14**	**20**	PN	**Pg**	**02 46 47.8**		**-0.3**
DKL	**Dikili**	**1.15**	**121**	PN	**Pb**	**02 46 47.8**		**-0.2**
ERIK	**Erikli-Kesan**	**1.21**	**34**	PN	**Pb**	**02 46 49.0**		**0.0**
ALN	**Alexandroupoli**	**1.27**	**14**	PN	**Pn**	**02 46 49.3**		**-0.5**
CHOS	**Chios island**	**1.32**	**165**	PN	**Pn**	**02 46 50.3**		**-0.2**
CHOS	**Chios island**	**1.32**	**165**	P	**Pb**	**02 46 50.6**		**-0.3**
CHOS				S	**Sn**	**02 47 09.6**		**+1.4**
KESN	**Edirne-Kesan**	**1.41**	**34**	IAML_P				
	comp=Z,70nm,0.2s							
KESN				*i* P	**Pb**	**02 46 52.4**		**-0.2**
KRBG	**Karabiga-Canak**	**1.47**	**60**	PN	**Pb**	**02 46 53.0**		**-0.4**
RDO	**Rodhopi**	**1.48**	**357**	PN	**Pn**	**02 46 52.6**		**-0.1**
RDO	**Rodhopi**	**1.48**	**357**	P	**Pb**	**02 46 53.1**		**-0.6**
URLA	**Izmir**	**1.50**	**150**	PN	**Pn**	**02 46 52.8**		**-0.2**
BALY	**Balya**	**1.53**	**87**	IAML_P				
	comp=Z,182nm,0.1s							
BALY				*i* P	**Pb**	**02 46 54.4**		**-0.2**
BALY				*i* S	**Sg**	**02 47 15.4**		**0.0**
STEP	**BALIKESIR_Sava**	**1.64**	**99**	IAML_P				
	comp=Z,214nm,0.1s							
STEP				*i* P	**Pg**	**02 46 56.9**		**-0.7**
BALB	**Balikesir**	**1.73**	**90**	PN	**Pn**	**02 46 56.6**		**+0.4**
EDC	**Edincik**	**1.84**	**68**	PN	**Pn**	**02 46 58.3**		**+0.6**
DURS	**Dursunbey**	**2.19**	**91**	*i* P	**Pn**	**02 47 00.9**		**-1.7**

ISCJB ***13*** *03:13:49.3±0.4, 9.74S±0.05×112.78E±0.04, h36km, mb4.5/23, MS3.3/7, Error ellipse: s-maj=7.5km s-min=4.5km az=26.5*
DJA ***13*** *03:13:51.3±0.6, 10.5S±7.1×11.3E±1.1, h10km, M4.6/18, mb4.6/1, MLv4.6/18*
NEIC ***13*** *03:13:52.1±0.7, 9.55S×112.93E, h46km±7km, mb4.4/8, Error ellipse: s-maj=11.5km s-min=5.1km az=224.0*
IDC ***13*** *03:13:57.1±2.6, 9.43S×112.99E, h85km±24km, mb4.1/14, mb1 4.2/16, mb1mx4.0/43, mbtmp4.5/16, MS3.3/7, Ms1 3.3/7, ms1mx3.0/31, Error ellipse: s-maj=25.6km s-min=13.0km az=39.0*

ISC 13 03:13:51.1±0.6, 9.65S±0.07×112.83E±0.04, h36km, n72, σ1.968/64, mb4.6/23, MS3.5/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
GMJI	**Gumukmas**	**1.49**	**24**	P	**Pn**	**03 14 15.8**		**+0.4**
JAGI	**Jajag, Banyuwa**	**1.75**	**48**	*e*Pn	**Pn**	**03 14 19.5**		**+0.5**
JAGI				*e*Sn	**Sn**	**03 14 42.4**		**+2.2**
JAGI	**Jajag, Banyuwa**	**1.75**	**48**	P	**Pn**	**03 14 19.9**		**+0.9**
PCJI	**Pacitan**	**2.17**	**311**	P	**Pn**	**03 14 26.4**		**+1.6**
IGBI	**Denpasar**	**2.43**	**70**	P	**Pn**	**03 14 32.1**		**+3.8**
DNP	**Denpasar**	**2.54**	**68**	P	**Pn**	**03 14 32.1**		**+2.3**
WOJI	**Wonogiri, Jawa**	**2.60**	**314**	P	Pn	03 14 36.9		+6.3
NGJI	**Ngawi**	**2.63**	**329**	P	Pn	03 14 35.9		+4.8
GRJI	**Gresik**	**2.73**	**353**	P	**Pn**	**03 14 35.1**		**+2.6**
KMMI	**Kalianget**	**2.81**	**24**	P	**Pn**	**03 14 36.9**		**+3.3**
SRBI	**Singaraja**	**2.82**	**57**	P	**Pn**	**03 14 35.4**		**+1.7**
UGM	**Wanagama**	**2.85**	**307**	*e*Pn	**Pn**	**03 14 35.6**		**+1.5**
UGM				*e*Sn	**Sn**	**03 15 09.9**		**+2.6**
UGM	**Wanagama**	**2.85**	**307**	P	**Pn**	**03 14 36.2**		**+2.1**
TBJI	**Tambak Boyo**	**2.97**	**341**	P	**Pn**	**03 14 39.4**		**+3.7**
YOGI	**Yogyakarta**	**3.09**	**306**	P	Pn	03 14 41.7		+4.3
SMRI	**Semarang**	**3.50**	**317**	*e*Pn	**Pn**	**03 14 45.0**		**+2.0**
SMRI	**Semarang**	**3.50**	**317**	P	**Pn**	**03 14 46.0**		**+3.0**
KPJI	**Karang Pucung**	**4.49**	**301**	P	**Pn**	**03 14 58.6**		**+2.0**
CMJI	**Cimerak**	**4.71**	**293**	P	**Pn**	**03 15 00.8**		**+1.2**
PLAI	**Plampang**	**4.96**	**81**	P	**Pn**	**03 15 06.2**		**+3.2**
CISI	**Cisompet, Garu**	**5.37**	**292**	P	Pn	03 15 19.6		+11
LEM	**Lembang**	**5.87**	**298**	P	Pn	03 15 22.6		+6.9
	4.2nm,0.3s,baz=81,slow=19,SNR=2.9							
LEM				S	Sn	03 16 33.5		+12
	3.6nm,0.3s,baz=120,slow=20,SNR=2.6							
BATI	**Baumata**	**10.69**	**94**	P	**Pn**	**03 16 26.5**		**+4.7**
	7.1nm,0.3s,baz=265,slow=6.5,SNR=5.5							
BATI				S	**Sn**	**03 18 21.0**		**+0.6**
	3.9nm,0.3s,baz=336,slow=20,SNR=3.2							
MBWA	**Marble Bar**	**13.24**	**151**	*e*Pn	**Pn**	**03 16 56.0**		**-0.7**
FITZ	**Fitzroy Crossi**	**15.01**	**125**	P	**Pn**	**03 17 19.7**		**-0.9**
	0.3nm,0.3s,baz=279,slow=8.9,SNR=5.3							
FITZ				S	Sn	03 19 55.1		-11
	1.2nm,0.3s,baz=211,slow=18,SNR=8.8							
FITZ	**Fitzroy Crossi**	**15.01**	**125**	*e*Pn	**Pn**	**03 17 19.7**		**-0.9**
	41nm,1.8s							
FITZ				S	Sn	03 19 55.1		-11
SIJI	**Sorong**	**20.31**	**66**	P	**P**	**03 18 25.1**		**+0.9**
	11nm,0.7s,baz=307,slow=6.9,SNR=6.9							
FAKI	**Fak Fak**	**20.42**	**72**	*e*P	**P**	**03 18 22.9**		**-2.5**
	36nm,1.1s							
WRA	**Warramunga Arr**	**23.15**	**119**	P	**P**	**03 18 55.0**		**+0.4**
	1.3nm,0.7s,baz=296,slow=11,SNR=10.0							
WR1	**Warramunga Arr**	**23.16**	**119**	*e*P	**P**	**03 18 55.0**		**+0.4**
	33nm,1.4s							
WRAB	**Tennant Creek**	**23.16**	**119**	*e*P	**P**	**03 18 55.3**		**+0.6**
	2.1nm,0.4s							
WB2	**Warramunga Arr**	**23.16**	**119**	*e*P	**P**	**03 18 53.8**		**-0.8**
WB2				*e*Sn	Sn	03 23 18.4		-4.4
AS31	**Alice Springs**	**24.49**	**127**	*e*P	**P**	**03 19 07.6**		**+0.4**
	1.8nm,0.6s							
ASAR	**Alice Springs**	**24.49**	**127**	P	**P**	**03 19 08.8**		**+1.6**
	3.8nm,0.7s,

FINES	**FINESS Array B**	**136.86**	**342**	PKP	**PKPdf**	**03 34 26.3**	**+0.1**
	1.2nm,0.8s,baz=132,slow=2.8,SNR=3.5						
AKASG	**Malin Array Be**	**143.68**	**329**	PKP	PKPbc	03 34 37.0	-0.9
	1.3nm,0.3s,baz=40,slow=4.4,SNR=10						
BRTR	**Keskin Array B**	**146.82**	**310**	PKPbc	**PKPbc**	**03 34 47.2**	**-0.5**
	0.8nm,0.7s,baz=145,slow=5.7,SNR=4.1						
GERES	**GERESS Array B**	**151.29**	**342**	PKPbc	**PKPbc**	**03 34 57.9**	**-0.3**
	0.3nm,0.4s,baz=48,slow=2.0,SNR=4.3						
GERES				PKPab	**PKPab**	**03 35 09.0**	**0.0**
	0.2nm,0.4s,baz=24,slow=2.7,SNR=3.7						

NIED ***13*** *03:17:00,39.10N×142.30E,h47km,Mw4.6 Best double couple: M₀9.52000×10¹⁵ NP1:φ208.00000°,δ47.00000°, λ53.00000°. NP2:φ76.00000°,δ54.00000°,λ123.00000°.*
BJI ***13*** *03:17:38.7,39.16N×142.55E,h42km,mb4.8/56,mB5.0/37, Ms4.3/34,Ms7 4.0/18*
MOS ***13*** *03:17:40.8±0.9,39.23N×142.26E,h47km,mb5.1/91,Error ellipse: s-maj=6.1km s-min=4.1km az=93.4*
JMA ***13*** *03:17:41.9,39.14N×142.31E,h48km±1km,M4.8 Broadband fault plane solution: P waves. NP1: φs77.00000°,δ73.00000°,λ93.00000°. NP2:φs245.00000°, δ17.00000°,λ79.00000°. Principal axes: T Plg62.0000°, Azm352.0000°; N Plg3.0000°, Azm256.0000°; P Plg28.0000°, Azm164.0000°;*
JMA Felt IV J1.
ISCJB ***13*** *03:17:42.2±0.3,39.22N±0.02×142.22E±0.02,h55km±2km, mb4.9/290,MS3.8/32 Error ellipse: s-maj=3.9km s-min=2.7km az=155.4*
NEIC ***13*** *03:17:43.8±0.3,39.18N×142.16E,h60km±3km,mb5.0/226, Error ellipse: s-maj=3.0km s-min=1.9km az=160.0*
NEIC Felt at Hachinohe, Kitakami, Misawa, Morioka, Ofunato, Osaki and Sendai. Recorded [4 JMA] in Iwate.
IDC ***13*** *03:17:44.2±2.3,39.14N×142.25E,h67km±20km,mb4.3/24, mb1 4.5/28,mb1mx4.5/38,mbtmp4.6/28,MS3.7/30, Ms1 3.7/30,ms1mx3.6/52,Error ellipse: s-maj=14.4km s-min=12.2km az=112.0*
ISC 13 03:17:41.6±0.5,39.14N±0.03×142.40E±0.04,h46km±3km, h45km:pP-P,n834,σ1s23/855,mb5.0/307,MS3.8/32, 43C-22D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.57**	**265**	⇑P	**Pn**	**03 17 53.2**	**-0.3**
OFUJ				*e*S	**Sn**	**03 18 01.2**	**-0.8**
MIYJ	**Miyakonagasawa**	**0.63**	**315**	⇓P	**Pn**	**03 17 53.9**	**-0.4**
MIYJ				S	**Sn**	**03 18 02.4**	**-0.9**
JKMT	**Kesennumamotoy**	**0.79**	**246**	P	**Pn**	**03 17 55.9**	**-0.5**
JKMT				S	**Sn**	**03 18 05.8**	**-1.3**
JTH	**Tanohata**	**0.90**	**333**	⇓P	**Pn**	**03 17 57.8**	**-0.1**
JTH				*e*S	**Sn**	**03 18 09.4**	**-0.4**
JOM	**Ohasama**	**0.92**	**292**	⇓P	**Pn**	**03 17 57.9**	**-0.3**
JOM				*e*S	**Sn**	**03 18 09.5**	**-0.8**
JMK	**Ichinoseki**	**0.93**	**259**	⇑P	**Pn**	**03 17 57.9**	**-0.4**
JMK				*e*S	**Sn**	**03 18 09.6**	**-1.0**
JIO	**Ouri**	**1.06**	**231**	⇑P	**Pn**	**03 17 59.7**	**-0.4**
JIO				S	**Sn**	**03 18 12.3**	**-1.5**
JKZ	**Kuzumaki**	**1.18**	**316**	⇓P	**Pn**	**03 18 02.0**	**+0.2**
JKZ				S	**Sn**	**03 18 16.6**	**-0.2**
JRG	**Rokugo**	**1.39**	**281**	⇓P	**Pn**	**03 18 04.4**	**-0.2**
JRG				*e*S	**Sn**	**03 18 21.4**	**-0.4**
JANG	**Nango**	**1.41**	**331**	P	**Pn**	**03 18 04.8**	**-0.1**
JANG				*e*S	**Sn**	**03 18 22.0**	**-0.3**
JOU	**Okura**	**1.56**	**241**	⇓P	**Pn**	**03 18 06.6**	**-0.3**
JYK	**Kaneyama**	**1.60**	**263**	⇓P	**Pn**	**03 18 07.4**	**-0.1**
ERM	**Erimo**	**2.93**	**11**	*e*Pn	**Pn**	**03 18 26.3**	**+0.6**
ERM				*e*Sn	**Sn**	**03 18 58.7**	**-1.0**
ERM	**Erimo**	**2.93**	**11**	*e*P	**Pn**	**03 18 26.3**	**+0.6**
ERM				*e*		03 18 58.7	
MJAR	**Matsushiro Arr**	**4.21**	**233**	P	**Pn**	**03 18 45.1**	**+1.9**
	26nm,0.3s,baz=39,slow=10,SNR=350						
MJAR				S	**Sn**	**03 19 38.5**	**+7.4**
	11nm,0.3s,baz=80,slow=13,SNR=4.8						
MJAR				LR	LR	03 20 33.2	
	comp=Z,922nm,21.4s,baz=55,slow=41						
MAJO	**Matsushiro**	**4.21**	**233**	*e*Pn	**Pn**	**03 18 44.5**	**+1.3**
MAJO	**Matsushiro**	**4.21**	**233**	*d*iP	**Pn**	**03 18 43.3**	**0.0**
MAT	**Matsushiro**	**4.21**	**233**	P	**Pn**	**03 18 45.3**	**+2.0**
MAT				*e*S	**Sn**	**03 19 33.8**	**+2.7**
MJB9	**Matsu-Tunnel**	**4.21**	**233**	*e*Pn	**Pn**	**03 18 44.6**	**+1.3**
ASAJ	**Asahikawa**	**4.98**	**2**	*e*Pn	**Pn**	**03 18 54.6**	**+0.8**
GLVR	**Golovnino**	**5.16**	**26**	*e*P	**Pn**	**03 18 55.9**	**-0.4**
GLVR				*i* S	**Sn**	**03 19 51.8**	**-2.7**
GLVR				pmax	pmax		
	comp=Z,734nm,0.5s						
GLVR				pmax	pmax		
	comp=E,197nm,0.4s						
GLVR				pmax	pmax		
	comp=N,173nm,0.2s						
GLVR				smax	smax		
	comp=N,933nm,0.3s						
GLVR				smax	smax		
	comp=E,2μm,0.3s						
GRPR	**Tuman**	**5.47**	**26**	⇓*i*P	**Pn**	**03 18 59.7**	**-0.9**
GRPR				*i* S	**Sn**	**03 19 58.3**	**-3.9**
GRPR				pmax	pmax		
	comp=Z,527nm,0.4s						
GRPR				pmax	pmax		
	comp=E,360nm,0.2s						
GRPR				pmax	pmax		
	comp=N,295nm,0.4s						
GRPR				smax	smax		
	comp=N,1μm,0.3s						
GRPR				smax	smax		
	comp=E,3μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.54**	**27**	*e*P	**Pn**	**03 19 00.8**	**-0.7**
YUK				*e*S	**Sn**	**03 20 00.7**	**-3.1**
YUK				pmax	pmax		
	comp=Z,535nm,0.5s						
YUK				pmax	pmax		
	comp=N,266nm,0.2s						
YUK				pmax	pmax		
	comp=E,263nm,0.2s						
YUK				smax	smax		
	comp=N,1μm,0.6s						
YUK				smax	smax		
	comp=E,3μm,0.6s						
INU	**Inuyama**	**5.72**	**230**	*e*Pn	**Pn**	**03 19 05.4**	**+1.4**
SHO	**Shikotan**	**5.78**	**34**	*e*P	**Pn**	**03 19 03.0**	**-1.8**
SHO				*i* S	**Sn**	**03 20 04.3**	**-5.5**
SHO				pmax	pmax		
	comp=Z,124nm,0.4s						
SHO				pmax	pmax		
	comp=E,111nm,0.3s						
SHO				pmax	pmax		
	comp=N,36nm,0.2s						
SHO				smax	smax		
	comp=N,1μm,0.2s						
SHO				smax	smax		
	comp=E,230nm,0.2s						
JHJ2	**Mitsune**	**6.36**	**200**	*e*Pn	**Pn**	**03 19 14.0**	**+1.2**
JHJ2				*e*Sn	**Sn**	**03 20 20.0**	**-4.2**
JHJ	**Hachijo jima 2**	**6.37**	**200**	P	**Pn**	**03 19 11.7**	**-1.2**
	comp=E,96nm,0.3s,baz=71,slow=6.4,SNR=12						
JHJ				S	**Sn**	**03 20 19.8**	**-4.4**
	comp=E,112nm,0.3s,baz=62,slow=24,SNR=4.6						
JHJ				LR	LR	03 22 01.1	
	comp=E,493nm,20.9s,baz=332,slow=41						
TEY	**Ternei**	**7.30**	**326**	⇑*i*P	Pn	03 19 30.6	+5.0
TEY				*e*S	**Sn**	**03 20 46.9**	**-0.2**
TEY				pmax	pmax		
	comp=Z,130nm,1.3s						
TEY				pmax	pmax		
	comp=N,100nm,1.2s						
TEY				pmax	pmax		
	comp=E,90nm,1.2s						
TEY				pmax	pmax		
	comp=N,50nm,0.7s						
TEY				pmax	pmax		
	comp=E,60nm,0.9s						
KUR	**Kuril'sk**	**7.32**	**32**	*de*P	**Pn**	**03 19 25.8**	**-0.1**
KUR				*i* S	**Sn**	**03 20 43.9**	**-3.7**
KUR				pmax	pmax		
	comp=Z,133nm,0.6s						
KUR				pmax	pmax		
	comp=N,84nm,0.7s						
KUR				pmax	pmax		
	comp=E,70nm,0.4s						
KUR				smax	smax		
	comp=N,1μm,2.0s						
KUR				smax	smax		
	comp=E,800nm,1.9s						
KUR				smax	smax		
	comp=N,390nm,0.3s						
KUR				smax	smax		
	comp=E,176nm,0.2s						
YSS	**Yuzh-Sakhalins**	**7.82**	**2**	*e*Pn	**Pn**	**03 19 33.3**	**+0.6**
YSS	**Yuzh-Sakhalins**	**7.82**	**2**	⇓*e*P	**Pn**	**03 19 33.8**	**+1.1**
YSS				*e*S	**Sn**	**03 20 59.5**	**-0.3**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				smax	smax		
	comp=N,80nm,1.0s						
YSS				MLR	MLR		
	comp=Z,300nm,17.0s						
YSS				MLR	MLR		
	comp=N,200nm,14.0s						
YSS				MLR	MLR		
	comp=E,200nm,14.0s						
VLA	**Vladivostok**	**8.87**	**300**	*i* P	**Pn**	**03 19 48.9**	**+1.7**
MSHR	**Mys Shultsa**	**9.18**	**296**	*i* P	**Pn**	**03 19 53.3**	**+1.9**
USA0B	**Ussuriysk Arra**	**9.28**	**306**	*e*Pn	**Pn**	**03 19 54.1**	**+1.3**
USRK	**Ussuriysk Ar.**	**9.28**	**306**	P	**Pn**	**03 19 53.6**	**+0.8**
	comp=E,7.7nm,0.3s,baz=117,slow=15,SNR=74						
USRK				LR	LR	03 23 15.1	
	comp=E,462nm,21.0s,baz=127,slow=36						
MDJ	**Mudanjiang**	**11.00**	**304**	P	**Pn**	**03 20 19.3**	**+3.0**
MDJ				sP		03 20 34.0	
MDJ				S	**Sn**	**03 22 16.0**	**-1.9**
MDJ				sS		03 22 28.5	
MDJ				pmax	pmax		
	comp=E,80nm,1.0s						
MDJ				LR	LR		
	comp=E,380nm,17.1s						
MDJ				LR	LR		
	comp=E,330nm,16.3s						
MDJ	**Mudanjiang**	**11.00**	**304**	*e*Pn	**Pn**	**03 20 17.6**	**+1.3**
JNU	**Nakatsue**	**11.08**	**241**	P	**Pn**	**03 20 17.5**	**+0.1**
	comp=E,0.8nm,0.3s,baz=27,slow=5.1,SNR=6.4						
KSRS	**Korea Array**	**11.50**	**266**	P	**Pn**	**03 20 25.1**	**+2.0**
	comp=E,1.1nm,0.3s,baz=73,slow=14,SNR=19						
KSRS				S	**Sn**	**03 22 32.3**	**+2.2**
	comp=E,0.5nm,0.3s,baz=69,slow=24,SNR=4.0						
KSRS				LR	LR	03 24 17.9	
	comp=E,272nm,21.9s,baz=70,slow=34						
KS01	**Wonju Array Si**	**11.52**	**266**	*e*Pn	**Pn**	**03 20 26.4**	**+3.0**
KS01				*e*Sn	**Sn**	**03 22 33.0**	**+2.5**
KS15	**Wonju Array Si**	**11.53**	**266**	*e*Pn	**Pn**	**03 20 25.6**	**+2.0**
KSAR	**Wonju Array Be**	**11.53**	**266**	P	**Pn**	**03 20 25.1**	**+1.6**
KSAR				S	**Sn**	**03 22 32.3**	**+1.4**
KSAR	**Wonju Array Be**	**11.53**	**266**	P	**Pn**	**03 20 25.2**	**+1.6**
KSAR				S	**Sn**	**03 22 32.3**	**+1.4**
TYV	**Tymovskoe**	**11.73**	**1**	*e*P	**Pn**	**03 20 27.2**	**+1.0**
TYV				*e*S	Sn	03 22 26.4	-9.1
TYV				pmax	pmax		
	comp=Z,13nm,0.8s						
TYV				smax	smax		
	comp=E,8.0nm,1.1s						
TYV				smax	smax		
	comp=N,300nm,4.8s						
TYV				MLR	MLR		
	comp=Z,600nm,22.0s						
CBIJ	**Chichi jima**	**12.01**	**181**	P	**Pn**	**03 20 27.7**	**-2.4**
JCJ	**Chichijima**	**12.01**	**181**	P	**Pn**	**03 20 27.7**	**-2.4**
	comp=Z,124nm,0.3s,baz=180,slow=20,SNR=3.5						
GRNR	**Gornyy**	**12.37**	**342**	*e*P	**Pn**	**03 20 35.0**	**0.0**
KLR	**Kul'dur**	**12.64**	**326**	P	**Pn**	**03 20 37.5**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=135,slow=15,SNR=9.4						
KLR				LR	LR	03 25 25.8	
	comp=Z,462nm,19.7s,baz=132,slow=37						
KLR	**Kul'dur**	**12.64**	**326**	*i* P	**Pn**	**03 20 38.4**	**-0.3**
CN2	**Changchun**	**13.53**	**296**	*e*P	**Pn**	**03 20 51.4**	**+0.5**
CN2				pmax	pmax		
	comp=E,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=E,200nm,4.0s						
CN2				LR	LR		
	comp=Z,210nm,14.0s						
CN2				LR	LR		
	comp=Z,320nm,14.0s						
NKL	**Nikolayevsk**	**14.07**	**356**	*e*P	**Pn**	**03 20 56.0**	**-2.0**
NKL				pmax	pmax		
	comp=Z,21nm,1.0s						
PETK	**Petropavlovsk-**	**17.49**	**32**	LR	LR	03 28 58.2	
	comp=Z,183nm,18.7s,baz=219,slow=38						
ZEA	**Zeya**	**17.89**	**330**	*e*P	**Pn**	**03 21 43.0**	**-3.9**
ZEA				pmax	pmax		
	comp=Z,26nm,0.8s						
ZEA				MLR	MLR		
	comp=N,300nm,13.0s						
ZEA				MLR	MLR		
	comp=E,300nm,13.0s						
ZEA				MLR	MLR		
	comp=Z,500nm,13.0s						
BJI	**Beijing**	**20.21**	**281**	P	**P**	**03 22 12.9**	**+0.3**
BJI				pmax	pmax		
	comp=Z,12nm,1.2s						
BJI				LR	LR		
	comp=Z,180nm,14.2s						
BJI				LR	LR		
	comp=Z,170nm,15.2s						
BJT	**Baijiatuau**	**20.22**	**281**	*e*P	**P**	**03 22 10.3**	**-2.4**
	comp=Z,18nm,0.7s						
BJT	**Baijiatuau**	**20.22**	**281**	*e*P	**P**	**03 22 10.3**	**-2.4**
BJT				pmax	pmax		
	comp=Z,18nm,0.7s						
NJ2	**Nanjing**	**20.38**	**257**	*e*P	Pn	03 22 17.6	+0.8
NJ2				pmax	pmax		
	comp=Z,34nm,0.6s						
MA2	**Magadan**	**21.14**	**12**	P	**P**	**03 22 22.5**	**+0.1**
	comp=Z,30nm,0.9s,baz=200,slow=8.9,SNR=20						
MA2	**Magadan**	**21.14**	**12**	*e*P	**P**	**03 22 22.1**	**-0.4**
	comp=Z,32nm,0.9s						
MA2	**Magadan**	**21.14**	**12**	*ce*P	**P**	**03 22 22.9**	**+0.5**
MA2				pmax	pmax		
	comp=Z,39nm,1.0s						
YAK	**Yakutsk**	**24.21**	**345**	*e*P	**P**	**03 22 52.4**	**-1.3**
YAK				*e**PP	**pP**	**03 23 06.4**	**+0.9**
YAK				*e*		03 23 25.2	
YAK				*e*		03 26 32.4	
YAK				*e*S	**S**	**03 27 07.6**	**-1.1**
YAK				*e**SS	**sS**	**03 27 31.8**	**+3.6**
YAK				*e*		03 33 50.7	
YAK				pmax	pmax		
	comp=Z,25nm,0.8s						
YAK				pmax	pmax		
	comp=N,13nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,94nm,2.7s						
YAK				pmax	pmax		
	comp=N,70nm,3.5s						
YAK				pmax	pmax		
	comp=E,17nm,1.4s						
YAK				smax	smax		
	comp=N,176nm,1.9s						
YAK				smax	smax		
	comp=E,152nm,1.9s						
TPUB	**Ta-pu**	**24.32**	**236**	*e*P	**P**	**03 22 53.8**	**-1.2**
	comp=E,103nm,1.5s						
SEY	**Seymchan**	**24.58**	**11**	*ce*P	**P**	**03 22 58.1**	**+1.1**
BOD	**Bodaibo**	**26.21**	**325**	*e*P	**P**	**03 23 10.5**	**-1.4**
BOD				pmax	pmax		
	comp=Z,20nm,0.8s						
ULN	**Ulaanbaatar**	**26.89**	**301**	*e*P	**P**	**03 23 17.4**	**-0.9**
	comp=Z,8.8nm,0.7s						
ULN	**Ulaanbaatar**	**26.89**	**301**	*i* P	**P**	**03 23 18.0**	**-0.3**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
XAN	**Xi'an**	**27.26**	**270**	P	**P**	**03 23 21.8**	**+0.1**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
XAN	**Xi'an**	**27.26**	**270**	*e*P	**P**	**03 23 21.7**	**+0.1**
	comp=Z,7.1nm,0.6s						
XAN	**Xi'an**	**27.26**	**270**	*e*P	**P**	**03 23 21.7**	**+0.1**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
SONA1	**Songino Array**	**27.32**	**300**	*e*P	**P**	**03 23 21.6**	**-0.5**
SONM	**Songino Array**	**27.32**	**300**	LR	LR	03 34 36.2	
	comp=Z,126nm,19.6s,baz=116,slow=37						
ENH	**Enshi**	**28.34**	**262**	*e*P	**P**	**03 23 30.6**	**-0.7**
	comp=Z,33nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.64**	**125**	T	T	03 54 01.2	
	baz=318,slow=75,SNR=8379						
H11N1	**WAKE ISLAND Hy**	**28.65**	**125**	T	T	03 54 01.9	
	baz=318,slow=75,SNR=8527						
H11N3	**WAKE ISLAND Hy**	**28.66**	**125**	T	T	03 54 02.6	
	baz=318,slow=75,SNR=9355						
H11S1	**WAKE ISLAND Hy**	**29.43**	**127**	T	T	03 54 58.3	
	baz=319,slow=76,SNR=1389						
H11S3	**WAKE ISLAND Hy**	**29.43**	**127**	T	T	03 54 58.5	
	baz=319,slow=76,SNR=1772						
H11S2	**WAKE ISLAND Hy**	**29.45**	**127**	T	T	03 54 59.6	
	baz=319,slow=76,SNR=1353						
LZH	**Lanzhou**	**30.54**	**277**	*e*P	**P**	**03 23 54.1**	**+3.2**
LZH				pP	sP	03 24 08.3	0.0
LZH				pmax	pmax		
	comp=Z,32nm,1.2s						
LZH				LR	LR		
	comp=Z,400nm,14.1s						
LZH				LR	LR		
	comp=Z,380nm,15.7s						
LZH				LR	LR		
	comp=Z,430nm,16.3s						
BILL	**Bilibino**	**31.79**	**17**	*e*P	**P**	**03 24 01.6**	**+0.2**
	comp=Z,8.3nm,0.7s						
BILL	**Bilibino**	**31.79**	**17**	*ce*P	**P**	**03 24 01.6**	**+0.2**
BILL				*e*		03 25 07.5	
BILL				pmax	pmax		
	comp=Z,11nm,1.0s						
BILL				MLR	MLR		
	comp=Z,129nm,22.0s						
GYA	**Guiyang**	**32.38**	**258**	⇑*i*P	**P**	**03 24 07.1**	**0.0**
GYA				pP	pP	03 24 21.6	+2.5
GYA				PP	**PP**	**03 25 18.0**	**-2.8**
GYA				S	**S**	**03 29 19.0**	**+0.7**
GYA				sS	sS	03 29 40.3	+2.2
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
CD2	**Chengdu**	**32.49**	**267**	*e*P	**P**	**03 24 07.0**	**-1.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,4.8s						
GTA	**Gaotai**	**32.74**	**284**	*e*P	**P**	**03 24 10.3**	**+0.1**
GTA				pP	pP	03 24 21.5	-0.7
GTA				sP	sP	03 24 27.3	-0.3
GTA				PcP	**PcP**	**03 26 55.5**	**+0.8**
GTA				S	**S**	**03 29 20.5**	**-3.2**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,140nm,8.2s						
GTA				LR	LR		
	comp=Z,300nm,23.0s						
GTA				LR	LR		
	comp=Z,290nm,18.2s						
GTA				LR	LR		
	comp=Z,280nm,17.5s						
TIXI	**Tiksi**	**33.31**	**352**	P	**P**	**03 24 13.8**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=213,slow=4.6,SNR=2.1						
TIXI	**Tiksi**	**33.31**	**352**	*e*P	**P**	**03 24 14.4**	**-0.1**
TIXI	**Tiksi**	**33.31**	**352**	*i* P	**P**	**03 24 15.7**	**+1.2**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KNGR	**Kungurtug, Tuv**	**33.32**	**305**	*i* P	**P**	**03 24 13.7**	**-1.4**
KMI	**Kunming**	**36.08**	**259**	P	**P**	**03 24 40.8**	**+1.5**
KMI				pP	pP	03 24 52.1	+0.7
KMI				sP	sP	03 25 00.1	+3.4
KMI				pmax	pmax		
	comp=Z,23nm,0.8s						
KMI				pmax	pmax		
	comp=Z,110nm,3.9s						
KMI				LR	LR		
	comp=Z,170nm,23.9s						
KMI				LR	LR		
	comp=Z,160nm,23.6s						
KMI				LR	LR		
	comp=Z,200nm,19.2s						
ANM	**Nome**	**39.41**	**33**	*e*P	**P**	**03 25 07.4**	**+0.8**
	comp=Z,60nm,1.6s						
ANM	**Nome**	**39.41**	**33**	*e*P	**P**	**03 25 07.4**	**+0.8**
ANM				pmax	pmax		
	comp=Z,60nm,1.6s						
DGZ	**Jazzator, Alta**	**39.83**	**304**	*i* P	**P**	**03 25 10.8**	**+0.3**
DGZ				pmax	pmax		
	comp=Z,14nm,0.9s						
WMQ	**Urumqi**	**40.62**	**295**	P	**P**	**03 25 17.8**	**+0.7**
WMQ				pP	pP	03 25 29.5	+0.2
WMQ				sP	sP	03 25 36.9	+2.3
WMQ				S	**S**	**03 31 27.8**	**+4.2**
WMQ				ScS	**ScS**	**03 35 18.6**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,380nm,5.1s						
WMQ				LR	LR		
	comp=Z,120nm,21.9s						
WMQ				LR	LR		
	comp=Z,120nm,19.1s						
WMQ	**Urumqi**	**40.62**	**295**	*e*P	**P**	**03 25 17.0**	**-0.1**
	comp=Z,24nm,0.6s						
WMQ	**Urumqi**	**40.62**	**295**	*e*P	**P**	**03 25 17.0**	**-0.1**
WMQ				pmax	pmax		
	comp=Z,24nm,0.6s						
ZAA0	**Zalesovo Array**	**41.10**	**311**	*e*P	**P**	**03 25 20.2**	**-0.6**
	comp=Z,15nm,0.8s						
ZALV	**Zalesovo Beam**	**41.10**	**311**	P	**P**	**03 25 20.4**	**-0.4**
	comp=Z,17nm,0.6s,baz=90,slow=8.8,SNR=31						
ZALV				PcP	**PcP**	**03 27 19.4**	**-0.1**
	comp=Z,2.7nm,0.4s,baz=88,slow=2.8,SNR=4.8						
ZALV				LR	LR	03 42 55.8	
	comp=Z,120nm,19.1s,baz=63,slow=37						
ZALV	**Zalesovo Beam**	**41.10**	**311**	*e*P	**P**	**03 25 19.9**	**-0.9**
ZALV				*e*PcP	**PcP**	**03 27 19.1**	**-0.4**
NVS	**Novosibirsk**	**41.98**	**312**	*e*P	**P**	**03 25 27.6**	**-0.3**
NVS				*e*		03 25 43.6	
NVS				*e*S	**S**	**03 31 40.2**	**-3.0**
NVS				pmax	pmax		
	comp=E,11nm,1.1s						
NVS				pmax	pmax		
	comp=Z,15nm,1.1s						
NVS				smax	smax		
	comp=E,8.0nm,1.5s						
CHTO	**Chiang Mai**	**42.58**	**254**	*e*P	**P**	**03 25 31.9**	**-1.4**
	comp=E,7.2nm,0.7s						
CHTO	**Chiang Mai**	**42.58**	**254**	*e*P	**P**	**03 25 31.9**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**42.80**	**254**	P	**P**	**03 25 34.8**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=40,slow=7.8,SNR=6.6						
CMAR				LR	LR	03 43 31.8	
	comp=Z,24nm,20.0s,baz=340,slow=36						
SVW2	**Sparrevohn**	**43.39**	**39**	*e*P	**P**	**03 25 40.7**	**+1.4**
	comp=Z,38nm,0.9s						
MK01	**Makanchi Array**	**43.69**	**300**	*e*P	**P**	**03 25 41.6**	**-0.4**
MK31	**Makanchi Array**	**43.69**	**300**	*e*P	**P**	**03 25 42.0**	**0.0**
MK31	**Makanchi Array**	**43.69**	**300**	*e*P	**P**	**03 25 42.0**	**0.0**
MKAR	**Makanchi Array**	**43.69**	**300**	P	**P**	**03 25 41.9**	**0.0**
	comp=Z,17nm,0.8s,baz=83,slow=10.0,SNR=40						
MKAR				LR	LR	03 44 22.9	
	comp=Z,91nm,20.7s,baz=82,slow=37						
MKAR	**Makanchi Array**	**43.69**	**300**	*e*P	**P**	**03 25 42.0**	**0.0**
	comp=Z,113nm,0.6s						
MKAR	**Makanchi Array**	**43.69**	**300**	*e*P	**P**	**03 25 42.0**	**0.0**
MKAR				pmax	pmax		
	comp=Z,113nm,0.6s						
MAKZ	**Makanchi**	**43.90**	**301**	*e*P	**P**	**03 25 43.5**	**-0.1**
	comp=Z,15nm,0.8s						
MAKZ	**Makanchi**	**43.90**	**301**	*e*P	**P**	**03 25 43.5**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,15nm,0.8s						
IM3	**Indian Mountai**	**44.45**	**32**	*e*P	**P**	**03 25 48.5**	**+0.8**
RSO	**Redoubt South**	**44.78**	**40**	*e*P	**P**	**03 25 51.7**	**+1.0**
PPLA	**Purkeypile**	**45.01**	**36**	*e*P	**P**	**03 25 53.6**	**+1.1**
	comp=Z,75nm,1.6s						
CAST	**Castle Rocks**	**45.06**	**35**	*e*P	**P**	**03 25 54.1**	**+1.4**
	comp=Z,22nm,0.8s						
KURK	**Kurchatov**	**45.27**	**307**	*e*P	**P**	**03 25 54.0**	**-0.5**
KURK	**Kur

MCK McKinley 46.46 35 *e*P P 03 26 04.8 +1.1
comp=Z,22nm,0.8s
PMR Palmer 46.48 38 *e*P P 03 26 04.3 +0.5
comp=Z,53nm,1.2s
PMR Palmer 46.48 38 *e*P P 03 26 04.3 +0.5
PMR pmax pmax
comp=Z,53nm,1.2s
PDGK Podgornoye 46.51 296 P P 03 26 02.3 -2.2
PDGK pmax pmax
comp=Z,12nm,0.8s
RND Reindeer 46.51 35 *e*P P 03 26 05.0 +0.9
comp=Z,27nm,0.8s
RND Reindeer 46.51 35 *e*P P 03 26 05.1 +0.9
RND pmax pmax
comp=Z,27nm,0.8s
GHO Glory Hole Cre 46.57 38 *e*P P 03 26 05.9 +1.3
comp=Z,45nm,0.7s
MDM Murphy Dome 46.73 33 *e*P P 03 26 07.5 +1.7
comp=Z,38nm,1.1s
WRH Wood River Hil 46.80 34 *e*P P 03 26 07.8 +1.5
comp=Z,10.0nm,0.7s
WRH *e*PcP **PcP** 03 27 39.5 +0.7
KNK Knik Glacier 46.82 38 *e*P P 03 26 07.4 +0.8
comp=Z,26nm,0.8s
SML Sawmill 46.85 38 *e*P P 03 26 08.3 +1.5
comp=Z,42nm,0.7s
SML Sawmill 46.85 38 *e*P P 03 26 08.3 +1.5
SML pmax pmax
comp=Z,43nm,0.7s
TCOL CIGO, UAF Yank 46.89 33 P P 03 26 08.8 +1.8
baz=272
COLA College 46.89 33 *e*P P 03 26 09.0 +2.0
comp=Z,17nm,0.6s
COLA College 46.89 33 *e*P P 03 26 09.0 +2.0
COLA pmax pmax
comp=Z,17nm,0.6s
POKR Poker Plat Res 47.06 33 P P 03 26 10.6 +2.2
baz=272,SNR=22
DHY Denali Highway 47.20 36 *e*P P 03 26 10.6 +1.0
comp=Z,15nm,0.8s
HDA Harding Lake 47.30 34 *e*P P 03 26 11.5 +1.2
comp=Z,25nm,0.7s
HDA Harding Lake 47.30 34 P P 03 26 11.3 +1.0
baz=273,SNR=14
ILAR Eielson Array 47.31 33 P P 03 26 11.4 +1.1
comp=Z,23nm,0.6s,baz=264,slow=6.2,SNR=186
ILAR LR LR 03 47 26.2
comp=Z,50nm,18.1s,baz=294,slow=38
ILB Eielson Array 47.31 33 *e*P P 03 26 11.7 +1.4
IL1 Eielson Array 47.31 33 *e*P P 03 26 10.5 +0.2
SCM Sheep Creek Mo 47.32 37 *e*P P 03 26 11.6 +1.1
comp=Z,44nm,0.8s
SCM Sheep Creek Mo 47.32 37 *e*P P 03 26 11.6 +1.1
SCM pmax pmax
comp=Z,44nm,0.8s
GLI Glacier Island 47.53 39 *e*P P 03 26 12.9 +0.9
comp=Z,32nm,0.7s
JIRN Jiri 47.63 274 *e*P P 03 26 14.3 +0.6
comp=Z,33nm,0.4s
RAMN Ramite 47.65 273 *e*P P 03 26 13.3 -0.5
comp=Z,30nm,0.4s
GUN Gumba 47.75 274 *e*P P 03 26 14.8 +0.2
FYU Fort Yukon 47.91 31 *e*P P 03 26 16.6 +1.7
comp=Z,82nm,1.7s
KLU Klutina 48.02 38 *e*P P 03 26 17.2 +1.3
comp=Z,34nm,0.7s
DIV Divide 48.14 38 *e*P P 03 26 18.3 +1.4
comp=Z,44nm,0.8s
KKN Kakani 48.27 274 *e*P P 03 26 19.1 +0.6
comp=Z,36nm,0.2s
HARP HAARP 48.28 36 *e*P P 03 26 19.8 +2.0
comp=Z,34nm,0.8s
RIDG Independ'e Rid 48.28 35 *e*P P 03 26 19.1 +1.2
comp=Z,16nm,1.0s
PKIN Phulchoki 48.28 274 *e*P P 03 26 18.8 +0.1
comp=Z,14nm,0.5s
DMN Daman 48.49 274 *e*P P 03 26 20.9 +0.6
comp=Z,18nm,0.7s
SCRK Sand Creek 48.63 34 *e*P P 03 26 21.9 +1.2
comp=Z,31nm,0.6s
DOT Dot Lake 48.63 35 *e*P P 03 26 22.0 +1.4
comp=Z,11nm,0.7s
BMRM Bremner River 48.73 38 *e*P P 03 26 22.5 +1.1
comp=Z,43nm,0.9s
DANN Dangsing 49.18 276 *e*P P 03 26 25.5 -0.1
comp=Z,111nm,0.5s
KOLN Koldanda 49.58 275 *e*P P 03 26 28.8 +0.3
comp=Z,22nm,0.5s
BVA0 Borovoye Array 49.75 311 *i*P P 03 26 28.9 -0.3
BVA0 pmax pmax
comp=Z,5.0nm,0.5s
EGAK Eagle 49.75 33 *e*P P 03 26 29.8 +0.8
comp=Z,7.9nm,0.7s
BRVK Borovoye 49.81 311 *e*P P 03 26 29.0 -0.6
BRVK Borovoye 49.81 311 *i*P P 03 26 29.2 -0.4
BRVK pmax pmax
comp=Z,6.0nm,0.7s
OTUK Ortayu 49.85 305 P P 03 26 29.1 -1.0
OTUK pmax pmax
comp=Z,6.0nm,0.7s
PYUN Piuthan 49.89 276 *e*P P 03 26 30.7 -0.2
comp=Z,49nm,0.7s
AAK Ala-Archa 50.20 297 *e*P P 03 26 32.2 -0.7
comp=Z,4.4nm,0.8s
AAK Ala-Archa 50.20 297 *i*P P 03 26 32.8 -0.2
AAK pmax pmax
comp=Z,4.0nm,0.9s
KSH Kashi 50.28 293 P P 03 26 38.1 +4.5
KSH pP sP 03 26 50.3 -1.1
KSH sP pP 03 26 54.9 +8.7
KSH PcP **PcP** **03 27 58.1 +6.1**
KSH PcS **PcS** **03 31 52.0 +2.8**
KSH S **S** **03 33 46.1 +3.1**
KSH sS sS 03 34 05.6 +2.0
KSH pmax pmax
comp=Z,14nm,0.8s
KSH pmax pmax
comp=Z,370nm,5.7s
KSH LR LR
comp=Z,340nm,4.8s
KSH LR LR
comp=Z,160nm,6.1s
KSH LR LR
comp=Z,260nm,8.3s
DAWY Dawson 50.62 34 *e*P P 03 26 37.2 +1.5
comp=Z,15nm,1.4s
EPYK Eagle Plains 51.32 31 P P 03 26 43.1 +2.2
baz=281
ARSB Arslanbob 51.72 296 *e*P P 03 26 43.9 -0.6
comp=Z,18nm,0.8s
SFK Sufi-Kurgan 51.85 294 P P 03 26 44.7 -0.8
SFK pmax pmax
comp=Z,9.0nm,0.8s
HYT Haines Junctio 52.16 38 *e*P P 03 26 50.0 +2.7
comp=Z,64nm,1.0s
INK Inuvik 52.17 28 *e*P P 03 26 48.3 +1.2
comp=Z,16nm,1.0s
INK Inuvik 52.17 28 *e*P P 03 26 48.3 +1.2
INK pmax pmax
comp=Z,16nm,1.0s
WHY Whitehorse 53.44 37 *e*P P 03 26 58.5 +1.7
comp=Z,15nm,0.8s
BTK Batken 53.73 295 *e*P P 03 27 00.6 +1.4
comp=Z,8.7nm,1.1s
BTK Batken 53.73 295 *e*P P 03 27 00.6 +1.4
BTK pmax pmax
comp=Z,9.0nm,1.1s
SVE Sverdlovsk 54.10 318 *e*P P 03 27 02.1 +0.6
SVE pmax pmax
comp=Z,34nm,0.6s
NIL Nilore 54.71 287 *e*P P 03 27 06.1 -0.3
NIL Nilore 54.71 287 *e*P P 03 27 06.1 -0.3
ARU Arti 55.31 318 *e*P P 03 27 10.0 -0.3
comp=Z,27nm,0.6s
ARU Arti 55.31 318 *c i*P P 03 27 10.1 -0.3
ARU *PP **pP** 03 27 23.8 +0.8
ARU 03 28 08.1
ARU 03 29 08.7
ARU S **S** **03 34 52.1 +1.3**
ARU SS **SS** **03 38 30.6 -4.4**
ARU pmax pmax
comp=Z,21nm,0.6s
DLBC Dease Lake 56.50 39 *e*P P 03 27 20.8 +1.9
comp=Z,13nm,0.9s
AB31 Akbulak array 57.19 309 P P 03 27 22.4 -1.4
AB31 pmax pmax
comp=Z,13nm,0.6s
ABKAR Akbulak array 57.19 309 *e*P P 03 27 23.4 -0.4
KBL Kabul 57.40 290 *e*P P 03 27 30.8 +5.0
comp=Z,6.8nm,0.6s
KBL Kabul 57.40 290 *e*P P 03 27 30.8 +5.0
KBL pmax pmax
comp=Z,7.0nm,0.6s
AKTO Aktyubinsk 57.86 311 P P 03 27 27.2 -1.3
AKTO pmax pmax
comp=Z,13nm,0.9s
HYB Hyderabad 59.05 268 *i*P P 03 27 37.0 -0.3
FITZ Fitzroy Crossi 59.05 199 LR LR 03 56 28.6
comp=Z,36nm,18.1s,baz=16,slow=39
WRAB Tennant Creek 59.24 189 *e*P P 03 27 38.0 -0.4
comp=Z,4.5nm,0.5s
WRAB Tennant Creek 59.24 189 *i*P P 03 27 37.6 -0.7
WRAB pmax pmax
comp=Z,6.0nm,1.1s
WB2 Warramunga Arr 59.25 189 *e*P P 03 27 37.9 -0.5
WB2 *epP **pP** 03 27 51.5 +0.5
WRA Warramunga Arr 59.25 189 P P 03 27 37.6 -0.8
comp=Z,2.3nm,0.4s,baz=6.6,slow=6.9,SNR=39
WRA LR LR 03 52 34.4
comp=Z,36nm,21.8s,baz=310,slow=35
PRGR Permogore 59.43 327 *e*P P 03 27 38.8 -0.4
PRGR pmax pmax
comp=Z,22nm,0.9s
RES Resolute Bay 60.37 15 *e*P P 03 27 45.8 +0.3
comp=Z,15nm,0.9s
RES Resolute Bay 60.37 15 *e*P P 03 27 45.8 +0.3
RES pmax pmax
comp=Z,15nm,0.9s
YKW3 Yellowknife Ar 61.57 31 *e*P P 03 27 54.5 +0.7
comp=Z,26nm,1.6s
YKA Yellowknife Ar 61.61 31 P P 03 27 54.0 0.0
comp=Z,4.6nm,0.7s,baz=302,slow=6.6,SNR=65
YKA Yellowknife Ar 61.61 31 P P 03 27 54.0 0.0
YKA Yellowknife Ar 61.61 31 P P 03 27 54.0 0.0
YKA pmax pmax
comp=Z,5.0nm,0.7s
YKB5 Yellowknife Ar 61.61 31 *e*P P 03 27 53.8 -0.2
ARCES ARCESS Array B 62.31 339 P P 03 27 58.5 -0.2
comp=Z,2.7nm,0.6s,baz=62,slow=8.4,SNR=8.4
KLMR Klimovskoe 62.40 327 *e*P P 03 27 57.8 -1.6
KLMR pmax pmax
comp=Z,8.0nm,0.8s
KLMR Klimovskoe 62.40 327 *e*P P 03 27 57.8 -1.6
KLMR AMP 03 27 59.6
comp=Z,8.0nm,0.8s
TULEG Thule 62.92 8 *e*P P 03 28 01.9 -0.7
comp=Z,19nm,0.7s
AS01 Alice Springs 62.97 189 *e*P P 03 28 04.5 +0.9
ASAR Alice Springs 62.98 189 P P 03 28 03.4 -0.3
comp=Z,1.5nm,0.7s,baz=9.2,slow=5.7,SNR=11
GEYT Alibeck 63.51 298 P P 03 28 06.9 -0.3
comp=Z,4.6nm,0.6s,baz=0.0,slow=3.0,SNR=10
PGC Sidney 64.33 47 *e*P P 03 28 13.0 +0.7
comp=Z,11nm,0.8s
NLWA Neilton Lookou 64.73 49 *e*P P 03 28 16.9 +1.8
comp=Z,26nm,0.9s
D03D Elden 65.11 48 P P 03 28 20.0 +2.5
baz=302,SNR=16
B05A Bryant 65.30 47 P P 03 28 20.5 +1.8
baz=302,SNR=10.0
B06A Marblemount 65.52 47 *e*P P 03 28 21.2 +1.2
comp=Z,18nm,0.8s
E04D Cinebar 65.93 49 P P 03 28 25.2 +2.4
baz=302,SNR=9.2
D05A Enumclaw 65.93 48 *e*P P 03 28 24.4 +1.6
comp=Z,28nm,0.8s
MOS Moscow 66.03 323 *e*P P 03 28 22.0 -1.2
C06D Leavenworth 66.17 47 P P 03 28 25.9 +1.6
baz=303
LON Longmire 66.27 48 *e*P P 03 28 26.8 +1.7
comp=Z,7.5nm,0.9s
LON Longmire 66.27 48 *e*P P 03 28 26.8 +1.7
LON pmax pmax
comp=Z,8.0nm,0.9s
COR Corvallis 66.54 51 *e*P P 03 28 28.6 +1.9
comp=Z,18nm,0.8s
COR Corvallis 66.54 51 *e*P P 03 28 28.6 +1.9
COR pmax pmax
comp=Z,18nm,0.8s
VRH Novokhopyorsk 66.55 318 *e*P P 03 28 24.3 -2.3
VRH pmax pmax
comp=Z,10.0nm,0.6s
LTY Liberty 66.65 47 *e*P P 03 28 29.0 +1.5
comp=Z,14nm,0.7s
B08A Colville Reser 66.81 46 *e*P P 03 28 29.9 +1.5
comp=Z,33nm,1.4s
OBN Obninsk 66.88 323 *e*P P 03 28 28.0 -0.7
comp=Z,16nm,0.7s
OBN Obninsk 66.88 323 *ce*P P 03 28 27.8 -0.9
OBN pmax pmax
comp=Z,9.0nm,0.7s
OBN MLR MLR
comp=Z,98nm,16.0s
H04D Lebanon 66.92 51 P P 03 28 31.4 +2.3
baz=303
I03D Drain, OR 66.99 52 P P 03 28 32.1 +2.5
baz=303
H04A Detroit Lake 67.16 50 *e*P P 03 28 31.8 +1.0
comp=Z,22nm,0.8s
LPSR Galich'ya Gora 67.19 320 *e*P P 03 28 28.7 -2.0
LPSR pmax pmax
comp=Z,10.0nm,0.8s
FIA1 FINESS Array S 67.32 332 *e*P P 03 28 30.8 -0.5
FINES FINESS Array B 67.32 332 P P 03 28 30.8 -0.6
comp=Z,12nm,0.7s,baz=42,slow=8.7,SNR=47
FINES LR LR 03 59 34.5
comp=Z,111nm,19.4s,baz=40,slow=37
K02D Willamette Mer 67.33 53 P P 03 28 34.1 +2.2
baz=303
G05D Wamic, OR 67.37 50 P P 03 28 34.1 +2.1
baz=303,SNR=5.4
E07A Sunnyside 67.50 48 *e*P P 03 28 33.9 +1.0
comp=Z,14nm,0.8s
I04A Tendick Farm, 67.51 51 P P 03 28 34.7 +1.8
baz=303,SNR=9.0
L02E Cave Junction 67.67 53 P P 03 28 36.2 +2.2
baz=303
C09A Chrisman Ranch 67.71 46 *e*P P 03 28 35.6 +1.5
comp=Z,26nm,0.8s
D08A Wollman Farm, 67.76 47 *e*P P 03 28 36.0 +1.6
comp=Z,18nm,0.8s
G06A Carlson Farm, 67.78 49 *e*P P 03 28 36.5 +1.9
comp=Z,11nm,1.0s
HAWA Hanford 67.78 48 *e*P P 03 28 35.9 +1.3
comp=Z,9.9nm,0.9s
HUMO Hull Mountain 67.82 53 *e*P P 03 28 37.0 +2.0
comp=Z,25nm,1.8s
F07A Phinny Hill Vi 67.83 48 *e*P P 03 28 36.6 +1.7
comp=Z,25nm,0.8s
I05D Terrebonne, OR 67.86 50 P P 03 28 36.9 +1.8
baz=304,SNR=6.8
VSR Storozhevoye 67.87 319 *i*P P 03 28 33.9 -1.1
VSR pmax pmax
comp=Z,9.0nm,0.8s
J04D Umpqua Nationa 68.00 52 P P 03 28 38.3 +2.0
baz=304
E08A Dider Farm, El 68.00 47 *e*P P 03 28 37.6 +1.7
comp=Z,15nm,0.8s
NEW Newport 68.09 45 *e*P P 03 28 37.9 +1.4
comp=Z,16nm,0.8s
NEW Newport 68.09 45 *e*P P 03 28 37.9 +1.4
NEW pmax pmax
comp=Z,16nm,0.8s
NEW Newport 68.09 45 P P 03 28 37.9 +1.4
baz=305,SNR=20
PINE Pine Mountain 68.40 51 *e*P P 03 28 40.3 +1.6
comp=Z,28nm,0.8s
L04D Klamath Falls 68.44 53 P P 03 28 41.0 +2.0
baz=304,SNR=8.5
YBH Yreka Blue Hor 68.46 53 *e*P P 03 28 40.6 +1.6
comp=Z,8.0nm,0.8s
YBH Yreka Blue Hor 68.46 53 *e*P P 03 28 40.6 +1.6
YBH pmax pmax
comp=Z,8.0nm,0.8s
J05D Fort Rock, OR 68.50 51 P P 03 28 41.4 +2.1
baz=304,SNR=8.9
E09A Wood Farm, Sta 68.51 47 *e*P P 03 28 40.3 +1.2
comp=Z,20nm,0.9s
K04D Chiloquin, OR 68.55 52 P P 03 28 41.8 +2.2
baz=304
M02C Callahan 68.55 54 P P 03 28 42.1 +2.5
baz=304,SNR=6.8
SUMG Summit 68.58 0 *e*P P 03 28 39.8 +0.2
comp=Z,36nm,1.3s
SUMG Summit 68.58 0 *i*P P 03 28 39.3 -0.3
comp=Z,31nm,0.7s
SUMG Summit 68.58 0 *e*P P 03 28 39.8 +0.2
SUMG pmax pmax
comp=Z,36nm,1.3s
G08A Pilot Rock 68.73 48 *e*P P 03 28 42.3 +1.6
comp=Z,4.6nm,0.8s
N02D Trinity Center 68.88 54 P P 03 28 43.9 +2.3
baz=304,SNR=5.9
M04C Macdoel 68.97 53 P P 03 28 44.2 +2.0
baz=304,SNR=11
VSU Vasula 69.04 330 *ce*P P 03 28 41.9 -0.2
VSU pmax pmax
comp=Z,146nm,2.5s
VSU Vasula 69.04 330 *e*P P 03 28 41.4 -0.7
VSU IAmb IAmb 03 28 43.1
comp=Z,50nm,0.7s
WDC Whiskeytown Da 69.20 54 *e*P P 03 28 45.1 +1.6
comp=Z,9.9nm,0.9s
WDC Whiskeytown Da 69.20 54 *e*P P 03 28 45.2 +1.6
WDC pmax pmax
comp=Z,10.0nm,0.9s
O02D Mt. Diablo Mer 69.27 55 P P 03 28 46.4 +2.4
baz=304,SNR=6.2
GOF Gofitskoye 69.28 312 *e*P P 03 28 44.1 +0.2
GOF pmax pmax
comp=Z,20nm,0.8s
WALA Waterton Lakes 69.37 43 *e*P P 03 28 46.0 +1.4
comp=Z,16nm,0.8s
O03E Paynes Creek 69.83 54 P P 03 28 48.8 +1.3
baz=305,SNR=6.7
NCK Nalchik 69.85 310 *i*P P 03 28 47.2 -0.3
NCK pmax pmax
comp=Z,7.0nm,1.2s
MOD Modoc Plateau 69.85 52 *e*P P 03 28 49.0 +1.3
comp=Z,4.3nm,0.8s
BMO Blue Mountains 69.94 48 *e*P P 03 28 49.3 +1.1
comp=Z,8.7nm,0.9s
BMO Blue Mountains 69.94 48 *e*P P 03 28 49.3 +1.1
BMO pmax pmax
comp=Z,9.0nm,0.9s
ZEI Tsey 70.07 309 *e*P P 03 28 47.7 -1.4
ZEI pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 70.12 311 *e*P P 03 28 47.8 -1.4
comp=Z,17nm,0.8s
KIV Kislovodsk 70.12 311 *e*P P 03 28 49.5 +0.3
KIV pmax pmax
comp=Z,24nm,1.0s
KIV MLR MLR
comp=Z,57nm,18.0s
J08A Circle Bar Ran 70.12 50 *e*P P 03 28 50.6 +1.3
comp=Z,16nm,1.2s
KBZ Khabaz 70.13 311 P P 03 28 49.5 +0.4
comp=Z,5.8nm,0.7s,baz=109,slow=2.8,SNR=13
ORV Oroville 70.44 55 *e*P P 03 28 52.3 +1.1
comp=Z,8.3nm,0.8s
ORV Oroville 70.44 55 *e*P P 03 28 52.3 +1.1
ORV pmax pmax
comp=Z,8.0nm,0.8s
WVOR Wild Horse Val 70.56 51 *e*P P 03 28 53.1 +1.1
comp=Z,16nm,1.3s
STKA Stephens Creek 70.66 181 P P 03 28 52.6 +0.4
comp=Z,0.4nm,0.4s,baz=335,slow=8.1,SNR=3.1
STKA Stephens Creek 70.66 181 P P 03 28 52.7 +0.4
STKA pmax pmax
comp=Z,2.0nm,0.7s
MSO Missoula 70.68 45 *e*P P 03 28 54.1 +1.4
comp=Z,8.4nm,0.8s
MSO Missoula 70.68 45 P P 03 28 53.8 +1.1
baz=307,SNR=8.1
BEKR Beckworth 70.98 54 *e*P P 03 28 55.8 +1.1
comp=Z,17nm,0.8s
IZAR Zarasai 71.05 328 *e*P P 03 28 54.5 -0.1
IZAR IAmb IAmb 03 28 55.6
comp=Z,7.8nm,0.5s
GNI Garni 71.08 307 *e*P P 03 28 54.6 -0.6
comp=Z,26nm,0.8s
GNI Garni 71.08 307 *i*P P 03 28 54.9 -0.3
GNI pmax pmax
comp=Z,66nm,1.2s
AFDM Forest Hills D 71.12 55 *e*P P 03 28 57.1 +1.7
comp=Z,9.4nm,1.3s
IDID Didziasalis 71.14 327 *e*P P 03 28 55.2 +0.1
IDID IAmb IAmb 03 28 56.3
comp=Z,6.0nm,0.7s
ISAL Salakas 71.22 327 *e*P P 03 28 55.5 -0.1
ISAL IAmb IAmb 03 28 56.9
comp=Z,10nm,0.6s
IIGN Ignalina 71.33 327 *e*P P 03 28 56.4 +0.2
IIGN IAmb IAmb 03 28 57.5
comp=Z,10nm,0.6s
SLIT Slitere, Latvi 71.33 331 *e*P P 03 28 55.1 -1.1
SLIT IAmb IAmb 03 28 56.0
comp=Z,107nm,0.7s
NACGM Naroch 71.40 327 *e* P 03 28 55.0 -1.7
FFC Flin Flon 71.52 33 *e*P P 03 28 58.3 +0.8
comp=Z,21nm,0.8s
FFC Flin Flon 71.52 33 *e*P P 03 28 58.3 +0.8
FFC pmax pmax
comp=Z,21nm,0.8s
MFID Camas Ranch 71.65 49 *e*P P 03 28 59.5 +1.0
comp=Z,6.3nm,0.9s
PAHR Pah Rah Range 71.69 54 *e*P P 03 29 00.0 +1.1
comp=Z,14nm,0.9s
VCNR Virginia City 71.76 54 *e*P P 03 29 00.8 +1.4
comp=Z,9.6nm,0.8s
FCC Fort Churchill 71.78 27 *e*P P 03 28 59.2 +0.4
comp=Z,34nm,1.4s
FCC Fort Churchill 71.78 27 *e*P P 03 28 59.3 +0.4
FCC pmax pmax
comp=Z,34nm,1.4s
HRY Holter Researc 71.90 44 *e*P P 03 29 01.5 +1.5
PNTR Pine Nut 71.91 54 *e*P P 03 29 01.4 +1.0
comp=Z,13nm,0.9s
CMB Columbia Colle 72.03 55 *e*P P 03 29 01.6 +0.8
comp=Z,9.5nm,0.8s
CMB Columbia Colle 72.03 55 *e*P P 03 29 01.6 +0.8
CMB pmax pmax
comp=Z,10.0nm,0.8s
LRM Limekiln Ridge 72.11 45 *e*P P 03 29 02.9 +1.4
EGMT Eagleton 72.19 42 *e*P P 03 29 03.0 +1.3
comp=Z,17nm,0.8s
EGMT Eagleton 72.19 42 P P 03 29 02.8 +1.1
baz=309,SNR=13
YERR Yerington 72.20 54 *e*P P 03 29 03.1 +1.1
comp=Z,19nm,0.8s
DLMT Dillon 72.31 46 *e*P P 03 29 03.2 +0.7
comp=Z,15nm,0.8s
NC405 NORSAR Array S 72.34 337 *e*P P 03 29 01.7 -0.5
WAKR Walker 72.36 55 *e*P P 03 29 04.4 +1.4
comp=Z,8.0nm,0.9s
HLID Hailey 72.38 48 *e*P P 03 29 04.5 +1.5
comp=Z,5.8nm,0.9s
HLID Hailey 72.38 48 P P 03 29 04.6 +1.5
baz=308,SNR=8.5
HFS Hagfors 72.49 336 LR LR 04 04 39.2
comp=Z,108nm,18.3s,baz=65,slow=39
NC204 NORSAR Array S 72.49 338 *e*P P 03 29 03.4 +0.1
MCMT McKenzie Canyo 72.50 46 *e*P P 03 29 04.7 +0.9
NB201 NORSAR Array S 72.52 337 *e*P P 03 29 03.0 -0.4
NB2 NORSAR Subarra 72.55 337 P P 03 29 02.9 -0.6
comp=Z,3.4nm,0.6s,baz=36,slow=6.2
NOA NORSAR Array B 72.55 337 P P 03 29 03.1 -0.4
comp=Z,5.3nm,0.7s,baz=39,slow=6.0,SNR=32
NOA LR LR 04 03 51.8
comp=Z,63nm,21.1s,baz=55,slow=38
ANN Anapa 72.63 314 *e*P P 03 28 59.9 -4.3
ANN *e*PP **pP** 03 29 14.8 -2.4
ANN *eS **S** 03 38 21.0 -4.7
ANN pmax pmax
comp=Z,64nm,1.1s
NBO00 NORSAR Array S 72.69 338 *e*P P 03 29 03.8 -0.5
NAO01 NORSAR Array S 72.80 337 *e*P P 03 29 03.8 -1.2
RYN Ryan 72.86 54 *e*P P 03 29 07.2 +1.3
comp=Z,8.2nm,0.9s
KVN Kaiserville 72.88 53 *e*P P 03 29 07.3 +1.2
comp=Z,17nm,0.8s
KVN Kaiserville 72.88 53 *e*P P 03 29 07.3 +1.2
KVN pmax pmax
comp=Z,17nm,0.8s
AKASG Malin Array Be 73.11 322 P P 03 29 06.3 -0.6
comp=Z,11nm,0.5s,baz=45,slow=6.1,SNR=76
AKASG LR LR 04 03 56.5
comp=Z,42nm,18.7s,baz=265,slow=38
AKBB Malin Array Si 73.11 322 *e*P P 03 29 06.4 -0.6

NV01 Mina Array Sit 73.12 54 eP P 03 29 08.6 +1.0
NVAR Mina Array Bea 73.12 54 P P 03 29 09.3 +1.7
comp=Z,11nm,0.8s,baz=287,slow=6.0,SNR=64
KIEV Kiev 73.12 322 eP P 03 29 05.8 -1.3
comp=Z,14nm,0.7s
KIEV Kiev 73.12 322⇑ iP P 03 29 06.3 -0.7
KIEV Kiev 73.12 322c iP P 03 29 06.4 -0.6
KIEV pmax pmax
comp=Z,9.0nm,0.8s
AK11 Malin Array Si 73.15 322 eP P 03 29 06.5 -0.7
OMMB Old Mammoth Mi 73.16 55 eP P 03 29 09.3 +1.4
comp=Z,4.1nm,1.0s
NV11 Mina Array Sit 73.21 54 eP P 03 29 08.9 +0.9
comp=Z,0.5nm,1.0s
YHB Horse Butte 73.47 45 eP P 03 29 10.8 +1.2
comp=Z,14nm,0.9s
PAGB Antelope Grade 73.47 57 eP P 03 29 10.7 +1.3
comp=Z,22nm,1.1s
ELK Elko 73.61 51 eP P 03 29 11.7 +1.3
comp=Z,4.8nm,0.9s
ELK Elko 73.61 51 eP P 03 29 11.7 +1.3
ELK pmax pmax
comp=Z,5.0nm,0.9s
GCMT Greycliff 73.65 44 eP P 03 29 11.9 +1.5
YMR Madison River 73.65 45 eP P 03 29 12.0 +1.4
comp=Z,9.7nm,0.8s
SFJD Kangerlussuaq 73.73 5 eP P 03 29 10.4 +0.1
SFJD Kangerlussuaq 73.73 5 iP P 03 29 10.3 +0.1
comp=Z,10nm,0.9s
SFJD Kangerlussuaq 73.73 5 eP P 03 29 10.4 +0.1
YNR Norris Junctio 73.78 45 eP P 03 29 14.6 +3.2
comp=Z,5.9nm,0.8s
YFT Old Faithful 73.86 46 eP P 03 29 13.8 +2.0
comp=Z,11nm,0.8s
YPP Pitchstone Pla 73.99 46 eP P 03 29 14.6 +1.9
comp=Z,4.8nm,0.7s
LKWY Lake 74.03 45 eP P 03 29 14.3 +1.5
comp=Z,10.0nm,1.1s
LKWY Lake 74.03 45 eP P 03 29 14.3 +1.5
LKWY pmax pmax
comp=Z,10.0nm,1.1s
H17A Grant Village 74.04 45 eP P 03 29 15.1 +2.2
comp=Z,17nm,0.8s
H17A Grant Village 74.04 45 P P 03 29 16.2 +3.3
baz=310,SNR=15
FLWY Flagg Ranch 74.17 46 eP P 03 29 15.3 +1.7
comp=Z,42nm,1.9s
RLMT Red Lodge 74.29 44 eP P 03 29 15.0 +0.7
comp=Z,7.0nm,0.8s
RLMT Red Lodge 74.29 44 P P 03 29 16.0 +1.6
baz=310,SNR=9.0
MOOW Moose Ponds 74.35 46 eP P 03 29 16.2 +1.5
comp=Z,8.7nm,1.0s
TPAW Teton Pass 74.40 46 eP P 03 29 16.4 +1.3
comp=Z,6.3nm,0.8s
HVU Hansel Valley 74.43 49 eP P 03 29 16.4 +1.3
comp=Z,9.9nm,0.8s
HVU Hansel Valley 74.43 49 eP P 03 29 16.4 +1.3
HVU pmax pmax
comp=Z,10.0nm,0.8s
CWC Cottonwood Cre 74.45 56 P P 03 29 16.6 +1.2
baz=308
LOHW Long Hollow 74.52 46 eP P 03 29 16.7 +1.1
comp=Z,10nm,1.4s
SNOW Snow King Moun 74.53 46 eP P 03 29 18.3 +2.5
comp=Z,6.5nm,0.8s
REDW Red Top Meadow 74.54 46 eP P 03 29 16.4 +0.6
comp=Z,8.9nm,1.0s
DGMT Dagmar 74.72 39 eP P 03 29 17.5 +1.0
comp=Z,61nm,1.8s
DGMT Dagmar 74.72 39 P P 03 29 17.4 +1.0
baz=312
AHID Auburn Hatcher 74.78 47 eP P 03 29 17.9 +0.8
comp=Z,2.4nm,0.5s
BGU Big Grassy Mou 74.82 49 eP P 03 29 18.9 +1.5
comp=Z,3.3nm,0.8s
R11A Troy Canyon, C 74.87 53 eP P 03 29 18.9 +1.2
comp=Z,10nm,0.9s
R11A Troy Canyon, C 74.87 53 P P 03 29 19.3 +1.6
baz=308,SNR=19
LAO LASA Array 74.88 42 eP P 03 29 18.6 +1.0
comp=Z,22nm,0.9s
LAO LASA Array 74.88 42 P P 03 29 19.0 +1.5
baz=312,SNR=12
MPMC Manual Prospec 75.07 56 P P 03 29 20.4 +1.4
baz=308,SNR=6.7
FURC Furnace Creek, 75.22 55 P P 03 29 21.3 +1.8
baz=308,SNR=7.0
LRMC Laurel Mtn Rad 75.29 56 P P 03 29 21.4 +1.3
baz=308
TPNV Topopah Spring 75.31 54 eP P 03 29 21.1 +0.9
comp=Z,14nm,0.9s
TPNV Topopah Spring 75.31 54 eP P 03 29 21.2 +0.9
TPNV pmax pmax
comp=Z,14nm,0.9s
TPNV Topopah Spring 75.31 54 P P 03 29 21.8 +1.6
baz=308,SNR=13
DUG Dugway, Tooele 75.40 50 eP P 03 29 21.9 +1.2
comp=Z,14nm,0.8s
DUG Dugway, Tooele 75.40 50 eP P 03 29 21.9 +1.2
DUG pmax pmax
comp=Z,14nm,0.8s
DUG Dugway, Tooele 75.40 50 P P 03 29 22.6 +1.8
baz=309,SNR=20
EDW2 Edwards Air Fo 75.46 57 P P 03 29 22.5 +1.5
baz=308,SNR=5.2
TCUT Toone Canyon 75.65 48 eP P 03 29 23.9 +1.7
comp=Z,19nm,0.7s
BW06 Boulder Array 75.65 46 eP P 03 29 23.3 +1.0
comp=Z,7.5nm,0.8s
BW06 Boulder Array 75.65 46 P P 03 29 23.2 +1.0
baz=310,SNR=12
PD31 Pinedale Array 75.65 46 eP P 03 29 23.3 +1.0
PDAR Pinedale Array 75.65 46 P P 03 29 23.2 +1.0
comp=Z,5.9nm,0.7s,baz=262,slow=1.8,SNR=77
PDAR LR LR 03 58 51.8
comp=Z,10nm,21.1s,baz=342,slow=33
PDAR Pinedale Array 75.65 46 eP P 03 29 22.6 +0.4
BORG Borgarnes 75.66 353 LR LR 04 05 14.5
comp=Z,21nm,18.0s,baz=350,slow=38
CTU Camp Tracy 75.72 49 eP P 03 29 23.8 +1.3
comp=Z,5.7nm,0.8s
PSUT Pine Spring 75.82 52 eP P 03 29 24.9 +1.7
comp=Z,8.6nm,0.9s
MILM Milestii Mici 75.85 320⇓ iP P 03 29 22.4 -0.6
JLU Jordanelle 75.95 49 eP P 03 29 25.2 +1.2
comp=Z,12nm,1.3s
GSC Goldstone, Bar 75.97 56 eP P 03 29 25.6 +1.6
comp=Z,12nm,1.4s
GSC Goldstone, Bar 75.97 56 eP P 03 29 25.6 +1.6
GSC pmax pmax
comp=Z,12nm,1.4s
GSC Goldstone, Bar 75.97 56 P P 03 29 25.2 +1.3
baz=308
NLU North Lily Min 75.99 50 eP P 03 29 25.3 +1.1
comp=Z,11nm,0.9s
BEL Belsk 76.11 327 eP P 03 29 25.1 +0.8
BEL Belsk 76.11 327 eP P 03 29 25.1 +0.8
MPU Maple Canyon 76.22 49 eP P 03 29 26.4 +0.9
comp=Z,14nm,0.8s
SHPR Sheep Range 76.27 54 eP P 03 29 27.6 +1.8
comp=Z,9.7nm,1.0s
TUQ Turquoise Moun 76.45 55 P P 03 29 28.2 +1.4
baz=309,SNR=5.9
HEC Hector,Ludlow 76.56 56 P P 03 29 28.7 +1.4
baz=309
CCUT Cedar City 76.74 52 eP P 03 29 29.9 +1.4
comp=Z,9.1nm,0.8s
PRAR RASCA 76.83 321⇓ iP P 03 29 28.2 -0.3
MSU Marysvale 76.85 51 eP P 03 29 30.8 +1.7
MSU Marysvale 76.85 51 eP P 03 29 30.8 +1.7
KWP Kalwaria Pacla 76.87 325 eP P 03 29 29.6 +0.9
KWP Kalwaria Pacla 76.87 325 eP P 03 29 29.6 +0.9
SZCU Shurtz Canyon 76.88 52 eP P 03 29 30.2 +0.9
comp=Z,7.3nm,0.9s
TMUT Trail Mountain 76.93 50 eP P 03 29 31.6 +1.9
comp=Z,52nm,0.4s
GIRR Girov 76.98 321⇑ iP P 03 29 29.5 +0.1
GMRC Granite Mounta 77.03 56 P P 03 29 31.4 +1.4
baz=309,SNR=6.8
P17A Butcher Ranch, 77.09 49 eP P 03 29 31.9 +1.6
comp=Z,20nm,0.8s
BUR08 Bucovina Ar. S 77.13 322 eP P 03 29 29.8 -0.5
BUR04 Bucovina Ar. S 77.14 322 eP P 03 29 30.2 -0.1
BURAR Bucovina Array 77.14 322⇑ iP P 03 29 30.5 +0.1
MTPU Mount Pierson 77.14 51 eP P 03 29 32.2 +1.3
comp=Z,10nm,0.8s
LCMT Little Creek M 77.15 53 eP P 03 29 32.1 +1.5
comp=Z,13nm,0.9s
BIZ Bicaz 77.19 321⇑ iP P 03 29 30.4 -0.1
Q16A Castle Valley 77.19 50 eP P 03 29 32.5 +1.5
comp=Z,13nm,1.3s
PFO Pinyon Flats O 77.24 57 P P 03 29 32.3 +1.1
baz=309
BELC Belle Mtn. Jos 77.30 57 P P 03 29 32.3 +0.7
baz=309
ULM Lac du Bonnet 77.33 34 P P 03 29 31.6 +0.4
comp=Z,5.4nm,0.8s,baz=327,slow=6.7,SNR=9.7
ULM LR LR 04 06 35.7
comp=Z,30nm,18.5s,baz=236,slow=38
MDND Maddock 77.37 38 eP P 03 29 32.9 +1.4
comp=Z,23nm,0.8s
MDND Maddock 77.37 38 P P 03 29 32.5 +1.0
baz=316
CFR Carcaliu 77.39 319⇑ iP P 03 29 31.7 +0.1
KNB Kanab 77.41 52 eP P 03 29 33.4 +1.2
comp=Z,15nm,1.0s
K22A Casper 77.41 45 eP P 03 29 33.4 +1.3
comp=Z,21nm,1.2s
K22A Casper 77.41 45 P P 03 29 32.9 +0.8
baz=312,SNR=6.8
SRU San Rafael Swe 77.45 50 eP P 03 29 33.5 +1.0
comp=Z,23nm,0.7s
PETR Petresti 77.47 319⇑ iP P 03 29 33.0 +0.9
ODBI Odobesti 77.53 320⇓ iP P 03 29 33.9 +1.4
VRI Vrincioaia 77.62 320⇓ iP P 03 29 33.9 +0.9
JOSR Joseni 77.64 321⇑ iP P 03 29 34.5 +1.4
RWWY Rawlins 77.67 46 eP P 03 29 34.3 +0.6
comp=Z,11nm,0.7s
PLOR Plostina 77.67 320⇑ iP P 03 29 34.0 +0.7
OJC Ojcow 77.72 326 eP P 03 29 33.5 0.0
OJC Ojcow 77.72 326 eP P 03 29 32.7 -0.8
comp=Z,17nm,1.0s
OJC Ojcow 77.72 326 eP P 03 29 33.5 0.0
IRM Iron Mountain 77.75 56 P P 03 29 35.3 +1.3
baz=309,SNR=5.1
RSSD Black Hills 77.75 42 eP P 03 29 34.9 +0.9
comp=Z,17nm,1.0s
RSSD Black Hills 77.75 42 eP P 03 29 34.9 +0.9
RSSD pmax pmax
comp=Z,17nm,1.0s
RSSD Black Hills 77.75 42 P P 03 29 34.7 +0.6
baz=313
BC3 Big Chuckawall 77.86 57 P P 03 29 35.9 +1.2
baz=309,SNR=5.0
W13A Hualapai Mount 77.96 55 eP P 03 29 36.4 +1.0
comp=Z,8.0nm,1.4s
TRPA Tarpa 78.03 324⇑ iP P 03 29 35.6 +0.4
TRPA Tarpa 78.03 324⇑ eP P 03 29 35.0 -0.2
BR131 Keskin Array S 78.04 312 eP P 03 29 35.3 -0.3
BRTR Keskin Array B 78.04 312 P P 03 29 35.2 -0.3
comp=Z,1.3nm,0.6s,baz=119,slow=3.0,SNR=13
NIE Niedzica 78.10 326 eP P 03 29 36.3 +0.7
NIE Niedzica 78.10 326 eP P 03 29 36.3 +0.7
U15A North Rim 78.11 53 eP P 03 29 37.5 +1.3
comp=Z,14nm,1.1s
O20A White River Ci 78.12 48 eP P 03 29 37.1 +1.0
comp=Z,8.2nm,0.8s
O20A White River Ci 78.12 48 P P 03 29 37.1 +1.0
baz=312,SNR=7.3
PGOR Pogoanele 78.16 319⇑ iP P 03 29 37.0 +1.0
DOPR Dopca 78.22 321⇑ iP P 03 29 37.3 +1.0
ISR Istrita 78.24 319⇓ iP P 03 29 37.5 +1.0
MLR Muntele Rosu 78.28 320 LR LR 04 07 08.0
comp=Z,112nm,18.5s,baz=52,slow=38
MLR Muntele Rosu 78.28 320⇑ iP P 03 29 36.6 -0.2
ICOR Ion Corvin 78.29 318⇓ iP P 03 29 37.3 +0.6
PDMCI Parker Dam,Lak 78.30 55 P P 03 29 38.4 +1.5
baz=310
Y12C Blythe 78.41 56 eP P 03 29 38.4 +0.8
comp=Z,10nm,0.9s
Y12C Blythe 78.41 56 P P 03 29 39.0 +1.5
baz=310,SNR=6.6
CJR Cluj-Napoca 78.56 322⇓ iP P 03 29 39.3 +1.1
GLA Glamis 78.65 57 P P 03 29 40.6 +1.6
baz=310
LANS Liptovska Anna 78.66 326 eP P 03 29 39.3 +0.6
LANS Liptovska Anna 78.66 326 eP P 03 29 39.3 +0.6
PV09 Paradox Valley 78.68 49 eP P 03 29 40.7 +1.4
SULR 78.69 319⇓ iP P 03 29 39.5 +0.6
OKC Ostrava-Krasne 78.72 327 eP P 03 29 39.7 +0.8
OKC Ostrava-Krasne 78.72 327 eP P 03 29 39.7 +0.8
KSP Ksiaz 78.72 329 eP P 03 29 39.4 +0.4
KSP Ksiaz 78.72 329 eP P 03 29 39.4 +0.4
PV21 Cone Mtn., Par 78.73 49 eP P 03 29 40.7 +1.1
comp=Z,22nm,0.7s
VOIR 78.76 320⇓ iP P 03 29 40.1 +0.7
PV23 Carpenter Ridg 78.78 49 eP P 03 29 40.6 +0.7
comp=Z,19nm,0.7s
PV10 Paradox Valley 78.81 49 eP P 03 29 41.8 +1.7
PV14 Lion Creek, Pa 78.82 49 eP P 03 29 41.5 +1.4
comp=Z,24nm,0.7s
PV20 West Nyswonger 78.88 49 eP P 03 29 41.8 +1.5
comp=Z,32nm,0.7s
PV19 Morning Glory 78.89 49 eP P 03 29 41.4 +0.9
comp=Z,22nm,0.8s
PHWY Pilot Hill 78.91 45 eP P 03 29 40.9 +0.3
comp=Z,19nm,1.8s
N23A Red Feather La 78.91 46 eP P 03 29 41.4 +0.9
comp=Z,11nm,1.0s
N23A Red Feather La 78.91 46 P P 03 29 42.3 +1.8
baz=313,SNR=8.2
PV17 East Wray Mesa 78.92 49 eP P 03 29 41.7 +1.1
comp=Z,32nm,0.7s
DRGR 78.92 323⇑ iP P 03 29 40.3 0.0
PV16 Nyswonger Mesa 78.93 49 eP P 03 29 41.4 +0.8
comp=Z,18nm,0.7s
PV11 David Mesa, Pa 78.96 49 eP P 03 29 42.2 +1.5
comp=Z,21nm,0.6s
PV05 Paradox Valley 78.97 50 eP P 03 29 42.1 +1.2
PV12 Saucer Basin, 78.99 49 eP P 03 29 42.1 +1.1
comp=Z,9.8nm,0.7s
PV03 Paradox Valley 79.00 49 eP P 03 29 42.1 +1.1
ARR Arges 79.02 321⇑ iP P 03 29 42.0 +1.2
MORC Moravsky Berou 79.02 327 eP P 03 29 40.6 -0.1
comp=Z,10nm,0.9s
MORC Moravsky Berou 79.02 327⇑ iP P 03 29 41.0 +0.3
MORC Moravsky Berou 79.02 327 eP P 03 29 40.6 -0.1
MORC pmax pmax
comp=Z,11nm,0.9s
MORC Moravsky Berou 79.02 327 eP P 03 29 40.9 +0.3
PV13 Radium Mtn., P 79.08 49 eP P 03 29 42.6 +1.1
comp=Z,20nm,0.9s
DPC Dobruska-Polom 79.09 328 eP P 03 29 41.8 +0.8
DPC ex x 03 29 44.0
DPC Dobruska-Polom 79.09 328 eP P 03 29 41.8 +0.8
DPC e 03 29 44.0
UPC Upice 79.09 328 eP P 03 29 41.5 +0.5
UPC Upice 79.09 328 eP P 03 29 41.5 +0.5
PV02 Paradox Valley 79.10 49 eP P 03 29 42.7 +1.1
comp=Z,11nm,0.7s
KRLC Kraliky 79.11 328 eP P 03 29 41.7 +0.5
KRLC Kraliky 79.11 328 eP P 03 29 41.7 +0.5
PV01 Paradox Valley 79.25 49 eP P 03 29 43.2 +0.8
Y14A Wickenburg 79.26 55 eP P 03 29 43.6 +1.3
comp=Z,8.2nm,0.9s
WUAZ Wupatki 79.27 53 eP P 03 29 43.6 +1.2
comp=Z,13nm,0.9s
WUAZ Wupatki 79.27 53 P P 03 29 44.2 +1.7
baz=311,SNR=9.1
PSZ Piszkesteto 79.39 325 eP P 03 29 42.7 -0.1
comp=Z,7.9nm,0.8s
PSZ Piszkesteto 79.39 325⇑ iP P 03 29 43.5 +0.7
PSZ Piszkesteto 79.39 325 eP P 03 29 42.7 -0.1
PSZ pmax pmax
comp=Z,8.0nm,0.8s
PSZ Piszkesteto 79.39 325⇓ eP P 03 29 43.0 +0.2
VYHS Vyhne 79.43 326 eP P 03 29 43.1 +0.2
VYHS pmax pmax
comp=Z,5.0nm,1.2s
VYHS Vyhne 79.43 326 eP P 03 29 43.1 +0.2
SMCO Snowmass 79.48 48 eP P 03 29 45.0 +1.2
comp=Z,5.0nm,0.7s
113A Mohawk Valley, 79.52 56 eP P 03 29 45.2 +1.6
comp=Z,6.1nm,1.0s
BRG Berggiesshubel 79.64 330 eP P 03 29 43.7 -0.3
comp=Z,6.8nm,0.8s
BRG Berggiesshubel 79.64 330 eP P 03 29 43.7 -0.3
BRG pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm 79.66 330 eP P 03 29 43.5 -0.5
comp=Z,13nm,0.8s
CLL Collm 79.66 330⇑ iP P 03 29 43.7 -0.3
comp=Z,14nm,0.8s
CLL i 03 29 46.5
CLL epP sP 03 30 03.0 +0.7
CLL esP pP 03 30 07.0 +10
CLL e 03 32 37.0
CLL Collm 79.66 330⇑ iP P 03 29 43.7 -0.3
CLL e*PP pP 03 29 57.0 -0.2
CLL pmax pmax
comp=Z,14nm,0.8s
PVCC Panska Ves 79.66 329 eP P 03 29 44.9 +0.8
PVCC Panska Ves 79.66 329 eP P 03 29 44.9 +0.8
JAVC Velka Javorina 79.66 327 eP P 03 29 45.4 +1.2
VRAC Vranov 79.78 327 LR LR 04 06 57.7
comp=Z,97nm,20.1s,baz=32,slow=37
VRAC Vranov 79.78 327⇑ iP P 03 29 45.3 +0.5
VRAC Vranov 79.78 327 eP P 03 29 45.0 +0.2
SIRR Siria 79.80 323⇑ iP P 03 29 45.2 +0.2
ISCO Idaho Springs 79.84 47 eP P 03 29 46.8 +1.1
comp=Z,4.9nm,0.8s
ISCO Idaho Springs 79.84 47 eP P 03 29 46.8 +1.1
ISCO pmax pmax
comp=Z,5.0nm,0.8s
ISCO Idaho Springs 79.84 47 P P 03 29 47.3 +1.6
baz=313,SNR=8.0
MVCO Mesa Verde 79.90 50 eP P 03 29 46.9 +0.9
comp=Z,10nm,0.8s
MVCO Mesa Verde 79.90 50 P P 03 29 47.4 +1.4
baz=312,SNR=7.9
GZR Gura Zlata 79.91 322⇓ iP P 03 29 45.6 0.0
X16A Lo Mia Camp, P 79.94 54 eP P 03 29 47.3 +1.1
comp=Z,8.2nm,1.0s
KRUC Moravsky 80.05 327 eP P 03 29 46.5 +0.3
GOPC GO Pecny, Ondr 80.05 329 eP P 03 29 46.6 +0.3
GOPC GO Pecny, Ondr 80.05 329 eP P 03 29 46.6 +0.3
PRA Prague 80.07 329 eP P 03 29 47.3 +1.0
PRA Prague 80.07 329 eP P 03 29 47.3 +1.0
PRU Pruhonice 80.09 329 eP P 03 29 46.9 +0.5
PRU Pruhonice 80.09 329 eP P 03 29 46.9 +0.5
SUSD Miller 80.12 40 P P 03 29 47.5 +0.8
baz=316
MODS Modra-Piesok 80.20 326 eP P 03 29 47.9 +0.8
MODS pmax pmax
comp=Z,13nm,1.3s
MODS Modra-Piesok 80.20 326 eP P 03 29 47.9 +0.8
TREC Trest 80.25 328 eP P 03 29 47.8 +0.5
TREC Trest 80.25 328 eP P 03 29 47.8 +0.5
BZS Buzias 80.30 322⇑ iP P 03 29 47.5 -0.2
HERR Herculane 80.46 321⇓ iP P 03 29 48.5 0.0
S22A 4UR Ranch, Cre 80.53 49 eP P 03 29 50.4 +1.0
comp=Z,7.4nm,0.9s
S22A 4UR Ranch, Cre 80.53 49 P P 03 29 51.3 +1.9
baz=313,SNR=10
RAYN Ar Rayn 80.57 293 eP P 03 29 49.1 -0.5
comp=Z,7.7nm,1.3s
RAYN Ar Rayn 80.57 293 eP P 03 29 49.1 -0.5
RAYN pmax pmax
comp=Z,8.0nm,1.3s
PUNG Punghina 80.64 321⇑ iP P 03 29 49.9 +0.4
X18A Snowflake 80.80 53 eP P 03 29 52.0 +1.3
comp=Z,4.4nm,0.8s
MDVR Moldovita 80.87 322⇑ iP P 03 29 50.6 -0.2
OGNE Ogallala 81.02 44 P P 03 29 52.6 +0.9
baz=315
SOP Sopron 81.04 326 eP P 03 29 52.0 +0.5
CONA Conrad Observa 81.15 327 eP P 03 29 53.0 +0.7
comp=Z,5.8nm,0.7s
KHC Kasperske Hory 81.15 329 eP P 03 29 51.7 -0.5
comp=Z,3.5nm,0.7s
KHC Kasperske Hory 81.15 329 eP P 03 29 52.6 +0.4
KHC ex x 03 29 55.1
KHC Kasperske Hory 81.15 329 eP P 03 29 52.6 +0.4
MORH Mrgy, Hungar 81.24 324 eP P 03 29 52.1 -0.6
SDCO Great Sand Dun 81.30 48 eP P 03 29 54.5 +0.9
comp=Z,7.1nm,1.3s
SDCO Great Sand Dun 81.30 48 P P 03 29 55.1 +1.5
baz=314,SNR=8.0
GEC2 GERESS Array S 81.33 329 eP P 03 29 52.5 -0.7
comp=Z,4.3nm,0.7s
GEC2 GERESS Array S 81.33 329 eP P 03 29 52.5 -0.7
GEC2 pmax pmax
comp=Z,4.0nm,0.7s
GERES GERESS Array B 81.33 329 P P 03 29 53.2 0.0
comp=Z,3.0nm,0.6s,baz=36,slow=5.9,SNR=39
GERES LR LR 04 08 47.3
comp=Z,128nm,18.4s,baz=36,slow=38
GEA0 GERESS Array S 81.34 329 eP P 03 29 52.9 -0.3
MMAI Mount Meron Ar 81.38 306 LR LR 04 09 31.7
comp=Z,38nm,19.0s,baz=80,slow=38
GRA1 Grafenberg Arr 81.63 330 eP P 03 29 54.9 +0.2
comp=Z,12nm,0.7s
GRF Grafenberg Arr 81.63 330 eP P 03 29 55.4 +0.7
comp=Z,9.9nm,0.7s,baz=38,slow=4.5
GRF epP pP 03 30 05.7 -2.2
GRFO Grafenberg 81.64 330 eP P 03 29 54.6 0.0
GRFO Grafenberg 81.64 330 eP P 03 29 54.7 0.0
GRFO pmax pmax
comp=Z,9.0nm,0.7s
TUC Tucson 81.73 55 eP P 03 29 56.5 +0.9
comp=Z,15nm,1.6s
TUC Tucson 81.73 55 eP P 03 29 56.5 +0.9
TUC pmax pmax
comp=Z,15nm,1.6s
TUC Tucson 81.73 55 P P 03 29 56.9 +1.2
baz=312
VTS Vitosha 81.73 319 eP P 03 29 55.0 -0.5
comp=Z,10nm,0.7s
VTS Vitosha 81.73 319⇑ iP P 03 29 55.8 +0.3
VTS Vitosha 81.73 319 eP P 03 29 55.1 -0.5
VTS pmax pmax
comp=Z,10.0nm,0.7s
ECSD EROS Data Cent 81.79 39 eP P 03 29 56.1 +0.4
comp=Z,10nm,0.7s
ECSD EROS Data Cent 81.79 39 P P 03 29 56.1 +0.4
baz=318,SNR=13
ARSA Arzberg 81.82 327 eP P 03 29 56.1 +0.4
comp=Z,2.6nm,0.6s
MOA Molln 81.88 328 eP P 03 29 56.9 +0.8
comp=Z,1.1nm,0.6s
DIVS Divibare 82.20 322 eP P 03 29 57.5 -0.3
comp=Z,5.2nm,0.8s
F38A Pierce - Schro 82.32 35 P P 03 29 58.9 +0.5
baz=321,SNR=5.4
T25A Trinidad 82.35 48 eP P 03 30 00.2 +1.3
comp=Z,12nm,0.8s
T25A Trinidad 82.35 48 P P 03 30 00.2 +1.3
baz=314,SNR=12
SOKA Soboth 82.48 326 eP P 03 29 59.3 +0.1
comp=Z,13nm,1.2s
LAZ Ladron 82.61 51 eP P 03 30 02.5 +2.2
ANMO Albuquerque 82.65 51 eP P 03 30 01.8 +1.2
comp=Z,7.4nm,1.0s
ANMO Albuquerque 82.65 51 ceP P 03 29 59.1 -1.4
ANMO pmax pmax
comp=Z,10.0nm,1.3s
ANMO Albuquerque 82.65 51 P P 03 30 02.4 +1.8
baz=313
BGNE Belgrade 82.73 41 P P 03 30 00.9 +0.3
baz=317
OBKA Obir 82.82 327 eP P 03 30 00.1 -0.9
comp=Z,6.9nm,0.8s
KBA Koelnbreinsper 82.88 328 ePcP P 03 30 02.0 +0.5
comp=Z,9.0nm,0.8s,SNR=6.5
G38A Ridgeland 82.94 35 P P 03 30 01.4 -0.2
baz=321
BNM Barren Site 83.09 51 eP P 03 30 04.0 +1.2
SCHQ Schefferville 83.10 17 P P 03 30 02.3 +0.1
comp=Z,4.8nm,0.7s,baz=345,slow=5.7,SNR=7.7
MYKA Terra Mystica 83.11 327 iP P 03 30 02.0 -0.5
comp=Z,3.3nm,0.6s
F40A Park Falls 83.12 34 P P 03 30 02.7 +0.2
baz=322
H38A Maiden Rock 83.13 36 P P 03 30 02.8 +0.2
baz=321
STU Stuttgart 83.16 331 eP P 03 30 02.3 -0.4
comp=Z,11nm,0.6s
STU Stuttgart 83.16 331 eP P 03 30 02.3 -0.4
STU pmax pmax
comp=Z,11nm,0.6s
WATA Walderalm 83.39 329 eP P 03 30 04.0 -0.1
comp=Z,2.5nm,0.7s
121A Cookes Peak, D 83.47 53 P P 03 30 06.6 +1.9
baz=313,SNR=5.7
ABTA Abfaltersbach 83.48 328 iP P 03 30 04.2 -0.3

comp=Z,3.1nm,0.7s
H39A **Augusta** 83.58 35 P P 03 30 05.1 +0.2
baz=321
MOTA **Moosalm** 83.58 329 *e*PcP P 03 30 06.0 +1.0
comp=Z,7.4nm,0.7s,SNR=8.6
RETA **Reutte** 83.60 329 *i* P P 03 30 05.2 +0.2
comp=Z,12nm,0.9s
G40A **Rib Lake** 83.60 34 P P 03 30 05.2 +0.2
baz=322
SQTA **Sankt Quirin** 83.64 329 *e*P P 03 30 05.4 +0.1
comp=Z,4.7nm,0.7s
CBKS **Cedar Bluff** 83.78 44 P P 03 30 06.1 0.0
baz=316
PDG **Podgorica** 83.81 321⇑ *i*P P 03 30 05.6 -0.5
TTG **Podgorica** 83.81 321 *e*P P 03 30 05.3 -0.8
comp=Z,27nm,0.8s
TTG **Podgorica** 83.81 321 *e*P P 03 30 05.3 -0.8
pmax pmax
comp=Z,27nm,0.8s
BFO **Black Forest** 83.84 331 *e*P P 03 30 05.5 -0.7
comp=Z,29nm,1.5s
BFO **Black Forest** 83.84 331 *e*P P 03 30 05.5 -0.7
BFO pmax pmax
comp=Z,29nm,1.5s
EIL **Elat** 83.88 303 LR LR 04 10 27.4
comp=Z,45nm,20.9s,baz=3.5,slow=38
FETA **Feichten** 83.99 329 *i* PcP P 03 30 07.2 +0.1
comp=Z,7.3nm,0.8s
H40A **Chili** 84.02 35 P P 03 30 07.3 +0.2
baz=322
E43A **Lone Tree Farm** 84.08 32 P P 03 30 07.4 0.0
baz=324
I39A **Houston** 84.11 36 *e*P P 03 30 08.0 +0.3
comp=Z,18nm,0.6s
I39A **Houston** 84.11 36 P P 03 30 07.5 -0.1
baz=321,SNR=5.1
DAVA **Damuels** 84.11 330 *e*PcP P 03 30 08.3 +0.6
comp=Z,14nm,0.8s
PMOR **Pomariorio Ree** 84.32 114 *e*T T 05 03 27.0
comp=Z,46nm,0.2s
H41A **Junction City** 84.35 34 P P 03 30 09.2 +0.3
baz=322
G42A **Mountain** 84.39 33 P P 03 30 09.3 +0.3
baz=323
J39A **Decorah** 84.42 36 P P 03 30 09.1 -0.2
baz=321,SNR=5.6
I40A **Norwalk** 84.49 35 P P 03 30 09.8 +0.2
baz=322
FUORN **Ofenpass-Fuorn** 84.50 329 *e*P P 03 30 09.4 -0.5
comp=Z,21nm,0.7s
DAVOX **Davos/Dischmat** 84.52 329 LR LR 04 10 53.7
comp=Z,95nm,18.5s,slow=38
G43A **Wallace** 84.69 33 P P 03 30 10.8 +0.3
baz=324
J40A **Soldiers Grove** 84.82 36 P P 03 30 11.1 -0.1
baz=322
K39A **Oelwein** 84.83 37 P P 03 30 11.2 -0.1
baz=321
D46A **Sault St. Mari** 84.84 30 P P 03 30 11.0 -0.2
baz=326
PPT **Papeete** 84.89 117 LR LR 03 58 54.7
comp=Z,69nm,21.8s,baz=311,slow=29
PPT2 **Papeete2** 84.91 117 *e*LR LR 03 57 14.0
comp=Z,106nm,24.5s
PPT2 **Papeete2** 84.91 117 *e*T T 05 04 10.5
comp=Z,12nm,0.3s
H42A **Shiocton** 84.93 34 P P 03 30 12.1 +0.4
baz=323
PAE **Paea** 84.96 117 *e*T T 05 04 13.1
comp=Z,1.9nm,0.2s
TIAR **Tiarei** 85.05 117 *e*T T 05 04 20.0
comp=Z,4.7nm,0.2s
D47A **Chapleau** 85.07 29 P P 03 30 12.4 -0.1
baz=326
J41A **Loganville** 85.17 35 P P 03 30 13.2 +0.2
baz=322
K40A **Colesburg** 85.18 37 P P 03 30 13.2 +0.1
baz=321,SNR=5.9
KSU1 **Kansas State U** 85.22 42 P P 03 30 13.6 +0.2
baz=318
L39A **Vinton** 85.22 37 P P 03 30 13.5 +0.3
baz=321,SNR=6.3
I42A **Draeger Farm,** 85.25 34 P P 03 30 13.8 +0.4
baz=323
JFWS **Jewell Farm** 85.42 36 P P 03 30 14.3 0.0
baz=322
AMTX **Amarillo** 85.50 48 *e*P P 03 30 16.4 +1.4
comp=Z,16nm,0.9s
MSTX **Muleshoe** 85.52 49 *e*P P 03 30 16.1 +1.1
comp=Z,10nm,1.0s
MSTX **Muleshoe** 85.52 49 P P 03 30 15.8 +0.8
baz=315,SNR=6.0
LSQQ **Lebel-sur-Quev** 85.53 25 P P 03 30 14.7 0.0
baz=331
MNTX **Cornudas Mount** 85.53 52 *e*P P 03 30 16.2 +1.2
comp=Z,2.8nm,0.8s
MNTX **Cornudas Mount** 85.53 52 P P 03 30 16.0 +1.0
baz=314,SNR=5.6
CHGQ **Chibougamau** 85.59 23 P P 03 30 14.7 -0.3
baz=332
J42A **Columbus** 85.61 35 P P 03 30 15.4 +0.2
baz=323
K41A **Shullsburg** 85.64 36 P P 03 30 15.4 +0.1
baz=322,SNR=5.4
L40A **Anamosa** 85.64 37 *e*P P 03 30 15.8 +0.5
comp=Z,16nm,0.8s
M39A **Webster** 85.64 38 P P 03 30 15.7 +0.3
baz=321,SNR=6.8
G46A **Petoskey** 85.81 31 P P 03 30 16.5 +0.4
baz=325
SENIN **Lac Senin/Sane** 85.87 331 *e*P P 03 30 16.9 +0.2
comp=Z,6.8nm,0.8s
J43A **Natural Harves** 85.87 35 P P 03 30 16.7 +0.2
baz=323
E48A **Lockeyer** 85.90 29 P P 03 30 16.3 -0.2
baz=327
K42A **Prairie Point,** 85.94 35 P P 03 30 16.8 0.0
baz=322
TAOE **Nuku Hiva Isla** 85.94 105 *e*T T 05 05 32.9
comp=Z,85nm,0.2s
L41A **Preston** 85.97 37 P P 03 30 17.0 0.0
baz=322
M40A **Post Highland** 86.01 38 P P 03 30 17.6 +0.4
baz=321,SNR=5.5
GLMI **Grayling** 86.31 31 P P 03 30 19.3 +0.7
baz=326
N40A **Mertquake, Sal** 86.38 38 P P 03 30 19.7 +0.7
baz=321
F49A **Sandfield** 86.55 29 P P 03 30 19.6 -0.2
baz=327
H47A **Mio** 86.67 31 P P 03 30 21.2 +0.9
baz=326
J46A **Howard City** 87.10 33 P P 03 30 23.0 +0.6
baz=325
N42A **Yates City** 87.16 37 P P 03 30 23.1 +0.3
baz=322
M43A **Waltham Townsh** 87.18 36 P P 03 30 23.1 +0.3
baz=323
WMOK **Wichita Mounta** 87.26 46 *e*P P 03 30 24.4 +1.0
comp=Z,9.2nm,1.4s
WMOK **Wichita Mounta** 87.26 46 *e*P P 03 30 24.5 +1.0
WMOK pmax pmax
comp=Z,9.0nm,1.4s
WMOK **Wichita Mounta** 87.26 46 P P 03 30 24.0 +0.5
baz=317
O41A **Passleys Farm,** 87.32 38 P P 03 30 24.1 +0.5
baz=322
N43A **Stutzman Famil** 87.47 36 P P 03 30 24.8 +0.5
baz=323
J47A **Sunmer** 87.53 32 P P 03 30 25.4 +0.8
baz=325
P41A **Barry, Barry** 87.57 38 P P 03 30 25.5 +0.7
baz=322
K46A **Dorr** 87.58 33 P P 03 30 25.1 +0.3
baz=325
P42A **Winchester** 87.99 38 *e*P P 03 30 27.7 +0.9
comp=Z,38nm,1.4s
P42A **Winchester** 87.99 38 P P 03 30 27.3 +0.5
baz=322,SNR=6.2
Q41A **Truxton** 88.05 39 P P 03 30 27.9 +0.7
baz=322,SNR=8.1
J49A **Marlette** 88.12 31 P P 03 30 29.1 +1.7
baz=326
K48A **Perry** 88.18 32 P P 03 30 28.3 +0.7
baz=326
TX31 **Lajitas Ar. Si** 88.23 53 *e*P P 03 30 29.1 +0.8
TXAR **Lajitas Array** 88.23 53 P P 03 30 29.1 +0.8
comp=Z,1.9nm,0.6s,baz=296,slow=3.3,SNR=21
TXAR LR LR 04 05 43.2
comp=Z,15nm,20.9s,baz=0.0,slow=33
H52A **Wyevale** 88.31 29 P P 03 30 28.4 +0.1
baz=329
L47A **Sherwood** 88.41 33 P P 03 30 29.2 +0.4
baz=325
O44A **Mansfield** 88.42 36 P P 03 30 29.1 +0.3
baz=323
K49A **Clarkson** 88.47 32 P P 03 30 30.0 +1.0
baz=326
R41A **Rosebud** 88.49 39 P P 03 30 29.8 +0.5
baz=321,SNR=11
N46A **Monticello** 88.61 35 P P 03 30 30.1 +0.4
baz=324
O45A **Potomac** 88.69 36 P P 03 30 30.8 +0.7
baz=324
BANO **Bancroft** 88.70 27 P P 03 30 30.3 +0.2
baz=330
M47A **Cromwell** 88.73 34 P P 03 30 30.7 +0.4
baz=325
HHAR **Hobbs** 88.74 42 *e*P P 03 30 31.1 +0.6
comp=Z,6.0nm,1.0s
CCM **Cathedral Cave** 88.75 39 *e*P P 03 30 31.3 +0.9
comp=Z,19nm,0.8s
CCM **Cathedral Cave** 88.75 39 *e*P P 03 30 31.3 +0.9
CCM pmax pmax
comp=Z,19nm,0.8s
CCM **Cathedral Cave** 88.75 39 P P 03 30 30.9 +0.5
baz=322
L48A **N Adams** 88.76 33 P P 03 30 31.1 +0.6
baz=326,SNR=6.8
R42A **Luebbering** 88.79 39 P P 03 30 31.2 +0.5
baz=322
S41A **Jillco Farms,** 88.86 40 P P 03 30 31.2 +0.2
baz=321,SNR=5.2
SFIN **Lafayette** 88.87 36 *e*P P 03 30 32.0 +1.1
comp=Z,14nm,0.8s
SFIN **Lafayette** 88.87 36 P P 03 30 31.5 +0.6
baz=324
L49A **Milan** 88.90 32 P P 03 30 31.3 +0.2
baz=326
G55A **Calabogie** 88.93 26 P P 03 30 31.3 +0.1
baz=331
TBI **Tubuai** 88.95 121 *e*T T 05 09 10.2
comp=Z,53nm,0.3s
PLVO **Plevna** 88.99 27 P P 03 30 31.6 +0.1
baz=331
ELFO **Elginfield** 88.99 30 P P 03 30 32.3 +0.8
baz=328
M48A **Edgerton** 89.02 33 P P 03 30 32.1 +0.5
baz=326
N47A **Urbana** 89.09 34 P P 03 30 32.2 +0.2
baz=325,SNR=5.3
Q44A **Meyer Farm, Va** 89.16 38 P P 03 30 32.8 +0.5
baz=323
S42A **Caledonia** 89.19 39 P P 03 30 33.2 +0.7
baz=322,SNR=7.8
PKRO **Pickering** 89.19 29 P P 03 30 33.0 +0.6
baz=329
ALFO **Alfred** 89.22 25 P P 03 30 32.3 -0.1
baz=332
U40A **Yellville** 89.25 42 P P 03 30 33.3 +0.4
baz=321,SNR=13
DELO **Dero Mine** 89.25 27 P P 03 30 32.9 +0.2
baz=330
P45A **Graceland, Par** 89.26 36 P P 03 30 33.3 +0.5
baz=324
T41A **Mountain View** 89.27 40 P P 03 30 33.1 +0.2
baz=321,SNR=6.5
J52A **Paris** 89.28 30 P P 03 30 33.7 +0.8
baz=328
M49A **Liberty Center** 89.34 33 P P 03 30 33.9 +0.7
baz=326
L50A **Kingsville** 89.36 32 P P 03 30 33.9 +0.7
baz=327
N48A **Decatur** 89.39 34 P P 03 30 33.9 +0.5
baz=325,SNR=5.3
O47A **Sheridan** 89.40 35 P P 03 30 33.7 +0.2
baz=325
P46A **Rosedale** 89.43 36 P P 03 30 34.3 +0.7
baz=324,SNR=6.0
WLVO **Wesleyville** 89.48 28 P P 03 30 34.4 +0.7
baz=330
Q45A **Warren Harvey,** 89.57 37 P P 03 30 35.1 +0.8
baz=323
K52A **Tillsonburg** 89.58 30 P P 03 30 34.9 +0.7
baz=328
T42A **Van Buren** 89.62 40 *e*P P 03 30 34.8 +0.3
comp=Z,13nm,0.7s
T42A **Van Buren** 89.62 40 P P 03 30 35.1 +0.6
baz=330,SNR=6.5
TYNO **Tyneside** 89.64 30 P P 03 30 35.3 +0.8
baz=329
W39A **Magazine** 89.65 43 P P 03 30 35.2 +0.5
baz=320
N49A **Columbus Grove** 89.71 33 *e*P P 03 30 35.9 +1.0
comp=Z,14nm,0.8s
N49A **Columbus Grove** 89.71 33 P P 03 30 35.5 +0.6
baz=326
OLIL **Olney** 89.73 37 *e*P P 03 30 36.0 +1.0
comp=Z,15nm,0.8s
U41A **Viola** 89.73 41 P P 03 30 35.5 +0.4
baz=321
JCT **Junction City** 89.76 50 *e*P P 03 30 36.3 +0.9
comp=Z,6.6nm,0.9s
JCT **Junction City** 89.76 50 *e*P P 03 30 36.3 +0.9
JCT pmax pmax
comp=Z,7.0nm,0.9s
O48A **Farmland** 89.83 34 P P 03 30 35.7 +0.2
baz=325
P47A **Martinsville** 89.96 36 P P 03 30 36.6 +0.5
baz=325
T43A **Greenville** 89.98 39 P P 03 30 36.7 +0.5
baz=322
VAE **Valguarnera** 90.00 321 LR LR 04 14 55.2
comp=Z,49nm,18.0s,baz=55,slow=38
SIUC **Southern Illin** 90.00 38 *e*P P 03 30 37.4 +1.1
comp=Z,21nm,0.8s
V41A **Mountainview** 90.05 41 P P 03 30 36.7 +0.1
baz=321
O49A **Covington** 90.25 34 P P 03 30 38.1 +0.7
baz=326
MIAR **Mount Ida** 90.25 43 *e*P P 03 30 38.0 +0.5
comp=Z,7.8nm,0.8s
MIAR **Mount Ida** 90.25 43 *e*P P 03 30 38.0 +0.5
MIAR pmax pmax
comp=Z,8.0nm,0.8s
MIAR **Mount Ida** 90.25 43 P P 03 30 38.5 +1.0
baz=320
J55A **Hilton** 90.26 28 P P 03 30 37.9 +0.5
baz=330
Q47A **Bedord North L** 90.34 36 P P 03 30 38.5 +0.7
baz=324,SNR=7.8
WHAR **Wooly Hollow** 90.36 42 *e*P P 03 30 38.8 +0.8
comp=Z,11nm,0.8s
ERPA **Erie** 90.42 30 *e*P P 03 30 38.6 +0.4
comp=Z,17nm,0.7s
ERPA **Erie** 90.42 30 P P 03 30 39.1 +0.9
baz=329
W41B **Gary Mavity, V** 90.47 42 P P 03 30 39.0 +0.5
baz=321
O50A **Cable** 90.59 33 P P 03 30 39.6 +0.6
baz=326,SNR=6.3
P49A **Miami Univ. Ec** 90.62 35 P P 03 30 39.5 +0.3
baz=326
K55A **Perry** 90.63 29 P P 03 30 39.2 +0.1
baz=330
X40A **Basin Creek Fa** 90.69 43 P P 03 30 40.7 +1.2
baz=321
S46A **Don Dixon Farm** 90.75 38 P P 03 30 40.2 +0.5
baz=324
ACSO **Alum Creek Sta** 90.79 33 *e*P P 03 30 41.0 +1.0
comp=Z,12nm,0.8s
R47A **Wooly Knot Far** 90.81 36 P P 03 30 40.6 +0.5
baz=324
WCI **Wyandotte Cave** 90.97 36 P P 03 30 41.6 +0.8
baz=324
O51A **Pataskala** 91.02 33 P P 03 30 41.5 +0.4
baz=327
R48A **Northridge Ran** 91.03 36 P P 03 30 42.0 +0.9
baz=325
N54A **Moraine State** 91.41 31 P P 03 30 43.3 +0.5
baz=329
S48A **Wiedeman Farm,** 91.54 36 P P 03 30 42.7 -0.7
baz=325
Q51A **Peebles** 91.64 34 *e*P P 03 30 44.7 +0.7
comp=Z,24nm,1.3s
Q51A **Peebles** 91.64 34 P P 03 30 44.6 +0.7
baz=324
S49A **Springfield** 91.79 36 P P 03 30 45.5 +0.9
baz=325
BINY **Binghamton** 91.85 27 P P 03 30 45.3 +0.5
baz=331
WVT **Waverly** 91.94 39 *e*P P 03 30 46.3 +1.0
comp=Z,8.6nm,0.6s
WVT **Waverly** 91.94 39 *e*P P 03 30 46.3 +1.0
WVT pmax pmax
comp=Z,9.0nm,0.6s
WVT **Waverly** 91.94 39 P P 03 30 46.0 +0.6
baz=324
N55A **Marion Center** 91.95 30 P P 03 30 45.7 +0.3
baz=329
V46A **Holladay** 92.06 39 P P 03 30 46.1 +0.2
baz=323
S50A **Richmond** 92.28 35 P P 03 30 47.3 +0.4
baz=326
V47A **Nunnelly** 92.33 38 P P 03 30 47.6 +0.5
baz=324
O56A **Blue Knob Stat** 92.56 30 P P 03 30 48.7 +0.5
baz=330
U49A **Red Boiling Sp** 92.60 37 P P 03 30 48.8 +0.5
baz=325
T50A **Nancy** 92.62 36 P P 03 30 49.1 +0.6
baz=325,SNR=5.5
S51A **Beattyville** 92.68 35 P P 03 30 49.0 +0.3
baz=326
V48A **Smith Brothers** 92.73 38 *e*P P 03 30 49.7 +0.6
comp=Z,22nm,1.7s
V48A **Smith Brothers** 92.73 38 P P 03 30 49.3 +0.2
baz=324
T51A **Gray** 93.08 35 P P 03 30 51.0 +0.4
baz=326
W48A **Pulaski** 93.17 39 P P 03 30 51.4 +0.3
baz=324,SNR=7.2
Y46A **Houston** 93.22 41 P P 03 30 52.0 +0.8
baz=323
W49A **Belvidere** 93.50 38 P P 03 30 52.8 +0.2
baz=324
SWET **Sewanee** 93.58 38 *e*P P 03 30 53.4 +0.3
comp=Z,40nm,2.0s
TZTN **Tazewell** 93.60 35 P P 03 30 53.3 +0.2
baz=326
PAL **Palisades** 93.64 27 P P 03 30 53.5 +0.4
baz=333
X48A **Hartselle** 93.66 39 P P 03 30 53.2 -0.1
baz=324
U52A **Thorn Hill** 93.81 35 P P 03 30 54.3 +0.3
baz=326
X49A **Woodville** 93.96 38 P P 03 30 54.9 +0.2
baz=324
V52A **Sevierville** 94.16 36 P P 03 30 55.9 +0.3
baz=326
W51A **Cleveland** 94.18 37 P P 03 30 55.8 +0.1
baz=325
U53A **Fall Branch** 94.19 35 P P 03 30 56.1 +0.4
baz=327
BLA **Blacksburg** 94.41 33 P P 03 30 57.0 +0.3
baz=328
Y50A **Piedmont** 94.75 38 P P 03 30 58.6 +0.2
baz=325
X53A **Estanollee** 95.40 36 P P 03 31 02.1 +0.8
baz=326
249A **Camden** 95.61 41 P P 03 31 03.1 +0.8
baz=324
ESDC **Sonseca Array** 95.74 335 P P 03 31 01.8 -1.1
comp=Z,0.9nm,0.7s,baz=17,slow=5.1,SNR=5.4
ESDC LR LR 04 19 25.8
comp=Z,68nm,18.0s,baz=115,slow=39
Y54A **Tignall** 96.22 36 P P 03 31 05.6 +0.6
baz=327
TORD **Torodi Ar. Bea** 116.37 316 PKP PKPdf 03 36 19.8 -0.9
comp=Z,0.7nm,0.6s,baz=12,slow=0.5,SNR=6.2
SDV **Santo Domingo** 123.22 40 *e*PKPdf PKiKP 03 36 34.5 +0.1
DBIC **Dimbokro** 125.25 319 PKP PKPdf 03 36 37.0 -0.8
comp=Z,2.5nm,0.6s,baz=335,slow=0.8,SNR=8.6
DBIC **Dimbokro** 125.25 319 PKIKP PKPdf 03 36 37.0 -0.8
DBIC pmax pmax
comp=Z,3.0nm,0.6s
SYO **Syowa Base** 130.43 207⇑ *e*PP PP 03 39 05.0 +3.9
LPAZ **La Paz** 144.94 58 PKPbc PKPab 03 37 14.4 +0.3
comp=Z,2.2nm,0.5s,baz=342,slow=3.3,SNR=11
LPAZ **La Paz** 144.94 58 *e*PKPbc PKPab 03 37 14.6 +0.4
LPAZ **La Paz** 144.94 58 *e*PKIKP PKPab 03 37 14.6 +0.4
MNMC **Minye Minye** 145.94 63 *e*PKPdf PKPab 03 37 17.4 0.0
PB11 **IPOC Station P** 146.31 64 *e*PKPdf PKPbc 03 37 18.1 +0.2
PB01 **IPOC Station P** 147.27 66 *e*PKPbc PKPbc 03 37 20.7 +0.2
LVC **Limon Verde** 148.68 67 *e*PKPbc PKiKP 03 37 25.6 -0.4
LVC **Limon Verde** 148.68 67 *e*PKP2 PKiKP 03 37 25.6 -0.4
GO02 **Mina Guanaco** 149.72 72 *e*PKPbc PKiKP 03 37 27.6 -0.4
LCO **Las Campanas** 150.92 80 *e*PKPbc PKiKP 03 37 30.5 +0.2
LCO **Las Campanas** 150.92 80 *e*PKIKP PKiKP 03 37 30.5 +0.2
ROC1 **El Roble** 152.40 88 *e*PKPbc PKiKP 03 37 33.3 +0.1
PLCA **Paso Flores** 154.76 104 PKPbc PKPbc 03 37 37.5 -0.1
comp=Z,1.4nm,0.7s,baz=280,slow=0.9,SNR=3.7
BDFB **Brasilia** 154.87 24 PKPbc PKPbc 03 37 38.4 -0.2
comp=Z,1.3nm,0.6s,baz=98,slow=2.9,SNR=3.8

ROM 13 03:27:13.9±0.1,**42°725N**±0°004×**13°295E**±0°006,
h10km,**ML0.9**/4,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.10**	**162**	P	Pg	03 27 17.2	+0.5
SMA1				S	Sg	03 27 19.2	+0.6
SMA1				AML	AML		
	comp=E,116μm,0.2s						
SMA1				AML	AML		
	comp=N,109μm,0.4s						
SMA1				AML	AML		
	comp=E,116μm,0.2s						
SMA1				AML	AML		
	comp=N,109μm,0.4s						
NRCA	**Norcia**	**0.17**	**309**	P	Pg	03 27 18.3	+0.5
NRCA				S	Sg	03 27 21.1	+0.8
NRCA				AML	AML		
	comp=E,90μm,0.1s						
NRCA				AML	AML		
	comp=N,87μm,0.8s						
NRCA				AML	AML		
	comp=N,87μm,0.8s						
NRCA				AML	AML		
	comp=E,90μm,0.1s						
LNSS	**Leonessa**	**0.22**	**237**	P	Pg	03 27 19.4	+0.7
LNSS				S	Sg	03 27 23.1	+1.3
LNSS				AML	AML		
	comp=E,72μm,1.1s						
LNSS				AML	AML		
	comp=N,67μm,1.3s						
LNSS				AML	AML		
	comp=N,67μm,1.3s						
LNSS				AML	AML		
	comp=E,72μm,1.1s						
TERO	**Teramo**	**0.25**	**114**	P	Pg	03 27 19.7	+0.6
TERO				S	Sg	03 27 23.8	+1.3
TERO				AML	AML		
	comp=E,19μm,0.3s						
TERO				AML	AML		
	comp=N,26μm,0.6s						
TERO				AML	AML		
	comp=N,26μm,0.6s						
TERO				AML	AML		
	comp=E,19μm,0.3s						
FDMO	**Fiordimonte**	**0.35**	**334**	P	Pg	03 27 21.4	+0.5
FDMO				S	Sb	03 27 27.1	-0.7
CSP1	**Cessapalombo**	**0.37**	**350**	P	Pg	03 27 22.0	+0.6

ROM 13 03:27:57.8±0.1,**42°724N**±0°003×**13°294E**±0°005,
h10km,**ML0.9**/4,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.10**	**162**	P	Pg	03 28 01.0	+0.6
SMA1				S	Sg	03 28 03.0	+0.6
SMA1				AML	AML		
	comp=E,116μm,0.2s						
SMA1				AML	AML		
	comp=N,109μm,0.4s						
SMA1				AML	AML		
	comp=E,116μm,0.2s						
SMA1				AML	AML		
	comp=N,109μm,0.4s						
SMA1				AML	AML		
	comp=E,116μm,0.2s						

SMA1				AML	AML		
	comp=N,109µm,0.4s						
NRCA	**Norcia**	**0.17**	**310**	P	Pg	03 28 02.1	+0.5
NRCA				S	Sg	03 28 04.9	+0.8
NRCA				AML	AML		
	comp=E,90µm,0.1s						
NRCA				AML	AML		
	comp=N,87µm,0.8s						
NRCA				AML	AML		
	comp=E,90µm,0.1s						
NRCA				AML	AML		
	comp=N,87µm,0.8s						
NRCA				AML	AML		
	comp=N,87µm,0.8s						
NRCA				AML	AML		
	comp=E,90µm,0.1s						
LNSS	**Leonessa**	**0.22**	**237**	P	Pb	03 28 03.2	-0.8
LNSS				S	Sg	03 28 07.0	+1.4
LNSS				AML	AML		
	comp=E,72µm,1.1s						
LNSS				AML	AML		
	comp=N,67µm,1.3s						
LNSS				AML	AML		
	comp=E,72µm,1.1s						
LNSS				AML	AML		
	comp=N,67µm,1.3s						
LNSS				AML	AML		
	comp=N,67µm,1.3s						
LNSS				AML	AML		
	comp=E,72µm,1.1s						
TERO	**Teramo**	**0.25**	**114**	P	Pg	03 28 03.5	+0.6
TERO				S	Sg	03 28 07.5	+1.2
TERO				AML	AML		
	comp=E,19µm,0.3s						
TERO				AML	AML		
	comp=N,26µm,0.6s						
TERO				AML	AML		
	comp=E,19µm,0.3s						
TERO				AML	AML		
	comp=N,26µm,0.6s						
TERO				AML	AML		
	comp=N,26µm,0.6s						
TERO				AML	AML		
	comp=E,19µm,0.3s						
FDMO	**Fiordimonte**	**0.35**	**334**	P	Pg	03 28 05.1	+0.4
FDMO				S	Sb	03 28 10.8	-0.9
CSP1	**Cessapalombo**	**0.37**	**350**	P	Pg	03 28 05.7	+0.5
CSP1				S	Sb	03 28 11.8	-0.7
ARRO	**Arrone**	**0.42**	**250**	P	Pg	03 28 06.5	+0.6
ARRO				S	Sb	03 28 12.6	-1.0

*JMA **13** 03:35:01.8±0.4, 33°.15N×138°.38E, h315km±4km, M3.7*
*ISCJB **13** 03:35:02.9±0.6, 33°.18N±0°.05×138°.39E±0°.06, h300km, mb3.2/8, Error ellipse: s-maj=7.8km s-min=6.6km az=135.9*
*IDC **13** 03:35:04.4±0.7, 33°.22N×138°.40E, h305km±5km, mb3.0/8, mb1 3.1/13, mb1mx3.0/45, mbtmp3.7/13, Error ellipse: s-maj=17.8km s-min=12.5km az=60.0*

ISC 13 03:35:04.0±0.8, **33°.25N**±0°.07×**138°.39E**±0°.07, **h300**km, **n31**, σ1§**09**/40, **mb3.1/8**, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**1.17**	**96**	P	**Pn**	**03 35 46.0**	**+0.8**
	14nm,0.3s,baz=342,slow=20,SNR=33						
JHJ				S	**S**	**03 36 19.9**	**+1.9**
	18nm,0.3s,baz=132,slow=23,SNR=6.3						
JAOM	**Aogashimamukai**	**1.39**	**124**	P	**Pn**	**03 35 46.4**	**-0.2**
HMMJ	**Hamamatsu 2**	**1.70**	**341**	S	**S**	**03 36 23.9**	**0.0**
JOD2	**Odawara 2**	**2.09**	**16**	S	**S**	**03 36 30.6**	**+1.3**
BSO3	**Boso 3**	**2.34**	**48**	P	**Pn**	**03 35 53.0**	**-0.3**
BSO4	**Boso 4**	**2.37**	**42**	P	**Pn**	**03 35 53.9**	**+0.2**
BSO1	**Boso 1**	**2.57**	**56**	P	**Pn**	**03 35 54.4**	**-0.6**
BSO1				S	**S**	**03 36 36.7**	**+1.0**
JHU	**Hanno**	**2.70**	**16**	P	**Pn**	**03 35 57.4**	**+0.6**
JHU				S	**S**	**03 36 40.5**	**+1.5**
JRY	**Ryogami san**	**2.79**	**8**	P	**Pn**	**03 35 58.7**	**+0.9**
JRY				S	**S**	**03 36 42.0**	**+1.4**
JWT	**Wachi**	**3.20**	**310**	P	**Pn**	**03 36 01.7**	**-0.1**
JAG	**Ashikaga**	**3.29**	**15**	P	**Pn**	**03 36 02.5**	**-0.1**
JAG				S	**S**	**03 36 47.7**	**-1.7**
MJAR	**Matsushiro Arr**	**3.29**	**357**	P	**Pn**	**03 36 03.7**	**+1.1**
	2.7nm,0.3s,baz=176,slow=12,SNR=69						
MJAR				S	**S**	**03 36 50.4**	**+0.9**
	0.4nm,0.3s,baz=96,slow=19,SNR=6.3						
MAT	**Matsushiro**	**3.29**	**357**	P	**Pn**	**03 36 03.9**	**+1.2**
MAT				S	**S**	**03 36 49.9**	**+0.4**
MAT	**Matsushiro**	**3.29**	**357**	P	**Pn**	**03 36 03.1**	**+0.4**
MAT				S	**S**	**03 36 50.4**	**+0.9**
JYT	**Yasato**	**3.32**	**26**	P	**Pn**	**03 36 02.5**	**-0.4**
JKG	**Kaga**	**3.47**	**331**	S	**S**	**03 36 53.1**	**+0.4**
JHO	**Hitachi**	**3.80**	**27**	P	**Pn**	**03 36 07.3**	**-0.7**
JHO				S	**S**	**03 36 56.8**	**-2.4**
JFK	**Kawauchi**	**4.58**	**26**	S	**S**	**03 37 12.6**	**-2.5**
JHS	**Saijyo**	**4.71**	**293**	P	**Pn**	**03 36 18.0**	**-0.2**
JNU	**Nakatsue**	**6.30**	**271**	P	**Pn**	**03 36 35.7**	**-1.3**
	0.5nm,0.3s,baz=93,slow=1.7,SNR=6.2						
KSRS	**Korea Array**	**9.53**	**299**	P	**Pn**	**03 37 17.1**	**+0.8**
	0.5nm,0.3s,baz=108,slow=13,SNR=28						
USRK	**Ussuriysk Ar.**	**12.02**	**337**	P	**Pn**	**03 37 45.8**	**-0.9**
	0.1nm,0.3s,baz=152,slow=12,SNR=3.0						
KLR	**Kul'dur**	**16.72**	**345**	P	**P**	**03 38 40.3**	**+0.7**
	0.2nm,0.3s,baz=187,slow=8.1,SNR=6.9						
SONM	**Songino Array**	**28.11**	**311**	P	**P**	**03 40 29.8**	**+0.9**
	1.7nm,0.7s,baz=106,slow=7.7,SNR=13						
ZALV	**Zalesovo Beam**	**42.76**	**316**	P	**P**	**03 42 32.1**	**-0.2**
	0.8nm,0.6s,baz=325,slow=7.6,SNR=3.8						
MKAR	**Makanchi Array**	**44.15**	**305**	P	**P**	**03 42 43.4**	**-0.1**
	0.4nm,0.4s,baz=92,slow=9.4,SNR=5.6						
WRA	**Warramunga Arr**	**53.03**	**185**	P	**P**	**03 43 50.0**	**-0.9**
	0.2nm,0.4s,baz=0.2,slow=7.6,SNR=4.6						
ILAR	**Eielson Array**	**54.01**	**31**	P	**P**	**03 43 58.5**	**+1.0**
	0.4nm,0.8s,baz=275,slow=6.6,SNR=4.6						
YKA	**Yellowknife Ar**	**68.31**	**29**	P	**P**	**03 45 31.0**	**-1.8**
	0.2nm,0.5s,baz=300,slow=6.4,SNR=5.1						
FINES	**FINESS Array B**	**71.00**	**332**	P	**P**	**03 45 49.7**	**+0.6**
	0.6nm,0.4s,baz=46,slow=6.6,SNR=9.8						
NOA	**NORSAR Array B**	**76.69**	**337**	P	**P**	**03 46 22.9**	**+0.9**
	0.3nm,0.5s,baz=44,slow=5.6,SNR=3.6						

*DDA **13** 03:36:05.8, 39°.72N×25°.56E, h9km±7km, ML2.5*
*ATH **13** 03:36:07.0, 39°.67N×25°.53E, h25km±2km, ML2.2/3, Error ellipse: s-maj=2.9km s-min=0.8km az=235.0*
*ISK **13** 03:36:06.3, 39°.67N×25°.60E, h7km, ML2.3/15*
*ISCJB **13** 03:36:07.3±0.4, 39°.70N±0°.02×25°.63E±0°.03, h9km±4km, Error ellipse: s-maj=4.3km s-min=3.5km az=145.5*

ISC 13 03:36:06.6±1.2, **39°.68N**±0°.02×**25°.57E**±0°.03, **h9**km±12km, **n36**, σ0§**65**/46, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.37**	**307**	P	**Pb**	**03 36 15.1**	**-0.2**
LIA				S	**Sb**	**03 36 20.4**	**-0.8**
LIA				AML	AML	03 36 33.7	
	comp=E,505µm,0.5s						
LIA				AML	AML	03 36 34.4	
	comp=N,499µm,0.5s						
BOZC	**Bozcaada**	**0.41**	**66**	PG	**Pg**	**03 36 14.4**	**-0.2**
BOZC				SG	**Sg**	**03 36 20.2**	**+0.2**
BOZC	**Bozcaada**	**0.41**	**66**	IAML_P			
	comp=Z,2µm,0.2s						
BOZC				*i* P	**Pg**	**03 36 14.4**	**-0.2**
EFSA	**Agios Efstrati**	**0.47**	**253**	P	**Pn**	**03 36 18.6**	**-0.8**
EFSA				S	**Sb**	**03 36 26.0**	**+2.0**
GPNR	**Gulpinar-Canak**	**0.49**	**117**	PG	**Pg**	**03 36 16.3**	**+0.2**
SIGR	**SIGRI**	**0.52**	**154**	PG	**Pg**	**03 36 15.6**	**-1.0**
SIGR				SG	**Sb**	**03 36 24.1**	**-1.3**
SIGR	**SIGRI**	**0.52**	**154**	P	**Pb**	**03 36 17.2**	**-0.7**
SIGR				S	**Sb**	**03 36 25.5**	**+0.1**
SIGR				AML	AML	03 36 25.9	
	comp=N,970µm,0.5s						
SIGR				AML	AML	03 36 25.9	
	comp=E,792µm,0.4s						
GADA	**Gvkgeada**	**0.57**	**26**	PG	**Pg**	**03 36 17.9**	**+0.2**
EZN	**Ezine**	**0.60**	**76**	PG	**Pg**	**03 36 17.8**	**-0.5**
PRK	**Paraskevi**	**0.70**	**128**	P	**Pb**	**03 36 21.4**	**+0.5**
PRK				S	**Sb**	**03 36 31.7**	**+1.1**
PRK				AML	AML	03 36 34.6	
	comp=N,442µm,0.6s						
PRK				AML	AML	03 36 37.1	
	comp=E,449µm,0.5s						

BAYC	**CANAKKALE_Bayr**	**0.76**	**85**	*i* P	**Pb**	**03 36 22.0**	**+0.1**
SMTH	**Samothraki Isl**	**0.79**	**358**	P	**Pb**	**03 36 22.1**	**-0.5**
SMTH				S	**Sb**	**03 36 33.4**	**-0.1**
AYVA	**Ayvalik**	**0.94**	**113**	IAML_P			
	comp=Z,265nm,0.1s						
AYVA				*i* P	**Pn**	**03 36 26.2**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.00**	**44**	PG	**Pg**	**03 36 25.5**	**-0.4**
THAS	**Thassos island**	**1.13**	**325**	P	**Pn**	**03 36 29.1**	**+0.5**
THAS				S	**Sb**	**03 36 43.3**	**+0.1**
ENEZ	**Enez**	**1.15**	**23**	PN	**Pn**	**03 36 28.8**	**-0.1**
LPK	**Lapseki**	**1.15**	**52**	PN	**Pg**	**03 36 28.5**	**-0.2**
DKL	**Dikili**	**1.20**	**120**	PN	**Pg**	**03 36 29.4**	**-0.2**
ERIK	**Erikli-Kesan**	**1.23**	**36**	PN	**Pb**	**03 36 29.9**	**-0.1**
ALN	**Alexandroupoli**	**1.27**	**17**	PN	**Pn**	**03 36 30.0**	**-0.6**
ALN	**Alexandroupoli**	**1.27**	**17**	P	**Pn**	**03 36 30.4**	**-0.2**
CHOS	**Chios island**	**1.34**	**163**	PN	**Pn**	**03 36 31.3**	**-0.3**
CHOS	**Chios island**	**1.34**	**163**	P	**Pg**	**03 36 32.0**	**-0.3**
CHOS				S	**Sg**	**03 36 51.1**	**+1.3**
AOS	**Alonnisos**	**1.40**	**249**	PN	**Pg**	**03 36 33.6**	**+0.2**
KESN	**Edirne-Kesan**	**1.43**	**36**	IAML_P			
	comp=Z,69nm,0.1s						
KESN				*i* P	**Pn**	**03 36 31.6**	**-1.5**
KESN				*i* S	**Sg**	**03 36 53.0**	**+0.4**
RDO	**Rodhopi**	**1.47**	**359**	PN	**Pb**	**03 36 33.6**	**-0.5**
KRBG	**Karabiga-Canak**	**1.51**	**61**	PN	**Pb**	**03 36 34.2**	**-0.6**
URLA	**Izmir**	**1.54**	**148**	PN	**Pb**	**03 36 34.6**	**-0.7**
URLA	**Izmir**	**1.54**	**148**	IAML_P			
	comp=Z,282nm,0.2s						
URLA				*i* P	**Pg**	**03 36 35.8**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.69**	**100**	IAML_P			
	comp=Z,212nm,0.1s						
STEP				*i* P	**Pn**	**03 36 36.4**	**0.0**
BLCB	**Balcova**	**1.73**	**138**	PN	**Pn**	**03 36 36.9**	**+0.1**
BALB	**Balikesir**	**1.79**	**90**	PN	**Pn**	**03 36 37.8**	**+0.2**
EDC	**Edincik**	**1.89**	**69**	PN	**Pn**	**03 36 39.3**	**+0.3**
SBT4	**Kumbag-Tekirda**	**1.90**	**52**	PN	**Pn**	**03 36 39.8**	**+0.8**
DURS	**Dursunbey**	**2.25**	**91**	*i* P	**Pn**	**03 36 44.1**	**0.0**
EDRB	**Edirne**	**2.34**	**22**	PN	**Pn**	**03 36 46.0**	**+0.7**

IDC 13 03:46:55.2±2.8, **7°.05S**×**129°.71E**, **h94**km±39km, **mb3.6**/1, **mb1 3.4**/5, **mb1mx3.2**/37, **mbtmp3.7**/5, **MS3.1**/1, **Ms1 3.1**/1, **ms1mx2.3**/33, **Error ellipse: s-maj=73.7km s-min=22.4km az=91.0**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.34**	**14**	P	Pn	03 48 26.2	+0.1
	1.0nm,0.3s,baz=190,slow=17,SNR=14						
SIJI				S	Sn	03 49 32.4	-4.7
	1.1nm,0.3s,baz=218,slow=23,SNR=7.2						
FITZ	**Fitzroy Crossi**	**11.67**	**200**	P	Pn	03 49 39.0	+0.4
	0.3nm,0.3s,baz=21,slow=10,SNR=30						
FITZ				S	Sn	03 51 42.6	-4.5
	0.3nm,0.3s,baz=114,slow=20,SNR=4.0						
WRA	**Warramunga Arr**	**13.57**	**161**	P	Pn	03 50 01.9	-2.0
	0.3nm,0.3s,baz=335,slow=14,SNR=20						
WRA				S	Sn	03 52 24.4	-8.9
	0.7nm,0.3s,baz=87,slow=15,SNR=10						
ASAR	**Alice Springs**	**17.00**	**167**	P	P	03 50 48.6	+1.0
	0.1nm,0.3s,baz=344,slow=11,SNR=8.6						
ASAR				S	Sn	03 53 46.9	-9.2
	0.1nm,0.3s,baz=357,slow=28,SNR=5.5						
JHJ	**Hachijo jima 2**	**41.08**	**13**	LR	LR	04 11 34.6	
	comp=Z,27nm,19.8s,baz=178,slow=36						
MKAR	**Makanchi Array**	**68.12**	**327**	P	P	03 57 45.0	0.0
	0.8nm,0.6s,baz=130,slow=7.5,SNR=7.8						

*ISCJB **13** 03:48:06.1±1.2, 0°.3S±0°.2×91°.8E±0°.1, h10km, mb3.7/6, MS3.2/6, Error ellipse: s-maj=26.3km s-min=14.5km az=12.9*
*IDC **13** 03:48:06.5±1.5, 0°.37S×91°.79E, h0km, mb3.6/6, mb1 3.9/9, mb1mx3.6/55, mbtmp3.7/9, ML4.0/3, MS3.2/7, Ms1 3.2/7, ms1mx2.9/37, Error ellipse: s-maj=38.0km s-min=24.3km az=29.0*

ISC 13 03:48:07.9±1.4, **0°.3S**±0°.2×**91°.8E**±0°.1, **h10**km, **n17**, σ0§**80**/9, **mb3.8**/6, **MS3.2**/6, **South Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**7.75**	**67**	Pn	**Pn**	**03 50 00.5**	**-0.6**
	1.1nm,0.3s,baz=180,slow=1.0,SNR=2.7						
PSI				LR	LR	03 53 19.3	
	comp=Z,322nm,18.8s,baz=263,slow=40						
PALK	**Pallekele**	**13.38**	**304**	Pn	**Pn**	**03 51 16.9**	**-1.3**
	1.1nm,0.3s,baz=137,slow=0.5,SNR=4.5						
PALK				Sn	Sn	03 53 36.5	-11
	0.9nm,0.3s,baz=296,slow=16,SNR=4.1						
CMAR	**Chiang Mai Arr**	**19.91**	**20**	P	**Pn**	**03 52 41.8**	**+0.2**
	0.2nm,0.3s,baz=212,slow=10,SNR=7.0						
H08S2	**Diego Garcia H**	**20.59**	**249**	T	T	04 14 00.0	
	baz=69,slow=74,SNR=3.7						
H08S3	**Diego Garcia H**	**20.59**	**249**	T	T	04 14 07.1	
	baz=69,slow=74,SNR=3.0						
H08S1	**Diego Garcia H**	**20.61**	**249**	T	T	04 14 04.4	
	baz=69,slow=74,SNR=4.7						
WSAR	**Wadi Sarin**	**39.84**	**308**	LR	LR	04 10 05.6	
	comp=Z,40nm,19.7s,baz=164,slow=33						
AAK	**Ala-Archa**	**45.49**	**342**	LR	LR	04 15 44.9	
	comp=Z,38nm,19.9s,baz=164,slow=36						
WRA	**Warramunga Arr**	**45.98**	**118**	P	**P**	**03 56 31.4**	**-0.3**
	1.1nm,0.9s,baz=296,slow=8.7,SNR=5.9						
MKAR	**Makanchi Array**	**47.63**	**351**	P	**P**	**03 56 44.2**	**-0.1**
	0.8nm,0.9s,baz=171,slow=10.0,SNR=4.3						
SONM	**Songino Array**	**49.59**	**13**	P	**P**	**03 57 00.1**	**+0.6**
	0.3nm,0.4s,baz=200,slow=10,SNR=5.0						
KSRS	**Korea Array**	**50.23**	**38**	LR	LR	04 20 34.9	
	comp=Z,12nm,18.6s,baz=220,slow=39						
ZALV	**Zalesovo Beam**	**54.37**	**355**	P	**P**	**03 57 34.9**	**0.0**
	0.6nm,0.5s,baz=175,slow=6.8,SNR=4.7						
MJAR	**Matsushiro Arr**	**56.48**	**44**	LR	LR	04 23 54.1	
	comp=Z,12nm,19.4s,baz=280,slow=38						
STKA	**Stephens Creek**	**56.50**	**129**	LR	LR	04 21 13.2	
	comp=Z,24nm,19.8s,baz=23,slow=35						
BRTR	**Keskin Array B**	**66.20**	**314**	P	**P**	**03 58 57.1**	**+0.7**
	0.5nm,0.9s,baz=112,slow=7.3,SNR=2.9						
GERES	**GERESS Array B**	**82.40**	**319**	P	**P**	**04 00 31.4**	**+0.9**
	0.3nm,0.5s,baz=105,slow=6.2,SNR=3.6						
GERES				LR	LR	04 40 22.0	
	comp=Z,10nm,21.0s,baz=279,slow=38						

*NEIC **13** 03:50:27.8±0.0, 15°.97N×97°.08W, h42km, MD4.1(MEX), After MEX.*

MEX 13 03:50:28.2±0.7, **16°.04N**×**97°.03W**, **h38**km±6km, **MD4.1**, **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.93**	**107**	*e*P	Pn	03 50 43.1	-1.6
HUIG				*e*S	Sn	03 50 54.9	-1.8
HUIG	**Huatulco**	**0.93**	**107**	*e*P	Pn	03 50 43.1	-1.6
HUIG				*e*S	Sn	03 50 54.9	-1.8
VHO	**Vista Hermosa**	**1.06**	**15**	*e*P	Pn	03 50 44.4	-2.3
VHO				*e*S	Sn	03 50 57.5	-2.9
VHO	**Vista Hermosa**	**1.06**	**15**	*e*P	Pn	03 50 44.4	-2.3
VHO				*e*S	Sn	03 50 57.8	-2.7
PNIG	**Pinotepa**	**1.11**	**288**	*e*P	Pn	03 50 45.3	-2.0
PNIG				*e*S	Sn	03 50 58.4	-3.0
PNIG	**Pinotepa**	**1.11**	**288**	*e*P	Pn	03 50 45.2	-2.0
PNIG				*i* S	Sn	03 50 58.8	-2.6
CMIG	**Matias Romero**	**2.31**	**63**	*e*P	Pn	03 51 02.9	-0.8
CMIG				*e*S	Sn	03 51 30.8	0.0
CMIG	**Matias Romero**	**2.31**	**63**	*e*P	Pn	03 51 02.9	-0.8
CMIG				*i* S	Sn	03 51 28.6	-2.2

*ISCJB **13** 04:00:40.8±0.2, 43°.43N±0°.02×39°.31E±0°.02, h10km, mb3.4/6, Error ellipse: s-maj=2.8km s-min=1.8km az=8.9*
*MOS **13** 04:00:40.0±0.0, 43°.37N×39°.40E, h2km, MPVA4.2, FELT I=II-III MSK at Sochi*
*IDC **13** 04:00:40.1±0.7, 43°.41N×39°.47E, h0km, mb3.4/7, mb1 3.7/14, mb1mx3.5/53, mbtmp3.5/14, ML3.7/6, Error ellipse: s-maj=13.7km s-min=7.2km az=179.0*
*ISK **13** 04:00:42.3, 43°.35N×39°.50E, h21km, ML3.8/18*

ISC 13 04:00:40.7±0.5, **43°.35N**±0°.03×**39°.41E**±0°.02, **h10**km, **n129**, σ2§**13**/168, **mb3.5**/7, **20C-15D**, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOC	**Sochi**	**0.33**	**44**	*de*PG	**Pg**	**04 00 44.7**	**-2.5**
SOC				pmax	pmax		
	comp=Z,1µm,0.2s						
SOC	**Sochi**	**0.33**	**44**	*e*Pg	**Pg**	**04 00 44.9**	**-2.3**
SOC				*e*Sg	**Sg**	**04 00 47.6**	**-4.0**
LZRR	**Lazarevskoye**	**0.59**	**358**	*i* Pg	**Pb**	**04 00 52.0**	**-1.0**
LZRR				*i* Sg	**Sb**	**04 01 01.0**	**-0.5**
RPOR	**Krasnaya Polya**	**0.72**	**60**	*i* Pg	**Pg**	**04 00 51.7**	**-2.8**
RPOR				*i* Sg	**Sg**	**04 01 00.4**	**-3.5**
VOZR	**Vozrozhdenie**	**1.48**	**325**	*e*Pg	**Pg**	**04 01 09.5**	**+0.5**
VOZR				*e*Sg	**Sg**	**04 01 29.1**	**+0.9**
DOMR	**Dombai**	**1.62**	**91**	*i* PN	**Pb**	**04 01 10.1**	**-0.6**
DOMR	**Dombai**	**1.62**	**91**	*e*Pg	**Pb**	**04 01 09.7**	**-1.1**
DOMR				*e*Sg	**Sb**	**04 01 30.7**	**-0.5**
KTUT	**Trabzon**	**2.37**	**173**	PN	**Pn**	**04 01 20.5**	**+0.9**
KTUT				SN	**Sn**	**04 01 49.3**	**+0.5**
SHA1	**Shidzhatmaz**	**2.40**	**79**	*e*Pn	**Pn**	**04 01 20.7**	**+0.5**
SHA1				*e*Sn	**Sb**	**04 01 53.0**	**-0.7**
NEY	**Neytrino**	**2.42**	**91**	*i* PN	**Pb**	**04 01 22.7**	**-1.7**
NEY	**Neytrino**	**2.42**	**91**	*e*Pn	**Pb**	**04 01 22.9**	**-1.5**
NEY				*e*Sn	**Sb**	**04 01 53.7**	**-0.7**
KIV	**Kislovodsk**	**2.46**	**75**	*e*PN	**Pb**	**04 01 22.5**	**-2.5**
CHOM	**Cayeli-Rize**	**2.46**	**155**	PN	**Pn**	**04 01 22.2**	**+1.3**
KIV0	**Kislovodsk Arr**	**2.46**	**75**	*e*Pn	**Pn**	**04 01 22.2**	**+1.2**
KIV0				*e*Sn	**Sb**	**04 01 53.2**	**-2.3**
KVAR	**Kislovodsk Arr**	**2.46**	**75**	Pn	**Pb**	**04 01 24.1**	**-1.0**
	baz=257,slow=19,SNR=54						
KVAR				Lg	Lg	04 01 54.6	
	baz=333,slow=16,SNR=10						
ESPY	**Espiye-Giresun**	**2.48**	**192**	PN	**Pn**	**04 01 22.4**	**+1.3**
BEYR	**Belyy Ugol+**	**2.56**	**74**	*e*Pn	**Pb**	**04 01 24.1**	**-2.6**
BEYR				*i* Sn	**Sb**	**04 01 58.4**	**+0.1**
KBZ	**Khabaz**	**2.57**	**80**	Pn	**Pn**	**04 01 23.4**	**+1.2**
	comp=Z,7.4nm,0.3s,baz=321,slow=4.5,SNR=89						
KBZ				Lg	Lg	04 01 58.5	
	comp=Z,7.5nm,0.3s,baz=120,slow=22,SNR=7.4						
ORDU	**Ordu-Boztepe**	**2.62**	**207**	*i* P	**Pn**	**04 01 24.8**	**+1.8**
ORDU				*i* S	**Sb**	**04 01 57.8**	**-2.2**
PYA1	**Pyatigorsk**	**2.77**	**74**	*e*Pn	**Pb**	**04 01 27.7**	**-2.5**
PYA1				*e*Sn	**Sb**	**04 02 03.4**	**-0.8**
GUMT	**Gumushane**	**2.88**	**179**	PN	**Pn**	**04 01 28.8**	**+2.0**
ALER	**Alexandrovskoy**	**2.90**	**60**	*e*Pn	**Pb**	**04 01 29.2**	**-3.2**
ALER				*e*Sn	**Sb**	**04 02 07.9**	**0.0**
KBTC	**Kuba-Taba**	**2.94**	**79**	*e*Pn	**Pb**	**04 01 32.7**	**-0.6**
KBTC				*e*Sn	**Sb**	**04 02 07.1**	**-2.2**
BAYT	**Aydıntepe-Bayb**	**3.00**	**169**	PN	**Pn**	**04 01 29.9**	**+1.5**
NCK	**Nalchik**	**3.06**	**86**	*i* PN	**Pb**	**04 01 31.8**	**-3.3**
NCK	**Nalchik**	**3.06**	**86**	*e*Pn	**Pb**	**04 01 35.7**	**+0.6**
NCK				*e*Sn	**Sb**	**04 02 10.5**	**-2.0**
DIGR	**Digorskoe uzhe**	**3.09**	**97**	*e*Pn	**Pn**	**04 01 30.6**	**+1.0**
DIGR				*e*Sn	**Sb**	**04 02 10.4**	**-3.2**
GOF	**Gofitskoye**	**3.12**	**56**	*e*PN	**Pb**	**04 01 33.6**	**-2.7**
GOF				*e*S	**Sb**	**04 02 14.9**	**+0.5**
GOF				pmax	pmax		
	comp=Z,30nm,0.7s						
GOF				smax	smax		
	comp=N,150nm,0.8s						
GOF				smax	smax		
	comp=E,150nm,0.8s						
LSNR	**Lesken**	**3.23**	**90**	*e*Pn	**Pn**	**04 01 33.4**	**+2.0**
LSNR				*e*Sn	**Sb**	**04 02 14.1**	**-3.3**
RSDY	**Resadiye-TOKAT**	**3.33**	**208**	PN	**Pn**	**04 01 35.5**	**+2.7**
FEO	**Feodosiya**	**3.34**	**301**	*e*PN	**Pn**	**04 01 31.3**	**-1.6**
FEO				MLR	MLR		
	comp=Z,77nm,0.3s						
FEO	**Feodosiya**	**3.34**	**301**	*e*Pn	**Pn**	**04 01 31.3**	**-1.6**
ZEI	**Tsey**	**3.34**	**98**	*e*PN	**Pn**	**04 01 35.9**	**+2.8**
ZEI				*e*S	**Sg**	**04 02 25.6**	**-2.3**
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ZEI				smax	smax		
	comp=E,28nm,0.6s						
ZEI				smax	smax		
	comp=N,28nm,0.4s						
ZEI	**Tsey**	**3.34**	**98**	*e*Pn	**Pn**	**04 01 35.9**	**+2.8**
ZEI				*e*Sn	**Sn**	**04 02 15.7**	**+2.7**
SNOP	**Sinop**	**3.37**	**248**	PN	**Pn**	**04 01 35.9**	**+2.6**
SINO	**SINOP_Merkez**	**3.37**	**248**	*i* P	**Pb**	**04 01 36.3**	**-4.2**
SINO				*i* S	**Sb**	**04 02 17.9**	**-3.7**
STDR	**Stavd-Durt**	**3.40**	**88**	*e*Pn	**Pn**	**04 01 35.5**	**+1.8**
STDR				*e*Sn	**Sn**	**04 02 16.5**	**+2.5**
DIKM	**Dikmen**	**3.50**	**242**	PN	**Pn**	**04 01 38.2**	**+3.0**
SUDU	**Sudak**	**3.53**	**297**⇑	*e*PN	**Pn**	**04 01 37.0**	**+1.5**
SUDU				*e*S	**Sn**	**04 02 18.8**	**+1.6**
SUDU	**Sudak**	**3.53**	**297**	*e*Pn	**Pn**	**04 01 37.0**	**+1.5**
SUDU				*e*Sn	**Sn**	**04 02 18.8**	**+1.6**
ARNR	**Ardon**	**3.57**	**91**	*e*Pn	**Pn**	**04 01 38.5**	**+2.5**
ARNR				*e*Sn	**Sn**	**04 02 21.7**	**+3.5**
LACR	**Lac**	**3.62**	**97**	*e*Pn	**Pn**	**04 01 39.8**	**+2.9**
LACR				*e*Sn	**Sn**	**04 02 22.6**	**+2.9**
EUZM	**Uzumlu**	**

HARR	**Harsova**	**8.38**	**283**	⇓*i*	P	**Pn**	04 02 42.5	**+0.4**
ICOR	**Ion Corvin**	**8.44**	**279**	⇓*i*	P	**Pn**	04 02 43.8	**+0.9**
ICOR	**Ion Corvin**	**8.44**	**279**		S	**Sn**	04 04 15.9	**-2.3**
LPSR	**Galich'ya Gora**	**9.27**	**358**	*eP*		**Pn**	04 02 53.3	**-0.9**
LPSR				*eS*		**Sn**	04 04 31.4	**-7.0**
LPSR				pmax	pmax			
	comp=Z,4.0nm,0.5s							
LPSR				smax	smax			
	comp=E,10.0nm,0.4s							
VRI	**Vrincioaia**	**9.39**	**290**	⇓*i*	P	**Pn**	04 02 56.7	**+0.7**
VRI	**Vrincioaia**	**9.39**	**290**	⇓	P	**Pn**	04 02 56.7	**+0.7**
PLOR	**Plostina**	**9.44**	**290**	⇓*i*	P	**Pn**	04 02 57.5	**+0.8**
PLOR	**Plostina**	**9.44**	**290**	⇓	P	**Pn**	04 02 57.5	**+0.8**
MLR	**Muntele Rosu**	**9.87**	**287**		Pn	**Pn**	04 03 04.2	**+1.5**
	comp=E,0.7nm,0.3s,baz=160,slow=17,SNR=9.7							
MLR					Sn	**Sn**	04 04 53.7	**+0.2**
	comp=E,0.7nm,0.3s,baz=169,slow=20,SNR=4.7							
MLR	**Muntele Rosu**	**9.87**	**287**	⇑*i*	P	**Pn**	04 03 03.3	**+0.7**
MLR	**Muntele Rosu**	**9.87**	**287**	⇑	P	**Pn**	04 03 03.3	**+0.7**
BIZ	**Bicaz**	**10.06**	**296**	⇓*i*	P	**Pn**	04 03 05.5	**+0.4**
AKASG	**Malin Array Be**	**10.12**	**320**		Pn	**Pn**	04 03 05.0	**-0.9**
	comp=E,1.9nm,0.3s,baz=115,slow=13,SNR=7.3							
AKASG					Sn	**Sn**	04 04 53.4	**-5.8**
	comp=E,1.4nm,0.3s,baz=124,slow=24,SNR=4.3							
KIEV	**Kiev**	**10.12**	**320**	⇑*i*	P	**Pn**	04 03 05.3	**-0.6**
KIEV	**Kiev**	**10.12**	**320**	⇑	P	**Pn**	04 03 05.3	**-0.6**
DOPR	**Dopca**	**10.33**	**290**	⇓*i*	P	**Pn**	04 03 08.9	**+0.1**
VOIR		**10.49**	**286**	⇑*i*	P	**Pn**	04 03 12.1	**+1.0**
VOIR		**10.49**	**286**	⇑	P	**Pn**	04 03 12.1	**+1.0**
ARR	**Arges**	**10.77**	**286**	⇑*i*	P	**Pn**	04 03 15.3	**+0.4**
BURAR	**Bucovina Array**	**10.84**	**298**	⇑*i*	P	**Pn**	04 03 15.2	**-0.7**
BURAR	**Bucovina Array**	**10.84**	**298**	⇑	P	**Pn**	04 03 15.2	**-0.7**
OBN	**Obninsk**	**11.92**	**352**	*eP*		**Pn**	04 03 30.3	**-0.2**
OBN				pmax	pmax			
	comp=E,5.0nm,0.9s							
GZR	**Gura Zlata**	**12.08**	**285**	⇓*i*	P	**Pn**	04 03 32.0	**-0.8**
DRGR		**12.29**	**292**	⇑*i*	P	**Pn**	04 03 35.3	**-0.5**
DRGR		**12.29**	**292**	⇑	P	**Pn**	04 03 35.3	**-0.5**
GEYT	**Alibeck**	**15.19**	**105**		Pn	**Pn**	04 04 17.0	**+1.8**
	baz=262,slow=14,SNR=2.1							
VYHS	**Vyhne**	**15.20**	**297**	*eP*		P	04 04 26.9	+6.6
VYHS	**Vyhne**	**15.20**	**297**	*eP*		P	04 04 26.9	+6.6
VYHS				*e*PDIFF			04 28 47.2	
VSU	**Vasula**	**17.07**	**337**	*i* P		**Pn**	04 04 38.9	**-0.2**
KLMR	**Klimovskoe**	**17.54**	**0**	*eP*		**P**	04 04 46.7	**+0.7**
KLMR				pmax	pmax			
	comp=Z,6.0nm,0.9s							
KLMR	**Klimovskoe**	**17.54**	**0**	*e*Pn		**P**	04 04 46.7	**+0.7**
KLMR				AMP			04 05 04.1	
	comp=Z,6.0nm,0.9s							
GERES	**GERESS Array B**	**18.61**	**296**	P		**Pn**	04 05 00.7	**+2.3**
	baz=101,slow=10,SNR=4.9							
FINES	**FINESS Array B**	**19.79**	**341**	P		**Pn**	04 05 10.7	**-1.6**
	comp=Z,0.2nm,0.3s,baz=151,slow=12,SNR=13							
DAVOX	**Davos/Dischmat**	**21.08**	**290**	P		**P**	04 05 26.8	**+1.6**
	comp=Z,1.4nm,0.6s							
BRVK	**Borovoye**	**22.59**	**54**	*i* P		**P**	04 05 41.3	**+0.2**
BVAR	**Borovoye Array**	**22.65**	**54**	P		**P**	04 05 42.3	**+0.6**
	comp=Z,0.6nm,0.8s,baz=243,slow=13,SNR=2.1							
HFS	**Hagfors**	**22.91**	**326**	P		**P**	04 05 45.6	**+1.2**
	comp=Z,1.0nm,0.4s,baz=107,slow=9.2,SNR=4.8							
NOA	**NORSAR Array B**	**24.44**	**326**	P		**P**	04 06 00.9	**+1.6**
	comp=Z,0.6nm,0.9s,baz=128,slow=11,SNR=3.8							
MKAR	**Makanchi Array**	**30.20**	**68**	P		**P**	04 06 51.9	**+0.8**
	comp=Z,0.4nm,0.9s,baz=268,slow=8.1,SNR=2.7							
TORD	**Torodi Ar. Bea**	**44.21**	**239**	P		**P**	04 08 52.0	**+1.9**
	comp=Z,1.6nm,0.9s,baz=53,slow=7.2,SNR=8.8							
YKA	**Yellowknife Ar**	**72.46**	**348**	P		**P**	04 12 08.0	**+1.2**
	comp=Z,0.6nm,0.7s,baz=16,slow=6.2,SNR=10.0							

ISK ***13*** *04:04:44.7,39.69N×25.54E,h12km,ML2.8/16*
ATH ***13*** *04:04:45.3,39.69N×25.57E,h28km±1km, ML2.5/6, Error ellipse: s-maj=2.1km s-min=0.8km az=62.0*
ISCJB ***13*** *04:04:46.4±0.3,39.70N±0.02×25.60E±0.03,h20km±4km, Error ellipse: s-maj=3.8km s-min=3.2km az=154.5*
THE ***13*** *04:04:46.0,39.70N×25.62E,h7km±1km,ML2.0/6, Error ellipse: s-maj=1.6km s-min=0.7km az=155.0*
DDA ***13*** *04:04:47.3,39.77N×25.73E,h7km,2km,ML3.0*

ISC 13 04:04:46.0±0.9,39.69N±0.02×25.61E±0.02,h15km±8km, n49,σ0s43/71,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.38**	**302**	P		P	**Pg**	**04 04 53.9**	**+0.1**
LIA				S		S	**Sg**	**04 04 59.1**	**0.0**
LIA				AML		AML		04 05 04.1	
	comp=N,648μm,0.4s								
LIA				AML		AML		04 05 04.4	
	comp=E,614μm,0.5s								
LIA	**Limnos Island**	**0.38**	**302**	P		P	**Pg**	**04 04 53.9**	**+0.1**
LIA				S		S	**Sg**	**04 04 59.6**	**+0.5**
GPNR	**Gulpinar-Canak**	**0.47**	**120**	PG		P	**Pg**	**04 04 55.2**	**-0.2**
EFSA	**Agios Efstrati**	**0.50**	**252**	P		P	**Pb**	**04 04 56.9**	**+0.5**
EFSA				S		S	**Sb**	**04 05 03.7**	**+0.2**
SIGR	**SIGRI**	**0.52**	**158**	PG		P	**Pg**	**04 04 55.9**	**-0.3**
SIGR				SG		S	**Sg**	**04 05 03.4**	**+0.2**
SIGR	**SIGRI**	**0.52**	**158**	P		P	**Pg**	**04 04 55.9**	**-0.3**
SIGR				S		S	**Sg**	**04 05 03.6**	**+0.4**
SIGR				AML		AML		04 05 04.0	
	comp=E,7190μm,0.5s								
SIGR				AML		AML		04 05 04.0	
	comp=N,9122μm,0.4s								
SIGR	**SIGRI**	**0.52**	**158**	P		P	**Pg**	**04 04 56.0**	**-0.3**
SIGR				S		S	**Sg**	**04 05 03.4**	**+0.2**
GADA	**Gvkgeada**	**0.55**	**24**	PG		P	**Pg**	**04 04 56.5**	**-0.3**
GADA				SG		S	**Sb**	**04 05 04.9**	**+0.1**
GADA	**Gvkgeada**	**0.55**	**24**	P		P	**Pg**	**04 04 56.5**	**-0.3**
GADA				S		S	**Sb**	**04 05 04.8**	**0.0**
GOKC	**Gokceada-Canak**	**0.56**	**25**	PG		P	**Pg**	**04 04 56.9**	**-0.1**
EZN	**Ezine**	**0.57**	**76**	PG		P	**Pg**	**04 04 56.8**	**-0.4**
EZN	**Ezine**	**0.57**	**76**	P		P	**Pg**	**04 04 56.8**	**-0.4**
EZN				S		S	**Sg**	**04 05 04.5**	**-0.3**
PRK	**Paraskevi**	**0.68**	**131**	P		P	**Pb**	**04 04 59.9**	**+0.4**
PRK				S		S	**Sb**	**04 05 09.5**	**+0.7**
PRK				AML		AML		04 05 13.1	
	comp=E,1993μm,0.4s								
PRK				AML		AML		04 05 13.2	
	comp=N,1725μm,0.3s								
BAYC	**CANAKKALE_Bayr**	**0.73**	**86**	*i* P		P	**Pb**	**04 05 00.4**	**+0.1**
BAYC				*i* S		S	**Sb**	**04 05 10.4**	**+0.3**
SMTH	**Samothraki Isl**	**0.78**	**356**	P		P	**Pg**	**04 05 00.8**	**-0.3**
SMTH				S		S	**Sb**	**04 05 11.5**	**-0.1**
SMTH				AML		AML		04 05 12.6	
	comp=E,248μm,0.2s								
SMTH				AML		AML		04 05 14.7	
	comp=N,255μm,0.3s								
SMTH	**Samothraki Isl**	**0.78**	**356**	P		P	**Pg**	**04 05 01.1**	**0.0**
SMTH				S		S	**Sb**	**04 05 11.7**	**+0.1**
AYVA	**Ayvalik**	**0.92**	**114**	*i* P		P	**Pb**	**04 05 04.1**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.97**	**43**	PG		P	**Pg**	**04 05 03.9**	**-0.8**
LPK	**Lapseki**	**1.12**	**52**	PN		P	**Pb**	**04 05 06.6**	**-0.4**
ENEZ	**Enez**	**1.12**	**22**	PN		P	**Pb**	**04 05 06.8**	**-0.3**
THAS	**Thassos island**	**1.14**	**324**	P		P	**Pb**	**04 05 07.2**	**-0.1**
THAS				S		S	**Sb**	**04 05 22.0**	**+0.1**
THAS				AML		AML		04 05 24.5	
	comp=N,352μm,0.2s								
THAS				AML		AML		04 05 24.8	
	comp=E,269μm,0.4s								
THAS	**Thassos island**	**1.14**	**324**	P		P	**Pb**	**04 05 07.4**	**+0.1**
THAS				S		S	**Sb**	**04 05 22.5**	**+0.7**
PSRA	**Psara**	**1.15**	**182**	P		P	**Pb**	**04 05 07.8**	**+0.3**
PSRA				S		S	**Sg**	**04 05 23.3**	**+0.2**
SKY	**Skiros Island**	**1.16**	**225**	P		P	**Pb**	**04 05 07.0**	**-0.6**
DKL	**Dikili**	**1.18**	**121**	PN		P	**Pn**	**04 05 08.0**	**+0.1**
ERIK	**Erikli-Kesan**	**1.20**	**35**	PN		P	**Pn**	**04 05 08.1**	**0.0**
ALN	**Alexandroupoli**	**1.25**	**16**	PN		P	**Pn**	**04 05 08.2**	**-0.6**
ALN	**Alexandroupoli**	**1.25**	**16**	P		P	**Pn**	**04 05 08.3**	**-0.5**
ALN	**Alexandroupoli**	**1.25**	**16**	P		P	**Pn**	**04 05 09.2**	**+0.4**
ALN				S		S	**Sg**	**04 05 26.0**	**-0.3**
FOCM	**Foa**	**1.31**	**138**	PN		P	**Pn**	**04 05 09.2**	**-0.5**
CHOS	**Chios island**	**1.35**	**165**	PN		P	**Pn**	**04 05 09.1**	**-1.2**
CHOS	**Chios island**	**1.35**	**165**	P		P	**Pn**	**04 05 09.7**	**-0.7**
CHOS				S		S	**Sg**	**04 05 29.2**	**-0.4**
CHOS				AML		AML		04 05 31.8	
	comp=N,396μm,0.5s								
CHOS				AML		AML		04 05 32.0	
	comp=E,478μm,0.3s								
KESN	**Edirne-Kesan**	**1.40**	**36**	IAML_P					
	comp=Z,352nm,0.2s								
KESN				*i* P		P	**Pb**	**04 05 12.1**	**+0.1**
KESN				*i* S		S	**Sn**	**04 05 30.0**	**+0.4**
AOS	**Alonnisos**	**1.44**	**249**	PN		**Pn**		**04 05 10.3**	**-1.1**
RDO	**Rodhopi**	**1.45**	**358**	PN		**Pn**		**04 05 11.2**	**-0.4**
RDO	**Rodhopi**	**1.45**	**358**	P		**Pn**		**04 05 11.6**	**0.0**
KRBG	**Karabiga-Canak**	**1.48**	**61**	PN		**Pn**		**04 05 12.4**	**+0.4**
PAIG	**Paliouri**	**1.50**	**280**	P		**Pn**		**04 05 13.3**	**+1.0**
KAVA	**Kavala**	**1.54**	**328**	P		**Pn**		**04 05 12.7**	**-0.2**
KAVA				S		**Sn**		**04 05 32.4**	**-0.3**
KAVA	**Kavala**	**1.54**	**328**	P		**Pn**		**04 05 12.7**	**-0.2**
KAVA				S		**Sb**		**04 05 33.8**	**+0.2**
GONE	**Gonen-Balikesi**	**1.64**	**77**	PN		**Pn**		**04 05 14.8**	**+0.6**
STEP	**BALIKESIR_Sava**	**1.67**	**100**	IAML_P					
	comp=Z,704nm,0.2s								
STEP				*i* P		**Pn**		**04 05 15.2**	**+0.6**
STEP				*i* S		**Sg**		**04 05 39.5**	**-0.1**
BLCB	**Balcova**	**1.72**	**139**	PN		**Pn**		**04 05 15.3**	**0.0**
BALB	**Balikesir**	**1.76**	**91**	PN		**Pn**		**04 05 16.1**	**+0.3**
EDC	**Edincik**	**1.85**	**69**	PN		**Pn**		**04 05 17.7**	**+0.5**
SBT4	**Kumbag-Tekirda**	**1.86**	**52**	PN		**Pn**		**04 05 17.5**	**+0.4**
NVR	**Nevrokopi**	**2.12**	**322**	P		**Pn**		**04 05 21.1**	**+0.2**
KCTX	**Karacabey (Bur**	**2.19**	**74**	PN		**Pn**		**04 05 22.4**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**2.50**	**134**	PN		**Pn**		**04 05 26.3**	**+0.2**

SJA ***13*** *04:13:44.1±0.4,35.31S×73.06W,h33km,ML3.7,MW3.6*
GUC ***13*** *04:13:59.5±0.8,34.85S×71.97W,h43km±2km,ML3.9*

ISC 13 04:13:57.6±2.3,34.77S±0.05×72.2W±0.1,h15km±12km, n19,σ1s25/25,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**0.32**	**139**	*e*P		P	**Pg**	**04 14 03.2**	**-1.0**
GO05	**Huala**	**0.32**	**139**	⇑*i*P		P	**Pb**	**04 14 06.6**	**+1.7**
GO05				*i* S		S	**Sb**	**04 14 12.0**	**+2.1**
CCHI	**Chillan**	**1.83**	**177**	*i* S		**Sn**		**04 14 49.4**	**-1.9**
LMEL	**Las Melosas**	**1.88**	**61**	*e*P		**Pn**		**04 14 27.7**	**-1.5**
LMEL				*i* S		**Sn**		**04 14 50.2**	**-2.7**
CLCH	**Cerro Calan**	**1.94**	**45**	*i* P		**Pn**		**04 14 29.5**	**-0.5**
CLCH				*i* S		**Sn**		**04 14 52.8**	**-1.3**
ROC1	**El Roble**	**2.04**	**29**	*e*P		**Pn**		**04 14 30.8**	**-0.7**
ROCH	**El Roble**	**2.04**	**29**	*e*P		**Pn**		**04 14 32.2**	**+0.6**
ROCH				IAML				04 15 06.4	
	comp=E,1μm,0.4s								
PEL	**Peldehue**	**2.05**	**38**	*e*P		**Pn**		**04 14 31.3**	**-0.2**
PEL	**Peldehue**	**2.05**	**38**	*e*P		**Pn**		**04 14 31.3**	**-0.2**
PEL				*i* S		**Sn**		**04 14 55.9**	**-0.8**
PEL				IAML				04 15 05.2	
	comp=E,1μm,0.4s								
FCH	**Farellones**	**2.13**	**48**	*e*P		**Pn**		**04 14 32.1**	**-0.8**
FCH				*i* S		**Sn**		**04 14 58.0**	**-1.2**
FCH				IAML				04 15 04.2	
	comp=N,1μm,0.2s								
AAGR	**Agrelo**	**3.26**	**60**	*e*P		**Pn**		**04 14 48.8**	**+0.6**
AUSP	**Uspallata**	**3.45**	**43**	*e*P		**Pn**		**04 14 52.0**	**+0.9**
AUSP				*e*S		**Sb**		**04 14 52.0**	**+1.6**
RTLS	**Leoncito**	**3.83**	**40**	*e*P		**Pn**		**04 14 57.1**	**+1.0**
RTLS				IAML				04 15 54.9	
	comp=Z,66nm,0.4s								
RTLL	**Cerro Villicun**	**4.63**	**43**	*e*P		**Pn**		**04 15 07.0**	**0.0**
GO06	**Curarrehue**	**4.84**	**173**	*e*P		**Pn**		**04 15 08.9**	**-1.0**
AMOG	**MOGNA**	**4.92**	**40**	*e*P		**Pn**		**04 15 11.0**	**-0.1**
ACCO	**Cerro Coronel**	**4.93**	**33**	*e*P		**Pn**		**04 15 11.8**	**+0.4**
ACDV	**Cuesta del Vie**	**5.27**	**30**	*e*P		**Pn**		**04 15 15.7**	**-0.2**
AGUA	**GUANDACOL**	**6.13**	**32**	*e*P		**Pn**		**04 15 27.4**	**-0.3**

IDC 13 04:23:44.9±2.2,6.30S×129.62E,h0km,mb3.5/1, mb1 3.6/4,mb1mx3.4/27,mbtmp3.5/4,ML3.0/3,Error ellipse: s-maj=95.4km s-min=28.4km az=76.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.35**	**198**	Pn		Pn		04 26 44.1	+2.0
	0.1nm,0.3s,baz=17,slow=14,SNR=6.1								
FITZ				Sn		Sn		04 28 55.3	-5.3
	0.1nm,0.3s,baz=308,slow=19,SNR=2.9								
WRA	**Warramunga Arr**	**14.31**	**162**	Pn		Pn		04 27 08.2	-0.9
	0.1nm,0.3s,baz=341,slow=13,SNR=3.6								
WRA				Sn		Sn		04 29 36.3	-12
	0.2nm,0.3s,baz=333,slow=23,SNR=3.8								
ASAR	**Alice Springs**	**17.75**	**167**	P		Pn		04 27 52.7	-1.0
	0.1nm,0.3s,baz=351,slow=11,SNR=3.3								
MKAR	**Makanchi Array**	**67.44**	**327**	P		P		04 34 42.5	0.0
	0.3nm,0.5s,baz=117,slow=8.2,SNR=5.7								

IDC 13 04:36:34.1±1.4,1.93S×139.09E,h0km,mb3.4/2, mb1 3.8/3,mb1mx3.4/39,mbtmp3.5/3,ML3.8/1,Error ellipse: s-maj=30.6km s-min=22.7km az=36.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.72**	**110**	Pn		Pn		04 37 05.9	+0.6
	18nm,0.3s,baz=234,slow=11,SNR=62								
JAY				Sn		Sn		04 37 27.8	-0.2
	23nm,0.3s,baz=76,slow=14,SNR=7.9								
WRA	**Warramunga Arr**	**18.50**	**194**	P		P		04 40 51.5	-0.5
	0.3nm,0.3s,baz=19,slow=12,SNR=12								
ASAR	**Alice Springs**	**22.19**	**193**	P		P		04 41 32.5	+0.3
	0.9nm,0.4s,baz=16,slow=9.5,SNR=12								
MKAR	**Makanchi Array**	**69.40**	**322**	P		P		04 47 43.9	-0.2
	0.3nm,0.7s,baz=112,slow=5.5,SNR=3.2								

IDC ***13*** *04:39:24.6±4.5,36.18N×70.92E,h153km±38km, mb3.2/8, mb1 3.3/13,mb1mx3.1/52,mbtmp3.7/13,MS2.5/1, Ms1 2.5/1,ms1mx2.0/22,Error ellipse: s-maj=30.9km s-min=19.0km az=25.0*
ISCJB ***13*** *04:39:28.3±0.6,36.45N±0.04×70.85E±0.09,h188km, mb3.3/7,Error ellipse: s-maj=10.8km s-min=5.2km az=158.9*
NNC ***13*** *04:39:34.7±2.9,36.91N×70.67E,h169km±33km,mb3.0, mpv3.6,Error ellipse: s-maj=30.8km s-min=18.2km az=37.0*

ISC 13 04:39:29.1±0.8,36.49N±0.07×70.88E±0.09,h188km,n36, σ1s30/38,mb3.4/7,5C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.08**	**30**	⇑P		**Pn**		**04 40 33.0**	**+1.4**
	2.6nm,0.2s								
SFK				⇑S		**Sn**		**04 41 19.8**	**-0.9**
	30nm,0.4s								
AML	**Almayashu**	**6.04**	**20**	P		**Pn**		**04 40 57.6**	**+0.6**
	SNR=32								
UCH	**Uchtor**	**6.38**	**25**	P		**Pn**		**04 41 02.2**	**+0.7**
	SNR=16								
EKS2	**Erk-Say**	**6.55**	**19**	P		**Pn**		**04 41 04.2**	**+0.8**
	SNR=49								
KK31	**Karatay Array**	**6.61**	**358**	⇑P		**Pn**		**04 41 04.5**	**+0.5**
	1.8nm,0.2s								
KK31				⇓S		**Sn**		**04 42 14.3**	**-4.9**
	15nm,0.4s								
AAK	**Ala-Archa**	**6.74**	**23**	P		**Pn**		**04 41 06.9**	**+1.0**
	2.7nm,0.3s,baz=164,slow=5.4,SNR=23								
AAK				S		**Sn**		**04 42 19.9**	**-2.7**
	1.6nm,0.3s,baz=131,slow=23,SNR=14								
AAK	**Ala-Archa**	**6.74**	**23**	P		**Pn**		**04 41 07.0**	**+1.0**
	SNR=6.0								
USP	**Ospenovka**	**7.32**	**21**	P		**Pn**		**04 41 13.7**	**+0.4**
	SNR=9.4								
TKM2	**Tokmak 2**	**7.38**	**28**	P		**Pn**		**04 41 15.2**	**+0.8**
	SNR=8.3								
PYUN	**Piuthan**	**13.21**	**126**	*e*P		**Pn**		**04 42 29.7**	**-0.2**
	6.6nm,0.3s								
MAKZ	**Makanchi**	**13.22**	**35**	⇑P		**P**		**04 42 33.2**	**+0.4**
	2.7nm,0.6s								
MK31	**Makanchi Array**	**13.35**	**36**	⇓P		**P**		**04 42 34.3**	**-0.1**
	2.0nm,0.8s,baz=209,slow=9.5,SNR=8.1								
MKAR	**Makanchi Array**	**13.35**	**36**	P		**Pn**		**04 42 32.0**	**+0.7**
	0.2nm,0.3s,baz=215,slow=9.2,SNR=10								
DANN	**Dangsing**	**13.56**	**123**	*e*P		**Pn**		**04 42 34.4**	**0.0**
	7.5nm,0.3s								
KOLN	**Koldanda**	**13.84**	**125**	*e*P		**Pn**		**04 42 37.6**	**-0.1**
	4.4nm,0.3s								
DMN	**Daman**	**14.95**	**122**	*e*P		**P**		**04 42 52.1**	**-0.4**
	4.9nm,0.3s								
KKN	**Kakani**	**14.95**	**121**	*e*P		**Pn**		**04 42 51.6**	**+0.1**
	14nm,0.5s								
AB31	**Akbulak array**	**15.05**	**331**	⇓P		**P**		**04 42 54.8**	**+1.7**
	2.0nm,0.7s,baz=148,slow=12,SNR=30								
KURBB	**Kurchatov Arra**	**15.16**	**19**	P		**P**		**04 42 55.0**	**+0.7**
	0.1nm,0.3s,baz=202,slow=9.1,SNR=4.1								
PKIN	**Phulchoki**	**15.17**	**122**	*e*P		**P**		**04 42 54.8**	**-0.1**
	6.4nm,0.3s								
GUN	**Gumba**	**15.30**	**120**	*e*P		**P**		**04 42 56.6**	**+0.2**
	9.2nm,0.5s								
JIRN	**Jiri**	**15.67**	**120**	*e*P		**P**		**04 43 00.8**	**+0.3**
	19nm,0.4s								
RAMN	**Ramite**	**16.39**	**121**	*e*P		**Pn**		**04 43 09.1**	**+0.1**
	5.8nm,0.3s								
BVAR	**Borovoye Array**	**16.54**	**359**	P		**Pn**		**04 43 11.2**	**+1.0**
	0.2nm,0.3s,baz=158,slow=11,SNR=4.5								
AKTO	**Aktyubinsk**	**16.74**	**330**	P		**Pn**		**04 43 13.8**	**+1.2**
	0.3nm,0.3s,baz=151,slow=10,SNR=4.2								
AKTO	**Aktyubinsk**	**16.74**	**330**	⇑P		**P**		**04 43 12.1**	**+0.4**
	1.0nm,0.6s								
ODAN	**Odare**	**17.00**	**120**	*e*P		**P**		**04 43 15.0**	**-0.1**
	7.9nm,0.3s								
ZALV	**Zalesovo Beam**	**19.96**	**25**	P		**P**		**04 43 47.1**	**+0.5**
	2.1nm,0.6s,baz=213,slow=12,SNR=9.3								
GNI	**Garni**	**20.80**	**288**	LR		LR		04 54 08.8	
	comp=Z,13nm,19.2s,baz=345,slow=42								
SONM	**Songino Array**	**28.42**	**55**	P		**P**		**04 45 06.6**	**+0.4**
	0.2nm,0.5s,baz=269,slow=7.2,SNR=3.0								
FINES	**FINESS Array B**	**37.44**	**326**	P		**P**		**04 46 25.2**	**+1.4**
	0.9nm,0.7s,baz=120,slow=9.8,SNR=4.9								
ARCES	**ARCESS Array B**	**41.12**	**338**	P		**P**		**04 46 55.5**	**+1.4**
	7.6nm,1.1s,baz=109,slow=7.5,SNR=8.1								
TORD	**Torodi Ar. Bea**	**65.62**	**269**	P		**P**		**04 49 51.4**	**-1.9**
	0.5nm,0.8s,baz=72,slow=4.3,SNR=4.6								
YKA	**Yellowknife Ar**	**81.26**	**3**	P		**P**		**04 51 24.5**	**+0.8**
	0.3nm,0.3s,baz=352,slow=5.5,SNR=9.0								
WRA	**Warramunga Arr**	**82.07**	**122**	P		**P**		**04 51 26.5**	**-2.1**
	0.2nm,0.7s,baz=328,slow=5.1,SNR=3.7								
ASAR	**Alice Springs**	**84.33**	**125**	P		**P**		**04 51 39.1**	**-1.0**
	0.2nm,0.7s,baz=299,slow=4.7,SNR=4.1								

ISCJB ***13*** *04:52:31.9±0.3,37.37N±0.04×134.98E±0.05,h378km, mb3.4/0,Error ellipse: s-maj=5.9km s-min=5.1km az=36.1*
JMA ***13*** *04:52:32.0±0.2,37.27N×135.02E,h390km±3km,M3.4*
IDC ***13*** *04:52:32.9±1.0,37.30N×135.00E,h382km±11km,mb3.1/9, mb1 3.2/15,mb1mx3.1/40,mbtmp3.9/15,Error ellipse: s-maj=20.7km s-min=11.7km az=70.0*

ISC 13 04:52:32.2±0.6,37.32N±0.06×135.07E±0.06,h378km,n40, σ1s15/49,mb3.6/16,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**1.42**	**106**	P		P	**Pn**	**04 53 24.2**	**+1.5**
JKG	**Kaga**	**1.45**	**136**	P		P	**Pn**	**04 53 24.0**	**+1.1**
JHG	**Hegura jima**	**1.56**	**70**	P		P	**Pn**	**04 53 25.2**	**+1.9**
JSZ	**Suzu**	**1.83**	**85**	P		P	**Pn**	**04 53 26.7**	**+1.8**
JWT	**Wachi**	**2.05**	**172**	P		P	**Pn**	**04 53 27.4**	**+0.9**
JWT				*e*S		S		**04 54 10.2**	**0.0**
JYTA	**Yamagatataniai**	**2.18**	**142**	P		P	**Pn**	**04 53 28.3**	**+0.9**
JYTA				*e*S		S		**04 54 11.7**	**-0.1**
JSD	**Sado**	**2.63**	**73**	P		P	**Pn**	**04 53 31.6**	**+1.1**
MAT	**Matsushiro**	**2.63**	**106**	P		P	**Pn**	**04 53 32.0**	**+1.4**
MAT	**Matsushiro**	**2.63**	**106**	P		P	**Pn**	**04 53 32.0**	**+1.4**
MJAR	**Matsushiro Arr**	**2.63**	**106

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ATKA				S	Sn	04 57 17.6	+0.8
KOFP	Korovin Flat P	2.68	72	P	Pn	04 56 48.3	+0.9
ILAR	Eielson Array	20.91	39	P	P	05 00 42.2	-0.4
	0.2nm,0.5s,baz=235,slow=8.6,SNR=4.6						
YKA	Yellowknife Ar	34.88	47	P	P	05 02 50.1	-0.2
	0.2nm,0.5s,baz=281,slow=7.6,SNR=4.3						
PDAR	Pinedale Array	45.94	73	P	P	05 04 21.7	-0.3
	0.6nm,0.6s,baz=299,slow=4.6,SNR=7.4						

NNC 13 05:02:28.3±4.8, 37°.19N×68°.93E, h11km±19km, mb3.8, mpv3.3, 8C-2D, Error ellipse: s-maj=39.6km s-min=21.9km az=4.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	4.56	50	⇓Pn	Pn	05 03 37.6	+0.1
	2.3nm,0.4s						
SFK				⇑Pg	Pb	05 03 50.8	+2.3
	16nm,0.7s						
SFK				⇑Sn	Sn	05 04 30.9	+0.3
	7.4nm,0.4s						
SFK				⇑Lg	Lg	05 04 51.8	
	16nm,0.6s						
KK31	Karatay Array	6.03	11	⇑Pn	Pn	05 03 58.5	+1.1
	0.5nm,0.4s,baz=207,slow=18						
KK31				⇑Pg	Pg	05 04 19.6	-4.2
	1.8nm,0.7s,baz=199,slow=18						
KK31				⇑Sn	Sn	05 05 08.2	+1.8
	2.6nm,0.6s,baz=193,slow=20						
KK31				⇑Lg	Lg	05 05 40.3	
	2.1nm,0.4s,baz=195,slow=26						
AB31	Akbulak array	13.71	334	⇑Pn	Pn	05 05 42.3	-0.2
	0.7nm,0.4s						
AKTO	Aktyubinsk	15.38	333	⇓Pn	Pn	05 06 05.3	+0.1
	3.7nm,1.0s						

IGQ 13 05:20:56.1±0.4, 3°S±4°×8°0W±°, h2km, MLv3.9, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MILO	Milagro-Astudi	0.38	54	P	Pn	05 21 07.4	-1.3
MILO				S	Sb	05 21 17.5	+5.5
AGUAY	Guayaquil	0.46	349	P	Pb	05 21 07.1	+0.2
AGUAY				S	Sb	05 21 15.8	+1.6
AMIL	Milagro (Trans	0.46	36	P	Pb	05 21 07.3	+0.4
AMIL				S	Sb	05 21 17.4	+3.2
APLA	Playas - Guaya	0.54	256	P	Pb	05 21 09.4	+1.0
APLA				S	Sn	05 21 22.3	+1.7
COHC	Cochancay	0.61	86	P	Pb	05 21 08.8	-0.8
COHC				S	Sb	05 21 19.5	+0.9
IGUA	Igualata	1.59	51	P	Pn	05 21 21.4	-4.5
BMAS	Trigal station	1.71	54	P	Pn	05 21 22.8	-4.4
BMAS				S	Sn	05 21 44.5	-5.3
BIL2	Estacion Bilba	1.72	53	P	Pn	05 21 23.5	-3.8
ARRY	Arrayan	1.73	55	P	Pn	05 21 23.0	-4.5
BBIL	Ulba Tungurahu	1.73	53	P	Pn	05 21 23.4	-4.2
BBIL				S	Sn	05 21 43.8	-6.6
PAT1	Patacocha	1.74	55	P	Pn	05 21 23.8	-4.0
BPAT	Tungurahua Vol	1.74	55	P	Pn	05 21 23.5	-4.3
BPAT				S	Sn	05 21 44.5	-6.4
JUI6	Juive	1.76	52	P	Pn	05 21 24.2	-3.8
RETU	Refugio	1.76	54	P	Pn	05 21 24.3	-3.9
POND	Pondoa	1.78	53	P	Pn	05 21 24.1	-4.1
POND				S	Sn	05 21 45.5	-6.1
BULB	Ulba Tungurahu	1.80	54	P	Pn	05 21 24.4	-4.2
BULB				S	Sn	05 21 46.4	-5.8
RUN5	Runtun	1.80	53	P	Pn	05 21 24.6	-3.9
BRUN	Tungurahua Vol	1.81	53	P	Pn	05 21 24.3	-4.3
BRUN				S	Sn	05 21 46.5	-5.8
PISA	Pisayambo	2.06	46	P	Pn	05 21 29.0	-3.3
APUY	Puyo	2.14	61	S	Sn	05 21 57.0	-3.2
PAST	Pastocalle	2.18	34	P	Pn	05 21 30.1	-3.7
BMOR	Cotopaxi Volca	2.25	39	P	Pn	05 21 31.4	-3.6
BMOR				S	Sn	05 21 57.7	-6.0
BNAS	Cotopaxi Volca	2.29	37	P	Pn	05 21 32.1	-3.3
BREF	Cotopaxi Volca	2.31	38	P	Pn	05 21 33.7	-2.2
BREF				S	Sn	05 22 02.8	-2.5
NAS2	Nasa	2.32	37	P	Pn	05 21 32.9	-2.9
BTAM	Cotopaxi Volca	2.34	39	P	Pn	05 21 32.7	-3.4
BVC2	Cotopaxi Volca	2.34	38	P	Pn	05 21 32.7	-3.5
COV1	Cotopaxi Volc	2.38	40	P	Pn	05 21 33.0	-3.8
PITA	Cotopaxi Volc	2.41	37	P	Pn	05 21 34.2	-2.8
MAG1	Magdalena	2.42	2	P	Pn	05 21 31.7	-5.1
ARDO	Archidona, Ten	2.55	54	P	Pn	05 21 33.9	-4.7
ANTG	Antisana-Guama	2.56	39	P	Pn	05 21 36.4	-2.8
ANTI	Antisana	2.66	40	P	Pn	05 21 38.3	-2.3
YANA	Yana	2.70	29	P	Pn	05 21 37.0	-4.1
PAC1	Pacto, Paraso	2.96	21	P	Pn	05 21 38.5	-5.7
CUSE	Cuicocha Este	3.15	28	P	Pn	05 21 42.6	-4.6
CUSW	Cuicocha Oeste	3.16	29	P	Pn	05 21 43.0	-4.2
URCU	Urcuqui	3.34	29	P	Pn	05 21 45.7	-4.1
YAHU	Yahuarcocha	3.37	32	P	Pn	05 21 46.4	-3.8

SOME 13 05:24:57.5, 40°.38N×71°.93E, h10km
KRNET 13 05:24:59.5±0.1, 40°.43N×72°.10E, h10km, mb2.8
ISCJB 13 05:25:00.6±0.6, 40°.39N±0°.04×72°.08E±0°.04, h10km, Error ellipse: s-maj=6.2km s-min=4.4km az=163.0
ISC 13 05:24:58.9±1.0, 40°.37N±0°.04×72°.01E±0°.03, h10km, n13, $\sigma 1^{s}60$/27, 14C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	Batken	0.97	252	⇑*i*P	Pn	05 25 19.1	+0.5
	baz=50						
BTK				⇑*i*S	Sn	05 25 34.0	+1.5
	baz=50						
SFK	Sufi-Kurgan	1.20	107	⇓P	Pb	05 25 20.9	-1.0
	1.8nm,0.1s						
SFK				⇑S	Sb	05 25 37.1	-0.3
	22nm,0.2s						
SFK	Sufi-Kurgan	1.20	107	⇑*i*P	Pb	05 25 20.8	-1.0
	baz=11						
SFK				⇑*i*S	Sb	05 25 37.1	-0.3
	baz=11						
ARSB	Arslanbob	1.20	37	⇑*i*P	Pb	05 25 20.6	-1.3
	baz=37						
ARSB				⇑*i*S	Sb	05 25 35.5	-2.1
	baz=37						
ARK	Arkit	1.43	359	⇓*i*P	Pn	05 25 24.8	-0.2
	baz=56						
ARK				⇓*i*S	Sn	05 25 43.2	-0.7
	baz=56						
AML	Almayashu	2.17	35	⇑*e*P	Pb	05 25 37.1	-1.4
	baz=35						
AML				⇑*i*S	Sb	05 26 04.2	-1.4
	baz=35						
ARLS	Aral	2.29	49	⇑*i*P	Pb	05 25 38.8	-1.7
	baz=49						
ARLS				⇑*i*S	Sb	05 26 07.2	-1.8
	baz=49						
IUG	Iuzhnay	2.32	321	*e*P	Pb	05 25 40.0	-0.9
	43nm,0.3s						
IUG				*e*S	Sb	05 26 09.2	-0.5
	51nm,0.5s						
MRKS	Merke	2.54	21	*e*P	Pb	05 25 43.8	-0.9
	3.1nm,0.2s						
MRKS				*e*S	Sb	05 26 16.4	+0.3
	13nm,0.4s						
UCH	Uchtor	2.65	45	⇓*i*P	Pn	05 25 43.8	+1.7
	baz=45						
UCH				⇓*i*S	Sn	05 26 15.7	+1.3
	baz=45						
AAK	Ala-Archa	2.93	39	⇓*i*P	Pn	05 25 47.4	+1.6
	baz=38						
AAK				⇓*i*S	Sn	05 26 22.3	+1.2
	baz=38						
KK31	Karatay Array	2.95	338	⇑Pn	Pn	05 25 48.3	+2.4
	0.1nm,0.2s						
KK31				⇑Pg	Pg	05 25 53.8	-1.7
	0.9nm,0.2s,baz=161,slow=18						
KK31				⇑Sn	Sb	05 26 29.4	+1.6
	3.4nm,0.3s,baz=170,slow=26						
DGS	Degeres	4.02	43	*e*P	Pb	05 26 11.0	+1.2
	0.8nm,0.1s						
DGS				*e*S	Sb	05 27 02.6	+4.1
	7.3nm,0.7s						

NEIC 13 05:26:23.1±0.0, 17°.28N×95°.24W, h122km, MD4.0(MEX),
After MEX.
MEX 13 05:26:22.9±0.6, 17°.31N×95°.21W, h123km±5km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.39	125	*e*P	Pn	05 26 39.3	-1.3
CMIG				*e*S	Sn	05 26 52.1	-1.8
CMIG	Matias Romero	0.39	125	*e*P	Pn	05 26 39.3	-1.3
CMIG				*e*S	Sn	05 26 52.1	-1.8
VHO	Vista Hermosa	1.47	261	*e*P	Pn	05 26 49.8	-0.7
VHO				*e*S	Sn	05 27 11.5	+0.2
VHO	Vista Hermosa	1.47	261	*e*P	Pn	05 26 49.5	-0.9
VHO				*i* S	Sn	05 27 09.9	-1.3
TGIG		2.07	105	*e*P	Pn	05 26 56.2	-1.2
TGIG				*e*S	Sn	05 27 20.9	-3.0
TGIG		2.07	105	*e*P	Pn	05 26 56.2	-1.2
TGIG				*i* S	Sn	05 27 21.4	-2.5
PCIG		2.49	130	*e*P	Pn	05 27 01.9	-0.8
PCIG				*e*S	Sn	05 27 32.4	-0.9
PCIG		2.49	130	*e*P	Pn	05 27 01.9	-0.8
PCIG				*i* S	Sn	05 27 31.8	-1.5
PNIG	Pinotepa	2.94	252	*e*P	Pn	05 27 05.6	-2.9
PNIG				*e*S	Sn	05 27 41.0	-2.7
PNIG	Pinotepa	2.94	252	*e*P	Pn	05 27 05.7	-2.8
PNIG				*e*S	Sn	05 27 41.6	-2.1

DJA 13 05:43:53.1±0.7, 8°S±4°×10°7E±°, h10km, M3.9/7, MLv3.9/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	Sukabumi	0.75	353	P	Pg	05 44 07.8	+0.3
SKJI				S	Sb	05 44 18.0	-0.4
CISI	Cisompet, Garu	1.17	81	P	Pb	05 44 15.0	-0.5
CISI				S	Sb	05 44 30.4	-0.4
DBJI	Dramaga	1.19	5	P	Pb	05 44 15.2	-0.6
LEM	Lembang	1.33	46	P	Pb	05 44 18.4	+0.2
CMJI	Cimerak	1.78	91	P	Pn	05 44 23.3	-0.7
CMJI				S	Sn	05 44 45.0	-1.7
JCJI	Jatiwangi	2.04	52	P	Pn	05 44 25.7	-1.8
KPJI	Karang Pucung	2.30	80	P	Pn	05 44 31.8	+0.7
KPJI				S	Sb	05 45 02.1	-1.1
KASI	Kota Agung	3.08	316	P	Pn	05 44 41.1	-0.7
YOGI	Yogyakarta	3.61	91	P	Pn	05 44 49.7	+0.5

DJA 13 05:44:12.2±0.5, 0°N±4°×9°9E±°, h10km, M3.2/6, MLv3.2/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	Mandailing Nat	0.96	66	P	Pg	05 44 30.6	-0.1
MNSI				S	Sg	05 44 43.1	-0.1
GSI	Gunungsitoli	1.43	308	P	Pn	05 44 36.8	-1.5
GSI				S	Sn	05 44 56.7	-0.5
SISI	Saibi	1.77	167	P	Pn	05 44 42.9	0.0
PDSI	Padang	2.20	127	P	Pb	05 44 52.8	+0.7
PDSI				S	Sn	05 45 07.8	-8.3
PDSI	Padang	2.20	127	P	Pb	05 44 53.1	+1.0
BKNI	Bangkinang	2.34	92	P	Sn	05 45 21.1	+1.5
TPTI		3.21	332	P	Pn	05 45 02.9	+0.1
KCSI	Kotacane, Aceh	3.23	343	P	Pn	05 44 57.8	-5.2
KRJI	Kerinci	3.71	132	P	Pn	05 45 00.3	-9.5

AZER 13 05:46:41.1±0.2, 39°.11N×43°.37E, h17km±4km, ml3.2/8, Error ellipse: s-maj=6.0km s-min=4.7km az=340.0
DDA 13 05:46:43.8, 38°.92N×43°.69E, h12km±1km, ML3.4
NSSP 13 05:46:43.6, 38°.88N×43°.78E, h10km, Ms3.4
ISK 13 05:46:44.1, 38°.92N×43°.65E, h9km, ML3.3/11
ISC 13 05:46:44.8±0.9, 38°.94N±0°.02×43°.67E±0°.02, h15km±7km, n44, $\sigma 1^{s}12$/56, 10C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.09	301	*i* P	Pg	05 46 47.3	-0.8
VANB	Van	0.41	212	PG	Pb	05 46 53.6	-0.2
VANB				SG	Sb	05 47 00.1	+0.2
TVAN	Van	0.46	207	*i* P	Pb	05 46 53.7	-1.1
DYDN	Diyadin	0.60	1	IAML_P			
	comp=Z,16µm,0.2s						
DYDN				*i* P	Pb	05 46 56.4	-0.7
ADCV	BITLIS_Adilcev	0.75	260	IAML_P			
	comp=Z,9µm,0.5s						
ADCV				*i* P	Pb	05 46 59.6	0.0
ADCV				*i* S	Sn	05 47 11.7	-0.6
GEVA	Gevas	0.79	217	IAML_P			
	comp=Z,9µm,0.3s						
GEVA				*i* P	Pb	05 46 59.7	-0.6
TUTA	Tutak	0.81	305	*i* P	Pb	05 47 00.1	-0.5
AKDM	Akdamar-Van	0.82	222	PG	Pg	05 46 59.4	-1.3
AGRB	Hanur-Agry	0.82	320	PG	Pg	05 46 59.9	-0.9
AGRB				SG	Sb	05 47 12.7	+0.8
MLAZ	Malazgirt-MUS	0.89	283	PG	Pb	05 47 01.7	-0.4
BASK	Baskale_VAN	0.93	163	IAML_P			
	comp=Z,13µm,0.3s						
BASK				*i* P	Pg	05 47 01.3	-1.5
HYR	Heyderabad	1.20	49	⇓P	Pg	05 47 06.9	-1.1
HYR				⇑S	Sn	05 47 24.3	+1.1
EATA	Eleskirt	1.29	316	*i* P	Pb	05 47 08.9	-0.1
GURO	Guroymak-BITLI	1.34	253	PN	Pn	05 47 08.6	-0.5
YOVA	Hakkari_Yksek	1.44	160	*i* P	Pg	05 47 11.6	-0.8
NAX	Nakhchivan	1.44	80	⇓P	Pg	05 47 11.0	-1.5
	SNR=43						
NAX				⇑S	Sg	05 47 34.5	+3.3
GNI	Garni	1.46	34	PN	Pb	05 47 11.6	-0.2
GNI	Garni	1.46	34	⇑*i*P	Pb	05 47 11.7	-0.2
GNI				⇑*i*S	Sg	05 47 31.4	-0.5
DIGO	Kars	1.49	351	IAML_P			
	comp=Z,14µm,0.4s						
DIGO				*i* P	Pg	05 47 12.9	-0.5
SBZ	Shahbuz	1.53	72	⇓P	Pb	05 47 12.3	-0.6
SBZ				⇑S	Sg	05 47 36.4	+2.2
SRTM	Siirt_Merkez	1.67	236	IAML_P			
	comp=Z,4µm,0.5s						
SRTM				*i* P	Pb	05 47 15.1	-0.2
CUKT	Cukurca	1.69	182	PN	Pb	05 47 14.5	-1.2
CUKT	Cukurca	1.69	182	*i* P	Pg	05 47 16.0	-1.3
CUKT				*i* S	Sg	05 47 41.5	+2.2
SIRT	Sirnak	1.73	214	PN	Pb	05 47 15.2	-1.2
EAK	Akyaka	1.74	358	IAML_P			
	comp=Z,4µm,0.5s						
EAK				*i* P	Pg	05 47 18.4	+0.2
KARS	Kars	1.74	345	PN	Pb	05 47 15.5	-1.1
SIRN	Sırnak	1.75	215	*i* P	Pg	05 47 18.5	+0.1
HOMI	Horasan	1.75	309	*i* P	Pg	05 47 18.0	-0.4
KOPR	Koprukoy-ERZUR	1.75	307	PN	Pb	05 47 15.5	-1.3
ORD	Ordubad	1.81	90	⇓P	Pb	05 47 17.3	-0.5
ORD				⇑S	Sg	05 47 45.2	+2.0
BNGL	BINGOL	1.96	271	*i* P	Pb	05 47 20.3	-0.1
KARO	Karliova-Bingo	2.07	281	PN	Pn	05 47 20.0	+0.8
SVAN	Silvan-Diyarba	2.09	249	PN	Pn	05 47 20.0	+0.6
SVAN	Silvan-Diyarba	2.09	249	*i* P	Pb	05 47 21.7	-0.8
STEZ	Stepenevan	2.13	15	*e*P	Pn	05 47 21.0	+1.0
STEZ				*e*S	Sg	05 47 52.0	-1.3
GRS	Goris	2.14	74	⇓*i*P	Pn	05 47 20.0	-0.1
GRS				⇓*i*S	Sb	05 47 49.0	-0.8
BTMN	Batman	2.16	242	IAML_P			
	comp=Z,1µm,0.6s						
BTMN				*i* P	Pb	05 47 23.8	+0.2
BGD	Bogdanovka	2.32	359	P	Pg	05 47 29.0	-0.2
GDB	GEDABAY	2.39	41	⇑P	Pn	05 47 23.9	+0.3
	SNR=5.8						
QZX	Qazax, Azerbai	2.48	31	⇑P	Pn	05 47 22.9	-1.9
	SNR=8.2						
QZX				⇑S	Sn	05 47 54.2	-0.6
DAGI	Agillar	2.52	328	*i* P	Pb	05 47 30.4	+0.6
EPOS	Posof	2.66	345	*i* P	Pg	05 47 54.1	+18
GANJ	Ganja	2.66	49	⇑P	Pn	05 47 28.0	+0.8
	SNR=4.6						
GANJ				⇓S	Sb	05 48 03.4	-1.2
LRK	Lerik	3.66	93	⇓P	Pn	05 47 43.5	+2.4
	SNR=4.7						

ISK 13 05:48:36.8, 39°.68N×25°.59E, h6km, ML2.5/13
ISCJB 13 05:48:37.6±0.4, 39°.69N±0°.02×25°.59E±0°.02, h8km±3km, Error ellipse: s-maj=3.3km s-min=3.0km az=138.1
ATH 13 05:48:37.7, 39°.71N×25°.56E, h25km±1km, ML2.6/3, Error ellipse: s-maj=1.4km s-min=0.8km az=240.0
DDA 13 05:48:38.0, 39°.66N×25°.79E, h6km±6km, ML2.8
THE 13 05:48:38.0, 39°.70N×25°.61E, h3km±1km, ML2.1/6, Error ellipse: s-maj=1.6km s-min=0.6km az=88.0
ISC 13 05:48:37.8±1.0, 39°.69N±0°.02×25°.60E±0°.02, h12km±9km, n61, $\sigma 0^{s}47$/77, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.38	67	PG	Pg	05 48 45.3	-0.1
BOZC				SG	Sg	05 48 50.5	0.0
BOZC	Bozcaada	0.38	67	*i* P	Pg	05 48 45.8	+0.4
LIA	Limnos Island	0.38	303	P	Pg	05 48 45.8	+0.3
LIA				S	Sg	05 48 50.9	+0.4
LIA	Limnos Island	0.38	303	P	Pg	05 48 45.7	+0.3
GPNR	Gulpinar-Canak	0.47	120	PG	Pg	05 48 47.0	-0.2
EFSA	Agios Efstrati	0.50	252	P	Pg	05 48 47.6	+0.1
EFSA				S	Sb	05 48 55.3	-0.4
SIGR	SIGRI	0.52	158	PG	Pg	05 48 47.6	-0.4
SIGR				SG	Sg	05 48 53.9	-1.0
SIGR	SIGRI	0.52	158	P	Pg	05 48 47.8	-0.2
SIGR				AML	AML	05 48 55.9	
	comp=N,3661µm,0.3s						
SIGR				AML	AML	05 48 55.9	
	comp=E,2528µm,0.4s						
SIGR	SIGRI	0.52	158	P	Pg	05 48 47.8	-0.2
SIGR				S	Sg	05 48 55.3	+0.4
GADA	Gvkgeada	0.55	25	PG	Pg	05 48 48.4	-0.1
GADA	Gvkgeada	0.55	25	P	Pg	05 48 48.5	-0.1
GADA				S	Sb	05 48 56.9	-0.4
GOKC	Gokceada-Canak	0.56	26	PG	Pg	05 48 48.9	+0.1
EZN	Ezine	0.57	76	PG	Pg	05 48 48.7	-0.3
EZN	Ezine	0.57	76	P	Pg	05 48 48.6	-0.4
PRK	Paraskevi	0.69	130	P	Pb	05 48 52.0	+0.2
PRK				S	Sb	05 49 01.8	+0.6
PRK				AML	AML	05 49 05.4	
	comp=N,1275µm,0.4s						
PRK				AML	AML	05 49 05.5	
	comp=E,1185µm,0.4s						
SMTH	Samothraki Isl	0.78	356	P	Pg	05 48 52.9	-0.1
SMTH				S	Sg	05 49 03.6	+0.5
SMTH				AML	AML	05 49 05.7	
	comp=E,468µm,0.4s						
SMTH				AML	AML	05 49 06.6	
	comp=N,264µm,0.2s						
SMTH	Samothraki Isl	0.78	356	P	Pg	05 48 53.0	+0.1
SMTH				S	Sb	05 49 03.7	-0.2
AYVA	Ayvalik	0.93	114	*i* P	Pg	05 48 55.3	-0.4
AYVA				*i* S	Sn	05 49 09.5	-0.5
GELI	Tayfur-Gelibol	0.97	43	PG	Pg	05 48 56.1	-0.5
LPK	Lapseki	1.12	52	PN	Pb	05 48 58.6	-0.6
ENEZ	Enez	1.12	22	PN	Pb	05 48 58.8	-0.5
THAS	Thassos island	1.14	324	P	Pb	05 48 59.0	-0.4
THAS				S	Sb	05 49 13.9	-0.3
THAS	Thassos island	1.14	324	P	Pb	05 48 59.0	-0.4
THAS				S	Sn	05 49 15.2	+0.1
PSRA	Psara	1.15	181	P	Pb	05 48 59.5	-0.1
SKY	Skiros Island	1.15	225	P	Pb	05 48 58.9	-0.8
DKL	Dikili	1.19	121	PN	Pb	05 48 59.9	-0.4
ERIK	Erikli-Kesan	1.20	35	PN	Pb	05 49 00.1	-0.5
ALN	Alexandroupoli	1.25	16	PN	Pn	05 49 01.1	-0.1
ALN	Alexandroupoli	1.25	16	P	Pn	05 49 01.2	0.0
ALN	Alexandroupoli	1.25	16	P	Pn	05 49 01.2	0.0
ALN				S	Sn	05 49 18.5	+0.5
CHOS	Chios island	1.35	165	P	Pg	05 49 03.8	0.0
KESN	Edirne-Kesan	1.40	36	*i* P	Pb	05 49 04.6	+0.4
AOS	Alonnisos	1.43	249	PN	Pn	05 49 03.8	+0.2
AOS	Alonnisos	1.43	249	P	Pn	05 49 03.9	+0.3
RDO	Rodhopi	1.45	358	PN	Pn	05 49 03.9	-0.1
RDO	Rodhopi	1.45	358	P	Pn	05 49 04.4	+0.5
RDO	Rodhopi	1.45	358	P	Pn	05 49 04.4	+0.5
RDO				S	Sb	05 49 23.9	+0.6
KRBG	Karabiga-Canak	1.48	61	PN	Pn	05 49 04.6	+0.3
PAIG	Paliouri	1.50	280	P	Pn	05 49 05.2	+0.6
PAIG	Paliouri	1.50	280	P	Pn	05 49 05.0	+0.4
PAIG				S	Sg	05 49 26.0	0.0
URLA	Izmir	1.54	149	*i* P	Pn	05 49 04.5	-0.7
KAVA	Kavala	1.54	328	P	Pn	05 49 05.1	-0.1
KVLA	Kavala	1.55	324	P	Pn	05 49 05.0	-0.3
BALY	Balya	1.56	88	*i* P	Pn	05 49 05.6	+0.1
SART	Tekirdag	1.57	50	IAML_P			
	comp=Z,783nm,0.1s						
SART				*i* P	Pn	05 49 06.3	+0.7
SART				*i* S	Sg	05 49 27.9	-0.4
GONE	Gonen-Balikesi	1.64	77	PN	Pn	05 49 06.9	+0.3
STEP	BALIKESIR_Sava	1.67	100	*i* P	Pb	05 49 08.2	-0.3
BALB	Balikesir	1.76	91	PN	Pn	05 49 08.6	+0.4
PLG	Polygyros	1.79	293	P	Pn	05 49 08.3	-0.3
EDC	Edincik	1.86	69	PN	Pn	05 49 10.6	+1.1
SBT4	Kumbag-Tekirda	1.87	52	PN	Pn	05 49 10.5	+1.0
DGB	zmir	1.92	148	*i* P	Pn	05 49 10.6	+0.2
DION	Dionisos Attik	2.07	219	P	Pn	05 49 13.1	+0.6
SRS	Serrai	2.09	314	P	Pn	05 49 12.5	-0.2
HORT	Hortiatis	2.12	296	PN	Pn	05 49 12.8	-0.4
NVR	Nevrokopi	2.12	322	P	Pn	05 49 13.3	+0.1
SMG	Samos	2.21	154	P	Pn	05 49 15.5	+1.2
EDRB	Edirne	2.32	22	PN	Pn	05 49 16.4	+0.5
KNT	Kendrikon	2.53	306	P	Pn	05 49 18.7	-0.1
AMGA	Amorgos Island	2.87	175	P	Pn	05 49 24.5	+1.1
IOSP	Ios island	2.98	185	P	Pn	05 49 25.7	+0.9

IDC 13 05:50:38.1±1.0, 34°.96S×74°.21W, h0km, mb4.1/9, mb1 4.3/12, mb1mx4.1/30, mbtmp4.1/12, ML4.3/3, MS3.3/4, Ms1 3.3/4, ms1mx3.0/19, Error ellipse: s-maj=37.4km s-min=19.6km az=62.0
NEIC 13 05:50:39.4±0.3, 34°.86S×74°.01W, h10km, mb4.6/8, ML4.2(GUC), Error ellipse: s-maj=7.0km s-min=4.2km az=82.0
GUC 13 05:50:39.9±0.8, 34°.94S×73°.91W, h28km±10km, ML4.0
ISCJB 13 05:50:40.3±0.4, 34°.91S±0°.03×74°.09W±0°.03, h33km, mb4.3/15, MS3.7/2, Error ellipse: s-maj=4.4km s-min=3.5km az=40.1
ISC 13 05:50:42.6±0.5, 34°.90S±0°.04×74°.12W±0°.06, h35km, n73, $\sigma 1^{s}96$/103, mb4.3/15, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	Huala	1.80	94	*e*Pn	Pn	05 51 09.2	-2.0
GO05				*e*Sn	Sn	05 51 30.3	-2.5
GO05	Huala	1.80	94	*i* P	Pn	05 51 09.4	-1.8
GO05				*i* S	Sn	05 51 30.9	-1.9
GO05	Huala	1.80	94	*e*P	Pn	05 51 09.2	-2.0
GO05				*i* S	Sn	05 51 30.4	-2.5
GO05				IAML		05 51 31.6	
	comp=N,2µm,0.2s						
CCSP	San Pedro de C	2.10	157	*e*P	Pn	05 51 12.2	-3.1
CCSP				IAML		05 51 40.1	
	comp=N,265nm,0.2s						
CCHI	Chillan	2.37	136	⇑*i*P	Pn	05 51 17.4	-1.6
CCHI				*i* S	Sn	05 51 46.2	-0.6
CCHI				IAML		05 51 51.0	
	comp=N,803nm,0.3s						
ROC1	El Roble	3.22	54	*e*Pn	Pn	05 51 29.2	-1.6
ROC1				*e*Sn	Sn	05 52 06.6	-1.5
ROC1	El Roble	3.22	54	*e*P	Pn	05 51 29.2	-1.6
ROC1				*e*S	Sn	05 52 06.0	-2.1
ROCH	El Roble	3.22	54	*e*P	Pn	05 51 28.9	-2.0
ROCH				IAML		05 52 13.0	
	comp=N,536nm,0.4s						
CLCH	Cerro Calan	3.33	64	*i* P	Pn	05 51 31.0	-1.3
CLCH				*i* S	Sn	05 52 09.3	-1.3
CLCH				IAML		05 52 10.9	
	comp=N,773nm,0.2s						
PEL	Peldehue	3.35	59	*e*Pn	Pn	05 51 30.4	-2.1
PEL				*e*Sn	Sn	05 52 11.1	0.0
PEL	Peldehue	3.35	59	*e*P	Pn	05 51 31.4	-1.1
PEL				*e*S	Sn	05 52 10.9	-0.1
PEL	Peldehue	3.35	59	*i* P	Pn	05 51 31.4	-1.1
PEL				*i* S	Sn	05 52 10.4	-0.7
PEL				IAML		05 52 14.3	
	comp=N,666nm,0.5s						
LMEL	Las Melosas	3.40	73	*i* P	Pn	05 51 32.8	-0.6
LMEL				*i* S	Sn	05 52 12.6	0.0
LMEL				IAML		05 52 15.4	
	comp=N,755nm,0.2s						
FCH	Farellones	3.54	65	*e*P	Pn	05 51 34.0	-1.4
FCH				*e*S	Sn	05 52 14.8	-1.4
AAGR	Agrelo	4.75	69	*i* P	Pn	05 51 55.2	+3.3
AUSP	Uspallata	4.77	57	*e*P	Pn	05 51 53.2	+1.0
AUSP				*i* S	Sn	05 52 49.8	+3.3

ASAL	**Salagasta**	**4.97**	**64**	*e*P		**Pn**	**05 51 56.8**	**+2.0**
ASAL				*i* S		**Sn**	**05 52 57.0**	**+6.0**
RTLS	**Leoncito**	**5.08**	**54**	*e*P		**Pn**	**05 51 57.3**	**+0.7**
RTLS				*e*S		**Sn**	**05 52 55.5**	**+1.2**
RTLS				IAML			05 53 03.4	
	comp=Z,62nm,0.4s							
GO06	**Curarrehue**	**5.13**	**156**	*e*Pn		**Pn**	**05 51 55.5**	**-1.5**
GO04	**Tololo Observa**	**5.49**	**32**	*e*Pn		**Pn**	**05 51 59.2**	**-2.9**
GO04				*e*Sn		**Sn**	**05 53 01.6**	**-2.5**
GO04	**Tololo Observa**	**5.49**	**32**	*e*P		**Pn**	**05 51 59.3**	**-2.8**
GO04				*e*S		**Sn**	**05 53 01.4**	**-2.7**
RTCV	**Cerro Valdivia**	**5.56**	**59**	*i* P		**Pn**	**05 52 03.6**	**+0.7**
RTCV				*e*S		**Sn**	**05 53 08.3**	**+2.6**
CFA	**Coronel Fontan**	**5.92**	**58**	*e*P		**Pn**	**05 52 07.6**	**-0.3**
CFA				*e*S		**Sn**	**05 53 15.3**	**+0.8**
RTLL	**Cerro Villicun**	**5.93**	**55**	*e*P		**Pn**	**05 52 07.8**	**-0.1**
RTLL				*i* S		**Sn**	**05 53 16.1**	**+1.5**
RTLL				IAML			05 53 17.8	
	comp=Z,76nm,0.4s							
ACCO	**Cerro Coronel**	**6.05**	**46**	*e*P		**Pn**	**05 52 10.1**	**+0.1**
ACCO				*e*S		**Sn**	**05 53 20.7**	**+2.6**
AROD	**Rodeo**	**6.14**	**41**	*i* P		**Pn**	**05 52 11.4**	**+0.4**
AROD				*e*S		**Sn**	**05 53 22.1**	**+1.9**
AMOG	**MOGNA**	**6.16**	**52**	*e*P		**Pn**	**05 52 10.8**	**-0.4**
AMOG				*i* S		**Sn**	**05 53 20.6**	**+0.1**
ACDV	**Cuesta del Vie**	**6.33**	**43**	*i* P		**Pn**	**05 52 14.2**	**+0.7**
ACDV				*e*S		**Sn**	**05 53 28.1**	**+3.3**
ACAN	**Cantantal**	**6.35**	**68**	*e*P		**Pn**	**05 52 14.0**	**+0.3**
PLCA	**Paso Flores**	**6.47**	**155**	Pn		**Pn**	**05 52 14.8**	**-0.5**
	comp=Z,5.7nm,0.3s,baz=347,slow=11,SNR=204							
PLCA				LR		LR	05 54 58.1	
	comp=Z,205nm,18.4s,baz=348,slow=40							
PLCA	**Paso Flores**	**6.47**	**155**	*e*Pn		**Pn**	**05 52 14.4**	**-0.9**
LCO	**Las Campanas**	**6.55**	**27**	*e*Pn		**Pn**	**05 52 14.3**	**-2.4**
LCO				*e*Sn		**Sn**	**05 53 28.0**	**-2.4**
LCO	**Las Campanas**	**6.55**	**27**	*e*P		**Pn**	**05 52 14.1**	**-2.6**
AGUA	**GUANDACOL**	**7.20**	**43**	*e*P		**Pn**	**05 52 25.3**	**-0.2**
AGUA				*i* S		**Sn**	**05 53 48.9**	**+2.7**
MRA	**San Martin**	**7.43**	**73**	*e*P		**Pn**	**05 52 28.4**	**-0.2**
MRA				*e*S		**Sn**	**05 53 49.6**	**-2.1**
MRA				IAML			05 54 23.0	
	comp=Z,6.1nm,0.5s							
APLL	**PUNTA DE LOS L**	**7.82**	**57**	*i* P		**Pn**	**05 52 32.2**	**-1.7**
APLL				*e*S		**Sn**	**05 53 58.5**	**-2.8**
APLL				IAML			05 54 01.9	
	comp=Z,7.0nm,0.2s							
ACLC	**CERRO LA CRUZ**	**8.17**	**50**	*e*P		**Pn**	**05 52 37.1**	**-1.7**
ACLC				*i* S		**Sn**	**05 54 10.7**	**+0.7**
CYA	**Choya**	**9.57**	**50**	*i* P		**Pn**	**05 52 53.7**	**-4.2**
CYA				*i* S		**Sn**	**05 54 38.6**	**-5.7**
TRQA	**Tornquist**	**10.27**	**111**	*e*Pn		**Pn**	**05 53 06.7**	**-0.7**
PB10	**IPOC Station P**	**11.77**	**16**	*e*Pn		**Pn**	**05 53 25.6**	**-2.4**
PB04	**IPOC Station P**	**13.00**	**17**	*e*Pn		**Pn**	**05 53 43.0**	**-1.9**
LVC	**Limon Verde**	**13.07**	**22**	LR		LR	05 57 58.2	
	comp=Z,32nm,21.3s,baz=225,slow=34							
LVC	**Limon Verde**	**13.07**	**22**	*e*Pn		**Pn**	**05 53 44.5**	**-1.7**
PB01	**IPOC Station P**	**14.40**	**18**	*e*Pn		**Pn**	**05 54 02.8**	**-1.2**
PB11	**IPOC Station P**	**15.59**	**16**	*e*Pn		**Pn**	**05 54 18.2**	**-1.8**
	comp=Z,18nm,0.9s							
MNMC	**Minye Minye**	**16.21**	**15**	*e*Pn		**Pn**	**05 54 28.1**	**+0.1**
	comp=Z,16nm,0.9s							
GO09	**Cerro Castillo**	**16.41**	**176**	*e*Pn		**Pn**	**05 54 30.0**	**-0.1**
	comp=Z,96nm,1.6s							
CPUP	**Villa Florida**	**16.77**	**64**	Pn		**P**	**05 54 36.7**	**0.0**
	comp=Z,0.1nm,0.3s,baz=223,slow=8.5,SNR=3.7							
LPAZ	**La Paz**	**19.30**	**18**	P		**Pn**	**05 55 06.8**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=179,slow=7.5,SNR=15							
LPAZ	**La Paz**	**19.30**	**18**	*e*P		**P**	**05 55 03.9**	**-1.3**
	comp=Z,5.2nm,0.8s							
EFI	**East Falkland**	**20.36**	**150**	*e*P		**P**	**05 55 15.4**	**-0.4**
	comp=Z,196nm,1.5s							
NNA	**Nana**	**22.95**	**353**	*e*P		**P**	**05 55 43.3**	**-0.6**
	comp=Z,9.7nm,1.0s							
SPB	**Sao Paulo**	**25.79**	**71**	*e*P		**P**	**05 56 10.2**	**-0.1**
	comp=Z,43nm,1.6s							
ATAH	**Atahualpa**	**27.91**	**351**	P		**P**	**05 56 30.6**	**+0.6**
	comp=Z,3.1nm,0.6s,baz=191,slow=16,SNR=3.5							
BDFB	**Brasilia**	**30.26**	**57**	*e*P		**P**	**05 56 49.8**	**-0.8**
	comp=Z,18nm,1.6s							
JTS	**JuntasAbangare**	**46.10**	**345**	P		**P**	**05 59 03.8**	**+0.4**
	comp=Z,3.5nm,0.9s,baz=164,slow=7.0,SNR=2.8							
SNAA	**Sanae**	**51.41**	**157**	P		**P**	**05 59 44.0**	**+0.4**
	comp=Z,2.8nm,0.9s,baz=253,slow=11,SNR=3.7							
APG	**El Apazote**	**52.01**	**340**	P		**P**	**05 59 50.0**	**+1.2**
	comp=Z,3.7nm,0.8s,baz=139,slow=23,SNR=3.9							
SYO	**Syowa Base**	**65.65**	**159**	*e*P		**P**	**06 01 22.0**	**-0.7**
TXAR	**Lajitas Array**	**69.71**	**333**	P		**P**	**06 01 50.2**	**+1.3**
	comp=Z,1.6nm,0.6s,baz=154,slow=8.7,SNR=10							
TXAR				LR		LR	06 27 04.9	
	comp=Z,28nm,18.7s,baz=0.0,slow=31							
TX31	**Lajitas Ar. Si**	**69.72**	**333**	*e*P		**P**	**06 01 49.1**	**+0.2**
V48A	**Smith Brothers**	**71.27**	**349**	*e*P		**P**	**06 01 57.5**	**-0.7**
	comp=Z,6.5nm,0.7s							
MSTX	**Muleshoe**	**73.58**	**335**	*e*P		**P**	**06 02 11.6**	**-0.6**
	comp=Z,25nm,1.9s							
DBIC	**Dimbokro**	**77.09**	**72**	P		**P**	**06 02 34.1**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=248,slow=2.8,SNR=3.8							
NVAR	**Mina Array Bea**	**83.67**	**327**	P		**P**	**06 03 09.1**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=153,slow=5.5,SNR=6.0							
PDAR	**Pinedale Array**	**83.81**	**335**	P		**P**	**06 03 09.6**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=140,slow=4.4,SNR=2.9							
PDAR				LR		LR	06 36 23.0	
	comp=Z,35nm,18.3s,baz=110,slow=33							
TORD	**Torodi Ar. Bea**	**86.13**	**71**	P		**P**	**06 03 21.2**	**+0.9**
	comp=Z,0.9nm,1.1s,baz=223,slow=4.7,SNR=3.8							
J08A	**Circle Bar Ran**	**87.77**	**329**	*e*P		**P**	**06 03 28.2**	**+0.4**
	comp=Z,3.5nm,0.8s							
BVAR	**Borovoye Array**	**149.11**	**43**	PKPbc		**PKPbc**	**06 10 27.6**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=298,slow=3.2,SNR=3.8							
KSH	**Kashi**	**155.80**	**70**	PKP		**PKPdf**	**06 10 34.3**	**+1.4**
KSH				PP		**PP**	**06 14 41.9**	**+4.6**
WMQ	**Urumqi**	**163.38**	**52**	*e*PKP		**PKPdf**	**06 10 41.9**	**+0.6**
NJ2	**Nanjing**	**168.80**	**259**	*e*PKP		**PKPdf**	**06 10 46.5**	**+0.6**
LZH	**Lanzhou**	**177.96**	**54**	*e*PKP		**PKPdf**	**06 10 44.0**	**-5.5**
LZH				pPKP		pPKPdf	06 10 54.0	-7.0
LZH				sPKP			06 10 57.0	
LZH				PKPab		PKPab	06 12 40.4	+3.0

IDC ***13*** *06:02:17.0±0.6, 9.°59N×122.°18E, h0km, mb4.1/21, mb1 4.2/22, mb1mx4.1/43, mbtmp4.2/22, ML4.8/1, MS3.1/3, Ms1 3.1/3, ms1mx2.8/33, Error ellipse: s-maj=24.7km s-min=12.3km az=70.0*

MAN ***13*** *06:02:20.8, 9.°54N×121.°96E, h31km, mb5.1, ML4.0, MS4.1*

NEIC ***13*** *06:02:22.3±0.2, 9.°61N×122.°22E, h35km, mb4.6/12, Error ellipse: s-maj=7.2km s-min=4.5km az=77.0*

ISC 13 06:02:20.2±1.1, 9.°56N±0.°03×122.°01E±0.°03, h18km±6km, n79, σ1°21/96, mb4.4/33, 3C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAP	**San Jose, Anti**	**1.18**	**357**	⇑*e*P	**Pn**	**06 02 41.7**	**-0.2**
JAP				*e*S	Sg	06 03 22.7	+24
GUIM	**Jordan**	**1.20**	**28**	*e*P	**Pn**	**06 02 41.1**	**-1.1**
GUIM				*e*S	**Sb**	**06 02 57.6**	**-0.1**
SNPH	**Sibulan**	**1.23**	**100**	⇑*i*P	**Pn**	**06 02 41.6**	**-1.0**
SNPH				*i* S	**Sb**	**06 02 58.7**	**+0.2**
CUYO	**Cuyo Island**	**1.61**	**323**	*e*P	**Pn**	**06 02 47.9**	**0.0**
CUYO				*e*S	**Sn**	**06 03 07.3**	**-1.0**
TBP	**Tagbilaran**	**1.83**	**86**	*e*P	**Pg**	**06 02 54.8**	**-0.6**
TBP				*i* S	**Sg**	**06 03 18.6**	**-0.5**
IPIL	**Ipil**	**1.84**	**163**	*e*P	**Pn**	**06 02 50.5**	**-0.5**
IPIL				*e*S	**Sn**	**06 03 12.7**	**-1.3**
LLP	**Lapu-Lapu**	**2.06**	**68**	*e*P	**Pn**	**06 02 54.4**	**+0.3**
LLP				*e*S	**Sn**	**06 03 20.9**	**+1.4**
RCP	**Roxas**	**2.11**	**20**	⇑*e*P	**Pn**	**06 02 55.8**	**+1.0**
RCP				*e*S	**Sb**	**06 03 24.4**	**+0.4**
PAGZ	**Pagadian**	**2.17**	**141**	*e*P	**Pn**	**06 02 56.0**	**+0.4**
PAGZ				*e*S	**Sn**	**06 03 21.7**	**-0.4**
MSLP	**Maasin**	**2.86**	**78**	*e*P	**Pn**	**06 03 06.9**	**+1.9**
MSLP				*e*S	**Sn**	**06 03 40.7**	**+1.7**
BUSP	**Coron**	**3.01**	**324**	*e*P	**Pn**	**06 03 07.1**	**0.0**
BUSP				*e*S	**Sn**	**06 03 40.8**	**-2.0**
SJMP	**San Jose**	**3.01**	**343**	*e*P	**Pn**	**06 03 07.2**	**0.0**
SJMP				*e*S	**Sn**	**06 03 42.5**	**-0.4**
ENPP	**El Nido**	**3.03**	**303**	*e*P	**Pn**	**06 03 07.5**	**+0.2**
ENPP				*e*S	**Sn**	**06 03 40.1**	**-3.0**
PLP	**Palo**	**3.33**	**61**	⇓*e*P	**Pn**	**06 03 12.2**	**+0.8**
PLP				*e*S	Sn	06 03 40.7	-10
BUKP	**Musuan**	**3.45**	**119**	*e*P	**Pn**	**06 03 14.5**	**+1.4**
BUKP				*e*S	**Sb**	**06 04 01.7**	**-0.7**
TGY	**Tagaytay City**	**4.63**	**347**	Pn	**Pn**	**06 03 30.1**	**+0.6**
	48nm,0.3s,baz=122,slow=9.5,SNR=2.7						
TGY				Sn	**Sn**	**06 04 26.7**	**+3.7**
	26nm,0.3s,baz=249,slow=16,SNR=2.5						
KKM	**Kota Kinabalu**	**6.72**	**239**	*e*Pn	**Pn**	**06 04 00.2**	**+2.0**
SBUM	**Sibu**	**12.03**	**235**	*e*Pn	**Pn**	**06 05 14.1**	**+3.2**
TWG	**Pinlang**	**13.22**	**356**	*e*Pn	**Pn**	**06 05 26.3**	**-0.9**
BKNI	**Bangkinang**	**22.80**	**247**	*e*P	**P**	**06 07 24.2**	**+1.9**
	36nm,0.6s						
PSI	**Prapat**	**23.90**	**255**	P	**P**	**06 07 35.3**	**+1.8**
	5.3nm,0.6s,baz=360,slow=18,SNR=6.8						
PSI	**Prapat**	**23.90**	**255**	*e*P	**P**	**06 07 35.6**	**+2.1**
	20nm,1.2s						
KMI	**Kunming**	**23.99**	**313**	*e*P	**P**	**06 07 35.8**	**+1.5**
	13nm,0.8s						
CM01	**Chiang Mai Arr**	**24.02**	**294**	*e*P	**P**	**06 07 36.3**	**+1.9**
MTN	**Manton Dam**	**24.03**	**158**	*e*P	**P**	**06 07 36.7**	**+2.3**
	56nm,1.4s						
CM31	**Chiang Mai Arr**	**24.04**	**294**	*e*P	**P**	**06 07 36.4**	**+1.7**
CMAR	**Chiang Mai Arr**	**24.04**	**294**	P	**P**	**06 07 35.7**	**+1.1**
	1.1nm,0.3s,baz=110,slow=7.4,SNR=14						
CHTO	**Chiang Mai**	**24.16**	**295**	*e*P	**P**	**06 07 37.0**	**+1.3**
	22nm,1.8s						
GSI	**Gunungsitoli**	**25.65**	**253**	*e*P	**P**	**06 07 50.4**	**+1.1**
	16nm,0.8s						
FITZ	**Fitzroy Crossi**	**27.71**	**173**	P	**P**	**06 08 07.3**	**-0.5**
	2.8nm,0.8s,baz=163,slow=0.2,SNR=4.6						
FITZ	**Fitzroy Crossi**	**27.71**	**173**	*e*P	**P**	**06 08 07.9**	**+0.1**
	80nm,2.0s						
KSRS	**Korea Array**	**28.28**	**10**	LR	LR	06 19 03.8	
	comp=Z,31nm,20.8s,baz=190,slow=36						
MJAR	**Matsushiro Arr**	**30.62**	**26**	LR	LR	06 19 00.2	
	comp=Z,30nm,21.8s,baz=295,slow=33						
WR1	**Warramunga Arr**	**31.73**	**158**	*e*P	**P**	**06 08 42.0**	**-1.4**
	15nm,1.4s						
WR1				*e*PcP	**PcP**	**06 11 34.8**	**-0.2**
WRA	**Warramunga Arr**	**31.73**	**158**	P	**P**	**06 08 42.0**	**-1.4**
	2.0nm,0.6s,baz=336,slow=9.8,SNR=13						
WRA				PcP	**PcP**	**06 11 34.8**	**-0.2**
	0.8nm,0.8s,baz=339,slow=2.9,SNR=5.1						
WB2	**Warramunga Arr**	**31.73**	**158**	*e*P	**P**	**06 08 42.7**	**-0.8**
AS31	**Alice Springs**	**35.01**	**161**	*e*P	**P**	**06 09 11.7**	**-0.3**
	1.4nm,0.6s						
AS31				*e*PcP	**PcP**	**06 11 44.5**	**+0.4**
ASAR	**Alice Springs**	**35.01**	**161**	P	**P**	**06 09 12.1**	**+0.1**
	4.3nm,0.6s,baz=343,slow=6.6,SNR=45						
ASAR				PcP	**PcP**	**06 11 44.5**	**+0.4**
	1.0nm,0.9s,baz=6.8,slow=5.8,SNR=3.7						
AS01	**Alice Springs**	**35.02**	**161**	*e*P	**P**	**06 09 11.9**	**-0.3**
USRK	**Ussuriysk Ar.**	**35.58**	**12**	P	**P**	**06 09 16.7**	**0.0**
	3.5nm,0.8s,baz=202,slow=7.4,SNR=7.4						
ULN	**Ulaanbatar**	**40.22**	**344**	*e*P	**P**	**06 09 56.2**	**+0.2**
	4.8nm,1.1s						
SONA0	**Songino Array**	**40.37**	**344**	*e*P	**P**	**06 09 56.8**	**-0.4**
SONM	**Songino Array**	**40.37**	**344**	P	**P**	**06 09 56.8**	**-0.4**
	1.7nm,0.7s,baz=162,slow=9.5,SNR=13						
SONM				LR	LR	06 26 32.2	
	comp=Z,46nm,19.0s,baz=353,slow=36						
KLR	**Kul'dur**	**40.37**	**10**	P	**P**	**06 09 56.4**	**-0.6**
	1.6nm,0.7s,baz=199,slow=9.0,SNR=5.9						
SONA1	**Songino Array**	**40.38**	**344**	*e*P	**P**	**06 09 56.0**	**-1.2**
SONA1				*e*pP	**pwP**	**06 10 06.7**	**-0.1**
STKA	**Stephens Creek**	**45.26**	**156**	P	**P**	**06 10 35.6**	**-1.3**
	0.6nm,0.4s,baz=338,slow=16,SNR=1.7						
STKA	**Stephens Creek**	**45.26**	**156**	*e*P	**P**	**06 10 35.6**	**-1.3**
	5.5nm,1.9s						
MK01	**Makanchi Array**	**50.11**	**325**	*e*P	**P**	**06 11 16.0**	**+1.5**
MK31	**Makanchi Array**	**50.13**	**325**	*e*P	**P**	**06 11 16.4**	**+1.8**
MK32	**Makanchi Array**	**50.13**	**325**	*e*P	**P**	**06 11 15.5**	**+0.9**
MKAR	**Makanchi Array**	**50.13**	**325**	P	**P**	**06 11 15.5**	**+1.0**
	4.7nm,0.8s,baz=131,slow=8.3,SNR=20						
MKAR	**Makanchi Array**	**50.13**	**325**	*e*P	**P**	**06 11 15.6**	**+1.0**
	37nm,0.9s						
MAKZ	**Makanchi**	**50.31**	**325**	*e*P	**P**	**06 11 17.4**	**+1.4**
	13nm,1.3s						
NIL	**Nilore**	**50.70**	**306**	*e*P	**P**	**06 11 20.5**	**+1.3**
	9.2nm,0.8s						
AAK	**Ala-Archa**	**52.92**	**317**	P	**P**	**06 11 35.6**	**-0.2**
	2.4nm,0.8s,baz=175,slow=15,SNR=4.8						
ZALV	**Zalesovo Beam**	**53.31**	**334**	P	**P**	**06 11 38.0**	**-0.1**
	0.8nm,0.3s,baz=111,slow=7.1,SNR=3.8						
ZAA1	**Zalesovo Array**	**53.31**	**334**	*e*P	**P**	**06 11 38.0**	**-0.2**
KURBB	**Kurchatov Arra**	**54.34**	**327**	P	**P**	**06 11 45.8**	**0.0**
	2.7nm,0.9s,baz=132,slow=7.2,SNR=13						
KURK	**Kurchatov**	**54.34**	**327**	*e*P	**P**	**06 11 45.8**	**0.0**
KK31	**Karatay Array**	**55.80**	**316**	*e*P	**P**	**06 11 57.6**	**+1.0**
KKAR	**Karatay Array**	**55.80**	**316**	*e*P	**P**	**06 11 57.4**	**+0.9**
BVAR	**Borovoye Array**	**59.91**	**327**	P	**P**	**06 12 24.6**	**-0.6**
	0.3nm,0.4s,baz=123,slow=11,SNR=4.0						
TIXI	**Tiksi**	**62.18**	**2**	P	**P**	**06 12 39.2**	**-1.0**
	2.0nm,0.7s,baz=155,slow=3.5,SNR=8.1						
TIXI	**Tiksi**	**62.18**	**2**	*e*P	**P**	**06 12 39.4**	**-0.8**
GEYT	**Alibeck**	**63.63**	**308**	P	**P**	**06 12 50.9**	**+0.3**
	25nm,0.6s,baz=106,slow=6.7,SNR=4.0						
ABKAR	**Akbulak array**	**64.70**	**320**	*e*P	**P**	**06 12 58.1**	**+0.8**
AKTO	**Aktyubinsk**	**66.21**	**321**	P	**P**	**06 13 07.1**	**0.0**
	2.0nm,0.7s,baz=102,slow=6.8,SNR=8.2						
BR101	**Keskin Array S**	**82.73**	**309**	*e*P	**P**	**06 14 42.6**	**-0.9**
BRTR	**Keskin Array B**	**82.73**	**309**	P	**P**	**06 14 42.6**	**-0.9**
	0.7nm,0.8s,baz=78,slow=4.8,SNR=3.0						
ARA0	**ARCESS Array S**	**83.39**	**339**	*e*P	**P**	**06 14 45.6**	**-0.6**
ARCES	**ARCESS Array B**	**83.39**	**339**	P	**P**	**06 14 45.6**	**-0.6**
	4.3nm,0.9s,baz=21,slow=7.8,SNR=4.0						
AKASG	**Malin Array Be**	**84.44**	**320**	P	**P**	**06 14 51.3**	**-0.6**
	3.4nm,0.8s,baz=73,slow=4.2,SNR=9.5						
AKBB	**Malin Array Si**	**84.44**	**320**	*e*P	**P**	**06 14 50.9**	**-1.0**
	4.5nm,0.9s						
FIA0	**FINESS Array S**	**84.51**	**331**	*e*P	**P**	**06 14 51.4**	**-0.6**
FINES	**FINESS Array B**	**84.51**	**331**	P	**P**	**06 14 51.4**	**-0.6**
	1.7nm,0.7s,baz=45,slow=11,SNR=11						
BUR04	**Bucovina Ar. S**	**87.56**	**318**	*e*P	**P**	**06 15 07.5**	**0.0**
YKA	**Yellowknife Ar**	**96.07**	**23**	P	**P**	**06 15 44.0**	**-2.6**
	0.1nm,0.3s,baz=311,slow=4.3,SNR=4.1						
YKB5	**Yellowknife Ar**	**96.07**	**23**	*e*P	**P**	**06 15 44.0**	**-2.6**
AQU	**L'Aquila**	**97.04**	**315**	*e*P	**P**	**06 15 51.4**	**-0.1**
	18nm,0.5s						

NNC ***13*** *06:04:33.0±1.3, 54.°25N×86.°47E, h0km, mb3.5, mpv3.4, Error ellipse: s-maj=14.5km s-min=7.1km az=0.0, Suspected Mining explosion.*

KRAR 13 06:04:30.4±0.4, 53.°93N×86.°31E, M2.9, 6C-4D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**0.88**	**272**	⇑P	Pn	06 04 52.2	+2.1
	6.3nm,0.6s						
ZAA0				⇑S	Sn	06 05 06.8	+3.2
	11nm,0.7s						
KURK	**Kurchatov**	**5.71**	**239**	⇑Pn	Pn	06 06 03.4	+7.1
	6.4nm,1.1s						
KURK				⇓Lg	Lg	06 07 40.7	
	4.4nm,0.7s						
KURBB	**Kurchatov Arra**	**5.81**	**238**	⇑Pn	Pn	06 06 04.9	+7.1
	4.3nm,0.5s						
KURBB				⇑Lg	Lg	06 07 44.8	
	6.5nm,0.6s						
MK31	**Makanchi Array**	**7.59**	**201**	⇓Pn	Pn	06 06 30.2	+8.0
	0.7nm,0.5s,baz=26,slow=14,SNR=45						
MK31				Sn	Sn	06 07 59.5	+11
	0.8nm,0.7s,baz=22,slow=28,SNR=2.5						
MK31				⇓Lg	Lg	06 08 43.9	
	1.1nm,0.6s,baz=19,slow=26,SNR=3.5						
MAKZ	**Makanchi**	**7.65**	**203**	⇑Pn	Pn	06 06 31.4	+8.4
	1.9nm,0.8s						
MAKZ				⇓Lg	Lg	06 08 46.5	
	6.2nm,1.2s						

MEX 13 06:08:37.9±0.5, 17.°83N×99.°03W, h31km±9km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEIG	**Mezcala**	**0.57**	**279**	*i* P	Pb	06 08 47.8	-1.8
MEIG				*e*S	Sb	06 08 55.4	-2.1
PLIG	**Platanillo**	**0.71**	**321**	*e*P	Pn	06 08 49.2	-2.7
PLIG				*e*S	Sb	06 08 59.0	-2.6
ARIG	**Puente Sto Nin**	**1.33**	**290**	*e*P	Pn	06 08 58.4	-1.9
ARIG				*e*S	Sn	06 09 14.7	-2.3
PNIG	**Pinotepa**	**1.67**	**149**	*e*P	Pn	06 09 02.6	-2.5
PNIG				*e*S	Sn	06 09 23.0	-2.5

ISCJB ***13*** *06:32:30.9±1.7, 16.°00S±0.°09×168.°0E±0.°1, h176km±14km, mb4.3/18, Error ellipse: s-maj=17.3km s-min=12.9km az=149.8*

NEIC ***13*** *06:32:31.9±1.4, 15.°98S×168.°05E, h171km±12km, mb4.5/8, Error ellipse: s-maj=12.5km s-min=9.6km az=220.0*

IDC ***13*** *06:32:31.2±2.1, 15.°99S×167.°96E, h161km±17km, mb3.9/13, mb1 4.0/14, mb1mx3.8/35, mbtmp4.3/14, MS2.9/2, Ms1 2.9/2, ms1mx2.6/22, Error ellipse: s-maj=20.2km s-min=12.9km az=69.0*

ISC 13 06:32:30.7±1.7, 15.°96S±0.°09×168.°1E±0.°1, h162km±13km, n44, σ0°82/54, mb4.3/18, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**5.50**	**180**	*e*Pn	**Pn**	**06 33 50.3**	**-0.5**
DZM	**Mont Dzumac**	**6.27**	**194**	P	**Pn**	**06 34 01.5**	**+0.3**
	31nm,0.3s,baz=76,slow=7.2,SNR=296						
DZM				S	**Sn**	**06 35 11.2**	**-1.1**
	baz=133,slow=19,SNR=2.6						
DZM	**Mont Dzumac**	**6.27**	**194**	*e*Pn	**Pn**	**06 34 02.0**	**+0.8**
DZM				*e*Sn	**Sn**	**06 35 11.2**	**-1.1**
OUENC	**Ouen Island, N**	**6.53**	**190**	*e*Pn	**Pn**	**06 34 06.4**	**+1.9**
HNR	**Honiara**	**10.23**	**308**	LR	LR	06 38 33.3	
	comp=Z,65nm,20.7s,baz=154,slow=36						
EIDS	**Eidsvold**	**18.42**	**237**	*e*P	**Pn**	**06 36 35.8**	**0.0**
	9.0nm,0.9s						
CTA	**Charters Tower**	**21.13**	**256**	P	**P**	**06 37 04.2**	**+1.2**
	3.2nm,0.9s,baz=84,slow=12,SNR=6.8						
PMG	**Port Moresby**	**21.39**	**285**	P	**P**	**06 37 05.8**	**0.0**
	16nm,0.8s,baz=86,slow=6.0,SNR=5.8						
PMG	**Port Moresby**	**21.39**	**285**	*e*P	**P**	**06 37 07.4**	**+1.6**
	18nm,0.9s						
URZ	**Urewera**	**23.61**	**162**	P	**P**	**06 37 27.7**	**+0.9**
	1.9nm,0.3s,baz=4.8,slow=12,SNR=3.2						
COEN	**Coen**	**24.12**	**271**	*e*P	**P**	**06 37 33.8**	**+2.1**
	9.5nm,0.8s						
RPZ	**Rata Peaks**	**27.79**	**175**	P	**P**	**06 38 04.7**	**+0.3**
	10nm,0.7s,baz=288,slow=3.2,SNR=3.3						
STKA	**Stephens Creek**	**28.81**	**232**	P	**P**	**06 38 13.2**	**-0.5**
	5.8nm,0.7s,baz=70,slow=11,SNR=11						
STKA	**Stephens Creek**	**28.81**	**232**	*e*P	**P**	**06 38 13.2**	**-0.5**
	8.9nm,2.0s						
WR1	**Warramunga Arr**	**32.29**	**258**	*e*P	**P**	**06 38 42.9**	**-1.6**
	36nm,1.9s						
WR1				*e*PcP	**PcP**	**06 41 28.8**	**-0.1**
WR1				*e*ScP	**ScP**	**06 44 57.4**	**-0.1**
WRA	**Warramunga Arr**	**32.29**	**258**	P	**P**	**06 38 42.9**	**-1.6**
	0.5nm,0.4s,baz=79,slow=6.1,SNR=11						
WRA				PcP	**PcP**	**06 41 28.8**	**-0.1**
	0.5nm,0.8s,baz=47,slow=1.1,SNR=3.0						
WRA				ScP	**ScP**	**06 44 57.4**	**-0.1**
	1.1nm,0.8s,baz=84,slow=3.2,SNR=7.7						
AS01	**Alice Springs**	**32.

LZH				smax	smax			
	comp=N,270nm,1.0s							
LZH				smax	smax			
	comp=E,430nm,1.3s							
GYA	**Guiyang**	**5.97**	**165**	*e*Pn	Pb	06 50 57.3	-7.6
GYA				Pg	Pg	06 51 13.5	-1.9
GYA				Sn	Sn	06 51 54.9	-2.4
GYA				Sg	Sb	06 52 16.4	0.0
GYA				smax	smax			
	comp=N,50nm,0.5s							
GYA				smax	smax			
	comp=E,70nm,0.7s							
GTA	**Gaotai**	**8.25**	**331**	*e*P	Pn	06 51 23.5	+3.3	
GTA				pP	Pb	06 51 27.9	-16	
GTA				sP		06 51 30.8		
WMQ	**Urumqi**	**17.76**	**315**	*e*P	Pn	06 53 26.3	-1.4	

IDC 13 07:17:00.2±9.2, 2°92'S×128°54'E, h148km±111km, mb2.7/2, mb1 2.9/4, mb1mx2.8/46, mbtmp3.2/4, ML3.2/2, Error ellipse: s-maj=153.2km s-min=21.3km az=79.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.41**	**53**	P	Pn	07 17 52.7	0.0
	1.8nm,0.3s,baz=254,slow=23,SNR=6.2						
WRA	**Warramunga Arr**	**17.84**	**162**	P	P	07 20 57.1	-0.8
	0.1nm,0.3s,baz=341,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**21.27**	**166**	P	P	07 21 35.4	+0.4
	0.4nm,0.4s,baz=346,slow=12,SNR=10						
MKAR	**Makanchi Array**	**64.04**	**326**	P	P	07 27 18.1	0.0
	0.1nm,0.6s,baz=126,slow=4.8,SNR=2.2						

IDC 13 07:20:46.7±1.7, 14°30S×166°81E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.5/30, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=61.3km s-min=34.2km az=114.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.74**	**183**	Pn	Pn	07 22 41.1	+0.4
	0.6nm,0.3s,baz=350,slow=6.1,SNR=4.6						
DZM				Sn	Sn	07 24 04.0	-5.1
	0.4nm,0.3s,baz=229,slow=20,SNR=1.9						
ASAR	**Alice Springs**	**32.41**	**248**	P	P	07 27 18.1	-0.5
	0.2nm,0.6s,baz=77,slow=9.4,SNR=3.8						
ILAR	**Eielson Array**	**86.26**	**18**	P	P	07 33 29.5	-0.4
	0.4nm,0.7s,baz=240,slow=5.7,SNR=7.9						
MKAR	**Makanchi Array**	**96.59**	**316**	P	P	07 34 19.1	+0.6
	0.1nm,0.4s,baz=114,slow=3.5,SNR=2.6						

*NEIC **13** 07:24:48.4±1.5, 56°08S×27°63W, h101km±13km, mb4.9/22, Error ellipse: s-maj=10.8km s-min=7.5km az=223.0*
*ISCJB **13** 07:24:49.0±0.3, 56°14S±0°05×27°6W±0°1, h121km, mb4.8/27, Error ellipse: s-maj=8.6km s-min=5.7km az=149.0*
*IDC **13** 07:24:49.6±2.3, 56°08S×27°60W, h109km±20km, mb4.4/13, mb1 4.5/15, mb1mx4.3/25, mbtmp4.8/15, MS3.2/6, Ms1 3.2/6, ms1mx3.0/17, Error ellipse: s-maj=15.2km s-min=12.4km az=66.0*

ISC 13 07:24:50.7±0.4, 56°11S±0°08×27°88W±0°07, h121km, n108, σ1°46/109, mb4.8/26, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.26**	**287**	*e*Pn	**Pn**	**07 26 05.1**	**-1.9**
HOPE				*e*Sn	**Sn**	**07 27 01.2**	**-5.2**
VNA1	**Neumayer--Stat**	**16.89**	**157**	P	**Pn**	**07 28 38.4**	**-0.9**
VNA3	**Neumayer Olymp**	**17.07**	**160**	P	**P**	**07 28 40.0**	**-1.4**
VNA2	**Neumayer--Watz**	**17.29**	**157**	P	**P**	**07 28 42.6**	**-1.1**
	baz=313,slow=14						
EFI	**East Falkland**	**18.25**	**271**	*e*P	**Pn**	**07 28 56.3**	**+0.6**
	87nm,1.3s						
SNAA	**Sanae**	**18.85**	**156**	P	**P**	**07 28 59.3**	**-1.6**
SNAA	**Sanae**	**18.85**	**156**	P	**P**	**07 28 59.3**	**-1.6**
	7.5nm,0.3s,baz=302,slow=10,SNR=207						
SNAA	**Sanae**	**18.85**	**156**	*e*P	**P**	**07 28 59.5**	**-1.4**
	54nm,0.6s						
PMSA	**Palmer Station**	**19.57**	**229**	P	**P**	**07 29 09.5**	**+0.9**
	0.6nm,0.3s,baz=346,slow=8.0,SNR=3.1						
PMSA	**Palmer Station**	**19.57**	**229**	*e*P	**P**	**07 29 09.2**	**+0.5**
	221nm,1.5s						
USHA	**Ushuaia**	**22.80**	**256**	P	**P**	**07 29 43.7**	**+1.0**
	10nm,0.8s,baz=96,slow=12,SNR=12						
GO09	**Cerro Castillo**	**26.40**	**262**	*e*P	**P**	**07 30 16.1**	**+0.6**
	38nm,1.4s						
TRQA	**Tornquist**	**28.99**	**294**	*e*P	**P**	**07 30 39.8**	**+1.1**
PLTB	**Pedras Altas**	**30.25**	**313**	*e*P	**P**	**07 30 51.3**	**+1.4**
CNLB	**Canela**	**31.36**	**319**	*e*P	**P**	**07 31 01.8**	**+2.1**
CPSB	**Cacapava Do Su**	**31.37**	**314**	*e*P	**P**	**07 31 01.6**	**+1.9**
TER01	**Tubaro-SC**	**31.46**	**322**	*e*P	**P**	**07 31 02.6**	**+2.1**
PLCA	**Paso Flores**	**31.63**	**281**	P	**P**	**07 31 01.6**	**-0.4**
	1.8nm,0.7s,baz=170,slow=6.7,SNR=7.9						
PLCA				LR	LR	07 42 52.5	
	comp=Z,37nm,21.0s,baz=159,slow=34						
PLCA	**Paso Flores**	**31.63**	**281**	*e*P	**P**	**07 31 02.7**	**+0.7**
	18nm,1.6s						
GO07	**Milladeo Hill,**	**31.77**	**275**	*e*P	**P**	**07 31 02.6**	**-0.5**
	128nm,0.8s						
ITAB	**Concordia**	**33.71**	**319**	*e*P	**P**	**07 31 22.5**	**+2.4**
QSPA	**South Pole Qui**	**34.15**	**180**	P	**P**	**07 31 24.5**	**+0.7**
	11nm,0.4s,baz=193,slow=3.9,SNR=28						
QSPA				ScP	**ScP**	**07 37 32.0**	**+0.8**
	1.5nm,0.7s,baz=242,slow=1.0,SNR=7.3						
QSPA				LR	LR	07 43 35.1	
	comp=Z,67nm,21.1s,baz=194,slow=33						
CAM01	**Campos-RJ**	**35.73**	**338**	*e*P	**P**	**07 31 38.6**	**+1.1**
PTGB	**Pitanga**	**35.98**	**321**	*e*P	**P**	**07 31 40.7**	**+0.9**
FRTB	**Fartura**	**36.40**	**325**	*e*P	**P**	**07 31 46.0**	**+2.7**
CPUP	**Villa Florida**	**36.56**	**312**	P	**P**	**07 31 45.1**	**+0.6**
	7.2nm,0.6s,baz=150,slow=7.1,SNR=36						
CPUP				PcP	**PcP**	**07 34 06.2**	**+0.8**
	1.5nm,0.5s,baz=116,slow=1.9,SNR=5.5						
CPUP				ScP	**ScP**	**07 37 41.3**	**+0.9**
	1.8nm,0.9s,baz=182,slow=5.9,SNR=3.8						
CPUP				LR	LR	07 45 30.2	
	comp=Z,34nm,21.6s,baz=124,slow=34						
CPUP	**Villa Florida**	**36.56**	**312**	*e*P	**P**	**07 31 45.0**	**+0.4**
	6.7nm,0.6s						
CPUP				*e*pP	**pP**	**07 32 03.6**	**-6.8**
CPUP				PcP	**PcP**	**07 34 06.2**	**+0.8**
CPUP				ScP	**ScP**	**07 37 41.3**	**+0.9**
CPUP	**Villa Florida**	**36.56**	**312**	*e*P	**P**	**07 31 45.3**	**+0.7**
ALF01	**Guarapari-ES**	**36.71**	**340**	*e*P	**P**	**07 31 46.3**	**+0.4**
BSCB	**Bom Sucesso**	**37.25**	**333**	*e*P	**P**	**07 31 52.4**	**+1.9**
PEL	**Peldehue**	**37.29**	**290**	*e*P	**P**	**07 31 51.2**	**+0.4**
	18nm,0.6s						
ROC1	**El Roble**	**37.59**	**290**	*e*P	**P**	**07 31 54.1**	**+0.5**
	16nm,0.6s						
RIB01	**Linhares ES**	**37.92**	**341**	*e*P	**P**	**07 31 55.8**	**-0.3**
TRCB	**Terra Rica**	**37.95**	**321**	*e*P	**P**	**07 31 57.5**	**+1.2**
BB19B	**Bebedouro**	**38.22**	**328**	*e*P	**P**	**07 32 00.2**	**+1.6**
BSFB	**Barra de Sao F**	**38.48**	**340**	*e*P	**P**	**07 32 01.4**	**+0.7**
SJMB	**Sao Joao De Ma**	**38.67**	**340**	*e*P	**P**	**07 32 03.6**	**+1.3**
GO04	**Tololo Observa**	**39.69**	**293**	*e*P	**P**	**07 32 11.2**	**+0.1**
	49nm,1.6s						
PMNB	**Patos De Minas**	**40.03**	**332**	*e*P	**P**	**07 32 14.9**	**+1.1**
ITRB	**Iturama**	**40.06**	**326**	*e*P	**P**	**07 32 15.4**	**+1.4**
MAW	**Mawson**	**40.33**	**144**	P	**P**	**07 32 14.5**	**-1.1**
	4.7nm,0.3s,baz=222,slow=8.6,SNR=6.3						
MAW				LR	LR	07 48 22.6	
	comp=Z,12nm,19.1s,baz=237,slow=35						
MAW	**Mawson**	**40.33**	**144**	*e*P	**P**	**07 32 15.4**	**-0.2**
	2.0nm,0.8s						
LCO	**Las Campanas**	**40.57**	**294**	*e*P	**P**	**07 32 18.9**	**+0.5**
IPMB	**Ipameri, GO**	**41.05**	**330**	*e*P	**P**	**07 32 23.4**	**+1.3**
MCI6	**Montes Claros**	**41.08**	**336**	*e*P	**P**	**07 32 22.9**	**+0.6**
MCI7	**Montes Claros**	**41.09**	**336**	*e*P	**P**	**07 32 23.2**	**+0.7**
AQDB	**Aquidauana**	**41.18**	**318**	*e*P	**P**	**07 32 23.2**	**+0.1**
MCI9	**Montes Claros**	**41.18**	**336**	*e*P	**P**	**07 32 23.8**	**+0.6**
MCI8	**Montes Claros**	**41.23**	**336**	*e*P	**P**	**07 32 24.4**	**+0.9**
JANB	**Januaria**	**42.86**	**336**	*e*P	**P**	**07 32 38.1**	**+1.3**
GO02	**Mina Guanaco**	**43.18**	**298**	*e*P	**P**	**07 32 40.3**	**+0.7**
	18nm,0.6s						
BDFB	**Brasilia**	**43.22**	**331**	P	**P**	**07 32 41.5**	**+1.7**
	7.0nm,0.5s,baz=149,slow=3.9,SNR=23						
BDFB	**Brasilia**	**43.22**	**331**	*e*P	**P**	**07 32 41.5**	**+1.7**
	8.5nm,0.6s						
LVC	**Limon Verde**	**44.99**	**301**	*e*P	**P**	**07 32 55.8**	**+1.6**
	19nm,0.6s						
LVC	**Limon Verde**	**44.99**	**301**	*e*P	**P**	**07 32 56.4**	**+2.2**
BOSA	**Boshof**	**46.36**	**76**	LR	LR	07 49 22.9	
	comp=Z,51nm,18.4s,baz=210,slow=32						
BOSA	**Boshof**	**46.36**	**76**	*e*P	**P**	**07 33 01.7**	**-2.9**
VNDA	**Vanda**	**46.50**	**183**	P	**P**	**07 33 06.5**	**+1.6**
	6.6nm,0.7s,baz=183,slow=6.9,SNR=29						
VNDA				LR	LR	07 50 56.9	
	comp=Z,37nm,19.6s,baz=191,slow=34						
VNDA	**Vanda**	**46.50**	**183**	*e*P	**P**	**07 33 06.1**	**+1.2**
	8.3nm,0.8s						
PB01	**IPOC Station P**	**46.61**	**301**	*e*P	**P**	**07 33 08.0**	**+1.4**
	19nm,0.7s						
PB11	**IPOC Station P**	**47.79**	**302**	*e*P	**P**	**07 33 17.1**	**+1.3**
	17nm,0.8s						
H10S2	**ASCENSION HYDR**	**48.17**	**18**	T	T	08 26 03.7	
	baz=189,slow=75,SNR=61						
H10S3	**ASCENSION HYDR**	**48.17**	**18**	T	T	08 26 04.0	
	baz=189,slow=75,SNR=47						
H10S1	**ASCENSION HYDR**	**48.18**	**18**	T	T	08 26 05.0	
	baz=189,slow=75,SNR=56						
MNMC	**Minye Minye**	**48.30**	**303**	*e*P	**P**	**07 33 21.3**	**+1.5**
	33nm,0.5s						
H10N1	**ASCENSION HYDR**	**49.28**	**18**	T	T	08 26 49.3	
	baz=189,slow=75,SNR=27						
H10N3	**ASCENSION HYDR**	**49.29**	**18**	T	T	08 27 13.6	
	baz=189,slow=75,SNR=43						
H10N2	**ASCENSION HYDR**	**49.30**	**18**	T	T	08 27 04.8	
	baz=189,slow=75,SNR=42						
LBTB	**Lobatse**	**49.39**	**74**	P	**P**	**07 33 26.6**	**-1.4**
	2.3nm,0.6s,baz=204,slow=6.8,SNR=4.3						
LPAZ	**La Paz**	**50.09**	**306**	P	**P**	**07 33 35.5**	**+1.6**
	17nm,0.4s,baz=118,slow=4.9,SNR=100						
LPAZ	**La Paz**	**50.09**	**306**	*e*P	**P**	**07 33 35.6**	**+1.6**
	23nm,0.5s						
LPAZ	**La Paz**	**50.09**	**306**	*e*P	**P**	**07 33 35.6**	**+1.6**
PTGA	**Pitinga**	**60.98**	**323**	*e*P	**P**	**07 34 51.1**	**+0.1**
LIC	**Lamto**	**64.91**	**25**	*e*P	**P**	**07 35 16.2**	**-0.8**
	29nm,0.6s						
KIC	**Kosan Boka**	**65.11**	**26**	*e*P	**P**	**07 35 17.5**	**-0.8**
	15nm,0.7s						
TIC	**Toumodi**	**65.32**	**25**	*e*P	**P**	**07 35 18.7**	**-0.9**
DBIC	**Dimbokro**	**65.38**	**25**	P	**P**	**07 35 19.9**	**-0.1**
	5.5nm,0.6s,baz=162,slow=7.7,SNR=14						
DBIC	**Dimbokro**	**65.38**	**25**	*e*P	**P**	**07 35 19.3**	**-0.7**
	6.3nm,0.6s						
DBIC	**Dimbokro**	**65.38**	**25**	*e*P	**P**	**07 35 20.1**	**+0.1**
OTAV	**Otavalo**	**69.36**	**304**	*e*P	**P**	**07 35 45.7**	**0.0**
	17nm,1.4s						
OTAV	**Otavalo**	**69.36**	**304**	*e*P	**P**	**07 35 47.7**	**+2.0**
TOA0	**Torodi Ar. Sit**	**73.30**	**30**	*e*P	**P**	**07 36 09.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**73.30**	**30**	P	**P**	**07 36 06.8**	**-1.8**
	6.7nm,0.5s,baz=197,slow=6.2,SNR=40						
SDV	**Santo Domingo**	**73.78**	**316**	*e*P	**P**	**07 36 12.7**	**+0.9**
	12nm,0.8s						
SDV	**Santo Domingo**	**73.78**	**316**	*e*P	**P**	**07 36 13.2**	**+1.5**
MDT	**Midelt**	**90.77**	**19**	P	**P**	**07 37 41.0**	**+1.5**
	4.1nm,0.7s,baz=212,slow=3.3,SNR=13						
ASAR	**Alice Springs**	**99.05**	**163**	P	**Pdif**	**07 38 17.4**	**-0.4**
	2.0nm,1.0s,baz=185,slow=5.0,SNR=7.6						
ULM	**Lac du Bonnet**	**120.02**	**317**	PKP	**PKPdf**	**07 43 24.9**	**-0.8**
	1.3nm,0.5s,baz=128,slow=7.5,SNR=4.9						
PDAR	**Pinedale Array**	**120.05**	**303**	PKP	**PKPdf**	**07 43 25.3**	**-1.1**
	0.3nm,0.4s,baz=92,slow=4.1,SNR=4.9						
NOA	**NORSAR Array B**	**120.80**	**21**	PKP	**PKPdf**	**07 43 26.9**	**-0.1**
	0.3nm,0.6s,baz=114,slow=3.3,SNR=3.2						
NVAR	**Mina Array Bea**	**121.06**	**294**	PKP	**PKiKP**	**07 43 30.3**	**+1.8**
	0.2nm,0.5s,baz=104,slow=3.8,SNR=3.1						
FINES	**FINESS Array B**	**124.61**	**28**	PKP	**PKPdf**	**07 43 34.1**	**0.0**
	3.5nm,0.6s,baz=184,slow=1.5,SNR=26						
AKTO	**Aktyubinsk**	**127.67**	**54**	PKP	**PKPdf**	**07 43 40.5**	**+0.1**
	0.9nm,0.5s,baz=238,slow=9.5,SNR=3.9						
ARCES	**ARCESS Array B**	**131.14**	**22**	PKP	**PKPdf**	**07 43 46.0**	**-0.4**
	2.4nm,0.6s,baz=199,slow=1.8,SNR=16						
YKA	**Yellowknife Ar**	**135.95**	**318**	PKP	**PKPdf**	**07 43 55.1**	**-0.5**
	2.8nm,0.6s,baz=125,slow=2.2,SNR=31						
MKAR	**Makanchi Array**	**137.27**	**72**	PKP	**PKPdf**	**07 43 58.0**	**-0.6**
	0.7nm,0.6s,baz=238,slow=2.4,SNR=8.9						
CD2	**Chengdu**	**138.02**	**106**	PKP	**PKPdf**	**07 44 01.0**	**+0.4**
WMQ	**Urumqi**	**138.29**	**79**	*e*PKP	**PKiKP**	**07 44 02.5**	**-0.3**
LZH	**Lanzhou**	**141.98**	**101**	*e*PKP	**PKiKP**	**07 44 09.6**	**-1.1**
LZH				sPKP		07 44 45.4	
ZALV	**Zalesovo Beam**	**142.74**	**64**	PKhKP	PKPpre	07 44 04.7	
	1.2nm,0.4s,baz=238,slow=2.9,SNR=3.7						
INK	**Inuvik**	**145.60**	**321**	*e*PKPbc	**PKPab**	**07 44 13.6**	**-0.2**
DAWY	**Dawson**	**146.54**	**312**	*e*PKPbc	**PKPbc**	**07 44 16.6**	**+0.3**
NJ2	**Nanjing**	**146.64**	**122**	*e*PKPbc	**PKPbc**	**07 44 17.3**	**-0.2**
HHC	**Hu-ho-hao-te**	**149.61**	**103**	*e*PKPbc	**PKPdf**	**07 44 22.4**	**+1.9**
ILAR	**Eielson Array**	**149.86**	**312**	PKP	**PKPdf**	**07 44 17.8**	**-2.2**
	0.6nm,0.8s,baz=258,slow=1.1,SNR=7.2						
ILAR				PKPbc	**PKiKP**	**07 44 25.6**	**-0.3**
	18nm,0.8s,baz=135,slow=3.0,SNR=141						
COLA	**College**	**150.29**	**312**	*e*PKPbc	**PKiKP**	**07 44 26.3**	**-0.3**
COLA				*e*PKPab	**PKPab**	**07 44 33.0**	**+0.3**
COLA	**College**	**150.29**	**312**	*e*P	**PKPdf**	**07 44 22.9**	**+2.3**
SONM	**Songino Array**	**151.12**	**87**	PKPbc	**PKPbc**	**07 44 28.8**	**+0.2**
	7.9nm,0.5s,baz=221,slow=3.6,SNR=61						

*ISCJB **13** 07:25:42.2±0.3, 51°52N±0°02×16°18E±0°03, h0km, mb4.0/2, Error ellipse: s-maj=2.5km s-min=2.3km az=153.8*
*IDC **13** 07:25:44.6±0.8, 51°38N×16°17E, h0km, mb3.1/1, mb1 3.3/5, mb1mx3.1/38, mbtmp3.1/5, ML2.6/4, Error ellipse: s-maj=12.0km s-min=7.1km az=122.0*
*BGR **13** 07:25:46.5±0.5, 51°42N×16°09E, h1km, ML3.1/9, Error ellipse: s-maj=6.7km s-min=2.2km az=24.0*
*VIE **13** 07:25:46.9±0.7, 51°32N×16°02E, h0km, mb2.6/6, ml3.1/6, Error ellipse: s-maj=6.5km s-min=4.4km az=43.0 73 km WNW of Wroclaw Suspected Mining induced.*
*UPP **13** 07:25:48.6±2.8, 51°77N×15°61E, h0km, ML2.3, Suspected explosion*
*LDG **13** 07:25:48.1±0.5, 51°22N×15°90E, h1km, Ml3.2/7, Error ellipse: s-maj=12.4km s-min=5.8km az=13.0, Suspected Mining induced.*

ISC 13 07:25:43.0±0.6, 51°56N±0°03×16°22E±0°02, h0km, n75, σ2°10/123, 4C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.72**	**176**	*i* Pg	**Pg**	**07 25 57.8**	**+1.0**
KSP				*e*Sg	**Sg**	**07 26 06.7**	**+0.6**
KSP	**Ksiaz**	**0.72**	**176**	*e*Pg	**Pg**	**07 25 57.8**	**+1.0**
KSP				*e*Sg	**Sg**	**07 26 06.9**	**+0.8**
UPC	**Upice**	**1.06**	**187**	*e*Pg	**Pg**	**07 26 03.8**	**+0.5**
UPC				*e*SG	**Sg**	**07 26 17.2**	**+0.1**
	comp=Z,269nm,0.4s						
DPC	**Dobruska-Polom**	**1.21**	**177**	*e*PG	**Pg**	**07 26 06.4**	**+0.2**
DPC				*e*SG	**Sg**	**07 26 21.9**	**-0.1**
	comp=Z,67nm,0.4s						
DPC	**Dobruska-Polom**	**1.21**	**177**	*e*Pg	**Pg**	**07 26 06.6**	**+0.4**
DPC				*e*Sg	**Sg**	**07 26 22.0**	**+0.1**
PVCC	**Panska Ves**	**1.47**	**226**	*e*PG	**Pn**	**07 26 10.9**	**+0.2**
PVCC				*e*SG	**Sg**	**07 26 29.5**	**-0.5**
	comp=Z,185nm,0.4s						
KRLC	**Kraliky**	**1.53**	**166**	*e*PG	**Pn**	**07 26 12.2**	**+0.6**
KRLC				*e*SG	**Sg**	**07 26 31.9**	**-0.2**
	comp=Z,320nm,0.5s						
BRG	**Berggiesshubel**	**1.59**	**245**	PN	**Pn**	**07 26 11.6**	**-0.7**
BRG				PG	**Pg**	**07 26 13.6**	**+0.2**
BRG				SG	**Sg**	**07 26 34.1**	**+0.2**
	113nm,0.7s						
BRG	**Berggiesshubel**	**1.59**	**245**	*e*Pg	**Pn**	**07 26 12.9**	**+0.6**
BRG				*e*Sg	**Sg**	**07 26 34.3**	**+0.4**
PRA	**Prague**	**1.87**	**218**	*e*PN	**Pn**	**07 26 16.6**	**+0.3**
GOPC	**GO Pecny, Ondr**	**1.88**	**209**	*e*PN	**Pn**	**07 26 16.6**	**+0.2**
GOPC				*e*PG	**Pb**	**07 26 18.1**	**-0.1**
GOPC				*e*SG	**Sb**	**07 26 42.1**	**-0.2**
	comp=Z,43nm,0.5s						
PRU	**Pruhonice**	**1.90**	**215**	*e*PN	**Pn**	**07 26 16.6**	**0.0**
PRU				*e*PG	**Pb**	**07 26 18.6**	**+0.1**
PRU				*e*SG	**Sg**	**07 26 44.0**	**0.0**
	comp=Z,83nm,0.4s						
FBE	**Freiberg**	**1.91**	**252**	*e*Pn	**Pb**	**07 26 19.3**	**+0.6**
FBE				*e*Sg	**Sg**	**07 26 44.0**	**-0.3**
MORC	**Moravsky Berou**	**1.98**	**154**	*i* P	**Pn**	**07 26 18.0**	**+0.3**
MORC	**Moravsky Berou**	**1.98**	**154**	S	**Sb**	**07 26 45.1**	**+0.1**
MORC	**Moravsky Berou**	**1.98**	**154**	*e*PN	**Pn**	**07 26 18.3**	**+0.6**
MORC				*e*SG	**Sn**	**07 26 43.3**	**+0.1**
MORC	**Moravsky Berou**	**1.98**	**154**	*e*Pn	**Pn**	**07 26 18.5**	**+0.7**
CLL	**Collm**	**2.03**	**264**	*e*Pn	**Pn**	**07 26 19.0**	**+0.6**
CLL				*e*Pg	**Pg**	**07 26 22.0**	**+0.2**
CLL				*i*		07 26 25.4	
CLL				*i* Sg	**Sg**	**07 26 48.4**	**+0.3**
	comp=Z,52nm,0.7s						
CLL	**Collm**	**2.03**	**264**	*e*Pn	**Pn**	**07 26 19.0**	**+0.6**
CLL				*e*Sg	**Sg**	**07 26 48.5**	**+0.5**
OKC	**Ostrava-Krasne**	**2.12**	**144**	*e*PG	**Pg**	**07 26 24.5**	**+0.9**
OKC				*e*SG	**Sb**	**07 26 50.3**	**+1.3**
	comp=Z,95nm,0.6s						
OKC	**Ostrava-Krasne**	**2.12**	**144**	*e*Pn	**Pn**	**07 26 20.9**	**+1.2**
OKC				*e*Sg	**Sg**	**07 26 51.6**	**+0.6**
VRAC	**Vranov**	**2.27**	**174**	Pg	**Pn**	**07 26 22.7**	**+1.0**
	comp=Z,1.4nm,0.3s,baz=346,slow=13,SNR=18						
VRAC				Lg	Lg	07 26 51.2	
	comp=Z,6.2nm,0.3s,baz=75,slow=22,SNR=8.8						
VRAC	**Vranov**	**2.27**	**174**	*i* P	**Pn**	**07 26 22.7**	**+1.0**
VRAC	**Vranov**	**2.27**	**174**	S	**Sb**	**07 26 53.7**	**+0.3**
VRAC	**Vranov**	**2.27**	**174**	*e*PN	**Pn**	**07 26 22.5**	**+0.8**
VRAC				*e*SG	**Sb**	**07 26 54.3**	**+0.9**
TREC	**Trest**	**2.32**	**192**	*e*PG	**Pg**	**07 26 27.0**	**-0.4**
TREC				*e*SG	**Sb**	**07 26 55.9**	**+1.1**
	comp=Z,38nm,0.2s						
KRUC	**Moravsky**	**2.50**	**177**	*e*PN	**Pn**	**07 26 26.0**	**+1.0**
KRUC				*e*SG	**Sb**	**07 27 02.0**	**+1.8**
TANN	**Tannenbergstha**	**2.63**	**246**	*e*Pn	**Pn**	**07 26 27.3**	**+0.5**
OJC	**Ojcow**	**2.64**	**119**	*e*Pn	**Pn**	**07 26 26.6**	**-0.2**
OJC				*e*Pg	**Pg**	**07 26 35.4**	**+1.9**
OJC				*e*Sn	**Sn**	**07 26 58.6**	**-0.9**
OJC				*e*Sg	**Sg**	**07 27 10.1**	**+2.5**
OJC	**Ojcow**	**2.64**	**119**	*e*Sg	**Sg**	**07 27 11.1**	**+3.5**
NKC	**Novy Kostel**	**2.73**	**242**	*e*PN	**Pn**	**07 26 28.9**	**+0.8**
NKC				*e*PG	**Pg**	**07 26 36.0**	**+0.7**
NKC				*e*SG	**Sg**	**07 27 11.8**	**+1.1**
	comp=Z,66nm,0.4s						
JAVC	**Velka Javorina**	**2.86**	**160**	*e*PN	**Pn**	**07 26 31.7**	**+1.8**
KHC	**Kasperske Hory**	**2.96**	**216**	*e*PN	**Pn**	**07 26 31.6**	**+0.3**
KHC				*e*PG	**Pb**	**07 26 37.6**	**+1.0**
KHC				*e*SG	**Sg**	**07 27 17.9**	**-0.2**
	comp=Z,34nm,0.6s						
MOX	**Moxa**	**3.04**	**254**	*e*Pg	**Pg**	**07 26 40.6**	**-0.7**
MANZ	**Manzenberg**	**3.05**	**240**	*e*Pn	**Pn**	**07 26 33.3**	**+0.9**
GEC2	**GERESS Array S**	**3.16**	**212**	*e*Pn	**Pn**	**07 26 35.4**	**+1.3**
GERES	**GERESS Array B**	**3.16**	**212**	Pn	**Pn**	**07 26 34.3**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=32,slow=13,SNR=26						
GERES				Pg	**Pb**	**07 26 39.8**	**-0.3**
	comp=Z,2.2nm,0.3s,baz=27,slow=11,SNR=50						
GERES				Lg	Lg	07 27 20.5	
	comp=Z,7.5nm,0.3s,baz=37,slow=27,SNR=10						
LANS	**Liptovska Anna**	**3.19**	**138**	*e*	**Pn**	**07 26 36.1**	**+1.7**
LANS	**Liptovska Anna**	**3.19**	**138**	*e*PG	**Pg**	**07 26 46.5**	**+2.4**
LANS				*e*SG	**Sg**	**07 27 24.8**	**-0.5**
WET	**Wettzell**	**3.23**	**223**	*e*Pn	**Pn**	**07 26 36.6**	**+0.7**
MODS	**Modra-Piesok**	**3.26**	**167**	*e*Pg	**Pg**	**07 26 45.6**	**+0.1**
MODS				*e*SG	**Sg**	**07 27 26.4**	**-1.4**
MODS				*e*LG	Lg	07 27 37.2	
KOLL	**Kolacno**	**3.30**	**154**	*e*SG	**Sg**	**07 27 26.8**	**-2.2**
NIE	**Niedzica**	**3.38**	**128**	*e*P	**Pg**	**07 26 48.9**	**+1.3**
NIE				*e*S	**Sg**	**07 27 33.4**	**+2.0**
VYHS	**Vyhne**	**3.50**	**150**	*e*	**Pn**	**07 26 39.5**	**+0.8**
VYHS	**Vyhne**	**3.50**	**150**	*e*PG	**Pg**	**07 26 51.0**	**+0.9**
VYHS				*e*SG	**Sg**	**07 27 33.2**	**-2.3**
VYHS				*e*LG	Lg	07 27 54.1	
CONA	**Conrad Observa**	**3.64**	**184**	*e*Pn	**Pn**	**07 26 41.5**	**+0.8**
	comp=Z,0.9nm,0.2s						
CONA				Pg	**Pg**	**07 26 52.1**	**-0.7**
	comp=Z,4.9nm,0.4s						
CONA				Sg	**Sg**	**07 27 38.0**	**-2.0**

GDR	**Gold River**	**2.58**	**43**	Pn		**Pn**	**07 50 45.8**	**-0.3**
BTB	**Buttle Lake**	**2.64**	**53**	Pn		**Pn**	**07 50 46.4**	**-0.8**
BTB				Sn		**Sn**	**07 51 18.9**	**-0.2**
WOSB	**Woss**	**2.66**	**32**	Pn		**Pn**	**07 50 46.9**	**-0.4**
TLCB	**Telegraph Cove**	**2.91**	**25**	Pn		**Pn**	**07 50 50.1**	**-0.5**
MGB	**Mount Grey**	**2.91**	**67**	Pn		**Pn**	**07 50 49.3**	**-1.5**
B927	**Port Alberni**	**2.92**	**62**	Pn		**Pn**	**07 50 49.3**	**-1.5**
PFB	**Port Renfrew**	**2.96**	**76**	Pn		**Pn**	**07 50 49.5**	**-1.9**
NCRB	**Newcastle Ridg**	**3.05**	**35**	Pn		**Pn**	**07 50 52.8**	**+0.2**
CBB	**Campbell River**	**3.07**	**45**	Pn		**Pn**	**07 50 52.7**	**-0.2**
OBC	**Olympics--Boni**	**3.15**	**86**	Pn		**Pn**	**07 50 52.3**	**-1.7**
YOUB	**Youbou, Lake C**	**3.15**	**70**	Pn		**Pn**	**07 50 52.7**	**-1.3**
YOUB				Sn		**Sn**	**07 51 33.3**	**+1.8**
B926	**Mesachie Lake**	**3.21**	**72**	Pn		**Pn**	**07 50 53.3**	**-1.5**
B926				Sn		**Sn**	**07 51 33.8**	**+0.9**
GHNB	**Nanoose**	**3.30**	**64**	Pn		**Pn**	**07 50 54.8**	**-1.2**
TXB	**Texada**	**3.36**	**57**	Pn		**Pn**	**07 50 56.2**	**-0.7**
LZB	**Mount Lazard**	**3.37**	**76**	Pn		**Pn**	**07 50 55.1**	**-1.9**
NLLB	**Nanaimo Lost L**	**3.42**	**66**	Pn		**Pn**	**07 50 56.8**	**-0.9**
BPCB	**Bare Point**	**3.51**	**72**	Pn		**Pn**	**07 50 58.3**	**-0.6**
B011	**North Saanich**	**3.62**	**77**	Pn		**Pn**	**07 50 58.7**	**-1.7**
SHB	**Sechelt**	**3.64**	**61**	Pn		**Pn**	**07 51 00.2**	**-0.5**
SHB				Sn		**Sn**	**07 51 45.0**	**+1.4**
SNB	**Saturna Island**	**3.82**	**75**	Pn		**Pn**	**07 51 01.9**	**-1.3**
HDW	**Hoodsport**	**3.86**	**92**	Pn		**Pn**	**07 51 02.8**	**-1.0**
BLN	**Blyn Mountain**	**3.89**	**87**	Pn		**Pn**	**07 51 03.4**	**-0.7**
BIB	**Bowen Island**	**3.91**	**66**	Pn		**Pn**	**07 51 03.0**	**-1.3**
GNW	**Green Mountain**	**4.02**	**93**	Pn		**Pn**	**07 51 05.1**	**-0.8**
WPB	**Watts Point**	**4.06**	**63**	Pn		**Pn**	**07 51 06.4**	**0.0**
BBB	**Bella Bella**	**4.28**	**5**	Pn		**Pn**	**07 51 08.2**	**-1.3**
	3.5nm,0.3s,baz=186,slow=1.1,SNR=44							
BBB				LR		LR	07 52 44.9	
	comp=Z,74nm,18.8s,baz=163,slow=38							
BBB	**Bella Bella**	**4.28**	**5**	Pn		**Pn**	**07 51 09.2**	**-0.2**
VDB	**Vedder Mountai**	**4.56**	**74**	Pn		**Pn**	**07 51 11.9**	**-1.4**
LON	**Longmire**	**4.87**	**101**	Pn		**Pn**	**07 51 17.1**	**-0.6**
FMW	**Mount Fremont**	**4.91**	**99**	Pn		**Pn**	**07 51 17.7**	**-0.7**
LTY	**Liberty**	**5.51**	**94**	Pn		**Pn**	**07 51 26.0**	**-0.5**
NVAR	**Mina Array Bea**	**12.17**	**137**	Pn		**Pn**	**07 53 00.1**	**+2.2**
	0.1nm,0.3s,baz=315,slow=11,SNR=3.2							
PDAR	**Pinedale Array**	**14.44**	**104**	Pn		**Pn**	**07 53 31.1**	**+2.1**
	0.1nm,0.3s,baz=292,slow=14,SNR=5.4							
PDAR				LR		LR	07 59 01.5	
	comp=Z,93nm,18.5s,baz=292,slow=37							
YKA	**Yellowknife Ar**	**16.62**	**23**	Pn		**Pn**	**07 53 55.4**	**-1.7**
	0.1nm,0.3s,baz=217,slow=13,SNR=4.1							
ANMO	**Albuquerque**	**21.07**	**120**	P		**P**	**07 54 47.5**	**-1.2**
	2.3nm,0.9s,baz=310,slow=10.0,SNR=7.2							
ULM	**Lac du Bonnet**	**21.57**	**71**	P		**P**	**07 54 53.8**	**+0.1**
	2.8nm,1.0s,baz=282,slow=9.4,SNR=3.3							

MAN 13 07:52:06.8,8.38N×122.97E,h35km,mb4.1,ML2.9,MS2.5, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.43**	**62**	*e*P	Pn	07 52 18.2	+1.7
DCPH				*e*S	Sn	07 52 25.2	+2.0
PAGZ	**Pagadian**	**0.67**	**142**	*e*P	Pn	07 52 21.4	+1.5
PAGZ				*e*S	Sn	07 52 30.7	+1.6
IPIL	**Ipil**	**0.71**	**213**	*e*P	Pn	07 52 21.9	+1.5
IPIL				*e*S	Sn	07 52 31.5	+1.5

DDA 13 08:25:43.6,39.09N×29.12E,h9km,ML2.5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.28**	**91**	*i* P	Pg	08 25 49.8	+0.5
GDZ				*i* S	Sg	08 25 54.3	+1.2
DEMI	**Demirci**	**0.32**	**261**	IAML_P			
	comp=Z,787nm,0.1s						
DEMI				*i* P	Pg	08 25 50.5	+0.5
DEMI				*i* S	Sb	08 25 55.9	-1.0
DURS	**Dursunbey**	**0.71**	**315**	IAML_P			
	comp=Z,288nm,0.1s						
MANT	**Manisa**	**0.75**	**216**	IAML_P			
	comp=Z,488nm,0.1s						
MANT				*i* P	Pb	08 25 58.9	0.0
MANT				*i* S	Sg	08 26 08.5	+0.8
KHAL	**Karahalli**	**0.78**	**158**	IAML_P			
	comp=Z,255nm,0.1s						
KHAL				*i* P	Pb	08 25 59.0	-0.4
KHAL				*i* S	Sb	08 26 10.3	+0.2
TAVA	**DENIZLI_Tavas**	**1.63**	**186**	IAML_P			
	comp=Z,116nm,0.1s						
TAVA				*i* S	Sg	08 26 37.3	+1.2
AYDN	**Tasoluk**	**1.73**	**215**	IAML_P			
	comp=Z,875nm,0.3s						
GOLH	**Golhisar**	**1.89**	**169**	IAML_P			
	comp=Z,217nm,0.1s						
GOLH				*i* P	Pg	08 26 28.2	+8.4
GCAM	**G?zelcaml?**	**2.03**	**227**	IAML_P			
	comp=Z,747nm,0.2s						
GCAM				*i* P	Pb	08 26 20.4	-0.3
GCAM				*i* S	Sn	08 26 32.5	-11
BAYC	**CANAKKALE_Bayr**	**2.10**	**289**	*i* P	Pg	08 26 41.4	+18
BAYC				*i* S	Sg	08 26 51.4	+0.4
BOZC	**Bozcaada**	**2.49**	**288**	*i* P	Pg	08 26 34.4	+3.1

ISK 13 08:25:55.5,36.61N×27.98E,h7km,ML2.2/9

DDA 13 08:25:55.9,36.64N×27.98E,h7km±3km,ML2.3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DATC	**Datca-Mugla**	**0.28**	**295**	PG	Pg	08 26 01.5	0.0
DATC				SG	Sg	08 26 06.7	+1.4
DAT	**Datca**	**0.34**	**285**	PG	Pg	08 26 02.8	+0.3
DAT	**Datca**	**0.34**	**285**	*i* P	Pg	08 26 03.1	+0.6
DAT				*i* S	Sb	08 26 08.8	-1.1
DAT	**Datca**	**0.34**	**285**	IAML_P			
	comp=Z,610nm,0.1s						
DAT				*i* P	Pg	08 26 03.1	+0.6
DAT				*i* S	Sb	08 26 09.0	-1.0
ARG	**Arkhangelos**	**0.44**	**165**	PG	Pg	08 26 04.2	-0.2
TURN	**Turunc**	**0.55**	**65**	PG	Pg	08 26 01.3	-5.2
TURN				SG	Sg	08 26 05.7	-8.0
TURN	**Turunc**	**0.55**	**65**	*i* P	Pg	08 26 01.7	-4.8
TURN				*i* S	Sg	08 26 06.2	-7.5
TURN	**Turunc**	**0.55**	**65**	IAML_P			
	comp=Z,5μm,0.1s						
TURN				*i* P	Pg	08 26 01.6	-4.9
DALY	**Dalyan (Mula)**	**0.57**	**72**	PG	Pg	08 26 07.3	+0.5
DALY	**Dalyan (Mula)**	**0.57**	**72**	IAML_P			
	comp=Z,288nm,0.1s						
DALY				*i* P	Pb	08 26 07.8	-0.4
DALY				*i* S	Sb	08 26 16.4	-0.1
BDRM	**Kayabasi**	**0.60**	**315**	*i* P	Pb	08 26 08.6	-0.2
BDRM				*i* S	Sb	08 26 17.5	-0.1
BDRM	**Kayabasi**	**0.60**	**315**	IAML_P			
	comp=Z,568nm,0.1s						
BDRM				*i* P	Pg	08 26 08.1	+0.5
MLSB	**Milas**	**0.67**	**346**	PG	Pb	08 26 10.1	+0.1
BODT	**Bodrum**	**0.68**	**308**	PG	Pg	08 26 09.3	+0.2
FETY	**Fethiye**	**0.89**	**90**	PG	Pb	08 26 13.4	-0.2
FETY	**Fethiye**	**0.89**	**90**	*i* P	Pn	08 26 15.3	+0.4
AYDN	**Tasoluk**	**1.02**	**355**	IAML_P			
	comp=Z,875nm,0.3s						
AYDN				*i* P	Pn	08 26 16.8	0.0
AYDN				*i* S	Sn	08 26 30.6	-0.8
AYDN	**Tasoluk**	**1.02**	**355**	*i* P	Pn	08 26 16.6	-0.1
AYDN				*i* S	Sn	08 26 30.8	-0.6
TAVA	**DENIZLI_Tavas**	**1.11**	**42**	IAML_P			
	comp=Z,116nm,0.1s						
TAVA				*i* P	Pn	08 26 21.6	+3.6
TAVA				*i* S	Sn	08 26 36.8	+3.2
TAVA	**DENIZLI_Tavas**	**1.11**	**42**	*i* P	Pn	08 26 21.4	+3.4
GCAM	**G?zelcaml?**	**1.22**	**331**	PN	Pn	08 26 19.7	+0.4
AYDB	**Zeytinkoy-Aydi**	**1.30**	**357**	PN	Pg	08 26 21.3	+0.3

NEIC 13 08:34:59.7±0.0,15.90N×96.92W,h10km,MD4.1(MEX), After MEX.

MEX 13 08:34:59.8±0.7,15.96N×96.90W,h10km±4km,MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.79**	**104**	*e*P	Pg	08 35 13.5	-1.6
HUIG				*e*S	Sg	08 35 23.4	-1.9
HUIG	**Huatulco**	**0.79**	**104**	*e*P	Pg	08 35 13.1	-1.9
HUIG				*e*S	Sg	08 35 23.4	-1.9
VHO	**Vista Hermosa**	**1.11**	**8**	*e*P	Pg	08 35 17.6	-3.6
VHO				*e*S	Sg	08 35 32.0	-3.7
VHO	**Vista Hermosa**	**1.11**	**8**	*e*P	Pg	08 35 17.7	-3.6
VHO				*e*S	Sg	08 35 31.9	-3.9
PNIG	**Pinotepa**	**1.25**	**290**	*e*P	Pn	08 35 19.2	-4.2
PNIG				*e*S	Sb	08 35 35.1	-4.7
PNIG	**Pinotepa**	**1.25**	**290**	*e*P	Pn	08 35 19.2	-4.2
PNIG				*e*S	Sb	08 35 35.1	-4.7
CMIG	**Matias Romero**	**2.24**	**60**	*e*P	Pn	08 35 33.2	-3.8
CMIG				*e*S	Sn	08 36 01.9	-2.8
CMIG	**Matias Romero**	**2.24**	**60**	*e*P	Pn	08 35 33.2	-3.8
CMIG				*i* S	Sn	08 36 00.6	-4.1
CAIG	**El Cayaco**	**3.40**	**289**	*e*P	Pn	08 35 50.3	-2.7
CAIG				*e*S	Sn	08 36 30.1	-3.4
CAIG	**El Cayaco**	**3.40**	**289**	*e*P	Pn	08 35 50.3	-2.7
CAIG				*e*S	Sn	08 36 30.1	-3.4

THR 13 08:36:20.7,35.83N×45.80E,h14km,ML2.7
ISN 13 08:36:20.5±0.6,35.81N×45.68E,h0km±3km,ML2.9
ISCJB 13 08:36:23.8±0.7,35.92N±0.08×45.83E±0.05,h33km, Error ellipse: s-maj=12.1km s-min=5.6km az=7.8

ISC 13 08:36:25.0±1.3,35.84N±0.08×45.81E±0.04,h35km,n7, σ0.94/10,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKRK	**Kirkuk**	**1.28**	**250**	*e*Pg	**Pn**	**08 36 46.0**	**-0.3**
	baz=69						
IKRK				*e*Sg	**Sn**	**08 37 04.0**	**+1.8**
SNGE	**Sanandaj**	**1.46**	**120**	eAML	AML	08 37 17.4	
	comp=E,95nm,0.7s						
SNGE				*e*Pg	**Pn**	**08 36 47.7**	**-1.4**
SNGE				*e*Sg	**Sn**	**08 37 07.4**	**+0.4**
MSL	**Mosul**	**2.26**	**285**	*e*Pn	**Pn**	**08 36 59.0**	**-0.8**
MSL				*e*Sn	**Sn**	**08 37 26.0**	**-0.4**
ZNJK	**Zanjan**	**2.47**	**70**	*e*Pn	**Pn**	**08 37 03.1**	**+0.2**
GRMI	**Germi**	**3.40**	**29**	*e*Pn	**Pn**	**08 37 15.4**	**-0.2**
ASAO	**Ashtian**	**3.69**	**109**	*e*P	**Pn**	**08 37 19.8**	**+0.2**
KHMZ	**Khomeyn**	**4.01**	**120**	*e*Pn	**Pn**	**08 37 24.0**	**-0.1**

ISCJB 13 08:52:02.9±0.6,3.27N±0.06×93.02E±0.05,h10km, mb3.9/11,MS3.3/2, Error ellipse: s-maj=10.1km s-min=5.1km az=33.5
IDC 13 08:52:03.7±1.4,3.28N×93.03E,h0km,mb3.6/7, mb1 3.8/10,mb1mx3.6/66,mbtmp3.7/10,ML4.1/3,MS3.3/3, Ms1 3.3/3,ms1mx2.7/43, Error ellipse: s-maj=41.0km s-min=17.7km az=47.0
NEIC 13 08:52:04.5±0.5,3.26N×93.02E,h10km,mb4.1/4, Error ellipse: s-maj=9.9km s-min=5.5km az=49.0
DJA 13 08:52:13.4±1.1,3°N±9'×9'3E±', h10km,M4.2/6,mb4.3/4, mB4.3/1,MLv4.2/6,Mw(mB)3.4/1

ISC 13 08:52:04.8±0.8,3.30N±0.09×93.04E±0.07,h10km,n41, σ1.78/41,mb3.9/11,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**3.40**	**105**	P	**Pn**	**08 52 59.9**	**+2.1**
SNSI				S	**Sn**	**08 53 34.6**	**-3.6**
TPTI		**4.13**	**90**	P	**Pn**	**08 53 10.2**	**+2.2**
TPTI				S	**Sn**	**08 53 52.6**	**-3.8**
KCSI	**Kotacane, Aceh**	**4.72**	**87**	P	**Pn**	**08 53 20.4**	**+4.2**
KCSI				S	**Sn**	**08 54 11.9**	**+0.8**
GSI	**Gunungsitoli**	**4.94**	**114**	*e*Pn	**Pn**	**08 53 20.1**	**+1.0**
GSI				*e*Sn	**Sn**	**08 54 14.5**	**-1.9**
GSI	**Gunungsitoli**	**4.94**	**114**	P	**Pn**	**08 53 21.5**	**+2.4**
GSI				S	**Sn**	**08 54 14.2**	**-2.2**
PSI	**Prapat**	**5.89**	**95**	Pn	**Pn**	**08 53 33.8**	**+1.5**
	2.1nm,0.3s,baz=359,slow=17,SNR=12						
PSI				Sn	**Sn**	**08 54 42.5**	**+2.4**
	1.7nm,0.3s,baz=180,slow=14,SNR=5.6						
PSI	**Prapat**	**5.89**	**95**	*e*Pn	**Pn**	**08 53 32.6**	**+0.3**
PSI				*e*Sn	**Sn**	**08 54 42.1**	**+2.0**
MNSI	**Mandailing Nat**	**6.99**	**111**	P	**Pn**	**08 53 51.4**	**+4.1**
KULM	**Kulim**	**7.84**	**75**	*e*Pn	**Pn**	**08 53 59.6**	**+0.6**
IPM	**Ipoh**	**8.05**	**81**	*e*Pn	**Pn**	**08 54 00.6**	**-1.2**
IPM				*e*Sn	**Sn**	**08 55 31.6**	**-1.4**
PBA	**Port Blair**	**8.31**	**358**	*e*Pn	Pn	08 54 06.2	+0.8
PALK	**Pallekele**	**12.91**	**288**	Pn	**Pn**	**08 55 09.7**	**+1.2**
	0.6nm,0.3s,baz=115,slow=11,SNR=2.8						
PALK				Sn	Sn	08 57 19.0	-13
	2.8nm,0.3s,baz=109,slow=0.3,SNR=10						
PALK	**Pallekele**	**12.91**	**288**	*e*Pn	**Pn**	**08 55 07.3**	**-1.1**
PALK				*e*Sn	Sn	08 57 19.6	-13
CM01	**Chiang Mai Arr**	**16.11**	**21**	*e*Pn	**Pn**	**08 55 51.3**	**-0.2**
CM31	**Chiang Mai Arr**	**16.14**	**21**	*e*Pn	**Pn**	**08 55 52.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**16.14**	**21**	Pn	**Pn**	**08 55 52.1**	**+0.3**
	0.6nm,0.3s,baz=217,slow=12,SNR=7.2						
CHTO	**Chiang Mai**	**16.47**	**20**	*e*Pn	**Pn**	**08 55 56.6**	**+0.6**
	3.3nm,0.6s						
CISI	**Cisompet, Garu**	**18.26**	**126**	*e*Pn	**Pn**	**08 56 16.3**	**-2.2**
	152nm,1.4s						
XMIS	**Christmas Isla**	**18.57**	**138**	*e*P	**P**	**08 56 21.9**	**-0.2**
	88nm,1.0s						
BRDH	**Bariadhala**	**19.31**	**356**	LR	LR	09 05 11.4	
	comp=Z,79nm,19.7s,baz=200,slow=41						
H08S2	**Diego Garcia H**	**23.21**	**242**	T	T	09 22 37.9	
	baz=66						
H08S3	**Diego Garcia H**	**23.21**	**242**	T	T	09 22 34.7	
	baz=66						
H08S1	**Diego Garcia H**	**23.22**	**242**	T	T	09 22 34.7	
	baz=66						
LSA	**Lhasa**	**26.32**	**356**	*e*P	**P**	**08 57 40.4**	**-1.0**
	6.1nm,0.6s						
SANI	**Sanana**	**33.36**	**99**	P	P	08 58 48.9	+5.4
BTK	**Batken**	**41.76**	**334**	*e*P	**P**	**08 59 53.3**	**-1.1**
	5.6nm,0.9s						
MK32	**Makanchi Array**	**44.32**	**349**	*e*P	**P**	**09 00 16.1**	**+1.1**
MKAR	**Makanchi Array**	**44.32**	**349**	P	**P**	**09 00 16.1**	**+1.1**
	1.3nm,0.8s,baz=170,slow=8.7,SNR=13						
SONA0	**Songino Array**	**45.84**	**13**	*e*P	**P**	**09 00 27.8**	**+0.6**
SONM	**Songino Array**	**45.84**	**13**	P	**P**	**09 00 27.8**	**+0.6**
	0.3nm,0.4s,baz=231,slow=9.1,SNR=3.7						
WR1	**Warramunga Arr**	**46.66**	**121**	*e*P	**P**	**09 00 34.7**	**+0.7**
	43nm,1.9s						
WRA	**Warramunga Arr**	**46.66**	**121**	P	**P**	**09 00 34.7**	**+0.7**
	0.5nm,0.7s,baz=298,slow=9.0,SNR=3.0						
AS31	**Alice Springs**	**47.97**	**126**	*e*P	**P**	**09 00 43.8**	**-0.4**
	1.6nm,1.2s						
ASAR	**Alice Springs**	**47.97**	**126**	P	**P**	**09 00 44.0**	**-0.1**
	0.7nm,1.0s,baz=280,slow=5.5,SNR=3.4						
KURBB	**Kurchatov Arra**	**48.73**	**348**	P	**P**	**09 00 49.1**	**-0.4**
	0.4nm,0.6s,baz=173,slow=6.9,SNR=4.2						
KURK	**Kurchatov**	**48.79**	**348**	*e*P	**P**	**09 00 49.1**	**-0.9**
ZALV	**Zalesovo Beam**	**50.94**	**354**	P	**P**	**09 01 06.9**	**+0.6**
	0.6nm,0.3s,baz=172,slow=11,SNR=2.3						
ZAA1	**Zalesovo Array**	**50.94**	**354**	*e*P	**P**	**09 01 06.9**	**+0.6**
BVAR	**Borovoye Array**	**52.98**	**343**	P	**P**	**09 01 21.8**	**+0.3**
	0.7nm,0.8s,baz=151,slow=6.8,SNR=4.0						
EIL	**Elat**	**60.83**	**302**	LR	LR	09 29 44.4	
	comp=Z,18nm,18.7s,baz=71,slow=37						
KEST	**Kesra**	**82.97**	**305**	LR	LR	09 46 32.3	
	comp=Z,17nm,18.4s,baz=316,slow=39						

BEO 13 08:55:10.7±0.7,39.48N×25.94E,h5km,ML5.0/13
ISK 13 08:55:13.6,39.67N×25.48E,h6km,ML5.0/40
BJI 13 08:55:13.4,39.60N×25.60E,h10km,mb4.6/14,mB5.0/7, Ms4.5/3,Ms7 4.4/3
IDC 13 08:55:13.1±0.5,39.59N×25.42E,h0km,mb4.1/26, mb1 4.2/38,mb1mx4.1/63,mbtmp4.1/38,ML4.0/11, MS3.6/23,Ms1 3.7/23,ms1mx3.5/44, Error ellipse: s-maj=10.4km s-min=8.8km az=1.0
PDG 13 08:55:14.8±0.6,39.66N×25.49E,h12km±1km,ML4.2/8, Error ellipse: s-maj=0.9km s-min=1.4km az=0.0
ATH 13 08:55:14.7,39.66N×25.52E,h29km,ML4.8/8, Error ellipse: s-maj=0.8km s-min=0.4km az=63.0
DDA 13 08:55:14.4,39.68N×25.58E,h25km,MW4.5
MOS 13 08:55:15.7±1.5,39.70N×25.61E,h26km,mb4.4/23, Error ellipse: s-maj=5.0km s-min=3.4km az=95.7
NEIC 13 08:55:15.3±0.2,39.63N×25.55E,h10km,mb4.6/23, MW4.5,ML4.6(THE),ML4.8(ATH),ML5.0(ISK),Error ellipse: s-maj=3.2km s-min=2.6km az=199.0,Moment Tensor Solution. s20 Moment tensor: Scale 10^15Nm; Mrr1.90; Mθθ3.82; Mθφ-5.72; Mrθ1.67; Mrφ-3.38; Mφr-0.13; Best double couple: M0 6.30000×10^15 NP1:φs155.00000°, δ72.00000°,λ16.00000°. NP2:φs60.00000°,δ75.00000°, λ161.00000°. Principal axes: T 5.6100, Plg24.0000°, Azm17.0000°; N 1.2000, Plg66.0000°, Azm204.0000°; P -6.8100, Plg3.0000°, Azm108.0000°;
NEIC Felt at Alexandroupoli, Greece and at Kosel, Macedonia.
MED_RC 13 08:55:15.0±0.4,39.70N×25.60E,h22km±1km,MW4.7/21, Moment Tensor Solution.Mantle waves: s21,c30; Duration: 1s2 Moment tensor: Scale 10^16Nm; Mrr0.01±.12; Mθθ1.28±.08; Mφφ-1.28±.09; Mrθ-0.07±.09; Mθφ-0.80±.07; Mφr0.09±.09; Best double couple: M0 1.52000×10^16 NP1:φs331.00000°,δ89.00000°, λ4.00000°. NP2:φs241.00000°,δ86.00000°,λ179.00000°. Principal axes: T 1.5200, Plg3.0000°, Azm196.0000°; N 0.0000, Plg86.0000°, Azm340.0000°; P -1.5100, Plg2.0000°, Azm106.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.
THE 13 08:55:15.3,39.67N×25.57E,h10km,ML4.6/9 Error ellipse: s-maj=0.8km s-min=0.4km az=71.0
ISCJB 13 08:55:15.4±0.2,39.674N±0.010×25.51E±0.01, h22km±2km,mb4.3/53,MS3.7/17, Error ellipse: s-maj=1.7km s-min=1.4km az=10.7

ISC 13 08:55:16.0±0.8,39.67N±0.01×25.55E±0.02,h15km±5km, n583,σ1.944/649,mb4.4/53,MS3.7/17,64C-51D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.36**	**309**	P	**Pg**	**08 55 22.7**	**-0.7**
LIA				S	**Sg**	**08 55 28.3**	**-0.2**
LIA	**Limnos Island**	**0.36**	**309**	P	**Pg**	**08 55 22.8**	**-0.7**
LIA				S	**Sg**	**08 55 28.3**	**-0.2**
LIA	**Limnos Island**	**0.36**	**309**	P	**Pg**	**08 55 22.7**	**-0.7**
LIA				S	**Sg**	**08 55 28.3**	**-0.2**
BOZC	**Bozcaada**	**0.42**	**66**	PG	**Pg**	**08 55 23.3**	**-1.2**
BOZC	**Bozcaada**	**0.42**	**66**	IAML		08 55 29.0	
	comp=N,62μm,1.0s						
BOZC				*i* S	**Sg**	**08 55 29.2**	**-1.1**
BOZC				IAML		08 55 36.0	
	comp=E,18μm,0.5s						
EFSA	**Agios Efstrati**	**0.45**	**254**	P	**Pg**	**08 55 25.2**	**+0.1**
EFSA				S	**Sb**	**08 55 32.1**	**-0.1**
EFSA				AML	AML	08 55 32.7	
EFSA				AML	AML	08 55 34.5	
GPNR	**Gulpinar-Canak**	**0.50**	**115**	PG	**Pg**	**08 55 24.9**	**-1.0**
SIGR	**SIGRI**	**0.52**	**153**	PG	**Pg**	**08 55 24.4**	**-1.8**
SIGR	**SIGRI**	**0.52**	**153**	P	**Pg**	**08 55 25.2**	**-1.0**
SIGR				S	**Sg**	**08 55 32.9**	**-0.2**
SIGR	**SIGRI**	**0.52**	**153**	P	**Pg**	**08 55 25.2**	**-1.0**
SIGR				S	**Sg**	**08 55 32.9**	**-0.2**
SIGR				AML	AML	08 55 33.5	
SIGR				AML	AML	08 55 33.5	
SIGR	**SIGRI**	**0.52**	**153**	P	**Pg**	**08 55 25.2**	**-1.0**
SIGR				S	**Sg**	**08 55 32.9**	**-0.2**
GADA	**Gvkgeada**	**0.58**	**27**	PG	**Pg**	**08 55 26.1**	**-1.4**
GADA	**Gvkgeada**	**0.58**	**27**	P	**Pg**	**08 55 26.6**	**-0.9**
GADA	**Gvkgeada**	**0.58**	**27**	P	**Pg**	**08 55 26.6**	**-0.9**
GOKC	**Gokceada-Canak**	**0.60**	**28**	PG	**Pg**	**08 55 26.5**	**-1.3**
EZN	**Ezine**	**0.62**	**75**	PG	**Pg**	**08 55 26.9**	**-1.2**
EZN	**Ezine**	**0.62**	**75**	P	**Pg**	**08 55 26.9**	**-1.2**
EZN				S	**Sg**	**08 55 35.2**	**-1.1**
EZN	**Ezine**	**0.62**	**75**	P	**Pg**	**08 55 26.9**	**-1.2**
EZN				S	**Sg**	**08 55 35.2**	**-1.1**
EZN	**Ezine**	**0.62**	**75**	P	**Pg**	**08 55 26.9**	**-1.2**
EZN				S	**Sg**	**08 55 35.2**	**-1.1**
PRK	**Paraskevi**	**0.70**	**127**	P	**Pb**	**08 55 29.8**	**-0.1**
PRK				S	**Sb**	**08 55 39.7**	**+0.4**
PRK				AML	AML	08 55 42.8	
PRK				AML	AML	08 55 43.3	
BAYC	**CANAKKALE_Bayr**	**0.77**	**84**	IAML_P			
	comp=Z,271μm,0.1s						
BAYC				*i*P	**Pg**	**08 55 30.7**	**-0.4**
BAYC				*i* S	**Sg**	**08 55 40.9**	**-0.3**
BAYC				IAML		08 55 43.0	
	comp=N,21μm,0.3s						
BAYC				IAML		08 55 43.0	
	comp=E,15μm,0.3s						
SMTH	**Samothraki Isl**	**0.80**	**359**	P	**Pg**	**08 55 30.7**	**-0.9**
SMTH				S	**Sg**	**08 55 41.7**	**-0.5**
SMTH	**Samothraki Isl**	**0.80**	**359**	P	**Pg**	**08 55 30.7**	**-0.9**
SMTH				S	**Sg**	**08 55 41.7**	**-0.5**
SMTH				AML	AML	08 55 44.2	
SMTH				AML	AML	08 55 44.4	
	comp=N,93342μm,0.4s						
SMTH	**Samothraki Isl**	**0.80**	**359**	P	**Pg**	**08 55 30.7**	**-0.9**
SMTH				S	**Sg**	**08 55 42.0**	**-0.1**
AYVA	**Ayvalik**	**0.95**	**112**	IAML_P			
	comp=Z,34μm,0.1s						
AYVA				*i*P	**Pb**	**08 55 33.1**	**-1.1**
AYVA				IAML		08 55 48.0	
	comp=N,55μm,0.5s						
AYVA				IAML		08 55 48.0	
	comp=E,32μm,0.7s						
AYVA				*i* S	**Sn**	**08 55 48.9**	**+0.8**
GELI	**Tayfur-Gelibol**	**1.01**	**44**	PG	**Pb**	**08 55 34.3**	**-1.0**
GELI				SG	**Sg**	**08 55 48.7**	**-0.2**
SKY	**Skiros Island**	**1.11**	**225**	P	**P

comp=N,37225µm,0.7s
RDO AML AML 08 56 08.1

comp=E,28715µm,1.1s
KRBG Karabiga-Canak 1.52 61 PN **Pn** **08 55 42.4 -0.2**
URLA Izmir 1.54 148 PN **Pn** **08 55 42.3 -0.7**
URLA Izmir 1.54 148 ⇑*iP* **Pn** **08 55 42.2 -0.7**
URLA *iS* **Sn** **08 56 01.4 -1.2**
URLA IAML 08 56 09.0

comp=E,5µm,0.5s
URLA IAML 08 56 11.0

comp=N,5µm,0.6s
KAVA Kavala 1.54 329 P **Pn** **08 55 42.0 -0.9**
KVLA Kavala 1.55 325 P **Pn** **08 55 42.2 -0.8**
BALY Balya 1.60 87 ⇓*iP* **Pb** **08 55 44.6 -0.6**
BALY IAML 08 56 05.0

comp=N,17µm,0.6s
BALY *iS* **Sb** **08 56 05.7 +0.5**
BALY IAML 08 56 06.0

comp=E,7µm,0.4s
SART Tekirdag 1.61 50 ⇑*iP* **Pn** **08 55 43.5 -0.4**
SART *iS* **Sb** **08 56 06.1 +0.5**
SART IAML 08 56 07.0

comp=E,6µm,0.5s
SART IAML 08 56 14.0

comp=N,6µm,1.0s
KNL Balıkesir 1.63 68 ⇑*iP* **Pn** **08 55 44.1 0.0**
SKIA Skiathos 1.69 253 P **Pn** **08 55 44.0 -1.0**
STEP BALIKESIR_Sava 1.70 99 IAML_P

comp=Z,49µm,0.3s
STEP ⇓*iP* **Pn** **08 55 45.2 +0.1**
STEP *iS* **Sg** **08 56 10.8 0.0**
STEP IAML 08 56 18.0

comp=E,7µm,0.6s
STEP IAML 08 56 24.0

comp=N,10µm,0.9s
BLCB Balcova 1.73 137 PN **Pn** **08 55 45.0 -0.5**
PLG Polygyros 1.76 294 P **Pn** **08 55 45.3 -0.6**
EREA Eretria 1.77 226 P **Pn** **08 55 45.1 -1.1**
BALB Balikesir 1.80 90 PN **Pn** **08 55 46.3 -0.1**
MRKA Markates 1.81 238 P **Pn** **08 55 45.3 -1.2**
NEO Neokhori 1.84 259 P **Pn** **08 55 45.6 -1.4**
XOR Xorichti 1.85 261 P **Pn** **08 55 45.9 -1.2**
EDC Edincik 1.90 68 PN **Pn** **08 55 47.8 0.0**
SBT4 Kumbag-Tekirda 1.91 52 PN **Pn** **08 55 48.3 +0.5**
DGB zmir 1.92 147 *iP* **Pn** **08 55 48.9 +0.8**
DGB *iS* **Sb** **08 56 15.2 +0.7**
DGB IAML 08 56 18.0

comp=N,4µm,0.6s
DGB IAML 08 56 19.0

comp=E,4µm,0.5s
AKHS Akhisar 1.93 114 ⇓*iP* **Pn** **08 55 48.1 -0.1**
AKHS *iS* **Sg** **08 56 18.6 +0.6**
AKHS IAML 08 56 20.0

comp=E,1µm,0.4s
SMIA Simia 1.98 247 P **Pn** **08 55 48.4 -0.5**
DION Dionisos Attik 2.03 219 P **Pn** **08 55 48.2 -1.5**
FYTO Fytoko, Volos 2.04 263 P **Pn** **08 55 49.0 -0.7**
SOH Sokhos 2.04 305 P **Pn** **08 55 49.6 -0.2**
SRS Serrai 2.08 315 *e*Pn **Pn** **08 55 49.8 -0.5**
SRS *e*Sn **Sg** **08 56 21.7 -1.2**
SRS Serrai 2.08 315 P **Pn** **08 55 49.8 -0.5**
HORT Hortiatis 2.10 297 PN **Pn** **08 55 49.1 -1.5**
HORT Hortiatis 2.10 297 P **Pn** **08 55 49.9 -0.7**
NVR Nevrokopi 2.12 323 P **Pn** **08 55 50.3 -0.5**
ATHU Athens Univers 2.19 220 P **Pn** **08 55 50.5 -1.4**
ATAL Atalanti 2.19 244 P **Pn** **08 55 51.2 -0.7**
SMG Samos 2.20 152 P **Pn** **08 55 51.2 -0.8**
THE Thessaloniki 2.20 297 P **Pn** **08 55 51.8 -0.2**
CRLT Corlu 2.21 48 PN **Pn** **08 55 52.5 +0.3**
ATH Athens Observa 2.22 221 P **Pn** **08 55 51.0 -1.2**
KCTX Karacabey (Bur 2.24 74 PN **Pn** **08 55 52.5 0.0**
DURS Dursunbey 2.26 91 ⇓*iP* **Pn** **08 55 53.8 +1.0**
DURS *iS* **Sn** **08 56 21.8 +1.4**
DURS IAML 08 56 22.0

comp=E,5µm,0.6s
DURS IAML 08 56 30.0

comp=N,4µm,0.8s
VLY Voula,Athens 2.28 218 P **Pn** **08 55 51.6 -1.4**
VIL2 Platees 2.30 231 P **Pn** **08 55 52.2 -1.1**
EDRB Edirne 2.35 22 PN **Pn** **08 55 53.8 -0.3**
GCAM G?zelcaml? 2.37 146 PN **Pn** **08 55 53.9 -0.3**
GCAM G?zelcaml? 2.37 146 *iP* **Pn** **08 55 54.1 -0.2**
GCAM *iS* **Sb** **08 56 27.4 +0.1**
GCAM IAML 08 56 34.0

comp=N,4µm,0.6s
GCAM IAML 08 56 40.0

comp=E,2µm,0.7s
DST Dursunbey 2.37 91 PN **Pn** **08 55 54.6 +0.3**
LIT Litokhoron 2.39 281 *e*Pn **Pn** **08 55 54.0 -0.7**
LIT Litokhoron 2.39 281 *e*P **Pn** **08 55 54.0 -0.7**
PHSR Pinarhisar 2.47 37 PN **Pn** **08 55 54.9 -0.7**
PROD Prodromos 2.50 237 P **Pn** **08 55 55.0 -1.1**
AYDB Zeytinkoy-Aydi 2.51 133 PN **Pn** **08 55 56.4 0.0**
KNT Kendrikon 2.51 307 PN **Pn** **08 55 55.0 -1.3**
KNT Kendrikon 2.51 307 P **Pn** **08 55 56.3 0.0**
PLD Plovdiv 2.52 345 *e*Pn **Pn** **08 55 56.6 +0.3**
PLD *e*Sn **Sb** **08 56 30.1 -1.5**
DEMI Demirci 2.53 103 *iP* **Pn** **08 55 57.9 +1.3**
DEMI *iS* **Sg** **08 56 37.0 -0.4**
DEMI IAML 08 56 38.0

comp=E,3µm,0.6s
DEMI IAML 08 56 39.0

comp=N,3µm,0.7s
SLVT Silivri 2.56 52 PN **Pn** **08 55 56.7 -0.2**
AGG Agios Georgios 2.58 256 PN **Pn** **08 55 56.1 -1.1**
AGG Agios Georgios 2.58 256 *e*Pn **Pn** **08 55 56.9 -0.3**
AGG Agios Georgios 2.58 256 P **Pn** **08 55 56.9 -0.3**
AGG Agios Georgios 2.58 256 *e*P **Pn** **08 55 56.9 -0.3**
APE Apeiranthos 2.60 180 PN **Pn** **08 55 56.7 -0.8**
APE Apeiranthos 2.60 180 P **Pn** **08 55 55.8 -1.7**
APE Apeiranthos 2.60 180 ⇑*iP* **Pn** **08 55 56.1 -1.4**
APE Apeiranthos 2.60 180 S **Sn** **08 56 29.0 +0.2**
APE Apeiranthos 2.60 180*c* *iP* **Pn** **08 55 55.7 -1.7**
LTK Loutraki 2.60 232 P **Pn** **08 55 56.3 -1.2**
MANT Manisa 2.62 116 *e*Pn **Pn** **08 55 58.2 +0.3**
MANT Manisa 2.62 116 ⇓*iP* **Pn** **08 55 58.2 +0.3**
MANT *iS* **Sg** **08 56 38.6 -1.6**
MANT IAML 08 56 45.0

comp=N,1µm,1.2s
MANT IAML 08 56 48.0

comp=E,1µm,0.7s
LOUT Loutraki 2.62 231 P **Pn** **08 55 56.9 -0.9**
SERI Serifos 2.64 199 P **Pn** **08 55 56.3 -1.8**
ELBA Catalca 2.65 55 *iP* **Pn** **08 55 58.8 +0.7**
ELBA *iS* **Sb** **08 56 36.3 +0.9**
ELBA IAML 08 56 42.0

comp=E,738nm,0.9s
ELBA IAML 08 56 52.0

comp=N,1µm,1.0s
MDNY Mudanya-Bursa 2.65 74 PN **Pn** **08 55 58.4 +0.2**
DSF Desfina 2.67 243 P **Pn** **08 55 57.5 -0.9**
KULA Kula-Manisa 2.68 115 PN **Pn** **08 55 59.1 +0.4**
ARMT Armutlu 2.69 70 PN **Pn** **08 55 59.3 +0.6**
AYDN Tasoluk 2.71 137 *iP* **Pn** **08 55 59.0 0.0**
AYDN *iS* **Sg** **08 56 40.2 -2.9**
AYDN IAML 08 56 46.0

comp=E,2µm,0.7s
AYDN IAML 08 56 50.0

comp=N,2µm,0.6s
SBT5 Esenkoy-Cinarc 2.73 68 PN **Pn** **08 55 59.8 +0.7**
GRG Griva 2.73 299 PN **Pn** **08 55 58.2 -1.1**
GRG Griva 2.73 299 P **Pn** **08 55 59.4 +0.1**
THL Kiladotos Trika 2.73 269 P **Pn** **08 55 58.8 -0.5**
CTKS Kestanelik-??a 2.74 54 PN **Pn** **08 55 59.5 +0.1**
CTYL Yalikoy Yolu 2.76 48 PN **Pn** **08 55 58.9 -0.7**
VAY Valandovo 2.81 307 *e*Pn **Pn** **08 56 00.4 +0.1**
VAY Valandovo 2.81 307 *e*Pn **Pn** **08 56 00.8 +0.5**
VAY *e*Sn **Sb** **08 56 40.1 +0.1**
VAY Valandovo 2.81 307 *i* Pn **Pn** **08 55 59.7 -0.6**
DID Didima 2.82 221 P **Pn** **08 55 58.9 -1.6**
AMGA Amorgos Island 2.85 174 P **Pn** **08 55 59.2 -1.7**
BGKT Bogazkoy 2.88 57 PN **Pn** **08 56 01.5 +0.1**
GEMT Gemlik 2.90 74 PN **Pn** **08 56 02.3 +0.8**
JMB Yambol 2.90 15 *e*Pn **Pn** **08 56 00.1 -1.5**
JMB *e*Sn **Sn** **08 56 35.4 -0.8**
MLSB Milas 2.94 143 PN **Pn** **08 56 02.2 0.0**
KALE Kalithea 2.95 245 P **Pn** **08 56 01.8 -0.5**
BODT Bodrum 2.95 151 PN **Pn** **08 56 01.8 -0.5**
KZN Kozani 2.97 284 P **Pn** **08 56 02.9 +0.2**
BUY Buyukada 2.97 65 *iP* **Pn** **08 56 02.3 -0.3**
BUY *iS* **Sb** **08 56 47.2 +2.5**
BUY IAML 08 56 56.0

comp=N,4µm,1.0s
BUY IAML 08 56 56.0

comp=E,3µm,1.1s
BDRM Kayabasi 3.00 150 IAML_P

comp=Z,14µm,0.2s
BDRM *iP* **Pn** **08 56 03.7 +0.8**
BDRM *iS* **Sg** **08 56 51.9 -0.4**
BDRM IAML 08 56 54.0

comp=E,732nm,1.0s
BDRM IAML 08 57 04.0

comp=N,1µm,0.7s
EVR Evrytania 3.00 257 P **Pn** **08 56 03.1 0.0**
TRIZ Trizonia 3.01 245 P **Pn** **08 56 02.6 -0.5**
KAVV Kandilli-Istan 3.02 61 PN **Pn** **08 56 03.1 -0.1**
ISK Istanbul-Kandi 3.02 61 PN **Pn** **08 56 03.2 0.0**
GUR Goura 3.05 236 P **Pn** **08 56 02.9 -0.8**
MHLA Plaka, Milos I 3.05 197 P **Pn** **08 56 02.2 -1.5**
GEDZ Gediz 3.06 101 PN **Pn** **08 56 04.6 +0.8**
YLV Yalova 3.06 72 PN **Pn** **08 56 04.6 +0.7**
KLYT Kilyos 3.10 58 PN **Pn** **08 56 04.7 +0.4**
EFP Efpalio 3.10 248 P **Pn** **08 56 04.1 -0.2**
GDZ Gediz 3.10 100 *iP* **Pn** **08 56 06.0 +1.5**
GDZ *iS* **Sb** **08 56 51.8 +3.2**
GDZ IAML 08 56 57.0

comp=N,377nm,0.6s
GDZ IAML 08 56 57.0

comp=E,344nm,0.4s
MHLO Agia Marina, M 3.11 197 P **Pn** **08 56 03.0 -1.5**
KLV Kalavryta, Ach 3.11 240 P **Pn** **08 56 03.3 -1.2**
LAKA Lakka 3.13 244 P **Pn** **08 56 04.7 -0.1**
STIP Stip 3.26 309 ⇓*iPn* **Pn** **08 56 05.3 -1.3**
STIP *i* Sn **Sb** **08 56 56.4 +3.4**
SANT Santorini 3.29 181 *e*Pn **Pn** **08 56 05.3 -1.7**
PVO Paravola 3.30 253 P **Pn** **08 56 07.8 +0.7**
ANAF Anafi Island 3.31 177 P **Pn** **08 56 06.2 -1.1**
KHAL Karahalli 3.33 112 *iP* **Pn** **08 56 08.5 +0.8**
KHAL IAML 08 57 11.0

comp=N,556nm,0.8s
KHAL IAML 08 57 13.0

comp=E,547nm,1.1s
CAVI Cavuskoy 3.34 79 PN **Pn** **08 56 08.7 +1.0**
DAT Datca 3.34 151 *iP* **Pn** **08 56 07.4 -0.4**
DAT IAML 08 57 09.0

comp=N,370nm,0.8s
DAT IAML 08 57 17.0

comp=E,222nm,1.0s
TRIP Tripoli 3.34 231 P **Pn** **08 56 07.2 -0.5**
FNA Florina 3.38 291 *e*Pn **Pn** **08 56 08.7 +0.5**
FNA Florina 3.38 291 PN **Pn** **08 56 07.8 -0.5**
FNA Florina 3.38 291 *e*Pn **Pn** **08 56 09.2 +0.9**
FNA Florina 3.38 291 P **Pn** **08 56 08.8 +0.5**
FNA Florina 3.38 291 *e*P **Pn** **08 56 09.2 +0.9**
VLX Vlachokerasia 3.39 228 P **Pn** **08 56 07.6 -0.8**
VTS Vitosha 3.41 330 *e*Pn **Pn** **08 56 09.4 +0.6**
VTS *e*Sn **Sn** **08 56 51.6 +2.6**
VTS Vitosha 3.41 330 *e*Pn **Pn** **08 56 09.7 +0.9**
VTS Vitosha 3.41 330 ⇑*iP* **Pn** **08 56 09.9 +1.1**
VTS Vitosha 3.41 330 S **Sn** **08 56 51.1 +2.1**
VTS Vitosha 3.41 330 *e*P **Pn** **08 56 09.7 +0.9**
TAVA DENIZLI_Tavas 3.43 129 *iP* **Pn** **08 56 09.4 +0.4**
TAVA IAML 08 57 14.0

comp=N,414nm,1.2s
TAVA IAML 08 57 16.0

comp=E,371nm,1.4s
DRO Drossia 3.46 241 P **Pn** **08 56 08.9 -0.4**
SILT Sile 3.46 63 PN **Pn** **08 56 10.1 +0.9**
BIA Bitola 3.50 294 ⇓*iPn* **Pn** **08 56 11.1 +1.2**
PDO Prodromos 3.56 254 P **Pn** **08 56 11.9 +1.3**
VLI Veliai 3.60 216 P **Pn** **08 56 09.8 -1.3**
TURN Turunc 3.68 138 *iP* **Pn** **08 56 10.1 -2.2**
KRUS Krusevo 3.69 299 ⇓*iPn* **Pn** **08 56 12.9 +0.4**
GEYV SAKARYA_Geyve 3.73 76 *iP* **Pn** **08 56 14.8 +1.8**
GEYV IAML 08 57 24.0

comp=N,2µm,1.3s
GEYV IAML 08 57 29.0

comp=E,3µm,1.3s
ITM Ithomi 3.78 230 *e*Pn **Pn** **08 56 14.3 +0.6**
ITM Ithomi 3.78 230 P **Pn** **08 56 13.7 0.0**
BORA Eskisehir 3.78 85 PN **Pn** **08 56 14.8 +1.0**
BORA Eskisehir 3.78 85 *iP* **Pn** **08 56 15.6 +1.8**
BORA IAML 08 57 17.0

comp=N,419nm,0.7s
BORA IAML 08 57 25.0

comp=E,339nm,0.6s
SPNC Sapanca-Adapaz 3.78 73 PN **Pn** **08 56 15.1 +1.4**
SAUV Serdivan-Sakar 3.81 72 PN **Pn** **08 56 15.1 +1.0**
KAND Kocaeli-Kandir 3.82 67 *iP* **Pn** **08 56 15.2 +1.0**
KAND IAML 08 57 25.0

comp=N,934nm,1.4s
KAND IAML 08 57 35.0

comp=E,852nm,0.9s
KZIL AFYON_Kizioren 3.85 110 *iP* **Pn** **08 56 16.6 +1.9**
KZIL IAML 08 57 33.0

comp=N,300nm,1.1s
KZIL IAML 08 57 38.0

comp=E,462nm,1.3s
SKO Skopje 3.88 308 ⇓*iPn* **Pn** **08 56 15.8 +0.8**
GULT Gulveren 3.88 77 PN **Pn** **08 56 16.5 +1.3**
OHR Ohrid 3.90 293 PPn **Pn** **08 56 15.8 +0.3**
KYTH Kithira 3.93 211 P **Pn** **08 56 14.3 -1.5**
ZIMR 3.99 358 ⇓*iP* **Pn** **08 56 17.9 +1.4**
IGT Igoumenitsa 4.03 270 *e*Pn **Pn** **08 56 17.8 +0.6**
ANKY Antikythira Is 4.19 206 P **Pn** **08 56 18.1 -1.3**
ZAPS Zavoj 4.21 330 *e*Pn **Pn** **08 56 21.0 +1.3**
BARS Barje 4.22 319 *e*Pn **Pn** **08 56 20.0 +0.3**
IMMV Iera Moni Meta 4.38 197 P **Pn** **08 56 20.9 -1.1**
IDI Anoyia 4.41 187 *e*Pn **Pn** **08 56 21.2 -1.1**
IDI Anoyia 4.41 187 ⇓*iP* **Pn** **08 56 21.2 -1.1**
VLAD Vladila 4.41 349 ⇑*iP* **Pn** **08 56 22.6 +0.3**
SGRR Singureni 4.56 4 ⇑*iP* **Pn** **08 56 24.3 -0.1**
TIR Tirane 4.65 293 *e*Pn **Pn** **08 56 27.8 +2.2**
TIR Tirane 4.65 293 ⇑*iP* **Pn** **08 56 27.1 +1.5**
TIR Tirane 4.65 293 *e*P **Pn** **08 56 27.8 +2.2**
RASA Rasa 4.69 14 ⇓*iP* **Pn** **08 56 26.1 -0.1**
MANR Mangalia 4.72 28 ⇑*iP* **Pn** **08 56 26.1 -0.5**
MANR Mangalia 4.72 28 S **Sn** **08 57 18.6 -2.5**
ICOR Ion Corvin 4.75 20 ⇓*iP* **Pn** **08 56 27.2 +0.2**
ICOR Ion Corvin 4.75 20 S **Sn** **08 57 15.9 -5.8**
ZAGS Zajecar 4.83 330 *e*Pn **Pn** **08 56 28.3 +0.3**
CRAR CRAIOVA 4.83 345 ⇑*iP* **Pn** **08 56 29.3 +1.2**
SELS Selova 4.86 318 *e*Pn **Pn** **08 56 28.2 -0.4**
HUMR Humele 4.87 355 ⇑*iP* **Pn** **08 56 28.8 +0.1**
LEHL Lehliu 4.89 11 ⇓*iP* **Pn** **08 56 29.8 +0.9**
BOVS Bovan 4.90 325 *e*Pn **Pn** **08 56 29.2 +0.2**
EFOR EFORIE 4.97 27 ⇓*iP* **Pn** **08 56 34.7 +4.7**
MFTR Murfatlar 4.99 24 ⇑*iP* **Pn** **08 56 29.7 -0.5**
MFTR Murfatlar 4.99 24 S **Sb** **08 57 43.4 +0.8**
PUNG Punghina 5.00 338 ⇑*iP* **Pn** **08 56 30.5 +0.1**
CVDA Cernavoda 5.01 21 ⇑*iP* **Pn** **08 56 31.1 +0.5**
SULR 5.03 6 ⇓*iP* **Pn** **08 56 32.1 +1.3**
AMRR Amara 5.11 14 ⇑*iP* **Pn** **08 56 36.5 +4.6**
PVY Plav 5.13 306 ⇓*iPn* **Pn** **08 56 33.2 +0.8**
PVY *e*Sn **Sn** **08 57 31.0 -0.4**
GOLR 5.18 355 ⇑*iP* **Pn** **08 56 32.5 -0.5**
TIRR Tirgusor 5.24 23 *e*Pn **Pn** **08 56 33.7 +0.1**
TIRR Tirgusor 5.24 23 ⇓*iP* **Pn** **08 56 33.7 +0.1**
TIRR Tirgusor 5.24 23 *e*P **Pn** **08 56 33.7 +0.1**
TLB Topalu 5.25 20 ⇓*iP* **Pn** **08 56 34.0 +0.2**
SRE Strehaia 5.28 342 ⇓*iP* **Pn** **08 56 35.2 +0.9**
ULC Ulcinj 5.30 298 ⇑*iPn* **Pn** **08 56 35.7 +1.0**
ULC *e*Sn **Sn** **08 57 35.1 -0.4**
HARR Harsova 5.32 19 ⇓*iP* **Pn** **08 56 34.8 0.0**
IVA Berane 5.33 309 ⇓*iPn* **Pn** **08 56 35.7 +0.7**
IVA *e*Sn **Sn** **08 57 36.1 -0.1**
DRME Dracevica, Mon 5.44 300 ⇑*iPn* **Pn** **08 56 37.6 +1.1**
DRME *e*Sn **Sn** **08 57 38.3 -0.4**
DRME Dracevica, Mon 5.44 300 *e*Pn **Pn** **08 56 39.2 +2.7**
ISR Istrita 5.49 7 ⇑*iP* **Pn** **08 56 38.1 +0.8**
PDG Podgorica 5.50 302 ⇑*iP* **Pn** **08 56 38.7 +1.4**
PDG Podgorica 5.50 302 *e*Pn **Pn** **08 56 38.0 +0.7**
TTG Podgorica 5.50 302 ⇑*iPn* **Pn** **08 56 38.5 +1.2**
TTG *e*Sn **Sn** **08 57 40.0 -0.2**
TTG Podgorica 5.50 302 *e*Pn **Pn** **08 56 39.3 +2.0**
SJES Sjenica 5.51 312 *e*Pn **Pn** **08 56 38.2 +0.6**
KUBS Kucevo 5.55 330 *e*Pn **Pn** **08 56 37.1 -0.9**
KOME Kolasin 5.55 307 ⇑*iPn* **Pn** **08 56 38.4 +0.3**
KOME *e*Sn **Sn** **08 57 40.8 -0.8**
GRUS Gruza 5.55 321 *e*Pn **Pn** **08 56 37.3 -0.7**
MTUR Matau 5.56 356 ⇑*iP* **Pn** **08 56 39.0 +0.7**
BR231 Keskin MP Arra 5.57 86 *e*Pn **Pn** **08 56 39.3 +0.9**
ANTO Ankara 5.58 86 *e*Pn **Pn** **08 56 38.4 -0.1**
ANTO Ankara 5.58 86 ⇑*iP* **Pn** **08 56 38.0 -0.5**
ANTO Ankara 5.58 86 *e*P **Pn** **08 56 38.4 -0.1**
IVAS Ivanjica 5.62 316 *e*Pn **Pn** **08 56 38.6 -0.4**
BUM Brajici-Budva 5.68 300 ⇓*iPn* **Pn** **08 56 40.9 +1.0**
BUM *e*Sn **Sn** **08 57 44.5 -0.3**
HERR Herculane 5.70 337 ⇓*iP* **Pn** **08 56 40.0 -0.1**
ARR Arges 5.73 354 ⇓*iP* **Pn** **08 56 40.7 +0.1**
CEME Cevo 5.78 302 ⇓*iPn* **Pn** **08 56 42.2 +1.0**
CEME *e*Sn **Sn** **08 57 46.6 -0.5**
VOIR 5.78 356 ⇑*iP* **Pn** **08 56 41.2 0.0**
GRER 5.80 10 ⇑*iP* Pn 08 56 49.1 +7.7
MLR Muntele Rosu 5.82 3 Pn **Pn** **08 56 42.8 +1.0**
comp=E,6.7nm,0.3s,baz=226,slow=4.3,SNR=59
MLR Lg Lg 08 58 21.7
comp=E,14nm,0.3s,baz=138,slow=9.2,SNR=5.1
MLR Muntele Rosu 5.82 3 ⇑*iP* **Pn** **08 56 43.0 +1.1**
MLR Muntele Rosu 5.82 3 *eP* **Pn** **08 56 43.0 +1.1**
CFR Carcaliu 5.83 18 ⇑*iP* **Pn** **08 56 41.2 -0.6**
CFR Carcaliu 5.83 18 S **Sn** **08 57 47.4 -0.8**
MDVR Moldovita 5.85 332 ⇓*iP* **Pn** **08 56 42.6 +0.5**
NKY Niksic 5.86 305 ⇑*iPn* **Pn** **08 56 43.4 +1.1**
NKY *e*Sn **Sn** **08 57 49.2 0.0**
NKME Niksic 5.86 304 ⇑*iPn* **Pn** **08 56 42.8 +0.5**
NKME *e*Sn **Sn** **08 57 49.0 -0.1**
LOT Lotru 5.92 348 ⇑*iP* **Pn** **08 56 43.1 -0.1**
TRUS Trudelj 5.95 322 *e*Pn **Pn** **08 56 43.0 -0.5**
HCY Herceg Novi 6.01 300 ⇑*iPn* **Pn** **08 56 44.5 +0.2**
HCY *e*Sn **Sn** **08 57 52.8 -0.1**
HCY Herceg Novi 6.01 300 *e*Pn **Pn** **08 56 45.3 +1.0**
TLCR 6.02 23 ⇓*iP* **Pn** **08 56 44.5 +0.1**
DIVS Divibare 6.06 319 *e*Pn **Pn** **08 56 44.8 -0.3**
DIVS Divibare 6.06 319 *e*Pn **Pn** **08 56 45.5 +0.4**
DIVS Divibare 6.06 319 ⇑*iPn* **Pn** **08 56 45.2 +0.1**
GZR Gura Zlata 6.08 341 ⇑*iP* **Pn** **08 56 45.1 -0.2**
UPM Unac-Piva 6.12 307 ⇑*iPn* **Pn** **08 56 47.1 +1.2**
UPM *e*Sn **Sn** **08 57 55.0 -0.7**
UPM Unac-Piva 6.12 307 ⇑*iPn* **Pn** **08 56 47.8 +1.9**
PETR Petresti 6.17 11 ⇑*iP* **Pn** **08 56 47.4 +0.9**
BRY Bratogost 6.19 304 ⇓*iPn* **Pn** **08 56 47.9 +1.0**
BRY *e*Sn **Sn** **08 57 57.1 -0.3**
BRY Bratogost 6.19 304 *e*Pn **Pn** **08 56 49.4 +2.5**
ODBI Odobesti 6.19 10 ⇑*iP* **Pn** **08 56 47.1 +0.4**
BBLS Lazići 6.22 314 *e*Pn **Pn** **08 56 47.5 +0.3**
BBLS Lazići 6.22 314 *e*Pn **Pn** **08 56 48.9 +1.7**
TREB Trebinje 6.23 302 *e*Pn **Pn** **08 56 49.5 +2.2**
PLOR Plostina 6.23 7 ⇓*iP* **Pn** **08 56 48.8 +1.4**
BR131 Keskin Array S 6.24 87 *e*Pn **Pn** **08 56 48.1 +0.5**
BRTR Keskin Array B 6.24 87 Pn **Pn** **08 56 48.1 +0.5**
comp=E,6.2nm,0.3s,baz=261,slow=12,SNR=207
BRTR Sn **Sn** **08 58 00.9 +2.2**
comp=E,16nm,0.3s,baz=273,slow=22,SNR=13
BRTR Lg Lg 08 58 35.0
comp=E,1.5nm,0.3s,baz=278,slow=19,SNR=10
VRI Vrincioaia 6.25 8 ⇑*iP* **Pn** **08 56 48.5 +0.8**
CGL1 Ceglie Messapi 6.26 282 *eP* **Pn** **08 56 49.9 +2.1**
DOPR Dopca 6.29 359 ⇓*iP* **Pn** **08 56 49.0 +0.8**
FASA Fasano 6.38 283 *eP* **Pn** **08 56 50.3 +1.0**
ILGA Ilgaz 6.39 75 *e*Pn **Pn** **08 56 50.4 +0.6**
MASS Massafra 6.51 281 *eP* **Pn** **08 56 52.8 +1.6**
MDB Medias 6.53 353 ⇓*iP* **Pn** **08 56 52.7 +1.3**
BANR Banloc 6.57 332 ⇑*iP* **Pn** **08 56 53.2 +1.2**
BZS Buzias 6.61 335 ⇑*iP* **Pn** **08 56 52.2 -0.4**
STON Ston 6.72 301 *iP* **Pn** **08 56 55.0 +0.9**
BIR Birlad 6.77 12 ⇑*iP* **Pn** **08 56 55.3 +0.6**
BAI Bari 6.77 285 *eP* **Pn** **08 56 55.0 +0.2**
TIP Timpagrande 6.83 269 *e*Pn **Pn** **08 56 56.2 +0.7**
TIP Timpagrande 6.83 269 ⇓*iP* **Pn** **08 56 56.1 +0.5**
SG1 Sgolgore (BA) 6.89 283 *eP* **Pn** **08 56 56.8 +0.4**
FRGS Fruska Gora 6.94 324 *e*Pn **Pn** **08 56 56.4 -0.6**
FRGS Fruska Gora 6.94 324 *e*Pn **Pn** **08 56 56.2 -0.8**
JOSR Joseni 7.03 360 ⇓*iP* **Pn** **08 56 59.2 +0.8**
LEOM Leova 7.08 15 ⇑*iP* **Pn** **08 56 59.9 +1.0**
CJR Cluj-Napoca 7.18 349 ⇑*iP* **Pn** **08 57 01.5 +1.1**
SIRR Siria 7.18 338 ⇓*iP* **Pn** **08 57 00.5 +0.1**
BIZ Bicaz 7.28 3 ⇓*iP* **Pn** **08 57 02.6 +0.9**
GIRR Girov 7.31 5 ⇓*iP* **Pn** **08 57 03.1 +0.9**
DRGR 7.41 345 ⇑*iP* **Pn** **08 57 03.7 +0.1**
ARCR ARCALIA 7.46 354 ⇑*iP* **Pn** **08 57 05.1 +0.9**
CUC Castrocucco 7.50 276 *e*Pn **Pn** **08 57 05.8 +0.9**
MILM Milestii Mici 7.62 17 ⇓*iP* **Pn** **08 57 06.5 +0.1**
CEL Celeste 7.66 262 *e*Pn **Pn** **08 57 08.8 +1.8**
CEL *e*Sn **Sn** **08 58 34.4 +1.0**
KIS Kishinev 7.70 17 *eP* **Pn** **08 57 06.0 -1.5**
comp=E,150nm,1.0s
KIS *e*S **Sn** **08 58 34.0 -0.4**
KIS LRM MLR 09 00 20.0
comp=E,2µm,12.0s
KIS Kishinev 7.70 17 *eP* **Pn** **08 57 06.0 -1.5**
KIS *e*S **Sn** **08 58 34.0 -0.4**
KIS pmax pmax
comp=Z,150nm,1.0s
KIS MLR MLR
comp=Z,2µm,12.0s
KIS MLR MLR
comp=N,1µm,14.0s
PRAR RAŠCA 7.70 3 ⇓*iP* **Pn** **08 57 08.5 +0.9**
SEV Sevastopol' 7.75 48 *eP* **Pn** **08 57 07.7 -0.5**
SEV *e*S **Sn** **08 58 30.3 -5.3**
BURAR Bucovina Array 7.95 359 ⇓*iP* **Pn** **08 57 12.5 +1.5**
YAL Yalta 8.01 50 *eP* **Pn** **08 57 13.2 +1.6**
YAL *e*S **Sn** **08 58 38.7 -3.3**
BLY Banja Luka 8.02 312 *e*Pn **Pn** **08 57 11.7 +0.1**
BLY Banja Luka 8.02 312 ⇑*iP* **Pn** **08 57 13.0 +1.2**
BLY Banja Luka 8.02 312 ⇑*iPn* **Pn** **08 57 13.3 +1.5**
BMR Baia Mare 8.14 350 ⇑*iP* **Pn** **08 57 13.3 -0.2**
LTVH Ltavrtes, Hu 8.15 342 *e*Pn **Pn** **08 57 15.1 +1.4**
LTVH *e*Sg Sb 08 59 31.0 +17
SIM Simferopol' 8.25 47 *eP* **Pn** **08 57 13.9 -1.1**
SIM *e*S **Sn** **08 58 47.2 -0.7**
SIM MLR MLR
comp=Z,282nm,12.6s
ALU Alushta 8.26 50 ⇓*eP* **Pn** **08 57 14.1 -1.1**
ALU *e*S **Sn** **08 58 41.2 -6.9**
MORH Mrgy, Hungar 8.27 325 ⇑*iPn* **Pn** **08 57 14.7 -0.6**
MORH Mrgy, Hungar 8.27 325 *e*Pn **Pn** **08 57 16.1 +0.8**
MORH *e*Sg Sb 08 59 45.1 +28
SUDU Sudak 8.73 50 *eP* **Pn** **08 57 20.0 -1.6**
SUDU *e*S **Sn** **08 58 58.2 -1.5**
TRPA Tarpa 8.73 347 ⇑*iP* **Pn** **08 57 21.9 +0.3**
TRPA Tarpa 8.73 347 *e*Pn **Pn** **08 57 22.1 +0.5**
TRPA *e*Sg 09 00 02.0
UDBI Udbina 8.74 307 *iP* **Pn** **08 57 24.3 +2.5**
VAE Valgurnera 8.99 259 Pn **Pn** **08 57 24.4 -1.0**
comp=Z,0.6nm,0.3s,baz=180,slow=7.1,SNR=2.6
VAE Sn **Sn** **08 59 05.8 -0.6**
comp=Z,1.2nm,0.3s,baz=204,slow=12,SNR=2.4
BUD Budapest 9.13 331 *e*Pn **Pn** **08 57 28.0 +0.9**
PSZ Piszkesteto 9.20 336 *e*Pn **Pn** **08 57 29.4 +1.2**
PSZ Piszkesteto 9.20 336 ⇑*iP* **Pn** **08 57 28.2 +0.1**
PSZ Piszkesteto 9.20 336 *eP* **Pn** **08 57 29.4 +1.2**
PSZ Piszkesteto 9.20 336 *e*Pn **Pn** **08 57 29.1 +0.9**
PSZ *e*Sg 09 00 15.0
UZH Uzhgorod 9.26 346 *eP* **Pn** **08 57 30.9 +2.1**
NVLJ Novalja 9.32 305 *iP* **Pn** **08 57 30.6 +1.0**
BEHE Becsehely 9.35 320 *e*Pn **Pn** **08 57 32.1 +2.0**
BEHE Becsehely 9.35 320 ⇑*iPn* **Pn** **08 57 31.9 +1.9**
OZLJ Ozalj 9.51 312 *iP* **Pn** **08 57 32.4 +0.1**
WDD Wied Dalam 9.53 250 *e*Pn **Pn** **08 57 32.3 -0.4**
AQU L'Aquila 9.57 290 *e*Pn **Pn** **08 57 33.6 +0.4**
AQU L'Aquila 9.57 290 *eP* **Pn** **08 57 33.6 +0.4**
AQU L'Aquila 9.57 290 *e*Pn **Pn** **08 57 36.0 +2.8**
KOGS Kog 9.60 318 *e*Pn **Pn** **08 57 33.8 +0.3**
CRES Cresnjev 9.64 313 ⇑*iPn* **Pn** **08 57 36.6 +2.5**
VYHS Vyhne 10.05 334 *eP* **Pn** **08 57 40.0 +0.3**
VYHS Vyhne 10.05 334 *e*PN **Pn** **08 57 40.0 +0.3**
KWP Kalwaria Pacla 10.16 349 *eP* **Pn** **08 57 43.5 +2.3**
**KWP Kalwaria Pacla 10.16

comp=Z,63nm,1.5s
STU Stuttgart 14.82 313 *e*Pn **Pn** 08 58 46.5 +1.7
STU Stuttgart 14.82 313 *e*P **Pn** 08 58 46.5 +1.7
SENIN Lac Senin/Sane 14.92 303 *e*Pn **Pn** 08 58 46.9 +0.5
MICGM Minsk 14.92 5 *e* Pn 08 58 40.0 -6.2
MICGM *e* 09 03 11.0
MNK Minsk 14.92 5 *e*P Pn 08 58 40.0 -6.2
BNI Bardonecchia 14.94 297 *e*Pn **Pn** 08 58 47.8 +1.1
BNI Bardonecchia 14.94 297 *e*P **Pn** 08 58 47.8 +1.1
VSR Storozhevoye 14.96 35‖*e*P **Pn** 08 58 43.8 -2.9
VSR pmax pmax
comp=Z,15nm,1.0s
BFO Black Forest 15.09 311 *e*Pn **Pn** 08 58 49.8 +1.2
comp=Z,19nm,1.2s
BFO Black Forest 15.09 311 *e*P **Pn** 08 58 49.8 +1.2
BFO pmax pmax
comp=Z,19nm,1.2s
NACGM Naroch 15.26 3 *e* **Pn** 08 58 49.0 -1.7
NACGM *e*LQ LQ 09 03 24.0
NACGM *e*LR LR 09 04 22.0
GROC Groznyy 15.58 70 *e*P **Pn** 08 58 52.4 -2.6
GROC pmax pmax
comp=Z,12nm,0.5s
IDID Didziasalis 15.67 3 *e*P **Pn** 08 58 54.9 -1.2
IIGN Ignalina 15.70 1 *e*P **Pn** 08 58 55.8 -0.6
ECH Echery 15.73 309 *e*Pn **Pn** 08 58 57.0 0.0
comp=Z,30nm,1.6s
ECH Echery 15.73 309 *e*P **Pn** 08 58 57.0 0.0
ECH pmax pmax
comp=Z,30nm,1.6s
LPSR Galich'ya Gora 15.88 31 *e*P **Pn** 08 58 56.6 -2.1
LPSR pmax pmax
comp=Z,10.0nm,0.6s
PABE Paberze 15.88 357 *e*P **Pn** 08 58 59.8 +1.1
ISAL Salakas 15.91 1 *e*P **Pn** 08 58 56.8 -2.4
VRH Novokhopyorsk 16.14 39 *e*P **Pn** 08 59 01.9 -0.2
VRH pmax pmax
comp=Z,20nm,0.9s
VRH MLR MLR
comp=Z,630nm,25.0s
WLF Walferdange 16.99 312 *e*Pn **Pn** 08 59 13.6 +0.7
comp=Z,82nm,1.0s
WLF Walferdange 16.99 312 *e*P **Pn** 08 59 13.6 +0.7
WLF pmax pmax
comp=Z,82nm,1.0s
WLF Walferdange 16.99 312 ⇑P **P** 08 59 16.9 +2.2
comp=Z,16nm,1.6s
RGN Rugen 17.01 335 *e*Pn **Pn** 08 59 13.7 +0.5
comp=Z,158nm,1.0s
OBN Obninsk 17.12 22 P **Pn** 08 59 14.8 +0.4
comp=Z,1.4nm,0.3s,baz=356,slow=13,SNR=3.1
OBN LR LR 09 06 22.9
comp=Z,74nm,18.4s,baz=188,slow=39
OBN Obninsk 17.12 22 *e*Pn **P** 08 59 16.4 +0.2
comp=Z,24nm,0.7s
OBN Obninsk 17.12 22‖*e*P **Pn** 08 59 14.9 +0.4
OBN *e*S **Sn** 09 02 23.0 -1.4
OBN pmax pmax
comp=Z,10.0nm,0.5s
OBN MLR MLR
comp=Z,430nm,15.0s
MEM Membach 17.54 315 ‖P **P** 08 59 22.2 +1.4
MOS Moscow 17.97 23 *e*P **P** 08 59 27.0 +1.5
MOS pmax pmax
comp=Z,87nm,1.0s
DOU Dourbes 18.08 312 ⇑P **P** 08 59 30.9 +4.1
comp=Z,9.2nm,1.1s
UCC Uccle 18.55 314 *e*P **Pn** 08 59 32.1 +0.1
comp=Z,15nm,0.7s
UCC Uccle 18.55 314 *e*P **Pn** 08 59 32.2 +0.1
UCC pmax pmax
comp=Z,15nm,0.7s
VSU Vasula 18.82 2⇑*e*P **P** 08 59 33.6 -1.2
VSU pmax pmax
comp=Z,42nm,0.9s
VSU Vasula 18.82 2 *e*P **P** 08 59 33.6 -1.2
HFS Hagfors 21.80 344 P **P** 09 00 08.0 +0.9
comp=Z,1.4nm,0.4s,baz=150,slow=10,SNR=11
HFS LR LR 09 09 00.1
comp=Z,339nm,18.2s,baz=162,slow=38
HFS Hagfors 21.80 344 P **P** 09 00 08.0 +0.9
HFS pmax pmax
comp=Z,1.0nm,0.4s
HFS MLR MLR
comp=Z,339nm,18.2s
FIA1 FINESS Array S 21.80 1 *e*P **P** 09 00 08.8 +1.6
comp=Z,17nm,1.0s
FINES FINESS Array B 21.80 1 P **P** 09 00 07.8 +0.6
comp=Z,9.8nm,1.0s,baz=162,slow=10,SNR=8.3
FINES LR LR 09 08 59.2
comp=Z,396nm,18.8s,baz=183,slow=38
KONO Kongsberg 22.39 339 *e*P **P** 09 00 14.9 +1.4
comp=Z,15nm,1.0s
KONO Kongsberg 22.39 339 *e*P **P** 09 00 14.9 +1.4
KONO pmax pmax
comp=Z,15nm,1.0s
ESDC Sonseca Array 22.68 280 P **P** 09 00 15.7 -1.1
comp=Z,1.0nm,0.6s,baz=74,slow=9.9,SNR=6.6
ESDC LR LR 09 09 01.4
comp=Z,98nm,18.1s,baz=40,slow=37
ESLA Sonseca Array 22.68 280 *e*P **P** 09 00 15.9 -0.9
comp=Z,14nm,1.1s
NC602 NORSAR Array S 22.82 342 *e*P **P** 09 00 18.4 +0.4
KLMR Klimovskoe 22.91 18 *e*P **P** 09 00 19.0 0.0
KLMR pmax pmax
comp=Z,64nm,1.3s
KLMR Klimovskoe 22.91 18 *e*P **P** 09 00 19.0 0.0
KLMR AMP 09 00 23.4
comp=Z,64nm,1.2s
NAO01 NORSAR Array S 23.07 342 *e*P **P** 09 00 20.0 -0.6
NB201 NORSAR Array S 23.15 342 *e*P **P** 09 00 22.8 +1.3
NB2 NORSAR Subarra 23.16 342 P **P** 09 00 21.7 +0.1
comp=Z,7.3nm,1.0s,baz=151,slow=11
NOA NORSAR Array B 23.16 342 P **P** 09 00 20.5 -1.2
comp=Z,3.7nm,0.7s,baz=150,slow=9.8,SNR=18
NOA LR LR 09 11 19.9
comp=Z,103nm,21.7s,baz=160,slow=42
NBO00 NORSAR Array S 23.26 342 *e*P **P** 09 00 22.8 +0.3
NC303 NORSAR Array S 23.29 343 *e*P **P** 09 00 21.8 -1.1
RAYN Ar Rayn 23.33 128 *e*P **P** 09 00 22.9 -0.7
comp=Z,11nm,1.1s
RAYN Ar Rayn 23.33 128 *e*P **P** 09 00 22.9 -0.7
RAYN pmax pmax
comp=Z,11nm,1.1s
NC204 NORSAR Array S 23.48 342 *e*P **P** 09 00 26.1 +1.3
TAM Tamanrasset 23.92 231 *e*P **P** 09 00 31.1 +1.6
comp=Z,8.1nm,1.1s
TAM Tamanrasset 23.92 231 *e*P **P** 09 00 31.1 +1.6
TAM pmax pmax
comp=Z,8.0nm,1.1s
EKA Eskdalemuir Ar 24.69 319 P **P** 09 00 36.0 -0.1
comp=Z,8.5nm,0.6s,baz=112,slow=9.6,SNR=18
EKA Eskdalemuir Ar 24.69 319 P **P** 09 00 36.0 -0.1
EKA pmax pmax
comp=Z,8.0nm,0.6s
ESK Eskdalemuir 24.70 319 *e*P **P** 09 00 40.3 +4.1
comp=Z,33nm,0.9s
AKTO Aktyubinsk 25.14 54 P **P** 09 00 40.1 -0.2
comp=Z,1.6nm,0.5s,baz=254,slow=11,SNR=6.5
AKTO LR LR 09 12 54.2
comp=Z,131nm,18.6s,baz=258,slow=42
AKTO Aktyubinsk 25.14 54 P **P** 09 00 40.1 -0.2
AKTO pmax pmax
comp=Z,3.0nm,0.8s
AKTO MLR MLR
comp=Z,131nm,18.6s
MDT Midelt 25.19 264 P **P** 09 00 40.1 -0.9
comp=Z,2.2nm,0.8s,baz=354,slow=2.1,SNR=2.5
MDT LR LR 09 09 55.2
comp=Z,120nm,20.6s,baz=66,slow=35
PRGR Permogore 25.20 23 *e*P **P** 09 00 43.2 +2.6
PRGR pmax pmax
comp=Z,36nm,0.7s
GEYT Alibeck 25.37 83 P **P** 09 00 41.8 -0.7
comp=Z,1.1nm,0.5s,baz=145,slow=5.3,SNR=3.2
GEYT LR LR 09 13 12.5
comp=Z,120nm,19.6s,baz=305,slow=42
GYA0B ALIBECK ARRAY 25.37 83 *e*P **P** 09 00 47.8 +5.3
comp=Z,24nm,1.1s
ABKAR Akbulak array 26.15 57 *e*P **P** 09 00 50.1 +0.7
PFVI Vila Bisbo 26.96 276 *e*P **P** 09 00 55.6 -1.3
comp=Z,104nm,1.2s
ARU Arti 27.35 41 *e*P **P** 09 01 01.0 +0.9
comp=Z,32nm,1.4s
ARU Arti 27.35 41 P P 09 01 11.8 +12
ARU 09 02 00.8
ARU MLR MLR
comp=Z,342nm,15.0s
ARCES ARCESS Array B 29.93 360 P **P** 09 01 22.3 -0.7
comp=Z,4.7nm,0.9s,baz=174,slow=7.0,SNR=3.1
BRVK Borovoye 33.08 51‖*e*P **P** 09 01 52.1 +1.2
BRVK pmax pmax
comp=Z,13nm,3.7s
BVAR Borovoye Array 33.14 51 P **P** 09 01 51.4 0.0
comp=Z,0.8nm,0.8s,baz=297,slow=6.5,SNR=4.1
TOA0 Torodi Ar. Sit 33.77 225 *e*P **P** 09 01 57.4 +0.2
TORD Torodi Ar. Bea 33.77 225 P **P** 09 01 56.0 -1.2
comp=Z,2.2nm,0.6s,baz=37,slow=8.7,SNR=23
TORD LR LR 09 16 30.0
comp=Z,78nm,20.4s,baz=15,slow=38
GAR Garm 34.36 76 *e*P **P** 09 02 02.6 +0.4
comp=Z,22nm,1.0s
GAR Garm 34.36 76 *e*P **P** 09 02 02.7 +0.4
GAR pmax pmax
comp=Z,22nm,1.0s
BTK Batken 34.46 74 *e*P P 09 02 08.2 +5.0
comp=Z,20nm,1.8s
BTK Batken 34.46 74 *e*P P 09 02 08.2 +5.1
BTK pmax pmax
comp=Z,20nm,1.8s
AAK Ala-Archa 36.56 69‖*e*P **P** 09 02 21.2 -0.1
AAK pmax pmax
comp=Z,4.0nm,1.2s
KURBB Kurchatov Arra 38.17 55 P **P** 09 02 35.2 +0.7
comp=Z,3.9nm,0.9s,baz=280,slow=8.7,SNR=11
KURK Kurchatov 38.22 55 *e*P **P** 09 02 39.7 +4.7
comp=Z,5.2nm,1.1s
KURK Kurchatov 38.22 55‖*e*P **P** 09 02 32.8 -2.2
KURK pmax pmax
comp=Z,6.0nm,1.7s
SPITS Spitsbergen Ar 38.81 357 P **P** 09 02 41.2 +1.6
comp=Z,13nm,1.0s,baz=197,slow=24,SNR=3.0
NVS Novosibirsk 40.77 48 *e*P **P** 09 02 57.6 +1.4
NVS *e*PPP PPP 09 04 35.0
NVS *e*S **S** 09 09 00.9 -5.2
NVS pmax pmax
comp=Z,16nm,1.8s
NVS smax smax
comp=E,10.0nm,1.1s
MAKZ Makanchi 40.95 61 *e*P **P** 09 02 58.5 +0.6
comp=E,5.5nm,1.4s
MAKZ Makanchi 40.95 61 *e*P **P** 09 02 58.5 +0.6
MAKZ pmax pmax
comp=Z,6.0nm,1.4s
MK31 Makanchi Array 41.16 61 *e*P **P** 09 03 00.2 +0.6
MK31 Makanchi Array 41.16 61 *e*P **P** 09 03 00.2 +0.6
MKAR Makanchi Array 41.16 61 P **P** 09 03 00.3 +0.7
comp=Z,5.1nm,0.9s,baz=271,slow=8.0,SNR=18
MKAR LR LR 09 22 31.3
comp=Z,144nm,18.7s,baz=267,slow=40
MKAR Makanchi Array 41.16 61 *e*P **P** 09 03 00.2 +0.6
comp=Z,16nm,0.8s
MKAR Makanchi Array 41.16 61 *e*P **P** 09 03 00.2 +0.6
MKAR pmax pmax
comp=Z,16nm,0.8s
MK01 Makanchi Array 41.17 61 *e*P **P** 09 03 00.0 +0.3
ZALV Zalesovo Beam 41.76 50 P **P** 09 03 05.9 +1.6
comp=Z,4.0nm,0.8s,baz=275,slow=9.9,SNR=8.2
ZALV LR LR 09 21 52.8
comp=Z,97nm,20.2s,baz=88,slow=38
ZALV Zalesovo Beam 41.76 50 *e*P **P** 09 03 05.2 +0.9
ZALV Zalesovo Beam 41.76 50 *e*P **P** 09 03 05.2 +0.9
DBIC Dimbokro 42.73 228 P **P** 09 03 10.4 -2.2
comp=Z,3.9nm,0.7s,baz=352,slow=9.9,SNR=8.0
DBIC LR LR 09 24 28.3
comp=Z,73nm,18.9s,baz=8.0,slow=41
TIC Toumodi 42.84 228 *e*P **P** 09 03 16.2 +2.6
KIC Kosan Boka 42.91 227 *e*P **P** 09 03 14.2 +0.1
comp=Z,17nm,1.0s
LIC Lamto 43.19 228 *e*P **P** 09 03 16.7 +0.3
comp=Z,23nm,0.8s
DGZ Jazzator, Alta 43.97 56⇑*e*P **P** 09 03 22.5 0.0
WMQ Urumqi 45.59 64 *e*P **P** 09 03 38.4 +3.0
WMQ pP pP 09 03 40.9 +0.7
WMQ sP sP 09 03 47.0 +4.9
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,220nm,5.9s
WMQ LR LR
comp=Z,440nm,23.3s
WMQ LR LR
comp=Z,200nm,19.1s
WMQ LR LR
comp=Z,180nm,21.3s
ZAK Zakamensk 53.60 51 *e*P **P** 09 04 37.8 +1.4
ZAK pmax pmax
comp=Z,3.0nm,1.5s
SONM Songino Array 56.45 53 P **P** 09 04 57.7 +0.6
comp=Z,1.2nm,0.9s,baz=266,slow=8.8,SNR=4.3
SONM LR LR 09 32 06.2
comp=Z,79nm,19.5s,baz=8.0,slow=39
ULN Ulaanbaatar 56.85 53‖*e*P **P** 09 04 57.5 -2.4
SCHQ Schefferville 60.00 318 P **P** 09 05 20.3 -1.3
comp=Z,1.6nm,0.6s,baz=180,slow=7.1,SNR=3.2
HHC Hu-ho-hao-te 62.94 58 *e*P **P** 09 05 43.3 +1.5
HHC pmax pmax
comp=Z,17nm,1.1s
KMI Kunming 64.94 77 P **P** 09 05 54.3 -1.1
KMI pmax pmax
comp=Z,7.0nm,0.9s
CMAR Chiang Mai Arr 65.83 86 P **P** 09 06 03.1 +2.2
comp=Z,1.3nm,0.4s,baz=306,slow=7.6,SNR=8.4
CMAR LR LR 09 38 25.9
comp=Z,33nm,18.2s,baz=266,slow=39
NJ2 Nanjing 72.66 63 *e*P **P** 09 06 44.8 +1.7
NJ2 pmax pmax
comp=Z,13nm,0.5s
YKA Yellowknife Ar 73.26 342 P **P** 09 06 46.2 +0.1
comp=Z,0.6nm,0.6s,baz=28,slow=5.5,SNR=5.4
KSAR Wonju Array Be 75.30 54 P **P** 09 06 59.8 +1.3
KSAR Wonju Array Be 75.30 54 P **P** 09 06 59.8 +1.3
KSRS Korea Array 75.32 53 P **P** 09 06 59.8 +1.2
comp=Z,1.5nm,0.7s,baz=316,slow=5.0,SNR=5.2
KSRS LR LR 09 44 22.3
comp=Z,49nm,18.4s,baz=350,slow=39
ILAR Eielson Array 75.73 357 P **P** 09 07 01.1 +0.7
comp=Z,0.3nm,0.6s,baz=328,slow=3.9,SNR=4.2
GAMB Gambell 75.98 8 *e*P **P** 09 07 06.6 +4.7
comp=Z,15nm,1.0s
ULM Lac du Bonnet 76.75 326 P **P** 09 07 05.9 -0.6
comp=Z,4.6nm,0.9s,baz=41,slow=4.7,SNR=9.1
PETK Petropavlovsk- 78.75 27 LR LR 09 44 50.7
comp=Z,92nm,19.2s,baz=338,slow=38
BDFB Brasilia 87.71 248 P **P** 09 08 01.5 -2.9
comp=Z,1.9nm,0.6s,baz=112,slow=9.1,SNR=2.5
PHWY Pilot Hill 87.91 325 *e*P **P** 09 08 05.5 +0.1
comp=Z,3.0nm,0.6s
PDAR Pinedale Array 88.42 329 P **P** 09 08 06.8 -1.0
comp=Z,0.3nm,0.6s,baz=33,slow=3.5,SNR=2.3
SDCO Great Sand Dun 90.82 323 *e*P **P** 09 08 19.0 -0.1
comp=Z,6.4nm,1.8s
NVAR Mina Array Bea 95.51 332 P **P** 09 08 39.7 -0.9
comp=Z,0.2nm,0.5s,baz=40,slow=4.7,SNR=2.7
ASAR Alice Springs 118.47 98 PKP **PKPdf** 09 14 01.9 -1.3
comp=Z,0.7nm,0.8s,baz=258,slow=1.5,SNR=3.1

ISK ***13*** *09:01:47.7,38.˚74N×43.˚07E,h8km,ML2.6/6*
ISCJB ***13*** *09:01:48.9±0.6,38.˚75N±0.˚03×43.˚05E±0.˚04,h1km±8km,*
Error ellipse: s-maj=5.5km s-min=4.3km az=152.6
DDA ***13*** *09:01:48.1,38.˚72N×43.˚10E,h7km±4km,ML2.9*
ISC 13 09:01:47.5±1.4,38.˚74N±0.˚03×43.˚13E±0.˚03,h2km±14km,
n14,σ0ˢ60/22,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
VANB	**Van**	**0.25**	**125**	PG		**Pb**	**09 01 55.1**	**+0.2**
VANB				SG		**Sb**	**09 02 00.7**	**+0.9**
TVAN	**Van**	**0.30**	**133**	IAML_P				
	comp=Z,6μm,0.1s							
TVAN				*i* P		**Pb**	**09 01 56.0**	**+0.1**
TVAN				*i* S		**Sb**	**09 02 01.1**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.32**	**283**	*i* P		**Pb**	**09 01 55.1**	**-1.0**
AKDM	**Akdamar-Van**	**0.42**	**196**	PG		**Pg**	**09 01 55.9**	**+0.2**
GEVA	**Gevas**	**0.43**	**187**	IAML_P				
	comp=Z,3μm,0.1s							
GEVA				*i* P		**Pg**	**09 01 56.4**	**+0.6**
GEVA				*i* S		**Sb**	**09 02 04.3**	**-0.6**
VMUR	**Van-Muradiye**	**0.43**	**54**	*i* P		**Pb**	**09 01 57.9**	**-0.1**
VMUR				*i* S		**Sb**	**09 02 05.4**	**+0.4**
MLAZ	**Malazgirt-MUS**	**0.60**	**312**	PG		**Pg**	**09 01 59.5**	**+0.4**

AGRB	**Hanur-Agry**	**0.84**	**353**	PG	**Pg**	09 02 03.8	**+0.1**
AGRB				SG	**Sb**	09 02 16.2	**-0.7**
GURO	**Guroymak-BITLI**	**0.88**	**258**	PG	**Pg**	09 02 04.3	**0.0**
BASK	**Baskale_VAN**	**0.97**	**134**	IAML_P			
	comp=Z,1μm,0.1s						
BASK				*i* P	**Pg**	09 02 04.6	**-1.6**
BASK				*i* S	**Sb**	09 02 20.5	**-0.2**
SRTM	**Siirt_Merkez**	**1.20**	**232**	IAML_P			
	comp=Z,430nm,0.2s						
SRTM				*i* P	**Pn**	09 02 11.9	**+0.4**
EATA	**Eleskirt**	**1.23**	**337**	IAML_P			
	comp=Z,999nm,0.2s						
EATA				*i* P	**Pb**	09 02 11.5	**-0.2**
EATA				*i* S	**Sn**	09 02 29.5	**+0.2**
SIRT	**Sirnak**	**1.35**	**204**	PN	**Pb**	09 02 13.2	**-0.4**
BTMN	**Batman**	**1.69**	**240**	IAML_P			
	comp=Z,367nm,0.4s						
BTMN				*i* P	**Pg**	09 02 19.9	**+0.1**
BTMN				*i* S	**Sg**	09 02 42.1	**+0.3**

ISCJB ***13*** *09:08:23.7±1.5,2°.9S±0°.1×77°.70W±0°.07,h4km, Error ellipse: s-maj=14.7km s-min=10.5km az=168.6*
IGQ ***13*** *09:08:28.3±2.0,2°.5S±14°.×7°.8W±1°.4,h28km, MLv3.8*
ISC 13 09:08:24.3±2.2,2°.8S±0°.1×77°.78W±0°.08, h4km, n28, σ1§52/29, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUYO	**Puyo, Santa Ro**	**1.36**	**349**	P	**Pg**	**09 08 49.8**	**-0.5**
PUYO				S	**Sn**	**09 09 08.6**	**-0.2**
PAT1	**Patacocha**	**1.48**	**333**	P	**Pn**	**09 08 50.9**	**-1.2**
ARRY	**Arrayan**	**1.49**	**333**	P	**Pn**	**09 08 50.9**	**-1.3**
COHC	**Cochancay**	**1.52**	**284**	P	**Pg**	**09 08 54.2**	**+0.7**
RETU	**Refugio**	**1.53**	**334**	P	**Pn**	**09 08 52.1**	**-0.8**
BIL2	**Estacion Bilba**	**1.55**	**332**	P	**Pn**	**09 08 52.0**	**-1.0**
RUN5	**Runtun**	**1.56**	**335**	P	**Pn**	**09 08 52.1**	**-1.0**
POND	**Pondoa**	**1.56**	**334**	P	**Pn**	**09 08 52.2**	**-1.0**
JUI6	**Juive**	**1.57**	**334**	P	**Pn**	**09 08 52.0**	**-1.1**
ARDO	**Archidona, Ten**	**1.83**	**359**	P	**Pn**	**09 08 57.0**	**+0.4**
MILO	**Milagro-Astudi**	**1.86**	**287**	P	**Pg**	**09 09 00.8**	**+0.8**
PISA	**Pisayambo**	**1.87**	**341**	P	**Pb**	**09 08 59.0**	**-0.4**
OTAV	**Otavalo**	**3.13**	**348**	*e*P	**Pb**	**09 09 19.4**	**-1.4**
OTAV	**Otavalo**	**3.13**	**348**	*e*P	**Pb**	**09 09 19.4**	**-1.4**
GCUF	**Volcan Galeras**	**4.06**	**6**	*e*P	**Pn**	**09 09 30.3**	**+2.6**
GCUF	**Volcan Galeras**	**4.06**	**6**	*e*P	**Pn**	**09 09 30.3**	**+2.6**
PTLC	**Puerto Leguiza**	**4.22**	**45**	*e*P	**Pn**	**09 09 28.3**	**-1.1**
PTLC	**Puerto Leguiza**	**4.22**	**45**	*e*P	**Pn**	**09 09 28.3**	**-1.1**
FLOC	**Florencia**	**4.88**	**26**	*e*P	**Pn**	**09 09 38.5**	**0.0**
FLOC	**Florencia**	**4.88**	**26**	*e*P	**Pn**	**09 09 38.5**	**0.0**
SOTA	**Rioblanco**	**5.08**	**13**	*e*P	**Pn**	**09 09 42.9**	**+1.3**
SOTA	**Rioblanco**	**5.08**	**13**	*e*P	**Pn**	**09 09 42.9**	**+1.3**
PCON	**Cinco Dias**	**5.31**	**15**	*e*P	**Pn**	**09 09 45.9**	**+0.9**
PCON	**Cinco Dias**	**5.31**	**15**	*e*P	**Pn**	**09 09 45.9**	**+0.9**
MARP	**Paez Belalcaza**	**5.93**	**18**	*e*P	**Pn**	**09 09 55.4**	**+2.2**
MARP	**Paez Belalcaza**	**5.93**	**18**	*e*P	**Pn**	**09 09 55.4**	**+2.2**
YOTC	**Yotoco, Valle**	**6.93**	**12**	*e*P	**Pn**	**09 10 09.5**	**+2.8**
YOTC	**Yotoco, Valle**	**6.93**	**12**	*e*P	**Pn**	**09 10 09.5**	**+2.8**

ISCJB ***13*** *09:21:25.8±1.5,40°.66N±0°.07×41°.26E±0°.08,h7km, Error ellipse: s-maj=12.6km s-min=5.0km az=145.0*
ISK ***13*** *09:21:26.2,40°.71N×41°.21E,h23km±1km, ML2.1/3*
DDA ***13*** *09:21:28.0,40°.76N×41°.27E,h7km±1km, ML2.5*
ISC 13 09:21:26.3±1.4, 40°.69N±0°.08×41°.23E±0°.05, h7km, n6, σ0§60/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBAD	**Bademkaya**	**0.48**	**47**	IAML_P			
	comp=Z,907nm,0.1s						
DBAD				*i* P	**Pb**	**09 21 37.0**	**-0.2**
DBAD				*i* S	**Sg**	**09 21 42.1**	**+0.2**
CHOM	**Cayeli-Rize**	**0.54**	**319**	PG	**Pb**	**09 21 37.4**	**-0.7**
CHOM				SG	**Sg**	**09 21 45.0**	**+1.2**
DAGI	**Agillar**	**0.65**	**53**	IAML_P			
	comp=Z,509nm,0.1s						
DAGI				*i* P	**Pb**	**09 21 40.0**	**+0.1**
DBOC	**Borcka**	**0.73**	**27**	IAML_P			
	comp=Z,962nm,0.1s						
DBOC				*i* P	**Pb**	**09 21 41.5**	**+0.1**
DBOC				*i* S	**Sb**	**09 21 51.2**	**-0.5**
BCA	**Borcka**	**0.81**	**21**	PG	**Pb**	**09 21 42.3**	**-0.4**
BAYT	**Aydintepe-Bayb**	**0.88**	**251**	PG	**Pg**	**09 21 43.2**	**-0.1**
BAYT				SG	**Sb**	**09 21 56.2**	**+0.1**

MAN 13 09:29:22.2,6°.96N×123°.85E,h27km, mb4.2, ML3.0, MS2.7, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.47**	**56**	*i* P	Pn	09 29 32.7	-0.6
CTBH				*i* S	Sn	09 29 39.9	-0.8
SKMP	**Bagumbayan, Su**	**0.81**	**122**	*e*P	Pn	09 29 38.1	+0.2
SKMP				*e*S	Sn	09 29 49.3	+0.2
PAGZ	**Pagadian**	**1.00**	**332**	*e*P	Pn	09 29 39.5	-1.1
PAGZ				*e*S	Sb	09 29 56.1	+2.2
BUKP	**Musuan**	**1.51**	**52**	*e*P	Pn	09 29 47.7	+0.1
BUKP				*e*S	Sn	09 30 07.3	+0.8
IPIL	**Ipil**	**1.52**	**303**	*e*P	Pn	09 29 48.4	+0.8
IPIL				*e*S	Sn	09 30 07.5	+1.0
DCPH	**Dipolog City**	**1.69**	**343**	*e*P	Pn	09 29 50.2	+0.2
DCPH				*e*S	Sb	09 30 20.2	+6.6

MAN ***13*** *09:33:13.0,20°.37N×121°.94E,h30km, mb3.8, ML2.6, MS2.1*
MAN INTENSITY I - BASCO BATANES.
IDC 13 09:33:11.7±4.9,20°.19N×123°.01E,h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/26, mbtmp3.3/3, Error ellipse: s-maj=366.5km s-min=26.1km az=61.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.40**	**164**	P	P	09 40 59.6	-0.4
	0.3nm,0.6s,baz=345,slow=9.0,SNR=3.1						
MKAR	**Makanchi Array**	**42.40**	**318**	P	P	09 41 07.8	-0.1
	0.1nm,0.5s,baz=109,slow=9.3,SNR=2.9						
ASAR	**Alice Springs**	**44.87**	**166**	P	P	09 41 28.2	+0.1
	0.8nm,0.9s,baz=345,slow=6.8,SNR=3.4						

IDC ***13*** *10:20:31.8±1.0,1°.95S×68°.10E,h0km, mb4.0/9, mb1 4.3/9, mb1mx3.9/36, mbtmp4.0/9, MS3.4/9, Ms1 3.4/9, ms1mx3.1/34, Error ellipse: s-maj=32.3km s-min=21.2km az=38.0*
ISCJB ***13*** *10:20:32.1±0.7,2°.0S±0°.1×68°.1E±0°.1, h15km, mb4.2/18, MS3.3/8, Error ellipse: s-maj=17.6km s-min=11.5km az=137.0*
NEIC ***13*** *10:20:33.5±0.4, 1°.96S×68°.08E, h10km, mb4.4/9, Error ellipse: s-maj=10.9km s-min=7.6km az=50.0*
ISC 13 10:20:34.3±1.0, 2°.0S±0°.2×68°.1E±0°.1, h15km, n42, σ0§65/34, mb4.3/18, MS3.4/8, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.23**	**146**	T	T	10 27 03.5	
	baz=327,slow=75,SNR=2428						
H08N3	**Diego Garcia H**	**5.25**	**146**	T	T	10 27 03.9	
	baz=327,slow=75,SNR=2352						
H08N1	**Diego Garcia H**	**5.25**	**146**	T	T	10 27 09.3	
	baz=327,slow=75,SNR=2862						
PALK	**Pallekele**	**15.58**	**54**	LR	LR	10 28 59.6	
	comp=Z,153nm,18.7s,baz=296,slow=33						
OPO	**Ambohidratompo**	**26.30**	**230**	LR	LR	10 34 03.8	
	comp=Z,143nm,20.4s,baz=104,slow=31						
WSAR	**Wadi Sarin**	**26.68**	**340**	LR	LR	10 35 17.3	
	comp=Z,27nm,18.8s,baz=180,slow=33						
KMBO	**Kilima Mbogo**	**30.82**	**271**	LR	LR	10 38 08.9	
	comp=Z,39nm,19.4s,baz=92,slow=34						
SHL	**Shillong**	**35.77**	**39**	*e*P	**P**	**10 27 33.4**	**+0.1**
	5.0nm,1.0s						
KBL	**Kabul**	**36.31**	**1**	*e*P	**P**	**10 27 38.2**	**+0.4**
	4.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**36.52**	**55**	P	**P**	**10 27 39.4**	**-0.2**
	0.6nm,0.3s,baz=241,slow=11,SNR=9.2						
CMAR				LR	LR	10 40 28.9	
	comp=Z,44nm,20.8s,baz=220,slow=33						
CHTO	**Chiang Mai**	**36.71**	**54**	*e*P	**P**	**10 27 41.6**	**+0.4**
	3.0nm,0.9s						

GAR	**Garm**	**40.80**	**3**	*e*P	**P**	**10 28 15.3**	**-0.1**
	18nm,1.1s						
BTK	**Batken**	**41.88**	**3**	*e*P	**P**	**10 28 25.8**	**+1.6**
	7.7nm,0.9s						
BOSA	**Boshof**	**48.65**	**233**	LR	LR	10 46 12.5	
	comp=Z,46nm,21.4s,baz=30,slow=32						
MK32	**Makanchi Array**	**50.13**	**13**	*e*P	**P**	**10 29 28.3**	**-0.7**
MK32				*e*PcP	**PcP**	**10 30 48.1**	**-0.3**
MKAR	**Makanchi Array**	**50.13**	**13**	P	**P**	**10 29 28.3**	**-0.7**
	0.7nm,0.9s,baz=190,slow=8.1,SNR=6.7						
MKAR				PcP	**PcP**	**10 30 48.1**	**-0.3**
	1.0nm,1.0s,baz=203,slow=3.0,SNR=4.1						
KBZ	**Khabaz**	**50.77**	**337**	P	**P**	**10 29 34.9**	**+1.0**
	3.9nm,1.0s,baz=188,slow=4.9,SNR=3.6						
ABKAR	**Akbulak array**	**51.49**	**353**	*e*P	**P**	**10 29 39.3**	**+0.1**
KURK	**Kurchatov**	**53.24**	**8**	*e*P	**P**	**10 29 52.3**	**+0.2**
	5.3nm,0.9s						
ZALV	**Zalesovo Beam**	**57.42**	**12**	P	**P**	**10 30 21.6**	**-0.7**
	0.6nm,0.3s,baz=207,slow=6.3,SNR=4.4						
ZALV	**Zalesovo Beam**	**57.42**	**12**	*e*P	**P**	**10 30 21.7**	**-0.5**
ZAA1	**Zalesovo Array**	**57.43**	**12**	*e*P	**P**	**10 30 21.6**	**-0.7**
SONA0	**Songino Array**	**59.78**	**29**	*e*P	**P**	**10 30 38.9**	**-0.1**
SONM	**Songino Array**	**59.78**	**29**	P	**P**	**10 30 38.9**	**-0.1**
	2.6nm,1.0s,baz=224,slow=6.5,SNR=12						
SONM				LR	LR	10 56 05.3	
	comp=Z,56nm,20.3s,baz=221,slow=36						
SONA1	**Songino Array**	**59.80**	**29**	*e*P	**P**	**10 30 39.4**	**+0.3**
AKASG	**Malin Array Be**	**62.04**	**333**	P	**P**	**10 30 53.5**	**-0.6**
	1.3nm,1.0s,baz=124,slow=5.9,SNR=4.7						
KLMR	**Klimovskoe**	**66.41**	**345**	*e*P	**P**	**10 31 21.0**	**-1.6**
KLMR				AMP		10 31 26.0	
	comp=Z,16nm,1.4s						
WRA	**Warramunga Arr**	**67.05**	**111**	P	**P**	**10 31 27.3**	**-0.2**
	comp=Z,4.7nm,1.1s,baz=282,slow=5.9,SNR=15						
WR1	**Warramunga Arr**	**67.05**	**111**	*e*P	**P**	**10 31 27.3**	**-0.2**
	comp=Z,3.3nm,1.0s						
WB2	**Warramunga Arr**	**67.06**	**111**	*e*P	**P**	**10 31 28.4**	**+0.7**
	comp=Z,12nm,1.1s						
ASAR	**Alice Springs**	**67.13**	**115**	P	**P**	**10 31 27.9**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=277,slow=5.9,SNR=12						
AS31	**Alice Springs**	**67.13**	**115**	*e*P	**P**	**10 31 27.7**	**-0.3**
	comp=Z,0.9nm,0.9s						
AS01	**Alice Springs**	**67.17**	**115**	*e*P	**P**	**10 31 28.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**67.51**	**285**	P	**P**	**10 31 30.6**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=84,slow=5.9,SNR=4.4						
TOA1	**Torodi Ar. Sit**	**67.52**	**285**	*e*P	**P**	**10 31 30.6**	**0.0**
CLL	**Collm**	**70.56**	**327**	*e*P	**P**	**10 31 49.0**	**+0.3**
DBIC	**Dimbokro**	**73.29**	**278**	LR	LR	11 01 26.8	
	comp=Z,20nm,21.1s,baz=76,slow=34						
MJAR	**Matsushiro Arr**	**75.32**	**52**	LR	LR	11 07 07.5	
	comp=Z,24nm,18.2s,baz=185,slow=37						
WRAK	**Wrangell Islan**	**123.27**	**13**	*e*PKPdf	**PKiKP**	**10 39 32.5**	**+1.6**
ANMO	**Albuquerque**	**146.78**	**352**	PKPbc	**PKPbc**	**10 40 16.5**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=59,slow=3.3,SNR=2.7						
LTX	**Lajitas**	**151.66**	**345**	*e*PKPbc	**PKPbc**	**10 40 28.9**	**-0.2**
TXAR	**Lajitas Array**	**151.66**	**345**	PKPbc	**PKPbc**	**10 40 28.9**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=225,slow=0.8,SNR=8.1						

ANF ***13*** *10:28:17.0±1.2,40°.53N×125°.06W, ML3.2/7, Error ellipse: s-maj=14.4km s-min=4.0km az=54.0*
NCEDC ***13*** *10:28:17.6,40°.39N×125°.32W,h16km, MB4.2(NEIC), MW4.0(BRK)*
NEIC ***13*** *10:28:17.6±0.0,40°.39N×125°.32W,h16km, mb4.2/7, MW4.0(BRK), After NCEDC.*
IDC ***13*** *10:28:22.2±1.4,40°.55N×124°.43W,h0km, mb3.5/4, mb1 3.7/6, mb1mx3.4/37, mbtmp3.4/6, ML2.8/2, MS3.1/8, Ms1 3.1/8, ms1mx2.9/25, Error ellipse: s-maj=17.2km s-min=12.7km az=124.0*
ISC 13 10:28:17.8±2.0, 40°.40N±0°.06×125°.11W±0°.07, h2km±11km, n113, σ1§56/111, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek,**	**0.93**	**63**	*e*Pg	**Pg**	**10 28 35.6**	**+0.1**
JCC				*e*Sg	**Sb**	**10 28 48.7**	**-0.6**
KMRM	**Mail Ridge**	**1.09**	**99**	*e*Pn	**Pg**	**10 28 39.0**	**+0.3**
KMRM				*e*Sg	**Sn**	**10 28 55.9**	**+0.1**
KHMM	**Horse Mountain**	**1.16**	**65**	*e*Pn	**Pg**	**10 28 39.5**	**-0.4**
KHMM				*e*Sg	**Sg**	**10 28 53.5**	**-1.4**
KCPM	**Cahto Peak**	**1.38**	**121**	*e*Pn	**Pn**	**10 28 41.9**	**-2.2**
O02D	**Mt. Diablo Mer**	**1.79**	**96**	P	**Pn**	**10 28 49.0**	**-0.8**
	baz=277,SNR=1000						
O02D				S	**Sn**	**10 29 13.2**	**0.0**
	baz=277						
N02D	**Trinity Center**	**1.92**	**72**	P	**Pn**	**10 28 50.1**	**-1.4**
	baz=254,SNR=431						
WDC	**Whiskeytown Da**	**1.97**	**84**	*e*Pn	**Pn**	**10 28 51.1**	**-1.1**
M02C	**Callahan**	**1.98**	**59**	P	**Pn**	**10 28 50.4**	**-2.0**
	baz=242,SNR=87						
L02E	**Cave Junction**	**2.09**	**32**	P	**Pn**	**10 28 51.4**	**-2.5**
	baz=217,SNR=38						
HOPS	**Hopland Field**	**2.11**	**131**	*e*Pn	**Pn**	**10 28 52.6**	**-1.5**
YBH	**Yreka Blue Hor**	**2.25**	**53**	Pn	**Pn**	**10 28 54.7**	**-1.5**
	3.1nm,0.3s,baz=254,slow=13,SNR=38						
YBH				Lg	Lg	10 29 17.1	
	7.7nm,0.3s,baz=228,slow=8.7,SNR=13						
YBH				LR	LR	10 29 21.5	
	comp=Z,114nm,18.8s,baz=183,slow=34						
YBH	**Yreka Blue Hor**	**2.25**	**53**	*e*Pn	**Pn**	**10 28 54.5**	**-1.6**
YBH				Lg	Lg	10 29 17.1	
YBH				*e*Sn	**Sn**	**10 29 24.8**	**+0.2**
GDXM	**Geysers**	**2.40**	**131**	*e*Pn	**Pn**	**10 28 57.9**	**-0.2**
O03E	**Paynes Creek**	**2.53**	**91**	P	**Pn**	**10 28 58.7**	**-1.3**
	baz=273,SNR=280						
K02D	**Willamette Mer**	**2.54**	**25**	P	**Pn**	**10 28 58.0**	**-2.1**
	baz=209,SNR=256						
KEBM	**Edson Butte**	**2.54**	**13**	*e*Pn	**Pn**	**10 28 58.5**	**-1.5**
HUMO	**Hull Mountain**	**2.74**	**36**	*e*Pn	**Pn**	**10 29 01.6**	**-1.2**
L04D	**Klamath Falls**	**2.79**	**48**	P	**Pn**	**10 29 03.8**	**+0.2**
	baz=232,SNR=131						
M04C	**Macdoel**	**2.83**	**60**	P	**Pn**	**10 29 04.7**	**+0.5**
	baz=243,SNR=8.8						
MCCM	**Marconi Confer**	**2.84**	**142**	*e*Pn	**Pn**	**10 29 02.4**	**-1.7**
ORV	**Oroville**	**2.90**	**106**	*e*Pn	**Pn**	**10 29 03.4**	**-1.6**
ORV				*e*Sn	**Sn**	**10 29 39.3**	**-1.1**
K04D	**Chiloquin, OR**	**3.36**	**48**	P	**Pn**	**10 29 11.6**	**+0.1**
	baz=231,SNR=14						
AFDM	**Forest Hills D**	**3.51**	**113**	*e*Pn	**Pn**	**10 29 12.3**	**-1.1**
I03D	**Drain, OR**	**3.55**	**21**	P	**Pn**	**10 29 13.1**	**-0.8**
	baz=204,SNR=140						
J04D	**Umpqua Nationa**	**3.62**	**37**	P	**Pn**	**10 29 15.5**	**+0.5**
	baz=221,SNR=20						
BEKR	**Beckworth**	**3.68**	**97**	*e*Pn	**Pn**	**10 29 15.7**	**-0.2**
BEKR				*e*Sn	**Sn**	**10 30 02.7**	**+2.7**
I02D	**Swisshome**	**3.82**	**14**	P	**Pn**	**10 29 16.1**	**-1.4**
	baz=197,SNR=34						
MOD	**Modoc Plateau**	**3.93**	**66**	*e*Pn	**Pn**	**10 29 19.0**	**-0.3**
I04A	**Tendick Farm,**	**3.94**	**30**	P	**Pn**	**10 29 19.7**	**+0.4**
	baz=213,SNR=27						
RUBR	**Rubicon Trail**	**4.05**	**108**	*e*Pn	**Pn**	**10 29 22.6**	**+1.5**
J05D	**Fort Rock, OR**	**4.09**	**44**	P	**Pn**	**10 29 22.2**	**+0.8**
	baz=228,SNR=24						
VCNR	**Virginia City**	**4.35**	**103**	*e*Pn	**Pn**	**10 29 26.6**	**+1.5**
CMB	**Columbia Colle**	**4.37**	**121**	*e*Pn	**Pn**	**10 29 25.3**	**+0.1**
COR	**Corvallis**	**4.39**	**17**	*e*Pn	**Pn**	**10 29 25.0**	**-0.4**
PNTR	**Pine Nut**	**4.45**	**105**	*e*Pn	**Pn**	**10 29 27.6**	**+1.2**
PAHR	**Pah Rah Range**	**4.45**	**97**	*e*Pn	**Pn**	**10 29 26.0**	**-0.4**
H04D	**Lebanon**	**4.48**	**22**	P	**Pn**	**10 29 26.3**	**-0.4**
	baz=206,SNR=41						
PINE	**Pine Mountain**	**4.60**	**41**	*e*Pn	**Pn**	**10 29 29.2**	**+0.7**
SAO	**San Andreas Ge**	**4.63**	**140**	*e*Pn	**Pn**	**10 29 26.1**	**-2.6**
YERR	**Yerington**	**4.75**	**105**	*e*Pn	**Pn**	**10 29 31.3**	**+0.8**
WAKR	**Walker**	**4.78**	**111**	*e*Pn	**Pn**	**10 29 32.6**	**+1.6**
H04A	**Detroit Lake**	**4.80**	**26**	*e*Pn	**Pn**	**10 29 30.9**	**-0.2**
I05D	**Terrebonne, OR**	**4.83**	**34**	P	**Pn**	**10 29 31.9**	**+0.4**
	baz=218,SNR=7.4						
WVOR	**Wild Horse Val**	**5.28**	**65**	*e*Pn	**Pn**	**10 29 37.1**	**-0.6**
RYN	**Ryan**	**5.39**	**107**	*e*Pn	**Pn**	**10 29 40.3**	**+0.9**
KVN	**Kaiserville**	**5.57**	**102**	*e*Pn	**Pn**	**10 29 41.5**	**-0.4**
G05D	**Wamic, OR**	**5.59**	**29**	P	**Pn**	**10 29 42.6**	**+0.7**
	baz=212,SNR=8.6						
NV01	**Mina Array Sit**	**5.63**	**108**	*e*Pn	**Pn**	**10 29 42.7**	**0.0**
NVAR	**Mina Array Bea**	**5.63**	**108**	Pn	**Pn**	**10 29 42.1**	**-0.6**
	0.9nm,0.3s,baz=283,slow=15,SNR=8.5						
NV11	**Mina Array Sit**	**5.74**	**108**	*e*Pn	**Pn**	**10 29 44.8**	**+0.8**
J08A	**Circle Bar Ran**	**5.77**	**57**	*e*Pn	**Pn**	**10 29 44.4**	**-0.1**
G06A	**Carlson Farm,**	**5.85**	**33**	*e*Pn	**Pn**	**10 29 45.8**	**+0.3**
PAGB	**Antelope Grade**	**6.04**	**139**	*e*Pn	**Pn**	**10 29 46.6**	**-1.5**
VES	**Vestal, Richgr**	**6.58**	**132**	P	**Pn**	**10 29 55.8**	**+0.3**
	baz=315						
G08A	**Pilot Rock**	**6.66**	**41**	*e*Pn	**Pn**	**10 29 58.9**	**+2.2**
F07A	**Phinny Hill Vi**	**6.67**	**33**	*e*Pn	**Pn**	**10 29 57.3**	**+0.5**
LON	**Longmire**	**6.79**	**20**	*e*Pn	**Pn**	**10 29 58.0**	**-0.4**

CWC	**Cottonwood Cre**	**6.79**	**123**	P	**Pn**	**10 30 00.7**	**+2.2**
	baz=307						
ISA	**Isabella, Lake**	**7.06**	**130**	*e*Pn	**Pn**	**10 30 04.0**	**+1.9**
ISA	**Isabella, Lake**	**7.06**	**130**	P	**Pn**	**10 30 03.6**	**+1.4**
	baz=313						
D05A	**Enumclaw**	**7.15**	**17**	*e*Pn	**Pn**	**10 30 05.5**	**+2.2**
HAWA	**Hanford**	**7.24**	**32**	*e*Pn	**Pn**	**10 30 05.0**	**+0.5**
ARVC	**Arvin**	**7.24**	**135**	P	**Pn**	**10 30 01.5**	**-3.2**
	baz=318						
E07A	**Sunnyside**	**7.25**	**30**	*e*Pn	**Pn**	**10 30 05.5**	**+0.8**
BMO	**Blue Mountains**	**7.28**	**50**	*e*Pn	**Pn**	**10 30 06.8**	**+1.7**
MPMC	**Manual Prospec**	**7.40**	**123**	P	**Pn**	**10 30 08.3**	**+1.3**
	baz=308						
E08A	**Dider Farm, El**	**7.51**	**34**	*e*Pn	**Pn**	**10 30 09.0**	**+0.7**
ELK	**Elko**	**7.53**	**84**	Pn	**Pn**	**10 30 07.8**	**-0.9**
	0.1nm,0.3s,baz=290,slow=15,SNR=2.2						
ELK				LR	LR	10 33 15.5	
	comp=Z,94nm,18.7s,baz=264,slow=42						
MFID	**Camas Ranch**	**7.55**	**63**	*e*Pn	**Pn**	**10 30 10.1**	**+1.1**
LTY	**Liberty**	**7.57**	**24**	*e*Pn	**Pn**	**10 30 09.7**	**+0.5**
LRMC	**Laurel Mtn Rad**	**7.65**	**128**	P	**Pn**	**10 30 11.5**	**+1.1**
	baz=312						
R11A	**Troy Canyon, C**	**7.66**	**102**	*e*Pn	**Pn**	**10 30 11.5**	**+1.0**
TPNV	**Topopah Spring**	**7.74**	**114**	*e*Pn	**Pn**	**10 30 09.8**	**-1.9**
D08A	**Wollman Farm,**	**8.02**	**32**	*e*Pn	**Pn**	**10 30 16.7**	**+1.4**
GSC	**Goldstone, Bar**	**8.31**	**125**	*e*Pn	**Pn**	**10 30 20.6**	**+1.3**
GSC	**Goldstone, Bar**	**8.31**	**125**	P	**Pn**	**10 30 20.7**	**+1.3**
	baz=310						
PASC	**Pasadena Art C**	**8.31**	**136**	*e*Pn	**Pn**	**10 30 20.1**	**+0.8**
HLID	**Hailey**	**8.57**	**65**	*e*Pn	**Pn**	**10 30 25.4**	**+2.4**
HLID	**Hailey**	**8.57**	**65**	P	**Pn**	**10 30 25.2**	**+2.1**
	baz=252						
HEC	**Hector,Ludlow**	**8.91**	**126**	P	**Pn**	**10 30 28.5**	**+1.0**
	baz=311						
B08A	**Colville Reser**	**8.97**	**26**	*e*Pn	**Pn**	**10 30 29.2**	**+0.9**
BGU	**Big Grassy Mou**	**9.20**	**83**	*e*Pn	**Pn**	**10 30 33.7**	**+2.1**
PFO	**Pinyon Flats O**	**9.68**	**132**	*e*Pn	**Pn**	**10 30 38.9**	**+0.8**
XPFO	**Pion Flat**	**9.68**	**132**	*e*Pn	**Pn**	**10 30 38.8**	**+0.6**
NEW	**Newport**	**9.72**	**33**	LR	LR	10 34 38.8	
	comp=Z,97nm,20.0s,baz=244,slow=40						
MCMT	**McKenzie Canyo**	**10.06**	**60**	*e*Pn	**Pn**	**10 30 44.9**	**+1.4**
MSU	**Marysvale**	**10.18**	**97**	*e*Pn	**Pn**	**10 30 45.8**	**+0.6**
MSO	**Missoula**	**10.34**	**48**	*e*Pn	**Pn**	**10 30 49.1**	**+2.0**
PDAR	**Pinedale Array**	**11.89**	**73**	Pn	**Pn**	**10 31 12.6**	**+4.1**
	0.0nm,0.3s,baz=257,slow=15,SNR=2.2						
S22A	**4UR Ranch, Cre**	**14.45**	**95**	*e*Pn	**P**	**10 31 47.7**	**-2.9**
S22A	**4UR Ranch, Cre**	**14.45**	**95**	P	**Pn**	**10 31 46.7**	**+3.1**
	baz=286						
SDCO	**Great Sand Dun**	**15.46**	**94**	*e*Pn	**P**	**10 32 00.3**	**-1.6**
	4.6nm,1.1s						
SDCO	**Great Sand Dun**	**15.46**	**94**	P	**P**	**10 31 59.7**	**-2.1**
	baz=286						
ANMO	**Albuquerque**	**15.74**	**104**	LR	LR	10 38 37.6	
	comp=Z,40nm,18.8s,baz=278,slow=40						
DLBC	**Dease Lake**	**18.33**	**352**	LR	LR	10 40 12.9	
	comp=Z,41nm,18.0s,baz=86,slow=39						
LPIG	**La Paz**	**20.47**	**138**	LR	LR	10 41 04.7	
	comp=Z,54nm,19.4s,baz=9.5,slow=38						
TX31	**Lajitas Ar. Si**	**20.72**	**116**	*e*P	Pn	10 33 02.5	+0.6
**TXA

KZV	**Kizimen**	**1.95 280**	PN	**Pn**	**10 47 46.3 +0.4**
KZV			S	**Sn**	**10 48 08.5 -0.7**
ZLN	**Zelenaya**	**2.01 307**	*eP*	**Pn**	**10 47 47.7 +1.0**
ZLN			*eS*	**Sn**	**10 48 11.5 +0.9**
ZLN	**Zelenaya**	**2.01 307**	PN	**Pn**	**10 47 47.7 +1.0**
ZLN			S	**Sn**	**10 48 11.5 +0.9**
BZGR	**Bezymyannyi-Gr**	**2.02 305**	*eP*	**Pn**	**10 47 48.0 +1.2**
BZGR			*eS*	**Sn**	**10 48 11.3 +0.5**
BZGR	**Bezymyannyi-Gr**	**2.02 305**	PN	**Pn**	**10 47 48.0 +1.2**
BZGR			S	**Sn**	**10 48 11.3 +0.5**
TUMR	**Tumrok**	**2.06 284**	*eP*	**Pn**	**10 47 48.3 +0.9**
TUMR			*eS*	**Sn**	**10 48 12.6 +0.7**
TUMR	**Tumrok**	**2.06 284**	PN	**Pn**	**10 47 48.3 +0.9**
TUMR			S	**Sn**	**10 48 12.6 +0.7**
CIRR	**Tsirk**	**2.09 309**	*eP*	**Pn**	**10 47 49.4 +1.5**
CIRR			*eS*	**Sn**	**10 48 13.7 +1.0**
CIRR	**Tsirk**	**2.09 309**	PN	**Pn**	**10 47 49.4 +1.5**
CIRR			S	**Sn**	**10 48 13.7 +1.0**
LGNR	**Loginova**	**2.10 308**	*eP*	**Pn**	**10 47 49.4 +1.3**
LGNR			*eS*	**Sn**	**10 48 14.2 +1.1**
LGNR	**Loginova**	**2.10 308**	PN	**Pn**	**10 47 49.4 +1.3**
LGNR			S	**Sn**	**10 48 14.2 +1.1**
BZMR	**Bezymyannaya**	**2.11 303**	*eP*	**Pn**	**10 47 49.1 +0.9**
BZMR	**Bezymyannaya**	**2.11 303**	PN	**Pn**	**10 47 49.1 +0.9**
BZWR	**Bezymyannyi-We**	**2.12 304**	*eP*	**Pn**	**10 47 49.7 +1.4**
BZWR	**Bezymyannyi-We**	**2.12 304**	PN	**Pn**	**10 47 49.7 +1.4**
SMKR	**Semkarok**	**2.15 326**	*eP*	**Pn**	**10 47 49.4 +0.9**
SMKR			*eS*	**Sn**	**10 48 14.8 +0.9**
SMKR	**Semkarok**	**2.15 326**	PN	**Pn**	**10 47 49.4 +0.9**
SMKR			S	**Sn**	**10 48 14.8 +0.9**
KIRR	**Kirishev**	**2.19 302**	*eP*	**Pn**	**10 47 50.6 +1.3**
KIRR	**Kirishev**	**2.19 302**	PN	**Pn**	**10 47 50.6 +1.3**
KRSR	**Krestovskiy**	**2.23 310**	*eP*	**Pn**	**10 47 50.7 +0.9**
KRSR			*eS*	**Sn**	**10 48 15.8 -0.3**
KRSR	**Krestovskiy**	**2.23 310**	PN	**Pn**	**10 47 50.7 +0.9**
KRSR			S	**Sn**	**10 48 15.8 -0.3**
KLY	**Klyuchi**	**2.26 312**	*eP*	**Pn**	**10 47 49.6 -0.4**
KLY			*eS*	**Sn**	**10 48 14.5 -2.0**
KLY	**Klyuchi**	**2.26 312**	PN	**Pn**	**10 47 49.6 -0.4**
KLY			S	**Sn**	**10 48 14.5 -2.0**
KPT	**Kopyto**	**2.26 302**	*eP*	**Pn**	**10 47 51.5 +1.4**
KPT	**Kopyto**	**2.26 302**	PN	**Pn**	**10 47 51.5 +1.4**
SRKR	**Sorokina**	**2.30 324**	*eP*	**Pn**	**10 47 51.8 +1.1**
SRKR			*eS*	**Sn**	**10 48 18.6 +0.8**
SRKR	**Sorokina**	**2.30 324**	PN	**Pn**	**10 47 51.8 +1.1**
SRKR			S	**Sn**	**10 48 18.6 +0.8**
KOZ	**Kozyrevsk**	**2.48 301**	*eP*	**Pn**	**10 47 54.7 +1.7**
KOZ	**Kozyrevsk**	**2.48 301**	PN	**Pn**	**10 47 54.7 +1.7**
SPN	**Mys Shipunski**	**2.75 232**	*eP*	**Pn**	**10 47 57.2 +0.4**
SPN			*eS*	**Sn**	**10 48 26.7 -2.1**
SPN	**Mys Shipunski**	**2.75 232**	PN	**Pn**	**10 47 57.2 +0.4**
SPN			S	**Sn**	**10 48 26.7 -2.1**
ESO	**Esso**	**3.03 293**	*eP*	**Pn**	**10 48 01.0 +0.4**
ESO			*eS*	**Sn**	**10 48 33.4 -2.1**
ESO	**Esso**	**3.03 293**	PN	**Pn**	**10 48 01.0 +0.4**
ESO			S	**Sn**	**10 48 33.4 -2.1**
SDLR	**Sedlovina**	**3.21 243**	*eP*	**Pn**	**10 48 05.0 +1.8**
SDLR			*eS*	**Sn**	**10 48 39.4 -0.7**
SDLR	**Sedlovina**	**3.21 243**	PN	**Pn**	**10 48 05.0 +1.8**
SDLR			S	**Sn**	**10 48 39.4 -0.7**
SMAR	**Somma**	**3.26 243**	*eP*	**Pn**	**10 48 05.8 +1.9**
SMAR	**Somma**	**3.26 243**	PN	**Pn**	**10 48 05.8 +1.9**
UGLR	**Uglovaya**	**3.27 242**	*eP*	**Pn**	**10 48 06.1 +2.0**
UGLR	**Uglovaya**	**3.27 242**	PN	**Pn**	**10 48 06.1 +2.0**
AVH	**Avacha**	**3.29 244**	*eP*	**Pn**	**10 48 06.4 +2.2**
AVH			*eS*	**Sn**	**10 48 42.8 +0.7**
AVH	**Avacha**	**3.29 244**	PN	**Pn**	**10 48 06.4 +2.2**
AVH			S	**Sn**	**10 48 42.8 +0.7**
KRX	**Arik**	**3.29 245**	*eP*	**Pn**	**10 48 06.2 +1.9**
KRX			*eS*	**Sn**	**10 48 42.3 +0.1**
KRX	**Arik**	**3.29 245**	PN	**Pn**	**10 48 06.2 +1.9**
KRX			S	**Sn**	**10 48 42.3 +0.1**
KOK	**Koryaka**	**3.33 244**	*eP*	**Pn**	**10 48 06.8 +2.0**
KOK			*eS*	**Sn**	**10 48 43.8 +0.7**
KOK	**Koryaka**	**3.33 244**	PN	**Pn**	**10 48 06.8 +2.0**
KOK			S	**Sn**	**10 48 43.8 +0.7**
PET	**Petropavlovsk**	**3.46 241**	*eS*	**Sn**	**10 48 45.5 -0.7**
PET	**Petropavlovsk**	**3.46 241**	*e*PN	Pn	10 48 16.4 +10
PET			*eS*	**Sn**	**10 48 45.2 -1.0**
PET			smax	smax	
	comp=N,224nm,0.6s				
PET			smax	smax	
	comp=E,184nm,0.5s				
PET			MLR	MLR	
	comp=Z,100nm,16.0s				
GNL	**Ganaly**	**3.53 254**	*eP*	**Pn**	**10 48 09.6 +2.0**
GNL	**Ganaly**	**3.53 254**	PN	**Pn**	**10 48 09.6 +2.0**
KRMR	**Karymshinskiy**	**3.83 241**	*eP*	**Pn**	**10 48 13.9 +2.3**
KRMR			*eS*	**Sn**	**10 48 55.1 -0.2**
KRMR	**Karymshinskiy**	**3.83 241**	PN	**Pn**	**10 48 13.9 +2.3**
KRMR			S	**Sn**	**10 48 55.1 -0.2**
RUS	**Russkaya**	**3.88 234**	*eP*	**Pn**	**10 48 14.1 +1.8**
RUS			*eS*	**Sn**	**10 48 54.9 -1.7**
RUS	**Russkaya**	**3.88 234**	PN	**Pn**	**10 48 14.1 +1.8**
RUS			S	**Sn**	**10 48 54.9 -1.7**
PETK	**Petropavlovsk-**	**3.91 246**	Pn	**Pn**	**10 48 14.7 +2.0**
	comp=Z,1.1nm,0.3s,baz=77,slow=16,SNR=39				
PETK			Sn	**Sn**	**10 48 58.6 +1.3**
	comp=Z,8.3nm,0.3s,baz=26,slow=18,SNR=16				
PETK			LR	LR	10 49 55.5
	comp=Z,41nm,21.0s,baz=31,slow=43				
MTVR	**Mutnovka**	**4.01 236**	*eP*	**Pn**	**10 48 16.7 +2.5**
MTVR	**Mutnovka**	**4.01 236**	PN	**Pn**	**10 48 16.7 +2.5**
APC	**Apacha**	**4.29 246**	*eP*	**Pn**	**10 48 19.6 +1.8**
APC	**Apacha**	**4.29 246**	PN	**Pn**	**10 48 19.6 +1.8**
OSSR	**Ossora**	**4.44 356**	*eP*	**Pn**	**10 48 21.4 +1.4**
OSSR			*eS*	**Sn**	**10 49 09.0 -1.4**
OSSR	**Ossora**	**4.44 356**	PN	**Pn**	**10 48 21.4 +1.4**
KDTR	**Khodutka, Kamc**	**4.50 230**	*eP*	**Pn**	**10 48 22.4 +1.6**
KDTR			*eS*	**Sn**	**10 49 10.0 -1.9**
KDTR	**Khodutka, Kamc**	**4.50 230**	PN	**Pn**	**10 48 22.4 +1.6**
TILK	**Tilichiki**	**5.79 12**	*eP*	**Pn**	**10 48 42.4 +3.9**
TILK	**Tilichiki**	**5.79 12**	PN	**Pn**	**10 48 42.4 +3.9**
BILL	**Bilibino**	**13.31 4**‖	*e*PN	**P**	**10 50 26.6 -3.9**
BILL			pmax	pmax	
	comp=Z,8.0nm,1.7s				
ASAJ	**Asahikawa**	**17.30 240**	Pn	**P**	**10 51 15.0 +0.1**
	comp=Z,0.4nm,0.3s,baz=61,slow=10,SNR=4.6				
MJA0	**Matsu Arr-Jizo**	**25.25 234**	*eP*	P	10 52 42.1 +4.4
MJA0			pmax	pmax	
	comp=Z,1.0nm,0.5s				
MAJO	**Matsushiro**	**25.27 234**‖	*eP*	P	10 52 41.3 +3.4
MAJO			pmax	pmax	
	comp=Z,7.0nm,1.5s				
MJAR	**Matsushiro Arr**	**25.27 234**	P	**P**	**10 52 40.6 +2.7**
	comp=Z,1.2nm,0.5s,baz=22,slow=8.3,SNR=8.1				
ILAR	**Eielson Array**	**26.10 48**	P	**P**	**10 52 48.1 +3.0**
	comp=Z,0.9nm,0.8s,baz=264,slow=8.1,SNR=11				
H11N2	**WAKE ISLAND Hy**	**35.13 175**	T	T	11 31 38.7
	baz=355,slow=76,SNR=14				
H11N3	**WAKE ISLAND Hy**	**35.14 175**	T	T	11 31 43.3
	baz=355,slow=76,SNR=7.2				
H11N1	**WAKE ISLAND Hy**	**35.14 175**	T	T	11 31 38.4
	baz=355,slow=76,SNR=17				
SONM	**Songino Array**	**35.55 283**	P	**P**	**10 54 08.5 -0.2**
	comp=Z,0.2nm,0.4s,baz=58,slow=8.5,SNR=5.1				
YKA	**Yellowknife Ar**	**40.45 45**	P	P	10 54 53.2 +3.5
	comp=Z,0.4nm,0.6s,baz=299,slow=8.0,SNR=4.6				
DGZ	**Jazzator, Alta**	**44.78 296**‖	*eP*	P	10 55 26.0 +0.9
DGZ			pmax	pmax	
	comp=Z,1.0nm,0.5s				
KURK	**Kurchatov**	**48.59 302**	*de*P	**P**	**10 55 54.1 -0.6**
KURK			pmax	pmax	
	comp=Z,4.0nm,0.9s				
MKAR	**Makanchi Array**	**49.28 296**	P	**P**	**10 55 59.1 -0.9**
	comp=Z,0.2nm,0.4s,baz=50,slow=8.1,SNR=5.3				
BRVK	**Borovoye**	**50.96 309**‖	*eP*	P	10 56 13.0 +0.3
BRVK			pmax	pmax	
	comp=Z,6.0nm,1.9s				
FINES	**FINESS Array B**	**59.33 338**	P	P	10 57 14.0 +1.1
	comp=Z,1.7nm,0.9s,baz=55,slow=7.2,SNR=5.3				
CMAR	**Chiang Mai Arr**	**60.57 260**	P	P	10 57 24.6 +2.6
	comp=Z,0.4nm,0.3s,baz=27,slow=8.3,SNR=3.6				
GEYT	**Alibeck**	**67.86 305**	P	P	10 58 10.4 +0.8
	comp=Z,0.9nm,0.4s,baz=41,slow=7.7,SNR=3.0				

*ISCJB **13** 10:47:31.0±0.6,27.6ºN±0.07ºx141.9ºE±0.1,h39km, mb4.0/14,MS3.6/1,Error ellipse: s-maj=17.4km s-min=9.5km az=170.7*

*IDC **13** 10:47:33.8±2.7,27.6ºN×141.82E,h46km±24km, mb3.7/14, mb1 3.9/18,mb1mx3.7/40,mbtmp4.0/18,ML3.5/4,MS2.9/4, Ms1 2.9/4,ms1mx2.5/33,Error ellipse: s-maj=23.4km s-min=14.7km az=101.0*

ISC 13 10:47:32.8±0.8,27.61N±0.09ºx141.8E±0.2,h39km,n26, σ0.64/24,mb4.0/14,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**5.76**	**343**	P		**Pn**		**10 48 56.3**	**+0.6**
	2.2nm,0.3s,baz=75,slow=20,SNR=10								
JHJ				S		**Sn**		**10 50 00.3**	**-0.3**
	6.6nm,0.3s,baz=81,slow=19,SNR=2.8								
MJAR	**Matsushiro Arr**	**9.41**	**342**	P		**Pn**		**10 49 47.1**	**+1.2**
	1.0nm,0.3s,baz=249,slow=6.6,SNR=19								
MJAR				LR		LR		10 53 33.1	
	comp=Z,11nm,21.0s,baz=140,slow=38								
JNU	**Nakatsue**	**10.92**	**303**	LR		LR		10 53 50.9	
	comp=Z,62nm,19.1s,baz=11,slow=35								
JOW	**Kunigami**	**12.07**	**269**	LR		LR		10 54 08.9	
	comp=Z,81nm,19.4s,baz=69,slow=33								
KSRS	**Korea Array**	**15.26**	**314**	P		**P**		**10 51 08.1**	**-1.7**
	0.1nm,0.3s,baz=125,slow=10,SNR=3.2								
ASAJ	**Asahikawa**	**16.49**	**2**	P		**Pn**		**10 51 21.3**	**+0.2**
	0.4nm,0.3s,baz=240,slow=14,SNR=3.7								
KLR	**Kul'dur**	**22.94**	**343**	P		**P**		**10 52 34.6**	**+1.1**
	3.6nm,0.5s,baz=144,slow=10,SNR=15								
H11N2	**WAKE ISLAND Hy**	**24.25**	**103**	T		T		11 17 33.2	
	baz=294,slow=75,SNR=29								
H11N1	**WAKE ISLAND Hy**	**24.25**	**103**	T		T		11 17 38.2	
	baz=294,slow=75,SNR=15								
H11N3	**WAKE ISLAND Hy**	**24.27**	**103**	T		T		11 17 39.2	
	baz=294,slow=75,SNR=23								
CMAR	**Chiang Mai Arr**	**40.31**	**266**	P		**P**		**10 55 07.4**	**+0.8**
	0.4nm,0.3s,baz=79,slow=5.1,SNR=3.5								
WRA	**Warramunga Arr**	**47.82**	**189**	P		**P**		**10 56 06.8**	**+0.2**
	1.4nm,0.4s,baz=12,slow=8.5,SNR=28								
WRA				PcP		**PcP**		**10 57 35.2**	**+0.1**
	0.3nm,0.5s,baz=2.1,slow=3.4,SNR=3.0								
ZALV	**Zalesovo Beam**	**48.88**	**319**	PcP		**PcP**		**10 57 38.5**	**0.0**
	0.5nm,0.3s,baz=93,slow=2.9,SNR=3.7								
MKAR	**Makanchi Array**	**49.89**	**309**	P		**P**		**10 56 21.9**	**-0.4**
	0.1nm,0.3s,baz=89,slow=9.1,SNR=4.3								
MKAR				PcP		**PcP**		**10 57 42.2**	**-0.1**
	0.7nm,0.7s,baz=78,slow=5.0,SNR=5.5								
ASAR	**Alice Springs**	**51.54**	**189**	P		**P**		**10 56 34.8**	**-0.2**
	0.2nm,0.4s,baz=14,slow=5.2,SNR=14								
KDAK	**Kodiak Island**	**54.16**	**37**	P		**P**		**10 56 54.0**	**+0.1**
	10nm,0.9s,baz=247,slow=7.7,SNR=3.9								
ILAR	**Eielson Array**	**57.43**	**29**	P		**P**		**10 57 16.8**	**-0.4**
	0.5nm,0.7s,baz=274,slow=6.1,SNR=6.6								
INK	**Inuvik**	**62.71**	**25**	P		**P**		**10 57 53.6**	**+0.3**
	0.4nm,0.5s,baz=325,slow=7.1,SNR=3.7								
YKA	**Yellowknife Ar**	**71.85**	**28**	P		**P**		**10 58 50.9**	**-0.4**
	0.2nm,0.7s,baz=294,slow=5.1,SNR=8.8								
ARCES	**ARCESS Array B**	**72.95**	**341**	P		**P**		**10 58 58.1**	**+0.4**
	4.5nm,1.0s,baz=61,slow=7.3,SNR=5.9								
FINES	**FINESS Array B**	**77.34**	**334**	P		**P**		**10 59 23.6**	**+0.5**
	3.3nm,0.4s,baz=72,slow=5.0,SNR=63								
FINES				LR		LR		11 35 20.6	
	comp=Z,28nm,18.1s,baz=282,slow=37								
AKASG	**Malin Array Be**	**82.00**	**324**	P		**P**		**10 59 48.4**	**-0.2**
	0.6nm,0.4s,baz=52,slow=5.4,SNR=5.5								
NB2	**NORSAR Subarra**	**83.01**	**338**	P		**P**		**10 59 53.5**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=42,slow=4.8								
NOA	**NORSAR Array B**	**83.01**	**338**	P		**P**		**10 59 53.5**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=44,slow=5.2,SNR=8.7								
GERES	**GERESS Array B**	**90.90**	**329**	P		**P**		**11 00 32.0**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=34,slow=5.0,SNR=8.3								
LPAZ	**La Paz**	**150.12**	**74**	PKPbc		**PKPbc**		**11 07 21.5**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=278,slow=3.6,SNR=3.0								

*ISCJB **13** 11:15:12.8±0.4,40.41N±0.02ºx25.96E±0.03,h10km±4km, Error ellipse: s-maj=4.2km s-min=3.5km az=168.5*
*ISK **13** 11:15:12.6,40.39Nx25.97E,h14km,ML1.9/9*
*DDA **13** 11:15:13.2,40.39Nx26.02E,h7km±2km,ML2.6*
*THE **13** 11:15:13.1,40.42Nx25.92E,h9km±1km,ML1.7/7,Error ellipse: s-maj=1.6km s-min=0.7km az=313.0*

ISC 13 11:15:13.0±0.9,40.41N±0.02ºx25.94E±0.02,h15km±8km, n23,σ0.51/36,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.22**	**189**	PG		**Pg**		**11 15 17.9**	**0.0**
GADA	**Gvkgeada**	**0.22**	**189**	P		**Pg**		**11 15 17.8**	**-0.1**
SMTH	**Samothraki Isl**	**0.32**	**281**	P		**Pg**		**11 15 19.4**	**-0.3**
SMTH				S		**Sg**		**11 15 24.1**	**-0.1**
ENEZ	**Enez**	**0.36**	**26**	PG		**Pg**		**11 15 20.3**	**-0.1**
ENEZ				SG		**Sg**		**11 15 26.4**	**+1.0**
GELI	**Tayfur-Gelibol**	**0.41**	**92**	PG		**Pg**		**11 15 20.9**	**-0.2**
ALN	**Alexandroupoli**	**0.49**	**9**	P		**Pg**		**11 15 22.7**	**-0.1**
ALN				S		**Sg**		**11 15 28.9**	**-0.5**
ERIK	**Erikli-Kesan**	**0.51**	**59**	PG		**Pg**		**11 15 23.1**	**+0.1**
ERIK				SG		**Sg**		**11 15 29.9**	**+0.1**
BOZC	**Bozcaada**	**0.57**	**172**	PG		**Pg**		**11 15 23.7**	**-0.6**
BOZC				SG		**Sg**		**11 15 31.8**	**-0.1**
BOZC	**Bozcaada**	**0.57**	**172**	IAML_P					
	comp=Z,969nm,0.1s								
BOZC				*i* P		**Pg**		**11 15 24.3**	**0.0**
BOZC				*i* S		**Sb**		**11 15 32.5**	**-0.3**
LPK	**Lapseki**	**0.62**	**93**	PG		**Pg**		**11 15 25.1**	**-0.1**
EZN	**Ezine**	**0.65**	**153**	PG		**Pb**		**11 15 25.8**	**-0.3**
KESN	**Edirne-Kesan**	**0.70**	**53**	IAML_P					
	comp=Z,228nm,0.1s								
KESN				*i* P		**Pg**		**11 15 26.2**	**-0.5**
LIA	**Limnos Island**	**0.78**	**229**	P		**Pg**		**11 15 28.3**	**+0.2**
LIA				S		**Sg**		**11 15 38.8**	**+0.5**
RDO	**Rodhopi**	**0.80**	**337**	PG		**Pg**		**11 15 28.6**	**+0.1**
RDO	**Rodhopi**	**0.80**	**337**	P		**Pg**		**11 15 27.4**	**-1.1**
RDO				S		**Sg**		**11 15 39.2**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**0.81**	**145**	IAML_P					
	comp=Z,678nm,0.1s								
BAYC				*i* P		**Pg**		**11 15 28.4**	**-0.3**
BAYC				*i* S		**Sb**		**11 15 39.6**	**-0.1**
THAS	**Thassos island**	**0.95**	**282**	P		**Pg**		**11 15 30.2**	**-1.2**
THAS				S		**Sg**		**11 15 43.9**	**0.0**
SIGR	**SIGRI**	**1.20**	**183**	PN		**Pb**		**11 15 35.1**	**-0.3**
SIGR				SN		**Sg**		**11 15 51.5**	**-0.2**
SIGR	**SIGRI**	**1.20**	**183**	P		**Pb**		**11 15 35.1**	**-0.3**
SIGR				S		**Sn**		**11 15 52.1**	**+0.8**
KAVA	**Kavala**	**1.23**	**299**	P		**Pn**		**11 15 36.3**	**+0.5**
KAVA				S		**Sb**		**11 15 52.7**	**+0.9**
MRMT	**Marmara Adasi**	**1.27**	**81**	PN		**Pn**		**11 15 35.7**	**-0.7**
SBT4	**Kumbag-Tekirda**	**1.28**	**70**	PN		**Pn**		**11 15 36.9**	**+0.7**
EDRB	**Edirne**	**1.56**	**23**	PN		**Pn**		**11 15 40.0**	**-0.2**

*IDC **13** 11:36:24.1±1.4,67.38Sx112.68E,h0km,mb4.1/3, mb1 4.1/5,mb1mx3.9/19,mbtmp3.9/5,ML3.5/2,Error ellipse: s-maj=47.6km s-min=28.7km az=117.0*

ISC 13 11:36:25.6±1.0,67.56S±0.10x113.3E±0.2,h10km,n11, σ2.30/10,mb4.1/4,Antarctica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**16.94**	**146**	P		**P**		**11 40 24.7**	**+0.4**
	0.1nm,0.3s,baz=283,slow=12,SNR=6.5								
VNDA				S		**Sn**		**11 43 27.3**	**-3.0**
	0.1nm,0.3s,baz=45,slow=13,SNR=3.9								
MAW	**Mawson**	**18.82**	**246**	P		**P**		**11 40 42.8**	**-2.1**
	0.2nm,0.3s,baz=110,slow=12,SNR=3.1								
MAW				S		Sn		11 43 56.2	-19
	0.1nm,0.3s,baz=198,slow=20,SNR=2.3								
QSPA	**South Pole Qui**	**22.51**	**180**	P		**P**		**11 41 29.7**	**+4.5**
	1.6nm,0.6s,baz=337,slow=2.0,SNR=19								
QSPA				S		**S**		**11 45 30.7**	**-1.1**
	0.8nm,0.6s,baz=155,slow=17,SNR=3.3								
H01W2	**Cape Leeuwin H**	**32.71**	**1**	T		T		12 15 54.3	
	baz=180,slow=76,SNR=26								
H01W1	**Cape Leeuwin H**	**32.72**	**1**	T		T		12 15 53.4	
	baz=180,slow=76,SNR=24								
H01W3	**Cape Leeuwin H**	**32.73**	**1**	T		T		12 15 57.3	
	baz=180,slow=76,SNR=22								
STKA	**Stephens Creek**	**39.38**	**39**	P		**P**		**11 43 55.8**	**+0.7**
	2.4nm,0.6s,baz=165,slow=11,SNR=5.1								
ASAR	**Alice Springs**	**45.73**	**27**	P		**P**		**11 44 46.1**	**-0.7**
	2.7nm,0.7s,baz=192,slow=7.2,SNR=43								
WRA	**Warramunga Arr**	**49.44**	**26**	P		**P**		**11 45 14.6**	**-1.0**
	1.5nm,0.7s,baz=194,slow=6.9,SNR=10.0								
PDAR	**Pinedale Array**	**146.29**	**115**	PKPbc		**PKPab**		**11 56 06.4**	**0.0**
	0.3nm,0.5s,baz=141,slow=3.0,SNR=3.6								
ILAR	**Eielson Array**	**149.57**	**56**	PKPbc		**PKPbc**		**11 56 13.7**	**+0.3**
	0.9nm,0.9s,baz=240,slow=3.0,SNR=6.4								

*ISCJB **13** 12:01:54.4±0.9,6.07Sº±0.05ºx129.1Eº±0.1,h264km, mb3.1/1,Error ellipse: s-maj=17.4km s-min=7.0km az=9.3*
*IDC **13** 12:01:55.1±1.7,5.95Sx128.91E,h296km±23km,mb2.7/1, mb1 3.4/6,mb1mx3.0/40,mbtmp4.1/6,Error ellipse: s-maj=32.8km s-min=17.6km az=94.0*

ISC 13 12:01:53.5±0.9,6.10S±0.07x129.1E±0.1,h264km,n6, σ1.99/10,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.63**	**23**	P		**Pn**		**12 03 19.6**	**+2.1**
	2.0nm,0.3s,baz=180,slow=19,SNR=8.3								
SIJI				S		**S**		**12 04 24.3**	**-0.3**
	1.4nm,0.3s,baz=76,slow=23,SNR=6.8								
BATI	**Baumata**	**6.75**	**232**	P		**Pn**		**12 03 32.3**	**+1.0**
	17nm,0.3s,baz=84,slow=2.2,SNR=17								
FITZ	**Fitzroy Crossi**	**12.40**	**195**	P		**P**		**12 04 44.0**	**+0.2**
	0.3nm,0.3s,baz=17,slow=5.7,SNR=15								
FITZ				S		**S**		**12 07 00.5**	**+0.8**
	0.1nm,0.3s,baz=225,slow=17,SNR=3.9								
WRA	**Warramunga Arr**	**14.68**	**160**	P		**Pn**		**12 05 11.2**	**+1.7**
	1.0nm,0.3s,baz=341,slow=12,SNR=62								
WRA				S		**S**		**12 07 49.5**	**-1.8**
	0.1nm,0.3s,baz=346,slow=22,SNR=4.1								
ASAR	**Alice Springs**	**18.07**	**166**	P		**Pn**		**12 05 48.2**	**-1.2**
	1.2nm,0.3s,baz=346,slow=12,SNR=125								
ASAR				S		**S**		**12 08 57.5**	**-2.0**
	0.1nm,0.3s,baz=345,slow=26,SNR=5.1								
MKAR	**Makanchi Array**	**66.98**	**327**	P		**P**		**12 12 14.9**	**-3.2**
	0.2nm,0.5s,baz=126,slow=7.3,SNR=4.3								

IDC 13 12:20:14.7±2.0,6.79Sx129.90E,h170km±22km,mb3.3/1, mb1 3.0/6,mb1mx2.8/28,mbtmp3.5/6,Error ellipse: s-maj=25.2km s-min=16.0km az=95.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.04**	**13**	P		Pn		12 21 42.4	+0.2
	0.6nm,0.3s,baz=140,slow=7.9,SNR=11								
SIJI				S		Sn		12 22 44.4	-6.5
	1.0nm,0.3s,baz=221,slow=22,SNR=5.8								
BATI	**Baumata**	**7.04**	**241**	P		Pn		12 21 56.3	+0.8
	1.5nm,0.3s,baz=278,slow=4.3,SNR=2.1								
BATI				S		Sn		12 23 13.4	-1.4
	3.4nm,0.3s,baz=106,slow=16,SNR=3.1								
FITZ	**Fitzroy Crossi**	**11.98**	**200**	P		Pn		12 23 01.1	+0.9
	0.1nm,0.3s,baz=28,slow=12,SNR=7.6								
FITZ				S		Sn		12 25 05.7	-7.6
	0.1nm,0.3s,baz=155,slow=20,SNR=4.0								
WRA	**Warramunga Arr**	**13.77**	**162**	P		Pn		12 23 22.2	-0.8
	0.2nm,0.3s,baz=347,slow=13,SNR=14								
WRA				S		Sn		12 25 45.9	-10
	0.2nm,0.3s,baz=343,slow=22,SNR=4.9								
ASAR	**Alice Springs**	**17.22**	**168**	P		Pn		12 24 05.5	+0.3
	0.1nm,0.3s,baz=346,slow=9.9,SNR=8.6								
ASAR				S		S		12 27 14.6	-0.3
	0.1nm,0.3s,baz=0.6,slow=29,SNR=4.1								
MKAR	**Makanchi Array**	**68.00**	**327**	P		P		12 30 55.4	-0.1
	0.4nm,0.5s,baz=116,slow=8.2,SNR=12								

*ISCJB **13** 12:44:06.8±0.1,60.68Nº±0.01ºx153.08Wº±0.02, h132km±1km,mb4.9/513,Error ellipse: s-maj=2.0km s-min=1.7km az=24.2*
*MOS **13** 12:44:06.4±0.8,60.69Nx153.14W,h129km,mb5.0/119, Error ellipse: s-maj=7.5km s-min=3.7km az=95.1*
*BJI **13** 12:44:06.9,60.94Nx153.52W,h126km,mb5.0/49, mB5.1/31*
*GCMT **13** 12

KDAK S Sn 12 45 22.3 -4.4
593nm,0.3s,baz=134,slow=23,SNR=27
KDAK Kodiak Island 2.81 176 *e*Pn Pn 12 44 49.6 -2.9
KDAK *e*Sn Sn 12 45 23.6 -3.1
KJL Kejulik 2.86 209 P Pn 12 44 52.7 -0.5
CAST Castle Rocks 2.88 8 *e*Pn Pn 12 44 53.5 0.0
CAST *e*Sn Sn 12 45 27.3 -1.2
HUR Hurricane 2.89 32 *e*Pn Pn 12 44 53.3 -0.2
SCM Sheep Creek Mo 3.02 63 *e*Pn Pn 12 44 54.0 -1.1
SCM *e*Sn Sn 12 45 29.7 -1.8
SCM Sheep Creek Mo 3.02 63 *e*P Pn 12 44 54.1 -1.1
SCM *e* 12 45 29.7
TRF Thorofare Moun 3.15 23 *e*Pn Pn 12 44 56.5 -0.5
TRF *e*Sn Sn 12 45 34.1 -0.8
JPK Jack Peak 3.17 79 *e*Pn Pn 12 44 55.4 -1.8
PLK5 Peulik 5 3.27 219 P Pn 12 44 58.2 -0.2
CHUM Lake Minchumin 3.33 5 *e*Pn Pn 12 44 59.3 +0.1
PLK3 Peulik 3 3.35 212 P Pn 12 44 59.1 -0.5
OHAK Old Harbor 3.37 183 *e*Pn Pn 12 44 56.7 -3.0
OHAK *e*Sn Sn 12 45 35.4 -4.2
RND Reindeer 3.44 33 *e*Pn Pn 12 44 59.7 -1.1
RND *e*Sn Sn 12 45 37.1 -4.4
RND Reindeer 3.44 33 *e*P Pn 12 44 59.7 -1.1
RND *e* 12 45 37.1
PLBL Peulik Blue Cr 3.50 216 P Pn 12 45 01.1 -0.3
MID Middleton Isla 3.53 106 *e*Pn Pn 12 45 00.1 -1.7
MID Middleton Isla 3.53 106 *e*P Pn 12 45 00.1 -1.7
KLU Klutina 3.56 72 *e*Pn Pn 12 45 00.2 -2.1
KLU *e*Sn Sn 12 45 41.7 -2.5
DIV Divide 3.57 78 *e*Pn Pn 12 45 00.3 -2.2
DIV *e*Sn Sn 12 45 41.7 -2.8
DHY Denali Highway 3.66 44 *e*Pn Pn 12 45 03.1 -0.5
DHY *e*Sn Sn 12 45 45.5 -1.1
BPAW Bear Paw Mtn. 3.66 14 *e*Pn Pn 12 45 02.4 -1.1
BPAW *e*Sn Sn 12 45 45.4 -1.0
MCK McKinley 3.69 29 *e*Pn Pn 12 45 02.7 -1.3
MCK McKinley 3.69 29 *e*P Pn 12 45 02.7 -1.3
SGAM Sherman Glacie 3.84 88 *e*Pn Pn 12 45 04.5 -1.4
BWN Browne 3.96 23 *e*Pn Pn 12 45 07.3 -0.2
BMRM Bremner River 4.13 81 *e*Pn Pn 12 45 07.7 -2.0
BMRM *e*Sn Sn 12 45 54.0 -3.6
PAX Paxson 4.30 53 *e*Pn Pn 12 45 11.5 -0.6
PAX *e*Sn Sn 12 45 59.5 -2.2
PAX Paxson 4.30 53 *e*P Pn 12 45 11.5 -0.6
PAX *e* 12 45 59.5
HMT Hamilton 4.33 89 *e*Pn Pn 12 45 11.5 -0.8
NEA Nenana 4.40 23 *e*Pn Pn 12 45 12.5 -0.8
PS10 TAPS Pump St10 4.44 47 *e*Pn Pn 12 45 14.5 +0.6
NICHA Nichawak Mount 4.49 90 P Pn 12 45 13.2 -1.3
WRH Wood River Hil 4.52 28 *e*Pn Pn 12 45 13.4 -1.4
ANNW Aniakchak Nort 4.53 219 P Pn 12 45 15.5 +0.4
MLY Manley 4.59 12 *e*Pn Pn 12 45 14.7 -1.1
ANPB Aniakchak Plen 4.69 218 P Pn 12 45 16.6 -0.5
HDA Harding Lake 4.76 33 *e*Pn Pn 12 45 17.5 -0.5
HDA *e*Sn Sn 12 46 11.0 -1.4
HDA Harding Lake 4.76 33 P Pn 12 45 17.0 -1.0
baz=218,SNR=1000
KHIT Khitrov Hills 4.82 87 P Pn 12 45 17.7 -1.2
PS08 TAPS Pump Stn8 4.90 33 *e*Pn Pn 12 45 19.3 -0.5
MDM Murphy Dome 4.91 24 *e*Pn Pn 12 45 19.1 -1.0
TCOL CIGO, UAF Yank 4.91 26 P Pn 12 45 18.9 -1.2
baz=210,SNR=390
COLA College 4.92 26 P Pn 12 45 19.2 -0.9
COLA College 4.92 26*d i*P Pn 12 45 18.9 -1.2
RIDG Independ'e Rid 4.96 47 *e*Pn Pn 12 45 20.5 -0.3
SNH Sunshine Point 5.05 90 *e*Pn Pn 12 45 20.9 -1.1
ILAR Eielson Array 5.06 31 P Pn 12 45 21.4 -0.7
190nm,0.3s,baz=215,slow=13,SNR=4336
ILAR S Sn 12 46 14.5 -5.1
126nm,0.3s,baz=154,slow=16,SNR=12
ILAR ScP ScP 12 55 38.9 -1.2
0.1nm,0.3s,baz=298,slow=1.5,SNR=4.9
ILB Eielson Array 5.06 31 *e*Pn Pn 12 45 20.9 -1.1
IL1 Eielson Array 5.06 31 *e*Pn Pn 12 45 20.4 -1.6
KULT Kultieth River 5.10 89 P Pn 12 45 21.3 -1.3
CHGN Chignik 5.15 216 *e*Pn Pn 12 45 21.7 -1.5
DOT Dot Lake 5.20 50 *e*Pn Pn 12 45 23.1 -0.8
DOT *e*Sn Sn 12 46 23.2 +0.3
PS07 TAPS Pump Stn7 5.21 22 *e*Pn Pn 12 45 23.4 -0.7
POKR Poker Plat Res 5.22 27 P Pn 12 45 23.1 -1.0
baz=211,SNR=326
SCRK Sand Creek 5.41 47 *e*Pn Pn 12 45 25.1 -1.8
IM3 Indian Mountai 5.44 357 *e*Pn Pn 12 45 26.9 -0.2
MESA MESA 5.49 89 P Pn 12 45 26.9 -1.1
BCA3 Beaver Creek A 5.87 60 *e*Pn Pn 12 45 32.1 -0.7
PRP Porcupine Dome 6.01 31 *e*Pn Pn 12 45 33.8 -1.0
PRP *e*Sn Sn 12 46 40.7 -1.8
SAMH Samovar Hills 6.08 89 P Pn 12 45 34.9 -0.8
PS05 TAPS Pump Stn5 6.34 8 *e*Pn Pn 12 45 38.9 -0.3
SDPT Sand Point 6.58 221 *e*Pn Pn 12 45 44.4 -0.1
COLD Coldfoot 6.79 9 *e*Pn Pn 12 45 44.4 -0.7
PNL Peninsula 6.85 92 *e*Pn Pn 12 45 44.3 -1.8
FYU Fort Yukon 6.93 27 *e*Pn Pn 12 45 45.2 -1.8
ANM Nome 6.98 310 *e*Pn Pn 12 45 47.6 -0.1
ANM Nome 6.98 310 *e*P Pn 12 45 47.6 -0.1
PS4A Pavlof South-4 7.05 226 P Pn 12 45 47.5 -1.2
DOL Dolgoi Island 7.21 225 P Pn 12 45 50.0 -0.8
DAWY Dawson 7.23 55 *e*Pn Pn 12 45 50.3 -0.8
YUK5 Granite Creek 7.41 79 *e*Pn Pn 12 45 52.1 -1.6
DRIA Deer Island 7.49 225 P Pn 12 45 53.5 -1.2
HYT Haines Junctio 7.60 81 *e*Pn Pn 12 45 55.1 -1.1
HYT *e*Sn Sn 12 47 18.3 -2.6
BM3 Burnt Mountain 7.79 25 *e*Pn Pn 12 45 56.6 -2.0
PS04 TAPS Pump Stn4 8.03 10 *e*Pn Pn 12 46 02.1 +0.3
RDOG Red Dog Mine 8.64 334 *e*Pn Pn 12 46 11.1 +1.1
WHY Whitehorse 8.90 82 *e*Pn Pn 12 46 12.6 -1.1
WHY *e*Sn Sn 12 47 49.0 -3.2
SKAG Skagway 8.91 89 *e*Pn Pn 12 46 13.1 -0.5
EPYK Eagle Plains 9.29 44 *e*Pn Pn 12 46 16.6 -2.1
EPYK Eagle Plains 9.29 44 P Pn 12 46 17.8 -1.0
baz=238,SNR=276
GAMB Gambell 9.31 298 *e*Pn Pn 12 46 19.5 +0.6
BESE Bessie Mountai 9.41 94 *e*Pn Pn 12 46 20.9 +0.4
BESE *e*Sn Sn 12 48 03.7 -0.8
AKUT Akutan 9.44 233 *e*Pn Pn 12 46 21.7 +0.9
JIS Juneau Island 9.75 96 *e*Pn Pn 12 46 24.9 +0.1
JIS *e*Sn Sn 12 48 08.6 -3.8
SIT Sitka 9.81 103 *e*Pn Pn 12 46 24.4 -1.2
SIT *e*Sn Sn 12 48 09.9 -4.0
SIT Sitka 9.81 103 *e*P Pn 12 46 24.4 -1.2
SIT *e* 12 48 09.9
PS01 TAPS Pump Stn 9.89 9 *e*Pn Pn 12 46 25.9 -0.6
UNV Unalaska Valle 9.95 233 *e*Pn Pn 12 46 26.3 -1.2
UNV *e*Sn Sn 12 48 14.6 -2.7
INK Inuvik 11.38 39 P Pn 12 46 45.6 -0.8
9.7nm,0.3s,baz=233,slow=16,SNR=135
INK S Sn 12 48 44.7 -6.9
baz=302,slow=10,SNR=3.3
INK LR LR 12 51 41.9
comp=Z,106nm,19.0s,baz=234,slow=40
INK Inuvik 11.38 39 *e*Pn Pn 12 46 45.2 -1.2
INK S Sn 12 48 44.7 -6.9
WRAK Wrangell Islan 11.55 102 *e*Pn Pn 12 46 50.8 +2.0
CRAG Craig 11.69 107 *e*Pn Pn 12 46 49.9 -0.6
CRAG *e*Sn Sn 12 48 56.4 -2.8
DLBC Dease Lake 11.84 90 P Pn 12 46 53.6 +1.0
1.4nm,0.3s,baz=322,slow=11,SNR=23
DLBC S Sn 12 49 00.5 -2.6
1.1nm,0.3s,baz=52,slow=18,SNR=3.2
DLBC LR LR 12 52 20.1
comp=Z,166nm,18.0s,baz=40,slow=41
DLBC Dease Lake 11.84 90 *e*Pn Pn 12 46 53.1 +0.4
DLBC S Sn 12 49 00.5 -2.6
DIB Dawson Inlet, 13.38 114 *e*Pn Pn 12 47 12.3 -0.2
DIB *e*Sn Sn 12 49 37.1 -3.0
ATKA Atka Island 14.37 244 *e*Pn Pn 12 47 25.3 +0.2
ADK Adak 15.71 247 *e*Pn Pn 12 47 41.8 0.0
99nm,0.6s
ADK Adak 15.71 247 *e*P Pn 12 47 41.8 0.0
ADK pmax pmax
comp=Z,99nm,0.6s
KIWB Kanaga Island 15.94 248 *e*Pn P 12 47 45.5 0.0
BBB Bella Bella 16.05 110 P P 12 47 47.4 +0.8
comp=Z,0.5nm,0.3s,baz=305,slow=12,SNR=6.8
BBB S Sn 12 50 42.5 -1.6
comp=Z,0.3nm,0.3s,baz=260,slow=17,SNR=4.3
BBB Bella Bella 16.05 110 *e*Pn P 12 47 47.4 +0.8
comp=Z,24nm,0.9s
BBB S Sn 12 50 42.5 -1.6
YKW3 Yellowknife Ar 18.20 67 *e*P P 12 48 11.0 +0.8
comp=Z,87nm,0.8s

YKW3 *e*PcP PcP 12 52 36.4 0.0
YKA Yellowknife Ar 18.21 67 P P 12 48 11.2 +0.8
comp=Z,4.4nm,0.3s,baz=279,slow=11,SNR=479
YKA S S 12 51 30.2 -1.3
baz=281,slow=19,SNR=3.9
YKA PcP PcP 12 52 36.4 0.0
comp=Z,1.6nm,0.3s,baz=282,slow=1.4,SNR=30
YKA ScP ScP 12 55 58.1 -0.6
comp=Z,0.2nm,0.3s,baz=285,slow=2.1,SNR=15
YKA LR LR 12 56 44.5
comp=Z,14nm,18.1s,baz=270,slow=42
YKB5 Yellowknife Ar 18.21 67 *e*P P 12 48 09.4 -1.0
YKB5 *e*PcP PcP 12 52 36.4 +0.1
BILL Bilibino 18.84 311 *e*P P 12 48 17.7 +0.6
comp=Z,24nm,0.9s
BILL Bilibino 18.84 311*d i*P P 12 48 17.7 +0.6
BILL *e*S S 12 51 43.8 +0.1
BILL pmax pmax
comp=Z,32um,1.0s
A04D Lummi Island 20.94 111 P Pn 12 48 42.4 -1.6
baz=316
NLWA Neilton Lookou 21.39 115 *e*P P 12 48 47.0 +2.2
comp=Z,60nm,1.0s
B05A Bryant 21.55 111 P P 12 48 48.4 +1.9
baz=316,SNR=52
D03D Eldon 21.63 114 P P 12 48 49.6 +2.3
baz=318,SNR=30
B06A Marblemount 21.65 110 *e*P P 12 48 49.3 +1.8
comp=Z,64nm,1.0s
D04E Lakebay 22.04 114 P P 12 48 54.4 +2.9
baz=319
C06D Leavenworth 22.35 110 P P 12 48 56.8 +2.1
baz=316,SNR=14
D05A Enumclaw 22.39 113 *e*P P 12 48 57.2 +2.2
comp=Z,124nm,1.1s
D05A *e*PcP PcP 12 52 45.4 +1.0
E04D Cinebar 22.60 115 P P 12 48 59.7 +2.6
baz=319,SNR=14
F04D Rainier, OR 22.77 116 P P 12 49 00.8 +2.2
baz=320
B08A Colville Reser 22.77 107 *e*P P 12 48 59.5 +0.8
comp=Z,29nm,0.9s
LON Longmire 22.80 113 *e*P P 12 49 00.8 +1.7
comp=Z,17nm,0.8s
LON *e*PcP PcP 12 52 45.4 -0.1
LON Longmire 22.80 113 *e*P P 12 49 00.8 +1.7
LON *e* 12 52 45.4
LON pmax pmax
comp=Z,17nm,0.8s
LTY Liberty 22.94 111 *e*P P 12 49 01.7 +1.3
comp=Z,46nm,0.7s
LTY *e*PcP PcP 12 52 45.7 0.0
G03D McMinnville, O 23.33 118 P P 12 49 06.3 +2.4
baz=322,SNR=9.3
F05D White Salmon 23.61 114 P P 12 49 08.7 +2.2
baz=320,SNR=14
C09A Chrisman Ranch 23.67 107 *e*P P 12 49 08.3 +1.3
comp=Z,19nm,0.8s
COR Corvallis 23.81 119 *e*P P 12 49 10.9 +2.6
comp=Z,65nm,1.0s
E07A Sunnyside 23.84 111 *e*P P 12 49 10.5 +2.0
comp=Z,91nm,0.8s
NEW Newport 23.89 105 P P 12 49 10.6 +1.6
comp=Z,10nm,0.9s,baz=314,slow=6.9,SNR=27
NEW PcP PcP 12 52 47.9 +0.2
comp=Z,1.2nm,0.5s,baz=321,slow=6.5,SNR=3.1
NEW Newport 23.89 105 *e*P P 12 49 10.4 +1.5
comp=Z,27nm,1.1s
NEW PcP PcP 12 52 47.9 +0.2
NEW Newport 23.89 105 P P 12 49 10.5 +1.5
baz=314,SNR=16
D08A Wollman Farm, 23.90 109 *e*P P 12 49 10.6 +1.6
comp=Z,54nm,0.9s
I02D Swisshome 23.96 120 P P 12 49 12.1 +2.5
baz=324
H04D Lebanon 24.11 118 P P 12 49 13.4 +2.4
baz=322,SNR=11
HAWA Hanford 24.11 111 *e*P P 12 49 12.1 +1.2
comp=Z,35nm,0.8s
HAWA *e*PcP PcP 12 52 48.8 +0.6
G05D Wamic, OR 24.17 115 P P 12 49 13.9 +2.3
baz=321,SNR=23
H04A Detroit Lake 24.22 117 *e*P P 12 49 14.0 +2.0
comp=Z,63nm,1.0s
H04A *e*PcP PcP 12 52 48.5 0.0
E08A Dider Farm, El 24.25 110 *e*P P 12 49 13.4 +1.2
comp=Z,73nm,0.8s
E08A *e*PcP PcP 12 52 49.9 +1.5
F07A Phinny Hill Vi 24.30 112 *e*P P 12 49 15.1 +2.5
comp=Z,145nm,0.6s
G06A Carlson Farm, 24.48 114 *e*P P 12 49 16.1 +1.7
comp=Z,41nm,1.3s
I03D Drain, OR 24.50 120 P P 12 49 17.1 +2.6
baz=324
E09A Wood Farm, Sta 24.66 109 *e*P P 12 49 16.9 +0.9
comp=Z,90nm,1.4s
J01E Myrtle Point 24.69 122 P P 12 49 18.9 +2.7
baz=325,SNR=6.8
KEBM Edson Butte 24.76 123 *e*P P 12 49 19.9 +2.9
comp=Z,56nm,0.9s
RES Resolute Bay 24.81 33 P P 12 49 17.1 +0.1
comp=Z,24nm,0.7s,baz=258,slow=11,SNR=37
RES PcP PcP 12 52 49.1 0.0
comp=Z,7.2nm,0.7s,baz=198,slow=3.2,SNR=3.9
RES Resolute Bay 24.81 33 *e*P P 12 49 16.6 -0.4
comp=Z,41nm,0.9s
RES *e*PcP PcP 12 52 49.2 0.0
I04A Tendick Farm, 24.83 119 P P 12 49 19.7 +2.1
baz=323,SNR=9.9
I05D Terrebonne, OR 24.87 116 P P 12 49 20.0 +2.1
baz=322,SNR=23
WALA Waterton Lakes 24.89 100 *e*P P 12 49 19.3 +1.1
comp=Z,7.8nm,0.6s
K02D Willamette Mer 25.19 122 P P 12 49 23.7 +2.8
baz=325,SNR=20
G08A Pilot Rock 25.20 112 *e*P P 12 49 22.3 +1.2
comp=Z,21nm,1.0s
G08A *e*PcP PcP 12 52 51.2 +0.5
SEY Seymchan 25.31 299 P P 12 49 21.4 -0.2
comp=Z,7.2nm,0.5s,baz=79,slow=6.6,SNR=42
SEY PcP PcP 12 52 50.0 -0.4
comp=Z,3.1nm,0.8s,baz=34,slow=14,SNR=4.0
SEY Seymchan 25.31 299↑ *e*P P 12 49 21.6 0.0
J04D Umpqua Nationa 25.41 119 P P 12 49 25.7 +2.8
baz=324,SNR=18
PINE Pine Mountain 25.48 117 *e*P P 12 49 25.9 +2.3
comp=Z,68nm,0.9s
PINE *e*PcP PcP 12 52 52.7 +1.2
HUMO Hull Mountain 25.56 121 *e*P P 12 49 26.8 +2.7
comp=Z,19nm,0.8s
HUMO *e*PcP PcP 12 52 52.5 +1.0
J05D Fort Rock, OR 25.75 118 P P 12 49 28.7 +2.6
baz=323,SNR=28
I07A Izee 25.89 114 *e*P P 12 49 29.8 +2.6
comp=Z,7.4nm,0.8s
K04D Chiloquin, OR 26.06 119 P P 12 49 31.3 +2.6
baz=324
L04D Klamath Falls 26.15 121 P P 12 49 32.0 +2.4
baz=325,SNR=11
BMO Blue Mountains 26.30 111 *e*P P 12 49 32.6 +1.7
comp=Z,61nm,0.8s
BMO Blue Mountains 26.30 111 *e*P P 12 49 32.6 +1.7
BMO pmax pmax
comp=Z,61nm,0.8s
YBH Yreka Blue Hor 26.38 122 P P 12 49 34.5 +2.8
comp=Z,20nm,0.7s,baz=349,slow=4.7,SNR=67
YBH PcP PcP 12 52 53.3 -0.2
comp=Z,1.2nm,0.7s,baz=66,slow=12,SNR=3.1
YBH Yreka Blue Hor 26.38 122 *e*P P 12 49 34.4 +2.8
comp=Z,25nm,0.8s
YBH PcP PcP 12 52 53.3 -0.2
MSO Missoula 26.43 104 *e*P P 12 49 32.8 +0.8
comp=Z,20nm,1.4s
MSO *e*PcP PcP 12 52 53.1 -0.3
MSO Missoula 26.43 104 P P 12 49 33.4 +1.4
baz=316,SNR=8.4
M02C Callahan 26.61 122 P P 12 49 36.6 +3.0
baz=326,SNR=9.2
KHMM Horse Mountain 26.68 124 *e*P P 12 49 35.7 +1.4
comp=Z,68nm,1.5s
KHMM *e*PcP PcP 12 52 54.9 +0.6
M04C Macdoel 26.71 121 P P 12 49 37.1 +2.5
baz=325,SNR=11
J08A Circle Bar Ran 26.92 114 *e*P P 12 49 38.0 +1.5
comp=Z,44nm,0.8s
J08A *e*PcP PcP 12 52 55.2 +0.5
PET Petropavlovsk 26.98 276↑ *i*P P 12 49 37.4 +0.7

N02D Trinity Center 27.02 123 P P 12 49 40.4 +3.0
baz=327,SNR=16
KMRM Mail Ridge 27.24 125 *e*P P 12 49 41.8 +2.5
comp=Z,60nm,0.9s
KMRM *e*PcP PcP 12 52 56.6 +1.2
MOD Modoc Plateau 27.27 118 *e*P P 12 49 41.7 +2.1
comp=Z,29nm,1.0s
MOD *e*PcP PcP 12 52 56.6 +0.9
FFC Flin Flon 27.31 79 *e*P P 12 49 41.1 +1.5
comp=Z,3.1nm,0.8s
FFC *e*PcP PcP 12 52 55.6 +0.3
MA2 Magadan 27.35 293 P P 12 49 40.4 +0.4
comp=Z,24nm,0.7s,baz=62,slow=10,SNR=30
MA2 Magadan 27.35 293 *e*P P 12 49 40.4 +0.4
comp=Z,28nm,0.7s
MA2 Magadan 27.35 293*c i*P P 12 49 40.5 +0.5
MA2 pmax pmax
comp=Z,32nm,0.8s
PEA1 Petropavlovsk- 27.39 277 *e*P P 12 49 39.7 -0.8
PETK Petropavlovsk- 27.40 277 P P 12 49 39.7 -0.8
comp=Z,8.1nm,0.8s,baz=81,slow=11,SNR=6.7
PETK Petropavlovsk- 27.40 277 *e*P P 12 49 40.1 -0.4
PETK Petropavlovsk- 27.40 277 *e*P P 12 49 40.1 -0.4
WDC Whiskeytown Da 27.41 123 *e*P P 12 49 41.9 +1.1
comp=Z,26nm,0.9s
HRY Holter Researc 27.53 102 *e*P P 12 49 43.0 +1.2
WVOR Wild Horse Val 27.58 116 *e*P P 12 49 44.3 +1.9
comp=Z,25nm,1.1s
WVOR *e*PcP PcP 12 52 57.1 +0.8
WVOR Wild Horse Val 27.58 116 *e*P P 12 49 44.3 +1.9
WVOR *e* 12 52 57.1
WVOR pmax pmax
comp=Z,25nm,1.1s
EGMT Eagleton 27.62 97 *e*P P 12 49 43.4 +0.8
comp=Z,19nm,1.0s
EGMT *e*PcP PcP 12 52 56.5 +0.2
EGMT Eagleton 27.62 97 P P 12 49 43.4 +0.8
baz=313,SNR=8.6
O02D Mt. Diablo Mer 27.65 124 P P 12 49 45.5 +2.5
baz=328
KCPM Cahto Peak 27.75 126 *e*P P 12 49 46.4 +2.5
comp=Z,68nm,0.9s
O03E Paynes Creek 27.96 122 P P 12 49 47.3 +1.6
baz=327,SNR=30
MFID Camas Ranch 28.08 111 *e*P P 12 49 48.4 +1.6
comp=Z,37nm,0.8s
DLMT Dillon 28.13 104 *e*P P 12 49 48.9 +1.6
comp=Z,5.4nm,1.1s
DLMT *e*PcP PcP 12 52 58.8 +1.1
HLID Hailey 28.62 109 *e*P P 12 49 53.3 +1.6
comp=Z,21nm,0.8s
HLID *e*PcP PcP 12 52 59.9 +0.9
HLID Hailey 28.62 109 P P 12 49 53.5 +1.8
baz=320,SNR=40
ORV Oroville 28.71 123 *e*P P 12 49 53.5 +1.2
comp=Z,19nm,1.3s
ORV Oroville 28.71 123 *e*P P 12 49 53.5 +1.2
ORV pmax pmax
comp=Z,19nm,1.3s
BEKR Beckworth 28.92 121 *e*P P 12 49 56.1 +1.7
comp=Z,29nm,0.8s
BEKR *e*PcP PcP 12 53 00.1 +0.4
FCC Fort Churchill 28.95 67 *e*P P 12 49 55.3 +1.2
comp=Z,85nm,1.4s
FCC *e*PcP PcP 12 52 58.6 -0.6
FCC Fort Churchill 28.95 67 *e*P P 12 49 55.3 +1.2
FCC *e* 12 52 58.6
FCC pmax pmax
comp=Z,85nm,1.4s
GCMT Greycliff 29.23 101 *e*P P 12 49 59.4 +2.4
YHB Horse Butte 29.25 104 *e*P P 12 49 58.4 +1.1
comp=Z,24nm,1.0s
YHB *e*PcP PcP 12 53 02.5 +1.9
YMR Madison River 29.43 104 *e*P P 12 50 01.2 +2.4
comp=Z,26nm,1.0s
AFDM Forest Hills D 29.44 123 *e*P P 12 50 00.6 +1.8
comp=Z,25nm,1.2s
AFDM *e*PcP PcP 12 53 01.5 +0.6
PAHR Pah Rah Range 29.47 120 *e*P P 12 50 00.8 +1.6
comp=Z,38nm,1.1s
YNR Norris Junctio 29.53 103 *e*P P 12 50 02.7 +2.9
comp=Z,12nm,0.9s
YFT Old Faithful 29.65 104 *e*P P 12 50 04.2 +3.4
comp=Z,15nm,1.1s
VCNR Virginia City 29.70 121 *e*P P 12 50 03.4 +2.1
comp=Z,43nm,0.9s
VCNR *e*PcP PcP 12 53 02.4 +0.6
LKWY Lake 29.77 103 *e*P P 12 50 05.1 +3.2
comp=Z,11nm,0.8s
LKWY Lake 29.77 103 *e*P P 12 50 05.1 +3.2
LKWY pmax pmax
comp=Z,11nm,0.8s
YPP Pitchstone Pla 29.80 104 *e*P P 12 50 05.3 +3.1
comp=Z,0.2nm,0.9s
H17A Grant Village 29.82 103 *e*P P 12 50 06.0 +3.7
comp=Z,14nm,1.2s
H17A Grant Village 29.82 103 P P 12 50 05.5 +3.2
baz=318,SNR=8.8
PNTR Pine Nut 29.90 121 *e*P P 12 50 05.2 +2.2
comp=Z,39nm,0.8s
PNTR *e*PcP PcP 12 53 02.9 +0.6
RLMT Red Lodge 29.91 101 *e*P P 12 50 05.0 +1.9
comp=Z,27nm,0.8s
RLMT Red Lodge 29.91 101 P P 12 50 05.3 +2.2
baz=317,SNR=30
FLWY Flagg Ranch 29.99 104 *e*P P 12 50 06.6 +2.8
comp=Z,44nm,1.4s
DGMT Dagmar 30.05 91 *e*P P 12 50 05.5 +1.4
comp=Z,18nm,0.6s
DGMT Dagmar 30.05 91 P P 12 50 05.5 +1.4
baz=312,SNR=9.1
YERR Yerington 30.14 120 *e*P P 12 50 07.0 +1.9
comp=Z,33nm,1.1s
YERR *e*PcP PcP 12 53 02.9 -0.1
MOOW Moose Ponds 30.22 105 *e*P P 12 50 08.5 +2.7
comp=Z,8.9nm,1.0s
MOOW *e*PcP PcP 12 53 04.1 +1.0
LAO LASA Array 30.28 96 *e*P P 12 50 07.8 +1.7
comp=Z,37nm,1.4s
LAO LASA Array 30.28 96 P P 12 50 07.9 +1.8
baz=314,SNR=6.2
TPAW Teton Pass 30.31 105 *e*P P 12 50 09.2 +2.5
comp=Z,34nm,0.8s
LOHW Long Hollow 30.39 105 *e*P P 12 50 09.6 +2.3
comp=Z,24nm,0.9s
LOHW *e*PcP PcP 12 53 04.4 +0.8
SNOW Snow King Moun 30.43 105 *e*P P 12 50 10.1 +2.3
comp=Z,32nm,0.8s
CMB Columbia Colle 30.45 123 *e*P P 12 50 09.6 +1.8
comp=Z,13nm,0.7s
CMB *e*PcP PcP 12 53 03.7 +0.1
CMB Columbia Colle 30.45 123 *e*P P 12 50 09.6 +1.8
CMB *e* 12 53 03.7
CMB pmax pmax
comp=Z,13nm,0.7s
ELK Elko 30.45 113 *e*P P 12 50 10.4 +2.5
comp=Z,42nm,0.8s
ELK *e*PcP PcP 12 53 04.4 +0.6
ELK Elko 30.45 113 *e*P P 12 50 10.4 +2.5
ELK *e* 12 53 04.4
ELK pmax pmax
comp=Z,42nm,0.8s
WAKR Walker 30.45 121 *e*P P 12 50 10.2 +2.3
comp=Z,30nm,0.9s
WAKR *e*PcP PcP 12 53 04.8 +1.1
REDW Red Top Meadow 30.46 105 *e*P P 12 50 10.0 +2.1
comp=Z,20nm,0.9s
REDW *e*PcP PcP 12 53 04.3 +0.6
KVN Kaiserville 30.57 119 *e*P P 12 50 10.6 +1.7
comp=Z,28nm,1.0s
KVN *e*PcP PcP 12 53 05.1 +1.0
KVN Kaiserville 30.57 119 *e*P P 12 50 10.6 +1.7
KVN *e* 12 53 05.1
KVN pmax pmax
comp=Z,28nm,1.0s
RYN Ryan 30.74 120 *e*P P 12 50 12.4 +2.0
comp=Z,22nm,0.8s
RYN *e*PcP PcP 12 53 05.3 +0.9
HVU Hansel Valley 30.77 109 *e*P P 12 50 12.8 +2.2
comp=Z,52nm,1.0s
HVU *e*PcP PcP 12 53 05.1 +0.6
HVU Hansel Valley 30.77 109 *e*P P 12 50 12.8 +2.2
HVU *e* 12 53 05.1
HVU pmax pmax
comp=Z,52nm,1.0s
AHID Auburn Hatcher 30.79 106 *e*P P 12 50 12.6 +1.7

	comp=Z,6.0nm,1.0s							
NV01	**Mina Array Sit**	**31.00**	**120**	*e*P		**P**	**12 50 14.6**	**+1.9**
NV01				*e*PcP		**PcP**	**12 53 06.2**	**+1.0**
NV01				*e*ScP		**ScP**	**12 56 35.1**	**+0.1**
NVAR	**Mina Array Bea**	**31.00**	**120**	P		**P**	**12 50 14.9**	**+2.2**
	comp=Z,32nm,0.7s,baz=312,slow=8.8,SNR=207							
NVAR				PcP		**PcP**	**12 53 05.7**	**+0.4**
	comp=Z,6.9nm,0.8s,baz=279,slow=3.0,SNR=13							
NVAR				ScP		**ScP**	**12 56 35.6**	**+0.7**
	comp=Z,5.1nm,0.7s,baz=295,slow=3.1,SNR=25							
TULEG	**Thule**	**31.00**	**27**	*e*P		**P**	**12 50 11.7**	**-0.4**
	comp=Z,9.7nm,0.7s							
TIXI	**Tiksi**	**31.02**	**323**	⇑ *i*P		**P**	**12 50 11.9**	**-0.4**
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.6s							
NV11	**Mina Array Sit**	**31.06**	**120**	*e*P		**P**	**12 50 15.3**	**+2.1**
	comp=Z,1.9nm,0.8s							
NV11				*e*PcP		**PcP**	**12 53 06.0**	**+0.7**
SAO	**San Andreas Ge**	**31.11**	**126**	*e*P		**P**	**12 50 15.2**	**+1.7**
	comp=Z,25nm,0.9s							
SAO	**San Andreas Ge**	**31.11**	**126**	*e*P		**P**	**12 50 15.2**	**+1.7**
SAO				pmax	pmax			
	comp=Z,25nm,0.9s							
SPUT	**South Promonto**	**31.29**	**109**	*e*P		**P**	**12 50 17.7**	**+2.5**
	comp=Z,23nm,0.7s							
BGU	**Big Grassy Mou**	**31.32**	**111**	*e*P		**P**	**12 50 17.5**	**+2.0**
	comp=Z,14nm,1.0s							
MLAC	**Mammoth, Mammo**	**31.45**	**121**	P		**P**	**12 50 19.8**	**+3.1**
	baz=328,SNR=9.3							
BW06	**Boulder Array**	**31.53**	**105**	*e*P		**P**	**12 50 19.0**	**+1.6**
	comp=Z,21nm,1.1s							
BW06	**Boulder Array**	**31.53**	**105**	P		**P**	**12 50 19.1**	**+1.7**
	baz=320,SNR=27							
PD31	**Pinedale Array**	**31.53**	**105**	*e*P		**P**	**12 50 18.9**	**+1.6**
PD31				*e*pP		**pP**	**12 50 49.0**	**+2.4**
PD31				*e*PcP		**PcP**	**12 53 06.3**	**-0.3**
PD31				*e*ScP		**ScP**	**12 56 36.4**	**-0.4**
PDAR	**Pinedale Array**	**31.53**	**105**	P		**P**	**12 50 19.1**	**+1.7**
	comp=Z,10nm,0.8s,baz=308,slow=5.5,SNR=53							
PDAR				pP		**pP**	**12 50 49.0**	**+2.4**
	comp=Z,3.5nm,0.8s,baz=318,slow=4.2,SNR=3.3							
PDAR				PcP		**PcP**	**12 53 06.1**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=108,slow=1.2,SNR=5.6							
PDAR				ScP		**ScP**	**12 56 36.3**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=34,slow=0.3,SNR=13							
PDAR	**Pinedale Array**	**31.53**	**105**	*e*P		**P**	**12 50 18.3**	**+0.9**
PDAR				pP		**pP**	**12 50 49.0**	**+2.4**
PDAR				*e*PcP		**PcP**	**12 53 06.3**	**-0.3**
PDAR				ScP		**ScP**	**12 56 36.3**	**-0.4**
TCUT	**Toone Canyon**	**31.93**	**109**	*e*P		**P**	**12 50 23.0**	**+2.1**
	comp=Z,112nm,0.8s							
DUG	**Dugway, Tooele**	**32.00**	**111**	*e*P		**P**	**12 50 23.3**	**+1.9**
	comp=Z,39nm,0.8s							
DUG				*e*PcP		**PcP**	**12 53 08.6**	**+0.7**
DUG	**Dugway, Tooele**	**32.00**	**111**	*e*P		**P**	**12 50 23.3**	**+1.9**
DUG				*e*			12 53 08.6	
DUG				pmax	pmax			
	comp=Z,39nm,0.8s							
DUG	**Dugway, Tooele**	**32.00**	**111**	P		**P**	**12 50 23.4**	**+1.9**
	baz=323,SNR=45							
CTU	**Camp Tracy**	**32.10**	**109**	*e*P		**P**	**12 50 24.1**	**+1.8**
	comp=Z,18nm,0.9s							
TIN	**Tinemaha, Big**	**32.19**	**121**	P		**P**	**12 50 25.9**	**+2.8**
	baz=328,SNR=13							
R11A	**Troy Canyon, C**	**32.25**	**116**	*e*P		**P**	**12 50 25.0**	**+1.3**
	comp=Z,35nm,1.2s							
R11A				*e*PcP		**PcP**	**12 53 09.2**	**+0.6**
R11A	**Troy Canyon, C**	**32.25**	**116**	P		**P**	**12 50 25.6**	**+2.0**
	baz=326,SNR=51							
JLU	**Jordanelle**	**32.31**	**109**	*e*P		**P**	**12 50 26.0**	**+1.7**
	comp=Z,34nm,1.5s							
PAGB	**Antelope Grade**	**32.49**	**125**	*e*P		**P**	**12 50 27.5**	**+1.9**
	comp=Z,31nm,0.9s							
PAGB				*e*PcP		**PcP**	**12 53 09.9**	**+0.8**
NLU	**North Lily Min**	**32.53**	**111**	*e*P		**P**	**12 50 28.0**	**+1.9**
	comp=Z,49nm,0.7s							
NLU				*e*PcP		**PcP**	**12 53 10.1**	**+0.6**
GRAC	**Grapevine Rang**	**32.61**	**120**	P		**P**	**12 50 29.1**	**+2.5**
	baz=328							
MPU	**Maple Canyon**	**32.69**	**110**	*e*P		**P**	**12 50 29.0**	**+1.5**
	comp=Z,23nm,1.0s							
MDND	**Maddock**	**32.74**	**88**	*e*P		**P**	**12 50 29.3**	**+1.7**
	comp=Z,49nm,0.5s							
MDND				*e*PcP		**PcP**	**12 53 09.9**	**+0.3**
MDND	**Maddock**	**32.74**	**88**	P		**P**	**12 50 29.4**	**+1.7**
	baz=313,SNR=10							
CWC	**Cottonwood Cre**	**32.77**	**122**	P		**P**	**12 50 30.6**	**+2.4**
	baz=329							
VES	**Vestal, Richgr**	**32.87**	**123**	P		**P**	**12 50 30.6**	**+1.7**
	baz=330,SNR=14							
PSUT	**Pine Spring**	**32.87**	**114**	*e*P		**P**	**12 50 31.3**	**+2.2**
	comp=Z,83nm,1.3s							
PSUT				*e*PcP		**PcP**	**12 53 10.9**	**+0.6**
SMMC	**Simmler**	**32.95**	**125**	P		**P**	**12 50 31.9**	**+2.3**
	baz=330,SNR=13							
ULM	**Lac du Bonnet**	**32.98**	**82**	P		**P**	**12 50 30.7**	**+1.0**
	comp=Z,7.6nm,0.3s,baz=310,slow=8.7,SNR=38							
ULM				pP		**pP**	**12 51 00.8**	**+1.8**
	comp=Z,11nm,0.8s,baz=313,slow=10,SNR=7.1							
ULM				PcP		**PcP**	**12 53 09.8**	**-0.4**
	comp=Z,8.2nm,0.6s,baz=313,slow=2.8,SNR=9.1							
ULM				ScP		**ScP**	**12 56 40.8**	**-0.4**
	comp=Z,14nm,0.8s,baz=306,slow=4.7,SNR=17							
ULM				LR		LR	13 04 35.3	
	comp=Z,105nm,18.3s,baz=342,slow=37							
ULM	**Lac du Bonnet**	**32.98**	**82**	*e*P		**P**	**12 50 30.5**	**+0.8**
	comp=Z,6.3nm,0.6s							
ULM				pP		**pP**	**12 51 00.8**	**+1.8**
ULM				*e*PcP		**PcP**	**12 53 09.6**	**-0.5**
ULM				ScP		**ScP**	**12 56 40.8**	**-0.4**
K22A	**Casper**	**33.08**	**101**	*e*P		**P**	**12 50 32.4**	**+1.7**
	comp=Z,23nm,1.1s							
K22A	**Casper**	**33.08**	**101**	P		**P**	**12 50 31.9**	**+1.1**
	baz=319,SNR=12							
DAC	**Darwin (Calif)**	**33.12**	**121**	*e*P		**P**	**12 50 33.8**	**+2.5**
	comp=Z,33nm,1.0s							
DAC				*e*PcP		**PcP**	**12 53 12.1**	**+1.0**
TPNV	**Topopah Spring**	**33.13**	**119**	*e*P		**P**	**12 50 33.2**	**+2.0**
	comp=Z,21nm,0.8s							
TPNV				*e*PcP		**PcP**	**12 53 11.3**	**+0.3**
TPNV	**Topopah Spring**	**33.13**	**119**	*e*P		**P**	**12 50 33.3**	**+2.0**
TPNV				*e*			12 53 11.3	
TPNV				pmax	pmax			
	comp=Z,21nm,0.8s							
TPNV	**Topopah Spring**	**33.13**	**119**	P		**P**	**12 50 33.3**	**+2.0**
	baz=327,SNR=25							
RSSD	**Black Hills**	**33.19**	**97**	*e*P		**P**	**12 50 33.5**	**+1.6**
	comp=Z,17nm,0.9s							
RSSD				*e*PcP		**PcP**	**12 53 11.4**	**+0.3**
RSSD	**Black Hills**	**33.19**	**97**	*e*P		**P**	**12 50 33.5**	**+1.6**
RSSD				*e*			12 53 11.4	
RSSD				pmax	pmax			
	comp=Z,17nm,0.9s							
RSSD	**Black Hills**	**33.19**	**97**	P		**P**	**12 50 33.5**	**+1.6**
	baz=317							
FURC	**Furnace Creek,**	**33.27**	**120**	P		**P**	**12 50 34.7**	**+2.5**
	baz=328,SNR=22							
ISA	**Isabella, Lake**	**33.27**	**123**	*e*P		**P**	**12 50 33.8**	**+1.4**
	comp=Z,24nm,0.9s							
ISA	**Isabella, Lake**	**33.27**	**123**	*e*P		**P**	**12 50 33.8**	**+1.4**
ISA				pmax	pmax			
	comp=Z,24nm,0.9s							
ISA	**Isabella, Lake**	**33.27**	**123**	P		**P**	**12 50 34.0**	**+1.5**
	baz=329,SNR=17							
MPMC	**Manual Prospec**	**33.35**	**121**	P		**P**	**12 50 35.6**	**+2.3**
	baz=329,SNR=38							
PKM	**Mcpherson Peak**	**33.40**	**125**	P		**P**	**12 50 36.2**	**+2.6**
	baz=331,SNR=32							
TMUT	**Trail Mountain**	**33.46**	**110**	*e*P		**P**	**12 50 36.2**	**+1.8**
	comp=Z,26nm,0.9s							
TMUT				*e*PcP		**PcP**	**12 53 13.1**	**+1.0**
RWWY	**Rawlins**	**33.48**	**103**	*e*P		**P**	**12 50 35.6**	**+1.2**
	comp=Z,34nm,0.8s							
P17A	**Butcher Ranch,**	**33.54**	**110**	*e*P		**P**	**12 50 36.9**	**+2.0**
	comp=Z,22nm,1.1s							
ARVC	**Arvin**	**33.59**	**124**	P		**P**	**12 50 36.1**	**+1.0**
	baz=330,SNR=8.8							
MSU	**Marysvale**	**33.65**	**112**	*e*P		**P**	**12 50 38.5**	**+2.6**
MSU				*e*PcP		**PcP**	**12 53 14.1**	**+1.5**
MSU	**Marysvale**	**33.65**	**112**	*e*P		**P**	**12 50 38.5**	**+2.6**
MSU				*e*			12 53 14.1	
LRMC	**Laurel Mtn Rad**	**33.76**	**122**	P		**P**	**12 50 38.7**	**+1.9**
	baz=329,SNR=32							
Q16A	**Castle Valley**	**33.78**	**111**	*e*P		**P**	**12 50 38.8**	**+1.8**
	comp=Z,67nm,0.7s							
Q16A				*e*PcP		**PcP**	**12 53 13.2**	**+0.2**
SBC	**Santa Barbara**	**33.82**	**125**	P		**P**	**12 50 39.7**	**+2.6**
	baz=331							
CCUT	**Cedar City**	**33.90**	**115**	*e*P		**P**	**12 50 40.0**	**+2.0**
	comp=Z,17nm,0.8s							
CCUT				*e*PcP		**PcP**	**12 53 14.2**	**+0.9**
SRU	**San Rafael Swe**	**33.93**	**110**	*e*P		**P**	**12 50 40.5**	**+2.2**
	comp=Z,137nm,0.7s							
SRU	**San Rafael Swe**	**33.93**	**110**	*e*P		**P**	**12 50 40.5**	**+2.2**
SRU				pmax	pmax			
	comp=Z,137nm,0.7s							
SHPR	**Sheep Range**	**33.97**	**118**	*e*P		**P**	**12 50 39.6**	**+1.0**
	comp=Z,24nm,1.3s							
SZCU	**Shurtz Canyon**	**33.99**	**114**	*e*P		**P**	**12 50 40.8**	**+2.0**
	comp=Z,23nm,0.8s							
SZCU				*e*PcP		**PcP**	**12 53 14.5**	**+0.9**
SHOC	**Shoshone, Teco**	**34.00**	**120**	P		**P**	**12 50 40.8**	**+2.2**
	baz=328,SNR=8.2							
MTPU	**Mount Pierson**	**34.03**	**113**	*e*P		**P**	**12 50 41.9**	**+2.6**
	comp=Z,19nm,0.8s							
MTPU				*e*PcP		**PcP**	**12 53 15.3**	**+1.5**
OSI	**Osito Audit: C**	**34.08**	**124**	*e*P		**P**	**12 50 41.6**	**+2.2**
	comp=Z,33nm,1.1s							
OSI	**Osito Audit: C**	**34.08**	**124**	P		**P**	**12 50 41.3**	**+1.9**
	baz=330							
EDW2	**Edwards Air Fo**	**34.15**	**123**	P		**P**	**12 50 41.3**	**+1.3**
	baz=330,SNR=6.0							
O20A	**White River Ci**	**34.19**	**106**	*e*P		**P**	**12 50 42.1**	**+1.6**
	comp=Z,38nm,0.6s							
O20A				*e*PcP		**PcP**	**12 53 14.3**	**+0.2**
O20A	**White River Ci**	**34.19**	**106**	P		**P**	**12 50 42.2**	**+1.7**
	baz=322,SNR=35							
AGMN	**Agassiz Nation**	**34.28**	**85**	*e*P		**P**	**12 50 42.4**	**+1.5**
	comp=Z,17nm,0.6s							
AGMN	**Agassiz Nation**	**34.28**	**85**	P		**P**	**12 50 42.1**	**+1.2**
	baz=313							
GSC	**Goldstone, Bar**	**34.28**	**121**	*e*P		**P**	**12 50 43.4**	**+2.2**
	comp=Z,47nm,1.0s							
GSC				*e*PcP		**PcP**	**12 53 15.2**	**+1.0**
GSC	**Goldstone, Bar**	**34.28**	**121**	*e*P		**P**	**12 50 43.4**	**+2.2**
GSC				*e*			12 53 15.2	
GSC				pmax	pmax			
	comp=Z,47nm,1.0s							
GSC	**Goldstone, Bar**	**34.28**	**121**	P		**P**	**12 50 43.3**	**+2.2**
	baz=329,SNR=27							
BLG	**Laguna Peak, P**	**34.38**	**125**	P		**P**	**12 50 43.5**	**+1.6**
	baz=331							
LCMT	**Little Creek M**	**34.40**	**115**	*e*P		**P**	**12 50 44.4**	**+2.2**
	comp=Z,24nm,1.0s							
KULLO	**Kullorsuaq**	**34.45**	**28**	*i* P		**P**	**12 50 42.5**	**+0.4**
	comp=Z,27nm,0.7s							
KULLO	**Kullorsuaq**	**34.45**	**28**	*i* P		**P**	**12 50 42.5**	**+0.4**
KULLO				pmax	pmax			
	comp=Z,27nm,0.7s							
PKCU	**Pink Cliffs**	**34.46**	**114**	*e*P		**P**	**12 50 45.7**	**+2.7**
	comp=Z,23nm,0.9s							
TUQ	**Turquoise Moun**	**34.55**	**120**	P		**P**	**12 50 45.6**	**+2.1**
	baz=328,SNR=22							
DECC	**Green Verdugo**	**34.55**	**124**	P		**P**	**12 50 45.3**	**+1.9**
	baz=330,SNR=10							
RRX	**Edison Barstow**	**34.57**	**122**	P		**P**	**12 50 45.9**	**+2.3**
	baz=329,SNR=7.2							
KNB	**Kanab**	**34.58**	**115**	*e*P		**P**	**12 50 46.4**	**+2.5**
	comp=Z,35nm,0.8s							
KNB				*e*PcP		**PcP**	**12 53 16.5**	**+1.3**
KNB	**Kanab**	**34.58**	**115**	*e*P		**P**	**12 50 46.4**	**+2.5**
KNB				*e*			12 53 16.5	
KNB				pmax	pmax			
	comp=Z,35nm,0.8s							
PHWY	**Pilot Hill**	**34.62**	**102**	*e*P		**P**	**12 50 45.1**	**+0.9**
	comp=Z,3.8nm,1.0s							
PASC	**Pasadena Art C**	**34.68**	**124**	*e*P		**P**	**12 50 46.0**	**+1.5**
	comp=Z,37nm,0.9s							
MWC	**Mount Wilson**	**34.69**	**124**	*e*P		**P**	**12 50 46.6**	**+1.8**
	comp=Z,79nm,1.4s							
MWC	**Mount Wilson**	**34.69**	**124**	*e*P		**P**	**12 50 46.6**	**+1.8**
MWC				pmax	pmax			
	comp=Z,79nm,1.4s							
N23A	**Red Feather La**	**34.70**	**103**	*e*P		**P**	**12 50 46.5**	**+1.6**
	comp=Z,19nm,1.3s							
N23A	**Red Feather La**	**34.70**	**103**	P		**P**	**12 50 46.3**	**+1.4**
	baz=321,SNR=9.6							
BFSC	**Mount Baldy Ra**	**34.84**	**123**	P		**P**	**12 50 48.0**	**+1.9**
	baz=330,SNR=16							
HEC	**Hector,Ludlow**	**34.89**	**121**	P		**P**	**12 50 48.5**	**+2.1**
	baz=329,SNR=12							
FMP	**Fort Macarthur**	**35.03**	**124**	P		**P**	**12 50 49.0**	**+1.5**
	baz=331							
PV09	**Paradox Valley**	**35.07**	**109**	*e*P		**P**	**12 50 50.0**	**+1.8**
PV21	**Cone Mtn., Par**	**35.09**	**109**	*e*P		**P**	**12 50 50.1**	**+1.8**
	comp=Z,48nm,0.6s							
YAK	**Yakutsk**	**35.12**	**307**	*e*P		**P**	**12 50 47.6**	**-0.3**
YAK				pmax	pmax			
	comp=Z,29nm,0.6s							
YAK				pmax	pmax			
	comp=N,4.0nm,0.7s							
YAK				pmax	pmax			
	comp=E,10.0nm,0.8s							
BBRC	**Big Bear Solar**	**35.13**	**122**	P		**P**	**12 50 50.5**	**+1.9**
	baz=330,SNR=5.3							
PV23	**Carpenter Ridg**	**35.16**	**109**	*e*P		**P**	**12 50 50.7**	**+1.7**
	comp=E,177nm,1.4s							
PV10	**Paradox Valley**	**35.21**	**109**	*e*P		**P**	**12 50 51.6**	**+2.3**
PV10				*e*PcP		**PcP**	**12 53 18.0**	**+0.9**
GMRC	**Granite Mounta**	**35.21**	**120**	P		**P**	**12 50 51.3**	**+2.1**
	baz=329,SNR=31							
PV14	**Lion Creek, Pa**	**35.22**	**109**	*e*P		**P**	**12 50 51.1**	**+1.7**
	comp=E,50nm,0.7s							
PV14				*e*PcP		**PcP**	**12 53 17.8**	**+0.7**
CIS	**Catalina Islan**	**35.26**	**125**	P		**P**	**12 50 51.0**	**+1.5**
	baz=331							
PV20	**West Nyswonger**	**35.27**	**109**	*e*P		**P**	**12 50 51.5**	**+1.7**
	comp=E,58nm,0.7s							
PV20				*e*PcP		**PcP**	**12 53 18.1**	**+0.8**
PV19	**Morning Glory**	**35.29**	**109**	*e*P		**P**	**12 50 51.3**	**+1.3**
	comp=E,53nm,0.7s							
U15A	**North Rim**	**35.31**	**115**	*e*P		**P**	**12 50 52.5**	**+2.3**
	comp=E,37nm,1.1s							
U15A				*e*PcP		**PcP**	**12 53 18.8**	**+1.3**
PV16	**Nyswonger Mesa**	**35.32**	**109**	*e*P		**P**	**12 50 51.9**	**+1.7**
	comp=E,56nm,0.7s							
PV16				*e*PcP		**PcP**	**12 53 17.9**	**+0.5**
PV17	**East Wray Mesa**	**35.32**	**109**	*e*P		**P**	**12 50 52.1**	**+1.8**
	comp=E,82nm,0.7s							
PV17				*e*PcP		**PcP**	**12 53 18.7**	**+1.3**
PV11	**David Mesa, Pa**	**35.35**	**109**	*e*P		**P**	**12 50 52.3**	**+1.8**
	comp=E,75nm,0.7s							
PV11				*e*PcP		**PcP**	**12 53 18.3**	**+0.8**
PV12	**Saucer Basin,**	**35.37**	**109**	*e*P		**P**	**12 50 52.3**	**+1.7**
	comp=E,39nm,0.7s							
PV03	**Paradox Valley**	**35.40**	**109**	*e*P		**P**	**12 50 52.6**	**+1.7**
PV05	**Paradox Valley**	**35.42**	**109**	*e*P		**P**	**12 50 52.9**	**+1.8**
PV05				*e*PcP		**PcP**	**12 53 18.2**	**+0.5**
SUSD	**Miller**	**35.46**	**92**	P		**P**	**12 50 52.1**	**+1.0**
	baz=316							
PV02	**Paradox Valley**	**35.49**	**109**	*e*P		**P**	**12 50 53.5**	**+1.8**
	comp=E,59nm,1.0s							
PV13	**Radium Mtn., P**	**35.49**	**109**	*e*P		**P**	**12 50 53.4**	**+1.8**
	comp=E,118nm,0.7s							
PV13				*e*PcP		**PcP**	**12 53 18.5**	**+0.6**
SMCO	**Snowmass**	**35.54**	**106**	*e*P		**P**	**12 50 53.9**	**+1.6**
	comp=E,13nm,0.9s							
NKL	**Nikolayevsk**	**35.56**	**288**	*e*P		**P**	**12 50 52.0**	**+0.2**
NKL				pmax	pmax			
	comp=Z,83nm,0.9s							
SCI2	**San Clemente I**	**35.57**	**125**	P		**P**	**12 50 53.7**	**+1.6**
	baz=331,SNR=5.4							
MURC	**Murrieta**	**35.58**	**123**	P		**P**	**12 50 53.7**	**+1.4**
	baz=330							
PV01	**Paradox Valley**	**35.62**	**109**	*e*P		**P**	**12 50 54.6**	**+1.8**
PV01				*e*PcP		**PcP**	**12 53 19.2**	**+0.9**
ISCO	**Idaho Springs**	**35.70**	**104**	*e*P		**P**	**12 50 55.8**	**+2.2**
	comp=Z,3.2nm,0.8s							
ISCO	**Idaho Springs**	**35.70**	**104**	*e*P		**P**	**12 50 55.8**	**+2.2**
ISCO				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ISCO	**Idaho Springs**	**35.70**	**104**	P		**P**	**12 50 55.7**	**+2.1**
	baz=322,SNR=7.0							
W13A	**Hualapai Mount**	**35.71**	**118**	*e*P		**P**	**12 50 55.0**	**+1.4**
	comp=Z,26nm,1.0s							
W13A				*e*PcP		**PcP**	**12 53 19.5**	**+0.9**
BELC	**Belle Mtn. Jos**	**35.74**	**121**	P		**P**	**12 50 55.5**	**+1.8**
	baz=330,SNR=15							
PFO	**Pinyon Flats O**	**35.88**	**122**	*e*P		**P**	**12 50 56.3**	**+1.4**
	comp=Z,29nm,1.1s							
PFO	**Pinyon Flats O**	**35.88**	**122**	*e*P		**P**	**12 50 56.3**	**+1.4**
PFO				pmax	pmax			
	comp=Z,29nm,1.1s							
PFO	**Pinyon Flats O**	**35.88**	**122**	P		**P**	**12 50 56.3**	**+1.4**
	baz=330,SNR=11							
XPFO	**Pion Flat**	**35.88**	**122**	*e*P		**P**	**12 50 56.1**	**+1.1**
	comp=Z,34nm,1.1s							
TPFO	**Pinon Flats**	**35.89**	**122**	P		**P**	**12 50 56.3**	**+1.3**
	baz=330,SNR=12							
IRM	**Iron Mountain**	**35.97**	**120**	P		**P**	**12 50 57.7**	**+2.2**
	baz=329,SNR=35							
TYV	**Tymovskoe**	**36.09**	**284**	*e*P		**P**	**12 50 56.6**	**+0.3**
TYV				*e*S		**S**	**12 56 27.0**	**+1.8**
TYV				pmax	pmax			
	comp=Z,27nm,1.0s							
TYV				smax	smax			
	comp=E,500nm,5.8s							
109C	**Camp Elliot, M**	**36.24**	**123**	P		**P**	**12 50 59.7**	**+1.9**
	baz=331,SNR=11							
CPE	**Camp Elliot**	**36.24**	**123**	*e*P		**P**	**12 50 59.9**	**+2.1**
	comp=E,55nm,1.0s							
BC3	**Big Chuckawall**	**36.27**	**121**	P		**P**	**12 50 59.8**	**+1.6**
	baz=330,SNR=12							
PDMCI	**Parker Dam,Lak**	**36.27**	**119**	P		**P**	**12 50 60.0**	**+1.9**
	baz=328,SNR=16							
MVCO	**Mesa Verde**	**36.40**	**109**	*e*P		**P**	**12 51 00.9**	**+1.4**
	comp=E,31nm,0.6s							
MVCO	**Mesa Verde**	**36.40**	**109**	P		**P**	**12 51 01.0**	**+1.5**
	baz=324,SNR=35							
WUAZ	**Wupatki**	**36.48**	**114**	*e*P		**P**	**12 51 02.3**	**+2.3**
	comp=E,67nm,0.7s							
WUAZ	**Wupatki**	**36.48**	**114**	P		**P**	**12 51 02.3**	**+2.3**
	baz=327,SNR=74							
MONP2	**Monument Peak**	**36.52**	**123**	P		**P**	**12 51 02.6**	**+2.1**
	baz=330,SNR=20							
OGNE	**Ogallala**	**36.55**	**99**	P		**P**	**12 51 01.9**	**+1.4**
	baz=320							
Y12C	**Blythe**	**36.58**	**120**	*e*P		**P**	**12 51 02.7**	**+2.1**
	comp=E,44nm,0.8s							
Y12C	**Blythe**	**36.58**	**120**	P		**P**	**12 51 02.8**	**+2.1**
	baz=329,SNR=24							
Q24A	**Divide**	**36.58**	**104**	*e*P		**P**	**12 51 03.0**	**+2.0**
	comp=E,22nm,0.9s							
Q24A	**Divide**	**36.58**	**104**	P		**P**	**12 51 03.0**	**+2.0**
	baz=322,SNR=10							
BAR	**Barrett**	**36.60**	**123**	*e*P		**P**	**12 51 02.8**	**+1.9**
	comp=E,20nm,0.8s							
BAR				*e*PcP		**PcP**	**12 53 21.4**	**+0.4**
EYMN	**Ely**	**36.66**	**82**	*e*P		**P**	**12 51 02.3**	**+1.1**
	comp=E,9.4nm,0.7s							
EYMN	**Ely**	**36.66**	**82**	P		**P**	**12 51 02.1**	**+0.8**
	baz=313							
SWSC	**Sam W. Stewart**	**36.73**	**122**	P		**P**	**12 51 03.6**	**+1.7**
	baz=330,SNR=6.5							
S22A	**4UR Ranch, Cre**	**36.75**	**107**	*e*P		**P**	**12 51 04.9**	**+2.4**
	comp=E,17nm,0.9s							
S22A	**4UR Ranch, Cre**	**36.75**	**107**	P		**P**	**12 51 04.8**	**+2.4**
	baz=324,SNR=45							
FRB	**Frobisher Bay**	**36.86**	**48**	P		**P**	**12 51 03.2**	**+0.5**
	comp=E,19nm,0.4s,baz=308,slow=8.9,SNR=72							
FRB				PcP		**PcP**	**12 53 20.5**	**-0.7**
	comp=E,3.4nm,0.4s,baz=277,slow=4.6,SNR=4.9							
IKP	**In-Ko-Pah, Jac**	**36.86**	**122**	P		**P**	**12 51 05.2**	**+2.0**
	baz=330,SNR=16							
GLA	**Glamis**	**37.05**	**121**	*e*P		**P**	**12 51 07.7**	**+2.9**
	comp=E,12nm,0.8s							
GLA	**Glamis**	**37.05**	**121**	*e*P		**P**	**12 51 07.7**	**+2.9**
GLA				pmax	pmax			
	comp=Z,12nm,0.8s							
GLA	**Glamis**	**37.05**	**121**	P		**P**	**12 51 06.6**	**+1.9**
	baz=330,SNR=9.2							
Y14A	**Wickenburg**	**37.08**	**118**	*e*P		**P**	**12 51 07.4**	**+2.4**
	comp=Z,25nm,0.9s							
ECSD	**EROS Data Cent**	**37.13**	**91**	*e*P		**P**	**12 51 05.7**	**+0.4**
	comp=Z,12nm,0.6s							
ECSD				*e*PcP		**PcP**	**12 53 22.8**	**+0.3**
ECSD	**EROS Data Cent**	**37.13**	**91**	P		**P**	**12 51 05.8**	**+0.5**
	baz=317,SNR=21							
X16A	**Lo Mia Camp, P**	**37.37**	**115**	*e*P		**P**	**12 51 09.9**	**+2.3**
	comp=Z,24nm,1.4s							
X16A				*e*PcP		**PcP**	**12 53 24.7**	**+1.2**
SDCO	**Great Sand Dun**	**37.38**	**106**	*e*P		**P**	**12 51 09.8**	**+2.0**
	comp=Z,26nm,0.8s							
SDCO	**Great Sand Dun**	**37.38**	**106**	P

TUC ePcP PcP 12 53 30.8 +0.8
TUC Tucson 39.44 116 eP P 12 51 27.2 +2.4
TUC e 12 53 30.8
TUC pmax pmax
comp=Z,23nm,1.1s
TUC Tucson 39.44 116 P P 12 51 26.9 +2.2
baz=329
E42A Champion 39.47 81 P P 12 51 25.9 +1.1
baz=315
H40A Chili 39.55 85 P P 12 51 26.9 +1.4
baz=316,SNR=16
I39A Houston 39.55 86 eP P 12 51 26.4 +0.8
comp=Z,24nm,0.5s
I39A Houston 39.55 86 P P 12 51 26.5 +1.0
baz=317,SNR=11
LENM Lemitar 39.61 111 eP P 12 51 28.5 +2.2
LPM Los Pinos Moun 39.64 110 eP P 12 51 28.9 +2.3
BNM Barren Site 39.78 110 eP P 12 51 29.7 +1.9
BNM ePcP PcP 12 53 32.0 +0.8
J39A Decorah 39.85 87 P P 12 51 28.7 +0.8
baz=318,SNR=28
SUMG Summit 39.88 25 eP P 12 51 28.4 +0.1
comp=Z,27nm,0.7s
SUMG Summit 39.88 25 i P P 12 51 28.6 +0.3
comp=Z,70nm,0.7s
SUMG Summit 39.88 25 i P P 12 51 28.6 +0.3
SUMG pmax pmax
comp=Z,70nm,0.7s
H41A Junction City 39.92 84 eP P 12 51 29.5 +1.0
comp=Z,10nm,0.6s
H41A Junction City 39.92 84 P P 12 51 29.5 +1.0
baz=317
E43A Lone Tree Farm 39.95 80 eP P 12 51 29.8 +1.0
comp=Z,25nm,1.0s
E43A Lone Tree Farm 39.95 80 P P 12 51 29.8 +1.0
baz=315
I40A Norwalk 39.97 86 P P 12 51 30.1 +1.1
baz=317,SNR=22
G42A Mountain 40.07 82 eP P 12 51 31.0 +1.2
comp=Z,22nm,1.0s
G42A Mountain 40.07 82 P P 12 51 31.1 +1.4
baz=316
SCIA State Center 40.16 90 eP P 12 51 31.8 +1.2
comp=Z,32nm,1.1s
SCIA State Center 40.16 90 P P 12 51 31.6 +1.1
baz=319
I41A Arkdale 40.22 85 eP P 12 51 32.4 +1.4
comp=Z,44nm,0.4s
I41A Arkdale 40.22 85 P P 12 51 32.3 +1.3
baz=317,SNR=15
K39A Oelwein 40.22 88 P P 12 51 31.6 +0.5
baz=318,SNR=38
F43A Flat Rock, Esc 40.26 81 P P 12 51 32.4 +1.1
baz=316
J40A Soldiers Grove 40.28 86 P P 12 51 32.2 +0.7
baz=318,SNR=34
G43A Wallace 40.42 82 eP P 12 51 33.7 +1.1
comp=Z,11nm,0.6s
G43A Wallace 40.42 82 P P 12 51 33.6 +1.0
baz=316
KBS Kingsbay 40.45 4 eP P 12 51 33.4 +0.9
comp=Z,16nm,0.7s
KBS Kingsbay 40.45 4 eP P 12 51 33.4 +0.9
KBS pmax pmax
comp=Z,16nm,0.7s
F44A Big Bay de Noc 40.52 80 P P 12 51 34.9 +1.5
baz=316
K40A Colesburg 40.60 87 P P 12 51 34.7 +0.6
baz=318,SNR=24
121A Cookes Peak, D 40.60 113 P P 12 51 36.7 +2.3
baz=328,SNR=26
L39A Vinton 40.60 89 P P 12 51 34.8 +0.6
baz=318,SNR=11
KSU1 Kansas State U 40.63 96 eP P 12 51 35.5 +1.0
comp=Z,66nm,0.9s
KSU1 Kansas State U 40.63 96 P P 12 51 35.4 +1.0
baz=321,SNR=30
J41A Loganville 40.66 86 P P 12 51 35.6 +1.0
baz=318,SNR=33
SFJD Kangerlussuaq 40.71 36 P P 12 51 35.0 +0.3
comp=Z,22nm,0.7s,baz=335,slow=8.3,SNR=11
SFJD pP pP 12 52 05.5 +0.4
comp=Z,10.0nm,0.7s,baz=333,slow=8.9,SNR=3.0
SFJD PcP PcP 12 53 32.9 -0.4
comp=Z,4.7nm,0.6s,baz=321,slow=7.5,SNR=3.1
SFJD Kangerlussuaq 40.71 36 eP P 12 51 35.2 +0.5
comp=Z,34nm,1.0s
SFJD epP pP 12 52 05.5 +0.4
SFJD ePcP PcP 12 53 32.9 -0.4
SFJD Kangerlussuaq 40.71 36 i P P 12 51 35.0 +0.3
comp=Z,29nm,0.9s
SFJD Kangerlussuaq 40.71 36 eP P 12 51 35.2 +0.5
SFJD e*PP pP 12 52 05.5 +0.4
SFJD e 12 53 32.9
SFJD pmax pmax
comp=Z,34nm,1.0s
I42A Draeger Farm, 40.81 84 eP P 12 51 37.0 +1.1
comp=Z,22nm,0.6s
I42A Draeger Farm, 40.81 84 P P 12 51 37.1 +1.2
baz=317,SNR=7.3
JFWS Jewell Farm 40.88 86 eP P 12 51 36.8 +0.4
comp=Z,77nm,0.6s
JFWS Jewell Farm 40.88 86 eP P 12 51 36.8 +0.4
JFWS pmax pmax
comp=Z,77nm,0.6s
JFWS Jewell Farm 40.88 86 P P 12 51 36.8 +0.4
baz=318,SNR=30
H43A Windswept, Lux 40.95 83 eP P 12 51 38.1 +1.1
comp=Z,28nm,0.7s
HMH Humu'ula Sheep 40.97 184 eP P 12 51 38.7 +1.0
comp=Z,181nm,1.2s
M39A Webster 41.00 89 P P 12 51 38.3 +0.8
baz=319,SNR=15
D46A Sault St. Mari 41.02 77 P P 12 51 38.2 +0.7
baz=315
L40A Anamosa 41.03 88 eP P 12 51 38.3 +0.6
comp=Z,119nm,0.5s
L40A Anamosa 41.03 88 P P 12 51 38.2 +0.6
baz=318,SNR=39
MLOA Mauna Loa Obse 41.04 184 eP P 12 51 39.5 +1.1
comp=Z,145nm,1.1s
MLH Mauna Loa 41.07 183 eP P 12 51 39.1 +0.6
comp=Z,168nm,1.1s
MLH Mauna Loa 41.07 183 eP P 12 51 39.1 +0.6
MLH pmax pmax
comp=Z,168nm,1.1s
K41A Shullsburg 41.08 87 P P 12 51 38.8 +0.8
baz=318,SNR=48
J42A Columbus 41.13 85 P P 12 51 39.4 +0.9
baz=318,SNR=8.5
PUH Pauahi 41.19 183 eP P 12 51 40.0 +0.7
comp=Z,97nm,0.7s
I43A Langenfeld Bro 41.19 84 P P 12 51 40.0 +1.0
baz=317,SNR=5.9
AIN Ainahou 41.20 184 eP P 12 51 40.8 +1.3
comp=Z,121nm,0.8s
E46A Sault Ste Mari 41.26 78 P P 12 51 40.4 +0.8
baz=316
ZEA Zeya 41.27 298 eP P 12 51 39.0 -0.5
ZEA pmax pmax
comp=Z,23nm,1.0s
KHU Kahuku 41.33 184 eP P 12 51 41.5 +0.9
comp=Z,175nm,0.8s
KHU Kahuku 41.33 184 eP P 12 51 41.5 +0.9
KHU pmax pmax
comp=Z,175nm,0.8s
SPA0 Spitsbergen Ar 41.34 3 eP P 12 51 39.4 -0.4
D47A Chapleau 41.35 76 P P 12 51 40.8 +0.5
baz=315
L41A Preston 41.38 87 P P 12 51 40.9 +0.4
baz=318,SNR=38
M40A Post Highland 41.38 89 P P 12 51 40.7 +0.1
baz=319,SNR=10
K42A Prairie Point, 41.42 86 P P 12 51 41.4 +0.5
baz=318,SNR=14
J43A Natural Harves 41.43 84 P P 12 51 41.6 +0.7
baz=318,SNR=10
F46A Macinaw City C 41.47 79 P P 12 51 42.2 +1.0
baz=316
AMTX Amarillo 41.51 104 eP P 12 51 43.7 +1.9
comp=Z,37nm,0.6s
AMTX Amarillo 41.51 104 P P 12 51 43.4 +1.6
baz=324
U32A Winter Ranch, 41.60 101 eP P 12 51 44.0 +1.5
comp=Z,26nm,0.9s
E47A Iron Bridge 41.70 77 P P 12 51 43.5 +0.5
baz=316

MSTX Muleshoe 41.73 106 eP P 12 51 45.3 +1.6
comp=Z,74nm,0.8s
MSTX Muleshoe 41.73 106 P P 12 51 45.1 +1.4
baz=325,SNR=47
N40A Mertquake, Sal 41.74 89 P P 12 51 43.8 +0.3
baz=319,SNR=11
G46A Petoskey 41.75 80 P P 12 51 44.5 +1.0
baz=316,SNR=9.1
L42A Oliver, Polo 41.84 87 eP P 12 51 44.5 +0.2
comp=Z,28nm,0.6s
L42A Oliver, Polo 41.84 87 P P 12 51 44.5 +0.2
baz=319,SNR=6.8
M41A Milan 41.88 88 P P 12 51 45.0 +0.4
baz=319,SNR=13
D48A Paudash Townsh 41.89 75 P P 12 51 45.2 +0.6
baz=316,SNR=10
K43A Burlington 41.98 85 eP P 12 51 46.1 +0.7
comp=Z,48nm,0.7s
K43A Burlington 41.98 85 P P 12 51 46.0 +0.6
baz=318,SNR=5.1
MATQ Matagami 42.02 70 P P 12 51 45.7 +0.1
baz=314,SNR=7.1
D49A Beulah Townshi 42.03 75 P P 12 51 46.3 +0.5
baz=316
L43A Garden Prairie 42.16 86 P P 12 51 47.2 +0.4
baz=318
HSIG 42.20 119 eP P 12 51 47.6 +0.3
comp=Z,39nm,0.9s
E48A Lockeyer 42.21 76 P P 12 51 47.7 +0.5
baz=316
GLMI Grayling 42.23 80 P P 12 51 48.4 +1.0
baz=317
N41A Harden Midland 42.23 89 eP P 12 51 48.0 +0.5
comp=Z,35nm,0.9s
N41A Harden Midland 42.23 89 P P 12 51 47.8 +0.3
baz=320,SNR=13
KLR Kul'dur 42.35 290 c i P P 12 51 47.9 -0.4
MNTX Cornudas Mount 42.40 111 eP P 12 51 51.3 +2.4
comp=Z,31nm,0.8s
MNTX ePcP PcP 12 53 40.3 +0.8
MNTX Cornudas Mount 42.40 111 P P 12 51 51.0 +2.1
baz=327,SNR=67
GDL2 Guadalupe Moun 42.45 110 eP P 12 51 51.8 +2.3
GDL2 ePcP PcP 12 53 40.5 +0.7
F48A Evansville 42.47 77 P P 12 51 50.1 +0.8
baz=316
I46A Reed City 42.47 81 P P 12 51 50.4 +1.0
baz=318
N42A Yates City 42.55 88 P P 12 51 50.3 +0.3
baz=320,SNR=5.1
L44A Lake County Fo 42.58 85 P P 12 51 50.8 +0.6
baz=319
M43A Waltham Townsh 42.62 87 P P 12 51 50.9 +0.4
baz=319,SNR=10.0
O41A Passleys Farm, 42.67 90 P P 12 51 51.5 +0.4
baz=320,SNR=20
LSQQ Lesel-sur-Quev 42.82 70 P P 12 51 52.2 +0.1
baz=315
D50A G1974 Best Tow 42.83 74 P P 12 51 52.5 +0.3
baz=316
I47A Gladwin 42.87 81 P P 12 51 53.8 +1.2
baz=318
N43A Stutzman Famil 42.89 87 P P 12 51 53.1 +0.3
baz=319
P41A Barry, Barry 42.92 90 P P 12 51 53.3 +0.3
baz=320,SNR=23
E50A Wahnapitae 42.94 75 P P 12 51 53.5 +0.5
baz=316
H48A Harrisville 42.95 79 P P 12 51 54.1 +0.9
baz=317
WMOK Wichita Mounta 43.02 102 eP P 12 51 55.5 +1.6
comp=Z,34nm,0.8s
WMOK Wichita Mounta 43.02 102 eP P 12 51 55.5 +1.6
WMOK pmax pmax
comp=Z,34nm,0.8s
WMOK Wichita Mounta 43.02 102 P P 12 51 55.1 +1.2
baz=324,SNR=15
D51A Lot 18 Range I 43.10 74 P P 12 51 54.6 +0.1
baz=316
M44A Midewin, Midew 43.10 86 eP P 12 51 55.3 +0.8
comp=Z,35nm,0.6s
M44A Midewin, Midew 43.10 86 P P 12 51 55.2 +0.8
baz=319
HDIL Hodale 43.12 88 eP P 12 51 55.1 +0.5
comp=Z,93nm,0.6s
HDIL Hopedale 43.12 88 P P 12 51 55.1 +0.5
baz=320
SRIG Santa Rosalia 43.13 122 eP P 12 51 56.9 +2.0
comp=Z,68nm,0.8s
I48A Sherman Twp 43.14 80 P P 12 51 56.1 +1.3
baz=318
K46A Dorr 43.24 83 P P 12 51 56.3 +0.7
baz=318
SCHQ Schefferville 43.24 57 P P 12 51 55.7 +0.2
comp=Z,8.4nm,0.8s,baz=333,slow=7.7,SNR=30
SCHQ PcP PcP 12 53 42.0 0.0
comp=Z,8.6nm,0.9s,baz=237,slow=3.4,SNR=4.2
SCHQ ScP ScP 12 57 19.7 -0.4
comp=Z,4.8nm,0.9s,baz=315,slow=2.9,SNR=3.5
SCHQ Schefferville 43.24 57 eP P 12 51 55.7 +0.2
comp=Z,15nm,1.0s
VLDQ Val d'Or 43.27 71 eP P 12 51 54.7 -1.1
comp=Z,17nm,0.4s
VLDQ ePP PcP 12 53 40.7 -1.4
J47A Sunmer 43.30 82 P P 12 51 56.9 +0.9
baz=318
O43A Sugar Creek Fa 43.31 88 P P 12 51 56.6 +0.4
baz=320,SNR=10
P42A Winchester 43.34 90 eP P 12 51 56.8 +0.3
comp=Z,45nm,0.5s
P42A ePcP PcP 12 53 42.5 0.0
P42A Winchester 43.34 90 P P 12 51 56.7 +0.3
baz=320,SNR=19
Q41A Truxton 43.39 91 P P 12 51 57.2 +0.4
baz=321,SNR=27
CHGQ Chibougamau 43.41 67 P P 12 51 56.5 -0.3
baz=315,SNR=7.7
E51A G1948 Merrick 43.45 74 P P 12 51 57.8 +0.6
baz=316
L46A Eue Claire 43.49 84 P P 12 51 58.5 +0.9
baz=319,SNR=7.8
N44A Pipr City 43.51 87 P P 12 51 58.3 +0.5
baz=320,SNR=8.0
TUL1 Leonard 43.53 98 eP P 12 51 58.7 +0.7
comp=Z,20nm,0.8s
TUL1 Leonard 43.53 98 P P 12 51 58.7 +0.7
baz=323,SNR=9.2
K47A Vermontville 43.64 82 P P 12 51 59.5 +0.8
baz=318
D52A ZEK Kipawa Sen 43.64 73 P P 12 51 59.1 +0.4
baz=316
F51A Arnstein 43.69 75 P P 12 51 59.2 +0.1
baz=317
P43A Skaggs, Pawnee 43.71 89 P P 12 51 59.7 +0.4
baz=320,SNR=12
Q42A Golden Eagle 43.77 90 P P 12 52 00.4 +0.6
baz=321,SNR=17
N45A Kentland 43.77 86 P P 12 52 00.7 +0.8
baz=320,SNR=6.5
R41A Rosebud 43.83 92 P P 12 52 00.3 0.0
baz=321,SNR=18
O44A Mansfield 43.83 87 P P 12 52 00.6 +0.3
baz=320,SNR=18
BOD Bodaibo 43.89 310 eP P 12 51 59.8 -0.7
BOD pmax pmax
comp=Z,13nm,0.6s
M46A Old House Fiel 43.92 85 eP P 12 52 01.8 +0.7
comp=Z,44nm,0.5s
M46A Old House Fiel 43.92 85 P P 12 52 01.6 +0.5
baz=319,SNR=10
E52A Mattawa 44.03 74 P P 12 52 02.3 +0.4
baz=317,SNR=7.7
J49A Marlette 44.03 80 P P 12 52 03.0 +1.2
baz=318
BMRO Meriville Lake 44.04 77 P P 12 52 03.0 +1.0
baz=318
L47A Sherwood 44.06 83 P P 12 52 02.7 +0.6
baz=319,SNR=12
F52A Sundridge 44.07 75 P P 12 52 02.5 +0.4
baz=317,SNR=9.3
CCM Cathedral Cave 44.08 92 eP P 12 52 02.5 +0.1
comp=Z,17nm,0.9s
CCM Cathedral Cave 44.08 92 eP P 12 52 02.5 +0.1
CCM pmax pmax
comp=Z,17nm,0.9s
CCM Cathedral Cave 44.08 92 P P 12 52 02.2 -0.1
baz=321
N46A Monticello 44.12 85 P P 12 52 03.3 +0.6
baz=320
O45A Potomac 44.13 87 P P 12 52 03.5 +0.8
baz=320,SNR=25
R42A Luebbering 44.13 91 P P 12 52 02.6 -0.1
baz=321,SNR=15
SLM Saint Louis 44.13 90 eP P 12 52 03.4 +0.7
comp=Z,50nm,0.4s
SLM Saint Louis 44.13 90 eP P 12 52 03.4 +0.7
SLM pmax pmax
comp=Z,50nm,0.4s
HHAR Hobbs 44.15 96 eP P 12 52 03.0 0.0
comp=Z,17nm,0.7s
Q43A New Douglas 44.16 90 P P 12 52 03.8 +0.8
baz=321,SNR=40
S41A Jillco Farms, 44.20 93 P P 12 52 03.4 +0.1
baz=322,SNR=60
BASO Ashfield 44.26 78 P P 12 52 04.9 +1.2
baz=318
P44A Sand Creek, Wi 44.28 88 P P 12 52 04.4 +0.4
baz=320,SNR=21
K49A Clarkson 44.30 81 P P 12 52 05.4 +1.3
baz=319
M47A Cromwell 44.32 84 P P 12 52 04.7 +0.5
baz=319,SNR=5.8
ABTX Abilene, Hawle 44.33 104 eP P 12 52 05.7 +1.2
comp=Z,39nm,0.5s
ABTX Abilene, Hawle 44.33 104 P P 12 52 05.4 +0.9
baz=326,SNR=20
SFIN Lafayette 44.34 86 eP P 12 52 05.3 +0.9
comp=Z,58nm,0.6s
SFIN Lafayette 44.34 86 P P 12 52 05.0 +0.6
baz=320,SNR=21
E53A Dumoine, Ponti 44.43 73 P P 12 52 05.3 +0.3
baz=317
L48A N Adams 44.46 82 P P 12 52 06.2 +0.8
baz=319,SNR=11
Q44A Meyer Farm, Va 44.52 89 eP P 12 52 06.3 +0.5
comp=Z,41nm,0.8s
Q44A Meyer Farm, Va 44.52 89 P P 12 52 06.3 +0.5
baz=321,SNR=10
S42A Caledonia 44.53 92 P P 12 52 05.8 -0.1
baz=322,SNR=29
ALGO Algonquin Park 44.56 74 P P 12 52 06.0 -0.1
baz=317,SNR=7.0
R43A Red Bud 44.56 90 P P 12 52 06.5 +0.3
baz=321,SNR=9.1
AAM Ann Arbor 44.57 82 eP P 12 52 07.4 +1.2
comp=Z,30nm,0.5s
AAM Ann Arbor 44.57 82 P P 12 52 07.3 +1.2
baz=319
E54A Lac Daplat, Po 44.61 73 P P 12 52 06.6 +0.1
baz=317
T41A Mountain View 44.62 93 P P 12 52 06.1 -0.5
baz=322,SNR=13
U40A Yellville 44.62 95 P P 12 52 06.4 -0.3
baz=322,SNR=8.6
N47A Urbana 44.65 84 P P 12 52 07.1 +0.3
baz=320,SNR=22
L49A Milan 44.66 82 P P 12 52 08.0 +1.1
baz=319,SNR=6.9
M48A Edgerton 44.67 83 eP P 12 52 07.7 +0.8
comp=Z,17nm,0.9s
P45A Graceland, Par 44.67 87 eP P 12 52 07.7 +0.6
comp=Z,38nm,0.6s
P45A Graceland, Par 44.67 87 P P 12 52 07.6 +0.6
baz=320,SNR=9.7
I51A Listowel 44.72 78 P P 12 52 08.8 +1.4
baz=318
SCO Scoresbysund 44.76 21 eP P 12 52 06.9 -0.4
comp=Z,31nm,1.5s
SCO Scoresbysund 44.76 21 eP P 12 52 06.9 -0.4
SCO pmax pmax
comp=Z,31nm,1.5s
X37A Clayton 44.80 99 eP P 12 52 08.9 +0.8
comp=Z,27nm,1.2s
P46A Rosedale 44.87 87 P P 12 52 09.3 +0.7
baz=320,SNR=19
O47A Sheridan 44.90 85 P P 12 52 08.9 0.0
baz=320,SNR=5.3
SADO Sadowa 44.91 76 P P 12 52 09.2 +0.4
comp=Z,5.8nm,0.4s,baz=324,slow=8.8,SNR=18
SADO PcP PcP 12 53 47.5 -0.3
comp=Z,2.9nm,0.4s,baz=306,slow=5.3,SNR=4.5
SADO ScP ScP 12 57 27.0 -0.1
comp=Z,7.4nm,0.9s,baz=323,slow=4.4,SNR=4.7
SADO Sadowa 44.91 76 eP P 12 52 08.9 +0.1
comp=Z,13nm,1.0s
SADO ePcP PcP 12 53 47.7 -0.1
SADO eScP ScP 12 57 27.0 -0.1
Q45A Warren Harvey, 44.95 88 P P 12 52 09.9 +0.6
baz=321,SNR=19
T42A Van Buren 44.96 93 eP P 12 52 08.9 -0.4
comp=Z,23nm,0.5s
T42A ePcP PcP 12 53 48.3 +0.2
T42A Van Buren 44.96 93 P P 12 52 08.9 -0.4
baz=322,SNR=24
N48A Decatur 44.99 84 P P 12 52 09.7 +0.1
baz=320,SNR=21
M49A Liberty Center 45.04 83 P P 12 52 10.8 +0.9
baz=319
S43A Fulton Ridge, 45.04 91 P P 12 52 10.3 +0.4
baz=322,SNR=49
ELFO Elginfield 45.04 79 P P 12 52 11.2 +1.3
baz=318
W39A Magazine 45.09 97 eP P 12 52 10.6 +0.2
comp=Z,22nm,1.1s
W39A Magazine 45.09 97 P P 12 52 10.5 +0.2
baz=323,SNR=7.2
U41A Viola 45.09 94 P P 12 52 09.8 -0.5
baz=322,SNR=8.3
OLIL Olney 45.11 88 eP P 12 52 11.0 +0.5
comp=Z,89nm,0.6s
PEMO Pembroke 45.14 73 P P 12 52 10.6 0.0
baz=318
LTX Lajitas 45.18 111 eP P 12 52 13.1 +1.8
LTX ePcP PcP 12 53 49.6 +0.4
LTX e 13 00 45.5
LTX Lajitas 45.18 111 eP P 12 52 13.1 +1.8
LTX e 12 53 49.6
TX31 Lajitas Ar. Si 45.18 111 eP P 12 52 12.6 +1.3
TX31 ePcP PcP 12 53 49.6 +0.5
TXAR Lajitas Array 45.18 111 P P 12 52 13.1 +1.9
comp=Z,26nm,0.8s,baz=326,slow=6.1,SNR=160
TXAR PcP PcP 12 53 49.6 +0.4
comp=Z,1.6nm,0.5s,baz=32,slow=0.8,SNR=6.9
TXAR PKiKP PKiKP 13 00 45.5 -1.2
comp=Z,0.2nm,0.4s,baz=173,slow=1.9,SNR=4.9
BANO Bancroft 45.30 75 P P 12 52 12.4 +0.4
baz=318
T43A Greenville 45.31 92 P P 12 52 12.3 +0.2
baz=322,SNR=73
ACTO Acton 45.33 78 P P 12 52 13.4 +1.2
baz=318,SNR=6.5
S44A Carbondale 45.35 90 P P 12 52 12.6 +0.2
baz=322,SNR=23
SIUC Southern Illin 45.35 90 eP P 12 52 12.7 +0.3
comp=Z,47nm,1.1s
N49A Columbus Grove 45.36 83 eP P 12 52 12.8 +0.4
comp=Z,22nm,0.6s
N49A Columbus Grove 45.36 83 P P 12 52 12.8 +0.4
baz=320,SNR=6.1
R45A Skylar, Fairfi 45.36 89 P P 12 52 12.9 +0.4
baz=321,SNR=17
O48A Farmland 45.39 85 P P 12 52 12.4 -0.2
baz=320,SNR=27
J52A Paris 45.41 78 P P 12 52 13.6 +0.8
baz=319
V41A Mountainview 45.42 95 P P 12 52 12.4 -0.5
baz=323,SNR=19
U42A Revenden 45.42 93 P P 12 52 12.5 -0.5
baz=322,SNR=9.5
P47A Martinsville 45.43 86 P P 12 52 13.0 0.0
baz=320,SNR=28
F55A Otter Lake 45.45 73 P P 12 52 13.0 0.0
baz=318
BLO Bloomington 45.55 87 eP P 12 52 14.3 +0.4
comp=Z,48nm,0.5s
BLO Bloomington 45.55 87 eP P 12 52 14.3 +0.4
BLO pmax pmax
comp=Z,48nm,0.5s
T44A Benton 45.66 91 P P 12 52 14.9 +0.1
baz=322,SNR=18
S45A Carrier Mills 45.69 90 P P 12 52 15.6 +0.5
baz=322,SNR=27
PLVO Plevna 45.70 74 eP P 12 52 15.2 +0.3
comp=Z,17nm,1.4s
PLVO Plevna 45.70 74 P P 12 52 15.3 +0.3
baz=318

G55A	**Calabogie**	45.71	73	P		P	12 52 15.1	+0.1
	baz=318,SNR=8.5							
MIAR	**Mount Ida**	45.71	97	*e*P		P	12 52 15.7	+0.4
	comp=Z,23nm,0.8s							
MIAR				*e*PcP		PcP	12 53 51.0	+0.2
MIAR	**Mount Ida**	45.71	97	*e*P		P	12 52 15.7	+0.4
MIAR				*e*			12 53 51.0	
MIAR				pmax		pmax		
	comp=Z,23nm,0.8s							
MIAR	**Mount Ida**	45.71	97	P		P	12 52 15.8	+0.5
	baz=324,SNR=17							
WHAR	**Wooly Hollow**	45.75	95	*e*P		P	12 52 15.3	-0.3
	comp=Z,10.0nm,1.2s							
DRWO	**Darlington Wes**	45.78	76	P		P	12 52 16.5	+0.8
	baz=318							
Q47A	**Bedord North L**	45.78	87	P		P	12 52 16.2	+0.4
	baz=321,SNR=57							
V42A	**Cord**	45.78	94	P		P	12 52 15.0	-0.8
	baz=323,SNR=7.6							
DRCO	**St. Marys Ceme**	45.79	76	P		P	12 52 16.9	+1.1
	baz=318							
R46A	**Gibon Southern**	45.80	88	P		P	12 52 16.5	+0.5
	baz=321,SNR=23							
TYNO	**Tyneside**	45.81	78	P		P	12 52 16.9	+0.9
	baz=319							
U43A	**Rector**	45.82	93	P		P	12 52 16.5	+0.5
	baz=322,SNR=21							
O49A	**Covington**	45.84	84	*e*P		P	12 52 16.1	-0.1
	comp=Z,20nm,0.6s							
O49A	**Covington**	45.84	84	P		P	12 52 16.1	-0.1
	baz=320,SNR=12							
W41B	**Gary Mavity, V**	45.86	95	*e*P		P	12 52 16.6	+0.2
	comp=Z,22nm,1.4s							
W41B	**Gary Mavity, V**	45.86	95	P		P	12 52 17.2	+0.8
	baz=323							
P48A	**Milroy**	45.87	86	P		P	12 52 16.0	-0.5
	baz=321,SNR=11							
WHTX	**Lake Whitney,**	45.90	103	*e*P		P	12 52 18.4	+1.6
	comp=Z,46nm,0.8s							
WHTX	**Lake Whitney,**	45.90	103	P		P	12 52 17.5	+0.8
	baz=326							
WLVO	**Wesleyville**	45.90	76	P		P	12 52 17.3	+0.7
	baz=318,SNR=9.4							
USRK	**Ussuriysk Ar.**	45.90	285	P		P	12 52 15.9	-0.7
	comp=Z,3.4nm,0.8s,baz=47,slow=9.0,SNR=10							
USIN	**University of**	45.92	89	*e*P		P	12 52 17.7	+0.8
	comp=Z,60nm,0.6s							
LATQ	**La Tuque**	45.97	69	P		P	12 52 17.0	-0.1
	baz=317,SNR=6.7							
N50A	**Nevada**	45.98	83	P		P	12 52 18.1	+0.8
	baz=320							
H55A	**Tweed**	46.01	74	P		P	12 52 17.9	+0.4
	baz=318							
I55A	**Frankford**	46.02	75	P		P	12 52 17.9	+0.3
	baz=318							
JCT	**Junction City**	46.03	106	*e*P		P	12 52 19.5	+1.7
	comp=Z,226nm,0.8s							
JCT	**Junction City**	46.03	106	*e*P		P	12 52 19.5	+1.7
JCT				pmax		pmax		
	comp=Z,226nm,0.8s							
JCT	**Junction City**	46.03	106	P		P	12 52 19.3	+1.5
	baz=327,SNR=135							
STCO	**Saint Catharin**	46.06	77	P		P	12 52 18.9	+1.0
	baz=319							
U44A	**Portageville**	46.07	92	P		P	12 52 18.5	+0.5
	baz=322							
S46A	**Don Dixon Farm**	46.11	89	P		P	12 52 18.5	+0.2
	baz=322,SNR=10							
X40A	**Basin Creek Fa**	46.12	96	*e*P		P	12 52 18.8	+0.4
	comp=Z,7.6nm,0.9s							
X40A	**Basin Creek Fa**	46.12	96	P		P	12 52 18.6	+0.1
	baz=324,SNR=6.0							
Q48A	**North Vernon**	46.12	86	P		P	12 52 18.4	-0.1
	baz=321,SNR=33							
ORIO	**Orleans, Innes**	46.13	72	P		P	12 52 18.2	-0.2
	baz=318,SNR=9.3							
UALR	**University of**	46.13	96	*e*P		P	12 52 19.2	+0.7
	comp=Z,15nm,0.7s							
P49A	**Miami Univ. Ec**	46.16	85	P		P	12 52 18.1	-0.6
	baz=321,SNR=6.5							
T45A	**Paducah**	46.18	90	*e*P		P	12 52 19.6	+0.7
	comp=Z,70nm,0.7s							
T45A	**Paducah**	46.18	90	P		P	12 52 19.3	+0.4
	baz=322,SNR=9.0							
O50A	**Cable**	46.22	83	P		P	12 52 19.6	+0.3
	baz=320,SNR=21							
R47A	**Wooly Knot Far**	46.22	88	P		P	12 52 19.3	+0.1
	baz=321,SNR=17							
N51A	**Ashland**	46.24	82	*e*P		P	12 52 20.1	+0.8
	comp=Z,17nm,0.6s							
N51A	**Ashland**	46.24	82	P		P	12 52 19.9	+0.5
	baz=320							
J54A	**Appleton**	46.27	77	P		P	12 52 20.3	+0.7
	baz=319,SNR=6.3							
X41A	**Kaden, Bauxite**	46.27	96	P		P	12 52 19.9	+0.2
	baz=324,SNR=5.5							
ALFO	**Alfred**	46.29	72	P		P	12 52 19.5	-0.2
	baz=318,SNR=7.5							
HPIG		46.32	115	*e*P		P	12 52 22.2	+1.9
	comp=Z,18nm,0.7s							
WCI	**Wyandotte Cave**	46.39	87	*e*P		P	12 52 21.1	+0.5
	comp=Z,35nm,0.9s							
WCI	**Wyandotte Cave**	46.39	87	*e*P		P	12 52 21.1	+0.5
WCI				pmax		pmax		
	comp=Z,35nm,0.9s							
WCI	**Wyandotte Cave**	46.39	87	P		P	12 52 20.9	+0.4
	baz=321							
H56A	**Elgin**	46.42	74	P		P	12 52 20.7	+0.1
	baz=318							
MEDO	**Medina**	46.44	77	P		P	12 52 21.6	+0.8
	baz=319							
R48A	**Northridge Ran**	46.47	87	P		P	12 52 21.3	+0.2
	baz=321							
ACSO	**Alum Creek Sta**	46.47	83	*e*P		P	12 52 21.9	+0.7
	comp=Z,17nm,0.8s							
ACSO	**Alum Creek Sta**	46.47	83	P		P	12 52 21.6	+0.4
	baz=320,SNR=5.4							
Q49A	**Aurora**	46.48	86	P		P	12 52 20.7	-0.5
	baz=321,SNR=6.0							
ERPA	**Erie**	46.49	79	*e*P		P	12 52 22.4	+1.1
	comp=Z,32nm,0.5s							
ERPA	**Erie**	46.49	79	P		P	12 52 22.2	+0.9
	baz=319,SNR=6.1							
V44A	**Blytheville**	46.50	93	P		P	12 52 22.1	+0.7
	baz=323							
T46A	**Princeton**	46.53	90	P		P	12 52 22.1	+0.5
	baz=322,SNR=13							
P50A	**Jamestown**	46.55	84	P		P	12 52 21.9	+0.1
	baz=321,SNR=18							
S47A	**Hartford**	46.60	88	P		P	12 52 22.4	+0.3
	baz=322,SNR=14							
U45A	**Rockin P Farm,**	46.65	91	P		P	12 52 22.9	+0.4
	baz=322							
X42A	**Stuttgart**	46.66	95	P		P	12 52 23.1	+0.4
	baz=324							
J55A	**Hilton**	46.67	76	P		P	12 52 23.0	+0.3
	baz=319							
Y41A	**Eaglette Beard**	46.72	97	P		P	12 52 24.5	+1.4
	baz=324							
O51A	**Pataskala**	46.72	83	P		P	12 52 23.4	+0.3
	baz=320,SNR=7.0							
ALLY	**Alegheny Colle**	46.77	79	*e*P		P	12 52 24.7	+1.2
	comp=Z,30nm,0.8s							
435B	**Jarrell**	46.83	104	*e*P		P	12 52 25.8	+1.7
	comp=Z,62nm,0.8s							
435B	**Jarrell**	46.83	104	P		P	12 52 25.4	+1.3
	baz=326,SNR=11							
R49A	**Shelbyville**	46.90	86	P		P	12 52 24.6	+0.1
	baz=321,SNR=7.1							
U46A	**Springville**	46.93	91	P		P	12 52 25.3	+0.5
	baz=322,SNR=6.5							
S48A	**Wiedeman Farm,**	46.95	88	P		P	12 52 25.5	+0.6
	baz=322,SNR=74							
K55A	**Perry**	46.95	77	P		P	12 52 25.4	+0.4
	baz=319,SNR=7.5							
T47A	**Sharon Grove**	46.96	89	*e*P		P	12 52 25.7	+0.7
	comp=Z,15nm,0.4s							
P51A	**Williamsport**	47.01	84	*e*P		P	12 52 25.4	+0.1
	comp=Z,12nm,0.7s							
P51A	**Williamsport**	47.01	84	P		P	12 52 25.2	-0.1
	baz=321,SNR=5.0							
MMNY	**Mt. Morris Dam**	47.03	77	*e*P		P	12 52 26.1	+0.7
	comp=Z,31nm,0.4s							
Q50A	**Georgetown**	47.05	85	P		P	12 52 25.9	+0.2
	baz=321,SNR=5.2							
X43A	**Marvell**	47.06	94	*e*P		P	12 52 26.6	+0.8
	comp=Z,64nm,0.6s							
X43A	**Marvell**	47.06	94	P		P	12 52 26.4	+0.6
	baz=324							
N53A	**Lisbon**	47.08	81	P		P	12 52 26.4	+0.5
	baz=320,SNR=10							
M54A	**Oil Creek Stat**	47.11	79	*e*P		P	12 52 26.9	+0.8
	comp=Z,19nm,0.6s							
M54A	**Oil Creek Stat**	47.11	79	P		P	12 52 27.0	+0.8
	baz=320,SNR=6.9							
O52A	**Adamsville**	47.12	82	*e*P		P	12 52 26.5	+0.3
	comp=Z,16nm,0.8s							
O52A	**Adamsville**	47.12	82	P		P	12 52 26.3	+0.1
	baz=320,SNR=5.7							
Z41A	**Richland Creek**	47.13	97	*e*P		P	12 52 27.8	+1.5
	comp=Z,36nm,1.1s							
Z41A	**Richland Creek**	47.13	97	P		P	12 52 27.3	+1.0
	baz=324							
Y42A	**Garnett, Star**	47.16	96	P		P	12 52 27.8	+1.3
	baz=324							
T48A	**Bowling Green**	47.22	88	P		P	12 52 27.4	+0.5
	baz=322,SNR=14							
Q51A	**Peebles**	47.22	84	*e*P		P	12 52 27.5	+0.5
	comp=Z,54nm,0.6s							
Q51A	**Peebles**	47.22	84	P		P	12 52 27.3	+0.2
	baz=321,SNR=26							
S49A	**Springfield**	47.23	87	P		P	12 52 27.0	0.0
	baz=322,SNR=17							
WVT	**Waverly**	47.28	90	*e*P		P	12 52 28.2	+0.7
	comp=Z,14nm,0.7s							
WVT				*e*PcP		PcP	12 53 56.4	+0.1
WVT	**Waverly**	47.28	90	*e*P		P	12 52 28.2	+0.7
WVT				*e*			12 53 56.4	
WVT				pmax		pmax		
	comp=Z,14nm,0.7s							
WVT	**Waverly**	47.28	90	P		P	12 52 28.0	+0.6
	baz=322							
SLBS	**Sierra La Lagu**	47.30	122	*e*P		P	12 52 29.9	+2.1
	comp=Z,16nm,0.6s							
U47A	**Clarksville**	47.30	90	P		P	12 52 28.3	+0.7
	baz=322,SNR=16							
R50A	**Paris**	47.32	86	P		P	12 52 28.2	+0.4
	baz=321,SNR=11							
O53A	**New Philadelph**	47.32	81	P		P	12 52 28.1	+0.3
	baz=320,SNR=5.0							
P52A	**Corning**	47.35	83	P		P	12 52 27.8	-0.1
	baz=321,SNR=9.9							
N54A	**Moraine State**	47.37	80	*e*P		P	12 52 29.2	+1.1
	comp=Z,20nm,0.5s							
N54A	**Moraine State**	47.37	80	P		P	12 52 28.9	+0.8
	baz=320,SNR=9.0							
W45A	**Hickory Valley**	47.38	92	P		P	12 52 29.3	+1.0
	baz=323,SNR=11							
V46A	**Holladay**	47.40	91	P		P	12 52 28.9	+0.5
	baz=323,SNR=32							
X44A	**Crenshaw**	47.43	94	P		P	12 52 29.4	+0.7
	baz=323,SNR=6.4							
NATX	**Nacogdoches**	47.44	100	*e*P		P	12 52 29.8	+1.0
	comp=Z,44nm,1.0s							
NATX	**Nacogdoches**	47.44	100	P		P	12 52 29.9	+1.2
	baz=325							
FRNY	**Flat Rock**	47.49	72	*e*P		P	12 52 28.4	-0.6
	comp=Z,35nm,1.5s							
MSHR	**Mys Shultsa**	47.52	284	||*i*P		P	12 52 29.2	0.0
U48A	**Cassie Pea, Po**	47.62	89	P		P	12 52 30.7	+0.7
	baz=322,SNR=22							
T49A	**Edmonton**	47.65	88	*e*P		P	12 52 30.9	+0.6
	comp=Z,25nm,0.9s							
T49A	**Edmonton**	47.65	88	P		P	12 52 30.6	+0.3
	baz=322,SNR=20							
R51A	**Hillsboro**	47.67	85	P		P	12 52 31.1	+0.7
	baz=321,SNR=28							
V47A	**Nunnelly**	47.67	90	P		P	12 52 31.0	+0.5
	baz=323,SNR=32							
HIA	**Hailar**	47.74	298	*e*P		P	12 52 31.1	+0.2
	comp=Z,14nm,0.7s							
HIA	**Hailar**	47.74	298	*e*P		P	12 52 31.1	+0.2
HIA				pmax		pmax		
	comp=Z,14nm,0.7s							
S50A	**Richmond**	47.75	86	P		P	12 52 31.6	+0.5
	baz=322,SNR=14							
MOQ	**Mont Orford**	47.76	70	*e*P		P	12 52 31.3	+0.2
O54A	**Avella**	47.78	81	P		P	12 52 31.7	+0.4
	baz=320,SNR=16							
OXF	**Oxford**	47.79	93	*e*P		P	12 52 32.4	+1.0
	comp=Z,182nm,0.5s							
W46A	**Mitie**	47.80	92	P		P	12 52 32.1	+0.6
	baz=323,SNR=12							
Q52A	**Bidwell**	47.80	83	P		P	12 52 31.4	-0.1
	baz=321,SNR=12							
P53A	**Whipple**	47.83	82	*e*P		P	12 52 31.9	+0.3
	comp=Z,44nm,0.6s							
P53A	**Whipple**	47.83	82	P		P	12 52 31.7	+0.1
	baz=321,SNR=20							
Y44A	**Strider, Charl**	47.83	94	P		P	12 52 32.7	+1.0
	baz=324,SNR=7.6							
NCB	**Newcomb**	47.85	73	*e*P		P	12 52 31.7	-0.1
	comp=Z,4.1nm,0.6s							
X45A	**UM Field Stati**	47.87	93	P		P	12 52 32.6	+0.6
	baz=323,SNR=12							
U49A	**Red Boiling Sp**	47.99	88	P		P	12 52 33.6	+0.6
	baz=322,SNR=29							
N55A	**Marion Center**	48.00	79	P		P	12 52 33.6	+0.6
	baz=320,SNR=14							
833A	**Chaparral WMA,**	48.03	107	*e*P		P	12 52 35.0	+1.7
	comp=Z,38nm,1.3s							
833A	**Chaparral WMA,**	48.03	107	P		P	12 52 35.0	+1.7
	baz=328							
T50A	**Nancy**	48.05	87	P		P	12 52 34.2	+0.8
	baz=322,SNR=16							
PLAL	**Pickwick Lake**	48.07	92	*e*P		P	12 52 34.3	+0.8
	comp=Z,31nm,0.7s							
V48A	**Smith Brothers**	48.09	90	*e*P		P	12 52 34.5	+0.8
	comp=Z,35nm,0.7s							
V48A				*e*PcP		PcP	12 53 59.3	+0.1
V48A	**Smith Brothers**	48.09	90	P		P	12 52 34.3	+0.6
	baz=323,SNR=23							
W47A	**Westpoint**	48.09	91	P		P	12 52 34.2	+0.5
	baz=323,SNR=8.1							
X46A	**Booneville**	48.16	92	P		P	12 52 35.0	+0.7
	baz=323,SNR=70							
S51A	**Beattyville**	48.18	86	*e*P		P	12 52 34.8	+0.4
	comp=Z,35nm,0.8s							
S51A	**Beattyville**	48.18	86	P		P	12 52 34.8	+0.4
	baz=322,SNR=23							
Y45A	**Yeager Farm, C**	48.24	94	P		P	12 52 36.0	+1.1
	baz=324,SNR=6.4							
VT1	**Waterbury**	48.26	71	*e*P		P	12 52 35.2	+0.2
	comp=Z,16nm,1.4s							
O55A	**Ligonier**	48.29	80	P		P	12 52 35.6	+0.4
	baz=321,SNR=8.1							
BINY	**Binghamton**	48.36	76	*e*P		P	12 52 36.4	+0.7
	comp=Z,26nm,0.5s							
BINY	**Binghamton**	48.36	76	P		P	12 52 36.1	+0.4
	baz=320,SNR=20							
S52A	**Salyersville**	48.40	85	P		P	12 52 36.6	+0.4
	baz=322,SNR=9.2							
W48A	**Pulaski**	48.51	90	P		P	12 52 37.2	+0.3
	baz=323,SNR=13							
V49A	**McMinnville**	48.52	89	P		P	12 52 37.3	+0.3
	baz=323,SNR=14							
U50A	**Jamestown**	48.53	88	P		P	12 52 37.5	+0.4
	baz=322,SNR=12							
T51A	**Gray**	48.54	86	P		P	12 52 37.4	+0.2
	baz=322,SNR=26							
X47A	**Russelville**	48.55	92	P		P	12 52 37.6	+0.3
	baz=323,SNR=14							
ACCN	**Adirondack Com**	48.55	73	*e*P		P	12 52 37.6	+0.4
	comp=Z,9.2nm,0.8s							
Y46A	**Houston**	48.56	93	P		P	12 52 38.4	+1.1
	baz=324,SNR=44							
Z45A	**Winona**	48.56	94	*e*P		P	12 52 39.1	+1.7
	comp=Z,37nm,0.6s							
Z45A	**Winona**	48.56	94	P		P	12 52 38.4	+1.0
	baz=324							
P55A	**Reedsville**	48.57	81	P		P	12 52 37.8	+0.3
	baz=321,SNR=10.0							
O56A	**Blue Knob Stat**	48.60	79	*e*P		P	12 52 38.0	+0.5
	comp=Z,12nm,0.6s							
O56A	**Blue Knob Stat**	48.60	79	P		P	12 52 38.1	+0.5
	baz=321,SNR=6.0							
SSPA	**Standing Stone**	48.64	78	*e*P		P	12 52 38.8	+0.9
	comp=Z,32nm,0.4s							
SSPA	**Standing Stone**	48.64	78	P		P	12 52 38.7	+0.8
	baz=321							
PQI	**Presque Isle**	48.67	66	*e*P		P	12 52 37.8	-0.2
	comp=Z,7.5nm,0.7s							
LBNH	**Lisbon**	48.72	71	*e*P		P	12 52 38.8	+0.3
	comp=Z,12nm,1.1s							
MAJO	**Matsushiro**	48.75	273	*e*P		P	12 52 38.5	-0.3
	comp=Z,9.8nm,0.7s							
MAJO	**Matsushiro**	48.75	273	*c i*P		P	12 52 38.2	-0.6
MAJO				pmax		pmax		
	comp=Z,9.0nm,0.7s							
MJAR	**Matsushiro Arr**	48.75	273	P		P	12 52 38.5	-0.3
	comp=Z,7.2nm,1.0s,baz=21,slow=6.7,SNR=13							
MJAR	**Matsushiro Arr**	48.75	273	P		P	12 52 38.5	-0.3
MJAR				pmax		pmax		
	comp=Z,5.0nm,0.9s							
MJB9	**Matsu-Tunnel**	48.75	273	*e*P		P	12 52 38.6	-0.3
	comp=Z,10.0nm,0.7s							
MAT	**Matsushiro**	48.76	273	P		P	12 52 37.9	-0.9
144A	**Alexander Plac**	48.80	96	P		P	12 52 40.5	+1.3
	baz=324							
Q55A	**Buckhannon**	48.85	82	P		P	12 52 40.0	+0.5
	baz=321,SNR=6.6							
W49A	**Belvidere**	48.85	90	P		P	12 52 40.1	+0.6
	baz=323,SNR=16							
T52A	**Hallie**	48.90	86	P		P	12 52 40.7	+0.8
	baz=322,SNR=8.4							
SWET	**Sewanee**	48.94	90	*e*P		P	12 52 40.5	+0.2
	comp=Z,25nm,0.6s							
KSPA	**Keystone Colle**	48.95	76	*e*P		P	12 52 41.0	+0.7
	comp=Z,20nm,1.1s							
HNH	**Hanover**	48.96	72	*e*P		P	12 52 40.9	+0.6
	comp=Z,10nm,1.1s							
U51A	**La Follette**	48.97	87	P		P	12 52 41.0	+0.5
	baz=322,SNR=8.6							
V50A	**Pikeville**	48.99	88	P		P	12 52 40.9	+0.3
	baz=323,SNR=7.5							
X48A	**Hartselle**	49.00	91	*e*P		P	12 52 41.1	+0.4
	comp=Z,23nm,0.6s							
X48A				*e*PcP		PcP	12 54 02.0	-0.5
X48A	**Hartselle**	49.00	91	P		P	12 52 41.0	+0.4
	baz=323,SNR=16							
Y47A	**UCPARC, Winfie**	49.05	92	P		P	12 52 41.7	+0.6
	baz=324,SNR=11							
HAMF	**Hammerfest**	49.05	1	*e*P		P	12 52 39.7	-0.8
TRY	**Troy**	49.05	73	*e*P		P	12 52 41.5	+0.6
	comp=Z,8.2nm,1.0s							
TZTN	**Tazewell**	49.06	86	*e*P		P	12 52 42.0	+0.8
	comp=Z,18nm,0.6s							
TZTN	**Tazewell**	49.06	86	P		P	12 52 41.9	+0.8
	baz=322,SNR=12							
145A	**Houston Renfro**	49.07	95	P		P	12 52 42.2	+1.0
	baz=324							
Z46A	**Louisville**	49.08	94	P		P	12 52 42.2	+0.9
	baz=324,SNR=6.3							
BATG	**Bathurst New B**	49.09	64	*e*P		P	12 52 41.5	+0.3
	comp=Z,20nm,0.4s							
244A	**Avery, Jackson**	49.15	96	P		P	12 52 43.3	+1.4
	baz=325,SNR=22							
PKME	**Peaks-Kenny Pk**	49.16	68	*e*P		P	12 52 42.2	+0.4
	comp=Z,9.9nm,0.5s							
PKME	**Peaks-Kenny Pk**	49.16	68	P		P	12 52 41.8	+0.1
	baz=320							
V51A	**Loudon**	49.26	88	*e*P		P	12 52 43.3	+0.6
	comp=Z,22nm,0.6s							
V51A	**Loudon**	49.26	88	P		P	12 52 43.2	+0.5
	baz=323,SNR=10							
W50A	**Signal Mountai**	49.26	89	*e*P		P	12 52 43.1	+0.4
	comp=Z,8.3nm,0.8s							
W50A	**Signal Mountai**	49.26	89	P		P	12 52 43.0	+0.2
	baz=323,SNR=6.1							
U52A	**Thorn Hill**	49.27	86	P		P	12 52 43.5	+0.7
	baz=322,SNR=7.5							
CN2	**Changchun**	49.29	289	*e*P		P	12 52 42.3	-0.5
CN2				pmax		pmax		
	comp=Z,30nm,1.0s							
X49A	**Woodville**	49.31	90	P		P	12 52 43.3	+0.3
	baz=323,SNR=14							
Y48A	**Jasper**	49.37	92	P		P	12 52 43.5	0.0
	baz=324,SNR=14							
N59A	**State Game Lan**	49.45	77	*e*P		P	12 52 44.9	+0.9
	comp=Z,12nm,0.6s							
N59A				*e*PcP		PcP	12 54 04.1	0.0
N59A	**State Game Lan**	49.45	77	P		P	12 52 44.5	+0.4
	baz=321,SNR=6.3							
CPCT	**Cooper Cave**	49.45	88	*e*P		P	12 52 44.4	+0.3
	comp=Z,10nm,0.6s							
146A	**Union**	49.47	94	*e*P		P	12 52 45.7	+1.4
	comp=Z,110nm,0.7s							
146A	**Union**	49.47	94	P		P	12 52 45.5	+1.2
	baz=324,SNR=18							
Z47A	**Carrollton**	49.50	93	P		P	12 52 45.1	+0.6
	baz=324,SNR=34							
PAGS	**Pennsylvania G**	49.52	78	*e*P		P	12 52 45.4	+0.8
	comp=Z,16nm,0.7s							
WVL	**Waterville**	49.52	69	*e*P		P	12 52 44.9	+0.4
	comp=Z,13nm,1.3s							
245A	**Little AP, Sta**	49.55	96	P		P	12 52 45.8	+1.0
	baz=325							
W51A	**Cleveland**	49.56	89	P		P	12 52 45.2	+0.3
	baz=323,SNR=6.1							
V52A	**Sevierville**	49.60	87	*e*P		P	12 52 45.7	+0.5
	comp=Z,20nm,0.5s							
V52A	**Sevierville**	49.60	87	P		P	12 52 45.8	+0.6
	baz=323,SNR=16							
Z48A	**Northport**	49.61	92	P		P	12 52 45.5	+0.2
	baz=324,SNR=22							
TKL	**Tuckaleechee C**	49.66	87	*e*P		P	12 52 46.5	+0.8
	comp=Z,27nm,0.6s							
TKL	**Tuckaleechee C**	49.66	87	*e*P		P	12 52 46.5	+0.8
TKL				pmax		pmax		
	comp=Z,27nm,0.6s							
X50B	**Fort Payne**	49.68	90	P		P	12 52 46.3	+0.4
	baz=323,SNR=20							
U53A	**Fall Branch**	49.69	86	P		P	12 52 46.5	+0.6
	baz=322,SNR=8.2							
Y49A	**Blount Mountai**	49.79	91	*e*P		P	12 52 47.2	+0.4
	comp=Z,49nm,0.6s							
Y49A	**Blount Mountai**	49.79	91	P		P	12 52 46.9	+0.2
	baz=324,SNR=29							
147A	**Livingston**	49.83	94	*e*P		P	12 52 47.4	+0.4
	comp=Z,23nm,0.8s							
ODNJ	**Ogdensburg**	49.88	76	*e*P		P	12 52 47.6	+0.4
	comp=Z,17nm,0.6s							
MVL	**Millersville**	49.88	78	*e*P		P	12 52 48.1	+0.9
	comp=Z,15nm,0.6s							
KEV	**Kevo**	49.96	0	*e*P		P	12 52 46.8	-0.7
	comp=Z,59nm,1.4s							
KEV	**Kevo**	49.96	0	*

comp=Z,13nm,1.0s
PAL Palisades 50.27 75 *e*P **P** 12 52 50.3 +0.1
PAL pmax pmax
comp=Z,13nm,1.0s
PAL Palisades 50.27 75 P **P** 12 52 50.2 0.0
baz=321
346A Big Creek Wild 50.28 96 *e*P **P** 12 52 51.7 +1.2
comp=Z,45nm,0.4s
346A Big Creek Wild 50.28 96 P **P** 12 52 51.5 +1.1
baz=325
W53A Cullowhee 50.34 87 P **P** 12 52 51.6 +0.6
baz=323,SNR=9.6
GGN Saint George 50.39 66 *e*P **P** 12 52 51.1 +0.1
comp=Z,16nm,0.6s
EMMW East Machias 50.42 67 *e*P **P** 12 52 51.4 +0.2
comp=Z,16nm,0.6s
Y51A Rockmart 50.42 90 P **P** 12 52 51.5 +0.1
baz=324,SNR=10.0
WES Weston 50.43 72 *e*P **P** 12 52 51.4 0.0
comp=Z,8.7nm,0.6s
WES Weston 50.43 72 *e*P **P** 12 52 51.4 0.0
WES pmax pmax
comp=Z,9.0nm,0.6s
X52A Dahlonega 50.44 88 P **P** 12 52 52.2 +0.6
baz=323,SNR=23
248A Dixon Mills 50.56 94 P **P** 12 52 53.2 +0.7
baz=325,SNR=6.5
BG3 Lake Jocassee 50.60 87 *e*P **P** 12 52 53.5 +0.7
comp=Z,18nm,0.6s
149A Jones 50.62 92 P **P** 12 52 53.1 +0.2
baz=324,SNR=38
KTK1 Kautokeino 50.68 2 *e*P **P** 12 52 51.9 -1.0
BRYW Bryant College 50.69 73 *e*P **P** 12 52 53.4 0.0
comp=Z,9.9nm,0.9s
R58B Mineral 50.73 81 *e*P **P** 12 52 54.5 +0.8
comp=Z,8.2nm,0.6s
R58B Mineral 50.73 81 P **P** 12 52 54.4 +0.7
baz=322,SNR=6.4
X53A Estanollee 50.81 88 P **P** 12 52 55.0 +0.7
baz=323,SNR=11
Z51A Franklin 50.84 90 P **P** 12 52 54.7 +0.1
baz=324,SNR=14
LNIG Linares 50.90 110 *e*P **P** 12 52 55.8 +0.6
comp=Z,36nm,0.8s
Y52A Lilburn 50.95 89 *e*P **P** 12 52 56.0 +0.6
comp=Z,26nm,0.6s
Y52A Lilburn 50.95 89 P **P** 12 52 55.9 +0.5
baz=324,SNR=13
150A Eclectic 50.99 92 P **P** 12 52 55.5 -0.2
baz=324,SNR=12
348A Jackson 51.03 94 *e*P **P** 12 52 57.2 +1.1
comp=Z,46nm,0.6s
348A Jackson 51.03 94 P **P** 12 52 57.0 +0.9
baz=325,SNR=5.4
Y53A Monroe 51.19 89 P **P** 12 52 57.7 +0.5
baz=324,SNR=14
DRLN Deer Lake 51.24 57 *e*P **P** 12 52 57.4 0.0
comp=Z,38nm,1.2s
KMSC Kings Mountain 51.27 86 *e*P **P** 12 52 58.1 +0.3
comp=Z,9.3nm,0.6s
KMSC Kings Mountain 51.27 86 P **P** 12 52 58.0 +0.3
baz=323,SNR=5.9
PAULI Pauline 51.29 86 *e*P **P** 12 52 58.4 +0.5
comp=Z,20nm,0.7s
Z52A Williamson 51.31 90 P **P** 12 52 58.3 +0.2
baz=324,SNR=21
ZAIG Zacatecas 51.32 114 *e*P **P** 12 53 00.6 +2.0
comp=Z,11nm,1.0s
250A Grady 51.38 92 *e*P **P** 12 52 58.6 0.0
comp=Z,30nm,0.6s
250A Grady 51.38 92 P **P** 12 52 58.5 -0.2
baz=325,SNR=5.8
151A Opelika 51.40 91 P **P** 12 52 58.2 -0.5
baz=324,SNR=6.9
349A Repton 51.43 94 P **P** 12 52 59.6 +0.6
baz=325
STEI Steigen 51.51 6 *e*P **P** 12 52 58.6 -0.4
HODGE Hodges 51.54 87 *e*P **P** 12 53 00.2 +0.4
comp=Z,28nm,0.7s
152A Waverly Hall 51.59 90 *e*P **P** 12 53 00.2 0.0
comp=Z,15nm,0.5s
152A Waverly Hall 51.59 90 P **P** 12 52 59.8 -0.4
baz=324,SNR=7.3
GOGA Godfrey 51.60 89 *e*P **P** 12 53 00.2 -0.1
comp=Z,7.8nm,0.6s
GOGA *e*PcP **PcP** 12 54 12.2 0.0
GOGA Godfrey 51.60 89 *e*P **P** 12 53 00.2 -0.1
GOGA *e* 12 54 12.2
GOGA pmax pmax
comp=Z,8.0nm,0.6s
GOGA Godfrey 51.60 89 P **P** 12 53 00.2 -0.1
baz=324,SNR=6.8
Y54A Tignall 51.62 88 P **P** 12 53 00.8 +0.3
baz=324,SNR=18
BRAL Brewton 51.65 94 *e*P **P** 12 53 01.4 +0.8
comp=Z,93nm,1.4s
Z53A Monticello 51.66 89 P **P** 12 53 00.5 -0.1
baz=324,SNR=15
LVZ Lovozero 51.70 356 *e*P **P** 12 53 01.0 +0.4
comp=Z,93nm,1.2s
LVZ Lovozero 51.70 356 ||*e*P **P** 12 52 59.8 -0.8
LVZ pmax pmax
comp=Z,21nm,1.3s
251A Midway 51.71 91 P **P** 12 53 00.6 -0.5
baz=324,SNR=5.7
JSC Jenkinsville 51.99 86 *e*P **P** 12 53 03.7 +0.5
comp=Z,23nm,0.6s
JSC Jenkinsville 51.99 86 *e*P **P** 12 53 03.7 +0.5
JSC pmax pmax
comp=Z,23nm,0.6s
153A Fort Valley 52.04 90 P **P** 12 53 03.3 -0.2
baz=324
Z54A Sparta 52.05 88 P **P** 12 53 03.6 0.0
baz=324,SNR=22
252A Lumpkin 52.12 91 P **P** 12 53 03.6 -0.5
baz=325,SNR=18
351A Pinckard 52.28 92 P **P** 12 53 05.1 -0.1
baz=325,SNR=5.3
253A Americus 52.37 90 *e*P **P** 12 53 05.7 -0.2
comp=Z,58nm,0.5s
253A Americus 52.37 90 P **P** 12 53 05.5 -0.4
baz=324
Z55A Blythe 52.41 88 P **P** 12 53 06.6 +0.3
baz=324,SNR=19
154A Montrose 52.43 89 *e*P **P** 12 53 06.0 -0.3
comp=Z,27nm,0.9s
154A Montrose 52.43 89 P **P** 12 53 06.1 -0.3
baz=324
352A Blakely 52.45 92 *e*P **P** 12 53 06.6 +0.1
comp=Z,20nm,0.6s
352A Blakely 52.45 92 P **P** 12 53 06.5 0.0
baz=325
GBN Guysborough 52.54 63 *e*P **P** 12 53 07.5 +0.5
comp=Z,17nm,0.6s
GBN *e*PcP **PcP** 12 54 15.7 +0.3
155A Kite 52.73 89 P **P** 12 53 08.3 -0.3
baz=324
451A Vernon 52.75 93 *e*P **P** 12 53 09.3 +0.6
comp=Z,140nm,1.1s
254A Abbeville 52.88 90 P **P** 12 53 09.1 -0.6
baz=325,SNR=9.3
CNNC Cliffs of the 52.88 83 *e*P **P** 12 53 10.4 +0.8
comp=Z,26nm,0.3s
CNNC Cliffs of the 52.88 83 P **P** 12 53 10.3 +0.6
baz=323
353A Camilla 52.90 91 P **P** 12 53 09.2 -0.7
baz=325
KS01 Wonju Array Si 53.06 282 *e*P **P** 12 53 11.0 0.0
KS01 *e*PcP **PcP** 12 54 18.2 +0.6
KSRS Korea Array 53.06 282 P **P** 12 53 11.3 +0.4
comp=Z,13nm,0.9s,baz=35,slow=7.2,SNR=32
KSRS PcP **PcP** 12 54 18.1 +0.5
comp=Z,1.8nm,0.7s,baz=40,slow=4.7,SNR=3.3
KS15 Wonju Array Si 53.09 282 *e*P **P** 12 53 11.9 +0.7
KS15 *e*PcP **PcP** 12 54 18.1 +0.4
KSAR Wonju Array Be 53.09 282 P **P** 12 53 11.3 +0.2
KSAR PcP **PcP** 12 54 18.1 +0.4
KSAR Wonju Array Be 53.09 282 P **P** 12 53 11.4 +0.2
KSAR 12 54 18.1
156A Sylvania 53.19 88 P **P** 12 53 12.8 +0.9
baz=324,SNR=8.7
453A Whigham 53.26 91 *e*P **P** 12 53 12.0 -0.4
comp=Z,47nm,1.4s
453A Whigham 53.26 91 P **P** 12 53 11.9 -0.6
baz=325
255A Hazlehurst 53.29 89 *e*P **P** 12 53 12.5 -0.2
comp=Z,32nm,0.4s
255A Hazlehurst 53.29 89 P **P** 12 53 12.6 -0.2
baz=325,SNR=5.8
MOY Mondy 53.45 312 *e*P **P** 12 53 15.3 +1.5
MOY pmax pmax
comp=Z,17nm,2.1s
NHSC New Hope 53.47 86 *e*P **P** 12 53 15.0 +1.0
comp=Z,54nm,0.8s
NHSC New Hope 53.47 86 P **P** 12 53 14.6 +0.6
baz=324,SNR=8.8
RGRS Roger Stewart 53.62 86 *e*P **P** 12 53 15.9 +0.8
comp=Z,1μm,0.4s
ZAK Zakamensk 53.63 309 *e*P **P** 12 53 14.8 -0.3
ZAK *e* 12 53 49.0
ZAK pmax pmax
comp=Z,5.0nm,1.0s
ZAK pmax pmax
comp=Z,3.0nm,1.3s
553A Crawfordville 53.74 92 P **P** 12 53 15.9 -0.1
baz=325
356A Blackshear 53.95 89 P **P** 12 53 17.2 -0.4
baz=325,SNR=5.4
257A Skidaway Islan 53.97 88 *e*P **P** 12 53 18.8 +1.1
comp=Z,39nm,0.6s
JRQG Juriquilla Cam 54.07 113 *e*P **P** 12 53 20.0 +1.2
comp=Z,99nm,0.9s
ULN Ulaanbaatar 54.17 305 *e*P **P** 12 53 19.6 +0.5
comp=Z,23nm,0.6s
ULN Ulaanbaatar 54.17 305 *de*P **P** 12 53 19.5 +0.4
ULN pmax pmax
comp=Z,21nm,0.7s
357A Townsend 54.19 89 P **P** 12 53 19.7 +0.5
baz=325
SONA1 Songino Array 54.45 306 *e*P **P** 12 53 21.9 +0.8
SONA0 Songino Array 54.46 306 *e*P **P** 12 53 22.4 +1.2
SONA0 *e*pP **pP** 12 53 54.3 +1.2
SONA0 *e*ScP **ScP** 12 58 06.3 -1.7
SONM Songino Array 54.46 306 P **P** 12 53 22.4 +1.2
comp=Z,30nm,0.7s,baz=49,slow=6.4,SNR=158
SONM pP **pP** 12 53 54.3 +1.2
comp=Z,8.9nm,0.8s,baz=45,slow=5.6,SNR=3.3
SONM ScP **ScP** 12 58 06.3 -1.7
comp=Z,2.1nm,1.0s,baz=41,slow=3.6,SNR=7.1
556A Lake Butler 54.90 90 P **P** 12 53 24.4 0.0
baz=325
757A Oxford 55.94 91 P **P** 12 53 32.1 +0.3
baz=326
658A Bunnell 55.94 90 *e*P **P** 12 53 32.3 +0.5
comp=Z,36nm,0.9s
BJI Beijing 56.52 293 *e*P **P** 12 53 36.3 +0.5
BJI pmax pmax
comp=Z,11nm,0.8s
BJT Baijiatuau 56.54 293 *e*P **P** 12 53 36.4 +0.4
comp=Z,12nm,0.8s
BJT Baijiatuau 56.54 293 *e*P **P** 12 53 36.4 +0.4
BJT pmax pmax
comp=Z,12nm,0.8s
NVS Novosibirsk 56.59 325 *e*P **P** 12 53 35.4 -0.7
NVS *e**PP **pP** 12 54 07.3 -1.1
NVS *e*S **S** 13 01 14.3 -2.6
NVS pmax pmax
comp=Z,8.0nm,0.6s
NVS pmax pmax
comp=N,4.0nm,6.0s
NVS pmax pmax
comp=E,5.0nm,0.7s
NVS smax smax
comp=N,13nm,1.9s
NVS smax smax
comp=E,24nm,2.1s
ZAA1 Zalesovo Array 56.91 323 *e*P **P** 12 53 38.2 -0.2
ZAA1 *e*pP **pP** 12 54 11.0 +0.5
ZAA1 *e*ScP **ScP** 12 58 17.1 -1.4
ZAA1 *e* 13 21 18.5
ZAA0 Zalesovo Array 56.91 323 *e*P **P** 12 53 38.2 -0.1
comp=E,21nm,0.6s
ZALV Zalesovo Beam 56.91 323 P **P** 12 53 38.2 -0.2
comp=E,21nm,0.5s,baz=28,slow=6.9,SNR=85
ZALV pP **pP** 12 54 11.0 +0.5
comp=E,6.2nm,0.7s,baz=16,slow=6.5,SNR=2.8
ZALV ScP **ScP** 12 58 17.1 -1.4
comp=E,0.8nm,0.5s,baz=31,slow=3.4,SNR=3.2
ZALV LR LR 13 21 18.5
comp=E,40nm,19.9s,baz=57,slow=39
PRGR Permogore 57.28 350 *e*P **P** 12 53 39.5 -1.3
PRGR *e**PP **pP** 12 54 13.2 -0.1
NC204 NORSAR Array S 57.83 9 *e*P **P** 12 53 44.0 -0.8
HHC Hu-ho-hao-te 57.93 297 *e*P **P** 12 53 48.4 +2.6
HHC pmax pmax
comp=E,22nm,1.1s
NC303 NORSAR Array S 57.93 9 *e*P **P** 12 53 44.6 -0.8
NC405 NORSAR Array S 58.07 9 *e*P **P** 12 53 45.7 -0.7
NBO00 NORSAR Array S 58.08 9 *e*P **P** 12 53 45.6 -0.9
NB201 NORSAR Array S 58.10 9 *e*P **P** 12 53 46.1 -0.6
NB2 NORSAR Subarra 58.10 9 P **P** 12 53 45.6 -1.1
comp=Z,19nm,0.9s,baz=351,slow=7.4
NB2 NORSAR Subarra 58.10 9 P **P** 12 53 45.6 -1.1
baz=351,slow=7.4
NB200 NORSAR Array S 58.10 9 *e*P **P** 12 53 46.0 -0.7
NB200 *e*pP **pP** 12 54 19.4 +0.2
NOA NORSAR Array B 58.10 9 P **P** 12 53 46.0 -0.7
comp=Z,12nm,0.8s,baz=352,slow=6.9,SNR=47
NOA pP **pP** 12 54 19.4 +0.2
comp=Z,3.0nm,0.9s,baz=353,slow=6.8,SNR=3.1
NOA NORSAR Array B 58.10 9 P **P** 12 53 46.0 -0.7
NOA *e**PP **pP** 12 54 19.4 +0.2
NOA pmax pmax
comp=Z,11nm,0.8s
NOA pmax pmax
comp=Z,3.0nm,0.9s
NAO01 NORSAR Array S 58.27 9 *e*P **P** 12 53 47.0 -0.8
FIA0 FINESS Array S 58.30 1 *e*P **P** 12 53 47.4 -0.6
FIA0 *e*pP **pP** 12 54 19.5 -0.9
FIA0 *e*ScP **ScP** 12 58 23.9 -0.6
FIA0 FINESS Array S 58.30 1 *e*P **P** 12 53 47.4 -0.6
FIA0 *e**PP **pP** 12 54 19.5 -0.9
FINES FINESS Array B 58.30 1 P **P** 12 53 47.4 -0.6
comp=Z,11nm,0.7s,baz=9.7,slow=7.3,SNR=69
FINES pP **pP** 12 54 19.5 -0.9
comp=Z,5.3nm,0.8s,baz=14,slow=8.8,SNR=2.9
FINES ScP **ScP** 12 58 24.0 -0.6
comp=Z,2.0nm,0.8s,baz=4.5,slow=7.1,SNR=4.0
NC602 NORSAR Array S 58.43 9 *e*P **P** 12 53 48.0 -0.8
KLMR Klimovskoe 58.51 353 *e*P **P** 12 53 47.3 -2.1
KLMR *e**PP **pP** 12 54 21.1 -0.8
KLMR pmax pmax
comp=Z,36nm,0.9s
KLMR Klimovskoe 58.51 353 *e*P **P** 12 53 47.3 -2.1
KLMR AMP 12 53 50.3
comp=Z,36nm,0.8s
KLMR *e*pP **pP** 12 54 21.2 -0.7
KONO Kongsberg 59.34 10 *e*P **P** 12 53 54.9 -0.3
comp=Z,28nm,1.0s
KONO Kongsberg 59.34 10 *d* *i*P **P** 12 53 54.8 -0.4
KONO pmax pmax
comp=Z,24nm,0.9s
DGZ Jazzator, Alta 59.80 319 *d* *i*P **P** 12 53 59.5 +0.8
DGZ pmax pmax
comp=Z,5.0nm,0.6s
SVE Sverdlovsk 59.98 339 *e*P **P** 12 53 59.3 -0.3
SVE pmax pmax
comp=Z,37nm,0.9s
TEIG Tepich 60.20 102 *e*P **P** 12 54 01.6 +0.1
comp=Z,32nm,1.0s
ARU Arti 60.71 341 *e*P **P** 12 54 03.8 -0.7
comp=Z,44nm,0.6s
ARU Arti 60.71 341 *d* *i*P **P** 12 54 03.8 -0.7
ARU *e**PP **pP** 12 54 37.1 -0.2
ARU 12 54 46.1
ARU S **S** 13 02 08.3 -1.7
ARU pmax pmax
comp=Z,37nm,0.6s
VSU Vasula 61.30 0 *d* *i*P **P** 12 54 08.2 -0.2
VSU pmax pmax
comp=Z,109nm,0.8s
VSU Vasula 61.30 0 *e*P **P** 12 54 07.8 -0.6
VSU IAmb IAmb 12 54 10.4
comp=Z,94nm,0.8s
BRVK Borovoye 61.55 332 *e*P **P** 12 54 09.8 -0.5
comp=Z,31nm,0.8s
BRVK Borovoye 61.55 332 *d* *i*P **P** 12 54 09.0 -1.3
BRVK pmax pmax
comp=Z,36nm,0.8s
KURK Kurchatov 61.55 325 *e*P **P** 12 54 09.9 -0.4
comp=Z,22nm,0.7s
KURK Kurchatov 61.55 325 *d* *i*P **P** 12 54 09.9 -0.4
KURK pmax pmax
comp=Z,18nm,0.6s
BVA0 Borovoye Array 61.56 332 *i*P **P** 12 54 09.6 -0.8
BVA0 pmax pmax
comp=Z,36nm,0.7s
CCIG Comitan 61.75 108 *e*P **P** 12 54 12.9 +0.7
comp=Z,12nm,0.7s
NJ2 Nanjing 61.79 286 *e*P **P** 12 54 14.3 +2.1
NJ2 pmax pmax
comp=Z,12nm,0.5s
EKA Eskdalemuir Ar 61.98 19 P **P** 12 54 12.7 -0.4
comp=Z,2.1nm,0.3s,baz=335,slow=5.6,SNR=74
EKA pP **pP** 12 54 45.8 -0.1
comp=Z,6.0nm,0.8s,baz=353,slow=6.2,SNR=3.6
ESK Eskdalemuir 61.99 19 *e*P **P** 12 54 12.8 -0.4
comp=Z,28nm,1.4s
ESK Eskdalemuir 61.99 19 *e*P **P** 12 54 12.8 -0.4
ESK pmax pmax
comp=Z,28nm,1.4s
SLIT Slitere, Latvi 62.08 3 *e*P **P** 12 54 11.7 -2.0
SLIT IAmb IAmb 12 54 15.2
comp=Z,136nm,0.6s
MUD Monsted U'grnd 62.46 11 *i*P **P** 12 54 17.1 +0.8
MUD Monsted U'grnd 62.46 11 *i*P **P** 12 54 17.1 +0.8
COP Copenhagen 63.51 9 *i*P **P** 12 54 22.4 -0.8
COP Copenhagen 63.51 9 *e*P **P** 12 54 22.4 -0.8
PBUR Paburg 63.67 3 *e*P **P** 12 54 26.1 +1.8
PBUR IAmb IAmb 12 54 27.7
comp=Z,30nm,0.5s
MK31 Makanchi Array 63.98 321 *e*P **P** 12 54 25.6 -0.9
MK31 Makanchi Array 63.98 321 *i*P **P** 12 54 25.6 -0.9
MK31 pmax pmax
comp=Z,9.0nm,0.8s
MK32 Makanchi Array 63.98 321 *e*P **P** 12 54 25.9 -0.6
MK32 *e*pP **pP** 12 54 58.5 -1.1
MKAR Makanchi Array 63.98 321 P **P** 12 54 25.9 -0.6
comp=Z,11nm,0.8s,baz=45,slow=6.4,SNR=88
MKAR pP **pP** 12 54 58.5 -1.1
comp=Z,4.9nm,0.9s,baz=43,slow=7.3,SNR=4.0
MKAR Makanchi Array 63.98 321 *e*P **P** 12 54 25.6 -0.9
comp=Z,63nm,0.9s
MKAR pP **pP** 12 54 58.5 -1.1
MK01 Makanchi Array 64.00 321 *e*P **P** 12 54 25.6 -1.1
IZAR Zarasai 64.02 0 *e*P **P** 12 54 26.9 +0.4
IZAR IAmb IAmb 12 54 28.4
comp=Z,6.6nm,0.5s
MAKZ Makanchi 64.07 321 *e*P **P** 12 54 26.2 -0.8
comp=Z,12nm,0.8s
MAKZ Makanchi 64.07 321 *e*P **P** 12 54 26.3 -0.8
MAKZ pmax pmax
comp=Z,12nm,0.8s
GTA Gaotai 64.10 305 *e*P **P** 12 54 27.6 +0.1
GTA pP pP 12 55 01.0 +0.6
GTA sP sP 12 55 16.9 +1.7
GTA pmax pmax
comp=Z,17nm,0.8s
ISAL Salakas 64.19 1 *e*P **P** 12 54 28.6 +0.9
ISAL IAmb IAmb 12 54 29.0
comp=Z,7.7nm,0.6s
PABE Paberze 64.24 2 *e*P **P** 12 54 27.7 -0.2
PABE IAmb IAmb 12 54 29.8
comp=Z,30nm,0.8s
BSD Bornholm Skovb 64.25 8 *i*P **P** 12 54 27.6 -0.5
comp=Z,3.2nm,0.4s
BSD Bornholm Skovb 64.25 8 *e*P **P** 12 54 27.6 -0.5
BSD pmax pmax
comp=Z,3.0nm,0.4s
OBN Obninsk 64.41 354 *e*P **P** 12 54 28.9 -0.1
comp=Z,47nm,0.5s
OBN Obninsk 64.41 354 *de*P **P** 12 54 28.8 -0.2
OBN *e* 12 55 01.2
OBN *e* 12 56 51.8
OBN *e*S **S** 13 03 02.4 +6.2
OBN *e*SS **SS** 13 07 07.2 -0.2
OBN pmax pmax
comp=Z,36nm,0.6s
IIGN Ignalina 64.42 1 *e*P **P** 12 54 29.4 +0.3
IIGN IAmb IAmb 12 54 30.5
comp=Z,7.2nm,0.6s
IDID Didziasalis 64.45 0 *e*P **P** 12 54 30.2 +0.9
KNTN Kanton 64.83 201 *e*P **P** 12 54 32.0 -0.3
comp=Z,71nm,0.8s
WMQ Urumqi 64.85 316 P **P** 12 54 33.5 +1.2
WMQ pP pP 12 55 07.3 +2.1
WMQ sP sP 12 55 21.4 +1.4
WMQ pmax pmax
comp=Z,53nm,0.9s
WMQ pmax pmax
comp=Z,360nm,5.9s
WMQ LR LR
comp=Z,140nm,21.1s
WMQ LR LR
comp=Z,69nm,22.1s
NACGM Naroch 64.87 0 *e* **P** 12 54 31.0 -1.1
KLNR Kaliningrad 65.04 4 ||*i*P **P** 12 54 34.1 +1.0
KLNR pmax pmax
comp=Z,174nm,1.5s
BSEG Bad Segeberg 65.06 11 *e*P **P** 12 54 33.5 +0.2
comp=Z,14nm,0.8s,baz=352,slow=6.2
LZH Lanzhou 65.24 300 *e*P **P** 12 54 33.6 -1.4
LZH pP PcP 12 55 06.0 -0.3
LZH sP sP 12 55 20.3 -2.6
LZH pmax pmax
comp=Z,28nm,0.9s
OTUK Ortayu 65.50 329 P **P** 12 54 35.7 -0.6
OTUK pmax pmax
comp=Z,41nm,0.7s
SUW Suwalki 65.72 2 *e*P **P** 12 54 36.8 -0.8
SUW Suwalki 65.72 2 *e*P **P** 12 54 37.0 -0.5
comp=Z,41nm,1.1s
SUW Suwalki 65.72 2 *e*P **P** 12 54 37.0 -0.5
SUW pmax pmax
comp=Z,41nm,1.1s
TGUH Tegucigalpa,Un 65.99 104 *e*P **P** 12 54 40.6 +0.8
comp=Z,54nm,1.1s
IBBN Ibbenburen 66.41 13 *e*P **P** 12 54 42.6 +0.6
baz=352,slow=6.2
NRDL Niedersach Rie 66.47 11 *e*P **P** 12 54 42.6 +0.3
comp=Z,9.6nm,0.8s,baz=352,slow=6.2
AKTO Aktyubinsk 66.55 339 P **P** 12 54 42.1 -0.9
AKTO pmax pmax
comp=Z,28nm,0.8s
LPSR Galich'ya Gora 66.77 352 *e*P **P** 12 54 43.6 -0.7
LPSR pmax pmax
comp=Z,50nm,1.1s
RUE Ruedersdorf 66.80 9 *e*P **P** 12 54 44.8 +0.4
comp=Z,18nm,0.7s,baz=352,slow=6.2
RUE Ruedersdorf 66.80 9 *e*P **P** 12 54 44.3 -0.1
RUE IAmb IAmb 12 54 45.4
comp=Z,22nm,0.6s
ASSE Asse, Remlinge 66.88 11 *e*P **P** 12 54 45.0 0.0
baz=352,slow=6.2
GTBY Guantanamo Bay 66.91 90 *e*P **P** 12 54 46.6 +0.9
comp=Z,40nm,1.0s
CLZ Clausthal 67.14 11 *e*P **P** 12 54 47.1 +0.4
comp=Z,20nm,0.7s,baz=352,slow=6.2
MTDJ Mount Denham 67.16 93 *e*P **P** 12 54 48.0 +0.7
comp=Z,61nm,0.6s
BUG Bochum-Univer 67.21 13 *e*P **P** 12 54 47.1 0.0
comp=Z,13nm,0.7s,baz=352,slow=6.2
ESTN Estel 67.25 104 *e*P **P** 12 54 48.3 +0.4
comp=Z,49nm,1.0s
AB31 Akbulak array 67.33 337 P **P** 12 54 46.9 -1.0
AB31 pmax pmax
comp=Z,22nm,0.6s
ABKAR Akbulak array 67.33 337 *e*P **P** 12 54 47.3 -0.6
GTTG Gyttingen 67.39 11 *e*P **P** 12 54 49.0 +0.8
comp=Z,34nm,0.8s,baz=352,slow=6.2
MEM Membach 67.88 14 ||*e*P **P** 12 54 51.2 -0.1
NEUB Neuenburg 67.89 10 *e*P **P** 12 54 51.3 0.0
comp=Z,22nm,0.6s,baz=352,slow=6.2
CLL Collm 67.90 9 *e*P **P** 12 54 50.9 -0.6
comp=Z,6.6nm,0.6s
CLL Collm 67.90 9 *e*P **P** 12 54 51.3 -0.1
comp=Z,5.6nm,0.6s,baz=352,slow=6.2
CLL *e*pP **pP** 12 55 24.8 0.0
CLL Collm 67.90 9 ||*i*P **P** 12 54 51.3 -0.1
comp=Z,7.0nm,0.6s
CLL *e*PcP **PcP** 12 55 17.0 +0.1
CLL *i*pP **pP** 12 55 24.4 -0.3
CLL *e*sP **sP** 12 55 39.0 -0.6
CLL *e*S **S** 13 03 37.0 -1.6
CLL Collm 67.90 9 ||*i*P **P** 12 54 51.3 -0.1
CLL *i**PP **pP** 12 55 24.4 -0.3
CLL *e*S **S** 13 03 37.0 -1.6

CLL pmax pmax
comp=Z,7.0nm,0.6s
VRH Novokhopyorsk 67.95 350 *e*P **P 12 54 49.6 -2.1**
VRH pmax pmax
comp=Z,20nm,0.8s
PDGK Podgornoye 67.97 321 P **P 12 54 51.6 -0.6**
PDGK pmax pmax
comp=Z,19nm,0.7s
AHRW Bad Neuenahr-A 68.08 14 *e*P **P 12 54 53.0 +0.5**
baz=352,slow=6.2
UBBA Unterbreizbach 68.11 12 *e*P **P 12 54 53.3 +0.6**
baz=352,slow=6.2
VSR Storozhevoye 68.13 352⇓*e*P **P 12 54 51.5 -1.4**
VSR pmax pmax
comp=Z,30nm,0.5s
DOU Dourbes 68.21 15 ⇓P **P 12 54 53.0 -0.3**
FBE Freiberg 68.31 9 *e*P **P 12 54 54.2 +0.2**
comp=Z,5.4nm,0.9s,baz=352,slow=6.2
BRG Berggiesshubel 68.41 9 *i* P **P 12 54 54.6 0.0**
comp=Z,8.9nm,0.9s
BRG *e* 12 55 27.3
comp=Z,17nm,1.4s
BRG Berggiesshubel 68.41 9 *e*P **P 12 54 54.6 0.0**
comp=Z,5.9nm,0.9s,baz=352,slow=6.2
BRG Berggiesshubel 68.41 9 *i* P **P 12 54 54.6 0.0**
BRG *e* 12 55 27.3
BRG pmax pmax
comp=Z,9.0nm,0.9s
BRG pmax pmax
comp=Z,17nm,1.4s
MOX Moxa 68.44 10 *e*P **P 12 54 55.0 +0.2**
comp=Z,20nm,0.6s,baz=352,slow=6.2
TNS Taunus Mts 68.54 13 *e*P **P 12 54 55.4 -0.2**
comp=Z,7.1nm,0.7s,baz=352,slow=6.2
TNS *e*pP **pP 12 55 28.9 -0.2**
KSP Ksiaz 68.60 7 *e*P **P 12 54 56.1 +0.3**
KSP Ksiaz 68.60 7 *e*P **P 12 54 56.1 +0.3**
TANN Tannenbergstha 68.74 10 *e*P **P 12 54 57.0 +0.2**
baz=352,slow=6.2
GUNZ Gunzen 68.78 10 *e*P **P 12 54 57.1 +0.1**
comp=Z,5.2nm,0.9s,baz=352,slow=6.2
PVCC Panska Ves 68.80 8 *e*P **P 12 54 57.4 +0.4**
PVCC Panska Ves 68.80 8 *e*P **P 12 54 57.4 +0.4**
WLF Walferdange 68.83 14 *e*P **P 12 54 58.2 +0.9**
baz=352,slow=6.2
WLF Walferdange 68.83 14 ⇑P **P 12 54 58.3 +1.1**
WLF ⇑*e*pP **pP 12 55 26.1 -4.7**
comp=Z,18nm,1.8s
WERN Wernitzgruen 68.86 10 *e*P **P 12 54 57.8 +0.3**
comp=Z,9.3nm,0.6s,baz=352,slow=6.2
UPC Upice 68.92 8 *e*P **P 12 54 58.2 +0.4**
UPC Upice 68.92 8 *e*P **P 12 54 58.2 +0.4**
NKC Novy Kostel 68.92 10 *e*P **P 12 54 58.1 +0.3**
NKC Novy Kostel 68.92 10 *e*P **P 12 54 58.1 +0.3**
ESPN Las Esperanzas 69.02 103 *e*P **P 12 54 59.1 +0.2**
comp=Z,48nm,0.6s
AKASG Malin Array Be 69.06 358 P **P 12 54 57.8 -0.8**
comp=Z,7.8nm,0.4s,baz=5.7,slow=6.3,SNR=53
AKASG *e*pP **pP 12 55 31.2 -0.9**
comp=Z,1.8nm,0.4s,baz=2.8,slow=6.2,SNR=2.8
AKBB Malin Array Si 69.06 358 *e*P **P 12 54 57.6 -1.0**
comp=Z,19nm,0.6s
AKBB *e*pP **pP 12 55 31.2 -0.9**
AKBB Malin Array Si 69.06 358 *e*P **P 12 54 57.6 -1.0**
AKBB *e**PP **pP 12 55 31.2 -0.9**
AKBB pmax pmax
comp=Z,19nm,0.6s
KIEV Kiev 69.07 359 *e*P **P 12 54 57.7 -1.0**
comp=Z,17nm,0.6s
KIEV Kiev 69.07 359⇑*i*P **P 12 54 57.6 -1.0**
KIEV Kiev 69.07 359*de*P **P 12 54 57.7 -1.0**
KIEV pmax pmax
comp=Z,15nm,0.6s
AK11 Malin Array Si 69.08 359 *e*P **P 12 54 57.9 -0.9**
DPC Dobruska-Polom 69.09 7 *e*P **P 12 54 59.4 +0.5**
DPC Dobruska-Polom 69.09 7 *e*P **P 12 54 59.4 +0.5**
MANZ Manzenberg 69.14 10 *e*P **P 12 54 59.0 -0.2**
comp=Z,22nm,0.7s,baz=352,slow=6.2
MANZ *e*pP **pP 12 55 32.3 -0.4**
PRU Pruhonice 69.33 9 *e*P **P 12 55 00.4 +0.1**
PRU Pruhonice 69.33 9 *e*P **P 12 55 00.4 +0.1**
GRA1 Grafenberg Arr 69.35 11 *e*P **P 12 55 00.7 +0.2**
comp=Z,12nm,0.6s
GRF Grafenberg Arr 69.35 11 *e*P **P 12 55 00.9 +0.5**
comp=Z,9.2nm,0.6s,baz=352,slow=6.2
GRFO Grafenberg 69.35 11 *e*P **P 12 55 00.6 +0.2**
comp=Z,10nm,0.6s
KRLC Kraliky 69.39 7 *e*P **P 12 55 01.1 +0.3**
KRLC Kraliky 69.39 7 *e*P **P 12 55 01.1 +0.3**
OJC Ojcow 69.41 5 *e*P **P 12 55 00.2 -0.6**
comp=Z,5.5nm,0.7s
OJC Ojcow 69.41 5 *e*P **P 12 55 00.2 -0.6**
OJC pmax pmax
comp=Z,6.0nm,0.7s
GOPC GO Pecny, Ondr 69.42 8 *e*P **P 12 55 01.3 +0.4**
GOPC GO Pecny, Ondr 69.42 8 *e*P **P 12 55 01.3 +0.4**
USP Ospenovka 69.50 325 P **P 12 55 01.4 -0.2**
SNR=16
TKM2 Tokmak 2 69.51 324 P **P 12 55 02.0 +0.2**
SNR=18
CD2 Chengdu 69.68 297 *e*P **P 12 55 04.6 +1.7**
MORC Moravsky Berou 69.73 7 *e*P **P 12 55 02.9 +0.1**
comp=Z,4.9nm,0.8s
MORC Moravsky Berou 69.73 7⇑*i*P **P 12 55 03.0 +0.1**
MORC Moravsky Berou 69.73 7 ⇑P **P 12 55 03.0 +0.1**
MORC Moravsky Berou 69.73 7 *e*P **P 12 55 02.8 -0.1**
KDJ Kajisay 69.76 322 *e*P **P 12 55 04.1 +0.8**
comp=Z,17nm,0.8s
KDJ Kajisay 69.76 322 *e*P **P 12 55 04.1 +0.8**
KDJ pmax pmax
comp=Z,17nm,0.8s
FRU Bishkek 69.87 325 *i* P **P 12 55 03.5 -0.3**
FRU *i* 12 55 37.5
FRU pmax pmax
comp=Z,36nm,1.5s
FRU1 Bishkek 69.89 325 *e*P **P 12 55 04.5 +0.5**
comp=Z,38nm,0.6s
FRU1 Bishkek 69.89 325 *e*P **P 12 55 04.5 +0.5**
FRU1 pmax pmax
comp=Z,38nm,0.6s
KBK Karagaybulak 69.94 324 P **P 12 55 04.8 +0.4**
SNR=25
WET Wettzell 70.04 10 *e*P **P 12 55 04.9 +0.2**
baz=352,slow=6.2
AAK Ala-Archa 70.08 325 P **P 12 55 05.2 0.0**
SNR=21
AAK Ala-Archa 70.08 325 *e*P **P 12 55 05.2 0.0**
comp=Z,22nm,0.6s
AAK Ala-Archa 70.08 325*ce*P **P 12 55 05.3 0.0**
AAK pmax pmax
comp=Z,18nm,0.6s
TREC Trest 70.09 8 *e*P **P 12 55 05.1 +0.1**
TREC Trest 70.09 8 *e*P **P 12 55 05.1 +0.1**
KWP Kalwaria Pacla 70.09 3 *e*P **P 12 55 05.4 +0.4**
comp=Z,210nm,1.2s
KHC Kasperske Hory 70.11 9 *e*P **P 12 55 05.6 +0.5**
comp=Z,3.7nm,0.6s
KHC Kasperske Hory 70.11 9 *e*P **P 12 55 05.5 +0.3**
KHC *ex* x 12 55 10.2
KHC Kasperske Hory 70.11 9 *e*P **P 12 55 05.6 +0.5**
KHC pmax pmax
comp=Z,4.0nm,0.6s
VRAC Vranov 70.15 7⇑*i*P **P 12 55 05.4 +0.1**
VRAC Vranov 70.15 7 ⇑P **P 12 55 05.4 +0.1**
VRAC Vranov 70.15 7 *e*P **P 12 55 05.5 +0.1**
VRAC *e* 12 55 38.4
EKS2 Erkin-Say 70.27 325 P **P 12 55 06.7 +0.3**
SNR=11
JTS JuntasAbangare 70.36 104⇓*e*P **P 12 55 09.8 +2.7**
JTS pmax pmax
comp=Z,6.0nm,0.8s
ECH Echery 70.37 14 *e*P **P 12 55 06.6 -0.2**
comp=Z,9.1nm,0.8s
ECH Echery 70.37 14 *e*P **P 12 55 06.6 -0.2**
ECH pmax pmax
comp=Z,9.0nm,0.8s
KRUC Moravsky 70.38 7 *e*P **P 12 55 06.7 0.0**
KRUC *e* 12 55 39.7
KZA Kyzart 70.38 324 P **P 12 55 07.7 +0.3**
SNR=7.8
BFO Black Forest 70.40 13 *e*P **P 12 55 06.8 -0.1**
comp=Z,5.8nm,0.8s
BFO Black Forest 70.40 13 *e*P **P 12 55 06.8 -0.1**
comp=Z,4.1nm,0.8s,baz=352,slow=6.2
BFO Black Forest 70.40 13 *e*P **P 12 55 06.8 -0.1**
BFO pmax pmax
comp=Z,6.0nm,0.8s
GEC2 GERESS Array S 70.40 9 *e*P **P 12 55 06.9 -0.1**
comp=Z,4.4nm,0.7s
GEC2 GERESS Array S 70.40 9 *e*P **P 12 55 06.9 -0.1**
comp=Z,3.8nm,0.7s,baz=352,slow=6.2
GEC2 GERESS Array S 70.40 9 *e*P **P 12 55 06.9 -0.1**
GEC2 pmax pmax
comp=Z,4.0nm,0.7s
GERES GERESS Array B 70.40 9 P **P 12 55 07.0 -0.1**
comp=Z,3.7nm,0.6s,baz=359,slow=4.9,SNR=42
GERES pP **pP 12 55 40.7 0.0**
comp=Z,2.3nm,0.9s,baz=345,slow=3.0,SNR=2.9
GEA0 GERESS Array S 70.41 9 *e*P **P 12 55 06.7 -0.3**
UCH Uchtor 70.46 324 P **P 12 55 08.0 +0.1**
SNR=6.0
LANS Liptovska Anna 70.46 5 *e*P **P 12 55 08.0 +0.7**
LANS Liptovska Anna 70.46 5 *e*P **P 12 55 08.0 +0.7**
BANI BANI 70.56 87 *e*P **P 12 55 09.5 +1.1**
JAVC Velka Javorina 70.66 7 *e*P **P 12 55 09.5 +1.0**
JAVC *e* 12 55 42.5
KKAR Karatay Array 70.75 328 *e*P **P 12 55 08.5 -0.6**
KKAR Karatay Array 70.75 328 *e*P **P 12 55 08.5 -0.6**
AML Almayashu 70.78 325 P **P 12 55 10.4 +0.6**
SNR=30
MNAS Manas 70.78 326 P **P 12 55 09.1 -0.4**
MNAS pmax pmax
comp=Z,24nm,0.7s
FUR Furstenfeldbru 70.86 11 *e*P **P 12 55 09.8 +0.1**
comp=Z,12nm,0.7s,baz=352,slow=6.2
UZH Uzhgorod 71.08 3 *e*P **P 12 55 10.0 -1.0**
UZH *e* 12 55 24.4
VYHS Vyhne 71.08 6 *e*P **P 12 55 11.1 +0.1**
VYHS pmax pmax
comp=Z,6.0nm,1.1s
VYHS Vyhne 71.08 6 *e*P **P 12 55 11.1 +0.1**
MODS Modra-Piesok 71.12 7 *e*P **P 12 55 12.0 +0.7**
MODS pmax pmax
comp=Z,14nm,1.2s
MODS Modra-Piesok 71.12 7 *e*P **P 12 55 12.0 +0.7**
UBR Ueberruh 71.23 12 *e*P **P 12 55 12.0 0.0**
comp=Z,6.8nm,0.8s,baz=352,slow=6.2
RJOB Jochberg 71.43 10 *e*P **P 12 55 13.6 +0.4**
comp=Z,11nm,0.7s,baz=352,slow=6.2
MOA Molln 71.44 9 *e*P **P 12 55 13.2 0.0**
comp=Z,4.8nm,1.0s
CONA Conrad Observa 71.47 8 *e*P **P 12 55 14.0 +0.6**
comp=Z,8.8nm,0.7s
CONA *e*pP **pP 12 55 47.6 +0.3**
comp=Z,17nm,1.8s
RETA Reutte 71.49 12 *e*P **P 12 55 13.6 0.0**
comp=Z,0.7nm,0.4s
RETA *e*pP **pP 12 55 47.4 +0.1**
comp=Z,11nm,1.2s
TRPA Tarpa 71.59 3⇑*i*P **P 12 55 14.7 +0.7**
TRPA Tarpa 71.59 3⇑*e*P **P 12 55 15.0 +1.0**
DAVA Damuels 71.59 12 *e*P **P 12 55 14.8 +0.5**
comp=Z,3.0nm,0.4s
MOTA Moosalm 71.66 11 *e*P **P 12 55 15.6 +0.8**
comp=Z,2.6nm,0.4s,SNR=5.1
PSZ Piszkesteto 71.71 5 *e*P **P 12 55 15.6 +0.8**
comp=Z,11nm,0.9s
PSZ Piszkesteto 71.71 5⇑*i*P **P 12 55 15.8 +0.9**
PSZ Piszkesteto 71.71 5 ⇑P **P 12 55 15.8 +0.9**
PSZ Piszkesteto 71.71 5 *e*P **P 12 55 15.0 +0.2**
WATA Walderalm 71.72 11 *e*P **P 12 55 15.9 +0.9**
comp=Z,6.1nm,0.4s,SNR=8.1
ARSB Arslanbob 71.73 325 *e*P **P 12 55 15.2 0.0**
comp=Z,13nm,0.8s
SOP Sopron 71.76 7 *e*P **P 12 55 15.1 0.0**
SQTA Sankt Quirin 71.79 11 *e*P **P 12 55 15.9 +0.4**
comp=Z,12nm,0.6s,SNR=5.4
SQTA *e*pP **pP 12 55 48.8 -0.4**
comp=Z,18nm,1.3s
FETA Feichten 71.94 12 *i* P **P 12 55 16.9 +0.5**
comp=Z,8.3nm,0.6s
FETA *e*pP **pP 12 55 49.1 -1.1**
comp=Z,12nm,1.3s
ARSA Arzberg 72.12 8 *i* P **P 12 55 17.7 +0.4**
BUR08 Bucovina Ar. S 72.13 1 *e*P **P 12 55 17.0 -0.4**
KBA Koelnbreinsper 72.13 10 *e*P **P 12 55 18.2 +0.6**
comp=Z,15nm,0.6s,SNR=8.9
KBA *e*pP **pP 12 55 52.0 +0.7**
comp=Z,9.3nm,0.8s
BUR04 Bucovina Ar. S 72.15 1 *e*P **P 12 55 17.1 -0.5**
BURAR Bucovina Array 72.16 1⇑*i*P **P 12 55 17.1 -0.5**
BURAR Bucovina Array 72.16 1 ⇑P **P 12 55 17.1 -0.5**
SENIN Lac Senin/Sane 72.22 14 *e*P **P 12 55 18.6 +0.5**
comp=Z,5.7nm,0.7s
FUORN Ofenpass-Fuorn 72.29 12 *e*P **P 12 55 18.9 +0.3**
comp=Z,13nm,0.6s
TUE Stuetta 72.34 13 *e*P **P 12 55 19.6 +0.8**
comp=Z,17nm,0.6s
ABTA Abfaltersbach 72.38 10 *e*P **P 12 55 18.8 -0.1**
comp=Z,6.0nm,1.1s
ABTA *e*pP **pP 12 55 53.0 +0.3**
comp=Z,11nm,1.5s
MYKA Terra Mystica 72.60 10 *e*P **P 12 55 20.2 0.0**
comp=Z,3.7nm,0.5s
SOKA Soboth 72.66 9 *e*P **P 12 55 21.2 +0.7**
comp=Z,4.7nm,0.5s
OBIP Obispado Ponce 72.70 84 *e*P **P 12 55 21.1 +0.1**
comp=Z,50nm,1.5s
PERS Pernice 72.71 9 *i* P **P 12 55 21.2 +0.4**
OBKA Obir 72.79 9 *e*P **P 12 55 21.6 +0.3**
comp=Z,25nm,0.5s,SNR=7.6
OBKA *e*pP **pP 12 55 54.1 -1.1**
comp=Z,25nm,1.2s
BIZ Bicaz 72.84 1⇑*i*P **P 12 55 21.7 +0.2**
SJG San Juan 72.87 84 *e*P **P 12 55 21.9 -0.1**
comp=Z,28nm,1.3s
SJG San Juan 72.87 84 *e*P **P 12 55 21.9 -0.1**
SJG pmax pmax
comp=Z,28nm,1.3s
SSB Saint Sauveur 72.92 16 *e*P **P 12 55 22.3 +0.2**
comp=Z,12nm,1.2s
SSB Saint Sauveur 72.92 16 *e*P **P 12 55 22.3 +0.2**
SSB pmax pmax
comp=Z,12nm,1.2s
DRGR 72.93 3⇑*i*P **P 12 55 22.0 -0.1**
DRGR 72.93 3 ⇑P **P 12 55 22.0 -0.1**
HUMP Col San Antoni 72.99 83 *e*P **P 12 55 22.4 -0.4**
comp=Z,28nm,1.2s
CADS Cadrg 73.00 10 *i* P **P 12 55 21.6 -1.0**
MTP Monte Pirata 73.17 83 *e*P **P 12 55 23.5 -0.3**
comp=Z,35nm,1.3s
CRNS Crni Vrh 73.19 9 *i* P **P 12 55 22.8 -0.9**
MORH Mrgy, Hungar 73.35 6 *e*P P 12 55 15.0 -9.5
BNI Bardonecchia 73.43 15 *e*P **P 12 55 26.3 +1.1**
comp=Z,33nm,1.5s
BTK Batken 73.50 326 *e*P **P 12 55 26.0 +0.3**
comp=Z,19nm,0.6s
BTK Batken 73.50 326 *e*P **P 12 55 26.0 +0.3**
BTK pmax pmax
comp=Z,19nm,0.6s
DOPR Dopca 73.81 1⇑*i*P **P 12 55 27.9 +0.7**
GOF Gofitskoye 73.91 348 *e*P **P 12 55 27.9 +0.1**
GOF pmax pmax
comp=Z,60nm,0.6s
VRI Vrincioaia 73.91 0⇑*i*P **P 12 55 27.6 -0.2**
VRI Vrincioaia 73.91 0 ⇑P **P 12 55 27.6 -0.2**
PLOR Plostina 73.93 0⇑*i*P **P 12 55 29.6 +1.6**
PLOR Plostina 73.93 0 ⇑P **P 12 55 29.6 +1.6**
BZS Buzias 74.07 4⇑*i*P **P 12 55 28.2 -0.5**
BZS Buzias 74.07 4 ⇑P **P 12 55 28.2 -0.5**
MLR Muntele Rosu 74.29 1 LR LR 13 29 53.3
comp=Z,12nm,20.5s,baz=360,slow=37
MLR Muntele Rosu 74.29 1 *e*P **P 12 55 30.8 +0.7**
comp=Z,11nm,1.5s
MLR *e* 13 29 53.3
MLR Muntele Rosu 74.29 1 *e*P **P 12 55 30.8 +0.7**
MLR pmax pmax
comp=Z,11nm,1.5s
GZR Gura Zlata 74.33 3⇑*i*P **P 12 55 29.8 -0.5**
GZR Gura Zlata 74.33 3 ⇑P **P 12 55 29.8 -0.5**
VOIR 74.33 1⇑*i*P **P 12 55 30.3 -0.1**
VOIR 74.33 1 ⇑P **P 12 55 30.3 -0.1**
ARR Arges 74.39 2⇑*i*P **P 12 55 30.4 -0.3**
CFR Carcaliu 74.60 359⇑*i*P **P 12 55 30.3 -1.4**
CFR Carcaliu 74.60 359 ⇑P **P 12 55 30.3 -1.4**
GAR Garm 74.63 326 *e*P **P 12 55 32.1 -0.1**
comp=Z,37nm,0.6s
GAR Garm 74.63 326 *e*P **P 12 55 32.1 -0.1**
GAR pmax pmax
comp=Z,37nm,0.6s
VLC Villacollemand 74.74 12 *e*P **P 12 55 32.7 0.0**
comp=Z,49nm,1.3s
KIV Kislovodsk 75.04 348 *e*P **P 12 55 34.8 +0.3**
comp=Z,23nm,0.7s
KIV Kislovodsk 75.04 348 *e*P **P 12 55 34.4 -0.1**
KIV pmax pmax
comp=Z,32nm,1.0s
KIV MLR MLR
comp=Z,28nm,18.0s
KMI Kunming 75.12 295 P **P 12 55 36.4 +1.0**
KMI pmax pmax
comp=Z,10.0nm,1.6s
KBZ Khabaz 75.24 348 P **P 12 55 36.1 +0.7**
comp=Z,15nm,0.8s,baz=335,slow=3.9,SNR=25
KBZ pP **pP 12 56 09.8 +0.3**
comp=Z,9.3nm,0.9s,baz=337,slow=4.7,SNR=3.5
CHGR Chuyangaron 75.27 327 *e*P **P 12 55 35.4 -0.5**
comp=Z,99nm,0.6s
TIRR Tirgusor 75.32 359 *e*P **P 12 55 35.7 -0.2**
TIRR *e*PcP **PcP 12 55 48.9 +0.4**
TIRR Tirgusor 75.32 359 *e*P **P 12 55 35.7 -0.2**
TIRR *e* 12 55 48.9
NCK Nalchik 75.40 348⇓*i*P **P 12 55 37.1 +0.6**
NCK pmax pmax
comp=Z,72nm,0.8s
MTE Manteigas 75.47 27 *e*P **P 12 55 37.3 +0.3**
comp=Z,71nm,1.4s
DIVS Divibare 75.53 5 *e*P **P 12 55 36.9 -0.4**
comp=Z,8.3nm,1.1s
VAH Vaihoa 75.67 175 *e*P **P 12 55 38.0 -0.1**
comp=Z,60nm,1.0s
NEY Neytrino 75.74 348⇑*e*P **P 12 55 38.3 -0.3**
NEY pmax pmax
comp=Z,2.0nm,0.7s
LSA Lhasa 76.04 306 *e*P **P 12 55 42.0 +1.2**
comp=Z,14nm,0.7s
LSA Lhasa 76.04 306 *e*P **P 12 55 42.0 +1.2**
LSA pmax pmax
comp=Z,13nm,0.7s
ZEI Tsey 76.07 347 *e*P **P 12 55 39.9 -0.6**
ZEI pmax pmax
comp=Z,16nm,1.4s
ES19 SONSECA Array 76.91 24 *e*P **P 12 55 45.0 -0.1**
ESDC Sonseca Array 76.92 24 P **P 12 55 45.2 0.0**
comp=Z,2.5nm,0.6s,baz=346,slow=5.7,SNR=15
ESDC pP **pP 12 56 18.5 -0.9**
comp=Z,4.8nm,0.9s,baz=345,slow=5.2,SNR=4.5
ESLA Sonseca Array 76.92 24 *e*P **P 12 55 45.4 +0.2**
comp=Z,7.6nm,0.9s
PESTR Estremoz 76.93 27 *e*P **P 12 55 45.4 +0.2**
comp=Z,20nm,1.4s
PAB San Pablo 76.97 24 *e*P **P 12 55 45.7 +0.2**
comp=Z,16nm,1.5s
PAB San Pablo 76.97 24 *e*P **P 12 55 45.7 +0.2**
PAB pmax pmax
comp=Z,16nm,1.5s
TBLG Delisi 77.02 346 *e*P **P 12 55 46.2 +0.6**
comp=Z,32nm,0.8s
TBLG Delisi 77.02 346 *e*P **P 12 55 46.2 +0.6**
TBLG pmax pmax
comp=Z,32nm,0.8s
VTS Vitosha 77.14 3 *e*P **P 12 55 46.8 +0.3**
comp=Z,3.3nm,0.8s
VTS Vitosha 77.14 3 *e*P **P 12 55 46.8 +0.3**
VTS pmax pmax
comp=Z,3.0nm,0.8s
TTG Podgorica 77.15 6 *e*P **P 12 55 47.3 +1.0**
comp=Z,54nm,1.4s
TTG Podgorica 77.15 6 *e*P **P 12 55 47.3 +1.0**
TTG pmax pmax
comp=Z,54nm,1.4s
PAYG Puerto Ayora 77.51 114 *e*P **P 12 55 50.0 +1.3**
comp=Z,26nm,0.8s
TIAR Tiarei 77.92 176 *e*P **P 12 55 50.6 -0.1**
comp=Z,16nm,1.0s
PAE Paea 78.01 177 *e*P **P 12 55 51.0 -0.2**
comp=Z,6.2nm,1.1s
SDV Santo Domingo 78.56 92 *e*P **P 12 55 54.6 0.0**
comp=Z,24nm,0.8s
BRRC Barranca, Sant 78.58 96 *e*P **P 12 55 54.2 -0.3**
BRRC Barranca, Sant 78.58 96 *e*P **P 12 55 54.2 -0.3**
GNI Garni 78.58 346 *e*P **P 12 55 55.2 +0.8**
comp=Z,12nm,0.8s
GNI Garni 78.58 346⇓*i*P **P 12 55 54.9 +0.4**
GNI pmax pmax
comp=Z,174nm,1.7s
GEYT Alibeck 78.58 335 P **P 12 55 54.8 +0.5**
comp=Z,20nm,0.7s,baz=320,slow=4.4,SNR=42
GEYT pP **pP 12 56 29.0 +0.3**
comp=Z,2.8nm,0.5s,baz=347,slow=6.1,SNR=2.9
GEYT LR LR 13 33 59.6
comp=Z,8.2nm,21.4s,baz=165,slow=38
GYA0B ALIBECK ARRAY 78.58 335 *e*P **P 12 55 54.9 +0.5**
comp=Z,19nm,0.7s
NIL Nilore 78.77 322 *e*P **P 12 55 55.5 0.0**
comp=Z,32nm,0.6s
ALN Alexandroupoli 78.88 1 *e*P **P 12 55 56.0 +0.2**
comp=Z,5.0nm,0.9s
FNA Florina 78.89 4 *e*P **P 12 55 55.4 -0.6**
comp=Z,8.6nm,0.6s
FNA Florina 78.89 4 *e*P **P 12 55 55.4 -0.6**
FNA pmax pmax
comp=Z,9.0nm,0.6s
KBL Kabul 79.16 326 *e*P **P 12 55 56.4 -1.4**
comp=Z,8.8nm,0.7s
KBL Kabul 79.16 326 *e*P **P 12 55 56.4 -1.4**
KBL pmax pmax
comp=Z,9.0nm,0.7s
BARC Barichara 79.28 96 *e*P **P 12 55 58.0 -0.7**
BARC Barichara 79.28 96 *e*P **P 12 55 58.0 -0.7**
SHL Shillong 79.41 304 *e*P **P 12 55 59.0 -0.2**
comp=Z,11nm,0.9s
SHL Shillong 79.41 304 *e*P **P 12 55 59.0 -0.2**
SHL pmax pmax
comp=Z,11nm,0.9s
SVB Belmont 79.41 82 *e*P **P 12 55 58.7 -0.4**
comp=Z,162nm,1.4s
CART Cartagena 79.52 22 *e*P **P 12 55 60.0 +0.6**
comp=Z,42nm,1.2s
LIT Litokhoron 79.61 4 *e*P **P 12 56 00.3 +0.4**
comp=Z,29nm,1.5s
LIT Litokhoron 79.61 4 *e*P **P 12 56 00.3 +0.4**
LIT pmax pmax
comp=Z,29nm,1.5s
GUN Gumba 79.69 310 *e*P **P 12 56 01.2 +0.3**
comp=Z,55nm,0.8s
JIRN Jiri 79.80 309 *e*P **P 12 56 02.0 +0.5**
comp=Z,139nm,0.7s
BR101 Keskin Array S 79.90 355 *e*P **P 12 56 01.5 -0.2**
BR101 *e*pP **pP 12 56 35.4 -0.8**
BR101 *e* 13 36 05.4
BR131 Keskin Array S 79.90 355 *e*P **P 12 56 01.5 -0.1**
BRTR Keskin Array B 79.90 355 P **P 12 56 01.5 -0.1**
comp=Z,4.6nm,0.7s,baz=11,slow=1.3,SNR=18
BRTR pP **pP 12 56 35.4 -0.8**
comp=Z,4.2nm,0.9s,baz=0.0,slow=5.1,SNR=6.0
BRTR LR LR 13 36 05.4
comp=Z,10nm,20.5s,baz=284,slow=39
RUSC La Rusia 79.93 96 *e*P **P 12 56 01.9 -0.6**
RUSC La Rusia 79.93 96 *e*P **P 12 56 01.9 -0.6**
YOTC Yotoco, Valle 79.99 100 *e*P **P 12 56 01.8 -0.6**
YOTC Yotoco, Valle 79.99 100 *e*P **P 12 56 01.8 -0.6**
KKN Kakani 80.03 310 *e*P **P 12 56 02.8 +0.2**
comp=Z,24nm,0.7s
DANN Dangsing 80.09 312 *e*P **P 12 56 03.4 +0.4**
comp=Z,172nm,0.7s
PKI Pulchoki 80.17 310 *e*P **P 12 56 03.4 -0.1**
comp=Z,41nm,1.0s
PKIN Phulchoki 80.17 310 *e*P **P 12 56 03.1 -0.3**
comp=Z,24nm,0.9s
ROSC El Rosal 80.24 98 LR LR 13 36 37.6
comp=Z,50nm,18.6s,baz=40,slow=39
TIP Timpagrande 80.24 8 *e*P **P 12 56 04.6 +1.2**
comp=Z,15nm,1.4s
DMN Daman 80.25 310 *e*P **P 12 56 04.1 +0.3**
comp=Z,39nm,0.8s
RAMN Ramite 80.28 309 *e*P **P 12 56 03.9 -0.1**
comp=Z,83nm,0.9s
PYUN Piuthan 80.60 312 *e*P **P 12 56 05.5 -0.1**
comp=Z,115nm,0.9s
KOLN Koldanda 80.67 311 *e*P **P 12 56 05.9 -0.1**
comp=Z,45nm,0.8s
AGG Agios Georgios 80.68 4 *e*P **P 12 56 05.7 0.0**
comp=Z,21nm,1.5s
AGG Agios Georgios 80.68 4 *e*P **P 12 56 05.7 0.0**
AGG pmax pmax
comp=Z,21nm,1.5s

NONG	**Nongkai**			P		**P**	12 56 08.4	+0.5
POPC	**Popayan, Colom**	**81.08**	**101**	*e*P		**P**	12 56 07.5	-0.8
POPC	**Popayan, Colom**	**81.08**	**101**	*e*P		**P**	12 56 07.5	-0.8
MARP	**Paez Belalcaza**	**81.17**	**100**	*e*P		**P**	12 56 07.5	-1.3
MARP	**Paez Belalcaza**	**81.17**	**100**	*e*P		**P**	12 56 07.5	-1.3
PCON	**Cinco Dias**	**81.40**	**101**	*e*P		**P**	12 56 10.2	-0.3
PCON	**Cinco Dias**	**81.40**	**101**	*e*P		**P**	12 56 10.2	-0.3
SOTA	**Rioblanco**	**81.47**	**101**	*e*P		**P**	12 56 10.6	-0.1
SOTA	**Rioblanco**	**81.47**	**101**	*e*P		**P**	12 56 10.6	-0.1
TAMR	**Tamra**	**81.62**	**14**	*e*P		**P**	12 56 10.8	+0.2
	comp=Z,30nm,0.7s							
OTAV	**Otavalo**	**82.23**	**103**	*e*P		**P**	12 56 15.0	+0.4
	comp=Z,11nm,0.6s							
OTAV	**Otavalo**	**82.23**	**103**	*e*P		**P**	12 56 14.1	-0.5
OTAV	**Otavalo**	**82.23**	**103**	*e*P		**P**	12 56 14.1	-0.5
LAMP	**Lampang**	**82.26**	**294**	P		**P**	12 56 15.5	+1.3
CHTO	**Chiang Mai**	**82.32**	**295**	*e*P		**P**	12 56 13.6	-0.9
	comp=Z,5.8nm,0.9s							
CHTO	**Chiang Mai**	**82.32**	**295**	*e*P		**P**	12 56 13.6	-0.9
CHTO				pmax	pmax			
	comp=Z,6.0nm,0.9s							
FLOC	**Florencia**	**82.41**	**100**	*e*P		**P**	12 56 15.1	+0.1
FLOC	**Florencia**	**82.41**	**100**	*e*P		**P**	12 56 15.1	+0.1
ITM	**Ithomi**	**82.50**	**4**	*e*P		**P**	12 56 15.6	+0.3
	comp=Z,15nm,1.2s							
UTTA	**Uttaradit**	**82.53**	**293**	P		**P**	12 56 15.6	0.0
CM31	**Chiang Mai Arr**	**82.63**	**295**	*e*P		**P**	12 56 15.8	-0.3
CM31				*e*pP		**pP**	12 56 50.6	-0.1
CMAR	**Chiang Mai Arr**	**82.63**	**295**	P		**P**	12 56 15.8	-0.4
	comp=Z,5.5nm,0.8s,baz=13,slow=5.7,SNR=38							
CMAR				pP		**pP**	12 56 50.6	-0.1
	comp=Z,7.2nm,1.1s,baz=11,slow=5.6,SNR=4.3							
CM01	**Chiang Mai Arr**	**82.66**	**294**	*e*P		**P**	12 56 15.3	-0.9
KEST	**Kesra**	**82.95**	**14**	P		**P**	12 56 17.8	+0.2
	comp=Z,11nm,0.6s,baz=262,slow=3.4,SNR=13							
KEST				pP		**pP**	12 56 52.4	0.0
	comp=Z,13nm,1.0s,baz=328,slow=3.4,SNR=3.9							
PBKT	**Sadao Pong**	**83.36**	**292**	P		**P**	12 56 19.8	-0.1
PMG	**Port Moresby**	**84.06**	**239**	LR		LR	13 29 52.2	
	comp=Z,24nm,21.7s,baz=120,slow=33							
IDI	**Anoyia**	**84.47**	**2**	*e*P		**P**	12 56 23.4	-2.0
	comp=Z,16nm,1.0s							
RKT	**Rikitea**	**84.68**	**163**	*e*P		**P**	12 56 25.8	-0.4
	comp=Z,37nm,0.9s							
DZM	**Mont Dzumac**	**88.68**	**217**	LR		LR	13 34 45.7	
	comp=Z,189nm,18.1s,baz=32,slow=34							
COEN	**Coen**	**89.83**	**241**	*e*P		**P**	12 56 49.9	-1.4
	comp=Z,4.1nm,0.8s							
PTGA	**Pitinga**	**92.12**	**88**	*e*P		**P**	12 57 01.6	-0.3
	comp=Z,4.7nm,0.6s							
CTAO	**Charters Tower**	**94.03**	**235**	*e*P		**P**	12 57 09.9	-0.6
	comp=Z,5.8nm,0.8s							
CTAO	**Charters Tower**	**94.03**	**235**	*e*P		**P**	12 57 09.9	-0.6
CTAO				pmax	pmax			
	comp=Z,6.0nm,0.8s							
RAYN	**Ar Rayn**	**94.86**	**343**	*e*P		**P**	12 57 14.7	+0.1
	comp=Z,5.4nm,0.8s							
RAYN	**Ar Rayn**	**94.86**	**343**	*e*P		**P**	12 57 14.7	+0.1
RAYN				pmax	pmax			
	comp=Z,5.0nm,0.8s							
WR1	**Warramunga Arr**	**99.00**	**245**	*e*P		Pdif	12 57 30.8	-2.3
WRA	**Warramunga Arr**	**99.00**	**245**	P		Pdif	12 57 30.8	-2.3
	comp=Z,0.6nm,0.8s,baz=35,slow=6.1,SNR=5.6							
WRA	**Warramunga Arr**	**99.00**	**245**	*i* P		Pdif	12 57 31.6	-1.5
AS31	**Alice Springs**	**102.45**	**244**	*e*Pdif		**Pdif**	12 57 **48.0**	**-0.3**
AS31				*e*PKKPbc	PKKPbc	**PKKPbc**	13 13 45.8	-0.6
ASAR	**Alice Springs**	**102.45**	**244**	P		**Pdif**	12 57 **48.0**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=42,slow=5.8,SNR=4.1							
ASAR				PKKPbc	PKKPbc	**PKKPbc**	13 13 45.8	-0.6
	comp=Z,0.5nm,1.0s,baz=204,slow=2.2,SNR=8.3							
TOA1	**Torodi Ar. Sit**	**103.78**	**25**	*e*PKKPbc	PKKPbc	PKKPbc	13 13 41.4	-0.5
TORD	**Torodi Ar. Bea**	**103.78**	**25**	PKKPbc	PKKPbc	PKKPbc	13 13 41.4	-0.5
	comp=Z,2.6nm,0.8s,baz=155,slow=1.9,SNR=16							
PLCA	**Paso Flores**	**121.06**	**118**	PKP		**PKPdf**	13 02 **43.2**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=294,slow=4.2,SNR=7.9							
TRQA	**Tornquist**	**122.73**	**110**	*e*PKPdf		**PKPdf**	13 02 **46.1**	**-0.8**
TRQA	**Tornquist**	**122.73**	**110**	*e*PKIKP		**PKPdf**	13 02 **46.1**	**-0.8**
EFI	**East Falkland**	**134.98**	**119**	*e*PKPdf		**PKPdf**	13 03 **09.9**	**+0.2**
EFI	**East Falkland**	**134.98**	**119**	*e*PKIKP		**PKPdf**	13 03 **09.9**	**+0.2**
SBA	**Scott Base**	**140.36**	**192**	*e*PKPdf		**PKiKP**	13 03 **22.5**	**+1.1**
VNDA	**Vanda**	**140.63**	**194**	PKhKP		PKPpre	13 03 13.4	
	comp=Z,2.0nm,1.0s,baz=171,slow=1.4,SNR=3.6							
VNDA	**Vanda**	**140.63**	**194**	*e*PKPpre		PKPpre	13 03 14.2	
VNDA				*e*PKPdf		**PKiKP**	13 03 **21.2**	**-0.8**
LBTB	**Lobatse**	**144.44**	**2**	*e*PKPdf		**PKPab**	13 03 **26.5**	**0.0**
LBTB	**Lobatse**	**144.44**	**2**	*e*PKIKP		**PKPab**	13 03 **26.5**	**0.0**
HOPE	**Hope Point**	**146.47**	**108**	*e*PKPbc		**PKPab**	13 03 **32.9**	**-0.3**
BOSA	**Boshof**	**148.02**	**3**	PKPbc		**PKPbc**	13 03 **36.2**	**-0.9**
	comp=Z,5.1nm,0.4s,baz=354,slow=2.6,SNR=23							
BOSA	**Boshof**	**148.02**	**3**	*e*PKPbc		**PKPbc**	13 03 **36.1**	**-1.1**
BOSA	**Boshof**	**148.02**	**3**	*e*PKPbc		**PKPbc**	13 03 **36.1**	**-1.1**
QSPA	**South Pole Qui**	**150.38**	**180**	*e*PKPdf		**PKPdf**	13 03 **34.1**	**-2.2**
QSPA				*e*PKPbc		**PKPbc**	13 03 **41.5**	**-0.3**
SUR	**Sutherland**	**151.50**	**11**	*e*PKPbc		**PKiKP**	13 03 **46.1**	**0.0**

MEX 13 12:53:08.6±0.7, 28°12N×112°37W, h10km, MD3.9, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.81**	**172**	*e*P	Pg	12 53 21.5	-2.7
SRIG				*e*S	Sg	12 53 33.1	-1.6
GUYB	**Guaymas**	**1.34**	**99**	*e*P	Pn	12 53 28.9	-4.4
GUYB				*e*S	Sb	12 53 46.5	-4.6
HSIG		**1.54**	**54**	*e*P	Pn	12 53 32.1	-4.0
HSIG				*e*S	Sn	12 53 51.6	-4.5

SKO 13 12:53:49.6, 41°80N×22°08E, h15km, M1.1, ML1.5, 1C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STIP	**Stip**	**0.13**	**143**	*i* Pg	Pb	12 53 55.2	+1.3
STIP				*i* Sg	Sb	12 53 59.0	+2.4
STIP				*e*Lg	Lg	12 53 59.1	
	comp=E,50nm,0.2s						
STIP				*e*Lg	Lg	12 53 59.5	
	comp=N,47nm,0.2s						
VAY	**Valandovo**	**0.60**	**142**	*i* Pg	Pb	12 54 01.9	0.0
VAY				*i* Sg	Sb	12 54 10.4	+0.2
VAY				*e*Lg	Lg	12 54 11.2	
	comp=N,16nm,0.4s						
VAY				*e*Lg	Lg	12 54 11.4	
	comp=E,14nm,0.4s						
KKB	**Krupnik**	**0.75**	**85**	*i* Pg	Pb	12 54 05.0	+0.5
KKB				*i* Sg	Sb	12 54 15.3	+0.8
KRUS	**Krusevo**	**0.76**	**236**	*i* Pg	Pg	12 54 03.9	-0.5
KRUS				*i* Sg	Sb	12 54 15.0	+0.3
KRUS				*e*Lg	Lg	12 54 15.8	
	comp=E,11nm,0.4s						
KRUS				*e*Lg	Lg	12 54 16.4	
	comp=N,9.6nm,0.5s						
GRG	**Griva**	**0.88**	**164**	*i* Pg	Pg	12 54 06.9	+0.3
KNT	**Kendrikon**	**0.89**	**136**	*i* Pg	Pb	12 54 06.7	0.0
KNT				*e*Sg	Sg	12 54 18.7	+0.3
MMB	**Musomiste**	**1.25**	**99**	*i* Pg	Pg	12 54 13.6	-0.1
MMB				*i* Sg	Sg	12 54 30.5	+0.4

*DDA **13** 13:06:25.6, 40°03N×25°60E, h9km±6km, ML3.1*
*ISK **13** 13:06:25.7, 39°67N×25°49E, h9km, ML2.6/15*
*THE **13** 13:06:27.7, 39°70N×25°57E, h11km, ML1.9/9, Error ellipse: s-maj=1.4km s-min=0.7km az=69.0*
*ATH **13** 13:06:27.3, 39°71N×25°60E, h26km±1km, ML2.4/4, Error ellipse: s-maj=2.2km s-min=1.1km az=233.0*
*ISCJB **13** 13:06:28.1±0.3, 39°70N±0°02×25°59E±0°03, h19km±4km, Error ellipse: s-maj=4.0km s-min=3.3km az=144.7*

ISC 13 13:06:27.2±1.0, 39°70N±0°02×25°58E±0°02, h12km±9km, n46, σ0°50/66, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.37**	**303**	P	**Pb**	**13 06 35.4**	**-0.2**
LIA				S	**Sb**	**13 06 41.2**	**-0.2**
LIA				AML	AML	13 06 47.2	
	comp=E,240μm,0.2s						
LIA				AML	AML	13 06 47.5	
	comp=N,316μm,0.2s						
LIA	**Limnos Island**	**0.37**	**303**	P	**Pb**	**13 06 35.4**	**-0.2**
LIA				S	**Sb**	**13 06 40.9**	**-0.4**
BOZC	**Bozcaada**	**0.39**	**68**	PG	**Pg**	**13 06 35.2**	**+0.2**
BOZC	**Bozcaada**	**0.39**	**68**	IAML_P			
	comp=Z,4μm,0.1s						
BOZC				*i* P	**Pb**	**13 06 35.8**	**-0.2**
BOZC				*i* S	**Sg**	**13 06 40.6**	**+0.3**
EFSA	**Agios Efstrati**	**0.48**	**251**	P	**Pb**	**13 06 38.4**	**+0.8**
EFSA				S	**Sb**	**13 06 45.5**	**+0.8**
GPNR	**Gulpinar-Canak**	**0.49**	**119**	PG	**Pg**	**13 06 36.7**	**-0.1**
SIGR	**SIGRI**	**0.53**	**156**	PG	**Pg**	**13 06 36.8**	**-0.8**
SIGR				SG	**Sg**	**13 06 44.5**	**-0.1**
SIGR	**SIGRI**	**0.53**	**156**	P	**Pg**	**13 06 37.5**	**-0.1**
SIGR				S	**Sb**	**13 06 45.5**	**-0.5**
SIGR				AML	AML	13 06 45.5	
	comp=E,3588μm,0.4s						
SIGR				AML	AML	13 06 45.6	
	comp=N,4509μm,0.4s						
SIGR	**SIGRI**	**0.53**	**156**	P	**Pg**	**13 06 37.4**	**-0.2**
SIGR				S	**Sg**	**13 06 45.0**	**+0.4**
GADA	**Gvkgeada**	**0.55**	**26**	PG	**Pg**	**13 06 37.9**	**0.0**
GADA				SG	**Sb**	**13 06 46.5**	**-0.1**
GADA	**Gvkgeada**	**0.55**	**26**	P	**Pg**	**13 06 38.0**	**0.0**
PRK	**Paraskevi**	**0.70**	**130**	P	**Pb**	**13 06 41.7**	**+0.4**
PRK				S	**Sb**	**13 06 51.3**	**+0.5**
PRK				AML	AML	13 06 54.5	
	comp=E,810μm,0.4s						
PRK				AML	AML	13 06 54.8	
	comp=N,664μm,0.3s						
PRK	**Paraskevi**	**0.70**	**130**	P	**Pb**	**13 06 41.7**	**+0.4**
PRK				S	**Sb**	**13 06 51.8**	**+0.9**
BAYC	**CANAKKALE_Bayr**	**0.74**	**86**	IAML_P			
	comp=Z,2μm,0.1s						
BAYC				*i* P	**Pb**	**13 06 41.9**	**-0.2**
SMTH	**Samothraki Isl**	**0.77**	**357**	P	**Pb**	**13 06 42.4**	**-0.1**
SMTH				S	**Sb**	**13 06 53.3**	**+0.3**
SMTH	**Samothraki Isl**	**0.77**	**357**	P	**Pb**	**13 06 42.5**	**-0.1**
SMTH				S	**Sb**	**13 06 53.4**	**+0.3**
AYVA	**Ayvalik**	**0.94**	**114**	*i* P	**Pn**	**13 06 46.5**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.98**	**44**	PG	**Pg**	**13 06 45.7**	**-0.4**
THAS	**Thassos island**	**1.12**	**324**	P	**Pn**	**13 06 49.2**	**+0.5**
THAS	**Thassos island**	**1.12**	**324**	P	**Pb**	**13 06 47.8**	**-0.7**
THAS				S	**Sb**	**13 07 03.5**	**+0.4**
ENEZ	**Enez**	**1.12**	**23**	PN	**Pb**	**13 06 48.5**	**-0.1**
LPK	**Lapseki**	**1.13**	**53**	PN	**Pb**	**13 06 48.2**	**-0.4**
PSRA	**Psara**	**1.16**	**181**	P	**Pb**	**13 06 49.0**	**-0.1**
DKL	**Dikili**	**1.20**	**121**	PN	**Pn**	**13 06 49.3**	**-0.5**
ERIK	**Erikli-Kesan**	**1.21**	**36**	PN	**Pn**	**13 06 49.7**	**-0.1**
ALN	**Alexandroupoli**	**1.25**	**16**	PN	**Pn**	**13 06 49.9**	**-0.6**
ALN	**Alexandroupoli**	**1.25**	**16**	P	**Pb**	**13 06 50.6**	**-0.1**
ALN				S	**Sg**	**13 07 07.7**	**+0.2**
ALN	**Alexandroupoli**	**1.25**	**16**	P	**Pn**	**13 06 50.3**	**-0.2**
ALN				S	**Sg**	**13 07 08.0**	**+0.5**
CHOS	**Chios island**	**1.36**	**164**	PN	**Pn**	**13 06 51.0**	**-1.1**
CHOS	**Chios island**	**1.36**	**164**	P	**Pb**	**13 06 52.6**	**0.0**
CHOS				AML	AML	13 07 13.6	
	comp=N,198μm,0.6s						
CHOS				AML	AML	13 07 14.9	
	comp=E,243μm,0.4s						
CHOS	**Chios island**	**1.36**	**164**	P	**Pn**	**13 06 51.4**	**-0.7**
CHOS				S	**Sg**	**13 07 11.2**	**+0.2**
AOS	**Alonnisos**	**1.42**	**249**	P	**Pb**	**13 06 53.8**	**+0.2**
RDO	**Rodhopi**	**1.45**	**359**	PN	**Pn**	**13 06 52.9**	**-0.3**
RDO	**Rodhopi**	**1.45**	**359**	P	**Pn**	**13 06 53.3**	**+0.1**
RDO	**Rodhopi**	**1.45**	**359**	P	**Pn**	**13 06 53.2**	**+0.1**
RDO				S	**Sb**	**13 07 12.4**	**0.0**
PAIG	**Paliouri**	**1.48**	**279**	P	**Pn**	**13 06 54.0**	**+0.3**
PAIG				S	**Sn**	**13 07 13.3**	**+0.3**
KRBG	**Karabiga-Canak**	**1.49**	**62**	PN	**Pn**	**13 06 54.0**	**+0.3**
KAVA	**Kavala**	**1.53**	**328**	P	**Pn**	**13 06 53.7**	**-0.7**
KAVA				S	**Sn**	**13 07 13.8**	**-0.4**
URLA	**Izmir**	**1.55**	**149**	PN	**Pn**	**13 06 53.9**	**-0.8**
GONE	**Gonen-Balikesi**	**1.66**	**77**	PN	**Pb**	**13 06 56.9**	**-0.7**
STEP	**BALIKESIR_Sava**	**1.68**	**100**	IAML_P			
	comp=Z,684nm,0.2s						
STEP				*i* P	**Pb**	**13 06 57.2**	**-0.9**
STEP				*i* S	**Sg**	**13 07 20.9**	**-0.5**
MRMT	**Marmara Adasi**	**1.79**	**59**	PN	**Pn**	**13 06 58.6**	**+0.7**
EDC	**Edincik**	**1.87**	**69**	PN	**Pn**	**13 06 59.7**	**+0.7**
SBT4	**Kumbag-Tekirda**	**1.87**	**52**	PN	**Pn**	**13 06 59.8**	**+0.9**
KCTX	**Karacabey (Bur**	**2.21**	**74**	PN	**Pn**	**13 07 04.3**	**+0.7**
DURS	**Dursunbey**	**2.23**	**92**	*i* P	**Pn**	**13 07 05.5**	**+1.4**

*ISCJB **13** 13:07:00.8±0.5, 38°72N±0°04×43°04E±0°04, h10km±11km, Error ellipse: s-maj=6.4km s-min=5.5km az=6.6*
*ISK **13** 13:07:00.2, 38°71N×43°08E, h8km, ML2.5/8*
*DDA **13** 13:07:01.2, 38°73N×43°15E, h7km±2km, ML2.9*

ISC 13 13:07:01.2±1.0, 38°72N±0°03×43°09E±0°03, h11km±10km, n16, σ1°21/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.26**	**118**	PG	**Pg**	**13 07 07.0**	**+0.4**
VANB				SG	**Sg**	**13 07 12.3**	**+2.0**
ADCV	**BITLIS_Adilcev**	**0.30**	**287**	IAML_P			
	comp=Z,2μm,0.1s						
ADCV				*i* P	**Pb**	**13 07 08.0**	**-0.8**
TVAN	**Van**	**0.31**	**128**	IAML_P			
	comp=Z,11μm,0.1s						
TVAN				*i* P	**Pb**	**13 07 07.9**	**-1.1**
TVAN				*i* S	**Sb**	**13 07 12.8**	**-1.3**
AKDM	**Akdamar-Van**	**0.40**	**193**	PG	**Pg**	**13 07 08.3**	**-0.9**
GEVA	**Gevas**	**0.41**	**184**	*i* P	**Pg**	**13 07 08.7**	**-0.6**
VMUR	**Van-Muradiye**	**0.46**	**54**	IAML_P			
	comp=Z,2μm,0.1s						
VMUR				*i* P	**Pg**	**13 07 10.1**	**-0.2**
VMUR				*i* S	**Sb**	**13 07 17.7**	**-0.8**
MLAZ	**Malazgirt-MUS**	**0.60**	**315**	PG	**Pg**	**13 07 12.4**	**-0.5**
TUTA	**Tutak**	**0.72**	**342**	*i* P	**Pb**	**13 07 15.7**	**-0.2**
CLDR	**Caldiran**	**0.77**	**56**	PG	**Pg**	**13 07 15.4**	**-0.7**
CLDR	**Caldiran**	**0.77**	**56**	IAML_P			
	comp=Z,2μm,0.1s						
CLDR				*i* P	**Pb**	**13 07 15.9**	**-0.9**
GURO	**Guroymak-BITLI**	**0.85**	**259**	PG	**Pg**	**13 07 16.7**	**-0.9**
GURO				SG	**Sg**	**13 07 28.7**	**0.0**
AGRB	**Hanur-Agry**	**0.86**	**355**	PG	**Pg**	**13 07 17.4**	**-0.4**
SRTM	**Siirt_Merkez**	**1.17**	**232**	IAML_P			
	comp=Z,412nm,0.2s						
SRTM				*i* P	**Pn**	**13 07 24.7**	**+1.0**
SRTM				*i* S	**Sn**	**13 07 42.9**	**+3.1**
EATA	**Eleskirt**	**1.23**	**338**	*i* P	Pg	13 07 19.1	-5.8
EATA				*i* S	Sg	13 07 21.9	-19
SIRT	**Sirnak**	**1.32**	**203**	PN	**Pn**	**13 07 25.0**	**-0.7**
KOPR	**Koprukoy-ERZUR**	**1.59**	**323**	PN	**Pn**	**13 07 29.8**	**+0.2**

*BJI **13** 13:08:45.3, 9°26N×122°33E, h46km, mb4.7/50, mB5.1/36, Ms4.4/20, Ms7 4.1/16*
*MAN **13** 13:08:45.4, 9°54N×121°95E, h29km, mb5.6, ML4.6, MS4.9*
MAN INTENSITY III - SIPALAY &BAGO CITY NEGROS OCCIDENTAL; INTENSITY II - ILOILO CITY.
*ISCJB **13** 13:08:46.4±0.3, 9°53N±0°02×122°04E±0°02, h33km±3km, mb4.5/75, MS3.7/15, Error ellipse: s-maj=3.8km s-min=3.2km az=154.1*
*DJA **13** 13:08:48.1±0.5, 9°N±6°×12°2E±°, h10km, M4.8/18, mB5.2/4, mb4.5/18, MLv4.9/2, Mw(mB)4.5/4*
*IDC **13** 13:08:49.8±2.6, 9°55N×122°13E, h52km±23km, mb4.1/30, mb1 4.2/32, mb1mx4.1/59, mbtmp4.4/32, ML4.6/3, MS3.4/12, Ms1 3.4/12, ms1mx3.1/43, Error ellipse: s-maj=15.7km s-min=9.2km az=73.0*
*NEIC **13** 13:08:49.1±0.5, 9°52N×122°11E, h49km±4km, mb4.7/26, Error ellipse: s-maj=4.6km s-min=3.1km az=76.0*
NEIC Felt [III PIVS] at Bago and Sipalay. Also felt at Himamaylan. Felt [II PIVS] at Iloilo, Panay.
*KLM **13** 13:08:50.9, 9°23N×122°02E, h50km, mb4.7*

ISC 13 13:08:49.2±0.7, 9°54N±0°03×122°00E±0°03, h44km±7km, n199, σ1°79/217, mb4.6/88, MS3.7/15, 13C-7D, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAP	**San Jose, Anti**	**1.20**	**358**	*e*P	**Pn**	**13 09 06.5**	**-3.0**
JAP				*e*S	Sn	13 09 50.1	+25
GUIM	**Jordan**	**1.23**	**28**	*e*P	**Pn**	**13 09 06.1**	**-3.8**
GUIM				*e*S	**Sn**	**13 09 22.7**	**-2.6**
SNPH	**Sibulan**	**1.24**	**99**	*i* P	**Pn**	**13 09 06.7**	**-3.5**
SNPH				*i* S	**Sn**	**13 09 23.3**	**-2.4**
CUYO	**Cuyo Island**	**1.62**	**324**	*e*P	**Pn**	**13 09 12.9**	**-2.4**
CUYO				*e*S	**Sn**	**13 09 32.8**	**-2.2**
IPIL	**Ipil**	**1.83**	**162**	*e*P	**Pn**	**13 09 15.1**	**-3.1**
IPIL				*e*S	**Sn**	**13 09 36.2**	**-4.0**
TBP	**Tagbilaran**	**1.84**	**85**	*e*P	**Pn**	**13 09 19.7**	**+1.3**
TBP				*i* S	**Sn**	**13 09 44.3**	**+3.7**

LLP	**Lapu-Lapu**	**2.09**	**68**	*e*P		**Pn**	13 09 19.1	-2.6
LLP				*i* S		**Sn**	13 09 45.9	-0.6
RCP	**Roxas**	**2.14**	**20**	*e*P		**Pn**	13 09 20.4	-2.1
RCP				*e*S		**Sn**	13 09 48.9	+1.2
KALP	**Kalibo**	**2.15**	**9**	*e*P		**Pn**	13 09 21.1	-1.4
PAGZ	**Pagadian**	**2.17**	**141**	*e*P		**Pn**	13 09 20.9	-1.9
PAGZ				*e*S		**Sn**	13 09 47.9	-0.6
OTRP	**Odiongan**	**2.80**	**0**	*e*P		**Pn**	13 09 28.6	-3.0
CGP	**Cagayan de Oro**	**2.88**	**112**	*e*P		**Pn**	13 09 31.8	-0.7
CGP				*e*S		**Sn**	13 10 08.6	+2.6
MSLP	**Maasin**	**2.88**	**78**	*e*P		**Pn**	13 09 31.2	-1.4
MSLP				*e*S		**Sn**	13 10 05.5	-0.6
OCLP	**Ormoc**	**2.98**	**60**	*e*P		**Pn**	13 09 32.1	-1.8
BUSP	**Coron**	**3.02**	**324**	*e*P		**Pn**	13 09 32.0	-2.5
BUSP				*e*S		**Sn**	13 10 06.5	-2.9
ENPP	**El Nido**	**3.02**	**303**	*e*P		**Pn**	13 09 32.5	-2.1
ENPP				*e*S		**Sn**	13 10 06.2	-3.4
SJMP	**San Jose**	**3.03**	**344**	*e*P		**Pn**	13 09 31.7	-2.9
CTBH	**Cotabato--PC H**	**3.21**	**136**	*e*P		**Pn**	13 09 35.1	-1.9
PLP	**Palo**	**3.35**	**61**	*e*P		**Pn**	13 09 37.0	-2.1
BUKP	**Musuan**	**3.45**	**118**	*e*P		**Pn**	13 09 40.9	+0.4
BUKP				*e*S		Sn	13 10 35.2	+15
SCPH	**Surigao**	**3.45**	**86**	*e*P		**Pn**	13 09 39.0	-1.5
BUTP	**Butuan**	**3.62**	**99**	*e*P		**Pn**	13 09 41.5	-1.3
BUTP				*e*S		**Sn**	13 10 26.6	+2.2
AUQP	**San Andres**	**3.82**	**10**	*e*P		**Pn**	13 09 42.4	-3.1
AUQP				*e*S		Sn	13 10 46.5	+17
BOAC	**Boac**	**3.90**	**358**	*e*P		**Pn**	13 09 44.5	-2.1
BOAC				*e*S		**Sn**	13 10 28.3	-2.8
SKMP	**Bagumbayan, Su**	**3.92**	**140**	*e*P		**Pn**	13 09 45.1	-1.8
CNP	**Catarman**	**3.94**	**41**	*e*P		**Pn**	13 09 46.1	-1.1
CNP				*e*S		**Sn**	13 10 32.8	+0.5
DAV	**Davao City (W)**	**4.31**	**124**	P		Pn	13 09 55.7	+3.4
	16nm,0.3s,baz=197,slow=13,SNR=3.3							
DAV				LR		LR	13 11 08.2	
	comp=Z,285nm,21.0s,baz=334,slow=33							
TGY	**Tagaytay City**	**4.65**	**347**	P		**Pn**	13 09 **58.7**	**+1.7**
	73nm,0.3s,baz=128,slow=19,SNR=7.7							
TGY				LR		LR	13 12 02.4	
	comp=Z,248nm,19.5s,baz=254,slow=41							
KDM	**Kudat**	**5.74**	**243**	P		**Pn**	**13 10 11.5**	**-0.4**
SDKM	**Sandakan**	**6.14**	**231**	P		**Pn**	**13 10 15.4**	**-2.0**
TSM	**Tawau**	**6.63**	**218**	P		**Pn**	**13 10 24.1**	**-0.1**
KKM	**Kota Kinabalu**	**6.70**	**239**	*e*Pn		**Pn**	**13 10 24.5**	**-0.7**
KKM	**Kota Kinabalu**	**6.70**	**239**	P		**Pn**	**13 10 24.9**	**-0.3**
MPSI	**Mapaga**	**9.38**	**193**	P		**Pn**	**13 10 59.8**	**-2.1**
	14nm,0.6s,899nm							
LUWI	**Luwuk**	**10.54**	**176**	*e*Pn		**Pn**	**13 11 17.2**	**-0.6**
SBUM	**Sibu**	**12.00**	**235**	*e*Pn		**Pn**	**13 11 38.7**	**+0.9**
SANI	**Sanana**	**12.18**	**161**	P		**Pn**	**13 11 39.4**	**-0.8**
	20nm,0.9s							
TPUB	**Ta-pu**	**13.74**	**355**	*e*P		**P**	**13 12 09.6**	**+0.5**
YULB	**Yu-li**	**13.79**	**357**	*e*Pn		**Pn**	**13 12 03.4**	**+1.3**
SIJI	**Sorong**	**13.86**	**138**	P		**Pn**	**13 12 02.9**	**-0.3**
	0.5nm,0.3s,baz=328,slow=8.6,SNR=2.6							
SIJI				LR		LR	13 16 51.9	
	comp=Z,89nm,19.0s,slow=35							
KSM	**Kuching**	**14.12**	**236**	P		**P**	**13 12 16.4**	**+3.1**
YHNB	**Yeheng**	**15.06**	**358**	*e*Pn		**Pn**	**13 12 19.2**	**+0.1**
	253nm,1.9s							
QIZ	**Qiongzhong**	**15.08**	**310**	P		**Pn**	**13 12 20.3**	**+0.9**

LZH				sP	sP	13 15 21.9	+0.6
LZH				pmax	pmax		
	comp=Z,29nm,1.1s						
LZH				LR	LR		
	comp=N,670nm,11.7s						
LZH				LR	LR		
	comp=E,810nm,12.7s						
LZH				LR	LR		
	comp=Z,600nm,13.3s						
WRA	**Warramunga Arr**	**31.72**	**158**	P	**P**	**13 15 07.5**	**-1.6**
	3.3nm,0.8s,baz=339,slow=9.4,SNR=30						
WRA				PcP	**PcP**	**13 17 59.4**	**-0.6**
	1.1nm,0.7s,baz=347,slow=3.2,SNR=6.5						
WB2	**Warramunga Arr**	**31.72**	**157**	*eP*	**P**	**13 15 07.2**	**-1.9**
HHC	**Hu-ho-hao-te**	**32.52**	**345**	*eP*	**P**	**13 15 19.3**	**+3.3**
HHC				S	**S**	**13 20 31.4**	**+3.1**
HHC				pmax	pmax		
	comp=Z,14nm,1.2s						
HHC				pmax	pmax		
	comp=Z,54nm,5.7s						
HHC				LR	LR		
	comp=N,240nm,10.4s						
HHC				LR	LR		
	comp=E,210nm,10.6s						
HHC				LR	LR		
	comp=Z,63nm,12.4s						
AS31	**Alice Springs**	**35.00**	**161**	*eP*	**P**	**13 15 36.2**	**-1.4**
	2.7nm,0.8s						
ASAR	**Alice Springs**	**35.00**	**161**	P	**P**	**13 15 36.8**	**-0.8**
	6.1nm,0.7s,baz=345,slow=6.5,SNR=92						
ASAR				PcP	**PcP**	**13 18 09.0**	**-0.3**
	1.5nm,0.7s,baz=350,slow=2.9,SNR=4.2						
AS01	**Alice Springs**	**35.01**	**161**	*eP*	**P**	**13 15 36.2**	**-1.6**
MDJ	**Mudanjiang**	**35.56**	**9**	P	**P**	**13 15 41.9**	**-0.2**
MDJ				pP	pP	13 15 54.0	-0.1
MDJ				sP	sP	13 15 59.6	+0.2
MDJ				S	**S**	**13 21 17.6**	**+2.7**
MDJ				pmax	pmax		
	comp=Z,21nm,0.8s						
MDJ	**Mudanjiang**	**35.56**	**9**	*eP*	**P**	**13 15 41.8**	**-0.4**
	16nm,0.9s						
USA0B	**Ussuriysk Arra**	**35.60**	**12**	*eP*	**P**	**13 15 41.9**	**-0.6**
	9.2nm,0.8s						
USRK	**Ussuriysk Ar.**	**35.60**	**12**	P	**P**	**13 15 42.0**	**-0.5**
	6.6nm,0.7s,baz=200,slow=6.7,SNR=26						
GTA	**Gaotai**	**35.74**	**330**	*eP*	**P**	**13 15 44.3**	**+0.4**
GTA				pP	pP	13 15 56.6	+0.7
GTA				sP	sP	13 16 02.0	+0.8
GTA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,110nm,6.5s						
GTA				LR	LR		
	comp=N,160nm,8.3s						
GTA				LR	LR		
	comp=E,130nm,9.6s						
GTA				LR	LR		
	comp=Z,240nm,14.4s						
RAMN	**Ramite**	**37.63**	**302**	*eP*	**P**	**13 16 01.2**	**+0.8**
	8.5nm,0.6s						
CTA	**Charters Tower**	**37.91**	**141**	P	**P**	**13 16 01.5**	**-0.9**
	2.1nm,0.9s,baz=315,slow=14,SNR=2.8						
JIRN	**Jiri**	**38.23**	**303**	*eP*	**P**	**13 16 06.3**	**+0.8**
	13nm,0.4s						
GUN	**Gumba**	**38.57**	**303**	*eP*	**P**	**13 16 09.3**	**+0.9**
	26nm,0.6s						
ASAJ	**Asahikawa**	**38.81**	**24**	P	**P**	**13 16 08.9**	**-0.8**
	5.9nm,0.8s,baz=225,slow=16,SNR=2.6						
PKI	**Pulchoki**	**38.84**	**302**	*eP*	**P**	**13 16 10.8**	**+0.1**
	6.1nm,0.6s						
PKIN	**Phulchoki**	**38.85**	**302**	*eP*	**P**	**13 16 11.7**	**+1.0**
	6.9nm,0.6s						
KKN	**Kakani**	**39.03**	**303**	*eP*	**P**	**13 16 12.5**	**+0.4**
	7.8nm,0.5s						
DMN	**Daman**	**39.11**	**302**	*eP*	**P**	**13 16 13.6**	**+0.8**
	11nm,0.7s						
ULN	**Ulaanbaatar**	**40.23**	**344**	*eP*	**P**	**13 16 21.5**	**-0.2**
	7.2nm,0.9s						
SONM	**Songino Array**	**40.38**	**344**	P	**P**	**13 16 22.8**	**-0.1**
	3.6nm,0.6s,baz=163,slow=9.1,SNR=28						
SONM				LR	LR	13 34 53.9	
	comp=Z,68nm,18.2s,baz=150,slow=39						
SONA1	**Songino Array**	**40.39**	**344**	*eP*	**P**	**13 16 22.6**	**-0.4**
KLR	**Kul'dur**	**40.39**	**10**	P	**P**	**13 16 22.6**	**-0.2**
	3.5nm,0.8s,baz=202,slow=13,SNR=2.5						
KOLN	**Koldanda**	**40.42**	**302**	*eP*	**P**	**13 16 24.1**	**+0.4**
	9.3nm,0.6s						
DANN	**Dangsing**	**40.48**	**303**	*eP*	**P**	**13 16 24.4**	**+0.2**
	12nm,0.6s						
PYUN	**Piuthan**	**41.04**	**302**	*eP*	**P**	**13 16 29.3**	**+0.5**
	26nm,0.9s						
HYB	**Hyderabad**	**42.89**	**285**	*i* P	**P**	**13 16 44.0**	**+0.2**
STKA	**Stephens Creek**	**45.25**	**156**	P	**P**	**13 17 01.9**	**-0.6**
	3.6nm,0.7s,baz=324,slow=7.5,SNR=7.6						
STKA				PP	**PP**	**13 18 48.6**	**-0.4**
	4.9nm,0.7s,baz=334,slow=6.1,SNR=5.0						
STKA	**Stephens Creek**	**45.25**	**156**	*eP*	**P**	**13 17 01.7**	**-0.7**
	2.6nm,1.3s						
STKA				PP	**PP**	**13 18 48.6**	**-0.4**
WMQ	**Urumqi**	**45.30**	**325**	P	**P**	**13 17 04.6**	**+1.8**
WMQ				pP	pP	13 17 18.1	+3.0
WMQ				sP	sP	13 17 26.3	+6.0
WMQ				pmax	pmax		
	comp=Z,22nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,300nm,3.9s						
WMQ				LR	LR		
	comp=N,190nm,17.9s						
WMQ				LR	LR		
	comp=E,120nm,17.1s						
WMQ				LR	LR		
	comp=Z,140nm,15.5s						
MK01	**Makanchi Array**	**50.11**	**325**	*eP*	**P**	**13 17 40.3**	**+0.3**
MK31	**Makanchi Array**	**50.13**	**325**	*eP*	**P**	**13 17 40.8**	**+0.6**
MKAR	**Makanchi Array**	**50.13**	**325**	P	**P**	**13 17 41.0**	**+0.8**
	10nm,0.8s,baz=132,slow=8.9,SNR=112						
MKAR				LR	LR	13 40 07.9	
	comp=Z,67nm,18.2s,baz=112,slow=37						
MKAR	**Makanchi Array**	**50.13**	**325**	*eP*	**P**	**13 17 40.6**	**+0.5**
	68nm,0.8s						
MAKZ	**Makanchi**	**50.32**	**325**	*eP*	**P**	**13 17 41.9**	**+0.4**
	32nm,1.4s						
KSH	**Kashi**	**50.64**	**314**	P	**P**	**13 17 46.3**	**+2.0**
KSH				pP	pP	13 17 59.9	+3.2
KSH				PcP	**PcP**	**13 19 00.0**	**-1.3**
KSH				S	**S**	**13 24 55.6**	**-0.6**
KSH				SS	**SS**	**13 28 27.8**	**-3.2**
KSH				pmax	pmax		
	comp=Z,64nm,1.5s						
KSH				pmax	pmax		
	comp=Z,200nm,6.9s						
KSH				LR	LR		
	comp=N,150nm,7.4s						
KSH				LR	LR		
	comp=E,150nm,7.9s						
KSH				LR	LR		
	comp=Z,120nm,11.3s						
NIL	**Nilore**	**50.70**	**306**	*eP*	**P**	**13 17 45.1**	**+0.4**
	26nm,0.8s						
PETK	**Petropavlovsk-**	**52.10**	**26**	P	**P**	**13 17 54.3**	**-0.5**
	3.0nm,0.9s,baz=207,slow=9.0,SNR=3.6						
KZA	**Kyzart**	**52.19**	**317**	P	**P**	**13 17 58.1**	**+2.0**
	SNR=8.5						
TKM2	**Tokmak 2**	**52.31**	**318**	P	**P**	**13 17 58.3**	**+1.5**
	SNR=6.2						
KBK	**Karagaybulak**	**52.63**	**317**	P	**P**	**13 18 01.1**	**+2.0**
	SNR=11						
UCH	**Uchtor**	**52.74**	**317**	P	**P**	**13 18 02.4**	**+2.0**
	SNR=23						
CHMS	**Chumysh**	**52.90**	**318**	P	**P**	**13 18 02.2**	**+1.2**
	SNR=6.3						
AAK	**Ala-Archa**	**52.93**	**317**	*eP*	**P**	**13 18 02.6**	**+1.3**
	7.5nm,0.9s						
USP	**Ospenovka**	**53.18**	**318**	P	**P**	**13 18 04.4**	**+1.4**
	SNR=10						
AML	**Almayashu**	**53.27**	**316**	P	**P**	**13 18 05.7**	**+1.7**
	SNR=17						
ZAA0	**Zalesovo Array**	**53.32**	**334**	*eP*	**P**	**13 18 03.0**	**-0.7**
	3.5nm,0.8s						
ZALV	**Zalesovo Beam**	**53.32**	**334**	P	**P**	**13 18 03.5**	**-0.2**
	1.9nm,0.6s,baz=126,slow=6.0,SNR=12						
ZALV	**Zalesovo Beam**	**53.32**	**334**	*eP*	**P**	**13 18 03.1**	**-0.6**
EKS2	**Erkin-Say**	**53.42**	**317**	P	**P**	**13 18 06.8**	**+2.0**
	SNR=8.5						
KURK	**Kurchatov**	**54.35**	**327**	*eP*	**P**	**13 18 11.6**	**+0.3**
	42nm,1.4s						
MA2	**Magadan**	**54.42**	**18**	P	**P**	**13 18 10.3**	**-1.5**
	1.7nm,0.5s,baz=117,slow=12,SNR=3.7						
BTK	**Batken**	**54.54**	**313**	*eP*	**P**	**13 18 13.4**	**+0.3**
	40nm,1.5s						
GAR	**Garm**	**54.56**	**311**	*eP*	**P**	**13 18 13.3**	**0.0**
	59nm,1.3s						
CHGR	**Chuyangaron**	**55.32**	**311**	*eP*	**P**	**13 18 19.2**	**+0.4**
	13nm,0.8s						
SEY	**Seymchan**	**57.61**	**16**	P	**P**	**13 18 34.1**	**-0.3**
	1.6nm,0.8s,baz=185,slow=7.2,SNR=8.1						
BVAR	**Borovoye Array**	**59.92**	**327**	P	**P**	**13 18 50.8**	**+0.1**
	1.2nm,0.5s,baz=109,slow=8.4,SNR=11						
BRVK	**Borovoye**	**59.99**	**327**	*eP*	**P**	**13 18 51.3**	**+0.1**
	15nm,1.3s						
WSAR	**Wadi Sarin**	**61.88**	**291**	P	**P**	**13 19 04.8**	**+0.2**
	6.7nm,0.6s,baz=119,slow=4.0,SNR=7.7						
TIXI	**Tiksi**	**62.20**	**2**	*eP*	**P**	**13 19 03.7**	**-2.0**
	6.6nm,1.0s						
GEYT	**Alibeck**	**63.63**	**308**	P	**P**	**13 19 16.8**	**+0.8**
	3.8nm,0.7s,baz=134,slow=6.4,SNR=9.4						
ABKAR	**Akbulak array**	**64.70**	**320**	*eP*	**P**	**13 19 23.0**	**+0.3**
BILL	**Bilibino**	**65.28**	**17**	*eP*	**P**	**13 19 25.1**	**-1.1**
	4.9nm,1.0s						
RPZ	**Rata Peaks**	**69.19**	**144**	LR	LR	13 52 02.2	
	comp=Z,43nm,21.8s,baz=358,slow=38						
RAYN	**Ar Rayn**	**73.93**	**292**	*eP*	**P**	**13 20 20.4**	**0.0**
	9.7nm,1.3s						
KBZ	**Khabaz**	**75.60**	**313**	P	**P**	**13 20 30.0**	**+0.4**
	2.1nm,0.8s,baz=68,slow=5.4,SNR=3.1						
KLMR	**Klimovskoe**	**78.06**	**330**	*eP*	**P**	**13 20 40.8**	**-2.3**
KLMR				AMP		13 20 43.9	
	comp=Z,6.0nm,0.7s						
ILAR	**Eielson Array**	**81.92**	**26**	P	**P**	**13 21 02.0**	**-1.9**
	comp=Z,0.5nm,0.7s,baz=248,slow=4.7,SNR=5.7						
BRTR	**Keskin Array B**	**82.72**	**309**	P	**P**	**13 21 09.1**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=121,slow=3.8,SNR=5.6						
ARCES	**ARCESS Array B**	**83.40**	**339**	P	**P**	**13 21 11.3**	**-0.2**
	comp=Z,7.4nm,1.0s,baz=75,slow=5.1,SNR=8.0						
AKASG	**Malin Array Be**	**84.45**	**320**	P	**P**	**13 21 16.9**	**-0.3**
	comp=Z,5.4nm,0.7s,baz=74,slow=4.4,SNR=17						
AKBB	**Malin Array Si**	**84.45**	**320**	*eP*	**P**	**13 21 16.1**	**-1.1**
	comp=Z,9.7nm,1.0s						
KIEV	**Kiev**	**84.46**	**320**	*eP*	**P**	**13 21 16.1**	**-1.2**
	comp=Z,11nm,1.1s						
KIEV	**Kiev**	**84.46**	**320**	⇓*iP*	**P**	**13 21 16.7**	**-0.5**
AK11	**Malin Array Si**	**84.49**	**320**	*eP*	**P**	**13 21 16.6**	**-0.8**
FINES	**FINESS Array B**	**84.52**	**331**	P	**P**	**13 21 17.1**	**-0.2**
	comp=Z,4.7nm,0.6s,baz=48,slow=5.7,SNR=34						
VSU	**Vasula**	**84.69**	**328**	*eP*	**P**	**13 21 17.0**	**-1.2**
VSU				IAmb	IAmb	13 21 18.9	
	comp=Z,52nm,0.8s						
IDID	**Didziasalis**	**85.21**	**325**	*eP*	**P**	**13 21 19.8**	**-1.2**
IDID				IAmb	IAmb	13 21 22.2	
	comp=Z,11nm,0.6s						
NACGM	**Naroch**	**85.26**	**325**	*e*	**P**	**13 21 20.0**	**-1.2**
ISAL	**Salakas**	**85.51**	**325**	*eP*	**P**	**13 21 21.2**	**-1.3**
ISAL				IAmb	IAmb	13 21 23.5	
	comp=Z,6.6nm,0.6s						
TLCR		**85.54**	**315**	⇑*iP*	**P**	**13 21 21.2**	**-1.6**
CFR	**Carcaliu**	**86.02**	**315**	⇑*iP*	**P**	**13 21 25.7**	**+0.5**
INK	**Inuvik**	**86.49**	**21**	*eP*	**P**	**13 21 26.3**	**-0.7**
	comp=Z,5.3nm,1.0s						
VRI	**Vrincioaia**	**86.87**	**316**	⇑*iP*	**P**	**13 21 30.3**	**+0.9**
PLOR	**Plostina**	**86.93**	**316**	⇓*iP*	**P**	**13 21 28.9**	**-0.8**
BIZ	**Bicaz**	**87.10**	**317**	⇑*iP*	**P**	**13 21 29.8**	**-0.7**
MLR	**Muntele Rosu**	**87.48**	**316**	P	**P**	**13 21 32.5**	**0.0**
	comp=Z,4.5nm,0.6s,baz=351,slow=3.2,SNR=14						
MLR	**Muntele Rosu**	**87.48**	**316**	*eP*	**P**	**13 21 32.4**	**0.0**
	comp=Z,6.4nm,0.8s						
MLR	**Muntele Rosu**	**87.48**	**316**	⇑*iP*	**P**	**13 21 32.2**	**-0.3**
BURAR	**Bucovina Array**	**87.56**	**318**	⇓*iP*	**P**	**13 21 33.5**	**+0.7**
BUR04	**Bucovina Ar. S**	**87.57**	**318**	*eP*	**P**	**13 21 33.0**	**+0.2**
BUR08	**Bucovina Ar. S**	**87.57**	**318**	*eP*	**P**	**13 21 33.0**	**+0.1**
ARR	**Arges**	**88.41**	**316**	⇑*iP*	**P**	**13 21 37.2**	**+0.3**
DRGR		**89.41**	**317**	⇑*iP*	**P**	**13 21 40.8**	**-0.7**
VNDA	**Vanda**	**89.77**	**172**	P	**P**	**13 21 42.4**	**0.0**
	comp=Z,1.2nm,0.9s,baz=338,slow=7.8,SNR=4.0						
NOA	**NORSAR Array B**	**91.52**	**333**	P	**P**	**13 21 50.0**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=68,slow=4.7,SNR=3.1						
NOA				LR	LR	14 06 56.7	
	comp=Z,34nm,19.6s,baz=220,slow=38						
RES	**Resolute Bay**	**92.92**	**9**	*eP*	**P**	**13 21 56.5**	**-0.6**
	comp=Z,16nm,0.4s						
BRG	**Berggiesshubel**	**93.80**	**323**	*eP*	**P**	**13 22 01.6**	**0.0**
	comp=Z,5.9nm,0.9s						
CLL	**Collm**	**94.20**	**323**	*eP*	**P**	**13 22 03.0**	**-0.5**
CLL	**Collm**	**94.20**	**323**	*e*Sg	**S**	**13 33 15.0**	**+3.6**
GERES	**GERESS Array B**	**94.64**	**321**	P	**P**	**13 22 05.5**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=54,slow=5.0,SNR=5.8						
YKA	**Yellowknife Ar**	**96.10**	**23**	P	**P**	**13 22 11.1**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=304,slow=4.4,SNR=12						
SYO	**Syowa Base**	**96.12**	**201**	⇑*eP*	**P**	**13 22 12.4**	**+0.6**
PDAR	**Pinedale Array**	**109.89**	**38**	PKiKP	**PKiKP**	**13 27 16.4**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=90,slow=2.7,SNR=2.0						
TORD	**Torodi Ar. Bea**	**116.59**	**290**	PKP	**PKPdf**	**13 27 28.8**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=129,slow=2.0,SNR=3.4						
TXAR	**Lajitas Array**	**121.44**	**47**	PKP	**PKPdf**	**13 27 38.1**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=179,slow=1.2,SNR=6.3						
JCT	**Junction City**	**123.48**	**44**	*e*PKPdf	**PKPdf**	**13 27 41.8**	**-0.6**
T42A	**Van Buren**	**124.23**	**32**	*e*PKPdf	**PKPdf**	**13 27 42.8**	**-0.8**
WVT	**Waverly**	**126.59**	**30**	*e*PKPdf	**PKPdf**	**13 27 47.2**	**-1.0**
PLCA	**Paso Flores**	**147.00**	**162**	PKPbc	**PKPab**	**13 28 27.5**	**-1.5**
	comp=Z,4.8nm,0.7s,baz=237,slow=2.4,SNR=11						
LPAZ	**La Paz**	**168.07**	**125**	PKP	**PKPdf**	**13 28 53.1**	**+0.5**
	comp=Z,1.5nm,1.0s,baz=297,slow=2.3,SNR=4.1						

*MOS **13** 13:12:55.6±0.9, 49.92N×156.37E, h13km, mb4.3/1, Error ellipse: s-maj=46.4km s-min=6.5km az=77.8*
KRSC 13 13:12:44.6±1.6, 49.26N×156.47E, h7km±19km, ML4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.45**	**351**	*eP*	Pn	13 13 09.9	-1.4
SKR				*e*S	Sn	13 13 28.6	-1.9
SKR	**Severo-Kuril's**	**1.45**	**351**	*e*PN	Pn	13 13 10.1	-1.2
SKR				pmax	pmax		
	comp=Z,170nm,1.1s						
PAU	**Pauzhetka**	**2.23**	**6**	*eP*	Pn	13 13 23.4	+1.4
PAU				*e*S	Sb	13 13 51.6	-1.3
PAU	**Pauzhetka**	**2.23**	**6**	PN	Pn	13 13 23.4	+1.4
PAU				S	Sb	13 13 51.6	-1.3
KDTR	**Khodutka, Kamc**	**2.76**	**21**	*eP*	Pn	13 13 31.5	+2.3
KDTR				*e*S	Sn	13 14 05.4	+2.6
KDTR	**Khodutka, Kamc**	**2.76**	**21**	PN	Pn	13 13 31.5	+2.3
KDTR				S	Sn	13 14 05.4	+2.6
MTVR	**Mutnovka**	**3.41**	**18**	*eP*	Pn	13 13 41.6	+3.2
MTVR				*e*S	Sb	13 14 24.3	-2.9
MTVR	**Mutnovka**	**3.41**	**18**	PN	Pn	13 13 41.6	+3.2
MTVR				S	Sb	13 14 24.3	-2.9
RUS	**Russkaya**	**3.44**	**21**	*eP*	Pn	13 13 41.5	+2.9
RUS				*e*S	Sn	13 14 23.3	+3.8
RUS	**Russkaya**	**3.44**	**21**	PN	Pn	13 13 41.5	+2.9
RUS				S	Sn	13 14 23.3	+3.8
APC	**Apacha**	**3.70**	**7**	*eP*	Pn	13 13 45.9	+3.7
APC	**Apacha**	**3.70**	**7**	PN	Pn	13 13 45.9	+3.7
KRMR	**Karymshinskiy**	**3.73**	**16**	*eP*	Pn	13 13 46.7	+4.1
KRMR				*e*S	Sb	13 14 32.4	-3.8
KRMR	**Karymshinskiy**	**3.73**	**16**	PN	Pn	13 13 46.7	+4.1
KRMR				S	Sb	13 14 32.4	-3.8
UGLR	**Uglovaya**	**4.23**	**20**	*eP*	Pn	13 13 53.7	+4.1
UGLR	**Uglovaya**	**4.23**	**20**	PN	Pn	13 13 53.7	+4.1
AVH	**Avacha**	**4.26**	**19**	*eP*	Pn	13 13 54.3	+4.3
AVH	**Avacha**	**4.26**	**19**	PN	Pn	13 13 54.3	+4.3
KOK	**Koryaka**	**4.26**	**18**	*eP*	Pn	13 13 54.6	+4.5
KOK	**Koryaka**	**4.26**	**18**	PN	Pn	13 13 54.6	+4.5
SMAR	**Somma**	**4.27**	**19**	*eP*	Pn	13 13 55.1	+4.8
SMAR	**Somma**	**4.27**	**19**	PN	Pn	13 13 55.1	+4.8
SDLR	**Sedlovina**	**4.30**	**20**	*eP*	Pn	13 13 54.2	+3.5
SDLR	**Sedlovina**	**4.30**	**20**	PN	Pn	13 13 54.2	+3.5
KRX	**Arik**	**4.33**	**18**	*eP*	Pn	13 13 55.4	+4.4
KRX	**Arik**	**4.33**	**18**	PN	Pn	13 13 55.4	+4.4
SPN	**Mys Shipunski**	**4.45**	**29**	*eP*	Pn	13 13 56.1	+3.6
SPN	**Mys Shipunski**	**4.45**	**29**	PN	Pn	13 13 56.1	+3.6
GNL	**Ganaly**	**4.54**	**11**	*eP*	Pn	13 13 57.6	+3.7
GNL	**Ganaly**	**4.54**	**11**	PN	Pn	13 13 57.6	+3.7

*NEIC **13** 13:12:35.5±0.8, 5.78S×154.90E, h10km, mb4.4/6, Error ellipse: s-maj=15.6km s-min=13.0km az=63.0*
*IDC **13** 13:12:35.2±2.0, 5.68S×154.60E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/37, mbtmp4.0/5, ML4.2/1, Error ellipse: s-maj=40.0km s-min=36.0km az=58.0*

*ISCJB **13** 13:12:46.2±1.3, 6.1S±0.1×155.0E±0.2, h118km, mb4.0/8, Error ellipse: s-maj=23.8km s-min=20.0km az=178.2*
ISC 13 13:12:47.8±1.6, 6.1S±0.2×154.9E±0.2, h118km, n14, σ0s80/14, mb4.2/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**19.47**	**146**	P	**Pn**	**13 17 08.4**	**+0.4**
	0.6nm,0.3s,baz=266,slow=13,SNR=6.9						
DZM	**Mont Dzumac**	**19.47**	**146**	*eP*	**P**	**13 17 05.3**	**-0.3**
	31nm,1.5s						
EIDS	**Eidsvold**	**19.55**	**190**	*eP*	**P**	**13 17 05.6**	**-0.7**
	8.7nm,1.1s						
WRAB	**Tennant Creek**	**24.24**	**233**	*eP*	**P**	**13 17 55.0**	**+1.1**
	22nm,1.5s						
WB2	**Warramunga Arr**	**24.25**	**233**	*eP*	**P**	**13 17 55.2**	**+1.1**
	15nm,1.2s						
WR1	**Warramunga Arr**	**24.25**	**233**	*eP*	**P**	**13 17 55.0**	**+0.9**
	10nm,0.8s						
WRA	**Warramunga Arr**	**24.26**	**233**	P	**P**	**13 17 55.0**	**+0.9**
	0.7nm,0.3s,baz=58,slow=9.7,SNR=12						
AS01	**Alice Springs**	**26.67**	**227**	*eP*	**P**	**13 18 16.8**	**+0.9**
AS31	**Alice Springs**	**26.70**	**227**	*eP*	**P**	**13 18 17.3**	**+1.1**
	1.9nm,0.8s						
ASAR	**Alice Springs**	**26.71**	**227**	P	**P**	**13 18 16.8**	**+0.6**
	4.0nm,0.9s,baz=57,slow=9.6,SNR=14						
FITZ	**Fitzroy Crossi**	**30.92**	**245**	P	**P**	**13 18 53.3**	**-0.3**
	0.8nm,0.3s,baz=66,slow=11,SNR=5.4						
FITZ	**Fitzroy Crossi**	**30.92**	**245**	*eP*	**P**	**13 18 53.4**	**-0.3**
	59nm,1.9s						
MK32	**Makanchi Array**	**82.61**	**319**	*eP*	**P**	**13 24 58.1**	**+0.1**
MKAR	**Makanchi Array**	**82.61**	**319**	P	**P**	**13 24 58.1**	**+0.1**
	0.6nm,0.7s,baz=116,slow=4.2,SNR=5.0						

MEX 13 13:12:52.2±0.7, 16.54N×98.39W, h11km±5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.29**	**120**	*eP*	Pg	13 12 57.5	-0.6
PNIG				*e*S	Sg	13 13 02.6	+0.6
MEIG	**Mezcala**	**1.81**	**320**	*eP*	Pn	13 13 20.0	-3.5
MEIG				*e*S	Sn	13 13 42.7	-3.9
CAIG	**El Cayaco**	**1.87**	**286**	*eP*	Pn	13 13 21.0	-3.2
CAIG				*i* S	Sn	13 13 43.4	-4.5
PLIG	**Platanillo**	**2.13**	**330**	*i* P	Pn	13 13 24.8	-3.1
PLIG				*i* S	Sn	13 13 50.4	-4.0
HUIG	**Huatulco**	**2.32**	**109**	*i* P	Pn	13 13 27.9	-2.5
HUIG				*i* S	Sn	13 13 53.8	-5.1

*NIED **13** 13:13:00, 36.90N×140.70E, h17km, Mw3.3 Best double couple: M0 9.40000×10^13 NP1:φs27.00000°, δ18.00000°, λ-74.00000°. NP2:φs190.00000°, δ73.00000°, λ-95.00000°.*
JMA 13 13:13:17.2, 36.87N×140.67E, h8km, M3.7, 5C-3D Broadband fault plane solution: P waves. NP1: φs180.00000°, δ71.00000°, λ-105.00000°. **NP2:** φs40.00000°, δ24.00000°, λ-53.00000°. **Principal axes:** T Plg25.0000°, Azm282.0000°; N Plg14.0000°, Azm185.0000°; P Plg61.0000°, Azm68.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFFD	**Fukushimafurud**	**0.24**	**338**	⇑P	Pg	13 13 22.1	+0.1
JFFD				S	Sg	13 13 25.4	+0.2
ONAJ	**Iwakimizuishiy**	**0.25**	**24**	⇓P	Pg	13 13 22.4	+0.1
ONAJ				S	Sg	13 13 26.4	+0.7
JHO	**Hitachi**	**0.27**	**197**	⇓P	Pg	13 13 22.7	+0.1
JHO				S	Sg	13 13 26.6	+0.4
JFK	**Kawauchi**	**0.52**	**18**	P	Pg	13 13 27.2	-0.1
JFK				S	Sg	13 13 34.4	+0.2
JSB	**Shiboa**	**0.61**	**279**	⇑P	Pb	13 13 29.8	-0.3
JSB				S	Sb	13 13 38.3	-0.6
JFT	**Otama**	**0.70**	**338**	⇑P	Pg	13 13 30.8	+0.1
JFT				S	Sg	13 13 40.2	+0.4
JYT	**Yasato**	**0.75**	**211**	⇑P	Pg	13 13 31.4	-0.2
JFY	**Yanaizu**	**0.94**	**305**	⇑P	Pg	13 13 35.0	-0.3
JFY				S	Sg	13 13 47.3	-0.2
JMM	**Marumori**	**1.00**	**6**	⇓P	Pg	13 13 35.6	-0.8
JMM				S	Sg	13 13 48.9	-0.5
MAT	**Matsushiro**	**2.01**	**261**	P	Pn	13 13 52.4	+1.0
MAT				S	Sb	13 14 18.8	-0.3

MAN 13 13:13:36.8, 9.48N×121.91E, h45km, mb4.9, ML3.8, MS3.8, 1C-1D, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAP	**San Jose, Anti**	**1.26

H11N2	**WAKE ISLAND Hy**	**28.41**	**120**	T	T	13 51 02.0		
	baz=313,slow=75,SNR=181							
H11N1	**WAKE ISLAND Hy**	**28.42**	**120**	T	T	13 51 02.6		
	baz=313,slow=75,SNR=79							
H11N3	**WAKE ISLAND Hy**	**28.43**	**120**	T	T	13 51 03.3		
	baz=313,slow=75,SNR=69							
ZALV	**Zalesovo Beam**	**41.74**	**313**	P	**P**	**13 22 30.4**	**-1.1**	
	0.4nm,0.3s,baz=87,slow=7.4,SNR=2.5							
MKAR	**Makanchi Array**	**43.87**	**302**	P	**P**	**13 22 48.6**	**-0.3**	
	0.4nm,0.6s,baz=87,slow=9.7,SNR=4.6							
WRA	**Warramunga Arr**	**56.79**	**187**	P	**P**	**13 24 28.6**	**+1.7**	
	0.9nm,0.6s,baz=3.3,slow=7.4,SNR=10							
ASAR	**Alice Springs**	**60.52**	**187**	P	**P**	**13 24 54.9**	**+2.1**	
	1.0nm,0.8s,baz=16,slow=11,SNR=4.9							

JMA 13 13:15:19.7, 36.88N×140.67E, h9km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFFD	**Fukushimafurud**	**0.23**	**338**	P	Pg	13 15 24.3	-0.1
JFFD				S	Sg	13 15 27.7	+0.2
ONAJ	**Iwakimizuishiy**	**0.24**	**25**	S	Sg	13 15 28.7	+0.7
JHO	**Hitachi**	**0.28**	**197**	P	Pg	13 15 25.2	-0.1
JHO				S	Sg	13 15 29.1	0.0
JFK	**Kawauchi**	**0.51**	**19**	S	Sg	13 15 36.7	+0.3
JSB	**Shiboa**	**0.61**	**279**	P	Pb	13 15 32.0	-0.5
JFT	**Otama**	**0.69**	**337**	S	Sg	13 15 42.4	+0.3
JFY	**Yanaizu**	**0.93**	**305**	P	Pg	13 15 37.5	-0.2
JMM	**Marumori**	**0.99**	**6**	S	Sg	13 15 51.2	-0.4

IDC ***13*** *13:18:57.7±1.3, 39.65N×145.13E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.5/42, mbtmp3.6/8, ML2.8/2, Error ellipse: s-maj=32.0km s-min=24.8km az=86.0*

NIED ***13*** *13:19:00, 39.80N×144.50E, h5km, Mw3.5 Best double couple: M0 2.05000×10^14 NP1: φs 332.00000°, δ 31.00000°, λ -152.00000°. NP2: φs 217.00000°, δ 76.00000°, λ -62.00000°.*

ISCJB ***13*** *13:19:01.6±0.6, 39.72N±0.03×144.70E±0.05, h38km, mb3.5/6, Error ellipse: s-maj=6.1km s-min=3.7km az=30.2*

JMA ***13*** *13:19:03.4±0.2, 39.76N×144.53E, h38km, M3.6*

ISC 13 13:19:02.8±1.0, 39.63N±0.05×144.78E±0.08, h38km, n29, σ2§20/49, mb3.6/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**2.27**	**279**	P	**Pn**	**13 19 36.5**	**-1.3**
JTH				*e*S	**Sn**	**13 20 01.7**	**-2.8**
MIYJ	**Miyakonagasawa**	**2.29**	**270**	P	**Pn**	**13 19 37.5**	**-0.5**
MIYJ				S	**Sn**	**13 20 02.6**	**-2.3**
JKEN	**Kujiedanarisaw**	**2.43**	**285**	P	**Pn**	**13 19 38.6**	**-1.4**
JANG	**Nango**	**2.62**	**288**	P	**Pn**	**13 19 41.5**	**-1.0**
JANG				*e*S	**Sn**	**13 20 09.4**	**-3.6**
JOM	**Ohasama**	**2.70**	**268**	P	**Pn**	**13 19 43.8**	**+0.1**
JOM				S	**Sn**	**13 20 13.4**	**-1.7**
JMK	**Ichinoseki**	**2.85**	**257**	P	**Pn**	**13 19 45.6**	**-0.1**
JMK				*e*S	**Sn**	**13 20 16.7**	**-2.0**
JNBK	**Urakawa-nobuka**	**3.06**	**331**	P	**Pn**	**13 19 49.2**	**+0.6**
JNBK				S	**Sn**	**13 20 22.8**	**-1.1**
JCH	**Churui**	**3.17**	**341**	P	**Pn**	**13 19 49.5**	**-0.6**
JCH				S	**Sn**	**13 20 23.4**	**-3.2**
JOT	**Ohata**	**3.34**	**303**	P	**Pn**	**13 19 52.1**	**-0.4**
JOT				S	**Sn**	**13 20 28.8**	**-2.1**
JAK	**Akkeshi**	**3.36**	**359**	P	**Pn**	**13 19 51.4**	**-1.4**
JAK				S	**Sn**	**13 20 28.6**	**-2.8**
JYK	**Kaneyama**	**3.51**	**260**	P	**Pn**	**13 19 55.2**	**+0.5**
JYK				S	**Sn**	**13 20 34.1**	**-0.9**
JKB	**Kayabe**	**3.63**	**310**	P	**Pn**	**13 19 56.7**	**+0.3**
JKB				S	**Sn**	**13 20 36.2**	**-1.8**
JAR	**Ashorobuto**	**3.74**	**349**	P	**Pn**	**13 19 56.6**	**-1.4**
JAR				S	**Sn**	**13 20 37.7**	**-3.0**
NEM2	**Nemuro 2**	**3.80**	**11**	P	**Pn**	**13 19 56.8**	**-2.0**
NEM2				S	**Sn**	**13 20 38.4**	**-3.8**
JFR	**Furan**	**3.89**	**336**	P	**Pn**	**13 20 00.4**	**+0.3**
JFR				S	**Sn**	**13 20 42.9**	**-1.6**
JTKR	**Abashiri--Toko**	**4.38**	**352**	P	**Pn**	**13 20 06.3**	**-0.5**
JTKR				S	**Sn**	**13 20 54.5**	**-2.1**
JHR	**Hokuryu**	**4.70**	**332**	P	**Pn**	**13 20 12.3**	**+1.1**
JHR				*e*S	**Sn**	**13 21 03.9**	**-0.5**
JOSM	**Okushiri--Mats**	**4.71**	**303**	P	**Pn**	**13 20 11.2**	**-0.1**
BSO1	**Boso 1**	**5.82**	**213**	P	**Pn**	**13 20 24.6**	**-1.5**
BSO1				*e*S	**Sn**	**13 21 27.8**	**-3.5**
JRY	**Ryogami san**	**5.89**	**234**	P	**Pn**	**13 20 27.3**	**-0.2**
JRY				*e*S	**Sn**	**13 21 30.8**	**-2.9**
MJAR	**Matsushiro Arr**	**6.03**	**241**	Pn	**Pn**	**13 20 30.7**	**+1.2**
	0.6nm,0.3s,baz=54,slow=9.8,SNR=15						
MJAR				Sn	**Sn**	**13 21 38.4**	**+1.1**
	0.2nm,0.3s,baz=308,slow=37,SNR=2.6						
JHJ	**Hachijo jima 2**	**7.65**	**213**	Pn	**Pn**	**13 20 47.8**	**-3.8**
	3.6nm,0.3s,baz=49,slow=20,SNR=4.5						
JHJ				Sn	**Sn**	**13 22 09.3**	**-7.6**
	3.5nm,0.3s,baz=47,slow=19,SNR=4.3						
USRK	**Ussuriysk Ar.**	**10.57**	**300**	Pn	**Pn**	**13 21 33.2**	**+1.6**
	0.3nm,0.3s,baz=94,slow=14,SNR=7.0						
SONM	**Songino Array**	**28.68**	**299**	P	**P**	**13 24 58.5**	**+2.3**
	0.3nm,0.7s,baz=79,slow=7.5,SNR=2.7						
MKAR	**Makanchi Array**	**45.03**	**301**	P	**P**	**13 27 16.3**	**+1.7**
	0.5nm,0.8s,baz=87,slow=8.0,SNR=4.4						
ILAR	**Eielson Array**	**45.88**	**34**	P	**P**	**13 27 19.5**	**-1.5**
	0.6nm,0.9s,baz=263,slow=7.2,SNR=2.9						
WRA	**Warramunga Arr**	**60.06**	**191**	P	**P**	**13 29 06.9**	**+0.9**
	0.4nm,0.7s,baz=8.0,slow=6.8,SNR=3.5						
ASAR	**Alice Springs**	**63.78**	**191**	P	**P**	**13 29 32.1**	**+1.2**
	0.9nm,1.0s,baz=8.9,slow=6.6,SNR=3.5						
FINES	**FINESS Array B**	**67.73**	**333**	P	**P**	**13 29 57.6**	**+1.6**
	1.0nm,0.9s,baz=40,slow=9.4,SNR=5.1						

ISCJB ***13*** *13:30:49.9±0.2, 47.05N±0.02×10.53E±0.02, h6km±2km, Error ellipse: s-maj=2.6km s-min=1.9km az=178.6*

VIE ***13*** *13:30:50.4±0.2, 47.02N×10.55E, h7km±3km, mb1.7/8, ml2.5/13, Error ellipse: s-maj=1.1km s-min=0.9km az=4.0 5 km WSW of Serfaus felt 4 ems98 at Serfaus / Tyrol*

ROM ***13*** *13:30:50.8±0.2, 47.02N±0.01×10.53E±0.02, h12km±3km, ML2.0/12*

LDG ***13*** *13:30:50.7±0.1, 47.00N×10.53E, h22km, Ml2.2/10, Error ellipse: s-maj=1.8km s-min=1.4km az=45.0*

ZUR ***13*** *13:30:50.6, 47.00N×10.52E, h22km±3km, MLh2.4/13, Error ellipse: s-maj=7.5km s-min=1.3km az=256.0*

PRU ***13*** *13:30:51.9±0.0, 47.11N×10.57E, h1km*

BGR ***13*** *13:30:51.5±0.4, 47.01N×10.55E, h5km, ML2.5/8, Error ellipse: s-maj=5.6km s-min=2.2km az=169.0*

BGR Felt IV EMS.

STR ***13*** *13:30:54.5±1.0, 47°N±4′×1°0E±°, h13km±7km, M2.1/1, MLv2.1/1*

ISC 13 13:30:50.9±0.8, 47.00N±0.02×10.52E±0.01, h18km±6km, n91, σ1§99/142, 9C-3D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FETA	**Feichten**	**0.15**	**83**	*i* Pg	**Pg**	**13 30 53.6**	**-1.7**
	19nm,0.0s,SNR=1349						
FETA				*i* Sg	**Sg**	**13 30 55.5**	**-2.8**
	107nm,0.1s						
SCUC	**Scuol-Clozza**	**0.25**	**215**	⇑Pg	**Pg**	**13 30 56.5**	**-0.2**
MOSI	**Grossmontoni**	**0.39**	**177**	⇑Pg	**Pg**	**13 30 59.1**	**0.0**
MOSI				Sg	**Sg**	**13 31 05.0**	**+0.4**
MOSI	**Grossmontoni**	**0.39**	**177**	P	**Pg**	**13 30 59.0**	**0.0**
MOSI				S	**Sg**	**13 31 04.9**	**+0.4**
MOSI				AML	AML		
	comp=E,818μm,0.3s						
MOSI				AML	AML		
	comp=N,1138μm,0.4s						
MOSI				AML	AML		
	comp=E,818μm,0.3s						
MOSI				AML	AML		
	comp=N,1138μm,0.4s						
MOSI				AML	AML		
	comp=E,818μm,0.3s						
MOSI				AML	AML		
	comp=N,1138μm,0.4s						
STSP	**Tschierv**	**0.40**	**198**	⇑Pg	**Pg**	**13 30 59.3**	**+0.1**
STSP				Sg	**Sg**	**13 31 05.2**	**+0.4**
SZER	**Zernez**	**0.42**	**223**	⇑Pg	**Pg**	**13 30 59.5**	**-0.1**
FUORN	**Ofenpass-Fuorn**	**0.42**	**204**	⇑Pg	**Pg**	**13 30 59.7**	**+0.1**
FUORN				Sg	**Sg**	**13 31 05.9**	**+0.4**
FUORN	**Ofenpass-Fuorn**	**0.42**	**204**	P	**Pg**	**13 30 59.7**	**+0.1**
FUORN				S	**Sg**	**13 31 05.8**	**+0.3**
FUORN				AML	AML		
	comp=E,197μm,0.7s						
FUORN				AML	AML		
	comp=N,142μm,0.6s						
FUORN				AML	AML		
	comp=E,197μm,0.7s						
FUORN				AML	AML		
	comp=N,142μm,0.7s						
FUORN				AML	AML		
	comp=E,197μm,0.7s						
FUORN				AML	AML		
	comp=N,142μm,0.6s						
FUORN				AML	AML		
	comp=E,197μm,0.7s						
DAVOX	**Davos/Dischmat**	**0.49**	**243**	⇑Pg	**Pg**	**13 31 00.8**	**0.0**
DAVOX				Sg	**Sg**	**13 31 07.9**	**+0.3**
DAVOX	**Davos/Dischmat**	**0.49**	**243**	P	**Pg**	**13 31 00.8**	**0.0**
DAVOX				S	**Sg**	**13 31 07.9**	**+0.3**
DAVOX				AML	AML		
	comp=E,330μm,0.2s						
DAVOX				AML	AML		
	comp=N,309μm,0.5s						
DAVOX				AML	AML		
	comp=E,330μm,0.2s						
DAVOX				AML	AML		
	comp=N,309μm,0.5s						
DAVOX				AML	AML		
	comp=E,330μm,0.2s						
DAVOX				AML	AML		
	comp=N,309μm,0.5s						
RETA	**Reutte**	**0.51**	**19**	*e*Pg	**Pg**	**13 30 59.5**	**-1.7**
	comp=N,20nm,0.1s,SNR=21						
RETA				*e*Sg	**Sg**	**13 31 07.0**	**-1.2**
	comp=N,16nm,0.1s						
DAVA	**Damuels**	**0.52**	**303**	*e*Pg	**Pg**	**13 31 00.3**	**-1.1**
DAVA				*e*Sg	**Sg**	**13 31 08.4**	**0.0**
DAVA	**Damuels**	**0.52**	**303**	*e*Pg	**Pg**	**13 31 00.2**	**-1.1**
	comp=N,8.0nm,0.1s,SNR=9.0						
DAVA				*e*Sg	**Sg**	**13 31 08.1**	**-0.3**
	comp=N,31nm,0.2s						
SQTA	**Sankt Quirin**	**0.52**	**65**	*e*Pg	**Pg**	**13 30 59.9**	**-1.5**
	comp=N,20nm,0.1s,SNR=117						
SQTA				*e*Sg	**Sg**	**13 31 06.4**	**-2.1**
	comp=N,42nm,0.2s						
MOTA	**Moosalm**	**0.53**	**49**	*e*Pg	**Pg**	**13 31 00.9**	**-0.6**
	comp=N,37nm,0.2s,SNR=131						
MOTA				Sg	**Sg**	**13 31 08.1**	**-0.6**
	comp=N,32nm,0.2s						
BRMO	**Bormio**	**0.54**	**191**	Sg	**Sg**	**13 31 09.0**	**+0.1**
BRMO	**Bormio**	**0.54**	**191**	P	**Pg**	**13 31 01.3**	**-0.4**
BRMO				S	**Sg**	**13 31 09.0**	**+0.1**
BRMO				AML	AML		
	comp=E,284μm,0.2s						
BRMO				AML	AML		
	comp=N,202μm,0.4s						
BRMO				AML	AML		
	comp=E,284μm,0.2s						
BRMO				AML	AML		
	comp=N,202μm,0.4s						
BRMO				AML	AML		
	comp=N,202μm,0.4s						
BRMO				AML	AML		
	comp=E,284μm,0.2s						
ABSI	**Aberstueckl**	**0.62**	**116**	⇓Pg	**Pg**	**13 31 02.7**	**-0.5**
ABSI	**Aberstueckl**	**0.62**	**116**	P	**Pg**	**13 31 02.7**	**-0.5**
ABSI				S	**Sg**	**13 31 10.9**	**-0.5**
ABSI				AML	AML		
	comp=E,196μm,0.4s						
ABSI				AML	AML		
	comp=N,173μm,1.3s					

0.6nm,0.7s,baz=298,slow=5.3,SNR=5.9
NB2 NORSAR Subarra 68.85 354 P **P** **13 43 25.9 +0.7**
comp=Z,0.6nm,0.8s,baz=11,slow=6.5
NOA NORSAR Array B 68.85 354 P **P** **13 43 25.5 +0.3**
comp=Z,0.8nm,0.7s,baz=9.3,slow=6.5,SNR=4.6
WRA Warramunga Arr 79.98 222 P **P** **13 44 29.8 -0.5**
comp=Z,0.3nm,0.6s,baz=32,slow=5.7,SNR=4.2

MAN 13 13:40:21.4, 9.56N×122.01E, h28km, mb4.6, ML3.4, MS3.3, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**1.21**	**28**	*e*P			Pn	13 40 41.7	-0.7
GUIM				*e*S			Sb	13 40 58.5	-0.3
SNPH	**Sibulan**	**1.23**	**100**	⇑*i*P			Pn	13 40 42.8	-0.1
SNPH				*i* S			Sn	13 40 58.8	+0.2
CUYO	**Cuyo Island**	**1.61**	**323**	*e*P			Pn	13 40 48.4	+0.4
CUYO				*e*S			Sn	13 41 08.2	+0.3

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*IDC **13** 13:46:05.9±4.8, 9.86S×160.37E, h24km±26km, mb3.5/7, mb1 3.8/8, mb1mx3.7/25, mbtmp3.7/8, ML3.5/1, Error ellipse: s-maj=36.7km s-min=22.2km az=119.0*
*ISCJB **13** 13:46:06.4±0.9, 9.82S±0.09×160.3E±0.1, h37km, mb3.6/7, Error ellipse: s-maj=16.9km s-min=11.9km az=155.9*
ISC 13 13:46:08.0±1.1, 9.8S±0.1×160.3E±0.2, h37km, n10, σ0s67/11, mb3.7/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.47**	**320**	Pg			**Pn**	**13 46 17.5**	**-0.6**
	267nm,0.3s,baz=149,slow=5.9,SNR=159								
HNR				Lg			Lg	13 46 26.2	
	3µm,0.3s,baz=84,slow=18,SNR=72								
HNR	**Honiara**	**0.47**	**320**	*i* P			**Pn**	**13 46 19.0**	**+0.9**
HNR				*i* S			**Sn**	**13 46 25.0**	**-0.3**
CTA	**Charters Tower**	**16.95**	**231**	Pn			**P**	**13 50 04.2**	**+0.2**
	0.1nm,0.3s,baz=67,slow=14,SNR=3.3								
WRA	**Warramunga Arr**	**26.96**	**245**	P			**P**	**13 51 46.6**	**+0.3**
	0.6nm,0.8s,baz=78,slow=9.2,SNR=6.6								
ASAR	**Alice Springs**	**28.69**	**238**	P			**P**	**13 52 01.2**	**-0.5**
	0.3nm,0.5s,baz=62,slow=10,SNR=8.6								
MJAR	**Matsushiro Arr**	**50.54**	**337**	P			**P**	**13 55 02.1**	**-0.7**
	1.0nm,0.8s,baz=170,slow=8.2,SNR=4.1								
SONM	**Songino Array**	**74.53**	**326**	P			**P**	**13 57 44.2**	**+1.2**
	1.0nm,0.8s,baz=139,slow=5.3,SNR=6.7								
ILAR	**Eielson Array**	**84.13**	**20**	P			**P**	**13 58 34.8**	**0.0**
	0.5nm,0.4s,baz=247,slow=4.9,SNR=12								
MKAR	**Makanchi Array**	**88.94**	**318**	P			**P**	**13 58 58.5**	**-0.3**
	0.3nm,0.8s,baz=87,slow=4.9,SNR=3.2								
NVAR	**Mina Array Bea**	**89.39**	**51**	P			**P**	**13 59 01.2**	**-0.1**
	0.3nm,0.7s,baz=248,slow=7.4,SNR=3.4								

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*IDC **13** 14:01:12.5±2.7, 11.00N×127.71E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/40, mbtmp3.6/4, Error ellipse: s-maj=236.7km s-min=24.9km az=69.0*
*ISCJB **13** 14:01:13.3±1.1, 10.7N±0.1×126.9E±0.1, h10km, mb3.6/4, Error ellipse: s-maj=15.8km s-min=13.1km az=44.1*
ISC 13 14:01:15.1±1.3, 10.80N±0.08×126.8E±0.1, h10km, n7, σ1s38/8, mb3.6/4, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.51**	**302**	*e*P			**Pn**	**14 01 42.5**	**+0.3**
SCPH	**Surigao**	**1.60**	**231**	⇑*e*P			**Pn**	**14 01 44.0**	**+0.6**
SCPH				*e*S			**Sn**	**14 02 03.9**	**-0.2**
APYP	**Conner**	**8.82**	**323**	*e*P			**Pg**	**14 04 02.5**	**-1.5**
WRA	**Warramunga Arr**	**31.45**	**166**	P			**P**	**14 07 35.7**	**-1.3**
	0.2nm,0.7s,baz=349,slow=8.5,SNR=2.9								
ASAR	**Alice Springs**	**34.96**	**169**	P			**P**	**14 08 06.6**	**-1.0**
	0.7nm,0.9s,baz=356,slow=8.5,SNR=5.1								
MKAR	**Makanchi Array**	**51.90**	**322**	P			**P**	**14 10 25.9**	**+2.0**
	0.6nm,0.7s,baz=114,slow=8.3,SNR=8.0								
FINES	**FINESS Array B**	**85.65**	**332**	P			**P**	**14 13 54.4**	**+0.6**
	1.2nm,0.8s,baz=36,slow=3.6,SNR=5.2								

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*ISCJB **13** 14:07:23.7±0.4, 44.60N±0.05×140.93E±0.07, h261km, mb3.1/9, Error ellipse: s-maj=7.6km s-min=6.2km az=140.6*
*JMA **13** 14:07:23.4±0.4, 44.64N×140.91E, h273km±4km, M3.0*
*IDC **13** 14:07:24.3±0.6, 44.61N×140.96E, h259km±6km, mb2.9/9, mb1 3.2/12, mb1mx3.0/37, mbtmp3.5/12, Error ellipse: s-maj=15.1km s-min=12.6km az=132.0*
ISC 13 14:07:24.4±0.7, 44.57N±0.06×140.96E±0.06, h261km, n30, σ0s94/34, mb3.2/9, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYG	**Yagishiri**	**0.36**	**113**	P			**Pn**	**14 07 58.7**	**+0.5**
JRR	**Rishiri**	**0.62**	**24**	P			**Pn**	**14 07 59.4**	**+0.6**
JSS	**Shosan**	**0.66**	**104**	P			**Pn**	**14 08 00.2**	**+1.2**
JHR	**Hokuryu**	**0.99**	**146**	P			**Pn**	**14 08 01.8**	**+1.2**
JWK2	**Keihoku**	**1.00**	**41**	P			**Pn**	**14 08 00.6**	**+0.1**
JWK2				eS			**S**	**14 08 28.7**	**-0.3**
JSE	**Soyaes**	**1.22**	**71**	P			**Pn**	**14 08 01.6**	**-0.2**
ASAJ	**Asahikawa**	**1.26**	**110**	P			**Pn**	**14 08 02.4**	**+0.4**
	7.7nm,0.3s,baz=294,slow=6.3,SNR=164								
ASAJ				S			**S**	**14 08 31.9**	**0.0**
	0.9nm,0.3s,baz=233,slow=20,SNR=2.8								
ASAJ	**Asahikawa**	**1.26**	**110**	P			**Pn**	**14 08 02.5**	**+0.4**
JKK2	**Kamakawa 2**	**1.46**	**118**	P			**Pn**	**14 08 04.1**	**+0.6**
JTKR	**Abashiri--Toko**	**2.20**	**105**	P			**Pn**	**14 08 10.6**	**+1.1**
JAR	**Ashorobuto**	**2.39**	**121**	P			**Pn**	**14 08 12.6**	**+1.2**
JAR				eS			**S**	**14 08 50.5**	**+1.9**
JCH	**Churui**	**2.62**	**137**	eS			**S**	**14 08 50.2**	**-2.4**
JNBK	**Urakawa-nobuka**	**2.63**	**150**	eS			**S**	**14 08 53.4**	**+0.5**
JKB	**Kayabe**	**2.68**	**179**	P			**Pn**	**14 08 14.5**	**+0.3**
JOSM	**Okushiri--Mats**	**2.71**	**204**	P			**Pn**	**14 08 14.8**	**+0.3**
JAK	**Akkeshi**	**3.13**	**119**	eS			**S**	**14 09 01.0**	**-1.1**
JOT	**Ohata**	**3.18**	**179**	P			**Pn**	**14 08 19.9**	**+0.4**
JOT				eS			**S**	**14 09 02.7**	**-0.6**
NEM2	**Nemuro 2**	**3.66**	**108**	eS			**S**	**14 09 10.3**	**-2.4**
USRK	**Ussuriysk Ar.**	**6.44**	**270**	P			**Pn**	**14 08 57.9**	**-0.2**
	0.2nm,0.3s,baz=81,slow=13,SNR=4.5								
MJAR	**Matsushiro Arr**	**8.29**	**196**	P			**Pn**	**14 09 21.1**	**-0.2**
	0.5nm,0.3s,baz=9.1,slow=13,SNR=17								
SEY	**Seymchan**	**19.54**	**16**	P			**P**	**14 11 31.1**	**-1.3**
	0.2nm,0.3s,baz=201,slow=14,SNR=5.7								
SONM	**Songino Array**	**24.02**	**290**	P			**P**	**14 12 15.8**	**0.0**
	0.4nm,0.5s,baz=75,slow=7.6,SNR=3.3								
MKAR	**Makanchi Array**	**40.23**	**295**	P			**P**	**14 14 35.8**	**+0.1**
	0.2nm,0.6s,baz=80,slow=9.5,SNR=3.2								
ILAR	**Eielson Array**	**43.47**	**36**	P			**P**	**14 15 01.3**	**-0.2**
	0.6nm,0.6s,baz=280,slow=8.9,SNR=16								
FINES	**FINESS Array B**	**62.04**	**330**	P			**P**	**14 17 16.7**	**-0.2**
	2.7nm,1.0s,baz=29,slow=3.2,SNR=3.7								
WRA	**Warramunga Arr**	**64.48**	**187**	P			**P**	**14 17 33.2**	**-0.1**
	0.3nm,0.5s,baz=5.7,slow=7.0,SNR=8.7								
ASAR	**Alice Springs**	**66.21**	**187**	P			**P**	**14 17 57.6**	**+0.8**
	0.5nm,0.8s,baz=4.8,slow=7.1,SNR=7.8								
NVAR	**Mina Array Bea**	**70.83**	**55**	P			**P**	**14 18 13.1**	**+0.1**
	0.5nm,0.7s,baz=289,slow=6.6,SNR=3.2								
PDAR	**Pinedale Array**	**72.69**	**47**	P			**P**	**14 18 23.7**	**-0.3**
	0.3nm,0.6s,baz=269,slow=3.8,SNR=4.2								
TXAR	**Lajitas Array**	**85.79**	**52**	P			**P**	**14 19 35.5**	**+0.8**
	0.1nm,0.4s,baz=275,slow=3.1,SNR=5.4								

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*ISK **13** 14:13:14.6, 39.66N×25.45E, h2km, ML2.4/10*
*DDA **13** 14:13:15.4, 39.68N×25.48E, h7km±3km, ML2.7*
*ATH **13** 14:13:17.7, 39.70N×25.60E, h29km±1km, ML2.3/6, Error ellipse: s-maj=2.6km s-min=1.3km az=227.0*
*ISCJB **13** 14:13:18.6±0.4, 39.70N±0.03×25.61E±0.03, h19km±5km, Error ellipse: s-maj=4.5km s-min=3.6km az=33.8*
*THE **13** 14:13:18.0, 39.69N×25.58E, h0km±3km, ML2.2/5, Error ellipse: s-maj=3.3km s-min=0.9km az=235.0*
ISC 13 14:13:17.9±1.0, 39.68N±0.02×25.63E±0.02, h12km±9km, n42, σ0s80/60, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.37**	**64**	PG			**Pg**	**14 13 25.2**	**0.0**
BOZC	**Bozcaada**	**0.37**	**64**	IAML_P					
	comp=Z,4µm,0.2s								
BOZC				*i* P			**Pg**	**14 13 25.2**	**0.0**
BOZC				*i* S			**Sb**	**14 13 31.0**	**-1.0**
LIA	**Limnos Island**	**0.41**	**303**	P			**Pg**	**14 13 26.0**	**+0.1**
LIA				S			**Sg**	**14 13 32.1**	**+0.7**
LIA				AML		AML		14 13 37.1	
	comp=N,895µm,0.3s								
LIA				AML		AML		14 13 43.8	
	comp=E,786µm,0.6s								
LIA	**Limnos Island**	**0.41**	**303**	P			**Pg**	**14 13 26.0**	**+0.1**
LIA				S			**Sg**	**14 13 31.4**	**+0.1**
GPNR	**Gulpinar-Canak**	**0.45**	**120**	PG			**Pg**	**14 13 26.9**	**+0.1**
SIGR	**SIGRI**	**0.50**	**159**	PG			**Pg**	**14 13 26.2**	**-1.5**
SIGR				SG			**Sg**	**14 13 34.5**	**+0.2**
SIGR	**SIGRI**	**0.50**	**159**	P			**Pg**	**14 13 27.8**	**+0.1**
SIGR				S			**Sb**	**14 13 35.9**	**+0.1**
SIGR				AML		AML		14 13 36.1	
	comp=N,1615µm,0.6s								
SIGR				AML		AML		14 13 36.6	
	comp=E,825µm,0.5s								
SIGR	**SIGRI**	**0.50**	**159**	P			**Pg**	**14 13 27.7**	**0.0**
SIGR				S			**Sb**	**14 13 35.4**	**-0.4**
EFSA	**Agios Efstrati**	**0.51**	**254**	P			**Pb**	**14 13 29.3**	**+0.5**
EFSA				S			**Sb**	**14 13 36.7**	**+0.5**
GADA	**Gvkgeada**	**0.55**	**22**	PG			**Pg**	**14 13 27.8**	**-0.8**
GADA	**Gvkgeada**	**0.55**	**22**	P			**Pg**	**14 13 28.2**	**-0.4**
GADA				S			**Sb**	**14 13 37.4**	**+0.1**
EZN	**Ezine**	**0.56**	**75**	PG			**Pg**	**14 13 28.8**	**0.0**
PRK	**Paraskevi**	**0.66**	**131**	P			**Pb**	**14 13 32.1**	**+0.8**
PRK				S			**Sn**	**14 13 42.1**	**-1.2**
PRK				AML		AML		14 13 45.1	
	comp=N,712µm,0.5s								
PRK				AML		AML		14 13 48.8	
	comp=E,714µm,0.5s								
PRK	**Paraskevi**	**0.66**	**131**	P			**Pb**	**14 13 32.1**	**+0.8**
PRK				S			**Sn**	**14 13 42.2**	**-1.2**
BAYC	**CANAKKALE_Bayr**	**0.71**	**85**	*i* P			**Pg**	**14 13 31.7**	**0.0**
SMTH	**Samothraki Isl**	**0.79**	**355**	P			**Pg**	**14 13 33.2**	**0.0**
SMTH	**Samothraki Isl**	**0.79**	**355**	P			**Pg**	**14 13 33.3**	**0.0**
AYVA	**Ayvalik**	**0.90**	**114**	*i* P			**Pn**	**14 13 37.1**	**+0.8**
AYVA				*i* S			**Sn**	**14 13 49.6**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.97**	**42**	PN			**Pg**	**14 13 36.3**	**-0.2**
LPK	**Lapseki**	**1.11**	**51**	PN			**Pb**	**14 13 38.9**	**-0.1**
PSRA	**Psara**	**1.14**	**182**	P			**Pn**	**14 13 40.0**	**+0.4**
THAS	**Thassos island**	**1.16**	**323**	P			**Pb**	**14 13 38.7**	**-1.0**
THAS				S			**Sb**	**14 13 54.7**	**0.0**
THAS				AML		AML		14 14 01.8	
	comp=N,217µm,0.3s								
THAS				AML		AML		14 14 02.5	
	comp=E,192µm,0.5s								
THAS	**Thassos island**	**1.16**	**323**	P			**Pb**	**14 13 38.8**	**-1.0**
THAS				S			**Sg**	**14 13 55.3**	**+0.1**
DKL	**Dikili**	**1.16**	**121**	PN			**Pg**	**14 13 40.1**	**-0.1**
ERIK	**Erikli-Kesan**	**1.20**	**34**	PN			**Pb**	**14 13 39.8**	**-0.7**
ALN	**Alexandroupoli**	**1.26**	**15**	PN			**Pn**	**14 13 40.7**	**-0.5**
ALN	**Alexandroupoli**	**1.26**	**15**	P			**Pn**	**14 13 41.1**	**-0.1**
ALN				S			**Sg**	**14 13 57.8**	**-0.6**
ALN				AML		AML		14 14 05.6	
	comp=E,70µm,0.7s								
ALN				AML		AML		14 14 10.0	
	comp=N,76µm,1.1s								
ALN	**Alexandroupoli**	**1.26**	**15**	P			**Pn**	**14 13 40.9**	**-0.3**
ALN				S			**Sn**	**14 14 00.9**	**+2.8**
CHOS	**Chios island**	**1.33**	**165**	PN			**Pn**	**14 13 40.4**	**-2.0**
CHOS	**Chios island**	**1.33**	**165**	P			**Pn**	**14 13 42.3**	**-0.1**
CHOS				AML		AML		14 14 03.7	
	comp=N,206µm,0.8s								
CHOS				AML		AML		14 14 05.0	
	comp=E,298µm,0.3s								
KESN	**Edirne-Kesan**	**1.40**	**35**	IAML_P					
	comp=Z,303nm,0.2s								
KESN				*i* P			**Pg**	**14 13 44.3**	**-0.5**
KESN				*i* S			**Sg**	**14 14 04.9**	**+1.9**
AOS	**Alonnisos**	**1.45**	**250**	P			**Pn**	**14 13 43.4**	**-0.4**
RDO	**Rodhopi**	**1.47**	**357**	PN			**Pn**	**14 13 43.4**	**-0.7**
RDO	**Rodhopi**	**1.47**	**357**	P			**Pn**	**14 13 43.9**	**-0.2**
PAIG	**Paliouri**	**1.52**	**280**	P			**Pb**	**14 13 46.1**	**+0.1**
URLA	**Izmir**	**1.52**	**150**	PN			**Pn**	**14 13 44.4**	**-0.5**
URLA	**Izmir**	**1.52**	**150**	IAML_P					
	comp=Z,485nm,0.2s								
URLA				*i* P			**Pn**	**14 13 45.0**	**+0.2**
BALY	**Balya**	**1.54**	**87**	IAML_P					
	comp=Z,411nm,0.2s								
BALY				*i* P			**Pg**	**14 13 46.8**	**-0.6**
BALY				*i* S			**Sg**	**14 14 06.6**	**-0.7**
KAVA	**Kavala**	**1.56**	**327**	P			**Pn**	**14 13 45.5**	**0.0**
MRMT	**Marmara Adasi**	**1.77**	**58**	PN			**Pb**	**14 13 49.3**	**-1.0**
KCTX	**Karacabey (Bur**	**2.18**	**74**	PN			**Pn**	**14 13 55.3**	**+1.4**
DURS	**Dursunbey**	**2.20**	**91**	IAML_P					
	comp=Z,115nm,0.3s								
DURS				*i* P			**Pn**	**14 13 55.4**	**+1.1**
DURS				*i* S			**Sn**	**14 14 22.2**	**+0.7**

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*SKO **13** 14:21:04.7, 41.79N×22.12E, h17km, M2.5, ML3.0*
*ISCJB **13** 14:21:05.8±0.3, 41.83N±0.02×22.09E±0.03, h18km±6km, Error ellipse: s-maj=3.8km s-min=3.6km az=151.8*
*BEO **13** 14:21:05.3±0.3, 41.82N×22.09E, h6km±3km, ML2.5/12*
*SOF **13** 14:21:07.2, 41.89N×22.26E, h5km*
ISC 13 14:21:05.8±0.9, 41.82N±0.02×22.10E±0.02, h16km±7km, n46, σ1s08/62, 14C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STIP	**Stip**	**0.14**	**152**	*i* Pg			**Pg**	**14 21 10.0**	**+0.3**
STIP				*i* Sg			**Sg**	**14 21 13.6**	**+1.2**
STIP				eLg			Lg	14 21 13.8	
	comp=N,848nm,0.4s								
STIP				eLg			Lg	14 21 13.9	
	comp=E,1µm,0.2s								
SKO	**Skopje**	**0.51**	**287**	*e*Pg			**Pg**	**14 21 15.1**	**-0.9**
SKO				*e*Sg			**Sg**	**14 21 22.2**	**-0.7**
SKO	**Skopje**	**0.51**	**287**	*i* Pg			**Pg**	**14 21 15.9**	**-0.1**
VAY	**Valandovo**	**0.61**	**145**	*e*Pg			**Pg**	**14 21 16.4**	**-1.5**
VAY				*e*Sg			**Sg**	**14 21 24.6**	**-1.4**
VAY	**Valandovo**	**0.61**	**145**	*i* Pg			**Pg**	**14 21 16.5**	**-1.3**
VAY				*i* Sg			**Sg**	**14 21 25.6**	**-0.5**
VAY				eLg			Lg	14 21 25.9	
	comp=E,374nm,0.3s								
VAY				eLg			Lg	14 21 26.1	
	comp=N,602nm,0.5s								
KKB	**Krupnik**	**0.74**	**86**	*i* Pg			**Pg**	**14 21 19.7**	**-0.5**
KKB				*i* Sg			**Sb**	**14 21 30.3**	**+0.2**
KKB	**Krupnik**	**0.74**	**86**	P			**Pb**	**14 21 20.1**	**-0.2**
KRUS	**Krusevo**	**0.78**	**235**	*i* Pg			**Pg**	**14 21 20.1**	**-0.9**
KRUS				*i* Sg			**Sg**	**14 21 30.4**	**-1.0**
KRUS				eLg			Lg	14 21 30.7	
	comp=N,85nm,0.4s								
KRUS				eLg			Lg	14 21 31.2	
	comp=E,45nm,0.3s								
KNT	**Kendrikon**	**0.89**	**137**	⇑*i*Pg			**Pg**	**14 21 21.6**	**-1.5**
KNT				*i* Sg			**Sg**	**14 21 33.5**	**-1.3**
GRG	**Griva**	**0.89**	**165**	⇑*i*Pg			**Pg**	**14 21 21.6**	**-1.5**
BIA	**Bitola**	**0.99**	**216**	⇓*i*Pg			**Pb**	**14 21 24.8**	**+0.2**
BIA				*i* Sg			**Sg**	**14 21 36.6**	**-1.4**
BIA				eLg			Lg	14 21 38.3	
	comp=N,81nm,0.3s								
BIA				eLg			Lg	14 21 38.6	
	comp=E,137nm,0.7s								
BARS	**Barje**	**1.02**	**348**	*e*Pg			**Pg**	**14 21 23.8**	**-1.7**
BARS				*e*Sg			**Sg**	**14 21 37.5**	**-1.3**
VTS	**Vitosha**	**1.13**	**47**	*e*Pg			**Pg**	**14 21 26.8**	**-0.8**
VTS				*e*Sg			**Sg**	**14 21 41.2**	**-1.2**
VTS	**Vitosha**	**1.13**	**47**	⇑*i*P			**Pg**	**14 21 26.9**	**-0.8**
VTS				S			**Sg**	**14 21 40.0**	**-2.4**
VTS	**Vitosha**	**1.13**	**47**	⇑*i*Pg			**Pg**	**14 21 26.9**	**-0.8**
VTS				*e*Sg			**Sb**	**14 21 42.4**	**+0.9**
VTS	**Vitosha**	**1.13**	**47**	P			**Pg**	**14 21 26.8**	**-0.8**
FNA	**Florina**	**1.17**	**208**	⇑*i*Pg			**Pg**	**14 21 27.2**	**-1.2**
FNA				*i* Sg			**Sb**	**14 21 43.3**	**+0.7**
OHR	**Ohrid**	**1.21**	**234**	*i* Pg			**Pg**	**14 21 28.0**	**-1.1**
OHR				*i* Sg			**Sb**	**14 21 44.9**	**+1.3**
OHR				eLg			Lg	14 21 45.1	
	comp=N,114nm,0.4s								
OHR				eLg			Lg	14 21 45.3	
	comp=E,278nm,0.6s								
MMB	**Musomiste**	**1.24**	**100**	⇑*i*Pg			**Pg**	**14 21 28.8**	**-0.9**
SRS	**Serrai**	**1.32**	**122**	⇓*i*Pg			**Pn**	**14 21 29.6**	**-0.1**
THE	**Thessaloniki**	**1.36**	**151**	*i* Pg			**Pg**	**14 21 31.1**	**-0.8**
SOH	**Sokhos**	**1.38**	**136**	⇑*i*Pg			**Pn**	**14 21 30.5**	**+0.1**
ZAPS	**Zavoj**	**1.50**	**15**	*e*Pg			**Pb**	**14 21 33.3**	**-0.1**
ZAPS				*e*Sg			**Sb**	**14 21 53.2**	**+1.0**
SELS	**Selova**	**1.57**	**333**	*e*Pg			**Pn**	**14 21 33.6**	**+0.5**
SELS				*e*Sg			**Sn**	**14 21 54.7**	**+1.6**
PGB	**Panagyurishte**	**1.70**	**64**	P			**Pg**	**14 21 37.5**	**-1.0**
BOVS	**Bovan**	**1.83**	**351**	*e*Pn			**Pn**	**14 21 36.7**	**+0.1**
RZN	**Rozhen**	**1.96**	**93**	P			**Pb**	**14 21 41.6**	**+0.3**
ZAGS	**Zajecar**	**1.99**	**3**	*e*Pn			**Pn**	**14 21 40.2**	**+1.4**
SJES	**Sjenica**	**2.13**	**313**	*e*Pn			**Pn**	**14 21 41.9**	**+1.1**
IVAS	**Ivanjica**	**2.27**	**321**	*e*Pn			**Pn**	**14 21 42.8**	**+0.2**
GRUS	**Gruza**	**2.30**	**334**	*e*Pn			**Pn**	**14 21 43.3**	**+0.2**
KUBS	**Kucevo**	**2.61**	**353**	*e*Pn			**Pn**	**14 21 46.9**	**-0.4**
TRUS	**Trudelj**	**2.70**	**333**	*e*Pn			**Pn**	**14 21 48.7**	**+0.1**
DIVS	**Divibare**	**2.75**	**327**	*e*Pn			**Pn**	**14 21 49.7**	**+0.4**
BBLS	**Lazići**	**2.84**	**317**	*e*Pn			**Pn**	**14 21 51.6**	**+1.0**
MDVR	**Moldovita**	**2.97**	**355**	⇓*i*P			**Pn**	**14 21 52.1**	**-0.2**
HERR	**Herculane**	**3.07**	**4**	⇓*i*P			**Pn**	**14 21 53.3**	**-0.3**
GZR	**Gura Zlata**	**3.60**	**8**	⇑*i*P			**Pn**	**14 22 00.8**	**-0.2**
BZS	**Buzias**	**3.81**	**355**	⇑*i*P			**Pn**	**14 22 03.5**	**-0.3**
ARR	**Arges**	**3.99**	**27**	⇑*i*P			**Pn**	**14 22 06.8**	**+0.4**
VOIR		**4.20**	**30**	⇓*i*P			**Pn**	**14 22 09.8**	**+0.6**
SIRR	**Siria**	**4.46**	**356**	⇑*i*P			**Pn**	**14 22 12.4**	**-0.3**
DRGR		**4.99**	**5**	⇑*i*P			**Pn**	**14 22 19.6**	**-0.4**
TLB	**Topalu**	**5.15**	**56**	⇑*i*P			**Pn**	**14 22 25.1**	**+3.0**
VRI	**Vrincioaia**	**5.25**	**38**	⇑*i*P			**Pn**	**14 22 24.8**	**+1.2**
CFR	**Carcaliu**	**5.53**	**51**	⇓*i*P			**Pn**	**14 22 29.7**	**+2.4**

GUC 13 14:22:55.1±0.6, 24.16S×67.75W, h220km±12km, ML3.5, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**1.84**	**301**	*e*P			Pn	14 23 35.6	+1.7
PB15				*e*S			S	14 24 05.8	+2.0
PB15				IAML				14 24 07.6	
	comp=E,698nm,0.2s								
GO02	**Mina Guanaco**	**1.95**	**239**	⇑*i*P			Pn	14 23 36.1	+1.2
GO02				*i* S			S	14 24 08.2	+2.4
GO02				IAML				14 24 10.2	
	comp=N,112nm,0.1s								
PB06	**IPOC Station P**	**2.22**	**311**	*e*P			Pn	14 23 39.2	+1.7
PB06				*i* S			S	14 24 12.2	+1.9
PB06				IAML				14 24 14.8	
	comp=N,152nm,0.1s								
PB05	**IPOC Station P**	**2.60**	**300**	*e*P			Pn	14 23 43.5	+2.0
PB05				*i* S			S	14 24 19.8	+2.3
PB05				IAML				14 24 21.7	
	comp=N,48nm,0.2s								
PB09	**IPOC Station P**	**2.73**	**329**	⇑*i*P			Pn	14 23 44.7	+1.7
PB09				*e*S			S	14 24 21.9	+1.6
PB09				IAML				14 24 22.9	
	comp=N,51nm,0.5s								
PB03	**IPOC Station P**	**2.80**	**318**	*e*P			Pn	14 23 45.8	+2.0
PB03				*e*S			S	14 24 22.8	+1.2
PB03				IAML				14 24 24.9	
	comp=E,100nm,0.2s								
PB04	**IPOC Station P**	**2.86**	**309**	⇓*e*P			Pn	14 23 46.7	+2.3
PB04				*i* S			S	14 24 25.2	+2.3
PB04				IAML				14 24 27.2	
	comp=N,86nm,0.3s								
PB07	**IPOC Station P**	**3.13**	**320**	*e*P			Pn	14 23 49.1	+1.7
PB07				*e*S			S	14 24 29.3	+1.0
PB02	**IPOC Station P**	**3.46**	**325**	*e*P			Pn	14 23 52.5	+1.2
PB01	**IPOC Station P**	**3.50**	**332**	*e*P			Pn	14 23 52.2	+0.5

IDC 13 14:33:13.8±5.6, 6.99S×130.04E, h253km±58km, mb2.6/1, mb1 2.6/4, mb1mx2.5/27, mbtmp3.2/4, Error ellipse: s-maj=66.9km s-min=27.5km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.84**	**201**	P			Pn	14 35 54.9	-0.5
	0.1nm,0.3s,baz=27,slow=11,SNR=10								
FITZ				S			S	14 38 01.5	-6.1

061Z	Ochoppi	16.36	43	*e*Pn		Pn	14 39 18.5	-2.3	
	comp=Z,229nm,1.2s								
JCT	Junction City	17.24	341	*e*Pn		P	14 39 34.6	+1.5	
	comp=Z,18nm,1.0s								
JCT	Junction City	17.24	341	P		P	14 39 35.6	+2.5	
	baz=159								
TXAR	Lajitas Array	17.83	329	P		P	14 39 42.1	+2.4	
	comp=Z,0.1nm,0.3s,baz=152,slow=14,SNR=24								
TXAR				LR		LR	14 47 31.8		
	comp=Z,63nm,20.1s,baz=0.0,slow=40								
TX31	Lajitas Ar. Si	17.84	329	*e*P		P	14 39 41.7	+2.0	
349A	Repton	17.91	17	P		P	14 39 42.3	+1.9	
	baz=199								
556A	Lake Butler	18.60	31	P		Pn	14 39 51.9	+3.4	
	baz=215								
250A	Grady	18.77	19	*e*P		P	14 39 48.5	-1.3	
	comp=Z,18nm,0.9s								
352A	Blakely	18.77	23	*e*P		P	14 39 48.9	-1.0	
	comp=Z,41nm,1.0s								
352A	Blakely	18.77	23	P		Pn	14 39 51.7	+1.1	
	baz=206								
Z41A	Richland Creek	18.93	1	*e*P		P	14 39 51.5	-0.1	
	comp=Z,81nm,1.8s								
ABTX	Abilene, Hawle	19.20	343	*e*P		P	14 39 55.1	+0.6	
	comp=Z,37nm,1.5s								
TIGA	Tifton	19.27	26	*e*P		P	14 39 53.1	-2.2	
	comp=Z,58nm,1.4s								
TIGA	Tifton	19.27	26	P		P	14 39 53.7	-1.6	
	baz=209								
Z47A	Carrollton	19.45	13	P		P	14 39 57.0	-0.2	
	baz=195								
151A	Opelika	19.58	20	P		P	14 39 58.6	-0.2	
	baz=203								
Z49A	Columbiana	19.83	17	P		P	14 40 01.1	-0.2	
	baz=199,SNR=5.9								
254A	Abbeville	19.84	26	P		P	14 39 59.7	-1.8	
	baz=209								
152A	Waverly Hall	19.92	22	*e*P		P	14 40 01.4	-1.0	
	comp=Z,10nm,0.8s								
152A	Waverly Hall	19.92	22	P		P	14 40 01.4	-1.0	
	baz=205								
Y46A	Houston	19.95	11	P		P	14 40 03.2	+0.5	
	baz=193								
PTBC	PUERTO BERRIO,	20.01	111	*e*P		P	14 40 03.7	+0.1	
PTBC	PUERTO BERRIO,	20.01	111	*e*P		P	14 40 03.7	+0.1	
NORC	Norcasia	20.05	114	*e*P		P	14 40 02.8	-1.2	
NORC	Norcasia	20.05	114	*e*P		P	14 40 02.8	-1.2	
POPC	Popayan, Colom	20.09	124	*e*P		P	14 40 03.7	-1.0	
POPC	Popayan, Colom	20.09	124	*e*P		P	14 40 03.7	-1.0	
MIAR	Mount Ida	20.21	359	*e*P		P	14 40 05.2	-0.3	
	comp=Z,18nm,1.0s								
MIAR	Mount Ida	20.21	359	P		P	14 40 05.2	-0.3	
	baz=179,SNR=8.8								
SOTA	Rioblanco	20.39	125⇑	*e*P		P	14 40 08.7	+0.5	
SOTA	Rioblanco	20.39	125⇑	*e*P		P	14 40 08.7	+0.5	
OXF	Oxford	20.47	9	*e*P		P	14 40 08.2	-0.2	
	comp=Z,48nm,0.8s								
Z52A	Williamson	20.50	22	P		P	14 40 07.5	-1.2	
	baz=205								
MNTX	Cornudas Mount	20.61	329	*e*P		P	14 40 11.1	+1.2	
	comp=Z,10nm,0.9s								
MNTX	Cornudas Mount	20.61	329	P		Pn	14 40 12.3	-0.2	
	baz=145,SNR=18								
155A	Kite	20.77	26	P		P	14 40 10.4	-1.2	
	baz=210								
W41B	Gary Mavity, V	20.85	2	P		Pn	14 40 13.9	-1.2	
	baz=183								
W39A	Magazine	20.86	359	P		Pn	14 40 15.2	0.0	
	baz=179								
ROSC	El Rosal	20.87	115	P		P	14 40 14.3	+1.1	
	comp=Z,8.9nm,0.8s,baz=128,slow=20,SNR=5.2								
ROSC	El Rosal	20.87	115	*e*P		P	14 40 14.5	+1.2	
	comp=Z,43nm,1.6s								
Z53A	Monticello	20.89	23	P		P	14 40 11.7	-1.2	
	baz=207								
WMOK	Wichita Mounta	21.00	347	*e*P		Pn	14 40 16.1	-0.8	
	comp=Z,21nm,1.7s								
WMOK	Wichita Mounta	21.00	347	P		P	14 40 15.5	+1.4	
	baz=165								
GOGA	Godfrey	21.05	23	*e*P		P	14 40 13.4	-1.2	
	comp=Z,22nm,1.1s								
GOGA	Godfrey	21.05	23	P		P	14 40 13.8	-0.9	
	baz=207								
BARC	Barichara	21.15	109	*e*P		P	14 40 16.2	+0.1	
BARC	Barichara	21.15	109	*e*P		P	14 40 16.2	+0.1	
Y52A	Lilburn	21.23	22	*e*P		P	14 40 15.6	-1.0	
	comp=Z,18nm,1.1s								
Y52A	Lilburn	21.23	22	P		P	14 40 16.1	-0.6	
	baz=205								
Y53A	Monroe	21.40	23	P		P	14 40 17.1	-1.3	
	baz=206								
MSTX	Muleshoe	21.44	338	*e*P		P	14 40 19.8	+0.8	
	comp=Z,21nm,1.1s								
MSTX	Muleshoe	21.44	338	P		P	14 40 19.8	+0.8	
	baz=154								
V41A	Mountainview	21.47	2	P		P	14 40 18.8	-0.3	
	baz=183,SNR=8.1								
CHIC	Chingaza	21.48	115	*e*P		P	14 40 22.0	+2.1	
CHIC	Chingaza	21.48	115	*e*P		P	14 40 22.0	+2.1	
RUSC	La Rusia	21.52	111	*e*P		P	14 40 18.7	-1.6	
RUSC	La Rusia	21.52	111	*e*P		P	14 40 18.7	-1.6	
V42A	Cord	21.53	4	P		P	14 40 18.5	-1.2	
	baz=185								
W48A	Pulaski	21.57	14	P		P	14 40 20.2	+0.1	
	baz=197								
TUL1	Leonard	21.69	354	*e*P		P	14 40 22.0	+0.5	
	comp=Z,26nm,1.3s								
VILC	Villavicencio,	21.76	116	*e*P		P	14 40 24.6	+2.0	
VILC	Villavicencio,	21.76	116	*e*P		P	14 40 24.6	+2.0	
AMTX	Amarillo	21.91	341	*e*P		P	14 40 24.1	+0.1	
	comp=Z,35nm,1.0s								
AMTX	Amarillo	21.91	341	P		P	14 40 24.3	+0.4	
	baz=158								
HHAR	Hobbs	21.95	359	*e*P		P	14 40 23.7	-0.6	
	comp=Z,9.5nm,1.0s								
X52A	Dahlonega	21.96	21	P		P	14 40 23.1	-1.3	
	baz=205								
HSIG		22.01	315	*e*P		P	14 40 27.0	+2.0	
	comp=Z,15nm,1.2s								
U40A	Yellville	22.02	1	P		P	14 40 24.5	-0.5	
	baz=181,SNR=6.5								
U41A	Viola	22.03	3	P		P	14 40 25.4	+0.2	
	baz=184,SNR=7.3								
W50A	Signal Mountai	22.05	18	*e*P		P	14 40 24.6	-0.9	
	comp=Z,16nm,1.3s								
U42A	Revenden	22.08	4	P		P	14 40 25.4	-0.3	
	baz=185								
X53A	Estanollee	22.08	22	P		P	14 40 23.8	-1.9	
	baz=206								
NHSC	New Hope	22.23	30	P		P	14 40 27.7	+0.5	
	baz=215								
121A	Cookes Peak, D	22.51	326	P		P	14 40 33.4	+2.9	
	baz=141,SNR=20								
T41A	Mountain View	22.74	3	P		P	14 40 32.3	-0.4	
	baz=184,SNR=10								
T42A	Van Buren	22.77	4	P		P	14 40 30.9	-2.1	
	baz=186								
SDV	Santo Domingo	22.79	101	P		P	14 40 31.8	-1.9	
	comp=Z,6.2nm,0.7s,baz=295,slow=4.5,SNR=9.4								
SDV	Santo Domingo	22.79	101	*e*P		P	14 40 32.1	-1.6	
	comp=Z,6.7nm,0.8s								
T43A	Greenville	22.89	6	P		P	14 40 33.2	-1.1	
	baz=188								
TKL	Tuckaleechee C	22.96	20	P		P	14 40 31.9	-3.1	
	comp=Z,1.1nm,0.5s,baz=194,slow=8.3,SNR=3.2								
TKL	Tuckaleechee C	22.96	20	*e*P		P	14 40 32.9	-2.1	
	comp=Z,11nm,1.0s								
U49A	Red Boiling Sp	23.16	15	P		P	14 40 35.9	-1.1	
	baz=199								
V52A	Sevierville	23.18	20	*e*P		P	14 40 35.9	-1.4	
	comp=Z,15nm,1.3s								
V52A	Sevierville	23.18	20	P		P	14 40 36.0	-1.3	
	baz=204								
BNM	Barren Site	23.22	331	*e*P		P	14 40 37.7	-0.2	
S41A	Jillco Farms,	23.28	3	P		P	14 40 36.2	-2.0	
	baz=184,SNR=6.6								
V53A	Saluda	23.30	22	*e*P		P	14 40 36.6	-1.9	
	comp=Z,11nm,1.0s								
V53A	Saluda	23.30	22	P		P	14 40 37.0	-1.5	
	baz=206								
LENM	Lemitar	23.39	330	*e*P		P	14 40 41.2	+1.6	
S43A	Fulton Ridge,	23.40	6	P		P	14 40 38.5	-0.9	
	baz=188								
KMSC	Kings Mountain	23.41	25	*e*P		P	14 40 37.3	-2.3	
	comp=Z,6.8nm,0.9s								
KMSC	Kings Mountain	23.41	25	P		P	14 40 36.9	-2.7	
	baz=210								
CCM	Cathedral Cave	23.78	4	*e*P		P	14 40 39.9	-3.1	
	comp=Z,10nm,1.2s								
CCM	Cathedral Cave	23.78	4	P		P	14 40 40.8	-2.2	
	baz=185								
ANMO	Albuquerque	23.80	332	P		P	14 40 45.0	+1.6	
	comp=Z,1.9nm,0.7s,baz=137,slow=14,SNR=10								
ANMO	Albuquerque	23.80	332	*e*P		P	14 40 43.6	+0.2	
	comp=Z,7.1nm,1.1s								
ANMO	Albuquerque	23.80	332	P		P	14 40 44.6	+1.1	
	baz=147								
R41A	Rosebud	24.01	4	P		P	14 40 43.4	-1.7	
	baz=185,SNR=5.8								
R42A	Luebbering	24.03	5	P		P	14 40 43.4	-1.9	
	baz=186								
TUC	Tucson	24.07	321	*e*P		P	14 40 46.8	+0.9	
	comp=Z,24nm,1.3s								
TUC	Tucson	24.07	321	P		P	14 40 48.1	+2.3	
	baz=135								
WCI	Wyandotte Cave	24.67	13	P		P	14 40 51.3	+0.1	
	baz=196								
Q41A	Truxton	24.67	4	P		P	14 40 49.5	-1.7	
	baz=185								
R47A	Wooly Knot Far	24.68	13	P		P	14 40 50.6	-0.6	
	baz=196								
Q43A	New Douglas	24.79	7	P		P	14 40 51.6	-0.7	
	baz=188								
T25A	Trinidad	24.87	338	*e*P		P	14 40 51.5	-1.7	
	comp=Z,15nm,0.9s								
T25A	Trinidad	24.87	338	P		P	14 40 55.6	+2.4	
	baz=154,SNR=6.1								
KSU1	Kansas State U	24.93	354	*e*P		P	14 40 51.6	-1.9	
	comp=Z,8.4nm,0.8s								
KSU1	Kansas State U	24.93	354	P		P	14 40 53.1	-0.4	
	baz=172								
CBKS	Cedar Bluff	25.13	348	*e*P		P	14 40 53.4	-2.0	
	comp=Z,19nm,1.0s								
X18A	Snowflake	25.20	326	*e*P		P	14 40 55.5	-0.7	
	comp=Z,17nm,1.5s								
P41A	Barry, Barry	25.40	4	P		P	14 40 56.3	-1.4	
	baz=185								
SDCO	Great Sand Dun	25.81	337	*e*P		P	14 41 00.2	-1.6	
	comp=Z,20nm,1.4s								
SDCO	Great Sand Dun	25.81	337	P		P	14 41 03.7	+1.9	
	baz=152,SNR=9.8								
ATAH	Atahualpa	25.86	144	P		P	14 41 06.5	+3.9	
	comp=Z,7.3nm,0.9s,baz=312,slow=12,SNR=2.0								
X16A	Lo Mia Camp, P	25.95	324	*e*P		P	14 41 03.7	+0.7	
	comp=Z,5.3nm,1.0s								
SJG	San Juan	26.31	78	P		P	14 41 02.7	-3.5	
	comp=Z,2.1nm,0.3s,baz=270,slow=10,SNR=1.9								
S22A	4UR Ranch, Cre	26.32	335	P		P	14 41 08.3	+1.8	
	baz=150								
MVCO	Mesa Verde	26.59	332	*e*P		P	14 41 10.8	+1.8	
	comp=Z,12nm,1.1s								
MVCO	Mesa Verde	26.59	332	P		P	14 41 11.0	+2.1	
	baz=146								
WUAZ	Wupatki	26.71	326	*e*P		P	14 41 10.6	+0.6	
	comp=Z,7.2nm,1.0s								
PV01	Paradox Valley	27.39	333	*e*P		P	14 41 16.9	+0.8	
PV13	Radium Mtn., P	27.52	333	*e*P		P	14 41 17.6	+0.4	
	comp=Z,26nm,1.8s								
PV02	Paradox Valley	27.52	333	*e*P		P	14 41 19.5	+2.2	
	comp=Z,26nm,1.7s								
PV03	Paradox Valley	27.61	333	*e*P		P	14 41 18.0	0.0	
SMCO	Snowmass	27.62	337	*e*P		P	14 41 19.4	+1.1	
	comp=Z,20nm,1.5s								
PV12	Saucer Basin,	27.64	333	*e*P		P	14 41 20.2	+1.9	
	comp=Z,35nm,1.4s								
PV11	David Mesa, Pa	27.66	333	*e*P		P	14 41 20.3	+1.9	
	comp=Z,9.7nm,0.9s								
ISCO	Idaho Springs	27.67	339	*e*P		P	14 41 18.2	-0.4	
	comp=Z,14nm,1.8s								
PV16	Nyswonger Mesa	27.69	333	*e*P		P	14 41 19.2	+0.6	
	comp=Z,47nm,1.8s								
L40A	Anamosa	27.77	3	P		P	14 41 17.8	-1.2	
	baz=184								
PV14	Lion Creek, Pa	27.79	333	*e*P		P	14 41 20.8	+1.2	
	comp=Z,7.4nm,1.0s								
PV23	Carpenter Ridg	27.85	333	*e*P		P	14 41 21.5	+1.3	
	comp=Z,12nm,1.1s								
BC3	Big Chuckawall	27.90	318	P		P	14 41 22.4	+1.9	
	baz=129								
KNB	Kanab	28.61	326	*e*P		P	14 41 28.3	+1.4	
	comp=Z,5.2nm,1.0s								
JFWS	Jewell Farm	28.68	5	P		P	14 41 27.5	+0.3	
	baz=186								
O20A	White River Ci	28.94	336	*e*P		P	14 41 31.5	+1.8	
	comp=Z,5.2nm,0.9s								
O20A	White River Ci	28.94	336	P		P	14 41 31.7	+2.0	
	baz=149								
SZCU	Shurtz Canyon	29.18	326	*e*P		P	14 41 34.0	+2.1	
	comp=Z,8.0nm,1.2s								
Q16A	Castle Valley	29.22	331	*e*P		P	14 41 34.3	+2.0	
	comp=Z,11nm,1.5s								
CCUT	Cedar City	29.29	326	*e*P		P	14 41 35.3	+2.3	
	comp=Z,5.3nm,1.1s								
ECSD	EROS Data Cent	29.52	355	*e*P		P	14 41 33.9	-0.8	
	comp=Z,8.9nm,1.4s								
ECSD	EROS Data Cent	29.52	355	P		P	14 41 32.8	-1.9	
	baz=174								
PSUT	Pine Spring	30.28	327	*e*P		P	14 41 43.8	+2.1	
	comp=Z,3.7nm,1.0s								
TPNV	Topopah Spring	30.52	322	*e*P		P	14 41 44.9	+1.1	
	comp=Z,20nm,2.0s								
TCUT	Toone Canyon	31.09	333	*e*P		P	14 41 50.1	+1.3	
	comp=Z,32nm,1.4s								
R11A	Troy Canyon, C	31.09	325	*e*P		P	14 41 50.5	+1.7	
	comp=Z,6.1nm,1.5s								
R11A	Troy Canyon, C	31.09	325	P		P	14 41 51.1	+2.3	
	baz=135								
BW06	Boulder Array	31.70	337	P		P	14 41 54.7	+0.5	
	baz=149								
PD31	Pinedale Array	31.70	337	*e*P		P	14 41 53.1	-1.1	
PDAR	Pinedale Array	31.70	337	P		P	14 41 55.0	+0.8	
	comp=Z,1.1nm,0.9s,baz=132,slow=5.4,SNR=6.0								
PDAR				PcP		PcP	14 44 45.7	+0.3	
	comp=Z,0.4nm,0.6s,baz=139,slow=4.7,SNR=3.5								
PDAR				LR		LR	14 57 47.5		
	comp=Z,44nm,19.1s,baz=148,slow=42								
PDAR	Pinedale Array	31.70	337	*e*P		P	14 41 54.2	0.0	
PDAR				PcP		PcP	14 44 45.7	+0.3	
HVU	Hansel Valley	32.23	332	*e*P		P	14 41 58.6	-0.2	
	comp=Z,7.2nm,1.1s								
NV11	Mina Array Sit	32.63	322	*e*P		P	14 42 04.8	+2.4	
	comp=Z,0.5nm,1.0s								
REDW	Red Top Meadow	32.71	336	*e*P		P	14 42 04.2	+1.1	
	comp=Z,30nm,1.3s								
NV01	Mina Array Sit	32.72	322	*e*P		P	14 42 04.7	+1.5	
NVAR	Mina Array Bea	32.72	322	P		P	14 42 06.0	+2.8	
	comp=Z,3.8nm,0.8s,baz=141,slow=8.8,SNR=31								
NVAR				PcP		PcP	14 44 49.7	+1.5	
	comp=Z,1.2nm,0.8s,baz=134,slow=4.5,SNR=5.8								
SNOW	Snow King Moun	32.75	336	*e*P		P	14 42 04.4	+0.9	
	comp=Z,21nm,0.9s								
LOHW	Long Hollow	32.82	336	*e*P		P	14 42 04.8	+0.8	
	comp=Z,23nm,1.7s								
TPAW	Teton Pass	32.85	336	*e*P		P	14 42 05.1	+0.7	
	comp=Z,14nm,1.1s								
MOOW	Moose Ponds	32.99	336	*e*P		P	14 42 06.0	+0.5	
	comp=Z,21nm,2.0s								
H17A	Grant Village	33.47	337	*e*P		P	14 42 11.1	+1.3	
	comp=Z,6.6nm,1.1s								
RLMT	Red Lodge	33.63	339	P		P	14 42 12.3	+1.2	
	baz=151								
E50A	Wahnapitae	33.75	16	P		P	14 42 11.4	-0.4	
	baz=202								
YMR	Madison River	33.85	337	*e*P		P	14 42 14.3	+1.3	
	comp=Z,10nm,1.1s								
HLID	Hailey	34.38	332	*e*P		P	14 42 17.9	+0.4	
	comp=Z,5.8nm,1.0s								
HLID	Hailey	34.38	332	P		P	14 42 19.3	+1.8	
	baz=142,SNR=6.6								
DLMT	Dillon	35.06	336	*e*P		P	14 42 24.9	+1.5	
	comp=Z,12nm,1.1s								
WVOR	Wild Horse Val	35.61	327	*e*P		P	14 42 28.2	+0.1	
	comp=Z,7.7nm,1.3s								
HRY	Holter Researc	35.91	338	*e*P		P	14 42 31.4	+0.8	
ULM	Lac du Bonnet	35.97	357	P		P	14 42 28.8	-2.0	
	comp=Z,3.0nm,0.7s,baz=183,slow=8.9,SNR=8.1								
ULM				PcP		PcP	14 44 57.0	0.0	
	comp=Z,1.2nm,0.6s,baz=250,slow=2.4,SNR=3.6								
ULM				LR		LR	14 59 58.9		
	comp=Z,70nm,18.5s,baz=167,slow=41								
ULM	Lac du Bonnet	35.97	357	*e*P		P	14 42 28.4	-2.4	
	comp=Z,4.5nm,0.9s								
ULM				PcP		PcP	14 44 57.0	0.0	
J08A	Circle Bar Ran	36.18	328	*e*P		P	14 42 34.4	+1.5	
	comp=Z,8.2nm,0.8s								
BMO	Blue Mountains	36.70	331	*e*P		P	14 42 37.8	+0.4	
	comp=Z,3.8nm,1.1s								
LON	Longmire	40.25	329	*e*P		P	14 43 08.9	+1.8	
	comp=Z,3.0nm,0.8s								
FCC	Fort Churchill	44.44	359	*e*P		P	14 43 39.8	-1.1	
	comp=Z,4.3nm,0.9s								
SCHQ	Schefferville	45.42	21	LR		LR	15 03 28.3		
	comp=Z,195nm,20.2s,baz=296,slow=37								
YKA	Yellowknife Ar	50.51	347	P		P	14 44 28.3	+0.3	
	comp=Z,8.9nm,0.8s,baz=151,slow=7.4,SNR=97								
YKA				PcP		PcP	14 45 45.5	0.0	
	comp=Z,0.6nm,0.8s,baz=142,slow=4.5,SNR=5.2								
YKB5	Yellowknife Ar	50.51	347	*e*P		P	14 44 26.9	-1.1	
YKW3	Yellowknife Ar	50.57	347	*e*P		P	14 44 28.4	-0.1	
	comp=Z,10nm,0.8s								
BDFB	Brasilia	53.69	122	LR		LR	15 08 57.0		
	comp=Z,35nm,18.2s,baz=172,slow=37								
INK	Inuvik	59.86	344	*e*P		P	14 45 35.6	+0.3	
	comp=Z,4.9nm,0.8s								
RES	Resolute Bay	60.44	359	*e*P		P	14 45 38.5	-0.7	
	comp=Z,5.2nm,0.8s								
IL1	Eielson Array	62.13	337	*e*P		P	14 45 51.4	+0.6	
ILAR	Eielson Array	62.13	337	P		P	14 45 51.5	+0.7	
	comp=Z,2.3nm,0.9s,baz=145,slow=4.3,SNR=21								
ILB	Eielson Array	62.13	337	*e*P		P	14 45 51.5	+0.7	
RND	Reindeer	62.29	335	*e*P		P	14 45 52.6	+0.6	
	comp=Z,13nm,0.6s								
MLY	Manley	63.72	336	*e*P		P	14 46 02.1	+0.6	
	comp=Z,6.5nm,0.9s								
ESDC	Sonseca Array	80.52	51	P		P	14 47 39.8	-2.6	
	comp=Z,1.1nm,0.9s,baz=284,slow=5.1,SNR=3.9								
BILL	Bilibino	80.77	338	*e*P		P	14 47 43.6	+0.5	
	comp=Z,4.5nm,1.0s								
NOA	NORSAR Array B	84.51	28	P		P	14 48 01.3	-1.4	
	comp=Z,1.0nm,0.8s,baz=290,slow=4.8,SNR=3.2								
NOA				LR		LR	15 23 47.8		
	comp=Z,37nm,21.7s,baz=265,slow=34								
TIXI	Tiksi	89.76	348	*e*P		P	14 48 27.5	-0.4	
	comp=Z,4.8nm,1.0s								
GERES	GERESS Array B	90.18	39	LR		LR	15 28 57.2		
	comp=Z,27nm,18.6s,baz=282,slow=36								
FINES	FINESS Array B	90.79	25	P		P	14 48 31.6	-1.4	
	comp=Z,1.4nm,1.0s,baz=356,slow=2.0,SNR=4.1								
FINES				LR		LR	15 28 42.5		
	comp=Z,37nm,19.6s,baz=280,slow=35								
TORD	Torodi Ar. Bea	91.51	76	P		P	14 48 35.5	-1.7	
	comp=Z,0.3nm,0.5s,baz=294,slow=5.8,SNR=2.7								
MKAR	Makanchi Array	119.11	3	PKP		PKPdf	14 54 18.3	-0.7	
	comp=Z,0.2nm,0.6s,baz=7.3,slow=2.2,SNR=2.4								
HHC	Hu-ho-hao-te	120.55	338	*e*P		PKiKP	14 54 24.8	+2.7	
HHC				pmax		pmax			
	comp=Z,15nm,1.1s								
KSH	Kashi	125.58	10	PKP		PKiKP	14 54 35.4	+3.3	
KSH				sPKP			14 54 46.8		
KSH				PP		PP	14 56 29.9	+8.0	
KSH				AMB		AMB			
	comp=Z,190nm,5.3s								
WRA	Warramunga Arr	134.27	256	PKP		PKPdf	14 54 48.8	+0.2	
	comp=Z,0.6nm,0.7s,baz=76,slow=1.5,SNR=9.1								
ASAR	Alice Springs	134.59	251	PKP		PKPdf	14 54 49.4	+0.3	
	comp=Z,1.0nm,0.9s,baz=106,slow=2.4,SNR=6.2								
CMAR	Chiang Mai Arr	145.34	339	PKPbc		PKPbc	14 55 08.4	0.0	
	comp=Z,3.8nm,0.8s,baz=337,slow=3.4,SNR=36								
UTTA	Uttaradit	145.41	336	P		PKPab	14 55 09.4	+0.6	
PBKT	Sadao Pong	146.31	335	P		PKiKP	14 55 16.4	+1.9	
UTHA	Uthaitani	147.83	337	P		PKPbc	14 55 16.7	+1.0	
	comp=Z,4.4nm,0.8s								

JMA 13 14:47:12.7±0.1, 37°.74N×139°.96E, h7^{km}±1^{km}, M0.3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYAR	Yonezawaarcadi	0.23	40	P	Pg	14 47 17.3	+0.1
JYAR				S	Sg	14 47 20.8	+0.5

NIED ***13*** *14:48:00, 37°.40N×142°.50E, h8^{km}, Mw3.5 Best double couple: M$_0$1.96000×10^{14} NP1:φ$_s$195.00000°, δ42.00000°, λ-113.00000°. NP2:φ$_s$44.00000°, δ52.00000°, λ-71.00000°.*

IDC ***13*** *14:48:40.6±1.0, 37°.31N×142°.58E, h0^{km}, mb3.4/6, mb1 3.6/8, mb1mx3.5/34, mbtmp3.5/8, ML3.0/3, Error ellipse: s-maj=24.4km s-min=19.5km az=108.0*

ISCJB ***13*** *14:48:41.8±0.7, 37°.35N±0°.04×142°.56E±0°.05, h21^{km}, mb3.4/6, Error ellipse: s-maj=6.0km s-min=5.5km az=22.4*

JMA ***13*** *14:48:41.7±0.2, 37°.36N×142°.47E, h14^{km}±3^{km}, M3.5*

ISC 13 14:48:43.7±0.9, 37°.37N±0°.05×142°.52E±0°.08, h21^{km}, n26, σ1°.35/34, mb3.5/6, Off east coast of Honshu

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

OKC	**Ostrava-Krasne**	**0.21**	**277**	*e*PG	**Pg**	**15 02 33.3**	**+0.7**
OKC				*e*SG	**Sg**	**15 02 36.4**	**+1.0**
	comp=Z,28nm,0.4s						
MORC	**Moravsky Berou**	**0.61**	**267**	*e*PG	**Pg**	**15 02 40.7**	**+0.6**
MORC				*e*SG	**Sg**	**15 02 48.5**	**+0.5**
VRAC	**Vranov**	**1.32**	**248**	*e*PG	**Pg**	**15 02 53.7**	**-0.2**
VRAC				*e*SG	**Sg**	**15 03 11.1**	**0.0**
VYHS	**Vyhne**	**1.34**	**170**	*e*PN	**Pg**	**15 02 54.3**	**+0.1**
VYHS				*e*SN	**Sb**	**15 03 13.0**	**+0.8**
DPC	**Dobruska-Polom**	**1.49**	**292**	*e*PG	**Pn**	**15 02 55.6**	**-1.0**
DPC				*e*SG	**Sg**	**15 03 15.6**	**-0.7**
KRUC	**Moravsky**	**1.55**	**242**	*e*PG	**Pn**	**15 02 57.0**	**-0.4**
KRUC				*e*SG	**Sn**	**15 03 17.8**	**-0.4**
UPC	**Upice**	**1.73**	**295**	*e*PG	**Pn**	**15 03 00.1**	**+0.2**
UPC				*e*SG	**Sg**	**15 03 23.9**	**-0.2**
GOPC	**GO Pecny, Ondr**	**2.39**	**274**	*e*SG	**Sg**	**15 03 44.3**	**-0.9**
PRU	**Pruhonice**	**2.55**	**275**	*e*SG	**Sg**	**15 03 50.4**	**0.0**
KHC	**Kasperske Hory**	**3.27**	**260**	*e*SG	**Sg**	**15 04 13.0**	**-0.4**

JMA 13 15:08:54.7, 38°44N×141°89E, h54km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.36**	**249**	P	Pn	15 09 04.7	0.0
JIKH				S	Sn	15 09 11.7	-0.2
JIO	**Ouri**	**0.42**	**272**	P	Pn	15 09 05.4	0.0
JIO				S	Sn	15 09 12.8	-0.3
JKMT	**Kesennumamotoy**	**0.49**	**319**	P	Pn	15 09 06.2	+0.1
JKMT				S	Sn	15 09 14.3	-0.1
OFUJ	**Ofunato**	**0.66**	**345**	P	Pn	15 09 08.2	0.0
OFUJ				S	Sn	15 09 17.9	0.0
JMK	**Ichinoseki**	**0.73**	**314**	P	Pn	15 09 09.3	+0.3
JMK				S	Sn	15 09 19.8	+0.3
JOU	**Okura**	**0.97**	**266**	P	Pn	15 09 12.3	+0.2
JOU				S	Sn	15 09 25.0	+0.1
JMM	**Marumori**	**1.04**	**237**	P	Pn	15 09 12.6	-0.4
JMM				S	Sn	15 09 25.7	-0.8
JOM	**Ohasama**	**1.13**	**336**	P	Pn	15 09 14.6	+0.3
JOM				S	Sn	15 09 30.7	+1.9
JYK	**Kaneyama**	**1.29**	**292**	P	Pn	15 09 16.8	+0.4
JYK				S	Sn	15 09 33.7	+1.1
JFK	**Kawauchi**	**1.34**	**217**	P	Pn	15 09 16.9	-0.2
JFK				S	Sn	15 09 33.5	-0.4
JRG	**Rokugo**	**1.37**	**315**	P	Pn	15 09 18.0	+0.5
JRG				S	Sn	15 09 35.7	+1.2
JYS	**Shirataka**	**1.45**	**262**	P	Pn	15 09 19.1	+0.5
JFT	**Otama**	**1.53**	**234**	P	Pn	15 09 20.1	+0.4

MEX 13 15:11:51.4±0.6, 16°22N×98°53W, h3km±4km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.43**	**67**	*i* P	Pg	15 11 58.8	-0.8
PNIG				*i* S	Sg	15 12 05.7	+0.5
VHO	**Vista Hermosa**	**1.92**	**64**	*i* P	Pn	15 12 22.2	-3.1
VHO				*i* S	Sn	15 12 45.8	-4.3
CMIG	**Matias Romero**	**3.60**	**76**	*i* P	Pn	15 12 45.4	-2.9
CMIG				*i* S	Sn	15 13 26.9	-4.5

*ISCJB **13** 15:28:08.0±0.6, 25°.76N±0°.04×110°.7W±0°.1, h10km, MS3.6/8, Error ellipse: s-maj=14.9km s-min=5.0km az=164.3*
*IDC **13** 15:28:09.5±1.4, 25°.78N×109°.67W, h0km, mb3.3/2, mb1 3.7/7, mb1mx3.6/36, mbtmp3.4/7, ML3.4/5, MS3.7/13, Ms1 3.7/13, ms1mx3.6/21, Error ellipse: s-maj=34.2km s-min=19.3km az=100.0*
*MEX **13** 15:28:12.5±0.6, 25°.85N×110°.56W, h18km±999km, MD4.0*
*NEIC **13** 15:28:12.5±0.0, 25°.85N×110°.55W, h16km, mb3.9/1, MD4.0(MEX), After MEX.*

ISC 13 15:28:10.9±0.7, 25°.77N±0°.06×110°.7W±0°.1, h10km, n31, σ2s48/24, MS3.6/8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**1.69**	**169**	Pn	**Pn**	**15 28 39.7**	**-0.8**
	24nm,0.3s,baz=184,slow=5.1,SNR=13						
LPIG				Sn	**Sn**	**15 29 00.9**	**-1.4**
	88nm,0.3s,baz=119,slow=1.3,SNR=14						
LPIG	**La Paz**	**1.69**	**169**	*e*P	**Pn**	**15 28 38.8**	**-1.7**
LPIG				*e*S	**Sn**	**15 28 59.0**	**-3.3**
LPIG	**La Paz**	**1.69**	**169**	*e*P	**Pn**	**15 28 38.8**	**-1.7**
LPIG				*e*S	**Sn**	**15 28 59.0**	**-3.3**
SRIG	**Santa Rosalia**	**2.09**	**318**	*e*P	**Pg**	**15 28 52.3**	**+1.3**
SRIG	**Santa Rosalia**	**2.09**	**318**	*i* P	**Pn**	**15 28 43.8**	**-2.3**
SRIG				*i* S	**Sn**	**15 29 08.4**	**-3.8**
GUYB	**Guaymas**	**2.13**	**355**	*e*P	**Pn**	**15 28 43.0**	**-3.5**
SLBS	**Sierra La Lagu**	**2.17**	**162**	*e*P	**Pn**	**15 28 45.9**	**-1.4**
SLBS				*e*S	**Sn**	**15 29 10.7**	**-3.7**
TUC	**Tucson**	**6.52**	**359**	*e*Pn	**Pn**	**15 29 44.0**	**-3.0**
	6.8nm,0.7s						
TXAR	**Lajitas Array**	**7.16**	**59**	Pn	Pn	15 29 46.1	-10
	0.2nm,0.3s,baz=241,slow=14,SNR=13						
TXAR				Lg	Lg	15 31 37.7	
	4.1nm,0.3s,baz=248,slow=31,SNR=5.6						
MNTX	**Cornudas Mount**	**7.51**	**37**	*e*Pn	**Pn**	**15 30 00.4**	**-0.2**
	15nm,0.9s						
PFO	**Pinyon Flats O**	**9.30**	**329**	LR	LR	15 33 29.6	
	comp=Z,223nm,21.9s,baz=162,slow=33						
WUAZ	**Wupatki**	**9.74**	**357**	*e*Pn	Pn	15 30 36.7	+5.5
	5.2nm,0.9s						
ANMO	**Albuquerque**	**9.84**	**21**	Pn	**Pn**	**15 30 28.9**	**-3.8**
	0.1nm,0.3s,baz=131,slow=20,SNR=1.9						
ANMO				Lg	Lg	15 33 17.3	
	0.2nm,0.3s,baz=338,slow=8.4,SNR=4.2						
MVCO	**Mesa Verde**	**11.55**	**9**	*e*Pn	**Pn**	**15 30 56.6**	**+0.4**
	15nm,1.3s						
NVAR	**Mina Array Bea**	**14.18**	**335**	Pn	**P**	**15 31 40.5**	**+0.9**
	0.1nm,0.3s,baz=159,slow=11,SNR=6.8						
ISCO	**Idaho Springs**	**14.62**	**16**	*e*P	**P**	**15 31 44.3**	**-0.3**
	1.9nm,0.9s						
ELK	**Elko**	**15.41**	**347**	Pn	**P**	**15 31 53.1**	**-0.3**
	0.1nm,0.3s,baz=217,slow=11,SNR=4.6						
ELK				LR	LR	15 37 22.2	
	comp=Z,320nm,18.3s,baz=172,slow=35						
PDAR	**Pinedale Array**	**16.98**	**3**	Pn	**Pn**	**15 32 09.1**	**+0.3**
	0.1nm,0.3s,baz=169,slow=8.8,SNR=6.6						
PDAR				LR	LR	15 38 49.5	
	comp=Z,437nm,19.9s,baz=198,slow=38						
CMIG	**Matias Romero**	**17.03**	**117**	LR	LR	15 37 36.4	
	comp=Z,166nm,21.2s,baz=246,slow=35						
YBH	**Yreka Blue Hor**	**18.78**	**331**	LR	LR	15 39 20.8	
	comp=Z,136nm,18.3s,baz=166,slow=35						
ECSD	**EROS Data Cent**	**21.27**	**29**	*e*P	**P**	**15 32 58.0**	**+0.7**
	6.3nm,1.1s						
APG	**El Apazote**	**21.73**	**116**	LR	LR	15 40 32.2	
	comp=Z,329nm,19.7s,baz=295,slow=36						
NEW	**Newport**	**23.02**	**349**	LR	LR	15 42 33.7	
	comp=Z,265nm,18.4s,baz=168,slow=37						
TKL	**Tuckaleechee C**	**25.07**	**60**	LR	LR	15 43 39.8	
	comp=Z,285nm,18.8s,baz=244,slow=38						
ULM	**Lac du Bonnet**	**26.98**	**21**	LR	LR	15 43 22.5	
	comp=Z,58nm,18.8s,baz=203,slow=34						
JTS	**JuntasAbangare**	**28.81**	**118**	LR	LR	15 45 37.1	
	comp=Z,110nm,19.5s,baz=352,slow=37						
BBB	**Bella Bella**	**29.50**	**338**	LR	LR	15 45 34.6	
	comp=Z,148nm,19.9s,baz=169,slow=35						
YKA	**Yellowknife Ar**	**36.81**	**357**	P	**P**	**15 35 18.0**	**-0.8**
	0.2nm,0.7s,baz=178,slow=8.8,SNR=4.8						
ILAR	**Eielson Array**	**45.38**	**339**	P	**P**	**15 36 33.1**	**+3.9**
	0.5nm,0.9s,baz=146,slow=7.2,SNR=6.3						
ILAR				LR	LR	15 56 51.4	
	comp=Z,75nm,19.4s,baz=121,slow=38						
PPT	**Papeete**	**57.34**	**225**	LR	LR	15 56 48.8	
	comp=Z,45nm,19.3s,baz=9.5,slow=30						
ASAR	**Alice Springs**	**121.84**	**257**	PKP	**PKiKP**	**15 47 09.4**	**+3.3**
	0.6nm,1.0s,baz=90,slow=2.4,SNR=4.5						

IDC 13 15:36:20.7±1.6, 1°.98S×128°.64E, h0km, mb3.7/2, mb1 3.9/5, mb1mx3.6/31, mbtmp3.7/5, ML3.6/3, Error ellipse: s-maj=38.1km s-min=25.3km az=83.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**2.84**	**67**	Pn	Pn	15 37 06.1	-1.3
	18nm,0.3s,baz=54,slow=19,SNR=128						
SIJI				Sn	Sn	15 37 37.4	-5.0
	12nm,0.3s,baz=47,slow=23,SNR=15						

FITZ	**Fitzroy Crossi**	**16.29**	**190**	Pn	Pn	15 40 12.5	+1.5
	0.1nm,0.3s,baz=27,slow=12,SNR=2.5						
WRA	**Warramunga Arr**	**18.70**	**163**	P	P	15 40 40.4	-0.5
	0.3nm,0.3s,baz=337,slow=13,SNR=24						
ASAR	**Alice Springs**	**22.15**	**167**	P	P	15 41 19.2	+0.9
	5.4nm,0.8s,baz=344,slow=8.9,SNR=44						
MKAR	**Makanchi Array**	**63.32**	**326**	P	P	15 46 51.3	-0.3
	0.3nm,0.6s,baz=119,slow=6.9,SNR=3.9						

*ISCJB **13** 15:40:30.6±0.5, 33°.3N±0°.1×39°.2W±0°.1, h10km, mb3.9/15, MS3.6/4, Error ellipse: s-maj=15.1km s-min=12.4km az=172.4*
*IDC **13** 15:40:30.8±0.8, 33°.26N×39°.22W, h0km, mb3.9/14, mb1 4.0/14, mb1mx3.8/43, mbtmp3.9/14, MS3.6/4, Ms1 3.6/4, ms1mx3.0/44, Error ellipse: s-maj=21.5km s-min=17.3km az=176.0*
*NEIC **13** 15:40:32.4±0.4, 33°.30N×39°.20W, h10km, mb4.5/3, Error ellipse: s-maj=12.9km s-min=8.6km az=4.0*

ISC 13 15:40:32.3±0.7, 33°.3N±0°.1×39°.2W±0°.1, h10km, n32, σ0s66/24, mb4.1/15, MS3.6/4, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TKL	**Tuckaleechee C**	**36.60**	**287**	LR	LR	15 59 59.8	
	comp=Z,110nm,19.5s,baz=104,slow=32						
SDV	**Santo Domingo**	**37.80**	**237**	P	**P**	**15 47 49.8**	**+0.7**
	1.2nm,0.3s,baz=18,slow=4.5,SNR=3.9						
DAVOX	**Davos/Dischmat**	**39.31**	**55**	P	**P**	**15 48 03.1**	**+1.5**
	2.0nm,0.7s,baz=266,slow=15,SNR=5.6						
DBIC	**Dimbokro**	**41.40**	**122**	P	**P**	**15 48 19.2**	**+0.2**
	1.6nm,0.7s,baz=331,slow=10,SNR=3.3						
DBIC				LR	LR	16 02 55.6	
	comp=Z,46nm,19.3s,baz=288,slow=32						
DBIC	**Dimbokro**	**41.40**	**122**	*e*P	**P**	**15 48 18.9**	**0.0**
	18nm,1.8s						
CLL	**Collm**	**41.65**	**48**	*e*P	**P**	**15 48 21.0**	**+0.4**
GERES	**GERESS Array B**	**41.95**	**52**	P	**P**	**15 48 23.9**	**+0.6**
	0.6nm,0.7s,baz=269,slow=6.3,SNR=4.6						
TOA1	**Torodi Ar. Sit**	**42.23**	**108**	*e*P	**P**	**15 48 26.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**42.24**	**108**	P	**P**	**15 48 26.0**	**+0.1**
	0.6nm,0.6s,baz=302,slow=6.7,SNR=6.5						
NB200	**NORSAR Array S**	**42.55**	**34**	*e*P	**P**	**15 48 27.0**	**-0.9**
NOA	**NORSAR Array B**	**42.55**	**34**	P	**P**	**15 48 27.0**	**-0.9**
	0.7nm,0.8s,baz=267,slow=6.9,SNR=2.5						
H10N2	**ASCENSION HYDR**	**47.14**	**146**	T	T	16 39 27.3	
	baz=331,slow=75,SNR=97						
H10N3	**ASCENSION HYDR**	**47.14**	**146**	T	T	16 39 27.6	
	baz=331,slow=75,SNR=87						
H10N1	**ASCENSION HYDR**	**47.16**	**146**	T	T	16 39 28.7	
	baz=331,slow=75,SNR=110						
H10S1	**ASCENSION HYDR**	**48.03**	**146**	T	T	16 40 22.6	
	baz=331						
H10S3	**ASCENSION HYDR**	**48.04**	**147**	T	T	16 40 22.9	
	baz=331						
H10S2	**ASCENSION HYDR**	**48.05**	**146**	T	T	16 40 23.9	
	baz=331						
BDFB	**Brasilia**	**49.35**	**191**	P	**P**	**15 49 21.2**	**-0.8**
	1.1nm,0.4s,baz=360,slow=12,SNR=3.2						
AKASG	**Malin Array Be**	**51.89**	**49**	P	**P**	**15 49 40.7**	**0.0**
	2.8nm,0.9s,baz=274,slow=6.7,SNR=11						
AKBB	**Malin Array Si**	**51.89**	**49**	*e*P	**P**	**15 49 40.7**	**-0.1**
YKA	**Yellowknife Ar**	**54.44**	**326**	P	**P**	**15 49 59.5**	**+0.1**
	0.5nm,0.8s,baz=85,slow=7.4,SNR=4.9						
PD31	**Pinedale Array**	**54.78**	**302**	*e*P	**P**	**15 50 01.6**	**-0.9**
PDAR	**Pinedale Array**	**54.78**	**302**	P	**P**	**15 50 01.8**	**-0.7**
	0.4nm,0.7s,baz=94,slow=7.6,SNR=4.3						
BR10	**Keskin Array S**	**57.44**	**61**	*e*P	**P**	**15 50 20.6**	**-0.8**
BRTR	**Keskin Array B**	**57.44**	**61**	P	**P**	**15 50 20.6**	**-0.8**
	1.9nm,0.9s,baz=284,slow=6.2,SNR=7.6						
INK	**Inuvik**	**61.10**	**335**	P	**P**	**15 50 46.1**	**0.0**
	1.6nm,0.9s,baz=127,slow=8.0,SNR=3.5						
INK				LR	LR	16 15 50.9	
	comp=Z,43nm,18.3s,baz=86,slow=35						
INK	**Inuvik**	**61.10**	**335**	*e*P	**P**	**15 50 46.5**	**+0.4**
	9.5nm,1.6s						
NVAR	**Mina Array Bea**	**62.47**	**300**	P	**P**	**15 50 56.6**	**+0.5**
	0.4nm,0.7s,baz=96,slow=8.4,SNR=4.0						
DLBC	**Dease Lake**	**62.75**	**324**	LR	LR	16 17 23.6	
	comp=Z,96nm,20.4s,baz=310,slow=35						
KURK	**Kurchatov**	**80.05**	**35**	*e*P	**P**	**15 52 42.2**	**+0.3**
	3.4nm,1.0s						
MK32	**Makanchi Array**	**84.49**	**36**	*e*P	**P**	**15 53 06.0**	**+0.6**
MKAR	**Makanchi Array**	**84.49**	**36**	P	**P**	**15 53 06.0**	**+0.6**
	1.3nm,1.0s,baz=328,slow=4.3,SNR=8.7						

*ISCJB **13** 15:56:06.9±0.9, 33°.3N±0°.2×39°.2W±0°.1, h10km, mb3.9/11, MS3.5/2, Error ellipse: s-maj=23.6km s-min=13.6km az=20.5*
*NEIC **13** 15:56:08.8±0.7, 33°.26N×39°.12W, h10km, mb4.5/1, Error ellipse: s-maj=18.3km s-min=10.0km az=194.0*
*IDC **13** 15:56:08.3±1.8, 33°.40N×39°.05W, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.7/43, mbtmp3.8/10, MS3.5/2, Ms1 3.4/2, ms1mx2.9/43, Error ellipse: s-maj=49.5km s-min=22.1km az=12.0*

ISC 13 15:56:08.7±1.3, 33°.3N±0°.2×39°.1W±0°.1, h10km, n31, σ0s85/24, mb4.0/11, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSA	**Rosais**	**10.37**	**55**	*e*Pn	**Pn**	**15 58 38.1**	**+0.6**
DAVOX	**Davos/Dischmat**	**39.27**	**55**	P	**P**	**16 03 39.0**	**+1.3**
	2.9nm,0.7s,baz=338,slow=17,SNR=6.1						
DBIC	**Dimbokro**	**41.35**	**122**	LR	LR	16 18 20.4	
	comp=Z,37nm,19.2s,baz=286,slow=32						
GERES	**GERESS Array B**	**41.91**	**52**	P	**P**	**16 03 59.4**	**0.0**
	0.6nm,0.8s,baz=260,slow=6.6,SNR=6.4						
TOA1	**Torodi Ar. Sit**	**42.18**	**108**	*e*P	**P**	**16 04 01.8**	**-0.1**
TOA0	**Torodi Ar. Sit**	**42.19**	**108**	*e*P	**P**	**16 04 01.1**	**-0.9**
TORD	**Torodi Ar. Bea**	**42.19**	**108**	P	**P**	**16 04 01.8**	**-0.2**
	0.9nm,1.0s,baz=299,slow=6.0,SNR=4.8						
TORD				LR	LR	16 20 03.9	
	comp=Z,87nm,20.0s,baz=295,slow=34						
NB200	**NORSAR Array S**	**42.51**	**34**	*e*P	**P**	**16 04 03.2**	**-0.9**
NOA	**NORSAR Array B**	**42.51**	**34**	P	**P**	**16 04 03.2**	**-0.9**
	1.3nm,1.0s,baz=252,slow=8.6,SNR=2.4						
H10N2	**ASCENSION HYDR**	**47.11**	**146**	T	T	16 55 02.0	
	baz=331,slow=75,SNR=88						
H10N3	**ASCENSION HYDR**	**47.11**	**146**	T	T	16 55 09.4	
	baz=331,slow=75,SNR=92						
H10N1	**ASCENSION HYDR**	**47.13**	**146**	T	T	16 55 10.5	
	baz=331,slow=75,SNR=133						
H10S1	**ASCENSION HYDR**	**48.01**	**147**	T	T	16 56 08.5	
	baz=332,slow=75,SNR=23						
H10S3	**ASCENSION HYDR**	**48.01**	**147**	T	T	16 56 08.8	
	baz=332,slow=75,SNR=23						
H10S2	**ASCENSION HYDR**	**48.02**	**147**	T	T	16 56 09.9	
	baz=332,slow=75,SNR=22						
AKASG	**Malin Array Be**	**51.84**	**49**	P	**P**	**16 05 16.9**	**0.0**
	3.4nm,0.8s,baz=275,slow=6.7,SNR=8.5						
AKBB	**Malin Array Si**	**51.84**	**49**	*e*P	**P**	**16 05 16.6**	**-0.3**
	7.2nm,1.1s						
YKA	**Yellowknife Ar**	**54.47**	**326**	P	**P**	**16 05 35.4**	**-0.7**
	0.3nm,0.7s,baz=84,slow=7.7,SNR=5.8						
YKB5	**Yellowknife Ar**	**54.47**	**326**	*e*P	**P**	**16 05 35.5**	**-0.6**
PD31	**Pinedale Array**	**54.83**	**302**	*e*P	**P**	**16 05 38.8**	**-0.5**
PDAR	**Pinedale Array**	**54.83**	**302**	P	**P**	**16 05 42.1**	**+2.8**
	0.9nm,0.9s,baz=89,slow=8.1,SNR=5.5						
BR101	**Keskin Array S**	**57.39**	**61**	*e*P	**P**	**16 05 58.2**	**+0.6**
BR131	**Keskin Array S**	**57.39**	**61**	*e*P	**P**	**16 05 57.0**	**-0.6**
BRTR	**Keskin Array B**	**57.39**	**61**	P	**P**	**16 05 58.2**	**+0.6**
	2.0nm,0.9s,baz=298,slow=5.2,SNR=8.0						
INK	**Inuvik**	**61.12**	**335**	P	**P**	**16 06 22.3**	**-0.4**
	1.1nm,0.8s,baz=56,slow=10,SNR=3.4						
INK	**Inuvik**	**61.12**	**335**	*e*P	**P**	**16 06 22.5**	**-0.2**
	12nm,1.7s						
MK31	**Makanchi Array**	**84.46**	**36**	*e*P	**P**	**16 08 41.3**	**-0.4**
MK32	**Makanchi Array**	**84.46**	**36**	*e*P	**P**	**16 08 41.8**	**+0.1**
MKAR	**Makanchi Array**	**84.46**	**36**	P	**P**	**16 08 41.8**	**+0.1**
	1.2nm,0.9s,baz=328,slow=4.3,SNR=9.5						
MKAR	**Makanchi Array**	**84.46**	**36**	*e*P	**P**	**16 08 41.2**	**-0.4**
	12nm,1.1s						
MK01	**Makanchi Array**	**84.48**	**36**	*e*P	**P**	**16 08 41.5**	**-0.3**

*ISCJB **13** 16:03:43.4±0.5, 18°.23S±0°.06×167°.73E±0°.10, h29km, mb4.3/10, MS3.5/1, Error ellipse: s-maj=14.1km s-min=7.9km az=23.4*
*NEIC **13** 16:03:46.4±1.0, 18°.24S×167°.79E, h40km±9km, mb4.7/4, Error ellipse: s-maj=12.7km s-min=8.9km az=141.0*
*IDC **13** 16:03:46.5±3.6, 18°.31S×167°.85E, h41km±32km, mb3.9/6, mb1 4.3/8, mb1mx3.8/41, mbtmp4.4/8, ML4.9/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/32, Error ellipse: s-maj=30.8km s-min=20.9km az=97.0*

ISC 13 16:03:45.2±0.7, 18°.24S±0°.09×167°.8E±0°.1, h29km, n30, σ0s84/30, mb4.4/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.02**	**198**	P	**Pn**	**16 04 46.5**	**+1.5**
	67nm,0.3s,baz=89,slow=11,SNR=1592						
DZM				S	**Sn**	**16 05 30.5**	**-0.7**
	40nm,0.3s,baz=142,slow=21,SNR=12						
DZM				LR	LR	16 06 09.1	
	comp=Z,247nm,22.0s,baz=32,slow=36						
HNR	**Honiara**	**11.61**	**318**	P	**Pn**	**16 06 30.0**	**+1.0**
	11nm,0.3s,baz=178,slow=8.2,SNR=6.8						
HNR	**Honiara**	**11.61**	**318**	*e*Pn	**Pn**	**16 06 29.5**	**+0.5**
FUNA	**Funafuti**	**14.68**	**50**	*e*Pn	**Pn**	**16 07 11.3**	**+0.3**
RPZ	**Rata Peaks**	**25.55**	**175**	LR	LR	16 18 46.5	
	comp=Z,132nm,18.3s,baz=15,slow=35						
WR1	**Warramunga Arr**	**31.65**	**261**	*e*P	**P**	**16 10 04.5**	**-1.7**
	15nm,1.4s						
WRA	**Warramunga Arr**	**31.65**	**261**	P	**P**	**16 10 04.5**	**-1.7**
	0.4nm,0.8s,baz=81,slow=6.1,SNR=8.2						
ASAR	**Alice Springs**	**32.07**	**254**	P	**P**	**16 10 09.7**	**-0.2**
	2.3nm,0.5s,baz=82,slow=8.4,SNR=99						
PETK	**Petropavlovsk-**	**71.59**	**354**	P	**P**	**16 15 03.6**	**+0.1**
	4.8nm,1.0s,baz=114,slow=6.5,SNR=4.4						
PEA1	**Petropavlovsk-**	**71.59**	**354**	*e*P	**P**	**16 15 03.6**	**+0.1**
CM01	**Chiang Mai Arr**	**76.83**	**295**	*e*P	**P**	**16 15 35.9**	**+1.1**
CM31	**Chiang Mai Arr**	**76.86**	**295**	*e*P	**P**	**16 15 34.1**	**-0.9**
CMAR	**Chiang Mai Arr**	**76.86**	**295**	P	**P**	**16 15 36.6**	**+1.6**
	1.6nm,0.7s,baz=128,slow=4.5,SNR=16						
SEY	**Seymchan**	**81.81**	**353**	P	**P**	**16 16 01.0**	**+0.1**
	2.0nm,1.0s,baz=175,slow=4.4,SNR=4.2						
BILL	**Bilibino**	**86.04**	**359**	*e*P	**P**	**16 16 22.1**	**-0.4**
	6.4nm,0.9s						
CMB	**Columbia Colle**	**87.51**	**49**	*e*P	**P**	**16 16 29.9**	**-0.5**
	3.7nm,0.8s						
NV01	**Mina Array Sit**	**89.16**	**49**	*e*P	**P**	**16 16 38.4**	**-0.1**
NVAR	**Mina Array Bea**	**89.16**	**49**	P	**P**	**16 16 37.4**	**-1.1**
	1.1nm,0.7s,baz=228,slow=8.6,SNR=7.5						
G08A	**Pilot Rock**	**91.53**	**43**	*e*P	**P**	**16 16 49.6**	**+0.3**
	4.1nm,1.1s						
ARA0	**ARCESS Array S**	**123.76**	**345**	*e*PKPdf	**PKPdf**	**16 22 38.8**	**-0.8**
ARCES	**ARCESS Array B**	**123.76**	**345**	PKP	**PKPdf**	**16 22 38.8**	**-0.8**
	3.3nm,0.9s,baz=62,slow=3.3,SNR=5.9						
FIA0	**FINESS Array S**	**129.15**	**337**	*e*PKPdf	**PKPdf**	**16 22 49.7**	**-0.4**
FINES	**FINESS Array B**	**129.15**	**337**	PKP	**PKPdf**	**16 22 49.7**	**-0.4**
	1.3nm,0.9s,baz=56,slow=3.4,SNR=3.7						
GERES	**GERESS Array B**	**142.97**	**331**	PKP	**PKPdf**	**16 23 15.8**	**-0.4**
	0.3nm,0.5s,baz=74,slow=6.0,SNR=4.0						
ABTA	**Abfaltersbach**	**145.04**	**330**	*e*PKPdf	**PKPbc**	**16 23 18.5**	**-0.8**
	11nm,1.4s						
MOTA	**Moosalm**	**145.25**	**332**	*e*PKPdf	**PKPdf**	**16 23 20.9**	**+0.5**
	4.3nm,0.8s						
SQTA	**Sankt Quirin**	**145.30**	**332**	*e*PKPdf	**PKPbc**	**16 23 20.3**	**+0.2**
	5.3nm,0.7s						
WLF	**Walferdange**	**145.35**	**339**	*e*PKPbc	**PKPbc**	**16 23 19.6**	**-0.4**
BFO	**Black Forest**	**145.66**	**336**	*e*PKPdf	**PKPdf**	**16 23 21.1**	**+0.3**
FETA	**Feichten**	**145.67**	**332**	*e*PKPab	**PKPab**	**16 23 21.8**	**+0.1**
	6.8nm,0.9s						

MAN 13 16:07:32.8, 9°.72N×122°.68E, h32km, mb3.8, ML2.5, MS2.0, 1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.66**	**125**	*i* P	Pb	16 07 46.6	+0.6
SNPH				*i* S	Sn	16 07 55.9	+0.5
GUIM	**Jordan**	**0.90**	**354**	*e*P	Pn	16 07 49.1	-0.2
GUIM				*e*S	Sn	16 08 01.3	+0.1
TBP	**Tagbilaran**	**1.16**	**91**	*e*P	Pb	16 07 54.7	+0.3
TBP				*i* S	Sn	16 08 07.7	+0.1

*ISCJB **13** 16:11:54.4±0.3, 36°.30N±0°.03×70°.56E±0°.05, h150km, mb3.3/6, Error ellipse: s-maj=5.7km s-min=3.4km az=162.5*
*IDC **13** 16:11:54.7±3.2, 36°.20N×70°.53E, h135km±30km, mb3.3

DMN	Daman	15.03	121	*e*P		P	16 15 20.9	-0.9
	comp=E,6.6nm,0.3s							
KKN	Kakani	15.04	120	*e*P		P	16 15 21.2	-0.6
	comp=E,35nm,0.6s							
AB31	Akbulak array	15.10	332	P		Pn	16 15 21.1	+0.6
	comp=E,2.9nm,0.5s,baz=146,slow=10,SNR=133							
PKIN	Phulchoki	15.26	121	*e*P		Pn	16 15 23.2	+0.4
	comp=E,14nm,0.5s							
PKI	Pulchoki	15.27	121	*e*P		P	16 15 23.8	-0.7
	comp=E,15nm,0.5s							
GUN	Gumba	15.39	119	*e*P		P	16 15 26.8	+1.0
	comp=E,19nm,0.4s							
KURBB	Kurchatov Arra	15.40	19	P		P	16 15 26.4	+1.1
	comp=E,0.1nm,0.3s,baz=210,slow=10,SNR=20							
KURK	Kurchatov	15.51	19	⇑P		P	16 15 28.1	+1.6
	comp=E,3.8nm,0.9s							
JIRN	Jiri	15.76	119	*e*P		P	16 15 30.5	+0.5
	comp=E,45nm,0.5s							
RAMN	Ramite	16.48	120	*e*P		Pn	16 15 38.2	+0.4
	comp=E,12nm,0.4s							
BVA0	Borovoye Array	16.71	360	P		P	16 15 40.4	+0.6
	comp=E,3.9nm,1.1s,baz=158,slow=11,SNR=16							
AKTO	Aktyubinsk	16.79	331	P		Pn	16 15 42.2	+1.1
	comp=E,0.6nm,0.3s,baz=144,slow=11,SNR=26							
AKTO				S		S	16 18 39.8	-7.9
	comp=E,0.2nm,0.3s,baz=323,slow=20,SNR=5.2							
AKTO	Aktyubinsk	16.79	331	⇓P		Pn	16 15 42.1	+1.1
	comp=E,5.4nm,0.6s							
ZAA0	Zalesovo Array	20.21	25	⇑P		P	16 16 18.8	+0.9
	comp=E,10nm,0.7s							
ZALV	Zalesovo Beam	20.21	25	P		P	16 16 19.9	+2.0
	comp=E,15nm,0.5s,baz=221,slow=11,SNR=62							
CMAR	Chiang Mai Arr	30.64	118	P		P	16 17 58.0	+2.8
	comp=E,0.3nm,0.6s,baz=295,slow=8.9,SNR=2.9							
FINES	FINESS Array B	37.47	326	P		P	16 18 55.8	+2.3
	comp=E,2.3nm,1.0s,baz=120,slow=8.9,SNR=5.7							
ARCES	ARCESS Array B	41.20	338	P		P	16 19 26.7	+2.3
	comp=E,2.8nm,0.9s,baz=104,slow=8.9,SNR=3.8							
NB2	NORSAR Subarra	44.35	323	P		P	16 19 51.7	+1.9
	comp=Z,0.2nm,0.4s,baz=98,slow=7.9							
NOA	NORSAR Array B	44.35	323	P		P	16 19 51.5	+1.6
	comp=Z,0.2nm,0.4s,baz=100,slow=7.3,SNR=3.0							
TORD	Torodi Ar. Bea	65.41	268	P		P	16 22 22.3	+0.5
	comp=Z,0.2nm,0.5s,baz=40,slow=6.9,SNR=3.8							
WRA	Warramunga Arr	82.15	122	P		P	16 23 59.6	+0.4
	comp=Z,0.2nm,0.9s,baz=316,slow=5.8,SNR=3.4							

*ISCJB **13** 16:14:01.3±0.2, 61°.47N±0°.02×150°.75W±0°.04, h72km±3km, mb3.6/10, Error ellipse: s-maj=4.2km s-min=3.2km az=153.1*

*IDC **13** 16:14:01.5±0.7, 61°.45N×150°.84W, h52km±7km, mb3.5/10, mb1 3.7/15, mb1mx3.5/43, mbtmp3.7/15, Error ellipse: s-maj=12.8km s-min=9.0km az=100.0*

*NEIC **13** 16:14:03.0±0.0, 61°.45N×150°.80W, h61km, ML3.5(AEIC), After AEIC.*

NEIC Felt [II] at Anchorage. Also felt at Wasilla.

ISC 13 16:14:02.3±0.7, 61°.45N±0°.03×150°.80W±0°.03, h61km±6km, n86, σ0°.73/100, mb3.7/10, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	0.03	69	P	Pn	16 14 11.7	+0.1
SUA				S	Sn	16 14 19.1	+0.9
RC01	**Rabbit Creek A**	0.63	125	P	Pn	16 14 15.9	+0.1
RC01				S	Sn	16 14 26.5	+0.8
CKT	**Bend**	0.72	250	P	Pn	16 14 16.8	-0.2
NKA	**Nikishka**	0.74	197	P	Pn	16 14 18.9	+1.8
PMR	**Palmer**	0.81	79	P	Pn	16 14 17.7	-0.2
PMR				S	Sn	16 14 29.8	+0.3
SPWE	**Spurr West**	0.87	259	P	Pn	16 14 18.8	0.0
SPNN	**North Nagishla**	0.92	265	P	Pn	16 14 19.6	+0.1
SPNN				S	Sn	16 14 33.0	+0.8
GHO	**Glory Hole Cre**	0.95	70	P	Pn	16 14 20.0	+0.2
GHO				S	Sn	16 14 33.7	+0.9
SLKM	**Skilak Lake**	0.99	163	P	Pn	16 14 20.1	-0.2
PTE	**Portage**	1.04	124	P	Pn	16 14 21.1	+0.1
KNK	**Knik Glacier**	1.13	91	P	Pn	16 14 22.1	+0.1
KNK				S	Sn	16 14 37.4	+0.7
RDT	**Redoubt**	1.18	222	P	Pn	16 14 22.9	+0.1
SML	**Sawmill**	1.23	72	P	Pn	16 14 23.3	-0.2
SML				S	Sn	16 14 39.7	+0.5
DFR	**Drift River**	1.26	228	P	Pn	16 14 24.0	+0.1
RDJH	**Redoubt Jeurge**	1.30	229	P	Pn	16 14 24.7	+0.2
PWL	**Port Wells**	1.30	115	P	Pn	16 14 24.6	-0.2
RDN	**Redoubt North**	1.34	226	P	Pn	16 14 25.1	0.0
RDWB	**Redoubt West**	1.39	227	P	Pn	16 14 25.9	+0.2
RDWB				S	Sn	16 14 44.0	+0.8
SEW	**Seward**	1.51	153	P	Pn	16 14 27.5	+0.4
PPLA	**Purkeypile**	1.59	336	P	Pn	16 14 28.3	0.0
HUR	**Hurricane**	1.62	19	P	Pn	16 14 29.2	+0.6
BRLK	**Bradley Lake**	1.70	182	P	Pn	16 14 29.8	+0.1
SCM	**Sheep Creek Mo**	1.70	76	P	Pn	16 14 29.5	-0.3
IVE	**Iliamna Volcan**	1.81	218	P	Pn	16 14 31.7	+0.5
ILW	**Iliamna West**	1.81	220	P	Pn	16 14 31.6	+0.3
ILS	**Iliamna Low So**	1.87	218	P	Pn	16 14 32.8	+0.7
TRF	**Thorofare Moun**	2.02	7	P	Pn	16 14 34.3	+0.1
CAST	**Castle Rocks**	2.06	344	P	Pn	16 14 34.5	-0.1
JPK	**Jack Peak**	2.07	99	P	Pn	16 14 34.0	-0.8
RND	**Reindeer**	2.16	24	P	Pn	16 14 36.5	+0.5
VMT	**TAPS TI Valdez**	2.17	98	P	Pn	16 14 35.3	-0.7
DHY	**Denali Highway**	2.28	43	P	Pn	16 14 37.6	-0.1
SVW2	**Sparrevohn**	2.34	263	P	Pn	16 14 38.0	-0.4
KLU	**Klutina**	2.34	87	P	Pn	16 14 37.7	-0.8
MCK	**McKinley**	2.44	20	P	Pn	16 14 40.6	+0.8
DIV	**Divide**	2.45	95	P	Pn	16 14 38.9	-1.0
CHUM	**Lake Minchumin**	2.54	345	P	Pn	16 14 41.1	+0.1
BPAW	**Bear Paw Mtn.**	2.66	358	P	Pn	16 14 42.0	-0.7
PS12	**TAPS Pump St12**	2.71	87	P	Pn	16 14 42.9	-0.6
TT01	**Tatalina**	2.85	303	P	Pn	16 14 45.1	-0.2
PAX	**Paxson**	2.92	56	P	Pn	16 14 46.9	+0.4
BMRM	**Bremner River**	3.04	97	P	Pn	16 14 46.5	-1.4
PS10	**TAPS Pump St10**	3.06	48	P	Pn	16 14 49.2	+0.9
NEA	**Nenana**	3.23	13	P	Pn	16 14 50.6	+0.1
WRH	**Wood River Hil**	3.27	21	P	Pn	16 14 51.5	+0.5
HDA	**Harding Lake**	3.45	29	P	Pn	16 14 54.1	+0.6
RIDG	**Independ'e Rid**	3.58	48	P	Pn	16 14 56.1	+0.7
MLY	**Manley**	3.59	0	P	Pn	16 14 55.5	0.0
COLA	**College**	3.68	20	P	Pn	16 14 57.4	+0.8
MDM	**Murphy Dome**	3.71	17	P	Pn	16 14 57.4	+0.4
ILAR	**Eielson Array**	3.77	26	P	Pn	16 14 58.0	0.0
	1.8nm,0.3s,baz=212,slow=14,SNR=79						
ILAR				S	Sn	16 15 39.1	-1.9
	5.2nm,0.3s,baz=200,slow=21,SNR=6.5						
ILB	**Eielson Array**	3.77	26	P	Pn	16 14 58.3	+0.4
KDAK	**Kodiak Island**	3.79	195	P	Pn	16 14 57.9	-0.2
	1.3nm,0.3s,baz=47,slow=6.6,SNR=84						
KDAK				S	Sn	16 15 39.1	-2.4
	9.9nm,0.3s,baz=132,slow=22,SNR=9.7						
DOT	**Dot Lake**	3.82	52	P	Pn	16 14 58.5	0.0
KHIT	**Khitrov Hills**	3.82	102	P	Pn	16 14 57.2	-1.4
KABR	**Katmai Barrier**	3.94	214	P	Pn	16 15 00.8	+0.5
SCRK	**Sand Creek**	4.03	48	P	Pn	16 15 01.3	-0.3
SNH	**Sunshine Point**	4.10	105	P	Pn	16 15 02.5	0.0
GCSA	**Galena City Sc**	4.31	323	P	Pn	16 15 05.0	-0.1
OHAK	**Old Harbor**	4.43	198	P	Pn	16 15 05.5	-1.4
BCA3	**Beaver Creek A**	4.51	65	P	Pn	16 15 08.1	0.0
MESA	**MESA**	4.52	103	P	Pn	16 15 07.5	-0.8
IM3	**Indian Mountai**	4.73	345	P	Pn	16 15 10.9	-0.1
EGAK	**Eagle**	5.50	48	*e*Pn	Pn	16 15 21.5	0.0
	20nm,0.7s						
BCPM	**Bancas Point**	5.69	100	P	Pn	16 15 23.4	-0.7
YUK4	**Talbot Arm**	5.84	86	P	Pn	16 15 26.4	+0.1
DAWY	**Dawson**	5.86	58	P	Pn	16 15 26.4	0.0
YUK6	**Outpost Mounta**	6.04	89	P	Pn	16 15 28.6	-0.5
YUK7	**Dusty Glacier**	6.25	90	P	Pn	16 15 31.4	-0.3
HYT	**Haines Junctio**	6.47	90	P	Pn	16 15 34.2	-0.7
BM3	**Burnt Mountain**	6.56	21	P	Pn	16 15 35.7	-0.3
WHY	**Whitehorse**	7.76	89	P	Pn	16 15 51.6	-1.0
INK	**Inuvik**	10.02	39	P	Pn	16 16 22.2	-1.1
	0.2nm,0.3s,baz=234,slow=17,SNR=7.9						
DLBC	**Dease Lake**	10.83	97	P	Pn	16 16 33.1	-1.3
	0.1nm,0.3s,baz=300,slow=14,SNR=3.1						
YKA	**Yellowknife Ar**	16.90	71	P	Pn	16 17 54.3	0.0
	0.2nm,0.3s,baz=281,slow=10,SNR=11						
NEW	**Newport**	23.13	109	P	P	16 19 03.2	+0.3
	0.9nm,0.6s,baz=326,slow=13,SNR=3.7						
ELK	**Elko**	29.87	117	P	P	16 20 05.3	+1.3
	1.2nm,0.8s,baz=338,slow=12,SNR=3.8						
NVAR	**Mina Array Bea**	30.56	124	P	P	16 20 11.2	+1.1
	0.6nm,0.5s,baz=327,slow=10,SNR=5.4						
PDAR	**Pinedale Array**	30.75	108	P	P	16 20 12.4	+0.6
	0.3nm,0.5s,baz=324,slow=4.2,SNR=8.5						
ULM	**Lac du Bonnet**	31.82	85	P	P	16 20 20.8	+0.1
	2.3nm,0.9s,baz=312,slow=8.2,SNR=4.1						
TXAR	**Lajitas Array**	44.53	114	P	P	16 22 08.0	+0.2
	0.8nm,0.7s,baz=326,slow=6.4,SNR=9.1						
SONM	**Songino Array**	54.80	306	P	P	16 23 25.4	-0.2
	2.8nm,0.8s,baz=38,slow=7.3,SNR=11						
ZALV	**Zalesovo Beam**	56.83	324	P	P	16 23 40.5	+0.7
	0.9nm,0.5s,baz=33,slow=4.8,SNR=3.8						
ZALV				pP	pP	16 23 54.5	-1.5
	0.3nm,0.3s,baz=88,slow=10,SNR=1.7						
KURK	**Kurchatov**	61.42	327	P	P	16 24 12.8	+1.2
KURK				pP	pP	16 24 27.2	-0.8
KURBB	**Kurchatov Arra**	61.53	327	P	P	16 24 12.8	+0.4
	0.3nm,0.5s,baz=30,slow=6.4,SNR=3.3						
KURBB				pP	pP	16 24 27.2	-1.5
	0.4nm,0.5s,baz=28,slow=6.7,SNR=4.0						
MKAR	**Makanchi Array**	63.95	322	P	P	16 24 28.0	-0.6
	0.2nm,0.5s,baz=37,slow=7.2,SNR=4.2						
MKAR				pP	pP	16 24 43.9	-1.2
	0.5nm,0.6s,baz=45,slow=6.5,SNR=4.8						

*ECX **13** 16:28:22.1±0.3, 25°.90N×110°.40W, h3km±12km, MD5.9*

*MEX **13** 16:28:25.7±1.2, 25°.91N×110°.32W, h15km, MD5.5*

*IDC **13** 16:28:25.1±0.5, 25°.93N×110°.12W, h0km, mb4.7/33, mb1 4.7/41, mb1mx4.7/55, mbtmp4.6/41, ML3.9/8, MS5.3/34, Ms1 5.3/34, ms1mx5.2/37, Error ellipse: s-maj=16.2km s-min=9.4km az=53.0*

*BJI **13** 16:28:25.2, 25°.59N×110°.77W, h7km, mb5.2/8, mB5.8/21, Ms5.8/21, Ms7 5.5/21*

*MOS **13** 16:28:25.7±1.6, 26°.01N×110°.03W, h10km, mb5.6/67, MS5.5/42, Error ellipse: s-maj=5.9km s-min=3.6km az=97.1*

*ISCJB **13** 16:28:26.8±0.1, 26°.00N±0°.01×110°.08W±0°.01, h19km, mb5.4/305, MS5.5/469, Error ellipse: s-maj=2.5km s-min=1.4km az=39.2*

*NEIC **13** 16:28:26.2±0.2, 25°.89N×110°.10W, h10km, mb5.5/298, MS5.4/293, MW5.5, MW5.7, Error ellipse: s-maj=3.0km s-min=1.9km az=221.0, Moment Tensor Solution. s34 Moment tensor: Scale 10^17 Nm; Mrr 0.04; Mθθ -2.22; Mφφ 2.17; Mrθ -0.14; Mθφ -0.32; Mφr -1.24; Best double couple: M 2.50000×10^17 NP1: ϕs 128.00000°, δ 68.00000°, λ 167.00000°. NP2: ϕs 223.00000°, δ 78.00000°, λ 23.00000°. Principal axes: T 2.7600, Plg24.0000°, Azm87.0000°; N -0.4900, Plg65.0000°, Azm250.0000°; P -2.2700, Plg7.0000°, Azm354.0000°;*

NEIC Felt [IV] at Huatabampo, Sonora. Also felt at Alamos. Felt [III] at Loreto, Baja California Sur. Also felt at Comondu. Felt at Ahome, Guasave and Los Mochis, Sinaloa.

*NEIC **13** 16:28:26.0±0.0, 25°.92N×110°.16W, h11km, Moment Tensor Solution. s21 Moment tensor: Scale 10^17 Nm; Mrr -0.09; Mθθ -3.69; Mφφ 3.79; Mrθ 0.37; Mθφ -0.67; Mφr -0.66; Best double couple: M 3.90000×10^17 NP1: ϕs 130.00000°, δ 87.00000°, λ 170.00000°. NP2: ϕs 220.00000°, δ 80.00000°, λ 3.00000°. Principal axes: T 3.9700, Plg9.0000°, Azm84.0000°; N -0.1800, Plg79.0000°, Azm291.0000°; P -3.7800, Plg4.0000°, Azm175.0000°;*

*GCMT **13** 16:28:27.2±0.1, 25°.88N±0°.01×110°.28W±0°.01, h18km, MW5.7/141, Moment Tensor Solution. s111, c179; s141, c362; Duration: 1s7 Moment tensor: Scale 10^17 Nm; Mrr 0.00±.04; Mθθ -4.29±.05; Mφφ 4.29±.05; Mrθ -0.79±.10; Mθφ -0.77±.04; Mφr -0.36±.10; Best double couple: M 4.44100×10^17 NP1: ϕs 40.00000°, δ 85.00000°, λ -10.00000°. NP2: ϕs 130.00000°, δ 80.00000°, λ -175.00000°. Principal axes: T 4.3770, Plg4.0000°, Azm85.0000°; N 0.1320, Plg79.0000°, Azm195.0000°; P -4.5060, Plg10.0000°, Azm355.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 13 16:28:28.3±0.2, 25°.82N±0°.03×110°.16W±0°.04, h19km, n1581, σ2°.08/1373, mb5.5/312, MS5.5/470, 16C-10D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	1.71	185	Pn	Pn	16 28 53.5	-3.6
	120nm,0.3s,baz=157,slow=4.7,SNR=227						
LPIG				Sn	Sn	16 29 14.5	-4.1
	919nm,0.3s,baz=320,slow=21,SNR=18						
LPIG	**La Paz**	1.71	185	*e*P	Pn	16 28 53.6	-3.6
LPIG				*i* S	Sn	16 29 13.5	-5.1
SLBS	**Sierra La Lagu**	2.13	175	*e*Pn	Pn	16 28 59.9	-3.1
SLBS	**Sierra La Lagu**	2.13	175	⇓*e*P	Pn	16 28 59.9	-3.1
GUYB	**Guaymas**	2.17	343	*e*P	Pn	16 28 56.5	-7.0
GUYB				*e*S	Sn	16 29 20.1	-10
SRIG	**Santa Rosalia**	2.39	309	*e*Pn	Pn	16 28 58.7	-7.8
SRIG	**Santa Rosalia**	2.39	309	*e*P	Pn	16 28 58.6	-7.9
SRIG				*i* S	Sn	16 29 24.8	-11
SRIG	**Santa Rosalia**	2.39	309	*e*P	Pn	16 28 58.7	-7.8
HSIG		3.27	348	*e*Pn	Pn	16 29 12.4	-6.2
HSIG		3.27	348	*e*P	Pn	16 29 12.4	-6.2
HSIG		3.27	348	*e*P	Pn	16 29 12.4	-6.2
HPIG		4.18	74	*e*Pn	Pn	16 29 27.6	-3.7
HPIG		4.18	74	*e*P	Pn	16 29 27.6	-3.7
MAIG	**Mazatlaan**	4.29	127	*e*P	Pn	16 29 31.3	-1.4
MAIG	**Mazatlaan**	4.29	127	*e*P	Pn	16 29 31.3	-1.4
MAIG				*i* S	Sn	16 30 20.9	-1.3
CGIG		4.92	23	*e*P	Pn	16 29 37.2	-4.2
CGIG		4.92	23	*e*P	Pn	16 29 37.2	-4.2
TUC	**Tucson**	6.49	355	*e*Pn	Pn	16 29 58.0	-5.0
TUC	**Tucson**	6.49	355	*e*P	Pn	16 29 58.0	-5.0
TUC	**Tucson**	6.49	355	P	Pn	16 29 58.4	-4.6
	baz=174						
214A	**Organ Pipe Nat**	6.54	340	P	Pn	16 29 58.5	-5.1
	baz=158						
TX31	**Lajitas Ar. Si**	6.74	57	*e*Pn	Pn	16 30 02.1	-4.3
TXAR	**Lajitas Array**	6.74	57	Pn	Pn	16 30 02.9	-3.5
	2.0nm,0.3s,baz=233,slow=13,SNR=68						
TXAR				Lg	Lg	16 31 55.6	
	36nm,0.3s,baz=274,slow=32,SNR=5.3						
SPX	**San Pedro Mart**	7.00	319	⇑*e*P	Pn	16 30 08.6	-1.5
SPX				*e*S	Sn	16 31 28.5	-0.8
SPX				IAML		16 32 40.2	
	comp=E,1μm,9.8s						
SPX				⇑*e*		16 32 40.2	
SPX				IAML		16 32 46.5	
	comp=N,341nm,7.2s						
SPX				⇑*e*		16 32 46.5	
SPIG	**San Pedro Mart**	7.00	319	*e*P	Pn	16 30 03.1	-7.0
121A	**Cookes Peak, D**	7.00	17	P	Pn	16 30 06.7	-3.4
	baz=198						
ANIG	**Ahuacatlan**	7.02	131	*e*P	Pn	16 30 10.5	+0.2
ECBX	**El Chinero**	7.09	324	*e*P	Pn	16 30 11.7	+0.6
ECBX				*e*S	Sn	16 31 32.6	+1.6
H06S		7.09	186	*e*P	Pn	16 30 09.4	-1.7
MNTX	**Cornudas Mount**	7.20	34	*e*Pn	Pn	16 30 10.4	-2.3
MNTX	**Cornudas Mount**	7.20	34	P	Pn	16 30 10.7	-2.0
	baz=217						
ZAIG	**Zacatecas**	7.56	112	*e*Pn	Pn	16 30 17.7	-0.1
ZAIG	**Zacatecas**	7.56	112	*e*P	Pn	16 30 18.0	+0.2
113A	**Mohawk Valley,**	7.61	336	*e*Pn	Pn	16 30 15.7	-2.5
CJM	**Chamela**	7.86	142	*e*P	Pn	16 30 21.9	+0.1
GDL2	**Guadalupe Moun**	8.13	37	*e*Pn	Pn	16 30 20.8	-4.7
GLA	**Glamis**	8.28	332	*e*Pn	Pn	16 30 23.8	-3.6
GLA	**Glamis**	8.28	332	*e*P	Pn	16 30 23.8	-3.6
GLA	**Glamis**	8.28	332	P	Pn	16 30 24.9	-2.5
	baz=149						
CLNB	**Carlsbad**	8.45	39	*e*Pn	Pn	16 30 25.7	-4.2
Y14A	**Wickenburg**	8.46	344	*e*Pn	Pn	16 30 25.3	-4.7
IKP	**In-Ko-Pah, Jac**	8.56	324	P	Pn	16 30 32.3	+0.9
	baz=141						
CBX	**Cerro Bola**	8.62	320	*e*P	Pn	16 30 27.2	-5.0
CBX				⇑*e*		16 34 26.4	
CBX				IAML		16 34 26.4	
	comp=N,298nm,12.1s						
SWSC	**Sam W. Stewart**	8.64	327	P	Pn	16 30 31.8	-0.6
	baz=143						
X16A	**Lo Mia Camp, P**	8.64	353	*e*Pn	Pn	16 30 27.2	-5.4
X18A	**Snowflake**	8.69	1	*e*Pn	Pn	16 30 27.6	-5.6
Y22D	**IRIS PASSCAL I**	8.69	18	P	Pn	16 30 32.3	-1.0
	baz=199						
TJIG	**Tijuana**	8.71	321	*i* P	Pn	16 30 33.1	-0.3
LENM	**Lemitar**	8.77	18	*e*Pn	Pn	16 30 30.3	-3.9
Y12C	**Blythe**	8.77	335	*e*Pn	Pn	16 30 30.4	-3.7
Y12C	**Blythe**	8.77	335	P	Pn	16 30 31.1	-3.0
	baz=153						
BNM	**Barren Site**	8.85	19	*e*Pn	Pn	16 30 32.2	-3.2

BAR	**Barrett**	8.89	322	*e*Pn		Pn	16 30 34.1	-1.8
MONP2	**Monument Peak**	8.92	324	P		Pn	16 30 33.1	-3.3
	baz=140							
LAZ	**Ladron**	8.95	16	*e*Pn		Pn	16 30 33.1	-3.6
LPM	**Los Pinos Moun**	9.00	19	*e*Pn		Pn	16 30 33.4	-4.1
CPRX	**Cap Rock**	9.04	36	*e*Pn		Pn	16 30 35.4	-2.6
BC3	**Big Chuckawall**	9.06	331	P		Pn	16 30 35.4	-2.9
	baz=148							
PDMCI	**Parker Dam,Lak**	9.13	339	P		Pn	16 30 36.3	-2.8
	baz=156							
W18A	**Petrified Fore**	9.28	2	*e*Pn		Pn	16 30 38.1	-3.1
W18A	**Petrified Fore**	9.28	2	P		Pn	16 30 39.9	-1.3
	baz=182							
109C	**Camp Elliot, M**	9.29	321	P		Pn	16 30 40.4	-0.9
	baz=137							
CPE	**Camp Elliot**	9.29	321	*e*Pn		Pn	16 30 39.4	-1.9
IRM	**Iron Mountain**	9.37	334	P		Pn	16 30 41.3	-1.1
	baz=151							
TPFO	**Pinon Flats**	9.49	326	P		Pn	16 30 43.4	-0.8
	baz=143							
XPFO	**Pion Flat**	9.50	326	*e*Pn		Pn	16 30 42.7	-1.6
PFO	**Pinyon Flats O**	9.50	326	Pn		Pn	16 30 44.0	-0.3
	comp=N,0.3nm,0.3s,baz=153,slow=12,SNR=8.1							
PFO				LR		LR	16 33 53.2	
	comp=N,11μm,19.9s,baz=160,slow=35							
PFO	**Pinyon Flats O**	9.50	326	*e*Pn		Pn	16 30 42.7	-1.6
PFO	**Pinyon Flats O**	9.50	326	*e*P		Pn	16 30 42.7	-1.6
PFO	**Pinyon Flats O**	9.50	326	P		Pn	16 30 43.2	-1.1
	baz=143							
IGIG	**Irapuato, Guan**	9.55	120	*i* P		Pn	16 30 44.1	-1.0
BELC	**Belle Mtn. Jos**	9.60	330	P		Pn	16 30 44.5	-1.2
	baz=146							
ANMO	**Albuquerque**	9.64	18	Pn		Pn	16 30 44.4	-1.9
	comp=N,0.2nm,0.3s,baz=209,slow=13,SNR=30							
ANMO				Lg		Lg	16 33 31.0	
	comp=N,3.3nm,0.3s,baz=36,slow=7.1,SNR=7.0							
ANMO	**Albuquerque**	9.64	18	*e*Pn		Pn	16 30 43.5	-2.8
ANMO				Lg		Lg	16 33 31.0	
ANMO	**Albuquerque**	9.64	18	*d* P		Pn	16 30 45.2	-1.1
ANMO	**Albuquerque**	9.64	18	P		Pn	16 30 45.4	-0.9
	baz=200							
LNIG	**Linares**	9.71	93	*e*Pn		Pn	16 30 46.0	-1.1
LNIG	**Linares**	9.71	93	*e*P		Pn	16 30 46.4	-0.8
NEE2	**Needles Airpor**	9.72	338	P		Pn	16 30 46.1	-1.0
	baz=155							
WUAZ	**Wupatki**	9.72	354	*e*Pn		Pn	16 30 44.9	-2.5
WUAZ	**Wupatki**	9.72	354	P		Pn	16 30 45.7	-1.7
	baz=173							
W13A	**Hualapai Mount**	9.79	342	*e*Pn		Pn	16 30 45.7	-2.7
MURC	**Murrieta**	9.88	323	P		Pn	16 30 48.9	-0.4
	baz=140							
833A	**Chaparral WMA,**	9.91	73	*e*Pn		Pn	16 30 47.5	-2.3
833A	**Chaparral WMA,**	9.91	73	P		Pn	16 30 51.4	+1.5
	baz=258							
GMRC	**Granite Mounta**	10.12	333	P		Pn	16 30 52.1	-0.7
	baz=150							
LDFC	**Landfair**	10.17	336	*e*Pn		Pn	16 30 53.4	-0.1
SCI2	**San Clemente I**	10.22	316	P		Pn	16 30 55.8	+1.8
	baz=132							
JCT	**Junction City**	10.25	61	*e*Pn		Pn	16 30 53.2	-1.3
JCT	**Junction City**	10.25	61	*e*P		Pn	16 30 53.2	-1.3
JCT	**Junction City**	10.25	61	P		Pn	16 30 55.5	+1.0
	baz=246							
BBRC	**Big Bear Solar**	10.25	327	P		Pn	16 30 54.4	-0.3
	baz=143							
JRQG	**Juriquilla Cam**	10.27	118	*e*Pn		Pn	16 30 57.0	+1.9
JRQG	**Juriquilla Cam**	10.27	118	*e*P		Pn	16 30 54.0	-1.1
MOIG	**Morelia**	10.29	125	*e*Pn		Pn	16 30 55.3	+0.1
MOIG	**Morelia**	10.29	125	*e*P		Pn	16 30 51.8	-3.4
MSTX	**Muleshoe**	10.34	37	*e*Pn		Pn	16 30 54.5	-1.3
MSTX	**Muleshoe**	10.34	37	P		Pn	16 30 55.5	-0.3
	baz=220							
CIS	**Catalina Islan**	10.42	318	P		Pn	16 30 57.7	+0.9

PV19	Morning Glory	12.49	4	ePn		Pn	16 31 23.2	-2.2		
PV16	Nyswonger Mesa	12.50	5	ePn		Pn	16 31 23.7	-1.7		
PV12	Saucer Basin,	12.52	5	ePn		Pn	16 31 23.6	-2.1		
PV20	West Nyswonger	12.53	4	ePn		Pn	16 31 23.4	-2.4		
SDCO	Great Sand Dun	12.53	17	ePn		Pn	16 31 25.1	-0.9		
SDCO	Great Sand Dun baz=200	12.53	17	P		Pn	16 31 25.5	-0.4		
MEIG	Mezcala	12.54	127	eP		Pn	16 31 25.1	-0.8		
PV14	Lion Creek, Pa	12.55	4	ePn		Pn	16 31 21.5	-4.7		
PV10	Paradox Valley	12.56	4	ePn		Pn	16 31 22.9	-3.4		
CWC	Cottonwood Cre baz=145	12.57	329	P		Pn	16 31 26.5	+0.2		
VES	Vestal, Richgr baz=140	12.59	325	P		Pn	16 31 25.9	-0.5		
PV23	Carpenter Ridg	12.63	4	ePn		Pn	16 31 23.3	-4.1		
PV09	Paradox Valley	12.67	4	ePn		Pn	16 31 25.9	-2.0		
CAIG	El Cayaco	12.68	132	eP		Pn	16 31 30.7	+3.0		
SMMC	Simmler baz=135	12.70	321	P		Pn	16 31 29.0	+1.1		
WHTX	Lake Whitney,	12.71	58	ePn		Pn	16 31 26.5	-1.6		
WHTX	Lake Whitney, baz=244	12.71	58	P		Pn	16 31 28.9	+0.8		
GRAC	Grapevine Rang baz=149	12.72	333	P		Pn	16 31 28.9	+0.6		
PV21	Cone Mtn., Par	12.75	4	ePn		Pn	16 31 27.1	-1.7		
MSU	Marysvale	12.77	353	ePn		Pn	16 31 27.8	-1.3		
MSU	Marysvale	12.77	353	eP		Pn	16 31 27.8	-1.3		
TCRU	Three Creeks R	12.90	352	ePn		Pn	16 31 29.8	-1.2		
PSUT	Pine Spring	13.06	347	ePn		Pn	16 31 31.9	-1.2		
Q16A	Castle Valley	13.09	357	ePn		Pn	16 31 32.9	-0.5		
TIN	Tinemaha, Big baz=146	13.14	330	P		Pn	16 31 34.5	+0.4		
WMOK	Wichita Mounta	13.24	45	ePn		Pn	16 31 32.7	-2.7		
WMOK	Wichita Mounta	13.24	45	eP		Pn	16 31 32.7	-2.7		
WMOK	Wichita Mounta baz=231	13.24	45	P		Pn	16 31 35.7	+0.3		
SRU	San Rafael Swe	13.26	359	ePn		Pn	16 31 33.8	-2.0		
SRU	San Rafael Swe	13.26	359	eP		Pn	16 31 33.8	-2.0		
R11A	Troy Canyon, C	13.31	341	ePn		Pn	16 31 35.3	-1.1		
R11A	Troy Canyon, C baz=158	13.31	341	P		Pn	16 31 36.5	0.0		
TMUT	Trail Mountain	13.47	356	ePn		Pn	16 31 36.7	-2.0		
SMCO	Snowmass	13.59	11	ePn		Pn	16 31 38.9	-1.6		
P17A	Butcher Ranch,	13.63	358	ePn		Pn	16 31 39.5	-1.2		
Q24A	Divide	13.77	17	ePn		Pn	16 31 41.4	-1.4		
Q24A	Divide baz=199	13.77	17	P		Pn	16 31 42.3	-0.6		
MLAC	Mammoth, Mammo baz=145	13.89	330	P		Pn	16 31 44.9	+0.5		
TPIG	Tehuac#an	13.95	119	*i* P		Pn	16 31 47.6	+2.3		
LVIG	Laguna Verde	14.05	113	ePn		Pn	16 31 46.3	-0.1		
LVIG	Laguna Verde	14.05	113	eP		Pn	16 31 44.6	-1.7		
NLU	North Lily Min	14.19	354	ePn		Pn	16 31 47.0	-1.5		
U32A	Winter Ranch,	14.21	40	ePn		Pn	16 31 45.7	-2.8		
MPU	Maple Canyon	14.21	355	ePn		Pn	16 31 46.2	-2.6		
NV11	Mina Array Sit	14.28	334	ePn		Pn	16 31 49.0	-0.7		
NV01	Mina Array Sit	14.33	333	ePn		Pn	16 31 50.0	-0.5		
NVAR	Mina Array Bea comp=N,0.3nm,0.3s,baz=149,slow=13,SNR=24	14.33	333	Pn		Pn	16 31 49.6	-0.9		
O20A	White River Ci	14.37	6	ePn		Pn	16 31 49.3	-1.6		
O20A	White River Ci baz=187	14.37	6	P		Pn	16 31 49.7	-1.2		
ISCO	Idaho Springs	14.45	14	ePn		Pn	16 31 50.3	-1.9		
ISCO	Idaho Springs baz=196	14.45	14	P		Pn	16 31 51.7	-0.5		
DUG	Dugway, Tooele	14.51	352	ePn		Pn	16 31 52.1	-0.7		
DUG	Dugway, Tooele baz=170	14.51	352	P		Pn	16 31 52.5	-0.3		
SAO	San Andreas Ge	14.55	321	ePn		Pn	16 31 50.0	-3.3		
SAO	San Andreas Ge	14.55	321	eP		Pn	16 31 50.0	-3.3		
RYN	Ryan	14.59	333	ePn		Pn	16 31 52.6	-1.4		
KSCO	Kaye Shedlock'	14.60	24	ePn		Pn	16 31 52.9	-1.2		
KSCO	Kaye Shedlock' baz=208	14.60	24	P		Pn	16 31 55.7	+1.6		
PNIG	Pinotepa	14.62	128	*i* P		Pn	16 31 50.3	-4.0		
JLU	Jordanelle	14.78	356	ePn		Pn	16 31 54.2	-2.4		
KVN	Kaiserville	14.79	335	ePn		Pn	16 31 55.8	-0.9		
KVN	Kaiserville	14.79	335	eP		Pn	16 31 55.8	-0.9		
NATX	Nacogdoches	14.82	63	ePn		Pn	16 31 55.6	-1.3		
NATX	Nacogdoches baz=250	14.82	63	P		Pn	16 31 58.1	+1.2		
WAKR	Walker	14.88	330	ePn		Pn	16 31 57.5	-0.4		
CTU	Camp Tracy	14.89	355	ePn		Pn	16 31 56.3	-1.8		
CMB	Columbia Colle	14.95	327	eP		Pn	16 32 00.5	+1.9		
CMB	Columbia Colle	14.95	327	eP		Pn	16 32 00.5	+1.9		
YERR	Yerington comp=N,502nm,1.4s	15.19	332	ePn		Pn	16 32 01.6	-0.5		
VHO	Vista Hermosa	15.22	122	eP		Pn	16 32 02.6	+0.1		
BGU	Big Grassy Mou comp=N,125nm,1.3s	15.26	352	ePn		Pn	16 32 01.4	-1.5		
TCUT	Toone Canyon comp=N,342nm,1.4s	15.29	356	ePn		Pn	16 32 02.0	-1.5		
PNTR	Pine Nut comp=N,238nm,1.0s	15.43	331	ePn		Pn	16 32 04.3	-0.9		
N23A	Red Feather La comp=N,206nm,1.5s	15.44	12	ePn		Pn	16 32 04.3	-1.1		
N23A	Red Feather La baz=194	15.44	12	P		Pn	16 32 04.3	-1.1		
X37A	Clayton comp=N,243nm,1.0s	15.47	52	ePn		Pn	16 32 04.5	-1.0		
ELK	Elko comp=N,0.3nm,0.3s,baz=169,slow=12,SNR=15	15.48	345	Pn		Pn	16 32 04.7	-1.1		
ELK	comp=N,19µm,21.6s,baz=174,slow=37			LR		LR	16 37 58.2			
ELK	Elko comp=N,124nm,1.3s	15.48	345	ePn		Pn	16 32 04.2	-1.6		
ELK	Elko comp=Z,124nm,1.3s	15.48	345	eP	pmax	Pn	pmax	16 32 04.2	-1.6	
SPUT	South Promonto comp=Z,167nm,1.4s	15.57	354	ePn		Pn	16 32 05.2	-1.7		
VCNR	Virginia City comp=Z,736nm,1.5s	15.63	332	ePn		Pn	16 32 07.3	-0.4		
RUBR	Rubicon Trail comp=Z,269nm,1.1s	15.65	330	ePn		Pn	16 32 07.8	-0.3		
CBKS	Cedar Bluff comp=Z,384nm,0.9s	15.65	32	ePn		Pn	16 32 05.8	-2.2		
CBKS	Cedar Bluff comp=Z,384nm,0.9s	15.65	32	eP	pmax	Pn	pmax	16 32 05.8	-2.2	
CBKS	Cedar Bluff baz=217	15.65	32	P		Pn	16 32 05.7	-2.2		
PAHR	Pah Rah Range comp=Z,512nm,1.5s	15.86	333	ePn		Pn	16 32 09.6	-1.1		
TUL1	Leonard comp=Z,332nm,1.5s	15.90	47	ePn		Pn	16 32 09.4	-1.6		
TUL1	Leonard baz=235	15.90	47	P		Pn	16 32 10.1	-1.0		
PHWY	Pilot Hill comp=Z,299nm,1.9s	15.93	13	ePn		Pn	16 32 08.6	-3.1		
AFDM	Forest Hills D comp=Z,220nm,1.6s	15.95	328	ePn		Pn	16 32 10.6	-1.1		
RWWY	Rawlins comp=Z,133nm,1.1s	16.02	8	ePn		Pn	16 32 09.9	-2.9		
HVU	Hansel Valley comp=Z,182nm,1.4s	16.07	353	ePn		Pn	16 32 11.0	-2.4		
HVU	Hansel Valley comp=Z,182nm,1.4s	16.07	353	eP	pmax	Pn	pmax	16 32 11.0	-2.4	
MCCM	Marconi Confer comp=Z,364nm,1.1s	16.34	322	ePn		Pn	16 32 15.6	-1.0		
BEKR	Beckworth comp=Z,632nm,1.3s	16.41	331	ePn		Pn	16 32 17.2	-0.5		
HUIG	Huatulco	16.49	125	eP		Pn	16 32 18.9	+0.2		
OGNE	Ogallala comp=Z,168nm,1.1s	16.53	22	ePn		Pn	16 32 18.1	-1.0		
OGNE	Ogallala baz=206	16.53	22	P		P	16 32 20.6	-1.2		
CMIG	Matias Romero comp=Z,0.4nm,0.3s,baz=298,slow=8.9,SNR=14	16.65	118	Pn		Pn	16 32 21.4	+0.7		
CMIG	comp=Z,10µm,20.9s,baz=274,slow=34			LR		LR	16 37 51.3			
CMIG	Matias Romero	16.65	118	eP		Pn	16 32 19.6	-1.1		
ORV	Oroville comp=Z,184nm,1.5s	16.68	328	ePn		Pn	16 32 20.4	-0.6		
MIAR	Mount Ida comp=Z,336nm,1.0s	16.75	55	ePn		Pn	16 32 20.1	-1.9		
MIAR	Mount Ida comp=Z,336nm,1.0s	16.75	55	eP	pmax	Pn	pmax	16 32 20.1	-1.9	
MIAR	Mount Ida baz=243	16.75	55	P		Pn	16 32 21.8	-0.2		
GDXM	Geysers comp=Z,149nm,1.3s	16.77	324	ePn		P	16 32 24.3	0.0		
Z41A	Richland Creek comp=Z,2µm,1.4s	16.81	60	ePn		Pn	16 32 20.1	-2.6		
Z41A	Richland Creek baz=248	16.81	60	P		Pn	16 32 19.3	-3.4		
W39A	Magazine comp=Z,185nm,1.0s	16.91	53	ePn		Pn	16 32 20.9	-3.1		
W39A	Magazine baz=241	16.91	53	P		Pn	16 32 20.5	-3.4		
BW06	Boulder Array comp=Z,318nm,1.6s	16.91	2	ePn		Pn	16 32 21.4	-2.8		
BW06	Boulder Array baz=182	16.91	2	P		Pn	16 32 22.1	-2.1		
PD31	Pinedale Array	16.91	2	ePn		Pn	16 32 21.8	-2.4		
PDAR	Pinedale Array comp=Z,0.1nm,0.3s,baz=173,slow=6.0,SNR=49	16.91	2	Pn		Pn	16 32 23.1	-1.2		
PDAR	comp=Z,24µm,20.1s,baz=192,slow=38			LR		LR	16 39 03.7			
PDAR	Pinedale Array	16.91	2	ePn		Pn	16 32 21.6	-2.6		
AHID	Auburn Hatcher comp=Z,327nm,1.6s	16.92	358	ePn		Pn	16 32 22.2	-2.1		
HOPS	Hopland Field comp=Z,244nm,1.3s	17.05	324	ePn		Pn	16 32 24.3	-1.3		
K22A	Casper comp=Z,349nm,1.4s	17.05	9	ePn		Pn	16 32 23.2	-2.7		
K22A	Casper baz=191	17.05	9	P		Pn	16 32 24.0	-1.9		
Y41A	Eaglette Beard baz=247	17.20	58	P		Pn	16 32 25.9	-1.6		
X40A	Basin Creek Fa comp=Z,791nm,1.5s	17.28	56	ePn		Pn	16 32 26.5	-2.1		
X40A	Basin Creek Fa baz=245	17.28	56	P		Pn	16 32 26.2	-2.4		
544A	White Castle baz=260	17.32	71	P		P	16 32 29.9	-0.5		
HHAR	Hobbs comp=Z,317nm,1.3s	17.35	49	ePn		Pn	16 32 26.5	-3.0		
O03E	Paynes Creek comp=Z,142,SNR=122	17.40	329	P		Pn	16 32 30.3	+0.1		
KSU1	Kansas State U comp=Z,285nm,1.1s	17.47	37	ePn		Pn	16 32 29.9	-1.0		
KSU1	Kansas State U baz=225	17.47	37	P		Pn	16 32 30.0	-1.0		
REDW	Red Top Meadow comp=Z,188nm,1.3s	17.51	358	ePn		Pn	16 32 29.3	-2.3		
X41A	Kaden, Bauxite baz=245	17.52	56	P		Pn	16 32 29.3	-2.3		
SNOW	Snow King Moun comp=Z,396nm,1.6s	17.61	359	ePn		Pn	16 32 30.8	-2.1		
TPAW	Teton Pass comp=Z,252nm,1.7s	17.64	358	ePn		Pn	16 32 31.4	-2.0		
LOHW	Long Hollow comp=Z,153nm,1.5s	17.76	359	ePn		Pn	16 32 32.4	-2.3		
UALR	University of comp=Z,392nm,1.2s	17.77	56	ePn		Pn	16 32 32.2	-2.4		
O02D	Mt. Diablo Mer baz=140,SNR=20	17.78	327	P		Pn	16 32 34.3	-0.6		
Y42A	Garnett, Star baz=248	17.81	59	P		Pn	16 32 33.5	-1.7		
KCPM	Cahto Peak comp=Z,234nm,1.3s	17.82	324	ePn		P	16 32 35.9	-0.2		
CCAR	Cane Creek comp=Z,718nm,1.1s	17.86	59	ePn		Pn	16 32 34.4	-1.3		
MOOW	Moose Ponds comp=Z,72nm,1.1s	17.90	359	ePn		Pn	16 32 34.0	-2.4		
WDC	Whiskytown Da comp=Z,376nm,1.8s	17.97	328	ePn		Pn	16 32 35.7	-1.4		
WDC	Whiskytown Da comp=Z,377nm,1.8s	17.97	328	eP	pmax	Pn	pmax	16 32 35.7	-1.4	
WVOR	Wild Horse Val comp=Z,94nm,1.2s	17.98	339	ePn		Pn	16 32 36.0	-1.3		
W41B	Gary Mavity, V comp=Z,534nm,1.4s	18.01	55	ePn		Pn	16 32 35.8	-1.8		
W41B	Gary Mavity, V baz=244	18.01	55	P		Pn	16 32 35.2	-2.5		
Z43A	Armstrong Fami baz=251	18.02	61	P		Pn	16 32 36.1	-1.6		
WHAR	Wooly Hollow comp=Z,780nm,1.4s	18.03	54	ePn		Pn	16 32 35.8	-2.1		
HLID	Hailey comp=Z,128nm,1.4s	18.04	350	ePn		Pn	16 32 37.2	-0.9		
HLID	Hailey baz=167	18.04	350	P		Pn	16 32 37.8	-0.4		
MOD	Modoc Plateau comp=Z,206nm,1.4s	18.10	335	ePn		Pn	16 32 37.0	-1.8		
244A	Avery, Jackson baz=255	18.13	65	P		Pn	16 32 36.0	-3.1		
U40A	Yellville baz=239	18.14	50	P		Pn	16 32 36.6	-2.6		
MFID	Camas Ranch comp=Z,186nm,1.5s	18.16	347	ePn		Pn	16 32 36.9	-2.6		
X42A	Stuttgart baz=246	18.21	57	P		Pn	16 32 38.4	-1.7		
TGIG		18.23	116	eP		Pn	16 32 40.4	-0.1		
FLWY	Flagg Ranch comp=Z,176nm,1.1s	18.23	359	ePn		Pn	16 32 38.7	-1.8		
KMRM	Mail Ridge comp=Z,663nm,1.4s	18.28	325	ePn		P	16 32 41.0	-0.1		
VBMS	Vicksburg comp=Z,1µm,1.4s	18.31	65	eP		Pn	16 32 40.3	-1.0		
VBMS	Vicksburg baz=255	18.31	65	P		Pn	16 32 39.0	-2.3		
V41A	Mountainview baz=242	18.36	53	P		Pn	16 32 39.0	-2.9		
N02D	Trinity Center baz=141,SNR=9.8	18.36	329	P		Pn	16 32 40.1	-1.8		
YPP	Pitchstone Pla comp=Z,280nm,1.8s	18.42	359	ePn		P	16 32 41.0	-1.8		
BGNE	Belgrade comp=Z,633nm,1.1s	18.46	30	ePn		P	16 32 41.2	-1.7		
BGNE	Belgrade baz=216	18.46	30	P		P	16 32 40.5	-2.4		
144A	Alexander Plac baz=254	18.50	64	P		P	16 32 41.7	-1.8		
Y43A	Makayla and Ka baz=249	18.51	60	P		P	16 32 42.1	-1.4		
H17A	Grant Village comp=Z,218nm,1.6s	18.54	359	eP		P	16 32 42.7	-1.4		
H17A	Grant Village baz=179	18.54	359	P		P	16 32 43.3	-0.8		
W42A	Bald Knob baz=245	18.59	55	P		P	16 32 42.5	-1.9		
YFT	Old Faithful comp=Z,102nm,1.2s	18.60	358	eP		P	16 32 43.0	-1.7		
M04C	Macdoel baz=145,SNR=50	18.62	332	P		P	16 32 43.9	-0.9		
PCIG		18.75	119	eP		P	16 32 42.2	-4.0		
M02C	Callahan baz=142,SNR=19	18.76	329	P		Pn	16 32 46.2	-0.5		
X43A	Marvell comp=Z,512nm,0.9s	18.77	58	eP		P	16 32 45.0	-1.3		
X43A	Marvell baz=248	18.77	58	P		P	16 32 45.1	-1.3		
J08A	Circle Bar Ran comp=Z,106nm,1.0s	18.77	341	eP		P	16 32 45.7	-0.8		
245A	Little AP, Sta baz=256	18.77	66	P		P	16 32 44.8	-1.7		
KHMM	Horse Mountain comp=Z,255nm,1.3s	18.78	326	eP		P	16 32 45.7	-0.9		
U41A	Vida baz=241	18.79	52	P		P	16 32 44.1	-2.5		
YMR	Madison River comp=Z,346nm,1.6s	18.82	358	eP		P	16 32 44.9	-2.2		
YNR	Norris Junctio comp=Z,192nm,1.5s	18.86	359	eP		P	16 32 46.7	-0.9		
JCC	Jacoby Creek, comp=Z,602nm,1.5s	18.89	326	eP		Pn	16 32 47.6	-0.7		
145A	Houston Renfro baz=254	18.89	64	P		P	16 32 46.6	-1.1		
YHB	Horse Butte comp=Z,116nm,1.3s	18.91	358	eP		P	16 32 47.1	-1.0		
V42A	Cord baz=243	18.92	54	P		P	16 32 46.1	-2.0		
RSSD	Black Hills comp=Z,64nm,1.3s	18.93	14	eP		P	16 32 44.2	-4.1		
RSSD	Black Hills comp=Z,64nm,1.3s	18.93	14	eP	pmax	P	pmax	16 32 44.2	-4.1	
RSSD	Black Hills baz=197	18.93	14	P		P	16 32 45.8	-2.5		
YBH	Yreka Blue Hor comp=Z,0.1nm,0.3s,baz=220,slow=7.9,SNR=5.4	18.96	330	P		P	16 32 48.0	-0.5		
YBH	comp=Z,6µm,18.4s,baz=160,slow=36			LR		LR	16 39 34.5			
346A	Big Creek Wild comp=Z,719nm,0.9s	18.99	68	eP		P	16 32 47.5	-1.3		
346A	Big Creek Wild baz=258	18.99	68	P		P	16 32 47.2	-1.6		
Y44A	Strider, Charl	19.08	60	P		P	16 32 48.9	-0.9		
W43A	Forest City baz=246	19.12	56	P		P	16 32 49.4	-0.8		
L04D	Klamath Falls baz=145	19.17	332	P		P	16 32 49.7	-1.3		
T41A	Mountain View baz=240	19.24	50	P		P	16 32 49.9	-1.7		
RLMT	Red Lodge comp=Z,188nm,1.6s	19.28	2	eP		P	16 32 50.6	-1.5		
RLMT	Red Lodge baz=182	19.28	2	P		P	16 32 50.2	-1.9		
U42A	Revenden baz=242	19.28	52	P		P	16 32 50.2	-1.8		
K04D	Chiloquin, OR baz=147,SNR=5.2	19.28	333	P		P	16 32 52.0	-0.1		
CCIG	Comitan comp=Z,278nm,1.2s	19.29	116	eP		Pn	16 32 53.0	-0.4		
CCIG	Comitan	19.29	116	eP		P	16 32 52.4	0.0		
Z45A	Winona comp=Z,1µm,1.2s	19.30	62	eP		P	16 32 51.7	-0.6		
Z45A	Winona baz=252	19.30	62	P		P	16 32 52.1	-0.2		
X44A	Crenshaw baz=249	19.32	59	P		P	16 32 51.6	-0.9		
MYIG	Mrida comp=Z,571nm,0.9s	19.35	100	eP		Pn	16 32 57.8	+3.8		
MYIG	Mrida	19.35	100	eP		P	16 32 51.9	-0.9		
V43A	Jonesboro baz=245	19.53	55	P		P	16 32 53.3	-1.3		
S41A	Jillco Farms, baz=238	19.53	49	P		P	16 32 53.4	-1.4		
Y45A	Yeager Farm, C baz=251	19.58	61	P		P	16 32 54.9	-0.3		
DLMT	Dillon comp=Z,249nm,1.3s	19.60	355	eP		P	16 32 54.4	-1.2		
146A	Union comp=Z,2µm,1.3s	19.61	65	eP		P	16 32 55.1	-0.6		
146A	Union baz=255	19.61	65	P		P	16 32 55.6	0.0		
J05D	Fort Rock, OR baz=149,SNR=48	19.64	335	P		P	16 32 55.3	-0.7		
T42A	Van Buren comp=Z,240nm,1.3s	19.70	51	eP		P	16 32 54.5	-2.1		
T42A	Van Buren baz=241	19.70	51	P		P	16 32 54.9	-1.7		
L02E	Cave Junction baz=141	19.70	329	P		P	16 32 56.1	-0.5		
MET	Memphis--Engin comp=Z,2µm,1.4s	19.72	57	eP		P	16 32 55.3	-1.5		
I07A	Izee comp=Z,220nm,1.9s	19.74	340	eP		P	16 32 56.0	-1.1		
HUMO	Hull Mountain comp=Z,71nm,1.4s	19.77	331	eP		P	16 32 57.6	+0.2		
W44A	Shelby Farms P baz=248	19.81	57	P		P	16 32 57.7	-0.1		
247A	Quitman baz=257	19.84	67	P		P	16 32 57.9	-0.2		
BMO	Blue Mountains comp=Z,218nm,1.5s	19.85	345	eP		P	16 32 56.6	-1.6		
BMO	Blue Mountains	19.85	345	eP		P	16 32 56.7	-1.6		
BMO	comp=Z,218nm,1.5s				pmax	pmax				
Z46A	Louisville baz=254	19.86	63	P		P	16 32 58.2	-0.1		
X45A	UM Field Stati baz=250	19.88	60	P		P	16 32 57.5	-1.1		
U43A	Rector baz=244	19.88	53	P		P	16 32 57.1	-1.4		
OXF	Oxford comp=Z,386nm,1.1s	19.90	59	eP		P	16 32 57.3	-1.4		
OXF	Oxford	19.90	59	eP		P	16 32 57.3	-1.4		
OXF	comp=Z,386nm,1.1s				pmax	pmax				
OXF	Oxford baz=250	19.90	59	P		P	16 32 57.6	-1.1		
GCMT	Greycliff	19.94	1	eP		P	16 32 56.9	-2.3		
J04D	Umpqua Nationa baz=147,SNR=44	19.94	334	P		Pn	16 33 01.5	+0.4		
PINE	Pine Mountain comp=Z,536nm,1.5s	19.97	337	eP		P	16 32 58.2	-1.5		
GNAR	Gosnell comp=Z,1µm,1.4s	19.99	55	eP		P	16 32 59.0	-0.7		
V44A	Blytheville baz=246	20.02	55	P		Pn	16 33 00.9	-1.0		
CCM	Cathedral Cave comp=Z,178nm,1.0s	20.12	48	eP		P	16 32 59.6	-1.5		
CCM	comp=Z,25µm,18.0s			LR		LR				
CCM	Cathedral Cave	20.12	48	eP		P	16 32 59.6	-1.5		
CCM	comp=Z,178nm,1.0s				pmax	pmax				
CCM	comp=Z,25µm,18.0s			MLR		MLR				
CCM	Cathedral Cave baz=238	20.12	48	P		P	16 32 59.6	-1.5		
Y46A	Houston baz=252	20.12	61	P		P	16 33 00.8	-0.4		
R41A	Rosebud baz=237	20.16	47	P		P	16 33 00.3	-1.2		
K02D	Willamette Mer baz=142	20.16	330	P		P	16 32 59.5	-2.1		
448A	Bay Minette baz=261	20.26	70	P		P	16 33 03.0	+0.3		
147A	Livingston comp=Z,1µm,1.1s	20.26	65	eP		P	16 33 02.5	-0.2		
147A	comp=Z,16µm,19.0s			LR		LR				
147A	Livingston baz=256	20.26	65	P		P	16 33 02.5	-0.2		
S42A	Caledonia baz=240	20.27	49	P		P	16 33 02.7	-0.1		
T43A	Greenville baz=242	20.29	52	P		P	16 33 03.1	+0.1		
W45A	Hickory Valley baz=248	20.30	58	P		P	16 33 02.2	-0.9		
348A	Jackson comp=Z,2µm,1.1s	20.30	69	eP		P	16 33 03.0	-0.2		
348A	comp=Z,10µm,19.0s			LR		LR				
348A	Jackson baz=260	20.30	69	P		P	16 33 02.6	-0.6		
PVMO	Portageville	20.41	54	PFAKE			16 33 20.0	+14		
PVMO	comp=Z,18µm,18.0s			LR		LR				
U44A	Portageville baz=244	20.46	54	P		P	16 33 03.8	-1.1		
I04A	Tendick Farm, baz=147,SNR=13	20.52	334	P		P	16 33 05.3	-0.3		
R42A	Luebbering baz=238	20.54	48	P		P	16 33 03.7	-2.0		
X46A	Booneville baz=251	20.55	60	P		P	16 33 04.8	-1.1		
Z47A	Carrollton baz=255	20.56	64	P		P	16 33 05.7	-0.3		
248A	Dixon Mills baz=258	20.57	67	P		P	16 33 05.8	-0.3		
I05D	Terrebonne, OR baz=150,SNR=11	20.58	337	P		P	16 33 04.5	-1.7		
KEBM	Edson Butte comp=Z,306nm,1.3s	20.60	329	eP		P	16 33 05.2	-1.2		
KEBM	comp=Z,18µm,19.0s			LR		LR				
Q41A	Truxton baz=236	20.61	46	P		P	16 33 04.8	-1.7		
FVM	French Village	20.63	49	PFAKE			16 33 20.0	+11		
FVM	comp=Z,2µm,18.0s			LR		LR				
U44B	Burton Farm, H baz=245	20.64	54	P		P	16 33 07.2	+0.4		
J01E	Myrtle Point baz=142,SNR=15	20.64	330	P		P	16 33 05.3	-1.5		
S43A	Fulton Ridge, baz=241	20.67	51	P		P	16 33 05.2	-1.9		
SUSD	Miller baz=210	20.68	23	P		P	16 33 05.3	-1.9		
G08A	Pilot Rock comp=Z,225nm,1.8s	20.68	342	eP		P	16 33 05.6	-1.8		
G08A	comp=Z,15µm,18.0s			LR		LR				
V45A	Humboldt baz=247	20.69	56	P		P	16 33 06.2	-1.1		
449A	Pace baz=262	20.78	71	P		P	16 33 07.5	-0.9		
T44A	Benton baz=243	20.79	52	P		P	16 33 07.9	-0.5		
I03D	Drain, OR baz=144,SNR=12	20.82	332	P		P	16 33 07.6	-1.1		
148A	Greensboro	20.83	66	P		P	16 33 08.2	-0.7		

baz=257
TEIG Tepich 20.88 101 *eP* Pn 16 33 11.5 -0.5
comp=Z,162nm,1.1s
TEIG LR LR
comp=Z,13µm,21.0s
349A Repton 20.89 69 P **P** **16 33 09.1 -0.5**
baz=261
HRY Holter Researc 20.89 357 *eP* **P** **16 33 08.1 -1.5**
W46A Michie 20.91 58 P **P** **16 33 08.4 -1.3**
baz=250
Y47A UCPARC, Winfie 20.93 62 P **P** **16 33 08.5 -1.4**
baz=253
BRAL Brewton 20.98 70 *eP* **P** **16 33 10.7 +0.1**
BRAL LR LR
comp=Z,8µm,19.0s
BRAL Brewton 20.98 70 P **P** **16 33 10.2 -0.3**
baz=261
ECSD EROS Data Cent 21.00 28 *eP* **P** **16 33 08.9 -1.8**
comp=Z,138nm,0.9s
ECSD LR LR
comp=Z,22µm,18.0s
ECSD EROS Data Cent 21.00 28 P **P** **16 33 08.8 -1.9**
baz=216
Z48A Northport 21.02 64 P **P** **16 33 09.9 -1.0**
baz=255
Q42A Golden Eagle 21.05 47 P **P** **16 33 09.9 -1.3**
baz=237
LAO LASA Array 21.06 8 *eP* **P** **16 33 09.0 -2.3**
comp=Z,264nm,1.4s
LAO LR LR
comp=Z,11µm,19.0s
LAO LASA Array 21.06 8 P **P** **16 33 09.4 -2.0**
baz=190
U45A Rockin P Farm, 21.07 55 P **P** **16 33 10.8 -0.7**
baz=246
PLAL Pickwick Lake 21.09 59 *eP* **P** **16 33 10.4 -1.3**
comp=Z,498nm,1.2s
PLAL LR LR
comp=Z,20µm,19.0s
SLM Saint Louis 21.10 48 *eP* **P** **16 33 10.5 -1.2**
comp=Z,272nm,1.0s
SLM LR LR
comp=Z,22µm,19.0s
SLM Saint Louis 21.10 48 *eP* **P** **16 33 10.5 -1.2**
SLM pmax pmax
comp=Z,272nm,1.0s
SLM MLR MLR
comp=Z,22µm,19.0s
X47A Russelville 21.11 60 P **P** **16 33 10.4 -1.4**
baz=252
R43A Red Bud 21.12 49 P **P** **16 33 10.3 -1.6**
baz=240
P41A Barry, Barry 21.13 44 P **P** **16 33 10.1 -1.9**
baz=235
G06A Carlson Farm, 21.13 339 *eP* **P** **16 33 10.4 -1.7**
comp=Z,140nm,1.4s
G06A LR LR
comp=Z,8µm,20.0s
MSO Missoula 21.18 353 *eP* **P** **16 33 10.7 -2.1**
comp=Z,214nm,1.4s
MSO LR LR
comp=Z,14µm,18.0s
MSO Missoula 21.18 353 P **P** **16 33 11.2 -1.5**
baz=170
H04A Detroit Lake 21.19 336 *eP* **P** **16 33 10.1 -2.6**
comp=Z,184nm,1.3s
H04A LR LR
comp=Z,12µm,19.0s
H04D Lebanon 21.26 335 P **P** **16 33 14.2 +0.8**
baz=147
SCIA State Center 21.28 37 *eP* **P** **16 33 12.2 -1.4**
comp=Z,401nm,1.1s
SCIA State Center 21.28 37 P **P** **16 33 12.3 -1.4**
baz=226
S44A Carbondale 21.30 51 P **P** **16 33 11.9 -2.0**
baz=242
450A Crestview 21.32 71 P **P** **16 33 13.8 -0.4**
baz=262
APG El Apazote 21.33 116 P **P** **16 33 14.8 +0.2**
comp=Z,160nm,1.1s,baz=317,slow=9.4,SNR=18
SIUC Southern Illin 21.34 51 *eP* **P** **16 33 12.3 -2.0**
comp=Z,504nm,0.9s
SIUC LR LR
comp=Z,6µm,18.0s
V46A Holladay 21.34 57 P **P** **16 33 12.7 -1.7**
baz=248
G05D Wamic, OR 21.36 338 P **P** **16 33 16.2 +1.6**
baz=151
I02D Swisshome 21.37 332 P **P** **16 33 15.9 +1.4**
baz=144
LRAL Lakeview Retre 21.39 65 *eP* **P** **16 33 13.3 -1.6**
comp=Z,248nm,1.2s
LRAL LR LR
comp=Z,13µm,18.0s
LRAL Lakeview Retre 21.39 65 P **P** **16 33 13.9 -1.0**
baz=256
T45A Paducah 21.44 53 *eP* **P** **16 33 14.2 -1.2**
comp=Z,420nm,0.9s
T45A LR LR
comp=Z,16µm,18.0s
T45A Paducah 21.44 53 P **P** **16 33 13.7 -1.7**
baz=245
149A Jones 21.46 66 P **P** **16 33 14.8 -0.9**
baz=258
Y48A Jasper 21.48 63 P **P** **16 33 14.6 -1.3**
baz=254
F07A Phinny Hill Vi 21.51 341 *eP* **P** **16 33 13.4 -2.7**
comp=Z,73nm,0.9s
F07A LR LR
comp=Z,6µm,20.0s
U46A Springville 21.51 55 P **P** **16 33 15.2 -1.0**
baz=247
N40A Mertquake, Sal 21.53 41 P **P** **16 33 14.3 -2.1**
baz=231
P42A Winchester 21.54 46 *eP* **P** **16 33 14.8 -1.6**
comp=Z,331nm,1.0s
P42A LR LR
comp=Z,7µm,20.0s
P42A Winchester 21.54 46 P **P** **16 33 14.5 -1.9**
baz=236
COR Corvallis 21.54 334 *eP* **P** **16 33 16.1 -0.3**
comp=Z,175nm,1.0s
COR LR LR
comp=Z,16µm,18.0s
COR Corvallis 21.54 334 *eP* **P** **16 33 16.1 -0.3**
COR pmax pmax
comp=Z,175nm,1.0s
COR MLR MLR
comp=Z,16µm,18.0s
W47A Westpoint 21.55 59 P **P** **16 33 15.1 -1.5**
baz=250
M39A Webster 21.57 39 P **P** **16 33 14.6 -2.2**
baz=229
Q43A New Douglas 21.61 48 P **P** **16 33 15.3 -1.9**
baz=239
E09A Wood Farm, Sta 21.61 345 *eP* **P** **16 33 14.0 -3.2**
comp=Z,178nm,1.6s
E09A LR LR
comp=Z,15µm,18.0s
350A Dozier 21.63 70 P **P** **16 33 16.5 -0.9**
baz=261
WVT Waverly 21.68 56 *eP* **P** **16 33 16.4 -1.6**
comp=Z,421nm,1.0s
WVT LR LR
comp=Z,15µm,18.0s
WVT Waverly 21.68 56 *eP* **P** **16 33 16.4 -1.6**
WVT pmax pmax
comp=Z,421nm,1.0s
WVT MLR MLR
comp=Z,15µm,18.0s
WVT Waverly 21.68 56 P **P** **16 33 16.5 -1.6**
baz=248
X48A Hartselle 21.73 61 *eP* **P** **16 33 16.4 -2.1**
comp=Z,790nm,1.8s
X48A LR LR
comp=Z,15µm,20.0s
X48A Hartselle 21.73 61 P **P** **16 33 16.5 -2.0**
baz=253
S45A Carrier Mills 21.77 52 P **P** **16 33 17.5 -1.5**
baz=243
250A Grady 21.78 68 *eP* **P** **16 33 18.6 -0.4**
comp=Z,1µm,1.2s
250A LR LR
comp=Z,4µm,20.0s
250A Grady 21.78 68 P **P** **16 33 18.4 -0.7**
baz=260
V47A Nunnelly 21.81 57 P **P** **16 33 17.4 -1.9**
baz=249
Z49A Columbiana 21.81 65 P **P** **16 33 18.0 -1.4**
baz=257
E08A Dider Farm, El 21.82 343 *eP* **P** **16 33 16.4 -2.9**
comp=Z,37nm,1.0s
E08A LR LR
comp=Z,8µm,19.0s
HAWA Hanford 21.85 342 *eP* **P** **16 33 16.8 -3.0**
comp=Z,64nm,0.9s
HAWA LR LR
comp=Z,8µm,22.0s
N41A Harden Midland 21.86 42 *eP* **P** **16 33 18.0 -2.0**
comp=Z,423nm,1.0s
N41A LR LR
comp=Z,4µm,22.0s
N41A Harden Midland 21.86 42 P **P** **16 33 17.3 -2.6**
baz=233
M40A Post Highland 21.90 40 P **P** **16 33 18.1 -2.3**
baz=230
F05D White Salmon 21.98 339 P **P** **16 33 19.6 -1.5**
baz=152
T46A Princeton 21.99 54 P **P** **16 33 20.4 -0.9**
baz=246
451A Vernon 22.02 72 *eP* **P** **16 33 20.7 -1.0**
comp=Z,1µm,1.4s
451A LR LR
comp=Z,9µm,21.0s
451A Vernon 22.02 72 P **P** **16 33 21.1 -0.6**
baz=264
W48A Pulaski 22.02 60 P **P** **16 33 19.8 -1.9**
baz=251
G03D McMinnville, O 22.04 335 P **P** **16 33 21.7 -0.1**
baz=147
O42A Bath 22.04 44 P **P** **16 33 21.5 -0.3**
baz=236
Q44A Meyer Farm, Va 22.05 49 *eP* **P** **16 33 20.6 -1.3**
comp=Z,516nm,0.9s
Q44A LR LR
comp=Z,16µm,18.0s
Q44A Meyer Farm, Va 22.05 49 P **P** **16 33 20.1 -1.8**
baz=240
Y49A Blount Mountai 22.07 63 *eP* **P** **16 33 20.3 -1.9**
comp=Z,254nm,1.1s
Y49A LR LR
comp=Z,10µm,18.0s
Y49A Blount Mountai 22.07 63 P **P** **16 33 20.5 -1.7**
baz=255
L39A Vinton 22.09 38 P **P** **16 33 21.8 -0.6**
baz=228
E07A Sunnyside 22.09 342 *eP* **P** **16 33 20.3 -2.1**
comp=Z,114nm,1.3s
E07A LR LR
comp=Z,14µm,20.0s
P43A Skaggs, Pawnee 22.10 46 P **P** **16 33 22.1 -0.4**
baz=238
150A Eclectic 22.10 67 P **P** **16 33 21.7 -0.8**
baz=258
EGMT Eagleton 22.17 1 *eP* **P** **16 33 21.2 -2.0**
comp=Z,160nm,1.0s
EGMT LR LR
comp=Z,8µm,21.0s
EGMT Eagleton 22.17 1 P **P** **16 33 21.5 -1.8**
baz=181
U47A Clarksville 22.20 56 P **P** **16 33 22.0 -1.6**
baz=248
351A Pinckard 22.22 70 P **P** **16 33 23.0 -0.9**
baz=262
R45A Skylar, Fairfi 22.26 51 P **P** **16 33 22.4 -1.8**
baz=242
V48A Smith Brothers 22.31 58 *eP* **P** **16 33 24.8 0.0**
comp=Z,474nm,1.1s
V48A LR LR
comp=Z,12µm,20.0s
V48A Smith Brothers 22.31 58 P **P** **16 33 22.0 -2.8**
baz=250
D08A Wollman Farm, 22.31 344 *eP* **P** **16 33 21.4 -3.3**
comp=Z,142nm,1.4s
D08A LR LR
comp=Z,6µm,20.0s
X49A Woodville 22.31 61 P **P** **16 33 23.0 -1.9**
baz=254
552A Lynn Haven 22.36 73 P **P** **16 33 24.6 -0.7**
baz=265
S46A Don Dixon Farm 22.39 53 P **P** **16 33 24.0 -1.7**
baz=245
N42A Yates City 22.44 43 P **P** **16 33 26.9 +0.8**
baz=234
L40A Anamosa 22.49 39 *eP* **P** **16 33 24.9 -1.7**
comp=Z,155nm,1.0s
L40A LR LR
comp=Z,4µm,18.0s
L40A Anamosa 22.49 39 P **P** **16 33 25.3 -1.3**
baz=230
251A Midway 22.51 68 P **P** **16 33 25.4 -1.6**
baz=260
452A Marianna 22.53 71 P **P** **16 33 26.3 -0.8**
baz=264
W49A Belvidere 22.54 60 P **P** **16 33 25.4 -1.9**
baz=252
K39A Oelwein 22.54 37 P **P** **16 33 25.1 -2.1**
baz=227
USIN University of 22.55 52 *eP* **P** **16 33 26.3 -1.0**
USIN LR LR
comp=Z,17µm,18.0s
T47A Sharon Grove 22.55 55 *eP* **P** **16 33 26.2 -1.1**
comp=Z,163nm,1.1s
T47A LR LR
comp=Z,9µm,19.0s
O43A Sugar Creek Fa 22.58 45 P **P** **16 33 25.6 -2.0**
baz=237
OLIL Olney 22.59 50 *eP* **P** **16 33 26.1 -1.6**
comp=Z,594nm,1.1s
OLIL LR LR
comp=Z,21µm,18.0s
P44A Sand Creek, Wi 22.60 48 P **P** **16 33 25.8 -2.0**
baz=239
Y50A Piedmont 22.62 63 P **P** **16 33 26.1 -2.0**
baz=256
Q45A Warren Harvey, 22.63 49 P **P** **16 33 26.5 -1.6**
baz=241
151A Opelika 22.66 67 P **P** **16 33 26.8 -1.7**
baz=259
F04D Rainier, OR 22.69 336 P **P** **16 33 28.6 0.0**
baz=149
HDIL Hopedale 22.74 45 P **P** **16 33 27.9 -1.5**
baz=236
R46A Gibon Southern 22.77 52 P **P** **16 33 27.6 -2.0**
baz=244
U48A Cassie Pea, Po 22.79 56 P **P** **16 33 28.0 -1.9**
baz=249
352A Blakely 22.82 70 *eP* **P** **16 33 28.1 -2.2**
comp=Z,527nm,1.1s
352A LR LR
comp=Z,1µm,18.0s
352A Blakely 22.82 70 P **P** **16 33 28.9 -1.4**
baz=262
SWET Sewanee 22.83 60 *eP* **P** **16 33 28.6 -1.8**
comp=Z,1µm,1.5s
SWET LR LR
comp=Z,19µm,19.0s
X50B Fort Payne 22.84 62 P **P** **16 33 27.7 -2.8**
baz=254
LON Longmire 22.86 339 *eP* **P** **16 33 28.2 -2.3**
comp=Z,170nm,1.0s
LON LR LR
comp=Z,7µm,21.0s
LON Longmire 22.86 339 *eP* **P** **16 33 28.2 -2.3**
LON pmax pmax
comp=Z,170nm,1.0s
LON MLR MLR
comp=Z,7µm,21.0s
C09A Chrisman Ranch 22.86 346 *eP* **P** **16 33 27.7 -2.8**
comp=Z,33nm,0.9s
C09A LR LR
comp=Z,18µm,18.0s
E04D Cinebar 22.94 338 P **P** **16 33 29.3 -2.0**
baz=150
Z51A Franklin 22.94 65 P **P** **16 33 29.5 -2.0**
baz=258
K40A Colesburg 22.95 38 P **P** **16 33 29.4 -2.1**
baz=229
S47A Hartford 22.96 54 P **P** **16 33 29.7 -1.9**
baz=246
LTY Liberty 22.96 341 *eP* **P** **16 33 27.9 -3.8**
comp=Z,108nm,1.4s
LTY LR LR
comp=Z,10µm,18.0s
V49A McMinnville 23.02 59 P **P** **16 33 30.2 -2.1**
baz=251
N43A Stutzman Famil 23.04 44 P **P** **16 33 30.2 -2.1**
baz=236
O44A Mansfield 23.06 46 P **P** **16 33 30.1 -2.5**
baz=238
252A Lumpkin 23.06 69 P **P** **16 33 31.1 -1.7**
baz=261
NEW Newport 23.07 348 P **P** **16 33 30.0 -2.7**
comp=Z,9.1nm,0.9s,baz=167,slow=10,SNR=22
NEW PcP **PcP** **16 37 21.9 +0.4**
NEW LR LR 16 42 57.8
comp=Z,13µm,18.8s,baz=168,slow=38
NEW Newport 23.07 348 *eP* **P** **16 33 29.5 -3.2**
comp=Z,79nm,1.0s
NEW PcP **PcP** **16 37 21.9 +0.4**
NEW Newport 23.07 348 *eP* **P** **16 33 29.5 -3.2**
NEW 16 37 21.9
NEW pmax pmax
comp=Z,79nm,1.0s
NEW Newport 23.07 348 P **P** **16 33 30.0 -2.7**
baz=164
J39A Decorah 23.07 36 P **P** **16 33 32.5 -0.2**
baz=227
DGMT Dagmar 23.09 10 *eP* **P** **16 33 29.4 -3.5**
comp=Z,246nm,1.3s
DGMT LR LR
comp=Z,16µm,19.0s
DGMT Dagmar 23.09 10 P **P** **16 33 30.2 -2.7**
baz=194
553A Crawfordville 23.11 73 P **P** **16 33 31.7 -1.5**
baz=266
T48A Bowling Green 23.12 55 P **P** **16 33 31.3 -2.0**
baz=248
Y51A Rockmart 23.16 64 P **P** **16 33 31.8 -2.0**
baz=256
152A Waverly Hall 23.19 67 *eP* **P** **16 33 31.7 -2.3**
comp=Z,273nm,1.1s
152A LR LR
comp=Z,23µm,19.0s
152A Waverly Hall 23.19 67 P **P** **16 33 32.5 -1.5**
baz=260
P45A Graceland, Par 23.22 48 *eP* **P** **16 33 31.7 -2.5**
comp=Z,199nm,1.0s
P45A LR LR
comp=Z,20µm,18.0s
P45A Graceland, Par 23.22 48 P **P** **16 33 32.4 -1.9**
baz=241
Q46A CEJHS Indians, 23.24 50 P **P** **16 33 32.5 -2.0**
baz=242
453A Whigham 23.27 72 *eP* **P** **16 33 34.0 -0.8**
comp=Z,796nm,1.4s
453A LR LR
comp=Z,8µm,21.0s
453A Whigham 23.27 72 P **P** **16 33 33.6 -1.2**
baz=264
D05A Enumclaw 23.30 339 *eP* **P** **16 33 33.2 -1.8**
comp=Z,533nm,1.4s
D05A LR LR
comp=Z,7µm,19.0s
W50A Signal Mountai 23.31 60 *eP* **P** **16 33 32.4 -2.9**
comp=Z,474nm,1.3s
W50A LR LR
comp=Z,19µm,20.0s
W50A Signal Mountai 23.31 60 P **P** **16 33 33.0 -2.2**
baz=253
L42A Oliver, Polo 23.36 41 *eP* **P** **16 33 32.1 -3.5**
comp=Z,214nm,0.9s
L42A Oliver, Polo 23.36 41 P **P** **16 33 33.8 -1.8**
baz=233
K41A Shullsburg 23.36 39 P **P** **16 33 34.3 -1.3**
baz=230
U49A Red Boiling Sp 23.36 57 P **P** **16 33 33.6 -2.2**
baz=250
WALA Waterton Lakes 23.39 354 *eP* **P** **16 33 32.6 -3.3**
comp=Z,127nm,1.2s
353A Camilla 23.41 70 P **P** **16 33 34.8 -1.4**
baz=263
M43A Waltham Townsh 23.45 43 P **P** **16 33 33.3 -3.2**
baz=235
X51A Calhoun 23.50 62 *eP* **P** **16 33 34.5 -2.5**
comp=Z,410nm,1.2s
X51A LR LR
comp=Z,16µm,19.0s
X51A Calhoun 23.50 62 P **P** **16 33 35.2 -1.8**
baz=255
R47A Wooly Knot Far 23.50 52 P **P** **16 33 35.3 -1.8**
baz=245
MDND Maddock 23.51 18 *eP* **P** **16 33 34.6 -2.5**
comp=Z,231nm,1.1s
MDND LR LR
comp=Z,10µm,19.0s
MDND Maddock 23.51 18 P **P** **16 33 33.9 -3.2**
baz=204
I39A Houston 23.52 35 *eP* **P** **16 33 35.0 -2.2**
I39A LR LR
comp=Z,900nm,18.0s
I39A Houston 23.52 35 P **P** **16 33 35.1 -2.2**
baz=226
Z52A Williamson 23.54 66 P **P** **16 33 36.0 -1.5**
baz=259
D04E Lakebay 23.55 338 P **P** **16 33 35.8 -1.6**
baz=150
S48A Wiedeman Farm, 23.58 54 P **P** **16 33 36.1 -1.7**
baz=247
253A Americus 23.58 69 PFAKE 16 33 50.0 +12
253A LR LR
comp=Z,5µm,18.0s
253A Americus 23.58 69 P **P** **16 33 36.1 -1.8**
baz=261
JFWS Jewell Farm 23.59 39 *eP* **P** **16 33 35.8 -2.1**
comp=Z,163nm,1.1s
JFWS LR LR
comp=Z,10µm,20.0s
JFWS Jewell Farm 23.59 39 *eP* **P** **16 33 35.8 -2.1**
JFWS pmax pmax
comp=Z,163nm,1.1s
JFWS MLR MLR
comp=Z,10µm,20.0s
JFWS Jewell Farm 23.59 39 P **P** **16 33 36.1 -1.8**
baz=230
V50A Pikevile 23.61 59 P **P** **16 33 35.8 -2.4**
baz=252
N44A Piper City 23.61 45 P **P** **16 33 35.8 -2.4**
baz=238
B08A Colville Reser 23.62 345 *eP* **P** **16 33 34.9 -3.3**
comp=Z,101nm,1.2s
B08A LR LR
comp=Z,10µm,18.0s
P46A Rosedale 23.63 49 P **P** **16 33 36.4 -1.8**
baz=241
C06D Leavenworth 23.63 342 P **P** **16 33 36.1 -2.2**
baz=155
J40A Soldiers Grove 23.63 37 P **P** **16 33 38.0 -0.3**
baz=228
WCI Wyandotte Cave 23.64 53 *eP* **P** **16 33 36.3 -2.1**
comp=Z,189nm,1.0s
WCI LR LR
comp=Z,6µm,22.0s
WCI Wyandotte Cave 23.64 53 *eP* **P** **16 33 36.3 -2.1**
WCI pmax pmax
comp=Z,189nm,1.0s
WCI MLR MLR
comp=Z,6µm,22.0s
WCI Wyandotte Cave 23.64 53 P **P** **16 33 37.0 -1.4**
baz=245
H38A Maiden Rock 23.72 33 P **P** **16 33 37.6 -1.6**
baz=223
W51A Cleveland 23.73 61 P **P** **16 33 37.5 -1.9**
baz=254
T49A Edmonton 23.76 56 *eP* **P** **16 33 37.0 -2.7**
comp=Z,285nm,1.1s
T49A LR LR
comp=Z,11µm,18.0s
T49A Edmonton 23.76 56 P **P** **16 33 38.1 -1.5**
baz=249
454A Quitman 23.84 72 P **P** **16 33 39.2 -1.3**
baz=265
Q47A Bedord North L 23.85 51 P **P** **16 33 38.7 -1.7**
baz=244
SPMN Marine on St. 23.88 31 *eP* **P** **16 33 38.5 -2.2**
comp=Z,119nm,1.0s
SPMN LR LR
comp=Z,800nm,19.0s
SPMN Marine on St. 23.88 31 P **P** **16 33 38.6 -2.0**
baz=222
BLO Bloomington 23.89 50 *eP* **P** **16 33 38.8 -2.0**
comp=Z,365nm,1.0s

BLO LR LR
comp=Z,31µm,18.0s
BLO Bloomington 23.89 50 *eP* **P 16 33 38.8 -2.0**
BLO pmax pmax
comp=Z,365nm,1.0s
BLO MLR MLR
comp=Z,31µm,18.0s
153A Fort Valley 23.92 67 P **P 16 33 39.2 -2.1**
baz=260
TIGA Tifton 23.95 70 *eP* **P 16 33 39.1 -2.4**
comp=Z,370nm,1.3s
TIGA LR LR
comp=Z,7µm,18.0s
TIGA Tifton 23.95 70 P **P 16 33 39.9 -1.6**
baz=263
D03D Eldon 23.96 338 P **P 16 33 38.9 -2.6**
baz=150
Y52A Lilburn 23.97 64 *eP* **P 16 33 39.7 -1.9**
comp=Z,406nm,1.3s
Y52A LR LR
comp=Z,15µm,20.0s
Y52A Lilburn 23.97 64 P **P 16 33 39.6 -1.9**
baz=258
M44A Midewin, Midew 23.99 44 *eP* **P 16 33 39.9 -1.9**
comp=Z,270nm,1.1s
M44A LR LR
comp=Z,1µm,22.0s
M44A Midewin, Midew 23.99 44 P **P 16 33 39.8 -2.0**
baz=236
CPCT Cooper Cave 24.00 60 *eP* **P 16 33 39.3 -2.6**
comp=Z,280nm,1.2s
CPCT LR LR
comp=Z,20µm,18.0s
J41A Loganville 24.01 38 P **P 16 33 41.6 -0.3**
baz=230
R48A Northridge Ran 24.01 53 P **P 16 33 40.5 -1.5**
baz=246
L43A Garden Prairie 24.02 42 P **P 16 33 39.7 -2.2**
baz=234
K42A Prairie Point, 24.02 40 P **P 16 33 41.5 -0.5**
baz=232
I40A Norwalk 24.03 36 P **P 16 33 42.2 +0.1**
baz=228
N45A Kentland 24.04 46 P **P 16 33 40.8 -1.5**
baz=238
U50A Jamestown 24.04 58 P **P 16 33 39.9 -2.4**
baz=251
SFIN Lafayette 24.07 47 *eP* **P 16 33 40.7 -1.8**
comp=Z,268nm,0.9s
SFIN LR LR
comp=Z,16µm,22.0s
SFIN Lafayette 24.07 47 P **P 16 33 41.2 -1.3**
baz=240
655A Horseshoe Beac 24.09 75 P **P 16 33 42.0 -0.8**
baz=268
NLWA Neilton Lookou 24.11 337 *eP* **P 16 33 40.8 -2.1**
comp=Z,105nm,1.4s
NLWA LR LR
comp=Z,19µm,19.0s
S49A Springfield 24.19 54 P **P 16 33 41.9 -1.8**
baz=248
P47A Martinsville 24.20 50 P **P 16 33 42.4 -1.4**
baz=243
H39A Augusta 24.22 34 P **P 16 33 45.0 +1.1**
baz=225
V51A Loudon 24.23 60 *eP* **P 16 33 42.2 -1.9**
comp=Z,334nm,1.0s
V51A LR LR
comp=Z,15µm,20.0s
V51A Loudon 24.23 60 P **P 16 33 42.2 -1.9**
baz=253
T50A Nancy 24.25 56 P **P 16 33 42.0 -2.2**
baz=250
Z53A Monticello 24.25 66 P **P 16 33 42.0 -2.3**
baz=259
254A Abbeville 24.27 69 P **P 16 33 42.8 -1.6**
baz=262
X52A Dahlonega 24.27 63 P **P 16 33 42.8 -1.7**
baz=256
G38A Ridgeland 24.29 33 P **P 16 33 44.9 +0.4**
baz=223
B05A Bryant 24.29 340 P **P 16 33 42.2 -2.2**
baz=153
F37A Hinrichs Farm, 24.33 31 P **P 16 33 43.1 -1.8**
baz=221
Q48A North Vernon 24.34 52 P **P 16 33 44.1 -0.8**
baz=245
B06A Marblemount 24.34 342 *eP* **P 16 33 42.4 -2.4**
comp=Z,29nm,0.9s
B06A LR LR
comp=Z,9µm,18.0s
Y53A Monroe 24.36 65 P **P 16 33 43.4 -1.8**
baz=258
GOGA Godfrey 24.36 66 *eP* **P 16 33 42.5 -2.8**
comp=Z,207nm,1.3s
GOGA LR LR
comp=Z,12µm,18.0s
GOGA Godfrey 24.36 66 *eP* **P 16 33 42.5 -2.8**
GOGA pmax pmax
comp=Z,207nm,1.3s
GOGA MLR MLR
comp=Z,12µm,18.0s
GOGA Godfrey 24.36 66 P **P 16 33 43.3 -1.9**
baz=259
455A Stateville 24.36 72 P **P 16 33 44.1 -1.2**
baz=265
555A McAlpin 24.37 74 *eP* **P 16 33 43.2 -2.2**
comp=Z,1µm,1.4s
555A LR LR
comp=Z,3µm,18.0s
555A McAlpin 24.37 74 P **P 16 33 43.9 -1.5**
baz=267
W52A Murphy 24.37 61 *eP* **P 16 33 42.6 -2.8**
comp=Z,153nm,1.1s
W52A LR LR
comp=Z,17µm,20.0s
W52A Murphy 24.37 61 P **P 16 33 43.3 -2.1**
baz=255
R49A Shelbyville 24.47 53 P **P 16 33 44.3 -1.9**
baz=247
M45A Boilermakers S 24.49 45 P **P 16 33 45.3 -1.1**
baz=238
154A Montrose 24.52 68 PFAKE 16 34 00.0 +13
154A LR LR
comp=Z,13µm,18.0s
154A Montrose 24.52 68 P **P 16 33 44.8 -2.0**
baz=261
I41A Arkdale 24.54 37 *eP* **P 16 33 45.9 -0.9**
comp=Z,222nm,1.1s
I41A LR LR
comp=Z,1µm,18.0s
I41A Arkdale 24.54 37 P **P 16 33 46.2 -0.6**
baz=229
K43A Burlington 24.57 41 *eP* **P 16 33 47.0 0.0**
comp=Z,164nm,0.9s
K43A LR LR
comp=Z,19µm,18.0s
355A Pearson 24.57 71 P **P 16 33 45.4 -1.8**
baz=264
O47A Sheridan 24.62 48 P **P 16 33 47.6 0.0**
baz=242
H40A Chili 24.64 35 P **P 16 33 46.9 -0.8**
baz=227
TKL Tuckaleechee C 24.64 60 P **P 16 33 47.1 -0.7**
comp=Z,130nm,1.1s,baz=219,slow=10,SNR=11
TKL LR LR 16 44 23.6
comp=Z,15µm,19.2s,baz=254,slow=39
TKL Tuckaleechee C 24.64 60 *eP* **P 16 33 46.2 -1.6**
comp=Z,294nm,1.1s
TKL Tuckaleechee C 24.64 60 *eP* **P 16 33 46.2 -1.6**
TKL pmax pmax
comp=Z,294nm,1.1s
U51A La Follette 24.66 58 P **P 16 33 46.2 -1.9**
baz=252
G39A Holcombe 24.71 33 P **P 16 33 47.9 -0.4**
baz=224
656A Willston 24.71 75 PFAKE 16 34 00.0 +12
656A LR LR
comp=Z,7µm,21.0s
X53A Estanollee 24.73 63 P **P 16 33 47.5 -1.0**
baz=257
P48A Milroy 24.78 51 P **P 16 33 47.4 -1.6**
baz=244
S50A Richmond 24.81 55 P **P 16 33 47.5 -1.8**
baz=249
V52A Sevierville 24.83 60 *eP* **P 16 33 48.3 -1.3**
comp=Z,225nm,1.0s
V52A LR LR
comp=Z,16µm,18.0s
V52A Sevierville 24.83 60 P **P 16 33 47.6 -1.9**
baz=254
Z54A Sparta 24.84 66 P **P 16 33 47.5 -2.2**
baz=260
556A Lake Butler 24.85 74 P **P 16 33 48.3 -1.4**
baz=267
F38A Pierce - Schro 24.86 31 P **P 16 33 48.9 -0.7**
baz=222
A04D Lummi Island 24.88 340 P **P 16 33 48.6 -1.1**
baz=152,SNR=13
J43A Natural Harves 24.92 40 P **P 16 33 49.5 -0.7**
baz=232
255A Hazlehurst 24.95 69 *eP* **P 16 33 49.8 -0.9**
comp=Z,319nm,1.3s
255A LR LR
comp=Z,2µm,22.0s
255A Hazlehurst 24.95 69 P **P 16 33 48.7 -1.9**
baz=263
Q49A Aurora 24.96 52 P **P 16 33 51.3 +0.7**
baz=246
I42A Draeger Farm, 24.96 38 *eP* **P 16 33 49.8 -0.8**
comp=Z,120nm,1.0s
I42A LR LR
comp=Z,13µm,18.0s
I42A Draeger Farm, 24.96 38 P **P 16 33 49.7 -0.8**
baz=231
857A Zephyrhills 24.97 78 P **P 16 33 50.4 -0.4**
baz=271
957A Wimauma 24.98 80 PFAKE 16 34 00.0 +9.1
957A LR LR
comp=Z,5µm,20.0s
W53A Cullowhee 25.00 62 P **P 16 33 49.7 -1.5**
baz=256
H41A Junction City 25.03 36 *eP* **P 16 33 50.1 -1.1**
comp=Z,96nm,1.0s
H41A LR LR
comp=Z,8µm,19.0s
H41A Junction City 25.03 36 P **P 16 33 49.3 -1.8**
baz=228
PGC Sidney 25.05 339 *eP* **P 16 33 51.5 +0.1**
comp=Z,138nm,1.4s
PGC LR LR
comp=Z,14µm,19.0s
155A Kite 25.06 68 P **P 16 33 50.0 -1.6**
baz=262
TZTN Tazewell 25.07 58 *eP* **P 16 33 50.7 -1.0**
comp=Z,132nm,1.0s
TZTN LR LR
comp=Z,7µm,19.0s
TZTN Tazewell 25.07 58 P **P 16 33 51.2 -0.5**
baz=252
M46A Old House Fiel 25.08 46 *eP* **P 16 33 51.5 -0.2**
comp=Z,297nm,1.1s
M46A LR LR
comp=Z,27µm,18.0s
Y54A Tignall 25.09 65 P **P 16 33 50.9 -0.9**
baz=259
AGMN Agassiz Nation 25.09 23 *eP* **P 16 33 49.9 -1.8**
comp=Z,65nm,0.8s
AGMN LR LR
comp=Z,6µm,18.0s
AGMN Agassiz Nation 25.09 23 P **P 16 33 51.9 +0.2**
baz=212
757A Oxford 25.11 77 P **P 16 33 50.6 -1.5**
baz=270
BG3 Lake Jocassee 25.14 62 *eP* **P 16 33 50.2 -2.0**
comp=Z,275nm,1.1s
BG3 LR LR
comp=Z,21µm,19.0s
U52A Thorn Hill 25.17 59 P **P 16 33 51.5 -1.1**
baz=253
G40A Rib Lake 25.18 35 *eP* **P 16 33 54.7 +2.1**
comp=Z,96nm,0.9s
G40A LR LR
comp=Z,2µm,18.0s
356A Blackshear 25.18 71 P **P 16 33 51.2 -1.5**
baz=265
456A Hilliard 25.22 72 *eP* **P 16 33 59.2 +6.1**
comp=Z,334nm,1.1s
456A LR LR
comp=Z,6µm,18.0s
456A Hilliard 25.22 72 P **P 16 33 51.7 -1.3**
baz=266
N47A Urbana 25.25 47 P **P 16 33 51.8 -1.4**
baz=241
F39A Loretta 25.28 33 P **P 16 33 52.0 -1.5**
baz=224
657A Interlachen 25.30 75 P **P 16 33 52.4 -1.3**
baz=268
S51A Beattyville 25.39 56 *eP* **P 16 33 53.0 -1.6**
comp=Z,352nm,1.4s
S51A LR LR
comp=Z,23µm,18.0s
058A Arcadia 25.40 81 P **P 16 33 53.5 -1.1**
baz=274
V53A Saluda 25.40 61 *eP* **P 16 33 53.8 -0.9**
comp=Z,241nm,1.1s
V53A LR LR
comp=Z,20µm,18.0s
V53A Saluda 25.40 61 P **P 16 33 54.6 -0.1**
baz=255
958A Wauchula 25.41 80 P **P 16 33 54.0 -0.8**
baz=273
Z55A Blythe 25.43 67 P **P 16 33 54.5 -0.4**
baz=261
L46A Eue Claire 25.43 45 P **P 16 33 55.2 +0.4**
baz=238
557A Orange Park 25.44 74 P **P 16 33 53.9 -1.1**
baz=268
256A Glennville 25.46 69 P **P 16 33 54.1 -1.1**
baz=263
E38A The Farm, Brul 25.49 31 *eP* **P 16 33 53.4 -1.9**
comp=Z,74nm,1.2s
E38A LR LR
comp=Z,14µm,20.0s
E38A The Farm, Brul 25.49 31 P **P 16 33 55.0 -0.3**
baz=222
HODGE Hodges 25.51 64 *eP* **P 16 33 53.4 -2.2**
comp=Z,144nm,0.9s
HODGE LR LR
comp=Z,13µm,21.0s
M47A Cromwell 25.53 46 P **P 16 33 56.1 +0.3**
baz=240
H42A Shiocton 25.57 38 *eP* **P 16 33 54.5 -1.5**
comp=Z,92nm,1.0s
H42A LR LR
comp=Z,12µm,19.0s
457A Yulee 25.62 73 P **P 16 33 55.8 -0.8**
baz=266
R51A Hillsboro 25.63 54 P **P 16 33 56.7 0.0**
baz=249
DWPF Disney Wildern 25.68 78 *eP* **P 16 33 53.7 -3.5**
comp=Z,532nm,1.0s
DWPF LR LR
comp=Z,7µm,20.0s
N48A Decatur 25.68 48 P **P 16 33 56.1 -1.0**
baz=242
ESTN Estel 25.70 115 PFAKE 16 34 10.0 +12
ESTN LR LR
comp=Z,7µm,19.0s
U53A Fall Branch 25.77 59 P **P 16 33 57.7 -0.4**
baz=254
E39A Mellen 25.79 32 P **P 16 34 00.0 +1.9**
baz=224
658A Bunnell 25.83 75 *eP* **P 16 33 56.1 -2.4**
comp=Z,584nm,1.2s
658A LR LR
comp=Z,6µm,22.0s
658A Bunnell 25.83 75 P **P 16 33 57.7 -0.9**
baz=269
O49A Covington 25.85 50 *eP* **P 16 33 56.7 -2.0**
comp=Z,156nm,1.1s
O49A LR LR
comp=Z,11µm,20.0s
O49A Covington 25.85 50 P **P 16 34 00.7 +2.0**
baz=244
156A Sylvania 25.87 68 P **P 16 34 02.0 +3.0**
baz=262
H43A Windswept, Lux 25.96 39 PFAKE 16 34 10.0 +10
H43A LR LR
comp=Z,7µm,21.0s
PAULI Pauline 25.99 63 *eP* **P 16 33 58.6 -1.4**
comp=Z,155nm,1.0s
PAULI LR LR
comp=Z,21µm,19.0s
059A Moore Haven 25.99 81 P **P 16 33 58.8 -1.3**
baz=274
F41A Three Lakes 26.07 35 *eP* **P 16 33 58.1 -2.5**
comp=Z,94nm,1.0s
F41A LR LR
comp=Z,8µm,22.0s
F41A Three Lakes 26.07 35 P **P 16 34 02.0 +1.4**
baz=227
Q51A Peebles 26.07 53 *eP* **P 16 33 58.9 -1.8**
comp=Z,301nm,1.0s
Q51A LR LR
comp=Z,21µm,18.0s
Q51A Peebles 26.07 53 P **P 16 33 59.0 -1.8**
baz=248
G42A Mountain 26.09 36 *eP* **P 16 33 58.8 -2.1**
comp=Z,104nm,1.0s
G42A LR LR
comp=Z,2µm,18.0s
K46A Dorr 26.11 44 P **P 16 34 03.2 +2.2**
baz=238
859A Kempfer Cattle 26.15 79 P **P 16 34 03.6 +2.0**
baz=272
E40A Wakefield 26.16 33 P **P 16 34 05.1 +3.7**
baz=225
257A Skidaway Islan 26.18 70 PFAKE 16 34 10.0 +8.2
257A LR LR
comp=Z,14µm,19.0s
M48A Edgerton 26.19 47 PFAKE 16 34 10.0 +8.3
M48A LR LR
comp=Z,8µm,19.0s
N49A Columbus Grove 26.28 49 *eP* **P 16 34 01.4 -1.1**
comp=Z,118nm,1.0s
N49A LR LR
comp=Z,26µm,19.0s
N49A Columbus Grove 26.28 49 P **P 16 34 04.3 +1.8**
baz=243
061Z Ochoppi 26.30 83 *eP* **P 16 34 01.5 -1.5**
comp=Z,449nm,1.1s
061Z Ochoppi 26.30 83 P **P 16 34 03.4 +0.5**
baz=276
O50A Cable 26.33 51 P **P 16 34 05.7 +2.6**
baz=245
JSC Jenkinsville 26.33 64 *eP* **P 16 34 01.5 -1.6**
comp=Z,95nm,1.1s
JSC LR LR
comp=Z,16µm,18.0s
JSC Jenkinsville 26.33 64 *eP* **P 16 34 01.5 -1.6**
JSC pmax pmax
comp=Z,95nm,1.1s
JSC MLR MLR
comp=Z,16µm,18.0s
KMSC Kings Mountain 26.45 63 *eP* **P 16 34 02.7 -1.4**
comp=Z,146nm,1.1s
KMSC LR LR
comp=Z,18µm,22.0s
KMSC Kings Mountain 26.45 63 P **P 16 34 06.9 +2.8**
baz=257
P51A Williamsport 26.45 52 *eP* **P 16 34 02.7 -1.5**
comp=Z,138nm,0.9s
P51A LR LR
comp=Z,24µm,22.0s
P51A Williamsport 26.45 52 P **P 16 34 06.6 +2.5**
baz=247
G43A Wallace 26.50 37 *eP* **P 16 34 02.5 -2.0**
comp=Z,82nm,1.1s
G43A LR LR
comp=Z,4µm,18.0s
G43A Wallace 26.50 37 P **P 16 34 07.6 +3.1**
baz=230
EYMN Ely 26.52 29 *eP* **P 16 34 02.7 -2.0**
comp=Z,66nm,0.9s
EYMN LR LR
comp=Z,13µm,19.0s
EYMN Ely 26.52 29 P **P 16 34 06.0 +1.3**
baz=220
J46A Howard City 26.55 43 P **P 16 34 07.4 +2.4**
baz=237
L48A N Adams 26.59 46 P **P 16 34 05.6 +0.2**
baz=241
K47A Vermontville 26.59 44 P **P 16 34 08.3 +2.9**
baz=239
E41A Kenton 26.63 34 P **P 16 34 09.1 +3.4**
baz=226
M49A Liberty Center 26.67 48 P **P 16 34 09.4 +3.3**
baz=242
ULM Lac du Bonnet 26.77 21 P **P 16 34 05.8 -1.0**
comp=Z,9.2nm,0.7s,baz=208,slow=12,SNR=10
ULM PcP **PcP 16 37 30.3 +0.7**
comp=Z,7.6nm,0.9s,baz=193,slow=2.6,SNR=4.3
ULM LR LR 16 46 04.2
comp=Z,3µm,21.5s,baz=208,slow=40
ULM Lac du Bonnet 26.77 21 *eP* **P 16 34 05.0 -1.8**
comp=Z,59nm,1.0s
ULM PcP **PcP 16 37 30.3 +0.7**
ULM Lac du Bonnet 26.77 21 *eP* **P 16 34 05.0 -1.8**
ULM 16 37 30.3
ULM pmax pmax
comp=Z,59nm,1.0s
ACSO Alum Creek Sta 26.81 51 *eP* **P 16 34 05.5 -1.9**
ACSO LR LR
comp=Z,12µm,18.0s
ACSO Alum Creek Sta 26.81 51 P **P 16 34 10.8 +3.5**
baz=246
Q52A Bidwell 26.83 54 P **P 16 34 10.9 +3.3**
baz=249
N50A Nevada 26.92 50 P **P 16 34 11.1 +2.8**
baz=245
RGRS Roger Stewart 26.99 68 *eP* **P 16 34 08.8 -0.3**
comp=Z,1µm,0.8s
I46A Reed City 27.00 42 P **P 16 34 11.6 +2.6**
baz=236
J47A Sunmer 27.00 44 P **P 16 34 11.3 +2.2**
baz=238
NHSC New Hope 27.03 67 *eP* **P 16 34 08.9 -0.5**
comp=Z,352nm,1.1s
NHSC LR LR
comp=Z,12µm,20.0s
NHSC New Hope 27.03 67 P **P 16 34 13.7 +4.2**
baz=262
O51A Pataskala 27.04 51 P **P 16 34 12.5 +3.1**
baz=246
L49A Milan 27.11 47 P **P 16 34 12.8 +2.8**
baz=242
P52A Corning 27.18 53 P **P 16 34 13.6 +2.9**
baz=248
K48A Perry 27.22 45 P **P 16 34 14.4 +3.4**
baz=240
D41A Chassel 27.24 33 PFAKE 16 34 20.0 +8.8
D41A LR LR
comp=Z,10µm,18.0s
D41A Chassel 27.24 33 P **P 16 34 15.0 +3.8**
baz=226
M50A Fremont 27.27 48 *eP* **P 16 34 10.0 -1.4**
comp=Z,150nm,1.0s
M50A LR LR
comp=Z,20µm,21.0s
M50A Fremont 27.27 48 P **P 16 34 14.9 +3.5**
baz=244
AAM Ann Arbor 27.27 46 *eP* **P 16 34 10.1 -1.4**
comp=Z,108nm,1.1s
AAM LR LR
comp=Z,2µm,18.0s
AAM Ann Arbor 27.27 46 *eP* **P 16 34 10.1 -1.4**
AAM pmax pmax
comp=Z,107nm,1.1s
AAM MLR MLR
comp=Z,2µm,18.0s
AAM Ann Arbor 27.27 46 P **P 16 34 14.7 +3.2**
baz=241
H46A Fife Lake 27.48 41 P **P 16 34 16.4 +3.0**
baz=235
FSCY Frank Sound, G 27.49 98 *eP* **P 16 34 12.6 -1.1**
comp=Z,514nm,1.1s
G45A Suttons Bay 27.51 40 P **P 16 34 16.5 +2.9**
baz=234
N51A Ashland 27.51 50 *eP* **P 16 34 13.5 -0.2**
comp=Z,98nm,1.0s
N51A LR LR
comp=Z,28µm,18.0s
N51A Ashland 27.51 50 P **P 16 34 16.9 +3.2**
baz=245
C40A Isle Royale Na 27.56 31 PFAKE 16 34 20.0 +6.0
C40A LR LR
comp=Z,1µm,19.0s
O52A Adamsville 27.57 52 *eP* **P 16 34 12.2 -2.0**
comp=Z,67nm,0.9s
O52A LR LR
comp=Z,4µm,18.0s
O52A Adamsville 27.57 52 P **P 16 34 17.0 +2.8**
baz=248

E43A	**Lone Tree Farm**	**27.59**	**36**	*eP*	**P**	**16 34 12.5**	**-1.8**
	comp=Z,77nm,1.0s						
E43A				LR	LR		
	comp=Z,12µm,18.0s						
I47A	**Gladwin**	**27.61**	**42**	P	**P**	**16 34 18.1**	**+3.6**
	baz=237						
K49A	**Clarkson**	**27.64**	**45**	P	**P**	**16 34 18.1**	**+3.3**
	baz=241						
P53A	**Whipple**	**27.66**	**53**	*eP*	**P**	**16 34 17.8**	**+2.8**
	comp=Z,147nm,1.3s						
P53A				LR	LR		
	comp=Z,17µm,18.0s						
P53A	**Whipple**	**27.66**	**53**	P	**P**	**16 34 18.2**	**+3.2**
	baz=249						
BLA	**Blacksburg**	**27.67**	**59**	*eP*	**P**	**16 34 13.7**	**-1.5**
	comp=Z,199nm,1.0s						
BLA				LR	LR		
	comp=Z,6µm,20.0s						
BLA	**Blacksburg**	**27.67**	**59**	*eP*	**P**	**16 34 13.7**	**-1.5**
BLA				pmax	pmax		
	comp=Z,199nm,1.0s						
BLA				MLR	MLR		
	comp=Z,6µm,20.0s						
L50A	**Kingsville**	**27.71**	**47**	P	**P**	**16 34 18.8**	**+3.4**
	baz=243						
M51A	**Elyria**	**27.82**	**49**	P	**P**	**16 34 20.0**	**+3.6**
	baz=245						
ESPN	**Las Esperanzas**	**27.88**	**114**	PFAKE		16 34 30.0	+13
ESPN				LR	LR		
	comp=Z,7µm,20.0s						
F45A	**CMU Biological**	**27.97**	**39**	P	**P**	**16 34 21.1**	**+3.4**
	baz=233						
GLMI	**Grayling**	**27.99**	**41**	*eP*	**P**	**16 34 16.4**	**-1.5**
	comp=Z,140nm,0.9s						
GLMI				LR	LR		
	comp=Z,18µm,20.0s						
GLMI	**Grayling**	**27.99**	**41**	P	**P**	**16 34 21.1**	**+3.2**
	baz=236						
O53A	**New Philadelph**	**28.06**	**52**	P	**P**	**16 34 21.4**	**+2.8**
	baz=248						
J49A	**Marlette**	**28.12**	**45**	P	**P**	**16 34 22.5**	**+3.5**
	baz=240						
G46A	**Petoskey**	**28.13**	**40**	P	**P**	**16 34 22.6**	**+3.5**
	baz=235						
I48A	**Sherman Twp**	**28.19**	**43**	P	**P**	**16 34 23.5**	**+3.8**
	baz=238						
E44A	**Grand Marais A**	**28.32**	**37**	PFAKE		16 34 30.0	+9.2
E44A				LR	LR		
	comp=Z,2µm,18.0s						
JTS	**JuntasAbangare**	**28.43**	**118**	P	**P**	**16 34 22.1**	**+0.1**
	comp=Z,36nm,1.1s,baz=22,slow=5.9,SNR=11						
JTS				LR	LR	16 47 08.4	
	comp=Z,5µm,18.4s,baz=12,slow=40						
JTS	**JuntasAbangare**	**28.43**	**118**	*eP*	**P**	**16 34 22.2**	**+0.1**
	comp=Z,388nm,1.8s						
JTS				*eP*	**P**	**16 34 22.6**	**+0.6**
JTS	**JuntasAbangare**	**28.43**	**118**	*eP*	**P**	**16 34 21.9**	**-0.2**
JTS				pmax	pmax		
	comp=Z,29nm,1.3s						
Q55A	**Buckhannon**	**28.45**	**55**	P	**P**	**16 34 25.2**	**+3.1**
	baz=252						
F46A	**Macinaw City C**	**28.45**	**39**	P	**P**	**16 34 25.4**	**+3.4**
	baz=234						
N53A	**Lisbon**	**28.54**	**51**	P	**P**	**16 34 26.3**	**+3.4**
	baz=248						
E45A	**Wooded Hills,**	**28.56**	**38**	P	**P**	**16 34 26.7**	**+3.7**
	baz=233						
I49A	**Point Hope**	**28.61**	**44**	P	**P**	**16 34 26.7**	**+3.3**
	baz=240						
G47A	**Hillman**	**28.63**	**41**	P	**P**	**16 34 27.0**	**+3.4**
	baz=236						
O54A	**Avella**	**28.63**	**53**	P	**P**	**16 34 27.0**	**+3.3**
	baz=249						
P55A	**Reedsville**	**28.80**	**54**	P	**P**	**16 34 28.0**	**+2.8**
	baz=251						
MCWV	**Mont Chateau**	**28.84**	**54**	PFAKE		16 34 40.0	+14
MCWV				LR	LR		
	comp=Z,6µm,18.0s						
MCWV	**Mont Chateau**	**28.84**	**54**	P	**P**	**16 34 27.7**	**+2.2**
	baz=251						
K51A	**Iona Station**	**28.88**	**47**	P	**P**	**16 34 28.5**	**+2.8**
	baz=243						
N54A	**Moraine State**	**29.19**	**51**	*eP*	**P**	**16 34 26.6**	**-2.1**
	comp=Z,425nm,1.9s						
N54A				LR	LR		
	comp=Z,11µm,18.0s						
N54A	**Moraine State**	**29.19**	**51**	P	**P**	**16 34 32.1**	**+3.5**
	baz=248						
ELFO	**Elginfield**	**29.21**	**46**	P	**P**	**16 34 32.4**	**+3.6**
	baz=243						
CNNC	**Cliffs of the**	**29.23**	**63**	PFAKE		16 34 40.0	+11
CNNC				LR	LR		
	comp=Z,20µm,19.0s						
HDC	**Heredia**	**29.26**	**118**	*eP*	**P**	**16 34 30.0**	**+0.3**
	comp=Z,414nm,1.5s						
HDC				LR	LR		
	comp=Z,4µm,20.0s						
ALLY	**Alegheny Colle**	**29.34**	**50**	PFAKE		16 34 40.0	+10
ALLY				LR	LR		
	comp=Z,34µm,22.0s						
BASO	**Ashfield**	**29.37**	**45**	P	**P**	**16 34 34.3**	**+4.1**
	baz=241						
O55A	**Ligonier**	**29.41**	**53**	P	**P**	**16 34 33.7**	**+3.0**
	baz=250						
FFC	**Flin Flon**	**29.50**	**10**	*eP*	**P**	**16 34 28.9**	**-2.3**
	comp=Z,100nm,1.6s						
FFC				LR	LR		
	comp=Z,5µm,18.0s						
FFC	**Flin Flon**	**29.50**	**10**	*eP*	**P**	**16 34 28.9**	**-2.3**
FFC				pmax	pmax		
	comp=Z,100nm,1.6s						
FFC				MLR	MLR		
	comp=Z,5µm,18.0s						
D46A	**Sault St. Mari**	**29.51**	**38**	P	**P**	**16 34 34.1**	**+2.7**
	baz=234						
M54A	**Oil Creek Stat**	**29.62**	**50**	*eP*	**P**	**16 34 30.6**	**-1.9**
	comp=Z,100nm,1.2s						
M54A				LR	LR		
	comp=Z,26µm,19.0s						
M54A	**Oil Creek Stat**	**29.62**	**50**	P	**P**	**16 34 34.6**	**+2.2**
	baz=248						
BBB	**Bella Bella**	**29.63**	**337**	LR	LR	16 45 59.8	
	comp=Z,7µm,20.5s,baz=166,slow=36						
ERPA	**Erie**	**29.64**	**49**	PFAKE		16 34 40.0	+7.4
ERPA				LR	LR		
	comp=Z,16µm,18.0s						
I51A	**Listowel**	**29.68**	**45**	P	**P**	**16 34 36.7**	**+3.7**
	baz=242						
PRVC	**Isla de Provid**	**29.74**	**109**	*eP*	P	16 34 23.1	-11
PRVC	**Isla de Provid**	**29.74**	**109**	*eP*	P	16 34 23.1	-11
BWLO	**Walkerton**	**29.75**	**45**	P	**P**	**16 34 36.9**	**+3.3**
	baz=242						
J52A	**Paris**	**29.78**	**47**	P	**P**	**16 34 37.5**	**+3.6**
	baz=244						
R58B	**Mineral**	**29.81**	**58**	*eP*	**P**	**16 34 33.0**	**-1.2**
	comp=Z,36nm,1.1s						
R58B				LR	LR		
	comp=Z,10µm,18.0s						
R58B	**Mineral**	**29.81**	**58**	P	**P**	**16 34 37.0**	**+2.9**
	baz=256						
N55A	**Marion Center**	**29.84**	**52**	P	**P**	**16 34 36.4**	**+2.0**
	baz=250						
BMRO	**Merriville Lake**	**29.93**	**44**	P	**P**	**16 34 37.1**	**+2.0**
	baz=241						
O56A	**Blue Knob Stat**	**29.96**	**53**	*eP*	**P**	**16 34 32.9**	**-2.7**
	comp=Z,66nm,1.1s						
O56A				LR	LR		
	comp=Z,14µm,20.0s						
O56A	**Blue Knob Stat**	**29.96**	**53**	P	**P**	**16 34 38.0**	**+2.4**
	baz=251						
TOBO	**Tobermory, Bru**	**30.06**	**43**	P	**P**	**16 34 40.3**	**+4.1**
	baz=240						
TYNO	**Tyneside**	**30.12**	**47**	P	**P**	**16 34 40.0**	**+3.1**
	baz=245						
D47A	**Chapleau**	**30.13**	**38**	P	**P**	**16 34 39.6**	**+2.7**
	baz=235						
ACTO	**Acton**	**30.21**	**46**	P	**P**	**16 34 40.7**	**+3.0**
	baz=244						
CBN	**Corbin Frederi**	**30.26**	**58**	PFAKE		16 34 50.0	+12
CBN				LR	LR		
	comp=Z,7µm,21.0s						
I52A	**Shelburne**	**30.35**	**45**	P	**P**	**16 34 42.6**	**+3.8**
	baz=243						
SSPA	**Standing Stone**	**30.57**	**53**	*eP*	**P**	**16 34 38.2**	**-2.7**
	comp=Z,245nm,1.8s						
SSPA				LR	LR		
	comp=Z,19µm,18.0s						
SSPA	**Standing Stone**	**30.57**	**53**	P	**P**	**16 34 43.6**	**+2.7**
	baz=251						
STCO	**Saint Catharin**	**30.63**	**48**	P	**P**	**16 34 45.1**	**+3.7**
	baz=246						
SDMD	**Soldier's Deli**	**30.98**	**56**	PFAKE		16 35 00.0	+16
SDMD				LR	LR		
	comp=Z,700nm,22.0s						
PKRO	**Pickering**	**31.02**	**46**	P	**P**	**16 34 48.4**	**+3.7**
	baz=244						
MTDJ	**Mount Denham**	**31.11**	**97**	PFAKE		16 35 00.0	+14
MTDJ				LR	LR		
	comp=Z,7µm,20.0s						
E50A	**Wahnapitae**	**31.14**	**41**	P	**P**	**16 34 49.8**	**+4.0**
	baz=239						
K55A	**Perry**	**31.18**	**49**	P	**P**	**16 34 48.5**	**+2.2**
	baz=248						
DRWO	**Darlington Wes**	**31.20**	**47**	P	**P**	**16 34 49.9**	**+3.6**
	baz=245						
DRCO	**St. Marys Ceme**	**31.22**	**47**	P	**P**	**16 34 50.2**	**+3.7**
	baz=245						
PAGS	**Pennsylvania G**	**31.30**	**54**	*eP*	**P**	**16 34 50.1**	**+2.9**
	comp=Z,31nm,1.0s						
PAGS				LR	LR		
	comp=Z,20µm,22.0s						
MMNY	**Mt. Morris Dam**	**31.30**	**49**	*eP*	**P**	**16 34 43.7**	**-3.5**
	comp=Z,153nm,1.1s						
MMNY				LR	LR		
	comp=Z,12µm,19.0s						
SADO	**Sadowa**	**31.32**	**45**	P	**P**	**16 34 45.5**	**-1.9**
	comp=Z,3.2nm,0.7s,baz=252,slow=17,SNR=2.2						
SADO	**Sadowa**	**31.32**	**45**	*eP*	**P**	**16 34 44.2**	**-3.3**
	comp=Z,30nm,1.0s						
F51A	**Arnstein**	**31.39**	**42**	P	**P**	**16 34 50.8**	**+2.9**
	baz=241						
WLVO	**Wesleyville**	**31.44**	**47**	P	**P**	**16 34 52.1**	**+3.6**
	baz=245						
MVL	**Millersville**	**31.50**	**55**	*eP*	P	16 34 53.5	+4.5
	comp=Z,18nm,1.2s						
MVL				LR	LR		
	comp=Z,11µm,20.0s						
J55A	**Hilton**	**31.56**	**48**	P	**P**	**16 34 52.7**	**+3.2**
	baz=247						
F52A	**Sundridge**	**31.69**	**43**	P	**P**	**16 34 54.1**	**+3.5**
	baz=242						
G53A	**Haliburton**	**31.81**	**45**	P	**P**	**16 34 54.9**	**+3.2**
	baz=243						
E51A	**G1948 Merrick**	**31.94**	**42**	P	**P**	**16 34 56.3**	**+3.4**
	baz=240						
I55A	**Frankford**	**32.03**	**47**	P	**P**	**16 34 57.1**	**+3.4**
	baz=246						
DIB	**Dawson Inlet,**	**32.05**	**334**	PFAKE		16 35 00.0	+6.3
DIB				LR	LR		
	comp=Z,3µm,18.0s						
D50A	**G1974 Best Tow**	**32.05**	**40**	P	**P**	**16 34 56.3**	**+2.4**
	baz=239						
N59A	**State Game Lan**	**32.19**	**53**	*eP*	**P**	**16 34 53.6**	**-1.6**
	comp=Z,91nm,1.6s						
N59A				LR	LR		
	comp=Z,6µm,19.0s						
N59A	**State Game Lan**	**32.19**	**53**	P	**P**	**16 34 56.4**	**+1.2**
	baz=253						
BANO	**Bancroft**	**32.21**	**45**	P	**P**	**16 34 58.5**	**+3.3**
	baz=244						
D51A	**Lot 18 Range I**	**32.29**	**41**	P	**P**	**16 34 59.5**	**+3.6**
	baz=240						
KSPA	**Keystone Colle**	**32.39**	**52**	PFAKE		16 35 10.0	+13
KSPA				LR	LR		
	comp=Z,22µm,18.0s						
BINY	**Binghamton**	**32.44**	**51**	*eP*	**P**	**16 34 57.0**	**-0.3**
	comp=Z,100nm,1.1s						
BINY				LR	LR		
	comp=Z,18µm,22.0s						
BINY	**Binghamton**	**32.44**	**51**	P	**P**	**16 34 59.3**	**+2.0**
	baz=251						
H55A	**Tweed**	**32.49**	**46**	P	**P**	**16 35 00.1**	**+2.4**
	baz=246						
ALGO	**Algonquin Park**	**32.55**	**44**	P	**P**	**16 35 01.2**	**+3.1**
	baz=243						
PAYG	**Puerto Ayora**	**32.59**	**141**	*eP*	**P**	**16 35 01.3**	**+2.5**
	comp=Z,177nm,1.2s						
PAYG				LR	LR		
	comp=Z,2µm,19.0s						
PLVO	**Plevna**	**32.77**	**46**	*eP*	**P**	**16 34 58.9**	**-1.2**
	comp=Z,117nm,1.1s						
PLVO	**Plevna**	**32.77**	**46**	P	**P**	**16 35 03.0**	**+2.9**
	baz=245						
D52A	**ZEK Kipawa Sen**	**32.81**	**42**	P	**P**	**16 35 04.5**	**+4.0**
	baz=241						
PEMO	**Pembroke**	**32.93**	**44**	P	**P**	**16 35 04.4**	**+2.9**
	baz=244						
E53A	**Dumoine, Ponti**	**32.98**	**43**	P	**P**	**16 35 05.2**	**+3.3**
	baz=243						
BRNJ	**Basking Ridge**	**33.00**	**54**	PFAKE		16 35 10.0	+7.8
BRNJ				LR	LR		
	comp=Z,2µm,21.0s						
ODNJ	**Ogdensburg**	**33.08**	**54**	PFAKE		16 35 10.0	+7.1
ODNJ				LR	LR		
	comp=Z,22µm,18.0s						
G55A	**Calabogie**	**33.08**	**45**	P	**P**	**16 35 06.1**	**+3.2**
	baz=245						
H56A	**Elgin**	**33.12**	**47**	P	**P**	**16 35 05.7**	**+2.6**
	baz=247						
BCIP	**Isla Barro Col**	**33.20**	**114**	*eP*	**P**	**16 35 03.9**	**-0.2**
	comp=Z,210nm,1.4s						
BCIP				LR	LR		
	comp=Z,5µm,20.0s						
E54A	**Lac Daplat, Po**	**33.30**	**43**	P	**P**	**16 35 07.8**	**+3.0**
	baz=243						
CPNY	**Central Park**	**33.47**	**54**	PFAKE		16 35 20.0	+14
CPNY				LR	LR		
	comp=Z,23µm,21.0s						
F55A	**Otter Lake**	**33.56**	**45**	P	**P**	**16 35 09.9**	**+2.8**
	baz=245						
PAL	**Palisades**	**33.57**	**54**	*eP*	**P**	**16 35 04.5**	**-2.6**
	comp=Z,36nm,1.0s						
PAL				LR	LR		
	comp=Z,14µm,22.0s						
PAL	**Palisades**	**33.57**	**54**	*eP*	**P**	**16 35 04.5**	**-2.6**
PAL				pmax	pmax		
	comp=Z,36nm,1.0s						
PAL				MLR	MLR		
	comp=Z,14µm,22.0s						
VLDQ	**Val d'Or**	**33.93**	**40**	PFAKE		16 35 20.0	+10
VLDQ				LR	LR		
	comp=Z,8µm,18.0s						
ORIO	**Orleans, Innes**	**33.94**	**46**	P	**P**	**16 35 13.5**	**+3.2**
	baz=247						
NCB	**Newcomb**	**34.25**	**49**	*eP*	**P**	**16 35 11.1**	**-2.0**
	comp=Z,63nm,1.0s						
NCB				LR	LR		
	comp=Z,10µm,19.0s						
YLE	**Yale**	**34.36**	**54**	*eP*	P	16 35 19.8	+5.8
	comp=Z,134nm,1.5s						
YLE				LR	LR		
	comp=Z,15µm,20.0s						
ALFO	**Alfred**	**34.42**	**46**	P	**P**	**16 35 16.9**	**+2.5**
	baz=247						
ACCN	**Adirondack Com**	**34.44**	**50**	PFAKE		16 35 30.0	+15
ACCN				LR	LR		
	comp=Z,14µm,22.0s						
WRAK	**Wrangell Islan**	**34.52**	**338**	P	**P**	**16 35 11.9**	**-3.3**
	comp=Z,39nm,1.1s						
WRAK				LR	LR		
	comp=Z,6µm,18.0s						
MATQ	**Matagami**	**34.66**	**38**	P	**P**	**16 35 19.6**	**+3.1**
	baz=238						
FCC	**Fort Churchill**	**34.81**	**15**	*eP*	**P**	**16 35 14.7**	**-3.0**
	comp=Z,287nm,1.8s						
FCC				LR	LR		
	comp=Z,31µm,19.0s						
FCC	**Fort Churchill**	**34.81**	**15**	*eP*	**P**	**16 35 14.7**	**-3.0**
FCC				pmax	pmax		
	comp=Z,287nm,1.8s						
FCC				MLR	MLR		
	comp=Z,31µm,19.0s						
FRNY	**Flat Rock**	**34.97**	**48**	*eP*	**P**	**16 35 17.8**	**-1.5**
	comp=Z,177nm,2.0s						
FRNY				LR	LR		
	comp=Z,16µm,18.0s						
DLBC	**Dease Lake**	**35.49**	**342**	*eP*	**P**	**16 35 23.2**	**-0.4**
	comp=Z,80nm,1.4s						
DLBC				LR	LR		
	comp=Z,9µm,19.0s						
HRV	**Adam Dziewonsk**	**35.66**	**52**	*eP*	**P**	**16 35 23.4**	**-1.8**
	comp=Z,119nm,1.4s						
HRV				LR	LR		
	comp=Z,14µm,20.0s						
HRV	**Adam Dziewonsk**	**35.66**	**52**	*eP*	**P**	**16 35 23.4**	**-1.8**
HRV				pmax	pmax		
	comp=Z,119nm,1.4s						
HRV				MLR	MLR		
	comp=Z,14µm,20.0s						
HRV	**Adam Dziewonsk**	**35.66**	**52**	P	**P**	**16 35 28.5**	**+3.2**
	baz=255						
LBNH	**Lisbon**	**35.90**	**49**	*eP*	**P**	**16 35 26.8**	**-0.5**
	comp=Z,100nm,1.4s						
LBNH				LR	LR		
	comp=Z,16µm,20.0s						
LBNH	**Lisbon**	**35.90**	**49**	*eP*	**P**	**16 35 26.8**	**-0.5**
LBNH				pmax	pmax		
	comp=Z,100nm,1.4s						
LBNH				MLR	MLR		
	comp=Z,16µm,20.0s						
LBNH	**Lisbon**	**35.90**	**49**	P	**P**	**16 35 30.8**	**+3.5**
	baz=252						
GRTK	**Grand Turk**	**35.91**	**89**	PFAKE		16 35 40.0	+12
GRTK				LR	LR		
	comp=Z,7µm,22.0s						
MOQ	**Mont Orford**	**36.03**	**47**	*eP*	**P**	**16 35 28.2**	**-0.2**
SIT	**Sitka**	**36.05**	**337**	PFAKE		16 35 40.0	+12
SIT				LR	LR		
	comp=Z,3µm,20.0s						
LATQ	**La Tuque**	**36.44**	**44**	P	**P**	**16 35 35.2**	**+3.4**
	baz=247						
SDDR	**Presa de Saban**	**36.48**	**93**	PFAKE		16 35 40.0	+7.5
SDDR				LR	LR		
	comp=Z,4µm,20.0s						
CHGQ	**Chibougamau**	**36.57**	**39**	P	**P**	**16 35 36.5**	**+3.6**
	baz=242						
JIS	**Juneau Island**	**36.67**	**339**	*es*P	**sP**	**16 35 40.4**	**-0.6**
JIS				LR	LR		
	comp=Z,6µm,18.0s						
SJCC	**San Jacinto, C**	**36.71**	**109**	*eP*	**P**	**16 35 35.7**	**+1.1**
SJCC	**San Jacinto, C**	**36.71**	**109**	*eP*	**P**	**16 35 35.7**	**+1.1**
YKA	**Yellowknife Ar**	**36.79**	**357**	P	**P**	**16 35 31.9**	**-2.7**
	comp=Z,5.6nm,1.1s,baz=172,slow=7.8,SNR=26						
YKA				LR	LR	16 51 17.2	
	comp=Z,2µm,19.4s,baz=192,slow=37						
YKA				P3KPbc		17 06 15.0	
	comp=Z,0.1nm,0.3s,baz=343,slow=4.1,SNR=3.4						
YKB5	**Yellowknife Ar**	**36.79**	**357**	*eP*	**P**	**16 35 31.9**	**-2.7**
YKW3	**Yellowknife Ar**	**36.86**	**357**	*eP*	**P**	**16 35 32.6**	**-2.6**
	comp=Z,47nm,1.4s						
YKW3				LR	LR		
	comp=Z,17µm,20.0s						
SMRC	**Santa Marta, M**	**36.92**	**107**	*eP*	**P**	**16 35 39.9**	**+3.6**
SMRC	**Santa Marta, M**	**36.92**	**107**	*eP*	**P**	**16 35 39.9**	**+3.6**
BESE	**Bessie Mountai**	**37.07**	**339**	PFAKE		16 35 50.0	+13
BESE				LR	LR		
	comp=Z,6µm,18.0s						
DBBC	**Dabeiba**	**37.37**	**114**	*eP*	**P**	**16 35 40.5**	**+0.3**
DBBC	**Dabeiba**	**37.37**	**114**	*eP*	**P**	**16 35 40.5**	**+0.3**
UREC	**San Jos de Ur**	**37.53**	**112**	*eP*	**P**	**16 35 39.3**	**-2.2**
UREC	**San Jos de Ur**	**37.53**	**112**	*eP*	**P**	**16 35 39.3**	**-2.2**
SDD	**Santo Domingo**	**37.88**	**93**	*eP*	P	16 35 50.4	+6.1
	comp=Z,201nm,1.0s						
SKAG	**Skagway**	**37.91**	**339**	PFAKE		16 35 50.0	+5.9
SKAG				LR	LR		
	comp=Z,6µm,19.0s						
PKME	**Peaks-Kenny Pk**	**38.00**	**49**	*eP*	**P**	**16 35 44.3**	**-0.8**
	comp=Z,29nm,1.0s						
PKME				LR	LR		
	comp=Z,16µm,18.0s						
GRGC	**Isla de Gorgon**	**38.19**	**121**	*eP*	**P**	**16 35 48.9**	**+1.8**
GRGC	**Isla de Gorgon**	**38.19**	**121**	*eP*	**P**	**16 35 48.9**	**+1.8**
ZARC	**Zaragoza, Cauc**	**38.23**	**112**	*eP*	**P**	**16 35 46.3**	**-1.1**
ZARC	**Zaragoza, Cauc**	**38.23**	**112**	*eP*	**P**	**16 35 46.3**	**-1.1**
HELC	**Santa Helena**	**38.39**	**115**	*eP*	P	16 35 42.8	-6.4
HELC	**Santa Helena**	**38.39**	**115**	*eP*	P	16 35 42.8	-6.4
PLMC	**San Jos del P**	**38.52**	**117**	*eP*	**P**	**16 35 51.3**	**+1.4**
PLMC	**San Jos del P**	**38.52**	**117**	*eP*	**P**	**16 35 51.3**	**+1.4**
URIC	**Uribia, Colomb**	**38.61**	**104**	*eP*	**P**	**16 35 49.9**	**-0.7**
URIC	**Uribia, Colomb**	**38.61**	**104**	*eP*	**P**	**16 35 49.9**	**-0.7**
WHY	**Whitehorse**	**38.72**	**341**	*eP*	P	16 35 56.3	+5.2
	comp=Z,60nm,1.6s						
YOTC	**Yotoco, Valle**	**39.02**	**118**	*eP*	**P**	**16 35 53.4**	**-0.7**
YOTC	**Yotoco, Valle**	**39.02**	**118**	*eP*	**P**	**16 35 53.4**	**-0.7**
PTBC	**PUERTO BERRIO,**	**39.08**	**113**	*eP*	**P**	**16 35 52.7**	**-1.9**
PTBC	**PUERTO BERRIO,**	**39.08**	**113**	*eP*	**P**	**16 35 52.7**	**-1.9**
EMMW	**East Machias**	**39.10**	**50**	*eP*	**P**	**16 35 52.6**	**-1.8**
	comp=Z,59nm,1.0s						
OCAC	**Ocana**	**39.13**	**110**	*eP*	**P**	**16 35 55.5**	**+0.3**
OCAC	**Ocana**	**39.13**	**110**	*eP*	**P**	**16 35 55.5**	**+0.3**
PQI	**Presque Isle**	**39.26**	**47**	*eP*	**P**	**16 35 53.8**	**-1.9**
	comp=Z,47nm,1.3s						
RREF	**El Recreo**	**39.27**	**116**	*eP*	**P**	**16 35 54.6**	**-2.3**
RREF	**El Recreo**	**39.27**	**116**	*eP*	**P**	**16 35 54.6**	**-2.3**
NORC	**Norcasia**	**39.28**	**115**	*eP*	**P**	**16 35 56.2**	**-0.1**
NORC	**Norcasia**	**39.28**	**115**	*eP*	**P**	**16 35 56.2**	**-0.1**
BRRC	**Barranca, Sant**	**39.40**	**112**	*eP*	P	16 35 51.3	-5.9
BRRC	**Barranca, Sant**	**39.40**	**112**	*eP*	P	16 35 51.3	-5.9
ANIL	**Santa Ana**	**39.47**	**117**	*eP*	**P**	**16 35 59.1**	**+1.0**
ANIL	**Santa Ana**	**39.47**	**117**	*eP*	**P**	**16 35 59.1**	**+1.0**
TOLC	**Tolima**	**39.48**	**116**	*eP*	**P**	**16 35 58.1**	**-0.2**
TOLC	**Tolima**	**39.48**	**116**	*eP*	**P**	**16 35 58.1**	**-0.2**
GGN	**Saint George**	**39.63**	**50**	PFAKE		16 36 10.0	+11
GGN				LR	LR		
	comp=Z,14µm,18.0s						
POPC	**Popayan, Colom**	**39.64**	**120**	*eP*	**P**	**16 35 55.5**	**-3.9**
POPC	**Popayan, Colom**	**39.64**	**120**	*eP*	**P**	**16 35 55.5**	**-3.9**
HYT	**Haines Junctio**	**39.66**	**339**	*eP*	**P**	**16 35 58.2**	**-0.8**
	comp=Z,141nm,2.0s						
HYT				LR	LR		
	comp=Z,4µm,19.0s						
OTAV	**Otavalo**	**39.77**	**125**	*eP*	**P**	**16 36 01.5**	**+0.7**
	comp=Z,280nm,1.3s						
OTAV				LR	LR		
	comp=Z,2µm,22.0s						
OTAV	**Otavalo**	**39.77**	**125**	*eP*	**P**	**16 35 58.9**	**-1.9**
OTAV	**Otavalo**	**39.77**	**125**	*eP*	**P**	**16 36 01.5**	**+0.7**
OTAV				pmax	pmax		
	comp=Z,280nm,1.3s						
OTAV				MLR	MLR		
	comp=Z,2µm,22.0s						
OTAV	**Otavalo**	**39.77**	**125**	*eP*	**P**	**16 35 58.9**	**-1.9**
OTAV	**Otavalo**	**39.77**	**125**	*eP*	**P**	**16 36 01.9**	**+1.1**
CMBC	**Cumbal**	**39.78**	**123**	*eP*	**P**	**16 36 02.2**	**+1.4**
CMBC	**Cumbal**	**39.78**	**123**	*eP*	**P**	**16 36 02.2**	**+1.4**
SOTA	**Rioblanco**	**39.94**	**121**	*eP*	**P**	**16 36 01.6**	**-0.7**
SOTA	**Rioblanco**	**39.94**	**121**	*eP*	**P**	**16 36 01.6**	**-0.7**
GCUF	**Volcan Galeras**	**39.95**	**122**	*eP*	**P**	**16 36 02.6**	**+0.3**
GCUF	**Volcan Galeras**	**39.95**	**122**	*eP*	**P**	**16 36 02.6**	**+0.3**
PCON	**Cinco Dias**	**39.99**	**120**	*eP*	**P**	**16 36 03.4**	**+0.7**
PCON	**Cinco Dias**	**39.99**	**120**	*eP*	**P**	**16 36 03.4**	**+0.7**
MARP	**Paez Belalcaza**	**40.02**	**119**	*eP*	**P**	**16 36 03.0**	**+0.4**
MARP	**Paez Belalcaza**	**40.02**	**119**	*eP*	**P**	**16 36 03.0**	**+0.4**
BBSR	**BB Station**	**40.03**	**70**	PFAKE		16 36 10.0	+7.8
BBSR				LR	LR		
	comp=Z,3µm,21.0s						
CRUC	**La Cruz**	**40.04**	**122**	*eP*	**P**	**16 36 03.3**

CHIC	**Chingaza**	**40.74**	**115**	*eP*		**P**	16 35 59.0	-10	
CHIC	**Chingaza**	**40.74**	**115**	*eP*		P	16 35 59.0	-10	
EMPR	**Esperanza - Ma**	**40.92**	**91**	PFAKE			16 36 20.0	+10	
EMPR				LR	LR				
	comp=Z,3µm,18.0s								
OBIP	**Obispado Ponce**	**40.99**	**92**	*eP*		**P**	**16 36 08.5**	**-1.9**	
	comp=Z,119nm,0.9s								
FLOC	**Florencia**	**41.03**	**120**	*eP*		**P**	**16 36 10.5**	**-0.2**	
FLOC	**Florencia**	**41.03**	**120**	*eP*		**P**	**16 36 10.5**	**-0.2**	
VILC	**Villavicencio,**	**41.07**	**116**	*eP*		**P**	**16 36 09.6**	**-1.6**	
VILC	**Villavicencio,**	**41.07**	**116**	*eP*		**P**	**16 36 09.6**	**-1.6**	
SDV	**Santo Domingo**	**41.11**	**107**	*eP*		**P**	**16 36 10.4**	**-1.2**	
	comp=Z,293nm,1.0s								
SDV				LR	LR				
	comp=Z,4µm,20.0s								
SDV	**Santo Domingo**	**41.11**	**107**	*eP*		**P**	**16 36 11.2**	**-0.4**	
LMN	**Caledonia Moun**	**41.19**	**49**	PFAKE			16 36 20.0	+8.3	
LMN				LR	LR				
	comp=Z,10µm,18.0s								
SJG	**San Juan**	**41.38**	**92**	*eP*		**P**	**16 36 12.4**	**-1.1**	
	comp=Z,178nm,1.0s								
SJG				LR	LR				
	comp=Z,4µm,21.0s								
SJG	**San Juan**	**41.38**	**92**	*eP*		**P**	**16 36 12.4**	**-1.1**	
SJG				pmax	pmax				
	comp=Z,178nm,1.0s								
SJG				MLR	MLR				
	comp=Z,4µm,21.0s								
CBYP	**Canovanas**	**41.59**	**91**	PFAKE			16 36 30.0	+15	
CBYP				LR	LR				
	comp=Z,3µm,19.0s								
HUMP	**Col San Antoni**	**41.64**	**91**	*eP*		**P**	**16 36 14.3**	**-1.3**	
	comp=Z,106nm,1.1s								
HUMP				LR	LR				
	comp=Z,3µm,22.0s								
HMT	**Hamilton**	**41.67**	**335**	PFAKE			16 36 30.0	+15	
HMT				LR	LR				
	comp=Z,3µm,20.0s								
JCUZ	**Jacuzzi**	**41.83**	**271**	PFAKE			16 36 30.0	+13	
JCUZ				LR	LR				
	comp=Z,7µm,18.0s								
MTP	**Monte Pirata**	**41.92**	**91**	*eP*		**P**	**16 36 16.4**	**-1.5**	
	comp=Z,174nm,1.2s								
MTP				LR	LR				
	comp=Z,3µm,20.0s								
BYL	**Byron's Ledge**	**41.96**	**271**	PFAKE			16 36 30.0	+12	
BYL				LR	LR				
	comp=Z,7µm,20.0s								
KKO	**Keanakako`i**	**41.97**	**271**	PFAKE			16 36 30.0	+11	
KKO				LR	LR				
	comp=Z,6µm,19.0s								
SDHHI	**Sand Hill**	**42.00**	**271**	PFAKE			16 36 30.0	+11	
SDHHI				LR	LR				
	comp=Z,6µm,19.0s								
CUPR	**Culebra, Puert**	**42.10**	**91**	*eP*		**P**	**16 36 18.8**	**-0.7**	
	comp=Z,90nm,0.8s								
CUPR				LR	LR				
	comp=Z,4µm,20.0s								
POHA	**Pohakuloa**	**42.11**	**271**	PFAKE			16 36 30.0	+10	
POHA				LR	LR				
	comp=Z,7µm,19.0s								
HPAH	**Hawaii Prepara**	**42.18**	**272**	PFAKE			16 36 30.0	+10	
HPAH				LR	LR				
	comp=Z,6µm,20.0s								
BMRM	**Bremner River**	**42.21**	**336**	PFAKE			16 36 30.0	+10	
BMRM				LR	LR				
	comp=Z,2µm,18.0s								
MLOA	**Mauna Loa Obse**	**42.21**	**271**	*eP*		**P**	**16 36 22.8**	**+1.9**	
	comp=Z,238nm,1.1s								
MLOA				LR	LR				
	comp=Z,4µm,19.0s								
STVI	**Saint Thomas**	**42.38**	**91**	PFAKE			16 36 30.0	+8.3	
STVI				LR	LR				
	comp=Z,4µm,22.0s								
HUH	**Hualalai**	**42.40**	**271**	PFAKE			16 36 30.0	+7.8	
HUH				LR	LR				
	comp=Z,8µm,21.0s								
KHLU	**Kahalu`u**	**42.48**	**271**	*eP*		**P**	**16 36 27.3**	**+4.6**	
	comp=Z,182nm,1.3s								
PTLC	**Puerto Leguiza**	**42.58**	**121**	*eP*		**P**	**16 36 23.7**	**+0.3**	
PTLC	**Puerto Leguiza**	**42.58**	**121**	*eP*		**P**	**16 36 23.7**	**+0.3**	
DAWY	**Dawson**	**42.70**	**342**	*eP*		**P**	**16 36 23.3**	**-0.5**	
	comp=Z,69nm,1.2s								
DAWY				LR	LR				
	comp=Z,6µm,18.0s								
CDVI	**St. Croix**	**42.74**	**91**	*eP*		**P**	**16 36 23.9**	**-0.7**	
	comp=Z,214nm,0.8s								
DIV	**Divide**	**42.75**	**335**	PFAKE			16 36 30.0	+5.7	
DIV				LR	LR				
	comp=Z,2µm,22.0s								
ABVI	**Anegada Island**	**42.82**	**90**	PFAKE			16 36 40.0	+15	
ABVI				LR	LR				
	comp=Z,4µm,18.0s								
SCHQ	**Schefferville**	**42.89**	**36**	P		**P**	**16 36 23.2**	**-2.3**	
	comp=Z,12nm,0.9s,baz=241,slow=6.3,SNR=11								
SCHQ				LR	LR		16 55 55.5		
	comp=Z,6µm,18.6s,baz=249,slow=39								
SCHQ	**Schefferville**	**42.89**	**36**	*eP*		**P**	**16 36 23.8**	**-1.7**	
	comp=Z,130nm,1.4s								
KLU	**Klutina**	**43.04**	**336**	PFAKE			16 36 40.0	+13	
KLU				LR	LR				
	comp=Z,2µm,20.0s								
GBN	**Guysborough**	**43.37**	**50**	PFAKE			16 36 40.0	+11	
GBN				LR	LR				
	comp=Z,25µm,19.0s								
SEW	**Seward**	**43.59**	**333**	PFAKE			16 36 40.0	+9.0	
SEW				LR	LR				
	comp=Z,3µm,20.0s								
KDAK	**Kodiak Island**	**43.77**	**329**	P		**P**	**16 36 31.8**	**-0.6**	
	comp=Z,24nm,1.3s,baz=123,slow=14,SNR=3.8								
KDAK				LR	LR		16 51 42.5		
	comp=Z,2µm,19.4s,baz=131,slow=32								
SCM	**Sheep Creek Mo**	**43.77**	**336**	*eP*		**P**	**16 36 32.3**	**-0.3**	
	comp=Z,67nm,1.3s								
SCM				LR	LR				
	comp=Z,2µm,21.0s								
SCM	**Sheep Creek Mo**	**43.77**	**336**	*eP*		**P**	**16 36 32.3**	**-0.3**	
SCM				pmax	pmax				
	comp=Z,67nm,1.3s								
SCM				MLR	MLR				
	comp=Z,2µm,21.0s								
DOT	**Dot Lake**	**43.83**	**339**	*eP*		P	16 36 37.7	+4.8	
	comp=Z,24nm,1.1s								
DOT				LR	LR				
	comp=Z,4µm,20.0s								
EPYK	**Eagle Plains**	**43.83**	**345**	P		**P**	**16 36 34.3**	**+1.3**	
	baz=144								
PAX	**Paxson**	**43.84**	**338**	PFAKE			16 36 40.0	+6.9	
PAX				LR	LR				
	comp=Z,2µm,20.0s								
OHAK	**Old Harbor**	**43.84**	**328**	PFAKE			16 36 40.0	+7.0	
OHAK				LR	LR				
	comp=Z,3µm,21.0s								
HON	**Honolulu**	**43.90**	**275**	*eP*		**P**	**16 36 33.7**	**-0.3**	
	comp=Z,316nm,1.2s								
HON	**Honolulu**	**43.90**	**275**	*eP*		**P**	**16 36 33.7**	**-0.3**	
HON				pmax	pmax				
	comp=Z,316nm,1.2s								
KNK	**Knik Glacier**	**43.95**	**335**	*eP*		**P**	**16 36 33.9**	**0.0**	
	comp=Z,46nm,0.9s								
KNK				LR	LR				
	comp=Z,2µm,21.0s								
BRLK	**Bradley Lake**	**44.01**	**332**	*eP*		P	16 36 39.2	+4.8	
	comp=Z,67nm,1.1s								
BRLK				LR	LR				
	comp=Z,2µm,20.0s								
SCRK	**Sand Creek**	**44.03**	**339**	*eP*		**P**	**16 36 34.7**	**0.0**	
	comp=Z,44nm,1.4s								
SCRK				LR	LR				
	comp=Z,5µm,19.0s								
SML	**Sawmill**	**44.14**	**335**	*eP*		**P**	**16 36 34.1**	**-1.4**	
	comp=Z,36nm,1.0s								
SML				LR	LR				
	comp=Z,2µm,19.0s								
SML	**Sawmill**	**44.14**	**335**	*eP*		**P**	**16 36 34.1**	**-1.4**	
SML				pmax	pmax				
	comp=Z,36nm,1.0s								
SML				MLR	MLR				
	comp=Z,2µm,19.0s								
RIDG	**Independ'e Rid**	**44.14**	**339**	*eP*		**P**	**16 36 35.0**	**-0.5**	
	comp=Z,43nm,1.2s								
RIDG				LR	LR				
	comp=Z,4µm,20.0s								
SABA	**Saba**	**44.15**	**91**	PFAKE			16 36 50.0	+14	
SABA				LR	LR				
	comp=Z,4µm,20.0s								
SMRT	**St. Maarten**	**44.17**	**90**	*eP*		**P**	**16 36 33.4**	**-2.9**	
	comp=Z,121nm,1.1s								
SMRT				LR	LR				
	comp=Z,3µm,20.0s								
RC01	**Rabbit Creek A**	**44.26**	**334**	PFAKE			16 36 50.0	+14	
RC01				LR	LR				
	comp=Z,2µm,21.0s								
PMR	**Palmer**	**44.32**	**334**	*eP*		**P**	**16 36 35.5**	**-1.3**	
	comp=Z,102nm,1.5s								
PMR				LR	LR				
	comp=Z,2µm,20.0s								
PMR	**Palmer**	**44.32**	**334**	*eP*		**P**	**16 36 35.5**	**-1.3**	
PMR				pmax	pmax				
	comp=Z,102nm,1.5s								
PMR				MLR	MLR				
	comp=Z,2µm,20.0s								
GHO	**Glory Hole Cre**	**44.34**	**335**	*eP*		**P**	**16 36 35.3**	**-1.9**	
	comp=Z,58nm,1.1s								
GHO				LR	LR				
	comp=Z,2µm,20.0s								
SEUS	**St. Eustatius**	**44.43**	**91**	PFAKE			16 36 50.0	+12	
SEUS				LR	LR				
	comp=Z,5µm,18.0s								
DHY	**Denali Highway**	**44.57**	**337**	*eP*		**P**	**16 36 37.6**	**-1.4**	
	comp=Z,30nm,1.2s								
DHY				LR	LR				
	comp=Z,2µm,18.0s								
INK	**Inuvik**	**44.79**	**348**	LR		LR	16 57 20.0		
	comp=Z,6µm,21.9s,baz=148,slow=39								
INK	**Inuvik**	**44.79**	**348**	*eP*		**P**	**16 36 38.4**	**-2.1**	
	comp=Z,105nm,1.4s								
INK	**Inuvik**	**44.79**	**348**	*eP*		**P**	**16 36 38.4**	**-2.1**	
INK				pmax	pmax				
	comp=Z,105nm,1.4s								
SUA	**Susitna One**	**44.88**	**334**	*eP*		**P**	**16 36 39.9**	**-1.6**	
	comp=Z,46nm,1.0s								
SUA				LR	LR				
	comp=Z,2µm,19.0s								
RSO	**Redoubt South**	**45.17**	**332**	*eP*		**P**	**16 36 47.7**	**+3.8**	
HDA	**Harding Lake**	**45.28**	**339**	*eP*		**P**	**16 36 44.5**	**0.0**	
	comp=Z,129nm,2.0s								
HDA				LR	LR				
	comp=Z,4µm,19.0s								
HDA	**Harding Lake**	**45.28**	**339**	P		**P**	**16 36 45.1**	**+0.6**	
	baz=130								
RND	**Reindeer**	**45.30**	**337**	*eP*		**P**	**16 36 44.4**	**-0.3**	
	comp=Z,112nm,1.9s								
RND				LR	LR				
	comp=Z,4µm,18.0s								
RND	**Reindeer**	**45.30**	**337**	*eP*		**P**	**16 36 44.4**	**-0.3**	
RND				pmax	pmax				
	comp=Z,113nm,1.9s								
RND				MLR	MLR				
	comp=Z,4µm,18.0s								
IL1	**Eielson Array**	**45.50**	**339**	*eP*		**P**	**16 36 44.7**	**-1.5**	
ILAR	**Eielson Array**	**45.50**	**339**	P		**P**	**16 36 44.9**	**-1.3**	
	comp=Z,8.2nm,1.0s,baz=148,slow=4.2,SNR=25								
ILAR				LR		LR	16 56 13.7		
	comp=Z,3µm,18.0s,baz=140,slow=37								
ILB	**Eielson Array**	**45.50**	**339**	*eP*		**P**	**16 36 45.2**	**-1.0**	
MCK	**McKinley**	**45.53**	**337**	*eP*		**P**	**16 36 45.5**	**-1.0**	
	comp=Z,34nm,1.0s								
MCK				LR	LR				
	comp=Z,3µm,18.0s								
MCK	**McKinley**	**45.53**	**337**	*eP*		**P**	**16 36 45.5**	**-1.0**	
MCK				pmax	pmax				
	comp=Z,34nm,1.0s								
MCK				MLR	MLR				
	comp=Z,3µm,18.0s								
WRH	**Wood River Hil**	**45.70**	**338**	*eP*		**P**	**16 36 47.4**	**-0.4**	
	comp=Z,25nm,1.0s								
WRH				LR	LR				
	comp=Z,4µm,22.0s								
TRF	**Thorofare Moun**	**45.84**	**336**	*eP*		**P**	**16 36 48.3**	**-0.8**	
	comp=Z,78nm,1.0s								
TRF				LR	LR				
	comp=Z,3µm,19.0s								
COLA	**College**	**45.88**	**339**	*eP*		**P**	**16 36 48.1**	**-1.0**	
	comp=Z,78nm,1.4s								
COLA				LR	LR				
	comp=Z,3µm,19.0s								
COLA	**College**	**45.88**	**339**	*de*	*eP*	**P**	**16 36 51.6**	**+2.5**	
COLA				pmax	pmax				
	comp=Z,60nm,1.7s								
COLA	**College**	**45.88**	**339**	*eP*		**P**	**16 36 50.6**	**+1.5**	
POKR	**Poker Plat Res**	**45.90**	**339**	P		**P**	**16 36 49.6**	**+0.2**	
	baz=130								
MDM	**Murphy Dome**	**46.06**	**339**	*eP*		**P**	**16 36 49.3**	**-1.4**	
	comp=Z,58nm,1.4s								
MDM				LR	LR				
	comp=Z,4µm,20.0s								
FYU	**Fort Yukon**	**46.21**	**341**	*eP*		**P**	**16 36 50.5**	**-1.2**	
	comp=Z,228nm,1.5s								
FYU				LR	LR				
	comp=Z,3µm,19.0s								
PPLA	**Purkeypile**	**46.24**	**335**	*eP*		**P**	**16 36 51.2**	**-1.0**	
	comp=Z,292nm,1.5s								
PPLA				LR	LR				
	comp=Z,1µm,21.0s								
BPAW	**Bear Paw Mtn.**	**46.48**	**337**	*eP*		**P**	**16 36 52.8**	**-1.1**	
	comp=Z,48nm,1.0s								
BPAW				LR	LR				
	comp=Z,4µm,20.0s								
CAST	**Castle Rocks**	**46.49**	**336**	*eP*		**P**	**16 36 52.7**	**-1.3**	
	comp=Z,71nm,1.3s								
CAST				LR	LR				
	comp=Z,3µm,19.0s								
SVW2	**Sparrevohn**	**46.69**	**332**	*eP*		**P**	**16 36 54.3**	**-1.3**	
	comp=Z,54nm,1.0s								
SVW2				LR	LR				
	comp=Z,2µm,20.0s								
DRLN	**Deer Lake**	**46.73**	**46**	*eP*		**P**	**16 36 59.7**	**+3.6**	
	comp=Z,194nm,1.4s								
DRLN				LR	LR				
	comp=Z,11µm,20.0s								
MLY	**Manley**	**46.94**	**338**	*eP*		**P**	**16 36 56.1**	**-1.5**	
	comp=Z,52nm,1.1s								
MLY				LR	LR				
	comp=Z,3µm,22.0s								
FDF	**Fort de France**	**47.04**	**94**	*eP*		**P**	**16 37 00.8**	**+1.8**	
	comp=Z,128nm,1.0s								
FDF				LR	LR				
	comp=Z,2µm,20.0s								
FDF	**Fort de France**	**47.04**	**94**	*eP*		**P**	**16 37 00.8**	**+1.8**	
FDF				pmax	pmax				
	comp=Z,128nm,1.0s								
FDF				MLR	MLR				
	comp=Z,2µm,20.0s								
SVB	**Belmont**	**47.50**	**96**	PFAKE			16 37 10.0	+7.4	
SVB				LR	LR				
	comp=Z,4µm,21.0s								
GRGR	**Grenville**	**47.59**	**97**	*eP*		**P**	**16 37 02.2**	**-1.1**	
	comp=Z,1µm,1.5s								
GRGR				LR	LR				
	comp=Z,4µm,20.0s								
COLD	**Coldfoot**	**48.12**	**340**	*eP*		**P**	**16 37 05.0**	**-1.7**	
	comp=Z,59nm,1.4s								
COLD				LR	LR				
	comp=Z,8µm,19.0s								
IM3	**Indian Mountai**	**48.52**	**338**	*eP*		**P**	**16 37 07.7**	**-2.0**	
BBGH	**Gun Hill**	**49.07**	**95**	PFAKE			16 37 30.0	+15	
BBGH				LR	LR				
	comp=Z,8µm,21.0s								
RES	**Resolute Bay**	**49.56**	**5**	*eP*		**P**	**16 37 14.9**	**-2.7**	
	comp=Z,36nm,1.1s								
RES				LR	LR				
	comp=Z,7µm,19.0s								
RES	**Resolute Bay**	**49.56**	**5**	*eP*		**P**	**16 37 14.9**	**-2.7**	
RES				pmax	pmax				
	comp=Z,36nm,1.1s								
RES				MLR	MLR				
	comp=Z,7µm,19.0s								
NNA	**Nana**	**49.64**	**135**	*eP*		**P**	**16 37 19.9**	**+0.9**	
	comp=Z,207nm,1.3s								
NNA				LR	LR				
	comp=Z,1µm,21.0s								
NNA	**Nana**	**49.64**	**135**	*eP*		**P**	**16 37 19.9**	**+0.9**	
NNA				pmax	pmax				
	comp=Z,207nm,1.3s								
NNA				MLR	MLR				
	comp=Z,1µm,21.0s								
XMAS	**Kiritimati**	**51.22**	**250**	PFAKE			16 37 40.0	+9.0	
XMAS				LR	LR				
	comp=Z,7µm,20.0s								
ANM	**Nome**	**52.21**	**333**	*eP*		**P**	**16 37 36.7**	**-1.0**	
	comp=Z,103nm,1.5s								
ANM				LR	LR				
	comp=Z,2µm,19.0s								
ANM	**Nome**	**52.21**	**333**	*eP*		**P**	**16 37 36.7**	**-1.0**	
ANM				pmax	pmax				
	comp=Z,103nm,1.5s								
ANM				MLR	MLR				
	comp=Z,2µm,19.0s								
RPN	**Rapa Nui**	**52.64**	**179**	PFAKE			16 37 50.0	+8.7	
RPN				LR	LR				
	comp=Z,5µm,22.0s								
RDOG	**Red Dog Mine**	**52.67**	**338**	*eP*		**P**	**16 37 39.3**	**-1.7**	
	comp=Z,78nm,1.0s								
RDOG				LR	LR				
	comp=Z,2µm,21.0s								
RKT	**Rikitea**	**54.26**	**208**	*eP*		P	16 38 00.0	+6.8	
	comp=Z,75nm,1.1s								
RKT				*eS*		S	16 45 41.2	+11	
	comp=Z,1µm,35.0s								
RKT				*eLR*		LR	16 53 49.7		
	comp=Z,2µm,25.2s,baz=26								
IVI	**Ivigtut**	**54.27**	**32**	PFAKE			16 38 00.0	+7.1	
IVI				LR	LR				
	comp=Z,6µm,20.0s								
TULEG	**Thule**	**54.57**	**11**	*eP*		**P**	**16 37 52.7**	**-2.2**	
	comp=Z,39nm,1.3s								
TULEG				LR	LR				
	comp=Z,14µm,18.0s								
GAMB	**Gambell**	**54.63**	**331**	*eP*		**P**	**16 37 59.3**	**+3.9**	
	comp=Z,46nm,1.4s								
GAMB				LR	LR				
	comp=Z,2µm,21.0s								
SFJD	**Kangerlussuaq**	**54.70**	**25**	P		**P**	**16 37 54.2**	**-1.7**	
	comp=Z,4.8nm,0.8s,baz=245,slow=8.2,SNR=3.1								
SFJD	**Kangerlussuaq**	**54.70**	**25**	*eP*		**P**	**16 37 51.6**	**-4.3**	
	comp=Z,101nm,1.4s								
SFJD				LR	LR				
	comp=Z,6µm,22.0s								
SFJD	**Kangerlussuaq**	**54.70**	**25**	*eP*		**P**	**16 37 51.6**	**-4.3**	
SFJD				pmax	pmax				
	comp=Z,101nm,1.4s								
SFJD				MLR	MLR				
	comp=Z,6µm,22.0s								
SFJD	**Kangerlussuaq**	**54.70**	**25**	*eP*		**P**	**16 37 55.6**	**-0.3**	
ILULI	**Ilulissat**	**55.24**	**22**	PFAKE			16 38 10.0	+10	
ILULI				LR	LR				
	comp=Z,2µm,18.0s								
NRS	**Narsarsuaq**	**55.58**	**32**	PFAKE			16 38 10.0	+7.7	
NRS				LR	LR				
	comp=Z,3µm,21.0s								
TIAR	**Tiarei**	**57.55**	**226**	*eP*		P	16 38 24.4	+7.5	
	comp=Z,33nm,1.3s								
TVO	**Taravao**	**57.65**	**225**	*eP*		P	16 38 25.4	+7.7	
	comp=Z,19nm,1.1s								
PPT	**Papeete**	**57.70**	**226**	LR		LR	16 56 53.3		
	comp=Z,2µm,18.4s,baz=39,slow=30								
LPAZ	**La Paz**	**58.52**	**131**	P		**P**	**16 38 24.4**	**-0.1**	
	comp=Z,17nm,1.2s,baz=332,slow=7.1,SNR=16								
LPAZ				LR		LR	17 01 04.6		
	comp=Z,1µm,21.0s,baz=327,slow=34								
LPAZ	**La Paz**	**58.52**	**131**	*eP*		**P**	**16 38 23.5**	**-0.9**	
	comp=Z,45nm,1.4s								
LPAZ	**La Paz**	**58.52**	**131**	*eP*		**P**	**16 38 23.5**	**-0.9**	
LPAZ				pmax	pmax				
	comp=Z,45nm,1.4s								
LPAZ	**La Paz**	**58.52**	**131**	*eP*		**P**	**16 38 25.9**	**+1.4**	
ANGG	**Ammassalik, Gr**	**59.57**	**27**	PFAKE			16 38 40.0	+10	
ANGG				LR	LR				
	comp=Z,3µm,18.0s								
MNMC	**Minye Minye**	**59.58**	**135**	*eP*		**P**	**16 38 30.5**	**-0.9**	
	comp=Z,104nm,1.4s								
PB11	**IPOC Station P**	**60.01**	**135**	*eP*		**P**	**16 38 33.4**	**-0.7**	
	comp=Z,136nm,1.4s								
SUMG	**Summit**	**60.12**	**19**	*eP*		**P**	**16 38 31.9**	**-2.7**	
	comp=Z,77nm,1.3s								
SUMG				LR	LR				
	comp=Z,3µm,20.0s								
SUMG	**Summit**	**60.12**	**19**	*i*	P	**P**	**16 38 35.1**	**+0.6**	
	comp=Z,182nm,1.3s								
	comp=Z,14µm,14.0s								
SUMG	**Summit**	**60.12**	**19**	*eP*		**P**	**16 38 35.1**	**+0.6**	
SUMG				pmax	pmax				
	comp=Z,180nm,1.3s								
SUMG				MLR	MLR				
	comp=Z,14µm,14.0s								
PB01	**IPOC Station P**	**61.05**	**136**	*eP*		**P**	**16 38 40.1**	**-1.1**	
	comp=Z,117nm,1.4s								
PB04	**IPOC Station P**	**61.60**	**137**	*eP*		P	16 38 51.1	+6.1	
	comp=Z,168nm,1.5s								
TBI	**Tubuai**	**61.95**	**221**	*eS*		S	16 47 22.5	+12	
	comp=Z,674nm,25.8s								
TBI				*eLQ*		LQ	16 54 49.2		
	comp=Z,3µm,35.2s								
TBI				*eLR*		LR	16 57 12.6		
	comp=Z,2µm,27.5s,baz=40								
PB10	**IPOC Station P**	**62.25**	**139**	*eP*		**P**	**16 38 48.4**	**-0.7**	
	comp=Z,83nm,1.4s								
LVC	**Limon Verde**	**62.57**	**137**	*eP*		**P**	**16 38 51.1**	**-0.7**	
	comp=Z,79nm,1.5s								
LVC	**Limon Verde**	**62.57**	**137**	*eP*		**P**	**16 38 51.1**	**-0.7**	
LVC				pmax	pmax				
	comp=Z,79nm,1.5s								
LVC	**Limon Verde**	**62.57**	**137**	*eP*		**P**	**16 38 53.5**	**+1.7**	
BILL	**Bilibino**	**63.94**	**335**	*eP*		**P**	**16 38 57.4**	**-2.4**	
	comp=Z,61nm,1.3s								
BILL				LR	LR				
	comp=Z,2µm,19.0s								
BILL	**Bilibino**	**63.94**	**335**	*de*	*eP*	**P**	**16 38 58.8**	**-1.0**	
BILL				*i*			16 39 36.5		
BILL				*e*			16 41 20.1		
BILL				*i*	S	**S**	**16 47 40.1**	**+5.7**	
BILL				*i*	SS	**SS**	**16 51 49.3**	**+6.9**	
BILL				pmax	pmax				
	comp=Z,15nm,1.2s								
BILL				MLR	MLR				
	comp=Z,2µm,15.0s								
GO02	**Mina Guanaco**	**64.07**	**139**	*eP*		**P**	**16 39 01.2**	**-0.3**	
	comp=Z,183nm,1.4s								
YJA	**Yavi**	**64.41**	**134**	*eP*		**P**	**16 39 04.1**	**0.0**	
HJA	**Humahuaca**	**65.22**	**134**	*i*	P	**P**	**16 39 09.4**	**+0.2**	
SCO	**Scoresbysund**	**65.33**	**22**	*eP*		**P**	**16 39 12.7**	**+3.9**	
	comp=Z,38nm,1.1s								
SCO				LR	LR				
	comp=Z,4µm,18.0s								
SCO	**Scoresbysund**	**65.33**	**22**	*i*	P	**P**	**16 39 11.1**	**+2.3**	
	comp=Z,37nm,1.1s								
	comp=Z,5µm,13.0s								
SCO	**Scoresbysund**	**65.33**	**22**	*eP*		**P**	**16 39 11.1**	**+2.3**	
SCO				pmax	pmax				
	comp=Z,37nm,1.1s								
SCO				MLR	MLR				
	comp=Z,5µm,13.0s								
KNTN	**Kanton**	**65.93**	**254**	PFAKE			16 39 30.0	+16	
KNTN				LR	LR				
	comp=Z,3µm,20.0s								
AZAP	**Zapla**	**66.16**	**135**	*i*	P	**P**	**16 39 15.0**	**-0.1**	
LCO	**Las Campanas**	**66.39**	**143**	*eP*		**P**	**16 39 15.5**	**-1.0**	
	comp=Z,60nm,1.2s								
LCO	**Las Campanas**	**66.39**	**143**	*eP*		**P**	**16 39 15.5**	**-1.0**	
LCO				pmax	p

AAGR Agrelo 70.56 144 *i* P **P** 16 39 45.2 +2.8
KBS Kingsbay 70.59 10 PFAKE 16 39 50.0 +8.2
KBS LR LR
comp=Z,7μm,20.0s
SEY Seymchan 70.63 331⇓ *e*P **P** 16 39 41.1 -1.2
ACAN Cantantal 70.82 142 *i* P **P** 16 39 41.1 -2.8
PETK Petropavlovsk- 71.02 320 P **P** 16 39 43.1 -1.7
comp=Z,13nm,1.0s,baz=82,slow=11,SNR=6.3
PETK LR LR 17 07 39.2
comp=Z,286nm,21.2s,baz=74,slow=33
PETK Petropavlovsk- 71.02 320 *e*P **P** 16 39 42.2 -2.7
PETK Petropavlovsk- 71.02 320 *e*P **P** 16 39 42.2 -2.7
AVIZ Vizcacheras 71.02 144 *i* P **P** 16 39 48.0 +2.8
TCA Tanti 71.59 140 *i* P **P** 16 39 47.5 -1.1
MRA San Martin 71.75 141 *e*P **P** 16 39 48.5 -1.1
MA2 Magadan 72.51 328 P **P** 16 39 52.2 -1.5
comp=Z,12nm,0.8s,baz=73,slow=7.7,SNR=13
MA2 Magadan 72.51 328 *e*P **P** 16 39 51.2 -2.5
MA2 LR LR
comp=Z,81nm,1.5s
comp=Z,1μm,21.0s
MA2 Magadan 72.51 328⇑ *e*P **P** 16 39 53.1 -0.6
MA2 pmax pmax
comp=Z,15nm,1.4s
CPUP Villa Florida 72.68 131 P **P** 16 39 54.3 -0.8
comp=Z,112nm,1.4s,baz=323,slow=6.4,SNR=15
CPUP LR LR 17 11 11.1
comp=Z,402nm,21.3s,baz=339,slow=35
CPUP Villa Florida 72.68 131 *e*P **P** 16 39 53.4 -1.7
comp=Z,79nm,1.3s
CPUP Villa Florida 72.68 131 *e*P **P** 16 39 53.4 -1.7
CPUP pmax pmax
comp=Z,79nm,1.3s
SKR Severo-Kuril's 72.73 318 *e*P P 16 40 11.3 +16
SKR pmax pmax
comp=Z,400nm,6.1s
SKR MLR MLR
comp=Z,500nm,20.0s
BDFB Brasilia 73.16 117 P **P** 16 39 56.9 -1.4
comp=Z,24nm,1.2s,baz=79,slow=1.8,SNR=8.8
BDFB LR LR 17 14 58.1
comp=Z,2μm,19.2s,baz=299,slow=38
BDFB Brasilia 73.16 117 *e*P **P** 16 39 55.6 -2.7
comp=Z,74nm,1.3s
BDFB Brasilia 73.16 117 *e*P **P** 16 39 55.6 -2.7
BDFB pmax pmax
comp=Z,74nm,1.3s
ITRB Iturama 73.62 122 *e*P **P** 16 40 02.9 +2.1
TRCB Terra Rica 73.75 126 *e*P **P** 16 40 02.9 +1.3
IPMB Ipameri, GO 74.30 119 *e*P **P** 16 40 04.4 -0.5
GO06 Curarrehue 74.41 150 *e*P **P** 16 40 04.1 -1.1
comp=Z,56nm,1.3s
GO06 *e*P **P** 16 40 07.3 +2.2
GO06 LR LR
comp=Z,2μm,19.0s
TIXI Tiksi 74.70 344 P **P** 16 40 04.1 -2.2
comp=Z,4.9nm,0.9s,baz=54,slow=6.2,SNR=19
TIXI Tiksi 74.70 344 *e*P **P** 16 40 03.0 -3.3
comp=Z,26nm,1.1s
TIXI LR LR
comp=Z,2μm,18.0s
TIXI Tiksi 74.70 344⇑ *e*P **P** 16 40 06.7 +0.4
TIXI pmax pmax
comp=Z,34nm,1.4s
PTGB Pitanga 75.34 127 *e*P **P** 16 40 12.9 +2.1
PLCA Paso Flores 75.75 150 P **P** 16 40 12.2 -0.6
comp=Z,15nm,1.0s,baz=348,slow=7.0,SNR=15
PLCA LR LR 17 07 04.4
comp=Z,2μm,18.2s,baz=356,slow=31
PLCA Paso Flores 75.75 150 *e*P **P** 16 40 11.8 -1.0
comp=Z,111nm,1.3s
PLCA Paso Flores 75.75 150 *e*P **P** 16 40 11.8 -1.0
PLCA pmax pmax
comp=Z,111nm,1.3s
BB19B Bebedouro 75.81 122 *e*P **P** 16 40 15.6 +2.1
FRTB Fartura 76.34 125 *e*P **P** 16 40 18.5 +2.0
ITAB Concordia 76.83 129 *e*P **P** 16 40 20.9 +1.8
MCI8 Montes Claros 77.01 116 *e*P **P** 16 40 22.5 +2.1
MCI9 Montes Claros 77.06 116 *e*P **P** 16 40 22.9 +2.1
MCI6 Montes Claros 77.11 116 *e*P **P** 16 40 21.8 +0.8
MCI7 Montes Claros 77.16 116 *e*P **P** 16 40 23.5 +2.2
RCLB Rio Claro- Sao 77.34 123 *e*P **P** 16 40 24.3 +2.1
DSB Dublin 77.46 37 PFAKE 16 40 30.0 +7.6
DSB LR LR
comp=Z,4μm,18.0s
TARA Tarawa 77.64 265 PFAKE 16 40 40.0 +16
TARA LR LR
comp=Z,6μm,20.0s
TIJ01 Guaruva-PR 77.92 126 *e*P **P** 16 40 27.6 +2.2
TRQA Tornquist 77.96 143 *e*P **P** 16 40 24.8 -0.5
comp=Z,48nm,1.2s
TRQA LR LR
comp=Z,1μm,20.0s
TRQA Tornquist 77.96 143 *e*P **P** 16 40 24.8 -0.5
TRQA pmax pmax
comp=Z,48nm,1.2s
TRQA MLR MLR
comp=Z,1μm,20.0s
TRQA Tornquist 77.96 143 *e*P **P** 16 40 27.3 +2.0
SPB Sao Paulo 78.08 124 *e*P **P** 16 40 24.9 -1.3
comp=Z,106nm,1.5s
SPB *e*P **P** 16 40 28.6 +2.4
SPB LR LR
comp=Z,1μm,21.0s
ESK Eskdalemuir 78.16 34 PFAKE 16 40 40.0 +14
ESK LR LR
comp=Z,3μm,18.0s
RCBR Riachuelo 78.48 102 PFAKE 16 40 40.0 +11
RCBR LR LR
comp=Z,2μm,21.0s
RCBR Riachuelo 78.48 102 *e*P **P** 16 40 29.5 +0.8
PMOZ Porto Moniz, M 78.79 59 *e*P P 16 40 36.2 +5.9
comp=Z,168nm,1.4s
PMOZ Porto Moniz, M 78.79 59 *e*LR LR 17 10 09.2
comp=Z,1μm,20.0s
CNLB Canela 79.00 130 *e*P **P** 16 40 32.9 +1.7
PMPS Porto Santo 79.36 58 *e*P **P** 16 40 37.5 +4.3
ARCES ARCESS Array B 79.70 14 P **P** 16 40 34.5 0.0
comp=Z,6.5nm,1.0s,baz=330,slow=5.3,SNR=3.6
ARCES LR LR 17 18 02.3
comp=Z,129nm,18.8s,baz=329,slow=37
TER01 Tubaro-SC 79.73 129 *e*P **P** 16 40 37.8 +2.6
KEV Kevo 79.86 14 PFAKE 16 40 50.0 +15
KEV LR LR
comp=Z,4μm,21.0s
YAK Yakutsk 80.30 336 *e*P **P** 16 40 40.5 +2.7
YAK pmax pmax
comp=Z,22nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.3s
YAK pmax pmax
comp=E,14nm,1.3s
SJMB Sao Joao De Ma 80.30 116 *e*P **P** 16 40 40.1 +1.6
NKL Nikolayevsk 80.35 325 *e*P **P** 16 40 39.0 +0.8
NKL *e* 16 50 49.0
NKL *e* 16 55 49.0
NKL pmax pmax
comp=Z,150nm,2.0s
VAS01 Vassouras-RJ 80.40 120 *e*P **P** 16 40 41.2 +2.2
TYV Tymovskoe 80.43 322 *e*P **P** 16 40 37.2 -1.5
TYV *e* 16 50 40.4
TYV pmax pmax
comp=Z,23nm,1.1s
TYV pmax pmax
comp=Z,200nm,2.2s
TYV MLR MLR
comp=Z,600nm,23.0s
DUB01 Friburgo-RJ 81.13 120 *e*P **P** 16 40 44.3 +1.4
RIB01 Linhares ES 81.25 116 *e*P **P** 16 40 45.5 +1.9
PGAV Gavieira, Arco 81.37 48 *e*LQ LQ 17 04 53.7
PGAV *e*LR LR 17 08 36.4
comp=Z,6μm,18.0s
NB2 NORSAR Subarra 81.37 25 P **P** 16 40 44.5 +0.9
comp=Z,429nm,5.0s,baz=311,slow=5.6
NB2 NORSAR Subarra 81.37 25 P **P** 16 40 44.5 +0.9
baz=311,slow=5.6
NOA NORSAR Array B 81.37 25 P **P** 16 40 44.2 +0.6
comp=Z,2.6nm,1.0s,baz=308,slow=5.0,SNR=5.3
NOA LR LR 17 15 27.8
comp=Z,2μm,21.5s,baz=315,slow=35
CAM01 Campos-RJ 81.56 119 *e*P **P** 16 40 47.8 +2.7
KONO Kongsberg 81.61 26 *e*P **P** 16 40 43.1 -1.7
comp=Z,41nm,1.1s
KONO LR LR
comp=Z,3μm,19.0s

KONO Kongsberg 81.61 26⇓ *e*P **P** 16 40 47.1 +2.3
KONO pmax pmax
comp=Z,47nm,1.2s
ALF01 Guarapari-ES 81.66 118 *e*P **P** 16 40 47.8 +2.1
YUK Yuzh-Kuril'sk 81.78 315 *e*P P 16 40 41.2 -4.8
YUK *e*S **S** 16 50 50.2 -8.0
YUK pmax pmax
comp=Z,250nm,1.1s
YUK pmax pmax
comp=N,49nm,0.6s
YUK pmax pmax
comp=E,14nm,0.6s
YUK MLR MLR
comp=Z,571nm,15.0s
POLO Lamas de Olo 81.95 48 *e*P P 16 40 52.0 +4.8
comp=Z,48nm,1.3s
PVIS Viseu 82.19 49 *e*P **P** 16 40 49.8 +1.5
comp=Z,80nm,1.4s
YSS Yuzh-Sakhalins 82.29 319 *e*P **P** 16 40 50.7 +2.1
comp=Z,43nm,1.0s
YSS Yuzh-Sakhalins 82.29 319 *e*P **P** 16 40 51.4 +2.8
YSS *e* 16 50 59.9
YSS *e*S **S** 16 51 06.9 +3.5
YSS *e*PS PnS 16 52 11.6 +18
YSS pmax pmax
comp=Z,30nm,1.0s
YSS pmax pmax
comp=Z,100nm,6.0s
PTOM Tomar 82.34 50 *e*P **P** 16 40 53.1 +4.0
comp=Z,139nm,1.3s
MVO Moncorvo 82.56 48 *e*P P 16 40 54.9 +4.6
comp=Z,79nm,1.6s
MVO Moncorvo 82.56 48 *e*LQ LQ 17 06 36.9
MVO *e*LR LR 17 09 32.8
comp=Z,4μm,18.0s
MTE Manteigas 82.57 49 *e*P **P** 16 40 53.4 +3.0
comp=Z,92nm,1.2s
MTE Manteigas 82.57 49 *e*LQ LQ 17 06 46.6
MTE *e*LR LR 17 09 27.1
comp=Z,3μm,20.0s
MTE Manteigas 82.57 49 *e*P **P** 16 40 53.2 +2.9
comp=Z,50nm,1.0s
MTE LR LR
comp=Z,4μm,21.0s
PCBR Castelo Branco 82.87 49 *e*P **P** 16 40 55.2 +3.4
comp=Z,63nm,2.0s
HFS Hagfors 82.89 25 P **P** 16 40 51.2 -0.3
comp=Z,9.0nm,0.9s,baz=251,slow=4.5,SNR=7.7
PNCL Nicolau / Gran 82.94 51 *e*P **P** 16 40 56.7 +4.5
comp=Z,81nm,1.4s
APA Apatity 83.01 13⇓ *i*P **P** 16 40 54.2 +2.2
APA pmax pmax
comp=Z,14nm,0.9s
APA MLR MLR
comp=Z,5μm,20.0s
PTEO Sao Teotonio 83.06 52 *e*P P 16 40 57.8 +4.9
comp=Z,206nm,1.8s
PMRV Marv??o 83.12 50 *e*P **P** 16 40 54.9 +1.7
comp=Z,83nm,1.7s
PMRV Marv??o 83.12 50 *e*LQ LQ 17 07 14.6
PMRV *e*LR LR 17 09 48.5
comp=Z,3μm,18.0s
PFVI Vila Bisbo 83.18 52 *e*P P 16 40 58.5 +5.0
comp=Z,195nm,1.7s
PFVI Vila Bisbo 83.18 52 PFAKE 16 41 00.0 +6.5
PFVI LR LR
comp=Z,4μm,19.0s
PESTR Estremoz 83.25 50 *e*P **P** 16 40 58.0 +4.2
comp=Z,66nm,1.6s
PESTR Estremoz 83.25 50 PFAKE 16 41 00.0 +6.2
PESTR LR LR
comp=Z,2μm,20.0s
MESJ Messejana 83.28 51 *e*P **P** 16 40 57.2 +3.2
comp=Z,76nm,1.5s
MUD Monsted U'grnd 83.39 29 *i* P P 16 40 58.9 +4.8
comp=Z,55nm,1.1s
MUD Monsted U'grnd 83.39 29 *e*P P 16 40 58.9 +4.8
MUD pmax pmax
comp=Z,55nm,1.1s
GO09 Cerro Castillo 83.67 157 PFAKE 16 41 10.0 +15
GO09 LR LR
comp=Z,1μm,20.0s
PBDV Barranco-do-Ve 83.76 52 *e*P **P** 16 40 59.8 +3.3
comp=Z,171nm,1.7s
PVAQ Vaqueiros 83.84 51 *e*P P 16 41 01.9 +5.0
comp=Z,145nm,1.6s
PVAQ Vaqueiros 83.84 51 *e*LQ LQ 17 06 54.4
PVAQ *e*LR LR 17 09 29.6
comp=Z,3μm,20.0s
GRNR Gornyy 83.85 324 *e*P **P** 16 40 55.1 -1.6
GRNR pmax pmax
comp=Z,16nm,1.1s
UCC Uccle 84.41 35 PFAKE 16 41 10.0 +11
UCC LR LR
comp=Z,4μm,19.0s
ERM Erimo 84.49 314⇑ *e*P **P** 16 41 03.0 +2.9
ERM pmax pmax
comp=Z,139nm,1.3s
CLF Chambon-Foret 84.82 39 *e*P **P** 16 41 01.1 -0.5
comp=Z,152nm,1.5s
CLF LR LR
comp=Z,5μm,18.0s
DOU Dourbes 84.93 36 ⇑P **P** 16 41 03.0 +0.9
comp=Z,18nm,1.7s
PAB San Pablo 85.14 48 *e*P **P** 16 41 07.3 +3.8
comp=Z,73nm,1.5s
PAB LR LR
comp=Z,3μm,19.0s
IBBN Ibbenburen 85.25 33 *e*P **P** 16 41 07.2 +3.5
baz=312,slow=4.7
ESDC Sonseca Array 85.33 48 P **P** 16 41 03.8 -0.7
comp=Z,3.9nm,1.0s,baz=304,slow=5.0,SNR=9.0
ESDC LR LR 17 18 06.6
comp=Z,3μm,18.7s,baz=295,slow=35
ESLA Sonseca Array 85.33 48 PFAKE 16 41 10.0 +5.5
ESLA LR LR
comp=Z,4μm,19.0s
SFS San Fernando 85.35 52 PFAKE 16 41 10.0 +5.5
SFS LR LR
comp=Z,2μm,19.0s
ES19 SONSECA Array 85.36 48 *e*P **P** 16 41 03.1 -1.5
ES19 *e*P **P** 16 41 06.9 +2.3
MEM Membach 85.38 35 ⇑P **P** 16 41 05.8 +1.4
comp=Z,20nm,1.2s
BSEG Bad Segeberg 85.47 31 *e*P **P** 16 41 07.5 +2.8
baz=312,slow=4.7
BUG Bochum--Univer 85.53 34 *e*P **P** 16 41 08.6 +3.5
comp=Z,5.3nm,0.8s,baz=312,slow=4.7
AHRW Bad Neuenahr-A 85.97 35 *e*P **P** 16 41 10.0 +2.7
comp=Z,24nm,1.3s,baz=312,slow=4.7
WLF Walferdange 86.01 36 *e*P **P** 16 41 09.9 +2.4
comp=Z,170nm,1.0s
WLF LR LR
comp=Z,18μm,18.0s
WLF Walferdange 86.01 36 *e*P **P** 16 41 11.2 +3.7
baz=312,slow=4.7
WLF Walferdange 86.01 36 ⇑P **P** 16 41 09.4 +1.9
comp=Z,38nm,1.3s
FIA1 FINESS Array S 86.15 19 *e*P **P** 16 41 07.3 -0.7
FINES FINESS Array B 86.15 19 P **P** 16 41 07.3 -0.7
comp=Z,4.7nm,0.9s,baz=321,slow=2.7,SNR=5.7
FINES LR LR 17 18 17.3
comp=Z,3μm,21.5s,baz=318,slow=35
NRDL Niedersach Rie 86.27 32 *e*P **P** 16 41 11.8 +3.1
comp=Z,22nm,1.2s,baz=312,slow=4.7
ZEA Zeya 86.56 330 *e*P **P** 16 41 09.0 -1.2
ZEA *e* 16 51 49.0
ZEA pmax pmax
comp=N,64nm,1.8s
ZEA pmax pmax
comp=Z,80nm,1.8s
ASSE Asse, Remlinge 86.77 32 *e*P **P** 16 41 13.7 +2.5
baz=312,slow=4.7
GTTG Gvttingen 86.80 33 *e*P **P** 16 41 14.4 +3.0
comp=Z,35nm,1.2s,baz=312,slow=4.7
CLZ Clausthal 86.81 32 *e*P **P** 16 41 14.3 +2.8
baz=312,slow=4.7
TNS Taunus Mts 86.86 34 *e*P **P** 16 41 14.2 +2.4
baz=312,slow=4.7
KLR Kul'dur 87.20 325 P **P** 16 41 13.5 +0.1
comp=Z,0.9nm,0.7s,baz=87,slow=2.5,SNR=4.3
KLR Kul'dur 87.20 325 ⇑*i*P **P** 16 41 14.0 +0.6
UBBA Unterbreizbach 87.27 33 *e*P **P** 16 41 16.1 +2.6
comp=Z,16nm,1.2s,baz=312,slow=4.7
ECH Echery 87.40 37 PFAKE 16 41 20.0 +5.6
ECH LR LR
comp=Z,6μm,18.0s

SSB Saint Sauveur 87.66 40 PFAKE 16 41 30.0 +14
SSB LR LR
comp=Z,3μm,18.0s
SLIT Slitere, Latvi 87.83 23 *e*P **P** 16 41 13.8 -2.3
SLIT IAmb IAmb 16 41 26.9
comp=Z,185nm,1.3s
BFO Black Forest 87.95 36 PFAKE 16 41 30.0 +13
BFO LR LR
comp=Z,4μm,20.0s
STU Stuttgart 88.14 35 PFAKE 16 41 30.0 +12
STU LR LR
comp=Z,4μm,19.0s
MOX Moxa 88.17 33 *e*P **P** 16 41 20.1 +2.0
comp=Z,3.9nm,1.0s,baz=312,slow=4.7
MOX *e*L L 17 19 27.0
comp=Z,5μm,18.2s
CART Cartagena 88.39 49 PFAKE 16 41 30.0 +11
CART LR LR
comp=Z,3μm,18.0s
CLL Collm 88.41 32 PFAKE 16 41 30.0 +11
CLL LR LR
comp=Z,2μm,20.0s
CLL Collm 88.41 32 *e*P **P** 16 41 21.4 +2.2
baz=312,slow=4.7
CLL Collm 88.41 32 *e*P **P** 16 41 20.0 +0.9
comp=Z,25nm,1.6s
CLL *e*pP **P** 16 41 22.0 +2.9
CLL *e* 16 41 29.0
CLL *e*S **S** 16 52 04.0 +0.4
CLL *e*SS **SS** 16 57 53.0 +0.5
CLL *e*SSS SSS 17 01 30.0
CLL *e*SSSS 17 04 30.0
CLL Lm MLR 17 18 00.0
comp=N,2μm,20.7s
CLL Lm MLR 17 18 00.0
comp=E,2μm,21.0s
CLL Lm MLR 17 18 00.0
comp=Z,2μm,21.7s
CLL Collm 88.41 32 *e*P **P** 16 41 22.0 +2.9
CLL *e*S **S** 16 52 04.0 +0.4
CLL pmax pmax
comp=Z,25nm,1.6s
CLL MLR MLR
comp=Z,2μm,21.7s
SENIN Lac Senin/Sane 88.59 38 PFAKE 16 41 30.0 +10
SENIN LR LR
comp=Z,4μm,22.0s
GRA1 Grafenberg Arr 88.59 34 *e*P **P** 16 41 19.5 -0.6
comp=Z,34nm,1.2s
GRA1 *e*P **P** 16 41 22.5 +2.5
GRA1 LR LR
comp=Z,3μm,18.0s
GRF Grafenberg Arr 88.59 34 *e*P **P** 16 41 22.4 +2.4
comp=Z,5.9nm,0.8s,baz=312,slow=4.7
GRF *e*L L 17 21 54.0
comp=Z,3μm,20.1s
GRF Grafenberg Arr 88.59 34 *e*P **P** 16 41 19.5 -0.6
GRF *e* 16 41 22.5
GRF pmax pmax
comp=Z,34nm,1.2s
GRF MLR MLR
comp=Z,3μm,18.0s
GRFO Grafenberg 88.59 34 *e*P **P** 16 41 19.4 -0.6
comp=Z,32nm,1.2s
GRFO *e*P **P** 16 41 22.5 +2.5
GRFO LR LR
comp=Z,3μm,18.0s
GRFO Grafenberg 88.59 34 *e*P **P** 16 41 19.4 -0.6
GRFO *e* 16 41 22.5
GRFO pmax pmax
comp=Z,32nm,1.2s
GRFO MLR MLR
comp=Z,3μm,18.0s
VSU Vasula 88.70 21⇑ *e*P **P** 16 41 21.4 +1.1
VSU pmax pmax
comp=Z,56nm,1.4s
VSU Vasula 88.70 21 *e*P **P** 16 41 19.1 -1.2
VSU IAmb IAmb 16 41 30.2
comp=Z,117nm,1.4s
GUNZ Gunzen 88.71 33 *e*P **P** 16 41 23.0 +2.4
baz=312,slow=4.7
TANN Tannenbergstha 88.74 33 *e*P **P** 16 41 23.3 +2.5
comp=Z,6.8nm,0.9s,baz=312,slow=4.7
WERN Wernitzgruen 88.78 33 *e*P **P** 16 41 22.8 +1.8
comp=Z,4.4nm,1.1s,baz=312,slow=4.7
MANZ Manzenberg 88.84 33 *e*P **P** 16 41 23.0 +1.8
comp=Z,25nm,1.0s,baz=312,slow=4.7
NKC Novy Kostel 88.85 33 AMS AMS 17 19 40.0
comp=Z,5μm,17.2s
BOD Bodaibo 88.86 338 *e*P **P** 16 41 21.6 +0.5
BOD pmax pmax
comp=Z,21nm,1.6s
BNI Bardonecchia 89.02 39 PFAKE 16 41 30.0 +7.7
BNI LR LR
comp=Z,4μm,19.0s
BRG Berggiesshubel 89.14 32 *e*P **P** 16 41 23.3 +0.7
comp=Z,19nm,1.4s
BRG Berggiesshubel 89.14 32 S **S** 16 52 07.0 -3.6
BRG SS **SS** 16 57 54.0 -9.1
comp=N,2μm,18.8s
comp=E,2μm,16.2s
comp=Z,3μm,16.6s
BRG Berggiesshubel 89.14 32 *e*P **P** 16 41 25.4 +2.8
baz=312,slow=4.7
BRG Berggiesshubel 89.14 32 *e*P **P** 16 41 23.3 +0.7
BRG S **S** 16 52 07.0 -3.6
BRG pmax pmax
comp=Z,19nm,1.4s
BRG MLR MLR
comp=N,2μm,18.8s
BRG MLR MLR
comp=E,2μm,16.2s
BRG MLR MLR
comp=Z,3μm,16.6s
TUE Stuetta 89.64 37 PFAKE 16 41 40.0 +15
TUE LR LR
comp=Z,5μm,20.0s
EFI East Falkland 89.66 151 PFAKE 16 41 40.0 +15
EFI LR LR
comp=Z,1μm,19.0s
PVCC Panska Ves 89.67 32 AMS AMS 17 22 10.0
comp=Z,4μm,16.7s
PRA Prague 89.91 32 AMS AMS 17 20 30.0
comp=Z,5μm,16.5s
PRU Pruhonice 90.02 32 *e*S **S** 16 52 25.1 +6.3
PRU AMS AMS 17 22 20.0
comp=Z,5μm,16.1s
MOTA Moosalm 90.03 36 *e*P **P** 16 41 30.4 +3.4
comp=Z,7.0nm,1.0s
FETA Feichten 90.04 36 *e*P **P** 16 41 29.8 +2.7
comp=Z,13nm,1.2s
FUORN Ofenpass-Fuorn 90.04 36 PFAKE 16 41 40.0 +13
FUORN LR LR
comp=Z,6μm,18.0s
PABE Paberze 90.05 24 *e*P **P** 16 41 25.2 -1.5
PABE IAmb IAmb 16 41 36.1
comp=Z,27nm,1.1s
USA0B Ussuriysk Arra 90.11 321 *e*P **P** 16 41 31.4 +4.2
comp=Z,15nm,1.3s
USA0B LR LR
comp=Z,700nm,20.0s
USRK Ussuriysk Ar. 90.11 321 P **P** 16 41 28.2 +1.0
comp=Z,8.2nm,1.1s,baz=63,slow=2.7,SNR=12
KHC Kasperske Hory 90.13 33 *e*P **P** 16 41 25.3 -2.0
comp=Z,5.5nm,1.5s
KHC *e*P **P** 16 41 30.8 +3.5
KHC LR LR
comp=Z,1μm,20.0s
KHC Kasperske Hory 90.13 33 *e*S **S** 16 52 21.2 +1.3
KHC AMS AMS 17 20 20.0
comp=Z,4μm,17.4s
KHC Kasperske Hory 90.13 33 *e*P **P** 16 41 25.3 -2.0
KHC *e* 16 41 30.8
KHC pmax pmax
comp=Z,6.0nm,1.5s
KHC MLR MLR
comp=Z,1μm,20.0s
SQTA Sankt Quirin 90.16 36 *e*P **P** 16 41 29.4 +1.8
comp=Z,15nm,1.1s
KLMR Klimovskoe 90.18 14 *e*P **P** 16 41 28.0 +0.8
KLMR pmax pmax
comp=Z,22nm,1.1s
KLMR Klimovskoe 90.18 14 *e*P **P** 16 41 28.1 +0.8
KLMR AMP 16 41 37.8
comp=Z,22nm,1.1s
GOPC GO Pecny, Ondr 90.19 32 *e*S **S** 16 52 20.4 0.0

GOPC AMS AMS 17 22 30.0
comp=Z,5µm,15.7s
WATA Walderalm 90.28 35 *e*P **P 16 41 30.9 +2.7**
comp=Z,4.4nm,0.8s
UPC Upice 90.36 31 *e*S **S 16 52 27.0 +5.1**
UPC AMS AMS 17 20 20.0
comp=Z,3µm,17.9s
GEC2 GERESS Array S 90.38 33 *e*P **P 16 41 31.8 +3.2**
comp=Z,7.3nm,1.1s
GEC2 LR LR
comp=Z,3µm,21.0s
GEC2 GERESS Array S 90.38 33 *e*P **P 16 41 32.1 +3.6**
comp=Z,2.2nm,1.0s,baz=312,slow=4.7
GERES GERESS Array B 90.38 33 P **P 16 41 29.2 +0.6**
comp=Z,1.6nm,0.9s,baz=330,slow=4.6,SNR=9.6
GERES LR LR 17 21 52.2
comp=Z,3µm,19.5s,baz=304,slow=36
GEA0 GERESS Array S 90.38 33 *e*P **P 16 41 26.4 -2.1**
GEA0 *e*P **P 16 41 31.2 +2.7**
DPC Dobruska-Polom 90.61 31 *e*S **S 16 52 25.9 +1.5**
DPC AMS AMS 17 22 50.0
comp=Z,3µm,14.5s
MJAR Matsushiro Arr 90.62 312 P **P 16 41 31.2 +1.4**
comp=Z,4.2nm,0.9s,baz=48,slow=3.4,SNR=12
MJAR LR LR 17 16 20.7
comp=Z,1µm,20.1s,baz=75,slow=32
MAJO Matsushiro 90.62 312 *e*P **P 16 41 33.9 +4.1**
comp=Z,22nm,1.0s
MAJO LR LR
comp=Z,1µm,20.0s
MAJO Matsushiro 90.62 312‖ *e*P **P 16 41 33.3 +3.5**
MAJO pmax pmax
comp=Z,24nm,1.0s
MAJO Matsushiro 90.62 312 *e*P **P 16 41 32.9 +3.1**
MAT Matsushiro 90.62 312 P **P 16 41 32.9 +3.1**
MAT S **S 16 52 22.2 -2.7**
MJB9 Matsu-Tunnel 90.62 312 *e*P **P 16 41 33.9 +4.1**
comp=Z,23nm,1.0s
MJB9 LR LR
comp=Z,1µm,20.0s
PRGR Permogore 90.69 11 *e*P **P 16 41 30.2 +0.7**
PRGR pmax pmax
comp=Z,24nm,1.0s
SUW Suwalki 90.88 25 PFAKE 16 41 40.0 +9.4
SUW LR LR
comp=Z,3µm,20.0s
TREC Trest 90.94 32 AMS AMS 17 21 00.0
comp=Z,6µm,17.1s
MDJ Mudanjiang 91.21 322 PFAKE 16 41 40.0 +7.6
MDJ LR LR
comp=Z,800nm,19.0s
MOA Molln 91.32 34 *e*P **P 16 41 34.5 +1.6**
comp=Z,11nm,1.5s
KBA Koelnbreinsper 91.36 35 *e*P **P 16 41 36.3 +3.0**
comp=Z,11nm,1.4s
VRAC Vranov 91.46 32 P **P 16 41 34.4 +1.0**
comp=Z,0.6nm,0.3s,baz=22,slow=3.7,SNR=3.1
MORC Moravsky Berou 91.58 31 PFAKE 16 41 40.0 +6.0
MORC LR LR
comp=Z,3µm,21.0s
VLC Villacollemand 91.66 38 PFAKE 16 41 40.0 +5.5
VLC LR LR
comp=Z,3µm,22.0s
OKC Ostrava-Krasne 91.81 31 AMS AMS 17 23 50.0
comp=Z,4µm,17.5s
CONA Conrad Observa 92.06 33 *e*P **P 16 41 39.0 +2.7**
comp=Z,9.8nm,1.6s
MXZ Matakaoa Point 92.07 229 PFAKE 16 41 50.0 +14
MXZ LR LR
comp=Z,2µm,20.0s
ARSA Arzberg 92.35 34 *e*pP **P 16 41 38.9 +1.2**
comp=Z,5.5nm,1.0s
TRI Trieste 92.49 36 PFAKE 16 41 50.0 +12
TRI LR LR
comp=Z,3µm,20.0s
SOKA Soboth 92.50 34 PcP **P 16 41 36.7 -1.7**
comp=Z,14nm,1.5s
CBIJ Chichi jima 92.72 302 PFAKE 16 41 50.0 +10
CBIJ LR LR
comp=Z,3µm,19.0s
HIA Hailar 93.04 330 PFAKE 16 41 50.0 +9.2
HIA LR LR
comp=Z,800nm,20.0s
VYHS Vyhne 93.09 31 *e*P **P 16 41 41.4 +0.4**
VYHS Vyhne 93.09 31 *e*P **P 16 41 41.4 +0.4**
URZ Urewera 93.24 229 PFAKE 16 41 50.0 +8.4
URZ LR LR
comp=Z,2µm,20.0s
DZM Mont Dzumac 93.77 247 PFAKE 16 42 00.0 +15
DZM LR LR
comp=Z,3µm,20.0s
HNR Honiara 93.95 261 LR LR 17 15 05.2
comp=Z,4µm,21.6s,baz=94,slow=30
HNR Honiara 93.95 261 *e*P **P 16 41 46.1 +0.6**
comp=Z,115nm,0.6s
HNR Honiara 93.95 261 *e*P **P 16 41 46.1 +0.6**
HNR pmax pmax
comp=Z,115nm,0.6s
KWP Kalwaria Pacla 93.99 29 PFAKE 16 42 00.0 +15
KWP LR LR
comp=Z,17µm,18.0s
PSZ Piszkesteto 93.99 31 PFAKE 16 42 00.0 +15
PSZ LR LR
comp=Z,4µm,18.0s
OUZ Omahuta 94.20 233 PFAKE 16 42 00.0 +14
OUZ LR LR
comp=Z,2µm,18.0s
LVV L'vov 94.41 28 *e*P **P 16 41 49.4 +2.4**
LVV *e* 16 45 29.9
LVV *e* 16 52 22.2
LVV *e*S **S 16 52 57.9 -0.3**
LVV MLR MLR
comp=Z,2µm,14.0s
OBN Obninsk 94.50 18 PFAKE 16 42 00.0 +13
OBN LR LR
comp=Z,4µm,20.0s
OBN Obninsk 94.50 18 *e*P **P 16 41 47.5 +0.3**
OBN *e* 16 45 35.4
OBN *e*S **SKSac 16 52 26.2 +4.7**
OBN *e*SS **SS 16 59 15.8 -3.7**
OBN pmax pmax
comp=Z,2.0nm,1.0s
OBN MLR MLR
comp=Z,4µm,19.0s
AQU L'Aquila 94.51 38 PFAKE 16 42 00.0 +12
AQU LR LR
comp=Z,3µm,19.0s
HIZ Hauiti 94.90 230 PFAKE 16 42 00.0 +11
HIZ LR LR
comp=Z,1µm,19.0s
BLY Banja Luka 94.92 35 PFAKE 16 42 00.0 +11
BLY LR LR
comp=Z,3µm,18.0s
BFZ Birch Farm 95.03 227 PFAKE 16 42 00.0 +10
BFZ LR LR
comp=Z,2µm,20.0s
KIEV Kiev 95.78 25 PFAKE 16 42 00.0 +6.8
KIEV LR LR
comp=Z,3µm,22.0s
KIEV Kiev 95.78 25⇑ *e*P **P 16 41 54.3 +1.1**
KIEV pmax pmax
comp=Z,6.0nm,1.3s
AKASG Malin Array Be 95.78 25 P **P 16 41 53.5 +0.3**
comp=Z,0.8nm,0.6s,baz=322,slow=3.9,SNR=5.7
AKASG LR LR 17 26 15.7
comp=Z,1µm,18.3s,baz=310,slow=36
AKBB Malin Array Si 95.78 25 PFAKE 16 42 00.0 +6.8
AKBB LR LR
comp=Z,3µm,22.0s
KEST Kesra 96.28 45 P **P 16 41 56.5 +0.6**
comp=Z,8.4nm,1.1s,baz=329,slow=1.0,SNR=4.4
KEST LR LR 17 25 07.6
comp=Z,3µm,18.8s,baz=275,slow=35
SNZO South Karori 96.35 227 PFAKE 16 42 10.0 +14
SNZO LR LR
comp=Z,2µm,19.0s
KSRS Korea Array 96.72 317 P **P 16 41 59.2 +1.5**
comp=Z,1.6nm,0.8s,baz=48,slow=5.6,SNR=4.3
KSRS LR LR 17 19 33.2
comp=Z,348nm,21.9s,baz=36,slow=32
KSAR Wonju Array Be 96.75 317 P **P 16 41 59.2 +1.4**
KSAR Wonju Array Be 96.75 317 P **P 16 41 59.3 +1.4**
DIVS Divibare 96.80 34 PFAKE 16 42 10.0 +12
DIVS LR LR
comp=Z,2µm,19.0s
GUMO Guam 97.20 289 LR LR 17 16 49.4
comp=Z,2µm,21.8s,baz=72,slow=30
LPSR Galich'ya Gora 97.38 18 *e*P Pdif 16 42 00.9 +0.4
LPSR pmax pmax
comp=Z,6.0nm,0.6s
LPSR MLR MLR
comp=Z,3µm,15.0s
CUC Castrocucco 97.44 39 PFAKE 16 42 10.0 +8.9
CUC LR LR
comp=Z,3µm,18.0s
CLTB Caltabellotta 97.52 42 PFAKE 16 42 10.0 +8.4
CLTB LR LR
comp=Z,2µm,22.0s
ARU Arti 97.52 6 *e*P **P 16 41 59.6 -1.4**
comp=Z,27nm,1.2s
ARU LR LR
comp=Z,4µm,18.0s
ARU Arti 97.52 6 P Pdif 16 42 01.1 0.0
ARU 16 45 57.2
ARU S **SKSac 16 52 38.2 +0.8**
ARU SS **SS 16 59 55.8 -6.3**
ARU MLR MLR
comp=Z,4µm,18.0s
TTG Podgorica 97.61 35 PFAKE 16 42 10.0 +8.2
TTG LR LR
comp=Z,3µm,21.0s
THZ Tophouse 97.76 227 PFAKE 16 42 10.0 +7.7
THZ LR LR
comp=Z,2µm,22.0s
TIP Timpagrande 98.53 39 PFAKE 16 42 20.0 +14
TIP LR LR
comp=Z,3µm,18.0s
ZAK Zakamensk 98.56 339 *e*P Pdif 16 42 09.3 +3.3
ZAK pmax pmax
comp=Z,43nm,1.3s
MLR Muntele Rosu 98.57 30 PFAKE 16 42 20.0 +14
MLR LR LR
comp=Z,3µm,18.0s
KIS Kishinev 98.61 27 *e*PS **S 16 53 30.0 -4.3**
KIS *e*L L 17 13 40.0
KIS LRM MLR 17 29 20.0
comp=Z,3µm,18.0s
CEL Celeste 98.66 40 PFAKE 16 42 20.0 +13
CEL LR LR
comp=Z,2µm,18.0s
VSR Storozhevoye 98.67 19 *e*P **P 16 42 04.9 -1.4**
VSR pmax pmax
comp=Z,10.0nm,1.3s
VSR MLR MLR
comp=Z,3µm,18.0s
TIR Tirane 98.70 36 PFAKE 16 42 20.0 +13
TIR LR LR
comp=Z,2µm,20.0s
RABL Rabaul 98.72 270 PFAKE 16 42 20.0 +13
RABL LR LR
comp=Z,3µm,19.0s
ULN Ulaanbaatar 99.39 336 PFAKE 16 42 20.0 +10
ULN LR LR
comp=Z,1µm,20.0s
ULN Ulaanbaatar 99.39 336‖ *e*P **Pdif 16 42 10.5 +0.7**
ULN pmax pmax
comp=Z,6.0nm,1.5s
VRH Novokhopyorsk 99.41 17 *e*P **Pdif 16 42 09.2 -0.3**
VRH pmax pmax
comp=Z,7.0nm,0.4s
VRH MLR MLR
comp=Z,5µm,23.0s
DL2 Dalian 99.44 322 *e*P **Pdif 16 42 07.1 -2.9**
DL2 *e*PP **PP 16 46 14.8 +2.1**
DL2 *e*S **S 16 53 35.0 -6.7**
DL2 SS **SS 17 00 34.6 +4.2**
DL2 pmax pmax
comp=Z,200nm,4.6s
DL2 LR LR
comp=Z,810nm,13.6s
DL2 LR LR
comp=Z,740nm,16.1s
DL2 LR LR
comp=Z,990nm,15.6s
WDD Wied Dalam 99.45 43 PFAKE 16 42 20.0 +10
WDD LR LR
comp=Z,2µm,19.0s
VTS Vitosha 99.50 33 PFAKE 16 42 20.0 +10
VTS LR LR
comp=Z,2µm,19.0s
ZAA0 Zalesovo Array 99.52 351 PFAKE 16 42 20.0 +10
ZAA0 LR LR
comp=Z,1µm,18.0s
ZALV Zalesovo Beam 99.52 351 P **Pdif 16 42 10.4 +0.4**
comp=Z,0.2nm,0.3s,baz=10,slow=8.8,SNR=2.1
ZALV LR LR 17 29 15.2
comp=Z,802nm,22.0s,baz=34,slow=37
SONM Songino Array 99.66 336 P **Pdif 16 42 11.7 +0.7**
comp=Z,1.8nm,1.1s,baz=122,slow=2.2,SNR=3.1
SONM PP **PP 16 46 16.8 +2.7**
comp=Z,0.8nm,0.8s,baz=25,slow=5.7,SNR=4.4
SONM PKKPbc **PKKPbc 16 58 33.9 +0.9**
comp=Z,0.9nm,1.1s,baz=258,slow=2.7,SNR=4.7
SONM LR LR 17 28 51.8
comp=Z,1µm,21.4s,baz=22,slow=36
FNA Florina 99.90 35 PFAKE 16 42 20.0 +7.9
FNA LR LR
comp=Z,3µm,19.0s
TIRR Tirgusor 100.46 29 PFAKE 16 42 20.0 +5.6
TIRR LR LR
comp=Z,3µm,19.0s
FOZ Fox Glacier 100.59 227 PFAKE 16 42 30.0 +15
FOZ LR LR
comp=Z,2µm,20.0s
LIT Litokhoron 100.98 35 PFAKE 16 42 30.0 +13
LIT LR LR
comp=Z,2µm,19.0s
TAM Tamanrasset 101.17 58 PFAKE 16 42 30.0 +12
TAM LR LR
comp=Z,2µm,21.0s
BRVK Borovoye 101.46 360 PFAKE 16 42 30.0 +11
BRVK LR LR
comp=Z,2µm,18.0s
BRVK Borovoye 101.46 360‖ *e*P **Pdif 16 42 20.6 +1.9**
BRVK pmax pmax
comp=Z,6.0nm,2.2s
BVAR Borovoye Array 101.49 360 P **Pdif 16 42 19.1 +0.3**
comp=Z,0.2nm,0.5s,baz=90,slow=2.9,SNR=2.5
BVAR PP **PP 16 46 32.5 +5.0**
comp=Z,1.7nm,1.0s,baz=328,slow=5.3,SNR=3.7
BJT Baijiatuau 101.57 325 PFAKE 16 42 30.0 +11
BJT LR LR
comp=Z,1µm,19.0s
AGG Agios Georgios 101.69 36 PFAKE 16 42 30.0 +10
AGG LR LR
comp=Z,2µm,18.0s
MANU Manus Island 102.12 274 PFAKE 16 42 30.0 +7.7
MANU LR LR
comp=Z,2µm,22.0s
ALN Alexandroupoli 102.16 32 PFAKE 16 42 30.0 +8.0
ALN LR LR
comp=Z,1µm,20.0s
ITM Ithomi 102.82 37 PFAKE 16 42 40.0 +15
ITM LR LR
comp=Z,2µm,22.0s
TOC7 Torodi Ar. Sit 103.21 68 PFAKE 16 42 40.0 +13
TOC7 LR LR
comp=Z,3µm,22.0s
TOB5 Torodi Ar. Sit 103.22 68 PFAKE 16 42 40.0 +13
TOB5 LR LR
comp=Z,3µm,22.0s
TOC1 Torodi Ar. Sit 103.23 68 PFAKE 16 42 40.0 +13
TOC1 LR LR
comp=Z,3µm,21.0s
TOC5 Torodi Ar. Sit 103.23 68 PFAKE 16 42 40.0 +13
TOC5 LR LR
comp=Z,3µm,21.0s
TOB4 Torodi Ar. Sit 103.23 68 PFAKE 16 42 40.0 +13
TOB4 LR LR
comp=Z,3µm,22.0s
TOA0 Torodi Ar. Sit 103.23 68 PFAKE 16 42 40.0 +13
TOA0 LR LR
comp=Z,3µm,22.0s
TORD Torodi Ar. Bea 103.23 68 Pdiff **Pdif 16 42 28.4 +1.1**
comp=Z,1.4nm,1.0s,baz=307,slow=5.2,SNR=6.5
TORD PP **PKiKP 16 46 47.8 +1.0**
comp=Z,1.3nm,1.1s,baz=290,slow=6.0,SNR=3.6
TORD PKKPbc **PKKPdf 16 58 26.8 -2.7**
comp=Z,0.5nm,0.6s,baz=130,slow=2.3,SNR=4.0
TOA2 Torodi Ar. Sit 103.24 68 PFAKE 16 42 40.0 +13
TOA2 LR LR
comp=Z,2µm,20.0s
TOB2 Torodi Ar. Sit 103.24 68 PFAKE 16 42 40.0 +13
TOB2 LR LR
comp=Z,3µm,22.0s
TOB3 Torodi Ar. Sit 103.25 68 PFAKE 16 42 40.0 +13
TOB3 LR LR
comp=Z,3µm,22.0s
TOC2 Torodi Ar. Sit 103.25 68 PFAKE 16 42 40.0 +13
TOC2 LR LR
comp=Z,3µm,22.0s
TOC4 Torodi Ar. Sit 103.25 68 PFAKE 16 42 40.0 +13
TOC4 LR LR
comp=Z,3µm,22.0s
TOC3 Torodi Ar. Sit 103.26 68 PFAKE 16 42 40.0 +13
TOC3 LR LR
comp=Z,3µm,21.0s
KURK Kurchatov 103.41 354 PP **PKiKP 16 46 47.2 +1.0**
KURK PKKPbc **PKKPdf 16 58 30.6 +1.7**
KURK LR LR
comp=Z,3µm,18.0s
KURBB Kurchatov Arra 103.51 354 PP **PKiKP 16 46 47.2 +0.8**
comp=Z,3.7nm,1.2s,baz=6.1,slow=6.3,SNR=3.4
KURBB PKKPbc **PKKPdf 16 58 30.6 +1.9**
comp=Z,1.0nm,0.4s,baz=201,slow=2.8,SNR=11
SANT Santorini 105.32 36 PFAKE 16 47 00.0 +10
SANT LR LR
comp=Z,2µm,19.0s
PMG Port Moresby 105.40 267 PFAKE 16 47 00.0 +9.2
PMG LR LR
comp=Z,2µm,21.0s
IDI Anoyia 105.83 37 PFAKE 16 47 00.0 +8.8
IDI LR LR
comp=Z,900nm,18.0s
ANTO Ankara 106.09 29 PFAKE 16 47 00.0 +8.4
ANTO LR LR
comp=Z,2µm,18.0s
BRTR Keskin Array B 106.57 28 PP PKiKP 16 47 07.2 +15
comp=Z,1.6nm,1.0s,baz=277,slow=2.1,SNR=3.8
BRTR PKKPbc **PKKPbc 16 58 13.9 +1.5**
comp=Z,0.7nm,0.8s,baz=130,slow=1.9,SNR=3.7
ISP Isparta 106.72 32 PFAKE 16 47 00.0 +7.2
ISP LR LR
comp=Z,2µm,19.0s
MKAR Makanchi Array 106.86 351 PKiKP **PKiKP 16 46 54.0 +1.2**
comp=Z,0.8nm,0.8s,baz=26,slow=3.1,SNR=6.2
MKAR PP **PP 16 47 09.7 +2.1**
comp=Z,1.1nm,0.9s,baz=11,slow=3.1,SNR=4.2
MKAR PKKPbc **PKKPbc 16 58 14.4 +2.8**
comp=Z,0.5nm,0.8s,baz=176,slow=4.9,SNR=4.1
MKAR Makanchi Array 106.86 351 PKiKP **PKiKP 16 46 54.0 +1.2**
MKAR PP **PP 16 47 09.7 +2.1**
MKAR PKKPbc **PKKPbc 16 58 14.4 +2.8**
MKAR LR LR
comp=Z,400nm,18.0s
MAKZ Makanchi 106.89 351 PFAKE 16 47 00.0 +7.2
MAKZ LR LR
comp=Z,2µm,20.0s
EIDS Eidsvold 107.98 250 PFAKE 16 47 10.0 +15
EIDS LR LR
comp=Z,2µm,20.0s
WMQ Urumqi 108.79 346 *e*Pdif **Pdif 16 42 51.3 -0.3**
WMQ PP **PP 16 47 21.8 0.0**
WMQ Urumqi 108.79 346 SS SS 17 02 39.6 +1.8
WMQ AMB AMB
comp=Z,340nm,5.9s
WMQ LR LR
comp=N,3µm,15.9s
WMQ LR LR
comp=E,3µm,19.5s
WMQ LR LR
comp=Z,2µm,23.9s
WMQ Urumqi 108.79 346 PFAKE 16 47 10.0 +13
WMQ LR LR
comp=Z,2µm,18.0s
ARMA Armidale 109.23 245 PFAKE 16 47 10.0 +12
ARMA LR LR
comp=Z,2µm,19.0s
XAN Xi'an 109.86 326 PFAKE 16 47 10.0 +11
XAN LR LR
comp=Z,2µm,19.0s
CTAO Charters Tower 110.30 257 PFAKE 16 47 10.0 +10
CTAO LR LR
comp=Z,2µm,22.0s
CSS Mathiatis 110.36 31 PFAKE 16 47 10.0 +10
CSS LR LR
comp=Z,1µm,19.0s
LZH Lanzhou 110.56 331 *e*PKP **PKiKP 16 46 54.3 -5.9**
LZH LR LR
comp=Z,2µm,18.2s
LZH LR LR
comp=Z,2µm,16.3s
LZH LR LR
comp=Z,2µm,19.7s
COEN Coen 110.78 264 PFAKE 16 47 10.0 +9.2
COEN LR LR
comp=Z,3µm,20.0s
FRU1 Bishkek 111.57 356 PFAKE 16 47 10.0 +8.2
FRU1 LR LR
comp=Z,3µm,21.0s
PRZ Przheval'sk 111.58 353 PFAKE 16 47 10.0 +8.0
PRZ LR LR
comp=Z,2µm,19.0s
AAK Ala-Archa 111.75 356 PFAKE 16 47 10.0 +7.7
AAK LR LR
comp=Z,2µm,18.0s
KDJ Kajisay 112.06 354 PFAKE 16 47 10.0 +7.1
KDJ LR LR
comp=Z,2µm,19.0s
ENH Enshi 112.53 323 PFAKE 16 47 10.0 +6.1
ENH LR LR
comp=Z,1µm,19.0s
SBA Scott Base 113.60 193 PFAKE 16 47 20.0 +16
SBA LR LR
comp=Z,900nm,19.0s
BTK Batken 114.46 359 PFAKE 16 47 20.0 +13
BTK LR LR
comp=Z,2µm,19.0s
KSH Kashi 114.75 355 PKP **PKiKP 16 47 06.1 -1.9**
KSH PP **PP 16 48 10.0 +5.5**
KSH PKS **PKSdf 16 50 41.1 -3.8**
KSH SKS **SKSdf 16 54 21.0 +1.5**
KSH SKKS **SKKSac 16 55 08.8 +1.9**
KSH AMB AMB
comp=Z,380nm,5.2s
KSH LR LR
comp=Z,560nm,12.0s
KSH LR LR
comp=Z,780nm,11.9s
KSH LR LR
comp=Z,2µm,17.9s
CD2 Chengdu 114.93 328 PKP **PKiKP 16 47 05.8 -2.7**
CD2 sPKP 16 47 10.5
CD2 SKS **SKSdf 16 54 18.0 -2.0**
CD2 SS **SS 17 03 58.3 -2.0**
CD2 AMB AMB
comp=Z,140nm,5.6s
CD2 LR LR
comp=Z,2µm,11.3s
CD2 LR LR
comp=Z,1µm,16.3s
CD2 LR LR
comp=Z,2µm,11.3s
GEYT Alibeck 115.64 10 PKP **PKPdf 16 47 10.9 +1.2**
comp=Z,37nm,0.9s,baz=215,slow=1.8,SNR=4.3
GYA0B ALIBECK ARRAY 115.64 10 PFAKE 16 47 20.0 +10
GYA0B LR LR
comp=Z,3µm,21.0s
QSPA South Pole Qui 115.69 180 PFAKE 16 47 20.0 +11
QSPA LR LR
comp=Z,900nm,20.0s
FAKI Fak Fak 116.03 280 PFAKE 16 47 20.0 +9.1
FAKI LR LR
comp=Z,4µm,21.0s
DAV Davao City (W) 116.79 293 PFAKE 16 47 20.0 +7.6
DAV LR LR
comp=Z,2µm,21.0s
STKA Stephens Creek 117.89 246 PKP **PKPdf 16 47 12.2 -1.8**
comp=Z,2.8nm,0.8s,baz=90,slow=4.0,SNR=4.6
TNTI Ternate 118.56 286 PFAKE 16 47 30.0 +14
TNTI LR LR
comp=Z,1µm,21.0s
SNAA Sanae 119.72 160 PFAKE 16 47 30.0 +14
SNAA LR LR
comp=Z,600nm,22.0s
SNAA Sanae 119.72 160⇑ *e*PKIKP **PKiKP 16 47 20.8 +4.4**
KBL Kabul 119.97 1 PFAKE 16 47 30.0 +12

KBL				LR	LR				
	comp=Z,2μm,21.0s								
KMI	**Kunming**	**120.21**	**325**	PKP	**PKPdf**	**16**	**47**	**16.0**	**-3.0**
KMI				sPKP		16	47	23.4	
KMI				SKKS		16	55	36.0	
KMI				SS	**SS**	**17**	**05**	**12.3**	**+2.8**
KMI				LR	LR				
	comp=Z,490nm,18.8s								
KMI				LR	LR				
	comp=Z,840nm,18.4s								
KMI				LR	LR				
	comp=Z,820nm,18.2s								
KMI	**Kunming**	**120.21**	**325**	PFAKE		16	47	30.0	+11
KMI				LR	LR				
	comp=Z,800nm,19.0s								
WR9	**Warramunga Arr**	**120.64**	**261**	PFAKE		16	47	30.0	+10
WR9				LR	LR				
	comp=Z,2μm,21.0s								
WR8	**Warramunga Arr**	**120.65**	**261**	PFAKE		16	47	30.0	+10
WR8				LR	LR				
	comp=Z,2μm,19.0s								
WR7	**Warramunga Arr**	**120.68**	**261**	PFAKE		16	47	30.0	+10
WR7				LR	LR				
	comp=Z,2μm,21.0s								
WR6	**Warramunga Arr**	**120.69**	**261**	PFAKE		16	47	30.0	+10
WR6				LR	LR				
	comp=Z,2μm,20.0s								
WR5	**Warramunga Arr**	**120.72**	**261**	PFAKE		16	47	30.0	+10
WR5				LR	LR				
	comp=Z,2μm,20.0s								
WR4	**Warramunga Arr**	**120.74**	**261**	PFAKE		16	47	30.0	+10
WR4				LR	LR				
	comp=Z,2μm,20.0s								
WC3	**Warramunga Arr**	**120.77**	**261**	PFAKE		16	47	30.0	+10
WC3				LR	LR				
	comp=Z,2μm,19.0s								
NIL	**Nilore**	**120.77**	**357**	PFAKE		16	47	30.0	+10
NIL				LR	LR				
	comp=Z,2μm,21.0s								
WRAB	**Tennant Creek**	**120.78**	**261**	*e*PKPdf	**PKPdf**	**16**	**47**	**18.0**	**-1.9**
WRAB				*e*PKPdf	**PKiKP**	**16**	**47**	**21.7**	**+1.7**
WRAB	**Tennant Creek**	**120.78**	**261⇑**	*e*PKiKP	**PKiKP**	**16**	**47**	**21.3**	**+1.3**
WB2	**Warramunga Arr**	**120.78**	**261**	*e*PKPdf	**PKPdf**	**16**	**47**	**18.0**	**-1.9**
WB2				*e*PKPdf	**pPKPdf**	**16**	**47**	**22.8**	**-2.9**
WRA	**Warramunga Arr**	**120.79**	**261**	PKP	**PKPdf**	**16**	**47**	**17.6**	**-2.2**
	comp=Z,3.2nm,1.0s,baz=144,slow=0.5,SNR=19								
QIZ	**Qiongzhong**	**120.85**	**315**	PKP	**PKPdf**	**16**	**47**	**17.8**	**-2.3**
QIZ				PP	**PP**	**16**	**48**	**45.3**	**-2.5**
QIZ				SS	SS	17	05	16.9	-1.1
QIZ				LR	LR				
	comp=Z,600nm,15.9s								
QIZ				LR	LR				
	comp=Z,640nm,16.7s								
QIZ				LR	LR				
	comp=Z,650nm,15.5s								
QIZ	**Qiongzhong**	**120.85**	**315**	PFAKE		16	47	30.0	+10
QIZ				LR	LR				
	comp=Z,100nm,19.0s								
LSA	**Lhasa**	**121.14**	**338**	PFAKE		16	47	30.0	+8.9
LSA				LR	LR				
	comp=Z,1μm,21.0s								
AS31	**Alice Springs**	**122.30**	**257**	*e*PKPdf	**PKPdf**	**16**	**47**	**20.6**	**-2.2**
AS31				*e*PKPdf	**PKiKP**	**16**	**47**	**23.8**	**+0.9**
ASAR	**Alice Springs**	**122.30**	**257**	PKP	**PKPdf**	**16**	**47**	**20.6**	**-2.2**
	comp=Z,3.1nm,1.0s,baz=82,slow=2.0,SNR=14								
ASAR				PKKPbc	**PKKPab**	**16**	**57**	**19.6**	**+1.5**
	comp=Z,1.6nm,0.9s,baz=246,slow=4.0,SNR=6.8								
LUWI	**Luwuk**	**123.44**	**287**	PFAKE		16	47	40.0	+15
LUWI				LR	LR				
	comp=Z,800nm,22.0s								
NVL	**N'lazarevskaya**	**124.53**	**160**	*e*PKIKP	PKiKP	16	47	43.0	+17
NVL				pmax	pmax				
	comp=Z,3.0nm,0.5s								
SHL	**Shillong**	**124.66**	**336**	PFAKE		16	47	40.0	+12
SHL				LR	LR				
	comp=Z,1μm,21.0s								
KKM	**Kota Kinabalu**	**124.97**	**299**	PFAKE		16	47	40.0	+11
KKM				LR	LR				
	comp=Z,1μm,21.0s								
RAYN	**Ar Rayn**	**125.58**	**28**	*e*PKPdf	**PKiKP**	**16**	**47**	**32.8**	**+3.3**
RAYN				LR	LR				
	comp=Z,1μm,20.0s								
SKNT	**Sakolnakorn**	**126.03**	**318**	PKP	**PKiKP**	**16**	**47**	**34.7**	**+4.2**
SOEI	**Soe**	**126.14**	**277**	PFAKE		16	47	40.0	+9.1
SOEI				LR	LR				
	comp=Z,1μm,22.0s								
CHTO	**Chiang Mai**	**127.38**	**325**	PFAKE		16	47	40.0	+6.8
CHTO				LR	LR				
	comp=Z,800nm,20.0s								
CHTO	**Chiang Mai**	**127.38**	**325**	*e*P	**PKiKP**	**16**	**47**	**34.6**	**+1.5**
MMRI	**Maumere**	**127.48**	**279**	PFAKE		16	47	40.0	+6.6
MMRI				LR	LR				
	comp=Z,800nm,20.0s								
CMAR	**Chiang Mai Arr**	**127.68**	**324**	PKP	**PKPdf**	**16**	**47**	**31.7**	**-1.5**
	comp=Z,1.5nn,0.8s,baz=327,slow=1.5,SNR=6.6								
CM01	**Chiang Mai Arr**	**127.70**	**324**	*e*PKPdf	**PKPdf**	**16**	**47**	**30.9**	**-2.3**
KAPI	**Kappang**	**128.01**	**285**	PFAKE		16	47	40.0	+5.5
KAPI				LR	LR				
	comp=Z,600nm,19.0s								
UTHA	**Uthaitani**	**129.78**	**322**	PKP	**PKiKP**	**16**	**47**	**43.1**	**+5.1**
SBUM	**Sibu**	**130.30**	**298**	PFAKE		16	47	50.0	+11
SBUM				LR	LR				
	comp=Z,400nm,22.0s								
TSUM	**Tsumeb**	**131.53**	**93**	PFAKE		16	47	50.0	+8.5
TSUM				LR	LR				
	comp=Z,1μm,20.0s								
KSM	**Kuching**	**132.41**	**299**	PFAKE		16	47	50.0	+6.6
KSM				LR	LR				
	comp=Z,600nm,22.0s								
DAMY	**Dhamar**	**132.82**	**35**	PFAKE		16	47	50.0	+5.5
DAMY				LR	LR				
	comp=Z,1μm,21.0s								
FURI	**Furi**	**134.07**	**45**	PFAKE		16	48	00.0	+13
FURI				LR	LR				
	comp=Z,2μm,19.0s								
ATD	**Arta Tunnel**	**134.52**	**39**	PFAKE		16	48	00.0	+12
ATD				LR	LR				
	comp=Z,800nm,20.0s								
MBAR	**Mbarara**	**134.74**	**63**	PFAKE		16	48	00.0	+12
MBAR				LR	LR				
	comp=Z,600nm,19.0s								
PBA	**Port Blair**	**136.59**	**326**	PFAKE		16	48	00.0	+8.2
PBA				LR	LR				
	comp=Z,1μm,19.0s								
MAW	**Mawson**	**137.98**	**176**	PKP	**PKiKP**	**16**	**47**	**52.0**	**-1.0**
	comp=Z,4.3nm,1.0s,baz=104,slow=7.2,SNR=4.1								
MAW	**Mawson**	**137.98**	**176**	PKP	**PKiKP**	**16**	**47**	**52.0**	**-1.0**
MAW				LR	LR				
	comp=Z,200nm,20.0s								
MAW	**Mawson**	**137.98**	**176**	PKiKP	**PKiKP**	**16**	**47**	**52.0**	**-1.0**
MAW				MLR	MLR				
	comp=Z,200nm,20.0s								
NWAO	**Narrogin (SRO)**	**138.38**	**249**	PKP	**PKPdf**	**16**	**47**	**53.5**	**+0.7**
	comp=Z,5.6nm,0.7s,baz=235,slow=2.9,SNR=2.0								
NWAO	**Narrogin (SRO)**	**138.38**	**249**	PKP	**PKPdf**	**16**	**47**	**53.5**	**+0.7**
NWAO				LR	LR				
	comp=Z,3μm,20.0s								
LSZ	**Lusaka**	**139.76**	**83**	*e*PKPpre	PKPpre	16	47	52.3	
LSZ				LR	LR				
	comp=Z,1μm,20.0s								
PSI	**Prapat**	**139.97**	**311**	PKP	**PKPdf**	**16**	**47**	**57.1**	**+0.6**
	comp=Z,4.2nm,0.6s,baz=180,slow=5.8,SNR=3.2								
PSI	**Prapat**	**139.97**	**311**	PKP	**PKPdf**	**16**	**47**	**57.1**	**+0.6**
PSI				LR	LR				
	comp=Z,900nm,20.0s								
KMBO	**Kilima Mbogo**	**140.15**	**57**	PKP	**PKPdf**	**16**	**47**	**57.8**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=320,slow=2.4,SNR=5.5								
KMBO	**Kilima Mbogo**	**140.15**	**57**	PKP	**PKPdf**	**16**	**47**	**57.8**	**+0.9**
KMBO				LR	LR				
	comp=Z,2μm,20.0s								
LBTB	**Lobatse**	**140.17**	**99**	*e*PKPdf	**PKPdf**	**16**	**47**	**54.7**	**-1.8**
LBTB				*e*PKPdf	**PKiKP**	**16**	**47**	**58.0**	**-1.0**
LBTB	**Lobatse**	**140.17**	**99**	*e*PKiKP	**PKPdf**	**16**	**47**	**54.7**	**-1.8**
LBTB				*e*		16	47	58.0	
BKNI	**Bangkinang**	**140.22**	**306**	PFAKE		16	48	10.0	+11
BKNI				LR	LR				
	comp=Z,600nm,22.0s								
BOSA	**Boshof**	**140.42**	**104**	PKP	**PKiKP**	**16**	**47**	**58.1**	**-1.2**
	comp=Z,8.4nm,1.1s,baz=316,slow=5.2,SNR=4.3								
BOSA				PP	**PP**	**16**	**50**	**57.0**	**+1.0**
	comp=Z,7.0nm,1.1s,baz=257,slow=9.9,SNR=3.6								
BOSA	**Boshof**	**140.42**	**104**	*e*P	**PKiKP**	**16**	**47**	**59.2**	**-0.2**
PALK	**Pallekele**	**145.46**	**341**	PFAKE		16	48	20.0	+10
PALK				LR	LR				
	comp=Z,1μm,19.0s								

MNCI	**Minicoy**	**145.96**	**354**	PFAKE		16	48	20.0	+9.0
MNCI				LR	LR				
	comp=Z,2μm,22.0s								
OPO	**Ambohidratompo**	**157.84**	**76**	PKP	**PKPdf**	**16**	**48**	**25.5**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=310,slow=1.9,SNR=4.4								
OPO				PKPab	**pPKPab**	**16**	**49**	**02.8**	**-0.3**
	comp=Z,7.4nm,1.0s,baz=296,slow=6.0,SNR=4.6								
ABPO	**Ambohimpanom**	**158.04**	**77**	PFAKE		16	48	30.0	+5.1
ABPO				LR	LR				
	comp=Z,1μm,21.0s								

ISK ***13*** *16:36:17.9,39˙.69N×25˙.62E,h8km,ML2.8/11*
ATH ***13*** *16:36:17.9,39˙.69N×25˙.66E,h28km±1km,ML2.3/4, Error ellipse: s-maj=1.8km s-min=1.1km az=257.0*
ISCJB ***13*** *16:36:18.3±0.4,39˙.69N±0˙.02×25˙.62E±0˙.03,h7km±4km, Error ellipse: s-maj=3.4km s-min=3.3km az=2.3*
THE ***13*** *16:36:18.4,39˙.69N×25˙.62E,h10km±1km,ML2.0/6, Error ellipse: s-maj=1.1km s-min=0.6km az=78.0*
DDA ***13*** *16:36:19.1,39˙.74N×25˙.68E,h20km±1km,ML2.8*

ISC 13 16:36:18.5±0.9, 39˙.69N±0˙.02×25˙.61E±0˙.02, h13km±8km, n44, σ0°41/63, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BOZC	**Bozcaada**	**0.37**	**66**	PG		**Pg**	**16 36 25.9**	**-0.1**
BOZC				SG		**Sg**	**16 36 30.9**	**-0.1**
BOZC	**Bozcaada**	**0.37**	**66**	IAML_P				
	comp=Z,6μm,0.1s							
BOZC				*i* P		**Pb**	**16 36 26.5**	**-0.5**
BOZC				*i* S		**Sg**	**16 36 31.2**	**+0.2**
LIA	**Limnos Island**	**0.39**	**302**	P		**Pg**	**16 36 26.6**	**+0.3**
LIA	**Limnos Island**	**0.39**	**302**	P		**Pg**	**16 36 26.6**	**+0.3**
LIA				S		**Sg**	**16 36 31.3**	**-0.3**
GPNR	**Gulpinar-Canak**	**0.47**	**120**	PG		**Pg**	**16 36 27.7**	**0.0**
EFSA	**Agios Efstrati**	**0.51**	**253**	P		**Pb**	**16 36 29.6**	**+0.3**
EFSA				S		**Sb**	**16 36 36.8**	**+0.2**
SIGR	**SIGRI**	**0.51**	**159**	PG		**Pg**	**16 36 28.4**	**-0.2**
SIGR				SG		**Sg**	**16 36 35.6**	**+0.2**
SIGR	**SIGRI**	**0.51**	**159**	P		**Pg**	**16 36 28.3**	**-0.3**
SIGR				S		**Sg**	**16 36 36.0**	**+0.5**
SIGR				AML	AML		16 36 36.6	
	comp=N,1517μm,0.3s							
SIGR				AML	AML		16 36 36.6	
	comp=E,1605μm,0.5s							
SIGR	**SIGRI**	**0.51**	**159**	P		**Pg**	**16 36 28.3**	**-0.3**
SIGR				S		**Sg**	**16 36 35.9**	**+0.5**
GADA	**Gvkgeada**	**0.55**	**24**	PG		**Pg**	**16 36 29.3**	**+0.1**
GADA				SG		**Sg**	**16 36 36.8**	**+0.3**
GADA	**Gvkgeada**	**0.55**	**24**	P		**Pg**	**16 36 28.9**	**-0.3**
GADA				S		**Sg**	**16 36 36.6**	**+0.1**
GOKC	**Gokceada-Canak**	**0.56**	**25**	PG		**Pg**	**16 36 28.9**	**-0.6**
EZN	**Ezine**	**0.56**	**76**	PG		**Pg**	**16 36 29.2**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**0.72**	**86**	*i* P		**Pb**	**16 36 33.0**	**0.0**
BAYC				*i* S		**Sb**	**16 36 42.9**	**+0.1**
SMTH	**Samothraki Isl**	**0.78**	**355**	P		**Pg**	**16 36 33.5**	**-0.2**
SMTH	**Samothraki Isl**	**0.78**	**355**	P		**Pg**	**16 36 33.5**	**-0.2**
SMTH				S		**Sb**	**16 36 44.7**	**+0.1**
AYVA	**Ayvalik**	**0.92**	**114**	*i* P		**Pg**	**16 36 36.4**	**+0.2**
AYVA				*i* S		**Sn**	**16 36 50.4**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.97**	**43**	PG		**Pb**	**16 36 36.8**	**-0.4**
LPK	**Lapseki**	**1.11**	**52**	PN		**Pg**	**16 36 39.9**	**0.0**
ENEZ	**Enez**	**1.12**	**21**	PN		**Pg**	**16 36 40.0**	**-0.1**
THAS	**Thassos island**	**1.14**	**323**	P		**Pn**	**16 36 40.3**	**+0.1**
THAS				AML	AML		16 36 57.7	
	comp=N,177μm,0.2s							
THAS				AML	AML		16 36 57.8	
	comp=E,198μm,0.3s							
THAS	**Thassos island**	**1.14**	**323**	P		**Pb**	**16 36 39.3**	**-0.9**
THAS				S		**Sn**	**16 36 56.1**	**+0.3**
PSRA	**Psara**	**1.15**	**182**	P		**Pb**	**16 36 40.1**	**-0.1**
DKL	**Dikili**	**1.18**	**121**	PN		**Pb**	**16 36 40.6**	**-0.1**
ERIK	**Erikli-Kesan**	**1.20**	**35**	PN		**Pg**	**16 36 41.4**	**-0.1**
ALN	**Alexandroupoli**	**1.25**	**15**	PN		**Pb**	**16 36 41.9**	**-0.1**
ALN	**Alexandroupoli**	**1.25**	**15**	P		**Pn**	**16 36 41.2**	**-0.6**
ALN				S		**Sn**	**16 36 58.3**	**-0.1**
ALN				AML	AML		16 36 58.6	
	comp=E,78μm,0.4s							
ALN				AML	AML		16 37 06.3	
	comp=N,60μm,0.4s							
ALN	**Alexandroupoli**	**1.25**	**15**	P		**Pn**	**16 36 41.7**	**0.0**
ALN				S		**Sb**	**16 36 57.4**	**-0.6**
CHOS	**Chios island**	**1.35**	**165**	PN		**Pn**	**16 36 42.9**	**-0.2**
CHOS	**Chios island**	**1.35**	**165**	P		**Pn**	**16 36 42.2**	**-1.0**
CHOS				S		**Sn**	**16 37 01.1**	**+0.1**
CHOS				AML	AML		16 37 03.6	
	comp=N,272μm,0.4s							
CHOS				AML	AML		16 37 05.7	
	comp=E,308μm,0.4s							
CHOS	**Chios island**	**1.35**	**165**	P		**Pn**	**16 36 42.4**	**-0.7**
CHOS				S		**Sb**	**16 37 00.5**	**-0.4**
KESN	**Edirne-Kesan**	**1.40**	**35**	IAML_P				
	comp=Z,160nm,0.3s							
KESN				*i* P		**Pb**	**16 36 44.3**	**-0.4**
KESN				*i* S		**Sg**	**16 37 03.7**	**+0.1**
AOS	**Alonnisos**	**1.44**	**249**	PN		**Pn**	**16 36 44.7**	**+0.4**
AOS	**Alonnisos**	**1.44**	**249**	P		**Pb**	**16 36 45.0**	**-0.2**
AOS				S		**Sb**	**16 37 03.5**	**0.0**
RDO	**Rodhopi**	**1.46**	**358**	PN		**Pn**	**16 36 44.8**	**+0.3**
KRBG	**Karabiga-Canak**	**1.47**	**61**	PN		**Pb**	**16 36 45.1**	**-0.6**
PAIG	**Paliouri**	**1.51**	**280**	P		**Pn**	**16 36 45.3**	**0.0**
URLA	**Izmir**	**1.53**	**150**	PN		**Pn**	**16 36 45.4**	**-0.3**
KNL	**Balıkesir**	**1.58**	**68**	IAML_P				
	comp=Z,321nm,0.1s							
KNL				*i* P		**Pb**	**16 36 47.8**	**+0.2**
MRMT	**Marmara Adasi**	**1.77**	**58**	PN		**Pn**	**16 36 49.7**	**+0.7**
EDC	**Edincik**	**1.85**	**69**	PN		**Pn**	**16 36 50.6**	**+0.6**
SBT4	**Kumbag-Tekirda**	**1.86**	**52**	PN		**Pn**	**16 36 50.9**	**+1.0**
DURS	**Dursunbey**	**2.21**	**91**	IAML_P				
	comp=Z,162nm,0.1s							
DURS				*i* P		**Pn**	**16 36 55.2**	**+0.2**
ARMT	**Armutlu**	**2.64**	**70**	PN		**Pn**	**16 37 02.1**	**+1.2**

IDC ***13*** *16:41:46.2±1.1,3˙.36N×93˙.02E,h0km,mb3.9/11, mb1 4.0/14,mb1mx3.8/59,mbtmp4.0/14,ML3.9/3,MS3.1/2, Ms1 3.1/2,ms1mx2.9/41,Error ellipse: s-maj=35.7km s-min=17.2km az=44.0*
NEIC ***13*** *16:41:49.0±3.1,3˙.36N×93˙.01E,h19km±20km,mb4.4/3, Error ellipse: s-maj=10.8km s-min=6.0km az=50.4*
ISCJB ***13*** *16:41:49.7±0.5,3˙.33N±0˙.05×93˙.13E±0˙.04,h33km, mb4.2/18,Error ellipse: s-maj=8.5km s-min=3.6km az=31.0*
DJA ***13*** *16:41:55.7±0.8,3˚N±6˚×9˚4E±˚,h10km,M4.5/7,mB5.2/3, mb4.6/5,MLv4.5/7,Mw(mB)4.6/3*

ISC 13 16:41:50.8±0.6, 3˚28N±0˚07×93˚06E±0˚06, h35km, n72, σ1°37/77, mb4.4/28, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SNSI	**Sinabang, Aceh**	**3.38**	**105**	P		**Pn**	**16 42 42.0**	**+1.0**
SNSI				S		**Sn**	**16 43 18.3**	**-1.6**
TPTI		**4.11**	**90**	P		**Pn**	**16 42 52.3**	**+1.1**
TPTI				S		**Sn**	**16 43 35.8**	**-2.3**
LHMI	**Lhok Sumawe**	**4.33**	**63**	*e*Pn		**Pn**	**16 42 55.9**	**+1.7**
KCSI	**Kotacane, Aceh**	**4.71**	**87**	P		**Pn**	**16 43 02.3**	**+2.9**
KCSI				S		**Sn**	**16 43 51.6**	**-1.3**
GSI	**Gunungsitoli**	**4.92**	**113**	*e*Pn		**Pn**	**16 43 03.2**	**+0.9**
GSI	**Gunungsitoli**	**4.92**	**113**	P		**Pn**	**16 43 03.3**	**+1.0**
GSI				S		**Sn**	**16 43 55.0**	**-3.1**
TSI	**Tuntungan**	**5.50**	**88**	P		**Pn**	**16 43 13.3**	**+3.0**
TSI				S		**Sn**	**16 44 11.7**	**-0.6**
PSI	**Prapat**	**5.88**	**94**	Pn		**Pn**	**16 43 17.5**	**+1.9**
	5.3nm,0.3s,baz=359,slow=3.7,SNR=25							
PSI				Sn		**Sn**	**16 44 20.6**	**-1.1**
	13nm,0.3s,baz=360,slow=17,SNR=9.7							
PSI				LR		LR	16 45 01.3	
	comp=Z,72nm,18.0s,baz=355,slow=33							
PSI	**Prapat**	**5.88**	**94**	*e*Pn		**Pn**	**16 43 16.6**	**+1.1**
PSI				Sn		**Sn**	**16 44 20.6**	**-1.1**
MNSI	**Mandailing Nat**	**6.97**	**111**	P		**Pn**	**16 43 31.3**	**+0.9**
	62nm,0.4s,2μm							
MNSI				S		**Sn**	**16 44 45.2**	**-3.3**
	62nm,0.4s,2μm							
PKDT	**Phuket**	**6.97**	**49**	P		**Pn**	**16 43 31.3**	**+0.8**
	27nm,0.8s,488nm0.1nm							
KULM	**Kulim**	**7.83**	**75**	*e*Pn		**Pn**	**16 43 43.0**	**+0.8**
TRTT	**Trang**	**8.00**	**55**	P		**Pn**	**16 43 44.9**	**+0.2**
	20nm,0.8s,0.1nm							
IPM	**Ipoh**	**8.04**	**81**	*e*Pn		**Pn**	**16 43 45.7**	**+0.5**

PPI	**Padang Panjang**	**8.22**	**117**	P		**Pn**	**16**	**43**	**50.2**	**+2.6**
PBA	**Port Blair**	**8.33**	**358**	*e*Pn		Pn	16	43	48.8	-0.3
PDSI	**Padang**	**8.49**	**119**	P		**Pn**	**16**	**43**	**54.6**	**+3.2**
MYKOM	**Kota Tinggi**	**10.88**	**98**	*e*Pn		**Pn**	**16**	**44**	**24.6**	**+0.5**
MNAI	**Manna**	**12.46**	**127**	*e*Pn		**Pn**	**16**	**44**	**46.1**	**+0.2**
PALK	**Pallekele**	**12.93**	**288**	Pn		**Pn**	**16**	**44**	**49.8**	**-2.4**
	1.2nm,0.3s,baz=115,slow=14,SNR=7.8									
PALK				Sn		Sn	16	46	58.6	-16
	5.2nm,0.3s,baz=116,slow=4.3,SNR=10									
PALK	**Pallekele**	**12.93**	**288**	*e*Pn		**Pn**	**16**	**44**	**51.0**	**-1.2**
PALK				Sn		Sn	16	46	58.6	-16
UTHA	**Uthaitani**	**13.73**	**27**	P		**P**	**16**	**45**	**12.4**	**+1.2**
SRAK	**Srakaew**	**13.87**	**39**	P		**P**	**16**	**45**	**14.2**	**+1.4**
SUKH	**Sukhothai**	**15.52**	**24**	P		**P**	**16**	**45**	**32.1**	**+1.0**
	6.5nm,0.7s									
CM01	**Chiang Mai Arr**	**16.12**	**21**	*e*Pn		**Pn**	**16**	**45**	**32.5**	**-2.3**
UTTA	**Uttaradit**	**16.14**	**27**	P		**P**	**16**	**45**	**38.6**	**+0.5**
	3.0nm,0.7s									
CM31	**Chiang Mai Arr**	**16.15**	**20**	*e*Pn		**Pn**	**16**	**45**	**33.0**	**-2.2**
CMAR	**Chiang Mai Arr**	**16.15**	**20**	Pn		**Pn**	**16**	**45**	**33.8**	**-1.5**
	0.1nm,0.3s,baz=217,slow=13,SNR=24									
LAMP	**Lampang**	**16.46**	**23**	P		**P**	**16**	**45**	**42.9**	**+1.3**
	3.9nm,0.8s									
CHTO	**Chiang Mai**	**16.48**	**20**	*e*Pn		**Pn**	**16**	**45**	**36.5**	**-2.9**
	8.3nm,1.3s									
CHTO	**Chiang Mai**	**16.48**	**20**	P		**P**	**16**	**45**	**42.1**	**+0.3**
	24nm,0.9s									
CMMT	**Chiang Mai**	**16.48**	**20**	P		**P**	**16**	**45**	**42.1**	**+0.3**
	5.4nm,0.9s									
SKNT	**Sakolnakorn**	**17.33**	**38**	P		**P**	**16**	**45**	**51.0**	**-0.2**
	4.9nm,0.6s									
NONG	**Nongkai**	**17.71**	**33**	P		**Pn**	**16**	**45**	**54.5**	**-0.3**
	0.4nm,1.3s									
XMIS	**Christmas Isla**	**18.55**	**138**	*e*P		**P**	**16**	**46**	**04.3**	**-0.4**
	182nm,1.4s									
BRDH	**Bariadhala**	**19.33**	**356**	LR		LR	16	55	01.0	
	comp=Z,110nm,19.1s,baz=224,slow=41									
H08S2	**Diego Garcia H**	**23.21**	**242**	T		T	17	11	59.8	
	baz=62,slow=75,SNR=5.4									
H08S3	**Diego Garcia H**	**23.21**	**242**	T		T	17	11	59.5	
	baz=62,slow=75,SNR=4.6									
H08S1	**Diego Garcia H**	**23.23**	**242**	T		T	17	12	00.7	
	baz=62,slow=75,SNR=4.6									
KMI	**Kunming**	**23.63**	**22**	P		**P**	**16**	**46**	**59.6**	**+0.4**
KMI				pmax		pmax				
	comp=Z,10.0nm,0.8s									
RAMN	**Ramite**	**24.34**	**346**	*e*P		**P**	**16**	**47**	**06.8**	**+1.1**
	comp=Z,19nm,0.6s									
JIRN	**Jiri**	**25.12**	**346**	*e*P		**P**	**16**	**47**	**13.8**	**+0.8**
	comp=Z,33nm,0.6s									
PKI	**Pulchoki**	**25.24**	**344**	*e*P		**P**	**16**	**47**	**14.9**	**+0.9**
	comp=Z,11nm,0.7s									
PKIN	**Phulchoki**	**25.25**	**344**	*e*P		**P**	**16**	**47**	**15.1**	**+1.1**
	comp=Z,11nm,0.6s									
DMN	**Daman**	**25.36**	**343**	*e*P		**P**	**16**	**47**	**16.4**	**+1.4**
	comp=Z,18nm,0.8s									
GUN	**Gumba**	**25.43**	**345**	*e*P		**P**	**16**	**47**	**16.6**	**+0.8**
	comp=Z,17nm,0.6s									
KKN	**Kakani**	**25.48**	**344**	*e*P		**P**	**16**	**47**	**17.1**	**+1.0**
	comp=Z,24nm,0.9s									
KOLN	**Koldanda**	**25.98**	**341**	*e*P		**P**	**16**	**47**	**21.2**	**+0.6**
	comp=Z,14nm,0.8s									
LSA	**Lhasa**	**26.34**	**356**	*e*P		**P**	**16**	**47**	**24.2**	**+0.1**
	comp=Z,10nm,0.6s									
DANN	**Dangsing**	**26.46**	**341**	*e*P		**P**	**16**	**47**	**25.4**	**+0.4**
	comp=Z,35nm,0.7s									
PYUN	**Piuthan**	**26.48**	**340**	*e*P		**P**	**16**	**47**	**26.4**	**+1.2**
	comp=Z,21nm,0.9s									
NIL	**Nilore**	**35.42**	**331**	*e*P		**P**	**16**	**48**	**43.2**	**-0.5**
	comp=Z,13nm,0.6s									
KSH	**Kashi**	**39.27**	**339**	P		**P**	**16**	**49**	**17.3**	**+1.0**
KS

ISC 13 16:44:46.6±0.7, 43.47N±0.05×147.12E±0.05, h37km±1km, n88, σ1.929/102, mb4.2/21, 2C-14D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.45**	**332**	*i*	P		**Pn**	**16 44 57.0**	**+0.5**
SHO	1μm,0.2s				AMB		AMB	16 44 57.0	
SHO	930nm,0.2s				AMB		AMB	16 44 57.0	
SHO	4μm,0.2s				AMB		AMB	16 44 57.0	
SHO				*e*	S		**Sn**	**16 45 04.0**	**+0.5**
SHO					A		A	16 45 05.0	
SHO	8μm,0.2s				A		A	16 45 05.0	
SHO	8μm,0.2s								
SHO	**Shikotan**	**0.45**	**332**	*d i*	PN		**Pn**	**16 44 57.2**	**+0.7**
SHO				*e*	S		**Sn**	**16 45 04.0**	**+0.5**
SHO	comp=N,1μm,0.2s				pmax		pmax		
SHO	comp=E,926nm,0.2s				pmax		pmax		
SHO	comp=Z,4μm,0.2s				pmax		pmax		
SHO	comp=N,8μm,0.2s				smax		smax		
SHO	comp=E,8μm,0.2s				smax		smax		
NEM2	**Nemuro 2**	**1.01**	**265**		P		**Pn**	**16 45 04.1**	**-0.1**
NEM2				*e*	S		**Sn**	**16 45 16.2**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**1.07**	**302**	*i*	P		**Pn**	**16 45 05.0**	**-0.1**
YUK	comp=E,40nm,0.2s				AMB		AMB	16 45 05.7	
YUK	comp=E,90nm,0.2s				AMB		AMB	16 45 05.7	
YUK	comp=E,700nm,0.2s				AMB		AMB	16 45 05.7	
YUK				*e*	S		**Sn**	**16 45 18.0**	**-0.8**
YUK	comp=E,5μm,0.3s				A		A	16 45 23.0	
YUK	comp=E,2μm,0.3s				A		A	16 45 23.0	
YUK	**Yuzh-Kuril'sk**	**1.07**	**302**	*d i*	PN		**Pn**	**16 45 05.4**	**+0.3**
YUK				*e*	S		**Sn**	**16 45 18.8**	**0.0**
YUK	comp=Z,701nm,0.2s				pmax		pmax		
YUK	comp=N,43nm,0.1s				pmax		pmax		
YUK	comp=E,86nm,0.1s				pmax		pmax		
YUK	comp=N,5μm,0.3s				smax		smax		
YUK	comp=E,2μm,0.2s				smax		smax		
GRPR	**Tuman**	**1.11**	**299**	*e*	P		**Pn**	**16 45 06.0**	**+0.4**
GRPR					AMB		AMB	16 45 06.0	
GRPR	comp=E,420nm,0.3s				AMB		AMB	16 45 06.0	
GRPR	comp=E,170nm,0.3s				AMB		AMB	16 45 06.0	
GRPR	comp=E,1μm,0.3s								
GRPR				*e*	S		**Sn**	**16 45 19.0**	**-0.7**
GRPR	comp=E,4μm,0.3s				A		A	16 45 21.0	
GRPR	comp=E,1μm,0.3s				A		A	16 45 21.0	
GRPR	**Tuman**	**1.11**	**299**	*e*	PN		**Pn**	**16 45 06.1**	**+0.4**
GRPR				*e*	S		**Sn**	**16 45 19.6**	**-0.1**
GRPR	comp=N,420nm,0.3s				pmax		pmax		
GRPR	comp=Z,1μm,0.3s				pmax		pmax		
GRPR	comp=E,165nm,0.2s				pmax		pmax		
GRPR	comp=N,4μm,0.3s				smax		smax		
GRPR	comp=E,1μm,0.1s				smax		smax		
GLVR	**Golovnino**	**1.20**	**284**	*i*	P		**Pn**	**16 45 07.0**	**+0.2**
GLVR					AMB		AMB	16 45 07.0	
GLVR	comp=E,100nm,0.4s				AMB		AMB	16 45 07.0	
GLVR	comp=E,140nm,0.4s				AMB		AMB	16 45 07.0	
GLVR	comp=E,540nm,0.4s								
GLVR				*i*	S		**Sn**	**16 45 22.0**	**+0.3**
GLVR	comp=E,3μm,0.4s				A		A	16 45 22.0	
GLVR	comp=E,680nm,0.4s				A		A	16 45 22.0	
GLVR	**Golovnino**	**1.20**	**284**	*d i*	PN		**Pn**	**16 45 07.3**	**+0.5**
GLVR				*i*	S		**Sn**	**16 45 22.4**	**+0.7**
GLVR	comp=Z,535nm,0.4s				pmax		pmax		
GLVR	comp=E,140nm,0.3s				pmax		pmax		
GLVR	comp=N,97nm,0.4s				pmax		pmax		
GLVR	comp=N,3μm,0.4s				smax		smax		
GLVR	comp=E,678nm,0.4s				smax		smax		
JKHN	**Kushirohamanak**	**1.48**	**256**		P		**Pn**	**16 45 11.2**	**+0.5**
JKHN				*e*	S		**Sn**	**16 45 29.5**	**+0.7**
JRA	**Rausu**	**1.52**	**289**		P		**Pn**	**16 45 12.0**	**+0.7**
JNK	**Nakash**	**1.75**	**275**		P		**Pn**	**16 45 14.7**	**+0.3**
JNK				*e*	S		**Sn**	**16 45 35.2**	**-0.3**
JAK	**Akkeshi**	**1.83**	**256**		P		**Pn**	**16 45 15.6**	**+0.1**
KUR	**Kuril'sk**	**1.84**	**17**	*i*	P		**Pn**	**16 45 16.8**	**+1.1**
KUR	comp=E,60nm,0.3s				AMB		AMB	16 45 18.0	
KUR	comp=E,50nm,0.3s				AMB		AMB	16 45 18.0	
KUR	comp=E,140nm,0.3s				AMB		AMB	16 45 18.0	
KUR				*i*	S		**Sn**	**16 45 37.6**	**-0.1**
KUR	comp=E,720nm,0.2s				A		A	16 45 42.0	
KUR	comp=E,390nm,0.2s				A		A	16 45 42.0	
KUR	**Kuril'sk**	**1.84**	**17**	*d i*	PN		**Pn**	**16 45 16.9**	**+1.2**
KUR				*i*	S		**Sn**	**16 45 39.1**	**+1.4**
KUR	comp=Z,135nm,0.5s				pmax		pmax		
KUR	comp=N,721nm,0.2s				smax		smax		
KUR	comp=E,393nm,0.2s				smax		smax		
JTKR	**Abashiri--Toko**	**2.38**	**283**		P		**Pn**	**16 45 24.8**	**+1.7**
JAR	**Ashorobuto**	**2.45**	**267**		P		**Pn**	**16 45 25.2**	**+1.2**
JOB	**Onbets**	**2.47**	**258**		P		**Pn**	**16 45 25.2**	**+0.9**
JOB				*e*	S		**Sn**	**16 45 54.3**	**+1.1**
JMP	**Maruseppu**	**2.78**	**282**		P		**Pn**	**16 45 30.5**	**+1.9**
JCH	**Churui**	**2.89**	**254**		P		**Pn**	**16 45 31.4**	**+1.4**
JCH				*e*	S		**Sn**	**16 46 04.5**	**+1.1**
HRK	**Horoka**	**2.91**	**271**	*e*	P		**Pn**	**16 45 32.7**	**+2.3**
JKK2	**Kamakawa 2**	**3.20**	**279**		P		**Pn**	**16 45 36.9**	**+2.6**
JEM	**Erimo**	**3.26**	**245**		P		**Pn**	**16 45 37.7**	**+2.5**
ERM	**Erimo**	**3.26**	**245**	*e*	Pn		**Pn**	**16 45 37.9**	**+2.7**
ERM	**Erimo**	**3.26**	**245**	*e*	P		**Pn**	**16 45 37.8**	**+2.6**
ERM	**Erimo**	**3.26**	**245**	*e*	PN		**Pn**	**16 45 37.8**	**+2.6**
JFR	**Furan**	**3.32**	**266**		P		**Pn**	**16 45 38.1**	**+2.1**
ASAJ	**Asahikawa**	**3.34**	**283**	*e*	Pn		**Pn**	**16 45 34.5**	**-1.7**
JNBK	**Urakawa-nobuka**	**3.42**	**251**		P		**Pn**	**16 45 39.0**	**+1.6**
YSS	**Yuzh-Sakhalins**	**4.66**	**320**	*e*	Pn		**Pn**	**16 45 56.1**	**+1.8**
YSS	**Yuzh-Sakhalins**	**4.66**	**320**	*e*	P		**Pn**	**16 45 55.0**	**+0.7**
YSS	comp=E,10.0nm,0.7s				AMB		AMB	16 45 59.0	
YSS				*e*	S		**Sn**	**16 46 47.0**	**0.0**
YSS	comp=E,10.0nm,0.7s				A		A	16 46 50.0	
YSS	comp=E,20nm,0.7s				A		A	16 46 50.0	
YSS	**Yuzh-Sakhalins**	**4.66**	**320**	*e*	PN		**Pn**	**16 45 55.8**	**+1.5**
YSS				*e*	S		**Sn**	**16 46 47.6**	**+0.6**
YSS	comp=Z,10.0nm,0.7s				pmax		pmax		
YSS	comp=N,10.0nm,0.7s				smax		smax		
YSS	comp=E,20nm,0.9s				smax		smax		
MJB9	**Matsu-Tunnel**	**9.72**	**228**	*e*	Pn		Pn	16 46 57.5	-6.4
MAJO	**Matsushiro**	**9.72**	**228**	*e*	Pn		Pn	16 46 57.6	-6.3
MAJO	**Matsushiro**	**9.72**	**228**	*e*	PN		Pn	16 46 57.6	-6.3
JHJ2	**Mitsune**	**11.82**	**211**	*e*	Pn		**Pn**	**16 47 30.4**	**-2.2**
PEA0B	**Petropavlovsk-**	**11.93**	**32**	*e*	Pn		**Pn**	**16 47 34.1**	**+0.2**
PETK	**Petropavlovsk-**	**11.93**	**32**		Pn		**Pn**	**16 47 31.8**	**-2.2**
	comp=E,0.6nm,0.3s,baz=204,slow=14,SNR=20								
PETK	**Petropavlovsk-**	**11.93**	**32**	*e*	Pn		**Pn**	**16 47 33.8**	**-0.2**
PETK	**Petropavlovsk-**	**11.93**	**32**	*e*	PN		**Pn**	**16 47 33.8**	**-0.2**
PEA1	**Petropavlovsk-**	**11.93**	**32**	*e*	Pn		**Pn**	**16 47 31.8**	**-2.2**
KLR	**Kul'dur**	**12.08**	**304**	*i*	P		**Pn**	**16 47 39.4**	**+3.4**
KLR	**Kul'dur**	**12.08**	**304**	*i*	PN		**Pn**	**16 47 39.4**	**+3.4**
BMKR	**Bomnak**	**16.37**	**320**	*e*	P		**Pn**	**16 48 31.1**	**-2.3**
CBIJ	**Chichi jima**	**16.82**	**195**	*e*	Pn		**Pn**	**16 48 38.2**	**-1.0**
	comp=E,151nm,0.9s								
KNGR	**Kungurtug, Tuv**	**34.01**	**300**	*i*	P		**P**	**16 51 29.1**	**+2.3**
IM3	**Indian Mountai**	**38.89**	**34**	*e*	P		**P**	**16 52 08.2**	**+0.2**
COLA	**College**	**41.31**	**36**	*i*	P		**P**	**16 52 29.3**	**+1.2**
COLA	**College**	**41.31**	**36**	*i*	P		**P**	**16 52 29.3**	**+1.2**
COLA						pmax	pmax		
	comp=Z,21nm,2.2s								
ILAR	**Eielson Array**	**41.73**	**36**		P		**P**	**16 52 30.6**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=260,slow=7.0,SNR=17								
ILAR	**Eielson Array**	**41.73**	**36**	*e*	P		**P**	**16 52 33.7**	**+2.2**
ILAR	**Eielson Array**	**41.73**	**36**	*e*	P		**P**	**16 52 33.7**	**+2.2**
ILAR						pmax	pmax		
	comp=Z,1.0nm,0.4s								
MK32	**Makanchi Array**	**44.70**	**298**	*e*	P		**P**	**16 52 56.1**	**+0.4**
MKAR	**Makanchi Array**	**44.70**	**298**		P		**P**	**16 52 56.1**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=82,slow=8.7,SNR=7.2								
MKAR	**Makanchi Array**	**44.70**	**298**	*e*	P		**P**	**16 52 55.6**	**-0.2**
	comp=Z,22nm,0.6s								
KURK	**Kurchatov**	**45.67**	**304**	*e*	P		**P**	**16 53 03.5**	**+0.1**
KURK	**Kurchatov**	**45.67**	**304**		P		**P**	**16 53 03.5**	**+0.1**
KURK						pmax	pmax		
	comp=Z,1.0nm,0.3s								
KURBB	**Kurchatov Arra**	**45.76**	**304**		P		**P**	**16 53 03.5**	**-0.6**
	comp=Z,0.7nm,0.2s,baz=62,slow=6.2,SNR=3.9								
INK	**Inuvik**	**46.66**	**30**		P		**P**	**16 53 11.8**	**+0.9**
	comp=Z,3.5nm,0.4s,baz=276,slow=6.4,SNR=37								
INK	**Inuvik**	**46.66**	**30**	*e*	P		**P**	**16 53 11.4**	**+0.5**
	comp=Z,4.7nm,0.6s								
AAK	**Ala-Archa**	**51.46**	**296**		P		**P**	**16 53 47.2**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=72,slow=20,SNR=3.2								
ARSB	**Arslanbob**	**53.07**	**295**	*e*	P		**P**	**16 53 59.9**	**-0.4**
	comp=Z,12nm,1.4s								
YKA	**Yellowknife Ar**	**56.05**	**34**		P		**P**	**16 54 20.4**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=302,slow=7.1,SNR=6.9								
WR1	**Warramunga Arr**	**64.18**	**193**	*e*	P		**P**	**16 55 15.9**	**-1.5**
	comp=Z,45nm,1.9s								
WRA	**Warramunga Arr**	**64.18**	**193**		P		**P**	**16 55 15.9**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=10,slow=6.4,SNR=3.2								
FIA0	**FINESS Array S**	**65.12**	**333**	*e*	P		**P**	**16 55 22.5**	**-0.5**
FIA0	**FINESS Array S**	**65.12**	**333**	*e*	P		**P**	**16 55 22.5**	**-0.5**
FINES	**FINESS Array B**	**65.12**	**333**		P		**P**	**16 55 22.5**	**-0.5**
	comp=Z,5.5nm,0.6s,baz=46,slow=7.9,SNR=40								
VSR	**Storozhevoye**	**66.93**	**319**	*i*	P		**P**	**16 55 36.7**	**+1.8**
VSR						pmax	pmax		
	comp=Z,9.0nm,1.4s								
NV01	**Mina Array Sit**	**67.75**	**58**	*e*	P		**P**	**16 55 41.1**	**+0.6**
NVAR	**Mina Array Bea**	**67.75**	**58**		P		**P**	**16 55 40.8**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=300,slow=7.2,SNR=4.1								
NB2	**NORSAR Subarra**	**69.86**	**339**		P		**P**	**16 55 52.3**	**-0.8**
	comp=Z,3.2nm,0.7s,baz=32,slow=6.9								
NB200	**NORSAR Array S**	**69.86**	**339**	*e*	P		**P**	**16 55 52.1**	**-1.0**
NOA	**NORSAR Array B**	**69.86**	**339**		P		**P**	**16 55 52.1**	**-1.0**
	comp=Z,2.3nm,0.7s,baz=32,slow=6.3,SNR=10								
NOA	**NORSAR Array B**	**69.86**	**339**	*e*	P		**P**	**16 55 52.7**	**-0.4**
NOA						pmax	pmax		
	comp=Z,2.0nm,0.7s								
KIV	**Kislovodsk**	**69.94**	**312**	*e*	P		**P**	**16 55 55.1**	**+1.2**
KIV	**Kislovodsk**	**69.94**	**312**	*e*	P		**P**	**16 55 55.1**	**+1.2**
KIV						pmax	pmax		
	comp=Z,9.0nm,1.1s								
KBZ	**Khabaz**	**69.97**	**312**		P		**P**	**16 55 54.0**	**0.0**
	comp=Z,3.1nm,0.8s,baz=73,slow=5.0,SNR=5.5								
PD31	**Pinedale Array**	**70.11**	**50**	*e*	P		**P**	**16 55 55.4**	**+0.2**
PDAR	**Pinedale Array**	**70.11**	**50**		P		**P**	**16 55 55.5**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=236,slow=1.6,SNR=4.2								
AKASG	**Malin Array Be**	**71.80**	**324**		P		**P**	**16 56 03.7**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=39,slow=6.5,SNR=4.4								
CLL	**Collm**	**77.56**	**333**	*e*	P		**P**	**16 56 38.0**	**-0.3**
CLL	**Collm**	**77.56**	**333**	*e*	P		**P**	**16 56 38.0**	**-0.3**
CLL	**Collm**	**77.56**	**333**	*e*	P		**P**	**16 56 38.0**	**-0.3**
GERES	**GERESS Array B**	**79.39**	**331**		P		**P**	**16 56 48.4**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=40,slow=5.3,SNR=3.6								
LTX	**Lajitas**	**82.82**	**56**	*e*	P		**P**	**16 57 07.9**	**+0.7**
LTX	**Lajitas**	**82.82**	**56**	*e*	P		**P**	**16 57 07.9**	**+0.7**
TXAR	**Lajitas Array**	**82.82**	**56**		P		**P**	**16 57 07.9**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=294,slow=3.1,SNR=3.6								

ISCJB ***13*** *17:04:43.0±0.3, 25.76N±0.03×110.41W±0.04, h15km, mb4.4/38, MS4.0/2, Error ellipse: s-maj=5.7km s-min=3.4km az=149.1*

IDC ***13*** *17:04:42.5±0.9, 26.06N×110.18W, h0km, mb4.0/10, mb1 4.1/16, mb1mx3.9/44, mbtmp3.8/16, ML3.5/6, MS4.2/5, Ms1 4.1/5, ms1mx3.7/47, Error ellipse: s-maj=18.4km s-min=13.4km az=60.0*

MEX ***13*** *17:04:43.3±0.6, 25.90N×110.34W, h15km±10km, MD4.0*

GCMT ***13*** *17:04:45.1±0.4, 25.94N±0.02×110.28W±0.02, h23km±1km, MW4.9/71, Moment Tensor Solution. s10,c11; s71,c106; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.20±.16; Mθθ -2.74±.13; Mφφ 2.54±.12; Mrθ -0.41±.16; Mθφ -0.26±.09; Mφr 0.57±.18; Best double couple: Mo 2.74800×10^16 NP1: φs 312.00000°, δ 86.00000°, λ 165.00000°. NP2: φs 43.00000°, δ 75.00000°, λ 4.00000°. Principal axes: T 2.6920, Plg 13.0000°, Azm 266.0000°; N 0.1070, Plg 75.0000°, Azm 116.0000°; P -2.8040, Plg 7.0000°, Azm 358.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***13*** *17:04:47.1±0.8, 26.01N×110.30W, h10km, mb4.4/73, MD4.0(MEX) Error ellipse: s-maj=11.7km s-min=5.8km az=215.0*

NEIC Felt at Comondu, Baja California Sur.

ISC 13 17:04:44.1±0.5, 25.79N±0.04×110.47W±0.06, h15km, n174, σ2.924/165, mb4.5/38, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.68**	**175**		P		**Pn**	**17 05 10.6**	**-2.5**
	33nm,0.3s,baz=328,slow=1.5,SNR=29								
LPIG						Sn	**Sn**	**17 05 31.0**	**-3.3**
	128nm,0.3s,baz=118,slow=0.7,SNR=18								
LPIG	**La Paz**	**1.68**	**175**	*i*	P		**Pn**	**17 05 10.5**	**-2.5**
LPIG				*i*	S		**Sn**	**17 05 31.2**	**-3.0**
GUYB	**Guaymas**	**2.13**	**350**	*e*	P		Pn	17 05 13.6	-5.6
GUYB				*i*	S		**Sn**	**17 05 38.8**	**-6.6**
SLBS	**Sierra La Lagu**	**2.15**	**167**	*e*	Pn		**Pn**	**17 05 17.0**	**-2.4**
SLBS	**Sierra La Lagu**	**2.15**	**167**	*e*	P		**Pn**	**17 05 17.0**	**-2.4**
SLBS				*i*	S		**Sn**	**17 05 42.4**	**-3.5**
SRIG	**Santa Rosalia**	**2.20**	**314**	*e*	Pn		**Pn**	**17 05 19.3**	**-0.8**
SRIG	**Santa Rosalia**	**2.20**	**314**	*e*	P		**Pn**	**17 05 16.6**	**-3.5**
SRIG				*i*	S		**Sn**	**17 05 42.8**	**-4.3**
HSIG		**3.25**	**353**	*e*	Pn		**Pn**	**17 05 30.2**	**-4.4**
HPIG		**4.46**	**74**	*e*	Pn		Pn	17 05 45.2	-6.1
HPIG				*e*	Pn		Pb	17 05 50.4	-12
HPIG				*e*	Sn		**Sn**	**17 06 40.7**	**-2.4**
TUC	**Tucson**	**6.50**	**358**	*e*	Pn		**Pn**	**17 06 16.5**	**-2.9**
TX31	**Lajitas Ar. Si**	**6.99**	**58**	*e*	Pn		Pn	17 06 19.8	-6.3
LTX	**Lajitas**	**6.99**	**58**	*e*	Pn		Pn	17 06 20.1	-6.0
TXAR	**Lajitas Array**	**6.99**	**58**		Pn		Pn	17 06 20.1	-6.0
	1.2nm,0.3s,baz=230,slow=13,SNR=18								
TXAR						Sn	Sn	17 07 35.9	-10
	1.6nm,0.3s,baz=224,slow=23,SNR=3.9								
TXAR						Lg	Lg	17 08 13.1	
	6.2nm,0.3s,baz=194,slow=28,SNR=8.6								
TXAR						LR	LR	17 09 09.9	
	comp=Z,2μm,20.1s,baz=0.0,slow=40								
MNTX	**Cornudas Mount**	**7.39**	**36**	*e*	Pn		**Pn**	**17 06 27.1**	**-4.4**
ZAIG	**Zacatecas**	**7.81**	**111**	*e*	Pn		**Pn**	**17 06 35.3**	**-2.2**
X18A	**Snowflake**	**8.72**	**3**	*e*	Pn		**Pn**	**17 06 45.5**	**-4.4**
LENM	**Lemitar**	**8.88**	**19**	*e*	Pn		**Pn**	**17 06 49.0**	**-3.1**
WUAZ	**Wupatki**	**9.73**	**356**	*e*	Pn		Pn	17 06 58.9	-4.8
W13A	**Hualapai Mount**	**9.74**	**343**	*e*	Pn		**Pn**	**17 07 06.3**	**+2.5**
ANMO	**Albuquerque**	**9.76**	**20**	*e*	Pn		**Pn**	**17 07 00.1**	**-4.1**
	0.1nm,0.3s,baz=223,slow=11,SNR=5.3								
ANMO						Lg	Lg	17 09 43.8	
	0.6nm,0.3s,baz=336,slow=12,SNR=5.5								
ANMO	**Albuquerque**	**9.76**	**20**	*e*	Pn		**Pn**	**17 07 03.0**	**-1.1**
JCT	**Junction City**	**10.51**	**61**	*e*	Pn		Pn	17 07 08.3	-5.9
MSTX	**Muleshoe**	**10.54**	**37**	*e*	Pn		**Pn**	**17 07 10.7**	**-4.0**
U15A	**North Rim**	**10.72**	**352**	*e*	Pn		**Pn**	**17 07 17.8**	**+0.4**
KNB	**Kanab**	**11.37**	**350**	*e*	Pn		**Pn**	**17 07 29.3**	**+3.1**
SHPR	**Sheep Range**	**11.41**	**341**	*e*	Pn		**Pn**	**17 07 29.3**	**+2.6**
LCMT	**Little Creek M**	**11.44**	**349**	*e*	Pn		**Pn**	**17 07 29.6**	**+2.6**
MVCO	**Mesa Verde**	**11.51**	**8**	*e*	Pn		**Pn**	**17 07 27.8**	**-0.3**
PKCU	**Pink Cliffs**	**11.73**	**353**	*e*	Pn		Pn	17 07 40.2	+9.0
SZCU	**Shurtz Canyon**	**11.98**	**350**	*e*	Pn		**Pn**	**17 07 38.3**	**+3.8**
CCUT	**Cedar City**	**11.98**	**349**	*e*	Pn		**Pn**	**17 07 38.0**	**+3.4**
TPNV	**Topopah Spring**	**12.17**	**337**	*e*	Pn		**Pn**	**17 07 38.6**	**+1.6**
MTPU	**Mount Pierson**	**12.30**	**354**	*e*	Pn		**Pn**	**17 07 41.5**	**+2.4**
PV05	**Paradox Valley**	**12.31**	**5**	*e*	Pn		**Pn**	**17 07 40.5**	**+1.5**
S22A	**4UR Ranch, Cre**	**12.32**	**14**	*e*	Pn		**Pn**	**17 07 40.1**	**+0.9**
PV13	**Radium Mtn., P**	**12.41**	**6**	*e*	Pn		**Pn**	**17 07 40.6**	**+0.2**
PV01	**Paradox Valley**	**12.41**	**7**	*e*	Pn		**Pn**	**17 07 40.7**	**+0.2**
T25A	**Trinidad**	**12.44**	**23**	*e*	Pn		**P**	**17 07 48.2**	**-4.5**
PV03	**Paradox Valley**	**12.51**	**6**	*e*	Pn		**Pn**	**17 07 42.0**	**+0.2**
PV17	**East Wray Mesa**	**12.52**	**5**	*e*	Pn		**Pn**	**17 07 42.2**	**+0.3**
PV11	**David Mesa, Pa**	**12.55**	**6**	*e*	Pn		**Pn**	**17 07 43.2**	**+0.9**
PV16	**Nyswonger Mesa**	**12.56**	**6**	*e*	Pn		**Pn**	**17 07 42.8**	**+0.4**
PV12	**Saucer Basin,**	**12.57**	**6**	*e*	Pn		**Pn**	**17 07 43.1**	**+0.4**
PV14	**Lion Creek, Pa**	**12.61**	**5**	*e*	Pn		**Pn**	**17 07 43.6**	**+0.4**
PV10	**Paradox Valley**	**12.61**	**5**	*e*	Pn		**Pn**	**17 07 47.0**	**+3.8**
SDCO	**Great Sand Dun**	**12.65**	**18**	*e*	Pn		**Pn**	**17 07 45.1**	**+1.4**
PV23	**Carpenter Ridg**	**12.69**	**5**	*e*	Pn		Pn	17 07 49.2	+4.9
MSU	**Marysvale**	**12.77**	**354**	*e*	Pn		**Pn**	**17 07 48.2**	**+2.8**
PV21	**Cone Mtn., Par**	**12.80**	**5**	*e*	Pn		**P**	**17 07 53.4**	**-3.3**
PSUT	**Pine Spring**	**13.03**	**348**	*e*	Pn		**Pn**	**17 07 51.2**	**+2.4**
Q16A	**Castle Valley**	**13.11**	**358**	*e*	Pn		**Pn**	**17 07 51.4**	**+1.4**
R11A	**Troy Canyon, C**	**13.25**	**342**	*e*	Pn		**Pn**	**17 07 53.7**	**+1.8**
SRU	**San Rafael Swe**	**13.29**	**360**	*e*	Pn		**Pn**	**17 07 52.9**	**+0.6**
WMOK	**Wichita Mounta**	**13.47**	**46**	*e*	Pn		**Pn**	**17 07 55.3**	**+0.6**
P17A	**Butcher Ranch,**	**13.65**	**359**	*e*	Pn		**Pn**	**17 07 57.6**	**+0.3**
SMCO	**Snowmass**	**13.67**	**12**	*e*	Pn		**Pn**	**17 07 59.0**	**+1.2**
NV11	**Mina Array Sit**	**14.18**	**335**	*e*	Pn		**P**	**17 08 19.4**	**+2.5**
MPU	**Maple Canyon**	**14.22**	**356**	*e*	Pn		**P**	**17 08 15.1**	**+2.6**
NVAR	**Mina Array Bea**	**14.24**	**334**		Pn		**Pn**	**17 08 07.3**	**+2.0**
	0.1nm,0.3s,baz=156,slow=11,SNR=4.3								
O20A	**White River Ci**	**14.43**	**7**	*e*	P		**P**	**17 08 14.2**	**-0.6**
ISCO	**Idaho Springs**	**14.55**	**15**	*e*	P		**P**	**17 08 16.2**	**-0.1**
KVN	**Kaiserville**	**14.70**	**336**	*e*	Pn		**P**	**17 08 17.2**	**-0.6**
WAKR	**Walker**	**14.77**	**331**	*e*	P		**P**	**17 08 19.3**	**+0.7**
CMB	**Columbia Colle**	**14.82**	**328**	*e*	Pn		**P**	**17 08 21.3**	**+2.3**
YERR	**Yerington**	**15.09**	**333**	*e*	Pn		**P**	**17 08 19.4**	**+2.5**
BGU	**Big Grassy Mou**	**15.25**	**353**	*e*	Pn		Pn	**17 08 20.0**	**+1.0**
TCUT	**Toone Canyon**	**15.31**	**357**	*e*	Pn		**Pn**	**17 08 19.6**	**-0.3**
	40nm,1.4s								
PNTR	**Pine Nut**	**15.33**	**332**	*e*	Pn		**P**	**17 08 24.1**	**-0.8**
	20nm,0.9s								
ELK	**Elko**	**15.44**	**346**		Pn		**Pn**	**17 08 21.8**	**+0.2**
	0.1nm,0.3s,baz=131,slow=12,SNR=3.5								
ELK						LR	LR	17 14 14.5	
	comp=Z,1μm,20.4s,baz=146,slow=38								
ELK	**Elko**	**15.44**	**346**	*e*	Pn		**Pn**	**17 08 21.7**	**+0.2**
	22nm,1.1s								
VCNR	**Virginia City**	**15.52**	**332**	*e*	Pn		**P**	**17 08 26.5**	**-0.5**
	19nm,1.0s								
PAHR	**Pah Rah Range**	**15.76**	**334**	*e*	Pn		**P**	**17 08 28.5**	**-1.1**
	24nm,1.2s								
AFDM	**Forest Hills D**	**15.82**	**329**	*e*	Pn		Pn	**17 08 25.1**	**-1.3**
	40nm,1.9s								
CBKS	**Cedar Bluff**	**15.83**	**32**	*e*	Pn		Pn	**17 08 23.4**	**-3.0**
	59nm,1.3s								
PHWY	**Pilot Hill**	**16.02**	**14**	*e*	Pn		Pn	**17 08 29.3**	**+0.2**
	35nm,1.7s								
HVU	**Hansel Valley**	**16.07**	**354**	*e*	Pn		**P**	**17 08 33.3**	**+0.4**
	60nm,1.7s								
RWWY	**Rawlins**	**16.09**	**9**	*e*	Pn		Pn	**17 08 28.3**	**-1.6**
	35nm,1.6s								
BEKR	**Beckworth**	**16.30**	**332**	*e*	Pn		**P**	**17 08 35.5**	**-0.1**
	23nm,1.3s								
ORV	**Oroville**	**16.55**	**329**	*e*	Pn		**P**	**17 08 39.5**	**+1.3**
	45nm,1.9s								
CMIG	**Matias Romero**	**16.88**	**118**		Pn		**Pn**	**17 08 38.8**	**-1.1**
	0.2nm,0.3s,baz=322,slow=9.8,SNR=7.1								
CMIG						LR	LR	17 14 34.0	
	comp=Z,906nm,19.0s,baz=272,slow=

Q44A	**Meyer Farm, Va**	**22.28**	**49**	*eP*	**P**	**17 09 41.2**	**+0.5**
	68nm,1.3s							
V48A	**Smith Brothers**	**22.56**	**58**	*eP*	**P**	**17 09 45.4**	**+1.6**
	35nm,1.3s							
LON	**Longmire**	**22.79**	**340**	*eP*	**P**	**17 09 47.8**	**+1.7**
	16nm,0.9s							
C09A	**Chrisman Ranch**	**22.82**	**346**	*eP*	**P**	**17 09 48.0**	**+1.6**
	37nm,2.0s							
OLIL	**Olney**	**22.83**	**50**	*eP*	**P**	**17 09 49.4**	**+2.9**
	38nm,1.4s							
NEW	**Newport**	**23.04**	**349**	P	**P**	**17 09 48.5**	**-0.2**
	3.1nm,0.9s,baz=178,slow=12,SNR=8.0							
NEW	**Newport**	**23.04**	**349**	*eP*	**P**	**17 09 49.7**	**+1.0**
	13nm,1.2s							
SWET	**Sewanee**	**23.09**	**60**	*eP*	**P**	**17 09 50.7**	**+1.4**
	107nm,1.7s							
152A	**Waverly Hall**	**23.46**	**67**	*eP*	**P**	**17 09 54.9**	**+1.8**
	49nm,1.6s							
W50A	**Signal Mountai**	**23.57**	**61**	*eP*	**P**	**17 09 56.0**	**+1.9**
	9.7nm,0.9s							
B08A	**Colville Reser**	**23.58**	**345**	*eP*	**P**	**17 09 55.3**	**+1.2**
	54nm,1.7s							
X51A	**Calhoun**	**23.76**	**62**	*eP*	**P**	**17 09 58.0**	**+2.0**
	43nm,1.3s							
T49A	**Edmonton**	**24.01**	**56**	*eP*	**P**	**17 10 00.6**	**+2.3**
	24nm,1.5s							
Y52A	**Lilburn**	**24.23**	**64**	*eP*	**P**	**17 10 02.4**	**+1.9**
	54nm,1.4s							
SFIN	**Lafayette**	**24.30**	**47**	*eP*	**P**	**17 10 03.0**	**+2.1**
	16nm,1.0s							
GOGA	**Godfrey**	**24.63**	**66**	*eP*	**P**	**17 10 06.5**	**+2.4**
	18nm,1.3s							
TKL	**Tuckaleechee C**	**24.90**	**60**	P	**P**	**17 10 04.5**	**-1.9**
	6.7nm,1.0s,baz=166,slow=8.3,SNR=2.6							
TKL				LR	LR	17 20 00.5		
	comp=Z,909nm,18.4s,baz=57,slow=37							
TKL	**Tuckaleechee C**	**24.90**	**60**	*eP*	**P**	**17 10 09.3**	**+2.8**
	21nm,1.4s							
V52A	**Sevierville**	**25.09**	**60**	*eP*	**P**	**17 10 11.3**	**+3.2**
	25nm,1.5s							
V53A	**Saluda**	**25.66**	**61**	*eP*	**P**	**17 10 16.0**	**+2.6**
	17nm,1.5s							
ULM	**Lac du Bonnet**	**26.89**	**21**	P	**P**	**17 10 23.8**	**-0.6**
	2.0nm,0.8s,baz=175,slow=15,SNR=3.0							
YKA	**Yellowknife Ar**	**36.80**	**357**	P	**P**	**17 11 49.3**	**-1.8**
	1.3nm,0.8s,baz=178,slow=8.0,SNR=10							
YKA				LR	LR	17 27 23.7		
	comp=Z,108nm,18.8s,baz=138,slow=37							
PTBC	**PUERTO BERRIO,**	**39.33**	**113**	*eP*	P	17 12 07.2	-5.7	
PTBC	**PUERTO BERRIO,**	**39.33**	**113**	*eP*	P	17 12 07.2	-5.7	
OTAV	**Otavalo**	**39.99**	**124**	*eP*	P	17 12 24.2	+5.3	
	9.9nm,1.0s							
OTAV	**Otavalo**	**39.99**	**124**	*eP*	**P**	**17 12 19.2**	**+0.3**
OTAV	**Otavalo**	**39.99**	**124**	*eP*	**P**	**17 12 19.2**	**+0.3**
CMBC	**Cumbal**	**39.99**	**123**	*eP*	**P**	**17 12 16.6**	**-2.4**
CMBC	**Cumbal**	**39.99**	**123**	*eP*	**P**	**17 12 16.6**	**-2.4**
RUSC	**La Rusia**	**40.82**	**112**	*eP*	**P**	**17 12 22.5**	**-3.4**
RUSC	**La Rusia**	**40.82**	**112**	*eP*	**P**	**17 12 22.5**	**-3.4**
SDV	**Santo Domingo**	**41.37**	**107**	P	**P**	**17 12 28.4**	**-1.7**
	2.8nm,0.5s,baz=17,slow=3.7,SNR=4.2							
SDV	**Santo Domingo**	**41.37**	**107**	*eP*	**P**	**17 12 31.7**	**+1.6**
	13nm,1.3s							
INK	**Inuvik**	**44.76**	**348**	P	**P**	**17 12 55.2**	**-1.4**
	1.6nm,1.0s,baz=219,slow=6.9,SNR=3.1							
IL1	**Eielson Array**	**45.42**	**339**	*eP*	**P**	**17 13 05.2**	**+3.2**
ILAR	**Eielson Array**	**45.42**	**339**	P	**P**	**17 13 00.3**	**-1.7**
	0.5nm,0.9s,baz=167,slow=6.6,SNR=5.8							
IM3	**Indian Mountai**	**48.44**	**338**	*eP*	**P**	**17 13 27.7**	**+2.2**
LPAZ	**La Paz**	**58.71**	**131**	*eP*	**P**	**17 14 45.4**	**+3.2**
	4.7nm,0.5s							
CPUP	**Villa Florida**	**72.87**	**131**	P	**P**	**17 16 12.5**	**-0.1**
	2.2nm,0.7s,baz=335,slow=6.8,SNR=7.2							
CPUP	**Villa Florida**	**72.87**	**131**	*eP*	**P**	**17 16 16.4**	**+3.8**
	7.6nm,1.4s							
PLCA	**Paso Flores**	**75.86**	**150**	P	**P**	**17 16 32.7**	**+2.8**
	1.0nm,0.9s,baz=11,slow=8.5,SNR=4.3							
KSH	**Kashi**	**114.76**	**355**	PKP	PKPdf	17 23 30.3	+5.8	
KSH				PP	PP	17 24 31.8	+11	
KSH				PKS	**PKSdf**	**17 27 05.5**	**+4.2**	
KSH				AMB	AMB			
	comp=Z,140nm,5.4s							
CMAR	**Chiang Mai Arr**	**127.54**	**324**	PKP	**PKiKP**	**17 23 50.2**	**+0.3**	
	comp=Z,0.3nm,0.7s,baz=345,slow=3.1,SNR=3.5							

IDC ***13*** *17:20:51.2±25.0, 39.°29N×14.°69E, h0km, mb3.5/2, mb1 3.5/3, mb1mx3.2/47, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=469.3km s-min=41.9km az=52.0*
ROM ***13*** *17:20:54.0±0.1, 39.°371N±0.°008×14.°84E±0.°02, h44km±3km, ML3.4/32*

ISC 13 17:20:52.9±1.6, 39.°37N±0.°03×14.°86E±0.°05, h8km±13km, n50, σ1s02/53, 3D, Tyrrhenian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISTR	**Stromboli Gino**	**0.64**	**156**	P	**Pb**	**17 21 07.2**	**+1.0**
ISTR				S	**Sb**	**17 21 16.3**	**+1.0**
ISTR				AML	AML		
	comp=E,9450μm,0.3s						
ISTR				AML	AML		
	comp=N,15700μm,0.3s						
ISTR				AML	AML		
	comp=E,9450μm,0.3s						
ISTR				AML	AML		
	comp=N,15700μm,0.3s						
ISTR				AML	AML		
	comp=E,9450μm,0.3s						
ISTR				AML	AML		
	comp=N,15700μm,0.3s						
BULG	**Bulgheria - Ca**	**0.81**	**29**	P	**Pb**	**17 21 09.1**	**-0.1**
BULG				S	**Sb**	**17 21 20.1**	**-0.2**
BULG				AML	AML		
	comp=E,4020μm,1.6s						
BULG				AML	AML		
	comp=N,8440μm,0.4s						
BULG				AML	AML		
	comp=E,4055μm,1.6s						
BULG				AML	AML		
	comp=N,8640μm,0.5s						
BULG				AML	AML		
	comp=E,4020μm,1.6s						
BULG				AML	AML		
	comp=N,8445μm,0.4s						
BULG				AML	AML		
	comp=E,4055μm,1.6s						
BULG				AML	AML		
	comp=N,8640μm,0.5s						
BULG				AML	AML		
	comp=E,4020μm,1.6s						
BULG				AML	AML		
	comp=N,8445μm,0.4s						
BULG				AML	AML		
	comp=E,4055μm,1.6s						
BULG				AML	AML		
	comp=N,8640μm,0.5s						
BULG				AML	AML		
	comp=N,8640μm,0.5s						
BULG				AML	AML		
	comp=N,8445μm,0.4s						
BULG				AML	AML		
	comp=E,4055μm,1.6s						
BULG				AML	AML		
	comp=E,4020μm,1.6s						
IFIL	**Filicudi I Eol**	**0.84**	**196**	P	**Pg**	**17 21 09.1**	**+0.1**
IFIL				S	**Sb**	**17 21 20.4**	**-0.6**
CET2	**Cetraro**	**0.86**	**79**	P	**Pb**	**17 21 09.7**	**-0.4**
CET2				AML	AML		
	comp=E,4360μm,0.3s						
CET2				AML	AML		
	comp=N,5880μm,1.4s						
CET2				AML	AML		
	comp=E,4355μm,0.3s						
CET2				AML	AML		
	comp=N,5880μm,1.4s						
CET2				AML	AML		
	comp=E,4355μm,0.3s						
CET2				AML	AML		
	comp=N,5880μm,1.4s						
CET2				AML	AML		
	comp=E,4355μm,0.3s						
CET2				AML	AML		
	comp=N,5880μm,1.4s						
IACL	**Alicudi**	**0.93**	**205**	P	**Pb**	**17 21 10.4**	**-0.7**
IACL				S	**Sb**	**17 21 22.3**	**-1.2**
IACL				AML	AML		
	comp=E,2925μm,0.7s						
IACL				AML	AML		
	comp=N,2065μm,0.8s						
LLI	**Lipari**	**0.93**	**176**	P	**Pg**	**17 21 11.4**	**+0.7**
MGR	**Morigerati**	**0.93**	**35**	P	**Pb**	**17 21 10.6**	**-0.7**
MGR				S	**Sb**	**17 21 23.4**	**-0.4**
MGR				AML	AML		
	comp=E,3955μm,0.4s						
MGR				AML	AML		
	comp=N,3645μm,0.6s						
MGR				AML	AML		
	comp=E,3580μm,0.4s						
MGR				AML	AML		
	comp=N,4040μm,0.2s						
MGR				AML	AML		
	comp=E,3955μm,0.4s						
MGR				AML	AML		
	comp=N,3645μm,0.6s						
MGR				AML	AML		
	comp=E,3580μm,0.4s						
MGR				AML	AML		
	comp=N,4040μm,0.2s						
MGR				AML	AML		
	comp=N,4040μm,0.2s						
MGR				AML	AML		
	comp=N,3645μm,0.6s						
MGR				AML	AML		
	comp=E,3580μm,0.4s						
MGR				AML	AML		
	comp=E,3955μm,0.4s						
CUC	**Castrocucco**	**0.96**	**50**	P	**Pb**	**17 21 11.3**	**-0.6**
CUC				AML	AML		
	comp=E,2360μm,0.4s						
CUC				AML	AML		
	comp=N,1490μm,1.2s						
CUC				AML	AML		
	comp=E,2850μm,0.3s						
CUC				AML	AML		
	comp=N,1820μm,1.2s						
CUC				AML	AML		
	comp=E,2355μm,0.4s						
CUC				AML	AML		
	comp=N,1490μm,1.2s						
CUC				AML	AML		
	comp=E,2850μm,0.3s						
CUC				AML	AML		
	comp=N,1820μm,1.2s						
CUC				AML	AML		
	comp=E,2355μm,0.4s						
CUC				AML	AML		
	comp=N,1820μm,1.2s						
CUC				AML	AML		
	comp=N,1490μm,1.2s						
CUC				AML	AML		
	comp=E,2850μm,0.3s						
CMPR	**Campora**	**1.00**	**20**	P	**Pb**	**17 21 11.8**	**-0.7**
CMPR				S	**Sb**	**17 21 25.0**	**-0.9**
CMPR				AML	AML		
	comp=E,2190μm,0.3s						
CMPR				AML	AML		
	comp=N,1545μm,0.5s						
CMPR				AML	AML		
	comp=E,2190μm,0.3s						
CMPR				AML	AML		
	comp=N,1545μm,0.5s						
CMPR				AML	AML		
	comp=E,2190μm,0.3s						
CMPR				AML	AML		
	comp=N,1545μm,0.5s						
JOPP	**Joppolo**	**1.10**	**133**	P	**Pb**	**17 21 12.9**	**-1.3**
JOPP				AML	AML		
	comp=E,1070μm,0.3s						
JOPP				AML	AML		
	comp=N,1300μm,0.3s						
JOPP				AML	AML		
	comp=E,1070μm,0.3s						
JOPP				AML	AML		
	comp=N,1300μm,0.3s						
JOPP				AML	AML		
	comp=N,1300μm,0.3s						
JOPP				AML	AML		
	comp=E,1070μm,0.3s						
SIRI	**Monte Sirino -**	**1.12**	**43**	P	**Pn**	**17 21 14.0**	**-0.9**
SIRI				AML	AML		
	comp=E,5160μm,1.4s						
SIRI				AML	AML		
	comp=N,3200μm,1.0s						
SIRI				AML	AML		
	comp=E,5270μm,1.4s						
SIRI				AML	AML		
	comp=N,3260μm,1.0s						
SIRI				AML	AML		
	comp=E,5160μm,1.4s						
SIRI				AML	AML		
	comp=N,3200μm,1.0s						
SIRI				AML	AML		
	comp=E,5270μm,1.4s						
SIRI				AML	AML		
	comp=N,3260μm,1.0s						
SIRI				AML	AML		
	comp=N,3260μm,1.0s						
SIRI				AML	AML		
	comp=N,3200μm,1.0s						
SIRI				AML	AML		
	comp=E,5270μm,1.4s						
SIRI				AML	AML		
	comp=E,5160μm,1.4s						
MILZ	**Milazzo**	**1.14**	**165**	P	**Pb**	**17 21 13.6**	**-1.1**
CDRU	**Civita di Ruta**	**1.17**	**17**	P	**Pn**	**17 21 14.3**	**-1.3**
CDRU				AML	AML		
	comp=E,2295μm,0.4s						
CDRU				AML	AML		
	comp=N,1510μm,0.3s						
CDRU				AML	AML		
	comp=E,2295μm,0.4s						
CDRU				AML	AML		
	comp=N,1510μm,0.3s						
CDRU				AML	AML		
	comp=E,2295μm,0.4s						
CDRU				AML	AML		
	comp=N,1510μm,0.3s						
SLCN	**Sala Consilina**	**1.18**	**30**	P	**Pn**	**17 21 15.2**	**-0.5**
SLCN				AML	AML		
	comp=E,7150μm,0.4s						
SLCN				AML	AML		
	comp=N,3875μm,0.9s						
SLCN				AML	AML		
	comp=E,7495μm,0.4s						
SLCN				AML	AML		
	comp=N,4230μm,0.9s						
SLCN				AML	AML		
	comp=E,7150μm,0.4s						
SLCN				AML	AML		
	comp=N,3880μm,0.9s						
SLCN				AML	AML		
	comp=E,7495μm,0.4s						
SLCN				AML	AML		
	comp=N,4230μm,0.9s						
SLCN				AML	AML		
	comp=N,4230μm,0.9s						
SLCN				AML	AML		
	comp=E,7495μm,0.4s						
SLCN				AML	AML		
	comp=N,3880μm,0.9s						
SLCN				AML	AML		
	comp=E,7150μm,0.4s						
MCEL	**Monticello**	**1.20**	**37**	P	**Pn**	**17 21 14.9**	**-1.0**
MCEL				AML	AML		
	comp=E,1510μm,0.7s						
MCEL				AML	AML		
	comp=N,1545μm,0.5s						
MCEL				AML	AML		
	comp=E,1525μm,0.7s						
MCEL				AML	AML		
	comp=N,1575μm,0.5s						
MCEL				AML	AML		
	comp=E,1510μm,0.7s						
MCEL				AML	AML		
	comp=N,1545μm,0.5s						
MCEL				AML	AML		
	comp=E,1525μm,0.7s						
MCEL				AML	AML		
	comp=N,1575μm,0.5s						
MCEL				AML	AML		
	comp=E,1525μm,0.7s						
MCEL				AML	AML		
	comp=N,1575μm,0.5s						
MCEL				AML	AML		
	comp=E,1525μm,0.7s						
MCEL				AML	AML		
	comp=N,1575μm,0.5s						
MCEL				AML	AML		
	comp=E,1510μm,0.7s						
MSRU	**Castanea**	**1.22**	**155**	P	**Pn**	**17 21 14.5**	**-1.7**
SCHR	**S. Chirico Rap**	**1.25**	**48**	P	**Pn**	**17 21 15.9**	**-0.8**
SCHR				AML	AML		
	comp=E,796μm,0.4s						
SCHR				AML	AML		
	comp=N,868μm,0.4s						
SCHR				AML	AML		
	comp=E,797μm,0.4s						
SCHR				AML	AML		
	comp=N,867μm,0.4s						
SCHR				AML	AML		
	comp=E,797μm,0.4s						
SCHR				AML	AML		
	comp=N,867μm,0.4s						
SALB	**San Lorenzo Be**	**1.25**	**66**	P	**Pn**	**17 21 16.1**	**-0.6**
SALB				AML	AML		
	comp=E,1735μm,0.3s						
SALB				AML	AML		
	comp=N,1090μm,0.6s						
SALB				AML	AML		
	comp=E,1785μm,0.3s						
SALB				AML	AML		
	comp=N,1046μm,0.6s						
SALB				AML	AML		
	comp=E,1730μm,0.3s						
SALB				AML	AML		
	comp=N,1090μm,0.6s						
SALB				AML	AML		
	comp=E,1785μm,0.3s						
SALB				AML	AML		
	comp=N,1046μm,0.6s						
SALB				AML	AML		
	comp=N,1090μm,0.6s						
SALB				AML	AML		
	comp=N,1046μm,0.6s						
SALB				AML	AML		
	comp=E,1785μm,0.3s						
SALB				AML	AML		
	comp=E,1730μm,0.3s						
CELI	**Celico**	**1.28**	**88**	P	**Pn**	**17 21 15.7**	**-1.4**
CELI				AML	AML		
	comp=E,816μm,0.8s						
CELI				AML	AML		
	comp=N,885μm,0.8s						
CELI				AML	AML		
	comp=E,2005μm,0.8s						
CELI				AML	AML		
	comp=N,2145μm,0.8s						
CELI				AML	AML		
	comp=E,2005μm,0.8s						
CELI				AML	AML		
	comp=E,816μm,0.8s						
CELI				AML	AML		
	comp=N,2145μm,0.8s						
CELI				AML	AML		
	comp=N,885μm,0.8s						
MPNC	**Port Mandanici**	**1.28**	**162**	P	**Pn**	**17 21 15.6**	**-1.5**
MPNC				AML	AML		
	comp=E,1171μm,0.5s						
MPNC				AML	AML		
	comp=N,1070μm,0.6s						
MPNC				AML	AML		
	comp=E,1171μm,0.5s						
MPNC				AML	AML		
	comp=N,1070μm,0.6s						
MPNC				AML	AML		
	comp=N,1070μm,0.6s						
MPNC				AML	AML		
	comp=E,1171μm,0.5s						
ATN	**Antennamare**	**1.30**	**159**	AML	AML		
	comp=E,808μm,0.8s						
ATN				AML	AML		
	comp=E,809μm,0.8s						
ATN				AML	AML		
	comp=N,776μm,0.3s						
ATN				AML	AML		
	comp=N,776μm,0.3s						
ATN				AML	AML		
	comp=E,808μm,0.8s						
ATN				AML	AML		
	comp=N,776μm,0.3s						
MUCR	**Ucria**	**1.33**	**180**	P	**Pn**	**17 21 16.8**	**-1.0**
GRI	**Girifalco**	**1.33**	**114**	P	**Pn**	**17 21 16.5**	**-1.2**
GRI				AML	AML		
	comp=E,2030μm,0.6s						
GRI				AML	AML		
	comp=N,1875μm,0.4s						
GRI				AML	AML		
	comp=E,2030μm,0.6s						
GRI				AML	AML		
	comp=N,1880μm,0.4s						
GRI				AML	AML		
	comp=N,1880μm,0.4s						
GRI				AML	AML		
	comp=E,2030μm,0.6s						
MSCL	**Scilla**	**1.35**	**147**	P	**Pn**	**17 21 16.8**	**-1.3**
MSFR	**San Fratello**	**1.35**	**189**	P	**Pn**	**17 21 17.1**	**-1.0**
CEL	**Celeste**	**1.37**	**144**	P	**Pn**	**17 21 17.1**	**-1.2**
SERS	**Sersale**	**1.46**	**103**	P	**Pn**	**17 21 18.7**	**-0.9**
SERS				AML	AML		
	comp=E,768μm,0.5s						
SERS				AML	AML		
	comp=N,468μm,0.6s						
SERS				AML	AML		
	comp=E,554μm,0.4s						
SERS				AML	AML		
	comp=N,766μm,0.5s						
SERS				AML	AML		
	comp=E,768μm,0.5s						
SERS				AML	AML		
	comp=N,468μm,0.6s						
SERS				AML	AML		
	comp=E,554μm,0.4s						
SERS				AML	AML		
	comp=N,766μm,0.5s						
SERS				AML	AML		
	comp=E,768μm,0.5s						
SERS				AML	AML		
	comp=E,554μm,0.4s						
SERS				AML	AML		
	comp=N,766μm,0.5s						
SERS				AML	AML		
	comp=N,468μm,0.6s						
MRLC	**Muro Lucano**	**1.47**	**19**	AML	AML		
	comp=E,626μm,1.6s						
MRLC				AML	AML		
	comp=E,620μm,1.6s						
MRLC				AML	AML		
	comp=N,603μm,0.6s						
MRLC				AML	AML		
	comp=E,626μm,1.6s						
MRLC				AML	AML		
	comp=N,634μm,0.6s						
MRLC				AML	AML		
	comp=E,620μm,1.6s						
MRLC				AML	AML		
	comp=N,603μm,0.6s						
MRLC				AML	AML		
	comp=E,626μm,1.6s						
MRLC				AML	AML		
	comp=N,634μm,0.6s						
MRLC				AML	AML		
	comp=E,620μm,1.6s						
MRLC				AML	AML		
	comp=N,634μm,0.6s						
MRLC				AML	AML		
	comp=N,603μm,0.6s						
TIP	**Timpagrande**	**1.48**	**97**	P	**Pn**	**17 21 19.3**	**-0.6**
TIP				AML	AML		
	comp=E,499μm,0.5s						
TIP				AML	AML		
	comp=N,346μm,0.5s						
TIP				AML	AML		
	comp=E,582μm,0.5s						
TIP				AML	AML		
	comp=N,451μm,0.5s						
TIP				AML	AML		
	comp=E,499μm,0.5s						

TIP				AML	AML			
	comp=N,346μm,0.5s							
TIP				AML	AML			
	comp=E,582μm,0.5s							
TIP				AML	AML			
	comp=N,451μm,0.5s							
TIP				AML	AML			
	comp=N,346μm,0.5s							
TIP				AML	AML			
	comp=E,582μm,0.5s							
TIP				AML	AML			
	comp=E,499μm,0.5s							
TIP				AML	AML			
	comp=N,451μm,0.5s							
GIB	**Gibilmanna**	**1.53**	**206**	P	**Pn**	**17 21 19.9**	**-0.6**	
GIB				AML	AML			
	comp=E,338μm,1.5s							
GIB				AML	AML			
	comp=N,310μm,0.5s							
GIB				AML	AML			
	comp=E,338μm,1.5s							
GIB				AML	AML			
	comp=N,310μm,0.5s							
GIB				AML	AML			
	comp=N,310μm,0.5s							
GIB				AML	AML			
	comp=E,338μm,1.5s							
PLAC	**Placanica**	**1.54**	**126**	P	**Pn**	**17 21 19.7**	**-0.9**	
PLAC				AML	AML			
	comp=E,756μm,0.4s							
PLAC				AML	AML			
	comp=N,710μm,1.2s							
PLAC				AML	AML			
	comp=E,755μm,0.4s							
PLAC				AML	AML			
	comp=N,710μm,1.2s							
PLAC				AML	AML			
	comp=E,755μm,0.4s							
PLAC				AML	AML			
	comp=N,710μm,1.2s							
SNAL	**S. Angelo Dei**	**1.57**	**10**	P	**Pn**	**17 21 21.3**	**+0.2**	
SOI	**Samo**	**1.60**	**144**	P	**Pn**	**17 21 20.1**	**-1.3**	
SOI				AML	AML			
	comp=E,546μm,0.4s							
SOI				AML	AML			
	comp=N,479μm,0.5s							
SOI				AML	AML			
	comp=E,546μm,0.4s							
SOI				AML	AML			
	comp=N,479μm,0.5s							
SOI				AML	AML			
	comp=E,546μm,0.4s							
SOI				AML	AML			
	comp=N,479μm,0.5s							
ACER	**Acerenza**	**1.64**	**30**	P	**Pn**	**17 21 22.6**	**+0.6**	
ACER				AML	AML			
	comp=E,1340μm,0.5s							
ACER				AML	AML			
	comp=N,957μm,0.6s							
ACER				AML	AML			
	comp=E,1385μm,0.5s							
ACER				AML	AML			
	comp=N,990μm,0.6s							
ACER				AML	AML			
	comp=E,1340μm,0.5s							
ACER				AML	AML			
	comp=N,956μm,0.6s							
ACER				AML	AML			
	comp=E,1385μm,0.5s							
ACER				AML	AML			
	comp=N,990μm,0.6s							
ACER				AML	AML			
	comp=E,1385μm,0.5s							
ACER				AML	AML			
	comp=E,1340μm,0.5s							
ACER				AML	AML			
	comp=N,956μm,0.6s							
ACER				AML	AML			
	comp=N,990μm,0.6s							
MPAZ	**Palizzi**	**1.68**	**147**	P	**Pn**	**17 21 21.5**	**-1.0**	
MPAZ				AML	AML			
	comp=E,556μm,0.6s							
MPAZ				AML	AML			
	comp=N,571μm,0.3s							
MPAZ				AML	AML			
	comp=N,571μm,0.3s							
MPAZ				AML	AML			
	comp=E,556μm,0.6s							
LTRZ	**Laterza**	**1.94**	**50**	AML	AML			
	comp=E,290μm,0.6s							
LTRZ				AML	AML			
	comp=N,370μm,0.4s							
LTRZ				AML	AML			
	comp=N,370μm,0.4s							
LTRZ				AML	AML			
	comp=E,290μm,0.6s							
MRVN	**Minervino Murg**	**1.97**	**31**	AML	AML			
	comp=N,198μm,0.5s							
MRVN				AML	AML			
	comp=E,248μm,0.9s							
MRVN				AML	AML			
	comp=N,198μm,0.5s							
MRVN				AML	AML			
	comp=E,248μm,0.9s							
SG1	**Sgolgore (BA)**	**2.02**	**43**	⇓*i*P	**Pn**	**17 21 27.5**	**+0.2**	
SG1				S	**Sn**	**17 21 54.3**	**+1.6**	
AMUR	**Altamura**	**2.03**	**40**	AML	AML			
	comp=E,308μm,0.5s							
AMUR				AML	AML			
	comp=N,258μm,0.5s							
AMUR				AML	AML			
	comp=N,258μm,0.5s							
AMUR				AML	AML			
	comp=E,308μm,0.5s							
HCRL	**Carlentini**	**2.09**	**176**	P	**Pn**	**17 21 28.5**	**+0.4**	
HCRL				AML	AML			
	comp=E,180μm,1.3s							
HCRL				AML	AML			
	comp=N,128μm,0.7s							
HCRL				AML	AML			
	comp=N,128μm,0.7s							
HCRL				AML	AML			
	comp=E,180μm,1.3s							
MASS	**Massafra**	**2.16**	**54**	*e*P	**Pn**	**17 21 29.4**	**+0.3**	
TAR1	**Taranto**	**2.19**	**57**	*e*P	**Pn**	**17 21 30.1**	**+0.6**	
NOCI	**Noci**	**2.20**	**49**	AML	AML			
	comp=N,296μm,0.6s							
NOCI				AML	AML			
	comp=E,275μm,0.7s							
NOCI				AML	AML			
	comp=E,275μm,0.7s							
NOCI				AML	AML			
	comp=N,296μm,0.6s							
BAI	**Bari**	**2.32**	**41**	⇓*i*P	**Pn**	**17 21 31.1**	**-0.2**	
BAI				S	**Sn**	**17 22 01.2**	**+1.2**	
FASA	**Fasano**	**2.40**	**52**	⇓*i*P	**Pn**	**17 21 32.7**	**+0.4**	
HMDC	**Modica**	**2.41**	**182**	P	**Pn**	**17 21 33.2**	**+0.6**	
HMDC				AML	AML			
	comp=E,166μm,1.1s							
HMDC				AML	AML			
	comp=N,174μm,1.6s							
HMDC				AML	AML			
	comp=E,166μm,1.1s							
HMDC				AML	AML			
	comp=N,174μm,1.6s							
STON	**Ston**	**4.10**	**31**	*e*Pn	**Pn**	**17 21 55.5**	**-0.3**	
STON				Sn	**Sn**	**17 22 40.9**	**-3.0**	
GERES	**GERESS Array B**	**9.51**	**355**	Pn	**Pn**	**17 23 10.4**	**+0.4**	
	comp=N,0.1nm,0.3s,baz=175,slow=15,SNR=4.8							
FINES	**FINESS Array B**	**23.16**	**14**	P	**P**	**17 26 01.0**	**+1.6**	
	comp=N,0.5nm,0.5s,baz=188,slow=9.3,SNR=3.7							
MKAR	**Makanchi Array**	**48.43**	**58**	P	**P**	**17 29 36.0**	**+0.5**	
	comp=N,0.4nm,0.6s,baz=282,slow=6.0,SNR=4.5							

*IDC **13** 17:25:49.7±1.3,25°.65N×109°.95W, h0km, mb2.9/2, mb1 3.5/6, mb1mx3.4/39, mbtmp3.1/6, ML3.3/4, Error ellipse: s-maj=23.2km s-min=15.3km az=114.0*

*ISCJB **13** 17:25:50.3±0.7,25°.67N±0°.06×109°.81W±0°.10, h10km, mb3.0/2, Error ellipse: s-maj=13.9km s-min=7.2km az=24.8*

ISC 13 17:25:50.9±0.9,**25°.61N**±0°.07×**109°.9W**±0°.1,**h10**km,**n7,** σ1§**48**/9,**Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**1.55**	**195**	Pn	**Pn**	**17 26 19.0**	**+0.4**
LPIG				Sn	**Sg**	**17 26 40.6**	**-0.2**
	24nm,0.3s,baz=154,slow=0.6,SNR=15						
TXAR	**Lajitas Array**	**6.64**	**55**	Pn	**Pn**	**17 27 29.2**	**+0.4**
	14nm,0.3s,baz=359,slow=22,SNR=6.6						
TXAR				Sn	**Sn**	**17 28 45.7**	**+1.1**
	0.1nm,0.3s,baz=231,slow=12,SNR=4.7						
TXAR				Lg	Lg	17 29 21.5	
	0.3nm,0.3s,baz=243,slow=25,SNR=3.7						
NVAR	**Mina Array Bea**	**14.63**	**333**	Pn	**Pn**	**17 29 19.8**	**+1.5**
	1.1nm,0.3s,baz=259,slow=14,SNR=6.1						
ELK	**Elko**	**15.74**	**345**	Pn	**P**	**17 29 35.6**	**-1.4**
	0.1nm,0.3s,baz=125,slow=12,SNR=2.9						
PDAR	**Pinedale Array**	**17.12**	**1**	P	**Pn**	**17 29 48.1**	**-2.4**
	0.1nm,0.3s,baz=168,slow=7.1,SNR=5.7						
YKA	**Yellowknife Ar**	**37.01**	**356**	P	**P**	**17 32 59.4**	**-1.0**
	0.0nm,0.3s,baz=195,slow=9.3,SNR=3.3						
ILAR	**Eielson Array**	**45.78**	**339**	P	**P**	**17 34 13.3**	**+0.8**
	0.1nm,0.7s,baz=182,slow=7.1,SNR=2.5						
	0.1nm,0.7s,baz=149,slow=7.4,SNR=3.0						

GUC 13 17:29:48.1±0.4,**20°.48S**×**69°.11W**,**h96**km±2km,**ML2.2, 1C-3D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.34**	**353**	⇓*i*P	Pn	17 30 02.7	-0.2
PB08				*i* S	Sn	17 30 13.8	-0.1
PB08				IAML		17 30 15.1	
	comp=E,92nm,0.1s						
PB01	**IPOC Station P**	**0.66**	**212**	*e*P	Pn	17 30 04.2	-0.7
PB01				*i* S	Sn	17 30 16.9	-0.6
PB11	**IPOC Station P**	**0.88**	**324**	⇓*i*P	Pn	17 30 06.8	-0.4
PB11				*i* S	Sn	17 30 21.2	-0.2
PB11				IAML		17 30 22.2	
	comp=N,130nm,0.2s						
PB02	**IPOC Station P**	**1.11**	**221**	⇑*e*P	Pn	17 30 09.2	-0.4
PB02				*e*S	Sn	17 30 25.6	-0.2
PB02				IAML		17 30 28.8	
	comp=E,76nm,0.3s						
PB09	**IPOC Station P**	**1.31**	**185**	*e*P	Pn	17 30 12.4	+0.4
PB07	**IPOC Station P**	**1.44**	**210**	⇓*i*P	Pn	17 30 13.2	-0.4
PB03	**IPOC Station P**	**1.67**	**201**	*e*P	Pn	17 30 16.4	-0.1
PB04	**IPOC Station P**	**2.08**	**208**	*e*P	Pn	17 30 22.0	+0.2
PB05	**IPOC Station P**	**2.57**	**203**	*e*P	Pn	17 30 28.3	+0.1

GUC 13 17:29:57.1±0.5,**22°.86S**×**68°.94W**,**h97**km±3km,**ML2.6, 7C-1D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.25**	**6**	⇓*i*P	Pn	17 30 11.0	-0.7
LVC				*e*S	Sn	17 30 21.6	-0.8
PB15	**IPOC Station P**	**0.60**	**234**	⇑*i*P	Pn	17 30 13.4	-0.3
PB15	**IPOC Station P**	**0.60**	**234**	⇑*i*P	Pn	17 30 13.4	-0.3
PB15				*i* S	Sn	17 30 26.1	+0.1
PB06	**IPOC Station P**	**0.61**	**284**	⇑*i*P	Pn	17 30 13.2	-0.4
PB06	**IPOC Station P**	**0.61**	**284**	⇑*i*P	Pn	17 30 13.2	-0.4
PB06				*i* S	Sn	17 30 25.8	-0.2
PB06				IAML		17 30 26.0	
	comp=N,277nm,0.1s						
PB09	**IPOC Station P**	**1.09**	**345**	*e*P	Pn	17 30 19.0	+0.5
PB09				*e*S	Sn	17 30 34.9	+0.2
PB09				IAML		17 30 36.4	
	comp=E,205nm,0.5s						
PB05	**IPOC Station P**	**1.17**	**270**	⇑*i*P	Pn	17 30 18.8	-0.5
PB05				*e*S	Sn	17 30 35.6	-0.5
PB04	**IPOC Station P**	**1.24**	**295**	⇑*i*P	Pn	17 30 19.8	-0.4
PB04				*i* S	Sn	17 30 37.6	0.0
PB04				IAML		17 30 42.8	
	comp=N,82nm,0.2s						
PB07	**IPOC Station P**	**1.43**	**322**	⇑*e*P	Pn	17 30 22.4	-0.1
PB07				*e*S	Sn	17 30 41.7	0.0
PB07				IAML		17 30 43.1	
	comp=E,102nm,0.3s						
PB02	**IPOC Station P**	**1.77**	**330**	*i* S	Sn	17 30 48.7	-0.5
PB02				IAML		17 30 54.7	
	comp=E,112nm,0.4s						
PB01	**IPOC Station P**	**1.88**	**344**	*e*P	Pn	17 30 28.0	-0.1
PB01				*i* S	Sn	17 30 51.8	+0.2
PB01				IAML		17 30 53.1	
	comp=E,83nm,0.2s						
GO02	**Mina Guanaco**	**2.37**	**194**	*e*P	Pn	17 30 34.3	-0.5

*MOS **13** 17:37:30.6±0.0, 42°.49N×41°.02E, h13km, MPVA3.4*
*NORS **13** 17:37:30.7±0.0, 42°.50N×41°.23E, h16km, MPVA3.4*
*ISK **13** 17:37:30.5, 42°.19N×40°.92E, h5km, ML2.6/3*
*DDA **13** 17:37:44.3, 41°.34N×41°.30E, h7km±2km, ML2.2*

ISC 13 17:37:28.7±1.4,**42°.35N**±0°.03×**40°.96E**±0°.04,**h10**km±13km, **n20,** σ0§**99**/30,**Black Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCA	**Borcka**	**1.03**	**151**	PG	**Pg**	**17 37 48.9**	**+0.3**
BCA				SG	**Sn**	**17 38 03.1**	**-0.7**
DOMR	**Dombai**	**1.06**	**27**	*i* Pg	**Pb**	**17 37 48.0**	**-1.2**
DOMR				*e*Sg	**Sb**	**17 38 00.8**	**-2.4**
DBOC	**Borcka**	**1.14**	**152**	*i* P	**Pg**	**17 37 50.7**	**+0.2**
CHOM	**Cayeli-Rize**	**1.26**	**187**	PN	**Pg**	**17 37 52.8**	**-0.1**
CHOM				SN	**Sg**	**17 38 08.9**	**-0.4**
ARTV	**Artvin**	**1.38**	**148**	IAML_P			
	comp=Z,2μm,0.1s						
ARTV				*i* P	**Pb**	**17 37 54.9**	**+0.3**
ARTV				*i* S	**Sn**	**17 38 11.1**	**-1.3**
RPOR	**Krasnaya Polya**	**1.44**	**340**	*e*Pg	**Pb**	**17 37 55.1**	**-0.5**
RPOR				*e*Sg	**Sn**	**17 38 13.3**	**-0.4**
DBAD	**Bademkaya**	**1.44**	**157**	IAML_P			
	comp=Z,1μm,0.1s						
DBAD				*i* P	**Pb**	**17 37 55.8**	**+0.1**
DAGI	**Agillar**	**1.46**	**150**	IAML_P			
	comp=Z,454nm,0.1s						
DAGI				*i* P	**Pb**	**17 37 55.5**	**-0.5**
SOC	**Sochi**	**1.53**	**324**	*e*Pg	**Pb**	**17 37 56.9**	**-0.2**
SOC				*e*Sg	**Sb**	**17 38 16.9**	**+0.4**
EPOS	**Posof**	**1.57**	**122**	*i* P	Pg	17 38 17.6	+19
EPOS				*i* S	Sg	17 38 35.6	+16
NEY	**Neytrino**	**1.58**	**55**	*e*Pg	**Pn**	**17 37 56.2**	**-0.7**
NEY				*e*Sg	**Sn**	**17 38 15.5**	**-1.9**
KTUT	**Trabzon**	**1.63**	**214**	PN	**Pg**	**17 37 59.7**	**-0.2**
SHA1	**Shidzhatmaz**	**1.86**	**41**	*e*Pg	**Pn**	**17 38 01.9**	**+1.0**
SHA1				*e*Sg	**Sn**	**17 38 24.7**	**+0.2**
LZRR	**Lazarevskoye**	**1.96**	**324**	*e*Pg	**Pb**	**17 38 04.8**	**+0.4**
LZRR				*e*Sg	**Sb**	**17 38 30.0**	**+1.2**
DIGR	**Digorskoe uzhe**	**2.01**	**73**	*e*Pg	**Pn**	**17 38 03.7**	**+0.8**
DIGR				*e*Sg	**Sn**	**17 38 28.6**	**+0.4**
KIV0	**Kislovodsk Arr**	**2.05**	**38**	*e*Pg	**Pb**	**17 38 06.3**	**+0.3**
KIV0				*e*Sg	**Sn**	**17 38 28.9**	**0.0**
BAYB	**BAYBURT**	**2.16**	**194**	IAML_P			
	comp=Z,47nm,0.2s						
BAYB				*i* P	**Pg**	**17 38 10.3**	**+0.3**
ESPY	**Espiye-Giresun**	**2.20**	**230**	PN	**Pb**	**17 38 07.9**	**-0.7**
ZEI	**Tsey**	**2.22**	**78**	*e*Pg	**Pn**	**17 38 07.7**	**+1.9**
ZEI				*e*Sg	**Sn**	**17 38 35.0**	**+1.7**
EAK	**Akyaka**	**2.59**	**129**	*i* P	Pg	17 38 26.6	+8.1

*ISCJB **13** 17:38:03.1±0.5,28°.51S±0°.09×12°.3W±0°.1, h10km, mb4.1/12, MS4.3/10, Error ellipse: s-maj=16.4km s-min=11.4km az=22.6*

*IDC **13** 17:38:03.2±0.8,28°.54S×12°.29W, h0km, mb4.1/10, mb1 4.2/10, mb1mx3.9/34, mbtmp4.1/10, MS4.4/10, Ms1 4.3/10, ms1mx4.0/33, Error ellipse: s-maj=25.8km s-min=18.7km az=148.0*

*NEIC **13** 17:38:04.6±0.5,28°.46S×12°.30W, h10km, mb4.4/5, Error ellipse: s-maj=19.1km s-min=13.7km az=125.0*

*GCMT **13** 17:38:05.6±0.3,28°.70S±0°.06×12°.49W±0°.03, h12km±1km, MW5.0/74, Moment Tensor Solution. s15,c15; s74,c89; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.99±.28; Mθθ0.26±.18; Mϕϕ2.73±.19; Mrθ-1.76±.92; Mθϕ-0.41±.12; Mϕr0.73±.55; Best double couple: M₀3.39900×10¹⁶ NP1:ϕs147.00000°, δ59.00000°, λ-114.00000°. NP2: ϕs8.00000°, δ38.00000°, λ-56.00000°. Principal axes: T 2.9980, Plg11.0000°, Azm254.0000°; N 0.8020, Plg20.0000°, Azm160.0000°; P -3.8000, Plg67.0000°, Azm11.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 17:38:04.5±0.6,**28°.5S**±0°.1×**12°.3W**±0°.1,**h10**km,**n34,** σ1§**00**/24,**mb4.1**/12,**MS4.3**/10,**Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H09W1	**TRISTAN DA CUN**	**8.58**	**180**	T	T	17 48 53.5	
	SNR=4.7						
H10S2	**ASCENSION HYDR**	**19.56**	**353**	T	T	18 02 51.3	
	baz=175,slow=75,SNR=8.7						
H10S3	**ASCENSION HYDR**	**19.57**	**353**	T	T	18 02 47.8	
	baz=175,slow=75,SNR=6.1						
H10S1	**ASCENSION HYDR**	**19.58**	**353**	T	T	18 02 52.6	
	baz=175,slow=75,SNR=8.3						
SUR	**Sutherland**	**28.73**	**106**	LR	LR	17 53 26.0	
	comp=Z,873nm,19.4s,baz=279,slow=32						
TSUM	**Tsumeb**	**28.78**	**78**	LR	LR	17 53 09.7	
	comp=Z,844nm,20.6s,baz=326,slow=32						
BOSA	**Boshof**	**32.89**	**99**	P	**P**	**17 44 38.1**	**-1.0**
	2.3nm,0.8s,baz=307,slow=5.1,SNR=2.6						
BOSA				LR	LR	17 56 09.1	
	comp=Z,1μm,18.3s,baz=306,slow=33						
BDFB	**Brasilia**	**35.35**	**284**	P	**P**	**17 45 01.1**	**+0.6**
	1.4nm,0.5s,baz=71,slow=10,SNR=3.3						
BDFB				LR	LR	17 56 33.2	
	comp=Z,534nm,22.0s,baz=91,slow=31						
DBIC	**Dimbokro**	**35.69**	**13**	P	**P**	**17 45 03.6**	**+0.4**
	3.9nm,0.9s,baz=170,slow=9.9,SNR=6.1						
DBIC				LR	LR	17 57 29.6	
	comp=Z,321nm,18.2s,baz=353,slow=33						
DBIC	**Dimbokro**	**35.69**	**13**	*e*P	**P**	**17 45 00.6**	**-2.6**
	6.8nm,1.1s						
CPUP	**Villa Florida**	**39.87**	**262**	P	**P**	**17 45 38.8**	**+0.3**
	1.8nm,1.1s,baz=118,slow=7.2,SNR=2.9						
CPUP				LR	LR	17 58 55.7	
	comp=Z,606nm,21.7s,baz=104,slow=31						
CPUP	**Villa Florida**	**39.87**	**262**	*e*P	**P**	**17 45 38.8**	**+0.3**
	3.3nm,1.1s						
VNA2	**Neumayer--Watz**	**42.56**	**178**	P	**P**	**17 46 01.0**	**+0.9**
	baz=350,slow=11						
VNA3	**Neumayer Olymp**	**42.82**	**179**	P	**P**	**17 46 02.2**	**0.0**
SNAA	**Sanae**	**43.54**	**176**	P	**P**	**17 46 08.7**	**+0.6**
	1.1nm,0.3s,baz=353,slow=7.3,SNR=4.7						
SNAA	**Sanae**	**43.54**	**176**	*e*P	**P**	**17 46 10.0**	**+1.9**
	8.9nm,1.1s						
TOA0	**Torodi Ar. Sit**	**43.55**	**20**	*e*P	**P**	**17 46 08.1**	**-0.6**
	5.0nm,1.1s						
TORD	**Torodi Ar. Bea**	**43.55**	**20**	P	**P**	**17 46 09.2**	**+0.5**
	2.2nm,0.9s,baz=220,slow=5.4,SNR=10						
TORD				LR	LR	18 00 52.5	
	comp=Z,433nm,19.3s,baz=310,slow=31						
TOA1	**Torodi Ar. Sit**	**43.56**	**20**	*e*P	**P**	**17 46 09.2**	**+0.4**
PLCA	**Paso Flores**	**48.67**	**239**	P	**P**	**17 46 48.6**	**-0.4**
	3.9nm,1.0s,baz=91,slow=7.0,SNR=4.3						
PLCA				LR	LR	18 06 51.1	
	comp=Z,199nm,18.4s,baz=144,slow=36						
PLCA	**Paso Flores**	**48.67**	**239**	*e*P	**P**	**17 46 48.0**	**-1.0**
LPAZ	**La Paz**	**52.63**	**271**	P	**P**	**17 47 19.1**	**-0.7**
	1.8nm,0.9s,baz=88,slow=12,SNR=4.6						
LPAZ	**La Paz**	**52.63**	**271**	*e*P	P	17 47 14.3	-5.6
QSPA	**South Pole Qui**	**61.73**	**180**	*e*P	**P**	**17 48 22.1**	**-0.8**
	8.3nm,1.0s						
DAVOX	**Davos/Dischmat**	**77.56**	**15**	LR	LR	18 20 53.3	
	comp=Z,179nm,21.2s,baz=166,slow=33						
BR101	**Keskin Array S**	**80.21**	**34**	*e*P	**P**	**17 50 16.7**	**+1.4**
BRTR	**Keskin Array B**	**80.21**	**34**	P	**P**	**17 50 16.7**	**+1.4**
	1.7nm,1.0s,baz=188,slow=7.5,SNR=6.0						
VRAC	**Vranov**	**81.63**	**19**	LR	LR	18 25 26.5	
	comp=Z,126nm,18.0s,baz=198,slow=35						
AKASG	**Malin Array Be**	**86.97**	**25**	P	**P**	**17 50 49.9**	**+0.3**
	0.1nm,0.3s,baz=217,slow=5.9,SNR=4.3						
SEY	**Seymchan**	**144.13**	**12**	PKP	PKPbc	17 57 38.3	+0.4
	2.8nm,1.0s,baz=312,slow=4.7,SNR=7.5						
KSAR	**Wonju Array Be**	**145.62**	**65**	PKPbc	**PKPab**	**17 57 43.8**	**0.0**
KS01	**Wonju Array Si**	**145.63**	**64**	*e*PKPdf	**PKPab**	**17 57 44.6**	**+0.8**
KLR	**Kul'dur**	**145.63**	**43**	PKPbc	**PKPdf**	**17 57 42.8**	**-0.1**
	1.8nm,0.7s,baz=289,slow=7.6,SNR=6.4						
KSRS	**Korea Array**	**145.66**	**65**	PKPbc	**PKPab**	**17 57 43.8**	**-0.1**
	4.7nm,0.9s,baz=269,slow=4.9,SNR=9.9						

*MEX **13** 17:50:12.8±0.4,25°.89N×110°.33W, h15km±5km, MD4.7*
*IDC **13** 17:50:12.1±0.7,26°.09N×109°.93W, h0km, mb4.2/19, mb1 4.4/26, mb1mx4.3/56, mbtmp4.3/26, ML3.7/6, MS4.8/35, Ms1 4.8/35, ms1mx4.8/40, Error ellipse: s-maj=20.4km s-min=11.1km az=53.0*

*NEIC **13** 17:50:13.0±0.4,25°.77N×110°.13W, h10km, mb4.9/62, MD4.7(MEX), Error ellipse: s-maj=5.8km s-min=3.2km az=216.0*

NEIC Felt at Ahome and Los Mochis, Sinaloa. Also felt at Loreto, Baja California Sur.

*ISCJB **13** 17:50:13.0±0.2,25°.86N±0°.02×110°.08W±0°.02, h19km, mb4.7/56, MS5.0/41, Error ellipse: s-maj=4.0km s-min=1.8km az=32.5*

*GCMT **13** 17:50:14.0±0.2,25°.86N±0°.01×110°.19W±0°.01, h23km, MW5.4/129, Moment Tensor Solution. s93,c132; s129,c243; Duration: 1§3 Moment tensor: Scale 10¹⁷ Nm; Mrr0.07±.03; Mθθ-1.69±.03; Mϕϕ1.62±.03; Mrθ-0.24±.04; Mθϕ-0.33±.02; Mϕr0.07±.04; Best double couple: M₀1.70500×10¹⁷ NP1:ϕs130.00000°, δ87.00000°, λ-173.00000°. NP2:ϕs39.00000°, δ83.00000°, λ-3.00000°. Principal axes: T 1.6580, Plg3.0000°, Azm264.0000°; N 0.0990, Plg82.0000°, Azm150.0000°; P -1.7520, Plg7.0000°, Azm355.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BJI **13** 17:50:14.6, 26°.10N×110°.10W, h6km, Ms7 5.3/3*

ISC 13 17:50:14.8±0.4,**25°.85N**±0°.04×**110°.18W**±0°.04,**h19**km, **n685,** σ2§**27**/661,**mb4.8**/56,**MS5.0**/42,**1C,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**1.74**	**184**	Pn	**Pn**	**17 50 39.7**	**-4.3**
	145nm,0.3s,baz=349,slow=2.4,SNR=229						
LPIG				Sn	**Sn**	**17 50 59.6**	**-6.1**
	412nm,0.3s,baz=195,slow=19,SNR=11						
LPIG	**La Paz**	**1.74**	**184**	*e*P	**Pn**	**17 50 39.6**	**-4.3**
LPIG				*i* S	**Sn**	**17 51 00.2**	**-5.5**
GUYB	**Guaymas**	**2.13**	**343**	*e*P	Pn	17 50 43.7	-5.7
GUYB				*i* S	**Sn**	**17 51 08.1**	**-7.3**
SLBS	**Sierra La Lagu**	**2.16**	**174**	*e*Pn	**Pn**	**17 50 46.2**	**-3.7**
SLBS	**Sierra La Lagu**	**2.16**	**174**	*e*P	**Pn**	**17 50 46.0**	**-3.9**
SLBS				*e*S	**Sn**	**17 51 12.4**	**-3.8**
SRIG	**Santa Rosalia**	**2.36**	**309**	*e*Pn	**Pn**	**17 50 51.3**	**-1.2**
SRIG				*e*Sn	**Sn**	**17 51 18.7**	**-2.3**
SRIG	**Santa Rosalia**	**2.36**	**309**	*e*P	Pn	17 50 46.1	-6.4
SRIG				*e*S	Sn	17 51 12.1	-8.8
HSIG		**3.23**	**348**	*e*Pn	**Pn**	**17 50 60.0**	**-4.6**
HSIG				*e*Sn	**Sn**	**17 51 37.8**	**-4.7**
HSIG		**3.23**	**348**	*e*P	Pn	17 50 59.1	-5.4
HSIG				*i* S	**Sn**	**17 51 35.8**	**-6.7**
HPIG		**4.19**	**74**	*e*Pn	**Pn**	**17 51 14.1**	**-3.8**
HPIG		**4.19**	**74**	*i* P	**Pn**	**17 51 15.6**	**-2.2**
HPIG				*i* S	**Sn**	**17 52 04.7**	**-1.7**
CGIG		**4.90**	**23**	*e*P	**Pn**	**17 51 23.9**	**-3.7**
CGIG		**4.90**	**23**	*e*P	**Pn**	**17 51 23.9**	**-3.7**
CGIG				*i* S	**Sn**	**17 52 19.3**	**-4.6**
TUC	**Tucson**	**6.46**	**355**	*e*Pn	**Pn**	**17 51 46.1**	**-2.9**
TUC	**Tucson**	**6.46**	**355**	P	**Pn**	**17 51 45.9**	**-3.1**
	baz=175						
214A	**Organ Pipe Nat**	**6.51**	**

	baz=149								
Y14A	Wickenburg	8.43	344	*e*Pn	Pn	17 52 15.2	-0.7		
X16A	Lo Mia Camp, P	8.61	353	*e*Pn	Pn	17 52 17.7	-0.9		
X18A	Snowflake	8.65	1	*e*Pn	Pn	17 52 16.8	-2.4		
Y22D	IRIS PASSCAL I	8.67	18	P	Pn	17 52 19.3	0.0		
	baz=199								
Y12C	Blythe	8.73	335	*e*Pn	Pn	17 52 20.2	+0.1		
Y12C	Blythe	8.73	335	P	Pn	17 52 19.6	-0.4		
	baz=153								
LENM	Lemitar	8.74	18	*e*Pn	Pn	17 52 18.4	-2.0		
BNM	Barren Site	8.83	20	*e*Pn	Pn	17 52 19.4	-2.2		
BAR	Barrett	8.86	322	*e*Pn	Pn	17 52 24.7	+2.8		
MONP2	Monument Peak	8.88	324	P	Pn	17 52 24.4	+2.0		
	baz=141								
LAZ	Ladron	8.92	16	*e*Pn	Pn	17 52 21.4	-1.4		
LPM	Los Pinos Moun	8.97	19	*e*Pn	Pn	17 52 24.1	+0.6		
BC3	Big Chuckawall	9.03	331	P	Pn	17 52 25.3	+1.0		
	baz=148								
PDMCI	Parker Dam,Lak	9.10	339	P	Pn	17 52 27.1	+2.0		
	baz=157								
W18A	Petrified Fore	9.25	2	*e*Pn	Pn	17 52 28.6	+1.2		
W18A	Petrified Fore	9.25	2	P	Pn	17 52 28.3	+1.0		
	baz=182								
109C	Camp Elliot, M	9.26	321	P	Pn	17 52 32.3	+5.0		
	baz=138								
CPE	Camp Elliot	9.26	321	*e*Pn	Pn	17 52 32.9	+5.6		
IRM	Iron Mountain	9.33	334	P	Pn	17 52 30.4	+2.1		
	baz=151								
TPFO	Pinon Flats	9.46	326	P	Pn	17 52 32.3	+2.2		
	baz=143								
XPFO	Pion Flat	9.46	326	*e*Pn	Pn	17 52 32.5	+2.2		
PFO	Pinyon Flats O	9.47	326	Pn	Pn	17 52 31.0	+0.7		
	baz=156,slow=10,SNR=6.0								
PFO				LR	LR	17 55 40.6			
	comp=Z,3μm,18.3s,baz=163,slow=35								
PFO	Pinyon Flats O	9.47	326	*e*Pn	Pn	17 52 32.5	+2.2		
PFO	Pinyon Flats O	9.47	326	P	Pn	17 52 32.1	+1.9		
	baz=143								
BELC	Belle Mtn. Jos	9.56	330	P	Pn	17 52 32.9	+1.3		
	baz=147								
ANMO	Albuquerque	9.62	19	Pn	Pn	17 52 29.9	-2.5		
	0.1nm,0.3s,baz=206,slow=14,SNR=19								
ANMO				Lg	Lg	17 55 12.1			
	1.8nm,0.3s,baz=170,slow=12,SNR=3.9								
ANMO	Albuquerque	9.62	19	*e*Pn	Pn	17 52 32.8	+0.4		
ANMO	Albuquerque	9.62	19	P	Pn	17 52 32.2	-0.2		
	baz=200								
WUAZ	Wupatki	9.69	354	*e*Pn	Pn	17 52 33.8	+0.4		
WUAZ	Wupatki	9.69	354	P	Pn	17 52 33.5	+0.2		
	baz=173								
LNIG	Linares	9.73	93	*e*Pn	Pn	17 52 32.9	-1.0		
LNIG	Linares	9.73	93	*i* P	Pn	17 52 34.0	+0.2		
LNIG				*i* S	Sn	17 54 22.6	-0.1		
W13A	Hualapai Mount	9.76	342	*e*Pn	Pn	17 52 34.7	+0.3		
MURC	Murrieta	9.84	323	P	Pn	17 52 36.7	+1.4		
	baz=140								
833A	Chaparral WMA,	9.92	73	*e*Pn	Pn	17 52 35.5	-0.8		
833A	Chaparral WMA,	9.92	73	P	Pn	17 52 35.9	-0.5		
	baz=258								
GMRC	Granite Mounta	10.09	333	P	Pn	17 52 39.8	+1.1		
	baz=151								
LDFC	Landfair	10.13	336	*e*Pn	Pn	17 52 42.4	+3.0		
JCT	Junction City	10.25	61	*e*Pn	Pn	17 52 37.4	-3.5		
JCT	Junction City	10.25	61	P	Pn	17 52 42.2	+1.3		
	baz=245								
JRQG	Juriquilla Cam	10.30	118	*e*Pn	Pn	17 52 42.6	+0.7		
MSTX	Muleshoe	10.33	37	*e*Pn	Pn	17 52 38.7	-3.3		
MSTX	Muleshoe	10.33	37	P	Pn	17 52 42.7	+0.6		
	baz=220								
HEC	Hector,Ludlow	10.41	331	P	Pn	17 52 44.0	+0.8		
	baz=148								
U15A	North Rim	10.70	351	*e*Pn	Pn	17 52 47.9	+0.6		
TUQ	Turquoise Moun	10.76	334	P	Pn	17 52 50.3	+2.4		
	baz=151								
MWC	Mount Wilson	10.78	323	*e*Pn	Pn	17 52 50.1	+1.8		
PASC	Pasadena Art C	10.81	322	*e*Pn	Pn	17 52 49.6	+1.0		
GSC	Goldstone, Bar	11.02	330	*e*Pn	Pn	17 52 52.8	+1.4		
GSC	Goldstone, Bar	11.02	330	P	Pn	17 52 54.0	+2.5		
	baz=147								
EDW2	Edwards Air Fo	11.25	325	P	Pn	17 52 56.8	+2.2		
	baz=141								
SHOC	Shoshone, Teco	11.30	334	P	Pn	17 52 57.8	+2.5		
	baz=151								
KNB	Kanab	11.36	349	*e*Pn	Pn	17 52 57.4	+1.2		
ABTX	Abilene, Hawle	11.41	51	*e*Pn	Pn	17 52 56.6	-0.1		
ABTX	Abilene, Hawle	11.41	51	P	Pn	17 52 56.5	-0.2		
	baz=236								
MVCO	Mesa Verde	11.42	7	*e*Pn	Pn	17 52 57.3	+0.3		
MVCO	Mesa Verde	11.42	7	P	Pn	17 52 57.2	+0.1		
	baz=187								
LCMT	Little Creek M	11.43	348	*e*Pn	Pn	17 52 57.9	+0.7		
SHPR	Sheep Range	11.45	339	*e*Pn	Pn	17 52 58.7	+1.3		
LRMC	Laurel Mtn Rad	11.57	328	P	Pn	17 53 00.4	+1.4		
	baz=144								
AMTX	Amarillo	11.61	37	*e*Pn	Pn	17 52 57.2	-2.4		
AMTX	Amarillo	11.61	37	P	Pn	17 53 03.5	+3.9		
	baz=221								
PKCU	Pink Cliffs	11.70	352	*e*Pn	Pn	17 53 02.8	+1.8		
ARVC	Arvin	11.88	323	P	Pn	17 53 04.4	+1.3		
	baz=139								
MPMC	Manual Prospec	11.95	330	P	Pn	17 53 07.2	+2.8		
	baz=146								
SZCU	Shurtz Canyon	11.97	349	*e*Pn	Pn	17 53 07.3	+2.7		
CCUT	Cedar City	11.98	348	*e*Pn	Pn	17 53 08.0	+3.3		
FURC	Furnace Creek,	12.03	333	P	Pn	17 53 07.5	+2.3		
	baz=150								
ISA	Isabella, Lake	12.10	326	*e*Pn	Pn	17 53 07.9	+1.6		
ISA	Isabella, Lake	12.10	326	P	Pn	17 53 07.5	+1.3		
	baz=142								
435B	Jarrell	12.13	63	*e*Pn	Pn	17 53 07.2	+0.5		
DAC	Darwin (Calif)	12.18	330	*e*Pn	Pn	17 53 10.0	+2.5		
S22A	4UR Ranch, Cre	12.20	13	*e*Pn	Pn	17 53 08.6	+0.8		
S22A	4UR Ranch, Cre	12.20	13	P	Pn	17 53 09.5	+1.7		
	baz=194								
TPNV	Topopah Spring	12.22	336	*e*Pn	Pn	17 53 10.3	+2.3		
TPNV	Topopah Spring	12.22	336	P	Pn	17 53 10.3	+2.3		
	baz=153								
PV05	Paradox Valley	12.23	4	*e*Pn	Pn	17 53 09.2	+1.0		
PKM	Mcpherson Peak	12.26	320	P	Pn	17 53 10.6	+2.1		
	baz=135								
MTPU	Mount Pierson	12.28	353	*e*Pn	Pn	17 53 11.2	+2.3		
T25A	Trinidad	12.28	22	*e*Pn	Pn	17 53 11.0	+2.2		
T25A	Trinidad	12.28	22	P	Pn	17 53 11.9	+3.0		
	baz=205								
PV01	Paradox Valley	12.32	6	*e*Pn	Pn	17 53 09.5	0.0		
PV13	Radium Mtn., P	12.33	5	*e*Pn	Pn	17 53 09.8	+0.2		
PV02	Paradox Valley	12.38	5	*e*Pn	Pn	17 53 09.9	-0.4		
PV03	Paradox Valley	12.42	5	*e*Pn	Pn	17 53 10.7	-0.1		
PV17	East Wray Mesa	12.44	4	*e*Pn	Pn	17 53 10.8	-0.2		
PV11	David Mesa, Pa	12.46	5	*e*Pn	Pn	17 53 11.6	+0.2		
PV19	Morning Glory	12.47	4	*e*Pn	Pn	17 53 12.1	+0.7		
PV16	Nyswonger Mesa	12.47	5	*e*Pn	Pn	17 53 11.3	-0.2		
PV12	Saucer Basin,	12.49	5	*e*Pn	Pn	17 53 12.0	+0.3		
PV20	West Nyswonger	12.50	4	*e*Pn	Pn	17 53 11.6	-0.2		
SDCO	Great Sand Dun	12.51	17	*e*Pn	Pn	17 53 12.3	+0.2		
SDCO	Great Sand Dun	12.51	17	P	Pn	17 53 13.6	+1.5		
	baz=199								
PV14	Lion Creek, Pa	12.53	4	*e*Pn	Pn	17 53 12.4	+0.1		
PV10	Paradox Valley	12.53	4	*e*Pn	Pn	17 53 11.1	-1.1		
CWC	Cottonwood Cre	12.54	329	P	Pn	17 53 14.1	+1.8		
	baz=145								
VES	Vestal, Richgr	12.55	325	P	Pn	17 53 14.8	+2.4		
	baz=140								
PV23	Carpenter Ridg	12.61	4	*e*Pn	Pn	17 53 13.8	+0.4		
PV09	Paradox Valley	12.64	4	*e*Pn	Pn	17 53 14.2	+0.3		
SMMC	Simmler	12.66	320	P	Pn	17 53 16.3	+2.4		
	baz=136								
GRAC	Grapevine Rang	12.69	333	P	Pn	17 53 16.5	+2.2		
	baz=149								
PV21	Cone Mtn., Par	12.72	4	*e*Pn	Pn	17 53 15.2	+0.4		
MSU	Marysvale	12.74	353	*e*Pn	Pn	17 53 16.9	+1.8		
PSUT	Pine Spring	13.02	347	*e*Pn	Pn	17 53 21.2	+2.2		
Q16A	Castle Valley	13.06	357	*e*Pn	Pn	17 53 18.7	-0.8		
PAGB	Antelope Grade	13.11	321	*e*Pn	P	17 53 28.1	-2.0		
TIN	Tinemaha, Big	13.11	330	P	Pn	17 53 22.3	+2.2		
	baz=146								
SRU	San Rafael Swe	13.23	359	*e*Pn	Pn	17 53 22.2	+0.5		
WMOK	Wichita Mounta	13.23	45	*e*Pn	Pn	17 53 19.0	-2.7		
R11A	Troy Canyon, C	13.28	341	*e*Pn	Pn	17 53 24.1	+1.7		
R11A	Troy Canyon, C	13.28	341	P	Pn	17 53 23.9	+1.5		
	baz=158								
TMUT	Trail Mountain	13.44	357	*e*Pn	Pn	17 53 26.0	+1.2		
SMCO	Snowmass	13.56	11	*e*Pn	Pn	17 53 27.6	+1.1		
P17A	Butcher Ranch,	13.60	358	*e*Pn	Pn	17 53 27.0	+0.3		
Q24A	Divide	13.75	17	*e*Pn	Pn	17 53 30.4	+1.4		
MLAC	Mammoth, Mammo	13.86	330	P	Pn	17 53 32.6	+2.2		
	baz=146								
OMMB	Old Mammoth Mi	13.92	330	*e*Pn	Pn	17 53 33.8	+2.5		
NLU	North Lily Min	14.16	354	*e*Pn	Pn	17 53 36.1	+1.6		
MPU	Maple Canyon	14.18	355	*e*Pn	Pn	17 53 37.4	+2.6		
NV11	Mina Array Sit	14.24	334	*e*Pn	Pn	17 53 37.5	+1.9		
NV01	Mina Array Sit	14.30	333	*e*Pn	Pn	17 53 37.7	+1.2		
NVAR	Mina Array Bea	14.30	333	Pn	Pn	17 53 37.2	+0.7		
	0.1nm,0.3s,baz=157,slow=13,SNR=17								
O20A	White River Ci	14.34	6	*e*Pn	Pn	17 53 37.6	+0.6		
O20A	White River Ci	14.34	6	P	Pn	17 53 36.9	-0.1		
	baz=187								
ISCO	Idaho Springs	14.43	14	*e*Pn	Pn	17 53 38.9	+0.6		
ISCO	Idaho Springs	14.43	14	P	Pn	17 53 39.1	+0.8		
	baz=196								
DUG	Dugway, Tooele	14.48	352	*e*Pn	Pn	17 53 40.1	+1.3		
DUG	Dugway, Tooele	14.48	352	P	Pn	17 53 40.0	+1.2		
	baz=170								
RYN	Ryan	14.56	333	*e*Pn	Pn	17 53 42.0	+2.0		
KSCO	Kaye Shedlock'	14.58	24	*e*Pn	Pn	17 53 39.2	-1.1		
JLU	Jordanelle	14.75	356	*e*Pn	Pn	17 53 43.4	+0.8		
KVN	Kaiserville	14.76	335	*e*Pn	Pn	17 53 43.9	+1.3		
NATX	Nacogdoches	14.82	63	*e*P	P	17 53 49.9	+0.8		
WAKR	Walker	14.84	330	*e*Pn	Pn	17 53 40.4	-3.4		
WAKR				*e*Pn	P	17 53 46.1	-3.5		
CTU	Camp Tracy	14.86	355	*e*Pn	Pn	17 53 46.7	+2.6		
CMB	Columbia Colle	14.91	327	*e*Pn	Pn	17 53 40.7	-3.9		
YERR	Yerington	15.16	332	*e*Pn	Pn	17 53 45.2	-2.9		
	159nm,1.5s								
BGU	Big Grassy Mou	15.22	352	*e*Pn	Pn	17 53 45.4	-3.5		
	58nm,1.3s								
TCUT	Toone Canyon	15.26	356	*e*Pn	Pn	17 53 50.1	+0.7		
PNTR	Pine Nut	15.40	331	*e*Pn	Pn	17 53 53.0	+1.8		
N23A	Red Feather La	15.41	12	*e*Pn	Pn	17 53 52.0	+0.6		
ELK	Elko	15.44	345	Pn	Pn	17 53 51.6	-0.2		
	0.1nm,0.3s,baz=186,slow=10,SNR=17								
ELK				LR	LR	17 59 55.5			
	comp=Z,7μm,18.5s,baz=174,slow=38								
ELK	Elko	15.44	345	*e*Pn	Pn	17 53 51.4	-0.4		
	73nm,1.1s								
X37A	Clayton	15.47	52	*e*Pn	Pn	17 53 52.9	+1.0		
SPUT	South Promonto	15.54	354	*e*Pn	P	17 53 55.7	-1.5		
VCNR	Virginia City	15.59	332	*e*Pn	P	17 53 55.9	-2.0		
CBKS	Cedar Bluff	15.63	32	*e*Pn	Pn	17 53 53.2	-0.9		
CBKS	Cedar Bluff	15.63	32	P	Pn	17 53 51.9	-2.3		
	baz=217								
BMN	Battle Mountai	15.69	340	*e*Pn	Pn	17 53 55.9	+1.0		
PAHR	Pah Rah Range	15.83	333	*e*Pn	Pn	17 53 58.2	+1.5		
	123nm,1.3s								
TUL1	Leonard	15.89	47	*e*Pn	Pn	17 53 58.0	+0.6		
TUL1	Leonard	15.89	47	P	Pn	17 53 57.6	+0.2		
	baz=234								
PHWY	Pilot Hill	15.90	13	*e*Pn	P	17 54 01.4	0.0		
AFDM	Forest Hills D	15.91	328	*e*Pn	P	17 54 01.2	-0.1		
RWWY	Rawlins	15.99	8	*e*Pn	P	17 54 01.7	-0.7		
HVU	Hansel Valley	16.04	353	*e*Pn	Pn	17 53 59.9	+0.5		
BEKR	Beckworth	16.37	331	*e*Pn	Pn	17 54 05.2	+1.4		
	131nm,1.2s								
OGNE	Ogallala	16.51	22	*e*Pn	P	17 54 07.2	-0.7		
ORV	Oroville	16.64	328	*e*Pn	P	17 54 09.9	+0.6		
CMIG	Matias Romero	16.68	118	Pn	Pn	17 54 06.8	-0.8		
	0.3nm,0.3s,baz=298,slow=8.8,SNR=16								
CMIG				LR	LR	17 59 36.6			
	comp=Z,4μm,21.1s,baz=275,slow=34								
MIAR	Mount Ida	16.75	55	*e*Pn	P	17 54 09.4	-1.1		
	59nm,1.0s								
MIAR	Mount Ida	16.75	55	P	P	17 54 09.5	-1.1		
	baz=243								
Z41A	Richland Creek	16.81	60	*e*Pn	Pn	17 54 09.4	+0.3		
BW06	Boulder Array	16.89	2	*e*Pn	Pn	17 54 09.1	-1.1		
	130nm,1.5s								
BW06	Boulder Array	16.89	2	P	Pn	17 54 08.8	-1.4		
	baz=182								
PD31	Pinedale Array	16.89	2	*e*Pn	Pn	17 54 10.2	-0.1		
PDAR	Pinedale Array	16.89	2	Pn	Pn	17 54 09.4	-0.8		
	0.1nm,0.3s,baz=170,slow=9.0,SNR=54								
PDAR				LR	LR	18 00 51.6			
	comp=Z,6μm,19.9s,baz=193,slow=38								
PDAR	Pinedale Array	16.89	2	*e*Pn	Pn	17 54 10.6	+0.3		
AHID	Auburn Hatcher	16.89	358	*e*Pn	Pn	17 54 10.3	0.0		
W39A	Magazine	16.90	53	*e*Pn	Pn	17 54 09.1	-1.2		
W39A	Magazine	16.90	53	P	Pn	17 54 08.9	-1.4		
	baz=241								
K22A	Casper	17.03	9	*e*Pn	Pn	17 54 12.7	+0.7		
K22A	Casper	17.03	9	P	Pn	17 54 11.3	-0.7		
	baz=191								
Y41A	Eaglette Beard	17.20	58	P	Pn	17 54 13.4	-0.5		
	baz=246								
X40A	Basin Creek Fa	17.27	56	*e*Pn	Pn	17 54 14.5	-0.5		
	212nm,1.7s								
X40A	Basin Creek Fa	17.27	56	P	Pn	17 54 12.9	-2.0		
	baz=244								
HHAR	Hobbs	17.34	49	*e*Pn	Pn	17 54 15.1	-0.8		
	39nm,1.0s								
O03E	Paynes Creek	17.37	329	P	P	17 54 17.6	+0.2		
	baz=143								
KSU1	Kansas State U	17.45	37	*e*Pn	Pn	17 54 17.5	+0.3		
KSU1	Kansas State U	17.45	37	P	Pn	17 54 17.3	+0.2		
	baz=224								
REDW	Red Top Meadow	17.48	358	*e*Pn	Pn	17 54 17.2	-0.5		
X41A	Kaden, Bauxite	17.52	56	P	Pn	17 54 17.2	-0.8		
	baz=245								
SNOW	Snow King Moun	17.58	359	*e*Pn	Pn	17 54 18.8	-0.2		
TPAW	Teton Pass	17.61	358	*e*Pn	Pn	17 54 19.2	-0.2		
LOHW	Long Hollow	17.73	359	*e*Pn	Pn	17 54 20.1	-0.6		
	40nm,1.3s								
UALR	University of	17.76	56	*e*Pn	Pn	17 54 20.6	-0.4		
MOOW	Moose Ponds	17.86	359	*e*Pn	Pn	17 54 22.0	-0.4		
	34nm,1.2s								
WDC	Whiskeytown Da	17.94	328	*e*Pn	P	17 54 24.0	+0.3		
WVOR	Wild Horse Val	17.95	339	*e*Pn	P	17 54 22.7	+0.1		
W41B	Gary Mavity, V	18.01	55	*e*Pn	Pn	17 54 22.7	-1.3		
W41B	Gary Mavity, V	18.01	55	P	Pn	17 54 22.8	-1.3		
	baz=243								
HLID	Hailey	18.01	350	*e*Pn	Pn	17 54 23.5	-0.7		
HLID	Hailey	18.01	350	P	P	17 54 25.0	+0.4		
	baz=168								
WHAR	Wooly Hollow	18.03	54	*e*Pn	Pn	17 54 23.6	-0.7		
	100nm,1.2s								
MOD	Modoc Plateau	18.06	335	*e*Pn	Pn	17 54 24.5	-0.3		
	77nm,1.4s								
MFID	Camas Ranch	18.12	347	*e*Pn	P	17 54 26.0	+0.2		
244A	Avery, Jackson	18.13	66	P	Pn	17 54 25.4	-0.1		
	baz=255								
U40A	Yellville	18.13	51	P	Pn	17 54 23.0	-2.6		
	baz=239								
FLWY	Flagg Ranch	18.20	359	*e*Pn	Pn	17 54 26.3	-0.2		
X42A	Stuttgart	18.21	57	P	Pn	17 54 25.2	-1.3		
	baz=246								
KMRM	Mail Ridge	18.25	325	*e*Pn	P	17 54 29.6	+2.5		
V41A	Mountainview	18.35	53	P	P	17 54 26.1	-2.1		
	baz=242								
YPP	Pitchstone Pla	18.39	359	*e*Pn	P	17 54 28.8	-0.1		
BGNE	Belgrade	18.44	30	*e*Pn	P	17 54 28.6	-0.6		
BGNE	Belgrade	18.44	30	P	P	17 54 27.2	-2.0		
	baz=216								
Y43A	Makayla and Ka	18.51	60	P	P	17 54 28.1	-1.8		
	baz=249								
H17A	Grant Village	18.51	359	*e*Pn	Pn	17 54 30.8	+0.4		
H17A	Grant Village	18.51	359	P	Pn	17 54 31.0	+0.6		
	baz=179								
YFT	Old Faithful	18.57	359	*e*Pn	Pn	17 54 33.3	+2.3		
M04C	Macdoel	18.58	332	P	Pn	17 54 32.7	+1.6		
	baz=145								
W42A	Bald Knob	18.58	55	P	P	17 54 29.4	-1.4		
	baz=244								
J08A	Circle Bar Ran	18.74	341	*e*Pn	Pn	17 54 33.2	+0.3		
	76nm,1.2s								
KHMM	Horse Mountain	18.75	326	*e*Pn	Pn	17 54 39.2	+6.0		
X43A	Marvell	18.76	58	*e*P	P	17 54 32.4	-0.4		
X43A	Marvell	18.76	58	P	P	17 54 31.9	-0.9		
	baz=247								
245A	Little AP, Sta	18.78	66	P	P	17 54 31.2	-1.7		
	baz=256								
U41A	Viola	18.78	52	P	P	17 54 30.9	-2.1		
	baz=241								
YMR	Madison River	18.79	358	*e*P	Pn	17 54 34.7	+0.9		
YNR	Norris Junctio	18.83	359	*e*P	Pn	17 54 35.7	+1.4		
YHB	Horse Butte	18.88	358	*e*P	Pn	17 54 35.0	+0.1		
RSSD	Black Hills	18.90	14	*e*P	P	17 54 32.3	-2.1		
	13nm,1.0s								
RSSD	Black Hills	18.90	14	P	P	17 54 32.7	-1.8		
	baz=197								
V42A	Cord	18.91	54	P	P	17 54 33.0	-1.4		
	baz=243								
YBH	Yreka Blue Hor	18.93	330	LR	LR	18 02 17.3			
	comp=Z,1μm,18.2s,baz=189,slow=38								
QLMT	Earthquake Lak	18.97	357	*e*P	Pn	17 54 36.3	+0.4		
346A	Big Creek Wild	18.99	68	*e*P	P	17 54 35.2	0.0		
346A	Big Creek Wild	18.99	68	P	P	17 54 34.8	-0.5		
	baz=258								
MCMT	McKenzie Canyo	19.06	354	*e*P	Pn	17 54 37.3	+0.3		
W43A	Forest City	19.12	57	P	P	17 54 36.2	-0.4		
	baz=246								
L04D	Klamath Falls	19.14	332	P	Pn	17 54 37.9	0.0		
	baz=145								
T41A	Mountain View	19.23	50	P	P	17 54 36.5	-1.4		
	baz=239								
RLMT	Red Lodge	19.25	2	*e*P	P	17 54 38.1	-0.1		
RLMT	Red Lodge	19.25	2	P	P	17 54 38.1	-0.1		
	baz=182								
U42A	Revenden	19.27	53	P	P	17 54 37.1	-1.2		
	baz=242								
Z45A	Winona	19.30	62	*e*P	Pn	17 54 40.5	+0.6		
Z45A	Winona	19.30	62	P	P	17 54 38.4	-0.3		
	baz=252								
X44A	Crenshaw	19.32	59	P	P	17 54 37.9	-1.0		
	baz=248								
S41A	Jillco Farms,	19.53	49	P	P	17 54 40.1	-1.0		
	baz=238								
DLMT	Dillon	19.57	355	*e*P	Pn	17 54 42.8	-0.3		
Y45A	Yeager Farm, C	19.58	61	P	P	17 54 41.4	-0.2		
	baz=251								
J05D	Fort Rock, OR	19.60	335	P	P	17 54 42.4	+0.3		
	baz=149								
146A	Union	19.61	65	*e*P	P	17 54 42.2	+0.2		
146A	Union	19.61	65	P	P	17 54 41.6	-0.5		
	baz=255								
T42A	Van Buren	19.70	51	*e*P	P	17 54 43.0	0.0		
	57nm,1.4s								
T42A	Van Buren	19.70	51	P	P	17 54 41.5	-1.5		
	baz=241								
I07A	Izee	19.71	340	*e*P	Pn	17 54 44.1	-0.6		
BMO	Blue Mountains	19.82	345	*e*P	P	17 54 43.9	-0.4		
	117nm,1.7s								
247A	Quitman	19.84	67	P	P	17 54 44.1	-0.5		
	baz=257								
X45A	UM Field Stati	19.88	60	P	P	17 54 43.7	-1.3		
	baz=250								
OXF	Oxford	19.89	59	*e*P	P	17 54 44.4	-0.7		
OXF	Oxford	19.89	59	P	P	17 54 44.4	-0.7		
	baz=250								
GCMT	Greycliff	19.91	1	*e*P	P	17 54 44.6	-0.7		
PINE	Pine Mountain	19.93	337	*e*P	P	17 54 46.3	+0.6		
	130nm,1.2s								
GNAR	Gosnell	19.99	55	*e*P	Pn	17 54 53.8	+6.0		
CCM	Cathedral Cave	20.11	48	*e*P	P	17 54 46.3	-1.1		
	87nm,1.4s								
CCM	Cathedral Cave	20.11	48	P	P	17 54 46.5	-1.0		
	baz=238								
Y46A	Houston	20.12	62	P	P	17 54 47.0	-0.7		
	baz=252								
R41A	Rosebud	20.15	47	P	P	17 54 46.7	-1.2		
	baz=237								
448A	Bay Minette	20.26	70	P	P	17 54 49.1	0.0		
	baz=261								
147A	Livingston	20.27	65	*e*P	P	17 54 49.5	+0.3		
147A	Livingston	20.27	65	P	P	17 54 48.8	-0.4		
	baz=256								
T43A	Greenville	20.29	52	P

250A	Grady	21.78	68	P	P	17 55 04.4	-1.1	
	baz=260							
E08A	Dider Farm, El	21.79	343	eP	P	17 55 04.2	-1.3	
Z49A	Columbiana	21.81	65	P	P	17 55 06.0	+0.1	
	baz=256							
HAWA	Hanford	21.82	342	eP	P	17 55 04.0	-1.8	
	55nm,1.4s							
N41A	Harden Midland	21.85	43	eP	P	17 55 07.8	+1.6	
F05D	White Salmon	21.94	339	P	P	17 55 06.8	-0.3	
	baz=152							
T46A	Princeton	21.99	54	P	P	17 55 07.0	-0.7	
	baz=246							
Q44A	Meyer Farm, Va	22.04	49	eP	P	17 55 08.2	-0.2	
Q44A	Meyer Farm, Va	22.04	49	P	P	17 55 07.2	-1.1	
	baz=240							
E07A	Sunnyside	22.06	342	eP	P	17 55 07.9	-0.6	
Y49A	Blount Mountai	22.07	63	eP	P	17 55 07.8	-0.8	
	97nm,1.6s							
Y49A	Blount Mountai	22.07	63	P	P	17 55 07.6	-1.1	
	baz=255							
L39A	Vinton	22.08	38	P	P	17 55 09.3	+0.6	
	baz=228							
150A	Eclectic	22.10	67	P	P	17 55 08.2	-0.8	
	baz=258							
EGMT	Eagleton	22.14	1	eP	P	17 55 08.3	-1.1	
U47A	Clarksville	22.20	56	P	P	17 55 08.5	-1.6	
	baz=248							
R45A	Skylar, Fairfi	22.26	51	P	P	17 55 09.5	-1.1	
	baz=242							
D08A	Wollman Farm,	22.28	344	eP	P	17 55 09.1	-1.7	
	53nm,1.1s							
V48A	Smith Brothers	22.31	58	eP	P	17 55 13.8	+2.7	
X49A	Woodville	22.31	62	P	P	17 55 09.5	-1.8	
	baz=253							
S46A	Don Dixon Farm	22.39	53	P	P	17 55 11.1	-0.9	
	baz=244							
N42A	Yates City	22.43	43	P	P	17 55 11.6	-0.8	
	baz=234							
L40A	Anamosa	22.48	39	eP	P	17 55 13.9	+1.0	
L40A	Anamosa	22.48	39	P	P	17 55 13.4	+0.5	
	baz=230							
251A	Midway	22.52	68	P	P	17 55 13.6	+0.1	
	baz=260							
K39A	Oelwein	22.53	37	P	P	17 55 13.2	-0.3	
	baz=227							
W49A	Belvidere	22.54	60	P	P	17 55 14.5	+0.8	
	baz=252							
USIN	University of	22.54	52	eP	P	17 55 17.7	+4.1	
T47A	Sharon Grove	22.55	55	eP	P	17 55 18.1	+4.4	
O43A	Sugar Creek Fa	22.57	45	P	P	17 55 13.5	-0.5	
	baz=236							
OLIL	Olney	22.59	50	eP	P	17 55 15.9	+1.7	
151A	Opelika	22.66	67	P	P	17 55 13.3	-1.7	
	baz=259							
HDIL	Hopedale	22.73	45	eP	P	17 55 16.4	+0.8	
LON	Longmire	22.82	339	eP	P	17 55 16.0	-0.6	
	98nm,1.1s							
C09A	Chrisman Ranch	22.82	346	eP	P	17 55 16.5	-0.1	
SWET	Sewanee	22.83	60	eP	P	17 55 16.1	-0.7	
	120nm,1.0s							
352A	Blakely	22.83	70	eP	P	17 55 19.1	+2.3	
X50B	Fort Payne	22.84	62	P	P	17 55 15.6	-1.3	
	baz=254							
LTY	Liberty	22.93	341	eP	P	17 55 14.3	-3.4	
Z51A	Franklin	22.95	65	P	P	17 55 17.1	-0.8	
	baz=257							
V49A	McMinnville	23.02	59	P	P	17 55 17.3	-1.4	
	baz=251							
NEW	Newport	23.03	348	P	P	17 55 17.5	-1.2	
	5.3nm,0.7s,baz=164,slow=11,SNR=15							
NEW				LR	LR	18 04 46.2		
	comp=Z,3µm,19.4s,baz=173,slow=38							
NEW	Newport	23.03	348	eP	P	17 55 17.5	-1.2	
	23nm,0.9s							
NEW	Newport	23.03	348	P	P	17 55 17.1	-1.7	
	baz=164							
J39A	Decorah	23.05	36	P	P	17 55 17.8	-1.2	
	baz=226							
DGMT	Dagmar	23.06	10	eP	P	17 55 18.9	-0.1	
DGMT	Dagmar	23.06	10	P	P	17 55 17.0	-2.1	
	baz=194							
T48A	Bowling Green	23.12	55	P	P	17 55 18.7	-1.0	
	baz=247							
Y51A	Rockmart	23.17	64	P	P	17 55 18.3	-1.9	
	baz=256							
152A	Waverly Hall	23.19	67	eP	P	17 55 18.9	-1.6	
P45A	Graceland, Par	23.21	48	eP	P	17 55 20.3	-0.3	
D05A	Enumclaw	23.27	339	eP	P	17 55 21.6	+0.5	
453A	Whigham	23.27	72	eP	P	17 55 26.6	+5.3	
W50A	Signal Mountai	23.31	60	eP	P	17 55 20.0	-1.7	
	55nm,1.0s							
W50A	Signal Mountai	23.31	60	P	P	17 55 19.7	-2.0	
	baz=253							
L42A	Oliver, Polo	23.34	41	eP	P	17 55 25.9	+4.0	
WALA	Waterton Lakes	23.35	354	eP	P	17 55 20.8	-1.3	
	93nm,1.3s							
MDND	Maddock	23.49	18	eP	P	17 55 21.6	-1.7	
MDND	Maddock	23.49	18	P	P	17 55 21.0	-2.3	
	baz=204							
X51A	Calhoun	23.50	62	eP	P	17 55 25.6	+2.0	
X51A	Calhoun	23.50	62	P	P	17 55 22.4	-1.1	
	baz=255							
R47A	Wooly Knot Far	23.50	52	P	P	17 55 22.8	-0.7	
	baz=245							
I39A	Houston	23.51	35	eP	P	17 55 27.2	+3.7	
Z52A	Williamson	23.54	66	P	P	17 55 22.3	-1.7	
	baz=258							
JFWS	Jewell Farm	23.57	39	eP	P	17 55 28.1	+3.9	
S48A	Wiedeman Farm,	23.58	54	P	P	17 55 23.3	-1.0	
	baz=247							
253A	Americus	23.59	69	P	P	17 55 22.9	-1.5	
	baz=261							
B08A	Colville Reser	23.59	345	eP	P	17 55 23.1	-1.3	
	128nm,1.5s							
V50A	Pikevile	23.61	59	P	P	17 55 21.9	-2.8	
	baz=252							
J40A	Soldiers Grove	23.62	37	P	P	17 55 23.8	-0.8	
	baz=228							
WCI	Wyandotte Cave	23.64	53	eP	P	17 55 25.2	+0.4	
	29nm,0.9s							
T49A	Edmonton	23.76	56	eP	P	17 55 27.7	+1.7	
	35nm,1.0s							
T49A	Edmonton	23.76	56	P	P	17 55 25.0	-1.0	
	baz=249							
Q47A	Bedord North L	23.84	51	P	P	17 55 27.6	+0.8	
	baz=244							
SPMN	Marine on St.	23.86	31	eP	P	17 55 27.7	+0.8	
BLO	Bloomington	23.88	50	eP	P	17 55 31.2	+4.0	
153A	Fort Valley	23.93	67	P	P	17 55 25.7	-2.0	
	baz=260							
Y52A	Lilburn	23.97	64	eP	P	17 55 26.5	-1.6	
Y52A	Lilburn	23.97	64	P	P	17 55 26.4	-1.6	
	baz=257							
M44A	Midewin, Midew	23.98	44	eP	P	17 55 31.5	+3.4	
CPCT	Cooper Cave	24.00	60	eP	P	17 55 30.0	+1.7	
	65nm,1.3s							
SFIN	Lafayette	24.06	47	eP	P	17 55 28.8	-0.1	
	86nm,0.8s							
SFIN	Lafayette	24.06	47	P	P	17 55 27.8	-1.1	
	baz=240							
NLWA	Neilton Lookou	24.08	337	eP	P	17 55 31.8	+2.8	
S49A	Springfield	24.19	54	P	P	17 55 28.0	-2.1	
	baz=247							
P47A	Martinsville	24.20	50	P	P	17 55 28.8	-1.3	
	baz=243							
V51A	Loudon	24.23	60	eP	P	17 55 29.4	-1.1	
V51A	Loudon	24.23	60	P	P	17 55 29.0	-1.5	
	baz=253							
T50A	Nancy	24.25	57	P	P	17 55 28.7	-1.9	
	baz=250							
Z53A	Monticello	24.25	66	P	P	17 55 28.8	-1.9	
	baz=259							
B05A	Bryant	24.25	340	P	P	17 55 30.3	-0.2	
	baz=153							
X52A	Dahlonega	24.27	63	P	P	17 55 30.4	-0.5	
	baz=256							
B06A	Marblemount	24.30	342	eP	P	17 55 34.4	+3.4	
Q48A	North Vernon	24.33	52	P	P	17 55 30.2	-1.1	
	baz=244							
Y53A	Monroe	24.36	65	P	P	17 55 30.3	-1.3	
	baz=258							
GOGA	Godfrey	24.36	66	eP	P	17 55 32.5	+0.8	
	60nm,1.4s							
W52A	Murphy	24.37	62	eP	P	17 55 32.5	+0.7	
555A	McAlpin	24.38	74	eP	P	17 55 32.2	+0.4	
TGUH	Tegucigalpa,Un	24.47	114	eP	P	17 55 36.4	+3.6	
I41A	Arkdale	24.53	37	eP	P	17 55 36.4	+3.3	
K43A	Burlington	24.56	41	eP	P	17 55 36.7	+3.3	
TKL	Tuckaleechee C	24.64	60	P	P	17 55 31.8	-2.5	
	2.5nm,0.8s,baz=227,slow=10,SNR=3.8							
TKL				LR	LR	18 05 40.5		
	comp=Z,4µm,18.6s,baz=254,slow=38							
TKL	Tuckaleechee C	24.64	60	eP	P	17 55 33.0	-1.2	
	70nm,1.3s							
656A	Williston	24.72	76	P	P	17 55 34.2	-0.8	
	baz=268							
X53A	Estanollee	24.73	63	P	P	17 55 34.8	-0.2	
	baz=257							
S50A	Richmond	24.80	55	P	P	17 55 33.5	-2.1	
	baz=249							
V52A	Sevierville	24.83	60	eP	P	17 55 37.0	+1.1	
Z54A	Sparta	24.85	66	P	P	17 55 34.5	-1.6	
	baz=260							
I42A	Draeger Farm,	24.95	38	eP	P	17 55 42.2	+5.4	
255A	Hazlehurst	24.96	70	eP	P	17 55 40.8	+3.7	
H41A	Junction City	25.01	36	eP	P	17 55 42.5	+5.0	
155A	Kite	25.06	68	P	P	17 55 36.6	-1.4	
	baz=261							
AGMN	Agassiz Nation	25.07	23	eP	P	17 55 37.1	-0.8	
AGMN	Agassiz Nation	25.07	23	P	P	17 55 36.9	-1.0	
	baz=212							
M46A	Old House Fiel	25.07	46	eP	P	17 55 43.2	+5.2	
TZTN	Tazewell	25.07	58	eP	P	17 55 37.8	-0.3	
	29nm,0.9s							
Y54A	Tignall	25.09	65	P	P	17 55 37.3	-1.0	
	baz=258							
BG3	Lake Jocassee	25.14	62	eP	P	17 55 39.6	+0.9	
U52A	Thorn Hill	25.17	59	P	P	17 55 38.3	-0.7	
	baz=253							
G40A	Rib Lake	25.17	35	eP	P	17 55 44.4	+5.5	
P49A	Miami Univ. Ec	25.30	51	P	P	17 55 42.9	+2.8	
	baz=245							
657A	Interlachen	25.31	75	P	P	17 55 39.7	-0.6	
	baz=268							
S51A	Beattyville	25.39	56	eP	P	17 55 44.2	+3.2	
V53A	Saluda	25.40	61	eP	P	17 55 40.7	-0.4	
	34nm,1.0s							
058A	Arcadia	25.41	81	P	P	17 55 41.1	-0.1	
	baz=274							
HODGE	Hodges	25.51	64	eP	P	17 55 42.0	-0.1	
R51A	Hillsboro	25.63	55	P	P	17 55 43.4	+0.3	
	baz=249							
U53A	Fall Branch	25.77	59	P	P	17 55 44.4	-0.1	
	baz=254							
O49A	Covington	25.84	50	eP	P	17 55 48.2	+3.2	
O49A	Covington	25.84	50	P	P	17 55 47.6	+2.5	
	baz=244							
P50A	Jamestown	25.98	52	P	P	17 55 49.3	+3.0	
	baz=246							
PAULI	Pauline	25.99	63	eP	P	17 55 48.3	+1.9	
F41A	Three Lakes	26.05	35	eP	P	17 55 50.0	+3.1	
Q51A	Peebles	26.07	53	eP	P	17 55 50.7	+3.5	
G42A	Mountain	26.08	37	eP	P	17 55 53.5	+6.3	
N49A	Columbus Grove	26.27	49	eP	P	17 55 50.9	+1.9	
N49A	Columbus Grove	26.27	49	P	P	17 55 50.9	+1.9	
	baz=243							
O50A	Cable	26.32	51	P	P	17 55 52.7	+3.3	
	baz=245							
JSC	Jenkinsville	26.33	65	eP	P	17 55 56.0	+6.5	
KMSC	Kings Mountain	26.45	63	eP	P	17 55 52.5	+1.9	
KMSC	Kings Mountain	26.45	63	P	P	17 55 52.4	+1.8	
	baz=257							
P51A	Williamsport	26.45	52	eP	P	17 55 54.5	+4.0	
EYMN	Ely	26.50	29	eP	P	17 55 49.3	-1.7	
	24nm,0.9s							
EYMN	Ely	26.50	29	P	P	17 55 52.2	+1.2	
	baz=220							
K47A	Vermontville	26.58	45	P	P	17 55 54.7	+2.9	
	baz=239							
E41A	Kenton	26.62	34	P	P	17 55 55.4	+3.4	
	baz=226							
M49A	Liberty Center	26.66	48	P	P	17 55 55.6	+3.1	
	baz=242							
ULM	Lac du Bonnet	26.74	21	P	P	17 55 49.9	-3.1	
	1.5nm,0.6s,baz=200,slow=14,SNR=3.4							
ULM				LR	LR	18 06 50.4		
	comp=Z,2µm,21.4s,baz=208,slow=38							
ULM	Lac du Bonnet	26.74	21	eP	P	17 55 52.4	-0.7	
	14nm,1.0s							
ACSO	Alum Creek Sta	26.80	51	eP	P	17 55 56.7	+3.0	
ACSO	Alum Creek Sta	26.80	51	P	P	17 55 57.0	+3.3	
	baz=246							
N50A	Nevada	26.91	50	P	P	17 55 58.4	+3.7	
	baz=244							
J47A	Sunmer	26.99	44	P	P	17 55 58.7	+3.3	
	baz=238							
RGRS	Roger Stewart	27.00	68	eP	P	17 56 02.3	+6.8	
NHSC	New Hope	27.04	67	eP	P	17 56 02.8	+6.9	
M50A	Fremont	27.26	49	eP	P	17 56 01.4	+3.6	
M50A	Fremont	27.26	49	P	P	17 56 01.3	+3.5	
	baz=244							
H46A	Fife Lake	27.47	41	P	P	17 56 03.1	+3.4	
	baz=235							
N51A	Ashland	27.51	50	P	P	17 56 03.6	+3.6	
	baz=245							
O52A	Adamsville	27.56	52	P	P	17 56 03.7	+3.1	
	baz=247							
I47A	Gladwin	27.60	42	P	P	17 56 04.6	+3.7	
	baz=237							
P53A	Whipple	27.65	53	P	P	17 56 04.3	+3.0	
	baz=249							
BLA	Blacksburg	27.67	59	eP	P	17 56 08.7	+7.1	
	24nm,1.0s							
M51A	Elyria	27.81	49	P	P	17 56 06.1	+3.3	
	baz=245							
GLMI	Grayling	27.98	41	P	P	17 56 07.9	+3.7	
	baz=236							
O53A	New Philadelph	28.06	52	P	P	17 56 08.2	+3.2	
	baz=248							
H47A	Mio	28.10	42	P	P	17 56 09.0	+3.7	
	baz=237							
JTS	JuntasAbangare	28.45	118	LR	LR	18 08 53.3		
	comp=Z,2µm,18.4s,baz=12,slow=40							
O54A	Avella	28.63	53	P	P	17 56 12.9	+2.9	
	baz=249							
FFC	Flin Flon	29.47	10	eP	P	17 56 21.1	+3.7	
BBB	Bella Bella	29.60	337	LR	LR	18 07 48.6		
	comp=Z,µm,20.9s,baz=166,slow=36							
SSPA	Standing Stone	30.57	53	eP	P	17 56 26.8	-0.5	
	14nm,1.0s							
SSPA	Standing Stone	30.57	53	P	P	17 56 29.9	+2.6	
	baz=251							
H52A	Wyevale	30.78	45	P	P	17 56 32.8	+3.7	
	baz=242							
PKRO	Pickering	31.01	46	P	P	17 56 34.1	+3.0	
	baz=244							
E50A	Wahnapitae	31.13	41	P	P	17 56 36.0	+3.8	
	baz=239							
DRCO	St. Marys Ceme	31.21	47	P	P	17 56 36.4	+3.5	
	baz=245							
MMNY	Mt. Morris Dam	31.29	49	eP	P	17 56 37.1	+3.5	
F51A	Arnstein	31.38	42	P	P	17 56 37.9	+3.5	
	baz=240							
F52A	Sundridge	31.68	43	P	P	17 56 40.2	+3.2	
	baz=241							
G53A	Haliburton	31.80	45	P	P	17 56 41.8	+3.7	
	baz=243							
E51A	G1948 Merrick	31.93	42	P	P	17 56 43.1	+3.9	
	baz=240							
D50A	G1974 Best Tow	32.04	41	P	P	17 56 43.8	+3.7	
	baz=239							
BANO	Bancroft	32.20	45	P	P	17 56 44.8	+3.2	
	baz=244							
D51A	Lot 18 Range I	32.28	41	P	P	17 56 46.0	+3.8	
	baz=240							
E52A	Hattawa	32.32	43	P	P	17 56 45.7	+3.2	
	baz=242							
BINY	Binghamton	32.43	51	eP	P	17 56 47.1	+3.4	
BINY	Binghamton	32.43	51	P	P	17 56 46.2	+2.6	
	baz=250							
D52A	ZEK Kipawa Sen	32.80	42	P	P	17 56 50.6	+3.8	
	baz=241							
PEMO	Pembroke	32.92	45	P	P	17 56 51.3	+3.4	
	baz=244							
E53A	Dumoine, Ponti	32.97	43	P	P	17 56 52.4	+4.1	
	baz=243							
D53A	Lac Vacive, Po	33.27	42	P	P	17 56 55.4	+4.5	
	baz=242							
E54A	Lac Daplat, Po	33.29	43	P	P	17 56 55.4	+4.3	
	baz=243							
F55A	Otter Lake	33.55	45	P	P	17 56 57.2	+3.8	
	baz=245							
ORIO	Orleans, Innes	33.93	46	P	P	17 57 00.5	+3.8	
	baz=246							
NCB	Newcomb	34.24	49	eP	P	17 57 02.5	+3.0	
LSQQ	Lebel-sur-Quev	34.65	39	P	P	17 57 06.5	+3.6	
	baz=240							
FCC	Fort Churchill	34.79	15	eP	P	17 57 02.1	-1.8	
	14nm,1.0s							
QUA2	Belchertown	35.03	52	eP	P	17 57 09.8	+3.6	
VT1	Waterbury	35.36	49	eP	P	17 57 12.6	+3.5	
DLBC	Dease Lake	35.45	342	P	P	17 57 08.6	-1.1	
	3.2nm,1.0s,baz=220,slow=5.9,SNR=3.8							
DLBC				LR	LR	18 11 15.7		
	comp=Z,3µm,19.7s,baz=154,slow=36							
CHGQ	Chibougamau	36.55	39	P	P	17 57 23.2	+3.9	
	baz=242							
YKA	Yellowknife Ar	36.76	357	P	P	17 57 18.9	-1.9	
	4.6nm,1.0s,baz=174,slow=8.0,SNR=52							
YKA				LR	LR	18 13 05.7		
	comp=Z,374nm,20.2s,baz=192,slow=38							
YKB5	Yellowknife Ar	36.76	357	eP	P	17 57 18.2	-2.6	
YKW3	Yellowknife Ar	36.83	357	eP	P	17 57 19.9	-1.4	
DBBC	Dabeiba	37.40	114	eP	P	17 57 24.5	-2.4	
DBBC	Dabeiba	37.40	114	eP	P	17 57 24.5	-2.4	
WVL	Waterville	37.54	50	eP	P	17 57 32.4	+4.7	
UREC	San Jos de Ur	37.56	112	eP	P	17 57 31.4	+3.3	
UREC	San Jos de Ur	37.56	112	eP	P	17 57 31.4	+3.3	
ZARC	Zaragoza, Cauc	38.26	112	eP	P	17 57 32.1	-2.0	
ZARC	Zaragoza, Cauc	38.26	112	eP	P	17 57 32.1	-2.0	
HELC	Santa Helena	38.42	115	eP	P	17 57 33.6	-2.3	
HELC	Santa Helena	38.42	115	eP	P	17 57 33.6	-2.3	
PLMC	San Jos del P	38.55	117	eP	P	17 57 35.7	-0.9	
PLMC	San Jos del P	38.55	117	eP	P	17 57 35.7	-0.9	
YOTC	Yotoco, Valle	39.04	118	eP	P	17 57 44.8	+4.0	
YOTC	Yotoco, Valle	39.04	118	eP	P	17 57 44.8	+4.0	
PTBC	PUERTO BERRIO,	39.11	113	eP	P	17 57 40.6	-0.6	
PTBC	PUERTO BERRIO,	39.11	113	eP	P	17 57 40.6	-0.6	
OCAC	Ocana	39.16	110	eP	P	17 57 35.7	-6.1	
OCAC	Ocana	39.16	110	eP	P	17 57 35.7	-6.1	
RREF	El Recreo	39.30	116	eP	P	17 57 47.4	+3.8	
RREF	El Recreo	39.30	116	eP	P	17 57 47.4	+3.8	
NORC	Norcasia	39.31	115	eP	P	17 57 43.1	+0.2	
NORC	Norcasia	39.31	115	eP	P	17 57 43.1	+0.2	
BRRC	Barranca, Sant	39.42	112	eP	P	17 57 41.8	-2.0	
BRRC	Barranca, Sant	39.42	112	eP	P	17 57 41.8	-2.0	
ANIL	Santa Ana	39.50	117	eP	P	17 57 44.9	+0.2	
ANIL	Santa Ana	39.50	117	eP	P	17 57 44.9	+0.2	
POPC	Popayan, Colom	39.67	120	eP	P	17 57 49.9	+3.8	
POPC	Popayan, Colom	39.67	120	eP	P	17 57 49.9	+3.8	
OTAV	Otavalo	39.80	125	eP	P	17 57 46.6	-0.9	
	38nm,1.3s							
OTAV	Otavalo	39.80	125	eP	P	17 57 47.4	-0.1	
OTAV	Otavalo	39.80	125	eP	P	17 57 47.4	-0.1	
CMBC	Cumbal	39.81	123	eP	P	17 57 46.5	-1.0	
CMBC	Cumbal	39.81	123	eP	P	17 57 46.5	-1.0	
SOTA	Rioblanco	39.97	121	eP	P	17 57 52.0	+3.0	
SOTA	Rioblanco	39.97	121	eP	P	17 57 52.0	+3.0	
GCUF	Volcan Galeras	39.98	122	eP	P	17 57 53.4	+4.3	
GCUF	Volcan Galeras	39.98	122	eP	P	17 57 53.4	+4.3	
PCON	Cinco Dias	40.02	120	eP	P	17 57 49.1	-0.3	
PCON	Cinco Dias	40.02	120	eP	P	17 57 49.1	-0.3	
MARP	Paez Belalcaza	40.04	119	eP	P	17 57 54.3	+4.9	
MARP	Paez Belalcaza	40.04	119	eP	P	17 57 54.3	+4.9	
CRUC	La Cruz	40.07	122	eP	P	17 57 47.7	-1.9	
CRUC	La Cruz	40.07	122	eP	P	17 57 47.7	-1.9	
BARC	Barichara	40.14	112	eP	P	17 57 49.0	-1.0	
BARC	Barichara	40.14	112	eP	P	17 57 49.0	-1.0	
ROSC	El Rosal	40.17	115	P	P	17 57 51.5	+0.9	
	4.5nm,0.6s,baz=107,slow=19,SNR=3.0							
ROSC	El Rosal	40.17	115	eP	P	17 57 54.7	+4.2	
ROSC	El Rosal	40.17	115	eP	P	17 57 54.7	+4.2	
RUSC	La Rusia	40.60	113	eP	P	17 57 53.0	-1.2	
RUSC	La Rusia	40.60	113	eP	P	17 57 53.0	-1.2	
BATG	Bathurst New B	40.71	47	eP	P	17 57 52.2	-1.9	
	36nm,1.4s							
CHIC	Chingaza	40.77	115	eP	P	17 57 55.4	-0.1	
CHIC	Chingaza	40.77	115	eP	P	17 57 55.4	-0.1	
FLOC	Florencia	41.06	120	eP	P	17 58 01.8	+4.4	
FLOC	Florencia	41.06	120	eP	P	17 58 01.8	+4.4	
SDV	Santo Domingo	41.13	107	eP	P	17 57 57.1	-1.1	
TAMC	Tame, Arauca	41.39	111	eP	P	17 57 59.5	-0.7	
TAMC	Tame, Arauca	41.39	111	eP	P	17 57 59.5	-0.7	
SJG	San Juan	41.39	92	eP	P	17 57 58.7	-1.4	
	98nm,1.7s							
PTLC	Puerto Leguiza	42.61	121	eP	P	17 58 15.6	+5.5	
PTLC	Puerto Leguiza	42.61	121	eP	P	17 58 15.6	+5.5	
DAWY	Dawson	42.67	342	eP	P	17 58 10.3	+0.3	
	16nm,1.0s							
SCHQ	Schefferville	42.88	36	P	P	17 58 09.7	-2.1	
	2.8nm,0.9s,baz=37,slow=20,SNR=2.8							
SCHQ				LR	LR	18 16 03.7		
	comp=Z,2µm,22.0s,baz=250,slow=36							
KDAK	Kodiak Island	43.73	328	LR	LR	18 14 42.2		
	comp=Z,714nm,18.7s,baz=131,slow=34							
EPYK	Eagle Plains	43.80	345	eP	P	17 58 19.0	-0.1	
SCRK	Sand Creek	43.99	339	eP	P	17 58 20.4	-0.4	
	8.4nm,1.0s							
INK	Inuvik	44.76	348	P	P	17 58 25.9	-0.7	
	5.6nm,1.0s,baz=134,slow=8.0,SNR=12							
INK				LR	LR	18 17 19.5		
	comp=Z,2µm,18.1s,baz=148,slow=36							
INK	Inuvik	44.76	348	eP	P	17 58 26.3	-0.4	
	20nm,1.1s							
IL1	Eielson Array	45.46	339	eP	P	17 58 31.6	-0.7	
ILAR	Eielson Array	45.46	339	P	P	17 58 32.0	-0.3	
	3.3nm,0.9s,baz=152,slow=6.5,SNR=24							
ILAR				LR	LR	18 18 12.8		
	comp=Z,666nm,21.4s,baz=140,slow=37							
ILB	Eielson Array	45.46	339	eP	P	17 58 32.1	-0.3	
TRF	Thorofare Moun	45.81	336	eP	P	17 58 40.1	+4.8	
FYU	Fort Yukon	46.18	341	eP	P	17 58 41.9	+4.0	
PPLA	Purkeypile	46.20	335	eP	P	17 58 39.2	+0.8	
	32nm,1.1s							
BPAW	Bear Paw Mtn.	46.44	337	eP	P	17 58 39.6	-0.5	
	20nm,1.1s							
FRB	Frobisher Bay	46.53	24	LR	LR	18 17 55.4		
	comp=Z,2µm,18.0s,baz=

5.1nm,0.9s,baz=335,slow=6.4,SNR=7.5
PLCA LR LR 18 28 40.9
comp=Z,524nm,18.9s,baz=6.0,slow=30
PLCA Paso Flores 75.78 150 *eP* **P 18 01 59.7 +0.3**
10nm,1.0s
ARCES ARCESS Array B 79.68 14 LR LR 18 39 40.7
comp=Z,33nm,19.4s,baz=330,slow=37
NOA NORSAR Array B 81.35 25 P **P 18 02 28.4 -1.5**
1.1nm,0.9s,baz=310,slow=5.4,SNR=2.4
NOA LR LR 18 37 15.6
comp=Z,428nm,21.6s,baz=295,slow=35
HFS Hagfors 82.87 25 P **P 18 02 36.2 -1.7**
3.0nm,1.0s,baz=219,slow=3.7,SNR=2.6
ESDC Sonseca Array 85.32 48 P **P 18 02 48.6 -2.2**
0.2nm,0.3s,baz=300,slow=7.2,SNR=3.7
ESDC LR LR 18 39 53.7
comp=Z,790nm,19.0s,baz=305,slow=35
ES19 SONSECA Array 85.35 48 *eP* **P 18 02 50.4 -0.6**
MEM Membach 85.36 35 ⇑P **P 18 02 53.5 +2.8**
FINES FINESS Array B 86.13 19 P **P 18 02 52.7 -1.6**
4.7nm,1.1s,baz=301,slow=6.2,SNR=3.0
FINES LR LR 18 42 10.6
comp=Z,695nm,18.6s,baz=316,slow=36
MDT Midelt 88.27 54 LR LR 18 39 38.0
comp=Z,449nm,20.4s,baz=344,slow=34
CLL Collm 88.39 32 *es*P **sP 18 03 10.0 -3.2**
CLL *e* 18 03 22.0
CLL *es*S S 18 19 48.0 +9.4
CLL *e* 18 21 54.0
CLL *es*SSS 18 26 18.0
CLL Lm MLR 18 44 00.0
comp=Z,800nm,18.1s
NKC Novy Kostel 88.83 33 AMS AMS 18 41 30.0
comp=Z,2μm,16.9s
PVCC Panska Ves 89.65 32 AMS AMS 18 44 20.0
comp=Z,1μm,17.6s
PRA Prague 89.90 32 AMS AMS 18 44 10.0
comp=Z,2μm,15.1s
PRU Pruhonice 90.00 32 AMS AMS 18 44 20.0
comp=Z,2μm,16.8s
KHC Kasperske Hory 90.11 33 AMS AMS 18 42 20.0
comp=Z,1μm,15.3s
KLMR Klimovskoe 90.16 14 *eP* **P 18 03 10.3 -3.2**
KLMR AMP 18 03 15.2
comp=Z,13nm,1.4s
GOPC GO Pecny, Ondr 90.17 32 AMS AMS 18 44 20.0
comp=Z,2μm,15.7s
UPC Upice 90.34 31 AMS AMS 18 44 40.0
comp=Z,1μm,18.5s
GERES GERESS Array B 90.36 33 LR LR 18 43 38.9
comp=Z,724nm,18.6s,baz=304,slow=36
MJAR Matsushiro Arr 90.59 312 LR LR 18 38 10.8
comp=Z,242nm,20.2s,baz=75,slow=32
DPC Dobruska-Polom 90.60 31 AMS AMS 18 44 50.0
comp=Z,900nm,16.6s
TREC Trest 90.93 32 AMS AMS 18 43 10.0
comp=Z,2μm,16.6s
OKC Ostrava-Krasne 91.80 31 AMS AMS 18 45 40.0
comp=Z,1μm,16.6s
AKASG Malin Array Be 95.76 25 LR LR 18 47 53.7
comp=Z,381nm,18.2s,baz=305,slow=36
KEST Kesra 96.27 45 LR LR 18 46 53.9
comp=Z,895nm,18.9s,baz=286,slow=36
KSRS Korea Array 96.68 317 LR LR 18 41 13.2
comp=Z,116nm,21.5s,baz=30,slow=32
KS01 Wonju Array Si 96.69 317 *eP* **P 18 03 47.7 +3.7**
GUMO Guam 97.17 289 LR LR 18 38 38.7
comp=Z,542nm,21.9s,baz=72,slow=30
SONM Songino Array 99.62 336 LR LR 18 50 40.6
comp=Z,440nm,20.1s,baz=16,slow=36
LZH Lanzhou 110.53 331 *e*PKP **PKiKP 18 08 45.9 -0.6**
LZH LR LR
comp=Z,770nm,19.9s
KSH Kashi 114.72 355 PKP PKPdf 18 08 59.8 +5.4
KSH PP PP 18 10 00.5 +10
KSH PKS **PKSdf 18 12 34.8 +3.6**
KSH SKS **SKSdf 18 16 08.3 +2.4**
KSH SKKS **SKKSac 18 16 51.1 -2.0**
KSH SS **SS 18 25 52.0 +8.8**
KSH LR LR
comp=Z,390nm,8.7s
CD2 Chengdu 114.89 328 PKP PKPdf 18 08 57.0 +2.1
GYA Guiyang 117.02 323 *e*Pdif **Pdif 18 05 17.3 +2.3**
GYA PKP **PKiKP 18 09 02.0 +2.8**
GYA PP **PP 18 10 14.4 +6.8**
KMI Kunming 120.17 325 PKP **PKiKP 18 09 06.5 +1.0**
CMAR Chiang Mai Arr 127.64 324 PKP **PKiKP 18 09 20.1 -0.1**
comp=Z,2.4nm,0.9s,baz=340,slow=2.2,SNR=12
CM01 Chiang Mai Arr 127.67 324 *e*PKPdf **PKiKP 18 09 23.1 +3.0**

IDC ***13*** *17:53:41.7±0.4, 7.˚25S×144.˚15E, h0km, mb5.0/27, mb1 5.1/31, mb1mx5.0/42, mbtmp5.0/31, ML3.7/4, MS4.4/16, Ms1 4.4/16, ms1mx4.2/31, Error ellipse: s-maj=14.7km s-min=9.8km az=76.0*

BJI ***13*** *17:53:43.3, 7.˚30S×144.˚62E, h35km, mb5.1/69, mB5.5/45, Ms4.9/26, Ms7 4.6/20*

NEIC ***13*** *17:53:43.9±0.2, 7.˚20S×144.˚07E, h10km, mb5.4/90, MS5.0/92, Error ellipse: s-maj=4.7km s-min=3.8km az=88.0*

NEIC Felt at Tari.

MOS ***13*** *17:53:45.9±1.0, 7.˚19S×143.˚95E, h33km, mb5.6/37, MS4.4/7, Error ellipse: s-maj=10.2km s-min=6.0km az=103.2*

ISCJB ***13*** *17:53:45.6±0.1, 7.˚28S±0.˚02×144.˚09E±0.˚02, h33km, mb5.2/156, MS4.8/116, Error ellipse: s-maj=3.5km s-min=3.0km az=165.0*

GCMT ***13*** *17:53:46.9±0.2, 7.˚28S±0.˚01×144.˚01E±0.˚02, h12km, MW5.1/101, Moment Tensor Solution. s47,c57; s101,c158; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr5.66±.11; Mθθ-2.65±.11; Mϕϕ-3.00±.12; Mrθ0.48±.37; Mθϕ2.95±.09; Mϕr-2.13±.47; Best double couple: M₀6.12300×10¹⁶ NP1:ϕs147.00000°, δ55.00000°, λ102.00000°. NP2:ϕs306.00000°, δ37.00000°, λ73.00000°. Principal axes: T 6.1610, Plg76.0000°, Azm96.0000°; N -0.0650, Plg10.0000°, Azm320.0000°; P -6.0860, Plg9.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***13*** *17:53:47.9±0.7, 7.˚5S±3.˚×14.˚4E±.˚, h31km±6km, M5.3/56, mB5.6/25, mb5.3/56, MLv6.0/5, Mw(mB)5.1/25*

ISC 13 17:53:48.7±0.5, 7.˚42S±0.˚04×144.˚00E±0.˚04, h49km±4km, n521, σ1°60/463, mb5.3/164, MS5.0/116, 13C-13D, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.70**	**123**	Op Pn		**Pn**	**17 54 40.4**	**-2.9**
	60nm,0.3s,baz=343,slow=6.1,SNR=169							
PMG				Sn		**Sn**	**17 55 23.5**	**-2.2**
	70nm,0.3s,baz=84,slow=19,SNR=7.1							
PMG	**Port Moresby**	**3.70**	**123**	*e*Pn		**Pn**	**17 54 40.1**	**-3.2**
PMG				*e*Sn		**Sn**	**17 55 23.8**	**-1.9**
PMG	**Port Moresby**	**3.70**	**123**	*eP*		**Pn**	**17 54 40.1**	**-3.2**
PMG				*e*			17 55 23.8	
MMPI	**Merauke**	**3.73**	**254**	P		**Pn**	**17 54 43.3**	**-0.5**
JAY	**Jayapura**	**5.87**	**326**	Pn		**Pn**	**17 55 09.9**	**-3.3**
	0.8nm,0.3s,baz=181,slow=15,SNR=5.4							
JAY				Sn		**Sn**	**17 56 22.1**	**+2.8**
	7.4nm,0.3s,baz=119,slow=21,SNR=3.8							
JAY				LR		LR	17 58 08.5	
	comp=Z,5μm,21.4s,baz=114,slow=46							
JAY	**Jayapura**	**5.87**	**326**	P		**Pn**	**17 55 12.9**	**-0.3**
GENI	**Genyem**	**6.13**	**321**	P		**Pn**	**17 55 14.3**	**-2.4**
MANU	**Manus Island**	**6.31**	**32**	*e*Pn		**Pn**	**17 55 15.5**	**-3.6**
COEN	**Coen**	**6.55**	**187**	P		**Pn**	**17 55 23.7**	**+1.2**
	baz=6.7,SNR=55							
COEN	**Coen**	**6.55**	**187**	*e*Pn		**Pn**	**17 55 24.0**	**+1.5**
COEN				*e*Sn		Sn	17 56 24.3	-12
RABL	**Rabaul**	**8.73**	**69**	*e*Pn		**Pn**	**17 55 50.7**	**-1.7**
RABL				*e*Sn		Sn	17 57 12.6	-17
SRPI	**Serui, Papua**	**9.49**	**305**	P		**Pn**	**17 56 03.4**	**+0.5**
MTSU	**Mount Surprise**	**10.66**	**178**	P		**Pn**	**17 56 20.6**	**+1.9**
	baz=11,SNR=20							
RKPI	**Ransiki, Papua**	**11.41**	**300**	P		**Pn**	**17 56 30.2**	**+1.1**
FAKI	**Fak Fak**	**12.52**	**290**	*e*Pn		**Pn**	**17 56 42.8**	**-1.6**
FAKI				*e*Sn		**Sn**	**17 58 56.8**	**-5.7**
FAKI	**Fak Fak**	**12.52**	**290**	P		**Pn**	**17 56 40.6**	**-3.7**
SAUI	**Saumlaki**	**12.60**	**267**	*e*Pn		**Pn**	**17 56 44.7**	**-0.6**
SAUI				*e*Sn		**Sn**	**17 56 56.8**	**-7.5**
SAUI	**Saumlaki**	**12.60**	**267**	P		**Pn**	**17 56 44.5**	**-0.8**
CTA	**Charters Tower**	**12.78**	**170**	Pn		**Pn**	**17 56 48.5**	**+0.7**
	0.6nm,0.3s,baz=345,slow=13,SNR=8.2							
CTAO	**Charters Tower**	**12.78**	**170**	*e*Pn		**Pn**	**17 56 50.2**	**+2.3**
CTAO				*e*Sn		**Sn**	**17 59 04.2**	**-4.6**
CTAO	**Charters Tower**	**12.78**	**170**	*eP*		**Pn**	**17 56 50.2**	**+2.3**
QIS	**Mount Isa**	**13.74**	**198**	P		**Pn**	**17 57 01.7**	**+0.8**
	baz=14,SNR=17							
SIJI	**Sorong**	**14.26**	**297**	Pn		Pn	17 57 02.7	-5.3
	0.8nm,0.3s,baz=70,slow=7.8,SNR=7.6							
SIJI				LR		LR	18 04 55.5	
	comp=Z,1μm,18.3s,baz=128,slow=47							
SWI	**Sorong**	**14.27**	**297**	P		P	17 57 20.2	+6.1
WRAB	**Tennant Creek**	**15.57**	**216**	*e*Pn		**Pn**	**17 57 24.4**	**-0.6**
	181nm,0.9s							
WRAB				*e*Sn		**Sn**	**18 00 17.7**	**+1.1**
WRAB	**Tennant Creek**	**15.57**	**216**	*eP*		**Pn**	**17 57 26.0**	**+1.0**
WRAB				pmax		pmax		
	comp=Z,31nm,1.1s							
WB2	**Warramunga Arr**	**15.57**	**216**	*e*Pn		**Pn**	**17 57 25.3**	**+0.2**
	comp=Z,184nm,0.9s							
WB2				*e*Sn		**Sn**	**18 00 08.2**	**-8.5**
WRA	**Warramunga Arr**	**15.58**	**216**	Pn		**Pn**	**17 57 24.6**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=31,slow=13,SNR=85							
WRA				Sn		**Sn**	**18 00 14.3**	**-2.6**
	comp=Z,1.3nm,0.3s,baz=36,slow=27,SNR=4.2							
WRA				LR		LR	18 03 41.2	
	comp=Z,2μm,19.0s,baz=35,slow=38							
WRA	**Warramunga Arr**	**15.58**	**216**	*i* P		**Pn**	**17 57 24.6**	**-0.6**
WRA				pmax		pmax		
	comp=Z,11nm,0.7s							
HNR	**Honiara**	**15.90**	**98**	PKhKP		**P**	**17 57 31.9**	**-0.4**
	comp=Z,432nm,0.8s,baz=222,slow=1.8,SNR=20							
HNR	**Honiara**	**15.90**	**98**	*eP*		**P**	**17 57 33.0**	**+0.7**
HNR	**Honiara**	**15.90**	**98**	*ePn*		**P**	**17 57 32.3**	**0.0**
	comp=Z,505nm,0.8s							
HNR	**Honiara**	**15.90**	**98**	*eP*		**P**	**17 57 32.3**	**0.0**
HNR				pmax		pmax		
	comp=Z,505nm,0.8s							
PALU	**Palau**	**17.47**	**327**	P		**P**	**17 57 49.6**	**0.0**
	baz=18,SNR=5.3							
TNTI	**Ternate**	**18.48**	**295**	*eP*		**Pn**	**17 58 01.9**	**+0.6**
	comp=Z,71nm,1.1s							
TNTI	**Ternate**	**18.48**	**295**	P		**Pn**	**17 58 02.4**	**+1.1**
	comp=Z,64nm,1.1s,comp=Z,865nm							
SANI	**Sanana**	**18.72**	**286**	P		**Pn**	**17 58 04.3**	**+0.1**
	comp=Z,332nm,1.0s,comp=Z,5μm							
AS01	**Alice Springs**	**18.81**	**210**	*eP*		**Pn**	**17 58 06.2**	**+0.8**
AS31	**Alice Springs**	**18.84**	**210**	*eP*		**Pn**	**17 58 07.0**	**+1.4**
	comp=Z,60nm,0.7s							
ASAR	**Alice Springs**	**18.84**	**210**	P		**Pn**	**17 58 07.0**	**+1.4**
	comp=Z,4.0nm,0.3s,baz=41,slow=10,SNR=217							
ASAR				LR		LR	18 06 11.1	
	comp=Z,1μm,19.3s,baz=35,slow=39							
QLP	**Quilpie**	**19.06**	**179**	P		**Pn**	**17 58 09.7**	**+1.5**
	baz=19,SNR=40							
EIDS	**Eidsvold**	**19.09**	**160**	P		**Pn**	**17 58 10.1**	**+1.6**
	baz=19,SNR=7.7							
EIDS	**Eidsvold**	**19.09**	**160**	*eP*		**Pn**	**17 58 10.3**	**+1.8**
	comp=Z,38nm,1.0s							
RMQ	**Roma**	**19.50**	**167**	P		**Pn**	**17 58 15.2**	**+1.8**
	baz=20,SNR=26							
SOEI	**Soe**	**19.65**	**262**	*eP*		**Pn**	**17 58 14.9**	**-0.5**
	comp=Z,230nm,1.0s							
SOEI	**Soe**	**19.65**	**262**	P		**Pn**	**17 58 15.7**	**+0.3**
	comp=Z,407nm,1.4s,comp=Z,4μm							
PATS	**Pohnpei**	**20.11**	**46**	P		Pn	17 58 19.9	-0.9
	baz=20,SNR=3.4							
BATI	**Baumata**	**20.28**	**261**	P		Pn	17 58 22.0	-0.9
	comp=Z,101nm,0.8s,baz=160,slow=6.2,SNR=11							
BATI				LR		LR	18 08 09.1	
	comp=Z,2μm,18.9s,baz=96,slow=42							
BATI	**Baumata**	**20.28**	**261**	P		Pn	17 58 26.0	+3.1
	comp=Z,66nm,0.8s							
FITZ	**Fitzroy Crossi**	**20.79**	**238**	P		**P**	**17 58 26.6**	**+0.6**
	comp=Z,81nm,0.5s,baz=61,slow=9.8,SNR=123							
FITZ				S		**S**	**18 02 09.5**	**-6.0**
	comp=Z,69nm,1.0s,baz=162,slow=5.7,SNR=4.3							
FITZ				LR		LR	18 07 00.7	
	comp=Z,2μm,21.4s,baz=64,slow=38							
FITZ	**Fitzroy Crossi**	**20.79**	**238**	P		Pn	17 58 27.8	-1.0
	baz=21,SNR=65							
FITZ	**Fitzroy Crossi**	**20.79**	**238**	*eP*		Pn	17 58 27.9	-1.0
	comp=Z,178nm,1.0s							
GUMO	**Guam**	**20.89**	**2**	LR		LR	18 06 56.6	
	comp=Z,338nm,19.1s,baz=178,slow=38							
KMSI	**Cibinong**	**21.49**	**291**	P		**P**	**17 58 36.8**	**+3.3**
MMRI	**Maumere**	**21.58**	**265**	*eP*		**P**	**17 58 39.0**	**+4.5**
	comp=Z,238nm,1.2s							
MMRI	**Maumere**	**21.58**	**265**	P		**P**	**17 58 36.2**	**+1.7**
LUWI	**Luwuk**	**22.09**	**286**	*eP*		**P**	**17 58 40.6**	**+0.7**
	comp=Z,212nm,0.9s							
LUWI	**Luwuk**	**22.09**	**286**	P		**P**	**17 58 41.5**	**+1.6**
EDFI	**Ende, Flores**	**22.13**	**265**	P		**P**	**17 58 42.6**	**+2.1**
	comp=Z,94nm,0.9s							
WRKA	**Warakurna**	**23.07**	**219**	P		**P**	**17 58 51.2**	**+1.0**
	baz=23,SNR=84							
DAV	**Davao City (W)**	**23.34**	**308**	LR		LR	18 09 53.7	
	comp=Z,491nm,18.7s,baz=121,slow=42							
MRSI	**Marisa**	**23.36**	**289**	P		**P**	**17 58 53.0**	**-0.1**
	comp=Z,77nm,1.4s,comp=Z,866nm							
BKSI	**Bulukumba**	**23.82**	**274**	P		**P**	**17 59 01.0**	**+3.6**
	comp=Z,45nm,1.4s							
BNSI	**Bone**	**23.95**	**276**	P		**P**	**17 59 00.1**	**+1.5**
	comp=Z,119nm,1.8s,comp=Z,2μm							
ARMA	**Armidale**	**23.98**	**164**	P		**P**	**17 59 01.8**	**+2.9**
	baz=24,SNR=6.3							
ARMA	**Armidale**	**23.98**	**164**	*eP*		**P**	**17 59 02.1**	**+3.3**
	comp=Z,56nm,1.1s							
CMSA	**Cobar Meteorol**	**24.05**	**176**	P		**P**	**17 59 01.3**	**+2.0**
	baz=24,SNR=6.9							
KAPI	**Kappang**	**24.22**	**274**	PFAKE				
KAPI				LR		LR	17 59 10.0	+8.9
	comp=Z,576nm,19.0s							
SPSI	**Sidrap Palu**	**24.35**	**277**	P		**P**	**17 59 02.9**	**+0.6**
	comp=Z,70nm,1.1s,comp=Z,732nm							
STKA	**Stephens Creek**	**24.44**	**185**	P		**P**	**17 59 03.8**	**+0.9**
	comp=Z,5.9nm,0.7s,baz=348,slow=10,SNR=16							
STKA				LR		LR	18 09 31.4	
	comp=Z,2μm,19.1s,baz=360,slow=39							
STKA	**Stephens Creek**	**24.44**	**185**	P		**P**	**17 59 03.8**	**+0.9**
	baz=25,SNR=7.6							
STKA	**Stephens Creek**	**24.44**	**185**	*eP*		**P**	**17 59 04.2**	**+1.3**
	comp=Z,3.6nm,0.8s							
STKA	**Stephens Creek**	**24.44**	**185**	*eP*		**P**	**17 59 04.2**	**+1.3**
STKA				pmax		pmax		
	comp=Z,4.0nm,0.8s							
TTSI	**Tana Toraja**	**24.46**	**279**	P		**P**	**17 59 04.5**	**+1.2**
PCI	**Palu**	**24.94**	**284**	P		**P**	**17 59 10.4**	**+2.7**
	comp=Z,172nm,1.3s,comp=Z,2μm							
MPSI	**Mapaga**	**25.24**	**287**	P		**P**	**17 59 10.4**	**0.0**
	comp=Z,25nm,1.0s,comp=Z,3μm							
PLAI	**Plampang**	**26.00**	**265**	P		**P**	**17 59 18.5**	**+1.2**
	comp=Z,75nm,1.0s							
DZM	**Mont Dzumac**	**26.08**	**126**	P		**P**	**17 59 16.4**	**-1.7**
	comp=Z,33nm,1.1s,baz=320,slow=7.7,SNR=12							
DZM	**Mont Dzumac**	**26.08**	**126**	*eP*		**P**	**17 59 18.4**	**+0.3**
	comp=Z,112nm,1.3s							
HTT	**Hallett**	**26.31**	**190**	P		**P**	**17 59 21.6**	**+1.7**
	baz=26,SNR=16							
BBOO	**Buckleboo**	**26.32**	**195**	P		**P**	**17 59 20.9**	**+0.9**
	baz=26,SNR=13							
BBOO	**Buckleboo**	**26.32**	**195**	*eP*		**P**	**17 59 21.3**	**+1.4**
	comp=Z,30nm,0.8s							
YNG	**Young**	**27.06**	**172**	P		**P**	**17 59 28.8**	**+2.2**
	baz=27,SNR=7.3							
MBWA	**Marble Bar**	**27.14**	**237**	*eP*		**P**	**17 59 31.3**	**+3.8**
	comp=Z,46nm,0.8s							
TARA	**Tarawa**	**30.14**	**74**	PFAKE				
TARA				LR		LR	18 00 10.0	+16
	comp=Z,65nm,21.0s							
MEEK	**Meekatharra**	**30.78**	**229**	P		**P**	**17 59 59.9**	**+0.1**
	baz=31,SNR=5.5							
SBUM	**Sibu**	**33.19**	**286**	*eP*		**P**	**18 00 20.5**	**-0.6**
	comp=Z,12nm,1.0s							
STKI	**Sintang**	**33.27**	**281**	P		**P**	**18 00 24.0**	**+2.2**
MORW	**Morawa**	**34.02**	**227**	P		**P**	**18 00 28.7**	**+0.5**
	baz=34,SNR=3.9							
MORW	**Morawa**	**34.02**	**227**	*eP*		**P**	**18 00 27.6**	**-0.6**
	comp=Z,24nm,0.9s							
BLDU	**Ballidu**	**34.43**	**224**	P		**P**	**18 00 33.6**	**+1.9**
	baz=35,SNR=8.2							
WAKE	**Wake Island**	**34.67**	**40**	PFAKE				
WAKE				LR		LR	18 00 40.0	+6.2
	comp=Z,3μm,21.0s							
KPJI	**Karang Pucung**	**34.77**	**268**	P		**P**	**18 00 35.6**	**+0.8**
FUNA	**Funafuti**	**34.87**	**94**	PFAKE				
FUNA				LR		LR	18 00 50.0	+14
	comp=Z,2μm,20.0s							
TAU	**Tasmania Unive**	**35.47**	**176**	PFAKE			18 00 50.0	+10
TAU				LR		LR		
	comp=Z,1μm,19.0s							
NWAO	**Narrogin (SRO)**	**35.50**	**221**	LR		LR	18 16 09.5	
	comp=Z,2μm,18.8s,baz=276,slow=38							
MUN	**Mundaring**	**35.59**	**223**	P		**P**	**18 00 44.1**	**+2.4**
	baz=36,SNR=3.7							
LEM	**Lembang**	**36.10**	**269**	P		**P**	**18 00 46.2**	**-0.2**
	comp=Z,25nm,0.9s,baz=184,slow=12,SNR=5.7							
JOW	**Kunigami**	**37.30**	**336**	LR		LR	18 14 15.1	
	comp=Z,597nm,20.3s,baz=29,slow=33							
TPUB	**Ta-pu**	**38.13**	**324**	*eP*		**P**	**18 00 59.4**	**-3.9**
	comp=Z,125nm,0.4s							
OUZ	**Omahuta**	**38.77**	**140**	*eP*		**P**	**18 01 11.9**	**+3.3**
	comp=Z,91nm,0.9s							
LHSI	**Lahat**	**40.43**	**273**	P		**P**	**18 01 24.4**	**+1.7**
JMBI	**JAMBI**	**40.62**	**276**	P		**P**	**18 01 26.2**	**+1.9**
RAO	**Raoul Island**	**41.88**	**126**	PFAKE			18 01 50.0	+16
RAO				LR		LR		
	comp=Z,1μm,19.0s							
JNU	**Nakatsue**	**42.20**	**344**	P		**P**	**18 01 34.6**	**-2.3**
	comp=Z,21nm,0.8s,baz=95,slow=2.4,SNR=8.8							
JNU	**Nakatsue**	**42.20**	**344**	*eP*		**P**	**18 01 36.3**	**-0.7**
	comp=Z,45nm,0.9s							
GZH	**Guangzhou**	**42.64**	**316**	*eP*		**P**	**18 01 43.6**	**+3.0**
QIZ	**Qiongzhong**	**42.71**	**308**	PFAKE			18 01 50.0	+8.7
QIZ				LR		LR		
	comp=Z,60nm,20.0s							
URZ	**Urewera**	**42.86**	**141**	P		**P**	**18 01 42.8**	**+0.6**
	comp=Z,20nm,0.9s,baz=6.7,slow=9.1,SNR=6.2							
URZ	**Urewera**	**42.86**	**141**	*eP*		**P**	**18 01 44.2**	**+2.0**
	comp=Z,28nm,1.0s							
DCZ	**Deep Cove**	**42.88**	**156**	*eP*		**P**	**18 01 45.8**	**+3.6**
	comp=Z,53nm,1.2s							
INU	**Inuyama**	**43.04**	**352**	*eP*		**P**	**18 01 42.7**	**-1.0**
	comp=Z,43nm,1.3s							
LTZ	**Lake Taylor**	**43.13**	**149**	*eP*		**P**	**18 01 47.6**	**+3.2**
	comp=Z,71nm,1.2s							
MLZ	**Mavora Lakes**	**43.19**	**155**	*eP*		**P**	**18 01 47.5**	**+2.7**
	comp=Z,164nm,1.4s							
RPZ	**Rata Peaks**	**43.22**	**151**	P		**P**	**18 01 46.0**	**+0.9**
	comp=Z,29nm,0.8s,baz=163,slow=2.2,SNR=6.1							
RPZ	**Rata Peaks**	**43.22**	**151**	*eP*		**P**	**18 01 47.2**	**+2.1**
	comp=Z,55nm,1.3s							
LBZ	**Lake Benmore**	**43.32**	**153**	*eP*		**P**	**18 01 48.0**	**+2.1**
	comp=Z,101nm,1.3s							
BKNI	**Bangkinang**	**43.53**	**278**	*eP*		**P**	**18 01 52.1**	**+4.1**
	comp=Z,148nm,1.2s							
BKNI	**Bangkinang**	**43.53**	**278**	P		**P**	**18 01 48.7**	**+0.7**
BFZ	**Birch Farm**	**43.85**	**144**	*eP*		**P**	**18 01 52.0**	**+1.8**
	comp=Z,45nm,0.8s							
PDSI	**Padang**	**43.87**	**276**	P		**P**	**18 01 51.8**	**+1.0**
	comp=Z,12nm,0.6s							
MJAR	**Matsushiro Arr**	**44.06**	**353**	P		**P**	**18 01 49.5**	**-2.4**
	comp=Z,6.2nm,1.1s,baz=188,slow=9.7,SNR=14							
MJAR				PcP		**PP**	**18 03 35.5**	**0.0**
	comp=Z,5.7nm,1.1s,baz=199,slow=5.2,SNR=4.4							
MJAR				LR		LR	18 20 31.1	
	comp=Z,161nm,18.9s,baz=145,slow=37							
MAJO	**Matsushiro**	**44.06**	**353**	*eP*		**P**	**18 01 50.4**	**-1.5**
	comp=Z,32nm,1.4s							
MAJO				*e*PcP		**PcP**	**18 03 36.0**	**-0.6**
MAJO				LR		LR		
	comp=Z,548nm,22.0s							
MAJO	**Matsushiro**	**44.06**	**353**	⇓*i*P		**P**	**18 01 49.6**	**-2.3**
MAJO				pmax		pmax		
	comp=Z,65nm,1.9s							
MAT	**Matsushiro**	**44.06**	**353**	P		**P**	**18 01 48.3**	**-3.6**
MJB9	**Matsu-Tunnel**	**44.07**	**353**	*eP*		**P**	**18 01 50.4**	**-1.5**
	comp=Z,36nm,1.4s							
SSE	**Sheshan**	**44.09**	**331**	P		**P**	**18 01 50.2**	**-1.9**
	comp=Z,78nm,0.9s							
IPM	**Ipoh**	**44.48**	**284**	*eP*		**P**	**18 01 56.2**	**+0.6**
	comp=Z,83nm,0.9s							
MNSI	**Mandailing Nat**	**45.05**	**279**	P		**P**	**18 01 59.9**	**-0.3**
	comp=Z,38nm,0.8s							
KULM	**Kulim**	**45.06**	**285**	*eP*		**P**	**18 02 00.1**	**-0.2**
	comp=Z,41nm,0.9s							
SKLT	**Songkhla**	**45.62**	**288**	P		**P**	**18 02 06.6**	**+1.9**
	comp=Z,43nm,1.6s,comp=Z,783nm							
NJ2	**Nanjing**	**46.00**	**330**	*eP*		**P**	**18 02 08.3**	**+0.9**
NJ2				pmax		pmax		
	comp=Z,18nm,0.5s							
PSI	**Prapat**	**46.11**	**281**	P		**P**	**18 02 08.0**	**-0.7**
	comp=Z,23nm,0.8s,baz=180,slow=3.6,SNR=22							
PSI	**Prapat**	**46.11**	**281**	*eP*		**P**	**18 02 08.5**	**-0.2**
PSI	**Prapat**	**46.11**	**281**	*eP*		**P**	**18 02 08.5**	**-0.2**
SKNT	**Sakolnakorn**	**46.40**	**302**	P		**P**	**18 02 11.1**	**+0.4**
	comp=Z,30nm,1.2s							
TSI	**Tuntungan**	**46.62**	**282**	P		**P**	**18 02 15.7**	**+3.2**
	comp=Z,69nm,0.5s							
TRTT	**Trang**	**46.70**	**288**	P		**P**	**18 02 14.2**	**+1.0**
	comp=Z,17nm,1.3s							
SRAK	**Srakaew**	**46.77**	**297**	P		**P**	**18 02 10.3**	**-3.3**
KSRS	**Korea Array**	**47.10**	**342**	P		**P**	**18 02 14.2**	**-1.6**
	comp=Z,28nm,0.8s,baz=161,slow=8.9,SNR=62							
KSRS				PcP		**PcP**	**18 03 47.2**	**+0.1**
	comp=Z,6.2nm,1.1s,baz=158,slow=5.5,SNR=4.5							
KSRS				LR		LR	18 18 52.6	
	comp=Z,140nm,22.0s,baz=85,slow=32							
KS15	**Wonju Array Si**	**47.10**	**342**	*eP*		**P**	**18 02 15.0**	**-0.9**
KSAR	**Wonju Array Be**	**47.10**	**342**	P		**P**	**18 02 14.2**	**-1.6**
KSAR				PcP		**PcP**	**18 03 47.2**	**+0

comp=Z,11nm,0.8s,baz=254,slow=11,SNR=5.3
CM01 Chiang Mai Arr 51.31 301 *e*P **P 18 02 50.3 +1.9**
CM31 Chiang Mai Arr 51.34 301 *e*P **P 18 02 50.2 +1.6**
CM31 Chiang Mai Arr 51.34 301 P **P 18 02 50.3 +1.6**
SNR=72
CMAR Chiang Mai Arr 51.34 301 P **P 18 02 50.0 +1.4**
comp=Z,66nm,0.8s,baz=122,slow=5.9,SNR=383
VLA Vladivostok 51.49 349⇓*e*P **P 18 02 49.5 +0.2**
VLA pmax pmax
comp=Z,51nm,1.2s
CMMT Chiang Mai 51.50 301 P **P 18 02 50.9 +1.1**
comp=Z,101nm,0.9s,comp=Z,934nm
CHTO Chiang Mai 51.50 301 *e*P **P 18 02 51.3 +1.4**
comp=Z,86nm,0.9s
CHTO LR LR
comp=Z,325nm,20.0s
CHTO Chiang Mai 51.50 301 *e*P **P 18 02 51.3 +1.4**
CHTO pmax pmax
comp=Z,85nm,0.9s
CHTO MLR MLR
comp=Z,325nm,20.0s
CHTO Chiang Mai 51.50 301 P **P 18 02 51.2 +1.4**
SNR=38
CHTO Chiang Mai 51.50 301 P **P 18 02 50.9 +1.1**
comp=Z,456nm,0.9s,comp=Z,4µm
KMI Kunming 51.56 310 P **P 18 02 53.4 +2.9**
KMI sP sP 18 03 07.3 -2.2
KMI pmax pmax
comp=Z,17nm,2.0s
KMI pmax pmax
comp=Z,340nm,4.6s
KMI LR LR
comp=Z,510nm,16.8s
KMI LR LR
comp=Z,340nm,19.3s
KMI LR LR
comp=Z,480nm,18.4s
SNY Shenyang 52.45 341⇑P **P 18 02 55.8 -0.7**
SNY pmax pmax
comp=Z,25nm,0.8s
USA0B Ussuriysk Arra 52.51 349 *e*P **P 18 02 56.6 -0.3**
comp=Z,30nm,1.0s
USRK Ussuriysk Ar. 52.51 349 P **P 18 02 56.3 -0.6**
comp=Z,20nm,1.0s,baz=170,slow=8.3,SNR=21
USRK LR LR 18 20 57.3
comp=Z,147nm,21.9s,baz=141,slow=31
XAN Xi'an 52.95 323 P **P 18 02 59.9 -0.5**
XAN pP pP 18 03 13.3 -0.6
XAN pmax pmax
comp=Z,34nm,1.2s
XAN pmax pmax
comp=Z,490nm,4.7s
XAN Xi'an 52.95 323 *e*P **P 18 03 00.4 0.0**
comp=Z,72nm,1.4s
XAN Xi'an 52.95 323 *e*P **P 18 03 00.4 0.0**
XAN pmax pmax
comp=Z,72nm,1.4s
MDJ Mudanjiang 53.40 347 P **P 18 03 02.4 -1.0**
MDJ pmax pmax
comp=Z,10.0nm,0.9s
MDJ pmax pmax
comp=Z,270nm,4.4s
MDJ Mudanjiang 53.40 347 *e*P **P 18 03 02.4 -1.0**
MDJ LR LR
comp=Z,268nm,21.0s
CN2 Changchun 53.68 343 *e*P **P 18 03 04.8 -0.7**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
BJT Baijiatuau 53.75 334 *e*P **P 18 03 05.1 -0.9**
comp=Z,68nm,1.1s
*e*PcP **PcP 18 04 10.2 -1.4**
BJT LR LR
comp=Z,506nm,20.0s
BJT Baijiatuau 53.75 334 *e*P **P 18 03 05.1 -0.9**
BJT *e* 18 04 10.2
BJT pmax pmax
comp=Z,68nm,1.1s
BJT MLR MLR
comp=Z,506nm,20.0s
BJI Beijing 53.76 334⇑*i*P **P 18 03 05.5 -0.6**
BJI pmax pmax
comp=Z,33nm,1.3s
YSS Yuzh-Sakhalins 54.14 359 *e*P **P 18 03 08.7 -0.1**
YSS pmax pmax
comp=Z,10.0nm,1.0s
CD2 Chengdu 54.19 317 *e*P **P 18 03 09.8 +0.2**
HHC Hu-ho-hao-te 56.54 331 *e*P **P 18 03 29.9 +3.6**
HHC S **S 18 11 17.8 +3.2**
HHC pmax pmax
comp=Z,36nm,1.0s
HHC pmax pmax
comp=Z,170nm,5.7s
HHC LR LR
comp=Z,290nm,14.9s
HHC LR LR
comp=Z,280nm,13.5s
LZH Lanzhou 57.40 322 *e*P **P 18 03 33.8 +1.2**
LZH pP pP 18 03 42.5 -3.7
LZH sP sP 18 03 46.3 -5.5
LZH PP **PP 18 05 37.8 -2.7**
LZH *e*S **S 18 11 28.4 +2.2**
LZH sS pS 18 11 43.5 +1.4
LZH SS **SS 18 15 21.1 +4.4**
LZH pmax pmax
comp=Z,120nm,1.1s
LZH pmax pmax
comp=Z,650nm,5.5s
LZH LR LR
comp=Z,3µm,16.8s
LZH LR LR
comp=Z,3µm,16.8s
LZH LR LR
comp=Z,2µm,18.0s
KLR Kul'dur 57.42 350 P **P 18 03 31.7 -0.6**
comp=Z,14nm,1.0s,baz=168,slow=5.3,SNR=25
KLR Kul'dur 57.42 350*c i*P **P 18 03 31.5 -0.8**
TYV Tymovskoe 58.05 359 *e*P **P 18 03 35.3 -1.4**
TYV pmax pmax
comp=Z,500nm,6.3s
TYV pmax pmax
comp=Z,17nm,1.3s
HIA Hailar 60.30 342 *e*P **P 18 03 52.2 -0.1**
comp=Z,13nm,1.0s
HIA LR LR
comp=Z,302nm,20.0s
HIA Hailar 60.30 342 *e*P **P 18 03 52.2 -0.1**
HIA pmax pmax
comp=Z,13nm,1.0s
HIA MLR MLR
comp=Z,302nm,20.0s
SHL Shillong 60.33 305 *e*P **P 18 03 54.2 +1.1**
comp=Z,96nm,1.2s
SHL Shillong 60.33 305 *e*P **P 18 03 54.2 +1.1**
SHL pmax pmax
comp=Z,96nm,1.2s
NKL Nikolayevsk 60.40 358 *e*P **P 18 03 52.0 -0.8**
NKL pmax pmax
comp=Z,34nm,1.0s
PEA0B Petropavlovsk- 61.41 9 *e*P **P 18 03 59.5 -0.2**
comp=Z,80nm,1.3s
PETK Petropavlovsk- 61.41 9 P **P 18 03 59.4 -0.4**
comp=Z,14nm,0.7s,baz=162,slow=5.5,SNR=20
PETK Petropavlovsk- 61.41 9 *e*P **P 18 03 59.0 -0.6**
PETK Petropavlovsk- 61.41 9 *e*P **P 18 03 59.1 -0.6**
GTA Gaotai 61.98 322 *e*P **P 18 04 04.8 +0.8**
GTA pP pP 18 04 15.0 -2.7
GTA sP sP 18 04 18.9 -4.4
GTA S **S 18 12 24.1 -0.9**
GTA sS pS 18 12 42.3 +0.9
GTA SS **SS 18 16 26.8 -1.5**
GTA pmax pmax
comp=Z,19nm,1.4s
GTA pmax pmax
comp=Z,260nm,8.9s
GTA LR LR
comp=Z,220nm,13.7s
GTA LR LR
comp=Z,210nm,14.4s
ZEA Zeya 62.55 349 *e*P **P 18 04 06.6 -0.7**
ZEA pmax pmax
comp=N,59nm,1.0s
ZEA pmax pmax
comp=Z,87nm,1.0s
LSA Lhasa 62.75 309 *e*P **P 18 04 09.8 0.0**
comp=Z,38nm,1.0s
LSA *e*PcP **PcP 18 04 45.0 -3.1**
LSA LR LR
comp=Z,229nm,20.0s
LSA Lhasa 62.75 309 *e*P **P 18 04 09.8 0.0**
LSA *e* 18 04 45.0
LSA pmax pmax
comp=Z,38nm,1.0s
LSA MLR MLR
comp=Z,229nm,20.0s
CASY Casey 63.13 194 PFAKE 18 04 30.0 +19
CASY LR LR
comp=Z,167nm,20.0s
ULN Ulaanbaatar 63.97 333 *e*P **P 18 04 16.9 -0.2**
comp=Z,19nm,0.8s
ULN *e*PcP **PcP 18 04 51.8 -0.4**
ULN LR LR
comp=Z,243nm,21.0s
ULN Ulaanbaatar 63.97 333 *e*P **P 18 04 16.9 -0.2**
ULN *e* 18 04 51.8
ULN pmax pmax
comp=Z,19nm,0.8s
ULN MLR MLR
comp=Z,243nm,21.0s
SONM Songino Array 64.24 333 P **P 18 04 19.0 +0.2**
comp=Z,19nm,1.2s,baz=159,slow=6.4,SNR=50
SONA1 Songino Array 64.25 333 *e*P **P 18 04 18.7 -0.2**
CIT Chita 64.69 340 *e*P **P 18 04 21.4 -0.2**
CIT *e* 18 04 49.1
RAMN Ramite 65.22 304 *e*P **P 18 04 26.5 +0.7**
comp=Z,79nm,1.1s
JIRN Jiri 65.83 305 *e*P **P 18 04 30.5 +0.6**
comp=Z,141nm,1.2s
GUN Gumba 66.18 305 *e*P **P 18 04 33.0 +0.9**
comp=Z,156nm,1.1s
PKI Pulchoki 66.44 304 *e*P **P 18 04 34.1 +0.4**
comp=Z,78nm,1.1s
PKIN Phulchoki 66.45 304 *e*P **P 18 04 34.0 +0.3**
comp=Z,60nm,1.1s
KKN Kakani 66.63 304 *e*P **P 18 04 35.3 +0.5**
comp=Z,157nm,1.1s
DMN Daman 66.70 304 *e*P **P 18 04 36.2 +0.9**
comp=Z,156nm,1.0s
MA2 Magadan 67.00 4 P **P 18 04 35.5 -0.7**
comp=Z,12nm,0.8s,baz=180,slow=6.2,SNR=13
MA2 Magadan 67.00 4 *e*P **P 18 04 35.4 -0.7**
comp=Z,16nm,0.8s
MA2 *e*PcP **sP 18 04 59.8 +4.3**
MA2 LR LR
comp=Z,355nm,21.0s
MA2 Magadan 67.00 4*c i*P **P 18 04 35.3 -0.9**
MA2 pmax pmax
comp=Z,50nm,1.7s
ZAK Zakamensk 67.50 333 *e*P **P 18 04 39.3 -0.4**
ZAK pmax pmax
comp=Z,43nm,1.1s
KOLN Koldanda 68.00 304 *e*P **P 18 04 44.1 +0.6**
comp=Z,196nm,1.2s
DANN Dangsing 68.08 304 *e*P **P 18 04 44.4 +0.3**
comp=Z,71nm,0.7s
IRK Irkutsk 68.42 335 *e*P **P 18 04 45.7 +0.4**
IRK pmax pmax
comp=Z,52nm,5.0s
PYUN Piuthan 68.62 304 *e*P **P 18 04 47.7 +0.3**
comp=Z,174nm,1.1s
HYB Hyderabad 69.19 292 *i* P **P 18 04 51.0 +0.2**
MOY Mondy 69.43 333 *e*P **P 18 04 52.3 +0.5**
MOY pmax pmax
comp=Z,74nm,1.7s
BOD Bodaibo 69.43 343 *e*P **P 18 04 49.7 -1.8**
BOD pmax pmax
comp=Z,33nm,2.0s
YAK Yakutsk 70.13 353 *e*P **P 18 04 54.6 -1.0**
YAK *e**PP **pP 18 05 07.0 -2.6**
YAK *e* 18 05 19.0
YAK *e* 18 07 26.4
YAK *e*PPP PPP 18 09 10.7
YAK *e*S **S 18 14 02.2 -0.7**
YAK *e**SS **pS 18 14 22.5 +2.5**
YAK *e* 18 14 56.5
YAK *e*SS **SS 18 18 35.1 +1.3**
YAK *e*SSS SSS 18 21 42.7
YAK pmax pmax
comp=Z,21nm,0.9s
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=Z,118nm,3.3s
YAK pmax pmax
comp=N,81nm,3.5s
YAK pmax pmax
comp=E,74nm,3.3s
YAK smax smax
comp=N,213nm,5.6s
YAK smax smax
comp=E,154nm,4.7s
SEY Seymchan 70.44 4 P **P 18 04 56.9 -0.7**
comp=E,18nm,1.0s,baz=185,slow=4.9,SNR=29
SEY Seymchan 70.44 4⇓*i*P **P 18 04 57.3 -0.3**
VNDA Vanda 70.70 176 *e*P **P 18 05 00.9 +2.0**
comp=E,21nm,1.1s,baz=321,slow=6.6,SNR=24
VNDA Vanda 70.70 176 *e*P **P 18 05 01.0 +2.0**
comp=E,39nm,1.4s
VNDA Vanda 70.70 176 *e*P **P 18 05 01.0 +2.0**
VNDA pmax pmax
comp=Z,39nm,1.4s
SBA Scott Base 71.39 175 PFAKE 18 05 20.0 +17
SBA LR LR
comp=Z,429nm,19.0s
WMQ Urumqi 71.95 321 *e*P P 18 04 41.0 -26
WMQ LR LR
comp=N,710nm,37.1s
WMQ LR LR
comp=E,810nm,30.9s
WMQ LR LR
comp=Z,770nm,29.5s
WMQ Urumqi 71.95 321 P **P 18 05 08.1 +0.8**
WMQ pP pP 18 05 18.3 -3.0
WMQ sP PcP 18 05 22.4 -3.3
WMQ pmax pmax
comp=Z,120nm,1.3s
WMQ pmax pmax
comp=Z,940nm,5.9s
WMQ LR LR
comp=Z,670nm,27.1s
WMQ LR LR
comp=Z,810nm,29.5s
WMQ LR LR
comp=Z,460nm,26.5s
POO Poona 73.80 292⇓*i*P **P 18 05 16.0 -2.6**
comp=Z,60nm,1.0s
DGZ Jazzator, Alta 75.09 326*c i*P **P 18 05 25.7 0.0**
DGZ pmax pmax
comp=Z,21nm,0.8s
MK01 Makanchi Array 76.70 322 *e*P **P 18 05 35.4 +0.7**
MK31 Makanchi Array 76.72 322 *e*P **P 18 05 35.1 +0.3**
MKAR Makanchi Array 76.72 322 P **P 18 05 35.1 +0.2**
comp=Z,52nm,1.0s,baz=111,slow=6.6,SNR=199
MKAR Makanchi Array 76.72 322 *e*P **P 18 05 35.1 +0.2**
comp=Z,223nm,0.8s
MKAR Makanchi Array 76.72 322*ce*P **P 18 05 35.0 +0.2**
MKAR pmax pmax
comp=Z,53nm,1.0s
BILL Bilibino 76.92 8 *e*P **P 18 05 34.5 -0.9**
comp=Z,33nm,1.4s
BILL LR LR
comp=Z,439nm,21.0s
BILL Bilibino 76.92 8*ce*P **P 18 05 34.8 -0.7**
BILL *i* 18 05 41.7
BILL *e* 18 08 27.2
BILL *e*SS SS 18 20 13.4 -3.7
BILL pmax pmax
comp=Z,30nm,1.4s
BILL MLR MLR
comp=Z,236nm,20.0s
MAKZ Makanchi 76.92 321 *e*P **P 18 05 36.2 +0.3**
comp=Z,62nm,0.9s
MAKZ Makanchi 76.92 321 *e*P **P 18 05 36.2 +0.3**
MAKZ pmax pmax
comp=Z,62nm,0.9s
KSH Kashi 78.12 313 P **P 18 05 44.8 +1.8**
KSH pP pP 18 05 54.9 -2.3
KSH sP sP 18 05 59.6 -3.0
KSH PP **PP 18 08 46.4 +6.3**
KSH S **S 18 15 32.8 -1.2**
KSH sS SKSac 18 15 53.0 -0.6
KSH SS **SS 18 20 39.8 +3.0**
KSH pmax pmax
comp=Z,46nm,1.3s
KSH pmax pmax
comp=Z,340nm,5.2s
KSH LR LR
comp=Z,200nm,7.1s
KSH LR LR
comp=Z,250nm,6.4s
KSH LR LR
comp=Z,470nm,15.9s
NIL Nilore 78.34 306 *e*P **P 18 05 44.7 +0.5**
comp=Z,42nm,0.8s
NIL LR LR
comp=Z,175nm,20.0s
NIL Nilore 78.34 306 *e*P **P 18 05 44.7 +0.5**
NIL pmax pmax
comp=Z,42nm,0.8s
NIL MLR MLR
comp=Z,175nm,20.0s
ZAA0 Zalesovo Array 78.64 329 *e*P **P 18 05 44.5 -0.8**
comp=Z,32nm,0.9s
ZALV Zalesovo Beam 78.64 329 P **P 18 05 44.5 -0.8**
comp=Z,27nm,0.7s,baz=115,slow=5.2,SNR=92
ZALV Zalesovo Beam 78.64 329 *e*P **P 18 05 44.9 -0.4**
ZALV Zalesovo Beam 78.64 329 *e*P **P 18 05 44.9 -0.4**
KZA Kyzart 79.52 315 P **P 18 05 52.1 +1.2**
SNR=17
TIXI Tiksi 79.54 355 *e*P **P 18 05 48.2 -1.6**
comp=Z,23nm,1.1s
TIXI LR LR
comp=Z,602nm,21.0s
TIXI Tiksi 79.54 355*c i*P **P 18 05 47.7 -2.2**
TIXI pmax pmax
comp=Z,8.0nm,0.8s
TKM2 Tokmak 2 79.56 316 P **P 18 05 50.9 -0.1**
SNR=7.4
MAW Mawson 79.80 203 P **P 18 05 53.1 +1.6**
comp=Z,8.3nm,0.8s,baz=68,slow=5.0,SNR=8.7
MAW LR LR 18 36 41.1
comp=Z,243nm,21.3s,baz=47,slow=32
MAW Mawson 79.80 203 P **P 18 05 53.4 +1.9**
baz=80,SNR=7.5
MAW Mawson 79.80 203 *e*P **P 18 05 52.9 +1.4**
comp=Z,2.7nm,0.9s
MAW Mawson 79.80 203 *e*P **P 18 05 52.9 +1.4**
MAW pmax pmax
comp=Z,3.0nm,0.9s
NVS Novosibirsk 79.89 329⇓*i*P **P 18 05 52.2 +0.1**
NVS pmax pmax
comp=Z,95nm,1.3s
NVS pmax pmax
comp=N,28nm,1.2s
NVS pmax pmax
comp=E,45nm,1.2s
KBK Karagaybulak 79.92 316 P **P 18 05 53.8 +0.9**
SNR=9.7
UCH Uchtor 80.08 315 P **P 18 05 55.0 +0.9**
SNR=16
CHMS Chumysh 80.17 316 P **P 18 05 54.7 +0.7**
SNR=10
FRU Bishkek 80.21 316 *e*P **P 18 05 53.5 -0.7**
FRU pmax pmax
comp=Z,63nm,2.0s
AAK Ala-Archa 80.23 315 P **P 18 05 54.9 +0.4**
SNR=9.6
AAK Ala-Archa 80.23 315 *e*P **P 18 05 55.4 +0.9**
comp=Z,14nm,0.9s
AAK LR LR
comp=Z,224nm,20.0s
AAK Ala-Archa 80.23 315*c i*P **P 18 05 54.6 +0.1**
AAK pmax pmax
comp=Z,21nm,1.3s
AAK Ala-Archa 80.23 315 P **P 18 05 54.9 +0.4**
SNR=10.0
USP Ospenovka 80.44 316 P **P 18 05 55.8 +0.3**
SNR=21
KURK Kurchatov 80.58 324 *e*P **P 18 05 55.9 0.0**
comp=Z,62nm,1.1s
KURK LR LR
comp=Z,1µm,19.0s
KURK Kurchatov 80.58 324*c i*P **P 18 05 55.5 -0.4**
KURK pmax pmax
comp=Z,59nm,1.1s
KURK Kurchatov 80.58 324 P **P 18 05 56.0 0.0**
SNR=24
AML Almayashu 80.62 315 P **P 18 05 57.6 +0.6**
SNR=17
EKS2 Erkin-Say 80.74 315 P **P 18 05 58.4 +1.2**
SNR=17
ANM Nome 81.03 20 *e*P **P 18 05 58.4 +0.4**
comp=Z,49nm,1.2s
ANM Nome 81.03 20 *e*P **P 18 05 58.4 +0.4**
ANM pmax pmax
comp=Z,49nm,1.2s
OHAK Old Harbor 81.97 29 *e*P **P 18 06 03.0 -0.2**
comp=Z,48nm,0.9s
QSPA South Pole Qui 82.56 180 *e*P **P 18 06 07.3 +0.9**
comp=Z,54nm,1.1s
KDAK Kodiak Island 82.56 29 *e*P **P 18 06 05.7 -0.5**
comp=Z,58nm,1.0s
KDAK Kodiak Island 82.56 29 *e*P **P 18 06 05.7 -0.5**
KDAK pmax pmax
comp=Z,58nm,1.0s
SVW2 Sparrevohn 82.78 25 *e*P **P 18 06 07.8 +0.4**
comp=Z,64nm,1.3s
SUA Susitna One 85.02 26 *e*P **P 18 06 15.4 -3.5**
comp=Z,16nm,0.9s
PPLA Purkeypile 85.04 24 *e*P **P 18 06 18.1 -0.9**
comp=Z,30nm,1.2s
CAST Castle Rocks 85.32 24 *e*P **P 18 06 19.3 -0.9**
comp=Z,33nm,1.0s
PMR Palmer 85.78 26 *e*P **P 18 06 21.5 -1.0**
comp=Z,47nm,1.1s
PMR Palmer 85.78 26 *e*P **P 18 06 21.5 -1.0**
PMR pmax pmax
comp=Z,47nm,1.1s
GHO Glory Hole Cre 85.94 26 *e*P **P 18 06 22.6 -0.9**
comp=Z,51nm,1.2s
KNK Knik Glacier 86.00 26 *e*P **P 18 06 23.2 -0.5**
comp=Z,64nm,1.1s
BPAW Bear Paw Mtn. 86.06 24 *e*P **P 18 06 22.9 -1.0**
comp=Z,24nm,1.1s
TRF Thorofare Moun 86.06 24 *e*P **P 18 06 22.6 -1.6**
comp=Z,21nm,1.2s
SML Sawmill 86.21 26 *e*P **P 18 06 24.2 -0.5**
comp=Z,107nm,1.2s
SML Sawmill 86.21 26 *e*P **P 18 06 24.2 -0.5**
SML pmax pmax
comp=Z,107nm,1.2s
BRVK Borovoye 86.24 325 *e*P **P 18 06 24.6 -0.4**
comp=Z,27nm,0.8s
BRVK LR LR
comp=Z,374nm,20.0s
BRVK Borovoye 86.24 325*c i*P **P 18 06 24.1 -0.9**
BRVK pmax pmax
comp=Z,24nm,0.9s
BRVK Borovoye 86.24 325 P **P 18 06 24.8 -0.2**
SNR=16
MLY Manley 86.56 23 *e*P **P 18 06 25.5 -0.9**
comp=Z,45nm,1.2s
RND Reindeer 86.63 25 *e*P **P 18 06 25.5 -1.3**
comp=Z,42nm,0.9s
RND Reindeer 86.63 25 *e*P **P 18 06 25.5 -1.3**
RND pmax pmax
comp=Z,42nm,0.9s
SCM Sheep Creek Mo 86.66 26 *e*P **P 18 06 26.6 -0.4**
comp=Z,104nm,1.2s
MCK McKinley 86.73 24 *e*P **P 18 06 25.5 -1.7**
comp=Z,54nm,1.1s
MCK McKinley 86.73 24 *e*P **P 18 06 25.5 -1.7**
MCK pmax pmax
comp=Z,54nm,1.1s
DIV Divide 87.10 27 *e*P **P 18 06 29.0 -0.1**
comp=Z,78nm,1.1s
DHY Denali Highway 87.12 25 *e*P **P 18 06 28.7 -0.5**
comp=Z,42nm,1.0s
KLU Klutina 87.16 27 *e*P **P 18 06 29.2 -0.2**
comp=Z,53nm,1.2s
TCOL CIGO, UAF Yank 87.61 23 P **P 18 06 29.7 -1.7**
baz=247
COLA College 87.61 23 *e*P **P 18 06 29.1 -2.3**
COLA LR LR
comp=Z,404nm,19.0s
COLA College 87.61 23*d i*P **P 18 06 29.8 -1.6**
COLA pmax pmax
comp=Z,44nm,1.2s

COLD Coldfoot 87.70 21 *e*P **P** 18 06 28.0 -3.8
comp=Z,18nm,1.2s
HDA Harding Lake 87.80 24 *e*P **P** 18 06 30.7 -1.6
comp=Z,13nm,1.0s
HDA Harding Lake 87.80 24 P **P** 18 06 30.3 -2.0
baz=248
POKR Poker Plat Res 87.87 23 P **P** 18 06 30.6 -2.1
baz=248
ILAR Eielson Array 87.96 24 P **P** 18 06 30.8 -2.3
comp=Z,13nm,0.9s,baz=255,slow=5.0,SNR=79
ILAR LR LR 18 42 04.8
comp=Z,95nm,19.7s,baz=134,slow=33
IL1 Eielson Array 87.96 24 *e*P **P** 18 06 30.9 -2.2
SYO Syowa Base 88.24 200‖ *e*P **P** 18 06 35.0 +0.6
SYO Syowa Base 88.24 200‖ *i*PcP **PcP** 18 06 38.2 +2.1
RIDG Independ'e Rid 88.42 25 *e*P **P** 18 06 34.2 -1.2
comp=Z,61nm,1.1s
DOT Dot Lake 88.72 25 *e*P **P** 18 06 36.3 -0.4
comp=Z,36nm,1.0s
SCRK Sand Creek 88.86 25 *e*P **P** 18 06 36.9 -0.6
comp=Z,11nm,1.1s
EGAK Eagle 90.27 24 PFAKE 18 06 50.0 +6.1
EGAK LR LR
comp=Z,602nm,20.0s
DAWY Dawson 90.81 25 *e*P **P** 18 06 46.6 0.0
comp=Z,28nm,1.2s
HYT Haines Junctio 90.85 29 *e*P **P** 18 06 47.2 +0.3
comp=Z,19nm,1.1s
EPYK Eagle Plains 92.47 23 *e*P **P** 18 06 53.7 -0.4
comp=Z,19nm,1.2s
EPYK Eagle Plains 92.47 23 P **P** 18 06 53.5 -0.7
baz=257
SVE Sverdlovsk 92.53 327 *e*P **P** 18 06 53.5 -1.1
SVE pmax pmax
comp=Z,24nm,1.5s
SVE MLR MLR
comp=Z,1μm,22.0s
WRAK Wrangell Islan 92.62 34 PFAKE 18 07 10.0 +15
WRAK LR LR
comp=Z,690nm,22.0s
AKTO Aktyubinsk 93.11 320 P **P** 18 06 56.2 -1.2
comp=Z,2.2nm,0.8s,baz=108,slow=3.5,SNR=5.6
ARU Arti 93.60 326 *e*P **P** 18 06 58.2 -1.3
comp=Z,24nm,1.1s
ARU LR LR
comp=Z,572nm,19.0s
ARU Arti 93.60 326 P **P** 18 06 58.0 -1.5
ARU 18 10 43.0
ARU S **SKSac** 18 17 29.6 -0.3
ARU SS **SS** 18 24 18.7 -4.1
ARU MLR MLR
comp=Z,750nm,18.0s
ABPO Ambohimpanom 93.96 250 PFAKE 18 07 10.0 +7.7
ABPO LR LR
comp=Z,181nm,19.0s
INK Inuvik 94.06 22 P **P** 18 06 59.5 -1.8
comp=Z,4.4nm,1.2s,baz=250,slow=16,SNR=6.3
INK Inuvik 94.06 22 *e*P **P** 18 07 00.1 -1.3
comp=Z,10nm,1.4s
INK Inuvik 94.06 22 *e*P **P** 18 07 00.1 -1.3
INK pmax pmax
comp=Z,10.0nm,1.4s
DLBC Dease Lake 94.16 32 P **P** 18 07 00.8 -1.4
comp=Z,2.3nm,0.8s,baz=339,slow=7.3,SNR=4.4
NLWA Neilton Lookou 96.84 43 PFAKE 18 07 30.0 +15
NLWA LR LR
comp=Z,678nm,20.0s
O02D Mt. Diablo Mer 97.18 50 P Pdif 18 07 17.0 +0.5
baz=266
HUMO Hull Mountain 97.20 48 *e*P **P** 18 07 15.9 -0.5
comp=Z,7.6nm,1.0s
M02C Callahan 97.21 49 P Pdif 18 07 17.5 +1.0
baz=267
D03D Eldon 97.38 43 P Pdif 18 07 17.6 +0.5
baz=267
J04D Umpqua Nationa 97.86 47 P Pdif 18 07 19.7 +0.2
baz=267
O03E Paynes Creek 97.94 50 P **P** 18 07 19.6 -0.2
baz=267
B05A Bryant 98.08 42 P **P** 18 07 19.9 -0.1
baz=268
F05D White Salmon 98.43 45 P **P** 18 07 21.7 -0.1
baz=268
J05D Fort Rock, OR 98.50 47 P Pdif 18 07 22.6 +0.2
baz=268
PINE Pine Mountain 98.73 47 *e*P Pdif 18 07 23.8 +0.4
comp=Z,8.3nm,0.8s
HAWA Hanford 99.78 44 *e*Pdif **Pdif** 18 07 26.8 -0.9
comp=Z,27nm,1.3s
HAWA LR LR
comp=Z,365nm,19.0s
WVOR Wild Horse Val 100.39 48 PFAKE 18 07 40.0 +9.3
WVOR LR LR
comp=Z,491nm,20.0s
NVAR Mina Array Bea 100.59 52 P **Pdif** 18 07 30.7 -1.2
comp=Z,4.6nm,1.0s,baz=263,slow=5.1,SNR=15
NVAR PP **PP** 18 11 38.0 -1.4
comp=Z,0.3nm,0.3s,baz=257,slow=8.4,SNR=5.3
RAYN Ar Rayn 100.68 293 PFAKE 18 07 40.0 +7.6
RAYN LR LR
comp=Z,398nm,19.0s
CWC Cottonwood Cre 100.72 54 P **Pdif** 18 07 33.0 +0.6
baz=269
MPMC Manual Prospec 101.19 55 P **Pdif** 18 07 35.0 +0.4
baz=269
NEW Newport 101.40 42 PFAKE 18 07 50.0 +15
NEW LR LR
comp=Z,360nm,19.0s
NEW Newport 101.40 42 P **Pdif** 18 07 35.0 0.0
baz=272
YKA Yellowknife Ar 101.81 28 P **Pdif** 18 07 34.2 -2.1
comp=Z,1.9nm,1.1s,baz=275,slow=4.6,SNR=12
YKA PP **PP** 18 11 46.6 -0.8
comp=Z,0.2nm,0.5s,baz=271,slow=7.6,SNR=6.0
YKA PKKPbc **PKKPbc** 18 23 42.9 -1.7
comp=Z,0.3nm,0.6s,baz=100,slow=2.9,SNR=6.3
PFO Pinyon Flats O 102.00 57 PFAKE 18 07 50.0 +12
PFO LR LR
comp=Z,386nm,20.0s
TPNV Topopah Spring 102.20 54 P **Pdif** 18 07 38.8 -0.2
baz=270
NCK Nalchik 102.61 313‖ *e*P **Pdif** 18 07 39.6 -0.8
NCK pmax pmax
comp=Z,9.0nm,0.6s
KIV Kislovodsk 103.25 313 PFAKE 18 08 00.0 +17
KIV LR LR
comp=Z,554nm,19.0s
HLID Hailey 103.47 47 PFAKE 18 08 00.0 +16
HLID LR LR
comp=Z,433nm,19.0s
HLID Hailey 103.47 47 P **Pdif** 18 07 44.7 +0.2
baz=273
KBS Kingsbay 104.73 351 PFAKE 18 08 00.0 +11
KBS LR LR
comp=Z,446nm,19.0s
DUG Dugway, Tooele 104.82 50 PFAKE 18 08 00.0 +9.5
DUG LR LR
comp=Z,389nm,19.0s
AHID Auburn Hatcher 105.94 48 PFAKE 18 12 20.0 +12
AHID LR LR
comp=Z,568nm,21.0s
OBN Obninsk 106.00 325 PFAKE 18 12 20.0 +13
OBN LR LR
comp=Z,739nm,19.0s
WUAZ Wupatki 106.17 55 PFAKE 18 12 20.0 +12
WUAZ LR LR
comp=Z,374nm,20.0s
LKWY Lake 106.28 46 PFAKE 18 12 20.0 +12
LKWY LR LR
comp=Z,473nm,20.0s
EGMT Eagleton 106.34 42 PFAKE 18 12 20.0 +12
EGMT LR LR
comp=Z,212nm,20.0s
KMBO Kilima Mbogo 106.45 267 PFAKE 18 12 20.0 +10
KMBO LR LR
comp=Z,517nm,20.0s
TUC Tucson 106.78 59 PFAKE 18 12 20.0 +11
TUC LR LR
comp=Z,743nm,20.0s
RLMT Red Lodge 107.02 45 PFAKE 18 12 20.0 +10
RLMT LR LR
comp=Z,364nm,19.0s
BW06 Boulder Array 107.07 48 PFAKE 18 12 20.0 +10
BW06 LR LR
comp=Z,380nm,19.0s
PDAR Pinedale Array 107.07 48 PP **PP** 18 12 28.2 +0.7
comp=Z,0.2nm,0.4s,baz=258,slow=3.4,SNR=4.0

MVCO Mesa Verde 108.38 53 PFAKE 18 12 20.0 +7.5
MVCO LR LR
comp=Z,495nm,22.0s
LAO LASA Array 108.91 43 PFAKE 18 12 30.0 +17
LAO LR LR
comp=Z,308nm,22.0s
FFC Flin Flon 109.80 34 PFAKE 18 12 30.0 +16
FFC LR LR
comp=Z,367nm,19.0s
DGMT Dagmar 109.93 41 PFAKE 18 12 30.0 +15
DGMT LR LR
comp=Z,334nm,20.0s
ANMO Albuquerque 110.22 56 PFAKE 18 12 30.0 +14
ANMO LR LR
comp=Z,375nm,19.0s
BRTR Keskin Array B 110.35 310 PP **PP** 18 12 50.6 -0.7
comp=Z,1.5nm,1.1s,baz=109,slow=8.4,SNR=4.1
ISCO Idaho Springs 110.36 50 PFAKE 18 12 30.0 +14
ISCO LR LR
comp=Z,389nm,19.0s
SDCO Great Sand Dun 110.70 53 PFAKE 18 12 30.0 +13
SDCO LR LR
comp=Z,471nm,19.0s
SDCO Great Sand Dun 110.70 53 P **PKiKP** 18 12 17.3 +0.3
baz=277
ANTO Ankara 110.98 310 PFAKE 18 12 30.0 +13
ANTO LR LR
comp=Z,592nm,22.0s
AKASG Malin Array Be 111.30 322 PP **PP** 18 12 57.8 +0.2
comp=Z,0.2nm,0.3s,baz=59,slow=7.4,SNR=6.1
KIEV Kiev 111.31 322 PFAKE 18 12 30.0 +13
KIEV LR LR
comp=Z,1μm,22.0s
MNTX Cornudas Mount 111.39 59 PFAKE 18 12 30.0 +12
MNTX LR LR
comp=Z,377nm,21.0s
LSZ Lusaka 112.53 250 PFAKE 18 12 30.0 +9.2
LSZ LR LR
comp=Z,320nm,19.0s
OGNE Ogallala 112.89 49 PFAKE 18 12 30.0 +9.3
OGNE LR LR
comp=Z,471nm,19.0s
MBAR Mbarara 112.97 266 PFAKE 18 12 30.0 +8.2
MBAR LR LR
comp=Z,913nm,19.0s
SUR Sutherland 113.02 230 PFAKE 18 12 30.0 +8.6
SUR LR LR
comp=Z,574nm,20.0s
TXAR Lajitas Array 113.05 61 PKiKP **PKiKP** 18 12 20.6 -0.7
comp=Z,1.3nm,1.0s,baz=242,slow=2.7,SNR=5.9
TXAR PKKPbc **PKKPab** 18 23 15.3 -0.1
comp=Z,1.3nm,0.9s,baz=114,slow=5.6,SNR=7.4
CBKS Cedar Bluff 115.02 51 PFAKE 18 12 40.0 +15
CBKS LR LR
comp=Z,446nm,19.0s
AGMN Agassiz Nation 115.34 40 PFAKE 18 12 40.0 +15
AGMN LR LR
comp=Z,312nm,19.0s
ECSD EROS Data Cent 116.17 45 PFAKE 18 12 40.0 +13
ECSD LR LR
comp=Z,195nm,19.0s
JCT Junction City 116.28 60 PFAKE 18 12 40.0 +13
JCT LR LR
comp=Z,395nm,20.0s
WMOK Wichita Mounta 116.51 55 PFAKE 18 12 40.0 +12
WMOK LR LR
comp=Z,380nm,19.0s
KSU1 Kansas State U 117.34 50 PFAKE 18 12 40.0 +11
KSU1 LR LR
comp=Z,334nm,20.0s
LANS Liptovska Anna 117.77 322 *e*PKiKP **PKiKP** 18 12 30.1 +0.3
LANS Liptovska Anna 117.77 322 *e*PKP **PKiKP** 18 12 30.1 +0.3
EYMN Ely 118.21 39 PFAKE 18 12 40.0 +9.3
EYMN LR LR
comp=Z,308nm,19.0s
VYHS Vyhne 118.40 322 *e*PKiKP **PKiKP** 18 12 31.5 +0.5
VYHS Vyhne 118.40 322 *e*PKP **PKiKP** 18 12 31.5 +0.5
MORC Moravsky Berou 118.67 324 *e*PKP **PKiKP** 18 12 32.1 +0.6
JAVC Velka Javorina 118.97 323 *e*PKP **PKiKP** 18 12 33.7 +1.5
SCIA State Center 119.09 46 PFAKE 18 12 40.0 +7.5
SCIA LR LR
comp=Z,245nm,19.0s
MODS Modra-Piesok 119.40 322 *e*PKiKP **PKiKP** 18 12 34.2 +1.2
MODS Modra-Piesok 119.40 322 *e*PKP **PKiKP** 18 12 34.2 +1.2
VRAC Vranov 119.42 323 *e*PKP **PKiKP** 18 12 33.4 +0.4
KRUC Moravsky 119.65 323 *e*PKP **PKiKP** 18 12 33.8 +0.4
TREC Trest 120.08 324 *e*PKPdf **PKiKP** 18 12 35.1 +0.8
TREC Trest 120.08 324 *e*PKiKP **PKiKP** 18 12 35.1 +0.8
BRG Berggiesshubel 120.24 326 *e*PKP **PKiKP** 18 12 34.7 +0.2
comp=Z,7.1nm,1.0s
comp=N,781nm,17.6s
comp=E,351nm,16.2s
comp=Z,797nm,16.3s
BRG Berggiesshubel 120.24 326 *e*PKiKP **PKiKP** 18 12 34.7 +0.2
BRG pmax pmax
BRG comp=Z,7.0nm,1.0s MLR MLR
BRG comp=N,781nm,17.6s MLR MLR
BRG comp=E,351nm,16.2s MLR MLR
BRG comp=Z,797nm,16.3s MLR MLR
COWI Conover 120.41 40 PFAKE 18 12 50.0 +15
COWI LR LR
comp=Z,288nm,19.0s
NATX Nacogdoches 120.44 58 PFAKE 18 12 50.0 +15
NATX LR LR
comp=Z,431nm,20.0s
CONA Conrad Observa 120.45 322 *e*PKPdf **PKPdf** 18 12 34.8 -0.2
comp=Z,4.0nm,0.9s
CLL Collm 120.55 327 *i* PKPdf **PKPdf** 18 12 35.0 0.0
comp=Z,6.0nm,1.0s
CLL Collm 120.55 327 *i* PKiKP **PKPdf** 18 12 35.0 0.0
CLL pmax pmax
comp=Z,6.0nm,1.0s
MIAR Mount Ida 120.75 54 PFAKE 18 12 50.0 +14
MIAR LR LR
comp=Z,507nm,22.0s
JFWS Jewell Farm 120.84 44 PFAKE 18 12 50.0 +14
JFWS LR LR
comp=Z,385nm,20.0s
U40A Yellville 120.89 52 P **PKPdf** 18 12 35.1 -1.0
baz=285
ARSA Arzberg 120.95 322 *e*PKiKP **PKiKP** 18 12 36.5 +0.4
comp=Z,4.0nm,1.0s
TSUM Tsumeb 120.96 242 PFAKE 18 12 50.0 +13
TSUM LR LR
comp=Z,491nm,20.0s
KHC Kasperske Hory 121.27 324 *e*PKPdf **PKiKP** 18 12 37.2 +0.6
KHC Kasperske Hory 121.27 324 *e*PKiKP **PKiKP** 18 12 37.2 +0.6
GERES GERESS Array B 121.33 324 PKP **PKiKP** 18 12 36.9 +0.1
comp=Z,2.4nm,0.8s,baz=48,slow=2.0,SNR=14
GEA0 GERESS Array S 121.34 324 *e*PKPdf **PKiKP** 18 12 37.0 +0.1
Q41A Truxton 121.42 49 P **PKPdf** 18 12 35.9 -1.1
baz=288
MOA Molln 121.45 323 *e*PKiKP **PKiKP** 18 12 37.2 +0.1
comp=Z,3.9nm,0.9s
SOKA Soboth 121.50 321 *e*PKiKP **PKiKP** 18 12 37.7 +0.5
comp=Z,5.2nm,1.0s
R41A Rosebud 121.50 49 P **PKPdf** 18 12 36.3 -0.9
baz=287
L42A Oliver, Polo 121.56 45 P **PKPdf** 18 12 36.1 -1.2
baz=290
U41A Viola 121.62 52 P **PKPdf** 18 12 36.1 -1.4
baz=286
CCM Cathedral Cave 121.67 50 P **PKPdf** 18 12 36.7 -0.9
baz=287
P42A Winchester 121.88 48 P **PKPdf** 18 12 36.9 -1.0
baz=289
V42A Cord 122.18 52 P **PKPdf** 18 12 37.5 -1.1
baz=286
HDIL Hopedale 122.33 46 PFAKE 18 12 50.0 +11
HDIL LR LR
comp=Z,293nm,19.0s
GRF Grafenberg Arr 122.34 326 *e*PKPdf **PKiKP** 18 12 39.5 +0.8
baz=50,slow=1.1
KBA Koelnbreinsper 122.36 322 *e*PKPdf **PKPdf** 18 12 38.6 -0.3
comp=Z,9.0nm,1.2s
PLCA Paso Flores 122.50 149 PKP **PKiKP** 18 12 39.9 +0.4
comp=Z,2.2nm,0.7s,baz=238,slow=3.6,SNR=6.0
ABTA Abfaltersbach 123.02 322 *e*PKiKP **PKiKP** 18 12 40.2 -0.1
comp=Z,12nm,1.2s
SQTA Sankt Quirin 123.58 323 *e*PKiKP **PKiKP** 18 12 41.7 +0.4
comp=Z,10nm,1.1s
MOTA Moosalm 123.58 323 *i* PKiKP **PKiKP** 18 12 41.7 +0.3
comp=Z,6.2nm,0.9s

GLMI Grayling 123.83 40 PFAKE 18 12 50.0 +8.2
GLMI LR LR
comp=Z,238nm,22.0s
FETA Feichten 123.96 323 *i* PKiKP **PKiKP** 18 12 42.9 +0.7
comp=Z,10nm,1.1s
DAVA Damuels 124.33 324 *e*PKiKP **PKiKP** 18 12 42.9 0.0
comp=Z,7.4nm,0.8s
T46A Princeton 124.52 50 P **PKPdf** 18 12 42.3 -0.8
baz=289
MEM Membach 124.64 329‖ PKiKP **PKiKP** 18 12 43.2 +0.1
V46A Holladay 124.73 51 P **PKPdf** 18 12 41.9 -1.6
baz=288
WLF Walferdange 125.12 328⇑ PKiKP **PKiKP** 18 12 44.5 +0.3
R47A Wooly Knot Far 125.12 48 P **PKPdf** 18 12 43.4 -0.8
baz=291
U47A Clarksville 125.17 50 P **PKPdf** 18 12 43.3 -1.0
baz=289
V47A Nunnelly 125.19 51 P **PKPdf** 18 12 42.8 -1.6
baz=288
WCI Wyandotte Cave 125.31 48 P **PKPdf** 18 12 44.0 -0.5
baz=291
O48A Farmland 125.38 45 P **PKPdf** 18 12 43.7 -0.9
baz=293
EKA Eskdalemuir Ar 125.55 338 PKP **PKPdf** 18 12 43.8 -0.6
comp=Z,4.5nm,1.0s,baz=64,slow=3.2,SNR=4.4
AAM Ann Arbor 125.56 42 PFAKE 18 13 00.0 +15
AAM LR LR
comp=Z,349nm,20.0s
T48A Bowling Green 125.63 49 P **PKPdf** 18 12 44.3 -0.9
baz=290
DOU Dourbes 125.67 329‖ PKiKP **PKiKP** 18 12 45.4 +0.1
S48A Wiedeman Farm, 125.69 49 P **PKPdf** 18 12 44.3 -1.0
baz=291
X48A Hartselle 125.98 53 P **PKPdf** 18 12 44.3 -1.7
baz=288
O49A Covington 125.98 45 P **PKPdf** 18 12 45.2 -0.6
baz=294
U49A Red Boiling Sp 126.29 50 P **PKPdf** 18 12 45.6 -0.9
baz=290
W49A Belvidere 126.38 52 P **PKPdf** 18 12 45.1 -1.6
baz=289
LRAL Lakeview Retre 126.43 54 P **PKPdf** 18 12 46.1 -0.7
baz=287
X49A Woodville 126.53 52 P **PKPdf** 18 12 46.1 -0.9
baz=288
Z49A Columbiana 126.76 54 P **PKPdf** 18 12 46.6 -0.8
baz=287
T50A Nancy 126.82 49 P **PKPdf** 18 12 46.2 -1.3
baz=291
ACSO Alum Creek Sta 126.91 44 PFAKE 18 13 00.0 +12
ACSO LR LR
comp=Z,380nm,19.0s
S50A Richmond 126.91 48 P **PKPdf** 18 12 46.7 -0.9
baz=292
N51A Ashland 127.03 43 P **PKPdf** 18 12 47.1 -0.7
baz=296
U50A Jamestown 127.03 50 P **PKPdf** 18 12 47.2 -0.8
baz=291
Z51A Franklin 127.81 53 P **PKPdf** 18 12 48.6 -0.9
baz=288
251A Midway 127.99 55 P **PKPdf** 18 12 49.3 -0.6
baz=287
N53A Lisbon 128.12 43 P **PKPdf** 18 12 49.7 -0.2
baz=298
U52A Thorn Hill 128.15 49 P **PKPdf** 18 12 49.6 -0.5
baz=292
V52A Sevierville 128.18 50 P **PKPdf** 18 12 49.9 -0.2
baz=292
X52A Dahlonega 128.39 51 P **PKPdf** 18 12 50.3 -0.2
baz=290
Z52A Williamson 128.45 53 P **PKPdf** 18 12 50.8 +0.1
baz=289
Y52A Lilburn 128.51 52 P **PKPdf** 18 12 50.2 -0.6
baz=290
TRQA Tornquist 128.69 154 PFAKE 18 13 00.0 +8.2
TRQA LR LR
comp=Z,312nm,20.0s
Z53A Monticello 129.09 53 P **PKPdf** 18 12 51.7 -0.2
baz=290
GOGA Godfrey 129.13 53 PFAKE 18 13 00.0 +7.3
GOGA LR LR
comp=Z,347nm,21.0s
GOGA Godfrey 129.13 53 P **PKPdf** 18 12 52.2 +0.2
baz=290
BLA Blacksburg 130.00 47 PFAKE 18 13 10.0 +16
BLA LR LR
comp=Z,393nm,21.0s
BINY Binghamton 130.58 39 PFAKE 18 13 10.0 +15
BINY LR LR
comp=Z,383nm,20.0s
JTS JuntasAbangare 131.58 83 PFAKE 18 13 10.0 +12
JTS LR LR
comp=Z,210nm,19.0s
CBN Corbin Frederi 131.71 44 PFAKE 18 13 10.0 +12
CBN LR LR
comp=Z,300nm,19.0s
NHSC New Hope 131.81 52 PFAKE 18 13 10.0 +12
NHSC LR LR
comp=Z,283nm,20.0s
PKME Peaks-Kenny Pk 132.55 32 PFAKE 18 13 10.0 +11
PKME LR LR
comp=Z,260nm,19.0s
CNNC Cliffs of the 132.69 48 PFAKE 18 13 10.0 +10
CNNC LR LR
comp=Z,388nm,21.0s
BCIP Isla Barro Col 136.61 85 PFAKE 18 13 20.0 +12
BCIP LR LR
comp=Z,354nm,19.0s
OTAV Otavalo 137.08 98 PFAKE 18 13 20.0 +10
OTAV LR LR
comp=Z,182nm,20.0s
LPAZ La Paz 140.43 127 PKhKP PKPpre 18 13 10.1
comp=Z,2.8nm,0.9s,baz=273,slow=1.2,SNR=6.3
CPUP Villa Florida 140.58 149 PKhKP PKPpre 18 13 08.8
comp=Z,3.6nm,1.0s,baz=77,slow=2.4,SNR=4.8
TOA0 Torodi Ar. Sit 142.51 282 *e*PKPpre PKPpre 18 13 13.9
TOA0 *e*PKPdf **PKPdf** 18 13 14.9 -2.4
TORD Torodi Ar. Bea 142.51 282 PKhKP PKPpre 18 13 12.3
comp=Z,3.7nm,0.9s,baz=31,slow=3.0,SNR=14
GRTK Grand Turk 143.32 64 PFAKE 18 13 30.0 +8.2
GRTK LR LR
comp=Z,514nm,19.0s
SDDR Presa de Saban 143.85 68 PFAKE 18 13 30.0 +6.9
SDDR LR LR
comp=Z,622nm,21.0s
SDV Santo Domingo 145.69 85 *e*PKPdf **PKPab** 18 13 24.4 +0.5
SDV LR LR
comp=Z,330nm,22.0s
SJG San Juan 148.79 67 *e*PKPbc **PKPbc** 18 13 31.1 -0.7
SJG San Juan 148.79 67 *e*PKP2 **PKPbc** 18 13 31.1 -0.7
KIC Kosan Boka 148.95 270 *e*PKP2 **PKPbc** 18 13 31.9 -0.5
comp=Z,181nm,1.1s
HUMP Col San Antoni 149.05 67 *e*PKPbc **PKPbc** 18 13 31.8 -0.6
DBIC Dimbokro 149.08 271 PKPbc **PKPbc** 18 13 31.9 -0.8
comp=Z,37nm,1.0s,baz=87,slow=3.3,SNR=38
DBIC Dimbokro 149.08 271 *e*PKPbc **PKiKP** 18 13 35.0 +1.1
DBIC Dimbokro 149.08 271 *e*PKP2 **PKiKP** 18 13 35.0 +1.1
LIC Lamto 149.23 270 *e*PKP2 **PKPbc** 18 13 32.3 -0.8
comp=Z,198nm,1.2s
TIC Toumodi 149.25 271 *e*PKP2 **PKPbc** 18 13 33.6 +0.5
BDFB Brasilia 154.18 153 PKPbc **PKPbc** 18 13 43.5 -1.0
comp=Z,5.5nm,0.8s,baz=194,slow=3.8,SNR=6.3
GRGR Grenville 154.30 77 PFAKE 18 13 50.0 +5.3
GRGR LR LR
comp=Z,210nm,21.0s
PTGA Pitinga 154.76 108 PFAKE 18 13 50.0 +4.3
PTGA LR LR
comp=Z,14μm,20.0s

BEO ***13*** *17:54:25.4±0.9, 39°.25N×26°.19E, h5km, ML4.5/10*
SOF ***13*** *17:54:26.4, 39°.27N×25°.95E, h9km, MD3.5*
IDC ***13*** *17:54:32.0±1.0, 39°.61N×25°.72E, h0km, mb3.5/8, mb1 3.7/15, mb1mx3.6/52, mbtmp3.6/15, ML3.7/7, MS3.3/1, Ms1 3.3/1, ms1mx2.6/53, Error ellipse: s-maj=17.1km s-min=12.8km az=45.0*
ATH ***13*** *17:54:32.5, 39°.65N×25°.60E, h30km, ML3.7/42, Error ellipse: s-maj=1.1km s-min=0.7km az=69.0*
ISK ***13*** *17:54:32.1, 39°.64N×25°.62E, h5km, ML4.3/38*
DDA ***13*** *17:54:32.0, 39°.65N×25°.64E, h26km, ML4.3*
THE ***13*** *17:54:32.9, 39°.65N×25°.63E, h8km±1km, ML3.7/6, Error ellipse: s-maj=1.5km s-min=0.6km az=101.0*
ISCJB ***13*** *17:54:32.2±0.3, 39°.66N±0°.01×25°.59E±0°.01, h9km±2km, mb3.6/9, Error ellipse: s-maj=1.9km s-min=1.9km az=30.8*

ISC 13 17:54:32.5±1.1, 39°63N±0°02, 25°64E±0°01, h5km±8km, n231, σ1°04/268, mb3.5/9, 31C-22D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOZC	**Bozcaada**	**0.38**	**56**	PG	**Pb**	**17 54 40.2**	**-1.7**
BOZC				SG	**Sb**	**17 54 45.6**	**-2.4**
BOZC	**Bozcaada**	**0.38**	**56**	IAML_P			
	comp=Z,230μm,0.2s						
BOZC				⇓*i*P	**Pb**	**17 54 40.1**	**-1.7**
GPNR	**Gulpinar-Canak**	**0.42**	**115**	PG	**Pb**	**17 54 41.5**	**-0.9**
LIA	**Limnos Island**	**0.44**	**307**	P	**Pg**	**17 54 41.4**	**+0.4**
LIA				S	**Sg**	**17 54 48.3**	**+1.5**
LIA				AML	AML	17 54 53.6	
	comp=E,4316μm,0.5s						
LIA				AML	AML	17 55 03.7	
	comp=N,31276μm,1.2s						
LIA	**Limnos Island**	**0.44**	**307**	P	**Pg**	**17 54 41.4**	**+0.4**
SIGR	**SIGRI**	**0.45**	**158**	PG	**Pb**	**17 54 41.7**	**-1.3**
SIGR				SG	**Sb**	**17 54 48.8**	**-1.2**
SIGR	**SIGRI**	**0.45**	**158**	P	**Pb**	**17 54 42.0**	**-1.0**
SIGR				S	**Sb**	**17 54 49.5**	**-0.5**
SIGR				AML	AML	17 54 49.9	
	comp=E,97097μm,0.5s						
SIGR				AML	AML	17 54 54.4	
SIGR	**SIGRI**	**0.45**	**158**	P	**Pb**	**17 54 42.0**	**-1.0**
SIGR				S	**Sb**	**17 54 49.2**	**-0.8**
EFSA	**Agios Efstrati**	**0.51**	**260**	P	**Pb**	**17 54 43.4**	**-0.5**
EFSA				S	**Sb**	**17 54 51.0**	**-0.7**
EFSA				AML	AML	17 54 53.3	
	comp=N,27268μm,0.3s						
EFSA				AML	AML	17 55 04.6	
	comp=E,34301μm,0.8s						
EZN	**Ezine**	**0.56**	**70**	PG	**Pg**	**17 54 43.2**	**-0.2**
EZN				SG	**Sb**	**17 54 51.5**	**-1.8**
EZN	**Ezine**	**0.56**	**70**	P	**Pb**	**17 54 43.4**	**-1.5**
EZN				S	**Sb**	**17 54 51.4**	**-1.8**
GADA	**Gvkgeada**	**0.59**	**20**	PG	**Pg**	**17 54 43.9**	**-0.1**
GADA				SG	**Sb**	**17 54 52.7**	**-1.4**
GADA	**Gvkgeada**	**0.59**	**20**	P	**Pg**	**17 54 43.9**	**-0.1**
GOKC	**Gokceada-Canak**	**0.61**	**21**	PG	**Pg**	**17 54 44.3**	**+0.1**
PRK	**Paraskevi**	**0.62**	**128**	P	**Pn**	**17 54 46.4**	**-1.6**
PRK				S	**Sb**	**17 54 55.7**	**+0.8**
PRK				AML	AML	17 54 59.0	
	comp=N,45123μm,0.5s						
PRK				AML	AML	17 55 02.0	
	comp=E,53795μm,0.6s						
BAYC	**CANAKKALE_Bayr**	**0.71**	**81**	IAML_P			
	comp=Z,71μm,0.2s						
BAYC				⇓*i*P	**Pb**	**17 54 46.5**	**-0.9**
BAYC				*i* S	**Sb**	**17 54 57.1**	**-0.3**
SMTH	**Samothraki Isl**	**0.84**	**354**	P	**Pg**	**17 54 48.5**	**-0.2**
SMTH				S	**Sb**	**17 55 00.9**	**-0.4**
SMTH				AML	AML	17 55 02.2	
	comp=N,8097μm,0.3s						
SMTH				AML	AML	17 55 02.2	
	comp=E,13274μm,0.5s						
SMTH	**Samothraki Isl**	**0.84**	**354**	P	**Pg**	**17 54 48.5**	**-0.2**
SMTH				S	**Sb**	**17 55 00.4**	**-0.9**
AYVA	**Ayvalik**	**0.88**	**111**	IAML_P			
	comp=Z,23μm,0.2s						
AYVA				⇓*i*P	**Pn**	**17 54 50.3**	**-1.2**
AYVA				*i* S	**Sn**	**17 55 04.8**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.00**	**40**	PG	**Pb**	**17 54 51.4**	**-0.9**
GELI				SG	**Sb**	**17 55 05.8**	**0.0**
PSRA	**Psara**	**1.09**	**183**	P	**Pn**	**17 54 54.3**	**-0.1**
PSRA				S	**Sb**	**17 55 08.1**	**-0.3**
PSRA				AML	AML	17 55 12.1	
	comp=E,20142μm,0.3s						
PSRA				AML	AML	17 55 16.6	
	comp=N,22177μm,0.8s						
DKL	**Dikili**	**1.13**	**119**	PN	**Pn**	**17 54 54.7**	**-0.3**
SKY	**Skiros Island**	**1.13**	**229**	P	**Pg**	**17 54 53.9**	**-0.3**
SKY				S	**Sg**	**17 55 08.8**	**-0.1**
SKY				AML	AML	17 55 11.4	
	comp=E,17773μm,0.3s						
SKY				AML	AML	17 55 11.8	
	comp=N,13660μm,0.3s						
LPK	**Lapseki**	**1.14**	**49**	PN	**Pn**	**17 54 54.6**	**-0.5**
LPK				SN	**Sn**	**17 55 10.4**	**-0.7**
ENEZ	**Enez**	**1.17**	**19**	PN	**Pg**	**17 54 54.3**	**-0.7**
THAS	**Thassos island**	**1.20**	**324**	P	**Pg**	**17 54 54.3**	**-1.4**
THAS				S	**Sg**	**17 55 09.9**	**-1.3**
THAS				AML	AML	17 55 17.5	
	comp=E,11042μm,0.5s						
THAS				AML	AML	17 55 18.0	
	comp=N,12083μm,1.0s						
THAS	**Thassos island**	**1.20**	**324**	P	**Pg**	**17 54 54.2**	**-1.4**
THAS				S	**Sg**	**17 55 11.3**	**+0.1**
ERIK	**Erikli-Kesan**	**1.23**	**33**	PN	**Pn**	**17 54 56.4**	**-0.1**
FOCM	**Foa**	**1.25**	**137**	PN	**Pn**	**17 54 55.9**	**-0.7**
KRBN	**Karaburun**	**1.26**	**145**	PN	**Pn**	**17 54 57.3**	**+0.5**
CHOS	**Chios island**	**1.28**	**165**	PN	**Pn**	**17 54 57.5**	**+0.3**
CHOS	**Chios island**	**1.28**	**165**	P	**Pg**	**17 54 56.7**	**-0.4**
CHOS				S	**Sn**	**17 55 14.3**	**-0.5**
CHOS				AML	AML	17 55 17.3	
	comp=N,21211μm,0.5s						
CHOS				AML	AML	17 55 18.8	
	comp=E,26612μm,0.6s						
ALN	**Alexandroupoli**	**1.30**	**14**	PN	**Pg**	**17 54 56.2**	**-1.3**
ALN	**Alexandroupoli**	**1.30**	**14**	P	**Pg**	**17 54 56.3**	**-1.3**
ALN				AML	AML	17 55 20.9	
	comp=E,3969μm,0.9s						
ALN				AML	AML	17 55 25.6	
	comp=N,7163μm,0.7s						
ALN	**Alexandroupoli**	**1.30**	**14**	P	**Pg**	**17 54 56.1**	**-1.4**
ALN				S	**Sn**	**17 55 14.7**	**-0.5**
KESN	**Edirne-Kesan**	**1.43**	**33**	⇑*i*P	**Pn**	**17 54 58.2**	**-1.3**
KESN				*i* S	**Sn**	**17 55 19.6**	**+0.6**
AOS	**Alonnisos**	**1.44**	**252**	PN	**Pn**	**17 54 58.9**	**-0.4**
AOS	**Alonnisos**	**1.44**	**252**	P	**Pn**	**17 54 58.1**	**-1.2**
AOS				S	**Sb**	**17 55 16.5**	**-1.9**
AOS				AML	AML	17 55 26.1	
	comp=E,5070μm,1.3s						
AOS				AML	AML	17 55 29.9	
	comp=N,4944μm,0.7s						
AOS	**Alonnisos**	**1.44**	**252**	P	**Pn**	**17 54 58.4**	**-0.9**
AOS				S	**Sb**	**17 55 18.4**	**0.0**
ALNA	**Alonissos**	**1.46**	**251**	P	**Pn**	**17 54 58.1**	**-1.4**
ALNA				S	**Sn**	**17 55 17.3**	**-1.6**
URLA	**Izmir**	**1.47**	**149**	PN	**Pg**	**17 55 00.2**	**-0.5**
URLA	**Izmir**	**1.47**	**149**	⇓*i*P	**Pb**	**17 54 59.8**	**-0.6**
URLA				*i* S	**Sg**	**17 55 19.4**	**-0.4**
KRBG	**Karabiga-Canak**	**1.48**	**59**	PN	**Pb**	**17 54 59.7**	**-0.9**
RDO	**Rodhopi**	**1.52**	**357**	PN	**Pn**	**17 54 59.7**	**-0.6**
RDO	**Rodhopi**	**1.52**	**357**	P	**Pn**	**17 54 59.5**	**-0.9**
RDO				AML	AML	17 55 29.2	
	comp=N,3494μm,1.1s						
RDO				AML	AML	17 55 31.6	
	comp=E,2243μm,0.4s						
RDO	**Rodhopi**	**1.52**	**357**	P	**Pn**	**17 54 59.1**	**-1.2**
PAIG	**Paliouri**	**1.54**	**282**	P	**Pn**	**17 54 59.2**	**-1.5**
PAIG				AML	AML	17 55 29.7	
	comp=E,1718μm,0.6s						
PAIG				AML	AML	17 55 36.9	
	comp=N,3674μm,0.8s						
PAIG	**Paliouri**	**1.54**	**282**	P	**Pn**	**17 55 00.1**	**-0.5**
PAIG				S	**Sn**	**17 55 19.8**	**-1.2**
KNL	**Balıkesir**	**1.58**	**66**	IAML_P			
	comp=Z,69μm,0.4s						
KNL				⇓*i*P	**Pb**	**17 55 01.2**	**-1.1**
KNL				*i* S	**Sg**	**17 55 23.4**	**0.0**
KAVA	**Kavala**	**1.61**	**328**	P	**Pn**	**17 55 00.3**	**-1.4**
KAVA				AML	AML	17 55 25.5	
	comp=E,4271μm,0.6s						
KAVA				AML	AML	17 55 33.3	
	comp=N,3772μm,0.7s						
KAVA	**Kavala**	**1.61**	**328**	P	**Pn**	**17 55 00.3**	**-1.4**
KVLA	**Kavala**	**1.62**	**324**	P	**Pn**	**17 55 00.4**	**-1.4**
STEP	**BALIKESIR_Sava**	**1.63**	**98**	IAML_P			
	comp=Z,36μm,0.4s						
STEP				⇓*i*P	**Pg**	**17 55 03.0**	**-0.8**
STEP				*i* S	**Sg**	**17 55 24.4**	**-0.5**
GONE	**Gonen-Balikesi**	**1.63**	**75**	PN	**Pg**	**17 55 02.7**	**-1.1**
BLCB	**Balcova**	**1.66**	**138**	PN	**Pb**	**17 55 02.6**	**-0.9**
BALB	**Balikesir**	**1.73**	**89**	PN	**Pb**	**17 55 03.4**	**-1.4**
SKIA	**Skiathos**	**1.75**	**255**	P	**Pn**	**17 55 02.2**	**-1.3**
SKIA				AML	AML	17 55 31.5	
	comp=E,5575μm,0.5s						
SKIA				AML	AML	17 55 36.0	
	comp=N,5757μm,0.6s						
EREA	**Eretria**	**1.80**	**228**	P	**Pn**	**17 55 03.0**	**-1.3**
EREA				AML	AML	17 55 38.5	
	comp=E,4450μm,0.7s						
EREA				AML	AML	17 55 38.6	
	comp=N,3742μm,0.7s						
PLG	**Polygyros**	**1.84**	**294**	P	**Pn**	**17 55 04.3**	**-0.6**
PLG				AML	AML	17 55 38.2	
	comp=E,1960μm,0.7s						
PLG				AML	AML	17 55 42.5	
	comp=N,2326μm,0.9s						
MRKA	**Markates**	**1.84**	**241**	P	**Pn**	**17 55 03.8**	**-1.0**
MRKA				AML	AML	17 55 33.1	
	comp=E,4667μm,0.8s						
MRKA				AML	AML	17 55 40.9	
	comp=N,4885μm,0.5s						
GMLD	**Gumuldur**	**1.84**	**147**	PN	**Pb**	**17 55 05.5**	**-1.2**
AKHS	**Akhisar**	**1.85**	**113**	⇓*i*P	**Pb**	**17 55 05.8**	**-1.0**
AKHS				*i* S	**Sg**	**17 55 33.1**	**+1.3**
DGB	**zmir**	**1.85**	**148**	*i* P	**Pn**	**17 55 05.1**	**+0.2**
DGB				*i* S	**Sg**	**17 55 31.4**	**-0.6**
EDC	**Edincik**	**1.85**	**67**	PN	**Pn**	**17 55 05.1**	**+0.1**
SBT4	**Kumbag-Tekirda**	**1.88**	**50**	PN	**Pb**	**17 55 05.8**	**-1.4**
XOR	**Xorichti**	**1.91**	**263**	P	**Pn**	**17 55 04.1**	**-1.7**
XOR				AML	AML	17 55 37.0	
	comp=E,1740μm,0.5s						
XOR				AML	AML	17 55 50.8	
	comp=N,1954μm,0.8s						
TKR	**Tekirdag**	**1.99**	**46**	PN	**Pb**	**17 55 07.6**	**-1.6**
GOMA	**Golmarmara-Man**	**2.00**	**117**	PN	**Pn**	**17 55 07.2**	**+0.3**
KDZ	**Kurdzhali**	**2.02**	**355**	PN	**Pn**	**17 55 07.5**	**+0.2**
KDZ	**Kurdzhali**	**2.02**	**355**	*i* P	**Pb**	**17 55 09.7**	**-0.1**
SMIA	**Simia**	**2.03**	**249**	P	**Pn**	**17 55 07.4**	**-0.1**
SMIA				AML	AML	17 55 46.6	
	comp=N,14432μm,0.6s						
SMIA				AML	AML	17 55 47.0	
	comp=E,10807μm,0.6s						
DION	**Dionisos Attik**	**2.04**	**221**	P	**Pn**	**17 55 06.5**	**-1.1**
DION				AML	AML	17 55 45.0	
	comp=N,2308μm,0.9s						
DION				AML	AML	17 55 49.5	
	comp=E,2338μm,0.6s						
FYTO	**Fytoko, Volos**	**2.10**	**265**	P	**Pn**	**17 55 07.5**	**-0.9**
FYTO				AML	AML	17 55 41.8	
	comp=E,674μm,0.7s						
FYTO				AML	AML	17 55 53.7	
	comp=N,1078μm,1.1s						
SOH	**Sokhos**	**2.12**	**305**	P	**Pn**	**17 55 08.2**	**-0.4**
SOH				AML	AML	17 55 47.2	
	comp=N,2561μm,0.6s						
SOH				AML	AML	17 55 47.6	
	comp=E,2916μm,0.6s						
TNSA	**Tinos**	**2.12**	**190**	P	**Pn**	**17 55 08.4**	**-0.3**
SMG	**Samos**	**2.14**	**154**	P	**Pn**	**17 55 08.4**	**-0.4**
SMG				AML	AML	17 55 45.9	
	comp=N,5687μm,0.6s						
SMG				AML	AML	17 55 52.4	
	comp=E,3555μm,0.6s						
SRS	**Serrai**	**2.16**	**314**	*e*Pn	**Pn**	**17 55 09.0**	**-0.2**
SRS				*e*Sn	**Sg**	**17 55 43.0**	**+1.2**
SRS	**Serrai**	**2.16**	**314**	P	**Pn**	**17 55 08.1**	**-1.0**
SRS				AML	AML	17 55 47.0	
	comp=E,3917μm,0.5s						
SRS				AML	AML	17 55 53.3	
	comp=N,3040μm,0.7s						
RZN	**Rozhen**	**2.17**	**341**	*i* P	**Pn**	**17 55 09.3**	**-0.2**
HORT	**Hortiatis**	**2.17**	**297**	PN	**Pn**	**17 55 08.9**	**-0.5**
HORT	**Hortiatis**	**2.17**	**297**	P	**Pn**	**17 55 09.0**	**-0.5**
HORT				AML	AML	17 55 54.4	
	comp=N,1277μm,0.8s						
HORT				AML	AML	17 55 54.7	
	comp=E,1084μm,0.8s						
KCTX	**Karacabey (Bur**	**2.18**	**72**	PN	**Pn**	**17 55 09.0**	**-0.5**
NVR	**Nevrokopi**	**2.19**	**322**	P	**Pn**	**17 55 08.6**	**-1.0**
NVR				AML	AML	17 55 49.1	
	comp=E,1826μm,0.9s						
NVR				AML	AML	17 55 50.9	
	comp=N,2645μm,0.8s						
DURS	**Dursunbey**	**2.19**	**90**	IAML_P			
	comp=Z,7μm,0.3s						
DURS				⇓*i*P	**Pn**	**17 55 10.5**	**+0.8**
DURS				*i* S	**Sn**	**17 55 37.6**	**+0.4**
CRLT	**Corlu**	**2.19**	**46**	PN	**Pn**	**17 55 10.4**	**+0.8**
THE	**Thessaloniki**	**2.28**	**297**	P	**Pn**	**17 55 09.9**	**-0.9**
THE				AML	AML	17 56 03.4	
	comp=N,690μm,0.6s						
THE				AML	AML	17 56 06.2	
	comp=E,711μm,0.7s						
VLY	**Voula,Athens**	**2.29**	**220**	P	**Pn**	**17 55 09.9**	**-1.1**
VLY				AML	AML	17 55 47.0	
	comp=E,1814μm,1.0s						
VLY				AML	AML	17 55 53.6	
	comp=N,2588μm,0.7s						
GCAM	**G?zelcaml?**	**2.30**	**147**	PN	**Pn**	**17 55 11.4**	**+0.4**
GCAM	**G?zelcaml?**	**2.30**	**147**	*i* P	**Pb**	**17 55 12.7**	**-1.8**
GCAM				*i* S	**Sb**	**17 55 44.0**	**+0.8**
DST	**Dursunbey**	**2.30**	**90**	PN	**Pn**	**17 55 11.4**	**+0.2**
EDRB	**Edirne**	**2.37**	**20**	PN	**Pn**	**17 55 12.8**	**+0.8**
DIM	**Dimitrovgrad**	**2.42**	**358**	*i* P	**Pn**	**17 55 12.2**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**2.43**	**133**	PN	**Pn**	**17 55 13.1**	**0.0**
MMB	**Musomiste**	**2.44**	**324**	*i* P	**Pn**	**17 55 12.5**	**-0.6**
DEMI	**Demirci**	**2.46**	**103**	⇓*i*P	**Pb**	**17 55 14.8**	**-2.5**
DEMI				*i* S	**Sg**	**17 55 52.1**	**+0.6**
PHSR	**Pinarhisar**	**2.46**	**35**	PN	**Pn**	**17 55 13.8**	**+0.5**
SLVT	**Silivri**	**2.53**	**50**	PN	**Pn**	**17 55 15.5**	**+1.2**
MANT	**Manisa**	**2.54**	**116**	IAML_P			
	comp=Z,6μm,0.4s						
MANT				*i* P	**Pn**	**17 55 15.3**	**+0.6**
MANT				*i* S	**Sg**	**17 55 51.4**	**-2.8**
ORLT	**Orhaneli**	**2.54**	**80**	PN	**Pn**	**17 55 15.6**	**+1.1**
APE	**Apeiranthos**	**2.56**	**182**	PN	**Pn**	**17 55 14.9**	**+0.2**
APE	**Apeiranthos**	**2.56**	**182**	⇑*i*P	**Pn**	**17 55 14.2**	**-0.5**
PLD	**Plovdiv**	**2.57**	**344**	*e*Pn	**Pn**	**17 55 14.4**	**-0.4**
PLD	**Plovdiv**	**2.57**	**344**	PN	**Pn**	**17 55 15.3**	**+0.5**
KNT	**Kendrikon**	**2.59**	**307**	PN	**Pn**	**17 55 15.2**	**+0.1**
KNT	**Kendrikon**	**2.59**	**307**	P	**Pn**	**17 55 14.5**	**-0.6**
KNT				AML	AML	17 56 04.3	
	comp=N,1818μm,0.7s						
KNT				AML	AML	17 56 06.3	
	comp=E,1549μm,0.7s						
MDNY	**Mudanya-Bursa**	**2.60**	**72**	PN	**Pn**	**17 55 16.4**	**+1.2**
KULA	**Kula-Manisa**	**2.60**	**114**	PN	**Pn**	**17 55 15.9**	**+0.5**
ELBA	**Catalca**	**2.61**	**54**	IAML_P			
	comp=Z,3μm,0.1s						
ELBA				*e*P	**Pn**	**17 55 16.1**	**+0.7**
ELBA				*i* S	**Sn**	**17 55 47.3**	**-0.3**
SERI	**Serifos**	**2.63**	**201**	P	**Pn**	**17 55 14.3**	**-1.3**
SERI				AML	AML	17 56 09.9	
	comp=E,1604μm,0.8s						
SERI				AML	AML	17 56 15.7	
	comp=N,882μm,0.9s						
AGG	**Agios Georgios**	**2.64**	**258**	PN	**Pn**	**17 55 15.5**	**-0.3**
AGG	**Agios Georgios**	**2.64**	**258**	P	**Pn**	**17 55 15.2**	**-0.6**
AGG				AML	AML	17 56 06.8	
	comp=E,976μm,1.1s						
AGG				AML	AML	17 56 07.7	
	comp=N,1153μm,1.0s						
ARMT	**Armutlu**	**2.64**	**68**	PN	**Pn**	**17 55 16.2**	**+0.4**
SMAA	**Simav-Kutahya**	**2.64**	**101**	PN	**Pn**	**17 55 16.5**	**+0.6**
SBT5	**Esenkoy-Cinarc**	**2.68**	**67**	PN	**Pn**	**17 55 16.9**	**+0.7**
CTKS	**Kestanelik-??a**	**2.71**	**53**	PN	**Pn**	**17 55 16.4**	**-0.4**
CTYL	**Yalikoy Yolu**	**2.73**	**47**	PN	**Pn**	**17 55 17.1**	**+0.1**
KIYI	**Yalıkoy-Catalc**	**2.75**	**47**	PN	**Pn**	**17 55 18.4**	**+1.2**
THL	**Klokotos Trika**	**2.80**	**270**	P	**Pn**	**17 55 17.5**	**-0.5**
THL				AML	AML	17 56 14.6	
	comp=E,310μm,0.8s						
THL				AML	AML	17 56 21.9	
	comp=N,289μm,1.0s						
AMGA	**Amorgos Island**	**2.80**	**176**	P	**Pn**	**17 55 17.1**	**-1.0**
AMGA				AML	AML	17 56 15.9	
	comp=E,1338μm,1.4s						
AMGA				AML	AML	17 56 32.6	
	comp=N,912μm,0.7s						
GRG	**Griva**	**2.81**	**299**	PN	**Pn**	**17 55 18.4**	**+0.3**
GRG	**Griva**	**2.81**	**299**	P	**Pn**	**17 55 17.4**	**-0.7**
GRG				AML	AML	17 56 17.6	
	comp=E,751μm,0.7s						
GRG				AML	AML	17 56 33.7	
	comp=N,986μm,1.4s						
DID	**Didima**	**2.84**	**222**	P	**Pn**	**17 55 17.4**	**-1.2**
DID				AML	AML	17 56 13.0	
	comp=N,760μm,0.8s						
DID				AML	AML	17 56 17.3	
	comp=E,901μm,1.1s						
GEMT	**Gemlik**	**2.84**	**72**	PN	**Pn**	**17 55 19.9**	**+1.4**
SHAP	**Saphane-Kutahy**	**2.84**	**101**	PN	**Pn**	**17 55 19.3**	**+0.6**
BGKT	**Bogazkoy**	**2.85**	**56**	PN	**Pn**	**17 55 19.4**	**+0.8**
MLSB	**Milas**	**2.87**	**144**	PN	**Pn**	**17 55 19.7**	**+0.7**
BODT	**Bodrum**	**2.88**	**152**	PN	**Pn**	**17 55 19.3**	**+0.2**
VAY	**Valandovo**	**2.89**	**307**	*e*Pn	**Pn**	**17 55 19.3**	**+0.1**
VAY				*e*Sn	**Sb**	**17 56 00.8**	**+0.7**
VAY	**Valandovo**	**2.89**	**307**	*i* Pn	**Pn**	**17 55 21.0**	**+1.8**
KKB	**Krupnik**	**2.96**	**320**	*i* P	**Pn**	**17 55 21.8**	**+1.6**
ISK	**Istanbul-Kandi**	**2.98**	**60**	PN	**Pn**	**17 55 21.7**	**+1.3**
GEDZ	**Gediz**	**2.98**	**100**	PN	**Pn**	**17 55 21.3**	**+0.7**
KALE	**Kalithea**	**3.00**	**247**	P	**Pn**	**17 55 19.4**	**-1.3**
KALE				AML	AML	17 56 25.3	
	comp=N,881μm,1.3s						
KALE				AML	AML	17 56 30.2	
	comp=E,704μm,1.0s						
YLV	**Yalova**	**3.01**	**71**	PN	**Pn**	**17 55 21.6**	**+0.6**
GDZ	**Gediz**	**3.03**	**99**	*i* P	**Pn**	**17 55 22.7**	**+1.4**
GDZ				*i* S	**Sg**	**17 56 07.4**	**-2.4**
TRIZ	**Trizonia**	**3.05**	**247**	P	**Pn**	**17 55 21.0**	**-0.5**
EVR	**Evrytania**	**3.06**	**258**	P	**Pn**	**17 55 21.0**	**-0.6**
EVR				AML	AML	17 56 28.0	
	comp=E,456μm,1.8s						
EVR				AML	AML	17 56 41.8	
	comp=N,429μm,1.7s						
KLYT	**Kilyos**	**3.06**	**57**	PN	**Pn**	**17 55 22.7**	**+1.2**
KLV	**Kalavryta, Ach**	**3.15**	**241**	P	**Pn**	**17 55 22.1**	**-0.8**
KLV				AML	AML	17 56 15.9	
	comp=E,303μm,0.8s						
KLV				AML	AML	17 56 28.2	
	comp=N,340μm,1.2s						
LAKA	**Lakka**	**3.17**	**245**	P	**Pn**	**17 55 23.0**	**-0.2**
LAKA				AML	AML	17 56 20.1	
	comp=E,302μm,0.8s						
LAKA				AML	AML	17 56 48.9	
	comp=N,336μm,1.4s						
ANAF	**Anafi Island**	**3.27**	**178**	P	**Pn**	**17 55 23.8**	**-0.7**
ANAF				AML	AML	17 56 25.6	
	comp=N,1492μm,0.6s						
ANAF				AML	AML	17 56 26.5	
	comp=E,1758μm,0.5s						
CAVI	**Cavuskoy**	**3.28**	**79**	PN	**Pn**	**17 55 25.4**	**+0.8**
SILT	**Sile**	**3.41**	**62**	PN	**Pn**	**17 55 27.7**	**+1.3**
FNA	**Florina**	**3.46**	**291**	*e*Pn	**Pn**	**17 55 27.7**	**+0.6**
VTS	**Vitosha**	**3.48**	**329**	*e*Pn	**Pn**	**17 55 27.9**	**+0.4**
VTS				*e*Sn	**Sb**	**17 56 14.1**	**-3.3**
VTS	**Vitosha**	**3.48**	**329**	⇑*i*P	**Pn**	**17 55 28.2**	**+0.7**
BIA	**Bitola**	**3.58**	**294**	*i* Pn	**Pn**	**17 55 32.4**	**+3.6**
VLI	**Veliai**	**3.60**	**217**	P	**Pn**	**17 55 27.9**	**-1.1**
VLI				AML	AML	17 56 38.9	
	comp=N,444μm,0.9s						
VLI				AML	AML	17 56 49.2	
	comp=E,662μm,1.4s						
SZH	**Strazhica**	**3.64**	**3**	*i* P	**Pn**	**17 55 29.6**	**+0.1**
KYTH	**Kithira**	**3.94**	**212**	P	**Pn**	**17 55 32.5**	**-1.2**
SKO	**Skopje**	**3.95**	**308**	*e*Pn	**Pn**	**17 55 33.9**	**+0.1**
SKO	**Skopje**	**3.95**	**308**	*i* Pn	**Pn**	**17 55 34.5**	**+0.6**
ZIMR		**4.03**	**357**	⇓*i*P	**Pn**	**17 55 37.6**	**+2.8**
IGT	**Igoumenitsa**	**4.10**	**270**	*e*Pn	**Pn**	**17 55 34.7**	**-1.2**
KARP	**Karpathos**	**4.25**	**163**	P	**Pn**	**17 55 37.9**	**-0.1**
ZAPS	**Zavoj**	**4.28**	**329**	*e*Pn	**Pn**	**17 55 39.0**	**+0.6**
BARS	**Barje**	**4.29**	**319**	*e*Pn	**Pn**	**17 55 38.5**	**0.0**
IDI	**Anoyia**	**4.38**	**188**	⇑*i*P	**Pn**	**17 55 39.0**	**-0.7**
VLAD	**Vladila**	**4.46**	**348**	⇑*i*P	**Pn**	**17 55 40.8**	**0.0**
ICOR	**Ion Corvin**	**4.76**	**19**	⇓*i*P	**Pn**	**17 55 45.0**	**+0.1**
ZAGS	**Zajecar**	**4.89**	**330**	*e*Pn	**Pn**	**17 55 46.8**	**+0.1**
SELS	**Selova**	**4.94**	**318**	*e*Pn	**Pn**	**17 55 46.7**	**-0.7**
BOLS	**Bovan**	**4.97**	**325**	*e*Pn	**Pn**	**17 55 47.6**	**-0.2**
MFTR	**Murfatlar**	**5.00**	**24**	⇑*i*P	**Pn**	**17 55 47.9**	**-0.2**
PUNG	**Punghina**	**5.06**	**337**	⇑*i*P	**Pn**	**17 55 48.9**	**-0.2**
SULR		**5.06**	**5**	⇑*i*P	**Pn**	**17 55 49.9**	**+0.8**
TIRR	**Tirgusor**	**5.25**	**22**	⇓*i*P	**Pn**	**17 55 51.3**	**-0.3**
TLB	**Topalu**	**5.26**	**19**	⇑*i*P	**Pn**	**17 55 52.0**	**+0.2**
SRE	**Strehaia**	**5.34**	**341**	⇑*i*P	**Pn**	**17 55 53.5**	**+0.6**
PGOR	**Pogoanele**	**5.37**	**10**	⇑*i*P	**Pn**	**17 55 55.2**	**+2.0**
SECR		**5.41**	**3**	⇑*i*P	**Pn**	**17 55 54.8**	**+0.9**
ANTO	**Ankara**	**5.52**	**85**	⇑*i*P	**Pn**	**17 55 56.2**	**+0.8**
ISR	**Istrita**	**5.52**	**7**	⇓*i*P	**Pn**	**17 55 56.3**	**+0.8**
SJES	**Sjenica**	**5.59**	**312**	*e*Pn	**Pn**	**17 55 56.5**	**0.0**
KUBS	**Kucevo**	**5.62**	**330**	*e*Pn	**Pn**	**17 55 56.9**	**+0.2**
GRUS	**Gruza**	**5.62**	**321**	*e*Pn	**Pn**	**17 55 56.2**	**-0.6**
IVAS	**Ivanjica**	**5.70**	**316**	*e*Pn	**Pn**	**17 55 57.4**	**-0.4**
HERR	**Herculane**	**5.76**	**337**	⇑*i*P	**Pn**	**17 55 59.1**	**+0.4**
ARR	**Arges**	**5.78**	**353**	⇑*i*P	**Pn**	**17 55 58.7**	**-0.3**
VOIR		**5.82**	**356**	⇑*i*P	**Pn**	**17 55 59.2**	**-0.3**
CFR	**Carcaliu**	**5.84**	**18**	⇑*i*P	**Pn**

YKA	**Yellowknife Ar**	**73.32**	**342**	P	**P**	**18 06 05.2 +0.5**
	comp=Z,0.1nm,0.5s,baz=50,slow=6.1,SNR=3.4					

*DDA **13** 17:59:16.7, 38°.45N × 39°.25E, h7km ± 5km, ML2.8*
*ISK **13** 17:59:16.0, 38°.54N × 39°.20E, h5km, ML2.5/5*
ISC 13 17:59:15.9 ± 1.4, **38°.55N** ± 0°.03 × **39°.32E** ± 0°.03, **h3km** ± 12km, **n17**, σ0**66**/27, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTK	**Pertek**	**0.35**	**10**	PG	**Pb**	**17 59 24.5**	**-0.3**
PTK				SG	**Sb**	**17 59 31.3**	**+0.5**
TNCL	**Tunceli-Merkez**	**0.59**	**17**	IAML_P			
	comp=Z,292nm,0.2s						
TNCL				*i* P	**Pn**	**17 59 32.0**	**+0.7**
TNCL				*i* S	**Sn**	**17 59 40.8**	**-0.7**
DIYA	**Diyarbakir**	**0.89**	**134**	*i* P	**Pg**	**17 59 33.1**	**+0.2**
ILIC	**ilic-Erzincan**	**1.07**	**327**	PG	**Pb**	**17 59 36.9**	**-0.3**
AKCD	**Akcadag**	**1.12**	**257**	IAML_P			
	comp=Z,2μm,0.3s						
AKCD				*i* P	**Pg**	**17 59 36.4**	**-1.0**
AKCD				*i* S	**Sb**	**17 59 53.0**	**-0.1**
URFA	**Urfa**	**1.17**	**200**	PN	**Pg**	**17 59 38.3**	**0.0**
SANL	**SANLIURFA_Merk**	**1.40**	**191**	IAML_P			
	comp=Z,995nm,0.1s						
SANL				*i* P	**Pb**	**17 59 42.7**	**+0.1**
SANL				*i* S	**Sg**	**18 00 00.8**	**0.0**
DARE	**Darende-Malaty**	**1.44**	**271**	PN	**Pn**	**17 59 43.0**	**+0.1**
DARE				SN	**Sn**	**18 00 02.3**	**0.0**
BTMN	**Batman**	**1.67**	**112**	*i* P	**Pb**	**17 59 47.7**	**+0.3**
BTMN				*i* S	**Sg**	**18 00 09.7**	**+0.1**
MARD	**Mardin**	**1.69**	**136**	*i* P	**Pn**	**17 59 46.2**	**-0.2**
MARD				*i* S	**Sn**	**18 00 08.1**	**-0.5**
SURC	**SANLIURFA_SURC**	**1.76**	**199**	*i* P	**Pg**	**17 59 50.2**	**+0.6**
SURC				*i* S	**Sb**	**18 00 11.4**	**+0.2**
GZT	**Gaziantep**	**1.83**	**230**	*i* P	**Pn**	**17 59 47.9**	**-0.4**
GZT				*i* S	**Sb**	**18 00 13.4**	**+0.1**
SRTM	**Siirt_Merkez**	**2.13**	**104**	*i* P	**Pn**	**17 59 53.7**	**+1.3**
SRTM				*i* S	**Sb**	**18 00 21.2**	**-0.7**
KMRS	**Kahramanmaras**	**2.17**	**242**	PN	**Pn**	**17 59 54.3**	**+1.4**
SVSK	**Karacayir**	**2.26**	**308**	PN	**Pn**	**17 59 55.3**	**+1.2**
SIRN	**Sirnak**	**2.66**	**112**	*i* P	**Pn**	**17 59 59.8**	**0.0**
SIRT	**Sirnak**	**2.68**	**112**	PN	**Pb**	**18 00 03.5**	**-1.0**

JMA 13 18:00:04.9 ± 0.2, **23°.25N** × **124°.60E, h46km, M3.5, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**1.08**	**318**	P	Pn	18 00 23.8	+0.1
HATJ				S	Sn	18 00 37.3	-0.3
JKRS	**Kuro-shima**	**1.12**	**331**	P	Pn	18 00 25.1	+0.9
JKRS				S	Sn	18 00 39.5	+1.0
JIJ	**Ishigaki jima**	**1.19**	**339**	P	Pn	18 00 25.5	+0.4
JIJ				S	Sn	18 00 40.1	+0.1
IRIF	**Iriomote-Funau**	**1.34**	**324**	P	Pn	18 00 28.0	+0.8
IRIF				*e*S	Sn	18 00 44.8	+0.9
JISG	**Ishigakijimahi**	**1.36**	**349**	P	Pn	18 00 27.9	+0.5
JISG				*e*S	Sn	18 00 45.0	+0.8
JTJ	**Tarama**	**1.39**	**4**	P	Pn	18 00 28.5	+0.7
JTJ				*e*S	Sn	18 00 46.7	+1.7
JIRB	**Irabujima**	**1.66**	**18**	P	Pn	18 00 32.0	+0.5
JIRB				*e*S	Sn	18 00 52.3	+0.7
JOGS	**Gusukube**	**1.67**	**26**	P	Pn	18 00 32.5	+0.7
JOGS				*e*S	Sn	18 00 53.6	+1.6
JMJ	**Miyako jima 2**	**1.68**	**22**	P	Pn	18 00 32.5	+0.6
JMJ				*e*S	Sn	18 00 53.4	+1.2
JIKM	**Ikemajima**	**1.77**	**19**	P	Pn	18 00 33.8	+0.8
JIKM				S	Sn	18 00 55.6	+1.3
YOJ	**Yonaguni jima**	**1.89**	**310**	S	Sn	18 00 57.4	+0.1

*IDC **13** 18:04:38.9 ± 2.1, 43°.89N × 105°.37W, h0km, mb1 3.4/2, mb1mx3.1/46, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=63.8km s-min=10.3km az=151.0*
*ISCJB **13** 18:04:39.1 ± 0.8, 44°.1N ± 0°.1 × 105°.40W ± 0°.06, h0km, Error ellipse: s-maj=14.5km s-min=6.5km az=179.0*
*NEIC **13** 18:04:40.4 ± 0.8, 44°.08N × 105°.33W, h0km, ML2.7, Error ellipse: s-maj=15.9km s-min=8.2km az=160.0, Suspected Mining explosion.*
NEIC 28 km [17 miles] SSE of Gillette.
ISC 13 18:04:38.1 ± 1.0, **44°.09N** ± 0°.07 × **105°.53W** ± 0°.04, **h0km, n9,** σ1**69**/10, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.07**	**88**	*e*Pg	**Pb**	**18 04 59.0**	**-0.7**
RSSD				*e*Sn	**Sb**	**18 05 14.0**	**-0.4**
LAO	**LASA Array**	**2.65**	**350**	*e*Pn	**Pb**	**18 05 24.9**	**-1.5**
RLMT	**Red Lodge**	**2.87**	**292**	*e*Pn	**Pb**	**18 05 29.7**	**-0.5**
RLMT				*e*Sn	**Sn**	**18 06 02.3**	**+1.7**
BW06	**Boulder Array**	**3.22**	**247**	*e*Pn	**Pb**	**18 05 34.6**	**-1.7**
BW06				*e*Sg	**Sg**	**18 06 20.2**	**-1.3**
PDAR	**Pinedale Array**	**3.22**	**247**	Pn	**Pb**	**18 05 34.4**	**-1.9**
	1.6nm,0.3s,baz=85,slow=12,SNR=15						
PDAR				Lg	Lg	18 06 20.7	
	4.8nm,0.3s,baz=70,slow=34,SNR=11						
DUG	**Dugway, Tooele**	**6.67**	**237**	Pn	**Pn**	**18 06 19.8**	**+2.4**
	2.2nm,0.5s						
I10CA	**LAC DU BONNET**	**8.90**	**43**	*i*		18 56 50.0	
	baz=226,slow=328,SNR=3.7						
ULM	**Lac du Bonnet**	**9.01**	**43**	Pn	**Pn**	**18 06 49.0**	**-0.3**
	0.3nm,0.3s,baz=228,slow=12,SNR=6.1						
I56US	**NEWPORT INFRAS**	**9.07**	**301**	*i*		19 03 40.0	
	baz=111,slow=331,SNR=0.9						

*IDC **13** 18:28:35.8 ± 1.7, 43°.55N × 86°.02E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.2/45, mbtmp3.3/3, ML2.7/2, Error ellipse: s-maj=59.0km s-min=16.1km az=51.0*
*NNC **13** 18:28:45.7 ± 3.2, 43°.73N × 85°.40E, h17km ± 12km, mb3.2, mpv2.8, Error ellipse: s-maj=24.9km s-min=10.5km az=113.0*
ISC 13 18:28:37.6 ± 1.5, **43°.53N** ± 0°.09 × **85°.9E** ± 0°.1, **h10km, n7,** σ2**°38**/11, **9D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**4.16**	**323**	⇓Pn	**Pn**	**18 29 42.8**	**+1.7**
	0.4nm,0.3s,baz=320,slow=14,SNR=50						
MK31				⇓Pg	**Pg**	**18 29 54.2**	**-3.1**
	0.8nm,0.3s,baz=141,slow=17,SNR=14						
MK31				Lg	Lg	18 30 45.4	
	4.8nm,0.3s,baz=139,slow=30,SNR=11						
MKAR	**Makanchi Array**	**4.16**	**323**	Pn	**Pn**	**18 29 42.9**	**+1.8**
	0.5nm,0.3s,baz=145,slow=14,SNR=31						
MKAR				Pg	**Pb**	**18 29 52.5**	**+1.6**
	1.3nm,0.3s,baz=137,slow=16,SNR=24						
MKAR				Sn	**Sn**	**18 30 30.6**	**+0.8**
	1.3nm,0.3s,baz=140,slow=21,SNR=5.3						
MKAR				Lg	Lg	18 30 45.7	
	6.0nm,0.3s,baz=137,slow=30,SNR=15						
MAKZ	**Makanchi**	**4.31**	**321**	⇓Pn	**Pn**	**18 29 44.7**	**+1.5**
	0.6nm,0.3s						
MAKZ				⇓Pg	**Pg**	**18 29 57.5**	**-2.6**
	2.3nm,0.6s						
MAKZ				⇓Lg	Lg	18 30 50.9	
	12nm,0.8s						
PDGK	**Podgornoye**	**4.70**	**270**	⇓Pn	**Pn**	**18 29 51.4**	**+2.8**
	0.9nm,0.6s						
PDGK				⇓Pg	**Pg**	**18 30 04.5**	**-3.1**
	1.7nm,0.4s						
PDGK				⇓Lg	Lg	18 31 00.6	
	8.9nm,0.6s						
KURBB	**Kurchatov Arra**	**8.71**	**327**	⇓Lg	Lg	18 33 11.8	
	7.7nm,0.5s						
ZALV	**Zalesovo Beam**	**10.45**	**356**	Pn	**Pn**	**18 31 07.5**	**0.0**
	0.2nm,0.3s,baz=182,slow=14,SNR=3.5						
WRA	**Warramunga Arr**	**77.20**	**134**	P	**P**	**18 40 31.1**	**-0.6**
	0.3nm,0.7s,baz=336,slow=5.0,SNR=6.7						

*MOS **13** 18:30:15.5 ± 0.0, 42°.09N × 46°.28E, h10km, MPVA4.2*
*TIF **13** 18:30:15.3, 42°.00N × 46°.34E, h24km ± 2km*
*ISCJB **13** 18:30:16.7 ± 0.3, 42°.06N ± 0°.02 × 46°.27E ± 0°.02, h10km, mb3.4/2, Error ellipse: s-maj=2.5km s-min=1.8km az=177.7*
*NORS **13** 18:30:16.4 ± 0.0, 42°.11N × 46°.34E, h20km, MPVA4.0*
*DRS **13** 18:30:17.2 ± 0.0, 42°.08N × 46°.23E, h14km, ML3.2/3*

ISC 13 18:30:16.2 ± 0.7, **42°.08N** ± 0°.02 × **46°.24E** ± 0°.02, **h10km, n67,** σ1**40**/116, **14C-7D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LGD	**Lagodekhi**	**0.25**	**179**	P	**Pg**	**18 30 21.2**	**-0.1**
LGD				S	**Sg**	**18 30 24.5**	**-0.2**
LGD	**Lagodekhi**	**0.25**	**179**	⇓*i*Pg	**Pg**	**18 30 21.1**	**-0.1**
LGD	**Lagodekhi**	**0.25**	**179**	*e*Pg	**Pg**	**18 30 21.2**	**-0.1**
LGD				*e*Sg	**Sg**	**18 30 24.5**	**-0.2**
XNZR	**Khunzakh**	**0.57**	**37**	⇑*i*Pg	**Pb**	**18 30 28.3**	**-0.2**
XNZR				*e*		18 30 36.4	
XNZR	**Khunzakh**	**0.57**	**37**	*i* Pg	**Pb**	**18 30 28.3**	**-0.2**
XNZR				*e*Sg	**Sb**	**18 30 36.6**	**-0.3**
BTLR	**Botlikh**	**0.58**	**359**	⇓*e*Pg	**Pb**	**18 30 28.0**	**-0.5**
BTLR				*e*		18 30 36.4	
BTLR				pmax	pmax		
	comp=Z,281nm,0.5s						
BTLR				smax	smax		
	comp=N,745nm,0.3s						
BTLR	**Botlikh**	**0.58**	**359**	⇓*e*Pg	**Pb**	**18 30 28.1**	**-0.5**
	comp=N,281nm,0.5s						
BTLR				⇑*e*Sg	**Sb**	**18 30 36.6**	**-0.3**
	comp=N,745nm,0.3s						
GNBR	**Gunib**	**0.62**	**60**	⇑*i*Pg	**Pb**	**18 30 28.9**	**-0.3**
GNBR				*e*S	**Sb**	**18 30 37.9**	**-0.1**
GNBR				pmax	pmax		
	comp=Z,862nm,0.4s						
GNBR	**Gunib**	**0.62**	**60**	⇑*i*Pg	**Pb**	**18 30 29.0**	**-0.3**
	comp=Z,862nm,0.2s						
GNBR				⇓*e*Sg	**Sb**	**18 30 37.9**	**-0.1**
	comp=Z,1μm,0.5s						
KMKR	**Kumukh**	**0.64**	**85**	⇑*i*Pg	**Pb**	**18 30 29.0**	**-0.7**
KMKR				*e*S	**Sb**	**18 30 38.3**	**-0.5**
KMKR				pmax	pmax		
	comp=Z,386nm,0.3s						
UNCR	**Uncukul**	**0.75**	**33**	⇓*i*PG	**Pn**	**18 30 31.5**	**-1.5**
UNCR				*e*S	**Sb**	**18 30 41.5**	**-0.3**
UNCR				pmax	pmax		
	comp=Z,178nm,0.2s						
ARKR	**Arakani**	**0.77**	**47**	*e*PG	**Pn**	**18 30 32.0**	**-1.1**
ARKR				S	**Sb**	**18 30 42.0**	**-0.2**
DVE	**Vedeno**	**0.88**	**355**	*e*PG	**Pn**	**18 30 33.8**	**-0.9**
DVE				*e*S	**Sn**	**18 30 46.2**	**-1.4**
DVE	**Vedeno**	**0.88**	**355**	*e*Pg	**Pn**	**18 30 33.8**	**-0.9**
DVE				*e*Sg	**Sn**	**18 30 46.2**	**-1.4**
KRNR	**Karanay**	**0.89**	**33**	⇑*i*PG	**Pn**	**18 30 34.0**	**-1.0**
KRNR				*e*S	**Sn**	**18 30 46.0**	**-2.0**
KRNR				pmax	pmax		
	comp=Z,41nm,0.2s						
BUJR	**Buynaksk**	**0.98**	**41**	*i* PG	**Pn**	**18 30 35.0**	**-1.1**
BUJR				*i* S	**Sn**	**18 30 49.0**	**-1.1**
BUJR				pmax	pmax		
	comp=Z,81nm,0.2s						
DLMR	**Dylym**	**1.03**	**16**	*e*PG	**Pn**	**18 30 37.0**	**+0.3**
DLMR				*e*S	**Sn**	**18 30 52.0**	**+0.8**
DLMR				pmax	pmax		
	comp=Z,53nm,0.2s						
DBC	**Dubki**	**1.03**	**25**	*e*PG	**Pn**	**18 30 36.5**	**-0.3**
DBC				*e*S	**Sn**	**18 30 50.9**	**-0.6**
DBC	**Dubki**	**1.03**	**25**	*e*Pg	**Pn**	**18 30 36.5**	**-0.3**
DBC				*e*Sg	**Sn**	**18 30 50.9**	**-0.6**
URKR	**Urkarakh**	**1.04**	**85**	⇑*e*PG	**Pn**	**18 30 36.7**	**-0.3**
URKR				*e*		18 30 51.1	
SEAG	**Tbilisi Sea**	**1.12**	**254**	P	**Pn**	**18 30 38.3**	**+0.4**
SEAG				S	**Sn**	**18 30 54.5**	**+1.1**
SGKR	**Sergokala**	**1.12**	**70**	*e*PG	**Pn**	**18 30 38.0**	**0.0**
SGKR				*e*S	**Sn**	**18 30 54.0**	**+0.5**
GROC	**Groznyy**	**1.17**	**344**	⇓*i*PG	**Pg**	**18 30 39.7**	**+1.1**
GROC				*e*		18 30 55.4	
GROC				pmax	pmax		
	comp=Z,79nm,0.6s						
GROC				smax	smax		
	comp=E,140nm,0.6s						
GROC				smax	smax		
	comp=E,154nm,0.6s						
GROC	**Groznyy**	**1.17**	**344**	*i* Pg	**Pg**	**18 30 39.5**	**+0.9**
GROC				*e*Sg	**Sn**	**18 30 57.0**	**+2.4**
TBLG	**Delisi**	**1.17**	**253**	P	**Pb**	**18 30 38.2**	**-0.4**
TBLG				S	**Sn**	**18 30 55.4**	**+0.6**
TBLG	**Delisi**	**1.17**	**253**	*e*PG	**Pb**	**18 30 38.2**	**-0.4**
TBLG				*e*S	**Sn**	**18 30 55.4**	**+0.6**
TBLG	**Delisi**	**1.17**	**253**	*e*Pg	**Pb**	**18 30 38.2**	**-0.4**
TBLG				*e*Sg	**Sn**	**18 30 55.4**	**+0.6**
AKT	**Akhty**	**1.27**	**118**	⇑*e*PG	**Pg**	**18 30 39.5**	**-1.1**
AKT				*e*		18 30 57.2	
AKT				pmax	pmax		
	comp=Z,75nm,0.2s						
AKT				smax	smax		
	comp=N,286nm,0.4s						
AKT	**Akhty**	**1.27**	**118**	⇑*e*Pg	**Pg**	**18 30 39.5**	**-1.1**
	comp=N,75nm,0.2s						
AKT				⇑*e*Sg	**Sn**	**18 30 57.8**	**+0.5**
	comp=N,286nm,0.4s						
MAK	**Makhachkala**	**1.28**	**46**	*e*PG	**Pg**	**18 30 41.6**	**+0.7**
MAK				*e*		18 31 01.6	
MAK				pmax	pmax		
	comp=Z,102nm,0.3s						
MAK				smax	smax		
	comp=N,448nm,0.6s						
MAK				smax	smax		
	comp=N,366nm,0.6s						
MAK	**Makhachkala**	**1.28**	**46**	*e*Pg	**Pg**	**18 30 41.9**	**+1.0**
MAK				*e*Sg	**Sn**	**18 31 02.5**	**+5.1**
GUDG	**Gudauri**	**1.36**	**287**	P	**Pg**	**18 30 42.4**	**0.0**
GUDG				S	**Sg**	**18 31 00.8**	**+0.7**
KMGR	**Komgaron**	**1.41**	**314**	*e*PG	**Pg**	**18 30 43.6**	**+0.4**
KMGR				*e*S	**Sg**	**18 31 04.2**	**+2.7**
KMGR	**Komgaron**	**1.41**	**314**	*e*Pg	**Pg**	**18 30 43.7**	**+0.4**
KMGR				*e*Sg	**Sg**	**18 31 03.9**	**+2.5**
KSMR	**Kasumkent**	**1.49**	**108**	*e*PG	**Pg**	**18 30 45.0**	**+0.2**
KSMR				S	**Sg**	**18 31 06.0**	**+1.8**
KSMR				pmax	pmax		
	comp=Z,101nm,0.2s						
VLKR	**Vladikavkaz**	**1.50**	**310**	*e*PG	**Pg**	**18 30 45.6**	**+0.5**
VLKR				*e*S	**Sg**	**18 31 07.1**	**+2.5**
VLKR	**Vladikavkaz**	**1.50**	**310**	*e*Pg	**Pg**	**18 30 44.4**	**-0.7**
VLKR				*e*Sg	**Sg**	**18 31 08.2**	**+3.6**
DRN	**Derbent**	**1.56**	**91**	*e*PG	**Pg**	**18 30 46.3**	**+0.2**
DRN				*e*S	**Sg**	**18 31 07.2**	**+0.9**
DRN				pmax	pmax		
	comp=Z,82nm,3.1s						
DRN	**Derbent**	**1.56**	**91**	*e*Pg	**Pg**	**18 30 45.1**	**-1.0**
DRN				*e*Sg	**Sg**	**18 31 07.9**	**+1.5**
TRLG	**Trialeti**	**1.69**	**252**	P	**Pn**	**18 30 46.3**	**+0.4**
TRLG				S	**Sb**	**18 31 09.4**	**+0.6**
BTKR	**Batakoyurt**	**1.80**	**316**	*e*PN	**Pg**	**18 30 52.0**	**+1.4**
BTKR	**Batakoyurt**	**1.80**	**316**	*e*Pg	**Pg**	**18 30 51.4**	**+0.8**
BTKR				*e*Sg	**Sg**	**18 31 15.2**	**+1.2**
ARNR	**Ardon**	**1.81**	**308**	*e*PN	**Pg**	**18 30 50.8**	**-0.2**
ARNR	**Ardon**	**1.81**	**308**	*e*Pg	**Pg**	**18 30 50.1**	**-0.8**
ARNR				*e*Sg	**Sg**	**18 31 16.1**	**+1.7**
ZEI	**Tsey**	**1.87**	**293**	*e*PN	**Pg**	**18 30 50.5**	**0.0**
ZEI	**Tsey**	**1.87**	**293**	*e*Pg	**Pb**	**18 30 50.5**	**0.0**
ZEI				*e*Sg	**Sg**	**18 31 17.5**	**+1.3**
KORR	**Kora**	**1.89**	**303**	*e*PN	**Pg**	**18 30 51.5**	**-1.0**
KORR	**Kora**	**1.89**	**303**	*e*Pg	**Pg**	**18 30 52.4**	**-0.1**
KORR				*e*Sg	**Sg**	**18 31 19.0**	**+2.0**
TRKR	**Terskaya**	**1.98**	**327**	*e*PN	**Pg**	**18 30 53.9**	**-0.2**
TRKR	**Terskaya**	**1.98**	**327**	*e*Pg	**Pg**	**18 30 53.9**	**-0.2**
TRKR				*e*Sg	**Sg**	**18 31 19.9**	**+0.1**
STDR	**Stavd-Durt**	**2.06**	**309**	*e*PN	**Pg**	**18 30 55.4**	**-0.2**
STDR				*e*S	**Sg**	**18 31 22.1**	**-0.1**
STDR	**Stavd-Durt**	**2.06**	**309**	*e*Pg	**Pb**	**18 30 54.0**	**+0.4**
STDR				*e*Sg	**Sg**	**18 31 22.3**	**+0.1**
DIGR	**Digorskoe uzhe**	**2.13**	**293**	*e*PN	**Pb**	**18 30 55.4**	**+0.4**
DIGR				*e*S	**Sg**	**18 31 23.7**	**-0.9**
DIGR	**Digorskoe uzhe**	**2.13**	**293**	*e*Pg	**Pb**	**18 30 55.7**	**+0.7**
DIGR				*e*Sg	**Sg**	**18 31 24.2**	**-0.4**
LSNR	**Lesken**	**2.14**	**305**	*e*PN	**Pb**	**18 30 55.8**	**+0.7**
LSNR				*e*S	**Sg**	**18 31 23.9**	**-1.2**
LSNR	**Lesken**	**2.14**	**305**	*e*Pg	**Pb**	**18 30 55.4**	**+0.3**
LSNR				*e*Sg	**Sg**	**18 31 24.0**	**-1.0**
PRTR	**Priterechnaya**	**2.20**	**320**	*e*PN	**Pg**	**18 30 56.9**	**-1.5**
PRTR				*e*S	**Sg**	**18 31 25.4**	**-1.5**
PRTR	**Priterechnaya**	**2.20**	**320**	*e*Pg	**Pg**	**18 30 56.9**	**-1.5**
PRTR				*e*Sg	**Sg**	**18 31 25.4**	**-1.5**
NCK	**Nalchik**	**2.40**	**307**	⇑*e*PN	**Pb**	**18 31 00.4**	**+0.8**
NCK				pmax	pmax		
	comp=Z,8.0nm,0.4s						
PYA1	**Pyatigorsk**	**3.04**	**312**	*e*Pn	**Pn**	**18 31 06.9**	**+2.5**
PYA1				*e*Sn	**Sb**	**18 31 44.0**	**-3.5**
SHA1	**Shidzhatmaz**	**3.11**	**303**	*e*Pn	**Pb**	**18 31 09.2**	**-2.5**
SHA1				*e*Sn	**Sb**	**18 31 48.2**	**-1.6**
KIV0	**Kislovodsk Arr**	**3.20**	**307**	*e*Pn	**Pb**	**18 31 09.8**	**-3.4**
KIV0				*e*Sn	**Sb**	**18 31 48.9**	**-3.4**
ALER	**Alexandrovskoy**	**3.61**	**319**	*e*Pn	**Pb**	**18 31 15.9**	**-4.3**
ALER				*e*Sn	**Sn**	**18 31 59.0**	**+4.1**
BRVK	**Borovoye**	**19.49**	**47**	⇓*e*P	**Pn**	**18 34 46.2**	**+1.8**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AAK	**Ala-Archa**	**20.85**	**79**	⇑*e*P	Pn	18 35 01.2	+0.4
KURK	**Kurchatov**	**23.78**	**58**	⇑*e*P	**P**	**18 35 28.7**	**-0.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.6s						
DGZ	**Jazzator, Alta**	**29.36**	**61**	⇑*e*P	**P**	**18 36 18.8**	**-0.6**
DGZ				pmax	pmax		
	comp=Z,1.0nm,1.7s						

IDC 13 18:34:48.0 ± 1.1, **0°.19N** × **16°.99W, h0km, mb3.7**/5, **mb1 3.9**/6, **mb1mx3.5**/40, **mbtmp3.8**/6, **ML4.0/1, Error ellipse: s-maj=36.0km s-min=24.6km az=149.0, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**8.34**	**163**	T	T	18 46 00.6	
	baz=342,slow=74,SNR=62						
H10N3	**ASCENSION HYDR**	**8.35**	**163**	T	T	18 46 07.4	
	baz=342,slow=74,SNR=46						
H10N1	**ASCENSION HYDR**	**8.36**	**163**	T	T	18 45 54.3	
	baz=342,slow=74,SNR=97						
H10S1	**ASCENSION HYDR**	**9.36**	**166**	T	T	18 47 13.9	
	baz=345,slow=74,SNR=9.8						
H10S3	**ASCENSION HYDR**	**9.37**	**166**	T	T	18 47 11.1	
	baz=345,slow=74,SNR=10						
H10S2	**ASCENSION HYDR**	**9.38**	**166**	T	T	18 47 12.5	
	baz=345,slow=74,SNR=11						
DBIC	**Dimbokro**	**13.71**	**62**	Pn	Pn	18 38 03.0	-0.8
	0.8nm,0.3s,baz=235,slow=14,SNR=11						
DBIC				Sn	Sn	18 40 25.1	-12
	0.3nm,0.3s,baz=137,slow=18,SNR=3.1						
TORD	**Torodi Ar. Bea**	**22.55**	**54**	P	P	18 39 49.3	-0.6
	3.5nm,0.9s,baz=251,slow=9.8,SNR=13						
H09N1	**TRISTAN DA CUN**	**37.32**	**174**	T	T	19 22 28.5	
	SNR=8.5						
BOSA	**Boshof**	**49.51**	**129**	P	P	18 43 40.6	-0.1
	2.4nm,0.8s,baz=290,slow=5.0,SNR=4.1						
LPAZ	**La Paz**	**53.02**	**249**	P	P	18 44 07.7	-0.2
	0.8nm,0.8s,baz=135,slow=5.7,SNR=3.3						
GERES	**GERESS Array B**	**55.21**	**24**	P	P	18 44 23.5	+0.7
	0.2nm,0.5s,baz=202,slow=13,SNR=2.2						
YKA	**Yellowknife Ar**	**93.37**	**333**	P	P	18 48 04.1	-0.7
	0.2nm,0.3s,baz=86,slow=5.6,SNR=6.5						
ASAR	**Alice Springs**	**143.35**	**132**	PKhKP	PKPpre	18 54 21.9	
	0.5nm,0.5s,baz=225,slow=2.7,SNR=19						
WRA	**Warramunga Arr**	**145.74**	**127**	PKPbc	PKPdf	18 54 29.4	-0.1
	1.7nm,0.9s,baz=248,slow=2.9,SNR=9.2						

IDC 13 18:56:37.9 ± 1.4, **25°.43N** × **109°.67W, h0km, mb3.3**/1, **mb1 3.6**/4, **mb1mx3.4**/36, **mbtmp3.1**/4, **ML3.6**/2, **MS3.5**/4, **Ms1 3.5**/4, **ms1mx3.2**/26, **Error ellipse: s-maj=28.2km s-min=14.8km az=125.0, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**1.45**	**204**	Pn	Pb	18 57 06.1	+0.4
	14nm,0.3s,baz=17,slow=2.0,SNR=8.9						
LPIG				Sn	Sb	18 57 24.6	-0.1
	49nm,0.3s,baz=353,slow=5.7,SNR=8.5						
TXAR	**Lajitas Array**	**6.60**	**53**	Pn	Pn	18 58 15.5	-0.8
	0.5nm,0.3s,baz=229,slow=14,SNR=12						
TXAR				Sn	Sn	18 59 31.2	-1.2
	0.7nm,0.3s,baz=210,slow=14,SNR=4.5						
TXAR				Lg	Lg	19 00 07.9	
	3.7nm,0.3s,baz=111,slow=6.7,SNR=13						
TXAR				LR	LR	19 01 05.2	
	comp=Z,308nm,20.1s,baz=0.0,slow=40						
ANMO	**Albuquerque**	**9.88**	**16**	Lg	Lg	19 01 40.2	
	0.1nm,0.3s,baz=346,slow=19,SNR=4.3						
ANMO				LR	LR	19 03 14.5	
	comp=Z,180nm,18.4s,baz=174,slow=40						
NVAR	**Mina Array Bea**	**14.87**	**333**	Pn	P	19 00 12.7	-3.0
	0.1nm,0.3s,baz=152,slow=8.1,SNR=2.8						
ELK	**Elko**	**15.96**	**344**	LR	LR	19 06 11.8	
	comp=Z,162nm,19.5s,baz=148,slow=36						
PDAR	**Pinedale Array**	**17.29**	**0**	P	Pn	19 00 40.6	-0.4
	baz=185,slow=8.1,SNR=3.8						
PDAR				LR	LR	19 07 16.6	
	comp=Z,210nm,18.5s,baz=177,slow=37						
ILAR	**Eielson Array**	**46.01**	**339**	P	P	19 05 02.7	-0.1
	0.4nm,0.9s,baz=146,slow=5.8,SNR=4.3

PBDV					Lg	Lg	19 05 13.3		
	244nm,0.4s								
GIBL	**Gibalbin**	**0.93**	**76**		Pg	**Pn**	**19 05 03.6 +2.1**		
GIBL					Lg	Lg	19 05 13.6		
GIBL	**Gibalbin**	**0.93**	**76**	*eP*	**Pn**	**19 05 03.6 +2.1**			
GIBL				*eS*	**Sb**	**19 05 13.6 +0.5**			
PVAQ	**Vaqueiros**	**0.94**	**328**	⇓*iP*	**Pg**	**19 05 01.9 +1.4**			
PVAQ				*eS*	**Sg**	**19 05 14.1 +1.3**			
PVAQ				A	A	19 05 14.6			
	488nm,0.3s								
PVAQ	**Vaqueiros**	**0.94**	**328**		Pg	**Pg**	**19 05 01.9 +1.4**		
PVAQ					Lg	Lg	19 05 14.1		
	488nm,0.3s								
EGRO	**El Granado**	**0.98**	**342**	⇓	Pg	**Pg**	**19 05 02.6 +1.4**		
	74nm,0.1s,SNR=18								
EGRO					Lg	Lg	19 05 14.9		
	204nm,0.1s,SNR=19								
ESPR	**Espera**	**1.03**	**75**		Pg	**Pn**	**19 05 03.5 +0.6**		
	5.0nm,0.1s,SNR=105								
ESPR					Lg	Lg	19 05 16.6		
	348nm,0.2s,SNR=12								
ALJ	**Aljibe**	**1.16**	**93**		Pg	**Pn**	**19 05 08.4 +3.7**		
ALJ					Lg	Lg	19 05 21.5		
ALJ	**Aljibe**	**1.16**	**93**	*eP*		**Pn**	**19 05 08.4 +3.7**		
ALJ				*i* S		**Sn**	**19 05 21.5 +0.8**		
ALJ				*eS*		Sb	19 05 30.3 +11		
EMIN	**Mina Concepcio**	**1.21**	**16**	⇓	Pn	**Pb**	**19 05 05.6 +0.3**		
	SNR=18								
EMIN					Pg	**Pn**	**19 05 06.5 +1.2**		
	14nm,0.1s,SNR=18								
EMIN					Sn	**Sb**	**19 05 20.4 -0.6**		
	41nm,0.1s,SNR=7.9								
EMIN					Lg	Lg	19 05 22.0		
	57nm,0.1s,SNR=10								
EJIF	**Jimena Fronter**	**1.32**	**96**	⇓	Pn	**Pg**	**19 05 08.1 +0.4**		
	5.4nm,0.1s,SNR=18								
EJIF					Lg	Lg	19 05 27.2		
	38nm,0.4s,SNR=7.9								
LIJA	**Lijar**	**1.39**	**77**		Pg	**Pg**	**19 05 11.2 +2.1**		
LIJA					Sn	**Sb**	**19 05 25.3 -1.0**		
LIJA	**Lijar**	**1.39**	**77**	*eP*		**Pg**	**19 05 11.2 +2.1**		
LIJA				*eS*		**Sb**	**19 05 25.3 -1.0**		
MORF	**Marmelete**	**1.43**	**300**	*eP*		**Pn**	**19 05 08.2 -0.2**		
MORF				*eS*		**Sn**	**19 05 25.5 -1.8**		
MORF					AML	AML	19 05 32.3		
	comp=N,488nm,0.3s								
MORF	**Marmelete**	**1.43**	**300**	*eP*		**Pn**	**19 05 08.2 -0.2**		
MORF				*eS*		**Sn**	**19 05 25.9 -1.4**		
MORF				A		A	19 05 31.3		
	comp=N,259nm,0.1s								
MORF	**Marmelete**	**1.43**	**300**		Pn	**Pn**	**19 05 08.2 -0.2**		
MORF					Sn	**Sn**	**19 05 25.9 -1.4**		
	comp=N,259nm,0.1s								
PFVI	**Vila Bisbo**	**1.49**	**291**	*eP*		**Pn**	**19 05 09.1 0.0**		
PFVI				*eS*		**Sn**	**19 05 26.9 -1.7**		
PFVI				A		A	19 05 35.1		
	comp=N,137nm,0.1s								
PFVI	**Vila Bisbo**	**1.49**	**291**		Pn	**Pn**	**19 05 09.1 0.0**		
	comp=N,24nm,0.1s,SNR=12								
PFVI					Sn	**Sn**	**19 05 26.9 -1.7**		
	comp=N,56nm,0.1s,SNR=7.9								
MESJ	**Messejana**	**1.53**	**324**	*eP*		**Pn**	**19 05 10.1 +0.5**		
MESJ				*eS*		**Sn**	**19 05 28.5 -1.1**		
MESJ					AML	AML	19 05 30.9		
	comp=N,134nm,0.1s								
MESJ	**Messejana**	**1.53**	**324**	⇓	*i*P	**Pn**	**19 05 10.2 +0.5**		
MESJ					*e*S	**Sn**	**19 05 29.1 -0.5**		
MESJ					A	A	19 05 37.8		
	comp=N,122nm,0.6s								
MESJ	**Messejana**	**1.53**	**324**		Pn	**Pn**	**19 05 10.2 +0.5**		
MESJ					Sn	**Sn**	**19 05 29.1 -0.5**		
	comp=N,122nm,0.6s								
PBEJ	**Beja**	**1.55**	**337**	*eP*		**Pn**	**19 05 11.4 +1.4**		
PBEJ				*eS*		**Sn**	**19 05 30.4 +0.2**		
PBEJ				A		A	19 05 37.9		
	comp=N,77nm,0.2s								
PBEJ	**Beja**	**1.55**	**337**		Pg	**Pn**	**19 05 11.4 +1.4**		
PBEJ					Lg	Lg	19 05 30.4		
	comp=N,38nm,0.2s								
CEU	**Ceuta**	**1.56**	**116**	⇑	Pn	**Pb**	**19 05 11.8 +0.6**		
CEU					Sn	**Sg**	**19 05 31.6 -0.8**		
CEU	**Ceuta**	**1.56**	**116**	⇑	*i*P	**Pb**	**19 05 11.8 +0.6**		
CEU					*e*S	**Sg**	**19 05 31.6 -0.8**		
PBAR	**Barrancos**	**1.57**	**2**	⇑	*i*P	**Pn**	**19 05 11.0 +0.7**		
PBAR					*e*S	**Sn**	**19 05 30.0 -0.7**		
PBAR					A	A	19 05 36.3		
	comp=N,132nm,0.4s								
PBAR	**Barrancos**	**1.57**	**2**		Pn	**Pn**	**19 05 11.0 +0.7**		
PBAR					Sn	**Sn**	**19 05 30.0 -0.7**		
	comp=N,132nm,0.4s								
PTEO	**Sao Teotonio**	**1.61**	**306**	⇓	*i*P	**Pn**	**19 05 11.2 +0.4**		
PTEO					*e*S	**Sn**	**19 05 30.0 -1.6**		
PTEO					A	A	19 05 37.9		
	comp=N,85nm,0.1s								
PTEO	**Sao Teotonio**	**1.61**	**306**		Pn	**Pn**	**19 05 11.2 +0.4**		
PTEO					Sn	**Sn**	**19 05 30.0 -1.6**		
	comp=N,43nm,0.1s								
EMIJ	**Mijas**	**1.87**	**90**		Pn	**Pn**	**19 05 14.6 +0.2**		
	comp=N,0.4nm,0.1s,SNR=18								
EMIJ					Sn	**Sn**	**19 05 37.3 -0.8**		
	comp=N,24nm,0.3s,SNR=11								
PNCL	**Nicolau / Gran**	**1.89**	**323**	⇓	*i*Pn	**Pn**	**19 05 15.2 +0.5**		
PNCL					*e*Sn	**Sn**	**19 05 37.6 -1.0**		
PNCL					A	A	19 05 53.3		
	comp=N,96nm,0.4s								
PNCL	**Nicolau / Gran**	**1.89**	**323**		Pn	**Pn**	**19 05 15.2 +0.5**		
PNCL					Sn	**Sn**	**19 05 37.6 -1.0**		
	comp=N,96nm,0.4s								
ECAB	**El Cabril**	**1.98**	**42**		Pn	**Pn**	**19 05 16.3 +0.3**		
	comp=N,0.4nm,0.1s,SNR=32								
ECAB					Sn	**Sn**	**19 05 40.7 -0.3**		
	comp=N,12nm,0.1s,SNR=9.7								
ECAB					Lg	Lg	19 05 47.1		
	comp=N,33nm,0.2s,SNR=7.9								
EVO	**Evora**	**2.06**	**339**	⇓	*e*Pn	**Pn**	**19 05 19.6 +2.6**		
EVO					*e*Sn	**Sn**	**19 05 44.1 +1.3**		
EVO					A	A	19 05 45.0		
	comp=N,87nm,0.1s								
EVO	**Evora**	**2.06**	**339**		Pn	**Pn**	**19 05 19.6 +2.6**		
EVO					Sn	**Sn**	**19 05 44.1 +1.3**		
	comp=N,87nm,0.1s								
EVO	**Evora**	**2.06**	**339**	*eP*		**Pn**	**19 05 19.2 +2.2**		
EVO				*i* S		**Sn**	**19 05 44.0 +1.3**		
EMAL	**Malaga-Limoner**	**2.15**	**85**	*eP*		**Pb**	**19 05 21.9 +0.6**		
EMAL				*i* S		**Sn**	**19 05 44.3 -0.6**		
EBAD	**Badajoz**	**2.15**	**2**	⇓	Pn	**Pn**	**19 05 18.7 +0.4**		
	comp=N,8.5nm,0.1s,SNR=18								
EBAD					Sn	**Sn**	**19 05 43.0 -1.9**		
	comp=N,36nm,0.1s,SNR=8.1								
EBAD					Lg	Lg	19 05 51.0		
	comp=N,160nm,0.2s,SNR=7.9								
PESTR	**Estremoz**	**2.29**	**350**	*eP*		**Pn**	**19 05 20.5 +0.2**		
PESTR				*eS*		**Sn**	**19 05 48.3 -0.3**		
PESTR				A		A	19 06 01.8		
	comp=N,57nm,0.3s								
EGOR	**Sierra Gorda,**	**2.45**	**77**		Pn	**Pn**	**19 05 23.8 +1.4**		
	comp=N,0.6nm,0.0s,SNR=4.0								
EGOR					Pg	**Pg**	**19 05 29.0 -0.2**		
	comp=N,0.5nm,0.1s,SNR=7.9								
EGOR					Sn	**Sn**	**19 05 52.6 +0.1**		
	comp=N,1.4nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**2.54**	**51**		Pn	**Pn**	**19 05 24.6 +0.9**		
	comp=N,0.6nm,0.1s,SNR=20								
EADA					Sn	**Sn**	**19 05 52.7 -2.0**		
	comp=N,4.0nm,0.1s,SNR=4.8								
LIS	**Lisbon**	**2.67**	**323**	*eS*		**Sn**	**19 05 55.7 -2.1**		
LIS					AML	AML	19 05 58.1		
	comp=N,136nm,0.4s								
LIS	**Lisbon**	**2.67**	**323**	*eP*		**Pn**	**19 05 26.9 +1.6**		
LIS				*eSn*		**Sn**	**19 05 57.2 -0.5**		
LIS				A		A	19 05 59.7		
	comp=N,94nm,0.4s								
LIS	**Lisbon**	**2.67**	**323**		Pn	**Pn**	**19 05 26.9 +1.6**		
LIS					Sn	**Sn**	**19 05 57.2 -0.5**		
	comp=N,94nm,0.4s								
PMST	**Lisbon--Monsan**	**2.70**	**323**	*eP*		**Pn**	**19 05 27.0 +1.2**		
PMST				*eSn*		**Sn**	**19 05 56.6 -1.9**		
PMST				A		A	19 06 01.4		
	comp=N,46nm,0.4s								
ELGU	**Los Guajares,**	**2.80**	**84**		Pn	**Pn**	**19 05 28.5 +1.3**		
	comp=N,1.8nm,0.1s,SNR=7.9								
ELGU					Sn	**Sn**	**19 06 00.1 -1.0**		
	comp=N,13nm,0.2s,SNR=7.9								
ALMR	**Almeirim**	**2.81**	**336**	*eP*		**Pn**	**19 05 27.8 +0.5**		
ALMR				*eS*		**Sn**	**19 05 59.2 -2.0**		
ALMR					AML	AML	19 06 02.4		
	comp=N,88nm,0.5s								
ALMR	**Almeirim**	**2.81**	**336**	*eP*		**Pn**	**19 05 27.8 +0.5**		
ALMR				*eS*		**Sn**	**19 05 59.2 -2.0**		
ALMR	**Almeirim**	**2.81**	**336**	Pn		**Pn**	**19 05 27.8 +0.5**		
ALMR				Sn		**Sn**	**19 05 59.2 -2.0**		
PMRV	**Marv??o**	**2.83**	**355**	⇓	*i*Pn	**Pn**	**19 05 30.4 +2.8**		
PMRV					*e*Sn	**Sn**	**19 06 02.7 +0.9**		
PMRV					A	A	19 06 03.5		
	comp=N,50nm,0.2s								
PMRV	**Marv??o**	**2.83**	**355**		Pn	**Pn**	**19 05 30.4 +2.8**		
PMRV					Sn	**Sn**	**19 06 02.7 +0.9**		
	comp=N,50nm,0.2s								
PMAFR	**Mafra**	**2.92**	**324**	*eP*		**Pn**	**19 05 29.7 +0.9**		
PMAFR				*eSn*		**Sn**	**19 06 02.9 -1.1**		
PMAFR				A		A	19 06 04.7		
	comp=N,80nm,0.2s								
PMAFR	**Mafra**	**2.92**	**324**		Pn	**Pn**	**19 05 29.7 +0.9**		
	comp=N,47nm,0.2s,SNR=41								
PMAFR					Sn	**Sn**	**19 06 02.7 -1.3**		
	comp=N,28nm,0.2s,SNR=8.1								
EQUE	**Quentar**	**2.99**	**77**		Sn	**Sn**	**19 06 04.9 -0.9**		
	comp=N,2.8nm,0.1s,SNR=7.9								
PTOM	**Tomar**	**3.19**	**341**	*eP*		**Pn**	**19 05 33.1 +0.6**		
PTOM				*eSn*		**Sn**	**19 06 08.3 -2.2**		
PTOM	**Tomar**	**3.19**	**341**		Pn	**Pn**	**19 05 33.1 +0.6**		
PTOM					Sn	**Sn**	**19 06 08.3 -2.2**		
PCBR	**Castelo Branco**	**3.25**	**355**	⇓	*e*Pn	**Pn**	**19 05 33.9 +0.6**		
PCBR					*e*Sn	**Sn**	**19 06 09.2 -2.8**		
PCBR					A	A	19 06 11.3		
	comp=N,66nm,0.1s								
PCBR	**Castelo Branco**	**3.25**	**355**		Pn	**Pn**	**19 05 33.9 +0.6**		
PCBR					Sn	**Sn**	**19 06 09.2 -2.8**		
	comp=N,33nm,0.1s								
EBER	**Berja**	**3.39**	**84**		Pn	**Pn**	**19 05 36.5 +1.1**		
	comp=N,2.5nm,0.3s,SNR=9.5								
EBER					Sn	**Sn**	**19 06 15.9 +0.1**		
	comp=N,4.3nm,0.2s,SNR=7.6								
EQES	**Quesada**	**3.43**	**68**		Pn	**Pn**	**19 05 36.9 +1.0**		
	comp=N,0.9nm,0.1s,SNR=12								
EQES					Sn	**Sn**	**19 06 15.3 -1.3**		
	comp=N,1.4nm,0.1s,SNR=5.1								
EPLA	**Plasencia**	**3.55**	**13**		Pn	**Pn**	**19 05 37.8 +0.3**		
	comp=N,1.1nm,0.1s,SNR=21								
EPLA					Sn	**Sn**	**19 06 17.3 -2.2**		
	comp=N,7.5nm,0.1s,SNR=16								
EPLA					Lg	Lg	19 06 36.0		
	comp=N,16nm,0.2s,SNR=7.9								
PCAS	**Casmilo, Conde**	**3.62**	**343**	*eP*		**Pn**	**19 05 39.4 +1.0**		
PCAS				*eSn*		**Sn**	**19 06 19.0 -2.2**		
PCAS				A		A	19 06 21.1		
	comp=N,28nm,0.4s								
PCAS				*eSg*		**Sb**	**19 06 35.2 +4.9**		
PCAS	**Casmilo, Conde**	**3.62**	**343**		Pn	**Pn**	**19 05 39.4 +1.0**		
PCAS					Sn	**Sn**	**19 06 19.0 -2.2**		
	comp=N,28nm,0.4s								
PCAS					Lg	Lg	19 06 35.2		
PAB	**San Pablo**	**3.65**	**36**		Pn	**Pn**	**19 05 40.0 +1.0**		
	comp=N,1.1nm,0.1s,SNR=7.9								
PAB					Pg	**Pb**	**19 05 50.0 +3.0**		
	comp=N,1.5nm,0.1s,SNR=7.9								
PAB					Sn	**Sn**	**19 06 19.1 -3.0**		
	comp=N,4.1nm,0.1s,SNR=7.9								
PAB					Lg	Lg	19 06 37.9		
	comp=N,7.7nm,0.2s,SNR=7.9								
COI	**Coimbra**	**3.75**	**344**		Pn	**Pn**	**19 05 41.0 +0.8**		
COI					Sn	**Sn**	**19 06 22.2 -2.1**		
	comp=N,23nm,0.5s								
MTE	**Manteigas**	**3.81**	**355**	*eP*		**Pn**	**19 05 41.5 +0.4**		
MTE				*eSn*		**Sn**	**19 06 23.2 -2.8**		
MTE				A		A	19 06 24.8		
	comp=N,61nm,0.2s								
MTE				*eSg*		**Sg**	**19 06 45.7 +1.1**		
MTE	**Manteigas**	**3.81**	**355**		Pn	**Pn**	**19 05 41.5 +0.4**		
MTE					Sn	**Sn**	**19 06 23.2 -2.8**		
	comp=N,30nm,0.2s								
MTE					Lg	Lg	19 06 45.7		
SESP	**Santiago Espad**	**3.93**	**66**		Pn	**Pn**	**19 05 43.8 +1.0**		
	comp=N,2.0nm,0.1s,SNR=7.9								
SESP					Sn	**Sn**	**19 06 26.6 -2.4**		
	comp=N,8.7nm,0.1s,SNR=7.9								
ESDC	**Sonseca Array**	**3.94**	**38**		Pn	**Pn**	**19 05 43.6 +0.8**		
	comp=N,1.2nm,0.3s,baz=223,slow=13,SNR=11								
ESDC					Sn	**Sn**	**19 06 25.6 -3.5**		
	comp=N,5.0nm,0.3s,baz=222,slow=23,SNR=9.6								
ESDC					Lg	Lg	19 06 46.7		
	comp=N,4.8nm,0.3s,baz=224,slow=29,SNR=7.0								
ESDC	**Sonseca Array**	**3.94**	**38**		Pn	**Pn**	**19 05 43.5 +0.7**		
	comp=N,0.5nm,0.2s,baz=222,slow=13,SNR=15								
ESDC					Pg	**Pb**	**19 05 55.1 +3.3**		
	comp=N,0.5nm,0.2s,baz=225,slow=13,SNR=5.4								
ESDC					Sn	**Sn**	**19 06 25.0 -4.1**		
	baz=222,slow=23,SNR=7.9								
ESDC					Lg	Lg	19 06 44.5		
	comp=N,1.4nm,0.2s,baz=222,slow=26,SNR=7.0								
ENIJ	**Nijar**	**3.94**	**83**		Pn	**Pn**	**19 05 44.2 +1.4**		
	comp=N,0.6nm,0.1s,SNR=7.9								
ENIJ					Sn	**Sn**	**19 06 27.4 -1.7**		
	comp=N,2.5nm,0.2s,SNR=7.9								
PVIS	**Viseu**	**4.16**	**352**	*eP*		**Pn**	**19 05 46.2 +0.3**		
PVIS				*eSn*		**Sn**	**19 06 31.6 -2.9**		
PVIS				A		A	19 06 32.9		
	comp=N,25nm,0.4s								
PVIS	**Viseu**	**4.16**	**352**		Pn	**Pn**	**19 05 46.2 +0.3**		
PVIS					Sn	**Sn**	**19 06 31.6 -2.9**		
	comp=N,12nm,0.4s								
MVO	**Moncorvo**	**4.56**	**1**	⇑	*e*Pn	**Pn**	**19 05 52.0 +0.6**		
MVO					*e*Sn	**Sn**	**19 06 40.7 -3.7**		
MVO					A	A	19 06 44.5		
	comp=N,31nm,0.3s								
MVO	**Moncorvo**	**4.56**	**1**	⇑	Pn	**Pn**	**19 05 52.1 +0.6**		
	comp=N,7.8nm,0.1s,SNR=18								
MVO					Sn	**Sn**	**19 06 40.8 -3.7**		
	comp=N,25nm,0.2s,SNR=8.7								
MVO					Lg	Lg	19 07 08.8		
	comp=N,41nm,0.5s,SNR=7.9								
GUD	**Guadarrama**	**4.64**	**29**		Pn	**Pn**	**19 05 53.5 +0.9**		
	comp=N,0.1nm,0.2s,SNR=7.9								
GUD					Sn	**Sn**	**19 06 42.6 -4.1**		
	comp=N,0.7nm,0.1s,SNR=7.9								
GUD					Lg	Lg	19 07 10.6		
	comp=N,14nm,0.5s,SNR=7.9								
PVRL	**Vila Real**	**4.69**	**354**	*eP*		**Pn**	**19 05 54.4 +1.2**		
PVRL				*eSn*		**Sn**	**19 06 43.7 -4.0**		
PVRL				A		A	19 06 45.9		
	comp=N,49nm,0.2s								
PVRL	**Vila Real**	**4.69**	**354**		Pn	**Pn**	**19 05 54.4 +1.2**		
PVRL					Sn	**Sn**	**19 06 43.7 -4.0**		
	comp=N,24nm,0.2s								
POLO	**Lamas de Olo**	**4.80**	**354**	*eP*		**Pn**	**19 05 55.0 +0.3**		
POLO				*eSn*		**Sn**	**19 06 46.1 -4.3**		
POLO				A		A	19 06 48.9		
	comp=N,18nm,0.4s								
POLO	**Lamas de Olo**	**4.80**	**354**		Pn	**Pn**	**19 05 55.0 +0.3**		
POLO					Sn	**Sn**	**19 06 46.1 -4.3**		
	comp=N,18nm,0.4s								
EMUR	**La Murta**	**4.83**	**73**		Pn	**Pn**	**19 05 56.0 +0.8**		
	comp=N,2.2nm,0.2s,SNR=4.7								
EMUR					Sn	**Sn**	**19 06 47.9 -3.3**		
	comp=N,1.7nm,0.2s,SNR=6.1								
ETOB	**Tobarra**	**4.85**	**63**		Pn	**Pn**	**19 05 55.3 -0.2**		
	comp=N,3.3nm,0.1s,SNR=57								
ETOB					Sn	**Sn**	**19 06 47.9 -3.8**		
	comp=N,8.6nm,0.2s,SNR=6.3								
PCAB	**Cabril**	**5.15**	**352**	*eP*		**Pn**	**19 05 59.2 -0.3**		
PCAB				*eSn*		**Sn**	**19 06 54.2 -4.9**		
PCAB				A		A	19 06 57.6		
	comp=N,14nm,0.5s								
PCAB	**Cabril**	**5.15**	**352**		Pn	**Pn**	**19 05 59.2 -0.3**		
PCAB					Sn	**Sn**	**19 06 54.2 -4.9**		
	comp=N,7.1nm,0.5s								
PBRG	**Braganca**	**5.20**	**3**	*eP*		**Pn**	**19 06 00.7 +0.4**		
PBRG				*eSn*		**Sn**	**19 06 57.1 -3.2**		
PBRG				A		A	19 06 58.4		
	comp=N,15nm,0.4s								
PBRG	**Braganca**	**5.20**	**3**		Pn	**Pn**	**19 06 00.7 +0.4**		
PBRG					Sn	**Sn**	**19 06 57.1 -3.2**		
	comp=N,7.7nm,0.4s								
ELOB	**Lobios**	**5.31**	**352**		Pn	**Pn**	**19 06 02.0 +0.2**		
	comp=N,2.9nm,0.1s,SNR=12								
ELOB					Sn	**Sn**	**19 06 59.8 -3.2**		
	comp=N,4.0nm,0.1s,SNR=9.1								
ECAL	**Calabor**	**5.34**	**3**		Pn	**Pn**	**19 06 03.0 +0.8**		
	comp=N,3.7nm,0.2s,SNR=10								
ECAL					Sn	**Sn**	**19 06 59.8 -3.9**		
	comp=N,2.0nm,0.2s,SNR=7.6								
ECAL					Lg	Lg	19 07 33.1		
	comp=N,55nm,0.4s,SNR=5.0								
PGAV	**Gavieira, Arco**	**5.43**	**351**	*eP*		**Pn**	**19 06 04.0 +0.5**		
PGAV				*eSn*		**Sn**	**19 07 01.2 -4.9**		
PGAV				A		A	19 07 47.1		
	comp=N,15nm,0.7s								
PGAV	**Gavieira, Arco**	**5.43**	**351**		Pn	**Pn**	**19 06 04.0 +0.5**		
PGAV					Sn	**Sn**	**19 07 01.2 -4.9**		
	comp=N,15nm,0.7s								
EZAM	**Zamans**	**5.68**	**348**	⇑	Pn	**Pn**	**19 06 07.2 +0.4**		
	comp=N,2.8nm,0.1s,SNR=18								
EZAM					Sn	**Sn**	**19 07 06.9 -5.0**		
	comp=N,1.2nm,0.1s,SNR=7.9								
ECHE	**Chera**	**5.68**	**56**		Pn	**Pn**	**19 06 07.1 +0.3**		
	comp=N,0.8nm,0.1s,SNR=7.9								
ECHE					Sn	**Sn**	**19 07 08.3 -3.7**		
	comp=N,1.6nm,0.1s,SNR=7.9								
EBEN2	**Beniarda presa**	**5.86**	**67**		Pn	**Pn**	**19 06 09.8 +0.6**		
	comp=N,0.9nm,0.1s,SNR=7.9								
EBEN2					Sn	**Sn**	**19 07 12.5 -3.9**		
	comp=N,2.9nm,0.2s,SNR=7.9								
EAGO	**Agolada(Pontev**	**6.24**	**353**		Pn	**Pn**	**19 06 14.6 +0.2**		
	comp=N,0.8nm,0.1s,SNR=7.9								
EAGO					Sn	**Sn**	**19 07 20.6 -5.3**		
	comp=N,1.7nm,0.1s,SNR=7.9								
EMOS	**Mosqueruela**	**6.41**	**52**		Pn	**Pn**	**19 06 18.0 +1.1**		
	comp=N,0.2nm,0.2s,SNR=7.9								
EMOS					Sn	**Sn**	**19 07 25.6 -4.6**		
	comp=N,0.8nm,0.3s,SNR=7.9								
EMAZ	**Mazaricos**	**6.50**	**348**		Pn	**Pn**	**19 06 19.2 +1.1**		
	comp=N,0.9nm,0.1s,SNR=7.9								
EPON	**Pontenova**	**6.72**	**360**		Pn	**Pn**	**19 06 22.2 +1.2**		
	comp=N,0.8nm,0.2s,SNR=7.9								
EPON					Sn	**Sn**	**19 07 31.8 -5.7**		
	comp=N,0.8nm,0.3s,SNR=7.9								
EARI	**Arriondas**	**6.84**	**12**		Pn	**Pn**	**19 06 24.4 +1.6**		
	comp=N,0.5nm,0.3s,SNR=7.9								
EARI					Sn	**Sn**	**19 07 35.5 -5.3**		
	comp=N,0.2nm,0.2s,SNR=7.9								
ELAN	**Lanestosa**	**7.19**	**22**		Pn	**Pn**	**19 06 29.5 +2.0**		
	comp=N,0.5nm,0.2s,SNR=5.8								
ELAN					Sn	**Sn**	**19 07 43.8 -5.5**		
	comp=N,0.5nm,0.2s								
IELO	**Elcoad**	**7.69**	**34**		Pn	**Pn**	**19 06 36.2 +1.7**		
	comp=N,0.3nm,0.2s,SNR=7.9								
IELO					Sn	**Sn**	**19 07 55.7 -6.0**		
	comp=N,0.1nm,0.1s,SNR=7.9								
EALK	**Alkurruntz**	**7.88**	**31**		Pn	**Pn**	**19 06 38.3 +1.3**		
	comp=N,0.4nm,0.2s,SNR=7.5								
EALK					Sn	**Sn**	**19 07 59.5 -6.8**		
	comp=N,1.0nm,0.3s,SNR=7.5								
SJPF	**Ste Jean**	**7.91**	**33**	*eP*		**Pn**	**19 06 38.2 +0.8**		
SJPF				*eSn*		**Sn**	**19 08 02.2 -4.8**		
	comp=N,1.3nm,0.2s								
SJPF	**Ste Jean**	**7.91**	**33**		Pn	**Pn**	**19 06 38.2 +0.8**		
SJPF					Sn	**Sn**	**19 08 02.2 -4.8**		
	comp=N,0.6nm,0.2s								
ETSF	**Etsaut**	**8.05**	**37**	*eP*		**Pn**	**19 06 39.9 +0.5**		
ETSF				*eSn*		**Sn**	**19 08 05.9 -4.6**		
	comp=N,1.0nm,0.3s								
ETSF	**Etsaut**	**8.05**	**37**		Pn	**Pn**	**19 06 39.9 +0.5**		
ETSF					Sn	**Sn**	**19 08 05.9 -4.6**		
	comp=N,0.0nm,0.3s								
ATE	**Arette**	**8.13**	**35**		Pn	**Pn**	**19 06 41.7 +1.3**		
	comp=N,0.2nm,0.2s,SNR=7.9								
ATE					Sn	**Sn**	**19 08 06.2 -6.1**		
	comp=N,0.3nm,0.2s,SNR=7.9								
ECHI	**Chisagues Biel**	**8.26**	**41**		Pn	**Pn**	**19 06 43.8 +1.5**		
	comp=N,0.2nm,0.2s,SNR=7.9								
ECHI					Sn	**Sn**	**19 08 09.5 -6.2**		
	comp=N,0.3nm,0.2s,SNR=7.9								
EPF	**Esparros**	**8.60**	**39**	*eP*		**Pn**	**19 06 47.1 +0.3**		
E

DHRM					IAML		19 20 52.2	
	comp=N,128nm,0.3s							
DHRM					IAML		19 20 52.2	
	comp=E,102nm,0.4s							
AML	**Almayashu**	**6.22**	**21**	P		**Pn**	**19 19 40.4**	**-0.1**
	SNR=147							
UCH	**Uchtor**	**6.56**	**25**	P		**Pn**	**19 19 45.2**	**+0.1**
	SNR=44							
KZA	**Kyzart**	**6.71**	**30**	P		**Pn**	**19 19 46.5**	**-0.5**
	SNR=24							
EKS2	**Erkin-Say**	**6.73**	**19**	P		**Pn**	**19 19 47.1**	**+0.1**
	SNR=76							
KK31	**Karatay Array**	**6.76**	**359**	P		**Pn**	**19 19 46.7**	**-0.5**
	comp=E,17nm,0.6s,baz=184,slow=12,SNR=247							
KK31					S	**Sn**	**19 21 00.2**	**-3.7**
	comp=E,2.1nm,0.3s,baz=185,slow=22,SNR=6.7							
AAK	**Ala-Archa**	**6.92**	**24**	P		**Pn**	**19 19 49.7**	**+0.2**
	comp=E,7.3nm,0.3s,baz=174,slow=5.8,SNR=145							
AAK					S	**Sn**	**19 21 04.8**	**-3.2**
	comp=E,0.8nm,0.3s,baz=4.7,slow=21,SNR=12							
AAK	**Ala-Archa**	**6.92**	**24**	P		**Pn**	**19 19 49.6**	**+0.1**
	SNR=20							
KBK	**Karagaybulak**	**7.09**	**26**	P		**Pn**	**19 19 52.2**	**+0.5**
	SNR=18							
CHMS	**Chumysh**	**7.33**	**24**	P		**Pn**	**19 19 54.7**	**0.0**
	SNR=13							
SMLA	**Simla**	**7.45**	**132**	*eP*		**Pn**	**19 19 58.2**	**+1.8**
SMLA				*eS*		**Sn**	**19 21 19.7**	**-0.8**
SMLA					IAML		19 21 21.9	
	comp=N,50nm,0.3s							
SMLA					IAML		19 21 22.4	
	comp=E,48nm,0.3s							
USP	**Ospenovka**	**7.49**	**21**	P		**Pn**	**19 19 56.3**	**-0.6**
	SNR=11							
TKM2	**Tokmak 2**	**7.56**	**28**	P		**Pn**	**19 19 58.0**	**+0.1**
	SNR=30							
DDI	**Dehra Dun**	**8.56**	**132**	*eS*		**Sn**	**19 21 45.1**	**-1.9**
JOSI	**Joshimath**	**9.35**	**126**	*eP*		**Pn**	**19 20 21.3**	**-0.1**
JOSI				*eS*		**Sn**	**19 22 02.5**	**-3.5**
JOSI					IAML		19 22 05.8	
	comp=N,38nm,0.9s							
JOSI					IAML		19 22 06.2	
	comp=E,22nm,0.3s							
KUDL	**Kundal**	**9.51**	**148**	*eP*		**Pn**	**19 20 23.8**	**+0.5**
KUDL				*eS*		**Sn**	**19 22 05.1**	**-4.3**
BISR	**Bishrakh**	**9.59**	**142**	*eS*		**Sn**	**19 22 05.2**	**-6.1**
GEYT	**Alibeck**	**10.21**	**283**	S		**Sn**	**19 22 23.0**	**-3.3**
	comp=E,0.1nm,0.3s,baz=102,slow=12,SNR=1.8							
PYUN	**Piuhan**	**13.21**	**125**	*eP*		**Pn**	**19 21 12.3**	**+1.2**
	comp=E,4.5nm,0.5s							
MAKZ	**Makanchi**	**13.40**	**35**	⇑P		**Pn**	**19 21 12.4**	**-0.7**
	comp=E,1.3nm,0.9s							
MK31	**Makanchi Array**	**13.54**	**36**	P		**Pn**	**19 21 14.8**	**0.0**
	comp=E,0.3nm,0.5s,baz=214,slow=9.5,SNR=5.3							
MKAR	**Makanchi Array**	**13.54**	**36**	P		**Pn**	**19 21 14.7**	**-0.1**
	comp=E,0.1nm,0.3s,baz=224,slow=12,SNR=6.3							
DANN	**Dangsing**	**13.57**	**122**	*eP*		**P**	**19 21 21.1**	**+2.7**
	comp=E,4.4nm,0.3s							
DMN	**Daman**	**14.96**	**122**	*eP*		**Pn**	**19 21 33.0**	**+0.2**
	comp=E,2.5nm,0.4s							
AB31	**Akbulak array**	**15.13**	**332**	⇓P		**P**	**19 21 36.6**	**+1.4**
	comp=E,0.5nm,0.3s,baz=147,slow=12,SNR=14							
PKIN	**Phulchoki**	**15.18**	**121**	*eP*		**Pn**	**19 21 35.9**	**+0.4**
	comp=E,6.9nm,0.5s							
PKI	**Pulchoki**	**15.19**	**121**	*eP*		**Pn**	**19 21 36.2**	**+0.5**
	comp=E,2.9nm,0.3s							
GUN	**Gumba**	**15.31**	**119**	*eP*		**P**	**19 21 41.4**	**+3.6**
	comp=E,3.8nm,0.4s							
KURBB	**Kurchatov Arra**	**15.34**	**19**	P		**Pn**	**19 21 35.3**	**-1.7**
	comp=E,0.0nm,0.3s,baz=205,slow=12,SNR=3.1							
JIRN	**Jiri**	**15.68**	**119**	*eP*		**P**	**19 21 44.1**	**+2.2**
	comp=E,12nm,0.3s							
RAMN	**Ramite**	**16.41**	**120**	*eP*		**P**	**19 21 46.0**	**-3.8**
	comp=E,2.1nm,0.3s							
BVAR	**Borovoye Array**	**16.68**	**359**	P		**P**	**19 21 52.2**	**-0.1**
	comp=E,0.2nm,0.3s,baz=170,slow=10,SNR=5.9							
AKTO	**Aktyubinsk**	**16.82**	**331**	P		**P**	**19 21 55.4**	**+1.6**
	comp=E,0.6nm,0.3s,baz=140,slow=7.6,SNR=12							
AKTO	**Aktyubinsk**	**16.82**	**331**	⇑P		**P**	**19 21 55.1**	**+1.3**
	comp=E,4.3nm,0.9s							
ZALV	**Zalesovo Beam**	**20.14**	**25**	P		**P**	**19 22 29.9**	**+0.1**
	comp=E,0.5nm,0.3s,baz=226,slow=12,SNR=4.2							
FINES	**FINESS Array B**	**37.50**	**326**	P		**P**	**19 25 07.1**	**+1.5**
	comp=E,1.1nm,0.9s,baz=102,slow=8.0,SNR=6.2							
TORD	**Toroli Ar. Bea**	**65.51**	**269**	P		**P**	**19 28 33.6**	**-0.2**
	comp=E,0.5nm,0.6s,baz=60,slow=5.9,SNR=7.8							
INK	**Inuvik**	**74.09**		9	P	**P**	**19 29 26.9**	**+1.7**
	comp=E,0.5nm,0.5s,baz=346,slow=8.1,SNR=1.7							
YKA	**Yellowknife Ar**	**81.41**		3	P	**P**	**19 30 06.8**	**+1.0**
	comp=E,0.2nm,0.3s,baz=350,slow=5.3,SNR=3.4							
WRA	**Warramunga Arr**	**82.08**	**122**		P	**P**	**19 30 10.0**	**+0.2**
	comp=E,0.5nm,1.1s,baz=324,slow=5.0,SNR=5.2							

*KRSC **13** 19:21:43.8±1.8, 54°.71N×164°.50E, h49km±24km, ML4.2*
*ISCJB **13** 19:21:44.3±0.4, 54°.74N±0°.03×164°.45E±0°.05, h17km, mb3.8/16, Error ellipse: s-maj=4.8km s-min=3.8km az=144.6*
*IDC **13** 19:21:44.2±1.0, 54°.92N×164°.53E, h0km, mb3.7/14, mb1 3.9/15, mb1mx3.6/62, mbtmp3.7/15, ML2.7/1, Error ellipse: s-maj=27.2km s-min=14.5km az=167.0*
*MOS **13** 19:21:45.8±0.7, 54°.73N×164°.51E, h34km, mb4.1/9, Error ellipse: s-maj=7.7km s-min=6.4km az=104.9*

ISC 13 19:21:46.0±0.7, 54°.83N±0°.04×164°.31E±0°.05, h17km, n79, σ1s59/103, mb4.0/16, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MKZ	**Mys Kozlova**	**1.52**	**261**	*eP*		**Pb**	**19 22 12.1**	**-1.7**
MKZ				*eS*		**Sn**	**19 22 30.8**	**-1.0**
MKZ	**Mys Kozlova**	**1.52**	**261**	PN		**Pb**	**19 22 12.1**	**-1.7**
MKZ				S		**Sn**	**19 22 30.8**	**-1.0**
KBTR	**Krutoberegovo**	**1.62**	**329**	*eP*		**Pn**	**19 22 12.9**	**-0.8**
KBTR				*eS*		**Sn**	**19 22 33.4**	**-0.8**
KBTR	**Krutoberegovo**	**1.62**	**329**	PN		**Pn**	**19 22 12.9**	**-0.8**
KBTR				S		**Sn**	**19 22 33.4**	**-0.8**
KBG	**Krutoberegovo**	**1.69**	**328**	*eP*		**Pb**	**19 22 14.6**	**-2.0**
KBG				*eS*		**Sn**	**19 22 35.9**	**-0.1**
KBG	**Krutoberegovo**	**1.69**	**328**	PN		**Pb**	**19 22 14.6**	**-2.0**
KBG				S		**Sn**	**19 22 35.9**	**-0.1**
TUMD	**Tumrok D**	**2.28**	**281**	*eP*		**Pb**	**19 22 25.7**	**-1.8**
ZLN	**Zelenaya**	**2.32**	**302**	*eP*		**Pb**	**19 22 25.7**	**-1.8**
ZLN				*eS*		**Sb**	**19 22 55.1**	**-0.8**
ZLN	**Zelenaya**	**2.32**	**302**	PN		**Pb**	**19 22 25.7**	**-1.8**
ZLN				S		**Sb**	**19 22 55.1**	**-0.8**
KZV	**Kizimen**	**2.33**	**279**	*eP*		**Pb**	**19 22 24.9**	**-2.8**
KZV				*eS*		**Sn**	**19 22 52.7**	**+0.7**
KZV	**Kizimen**	**2.33**	**279**	PN		**Pb**	**19 22 24.9**	**-2.8**
KZV				S		**Sn**	**19 22 52.7**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**2.34**	**300**	*eP*		**Pb**	**19 22 24.8**	**-3.0**
BZGR	**Bezymyannyi-Gr**	**2.34**	**300**	PN		**Pb**	**19 22 24.8**	**-3.0**
SMKR	**Semkarok**	**2.38**	**319**	*eP*		**Pb**	**19 22 25.9**	**-2.5**
SMKR				*eS*		**Sb**	**19 22 57.6**	**+0.1**
SMKR	**Semkarok**	**2.38**	**319**	PN		**Pb**	**19 22 25.9**	**-2.5**
SMKR				S		**Sb**	**19 22 57.6**	**+0.1**
LGNR	**Loginova**	**2.41**	**303**	*eP*		**Pb**	**19 22 26.9**	**-2.2**
LGNR				*eS*		**Sb**	**19 22 57.8**	**-0.8**
LGNR	**Loginova**	**2.41**	**303**	PN		**Pb**	**19 22 26.9**	**-2.2**
LGNR				S		**Sb**	**19 22 57.8**	**-0.8**
TUMR	**Tumrok**	**2.44**	**282**	*eP*		**Pb**	**19 22 26.7**	**-2.7**
TUMR	**Tumrok**	**2.44**	**282**	PN		**Pb**	**19 22 24.3**	**-0.8**
BZWR	**Bezymyannyi-We**	**2.45**	**299**	*eP*		**Pb**	**19 22 27.6**	**-2.1**
BZWR	**Bezymyannyi-We**	**2.45**	**299**	PN		**Pb**	**19 22 27.6**	**-2.1**
KRSR	**Krestovskiy**	**2.54**	**305**	*eP*		**Pb**	**19 22 28.0**	**-3.2**
KRSR				*eS*		**Sn**	**19 23 00.2**	**+3.1**
KRSR	**Krestovskiy**	**2.54**	**305**	PN		**Pb**	**19 22 28.0**	**-3.2**
KRSR				S		**Sn**	**19 23 00.2**	**+3.1**
SRKR	**Sorokina**	**2.55**	**317**	*eP*		**Pb**	**19 22 28.2**	**-3.1**
SRKR				*eS*		**Sb**	**19 23 03.1**	**+0.8**
SRKR	**Sorokina**	**2.55**	**317**	PN		**Pb**	**19 22 28.2**	**-3.1**
SRKR				S		**Sb**	**19 23 03.1**	**+0.8**
KLY	**Klyuchi**	**2.55**	**307**	*eP*		**Pn**	**19 22 26.6**	**0.0**
KLY				*eS*		**Sn**	**19 22 58.2**	**+1.0**
KLY	**Klyuchi**	**2.55**	**307**	PN		**Pn**	**19 22 26.6**	**0.0**
KLY				S		**Sn**	**19 22 58.2**	**+1.0**
KII	**Karymskiy**	**2.95**	**256**	*eP*		**Pn**	**19 22 32.6**	**+0.5**
KII				*eS*		**Sn**	**19 23 07.8**	**+0.7**
KII	**Karymskiy**	**2.95**	**256**	PN		**Pn**	**19 22 32.6**	**+0.5**
KII				S		**Sn**	**19 23 07.8**	**+0.7**
SRDR	**Sredinnyy**	**3.00**	**302**	*eP*		**Pb**	**19 22 35.0**	**-4.0**
SRDR	**Sredinnyy**	**3.00**	**302**	PN		**Pb**	**19 22 35.0**	**-4.0**
SPN	**Mys Shipunski**	**3.07**	**237**	*eP*		**Pn**	**19 22 32.2**	**-1.5**
SPN	**Mys Shipunski**	**3.07**	**237**	PN		**Pn**	**19 22 32.2**	**-1.5**
NLC	**Nalytchevo**	**3.37**	**242**	*eP*		**Pn**	**19 22 37.6**	**-0.2**
NLC	**Nalytchevo**	**3.37**	**242**	PN		**Pn**	**19 22 37.6**	**-0.2**
ESO	**Esso**	**3.38**	**291**	*eP*		**Pn**	**19 22 39.4**	**+1.4**
ESO				*eS*		**Sn**	**19 23 18.2**	**+0.5**
ESO	**Esso**	**3.38**	**291**	PN		**Pn**	**19 22 39.4**	**+1.4**
SDLR	**Sedlovina**	**3.56**	**246**	*eP*		**Pn**	**19 22 40.6**	**+0.1**
SDLR				*eS*		**Sn**	**19 23 22.5**	**+0.3**
SDLR	**Sedlovina**	**3.56**	**246**	PN		**Pn**	**19 22 40.6**	**+0.1**
SDLR				S		**Sn**	**19 23 22.5**	**+0.3**
SMAR	**Somma**	**3.61**	**246**	*eP*		**Pn**	**19 22 42.2**	**+0.9**
SMAR	**Somma**	**3.61**	**246**	PN		**Pn**	**19 22 42.2**	**+0.9**
UGLR	**Uglovaya**	**3.62**	**246**	*eP*		**Pn**	**19 22 42.3**	**+0.9**
UGLR	**Uglovaya**	**3.62**	**246**	PN		**Pn**	**19 22 42.3**	**+0.9**
AVH	**Avacha**	**3.64**	**247**	*eP*		**Pn**	**19 22 42.8**	**+1.2**
AVH				*eS*		**Sn**	**19 23 24.8**	**+0.6**
AVH	**Avacha**	**3.64**	**247**	PN		**Pn**	**19 22 42.8**	**+1.2**
AVH				S		**Sn**	**19 23 24.8**	**+0.6**
KRX	**Arik**	**3.65**	**248**	*eP*		**Pn**	**19 22 42.5**	**+0.8**
KRX	**Arik**	**3.65**	**248**	PN		**Pn**	**19 22 42.5**	**+0.8**
KOK	**Koryaka**	**3.68**	**248**	*eP*		**Pn**	**19 22 42.7**	**+0.5**
KOK	**Koryaka**	**3.68**	**248**	PN		**Pn**	**19 22 42.7**	**+0.5**
GNL	**Ganaly**	**3.90**	**256**	*eP*		**Pn**	**19 22 46.7**	**+1.4**
GNL	**Ganaly**	**3.90**	**256**	PN		**Pn**	**19 22 46.7**	**+1.4**
KRMR	**Karymshinskiy**	**4.17**	**244**	*eP*		**Pn**	**19 22 49.3**	**+0.4**
KRMR				*eS*		**Sn**	**19 23 36.6**	**-0.6**
KRMR	**Karymshinskiy**	**4.17**	**244**	PN		**Pn**	**19 22 49.3**	**+0.4**
PETK	**Petropavlovsk-**	**4.27**	**249**	Pn		**Pn**	**19 22 51.1**	**+0.9**
	1.7nm,0.3s,baz=73,slow=18,SNR=61							
PETK					Sn	**Sn**	**19 23 39.7**	**+0.2**
	0.4nm,0.3s,baz=85,slow=19,SNR=2.7							
MTVR	**Mutnovka**	**4.34**	**240**	*eP*		**Pn**	**19 22 51.3**	**0.0**
MTVR	**Mutnovka**	**4.34**	**240**	PN		**Pn**	**19 22 51.3**	**0.0**
OSSR	**Ossora**	**4.48**	**352**	*eP*		**Pn**	**19 22 53.6**	**+0.6**
OSSR	**Ossora**	**4.48**	**352**	PN		**Pn**	**19 22 53.6**	**+0.6**
TILK	**Tilichiki**	**5.71**	**9**	*eP*		**Pn**	**19 23 11.6**	**+1.6**
TILK	**Tilichiki**	**5.71**	**9**	PN		**Pn**	**19 23 11.6**	**+1.6**
TIXI	**Tiksi**	**22.64**	**331**	P		**P**	**19 26 47.6**	**+1.9**
	1.2nm,0.5s,baz=112,slow=11,SNR=6.2							
KDAK	**Kodiak Island**	**23.79**	**65**	P		**P**	**19 26 55.3**	**-2.2**
	5.7nm,0.7s,baz=329,slow=4.6,SNR=6.1							
MJAR	**Matsushiro Arr**	**25.59**	**235**	P		**P**	**19 27 16.8**	**+2.7**
	0.8nm,0.8s,baz=257,slow=31,SNR=2.8							
ILAR	**Eielson Array**	**25.81**	**48**	P		**P**	**19 27 14.7**	**-1.1**
	1.4nm,0.7s,baz=262,slow=8.5,SNR=20							
INK	**Inuvik**	**30.95**	**40**	P		**P**	**19 28 01.5**	**-0.1**
	1.0nm,0.3s,baz=279,slow=6.9,SNR=13							
H11N2	**WAKE ISLAND Hy**	**35.10**	**176**	T		T	20 07 15.3	
	baz=359,slow=75,SNR=35							
H11N3	**WAKE ISLAND Hy**	**35.11**	**176**	T		T	20 07 14.1	
	baz=359,slow=75,SNR=18							
H11N1	**WAKE ISLAND Hy**	**35.12**	**176**	T		T	20 07 13.1	
	baz=359,slow=75,SNR=24							
SONM	**Songino Array**	**35.92**	**283**	P		P	19 28 48.5	+3.2
	0.2nm,0.6s,baz=68,slow=8.3,SNR=3.2							
YKA	**Yellowknife Ar**	**40.18**	**45**	P		**P**	**19 29 20.5**	**-0.3**
	0.2nm,0.4s,baz=297,slow=7.9,SNR=5.2							
SPITS	**Spitsbergen Ar**	**45.81**	**351**	P		**P**	**19 30 07.1**	**+0.8**
	26nm,1.2s,baz=63,slow=13,SNR=6.5							
KURK	**Kurchatov**	**48.91**	**303**	P		**P**	**19 30 32.1**	**+1.5**
KURK					pmax	pmax		
	comp=Z,1.0nm,0.4s							
KURBB	**Kurchatov Arra**	**49.01**	**303**	P		**P**	**19 30 32.1**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=56,slow=7.9,SNR=12							
MKAR	**Makanchi Array**	**49.62**	**297**	P		**P**	**19 30 36.1**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=58,slow=6.8,SNR=6.4							
NVAR	**Mina Array Bea**	**52.84**	**74**	P		P	19 31 01.7	+1.0
	comp=Z,0.1nm,0.3s,baz=307,slow=6.7,SNR=2.8							
FINES	**FINESS Array B**	**59.47**	**338**	P		**P**	**19 31 47.8**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=34,slow=10,SNR=6.6							
NOA	**NORSAR Array B**	**62.52**	**346**	P		**P**	**19 32 08.0**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=20,slow=6.8,SNR=2.4							
HFS	**Hagfors**	**63.01**	**344**	P		**P**	**19 32 11.4**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=337,slow=6.7,SNR=5.9							
TXAR	**Lajitas Array**	**67.69**	**71**	P		**P**	**19 32 42.4**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=298,slow=5.2,SNR=14							

MEX 13 19:22:17.9±0.5, 16°.32N×98°.19W, h16km±1km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PNIG	**Pinotepa**	**0.09**	**40**	*iP*		Pg	19 22 20.1	-1.1
PNIG				*iS*		Sg	19 22 22.9	-0.5
VHO	**Vista Hermosa**	**1.58**	**62**	*eP*		Pn	19 22 42.5	-3.1
VHO				*iS*		Sn	19 23 00.9	-4.9
CAIG	**El Cayaco**	**2.12**	**290**	*eP*		Pn	19 22 49.3	-3.4
CAIG				*iS*		Sn	19 23 14.5	-4.3

*IDC **13** 19:29:07.8±1.3, 9°.86S×74°.12W, h0km, mb3.5/3, mb1 3.9/7, mb1mx3.6/37, mbtmp3.7/7, ML3.7/4, Error ellipse: s-maj=22.9km s-min=19.2km az=10.0*
*ISCJB **13** 19:29:08.0±0.8, 9°.88S±0°.07×74°.09W±0°.06, h10km, mb3.5/3, Error ellipse: s-maj=10.8km s-min=8.6km az=172.2*

ISC 13 19:29:08.9±0.8, 9°.96S±0°.08×74°.13W±0°.08, h10km, n9, σ1s88/11, mb3.7/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NNA	**Nana**	**3.34**	**233**	Pn		**Pn**	**19 30 01.6**	**+0.3**
	7.5nm,0.3s,baz=73,slow=8.1,SNR=21							
NNA				Pg		**Pg**	**19 30 10.7**	**-2.3**
	30nm,0.3s,baz=43,slow=16,SNR=22							
NNA				Sn		**Sn**	**19 30 44.3**	**+3.2**
	18nm,0.3s,baz=199,slow=19,SNR=4.3							
ATAH	**Atahualpa**	**5.07**	**303**	Pn		**Pn**	**19 30 26.6**	**+1.2**
	3.3nm,0.3s,baz=103,slow=1.1,SNR=19							
ATAH					Sn	**Sn**	**19 31 25.7**	**+1.5**
	1.7nm,0.3s,baz=256,slow=18,SNR=3.4							
ATAH					Lg	Lg	19 31 47.8	
	3.6nm,0.3s,baz=245,slow=23,SNR=3.4							
LPAZ	**La Paz**	**8.58**	**138**	Pg		Pg	19 31 42.5	-11
	0.2nm,0.3s,baz=312,slow=14,SNR=3.9							
LPAZ					Lg	Lg	19 33 44.2	
	0.6nm,0.3s,baz=29,slow=19,SNR=2.9							
SIV	**San Ignacio**	**14.06**	**117**	Pn		**Pn**	**19 32 30.3**	**+1.9**
	0.4nm,0.3s,baz=301,slow=9.9,SNR=7.1							
SIV					Lg	Lg	19 36 36.3	
	0.5nm,0.3s,baz=52,slow=19,SNR=2.8							
PTGA	**Pitinga**	**16.80**	**58**	Pn		**P**	**19 33 05.4**	**-1.3**
	0.4nm,0.3s,baz=344,slow=20,SNR=2.3							
TXAR	**Lajitas Array**	**48.34**	**325**	P		**P**	**19 37 50.5**	**-0.6**
	0.4nm,0.5s,baz=151,slow=9.0,SNR=12							
NVAR	**Mina Array Bea**	**63.35**	**322**	P		**P**	**19 39 39.3**	**+0.6**
	0.3nm,0.5s,baz=138,slow=11,SNR=2.6							
YKA	**Yellowknife Ar**	**78.71**	**342**	P		**P**	**19 41 10.1**	**-1.0**
	0.2nm,0.6s,baz=134,slow=6.9,SNR=3.6							
WRA	**Warramunga Arr**	**139.16**	**223**	PKP		**PKPdf**	**19 48 35.7**	**-1.4**
	0.5nm,0.8s,baz=128,slow=2.1,SNR=2.8							

*IDC **13** 19:47:45.6±1.1, 7°.28S×144°.17E, h0km, mb3.8/7, mb1 3.9/10, mb1mx3.7/38, mbtmp3.8/10, ML3.5/2, Error ellipse: s-maj=29.1km s-min=21.9km az=72.0*
*ISCJB **13** 19:47:48.8±0.7, 7°.38S±0°.09×144°.11E±0°.08, h33km, mb3.8/6, Error ellipse: s-maj=15.2km s-min=8.9km az=34.8*

ISC 13 19:47:50.9±0.9, 7°.4S±0°.1×144°.1E±0°.1, h35km, n10, σ0s67/11, mb3.9/6, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**3.61**	**124**	Pn		**Pn**	**19 48 43.8**	**-0.5**
	4.6nm,0.3s,baz=101,slow=1.1,SNR=17							
PMG					Sn	**Sn**	**19 49 26.4**	**+0.6**
	2.0nm,0.3s,baz=208,slow=17,SNR=2.9							
WRA	**Warramunga Arr**	**15.68**	**216**	Pn		**Pn**	**19 51 28.4**	**-0.8**
	0.2nm,0.3s,baz=36,slow=13,SNR=15							
ASAR	**Alice Springs**	**18.93**	**210**	P		**Pn**	**19 52 10.4**	**+0.7**
	0.3nm,0.3s,baz=40,slow=10.0,SNR=23							
FITZ	**Fitzroy Crossi**	**20.91**	**238**	P		**P**	**19 52 30.8**	**+0.3**
	1.8nm,0.5s,baz=66,slow=11,SNR=15							
CMAR	**Chiang Mai Arr**	**51.44**	**301**	P		**P**	**19 56 53.2**	**+0.2**
	1.5nm,0.7s,baz=125,slow=6.2,SNR=13							
SONM	**Songino Array**	**64.27**	**333**	P		**P**	**19 58 23.4**	**+0.6**
	0.1nm,0.3s,baz=150,slow=6.7,SNR=4.3							
MKAR	**Makanchi Array**	**76.77**	**322**	P		**P**	**19 59 38.6**	**-0.3**
	0.8nm,0.7s,baz=120,slow=6.0,SNR=8.3							
ZALV	**Zalesovo Beam**	**78.68**	**329**	P		**P**	**19 59 48.9**	**-0.4**
	0.7nm,0.5s,baz=130,slow=5.8,SNR=3.3							
KURBB	**Kurchatov Arra**	**80.64**	**324**	P		**P**	**19 59 59.0**	**-1.0**
	0.5nm,0.6s,baz=109,slow=5.1,SNR=4.1							
BVAR	**Borovoye Array**	**86.22**	**324**	P		**P**	**20 00 28.8**	**+0.1**
	0.8nm,0.6s,baz=105,slow=4.9,SNR=6.5							

*IDC **13** 19:48:15.6±1.2, 1°.12N×124°.83E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.5/45, mbtmp3.7/6, ML3.8/1, Error ellipse: s-maj=111.0km s-min=17.9km az=66.0*
*ISCJB **13** 19:48:36.0±0.7, 0°.39N±0°.09×123°.9E±0°.1, h200km, mb3.5/5, Error ellipse: s-maj=15.8km s-min=12.4km az=165.5*
*DJA **13** 19:48:37.5±0.7, 0°.7N±5°×12°.4E±°, h181km±7km, M3.3/6, MLv3.3/6*

ISC 13 19:48:37.2±1.0, 0°.3N±0°.1×124°.0E±0°.1, h200km, n10, σ1s80/12, mb3.5/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KMSI	**Cibinong**	**0.26**	**4**	P		**Pn**	**19 49 03.0**	**-0.7**
KMSI				S		**Sn**	**19 49 22.1**	**-2.2**
LUWI	**Luwuk**	**1.79**	**222**	P		**Pn**	**19 49 13.2**	**-0.5**
LUWI				S		**Sn**	**19 49 39.9**	**-2.2**
MRSI	**Marisa**	**2.03**	**275**	P		**Pn**	**19 49 15.4**	**-0.6**
SANI	**Sanana**	**3.10**	**139**	P		**Pn**	**19 49 25.9**	**-2.2**
FITZ	**Fitzroy Crossi**	**18.37**	**175**	P		**Pn**	**19 52 38.9**	**-0.7**
	0.2nm,0.3s,baz=351,slow=8.9,SNR=17							
WRA	**Warramunga Arr**	**22.55**	**154**	P		**P**	**19 53 22.3**	**+1.6**
	2.3nm,0.4s,baz=337,slow=10,SNR=20							
ASAR	**Alice Springs**	**25.72**	**159**	P		**P**	**19 53 51.6**	**+2.2**
	0.5nm,0.7s,baz=338,slow=7.3,SNR=3.8							
STKA	**Stephens Creek**	**36.10**	**154**	P		**P**	**19 55 22.3**	**+2.2**
	0.8nm,0.6s,baz=329,slow=12,SNR=3.6							
MKAR	**Makanchi Array**	**58.86**	**328**	P		**P**	**19 58 14.2**	**-0.8**
	0.3nm,0.4s,baz=128,slow=8.1,SNR=9.0							
KURBB	**Kurchatov Arra**	**63.18**	**329**	P		**P**	**19 58 44.4**	**+0.5**
	0.4nm,0.6s,baz=122,slow=5.6,SNR=5.6							

IDC 13 19:50:47.6±1.6, 2.70N×127.94E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.4/44, mbtmp3.7/4, Error ellipse: s-maj=135.0km s-min=22.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**23.36**	**165**	P		P	19 55 58.5	+0.6
	2.2nm,0.3s,baz=344,slow=10,SNR=23							
STKA	**Stephens Creek**	**36.75**	**160**	P		P	19 57 55.6	-1.3
	0.4nm,0.3s,baz=340,slow=7.9,SNR=4.2							
MKAR	**Makanchi Array**	**59.09**	**325**	P		P	20 00 50.5	+0.7
	0.2nm,0.5s,baz=119,slow=7.7,SNR=6.6							
KURBB	**Kurchatov Arra**	**63.26**	**327**	P		P	20 01 17.5	-0.4
	0.3nm,0.4s,baz=122,slow=5.6,SNR=2.2							

**IDC 13 19:58:21.4±2.3, 3°.29N×126°.83E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.2/40, mbtmp3.2/3, Error ellipse: s-maj=

PEA1 **Petropavlovsk-** 57.83 2 eP P 20 15 41.2 +0.7
CMAR **Chiang Mai Arr** 59.18 295 P P 20 15 50.5 0.0
0.6nm,0.3s,baz=113,slow=5.5,SNR=5.4
SONA0 **Songino Array** 67.13 327 eP P 20 16 43.0 +0.3
SONM **Songino Array** 67.13 327 P P 20 16 43.0 +0.3
0.6nm,1.0s,baz=146,slow=6.7,SNR=3.4
MK32 **Makanchi Array** 81.30 319 eP P 20 18 05.7 +0.8
MKAR **Makanchi Array** 81.30 319 P P 20 18 05.7 +0.7
0.4nm,0.7s,baz=91,slow=4.2,SNR=3.8
ILAR **Eielson Array** 81.69 2 P P 20 18 07.2 +0.6
1.3nm,1.0s,baz=257,slow=5.3,SNR=6.4
YKA **Yellowknife Ar** 94.82 28 P P 20 19 11.7 +1.9
0.3nm,0.7s,baz=270,slow=4.9,SNR=4.1
TORD **Torodi Ar. Bea** 151.66 289 PKP PKPbc 20 25 41.6 -1.7
0.2nm,0.6s,baz=69,slow=1.7,SNR=8.3
TORD PKPbc PKiKP 20 25 46.0 +2.2
0.5nm,0.3s,baz=82,slow=2.6,SNR=8.5
TOA1 **Torodi Ar. Sit** 151.66 289 ePKPdf PKPbc 20 25 41.6 -1.7
TOA1 ePKPbc PKiKP 20 25 46.0 +2.2

IDC 13 20:13:30.6±1.6, 2.79N×124.25E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/41, mbtmp3.8/5, Error ellipse: s-maj=126.7km s-min=23.3km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.80**	**176**	P	P	20 18 13.8	+0.1
	1.7nm,0.4s,baz=355,slow=7.5,SNR=17						
WRA	**Warramunga Arr**	**24.67**	**157**	P	P	20 18 53.8	+0.4
	0.7nm,0.3s,baz=337,slow=9.7,SNR=31						
ASAR	**Alice Springs**	**27.93**	**161**	P	P	20 19 22.4	-0.4
	0.7nm,0.7s,baz=328,slow=9.0,SNR=9.7						
STKA	**Stephens Creek**	**38.22**	**156**	P	P	20 20 52.2	-0.2
	1.5nm,0.4s,baz=322,slow=11,SNR=9.8						
MKAR	**Makanchi Array**	**56.94**	**327**	P	P	20 23 17.7	-0.1
	0.3nm,0.5s,baz=127,slow=8.3,SNR=6.3						

IDC 13 20:19:48.4±1.9, 11.20S×162.71E, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.6/30, mbtmp3.8/5, ML3.5/2, MS2.8/2, Ms1 2.8/2, ms1mx2.6/22, Error ellipse: s-maj=37.0km s-min=31.0km az=50.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.24**	**303**	Pn	Pn	20 20 40.5	-0.1
	15nm,0.3s,baz=180,slow=12,SNR=2.9						
HNR				Sn	Sn	20 21 21.1	+1.2
	32nm,0.3s,baz=193,slow=14,SNR=4.2						
HNR				LR	LR	20 22 08.1	
	comp=Z,86nm,21.2s,baz=344,slow=43						
DZM	**Mont Dzumac**	**11.39**	**162**	Pn	Pn	20 22 32.6	0.0
	0.1nm,0.3s,baz=99,slow=19,SNR=2.0						
STKA	**Stephens Creek**	**28.34**	**220**	LR	LR	20 38 06.7	
	comp=Z,39nm,18.3s,baz=83,slow=39						
WRA	**Warramunga Arr**	**28.64**	**249**	P	P	20 25 47.3	+0.3
	0.4nm,0.8s,baz=79,slow=9.1,SNR=3.3						
ASAR	**Alice Springs**	**30.08**	**242**	P	P	20 25 59.5	-0.3
	0.6nm,0.7s,baz=68,slow=9.6,SNR=4.2						
ILAR	**Eielson Array**	**84.62**	**19**	P	P	20 32 23.5	0.0
	0.4nm,0.8s,baz=240,slow=6.2,SNR=2.5						
MKAR	**Makanchi Array**	**91.61**	**317**	P	P	20 33 01.1	+3.6
	0.4nm,0.8s,baz=107,slow=3.5,SNR=4.4						

IDC 13 20:33:12.2±2.0, 36.11N×140.17E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/34, mbtmp3.4/3, Error ellipse: s-maj=51.2km s-min=18.8km az=26.0
ISCJB 13 20:33:18.5±0.9, 36.03N±0.09×139.92E±0.07, h60km, mb3.3/3, Error ellipse: s-maj=13.2km s-min=8.4km az=1.0
JMA 13 20:33:20.2±0.1, 36.07N×139.88E, h46km±1km, M3.2 Broadband fault plane solution: P waves. NP1: φs35.0000°, δ78.00000°, λ84.00000°. NP2:φs243.00000°, δ13.00000°, λ118.00000°. Principal axes: T Plg56.0000°, Azm297.0000°; N Plg6.0000°, Azm36.0000°; P Plg33.0000°, Azm130.0000°;
JMA Felt I J1.

ISC 13 20:33:19.7±1.1, 36.1N±0.1×139.92E±0.07, h60km, n12, σ1s03/13, mb3.5/3, 1C-3D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.27**	**54**	↑P	Pn	20 33 29.0	-0.6
JYT				S	Sn	20 33 35.2	-1.5
JAG	**Ashikaga**	**0.52**	**314**	↓P	Pn	20 33 31.3	-0.6
JRY	**Ryogami san**	**0.83**	**267**	↓P	Pn	20 33 34.9	-0.6
JRY				S	Sn	20 33 45.4	-1.8
JKT	**Katashina**	**0.88**	**322**	↓P	Pn	20 33 35.9	-0.4
JKT				S	Sn	20 33 48.2	-0.4
MJAR	**Matsushiro Arr**	**1.46**	**289**	Pg	Pn	20 33 42.9	-1.0
	6.3nm,0.3s,baz=120,slow=3.6,SNR=50						
MJAR				Lg	Lg	20 34 02.0	
	4.4nm,0.3s,baz=84,slow=18,SNR=4.4						
MAT	**Matsushiro**	**1.46**	**289**	P	Pn	20 33 44.3	+0.4
MAT				eS	Sn	20 34 01.7	-0.4
H11S1	**WAKE ISLAND Hy**	**29.39**	**119**	T	T	21 10 16.3	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**29.39**	**119**	T	T	21 10 16.1	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**29.40**	**119**	T	T	21 10 17.8	
	baz=316						
ZALV	**Zalesovo Beam**	**41.69**	**313**	P	P	20 41 03.1	+0.9
	0.4nm,0.4s,baz=104,slow=6.1,SNR=1.5						
MKAR	**Makanchi Array**	**43.62**	**303**	P	P	20 41 19.0	+0.9
	0.2nm,0.6s,baz=91,slow=9.3,SNR=2.8						
WRA	**Warramunga Arr**	**55.95**	**186**	P	P	20 42 52.5	+0.7
	0.3nm,0.7s,baz=3.1,slow=7.4,SNR=2.1						

IDC 13 20:40:57.5±1.9, 4.54S×149.18E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.5/23, mbtmp3.7/5, ML1.7/1, Error ellipse: s-maj=89.0km s-min=25.3km az=120.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.23**	**202**	Pn	Pn	20 42 18.1	+1.1
	1.9nm,0.3s,baz=332,slow=8.4,SNR=2.9						
PMG				Sn	Sn	20 43 17.3	-0.8
	1.2nm,0.3s,baz=9.7,slow=18,SNR=2.9						
WRA	**Warramunga Arr**	**21.05**	**222**	P	P	20 45 44.1	+0.7
	1.7nm,0.8s,baz=47,slow=10,SNR=11						
ASAR	**Alice Springs**	**24.05**	**216**	P	P	20 46 14.7	0.0
	0.7nm,0.6s,baz=54,slow=8.8,SNR=8.6						
FITZ	**Fitzroy Crossi**	**26.67**	**231**	P	P	20 46 37.4	-1.1
	2.5nm,0.8s,baz=54,slow=12,SNR=2.2						
ILAR	**Eielson Array**	**83.30**	**23**	P	P	20 53 26.2	+0.3
	0.3nm,0.7s,baz=256,slow=5.7,SNR=4.2						

DDA 13 20:54:15.5, 39.27N×38.68E, h8km±3km, ML2.5
ISCJB 13 20:54:16.7±0.8, 39.27N±0.04×38.69E±0.06, h5km±8km, Error ellipse: s-maj=7.6km s-min=5.6km az=150.7
ISK 13 20:54:16.3, 39.30N×38.72E, h5km, ML1.9/3

ISC 13 20:54:16.3±1.1, 39.27N±0.04×38.70E±0.04, h10km±11km, n9, σ0s45/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILIC	**ilic-Erzincan**	**0.21**	**332**	PG	Pg	20 54 20.9	+0.1
ILIC				SG	Sg	20 54 23.8	-0.1
PTK	**Pertek**	**0.66**	**124**	PG	Pb	20 54 29.4	-0.7
PTK				SG	Sb	20 54 39.1	-0.3
TNCL	**Tunceli-Merkez**	**0.68**	**103**	IAML_P			
	comp=Z,140nm,0.1s						
TNCL				*i* P	Pn	20 54 32.7	+0.6
CUZAR	**Zara_SIVAS**	**0.95**	**311**	*i* P	Pn	20 54 35.7	-0.2
CUZAR				*i* S	Sb	20 54 47.0	-0.7
CUKAN	**kangal_SIVAS**	**0.95**	**273**	*i* P	Pb	20 54 35.0	-0.1
KELT	**Kelkit**	**0.98**	**26**	*i* P	Pb	20 54 35.5	-0.1
KELT				*i* S	Sb	20 54 48.9	+0.2
AKCD	**Akcadag**	**1.14**	**212**	IAML_P			
	comp=Z,459nm,0.1s						
AKCD				*i* P	Pg	20 54 38.2	-0.1
AKCD				*i* S	Sg	20 54 53.3	+0.2
DARE	**Darende-Malaty**	**1.17**	**234**	PN	Pn	20 54 39.7	+0.8
SVSK	**Karacayir**	**1.46**	**297**	PN	Pg	20 54 44.6	+0.2

IDC 13 20:57:44.1±1.3, 2.47S×139.86E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.4/29, mbtmp3.7/3, ML3.0/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/28, Error ellipse: s-maj=29.0km s-min=11.0km az=2.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**0.85**	**93**	Pg	Pg	20 58 00.7	+0.2
	37nm,0.3s,baz=233,slow=6.6,SNR=199						
JAY				Lg	Lg	20 58 12.2	
	62nm,0.3s,baz=112,slow=18,SNR=12						
PMG	**Port Moresby**	**10.01**	**134**	LR	LR	21 04 33.2	
	comp=Z,42nm,18.2s,baz=336,slow=41						
WRA	**Warramunga Arr**	**18.18**	**197**	P	Pn	21 01 56.5	-1.7
	0.1nm,0.3s,baz=19,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**21.84**	**195**	P	P	21 02 39.8	+1.3
	1.2nm,0.9s,baz=24,slow=9.6,SNR=5.2						
MKAR	**Makanchi Array**	**70.31**	**322**	P	P	21 08 59.9	+0.2
	0.9nm,0.8s,baz=110,slow=9.2,SNR=10.0						
DBIC	**Dimbokro**	**144.59**	**278**	PKP	PKPab	21 17 21.7	-0.7
	2.4nm,0.6s,baz=72,slow=2.8,SNR=6.4						

UCR 13 21:05:27.6±1.9, 10.09N×85.71W, h3km±5km, MD4.0, mb4.3(NEIC)
IDC 13 21:05:27.3±0.7, 11.08N×84.80W, h0km, mb4.1/8, mb1 4.3/10, mb1mx3.9/35, mbtmp4.1/10, ML3.5/2, MS3.7/2, Ms1 3.7/2, ms1mx2.9/38, Error ellipse: s-maj=23.0km s-min=8.6km az=91.0
ISCJB 13 21:05:30.2±0.6, 10.19N±0.04×85.65W±0.04, h45km±4km, mb4.2/47, MS4.4/1, Error ellipse: s-maj=8.1km s-min=4.8km az=39.8
NEIC 13 21:05:31.6±1.0, 10.25N×85.59W, h37km±8km, mb4.3/43, ML4.1(UCR), Error ellipse: s-maj=10.1km s-min=6.7km az=208.0
NEIC Felt in Guanacaste.

ISC 13 21:05:29.5±0.8, 10.20N±0.05×85.66W±0.04, h27km±4km, n167, σ1s20/197, mb4.3/47, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLVR	**Palo Verde**	**0.34**	**64**	eP	Pb	21 05 37.4	0.0
PLVR				eS	Sn	21 05 44.1	-0.8
NY14	**Universidad de**	**0.46**	**16**	*i* P	Pn	21 05 40.3	0.0
NY14				*i* S	Sn	21 05 49.3	+1.6
LAPC	**Finca la Perla**	**0.60**	**22**	*i* P	Pn	21 05 42.2	-0.1
GBS3	**Finca Las Img**	**0.61**	**19**	*i* P	Pn	21 05 42.4	-0.1
GPS3	**Bodega del ICE**	**0.62**	**28**	*i* S	Sn	21 05 52.5	+0.8
GPS2	**Hotel Rincn d**	**0.62**	**29**	*i* P	Pn	21 05 42.7	0.0
LIM1	**Limonal**	**0.64**	**39**	*i* P	Pn	21 05 42.8	-0.1
LIM1				*i* S	Sn	21 05 52.9	+0.8
BUEV	**Buena Vista**	**0.64**	**23**	eP	Pn	21 05 42.8	-0.1
BUEV				eS	Sn	21 05 53.1	+0.8
COLC	**Colonia**	**0.64**	**44**	*i* P	Pn	21 05 42.8	-0.2
GPS1	**Guardaparques**	**0.65**	**28**	*i* P	Pn	21 05 42.9	-0.1
GUAB	**Guayabo de Bag**	**0.66**	**40**	*i* P	Pn	21 05 43.0	-0.1
GB1A	**Borinquen Arri**	**0.67**	**23**	*i* P	Pn	21 05 43.2	0.0
GB1A				eS	Sn	21 05 54.1	+1.2
CUI	**Cuipilapa**	**0.67**	**47**	*i* P	Pn	21 05 43.1	-0.1
CUI				eS	Sn	21 05 54.1	+1.3
HORNC	**Hornillas**	**0.69**	**43**	*i* P	Pn	21 05 43.5	-0.1
JTS	**JuntasAbangare**	**0.70**	**83**	Pg	Pb	21 05 43.2	0.0
	399nm,0.3s,baz=348,slow=14,SNR=1552						
JTS				LR	LR	21 05 48.9	
	comp=Z,75nm,19.1s,baz=21,slow=27						
JTS				Lg	Lg	21 05 53.7	
	603nm,0.3s,baz=256,slow=19,SNR=46						
JTS	**JuntasAbangare**	**0.70**	**83**	ePn	Pb	21 05 42.9	-0.3
JTS				eSn	Sn	21 05 53.0	-0.6
JTS	**JuntasAbangare**	**0.70**	**83**	eP	Pb	21 05 42.9	-0.3
JTS				eS	Sn	21 05 54.2	+0.5
MESS	**Mesas**	**0.70**	**40**	eP	Pn	21 05 43.7	-0.1
MESS				*i* P	Pn	21 05 43.9	+0.6
BUAI	**Buenos Aires**	**0.74**	**26**	*i* P	Pn	21 05 44.6	+0.3
ACAL	**Aguas Claras**	**0.75**	**55**	*i* P	Pn	21 05 44.5	+0.1
ARE1	**Arenal 1**	**0.96**	**74**	eP	Pb	21 05 48.0	+0.4
ARE1				eS	Sn	21 06 02.7	+2.6
CEDE	**Laguna Cedeo**	**0.98**	**73**	eP	Pb	21 05 48.6	+0.6
CEDE				eS	Sn	21 06 03.6	+2.9
SRA1	**San Ramn**	**1.17**	**96**	eP	Pn	21 05 50.4	+0.2
CONN	**Concepcion**	**1.35**	**1**	eP	Pb	21 05 53.9	-0.4
HDC	**Heredia**	**1.54**	**97**	ePn	Pn	21 05 55.4	+0.2
HDC				eSn	Sn	21 06 13.5	-0.9
HDC	**Heredia**	**1.54**	**97**	eP	Pn	21 05 55.8	+0.6
HDC				eS	Sb	21 06 18.5	+2.0
LCR2	**La Lucha 2**	**1.69**	**105**	eP	Pn	21 05 57.4	-0.1
ACON	**Acoyapa**	**1.82**	**15**	eP	Pn	21 05 59.5	+0.4
ACON				eS	Sb	21 06 27.4	+2.9
CVTR	**Volcan Turrial**	**1.88**	**95**	eP	Pn	21 06 01.5	+1.2
MGAN	**Managua**	**2.02**	**343**	eP	Pn	21 06 03.0	+1.2
MGAN				eS	Sb	21 06 32.0	+1.7
BOAB	**BOACO BROADBAN**	**2.23**	**360**	ePn	Pn	21 06 05.9	+1.2
BOAB				eSn	Sn	21 06 31.9	+0.5
BOAB	**BOACO BROADBAN**	**2.23**	**360**	eP	Pn	21 06 05.7	+0.9
MOMN	**Momotombo**	**2.36**	**339**	eP	Pn	21 06 07.4	+0.8
MOMN				eS	Sb	21 06 40.4	+0.4
ESPN	**Las Esperanzas**	**2.39**	**34**	eSn	Sn	21 06 35.4	+0.1
ESPN	**Las Esperanzas**	**2.39**	**34**	eP	Pn	21 06 07.7	+0.8
ESPN				eP	Pb	21 06 08.2	-3.6
ESPN				eS	Sb	21 06 41.0	+0.1
CNGN	**Cerro Negro**	**2.50**	**336**	eP	Pn	21 06 09.0	+0.5
CNGN				eS	Sb	21 06 44.0	-0.2
DRK0	**Durika**	**2.56**	**111**	eP	Pn	21 06 09.8	+0.4
MATN	**Matagalpa**	**2.72**	**355**	eP	Pn	21 06 13.4	+1.8
MATN				eS	Sb	21 06 51.6	+0.9
ESTN	**Estel**	**2.96**	**347**	eSn	Sn	21 06 48.4	-1.3
ESTN	**Estel**	**2.96**	**347**	eP	Pn	21 06 16.1	+1.2
ESTN				eP	Pb	21 06 16.5	-5.2
ESTN				eS	Sb	21 06 55.9	-1.7
TGUH	**Tegucigalpa,Un**	**4.14**	**338**	ePn	Pn	21 06 31.6	+0.5
TGUH				eSn	Sn	21 07 20.9	+2.3
APG	**El Apazote**	**6.69**	**316**	Pn	Pn	21 07 07.5	+1.3
	0.6nm,0.3s,baz=100,slow=8.2,SNR=4.2						
CMIG	**Matias Romero**	**11.28**	**308**	Pn	Pn	21 08 11.8	+2.8
	0.4nm,0.3s,baz=101,slow=11,SNR=7.7						
CMIG				LR	LR	21 12 55.4	
	comp=Z,72nm,20.3s,baz=144,slow=39						
LNIG	**Linares**	**19.64**	**320**	eP	P	21 09 56.4	+0.1
	5.5nm,0.8s						
254A	**Abbeville**	**21.75**	**5**	P	P	21 10 20.8	+1.9
	baz=186						
151A	**Opelika**	**22.22**	**1**	P	P	21 10 24.5	+0.5
	baz=181						
150A	**Eclectic**	**22.30**	**359**	P	P	21 10 25.2	+0.3
	baz=179,SNR=6.4						
149A	**Jones**	**22.31**	**357**	P	P	21 10 26.1	+1.1
	baz=177						
152A	**Waverly Hall**	**22.38**	**2**	eP	P	21 10 26.7	+1.0
	18nm,0.8s						
152A	**Waverly Hall**	**22.38**	**2**	P	P	21 10 26.6	+0.9
	baz=182,SNR=9.9						
155A	**Kite**	**22.51**	**7**	P	P	21 10 28.6	+1.5
	baz=188						
LRAL	**Lakeview Retre**	**22.76**	**357**	eP	P	21 10 30.5	+0.8
	5.5nm,0.9s						
LRAL	**Lakeview Retre**	**22.76**	**357**	P	P	21 10 30.0	+0.2
	baz=176						
Z49A	**Columbiana**	**22.90**	**358**	P	P	21 10 31.6	+0.4
	baz=178,SNR=6.6						
Z51A	**Franklin**	**23.01**	**1**	P	P	21 10 32.8	+0.4
	baz=181						
Z46A	**Louisville**	**23.08**	**353**	P	P	21 10 33.0	-0.1
	baz=172						
Z48A	**Northport**	**23.13**	**356**	P	P	21 10 33.3	-0.3
	baz=175						
GOGA	**Godfrey**	**23.19**	**5**	eP	P	21 10 35.0	+0.9
	7.7nm,1.0s						
GOGA	**Godfrey**	**23.19**	**5**	P	P	21 10 34.9	+0.7
	baz=185						
435B	**Jarrell**	**23.29**	**333**	eP	P	21 10 36.5	+1.2
	15nm,0.8s						
Y49A	**Blount Mountai**	**23.55**	**358**	P	P	21 10 37.9	0.0
	baz=178						
Y50A	**Piedmont**	**23.58**	**360**	P	P	21 10 37.9	-0.1
	baz=180						
Y51A	**Rockmart**	**23.59**	**1**	P	P	21 10 38.2	0.0
	baz=181,SNR=8.7						
Y52A	**Lilburn**	**23.60**	**3**	eP	P	21 10 38.9	+0.7
	11nm,0.8s						
Y52A	**Lilburn**	**23.60**	**3**	P	P	21 10 38.6	+0.4
	baz=184,SNR=5.4						
Y53A	**Monroe**	**23.62**	**4**	P	P	21 10 39.3	+0.9
	baz=185,SNR=6.8						
Y48A	**Jasper**	**23.64**	**357**	P	P	21 10 38.7	+0.1
	baz=176						
Y47A	**UCPARC, Winfie**	**23.68**	**355**	P	P	21 10 39.3	+0.4
	baz=174						
Y54A	**Tignall**	**23.71**	**6**	P	P	21 10 39.6	+0.3
	baz=187						
Y46A	**Houston**	**23.75**	**353**	P	P	21 10 39.5	-0.2
	baz=172						
JCT	**Junction City**	**24.09**	**329**	eP	P	21 10 43.3	+0.3
	7.7nm,0.8s						
JCT	**Junction City**	**24.09**	**329**	P	P	21 10 42.5	-0.5
	baz=144						
HODGE	**Hodges**	**24.12**	**7**	eP	P	21 10 43.7	+0.6
	9.1nm,0.8s						
X50B	**Fort Payne**	**24.15**	**0**	P	P	21 10 42.9	-0.6
	baz=180						
X49A	**Woodville**	**24.21**	**359**	P	P	21 10 43.4	-0.5
	baz=178,SNR=6.8						
X51A	**Calhoun**	**24.26**	**2**	eP	P	21 10 44.6	+0.2
	12nm,0.8s						
X51A	**Calhoun**	**24.26**	**2**	P	P	21 10 43.5	-0.9
	baz=182						
X47A	**Russelville**	**24.29**	**356**	P	P	21 10 43.7	-0.9
	baz=175,SNR=7.9						
PAULI	**Pauline**	**24.76**	**8**	eP	P	21 10 49.8	+0.9
	17nm,1.3s						
BG3	**Lake Jocassee**	**24.80**	**5**	eP	P	21 10 50.2	+0.9
	12nm,0.8s						
W49A	**Belvidere**	**24.81**	**359**	P	P	21 10 49.0	-0.4
	baz=178						
W48A	**Pulaski**	**24.85**	**358**	P	P	21 10 49.2	-0.6
	baz=177,SNR=5.9						
W51A	**Cleveland**	**24.86**	**2**	P	P	21 10 50.1	+0.3
	baz=182						
W50A	**Signal Mountai**	**24.89**	**1**	P	P	21 10 49.6	-0.6
	baz=181						
SWET	**Sewanee**	**24.90**	**359**	eP	P	21 10 50.9	+0.6
	5.5nm,0.8s						
W47A	**Westpoint**	**25.00**	**356**	P	P	21 10 50.1	-1.0
	baz=175,SNR=6.6						
KMSC	**Kings Mountain**	**25.14**	**8**	P	P	21 10 52.7	+0.3
	baz=190						
CPCT	**Cooper Cave**	**25.16**	**2**	eP	P	21 10 53.4	+0.8
	6.4nm,0.9s						
MIAR	**Mount Ida**	**25.29**	**345**	eP	P	21 10 53.7	0.0
	9.2nm,0.8s						
MIAR	**Mount Ida**	**25.29**	**345**	P	P	21 10 53.2	-0.6
	baz=161,SNR=6.7						
V50A	**Pikevile**	**25.36**	**1**	P	P	21 10 52.7	-1.7
	baz=181						
TKL	**Tuckaleechee C**	**25.40**	**4**	eP	P	21 10 57.2	+2.4
	8.1nm,0.8s						
LTX	**Lajitas**	**25.42**	**321**	eP	P	21 10 55.8	+0.7
LTX				ePcP	PcP	21 14 28.5	+1.4
TXAR	**Lajitas Array**	**25.42**	**321**	P	P	21 10 55.8	+0.7
	4.2nm,0.8s,baz=146,slow=9.5,SNR=31						
TXAR				PcP	PcP	21 14 28.5	+1.4
	0.4nm,0.7s,baz=162,slow=3.4,SNR=3.7						
TX31	**Lajitas Ar. Si**	**25.42**	**321**	eP	P	21 10 56.0	+0.8
V49A	**McMinnville**	**25.45**	**360**	P	P	21 10 54.3	-0.9
	baz=179						
V53A	**Saluda**	**25.48**	**5**	eP	P	21 10 56.5	+0.9
	8.3nm,0.8s						
V53A	**Saluda**	**25.48**	**5**	P	P	21 10 55.9	+0.3
	baz=186,SNR=6.7						
V51A	**Loudon**	**25.51**	**2**	eP	P	21 10 55.8	0.0
	6.9nm,0.8s						
V51A	**Loudon**	**25.51**	**2**	P	P	21 10 55.0	-0.8
	baz=183						
V47A	**Nunnelly**	**25.57**	**356**	P	P	21 10 54.5	-1.8
	baz=176						
W41B	**Gary Mavity, V**	**25.57**	**347**	P	P	21 10 55.0	-1.4
	baz=165						
U50A	**Jamestown**	**26.11**	**1**	P	P	21 11 00.0	-1.2
	baz=182						
V41A	**Mountainview**	**26.14**	**348**	P	P	21 11 00.1	-1.4
	baz=165						
U52A	**Thorn Hill**	**26.16**	**4**	P	P	21 11 01.8	+0.2
	baz=185,SNR=5.5						
U53A	**Fall Branch**	**26.20**	**6**	P	P	21 11 01.9	-0.1
	baz=187,SNR=5.5						
TZTN	**Tazewell**	**26.30**	**4**	eP	P	21 11 06.2	+3.4
	5.4nm,0.8s						
TZTN	**Tazewell**	**26.30**	**4**	P	P	21 11 03.2	+0.3
	baz=184						
WMOK	**Wichita Mounta**	**27.21**	**336**	eP	P	21 11 13.3	+2.1
	4.3nm,0.8s						
PTGA	**Pitinga**	**27.78**	**112**	P	P	21 11 14.5	-1.9
	3.9nm,0.8s,baz=322,slow=17,SNR=4.7						
PTGA	**Pitinga**	**27.78**	**112**	eP	P	21 11 18.2	+1.8
	7.2nm,1.0s						
R51A	**Hillsboro**	**28.04**	**3**	P	P	21 11 18.4	-0.1
	baz=184						
CCM	**Cathedral Cave**	**28.18**	**351**	P	P	21 11 18.0	-1.8
	baz=168						
Q51A	**Peebles**	**28.78**	**4**	eP	P	21 11 24.7	-0.4
	13nm,0.8s						
Q51A				epP	sP	21 11 35.8	-0.7
Q51A	**Peebles**	**28.78**	**4**	P	P	21 11 24.3	-0.8
	baz=185,SNR=5.7						
Q52A	**Bidwell**	**28.80**	**5**	P	P	21 11 25.0	-0.3
	baz=187						
P53A	**Whipple**	**29.41**	**7**	P	P	21 11 30.3	-0.4
	baz=186						
P52A	**Corning**	**29.48**	**6**	P	P	21 11 30.2	-1.1
	baz=187						
O50A	**Cable**	**29.88**	**3**	P	P	21 11 34.4	-0.4
	baz=184						
ACSO	**Alum Creek Sta**	**30.00**	**4**	P	P	21 11 34.3	-1.6
	baz=185						
O53A	**New Philadelph**	**30.18**	**7**	P	P	21 11 36.2	-1.3
	baz=189						
SDCO	**Great Sand Dun**	**32.72**	**330**	eP	P	21 12 01.1	+0.8
	2.4nm,0.9s						
SDCO	**Great Sand Dun**	**32.72**	**330**	P	P	21 11 59.9	-0.4
	baz=142						
PV12	**Saucer Basin,**	**34.85**	**327**	eP	P	21 12 19.9	+1.2
	10nm,1.2s						
PV17	**East Wray Mesa**	**34.90**	**327**	eP	P	21 12 20.1	+1.0
	4.6nm,0.5s						
PKCU	**Pink Cliffs**	**36.22**	**323**	eP	P	21 12 32.6	+2.0
	5.2nm,0.9s						
MTPU	**Mount Pierson**	**36.54**	**324**	eP	P	21 12 35.3	+1.9
	1.9nm,0.8s						
PSUT	**Pine Spring**	**37.85**	**323**	eP	P	21 12 46.1	+1.8
	3.8nm,0.7s						
TPNV	**Topopah Spring**	**38.35**	**319**	eP	P	21 12 51.4	+2.8
	3.9nm,0.9s						
TPNV	**Topopah Spring**	**38.35**	**319**	P	P	21 12 50.9	+2.3
	baz=126						
PD31	**Pinedale Array**	**38.57**	**331**	eP	P	21 12 49.5	-0.9
PD31				ePcP	PcP	21 15 03.2	+0.6
PDAR	**Pinedale Array**	**38.57**	**331**	P	P	21 12 49.5	-0.9
	0.9nm,0.7s,baz=126

	5.2nm,0.7s							
ORV	**Oroville**	**43.23**	**319**	*e*P	**P**	**21 13 30.5**	**+1.9**
	3.4nm,0.9s							
M04C	**Macdoel**	**44.68**	**321**	P	**P**	**21 13 40.7**	**+0.4**
	baz=124							
PINE	**Pine Mountain**	**45.31**	**324**	*e*P	**P**	**21 13 46.0**	**+0.7**
	5.5nm,1.0s							
CPUP	**Villa Florida**	**45.57**	**143**	LR	LR	21 32 54.8		
	comp=Z,377nm,18.3s,baz=310,slow=36							
E07A	**Sunnyside**	**46.43**	**328**	*e*P	**P**	**21 13 53.6**	**-0.4**
	4.3nm,0.6s							
SCHQ	**Schefferville**	**46.95**	**15**	P	P	21 13 52.3	-5.6	
	1.9nm,0.4s,baz=210,slow=5.6,SNR=8.7							
SCHQ	**Schefferville**	**46.95**	**15**	*e*P	P	21 13 52.3	-5.6	
	11nm,1.4s							
YKA	**Yellowknife Ar**	**56.23**	**344**	P	**P**	**21 15 03.8**	**-3.2**
	0.5nm,0.3s,baz=130,slow=8.3,SNR=19							
YKB5	**Yellowknife Ar**	**56.23**	**344**	*e*P	**P**	**21 15 03.9**	**-3.2**
INK	**Inuvik**	**65.86**	**342**	P	**P**	**21 16 11.7**	**-0.6**
	1.0nm,0.7s,baz=115,slow=10,SNR=4.8							
ILAR	**Eielson Array**	**68.77**	**336**	P	**P**	**21 16 29.8**	**-1.1**
	0.8nm,0.6s,baz=131,slow=4.2,SNR=16							
ILB	**Eielson Array**	**68.77**	**336**	*e*P	**P**	**21 16 29.8**	**-1.1**
VYHS	**Vyhne**	**91.86**	**40**	*e*P	**P**	**21 18 34.0**	**-1.4**
BR101	**Keskin Array S**	**105.04**	**44**	*e*PKiKP	**PKiKP**	**21 23 49.5**	**-0.4**
BRTR	**Keskin Array B**	**105.04**	**44**	PKiKP	**PKiKP**	**21 23 49.5**	**-0.4**
	0.2nm,0.4s,baz=278,slow=14,SNR=4.3							
SONA0	**Songino Array**	**121.24**	**351**	*e*PKPdf	**PKPdf**	**21 24 19.9**	**-0.5**
SONM	**Songino Array**	**121.24**	**351**	PKP	**PKPdf**	**21 24 19.9**	**-0.5**
	0.6nm,0.6s,baz=266,slow=2.1,SNR=5.9							
CM31	**Chiang Mai Arr**	**151.16**	**351**	*e*PKPdf	**PKPdf**	**21 25 15.8**	**+0.4**
CM31				*e*PKPbc	**PKPbc**	**21 25 21.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**151.16**	**351**	PKP	**PKPdf**	**21 25 15.8**	**+0.4**
	0.5nm,0.8s,baz=326,slow=3.4,SNR=4.1							
CMAR				PKPbc	**PKPbc**	**21 25 21.1**	**-0.2**
	2.3nm,0.8s,baz=338,slow=3.1,SNR=16							

ISCJB ***13*** *21:06:06.3±0.7, 31°.05S±0°.03×69°.49W±0°.03, h121km±6km, Error ellipse: s-maj=4.8km s-min=4.2km az=8.5*
SJA ***13*** *21:06:06.8±0.9, 31°.04S×69°.50W, h108km±4km, ML2.6, MW3.1*
GUC ***13*** *21:06:07.4±0.5, 31°.04S×69°.81W, h147km±3km, ML2.7*

ISC 13 21:06:06.7±1.4**, 31°.04S**±0°.03×**69°.50W**±0°.03**, h118**km±9km**, n25, σ0°.74/48, 2C, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ACCO	**Cerro Coronel**	**0.59**	**40**	*i* P		**Pn**	**21 06 25.6**	**+0.2**
ACCO				*e*S		**Sn**	**21 06 39.9**	**+0.3**
RTLS	**Leoncito**	**0.77**	**167**	*e*P		**Pn**	**21 06 27.1**	**+0.3**
RTLS				*e*S		**Sn**	**21 06 42.1**	**+0.1**
RTLS				IAML			21 06 42.5	
	comp=Z,87nm,0.1s							
AMOG	**MOGNA**	**0.88**	**83**	*e*P		**Pn**	**21 06 27.5**	**+0.1**
AMOG				*e*S		**Sn**	**21 06 41.9**	**-1.2**
AROD	**Rodeo**	**0.88**	**2**	*i* P		**Pn**	**21 06 28.2**	**+0.4**
AROD				*i* S		**Sn**	**21 06 43.7**	**+0.1**
RTLL	**Cerro Villicun**	**0.93**	**108**	*i* P		**Pn**	**21 06 27.6**	**-0.3**
RTLL				*i* S		**Sn**	**21 06 43.0**	**-0.9**
RTLL				IAML			21 06 44.4	
	comp=Z,186nm,0.4s							
RTLL	**Cerro Villicun**	**0.93**	**108**	*e*P		**Pn**	**21 06 27.4**	**-0.5**
RTLL				*e*S		**Sn**	**21 06 42.3**	**-1.6**
RTLL				IAML			21 06 43.9	
	comp=E,219nm,0.5s							
ACDV	**Cuesta del Vie**	**0.93**	**21**	*e*P		**Pn**	**21 06 28.5**	**+0.4**
ACDV				*i* S		**Sn**	**21 06 44.3**	**0.0**
RTCV	**Cerro Valdivia**	**1.16**	**135**	*i* P		**Pn**	**21 06 30.7**	**+0.4**
RTCV				*e*S			**21 06 48.1**	**0.0**
AUSP	**Uspallata**	**1.18**	**175**	*i* P		**Pn**	**21 06 31.3**	**+0.6**
AUSP				*i* S		**Sn**	**21 06 49.5**	**+0.5**
CFA	**Coronel Fontan**	**1.22**	**118**	*e*P		**Pn**	**21 06 31.1**	**+0.2**
CFA				*e*S		**Sn**	**21 06 49.6**	**+0.3**
CMCH	**Combarbala**	**1.29**	**264**	*e*P		**Pn**	**21 06 31.5**	**-0.2**
CMCH				*e*S		**Sn**	**21 06 50.2**	**-0.5**
CMCH				IAML			21 06 52.5	
	comp=E,275nm,0.4s							
GO04	**Tololo Observa**	**1.42**	**308**	*i* P		**Pn**	**21 06 33.2**	**-0.1**
GO04				*i* S		**Sn**	**21 06 53.7**	**+0.3**
GO04	**Tololo Observa**	**1.42**	**308**	⇑*i* P		**Pn**	**21 06 33.2**	**-0.1**
GO04				*i* S		**Sn**	**21 06 53.2**	**-0.3**
GO04				IAML			21 07 01.4	
	comp=E,139nm,0.3s							
ASAL	**Salagasta**	**1.64**	**160**	*i* P		**Pn**	**21 06 36.8**	**+1.0**
ASAL				*e*S		**Sn**	**21 06 58.9**	**+0.9**
AGUA	**GUANDACOL**	**1.78**	**30**	*e*P		**Pn**	**21 06 38.6**	**+1.1**
AGUA				*e*S		**Sn**	**21 07 02.2**	**+1.2**
ARCO	**CERRO ARCO**	**1.86**	**165**	*e*P		**Pn**	**21 06 39.7**	**+1.2**
ARCO				*e*S		**Sn**	**21 07 02.5**	**-0.2**
ARCO				IAML			21 07 05.5	
	comp=Z,24nm,0.3s							
LSCH	**La Serena**	**1.88**	**307**	*e*P		**Pn**	**21 06 38.3**	**-0.3**
AAGR	**Agrelo**	**2.11**	**164**	*e*P		**Pn**	**21 06 42.7**	**+1.1**
AAGR				*e*S		**Sn**	**21 07 09.1**	**+0.7**
ROCH	**El Roble**	**2.31**	**213**	*e*P		**Pn**	**21 06 44.0**	**-0.1**
ROCH				*e*S		**Sn**	**21 07 12.4**	**-0.5**
ROCH				IAML			21 07 15.7	
	comp=N,31nm,0.3s							
ROC1	**El Roble**	**2.31**	**213**	*e*P		**Pn**	**21 06 44.0**	**-0.2**
ROC1				*e*S		**Sn**	**21 07 12.5**	**-0.6**
ACAN	**Cantantal**	**2.32**	**122**	*e*P		**Pn**	**21 06 44.9**	**+0.7**
ACAN				*e*S		**Sn**	**21 07 11.1**	**-1.8**
APLL	**PUNTA DE LOS L**	**2.64**	**77**	*e*P		**Pn**	**21 06 48.6**	**+0.3**
APLL				*e*S		**Sn**	**21 07 19.4**	**-0.9**
APLL				IAML			21 07 23.2	
	comp=Z,25nm,0.2s							
ACLC	**CERRO LA CRUZ**	**2.73**	**54**	*e*P		**Pn**	**21 06 50.0**	**+0.4**
ACLC				*e*S		**Sn**	**21 07 23.0**	**+0.3**
GO03	**Copiap**	**3.50**	**349**	*e*P		**Pn**	**21 06 59.4**	**-0.2**
MRA	**San Martin**	**3.50**	**114**	‖*e*P		**Pn**	**21 06 59.7**	**0.0**
MRA				*e*S		**Sn**	**21 07 38.9**	**-1.8**
MRA				IAML			21 07 43.4	
	comp=Z,12nm,0.4s							

MAN 13 21:10:29.5, 10°.10N×126°.06E, h1km**, mb4.5, ML3.3, MS3.1, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.65**	**241**	‖*e*P		Pn	21 10 45.5	-0.4
SCPH				*e*S		Sn	21 10 58.2	+1.4
BUTP	**Butuan**	**1.21**	**201**	*e*P		Pg	21 10 51.6	-1.1
BUTP				*e*S		Sg	21 11 06.2	-2.2
BESP	**Borongan**	**1.61**	**338**	*e*P		Pn	21 10 59.2	+0.1
BUKP	**Musuan**	**2.42**	**204**	*e*P		Pn	21 11 10.7	+0.4
BUKP				*e*S		Sb	21 11 43.0	-1.4
CNP	**Catarman**	**2.76**	**330**	*e*P		Pn	21 11 16.0	+1.1
CNP				*e*S		Sn	21 11 49.5	+0.6

ISK ***13*** *21:22:12.9, 39°.64N×25°.55E, h10km, ML2.4/12*
ISCJB ***13*** *21:22:13.3±0.5, 39°.66N±0°.02×25°.55E±0°.03, h7km±3km, Error ellipse: s-maj=4.5km s-min=3.0km az=144.0*
THE ***13*** *21:22:13.7, 39°.67N×25°.56E, h1km±1km, ML1.8/7, Error ellipse: s-maj=1.5km s-min=0.5km az=152.0*
ATH ***13*** *21:22:13.3, 39°.67N×25°.54E, h22km±4km, ML2.0/4, Error ellipse: s-maj=4.6km s-min=1.1km az=217.0*
DDA ***13*** *21:22:19.7, 39°.77N×26°.09E, h7km±4km, ML2.5*

ISC 13 21:22:13.6±0.9**, 39°.66N**±0°.02×**25°.55E**±0°.02**, h13**km±8km**, n44, σ0°.51/63, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.36**	**310**	P		**Pg**	**21 22 20.8**	**-0.2**
LIA				S		**Sg**	**21 22 26.1**	**+0.2**
LIA				AML	AML		21 22 26.6	
	comp=E,418μm,0.2s							
LIA				AML	AML		21 22 26.9	
	comp=N,274μm,0.1s							
LIA	**Limnos Island**	**0.36**	**310**	P		**Pg**	**21 22 20.8**	**-0.2**
LIA				S		**Sg**	**21 22 26.5**	**+0.6**
BOZC	**Bozcaada**	**0.43**	**65**	PG		**Pg**	**21 22 21.7**	**-0.4**
BOZC	**Bozcaada**	**0.43**	**65**	IAML_P				
	comp=Z,1μm,0.1s							
EFSA	**Agios Efstrati**	**0.45**	**254**	P		**Pg**	**21 22 23.3**	**+0.8**
GPNR	**Gulpinar-Canak**	**0.50**	**114**	PG		**Pg**	**21 22 23.1**	**-0.3**
GPNR				SG		**Sg**	**21 22 30.0**	**0.0**
SIGR	**SIGRI**	**0.51**	**152**	PG		**Pg**	**21 22 23.3**	**-0.3**
SIGR				SG		**Sg**	**21 22 29.9**	**-0.5**
SIGR	**SIGRI**	**0.51**	**152**	P		**Pg**	**21 22 23.3**	**-0.3**
SIGR				S		**Sg**	**21 22 31.0**	**+0.6**
SIGR				AML	AML		21 22 31.2	
	comp=E,421μm,0.4s							
SIGR				AML	AML		21 22 31.8	
	comp=N,518μm,0.3s							
SIGR	**SIGRI**	**0.51**	**152**	P		**Pg**	**21 22 23.4**	**-0.2**
SIGR				S		**Sg**	**21 22 30.8**	**+0.4**
GADA	**Gvkgeada**	**0.59**	**27**	PG		**Pg**	**21 22 24.9**	**-0.3**
GADA	**Gvkgeada**	**0.59**	**27**	P		**Pg**	**21 22 24.9**	**-0.3**
GADA				S		**Sb**	**21 22 33.7**	**-0.5**
GOKC	**Gokceada-Canak**	**0.61**	**28**	PG		**Pb**	**21 22 26.4**	**+0.3**
EZN	**Ezine**	**0.62**	**75**	PG		**Pg**	**21 22 25.1**	**-0.6**
EZN				SG		**Sb**	**21 22 34.4**	**-0.6**
EZN	**Ezine**	**0.62**	**75**	P		**Pg**	**21 22 25.1**	**-0.6**
PRK	**Paraskevi**	**0.70**	**126**	P		**Pb**	**21 22 27.7**	**+0.1**
PRK				S		**Sb**	**21 22 37.3**	**+0.1**
PRK				AML	AML		21 22 40.2	
	comp=E,647μm,0.4s							
PRK				AML	AML		21 22 42.3	
	comp=N,675μm,0.3s							
BAYC	**CANAKKALE_Bayr**	**0.78**	**84**	IAML_P				
	comp=Z,2μm,0.1s							
BAYC				*i* P		**Pb**	**21 22 28.9**	**-0.1**
SMTH	**Samothraki Isl**	**0.81**	**359**	P		**Pg**	**21 22 29.0**	**-0.2**
SMTH				S		**Sb**	**21 22 40.1**	**-0.3**
SMTH				AML	AML		21 22 48.7	
	comp=E,206μm,0.5s							
SMTH				AML	AML		21 22 49.4	
	comp=N,137μm,0.4s							
SMTH	**Samothraki Isl**	**0.81**	**359**	P		**Pg**	**21 22 29.0**	**-0.2**
SMTH				S		**Sb**	**21 22 40.2**	**-0.2**
AYVA	**Ayvalik**	**0.95**	**112**	IAML_P				
	comp=Z,391nm,0.1s							
AYVA				*i* P		**Pn**	**21 22 33.1**	**+0.4**
AYVA				*i* S		**Sn**	**21 22 46.1**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.02**	**44**	PG		**Pg**	**21 22 32.6**	**-0.7**
THAS	**Thassos island**	**1.14**	**326**	P		**Pb**	**21 22 34.5**	**-0.7**
THAS				S		**Sb**	**21 22 49.5**	**-0.3**
THAS	**Thassos island**	**1.14**	**326**	P		**Pb**	**21 22 34.6**	**-0.5**
THAS				S		**Sn**	**21 22 51.5**	**+0.8**
ENEZ	**Enez**	**1.17**	**23**	PN		**Pb**	**21 22 35.6**	**-0.1**
LPK	**Lapseki**	**1.17**	**52**	PN		**Pb**	**21 22 35.8**	**+0.1**
DKL	**Dikili**	**1.21**	**119**	PN		**Pn**	**21 22 35.9**	**-0.3**
DKL				SN		**Sg**	**21 22 52.3**	**-0.3**
ERIK	**Erikli-Kesan**	**1.25**	**36**	PN		**Pg**	**21 22 37.3**	**-0.3**
ALN	**Alexandroupoli**	**1.29**	**17**	PN		**Pn**	**21 22 37.6**	**+0.2**
ALN	**Alexandroupoli**	**1.29**	**17**	P		**Pn**	**21 22 37.5**	**+0.2**
ALN	**Alexandroupoli**	**1.29**	**17**	P		**Pn**	**21 22 37.5**	**+0.2**
ALN				S		**Sg**	**21 22 55.9**	**+0.7**
CHOS	**Chios island**	**1.34**	**163**	PN		**Pn**	**21 22 37.1**	**-1.0**
CHOS	**Chios island**	**1.34**	**163**	P		**Pn**	**21 22 37.8**	**-0.3**
CHOS				S		**Sg**	**21 22 57.7**	**+1.0**
AOS	**Alonnisos**	**1.38**	**250**	PN		**Pn**	**21 22 38.1**	**-0.5**
KESN	**Edirne-Kesan**	**1.45**	**36**	IAML_P				
	comp=Z,193nm,0.2s							
KESN				*i* P		**Pg**	**21 22 41.9**	**+0.4**
PAIG	**Paliouri**	**1.46**	**281**	P		**Pn**	**21 22 39.2**	**-0.6**
PAIG	**Paliouri**	**1.46**	**281**	P		**Pb**	**21 22 40.9**	**+0.2**
RDO	**Rodhopi**	**1.48**	**360**	PN		**Pb**	**21 22 40.7**	**-0.3**
RDO	**Rodhopi**	**1.48**	**360**	P		**Pg**	**21 22 41.8**	**-0.3**
RDO	**Rodhopi**	**1.48**	**360**	P		**Pb**	**21 22 41.1**	**+0.1**
RDO				S		**Sg**	**21 23 00.8**	**-0.5**
KRBG	**Karabiga-Canak**	**1.53**	**61**	PN		**Pn**	**21 22 41.2**	**+0.6**
URLA	**Izmir**	**1.54**	**148**	PN		**Pn**	**21 22 40.5**	**-0.3**
BALY	**Balya**	**1.60**	**87**	IAML_P				
	comp=Z,272nm,0.2s							
BALY				*i* P		**Pn**	**21 22 42.4**	**+0.7**
BALY				*i* S		**Sn**	**21 23 02.2**	**-0.1**
KNL	**Balıkesir**	**1.64**	**68**	IAML_P				
	comp=Z,573nm,0.1s							
KNL				*i* P		**Pn**	**21 22 42.1**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.70**	**99**	IAML_P				
	comp=Z,376nm,0.2s							
STEP				*i* P		**Pn**	**21 22 44.0**	**+0.9**
STEP				*i* S		**Sb**	**21 23 06.5**	**+0.3**
DURS	**Dursunbey**	**2.26**	**91**	*i* P		**Pn**	**21 22 52.5**	**+1.7**

MOS ***13*** *21:23:24.8±0.9, 19°.83S×69°.11W, h66km, mb5.6/61, Error ellipse: s-maj=12.2km s-min=5.6km az=113.2*
ISCJB ***13*** *21:23:25.3±0.2, 19°.99S±0°.02×69°.10W±0°.02, h82km±2km, mb5.4/366, Error ellipse: s-maj=4.1km s-min=2.5km az=149.9*
BJI ***13*** *21:23:26.9, 20°.14S×69°.67W, h88km, mB5.4/29, Ms5.5/11, Ms7 5.2/8*
NEIC ***13*** *21:23:26.4±0.3, 20°.06S×69°.05W, h75km±3km, mb5.5/298, MW5.3, ML5.5(GUC), Error ellipse: s-maj=4.5km s-min=2.4km az=71.0, Moment Tensor Solution. s12 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.65; $M_{\theta\theta}$0.17; $M_{\phi\phi}$0.48; $M_{r\theta}$-0.19; $M_{\theta\phi}$0.39; $M_{\phi r}$-1.09; Best double couple: M_{o}1.30000×10^{17} NP1:ϕ_s14.00000°, δ75.00000°, λ-103.00000°. NP2:ϕ_s234.00000°, δ20.00000°, λ-51.00000°. Principal axes: T 1.3100, Plg29.0000°, Azm114.0000°; N 0.0100, Plg12.0000°, Azm17.0000°; P -1.3200, Plg58.0000°, Azm267.0000°;*
NEIC Felt [V] at Huara, La Tirana, Mamina, Pica and Pozo Almonte; [IV] at Alto Hospicio, Camina, Cancosa and Iquique; [III] at Codpa, Cuya, Oficina Maria Elena, Pisagua and Ujina; [II] at Arica and Calama.
GUC ***13*** *21:23:27.5±0.6, 20°.13S×69°.32W, h93km±2km, ML5.6, MW5.3*
IDC ***13*** *21:23:28.4±0.3, 20°.02S×69°.05W, h92km±2km, mb4.9/34, mb1 5.0/37, mb1mx5.0/46, mbtmp5.2/37, MS4.1/13, Ms1 4.0/13, ms1mx3.9/20, Error ellipse: s-maj=10.9km s-min=7.7km az=70.0*
VAO ***13*** *21:23:28.3±0.4, 20°.06S×68°.96W, h71km, mb5.4*
GCMT ***13*** *21:23:30.4±0.2, 20°.24S±0°.01×69°.52W±0°.01, h111km±1km, MW5.3/106, Moment Tensor Solution. s96,c144; s106,c174; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.46±.02; $M_{\theta\theta}$-0.15±.02; $M_{\phi\phi}$0.61±.03; $M_{r\theta}$0.32±.01; $M_{\theta\phi}$0.13±.02; $M_{\phi r}$-1.00±.02; Best double couple: M_{o}1.19300×10^{17} NP1:ϕ_s345.00000°, δ78.00000°, λ-105.00000°. NP2:ϕ_s217.00000°, δ19.00000°, λ-39.00000°. Principal axes: T 1.2120, Plg31.0000°, Azm87.0000°; N -0.0390, Plg15.0000°, Azm348.0000°; P -1.1730, Plg55.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=50s. Triangular moment-rate function*

ISC 13 21:23:27.5±0.3**, 20°.14S**±0°.02×**69°.23W**±0°.03**, h90**km±2km**, h90**km**: pP-P, n1389,** σ**1942**/1524**, mb5.5**/365**, 19C-25D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.07**	**88**	‖*i* P		**Pn**	**21 23 40.9**	**+0.3**
PB08				*i* S		**Sn**	**21 23 51.1**	**+0.8**
PB08				IAML			21 23 52.1	
	comp=E,433μm,0.2s							
PB11	**IPOC Station P**	**0.55**	**313**	*e*Pn		**Pn**	**21 23 42.5**	**-0.4**
PB11				*e*Sn		**Sn**	**21 23 53.4**	**-0.8**
PB11	**IPOC Station P**	**0.55**	**313**	⇑*i* P		**Pn**	**21 23 42.2**	**-0.6**
PB11				*e*S		**Sn**	**21 23 53.5**	**-0.7**
PB01	**IPOC Station P**	**0.93**	**195**	*e*Pn		**Pn**	**21 23 46.5**	**0.0**
PB01				*e*Sn		**Sn**	**21 24 00.7**	**0.0**
PB01	**IPOC Station P**	**0.93**	**195**	⇑*i* P		**Pn**	**21 23 46.4**	**-0.1**
PB01				*i* S		**Sn**	**21 24 00.8**	**+0.1**
PB01				IAML			21 24 02.2	
	comp=N,324μm,0.2s							
PSGC	**Pisagua**	**1.00**	**303**	⇑*i* P		**Pn**	**21 23 46.0**	**-1.3**
PSGC				*e*S		**Sn**	**21 24 00.5**	**-1.7**
PSGCX	**Pisagua**	**1.00**	**303**	*e*S		**Sn**	**21 24 00.8**	**-1.4**
MNMC	**Minye Minye**	**1.06**	**341**	*e*Pn		**Pn**	**21 23 48.1**	**-0.2**
MNMC				*e*Sn		**Sn**	**21 24 02.8**	**-0.9**
PB02	**IPOC Station P**	**1.33**	**208**	⇑*i* P		**Pn**	**21 23 50.6**	**-0.6**
PB02				*e*S		**Sn**	**21 24 09.1**	**0.0**
PB02				IAML			21 24 14.4	
	comp=E,226μm,0.3s							
PB09	**IPOC Station P**	**1.65**	**180**	*i* P		**Pn**	**21 23 56.8**	**+1.5**
PB09				*e*S		**Sn**	**21 24 18.6**	**+2.3**
PB09	**IPOC Station P**	**1.65**	**180**	⇑*e*P		**Pn**	**21 23 56.2**	**+0.9**
PB09				*e*S		**Sn**	**21 24 17.4**	**+1.0**
PB07	**IPOC Station P**	**1.69**	**201**	*e*P		**Pn**	**21 23 56.3**	**+0.4**
PB07				*i* S		**Sn**	**21 24 18.9**	**+1.5**
PB07	**IPOC Station P**	**1.69**	**201**	‖*e*P		**Pn**	**21 23 55.7**	**-0.2**
PB07				*e*S		**Sn**	**21 24 17.8**	**+0.4**
PB07				IAML			21 24 19.7	
	comp=E,76μm,0.2s							
PB12	**IPOC Station P**	**1.84**	**325**	*e*P		**Pn**	**21 23 57.1**	**-0.6**
PB12				*e*S		**Sn**	**21 24 16.7**	**-4.0**
PB12	**IPOC Station P**	**1.84**	**325**	⇑*i* P		**Pn**	**21 23 56.8**	**-0.9**
PB12				*e*S		**Sn**	**21 24 19.6**	**-1.2**
PB12				IAML			21 24 26.1	
	comp=E,57μm,0.5s							
PB03	**IPOC Station P**	**1.96**	**194**	*e*P		**Pn**	**21 23 59.3**	**-0.1**
PB03				*e*S		**Sn**	**21 24 23.7**	**+0.2**
PB03	**IPOC Station P**	**1.96**	**194**	*e*P		**Pn**	**21 23 59.2**	**-0.1**
PB03				*e*S		**Sn**	**21 24 24.0**	**+0.5**
PB03				IAML			21 24 27.7	
	comp=E,34μm,0.2s							
PB04	**IPOC Station P**	**2.34**	**201**	*e*Pn		**Pn**	**21 24 04.8**	**+0.4**
PB04				*e*Sn		**Sn**	**21 24 25.8**	**-6.9**
PB04				*e*Sn		Sn	21 24 32.5	-0.1
PB04	**IPOC Station P**	**2.34**	**201**	*e*P		**Pn**	**21 24 03.8**	**-0.6**
PB04				*e*S		**Sn**	**21 24 26.4**	**-6.2**
PB04	**IPOC Station P**	**2.34**	**201**	‖*e*P		**Pn**	**21 24 03.4**	**-1.0**
PB04				*e*S		**Sn**	**21 24 31.6**	**-1.1**
LVC	**Limon Verde**	**2.47**	**173**	P		**Pn**	**21 24 08.5**	**+2.2**
	comp=E,1μm,0.3s,baz=352,slow=7.9,SNR=1554							
LVC				S		**Sn**	**21 24 39.3**	**+3.3**
	comp=E,4μm,0.3s,baz=203,slow=16,SNR=30							
LVC	**Limon Verde**	**2.47**	**173**	*e*Pn		**Pn**	**21 24 08.0**	**+1.7**
LVC				*e*Sn		**Sn**	**21 24 31.0**	**-5.0**
LVC				*e*Sn		Sn	21 24 35.1	-0.9
LVC	**Limon Verde**	**2.47**	**173**	*e*P		**Pn**	**21 24 08.2**	**+1.9**
LVC				*i* S		**Sn**	**21 24 39.7**	**+3.7**
LVC	**Limon Verde**	**2.47**	**173**	*e*P		**Pn**	**21 24 08.0**	**+1.7**
LVC				*e*			21 24 35.1	
LVC	**Limon Verde**	**2.47**	**173**	‖*e*P		**Pn**	**21 24 07.7**	**+1.3**
LVC				*e*S		**Sn**	**21 24 38.4**	**+2.4**
LVC	**Limon Verde**	**2.47**	**173**	*e*P		**Pn**	**21 24 08.2**	**+1.9**
PB06	**IPOC Station P**	**2.57**	**187**	*e*P		**Pn**	**21 24 07.6**	**+0.2**
PB06				*i* S		**Sn**	**21 24 40.1**	**+2.1**
PB06	**IPOC Station P**	**2.57**	**187**	‖*i* P		**Pn**	**21 24 07.2**	**-0.2**
PB06				*e*S		**Sn**	**21 24 38.4**	**+0.3**
PB06				IAML			21 24 46.0	
	comp=E,40μm,0.4s							
PB05	**IPOC Station P**	**2.84**	**198**	*e*P		**Pn**	**21 24 10.2**	**-0.9**
PB05				*e*S		Sn	21 24 34.6	-10
PB05	**IPOC Station P**	**2.84**	**198**	‖*e*P		**Pn**	**21 24 09.8**	**-1.3**
PB05				*e*S		**Sn**	**21 24 43.3**	**-1.3**
PB05				IAML			21 24 57.1	
	comp=E,21μm,0.4s							
PB15	**IPOC Station P**	**3.06**	**184**	*e*P		**Pn**	**21 24 14.3**	**+0.3**
PB15				*e*S		**Sn**	**21 24 52.6**	**+2.7**
PB15	**IPOC Station P**	**3.06**	**184**	‖*e*P		**Pn**	**21 24 14.1**	**0.0**
PB15				*e*S		**Sn**	**21 24 50.5**	**+0.7**
PB10	**IPOC Station P**	**3.57**	**200**	*e*Pn		**Pn**	**21 24 19.1**	**-1.7**
PB10				*e*Sn		**Sn**	**21 24 59.2**	**-2.8**
PB10	**IPOC Station P**	**3.57**	**200**	*e*P		**Pn**	**21 24 18.9**	**-1.8**
PB10				*e*S		**Sn**	**21 24 59.3**	**-2.6**
PB10	**IPOC Station P**	**3.57**	**200**	‖*e*P		**Pn**	**21 24 18.1**	**-2.6**
PB10				IAML			21 25 16.6	
	comp=E,8μm,0.4s							
LPAZ	**La Paz**	**3.97**	**15**	P		**Pn**	**21 24 30.8**	**+4.0**
	comp=E,82nm,0.3s,baz=197,slow=5.4,SNR=1000							
LPAZ				S		**Sn**	**21 25 19.2**	**+6.6**
	comp=E,53nm,0.3s,baz=71,slow=24,SNR=4.6							
LPAZ	**La Paz**	**3.97**	**15**	*e*Pn		**Pn**	**21 24 30.4**	**+3.6**
LPAZ				*e*Sn		**Sn**	**21 25 06.9**	**-5.7**
LPAZ	**La Paz**	**3.97**	**15**	*e*P		**Pn**	**21 24 30.4**	**+3.6**
LPAZ				*e*S		**Sn**	**21 25 16.5**	**+3.9**
LPAZ	**La Paz**	**3.97**	**15**	*e*P		**Pn**	**21 24 30.4**	**+3.6**
LPAZ				*e*			21 25 06.9	
YJA	**Yavi**	**4.01**	**121**	*i* P		**Pn**	**21 24 31.7**	**+4.6**
YJA				IAML			21 24 36.4	
	comp=Z,472nm,0.7s							
YJA				*e*S		**Sn**	**21 25 15.3**	**+2.0**
PB14	**IPOC Station P**	**4.59**	**193**	*e*P		**Pn**	**21 24 33.0**	**-1.9**
PB14	**IPOC Station P**	**4.59**	**193**	*e*P		**Pn**	**21 24 32.5**	**-2.4**
HJA	**Humahuaca**	**4.68**	**131**	*e*P		**Pn**	**21 24 40.2**	**+4.0**
HJA				IAML			21 24 41.8	
	comp=Z,1μm,0.7s							
HJA				*e*S		Sn	21 25 47.2	+18
GO02

GO06 Curarrehue 19.47 185 eP P 21 27 48.2 +0.9
comp=Z,619nm,1.1s
IPMB Ipameri, GO 19.98 87 eP P 21 27 52.2 -0.7
RCLB Rio Claro- Sao 20.34 100 eP P 21 27 56.6 -0.2
SPB Sao Paulo 20.51 104 eP P 21 27 58.8 +0.3
comp=Z,80nm,0.8s
PLCA Paso Flores 20.55 183 P P 21 27 59.8 +0.7
comp=Z,218nm,1.0s,baz=21,slow=13
PLCA Paso Flores 20.55 183 eP P 21 27 59.6 +0.7
comp=Z,432nm,1.1s
BDFB Brasilia 20.67 81 P P 21 27 59.9 -0.6
comp=Z,88nm,0.7s,baz=252,slow=12,SNR=85
BDFB S S 21 31 43.7 -3.0
comp=Z,13nm,1.0s,baz=270,slow=20,SNR=1.7
BDFB LR LR 21 37 25.8
comp=Z,2µm,19.4s,baz=257,slow=41
BDFB Brasilia 20.67 81 eP P 21 27 60.0 -0.6
comp=Z,136nm,0.9s
BDFB eS S 21 31 43.7 -3.0
PTLC Puerto Leguiza 20.91 344 eP P 21 27 58.0 -4.9
PTLC Puerto Leguiza 20.91 344 eP P 21 27 58.0 -4.9
PTGA Pitinga 21.32 26 P P 21 28 04.9 -2.3
comp=Z,15nm,0.3s,baz=206,slow=12,SNR=35
PTGA S S 21 31 54.8 -4.4
comp=Z,22nm,0.9s,baz=141,slow=21,SNR=6.0
PTGA Pitinga 21.32 26 eP P 21 28 05.1 -2.1
comp=Z,46nm,0.9s
PTGA eS S 21 31 57.0 -2.1
PMNB Patos De Minas 21.56 90 eP P 21 28 09.3 -0.6
OTAV Otavalo 22.18 335 eP P 21 28 18.5 +1.6
comp=Z,212nm,1.4s
OTAV Otavalo 22.18 335 eP P 21 28 18.5 +1.6
OTAV pmax pmax
comp=Z,212nm,1.4s
OTAV Otavalo 22.18 335 eP P 21 28 19.4 +2.4
FLOC Florencia 22.49 343 eP P 21 28 17.7 -2.1
FLOC Florencia 22.49 343 eP P 21 28 17.7 -2.1
CMBC Cumbal 22.59 337 eP P 21 28 22.6 +1.4
CMBC Cumbal 22.59 337 eP P 21 28 22.6 +1.4
GCUF Volcan Galeras 22.68 339 eP P 21 28 24.0 +1.8
GCUF Volcan Galeras 22.68 339 eP P 21 28 24.0 +1.8
CRUC La Cruz 22.87 340 eP P 21 28 26.5 +2.6
CRUC La Cruz 22.87 340 eP P 21 28 26.5 +2.6
BSCB Bom Sucesso 22.91 96 eP P 21 28 22.9 -1.2
GO07 Milladeo Hill, 23.20 188 eP P 21 28 24.6 -2.0
comp=Z,134nm,0.6s
POPC Popayan, Colom 23.70 341 eP P 21 28 32.1 +0.5
POPC Popayan, Colom 23.70 341 eP P 21 28 32.1 +0.5
MCI6 Montes Claros 24.25 86 eP P 21 28 36.8 +0.5
MCI8 Montes Claros 24.25 86 eP P 21 28 36.5 0.0
JANB Januaria 24.27 82 eP P 21 28 35.9 -0.7
MCI9 Montes Claros 24.27 86 eP P 21 28 36.6 +0.1
MCI7 Montes Claros 24.32 86 eP P 21 28 35.6 -1.5
YOTC Yotoco, Valle 24.98 343 eP P 21 28 43.0 0.0
YOTC Yotoco, Valle 24.98 343 eP P 21 28 43.0 0.0
CHIC Chingaza 25.01 349 eP P 21 28 42.8 -0.9
CHIC Chingaza 25.01 349 eP P 21 28 42.8 -0.9
DUB01 Friburgo-RJ 25.11 99 eP P 21 28 43.3 -1.0
ROSC El Rosal 25.33 348 P P 21 28 48.0 +1.5
comp=Z,21nm,0.6s,baz=149,slow=4.0,SNR=14
ROSC El Rosal 25.33 348 eP P 21 28 48.5 +2.0
comp=Z,36nm,1.2s
ROSC El Rosal 25.33 348 eP P 21 28 48.2 +1.7
ROSC El Rosal 25.33 348 eP P 21 28 48.2 +1.7
RREF El Recreo 25.60 346 eP P 21 28 50.4 +1.1
RREF El Recreo 25.60 346 eP P 21 28 50.4 +1.1
NORC Norcasia 26.14 347 eP P 21 28 52.7 -0.8
NORC Norcasia 26.14 347 eP P 21 28 52.7 -0.8
RUSC La Rusia 26.15 351 eP P 21 28 54.2 +0.1
RUSC La Rusia 26.15 351 eP P 21 28 54.2 +0.1
SJMB Sao Joao De Ma 26.48 92 eP P 21 28 56.9 +0.4
ALF01 Guarapari-ES 26.71 96 eP P 21 28 59.4 +0.8
BSFB Barra de Sao F 26.78 92 eP P 21 28 59.4 +0.2
HELC Santa Helena 26.89 346 eP P 21 28 59.7 -0.9
HELC Santa Helena 26.89 346 eP P 21 28 59.7 -0.9
RIB01 Linhares ES 27.14 93 eP P 21 29 03.6 +1.1
ZARC Zaragoza, Cauc 28.02 348 eP P 21 29 08.4 -1.9
ZARC Zaragoza, Cauc 28.02 348 eP P 21 29 08.4 -1.9
PAYG Puerto Ayora 28.27 311 eP P 21 29 14.4 +1.9
comp=Z,71nm,1.2s
SDV Santo Domingo 28.88 357 P P 21 29 17.4 -0.8
comp=Z,24nm,0.8s,baz=184,slow=8.1,SNR=33
SDV Santo Domingo 28.88 357 eP P 21 29 17.3 -0.8
comp=Z,36nm,0.8s
MDP Montagnes des 29.92 35 P P 21 29 26.9 -0.3
comp=Z,13nm,0.9s,baz=180,slow=5.3
PCRV Puerto La Cruz 30.47 9 P P 21 29 32.4 +0.4
comp=Z,8.8nm,0.5s,baz=282,slow=1.6,SNR=8.3
GO09 Cerro Castillo 31.16 184 eP P 21 29 35.3 -2.5
comp=Z,50nm,1.1s
EFI East Falkland 32.66 167 eP P 21 29 51.5 +0.6
comp=Z,170nm,1.0s
EFI East Falkland 32.66 167 eP P 21 29 51.3 +0.4
EFI pmax pmax
comp=Z,193nm,1.1s
JTS JuntasAbangare 33.97 331 eP P 21 30 05.0 +2.3
comp=Z,37nm,1.0s
JTS JuntasAbangare 33.97 331 eP P 21 30 03.8 +1.1
JTS pmax pmax
comp=Z,46nm,1.2s
USHA Ushuaia 34.64 179 P P 21 30 08.9 +1.0
comp=Z,36nm,1.0s,baz=14,slow=7.9,SNR=12
RCBR Riachuelo 35.35 71 eP P 21 30 15.3 +0.6
comp=Z,59nm,1.4s
RCBR Riachuelo 35.35 71 eP P 21 30 15.3 +0.6
RCBR pmax pmax
comp=Z,59nm,1.4s
CDVI St. Croix 37.91 7 eP P 21 30 31.6 -4.6
comp=Z,832nm,0.3s
CRPR Cabo Rojo, PR 37.97 3 eP P 21 30 35.4 -1.3
comp=Z,165nm,0.9s
OBIP Obispado Ponce 38.04 4 eP P 21 30 35.9 -1.3
comp=Z,147nm,0.9s
SJG San Juan 38.14 5 P P 21 30 36.1 -2.0
comp=Z,119nm,0.9s,baz=318,slow=2.1,SNR=30
MPR Mayaguez 38.17 3 eP P 21 30 37.1 -1.3
comp=Z,128nm,0.9s
MTP Monte Pirata 38.17 6 eP P 21 30 36.0 -2.4
comp=Z,61nm,1.0s
HUMP Col San Antoni 38.19 5 eP P 21 30 36.7 -1.9
comp=Z,110nm,1.4s
CBYP Canovanas 38.32 5 eP P 21 30 37.1 -2.6
comp=Z,181nm,1.0s
CBYP eS S 21 36 24.8 -2.8
TGUH Tegucigalpa,Un 38.34 331 eP P 21 30 41.1 +1.3
comp=Z,102nm,0.9s
SDD Santo Domingo 38.37 359 eP P 21 30 39.3 -0.7
comp=Z,146nm,1.1s
SMRT St. Maarten 38.43 9 eP P 21 30 37.7 -2.9
comp=Z,95nm,1.0s
SDDR Presa de Saban 38.94 357 eP P 21 30 43.9 -1.0
comp=Z,35nm,1.0s
MTDJ Mount Denham 38.99 347 eP P 21 30 46.0 +0.7
comp=Z,131nm,1.0s
APG El Apazote 40.69 328 P P 21 31 00.7 +1.0
comp=Z,78nm,1.0s,baz=163,slow=4.7,SNR=38
CCIG Comitan 42.62 326 eP P 21 31 16.1 +0.7
comp=Z,87nm,1.2s
TEIG Tepich 44.24 334 eP P 21 31 28.5 +0.3
comp=Z,99nm,1.0s
CMIG Matias Romero 44.76 324 P P 21 31 33.1 +0.8
comp=Z,60nm,1.0s,baz=129,slow=5.5,SNR=52
061Z Ochoppi 47.12 346 P P 21 31 51.7 +1.0
baz=165
060A Indiantown 48.12 347 P P 21 31 59.1 +0.6
baz=166
059A Moore Haven 48.23 346 P P 21 31 59.7 +0.4
baz=165,SNR=7.6
058A Arcadia 48.48 345 P P 21 32 01.7 +0.5
baz=164
959A Okeechobee 48.71 346 P P 21 32 03.7 +0.7
baz=165
958A Wauchula 48.97 345 P P 21 32 05.7 +0.8
baz=164
957A Wimauma 49.17 345 P P 21 32 07.1 +0.6
baz=164
859A Kempfer Cattle 49.23 346 P P 21 32 07.2 +0.3
baz=165,SNR=9.1
DWPF Disney Wildern 49.40 346 eP P 21 32 08.9 +0.7
comp=Z,111nm,0.8s
DWPF Disney Wildern 49.40 346 P P 21 32 08.9 +0.7
baz=165
858A St. Cloud 49.48 346 P P 21 32 09.5 +0.7
baz=165
857A Zephyrhills 49.74 345 P P 21 32 11.2 +0.4
baz=164
757A Oxford 50.35 345 P P 21 32 15.6 +0.2
baz=164,SNR=16
MOIG Morelia 50.46 320 eP P 21 32 18.7 +1.9
comp=Z,128nm,1.0s
658A Bunnell 50.62 346 eP P 21 32 18.1 +0.6
comp=Z,117nm,0.9s
658A Bunnell 50.62 346 P P 21 32 17.5 0.0
baz=165,SNR=6.9
JRQG Juriquilla Cam 50.81 321 eP P 21 32 20.3 +1.1
comp=Z,173nm,1.2s
656A Willston 50.87 345 P P 21 32 19.6 +0.3
baz=164,SNR=16
657A Interlachen 50.92 346 P P 21 32 20.0 +0.3
baz=164,SNR=18
655A Horseshoe Beac 51.19 344 P P 21 32 21.6 -0.1
baz=163,SNR=8.1
557A Orange Park 51.30 346 P P 21 32 22.8 +0.3
baz=165,SNR=27
556A Lake Butler 51.45 345 P P 21 32 23.8 +0.2
baz=164,SNR=15
555A McAlpin 51.70 345 eP P 21 32 24.8 -0.6
comp=Z,152nm,0.9s
555A McAlpin 51.70 345 P P 21 32 25.6 +0.1
baz=163,SNR=12
457A Yulee 51.84 346 P P 21 32 26.7 +0.1
baz=165
456A Hilliard 52.05 346 eP P 21 32 29.1 +1.1
comp=Z,371nm,1.1s
456A Hilliard 52.05 346 P P 21 32 28.6 +0.5
baz=164,SNR=17
553A Crawfordville 52.14 343 P P 21 32 29.3 +0.6
baz=162,SNR=8.7
455A Stateville 52.30 345 P P 21 32 30.2 +0.3
baz=163,SNR=8.4
552A Lynn Haven 52.32 342 P P 21 32 30.1 0.0
baz=161
454A Quitman 52.43 344 P P 21 32 30.8 -0.1
baz=163,SNR=13
357A Townsend 52.60 347 P P 21 32 32.3 +0.2
baz=165,SNR=8.2
356A Blackshear 52.65 346 P P 21 32 32.7 +0.2
baz=164,SNR=13
453A Whigham 52.74 344 eP P 21 32 33.5 +0.3
comp=Z,263nm,1.0s
453A Whigham 52.74 344 P P 21 32 33.4 +0.3
baz=162,SNR=20
355A Pearson 52.84 345 P P 21 32 33.9 +0.1
baz=164,SNR=13
452A Marianna 52.97 343 P P 21 32 34.7 -0.2
baz=161,SNR=6.8
257A Skidaway Islan 53.04 347 eP P 21 32 36.0 +0.7
comp=Z,402nm,1.5s
257A Skidaway Islan 53.04 347 P P 21 32 35.7 +0.3
baz=165,SNR=5.6
TIGA Tifton 53.11 345 eP P 21 32 36.1 +0.3
comp=Z,85nm,0.8s
TIGA Tifton 53.11 345 P P 21 32 35.7 -0.2
baz=163,SNR=5.4
353A Camilla 53.18 344 P P 21 32 36.2 -0.2
baz=162,SNR=24
256A Glennville 53.23 347 P P 21 32 36.9 +0.2
baz=165,SNR=16
255A Hazlehurst 53.31 346 eP P 21 32 37.8 +0.4
comp=Z,116nm,1.1s
255A Hazlehurst 53.31 346 P P 21 32 37.5 +0.1
baz=164,SNR=16
351A Pinckard 53.49 343 P P 21 32 38.4 -0.3
baz=161,SNR=18
352A Blakely 53.49 343 eP P 21 32 38.6 -0.1
comp=Z,181nm,0.9s
352A Blakely 53.49 343 P P 21 32 38.2 -0.5
baz=161,SNR=22
254A Abbeville 53.52 345 P P 21 32 38.7 -0.2
baz=163,SNR=28
LNIG Linares 53.57 325 eP P 21 32 39.2 -0.3
comp=Z,89nm,1.1s
ZAIG Zacatecas 53.65 321 eP P 21 32 41.2 +0.9
comp=Z,85nm,1.0s
BRAL Brewton 53.81 341 eP P 21 32 41.4 +0.4
comp=Z,205nm,0.8s
BRAL Brewton 53.81 341 P P 21 32 40.9 -0.2
baz=159,SNR=8.8
350A Dozier 53.83 342 P P 21 32 41.2 0.0
baz=160
253A Americus 53.84 344 eP P 21 32 41.2 0.0
comp=Z,181nm,1.1s
253A Americus 53.84 344 P P 21 32 40.7 -0.5
baz=162,SNR=9.8
252A Lumpkin 53.93 344 P P 21 32 41.2 -0.7
baz=162,SNR=22
155A Kite 53.97 346 P P 21 32 42.1 -0.1
baz=164,SNR=27
NHSC New Hope 53.97 349 eP P 21 32 42.9 +0.6
comp=Z,506nm,1.0s
NHSC New Hope 53.97 349 P P 21 32 42.8 +0.6
baz=167,SNR=61
349A Repton 54.02 341 P P 21 32 42.3 -0.3
baz=159,SNR=15
154A Montrose 54.11 346 eP P 21 32 43.1 -0.1
comp=Z,223nm,1.0s
154A epP pP 21 33 03.7 -2.4
154A Montrose 54.11 346 P P 21 32 42.8 -0.4
baz=164,SNR=21
251A Midway 54.20 343 P P 21 32 43.1 -0.7
baz=161,SNR=38
348A Jackson 54.30 340 eP P 21 32 44.9 +0.2
comp=Z,94nm,0.9s
348A Jackson 54.30 340 P P 21 32 44.3 -0.3
baz=158
153A Fort Valley 54.32 345 P P 21 32 44.3 -0.5
baz=163
250A Grady 54.34 342 eP P 21 32 44.6 -0.2
comp=Z,116nm,0.9s
250A epP pP 21 33 07.2 -0.5
250A Grady 54.34 342 P P 21 32 44.2 -0.7
baz=160,SNR=18
Z55A Blythe 54.48 347 P P 21 32 45.9 +0.1
baz=165,SNR=7.3
152A Waverly Hall 54.56 344 eP P 21 32 45.8 -0.8
comp=Z,71nm,1.0s
152A Waverly Hall 54.56 344 P P 21 32 45.7 -0.8
baz=162,SNR=31
249A Camden 54.59 341 P P 21 32 46.0 -0.7
baz=159,SNR=24
151A Opelika 54.59 343 P P 21 32 45.8 -0.9
baz=161,SNR=9.5
Z54A Sparta 54.65 346 P P 21 32 46.7 -0.4
baz=164,SNR=19
346A Big Creek Wild 54.80 339 eP P 21 32 48.3 +0.1
346A Big Creek Wild 54.80 339 P P 21 32 47.7 -0.5
baz=156
150A Eclectic 54.86 343 P P 21 32 47.8 -0.8
baz=160,SNR=38
Z53A Monticello 54.86 345 P P 21 32 47.9 -0.7
baz=163,SNR=18
248A Dixon Mills 54.88 341 P P 21 32 48.3 -0.5
baz=158,SNR=11
GOGA Frey 54.96 345 eP P 21 32 48.7 -0.7
comp=Z,44nm,1.1s
GOGA Godfrey 54.96 345 eP P 21 32 48.7 -0.7
GOGA pmax pmax
comp=Z,44nm,1.1s
GOGA Godfrey 54.96 345 P P 21 32 48.6 -0.7
baz=163,SNR=18
Z52A Williamson 54.98 344 P P 21 32 48.8 -0.7
baz=162,SNR=25
149A Jones 55.07 342 P P 21 32 49.1 -1.0
baz=160,SNR=17
247A Quitman 55.12 340 P P 21 32 50.1 -0.5
baz=158,SNR=12
Y54A Tignall 55.22 346 P P 21 32 50.7 -0.5
baz=164,SNR=31
Z51A Franklin 55.30 344 P P 21 32 50.9 -0.9
baz=162,SNR=11
148A Greensboro 55.35 341 P P 21 32 51.2 -0.9
baz=159
Y53A Monroe 55.41 345 P P 21 32 51.9 -0.7
baz=163,SNR=16
245A Little AP, Sta 55.53 339 P P 21 32 52.9 -0.5
baz=156,SNR=15
Y52A Lilburn 55.54 345 eP P 21 32 53.1 -0.4
comp=Z,49nm,1.0s
Y52A epP pP 21 33 16.8 +0.3
Y52A Lilburn 55.54 345 P P 21 32 52.6 -0.9
baz=163,SNR=19
LRAL Lakeview Retre 55.54 342 eP P 21 32 52.5 -1.0
LRAL Lakeview Retre 55.54 342 P P 21 32 52.4 -1.0
baz=160,SNR=26
Z49A Columbiana 55.55 342 P P 21 32 52.6 -1.0
baz=160,SNR=40
147A Livingston 55.59 341 eP P 21 32 53.3 -0.5
comp=Z,59nm,1.1s
147A Livingston 55.59 341 P P 21 32 53.0 -0.9
baz=158,SNR=6.2
CNNC Cliffs of the 55.69 351 eP P 21 32 54.1 -0.4
comp=Z,64nm,1.0s
146A Union 55.80 340 eP P 21 32 55.1 -0.3
comp=Z,102nm,1.0s
146A Union 55.80 340 P P 21 32 54.9 -0.5
baz=157,SNR=9.6
244A Avery, Jackson 55.81 338 P P 21 32 55.0 -0.5
baz=155,SNR=8.5
Y51A Rockmart 55.82 344 P P 21 32 54.6 -0.9
baz=162,SNR=30
X53A Estanollee 55.97 346 P P 21 32 56.0 -0.6
baz=164,SNR=17
Y50A Piedmont 55.99 343 P P 21 32 55.7 -1.0
baz=161,SNR=32
Z47A Carrollton 56.01 341 P P 21 32 55.9 -0.9
baz=158,SNR=12
Z48A Northport 56.02 342 P P 21 32 55.7 -1.3
baz=159,SNR=35
145A Houston Renfro 56.06 339 P P 21 32 56.9 -0.4
baz=156,SNR=6.3
Y49A Blount Mountai 56.14 343 eP P 21 32 56.9 -0.9
comp=Z,43nm,0.9s
Y49A Blount Mountai 56.14 343 P P 21 32 56.6 -1.2
baz=160,SNR=24
KMSC Kings Mountain 56.17 348 eP P 21 32 58.1 +0.1
comp=Z,82nm,1.0s
KMSC Kings Mountain 56.17 348 P P 21 32 57.9 -0.1
baz=166,SNR=40
X52A Dahlonega 56.20 345 P P 21 32 57.6 -0.7
baz=163,SNR=16
144A Alexander Plac 56.26 338 P P 21 32 58.5 -0.1
baz=156
Z46A Louisville 56.28 340 P P 21 32 58.5 -0.3
baz=158
833A Chaparral WMA, 56.32 328 eP P 21 32 59.5 +0.3
comp=Z,98nm,0.8s
833A Chaparral WMA, 56.32 328 P P 21 32 59.4 +0.2
baz=145,SNR=18
X51A Calhoun 56.40 345 eP P 21 32 59.1 -0.5
comp=Z,91nm,1.0s
X51A Calhoun 56.40 345 P P 21 32 58.9 -0.7
baz=162,SNR=21
Y48A Jasper 56.41 342 P P 21 32 58.1 -1.6
baz=160,SNR=18
X50B Fort Payne 56.51 344 P P 21 32 59.3 -1.1
baz=161,SNR=22
W53A Cullowhee 56.58 346 P P 21 33 00.7 -0.3
baz=164,SNR=43
Y47A UCPARC, Winfie 56.60 341 P P 21 33 00.0 -1.0
baz=159,SNR=40
W52A Murphy 56.68 346 eP P 21 33 01.4 -0.2
comp=Z,67nm,1.0s
W52A Murphy 56.68 346 P P 21 33 01.2 -0.4
baz=163,SNR=10
Z45A Winona 56.69 340 eP P 21 33 01.5 -0.2
comp=Z,106nm,0.8s
Z45A Winona 56.69 340 P P 21 33 01.2 -0.4
baz=157,SNR=11
X49A Woodville 56.73 343 P P 21 33 00.9 -1.1
baz=161,SNR=18
X48A Hartselle 56.88 342 eP P 21 33 02.3 -0.7
comp=Z,103nm,1.0s
X48A Hartselle 56.88 342 P P 21 33 02.2 -0.8
baz=160,SNR=41
Y46A Houston 56.89 341 P P 21 33 01.8 -1.3
baz=158,SNR=15
W51A Cleveland 56.94 345 P P 21 33 03.0 -0.5
baz=162,SNR=30
V53A Saluda 56.98 347 eP P 21 33 03.9 +0.1
comp=Z,37nm,0.9s
V53A Saluda 56.98 347 P P 21 33 03.5 -0.3
baz=165,SNR=26
NATX Nacogdoches 57.08 334 eP P 21 33 05.7 +1.2
comp=Z,111nm,0.9s
NATX Nacogdoches 57.08 334 P P 21 33 05.0 +0.5
baz=151,SNR=7.7
Y45A Yeager Farm, C 57.09 340 P P 21 33 03.8 -0.7
baz=157,SNR=10
W50A Signal Mountai 57.12 344 eP P 21 33 04.2 -0.6
comp=Z,95nm,1.0s
W50A Signal Mountai 57.12 344 P P 21 33 03.9 -0.8
baz=162,SNR=38
X47A Russelville 57.17 342 P P 21 33 03.5 -1.6
baz=159,SNR=36
TKL Tuckaleechee C 57.18 346 P P 21 33 04.6 -0.6
comp=Z,65nm,0.9s,baz=160,slow=8.9,SNR=62
TKL Tuckaleechee C 57.18 346 eP P 21 33 04.5 -0.7
comp=Z,81nm,0.9s
TKL Tuckaleechee C 57.18 346 eP P 21 33 04.5 -0.7
TKL pmax pmax
comp=Z,81nm,0.9s
W49A Belvidere 57.29 343 P P 21 33 04.8 -1.1
baz=161,SNR=18
V52A Sevierville 57.32 346 eP P 21 33 05.6 -0.5
comp=Z,129nm,1.0s
V52A Sevierville 57.32 346 P P 21 33 05.4 -0.7
baz=164,SNR=69
Y44A Strider, Charl 57.40 339 P P 21 33 06.0 -0.7
baz=156
X46A Booneville 57.43 341 P P 21 33 05.5 -1.4
baz=158,SNR=14
V51A Loudon 57.46 345 eP P 21 33 06.4 -0.7
comp=Z,49nm,0.9s
V51A Loudon 57.46 345 P P 21 33 06.4 -0.7
baz=163,SNR=18
W48A Pulaski 57.49 343 P P 21 33 06.4 -0.9
baz=160,SNR=26
435B Jarrell 57.50 331 eP P 21 33 08.0 +0.5
comp=Z,38nm,0.9s
435B Jarrell 57.50 331 P P 21 33 07.3 -0.2
baz=148,SNR=5.7
V50A Pikeville 57.51 345 P P 21 33 06.8 -0.6
baz=162,SNR=73
X45A UM Field Stati 57.56 340 P P 21 33 06.2 -1.6
baz=157,SNR=10
Y43A Makayla and Ka 57.60 339 P P 21 33 07.6 -0.4
baz=156
U53A Fall Branch 57.60 347 P P 21 33 07.5 -0.6
baz=165,SNR=36
OXF Oxford 57.64 340 eP P 21 33 07.3 -1.1
comp=Z,162nm,1.0s
OXF Oxford 57.64 340 eP P 21 33 07.3 -1.1
OXF pmax pmax
comp=Z,162nm,1.0s
OXF Oxford 57.64 340 P P 21 33 07.1 -1.3
baz=157,SNR=27
PLAL Pickwick Lake 57.67 342 eP P 21 33 07.3 -1.3
comp=Z,76nm,0.9s
Z41A Richland Creek 57.68 337 eP P 21 33 08.9 +0.3
comp=Z,79nm,0.9s
Z41A Richland Creek 57.68 337 P P 21 33 08.7 +0.1
baz=154,SNR=6.4
W47A Westpoint 57.78 342 P P 21 33 08.1 -1.2
baz=159,SNR=36
U52A Thorn Hill 57.80 347 P P 21 33 08.7 -0.8
baz=164,SNR=18
V49A McMinnville 57.81 344 P P 21 33 08.5 -1.0
baz=161,SNR=59
X44A Crenshaw 57.87 340 P P 21 33 08.7 -1.3
baz=156
W46A Michie 57.90 341 P P 21 33 08.2 -2.0
baz=158,SNR=7.6
U51A La Follette 57.93 346 P P 21 33 09.5 -0.9
baz=163,SNR=22
TZTN Tazewell 57.98 346 eP P 21 33 10.4 -0.4
comp=Z,36nm,1.0s
TZTN Tazewell 57.98 346 P P 21 33 09.8 -0.9
baz=164,SNR=19
BLA Blacksburg 58.01 349 eP P 21 33 11.4 +0.4
comp=Z,54nm,0.9s
BLA Blacksburg 58.01 349 eP P 21 33 11.4 +0.4
BLA pmax pmax
comp=Z,54nm,0.9s
BLA Blacksburg 58.01 349 P P 21 33 11.3 +0.4
baz=167,SNR=22
V48A Smith Brothers 58.03 343 eP P 21 33 10.4 -0.7
comp=Z,122nm,0.9s
V48A Smith Brothers 58.03 343 P P 21 33 10.2 -0.9
baz=160,SNR=75
X43A Marvell 58.13 339 P P 21 33 11.4 -0.4
baz=156
U50A Jamestown 58.16 345 P P 21 33 11.0 -1.0

baz=162,SNR=46
Y41A Eaglette Beard 58.16 337 P P 21 33 11.9 -0.1
baz=154,SNR=23
W45A Hickory Valley 58.17 341 P P 21 33 10.8 -1.3
baz=158,SNR=15
JCT Junction City 58.29 329 *e*P P 21 33 12.9 -0.2
comp=Z,48nm,1.0s
JCT Junction City 58.29 329 *e*P P 21 33 12.9 -0.2
JCT pmax pmax
comp=Z,48nm,1.0s
JCT Junction City 58.29 329 P P 21 33 12.7 -0.3
baz=146,SNR=16
V47A Nunnelly 58.30 343 P P 21 33 11.5 -1.4
baz=160,SNR=17
R58B Mineral 58.37 352 *e*P P 21 33 13.5 +0.1
comp=Z,51nm,0.9s
R58B Mineral 58.37 352 P P 21 33 13.4 0.0
baz=170,SNR=30
T52A Hallie 58.40 347 P P 21 33 12.9 -0.8
baz=165,SNR=30
V46A Holladay 58.45 342 P P 21 33 12.1 -1.8
baz=159,SNR=15
WHTX Lake Whitney, 58.47 332 *e*P P 21 33 14.3 +0.1
comp=Z,54nm,0.8s
WHTX Lake Whitney, 58.47 332 P P 21 33 14.0 -0.2
baz=148,SNR=7.1
T51A Gray 58.48 346 P P 21 33 13.5 -0.7
baz=164,SNR=42
U49A Red Boiling Sp 58.48 344 P P 21 33 13.2 -1.0
baz=162,SNR=29
CBN Corbin Frederi 58.54 352 *e*P P 21 33 15.1 +0.5
comp=Z,55nm,0.9s
W43A Forest City 58.59 339 P P 21 33 14.3 -0.7
baz=156
V45A Humboldt 58.64 341 P P 21 33 13.9 -1.4
baz=158,SNR=18
WVT Waverly 58.67 342 *e*P P 21 33 14.2 -1.3
comp=Z,98nm,0.8s
WVT Waverly 58.67 342 *e*P P 21 33 14.2 -1.3
WVT pmax pmax
comp=Z,98nm,0.8s
WVT Waverly 58.67 342 P P 21 33 14.2 -1.3
baz=159
U48A Cassie Pea, Po 58.68 344 P P 21 33 14.7 -0.9
baz=161,SNR=59
X41A Kaden, Bauxite 58.68 338 P P 21 33 14.6 -1.0
baz=154,SNR=10
T50A Nancy 58.73 345 P P 21 33 15.1 -0.8
baz=163,SNR=7.7
X40A Basin Creek Fa 58.79 337 *e*P P 21 33 16.0 -0.4
comp=Z,10.0nm,1.0s
X40A Basin Creek Fa 58.79 337 P P 21 33 15.4 -0.9
baz=154,SNR=5.7
U47A Clarksville 58.81 343 P P 21 33 15.3 -1.2
baz=160,SNR=57
UALR University of 58.87 338 *e*P P 21 33 16.7 -0.2
comp=Z,61nm,1.0s
S52A Salyersville 58.97 347 P P 21 33 16.8 -0.8
baz=165,SNR=24
T49A Edmonton 58.98 345 *e*P P 21 33 16.9 -0.8
comp=Z,165nm,1.0s
T49A Edmonton 58.98 345 P P 21 33 16.9 -0.8
baz=162,SNR=105
U46A Springville 58.98 342 P P 21 33 16.5 -1.2
baz=159,SNR=19
V44A Blytheville 59.01 340 P P 21 33 16.9 -1.0
baz=157
W42A Bald Knob 59.03 339 P P 21 33 17.1 -0.9
baz=155
S51A Beattyville 59.04 347 *e*P P 21 33 17.8 -0.3
comp=Z,46nm,1.0s
S51A Beattyville 59.04 347 P P 21 33 16.9 -1.2
baz=164,SNR=16
R54A Victor 59.06 349 P P 21 33 18.0 -0.2
baz=167
MIAR Mount Ida 59.11 337 *e*P P 21 33 18.2 -0.4
comp=Z,78nm,1.0s
MIAR Mount Ida 59.11 337 *e*P P 21 33 18.2 -0.4
MIAR pmax pmax
comp=Z,78nm,1.0s
MIAR Mount Ida 59.11 337 P P 21 33 18.2 -0.4
baz=153,SNR=38
U45A Rockin P Farm, 59.15 342 P P 21 33 17.8 -1.0
baz=158,SNR=9.8
W41B Gary Mavity, V 59.20 338 *e*P P 21 33 18.6 -0.6
comp=Z,47nm,1.1s
W41B Gary Mavity, V 59.20 338 P P 21 33 18.4 -0.7
baz=155,SNR=20
T48A Bowling Green 59.20 344 P P 21 33 18.3 -0.9
baz=161,SNR=33
S50A Richmond 59.26 346 P P 21 33 19.0 -0.6
baz=163,SNR=44
T47A Sharon Grove 59.28 343 *e*P P 21 33 19.3 -0.4
comp=Z,169nm,1.0s
T47A Sharon Grove 59.28 343 P P 21 33 18.9 -0.8
baz=160,SNR=18
U44B Burton Farm, H 59.31 341 P P 21 33 19.8 -0.2
baz=158
LTX Lajitas 59.35 325 *e*P P 21 33 19.8 -0.7
LTX Lajitas 59.35 325 *e*P P 21 33 19.8 -0.7
TX31 Lajitas Ar. Si 59.35 325 *e*P P 21 33 19.8 -0.7
TXAR Lajitas Array 59.35 325 P P 21 33 19.8 -0.7
comp=Z,9.6nm,0.8s,baz=150,slow=7.2,SNR=87
TXAR PKP2bc 22 02 59.4
comp=Z,0.5nm,1.0s,baz=50,slow=2.1,SNR=4.1
TXAR Lajitas Array 59.35 325 P P 21 33 19.8 -0.7
TXAR pmax pmax
comp=Z,9.0nm,0.8s
TXAR pmax pmax
comp=Z,1.0nm,1.0s
R53A Hurricane 59.38 348 P P 21 33 20.2 -0.2
baz=166
V42A Cord 59.47 339 P P 21 33 19.6 -1.5
baz=156,SNR=8.5
R52A Catlettsburg 59.52 348 P P 21 33 20.7 -0.6
baz=165,SNR=7.8
T46A Princeton 59.54 343 P P 21 33 20.6 -0.9
baz=159,SNR=76
S49A Springfield 59.57 345 P P 21 33 20.6 -1.1
baz=162,SNR=29
U44A Portageville 59.57 341 P P 21 33 21.1 -0.6
baz=158,SNR=9.0
S48A Wiedeman Farm, 59.63 345 P P 21 33 20.8 -1.4
baz=162,SNR=57
SDMD Soldier's Deli 59.67 353 *e*P P 21 33 22.7 +0.3
comp=Z,18nm,1.0s
R51A Hillsboro 59.68 347 P P 21 33 21.8 -0.7
baz=164,SNR=28
Q55A Buckhannon 59.70 350 P P 21 33 23.4 +0.8
baz=168,SNR=37
V41A Mountainview 59.72 338 P P 21 33 21.6 -1.1
baz=155,SNR=45
T45A Paducah 59.73 342 *e*P P 21 33 22.5 -0.4
comp=Z,332nm,0.9s
T45A Paducah 59.73 342 P P 21 33 22.0 -0.9
baz=159,SNR=9.5
W39A Magazine 59.77 337 *e*P P 21 33 23.4 +0.3
comp=Z,79nm,0.9s
W39A Magazine 59.77 337 P P 21 33 23.1 -0.1
baz=153,SNR=32
S47A Hartford 59.79 344 P P 21 33 21.9 -1.3
baz=161,SNR=43
R50A Paris 59.82 346 P P 21 33 22.7 -0.7
baz=163,SNR=25
X37A Clayton 59.84 335 *e*P P 21 33 23.9 +0.2
comp=Z,98nm,1.0s
U42A Revenden 59.92 340 P P 21 33 23.1 -1.1
baz=156,SNR=48
ABTX Abilene, Hawle 59.99 330 *e*P P 21 33 24.6 -0.2
comp=Z,74nm,0.9s
ABTX *e*pP pP 21 33 46.8 -1.1
ABTX Abilene, Hawle 59.99 330 P P 21 33 24.4 -0.4
baz=147,SNR=35
R49A Shelbyville 60.02 346 P P 21 33 23.6 -1.2
baz=162,SNR=18
Q52A Bidwell 60.05 348 P P 21 33 24.3 -0.6
baz=166,SNR=15
T44A Benton 60.08 341 P P 21 33 24.2 -1.0
baz=158,SNR=10
S46A Don Dixon Farm 60.09 343 P P 21 33 24.1 -1.2
baz=160,SNR=37
U41A Viola 60.14 339 P P 21 33 24.6 -1.1
baz=155,SNR=18
P55A Reedsville 60.16 351 P P 21 33 26.3 +0.5
baz=168,SNR=34
MVL Millersville 60.20 354 *e*P P 21 33 26.5 +0.6
comp=Z,42nm,0.9s
WCI Wyandotte Cave 60.24 345 *e*P P 21 33 25.2 -1.1
comp=Z,84nm,0.9s
WCI Wyandotte Cave 60.24 345 *e*P P 21 33 25.2 -1.1
WCI pmax pmax
comp=Z,84nm,0.9s
WCI Wyandotte Cave 60.24 345 P P 21 33 25.1 -1.2
baz=161
Q50A Georgetown 60.28 347 P P 21 33 25.7 -0.9
baz=164,SNR=18
T43A Greenville 60.29 341 P P 21 33 25.7 -0.9
baz=157,SNR=57
R48A Northridge Ran 60.29 345 P P 21 33 25.6 -1.0
baz=162,SNR=11
MCWV Mont Chateau 60.31 351 *e*P P 21 33 27.4 +0.6
comp=Z,66nm,0.8s
MCWV Mont Chateau 60.31 351 P P 21 33 27.2 +0.4
baz=168,SNR=35
Q51A Peebles 60.33 347 *e*P P 21 33 26.3 -0.6
comp=Z,68nm,1.0s
Q51A Peebles 60.33 347 P P 21 33 26.1 -0.8
baz=165,SNR=21
S45A Carrier Mills 60.33 342 P P 21 33 26.0 -0.9
baz=159,SNR=54
USIN University of 60.34 343 *e*P P 21 33 26.2 -0.8
comp=Z,90nm,0.9s
R47A Wooly Knot Far 60.36 344 P P 21 33 25.7 -1.4
baz=161,SNR=30
P53A Whipple 60.40 349 *e*P P 21 33 27.6 +0.2
comp=Z,190nm,1.0s
P53A Whipple 60.40 349 P P 21 33 27.3 0.0
baz=167,SNR=52
PAGS Pennsylvania G 60.46 353 *e*P P 21 33 28.1 +0.3
comp=Z,34nm,1.0s
U40A Yellville 60.47 338 P P 21 33 27.1 -0.8
baz=154,SNR=40
T42A Van Buren 60.49 340 *e*P P 21 33 26.7 -1.4
comp=Z,34nm,0.8s
T42A Van Buren 60.49 340 P P 21 33 26.6 -1.4
baz=156,SNR=32
R46A Gibon Southern 60.53 344 P P 21 33 26.8 -1.4
baz=160,SNR=18
S44A Carbondale 60.54 342 P P 21 33 27.6 -0.7
baz=158,SNR=23
SIUC Southern Illin 60.55 342 *e*P P 21 33 27.8 -0.6
comp=Z,160nm,1.0s
Q49A Aurora 60.64 346 P P 21 33 27.8 -1.2
baz=163
S43A Fulton Ridge, 60.67 341 P P 21 33 28.2 -1.0
baz=157,SNR=38
P52A Corning 60.68 349 P P 21 33 28.6 -0.6
baz=166,SNR=38
P51A Williamsport 60.71 348 *e*P P 21 33 29.1 -0.3
comp=Z,63nm,0.9s
P51A Williamsport 60.71 348 P P 21 33 28.6 -0.9
baz=158,SNR=7.1
BRNJ Basking Ridge 60.72 355 *e*P P 21 33 30.4 +1.0
comp=Z,37nm,1.0s
T41A Mountain View 60.72 339 P P 21 33 28.6 -1.1
baz=156,SNR=17
RKT Rikitea 60.73 254 *e*P P 21 33 32.8 +2.8
comp=Z,53nm,1.2s
RKT *e*S S 21 41 47.8 +7.5
comp=Z,253nm,26.5s
RKT *e*LR LR 21 51 44.6
comp=Z,1μm,32.2s
RKT Rikitea 60.73 254 *e*T T 22 38 36.2
comp=Z,1.5nm,0.2s
O56A Blue Knob Stat 60.73 352 *e*P P 21 33 30.2 +0.6
comp=Z,79nm,0.9s
O56A Blue Knob Stat 60.73 352 P P 21 33 30.0 +0.4
baz=170
Q48A North Vernon 60.76 345 P P 21 33 28.7 -1.1
baz=162,SNR=20
O55A Ligonier 60.77 351 P P 21 33 30.3 +0.4
baz=169,SNR=50
R45A Skylar, Fairfi 60.82 343 P P 21 33 29.1 -1.1
baz=159,SNR=41
O54A Avella 60.91 350 P P 21 33 30.7 -0.1
baz=168,SNR=21
Q47A Bedord North L 60.94 345 P P 21 33 29.8 -1.2
baz=161,SNR=21
P50A Jamestown 60.98 347 P P 21 33 30.5 -0.8
baz=164,SNR=27
PAL Palisades 60.99 356 *e*P P 21 33 31.8 +0.5
comp=Z,43nm,1.3s
PAL Palisades 60.99 356 P P 21 33 31.5 +0.2
baz=175
SSPA Standing Stone 61.00 352 *e*P P 21 33 31.7 +0.3
comp=Z,49nm,1.0s
SSPA Standing Stone 61.00 352 P P 21 33 31.6 +0.3
baz=170
N59A State Game Lan 61.05 354 *e*P P 21 33 32.4 +0.6
comp=Z,16nm,0.9s
N59A State Game Lan 61.05 354 P P 21 33 31.9 +0.1
baz=173,SNR=6.3
S42A Caledonia 61.08 341 P P 21 33 30.6 -1.4
baz=157,SNR=19
O52A Adamsville 61.09 349 *e*P P 21 33 31.7 -0.4
comp=Z,78nm,0.9s
O52A Adamsville 61.09 349 P P 21 33 31.7 -0.4
baz=SNR=29
P49A Miami Univ. Ec 61.11 346 P P 21 33 30.8 -1.4
baz=163,SNR=26
O53A New Philadelph 61.11 350 P P 21 33 32.0 -0.2
baz=167,SNR=31
ODNJ Ogdensburg 61.12 355 *e*P P 21 33 32.4 +0.2
comp=Z,38nm,1.4s
TUL1 Leonard 61.16 336 *e*P P 21 33 32.3 -0.3
comp=Z,85nm,1.0s
TUL1 Leonard 61.16 336 P P 21 33 32.2 -0.3
baz=151,SNR=19
OLIL Olney 61.18 343 *e*P P 21 33 31.8 -0.9
comp=Z,55nm,0.8s
BLO Bloomington 61.19 345 *e*P P 21 33 31.7 -1.0
comp=Z,88nm,0.8s
BLO Bloomington 61.19 345 *e*P P 21 33 31.7 -1.0
BLO pmax pmax
comp=Z,88nm,0.8s
P48A Milroy 61.20 346 P P 21 33 31.2 -1.6
baz=162,SNR=18
S41A Jillco Farms, 61.21 340 P P 21 33 32.0 -0.9
baz=156,SNR=63
YLE Yale 61.24 357 *e*P P 21 33 33.7 +0.7
comp=Z,53nm,1.0s
Q46A CEJHS Indians, 61.26 344 P P 21 33 31.9 -1.3
baz=160
O51A Pataskala 61.26 348 P P 21 33 32.5 -0.7
baz=166,SNR=23
R43A Red Bud 61.28 342 P P 21 33 32.4 -0.9
baz=158,SNR=18
N55A Marion Center 61.29 352 P P 21 33 33.9 +0.5
baz=169,SNR=76
Q45A Warren Harvey, 61.35 343 P P 21 33 32.5 -1.3
baz=160,SNR=38
WMOK Wichita Mounta 61.38 332 *e*P P 21 33 33.5 -0.7
comp=Z,15nm,1.1s
WMOK Wichita Mounta 61.38 332 *e*P P 21 33 33.5 -0.7
WMOK pmax pmax
comp=Z,15nm,1.1s
WMOK Wichita Mounta 61.38 332 P P 21 33 33.1 -1.1
baz=148,SNR=11
ACSO Alum Creek Sta 61.42 348 *e*P P 21 33 33.7 -0.6
comp=Z,180nm,1.0s
ACSO Alum Creek Sta 61.42 348 P P 21 33 33.6 -0.6
baz=165,SNR=56
P47A Martinsville 61.42 345 P P 21 33 33.1 -1.2
baz=162,SNR=36
VNA3 Neamayer Olymp 61.45 161 P P 21 33 35.1 +0.9
O50A Cable 61.46 347 P P 21 33 33.7 -0.8
baz=164,SNR=30
CCM Cathedral Cave 61.48 340 *e*P P 21 33 33.9 -0.9
comp=Z,82nm,0.9s
CCM Cathedral Cave 61.48 340 *e*P P 21 33 33.9 -0.9
CCM pmax pmax
comp=Z,82nm,0.9s
CCM Cathedral Cave 61.48 340 P P 21 33 33.8 -0.9
baz=156
R42A Luebbering 61.54 341 P P 21 33 34.4 -0.7
baz=157,SNR=54
N53A Lisbon 61.59 350 P P 21 33 35.4 0.0
baz=167,SNR=37
Q44A Meyer Farm, Va 61.59 343 *e*P P 21 33 34.6 -0.8
comp=Z,163nm,0.9s
Q44A Meyer Farm, Va 61.59 343 P P 21 33 34.0 -1.4
baz=159,SNR=18
N54A Moraine State 61.61 351 *e*P P 21 33 36.1 +0.6
comp=Z,185nm,1.0s
N54A Moraine State 61.61 351 P P 21 33 36.1 +0.6
baz=168,SNR=42
O49A Covington 61.65 347 *e*P P 21 33 34.9 -0.9
comp=Z,110nm,1.0s
O49A Covington 61.65 347 P P 21 33 34.7 -1.1
baz=164,SNR=33
VNA1 Neumayer--Stat 61.66 161 P P 21 33 37.5 +2.0
KSPA Keystone Colle 61.68 354 *e*P P 21 33 36.6 +0.6
comp=Z,29nm,1.0s
SLM Saint Louis 61.70 341 *e*P P 21 33 35.8 -0.4
comp=Z,75nm,1.0s
SLM Saint Louis 61.70 341 *e*P P 21 33 35.8 -0.4
SLM pmax pmax
comp=Z,75nm,1.0s
R41A Rosebud 61.74 340 P P 21 33 35.5 -1.0
baz=156,SNR=58
P46A Rosedale 61.78 344 P P 21 33 35.2 -1.5
baz=161,SNR=15
BRYW Bryant College 61.78 358 *e*P P 21 33 37.0 +0.3
comp=Z,66nm,0.8s
Q43A New Douglas 61.83 342 P P 21 33 35.8 -1.2
baz=158,SNR=32
P45A Graceland, Par 61.83 344 *e*P P 21 33 35.6 -1.4
comp=Z,183nm,0.9s
P45A Graceland, Par 61.83 344 P P 21 33 35.4 -1.6
baz=160,SNR=51
O48A Farmland 61.90 346 P P 21 33 36.3 -1.1
baz=163,SNR=33
N51A Ashland 61.97 349 *e*P P 21 33 37.7 -0.2
comp=Z,97nm,1.0s
N51A Ashland 61.97 349 P P 21 33 37.1 -0.8
baz=166,SNR=13
N50A Nevada 61.97 348 P P 21 33 37.0 -0.9
baz=165,SNR=21
GDL2 Guadalupe Moun 61.97 326 *e*P P 21 33 38.7 +0.4
P44A Sand Creek, Wi 62.01 343 P P 21 33 36.7 -1.5
baz=159,SNR=15
VNA2 Neumayer--Watz 62.02 161 P P 21 33 39.1 +1.1
baz=2Bf,slow=7.1
Q42A Golden Eagle 62.05 341 P P 21 33 37.6 -0.9
baz=157,SNR=47
M54A Oil Creek Stat 62.10 351 *e*P P 21 33 39.0 +0.3
comp=Z,163nm,0.9s
M54A Oil Creek Stat 62.10 351 P P 21 33 38.9 +0.1
baz=169,SNR=48
O47A Sheridan 62.11 345 P P 21 33 37.6 -1.3
baz=162,SNR=45
MNTX Cornudas Mount 62.12 325 *e*P P 21 33 38.5 -0.7
MNTX Cornudas Mount 62.12 325 P P 21 33 38.5 -0.7
baz=141,SNR=48
QUA2 Belchertown 62.17 357 *e*P P 21 33 39.5 +0.2
comp=Z,24nm,0.9s
WES Weston 62.24 358 *e*P P 21 33 40.1 +0.4
comp=Z,27nm,1.0s
WES Weston 62.24 358 *e*P P 21 33 40.1 +0.4
WES pmax pmax
comp=Z,27nm,1.0s
Q41A Truxton 62.30 341 P P 21 33 39.4 -0.8
baz=156,SNR=59
N49A Columbus Grove 62.32 347 *e*P P 21 33 39.6 -0.7
comp=Z,239nm,0.9s
N49A Columbus Grove 62.32 347 P P 21 33 39.6 -0.7
baz=164,SNR=67
M51A Elyria 62.33 349 P P 21 33 39.9 -0.5
baz=166,SNR=20
BINY Binghamton 62.34 354 *e*P P 21 33 40.9 +0.4
comp=Z,99nm,0.9s
BINY Binghamton 62.34 354 P P 21 33 40.8 +0.4
baz=173,SNR=32
HRV Adam Dziewonsk 62.37 358 *e*P P 21 33 40.7 +0.1
comp=Z,55nm,1.0s
HRV Adam Dziewonsk 62.37 358 *e*P P 21 33 40.7 +0.1
HRV pmax pmax
comp=Z,55nm,1.0s
HRV Adam Dziewonsk 62.37 358 P P 21 33 41.1 +0.5
baz=177
P43A Skaggs, Pawnee 62.42 342 P P 21 33 39.9 -1.1
baz=158,SNR=53
N48A Decatur 62.44 347 P P 21 33 40.1 -1.0
baz=163,SNR=29
SFIN Lafayette 62.47 345 *e*P P 21 33 39.9 -1.4
comp=Z,107nm,0.8s
SFIN Lafayette 62.47 345 P P 21 33 39.7 -1.6
baz=161,SNR=33
O45A Potomac 62.51 344 P P 21 33 39.9 -1.6
baz=160,SNR=15
M50A Fremont 62.56 348 *e*P P 21 33 41.6 -0.2
comp=Z,90nm,1.0s
M50A Fremont 62.56 348 P P 21 33 41.2 -0.6
baz=165,SNR=13
MSTX Muleshoe 62.59 329 *e*P P 21 33 41.9 -0.5
comp=Z,116nm,1.0s
MSTX Muleshoe 62.59 329 P P 21 33 41.7 -0.6
baz=144,SNR=55
O44A Mansfield 62.61 343 P P 21 33 40.6 -1.6
baz=160,SNR=11
P42A Winchester 62.61 342 *e*P P 21 33 41.1 -1.1
comp=Z,102nm,0.8s
P42A Winchester 62.61 342 P P 21 33 41.1 -1.1
baz=158,SNR=38
N47A Urbana 62.61 346 P P 21 33 40.9 -1.3
baz=162,SNR=12
TRY Troy 62.69 356 *e*P P 21 33 43.3 +0.6
comp=Z,67nm,0.8s
ERPA Erie 62.74 351 *e*P P 21 33 43.3 +0.2
comp=Z,310nm,0.9s
ERPA Erie 62.74 351 P P 21 33 43.1 0.0
baz=168,SNR=40
M49A Liberty Center 62.81 348 P P 21 33 42.7 -0.9
baz=164,SNR=27
AMTX Amarillo 62.81 330 *e*P P 21 33 43.5 -0.3
comp=Z,47nm,1.3s
AMTX Amarillo 62.81 330 P P 21 33 43.5 -0.3
baz=145
N46A Monticello 62.87 345 P P 21 33 42.4 -1.5
baz=161,SNR=20
U32A Winter Ranch, 62.87 333 *e*P P 21 33 44.3 +0.2
comp=Z,61nm,1.1s
P41A Barry, Barry 62.91 341 P P 21 33 43.2 -1.0
baz=157,SNR=30
O43A Sugar Creek Fa 62.96 343 P P 21 33 43.0 -1.6
baz=159,SNR=23
N45A Kentland 63.02 345 P P 21 33 43.2 -1.7
baz=161,SNR=14
M47A Cromwell 63.05 346 P P 21 33 44.0 -1.1
baz=163,SNR=16
MMNY Mt. Morris Dam 63.07 353 *e*P P 21 33 45.7 +0.5
comp=Z,77nm,0.9s
K55A Perry 63.09 353 P P 21 33 45.1 -0.3
baz=170,SNR=9.7
O42A Bath 63.10 342 P P 21 33 44.2 -1.2
baz=158,SNR=11
N44A Piper City 63.12 344 P P 21 33 44.0 -1.6
baz=160,SNR=24
L50A Kingsville 63.13 349 P P 21 33 44.6 -1.0
baz=166,SNR=9.8
HDIL Hopedale 63.21 343 *e*P P 21 33 45.0 -1.2
comp=Z,114nm,0.8s
HDIL Hopedale 63.21 343 P P 21 33 44.9 -1.3
baz=159,SNR=20
O41A Passleys Farm, 63.26 342 P P 21 33 45.1 -1.4
baz=157,SNR=29
M46A Old House Fiel 63.27 346 *e*P P 21 33 45.5 -1.0
comp=Z,120nm,1.2s
M46A Old House Fiel 63.27 346 P P 21 33 45.3 -1.2
baz=162,SNR=6.9
ACCN Adirondack Com 63.34 356 *e*P P 21 33 47.8 +0.8
comp=Z,25nm,1.0s
L48A N Adams 63.36 347 P P 21 33 46.1 -1.0
baz=164,SNR=12
L49A Milan 63.38 348 P P 21 33 47.0 -0.3
baz=165,SNR=17
K52A Tillsonburg 63.50 351 P P 21 33 47.8 -0.2
baz=168,SNR=10
N43A Stutzman Famil 63.53 343 P P 21 33 47.3 -1.0
baz=159,SNR=25
AAM Ann Arbor 63.55 348 *e*P P 21 33 47.8 -0.5
comp=Z,63nm,1.2s
AAM Ann Arbor 63.55 348 *e*P P 21 33 47.8 -0.5
AAM pmax pmax
comp=Z,63nm,1.2s
AAM Ann Arbor 63.55 348 P P 21 33 47.8 -0.5
baz=165
L47A Sherwood 63.55 347 P P 21 33 47.4 -1.0
baz=163,SNR=29
MEDO Medina 63.56 352 P P 21 33 48.8 +0.4
baz=170,SNR=5.3
K51A Iona Station 63.57 350 P P 21 33 48.0 -0.5
baz=167,SNR=12
J55A Hilton 63.59 353 P P 21 33 48.5 -0.1

baz=171,SNR=6.5
HNH Hanover 63.59 358 eP P 21 33 49.4 +0.7
comp=Z,45nm,1.1s
SNAA Sanae 63.65 161 P P 21 33 49.4 +0.6
SNAA Sanae 63.65 161 P P 21 33 49.4 +0.6
comp=Z,30nm,0.8s,baz=299,slow=5.1,SNR=48
SNAA Sanae 63.65 161 eP P 21 33 49.7 +0.8
comp=Z,67nm,1.1s
SNAA Sanae 63.65 161 diP P 21 33 49.7 +0.8
M44A Midewin, Midew 63.66 344 eP P 21 33 48.0 -1.2
comp=Z,64nm,1.0s
M44A Midewin, Midew 63.66 344 P P 21 33 48.0 -1.2
baz=160
N42A Yates City 63.67 342 P P 21 33 48.0 -1.2
baz=158,SNR=14
TYNO Tyneside 63.68 351 P P 21 33 49.1 -0.1
baz=169,SNR=15
J54A Appleton 63.69 352 P P 21 33 49.1 -0.2
baz=170,SNR=5.0
STCO Saint Catharin 63.70 352 P P 21 33 49.2 -0.1
baz=169,SNR=7.8
N41A Harden Midland 63.80 342 eP P 21 33 49.0 -1.1
comp=Z,140nm,1.0s
N41A Harden Midland 63.80 342 P P 21 33 48.9 -1.1
baz=157,SNR=29
L46A Eue Claire 63.83 346 P P 21 33 48.6 -1.6
baz=162
J52A Paris 63.91 351 P P 21 33 50.6 -0.2
baz=168,SNR=45
M43A Waltham Townsh 63.94 344 P P 21 33 49.7 -1.2
baz=159,SNR=24
NCB Newcomb 63.96 356 eP P 21 33 51.6 +0.5
comp=Z,36nm,1.1s
K49A Clarkson 63.97 348 P P 21 33 50.0 -1.2
baz=165,SNR=9.6
ELFO Elginfield 64.00 350 P P 21 33 50.4 -0.9
baz=167,SNR=14
121A Cookes Peak, D 64.06 324 P P 21 33 53.3 +1.1
baz=139,SNR=12
LBNH Lisbon 64.11 358 eP P 21 33 53.0 +0.9
comp=Z,32nm,0.9s
LBNH Lisbon 64.11 358 eP P 21 33 53.0 +0.9
LBNH pmax pmax
comp=Z,32nm,0.9s
LBNH Lisbon 64.11 358 P P 21 33 53.1 +0.9
baz=177,SNR=9.5
K48A Perry 64.12 348 P P 21 33 51.2 -0.9
baz=164,SNR=29
K47A Vermontville 64.17 347 P P 21 33 51.2 -1.3
baz=163
N40A Mertquake, Sal 64.17 341 P P 21 33 51.3 -1.2
baz=156,SNR=19
M42A Sheffield 64.17 343 P P 21 33 51.1 -1.5
baz=158
ACTO Acton 64.21 351 P P 21 33 52.2 -0.5
baz=168,SNR=12
VT1 Waterbury 64.24 357 eP P 21 33 53.5 +0.7
comp=Z,22nm,1.0s
KSU1 Kansas State U 64.27 337 eP P 21 33 52.2 -1.0
comp=Z,68nm,1.1s
KSU1 Kansas State U 64.27 337 P P 21 33 52.3 -0.9
baz=151,SNR=11
DRWO Darlington Wes 64.29 352 P P 21 33 53.3 +0.1
baz=170,SNR=9.6
DRCO St. Marys Ceme 64.30 352 P P 21 33 53.1 -0.1
baz=170,SNR=13
WLVO Wesleyville 64.30 353 P P 21 33 53.0 -0.3
baz=170,SNR=12
M41A Milan 64.32 342 P P 21 33 52.0 -1.5
baz=158,SNR=20
K46A Dorr 64.35 347 P P 21 33 51.8 -1.9
baz=163,SNR=5.8
L44A Lake County Fo 64.37 345 P P 21 33 52.7 -1.1
baz=160,SNR=5.8
WVL Waterville 64.39 360 eP P 21 33 54.6 +0.8
comp=Z,28nm,1.0s
PKRO Pickering 64.43 352 P P 21 33 53.9 -0.2
baz=170,SNR=15
J49A Marlette 64.47 349 P P 21 33 53.0 -1.4
baz=165,SNR=11
I55A Frankford 64.51 353 P P 21 33 54.4 -0.2
baz=171,SNR=20
J48A Bridge Port 64.53 348 P P 21 33 53.9 -0.9
baz=166,SNR=22
I51A Listowel 64.55 351 P P 21 33 54.4 -0.5
baz=168,SNR=14
L43A Garden Prairie 64.58 344 P P 21 33 54.2 -1.0
baz=160,SNR=25
M40A Post Highland 64.63 342 P P 21 33 54.3 -1.2
baz=157,SNR=22
L42A Oliver, Polo 64.66 343 eP P 21 33 54.6 -1.1
comp=Z,38nm,0.8s
L42A Oliver, Polo 64.66 343 P P 21 33 54.3 -1.4
baz=159,SNR=8.6
BNM Barren Site 64.68 326 eP P 21 33 57.0 +0.7
J47A Sunmer 64.68 347 P P 21 33 54.8 -0.9
baz=164,SNR=19
I52A Shelburne 64.68 351 P P 21 33 55.6 -0.2
baz=168,SNR=22
H56A Elgin 64.74 354 P P 21 33 56.2 +0.1
baz=172,SNR=19
FRNY Flat Rock 64.78 357 eP P 21 33 56.8 +0.4
comp=Z,44nm,1.0s
H55A Tweed 64.79 354 P P 21 33 56.3 -0.1
baz=172,SNR=14
LPM Los Pinos Moun 64.80 326 eP P 21 33 58.1 +1.1
BASO Ashfield 64.85 350 P P 21 33 56.3 -0.5
baz=167,SNR=7.1
BWLO Walkerton 64.87 351 P P 21 33 56.6 -0.4
baz=168,SNR=16
LENM Lemitar 64.87 326 eP P 21 33 58.1 +0.6
M39A Webster 64.90 341 P P 21 33 55.9 -1.3
baz=156,SNR=9.3
L41A Preston 64.96 343 P P 21 33 56.2 -1.4
baz=158,SNR=19
K43A Burlington 64.97 345 eP P 21 33 56.8 -0.9
comp=Z,134nm,0.9s
K43A Burlington 64.97 345 P P 21 33 56.7 -1.0
baz=160,SNR=20
I49A Point Hope 64.98 349 P P 21 33 57.0 -0.7
baz=166
GGN Saint George 64.98 2 eP P 21 33 58.7 +1.0
comp=Z,30nm,1.2s
BRCO Bruce Peninsul 65.04 350 P P 21 33 57.9 -0.2
baz=167,SNR=11
PKME Peaks-Kenny Pk 65.09 360 eP P 21 33 59.0 +0.5
comp=Z,27nm,0.9s
PKME Peaks-Kenny Pk 65.09 360 P P 21 33 58.9 +0.5
baz=180,SNR=6.7
LAZ Ladron 65.14 326 eP P 21 34 00.8 +1.5
L40A Anamosa 65.15 342 eP P 21 33 58.2 -0.7
comp=Z,122nm,1.1s
L40A Anamosa 65.15 342 P P 21 33 57.6 -1.3
baz=157,SNR=30
MOQ Mont Orford 65.20 358 eP P 21 33 59.9 +0.8
H52A Wyevale 65.20 352 P P 21 33 58.8 -0.3
baz=169,SNR=14
ANMO Albuquerque 65.21 327 P P 21 34 00.1 +0.5
comp=Z,12nm,0.9s,baz=142,slow=8.1,SNR=48
ANMO PcP sP 21 34 33.7 +0.6
comp=Z,8.1nm,0.9s,baz=141,slow=8.6,SNR=7.0
ANMO Albuquerque 65.21 327 eP P 21 34 00.2 +0.5
comp=Z,20nm,1.0s
ANMO esP sP 21 34 33.7 +0.6
ANMO Albuquerque 65.21 327 diP P 21 33 59.8 +0.2
ANMO pmax pmax
comp=Z,44nm,1.7s
ANMO Albuquerque 65.21 327 P P 21 34 00.1 +0.5
baz=141
SADO Sadowa 65.23 352 P P 21 33 58.4 -0.9
comp=Z,46nm,0.8s,baz=188,slow=6.4,SNR=33
SADO pP pP 21 34 21.8 -1.1
comp=Z,14nm,0.5s,baz=185,slow=8.2,SNR=4.7
SADO sP PcP 21 34 31.4 +0.4
comp=Z,23nm,0.9s,baz=194,slow=8.0,SNR=4.4
SADO Sadowa 65.23 352 eP P 21 33 59.0 -0.3
comp=Z,61nm,0.9s
SADO epP pP 21 34 21.8 -1.1
SADO esP PcP 21 34 31.4 +0.4
CBKS Cedar Bluff 65.25 334 eP P 21 34 00.1 +0.5
comp=Z,124nm,1.1s
CBKS Cedar Bluff 65.25 334 eP P 21 34 00.1 +0.5
CBKS pmax pmax
comp=Z,124nm,1.1s
CBKS Cedar Bluff 65.25 334 P P 21 33 59.5 -0.1
baz=148,SNR=20
PLVO Plevna 65.26 354 eP P 21 33 59.6 +0.1
comp=Z,58nm,1.0s
PLVO Plevna 65.26 354 P P 21 33 59.5 0.0
baz=172,SNR=17
K42A Prairie Point, 65.30 344 P P 21 33 59.0 -0.8
baz=159,SNR=24
BANO Bancroft 65.33 353 P P 21 34 00.0 +0.1
baz=171,SNR=9.7
BMRO Meriville Lake 65.35 351 P P 21 33 59.6 -0.4
baz=167,SNR=12
I47A Gladwin 65.37 348 P P 21 33 59.1 -1.1
baz=164,SNR=12
I48A Sherman Twp 65.37 349 P P 21 33 59.5 -0.8
baz=165,SNR=14
K41A Shullsburg 65.39 343 P P 21 33 59.5 -1.0
baz=158,SNR=16
L39A Vinton 65.44 342 P P 21 33 59.6 -1.1
baz=156,SNR=31
G55A Calabogie 65.44 354 P P 21 34 00.5 -0.2
baz=172,SNR=22
I46A Reed City 65.48 347 P P 21 33 59.6 -1.4
baz=163,SNR=18
G53A Haliburton 65.51 353 P P 21 34 01.0 -0.2
baz=170,SNR=41
ORIO Orleans, Innes 65.53 355 P P 21 34 01.1 -0.1
baz=173,SNR=18
TUC Tucson 65.59 322 eP P 21 34 02.8 +0.8
comp=Z,91nm,1.5s
TUC Tucson 65.59 322 eP P 21 34 02.8 +0.8
TUC pmax pmax
comp=Z,91nm,1.5s
TUC Tucson 65.59 322 P P 21 34 02.7 +0.8
baz=137
SCIA State Center 65.61 341 eP P 21 34 01.4 -0.5
comp=Z,143nm,1.0s
SCIA State Center 65.61 341 P P 21 34 01.3 -0.5
baz=155,SNR=11
J43A Natural Harves 65.63 345 P P 21 34 01.2 -0.7
baz=160,SNR=24
ALFO Alfred 65.66 356 P P 21 34 02.0 0.0
baz=174,SNR=12
JFWS Jewell Farm 65.67 343 eP P 21 34 01.6 -0.6
comp=Z,72nm,0.8s
JFWS Jewell Farm 65.67 343 eP P 21 34 01.6 -0.6
JFWS pmax pmax
comp=Z,72nm,0.8s
JFWS Jewell Farm 65.67 343 P P 21 34 01.4 -0.8
baz=158,SNR=18
K40A Colesburg 65.71 342 P P 21 34 01.5 -1.0
baz=157,SNR=12
J42A Columbus 65.75 344 P P 21 34 01.9 -0.7
baz=159,SNR=11
H48A Harrisville 65.80 349 P P 21 34 02.1 -0.9
baz=165
H47A Mio 65.87 348 P P 21 34 02.5 -1.0
baz=164,SNR=5.5
PEMO Pembroke 65.91 354 P P 21 34 03.5 -0.2
baz=172,SNR=17
BUKO Buck Lake 65.92 352 P P 21 34 03.6 -0.2
baz=169,SNR=37
T25A Trinidad 65.93 330 eP P 21 34 04.8 +0.5
comp=Z,34nm,1.0s
T25A Trinidad 65.93 330 P P 21 34 04.7 +0.5
baz=144,SNR=20
K39A Oelwein 65.93 342 P P 21 34 02.8 -1.1
baz=158,SNR=49
F55A Otter Lake 65.98 355 P P 21 34 04.2 +0.1
baz=172,SNR=6.8
H46A Fife Lake 66.00 348 P P 21 34 03.0 -1.3
baz=163,SNR=32
TOBO Tobermory, Bru 66.01 351 P P 21 34 03.5 -0.8
baz=167
J41A Loganville 66.02 344 P P 21 34 03.6 -0.8
baz=158,SNR=30
I43A Langenfeld Bro 66.03 345 P P 21 34 03.7 -0.8
baz=172,SNR=16
GLMI Grayling 66.16 348 eP P 21 34 05.0 -0.3
comp=Z,161nm,1.0s
GLMI Grayling 66.16 348 P P 21 34 04.2 -1.1
baz=164,SNR=8.9
I42A Draeger Farm, 66.23 345 eP P 21 34 05.3 -0.4
comp=Z,74nm,0.9s
I42A Draeger Farm, 66.23 345 P P 21 34 05.1 -0.6
baz=160,SNR=17
J40A Soldiers Grove 66.25 343 P P 21 34 05.1 -0.8
baz=158,SNR=35
H45A Beulah 66.26 347 P P 21 34 05.2 -0.8
baz=163
F52A Sundridge 66.26 352 P P 21 34 05.6 -0.3
baz=170,SNR=19
ALGO Algonquin Park 66.27 353 P P 21 34 05.6 -0.3
baz=171,SNR=20
G47A Hillman 66.35 349 P P 21 34 06.0 -0.6
baz=158,SNR=5.8
J39A Decorah 66.46 342 P P 21 34 06.4 -0.9
baz=157,SNR=44
F51A Arnstein 66.47 352 P P 21 34 06.6 -0.6
baz=169,SNR=11
H43A Windswept, Lux 66.50 346 eP P 21 34 07.1 -0.4
comp=Z,94nm,0.9s
H43A Windswept, Lux 66.50 346 P P 21 34 06.6 -0.9
baz=161,SNR=9.8
PQI Presque Isle 66.51 1 eP P 21 34 08.0 +0.5
comp=Z,30nm,1.1s
214A Organ Pipe Nat 66.53 320 P P 21 34 09.4 +1.4
baz=135,SNR=32
F49A Sandfield 66.62 350 P P 21 34 07.2 -1.0
baz=167,SNR=10
I41A Arkdale 66.63 344 eP P 21 34 07.6 -0.7
comp=Z,62nm,0.9s
I41A Arkdale 66.63 344 P P 21 34 07.7 -0.6
baz=159,SNR=13
KSCO Kaye Shedlock' 66.64 332 eP P 21 34 09.2 +0.5
comp=Z,106nm,1.1s
KSCO Kaye Shedlock' 66.64 332 P P 21 34 08.9 +0.3
baz=146,SNR=17
E53A Dumoine, Ponti 66.64 354 P P 21 34 08.2 -0.2
baz=171
E54A Lac Daplat, Po 66.65 354 P P 21 34 08.5 +0.1
baz=172
E52A Mattawa 66.66 353 P P 21 34 07.9 -0.6
baz=170,SNR=12
I40A Norwalk 66.67 343 P P 21 34 07.8 -0.8
baz=158,SNR=11
G46A Petoskey 66.68 348 P P 21 34 07.7 -0.9
baz=164,SNR=7.1
H42A Shiocton 66.72 345 eP P 21 34 08.4 -0.4
comp=Z,125nm,0.9s
H42A epP pP 21 34 31.5 -1.0
H42A Shiocton 66.72 345 P P 21 34 08.1 -0.8
baz=160,SNR=16
X18A Snowflake 66.75 324 eP P 21 34 10.7 +1.1
comp=Z,46nm,1.1s
F48A Evansville 66.77 350 P P 21 34 08.8 -0.4
baz=166,SNR=6.7
BGNE Belgrade 66.86 337 eP P 21 34 09.9 0.0
comp=Z,324nm,1.0s
BGNE Belgrade 66.86 337 P P 21 34 09.6 -0.2
baz=150,SNR=29
I39A Houston 66.89 343 eP P 21 34 09.3 -0.7
comp=Z,123nm,0.9s
I39A Houston 66.89 343 P P 21 34 09.2 -0.8
baz=157,SNR=31
SDCO Great Sand Dun 66.93 329 eP P 21 34 11.3 +0.6
comp=Z,50nm,1.0s
SDCO Great Sand Dun 66.93 329 P P 21 34 11.4 +0.6
baz=143,SNR=94
E51A G1948 Merrick 67.01 352 P P 21 34 10.9 +0.2
baz=169,SNR=11
E50A Wahnapitae 67.07 351 P P 21 34 11.0 0.0
baz=168,SNR=11
W18A Petrified Fore 67.07 325 eP P 21 34 13.0 +1.4
comp=Z,90nm,1.2s
W18A Petrified Fore 67.07 325 P P 21 34 12.4 +0.8
baz=138,SNR=21
H41A Junction City 67.09 344 eP P 21 34 10.2 -1.1
comp=Z,51nm,0.8s
H41A Junction City 67.09 344 P P 21 34 10.4 -0.9
baz=159,SNR=17
F46A Macinaw City C 67.10 348 P P 21 34 10.4 -0.8
baz=164,SNR=5.8
F45A CMU Biological 67.16 348 P P 21 34 10.6 -1.0
baz=163,SNR=5.5
BATG Bathurst New B 67.17 2 eP P 21 34 12.1 +0.5
comp=Z,26nm,1.0s
G43A Wallace 67.22 346 eP P 21 34 11.4 -0.6
comp=Z,41nm,1.1s
G43A Wallace 67.22 346 P P 21 34 11.0 -1.0
baz=161,SNR=5.0
LATQ La Tuque 67.29 357 P P 21 34 12.5 +0.2
baz=176,SNR=7.0
H40A Chili 67.29 344 P P 21 34 11.7 -0.8
baz=158,SNR=35
D52A ZEK Kipawa Sen 67.32 353 P P 21 34 12.5 -0.1
baz=170,SNR=22
E48A Lockeyer 67.33 350 P P 21 34 12.3 -0.4
baz=167
D53A Lac Vacive, Po 67.34 354 P P 21 34 12.6 -0.2
baz=171
G42A Mountain 67.38 345 eP P 21 34 12.5 -0.6
comp=Z,55nm,0.9s
G42A Mountain 67.38 345 P P 21 34 12.3 -0.8
baz=160,SNR=12
E47A Iron Bridge 67.49 350 P P 21 34 13.1 -0.6
baz=166,SNR=11
X16A Lo Mia Camp, P 67.50 323 eP P 21 34 15.7 +1.4
comp=Z,44nm,1.0s
G41A Antigo 67.53 345 P P 21 34 13.4 -0.6
baz=160,SNR=15
D51A Lot 18 Range I 67.54 353 P P 21 34 13.6 -0.4
baz=170,SNR=10.0
S22A 4UR Ranch, Cre 67.58 328 eP P 21 34 15.5 +0.6
comp=Z,19nm,1.0s
S22A 4UR Ranch, Cre 67.58 328 P P 21 34 15.3 +0.4
baz=142,SNR=22
H39A Augusta 67.58 343 P P 21 34 13.3 -1.0
baz=157,SNR=18
E46A Sault Ste Mari 67.59 349 P P 21 34 13.3 -1.0
baz=164,SNR=11
F44A Big Bay de Noc 67.63 347 P P 21 34 13.9 -0.6
baz=162,SNR=5.6
F43A Flat Rock, Esc 67.65 347 P P 21 34 13.6 -1.2
baz=162,SNR=8.3
D50A G1974 Best Tow 67.67 352 P P 21 34 14.7 -0.2
baz=169,SNR=19
Q24A Divide 67.74 330 eP P 21 34 16.5 +0.6
comp=Z,58nm,1.0s
Q24A Divide 67.74 330 P P 21 34 16.4 +0.5
baz=143,SNR=29
E45A Wooded Hills, 67.74 348 P P 21 34 14.7 -0.6
baz=164,SNR=7.1
F42A Maple Grove Fa 67.80 346 P P 21 34 15.0 -0.7
baz=161
G40A Rib Lake 67.84 344 eP P 21 34 15.2 -0.8
comp=Z,18nm,0.9s
G40A epP pP 21 34 38.2 -1.4
G40A Rib Lake 67.84 344 P P 21 34 15.2 -0.8
baz=159,SNR=7.1
H38A Maiden Rock 67.86 342 P P 21 34 15.3 -0.7
baz=156,SNR=24
D48A Paudash Townsh 67.96 351 P P 21 34 15.9 -0.7
baz=167,SNR=17
D49A Beulah Townshi 67.98 351 P P 21 34 16.5 -0.4
baz=168
OGNE Ogallala 67.99 334 eP P 21 34 17.8 +0.6
comp=Z,50nm,0.9s
OGNE Ogallala 67.99 334 P P 21 34 17.0 -0.1
baz=147,SNR=10
MVCO Mesa Verde 68.00 327 eP P 21 34 18.2 +0.8
comp=Z,38nm,0.9s
MVCO Mesa Verde 68.00 327 P P 21 34 18.1 +0.6
baz=140,SNR=29
F41A Three Lakes 68.01 345 eP P 21 34 16.7 -0.3
comp=Z,100nm,1.0s
F41A Three Lakes 68.01 345 P P 21 34 16.5 -0.5
baz=160,SNR=29
D47A Chapleau 68.05 350 P P 21 34 16.7 -0.5
baz=166
D46A Sault St. Mari 68.05 349 P P 21 34 16.0 -1.2
baz=165,SNR=5.2
Y14A Wickenburg 68.05 322 eP P 21 34 19.0 +1.4
comp=Z,38nm,0.9s
G39A Holcombe 68.11 343 P P 21 34 16.8 -0.9
baz=158,SNR=19
E43A Lone Tree Farm 68.13 347 eP P 21 34 17.4 -0.4
comp=Z,39nm,0.9s
E43A Lone Tree Farm 68.13 347 P P 21 34 16.8 -0.9
baz=162,SNR=5.5
G38A Ridgeland 68.19 343 P P 21 34 17.1 -1.0
baz=157,SNR=17
NVL N'lazarevskaya 68.20 159 diP P 21 34 18.1 +0.2
NVL eS S 21 43 21.4 +11
NVL pmax pmax
comp=Z,78nm,1.0s
WUAZ Wupatki 68.27 324 eP P 21 34 20.5 +1.5
WUAZ Wupatki 68.27 324 P P 21 34 20.3 +1.3
baz=137,SNR=68
LIC Lamto 68.30 74 eP P 21 34 19.1 -0.4
comp=Z,155nm,1.3s
VLDQ Val d'Or 68.34 354 eP P 21 34 19.3 +0.3
comp=Z,55nm,0.9s
ECSD EROS Data Cent 68.35 339 eP P 21 34 18.7 -0.5
comp=Z,64nm,1.3s
ECSD EROS Data Cent 68.35 339 P P 21 34 18.6 -0.6
baz=152,SNR=36
COWI Conover 68.36 345 eP P 21 34 18.8 -0.4
comp=Z,39nm,1.0s
E42A Champion 68.39 346 P P 21 34 18.5 -0.8
baz=161,SNR=9.4
F40A Park Falls 68.43 344 P P 21 34 19.2 -0.4
baz=159,SNR=46
TIC Toumodi 68.48 74 eP P 21 34 20.5 -0.2
SPMN Marine on St. 68.51 342 eP P 21 34 19.4 -0.8
comp=Z,59nm,0.9s
SPMN Marine on St. 68.51 342 P P 21 34 19.2 -1.0
baz=156,SNR=18
GLA Glamis 68.51 320 eP P 21 34 22.0 +1.5
comp=Z,48nm,1.1s
GLA Glamis 68.51 320 eP P 21 34 22.0 +1.5
GLA pmax pmax
comp=Z,48nm,1.1s
GLA Glamis 68.51 320 P P 21 34 21.8 +1.3
baz=134,SNR=6.5
KIC Kosan Boka 68.62 74 eP P 21 34 20.7 -0.8
comp=Z,217nm,1.1s
ISCO Idaho Springs 68.62 331 eP P 21 34 22.0 +0.6
comp=Z,36nm,1.0s
ISCO Idaho Springs 68.62 331 eP P 21 34 22.0 +0.6
ISCO pmax pmax
comp=Z,36nm,1.0s
ISCO Idaho Springs 68.62 331 P P 21 34 22.0 +0.6
baz=143,SNR=35
F39A Loretta 68.63 344 P P 21 34 20.1 -0.7
baz=158,SNR=17
DBIC Dimbokro 68.64 74 P P 21 34 21.0 -0.6
comp=Z,34nm,0.9s,baz=226,slow=6.5,SNR=50
DBIC PcP PcP 21 34 45.0 -1.0
comp=Z,75nm,0.9s,baz=222,slow=6.0,SNR=17
DBIC sP sP 21 34 55.0 -1.3
comp=Z,78nm,0.8s,baz=217,slow=6.2,SNR=10.0
DBIC S S 21 43 15.1 -2.8
comp=Z,7.6nm,1.2s,baz=75,slow=18,SNR=6.2
DBIC LR LR 22 02 32.4
comp=Z,317nm,21.4s,baz=232,slow=34
DBIC Dimbokro 68.64 74 eP P 21 34 21.2 -0.4
comp=Z,64nm,1.0s
DBIC epP PcP 21 34 45.0 -1.0
DBIC esP sP 21 34 55.0 -1.3
DBIC eS S 21 43 15.1 -2.8
DBIC Dimbokro 68.64 74 eP P 21 34 21.2 -0.4
DBIC e*PP PcP 21 34 45.1 -1.0
DBIC eS S 21 43 15.1 -2.8
DBIC pmax pmax
comp=Z,64nm,1.0s
DBIC Dimbokro 68.64 74 eP P 21 34 21.2 -0.4
E41A Kenton 68.66 345 P P 21 34 19.9 -1.1
baz=160
PV01 Paradox Valley 68.75 328 eP P 21 34 23.0 +1.0
SMCO Snowmass 68.77 329 eP P 21 34 23.5 +1.1
comp=Z,26nm,0.9s
Y12C Blythe 68.81 321 eP P 21 34 23.9 +1.6
comp=Z,59nm,0.9s
Y12C Blythe 68.81 321 P P 21 34 23.7 +1.4
baz=134,SNR=18
E40A Wakefield 68.86 345 P P 21 34 22.0 -0.3
baz=159,SNR=26
PV02 Paradox Valley 68.89 328 eP P 21 34 24.2 +1.2
comp=Z,65nm,1.4s
PV13 Radium Mtn., P 68.89 327 eP P 21 34 23.8 +0.8
comp=Z,42nm,1.1s
F37A Hinrichs Farm, 68.92 343 P P 21 34 22.0 -0.7
baz=156,SNR=14
F38A Pierce - Schro 68.92 343 P P 21 34 22.0 -0.7
baz=157,SNR=21
E39A Mellen 68.97 344 P P 21 34 22.4 -0.5
baz=158,SNR=21
PV05 Paradox Valley 68.97 327 eP P 21 34 24.0 +0.5
PDMCI Parker Dam,Lak 68.97 321 P P 21 34 24.3 +1.1

baz=135,SNR=11
PV03 **Paradox Valley** 68.98 327 *e*P P 21 34 24.1 +0.6
PV12 **Saucer Basin,** 69.00 328 *e*P P 21 34 24.6 +0.9
comp=Z,19nm,0.9s
IKP **In-Ko-Pah, Jac** 69.03 319 P P 21 34 25.2 +1.5
baz=133,SNR=24
PV11 **David Mesa, Pa** 69.03 327 *e*P P 21 34 24.5 +0.8
comp=Z,44nm,1.4s
SWSC **Sam W. Stewart** 69.03 319 P P 21 34 25.1 +1.5
baz=133,SNR=9.7
PV17 **East Wray Mesa** 69.06 327 *e*P P 21 34 24.7 +0.7
comp=Z,16nm,1.0s
PV16 **Nyswonger Mesa** 69.06 327 *e*P P 21 34 25.0 +1.1
comp=Z,28nm,1.3s
PV19 **Morning Glory** 69.09 327 *e*P P 21 34 25.2 +1.1
comp=Z,34nm,1.5s
PV20 **West Nyswonger** 69.11 327 *e*P P 21 34 25.1 +0.9
comp=Z,45nm,1.5s
D41A **Chassel** 69.13 346 *e*P P 21 34 23.6 -0.3
comp=Z,103nm,1.0s
D41A **Chassel** 69.13 346 P P 21 34 24.0 +0.1
baz=160,SNR=5.7
PV14 **Lion Creek, Pa** 69.16 327 *e*P P 21 34 25.6 +1.0
comp=Z,37nm,1.3s
PV10 **Paradox Valley** 69.17 327 *e*P P 21 34 25.2 +0.5
PV23 **Carpenter Ridg** 69.21 327 *e*P P 21 34 26.1 +1.1
comp=Z,18nm,1.0s
LSQQ **Lebel-sur-Quev** 69.23 355 P P 21 34 24.4 -0.1
baz=172
PV21 **Cone Mtn., Par** 69.28 328 *e*P P 21 34 26.6 +1.2
comp=Z,36nm,1.3s
BC3 **Big Chuckawall** 69.31 320 P P 21 34 26.6 +1.2
baz=133,SNR=48
PV09 **Paradox Valley** 69.31 327 *e*P P 21 34 26.4 +0.7
MONP2 **Monument Peak** 69.38 319 P P 21 34 27.5 +1.4
baz=132,SNR=22
W13A **Hualapai Mount** 69.39 322 *e*P P 21 34 27.8 +1.7
comp=Z,33nm,0.9s
BAR **Barrett** 69.39 318 *e*P P 21 34 27.4 +1.5
comp=Z,87nm,1.0s
E38A **The Farm, Brul** 69.44 344 *e*P P 21 34 25.1 -0.7
comp=Z,48nm,1.0s
E38A **The Farm, Brul** 69.44 344 P P 21 34 24.9 -0.9
baz=158,SNR=9.9
U15A **North Rim** 69.44 324 *e*P P 21 34 28.1 +1.7
comp=Z,68nm,0.9s
IRM **Iron Mountain** 69.47 320 P P 21 34 27.7 +1.4
baz=134,SNR=65
NEE2 **Needles Airpor** 69.58 321 P P 21 34 27.9 +0.8
baz=134
N23A **Red Feather La** 69.65 331 *e*P P 21 34 28.3 +0.7
comp=Z,41nm,0.9s
N23A **Red Feather La** 69.65 331 P P 21 34 28.3 +0.7
baz=143,SNR=33
PHWY **Pilot Hill** 69.76 332 *e*P P 21 34 28.9 +0.6
comp=Z,52nm,1.3s
SUSD **Miller** 69.78 338 P P 21 34 27.4 -0.7
baz=150,SNR=5.2
109C **Camp Elliot, M** 69.81 318 P P 21 34 29.6 +1.2
baz=132,SNR=5.6
CPE **Camp Elliot** 69.81 318 *e*P P 21 34 30.2 +1.8
comp=Z,43nm,1.1s
DRLN **Deer Lake** 69.87 8 *e*P P 21 34 28.4 -0.1
comp=Z,50nm,0.8s
BELC **Belle Mtn. Jos** 69.87 320 P P 21 34 30.2 +1.2
baz=133,SNR=36
TPFO **Pinon Flats** 69.88 319 P P 21 34 30.5 +1.4
baz=133,SNR=36
XPFO **Pion Flat** 69.89 319 *e*P P 21 34 30.6 +1.5
comp=Z,68nm,1.0s
CHGQ **Chibougamau** 69.89 356 P P 21 34 28.2 -0.3
baz=175,SNR=21
PFO **Pinyon Flats O** 69.89 319 P P 21 34 30.8 +1.6
comp=Z,59nm,1.0s,baz=117,slow=4.9,SNR=38
PFO **Pinyon Flats O** 69.89 319 *e*P P 21 34 30.6 +1.5
comp=Z,64nm,1.0s
PFO **Pinyon Flats O** 69.89 319 P P 21 34 30.5 +1.5
baz=133,SNR=37
MATQ **Matagami** 69.99 354 P P 21 34 28.4 -0.8
baz=171,SNR=21
QSPA **South Pole Qui** 70.04 180 *e*P P 21 34 31.0 +1.4
comp=Z,85nm,1.0s
C40A **Isle Royale Na** 70.07 346 *e*P P 21 34 30.2 +0.5
comp=Z,62nm,1.0s
LDFC **Landfair** 70.09 321 *e*P P 21 34 32.3 +2.0
comp=Z,102nm,1.0s
O20A **White River Ci** 70.13 329 *e*P P 21 34 31.4 +0.9
comp=Z,59nm,1.0s
O20A **White River Ci** 70.13 329 P P 21 34 31.4 +0.9
baz=141,SNR=25
KNB **Kanab** 70.16 324 *e*P P 21 34 32.7 +2.0
comp=Z,186nm,1.1s
KNB **Kanab** 70.16 324 *e*P P 21 34 32.7 +2.0
KNB pmax pmax
comp=Z,186nm,1.1s
PKCU **Pink Cliffs** 70.19 325 *e*P P 21 34 32.3 +1.2
comp=Z,26nm,0.9s
GMRC **Granite Mounta** 70.21 321 P P 21 34 32.6 +1.5
baz=134,SNR=80
MURC **Murrieta** 70.34 319 P P 21 34 33.2 +1.5
baz=132,SNR=13
LCMT **Little Creek M** 70.39 324 *e*P P 21 34 33.6 +1.5
comp=Z,58nm,1.0s
SRU **San Rafael Swe** 70.48 327 *e*P P 21 34 33.5 +0.8
comp=Z,61nm,0.9s
SRU **San Rafael Swe** 70.48 327 *e*P P 21 34 33.5 +0.8
SRU pmax pmax
comp=Z,61nm,0.9s
MTPU **Mount Pierson** 70.56 325 *e*P P 21 34 34.3 +0.9
comp=Z,29nm,0.9s
BBRC **Big Bear Solar** 70.61 320 P P 21 34 35.5 +1.9
baz=132
HEC **Hector,Ludlow** 70.64 320 P P 21 34 35.4 +1.8
baz=133,SNR=9.7
EYMN **Ely** 70.66 344 *e*P P 21 34 32.9 -0.5
comp=Z,53nm,0.9s
EYMN **Ely** 70.66 344 P P 21 34 32.3 -1.0
baz=158,SNR=18
Q16A **Castle Valley** 70.67 326 *e*P P 21 34 35.1 +1.3
comp=Z,45nm,0.9s
SZCU **Shurtz Canyon** 70.72 324 *e*P P 21 34 35.8 +1.6
comp=Z,79nm,1.4s
SCI2 **San Clemente I** 70.77 318 P P 21 34 36.2 +1.8
baz=131
TUQ **Turquoise Moun** 70.81 321 P P 21 34 36.1 +1.4
baz=134,SNR=16
RWWY **Rawlins** 70.86 331 *e*P P 21 34 35.8 +0.8
comp=Z,53nm,1.2s
P17A **Butcher Ranch,** 70.86 327 *e*P P 21 34 35.9 +1.0
comp=Z,82nm,0.9s
MSU **Marysvale** 70.90 326 *e*P P 21 34 36.7 +1.5
MSU **Marysvale** 70.90 326 *e*P P 21 34 36.7 +1.5
CIS **Catalina Islan** 70.97 318 P P 21 34 37.1 +1.5
baz=131
TMUT **Trail Mountain** 70.97 327 *e*P P 21 34 36.9 +1.1
comp=Z,22nm,0.9s
BFSC **Mount Baldy Ra** 71.05 319 P P 21 34 37.3 +1.1
baz=132,SNR=23
RRX **Edison Barstow** 71.07 320 P P 21 34 37.9 +1.8
baz=133
FMP **Fort Macarthur** 71.09 318 P P 21 34 37.5 +1.3
baz=131
SHPR **Sheep Range** 71.11 322 *e*P P 21 34 38.1 +1.6
comp=Z,54nm,0.9s
GSC **Goldstone, Bar** 71.25 320 *e*P P 21 34 38.8 +1.5
comp=Z,62nm,1.1s
GSC **Goldstone, Bar** 71.25 320 *e*P P 21 34 38.8 +1.5
GSC pmax pmax
comp=Z,63nm,1.1s
GSC **Goldstone, Bar** 71.25 320 P P 21 34 38.7 +1.5
baz=133,SNR=33
MWC **Mount Wilson** 71.29 319 *e*P P 21 34 39.0 +1.3
comp=Z,89nm,1.1s
K22A **Casper** 71.32 332 *e*P P 21 34 38.6 +1.0
comp=Z,40nm,1.0s
K22A **Casper** 71.32 332 P P 21 34 38.1 +0.5
baz=143,SNR=9.2
PASC **Pasadena Art C** 71.33 319 *e*P P 21 34 39.3 +1.7
comp=Z,91nm,1.1s
SHOC **Shoshone, Teco** 71.34 321 P P 21 34 39.2 +1.5
baz=133,SNR=5.6
RSSD **Black Hills** 71.45 334 *e*P P 21 34 38.9 +0.4
comp=Z,36nm,0.9s
RSSD **Black Hills** 71.45 334 *e*P P 21 34 38.9 +0.4
RSSD pmax pmax
comp=Z,36nm,0.9s
RSSD **Black Hills** 71.45 334 P P 21 34 38.9 +0.4
baz=145

DECC **Green Verdugo** 71.48 319 P P 21 34 40.1 +1.5
baz=131,SNR=10
EDW2 **Edwards Air Fo** 71.68 319 P P 21 34 40.9 +1.0
baz=132,SNR=20
MPU **Maple Canyon** 71.73 327 *e*P P 21 34 41.4 +1.2
comp=Z,62nm,1.0s
PSUT **Pine Spring** 71.82 325 *e*P P 21 34 42.3 +1.5
comp=Z,66nm,0.9s
BLG **Laguna Peak, P** 71.84 318 P P 21 34 42.0 +1.3
baz=131,SNR=12
LRMC **Laurel Mtn Rad** 71.89 320 P P 21 34 42.4 +1.2
baz=132,SNR=32
NLU **North Lily Min** 71.91 327 *e*P P 21 34 42.7 +1.4
comp=Z,51nm,1.1s
OSI **Osito Audit: C** 71.96 319 *e*P P 21 34 42.9 +1.4
comp=Z,68nm,1.0s
OSI **Osito Audit: C** 71.96 319 P P 21 34 42.7 +1.2
baz=131
TPNV **Topopah Spring** 72.05 322 *e*P P 21 34 44.0 +1.9
comp=Z,74nm,0.9s
TPNV **Topopah Spring** 72.05 322 *e*P P 21 34 44.0 +1.9
TPNV pmax pmax
comp=Z,74nm,0.9s
TPNV **Topopah Spring** 72.05 322 P P 21 34 44.0 +1.9
baz=134,SNR=90
JLU **Jordanelle** 72.07 327 *e*P P 21 34 43.5 +1.2
comp=Z,62nm,1.0s
FURC **Furnace Creek,** 72.07 321 P P 21 34 43.8 +1.7
baz=133,SNR=46
MPMC **Manual Prospec** 72.17 321 P P 21 34 43.9 +1.0
baz=132,SNR=29
AGMN **Agassiz Nation** 72.18 342 *e*P P 21 34 42.0 -0.5
comp=Z,52nm,0.8s
AGMN **Agassiz Nation** 72.18 342 P P 21 34 41.9 -0.5
baz=154,SNR=33
CTU **Camp Tracy** 72.29 327 *e*P P 21 34 44.7 +1.2
comp=Z,22nm,1.0s
ARVC **Arvin** 72.36 319 P P 21 34 45.0 +1.2
baz=131
DAC **Darwin (Calif)** 72.38 321 *e*P P 21 34 45.5 +1.3
comp=Z,57nm,0.9s
DAC **Darwin (Calif)** 72.38 321 *e*P P 21 34 45.5 +1.3
DAC pmax pmax
comp=Z,57nm,0.9s
TCUT **Toone Canyon** 72.44 328 *e*P P 21 34 45.7 +1.3
comp=Z,47nm,0.9s
DUG **Dugway, Tooele** 72.47 326 *e*P P 21 34 45.9 +1.4
comp=Z,71nm,1.0s
DUG **Dugway, Tooele** 72.47 326 *e*P P 21 34 45.9 +1.4
DUG pmax pmax
comp=Z,71nm,1.0s
DUG **Dugway, Tooele** 72.47 326 P P 21 34 45.7 +1.2
baz=137,SNR=69
ISA **Isabella, Lake** 72.50 320 *e*P P 21 34 46.4 +1.7
comp=Z,68nm,0.9s
ISA **Isabella, Lake** 72.50 320 *e*P P 21 34 46.4 +1.7
ISA pmax pmax
comp=Z,68nm,0.9s
ISA **Isabella, Lake** 72.50 320 P P 21 34 46.3 +1.6
baz=132,SNR=37
R11A **Troy Canyon, C** 72.64 323 *e*P P 21 34 47.2 +1.6
comp=Z,46nm,1.0s
R11A **Troy Canyon, C** 72.64 323 P P 21 34 47.3 +1.6
baz=134,SNR=68
GRAC **Grapevine Rang** 72.73 321 P P 21 34 47.7 +1.6
baz=133
CWC **Cottonwood Cre** 72.78 321 P P 21 34 48.0 +1.5
baz=132
BW06 **Boulder Array** 72.79 330 *e*P P 21 34 46.6 +0.1
comp=Z,30nm,1.4s
BW06 **Boulder Array** 72.79 330 P P 21 34 46.5 0.0
baz=140,SNR=23
PD31 **Pinedale Array** 72.79 330 *e*P P 21 34 46.6 +0.1
PDAR **Pinedale Array** 72.79 330 P P 21 34 46.9 +0.4
comp=Z,6.3nm,0.9s,baz=147,slow=6.2,SNR=41
PDAR LR LR 22 08 59.5
comp=Z,47nm,20.3s,baz=135,slow=38
PDAR **Pinedale Array** 72.79 330 *e*P P 21 34 45.8 -0.7
PKM **Mcpherson Peak** 72.81 318 P P 21 34 48.3 +1.5
baz=130,SNR=38
MDND **Maddock** 72.96 339 P P 21 34 47.4 +0.3
baz=150,SNR=17
VES **Vestal, Richgr** 72.99 319 P P 21 34 48.8 +1.3
baz=131,SNR=34
SPUT **South Promonto** 73.10 327 *e*P P 21 34 49.6 +1.3
comp=Z,77nm,1.0s
BGU **Big Grassy Mou** 73.11 327 *e*P P 21 34 49.1 +0.8
comp=Z,49nm,1.0s
SMMC **Simmler** 73.20 319 P P 21 34 50.9 +2.1
baz=130,SNR=5.9
TIN **Tinemaha, Big** 73.28 321 P P 21 34 51.0 +1.6
baz=132,SNR=12
AHID **Auburn Hatcher** 73.52 329 *e*P P 21 34 51.4 +0.6
comp=Z,55nm,0.9s
HVU **Hansel Valley** 73.61 328 *e*P P 21 34 51.9 +0.6
comp=Z,55nm,1.0s
HVU **Hansel Valley** 73.61 328 *e*P P 21 34 51.9 +0.6
HVU pmax pmax
comp=Z,55nm,1.0s
PAGB **Antelope Grade** 73.63 319 *e*P P 21 34 53.4 +2.0
comp=Z,88nm,1.0s
TBI **Tubuai** 73.66 251 *e*S S 21 44 22.7 +7.1
comp=Z,193nm,26.0s
TBI **Tubuai** 73.66 251 *e*LR LR 21 57 38.0
comp=Z,794nm,31.0s,baz=105
REDW **Red Top Meadow** 73.86 330 *e*P P 21 34 53.4 +0.7
comp=Z,47nm,1.1s
SNOW **Snow King Moun** 73.89 330 *e*P P 21 34 53.9 +0.9
comp=Z,35nm,0.9s
SNOW *e*pP **pP** 21 35 17.9 +0.9
LOHW **Long Hollow** 73.93 330 *e*P P 21 34 53.8 +0.7
comp=Z,29nm,1.0s
ULM **Lac du Bonnet** 73.94 343 P P 21 34 52.1 -0.6
comp=Z,41nm,0.8s,baz=150,slow=5.9,SNR=82
ULM LR LR 22 09 51.5
comp=Z,69nm,20.4s,baz=176,slow=38
ULM **Lac du Bonnet** 73.94 343 *e*P P 21 34 52.2 -0.6
comp=Z,52nm,0.8s
ULM **Lac du Bonnet** 73.94 343 *e*P P 21 34 52.2 -0.6
ULM pmax pmax
comp=Z,52nm,0.8s
TPAW **Teton Pass** 74.00 330 *e*P P 21 34 54.4 +0.8
comp=Z,40nm,1.0s
MLAC **Mammoth, Mammo** 74.02 321 P P 21 34 55.3 +1.4
baz=132,SNR=8.7
MOOW **Moose Ponds** 74.10 330 *e*P P 21 34 54.8 +0.6
comp=Z,38nm,1.4s
OMMB **Old Mammoth Mi** 74.11 321 *e*P P 21 34 55.8 +1.3
comp=Z,79nm,1.0s
ELK **Elko** 74.14 325 *e*P P 21 34 55.4 +0.9
comp=Z,33nm,1.0s
ELK **Elko** 74.14 325 *e*P P 21 34 55.4 +0.9
ELK pmax pmax
comp=Z,33nm,1.0s
NV11 **Mina Array Sit** 74.16 322 *e*P P 21 34 55.7 +1.2
comp=Z,2.8nm,1.0s
VAH **Vaihoa** 74.23 259 *e*P P 21 34 57.4 +2.1
comp=Z,144nm,1.4s
NV01 **Mina Array Sit** 74.25 322 *e*P P 21 34 56.0 +0.8
NV01 *e*pP **pP** 21 35 19.4 +0.5
NV01 *e*sP **sP** 21 35 29.4 +0.4
NVAR **Mina Array Bea** 74.25 322 P P 21 34 56.4 +1.3
comp=Z,34nm,0.9s,baz=149,slow=6.5,SNR=111
NVAR pP **pP** 21 35 19.4 +0.5
comp=Z,7.9nm,0.8s,baz=135,slow=9.3,SNR=3.2
NVAR sP **sP** 21 35 29.4 +0.4
comp=Z,14nm,0.8s,baz=158,slow=6.5,SNR=5.0
FLWY **Flagg Ranch** 74.33 330 *e*P P 21 34 56.8 +1.3
comp=Z,98nm,1.0s
LAO **LASA Array** 74.44 335 *e*P P 21 34 56.8 +0.9
comp=Z,76nm,1.2s
LAO **LASA Array** 74.44 335 P P 21 34 56.4 +0.5
baz=144,SNR=22
RLMT **Red Lodge** 74.48 332 *e*P P 21 34 57.3 +0.9
comp=Z,52nm,1.0s
RLMT **Red Lodge** 74.48 332 P P 21 34 57.2 +0.9
baz=141,SNR=42
RYN **Ryan** 74.51 322 *e*P P 21 34 58.0 +1.4
comp=Z,43nm,1.0s
H17A **Grant Village** 74.52 331 *e*P P 21 34 57.9 +1.3
comp=Z,23nm,1.2s
H17A **Grant Village** 74.52 331 P P 21 34 58.0 +1.4
baz=140,SNR=13
YPP **Pitchstone Pla** 74.53 330 *e*P P 21 34 58.4 +1.7
comp=Z,18nm,1.3s
KVN **Kaiserville** 74.55 323 *e*P P 21 34 57.9 +1.1
comp=Z,67nm,1.0s
KVN **Kaiserville** 74.55 323 *e*P P 21 34 57.9 +1.1

KVN pmax pmax
comp=Z,67nm,1.0s
YFT **Old Faithful** 74.68 330 *e*P P 21 34 59.9 +2.4
comp=Z,35nm,1.0s
SCHQ **Schefferville** 74.70 1 P P 21 34 57.4 +0.3
comp=Z,38nm,0.8s,baz=185,slow=4.4,SNR=43
SCHQ LR LR 22 08 27.2
comp=Z,32nm,20.9s,baz=324,slow=36
SCHQ **Schefferville** 74.70 1 *e*P P 21 34 57.0 -0.1
comp=Z,53nm,1.0s
YNR **Norris Junctio** 74.81 331 *e*P P 21 35 00.3 +2.0
comp=Z,22nm,1.0s
YMR **Madison River** 74.90 331 *e*P P 21 35 00.9 +2.1
comp=Z,99nm,1.1s
WAKR **Walker** 74.96 321 *e*P P 21 35 00.7 +1.5
comp=Z,45nm,1.1s
TVO **Taravao** 74.99 256 *e*P P 21 35 02.5 +2.8
comp=Z,34nm,1.2s
BMN **Battle Mountai** 75.00 324 *e*P P 21 35 00.1 +0.8
comp=Z,14nm,1.0s
SAO **San Andreas Ge** 75.03 319 *e*P P 21 34 60.0 +0.5
comp=Z,26nm,1.1s
SAO **San Andreas Ge** 75.03 319 *e*P P 21 35 00.0 +0.5
SAO pmax pmax
comp=Z,26nm,1.1s
YHB **Horse Butte** 75.07 330 *e*P P 21 35 01.4 +1.6
comp=Z,59nm,1.0s
DGMT **Dagmar** 75.11 337 *e*P P 21 35 00.6 +0.9
comp=Z,80nm,0.9s
DGMT **Dagmar** 75.11 337 P P 21 35 00.5 +0.8
baz=146,SNR=22
YERR **Yerington** 75.16 322 *e*P P 21 35 01.9 +1.5
comp=Z,72nm,1.2s
GCMT **Greycliff** 75.18 332 *e*P P 21 35 01.1 +0.8
CMB **Columbia Colle** 75.21 320 *e*P P 21 35 01.3 +0.8
comp=Z,14nm,0.9s
CMB **Columbia Colle** 75.21 320 *e*P P 21 35 01.3 +0.8
CMB pmax pmax
comp=Z,14nm,0.9s
QLMT **Earthquake Lak** 75.24 330 *e*P P 21 35 02.4 +1.7
PAE **Paea** 75.32 256 *e*P P 21 35 03.9 +2.4
comp=Z,11nm,1.0s
PNTR **Pine Nut** 75.44 322 *e*P P 21 35 03.8 +1.8
comp=Z,61nm,0.9s
VCNR **Virginia City** 75.61 322 *e*P P 21 35 05.0 +2.0
comp=Z,46nm,1.1s
PAHR **Pah Rah Range** 75.73 322 *e*P P 21 35 05.2 +1.7
comp=Z,112nm,0.9s
HLID **Hailey** 75.74 328 *e*P P 21 35 04.9 +1.4
comp=Z,72nm,1.0s
HLID **Hailey** 75.74 328 P P 21 35 04.9 +1.4
baz=136,SNR=108
MCMT **McKenzie Canyo** 75.91 330 *e*P P 21 35 06.0 +1.4
AFDM **Forest Hills D** 76.15 321 *e*P P 21 35 06.8 +0.9
comp=Z,40nm,1.0s
DLMT **Dillon** 76.19 330 *e*P P 21 35 07.2 +1.2
comp=Z,60nm,1.3s
MFID **Camas Ranch** 76.35 327 *e*P P 21 35 08.2 +1.3
comp=Z,76nm,1.1s
BEKR **Beckworth** 76.39 322 *e*P P 21 35 08.6 +1.3
comp=Z,46nm,1.1s
HRY **Holter Researc** 76.85 331 *e*P P 21 35 10.9 +1.2
ORV **Oroville** 76.86 321 *e*P P 21 35 11.2 +1.5
comp=Z,107nm,1.1s
ORV **Oroville** 76.86 321 *e*P P 21 35 11.2 +1.5
ORV pmax pmax
comp=Z,107nm,1.1s
EGMT **Eagleton** 76.96 333 *e*P P 21 35 11.0 +0.8
comp=Z,70nm,1.0s
EGMT **Eagleton** 76.96 333 P P 21 35 10.5 +0.3
baz=141,SNR=13
SBA **Scott Base** 77.10 190 *e*P P 21 35 13.3 +2.7
comp=Z,52nm,1.2s
SBA **Scott Base** 77.10 190 *e*P P 21 35 13.3 +2.7
SBA pmax pmax
comp=Z,53nm,1.2s
WVOR **Wild Horse Val** 77.15 325 *e*P P 21 35 12.5 +1.1
comp=Z,20nm,1.3s
WVOR **Wild Horse Val** 77.15 325 *e*P P 21 35 12.5 +1.1
WVOR pmax pmax
comp=Z,21nm,1.3s
GDXM **Geysers** 77.16 320 *e*P P 21 35 13.8 +2.3
comp=Z,34nm,1.2s
TOA1 **Torodi Ar. Sit** 77.19 71 *e*P P 21 35 10.3 -1.8
TOA1 *e*pP **pP** 21 35 36.9 0.0
TOA1 *e*sP **sP** 21 35 47.4 +0.4
TOA1 *e*S **S** 21 44 50.0 -4.8
TOA0 **Torodi Ar. Sit** 77.19 71 *e*P P 21 35 11.3 -0.8
TOA0 *e*S **S** 21 44 53.6 -1.2
TORD **Torodi Ar. Bea** 77.19 71 P P 21 35 10.3 -1.8
comp=Z,8.8nm,0.4s,baz=253,slow=5.6,SNR=138
TORD pP **pP** 21 35 36.9 0.0
comp=Z,58nm,1.0s,baz=262,slow=4.5,SNR=11
TORD sP **sP** 21 35 47.4 +0.4
comp=Z,11nm,0.5s,baz=250,slow=5.6,SNR=2.5
TORD S **S** 21 44 50.0 -4.8
comp=Z,8.0nm,1.0s,baz=251,slow=9.1,SNR=7.1
TORD LR LR 22 08 11.6
comp=Z,148nm,21.5s,baz=290,slow=35
O03E **Paynes Creek** 77.51 322 P P 21 35 13.4 -0.1
baz=130,SNR=16
J08A **Circle Bar Ran** 77.69 326 *e*P P 21 35 15.6 +1.1
comp=Z,18nm,1.0s
MOD **Modoc Plateau** 77.71 324 *e*P P 21 35 15.7 +1.1
comp=Z,58nm,1.2s
SYO **Syowa Base** 77.87 160⇑ *i*P P 21 35 15.6 +0.6
SYO **Syowa Base** 77.87 160⇑ *e*X P 21 35 20.3 +5.3
MSO **Missoula** 77.90 330 *e*P P 21 35 16.7 +1.1
comp=Z,43nm,1.2s
MSO **Missoula** 77.90 330 P P 21 35 16.7 +1.1
baz=137,SNR=32
O02D **Mt. Diablo Mer** 78.02 321 P P 21 35 16.2 -0.1
baz=129,SNR=7.4
BMO **Blue Mountains** 78.12 327 *e*P P 21 35 16.2 -0.6
comp=Z,53nm,1.0s
BMO **Blue Mountains** 78.12 327 *e*P P 21 35 16.2 -0.6
BMO pmax pmax
comp=Z,53nm,1.0s
VNDA **Vanda** 78.13 190 P P 21 35 18.4 +2.1
comp=Z,9.7nm,1.0s,baz=137,slow=3.8,SNR=18
VNDA **Vanda** 78.13 190 *e*P P 21 35 18.6 +2.3
comp=Z,20nm,1.1s
VNDA **Vanda** 78.13 190 *e*P P 21 35 18.6 +2.3
VNDA pmax pmax
comp=Z,20nm,1.1s
WDC **Whiskeytown Da** 78.13 321 *e*P P 21 35 16.4 -0.4
comp=Z,24nm,0.8s
WDC **Whiskeytown Da** 78.13 321 *e*P P 21 35 16.4 -0.4
WDC pmax pmax
comp=Z,24nm,0.8s
KCPM **Cahto Peak** 78.18 320 *e*P P 21 35 19.5 +2.3
comp=Z,76nm,1.1s
N02D **Trinity Center** 78.47 322 P P 21 35 18.9 +0.1
baz=130,SNR=15
M04C **Macdoel** 78.50 323 P P 21 35 19.8 +0.9
baz=130,SNR=34
KMRM **Mail Ridge** 78.59 321 *e*P P 21 35 21.5 +2.1
comp=Z,78nm,1.0s
I07A **Izee** 78.73 326 *e*P P 21 35 22.1 +1.9
comp=Z,18nm,1.0s
M02C **Callahan** 78.83 322 P P 21 35 21.1 +0.4
baz=130,SNR=8.6
F10A **Beach Ranch, E** 78.87 328 *e*P P 21 35 21.9 +1.1
comp=Z,27nm,1.0s
YBH **Yreka Blue Hor** 78.96 322 P P 21 35 21.0 -0.4
comp=Z,18nm,0.9s,baz=100,slow=4.7,SNR=25
YBH **Yreka Blue Hor** 78.96 322 *e*P P 21 35 21.3 -0.2
comp=Z,19nm,0.9s
YBH **Yreka Blue Hor** 78.96 322 *e*P P 21 35 21.3 -0.2
YBH pmax pmax
comp=Z,19nm,0.9s
K04D **Chiloquin, OR** 78.99 323 P P 21 35 22.8 +1.1
baz=130,SNR=14
KHMM **Horse Mountain** 79.02 321 *e*P P 21 35 23.7 +1.8
comp=Z,39nm,0.9s
L04D **Klamath Falls** 79.04 323 P P 21 35 22.3 +0.3
baz=130,SNR=12
J05D **Fort Rock, OR** 79.14 324 P P 21 35 23.6 +1.1
baz=131,SNR=33
G08A **Pilot Rock** 79.27 327 *e*P P 21 35 24.1 +1.0
comp=Z,27nm,1.0s
PINE **Pine Mountain** 79.31 325 *e*P P 21 35 24.6 +1.1
comp=Z,76nm,1.0s
SUR **Sutherland** 79.52 121 *e*P P 21 35 26.7 +1.7
comp=Z,31nm,1.1s
SUR *e*pP **pP** 21 35 52.9 +3.0
WALA **Waterton Lakes** 79.54 332 *e*P P 21 35 25.1 +0.6

comp=Z,57nm,1.0s
J04D Umpqua Nationa 79.59 324 P **P** **21 35 25.8 +0.7**
baz=130,SNR=17
FFC Flin Flon 79.66 341 *e*P **P** **21 35 24.7 -0.1**
comp=Z,28nm,1.0s
FFC Flin Flon 79.66 341 *e*P **P** **21 35 24.7 -0.1**
HUMO Hull Mountain 79.66 323 *e*P **P** **21 35 25.3 +0.2**
comp=Z,26nm,1.1s
E09A Wood Farm, Sta 79.70 328 *e*P **P** **21 35 26.3 +1.0**
comp=Z,54nm,1.3s
L02E Cave Junction 79.75 322 P **P** **21 35 26.6 +1.0**
baz=129
I05D Terrebonne, OR 79.89 325 P **P** **21 35 27.9 +1.5**
baz=131,SNR=38
I04A Tendick Farm, 80.12 324 P **P** **21 35 28.0 +0.3**
baz=130,SNR=17
K02D Willamette Mer 80.12 323 P **P** **21 35 29.1 +1.3**
baz=129,SNR=16
E08A Dider Farm, El 80.14 328 *e*P **P** **21 35 28.4 +0.8**
comp=Z,15nm,1.1s
F07A Phinny Hill Vi 80.18 327 *e*P **P** **21 35 29.5 +1.7**
HAWA Hanford 80.31 327 *e*P **P** **21 35 29.9 +1.3**
comp=Z,68nm,1.0s
NEW Newport 80.43 330 *e*P **P** **21 35 29.4 +0.2**
comp=Z,18nm,1.2s
NEW Newport 80.43 330 *e*P **P** **21 35 29.4 +0.2**
NEW pmax pmax
comp=Z,19nm,1.2s
NEW Newport 80.43 330 P **P** **21 35 29.2 0.0**
baz=135,SNR=15
D08A Wollman Farm, 80.46 328 *e*P **P** **21 35 30.4 +1.1**
comp=Z,71nm,1.4s
G05D Wamic, OR 80.47 326 P **P** **21 35 31.1 +1.6**
baz=131,SNR=20
J01E Myrtle Point 80.57 323 P **P** **21 35 31.8 +1.9**
baz=129,SNR=5.2
H04A Detroit Lake 80.57 325 *e*P **P** **21 35 30.6 +0.5**
comp=Z,47nm,0.9s
I03D Drain, OR 80.58 323 P **P** **21 35 31.5 +1.5**
baz=129,SNR=8.7
E07A Sunnyside 80.59 327 *e*P **P** **21 35 31.4 +1.3**
comp=Z,49nm,1.1s
KEBM Edson Butte 80.61 322 *e*P **P** **21 35 32.3 +1.9**
comp=Z,120nm,1.1s
C09A Chrisman Ranch 80.66 329 *e*P **P** **21 35 31.4 +1.0**
comp=Z,81nm,0.9s
TSUM Tsuneb 80.72 107 *e*P **P** **21 35 32.8 +1.2**
comp=Z,30nm,0.9s
H04D Lebanon 80.77 324 P **P** **21 35 31.4 +0.4**
baz=130
F05D White Salmon 80.97 326 P **P** **21 35 33.2 +1.1**
baz=131,SNR=12
MDT Midelt 81.11 50 P **P** **21 35 34.3 +1.0**
comp=Z,11nm,1.0s,baz=258,slow=6.1,SNR=5.3
I02D Swishome 81.11 324 P **P** **21 35 34.4 +1.6**
baz=129,SNR=5.5
COR Corvallis 81.12 324 *e*P **P** **21 35 34.9 +2.0**
comp=Z,130nm,1.0s
FCC Fort Churchill 81.25 347 *e*P **P** **21 35 33.5 +0.3**
comp=Z,51nm,0.8s
FCC Fort Churchill 81.25 347 *e*P **P** **21 35 33.5 +0.3**
FCC pmax pmax
comp=Z,51nm,0.8s
MESJ Messejana 81.29 44 *e*P **P** **21 35 35.0 +1.0**
G03D McMinnville, O 81.50 325 P **P** **21 35 36.1 +1.3**
baz=130,SNR=8.8
B08A Colville Reser 81.56 329 *e*P **P** **21 35 35.4 +0.2**
comp=Z,41nm,1.1s
PBEJ Beja 81.63 44 *e*P **P** **21 35 37.9 +2.2**
LON Longmire 81.72 327 *e*P **P** **21 35 36.4 +0.3**
comp=Z,18nm,0.9s
LON Longmire 81.72 327 *e*P **P** **21 35 36.4 +0.3**
LON pmax pmax
comp=Z,18nm,0.9s
E04D Cinebar 81.99 326 P **P** **21 35 38.1 +0.7**
baz=130,SNR=8.0
C06D Leavenworth 82.03 328 P **P** **21 35 38.0 +0.3**
baz=132
D05A Enumclaw 82.10 327 *e*P **P** **21 35 38.8 +0.8**
comp=Z,87nm,0.9s
F03A Seaside 82.11 325 *e*P **P** **21 35 39.8 +1.7**
comp=Z,53nm,1.1s
PESTR Estremoz 82.27 44 *e*P **P** **21 35 40.5 +1.4**
D04E Lakebay 82.50 326 P **P** **21 35 41.8 +1.7**
baz=130
B06A Marblemount 82.72 328 *e*P **P** **21 35 41.4 +0.3**
comp=Z,71nm,0.8s
B05A Bryant 82.86 328 P **P** **21 35 41.9 0.0**
baz=131,SNR=30
D03D Eldon 82.89 327 P **P** **21 35 43.0 +0.8**
baz=130,SNR=12
PVIS Viseu 83.10 42 *e*P **P** **21 35 44.9 +1.5**
NLWA Neilton Lookou 83.21 326 *e*P **P** **21 35 45.2 +1.4**
comp=Z,31nm,1.0s
RAR Rarotonga 83.41 250 LR LR 22 05 06.1
comp=Z,130nm,18.4s,baz=138,slow=30
A04D Lummi Island 83.47 328 P **P** **21 35 45.6 +0.7**
baz=130,SNR=7.2
PGC Sidney 83.80 327 *e*P **P** **21 35 47.7 +1.0**
comp=Z,68nm,0.9s
MVO Moncorvo 83.89 42 *e*P **P** **21 35 48.3 +0.8**
BOSA Boshof 84.35 118 P **P** **21 35 51.0 +0.7**
comp=Z,20nm,1.0s,baz=260,slow=5.2,SNR=15
BOSA pP **pP** **21 36 14.8 -0.6**
comp=Z,14nm,0.6s,baz=263,slow=4.2,SNR=6.1
BOSA LR LR 22 09 52.4
comp=Z,111nm,21.0s,baz=246,slow=33
BOSA Boshof 84.35 118 *e*P **P** **21 35 51.3 +1.0**
PBRG Braganca 84.42 42 *e*P **P** **21 35 50.8 +0.6**
TAM Tamanrasset 84.48 63 *e*P **P** **21 35 51.3 +0.3**
comp=Z,19nm,1.2s
TAM Tamanrasset 84.48 63 *e*P **P** **21 35 51.3 +0.3**
TAM pmax pmax
comp=Z,19nm,1.2s
PAB San Pablo 84.76 45 *e*P **P** **21 35 52.5 +0.5**
comp=Z,31nm,1.2s
PAB San Pablo 84.76 45 *e*P **P** **21 35 52.5 +0.5**
PAB pmax pmax
comp=Z,31nm,1.2s
ESDC Sonseca Array 85.08 45 P **P** **21 35 53.6 +0.1**
comp=Z,10nm,1.1s,baz=240,slow=5.2,SNR=18
ESDC pP **pP** **21 36 17.9 -0.6**
comp=Z,5.2nm,0.8s,baz=246,slow=5.1,SNR=5.4
ESDC LR LR 22 10 56.6
comp=Z,68nm,20.9s,baz=305,slow=34
ES19 SONSECA Array 85.14 45 *e*P **P** **21 35 54.3 +0.5**
MAW Mawson 85.71 163 P **P** **21 35 57.3 +1.2**
comp=Z,15nm,0.9s,baz=229,slow=7.6,SNR=15
MAW LR LR 22 14 17.6
comp=Z,73nm,20.2s,baz=239,slow=36
MAW Mawson 85.71 163 *e*P **P** **21 35 57.4 +1.2**
comp=Z,5.1nm,1.0s
MAW Mawson 85.71 163 *e*P **P** **21 35 57.4 +1.3**
MAW pmax pmax
comp=Z,5.0nm,1.0s
LBTB Lobatse 85.86 115 *e*P **P** **21 35 59.1 +1.2**
comp=Z,17nm,0.9s
LBTB Lobatse 85.86 115 *e*P **P** **21 35 59.1 +1.2**
LBTB pmax pmax
comp=Z,17nm,0.9s
SFJD Kangerlussuaq 87.98 7 P **P** **21 36 07.0 +0.1**
comp=Z,9.0nm,0.9s,baz=219,slow=9.1,SNR=3.5
SFJD Kangerlussuaq 87.98 7 *i* P **P** **21 36 06.7 -0.2**
comp=Z,100nm,1.0s
YKA Yellowknife Ar 89.81 341 P **P** **21 36 15.7 +0.1**
comp=Z,65nm,0.9s,baz=134,slow=4.7,SNR=556
YKA pP **pP** **21 36 39.7 -0.8**
comp=Z,14nm,0.9s,baz=134,slow=4.8,SNR=2.1
YKA PKKPbc **PKKPdf** **21 53 48.2 +1.6**
comp=Z,0.3nm,0.9s,baz=281,slow=0.3,SNR=4.6
YKB5 Yellowknife Ar 89.81 341 *e*P **P** **21 36 15.1 -0.5**
YKB5 *e*pP **pP** **21 36 39.7 -0.8**
YKW3 Yellowknife Ar 89.87 341 *e*P **P** **21 36 15.4 -0.4**
comp=Z,99nm,1.0s
KEST Kesra 92.73 53 P **P** **21 36 29.9 0.0**
comp=Z,3.4nm,0.8s,baz=209,slow=8.9,SNR=4.1
KEST LR LR 22 17 55.9
comp=Z,89nm,21.6s,baz=316,slow=35
KEST Kesra 92.73 53 *e*P **P** **21 36 29.9 0.0**
comp=Z,9.7nm,1.1s
DLBC Dease Lake 92.87 333 P **P** **21 36 31.1 +1.1**
comp=Z,19nm,1.0s,baz=126,slow=5.1,SNR=19
DLBC Dease Lake 92.87 333 *e*P **P** **21 36 31.0 +1.0**
comp=Z,34nm,1.2s
SUMG Summit 94.77 9 *e*P **P** **21 36 39.6 +0.7**
comp=Z,16nm,1.0s
SUMG Summit 94.77 9 *i* P **P** **21 36 39.0 +0.1**
comp=Z,59nm,1.1s
SUMG Summit 94.77 9 *e*P **P** **21 36 39.6 +0.7**
SUMG pmax pmax
comp=Z,16nm,1.0s
RES Resolute Bay 96.03 353 *e*P **P** **21 36 44.5 +0.5**
comp=Z,6.0nm,1.1s
RES Resolute Bay 96.03 353 *e*P **P** **21 36 44.5 +0.5**
RES pmax pmax
comp=Z,6.0nm,1.1s
WLF Walferdange 96.09 39 ⇑P **P** **21 36 45.2 +0.3**
MEM Membach 96.39 38 ⇓P **P** **21 36 46.1 -0.1**
TULEG Thule 96.47 0 *e*P **P** **21 36 46.4 +0.4**
comp=Z,10nm,0.9s
MBAR Mbarara 99.15 94 LR LR 22 20 15.2
comp=Z,148nm,19.3s,baz=268,slow=34
INK Inuvik 99.57 340 P **Pdif** **21 36 59.9 -0.2**
comp=Z,7.1nm,1.1s,baz=98,slow=4.8,SNR=16
INK PKKPbc **PKKPbc** **21 53 23.1 -1.6**
baz=243,slow=4.5
INK Inuvik 99.57 340 *e*Pdif **Pdif** **21 37 00.2 +0.1**
comp=Z,13nm,1.1s
GERES GERESS Array B 100.41 42 P **Pdif** **21 37 03.5 -0.9**
comp=Z,0.5nm,0.9s,baz=246,slow=8.5,SNR=3.2
GERES PKiKP **PKiKP** **21 41 36.3 +5.5**
comp=Z,0.6nm,0.8s,baz=214,slow=4.5,SNR=3.8
GERES PKKPbc **PKKPbc** **21 53 19.9 -1.9**
comp=Z,0.7nm,0.8s,baz=352,slow=2.7,SNR=4.6
CLL Collm 100.76 39 *e*PP **PP** **21 41 10.0 -4.7**
CLL *e*SKSac **SKSac** **21 47 33.0 -3.5**
CLL *e*Sdif **Sdif** **21 48 37.0 +1.3**
CLL *e*SP **SP** **21 50 10.0 +3.7**
CLL *e*PPS PPS 21 51 09.0
CLL *e*SS **SS** **21 55 30.0 -5.5**
CLL *e*SSS SSS 21 59 24.0
NB200 NORSAR Array S 102.89 29 *e*Pdif **Pdif** **21 37 15.1 0.0**
NB200 *e*PP **PP** **21 41 32.5 +2.0**
NOA NORSAR Array B 102.89 29 P **Pdif** **21 37 15.1 0.0**
comp=Z,2.0nm,1.1s,baz=245,slow=4.5,SNR=2.5
NOA PP **PP** **21 41 32.5 +2.0**
comp=Z,1.4nm,1.1s,baz=247,slow=7.6,SNR=2.4
ILAR Eielson Array 102.90 335 P **Pdif** **21 37 15.2 +0.2**
comp=Z,0.4nm,0.9s,baz=131,slow=5.0,SNR=4.7
ILAR PP **PP** **21 41 30.4 0.0**
comp=Z,3.1nm,1.2s,baz=107,slow=4.7,SNR=8.1
ILB Eielson Array 102.90 335 *e*Pdif **Pdif** **21 37 15.2 +0.2**
ILB *e*PP **PP** **21 41 30.4 0.0**
FIA0 FINESS Array S 110.00 31 *e*PKiKP **PKiKP** **21 41 46.5 -1.5**
FIA0 *e*PP **PP** **21 42 22.7 +0.2**
FINES FINESS Array B 110.00 31 PKiKP **PKiKP** **21 41 46.5 -1.5**
comp=Z,3.7nm,1.0s,baz=300,slow=11,SNR=2.9
FINES PP **PP** **21 42 22.7 +0.2**
comp=Z,2.5nm,1.0s,baz=285,slow=13,SNR=2.6
ARA0 ARCESS Array S 110.35 22 *e*PKKPbc PKKPbc 21 52 50.2 -1.6
ARCES ARCESS Array B 110.35 22 PKKPbc PKKPbc 21 52 50.2 -1.6
comp=Z,7.7nm,1.0s,baz=54,slow=6.2,SNR=4.0
KIEV Kiev 110.60 42 *i* PKiKP **PKiKP** **21 41 48.8 -0.6**
AKASG Malin Array Be 110.61 42 PKiKP **PKiKP** **21 41 48.9 -0.5**
comp=Z,0.2nm,0.3s,baz=263,slow=2.8,SNR=4.0
AKASG PP **PP** **21 42 26.1 -1.3**
comp=Z,0.2nm,0.3s,baz=260,slow=6.4,SNR=4.0
AKASG PKKPbc **PKKPbc** **21 52 48.8 -1.6**
comp=Z,1.2nm,0.7s,baz=72,slow=3.6,SNR=8.6
AKBB Malin Array Si 110.61 42 *e*PKiKP **PKiKP** **21 41 48.9 -0.6**
AKBB *e*PP **PP** **21 42 26.1 -1.3**
AKBB Malin Array Si 110.61 42 *e*PKiKP **PKiKP** **21 41 48.9 -0.6**
AKBB *e* 21 42 26.1
BR101 Keskin Array S 112.29 54 *e*PKiKP **PKiKP** **21 41 53.0 -0.2**
BR101 *e*PP **PP** **21 42 40.2 +0.3**
BRTR Keskin Array B 112.29 54 PKiKP **PKiKP** **21 41 53.0 -0.2**
comp=Z,1.2nm,0.8s,baz=188,slow=7.5,SNR=6.1
BRTR PP **PP** **21 42 40.2 +0.3**
comp=Z,1.1nm,0.9s,baz=227,slow=5.7,SNR=4.1
BRTR PKKPab **PKKPab** **21 52 53.1 +1.6**
comp=Z,1.9nm,0.9s,baz=56,slow=4.6,SNR=6.6
APA Apatity 113.27 24 *i* PKiKP **PKiKP** **21 42 01.0 +7.0**
APA pmax pmax
comp=Z,8.0nm,0.9s
APA MLR MLR
comp=Z,1μm,24.0s
OBN Obninsk 115.29 38 *i* PKiKP **PKiKP** **21 41 58.0 -0.2**
OBN *e* 21 43 04.1
OBN *e*SS SS 21 59 03.5 +12
OBN pmax pmax
comp=Z,7.0nm,1.1s
KLMR Klimovskoe 116.51 31 *e*PKiKP **PKPdf** **21 41 59.7 -0.7**
KLMR pmax pmax
comp=Z,11nm,1.1s
KLMR Klimovskoe 116.51 31 *e*PKPdf **PKPdf** **21 41 59.7 -0.7**
KLMR AMP 21 42 01.9
comp=Z,11nm,1.1s
LPSR Galich'ya Gora 116.73 40 *e*PKiKP **PKPdf** **21 42 00.8 -0.3**
LPSR pmax pmax
comp=Z,20nm,1.3s
VSR Storozhevoye 116.91 42 *e*PKiKP **PKPdf** **21 42 01.1 -0.4**
VSR pmax pmax
comp=Z,6.0nm,0.9s
VRH Novokhopyorsk 118.52 42 *e*PKiKP **PKPdf** **21 42 04.6 0.0**
VRH pmax pmax
comp=Z,10.0nm,1.1s
SIRT Sirnak 118.91 58 *e*PKPdf **PKiKP** **21 42 07.3 +1.3**
PRGR Permogore 119.30 30 *e*PKiKP **PKiKP** **21 42 06.1 +0.3**
PRGR pmax pmax
comp=Z,15nm,0.9s
KIV Kislovodsk 119.34 50 *e*PKiKP **PKiKP** **21 42 07.0 +0.4**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KBZ Khabaz 119.50 50 PKP **PKiKP** **21 42 07.0 +0.2**
comp=Z,8.5nm,0.9s,baz=162,slow=2.1,SNR=10
KBZ Khabaz 119.50 50 PKiKP **PKiKP** **21 42 07.0 +0.2**
KBZ pmax pmax
comp=Z,9.0nm,0.9s
NCK Nalchik 120.00 51 ⇑ *i* PKiKP **PKiKP** **21 42 08.8 +1.0**
STKA Stephens Creek 120.43 210 PKP **PKiKP** **21 42 09.4 +0.3**
comp=Z,4.3nm,0.8s,baz=156,slow=10,SNR=6.4
BILL Bilibino 121.16 339 *e*PKPdf **PKiKP** **21 42 10.0 +0.6**
BILL Bilibino 121.16 339 ⇑ *i* PKiKP **PKiKP** **21 42 09.8 +0.5**
BILL *e* 21 43 38.1
BILL pmax pmax
comp=Z,6.0nm,1.0s
NWAO Narrogin (SRO) 126.87 187 PKP **PKPdf** **21 42 20.9 -0.5**
comp=Z,15nm,1.0s,baz=115,slow=3.1,SNR=5.6
NWAO Narrogin (SRO) 126.87 187 *e*PKPdf **PKPdf** **21 42 20.9 -0.5**
NWAO *e*PKPdf **PKiKP** **21 42 22.3 +0.4**
CTA Charters Tower 127.03 223 PKP **PKiKP** **21 42 22.6 +0.2**
comp=Z,8.8nm,0.8s,baz=242,slow=2.1,SNR=12
CTAO Charters Tower 127.03 223 *e*PKPdf **PKiKP** **21 42 22.8 +0.3**
ARU Arti 127.19 33 *e*PKPdf **PKiKP** **21 42 22.1 +0.5**
ARU Arti 127.19 33 *i* PKiKP **PKiKP** **21 42 21.9 +0.3**
ARU *e* 21 44 23.1
ARU *e* 21 49 24.5
TIXI Tiksi 127.42 353 PKP **PKPdf** **21 42 21.1 0.0**
comp=Z,7.1nm,0.9s,baz=359,slow=1.2,SNR=16
TIXI pPKP **pPKPdf** **21 42 48.3 +1.1**
comp=Z,1.3nm,0.3s,baz=342,slow=6.5,SNR=3.0
TIXI Tiksi 127.42 353 *e*PKiKP **PKPdf** **21 42 20.3 -0.8**
SVE Sverdlovsk 128.10 32 *e*PKiKP **PKiKP** **21 42 23.5 +0.1**
SVE pmax pmax
comp=Z,10.0nm,1.2s
SEY Seymchan 128.74 337 PKP **PKiKP** **21 42 24.9 +0.3**
comp=Z,20nm,0.9s,baz=140,slow=1.6,SNR=3.6
SEY PP **PP** **21 44 29.4 -1.6**
comp=Z,0.8nm,0.2s,baz=57,slow=15,SNR=4.8
SEY Seymchan 128.74 337 ⇑ *i* PKiKP **PKiKP** **21 42 25.2 +0.7**
ABKAR Akbulak array 130.35 42 *e*PKPdf **PKiKP** **21 42 28.5 +0.3**
AS31 Alice Springs 130.96 208 *e*PKPdf **PKPdf** **21 42 29.4 -0.1**
AS31 *e*PP **PP** **21 44 44.8 -0.8**
AS31 *e*SKPbc **SKPbc** **21 45 45.4 -0.5**
ASAR Alice Springs 130.96 208 PKP **PKPdf** **21 42 29.4 -0.1**
comp=Z,18nm,1.0s,baz=157,slow=2.3,SNR=32
ASAR pPKP **pPKPdf** **21 42 55.1 0.0**
comp=Z,3.9nm,0.9s,baz=131,slow=1.8,SNR=2.3
ASAR PP **PP** **21 44 44.8 -0.8**
comp=Z,3.5nm,1.1s,baz=108,slow=4.1,SNR=4.0
ASAR SKPbc **SKPbc** **21 45 45.4 -0.5**
comp=Z,2.0nm,0.9s,baz=151,slow=2.1,SNR=4.4
ASAR Alice Springs 130.96 208 PKiKP **PKPdf** **21 42 29.4 -0.1**
ASAR 21 42 55.2
ASAR pmax pmax
comp=Z,20nm,1.0s
ASAR pmax pmax
comp=Z,4.0nm,0.9s
ASAR pmax pmax
comp=Z,4.0nm,1.1s
ASAR pmax pmax
comp=N,2.0nm,0.9s
PEA1 Petropavlovsk- 131.30 324 *e*PKPdf **PKiKP** **21 42 30.4 +0.4**
PETK Petropavlovsk- 131.30 324 PKP **PKiKP** **21 42 30.4 +0.4**
comp=N,12nm,0.9s,baz=133,slow=6.3,SNR=8.3
PETK Petropavlovsk- 131.30 324 *e*PKPdf **PKiKP** **21 42 29.9 -0.1**
GEYT Alibeck 131.32 57 PKP **PKPdf** **21 42 29.9 +0.3**
comp=N,2.8nm,0.8s,baz=224,slow=6.2,SNR=6.7
GEYT pPKP **pPKPdf** **21 42 56.1 +0.4**
comp=N,1.2nm,0.7s,baz=264,slow=7.1,SNR=2.3
MA2 Magadan 131.38 334 *e*PKiKP **PKPdf** **21 42 27.6 -1.4**
COEN Coen 133.48 226 *e*PKPdf **PKiKP** **21 42 35.4 -0.2**
PMG Port Moresby 133.69 234 PKP **PKPdf** **21 42 34.4 -0.3**
comp=N,11nm,0.8s,baz=107,slow=8.8,SNR=4.4
PMG Port Moresby 133.69 234 *c i* PKiKP **PKiKP** **21 42 36.0 0.0**
WR1 Warramunga Arr 133.96 212 *e*PKPdf **PKPdf** **21 42 35.3 +0.1**
WR1 *e*SKPbc **SKPbc** **21 45 55.6 -0.8**
WRA Warramunga Arr 133.96 212 PKP **PKPdf** **21 42 35.3 +0.1**
comp=N,6.9nm,0.7s,baz=158,slow=1.7,SNR=44
WRA pPKP **pPKPdf** **21 43 01.1 +0.2**
comp=N,2.2nm,0.6s,baz=145,slow=1.7,SNR=2.3
WRA SKPbc **SKPbc** **21 45 55.6 -0.8**
comp=N,12nm,1.2s,baz=149,slow=3.0,SNR=7.9
WRAB Tennant Creek 133.96 212 *e*PKPdf **PKPdf** **21 42 35.7 +0.6**
WRAB Tennant Creek 133.96 212 *i* PKiKP **PKPdf** **21 42 35.0 -0.1**
BRVK Borovoye 134.77 34 *e*PKPdf **PKiKP** **21 42 36.6 -0.4**
BRVK Borovoye 134.77 34 *e*PKiKP **PKiKP** **21 42 36.6 -0.4**
YAK Yakutsk 136.13 347 *e*PKiKP **PKPdf** **21 42 37.8 0.0**
YAK pmax pmax
comp=Z,18nm,1.0s
YAK pmax pmax
comp=E,3.0nm,0.9s
MBWA Marble Bar 138.03 193 *e*P **PKiKP** **21 42 47.4 +2.7**
FITZ Fitzroy Crossi 139.29 202 PKhKP PKPpre 21 42 36.0
comp=E,4.0nm,0.8s,baz=224,slow=16,SNR=3.9
FITZ PKP **PKPdf** **21 42 45.6 +0.6**
comp=E,9.4nm,0.9s,baz=120,slow=4.9,SNR=6.2
KK31 Karatay Array 139.31 47 *e*PKPdf **PKPdf** **21 42 45.3 +1.0**
KKAR Karatay Array 139.31 47 *e*PKPdf **PKPdf** **21 42 45.3 +1.0**
NVS Novosibirsk 139.57 24 *e*PKiKP **PKPdf** **21 42 40.3 -4.0**
NVS *e* 21 42 57.6
NVS *e* 21 45 36.3
NVS pmax pmax
comp=Z,25nm,1.2s
NVS pmax pmax
comp=E,7.0nm,1.3s
CHGR Chuyangaron 139.72 54 *e*PKPdf **PKPdf** **21 42 46.5 +1.2**
NKL Nikolayevsk 139.80 332 *e*PKHKP PKPpre 21 42 39.0
KURK Kurchatov 140.35 32 *e*PKPdf **PKPdf** **21 42 46.4 +0.5**
KURK Kurchatov 140.35 32 *c i* PKiKP **PKPdf** **21 42 47.2 +1.3**
ZAA1 Zalesovo Array 140.85 24 *e*PKPpre PKPpre 21 42 43.9
ZAA1 *e*PKPdf **PKPdf** **21 42 47.0 +0.3**
ZAA1 *e*SKPbc **SKPbc** **21 46 15.2 -0.2**
ZALV Zalesovo Beam 140.85 24 PKhKP PKPpre 21 42 43.9
comp=E,25nm,0.8s,baz=319,slow=3.0,SNR=25
ZALV PKP **PKPdf** **21 42 47.0 +0.3**
comp=E,25nm,0.8s,baz=317,slow=2.9,SNR=15
ZALV SKPbc **SKPbc** **21 46 15.2 -0.2**
comp=E,3.7nm,0.9s,baz=242,slow=3.1,SNR=4.2
ZALV SKKPbc **SKKPab** **21 54 34.2 -10**
comp=E,0.8nm,0.5s,baz=134,slow=4.2,SNR=3.5
ZALV Zalesovo Beam 140.85 24 *e*PKPpre PKPpre 21 42 39.8
ZALV PKPpre PKPpre 21 42 43.9
ZALV PKP **PKPdf** **21 42 47.0 +0.3**
ZALV Zalesovo Beam 140.85 24 *e*PKHKP PKPpre 21 42 39.8
ZALV 21 42 47.0
ARSB Arslanbob 141.67 48 *e*PKPdf **PKPdf** **21 42 48.6 -0.2**
BHJ Bhuj 141.76 78 *e*P **PKPdf** **21 42 48.0 -1.2**
BHJ IAMs_20 IAMs_20 21 58 34.0
comp=Z,170nm,5.7s
FRU Bishkek 142.18 45 *e*PKiKP **PKPdf** **21 42 47.0 -2.5**
AAK Ala-Archa 142.18 45 ⇑ *e*PKiKP **PKPdf** **21 42 48.4 -1.3**
FRU1 Bishkek 142.20 45 *e*PKPdf **PKPdf** **21 42 48.4 -1.2**
FRU1 Bishkek 142.20 45 *e*PKiKP **PKPdf** **21 42 48.4 -1.2**
YSS Yuzh-Sakhalins 142.69 323 *e*PKiKP **PKPdf** **21 42 47.6 -2.6**
YSS pmax pmax
comp=Z,10.0nm,1.0s
JAY Jayapura 142.99 236 PKhKP PKPpre 21 42 49.3
comp=Z,27nm,1.0s,baz=261,slow=3.8,SNR=5.3
GENI Genyem 143.36 235 PKP PKPbc 21 42 50.9 +1.1
GENI PKP **PKPdf** **21 42 51.1 -1.3**
NRN Naryn 143.71 46 *e*PKPdf **PKPdf** **21 42 52.3 -0.4**
JMP Maruseppu 143.93 319 P PKPbc 21 42 50.6 0.0
NIL Nilore 144.14 60 *e*PKPdf PKPbc 21 42 51.8 +0.2
NIL Nilore 144.14 60 *e*PKiKP PKPbc 21 42 51.8 +0.2
ZEA Zeya 144.16 343 *e*PKiKP PKPbc 21 42 51.6 +0.7
ZEA pmax pmax
comp=N,37nm,1.4s
ZEA pmax pmax
comp=Z,78nm,1.4s
KDJ Kajisay 144.19 45 *e*PKPdf **PKPdf** **21 42 54.4 +1.1**
ASAJ Asahikawa 144.34 319 PKP **PKPdf** **21 42 52.9 -0.4**
comp=Z,38nm,0.9s,baz=274,slow=6.9,SNR=18
ASAJ Asahikawa 144.34 319 P **PKPdf** **21 42 52.8 -0.4**
KSH Kashi 144.47 49 PKP **PKPdf** **21 42 53.3 -0.5**
KSH pPKP pPKPdf 21 43 20.3 +0.3
KSH sPKP 21 43 31.1
KSH PP **PP** **21 46 11.8 +1.3**
KSH PKS **PKSdf** **21 46 27.9 -1.6**
KSH SKS **SKSdf** **21 49 48.1 -7.2**
KSH SKKS **SKKSac** **21 52 49.5 -5.4**
KSH AMB AMB
comp=Z,330nm,6.2s
KSH LR LR
comp=Z,160nm,9.7s
KSH LR LR
comp=Z,190nm,7.3s
KSH LR LR
comp=Z,170nm,9.3s
GOA Goa 144.57 91 *e*P **PKPab** **21 42 52.6 -0.5**
GOA IAMs_20 IAMs_20 21 56 18.8
comp=Z,143nm,6.2s
MK31 Makanchi Array 144.70 35 *e*PKPdf PKPbc 21 42 53.2 +0.3
MK31 Makanchi Array 144.70 35 *e*PKiKP PKPbc 21 42 53.2 +0.3
MK32 Makanchi Array 144.70 35 *e*PKPdf PKPbc 21 42 53.2 +0.3
MK32 *e*SKPbc **SKPbc** **21 46 25.4 +0.3**
MKAR Makanchi Array 144.70 35 PKP PKPbc 21 42 53.2 +0.3
comp=Z,20nm,0.8s,baz=319,slow=3.7,SNR=216
MKAR pPKP pPKPdf 21 43 18.2 -1.5
comp=Z,3.9nm,0.6s,baz=328,slow=2.6,SNR=2.8
MKAR SKPbc **SKPbc** **21 46 25.4 +0.3**
comp=Z,3.0nm,0.9s,baz=312,slow=3.1,SNR=4.9
MKAR SKKPbc SKKPab 21 54 04.9 -22
comp=Z,0.8nm,0.9s,baz=138,slow=5.0,SNR=3.8
MK01 Makanchi Array 144.72 35 *e*PKPdf **PKPab** **21 42 52.9 +0.1**
TARG Taragay, Kyrgy 144.79 45 *e*PKPdf **PKPdf** **21 42 55.4 +0.7**
PRZ Przheval'sk 144.82 43 *e*PKPdf **PKPdf** **21 42 56.2 +1.8**
JEM Erimo 145.04 316 P **PKPdf** **21 42 55.9 +1.4**
ERM Erimo 145.04 316 *e*PKPbc **PKPdf** **21 42 56.1 +1.6**
ERM Erimo 145.04 316 *ce*PKiKP **PKPdf** **21 42 54.4 -0.1**
DGZ Jazzator, Alta 145.13 27 *d i* PKiKP **PKPdf** **21 42 55.1 +0.4**
POO Poona 145.17 86 *e*P **PKPbc** **21 42 53.9 -1.3**
POO Poona 145.17 86 *j i* P **PKPbc** **21 42 53.0 -2.2**
comp=Z,50nm,1.0s
SAUI Saumlaki 145.51 218 *e*PKPdf **PKiKP** **21 42 58.7 -1.5**
SAUI Saumlaki 145.51 218 PKP **PKiKP** **21 42 59.2 -1.0**
JEW Eniwo 145.72 318 P **PKPab** **21 42 56.7 +0.1**
KLR Kul'dur 146.47 335 PKPbc **PKPbc** **21 42 57.6 -0.6**
comp=Z,29nm,0.9s,baz=26,slow=2.9,SNR=46
KLR Kul'dur 146.47 335 *d i* PKP2 **PKPbc** **21 42 58.3 +0.1**
JSH Shimam 146.70 319 P **PKPbc** **21 42 58.6 -0.5**
JOT Ohata 146.73 316 P **PKPbc** **21 42 59.0 -0.2**
GUMO Guam 146.77 264 PKPbc **PKPbc** **21 43 00.4 +0.3**
comp=Z,438nm,1.1s,baz=194,slow=2.2,SNR=6.2
GUMO Guam 146.77 264 *e*PKPdf **PKPbc** **21 43 00.4 +0.3**
GUMO *e*PKPdf **PKPab** **21 43 00.5 -1.0**
SRPI Serui, Papua 146.80 232 PKP **PKiKP** **21 43 04.1 +1.2**
DHRM DHARAMSHALA 146.94 62 *e*P **PKPdf** **21 42 58.1 -0.3**
DHRM IAMs_20 IAMs_20 21 53 54.0
comp=Z,221nm,6.0s
JTM Tenmabayashi 147.01 315 P **PKPdf** **21 42 58.6 +0.7**
TEY Ternei 147.25 325 *j e*PKP2 **PKPbc** **21 43 01.3 +0.8**
TEY pmax pmax
comp=E,10.0nm,1.0s
TEY pmax pmax
comp=Z,50nm,1.0s
BATI Baumata 147.28 204 PKPbc **PKPab** **21 43 02.9 -0.6**
comp=Z,61nm,0.9s,baz=21,slow=2.2,SNR=9.1
BATI Baumata 147.28 204 PKP **PKPab** **21 43 03.1 -0.3**
BATI PKP **PKiKP** **21 43 03.2 -0.7**
SOEI Soe 147.46 205 *e*PKPbc **PKPab** **21 43 03.9 -0.4**
SOEI Soe 147.46 205 PKP **PKPab** **21 43 03.9 -0.4**
JOM Ohasama 147.48 313 P **PKPbc** **21 43 01.7 +0.3**
IRK Irkutsk 147.56 7 *e*PKP2 **PKPbc** **21 43 01.6 +0.4**
IRK pmax pmax
comp=Z,81nm,2.1s

MOY	**Mondy**	**147.62**	**11**	*e*PKP2	**PKPbc**	**21 43 00.6**	**-0.9**		
MOY				pmax	pmax				
	comp=Z,60nm,1.5s								
SMLA	**Simla**	**147.91**	**63**	*e*P	**PKPdf**	**21 42 59.4**	**-0.2**		
SMLA				IAMs_20	IAMs_20	21 54 38.7			
	comp=Z,132nm,5.0s								
RKPI	**Ransiki, Papua**	**148.54**	**230**	PKP	**PKPbc**	**21 43 05.7**	**+0.8**		
RKPI				PKP	**PKPbc**	**21 43 05.8**	**+0.8**		
DDI	**Dehra Dun**	**148.82**	**64**	*e*P	**PKPdf**	**21 43 01.1**	**-0.2**		
DDI				IAMs_20	IAMs_20	21 58 27.5			
	comp=Z,318nm,5.0s								
FAKI	**Fak Fak**	**148.86**	**225**	*e*PKPbc	**PKPbc**	**21 43 06.3**	**+0.5**		
FAKI	**Fak Fak**	**148.86**	**225**	PKP	**PKiKP**	**21 43 06.6**	**-0.5**		
FAKI				PKP	**PKPbc**	**21 43 07.0**	**+1.2**		
BHPL	**Bhopal**	**148.90**	**78**	*e*P	**PKPdf**	**21 43 02.1**	**+0.5**		
BHPL				IAMs_20	IAMs_20	21 56 15.6			
	comp=Z,213nm,4.1s								
JYA	**Atsumi**	**148.98**	**313**	P	**PKiKP**	**21 43 07.3**	**+0.7**		
ZAK	**Zakamensk**	**149.25**	**9**	*e*PKIKP	**PKPdf**	**21 43 02.3**	**+0.9**		
ZAK				pmax	pmax				
	comp=Z,28nm,1.1s								
MMRI	**Maumere**	**149.26**	**203**	*e*PKPbc	**PKPbc**	**21 43 07.2**	**+0.4**		
MMRI	**Maumere**	**149.26**	**203**	PKP	**PKiKP**	**21 43 08.6**	**+0.7**		
EDFI	**Ende, Flores**	**149.34**	**202**	PKP	**PKPdf**	**21 43 03.6**	**+0.9**		
HYB	**Hyderabad**	**149.40**	**90**	*i* PKP	**PKPdf**	**21 43 02.0**	**-0.5**		
HYB				*e*		21 43 07.5			
HYB	**Hyderabad**	**149.40**	**90**	*e*P	**PKPdf**	**21 43 01.5**	**-1.0**		
HYB				IAMs_20	IAMs_20	21 56 47.7			
	comp=Z,228nm,2.3s								
WMQ	**Urumqi**	**149.53**	**34**	PKPbc	**PKPdf**	**21 43 01.8**	**-0.2**		
WMQ				pPKP	pPKPdf	21 43 26.3	-1.7		
WMQ				sPKP		21 43 34.8			
WMQ				AMB	AMB				
	comp=Z,380nm,4.7s								
WMQ				LR	LR				
	comp=Z,220nm,27.7s								
WMQ				LR	LR				
	comp=Z,230nm,28.7s								
WMQ	**Urumqi**	**149.53**	**34**	*e*PKPbc	**PKiKP**	**21 43 07.9**	**+0.2**		
JYT	**Yasato**	**149.67**	**308**	P	**PKiKP**	**21 43 08.0**	**-0.1**		
MDRS	**Chennai**	**149.95**	**99**	*e*P	**PKPdf**	**21 43 01.8**	**-1.6**		
HIA	**Hailar**	**150.07**	**348**	*e*PKPbc	**PKPbc**	**21 43 07.6**	**-0.1**		
USA0B	**Ussuriysk Arra**	**150.21**	**328**	*e*PKPdf	**PKPdf**	**21 43 04.9**	**+1.9**		
USRK	**Ussuriysk Ar.**	**150.21**	**328**	PKP	**PKPdf**	**21 43 04.1**	**+1.1**		
	comp=Z,64nm,0.9s,baz=326,slow=2.8,SNR=83								
USRK				PKPbc	**PKiKP**	**21 43 09.2**	**+0.3**		
	comp=Z,64nm,0.9s,baz=325,slow=0.4,SNR=102								
USRK				pPKPbc	**pPKPbc**	**21 43 33.5**	**-0.4**		
	comp=Z,9.7nm,0.7s,baz=23,slow=0.9,SNR=2.6								
JSD	**Sado**	**150.25**	**313**	P	**PKiKP**	**21 43 09.1**	**-0.1**		
JRY	**Ryogami san**	**150.71**	**309**	P	**PKPbc**	**21 43 09.5**	**-0.2**		
JOD2	**Odawara 2**	**150.88**	**307**	P	**PKPbc**	**21 43 10.3**	**+0.2**		
MJAR	**Matsushiro Arr**	**150.99**	**310**	PKPbc	**PKiKP**	**21 43 10.6**	**-0.2**		
	comp=Z,39nm,0.9s,baz=124,slow=0.5,SNR=82								
MJAR				PP	**PP**	**21 46 48.3**	**-0.2**		
	comp=Z,1.2nm,0.9s,baz=79,slow=6.3,SNR=2.9								
MAJO	**Matsushiro**	**150.99**	**310**	*e*PKPbc	**PKiKP**	**21 43 10.7**	**-0.1**		
MAJO				*e*PP	**PP**	**21 46 48.3**	**-0.2**		
MAJO	**Matsushiro**	**150.99**	**310**	*d*PKIKP	**PKPbc**	**21 43 10.5**	**+0.2**		
MAJO	**Matsushiro**	**150.99**	**310**	*e*P	**PKPbc**	**21 43 07.8**	**-2.4**		
MAT	**Matsushiro**	**150.99**	**310**	PKP	**PKPbc**	**21 43 10.2**	**-0.1**		
MAT	**Matsushiro**	**150.99**	**310**	P	**PKiKP**	**21 43 10.6**	**-0.2**		
MJB9	**Matsu-Tunnel**	**150.99**	**310**	*e*PKPbc	**PKiKP**	**21 43 10.8**	**-0.1**		
MDJ	**Mudanjiang**	**151.02**	**332**	PKPbc	**PKPdf**	**21 43 03.8**	**-0.4**		
MDJ	**Mudanjiang**	**151.02**	**332**	*e*PKPdf	**PKPdf**	**21 43 05.4**	**+1.2**		
SIJI	**Sorong**	**151.03**	**226**	PKP	**PKPdf**	**21 43 05.8**	**+0.6**		
	comp=Z,2.9nm,0.4s,baz=359,slow=3.7,SNR=6.0								
SIJI				PKPbc	**PKiKP**	**21 43 11.6**	**0.0**		
	comp=Z,69nm,0.8s,baz=358,slow=5.0,SNR=49								
VLA	**Vladivostok**	**151.04**	**327** ⇑	*e*PKIKP	**PKPdf**	**21 43 02.3**	**-2.0**		
JHJ	**Hachijo jima 2**	**151.13**	**303**	PKPbc	**PKiKP**	**21 43 11.4**	**+0.2**		
	comp=Z,178nm,0.7s,baz=54,slow=12,SNR=2.9								
JAGI	**Jajag, Banyuwa**	**151.37**	**187**	*e*PKPbc	**PKiKP**	**21 43 12.2**	**-0.1**		
JAGI	**Jajag, Banyuwa**	**151.37**	**187**	PKP	**PKPbc**	**21 43 11.5**	**-0.3**		
JAGI				PKP	**PKiKP**	**21 43 12.6**	**+0.3**		
JGN	**Niukaw**	**151.77**	**310**	P	**PKiKP**	**21 43 12.6**	**+0.1**		
MSHR	**Mys Shultsa**	**151.80**	**327** ⇑	*i*PKIKP	**PKiKP**	**21 43 12.1**	**-0.2**		
SONA1	**Songino Array**	**152.14**	**6**	*e*PKPdf	**PKPdf**	**21 43 06.8**	**+0.8**		
SONA0	**Songino Array**	**152.15**	**6**	*e*PKPdf	**PKPdf**	**21 43 07.3**	**+1.2**		
SONA0				*e*PKPbc	**PKiKP**	**21 43 13.3**	**+0.3**		
SONM	**Songino Array**	**152.15**	**6**	PKP	**PKPdf**	**21 43 07.3**	**+1.2**		
	comp=Z,7.4nm,0.9s,baz=338,slow=1.0,SNR=40								
SONM				PKPbc	**PKiKP**	**21 43 13.3**	**+0.3**		
	comp=Z,26nm,0.8s,baz=316,slow=1.5,SNR=57								
SONM				pPKPbc	**pPKPbc**	**21 43 38.4**	**-0.2**		
	comp=Z,7.3nm,0.7s,baz=307,slow=1.1,SNR=2.8								
ULN	**Ulaanbaatar**	**152.18**	**5**	*e*PKPdf	**PKPdf**	**21 43 07.1**	**+1.0**		
ULN	**Ulaanbaatar**	**152.18**	**5**	*d*PKIKP	**PKPdf**	**21 43 06.9**	**+0.8**		
INU	**Inuyama**	**152.38**	**309**	*e*PKPbc	**PKiKP**	**21 43 14.2**	**+0.5**		
LEM	**Lembang**	**153.02**	**173**	PKPbc	**PKiKP**	**21 43 17.2**	**+1.4**		
	comp=Z,78nm,0.8s,baz=26,slow=3.0,SNR=14								
CN2	**Changchun**	**153.41**	**336**	*e*P	**PKPbc**	**21 43 13.5**	**-2.0**		
PYUN	**Piuthan**	**153.48**	**67**	*e*P	**PKPdf**	**21 43 08.8**	**+0.1**		
	comp=Z,52nm,1.0s								
KOLN	**Koldanda**	**154.07**	**68**	*e*P	**PKPdf**	**21 43 09.4**	**-0.1**		
	comp=Z,22nm,1.2s								
DANN	**Dangsing**	**154.09**	**66**	*e*P	**PKPdf**	**21 43 10.0**	**+0.3**		
	comp=Z,60nm,0.9s								
DMN	**Daman**	**155.41**	**67**	*e*P	**PKPdf**	**21 43 11.2**	**-0.2**		
	comp=Z,16nm,1.1s								
KKN	**Kakani**	**155.53**	**67**	*e*P	**PKPdf**	**21 43 11.5**	**0.0**		
	comp=Z,31nm,1.3s								
PKIN	**Phulchoki**	**155.67**	**67**	*e*P	**PKPdf**	**21 43 11.1**	**-0.7**		
	comp=Z,8.1nm,0.9s								
PKI	**Pulchoki**	**155.68**	**67**	*e*P	**PKPdf**	**21 43 11.6**	**-0.3**		
	comp=Z,17nm,1.3s								
GUN	**Gumba**	**156.02**	**66**	*e*P	**PKPdf**	**21 43 12.6**	**+0.2**		
	comp=Z,20nm,0.9s								
BOK	**Bokaro**	**156.65**	**77**	*e*P	**PKPdf**	**21 43 13.4**	**+0.5**		
BOK				IAMs_20	IAMs_20	21 58 49.9			
	comp=Z,149nm,5.2s								
RAMN	**Ramite**	**156.85**	**68**	*e*P	**PKPdf**	**21 43 13.5**	**+0.2**		
	comp=Z,32nm,1.3s								
KSRS	**Korea Array**	**157.19**	**323**	PKP	**PKPdf**	**21 43 14.2**	**+1.2**		
	comp=Z,10.0nm,1.0s,baz=65,slow=1.2,SNR=23								
KSRS				PKPab	**PKPab**	**21 43 45.0**	**+0.8**		
	comp=Z,11nm,0.9s,baz=62,slow=4.7,SNR=12								
KS01	**Wonju Array Si**	**157.19**	**323**	*e*PKPdf	**PKPdf**	**21 43 12.5**	**-0.6**		
KS15	**Wonju Array Si**	**157.22**	**323**	*e*PKPdf	**PKPdf**	**21 43 14.2**	**+1.1**		
KS15				*e*PKPab	**PKPab**	**21 43 45.0**	**+0.6**		
KSAR	**Wonju Array Be**	**157.22**	**323**	PKP	**PKPdf**	**21 43 14.2**	**+1.1**		
KSAR	**Wonju Array Be**	**157.22**	**323**	PKIKP	**PKPdf**	**21 43 14.3**	**+1.1**		
GSI	**Gunungsitoli**	**157.26**	**144**	*e*PKPab	**PKPab**	**21 43 47.6**	**+2.5**		
GTA	**Gaotai**	**158.60**	**24**	*e*PKP	**PKPdf**	**21 43 15.6**	**+0.6**		
GTA				pPKP	pPKPdf	21 43 41.1	+0.2		
GTA				sPKP		21 43 52.0			
GTA				PP	**PP**	**21 47 34.3**	**+4.0**		
GTA				SKKS		21 54 12.3			
GTA				SS	**SS**	**22 07 25.9**	**+1.2**		
GTA				AMB	AMB				
	comp=Z,73nm,10.0s								
GTA				LR	LR				
	comp=Z,150nm,16.5s								
GTA				LR	LR				
	comp=Z,190nm,18.6s								
CMBY	**CAMPBELL BAY**	**159.09**	**126**	*e*P	**PKPdf**	**21 43 15.5**	**-0.6**		
CMBY				IAMs_20	IAMs_20	21 57 31.3			
	comp=Z,513nm,6.7s								
PSI	**Prapat**	**159.24**	**145**	*e*PKPdf	**PKPdf**	**21 43 16.8**	**+0.3**		
PSI				*e*PKPab	**PKPab**	**21 43 54.8**	**+0.9**		
PSI	**Prapat**	**159.24**	**145**	*e*PKIKP	**PKPdf**	**21 43 16.8**	**+0.3**		
PSI				*e*		21 43 54.8			
HHC	**Hu-ho-hao-te**	**159.35**	**358**	*e*PKP	**PKPdf**	**21 43 13.5**	**-2.3**		
BJI	**Beijing**	**159.63**	**348**	*i* PKP	**PKPdf**	**21 43 17.3**	**+1.4**		
LSA	**Lhasa**	**159.85**	**58**	*e*PKPdf	**PKPdf**	**21 43 17.9**	**+0.7**		
LSA	**Lhasa**	**159.85**	**58**	*e*PKIKP	**PKPdf**	**21 43 17.9**	**+0.7**		
PBA	**Port Blair**	**160.73**	**113**	*e*P	PKPdf	21 43 16.9	-1.0		
SHL	**Shillong**	**161.78**	**69**	*e*PKPdf	**PKPdf**	**21 43 19.4**	**+0.4**		
SHL	**Shillong**	**161.78**	**69**	*e*PKIKP	**PKPdf**	**21 43 19.4**	**+0.4**		
SHL	**Shillong**	**161.78**	**69**	*e*P	**PKPdf**	**21 43 17.2**	**-1.8**		
SHL				IAmb	IAmb	21 43 19.6			
	comp=Z,29nm,1.6s								
SHL				IAMs_20	IAMs_20	21 52 46.6			
	comp=Z,122nm,5.5s								
LZH	**Lanzhou**	**162.99**	**20**	*e*PKP	**PKPdf**	**21 43 18.8**	**-1.1**		
LZH				pPKP	pPKPdf	21 43 44.6	-1.3		
LZH				sPKP		21 43 57.0			
LZH				SS	SS	22 08 09.4	-1.0		
TIA	**Tai'an**	**163.05**	**342**	PKP	**PKPdf**	**21 43 20.4**	**+0.7**		
XAN	**Xi'an**	**166.06**	**6**	PKP	**PKPdf**	**21 43 23.5**	**+1.0**		
NJ2	**Nanjing**	**166.10**	**330**	*e*PKP	**PKPdf**	**21 43 22.3**	**-0.2**		
CD2	**Chengdu**	**167.55**	**29**	PKP	**PKPdf**	**21 43 23.0**	**-0.7**		
UMPA	**Umpang Tak**	**168.02**	**107**	PKP	**PKPdf**	**21 43 26.8**	**+2.4**		
CM31	**Chiang Mai Arr**	**168.71**	**97**	*e*PKPdf	**PKPdf**	**21 43 25.4**	**+0.6**		
CM31				*e*PKPab	**PKPab**	**21 44 34.8**	**-0.7**		
CM31				*e*PP	**PP**	**21 48 25.2**	**0.0**		
CMAR	**Chiang Mai Arr**	**168.71**	**97**	PKP	**PKPdf**	**21 43 25.4**	**+0.6**		
	comp=Z,3.4nm,0.9s,baz=275,slow=1.9,SNR=23								
CMAR				PKPab	**PKPab**	**21 44 34.8**	**-0.7**		
	comp=Z,1.2nm,0.7s,baz=256,slow=6.5,SNR=5.5								
CMAR				pPKPab	**pPKPab**	**21 45 00.4**	**-0.5**		
	comp=Z,2.0nm,0.8s,baz=250,slow=6.1,SNR=4.6								
CMAR				PP	**PP**	**21 48 25.2**	**0.0**		
	comp=Z,2.1nm,1.1s,baz=262,slow=5.7,SNR=5.8								
CM01	**Chiang Mai Arr**	**168.71**	**97**	*e*PKPdf	**PKPdf**	**21 43 24.8**	**0.0**		
CHTO	**Chiang Mai**	**168.76**	**95**	*e*PKPdf	**PKPdf**	**21 43 25.1**	**+0.3**		
CHTO	**Chiang Mai**	**168.76**	**95**	*e*PKIKP	**PKPdf**	**21 43 25.1**	**+0.3**		
CHTO	**Chiang Mai**	**168.76**	**95**	PKP	**PKPdf**	**21 43 25.7**	**+0.9**		
CMMT	**Chiang Mai**	**168.77**	**95**	PKP	**PKPdf**	**21 43 25.4**	**+0.6**		
ENH	**Enshi**	**169.85**	**6**	*e*PKPdf	**PKPdf**	**21 43 25.9**	**+0.8**		
ENH				*e*PKPab	**PKPab**	**21 44 40.0**	**+0.1**		
PBKT	**Sadao Pong**	**170.04**	**109**	*e*PKPdf	**PKPdf**	**21 43 26.1**	**+0.6**		
PBKT	**Sadao Pong**	**170.04**	**109**	PKP	**PKPdf**	**21 43 26.3**	**+0.8**		
UTTA	**Uttaradit**	**170.04**	**102**	PKP	**PKPdf**	**21 43 27.1**	**+1.6**		
KMI	**Kunming**	**171.08**	**55**	PKP	**PKPdf**	**21 43 25.1**	**-1.1**		
GYA	**Guiyang**	**172.67**	**30**	*i* PKP	**PKPdf**	**21 43 27.4**	**+0.6**		
GYA				pPKP	pPKPdf	21 43 49.0	-3.9		
GYA				PKPab	**PKPab**	**21 44 53.6**	**+1.0**		
GYA				PKS	**PKSdf**	**21 46 55.8**	**-3.5**		
GYA				PP	**PP**	**21 48 45.4**	**+2.1**		
GYA				AMB	AMB				
	comp=Z,160nm,8.2s								

ISCJB ***13*** *21:38:12.6±0.3,40.41N±0.02×25.96E±0.03,h9km±3km, Error ellipse: s-maj=3.5km s-min=2.8km az=165.3*
DDA ***13*** *21:38:12.9,40.40N×25.99E,h7km±3km,ML2.5*
ATH ***13*** *21:38:12.6,40.41N×25.92E,h16km±6km,ML1.5/3, Error ellipse: s-maj=6.5km s-min=0.8km az=293.0*
ISK ***13*** *21:38:12.2,40.39N×25.97E,h6km,ML1.9/7*
THE ***13*** *21:38:13.2,40.41N×25.91E,h16km,ML1.5/6, Error ellipse: s-maj=1.2km s-min=0.7km az=87.0*

ISC 13 21:38:12.6±0.9, 40.40N±0.02×25.95E±0.02, h14km±7km, n35,σ0944/58, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GADA	**Gvkgeada**	**0.22**	**191**	PG	**Pg**	**21 38 17.6**	**+0.2**
GADA	**Gvkgeada**	**0.22**	**191**	P	**Pg**	**21 38 17.5**	**+0.2**
GADA				S	**Sb**	**21 38 22.7**	**+0.5**
SMTH	**Samothraki Isl**	**0.33**	**282**	P	**Pg**	**21 38 19.0**	**-0.3**
SMTH				S	**Sg**	**21 38 23.6**	**-0.3**
SMTH				AML	AML	21 38 24.3	
	comp=E,369μm,0.1s						
SMTH				AML	AML	21 38 24.6	
	comp=N,451μm,0.1s						
SMTH	**Samothraki Isl**	**0.33**	**282**	P	**Pg**	**21 38 19.0**	**-0.3**
SMTH				S	**Sg**	**21 38 23.8**	**-0.1**
ENEZ	**Enez**	**0.36**	**25**	PG	**Pg**	**21 38 20.3**	**+0.3**
ENEZ				SG	**Sb**	**21 38 25.9**	**-0.6**
GELI	**Tayfur-Gelibol**	**0.40**	**91**	PG	**Pg**	**21 38 20.6**	**0.0**
ALN	**Alexandroupoli**	**0.50**	**8**	PG	**Pg**	**21 38 22.4**	**0.0**
ALN	**Alexandroupoli**	**0.50**	**8**	P	**Pg**	**21 38 22.4**	**0.0**
ALN				S	**Sg**	**21 38 29.6**	**+0.5**
ALN				AML	AML	21 38 30.9	
	comp=E,63μm,0.3s						
ALN				AML	AML	21 38 32.1	
	comp=N,46μm,0.2s						
ALN	**Alexandroupoli**	**0.50**	**8**	P	**Pg**	**21 38 22.4**	**0.0**
ALN				S	**Sb**	**21 38 30.4**	**+0.1**
ERIK	**Erikli-Kesan**	**0.50**	**58**	PG	**Pg**	**21 38 22.7**	**+0.2**
ERIK				SG	**Sg**	**21 38 29.6**	**+0.4**
BOZC	**Bozcaada**	**0.57**	**172**	PG	**Pg**	**21 38 23.2**	**-0.5**
BOZC				SG	**Sg**	**21 38 31.5**	**+0.3**
LPK	**Lapseki**	**0.62**	**93**	PG	**Pb**	**21 38 25.0**	**-0.2**
EZN	**Ezine**	**0.65**	**154**	PG	**Pg**	**21 38 24.7**	**-0.4**
EZN				SG	**Sg**	**21 38 33.6**	**-0.1**
KESN	**Edirne-Kesan**	**0.70**	**53**	IAML_P			
	comp=Z,257nm,0.1s						
KESN				*i* P	**Pg**	**21 38 25.7**	**-0.5**
KESN				*i* S	**Sg**	**21 38 34.4**	**-1.1**
LIA	**Limnos Island**	**0.78**	**230**	P	**Pg**	**21 38 27.7**	**+0.1**
LIA				S	**Sg**	**21 38 38.2**	**+0.3**
LIA	**Limnos Island**	**0.78**	**230**	P	**Pg**	**21 38 27.7**	**+0.1**
LIA				S	**Sb**	**21 38 38.8**	**+0.5**
BAYC	**CANAKKALE_Bayr**	**0.80**	**145**	IAML_P			
	comp=Z,403nm,0.2s						
BAYC				*i* P	**Pg**	**21 38 28.3**	**+0.2**
RDO	**Rodhopi**	**0.81**	**337**	PG	**Pb**	**21 38 28.2**	**-0.2**
RDO				SG	**Sb**	**21 38 40.2**	**+1.1**
RDO	**Rodhopi**	**0.81**	**337**	P	**Pb**	**21 38 28.2**	**-0.6**
RDO				S	**Sg**	**21 38 39.2**	**+0.5**
RDO				AML	AML	21 38 42.4	
	comp=N,73μm,0.2s						
RDO				AML	AML	21 38 42.6	
	comp=E,86μm,0.2s						
RDO	**Rodhopi**	**0.81**	**337**	P	**Pb**	**21 38 27.9**	**-0.5**
RDO				S	**Sg**	**21 38 39.3**	**+0.5**
THAS	**Thassos island**	**0.96**	**283**	P	**Pb**	**21 38 30.0**	**-1.0**
THAS				S	**Sb**	**21 38 43.5**	**-0.1**
THAS	**Thassos island**	**0.96**	**283**	P	**Pb**	**21 38 30.4**	**-0.6**
THAS				S	**Sb**	**21 38 44.1**	**+0.5**
KRBG	**Karabiga-Canak**	**1.03**	**90**	PG	**Pb**	**21 38 31.9**	**-0.2**
KRBG				SG	**Sn**	**21 38 46.3**	**-0.5**
PRK	**Paraskevi**	**1.18**	**168**	P	**Pg**	**21 38 35.6**	**+0.3**
PRK				S	**Sg**	**21 38 51.6**	**+0.9**
SIGR	**SIGRI**	**1.19**	**184**	PN	**Pn**	**21 38 34.7**	**-0.2**
SIGR	**SIGRI**	**1.19**	**184**	P	**Pn**	**21 38 34.7**	**-0.2**
SIGR				S	**Sn**	**21 38 51.2**	**+0.4**
SIGR	**SIGRI**	**1.19**	**184**	P	**Pn**	**21 38 35.0**	**+0.1**
SIGR				S	**Sb**	**21 38 50.3**	**0.0**
KNL	**Balıkesir**	**1.21**	**96**	*i* P	**Pg**	**21 38 36.2**	**+0.3**
AYVA	**Ayvalik**	**1.23**	**152**	IAML_P			
	comp=Z,175nm,0.1s						
AYVA				*i* P	**Pg**	**21 38 36.3**	**0.0**
AYVA				*i* S	**Sg**	**21 38 52.3**	**0.0**
KAVA	**Kavala**	**1.24**	**299**	P	**Pn**	**21 38 35.8**	**+0.2**
KAVA				S	**Sb**	**21 38 52.0**	**+0.2**
KDZ	**Kurdzhali**	**1.31**	**342**	PN	**Pg**	**21 38 38.3**	**+0.5**
BALY	**Balya**	**1.44**	**117**	IAML_P			
	comp=Z,144nm,0.1s						
BALY				*i* P	**Pg**	**21 38 40.3**	**0.0**
STEP	**BALIKESIR_Sava**	**1.70**	**126**	IAML_P			
	comp=Z,274nm,0.2s						
STEP				*i* P	**Pg**	**21 38 44.7**	**-0.6**
KCTX	**Karacabey (Bur**	**1.84**	**94**	PN	**Pn**	**21 38 44.3**	**+0.5**
DURS	**Dursunbey**	**2.10**	**112**	*i* P	**Pn**	**21 38 47.4**	**0.0**

ISCJB ***13*** *22:11:55.6±0.5,24.46N±0.04×122.83E±0.02,h64km±6km, Error ellipse: s-maj=6.2km s-min=2.8km az=175.7*
JMA ***13*** *22:11:55.3±0.1,24.43N×122.83E,h69km±1km,M2.1*
TAP ***13*** *22:11:55.6,24.49N×122.81E,h65km,ML2.9,C*

ISC 13 22:11:56.0±1.3, 24.46N±0.05×122.83E±0.02, h63km±8km, n49,σ0992/92, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.10**	**96**	P	**Pn**	**22 12 05.6**	**+0.1**
JYNG				S	**Sn**	**22 12 12.7**	**+0.4**
YOJ	**Yonaguni jima**	**0.16**	**90**	P	**Pn**	**22 12 05.8**	**0.0**
	baz=95						
YOJ				S	**Sn**	**22 12 13.1**	**+0.4**
	baz=95						
YOJ	**Yonaguni jima**	**0.16**	**90**	P	**Pn**	**22 12 05.7**	**0.0**
YOJ				eS	**Sn**	**22 12 13.1**	**+0.4**
EOS1	**EOS1**	**0.65**	**278**	eP	**Pn**	**22 12 09.7**	**-0.1**
	baz=276						
EOS1				eS	**Sn**	**22 12 20.4**	**+0.4**
	baz=276						
IRIF	**Iriomote-Funau**	**0.83**	**99**	P	**Pn**	**22 12 11.7**	**-0.3**
IRIF				S	**Sn**	**22 12 24.1**	**+0.3**
TWC	**Suao**	**0.91**	**279**	P	**Pn**	**22 12 12.2**	**-0.8**
	baz=285						
TWC				S	**Sn**	**22 12 24.2**	**-1.3**
	baz=285						
HATJ	**Hateruma jima**	**0.98**	**114**	eS	**Sn**	**22 12 27.9**	**+0.8**
ENA	**Nanau**	**0.99**	**268**	eP	**Pn**	**22 12 13.6**	**-0.6**
	baz=271						
ENA				eS	**Sn**	**22 12 28.0**	**+0.4**
	baz=271						
TIPB	**Shuangxi**	**1.05**	**299**	eP	**Pn**	**22 12 14.2**	**-0.7**
	baz=298						
TIPB				eS	**Sn**	**22 12 28.5**	**-0.3**
	baz=298						
TWE	**Neicheng**	**1.09**	**284**	*e*P	**Pn**	**22 12 15.1**	**-0.2**
	baz=287						
TWE				*e*S	**Sn**	**22 12 29.4**	**-0.3**
	baz=287						
JKRS	**Kuro-shima**	**1.10**	**102**	P	**Pn**	**22 12 15.4**	**-0.1**
JKRS				*e*S	**Sn**	**22 12 30.3**	**+0.4**
WFSB	**Wu-fen Shan**	**1.13**	**303**	*e*P	**Pn**	**22 12 16.2**	**+0.3**
	baz=293						
NACB	**Ninganchiao**	**1.17**	**256**	*e*P	**Pn**	**22 12 15.7**	**-0.6**
	baz=254						
NACB				*e*S	**Sn**	**22 12 30.4**	**-1.2**
	baz=254						
ENTT	**Nioudou**	**1.17**	**279**	*e*P	**Pn**	**22 12 16.7**	**+0.3**
	baz=285						
ENTT				*e*S	**Sn**	**22 12 31.7**	**+0.1**
	baz=285						
TWD	**Chiawan**	**1.19**	**252**	*e*P	**Pn**	**22 12 16.1**	**-0.6**
	baz=249						
TWD				*e*S	**Sn**	**22 12 31.2**	**-0.9**
	baz=249						
JIJ	**Ishigaki jima**	**1.20**	**94**	P	**Pn**	**22 12 16.2**	**-0.6**
JIJ				S	**Sn**	**22 12 31.6**	**-0.7**
HWA	**Hwalien**	**1.22**	**247**	*e*P	**Pn**	**22 12 17.7**	**+0.7**
	baz=245						
NWLT	**Wulai**	**1.25**	**285**	*e*P	**Pn**	**22 12 17.5**	**0.0**
	baz=293						
NNS	**Nan Shan**	**1.33**	**269**	*e*P	**Pn**	**22 12 18.2**	**-0.5**
	baz=257						
NNS				*e*S	**Sn**	**22 12 35.5**	**-0.1**
	baz=257						
YHNB	**Yeheng**	**1.34**	**279**	*e*P	**Pn**	**22 12 19.2**	**+0.5**
	baz=277						
YHNB				*e*S	**Sn**	**22 12 36.1**	**+0.3**
	baz=277						
JISG	**Ishigakijimahi**	**1.35**	**84**	P	**Pn**	**22 12 18.0**	**-0.8**
JISG				eS	**Sn**	**22 12 35.2**	**-0.7**
YM04	**YM04**	**1.36**	**301**	*e*P	**Pn**	**22 12 18.4**	**-0.6**
	baz=300						
ESL	**Shilin**	**1.43**	**243**	P	**Pn**	**22 12 19.1**	**-0.8**
	baz=234						
ESL				S	**Sn**	**22 12 36.6**	**-1.2**
	baz=234						
WHF	**Hehuan Shan**	**1.46**	**258**	*e*P	**Pn**	**22 12 20.2**	**-0.6**
	baz=246						
WHF				*e*S	**Sn**	**22 12 38.1**	**-1.1**
	baz=246						
TWT	**Tachien**	**1.52**	**262**	P	**Pn**	**22 12 21.9**	**+0.6**
	baz=261						
TWT				S	**Sn**	**22 12 40.1**	**-0.2**
	baz=261						
TDCB	**Techi**	**1.54**	**263**	*e*P	**Pn**	**22 12 21.6**	**+0.1**
	baz=261						
TDCB				*e*S	**Sn**	**22 12 39.9**	**-0.8**
	baz=261						
CHGB	**Renai**	**1.56**	**256**	*e*P	**Pn**	**22 12 21.8**	**-0.1**
	baz=244						
CHGB				*e*S	**Sn**	**22 12 40.6**	**-0.8**
	baz=244						
**HGSD

0.0nm,0.3s,baz=296,slow=24,SNR=2.7
ASAR Alice Springs 21.26 139 P **P 22 20 12.8 +0.2**
4.6nm,0.4s,baz=314,slow=8.8,SNR=28
ASAR LR LR 22 28 26.9
comp=Z,85nm,19.8s,baz=134,slow=37
STKA Stephens Creek 31.83 141 P **P 22 21 51.4 +0.4**
1.2nm,0.5s,baz=328,slow=9.5,SNR=3.3
MKAR Makanchi Array 63.51 333 P **P 22 25 55.9 -0.1**
0.3nm,0.6s,baz=130,slow=7.0,SNR=3.7

*ISCJB **13** 22:21:46.5±0.6,31°.62S×0°.08×66°.77W±0°.05,h146km±7km, mb3.4/1,Error ellipse: s-maj=12.5km s-min=7.2km az=169.9*
*IDC **13** 22:21:46.6±2.8,31°.80S×66°.54W,h126km±25km,mb3.4/1, mb1 3.3/5,mb1mx3.2/25,mbtmp3.6/5,Error ellipse: s-maj=53.5km s-min=23.8km az=118.0*
*SJA **13** 22:21:47.0±0.8,31°.62S×66°.80W,h142km±5km,ML3.7*
ISC 13 22:21:47.6±0.8,31°.63S±0°.08×66°.78W±0°.05,h140km±8km, n19,σ0s82/27,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACAN	**Cantantal**	**0.73**	**208**	*i* P	**Pn**	**22 22 09.7**	**+0.5**
ACAN				*i* S	**Sn**	**22 22 25.7**	**-0.1**
MRA	**San Martin**	**1.20**	**131**	IAML		22 22 14.0	
MRA	comp=Z,456nm,0.4s			*i* P	**Pn**	**22 22 14.1**	**+0.8**
CFA	**Coronel Fontan**	**1.25**	**271**	*i* P	**Pn**	**22 22 13.6**	**-0.1**
CFA				*i* S	**Sn**	**22 22 33.3**	**-0.3**
RTLL	**Cerro Villicun**	**1.48**	**281**	*i* P	**Pn**	**22 22 16.5**	**+0.3**
RTLL				*i* S	**Sn**	**22 22 38.2**	**+0.2**
RTCV	**Cerro Valdivia**	**1.52**	**261**	*i* P	**Pn**	**22 22 16.9**	**+0.3**
RTCV				*i* S	**Sn**	**22 22 39.3**	**+0.5**
AMOG	**MOGNA**	**1.62**	**295**	*i* P	**Pn**	**22 22 18.1**	**+0.3**
AMOG				*i* S	**Sn**	**22 22 40.5**	**-0.3**
TCA	**Tanti**	**1.89**	**82**	*i* P	**Pn**	**22 22 21.4**	**+0.5**
TCA				*i* S	**Sn**	**22 22 46.6**	**+0.3**
ASAL	**Salagasta**	**1.99**	**241**	*i* P	**Pn**	**22 22 22.4**	**+0.4**
ASAL				*i* S	**Sn**	**22 22 48.7**	**+0.2**
RTLS	**Leoncito**	**2.15**	**265**	IAML		22 22 24.7	
RTLS	comp=Z,223nm,0.3s			*i* P	**Pn**	**22 22 24.8**	**+0.6**
RTLS				*i* S	**Sn**	**22 22 52.5**	**+0.2**
ARCO	**CERRO ARCO**	**2.19**	**236**	*i* P	**Pn**	**22 22 24.7**	**+0.1**
ARCO	comp=Z,317nm,0.7s			IAML		22 22 24.9	
AUSP	**Uspallata**	**2.30**	**254**	*i* P	**Pn**	**22 22 26.1**	**+0.1**
PLCA	**Paso Flores**	**9.58**	**197**	P	**Pn**	**22 24 00.3**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=29,slow=15,SNR=3.8						
CPUP	**Villa Florida**	**9.81**	**60**	P	**Pn**	**22 24 03.2**	**-2.0**
	comp=Z,0.8nm,0.3s,baz=228,slow=13,SNR=8.9						
LPAZ	**La Paz**	**15.32**	**355**	P	**P**	**22 25 20.6**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=205,slow=19,SNR=2.5						
SIV	**San Ignacio**	**16.41**	**20**	P	**Pn**	**22 25 28.9**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=203,slow=13,SNR=6.0						
TORD	**Torodi Ar. Bea**	**79.22**	**67**	P	**P**	**22 33 37.8**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=259,slow=5.4,SNR=3.7						
WRA	**Warramunga Arr**	**124.87**	**204**	PKP	**PKPdf**	**22 40 31.3**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=159,slow=1.8,SNR=15						
ZALV	**Zalesovo Beam**	**149.82**	**34**	PKPbc	**PKPbc**	**22 41 21.0**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=312,slow=6.1,SNR=3.7						
MKAR	**Makanchi Array**	**151.88**	**49**	PKPbc	**PKPbc**	**22 41 26.5**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=310,slow=1.2,SNR=5.4						

MEX 13 22:24:12.0±0.7,17°.11N×100°.09W,h37km±6km,MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.18**	**250**	*eP*	Pn	22 24 17.1	-4.6
CAIG				*i* S	Sn	22 24 21.7	-10
ACP2	**Acapulco**	**0.30**	**141**	*eP*	Pn	22 24 18.1	-2.1
ACP2				*eS*	Sn	22 24 24.3	-2.9
MEIG	**Mezcala**	**0.92**	**29**	*eP*	Pn	22 24 26.3	-2.3
MEIG				*i* S	Sn	22 24 38.6	-2.1
ARIG	**Puente Sto Nin**	**1.19**	**348**	*eP*	Pn	22 24 30.2	-1.9
ARIG				*i* S	Sn	22 24 45.2	-1.9
PLIG	**Platanillo**	**1.39**	**23**	*eP*	Pn	22 24 33.5	-1.4
PLIG				*i* S	Sn	22 24 50.2	-1.9
ZIIG	**Zihuatanejo**	**1.41**	**291**	*eP*	Pn	22 24 33.7	-1.4
ZIIG				*eS*	Sn	22 24 50.8	-1.6
YAIG	**Yautepec**	**1.99**	**29**	*eP*	Pn	22 24 41.4	-1.9
YAIG				*eS*	Sn	22 25 05.3	-1.8
PNIG	**Pinotepa**	**2.01**	**111**	*eP*	Pn	22 24 41.9	-1.4
PNIG				*eS*	Sn	22 25 04.9	-2.4

MEX 13 22:26:55.7±0.6,16°.36N×98°.20W,h18km±4km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.08**	**68**	*i* P	Pg	22 26 58.1	-1.1
PNIG				*i* S	Sg	22 27 00.8	-0.7
VHO	**Vista Hermosa**	**1.57**	**63**	*eP*	Pn	22 27 20.6	-2.4
VHO				*eS*	Sn	22 27 38.9	-4.1
HUIG	**Huatulco**	**2.10**	**106**	*i* P	Pn	22 27 26.4	-3.6
HUIG				*eS*	Sn	22 27 50.8	-4.9

*IDC **13** 22:56:34.2±0.7,1°.88S×139°.07E,h0km,mb4.0/11, mb1 4.2/15,mb1mx4.0/41,mbtmp4.1/15,ML4.2/4,MS3.6/6, Ms1 3.6/6,ms1mx3.2/29,Error ellipse: s-maj=19.5km s-min=12.9km az=59.0*
*DJA **13** 22:56:42.6±1.1,2°.5S×13°.9E±°,h13km±8km,M4.7/4, mb4.6/4,MLv4.7/3*
*ISCJB **13** 22:56:44.3±0.3,2°.77S±0°.04×139°.29E±0°.03,h27km, mb4.3/26,MS3.8/5,Error ellipse: s-maj=5.9km s-min=4.8km az=153.4*
*NEIC **13** 22:56:45.8±0.5,2°.72S×139°.43E,h35km,mb4.4/13,Error ellipse: s-maj=12.3km s-min=7.8km az=89.0*
*BJI **13** 22:56:45.5,2°.71S×139°.28E,h30km,mb4.6/29,mB5.1/11, Ms4.7/6,Ms7 4.5/2*
ISC 13 22:56:45.7±0.5,2°.72S±0°.05×139°.29E±0°.05,h27km,n72, σ2s15/57,mb4.4/26,MS3.9/6,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.88**	**82**	P	**Pn**	**22 57 00.4**	**-1.9**
GENI				S	**Sb**	**22 57 12.7**	**-1.1**
JAY	**Jayapura**	**1.43**	**82**	Pg	**Pn**	**22 57 06.0**	**-3.8**
	75nm,0.3s,baz=233,slow=8.9,SNR=263						
JAY				Lg	Lg	22 57 26.5	
	79nm,0.3s,baz=126,slow=19,SNR=16						
JAY	**Jayapura**	**1.43**	**82**	P	**Pn**	**22 57 06.0**	**-3.8**
JAY				S	**Sn**	**22 57 27.3**	**-0.4**
SRPI	**Serui, Papua**	**3.16**	**285**	P	Pn	22 57 27.9	-5.8
RKPI	**Ransiki, Papua**	**5.25**	**283**	P	Pn	22 57 56.0	-6.4
FAKI	**Fak Fak**	**7.04**	**268**	*ePn*	Pn	22 58 18.4	-8.6
FAKI				*eSn*	Sn	22 59 36.5	-10
FAKI	**Fak Fak**	**7.04**	**268**	P	Pn	22 58 19.3	-7.7
SIJI	**Sorong**	**8.23**	**283**	Pn	Pn	22 58 30.3	-13
	1.1nm,0.3s,baz=90,slow=20,SNR=3.4						
PMG	**Port Moresby**	**10.26**	**131**	Pn	**Pn**	**22 59 12.2**	**+1.0**
	0.8nm,0.3s,baz=231,slow=14,SNR=2.2						
PMG				LR	LR	23 04 41.0	
	comp=Z,252nm,19.0s,baz=326,slow=44						
COEN	**Coen**	**11.81**	**161**	*ePn*	**Pn**	**22 59 36.6**	**+4.2**
MTN	**Manton Dam**	**12.90**	**218**	*ePn*	**Pn**	**22 59 46.2**	**-1.2**
MTN				*eSn*	**Sn**	**23 02 11.3**	**+1.2**
SOEI	**Soe**	**16.48**	**244**	*ePn*	**Pn**	**23 00 36.0**	**+0.6**
	44nm,0.9s						
SOEI	**Soe**	**16.48**	**244**	P	P	23 00 48.3	+11
DAV	**Davao City (W)**	**16.79**	**305**	LR	LR	23 06 39.5	
	comp=Z,83nm,18.4s,baz=353,slow=38						
BATI	**Baumata**	**17.21**	**244**	P	**Pn**	**23 00 39.6**	**-4.8**
	1.3nm,0.3s,baz=301,slow=12,SNR=3.6						
BATI	**Baumata**	**17.21**	**244**	P	**P**	**23 00 45.1**	**-0.7**
WRAB	**Tennant Creek**	**17.78**	**195**	*ePn*	**Pn**	**23 00 51.0**	**-0.4**
	17nm,0.8s						
WB2	**Warramunga Arr**	**17.79**	**195**	*ePn*	**Pn**	**23 00 51.9**	**+0.4**
	18nm,0.6s						
WB2				*eSn*	Sn	23 03 56.8	-12
WR1	**Warramunga Arr**	**17.79**	**195**	*ePn*	**Pn**	**23 00 51.6**	**+0.1**
	18nm,0.7s						
WR1				*eS*	**Sn**	**23 04 11.0**	**+1.8**
WRA	**Warramunga Arr**	**17.79**	**195**	P	**Pn**	**23 00 51.6**	**+0.1**
	1.4nm,0.3s,baz=17,slow=13,SNR=52						
WRA				S	**Sn**	**23 04 11.0**	**+1.8**
	0.3nm,0.3s,baz=8.3,slow=22,SNR=4.3						
CTA	**Charters Tower**	**18.56**	**159**	P	**Pn**	**23 01 03.3**	**+2.4**
	0.2nm,0.3s,baz=337,slow=11,SNR=2.0						
FITZ	**Fitzroy Crossi**	**20.32**	**220**	P	**P**	**23 01 18.6**	**-1.2**
	3.9nm,0.6s,baz=61,slow=12,SNR=5.4						
FITZ				S	**S**	**23 05 01.7**	**-4.7**
	5.6nm,0.7s,baz=58,slow=19,SNR=6.2						
FITZ				LR	LR	23 10 30.2	
	comp=Z,178nm,18.4s,baz=34,slow=40						
FITZ	**Fitzroy Crossi**	**20.32**	**220**	*eP*	**P**	**23 01 18.9**	**-0.9**
	13nm,1.4s						
FITZ				*eS*	**S**	**23 05 01.7**	**-4.7**
AS01	**Alice Springs**	**21.46**	**193**	*eP*	**P**	**23 01 32.1**	**0.0**
AS31	**Alice Springs**	**21.47**	**194**	*eP*	**P**	**23 01 32.8**	**+0.5**
	5.7nm,0.9s						
AS31				*eS*	**S**	**23 05 30.7**	**+1.5**
ASAR	**Alice Springs**	**21.47**	**194**	P	**P**	**23 01 32.6**	**+0.4**
	4.8nm,0.7s,baz=22,slow=11,SNR=36						
ASAR				S	**S**	**23 05 30.7**	**+1.4**
	1.2nm,1.0s,baz=20,slow=20,SNR=2.8						
STKA	**Stephens Creek**	**29.09**	**176**	P	**P**	**23 02 44.2**	**+0.2**
	1.3nm,0.5s,baz=237,slow=5.9,SNR=3.2						
STKA	**Stephens Creek**	**29.09**	**176**	*eP*	**P**	**23 02 44.2**	**+0.2**
	2.9nm,1.5s						
H11S3	**WAKE ISLAND Hy**	**34.23**	**51**	T	T	23 39 12.8	
	baz=236,slow=76,SNR=96						
H11S2	**WAKE ISLAND Hy**	**34.24**	**51**	T	T	23 39 11.0	
	baz=236,slow=76,SNR=111						
H11S1	**WAKE ISLAND Hy**	**34.25**	**51**	T	T	23 39 11.4	
	baz=236,slow=76,SNR=101						
KLI	**Kotabumi**	**34.42**	**265**	P	P	23 03 41.3	+10
H11N1	**WAKE ISLAND Hy**	**35.10**	**49**	T	T	23 40 14.2	
	baz=233,slow=75,SNR=34						
H11N2	**WAKE ISLAND Hy**	**35.11**	**49**	T	T	23 40 15.4	
	baz=233,slow=75,SNR=34						
H11N3	**WAKE ISLAND Hy**	**35.11**	**49**	T	T	23 40 15.2	
	baz=233,slow=75,SNR=14						
NJ2	**Nanjing**	**39.65**	**332**	*eP*	**P**	**23 04 17.4**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
PSI	**Prapat**	**40.72**	**277**	P	P	23 04 13.7	-11
	2.0nm,0.6s,baz=2.1,slow=3.8,SNR=3.8						
PSI	**Prapat**	**40.72**	**277**	*eP*	**P**	**23 04 22.8**	**-1.9**
KSRS	**Korea Array**	**41.34**	**346**	P	P	23 04 14.7	-15
	0.8nm,0.5s,baz=170,slow=7.6,SNR=4.5						
KSRS				LR	LR	23 19 20.6	
	comp=Z,48nm,18.4s,baz=174,slow=34						
PAYA	**Payao**	**44.52**	**301**	P	**P**	**23 04 56.6**	**+1.2**
	5.1nm,0.8s						
CM01	**Chiang Mai Arr**	**44.92**	**300**	*eP*	**P**	**23 04 59.7**	**+1.2**
CM31	**Chiang Mai Arr**	**44.95**	**300**	*eP*	**P**	**23 04 57.6**	**-1.1**
CMAR	**Chiang Mai Arr**	**44.95**	**300**	P	P	23 04 45.1	-14
	1.3nm,0.5s,baz=123,slow=6.9,SNR=8.1						
KMI	**Kunming**	**44.97**	**310**	P	**P**	**23 05 00.3**	**+1.2**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CMMT	**Chiang Mai**	**45.08**	**300**	P	**P**	**23 05 02.1**	**+2.2**
	4.9nm,2.2s						
CHTO	**Chiang Mai**	**45.09**	**300**	*eP*	**P**	**23 05 01.1**	**+1.2**
	5.5nm,1.1s						
CHTO	**Chiang Mai**	**45.09**	**300**	P	**P**	**23 05 02.2**	**+2.3**
	22nm,2.3s						
XAN	**Xi'an**	**46.42**	**325**	P	**P**	**23 05 09.5**	**-0.7**
XAN				pP	pP	23 05 15.6	-3.0
XAN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
XAN	**Xi'an**	**46.42**	**325**	*eP*	**P**	**23 05 09.2**	**-1.0**
	6.7nm,1.1s						
HHC	**Hu-ho-hao-te**	**50.20**	**333**	*eP*	P	23 05 44.4	+5.0
HHC				pmax	pmax		
	comp=Z,23nm,1.1s						
LZH	**Lanzhou**	**50.84**	**323**	*eP*	P	23 05 53.1	+8.8
LZH				pP	sP	23 06 02.3	+6.3
LZH				sP	pP	23 06 07.0	+14
LZH				pmax	pmax		
	comp=Z,24nm,1.1s						
KLR	**Kul'dur**	**52.15**	**354**	P	P	23 05 39.5	-14
	comp=Z,1.9nm,0.8s,baz=143,slow=3.3,SNR=5.5						
GTA	**Gaotai**	**55.42**	**323**	*eP*	**P**	**23 06 19.0**	**+1.0**
GTA				pP	sP	23 06 29.4	-0.3
GTA				sP	pP	23 06 32.4	+5.9
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LSA	**Lhasa**	**56.17**	**309**	*eP*	**P**	**23 06 24.0**	**+0.1**
	comp=Z,4.5nm,0.7s						
ULN	**Ulaanbaatar**	**57.72**	**335**	*eP*	**P**	**23 06 34.7**	**+0.4**
	comp=Z,4.2nm,0.9s						
SONM	**Songino Array**	**57.98**	**334**	P	P	23 06 23.6	-12
	comp=Z,0.7nm,0.6s,baz=152,slow=7.7,SNR=7.1						
SONM				LR	LR	23 31 03.1	
	comp=Z,75nm,20.0s,baz=140,slow=36						
SONA1	**Songino Array**	**57.98**	**334**	*eP*	**P**	**23 06 35.9**	**-0.2**
WMQ	**Urumqi**	**65.38**	**321**	P	**P**	**23 07 27.6**	**+1.7**
WMQ				pP	sP	23 07 40.6	+2.9
WMQ				sP	PcP	23 07 46.6	-11
WMQ				pmax	pmax		
	comp=Z,35nm,0.9s						
WMQ				LR	LR		
	comp=Z,87nm,21.1s						
MK01	**Makanchi Array**	**70.13**	**322**	*eP*	**P**	**23 07 57.1**	**+1.3**
MKAR	**Makanchi Array**	**70.15**	**322**	P	P	23 07 44.9	-11
	comp=Z,1.8nm,0.7s,baz=112,slow=8.1,SNR=20						
KSH	**Kashi**	**71.51**	**313**	P	**P**	**23 08 07.1**	**+2.6**
KSH				sP	PcP	23 08 23.6	-0.2
KSH				PcP	sP	23 08 28.8	+12
KSH				S	**S**	**23 17 18.4**	**-3.5**
KSH				sS	sS	23 17 38.5	+2.2
KSH				ScS	**SKSac**	**23 18 02.3**	**-4.1**
KSH				pmax	pmax		
	comp=Z,12nm,1.0s						
KSH				LR	LR		
	comp=Z,74nm,6.7s						
KSH				LR	LR		
	comp=Z,65nm,6.7s						
KSH				LR	LR		
	comp=Z,94nm,10.2s						
ZALV	**Zalesovo Beam**	**72.23**	**330**	P	P	23 07 56.1	-12
	comp=Z,0.7nm,0.5s,baz=119,slow=1.9,SNR=4.6						
GAR	**Garm**	**75.54**	**311**	*eP*	**P**	**23 08 27.1**	**-1.1**
	comp=Z,6.0nm,0.8s						
VNDA	**Vanda**	**75.72**	**175**	P	**P**	**23 08 25.7**	**-2.6**
	comp=Z,0.9nm,0.6s,baz=325,slow=8.1,SNR=6.5						
VNDA				LR	LR	23 42 53.2	
	comp=Z,84nm,18.2s,baz=270,slow=36						
VNDA	**Vanda**	**75.72**	**175**	*eP*	**P**	**23 08 26.1**	**-2.3**
CHGR	**Chuyangaron**	**76.32**	**311**	*eP*	**P**	**23 08 35.0**	**+2.4**
	comp=Z,11nm,0.7s						
ABKAR	**Akbulak array**	**85.10**	**320**	*eP*	**P**	**23 09 22.0**	**+2.8**
IL1	**Eielson Array**	**85.60**	**24**	*eP*	**P**	**23 09 23.4**	**+2.0**
VYHS	**Vyhne**	**111.84**	**322**	*ePDIFF*	**Pdif**	**23 11 23.7**	**+2.5**
TORD	**Torodi Ar. Bea**	**136.82**	**286**	PKP	PKPpre	23 15 59.4	
	comp=Z,0.5nm,0.8s,baz=131,slow=4.4,SNR=3.1						
TOA1	**Torodi Ar. Sit**	**136.82**	**286**	*ePKPpre*	PKPpre	23 15 59.4	
DBIC	**Dimbokro**	**144.06**	**278**	PKP	PKPpre	23 16 10.0	
	comp=Z,2.3nm,0.6s,baz=104,slow=5.1,SNR=6.4						

NEIC 13 22:58:42.2±0.0,53°.34N×163°.62W,h26km,ML2.8(AEIC), After AEIC.,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.27**	**334**	P	Pn	22 59 04.0	-0.4
BRPK	**Brown Peak**	**1.31**	**357**	P	Pn	22 59 04.4	-0.5
WESP	**Westdahl Peak**	**1.33**	**331**	P	Pn	22 59 04.9	-0.2
WESP				S	Sb	22 59 22.5	-0.5
WESN	**West Dahl Nort**	**1.36**	**336**	P	Pn	22 59 05.5	0.0
WECS	**Westdahl Cape**	**1.38**	**331**	P	Pn	22 59 05.9	+0.1
WEBT	**Westdahl Beart**	**1.42**	**332**	P	Pn	22 59 06.4	0.0
SSBA	**Shishaldin**	**1.47**	**349**	P	Pn	22 59 06.4	-0.6
SSBA				S	Sn	22 59 25.9	+0.5
AKSA	**Akutan Strait**	**1.47**	**304**	P	Pn	22 59 06.6	-0.3
AKSA				S	Sb	22 59 26.7	-0.3
SSLN	**Shishaldin Nor**	**1.49**	**352**	P	Pn	22 59 07.7	+0.4
FALS	**False Pass**	**1.52**	**4**	P	Pn	22 59 07.5	-0.3
FALS				S	Sn	22 59 27.3	+0.6
HSB	**Akutan Spr's B**	**1.60**	**303**	P	Pn	22 59 08.8	0.0
AKLV	**Akutan Long Va**	**1.61**	**302**	P	Pn	22 59 08.8	-0.2
AKLV				S	Sn	22 59 28.4	-0.6
AKGG	**Akutan Green G**	**1.65**	**302**	P	Pn	22 59 09.5	0.0
UNV	**Unalaska Valle**	**1.79**	**288**	P	Pn	22 59 11.1	-0.2
DRIA	**Deer Island**	**1.81**	**26**	P	Pn	22 59 11.7	-0.1
MREP	**Makushin Rep't**	**1.92**	**285**	P	Pn	22 59 13.2	-0.1
MTBL	**Makushin Table**	**1.93**	**290**	P	Pn	22 59 13.8	+0.5
DT1	**Dutton Round H**	**1.94**	**23**	P	Pn	22 59 13.6	+0.2
MSW	**Makushin Switc**	**1.97**	**288**	P	Pn	22 59 14.3	+0.4
MGOD	**Makushin Gods**	**1.99**	**285**	P	Pn	22 59 14.7	+0.4
MCIR	**Makushin Cirqu**	**2.04**	**289**	P	Pn	22 59 15.4	+0.5
OKER	**Okmok East Rim**	**2.65**	**274**	P	Pn	22 59 24.7	+1.3
SDPT	**Sand Point**	**2.73**	**41**	P	Pn	22 59 24.8	+0.5
ILS	**Iliamna Low So**	**8.81**	**37**	P	Pn	23 00 51.8	+3.9
IVE	**Iliamna Volcan**	**8.87**	**37**	P	Pn	23 00 50.7	+2.0

JMA 13 22:59:33.5±0.1,30°.15N×132°.06E,h51km±4km,M3.5, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMTN	**Minamitane**	**1.03**	**284**	P	Pn	22 59 51.9	+0.2
JMTN				*eS*	Sn	23 00 05.5	+0.4
JTN	**Tanegashima 3**	**1.06**	**299**	P	Pn	22 59 52.2	+0.1
JTN				*eS*	Sn	23 00 06.6	+0.8
JYAK	**Yakushimahirau**	**1.34**	**274**	P	Pn	22 59 56.2	+0.3
JYAK				*eS*	Sn	23 00 12.9	+0.2
JTSR	**Tashiro 2**	**1.41**	**316**	P	Pn	22 59 57.1	+0.3
JTSR				S	Sn	23 00 14.6	+0.3
JNAR	**Kushima--Naru**	**1.53**	**334**	P	Pn	22 59 59.2	+0.8
JNAR				S	Sn	23 00 17.5	+0.3
JKC	**Kuchinoerabu**	**1.64**	**281**	P	Pn	23 00 00.8	+0.9
JKC				*eS*	Sn	23 00 21.3	+1.4
JNN	**Nakanoshima**	**1.92**	**261**	P	Pn	23 00 04.7	+0.9
JTZ	**Takazaki**	**1.94**	**335**	P	Pn	23 00 04.9	+0.9
JTZ				S	Sn	23 00 27.8	+0.7
JSJ	**Shimokoshiki**	**2.53**	**308**	P	Pn	23 00 11.5	-0.6
JSJ				S	Sn	23 00 41.7	+0.1
JAM	**Amami Oshima**	**2.76**	**232**	P	Pn	23 00 15.6	+0.4
JAM				*eS*	Sn	23 00 47.0	-0.3
JTO	**Tosashimizu**	**2.77**	**13**	P	Pn	23 00 15.6	+0.1
JTO				S	Sn	23 00 44.4	-3.3
UWA2	**Uwa jima 2**	**3.09**	**9**	S	Sn	23 00 52.9	-2.7
JAMN	**Amaminishikomi**	**3.16**	**234**	P	Pn	23 00 21.3	+0.6
JAMN				S	Sn	23 00 57.6	+0.4

*MOS **13** 22:59:57.9±0.9,63°.21N×150°.74W,h124km,mb4.6/21, Error ellipse: s-maj=13.6km s-min=6.3km az=99.5*
*ISCJB **13** 22:59:58.2±0.1,63°.17N±0°.02×150°.65W±0°.04, h128km±1km,mb4.3/60,Error ellipse: s-maj=2.8km s-min=2.6km az=6.8*
*IDC **13** 22:59:58.5±1.3,63°.27N×150°.82W,h112km±11km, mb3.8/26,mb1 4.0/31,mb1mx3.9/55,mbtmp4.2/31,MS3.2/4, Ms1 3.2/4,ms1mx2.7/38,Error ellipse: s-maj=11.5km s-min=9.2km az=24.0*
*NEIC **13** 22:59:59.5±0.0,63°.15N×150°.64W,h122km,mb4.4/16, ML4.3(AEIC),After AEIC.*
ISC 13 22:59:59.8±0.6,63°.17N±0°.03×150°.70W±0°.03, h126km±5km,n256,σ1s22/285,mb4.3/69,15C-9D,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.34**	**34**	P	**Pn**	**23 00 17.3**	**-0.5**
TRF				S	**Sn**	**23 00 30.6**	**-0.8**
HUR	**Hurricane**	**0.52**	**111**	P	**Pn**	**23 00 17.6**	**-1.0**
HUR				S	**Sn**	**23 00 32.3**	**-0.4**
CAST	**Castle Rocks**	**0.67**	**292**	P	**Pn**	**23 00 18.9**	**-0.7**
CAST				S	**Sn**	**23 00 33.5**	**-1.0**
PPLA	**Purkeypile**	**0.73**	**248**	P	**Pn**	**23 00 19.8**	**-0.4**
PPLA				S	**Sn**	**23 00 34.7**	**-0.9**
RND	**Reindeer**	**0.87**	**74**	P	**Pn**	**23 00 20.4**	**-0.8**
RND				S	**Sn**	**23 00 37.1**	**-0.4**
RND	**Reindeer**	**0.87**	**74**	P	**Pn**	**23 00 20.4**	**-0.8**
RND				S	**Sn**	**23 00 37.1**	**-0.4**
BPAW	**Bear Paw Mtn.**	**0.94**	**352**	P	**Pn**	**23 00 21.2**	**-0.6**
BPAW				S	**Sn**	**23 00 37.0**	**-1.5**
MCK	**McKinley**	**0.97**	**54**	P	**Pn**	**23 00 21.5**	**-0.6**
MCK				S	**Sn**	**23 00 38.8**	**-0.2**
MCK	**McKinley**	**0.97**	**54**	P	**Pn**	**23 00 21.5**	**-0.6**
MCK				S	**Sn**	**23 00 38.8**	**-0.2**
CHUM	**Lake Minchumin**	**1.01**	**315**	P	**Pn**	**23 00 22.1**	**-0.3**
CHUM				S	**Sn**	**23 00 38.8**	**-0.8**
DHY	**Denali Highway**	**1.52**	**92**	P	**Pn**	**23 00 27.1**	**-0.8**
DHY				S	**Sn**	**23 00 49.0**	**-0.4**
NEA	**Nenana**	**1.58**	**26**	P	**Pn**	**23 00 27.9**	**-0.6**
NEA				S	**Sn**	**23 00 48.7**	**-1.7**
SUA	**Susitna One**	**1.72**	**181**	P	**Pn**	**23 00 29.8**	**-0.4**
WRH	**Wood River Hil**	**1.74**	**40**	P	**Pn**	**23 00 29.8**	**-0.6**
PMR	**Palmer**	**1.75**	**155**	P	**Pn**	**23 00 29.1**	**-1.3**
PMR				S	**Sn**	**23 00 52.0**	**-1.8**
PMR	**Palmer**	**1.75**	**155**	P	**Pn**	**23 00 29.1**	**-1.3**
PMR				S	**Sn**	**23 00 52.0**	**-1.8**
SML	**Sawmill**	**1.76**	**140**	P	**Pn**	**23 00 29.4**	**-1.2**
SML				S	**Sn**	**23 00 53.4**	**-0.7**
SML	**Sawmill**	**1.76**	**140**	P	**Pn**	**23 00 29.4**	**-1.2**
SML				S	**Sn**	**23 00 53.4**	**-0.7**
MLY	**Manley**	**1.87**	**360**	P	**Pn**	**23 00 31.5**	**-0.4**
MLY				S	**Sn**	**23 00 55.2**	**-1.3**
SPNN	**North Nagishla**	**2.04**	**208**	P	**Pn**	**23 00 33.5**	**-0.6**
KNK	**Knik Glacier**	**

YUK2	White River	4.78	102	P		Pn	23 01 09.5	-0.3	
KULT	Kultieth River	4.80	124	P		Pn	23 01 09.0	-1.0	
BM3	Burnt Mountain	4.97	28	P		Pn	23 01 11.9	-0.4	
DAWY	Dawson	5.12	75	P		Pn	23 01 13.3	-1.1	
MESA	MESA	5.14	122	P		Pn	23 01 13.5	-1.2	
RKAV	Rock Avalanche	5.30	119	P		Pn	23 01 15.7	-1.2	
KVTA	Katmai Vly 10	5.31	207	P		Pn	23 01 16.9	+0.1	
KELA	Mount Kelaz	5.35	210	P		Pn	23 01 17.2	-0.2	
KBM	Katmai Bkd Mtn	5.39	206	P		Pn	23 01 17.0	-0.9	
KDAK	Kodiak Island	5.49	191	P		Pn	23 01 17.3	-1.9	
	15nm,0.3s,baz=49,slow=5.8,SNR=126								
KDAK				S		Sn	23 02 16.2	-4.9	
	17nm,0.3s,baz=132,slow=20,SNR=9.1								
KDAK				LR		LR	23 03 40.8		
	comp=Z,160nm,18.9s,baz=322,slow=40								
KDAK	Kodiak Island	5.49	191	P		Pn	23 01 17.2	-2.0	
ANCK	Angle Creek	5.52	207	P		Pn	23 01 19.8	+0.1	
CHX	Chaix Hills	5.53	120	P		Pn	23 01 18.6	-1.3	
CAHL	Cahill	5.61	206	P		Pn	23 01 21.0	0.0	
SAMH	Samovar Hills	5.63	118	P		Pn	23 01 19.8	-1.4	
OHAK	Old Harbor	6.11	193	P		Pn	23 01 25.5	-2.0	
PLK3	Peulik 3	6.15	209	P		Pn	23 01 28.3	+0.2	
BCPM	Bancas Point	6.19	116	P		Pn	23 01 27.5	-1.2	
PNL	Peninsula	6.46	118	P		Pn	23 01 31.4	-0.9	
ANM	Nome	6.63	289	P		Pn	23 01 34.5	0.0	
ANM	Nome	6.63	289	P		Pn	23 01 34.5	0.0	
HYT	Haines Junctio	6.64	105	ePn		Pn	23 01 33.9	-1.0	
EPYK	Eagle Plains	6.78	56	P		Pn	23 01 35.5	-1.1	
RDOG	Red Dog Mine	7.03	320	P		Pn	23 01 40.5	+0.6	
DHAK	Deception Hill	7.30	118	P		Pn	23 01 42.4	-1.2	
ANPB	Aniakchak Plen	7.43	214	P		Pn	23 01 45.7	+0.3	
PLBC	Pleasant Camp	7.83	112	P		Pn	23 01 49.5	-1.3	
WHY	Whitehorse	7.88	102	ePn		Pn	23 01 50.8	-0.7	
CHGN	Chignik	7.91	213	ePn		Pn	23 01 50.8	-1.0	
CHGN				eSn		Sn	23 03 19.6	0.0	
SKAG	Skagway	8.27	110	ePn		Pn	23 01 52.3	-4.4	
INK	Inuvik	8.73	46	P		Pn	23 02 00.4	-2.3	
	0.8nm,0.3s,baz=234,slow=17,SNR=40								
INK				S		Sn	23 03 39.5	+0.3	
	0.6nm,0.3s,baz=205,slow=9.0,SNR=5.7								
INK	Inuvik	8.73	46	P		Pn	23 02 00.8	-1.9	
INK	Inuvik	8.73	46	P		Pn	23 02 00.8	-1.9	
SDPT	Sand Point	9.29	217	ePn		Pn	23 02 10.9	+0.5	
JIS	Juneau Island	9.37	114	P		Pn	23 02 09.8	-1.6	
GAMB	Gambell	9.40	283	ePn		Pn	23 02 12.8	+1.0	
SIT	Sitka	9.80	122	P		Pn	23 02 16.0	-1.3	
SIT	Sitka	9.80	122	P		Pn	23 02 16.0	-1.3	
DLBC	Dease Lake	11.13	106	P		Pn	23 02 34.3	-0.8	
	0.1nm,0.3s,baz=288,slow=20,SNR=4.0								
DLBC	Dease Lake	11.13	106	ePn		Pn	23 02 34.2	-0.9	
WRAK	Wrangell Islan	11.43	118	ePn		Pn	23 02 38.4	-0.5	
DIB	Dawson Inlet,	13.80	128	ePn		Pn	23 03 09.6	-0.3	
YKW3	Yellowknife Ar	16.34	76	ePn		Pn	23 03 40.4	-1.0	
	36nm,1.9s								
YKA	Yellowknife Ar	16.36	76	P		Pn	23 03 40.7	-1.0	
	0.4nm,0.3s,baz=285,slow=12,SNR=24								
YKB5	Yellowknife Ar	16.36	76	ePn		Pn	23 03 40.1	-1.7	
ATKA	Atka Island	16.57	239	ePn		Pn	23 03 44.2	-0.2	
	61nm,0.8s								
BILL	Bilibino	18.11	304⇑	eP		Pn	23 04 02.1	-0.7	
BILL				eS		S	23 07 16.9	-5.3	
BILL				pmax	pmax				
	comp=Z,3.0nm,0.8s								
RES	Resolute Bay	22.05	36	P		P	23 04 42.1	-1.6	
	comp=Z,3.4nm,0.4s,baz=270,slow=9.4,SNR=18								
RES	Resolute Bay	22.05	36	eP		P	23 04 43.5	-0.2	
	comp=Z,6.3nm,0.8s								
RES	Resolute Bay	22.05	36	eP		P	23 04 43.5	-0.2	
RES				pmax	pmax				
	comp=Z,6.0nm,0.8s								
B08A	Colville Reser	22.73	116	epP		pP	23 05 16.4	+1.4	
NEW	Newport	23.71	113	P		P	23 05 00.5	+0.6	
	comp=Z,1.8nm,0.8s,baz=312,slow=5.6,SNR=3.7								
SEY	Seymchan	25.08	295	P		P	23 05 11.5	-0.5	
	comp=Z,4.5nm,0.5s,baz=91,slow=11,SNR=14								
SEY	Seymchan	25.08	295⇓	eP		P	23 05 13.2	+1.2	
YBH	Yreka Blue Hor	27.02	129	LR		LR	23 15 03.8		
	comp=Z,44nm,20.2s,baz=70,slow=33								
ELK	Elko	30.66	120	P		P	23 06 04.0	+1.8	
	comp=Z,1.0nm,0.8s,baz=321,slow=9.3,SNR=6.3								
PDAR	Pinedale Array	31.29	111	P		P	23 06 09.3	+1.6	
	comp=Z,1.8nm,0.9s,baz=317,slow=6.1,SNR=11								
PDAR				PcP		PcP	23 08 58.6	-0.1	
	comp=Z,0.5nm,0.5s,baz=247,slow=1.9,SNR=1.9								
PDAR	Pinedale Array	31.29	111	eP		P	23 06 08.8	+1.0	
PDAR				PcP		PcP	23 08 58.6	-0.1	
NV01	Mina Array Sit	31.52	126	eP		P	23 06 10.6	+0.9	
NVAR	Mina Array Bea	31.52	126	P		P	23 06 10.6	+0.9	
	comp=Z,1.2nm,0.8s,baz=307,slow=7.3,SNR=5.2								
NVAR				PcP		PcP	23 08 59.9	+0.5	
	comp=Z,0.8nm,0.6s,baz=270,slow=0.9,SNR=3.5								
ULM	Lac du Bonnet	31.67	88	P		P	23 06 10.8	0.0	
	comp=Z,1.4nm,0.6s,baz=307,slow=9.9,SNR=3.2								
ULM	Lac du Bonnet	31.67	88	eP		P	23 06 12.1	+1.4	
ULM				pmax	pmax				
	comp=Z,1.0nm,0.6s								
SRU	San Rafael Swe	33.95	116	eP		P	23 06 31.1	+0.3	
	comp=Z,5.4nm,1.1s								
SRU	San Rafael Swe	33.95	116	eP		P	23 06 31.1	+0.3	
SRU				pmax	pmax				
	comp=Z,5.0nm,1.1s								
CCUT	Cedar City	34.15	121	eP		P	23 06 32.8	+0.1	
	comp=Z,2.4nm,0.9s								
NKL	Nikolayevsk	35.80	287	eP		P	23 06 46.0	-0.3	
YSS	Yuzh-Sakhalins	39.38	278	iP		P	23 07 17.1	+0.6	
YSS				pmax	pmax				
	comp=Z,25nm,1.3s								
SCHQ	Schefferville	40.98	61	P		P	23 07 30.7	+1.0	
	comp=Z,5.7nm,1.0s,baz=336,slow=10.0,SNR=2.2								
AMTX	Amarillo	41.24	110	eP		P	23 07 33.9	+1.8	
	comp=Z,6.8nm,0.9s								
MSTX	Muleshoe	41.56	112	eP		P	23 07 36.1	+1.4	
	comp=Z,7.4nm,1.0s								
KLR	Kul'dur	42.52	289	P		P	23 07 41.5	-0.6	
	comp=Z,1.6nm,0.5s,baz=57,slow=8.9,SNR=6.4								
KLR	Kul'dur	42.52	289⇓	eP		P	23 07 41.4	-0.7	
WMOK	Wichita Mounta	42.61	107	eP		P	23 07 43.9	+0.7	
	comp=Z,5.7nm,1.1s								
WMOK	Wichita Mounta	42.61	107	eP		P	23 07 43.9	+0.7	
WMOK				pmax	pmax				
	comp=Z,6.0nm,1.1s								
MIAR	Mount Ida	45.06	102	eP		P	23 08 03.4	+0.7	
	comp=Z,8.0nm,1.1s								
MIAR	Mount Ida	45.06	102	eP		P	23 08 03.4	+0.7	
MIAR				pmax	pmax				
	comp=Z,8.0nm,1.1s								
TX31	Lajitas Ar. Si	45.22	116	eP		P	23 08 05.7	+1.6	
TXAR	Lajitas Array	45.22	116	P		P	23 08 05.1	+1.0	
	comp=Z,1.5nm,0.9s,baz=335,slow=5.5,SNR=11								
USRK	Ussuriysk Ar.	46.30	284	P		P	23 08 11.2	-1.1	
	comp=Z,1.0nm,0.6s,baz=34,slow=8.5,SNR=4.3								
OXF	Oxford	46.96	98	eP		P	23 08 18.4	+0.9	
	comp=Z,33nm,1.1s								
OXF	Oxford	46.96	98	eP		P	23 08 18.4	+0.9	
OXF				pmax	pmax				
	comp=Z,33nm,1.1s								
ARCES	ARCESS Array B	47.55	2	P		P	23 08 20.8	-0.8	
	comp=Z,4.3nm,0.7s,baz=9.9,slow=7.8,SNR=15								
ARCES				PcP		PcP	23 09 50.7	+1.3	
	comp=Z,5.4nm,1.0s,baz=3.4,slow=3.1,SNR=3.8								
TKL	Tuckaleechee C	48.55	92	P		P	23 08 29.8	0.0	
	comp=Z,3.2nm,0.8s,baz=38,slow=2.9,SNR=5.3								
MJA0	Matsu Arr-Jizo	49.69	273	eP		P	23 08 39.4	+0.9	
MJA0				pmax	pmax				
	comp=Z,2.0nm,0.7s								
MAJO	Matsushiro	49.70	273⇑	iP		P	23 08 38.8	+0.2	
MAJO				pmax	pmax				
	comp=Z,29nm,1.9s								
MAT	Matsushiro	49.70	273	P		P	23 08 38.5	-0.1	
MJAR	Matsushiro Arr	49.70	273	P		P	23 08 38.3	-0.3	
	comp=Z,2.4nm,0.7s,baz=355,slow=7.6,SNR=7.7								
Y52A	Lilburn	49.91	93	eP		P	23 08 40.9	+0.8	
	comp=Z,9.8nm,0.8s								
ULN	Ulaanbaatar	53.55	305	eP		P	23 09 07.9	+0.6	
	comp=Z,1.9nm,0.6s								
ULN	Ulaanbaatar	53.55	305⇓	iP		P	23 09 07.8	+0.6	
ULN				pmax	pmax				
	comp=Z,1.0nm,0.5s								
KS01	Wonju Array Si	53.57	282	eP		P	23 09 07.5	+0.3	
KSRS	Korea Array	53.57	282	P		P	23 09 07.9	+0.7	
	comp=Z,3.7nm,0.6s,baz=28,slow=7.4,SNR=12								
KSAR	Wonju Array Be	53.60	282	P		P	23 09 07.9	+0.5	
KSAR	Wonju Array Be	53.60	282	P		P	23 09 07.9	+0.5	
SONA1	Songino Array	53.81	306	eP		P	23 09 09.4	+0.4	
SONM	Songino Array	53.82	306	P		P	23 09 10.1	+0.9	
	comp=Z,1.3nm,0.6s,baz=17,slow=5.6,SNR=10								
SONM	Songino Array	53.82	306	eP		P	23 09 10.2	+1.1	
SONM				pmax	pmax				
	comp=Z,1.0nm,0.6s								
PRGR	Permogore	54.90	351	eP		P	23 09 16.2	-0.3	
PRGR				pmax	pmax				
	comp=Z,15nm,0.7s								
NC204	NORSAR Array S	55.08	11	eP		P	23 09 18.2	+0.3	
NC303	NORSAR Array S	55.18	10	eP		P	23 09 18.9	+0.4	
NC405	NORSAR Array S	55.32	10	eP		P	23 09 19.5	-0.1	
NBO00	NORSAR Array S	55.32	11	eP		P	23 09 20.1	+0.5	
NB201	NORSAR Array S	55.35	11	eP		P	23 09 18.3	-1.5	
NB2	NORSAR Subarra	55.35	11	P		P	23 09 18.9	-0.9	
	comp=Z,1.0nm,0.6s,baz=351,slow=7.4								
NOA	NORSAR Array B	55.35	11	P		P	23 09 18.7	-1.1	
	comp=Z,1.2nm,0.6s,baz=350,slow=7.3,SNR=7.6								
ZALV	Zalesovo Beam	55.46	324	P		P	23 09 19.0	-1.6	
	comp=Z,1.7nm,0.6s,baz=29,slow=6.3,SNR=5.8								
ZALV				PcP		PcP	23 10 20.2	+1.0	
	comp=Z,1.4nm,0.8s,baz=27,slow=6.8,SNR=2.7								
ZALV	Zalesovo Beam	55.46	324	eP		P	23 09 19.8	-0.8	
ZALV				PcP		PcP	23 10 20.2	+1.0	
ZALV	Zalesovo Beam	55.46	324	eP		P	23 09 19.8	-0.8	
ZALV							23 10 20.2		
FIA1	FINESS Array S	55.68	2	eP		P	23 09 21.3	-0.7	
FINES	FINESS Array B	55.68	2	P		P	23 09 21.2	-0.8	
	comp=Z,3.9nm,0.6s,baz=355,slow=8.1,SNR=26								
FINES	FINESS Array B	55.68	2	eP		P	23 09 21.4	-0.6	
FINES				pmax	pmax				
	comp=Z,4.0nm,0.6s								
NC602	NORSAR Array S	55.68	10	eP		P	23 09 23.8	+1.8	
KLMR	Klimovskoe	56.05	354	eP		P	23 09 22.6	-2.1	
KLMR				pmax	pmax				
	comp=Z,13nm,1.2s								
KLMR	Klimovskoe	56.05	354	eP		P	23 09 22.7	-2.0	
KLMR				AMP			23 09 25.7		
	comp=Z,13nm,1.2s								
HHC	Hu-ho-hao-te	57.70	297	eP		P	23 09 37.3	+0.5	
HHC				pmax	pmax				
	comp=Z,12nm,1.1s								
SVE	Sverdlovsk	57.90	340	eP		P	23 09 38.4	+0.6	
SVE				pmax	pmax				
	comp=Z,9.0nm,0.7s								
DGZ	Jazzator, Alta	58.52	320⇓	eP		P	23 09 43.0	+0.6	
DGZ				pmax	pmax				
	comp=Z,1.0nm,1.2s								
ARU	Arti	58.59	341	eP		P	23 09 42.3	-0.3	
	comp=Z,11nm,0.6s								
ARU	Arti	58.59	341	eP		P	23 09 42.3	-0.3	
ARU				pmax	pmax				
	comp=Z,11nm,0.6s								
VSU	Vasula	58.68	2⇓	iP		P	23 09 42.0	-1.1	
VSU				pmax	pmax				
	comp=Z,58nm,1.4s								
BRVK	Borovoye	59.75	333	eP		P	23 09 50.3	-0.3	
	comp=Z,5.4nm,0.9s								
BRVK	Borovoye	59.75	333⇑	eP		P	23 09 49.9	-0.7	
BRVK				pmax	pmax				
	comp=Z,5.0nm,0.9s								
KURK	Kurchatov	60.01	326⇑	eP		P	23 09 51.4	-1.0	
KURK				pmax	pmax				
	comp=Z,2.0nm,0.8s								
OBN	Obninsk	61.91	355	eP		P	23 10 05.0	-0.2	
	comp=Z,30nm,0.5s								
OBN	Obninsk	61.91	355⇓	eP		P	23 10 05.0	-0.2	
OBN				i			23 10 47.0		
OBN				e			23 12 22.1		
OBN				pmax	pmax				
	comp=Z,18nm,0.5s								
MKAR	Makanchi Array	62.62	322	P		P	23 10 09.2	-0.9	
	comp=Z,1.9nm,0.6s,baz=49,slow=7.4,SNR=19								
MAKZ	Makanchi	62.70	322	eP		P	23 10 10.2	-0.4	
	comp=Z,2.1nm,0.8s								
MAKZ	Makanchi	62.70	322	eP		P	23 10 10.2	-0.4	
MAKZ				pmax	pmax				
	comp=Z,2.0nm,0.8s								
GTA	Gaotai	63.50	305	eP		P	23 10 16.5	+0.4	
GTA				pP	pP		23 10 26.5	-20	
GTA				sP	PcP		23 10 30.8	-21	
GTA				pmax	pmax				
	comp=Z,5.0nm,0.8s								
WMQ	Urumqi	63.72	317	eP		P	23 10 20.0	+2.5	
LPSR	Galich'ya Gora	64.32	353	eP		P	23 10 20.4	-0.7	
LPSR				pmax	pmax				
	comp=Z,20nm,1.0s								
ABKAR	Akbulak array	65.33	338	eP		P	23 10 27.6	-0.1	
VRH	Novokhopyorsk	65.55	351	eP		P	23 10 28.0	-1.1	
VRH				pmax	pmax				
	comp=Z,10.0nm,0.7s								
VSR	Storozhevoye	65.69	353	eP		P	23 10 28.7	-1.3	
VSR				pmax	pmax				
	comp=Z,10.0nm,0.6s								
AKASG	Malin Array Be	66.47	0	P		P	23 10 34.3	-0.7	
	comp=Z,3.8nm,0.4s,baz=1.3,slow=6.4,SNR=21								
KIEV	Kiev	66.48	0	eP		P	23 10 34.4	-0.6	
	comp=Z,5.5nm,0.5s								
KIEV	Kiev	66.48	0⇑	iP		P	23 10 33.9	-1.1	
KIEV	Kiev	66.48	0⇓	iP		P	23 10 34.0	-1.1	
KIEV				pmax	pmax				
	comp=Z,3.0nm,0.5s								
GERES	GERESS Array B	67.65	11	P		P	23 10 41.8	-0.8	
	comp=Z,0.5nm,0.7s,baz=46,slow=3.9,SNR=4.1								
GERES	GERESS Array B	67.65	11	eP		P	23 10 44.0	+1.4	
AAK	Ala-Archa	68.56	326⇑	eP		P	23 10 48.4	-0.1	
AAK				pmax	pmax				
	comp=Z,7.0nm,2.1s								
TRPA	Tarpa	68.91	5⇑	iP		P	23 10 50.4	+0.1	
BUR08	Bucovina Ar. S	69.48	3	eP		P	23 10 54.2	+0.2	
BUR04	Bucovina Ar. S	69.51	3	eP		P	23 10 54.1	-0.1	
BURAR	Bucovina Array	69.51	3⇑	iP		P	23 10 53.9	-0.3	
BIZ	Bicaz	70.21	2⇑	iP		P	23 10 58.5	+0.2	
SIRR	Siria	70.74	6⇑	iP		P	23 11 06.1	+4.5	
KSH	Kashi	71.10	324	P		P	23 11 06.3	+2.3	
KSH				pP	pP		23 11 37.5	+2.3	
KSH				sP	sP		23 11 51.5	+2.6	
KSH				S	S		23 20 05.5	-4.6	
KSH				ScS	SKSac		23 20 50.8	-3.8	
KSH				sS	sS		23 21 02.5	-1.3	
KSH				pmax	pmax				
	comp=Z,8.0nm,0.8s								
KSH				pmax	pmax				
	comp=Z,230nm,6.7s								
KSH				LR	LR				
	comp=N,100nm,9.0s								
KSH				LR	LR				
	comp=E,110nm,4.4s								
KSH				LR	LR				
	comp=Z,89nm,10.1s								
VRI	Vrincioaia	71.29	2⇑	iP		P	23 11 04.0	-0.9	
MLR	Muntele Rosu	71.65	2⇓	iP		P	23 11 07.1	-0.1	
VOIR		71.69	3⇑	iP		P	23 11 09.3	+1.9	
ARR	Arges	71.74	3⇑	iP		P	23 11 09.5	+1.8	
KIV	Kislovodsk	72.69	350	eP		P	23 11 13.3	-0.1	
KIV				pmax	pmax				
	comp=Z,14nm,1.0s								
KBZ	Khabaz	72.89	350	P		P	23 11 14.8	+0.4	
	comp=Z,5.0nm,0.7s,baz=353,slow=5.2,SNR=11								
GAR	Garm	73.03	328	eP		P	23 11 15.6	0.0	
GAR	Garm	73.03	328	eP		P	23 11 15.6	0.0	
NCK	Nalchik	73.07	349⇑	iP		P	23 11 16.0	+0.5	
NCK				pmax	pmax				
	comp=Z,22nm,0.6s								
NEY	Neytrino	73.39	350⇑	eP		P	23 11 18.6	+1.0	
NEY				pmax	pmax				
	comp=Z,2.0nm,0.8s								
ESDC	Sonseca Array	74.11	26	P		P	23 11 22.0	+0.3	
	comp=Z,1.4nm,0.9s,baz=340,slow=6.1,SNR=4.0								
TBLG	Delisi	74.72	348	eP		P	23 11 25.9	+0.7	
TBLG	Delisi	74.72	348	eP		P	23 11 25.9	+0.7	
KMI	Kunming	74.98	296	P		P	23 11 31.4	+4.2	
KMI				pmax	pmax				
	comp=Z,2.0nm,1.0s								
GEYT	Alibeck	76.64	337	P		P	23 11 36.7	+0.5	
	comp=Z,2.2nm,0.7s,baz=292,slow=7.8,SNR=5.5								
GEYT				LR	LR		23 50 46.0		
	comp=Z,17nm,18.0s,baz=290,slow=40								
BRTR	Keskin Array B	77.39	357	P		P	23 11 39.5	-1.0	
	comp=Z,0.8nm,0.7s,baz=358,slow=2.8,SNR=7.5								
GUN	Gumba	78.82	311	eP		P	23 11 48.9	+0.1	
	comp=Z,14nm,0.8s								
JIRN	Jiri	78.95	311	eP		P	23 11 49.8	+0.3	
	comp=Z,31nm,0.7s								
DANN	Dangsing	79.13	313	eP		P	23 11 50.4	0.0	
	comp=Z,31nm,0.7s								
KKN	Kakani	79.14	312	eP		P	23 11 50.5	+0.1	
	comp=Z,6.9nm,0.5s								
PKIN	Phulchoki	79.30	311	eP		P	23 11 50.7	-0.6	
	comp=Z,3.1nm,0.5s								
PKI	Pulchoki	79.30	311	eP		P	23 11 50.1	-1.3	
	comp=Z,114nm,0.6s								
DMN	Daman	79.36	312	eP		P	23 11 51.1	-0.6	
	comp=Z,8.6nm,0.6s								
PYUN	Piuthan	79.62	314	eP		P	23 11 52.4	-0.6	
	comp=Z,19nm,0.8s								
KOLN	Koldanda	79.72	313	eP		P	23 11 53.2	-0.3	
	comp=Z,9.4nm,0.8s								
CMAR	Chiang Mai Arr	82.49	296	P		P	23 12 07.7	-0.4	
	comp=Z,2.5nm,0.8s,baz=6.8,slow=5.9,SNR=17								
CMAR	Chiang Mai Arr	82.49	296	eP		P	23 12 07.6	-0.4	
CMAR				pmax	pmax				
	comp=Z,2.0nm,0.8s								
PLCA	Paso Flores	121.35	119	PKP		PKPdf	23 18 36.5	-0.4	
	comp=Z,1.8nm,1.0s,baz=291,slow=8.6,SNR=3.2								
BOSA	Boshof	145.34	6	PKPbc		PKPab	23 19 23.4	+1.0	
	comp=Z,5.5nm,0.9s,baz=342,slow=4.2,SNR=8.1								

AZER **13** *23:11:46.7±1.2,38.48N×44.02E,h20km,ml3.4/11,Error ellipse: s-maj=10.2km s-min=9.3km az=19.0*
NSSP **13** *23:11:46.3,38.45N×44.43E,h8km,Ms3.4*
ISK **13** *23:11:46.6,38.56N×44.31E,h5km,ML3.4/9*
DDA **13** *23:11:47.0,38.56N×44.33E,h1km±1km,ML3.5*

ISC 13 23:11:47.7±1.2,38.56N±0.02×44.30E±0.02,h3km±11km, n44,σ1.5 30/62,11C-11D,Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BASK	Baskale_VAN	0.55	205	i	P	Pb		23 11 58.9	-1.3
BASK					IAML_P				
	comp=Z,18μm,0.2s								
CLDR	Caldiran	0.66	333		PG	Pg		23 11 59.9	-0.4
CLDR					SG	Sb		23 12 10.5	-1.1
CLDR	Caldiran	0.66	333	i	P	Pb		23 12 00.8	-1.1
CLDR					S	Sb		23 12 11.0	-0.6
CLDR					IAML_P				
	comp=Z,34μm,0.1s								
TVAN	Van	0.70	268	i	P	Pb		23 12 01.7	-0.9
TVAN					IAML_P				
	comp=Z,7μm,0.3s								
VANB	Van	0.71	273		PG	Pg		23 12 00.9	-0.4
VANB					SG	Sb		23 12 12.6	-0.5
VMUR	Van-Muradiye	0.71	308		IAML_P				
	comp=Z,3μm,0.1s								
ERCV	ERCIS-VAN	0.88	302		PG	Pb		23 12 04.8	-0.9
YOVA	Hakkari_Yksek	0.97	180	i	P	Pb		23 12 06.1	-1.1
YOVA					IAML_P				
	comp=Z,7μm,0.2s								
GEVA	Gevas	1.00	256	i	P	Pg		23 12 05.5	-1.4
GEVA				i	S	Sb		23 12 21.4	0.0
GEVA					IAML_P				
	comp=Z,15μm,0.2s								
AKDM	Akdamar-Van	1.06	258		PG	Pg		23 12 07.1	-0.9
DYDN	Diyadin	1.09	334	i	P	Pg		23 12 08.3	-0.3
DYDN					IAML_P				
	comp=Z,5μm,0.3s								
NAX	Nakhchivan	1.12	56	⇓	P	Pn		23 12 09.8	-0.5
	SNR=164								
NAX				⇑	S	Sn		23 12 27.1	+0.7
HYR	Heyderabad	1.24	20	⇑	P	Pg		23 12 12.6	+1.2
HYR				⇑	S	Sn		23 12 30.2	+1.0
ADCV	BITLIS_Adilcev	1.26	282	i	P	Pg		23 12 12.5	+0.8
ADCV				i	S	Sn		23 12 32.4	+2.5
ADCV					IAML_P				
	comp=Z,3μm,0.4s								
SBZ	Shahbuz	1.29	49	⇑	P	Pg		23 12 12.4	0.0
SBZ				⇑	S	Sn		23 12 31.6	+1.0
ORD	Ordubad	1.38	74	⇑	P	Pg		23 12 13.9	-0.1
ORD				⇓	S	Sg		23 12 35.3	+3.4
CUKT	Cukurca	1.42	203		PN	Pg		23 12 14.6	-0.2
CUKT	Cukurca	1.42	203	i	P	Pg		23 12 14.7	-0.2
CUKT				i	S	Sb		23 12 30.8	-2.5
CUKT					IAML_P				
	comp=Z,3μm,0.4s								
TASB	TASBURUN-IGDIR	1.43	358		PN	Pg		23 12 14.6	-0.4
TUTA	Tutak	1.43	307	i	P	Pb		23 12

*IDC **13** 23:24:42.7±1.8, 44°27N×105°55W, h0km, mb1 3.2/2, mb1mx3.0/34, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=58.4km s-min=9.6km az=146.0*
*NEIC **13** 23:24:43.0±0.6, 44°33N×105°47W, h0km, ML2.5, Error ellipse: s-maj=9.5km s-min=7.1km az=176.0, Suspected Mining explosion.*
NEIC 5 km [3 miles] NNE of Gillette.

ISC 13 23:24:41.8±1.0, 44°26N±0'.07×105°57W±0'.04, h0km, n10, σ1§35/13, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.11**	**97**	*e*Pg		**Pg**	**23 25 03.6**	**+0.5**
RSSD				*e*Sn		**Sn**	**23 25 21.9**	**+0.9**
LAO	**LASA Array**	**2.47**	**349**	*e*Pn		**Pn**	**23 25 23.9**	**+0.5**
LAO				*e*Sn		**Sn**	**23 25 54.8**	**+0.5**
RLMT	**Red Lodge**	**2.77**	**289**	*e*Pn		**Pn**	**23 25 28.6**	**+0.8**
RLMT				*e*Sn		**Sn**	**23 26 02.1**	**0.0**
BW06	**Boulder Array**	**3.27**	**244**	*e*Pn		**Pn**	**23 25 36.0**	**+1.4**
BW06				*e*Pg		**Pg**	**23 25 45.4**	**+1.0**
PDAR	**Pinedale Array**	**3.27**	**244**	Pn		**Pb**	**23 25 38.1**	**-2.6**
	0.3nm,0.3s,baz=67,slow=15,SNR=7.2							
PDAR				Lg		Lg	23 26 25.5	
	5.5nm,0.3s,baz=64,slow=33,SNR=20							
LKWY	**Lake**	**3.48**	**277**	*e*Pn		**Pn**	**23 25 39.3**	**+1.9**
OGNE	**Ogallala**	**4.22**	**141**	*e*Pn		**Pn**	**23 25 48.2**	**+0.8**
DGMT	**Dagmar**	**4.31**	**12**	*e*Pn		**Pn**	**23 25 49.4**	**+0.7**
I10CA	**LAC DU BONNET**	**8.79**	**44**	*i*			00 16 30.0	
	baz=228,slow=315,SNR=1.8							
ULM	**Lac du Bonnet**	**8.90**	**44**	Pn		**Pn**	**23 26 50.5**	**-1.0**
	0.2nm,0.3s,baz=226,slow=10,SNR=4.1							
ULM				Lg		Lg	23 29 17.2	
	0.2nm,0.3s,baz=315,slow=20,SNR=3.3							

SJA 13 23:28:31.4±0.7, 32°.90S×69°.26W, h20km±11km, ML3.6, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ARCO	**CERRO ARCO**	**0.28**	**78**	*i* P		Pg	23 28 38.2	+0.2
ARCO				*i* S		Sg	23 28 43.2	+0.8
ARCO				IAML			23 28 43.5	
	comp=Z,307nm,0.2s							
AAGR	**Agrelo**	**0.41**	**117**	*i* P		Pb	23 28 40.2	+0.1
AAGR				*i* S		Sb	23 28 47.1	+1.2
ASAL	**Salagasta**	**0.47**	**49**	*i* P		Pg	23 28 41.6	+0.4
ASAL				*i* S		Sb	23 28 49.3	+1.6
ASAL				IAML			23 28 52.0	
	comp=Z,130μm,0.5s							
AUSP	**Uspallata**	**0.68**	**351**	*i* P		Pn	23 28 45.9	-0.3
AUSP				*i* S		Sn	23 28 56.1	-0.3
AUSP				IAML			23 28 56.3	
	comp=Z,2μm,0.3s							
AVIZ	**Vizcacheras**	**0.85**	**133**	*i* P		Pn	23 28 48.4	0.0
RTCV	**Cerro Valdivia**	**1.20**	**31**	*i* P		Pb	23 28 53.7	+0.2

*ISCJB **13** 23:31:05.7±0.9, 37°.03N±0'.06×71°.8E±0'.1, h200km, Error ellipse: s-maj=16.3km s-min=6.1km az=159.7*
*NNC **13** 23:31:11.0±2.8, 37°.41N×71°.74E, h199km±69km, mb2.4, mpv3.3, Error ellipse: s-maj=76.0km s-min=18.2km az=58.0*

ISC 13 23:31:07.7±1.7, 37°.2N±0'.1×71°.8E±0'.1, h200km, n19, σ1§00/16, 3C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.13**	**24**	⇑P		**Pn**	**23 31 59.9**	**+0.9**
	7.2nm,0.3s							
SFK				⇑S		**Sn**	**23 32 39.2**	**0.0**
	8.4nm,0.3s							
AML	**Almayashu**	**5.16**	**16**	P		**Pn**	**23 32 25.0**	**+0.5**
	SNR=87							
UCH	**Uchtor**	**5.46**	**21**	P		**Pn**	**23 32 28.8**	**+0.4**
	SNR=16							
KZA	**Kyzart**	**5.57**	**27**	P		**Pn**	**23 32 30.7**	**+1.1**
	SNR=5.6							
EKS2	**Erkin-Say**	**5.69**	**15**	P		**Pn**	**23 32 31.8**	**+0.9**
	SNR=6.4							
AAK	**Ala-Archa**	**5.83**	**20**	P		**Pn**	**23 32 33.5**	**+0.7**
	SNR=14							
KBK	**Karagaybulak**	**5.98**	**23**	P		**Pn**	**23 32 35.8**	**+1.1**
	SNR=5.6							
KK31	**Karatay Array**	**6.01**	**351**	⇑P		**Pn**	**23 32 35.5**	**+0.5**
	0.6nm,0.3s,baz=159,slow=10,SNR=37							
KK31				⇓S		**Sn**	**23 33 41.9**	**-2.4**
	8.6nm,0.6s,baz=172,slow=14,SNR=17							
ULHL	**Ulahol**	**6.10**	**32**	P		**Pn**	**23 32 36.3**	**-0.1**
	SNR=5.5							
TKM2	**Tokmak 2**	**6.43**	**26**	P		**Pn**	**23 32 41.0**	**+0.4**
	SNR=9.4							
PYUN	**Piuhan**	**13.04**	**131**	*e*P		Pn	23 34 01.3	-4.5
	4.8nm,0.4s							
DANN	**Dangsing**	**13.33**	**128**	*e*P		Pn	23 34 07.6	-2.0
	4.6nm,0.3s							
KOLN	**Koldanda**	**13.64**	**130**	*e*P		Pn	23 34 09.4	-4.0
	1.8nm,0.3s							
KKN	**Kakani**	**14.69**	**126**	*e*P		Pn	23 34 24.8	-1.6
	3.0nm,0.4s							
AB31	**Akbulak array**	**14.85**	**328**	⇓P		**P**	**23 34 29.6**	**+1.0**
	0.5nm,0.5s,baz=138,slow=11,SNR=12							
PKIN	**Phulchoki**	**14.91**	**126**	*e*P		Pn	23 34 27.3	-1.8
	3.2nm,0.5s							
GUN	**Gumba**	**15.00**	**124**	*e*P		**Pn**	**23 34 29.7**	**-0.6**
	3.6nm,0.3s							
JIRN	**Jiri**	**15.38**	**124**	*e*P		**Pn**	**23 34 34.0**	**-0.9**
	17nm,0.5s							
AKTO	**Aktyubinsk**	**16.55**	**328**	⇓P		**P**	**23 34 47.1**	**-0.3**
	1.6nm,0.4s							

*ISK **13** 23:49:25.9, 39°.69N×25°.61E, h8km, ML2.4/7*
*ISCJB **13** 23:49:26.9±0.4, 39°.69N±0'.02×25°.63E±0'.03, h8km±4km, Error ellipse: s-maj=3.5km s-min=3.2km az=141.3*
*DDA **13** 23:49:26.2, 39°.72N×25°.62E, h7km±3km, ML2.7*
*ATH **13** 23:49:26.7, 39°.69N×25°.62E, h25km±1km, ML2.1/4, Error ellipse: s-maj=2.2km s-min=1.1km az=233.0*
*THE **13** 23:49:27.0, 39°.68N×25°.63E, h10km±1km, ML1.8/6, Error ellipse: s-maj=1.7km s-min=0.8km az=188.0*

ISC 13 23:49:26.9±1.0, 39°.70N±0'.02×25°.63E±0'.02, h13km±9km, n47, σ0§47/65, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.36**	**66**	PG		**Pg**	**23 49 33.9**	**-0.2**
BOZC				SG		**Sb**	**23 49 39.9**	**-0.7**
BOZC	**Bozcaada**	**0.36**	**66**	*i* P		**Pb**	**23 49 34.6**	**-0.5**
BOZC				IAML_P				
	comp=Z,3μm,0.1s							
LIA	**Limnos Island**	**0.40**	**301**	P		**Pg**	**23 49 34.9**	**0.0**
LIA				S		**Sb**	**23 49 41.1**	**-0.7**
LIA				AML	AML		23 49 45.9	
	comp=N,557μm,0.3s							
LIA				AML	AML		23 49 52.9	
	comp=E,538μm,0.5s							
LIA	**Limnos Island**	**0.40**	**301**	P		**Pg**	**23 49 34.8**	**0.0**
LIA				S		**Sb**	**23 49 41.0**	**-0.8**
SIGR	**SIGRI**	**0.51**	**160**	PG		**Pg**	**23 49 36.6**	**-0.4**
SIGR				SG		**Sg**	**23 49 44.3**	**+0.5**
SIGR	**SIGRI**	**0.51**	**160**	P		**Pg**	**23 49 36.6**	**-0.4**
SIGR				S		**Sb**	**23 49 44.6**	**-0.5**
SIGR				AML	AML		23 49 44.7	
	comp=E,400μm,0.2s							
SIGR				AML	AML		23 49 45.2	
	comp=N,755μm,0.6s							
SIGR	**SIGRI**	**0.51**	**160**	P		**Pg**	**23 49 36.5**	**-0.4**
SIGR				S		**Sb**	**23 49 44.6**	**-0.5**
EFSA	**Agios Efstrati**	**0.52**	**253**	P		**Pb**	**23 49 38.0**	**+0.2**
EFSA				S		**Sb**	**23 49 44.7**	**-0.6**
GADA	**Gvkgeada**	**0.54**	**23**	PG		**Pg**	**23 49 37.2**	**-0.2**
GADA				SG		**Sg**	**23 49 44.9**	**+0.3**
GADA	**Gvkgeada**	**0.54**	**23**	P		**Pg**	**23 49 37.4**	**0.0**
EZN	**Ezine**	**0.55**	**76**	PG		**Pg**	**23 49 37.3**	**-0.4**
EZN				SG		**Sg**	**23 49 45.6**	**+0.5**
EZN	**Ezine**	**0.55**	**76**	P		**Pg**	**23 49 37.3**	**-0.4**
EZN				S		**Sg**	**23 49 45.5**	**+0.5**
PRK	**Paraskevi**	**0.67**	**132**	P		**Pb**	**23 49 40.6**	**+0.2**
PRK				S		**Sb**	**23 49 50.2**	**+0.6**
PRK				AML	AML		23 49 53.9	
	comp=N,454μm,0.5s							
PRK				AML	AML		23 49 57.5	
	comp=E,439μm,0.5s							
BAYC	**CANAKKALE_Bayr**	**0.71**	**86**	*i* P		**Pg**	**23 49 40.7**	**0.0**
BAYC				IAML_P				
	comp=Z,2μm,0.1s							
SMTH	**Samothraki Isl**	**0.78**	**354**	P		**Pg**	**23 49 42.0**	**0.0**
SMTH	**Samothraki Isl**	**0.78**	**354**	P		**Pg**	**23 49 42.0**	**0.0**
SMTH				S		**Sn**	**23 49 54.5**	**-0.7**
AYVA	**Ayvalik**	**0.91**	**115**	*i* P		**Pn**	**23 49 45.2**	**-0.1**
AYVA				IAML_P				
	comp=Z,648nm,0.1s							
GELI	**Tayfur-Gelibol**	**0.96**	**42**	PG		**Pg**	**23 49 44.7**	**-0.7**
LPK	**Lapseki**	**1.10**	**52**	PN		**Pb**	**23 49 47.2**	**-0.6**
ENEZ	**Enez**	**1.11**	**21**	PN		**Pb**	**23 49 48.1**	**+0.1**
THAS	**Thassos island**	**1.15**	**323**	P		**Pb**	**23 49 48.2**	**-0.3**
THAS				AML	AML		23 50 10.3	
	comp=N,144μm,0.5s							
THAS				AML	AML		23 50 11.3	
	comp=E,112μm,0.4s							
THAS	**Thassos island**	**1.15**	**323**	P		**Pb**	**23 49 47.8**	**-0.8**
THAS				S		**Sn**	**23 50 04.5**	**+0.3**
PSRA	**Psara**	**1.15**	**183**	P		**Pn**	**23 49 49.0**	**+0.3**
DKL	**Dikili**	**1.17**	**122**	PN		**Pb**	**23 49 48.9**	**0.0**
ERIK	**Erikli-Kesan**	**1.19**	**34**	PN		**Pb**	**23 49 49.3**	**+0.1**
ALN	**Alexandroupoli**	**1.24**	**15**	PN		**Pn**	**23 49 49.8**	**-0.1**
ALN	**Alexandroupoli**	**1.24**	**15**	P		**Pn**	**23 49 50.1**	**+0.1**
ALN	**Alexandroupoli**	**1.24**	**15**	P		**Pn**	**23 49 50.1**	**+0.1**
ALN				S		**Sn**	**23 50 07.7**	**+1.2**
CHOS	**Chios island**	**1.35**	**166**	PN		**Pn**	**23 49 51.1**	**-0.4**
CHOS	**Chios island**	**1.35**	**166**	P		**Pn**	**23 49 51.0**	**-0.4**
KESN	**Edirne-Kesan**	**1.39**	**35**	*i* P		**Pn**	**23 49 52.1**	**-0.1**
KESN				*i* S		**Sg**	**23 50 11.6**	**-0.1**
KESN				IAML_P				
	comp=Z,127nm,0.2s							
RDO	**Rodhopi**	**1.45**	**357**	PN		**Pn**	**23 49 53.2**	**+0.4**
RDO	**Rodhopi**	**1.45**	**357**	P		**Pb**	**23 49 54.0**	**+0.3**
RDO	**Rodhopi**	**1.45**	**357**	P		**Pn**	**23 49 53.2**	**+0.4**
RDO				S		**Sn**	**23 50 11.6**	**-0.1**
AOS	**Alonnisos**	**1.45**	**249**	P		**Pb**	**23 49 53.8**	**0.0**
KRBG	**Karabiga-Canak**	**1.46**	**61**	PN		**Pb**	**23 49 53.9**	**0.0**
PAIG	**Paliouri**	**1.52**	**279**	P		**Pb**	**23 49 54.9**	**0.0**
URLA	**Izmir**	**1.53**	**150**	PN		**Pn**	**23 49 53.7**	**-0.2**
URLA	**Izmir**	**1.53**	**150**	*i* P		**Pn**	**23 49 54.6**	**+0.7**
URLA				IAML_P				
	comp=Z,323nm,0.2s							
BALY	**Balya**	**1.54**	**88**	*i* P		**Pb**	**23 49 55.6**	**+0.4**
BALY				*i* S		**Sg**	**23 50 15.8**	**-0.5**
BALY				IAML_P				
	comp=Z,261nm,0.3s							
SART	**Tekirdag**	**1.55**	**50**	*i* P		**Pg**	**23 49 56.3**	**-0.3**
SART				*i* S		**Sb**	**23 50 15.2**	**+0.2**
SART				IAML_P				
	comp=Z,516nm,0.1s							
STEP	**BALIKESIR_Sava**	**1.65**	**100**	*i* P		**Pg**	**23 49 57.8**	**-0.7**
STEP				IAML_P				
	comp=Z,299nm,0.1s							
PLG	**Polygyros**	**1.81**	**293**	P		**Pn**	**23 49 58.5**	**+0.8**
EDC	**Edincik**	**1.83**	**69**	PN		**Pn**	**23 49 58.9**	**+0.8**
SMG	**Samos**	**2.20**	**154**	P		**Pn**	**23 50 03.5**	**+0.4**
DURS	**Dursunbey**	**2.20**	**92**	*i* P		**Pn**	**23 50 04.1**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**2.48**	**134**	PN		**Pn**	**23 50 07.9**	**+0.8**

*HEL **14** 00:17:04.4, 67°.89N×19°.97E, h0km, ML1.7, Explosion*

UPP 14 00:17:05.6±0.0, 67°.85N×20°.20E, h1km, ML1.9, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**27**	P		Pg	00 17 08.0	+0.1
KUA				S		Sg	00 17 09.4	0.0
KUA	**Kurravaara**	**0.12**	**27**	*i* P		Pg	00 17 08.0	+0.1
KUA				*i* S		Sg	00 17 09.4	0.0
RATU	**Laukkuluspa**	**0.23**	**264**	P		Pg	00 17 10.1	+0.1
RATU				S		Sg	00 17 13.4	+0.4
RATU	**Laukkuluspa**	**0.23**	**264**	*i* P		Pg	00 17 10.1	+0.1
RATU				*i* S		Sg	00 17 13.4	+0.4
NIKU	**Nikkaluokta**	**0.44**	**273**	P		Pg	00 17 14.0	0.0
NIKU				S		Sg	00 17 20.1	+0.4
NIKU	**Nikkaluokta**	**0.44**	**273**	*i* P		Pg	00 17 14.0	0.0
NIKU				*i* S		Sg	00 17 20.1	+0.4
LANU	**Lannavaara**	**0.71**	**73**	P		Pg	00 17 19.1	0.0
LANU				S		Sg	00 17 28.2	0.0
LANU	**Lannavaara**	**0.71**	**73**	*e*P		Pg	00 17 18.7	-0.4
LANU				*e*S		Sg	00 17 28.1	-0.1
DUNU	**Dundret**	**0.74**	**169**	P		Pg	00 17 19.4	-0.4
DUNU	**Dundret**	**0.74**	**169**	*i* P		Pg	00 17 19.4	-0.4
MASU	**Masugnsbyn**	**0.79**	**119**	P		Pg	00 17 20.4	-0.3
MASU	**Masugnsbyn**	**0.79**	**119**	*i* P		Pg	00 17 20.4	-0.3
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*P		Pg	00 17 28.1	-0.1
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*PB		Pg	00 17 28.1	-0.1
	baz=195							
KIF				MSG			00 17 40.7	
	comp=Z,7.3nm,0.2s							
KIF				*e*SB		Sg	00 17 44.0	+0.5
PAJU	**Pajala**	**1.40**	**125**	P		Pn	00 17 31.1	-1.2
PAJU				S		Sg	00 17 49.6	-0.8
PAJU	**Pajala**	**1.40**	**125**	P		Sg	00 17 49.7	-0.7
PAJU	**Pajala**	**1.40**	**125**	*e*P		Pn	00 17 31.1	-1.2
PAJU				*e*S		Sg	00 17 49.6	-0.8
HEF	**Hetta**	**1.41**	**65**	*e*P		Pn	00 17 31.6	-0.9
HEF	**Hetta**	**1.41**	**65**	*e*PG		Pn	00 17 31.5	-1.0
HEF				MSG			00 17 48.7	
	comp=Z,3.1nm,0.2s							
HEF				*e*SB		Sg	00 17 50.1	-0.8
ERTU	**Ertsjaerv**	**1.52**	**148**	P		Pn	00 17 33.3	-0.5
ERTU				S		Sb	00 17 53.2	-0.9
ERTU	**Ertsjaerv**	**1.52**	**148**	*e*P		Pn	00 17 33.0	-0.8
ERTU				*e*S		Sb	00 17 53.2	-1.0
HARU	**Harads**	**1.72**	**169**	P		Pn	00 17 36.7	+0.1
HARU	**Harads**	**1.72**	**169**	*e*P		Pn	00 17 36.7	+0.1
KALU	**Kalix**	**2.36**	**147**	*e*P		Pn	00 17 46.4	+1.0
TOF	**Tornio**	**2.41**	**136**	*e*PB		Pn	00 17 47.4	+1.3
	baz=320							
TOF				MSG			00 18 18.2	
	comp=Z,3.8nm,0.2s							
TOF				*e*SG		Sb	00 18 20.3	+0.5
SGF	**Sodankyl**	**2.46**	**97**	*e*PB		Pb	00 17 48.7	-1.8
	baz=281							
SGF				*e*SG		Sb	00 18 21.6	+0.4
ARE0	**ARCESS Array S**	**2.58**	**46**	*e*P		Pn	00 17 49.1	+0.7
ARE0				*e*S		Sn	00 18 16.9	-3.4
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB		Pb	00 17 50.6	-2.0
RNF				*e*SB		Sb	00 18 24.3	-0.6
MSF	**Maaselka**	**3.99**	**115**	*e*PG		Pb	00 18 16.9	+0.3

UPP 14 00:17:24.8±0.2, 67°.82N×20°.26E, h1km, ML2.1, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**12**	P		Pg	00 17 27.6	+0.2
KUA				S		Sg	00 17 29.3	+0.2
RATU	**Laukkuluspa**	**0.26**	**271**	P		Pg	00 17 29.8	+0.1
RATU				S		Sg	00 17 33.0	+0.1
NIKU	**Nikkaluokta**	**0.47**	**276**	P		Pg	00 17 33.8	0.0
LANU	**Lannavaara**	**0.69**	**70**	S		Sg	00 17 47.4	+0.5

*HEL **14** 00:19:45.5±0.1, 67°.83N×20°.20E, h0km, ML1.6, ML1.8(UPP), Explosion*

UPP 14 00:19:44.8±0.0, 67°.83N×20°.20E, h0km, ML1.8, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**23**	P		Pg	00 19 47.7	+0.3
KUA				S		Sg	00 19 49.7	+0.5
KUA	**Kurravaara**	**0.14**	**23**	*i* P		Pg	00 19 47.7	+0.3
KUA				*i* S		Sg	00 19 49.7	+0.5
RATU	**Laukkuluspa**	**0.23**	**269**	P		Pg	00 19 49.5	+0.3
RATU				S		Sg	00 19 52.8	+0.7
RATU	**Laukkuluspa**	**0.23**	**269**	*i* P		Pg	00 19 49.5	+0.3
RATU				*i* S		Sg	00 19 52.8	+0.7
NIKU	**Nikkaluokta**	**0.44**	**276**	P		Pg	00 19 53.4	+0.1
NIKU				S		Sg	00 19 59.6	+0.6
NIKU	**Nikkaluokta**	**0.44**	**276**	*i* P		Pg	00 19 53.4	+0.1
NIKU				*i* S		Sg	00 19 59.6	+0.6
LANU	**Lannavaara**	**0.71**	**71**	P		Pg	00 19 58.2	-0.2
LANU	**Lannavaara**	**0.71**	**71**	*e*P		Pg	00 19 58.3	-0.1
DUNU	**Dundret**	**0.72**	**168**	P		Pg	00 19 58.4	-0.3
DUNU	**Dundret**	**0.72**	**168**	*i* P		Pg	00 19 58.4	-0.3
MASU	**Masugnsbyn**	**0.78**	**118**	P		Pg	00 19 59.8	0.0
MASU	**Masugnsbyn**	**0.78**	**118**	*i* P		Pg	00 19 59.8	0.0
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P		Pb	00 20 08.5	+0.1
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*PN		Pn	00 20 09.8	+1.0
	baz=188							
KIF				MSG			00 20 22.4	
	comp=Z,7.6nm,0.2s							
KIF				*e*SB		Sb	00 20 23.9	-0.5
HEF	**Hetta**	**1.42**	**64**	*e*P		Pn	00 20 11.3	-0.5
HEF	**Hetta**	**1.42**	**64**	*e*PG		Pn	00 20 11.3	-0.6
HEF				MSG			00 20 27.9	
	comp=Z,3.8nm,0.2s							
HEF				*e*SN		Sn	00 20 34.2	+2.9
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*PN		Pg	00 20 13.5	0.0
ERTU				*e*SN		Sn	00 20 33.1	+0.1
KALU	**Kalix**	**2.34**	**146**	*e*SG		Sb	00 20 57.3	+0.2
TOF	**Tornio**	**2.39**	**135**	*e*PB		Pb	00 20 26.9	-1.8
	baz=321							
TOF				MSG			00 20 56.9	
	comp=Z,2.2nm,0.2s							
TOF				*e*SG		Sb	00 20 58.9	+0.3
SGF	**Sodankyl**	**2.45**	**96**	*e*PG		Pb	00 20 29.1	-0.6
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB		Pb	00 20 30.2	-1.6
RNF				*e*SG		Sb	00 21 04.2	+0.3
ARE0	**ARCESS Array S**	**2.59**	**46**	*e*P		Pn	00 20 29.1	+1.2

UPP 14 00:19:54.6±0.0, 67°.82N×20°.21E, h1km, ML1.6, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**20**	P		Pg	00 19 57.5	+0.1
RATU	**Laukkuluspa**	**0.23**	**271**	P		Pg	00 19 59.2	+0.1
NIKU	**Nikkaluokta**	**0.45**	**277**	P		Pg	00 20 03.2	0.0
NIKU				S		Sg	00 20 09.0	+0.1
LANU	**Lannavaara**	**0.71**	**70**	P		Pg	00 20 07.8	-0.4
LANU	**Lannavaara**	**0.71**	**70**	*e*S		Pg	00 20 07.9	-0.3
LANU	**Lannavaara**	**0.71**	**70**	S		Pg	00 20 07.7	-0.5
DUNU	**Dundret**	**0.71**	**169**	P		Pg	00 20 07.9	-0.4
DUNU	**Dundret**	**0.71**	**169**	*i* S		Pg	00 20 08.3	0.0
DUNU	**Dundret**	**0.71**	**169**	S		Pg	00 20 08.3	0.0
MASU	**Masugnsbyn**	**0.78**	**117**	P		Pg	00 20 09.2	-0.2
PAJU	**Pajala**	**1.38**	**124**	P		Pg	00 20 19.8	-1.1
PAJU				S		Sg	00 20 38.2	-0.5

*ATH **14** 00:52:06.7, 39°.70N×25°.61E, h28km±1km, ML1.6/4, Error ellipse: s-maj=2.3km s-min=0.9km az=234.0*
*ISK **14** 00:52:06.6, 39°.72N×25°.70E, h14km, ML2.0/8*
*ISCJB **14** 00:52:07.6±0.5, 39°.71N±0'.02×25°.66E±0'.03, h21km±9km, Error ellipse: s-maj=4.8km s-min=3.7km az=144.2*
*THE **14** 00:52:07.3, 39°.71N×25°.69E, h8km±1km, ML1.5/3, Error ellipse: s-maj=1.0km s-min=0.4km az=178.0*
*DDA **14** 00:52:08.6, 39°.74N×25°.83E, h7km±3km, ML2.5*

ISC 14 00:52:07.1±0.9, 39°.72N±0'.02×25°.69E±0'.02, h13km±8km, n39, σ0§51/58, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.31**	**66**	PG		**Pg**	**00 52 13.2**	**-0.3**
BOZC				SG		**Sg**	**00 52 17.8**	**+0.1**
BOZC	**Bozcaada**	**0.31**	**66**	*i* P		**Pb**	**00 52 14.0**	**-0.4**
BOZC				*i* S		**Sg**	**00 52 18.1**	**+0.3**
LIA	**Limnos Island**	**0.43**	**295**	P		**Pg**	**00 52 15.7**	**0.0**
LIA				S		**Sg**	**00 52 21.8**	**+0.3**
LIA				AML	AML		00 52 22.7	
	comp=N,134μm,0.1s							
LIA				AML	AML		00 52 22.7	
	comp=E,117μm,0.2s							
LIA	**Limnos Island**	**0.43**	**295**	P		**Pg**	**00 52 15.8**	**+0.1**
LIA				S		**Sg**	**00 52 21.9**	**+0.4**
GADA	**Gvkgeada**	**0.50**	**19**	PG		**Pg**	**00 52 16.6**	**-0.4**
GADA				SG		**Sb**	**00 52 24.4**	**-0.5**
GADA	**Gvkgeada**	**0.50**	**19**	P		**Pg**	**00 52 17.0**	**0.0**
GADA				S		**Sb**	**00 52 24.5**	**-0.5**
EZN	**Ezine**	**0.50**	**78**	PG		**Pg**	**00 52 16.8**	**-0.2**
EZN				SG		**Sg**	**00 52 24.2**	**+0.5**
EZN	**Ezine**	**0.50**	**78**	P		**Pg**	**00 52 16.8**	**-0.2**
EZN				S		**Sg**	**00 52 24.1**	**+0.4**
SIGR	**SIGRI**	**0.52**	**166**	PG		**Pg**	**00 52 17.5**	**+0.1**
SIGR	**SIGRI**	**0.52**	**166**	P		**Pg**	**00 52 17.1**	**-0.3**
SIGR				S		**Sg**	**00 52 24.9**	**+0.5**
SIGR				AML	AML		00 52 25.4	
	comp=E,320μm,0.5s							
SIGR				AML	AML		00 52 25.4	
	comp=N,379μm,0.4s							
SIGR	**SIGRI**	**0.52**	**166**	P		**Pg**	**00 52 16.9**	**-0.5**
SIGR				S		**Sb**	**00 52 25.1**	**-0.5**
PRK	**Paraskevi**	**0.65**	**136**	P		**Pb**	**00 52 20.8**	**+0.4**
PRK				S		**Sb**	**00 52 30.7**	**+1.4**
PRK				AML	AML		00 52 33.5	
	comp=N,141μm,0.2s							
PRK				AML	AML		00 52 35.5	
	comp=E,164μm,0.4s							
BAYC	**CANAKKALE_Bayr**	**0.66**	**88**	IAML_P				
	comp=Z,836nm,0.1s							
BAYC				*i* P		**Pb**	**00 52 20.9**	**+0.3**
BAYC				*i* S		**Sg**	**00 52 28.1**	**-0.7**
SMTH	**Samothraki Isl**	**0.76**	**351**	P		**Pg**	**00 52 21.8**	**-0.2**
SMTH				S		**S

IDC ***14*** *00:57:59.3±0.6, 1.°85S×68.°22E, h0km, mb3.8/17, mb1 3.9/18, mb1mx3.8/36, mbtmp3.8/18, ML4.0/1, MS3.8/25, Ms1 3.9/25, ms1mx3.7/45, Error ellipse: s-maj=19.1km s-min=17.6km az=3.0*

ISCJB ***14*** *00:58:05.1±0.5, 2.°05S±0.°09×68.°13E±0.°05, h15km, mb4.5/74, MS3.9/26, Error ellipse: s-maj=12.8km s-min=7.6km az=172.5*

GCMT ***14*** *00:58:07.0±0.3, 2.°05S±0.°02×68.°27E±0.°02, h12km, MW4.8/73, Moment Tensor Solution. s20,c20; s73,c99; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.06±.07; Mθθ1.48±.06; Mϕϕ-1.53±.06; Mrθ-0.54±.20; Mθϕ0.84±.06; Mϕr0.61±.18; Best double couple: M₀1.89700×10¹⁶ NP1:ϑs120.00000°, δ86.00000°, λ-24.00000°. NP2: ϕs212.00000°, δ66.00000°, λ-175.00000°. Principal axes: T 1.7840, Plg13.0000°, Azm168.0000°; N 0.2300, Plg66.0000°, Azm290.0000°; P -2.0100, Plg20.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***14*** *00:58:07.0±0.4, 1.°89S×68.°25E, h10km, mb4.8/38 Error ellipse: s-maj=10.2km s-min=9.3km az=136.0*

ISC 14 00:58:08.0±0.5, 1.°86S±0.°09×68.°24E±0.°08, h15km, n180, σ1ᵗ89/135, mb4.7/85, MS3.9/26, 1C, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**5.22**	**148**	T	T	01 04 33.0	
	baz=326,slow=75,SNR=4547						
H08N3	**Diego Garcia H**	**5.23**	**148**	T	T	01 04 33.6	
	baz=326,slow=75,SNR=3796						
H08N1	**Diego Garcia H**	**5.24**	**148**	T	T	01 04 33.6	
	baz=326,slow=75,SNR=5059						
PALK	**Pallekele**	**15.40**	**54**	Pn	**Pn**	**01 01 39.2**	**-5.7**
	0.6nm,0.3s,baz=294,slow=5.6,SNR=3.6						
PALK				LR	LR	01 06 33.6	
	comp=Z,546nm,18.6s,baz=296,slow=33						
PALK	**Pallekele**	**15.40**	**54**	*e*Pn	**Pn**	**01 01 39.2**	**-5.7**
	30nm,1.4s						
POO	**Poona**	**21.00**	**15**	*e*P	**P**	**01 02 54.0**	**+2.9**
HYB	**Hyderabad**	**21.69**	**28**	*i* P	**P**	**01 03 00.0**	**+1.5**
HYB				*e*		01 03 14.5	
OPO	**Ambohidratompo**	**26.49**	**230**	LR	LR	01 11 45.1	
	comp=Z,611nm,19.4s,baz=44,slow=31						
WSAR	**Wadi Sarin**	**26.65**	**340**	LR	LR	01 12 35.0	
	comp=Z,591nm,18.4s,baz=212,slow=33						
ATD	**Arta Tunnel**	**28.53**	**298**	*e*P	**P**	**01 04 02.5**	**-0.9**
	17nm,1.1s						
GSI	**Gunungsitoli**	**29.50**	**84**	P	P	01 04 22.0	+10
KMBO	**Kilima Mbogo**	**30.98**	**271**	LR	LR	01 15 41.2	
	comp=Z,236nm,18.5s,baz=90,slow=34						
KOLN	**Koldanda**	**32.96**	**26**	*e*P	**P**	**01 04 46.7**	**+4.2**
	18nm,0.9s						
PYUN	**Piuthan**	**32.99**	**24**	*e*P	**P**	**01 04 46.5**	**+3.7**
	49nm,1.4s						
KULM	**Kulim**	**33.15**	**77**	*e*P	**P**	**01 04 43.6**	**-0.6**
	18nm,1.2s						
DMN	**Daman**	**33.50**	**28**	*e*P	**P**	**01 04 49.2**	**+1.9**
	70nm,1.2s						
DANN	**Dangsing**	**33.53**	**25**	*e*P	**P**	**01 04 47.1**	**-0.5**
	41nm,1.1s						
RAYN	**Ar Rayn**	**33.56**	**320**	*e*P	**P**	**01 04 48.2**	**+0.6**
	12nm,1.4s						
PKIN	**Phulchoki**	**33.61**	**28**	*e*P	**P**	**01 04 49.9**	**+1.6**
	7.5nm,0.7s						
RAMN	**Ramite**	**33.68**	**30**	*e*P	**P**	**01 04 51.4**	**+2.6**
	17nm,0.8s						
KKN	**Kakani**	**33.73**	**28**	*e*P	**P**	**01 04 49.4**	**+0.1**
	178nm,1.1s						
JIRN	**Jiri**	**34.06**	**29**	*e*P	**P**	**01 04 49.4**	**-2.9**
	41nm,1.1s						
GUN	**Gumba**	**34.12**	**29**	*e*P	**P**	**01 04 48.9**	**-3.9**
	54nm,1.0s						
NIL	**Nilore**	**35.64**	**7**	*e*P	**P**	**01 05 06.5**	**+1.0**
	11nm,0.9s						
KBL	**Kabul**	**36.22**	**1**	*e*P	**P**	**01 05 10.5**	**-0.1**
	13nm,1.2s						
CM31	**Chiang Mai Arr**	**36.34**	**55**	*e*P	P	01 05 05.1	-6.5
CMAR	**Chiang Mai Arr**	**36.34**	**55**	P	P	01 05 05.1	-6.5
	0.8nm,0.3s,baz=241,slow=9.2,SNR=4.1						
CMAR				LR	LR	01 17 52.4	
	comp=Z,130nm,21.9s,baz=240,slow=33						
CHTO	**Chiang Mai**	**36.52**	**54**	*e*P	**P**	**01 05 13.0**	**-0.2**
	13nm,1.3s						
CHTO	**Chiang Mai**	**36.52**	**54**	P	**P**	**01 05 16.9**	**+3.7**
	31nm,1.1s						
CMMT	**Chiang Mai**	**36.52**	**54**	P	**P**	**01 05 16.8**	**+3.6**
	7.0nm,1.1s						
PBKT	**Sadao Pong**	**37.14**	**59**	P	**P**	**01 05 22.7**	**+4.2**
	5.3nm,1.0s						
MBAR	**Mbarara**	**37.51**	**271**	LR	LR	01 19 13.4	
	comp=Z,114nm,19.4s,baz=59,slow=34						
MBAR	**Mbarara**	**37.51**	**271**	*e*P	**P**	**01 05 21.7**	**-0.2**
	6.0nm,1.3s						
CHAI	**Chaiyaphum**	**37.73**	**61**	P	**P**	**01 05 27.6**	**+4.1**
	4.4nm,1.0s,1μm						
LSA	**Lhasa**	**38.27**	**33**	*e*P	**P**	**01 05 25.5**	**-2.9**
	26nm,1.4s						
GEYT	**Alibeck**	**40.69**	**348**	P	P	01 05 42.3	-5.6
	1.2nm,0.8s,baz=167,slow=7.1,SNR=3.5						
GYA0B	**ALIBECK ARRAY**	**40.69**	**348**	*e*P	**P**	**01 05 49.1**	**+1.1**
	8.0nm,0.9s						
GAR	**Garm**	**40.71**	**2**	*e*P	**P**	**01 05 48.8**	**+0.6**
LSZ	**Lusaka**	**41.68**	**249**	P	P	01 05 50.3	-6.3
	0.9nm,0.5s,baz=56,slow=3.6,SNR=3.5						
LSZ	**Lusaka**	**41.68**	**249**	*e*P	**P**	**01 05 56.0**	**-0.6**
	8.8nm,0.8s						
BTK	**Batken**	**41.78**	**3**	*e*P	**P**	**01 05 59.0**	**+2.0**
	25nm,1.1s						
KSH	**Kashi**	**41.79**	**9**	P	**P**	**01 05 54.1**	**-3.0**
KSH				pP	pP	01 05 59.1	-1.7
KSH				PP	**PP**	**01 07 33.1**	**-0.8**
KSH				PcS	**PcS**	**01 11 39.4**	**-5.4**
KSH				S	**S**	**01 12 07.9**	**-6.3**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,170nm,3.5s						
KSH				LR	LR		
	comp=N,380nm,5.8s						
KSH				LR	LR		
	comp=E,220nm,8.2s						
KSH				LR	LR		
	comp=Z,240nm,7.2s						
KMI	**Kunming**	**42.86**	**49**	P	**P**	**01 06 10.1**	**+3.9**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KMI				LR	LR		
	comp=N,250nm,15.0s						
KMI				LR	LR		
	comp=E,280nm,14.5s						
NRN	**Naryn**	**43.67**	**8**	*e*P	**P**	**01 06 14.9**	**+2.4**
	9.7nm,1.4s						
AAK	**Ala-Archa**	**44.66**	**7**	P	P	01 06 13.6	-6.7
	0.2nm,0.3s,baz=184,slow=15,SNR=1.8						
AAK				LR	LR	01 23 51.8	
	comp=Z,55nm,19.0s,baz=182,slow=35						
AAK	**Ala-Archa**	**44.66**	**7**	*e*P	**P**	**01 06 21.3**	**+1.0**
KK31	**Karatay Array**	**44.81**	**2**	*e*P	**P**	**01 06 22.2**	**+0.9**
KKAR	**Karatay Array**	**44.81**	**2**	*e*P	**P**	**01 06 21.8**	**+0.4**
FRU1	**Bishkek**	**44.84**	**7**	*e*P	**P**	**01 06 22.3**	**+0.6**
	11nm,0.6s						
QIZ	**Qiongzhong**	**45.85**	**61**	P	**P**	**01 06 29.5**	**-0.5**
QIZ				S	**S**	**01 13 15.4**	**+1.5**
QIZ				LR	LR		
	comp=N,270nm,4.7s						
QIZ				LR	LR		
	comp=E,320nm,4.8s						
MMAI	**Mount Meron Ar**	**46.52**	**321**	LR	LR	01 24 26.4	
	comp=Z,131nm,20.4s,baz=150,slow=34						
GYA	**Guiyang**	**46.56**	**50**	*e*P	**P**	**01 06 37.4**	**+1.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2	**Chengdu**	**46.95**	**43**	*e*P	**P**	**01 06 39.6**	**+1.1**
LBTB	**Lobatse**	**47.11**	**237**	LR	LR	01 23 24.0	
	comp=Z,146nm,21.9s,baz=68,slow=32						
WMQ	**Urumqi**	**48.71**	**19**	*e*P	**P**	**01 06 54.4**	**+2.4**
WMQ				pP	pwP	01 06 58.4	-0.7
WMQ				sP	sP	01 07 03.5	+6.0
WMQ				pmax	pmax		
	comp=Z,16nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,140nm,3.7s						
WMQ				LR	LR		
	comp=N,200nm,21.3s						
WMQ				LR	LR		
	comp=E,170nm,20.5s						
BOSA	**Boshof**	**48.83**	**233**	P	P	01 06 46.9	-6.4
	1.3nm,0.7s,baz=80,slow=11,SNR=2.9						
BOSA	**Boshof**	**48.83**	**233**	*e*P	**P**	**01 06 53.2**	**0.0**
MAKZ	**Makanchi**	**49.95**	**12**	*e*P	**P**	**01 07 01.2**	**-0.2**
	2.9nm,0.9s						
MK01	**Makanchi Array**	**49.99**	**13**	*e*P	**P**	**01 06 59.3**	**-2.3**
MK31	**Makanchi Array**	**50.01**	**13**	*e*P	**P**	**01 07 01.6**	**-0.2**
MK32	**Makanchi Array**	**50.01**	**13**	*e*P	P	01 06 55.2	-6.6
MKAR	**Makanchi Array**	**50.01**	**13**	P	P	01 06 55.2	-6.6
	0.4nm,0.7s,baz=194,slow=9.5,SNR=3.1						
MKAR	**Makanchi Array**	**50.01**	**13**	*e*P	**P**	**01 07 01.6**	**-0.2**
LZH	**Lanzhou**	**50.26**	**38**	*e*P	**P**	**01 07 04.1**	**0.0**
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
GTA	**Gaotai**	**50.27**	**32**	*e*P	**P**	**01 07 07.1**	**+3.1**
GTA				pP	pwP	01 07 11.8	+0.7
GTA				sP	sP	01 07 14.8	+5.3
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KBZ	**Khabaz**	**50.76**	**336**	P	P	01 07 00.1	-7.3
	3.0nm,1.0s,baz=163,slow=4.6,SNR=2.5						
ABKAR	**Akbulak array**	**51.42**	**353**	*e*P	**P**	**01 07 12.7**	**+0.3**
BR131	**Keskin Array S**	**52.12**	**326**	*e*P	**P**	**01 07 18.3**	**+0.3**
BRTR	**Keskin Array B**	**52.12**	**326**	P	P	01 07 10.8	-7.2
	0.3nm,0.9s,baz=134,slow=9.3,SNR=2.1						
XAN	**Xi'an**	**52.31**	**43**	P	**P**	**01 07 19.1**	**-0.2**
XAN				pmax	pmax		
	comp=Z,17nm,1.1s						
XAN	**Xi'an**	**52.31**	**43**	*e*P	**P**	**01 07 19.4**	**+0.1**
	19nm,1.0s						
AKTO	**Aktyubinsk**	**52.83**	**352**	LR	LR	01 31 00.2	
	comp=Z,83nm,18.6s,baz=162,slow=38						
KURK	**Kurchatov**	**53.12**	**8**	*e*P	**P**	**01 07 25.1**	**+0.2**
	6.0nm,0.8s						
BVAR	**Borovoye Array**	**54.72**	**2**	LR	LR	01 32 26.1	
	comp=Z,92nm,19.4s,baz=190,slow=38						
BRVK	**Borovoye**	**54.75**	**2**	*e*P	**P**	**01 07 37.3**	**+0.5**
	5.2nm,1.0s						
ZAA0	**Zalesovo Array**	**57.30**	**12**	*e*P	**P**	**01 07 54.9**	**-0.2**
	12nm,1.5s						
ZALV	**Zalesovo Beam**	**57.30**	**12**	P	P	01 07 48.8	-6.3
	0.4nm,0.4s,baz=208,slow=11,SNR=3.4						
ZALV				LR	LR	01 32 00.5	
	comp=Z,91nm,21.5s,baz=142,slow=36						
ZALV	**Zalesovo Beam**	**57.30**	**12**	*e*P	**P**	**01 07 54.4**	**-0.6**
ZAA1	**Zalesovo Array**	**57.31**	**12**	*e*P	P	01 07 48.8	-6.3
HHC	**Hu-ho-hao-te**	**57.96**	**38**	*e*P	**P**	**01 08 01.9**	**+1.8**
HHC				pmax	pmax		
	comp=Z,23nm,0.9s						
NJ2	**Nanjing**	**58.57**	**50**	*e*P	**P**	**01 08 04.0**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
ARU	**Arti**	**58.63**	**354**	*e*P	**P**	**01 08 04.7**	**+0.3**
	8.1nm,0.9s						
SONA0	**Songino Array**	**59.63**	**29**	*e*P	P	01 08 06.4	-5.2
SONM	**Songino Array**	**59.63**	**29**	P	P	01 08 06.4	-5.2
	1.1nm,0.8s,baz=229,slow=6.1,SNR=6.6						
SONA1	**Songino Array**	**59.64**	**29**	*e*P	**P**	**01 08 10.8**	**-0.9**
MLR	**Muntele Rosu**	**60.19**	**327**	*e*P	**P**	**01 08 16.2**	**+0.7**
	17nm,1.4s						
BJI	**Beijing**	**60.44**	**41**	*e*P	**P**	**01 08 19.3**	**+2.2**
BJI				pmax	pmax		
	comp=Z,10μm,3.0s						
BUR04	**Bucovina Ar. S**	**61.93**	**328**	*e*P	**P**	**01 08 27.1**	**-0.2**
AKASG	**Malin Array Be**	**62.03**	**333**	P	P	01 08 20.7	-7.1
	0.1nm,0.3s,baz=127,slow=5.7,SNR=3.4						
AKBB	**Malin Array Si**	**62.03**	**333**	*e*P	**P**	**01 08 25.9**	**-1.8**
	4.9nm,0.9s						
KIEV	**Kiev**	**62.04**	**333**	*e*P	**P**	**01 08 26.0**	**-1.8**
	4.5nm,0.9s						
OBN	**Obninsk**	**62.46**	**340**	LR	LR	01 33 51.6	
	comp=Z,22nm,20.4s,baz=174,slow=34						
PSZ	**Piszkesteto**	**64.98**	**326**	*e*P	**P**	**01 08 47.8**	**+0.4**
	3.0nm,0.9s						
MAW	**Mawson**	**65.72**	**182**	LR	LR	01 30 17.8	
	comp=Z,161nm,20.2s,baz=10,slow=30						
VYHS	**Vyhne**	**65.89**	**326**	*e*P	**P**	**01 08 51.9**	**-1.3**
KLMR	**Klimovskoe**	**66.36**	**345**	*e*P	**P**	**01 08 55.3**	**-0.6**
KLMR				AMP		01 09 05.9	
	comp=Z,29nm,1.4s						
MODS	**Modra-Piesok**	**66.69**	**326**	*e*P	**P**	**01 08 55.9**	**-2.4**
JAVC	**Velka Javorina**	**66.73**	**326**	*e*P	P	01 09 05.2	+6.5
WR1	**Warramunga Arr**	**66.93**	**111**	*e*P	P	01 08 54.2	-6.3
	comp=Z,15nm,1.2s						
WRA	**Warramunga Arr**	**66.93**	**111**	P	P	01 08 54.2	-6.3
	comp=Z,3.4nm,0.7s,baz=287,slow=5.9,SNR=13						
WRA				LR	LR	01 34 45.7	
	comp=Z,49nm,21.0s,baz=280,slow=33						
WRAB	**Tennant Creek**	**66.94**	**111**	*e*P	**P**	**01 08 59.7**	**-0.8**
	comp=Z,21nm,1.4s						
WB2	**Warramunga Arr**	**66.94**	**111**	*e*P	**P**	**01 08 59.6**	**-0.9**
SUW	**Suwalki**	**67.01**	**333**	*e*P	**P**	**01 09 00.8**	**+0.7**
	comp=Z,16nm,1.0s						
ASAR	**Alice Springs**	**67.02**	**115**	P	P	01 08 54.8	-6.2
	comp=Z,4.9nm,0.3s,baz=281,slow=6.2,SNR=6.0						
AS31	**Alice Springs**	**67.02**	**115**	*e*P	P	01 08 54.8	-6.2
	comp=Z,1.2nm,0.9s						
CONA	**Conrad Observa**	**67.27**	**325**	*e*P	**P**	**01 09 01.1**	**-1.0**
	comp=Z,3.9nm,0.9s						
MORC	**Moravsky Berou**	**67.30**	**327**	*e*P	**P**	**01 09 02.0**	**-0.2**
	comp=Z,12nm,1.4s						
MORC	**Moravsky Berou**	**67.30**	**327**	*e*P	P	01 09 07.9	+5.7
KSRS	**Korea Array**	**67.55**	**48**	LR	LR	01 39 55.1	
	comp=Z,108nm,19.3s,baz=249,slow=37						
VRAC	**Vranov**	**67.57**	**326**	*e*P	P	01 09 09.6	+5.7
TORD	**Torodi Ar. Bea**	**67.65**	**285**	P	P	01 08 58.6	-6.5
	comp=Z,0.3nm,1.0s,baz=92,slow=6.9,SNR=3.0						
TORD				LR	LR	01 38 25.8	
	comp=Z,132nm,19.4s,baz=165,slow=36						
TOA1	**Torodi Ar. Sit**	**67.65**	**285**	*e*P	P	01 08 58.6	-6.5
MOA	**Molln**	**68.15**	**324**	*e*P	**P**	**01 09 06.2**	**-1.5**
	comp=Z,6.9nm,1.4s						
DPC	**Dobruska-Polom**	**68.27**	**327**	*e*P	P	01 09 13.5	+5.1
CN2	**Changchun**	**68.31**	**41**	*e*P	**P**	**01 09 10.3**	**+1.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KBA	**Koelnbreinsper**	**68.33**	**323**	P	**P**	**01 09 09.6**	**+0.7**
	comp=Z,7.2nm,1.2s						
GERES	**GERESS Array B**	**68.97**	**325**	LR	LR	01 39 27.2	
	comp=Z,38nm,18.5s,baz=146,slow=36						
KHC	**Kasperske Hory**	**69.18**	**325**	*e*P	**P**	**01 09 13.3**	**-0.7**
SQTA	**Sanket Quirin**	**69.69**	**322**	*e*pP	**P**	**01 09 20.1**	**+2.8**
	comp=Z,10nm,1.4s						
MOTA	**Moosalm**	**69.81**	**323**	*e*P	**P**	**01 09 19.1**	**+1.0**
	comp=Z,6.6nm,1.2s						
BRG	**Berggiesshubel**	**69.84**	**327**	*e*P	**P**	**01 09 22.6**	**+4.6**
	comp=Z,26nm,1.7s						
FETA	**Feichten**	**69.89**	**322**	*e*P	**P**	**01 09 18.5**	**-0.1**
	comp=Z,13nm,1.1s						
FUORN	**Ofenpass-Fuorn**	**70.00**	**322**	*e*P	**P**	**01 09 18.1**	**-1.4**
	comp=Z,17nm,1.2s						
RETA	**Reutte**	**70.08**	**323**	*e*P	**P**	**01 09 18.3**	**-1.4**
	comp=Z,7.1nm,1.5s						
DAVA	**Damuels**	**70.53**	**322**	P	**P**	**01 09 21.6**	**-0.9**
	comp=Z,18nm,0.8s						
CLL	**Collm**	**70.57**	**327**	*e*P	**P**	**01 09 23.7**	**+1.2**
	comp=Z,12nm,1.2s						
CLL	**Collm**	**70.57**	**327**	*e*P	**P**	**01 09 22.0**	**-0.5**
	comp=Z,15nm,1.5s						
CLL				*i* sP	**sP**	**01 09 28.4**	**+0.5**
	comp=Z,12nm,1.2s						
CLL				LmV		01 39 00.0	
	comp=Z,100nm,20.8s						
GRA1	**Grafenberg Arr**	**70.80**	**325**	*e*P	**P**	**01 09 22.9**	**-1.0**
	comp=Z,19nm,1.3s						
GRF	**Grafenberg Arr**	**70.80**	**325**	*e*P	**P**	**01 09 23.1**	**-0.9**
	comp=Z,4.7nm,0.8s,baz=118,slow=7.6						
GRFO	**Grafenberg**	**70.80**	**325**	*e*P	**P**	**01 09 22.9**	**-1.0**
	comp=Z,10.0nm,1.0s						
FIA0	**FINESS Array S**	**70.87**	**340**	*e*P	P	01 09 17.9	-6.1
FIA1	**FINESS Array S**	**70.87**	**340**	*e*P	**P**	**01 09 22.7**	**-1.4**
FINES	**FINESS Array B**	**70.87**	**340**	P	P	01 09 17.9	-6.1
	comp=Z,1.7nm,0.9s,baz=130,slow=6.4,SNR=2.1						
FINES				LR	LR	01 43 32.2	
	comp=Z,82nm,18.8s,baz=150,slow=39						
SENIN	**Lac Senin/Sane**	**71.76**	**320**	*e*P	**P**	**01 09 29.2**	**-0.9**
	comp=Z,11nm,0.9s						
SENIN				*e*PcP	**pP**	**01 09 34.4**	**+0.4**
BFO	**Black Forest**	**71.92**	**323**	*e*P	**P**	**01 09 31.3**	**+0.6**
	comp=Z,14nm,1.4s						
USRK	**Ussuriysk Ar.**	**72.81**	**42**	P	P	01 09 30.8	-5.3
	comp=Z,0.6nm,0.5s,baz=243,slow=5.8,SNR=2.3						
USRK				LR	LR	01 45 54.7	
	comp=Z,32nm,18.4s,baz=227,slow=40						
DBIC	**Dimbokro**	**73.44**	**277**	P	P	01 09 35.1	-5.3
	comp=Z,1.5nm,0.8s,baz=40,slow=17,SNR=1.8						
DBIC				LR	LR	01 41 05.9	
	comp=Z,77nm,19.1s,baz=74,slow=35						
DBIC	**Dimbokro**	**73.44**	**277**	*e*P	**P**	**01 09 40.9**	**+0.4**
	comp=Z,8.8nm,1.1s						
MJAR	**Matsushiro Arr**	**75.14**	**52**	LR	LR	01 44 30.9	
	comp=Z,64nm,19.1s,baz=265,slow=37						
NOA	**NORSAR Array B**	**76.31**	**335**	LR	LR	01 44 18.6	
	comp=Z,66nm,21.5s,baz=265,slow=36						
NAO01	**NORSAR Array S**	**76.36**	**335**	*e*P	**P**	**01 09 56.4**	**0.0**
NBO00	**NORSAR Array S**	**76.50**	**335**	*e*P	**P**	**01 09 57.4**	**+0.3**
ARCES	**ARCESS Array B**	**76.82**	**346**	*e*P	**P**	**01 09 58.4**	**-0.5**
GUMO	**Guam**	**77.46**	**76**	LR	LR	01 42 40.8	
	comp=Z,40nm,20.9s,baz=203,slow=35						
ES19	**SONSECA Array**	**77.53**	**311**	*e*P	**P**	**01 10 03.7**	**+0.2**
ESDC	**Sonseca Array**	**77.57**	**311**	P	P	01 09 58.4	-5.3
	comp=Z,0.7nm,0.6s,baz=99,slow=4.7,SNR=5.7						
TIXI	**Tiksi**	**82.84**	**16**	*e*P	**P**	**01 10 29.6**	**-1.8**
	comp=Z,8.5nm,0.3s						
VNDA	**Vanda**	**88.98**	**167**	P	P	01 10 55.4	-6.3
	comp=Z,0.9nm,1.0s,baz=198,slow=3.2,SNR=2.4						
SBA	**Scott Base**	**89.99**	**168**	*e*P	**P**	**01 11 07.1**	**+0.7**
	comp=Z,30nm,1.4s						
PETK	**Petropavlovsk-**	**91.15**	**37**	LR	LR	01 54 52.6	
	comp=Z,59nm,18.2s,baz=297,slow=37						
YKA	**Yellowknife Ar**	**119.48**	**2**	PKP	PKPpre	01 16 49.2	
	comp=Z,0.1nm,0.3s,baz=352,slow=1.9,SNR=2.8						
YKB5	**Yellowknife Ar**	**119.48**	**2**	*e*PKPdf	**PKPdf**	**01 16 56.6**	**-0.2**
PD31	**Pinedale Array**	**139.23**	**358**	*e*PKPpre	PKPpre	01 17 28.0	
PD31				*e*PKPdf	**PKiKP**	**01 17 37.9**	**+0.5**
PDAR	**Pinedale Array**	**139.23**	**358**	PKP	PKPpre	01 17 28.0	
	comp=Z,0.1nm,0.3s,baz=98,slow=1.3,SNR=2.1						
PDAR	**Pinedale Array**	**139.23**	**358**	PKP	PKPpre	01 17 28.0	
PDAR				*e*PKPdf	**PKPdf**	**01 17 34.9**	**-0.2**
NV01	**Mina Array Sit**	**143.12**	**9**	*e*PKPpre	PKPpre	01 17 36.2	
NVAR	**Mina Array Bea**	**143.12**	**9**	PKP	PKPab	01 17 36.2	-1.4
	comp=Z,0.1nm,0.4s,baz=20,slow=2.9,SNR=2.5						
PSUT	**Pine Spring**	**143.45**	**3**	*e*PKPdf	**PKPdf**	**01 17 44.2**	**+1.4**
PV10	**Paradox Valley**	**143.57**	**356**	*e*PKPdf	**PKPdf**	**01 17 43.4**	**+0.3**
PV13	**Radium Mtn., P**	**143.78**	**356**	*e*PKPdf	**PKPdf**	**01 17 42.8**	**-0.7**
SDCO	**Great Sand Dun**	**143.83**	**352**	*e*PKPdf	**PKiKP**	**01 17 45.3**	**-1.8**
MTPU	**Mount Pierson**	**143.99**	**1**	*e*PKPdf	PKPbc	01 17 41.4	-0.3
S22A	**4UR Ranch, Cre**	**144.00**	**353**	*e*PKPdf	**PKPdf**	**01 17 43.3**	**-0.6**
SZCU	**Shurtz Canyon**	**144.42**	**2**	*e*PKPdf	**PKPdf**	**01 17 43.9**	**-0.7**
CCUT	**Cedar City**	**144.46**	**2**	*e*PKPdf	**PKPdf**	**01 17 45.3**	**+0.6**
PKCU	**Pink Cliffs**	**144.59**	**1**	*e*PKPdf	**PKPdf**	**01 17 44.7**	**-0.3**
LCMT	**Little Creek M**	**145.00**	**2**	*e*PKPbc	**PKPdf**	**01 17 46.7**	**+1.3**
DAC	**Darwin (Calif)**	**145.33**	**8**	*e*PKPbc	**PKPdf**	**01 17 47.6**	**+1.5**
SHPR	**Sheep Range**	**145.38**	**5**	*e*PKPdf	**PKiKP**	**01 17 48.0**	**-2.1**
U15A	**North Rim**	**145.60**	**1**	*e*PKPdf	**PKPab**	**01 17 47.3**	**+0.2**
OTAV	**Otavalo**	**146.66**	**268**	*e*PKPdf	**PKPdf**	**01 17 48.9**	**-0.5**
ANMO	**Albuquerque**	**146.72**	**352**	*e*PKPdf	**PKPdf**	**01 17 46.4**	**-2.1**
ABTX	**Abilene, Hawle**	**147.35**	**341**	*e*PKPbc	**PKPbc**	**01 17 51.2**	**-0.6**
PFO	**Pinyon Flats O**	**148.11**	**7**	*e*PKPbc	**PKiKP**	**01 17 55.9**	**+0.1**
JCT	**Junction City**	**149.36**	**339**	*e*PKPbc	**PKiKP**	**01 17 58.1**	**-0.2**
TUC	**Tucson**	**149.70**	**358**	*e*PKPbc	**PKiKP**	**01 17 59.2**	**+0.2**
MNTX	**Cornudas Mount**	**149.72**	**349**	*e*PKPbc	**PKPbc**	**01 17 57.0**	**-1.0**
LTX	**Lajitas**	**151.61**	**345**	*e*PKPdf	**PKPdf**	**01 17 57.3**	**+0.9**
LTX				*e*PKPbc	**PKPbc**	**01 18 02.2**	**-0.4**
TX31	**Lajitas Ar. Si**	**151.61**	**345**	*e*PKPdf	**PKPdf**	**01 17 57.5**	**+1.1**
TX31				*e*PKPdf	**PKPdf**	**01 17 57.9**	**+1.5**
TX31				*e*PKPbc	**PKPbc**	**01 18 03.1**	**+0.5**
TX31				*e*PKPab	**PKPab**	**01 18 07.3**	**-3.7**
TXAR	**Lajitas Array**	**151.61**	**345**	PKPbc	**PKPdf**	**01 17 57.3**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=42,slow=2.0,SNR=6.2						
TXAR				PKPab	**PKPbc**	**01 18 02.2**	**-0.4**
	comp=Z,3.2nm,0.9s,baz=62,slow=2.1,SNR=18						

BJI ***14*** *01:14:51.4, 11.°97N×47.°07E, h10km, mb4.6/23, mB5.0/10, Ms4.3/2, Ms7 4.1/2*

IDC ***14*** *01:14:54.8±

MAKZ	**Makanchi**	**44.85**	**34**	*eP*		**P**		**01 23 11.8**	**+0.4**
	5.5nm,1.0s									
MK01	**Makanchi Array**	**45.00**	**34**	*eP*		**P**		**01 23 13.0**	**+0.4**
MK31	**Makanchi Array**	**45.01**	**34**	*eP*		**P**		**01 23 13.8**	**+1.1**
MKAR	**Makanchi Array**	**45.01**	**34**	P		**P**		**01 23 13.1**	**+0.4**
	5.0nm,1.0s,baz=224,slow=8.5,SNR=16									
MKAR				LR		LR		01 43 19.3		
	comp=Z,58nm,18.7s,baz=234,slow=38									
DPC	**Dobruska-Polom**	**45.46**	**332**	*eP*		**P**		**01 23 17.1**	**+0.9**
GEA0	**GERESS Array S**	**45.68**	**329**	*eP*		**P**		**01 23 17.6**	**-0.4**
KURBB	**Kurchatov Arra**	**45.68**	**27**	P		**P**		**01 23 17.9**	**0.0**
	0.7nm,0.5s,baz=229,slow=8.2,SNR=8.4									
GERES	**GERESS Array B**	**45.68**	**329**	P		**P**		**01 23 17.6**	**-0.5**
	1.3nm,0.7s,baz=104,slow=5.6,SNR=9.8									
KURK	**Kurchatov**	**45.79**	**27**	P		**P**		**01 23 17.9**	**-0.8**
KHC	**Kasperske Hory**	**45.93**	**329**	*eP*		**P**		**01 23 19.7**	**-0.3**
BOSA	**Boshof**	**46.18**	**207**	P		**P**		**01 23 22.0**	**-0.2**
	2.9nm,0.9s,baz=86,slow=12,SNR=3.1									
BOSA				LR		LR		01 42 00.0		
	comp=Z,201nm,19.8s,baz=16,slow=35									
WMQ	**Urumqi**	**46.54**	**40**	*eP*		**P**		**01 23 27.1**	**+2.2**
WMQ				pP		sP		01 23 32.0	+1.0	
WMQ				sP		pP		01 23 35.3	+6.0	
WMQ				LR		LR				
	comp=N,250nm,26.3s									
WMQ				LR		LR				
	comp=E,160nm,22.9s									
WMQ				LR		LR				
	comp=Z,140nm,24.9s									
CLL	**Collm**	**47.65**	**331**	*eP*		**P**		**01 23 31.0**	**-2.3**
KLMR	**Klimovskoe**	**48.58**	**355**	*eP*		**P**		**01 23 38.1**	**-2.2**
KLMR				AMP				01 23 43.6		
	comp=Z,16nm,1.4s									
CMAR	**Chiang Mai Arr**	**49.89**	**76**	P		**P**		**01 23 50.7**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=273,slow=8.7,SNR=15									
CMAR				LR		LR		01 43 34.0		
	comp=Z,52nm,18.9s,baz=266,slow=34									
CM01	**Chiang Mai Arr**	**49.91**	**76**	*eP*		**P**		**01 23 50.5**	**-0.7**
ZALV	**Zalesovo Beam**	**50.77**	**28**	P		**P**		**01 23 55.8**	**-1.4**
	comp=Z,1.6nm,0.7s,baz=214,slow=8.6,SNR=6.2									
ZALV				LR		LR		01 46 55.6		
	comp=Z,63nm,18.8s,baz=84,slow=38									
ZALV	**Zalesovo Beam**	**50.77**	**28**	*eP*		**P**		**01 23 56.9**	**-0.3**
FINES	**FINESS Array B**	**51.23**	**347**	P		**P**		**01 23 59.5**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=168,slow=14,SNR=4.0									
GTA	**Gaotai**	**53.29**	**50**	*eP*		**P**		**01 24 17.4**	**+1.0**
GTA				pP		sP		01 24 21.6	-0.9	
GTA				sP		pP		01 24 25.1	+4.3	
GTA				pmax		pmax				
	comp=Z,4.0nm,0.8s									
KMI	**Kunming**	**53.53**	**68**	P		**P**		**01 24 17.9**	**-0.6**
KMI				pmax		pmax				
	comp=Z,23nm,0.5s									
LZH	**Lanzhou**	**55.69**	**55**	*eP*		**P**		**01 24 33.3**	**-0.6**
LZH				pP		pP		01 24 38.1	-0.3	
LZH				sP		sP		01 24 41.3	+1.2	
LZH				pmax		pmax				
	comp=Z,27nm,1.0s									
ARCES	**ARCESS Array B**	**58.63**	**351**	P		**P**		**01 24 52.6**	**-1.3**
	comp=Z,2.9nm,0.8s,baz=152,slow=12,SNR=2.9									
SONM	**Songino Array**	**60.12**	**42**	P		**P**		**01 25 03.3**	**-1.4**
	comp=Z,1.3nm,0.8s,baz=240,slow=8.1,SNR=9.7									
SONM				LR		LR		01 53 45.1		
	comp=Z,64nm,18.8s,baz=200,slow=39									
HHC	**Hu-ho-hao-te**	**62.40**	**50**	*eP*		**P**		**01 25 21.1**	**+0.8**
HHC				pmax		pmax				
	comp=Z,17nm,0.8s									
HHC				pmax		pmax				
	comp=Z,71nm,4.5s									
BJI	**Beijing**	**65.82**	**52**⇑	*eP*		**P**		**01 25 42.6**	**0.0**
BJI				pmax		pmax				
	comp=Z,7.0nm,1.0s									
NJ2	**Nanjing**	**67.81**	**60**	*eP*		**P**		**01 25 57.0**	**+1.5**
NJ2				pmax		pmax				
	comp=Z,21nm,0.6s									
CN2	**Changchun**	**72.83**	**48**	*eP*		**P**		**01 26 28.0**	**+2.0**
CN2				pmax		pmax				
	comp=Z,10.0nm,0.7s									
MAW	**Mawson**	**80.71**	**174**	LR		LR		01 58 48.5		
	comp=Z,106nm,18.0s,baz=3.0,slow=33									
WRA	**Warramunga Arr**	**91.38**	**110**	P		**P**		**01 28 03.2**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=296,slow=3.5,SNR=7.0									
ASAR	**Alice Springs**	**91.81**	**114**	P		**P**		**01 28 04.9**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=287,slow=6.5,SNR=3.4									
NVAR	**Mina Array Bea**	**127.56**	**346**	PKP		**PKPdf**		**01 34 01.1**	**-2.0**
	comp=Z,0.4nm,0.7s,baz=126,slow=1.2,SNR=3.2									

*NNC **14** 01:18:43.3±0.3,44.°08N×78.°58E,h0km,mb3.4,mpv3.6, Error ellipse: s-maj=2.3km s-min=1.5km az=8.0*
*SOME **14** 01:18:44.7,44.°08N×78.°57E,h10km*
ISC 14 01:18:44.1±1.1,**44.°09N**±0.°02×**78.°56E**±0.°02,**h5**km±9km, **n48,σ1906/87,16C-5D,Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARXS	**Arharly**	**0.54**	**283**	P	**Pg**	**01 18 55.2**	**+0.7**
	49nm,0.1s						
ARXS				S	**Sg**	**01 19 02.8**	**+1.2**
	860nm,0.3s						
ARXS	**Arharly**	**0.54**	**283**	*eP*	**Pg**	**01 18 55.2**	**+0.7**
	49nm,0.1s						
ARXS				*eS*	**Sg**	**01 19 02.6**	**+0.9**
	860nm,0.3s						
KURS	**Kuram**	**0.67**	**205**	P	**Pg**	**01 18 57.2**	**+0.3**
	10nm,0.1s						
KURS				S	**Sg**	**01 19 06.0**	**+0.4**
	176nm,0.2s						
KURS	**Kuram**	**0.67**	**205**	*eP*	**Pg**	**01 18 57.2**	**+0.3**
	10nm,0.1s						
KURS				*eS*	**Sg**	**01 19 06.0**	**+0.4**
	176nm,0.2s						
DJR	**Jarkent**	**0.92**	**74**	P	**Pg**	**01 19 01.4**	**-0.3**
	13nm,0.2s						
DJR				S	**Sg**	**01 19 13.6**	**+0.1**
	24nm,0.2s						
DJR	**Jarkent**	**0.92**	**74**	*eP*	**Pg**	**01 19 01.4**	**-0.3**
	13nm,0.2s						
DJR				*eS*	**Sg**	**01 19 13.7**	**+0.1**
	24nm,0.2s						
TDK	**Taldyqorghan**	**0.92**	**353**	P	**Pg**	**01 19 01.8**	**+0.1**
	194nm,0.3s						
TDK				S	**Sg**	**01 19 14.1**	**+0.5**
	260nm,0.3s						
TDK	**Taldyqorghan**	**0.92**	**353**⇑	*iP*	**Pg**	**01 19 01.8**	**+0.1**
	194nm,0.3s						
TDK				⇓*iS*	**Sg**	**01 19 14.1**	**+0.5**
	260nm,0.3s						
UZB	**Uzynbulak**	**1.00**	**160**	P	**Pg**	**01 19 02.7**	**-0.7**
	92nm,0.1s						
UZB				S	**Sg**	**01 19 15.6**	**-0.8**
	62nm,0.1s						
UZB	**Uzynbulak**	**1.00**	**160**	*eP*	**Pg**	**01 19 02.7**	**-0.7**
	92nm,0.1s						
UZB				*eS*	**Sg**	**01 19 15.6**	**-0.8**
	62nm,0.1s						
PDGK	**Podgornoye**	**1.02**	**138**	P	**Pg**	**01 19 02.9**	**-0.8**
	63nm,0.1s						
PDGK				S	**Sg**	**01 19 16.0**	**-0.8**
	57nm,0.2s						
PDGK	**Podgornoye**	**1.02**	**138**⇑	P	**Pg**	**01 19 02.7**	**-1.0**
	16nm,0.4s						
PDGK				⇑S	**Sg**	**01 19 15.7**	**-1.2**
	39nm,0.5s						
SHLS	**Shalkode**	**1.14**	**145**	P	**Pn**	**01 19 09.0**	**+2.1**
	63nm,0.2s						
SHLS				S	**Sn**	**01 19 26.4**	**+3.4**
	283nm,0.2s						
SHLS	**Shalkode**	**1.14**	**145**	*eP*	**Pn**	**01 19 09.0**	**+2.1**
	63nm,0.2s						
SHLS				*eS*	**Sn**	**01 19 26.4**	**+3.4**
	283nm,0.2s						
CHKK	**Chushkaly**	**1.16**	**259**	P	**Pg**	**01 19 05.5**	**-0.9**
	58nm,0.2s						
CHKK				S	**Sg**	**01 19 21.3**	**-0.1**
	186nm,0.3s						
CHKK	**Chushkaly**	**1.16**	**259**⇑	*iP*	**Pg**	**01 19 05.5**	**-0.9**
	57nm,0.2s						
CHKK				*eS*	**Sg**	**01 19 20.7**	**-0.7**
	186nm,0.3s						
KAPS	**Kapalarasan**	**1.32**	**25**	*eP*	**Pn**	**01 19 08.7**	**-0.6**
	3.2nm,0.2s						
KAPS				*eS*	**Sg**	**01 19 25.9**	**-0.7**
	87nm,0.3s						
KOTS	**Kotyrbulak**	**1.36**	**231**	P	**Pn**	**01 19 09.9**	**0.0**
	13nm,0.2s						
KOTS				S	**Sn**	**01 19 28.5**	**+0.1**
	120nm,0.2s						
KOTS	**Kotyrbulak**	**1.36**	**231**	*eP*	**Pn**	**01 19 09.9**	**0.0**
	13nm,0.2s						
KOTS				*eS*	**Sn**	**01 19 28.3**	**-0.1**
	120nm,0.2s						
KTBS	**Karatobe**	**1.41**	**255**	P	**Pn**	**01 19 10.2**	**-0.3**
	15nm,0.2s						
KTBS				S	**Sb**	**01 19 28.6**	**-0.7**
	75nm,0.2s						
KTBS	**Karatobe**	**1.41**	**255**	*eP*	**Pn**	**01 19 10.2**	**-0.3**
	15nm,0.2s						
KTBS				*eS*	**Sb**	**01 19 28.6**	**-0.7**
	75nm,0.2s						
MDOK	**Medeo**	**1.44**	**230**	P	**Pn**	**01 19 10.3**	**-0.8**
	5.1nm,0.3s						
MDOK				⇓S	**Sb**	**01 19 29.1**	**-1.1**
	33nm,0.6s						
MDOK	**Medeo**	**1.44**	**230**	Pg	**Pn**	**01 19 10.3**	**-0.8**
	24nm,0.3s						
MDOK				Lg	Lg	01 19 29.8	
	39nm,0.4s						
MDOK	**Medeo**	**1.44**	**230**	*eP*	**Pn**	**01 19 10.8**	**-0.2**
	17nm,0.2s						
MDOK				*eS*	**Sb**	**01 19 29.6**	**-0.6**
	30nm,0.3s						
KTMS	**Ketmen**	**1.45**	**116**	P	**Pn**	**01 19 10.3**	**-0.9**
	38nm,0.1s						
KTMS				S	**Sb**	**01 19 29.1**	**-1.4**
	94nm,0.1s						
KTMS	**Ketmen**	**1.45**	**116**	*eP*	**Pn**	**01 19 10.3**	**-0.9**
	38nm,0.1s						
KTMS				*eS*	**Sb**	**01 19 28.9**	**-1.6**
	94nm,0.1s						
KNDC	**Almaty**	**1.45**	**233**⇑	P	**Pn**	**01 19 10.6**	**-0.5**
	21nm,0.5s						
KNDC				⇓S	**Sb**	**01 19 29.6**	**-0.9**
	52nm,0.5s						
AAA	**Alma-Ata**	**1.49**	**234**	P	**Pn**	**01 19 11.9**	**+0.3**
	31nm,0.1s						
AAA				S	**Sb**	**01 19 31.4**	**0.0**
	87nm,0.1s						
AAA	**Alma-Ata**	**1.49**	**234**	*eP*	**Pn**	**01 19 11.9**	**+0.3**
	31nm,0.1s						
AAA				*eS*	**Sb**	**01 19 31.4**	**0.0**
	87nm,0.1s						
TNSS	**Tian-Shan**	**1.58**	**229**	P	**Pn**	**01 19 12.7**	**-0.5**
	11nm,0.2s						
TNSS				S	**Sn**	**01 19 34.1**	**0.0**
	87nm,0.3s						
TNSS	**Tian-Shan**	**1.58**	**229**	*eP*	**Pn**	**01 19 13.4**	**+0.3**
	9.0nm,0.2s						
TNSS				*eS*	**Sn**	**01 19 34.0**	**-0.2**
	87nm,0.3s						
KUU	**Kurty**	**1.62**	**264**	P	**Pn**	**01 19 12.9**	**-0.4**
	8.3nm,0.1s						
KUU				S	**Sn**	**01 19 33.9**	**-0.7**
	90nm,0.2s						
KUU	**Kurty**	**1.62**	**264**	*eP*	**Pn**	**01 19 13.8**	**+0.4**
	9.6nm,0.1s						
KUU				*eS*	**Sn**	**01 19 34.3**	**-0.2**
	101nm,0.2s						
IZV	**Izvestkoviy**	**1.77**	**234**	P	**Pn**	**01 19 16.2**	**+0.6**
	12nm,0.2s						
IZV				S	**Sb**	**01 19 39.5**	**-0.1**
	30nm,0.2s						
IZV	**Izvestkoviy**	**1.77**	**234**	*eP*	**Pb**	**01 19 16.5**	**-0.7**
	12nm,0.2s						
IZV				*eS*	**Sb**	**01 19 39.5**	**-0.1**
	24nm,0.2s						
MTBS	**Maitube**	**1.82**	**239**	P	**Pn**	**01 19 16.7**	**+0.4**
	37nm,0.3s						
MTBS				S	**Sb**	**01 19 41.0**	**-0.2**
	107nm,0.3s						
MTBS	**Maitube**	**1.82**	**239**	*eP*	**Pb**	**01 19 17.4**	**-0.7**
	9.4nm,0.1s						
MTBS				*eS*	**Sb**	**01 19 40.7**	**-0.5**
	107nm,0.2s						
KST	**Kastek**	**2.16**	**242**	Pg	**Pn**	**01 19 22.0**	**+1.0**
	14nm,0.4s						
KST				Lg	Lg	01 19 50.8	
	26nm,0.4s						
KST	**Kastek**	**2.16**	**242**	*eP*	**Pb**	**01 19 22.9**	**-0.9**
	5.8nm,0.2s						
KST				*eS*	**Sb**	**01 19 50.6**	**-0.4**
	25nm,0.3s						
DGS	**Degeres**	**2.20**	**248**	Pg	**Pb**	**01 19 23.9**	**-0.5**
	6.3nm,0.3s						
DGS				Lg	Lg	01 19 52.0	
	32nm,0.3s						
DGS	**Degeres**	**2.20**	**248**	*eP*	**Pb**	**01 19 23.9**	**-0.5**
	6.3nm,0.3s						
DGS				*eS*	**Sb**	**01 19 52.0**	**+0.1**
	32nm,0.3s						
TKM2	**Tokmak 2**	**2.46**	**243**⇑	Pn	**Pn**	**01 19 25.6**	**+0.6**
	1.4nm,0.3s						
TKM2				⇑Lg	Lg	01 19 59.5	
	3.8nm,0.3s						
AAK	**Ala-Archa**	**3.30**	**245**⇑	Pg	**Pb**	**01 19 43.9**	**+0.6**
	1.2nm,0.3s						
AAK				⇓Lg	Lg	01 20 25.6	
	4.0nm,0.7s						
MAKZ	**Makanchi**	**3.62**	**40**	⇓Pg	**Pb**	**01 19 49.8**	**+1.1**
	0.6nm,0.4s						
MAKZ				⇑Lg	Lg	01 20 36.1	
	2.4nm,0.5s						
MK31	**Makanchi Array**	**3.77**	**43**⇑	Pn	**Pn**	**01 19 43.5**	**+0.6**
	0.5nm,0.3s,baz=213,slow=15,SNR=5.6						
MK31				⇑Lg	Lg	01 20 40.6	
	1.3nm,0.4s,baz=223,slow=27,SNR=9.3						
MRKS	**Merke**	**4.11**	**253**	Pg	**Pb**	**01 19 57.9**	**+0.8**
	1.8nm,0.4s						
MRKS				Lg	Lg	01 20 53.7	
	5.2nm,0.4s						
KK31	**Karatay Array**	**5.93**	**263**⇑	Pg	**Pb**	**01 20 31.7**	**+3.8**
	0.5nm,0.5s,baz=76,slow=16,SNR=5.3						
KK31				⇑Lg	Lg	01 21 48.7	
	1.6nm,0.5s,baz=76,slow=28,SNR=8.1						
OTUK	**Ortayu**	**5.99**	**316**⇑	Pn	**Pn**	**01 20 09.9**	**-3.6**
	0.4nm,0.5s						
OTUK				⇑Sn	**Sn**	**01 21 21.9**	**-0.5**
	0.9nm,0.4s						
OTUK				⇑Lg	Lg	01 21 51.1	
	2.5nm,0.5s						

IDC 14 01:21:01.1±6.3,**17.°85S**×**174.°51W,h0km,mb4.0**/3, **mb1 4.3**/3,**mb1mx3.7**/36,**mbtmp4.0**/3,**Error ellipse: s-maj=302.0km s-min=35.7km az=143.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**48.29**	**259**	P	P	01 29 44.0	-0.5
	1.0nm,0.5s,baz=95,slow=7.2,SNR=7.5						
ASAR	**Alice Springs**	**48.37**	**254**	P	P	01 29 45.4	+0.3
	6.4nm,0.8s,baz=90,slow=8.6,SNR=41						
ILAR	**Eielson Array**	**85.05**	**12**	P	P	01 33 38.6	+0.4
	0.2nm,0.7s,baz=213,slow=6.5,SNR=3.8						
GERES	**GERESS Array B**	**148.37**	**350**	PKPbc	PKPbc	01 40 48.4	-1.2
	0.3nm,0.3s,baz=14,slow=2.0,SNR=4.7						

IDC 14 01:35:27.4±5.5,**8.°82S**×**156.°18E,h0km,mb4.1**/3, **mb1 4.3**/3,**mb1mx3.7**/22,**mbtmp4.1**/3,**MS3.3**/1,**Ms1 3.3**/1, **ms1mx2.5**/27,**Error ellipse: s-maj=95.2km s-min=73.5km az=6.0,Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.46**	**144**	LR	LR	01 44 49.6	
	comp=Z,108nm,21.0s,baz=280,slow=34						
WRA	**Warramunga Arr**	**23.84**	**240**	P	P	01 40 42.8	+0.3
	3.1nm,0.8s,baz=66,slow=9.8,SNR=15						
ASAR	**Alice Springs**	**25.93**	**233**	P	P	01 41 01.8	+0.2
	3.8nm,0.8s,baz=62,slow=9.8,SNR=16						
STKA	**Stephens Creek**	**26.65**	**209**	P	P	01 41 07.3	-0.6
	2.7nm,0.8s,baz=23,slow=13,SNR=5.7						

MEX 14 01:36:17.2±0.3,**16.°83N**×**99.°10W,h16km**±3km,**MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**1.03**	**115**	*eP*	Pb	01 36 33.2	-3.5
PNIG				*i* S	Sb	01 36 45.7	-4.2
CAIG	**El Cayaco**	**1.14**	**281**	*i* P	Pn	01 36 34.3	-4.2
CAIG				*eS*	Sb	01 36 48.7	-4.4
MEIG	**Mezcala**	**1.20**	**336**	*i* P	Pn	01 36 35.8	-3.6
MEIG				*i* S	Sb	01 36 49.7	-5.2
PLIG	**Platanillo**	**1.60**	**346**	*i* P	Pn	01 36 41.5	-3.4
PLIG				*eS*	Sn	01 37 00.8	-4.6

*ISK **14** 01:45:28.1,38.°07N×25.°76E,h5km,ML2.8/11*
*ISCJB **14** 01:45:30.2±0.6,38.°11N±0.°02×25.°84E±0.°03,h12km±5km, Error ellipse: s-maj=4.5km s-min=3.3km az=13.7*
*ATH **14** 01:45:30.3,38.°12N×25.°90E,h35km±2km,ML2.4/8,Error ellipse: s-maj=2.5km s-min=0.9km az=29.0*
*THE **14** 01:45:31.2,38.°12N×25.°87E,h18km±1km,ML2.4/8,Error ellipse: s-maj=1.6km s-min=0.6km az=54.0*
*DDA **14** 01:45:31.7,38.°11N×25.°98E,h7km±4km,ML2.5*
ISC 14 01:45:30.7±1.0,**38.°11N**±0.°02×**25.°87E**±0.°02,**h17**km±6km, **n52,σ0982/72,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOS	**Chios island**	**0.31**	**28**	PG	**Pg**	**01 45 36.0**	**-1.3**
CHOS				SG	**Sg**	**01 45 42.1**	**+0.2**
CHOS	**Chios island**	**0.31**	**28**	P	**Pg**	**01 45 37.4**	**+0.1**
CHOS				S	**Sb**	**01 45 44.0**	**+1.4**
CHOS				AML	AML	01 45 45.4	
	comp=N,1088μm,0.2s						
CHOS				AML	AML	01 45 45.4	
	comp=E,1992μm,0.2s						
CHOS	**Chios island**	**0.31**	**28**	P	**Pg**	**01 45 37.4**	**+0.1**
CHOS				S	**Sb**	**01 45 42.8**	**+0.2**
PSRA	**Psara**	**0.49**	**331**	P	**Pb**	**01 45 41.7**	**+0.9**
URLA	**Izmir**	**0.62**	**66**	PG	**Pb**	**01 45 42.7**	**-0.4**
URLA				SG	**Sn**	**01 45 52.9**	**-1.4**
URLA	**Izmir**	**0.62**	**66**	IAML_P			
	comp=Z,8μm,0.2s						
URLA				*i* P	**Pg**	**01 45 43.9**	**+1.0**
KRBN	**Karaburun**	**0.72**	**48**	PG	**Pb**	**01 45 44.2**	**-0.5**
DGB	**zmir**	**0.80**	**94**	IAML_P			
	comp=Z,1μm,0.1s						
DGB				*i* P	**Pg**	**01 45 46.8**	**+0.5**
DGB				*i* S	**Sb**	**01 45 56.2**	**-0.4**
TNSA	**Tinos**	**0.80**	**225**	P	**Pg**	**01 45 47.2**	**+0.9**
TNSA				S	**Sg**	**01 45 58.4**	**+1.4**
SMG	**Samos**	**0.86**	**118**	P	**Pb**	**01 45 47.3**	**+0.1**
SMG				S	**Sg**	**01 45 59.3**	**+0.4**
SMG				AML	AML	01 45 60.0	
	comp=N,436μm,0.4s						
SMG				AML	AML	01 46 00.4	
	comp=E,404μm,0.4s						
SMG	**Samos**	**0.86**	**118**	P	**Pb**	**01 45 47.4**	**+0.2**
SMG				S	**Sg**	**01 45 59.4**	**+0.5**
FOCM	**Foa**	**0.90**	**48**	PG	**Pg**	**01 45 48.4**	**+0.2**
BLCB	**Balcova**	**0.96**	**73**	PG	**Pb**	**01 45 48.9**	**+0.1**
APE	**Apeiranthos**	**1.08**	**195**	P	**Pb**	**01 45 50.9**	**-0.1**
APE				S	**Sb**	**01 46 05.6**	**+0.9**
APE				AML	AML	01 46 08.2	
	comp=N,181μm,0.2s						
APE				AML	AML	01 46 08.6	
	comp=E,201μm,0.4s						
APE	**Apeiranthos**	**1.08**	**195**	P	**Pb**	**01 45 50.8**	**-0.1**
APE				S	**Sb**	**01 46 05.2**	**+0.5**
SIGR	**SIGRI**	**1.10**	**359**	PN	**Pb**	**01 45 49.4**	**-1.8**
SIGR	**SIGRI**	**1.10**	**359**	P	**Pb**	**01 45 50.8**	**-0.3**
SIGR				S	**Sb**	**01 46 05.1**	**0.0**
SIGR				AML	AML	01 46 07.7	
	comp=N,398μm,0.5s						
SIGR				AML	AML	01 46 09.1	
	comp=E,402μm,0.6s						
SIGR	**SIGRI**	**1.10**	**359**	P	**Pb**	**01 45 50.8**	**-0.3**
SIGR				S	**Sb**	**01 46 05.3**	**+0.1**
GCAM	**G?zelcaml?**	**1.15**	**111**	PN	**Pn**	**01 45 52.1**	**+0.1**
GCAM	**G?zelcaml?**	**1.15**	**111**	IAML_P			
	comp=Z,494nm,0.1s						
GCAM				*i* P	**Pg**	**01 45 53.3**	**+0.3**
GCAM				*i* S	**Sb**	**01 46 06.8**	**0.0**
PRK	**Paraskevi**	**1.17**	**15**	P	**Pn**	**01 45 52.3**	**0.0**
PRK				AML	AML	01 46 12.4	
	comp=N,330μm,0.3s						
PRK				AML	AML	01 46 12.8	
	comp=E,357μm,0.5s						
DKL	**Dikili**	**1.25**	**40**	PN	**Pb**	**01 45 54.3**	**+0.5**
AMGA	**Amorgos Island**	**1.28**	**179**	P	**Pn**	**01 45 53.4**	**-0.5**
AMGA				S	**Sn**	**01 46 10.3**	**-0.2**
AMGA				AML	AML	01 46 12.4	
	comp=E,193μm,0.3s						
AMGA				AML	AML	01 46 13.9	
	comp=N,176μm,0.4s						
AMGA	**Amorgos Island**	**1.28**	**179**	P	**Pn**	**01 45 53.3**	**-0.5**
AMGA				S	**Sn**	**01 46 10.3**	**-0.2**
AYVA	**Ayvalik**	**1.35**	**28**	*i* P	**Pg**	**01 45 57.0**	**+0.2**
AYVA				*i* S	**Sb**	**01 46 12.6**	**+0.1**
SERI	**Serifos**	**1.46**	**230**	P	**Pn**	**01 45 55.9**	**-0.3**
SERI				S	**Sn**	**01 46 14.3**	**-0.6**
IOSP	**Ios island**	**1.46**	**199**	P	**Pn**	**01 45 54.9**	**-1.4**
IOSP				AML	AML	01 46 19.9	
	comp=N,309μm,0.3s						
IOSP				AML	AML	01 46 20.0	
	comp=E,499μm,0.2s						
IOSP	**Ios island**	**1.46**	**199**	P	**Pn**	**01 45 54.9**	**-1.4**
IOSP				S	**Sn**	**01 46 14.3**	**-0.8**
DION	**Dionisos Attik**	**1.53**	**269**	P	**Pn**	**01 45 57.2**	**0.0**
BODT	**Bodrum**	**1.55**	**132**	PN	**Pn**	**01 45 57.8**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.60**	**95**	PN	**Pn**	**01 45 59.0**	**+0.7**
AYDN	**Tasoluk**	**1.65**	**105**	IAML_P			
	comp=Z,43nm,0.1s						
AYDN				*i* P	**Pb**	**01 45 60.0**	**-0.7**
BAYC	**CANAKKALE_Bayr**	**1.71**	**18**	*i* P	**Pn**	**01 46 00.3**	**+0.6**
BOZC	**Bozcaada**	**1.73**	**5**	PN	**Pn**	**01 46 00.6**	**+0.6**
BOZC	**Bozcaada**	**1.73**	**5**	IAML_P			
	comp=Z,516nm,0.2s						
BOZC				*i* P	**Pn**	**01 46 01.1**	**+1.1**
THR3	**Thira Island,**	**1.74**	**193**	P	**Pn**	**01 46 00.1**	**0.0**
EZN	**Ezine**	**1.75**	**12**	PN	**Pn**	**01 46 00.9**	**+0.8**
ANAF	**Anafi Island**	**1.76**	**183**	P	**Pn**	**01 46 00.2**	**-0.2**
ANAF				AML	AML	01 46 31.7	
	comp=N,415μm,0.3s						
ANAF				AML	AML	01 46 32.1	
	comp=E,333μm,0.3s						
ANAF	**Anafi Island**	**1.76**	**183**	P	**Pn**	**01 46 00.1**	**-0.2**

*BJI **14** 01:57:14.2, 9.˚78S × 154.˚95E, h9km, mb4.7/25, mB5.2/13, Ms4.7/4, Ms7 4.6/4*
*NEIC **14** 01:57:14.7±0.3, 9.˚68S × 155.˚15E, h10km, mb4.6/9, Error ellipse: s-maj=9.8km s-min=6.6km az=122.0*
*ISCJB **14** 01:57:17.2±0.4, 9.˚745S±0.˚06 × 155.˚07E±0.˚08, h33km, mb4.5/25, Error ellipse: s-maj=11.4km s-min=7.7km az=24.3*

ISC 14 01:57:18.9±0.5, 9.˚77S±0.˚08 × 155.˚03E±0.˚08, h35km, n48, σ1§54/50, mb4.5/25, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.77**	**272**	LR	LR	02 02 17.9	
	comp=Z,1µm,19.8s,baz=122,slow=39						
PMG	**Port Moresby**	**7.77**	**272**	*e*Pn	**Pn**	**01 59 09.5**	**-0.2**
PMG				*e*S	**Sn**	**02 00 32.0**	**-4.5**
CTAO	**Charters Tower**	**13.31**	**219**	*e*Pn	**Pn**	**02 00 28.1**	**+2.6**
	85nm,1.3s						
EIDS	**Eidsvold**	**15.97**	**193**	*e*Pn	**Pn**	**02 01 01.4**	**+0.4**
	46nm,1.4s						
DZM	**Mont Dzumac**	**16.42**	**140**	Pn	**Pn**	**02 01 06.0**	**-0.8**
	0.3nm,0.3s,baz=350,slow=16,SNR=6.6						
DZM	**Mont Dzumac**	**16.42**	**140**	*e*Pn	**Pn**	**02 01 05.8**	**-1.1**
	23nm,1.0s						
WRAB	**Tennant Creek**	**22.38**	**241**	*e*P	**P**	**02 02 14.7**	**+0.3**
	17nm,0.8s						
WB2	**Warramunga Arr**	**22.38**	**241**	*e*P	**P**	**02 02 14.8**	**+0.5**
	18nm,0.9s						
WRA	**Warramunga Arr**	**22.39**	**241**	P	**P**	**02 02 14.6**	**+0.1**
	12nm,0.8s,baz=67,slow=10,SNR=50						
AS01	**Alice Springs**	**24.42**	**233**	*e*P	**P**	**02 02 34.3**	**-0.2**
AS31	**Alice Springs**	**24.46**	**233**	*e*P	**P**	**02 02 35.1**	**+0.4**
	4.9nm,1.0s						
ASAR	**Alice Springs**	**24.46**	**233**	P	**P**	**02 02 34.8**	**0.0**
	14nm,0.8s,baz=63,slow=9.5,SNR=53						
STKA	**Stephens Creek**	**25.28**	**208**	P	**P**	**02 02 41.3**	**-0.8**
	6.4nm,0.8s,baz=12,slow=11,SNR=13						
STKA				LR	LR	02 12 32.2	
	comp=Z,114nm,19.9s,baz=21,slow=36						
STKA	**Stephens Creek**	**25.28**	**208**	*e*P	**P**	**02 02 42.4**	**+0.3**
JNU	**Nakatsue**	**48.46**	**333**	LR	LR	02 23 16.7	
	comp=Z,24nm,20.4s,baz=118,slow=32						
MJAR	**Matsushiro Arr**	**48.70**	**342**	P	**P**	**02 05 59.0**	**-1.0**
	2.6nm,0.8s,baz=172,slow=8.0,SNR=6.3						
NJ2	**Nanjing**	**54.08**	**322**	*e*P	**P**	**02 06 40.3**	**0.0**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
USRK	**Ussuriysk Ar.**	**57.63**	**341**	P	**P**	**02 07 04.6**	**-1.0**
	2.1nm,0.8s,baz=180,slow=5.8,SNR=3.0						
CN2	**Changchun**	**59.71**	**336**	*e*P	**P**	**02 07 22.0**	**+2.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**62.03**	**297**	P	**P**	**02 07 36.2**	**-0.1**
	0.8nm,0.3s,baz=106,slow=5.7,SNR=3.4						
HHC	**Hu-ho-hao-te**	**64.35**	**325**	*e*P	**P**	**02 07 52.8**	**+1.4**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LZH	**Lanzhou**	**66.32**	**316**	*e*P	**P**	**02 08 05.3**	**+1.0**
LZH				pP	pP	02 08 10.0	-4.1
LZH				sP	sP	02 08 13.3	-4.4
LZH				pmax	pmax		
	comp=Z,25nm,1.2s						
GTA	**Gaotai**	**70.79**	**318**	*e*P	**P**	**02 08 32.1**	**0.0**
GTA				pP	pP	02 08 36.3	-5.6
GTA				sP	sP	02 08 39.6	-6.0
GTA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**71.68**	**328**	P	**P**	**02 08 38.2**	**+0.9**
	1.7nm,0.8s,baz=144,slow=5.7,SNR=12						
SONA1	**Songino Array**	**71.68**	**328**	*e*P	**P**	**02 08 38.5**	**+1.1**
BILL	**Bilibino**	**78.02**	**4**	*e*P	**P**	**02 09 13.3**	**-0.1**
	15nm,1.2s						
QSPA	**South Pole Qui**	**80.23**	**180**	*e*P	**P**	**02 09 25.6**	**-0.2**
	12nm,1.1s						
WMQ	**Urumqi**	**80.87**	**317**	*e*P	**P**	**02 09 31.6**	**+2.0**
WMQ				pP	PcP	02 09 35.1	-1.0
WMQ				sP	pP	02 09 39.8	+0.3
WMQ				pmax	pmax		
	comp=Z,18nm,1.7s						
WMQ				pmax	pmax		
	comp=Z,140nm,3.7s						
WMQ				LR	LR		
	comp=N,98nm,35.9s						
WMQ				LR	LR		
	comp=E,84nm,18.9s						
WMQ				LR	LR		
	comp=Z,79nm,20.7s						
IM3	**Indian Mountai**	**84.32**	**19**	*e*P	**P**	**02 09 46.7**	**-0.2**
MK01	**Makanchi Array**	**85.48**	**319**	*e*P	**P**	**02 09 53.3**	**0.0**
MK31	**Makanchi Array**	**85.50**	**319**	*e*P	**P**	**02 09 53.8**	**+0.4**
MKAR	**Makanchi Array**	**85.50**	**319**	P	**P**	**02 09 53.1**	**-0.3**
	0.9nm,0.8s,baz=100,slow=6.0,SNR=9.3						
COLA	**College**	**85.63**	**21**	*e*P	**P**	**02 09 52.1**	**-1.4**
	10.0nm,1.1s						
IL1	**Eielson Array**	**85.92**	**21**	*e*P	**P**	**02 09 53.4**	**-1.5**
ILAR	**Eielson Array**	**85.92**	**21**	P	**P**	**02 09 53.3**	**-1.7**
	1.6nm,0.9s,baz=234,slow=5.3,SNR=14						
ILB	**Eielson Array**	**85.92**	**21**	*e*P	**P**	**02 09 54.1**	**-0.9**
ZALV	**Zalesovo Beam**	**86.48**	**326**	P	**P**	**02 09 57.0**	**-1.0**
	2.5nm,0.8s,baz=92,slow=3.6,SNR=7.9						
KSH	**Kashi**	**87.83**	**311**	P	**P**	**02 10 06.8**	**+1.8**
KSH				pP	pP	02 10 12.4	-2.7
KSH				PP	**PP**	**02 13 37.0**	**+5.7**
KSH				SKS	**SKSac**	**02 20 32.9**	**+2.0**
KSH				S	**ScS**	**02 20 48.8**	**-3.2**
KSH				sS	pS	02 20 58.6	+0.3
KSH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KSH				pmax	pmax		
	comp=Z,150nm,5.7s						
KSH				LR	LR		
	comp=N,59nm,9.0s						
KSH				LR	LR		
	comp=E,86nm,6.8s						
KSH				LR	LR		
	comp=Z,400nm,5.5s						
DAWY	**Dawson**	**88.40**	**24**	*e*P	**P**	**02 10 07.5**	**+0.4**
INK	**Inuvik**	**92.28**	**21**	*e*P	**P**	**02 10 25.4**	**+0.4**
	4.7nm,1.1s						
NV01	**Mina Array Sit**	**93.40**	**52**	*e*P	**P**	**02 10 30.6**	**-0.6**
NVAR	**Mina Array Bea**	**93.40**	**52**	P	**P**	**02 10 31.1**	**-0.1**
	0.8nm,0.7s,baz=242,slow=9.4,SNR=4.8						
GERES	**GERESS Array B**	**129.41**	**328**	PKP	**PKPdf**	**02 16 22.9**	**-1.2**
	0.3nm,0.6s,baz=101,slow=5.1,SNR=2.9						
ES19	**SONSECA Array**	**144.77**	**331**	*e*PKPdf	**PKPab**	**02 16 51.2**	**-0.2**
ESDC	**Sonseca Array**	**144.82**	**331**	PKP	**PKPab**	**02 16 51.0**	**-0.6**
	2.4nm,1.0s,baz=10,slow=3.0,SNR=6.3						
BDFB	**Brasilia**	**145.97**	**138**	PKPbc	**PKPdf**	**02 16 54.6**	**-0.8**
	2.2nm,0.8s,baz=239,slow=5.9,SNR=2.9						
TAM	**Tamanrasset**	**148.08**	**298**	*e*PKPbc	**PKPbc**	**02 17 02.5**	**+0.6**
TORD	**Torodi Ar. Bea**	**153.66**	**280**	PKPbc	**PKPbc**	**02 17 13.1**	**-2.1**
	0.9nm,1.0s,baz=159,slow=6.3,SNR=4.0						

IDC 14 01:57:52.0±3.0, 9.˚81S × 155.˚77E, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/39, mbtmp4.2/4, MS3.5/2, Ms1 3.5/2, ms1mx2.9/30, Error ellipse: s-maj=79.1km s-min=30.3km az=107.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.13**	**85**	LR	LR	01 59 56.4	
	comp=Z,534nm,21.8s,baz=260,slow=30						
WRA	**Warramunga Arr**	**23.01**	**242**	P	P	02 02 57.8	-1.0
	6.6nm,0.7s,baz=65,slow=9.5,SNR=13						
ASAR	**Alice Springs**	**25.02**	**234**	P	P	02 03 17.4	-0.5
	4.9nm,0.8s,baz=62,slow=9.9,SNR=6.8						
STKA	**Stephens Creek**	**25.59**	**209**	P	P	02 03 23.2	+0.2
	6.7nm,0.8s,baz=32,slow=12,SNR=5.0						
SONM	**Songino Array**	**72.10**	**327**	P	P	02 09 19.2	+0.8
	1.0nm,0.8s,baz=141,slow=6.1,SNR=3.7						
TIXI	**Tiksi**	**83.23**	**352**	LR	LR	02 45 36.7	
	comp=Z,26nm,20.0s,baz=331,slow=34						

*IDC **14** 02:02:29.1±3.0, 10.˚01S × 149.˚89E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.6/34, mbtmp3.8/5, ML2.7/2, Error ellipse: s-maj=52.2km s-min=39.5km az=68.0*

ISC 14 02:02:33.0±2.6, 10.˚03S±0.˚2 × 149.˚9E±0.˚2, h28km, n6, σ0§38/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.75**	**283**	Pn	**Pn**	**02 03 15.2**	**-0.1**
	15nm,0.3s,baz=104,slow=12,SNR=19						
PMG				Sn	**Sb**	**02 03 55.3**	**+0.3**
	9.7nm,0.3s,baz=158,slow=18,SNR=3.8						
WRA	**Warramunga Arr**	**17.95**	**235**	P	**Pn**	**02 06 40.5**	**-0.3**
	0.1nm,0.3s,baz=61,slow=12,SNR=6.5						
ASAR	**Alice Springs**	**20.41**	**226**	P	**P**	**02 07 07.9**	**-0.3**
	1.3nm,0.6s,baz=59,slow=11,SNR=13						
STKA	**Stephens Creek**	**23.06**	**198**	P	**P**	**02 07 36.9**	**+0.5**
	1.6nm,0.7s,baz=11,slow=16,SNR=3.0						
FITZ	**Fitzroy Crossi**	**24.83**	**248**	P	**P**	**02 07 53.0**	**-0.1**
	3.0nm,0.7s,baz=88,slow=9.5,SNR=5.8						
TORD	**Torodi Ar. Bea**	**148.69**	**279**	PKPbc	**PKPbc**	**02 22 18.9**	**+0.1**
	0.6nm,0.6s,baz=84,slow=2.2,SNR=5.5						

*IDC **14** 02:06:02.9±0.6, 1.˚13N × 125.˚05E, h0km, mb4.0/13, mb1 4.1/15, mb1mx4.0/39, mbtmp4.0/15, ML3.9/2, Error ellipse: s-maj=29.3km s-min=13.0km az=69.0*
*ISCJB **14** 02:06:11.6±0.4, 1.˚36N±0.˚05 × 125.˚78E±0.˚04, h84km, mb4.0/16, Error ellipse: s-maj=7.3km s-min=6.1km az=11.0*
*DJA **14** 02:06:12.1±0.5, 1.˚N±6.˚ × 12.˚6E±.˚, h10km, M4.4/7, mb4.2/1, MLv4.4/7*
*NEIC **14** 02:06:13.8±1.1, 1.˚14N × 125.˚60E, h92km±11km, mb4.1/2, Error ellipse: s-maj=14.4km s-min=9.8km az=70.0*

ISC 14 02:06:13.2±0.5, 1.˚27N±0.˚08 × 125.˚75E±0.˚04, h84km, n36, σ1§82/40, mb4.0/16, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.69**	**107**	*e*Pn	**Pn**	**02 06 42.7**	**+1.5**
TNTI				*e*Sn	**Sn**	**02 07 01.2**	**-1.2**
TNTI	**Ternate**	**1.69**	**107**	P	**Pn**	**02 06 41.9**	**+0.7**
TNTI				S	**Sn**	**02 07 05.5**	**+3.1**
KMSI	**Cibinong**	**1.89**	**249**	P	**Pn**	**02 06 44.2**	**+0.4**
KMSI				S	**Sn**	**02 07 09.2**	**+2.1**
LUWI	**Luwuk**	**3.75**	**232**	*e*Pn	**Pn**	**02 07 08.0**	**-0.9**
LUWI				*e*Sn	Sn	02 07 38.8	-13
LUWI	**Luwuk**	**3.75**	**232**	P	**Pn**	**02 07 10.2**	**+1.4**
LUWI				S	**Sn**	**02 07 55.4**	**+3.4**
MRSI	**Marisa**	**3.88**	**258**	P	**Pn**	**02 07 11.5**	**+0.9**
APSI	**Ampana**	**4.63**	**242**	P	**Pn**	**02 07 22.1**	**+1.3**
SIJI	**Sorong**	**5.92**	**111**	Pn	**Pn**	**02 07 41.0**	**+2.8**
	3.6nm,0.3s,baz=245,slow=19,SNR=4.4						
SIJI				Sn	Sn	02 08 56.3	+12
	1.3nm,0.3s,baz=252,slow=19,SNR=2.8						
MPSI	**Mapaga**	**5.92**	**261**	P	**Pn**	**02 07 39.4**	**+1.1**
FAKI	**Fak Fak**	**7.72**	**123**	*e*Pn	**Pn**	**02 08 04.4**	**+1.4**
FAKI				*e*Sn	Sn	02 09 11.1	-18
FITZ	**Fitzroy Crossi**	**19.25**	**180**	P	**P**	**02 10 29.3**	**-1.6**
	0.3nm,0.3s,baz=7.5,slow=6.9,SNR=12						
WRAB	**Tennant Creek**	**22.70**	**159**	*e*P	**P**	**02 11 06.5**	**-1.6**
	7.8nm,0.8s						
WRA	**Warramunga Arr**	**22.70**	**159**	P	**P**	**02 11 06.7**	**-1.5**
	5.8nm,0.6s,baz=337,slow=11,SNR=42						
WRA				S	**S**	**02 15 05.5**	**-5.0**
	1.3nm,0.8s,baz=334,slow=21,SNR=4.2						
WB2	**Warramunga Arr**	**22.71**	**159**	*e*P	**P**	**02 11 05.7**	**-2.5**
ASAR	**Alice Springs**	**26.02**	**163**	P	**P**	**02 11 39.1**	**+0.5**
	1.7nm,0.3s,baz=351,slow=16,SNR=18						
ASAR				PcP	**PcP**	**02 15 05.9**	**+1.0**
	0.5nm,0.4s,baz=351,slow=2.0,SNR=5.4						
STKA	**Stephens Creek**	**36.23**	**157**	P	**P**	**02 13 09.4**	**+1.2**
	0.6nm,0.4s,baz=349,slow=12,SNR=2.5						
HHC	**Hu-ho-hao-te**	**41.44**	**344**	*e*P	**P**	**02 13 50.3**	**-1.4**
HHC				pmax	pmax		
	comp=Z,23nm,0.9s						
USRK	**Ussuriysk Ar.**	**43.11**	**7**	P	**P**	**02 14 07.4**	**+2.3**
	comp=Z,1.7nm,0.6s,baz=200,slow=8.1,SNR=4.4						
H11S3	**WAKE ISLAND Hy**	**43.65**	**64**	T	T	03 01 40.3	
	baz=253,slow=75,SNR=19						
H11S2	**WAKE ISLAND Hy**	**43.66**	**64**	T	T	03 01 37.8	
	baz=253,slow=75,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**43.66**	**64**	T	T	03 01 38.9	
	baz=253,slow=75,SNR=3.4						
KLR	**Kul'dur**	**48.06**	**5**	P	**P**	**02 14 46.4**	**+2.3**
	comp=Z,1.2nm,0.5s,baz=163,slow=5.9,SNR=6.8						
SONM	**Songino Array**	**49.32**	**343**	P	**P**	**02 14 53.2**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=160,slow=8.8,SNR=2.7						
WMQ	**Urumqi**	**54.20**	**327**	*e*P	**P**	**02 15 30.1**	**-0.1**
MK01	**Makanchi Array**	**59.01**	**327**	*e*P	**P**	**02 16 04.2**	**0.0**
MK31	**Makanchi Array**	**59.03**	**327**	*e*P	**P**	**02 16 04.6**	**+0.2**
MKAR	**Makanchi Array**	**59.03**	**327**	P	**P**	**02 16 03.5**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=123,slow=7.4,SNR=35						
MKAR				PcP	**PcP**	**02 16 53.3**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=118,slow=4.2,SNR=8.3						
MAKZ	**Makanchi**	**59.21**	**326**	*e*P	**P**	**02 16 07.0**	**+1.4**
	comp=Z,0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**62.34**	**334**	P	**P**	**02 16 26.3**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=160,slow=4.6,SNR=2.6						
KURK	**Kurchatov**	**63.29**	**329**	*e*P	**P**	**02 16 32.9**	**-0.2**
VNDA	**Vanda**	**81.13**	**173**	P	**P**	**02 18 19.5**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=321,slow=5.7,SNR=5.0						
ILAR	**Eielson Array**	**87.73**	**25**	P	**P**	**02 18 53.5**	**+1.0**
	comp=Z,2.0nm,0.6s,baz=68,slow=5.1,SNR=3.8						
KMBO	**Kilima Mbogo**	**88.52**	**269**	P	**P**	**02 18 54.9**	**-2.7**
	comp=Z,1.7nm,0.6s,baz=42,slow=14,SNR=2.8						
BRTR	**Keskin Array B**	**90.82**	**310**	P	**P**	**02 19 05.1**	**-2.5**
	comp=Z,0.2nm,0.5s,baz=87,slow=3.0,SNR=2.4						
FINES	**FINESS Array B**	**93.52**	**332**	P	**P**	**02 19 17.9**	**-1.5**
	comp=Z,2.2nm,0.9s,baz=30,slow=4.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**122.71**	**286**	PKP	**PKPdf**	**02 25 00.5**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=100,slow=3.5,SNR=3.8						

IDC 14 02:12:04.6±2.0, 4.˚64N × 127.˚73E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/37, mbtmp3.6/4, Error ellipse: s-maj=114.9km s-min=22.9km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.68**	**185**	P	P	02 17 08.5	+0.6
	2.9nm,1.0s,baz=7.3,slow=11,SNR=3.3						
WRA	**Warramunga Arr**	**25.27**	**165**	P	P	02 17 32.9	0.0
	0.4nm,0.3s,baz=345,slow=10,SNR=16						
ASAR	**Alice Springs**	**28.77**	**168**	P	P	02 18 03.8	-0.5
	0.3nm,0.5s,baz=354,slow=7.8,SNR=4.5						
MKAR	**Makanchi Array**	**57.39**	**324**	P	P	02 21 54.9	-0.1
	0.5nm,0.4s,baz=117,slow=8.2,SNR=18						

*TEH **14** 02:26:25.9, 31.˚93N × 51.˚00E, h4km, ML3.6*
*ISCJB **14** 02:26:27.4±0.3, 31.˚81N±0.˚04 × 50.˚89E±0.˚03, h18km, mb4.0/20, Error ellipse: s-maj=5.9km s-min=3.9km az=8.5*
*NEIC **14** 02:26:29.8±0.0, 31.˚95N × 50.˚95E, h18km, mb4.1/5, ML3.5(THR), After THR.*
*THR **14** 02:26:29.8, 31.˚95N × 50.˚95E, h18km, ML3.5*
*IDC **14** 02:26:33.3±4.5, 31.˚92N × 50.˚85E, h59km±42km, mb3.4/9, mb1 3.6/11, mb1mx3.4/57, mbtmp3.7/11, ML2.9/2, Error ellipse: s-maj=26.3km s-min=22.8km az=144.0*

ISC 14 02:26:27.9±0.5, 31.˚90N±0.˚03 × 50.˚98E±0.˚03, h18km, n89, σ1§97/90, mb4.1/20, 10C-1D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZNGN	**Zangian**	**0.24**	**333**	*e*Pg	**Pb**	**02 26 31.1**	**-2.7**
ROKH	**ROKH**	**0.45**	**6**	*e*Pg	**Pg**	**02 26 34.6**	**-2.5**
ROKH				IAMB	IAmb	02 26 44.7	
	comp=Z,0.0nm,0.4s						
IPIR	**Pirpir**	**0.79**	**354**	*e*Pg	**Pb**	**02 26 41.1**	**-2.1**
IPIR				IAMB	IAmb	02 27 00.6	
	comp=Z,20µm,0.4s						
IGAR	**Gharneh**	**1.03**	**61**	*e*Pg	**Pb**	**02 26 45.1**	**-2.2**
IGAR				IAMB	IAmb	02 27 04.2	
	comp=Z,22µm,0.3s						
KLNJ	**Kolanjah**	**1.03**	**150**	*e*Pg	**Pb**	**02 26 46.3**	**-1.1**
KLNJ				IAMB	IAmb	02 27 07.5	
	comp=Z,0.0nm,0.6s						
IRAM	**Rameseh**	**1.19**	**94**	*e*Pg	**Pn**	**02 26 47.5**	**-2.4**
IRAM				IAMB	IAmb	02 27 14.5	
	comp=Z,8µm,0.6s						
IKLH	**Kolahrood**	**1.50**	**19**	*e*Pn	**Pn**	**02 26 53.6**	**-0.6**
IKLH				IAMB	IAmb	02 27 30.0	
	comp=Z,7µm,0.4s						
IZEF	**Zefreh**	**1.51**	**49**	*e*Pn	**Pn**	**02 26 53.7**	**-0.6**
IZEF				IAMB	IAmb	02 27 00.4	
	comp=Z,5µm,0.3s						
SHGR	**Shooshtar-Gavs**	**1.87**	**277**	*e*AML	AML	02 27 47.6	
	comp=N,421nm,0.5s						
SHGR				*e*P	**Pg**	**02 27 02.2**	**-1.6**
SHGR				*e*Sg	**Sg**	**02 27 27.6**	**-0.4**
KHMZ	**Khomeyn**	**2.03**	**335**	Pn	**Pb**	**02 27 04.0**	**-0.3**
KHMZ				Sg	**Sg**	**02 27 32.0**	**-1.2**
KHMZ	**Khomeyn**	**2.03**	**335**	*e*Pn	**Pb**	**02 27 04.4**	**+0.1**
KHMZ	**Khomeyn**	**2.03**	**335**	*e*Pn	**Pb**	**02 27 04.4**	**+0.1**
KHMZ				*e*Sg	**Sg**	**02 27 32.1**	**-1.1**
IKAZ	**Kazeroun**	**2.24**	**161**	IAMB	IAmb	02 27 47.7	
	comp=Z,9µm,0.7s						
IKAZ				*e*Pn	**Pb**	**02 27 06.6**	**-1.4**
KRSH	**Karshahi**	**2.28**	**25**	IAMB	IAmb	02 27 50.5	
	comp=Z,0.0nm,0.6s						
KRSH				*e*Pn	**Pb**	**02 27 07.9**	**-0.7**
ISAD	**Sadrabad**	**2.30**	**89**	IAMB	IAmb	02 27 50.5	
	comp=Z,3µm,0.7s						
ISAD				*e*Pn	**Pb**	**02 27 08.1**	**-0.9**
SHI	**Shiraz**	**2.61**	**149**	*e*Pn	**Pb**	**02 27 12.9**	**-1.3**
SHI				IAMB	IAmb	02 28 05.1	
	comp=Z,2µm,0.7s						
ANAR	**Anarak**	**2.65**	**60**	*e*Pn	**Pb**	**02 27 12.5**	**-2.4**
IPAR	**Pars**	**2.71**	**139**	*e*Pn	**Pb**	**02 27 14.9**	**-1.2**
IPAR				IAMB	IAmb	02 28 21.4	
	comp=Z,2µm,1.0s						
IKMR	**Kamar-syah**	**2.72**	**307**	*e*Pn	**Pb**	**02 27 13.0**	**-3.1**
IKMR				IAMB	IAmb	02 28 22.0	
	comp=Z,0.0nm,1.2s						
ICHK	**Chekchek**	**2.93**	**82**	*e*Pn	**Pb**	**02 27 16.8**	**-2.9**
ICHK				IAMB	IAmb	02 28 05.8	
	comp=Z,1µm,0.5s						
HSAM	**Samen**	**3.05**	**320**	*e*Pn	**Pb**	**02 27 18.5**	**-3.3**
HSAM				IAMB	IAmb	02 28 11.8	
	comp=Z,0.0nm,1.1s						
YZKH	**Yazd**	**3.10**	**80**	*e*Pn	**Pb**	**02 27 20.5**	**-2.0**
YZKH	**Yazd**	**3.10**	**80**	*e*Pn	**Pb**	**02 27 20.5**	**-2.0**
IKFM	**Kafar-mosalman**	**3.10**	**302**	*e*Pn	**Pn**	**02 27 18.2**	**+2.3**
IKFM				IAMB	IAmb	02 28 23.5	
	comp=Z,0.0nm,2.1s						
HAGD	**Aghdareh**	**3.30**	**333**	*e*Pn	**Pn**	**02 27 21.3**	**+2.4**
IRAZ	**Razeghan**	**3.60**	**346**	*e*Pn	**Pn**	**02 27 25.9**	**+2.8**
IRAZ				IAMB	IAmb	02 28 42.9	
	comp=Z,1µm,0.7s						
IKOM	**Komasi**	**3.69**	**309**	*e*Pn	**Pn**	**02 27 26.2**	**+1.9**
IKOM				IAMB	IAmb	02 28 40.1	
	comp=Z,0.0nm,2.2s						
IDMV	**Damavand**	**3.77**	**13**	*e*Pn	**Pn**	**02 27 28.5**	**+3.1**
IDMV				IAMB	IAmb	02 27 40.9	
	comp=Z,650nm,0.6s						
IMHD	**Mahdasht**	**3.78**	**356**	*e*Pn	**Pn**	**02 27 28.2**	**+2.8**
IMHD				IAMB	IAmb	02 27 41.4	
	comp=Z,1µm,0.4s						
ILAS	**Lasjerd**	**3.84**	**25**	*e*Pn	**Pn**	**02 27 28.5**	**+2.1**
ILAS				IAMB	IAmb	02 28 39.2	
	comp=Z,1µm,0.8s						
HKZM	**Kohzaman**	**3.88**	**334**	*e*Pn	**Pn**	**02 27 29.3**	**+2.4**
HKZM				IAMB	IAmb	02 28 45.9	
	comp=Z,0.0nm,0.8s						
IFIR	**Firoozkooh**	**4.01**	**21**	*e*Pn	**Pn**	**02 27 31.7**	**+3.0**
IFIR				IAMB	IAmb	02 27 54.4	
	comp=Z,512nm,0.3s						
IANJ	**Anjilo**	**4.32**	**34**	*e*Pn	**Pn**	**02 27 35.2**	**+2.3**
IANJ				IAMB	IAmb	02 29 02.1	
	comp=Z,746nm,1.0s						
ISHM	**Shahmirzad**	**4.34**	**26**	*e*Pn	**Pn**	**02 27 35.8**	**+2.5**
ISHM				IAMB	IAmb	02 27 54.2	
	comp=Z,882nm,0.4s						
IVIS	**Veis**	**4.34**	**308**	*e*Pn	**Pn**	**02 27 34.4**	**+1.3**
IVIS				IAMB	IAmb	02 28 34.0	
	comp=Z,468nm,0.4s						
SNGE	**Sanandaj**	**4.40**	**317**	Pn	**Pn**	**02 27 37.0**	**+3.0**
SNGE	**Sanandaj**	**4.40**	**317**	*e*Pn	**Pn**	**02 27 37.3**	**+3.3**
SNGE	**Sanandaj**	**4.40**	**317**	*e*Pn	**Pn**	**02 27 37.3**	**+3.3**
IPRN	**Peran**	**4.47**	**14**	IAMB	IAmb	02 28 04.9	
	comp=Z,931nm,0.6s						
ILIN	**Lien**	**4.51**	**313**	*e*Pn	**Pn**	**02 27 37.7**	**+2.1**
ILIN				IAMB	IAmb	02 29 05.4	
	comp=Z,433nm,0.5s						
TPRV	**Parvadeh(Tabas**	**4.95**	**75**	*e*Pn	**Pn**	**02 27 44.9**	**+3.5**
TPRV				IAMB	IAmb	02 29 17.7	
	comp=Z,0.0nm,1.8s						
TNSJ	**Nastanj**	**5.16**	**65**	*e*Pn	**Pn**	**02 27 47.6**	**+3.3**
TNSJ				IAMB	IAmb	02 29 25.8	
	comp=Z,0.0nm,1.5s						
NGRK	**Negar Kerman**	**5.43**	**113**	*e*Pn	**Pn**	**02 27 52.2**	**+3.8**
TKDS	**Koohdasht(Taba**	**5.45**	**70**	*e*Pn	**Pn**	**02 27 50.7**	**+2.4**
TKDS				IAMB	IAmb	02 29 42.1	
	comp=Z,0.0nm,2.0s						

s-min=20.3km az=79.0
ISCJB ***14*** *02:30:10.2±0.6, 35°.37N±0°.04×140°.43E±0°.06, h64km±4km, mb3.6/4, Error ellipse: s-maj=8.4km s-min=6.5km az=178.3*
JMA ***14*** *02:30:11.1±0.2, 35°.46N×140°.45E, h56km±2km, M2.7*

ISC 14 02:30:11.4±0.9, 35°.38N±0°.04×140°.43E±0°.06, h60km±6km, n25, σ1°.20/25, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.19**	**281**	P	**Pn**	**02 30 20.7**	**0.0**
JCN				*eS*	**Sn**	**02 30 28.0**	**+0.5**
KTR	**Katsuura**	**0.25**	**201**	P	**Pn**	**02 30 21.2**	**+0.1**
KTR				*eS*	**Sn**	**02 30 28.2**	**0.0**
JSMT	**Sammumatsuo**	**0.26**	**4**	P	**Pn**	**02 30 20.3**	**-0.9**
JSMT				S	**Sn**	**02 30 27.4**	**-0.9**
JKUC	**kamogawauchiur**	**0.29**	**220**	P	**Pn**	**02 30 21.2**	**-0.2**
JKUC				S	**Sn**	**02 30 28.6**	**0.0**
BSO4	**Boso 4**	**0.40**	**190**	P	**Pn**	**02 30 22.7**	**+0.5**
CHOJ	**Chosi**	**0.48**	**48**	P	**Pn**	**02 30 22.2**	**-0.9**
CHOJ				*eS*	**Sn**	**02 30 30.3**	**-1.3**
BSO3	**Boso 3**	**0.58**	**173**	P	**Pn**	**02 30 24.2**	**+0.2**
BSO1	**Boso 1**	**0.86**	**148**	P	**Pn**	**02 30 27.0**	**-0.1**
JIM2	**Oshima 3**	**1.05**	**231**	P	**Pn**	**02 30 30.0**	**-0.1**
JIM2				*eS*	**Sn**	**02 30 42.9**	**-1.1**
MJAR	**Matsushiro Arr**	**2.14**	**303**	Pn	**Pn**	**02 30 43.5**	**-1.2**
	3.2nm,0.3s,baz=128,slow=12,SNR=20						
MJAR				Sn	**Sn**	**02 31 11.3**	**+1.1**
	4.4nm,0.3s,baz=129,slow=15,SNR=7.5						
MAT	**Matsushiro**	**2.14**	**303**	P	**Pn**	**02 30 45.3**	**+0.5**
MAT				*eS*	**Sn**	**02 31 07.5**	**-2.7**
JHJ	**Hachijo jima 2**	**2.32**	**193**	Pn	**Pn**	**02 30 45.5**	**-1.7**
	35nm,0.3s,baz=107,slow=20,SNR=9.2						
JHJ				Sn	**Sn**	**02 31 12.6**	**-2.0**
	26nm,0.3s,baz=72,slow=20,SNR=7.3						
USRK	**Ussuriysk Ar.**	**10.93**	**326**	LR	LR	02 35 36.6	
	comp=Z,32nm,21.9s,baz=181,slow=30						
HHC	**Hu-ho-hao-te**	**23.30**	**292**	*eP*	**P**	**02 35 12.4**	**-1.7**
HHC				pmax	pmax		
	comp=Z,19nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**28.05**	**117**	T	T	03 05 17.1	
	baz=308						
H11N1	**WAKE ISLAND Hy**	**28.06**	**117**	T	T	03 05 17.6	
	baz=308						
H11N3	**WAKE ISLAND Hy**	**28.07**	**117**	T	T	03 05 19.3	
	baz=308						
H11S3	**WAKE ISLAND Hy**	**28.70**	**119**	T	T	03 06 02.4	
	baz=317						
H11S1	**WAKE ISLAND Hy**	**28.70**	**119**	T	T	03 05 60.0	
	baz=317						
H11S2	**WAKE ISLAND Hy**	**28.71**	**119**	T	T	03 06 01.1	
	baz=317						
MKAR	**Makanchi Array**	**44.34**	**303**	P	**P**	**02 38 17.1**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=83,slow=6.7,SNR=2.8						
HNR	**Honiara**	**48.24**	**154**	LR	LR	02 57 55.7	
	comp=Z,7.7nm,21.6s,baz=262,slow=35						
ILAR	**Eielson Array**	**51.31**	**32**	P	**P**	**02 39 10.4**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=289,slow=6.4,SNR=3.9						
WRA	**Warramunga Arr**	**55.32**	**187**	P	**P**	**02 39 39.2**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=2.4,slow=7.9,SNR=5.9						
INK	**Inuvik**	**56.22**	**27**	LR	LR	03 05 21.1	
	comp=Z,32nm,18.2s,baz=90,slow=38						

ISK ***14*** *02:30:12.6, 39°.66N×25°.61E, h8km, ML2.4/13*
ISCJB ***14*** *02:30:13.3±0.5, 39°.66N±0°.02×25°.60E±0°.03, h5km±4km, Error ellipse: s-maj=3.5km s-min=3.0km az=170.6*
THE ***14*** *02:30:13.8, 39°.66N×25°.63E, h10km±1km, ML2.0/7, Error ellipse: s-maj=1.1km s-min=0.6km az=69.0*
DDA ***14*** *02:30:13.9, 39°.69N×25°.69E, h20km±1km, ML2.8*
ATH ***14*** *02:30:13.2, 39°.65N×25°.59E, h28km±1km, ML1.9/4, Error ellipse: s-maj=2.3km s-min=1.0km az=241.0*

ISC 14 02:30:13.6±0.9, 39°.66N±0°.02×25°.65E±0°.02, h17km±7km, n52, σ0°.49/76, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.36**	**59**	PG	**Pg**	**02 30 20.9**	**-0.2**
BOZC				SG	**Sg**	**02 30 26.3**	**+0.1**
BOZC	**Bozcaada**	**0.36**	**59**	IAML_P			
	comp=Z,3μm,0.2s						
BOZC				*i* P	**Pg**	**02 30 21.1**	**-0.1**
BOZC				*i* S	**Sg**	**02 30 26.8**	**+0.6**
LIA	**Limnos Island**	**0.43**	**304**	P	**Pg**	**02 30 22.5**	**+0.1**
LIA				S	**Sg**	**02 30 28.4**	**+0.1**
LIA				AML	AML	02 30 28.6	
	comp=N,554μm,0.3s						
LIA				AML	AML	02 30 29.2	
	comp=E,462μm,0.2s						
LIA	**Limnos Island**	**0.43**	**304**	P	**Pg**	**02 30 22.5**	**+0.1**
LIA				S	**Sg**	**02 30 27.9**	**-0.4**
SIGR	**SIGRI**	**0.47**	**160**	PG	**Pg**	**02 30 22.3**	**-0.8**
SIGR	**SIGRI**	**0.47**	**160**	P	**Pg**	**02 30 23.0**	**-0.1**
SIGR				S	**Sb**	**02 30 30.6**	**+0.5**
SIGR				AML	AML	02 30 30.8	
	comp=N,373μm,0.2s						
SIGR				AML	AML	02 30 32.0	
	comp=E,301μm,0.2s						
SIGR	**SIGRI**	**0.47**	**160**	P	**Pg**	**02 30 23.0**	**-0.1**
SIGR				S	**Sb**	**02 30 30.3**	**+0.2**
EZN	**Ezine**	**0.55**	**72**	PG	**Pb**	**02 30 24.2**	**-0.5**
EZN	**Ezine**	**0.55**	**72**	P	**Pb**	**02 30 24.4**	**-0.3**
EZN				S	**Sb**	**02 30 32.3**	**0.0**
GADA	**Gvkgeada**	**0.57**	**20**	PG	**Pb**	**02 30 24.3**	**-0.8**
GADA				SG	**Sg**	**02 30 32.7**	**+0.3**
GADA	**Gvkgeada**	**0.57**	**20**	P	**Pb**	**02 30 24.7**	**-0.4**
GADA				S	**Sg**	**02 30 32.8**	**+0.3**
PRK	**Paraskevi**	**0.63**	**130**	P	**Pn**	**02 30 27.2**	**-0.5**
PRK				S	**Sn**	**02 30 36.6**	**-0.8**
PRK				AML	AML	02 30 40.1	
	comp=E,458μm,0.5s						
PRK				AML	AML	02 30 40.7	
	comp=N,534μm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.70**	**83**	IAML_P			
	comp=Z,2μm,0.1s						
BAYC				*i* P	**Pb**	**02 30 27.3**	**+0.1**
BAYC				*i* S	**Sg**	**02 30 37.1**	**+0.6**
SMTH	**Samothraki Isl**	**0.82**	**354**	P	**Pb**	**02 30 29.5**	**+0.1**
SMTH				S	**Sg**	**02 30 40.5**	**+0.1**
SMTH				AML	AML	02 30 42.8	
	comp=E,90μm,0.1s						
SMTH				AML	AML	02 30 44.0	
	comp=N,89μm,0.2s						
SMTH	**Samothraki Isl**	**0.82**	**354**	P	**Pb**	**02 30 29.4**	**+0.1**
SMTH				S	**Sg**	**02 30 41.1**	**+0.7**
AYVA	**Ayvalik**	**0.88**	**113**	IAML_P			
	comp=Z,379nm,0.1s						
AYVA				*i* P	**Pn**	**02 30 31.7**	**+0.5**
AYVA				*i* S	**Sn**	**02 30 43.7**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.97**	**40**	PG	**Pb**	**02 30 32.2**	**+0.2**
GELI				SG	**Sn**	**02 30 46.1**	**+0.2**
LPK	**Lapseki**	**1.11**	**50**	PN	**Pb**	**02 30 34.8**	**+0.4**
PSRA	**Psara**	**1.11**	**183**	P	**Pb**	**02 30 34.5**	**+0.1**
DKL	**Dikili**	**1.14**	**121**	PN	**Pb**	**02 30 35.2**	**+0.5**
ENEZ	**Enez**	**1.15**	**19**	PN	**Pb**	**02 30 35.2**	**+0.3**
SKY	**Skiros Island**	**1.16**	**228**	P	**Pn**	**02 30 34.6**	**-0.4**
SKY				S	**Sg**	**02 30 50.8**	**-0.2**
THAS	**Thassos island**	**1.19**	**323**	P	**Pb**	**02 30 35.6**	**0.0**
THAS	**Thassos island**	**1.19**	**323**	P	**Pb**	**02 30 35.5**	**-0.1**
THAS				S	**Sn**	**02 30 51.2**	**+0.1**
ERIK	**Erikli-Kesan**	**1.21**	**33**	PN	**Pg**	**02 30 36.7**	**-0.3**
ALN	**Alexandroupoli**	**1.27**	**14**	PN	**Pn**	**02 30 36.6**	**0.0**
ALN	**Alexandroupoli**	**1.27**	**14**	P	**Pn**	**02 30 37.2**	**+0.1**
ALN				S	**Sg**	**02 30 54.6**	**-0.3**
ALN	**Alexandroupoli**	**1.27**	**14**	P	**Pb**	**02 30 37.0**	**-0.1**
ALN				S	**Sg**	**02 30 54.2**	**-0.7**
CHOS	**Chios island**	**1.31**	**166**	PN	**Pn**	**02 30 36.9**	**-0.2**
CHOS	**Chios island**	**1.31**	**166**	P	**Pb**	**02 30 37.7**	**0.0**
CHOS	**Chios island**	**1.31**	**166**	P	**Pn**	**02 30 37.4**	**+0.3**
CHOS				S	**Sg**	**02 30 56.0**	**+0.1**
KESN	**Edirne-Kesan**	**1.41**	**34**	IAML_P			
	comp=Z,84nm,0.1s						
KESN				*i* P	**Pb**	**02 30 40.0**	**+0.4**
KESN				*i* S	**Sg**	**02 30 59.8**	**+0.6**
AOS	**Alonnisos**	**1.46**	**251**	P	**Pn**	**02 30 39.4**	**+0.3**
AOS	**Alonnisos**	**1.46**	**251**	P	**Pn**	**02 30 39.5**	**+0.4**
KRBG	**Karabiga-Canak**	**1.46**	**59**	PN	**Pb**	**02 30 40.3**	**0.0**
URLA	**Izmir**	**1.49**	**150**	PN	**Pb**	**02 30 40.6**	**-0.2**
URLA	**Izmir**	**1.49**	**150**	IAML_P			
	comp=Z,539nm,0.2s						
URLA				*i* P	**Pn**	**02 30 40.2**	**+0.6**
RDO	**Rodhopi**	**1.49**	**357**	PN	**Pn**	**02 30 39.0**	**-0.6**
RDO	**Rodhopi**	**1.49**	**357**	P	**Pb**	**02 30 40.2**	**-0.6**
RDO	**Rodhopi**	**1.49**	**357**	P	**Pn**	**02 30 40.0**	**+0.4**
BALY	**Balya**	**1.52**	**86**	IAML_P			
	comp=Z,281nm,0.2s						
BALY				*i* P	**Pg**	**02 30 42.4**	**-0.5**
SART	**Tekirdag**	**1.56**	**48**	*i* P	**Pg**	**02 30 43.6**	**-0.1**
SART				*i* S	**Sg**	**02 31 03.8**	**-0.2**
KNL	**Balıkesir**	**1.57**	**66**	*i* P	**Pg**	**02 30 43.5**	**-0.2**
KNL				*i* S	**Sg**	**02 31 04.5**	**+0.4**
KAVA	**Kavala**	**1.60**	**327**	P	**Pn**	**02 30 41.0**	**-0.1**
KAVA	**Kavala**	**1.60**	**327**	P	**Pn**	**02 30 41.2**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.62**	**99**	IAML_P			
	comp=Z,303nm,0.1s						
STEP				*i* P	**Pg**	**02 30 44.5**	**-0.3**
STEP				*i* S	**Sg**	**02 31 07.1**	**+1.1**
BLCB	**Balcova**	**1.67**	**139**	PN	**Pb**	**02 30 43.1**	**-0.8**
EDC	**Edincik**	**1.83**	**67**	PN	**Pb**	**02 30 45.7**	**-1.0**
SBT4	**Kumbag-Tekirda**	**1.86**	**50**	PN	**Pb**	**02 30 46.1**	**-0.9**
DURS	**Dursunbey**	**2.18**	**91**	*i* P	**Pb**	**02 30 51.5**	**-1.2**
AYDB	**Zeytinkoy-Aydi**	**2.44**	**134**	PN	**Pn**	**02 30 54.3**	**+1.5**
DEMI	**Demirci**	**2.46**	**103**	IAML_P			
	comp=Z,56nm,0.1s						
DEMI				*i* P	**Pb**	**02 30 56.4**	**-0.9**

IDC ***14*** *02:31:44.4±0.8, 3°.95S×118°.58E, h0km, mb4.0/9, mb1 4.2/10, mb1mx3.9/45, mbtmp4.0/10, ML3.4/1, MS3.1/7, Ms1 3.1/7, ms1mx2.8/34, Error ellipse: s-maj=49.7km s-min=14.8km az=56.0*
DJA ***14*** *02:31:56.6±0.3, 4°S±2°×119°E±°, h10km, M4.4/10, mb4.7/1, MLv4.3/10*

ISC 14 02:31:47.7±0.6, 3°.82S±0°.05×118°.71E±0°.04, h10km, n24, σ2°.41/26, mb4.1/8, MS3.2/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPSI	**Sidrap Palu**	**1.06**	**98**	P	**Pb**	**02 32 09.7**	**+1.5**
SPSI				S	**Sg**	**02 32 19.2**	**-2.8**
TTSI	**Tana Toraja**	**1.35**	**55**	P	**Pg**	**02 32 15.9**	**+2.3**
TTSI				S	**Sb**	**02 32 29.3**	**-1.1**
BNSI	**Bone**	**1.50**	**112**	P	**Pg**	**02 32 19.4**	**+2.8**
BNSI				S	**Sn**	**02 32 35.0**	**+0.6**
BKSI	**Bulukumba**	**2.05**	**137**	P	**Pn**	**02 32 25.5**	**+3.3**
BKSI				S	**Sb**	**02 32 53.4**	**+2.9**
KBKI	**Kotabaru**	**2.59**	**282**	P	**Pn**	**02 32 33.0**	**+3.3**
BKB	**Balikpapan**	**3.13**	**325**	P	**Pg**	**02 32 50.8**	**+3.2**
SMKI	**Samarinda**	**3.68**	**336**	P	**Pg**	**02 32 54.8**	**+2.0**
APSI	**Ampana**	**4.12**	**45**	P	**Pn**	**02 32 54.5**	**+3.8**
MPSI	**Mapaga**	**4.30**	**16**	P	**Pn**	**02 32 55.6**	**+2.4**
MPSI				P	**Pb**	**02 33 03.7**	**+0.3**
LUWI	**Luwuk**	**4.91**	**56**	P	**Pn**	**02 33 04.5**	**+2.9**
BATI	**Baumata**	**8.02**	**142**	LR	LR	02 36 57.4	
	comp=Z,316nm,21.7s,baz=312,slow=39						
FITZ	**Fitzroy Crossi**	**15.72**	**155**	Pn	**Pn**	**02 35 28.2**	**-1.2**
	0.1nm,0.3s,baz=340,slow=12,SNR=4.3						
FITZ				LR	LR	02 43 11.9	
	comp=Z,10nm,19.4s,baz=328,slow=44						
PSI	**Prapat**	**20.84**	**288**	P	**P**	**02 36 27.1**	**-2.9**
	12nm,0.7s,baz=179,slow=3.4,SNR=15						
WRA	**Warramunga Arr**	**22.11**	**138**	P	**P**	**02 36 42.0**	**-1.5**
	5.9nm,0.9s,baz=314,slow=10,SNR=31						
WRA				LR	LR	02 45 23.5	
	comp=Z,86nm,19.9s,baz=315,slow=37						
ASAR	**Alice Springs**	**24.59**	**145**	P	**P**	**02 37 06.5**	**-1.6**
	4.4nm,0.7s,baz=315,slow=8.0,SNR=29						
ASAR				PcP	**PcP**	**02 40 43.7**	**-2.5**
	0.4nm,0.5s,baz=320,slow=1.7,SNR=5.6						
CMAR	**Chiang Mai Arr**	**29.49**	**319**	P	**P**	**02 37 51.6**	**-0.6**
	2.3nm,0.6s,baz=141,slow=7.2,SNR=11						
CMAR				LR	LR	02 50 54.6	
	comp=Z,56nm,19.1s,baz=168,slow=39						
STKA	**Stephens Creek**	**35.22**	**145**	P	**P**	**02 38 40.4**	**-2.0**
	1.7nm,0.5s,baz=335,slow=9.7,SNR=4.8						
STKA				LR	LR	02 53 09.7	
	comp=Z,44nm,18.1s,baz=237,slow=36						
KSRS	**Korea Array**	**41.95**	**11**	LR	LR	02 59 03.9	
	comp=Z,11nm,18.4s,baz=15,slow=39						
MJAR	**Matsushiro Arr**	**44.09**	**23**	LR	LR	02 59 35.1	
	comp=Z,14nm,20.2s,baz=225,slow=38						
SONM	**Songino Array**	**52.57**	**350**	P	**P**	**02 41 00.6**	**-1.0**
	2.4nm,0.9s						
MKAR	**Makanchi Array**	**59.77**	**332**	P	**P**	**02 41 51.5**	**-1.4**
	0.4nm,0.6s,baz=140,slow=7.7,SNR=5.9						
KURBB	**Kurchatov Arra**	**64.25**	**333**	P	**P**	**02 42 20.8**	**-2.1**
	0.5nm,0.9s,baz=120,slow=6.6,SNR=2.8						
VNDA	**Vanda**	**77.11**	**171**	P	P	02 43 38.2	-2.7
	0.6nm,0.7s,baz=323,slow=8.6,SNR=4.3						
CPUP	**Villa Florida**	**149.78**	**187**	PKPbc	**PKPdf**	**02 51 35.9**	**+1.8**
	2.0nm,0.6s,baz=122,slow=2.5,SNR=8.0						

IDC 14 02:51:30.9±5.7, 8°.39S×156°.01E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/30, mbtmp3.8/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/26, Error ellipse: s-maj=100.9km s-min=77.2km az=179.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.91**	**145**	LR	LR	03 01 13.9	
	comp=Z,64nm,18.2s,baz=184,slow=34						
WRA	**Warramunga Arr**	**23.91**	**239**	P	P	02 56 46.3	-0.4
	1.2nm,0.7s,baz=67,slow=9.6,SNR=11						
ASAR	**Alice Springs**	**26.06**	**232**	P	P	02 57 06.0	-0.2
	1.3nm,0.8s,baz=55,slow=10,SNR=5.7						
STKA	**Stephens Creek**	**26.95**	**208**	P	P	02 57 14.7	+0.6
	1.0nm,0.4s,baz=39,slow=13,SNR=3.7						

KRNET ***14*** *02:53:13.4±0.1, 41°.62N×72°.10E, h18km, mb2.1*
SOME ***14*** *02:53:14.6, 41°.65N×72°.05E, h15km*
NNC ***14*** *02:53:16.6±2.3, 41°.80N×72°.02E, h0km, mb2.8, mpv2.8, Error ellipse: s-maj=24.5km s-min=8.2km az=178.0*

ISC 14 02:53:12.4±1.1, 41°.60N±0°.03×72°.13E±0°.02, h9km±10km, n19, σ0°.62/34, 15C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.23**	**328**	⇑*i* P	**Pg**	**02 53 17.5**	**+0.4**
ARK				⇑*i* S	**Sg**	**02 53 20.6**	**+0.3**
	baz=30						
ARSB	**Arslanbob**	**0.70**	**113**	⇓*i* P	**Pb**	**02 53 26.9**	**+0.1**
ARSB				⇓*i* S	**Sb**	**02 53 37.7**	**+1.1**
	baz=14						
AML	**Almayashu**	**1.28**	**65**	⇓*i* P	**Pn**	**02 53 37.2**	**+0.4**
AML				⇓*i* S	**Sn**	**02 53 54.8**	**+0.5**
	baz=66						
MRKS	**Merke**	**1.40**	**35**	P	**Pg**	**02 53 39.8**	**+0.5**
	2.3nm,0.1s						
MRKS				S	**Sg**	**02 53 57.9**	**+0.3**
	11nm,0.2s						
MRKS	**Merke**	**1.40**	**35**	*eP*	**Pg**	**02 53 40.0**	**+0.7**
	2.1nm,0.2s						
MRKS				*eS*	**Sg**	**02 53 57.9**	**+0.3**
	11nm,0.2s						
IUG	**Iuzhnay**	**1.66**	**290**	P	**Pg**	**02 53 44.3**	**+0.1**
	6.0nm,0.1s						
IUG				S	**Sg**	**02 54 05.5**	**-0.1**
	34nm,0.2s						
IUG	**Iuzhnay**	**1.66**	**290**	*eP*	**Pg**	**02 53 43.7**	**-0.5**
	6.0nm,0.1s						
IUG				*eS*	**Sb**	**02 54 04.1**	**0.0**
	34nm,0.2s						
ARLS	**Aral**	**1.66**	**80**	⇑*i* P	**Pg**	**02 53 44.1**	**-0.2**
	baz=81						
ARLS				⇑*i* S	**Sg**	**02 54 06.3**	**+0.4**
	baz=81						
BTK	**Batken**	**1.83**	**213**	⇑*i* P	**Pg**	**02 53 47.1**	**-0.4**
	baz=12						
BTK				⇑*i* S	**Sg**	**02 54 11.2**	**-0.1**
	baz=12						
UCH	**Uchtor**	**1.89**	**70**	⇑*i* P	**Pg**	**02 53 48.4**	**-0.2**
	baz=71						
UCH				⇑*i* S	**Sg**	**02 54 13.2**	**+0.1**
	baz=71						
SFK	**Sufi-Kurgan**	**1.90**	**146**	Pg	**Pg**	**02 53 49.0**	**+0.2**
	1.3nm,0.1s						
SFK				Lg	Lg	02 54 13.3	
	11nm,0.2s						
SFK	**Sufi-Kurgan**	**1.90**	**146**	⇑*i* P	**Pg**	**02 53 48.4**	**-0.4**
	baz=46						
SFK				⇑*i* S	**Sg**	**02 54 13.5**	**0.0**
	baz=46						
KK31	**Karatay Array**	**1.92**	**322**	⇑Pn	**Pb**	**02 53 46.8**	**-0.7**
	1.1nm,0.4s,baz=134,slow=17,SNR=16						
KK31				⇓Sn	**Sb**	**02 54 12.0**	**+0.5**
	5.4nm,0.5s,baz=142,slow=27,SNR=9.8						
AAK	**Ala-Archa**	**2.04**	**59**	⇑Pn	**Pg**	**02 53 50.7**	**-0.8**
	1.0nm,0.5s						
AAK				⇑Sn	**Sg**	**02 54 18.3**	**+0.3**
	1.4nm,0.5s						
SGDS	**Sogindy**	**2.62**	**44**	Pg	**Pg**	**02 54 01.5**	**-1.0**
	1.7nm,0.4s						
SGDS				Lg	Lg	02 54 34.7	
	2.8nm,0.5s						
TKM2	**Tokmak 2**	**2.89**	**62**	⇑Pg	Pg	02 54 13.0	+5.2
	3.5nm,0.7s						
TKM2				⇑Sn	**Sg**	**02 54 44.2**	**-1.1**
	2.1nm,0.7s						
DGS	**Degeres**	**3.16**	**58**	Pg	**Pg**	**02 54 11.9**	**-0.9**
	1.4nm,0.6s						
DGS				Lg	Lg	02 54 52.5	
	2.5nm,0.3s						
DGS	**Degeres**	**3.16**	**58**	*eP*	**Pg**	**02 54 11.9**	**-0.9**
	1.4nm,0.6s						
DGS				*eS*	**Sg**	**02 54 52.5**	**-1.2**
	2.5nm,0.3s						
KST	**Kastek**	**3.19**	**62**	*eP*	**Pg**	**02 54 12.9**	**-0.5**
	0.9nm,0.1s						
KST				*eS*	**Sg**	**02 54 54.0**	**-0.7**
	2.9nm,0.4s						

IDC ***14*** *03:02:35.5±1.1, 6°.20N×125°.19E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.5/33, mbtmp3.9/4, Error ellipse: s-maj=33.5km s-min=9.8km az=105.0*
MAN ***14*** *03:02:38.9, 6°.66N×126°.23E, h53km, mb4.5, ML3.3, MS3.1*
ISCJB ***14*** *03:02:39.6±0.6, 6°.65N±0°.04×126°.18E±0°.07, h64km±6km, mb3.8/4, Error ellipse: s-maj=11.8km s-min=7.4km az=177.0*

ISC 14 03:02:40.5±0.9, 6°.65N±0°.05×126°.19E±0°.08, h56km±8km, n12, σ0°.77/17, mb3.8/4, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.30**	**14**	*eP*	**Pn**	**03 02 49.6**	**-0.6**
MATI				*eS*	**Sn**	**03 02 57.7**	**+0.5**
DDMP	**Don Marcelino,**	**0.72**	**221**	*eP*	**Pn**	**03 02 55.0**	**+0.2**
DDMP				*eS*	**Sn**	**03 03 05.6**	**+0.3**
DAV	**Davao City (W)**	**0.73**	**304**	Pg	**Pn**	**03 02 55.3**	**+0.4**
	892nm,0.3s,baz=225,slow=2.9,SNR=32						
DAV				Lg	Lg	03 03 05.5	
	295nm,0.3s,baz=159,slow=23,SNR=16						
BIPH	**Bislig**	**1.53**	**7**	⇓*eP*	**Pn**	**03 03 05.4**	**-0.2**
BIPH				*eS*	**Sn**	**03 03 25.1**	**+0.8**
SKMP	**Bagumbayan, Su**	**1.64**	**265**	*eP*	**Pn**	**03 03 06.8**	**-0.2**
BUKP	**Musuan**	**1.65**	**318**	*eP*	**Pn**	**03 03 06.4**	**-0.8**
BUKP				*eS*	**Sn**	**03 03 27.1**	**-0.3**
CGP	**Cagayan de Oro**	**2.32**	**321**	⇓*eP*	**Pn**	**03 03 17.0**	**+0.7**
CGP				*eS*	**Sn**	**03 03 43.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**24.60**	**181**	P	**P**	**03 07 54.4**	**-1.3**
	1.3nm,0.4s,baz=2.4,slow=10,SNR=10						
WRA	**Warramunga Arr**	**27.62**	**163**	P	**P**	**03 08 24.4**	**+1.5**
	baz=337,slow=10,SNR=3.0						
ASAR	**Alice Springs**	**31.06**	**166**	P	**P**	**03 08 53.2**	**-0.3**
	0.6nm,0.6s,baz=339,slow=6.5,SNR=7.4						
STKA	**Stephens Creek**	**41.04**	**160**	P	**P**	**03 10 18.7**	**+0.1**
	0.7nm,0.3s,baz=333,slow=7.0,SNR=4.0						
MKAR	**Makanchi Array**	**54.87**	**324**	P	**P**	**03 12 06.0**	**+0.7**
	0.7nm,0.5s,baz=119,slow=7.8,SNR=15						

IDC ***14*** *03:06:02.3±3.4, 12°.79N×89°.58W, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.5/31, mbtmp3.5/7, ML2.9/2, MS2.0/1, Ms1 2.0/1, ms1mx1.9/29, Error ellipse: s-maj=64.6km s-min=35.9km az=25.0*

ISC 14 03:06:07.4±2.0, 12°.7N±0°.2×89°.7W±0°.2, h43km, n7, σ1°.34/9, mb3.6/5, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**2.40**	**342**	Pn	**Pn**	**03 06 44.4**	**-0.1**
	5.4nm,0.3s,baz=160,slow=14,SNR=26						
APG				Sn	**Sn**	**03 07 12.4**	**-0.5**
	9.0nm,0.3s,baz=80,slow=18,SNR=6.7						
APG				LR	LR	03 07 20.3	
	comp=Z,30nm,20.1s,baz=134,slow=33						
CMIG	**Matias Romero**	**6.64**	**312**	Pn	**Pn**	**03 07 40.6**	**-1.9**
	0.1nm,0.3s,baz=130,slow=11,SNR=3.3						
CMIG				Sn	**Sn**	**03 08 58.1**	**+1.1**
	0.1nm,0.3s,baz=36,slow=19,SNR=2.4						
TXAR	**Lajitas Array**	**21.03**	**324**	P	**P**	**03 10 49.0**	**+1.3**
	0.4nm,0.7s,baz=134,slow=11,SNR=3.5						
NVAR	**Mina Array Bea**	**36.08**	**320**	P	**P**	**03 13 06.7**	**+1.3**
	0.5nm,0.7s,baz=126,slow=7.5,SNR=4.0						
ULM	**Lac du Bonnet**	**37.78**	**354**	P	**P**	**03 13 17.9**	**-1.5**
	1.3nm,0.8s,baz=166,slow=8.3,SNR=2.9						
SCHQ	**Schefferville**	**45.70**	**18**	P	**P**	**03 14 24.4**	**+0.4**
	1.7nm,0.6s,baz=216,slow=4.8,SNR=5.4						
YKA	**Yellowknife Ar**	**52.81**	**346**	P	**P**	**03 15 18.2**	**0.0**
	0.3nm,0.6s,baz=143,slow=8.1,SNR=6.7						

ISCJB ***14*

*ISCJB **14** 03:23:30.2±0.3, 18°.33N±0°.04×65°.02W±0°.02, h122km±2km, mb3.9/9, Error ellipse: s-maj=7.3km s-min=2.9km az=6.2*
*IDC **14** 03:23:31.4±1.1, 18°.22N×65°.06W, h118km±9km, mb3.4/8, mb1 3.5/12, mb1mx3.3/36, mbtmp3.8/12, Error ellipse: s-maj=20.2km s-min=12.7km az=70.0*
*RSPR **14** 03:23:32.7, 18°.31N×65°.03W, h107km, MD3.4/22*
*NEIC **14** 03:23:32.7±0.0, 18°.31N×65°.03W, h107km, MD3.4(RSPR), After RSPR.*
NEIC Felt [III] on Saint Thomas. Also felt on Saint John.

ISC 14 03:23:30.8±0.6, 18°.32N±0°.05×65°.01W±0°.02, h115km±4km, n127, σ1§30/174, mb3.7/9, 37C-23D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.07**	**58**	*ePⁱ*	**Pn**	**03 23 47.2**	**+0.6**
STVI	**Saint Thomas**	**0.07**	**58**	*eP*	**Pn**	**03 23 47.3**	**+0.6**
STVI				*eS*	**Sn**	**03 23 58.5**	**+0.1**
STVI	**Saint Thomas**	**0.07**	**58**	*eP*	**Pn**	**03 23 47.2**	**+0.6**
STVI	**Saint Thomas**	**0.07**	**58**	*eP*	**Pn**	**03 23 47.2**	**+0.6**
STVI				*eS*	**Sn**	**03 23 58.4**	**0.0**
CUPR	**Culebra, Puert**	**0.26**	**268**	*eP*	**Pn**	**03 23 47.5**	**+0.5**
CUPR	**Culebra, Puert**	**0.26**	**268**	*eS*	**Sn**	**03 23 59.1**	**0.0**
CUPR	**Culebra, Puert**	**0.26**	**268**	*eP*	**Pn**	**03 23 47.5**	**+0.5**
CUPR				*eS*	**Sn**	**03 23 59.1**	**0.0**
TBVI	**Tortola**	**0.39**	**75**	*eP*	**Pn**	**03 23 47.9**	**+0.4**
TBVI				*eS*	**Sn**	**03 24 00.4**	**+0.2**
TBVI	**Tortola**	**0.39**	**75**	*eP*	**Pn**	**03 23 47.9**	**+0.4**
TBVI	**Tortola**	**0.39**	**75**	*eP*	**Pn**	**03 23 47.9**	**+0.4**
TBVI				*eS*	**Sn**	**03 24 00.4**	**+0.2**
MTP	**Monte Pirata**	**0.56**	**247**	*eP*	**Pn**	**03 23 49.3**	**+0.7**
MTP	**Monte Pirata**	**0.56**	**247**	*eS*	**Sn**	**03 24 01.9**	**-0.1**
MTP	**Monte Pirata**	**0.56**	**247**	*eP*	**Pn**	**03 23 49.3**	**+0.7**
MTP				*eS*	**Sn**	**03 24 01.9**	**-0.1**
MTP	**Monte Pirata**	**0.56**	**247**	*eP*	**Pn**	**03 23 49.3**	**+0.7**
MTP				*eS*	**Sn**	**03 24 01.9**	**-0.1**
CDVI	**St. Croix**	**0.61**	**157**	*eP*	**Pn**	**03 23 49.6**	**+0.6**
CDVI				*eS*	**Sn**	**03 24 00.4**	**+0.4**
CDVI	**St. Croix**	**0.61**	**157**	*eP*	**Pn**	**03 23 49.6**	**+0.6**
CDVI	**St. Croix**	**0.61**	**157**	*eS*	**Sn**	**03 24 02.9**	**+0.2**
CDVI	**St. Croix**	**0.61**	**157**	*eP*	**Pn**	**03 23 49.6**	**+0.6**
CDVI				*eSn*	**Sn**	**03 24 02.6**	**0.0**
CDVI	**St. Croix**	**0.61**	**157**	*eP*	**Pn**	**03 23 49.6**	**+0.6**
CDVI				*eS*	**Sn**	**03 24 02.9**	**+0.2**
CDVI						03 24 03.0	
ABV	**Anegada**	**0.77**	**57**	*eP*	**Pn**	**03 23 51.3**	**+1.1**
ABV	**Anegada**	**0.77**	**57**	*eS*	**Sn**	**03 24 05.1**	**+0.3**
ABV	**Anegada**	**0.77**	**57**	*eP*	**Pn**	**03 23 51.3**	**+1.1**
ABV				*eS*	**Sn**	**03 24 05.1**	**+0.3**
ABVI	**Anegada Island**	**0.77**	**57**	*eP*	**Pn**	**03 23 51.3**	**+1.1**
ABVI				*eS*	**Sn**	**03 24 05.1**	**+0.3**
CBYP	**Canovanas**	**0.80**	**267**	*eP*	**Pn**	**03 23 51.0**	**+0.4**
CBYP	**Canovanas**	**0.80**	**267**	*eP*	**Pn**	**03 23 51.0**	**+0.4**
CBYP				*eS*	**Sn**	**03 24 05.7**	**+0.1**
CBYP	**Canovanas**	**0.80**	**267**	*eP*	**Pn**	**03 23 51.0**	**+0.4**
CBYP	**Canovanas**	**0.80**	**267**	*eP*	**Pn**	**03 23 51.0**	**+0.4**
CBYP				*eS*	**Sn**	**03 24 05.7**	**+0.1**
HUMP	**Col San Antoni**	**0.81**	**258**	*eP*	**Pn**	**03 23 51.5**	**+0.9**
HUMP				*eS*	**Sn**	**03 24 06.1**	**+0.5**
HUMP	**Col San Antoni**	**0.81**	**258**	*eP*	**Pn**	**03 23 51.3**	**+0.6**
HUMP	**Col San Antoni**	**0.81**	**258**	*eS*	**Sn**	**03 24 06.0**	**+0.4**
HUMP	**Col San Antoni**	**0.81**	**258**	*eP*	**Pn**	**03 23 51.3**	**+0.6**
HUMP				*eS*	**Sn**	**03 24 06.0**	**+0.4**
HUMP	**Col San Antoni**	**0.81**	**258**	*eP*	**Pn**	**03 23 51.5**	**+0.9**
HUMP				*eS*	**Sn**	**03 24 06.0**	**+0.4**
SJG	**San Juan**	**1.10**	**260**	*iP*	**Pn**	**03 23 54.3**	**+0.8**
SJG	**San Juan**	**1.10**	**260**	*eS*	**Sn**	**03 24 10.9**	**+0.3**
SJG	**San Juan**	**1.10**	**260**	*P*	**Pn**	**03 23 54.1**	**+0.7**
SJG	268nm,0.3s,baz=78,slow=9.1,SNR=678			*eS*	**Sn**	**03 24 10.8**	**+0.3**
SJG	188nm,0.3s,baz=39,slow=15,SNR=13 **San Juan**	**1.10**	**260**	*ePn*	**Pn**	**03 23 54.1**	**+0.7**
SJG				*eS*	**Sn**	**03 24 11.2**	**+0.7**
SJG	**San Juan**	**1.10**	**260**	*iP*	**Pn**	**03 23 54.3**	**+0.8**
SJG				*eS*	**Sn**	**03 24 10.9**	**+0.3**
EMPR	**Esperanza - Ma**	**1.45**	**277**	*eP*	**Pn**	**03 23 57.9**	**+0.6**
EMPR	**Esperanza - Ma**	**1.45**	**277**	*eS*	**Sn**	**03 24 18.5**	**+1.1**
EMPR	**Esperanza - Ma**	**1.45**	**277**	*eP*	**Pn**	**03 23 57.9**	**+0.6**
EMPR				*eS*	**Sn**	**03 24 18.5**	**+1.1**
CELP	**Cerrillos**	**1.51**	**261**	*eP*	**Pn**	**03 23 58.7**	**+0.7**
CELP				*eS*	**Sn**	**03 24 19.6**	**+0.9**
CELP	**Cerrillos**	**1.51**	**261**	*eP*	**Pn**	**03 23 58.7**	**+0.7**
CELP	**Cerrillos**	**1.51**	**261**	*eP*	**Pn**	**03 23 58.7**	**+0.7**
CELP				*eS*	**Sn**	**03 24 19.6**	**+0.9**
OBIP	**Obispado Ponce**	**1.54**	**260**	*eP*	**Pn**	**03 23 59.2**	**+0.8**
OBIP	**Obispado Ponce**	**1.54**	**260**	*eS*	**Sn**	**03 24 20.3**	**+0.9**
OBIP	**Obispado Ponce**	**1.54**	**260**	*eP*	**Pn**	**03 23 59.2**	**+0.8**
OBIP				*eS*	**Sn**	**03 24 20.3**	**+0.9**
OBIP	**Obispado Ponce**	**1.54**	**260**	*eP*	**Pn**	**03 23 59.2**	**+0.8**
OBIP				*eS*	**Sn**	**03 24 20.3**	**+0.9**
GBPR	**Guanica, Bosqu**	**1.81**	**259**	*eP*	**Pn**	**03 24 02.3**	**+0.7**
GBPR	**Guanica, Bosqu**	**1.81**	**259**	*eS*	**Sn**	**03 24 26.0**	**+0.9**
GBPR	**Guanica, Bosqu**	**1.81**	**259**	*eP*	**Pn**	**03 24 02.3**	**+0.7**
GBPR				*eS*	**Sn**	**03 24 26.0**	**+0.9**
GBPR	**Guanica, Bosqu**	**1.81**	**259**	*eP*	**Pn**	**03 24 02.3**	**+0.7**
GBPR				*eS*	**Sn**	**03 24 26.0**	**+0.9**
SABA	**Saba**	**1.82**	**112**	*eS*	**Sn**	**03 24 26.6**	**+1.1**
SABA	**Saba**	**1.82**	**112**	*eP*	**Pn**	**03 24 03.2**	**+1.4**
SABA	**Saba**	**1.82**	**112**	*eP*	**Pn**	**03 24 03.2**	**+1.4**
SABA				*eS*	**Sn**	**03 24 26.6**	**+1.1**
SABA	**Saba**	**1.82**	**112**	*eP*	**Pn**	**03 24 03.3**	**+1.4**
SABA				*eS*	**Sn**	**03 24 27.0**	**+1.5**
SMRT	**St. Maarten**	**1.86**	**98**	*eS*	**Sn**	**03 24 26.4**	**+0.1**
SMRT	**St. Maarten**	**1.86**	**98**	*eP*	**Pn**	**03 24 03.2**	**+0.8**
SMRT	**St. Maarten**	**1.86**	**98**	*eP*	**Pn**	**03 24 03.2**	**+0.8**
SMRT				*eS*	**Sn**	**03 24 26.4**	**+0.1**
SMRT	**St. Maarten**	**1.86**	**98**	*eP*	**Pn**	**03 24 03.0**	**+0.7**
SMRT	**St. Maarten**	**1.86**	**98**	*eP*	**Pn**	**03 24 03.2**	**+0.8**
SMRT				*eS*	**Sn**	**03 24 26.2**	**-0.2**
LSP	**Las Mesas**	**1.98**	**266**	*eS*	**Sn**	**03 24 29.5**	**+0.6**
LSP	**Las Mesas**	**1.98**	**266**	*eP*	**Pn**	**03 24 04.8**	**+1.1**
LSP	**Las Mesas**	**1.98**	**266**	*eP*	**Pn**	**03 24 04.8**	**+1.1**
LSP				*eS*	**Sn**	**03 24 29.5**	**+0.6**
LSP	**Las Mesas**	**1.98**	**266**	*eP*	**Pn**	**03 24 04.8**	**+1.1**
LSP				*eS*	**Sn**	**03 24 29.5**	**+0.6**
AGPR	**Aguadilla, PR**	**2.00**	**275**	*eS*	**Sn**	**03 24 30.3**	**+0.9**
AGPR	**Aguadilla, PR**	**2.00**	**275**	*eP*	**Pn**	**03 24 04.5**	**+0.5**
AGPR	**Aguadilla, PR**	**2.00**	**275**	*eP*	**Pn**	**03 24 04.5**	**+0.5**
AGPR				*eS*	**Sn**	**03 24 30.3**	**+0.9**
AGPR	**Aguadilla, PR**	**2.00**	**275**	*eP*	**Pn**	**03 24 04.5**	**+0.5**
AGPR				*eS*	**Sn**	**03 24 30.3**	**+0.9**
CRPR	**Cabo Rojo, PR**	**2.02**	**262**	*eS*	**Sn**	**03 24 30.6**	**+0.9**
CRPR	**Cabo Rojo, PR**	**2.02**	**262**	*eP*	**Pn**	**03 24 04.9**	**+0.7**
CRPR	**Cabo Rojo, PR**	**2.02**	**262**	*eP*	**Pn**	**03 24 04.9**	**+0.7**
CRPR				*eS*	**Sn**	**03 24 30.6**	**+0.9**
CRPR	**Cabo Rojo, PR**	**2.02**	**262**	*eP*	**Pn**	**03 24 04.9**	**+0.7**
CRPR				*eS*	**Sn**	**03 24 30.6**	**+0.9**
AGP	**Aguadilla**	**2.02**	**273**	*ePn*	**Pn**	**03 24 03.9**	**-0.4**
AGP				*eSn*	**Sn**	**03 24 28.4**	**-1.6**
MPR	**Mayaguez**	**2.02**	**267**	*eS*	**Sn**	**03 24 30.5**	**+0.6**
MPR	**Mayaguez**	**2.02**	**267**	*eP*	**Pn**	**03 24 05.1**	**+0.8**
MPR	**Mayaguez**	**2.02**	**267**	*eP*	**Pn**	**03 24 05.1**	**+0.8**
MPR				*eS*	**Sn**	**03 24 30.5**	**+0.6**
MPR	**Mayaguez**	**2.02**	**267**	*eP*	**Pn**	**03 24 05.1**	**+0.8**
MPR				*eS*	**Sn**	**03 24 30.5**	**+0.6**
SEUS	**St. Eustatius**	**2.10**	**113**	*eP*	**Pn**	**03 24 02.0**	**-3.3**
SEUS				*eS*	**Sn**	**03 24 25.7**	**-6.0**
NEV	**Hard Times**	**2.61**	**116**	*eP*	**Pn**	**03 24 14.7**	**+2.3**
NEV				*eS*	**Sn**	**03 24 47.8**	**+4.5**
MLYT	**Lee's Yard**	**3.12**	**120**	*eP*	**Pn**	**03 24 19.9**	**+1.2**
MLYT				*eS*	**Sn**	**03 24 55.8**	**+0.2**
ANWB	**Willy Bob**	**3.14**	**101**	*ePn*	**Pn**	**03 24 18.3**	**-0.5**
ANWB				*eS*	**Sn**	**03 24 53.6**	**-2.2**
ANWB	**Willy Bob**	**3.14**	**101**	*eP*	**Pn**	**03 24 18.5**	**-0.3**
ANWB				*eS*	**Sn**	**03 24 54.8**	**-1.0**
BPA	**Boggy Peak**	**3.26**	**112**	*eP*	**Pn**	**03 24 21.8**	**+1.3**
BPA				*eS*	**Sn**	**03 24 59.0**	**+0.2**
TBG	**Guadaloupe-3**	**4.05**	**127**	*eP*	**Pn**	**03 24 30.8**	**-0.1**
DR12	**Loma Pena Alta**	**4.17**	**277**	*eP*	**Pn**	**03 24 33.5**	**+0.9**
DR12				*eS*	**Sn**	**03 25 19.1**	**-1.4**
DR12	**Loma Pena Alta**	**4.17**	**277**	*eP*	**Pn**	**03 24 33.5**	**+0.9**
MGG	**Marie-Galante**	**4.26**	**123**	*eP*	**Pn**	**03 24 35.7**	**+1.9**
MDPV	**Dominica, Penn**	**4.35**	**127**	*eP*	**Pn**	**03 24 37.5**	**+2.4**
MDPO	**Dominica; Chan**	**4.36**	**128**	*eP*	**Pn**	**03 24 37.1**	**+2.0**
BBL	**Barber's Block**	**4.38**	**129**	*eP*	**Pn**	**03 24 36.8**	**+1.3**
BBL				*eS*	Sn	03 25 14.4	-11
DWS	**Wesley**	**4.47**	**127**	*eP*	**Pn**	**03 24 40.0**	**+3.4**
DWS				*eS*	Sn	03 25 18.3	-9.4
DLPL	**La Plaine**	**4.67**	**129**	*eP*	**Pn**	**03 24 39.9**	**+0.6**
SDDR	**Presa de Saban**	**5.99**	**277**	*ePn*	**Pn**	**03 24 57.4**	**+0.4**
SDDR				*eS*	**Sn**	**03 26 01.4**	**-3.0**
GRTK	**Grand Turk**	**6.58**	**300**	*ePn*	**Pn**	**03 25 03.1**	**-1.9**
GRTK				*eS*	**Sn**	**03 26 10.9**	**-7.6**
GRSS	**Sisters**	**6.82**	**151**	*eP*	Pn	03 25 20.7	+12
GRHS	**Sauteurs**	**6.88**	**151**	*eP*	Pn	03 25 21.4	+12
GRGR	**Grenville**	**6.95**	**152**	*eP*	Pn	03 25 22.0	+12
PCRV	**Puerto La Cruz**	**8.10**	**177**	*P*	**Pn**	**03 25 25.7**	**-0.1**
SDV	0.6nm,0.3s,baz=27,slow=6.5,SNR=6.2 **Santo Domingo**	**10.85**	**211**	*P*	**Pn**	**03 26 02.1**	**-1.0**
SDV	0.3nm,0.3s,baz=336,slow=20,SNR=2.2			*S*	**Sn**	**03 27 58.1**	**-4.6**
OCAC	0.2nm,0.3s,baz=342,slow=20,SNR=2.6 **Ocana**	**12.87**	**220**	*eP*	**Pn**	**03 26 29.6**	**-0.1**
OCAC	**Ocana**	**12.87**	**220**	*eP*	**Pn**	**03 26 29.6**	**-0.1**
BARC	**Barichara**	**14.11**	**215**	*eP*	**Pn**	**03 26 46.1**	**+0.2**
BARC	**Barichara**	**14.11**	**215**	*eP*	**Pn**	**03 26 46.1**	**+0.2**
ZARC	**Zaragoza, Cauc**	**14.41**	**223**	*eP*	**Pn**	**03 26 47.3**	**-2.1**
ZARC	**Zaragoza, Cauc**	**14.41**	**223**	*eP*	**Pn**	**03 26 47.3**	**-2.1**
RUSC	**La Rusia**	**14.65**	**214**	*eP*	**P**	**03 26 57.0**	**+0.8**
RUSC	**La Rusia**	**14.65**	**214**	*eP*	**P**	**03 26 57.0**	**+0.8**
PTBC	**PUERTO BERRIO,**	**14.89**	**219**	*eP*	**Pn**	**03 26 54.4**	**-1.2**
PTBC	**PUERTO BERRIO,**	**14.89**	**219**	*eP*	**Pn**	**03 26 54.4**	**-1.2**
HELC	**Santa Helena**	**15.83**	**222**	*eP*	**P**	**03 27 10.0**	**+0.9**
HELC	**Santa Helena**	**15.83**	**222**	*eP*	**P**	**03 27 10.0**	**+0.9**
CHIC	**Chingaza**	**16.05**	**213**	*eP*	**Pn**	**03 27 10.5**	**+0.1**
CHIC	**Chingaza**	**16.05**	**213**	*eP*	**Pn**	**03 27 10.5**	**+0.1**
ROSC	**El Rosal**	**16.19**	**215**	*P*	**Pn**	**03 27 11.2**	**-0.9**
ROSC	0.1nm,0.3s,baz=3.4,slow=17,SNR=2.0 **El Rosal**	**16.19**	**215**	*eP*	**P**	**03 27 13.2**	**+0.1**
ROSC	**El Rosal**	**16.19**	**215**	*eP*	**P**	**03 27 13.2**	**+0.1**
PTGA	**Pitinga**	**19.57**	**165**	*P*	**P**	**03 27 49.3**	**-0.5**
NNA	0.3nm,0.3s,baz=319,slow=19,SNR=2.8 **Nana**	**32.29**	**202**	*P*	**P**	**03 29 49.0**	**0.0**
SIV	6.2nm,0.4s,baz=24,slow=7.9,SNR=6.5 **San Ignacio**	**34.31**	**173**	*P*	**P**	**03 30 06.8**	**+0.4**
TXAR	0.6nm,0.4s,baz=26,slow=8.0,SNR=4.9 **Lajitas Array**	**36.87**	**295**	*P*	**P**	**03 30 28.6**	**+0.2**
ULM	0.3nm,0.4s,baz=120,slow=7.5,SNR=5.1 **Lac du Bonnet**	**40.27**	**329**	*P*	**P**	**03 30 56.7**	**+0.3**
LVC	0.5nm,0.4s,baz=166,slow=8.3,SNR=2.1 **Limon Verde**	**40.85**	**186**	*P*	**P**	**03 31 00.5**	**-1.4**
NVAR	1.7nm,0.4s,baz=30,slow=5.1,SNR=4.8 **Mina Array Bea**	**50.26**	**305**	*P*	**P**	**03 32 16.6**	**+0.9**
YKA	0.2nm,0.4s,baz=98,slow=11,SNR=3.6 **Yellowknife Ar**	**55.77**	**335**	*P*	**P**	**03 32 56.1**	**+0.7**
DBIC	0.4nm,0.5s,baz=107,slow=7.3,SNR=5.9 **Dimbokro**	**59.63**	**93**	*P*	**P**	**03 33 24.7**	**+1.5**
TORD	1.2nm,0.4s,baz=268,slow=8.7,SNR=4.6 **Torodi Ar. Bea**	**64.12**	**84**	*P*	**P**	**03 33 52.8**	**-0.5**
	0.5nm,0.8s,baz=284,slow=5.8,SNR=3.7						

*IDC **14** 03:29:48.0±1.2, 19°.52N×64°.43W, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.4/37, mbtmp3.5/6, ML2.9/1, Error ellipse: s-maj=26.4km s-min=23.1km az=99.0*
*ISCJB **14** 03:29:51.4±1.1, 19°.62N±0°.05×64°.42W±0°.05, h36km±13km, mb3.6/5, Error ellipse: s-maj=9.5km s-min=6.9km az=20.0*
*NEIC **14** 03:29:52.4±0.0, 19°.58N×64°.33W, h59km, MD3.6(RSPR), After RSPR.*
*RSPR **14** 03:29:52.4, 19°.58N×64°.33W, h59km, 8km, MD3.6/12*

ISC 14 03:29:51.8±3.2, 19°.54N±0°.07×64°.39W±0°.06, h25km±23km, n40, σ0§66/54, mb3.6/5, 17C-7D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.81**	**176**	*eS*	**Sn**	**03 30 19.5**	**+0.7**
ABV	**Anegada**	**0.81**	**176**	*eP*	**Pn**	**03 30 07.3**	**-0.3**
ABVI	**Anegada Island**	**0.81**	**176**	*eP*	**Pn**	**03 30 07.3**	**-0.3**
ABVI				*eS*	**Sn**	**03 30 19.5**	**+0.7**
TBVI	**Tortola**	**1.14**	**191**	*iP*	**Pn**	**03 30 11.7**	**-0.5**
TBVI				*eS*	**Sb**	**03 30 27.2**	**0.0**
TBVI	**Tortola**	**1.14**	**191**	*iP*	**Pn**	**03 30 11.7**	**-0.5**
STVI	**Saint Thomas**	**1.30**	**204**	*eP*	**Pn**	**03 30 14.0**	**-0.4**
STVI	**Saint Thomas**	**1.30**	**204**	*iP*	**Pn**	**03 30 14.7**	**+0.3**
STVI				*eS*	**Sn**	**03 30 31.6**	**+0.7**
STVI	**Saint Thomas**	**1.30**	**204**	*iP*	**Pn**	**03 30 14.7**	**+0.3**
CUPR	**Culebra, Puert**	**1.49**	**215**	*eP*	**Pn**	**03 30 17.0**	**0.0**
CUPR	**Culebra, Puert**	**1.49**	**215**	*eS*	**Sn**	**03 30 35.7**	**0.0**
CUPR	**Culebra, Puert**	**1.49**	**215**	*eP*	**Pn**	**03 30 17.0**	**0.0**
CUPR				*eS*	**Sn**	**03 30 35.7**	**0.0**
MTP	**Monte Pirata**	**1.81**	**218**	*eP*	**Pn**	**03 30 21.6**	**+0.2**
MTP	**Monte Pirata**	**1.81**	**218**	*eS*	**Sn**	**03 30 43.9**	**+0.3**
MTP	**Monte Pirata**	**1.81**	**218**	*eP*	**Pn**	**03 30 21.6**	**+0.2**
MTP				*eS*	**Sn**	**03 30 43.9**	**+0.3**
CDVI	**St. Croix**	**1.81**	**191**	*eP*	**Pn**	**03 30 21.7**	**+0.2**
CDVI	**St. Croix**	**1.81**	**191**	*eS*	**Sn**	**03 30 44.5**	**+0.8**
CDVI	**St. Croix**	**1.81**	**191**	*eP*	**Pn**	**03 30 21.7**	**+0.2**
CDVI				*eS*	**Sn**	**03 30 44.5**	**+0.8**
HUMP	**Col San Antoni**	**1.96**	**225**	*eP*	**Pn**	**03 30 23.3**	**-0.2**
HUMP	**Col San Antoni**	**1.96**	**225**	*eS*	**Sn**	**03 30 47.5**	**+0.2**
HUMP	**Col San Antoni**	**1.96**	**225**	*eP*	**Pn**	**03 30 23.3**	**-0.2**
HUMP				*eS*	**Sn**	**03 30 47.5**	**+0.2**
SJG	**San Juan**	**2.19**	**230**	*eP*	**Pn**	**03 30 26.5**	**-0.1**
SJG	**San Juan**	**2.19**	**230**	*eS*	**Sn**	**03 30 53.0**	**0.0**
SJG	**San Juan**	**2.19**	**230**	*Pn*	**Pn**	**03 30 26.3**	**-0.3**
SJG	3.3nm,0.3s,baz=49,slow=11,SNR=6.1				Sn	**Sn**	**03 30 52.6**	**-0.4**
SJG	18nm,0.3s,baz=249,slow=22,SNR=10 **San Juan**	**2.19**	**230**	*ePn*	**Pn**	**03 30 26.2**	**-0.4**
SJG				*eS*	**Sn**	**03 30 51.2**	**-1.7**
CELP	**Cerrillos**	**2.54**	**235**	*eP*	**Pn**	**03 30 31.3**	**-0.1**
CELP				*eS*	**Sn**	**03 31 02.3**	**+0.8**
CELP	**Cerrillos**	**2.54**	**235**	*eP*	**Pn**	**03 30 31.3**	**-0.1**
OBIP	**Obispado Ponce**	**2.57**	**235**	*eP*	**Pn**	**03 30 32.1**	**+0.2**
OBIP	**Obispado Ponce**	**2.57**	**235**	*eS*	**Sn**	**03 31 03.3**	**+0.8**
OBIP	**Obispado Ponce**	**2.57**	**235**	*eP*	**Pn**	**03 30 32.1**	**+0.2**
OBIP				*eS*	**Sn**	**03 31 03.3**	**+0.8**
CRPR	**Cabo Rojo, PR**	**3.00**	**240**	*eP*	**Pn**	**03 30 37.7**	**0.0**
CRPR	**Cabo Rojo, PR**	**3.00**	**240**	*eS*	**Sn**	**03 31 14.0**	**+1.1**
CRPR	**Cabo Rojo, PR**	**3.00**	**240**	*eP*	**Pn**	**03 30 37.7**	**0.0**
CRPR				*eS*	**Sn**	**03 31 14.0**	**+1.1**
DR12	**Loma Pena Alta**	**4.78**	**262**	*eP*	**Pn**	**03 31 02.8**	**+0.5**
DR12				*eS*	**Sn**	**03 31 57.4**	**+0.5**
DR12	**Loma Pena Alta**	**4.78**	**262**	*eP*	**Pn**	**03 31 02.8**	**+0.5**
SDDR	**Presa de Saban**	**6.54**	**266**	*ePn*	**Pn**	**03 31 27.1**	**+0.6**
SDDR	22nm,0.7s			*eS*	**Sn**	**03 32 39.2**	**-1.2**
SIV	**San Ignacio**	**35.46**	**174**	*P*	**P**	**03 36 44.8**	**-1.6**
TXAR	0.5nm,0.4s,baz=40,slow=8.6,SNR=3.6 **Lajitas Array**	**36.92**	**293**	*P*	**P**	**03 36 59.8**	**+0.8**
ULM	0.4nm,0.8s,baz=96,slow=9.2,SNR=3.7 **Lac du Bonnet**	**39.53**	**328**	*P*	**P**	**03 37 19.9**	**-0.6**
YKA	0.6nm,0.5s,baz=117,slow=9.0,SNR=2.0 **Yellowknife Ar**	**54.92**	**334**	*P*	**P**	**03 39 19.5**	**-0.8**
TORD	0.6nm,0.9s,baz=109,slow=7.4,SNR=6.7 **Torodi Ar. Bea**	**63.41**	**85**	*P*	**P**	**03 40 21.4**	**+1.5**
	0.6nm,0.9s,baz=294,slow=7.2,SNR=3.6						

AUST 14 03:31:43.1±0.0, 32°.89S×148°.02E, h0km, Error ellipse: s-maj=0.2km s-min=0.1km az=228.0, New South Wales

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YNG	**Young**	**1.44**	**167**	*P*	**Pn**	**03 32 10.0**	**-0.5**
YNG	baz=1.4			*S*	**Sg**	**03 32 29.0**	**-0.4**
YNG	**Young**	**1.44**	**167**	*P*	**Pn**	**03 32 10.0**	**-0.4**
YNG	baz=1.4			*S*	**Sg**	**03 32 27.6**	**-1.8**
CMSA	baz=1.4 **Cobar Meteorol**	**2.39**	**304**	*P*	**Pn**	**03 32 24.5**	**+1.0**
CMSA	baz=2.4			*S*	**Sb**	**03 32 56.2**	**-0.8**
CMSA	baz=2.4 **Cobar Meteorol**	**2.39**	**304**	*P*	**Pn**	**03 32 24.5**	**+1.0**
CMSA	baz=2.4			*S*	**Sn**	**03 32 54.6**	**+1.2**
CAN	baz=2.4 **Canberra**	**2.56**	**162**	*P*	**Pb**	**03 32 28.5**	**-1.3**
CAN	baz=2.6			*S*	**Sb**	**03 33 00.1**	**-1.8**
MGCD	baz=2.6 **Mangrove Creek**	**2.62**	**98**	*P*	**Pn**	**03 32 27.5**	**+1.0**
MGCD	baz=2.6			*S*	**Sn**	**03 33 00.9**	**+1.9**
MGCD	baz=2.6 **Mangrove Creek**	**2.62**	**98**	*P*	**Pn**	**03 32 27.7**	**+1.1**
MGCD	baz=2.6			*S*	**Sn**	**03 32 59.7**	**+0.7**
	baz=2.6						
CNB	**Canberra Magne**	**2.66**	**156**	*P*	**Pn**	**03 32 28.4**	**+1.1**
CNB	baz=2.7 **Canberra Magne**	**2.66**	**156**	*P*	**Pn**	**03 32 27.9**	**+0.5**
CNB	baz=2.6			*S*	**Sn**	**03 33 00.1**	**-0.3**
	baz=2.6						

IDC 14 03:33:29.9±8.0, 53°.83N×90°.44E, h0km, mb1 2.5/1, mb1mx2.5/41, mbtmp2.5/1, ML1.8/1, Error ellipse: s-maj=54.9km s-min=51.6km az=3.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.33**	**274**	*i*		03 58 00.0	
ZALV	baz=90,slow=352,SNR=0.9 **Zalesovo Beam**	**3.33**	**274**	*Pn*	**Pn**	**03 34 23.7**	**+0.5**
ZALV	0.5nm,0.3s,baz=93,slow=15,SNR=4.4			*Lg*	Lg	03 35 14.8	
I34MN	0.4nm,0.3s,baz=90,slow=29,SNR=3.7 **SONGINO INFRAS**	**11.75**	**114**	*i*		04 42 30.0	
	baz=310,slow=326,SNR=0.4						

*IDC **14** 03:42:42.0±1.6, 5°.42N×125°.71E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/32, mbtmp3.8/5, Error ellipse: s-maj=118.7km s-min=20.6km az=70.0*
*ISCJB **14** 03:42:53.3±0.8, 5°.44N±0°.09×126°.2E±0°.1, h116km, mb3.6/5, Error ellipse: s-maj=21.2km s-min=8.0km az=152.1*
*MAN **14** 03:42:53.0, 5°.41N×126°.18E, h127km, mb4.3, ML3.1, MS2.8*

ISC 14 03:42:54.6±1.0, 5°.5N±0°.1×126°.2E±0°.1, h116km, n9, σ1§62/12, mb3.8/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.79**	**326**	*eP*	**Pn**	**03 43 12.2**	**-2.1**
DDMP				*eS*	**Sn**	**03 43 25.5**	**-3.7**
MATI	**Mati**	**1.49**	**4**	*eP*	**Pn**	**03 43 21.5**	**-0.2**
SKMP	**Bagumbayan, Su**	**1.93**	**304**	*eP*	**Pn**	**03 43 26.3**	**-0.7**
SKMP				*eS*	**Sn**	**03 43 53.2**	**+1.5**
BUKP	**Musuan**	**2.65**	**336**	*eP*	**Pn**	**03 43 37.3**	**+1.0**
BUKP				*eS*	**Sn**	**03 44 08.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**23.40**	**181**	*P*	**P**	**03 47 53.6**	**+0.4**
WRA	3.1nm,0.8s,baz=0.8,slow=8.0,SNR=16 **Warramunga Arr**	**26.48**	**163**	*P*	**P**	**03 48 21.2**	**0.0**
ASAR	0.4nm,0.8s,baz=336,slow=10,SNR=6.5 **Alice Springs**	**29.91**	**166**	*P*	**P**	**03 48 52.5**	**+0.9**
MKAR	0.3nm,0.4s,baz=345,slow=7.4,SNR=3.5 **Makanchi Array**	**55.83**

KLU	**Klutina**	**3.82**	**63**	P		**Pn**	**04 13 30.6**	**-0.2**
RND	**Reindeer**	**4.00**	**28**	P		**Pn**	**04 13 33.5**	**+0.3**
DHY	**Denali Highway**	**4.14**	**38**	P		**Pn**	**04 13 35.2**	**0.0**
PS12	**TAPS Pump St12**	**4.16**	**65**	P		**Pn**	**04 13 35.5**	**+0.2**
MCK	**McKinley**	**4.26**	**25**	P		**Pn**	**04 13 37.5**	**+0.9**
BPAW	**Bear Paw Mtn.**	**4.28**	**12**	P		**Pn**	**04 13 37.5**	**+0.8**
BMRM	**Bremner River**	**4.29**	**73**	P		**Pn**	**04 13 37.7**	**+0.7**
PAX	**Paxson**	**4.72**	**47**	P		**Pn**	**04 13 43.5**	**+0.7**
WRH	**Wood River Hil**	**5.09**	**25**	P		**Pn**	**04 13 47.5**	**-0.1**
MCARA	**McCarthy VSAT**	**5.13**	**69**	P		**Pn**	**04 13 49.2**	**+1.1**
MLY	**Manley**	**5.21**	**11**	P		**Pn**	**04 13 49.0**	**-0.3**
RIDG	**Independ'e Rid**	**5.43**	**42**	P		**Pn**	**04 13 52.6**	**+0.4**
COLA	**College**	**5.50**	**24**	*e*Pn		**Pn**	**04 13 53.0**	**0.0**
COLA				eS		**Sn**	**04 14 48.6**	**-6.5**
MDM	**Murphy Dome**	**5.50**	**22**	P		**Pn**	**04 13 53.1**	**0.0**
ILAR	**Eielson Array**	**5.62**	**28**	P		**Pn**	**04 13 54.7**	**0.0**
	1.3nm,0.3s,baz=216,slow=14,SNR=94							
ILAR				S		**Sn**	**04 14 55.2**	**-2.9**
	1.0nm,0.3s,baz=209,slow=27,SNR=11							
ILB	**Eielson Array**	**5.62**	**28**	P		**Pn**	**04 13 54.5**	**-0.1**
SCRK	**Sand Creek**	**5.87**	**43**	P		**Pn**	**04 13 58.5**	**+0.3**
IM3	**Indian Mountai**	**6.07**	**357**	P		**Pn**	**04 14 00.9**	**+0.2**
YUK2	**White River**	**6.23**	**68**	P		**Pn**	**04 14 04.1**	**+1.1**
YUK3	**Moose Creek**	**6.41**	**68**	P		**Pn**	**04 14 06.8**	**+1.3**
YUK4	**Talbot Arm**	**7.21**	**73**	P		**Pn**	**04 14 17.9**	**+1.7**
YKA	**Yellowknife Ar**	**18.48**	**66**	P		**Pn**	**04 16 41.3**	**+0.8**
	0.1nm,0.3s,baz=277,slow=10.0,SNR=7.5							
ZALV	**Zalesovo Beam**	**57.41**	**324**	P		**P**	**04 22 08.1**	**+0.6**
	0.9nm,0.4s,baz=38,slow=7.3,SNR=2.8							
MKAR	**Makanchi Array**	**64.47**	**321**	P		**P**	**04 22 56.4**	**+1.1**
	0.4nm,0.8s,baz=42,slow=5.5,SNR=2.7							

IDC ***14*** *04:18:15.8±2.1,34.°72S×179.°44E,h0km,mb4.0/4, mb1 4.2/5,mb1mx3.9/38,mbtmp4.0/5,ML3.6/1,Error ellipse: s-maj=48.0km s-min=38.3km az=60.0*

ISC 14 04:18:18.0±2.1,34.°6S±0.1×179.°9E±0.3,h35km,n7, σ1s63/8,mb3.9/4,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**4.32**	**211**	**Pn**	**Pn**	**04 19 18.9**	**-2.2**
	4.2nm,0.3s,baz=279,slow=3.0,SNR=22						
URZ				Sn	**Sn**	**04 20 12.4**	**+2.2**
	4.2nm,0.3s,baz=317,slow=23,SNR=2.7						
CTA	**Charters Tower**	**33.02**	**287**	P	**P**	**04 24 50.9**	**+0.9**
	0.9nm,0.5s,baz=96,slow=9.2,SNR=2.6						
ASAR	**Alice Springs**	**41.32**	**273**	P	**P**	**04 26 00.5**	**+0.1**
	1.1nm,0.4s,baz=115,slow=7.7,SNR=15						
WRA	**Warramunga Arr**	**42.69**	**278**	P	**P**	**04 26 11.1**	**-0.5**
	1.2nm,0.4s,baz=117,slow=7.7,SNR=40						
FITZ	**Fitzroy Crossi**	**50.74**	**274**	P	**P**	**04 27 13.9**	**-0.7**
	2.7nm,1.0s,baz=127,slow=10,SNR=2.6						
FINES	**FINESS Array B**	**148.34**	**336**	PKPbc	**PKPab**	**04 38 03.5**	**+0.5**
	1.9nm,0.7s,baz=64,slow=4.4,SNR=5.0						
TORD	**Torodi Ar. Bea**	**158.61**	**185**	PKPab	**PKPab**	**04 38 48.7**	**+1.3**
	0.3nm,0.5s,baz=191,slow=2.9,SNR=2.8						

JMA 14 04:20:05.1±0.6,31.°22N×127.°50E,h0km,M3.5, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFU	**Fukue jima 2**	**1.78**	**36**	P	Pn	04 20 37.4	+0.2
JFU				S	Sg	04 21 02.0	-0.4
JSJ	**Shimokoshiki**	**1.95**	**76**	eS	Sn	04 21 03.9	-0.7
NGSJ	**Nagasakinomoza**	**2.41**	**54**	P	Pg	04 20 51.0	-0.3
NGSJ				S	Sg	04 21 23.2	+0.7
JTU	**Tsushima**	**3.66**	**25**	P	Pn	04 21 04.4	+1.4

ISK ***14*** *04:21:22.8,38.°95N×43.°51E,h28km,ML1.8/4*
DDA ***14*** *04:21:24.6,38.°98N×43.°47E,h9km±1km,ML2.5*

ISC 14 04:21:23.3±1.0,38.°96N±0.°04×43.°54E±0.°04,h25km±8km, n14,σ0s55/20,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.04**	**38**	IAML_P			
	comp=Z,8μm,0.1s						
VMUR				*i* P	**Pb**	**04 21 27.6**	**-0.3**
VMUR	**Van-Muradiye**	**0.04**	**38**	IAML_P			
	comp=Z,8μm,0.1s						
VMUR				*i* P	**Pb**	**04 21 27.6**	**-0.3**
CLDR	**Caldiran**	**0.35**	**58**	PG	**Pb**	**04 21 31.7**	**+0.4**
CLDR				SG	**Sb**	**04 21 38.0**	**+1.3**
CLDR	**Caldiran**	**0.35**	**58**	IAML_P			
	comp=Z,1μm,0.1s						
CLDR				*i* P	**Pn**	**04 21 32.6**	**-0.4**
CLDR				*i* S	**Sn**	**04 21 38.8**	**-0.6**
CLDR	**Caldiran**	**0.35**	**58**	IAML_P			
	comp=Z,1μm,0.1s						
CLDR				*i* P	**Pn**	**04 21 32.6**	**-0.4**
CLDR				*i* S	**Sn**	**04 21 38.9**	**-0.4**
VANB	**Van**	**0.38**	**198**	PG	**Pn**	**04 21 32.9**	**-0.4**
TVAN	**Van**	**0.44**	**194**	IAML_P			
	comp=Z,576nm,0.1s						
TVAN				*i* P	**Pn**	**04 21 33.6**	**-0.6**
TVAN				*i* S	**Sn**	**04 21 42.0**	**+0.5**
TVAN	**Van**	**0.44**	**194**	IAML_P			
	comp=Z,576nm,0.1s						
TVAN				*i* P	**Pb**	**04 21 33.0**	**+0.4**
TVAN				*i* S	**Sn**	**04 21 41.3**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.65**	**257**	IAML_P			
	comp=Z,200nm,0.1s						
ADCV				*i* P	**Pn**	**04 21 36.8**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.65**	**257**	IAML_P			
	comp=Z,200nm,0.1s						
ADCV				*i* P	**Pb**	**04 21 36.6**	**+0.4**
ADCV				*i* S	**Sn**	**04 21 46.3**	**-0.4**
TUTA	**Tutak**	**0.72**	**309**	IAML_P			
	comp=Z,1μm,0.1s						
TUTA				*i* P	**Pn**	**04 21 38.2**	**+0.1**
TUTA	**Tutak**	**0.72**	**309**	IAML_P			
	comp=Z,1μm,0.1s						
TUTA				*i* P	**Pn**	**04 21 38.1**	**0.0**
AGRB	**Hanur-Agry**	**0.75**	**326**	PG	**Pb**	**04 21 37.8**	**-0.1**
GURO	**Guroymak-BITLI**	**1.24**	**252**	PN	**Pn**	**04 21 44.4**	**-0.8**

IDC ***14*** *04:24:14.7±1.1,0.°80S×121.°77E,h0km,mb3.8/6, mb1 3.9/6,mb1mx3.6/31,mbtmp3.8/6,MS3.0/5,Ms1 3.0/5, ms1mx2.7/34,Error ellipse: s-maj=202.6km s-min=17.7km az=63.0*
DJA ***14*** *04:24:16.5±0.2,1.°S±2.°×12.°2E±.°,h10km,M4.1/3,MLv4.1/3*
ISCJB ***14*** *04:24:17.3±0.7,0.°67S±0.°04×121.°83E±0.°03,h28km±6km, mb3.8/6,MS3.1/3,Error ellipse: s-maj=7.2km s-min=5.7km az=172.2*

ISC 14 04:24:16.6±1.2,0.°62S±0.°04×121.°84E±0.°04,h12km±9km, n23,σ0s87/24,mb3.8/6,MS2.9/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APSI	**Ampana**	**0.35**	**213**	P	**Pg**	**04 24 23.6**	**-0.1**
APSI				S	**Sg**	**04 24 38.3**	**+0.9**
LUWI	**Luwuk**	**1.02**	**114**	P	**Pn**	**04 24 36.6**	**-0.2**
LUWI				S	**Sn**	**04 24 51.5**	**+0.4**
MRSI	**Marisa**	**1.09**	**5**	P	**Pb**	**04 24 37.0**	**-0.5**
MRSI				S	**Sg**	**04 24 52.0**	**0.0**
PCI	**Palu**	**2.02**	**262**	P	**Pn**	**04 24 50.3**	**-0.3**
PCI				S	**Sn**	**04 25 16.7**	**+0.8**
MPSI	**Mapaga**	**2.16**	**296**	P	**Pn**	**04 24 51.9**	**-0.6**
MPSI				S	**Sn**	**04 25 19.3**	**0.0**
KMSI	**Cibinong**	**2.45**	**61**	P	**Pn**	**04 24 56.9**	**+0.5**
KMSI				S	**Sn**	**04 25 27.6**	**+1.3**
TTSI	**Tana Toraja**	**3.15**	**220**	P	**Pn**	**04 25 05.8**	**-0.3**
KDI	**Kendari**	**3.41**	**167**	P	**Pn**	**04 25 09.9**	**+0.2**
SPSI	**Sidrap Palu**	**3.92**	**212**	P	**Pn**	**04 25 17.2**	**+0.5**
BNSI	**Bone**	**4.14**	**205**	P	**Pn**	**04 25 20.2**	**+0.5**
SANI	**Sanana**	**4.38**	**109**	P	**Pn**	**04 25 22.8**	**-0.3**
BKSI	**Bulukumba**	**4.98**	**200**	P	**Pn**	**04 25 31.4**	**+0.1**
DAV	**Davao City (W)**	**8.50**	**26**	LR	LR	04 29 52.1	
	comp=Z,92nm,20.6s,baz=154,slow=39						
FITZ	**Fitzroy Crossi**	**17.77**	**168**	LR	LR	04 35 58.1	
	comp=Z,29nm,21.7s,baz=329,slow=40						
WRA	**Warramunga Arr**	**22.77**	**148**	P	**P**	**04 29 17.2**	**-2.0**
	1.9nm,0.7s,baz=328,slow=10,SNR=15						
ASAR	**Alice Springs**	**25.73**	**154**	P	**P**	**04 29 46.0**	**-1.2**
	1.7nm,1.0s,baz=332,slow=7.6,SNR=3.6						
STKA	**Stephens Creek**	**36.27**	**151**	P	**P**	**04 31 18.9**	**-1.1**
	0.5nm,0.2s,baz=337,slow=13,SNR=2.0						
KSRS	**Korea Array**	**38.30**	**8**	LR	LR	04 48 10.5	
	comp=Z,20nm,19.7s,baz=322,slow=37						
MJAR	**Matsushiro Arr**	**39.98**	**21**	LR	LR	04 50 45.4	
	comp=Z,16nm,18.3s,baz=200,slow=40						
SONM	**Songino Array**	**50.10**	**346**	P	**P**	**04 33 12.7**	**+1.0**
	0.9nm,0.8s,baz=176,slow=9.4,SNR=4.2						
MKAR	**Makanchi Array**	**58.54**	**329**	P	**P**	**04 34 13.4**	**+0.3**
	0.4nm,0.5s,baz=136,slow=7.3,SNR=6.6						
ZALV	**Zalesovo Beam**	**62.40**	**336**	P	**P**	**04 34 40.8**	**+1.5**
	0.8nm,0.6s,baz=145,slow=5.4,SNR=4.6						
AKTO	**Aktyubinsk**	**74.11**	**323**	LR	LR	05 11 36.3	
	comp=Z,23nm,18.0s,baz=310,slow=38						

DDA ***14*** *04:24:38.8,37.°07N×28.°64E,h7km±2km,ML2.5*
ISK ***14*** *04:24:38.5,37.°07N×28.°59E,h8km,ML2.3/7*
ISCJB ***14*** *04:24:39.3±0.4,37.°05N±0.°03×28.°49E±0.°04,h10km,Error ellipse: s-maj=4.7km s-min=4.0km az=141.6*

ISC 14 04:24:39.5±0.8,37.°10N±0.°02×28.°55E±0.°03,h10km,n41, σ1s64/48,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TURN	**Turunc**	**0.23**	**170**	PG	**Pg**	**04 24 47.1**	**+2.8**
TURN				SG	**Sg**	**04 24 53.3**	**+5.7**
TURN	**Turunc**	**0.23**	**170**	IAML_P			
	comp=Z,2μm,0.2s						
TURN				*i* P	Pg	04 24 47.9	+3.6
TURN	**Turunc**	**0.23**	**170**	*i* P	Pg	04 24 47.7	+3.4
DALY	**Dalyan (Mula)**	**0.30**	**164**	PG	**Pg**	**04 24 44.2**	**-1.3**
DALY				SG	**Sb**	**04 24 48.8**	**-3.1**
DALY	**Dalyan (Mula)**	**0.30**	**164**	IAML_P			
	comp=Z,2μm,0.2s						
DALY				*i* P	**Pg**	**04 24 44.4**	**-1.1**
DALY				*i* S	**Sb**	**04 24 49.7**	**-2.2**
DALY	**Dalyan (Mula)**	**0.30**	**164**	*i* P	**Pg**	**04 24 44.4**	**-1.1**
TAVA	**DENIZLI_Tavas**	**0.46**	**39**	IAML_P			
	comp=Z,960nm,0.1s						
TAVA				*i* P	**Pg**	**04 24 48.1**	**-0.6**
TAVA	**DENIZLI_Tavas**	**0.46**	**39**	IAML_P			
	comp=Z,960nm,0.1s						
TAVA				*i* P	**Pg**	**04 24 48.2**	**-0.4**
FETY	**Fethiye**	**0.63**	**137**	PG	**Pg**	**04 24 49.8**	**-2.0**
FETY	**Fethiye**	**0.63**	**137**	*i* P	**Pg**	**04 24 50.4**	**-1.5**
FETY	**Fethiye**	**0.63**	**137**	*i* P	**Pg**	**04 24 49.8**	**-2.0**
MLSB	**Milas**	**0.65**	**287**	PG	**Pb**	**04 24 52.3**	**-0.7**
AYDN	**Tasoluk**	**0.77**	**316**	IAML_P			
	comp=Z,2μm,0.3s						
AYDN				*i* P	**Pn**	**04 24 56.0**	**-0.6**
AYDN	**Tasoluk**	**0.77**	**316**	IAML_P			
	comp=Z,2μm,0.3s						
AYDN				*i* P	**Pn**	**04 24 55.7**	**-0.9**
AYDN				*i* S	**Sg**	**04 25 03.5**	**-1.0**
GOLH	**Golhisar**	**0.82**	**80**	*i* P	**Pn**	**04 24 58.6**	**+1.4**
GOLH	**Golhisar**	**0.82**	**80**	*i* P	**Pn**	**04 24 57.7**	**+0.4**
GOLH				*i* S	**Sn**	**04 25 09.0**	**-0.5**
DAT	**Datca**	**0.86**	**245**	PG	**Pb**	**04 24 55.9**	**-0.8**
DAT	**Datca**	**0.86**	**245**	*i* P	**Pn**	**04 24 56.9**	**-1.0**
DAT	**Datca**	**0.86**	**245**	IAML_P			
	comp=Z,99nm,0.2s						
DAT				*i* P	**Pn**	**04 24 57.0**	**-1.0**
BDRM	**Kayabasi**	**0.89**	**268**	IAML_P			
	comp=Z,344nm,0.2s						
BDRM				*i* P	**Pn**	**04 24 58.1**	**0.0**
BDRM	**Kayabasi**	**0.89**	**268**	IAML_P			
	comp=Z,344nm,0.2s						
BDRM				*i* P	**Pn**	**04 24 58.2**	**+0.1**
ARG	**Arkhangelos**	**0.95**	**201**	PG	**Pg**	**04 24 56.1**	**-1.7**
AYDB	**Zeytinkoy-Aydi**	**0.99**	**328**	PG	**Pb**	**04 24 58.7**	**-0.2**
BODT	**Bodrum**	**0.99**	**268**	PG	**Pb**	**04 24 58.5**	**-0.3**
ELL	**Elmali**	**1.15**	**108**	PN	**Pn**	**04 25 00.7**	**-1.1**
GCAM	**G?zelcaml?**	**1.21**	**300**	PN	**Pg**	**04 25 02.8**	**+0.1**
GCAM	**G?zelcaml?**	**1.21**	**300**	IAML_P			
	comp=Z,747nm,0.1s						
GCAM				*i* P	**Pg**	**04 25 04.0**	**+1.3**
GCAM	**G?zelcaml?**	**1.21**	**300**	IAML_P			
	comp=Z,690nm,0.2s						
GCAM				*i* P	**Pg**	**04 25 04.1**	**+1.3**
AKAS	**Kas**	**1.22**	**135**	PN	**Pn**	**04 25 01.7**	**-1.0**
AKAS	**Kas**	**1.22**	**135**	IAML_P			
	comp=Z,3μm,0.2s						
AKAS				*i* P	**Pn**	**04 25 04.5**	**+1.8**
AKAS				*i* S	**Sn**	**04 25 23.2**	**+3.9**
AKAS	**Kas**	**1.22**	**135**	IAML_P			
	comp=Z,3μm,0.2s						
AKAS				*i* P	**Pn**	**04 25 03.6**	**+0.9**
AKAS				*i* S	**Sn**	**04 25 22.4**	**+3.1**
BRDR	**BURDUR-Merkez**	**1.34**	**63**	IAML_P			
	comp=Z,410nm,0.3s						
BRDR				*i* P	**Pg**	**04 25 05.8**	**+0.5**
BRDR	**BURDUR-Merkez**	**1.34**	**63**	IAML_P			
	comp=Z,410nm,0.3s						
BRDR				*i* P	**Pg**	**04 25 05.9**	**+0.5**
MANT	**Manisa**	**1.39**	**0**	IAML_P			
	comp=Z,114nm,0.2s						
MANT				*i* P	**Pg**	**04 25 06.6**	**+0.4**
MANT	**Manisa**	**1.39**	**0**	IAML_P			
	comp=Z,114nm,0.2s						
MANT				*i* P	**Pg**	**04 25 06.5**	**+0.3**
MANT				*i* S	**Sg**	**04 25 25.0**	**+0.8**
KULA	**Kula-Manisa**	**1.41**	**4**	PN	**Pb**	**04 25 05.4**	**-0.6**
KORT	**Korkueli**	**1.44**	**94**	PN	**Pg**	**04 25 05.5**	**-1.8**
KORT	**Korkueli**	**1.44**	**94**	IAML_P			
	comp=Z,209nm,0.3s						
KORT				*i* P	**Pg**	**04 25 07.0**	**-0.2**
KORT	**Korkueli**	**1.44**	**94**	IAML_P			
	comp=Z,209nm,0.3s						
KORT				*i* P	**Pg**	**04 25 07.1**	**-0.2**
KHAL	**Karahalli**	**1.47**	**30**	IAML_P			
	comp=Z,166nm,0.2s						
KHAL				*i* P	**Pg**	**04 25 07.7**	**0.0**
KHAL	**Karahalli**	**1.47**	**30**	IAML_P			
	comp=Z,97nm,0.2s						
KHAL				*i* P	**Pg**	**04 25 07.0**	**-0.8**
KHAL				*i* S	**Sg**	**04 25 26.6**	**-0.2**

MAN 14 04:40:02.5,9.°57N×122.°01E,h29km,mb4.3,ML3.2,MS2.9, 2C-1D,Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAP	**San Jose, Anti**	**1.17**	**357**	*e*P	Pn	04 40 23.1	+0.1
GUIM	**Jordan**	**1.19**	**28**	*e*P	Pn	04 40 22.7	-0.6
GUIM				eS	Sn	04 40 38.7	+0.2
SNPH	**Sibulan**	**1.23**	**101**	*i* P	Pn	04 40 23.2	-0.7
SNPH				*i* S	Sn	04 40 39.9	+0.3
CUYO	**Cuyo Island**	**1.60**	**323**	*e*P	Pn	04 40 29.2	+0.2
CUYO				eS	Sn	04 40 48.7	0.0
TBP	**Tagbilaran**	**1.83**	**86**	*e*P	Pn	04 40 27.7	-4.3
RCP	**Roxas**	**2.10**	**20**	*e*P	Pn	04 40 37.4	+1.5
RCP				eS	Sb	04 41 05.8	0.0
PAGZ	**Pagadian**	**2.18**	**142**	*e*P	Pn	04 40 37.7	+0.7
SMPP	**San Manuel, Pa**	**6.67**	**349**	*e*P	Pb	04 41 54.7	-3.1

ISK ***14*** *04:47:09.9,39.°64N×25.°53E,h9km,ML2.5/10*
DDA ***14*** *04:47:11.1,39.°77N×25.°58E,h7km±3km,ML2.9*
THE ***14*** *04:47:11.8,39.°67N±25.°54E,h12km±1km,ML2.0/8,Error ellipse: s-maj=1.2km s-min=0.6km az=76.0*
ATH ***14*** *04:47:11.2,39.°69N×25.°54E,h31km±1km,ML2.1/4,Error ellipse: s-maj=2.7km s-min=1.3km az=229.0*
ISCJB ***14*** *04:47:12.1±0.3,39.°68N±0.°02×25.°54E±0.°03,h18km±5km, Error ellipse: s-maj=3.7km s-min=3.3km az=143.1*

ISC 14 04:47:11.2±1.0,39.°68N±0.°02×25.°53E±0.°02,h11km±9km, n56,σ0s54/87,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.34**	**310**	P	**Pb**	**04 47 19.3**	**-0.1**
LIA				S	**Sb**	**04 47 24.4**	**-0.3**
LIA				AML	AML	04 47 24.7	
	comp=E,410μm,0.2s						
LIA				AML	AML	04 47 25.2	
	comp=N,323μm,0.3s						
LIA	**Limnos Island**	**0.34**	**310**	P	**Pb**	**04 47 19.2**	**-0.1**
LIA				S	**Sb**	**04 47 24.4**	**-0.3**
LIA				AML	AML	04 47 24.7	
	comp=E,410μm,0.2s						
LIA				AML	AML	04 47 25.2	
	comp=N,323μm,0.3s						
LIA	**Limnos Island**	**0.34**	**310**	P	**Pb**	**04 47 19.2**	**-0.1**
LIA				S	**Sb**	**04 47 24.2**	**-0.6**

BOZC	**Bozcaada**	**0.44**	**68**	PG		**Pg**	**04 47 19.9**	**+0.1**
BOZC				SG		**Sg**	**04 47 25.9**	**+0.3**
BOZC	**Bozcaada**	**0.44**	**68**	*i* P		**Pb**	**04 47 20.7**	**-0.2**
BOZC				*i* S		**Sg**	**04 47 25.8**	**+0.1**
EFSA	**Agios Efstrati**	**0.44**	**252**	P		**Pb**	**04 47 21.9**	**+1.0**
EFSA				S		**Sb**	**04 47 28.1**	**+0.6**
SIGR	**SIGRI**	**0.53**	**151**	PG		**Pg**	**04 47 20.0**	**-1.6**
SIGR				SG		**Sg**	**04 47 27.3**	**-1.3**
SIGR	**SIGRI**	**0.53**	**151**	P		**Pg**	**04 47 21.9**	**+0.3**
SIGR				S		**Sg**	**04 47 29.3**	**+0.7**
SIGR				AML	AML	04 47 29.3		
	comp=E,706μm,0.4s							
SIGR				AML	AML	04 47 29.3		
	comp=N,781μm,0.4s							
SIGR	**SIGRI**	**0.53**	**151**	P		**Pg**	**04 47 21.9**	**+0.3**
SIGR				S		**Sg**	**04 47 29.2**	**+0.7**
SIGR				AML	AML	04 47 29.3		
	comp=E,706μm,0.4s							
SIGR				AML	AML	04 47 29.3		
	comp=N,781μm,0.4s							
SIGR	**SIGRI**	**0.53**	**151**	P		**Pg**	**04 47 21.9**	**+0.3**
SIGR				S		**Sg**	**04 47 29.0**	**+0.4**
GADA	**Gvkgeada**	**0.59**	**29**	PG		**Pg**	**04 47 22.4**	**-0.2**
GADA				SG		**Sb**	**04 47 31.3**	**-0.4**
GADA	**Gvkgeada**	**0.59**	**29**	P		**Pg**	**04 47 22.9**	**+0.3**
GADA				S		**Sb**	**04 47 32.0**	**+0.3**
EZN	**Ezine**	**0.63**	**76**	PG		**Pg**	**04 47 22.8**	**-0.7**
EZN	**Ezine**	**0.63**	**76**	P		**Pg**	**04 47 23.3**	**-0.2**
EZN				S		**Sg**	**04 47 31.9**	**+0.1**
PRK	**Paraskevi**	**0.72**	**127**	P		**Pb**	**04 47 25.7**	**0.0**
PRK				S		**Sb**	**04 47 35.9**	**+0.4**
PRK				AML	AML	04 47 39.4		
	comp=N,411μm,0.4s							
PRK				AML	AML	04 47 40.0		
	comp=E,422μm,0.5s							
PRK	**Paraskevi**	**0.72**	**127**	P		**Pb**	**04 47 26.0**	**+0.3**
PRK				S		**Sb**	**04 47 36.4**	**+0.8**
PRK				AML	AML	04 47 39.4		
	comp=N,411μm,0.4s							
PRK				AML	AML	04 47 40.0		
	comp=E,422μm,0.5s							
PRK	**Paraskevi**	**0.72**	**127**	P		**Pb**	**04 47 26.0**	**+0.3**
PRK				S		**Sb**	**04 47 35.9**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**0.79**	**85**	IAML_P				
	comp=Z,2μm,0.2s							
BAYC				*i* P		**Pg**	**04 47 26.1**	**-0.4**
BAYC				*i* S		**Sg**	**04 47 36.4**	**-0.4**
SMTH	**Samothraki Isl**	**0.79**	**0**	P		**Pb**	**04 47 27.2**	**+0.2**
SMTH				S		**Sb**	**04 47 38.6**	**+1.0**
SMTH				AML	AML	04 47 41.2		
	comp=E,101μm,0.2s							
SMTH				AML	AML	04 47 41.8		
	comp=N,145μm,0.3s							
SMTH	**Samothraki Isl**	**0.79**	**0**	P		**Pb**	**04 47 27.0**	**0.0**
SMTH	**Samothraki Isl**	**0.79**	**0**	P		**Pb**	**04 47 27.0**	**0.0**
SMTH				S		**Sb**	**04 47 38.3**	**+0.6**
AYVA	**Ayvalik**	**0.97**	**112**	*i* P		**Pb**	**04 47 29.8**	**-0.2**
AYVA				*i* S		**Sn**	**04 47 44.9**	**+0.4**
GELI	**Tayfur-Gelibol**	**1.02**	**45**	PG		**Pb**	**04 47 30.4**	**-0.5**
SKY	**Skiros Island**	**1.10**	**224**	P		**Pb**	**04 47 31.9**	**-0.3**
SKY	**Skiros Island**	**1.10**	**224**	P		**Pb**	**04 47 32.0**	**-0.3**
SKY				S		**Sn**	**04 47 47.6**	**-0.1**
THAS	**Thassos island**	**1.11**	**327**	P		**Pb**	**04 47 32.6**	**+0.1**
THAS				S		**Sn**	**04 47 47.6**	**-0.4**
THAS				AML	AML	04 47 49.1		
	comp=E,109μm,0.4s							
THAS				AML	AML	04 47 49.3		
	comp=N,122μm,0.3s							
THAS	**Thassos island**	**1.11**	**327**	P		**Pb**	**04 47 32.5**	**+0.1**
THAS				S		**Sg**	**04 47 47.4**	**+0.3**
THAS				AML	AML	04 47 49.1		
	comp=E,109μm,0.4s							
THAS				AML	AML	04 47 49.3		
	comp=N,122μm,0.3s							
THAS	**Thassos island**	**1.11**	**327**	P		**Pb**	**04 47 32.5**	**+0.1**
THAS				S		**Sn**	**04 47 47.7**	**-0.3**
ENEZ	**Enez**	**1.16**	**24**	PN		**Pb**	**04 47 33.2**	**0.0**
LPK	**Lapseki**	**1.17**	**53**	PN		**Pb**	**04 47 33.1**	**-0.4**
DKL	**Dikili**	**1.23**	**119**	PN		**Pn**	**04 47 33.4**	**-0.8**
ERIK	**Erikli-Kesan**	**1.25**	**37**	PN		**Pn**	**04 47 34.4**	**-0.1**
ALN	**Alexandroupoli**	**1.28**	**18**	PN		**Pn**	**04 47 33.2**	**-1.8**
ALN	**Alexandroupoli**	**1.28**	**18**	P		**Pn**	**04 47 34.7**	**-0.2**
ALN				S		**Sg**	**04 47 52.4**	**-0.1**
ALN				AML	AML	04 47 52.9		
	comp=E,50μm,0.4s							
ALN				AML	AML	04 48 01.7		
	comp=N,46μm,0.5s							
ALN	**Alexandroupoli**	**1.28**	**18**	P		**Pn**	**04 47 34.4**	**-0.6**
ALN	**Alexandroupoli**	**1.28**	**18**	P		**Sg**	**04 47 34.6**	**-0.4**
ALN				S		**Sg**	**04 47 52.6**	**+0.1**
CHOS	**Chios island**	**1.35**	**162**	PN		**Pn**	**04 47 35.2**	**-0.9**
CHOS	**Chios island**	**1.35**	**162**	P		**Pn**	**04 47 35.7**	**-0.3**
CHOS	**Chios island**	**1.35**	**162**	P

NVAR	**Mina Array Bea**	**88.35**	**51**	P		**P**	**05 17 43.9**	**0.0**
	0.6nm,0.8s,baz=262,slow=5.4,SNR=2.3							
LPAZ	**La Paz**	**148.72**	**101**	PKPbc		**PKPdf**	**05 24 38.0**	**+1.2**
	0.8nm,0.8s,baz=270,slow=5.1,SNR=2.6							

TEH **14** *05:07:20.9, 29.80N×57.96E, h10km, ML3.5*
ISCJB **14** *05:07:21.9±0.9, 29.83N±0.06×57.83E±0.07, h10km, Error ellipse: s-maj=9.4km s-min=8.3km az=37.3*
THR **14** *05:07:27.0, 29.52N×57.65E, h14km, ML3.2*

ISC 14 05:07:21.1±1.3, 29.69N±0.05×57.87E±0.06, h10km, n19, σ0.985/18, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NGRK	**Negar Kerman**	**1.00**	**267**	*e*Pg		**Pg**		**05 07 40.3**	**0.0**
NGRK						IAMB	IAmb	05 07 57.4	
	comp=Z,0.0nm,0.2s								
TVBK	**TV Kerman**	**1.01**	**287**	*e*Pn		**Pb**		**05 07 40.8**	**-0.1**
TVBK						IAMB	IAmb	05 07 59.7	
	comp=N,0.0nm,0.2s								
KHGB	**Koh Gabri**	**1.39**	**300**	*e*Pn		**Pn**		**05 07 46.8**	**0.0**
KHGB						IAMB	IAmb	05 08 15.8	
	comp=Z,0.0nm,0.1s								
NIAN	**Nian**	**2.31**	**204**	*e*Pn		**Pb**		**05 08 02.9**	**0.0**
NIAN						IAMB	IAmb	05 08 37.5	
	comp=Z,0.0nm,0.2s								
IKOO	**Kooshah**	**2.89**	**19**	IAMB		IAmb		05 08 52.0	
	comp=Z,2μm,0.2s								
IKOO				*e*Pn		**Pn**		**05 08 06.3**	**-1.1**
ITEG	**Tejag**	**3.28**	**13**	*e*Pn		**Pn**		**05 08 11.9**	**-0.8**
ITEG						IAMB	IAmb	05 09 12.7	
	comp=Z,1μm,0.3s								
TPRV	**Parvadeh(Tabas**	**3.48**	**343**	*e*Pn		**Pn**		**05 08 15.7**	**+0.4**
TPRV						IAMB	IAmb	05 09 18.2	
	comp=Z,0.0nm,0.2s								
IMON	**Monand**	**3.81**	**23**	*e*Pn		**Pn**		**05 08 20.7**	**+0.6**
IMON						IAMB	IAmb	05 09 26.7	
	comp=E,2μm,0.4s								
YZKH	**Yazd**	**3.89**	**314**	*e*Pn		**Pb**		**05 08 28.4**	**-1.5**
YZKH	**Yazd**	**3.89**	**314**	*e*Pn		**Pb**		**05 08 28.4**	**-1.5**
YZKH				*e*Sg		**Sg**		**05 09 27.6**	**+1.4**
TKDS	**Koohdasht(Taba**	**3.96**	**351**	*e*Pn		**Pn**		**05 08 22.7**	**+0.7**
TKDS						IAMB	IAmb	05 09 36.9	
	comp=Z,0.0nm,0.5s								
TABS	**Tabas**	**4.00**	**351**	*e*Pn		**Pb**		**05 08 32.2**	**+0.5**
TABS	**Tabas**	**4.00**	**351**	*e*AML		AML		05 09 40.9	
	comp=N,27nm,0.5s								
TABS	**Tabas**	**4.00**	**351**	*e*Pn		**Pb**		**05 08 32.2**	**+0.5**
TABS				*e*Sn		**Sb**		**05 09 19.4**	**-0.7**
TNSJ	**Nastanj**	**4.39**	**346**	*e*Pn		**Pn**		**05 08 28.4**	**+0.5**
TNSJ						IAMB	IAmb	05 09 43.4	
	comp=Z,0.0nm,0.4s								
SHRT	**Shahrakht**	**4.45**	**27**	*e*Pn		**Pb**		**05 08 39.2**	**-0.1**
SHRT	**Shahrakht**	**4.45**	**27**	*e*Pn		**Pb**		**05 08 39.2**	**-0.1**
SHRO	**Shahrood**	**6.47**	**346**	*e*Pn		Pb		05 09 06.7	-7.2
SHRO	**Shahrood**	**6.47**	**346**	*e*Pn		Pb		05 09 06.7	-7.1

IDC **14** *05:37:32.4±0.7, 34.79S×178.92W, h0km, mb4.7/7, mb1 4.7/10, mb1mx4.4/28, mbtmp4.6/10, ML4.3/3, MS3.8/8, Ms1 3.8/8, ms1mx3.5/21, Error ellipse: s-maj=22.9km s-min=20.8km az=4.0*
NEIC **14** *05:37:33.9±0.3, 34.93S×178.98W, h10km, mb4.6/17, Error ellipse: s-maj=6.8km s-min=4.0km az=112.0*
ISCJB **14** *05:37:35.9±0.5, 34.85S±0.04×179.00W±0.08, h33km, mb4.7/22, MS3.8/8, Error ellipse: s-maj=9.2km s-min=4.5km az=15.6*
WEL **14** *05:37:35.7±1.0, 35°S±8°×17°9W±1°2, h33km, ML5.1/25*
BJI **14** *05:37:42.0, 35.20S×179.50W, h72km, mb5.2/7, Ms5.1/2, Ms7 5.0/2*

ISC 14 05:37:36.8±0.6, 34.87S±0.06×179.02W±0.07, h27km±3km, h28km:pP-P,n127,σ2.901/158, mb4.8/22, MS3.8/8, 1C-1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.44**	**218**	*e*Pn		**Pn**		**05 38 28.0**	**-0.6**
MXZ				*e*Sn		**Sn**		**05 39 04.7**	**-3.8**
MXZ	**Matakaoa Point**	**3.44**	**218**	P		**Pn**		**05 38 29.9**	**+1.3**
MXZ				S		**Sn**		**05 39 13.0**	**+4.5**
WMGZ	**Waiomatatini S**	**3.59**	**214**	P		**Pn**		**05 38 32.9**	**+2.2**
WMGZ				S		**Sn**		**05 39 16.8**	**+4.6**
PKGZ	**Pakihiroa**	**3.81**	**217**	P		**Pn**		**05 38 35.2**	**+1.5**
PKGZ				S		**Sn**		**05 39 22.9**	**+5.3**
HAZ	**Te Kaha**	**3.86**	**221**	P		**Pn**		**05 38 36.7**	**+2.3**
HAZ				S		**Sn**		**05 39 26.1**	**+7.3**
PUZ	**Puketiti**	**3.87**	**214**	P		**Pn**		**05 38 35.8**	**+1.3**
PUZ				S		**Sn**		**05 39 22.7**	**+3.6**
RUGZ	**Raukumara Rang**	**4.07**	**220**	P		**Pn**		**05 38 39.5**	**+2.1**
TWGZ	**Tauwhareparae**	**4.08**	**215**	P		**Pn**		**05 38 39.9**	**+2.4**
CNGZ	**Carnagh Station**	**4.24**	**211**	P		**Pn**		**05 38 41.2**	**+1.7**
CNGZ				S		**Sn**		**05 39 33.1**	**+5.1**
TKGZ	**Te Karaka**	**4.36**	**214**	P		**Pn**		**05 38 43.6**	**+2.5**
TKGZ				S		**Sn**		**05 39 34.4**	**+3.4**
MWZ	**Matawai**	**4.43**	**218**	P		**Pn**		**05 38 44.6**	**+2.4**
MWZ				S		**Sn**		**05 39 37.0**	**+4.1**
MYRZ	**Mayor Island**	**4.53**	**237**	P		**Pn**		**05 38 45.8**	**+2.2**
URZ	**Urewera**	**4.59**	**222**	Pn		**Pn**		**05 38 45.8**	**+1.4**
	26nm,0.3s,baz=279,slow=3.9,SNR=121								
URZ				Sn		**Sn**		**05 39 40.5**	**+3.7**
	39nm,0.3s,baz=269,slow=22,SNR=10								
URZ	**Urewera**	**4.59**	**222**	*e*Pn		**Pn**		**05 38 44.7**	**+0.3**
URZ				*e*Sn		**Sn**		**05 39 33.8**	**-3.1**
URZ	**Urewera**	**4.59**	**222**	P		**Pn**		**05 38 45.8**	**+1.4**
RAGZ	**Rawiri**	**4.61**	**217**	P		**Pn**		**05 38 46.9**	**+2.1**
RIGZ	**Rimuhau**	**4.61**	**213**	P		**Pn**		**05 38 46.2**	**+1.5**
OPRZ	**Ohinepanea**	**4.64**	**229**	P		**Pn**		**05 38 46.4**	**+1.4**
KUZ	**Kuaotunu**	**4.66**	**245**	P		**Pn**		**05 38 47.7**	**+2.3**
GRZ	**Great Barrier**	**4.70**	**251**	P		**Pn**		**05 38 48.4**	**+2.4**
PRGZ	**Paritu Road**	**4.74**	**211**	P		**Pn**		**05 38 47.3**	**+0.9**
SNGZ	**Shannon Statio**	**4.87**	**216**	P		**Pn**		**05 38 49.7**	**+1.4**
KNZ	**Kokohu**	**4.91**	**212**	P		**Pn**		**05 38 49.2**	**+0.4**
MHGZ	**Mahia Peninsul**	**4.93**	**209**	P		**Pn**		**05 38 49.6**	**+0.6**
MUGZ	**Murupara**	**4.94**	**222**	P		**Pn**		**05 38 50.6**	**+1.4**
RAHZ	**Arahi**	**5.10**	**217**	P		**Pn**		**05 38 53.8**	**+2.4**
WIAZ	**Waiheke Island**	**5.12**	**246**	P		**Pn**		**05 38 54.3**	**+2.7**
WHHZ	**Waihua**	**5.16**	**214**	P		**Pn**		**05 38 55.7**	**+3.5**
MTHZ	**Maungataniwha**	**5.17**	**219**	P		**Pn**		**05 38 54.4**	**+2.0**
MKAZ	**Moumakai**	**5.21**	**243**	P		**Pn**		**05 38 55.8**	**+2.9**
TOZ	**Tahuroa Road**	**5.26**	**236**	P		**Pn**		**05 38 55.9**	**+2.3**
NMHZ	**Naumai**	**5.38**	**217**	P		**Pn**		**05 38 56.9**	**+1.7**
MRHZ	**Matea Rd**	**5.38**	**221**	P		**Pn**		**05 38 56.5**	**+1.2**
ARHZ	**Aropaoanui**	**5.42**	**215**	P		**Pn**		**05 38 57.8**	**+2.1**
BKZ	**Black Stump Fm**	**5.59**	**219**	*e*Pn		**Pn**		**05 38 58.1**	**0.0**
BKZ				*e*Sn		**Sn**		**05 40 00.8**	**-0.6**
OUZ	**Omahuta**	**6.07**	**265**	*e*Pn		**Pn**		**05 39 04.8**	**+0.2**
BFZ	**Birch Farm**	**6.90**	**211**	*e*Pn		**Pn**		**05 39 15.2**	**-0.9**
BFZ				*e*Sn		**Sn**		**05 40 30.3**	**-3.4**
SNZO	**South Karori**	**8.11**	**216**	*e*Pn		**Pn**		**05 39 31.4**	**-1.2**
SNZO				*e*Sn		**Sn**		**05 41 00.5**	**-2.8**
THZ	**Tophouse**	**9.35**	**220**	*e*Pn		**Pn**		**05 39 47.8**	**-2.0**
THZ				*e*Sn		**Sn**		**05 41 30.9**	**-3.2**
LTZ	**Lake Taylor**	**10.41**	**218**	*e*Pn		**Pn**		**05 40 02.6**	**-1.6**
LTZ				*e*Sn		**Sn**		**05 41 56.6**	**-3.3**
MQZ	**McQueen's Vall**	**10.92**	**214**	*e*Pn		**Pn**		**05 40 08.4**	**-2.8**
MQZ				*e*Sn		Sn		05 42 04.2	-8.2
OXZ	**Oxford**	**10.92**	**217**	*e*Pn		**Pn**		**05 40 10.4**	**-0.9**
OXZ				*e*Sn		Sn		05 42 05.7	-6.8
RPZ	**Rata Peaks**	**11.70**	**218**	Pn		**Pn**		**05 40 20.8**	**-1.0**
	1.6nm,0.3s,baz=267,slow=1.8,SNR=9.2								
RPZ				Sn		Sn		05 42 20.1	-11
	2.7nm,0.3s,baz=92,slow=14,SNR=9.3								
RPZ	**Rata Peaks**	**11.70**	**218**	*e*Pn		**Pn**		**05 40 21.1**	**-0.7**
RPZ				*e*Sn		Sn		05 42 23.7	-7.7
FOZ	**Fox Glacier**	**12.22**	**222**	*e*Pn		**Pn**		**05 40 27.9**	**-1.1**
FOZ				*e*Sn		Sn		05 42 36.7	-7.6
LBZ	**Lake Benmore**	**12.62**	**218**	*e*Pn		**Pn**		**05 40 33.1**	**-1.2**
LBZ				*e*Sn		Sn		05 42 45.0	-8.9
ODZ	**Otahua Downs**	**12.87**	**215**	*e*Pn		**Pn**		**05 40 35.8**	**-2.1**
ODZ				*e*Sn		Sn		05 42 49.8	-10
WKZ	**Wanaka**	**13.52**	**219**	*e*Pn		**Pn**		**05 40 44.0**	**-2.7**
WKZ				*e*Sn		Sn		05 43 06.5	-9.5
MLZ	**Mavora Lakes**	**14.35**	**219**	*e*Pn		**Pn**		**05 40 56.5**	**-1.6**
MLZ				*e*Sn		Sn		05 43 29.1	-7.2
WHZ	**Wether Hill Ro**	**14.80**	**218**	*e*Pn		**Pn**		**05 41 03.2**	**-0.9**
WHZ				*e*Sn		**Sn**		**05 43 41.8**	**-5.4**
DCZ	**Deep Cove**	**14.93**	**221**	*e*Pn		**Pn**		**05 41 04.7**	**-1.1**
PYZ	**Puysegur Point**	**15.64**	**220**	*e*Pn		**Pn**		**05 41 14.2**	**-1.0**
	65nm,1.0s								

OUENC	**Ouen Island, N**	**17.52**	**311**	*e*Pn		**P**		**05 41 40.0**	**-0.1**
	21nm,1.1s								
DZM	**Mont Dzumac**	**18.03**	**311**	P		**Pn**		**05 41 45.5**	**+0.1**
	0.7nm,0.3s,baz=148,slow=13,SNR=9.1								
DZM				LR		LR		05 47 51.4	
	comp=Z,598nm,18.1s,baz=171,slow=34								
DZM	**Mont Dzumac**	**18.03**	**311**	*e*P		**P**		**05 41 46.5**	**+0.7**
RAR	**Rarotonga**	**21.72**	**56**	LR		LR		05 51 50.0	
	comp=Z,160nm,18.2s,baz=252,slow=40								
EIDS	**Eidsvold**	**27.45**	**282**	*e*P		**P**		**05 43 19.5**	**-1.0**
	5.9nm,0.9s								
PPT	**Papeete**	**31.38**	**64**	LR		LR		05 55 20.2	
	comp=Z,107nm,18.2s,baz=210,slow=34								
STKA	**Stephens Creek**	**32.88**	**264**	P		**P**		**05 44 09.8**	**+1.3**
	13nm,0.9s								
	2.2nm,0.6s,baz=127,slow=8.3,SNR=6.0								
STKA				PcP		**PcP**		**05 46 51.2**	**-1.5**
	0.7nm,0.4s,baz=117,slow=9.0,SNR=3.1								
STKA				LR		LR		05 57 59.2	
	comp=Z,187nm,18.1s,baz=38,slow=37								
STKA	**Stephens Creek**	**32.88**	**264**	*e*P		**P**		**05 44 08.7**	**+0.2**
	1.5nm,1.1s								
CTA	**Charters Tower**	**33.95**	**287**	P		**P**		**05 44 19.2**	**+1.3**
	5.7nm,0.5s,baz=100,slow=12,SNR=14								
CTAO	**Charters Tower**	**33.95**	**287**	*e*P		**P**		**05 44 18.7**	**+0.8**
	11nm,0.9s								
BBOO	**Buckleboo**	**37.13**	**260**	*e*P		**P**		**05 44 44.6**	**-0.6**
	9.8nm,1.0s								
COEN	**Coen**	**39.90**	**292**	*e*P		**P**		**05 45 08.8**	**+0.2**
	7.8nm,1.0s								
AS01	**Alice Springs**	**42.18**	**272**	*e*P		**P**		**05 45 26.6**	**-0.7**
AS31	**Alice Springs**	**42.22**	**272**	*e*P		**P**		**05 45 26.9**	**-0.8**
	6.1nm,0.5s								
ASAR	**Alice Springs**	**42.22**	**272**	P		**P**		**05 45 27.6**	**0.0**
	12nm,0.5s,baz=115,slow=8.0,SNR=192								
ASAR				PcP		**PcP**		**05 47 21.1**	**-0.3**
	2.7nm,0.9s,baz=116,slow=4.0,SNR=3.9								
ASAR				ScP		**ScP**		**05 51 09.6**	**-0.5**
	0.9nm,0.8s,baz=129,slow=3.9,SNR=2.4								
ASAR				LR		LR		06 04 32.9	
	comp=Z,151nm,18.1s,baz=116,slow=38								
WC3	**Warramunga Arr**	**43.57**	**277**	*e*P		**P**		**05 45 38.0**	**-0.7**
	21nm,0.6s								
WB2	**Warramunga Arr**	**43.60**	**277**	*e*P		**P**		**05 45 38.8**	**-0.1**
WRAB	**Tennant Creek**	**43.60**	**277**	*e*P		**P**		**05 45 38.2**	**-0.6**
	15nm,0.6s								
WR1	**Warramunga Arr**	**43.61**	**277**	*e*P		**P**		**05 45 38.5**	**-0.4**
	22nm,0.5s								
WRA	**Warramunga Arr**	**43.61**	**277**	P		**P**		**05 45 38.5**	**-0.4**
	14nm,0.5s,baz=117,slow=7.6,SNR=190								
WRA				PcP		**PcP**		**05 47 25.9**	**-0.3**
	1.9nm,0.8s,baz=115,slow=3.3,SNR=4.0								
WRA				ScP		**ScP**		**05 51 17.3**	**+1.6**
	0.5nm,0.8s,baz=118,slow=3.2,SNR=2.9								
WRA				LR		LR		06 04 01.8	
	comp=Z,59nm,20.0s,baz=125,slow=36								
FORT	**Forrest**	**44.23**	**260**	*e*P		**P**		**05 45 43.4**	**-0.4**
	23nm,0.8s								
FITZ	**Fitzroy Crossi**	**51.65**	**274**	*e*P		**P**		**05 46 40.4**	**-0.9**
	11nm,1.0s								
NWAO	**Narrogin (SRO)**	**52.13**	**253**	*e*P		**P**		**05 46 44.2**	**-0.6**
	6.9nm,0.9s								
MORW	**Morawa**	**54.55**	**257**	*e*P		**P**		**05 47 02.0**	**-0.6**
	6.9nm,1s								
MBWA	**Marble Bar**	**55.01**	**267**	*e*P		**P**		**05 47 05.1**	**-0.9**
QSPA	**South Pole Qui**	**55.25**	**180**	*e*P		**P**		**05 47 07.6**	**+0.4**
	8.1nm,1.1s								
KKH	**Kailua Kona**	**58.47**	**26**	*e*P		**P**		**05 47 30.8**	**+0.5**
SYO	**Syowa Base**	**72.57**	**194**	P		**P**		**05 49 02.3**	**+1.4**
SYO	**Syowa Base**	**72.57**	**194**	*e*X		**PcP**		**05 49 13.3**	**-5.1**
GO09	**Cerro Castillo**	**72.87**	**141**	*e*P		**P**		**05 49 02.2**	**-0.9**
VNA3	**Neumayer Olymp**	**73.91**	**176**	P		**P**		**05 49 10.5**	**+1.6**
VNA2	**Neumayer--Watz**	**74.33**	**177**	P		P		05 49 16.6	+5.3
PLCA	**Paso Flores**	**80.09**	**133**	P		**P**		**05 49 43.2**	**-1.1**
	0.8nm,0.9s,baz=260,slow=12,SNR=3.6								
PLCA				LR		LR		06 19 11.1	
	comp=Z,42nm,18.9s,baz=330,slow=31								
PLCA	**Paso Flores**	**80.09**	**133**	*e*P		**P**		**05 49 43.6**	**-0.6**
NJ2	**Nanjing**	**88.52**	**311**	*e*P		**P**		**05 50 29.1**	**+2.3**
NJ2				pmax		pmax			
	comp=Z,12nm,0.5s								
PETK	**Petropavlovsk-**	**89.93**	**346**	P		**P**		**05 50 33.5**	**+0.6**
	12nm,0.9s,baz=140,slow=7.2,SNR=7.1								
PETK	**Petropavlovsk-**	**89.93**	**346**	*e*P		**P**		**05 50 33.1**	**+0.2**
PEA1	**Petropavlovsk-**	**89.94**	**346**	*e*P		**P**		**05 50 33.5**	**+0.6**
CN2	**Changchun**	**93.19**	**323**	*e*P		P		05 50 52.4	+4.2
CN2				pmax		pmax			
	comp=Z,10.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**94.07**	**290**	P		**P**		**05 50 53.2**	**+0.3**
	0.5nm,0.3s,baz=141,slow=5.8,SNR=3.1								
KMI	**Kunming**	**95.07**	**297**	P		**P**		**05 50 59.3**	**+1.7**
KMI				pmax		pmax			
	comp=Z,14nm,1.3s								
CPUP	**Villa Florida**	**97.85**	**130**	LR		LR		06 27 51.5	
	comp=Z,46nm,19.6s,baz=3.5,slow=31								
HHC	**Hu-ho-hao-te**	**98.72**	**314**	*e*P		Pdif		05 51 13.6	0.0
LZH	**Lanzhou**	**100.69**	**307**	*e*P		**Pdif**		**05 51 24.3**	**+1.7**
LZH				pP		pwP		05 51 45.1	+7.9
LZH				sP		sP		05 51 53.4	+21
WMQ	**Urumqi**	**115.27**	**307**	*e*PKP		**PKiKP**		**05 56 17.1**	**+1.6**
MK01	**Makanchi Array**	**119.91**	**308**	*e*PKPdf		**PKiKP**		**05 56 23.8**	**-0.5**
MK32	**Makanchi Array**	**119.93**	**308**	*e*PKPdf		**PKiKP**		**05 56 24.2**	**-0.2**
MKAR	**Makanchi Array**	**119.93**	**308**	PKP		**PKiKP**		**05 56 24.2**	**-0.2**
	0.9nm,0.8s,baz=101,slow=1.5,SNR=7.0								
ZALV	**Zalesovo Beam**	**120.75**	**317**	PKP		**PKiKP**		**05 56 24.6**	**-1.1**
	1.0nm,0.6s,baz=128,slow=3.1,SNR=2.8								
ZAA1	**Zalesovo Array**	**120.75**	**317**	*e*PKPdf		**PKiKP**		**05 56 24.6**	**-1.1**
KSH	**Kashi**	**121.69**	**299**	PKP		**PKiKP**		**05 56 28.9**	**+0.7**
KSH				sPKP				05 57 01.1	
KSH				PP		**PP**		**05 58 04.0**	**+2.4**
KSH				PKS		**PKSdf**		**06 00 01.4**	**-3.4**
KSH				LR		LR			
	comp=N,81nm,7.4s								
KSH				LR		LR			
	comp=E,120nm,7.8s								
KSH				LR		LR			
	comp=Z,98nm,15.1s								
KURK	**Kurchatov**	**123.45**	**312**	*e*PKPdf		**PKiKP**		**05 56 30.6**	**-0.5**
KK31	**Karatay Array**	**126.73**	**301**	*e*PKPdf		**PKiKP**		**05 56 36.9**	**-1.1**
KKAR	**Karatay Array**	**126.73**	**301**	*e*PKPdf		**PKiKP**		**05 56 37.3**	**-0.7**
ARA0	**ARCESS Array S**	**142.74**	**346**	*e*PKPdf		**PKPdf**		**05 57 06.0**	**-0.4**
ARCES	**ARCESS Array B**	**142.74**	**346**	PKP		**PKPdf**		**05 57 06.0**	**-0.4**
	3.4nm,0.8s,baz=86,slow=1.2,SNR=4.2								
SIRT	**Sirnak**	**146.62**	**287**	*e*PKPdf		**PKPbc**		**05 57 14.4**	**-1.5**
KBZ	**Khabaz**	**146.68**	**298**	PKPbc		**PKPab**		**05 57 15.3**	**-1.6**
	4.2nm,1.0s,baz=249,slow=3.9,SNR=4.9								
FIA0	**FINESS Array S**	**148.97**	**337**	*e*PKPbc		**PKiKP**		**05 57 21.1**	**-1.4**
FINES	**FINESS Array B**	**148.97**	**337**	PKPbc		**PKiKP**		**05 57 21.1**	**-1.4**
	5.5nm,0.7s,baz=60,slow=4.6,SNR=11								
LIC	**Lamto**	**150.96**	**168**	*e*PKIKP		**PKPab**		**05 57 39.1**	**+4.3**
	23nm,0.6s								
KIC	**Kosan Boka**	**151.14**	**168**	*e*PKIKP		**PKPab**		**05 57 39.5**	**+3.9**
	16nm,0.7s								
TIC	**Toumodi**	**151.37**	**167**	*e*PKIKP		**PKPab**		**05 57 39.9**	**+3.3**
DBIC	**Dimbokro**	**151.42**	**168**	PKPbc		**PKiKP**		**05 57 29.1**	**0.0**
	2.5nm,0.8s,baz=306,slow=5.9,SNR=3.6								
DBIC				PKPab		**sPKPbc**		**05 57 38.0**	**-0.5**
	4.4nm,0.6s,baz=193,slow=3.5,SNR=9.7								
NB2	**NORSAR Subarra**	**153.00**	**349**	PKP		**PKiKP**		**05 57 31.2**	**+0.2**
	comp=Z,9.8nm,1.2s,baz=17,slow=2.6								
NB200	**NORSAR Array S**	**153.00**	**349**	*e*PKPdf		**PKPdf**		**05 57 22.9**	**-0.6**
NB200				*e*PKPbc		**pPKPdf**		**05 57 30.2**	**-0.7**
NB200				*e*PKPab		**sPKPbc**		**05 57 42.2**	**+1.6**
NOA	**NORSAR Array B**	**153.00**	**349**	PKP		**PKPdf**		**05 57 22.9**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=36,slow=1.6,SNR=2.5								
NOA				PKPbc		**pPKPdf**		**05 57 30.2**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=14,slow=4.1,SNR=5.3								
NOA				PKPab		**sPKPbc**		**05 57 42.2**	**+1.6**
	comp=Z,0.9nm,0.7s,baz=20,slow=3.9,SNR=4.5								
BR101	**Keskin Array S**	**153.66**	**290**	*e*PKPbc		**PKiKP**		**05 57 33.1**	**0.0**
BR101				*e*PKPab		**PKPab**		**05 57 44.4**	**-1.5**
BR131	**Keskin Array S**	**153.66**	**290**	*e*PKPbc		**PKiKP**		**05 57 33.3**	**+0.1**
BR131				*e*PKPab		**PKPab**		**05 57 45.7**	**-0.2**
BRTR	**Keskin Array B**	**153.66**	**290**	PKPbc		**PKiKP**		**05 57 33.1**	**0.0**
	comp=Z,1.1nm,0.5s,baz=151,slow=4.4,SNR=16								
BRTR				PKPab		**PKPab**		**05 57 44.4**	**-1.5**
	comp=Z,1.8nm,0.7s,baz=83,slow=3.0,SNR=9.0								
AKASG	**Malin Array Be**	**154.14**	**316**	PKPbc		**PKiKP**		**05 57 34.4**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=59,slow=2.3,SNR=6.3								
AKASG				PKPab		**PKPab**		**05 57 46.2**	**-1.2**
	comp=Z,2.5nm,0.7s,baz=62,slow=2.5,SNR=7.1								
AKBB	**Malin Array Si**	**154.14**	**316**	*e*PKPdf		**PKPdf**		**05 57 25.3**	**-0.1**
AKBB				*e*PKPbc		**sPKPdf**		**05 57 33.8**	**-1.4**
AKBB				*e*PKPab		**PKPab**		**05 57 46.8**	**-0.6**
AK11	**Malin Array Si**	**154.18**	**316**	*e*PKPdf		**PKPdf**		**05 57 26.1**	**+0.7**
AK11				*e*PKPbc		**sPKPdf**		**05 57 34.8**	**-0.4**
AK11				*e*PKPab		**PKPab**		**05 57 46.6**	**-0.9**
TORD	**Torodi Ar. Bea**	**158.36**	**182**	PKPab		**PKPab**		**05 58 07.7**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=178,slow=4.3,SNR=5.9								
TOA1	**Torodi Ar. Sit**	**158.36**	**182**	*e*PKPab		**PKPab**		**05 58 07.7**	**+1.4**

ISCJB **14** *05:46:31.1±0.6, 56.02S±0.09×27.2W±0.2, h63km, mb4.2/10, Error ellipse: s-maj=16.1km s-min=7.5km az=42.5*
IDC **14** *05:46:36.5±0.8, 56.10S×27.11W, h100km±6km, mb3.9/7, mb1 4.1/8, mb1mx3.8/21, mbtmp4.3/8, Error ellipse: s-maj=29.3km s-min=15.9km az=59.0*
NEIC **14** *05:46:36.0±1.3, 56.13S×27.09W, h98km±11km, mb4.4/4, Error ellipse: s-maj=13.7km s-min=6.2km az=57.0*

ISC 14 05:46:32.3±0.6, 56.05S±0.1×26.9W±0.1, h63km, n37, σ1.909/35, mb4.3/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.77**	**284**	*e*Pn		**Pn**		**05 47 57.9**	**+2.8**
HOPE				*e*Sn		**Sn**		**05 48 57.2**	**-2.7**
VNA1	**Neumayer--Stat**	**16.75**	**158**	P		**P**		**05 50 25.0**	**+1.4**
VNA3	**Neumayer Olymp**	**16.95**	**161**	P		**P**		**05 50 26.7**	**+0.8**
VNA2	**Neumayer--Watz**	**17.14**	**158**	P		**P**		**05 50 29.3**	**+1.3**
	baz=315,slow=13								
SNAA	**Sanae**	**18.69**	**156**	P		**Pn**		**05 50 46.1**	**0.0**
SNAA	**Sanae**	**18.69**	**156**	P		**Pn**		**05 50 46.0**	**0.0**
	2.3nm,0.3s,baz=297,slow=11,SNR=32								
SNAA	**Sanae**	**18.69**	**156**	*e*P		**P**		**05 50 45.3**	**+0.2**
	14nm,0.6s								
QSPA	**South Pole Qui**	**34.22**	**180**	*e*P		**P**		**05 53 11.1**	**-0.4**
	3.4nm,0.6s								
MAW	**Mawson**	**40.06**	**143**	P		**P**		**05 54 01.9**	**+1.1**
	1.5nm,0.3s,baz=223,slow=6.8,SNR=10								
MAW	**Mawson**

comp=Z,9μm,0.4s
IMOG Moghan 2.59 106 *e*Pn **Pb 06 05 26.1 -1.8**
IMOG IAMB IAmb 06 05 30.2
comp=Z,4μm,0.4s
ISHM Shahmirzad 2.62 247 *e*Pn **Pb 06 05 26.9 -1.4**
ISHM IAMB IAmb 06 06 14.8
comp=Z,16μm,0.5s
IALA Alasht 2.89 255 *e*Pn **Pb 06 05 31.2 -1.7**
IALA IAMB IAmb 06 06 20.5
comp=Z,8μm,0.4s
TNSJ Nastanj 2.91 174 *e*Pn **Pb 06 05 30.0 -3.2**
TNSJ IAMB IAmb 06 06 19.2
comp=Z,0.0nm,0.7s
ILAS Lasjerd 3.05 242 *e*Pn **Pb 06 05 32.4 -3.3**
ILAS IAMB IAmb 06 06 23.8
comp=Z,5μm,0.4s
IFIR Firoozkooh 3.08 248 *e*Pn **Pb 06 05 32.9 -3.3**
IFIR IAMB IAmb 06 05 42.3
comp=Z,6μm,0.3s
IMYA Miami 3.14 98 *e*Pn **Pn 06 05 33.0 +2.2**
IMYA IAMB IAmb 06 05 42.8
comp=Z,3μm,0.4s
IPRN Peran 3.22 260 *e*Pn **Pb 06 05 35.3 -3.1**
IPRN IAMB IAmb 06 06 31.4
comp=N,26μm,0.7s
TABS Tabas 3.28 167 *e*Pn **Pb 06 05 35.8 -3.8**
TABS Tabas 3.28 167 *e*Pn **Pb 06 05 35.8 -3.8**
TKDS Koohdasht(Taba 3.32 167 *e*Pn **Pn 06 05 36.0 +2.7**
TKDS IAMB IAmb 06 06 38.3
comp=Z,0.0nm,0.8s
JRKH Jarkhoshk 3.44 105 *e*Pn **Pb 06 05 38.2 -4.0**
JRKH IAMB IAmb 06 05 51.3
comp=Z,0.0nm,0.4s
IDMV Damavand 3.65 251 *e*Pn **Pn 06 05 41.5 +3.5**
IDMV IAMB IAmb 06 06 51.7
comp=Z,3μm,0.6s
TPRV Parvadeh(Tabas 3.84 175 *e*Pn **Pn 06 05 42.8 +2.4**
TPRV IAMB IAmb 06 06 50.3
comp=Z,0.0nm,1.0s
ANAR Anarak 4.21 210 *e*Pn **Pn 06 05 47.3 +1.8**
ANAR IAMB IAmb 06 07 23.8
comp=Z,0.0nm,0.9s
KRSH Karshahi 4.43 231 *e*Pn **Pn 06 05 50.8 +2.2**
KRSH IAMB IAmb 06 07 08.5
comp=Z,0.0nm,0.7s
ITEG Tejag 4.46 152 *e*Pn **Pn 06 05 52.4 +3.5**
ITEG IAMB IAmb 06 06 03.8
comp=Z,702nm,0.3s
IMON Monand 4.61 142 *e*Pn **Pn 06 05 54.5 +3.4**
IMON IAMB IAmb 06 07 33.4
comp=E,2μm,0.6s
YZKH Yazd 4.67 198 *e*Pn **Pn 06 05 54.3 +2.5**
YZKH Yazd 4.67 198 *e*Pn **Pn 06 05 54.3 +2.5**
ICHK Chekchek 4.85 199 *e*Pn **Pn 06 05 56.5 +2.0**
ICHK IAMB IAmb 06 07 41.2
comp=N,865nm,0.6s
IKOO Kooshah 4.97 152 *e*Pn **Pn 06 05 59.2 +3.1**
IKOO IAMB IAmb 06 07 39.5
comp=Z,450nm,1.0s
IZEF Zefreh 5.11 220 *e*Pn **Pn 06 05 59.8 +1.8**
IZEF IAMB IAmb 06 07 40.3
comp=E,757nm,1.0s
IKLH Kolahrood 5.22 229 *e*Pn **Pn 06 06 02.0 +2.5**
IKLH IAMB IAmb 06 07 50.8
comp=Z,738nm,0.6s
ISAD Sadrabad 5.38 204 *e*Pn **Pn 06 06 03.5 +1.8**
ISAD IAMB IAmb 06 07 50.4
comp=Z,782nm,0.8s
IMEH Mehriz 5.63 194 *e*Pn **Pn 06 06 06.8 +1.7**
IGAR Gharneh 5.64 219 IAMB IAmb 06 06 09.1
comp=Z,819nm,0.4s
IGAR *e*Pn **Pn 06 06 08.3 +3.0**
IRAM Ramesheh 5.97 214 *e*Pn **Pn 06 06 12.4 +2.5**
IRAM IAMB IAmb 06 06 13.8
comp=Z,342nm,0.6s
IPIR Pirpir 6.07 228 *e*Pn **Pn 06 06 15.6 +4.3**
IPIR IAMB IAmb 06 06 17.4
comp=Z,1μm,0.3s
ZNJK Zanjan 6.08 270 *e*Pn **Pn 06 06 13.4 +2.1**
ZNJK Zanjan 6.08 270 *e*Pn **Pn 06 06 13.4 +2.1**
ROKH ROKH 6.23 225 *e*Pn **Pn 06 06 17.1 +3.7**
KHGB Koh Gabri 6.47 178 *e*Pn **Pn 06 06 20.6 +3.9**
KHGB IAMB IAmb 06 08 33.0
comp=Z,0.0nm,1.0s
ZNGN Zangian 6.50 225 *e*Pn **Pn 06 06 20.7 +3.5**
KRBR Kerman 6.88 176 *e*AML AML 06 08 44.0
comp=N,18nm,0.7s
ISRB Sarab 6.91 281 *e*Pn **Pn 06 06 23.8 +1.1**
ISRB IAMB IAmb 06 06 24.8
comp=Z,2μm,0.4s
NGRK Negar Kerman 7.21 177 *e*Pn **Pn 06 06 30.1 +3.1**
IHRS Heris 7.46 284 *e*Pn **Pn 06 06 31.1 +0.9**
IHRS IAMB IAmb 06 06 34.9
comp=Z,961nm,0.5s
ITBZ Tabriz 8.15 283 *e*Pn **Pn 06 06 41.6 +2.0**
ITBZ IAMB IAmb 06 06 41.9
comp=Z,306nm,0.4s
ISHB Shabestar 8.57 283 *e*Pn **Pn 06 06 46.8 +1.4**
ISHB IAMB IAmb 06 06 51.2
comp=Z,385nm,0.6s
LGD Lagodekhi 9.21 306 P **Pn 06 06 55.0 +1.0**
GNI Garni 9.60 293 *e*Pn **Pn 06 06 58.5 -1.1**
GNI *e*Sn **Sn 06 08 47.4 -0.2**
CHGR Chuyangaron 10.37 76 *e*Pn **Pn 06 07 10.1 0.0**
CHGR *e*Sn **Sn 06 09 07.3 +0.9**
KBL Kabul 10.65 99 *e*Pn **Pn 06 07 12.1 -2.0**
GAR Garm 11.31 75 *e*Pn **Pn 06 07 23.2 +0.4**
KBZ Khabaz 12.28 308 Pn **Pn 06 07 34.6 -1.4**
comp=Z,0.1nm,0.3s,baz=100,slow=6.1,SNR=4.2
KBZ Sn Sn 06 09 42.8 -10
comp=Z,0.2nm,0.3s,baz=21,slow=18,SNR=1.9
KK31 Karatay Array 12.58 56 *e*Pn **Pn 06 07 40.9 +0.8**
KK31 Karatay Array 12.58 56 ⇓Pn **Pn 06 07 40.4 +0.3**
comp=Z,3.5nm,0.8s,baz=243,slow=15,SNR=9.3
KK31 ⇑Sn **Sn 06 10 01.2 +0.9**
comp=Z,1.6nm,0.6s,baz=244,slow=24,SNR=4.6
KKAR Karatay Array 12.58 56 *e*Pn **Pn 06 07 40.9 +0.8**
AB31 Akbulak array 12.67 11 ⇓Pn **Pn 06 07 41.5 +0.1**
comp=Z,1.7nm,0.7s,baz=190,slow=12,SNR=24
AB31 ⇓Sn **Sn 06 09 53.8 -8.7**
comp=Z,1.8nm,0.6s,baz=261,slow=34,SNR=8.6
ABKAR Akbulak array 12.67 11 *e*Pn **Pn 06 07 42.6 +1.3**
AKTO Aktyubinsk 13.63 5 Pn **Pn 06 07 53.1 -1.3**
comp=Z,0.8nm,0.3s,baz=184,slow=15,SNR=15
AKTO Sn **Sn 06 10 16.9 -8.9**
comp=Z,0.2nm,0.3s,baz=277,slow=20,SNR=2.5
AKTO Aktyubinsk 13.63 5 ⇓Pn **Pn 06 07 52.8 -1.6**
comp=Z,4.1nm,0.7s
AKTO ⇑Sn **Sn 06 10 19.2 -6.6**
comp=Z,3.3nm,0.7s
MNAS Manas 13.71 61 Pn **Pn 06 07 59.8 +4.1**
comp=Z,2.5nm,1.0s
MNAS Sn **Sn 06 10 30.6 +2.5**
comp=Z,1.9nm,0.8s
AAK Ala-Archa 15.16 62 Pn **Pn 06 08 15.4 0.0**
comp=Z,0.2nm,0.3s,baz=197,slow=8.7,SNR=3.8
AAK LR LR 06 15 07.0
comp=Z,58nm,18.6s,baz=273,slow=41
AAK Ala-Archa 15.16 62 *e*Pn **Pn 06 08 16.9 +1.5**
comp=Z,4.7nm,1.4s
KSH Kashi 15.73 74 P **Pn 06 08 21.8 -1.1**
KSH pP P 06 08 25.0 -1.9
KSH sP pP 06 08 28.3 -1.7
KSH PP **sP 06 08 33.1 +1.7**
KSH S **Sn 06 11 14.5 -2.7**
KSH SS **SnSn 06 11 30.5 +0.6**
KSH PcP **PcP 06 13 23.9 +1.0**
KSH pmax pmax
comp=Z,9.0nm,0.5s
KSH pmax pmax
comp=Z,260nm,5.6s
KSH LR LR
comp=N,340nm,5.9s
KSH LR LR
comp=E,410nm,5.3s
KSH LR LR
comp=Z,390nm,6.1s
MMAI Mount Meron Ar 17.52 264 LR LR 06 16 20.4
comp=Z,30nm,18.4s,baz=160,slow=40
BRTR Keskin Array B 17.98 286 P **Pn 06 08 50.4 -0.9**
comp=Z,0.1nm,0.3s,baz=106,slow=10,SNR=7.4
BRVK Borovoye 18.93 27 *e*P **Pn 06 09 03.7 +1.0**
comp=Z,4.9nm,0.8s
BVAR Borovoye Array 18.95 27 P **Pn 06 09 04.2 +1.4**
comp=Z,0.8nm,0.3s,baz=210,slow=9.8,SNR=35

ARU Arti 19.64 4 *e*P **Pn 06 09 12.3 +1.2**
comp=Z,7.2nm,1.2s
KURBB Kurchatov Arra 21.06 42 P **P 06 09 27.4 +2.2**
comp=Z,0.9nm,0.6s,baz=243,slow=12,SNR=6.4
KURK Kurchatov 21.16 42 *e*P **P 06 09 29.0 +2.7**
comp=Z,5.3nm,0.9s
MAKZ Makanchi 21.50 54 *e*P **P 06 09 31.9 +1.9**
comp=Z,1.9nm,0.9s
MK01 Makanchi Array 21.70 55 *e*P **P 06 09 33.4 +1.2**
MK31 Makanchi Array 21.70 55 *e*P **P 06 09 33.9 +1.8**
MKAR Makanchi Array 21.70 55 P **P 06 09 33.6 +1.4**
comp=Z,0.7nm,0.7s,baz=244,slow=12,SNR=6.0
MKAR Makanchi Array 21.70 55 *e*P **P 06 09 32.9 +0.8**
comp=Z,10nm,0.6s
AKASG Malin Array Be 23.76 314 P **P 06 09 53.0 -0.5**
comp=Z,1.8nm,0.5s,baz=118,slow=9.1,SNR=8.0
AKBB Malin Array Si 23.76 314 *e*P **P 06 09 53.3 -0.2**
comp=Z,4.9nm,0.7s
KIEV Kiev 23.76 314 *e*P **P 06 09 53.4 -0.2**
comp=Z,4.7nm,0.7s
AK11 Malin Array Si 23.78 314 *e*P **P 06 09 53.1 -0.6**
MLR Muntele Rosu 24.28 300 P **P 06 09 58.0 -0.6**
comp=Z,2.4nm,0.7s,baz=108,slow=16,SNR=5.5
MLR LR LR 06 22 26.0
comp=Z,38nm,19.9s,baz=172,slow=44
MLR Muntele Rosu 24.28 300 *e*P **P 06 09 57.6 -1.0**
comp=Z,7.1nm,1.2s
WMQ Urumqi 24.85 64 *e*P **P 06 10 06.4 +2.7**
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,250nm,4.7s
WMQ LR LR
comp=N,54nm,14.5s
WMQ LR LR
comp=E,49nm,19.7s
WMQ LR LR
comp=Z,61nm,16.1s
BUR04 Bucovina Ar. S 25.21 305 *e*P **P 06 10 07.2 +0.1**
BUR08 Bucovina Ar. S 25.23 305 *e*P **P 06 10 06.6 -0.6**
ZALV Zalesovo Beam 26.08 40 P **P 06 10 17.0 +2.3**
comp=Z,0.7nm,0.6s,baz=242,slow=11,SNR=2.3
HFS Hagfors 35.63 324 P **P 06 11 39.2 +0.4**
comp=Z,1.8nm,0.8s,baz=107,slow=8.0,SNR=2.5
CMAR Chiang Mai Arr 41.62 104 P **P 06 12 30.7 +1.1**
comp=Z,1.0nm,0.3s,baz=309,slow=9.2,SNR=3.3
HHC Hu-ho-hao-te 42.65 67 *e*P **P 06 12 36.0 -1.9**
HHC pmax pmax
comp=Z,14nm,0.8s
TORD Torodi Ar. Bea 53.99 259 P **P 06 14 04.6 -1.0**
comp=Z,1.1nm,1.0s,baz=52,slow=7.5,SNR=5.9

MAN 14 06:12:41.4, 9.68N×122.01E, h16km, mb3.6, ML2.3, MS1.7, 2C, Negros

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**1.10**	**31**	*e*P	Pb		06 13 00.6	-1.5
GUIM				*e*S	Sg		06 13 17.4	+0.3
SNPH	**Sibulan**	**1.25**	**105**	⇑*i*P	Pn		06 13 01.3	-3.1
SNPH				*i*S	Sb		06 13 17.9	-2.7
CUYO	**Cuyo Island**	**1.52**	**320**	*e*P	Pn		06 13 07.4	-0.6
RCP	**Roxas**	**2.00**	**21**	⇑*e*P	Pn		06 13 15.4	+0.7

*ATH **14** 06:35:17.6, 36.40N×27.92E, h22km±2km, ML2.5/3, Error ellipse: s-maj=3.3km s-min=1.1km az=145.0*
*ISK **14** 06:35:17.7, 36.42N×27.99E, h5km, ML2.5/10*
*ISCJB **14** 06:35:18.2±0.5, 36.36N±0.03×27.91E±0.03, h6km±4km, Error ellipse: s-maj=4.4km s-min=3.5km az=19.4*
*THE **14** 06:35:18.1, 36.40N×27.95E, h0km, ML2.4/2, Error ellipse: s-maj=1.3km s-min=0.6km az=52.0*
*DDA **14** 06:35:19.0, 36.44N×27.99E, h7km±3km, ML2.7*
ISC 14 06:35:18.2±1.0, 36.42N±0.02×27.95E±0.02, h8km±9km, n38, σ1s92/55, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.25**	**144**	PG	**Pg**		**06 35 23.1**	**0.0**
ARG	**Arkhangelos**	**0.25**	**144**	P	**Pg**		**06 35 23.1**	**0.0**
ARG				S	**Sg**		**06 35 27.5**	**+1.0**
ARG				AML	AML		06 35 28.4	
	comp=E,2267μm,0.2s							
ARG				AML	AML		06 35 29.2	
	comp=N,1740μm,0.2s							
ARG	**Arkhangelos**	**0.25**	**144**	P	**Pg**		**06 35 23.1**	**0.0**
ARG				S	**Sg**		**06 35 27.9**	**+1.4**
DATC	**Datca-Mugla**	**0.41**	**326**	PG	**Pb**		**06 35 27.4**	**-0.2**
DATC				SG	**Sb**		**06 35 33.6**	**-0.4**
DAT	**Datca**	**0.43**	**316**	PG	**Pg**		**06 35 27.7**	**+1.1**
DAT				SG	**Sb**		**06 35 34.9**	**+0.2**
DAT	**Datca**	**0.43**	**316**	*i*P	**Pb**		**06 35 28.3**	**+0.3**
DAT				*i*S	**Sb**		**06 35 35.7**	**+1.0**
NISR	**Nisiros**	**0.69**	**287**	P	**Pg**		**06 35 30.6**	**-0.8**
DALY	**Dalyan (Mula)**	**0.69**	**55**	PG	**Pg**		**06 35 31.5**	**0.0**
DALY	**Dalyan (Mula)**	**0.69**	**55**	IAML_P				
	comp=Z,774nm,0.2s							
DALY				*i*P	**Pg**		**06 35 31.4**	**-0.2**
DALY				*i*S	**Sb**		**06 35 42.2**	**0.0**
TURN	**Turunc**	**0.70**	**49**	PG	Pg		06 35 26.6	-5.0
TURN				SG	**Sg**		**06 35 33.5**	**-7.2**
TURN	**Turunc**	**0.70**	**49**	IAML_P				
	comp=Z,3μm,0.1s							
TURN				*i*P	**Pg**		**06 35 27.1**	**-4.5**
BDRM	**Kayabasi**	**0.76**	**328**	IAML_P				
	comp=Z,608nm,0.3s							
BDRM				*i*P	**Pb**		**06 35 34.3**	**+0.7**
BDRM				*i*S	**Sn**		**06 35 46.4**	**-0.5**
BODT	**Bodrum**	**0.82**	**322**	PG	**Pb**		**06 35 34.9**	**+0.3**
BODT	**Bodrum**	**0.82**	**322**	P	**Pb**		**06 35 35.1**	**+0.5**
BODT				S	**Sb**		**06 35 47.8**	**+1.9**
MLSB	**Milas**	**0.89**	**351**	PG	**Pg**		**06 35 35.4**	**+0.2**
FETY	**Fethiye**	**0.94**	**76**	PG	**Pb**		**06 35 36.2**	**-0.5**
FETY	**Fethiye**	**0.94**	**76**	P	**Pb**		**06 35 36.4**	**-0.3**
FETY				S	**Sn**		**06 35 51.1**	**-0.2**
FETY	**Fethiye**	**0.94**	**76**	IAML_P				
	comp=Z,985nm,0.2s							
FETY				*i*P	**Pb**		**06 35 36.7**	**0.0**
KARP	**Karpathos**	**1.08**	**216**	P	**Pg**		**06 35 38.0**	**-0.9**
KARP				S	**Sg**		**06 35 52.6**	**-0.3**
KARP				AML	AML		06 35 55.6	
	comp=N,522μm,0.4s							
KARP				AML	AML		06 35 57.5	
	comp=E,453μm,0.2s							
KARP	**Karpathos**	**1.08**	**216**	P	**Pg**		**06 35 38.3**	**-0.6**
KARP				S	**Sb**		**06 35 54.2**	**+0.9**
AYDN	**Tasoluk**	**1.24**	**358**	IAML_P				
	comp=Z,784nm,0.2s							
AYDN				*i*P	**Pg**		**06 35 43.0**	**+1.0**
AYDN				*i*S	**Sn**		**06 35 60.0**	**+1.2**
TAVA	**DENIZLI_Tavas**	**1.30**	**36**	IAML_P				
	comp=Z,400nm,0.2s							
TAVA				*i*P	**Pg**		**06 35 43.5**	**+0.4**
KSL	**Kastellorizon**	**1.35**	**101**	P	**Pg**		**06 35 43.8**	**-0.3**
KSL				S	**Sn**		**06 36 03.3**	**+2.0**
AKAS	**Kas**	**1.35**	**97**	PN	**Pg**		**06 35 43.9**	**-0.2**
AKAS	**Kas**	**1.35**	**97**	*i*P	**Pg**		**06 35 45.1**	**+1.0**
GCAM	**G?zelcaml?**	**1.40**	**336**	*i*P	**Pn**		**06 35 40.9**	**-3.0**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**358**	PN	**Pg**		**06 35 47.4**	**0.0**
GOLH	**Golhisar**	**1.53**	**57**	IAML_P				
	comp=Z,1μm,0.2s							
GOLH				*i*P	**Pg**		**06 35 50.9**	**+3.4**
GOLH				*i*S	**Sg**		**06 36 15.4**	**+8.0**
AMGA	**Amorgos Island**	**1.70**	**285**	P	**Pn**		**06 35 48.0**	**-0.1**
ANAF	**Anafi Island**	**1.75**	**269**	P	**Pn**		**06 35 49.4**	**+0.6**
ANAF	**Anafi Island**	**1.75**	**269**	P	**Pn**		**06 35 49.0**	**+0.2**
ZKR	**Zakros**	**1.92**	**228**	P	**Pn**		**06 35 51.6**	**+0.5**
ZKR				S	**Sn**		**06 36 14.2**	**-1.1**
KORT	**Korkueli**	**2.02**	**73**	PN	**Pb**		**06 35 53.5**	**-1.6**
KORT	**Korkueli**	**2.02**	**73**	IAML_P				
	comp=Z,639nm,0.3s							
KORT				*i*P	**Pg**		**06 35 56.0**	**-0.9**
MANT	**Manisa**	**2.12**	**13**	IAML_P				
	comp=Z,128nm,0.1s							
MANT				*i*P	**Pb**		**06 35 56.1**	**-0.9**
NPS	**Neapolis**	**2.22**	**239**	P	**Pn**		**06 35 55.0**	**-0.3**
NPS				S	**Sn**		**06 36 21.3**	**-1.5**
NPS				AML	AML		06 36 22.7	
	comp=E,200μm,0.3s							
NPS				AML	AML		06 36 22.9	
	comp=N,162μm,0.4s							
LAST	**Lasithi**	**2.37**	**239**	P	**Pn**		**06 35 57.1**	**-0.2**
LAST				S	**Sn**		**06 36 24.8**	**-1.7**
CHOS	**Chios island**	**2.48**	**323**	P	**Pn**		**06 35 58.4**	**-0.4**

*MAN **14** 06:46:52.7, 8.69N×126.46E, h28km, mb4.8, ML3.7, MS3.6*
MAN INTENSITY II - TANDAG SURIGAO DEL SUR.
*ISCJB **14** 06:46:53.1±0.6, 8.72N±0.03×126.41E±0.05, h80km±5km, mb4.4/46, Error ellipse: s-maj=8.1km s-min=5.0km az=165.2*
*IDC **14** 06:46:55.5±2.2, 8.69N×126.30E, h86km±21km, mb3.9/21, mb1 4.0/21, mb1mx3.9/46, mbtmp4.2/21, Error ellipse: s-maj=22.3km s-min=10.1km az=86.0*
*NEIC **14** 06:46:55.0±0.8, 8.71N×126.29E, h82km±8km, mb4.6/28, Error ellipse: s-maj=7.3km s-min=3.7km az=76.0*
NEIC Felt [II PIVS] at Tandag.
ISC 14 06:46:54.8±1.0, 8.72N±0.04×126.35E±0.07, h78km±9km, n104, σ1s22/120, mb4.5/54, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.76**	**289**	*e*P	**Pn**		**06 47 09.0**	**-2.0**
BUTP				*e*S	**Sn**		**06 47 21.4**	**-1.7**
BUKP	**Musuan**	**1.52**	**237**	*e*P	**Pn**		**06 47 19.3**	**-1.1**
BUKP				*e*S	**Sn**		**06 47 39.8**	**0.0**
DAV	**Davao City (W)**	**1.81**	**205**	P	**Pn**		**06 47 24.3**	**+0.2**
	88nm,0.3s,baz=24,slow=20,SNR=4.6							
DAV				S	**Sn**		**06 47 49.7**	**+3.4**
	243nm,0.3s,baz=240,slow=24,SNR=3.1							
DAV	**Davao City (W)**	**1.81**	**205**	*e*Pn	**Pn**		**06 47 24.4**	**+0.2**
DAV				*e*Sn	**Sn**		**06 47 50.1**	**+3.7**
MSLP	**Maasin**	**2.04**	**314**	*e*P	**Pn**		**06 47 26.8**	**-0.4**
MSLP				*e*S	**Sn**		**06 47 56.3**	**+4.5**
TBP	**Tagbilaran**	**2.64**	**292**	*e*P	**Pn**		**06 47 39.2**	**+3.9**
TBP				*i*S	**Sn**		**06 48 09.6**	**+3.2**
DDMP	**Don Marcelino,**	**2.67**	**194**	*e*P	**Pn**		**06 47 36.1**	**+0.4**
PLP	**Palo**	**2.78**	**331**	⇓*e*P	**Pn**		**06 47 37.1**	**-0.2**
PLP				*e*S	**Sn**		**06 48 14.7**	**+4.8**
SKMP	**Bagumbayan, Su**	**2.83**	**220**	*e*P	**Pn**		**06 47 37.5**	**-0.3**
LLP	**Lapu-Lapu**	**2.84**	**304**	*e*P	**Pn**		**06 47 38.1**	**+0.1**
LLP				*e*S	**Sn**		**06 48 11.8**	**+0.6**
DCPH	**Dipolog City**	**2.97**	**268**	⇑*e*P	**Pn**		**06 47 40.5**	**+0.8**
DCPH				*e*S	**Sn**		**06 48 16.6**	**+2.2**
DCPH	**Dipolog City**	**2.97**	**268**	⇑*i*P	**Pn**		**06 47 41.7**	**+2.0**
BESP	**Borongan**	**3.00**	**343**	*e*P	**Pn**		**06 47 40.5**	**+0.2**
PAGZ	**Pagadian**	**3.06**	**254**	*e*P	**Pn**		**06 47 41.4**	**+0.4**
SNPH	**Sibulan**	**3.14**	**282**	⇓*e*P	**Pn**		**06 47 42.8**	**+0.6**
SNPH				*e*S	**Sn**		**06 48 15.7**	**-2.9**
CNP	**Catarman**	**4.12**	**336**	*e*P	**Pn**		**06 47 56.3**	**+1.0**
GUIM	**Jordan**	**4.17**	**297**	*e*P	**Pn**		**06 47 54.8**	**-1.2**
BBP	**Basco**	**12.40**	**340**	*e*P	P		06 50 05.3	+8.0
TPUB	**Ta-pu**	**15.50**	**340**	*e*Pn	**Pn**		**06 50 29.1**	**+0.1**
	53nm,1.4s							
PBKT	**Sadao Pong**	**25.94**	**290**	*e*P	**P**		**06 52 20.7**	**+0.6**
	6.0nm,0.7s							
FITZ	**Fitzroy Crossi**	**26.65**	**182**	P	**P**		**06 52 25.7**	**-0.7**
	1.4nm,0.3s,baz=15,slow=7.4,SNR=12							
FITZ	**Fitzroy Crossi**	**26.65**	**182**	*e*P	**P**		**06 52 26.3**	**-0.1**
	39nm,1.6s							
COEN	**Coen**	**28.04**	**143**	*e*P	**P**		**06 52 39.1**	**+0.2**
	5.2nm,0.8s							
INU	**Inuyama**	**28.25**	**19**	*e*P	**P**		**06 52 40.0**	**-0.6**
	56nm,1.4s							
CM31	**Chiang Mai Arr**	**28.31**	**293**	*e*P	**P**		**06 52 41.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**28.31**	**293**	P	**P**		**06 52 42.2**	**+0.9**
	1.8nm,0.6s,baz=91,slow=7.5,SNR=9.1							
KSAR	**Wonju Array Be**	**28.63**	**3**	P	**P**		**06 52 44.2**	**+0.3**
KSRS	**Korea Array**	**28.64**	**3**	P	**P**		**06 52 44.2**	**+0.2**
	1.8nm,0.7s,baz=179,slow=9.7,SNR=3.9							
WR1	**Warramunga Arr**	**29.55**	**165**	*e*P	**P**		**06 52 51.1**	**-1.1**
	14nm,1.6s							
WRA	**Warramunga Arr**	**29.55**	**165**	P	**P**		**06 52 51.1**	**-1.1**
	0.6nm,0.5s,baz=344,slow=8.1,SNR=14							
WB2	**Warramunga Arr**	**29.55**	**165**	*e*P	**P**		**06 52 50.0**	**-2.2**
	11nm,1.5s							
MJAR	**Matsushiro Arr**	**29.72**	**19**	P	**P**		**06 52 52.7**	**-1.0**
	1.5nm,0.7s,baz=198,slow=10,SNR=4.9							
MAJO	**Matsushiro**	**29.73**	**19**	*e*P	**P**		**06 52 52.7**	**-1.0**
AS31	**Alice Springs**	**33.02**	**167**	*e*P	**P**		**06 53 22.5**	**-0.3**
	2.2nm,1.5s							
ASAR	**Alice Springs**	**33.02**	**167**	P	**P**		**06 53 22.5**	**-0.3**
	0.6nm,0.3s,baz=350,slow=7.0,SNR=20							
ASAR				PcP	**PcP**		**06 56 04.8**	**-0.3**
	1.7nm,0.6s,baz=322,slow=14,SNR=4.7							
AS01	**Alice Springs**	**33.03**	**167**	*e*P	**P**		**06 53 22.7**	**-0.2**
USA0B	**Ussuriysk Arra**	**35.69**	**7**	*e*P	**P**		**06 53 45.3**	**-0.2**
	7.7nm,0.7s							
USRK	**Ussuriysk Ar.**	**35.69**	**7**	P	**P**		**06 53 46.3**	**+0.7**
	7.2nm,0.7s,baz=184,slow=7.9,SNR=17							
SHL	**Shillong**	**36.80**	**301**	*e*P	**P**		**06 53 55.2**	**-0.3**
	6.9nm,0.6s							
ASAJ	**Asahikawa**	**37.99**	**19**	P	**P**		**06 54 06.2**	**+1.1**
	2.5nm,0.3s,baz=298,slow=5.5,SNR=5.5							
ASAJ	**Asahikawa**	**37.99**	**19**	*e*P	**P**		**06 54 05.5**	**+0.3**
	35nm,1.5s							
FORT	**Forrest**	**39.30**	**178**	*e*P	**P**		**06 54 16.1**	**-0.1**
	31nm,0.6s							
KLR	**Kul'dur**	**40.63**	**5**	P	**P**		**06 54 27.2**	**+0.2**
	1.2nm,0.5s,baz=173,slow=7.4,SNR=6.0							
ODAN	**Odare**	**41.03**	**301**	*e*P	**P**		**06 54 31.9**	**+0.9**
	18nm,0.6s							
RAMN	**Ramite**	**41.73**	**301**	*e*P	**P**		**06 54 37.7**	**+1.0**
	10nm,0.5s							
JIRN	**Jiri**	**42.30**	**302**	*e*P	**P**		**06 54 42.3**	**+0.8**
	26nm,0.5s							
ULN	**Ulaanbaatar**	**42.30**	**341**	*e*P	**P**		**06 54 40.1**	**-0.9**
	1.4nm,0.6s							
NWAO	**Narrogin (SRO)**	**42.31**	**191**	P	**P**		**06 54 42.3**	**+1.3**
	7.4nm,0.8s,baz=274,slow=11,SNR=2.4							
BBOO	**Buckleboo**	**42.32**	**168**	*e*P	**P**		**06 54 40.9**	**-0.1**
	28nm,1.4s							
SONA0	**Songino Array**	**42.50**	**340**	*e*P	**P**		**06 54 41.5**	**-1.0**
SONM	**Songino Array**	**42.50**	**340**	P	**P**		**06 54 41.5**	**-1.0**
	0.3nm,0.4s,baz=155,slow=7.9,SNR=3.3							
SONM				PcP	**PcP**		**06 56 33.8**	**-0.1**
	0.3nm,0.5s,baz=158,slow=3.3,SNR=3.8							
GUN	**Gumba**	**42.64**	**302**	*e*P	**P**		**06 54 44.9**	**+0.7**
	12nm,0.4s							
STKA	**Stephens Creek**	**42.92**	**161**	P	**P**		**06 54 45.6**	**-0.3**
	2.3nm,0.6s,baz=320,slow=7.2,SNR=7.8							
STKA	**Stephens Creek**	**42.92**	**161**	*e*P	**P**		**06 54 45.5**	**-0.4**
	0.7nm,0.7s							
PKI	**Pulchoki**	**42.93**	**301**	*e*P	**P**		**06 54 46.8**	**+0.3**
PKIN	**Phulchoki**	**42.94**	**301**	*e*P	**P**		**06 54 46.5**	**-0.1**
	4.8nm,0.4s							
DMN	**Daman**	**43.20**	**301**	*e*P	**P**		**06 54 49.0**	**+0.4**
KOLN	**Koldanda**	**44.52**	**301**	*e*P	**P**		**06 55 00.1**	**+0.9**
	20nm,0.6s							
DANN	**Dangsing**	**44.55**	**302**	*e*P	**P**		**06 55 00.1**	**+0.6**
	14nm,0.4s							
PYUN	**Piuthan**	**45.13**	**301**	*e*P	**P**		**06 55 04.9**	**+0.9**
	33nm,1.0s							
PEA0B	**Petropavlovsk-**	**51.01**	**24**	*e*P	**P**		**06 55 49.4**	**+0.7**
	75nm,1.5s							
PETK	**Petropavlovsk-**	**51.01**	**24**	P	**P**		**06 55 50.2**	**+1.5**
	3.2nm,0.5s,baz=207,slow=5.7,SNR=9.2				

33nm,1.3s
BKZ Black Stump Fm 66.56 139 *e*P **P 06 57 36.9 +0.2**
30nm,1.6s
ABKAR Akbulak array 68.10 320 *e*P **P 06 57 45.5 -0.8**
ARU Arti 70.56 327 *e*P **P 06 58 00.2 -1.2**
9.4nm,0.4s
IM3 Indian Mountai 77.97 24 P **P 06 58 45.0 +0.7**
BPAW Bear Paw Mtn. 79.01 26 *e*P **P 06 58 51.0 +0.9**
2.7nm,0.7s
MLY Manley 79.16 25 *e*P **P 06 58 51.9 +1.0**
3.3nm,0.8s
DHY Denali Highway 80.60 27 *e*P **P 06 58 59.2 +0.4**
12nm,1.4s
HDA Harding Lake 80.77 26 *e*P **P 06 58 59.5 0.0**
11nm,1.5s
ILAR Eielson Array 80.80 26 P **P 06 58 59.3 -0.4**
0.6nm,0.5s,baz=244,slow=4.7,SNR=14
ILB Eielson Array 80.80 26 *e*P **P 06 58 58.7 -0.9**
DAWY Dawson 84.09 26 *e*P **P 06 59 17.7 +0.8**
5.1nm,1.3s
ARA0 ARCESS Array S 85.67 340 *e*P **P 06 59 24.2 -0.5**
ARCES ARCESS Array B 85.67 340 P **P 06 59 24.2 -0.4**
8.9nm,1.1s,baz=82,slow=6.5,SNR=4.7
INK Inuvik 85.69 22 P **P 06 59 25.4 +0.6**
0.6nm,0.6s,baz=310,slow=6.0,SNR=6.1
INK Inuvik 85.69 22 *e*P **P 06 59 24.9 +0.1**
6.1nm,1.6s
FIA1 FINESS Array S 87.29 332 *e*P **P 06 59 31.2 -1.5**
11nm,1.3s
FINES FINESS Array B 87.29 332 P **P 06 59 31.5 -1.2**
1.1nm,0.4s,baz=75,slow=4.8,SNR=13
VNDA Vanda 88.39 173 P **P 06 59 37.1 -0.5**
1.6nm,0.8s,baz=309,slow=6.6,SNR=7.4
VNDA Vanda 88.39 173 *e*P **P 06 59 37.6 +0.1**
YKA Yellowknife Ar 95.13 24 P **P 07 00 09.7 +0.6**
0.7nm,0.6s,baz=300,slow=4.6,SNR=15
YKB5 Yellowknife Ar 95.13 24 *e*P **P 07 00 09.4 +0.3**
LTX Lajitas 118.77 50 *e*PKPdf **PKiKP 07 05 35.3 +0.4**
TXAR Lajitas Array 118.77 50 PKP **PKiKP 07 05 35.3 +0.4**
0.3nm,0.5s,baz=330,slow=3.1,SNR=3.1
TORD Torodi Ar. Bea 120.90 291 PKP **PKPdf 07 05 38.9 -0.3**
0.2nm,0.5s,baz=102,slow=1.2,SNR=4.2
TOA1 Torodi Ar. Sit 120.91 291 *e*PKPdf **PKPdf 07 05 38.9 -0.3**
PLCA Paso Flores 144.75 157 PKP **PKPdf 07 06 22.8 -0.3**
2.3nm,0.7s,baz=238,slow=4.0,SNR=8.9
PLCA Paso Flores 144.75 157 *e*PKPdf **PKPdf 07 06 23.1 0.0**

IDC ***14*** *06:50:44.4±1.5, 8.67°S×124.71°E, h0km, mb4.2/2, mb1 4.5/5, mb1mx3.9/40, mbtmp4.3/5, ML4.5/3, MS3.2/4, Ms1 3.2/4, ms1mx2.8/32, Error ellipse: s-maj=45.3km s-min=20.7km az=75.0*

ISCJB ***14*** *06:50:52.9±0.4, 9.19°S±0.04°×124.33°E±0.04°, h99km±4km, mb4.2/6, Error ellipse: s-maj=9.1km s-min=4.1km az=138.8*

NEIC ***14*** *06:50:53.7±0.6, 9.17°S×124.35°E, h88km±6km, mb4.2/6, Error ellipse: s-maj=10.7km s-min=4.6km az=221.0*

DJA ***14*** *06:50:55.9±0.8, 9°S±3'×12'4E±', h19km±10km, M4.2/7, mb4.3/1, mB4.8/1, MLv4.2/7, Mw(mB)4.0/1*

ISC 14 06:50:53.8±0.8, 9°27'S±0.05'×124°32'E±0.05', h94km±8km, n57, σ2ᵗ12/68, mb4.2/6, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.49**	**186**	*e*Pn	**Pn**	**06 51 10.0**	**+1.0**
SOEI				*e*Sn	**Sn**	**06 51 21.9**	**+1.6**
SOEI	**Soe**	**0.49**	**186**	P	**Pn**	**06 51 10.5**	**+1.5**
SOEI				S	**Sn**	**06 51 20.8**	**+0.5**
BATI	**Baumata**	**1.14**	**215**	Pn	**Pn**	**06 51 17.5**	**+2.1**
	258nm,0.3s,baz=56,slow=2.1,SNR=28						
BATI				Sn	**Sn**	**06 51 35.2**	**+3.6**
	561nm,0.3s,baz=4.1,slow=24,SNR=9.4						
BATI				LR	LR	06 52 20.0	
	comp=Z,490nm,20.1s,baz=64,slow=52						
BATI	**Baumata**	**1.14**	**215**	P	**Pn**	**06 51 17.3**	**+2.0**
BATI				S	**Sn**	**06 51 34.9**	**+3.3**
MMRI	**Maumere**	**2.15**	**287**	*e*Pn	**Pn**	**06 51 26.8**	**-1.3**
MMRI				*e*Sn	**Sn**	**06 51 52.8**	**-1.6**
MMRI	**Maumere**	**2.15**	**287**	P	**Pn**	**06 51 26.6**	**-1.5**
MMRI				S	**Sn**	**06 51 50.7**	**-3.7**
EDFI	**Ende, Flores**	**2.65**	**281**	P	**Pn**	**06 51 33.8**	**-1.0**
EDFI				S	**Sn**	**06 52 02.1**	**-4.2**
BASI	**Baing, Sumba**	**3.81**	**255**	P	**Pn**	**06 51 51.1**	**+0.8**
WSI	**Waingapu**	**3.99**	**264**	P	**Pn**	**06 51 53.2**	**+0.5**
BBSI	**Bau Bau**	**4.14**	**335**	P	**Pn**	**06 51 54.9**	**+0.1**
KDI	**Kendari**	**5.54**	**342**	P	**Pn**	**06 52 13.8**	**0.0**
BKSI	**Bulukumba**	**5.72**	**313**	P	**Pn**	**06 52 16.3**	**+0.1**
BNSI	**Bone**	**6.39**	**319**	P	**Pn**	**06 52 25.0**	**-0.4**
PLAI	**Plampang**	**6.48**	**273**	P	**Pn**	**06 52 27.4**	**+0.8**
SPSI	**Sidrap Palu**	**6.94**	**319**	P	**Pn**	**06 52 32.5**	**-0.4**
BNDI	**Bandanaira**	**7.28**	**50**	P	**Pn**	**06 52 42.0**	**+4.5**
SANI	**Sanana**	**7.36**	**13**	P	**Pn**	**06 52 41.2**	**+2.6**
MTN	**Manton Dam**	**7.57**	**119**	*e*Pn	**Pn**	**06 52 43.0**	**+1.5**
MTN				*e*Sn	**Sn**	**06 54 06.1**	**+0.4**
TTSI	**Tana Toraja**	**7.63**	**324**	P	**Pn**	**06 52 42.3**	**0.0**
FITZ	**Fitzroy Crossi**	**8.87**	**172**	Pn	**Pn**	**06 53 00.2**	**+1.1**
	7.8nm,0.3s,baz=346,slow=8.6,SNR=19						
FITZ				Sn	**Sn**	**06 54 33.3**	**-4.1**
	20nm,0.3s,baz=112,slow=23,SNR=24						
FITZ				LR	LR	06 57 16.0	
	comp=Z,58nm,19.6s,baz=358,slow=42						
FITZ	**Fitzroy Crossi**	**8.87**	**172**	*e*Pn	**Pn**	**06 52 59.9**	**+0.8**
FITZ				*e*Sn	**Sn**	**06 54 35.2**	**-2.2**
JAGI	**Jajag, Banyuwa**	**10.08**	**274**	*e*Pn	**Pn**	**06 53 15.3**	**-0.3**
MBWA	**Marble Bar**	**12.62**	**200**	*e*Pn	**Pn**	**06 53 50.4**	**+0.5**
WR1	**Warramunga Arr**	**14.36**	**139**	*e*Pn	**Pn**	**06 54 12.4**	**-0.3**
WRA	**Warramunga Arr**	**14.36**	**139**	Pn	**Pn**	**06 54 12.4**	**-0.3**
	1.6nm,0.3s,baz=320,slow=14,SNR=24						
WRA				Sn	**Sn**	**06 56 43.0**	**-8.1**
	3.1nm,0.3s,baz=307,slow=24,SNR=12						
WRA				LR	LR	07 00 45.4	
	comp=Z,69nm,18.6s,baz=300,slow=41						
WRAB	**Tennant Creek**	**14.37**	**139**	*e*Pn	**Pn**	**06 54 13.3**	**+0.6**
WRAB				*e*Sn	**Sn**	**06 56 43.8**	**-7.2**
WB2	**Warramunga Arr**	**14.37**	**139**	*e*Pn	**Pn**	**06 54 12.6**	**-0.3**
WC3	**Warramunga Arr**	**14.40**	**139**	*e*Pn	**Pn**	**06 54 13.4**	**+0.2**
CISI	**Cisompet, Garu**	**16.42**	**275**	*e*Pn	**Pn**	**06 54 39.1**	**+0.4**
	53nm,1.0s						
AS31	**Alice Springs**	**17.00**	**149**	*e*Pn	**P**	**06 54 47.0**	**+0.9**
	3.4nm,0.3s						
AS31				*e*Sn	**Sn**	**06 57 52.6**	**-2.0**
ASAR	**Alice Springs**	**17.00**	**149**	P	**P**	**06 54 47.8**	**+1.6**
	1.9nm,0.3s,baz=317,slow=11,SNR=38						
ASAR				S	**Sn**	**06 57 49.2**	**-5.4**
	1.2nm,0.3s,baz=312,slow=22,SNR=6.2						
AS01	**Alice Springs**	**17.02**	**148**	*e*Pn	**P**	**06 54 47.0**	**+0.6**
MORW	**Morawa**	**21.18**	**200**	*e*P	**P**	**06 55 33.6**	**+2.0**
FORT	**Forrest**	**21.68**	**171**	*e*P	**P**	**06 55 39.3**	**+2.4**
	25nm,1.1s						
NWAO	**Narrogin (SRO)**	**24.44**	**195**	*e*P	**P**	**06 56 05.3**	**+1.6**
	14nm,1.1s						
BBOO	**Buckleboo**	**25.82**	**157**	*e*P	**P**	**06 56 18.5**	**+2.2**
	6.5nm,1.0s						
STKA	**Stephens Creek**	**27.62**	**147**	LR	LR	07 09 31.1	
	comp=Z,44nm,19.6s,baz=23,slow=40						
GUMO	**Guam**	**30.52**	**42**	LR	LR	07 07 11.2	
	comp=Z,137nm,21.6s,baz=358,slow=33						
CM01	**Chiang Mai Arr**	**37.20**	**318**	*e*P	**P**	**06 57 56.4**	**+0.2**
CM31	**Chiang Mai Arr**	**37.23**	**318**	*e*P	**P**	**06 57 57.3**	**+0.8**
CMAR	**Chiang Mai Arr**	**37.23**	**318**	P	**P**	**06 57 56.8**	**+0.3**
	2.2nm,0.8s,baz=139,slow=5.6,SNR=8.2						
ODAN	**Odare**	**50.73**	**316**	*e*P	**P**	**06 59 44.7**	**+0.1**
	15nm,0.6s						
RAMN	**Ramite**	**51.33**	**316**	*e*P	**P**	**06 59 49.6**	**+0.5**
	29nm,0.6s						
JIRN	**Jiri**	**52.06**	**316**	*e*P	**P**	**06 59 55.0**	**+0.3**
GUN	**Gumba**	**52.43**	**316**	*e*P	**P**	**06 59 57.5**	**+0.1**
	24nm,0.8s						
PKI	**Pulchoki**	**52.54**	**315**	*e*P	**P**	**06 59 58.1**	**-0.1**
	11nm,0.3s						
PKIN	**Phulchoki**	**52.56**	**315**	*e*P	**P**	**06 59 57.8**	**-0.4**
	7.4nm,0.3s						
DMN	**Daman**	**52.78**	**315**	*e*P	**P**	**07 00 00.0**	**+0.2**
KOLN	**Koldanda**	**53.93**	**314**	*e*P	**P**	**07 00 08.3**	**+0.1**
	19nm,0.9s						
DANN	**Dangsing**	**54.17**	**315**	*e*P	**P**	**07 00 10.0**	**0.0**
	30nm,0.7s						
PYUN	**Piuthan**	**54.56**	**314**	*e*P	**P**	**07 00 12.7**	**-0.1**
MK01	**Makanchi Array**	**67.18**	**330**	*e*P	**P**	**07 01 37.7**	**0.0**
MK31	**Makanchi Array**	**67.20**	**330**	*e*P	**P**	**07 01 37.9**	**0.0**
MK32	**Makanchi Array**	**67.20**	**330**	*e*P	**P**	**07 01 38.3**	**+0.4**
MKAR	**Makanchi Array**	**67.20**	**330**	P	**P**	**07 01 38.3**	**+0.4**
	2.5nm,0.8s,baz=138,slow=8.1,SNR=22						
MKAR	**Makanchi Array**	**67.20**	**330**	*e*P	**P**	**07 01 37.9**	**0.0**
	14nm,0.7s						
ARSB	**Arslanbob**	**68.95**	**321**	*e*P	**P**	**07 01 49.9**	**+0.8**
	3.4nm,1.1s						

NIED ***14*** *06:53:00, 37.20°N×141.50°E, h44km, Mw4.7 Best double couple: M₀1.43000×10¹⁶ NP1:φs100.00000°, δ72.00000°; λ162.00000°. NP2:φs195.00000°, δ73.00000°, λ19.00000°.*

BJI ***14*** *06:53:47.9, 37.24°N×141.76°E, h60km, mb4.7/55, mB5.1/33, Ms4.4/31, Ms7 4.1/31*

ISCJB ***14*** *06:53:47.3±0.4, 37.14°N±0.02°×141.59°E±0.03, h39km±3km, mb4.7/154, MS4.0/13, Error ellipse: s-maj=4.2km s-min=3.0km az=34.9*

JMA ***14*** *06:53:48.5±0.1, 37.18°N×141.54°E, h47km±2km, M4.9*

JMA Felt III J1.

MOS ***14*** *06:53:48.0±1.0, 37.32°N×141.54°E, h42km, mb4.8/62, Error ellipse: s-maj=7.2km s-min=4.6km az=98.0*

NEIC ***14*** *06:53:48.7±0.1, 37.13°N×141.57°E, h35km, mb4.8/108, Error ellipse: s-maj=3.3km s-min=2.3km az=148.0*

NEIC Felt widely in the Tokyo-Sendai area. Recorded [3 JMA] in Fukushima.

IDC ***14*** *06:53:49.4±1.8, 37.18°N×141.54°E, h42km±16km, mb4.2/29, mb1 4.4/37, mb1mx4.3/46, mbtmp4.4/37, ML4.0/7, MS3.7/12, Ms1 3.8/12, ms1mx3.4/41, Error ellipse: s-maj=14.3km s-min=10.4km az=118.0*

GCMT ***14*** *06:53:49.7±0.5, 37.23°N±0.03°×141.67°E±0.03, h41km±2km, MW4.8/62, Moment Tensor Solution. s14,c16; s62,c84; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.21±.18; Mθθ-0.79±.11; Mφφ0.57±.11; Mrθ0.64±.09; Mφθ-1.56±.07; Mrφ-0.64±.08; Best double couple: M₀1.93100×10¹⁶ NP1:φs99.00000°, δ76.00000°, λ157.00000°. NP2: φs195.00000°, δ67.00000°, λ15.00000°. Principal axes: T 2.0310, Plg26.0000°, Azm55.0000°; N -0.2000, Plg63.0000°, Azm250.0000°; P -1.8310, Plg6.0000°, Azm148.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 06:53:48.8±0.4, 37.14°N±0.03°×141.71°E±0.04, h34km±1km, h35km: pP-P, n328, σt²65/352, mb4.7/163, MS4.0/13, 18C-9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.71**	**289**	↓P	**Pn**	**06 54 00.3**	**-2.1**
JFK				S	**Sn**	**06 54 08.3**	**-3.9**
ONAJ	**Iwakimizuishiy**	**0.73**	**267**	↑P	**Pn**	**06 54 00.8**	**-2.0**
ONAJ				S	**Sn**	**06 54 09.3**	**-3.5**
JFFD	**Fukushimafurud**	**0.92**	**267**	↑P	**Pn**	**06 54 03.4**	**-2.0**
JFFD				S	**Sn**	**06 54 13.9**	**-3.5**
JMM	**Marumori**	**1.03**	**315**	↓P	**Pn**	**06 54 04.8**	**-2.1**
JMM				S	**Sn**	**06 54 16.3**	**-3.8**
JHO	**Hitachi**	**1.06**	**241**	↑P	**Pn**	**06 54 05.3**	**-1.9**
JHO				S	**Sn**	**06 54 17.3**	**-3.4**
JFT	**Otama**	**1.16**	**290**	↓P	**Pn**	**06 54 07.3**	**-1.4**
JFT				S	**Sn**	**06 54 20.3**	**-3.0**
JIO	**Ouri**	**1.35**	**348**	↓P	**Pn**	**06 54 09.8**	**-1.4**
JIO				S	**Sn**	**06 54 25.4**	**-2.4**
JOU	**Okura**	**1.48**	**326**	↓P	**Pn**	**06 54 11.6**	**-1.5**
JOU				*e*S	**Sn**	**06 54 29.7**	**-1.6**
JFY	**Yanaizu**	**1.62**	**280**	↑P	**Pn**	**06 54 13.8**	**-1.2**
JFY				S	**Sn**	**06 54 32.9**	**-1.9**
JYS	**Shirataka**	**1.70**	**310**	↓P	**Pn**	**06 54 14.8**	**-1.2**
JYS				S	**Sn**	**06 54 35.4**	**-1.1**
MJAR	**Matsushiro Arr**	**2.87**	**259**	P	**Pn**	**06 54 31.4**	**-0.8**
	87nm,0.3s,baz=86,slow=14,SNR=225						
MJAR				S	**Sn**	**06 55 09.2**	**+3.6**
	112nm,0.3s,baz=71,slow=16,SNR=5.8						
MJAR				LR	LR	06 55 52.6	
	comp=Z,1μm,19.1s,baz=80,slow=45						
MJAR	**Matsushiro Arr**	**2.87**	**259**	P	**Pn**	**06 54 31.4**	**-0.8**
MJAR				S	**Sn**	**06 55 09.2**	**+3.6**
MJAR				pmax	pmax		
	comp=Z,87nm,0.3s						
MJAR				smax	smax		
	comp=N,112nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,1μm,19.1s						
MAJO	**Matsushiro**	**2.88**	**259**	*e*Pn	**Pn**	**06 54 32.2**	**0.0**
MAJO				*e*Sn	**Sn**	**06 55 09.2**	**+3.6**
MAJO	**Matsushiro**	**2.88**	**259**	*c i*P	**Pn**	**06 54 32.2**	**0.0**
MAT	**Matsushiro**	**2.88**	**259**	P	**Pn**	**06 54 32.0**	**-0.2**
MAT				S	**Sn**	**06 55 03.9**	**-1.7**
INU	**Inuyama**	**4.20**	**246**	*e*Pn	**Pn**	**06 54 50.5**	**+0.1**
JHJ2	**Mitsune**	**4.31**	**202**	*e*Pn	**Pn**	**06 54 51.6**	**-0.2**
JHJ2				*e*Sn	**Sn**	**06 55 39.3**	**-1.6**
JHJ	**Hachijo jima 2**	**4.31**	**202**	P	**Pn**	**06 54 51.1**	**-0.8**
	comp=Z,133nm,0.3s,baz=322,slow=23,SNR=15						
JHJ				S	**Sn**	**06 55 38.6**	**-2.4**
	comp=Z,348nm,0.3s,baz=87,slow=22,SNR=11						
ERM	**Erimo**	**5.00**	**12**	*e*Pn	**Pn**	**06 55 01.2**	**-0.1**
ERM				*e*Sn	**Sn**	**06 55 60.0**	**+2.1**
ERM	**Erimo**	**5.00**	**12**	*e*P	**Pn**	**06 55 01.2**	**-0.1**
ERM				*e*		06 56 00.0	
ASAJ	**Asahikawa**	**7.00**	**5**	P	**Pn**	**06 55 27.8**	**-1.1**
	comp=Z,8.8nm,0.3s,baz=216,slow=12,SNR=17						
ASAJ				S	**Sn**	**06 56 45.4**	**-1.9**
	comp=Z,4.5nm,0.3s,baz=179,slow=28,SNR=3.7						
ASAJ	**Asahikawa**	**7.00**	**5**	*e*Pn	**Pn**	**06 55 28.4**	**-0.5**
ASAJ				*e*Sn	**Sn**	**06 56 45.9**	**-1.4**
YUK	**Yuzh-Kuril'sk**	**7.58**	**23**	*e*P	**Pn**	**06 55 34.5**	**-2.2**
YUK				*e*S	**Sn**	**06 56 54.7**	**-6.7**
YUK				pmax	pmax		
	comp=N,52nm,0.3s						
YUK				pmax	pmax		
	comp=Z,192nm,0.3s						
YUK				pmax	pmax		
	comp=E,78nm,0.1s						
YUK				MLR	MLR		
	comp=Z,496nm,17.0s						
SHO	**Shikotan**	**7.77**	**28**	*d i*P	**Pn**	**06 55 37.1**	**-2.3**
SHO				*i* S	**Sn**	**06 56 58.2**	**-7.9**
SHO				pmax	pmax		
	comp=Z,64nm,0.4s						
SHO				pmax	pmax		
	comp=E,39nm,0.3s						
SHO				pmax	pmax		
	comp=N,26nm,0.2s						
TEY	**Ternei**	**8.78**	**336**	↑*e*P	Pn	06 55 57.5	+4.2
TEY				*e*S	**Sn**	**06 57 32.2**	**+1.2**
TEY				pmax	pmax		
	comp=N,150nm,1.1s						
TEY				pmax	pmax		
	comp=Z,120nm,1.1s						
TEY				pmax	pmax		
	comp=E,90nm,1.0s						
KUR	**Kuril'sk**	**9.32**	**28**	*e*P	**Pn**	**06 55 59.1**	**-1.5**
KUR				*e*S	**Sn**	**06 57 37.5**	**-6.7**
KUR				pmax	pmax		
	comp=N,44nm,0.6s						
KUR				pmax	pmax		
	comp=E,34nm,0.6s						
KUR				pmax	pmax		
	comp=Z,74nm,0.6s						
KUR				smax	smax		
	comp=E,141nm,0.5s						
KUR				smax	smax		
	comp=N,67nm,0.6s						
VLA	**Vladivostok**	**9.61**	**311**	*i* P	**Pn**	**06 56 04.0**	**-0.6**
JNU	**Nakatsue**	**9.73**	**249**	P	**Pn**	**06 56 06.8**	**+0.4**
	comp=N,0.7nm,0.3s,baz=50,slow=8.0,SNR=7.2						
JNU				LR	LR	06 59 35.8	
	comp=N,136nm,21.6s,baz=118,slow=36						
JNU	**Nakatsue**	**9.73**	**249**	*e*Pn	**Pn**	**06 56 06.0**	**-0.5**
YSS	**Yuzh-Sakhalins**	**9.84**	**4**	*e*Pn	**Pn**	**06 56 07.9**	**+0.1**
YSS	**Yuzh-Sakhalins**	**9.84**	**4**	↑*e*P	**Pn**	**06 56 07.0**	**-0.8**
YSS				*e*S	**Sn**	**06 57 57.2**	**+0.3**
YSS				pmax	pmax		
	comp=N,20nm,0.6s						
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS				MLR	MLR		
	comp=Z,300nm,14.0s						
YSS				MLR	MLR		
	comp=N,300nm,13.0s						
CBIJ	**Chichi jima**	**10.02**	**178**	*e*Pn	**Pn**	**06 56 08.7**	**-1.6**
CBIJ				*e*Sn	**Sn**	**06 57 54.9**	**-6.7**
JCJ	**Chichijima**	**10.02**	**178**	P	**Pn**	**06 56 08.0**	**-2.4**
	comp=N,50nm,0.3s,baz=294,slow=18,SNR=3.2						
JCJ				S	Sn	06 57 52.2	-9.4
	comp=N,60nm,0.3s,baz=313,slow=23,SNR=6.6						

USA0B	**Ussuriysk Arra**	**10.21**	**317**	*e*Pn	**Pn**	**06 56 13.0**	**+0.2**
USRK	**Ussuriysk Ar.**	**10.21**	**317**	P	**Pn**	**06 56 10.3**	**-2.6**
	comp=N,0.3nm,0.3s,baz=118,slow=14,SNR=4.5						
USRK				LR	LR	06 59 56.0	
	comp=N,665nm,18.1s,baz=134,slow=36						
KSRS	**Korea Array**	**10.99**	**276**	P	**Pn**	**06 56 23.8**	**+0.2**
	comp=N,0.7nm,0.3s,baz=92,slow=14,SNR=26						
KSRS				LR	LR	07 00 12.2	
	comp=N,310nm,22.0s,baz=82,slow=35						
KS01	**Wonju Array Si**	**11.01**	**276**	*e*Pn	**Pn**	**06 56 24.1**	**+0.2**
KS15	**Wonju Array Si**	**11.02**	**276**	*e*Pn	**Pn**	**06 56 24.2**	**+0.2**
MDJ	**Mudanjiang**	**11.82**	**313**	P	**Pn**	**06 56 36.4**	**+1.5**
MDJ				pmax	pmax		
	comp=N,41nm,1.1s						
MDJ				pmax	pmax		
	comp=N,320nm,5.4s						
MDJ	**Mudanjiang**	**11.82**	**313**	*e*Pn	**Pn**	**06 56 36.1**	**+1.2**
TYV	**Tymovskoe**	**13.74**	**3**	*e*P	**Pn**	**06 56 58.7**	**-2.3**
TYV				*e*S	**Sn**	**06 59 28.1**	**-4.2**
TYV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TYV				smax	smax		
	comp=E,4.0nm,0.9s						
CN2	**Changchun**	**14.05**	**303**	↓P	**Pn**	**06 57 05.5**	**+0.2**
CN2				*e*S	**Sn**	**06 59 38.8**	**-1.1**
CN2				pmax	pmax		
	comp=E,20nm,1.1s						
CN2				pmax	pmax		
	comp=E,200nm,4.0s						
CN2				LR	LR		
	comp=E,400nm,14.0s						
CN2				LR	LR		
	comp=E,500nm,14.0s						
CN2				LR	LR		
	comp=E,500nm,15.0s						
KLR	**Kul'dur**	**14.09**	**332**	P	**Pn**	**06 57 04.7**	**-1.1**
	comp=E,0.3nm,0.3s,baz=135,slow=9.8,SNR=7.9						
KLR				LR	LR	07 02 22.6	
	comp=E,406nm,18.6s,baz=140,slow=37						
GRNR	**Gornyy**	**14.14**	**346**	*e*P	**Pn**	**06 57 05.2**	**-1.4**
GRNR				pmax	pmax		
	comp=Z,21nm,1.0s						
NKL	**Nikolayevsk**	**16.03**	**358**	*e*P	**Pn**	**06 57 30.0**	**-1.4**
NKL				pmax	pmax		
	comp=Z,20nm,1.0s						
NKL				MLR	MLR		
	comp=Z,500nm,15.0s						
ZEA	**Zeya**	**19.39**	**333**	*e*P	**P**	**06 58 09.8**	**-1.8**
ZEA				pmax	pmax		
	comp=N,47nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,52nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,500nm,16.0s						
ZEA				MLR	MLR		
	comp=E,300nm,14.0s						
ZEA				MLR	MLR		
	comp=N,300nm,17.0s						
NJ2	**Nanjing**	**19.48**	**262**	*e*P	**P**	**06 58 13.3**	**+0.6**
NJ2				pmax	pmax		
	comp=N,15nm,0.5s						
PETK	**Petropavlovsk-**	**19.48**	**30**	P	**P**	**06 58 12.0**	**-0.5**
	comp=N,0.3nm,0.3s,baz=212,slow=5.3,SNR=5.7						
PETK				LR	LR	07 06 16.2	
	comp=N,108nm,19.9s,baz=217,slow=38						
PEA1	**Petropavlovsk-**	**19.48**	**30**	*e*P	**P**	**06 58 12.1**	**-0.6**
TIA	**Tai'an**	**19.74**	**275**	P	**Pn**	**06 58 17.3**	**+0.1**
TIA				pmax	pmax		
	comp=N,6.0nm,0.6s						
HIA	**Hailar**	**20.00**	**314**	*e*P	**P**	**06 58 15.7**	**-2.7**
	comp=N,25nm,1.5s						
HIA	**Hailar**	**20.00**	**314**	*e*P	**P**	**06 58 15.7**	**-2.7**
HIA				pmax	pmax		
	comp=Z,25nm,1.5s						
BJI	**Beijing**	**20.15**	**286**	↑*e*P	**P**	**06 58 20.6**	**+0.6**
BJI				pmax	pmax		
	comp=Z,16nm,0.7s						
BJT	**Baijiatuao**	**20.16**	**286**	*e*P	**P**	**06 58 18.9**	**-1.2**
	comp=Z,17nm,0.6s						
BJT	**Baijiatuao**	**20.16**	**286**	*e*P	**P**	**06 58 18.9**	**-1.2**
BJT				pmax	pmax		
	comp=Z,17nm,0.6s						
YHNB	**Yeheng**	**21.37**	**240**	*e*P	**P**	**06 58 32.0**	**-1.4**
	comp=Z,50nm,1.1s						
NACB	**Ninganchiao**	**21.54**	**239**	*e*P	**P**	**06 58 34.1**	**-1.0**
	comp=Z,24nm,1.0s						
YULB	**Yu-li**	**22.27**	**238**	*e*P	**P**	**06 58 39.3**	**-3.7**
	comp=Z,29nm,1.1s						
TPUB	**Ta-pu**	**22.78**	**239**	*e*P	**P**	**06 58 46.2**	**-2.2**
	comp=Z,78nm,1.4s						
TWG	**Pinlang**	**22.81**	**237**	*e*P	**P**	**06 58 47.1**	**-1.6**
	comp=Z,115nm,0.7s						
MA2	**Magadan**	**23.20**	**12**	P	**P**	**06 58 52.0**	**-0.4**
	comp=Z,5.1nm,0.5s,baz=196,slow=9.7,SNR=8.6						
MA2	**Magadan**	**23.20**	**12**	*e*P	**P**	**06 58 52.1**	**-0.4**
	comp=Z,34nm,0.9s						
MA2	**Magadan**	**23.20**	**12**	*ce*P	**P**	**06 58 50.6**	**-1.8**
MA2				pmax	pmax		
	comp=Z,20nm,1.3s						
HHC	**Hu-ho-hao-te**	**23.67**	**288**	*e*P	**P**	**06 58 55.6**	**-1.6**
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
YAK	**Yakutsk**	**26.02**	**347**	*e*P	**P**	**06 59 17.3**	**-1.1**
YAK				*e**PP	**pP**	**06 59 27.7**	**-0.5**
YAK				*e*		06 59 52.3	
YAK				*e*S	**S**	**07 03 44.6**	**-2.1**
YAK				pmax	pmax		
	comp=Z,25nm,0.9s						
YAK				pmax	pmax		
	comp=N,16nm,1.0s						
YAK				pmax	pmax		
	comp=Z,42nm,1.6s						
YAK				pmax	pmax		
	comp=N,45nm,1.5s						
YAK				pmax	pmax		
	comp=E,45nm,2.8s						
YAK				smax	smax		
	comp=E,78nm,1.8s						
YAK				smax	smax		
	comp=N,174nm,1.9s						
SEY

GTA sP sP 07 00 35.0 +2.2
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA LR LR
comp=Z,210nm,18.9s
GTA LR LR
comp=Z,96nm,16.1s
GTA LR LR
comp=Z,100nm,15.1s
DAV Davao City (W) 33.34 210 LR LR 07 12 09.6
comp=Z,93nm,21.9s,baz=21,slow=33
BILL Bilibino 33.86 16⇑ *eP* **P 07 00 27.6 -0.1**
BILL *PP **sP 07 00 40.0 -1.8**
BILL *e*SP **pP 07 00 44.6 +6.9**
BILL SS SS 07 07 47.0 -29
BILL pmax pmax
comp=Z,6.0nm,1.5s
BILL MLR MLR
comp=Z,132nm,21.0s
KMI Kunming 35.21 261 P **P 07 00 39.4 -0.8**
KMI pP sP 07 00 54.8 +0.5
KMI pmax pmax
comp=Z,18nm,1.4s
KMI pmax pmax
comp=Z,110nm,3.6s
KMI LR LR
comp=Z,660nm,12.9s
KMI LR LR
comp=Z,430nm,12.0s
KMI LR LR
comp=Z,190nm,24.7s
TIXI Tiksi 35.22 353 LR LR 07 15 49.2
comp=Z,102nm,19.1s,baz=222,slow=38
TIXI Tiksi 35.22 353 *eP* **P 07 00 39.1 -0.2**
comp=Z,13nm,1.3s
TIXI Tiksi 35.22 353*ceP* **P 07 00 37.4 -2.0**
TIXI pmax pmax
comp=Z,8.0nm,1.7s
NONG Nongkai 38.77 251 P **P 07 01 12.8 +2.6**
comp=Z,6nm,0.8s,comp=Z,58nm
SIJI Sorong 39.04 197 P **P 07 01 11.6 -0.8**
comp=Z,4.1nm,0.5s,baz=254,slow=7.1,SNR=1.6
DGZ Jazzator, Alta 40.53 306*d iP* **P 07 01 24.0 -0.7**
DGZ pmax pmax
comp=Z,25nm,1.2s
WMQ Urumqi 41.01 297 P **P 07 01 28.8 +0.2**
WMQ pP sP 07 01 40.8 -2.0
WMQ sP pP 07 01 50.3 +12
WMQ pmax pmax
comp=Z,31nm,1.1s
WMQ pmax pmax
comp=Z,260nm,3.6s
WMQ LR LR
comp=Z,820nm,20.3s
WMQ LR LR
comp=Z,220nm,22.9s
WMQ LR LR
comp=Z,200nm,26.3s
WMQ Urumqi 41.01 297 *eP* **P 07 01 28.2 -0.4**
comp=Z,12nm,0.7s
WMQ Urumqi 41.01 297 *eP* **P 07 01 28.2 -0.4**
WMQ pmax pmax
comp=Z,12nm,0.7s
PBKT Sadao Pong 41.32 251 *eP* **P 07 01 30.4 -0.9**
comp=Z,9.5nm,0.8s
PBKT Sadao Pong 41.32 251 P P 07 01 41.6 +10
ANM Nome 41.38 31 *eP* **P 07 01 32.2 +0.9**
comp=Z,11nm,1.2s
ANM Nome 41.38 31 *eP* **P 07 01 32.2 +0.9**
ANM pmax pmax
comp=Z,11nm,1.2s
CMAR Chiang Mai Arr 41.76 255 P **P 07 01 34.3 -0.6**
comp=Z,1.7nm,0.4s,baz=49,slow=6.9,SNR=4.2
CMAR Chiang Mai Arr 41.76 255 *i P* **P 07 01 37.0 +2.1**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CM01 Chiang Mai Arr 41.76 255 *eP* **P 07 01 34.0 -1.0**
ZAA0 Zalesovo Array 42.02 312 *eP* **P 07 01 35.0 -1.7**
comp=Z,9.8nm,0.8s
ZAA1 Zalesovo Array 42.02 312 *eP* **P 07 01 35.4 -1.3**
ZALV Zalesovo Beam 42.02 312 P **P 07 01 35.4 -1.3**
comp=Z,4.4nm,0.5s,baz=88,slow=7.0,SNR=19
SRAK Srakaew 42.12 247 P P 07 01 44.9 +7.0
comp=Z,51nm,0.7s
NVS Novosibirsk 42.94 314 *eP* **P 07 01 40.0 -4.1**
NVS pmax pmax
comp=N,11nm,1.2s
NVS pmax pmax
comp=Z,14nm,1.2s
RDOG Red Dog Mine 43.30 27 *eP* **P 07 01 47.5 +0.6**
comp=Z,18nm,1.2s
MK01 Makanchi Array 44.26 302 *eP* **P 07 01 53.6 -1.4**
MK31 Makanchi Array 44.27 302 *eP* **P 07 01 53.4 -1.5**
MK31 Makanchi Array 44.27 302 *eP* **P 07 01 53.4 -1.5**
MK32 Makanchi Array 44.27 302 *eP* **P 07 01 53.7 -1.3**
MKAR Makanchi Array 44.27 302 P **P 07 01 53.7 -1.3**
comp=Z,3.9nm,0.6s,baz=84,slow=10.0,SNR=25
MKAR Makanchi Array 44.27 302 *eP* **P 07 01 53.2 -1.8**
comp=Z,56nm,0.8s
MAKZ Makanchi 44.48 302 *eP* **P 07 01 54.8 -1.8**
comp=Z,8.7nm,0.8s
MAKZ Makanchi 44.48 302 *eP* **P 07 01 54.8 -1.8**
MAKZ pmax pmax
comp=Z,9.0nm,0.8s
PHET Kaeng Krachan 44.62 248 P P 07 02 04.4 +6.3
comp=Z,9.8nm,0.8s
KURK Kurchatov 46.06 308 *eP* **P 07 02 07.2 -1.8**
comp=Z,31nm,0.8s
KURK Kurchatov 46.06 308*ceP* **P 07 02 07.3 -1.8**
KURK pmax pmax
comp=Z,24nm,0.8s
IM3 Indian Mountai 46.44 31 *eP* **P 07 02 11.7 -0.2**
OHAK Old Harbor 46.52 43 *eP* **P 07 02 12.8 +0.3**
comp=Z,101nm,1.3s
ODAN Odare 46.65 274 *eP* **P 07 02 13.3 -1.0**
KDAK Kodiak Island 46.86 42 P **P 07 02 15.4 +0.1**
comp=Z,30nm,0.7s,baz=290,slow=4.5,SNR=12
KDAK Kodiak Island 46.86 42 *eP* **P 07 02 15.6 +0.3**
comp=Z,30nm,0.8s
KDAK Kodiak Island 46.86 42 *eP* **P 07 02 15.6 +0.3**
KDAK pmax pmax
comp=Z,30nm,0.8s
PDGK Podgornoye 46.94 298 P **P 07 02 13.7 -2.6**
PDGK pmax pmax
comp=Z,14nm,0.8s
PPLA Purkeypile 46.95 35 *eP* **P 07 02 16.5 +0.4**
comp=Z,27nm,1.1s
CAST Castle Rocks 47.01 34 *eP* **P 07 02 17.2 +0.9**
comp=Z,11nm,0.9s
RAMN Ramite 47.23 274 *eP* **P 07 02 17.8 -1.1**
JIRN Jiri 47.25 275 *eP* **P 07 02 18.6 -0.5**
comp=Z,24nm,0.5s
GUN Gumba 47.38 276 *eP* **P 07 02 19.5 -0.7**
comp=Z,29nm,0.5s
BPAW Bear Paw Mtn. 47.51 33 *eP* **P 07 02 21.1 +0.9**
comp=Z,4.9nm,0.9s
MLY Manley 47.63 32 *eP* **P 07 02 21.8 +0.5**
comp=Z,11nm,0.9s
TRF Thorofare Moun 47.81 34 *eP* **P 07 02 23.2 +0.4**
comp=Z,12nm,0.9s
PKI Pulchoki 47.91 276 *eP* **P 07 02 23.0 -1.2**
comp=Z,14nm,0.6s
KKN Kakani 47.91 276 *eP* **P 07 02 23.2 -0.9**
comp=Z,21nm,0.5s
PKIN Phulchoki 47.91 276 *eP* **P 07 02 22.5 -1.7**
comp=Z,15nm,0.6s
PRZ Przheval'sk 47.93 297 *eP* **P 07 02 23.4 -0.7**
comp=Z,24nm,1.0s
PRZ Przheval'sk 47.93 297 *eP* **P 07 02 23.4 -0.7**
PRZ pmax pmax
comp=Z,24nm,1.0s
KRAB Krabi 48.05 244 P P 07 02 30.0 +5.0
comp=Z,75nm,0.6s,comp=Z,676nm
DMN Daman 48.13 276 *eP* **P 07 02 24.2 -1.7**
comp=Z,19nm,0.7s
SEW Seward 48.33 39 *eP* **P 07 02 26.6 -0.1**
comp=Z,67nm,1.5s
PMR Palmer 48.40 37 *eP* **P 07 02 27.2 +0.1**
comp=Z,18nm,1.0s
PMR Palmer 48.40 37 *eP* **P 07 02 27.2 +0.1**
PMR pmax pmax
comp=Z,18nm,1.0s
MCK McKinley 48.41 34 *eP* **P 07 02 27.4 +0.1**
comp=Z,10nm,0.9s
MCK McKinley 48.41 34 *eP* **P 07 02 27.4 +0.1**
MCK pmax pmax
comp=Z,10.0nm,0.9s

RND Reindeer 48.46 34 *eP* **P 07 02 27.9 +0.2**
comp=Z,12nm,0.9s
RND Reindeer 48.46 34 *eP* **P 07 02 27.9 +0.2**
RND pmax pmax
comp=Z,12nm,0.9s
GHO Glory Hole Cre 48.49 36 *eP* **P 07 02 28.4 +0.5**
comp=Z,20nm,0.9s
TARG Taragay, Kyrgy 48.57 296 *eP* **P 07 02 27.7 -1.5**
comp=Z,14nm,0.8s
MDM Murphy Dome 48.70 32 *eP* **P 07 02 29.9 +0.4**
comp=Z,20nm,0.9s
KNK Knik Glacier 48.73 37 *eP* **P 07 02 30.0 +0.3**
comp=Z,38nm,1.4s
WRH Wood River Hil 48.77 33 *eP* **P 07 02 30.4 +0.5**
comp=Z,8.8nm,0.9s
COLA College 48.86 32 *i P* **P 07 02 31.8 +1.2**
COLA pmax pmax
comp=Z,7.0nm,0.8s
DANN Dangsing 48.88 277 *eP* **P 07 02 30.7 -0.9**
comp=Z,92nm,0.7s
PKDT Phuket 48.90 245 P P 07 02 43.9 +12
DHY Denali Highway 49.14 35 *eP* **P 07 02 33.1 +0.1**
comp=Z,5.2nm,1.0s
KOLN Koldanda 49.26 277 *eP* **P 07 02 33.5 -1.0**
comp=Z,24nm,0.8s
HDA Harding Lake 49.27 33 *eP* **P 07 02 34.2 +0.4**
comp=Z,14nm,0.9s
ILAR Eielson Array 49.28 32 P **P 07 02 33.9 0.0**
comp=Z,10nm,0.8s,baz=268,slow=6.3,SNR=98
ILB Eielson Array 49.28 32 *eP* **P 07 02 34.2 +0.3**
IL1 Eielson Array 49.28 32 *eP* **P 07 02 33.8 0.0**
PYUN Piuthan 49.59 277 *eP* **P 07 02 35.9 -1.1**
comp=Z,68nm,0.9s
KLU Klutina 49.94 37 *eP* **P 07 02 39.2 +0.2**
comp=Z,56nm,1.7s
FRU Bishkek 50.51 299 *eP* **P 07 02 41.0 -2.6**
KSH Kashi 50.58 294 P **P 07 02 46.6 +2.3**
KSH pP sP 07 03 00.5 +1.8
KSH sP pP 07 03 11.5 +17
KSH PcP **PcP 07 04 03.8 +2.1**
KSH PP PP 07 04 47.3 +7.2
KSH S **S 07 09 54.3 -2.2**
KSH sS sS 07 10 25.5 +12
KSH ScS **ScS 07 12 29.4 -3.2**
KSH pmax pmax
comp=Z,17nm,1.3s
KSH pmax pmax
comp=Z,200nm,5.0s
KSH LR LR
comp=Z,80nm,5.9s
KSH LR LR
comp=Z,120nm,7.0s
KSH LR LR
comp=Z,330nm,8.3s
DOT Dot Lake 50.59 34 *eP* **P 07 02 43.2 -0.7**
comp=Z,6.9nm,0.9s
SCRK Sand Creek 50.59 33 *eP* **P 07 02 43.5 -0.4**
comp=Z,12nm,0.9s
BMRM Bremner River 50.63 37 *eP* **P 07 02 45.2 +0.9**
comp=Z,42nm,1.3s
AAK Ala-Archa 50.65 298 *eP* **P 07 02 43.5 -1.4**
comp=Z,4.5nm,0.8s
AAK Ala-Archa 50.65 298*ceP* **P 07 02 43.2 -1.6**
AAK pmax pmax
comp=Z,3.0nm,0.8s
BVA0 Borovoye Array 50.68 312 *i P* **P 07 02 44.0 -0.7**
BVA0 pmax pmax
comp=Z,4.0nm,0.6s
MTN Manton Dam 50.70 193 *eP* **P 07 02 44.7 -0.4**
comp=Z,22nm,1.0s
BRVK Borovoye 50.74 312 *eP* **P 07 02 44.2 -0.8**
comp=Z,8.7nm,0.8s
BRVK Borovoye 50.74 312*ceP* **P 07 02 44.9 -0.2**
BRVK pmax pmax
comp=Z,4.0nm,0.7s
COEN Coen 50.84 178 *eP* **P 07 02 46.0 -0.1**
comp=Z,9.2nm,0.9s
EGAK Eagle 51.72 32 *eP* **P 07 02 52.2 -0.1**
comp=Z,4.1nm,0.9s
PSI Prapat 52.05 239 P **P 07 02 51.1 -4.4**
comp=Z,1.5nm,0.4s,baz=177,slow=3.4,SNR=2.2
ARSB Arslanbob 52.14 297 *eP* **P 07 02 54.5 -1.4**
comp=Z,18nm,1.0s
SFK Sufi-Kurgan 52.21 296 P **P 07 02 55.5 -1.1**
SFK pmax pmax
comp=Z,17nm,0.9s
DAWY Dawson 52.58 33 *eP* **P 07 02 59.3 +0.6**
comp=Z,2.2nm,0.9s
KK31 Karatay Array 53.28 300 *eP* **P 07 03 02.7 -1.5**
KK31 Karatay Array 53.28 300 *eP* **P 07 03 02.7 -1.5**
KKAR Karatay Array 53.28 300 *eP* **P 07 03 02.7 -1.5**
KKAR Karatay Array 53.28 300 *eP* **P 07 03 02.7 -1.5**
EPYK Eagle Plains 53.32 30 *eP* **P 07 03 04.6 +0.5**
comp=Z,37nm,0.9s
HYT Haines Junctio 54.07 37 *eP* **P 07 03 09.9 0.0**
comp=Z,25nm,1.3s
BTK Batken 54.12 296 *eP* **P 07 03 08.9 -1.6**
comp=Z,9.1nm,0.9s
BTK Batken 54.12 296 *eP* **P 07 03 08.9 -1.6**
BTK pmax pmax
comp=Z,9.0nm,0.9s
INK Inuvik 54.19 27 P **P 07 03 10.3 -0.1**
comp=Z,6.2nm,0.8s,baz=280,slow=7.0,SNR=24
INK Inuvik 54.19 27 *eP* **P 07 03 10.2 -0.1**
comp=Z,6.9nm,0.8s
NIL Nilore 54.81 288 *eP* **P 07 03 14.1 -1.4**
comp=Z,12nm,0.8s
NIL Nilore 54.81 288 *eP* **P 07 03 14.1 -1.4**
NIL pmax pmax
comp=Z,12nm,0.8s
GAR Garm 54.87 295 *eP* **P 07 03 14.7 -1.3**
comp=Z,14nm,0.7s
GAR Garm 54.87 295 *eP* **P 07 03 14.7 -1.3**
GAR pmax pmax
comp=Z,14nm,0.7s
SVE Sverdlovsk 55.23 319 *eP* **P 07 03 17.8 -0.3**
WHY Whitehorse 55.36 36 *eP* **P 07 03 20.0 +0.8**
comp=Z,7.9nm,0.9s
CHGR Chuyangaron 55.84 295 *eP* **P 07 03 21.2 -1.7**
comp=Z,52nm,1.0s
ARU Arti 56.44 319 *eP* **P 07 03 25.5 -1.3**
comp=Z,16nm,1.0s
ARU Arti 56.44 319*c iP* **P 07 03 25.8 -1.0**
ARU 07 04 20.8
ARU 07 05 27.8
ARU S **S 07 11 14.2 -1.0**
ARU SS **SS 07 14 55.4 -6.6**
ARU pmax pmax
comp=Z,14nm,1.5s
WRAB Tennant Creek 57.19 188 *eP* **P 07 03 32.3 -0.2**
comp=Z,14nm,1.0s
WRAB Tennant Creek 57.19 188 *i P* **P 07 03 32.5 +0.1**
WRAB pmax pmax
comp=Z,7.0nm,1.0s
WB2 Warramunga Arr 57.20 188 *eP* **P 07 03 31.5 -1.0**
WR1 Warramunga Arr 57.20 188 *eP* **P 07 03 31.6 -0.9**
comp=Z,14nm,1.0s
WRA Warramunga Arr 57.20 188 P **P 07 03 31.6 -0.9**
comp=Z,3.6nm,0.6s,baz=5.8,slow=7.4,SNR=17
WC3 Warramunga Arr 57.21 188 *eP* **P 07 03 31.7 -0.9**
comp=Z,15nm,0.9s
KBL Kabul 57.60 291 *eP* **P 07 03 34.2 -1.4**
comp=Z,7.2nm,0.9s
KBL Kabul 57.60 291 *eP* **P 07 03 34.2 -1.4**
KBL pmax pmax
comp=Z,7.0nm,0.9s
ABKAR Akbulak array 58.06 310 *eP* **P 07 03 36.6 -1.7**
DLBC Dease Lake 58.40 38 P **P 07 03 41.1 +0.5**
comp=Z,6.0nm,0.9s,baz=292,slow=8.6,SNR=9.1
DLBC Dease Lake 58.40 38 *eP* **P 07 03 40.6 0.0**
comp=Z,10nm,1.0s
HYB Hyderabad 58.45 269 *i P* **P 07 03 40.0 -1.5**
AKTO Aktyubinsk 58.78 312 P **P 07 03 42.5 -0.9**
AKTO pmax pmax
comp=Z,7.0nm,1.0s
AS31 Alice Springs 60.92 188 *eP* **P 07 03 57.3 -1.0**
comp=Z,2.0nm,0.8s
ASAR Alice Springs 60.92 188 P **P 07 03 57.8 -0.5**
comp=Z,3.7nm,0.9s,baz=11,slow=7.2,SNR=9.0
RES Resolute Bay 62.44 14 P **P 07 04 07.2 -0.6**
comp=Z,1.6nm,0.5s,baz=290,slow=8.6,SNR=12
RES Resolute Bay 62.44 14 *eP* **P 07 04 07.0 -0.9**
comp=Z,6.3nm,0.9s
RES Resolute Bay 62.44 14 *eP* **P 07 04 07.0 -0.9**
RES pmax pmax
comp=Z,6.0nm,0.9s

YKA Yellowknife Ar 63.60 30 P **P 07 04 15.6 -0.1**
comp=Z,2.4nm,0.8s,baz=302,slow=6.7,SNR=32
YKB5 Yellowknife Ar 63.60 30 *eP* **P 07 04 15.4 -0.4**
KLMR Klimovskoe 63.80 328 *eP* **P 07 04 14.8 -2.3**
KLMR pmax pmax
comp=Z,11nm,0.9s
KLMR Klimovskoe 63.80 328 *eP* **P 07 04 14.8 -2.3**
KLMR AMP 07 04 23.1
comp=Z,11nm,0.9s
ARA0 ARCESS Array S 63.98 339 *eP* **P 07 04 17.6 -0.6**
ARCES ARCESS Array B 63.98 339 P **P 07 04 17.6 -0.6**
comp=Z,3.8nm,1.0s,baz=50,slow=8.4,SNR=2.5
GEYT Alibeck 63.99 299 P **P 07 04 17.8 -1.0**
comp=Z,2.0nm,0.6s,baz=76,slow=6.1,SNR=4.1
VRH Novokhopyorsk 67.66 318 *eP* **P 07 04 40.1 -2.1**
VRH pmax pmax
comp=Z,7.0nm,0.7s
OBN Obninsk 68.16 323⇑ *eP* **P 07 04 45.6 +0.4**
OBN *e*PP **pP 07 04 53.3 -2.5**
OBN *SP **sP 07 05 02.0 +2.2**
OBN 07 05 12.0
OBN PS **PnS 07 14 08.0 -0.7**
OBN SS SS 07 18 07.0 +2.2
OBN pmax pmax
comp=Z,3.0nm,0.9s
OBN MLR MLR
comp=Z,116nm,17.0s
LPSR Galich'ya Gora 68.38 320 *eP* **P 07 04 44.7 -1.9**
LPSR pmax pmax
comp=Z,7.0nm,0.8s
STKA Stephens Creek 68.66 180 P **P 07 04 48.7 +0.2**
comp=Z,3.1nm,0.7s,baz=343,slow=12,SNR=5.3
STKA Stephens Creek 68.66 180 *eP* **P 07 04 48.4 -0.1**
comp=Z,1.0nm,0.8s
FORT Forrest 68.76 193 *eP* **P 07 04 48.8 -0.3**
comp=Z,19nm,0.7s
FIA0 FINESS Array S 68.83 332 *eP* **P 07 04 48.6 -0.7**
FIA0 FINESS Array S 68.83 332 *eP* **P 07 04 48.6 -0.7**
FINES FINESS Array B 68.83 332 P **P 07 04 48.6 -0.7**
comp=Z,4.1nm,0.8s,baz=67,slow=6.4,SNR=6.5
FINES FINESS Array B 68.83 332 *i P* **P 07 04 52.2 +2.9**
FINES pmax pmax
comp=Z,4.0nm,0.8s
H04A Detroit Lake 68.86 50 *eP* **P 07 04 50.5 +0.6**
comp=Z,7.4nm,0.9s
VSR Storozhevoye 69.01 319 *eP* **P 07 04 48.9 -1.7**
VSR pmax pmax
comp=Z,3.0nm,0.6s
PINE Pine Mountain 70.09 50 *eP* **P 07 04 58.5 +0.8**
comp=Z,13nm,0.8s
SUMG Summit 70.58 0 *i P* P 07 05 13.2 +13
comp=Z,24nm,1.0s
KBZ Khabaz 71.02 311 P **P 07 05 00.8 -2.3**
comp=Z,1.7nm,0.8s,baz=274,slow=9.0,SNR=2.6
KIV Kislovodsk 71.02 311 *eP* **P 07 05 02.7 -0.5**
KIV pmax pmax
comp=Z,13nm,1.1s
KIV MLR MLR
comp=Z,69nm,18.0s
BMO Blue Mountains 71.68 47 *eP* **P 07 05 07.8 +0.6**
comp=Z,5.5nm,1.0s
BMO Blue Mountains 71.68 47 *eP* **P 07 05 07.8 +0.6**
BMO pmax pmax
comp=Z,6.0nm,1.0s
J08A Circle Bar Ran 71.83 49 *eP* **P 07 05 08.7 +0.6**
comp=Z,7.1nm,1.1s
MSO Missoula 72.48 44 *eP* **P 07 05 12.3 +0.3**
comp=Z,3.3nm,1.0s
BEKR Beckworth 72.60 53 *eP* **P 07 05 13.1 +0.2**
comp=Z,6.0nm,0.9s
FFC Flin Flon 73.49 33 *eP* **P 07 05 17.5 -0.1**
comp=Z,7.5nm,0.9s
FFC Flin Flon 73.49 33 *eP* **P 07 05 17.5 -0.1**
FFC pmax pmax
comp=Z,8.0nm,0.9s
HRY Holter Researc 73.71 43 *eP* **P 07 05 19.6 +0.3**
FCC Fort Churchill 73.80 27 *eP* **P 07 05 19.0 -0.3**
comp=Z,9.3nm,1.0s
FCC Fort Churchill 73.80 27 *eP* **P 07 05 19.0 -0.3**
FCC pmax pmax
comp=Z,9.0nm,1.0s
YERR Yerington 73.81 53 *eP* **P 07 05 20.5 +0.4**
comp=Z,5.5nm,1.0s
EGMT Eagleton 74.03 41 *eP* **P 07 05 21.7 +0.6**
comp=Z,12nm,1.1s
DLMT Dillon 74.10 45 *eP* **P 07 05 22.4 +0.8**
comp=Z,6.3nm,0.8s
HLID Hailey 74.12 47 *eP* **P 07 05 22.4 +0.6**
comp=Z,4.8nm,1.4s
NB2 NORSAR Subarra 74.18 337 P **P 07 05 20.8 -0.9**
comp=Z,9.9nm,1.4s,baz=38,slow=6.2
NB200 NORSAR Array S 74.18 337 *eP* **P 07 05 20.6 -1.1**
NOA NORSAR Array B 74.18 337 P **P 07 05 20.6 -1.1**
comp=Z,4.2nm,1.1s,baz=39,slow=5.9,SNR=7.2
NOA LR LR 07 41 13.6
comp=Z,126nm,20.1s,baz=30,slow=38
AKASG Malin Array Be 74.36 322 P **P 07 05 20.9 -1.9**
comp=Z,1.0nm,0.4s,baz=46,slow=6.2,SNR=6.0
AKASG LR LR 07 40 59.1
comp=Z,94nm,19.1s,baz=35,slow=38
AKASG Malin Array Be 74.36 322 *i P* **P 07 05 23.1 +0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 74.36 322 *eP* **P 07 05 21.7 -1.1**
comp=Z,6.5nm,0.8s
KIEV Kiev 74.37 322 *eP* **P 07 05 21.5 -1.4**
comp=Z,6.8nm,0.9s
KIEV Kiev 74.37 322 *eP* **P 07 05 21.5 -1.4**
KIEV pmax pmax
comp=Z,7.0nm,0.9s
TOO Toolangi 74.42 177 *eP* **P 07 05 23.3 +0.2**
comp=Z,23nm,1.6s
TOO Toolangi 74.42 177 *eP* **P 07 05 23.3 +0.2**
TOO pmax pmax
comp=Z,23nm,1.6s
KVN Kaiserville 74.50 53 *eP* **P 07 05 24.9 +0.8**
comp=Z,7.9nm,1.0s
KVN Kaiserville 74.50 53 *eP* **P 07 05 24.9 +0.8**
KVN pmax pmax
comp=Z,8.0nm,1.0s
NV01 Mina Array Sit 74.73 53 *eP* **P 07 05 26.4 +0.9**
NVAR Mina Array Bea 74.73 53 P **P 07 05 26.4 +0.9**
comp=Z,4.2nm,0.9s,baz=282,slow=6.5,SNR=18
YHB Horse Butte 75.26 45 *eP* **P 07 05 28.9 +0.5**
comp=Z,5.4nm,0.9s
YPP Pitchstone Pla 75.78 45 *eP* **P 07 05 32.1 +0.6**
comp=Z,1.9nm,0.8s
H17A Grant Village 75.83 45 *eP* **P 07 05 33.0 +1.3**
comp=Z,9.6nm,1.0s
MOOW Moose Ponds 76.13 45 *eP* **P 07 05 34.2 +0.7**
comp=Z,3.9nm,1.3s
TPAW Teton Pass 76.17 46 *eP* **P 07 05 34.3 +0.5**
comp=Z,3.9nm,0.9s
DUG Dugway, Tooele 77.11 49 *eP* **P 07 05 39.6 +0.7**
comp=Z,5.6nm,1.2s
DUG Dugway, Tooele 77.11 49 *eP* **P 07 05 39.6 +0.7**
DUG pmax pmax
comp=Z,6.0nm,1.2s
PD31 Pinedale Array 77.42 46 *eP* **P 07 05 41.1 +0.4**
PDAR Pinedale Array 77.42 46 P **P 07 05 41.0 +0.2**
comp=Z,1.3nm,0.6s,baz=268,slow=2.3,SNR=16
PSUT Pine Spring 77.48 51 *eP* **P 07 05 41.5 +0.4**
comp=Z,3.6nm,1.0s
MPU Maple Canyon 77.93 49 *eP* **P 07 05 44.3 +0.7**
comp=Z,3.0nm,0.8s
BUR04 Bucovina Ar. S 78.38 322 *eP* **P 07 05 45.1 -0.7**
LCMT Little Creek M 78.80 52 *eP* **P 07 05 49.0 +0.6**
comp=Z,7.4nm,1.2s
P17A Butcher Ranch, 78.81 49 *eP* **P 07 05 49.0 +0.6**
comp=Z,4.1nm,0.7s
BR101 Keskin Array S 78.96 312 *eP* **P 07 05 48.0 -1.2**
BRTR Keskin Array B 78.96 312 P **P 07 05 48.0 -1.2**
comp=Z,1.1nm,1.0s,baz=74,slow=3.2,SNR=3.7
BRTR Keskin Array B 78.96 312 *i P* **P 07 05 50.7 +1.5**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
KNB Kanab 79.06 52 *eP* **P 07 05 50.5 +0.7**
comp=Z,11nm,1.3s
KNB Kanab 79.06 52 *eP* **P 07 05 50.5 +0.7**
KNB pmax pmax
comp=Z,11nm,1.3s
ULM Lac du Bonnet 79.28 33 P **P 07 05 50.4 -0.1**
comp=Z,3.6nm,1.0s,baz=8.6,slow=3.2,SNR=4.0
DPC Dobruska-Polom 80.50 328 *eP* P 07 06 09.6 +12
PV14 Lion Creek, Pa 80.54 49 *eP* **P 07 05 58.3 +0.4**
comp=Z,11nm,1.0s

PV17	**East Wray Mesa**	**80.64**	**49**	*e*P		**P**	**07 05 58.6**	**+0.2**
	comp=Z,10nm,1.0s								
PV13	**Radium Mtn., P**	**80.80**	**49**	*e*P		**P**	**07 05 59.8**	**+0.5**
	comp=Z,19nm,1.5s								
CLL	**Collm**	**81.13**	**330**	*e*P		**P**	**07 06 00.0**	**-0.5**
CLL				*i* pP		**pP**	**07 06 12.6**	**+1.3**
CLL	**Collm**	**81.13**	**330**	*e*P		P	07 06 00.0	-0.5
CLL				*i* *PP		**pP**	**07 06 12.6**	**+1.3**
GOPC	**GO Pecny, Ondr**	**81.47**	**328**	*e*P		P	07 06 15.3	+13
X16A	**Lo Mia Camp, P**	**81.56**	**53**	*e*P		**P**	**07 06 03.5**	**+0.2**
	comp=Z,4.3nm,1.1s								
TREC	**Trest**	**81.65**	**328**	*e*P		P	07 06 11.4	+8.1
TREC	**Trest**	**81.65**	**328**	*e*P		P	07 06 11.4	+8.1
NRS	**Narsarsuaq**	**81.88**	**3**	*e*P		**P**	**07 06 05.9**	**+1.7**
	comp=Z,69nm,0.9s								
NRS	**Narsarsuaq**	**81.88**	**3**	*e*P		**P**	**07 06 05.9**	**+1.7**
NRS				pmax	pmax				
	comp=Z,69nm,0.9s								
KHC	**Kasperske Hory**	**82.58**	**329**	*e*P		P	07 06 21.0	+13
GERES	**GERESS Array B**	**82.75**	**328**	P		**P**	**07 06 07.9**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=78,slow=32,SNR=5.6								
ECSD	**EROS Data Cent**	**83.69**	**38**	*e*P		**P**	**07 06 14.1**	**0.0**
	comp=Z,2.9nm,0.8s								
T25A	**Trinidad**	**84.09**	**47**	*e*P		**P**	**07 06 16.6**	**+0.1**
	comp=Z,5.2nm,0.8s								
ANMO	**Albuquerque**	**84.34**	**50**	*e*P		**P**	**07 06 18.3**	**+0.6**
	comp=Z,4.4nm,1.1s								
ANMO	**Albuquerque**	**84.34**	**50**	*e*P		**P**	**07 06 18.3**	**+0.6**
ANMO				pmax	pmax				
	comp=Z,4.0nm,1.1s								
SCHQ	**Schefferville**	**85.17**	**16**	P		**P**	**07 06 21.2**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=346,slow=8.3,SNR=3.2								
SCHQ	**Schefferville**	**85.17**	**16**	*e*P		**P**	**07 06 21.5**	**+0.2**
	comp=Z,7.9nm,1.3s								
KARP	**Karpathos**	**85.58**	**312**	*e*P		**P**	**07 06 23.1**	**-0.6**
	comp=Z,35nm,1.2s								
ECH	**Echery**	**85.88**	**331**	*e*P		**P**	**07 06 25.0**	**0.0**
	comp=Z,6.0nm,0.9s								
ECH	**Echery**	**85.88**	**331**	*e*P		**P**	**07 06 25.0**	**0.0**
ECH				pmax	pmax				
	comp=Z,6.0nm,0.9s								
FUORN	**Ofenpass-Fuorn**	**85.93**	**329**	*e*P		**P**	**07 06 25.5**	**-0.1**
	comp=Z,6.6nm,0.8s								
AMTX	**Amarillo**	**87.25**	**47**	*e*P		**P**	**07 06 32.2**	**+0.2**
	comp=Z,4.6nm,0.8s								
TX31	**Lajitas Ar. Si**	**89.87**	**53**	*e*P		**P**	**07 06 44.6**	**+0.1**
LTX	**Lajitas**	**89.87**	**53**	*e*P		**P**	**07 06 45.0**	**+0.5**
LTX	**Lajitas**	**89.87**	**53**	*e*P		**P**	**07 06 45.0**	**+0.5**
TXAR	**Lajitas Array**	**89.87**	**53**	P		**P**	**07 06 45.0**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=300,slow=3.8,SNR=8.4								
KEST	**Kesra**	**95.08**	**323**	LR		LR	07 53 20.5		
	comp=Z,93nm,18.8s,baz=284,slow=38								
KMBO	**Kilima Mbogo**	**102.20**	**278**	*i* P		**Pdif**	**07 07 44.2**	**+3.3**
KMBO				pmax	pmax				
	comp=Z,8.0nm,0.2s								
LPAZ	**La Paz**	**146.43**	**60**	PKPbc		**PKPbc**	**07 13 27.3**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=294,slow=2.8,SNR=7.8								
LPAZ	**La Paz**	**146.43**	**60**	*e*PKPdf		**PKPdf**	**07 13 26.4**	**+0.3**
MNMC	**Minye Minye**	**147.28**	**65**	*e*PKPdf		**PKPdf**	**07 13 28.2**	**+1.1**
PB11	**IPOC Station P**	**147.64**	**66**	*e*PKPdf		**PKPdf**	**07 13 27.8**	**+0.3**
LVC	**Limon Verde**	**149.91**	**70**	*e*PKPdf		**PKPdf**	**07 13 30.7**	**-0.6**
LVC				*e*PKPbc		**PKiKP**	**07 13 37.1**	**0.0**
LVC				*e*PKPab		**PKPab**	**07 13 42.1**	**+0.2**
LVC	**Limon Verde**	**149.91**	**70**	*e*PKHKP		PKPpre	07 13 30.7	
LVC				e			07 13 37.1		
LCO	**Las Campanas**	**151.76**	**83**	*e*PKPbc		**PKPbc**	**07 13 40.7**	**+0.4**
LCO	**Las Campanas**	**151.76**	**83**	*e*PKIKP		**PKPbc**	**07 13 40.7**	**+0.4**

NIED **14** *07:03:00.44˚.10N×148˚.20E,h56km,Mw4.4 Best double couple: M₀3.76000×10¹⁵ NP1:φ₀271.00000°,δ19.00000°, λ140.00000°. NP2:φ₀39.00000°,δ78.00000°,λ75.00000°.*

SKHL **14** *07:03:16.7±0.4,44˚.52N×148˚.58E,h67km±5km,mb5.0/17*

MOS **14** *07:03:17.3±1.1,44˚.59N×148˚.34E,h70km,mb4.7/22, Error ellipse: s-maj=7.9km s-min=6.4km az=84.9*

IDC **14** *07:03:17.6±2.3,44˚.82N×148˚.18E,h51km±20km,mb3.8/18, mb1 4.0/24,mb1mx4.0/42,mbtmp4.1/24,ML3.9/4,MS3.2/6, Ms1 3.2/6,ms1mx2.9/43,Error ellipse: s-maj=19.5km s-min=12.5km az=150.0*

JMA **14** *07:03:17.3±0.3,44˚.14N×148˚.23E,h0km,M4.9*

ISCJB **14** *07:03:17.8±0.5,44˚.61N±0˚.03×148˚.29E±0˚.05,h72km±4km, mb4.2/83,Error ellipse: s-maj=6.8km s-min=3.9km az=137.8*

NEIC **14** *07:03:19.4±0.5,44˚.72N×148˚.15E,h71km±4km,mb4.4/54, Error ellipse: s-maj=6.2km s-min=3.2km az=155.0*

ISC 14 07:03:17.2±1.0, 44˚.54N±0˚.05×148˚.42E±0˚.06, h54km±9km, n225,σ1°60/249, mb4.3/83, 11C-11D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.79**	**331**	⇓*i*P	**Pn**	**07 03 32.0**	**-0.2**
KUR				AMB	AMB	07 03 33.3	
	2μm,0.3s						
KUR				AMB	AMB	07 03 33.3	
	2μm,0.3s						
KUR				AMB	AMB	07 03 33.3	
	5μm,0.3s						
KUR				*i* S	**Sn**	**07 03 43.8**	**+0.5**
KUR				A	A	07 03 44.6	
	37μm,1.8s						
KUR				A	A	07 03 44.6	
	30μm,1.5s						
KUR				A	A	07 03 47.6	
	22μm,0.6s						
KUR				A	A	07 03 47.6	
	12μm,0.6s						
KUR	**Kuril'sk**	**0.79**	**331**	*d* iPN	**Pn**	**07 03 32.7**	**+0.5**
KUR				*i* S	**Sn**	**07 03 43.6**	**+0.3**
KUR				pmax	pmax		
	comp=Z,5μm,0.4s						
KUR				pmax	pmax		
	comp=Z,8μm,1.7s						
KUR				smax	smax		
	comp=E,37μm,1.8s						
KUR				smax	smax		
	comp=N,30μm,1.5s						
KUR				smax	smax		
	comp=N,22μm,0.5s						
KUR				smax	smax		
	comp=E,12μm,0.7s						
SHO	**Shikotan**	**1.33**	**240**	⇑*i*P	**Pn**	**07 03 39.8**	**+0.5**
SHO				AMB	AMB	07 03 40.0	
	comp=E,40nm,0.2s						
SHO				AMB	AMB	07 03 40.0	
	comp=E,60nm,0.2s						
SHO				AMB	AMB	07 03 40.0	
	comp=E,100nm,0.2s						
SHO				*i* S	**Sn**	**07 03 55.7**	**-0.2**
SHO				A	A	07 03 56.0	
	comp=E,2μm,0.2s						
SHO				A	A	07 03 56.0	
	comp=E,3μm,0.2s						
SHO	**Shikotan**	**1.33**	**240**	*d* iPN	**Pn**	**07 03 39.4**	**+0.1**
SHO				*i* S	**Sn**	**07 03 54.5**	**-1.4**
SHO				pmax	pmax		
	comp=Z,98nm,0.2s						
SHO				pmax	pmax		
	comp=N,35nm,0.1s						
SHO				pmax	pmax		
	comp=E,56nm,0.1s						
SHO				smax	smax		
	comp=N,2μm,0.2s						
SHO				smax	smax		
	comp=E,3.0nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.91**	**255**	*e*P	**Pn**	**07 03 48.4**	**+1.2**
YUK				AMB	AMB	07 03 49.0	
	comp=E,1μm,0.2s						
YUK				AMB	AMB	07 03 49.0	
	comp=E,410nm,0.2s						
YUK				AMB	AMB	07 03 49.0	
	comp=E,430nm,0.2s						
YUK				*i* S	**Sn**	**07 04 12.0**	**+2.0**
YUK				A	A	07 04 18.0	
	comp=E,2μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.91**	**255**	*e*PN	**Pn**	**07 03 49.0**	**+1.8**
YUK				*i* S	**Sn**	**07 04 11.6**	**+1.6**
YUK				pmax	pmax		
	comp=N,1μm,0.2s						
YUK				pmax	pmax		
	comp=E,410nm,0.2s						
YUK				pmax	pmax		
	comp=Z,425nm,0.2s						
YUK				smax	smax		
	comp=N,2μm,0.5s						
YUK				smax	smax		
	comp=E,1μm,0.1s						
GRPR	**Tuman**	**1.98**	**255**	*e*P	**Pn**	**07 03 49.0**	**+0.8**
GRPR				AMB	AMB	07 03 51.0	
	comp=E,130nm,0.1s						
GRPR				AMB	AMB	07 03 51.0	
	comp=E,310nm,0.1s						
GRPR				AMB	AMB	07 03 51.0	
	comp=E,100nm,0.1s						
GRPR				*e*S	**Sn**	**07 04 13.0**	**+1.2**
GRPR				A	A	07 04 15.0	
	comp=E,1μm,0.4s						
GRPR				A	A	07 04 15.0	
	comp=E,1μm,0.4s						
GRPR	**Tuman**	**1.98**	**255**	*e*PN	**Pn**	**07 03 49.5**	**+1.3**
GRPR				*e*S	**Sn**	**07 04 13.1**	**+1.2**
GRPR				pmax	pmax		
	comp=N,125nm,0.1s						
GRPR				pmax	pmax		
	comp=E,306nm,0.1s						
GRPR				pmax	pmax		
	comp=Z,102nm,0.1s						
GRPR				smax	smax		
	comp=N,1μm,0.1s						
GRPR				smax	smax		
	comp=E,1μm,0.5s						
GLVR	**Golovnino**	**2.24**	**250**	*e*P	**Pn**	**07 03 52.0**	**+0.3**
GLVR				AMB	AMB	07 03 57.0	
	comp=E,140nm,0.1s						
GLVR				AMB	AMB	07 03 57.0	
	comp=E,460nm,0.1s						
GLVR				AMB	AMB	07 03 57.0	
	comp=E,120nm,0.1s						
GLVR				*e*S	**Sn**	**07 04 20.0**	**+1.9**
GLVR				A	A	07 04 22.0	
	comp=E,3μm,0.4s						
GLVR				A	A	07 04 22.0	
	comp=E,1μm,0.4s						
GLVR	**Golovnino**	**2.24**	**250**	*e*PN	**Pn**	**07 03 52.8**	**+1.1**
GLVR				*e*S	**Sn**	**07 04 20.3**	**+2.2**
GLVR				pmax	pmax		
	comp=N,140nm,0.1s						
GLVR				pmax	pmax		
	comp=E,460nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,120nm,0.1s						
GLVR				smax	smax		
	comp=N,3μm,0.4s						
GLVR				smax	smax		
	comp=E,1μm,0.5s						
NEM2	**Nemuro 2**	**2.26**	**240**	P	**Pn**	**07 03 52.3**	**+0.2**
NEM2				*e*S	**Sn**	**07 04 17.7**	**-1.1**
JRA	**Rausu**	**2.44**	**257**	P	**Pn**	**07 03 56.5**	**+1.9**
JKHN	**Kushirohamanak**	**2.77**	**239**	P	**Pn**	**07 03 59.8**	**+0.7**
JKHN				*e*S	**Sn**	**07 04 30.6**	**-0.7**
JNK	**Nakash**	**2.83**	**252**	P	**Pn**	**07 04 01.5**	**+1.6**
JAK	**Akkeshi**	**3.11**	**241**	P	**Pn**	**07 04 04.5**	**+0.9**
JAK				*e*S	**Sn**	**07 04 39.2**	**-0.3**
JTKR	**Abashiri--Toko**	**3.29**	**262**	P	**Pn**	**07 04 07.9**	**+1.8**
JAR	**Ashorobuto**	**3.58**	**251**	P	**Pn**	**07 04 12.5**	**+2.3**
JAR				*e*S	**Sn**	**07 04 54.2**	**+3.0**
JKK2	**Kamakawa 2**	**4.13**	**263**	P	**Pn**	**07 04 20.5**	**+2.8**
JCH	**Churui**	**4.15**	**244**	*e*S	**Sn**	**07 05 05.8**	**+0.7**
JKA	**Kamikawa-asahi**	**4.20**	**266**	*e*P	**Pn**	**07 04 18.8**	**+0.2**
ASAJ	**Asahikawa**	**4.20**	**266**	P	**Pn**	**07 04 18.8**	**+0.2**
	comp=E,4.9nm,0.3s,baz=55,slow=22,SNR=21						
ASAJ	**Asahikawa**	**4.20**	**266**	*e*Pn	**Pn**	**07 04 20.6**	**+2.0**
JFR	**Furan**	**4.43**	**254**	P	**Pn**	**07 04 25.0**	**+3.2**
ERM	**Erimo**	**4.60**	**238**	*e*Pn	**Pn**	**07 04 27.2**	**+3.2**
ERM				*e*Sn	**Sn**	**07 05 20.3**	**+4.2**
ERM	**Erimo**	**4.60**	**238**	⇑*e*P	**Pn**	**07 04 27.8**	**+3.7**
ERM	**Erimo**	**4.60**	**238**	*ce*PN	**Pn**	**07 04 27.8**	**+3.7**
ERM				pmax	pmax		
	comp=Z,186nm,1.0s						
YSS	**Yuzh-Sakhalins**	**4.64**	**303**	*e*Pn	**Pn**	**07 04 23.6**	**-1.0**
YSS	**Yuzh-Sakhalins**	**4.64**	**303**	⇓*i*P	**Pn**	**07 04 26.0**	**+1.4**
YSS				AMB	AMB	07 04 26.0	
	comp=Z,30nm,0.7s						
YSS				AMB	AMB	07 04 26.0	
	comp=Z,50nm,0.7s						
YSS				AMB	AMB	07 04 26.0	
	comp=Z,60nm,0.7s						
YSS				*i* S	**Sn**	**07 05 17.2**	**+0.1**
YSS				A	A	07 05 24.0	
	comp=Z,30nm,0.7s						
YSS				A	A	07 05 24.0	
	comp=Z,50nm,0.7s						
YSS	**Yuzh-Sakhalins**	**4.64**	**303**	⇓*e*PN	**Pn**	**07 04 25.7**	**+1.1**
YSS				*e*S	**Sn**	**07 05 22.8**	**+5.7**
YSS				pmax	pmax		
	comp=Z,60nm,1.2s						
YSS				pmax	pmax		
	comp=N,30nm,0.6s						
YSS				pmax	pmax		
	comp=E,50nm,0.7s						
YSS				smax	smax		
	comp=N,30nm,0.7s						
YSS				smax	smax		
	comp=E,50nm,1.3s						
YSS				MLR	MLR		
	comp=Z,200nm,14.0s						
YSS				MLR	MLR		
	comp=N,200nm,15.0s						
JNBK	**Urakawa-nobuka**	**4.71**	**243**	P	**Pn**	**07 04 26.9**	**+1.3**
JHR	**Hokuryu**	**4.88**	**263**	P	**Pn**	**07 04 32.6**	**+4.6**
JEW	**Eniwo**	**5.33**	**254**	P	**Pn**	**07 04 38.3**	**+4.2**
JKB	**Kayabe**	**6.01**	**246**	P	**Pn**	**07 04 45.1**	**+1.6**
JKB				*e*S	**Sn**	**07 05 49.8**	**-1.1**
JOT	**Ohata**	**6.26**	**242**	P	**Pn**	**07 04 47.6**	**+0.7**
JOT				*e*S	**Sn**	**07 05 54.8**	**-2.2**
JANG	**Nango**	**6.59**	**233**	*e*S	**Sn**	**07 06 00.8**	**-4.3**
JOSM	**Okushiri--Mats**	**6.97**	**252**	P	**Pn**	**07 04 59.0**	**+2.4**
TYV	**Tymovskoe**	**7.42**	**330**	*e*P	**Pn**	**07 05 05.5**	**+2.8**
TYV				AMB	AMB	07 05 07.6	
	comp=N,30nm,0.8s						
TYV				AMB	AMB	07 05 09.0	
	comp=N,400nm,4.0s						
TYV				*e*S	**Sn**	**07 06 25.9**	**+0.5**
TYV				A	A	07 06 34.6	
	comp=N,10.0nm,1.2s						
TYV	**Tymovskoe**	**7.42**	**330**	*e*PN	**Pn**	**07 05 05.5**	**+2.8**
TYV				*e*S	**Sn**	**07 06 31.9**	**+6.5**
TYV				pmax	pmax		
	comp=Z,26nm,0.8s						
TYV				pmax	pmax		
	comp=Z,400nm,4.1s						
TYV				smax	smax		
	comp=E,11nm,1.2s						
SKR	**Severo-Kuril's**	**8.04**	**38**	*e*P	**Pn**	**07 05 11.4**	**+0.2**
SKR				AMB	AMB	07 05 12.6	
	comp=E,220nm,1.1s						
TEY	**Ternei**	**8.42**	**277**	⇓*e*P	**Pn**	**07 05 19.2**	**+2.8**
TEY				AMB	AMB	07 05 22.9	
	comp=E,30nm,1.0s						
TEY	**Ternei**	**8.42**	**277**	⇓*e*PN	Pn	07 05 22.1	+5.7
TEY				pmax	pmax		
	comp=Z,30nm,1.0s						
TEY				pmax	pmax		
	comp=E,30nm,0.9s						
NKL	**Nikolayevsk**	**10.00**	**332**	⇓*i*P	**Pn**	**07 05 40.1**	**+2.1**
NKL				AMB	AMB	07 05 41.2	
	comp=E,30nm,1.1s						
NKL				AMB	AMB	07 05 41.2	
	comp=E,40nm,1.1s						
NKL				AMB	AMB	07 05 41.2	
	comp=E,60nm,1.1s						
NKL	**Nikolayevsk**	**10.00**	**332**	*e*PN	**Pn**	**07 05 40.5**	**+2.5**
NKL				pmax	pmax		
	comp=N,33nm,1.1s						
NKL				pmax	pmax		
	comp=E,44nm,1.1s						
NKL				pmax	pmax		
	comp=Z,55nm,1.1s						
GRNR	**Gornyy**	**10.21**	**312**	⇑*i*P	**Pn**	**07 05 44.7**	**+3.9**
GRNR				AMB	AMB	07 05 45.1	
	comp=Z,20nm,1.0s						
GRNR	**Gornyy**	**10.21**	**312**	*e*PN	**Pn**	**07 05 43.3**	**+2.5**
GRNR				pmax	pmax		
	comp=Z,21nm,1.0s						
PEA0B	**Petropavlovsk-**	**10.52**	**32**	*e*Pn	**Pn**	**07 05 47.1**	**+1.9**
PETK	**Petropavlovsk-**	**10.52**	**32**	P	**Pn**	**07 05 42.2**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=194,slow=13,SNR=2.4						
PETK	**Petropavlovsk-**	**10.52**	**32**	*e*Pn	**Pn**	**07 05 46.3**	**+1.2**
PETK	**Petropavlovsk-**	**10.52**	**32**	*e*PN	**Pn**	**07 05 46.3**	**+1.2**
PEA1	**Petropavlovsk-**	**10.53**	**32**	*e*Pn	**Pn**	**07 05 42.2**	**-3.0**
MAJO	**Matsushiro**	**11.14**	**228**	*e*Pn	**Pn**	**07 05 53.2**	**-0.5**
MAJO	**Matsushiro**	**11.14**	**228**	*i* PN	**Pn**	**07 05 53.4**	**-0.2**
MJAR	**Matsushiro Arr**	**11.14**	**228**	P	**Pn**	**07 05 53.9**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=23,slow=13,SNR=12						
MJAR				LR	LR	07 10 22.1	
	comp=Z,112nm,21.7s,baz=60,slow=38						
USRK	**Ussuriysk Ar.**	**11.77**	**274**	P	**Pn**	**07 06 01.1**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=88,slow=13,SNR=2.5						
USRK				LR	LR	07 10 27.5	
	comp=Z,112nm,22.0s,baz=96,slow=37						
KLR	**Kul'dur**	**12.32**	**298**	LR	LR	07 11 07.7	
	comp=Z,179nm,18.4s,baz=115,slow=39						
KLR	**Kul'dur**	**12.32**	**298**	*i* P	**Pn**	**07 06 11.9**	**+2.2**
KLR	**Kul'dur**	**12.32**	**298**	*i* PN	**Pn**	**07 06 11.9**	**+2.2**
EKMR	**Ekimchan**	**13.27**	**315**	⇓*i*P	**Pn**	**07 06 25.0**	**+2.4**
EKMR				AMB	AMB	07 06 26.8	
	comp=Z,10.0nm,0.8s						
BMKR	**Bomnak**	**16.20**	**316**	*e*P	**P**	**07 07 02.2**	**-1.1**
BMKR				AMB	AMB	07 07 07.0	
	comp=Z,30nm,0.9s						
ZEA	**Zeya**	**16.57**	**311**	*e*P	**Pn**	**07 07 06.3**	**+0.7**
ZEA				AMB	AMB	07 07 10.6	
	comp=Z,20nm,1.0s						
ZEA	**Zeya**	**16.57**	**311**	*e*P	**P**	**07 07 07.1**	**-0.3**
ZEA				pmax	pmax		
	comp=Z,18nm,1.2s						
KSRS	**Korea Array**	**16.99**	**252**	P	**Pn**	**07 07 06.9**	**-4.1**
	comp=Z,0.2nm,0.3s,baz=64,slow=9.5,SNR=2.6						
KSRS				LR	LR	07 12 49.9	
	comp=Z,111nm,20.9s,baz=72,slow=34						
KSRS	**Korea Array**	**16.99**	**252**	*e*P	**P**	**07 07 14.3**	**+2.1**
KROS	**Kirovskiy**	**17.02**	**313**	⇑*e*P	**Pn**	**07 07 08.0**	**-3.3**
KROS				AMB	AMB	07 07 10.9	
	comp=Z,10.0nm,0.9s						
KSAR	**Wonju Array Be**	**17.02**	**252**	P	**Pn**	**07 07 06.9**	**-4.5**
KSAR	**Wonju Array Be**	**17.02**	**252**	P	**Pn**	**07 07 06.9**	**-4.5**
JNU	**Nakatsue**	**17.76**	**236**	P	**Pn**	**07 07 20.3**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=13,slow=2.9,SNR=6.3						
JNU				LR	LR	07 14 50.3	
	comp=Z,28nm,20.2s,baz=118,slow=39						
JNU	**Nakatsue**	**17.76**	**236**	*e*P	**P**	**07 07 20.9**	**+0.2**
	comp=Z,18nm,0.9s						
SEY	**Seymchan**	**18.57**	**6**	P	**P**	**07 07 26.1**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=178,slow=11,SNR=9.3						
SEY	**Seymchan**	**18.57**	**6**	⇑*e*P	**P**	**07 07 28.8**	**-0.5**
SEY	**Seymchan**	**18.57**	**6**	*ce*P	**P**	**07 07 28.8**	**-0.5**
YAK	**Yakutsk**	**20.65**	**335**	*e*P	Pn	07 08 09.0	+14
YAK				pmax	pmax		
	comp=Z,51nm,1.0s						
YAK				pmax	pmax		
	comp=N,28nm,1.0s						
YAK				pmax	pmax		
	comp=E,19nm,1.0s						
BILL	**Bilibino**	**25.35**	**16**	⇓*e*P	**P**	**07 08 38.1**	**-0.5**
BILL	**Bilibino**	**25.35**	**16**	⇓*e*P	**P**	**07 08 38.1**	**-0.5**
BILL						07 12 10.0	
BILL				SS	S	07 13 56.0	+55
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,85nm,17.0s						
ULN	**Ulaanbaatar**	**28.57**	**292**	*e*P	**P**	**07 09 06.5**	**-1.5**
	comp=Z,2.8nm,0.9s						
ULN	**Ulaanbaatar**	**28.57**	**292**	⇑*e*P	**P**	**07 09 08.3**	**+0.3**
ULN	**Ulaanbaatar**	**28.57**	**292**	*ce*P	**P**	**07 09 08.3**	**+0.3**
ULN				pmax	pmax		
	comp=Z,9.0nm,2.5s						
TIXI	**Tiksi**	**28.78**	**347**	*i* P	**P**	**07 09 07.1**	**-2.2**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.1s						
SONA0	**Songino Array**	**29.02**	**292**	*e*P	**P**	**07 09 10.5**	**-1.5**
SONM	**Songino Array**	**29.02**	**292**	P	**P**	**07 09 10.5**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=106,slow=7.7,SNR=4.9						
SONM				LR	LR	07 20 30.9	
	comp=Z,99nm,19.7s,baz=52,slow=36						
SONM	**Songino Array**	**29.02**	**292**	*e*P	**P**	**07 09 12.2**	**+0.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ANM	**Nome**	**32.41**	**36**	*e*P	**P**	**07 09 42.6**	**+1.1**
ANM	**Nome**	**32.41**	**36**	*e*P	**P**	**07 09 42.6**	**+1.1**
KNGR	**Kungurtug, Tuv**	**34.30**	**299**	*i* P	**P**	**07 09 58.0**	**-0.2**
GTA	**Gaotai**	**36.07**	**279**	*e*P	**P**	**07 10 14.4**	**+0.8**
GTA				pP	pP	07 10 19.0	-8.3
GTA				sP	sP	07 10 21.8	-12
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SVW2	**Sparrevohn**	**36.36**	**43**	*e*P	**P**	**07 10 16.7**	**+1.0**
	comp=Z,5.3nm,1.1s						
IM3	**Indian Mountai**	**37.47**	**35**	*e*P	**P**	**07 10 25.4**	**+0.3**
PPLA	**Purkeypile**	**37.99**	**40**	*e*P	**P**	**07 10 30.8**	**+1.2**
	comp=Z,12nm,1.2s						
CAST	**Castle Rocks**	**38.04**	**39**	*e*P	**P**	**07 10 30.7**	**+0.8**
	comp=Z,4.3nm,1.2s						
TGY	**Tagaytay City**	**38.30**	**226**	P	**P**	**07 10 33.1**	**+0.5**
	comp=Z,264nm,0.3s,baz=330,slow=10.0,SNR=3.8						
BPAW	**Bear Paw Mtn.**	**38.54**	**38**	*e*P	**P**	**07 10 35.0**	**+0.9**
	comp=Z,1.3nm,1.0s						
MLY	**Manley**	**38.66**	**36**	*e*P	**P**	**07 10 35.3**	**+0.1**
	comp=Z,1.4nm,0.9s						
MDM	**Murphy Dome**	**39.73**	**37**	*e*P	**P**	**07 10 44.5**	**+0.5**
	comp=Z,3.9nm,1.1s						
WRH	**Wood River Hil**	**39.80**	**37**	*e*P	**P**	**07 10 45.1**	**+0.6**
	comp=Z,2.2nm,1.0s						
SML	**Sawmill**	**39.82**	**41**	*e*P	**P**	**07 10 45.1**	**+0.3**
	comp=Z,15nm,1.1s						
SML	**Sawmill**	**39.82**	**41**	*e*P	**P**	**07 10 45.1**	**+0.3**
SML	**Sawmill**	**39.82**	**41**	*e*P	**P**	**07 10 45.1**	**+0.3**
SML				pmax	pmax		
	comp=Z,15nm,1.1s						
HDA	**Harding Lake**	**40.30**	**37**	*e*P	**P**	**07 10 48.6**	**-0.1**
	comp=Z,4.1nm,1.0s						
ILAR	**Eielson Array**	**40.31**	**37**	P	**P**	**07 10 49.0**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=269,slow=8.5,SNR=17						
ILB	**Eielson Array**	**40.31**	**37**	*e*P	**P**	**07 10 48.8**	**0.0**
DGZ	**Jazzator, Alta**	**40.81**	**300**	*i* P	**P**	**07 10 53.7**	**+0.4**
DGZ				pmax	pmax		
	comp=Z,1.0nm,1.0s						
FYU	**Fort Yukon**	**40.94**	**34**	*e*P	**P**	**07 10 54.6**	**+0.7**
	comp=Z,7.7nm,1.2s						
ZAA1	**Zales

comp=Z,1.0nm,0.8s
AAK Ala-Archa 51.84 296 *i* P **P 07 12 19.8 -0.1**
AAK Ala-Archa 51.84 296 *i* P **P 07 12 19.8 -0.1**
AAK pmax pmax
comp=Z,1.0nm,1.0s
YKW3 Yellowknife Ar 54.59 34 *e*P **P 07 12 39.6 0.0**
comp=Z,2.3nm,0.9s
YKA Yellowknife Ar 54.63 34 P **P 07 12 40.0 +0.1**
comp=Z,1.5nm,0.7s,baz=299,slow=6.7,SNR=22
YKA Yellowknife Ar 54.63 34 P **P 07 12 40.0 +0.1**
YKA Yellowknife Ar 54.63 34 *e*P **P 07 12 40.0 +0.1**
YKA Yellowknife Ar 54.63 34 P **P 07 12 40.0 +0.1**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKB5 Yellowknife Ar 54.63 34 *e*P **P 07 12 39.1 -0.7**
GAR Garm 56.43 294 *e*P **P 07 12 52.3 -1.0**
comp=Z,6.3nm,1.1s
GAR Garm 56.43 294 *e*P **P 07 12 52.3 -1.0**
GAR pmax pmax
comp=Z,6.0nm,1.1s
ABKAR Akbulak array 57.28 309 *e*P **P 07 12 57.7 -1.2**
CHGR Chuyangaron 57.37 294 *e*P **P 07 12 59.2 -0.7**
comp=Z,7.3nm,0.8s
NIL Nilore 57.44 287 *e*P **P 07 12 59.9 -0.5**
comp=Z,17nm,1.0s
NIL Nilore 57.44 287 *e*P **P 07 12 59.9 -0.5**
NIL pmax pmax
comp=Z,17nm,1.0s
B08A Colville Reser 59.86 50 *e*P **P 07 13 17.5 +0.5**
comp=Z,2.3nm,0.7s
F07A Phinny Hill Vi 60.93 53 *e*P **P 07 13 25.2 +0.9**
comp=Z,7.4nm,0.8s
NEW Newport 61.12 50 *e*P **P 07 13 26.4 +0.8**
comp=Z,2.6nm,0.8s
NEW Newport 61.12 50 *e*P **P 07 13 26.4 +0.8**
NEW pmax pmax
comp=Z,3.0nm,0.8s
PINE Pine Mountain 61.56 55 *e*P **P 07 13 30.2 +1.4**
comp=Z,5.3nm,0.8s
WALA Waterton Lakes 62.37 47 *e*P **P 07 13 35.0 +0.9**
comp=Z,5.3nm,0.9s
MSO Missoula 63.71 49 *e*P **P 07 13 43.8 +0.8**
comp=Z,5.8nm,0.9s
BEKR Beckworth 64.24 59 *e*P **P 07 13 47.5 +0.8**
comp=Z,4.3nm,1.1s
FFC Flin Flon 64.52 37 *e*P **P 07 13 47.9 -0.1**
comp=Z,5.8nm,0.9s
FFC Flin Flon 64.52 37 *e*P **P 07 13 47.9 -0.1**
FFC Flin Flon 64.52 37 *e*P **P 07 13 47.9 -0.1**
FFC pmax pmax
comp=Z,6.0nm,0.9s
FIA1 FINESS Array S 64.58 333 *e*P **P 07 13 47.0 -1.3**
comp=Z,3.9nm,0.9s
FIA0 FINESS Array S 64.58 333 *e*P **P 07 13 45.4 -2.9**
FIA0 FINESS Array S 64.58 333 *e*P **P 07 13 45.4 -2.9**
FINES FINESS Array B 64.58 333 P **P 07 13 45.4 -2.9**
comp=Z,1.3nm,0.4s,baz=32,slow=8.2,SNR=13
FINES FINESS Array B 64.58 333 *e*P **P 07 13 46.7 -1.6**
FINES FINESS Array B 64.58 333 *e*P **P 07 13 46.7 -1.6**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FCC Fort Churchill 64.88 31 *e*P **P 07 13 49.9 -0.3**
comp=Z,3.2nm,0.6s
FCC Fort Churchill 64.88 31 *e*P **P 07 13 49.9 -0.3**
FCC Fort Churchill 64.88 31 *e*P **P 07 13 49.9 -0.3**
FCC pmax pmax
comp=Z,3.0nm,0.6s
HRY Holter Researc 64.92 48 *e*P **P 07 13 51.9 +1.0**
EGMT Eagleton 65.18 46 *e*P **P 07 13 53.0 +0.5**
comp=Z,7.3nm,0.9s
OBN Obninsk 65.21 324 *e*P **P 07 13 52.8 +0.3**
DLMT Dillon 65.35 50 *e*P **P 07 13 54.6 +0.8**
comp=Z,2.2nm,0.8s
WRAB Tennant Creek 65.44 195 *ce*P **P 07 13 58.3 +4.0**
WRAB pmax pmax
comp=Z,7.0nm,1.1s
YERR Yerington 65.47 59 *e*P **P 07 13 55.5 +0.8**
comp=Z,4.1nm,0.9s
KVN Kaiserville 66.12 58 *e*P **P 07 13 60.0 +1.1**
comp=Z,4.2nm,0.9s
KVN Kaiserville 66.12 58 *e*P **P 07 14 00.0 +1.1**
KVN pmax pmax
comp=Z,4.0nm,0.9s
NV01 Mina Array Sit 66.39 59 *e*P **P 07 14 01.9 +1.3**
NVAR Mina Array Bea 66.39 59 P **P 07 14 02.1 +1.5**
comp=Z,2.7nm,0.9s,baz=292,slow=6.6,SNR=8.6
H17A Grant Village 67.08 50 *e*P **P 07 14 06.4 +1.4**
comp=Z,4.8nm,0.9s
MOOW Moose Ponds 67.40 50 *e*P **P 07 14 08.1 +1.1**
comp=Z,1.9nm,0.8s
TPAW Teton Pass 67.46 51 *e*P **P 07 14 08.2 +0.7**
comp=Z,6.3nm,0.9s
REDW Red Top Meadow 67.59 51 *e*P **P 07 14 09.3 +1.0**
comp=Z,3.3nm,0.9s
LAO LASA Array 67.87 46 *e*P **P 07 14 10.8 +1.1**
comp=Z,5.0nm,0.9s
BW06 Boulder Array 68.70 51 *e*P **P 07 14 15.2 0.0**
comp=Z,2.1nm,0.8s
PD31 Pinedale Array 68.70 51 *e*P **P 07 14 15.2 0.0**
PDAR Pinedale Array 68.70 51 P **P 07 14 15.8 +0.7**
comp=Z,1.4nm,0.7s,baz=256,slow=2.3,SNR=15
PDAR Pinedale Array 68.70 51 *e*P **P 07 14 14.8 -0.4**
NC405 NORSAR Array S 69.00 339 *e*P **P 07 14 15.4 -1.0**
NLU North Lily Min 69.12 54 *e*P **P 07 14 18.5 +0.7**
comp=Z,2.2nm,0.9s
NB2 NORSAR Subarra 69.19 339 P **P 07 14 16.3 -1.3**
comp=Z,1.3nm,0.5s,baz=29,slow=6.5
NB200 NORSAR Array S 69.19 339 *e*P **P 07 14 16.5 -1.1**
NOA NORSAR Array B 69.19 339 P **P 07 14 16.5 -1.1**
comp=Z,1.9nm,0.6s,baz=31,slow=6.6,SNR=12
NOA NORSAR Array B 69.19 339 *e*P **P 07 14 17.0 -0.6**
NOA pmax pmax
comp=Z,2.0nm,0.5s
ULM Lac du Bonnet 70.31 38 P **P 07 14 24.4 -0.3**
comp=Z,1.9nm,0.5s,baz=311,slow=7.6,SNR=7.2
ULM Lac du Bonnet 70.31 38 *e*P **P 07 14 24.9 +0.2**
ULM Lac du Bonnet 70.31 38 *e*P **P 07 14 24.9 +0.2**
ULM pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 71.48 324 P **P 07 14 31.2 -0.5**
comp=Z,0.4nm,0.4s,baz=39,slow=6.0,SNR=3.3
PV17 East Wray Mesa 72.04 54 *e*P **P 07 14 36.1 +0.5**
comp=Z,5.8nm,0.7s
X16A Lo Mia Camp, P 73.19 58 *e*P **P 07 14 43.2 +0.7**
comp=Z,2.3nm,0.9s
OGNE Ogallala 74.03 48 *e*P **P 07 14 47.8 +0.6**
comp=Z,8.9nm,0.6s
ECSD EROS Data Cent 74.77 43 *e*P **P 07 14 51.4 0.0**
comp=Z,5.2nm,1.0s
BUR04 Bucovina Ar. S 75.53 324 *e*P **P 07 14 54.9 -0.8**
STKA Stephens Creek 76.31 186 P **P 07 15 01.9 +1.9**
comp=Z,1.8nm,0.8s,baz=23,slow=6.9,SNR=4.5
SCHQ Schefferville 76.57 20 P **P 07 15 00.7 -0.7**
comp=Z,2.2nm,0.7s,baz=286,slow=5.6,SNR=5.4
SCHQ Schefferville 76.57 20 *e*P **P 07 15 01.3 0.0**
comp=Z,1.9nm,0.6s
CLL Collm 77.03 333 *e*P **P 07 15 03.0 -1.0**
comp=Z,6.0nm,0.7s
CLL *e*SS SS 07 29 42.0 -2.7
CLL *e*SSSS 07 35 24.0
CLL Collm 77.03 333 *e*P **P 07 15 03.0 -1.0**
CLL Collm 77.03 333 *e*P **P 07 15 03.0 -1.0**
CLL pmax pmax
comp=Z,6.0nm,0.7s
BR101 Keskin Array S 77.65 314 *e*P **P 07 15 07.5 -0.4**
BRTR Keskin Array B 77.65 314 P **P 07 15 07.5 -0.4**
comp=Z,1.0nm,0.8s,baz=30,slow=2.4,SNR=4.9
AMTX Amarillo 78.59 52 *e*P **P 07 15 13.6 +0.5**
comp=Z,5.8nm,1.0s
GERES GERESS Array B 78.91 331 P **P 07 15 13.4 -1.2**
comp=Z,0.9nm,0.4s,baz=31,slow=6.2,SNR=8.4
GERES GERESS Array B 78.91 331 *e*P **P 07 15 13.9 -0.7**
GERES GERESS Array B 78.91 331 *e*P **P 07 15 13.9 -0.7**
GERES pmax pmax
comp=Z,1.0nm,0.4s
GEA0 GERESS Array S 78.91 331 *e*P **P 07 15 13.9 -0.8**
HDIL Hopedale 80.69 41 *e*P **P 07 15 24.2 -0.1**
comp=Z,15nm,0.6s
TX31 Lajitas Ar. Si 81.45 57 *e*P **P 07 15 28.9 +0.2**
LTX Lajitas 81.45 57 *e*P **P 07 15 29.4 +0.7**
LTX Lajitas 81.45 57 *e*P **P 07 15 29.4 +0.7**
TXAR Lajitas Array 81.45 57 P **P 07 15 29.4 +0.8**
comp=Z,1.9nm,0.5s,baz=300,slow=4.0,SNR=20
CCM Cathedral Cave 81.72 44 *e*P **P 07 15 29.6 -0.1**
comp=Z,12nm,1.1s
CCM Cathedral Cave 81.72 44 *e*P **P 07 15 29.7 -0.1**
CCM pmax pmax
comp=Z,11nm,1.1s
SIUC Southern Illin 82.98 42 *e*P **P 07 15 36.0 -0.3**
comp=Z,11nm,0.8s
MIAR Mount Ida 83.25 47 *e*P **P 07 15 37.7 -0.1**
comp=Z,5.0nm,0.8s
MIAR Mount Ida 83.25 47 *e*P **P 07 15 37.7 -0.1**
MIAR pmax pmax
comp=Z,5.0nm,0.8s
KARP Karpathos 84.14 316 *e*P **P 07 15 41.1 -1.3**
comp=Z,17nm,0.9s
WVT Waverly 84.91 43 *e*P **P 07 15 46.3 +0.1**
comp=Z,4.3nm,0.8s
WVT Waverly 84.91 43 *e*P **P 07 15 46.3 +0.1**
WVT pmax pmax
comp=Z,4.0nm,0.8s
T49A Edmonton 85.21 40 *e*P **P 07 15 47.7 0.0**
comp=Z,1.4nm,0.8s
TZTN Tazewell 86.58 39 *e*P **P 07 15 54.6 0.0**
comp=Z,4.6nm,1.1s
TKL Tuckaleechee C 87.21 40 *e*P **P 07 15 57.6 0.0**
comp=Z,4.7nm,0.9s
TKL Tuckaleechee C 87.21 40 *e*P **P 07 15 57.6 0.0**
TKL pmax pmax
comp=Z,5.0nm,0.9s
ESDC Sonseca Array 92.55 339 P **P 07 16 21.9 -0.7**
comp=Z,0.2nm,0.4s,baz=21,slow=7.4,SNR=4.9
BDFB Brasília 148.00 31 PKPbc **PKPbc 07 22 56.9 0.0**
comp=Z,1.1nm,0.4s,baz=234,slow=1.9,SNR=3.1
PLCA Paso Flores 151.27 96 PKPbc **PKPbc 07 23 04.5 +0.2**
comp=Z,1.3nm,0.8s,baz=183,slow=2.1,SNR=4.8
CPUP Villa Florida 152.43 57 PKPbc **PKPbc 07 23 06.9 -0.2**
comp=Z,0.9nm,0.9s,baz=49,slow=1.0,SNR=3.3

BJI **14** *07:05:48.6, 1°.39N×96°.98E, h23km, mb4.9/52, mB5.1/37, Ms4.6/24, Ms7 4.4/26*
ISCJB **14** *07:05:52.8±0.2, 1°.81N±0°.03×96°.91E±0°.03, h28km, mb4.7/69, MS4.1/14, Error ellipse: s-maj=4.9km s-min=3.1km az=136.1*
KLM **14** *07:05:54.0, 1°.88N×96°.80E, h18km, mb4.7*
DJA **14** *07:05:54.9±0.5, 2°.N±3°×97°.E±°, h16km±6km, M4.7/6, mb4.7/6, mB4.9/1, MLv4.7/3, Mw(mB)4.2/1*
NEIC **14** *07:05:55.8±0.2, 1°.91N×97°.00E, h35km, mb4.9/36, Error ellipse: s-maj=4.6km s-min=2.9km az=53.0*
IDC **14** *07:05:57.6±3.6, 1°.92N×97°.03E, h52km±30km, mb4.2/21, mb1 4.3/23, mb1mx4.1/43, mbtmp4.4/23, ML4.7/1, MS3.9/12, Ms1 3.9/12, ms1mx3.6/38, Error ellipse: s-maj=24.0km s-min=13.0km az=55.0*

ISC 14 07:05:54.9±0.3, 1°.85N±0°.04×96°.89E±0°.05, h28km, n199, σ1§38/197, mb4.8/88, MS4.1/15, 3C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
SNSI	**Sinabang, Aceh**	**0.79**	**315**	P	**Pn**	**07 06 11.7**	**+1.5**
SNSI				S	**Sb**	**07 06 21.0**	**+0.6**
GSI	**Gunungsitoli**	**0.88**	**128**	*e*Pn	**Pn**	**07 06 11.1**	**-0.3**
GSI	**Gunungsitoli**	**0.88**	**128**	P	**Pb**	**07 06 12.5**	**+0.9**
GSI				S	**Sn**	**07 06 23.4**	**+0.1**
TPTI		**1.43**	**12**	P	**Pn**	**07 06 19.3**	**+0.2**
TPTI				S	**Sb**	**07 06 39.4**	**+0.6**
KCSI	**Kotacane, Aceh**	**1.88**	**28**	P	**Pn**	**07 06 25.8**	**+0.5**
KCSI				S	**Sn**	**07 06 49.8**	**+1.7**
PSI	**Prapat**	**2.24**	**65**	P	**Pn**	**07 06 30.1**	**-0.2**
	2.6nm,0.3s,baz=186,slow=1.5,SNR=31						
PSI				LR	LR	07 07 08.7	
	comp=Z,1μm,20.5s,baz=270,slow=35						
PSI	**Prapat**	**2.24**	**65**	*e*Pn	**Pn**	**07 06 29.6**	**-0.8**
TSI	**Tuntungan**	**2.34**	**46**	P	**Pn**	**07 06 32.1**	**+0.5**
MNSI	**Mandailing Nat**	**2.89**	**111**	P	**Pn**	**07 06 40.0**	**+0.9**
BKNI	**Bangkinang**	**4.42**	**110**	P	**Pn**	**07 07 00.8**	**+0.6**
IPM	**Ipoh**	**4.89**	**58**	*e*Pn	**Pn**	**07 07 06.5**	**-0.2**
IPM	**Ipoh**	**4.89**	**58**	P	**Pn**	**07 07 07.9**	**+1.3**
KULM	**Kulim**	**5.08**	**48**	*e*Pn	**Pn**	**07 07 07.5**	**-1.8**
KULM	**Kulim**	**5.08**	**48**	P	**Pn**	**07 07 10.0**	**+0.7**
CMBY	**CAMPBELL BAY**	**5.92**	**330**	*e*P	**Pn**	**07 07 20.0**	**-0.7**
CMBY				IAmb	IAmb	07 07 20.7	
	comp=Z,815nm,0.1s						
KRJI	**Kerinci**	**6.02**	**131**	P	**Pn**	**07 07 23.6**	**+1.3**
KGM	**Kluang**	**6.43**	**88**	P	**Pn**	**07 07 28.7**	**+0.9**
SKLT	**Songkhla**	**6.46**	**35**	P	Pn	07 07 33.7	+5.4
TRTT	**Trang**	**6.57**	**25**	P	**Pn**	**07 07 29.1**	**-0.7**
	comp=Z,25nm,1.4s,comp=Z,0.2nm						
KRAB	**Krabi**	**6.73**	**20**	P	**Pn**	**07 07 31.4**	**-0.6**
	comp=Z,118nm,0.6s,comp=Z,1μmcomp=Z,0.7nm						
MYKOM	**Kota Tinggi**	**6.96**	**90**	*e*Pn	**Pn**	**07 07 33.5**	**-1.6**
MNAI	**Manna**	**8.65**	**136**	*e*Pn	**Pn**	**07 07 57.7**	**-0.7**
MNAI				*e*Sn	**Sn**	**07 09 32.0**	**-3.1**
LHSI	**Lahat**	**8.71**	**130**	P	**Pn**	**07 08 00.0**	**+0.9**
MDSI	**Maura Dua**	**9.63**	**131**	P	**Pn**	**07 08 12.6**	**+0.8**
PBA	**Port Blair**	**10.57**	**337**	*e*P	Pn	07 08 24.7	0.0
PBA				IAmb	IAmb	07 08 27.4	
	comp=Z,280nm,2.0s						
SRAK	**Srakaew**	**13.11**	**23**	P	**Pn**	**07 09 04.2**	**+4.7**
LEM	**Lembang**	**13.75**	**129**	LR	LR	07 15 43.6	
	comp=Z,537nm,18.3s,baz=274,slow=43						
UTHA	**Uthaitani**	**13.85**	**10**	P	**P**	**07 09 20.9**	**+3.3**
COCO	**West Island**	**13.95**	**180**	*e*Pn	**Pn**	**07 09 12.2**	**+1.3**
STKI	**Sintang**	**14.70**	**97**	P	**P**	**07 09 29.3**	**+2.3**
PBKT	**Sadao Pong**	**15.17**	**15**	*e*Pn	**Pn**	**07 09 26.2**	**-1.2**
	comp=Z,9.3nm,0.6s						
PBKT	**Sadao Pong**	**15.17**	**15**	P	**Pn**	**07 09 29.4**	**+2.0**
	comp=Z,28nm,0.8s						
SBUM	**Sibu**	**15.33**	**88**	*e*Pn	**Pn**	**07 09 28.1**	**-1.5**
	comp=Z,5.8nm,0.8s						
SUKH	**Sukhothai**	**15.77**	**10**	P	**P**	**07 09 39.5**	**+0.7**
	comp=Z,8.3nm,0.8s						
SKNT	**Sakolnakorn**	**16.57**	**24**	P	P	07 09 59.8	+12
CM01	**Chiang Mai Arr**	**16.59**	**7**	*e*Pn	**Pn**	**07 09 44.2**	**-1.6**
CM31	**Chiang Mai Arr**	**16.63**	**7**	*e*Pn	**Pn**	**07 09 44.9**	**-1.3**
CMAR	**Chiang Mai Arr**	**16.63**	**7**	P	**Pn**	**07 09 45.5**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=197,slow=12,SNR=24						
CMAR				LR	LR	07 17 44.2	
	comp=Z,396nm,18.0s,baz=194,slow=43						
LAMP	**Lampang**	**16.79**	**9**	P	**Pn**	**07 09 48.3**	**+0.1**
	comp=Z,6.3nm,1.0s						
CHTO	**Chiang Mai**	**16.98**	**7**	*e*Pn	**Pn**	**07 09 48.5**	**-2.1**
	comp=Z,5.2nm,0.7s						
CHTO	**Chiang Mai**	**16.98**	**7**	P	**P**	**07 09 52.3**	**0.0**
	comp=Z,51nm,0.9s						
CMMT	**Chiang Mai**	**16.98**	**7**	P	**P**	**07 09 52.2**	**-0.1**
PALK	**Pallekele**	**17.00**	**289**	LR	LR	07 15 32.9	
	comp=Z,354nm,21.7s,baz=115,slow=34						
NONG	**Nongkai**	**17.24**	**20**	P	**Pn**	**07 09 52.5**	**-1.4**
	comp=Z,0.3nm,0.8s						
MDRS	**Chennai**	**19.89**	**305**	*e*P	**P**	**07 10 24.3**	**0.0**
MDRS				IAmb	IAmb	07 10 26.5	
	comp=Z,7.5nm,0.9s						
SDKM	**Sandakan**	**20.61**	**79**	P	**P**	**07 10 32.9**	**+0.7**
TRD	**Trivandrum**	**20.91**	**289**	*e*P	**P**	**07 10 36.6**	**+1.1**
TRD				IAmb	IAmb	07 10 42.8	
	comp=Z,88nm,1.6s						
QIZ	**Qiongzhong**	**21.27**	**36**	P	**P**	**07 10 39.8**	**+0.5**
QIZ				S	**S**	**07 14 35.0**	**+0.5**
QIZ				LR	LR		
	comp=Z,550nm,13.1s						
QIZ				LR	LR		
	comp=Z,460nm,15.5s						
QIZ				LR	LR		
	comp=Z,640nm,13.3s						
HYB	**Hyderabad**	**23.75**	**312**	*i* P	**P**	**07 11 07.0**	**+1.8**
HYB	**Hyderabad**	**23.75**	**312**	*e*P	**P**	**07 11 06.4**	**+1.2**
HYB				IAmb	IAmb	07 11 08.5	
	comp=Z,19nm,0.2s						
KMI	**Kunming**	**23.82**	**13**	P	**P**	**07 11 07.4**	**+1.4**
KMI				pP	pP	07 11 14.5	+0.5
KMI				sP	sP	07 11 17.9	+0.7
KMI				pmax	pmax		
	comp=Z,33nm,1.0s						
KMI				LR	LR		
	comp=Z,660nm,12.9s						
KMI				LR	LR		
	comp=Z,430nm,12.0s						
KMI				LR	LR		
	comp=Z,560nm,14.4s						
SHL	**Shillong**	**24.07**	**349**	*e*P	**P**	**07 11 05.3**	**-2.9**
	comp=Z,36nm,0.8s						
SHL	**Shillong**	**24.07**	**349**	*e*P	**P**	**07 11 06.3**	**-2.0**
SHL				IAmb	IAmb	07 11 08.6	
	comp=Z,35nm,1.0s						
SHL	**Shillong**	**24.07**	**349**	*e*P	**P**	**07 11 06.0**	**-2.3**
SHL				*e*S	**S**	**07 15 24.0**	**-0.2**
BOK	**Bokaro**	**24.28**	**335**	*e*P	**P**	**07 11 09.9**	**-0.1**
BOK				IAmb	IAmb	07 11 12.8	
	comp=Z,67nm,1.2s						
MNCY	**Minicoy**	**24.59**	**286**	*e*P	**P**	**07 11 12.9**	**-0.1**
APSI	**Ampana**	**24.91**	**96**	P	**P**	**07 11 16.2**	**+0.3**
H08S2	**Diego Garcia H**	**26.10**	**249**	T	T	07 38 41.7	
	baz=69,slow=76,SNR=954						
H08S3	**Diego Garcia H**	**26.10**	**249**	T	T	07 38 41.9	
	baz=69,slow=76,SNR=1046						
H08S1	**Diego Garcia H**	**26.12**	**249**	T	T	07 38 43.0	
	baz=69,slow=76,SNR=618						
GYA	**Guiyang**	**26.21**	**20**	P	**P**	**07 11 28.3**	**+0.6**
GYA				pP	pP	07 11 36.4	+0.6
GYA				PP	**PnPn**	**07 12 12.0**	**+4.9**
GYA				S	**S**	**07 15 58.8**	**+0.5**
GYA				sS	sS	07 16 10.3	-1.5
GYA				SS	**SnSn**	**07 17 05.6**	**+6.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,4.9s						
GYA				LR	LR		
	comp=Z,640nm,14.9s						
GYA				LR	LR		
	comp=Z,420nm,14.8s						
GYA				LR	LR		
	comp=Z,720nm,16.2s						
GOA	**Goa**	**26.48**	**302**	*ex*	**P**	**07 11 27.2**	**-2.8**
GOA				IAmb	IAmb	07 11 28.0	
	comp=Z,10nm,0.3s						
ODAN	**Odare**	**26.48**	**341**	*e*P	**P**	**07 11 30.7**	**+0.4**
	comp=Z,113nm,1.1s						
RAMN	**Ramite**	**26.84**	**339**	*e*P	**P**	**07 11 34.0**	**+0.5**
	comp=Z,54nm,0.8s						
JIRN	**Jiri**	**27.63**	**339**	*e*P	**P**	**07 11 41.3**	**+0.6**
	comp=Z,72nm,0.9s						
PKI	**Pulchoki**	**27.84**	**338**	*e*P	**P**	**07 11 42.8**	**+0.3**
	comp=Z,14nm,0.7s						
PKIN	**Phulchoki**	**27.85**	**338**	*e*P	**P**	**07 11 42.6**	**0.0**
	comp=Z,19nm,0.8s						
GUN	**Gumba**	**27.97**	**339**	*e*P	**P**	**07 11 44.4**	**+0.7**
	comp=Z,44nm,0.7s						
DMN	**Daman**	**27.99**	**337**	*e*P	**P**	**07 11 44.1**	**+0.3**
	comp=Z,26nm,0.9s						
POO	**Poona**	**28.02**	**308**	*e*P	**P**	**07 11 44.5**	**+0.6**
POO				IAmb	IAmb	07 11 45.7	
	comp=Z,4.8nm,0.5s						
KKN	**Kakani**	**28.08**	**338**	*e*P	**P**	**07 11 45.0**	**+0.4**
	comp=Z,76nm,1.1s						
LSA	**Lhasa**	**28.23**	**349**	*e*P	**P**	**07 11 45.2**	**-0.9**
	comp=Z,15nm,1.0s						
BHPL	**Bhopal**	**28.43**	**320**	*e*P	**P**	**07 11 47.6**	**0.0**
BHPL				IAmb	IAmb	07 11 53.0	
	comp=Z,5.0nm,0.4s						
KOLN	**Koldanda**	**28.74**	**335**	*e*P	**P**	**07 11 51.2**	**+0.8**
	comp=Z,21nm,0.7s						
DANN	**Dangsing**	**29.18**	**336**	*e*P	**P**	**07 11 55.0**	**+0.5**
	comp=Z,21nm,0.5s						
PYUN	**Piuthan**	**29.29**	**334**	*e*P	**P**	**07 11 55.8**	**+0.5**
	comp=Z,22nm,0.9s						
CD2	**Chengdu**	**29.62**	**12**	P	**P**	**07 11 58.6**	**+0.5**
CD2				pP	pP	07 12 05.5	-0.4
CD2				S	**S**	**07 16 53.9**	**+2.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,4.8s						
CD2				LR	LR		
	comp=Z,590nm,12.3s						
CD2				LR	LR		
	comp=Z,760nm,11.9s						
CD2				LR	LR		
	comp=Z,620nm,10.1s						
ENH	**Enshi**	**30.69**	**22**	*e*P	**P**	**07 12 05.7**	**-1.8**
	comp=Z,19nm,0.8s						
YULB	**Yu-li**	**31.91**	**46**	*e*P	**P**	**07 12 17.5**	**-0.8**
	comp=Z,15nm,0.7s						
MBWA	**Marble Bar**	**31.98**	**137**	*e*P	**P**	**07 12 19.1**	**+0.2**
NACB	**Ninganchiao**	**32.61**	**45**	*e*P	**P**	**07 12 23.5**	**-1.0**
	comp=Z,22nm,0.8s						
WHN	**Wuhan**	**32.99**	**28**	⇓P	**P**	**07 12 27.6**	**0.0**
DDI	**Dehra Dun**	**33.48**	**330**	*e*P	**P**	**07 12 28.9**	**-3.1**
DDI				IAmb	IAmb	07 12 29.8	
	comp=Z,41nm,0.2s						
BHJ	**Bhuj**	**33.91**	**311**	*e*P	**P**	**07 12 35.8**	**+0.1**
XAN	**Xi'an**	**33.94**	**18**	P	**P**	**07 12 34.4**	**-1.6**
XAN				pP	pP	07 12 41.6	-2.6
XAN				pmax	pmax		
	comp=Z,33nm,0.8s						
XAN				pmax	pmax		
	comp=Z,110nm,5.9s						
XAN				LR	LR		
	comp=Z,520nm,15.2s						
XAN				LR	LR		
	comp=Z,360nm,15.7s						
XAN				LR	LR		
	comp=Z,570nm,14.7s						
XAN	**Xi'an**	**33.94**	**18**	*e*P	**P**	**07 12 34.7**	**-1.3**
	comp=Z,24nm,0.7s						
FITZ	**Fitzroy Crossi**	**34.56**	**126**	P	**P**	**07 12 39.5**	**-1.9**
	comp=Z,1.6nm,0.6s,baz=338,slow=19,SNR=4.4						
FITZ	**Fitzroy Crossi**	**34.56**	**126**	*e*P	**P**	**07 12 40.4**	**-1.1**
	comp=Z,0.5nm,0.4s						
SMLA	**Simla**	**34.58**	**329**	*e*P	**P**	**07 12 41.9**	**+0.4**
SMLA				IAmb	IAmb	07 12 51.9	
	comp=Z,46nm,0.4s						
LZH	**Lanzhou**	**34.67**	**10**	*e*P	**P**	**07 12 46.3**	**+3.9**
LZH				pP	sP	07 12 53.6	-0.2
LZH				sP	pP	07 12 57.4	+7.1
LZH				pmax	pmax		
	comp=Z,26nm,1.0s						
DHRM	**DHARAMSHALA**	**35.92**	**329**	*e*P	**P**	**07 12 49.4**	**-3.9**
DHRM				IAmb	IAmb	07 12 53.5	
	comp=Z,804nm,0.0s						
NJ2	**Nanjing**	**36.48**	**32**	*e*P	**P**	**07 12 58.3**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
GTA	**Gaotai**	**37.48**	**4**	*e*P	**P**	**07 13 05.8**	**-0.6**
GTA				pP	pP	07 13 10.5	-3.9
GTA				sP	sP	07 13 13.3	-4.5
GTA				pmax	pmax		
	comp=Z,14nm,0.9s						
NIL	**Nilore**	**38.60**	**328**	*e*P	**P**	**07 13 16.3**	**+0.4**
	comp=Z,16nm,0.7s						
H01W3	**Cape Leeuwin H**	**39.96**	**158**	T	T	07 56 06.3	
	baz=333,slow=76,SNR=4.1						
H01W2	**Cape Leeuwin H**	**39.98**	**158**	T	T	07 56 08.6	
	baz=333,slow=76,SNR=4.7						
H01W1	**Cape Leeuwin H**	**39.98**	**158**	T	T	07 56 01.4	
	baz=333,slow=76,SNR=4.2						
HHC	**Hu-ho-hao-te**	**41.03**	**17**	*e*P	**P**	**07 13 36.1**	**+0.1**
HHC				pP	pP	07 13 43.4	-0.9
HHC				sP	sP	07 13 46.9	-0.5
HHC				S	**S**	**07 19 47.1**	**+0.3**
HHC				sS	sS	07 20 00.3	-0.3
HHC				pmax	pmax		
	comp=Z,14nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,5.1s						
HHC				LR	LR		
	comp=Z,410nm,14.7s						
HHC				LR	LR		
	comp=Z,230nm,16.4s						
HHC				LR	LR		
	comp=Z,460nm,15.6s						
BJT	**Baijiatuau**	**41.84**	**22**	*e*P	**P**	**07 13 42.0**	**-0.4**
	comp=Z,32nm,0.8s						
BJI	**Beijing**	**41.86**	**22**	⇑*i*P	**P**	**07 13 42.8**	**+0.2**
BJI				pmax	pmax		
	comp=Z,31nm,0.8s						
KSH	**Kashi**	**42.05**	**336**	P	**P**	**07 13 44.3**	**-0.1**
KSH				pP	pP	07 13 51.8	-0.9
KSH				S	**S**	**07 19 58.1**	**-4.0**
KSH				ScS	**ScS**	**07 23 42.6**	**-2.7**
KSH				pmax	p

WMQ				sP	sP	07 14 01.9 +1.8
WMQ				pmax	pmax	
	comp=Z,18nm,1.3s					
WMQ				pmax	pmax	
	comp=Z,280nm,4.3s					
WMQ				LR	LR	
	comp=Z,280nm,28.9s					
WMQ				LR	LR	
	comp=Z,260nm,34.3s					
WMQ				LR	LR	
	comp=Z,130nm,19.9s					
WR1	**Warramunga Arr**	**42.64**	**122**	*eP*	**P**	**07 13 48.2 -1.2**
	comp=Z,5.8nm,0.8s					
WRA	**Warramunga Arr**	**42.64**	**122**	P	**P**	**07 13 48.2 -1.2**
	comp=Z,2.3nm,0.7s,baz=301,slow=9.1,SNR=30					
WRA				LR	LR	07 31 47.4
	comp=Z,99nm,21.8s,baz=280,slow=36					
WRAB	**Tennant Creek**	**42.65**	**122**	*eP*	**P**	**07 13 48.9 -0.5**
	comp=Z,4.3nm,1.1s					
WB2	**Warramunga Arr**	**42.65**	**122**	*eP*	**P**	**07 13 48.6 -0.9**
TARG	**Taragay, Kyrgy**	**43.26**	**339**	*eP*	**P**	**07 13 54.9 +0.3**
	comp=Z,18nm,0.8s					
KDJ	**Kajisay**	**43.83**	**339**	*eP*	**P**	**07 13 59.6 +0.7**
	comp=Z,27nm,0.9s					
FORT	**Forrest**	**43.97**	**140**	*eP*	**P**	**07 14 00.5 +0.6**
	comp=Z,13nm,0.7s					
ASAR	**Alice Springs**	**44.03**	**127**	P	**P**	**07 13 59.6 -1.0**
	comp=Z,2.6nm,0.8s,baz=296,slow=7.6,SNR=14					
AS31	**Alice Springs**	**44.04**	**127**	*eP*	**P**	**07 13 59.4 -1.2**
	comp=Z,1.0nm,0.8s					
AS01	**Alice Springs**	**44.07**	**127**	*eP*	**P**	**07 14 00.1 -0.8**
GAR	**Garm**	**44.22**	**330**	*eP*	**P**	**07 14 01.9 0.0**
	comp=Z,12nm,0.7s					
CHGR	**Chuyangaron**	**44.55**	**329**	*eP*	**P**	**07 14 04.2 -0.4**
	comp=Z,20nm,0.8s					
BTK	**Batken**	**44.79**	**331**	*eP*	**P**	**07 14 07.0 +0.5**
	comp=Z,14nm,0.9s					
ARSB	**Arslanbob**	**44.82**	**334**	*eP*	**P**	**07 14 07.2 +0.5**
	comp=Z,15nm,0.7s					
UCH	**Uchtor**	**44.93**	**336**	P	**P**	**07 14 09.1 +1.1**
	SNR=8.7					
TKM2	**Tokmak 2**	**45.10**	**338**	P	**P**	**07 14 10.0 +1.0**
	SNR=9.9					
KBK	**Karagaybulak**	**45.12**	**337**	P	**P**	**07 14 10.7 +1.5**
	SNR=9.3					
AML	**Almayashu**	**45.19**	**336**	P	**P**	**07 14 11.0 +1.0**
	SNR=6.3					
AAK	**Ala-Archa**	**45.29**	**337**	*eP*	**P**	**07 14 10.4 -0.1**
	comp=Z,3.8nm,0.8s					
KSRS	**Korea Array**	**45.50**	**35**	P	**P**	**07 14 11.0 -1.0**
	comp=Z,12nm,0.9s,baz=227,slow=8.9,SNR=24					
KSRS				LR	LR	07 34 43.3
	comp=Z,160nm,19.1s,baz=218,slow=38					
EKS2	**Erkin-Say**	**45.59**	**336**	P	**P**	**07 14 14.5 +1.7**
	SNR=7.0					
USP	**Ospennovka**	**45.82**	**337**	P	**P**	**07 14 15.4 +0.9**
	SNR=16					
MK01	**Makanchi Array**	**46.51**	**346**	*eP*	**P**	**07 14 20.0 +0.1**
MK31	**Makanchi Array**	**46.54**	**346**	*eP*	**P**	**07 14 20.2 +0.1**
MK32	**Makanchi Array**	**46.54**	**346**	*eP*	**P**	**07 14 19.5 -0.6**
MKAR	**Makanchi Array**	**46.54**	**346**	P	**P**	**07 14 19.5 -0.5**
	comp=Z,7.4nm,0.6s,baz=159,slow=7.9,SNR=60					
MKAR				LR	LR	07 37 45.6
	comp=Z,128nm,20.3s,baz=140,slow=41					
MKAR	**Makanchi Array**	**46.54**	**346**	*eP*	**P**	**07 14 19.6 -0.5**
	comp=Z,50nm,0.7s					
SONA0	**Songino Array**	**46.54**	**9**	*eP*	**P**	**07 14 19.8 -0.4**
SONA0				*ePcP*	**PcP**	**07 15 54.1 -0.1**
SONM	**Songino Array**	**46.54**	**9**	P	**P**	**07 14 19.8 -0.4**
	comp=Z,8.2nm,0.8s,baz=189,slow=9.3,SNR=44					
SONM				PcP	**PcP**	**07 15 54.1 -0.1**
	comp=Z,2.8nm,0.8s,baz=195,slow=3.5,SNR=4.4					
SONA1	**Songino Array**	**46.55**	**9**	*eP*	**P**	**07 14 19.6 -0.7**
MAKZ	**Makanchi**	**46.63**	**346**	*eP*	**P**	**07 14 20.7 -0.1**
	comp=Z,7.4nm,0.6s					
ULN	**Ulaanbaatar**	**46.67**	**9**	*eP*	**P**	**07 14 21.1 -0.1**
	comp=Z,8.4nm,1.0s					
KK31	**Karatay Array**	**47.34**	**334**	*eP*	**P**	**07 14 26.7 +0.3**
KKAR	**Karatay Array**	**47.34**	**334**	*eP*	**P**	**07 14 27.0 +0.6**
COEN	**Coen**	**48.48**	**110**	*eP*	**P**	**07 14 34.3 -1.4**
	comp=Z,4.7nm,0.8s					
CN2	**Changchun**	**48.87**	**27**	*eP*	**P**	**07 14 40.0 +1.8**
CN2				pmax	pmax	
	comp=Z,10.0nm,0.7s					
GEYT	**Alibeck**	**50.52**	**320**	P	**P**	**07 14 51.5 +0.6**
	comp=Z,30nm,0.9s,baz=152,slow=9.8,SNR=4.7					
GYA0B	**ALIBECK ARRAY**	**50.52**	**320**	*eP*	**P**	**07 14 51.5 +0.6**
	comp=Z,11nm,0.8s					
BBOO	**Buckleboo**	**50.56**	**136**	*eP*	**P**	**07 14 50.9 -0.4**
	comp=Z,4.2nm,1.0s					
KURK	**Kurchatov**	**51.09**	**345**	*eP*	**P**	**07 14 54.8 -0.1**
	comp=Z,14nm,1.0s					
HIA	**Hailar**	**51.13**	**19**	*eP*	**P**	**07 14 54.8 -0.5**
	comp=Z,17nm,0.9s					
PMG	**Port Moresby**	**51.31**	**104**	*eP*	**P**	**07 14 55.8 -1.4**
	comp=Z,22nm,0.8s					
MAJO	**Matsushiro**	**51.42**	**43**	*eP*	**P**	**07 14 56.1 -1.6**
MAT	**Matsushiro**	**51.42**	**43**	P	**P**	**07 14 56.8 -0.9**
MJAR	**Matsushiro Arr**	**51.43**	**43**	P	**P**	**07 14 56.1 -1.6**
	comp=Z,5.4nm,0.7s,baz=218,slow=6.6,SNR=9.4					
USA0B	**Ussuriysk Arra**	**52.38**	**31**	*eP*	**P**	**07 15 04.5 -0.2**
	comp=Z,21nm,1.0s					
USRK	**Ussuriysk Ar.**	**52.38**	**31**	P	**P**	**07 15 02.4 -2.3**
	comp=Z,10nm,0.9s,baz=225,slow=4.3,SNR=10					
USRK				LR	LR	07 40 22.7
	comp=Z,422nm,18.1s,baz=216,slow=40					
ZAA0	**Zalesovo Array**	**52.87**	**351**	*eP*	**P**	**07 15 08.0 -0.1**
	comp=Z,43nm,0.9s					
ZALV	**Zalesovo Beam**	**52.87**	**351**	P	**P**	**07 15 08.3 +0.2**
	comp=Z,39nm,0.7s,baz=183,slow=6.1,SNR=93					
ZALV	**Zalesovo Beam**	**52.87**	**351**	*eP*	**P**	**07 15 08.0 -0.1**
ZAA1	**Zalesovo Array**	**52.88**	**351**	*eP*	**P**	**07 15 08.3 +0.2**
CTAO	**Charters Tower**	**53.07**	**117**	*eP*	**P**	**07 15 09.6 -0.7**
	comp=Z,6.6nm,0.8s					
STKA	**Stephens Creek**	**54.02**	**132**	P	**P**	**07 15 17.4 +0.4**
	comp=Z,2.8nm,0.8s,baz=307,slow=15,SNR=4.8					
STKA	**Stephens Creek**	**54.02**	**132**	*eP*	**P**	**07 15 16.8 -0.2**
BRVK	**Borovoye**	**55.60**	**341**	*eP*	**P**	**07 15 27.8 -0.2**
	comp=Z,7.4nm,0.8s					
ABKAR	**Akbulak array**	**56.80**	**332**	*eP*	**P**	**07 15 36.9 +0.2**
YSS	**Yuzh-Sakhalins**	**59.99**	**35**	*eP*	**P**	**07 15 58.5 -0.5**
	comp=Z,34nm,0.9s					
SIRT	**Sirnak**	**61.21**	**312**	*eP*	**P**	**07 16 07.4 -0.2**
	comp=Z,19nm,0.8s					
ARU	**Arti**	**62.47**	**337**	*eP*	**P**	**07 16 15.3 -0.3**
	comp=Z,10nm,1.0s					
KBZ	**Khabaz**	**63.38**	**319**	P	**P**	**07 16 23.2 +1.3**
	comp=Z,2.7nm,0.8s,baz=173,slow=5.9,SNR=3.8					
HNR	**Honiara**	**63.80**	**101**	LR	LR	07 48 49.3
	comp=Z,21nm,18.8s,baz=286,slow=40					
MBAR	**Mbarara**	**66.18**	**269**	*eP*	**P**	**07 16 41.0 0.0**
	comp=Z,6.9nm,1.1s					
BR101	**Keskin Array S**	**68.44**	**312**	*eP*	**P**	**07 16 53.8 -1.1**
BRTR	**Keskin Array B**	**68.44**	**312**	P	**P**	**07 16 53.8 -1.0**
	comp=Z,0.6nm,0.7s,baz=144,slow=5.4,SNR=2.8					
MA2	**Magadan**	**70.89**	**26**	*eP*	**P**	**07 17 08.6 -0.6**
	comp=Z,14nm,0.8s					
PETK	**Petropavlovsk-**	**71.37**	**34**	P	**P**	**07 17 11.3 -1.0**
	comp=Z,5.2nm,0.8s,baz=207,slow=5.8,SNR=4.8					
PETK				LR	LR	07 52 14.1
	comp=Z,70nm,18.0s,baz=223,slow=39					
PEA1	**Petropavlovsk-**	**71.37**	**34**	*eP*	**P**	**07 17 11.3 -1.0**
TIXI	**Tiksi**	**72.60**	**10**	P	**P**	**07 17 18.1 -1.3**
	comp=Z,3.2nm,0.7s,baz=213,slow=2.5,SNR=7.6					
KLMR	**Klimovskoe**	**73.03**	**334**	*eP*	**P**	**07 17 19.1 -3.0**
KLMR				AMP		07 17 37.7
	comp=Z,9.0nm,1.2s					
SEY	**Seymchan**	**73.29**	**23**	P	**P**	**07 17 23.0 -0.6**
	comp=Z,8.7nm,0.7s,baz=244,slow=6.8,SNR=32					
LBTB	**Lobatse**	**73.89**	**243**	LR	LR	07 45 01.8
	comp=Z,109nm,20.2s,baz=68,slow=32					
AKASG	**Malin Array Be**	**74.56**	**322**	P	**P**	**07 17 29.9 -1.3**
	comp=Z,1.6nm,0.6s,baz=93,slow=4.8,SNR=7.8					
AKBB	**Malin Array Si**	**74.56**	**322**	*eP*	**P**	**07 17 31.1 -0.2**
	comp=Z,2.2nm,0.6s					
BOSA	**Boshof**	**74.83**	**240**	LR	LR	07 46 57.6
	comp=Z,64nm,18.4s,baz=38,slow=33					
BUR04	**Bucovina Ar. S**	**76.34**	**319**	*eP*	**P**	**07 17 42.0 +0.3**
BUR08	**Bucovina Ar. S**	**76.35**	**319**	*eP*	**P**	**07 17 42.3 +0.6**
FIA1	**FINESS Array S**	**79.28**	**332**	*eP*	**P**	**07 17 57.5 -0.1**
FIA0	**FINESS Array S**	**79.28**	**332**	*eP*	**P**	**07 17 56.9 -0.7**
FINES	**FINESS Array B**	**79.28**	**332**	P	**P**	**07 17 56.9 -0.7**
	comp=Z,1.9nm,0.6s,baz=104,slow=5.9,SNR=13					
SYO	**Syowa Base**	**80.52**	**198**	*eP*	**P**	**07 18 08.2 +4.1**
SYO	**Syowa Base**	**80.52**	**198**	*ePcP*	**PcP**	**07 18 12.0 +1.0**
SYO	**Syowa Base**	**80.52**	**198**	*epP*	pP	07 18 15.0 +2.3
ARA0	**ARCESS Array S**	**81.82**	**340**	*eP*	**P**	**07 18 10.9 -0.2**
ARCES	**ARCESS Array B**	**81.82**	**340**	P	**P**	**07 18 10.9 -0.2**
	comp=Z,5.2nm,0.9s,baz=92,slow=5.4,SNR=11					
GEA0	**GERESS Array S**	**84.12**	**319**	*eP*	**P**	**07 18 23.3 -0.3**
GERES	**GERESS Array B**	**84.12**	**319**	P	**P**	**07 18 23.5 -0.1**
	comp=Z,1.0nm,0.6s,baz=91,slow=6.9,SNR=9.7					
NB200	**NORSAR Array S**	**86.29**	**331**	*eP*	**P**	**07 18 33.4 -0.8**
NOA	**NORSAR Array B**	**86.29**	**331**	P	**P**	**07 18 33.4 -0.8**
	comp=Z,1.2nm,0.8s,baz=91,slow=5.2,SNR=4.1					
IM3	**Indian Mountai**	**96.11**	**23**	*eP*	**P**	**07 19 19.2 -0.6**
PDAR	**Pinedale Array**	**129.59**	**25**	PKP	**PKPdf**	**07 25 00.9 -1.1**
	comp=Z,0.2nm,0.6s,baz=94,slow=3.6,SNR=3.2					
LTX	**Lajitas**	**143.28**	**31**	*ePKPdf*	PKPbc	07 25 25.9 +1.4
TXAR	**Lajitas Array**	**143.28**	**31**	PKP	PKPbc	07 25 25.9 +1.4
	comp=Z,0.4nm,0.8s,baz=328,slow=1.2,SNR=2.7					
JCT	**Junction City**	**144.13**	**25**	*ePKPdf*	PKPbc	07 25 27.4 +0.5
LRAL	**Lakeview Retre**	**145.11**	**6**	*ePKPbc*	**PKPbc**	**07 25 29.6 -0.2**
CPUP	**Villa Florida**	**145.27**	**223**	PKPbc	**PKPbc**	**07 25 30.4 -0.1**
	comp=Z,4.4nm,0.7s,baz=122,slow=2.9,SNR=19					
147A	**Livingston**	**145.32**	**8**	*ePKPbc*	**PKPbc**	**07 25 30.5 0.0**
152A	**Waverly Hall**	**145.63**	**2**	*ePKPdf*	**PKPdf**	**07 25 30.4 -1.0**

PRE **14** *07:22:10.3±1.3,26.99S×26.71E,h2km,ML3.1*
IDC **14** *07:22:12.2±1.9,26.97S×26.56E,h0km,mb3.5/1, mb1 3.8/6,mb1mx3.5/38,mbtmp3.8/6,ML3.7/3,Error ellipse: s-maj=30.1km s-min=12.1km az=98.0*
ISC 14 07:22:10.5±1.2,26.96S±0.04×26.67E±0.04,h9km±9km, n16,σ1s83/28,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.61**	**87**	*eP*		**Pg**	**07 22 22.1**	**-0.3**
PRYS				*eS*		**Sg**	**07 22 29.2**	**-1.2**
PRYS				AML		AML	07 22 36.2	
	comp=Z,684nm,0.6s							
WDLM	**Western Deep L**	**0.85**	**52**	*eP*		**Pg**	**07 22 26.5**	**-0.5**
WDLM				*eS*		**Sg**	**07 22 37.7**	**-0.4**
WDLM				AML		AML	07 22 39.1	
	comp=Z,881nm,0.3s							
SWZ	**Schweizer**	**1.22**	**259**	*eP*		**Pg**	**07 22 34.4**	**+0.6**
SWZ				*eS*		**Sn**	**07 22 50.6**	**+0.1**
SWZ				AML		AML	07 22 54.9	
	comp=Z,340nm,0.3s							
ERPM	**east rand prop**	**1.53**	**67**	*eP*		**Pg**	**07 22 40.5**	**+0.6**
ERPM				*eS*		**Sg**	**07 23 01.1**	**+1.3**
ERPM				AML		AML	07 23 05.8	
	comp=Z,155nm,0.4s							
SLR	**Silverton**	**1.89**	**50**	*eP*		**Pb**	**07 22 44.9**	**-0.3**
SLR				*eS*		**Sb**	**07 23 08.7**	**-0.2**
SLR				AML		AML	07 23 11.8	
	comp=Z,360nm,0.3s							
BOSA	**Boshof**	**2.07**	**217**	Pn		**Pb**	**07 22 47.8**	**-0.5**
	comp=Z,14nm,0.3s,baz=37,slow=16,SNR=128							
BOSA				Lg		Lg	07 23 15.5	
	comp=Z,26nm,0.3s,baz=315,slow=17,SNR=17							
BOSA	**Boshof**	**2.07**	**217**	*eP*		**Pb**	**07 22 47.3**	**-1.1**
BOSA				*eS*		**Sb**	**07 23 12.3**	**-2.0**
BOSA				AML		AML	07 23 17.8	
	comp=Z,71nm,0.4s							
LBTB	**Lobatse**	**2.17**	**333**	Pn		**Pg**	**07 22 50.8**	**-1.2**
	comp=Z,36nm,0.3s,baz=153,slow=18,SNR=273							
LBTB				Lg		Lg	07 23 19.9	
	comp=Z,80nm,0.3s,baz=242,slow=19,SNR=33							
LBTB	**Lobatse**	**2.17**	**333**	*eP*		**Pb**	**07 22 48.8**	**-1.2**
LBTB				*eS*		**Sb**	**07 23 16.2**	**-0.7**
LBTB				AML		AML	07 23 21.8	
	comp=Z,229nm,0.4s							
GRAN	**Grantham**	**6.61**	**215**	*eP*		**Pn**	**07 23 49.9**	**+2.0**
GRAN				*eS*		**Sn**	**07 25 01.3**	**-2.2**
GRAN				AML		AML	07 25 37.5	
	comp=Z,19nm,0.5s							
SUR	**Sutherland**	**7.43**	**222**	Pn		**Pn**	**07 24 00.2**	**+1.0**
	comp=Z,1.5nm,0.3s,baz=34,slow=11,SNR=20							
SUR				Sn		**Sn**	**07 25 21.2**	**-2.6**
	comp=Z,1.6nm,0.3s,baz=358,slow=18,SNR=4.1							
SUR				Lg		Lg	07 25 58.8	
	comp=Z,1.9nm,0.3s,baz=336,slow=18,SNR=4.2							
CVNA	**Calvinia**	**7.54**	**232**	*eP*		**Pn**	**07 24 02.6**	**+1.9**
CVNA				*eS*		**Sn**	**07 25 23.9**	**-2.4**
CVNA				AML		AML	07 26 09.8	
	comp=Z,26nm,0.7s							
TSUM	**Tsumeb**	**11.38**	**311**	Pn		**Pn**	**07 24 53.6**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=137,slow=19,SNR=3.3							
TSUM				Sn		**Sn**	**07 27 04.1**	**+3.3**
	comp=Z,0.1nm,0.3s,baz=87,slow=18,SNR=2.2							
TSUM				Lg		Lg	07 28 07.0	
	comp=Z,0.2nm,0.3s,baz=240,slow=20,SNR=2.5							
LSZ	**Lusaka**	**11.71**	**7**	Pn		**Pn**	**07 24 58.9**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=184,slow=11,SNR=8.8							
LSZ				Sn		**Sn**	**07 27 03.8**	**-5.1**
	comp=Z,0.5nm,0.3s,baz=273,slow=7.2,SNR=3.9							
LSZ				Lg		Lg	07 28 12.3	
	comp=Z,0.5nm,0.3s,baz=278,slow=19,SNR=3.1							
TORD	**Torodi Ar. Bea**	**46.67**	**326**	P		**P**	**07 30 41.4**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=138,slow=7.6,SNR=3.7							
NVAR	**Mina Array Bea**	**148.56**	**300**	PKPbc		**PKPab**	**07 42 02.0**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=116,slow=4.2,SNR=3.9							

NEIC **14** *07:35:34.8±1.6, 19.64S×175.28W,h126km±16km, mb4.3/15, Error ellipse: s-maj=14.5km s-min=7.9km az=151.0*
IDC **14** *07:35:36.0±5.8, 19.50S×175.42W,h133km±53km, mb4.1/13,mb1 4.3/14,mb1mx4.0/28,mbtmp4.5/14,MS3.0/1, Ms1 3.0/1,ms1mx2.5/40,Error ellipse: s-maj=28.3km s-min=15.5km az=157.0*
ISC 14 07:35:32.6±1.6,19.7S±0.1×175.16W±0.08,h108km±16km, n50,σ1s43/57,mb4.3/28,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.98**	**84**	*ePn*		**Pn**	**07 36 46.3**	**+1.2**
NIUE				*eSn*		**Sn**	**07 37 37.1**	**-4.4**
RAR	**Rarotonga**	**14.51**	**99**	P		**P**	**07 38 57.8**	**+1.4**
	3.8nm,0.3s,baz=236,slow=5.0,SNR=6.0							
RAR				S		Sn	07 41 26.1	-6.9
	0.8nm,0.3s,baz=161,slow=6.0,SNR=3.0							
RAR				LR		LR	07 43 36.4	
	comp=Z,60nm,19.7s,baz=315,slow=32							
MARNC	**Mare, Loyalty**	**15.84**	**261**	*ePn*		**P**	**07 39 12.5**	**+1.3**
	57nm,0.6s							
DZM	**Mont Dzumac**	**17.36**	**259**	P		**Pn**	**07 39 31.3**	**+3.1**
	5.2nm,0.3s,baz=78,slow=18,SNR=54							
DZM	**Mont Dzumac**	**17.36**	**259**	*eP*		**Pn**	**07 39 30.1**	**+1.9**
	53nm,0.7s							
ONTNC	**Ouen Toro**	**17.37**	**258**	*eP*		**Pn**	**07 39 29.6**	**+1.3**
	23nm,0.7s							
OUZ	**Omahuta**	**18.41**	**210**	*eP*		**Pn**	**07 39 41.1**	**+0.4**
	6.3nm,1.1s							
URZ	**Urewera**	**19.71**	**198**	P		**P**	**07 39 52.5**	**-0.9**
	2.7nm,0.3s,baz=268,slow=3.1,SNR=22							
URZ				S		S	07 43 16.4	-13
	0.3nm,0.3s,baz=131,slow=19,SNR=3.1							
URZ	**Urewera**	**19.71**	**198**	*eP*		**P**	**07 39 53.2**	**-0.3**
URZ				*eS*		S	07 43 16.4	-13
BKZ	**Black Stump Fm**	**20.74**	**199**	*eP*		**P**	**07 40 03.6**	**-1.0**
	6.3nm,1.1s							
BFZ	**Birch Farm**	**22.21**	**197**	*eP*		**P**	**07 40 21.4**	**+1.3**
	19nm,1.1s							
THZ	**Tophouse**	**24.26**	**202**	*eP*		**P**	**07 40 39.2**	**-0.4**
	3.8nm,0.8s							
LTZ	**Lake Taylor**	**25.38**	**202**	*eP*		**P**	**07 40 50.1**	**+0.3**
	9.4nm,1.0s							
RPZ	**Rata Peaks**	**26.62**	**203**	P		**P**	**07 41 03.8**	**+2.8**
	3.8nm,0.5s,baz=18,slow=3.2,SNR=3.3							
EIDS	**Eidsvold**	**31.64**	**253**	*eP*		**P**	**07 41 45.0**	**-0.6**
	12nm,0.8s							
CTAO	**Charters Tower**	**36.23**	**263**	*eP*		**P**	**07 42 24.6**	**-0.8**
	32nm,0.6s							
TOO	**Toolangi**	**38.54**	**234**	*eP*		**P**	**07 42 43.8**	**-1.0**
	4.1nm,0.8s							
COEN	**Coen**	**40.21**	**271**	*eP*		**P**	**07 42 58.6**	**-0.2**
	20nm,0.8s							
STKA	**Stephens Creek**	**40.55**	**244**	P		**P**	**07 43 02.2**	**+0.7**
	2.3nm,0.6s,baz=92,slow=5.5,SNR=6.2							
JAY	**Jayapura**	**46.34**	**286**	P		**P**	**07 43 48.1**	**-0.1**
	17nm,0.7s,baz=198,slow=6.4,SNR=3.5							
AS01	**Alice Springs**	**47.27**	**256**	*eP*		**P**	**07 43 53.5**	**-1.9**
AS01				*ePcP*		**PcP**	**07 45 23.9**	**-1.1**
AS31	**Alice Springs**	**47.31**	**256**	*eP*		**P**	**07 43 53.6**	**-2.0**
	4.1nm,0.6s							
AS31				*ePcP*		**PcP**	**07 45 24.1**	**-1.0**
ASAR	**Alice Springs**	**47.31**	**256**	P		**P**	**07 43 54.3**	**-1.4**
	11nm,0.5s,baz=97,slow=8.4,SNR=58							
ASAR				PcP		**PcP**	**07 45 24.4**	**-0.7**
	3.2nm,0.6s,baz=107,slow=4.0,SNR=8.3							
WB2	**Warramunga Arr**	**47.35**	**261**	*eP*		**P**	**07 43 53.5**	**-2.5**
WR1	**Warramunga Arr**	**47.36**	**261**	*eP*		**P**	**07 43 54.1**	**-2.0**
	6.1nm,0.6s							
WR1				*ePcP*		**PcP**	**07 45 24.2**	**-1.1**
WRA	**Warramunga Arr**	**47.36**	**261**	P		**P**	**07 43 54.1**	**-2.0**
	3.7nm,0.4s,baz=94,slow=7.6,SNR=48							
WRA				PcP		**PcP**	**07 45 24.2**	**-1.1**
	1.4nm,0.6s,baz=91,slow=3.3,SNR=5.2							
MTN	**Manton Dam**	**51.83**	**269**	*eP*		**P**	**07 44 28.6**	**-1.5**
	16nm,0.4s							
SIJI	**Sorong**	**55.62**	**283**	P		**P**	**07 44 56.6**	**-1.1**
	21nm,0.5s,baz=72,slow=6.7,SNR=10							
FITZ	**Fitzroy Crossi**	**55.79**	**261**	*eP*		**P**	**07 44 57.9**	**-0.9**
	6.5nm,1.1s							
MJAR	**Matsushiro Arr**	**71.16**	**322**	P		**P**	**07 46 39.3**	**-0.3**
	5.5nm,0.5s,baz=154,slow=5.8,SNR=13							
MAJO	**Matsushiro**	**71.16**	**322**	*eP*		**P**	**07 46 39.3**	**-0.3**
PETK	**Petropavlovsk-**	**76.18**	**344**	P		**P**	**07 47 08.4**	**-0.2**
	2.2nm,0.6s,baz=119,slow=7.7,SNR=6.2							
PEA1	**Petropavlovsk-**	**76.19**	**344**	*eP*		**P**	**07 47 08.4**	**-0.2**
NV01	**Mina Array Sit**	**78.60**	**42**	*eP*		**P**	**07 47 23.5**	**+0.8**
NVAR	**Mina Array Bea**	**78.60**	**42**	P		**P**	**07 47 23.8**	**+1.1**
	1.3nm,0.7s,baz=214,slow=8.2,SNR=8.1							
G08A	**Pilot Rock**	**82.35**	**36**	*eP*		**P**	**07 47 43.6**	**+1.1**
	3.2nm,1.1s							
TMUT	**Trail Mountain**	**83.67**	**45**	*eP*		**P**	**07 47 50.9**	**+1.1**
	4.1nm,1.0s							
HLID	**Hailey**	**83.97**	**40**	*eP*		**P**	**07 47 52.1**	**+1.2**
	2.7nm,0.9s							
LTX	**Lajitas**	**84.36**	**56**	*eP*		**P**	**07 47 55.3**	**+2.1**
TXAR	**Lajitas Array**	**84.36**	**56**	P		**P**	**07 47 55.3**	**+2.1**
	0.6nm,0.8s,baz=236,slow=6.4,SNR=3.8							
PDAR	**Pinedale Array**	**86.54**	**42**	P		**P**	**07 48 04.3**	**+0.5**
	0.1nm,0.6s,baz=238,slow=5.2,SNR=2.3							
ILAR	**Eielson Array**	**86.93**	**12**	P		**P**	**07 48 04.1**	**-0.9**
	1.5nm,1.0s,baz=205,slow=4.9,SNR=7.4							
ILB	**Eielson Array**	**86.93**	**12**	*eP*		**P**	**07 48 04.5**	**-0.4**
INK	**Inuvik**	**92.78**	**14**	P		**P**	**07 48 32.2**	**0.0**
	1.7nm,1.0s,baz=188,slow=4.8,SNR=4.4							
YKA	**Yellowknife Ar**	**94.65**	**24**	P		**P**	**07 48 40.6**	**-0.3**
	0.2nm,0.6s,baz=242,slow=4.5,SNR=5.9							
MKAR	**Makanchi Array**	**112.56**	**313**	PKiKP		**PKiKP**	**07 53 55.0**	**-1.2**
	0.2nm,0.4s,baz=67,slow=1.9,SNR=4.9							
AKASG	**Malin Array Be**	**143.50**	**334**	PKhKP		PKPpre	07 54 50.1	
	0.8nm,0.5s,baz=38,slow=3.9,SNR=3.7							
AKASG				PKP		**PKPdf**	**07 54 54.6**	**+0.2**
	0.2nm,0.3s,baz=41,slow=3.8,SNR=4.1							
CLL	**Collm**	**147.76**	**350**	*ePKPbc*		**PKPbc**	**07 55 05.0**	**+0.4**
CLL				*ePKPab*		**PKPab**	**07 55 09.0**	**+1.8**
BRTR	**Keskin Array B**	**148.19**	**315**	PKPbc		**PKPbc**	**07 55 05.7**	**-0.6**
	1.0nm,0.7s,baz=142,slow=4.1,SNR=4.9							
GERES	**GERESS Array B**	**150.02**	**348**	PKPbc		**PKPbc**	**07 55 10.1**	**-0.4**
	0.7nm,0.5s,baz=29,slow=3.0,SNR=5.8							

ISCJB **14** *07:36:07.3±0.3,9.77S±0.03×112.83E±0.02,h33km, mb4.6/33,MS3.4/8,Error ellipse: s-maj=4.8km s-min=3.4km az=17.3*
NEIC **14** *07:36:10.2±0.6,9.66S×112.84E,h46km±6km,mb4.6/16, Error ellipse: s-maj=8.9km s-min=5.0km az=222.0*
DJA **14** *07:36:11.3±0.7,9°S±3'×11°3E±°,h11km±5km,M4.5/12, MLv4.5/12*
IDC **14** *07:36:16.5±2.8,9.42S×113.06

KMI				sP	pwP	07 43 30.5	+11
KMI				pmax	pmax		
	comp=Z,14nm,1.1s						
KMI				pmax	pmax		
	comp=Z,110nm,3.6s						
KMI				LR	LR		
	comp=Z,160nm,9.2s						
H08S2	**Diego Garcia H**	**39.99**	**270**	T	T	08 26 35.2	
	baz=94,slow=74						
H08S3	**Diego Garcia H**	**40.01**	**270**	T	T	08 26 36.4	
	baz=94,slow=74						
H08S1	**Diego Garcia H**	**40.01**	**270**	T	T	08 26 31.0	
	baz=94						
SHL	**Shillong**	**40.53**	**330**	*e*P	**P**	**07 43 45.2**	**-0.6**
	12nm,0.4s						
CD2	**Chengdu**	**41.25**	**348**	*e*P	**P**	**07 43 52.0**	**+0.6**
NJ2	**Nanjing**	**41.83**	**8**	*e*P	**P**	**07 43 56.8**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,18nm,0.5s						
HYB	**Hyderabad**	**43.30**	**308**	*i* P	**P**	**07 44 08.0**	**-0.3**
XAN	**Xi'an**	**43.59**	**355**	*e*P	**P**	**07 44 10.1**	**-0.4**
	5.8nm,0.5s						
LSA	**Lhasa**	**44.36**	**333**	*e*P	**P**	**07 44 16.7**	**-0.5**
	7.3nm,0.9s						
LZH	**Lanzhou**	**46.26**	**350**	*e*P	**P**	**07 44 33.0**	**+1.2**
LZH				pP	pwP	07 44 47.8	+3.7
LZH				sP	sP	07 44 53.3	+10
LZH				pmax	pmax		
	comp=Z,31nm,1.0s						
KSRS	**Korea Array**	**48.90**	**16**	P	**P**	**07 44 51.8**	**-0.2**
	1.9nm,0.7s,baz=206,slow=9.0,SNR=4.6						
KSRS				LR	LR	08 06 53.5	
	comp=Z,23nm,18.7s,baz=208,slow=38						
BJT	**Baijiatuau**	**49.48**	**3**	*e*P	**P**	**07 44 56.0**	**-0.5**
	16nm,0.6s						
BJI	**Beijing**	**49.51**	**3⇑**	*e*P	**P**	**07 44 56.4**	**-0.2**
BJI				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC	**Hu-ho-hao-te**	**50.24**	**359**	*e*P	**P**	**07 45 02.4**	**+0.1**
HHC				pmax	pmax		
	comp=Z,17nm,0.8s						
HHC				pmax	pmax		
	comp=Z,220nm,5.3s						
GTA	**Gaotai**	**50.28**	**347**	*e*P	**P**	**07 45 03.3**	**+0.6**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MAJO	**Matsushiro**	**51.72**	**26**	*e*P	**P**	**07 45 11.2**	**-2.2**
MJAR	**Matsushiro Arr**	**51.72**	**26**	P	**P**	**07 45 11.2**	**-2.2**
	7.9nm,0.9s,baz=208,slow=8.2,SNR=12						
CN2	**Changchun**	**54.38**	**11**	*e*P	P	07 45 44.0	+11
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**56.30**	**16**	P	**P**	**07 45 46.4**	**-0.3**
	comp=Z,7.6nm,0.9s,baz=192,slow=5.5,SNR=6.1						
ULN	**Ulaanbaatar**	**57.47**	**355**	*e*P	**P**	**07 45 54.1**	**-1.0**
	comp=Z,10nm,0.8s						
SONA0	**Songino Array**	**57.50**	**355**	*e*P	**P**	**07 45 55.0**	**-0.3**
SONM	**Songino Array**	**57.50**	**355**	P	**P**	**07 45 55.0**	**-0.3**
	comp=Z,9.2nm,0.7s,baz=174,slow=8.7,SNR=66						
SONA1	**Songino Array**	**57.51**	**355**	*e*P	**P**	**07 45 54.5**	**-0.9**
WMQ	**Urumqi**	**57.92**	**339**	*e*P	**P**	**07 46 01.3**	**+3.0**
WMQ				pP	pwP	07 46 18.3	+7.6
WMQ				pmax	pmax		
	comp=Z,16nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,440nm,5.7s						
WMQ				LR	LR		
	comp=Z,48nm,27.5s						
WMQ				LR	LR		
	comp=Z,62nm,19.3s						
KZA	**Kyzart**	**61.95**	**329**	P	**P**	**07 46 26.6**	**+0.1**
	SNR=6.3						
TKM2	**Tokmak 2**	**62.40**	**330**	P	**P**	**07 46 28.8**	**-0.4**
	SNR=8.6						
MK01	**Makanchi Array**	**62.44**	**337**	*e*P	**P**	**07 46 28.3**	**-0.9**
MK31	**Makanchi Array**	**62.46**	**337**	*e*P	**P**	**07 46 27.8**	**-1.5**
MK32	**Makanchi Array**	**62.46**	**337**	*e*P	**P**	**07 46 28.6**	**-0.7**
MKAR	**Makanchi Array**	**62.46**	**337**	P	**P**	**07 46 28.6**	**-0.7**
	comp=Z,3.2nm,0.5s,baz=150,slow=7.5,SNR=65						
MKAR	**Makanchi Array**	**62.46**	**337**	*e*P	**P**	**07 46 28.2**	**-1.1**
	comp=Z,28nm,0.6s						
GAR	**Garm**	**62.52**	**324**	*e*P	**P**	**07 46 27.8**	**-2.1**
	comp=Z,4.4nm,0.6s						
KBK	**Karagaybulak**	**62.53**	**329**	P	**P**	**07 46 30.0**	**0.0**
	SNR=9.1						
MAKZ	**Makanchi**	**62.60**	**337**	*e*P	**P**	**07 46 29.1**	**-1.1**
	comp=Z,2.2nm,0.8s						
AAK	**Ala-Archa**	**62.74**	**329**	*e*P	**P**	**07 46 30.8**	**-0.7**
	comp=Z,4.5nm,0.9s						
AML	**Almayashu**	**62.79**	**328**	P	**P**	**07 46 31.8**	**-0.3**
	SNR=9.8						
CHGR	**Chuyangaron**	**62.98**	**323**	*e*P	**P**	**07 46 31.5**	**-1.5**
	comp=Z,5.4nm,0.8s						
EKS2	**Erkin-Say**	**63.13**	**329**	P	**P**	**07 46 34.0**	**+0.1**
	SNR=5.2						
KK31	**Karatay Array**	**65.15**	**327**	*e*P	**P**	**07 46 46.2**	**-0.9**
KKAR	**Karatay Array**	**65.15**	**327**	*e*P	**P**	**07 46 46.2**	**-0.9**
KURK	**Kurchatov**	**67.07**	**337**	*e*P	**P**	**07 46 58.3**	**-0.8**
	comp=Z,4.2nm,0.9s						
ZAA0	**Zalesovo Array**	**67.65**	**342**	*e*P	**P**	**07 47 01.6**	**-1.2**
	comp=Z,6.8nm,0.8s						
ZALV	**Zalesovo Beam**	**67.65**	**342**	P	**P**	**07 47 01.0**	**-1.8**
	comp=Z,7.8nm,0.8s,baz=148,slow=4.2,SNR=28						
ZALV	**Zalesovo Beam**	**67.65**	**342**	*e*P	**P**	**07 47 01.7**	**-1.2**
ZAA1	**Zalesovo Array**	**67.66**	**342**	*e*P	**P**	**07 47 01.0**	**-1.9**
GEYT	**Alibeck**	**69.64**	**316**	LR	LR	08 20 55.9	
	comp=Z,23nm,18.3s,baz=210,slow=38						
VNDA	**Vanda**	**72.36**	**170**	LR	LR	08 18 05.7	
	comp=Z,52nm,18.7s,baz=307,slow=35						
ABKAR	**Akbulak array**	**74.72**	**327**	*e*P	**P**	**07 47 44.7**	**-1.0**
TIXI	**Tiksi**	**81.79**	**5**	*e*P	**P**	**07 48 22.8**	**-1.6**
	comp=Z,9.1nm,0.8s						
BR101	**Keskin Array S**	**87.95**	**311**	*e*P	**P**	**07 48 56.1**	**-0.2**
BR131	**Keskin Array S**	**87.95**	**311**	*e*P	**P**	**07 48 56.0**	**-0.2**
BRTR	**Keskin Array B**	**87.95**	**311**	P	**P**	**07 48 56.1**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=129,slow=6.9,SNR=11						
BRTR				LR	LR	08 31 27.0	
	comp=Z,7.0nm,21.8s,baz=90,slow=38						
YKA	**Yellowknife Ar**	**117.15**	**23**	PKP	**PKiKP**	**07 54 50.8**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=312,slow=1.8,SNR=7.1						
YKB5	**Yellowknife Ar**	**117.15**	**23**	*e*PKPdf	**PKPdf**	**07 54 50.4**	**-0.3**
T42A	**Van Buren**	**145.14**	**35**	*e*PKPbc	**PKPdf**	**07 55 44.1**	**+0.2**
NCB	**Newcomb**	**145.23**	**9**	*e*PKPbc	**PKPdf**	**07 55 44.2**	**+0.3**
MIAR	**Mount Ida**	**145.32**	**40**	*e*PKPbc	**PKPdf**	**07 55 44.4**	**+0.1**
WHAR	**Wooly Hollow**	**145.63**	**38**	*e*PKPdf	**PKPab**	**07 55 46.0**	**+0.6**
X48A	**Hartselle**	**149.26**	**33**	*e*PKPbc	**PKPbc**	**07 55 55.5**	**+0.4**
Y49A	**Blount Mountai**	**150.05**	**33**	*e*PKPbc	**PKPbc**	**07 55 57.5**	**+0.4**

IDC 14 07:52:41.4±25.0, 19.68S×178.43W, h464km±236km, mb3.0/4, mb1 3.3/4, mb1mx2.9/47, mbtmp3.8/4, Error ellipse: s-maj=256.5km s-min=49.6km az=133.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.32**	**256**	P		P	P	08 00 09.1	-0.1
	1.1nm,0.5s,baz=97,slow=8.0,SNR=20								
ASAR				PcP		PcP	PcP	08 01 43.2	-0.5
	0.4nm,0.6s,baz=114,slow=4.5,SNR=3.3								
WRA	**Warramunga Arr**	**44.32**	**261**	P		P	P	08 00 09.0	-0.2
	0.4nm,0.4s,baz=96,slow=7.7,SNR=11								
FITZ	**Fitzroy Crossi**	**52.74**	**262**	P		P	P	08 01 12.2	0.0
	3.3nm,0.9s,baz=106,slow=7.4,SNR=2.8								
ILAR	**Eielson Array**	**87.61**	**13**	P		P	P	08 04 38.7	0.0
	0.1nm,0.4s,baz=220,slow=5.5,SNR=3.3								

*ISCJB **14** 07:55:18.8±0.5,5.02N±0.04×76.07W±0.04, h121km±4km, mb3.2/3, Error ellipse: s-maj=7.4km s-min=5.1km az=24.9*
*RSNC **14** 07:55:20.1±0.9,5.00N×76.04W, h113km±4km, ML3.0, Mw3.4*
*IDC **14** 07:55:23.1±1.2,4.66N×75.37W, h183km±16km, mb2.9/3, mb1 3.3/4, mb1mx2.9/33, mbtmp3.5/4, Error ellipse: s-maj=42.0km s-min=24.2km az=116.0*

ISC 14 07:55:19.9±0.9, 5.02N±0.04×76.03W±0.04, h115km±6km, n24, σ1°12/38, mb3.1/3, 6C-3D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLMC	**San Jos del P**	**0.28**	**246**	*e*P		**Pn**		**07 55 36.1**	**-0.2**
PLMC				*e*S		**Sn**		**07 55 48.4**	**-0.2**
RREF	**El Recreo**	**0.69**	**100⇓**	*e*P		**Pn**		**07 55 39.2**	**-0.1**
RREF				*e*S		**Sn**		**07 55 53.8**	**-0.1**
RREF				*i*				07 55 56.7	
	comp=Z,439nm,0.3s								
ANIL	**Santa Ana**	**0.81**	**130⇓**	*i*P		**Pn**		**07 55 39.6**	**-0.5**
ANIL				*e*S		**Sn**		**07 55 54.5**	**-0.7**
ANIL				*i*				07 55 56.1	
	comp=Z,372nm,0.3s								
TOLC	**Tolima**	**0.82**	**122**	*e*P		**Pn**		**07 55 39.9**	**-0.3**
TOLC				*e*S		**Sn**		**07 55 56.0**	**+0.5**
TOLC				*i*				07 55 59.0	
	comp=Z,186nm,0.5s								
YOTC	**Yotoco, Valle**	**1.08**	**197**	*e*P		**Pn**		**07 55 41.7**	**-0.8**
YOTC				*e*S		**Sn**		**07 55 58.3**	**-1.1**
HELC	**Santa Helena**	**1.26**	**23⇑**	*e*P		**Pn**		**07 55 44.9**	**+0.2**
HELC				*e*S		**Sn**		**07 56 03.5**	**0.0**
HELC				*i*				07 56 08.2	
	comp=Z,165nm,0.2s								
MALC	**Bahia Malaga**	**1.65**	**233**	*e*P		**Pn**		**07 55 49.9**	**+1.1**
MALC				*e*S		**Sn**		**07 56 14.2**	**+3.4**
MALC				*i*				07 56 21.0	
	comp=Z,135nm,0.3s								
ROSC	**El Rosal**	**1.71**	**96**	P		**Pn**		**07 55 50.7**	**+0.8**
	comp=Z,11nm,0.3s,baz=326,slow=7.3,SNR=29								
ROSC				S		**Sn**		**07 56 15.2**	**+2.5**
	comp=Z,5.7nm,0.3s,baz=259,slow=22,SNR=5.9								
ROSC	**El Rosal**	**1.71**	**96**	*e*P		**Pn**		**07 55 50.9**	**+1.1**
PTBC	**PUERTO BERRIO,**	**2.17**	**46⇑**	*e*P		**Pn**		**07 55 55.1**	**-0.2**
PTBC				*e*S		**Sn**		**07 56 21.7**	**-0.7**
PTBC				*i*				07 56 24.8	
	comp=Z,81nm,0.3s								
CHIC	**Chingaza**	**2.32**	**100⇑**	*e*P		**Pn**		**07 55 58.7**	**+1.1**
CHIC				*e*S		**Sn**		**07 56 26.5**	**+0.1**
CHIC				*i*				07 56 33.4	
	comp=Z,25nm,0.5s								
BETC	**Betania**	**2.40**	**166**	*e*P		**Pn**		**07 55 57.5**	**-0.8**
BETC				*e*S		**Sn**		**07 56 26.2**	**-1.4**
BETC				*i*				07 56 28.1	
	comp=Z,36nm,0.5s								
VILC	**Villavicencio,**	**2.49**	**111**	*e*P		**Pn**		**07 56 01.1**	**+1.6**
VILC				*e*S		**Sn**		**07 56 31.3**	**+1.4**
ZARC	**Zaragoza, Cauc**	**2.72**	**25⇑**	*e*P		**Pn**		**07 56 02.5**	**+0.1**
ZARC				*e*S		**Sn**		**07 56 34.9**	**-0.2**
ZARC				*i*				07 56 36.0	
	comp=Z,114nm,0.5s								
UREC	**San Jos de Ur**	**2.76**	**10**	*e*P		**Pn**		**07 56 03.2**	**+0.3**
RUSC	**La Rusia**	**3.05**	**73**	*e*P		**Pn**		**07 56 07.5**	**+0.3**
BRRC	**Barranca, Sant**	**3.10**	**48⇑**	*e*P		**Pn**		**07 56 07.0**	**-0.4**
FLOC	**Florencia**	**3.44**	**174**	*e*P		**Pn**		**07 56 11.0**	**-0.8**
FLOC				*i*				07 56 54.7	
	comp=Z,25nm,0.4s								
CRUC	**La Cruz**	**3.55**	**195⇑**	*e*P		**Pn**		**07 56 13.1**	**-0.7**
CRUC				*i*				07 56 58.4	
	comp=Z,36nm,0.5s								
GCUF	**Volcan Galeras**	**3.99**	**199⇓**	*e*P		**Pn**		**07 56 18.8**	**-1.0**
GCUF				*i*				07 57 06.4	
	comp=Z,23nm,0.4s								
SDV	**Santo Domingo**	**6.59**	**54**	P		**Pn**		**07 56 53.9**	**-0.6**
	comp=Z,4.1nm,0.3s,baz=239,slow=5.9,SNR=12								
SDV				S		**Sn**		**07 58 05.8**	**-2.4**
	comp=Z,0.9nm,0.3s,baz=35,slow=19,SNR=2.2								
PDAR	**Pinedale Array**	**47.91**	**327**	P		**P**		**08 03 47.5**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=120,slow=8.4,SNR=3.0								
YKA	**Yellowknife Ar**	**63.99**	**341**	P		**P**		**08 05 40.1**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=134,slow=6.2,SNR=16								
ILAR	**Eielson Array**	**77.38**	**335**	P		**P**		**08 07 01.9**	**0.0**
	comp=Z,0.2nm,0.6s,baz=121,slow=5.1,SNR=7.0								

TAP 14 08:04:45.7, 24.78N×121.85E, h10km, ML2.2, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.08**	**345**	*e*P		Pg		08 04 48.7	+0.7
	baz=345								
NTC				S		Sg		08 04 50.7	+0.9
	baz=345								
ILA	**Ilan**	**0.10**	**263**	*e*P		Pg		08 04 48.8	+0.5
	baz=261								
ILA				*e*S		Sg		08 04 51.1	+1.0
	baz=261								
EGS		**0.10**	**47**	*e*P		Pg		08 04 49.0	+0.7
	baz=51								
TWC	**Suao**	**0.17**	**181**	*e*P		Pb		08 04 50.3	-0.6
	baz=177								
TWC				*e*S		Sg		08 04 52.8	+0.9
	baz=177								
TWE	**Neicheng**	**0.18**	**252**	*e*P		Pg		08 04 50.1	+0.6
	baz=249								
TWE				*e*S		Sg		08 04 53.5	+1.3
	baz=249								
TIPB	**Shuangxi**	**0.20**	**353**	P		Pb		08 04 51.0	-0.4
	baz=352								
TIPB				S		Sg		08 04 54.1	+1.4
	baz=352								
TWB1	**Santiao Chiao**	**0.26**	**28**	*e*P		Pb		08 04 52.0	-0.6
	baz=29								
NWF	**Wu-fen Shan**	**0.30**	**348**	*e*P		Pb		08 04 52.7	-0.5
	baz=347								
NWF				*e*S		Sb		08 04 57.8	-0.5
	baz=347								
WFSB	**Wu-fen Shan**	**0.30**	**348**	*e*P		Pb		08 04 52.7	-0.5
	baz=347								
WFSB				*e*S		Sb		08 04 57.9	-0.4
	baz=347								
EOS1	**EOS1**	**0.34**	**132**	*e*P		Pb		08 04 53.5	-0.3
	baz=132								
YHNB	**Yeheng**	**0.45**	**256**	*e*P		Pb		08 04 55.6	-0.1
	baz=256								
YHNB				*e*S		Sb		08 05 02.7	+0.2
	baz=256								
YM01	**YM01**	**0.45**	**325**	*e*S		Sb		08 05 02.5	0.0
	baz=325								
NSK	**Sanguang**	**0.46**	**257**	*e*P		Pb		08 04 55.5	-0.5
	baz=256								
NSK				*e*S		Sb		08 05 02.7	-0.2
	baz=256								

TAP 14 08:04:53.6, 24.77N×121.86E, h12km, ML2.3, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.09**	**342**	*e*P		Pg		08 04 56.8	+0.6
	baz=342								
NTC				*e*S		Sg		08 04 59.1	+1.0
	baz=342								
EGS		**0.10**	**43**	*e*P		Pg		08 04 57.0	+0.6
	baz=47								
EGS				*e*S		Sg		08 04 59.4	+1.0
	baz=47								
ILA	**Ilan**	**0.10**	**266**	*e*P		Pg		08 04 56.6	+0.3
	baz=264								
ILA				*e*S		Sg		08 04 59.2	+0.8
	baz=264								
TWC	**Suao**	**0.16**	**183**	P		Pb		08 04 58.2	-0.4
	baz=179								
TWC				*e*S		Sg		08 05 00.4	+0.5
	baz=179								
TWE	**Neicheng**	**0.18**	**253**	*e*P		Pb		08 04 58.3	-0.6
	baz=251								
TWE				S		Sg		08 05 01.5	+1.1
	baz=251								
TIPB	**Shuangxi**	**0.20**	**352**	P		Pb		08 04 58.8	-0.5
	baz=351								
TIPB				*e*S		Sg		08 05 01.6	+0.7
	baz=351								
TWB1	**Santiao Chiao**	**0.26**	**27**	*e*P		Pb		08 04 59.9	-0.4
	baz=28								
TWB1				*e*S		Sb		08 04 05.5	-0.3
	baz=28								
ENTT	**Nioudou**	**0.30**	**244**	*e*P		Pb		08 05 00.6	-0.3
	baz=242								
ENTT				*e*S		Sb		08 05 05.6	-0.2
	baz=242								
NWF	**Wu-fen Shan**	**0.30**	**347**	*e*P		Pb		08 05 00.7	-0.3
	baz=346								
NWF				*e*S		Sb		08 05 05.7	-0.4
	baz=346								
WFSB	**Wu-fen Shan**	**0.30**	**347**	P		Pb		08 05 00.8	-0.2
	baz=346								
WFSB				*e*S		Sb		08 05 05.8	-0.2
	baz=346								
NWLT	**Wulai**	**0.32**	**271**	*e*P		Pb		08 05 01.1	-0.3
	baz=270								
NWLT				*e*S		Sb		08 05 06.4	-0.1
	baz=270								
EOS1	**EOS1**	**0.33**	**132**	*e*P		Pb		08 05 01.2	-0.2
	baz=132								
EOS1				*e*S		Sb		08 05 06.7	0.0
	baz=132								
ENA	**Nanau**	**0.36**	**197**	*e*S		Sb		08 05 07.6	0.0
	baz=196								
TATO	**Taipei**	**0.39**	**301**	*e*P		Pb		08 05 02.5	0.0
	baz=301								
TATO				*e*S		Sb		08 05 08.3	-0.2
	baz=301								
YHNB	**Yeheng**	**0.45**	**257**	*e*P		Pb		08 05 03.4	-0.2
	baz=256								
YHNB				*e*S		Sb		08 05 10.2	-0.1
	baz=256								
YM01	**YM01**	**0.45**	**325**	*e*P		Pb		08 05 03.7	+0.1
	baz=324								
YM01				*e*S		Sb		08 05 10.5	+0.1
	baz=324								
NSK	**Sanguang**	**0.47**	**258**	*e*P		Pb		08 05 03.3	-0.5
	baz=257								
NSK				*e*S		Sb		08 05 10.4	-0.3
	baz=257								
YM11	**YM11**	**0.47**	**327**	*e*S		Pb		08 05 03.1	-0.8
	baz=326								
YM11	**YM11**	**0.47**	**327**	*e*P		Pb		08 05 03.4	-0.4
	baz=326								
YM05	**YM05**	**0.47**	**326**	*e*S		Pb		08 05 03.2	-0.7
	baz=325								
YM05	**YM05**	**0.47**	**326**	*e*P		Pb		08 05 03.6	-0.3
	baz=325								
YM04	**YM04**	**0.48**	**322**	*e*S		Pb		08 05 03.3	-0.7
	baz=322								
YM04	**YM04**	**0.48**	**322**	*e*P		Pb		08 05 03.8	-0.2
	baz=322								
TWS1	**Kuangyinshan**	**0.52**	**309**	*e*S		Pb		08 05 04.3	-0.3
	baz=309								
TWS1	**Kuangyinshan**	**0.52**	**309**	*e*P		Pb		08 05 04.3	-0.3
	baz=309								
NNS	**Nan Shan**	**0.55**	**233**	*e*P		Pg		08 05 04.8	+0.4
	baz=232								
NNS				*e*S		Sb		08 05 13.3	0.0
	baz=232								
TWY	**Chenhua**	**0.55**	**335**	*e*S		Pb		08 05 05.0	-0.2
	baz=335								
TWY	**Chenhua**	**0.55**	**335**	*e*P		Pb		08 05 04.8	-0.4
	baz=335								
TWY				*e*S		Sb		08 05 13.3	+0.1
	baz=335								
NACB	**Ninganchiao**	**0.64**	**202**	*e*P		Pb		08 05 06.8	0.0
	baz=201								
NACB				*e*S		Sb		08 05 16.1	+0.4
	baz=201								
TWD	**Chiawan**	**0.73**	**199**	*e*P		Pb		08 05 08.4	+0.1
	baz=198								
TWD				*e*S		Sb		08 05 18.4	+0.2
	baz=198								
LIOB	**Emei**	**0.78**	**261**	*e*P		Pb		08 05 09.1	+0.1
	baz=260								
LIOB				*e*S		Sb		08 05 20.7	+1.1
	baz=260								

*ISCJB **14** 08:20:35.5±1.3, 18.3S±0.2×177.9W±0.2, h557km, mb3.8/5, Error ellipse: s-maj=33.9km s-min=24.7km az=156.0*
*IDC **14** 08:20:40.8±4.9, 18.46S×177.88W, h613km±58km, mb3.3/6, mb1 3.5/7, mb1mx3.0/46, mbtmp4.3/7, Error ellipse: s-maj=44.2km s-min=23.7km az=11.0*

ISC 14 08:20:36.2±1.3, 18.3S±0.3×177.8W±0.2, h557km, n7, σ1°50/9, mb4.1/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.31**	**253**	P		**P**		**08 23 50.5**	**+1.8**
	0.8nm,0.3s,baz=90,slow=19,SNR=8.9								
URZ	**Urewera**	**20.41**	**192**	P		**P**		**08 24 35.2**	**-0.3**
	2.9nm,0.3s,baz=280,slow=2.7,SNR=13								
STKA	**Stephens Creek**	**39.00**	**242**	P		**P**		**08 27 16.2**	**+0.9**
	2.0nm,0.4s,baz=77,slow=8.7,SNR=11								
WRA	**Warramunga Arr**	**45.18**	**260**	P		**P**		**08 28 02.7**	**-1.4**
	1.7nm,0.2s,baz=96,slow=7.6,SNR=58								
WRA				PcP		**PcP**		**08 29 31.1**	**-1.5**
	0.2nm,0.3s,baz=88,slow=3.5,SNR=2.9								
ASAR	**Alice Springs**	**45.29**	**255**	P		**P**		**08 28 04.3**	**-0.6**
	4.0nm,0.3s,baz=86,slow=8.7,SNR=83								
ASAR				PcP		**PcP**		**08 29 30.8**	**-2.1**
	0.7nm,0.9s,baz=97,slow=6.0,SNR=4.0								
FITZ	**Fitzroy Crossi**	**53.58**	**261**	P		**P**		**08 29 05.5**	**-0.4**
	2.2nm,0.6s,baz=107,slow=5.5,SNR=8.4								
TXAR	**Lajitas Array**	**85.67**	**57**	P		**P**		**08 32 17.7**	**+0.9**
	0.3nm,0.7s,baz=243,slow=5.6,SNR=2.2								

*ISCJB **14** 08:21:16.7±0.5,0.17S±0.06×122.95E±0.03, h162km, mb3.5/4, Error ellipse: s-maj=7.9km s-min=4.9km az=178.1*
*IDC **14** 08:21:17.6±3.0,0.04S×122.87E, h184km±23km, mb3.2/4, mb1 3.4/5, mb1mx3.1/51, mbtmp3.8/5, Error ellipse: s-maj=119.6km s-min=21.4km az=63.0*
*DJA **14** 08:21:18.6±0.4,0°S±3°×12°3E±°, h146km±5km, M4.0/4, MLv4.0/4*

ISC 14 08:21:16.3±0.8, 0.12S±0.06×122.93E±0.04, h162km, n17, σ1°62/27, mb3.5/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.93**	**190**	P		**Pn**		**08 21 42.5**	**+0.8**
LUWI				S		**Sn**		**08 22 01.2**	**0.0**
MRSI	**Marisa**	**1.15**	**301**	P		**Pn**		**08 21 44.4**	**+1.0**
MRSI				S		**Sn**		**08 22 04.6**	**+0.3**
KMSI	**Cibinong**	**1.26**	**57**	P		**Pn**		**08 21 46.0**	**+1.6**
KMSI				S		**Sn**		**08 22 06.6**	**+0.6**
APSI	**Ampana**	**1.50**	**238**	P		**Pn**		**08 21 47.8**	**+1.0**
APSI				S		**Sn**		**08 22 10.9**	**+0.7**
MPSI	**Mapaga**	**3.06**	**278**	P		**Pn**		**08 22 06.7**	**+1.8**
MPSI				S		**Sn**		**08 22 44.3**	**+1.7**
PCI	**Palu**	**3.19**	**256**	P		**Pn**		**08 22 08.2**	**+1.7**
SANI	**Sanana**	**3.61**	**122**	P		**Pn**		**08 22 13.3**	**+1

JOD2	**Odawara 2**	**2.83**	**270**	P	**Pn**	**08 33 31.4**	**-1.1**
JOD2				*e*S	**Sn**	**08 34 04.0**	**-1.4**
JFT	**Otama**	**2.84**	**322**	P	**Pn**	**08 33 33.0**	**+0.2**
JFT				S	**Sn**	**08 34 05.7**	**-0.1**
JFNN	**Fujinakano**	**3.16**	**269**	P	**Pn**	**08 33 36.4**	**-0.7**
JYN	**Shimob**	**3.27**	**275**	P	**Pn**	**08 33 38.1**	**-0.6**
JYN				*e*S	**Sn**	**08 34 15.6**	**-0.9**
JNS	**Sasagawa**	**3.62**	**315**	P	**Pn**	**08 33 44.3**	**+0.9**
MJAR	**Matsushiro Arr**	**3.73**	**291**	Pn	**Pn**	**08 33 45.2**	**+0.2**
	4.2nm,0.3s,baz=120,slow=5.9,SNR=22						
MJAR				Sn	**Sn**	**08 34 28.6**	**+0.9**
	2.0nm,0.3s,baz=288,slow=32,SNR=4.7						
MJAR				LR	LR	08 35 05.6	
	comp=Z,37nm,18.3s,baz=55,slow=36						
MAT	**Matsushiro**	**3.73**	**291**	P	**Pn**	**08 33 44.5**	**-0.5**
MAT				*e*S	**Sn**	**08 34 28.0**	**+0.3**
MAT	**Matsushiro**	**3.73**	**291**	P	**Pn**	**08 33 46.3**	**+1.3**
MAT				*e*S	**Sn**	**08 34 28.7**	**+1.0**
ASAJ	**Asahikawa**	**8.81**	**0**	Pn	**Pn**	**08 34 54.0**	**-0.6**
	0.6nm,0.3s,baz=217,slow=10,SNR=5.1						
ASAJ				Sn	**Sn**	**08 36 29.6**	**-2.9**
	0.3nm,0.3s,baz=108,slow=20,SNR=2.3						
ASAJ				LR	LR	08 38 50.9	
	comp=Z,44nm,19.3s,baz=153,slow=41						
JNU	**Nakatsue**	**9.90**	**261**	LR	LR	08 38 54.6	
	comp=Z,30nm,21.6s,baz=142,slow=37						
KSRS	**Korea Array**	**11.98**	**285**	LR	LR	08 40 19.5	
	comp=Z,12nm,21.2s,baz=130,slow=37						
JAY	**Jayapura**	**37.65**	**183**	LR	LR	08 54 00.4	
	comp=Z,33nm,20.9s,baz=264,slow=34						
ZALV	**Zalesovo Beam**	**43.77**	**314**	LR	LR	08 58 58.2	
	comp=Z,24nm,20.2s,baz=53,slow=36						
KURBB	**Kurchatov Arra**	**47.80**	**309**	P	P	08 41 26.6	+3.7
	1.0nm,0.6s,baz=80,slow=7.3,SNR=4.6						
ILAR	**Eielson Array**	**50.48**	**32**	P	**P**	**08 41 44.1**	**+0.9**
	0.4nm,0.9s,baz=269,slow=5.0,SNR=4.1						
WRA	**Warramunga Arr**	**55.48**	**189**	P	**P**	**08 42 20.2**	**-0.3**
	1.1nm,0.6s,baz=8.5,slow=7.6,SNR=16						
ASAR	**Alice Springs**	**59.21**	**189**	P	**P**	**08 42 46.4**	**-0.3**
	0.5nm,0.8s,baz=15,slow=11,SNR=5.2						
ATD	**Arta Tunnel**	**91.19**	**285**	LR	LR	09 33 56.5	
	comp=Z,12nm,20.1s,baz=32,slow=40						

ISCJB ***14*** *08:35:34.9±0.8,40˚.26N±0˚.07×53˚.19E±0˚.06,h45km, Error ellipse: s-maj=10.3km s-min=5.5km az=161.3*
NNC ***14*** *08:35:38.0±8.0,40˚.47N×53˚.90E,h0km, mb3.4, mpv3.3, Error ellipse: s-maj=107.7km s-min=29.4km az=74.0*
AZER ***14*** *08:35:41.8±4.7,39˚.98N×52˚.95E,h50km,ml3.3/10, Error ellipse: s-maj=29.9km s-min=13.3km az=83.0*

ISC 14 08:35:36.6±1.1, 40˚.18N±0˚.08×53˚.28E±0˚.06, h45km, n17, σ2§25/21, 10C-12D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATGJ	**Altiaghaj**	**3.38**	**283**	⇑S	**Sn**	**08 37 07.3**	**+1.6**
SIZA	**Siyzn**	**3.45**	**287**	⇓S	**Sn**	**08 37 10.5**	**+2.9**
PQL	**Pirkuli**	**3.62**	**281**	⇑S	**Sn**	**08 37 13.8**	**+1.9**
LKRN	**Lenkeran, Azer**	**3.78**	**249**	⇑S	**Sn**	**08 37 14.7**	**-0.7**
QUBA	**Quba, Azerbaij**	**3.82**	**290**	⇑S	**Sn**	**08 37 21.0**	**+4.4**
ASTR	**Astara**	**3.83**	**247**	⇓P	**Pn**	**08 36 33.7**	**+0.7**
ASTR				⇑S	**Sn**	**08 37 15.9**	**-0.9**
GLBA	**Clilabad**	**3.88**	**258**	⇓S	**Sn**	**08 37 18.0**	**0.0**
XNQ	**Khinaliq**	**4.03**	**286**	⇓S	**Sn**	**08 37 24.3**	**+2.3**
LRK	**Lerik**	**4.12**	**250**	⇓P	**Pn**	**08 36 38.9**	**+1.7**
LRK				⇓S	**Sn**	**08 37 21.6**	**-2.5**
GYA0B	**ALIBECK ARRAY**	**4.39**	**119**	⇓Pn	**Pn**	**08 36 42.8**	**+2.1**
	3.7nm,0.6s						
GYA0B				⇓Lg	Lg	08 37 46.5	
	5.5nm,0.6s						
SEKA	**Sheki**	**4.73**	**285**	⇓S	**Sn**	**08 37 39.2**	**+0.1**
GANJ	**Ganja**	**5.33**	**277**	⇑S	**Sn**	**08 37 51.7**	**-2.0**
GDB	**GEDABAY**	**5.76**	**275**	⇑S	**Sn**	**08 38 02.0**	**-2.6**
ORD	**Ordubad**	**5.76**	**260**	⇑S	**Sn**	**08 38 03.4**	**-1.1**
QZX	**Qazax, Azerbai**	**6.08**	**281**	⇑S	**Sn**	**08 38 09.7**	**-2.5**
AB31	**Akbulak array**	**10.24**	**25**	⇓Pn	**Pn**	**08 38 00.3**	**-0.4**
	0.1nm,0.3s,baz=204,slow=12,SNR=7.0						
AB31				⇓Sn	**Sn**	**08 39 51.9**	**-2.2**
	0.2nm,0.4s,baz=214,slow=24,SNR=5.5						
AKTO	**Aktyubinsk**	**10.79**	**16**	⇓Pn	**Pn**	**08 38 08.9**	**+0.6**
	0.7nm,0.8s						
AKTO				⇑Sn	**Sn**	**08 40 04.1**	**-3.5**
	1.2nm,0.7s						

IDC 14 08:37:10.8±8.2, 30˚.89S×179˚.67W,h434km±98km, mb2.9/3, mb1 3.0/4, mb1mx2.9/27, mbtmp3.7/4, Error ellipse: s-maj=92.7km s-min=38.6km az=7.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.82**	**199**	P	P	08 39 04.5	+0.6
	0.4nm,0.3s,baz=276,slow=3.9,SNR=12						
URZ				S	S	08 40 35.4	-1.3
	1.2nm,0.3s,baz=72,slow=22,SNR=13						
STKA	**Stephens Creek**	**32.97**	**258**	P	P	08 43 09.4	+1.6
	0.7nm,0.6s,baz=112,slow=5.4,SNR=2.9						
ASAR	**Alice Springs**	**41.65**	**268**	P	P	08 44 19.2	-0.5
	0.9nm,1.1s,baz=103,slow=6.9,SNR=3.9						
WRA	**Warramunga Arr**	**42.69**	**274**	P	P	08 44 27.4	-0.6
	0.9nm,0.5s,baz=110,slow=7.9,SNR=11						
FINES	**FINESS Array B**	**145.09**	**339**	PKPbc	PKPdf	08 55 56.5	-0.4
	0.8nm,0.4s,baz=57,slow=5.1,SNR=12						

IDC 14 08:43:15.4±7.3, 19˚.18S×178˚.09W,h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/23, mbtmp3.5/3, Error ellipse: s-maj=316.0km s-min=41.5km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.71**	**261**	P	P	08 51 30.9	+0.2
	0.2nm,0.3s,baz=96,slow=7.6,SNR=9.5						
ASAR	**Alice Springs**	**44.75**	**255**	P	P	08 51 30.5	-0.5
	0.9nm,1.0s,baz=99,slow=7.9,SNR=6.1						
ILAR	**Eielson Array**	**87.05**	**13**	P	P	08 56 02.4	0.0
	0.1nm,0.4s,baz=215,slow=5.6,SNR=3.3						

IDC 14 08:58:44.3±2.5, 5˚.96S×130˚.41E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.4/18, mbtmp3.4/3, ML3.2/2, Error ellipse: s-maj=148.9km s-min=32.6km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.42**	**165**	Pn	Pn	09 02 09.2	-0.7
	0.1nm,0.3s,baz=348,slow=13,SNR=6.3						
WRA				Sn	Sn	09 04 39.4	-11
	0.2nm,0.3s,baz=338,slow=25,SNR=5.4						
ASAR	**Alice Springs**	**17.93**	**170**	P	P	09 02 55.6	-0.3
	0.1nm,0.3s,baz=344,slow=8.9,SNR=5.6						
ASAR				S	Sn	09 06 03.8	-12
	0.1nm,0.3s,baz=349,slow=27,SNR=3.0						
MKAR	**Makanchi Array**	**67.59**	**326**	P	P	09 09 42.9	0.0
	0.2nm,0.4s,baz=123,slow=7.0,SNR=4.2						

WEL 14 09:00:17.4±0.5, 34˚S±4˚×18˚0E±1˚0, h33km, ML4.4/29, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.44**	**198**	P	Pn	09 01 10.9	+2.3
MXZ				S	Sn	09 01 51.0	+2.8
WMGZ	**Waiomatatini S**	**3.65**	**196**	P	Pn	09 01 13.9	+2.3
HAZ	**Te Kaha**	**3.77**	**203**	P	Pn	09 01 14.6	+1.4
PKGZ	**Pakihiroa**	**3.80**	**199**	P	Pn	09 01 15.2	+1.5
PKGZ				S	Sn	09 01 58.9	+1.6
PUZ	**Puketiti**	**3.93**	**196**	P	Pn	09 01 16.6	+1.2
PUZ				S	Sn	09 02 01.0	+0.6
RUGZ	**Raukumara Rang**	**3.99**	**203**	P	Pn	09 01 17.1	+0.7
KUZ	**Kuaotunu**	**4.03**	**232**	P	Pn	09 01 17.7	+0.9
TWGZ	**Tauwhareparae**	**4.10**	**199**	P	Pn	09 01 19.9	+2.1
TWGZ				S	Sn	09 02 06.0	+1.3
CNGZ	**Carnagh Statio**	**4.34**	**195**	P	Pn	09 01 21.7	+0.7
MWZ	**Matawai**	**4.38**	**202**	P	Pn	09 01 21.9	+0.3
MWZ				S	Sn	09 02 10.3	-1.1
TKGZ	**Te Karaka**	**4.38**	**199**	P	Pn	09 01 21.5	-0.1
TKGZ				S	Sn	09 02 10.5	-0.9
MARZ	**Manawahe**	**4.40**	**212**	P	Pn	09 01 23.7	+1.8
WIAZ	**Waiheke Island**	**4.45**	**235**	P	Pn	09 01 23.4	+0.9
URZ	**Urewera**	**4.45**	**207**	P	Pn	09 01 22.3	-0.3
RAGZ	**Rawiri**	**4.56**	**203**	P	Pn	09 01 24.7	+0.5
MKAZ	**Moumakai**	**4.60**	**231**	P	Pn	09 01 25.4	+0.7
OMRZ	**Omania**	**4.63**	**214**	P	Pn	09 01 27.3	+2.1
RIGZ	**Rimuhau**	**4.65**	**199**	P	Pn	09 01 24.9	-0.5
TARZ	**Mount Tarawera**	**4.68**	**212**	P	Pn	09 01 27.9	+2.1
MUGZ	**Murupara**	**4.77**	**208**	P	Pn	09 01 26.2	-0.8
TOZ	**Tahuroa Road**	**4.80**	**223**	P	Pn	09 01 28.6	+1.2
RTZ	**Ruatahuna**	**4.82**	**206**	P	Pn	09 01 26.4	-1.3
PRGZ	**Paritu Road**	**4.83**	**197**	P	Pn	09 01 26.9	-0.9
SNGZ	**Shannon Statio**	**4.85**	**202**	P	Pn	09 01 27.5	-0.6
PRRZ	**Plateau Road**	**4.95**	**211**	P	Pn	09 01 29.0	-0.4
KNZ	**Kokohu**	**4.97**	**198**	P	Pn	09 01 28.0	-1.7
MHGZ	**Mahia Peninsul**	**5.04**	**196**	P	Pn	09 01 29.9	-0.9
RAHZ	**Arahi**	**5.05**	**203**	P	Pn	09 01 29.7	-1.1
OUZ	**Omahuta**	**5.07**	**258**	P	Pn	09 01 29.8	-1.3
MTHZ	**Maungataniwha**	**5.08**	**206**	P	Pn	09 01 30.2	-1.1
KUTZ	**Kaahu Road**	**5.20**	**215**	P	Pn	09 01 33.9	+1.0
MRHZ	**Matea Rd**	**5.22**	**209**	P	Pn	09 01 31.4	-1.8
NMHZ	**Naumai**	**5.31**	**205**	P	Pn	09 01 32.8	-1.7
ARHZ	**Aropaoanui**	**5.39**	**203**	P	Pn	09 01 33.9	-1.7
GLKZ	**Green Lake**	**5.43**	**23**	S	Sn	09 02 41.4	+4.0
RIZ	**Raoul Island**	**5.44**	**23**	P	Pn	09 01 32.1	-4.1
BKZ	**Black Stump Fm**	**5.48**	**207**	P	Pn	09 01 34.7	-2.1
RATZ	**Rangitukua**	**5.53**	**213**	P	Pn	09 01 36.9	-0.5
MCHZ	**McNeill Hill**	**5.66**	**204**	P	Pn	09 01 36.7	-2.4
HIZ	**Hauiti**	**5.71**	**221**	P	Pn	09 01 41.0	+1.1
CKHZ	**Cape Kidnapper**	**5.73**	**200**	P	Pn	09 01 37.6	-2.6
KWHZ	**Kaweka Forest**	**5.73**	**206**	P	Pn	09 01 37.3	-3.0
KRVZ	**Karewarewa**	**5.77**	**213**	P	Pn	09 01 39.7	-1.1
WTVZ	**West Tongariro**	**5.81**	**213**	P	Pn	09 01 39.8	-1.6
TWVZ	**Taurewa**	**5.84**	**214**	P	Pn	09 01 40.7	-1.2
NGZ	**Ngauruhoe**	**5.85**	**213**	P	Pn	09 01 40.7	-1.3
KAHZ	**Kahuranaki**	**5.92**	**201**	P	Pn	09 01 40.0	-2.8
BHHZ	**Black Hill Sta**	**5.92**	**208**	P	Pn	09 01 39.5	-3.4
MOVZ	**Moawhango**	**5.98**	**210**	P	Pn	09 01 40.7	-3.0
MTVZ	**Mangateitei**	**6.08**	**212**	P	Pn	09 01 43.1	-2.0
PXZ	**Pawanui**	**6.14**	**200**	P	Pn	09 01 41.8	-4.0
WPHZ	**Waipukurau**	**6.30**	**203**	P	Pn	09 01 45.0	-3.0
PRHZ	**Porangahau**	**6.42**	**201**	P	Pn	09 01 45.3	-4.4
TSZ	**Takapari Road**	**6.46**	**206**	P	Pn	09 01 45.8	-4.4
DVHZ	**Dannevirke**	**6.60**	**204**	P	Pn	09 01 47.8	-4.3
WAZ	**Wanganui**	**6.60**	**213**	P	Pn	09 01 48.9	-3.3
ANWZ	**Angora Road**	**6.65**	**201**	P	Pn	09 01 48.8	-4.0
POWZ	**Post Office Ro**	**6.82**	**206**	P	Pn	09 01 50.7	-4.5
PRWZ	**Pori Road**	**6.90**	**204**	P	Pn	09 01 52.2	-4.0
BFZ	**Birch Farm**	**6.92**	**202**	P	Pn	09 01 51.5	-5.1
TIWZ	**Tintock**	**7.12**	**204**	P	Pn	09 01 54.3	-5.1
MRZ	**Mangatainoka R**	**7.13**	**206**	P	Pn	09 01 53.3	-6.1
CPWZ	**Castlepoint**	**7.14**	**203**	P	Pn	09 01 55.9	-3.7
HOWZ	**Holdsworth Sta**	**7.36**	**205**	P	Pn	09 01 56.2	-6.3
OGWZ	**Otaki Gorge**	**7.42**	**207**	P	Pn	09 01 56.8	-6.5
TMWZ	**Te Maipa**	**7.42**	**203**	P	Pn	09 01 57.0	-6.4
KIW	**Kapiti Island**	**7.55**	**208**	P	Pn	09 01 58.5	-6.7
MTW	**Mount Morrison**	**7.59**	**204**	P	Pn	09 01 59.1	-6.7
CAW	**Cannon Point**	**7.71**	**207**	P	Pn	09 02 00.1	-7.2
TRWZ	**Traveller**	**7.75**	**203**	P	Pn	09 02 01.5	-6.4
PAWZ	**Paruwai Farm**	**7.82**	**204**	P	Pn	09 02 02.5	-6.4
MSWZ	**Moikau Station**	**7.91**	**205**	P	Pn	09 02 03.4	-6.7
BHW	**Baring Head**	**8.04**	**207**	P	Pn	09 02 04.6	-7.2
PLWZ	**Palliser**	**8.04**	**204**	P	Pn	09 02 04.5	-7.5
TCW	**Tory Channel**	**8.11**	**210**	P	Pn	09 02 05.6	-7.1
BSWZ	**Blackbirch Sta**	**8.69**	**210**	P	Pn	09 02 13.2	-7.6

ISCJB ***14*** *09:10:44.5±1.3, 14˚.68S±0˚.08×167˚.1E±0˚.2, h67km, mb4.0/5, Error ellipse: s-maj=28.3km s-min=11.8km az=176.8*
IDC ***14*** *09:10:47.9±6.8, 14˚.72S×167˚.21E, h88km±68km, mb3.9/6, mb1 4.0/7, mb1mx3.6/39, mbtmp4.2/7, ML4.5/1, Error ellipse: s-maj=52.2km s-min=29.2km az=154.0*

ISC 14 09:10:45.9±1.4, 14˚.6S±0˚.1×167˚.2E±0˚.2, h67km, n7, σ1§17/8, mb4.2/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.45**	**186**	P	**Pn**	**09 12 32.9**	**+0.8**
	7.3nm,0.3s,baz=11,slow=19,SNR=57						
DZM				S	**Sn**	**09 13 54.3**	**-0.8**
	6.7nm,0.3s,baz=146,slow=21,SNR=4.9						
CTA	**Charters Tower**	**20.73**	**252**	P	**P**	**09 15 22.9**	**+1.8**
	4.0nm,0.7s,baz=80,slow=11,SNR=7.5						
STKA	**Stephens Creek**	**29.03**	**229**	P	**P**	**09 16 39.5**	**-0.2**
	5.3nm,0.6s,baz=40,slow=8.8,SNR=17						
WRA	**Warramunga Arr**	**31.80**	**256**	P	**P**	**09 17 03.4**	**-1.0**
	1.0nm,0.6s,baz=85,slow=9.3,SNR=14						
ASAR	**Alice Springs**	**32.66**	**249**	P	**P**	**09 17 10.9**	**-1.0**
	4.0nm,0.6s,baz=79,slow=9.1,SNR=54						
ILAR	**Eielson Array**	**86.44**	**18**	P	**P**	**09 23 20.7**	**0.0**
	0.3nm,0.7s,baz=239,slow=5.1,SNR=5.2						
MKAR	**Makanchi Array**	**97.09**	**316**	P	**P**	**09 24 10.6**	**-0.1**
	0.5nm,0.7s,baz=88,slow=6.3,SNR=5.4						

SOME ***14*** *09:16:45.9,40˚.37N×77˚.02E,h5km*
KRNET ***14*** *09:16:48.9±0.1,40˚.64N×76˚.89E,h15km,mb2.8*
NNC ***14*** *09:16:48.5±2.6,40˚.46N×77˚.00E,h0km, mb3.5, mpv3.1, Error ellipse: s-maj=23.3km s-min=10.5km az=125.0*

ISC 14 09:16:50.4±1.8, 40˚.59N±0˚.07×77˚.07E±0˚.04, h8km±11km, n54, σ1§06/82, 16C-21D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.27**	**26**	⇓*i*P	**Pg**	**09 17 13.2**	**-1.6**
	baz=32						
TARG				⇓*i*S	**Sb**	**09 17 31.4**	**-0.1**
	baz=32						
KDJ	**Kajisay**	**1.55**	**3**	⇑*e*P	**Pn**	**09 17 17.6**	**-0.8**
	baz=9.0						
KDJ				⇑*i*S	**Sn**	**09 17 38.4**	**-0.4**
	baz=9.0						
ULHL	**Ulahol**	**1.77**	**340**	P	**Pn**	**09 17 22.4**	**+0.8**
	SNR=5.9						
ULHL	**Ulahol**	**1.77**	**340**	⇓*e*P	**Pn**	**09 17 20.4**	**-1.2**
	baz=43						
ULHL				⇓*i*S	**Sn**	**09 17 43.0**	**-1.4**
	baz=43						
KZA	**Kyzart**	**2.02**	**318**	P	**Pb**	**09 17 26.9**	**-0.8**
	SNR=17						
KZA	**Kyzart**	**2.02**	**318**	⇓*e*P	**Pn**	**09 17 24.6**	**-0.6**
	baz=20						
KZA				⇓*i*S	**Sn**	**09 17 50.1**	**-0.8**
	baz=20						
BOOM	**Boomskoye usch**	**2.08**	**336**	⇓*e*P	**Pn**	**09 17 26.0**	**+0.2**
	baz=39						
BOOM				⇓*i*S	**Sn**	**09 17 52.5**	**+0.5**
	baz=39						
ARLS	**Aral**	**2.43**	**303**	⇑*i*P	**Pn**	**09 17 30.2**	**-0.4**
	baz=3.0						
ARLS				⇑*i*S	**Sn**	**09 18 00.6**	**0.0**
	baz=3.0						
TNSS	**Tian-Shan**	**2.45**	**358**	Pg	**Pb**	**09 17 35.0**	**+0.1**
	21nm,0.7s						
TNSS				Lg	Lg	09 18 11.2	
	16nm,0.5s						
TNSS	**Tian-Shan**	**2.45**	**358**	*e*P	**Pb**	**09 17 34.9**	**-0.1**
	21nm,0.7s						
TNSS				*e*S	**Sg**	**09 18 10.0**	**+0.9**
	16nm,0.5s						
IZV	**Izvestkoviy**	**2.47**	**352**	Pg	**Pb**	**09 17 35.5**	**+0.3**
	14nm,0.5s						
IZV				Lg	Lg	09 18 11.2	
	24nm,0.6s						
IZV	**Izvestkoviy**	**2.47**	**352**	*e*P	**Pb**	**09 17 35.5**	**+0.3**
	14nm,0.5s						
IZV				*e*S	**Sg**	**09 18 11.2**	**+1.3**
	24nm,0.6s						
UCH	**Uchtor**	**2.53**	**311**	P	**Pb**	**09 17 37.0**	**+0.8**
	SNR=11						
UCH	**Uchtor**	**2.53**	**311**	⇑*e*P	**Pn**	**09 17 31.7**	**-0.4**
	baz=12						
UCH				⇑*i*S	**Sn**	**09 18 03.2**	**-0.2**
	baz=12						
MDOK	**Medeo**	**2.58**	**360**	Pg	**Pb**	**09 17 37.3**	**+0.3**
	8.1nm,0.4s						
MDOK				Lg	Lg	09 18 14.4	
	21nm,0.4s						
MDOK	**Medeo**	**2.58**	**360**	*e*P	**Pb**	**09 17 37.2**	**+0.3**
	8.1nm,0.4s						
MDOK				*e*S	**Sg**	**09 18 14.4**	**+1.3**
	21nm,0.4s						
TKM2	**Tokmak 2**	**2.58**	**335**	P	**Sg**	**09 18 14.7**	**+1.4**
	SNR=9.9						
TKM2	**Tokmak 2**	**2.58**	**335**	⇓Pn	**Pn**	**09 17 34.0**	**+1.3**
	2.1nm,0.4s						
TKM2				⇓Lg	Lg	09 18 13.7	
	13nm,0.6s						
MTBS	**Maitube**	**2.59**	**350**	Pg	**Pb**	**09 17 37.3**	**+0.2**
	5.0nm,0.3s						
MTBS				Lg	Lg	09 18 14.4	
	9.4nm,0.3s						
MTBS	**Maitube**	**2.59**	**350**	*e*P	**Pb**	**09 17 37.3**	**+0.2**
	5.0nm,0.3s						
MTBS				⇑*i*S	**Sg**	**09 18 14.4**	**+0.9**
	9.4nm,0.3s						
KST	**Kastek**	**2.59**	**342**	Pg	**Pb**	**09 17 37.5**	**+0.3**
	7.2nm,0.7s						
KST				Lg	Lg	09 18 15.2	
	15nm,1.1s						
KST	**Kastek**	**2.59**	**342**	*e*P	**Pb**	**09 17 37.5**	**+0.3**
	4.7nm,0.2s						
KST				*e*S	**Sg**	**09 18 14.7**	**+1.0**
	15nm,0.6s						
KBK	**Karagaybulak**	**2.61**	**323**	P	**Pb**	**09 17 37.8**	**+0.3**
	SNR=11						
KBK	**Karagaybulak**	**2.61**	**323**	⇓*e*P	**Pn**	**09 17 32.6**	**-0.4**
	baz=25						
KBK				⇓*e*S	**Sn**	**09 18 05.1**	**+0.1**
	baz=25						
KOTS	**Kotyrbulak**	**2.65**	**1**	Pg	**Pb**	**09 17 38.8**	**+0.6**
	8.1nm,0.4s						
KOTS				Lg	Lg	09 18 16.9	
	36nm,0.8s						
KOTS	**Kotyrbulak**	**2.65**	**1**	*e*P	**Pb**	**09 17 38.8**	**+0.6**
	8.1nm,0.4s						
KOTS				*e*S	**Sg**	**09 18 16.9**	**+1.5**
	36nm,0.8s						
SFK	**Sufi-Kurgan**	**2.79**	**259**	⇑Pn	**Pn**	**09 17 33.8**	**-1.7**
	0.9nm,0.5s						
SFK				⇓Lg	Lg	09 18 09.3	
	9.5nm,0.5s						
SFK	**Sufi-Kurgan**	**2.79**	**259**	Pg	**Pn**	**09 17 37.4**	**+1.9**
	1.0nm,0.2s						
SFK				Lg	Lg	09 18 14.3	
	6.6nm,0.4s						
AAK	**Ala-Archa**	**2.81**	**318**	P	**Pg**	**09 17 43.3**	**-1.0**
	SNR=5.3						
AAK	**Ala-Archa**	**2.81**	**318**	⇓Pn	**Pb**	**09 17 40.9**	**-0.1**
	8.1nm,0.9s						
AAK				⇑Lg	Lg	09 18 20.1	
	31nm,1.2s						
AAK	**Ala-Archa**	**2.81**	**318**	⇓*e*P	**Pn**	**09 17 35.5**	**-0.4**
	baz=19						
AAK				⇓*e*S	**Sn**	**09 18 09.4**	**-0.7**
	baz=19						
DGS	**Degeres**	**2.83**	**340**	Pg	**Pb**	**09 17 41.7**	**+0.5**
	10nm,0.6s						
DGS				Lg	Lg	09 18 21.9	
	24nm,0.6s						
DGS	**Degeres**	**2.83**	**340**	*e*P	**Pb**	**09 17 41.7**	**+0.5**
	10nm,0.6s						
DGS				*e*S	**Sg**	**09 18 21.9**	**+0.8**
	24nm,0.6s						
UZB	**Uzynbulak**	**2.95**	**29**	*e*P	**Pb**	**09 17 44.3**	**+1.0**
	1.6nm,0.3s						
UZB				*e*S	**Sg**	**09 18 26.1**	**+1.1**
	7.9nm,1.2s						
CHMS	**Chumysh**	**2.97**	**325**	P	**Pn**	**09 17 40.0**	**+2.2**
	SNR=5.2						
CHMS	**Chumysh**	**2.97**	**325**	⇑*e*P	**Pn**	**09 17 37.8**	**0.0**
	baz=26						
CHMS				⇑*e*S	**Sn**	**09 18 13.5**	**-0.2**
	baz=26						
AML	**Almayashu**	**2.97**	**302**	⇓*e*P	**Pn**	**09 17 37.5**	**-0.7**
	baz=3.0						
AML				⇓*i*S	**Sn**	**09 18 13.0**	**-1.3**
	baz=3.0						
KURS	**Kuram**	**3.02**	**15**	Pg	**Pb**	**09 17 43.6**	**-0.8**
	4.3nm,0.8s						
KURS				Lg	Lg	09 18 25.2	
	5.8nm,0.7s						
KURS	**Kuram**	**3.02**	**15**	*e*P	**Pb**	**09 17 43.5**	**-0.8**
	4.3nm,0.8s						
KURS				*e*S	**Sg**	**09 18 25.2**	**-2.0**
	5.8nm,0.7s						
SHLS	**Shalkode**	**3.13**	**34**	*e*P	**Pg**	**09 17 49.6**	**-0.8**
	6.7nm,0.4s						
SHLS				*e*S	**Sg**	**09 18 35.1**	**+4.1**
	16nm,0.6s						
KTBS	**Karatobe**	**3.14**	**355**	Pg	**Pb**	**09 17 47.2**	**+0.8**
	3.8nm,0.5s						
KTBS				Lg	Lg	09 18 31.4	
	16nm,0.6s						
KTBS	**Karatobe**	**3.14**	**355**	*e*P	**Pb**	**09 17 47.2**	**+0.8**
	3.8nm,0.5s						
KTBS				*e*S	**Sg**	**09 18 31.4**	**+0.3**

SPWE	Spurr West	1.14	209	P		Pn	09 17 25.4	-0.2	
CAST	Castle Rocks	1.19	345	P		Pn	09 17 25.9	-0.2	
CAST				S		Sn	09 17 41.6	-1.2	
GHO	Glory Hole Cre	1.27	112	P		Pn	09 17 27.2	0.0	
GHO				S		Sn	09 17 45.6	+1.0	
PMR	Palmer	1.27	121	P		Pn	09 17 26.5	-0.5	
PMR				S		Sn	09 17 44.1	-0.3	
TRF	Thorofare Moun	1.29	23	P		Pn	09 17 27.8	+0.4	
RC01	Rabbit Creek A	1.43	145	P		Pn	09 17 28.5	-0.5	
RC01				S		Sn	09 17 48.0	+0.2	
SML	Sawmill	1.52	106	P		Pn	09 17 30.1	-0.1	
NKA	Nikishka	1.54	177	P		Pn	09 17 32.1	+1.8	
NKA				S		Sn	09 17 54.1	+4.0	
RND	Reindeer	1.63	45	P		Pn	09 17 31.8	+0.1	
KNK	Knik Glacier	1.64	120	P		Pn	09 17 31.4	-0.3	
CHUM	Lake Minchumin	1.67	346	P		Pn	09 17 32.2	+0.3	
RDT	Redoubt	1.77	196	P		Pn	09 17 33.3	-0.1	
DFR	Drift River	1.79	201	P		Pn	09 17 33.5	-0.2	
BPAW	Bear Paw Mtn.	1.85	6	P		Pn	09 17 34.2	-0.1	
MCK	McKinley	1.85	36	P		Pn	09 17 34.9	+0.5	
SLKM	Skilak Lake	1.86	162	P		Pn	09 17 34.6	+0.1	
RDWB	Redoubt West	1.92	202	P		Pn	09 17 35.4	0.0	
PWL	Port Wells	2.04	133	P		Pn	09 17 35.8	-1.0	
PWL				S		Sn	09 18 00.7	-1.2	
TT01	Tatalina	2.23	289	P		Pn	09 17 39.1	-0.1	
SVW2	Sparrevohn	2.31	241	P		Pn	09 17 40.1	-0.3	
SEW	Seward	2.37	156	P		Pn	09 17 41.0	-0.2	
BRLK	Bradley Lake	2.53	174	P		Pn	09 17 43.9	+0.6	
NEA	Nenana	2.54	23	P		Pn	09 17 43.5	+0.1	
WRH	Wood River Hil	2.67	33	P		Pn	09 17 45.1	0.0	
KLU	Klutina	2.71	104	P		Pn	09 17 44.9	-0.8	
MLY	Manley	2.79	6	P		Pn	09 17 47.0	+0.3	
PAX	Paxson	2.83	73	P		Pn	09 17 47.8	+0.4	
PS10	TAPS Pump St10	2.83	63	P		Pn	09 17 47.5	+0.2	
DIV	Divide	2.92	111	P		Pn	09 17 47.9	-0.6	
HDA	Harding Lake	2.94	41	P		Pn	09 17 48.6	-0.1	
MDM	Murphy Dome	3.05	26	P		Pn	09 17 50.6	+0.4	
COLA	College	3.06	30	P		Pn	09 17 50.6	+0.3	
PS12	TAPS Pump St12	3.07	102	P		Pn	09 17 49.8	-0.8	
ILAR	Eielson Array	3.22	37	P		Pn	09 17 52.2	-0.3	
	1.6nm,0.3s,baz=219,slow=14,SNR=52								
ILAR				S		Sn	09 18 28.2	-1.8	
	2.1nm,0.3s,baz=225,slow=21,SNR=15								
ILB	Eielson Array	3.22	37	P		Pn	09 17 52.5	0.0	
RIDG	Independ'e Rid	3.34	61	P		Pn	09 17 55.1	+1.0	
GCSA	Galena City Sc	3.49	318	P		Pn	09 17 54.9	+0.6	
BMRM	Bremner River	3.50	109	P		Pn	09 17 55.4	-1.0	
DOT	Dot Lake	3.63	64	P		Pn	09 17 58.0	0.0	
SCRK	Sand Creek	3.78	60	P		Pn	09 18 00.2	+0.1	
IM3	Indian Mountai	3.87	346	P		Pn	09 18 01.4	+0.2	
MCARA	McCarthy VSAT	4.08	99	P		Pn	09 18 03.6	-0.4	
PRP	Porcupine Dome	4.17	36	P		Pn	09 18 05.3	-0.1	
BCA3	Beaver Creek A	4.51	76	P		Pn	09 18 09.5	-0.4	
KDAK	Kodiak Island	4.54	188	P		Pn	09 18 09.2	-1.1	
	0.5nm,0.3s,baz=44,slow=5.3,SNR=12								
KDAK				S		Sn	09 18 59.0	-2.8	
	1.1nm,0.3s,baz=267,slow=21,SNR=7.6								
PS05	TAPS Pump Stn5	4.57	4	P		Pn	09 18 11.1	+0.4	
YUK2	White River	5.00	91	P		Pn	09 18 16.6	0.0	
COLD	Coldfoot	5.00	5	P		Pn	09 18 17.4	+0.8	
DAWY	Dawson	5.73	66	P		Pn	09 18 26.4	-0.2	
BM3	Burnt Mountain	5.92	26	P		Pn	09 18 29.4	+0.2	
YKA	Yellowknife Ar	16.92	73	P		Pn	09 20 54.2	-0.4	
	0.0nm,0.3s,baz=283,slow=12,SNR=5.0								
NVAR	Mina Array Bea	31.26	124	P		P	09 23 17.2	+2.2	
	0.2nm,0.5s,baz=312,slow=8.0,SNR=2.7								
MKAR	Makanchi Array	63.13	322	P		P	09 27 20.4	-1.1	
	0.1nm,0.5s,baz=32,slow=8.5,SNR=2.6								

IDC 14 09:23:26.2±1.2,14°35N×56°32E,h0km,mb3.8/6, mb1 4.0/6,mb1mx3.6/46,mbtmp3.9/6,MS3.0/5,Ms1 3.0/5, ms1mx2.7/37,Error ellipse: s-maj=33.7km s-min=28.4km az=49.0,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	9.11	14	LR	LR	09 28 55.0	
	comp=Z,187nm,20.0s,baz=227,slow=36						
GEYT	Alibeck	23.54	4	P	P	09 28 37.2	-1.0
	2.1nm,0.8s,baz=177,slow=5.5,SNR=3.0						
GEYT				LR	LR	09 37 10.3	
	comp=Z,31nm,20.9s,baz=90,slow=35						
H08N2	Diego Garcia H	25.18	144	T	T	09 55 28.7	
	baz=325,slow=76						
H08N3	Diego Garcia H	25.19	144	T	T	09 55 24.9	
	baz=325,slow=76						
H08N1	Diego Garcia H	25.20	144	T	T	09 55 29.2	
	baz=325,slow=76						
MMAI	Mount Meron Ar	26.59	318	LR	LR	09 39 49.2	
	comp=Z,17nm,18.5s,baz=0.0,slow=37						
GNI	Garni	27.63	341	LR	LR	09 42 12.1	
	comp=Z,36nm,18.8s,baz=136,slow=41						
BRTR	Keskin Array B	32.17	326	LR	LR	09 43 59.3	
	comp=Z,16nm,21.2s,baz=144,slow=38						
MKAR	Makanchi Array	38.96	29	P	P	09 30 55.5	+1.5
	0.4nm,0.7s,baz=212,slow=7.0,SNR=4.8						
FINES	FINESS Array B	51.81	342	P	P	09 32 35.0	-0.7
	2.2nm,0.9s,baz=147,slow=7.9,SNR=3.5						
TORD	Torodi Ar. Bea	52.97	276	P	P	09 32 45.5	+0.4
	0.2nm,0.4s,baz=86,slow=5.8,SNR=2.7						
H01W3	Cape Leeuwin H	73.49	133	T	T	10 55 26.8	
	baz=301,slow=75						
H01W2	Cape Leeuwin H	73.50	133	T	T	10 55 28.1	
	baz=301						
H01W1	Cape Leeuwin H	73.51	133	T	T	10 55 27.6	
	baz=301,slow=75						
WRA	Warramunga Arr	83.93	112	P	P	09 35 58.6	-0.2
	0.4nm,0.6s,baz=298,slow=4.2,SNR=4.6						
ASAR	Alice Springs	84.68	116	P	P	09 36 02.2	-0.4
	0.8nm,0.8s,baz=301,slow=3.7,SNR=6.2						

ISCJB 14 09:29:38.3±0.2,25°.81S±0°.03×179°.73W±0°.05,h444km, mb4.3/36,Error ellipse: s-maj=5.9km s-min=3.4km az=9.0
WEL 14 09:29:39.0±1.0,26°S.8×17°.8W±2°.3,h509km±12km
IDC 14 09:29:38.3±1.7,25°.78S×179°.67W,h438km±17km, mb3.9/17,mb1 4.1/18,mb1mx4.0/32,mbtmp4.7/18,Error ellipse: s-maj=12.8km s-min=10.6km az=113.0
NEIC 14 09:29:40.5±0.7,25°.92S×179°.70W,h464km±8km,mb4.6/29, Error ellipse: s-maj=7.0km s-min=6.5km az=85.0
ISC 14 09:29:39.1±0.4,25°.82S±0°.06×179°.64W±0°.06,h444km, n185,σ1s88/201,mb4.4/36,1C,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	Raoul Island	3.74	156	P	P	09 30 52.8	+1.4
GLKZ	Green Lake	3.75	156	P	P	09 30 52.7	+0.8
GLKZ				S	S	09 31 52.7	+2.0
OUZ	Omahuta	11.03	210	eP	P	09 32 09.6	+2.3
OUZ	Omahuta	11.03	210	P	P	09 32 10.5	+3.2
NIUE	Niue	11.21	55	eP	P	09 32 11.5	+2.0
NIUE				eS	S	09 34 15.9	+2.3
GRZ	Great Barrier	11.21	201	P	P	09 32 12.1	+2.8
WCZ	Waipu Caves	11.33	206	P	P	09 32 13.9	+3.3
KUZ	Kuaotunu	11.59	199	P	P	09 32 15.9	+2.5
ABAZ	Army Bay	11.74	202	P	P	09 32 18.6	+3.6
WIAZ	Waiheke Island	11.81	201	P	P	09 32 18.5	+2.7
MXZ	Matakaoa Point	11.84	188	eP	P	09 32 16.5	+0.4
MXZ	Matakaoa Point	11.84	188	P	P	09 32 15.8	-0.3
MXZ				S	S	09 34 23.3	-2.3
MXZ	Matakaoa Point	11.84	188	P	S	09 34 23.4	-2.3
MBAZ	Motutapu North	11.87	202	P	P	09 32 19.3	+2.9
HBAZ	Herne Bay Bore	12.00	202	P	P	09 32 20.5	+2.7
EPAZ	Eden Park BICE	12.02	202	P	P	09 32 21.1	+3.1
ETAZ	East Tamaki Re	12.03	201	P	P	09 32 21.1	+3.0
WMGZ	Waiomatatini S	12.08	187	P	P	09 32 17.6	-1.1
WMGZ				S	S	09 34 31.9	+1.5
WMGZ	Waiomatatini S	12.08	187	P	S	09 34 26.0	-4.4
MKAZ	Moumakai	12.09	200	P	P	09 32 21.2	+2.4
MARNC	Mare, Loyalty	12.09	288	eP	P	09 32 20.2	+1.1
HAZ	Te Kaha	12.10	190	P	P	09 32 18.8	-0.2
HAZ				S	S	09 34 32.1	+1.2
HAZ	Te Kaha	12.10	190	P	S	09 34 31.1	+0.2
WTAZ	Waiatarua	12.13	203	P	P	09 32 21.8	+2.6
KBAZ	Karaka Road Bo	12.17	201	P	P	09 32 22.4	+2.8
PKGZ	Pakihiroa	12.19	189	P	P	09 32 19.3	-0.6
PKGZ				S	S	09 34 32.4	-0.4
PKGZ	Pakihiroa	12.19	189	P	S	09 34 27.4	-5.3
RUGZ	Raukumara Rang	12.32	190	P	P	09 32 21.0	-0.5
RUGZ				S	S	09 34 35.1	-0.5
RUGZ	Raukumara Rang	12.32	190	P	S	09 34 32.8	-2.8
PUZ	Puketiti	12.35	188	P	P	09 32 19.2	-2.5
PUZ	Puketiti	12.35	188	P	S	09 34 33.7	-2.1
OPRZ	Ohinepanea	12.41	194	P	P	09 32 24.4	+2.0
TWGZ	Tauwhareparae	12.48	189	P	P	09 32 23.1	-0.1
TWGZ				S	S	09 34 40.9	+2.3
TWGZ	Tauwhareparae	12.48	189	P	S	09 34 38.4	-0.3
TWGZ				P	S	09 34 40.1	+1.4
MARZ	Manawahe	12.52	194	P	P	09 32 27.7	+4.1
TOZ	Tahuroa Road	12.57	198	P	P	09 32 26.5	+2.5
EDRZ	Edgecumbe	12.63	193	P	S	09 34 47.2	+5.7
URZ	Urewera	12.70	192	P	P	09 32 23.6	-1.9
	9.8nm,0.3s,baz=282,slow=3.0,SNR=64						
URZ				S	S	09 34 41.8	-1.1
	14nm,0.3s,baz=237,slow=23,SNR=15						
URZ	Urewera	12.70	192	eP	P	09 32 23.6	-1.9
URZ				eP	P	09 32 23.9	-1.6
URZ				eS	S	09 34 41.8	-1.1
URZ	Urewera	12.70	192	P	P	09 32 23.8	-1.6
URZ	Urewera	12.70	192	P	S	09 34 44.2	+1.3
MWZ	Matawai	12.71	190	P	P	09 32 24.1	-1.5
OMRZ	Omania	12.71	194	P	P	09 32 28.3	+2.7
CNGZ	Carnagh Statio	12.76	188	P	P	09 32 26.2	+0.1
CNGZ	Carnagh Statio	12.76	188	P	S	09 34 37.7	-6.3
TKGZ	Te Karaka	12.76	189	P	P	09 32 25.0	-1.0
TKGZ	Te Karaka	12.76	189	P	S	09 34 42.0	-2.0
OUENC	Ouen Island, N	12.80	283	eP	P	09 32 27.3	+0.6
TARZ	Mount Tarawera	12.80	194	P	P	09 32 28.6	+2.0
TARZ	Mount Tarawera	12.80	194	P	S	09 34 49.8	+4.7
UTU	Utuhina	12.81	195	P	P	09 32 29.8	+3.1
RAGZ	Rawiri	12.88	190	P	P	09 32 27.6	+0.1
RAGZ	Rawiri	12.88	190	P	S	09 34 49.9	+3.3
MUGZ	Murupara	12.98	193	P	P	09 32 29.1	+0.6
MUGZ	Murupara	12.98	193	P	S	09 34 52.3	+3.9
HRRZ	Handcock Road	13.00	194	P	P	09 32 30.9	+2.2
RIGZ	Rimuhau	13.03	189	P	P	09 32 28.4	-0.7
RIGZ	Rimuhau	13.03	189	P	S	09 34 45.3	-4.3
RTZ	Ruatahuna	13.07	192	P	P	09 32 29.9	+0.3
RTZ	Ruatahuna	13.07	192	P	S	09 34 50.4	0.0
PRRZ	Plateau Road	13.08	194	P	P	09 32 30.6	+1.1
PRRZ	Plateau Road	13.08	194	P	S	09 34 55.0	+4.6
WPRZ	Whakapapatarin	13.15	195	P	P	09 32 32.3	+2.0
ALRZ	Allen Road	13.15	194	P	P	09 32 30.0	-0.3
ONTNC	Ouen Toro	13.17	282	eP	P	09 32 32.5	+1.7
SNGZ	Shannon Statio	13.17	190	P	P	09 32 29.2	-1.4
PRGZ	Paritu Road	13.23	188	P	P	09 32 32.1	+0.9
PRGZ	Paritu Road	13.23	188	P	S	09 34 49.9	-3.5
DZM	Mont Dzumac	13.26	283	P	P	09 32 33.4	+1.6
	4.6nm,0.3s,baz=94,slow=15,SNR=75						
DZM	Mont Dzumac	13.26	283	eP	P	09 32 33.8	+2.0
RAHZ	Arahi	13.35	191	P	P	09 32 30.3	-2.2
KNZ	Kokohu	13.36	189	P	P	09 32 30.7	-1.8
KNZ	Kokohu	13.36	189	P	S	09 34 50.4	-5.4
MRHZ	Matea Rd	13.39	193	P	P	09 32 32.3	-0.8
MRHZ	Matea Rd	13.39	193	P	S	09 34 55.6	-1.1
MHGZ	Mahia Peninsul	13.45	188	P	P	09 32 33.7	+0.1
MHGZ	Mahia Peninsul	13.45	188	P	S	09 34 52.7	-5.1
WHHZ	Waihua	13.48	190	P	P	09 32 34.5	+0.6
HIZ	Hauiti	13.48	199	P	P	09 32 36.1	+2.2
RATZ	Rangitukua	13.57	195	P	P	09 32 34.0	-0.9
NMHZ	Naumai	13.57	192	P	P	09 32 34.6	-0.3
BKZ	Black Stump Fm	13.70	193	eP	P	09 32 34.8	-1.5
BKZ	Black Stump Fm	13.70	193	P	P	09 32 35.2	-1.1
ARHZ	Arahaonui	13.70	191	P	P	09 32 35.3	-0.9
WTVZ	West Tongariro	13.85	196	P	P	09 32 37.9	-0.2
MCHZ	McNeill Hill	13.93	192	P	P	09 32 36.8	-2.0
KWHZ	Kaweka Forest	13.96	193	P	P	09 32 36.8	-2.4
BHHZ	Black Hill Sta	14.10	194	P	P	09 32 38.1	-2.5
BFZ	Birch Farm	15.21	192	eP	P	09 32 51.9	-0.6
	25nm,1.0s						
SNZO	South Karori	16.14	195	eP	P	09 33 01.9	-0.4
	34nm,0.9s						
THZ	Tophouse	17.05	199	eP	P	09 33 11.4	-0.6
	21nm,0.8s						
THZ				eS	S	09 36 07.5	-0.4
LTZ	Lake Taylor	18.18	199	eP	P	09 33 21.8	-1.9
	32nm,0.6s						
OXZ	Oxford	18.74	199	eP	P	09 33 27.1	-2.0
	40nm,0.4s						
OXZ				eS	S	09 36 38.5	+1.4
MQZ	McQueen's Vall	18.92	197	eP	P	09 33 30.1	-0.5
	18nm,1.2s						
RPZ	Rata Peaks	19.40	201	P	P	09 33 33.1	-2.0
	3.6nm,0.3s,baz=316,slow=2.2,SNR=15						
RPZ				S	S	09 36 47.7	-0.1
	0.2nm,0.3s,baz=342,slow=20,SNR=1.9						
RPZ	Rata Peaks	19.40	201	eP	P	09 33 33.1	-2.0
RPZ				eP	P	09 33 34.0	-1.2
RPZ				eS	S	09 36 47.7	-0.1
FOZ	Fox Glacier	19.65	203	eP	P	09 33 36.4	-1.0
	22nm,0.6s						
LBZ	Lake Benmore	20.28	201	eP	P	09 33 41.6	-1.5
	7.7nm,0.5s						
WKZ	Wanaka	21.06	203	eP	P	09 33 49.5	-0.9
	16nm,0.6s						
MLZ	Mavora Lakes	21.85	204	eP	P	09 33 57.3	-0.2
	16nm,1.0s						
WHZ	Wether Hill Ro	22.36	203	eP	P	09 34 01.2	-0.8
	16nm,0.8s						
EIDS	Eidsvold	26.39	265	eP	P	09 34 39.2	+0.9
	62nm,0.7s						
CTA	Charters Tower	31.86	273	P	P	09 35 26.5	+0.4
	33nm,0.4s,baz=101,slow=13						
CTAO	Charters Tower	31.86	273	eP	P	09 35 27.0	+0.9
	42nm,0.6s						
STKA	Stephens Creek	34.35	251	P	P	09 35 47.7	+0.5
	19nm,0.5s,baz=97,slow=10,SNR=84						
STKA	Stephens Creek	34.35	251	eP	P	09 35 47.8	+0.5
	4.2nm,0.5s						
PMG	Port Moresby	35.46	291	P	P	09 35 56.7	-0.1
	8.8nm,0.6s,baz=108,slow=8.8,SNR=4.3						
COEN	Coen	36.77	281	eP	P	09 36 08.1	+0.4
	18nm,0.7s						
BBOO	Buckleboo	39.03	249	eP	P	09 36 25.6	-0.5
	24nm,0.8s						
AS01	Alice Springs	42.03	263	eP	P	09 36 50.0	-0.4
AS31	Alice Springs	42.08	263	eP	P	09 36 50.4	-0.4
	12nm,0.4s						
ASAR	Alice Springs	42.08	263	P	P	09 36 50.4	-0.3
	18nm,0.4s,baz=92,slow=7.5,SNR=765						
ASAR				ScP	ScP	09 41 44.3	+1.0
	2.7nm,1.1s,baz=114,slow=4.1,SNR=4.6						
ASAR				S	S	09 42 36.0	-1.0
	1.5nm,0.8s,baz=100,slow=16,SNR=4.6						
WB2	Warramunga Arr	42.62	268	eP	P	09 36 53.9	-1.2
WB2				eP	P	09 36 54.4	-0.7
WRAB	Tennant Creek	42.63	268	eP	P	09 36 54.5	-0.6
	21nm,0.6s						
WR1	Warramunga Arr	42.63	268	eP	P	09 36 54.3	-0.8
	29nm,0.6s						
WR1				eScP	ScP	09 41 47.5	+1.9
WR1				eS	S	09 42 41.0	-4.1
WRA	Warramunga Arr	42.63	268	P	P	09 36 54.3	-0.8
	27nm,0.8s,baz=104,slow=8.0,SNR=131						
WRA				ScP	ScP	09 41 47.5	+1.9
	0.9nm,0.7s,baz=92,slow=3.9,SNR=4.6						
WRA				S	S	09 42 41.0	-4.1
	3.3nm,0.9s,baz=100,slow=14,SNR=8.3						
FORT	Forrest	45.98	251	eP	P	09 37 20.1	-0.8
	57nm,0.6s						
VNDA	Vanda	52.50	185	P	P	09 38 09.8	+1.1
	1.1nm,0.5s,baz=12,slow=8.1,SNR=12						
VNDA	Vanda	52.50	185	eP	P	09 38 10.2	+1.4
QSPA	South Pole Qui	64.27	180	eP	P	09 39 30.4	+1.3
	6.8nm,0.8s						
MJAR	Matsushiro Arr	73.66	326	P	P	09 40 24.8	-1.4
	3.3nm,0.8s,baz=168,slow=6.5,SNR=4.6						
MAJO	Matsushiro	73.66	326	eP	P	09 40 24.8	-1.4
MAW	Mawson	76.07	201	P	P	09 40 40.0	+0.7
	7.1nm,0.8s,baz=137,slow=6.7,SNR=11						
MAW	Mawson	76.07	201	eP	P	09 40 40.0	+0.7
	1.4nm,0.8s						
PETK	Petropavlovsk-	81.03	346	P	P	09 41 05.6	-0.5
	4.8nm,0.7s,baz=125,slow=8.5,SNR=5.9						
PEA1	Petropavlovsk-	81.04	346	eP	P	09 41 05.6	-0.5
SYO	Syowa Base	81.23	193	eP	P	09 41 07.3	+0.3
USRK	Ussuriysk Ar.	82.55	327	P	P	09 41 13.2	-0.9
	1.1nm,0.5s,baz=129,slow=4.6,SNR=6.5						
ISA	Isabella, Lake	84.12	46	eP	P	09 41 22.6	+0.3
	9.3nm,0.8s						
PFO	Pinyon Flats O	84.22	48	eP	P	09 41 22.7	-0.2
	7.0nm,1.0s						
NV01	Mina Array Sit	85.91	44	eP	P	09 41 31.4	+0.2
NVAR	Mina Array Bea	85.91	44	P	P	09 41 31.5	+0.3
	3.9nm,0.7s,baz=222,slow=8.8,SNR=26						
TPNV	Topopah Spring	86.32	46	eP	P	09 41 33.6	+0.5
	6.0nm,0.8s						
KLR	Kul'dur	86.36	330	P	P	09 41 33.3	+0.5
	1.4nm,0.7s,baz=70,slow=3.1,SNR=5.2						
KVN	Kaiserville	86.41	43	eP	P	09 41 34.2	+0.7
	3.7nm,0.7s						
PLCA	Paso Flores	86.70	134	P	P	09 41 36.1	+1.1
	4.9nm,1.1s,baz=256,slow=4.9,SNR=7.0						
Y14A	Wickenburg	86.77	50	eP	P	09 41 36.2	+1.1
	3.6nm,0.8s						
BMN	Battle Mountai	87.78	43	eP	P	09 41 40.8	+0.9
MTPU	Mount Pierson	89.60	47	eP	P	09 41 50.5	+1.8
	7.3nm,0.8s						
F10A	Beach Ranch, E	91.11	38	eP	P	09 41 55.4	+0.2
	3.4nm,0.8s						
TX31	Lajitas Ar. Si	91.17	58	eP	P	09 41 56.1	+0.3
LTX	Lajitas	91.17	58	eP	P	09 41 56.3	+0.4
TXAR	Lajitas Array	91.17	58	P	P	09 41 56.3	+0.4
	1.5nm,0.8s,baz=209,slow=6.9,SNR=9.8						
SEY	Seymchan	91.21	348	P	P	09 41 54.2	-0.8
	3.6nm,0.7s,baz=143,slow=6.7,SNR=14						
S22A	4UR Ranch, Cre	93.03	49	eP	P	09 42 05.1	+0.6
	1.9nm,1.0s						
ILAR	Eielson Array	93.81	13	P	P	09 42 05.6	-1.4
	1.0nm,0.8s,baz=222,slow=5.2,SNR=17						
PDAR	Pinedale Array	93.84	44	P	P	09 42 07.2	-0.8
	0.8nm,0.8s,baz=193,slow=2.6,SNR=8.1						
MK32	Makanchi Array	113.68	312	ePKiKP	PKiKP	09 47 23.5	-2.4
MKAR	Makanchi Array	113.68	312	PKiKP	PKiKP	09 47 23.5	-2.4
	0.2nm,0.5s,baz=162,slow=0.5,SNR=4.3						
ARA0	ARCESS Array S	133.82	348	ePKPdf	PKPdf	09 48 02.7	-1.1
ARCES	ARCESS Array B	133.82	348	PKhKP	PKPpre	09 47 53.8	
	3.7nm,0.9s,baz=40,slow=2.1,SNR=6.2						
ARCES				PKP	PKPdf	09 48 02.7	-1.1
	1.9nm,0.5s,baz=48,slow=1.3,SNR=9.7						
ARE0	ARCESS Array S	133.82	348	ePKPdf	PKPdf	09 48 03.9	+0.2
KTK1	Kautokeino	134.69	349	ePdif	Pdif	09 45 09.0	0.0
TRO	Tromso	134.82	351	ePdif	Pdif	09 45 09.8	+0.2
FIA0	FINESS Array S	140.36	341	ePKPpre	PKPpre	09 48 06.5	
FIA0				ePKPdf	PKPdf	09 48 16.6	+0.7
FINES	FINESS Array B	140.36	341	PKhKP	PKPpre	09 48 06.5	
	1.7nm,0.6s,baz=55,slow=5.1,SNR=5.9						
FINES				PKP	PKPdf	09 48 16.6	+0.7
	0.7nm,0.4s,baz=90,slow=1.4,SNR=4.1						
NSS	Namsos	140.56	352	ePdif	Pdif	09 45 35.1	-0.1
DOMB	Dombas	143.31	353	ePdif	Pdif	09 45 47.7	+0.2
NC303	NORSAR Array S	143.82	351	ePKPbc	PKPab	09 48 20.4	-0.5
NC405	NORSAR Array S	143.88	351	ePKPbc	PKPab	09 48 20.4	-0.7
NB201	NORSAR Array S	144.00	351	ePKPbc	PKPbc	09 48 20.9	-0.6
NB2	NORSAR Subarra	144.02	351	PKP	PKPbc	09 48 20.3	-1.3
	comp=Z,5.9nm,0.7s,baz=16,slow=3.3						
NB200	NORSAR Array S	144.02	351	ePKPbc	PKPbc	09 48 20.4	-1.2
NOA	NORSAR Array B	144.02	351	PKP	PKPbc	09 48 20.4	-1.2
	comp=Z,2.7nm,0.7s,baz=16,slow=5.0,SNR=36						
NAO01	NORSAR Array S	144.25	351	ePKPbc	PKPbc	09 48 21.9	-0.5
NC602	NORSAR Array S	144.26	351	ePdif	Pdif	09 45 51.7	
NC602				ePKPbc	PKPbc	09 48 21.4	-0.9
ASK	Askoy	145.19	356	ePKPdf	PKPdf	09 48 24.5	0.0
KONO	Kongsberg	145.58	352	ePKPdf	PKPdf	09 48 25.1	-0.1
ODD1	Odda	145.65	354	ePKPdf	PKPdf	09 48 25.8	+0.4
AKASG	Malin Array Be	146.75	326	PKPbc	PKPdf	09 48 28.4	+0.9
	comp=Z,2.3nm,0.3s,baz=45,slow=4.3,SNR=8.2						
AKBB	Malin Array Si	146.75	326	ePKPdf	PKPdf	09 48 28.4	+0.9
AK11	Malin Array Si	146.79	326	ePKPdf	PKPbc	09 48 29.1	-1.0
SNART	Snartemo	147.14	353	ePKPdf	PKPdf	09 48 28.1	+0.3
BR101	Keskin Array S	148.96	305	ePKPbc	PKPbc	09 48 35.5	-0.7
BRTR	Keskin Array B

ASAR	**Alice Springs**	**59.55**	**186**	P	**P**	09 46 20.6	**-1.4**
	0.9nm,0.5s,baz=16,slow=10,SNR=27						
YKA	**Yellowknife Ar**	**65.47**	**29**	P	**P**	09 47 00.7	**-0.3**
	0.1nm,0.4s,baz=304,slow=7.3,SNR=5.2						
NVAR	**Mina Array Bea**	**76.81**	**52**	P	**P**	09 48 10.7	**+0.6**
	0.7nm,0.7s,baz=289,slow=5.5,SNR=4.8						
PDAR	**Pinedale Array**	**79.46**	**44**	P	**P**	09 48 25.2	**+0.4**
	0.2nm,0.6s,baz=259,slow=1.8,SNR=2.4						

NNC 14 09:47:32.8±1.1, 52°06N×75°38E, h0km, mb3.0, mpv3.8, 3C-6D, Error ellipse: s-maj=27.9km s-min=6.3km az=26.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**2.43**	**122**	⇓Pn	Pn	09 48 14.1	+0.3
	1.3nm,0.4s						
KURK				⇓Sn	Sn	09 48 44.7	+0.5
	11nm,1.0s						
KURBB	**Kurchatov Arra**	**2.44**	**125**	⇓Pn	Pn	09 48 15.7	+1.8
	4.4nm,1.0s,baz=306,slow=17						
KURBB				⇑Sn	Sn	09 48 45.0	+0.6
	25nm,0.7s,baz=309,slow=26						
BVA0	**Borovoye Array**	**3.20**	**290**	⇓Pg	Pb	09 48 31.1	+0.6
	2.6nm,1.1s						
BVA0				⇑Lg	Lg	09 49 15.5	
	5.6nm,0.8s,baz=110,slow=27,SNR=7.8						
BRVK	**Borovoye**	**3.27**	**290**	⇓Pg	Pb	09 48 30.4	-1.3
	16μm,0.1s						
BRVK				⇓Lg	Lg	09 49 18.3	
	8.5nm,0.9s						
MK31	**Makanchi Array**	**6.93**	**137**	⇑Lg	Lg	09 51 14.8	
	4.5nm,0.9s,baz=326,slow=25,SNR=5.0						

MEX 14 09:57:08.6±0.7, 15°24N×93°06W, h94km±6km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.49**	**341**	*i* P	Pn	09 57 22.5	-1.2
PCIG				*i* S	Sn	09 57 33.2	-1.7
THIG		**0.83**	**113**	*e*P	Pn	09 57 25.2	-1.6
THIG				*i* S	Sn	09 57 38.8	-1.7
CCIG	**Comitan**	**1.36**	**40**	*i* P	Pn	09 57 31.7	-1.3
CCIG				*i* S	Sn	09 57 49.7	-1.8
TGIG		**1.53**	**358**	*e*P	Pn	09 57 34.1	-0.9
TGIG				*i* S	Sn	09 57 52.8	-2.2

IDC 14 10:00:32.5±2.0, 10°00S×161°65E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/32, mbtmp3.6/3, Error ellipse: s-maj=52.3km s-min=30.6km az=147.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.77**	**288**	Pn	Pn	10 01 04.7	+0.3
	33nm,0.3s,baz=317,slow=3.2,SNR=13						
HNR				Sn	Sn	10 01 22.8	-4.9
	182nm,0.3s,baz=177,slow=12,SNR=17						
HNR	**Honiara**	**1.77**	**288**	*e*P	Pg	10 01 07.0	+0.5
HNR				*e*S	Sn	10 01 22.0	-5.7
WRA	**Warramunga Arr**	**28.13**	**246**	P	P	10 06 26.9	+0.3
	0.6nm,0.5s,baz=75,slow=9.2,SNR=8.1						
ASAR	**Alice Springs**	**29.76**	**239**	P	P	10 06 40.4	-0.6
	0.6nm,0.9s,baz=62,slow=7.0,SNR=4.1						
ILAR	**Eielson Array**	**83.85**	**20**	P	P	10 13 03.7	0.0
	0.2nm,0.5s,baz=258,slow=5.6,SNR=4.1						

*NNC **14** 10:05:41.4±2.6, 53°.30N×87°.66E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=19.2km s-min=15.9km az=35.0, Suspected Mining explosion.*

KRAR 14 10:05:37.9±0.3, 53.59N×87°.77E, M2.7, 9C-3D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**6.32**	**247**	⇑Pn	Pn	10 07 13.4	+1.2
	1.4nm,0.8s						
KURK				⇑Sn	Sn	10 08 24.7	-0.4
	1.3nm,0.5s						
KURK				⇑Lg	Lg	10 08 54.9	
	5.9nm,0.7s						
KURBB	**Kurchatov Arra**	**6.42**	**246**	⇓Pn	Pn	10 07 14.2	+0.6
	1.7nm,0.3s						
KURBB				⇑Sn	Sn	10 08 29.4	+1.8
	4.1nm,0.5s						
KURBB				⇑Lg	Lg	10 08 57.9	
	4.7nm,0.3s						
MK31	**Makanchi Array**	**7.66**	**210**	⇑Pn	Pn	10 07 31.6	+1.0
	0.2nm,0.3s,baz=29,slow=13,SNR=22						
MK31				⇑Sn	Sn	10 08 54.7	-3.4
	0.5nm,0.6s,baz=28,slow=20,SNR=3.8						
MK31				⇓Lg	Lg	10 09 36.1	
	1.3nm,0.7s,baz=34,slow=30,SNR=4.5						
MAKZ	**Makanchi**	**7.74**	**211**	⇑Pn	Pn	10 07 30.2	-1.5
	0.7nm,0.5s						
MAKZ				⇑Sn	Sn	10 08 59.0	-1.0
	1.4nm,0.8s						
MAKZ				⇓Lg	Lg	10 09 37.8	
	3.2nm,1.0s						

WEL 14 10:06:35.4, 44°S±4°×16°9E±°, h5km, ML3.9/19, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCZ	**Jackson Bay**	**0.22**	**49**	P	Pg	10 06 41.2	+1.5
JCZ				S	Sg	10 06 45.2	+2.6
MSZ	**Milford Sound**	**0.64**	**224**	P	Pg	10 06 46.3	-1.4
MSZ				S	Sg	10 06 54.6	-1.5
WKZ	**Wanaka**	**0.69**	**152**	P	Pb	10 06 50.0	0.0
WKZ				S	Sb	10 06 59.6	-0.3
FOZ	**Fox Glacier**	**1.14**	**53**	P	Pg	10 06 57.3	+0.1
FOZ				S	Sn	10 07 14.3	+0.4
EAZ	**Earnscleugh**	**1.15**	**152**	P	Pn	10 06 58.1	0.0
EAZ				S	Sb	10 07 13.1	+0.3
LBZ	**Lake Benmore**	**1.18**	**99**	P	Pn	10 06 59.3	+0.7
LBZ				S	Sn	10 07 16.0	+1.0
MLZ	**Mavora Lakes**	**1.19**	**195**	P	Pg	10 06 56.9	-1.3
DCZ	**Deep Cove**	**1.60**	**218**	P	Pn	10 07 03.1	-1.2
DCZ				S	Sn	10 07 24.1	-1.1
ODZ	**Otahua Downs**	**1.71**	**120**	P	Pb	10 07 06.6	-0.6
ODZ				S	Sg	10 07 31.7	+1.6
WHZ	**Wether Hill Ro**	**1.73**	**194**	P	Pn	10 07 05.9	-0.2
RPZ	**Rata Peaks**	**1.87**	**75**	P	Pn	10 07 09.0	+0.9
TUZ	**Tuapeka**	**1.90**	**157**	P	Pn	10 07 09.1	+0.8
WVZ	**Waitaha Valley**	**1.95**	**55**	P	Pn	10 07 08.2	-1.0
HHSZ	**Highcliff Hill**	**2.21**	**140**	P	Pn	10 07 13.8	+1.1
SYZ	**Scrubby Hill**	**2.35**	**170**	P	Pn	10 07 15.5	+0.8
PYZ	**Puysegur Point**	**2.36**	**214**	P	Pn	10 07 15.8	+1.1
INZ	**Inchbonnie**	**2.58**	**56**	P	Pn	10 07 16.9	-0.8
APZ	**The Paps**	**2.65**	**188**	P	Pn	10 07 19.3	+0.6
OXZ	**Oxford**	**2.67**	**72**	P	Pn	10 07 18.6	-0.5
MQZ	**McQueen's Vall**	**3.00**	**82**	P	Pn	10 07 23.3	-0.2
CRLZ	**Canterbury Las**	**3.01**	**79**	P	Pn	10 07 23.5	-0.1
LTZ	**Lake Taylor**	**3.06**	**63**	P	Pn	10 07 24.4	0.0
AMCZ	**Amberley**	**3.15**	**72**	P	Pn	10 07 25.6	0.0
DSZ	**Denniston Nort**	**3.43**	**45**	P	Pn	10 07 28.2	-1.3
THZ	**Tophouse**	**4.03**	**54**	P	Pn	10 07 37.6	-0.1
QRZ	**Quartz Range**	**4.48**	**42**	P	Pn	10 07 43.0	-0.9
BSWZ	**Blackbirch Sta**	**4.64**	**59**	P	Pn	10 07 48.5	+2.5
NNZ	**Nelson**	**4.65**	**51**	P	Pn	10 07 46.2	0.0
CMWZ	**Cape Campbell**	**4.83**	**61**	P	Pn	10 07 53.9	+5.3
TUWZ	**Tuamarina**	**4.84**	**57**	P	Pn	10 07 50.4	+1.5
TCW	**Tory Channel**	**5.17**	**56**	P	Pn	10 07 55.0	+1.5
DUWZ	**D'Urville Isla**	**5.23**	**51**	P	Pn	10 07 54.7	+0.5
BHW	**Baring Head**	**5.43**	**61**	P	Pn	10 07 57.1	+0.2
MSWZ	**Moikau Station**	**5.66**	**63**	P	Pn	10 07 59.3	-0.8
CAW	**Cannon Point**	**5.72**	**59**	P	Pn	10 07 59.8	-1.1
KIW	**Kapiti Island**	**5.77**	**57**	P	Pn	10 08 02.5	+0.9
OGWZ	**Otaki Gorge**	**5.95**	**57**	P	Pn	10 08 06.6	+2.5
MTW	**Mount Morrison**	**5.96**	**62**	P	Pn	10 08 03.1	-1.1
HOWZ	**Holdsworth Sta**	**6.12**	**60**	P	Pn	10 08 11.9	+5.5
MRZ	**Mangatainoka R**	**6.29**	**58**	P	Pn	10 08 13.7	+4.9
NBEZ	**Newall Road No**	**6.34**	**41**	P	Pn	10 08 08.7	-0.8
KHEZ	**Kahui Hut**	**6.39**	**42**	P	Pn	10 08 09.7	-0.5
PREZ	**Palmer Road**	**6.42**	**43**	P	Pn	10 08 10.7	+0.1
PKE	**Pukeiti**	**6.46**	**41**	P	Pn	10 08 10.6	-0.5
WAZ	**Wanganui**	**6.54**	**49**	P	Pn	10 08 13.3	+1.0
VRZ	**Vera Road**	**6.89**	**44**	P	Pn	10 08 17.2	+0.3
TSZ	**Takapari Road**	**6.89**	**55**	P	Pn	10 08 17.8	+0.7
WTVZ	**West Tongariro**	**7.33**	**48**	P	Pn	10 08 24.6	+1.5
KRVZ	**Karewarewa**	**7.37**	**48**	P	Pn	10 08 25.1	+1.5
HIZ	**Hauiti**	**7.41**	**42**	P	Pn	10 08 23.3	-0.8
RATZ	**Rangitukua**	**7.61**	**48**	P	Pn	10 08 28.3	+1.4
BKZ	**Black Stump Fm**	**7.79**	**52**	P	Pn	10 08 31.7	+2.3
TOZ	**Tahuroa Road**	**8.34**	**41**	P	Pn	10 08 35.8	-1.0

MAN 14 10:06:58.2, 6°74N×126°05E, h23km, mb4.3, ML3.1, MS2.8, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.29**	**46**	*e*P	Pn	10 07 06.1	-1.0
MATI				*e*S	Sn	10 07 14.4	+1.7
DDMP	**Don Marcelino,**	**0.72**	**208**	*e*P	Pb	10 07 11.5	-0.5
DDMP				*e*S	Sb	10 07 21.9	+0.5
BUKP	**Musuan**	**1.49**	**319**	*e*P	Pn	10 07 23.3	-0.3
BUKP				*e*S	Sn	10 07 42.9	+0.5
SKMP	**Bagumbayan, Su**	**1.51**	**262**	*e*P	Pn	10 07 23.6	-0.2

*NIED **14** 10:12:00, 38°.90N×142°.50E, h44km, Mw4.0 Best double couple: M0 1.07000×10^15 NP1:φs=8.00000°, δ29.00000°, λ88.00000°. NP2:φs=190.00000°, δ61.00000°, λ91.00000°.*
*ISCJB **14** 10:12:13.6±1.0, 38°.94N±0°.04×142°.54E±0°.09, h46km±9km, mb3.9/11, MS3.0/4, Error ellipse: s-maj=12.2km s-min=5.7km az=18.8*
*JMA **14** 10:12:14.0±0.1, 38°.96N×142°.51E, h41km±1km, M4.1*
JMA Felt I J1.
*IDC **14** 10:12:16.7±2.9, 38°.90N×142°.42E, h62km±26km, mb3.6/11, mb1 3.9/13, mb1mx3.6/42, mbtmp3.9/13, ML3.8/2, MS2.8/10, Ms1 2.9/10, ms1mx2.7/41, Error ellipse: s-maj=23.0km s-min=14.7km az=111.0*

ISC 14 10:12:13.5±1.7, 38°.99N±0°.04×142°.50E±0°.07, h30km±11km, n33, σ1°.26/41, mb3.9/11, MS3.0/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.65**	**278**	P	**Pn**	**10 12 27.1**	**+0.4**
OFUJ				S	**Sn**	**10 12 36.3**	**+0.3**
MIYJ	**Miyakonagasawa**	**0.79**	**318**	P	**Pn**	**10 12 29.0**	**+0.4**
MIYJ				S	**Sn**	**10 12 39.5**	**+0.1**
JKMT	**Kesennumamotoy**	**0.82**	**258**	P	**Pn**	**10 12 29.2**	**+0.2**
JKMT				S	**Sn**	**10 12 39.8**	**-0.3**
JMK	**Ichinoseki**	**1.00**	**268**	P	**Pb**	**10 12 32.0**	**-0.1**
JMK				S	**Sn**	**10 12 44.9**	**+0.4**
JIO	**Ouri**	**1.04**	**240**	P	**Pn**	**10 12 32.0**	**-0.1**
JIO				S	**Sb**	**10 12 45.0**	**-1.3**
JOM	**Ohasama**	**1.05**	**298**	P	**Pb**	**10 12 33.1**	**0.0**
JOM				*e*S	**Sn**	**10 12 46.9**	**+1.0**
JTH	**Tanohata**	**1.07**	**333**	P	**Pb**	**10 12 33.3**	**-0.1**
JTH				S	**Sb**	**10 12 47.5**	**+0.5**
JKZ	**Kuzumaki**	**1.34**	**318**	P	**Pb**	**10 12 37.5**	**-0.6**
JKZ				*e*S	**Sb**	**10 12 54.7**	**-0.2**
JRG	**Rokugo**	**1.50**	**286**	P	**Pb**	**10 12 39.6**	**-1.1**
JRG				*e*S	**Sb**	**10 12 59.6**	**+0.2**
JOU	**Okura**	**1.56**	**247**	P	**Pn**	**10 12 39.8**	**+0.5**
JOU				*e*S	**Sn**	**10 12 59.2**	**+0.6**
JANG	**Nango**	**1.58**	**332**	P	**Pn**	**10 12 40.1**	**+0.7**
JYK	**Kaneyama**	**1.67**	**268**	P	**Pn**	**10 12 41.7**	**+1.0**
JMM	**Marumori**	**1.75**	**231**	P	**Pn**	**10 12 41.7**	**-0.1**
JMM				*e*S	**Sn**	**10 13 02.9**	**-0.1**
MAT	**Matsushiro**	**4.18**	**236**	P	**Pn**	**10 13 17.7**	**+2.4**
MAT				*e*S	**Sn**	**10 14 08.4**	**+5.2**
MJAR	**Matsushiro Arr**	**4.18**	**236**	P	**Pn**	**10 13 17.9**	**+2.6**
	10.0nm,0.3s,baz=37,slow=12,SNR=59						
MJAR				LR	LR	10 15 08.1	
	comp=Z,155nm,18.7s,baz=20,slow=42						
ASAJ	**Asahikawa**	**5.12**	**1**	P	**Pn**	**10 13 30.5**	**+2.3**
	1.9nm,0.3s,baz=192,slow=12,SNR=30						
ASAJ				S	**Sn**	**10 14 25.5**	**-0.8**
	2.0nm,0.3s,baz=258,slow=19,SNR=2.4						
ASAJ				LR	LR	10 15 18.1	
	comp=Z,16nm,20.6s,baz=179,slow=35						
USRK	**Ussuriysk Ar.**	**9.43**	**307**	P	Pn	10 14 32.6	+5.3
	0.5nm,0.3s,baz=120,slow=15,SNR=6.6						
USRK				LR	LR	10 17 52.9	
	comp=Z,70nm,21.4s,baz=90,slow=36						
KSRS	**Korea Array**	**11.57**	**267**	P	Pn	10 15 02.4	+5.8
	0.2nm,0.3s,baz=83,slow=14,SNR=5.0						
KSRS				LR	LR	10 18 53.2	
	comp=Z,52nm,19.4s,baz=88,slow=34						
KLR	**Kul'dur**	**12.81**	**327**	P	**P**	**10 15 24.1**	**0.0**
	0.5nm,0.3s,baz=152,slow=12,SNR=13						
KLR				LR	LR	10 19 50.9	
	comp=Z,48nm,20.6s,baz=138,slow=35						
PETK	**Petropavlovsk-**	**17.57**	**32**	LR	LR	10 22 26.7	
	comp=Z,20nm,20.8s,baz=140,slow=34						
DAV	**Davao City (W)**	**35.25**	**210**	LR	LR	10 32 48.7	
	comp=Z,10nm,19.7s,baz=178,slow=35						
ZALV	**Zalesovo Beam**	**41.26**	**311**	P	**P**	**10 19 55.4**	**-0.3**
	1.0nm,0.4s,baz=100,slow=9.4,SNR=3.8						
CMAR	**Chiang Mai Arr**	**42.84**	**254**	LR	LR	10 37 34.0	
	comp=Z,13nm,20.3s,baz=205,slow=36						
MKAR	**Makanchi Array**	**43.83**	**301**	P	**P**	**10 20 16.3**	**-0.5**
	2.3nm,0.9s,baz=79,slow=9.8,SNR=13						
ILAR	**Eielson Array**	**47.39**	**33**	P	**P**	**10 20 45.0**	**+0.4**
	1.8nm,0.7s,baz=264,slow=6.1,SNR=24						
INK	**Inuvik**	**52.26**	**28**	P	**P**	**10 21 22.5**	**+1.0**
	0.7nm,0.5s,baz=306,slow=6.6,SNR=9.2						
WRA	**Warramunga Arr**	**59.12**	**189**	P	**P**	**10 22 09.5**	**-1.7**
	2.4nm,0.4s,baz=6.8,slow=7.0,SNR=46						
YKA	**Yellowknife Ar**	**61.69**	**31**	P	**P**	**10 22 28.5**	**+0.1**
	0.4nm,0.5s,baz=299,slow=6.7,SNR=10						
ASAR	**Alice Springs**	**62.84**	**189**	P	**P**	**10 22 35.4**	**-1.2**
	0.8nm,0.6s,baz=16,slow=11,SNR=18						
ASAR				LR	LR	10 49 45.5	
	comp=Z,26nm,18.1s,baz=122,slow=36						
NOA	**NORSAR Array B**	**72.71**	**337**	P	**P**	**10 23 38.2**	**-0.2**
	0.6nm,0.7s,baz=37,slow=6.1,SNR=2.8						
NOA				LR	LR	11 00 26.1	
	comp=Z,14nm,18.6s,baz=240,slow=40						
PDAR	**Pinedale Array**	**75.69**	**46**	P	**P**	**10 23 56.1**	**-0.1**
	0.4nm,0.6s,baz=215,slow=1.2,SNR=4.8						
BRTR	**Keskin Array B**	**78.19**	**312**	P	**P**	**10 24 09.6**	**-0.7**
	0.3nm,0.5s,baz=54,slow=2.2,SNR=3.7						
TXAR	**Lajitas Array**	**88.26**	**53**	P	**P**	**10 25 02.3**	**0.0**
	0.4nm,0.6s,baz=328,slow=3.2,SNR=3.3						

IDC 14 10:21:10.1±3.3, 4°04S×152°55E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/29, mbtmp3.8/3, MS2.6/1, Ms1 2.6/1, ms1mx2.3/27, Error ellipse: s-maj=129.7km s-min=45.4km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**9.09**	**126**	LR	LR	10 26 44.7	
	comp=Z,45nm,21.9s,baz=241,slow=37						
WRA	**Warramunga Arr**	**23.77**	**227**	P	P	10 26 24.8	+0.1
	1.0nm,0.5s,baz=51,slow=9.9,SNR=12						
ASAR	**Alice Springs**	**26.55**	**221**	P	P	10 26 49.8	-0.2
	0.3nm,0.3s,baz=55,slow=8.9,SNR=4.1						
FITZ	**Fitzroy Crossi**	**29.81**	**240**	P	P	10 27 19.8	+0.7
	2.9nm,1.0s,baz=52,slow=12,SNR=3.2						
TORD	**Torodi Ar. Bea**	**149.83**	**289**	PKPbc	PKPbc	10 41 02.4	-1.0
	0.2nm,0.3s,baz=88,slow=2.2,SNR=3.9						

IDC 14 10:34:24.5±4.8, 17°02S×174°24W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/28, mbtmp4.1/3, MS4.1/2, Ms1 4.1/2, ms1mx3.0/32, Error ellipse: s-maj=177.8km s-min=97.3km az=157.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**14.29**	**109**	LR	LR	10 42 11.8	
	comp=Z,499nm,20.0s,baz=266,slow=33						
STKA	**Stephens Creek**	**42.54**	**241**	P	P	10 42 22.9	+0.7
	1.8nm,0.8s,baz=72,slow=9.6,SNR=4.1						
WRA	**Warramunga Arr**	**48.71**	**258**	P	P	10 43 10.7	-0.5
	0.7nm,0.4s,baz=97,slow=7.0,SNR=28						
ASAR	**Alice Springs**	**48.86**	**253**	P	P	10 43 11.9	-0.4
	4.4nm,1.0s,baz=93,slow=7.6,SNR=50						
ASAR				PcP	PcP	10 44 36.8	-0.2
	0.2nm,0.5s,baz=94,slow=3.7,SNR=4.1						
SONM	**Songino Array**	**95.51**	**318**	LR	LR	11 27 31.9	
	comp=Z,115nm,19.3s,baz=117,slow=33						

*ISK **14** 10:34:31.3, 38°.87N×43°.48E, h25km, ML2.0/3*
*DDA **14** 10:34:32.9, 38°.90N×43°.48E, h7km±3km, ML2.5*

ISC 14 10:34:31.5±1.0, 38°.85N±0°.05×43°.51E±0°.06, h24km±9km, n9, σ0°.64/16, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.15**	**18**	IAML_P			
	comp=Z,5μm,0.1s						
VMUR				*i* P	**Pb**	**10 34 36.8**	**+0.2**
VMUR				*i* S	**Sb**	**10 34 39.5**	**-0.6**
VANB	**Van**	**0.27**	**201**	PG	**Pn**	**10 34 39.8**	**-0.3**
VANB				SG	**Sn**	**10 34 45.9**	**+0.4**
TVAN	**Van**	**0.33**	**195**	IAML_P			
	comp=Z,2μm,0.1s						
TVAN				*i* P	**Pn**	**10 34 40.1**	**-0.9**
TVAN				*i* S	**Sn**	**10 34 47.8**	**+0.6**
CLDR	**Caldiran**	**0.43**	**47**	PG	**Pb**	**10 34 40.9**	**+0.2**
CLDR				SG	**Sb**	**10 34 48.1**	**+1.2**
CLDR	**Caldiran**	**0.43**	**47**	IAML_P			
	comp=Z,1μm,0.1s						
CLDR				*i* P	**Pb**	**10 34 41.1**	**+0.5**
CLDR				*i* S	**Sn**	**10 34 48.9**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.62**	**267**	IAML_P			
	comp=Z,411nm,0.1s						
ADCV				*i* P	**Pn**	**10 34 45.0**	**+0.1**
ADCV				*i* S	**Sn**	**10 34 54.2**	**0.0**
AKDM	**Akdamar-Van**	**0.67**	**219**	PG	**Pn**	**10 34 45.1**	**-0.5**
AKDM				SG	**Sn**	**10 34 55.3**	**-0.1**
TUTA	**Tutak**	**0.78**	**316**	IAML_P			
	comp=Z,736nm,0.1s						
TUTA				*i* P	**Pn**	**10 34 46.9**	**-0.3**
MLAZ	**Malazgirt-MUS**	**0.81**	**292**	PG	**Pn**	**10 34 47.0**	**-0.5**

IDC 14 10:57:35.9±2.3, 3°99N×126°07E, h0km, mb3.2/2, mb1 3.4/2, mb1mx3.2/40, mbtmp3.2/2, Error ellipse: s-maj=206.3km s-min=25.9km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.14**	**161**	P	P	11 03 03.1	+0.3
	0.3nm,0.4s,baz=340,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**28.54**	**165**	P	P	11 03 33.0	-0.4
	5.0nm,0.3s,baz=337,slow=7.4,SNR=3.8						
MKAR	**Makanchi Array**	**56.96**	**325**	P	P	11 07 23.2	+0.1
	0.3nm,0.7s,baz=121,slow=8.0,SNR=3.0						

*MAN **14** 11:03:26.3, 14°.99N×119°.57E, h14km, mb5.7, ML4.7, MS5.0*
MAN INTENSITY II - PASAY CITY.
*ISCJB **14** 11:03:30.5±0.3, 15°.01N±0°.02×119°.91E±0°.03, h69km±3km, mb4.6/101, Error ellipse: s-maj=4.7km s-min=3.1km az=172.0*
*IDC **14** 11:03:30.2±2.0, 14°.99N×119°.93E, h49km±19km, mb4.2/23, mb1 4.4/23, mb1mx4.3/35, mbtmp4.4/23, MS3.8/13, Ms1 3.8/13, ms1mx3.5/44, Error ellipse: s-maj=18.7km s-min=10.2km az=77.0*
*NEIC **14** 11:03:30.6±0.4, 14°.93N×119°.39E, h60km±3km, mb4.8/72, Error ellipse: s-maj=3.3km s-min=2.3km az=87.0*
NEIC Felt [II PIVS] at Pasay. Also felt at Cabangan, Morong and Subic.
*BJI **14** 11:03:31.5, 15°.14N×119°.85E, h49km, mb4.5/40, mB4.9/34, Ms4.4/34, Ms7 4.3/33*

ISC 14 11:03:30.7±0.6, 15°.00N±0°.03×119°.85E±0°.04, h52km±5km, n238, σ1°.74/245, mb4.8/104, MS4.1/18, 3D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**0.77**	**4**	*e*P	**Pn**	**11 03 42.4**	**-3.1**
SCZP				*e*S	**Sn**	**11 03 54.0**	**-2.3**
PCPH	**Palayan**	**1.33**	**65**	⇓*e*P	**Pn**	**11 03 51.2**	**-1.7**
PCPH				*e*S	**Sn**	**11 04 12.8**	**+3.4**
BOLP	**Bolinao**	**1.37**	**3**	*e*P	**Pn**	**11 03 50.9**	**-2.7**
BOLP				*e*S	**Sn**	**11 04 08.2**	**-2.4**
TGY	**Tagaytay City**	**1.38**	**130**	P	**Pn**	**11 03 53.9**	**+0.2**
	1μm,0.3s,baz=349,slow=1.1,SNR=72						
TGY				S	**Sn**	**11 04 14.5**	**+3.5**
	1μm,0.3s,baz=255,slow=17,SNR=9.3						
TGY	**Tagaytay City**	**1.38**	**130**	*e*P	**Pn**	**11 03 53.1**	**-0.6**
TGY				*i* S	**Sn**	**11 04 15.5**	**+4.6**
SMPP	**San Manuel, Pa**	**1.40**	**35**	*e*P	**Pn**	**11 03 52.0**	**-1.9**
SMPP				*e*S	**Sn**	**11 04 09.9**	**-1.3**
BALP	**Baler**	**1.82**	**66**	*e*P	**Pn**	**11 03 59.5**	**-0.1**
POLP	**Polilio Island**	**2.04**	**97**	*e*P	**Pn**	**11 04 03.9**	**+1.3**
BOAC	**Boac**	**2.47**	**128**	*e*P	**Pn**	**11 04 08.8**	**+0.3**
BOAC				*e*S	**Sn**	**11 04 45.1**	**+7.7**
CAUP	**Cauayan**	**2.71**	**44**	*e*P	**Pn**	**11 04 13.7**	**+1.9**
CAUP				*e*S	Sn	11 04 59.3	+16
GQP	**Guinayangan**	**2.74**	**113**	⇓*e*P	**Pn**	**11 04 13.2**	**+1.0**
ABRA	**Dolores**	**2.76**	**17**	*e*P	**Pn**	**11 04 12.4**	**-0.1**
ABRA				*e*S	**Sn**	**11 04 47.8**	**+3.2**
SJMP	**San Jose**	**2.81**	**154**	*e*P	**Pn**	**11 04 14.1**	**+1.0**
SJMP				*e*S	Sn	11 04 56.6	+11
SJMP	**San Jose**	**2.81**	**154**	*e*P	**Pn**	**11 04 14.2**	**+1.0**
SJMP				*e*S	Sn	11 04 56.6	+11
BUSP	**Coron**	**3.00**	**173**	*e*P	**Pn**	**11 04 14.1**	**-1.

NJ2	**Nanjing**	**17.00**	**357**	*e*P	**P**	**11 07 27.1**	**+1.0**	
NJ2				pmax	pmax			
	comp=Z,13nm,0.6s							
SRAK	**Srakaew**	**17.27**	**269**	P	**Pn**	**11 07 23.0**	**-5.3**	
TTSI	**Tana Toraja**	**17.93**	**180**	P	**P**	**11 07 37.8**	**+1.3**	
ENH	**Enshi**	**17.94**	**330**	*e*P	**P**	**11 07 36.6**	**0.0**	
	16nm,1.0s							
SANI	**Sanana**	**18.00**	**160**	P	**Pn**	**11 07 36.9**	**-0.4**	
PBKT	**Sadao Pong**	**18.23**	**277**	*e*P	**Pn**	**11 07 40.2**	**+0.1**	
	14nm,1.1s							
PBKT	**Sadao Pong**	**18.23**	**277**	P	**Pn**	**11 07 43.8**	**+3.6**	
	8.7nm,1.2s,1µm							
KBKI	**Kotabaru**	**18.55**	**192**	P	**Pn**	**11 07 45.9**	**+2.0**	
KMI	**Kunming**	**18.95**	**305**	P	**Pn**	**11 07 51.0**	**+2.1**	
KMI				pP	pP	11 07 58.3	-0.6	
KMI				S	**S**	**11 11 24.3**	**+3.7**	
KMI				pmax	pmax			
	comp=Z,12nm,0.5s							
KMI				pmax	pmax			
	comp=Z,180nm,5.3s							
KMI				LR	LR			
	comp=N,410nm,13.2s							
KMI				LR	LR			
	comp=E,470nm,15.1s							
KMI				LR	LR			
	comp=Z,600nm,13.8s							
SIJI	**Sorong**	**19.40**	**143**	LR	LR	11 15 53.5		
	comp=Z,204nm,21.3s,baz=326,slow=38							
UTHA	**Uthaitani**	**19.69**	**274**	P	**Pn**	**11 08 00.2**	**+2.6**	
	3.4nm,0.8s,81nm							
UMPA	**Umpang Tak**	**20.25**	**276**	P	Pn	11 08 08.7	+4.4	
	4.2nm,1.2s,2µm							
CM01	**Chiang Mai Arr**	**20.29**	**283**	*e*P	**P**	**11 08 02.5**	**+0.2**	
CM31	**Chiang Mai Arr**	**20.31**	**283**	*e*P	**P**	**11 08 02.8**	**+0.2**	
CMAR	**Chiang Mai Arr**	**20.31**	**283**	P	**P**	**11 08 03.7**	**+1.1**	
	8.2nm,0.8s,baz=97,slow=9.2,SNR=51							
CMAR				PcP	**PcP**	**11 12 15.8**	**+1.3**	
	1.1nm,0.4s,baz=3.8,slow=1.0,SNR=5.8							
CHTO	**Chiang Mai**	**20.35**	**284**	*e*P	**P**	**11 08 03.0**	**0.0**	
	6.3nm,1.0s							
CHTO	**Chiang Mai**	**20.35**	**284**	P	Pn	11 08 04.4	-1.1	
	28nm,1.0s							
MYKOM	**Kota Tinggi**	**20.54**	**232**	*e*P	**P**	**11 08 04.7**	**-0.3**	
	43nm,1.1s							
TRTT	**Trang**	**20.99**	**252**	P	Pn	11 08 21.9	+8.9	
	12nm,1.1s							
KULM	**Kulim**	**21.20**	**245**	*e*P	**P**	**11 08 12.6**	**+0.4**	
	36nm,1.1s							
IPM	**Ipoh**	**21.27**	**242**	*e*P	**P**	**11 08 12.0**	**-1.0**	
	24nm,0.7s							
XAN	**Xi'an**	**21.37**	**334**	P	**P**	**11 08 16.8**	**+2.9**	
XAN				pP	pwP	11 08 28.5	+0.2	
XAN				S	S	11 11 54.8	-14	
XAN				pmax	pmax			
	comp=Z,13nm,0.8s							
XAN				LR	LR			
	comp=N,530nm,11.3s							
XAN				LR	LR			
	comp=E,360nm,16.2s							
XAN				LR	LR			
	comp=Z,520nm,15.1s							
XAN	**Xi'an**	**21.37**	**334**	*e*P	**P**	**11 08 14.7**	**+0.8**	
	10.0nm,0.8s							
FAKI	**Fak Fak**	**21.63**	**144**	*e*P	**P**	**11 08 15.5**	**-1.2**	
	17nm,0.8s							
CD2	**Chengdu**	**21.64**	**320**	P	**P**	**11 08 19.0**	**+2.2**	
CD2				pP	pwP	11 08 30.4	-0.8	
CD2				sP	sP	11 08 36.9	+2.6	
CD2				pmax	pmax			
	comp=Z,20nm,0.6s							
CD2				pmax	pmax			
	comp=Z,140nm,5.0s							
CD2				LR	LR			
	comp=N,880nm,13.5s							
CD2				LR	LR			
	comp=E,850nm,11.5s							
CD2				LR	LR			
	comp=Z,1µm,13.1s							
RKPI	**Ransiki, Papua**	**21.68**	**138**	P	**P**	**11 08 18.4**	**+1.1**	
KS15	**Wonju Array Si**	**23.46**	**16**	*e*P	**P**	**11 08 34.5**	**-1.1**	
KSAR	**Wonju Array Be**	**23.46**	**16**	P	**P**	**11 08 34.6**	**-0.9**	
KSRS	**Korea Array**	**23.48**	**16**	P	**P**	**11 08 34.6**	**-1.1**	
	5.6nm,0.7s,baz=200,slow=11,SNR=10							
KS01	**Wonju Array Si**	**23.50**	**16**	*e*P	**P**	**11 08 35.2**	**-0.8**	
MMRI	**Maumere**	**23.60**	**174**	*e*P	**P**	**11 08 36.4**	**-0.7**	
	98nm,0.9s							
EDFI	**Ende, Flores**	**23.67**	**175**	P	**P**	**11 08 38.9**	**+1.1**	
	283nm,0.7s,2µm							
PLAI	**Plampang**	**23.76**	**185**	P	**P**	**11 08 39.6**	**+1.0**	
	162nm,1.2s,2µm							
PSI	**Prapat**	**23.93**	**242**	LR	LR	11 17 33.0		
	comp=Z,158nm,18.9s,baz=58,slow=35							
PSI	**Prapat**	**23.93**	**242**	*e*P	**P**	**11 08 41.1**	**+0.8**	
	26nm,0.9s							
PWJI	**Pagerwojo**	**24.23**	**200**	P	P	11 08 57.1	+14	
GUMO	**Guam**	**24.28**	**90**	LR	LR	11 17 48.5		
	comp=Z,235nm,19.1s,baz=13,slow=36							
MNSI	**Mandailing Nat**	**24.50**	**237**	P	**P**	**11 08 52.3**	**+7.0**	
KCSI	**Kotacane, Aceh**	**24.56**	**244**	P	P	11 08 56.3	+10	
MDSI	**Maura Dua**	**24.82**	**220**	P	P	11 09 00.2	+12	
LEM	**Lembang**	**24.85**	**210**	LR	LR	11 19 51.8		
	comp=Z,140nm,19.5s,baz=20,slow=40							
SOEI	**Soe**	**24.98**	**170**	*e*P	**P**	**11 08 49.1**	**-0.7**	
	68nm,0.9s							
SOEI	**Soe**	**24.98**	**170**	P	**P**	**11 08 50.3**	**+0.5**	
	74nm,1.1s							
MASI	**Maura Aman, Be**	**25.08**	**225**	P	**P**	**11 08 53.6**	**+2.9**	
	2µm,1.4s,46µm							
BJT	**Baijiatuau**	**25.13**	**353**	*e*P	**P**	**11 08 51.6**	**+0.8**	
	9.8nm,0.7s							
BJI	**Beijing**	**25.15**	**353**⇓	*e*P	**P**	**11 08 52.8**	**+1.8**	
BJI				pmax	pmax			
	comp=Z,9.0nm,0.8s							
BATI	**Baumata**	**25.33**	**171**	P	**P**	**11 08 52.1**	**-0.8**	
	82nm,0.8s,baz=251,slow=2.2,SNR=9.8							
BATI	**Baumata**	**25.33**	**171**	P	**P**	**11 08 52.8**	**-0.1**	
	47nm,0.9s							
LZH	**Lanzhou**	**25.41**	**329**	*e*P	**P**	**11 08 57.3**	**+3.7**	
LZH				pP	pwP	11 09 08.1	-0.5	
LZH				sP	sP	11 09 13.1	+0.9	
LZH				pmax	pmax			
	comp=Z,27nm,1.1s							
LZH				LR	LR			
	comp=N,900nm,12.5s							
LZH				LR	LR			
	comp=E,830nm,14.6s							
LZH				LR	LR			
	comp=Z,1µm,15.4s							
HHC	**Hu-ho-hao-te**	**26.74**	**346**	*e*P	**P**	**11 09 03.9**	**-1.7**	
HHC				pP	pP	11 09 15.6	-2.7	
HHC				sP	sP	11 09 21.1	-3.3	
HHC				S	**S**	**11 13 36.4**	**-1.4**	
HHC				sS	sS	11 13 56.3	-3.5	
HHC				pmax	pmax			
	comp=Z,14nm,1.0s							
HHC				pmax	pmax			
	comp=Z,220nm,5.5s							
HHC				LR	LR			
	comp=N,1µm,13.0s							
HHC				LR	LR			
	comp=E,1µm,13.8s							
HHC				LR	LR			
	comp=Z,1µm,13.4s							
MAJO	**Matsushiro**	**26.99**	**34**	*e*P	**P**	**11 09 06.6**	**-1.1**	
MJAR	**Matsushiro Arr**	**26.99**	**34**	P	**P**	**11 09 06.6**	**-1.1**	
	1.0nm,0.5s,baz=180,slow=8.5,SNR=4.6							
JAY	**Jayapura**	**27.01**	**128**	LR	LR	11 19 58.2		
	comp=Z,137nm,19.0s,baz=284,slow=37							
GTA	**Gaotai**	**30.00**	**328**	*e*P	**P**	**11 09 35.3**	**+0.6**	
GTA				S	**S**	**11 14 31.8**	**+2.6**	
GTA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
GTA				pmax	pmax			
	comp=Z,120nm,5.2s							
GTA				LR	LR			
	comp=N,350nm,15.1s							
GTA				LR	LR			
	comp=E,440nm,15.8s							
GTA				LR	LR			
	comp=Z,690nm,16.5s							
USRK	**Ussuriysk Ar.**	**30.88**	**17**	P	**P**	**11 09 41.7**	**-0.5**	
	2.1nm,0.7s,baz=189,slow=3.8,SNR=4.6							
FITZ	**Fitzroy Crossi**	**33.38**	**170**	*e*P	**P**	**11 10 03.1**	**-1.2**	
	34nm,1.4s							
SONA0	**Songino Array**	**34.58**	**344**	*e*P	**P**	**11 10 14.3**	**-0.3**	
SONM	**Songino Array**	**34.58**	**344**	P	**P**	**11 10 14.3**	**-0.3**	
	1.9nm,0.7s,baz=168,slow=8.8,SNR=6.0							
SONA1	**Songino Array**	**34.59**	**344**	*e*P	**P**	**11 10 14.8**	**0.0**	
KLR	**Kul'dur**	**35.50**	**13**	P	**P**	**11 10 22.3**	**-0.1**	
	12nm,0.8s,baz=252,slow=5.9,SNR=40							
KLR				LR	LR	11 25 49.3		
	comp=Z,176nm,19.8s,baz=193,slow=38							
MBWA	**Marble Bar**	**35.94**	**180**	*e*P	**P**	**11 10 24.9**	**-1.5**	
	32nm,0.9s							
COEN	**Coen**	**36.88**	**140**	*e*P	**P**	**11 10 31.6**	**-2.9**	
	13nm,0.9s							
WRAB	**Tennant Creek**	**37.53**	**157**	*e*P	**P**	**11 10 37.1**	**-2.9**	
	22nm,0.6s							
WR1	**Warramunga Arr**	**37.54**	**157**	*e*P	**P**	**11 10 37.3**	**-2.7**	
	29nm,0.6s							
WRA	**Warramunga Arr**	**37.54**	**157**	P	**P**	**11 10 37.3**	**-2.7**	
	18nm,0.6s,baz=331,slow=10,SNR=74							
WB2	**Warramunga Arr**	**37.54**	**157**	*e*P	**P**	**11 10 37.3**	**-2.7**	
WC3	**Warramunga Arr**	**37.56**	**157**	*e*P	**P**	**11 10 36.9**	**-3.4**	
	35nm,0.6s							
PALK	**Pallekele**	**39.12**	**263**	LR	LR	11 25 59.7		
	comp=Z,98nm,18.9s,baz=117,slow=34							
WMQ	**Urumqi**	**39.68**	**323**	*e*P	**P**	**11 11 01.3**	**+3.5**	
WMQ				pP	pP	11 11 11.6	+0.8	
WMQ				sP	sP	11 11 19.0	+2.4	
WMQ				pmax	pmax			
	comp=Z,16nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,450nm,5.7s							
WMQ				LR	LR			
	comp=N,1µm,15.3s							
WMQ				LR	LR			
	comp=E,1µm,16.5s							
WMQ				LR	LR			
	comp=Z,710nm,19.7s							
AS31	**Alice Springs**	**40.81**	**160**	*e*P	**P**	**11 11 04.3**	**-3.0**	
	6.5nm,0.5s							
ASAR	**Alice Springs**	**40.81**	**160**	P	**P**	**11 11 05.2**	**-2.2**	
	15nm,0.5s,baz=336,slow=7.0,SNR=203							
CTAO	**Charters Tower**	**43.47**	**143**	*e*P	**P**	**11 11 27.1**	**-2.0**	
	6.9nm,0.8s							
MORW	**Morawa**	**43.97**	**185**	*e*P	**P**	**11 11 30.7**	**-2.2**	
	32nm,1.1s							
MK01	**Makanchi Array**	**44.48**	**323**	*e*P	**P**	**11 11 36.2**	**-0.7**	
MK31	**Makanchi Array**	**44.50**	**323**	*e*P	**P**	**11 11 35.9**	**-1.1**	
MK32	**Makanchi Array**	**44.50**	**323**	*e*P	**P**	**11 11 37.0**	**0.0**	
MKAR	**Makanchi Array**	**44.50**	**323**	P	**P**	**11 11 37.0**	**0.0**	
	1.3nm,0.8s,baz=129,slow=9.7,SNR=12							
MKAR				PcP	**PcP**	**11 13 19.8**	**+0.1**	
	2.9nm,0.7s,baz=116,slow=4.0,SNR=10.0							
MKAR	**Makanchi Array**	**44.50**	**323**	*e*P	**P**	**11 11 37.1**	**+0.1**	
	19nm,0.9s							
MAKZ	**Makanchi**	**44.69**	**323**	*e*P	**P**	**11 11 38.9**	**+0.3**	
	2.6nm,0.9s							
KSH	**Kashi**	**45.42**	**311**	P	P	11 11 49.5	+4.8	
KSH				pP	sP	11 12 02.9	-0.6	
KSH				sP	pwP	11 12 07.8	+7.0	
KSH				PcP	**PcP**	**11 13 27.3**	**+4.1**	
KSH				S	**S**	**11 18 29.8**	**+7.3**	
KSH				sS	sS	11 18 50.8	+5.5	
KSH				ScS	**ScS**	**11 21 37.5**	**+0.6**	
KSH				pmax	pmax			
	comp=Z,8.0nm,0.5s							
KSH				pmax	pmax			
	comp=Z,240nm,5.7s							
KSH				LR	LR			
	comp=N,240nm,8.4s							
KSH				LR	LR			
	comp=E,130nm,6.3s							
KSH				LR	LR			
	comp=Z,540nm,9.8s							
NIL	**Nilore**	**45.91**	**302**	*e*P	**P**	**11 11 47.5**	**-1.0**	
	7.1nm,0.8s							
FORT	**Forrest**	**46.20**	**170**	*e*P	**P**	**11 11 48.8**	**-1.8**	
	31nm,0.9s							
ZAA0	**Zalesovo Array**	**47.53**	**333**	*e*P	**P**	**11 11 59.7**	**-1.0**	
	3.3nm,0.7s							
ZALV	**Zalesovo Beam**	**47.53**	**333**	P	**P**	**11 12 00.5**	**-0.2**	
	1.8nm,0.5s,baz=120,slow=5.6,SNR=6.4							
ZALV				LR	LR	11 32 56.8		
	comp=Z,167nm,18.8s,baz=72,slow=37							
ZALV	**Zalesovo Beam**	**47.53**	**333**	*e*P	**P**	**11 11 59.6**	**-1.2**	
ZAA1	**Zalesovo Array**	**47.53**	**333**	*e*P	**P**	**11 12 00.5**	**-0.3**	
NWAO	**Narrogin (SRO)**	**47.72**	**183**	*e*P	**P**	**11 12 00.4**	**-2.0**	
	21nm,0.9s							
ARSB	**Arslanbob**	**48.18**	**312**	*e*P	**P**	**11 12 04.7**	**-1.5**	
	4.1nm,0.8s							
PEA0B	**Petropavlovsk-**	**48.30**	**30**	*e*P	**P**	**11 12 06.0**	**-0.7**	
	64nm,1.4s							
PETK	**Petropavlovsk-**	**48.30**	**30**	P	**P**	**11 12 07.0**	**+0.3**	
	9.9nm,0.8s,baz=210,slow=6.5,SNR=19							
PETK				PcP	**PcP**	**11 13 32.8**	**0.0**	
	4.8nm,0.9s,baz=220,slow=3.8,SNR=2.9							
PETK	**Petropavlovsk-**	**48.30**	**30**	*e*P	**P**	**11 12 05.6**	**-1.1**	
PEA1	**Petropavlovsk-**	**48.30**	**30**	*e*P	**P**	**11 12 07.0**	**+0.2**	
KURK	**Kurchatov**	**48.66**	**326**	*e*P	**P**	**11 12 08.8**	**-0.7**	
	10nm,0.7s							
GAR	**Garm**	**49.46**	**309**	*e*P	**P**	**11 12 16.0**	**0.0**	
	40nm,1.6s							
MA2	**Magadan**	**49.96**	**20**	LR	LR	11 33 08.0		
	comp=Z,76nm,20.5s,baz=208,slow=36							
MA2	**Magadan**	**49.96**	**20**	*e*P	**P**	**11 12 18.2**	**-1.1**	
	14nm,0.9s							
BBOO	**Buckleboo**	**50.01**	**162**	*e*P	**P**	**11 12 17.5**	**-2.5**	
	32nm,1.5s							
CHGR	**Chuyangaron**	**50.26**	**308**	*e*P	**P**	**11 12 21.5**	**-0.6**	
	12nm,0.8s							
KK31	**Karatay Array**	**50.48**	**314**	*e*P	**P**	**11 12 23.7**	**+0.2**	
KKAR	**Karatay Array**	**50.48**	**314**	*e*P	**P**	**11 12 23.7**	**+0.2**	
STKA	**Stephens Creek**	**51.06**	**156**	P	**P**	**11 12 26.1**	**-1.8**	
	4.0nm,0.9s,baz=327,slow=5.0,SNR=6.6							
STKA	**Stephens Creek**	**51.06**	**156**	*e*P	**P**	**11 12 26.2**	**-1.8**	
	1.5nm,1.0s							
BRVK	**Borovoye**	**54.31**	**326**	*e*P	**P**	**11 12 51.6**	**-0.1**	
	5.5nm,0.7s							
TIXI	**Tiksi**	**56.89**	**3**	*e*P	**P**	**11 13 08.7**	**-1.2**	
	15nm,0.9s							
DZM	**Mont Dzumac**	**58.68**	**128**	*e*P	**P**	**11 13 20.9**	**-2.4**	
	11nm,1.1s							
GEYT	**Ailibekk**	**58.71**	**305**	P	**P**	**11 13 23.9**	**+0.6**	
	3.7nm,0.7s,baz=94,slow=12,SNR=4.0							
ABKAR	**Akbulak array**	**59.22**	**319**	*e*P	**P**	**11 13 26.2**	**-0.3**	
BILL	**Bilibino**	**60.73**	**18**	*e*P	**P**	**11 13 36.1**	**-0.5**	
	6.9nm,1.2s							
GAMB	**Gambell**	**67.16**	**27**	*e*P	**P**	**11 14 18.5**	**-0.4**	
	12nm,1.3s							
ANM	**Nome**	**70.03**	**26**	*e*P	**P**	**11 14 36.5**	**-0.3**	
	16nm,1.6s							
KLMR	**Klimovskoe**	**72.32**	**330**	*e*P	**P**	**11 14 48.7**	**-2.0**	
KLMR				AMP		11 14 50.8		
	comp=Z,8.0nm,0.9s							
IM3	**Indian Mountai**	**74.96**	**25**	*e*P	**P**	**11 15 05.4**	**-0.7**	
BKZ	**Black Stump Fm**	**75.45**	**138**	*e*P	**P**	**11 15 07.2**	**-2.2**	
	comp=Z,26nm,1.2s							
CAST	**Castle Rocks**	**75.86**	**28**	*e*P	**P**	**11 15 10.8**	**-0.6**	
	comp=Z,34nm,1.4s							
PPLA	**Purkeypile**	**75.86**	**28**	*e*P	**P**	**11 15 10.9**	**-0.6**	
	comp=Z,27nm,1.5s							
BPAW	**Bear Paw Mtn.**	**76.28**	**27**	*e*P	**P**	**11 15 13.2**	**-0.5**	
	comp=Z,18nm,1.2s							
MLY	**Manley**	**76.28**	**26**	*e*P	**P**	**11 15 13.0**	**-0.8**	
	comp=Z,7.0nm,0.9s							
TRF	**Thorofare Moun**	**76.66**	**28**	*e*P	**P**	**11 15 15.5**	**-0.6**	
	comp=Z,29nm,1.6s							
SUA	**Susitna One**	**76.68**	**30**	*e*P	**P**	**11 15 15.3**	**-0.8**	
	comp=Z,24nm,1.0s							
MCK	**McKinley**	**77.22**	**27**	*e*P	**P**	**11 15 18.4**	**-0.7**	
	comp=Z,22nm,1.0s							
RND	**Reindeer**	**77.30**	**27**	*e*P	**P**	**11 15 18.7**	**-0.9**	
	comp=Z,15nm,1.0s							
MDM	**Murphy Dome**	**77.35**	**26**	*e*P	**P**	**11 15 19.4**	**-0.4**	
	comp=Z,12nm,1.2s							
PMR	**Palmer**	**77.43**	**29**	*e*P	**P**	**11 15 19.1**	**-1.0**	
	comp=Z,19nm,1.2s							
WRH	**Wood River Hil**	**77.48**	**26**	*e*P	**P**	**11 15 19.9**	**-0.6**	
	comp=Z,6.1nm,0.9s							
ARA0	**ARCESS Array S**	**77.58**	**339**	*e*P	**P**	**11 15 21.1**	**+0.1**	
ARCES	**ARCESS Array B**	**77.58**	**339**	P	**P**	**11 15 21.1**	**+0.1**	
	comp=Z,5.4nm,0.7s,baz=78,slow=7.0,SNR=22							
ARCES	**ARCESS Array B**	**77.58**	**339**	*e*P	**P**	**11 15 20.1**	**-0.9**	
ARE0	**ARCESS Array S**	**77.58**	**339**	*e*P	**P**	**11 15 20.3**	**-0.6**	
	comp=Z,3.0nm,1.5s							
BR101	**Keskin Array S**	**77.70**	**308**	*e*P	**P**	**11 15 22.7**	**+0.3**	
BRTR	**Keskin Array B**	**77.70**	**308**	P	**P**	**11 15 22.7**	**+0.3**	
	comp=Z,0.4nm,0.7s,baz=43,slow=7.4,SNR=3.6							
SML	**Sawmill**	**77.77**	**29**	*e*P	**P**	**11 15 21.6**	**-0.6**	
	comp=Z,35nm,1.1s							
IL1	**Eielson Array**	**77.95**	**26**	*e*P	**P**	**11 15 21.9**	**-1.1**	
ILAR	**Eielson Array**	**77.95**	**26**	P	**P**	**11 15 21.9**	**-1.1**	
	comp=Z,2.0nm,0.9s,baz=256,slow=5.4,SNR=15							
ILB	**Eielson Array**	**77.95**	**26**	*e*P	**P**	**11 15 22.0**	**-1.1**	
SCM	**Sheep Creek Mo**	**78.24**	**29**	*e*P	**P**	**11 15 23.9**	**-0.9**	
	comp=Z,26nm,0.9s							
EIL	**Elat**	**78.38**	**298**	LR	LR	11 55 41.7		
	comp=Z,66nm,20.6s,baz=90,slow=40							
FIA1	**FINESS Array S**	**78.75**	**331**	*e*P	**P**	**11 15 26.8**	**-0.7**	
	comp=Z,28nm,1.3s							
FIA0	**FINESS Array S**	**78.75**	**331**	*e*P	**P**	**11 15 27.0**	**-0.6**	
FINES	**FINESS Array B**	**78.75**	**331**	P	**P**	**11 15 27.0**	**-0.6**	
	comp=Z,3.1nm,0.6s,baz=56,slow=6.2,SNR=25							
AKASG	**Malin Array Be**	**78.94**	**320**	P	**P**	**11 15 28.2**	**-0.5**	
	comp=Z,2.3nm,0.8s,baz=66,slow=5.7,SNR=4.8							
KLU	**Klutina**	**78.96**	**29**	*e*P	**P**	**11 15 28.2**	**-0.6**	
	comp=Z,44nm,1.4s							
RIDG	**Independ'e Rid**	**79.01**	**27**	*e*P	**P**	**11 15 28.1**	**-0.9**	
	comp=Z,24nm,1.0s							
DIV	**Divide**	**79.10**	**30**	*e*P	**P**	**11 15 28.6**	**-1.0**	
	comp=Z,17nm,0.9s							
SCRK	**Sand Creek**	**79.33**	**27**	*e*P	**P**	**11 15 29.6**	**-1.3**	
	comp=Z,11nm,1.1s							
DOT	**Dot Lake**	**79.37**	**27**	*e*P	**P**	**11 15 29.7**	**-1.3**	
	comp=Z,10nm,1.0s							
EGAK	**Eagle**	**80.35**	**25**	*e*P	**P**	**11 15 35.9**	**-0.2**	
	comp=Z,8.2nm,0.8s							
DAWY	**Dawson**	**81.28**	**26**	*e*P	**P**	**11 15 40.6**	**-0.6**	
	comp=Z,8.7nm,1.0s							
EPYK	**Eagle Plains**	**81.67**	**23**	*e*P	**P**	**11 15 42.1**	**-1.1**	
	comp=Z,6.6nm,0.8s							
BUR04	**Bucovina Ar. S**	**82.15**	**317**	*e*P	**P**	**11 15 45.0**	**-1.2**	
MLR	**Muntele Rosu**	**82.15**	**315**	LR	LR	11 56 39.2		
	comp=Z,109nm,20.2s,baz=101,slow=39							
MLR	**Muntele Rosu**	**82.15**	**315**	*e*P	**P**	**11 15 45.8**	**-0.5**	
	comp=Z,7.8nm,1.1s							
BUR08	**Bucovina Ar. S**	**82.15**	**317**	*e*P	**P**	**11 15 45.7**	**-0.5**	
INK	**Inuvik**	**82.19**	**21**	*e*P	**P**	**11 15 45.0**	**-0.8**	
	comp=Z,8.3nm,1.0s							
HYT	**Haines Junctio**	**83.08**	**29**	*e*P	**P**	**11 15 50.3**	**-0.5**	
	comp=Z,12nm,1.3s							
WHY	**Whitehorse**	**84.35**	**29**	*e*P	**P**	**11 15 56.8**	**-0.4**	
	comp=Z,17nm,1.1s							
NC405	**NORSAR Array S**	**85.48**	**332**	*e*P	**P**	**11 16 01.7**	**-1.1**	
NC303	**NORSAR Array S**	**85.59**	**333**	*e*P	**P**	**11 16 02.2**	**-1.1**	
NB2	**NORSAR Subarra**	**85.73**	**332**	P	**P**	**11 16 03.2**	**-0.9**	
	comp=Z,17nm,1.0s,baz=66,slow=5.1							
NB2	**NORSAR Subarra**	**85.73**	**332**	P	**P**	**11 16 03.2**	**-0.9**	
	baz=66,slow=5.1							
NB200	**NORSAR Array S**	**85.73**	**332**	*e*P	**P**	**11 16 03.4**	**-0.7**	
NOA	**NORSAR Array B**	**85.73**	**332**	P	**P**	**11 16 03.4**	**-0.7**	
	comp=Z,11nm,0.8s,baz=67,slow=4.8,SNR=26							
NC204	**NORSAR Array S**	**85.84**	**333**	*e*P	**P**	**11 16 03.9**	**-0.7**	
NAO01	**NORSAR Array S**	**85.96**	**332**	*e*P	**P**	**11 16 04.5**	**-0.7**	
MORC	**Moravsky Berou**	**86.43**	**321**	*e*P	**P**	**11 16 07.8**	**0.0**	
JAVC	**Velka Javorina**	**86.64**	**320**	*e*P	**P**	**11 16 09.8**	**+0.9**	
KSP	**Ksiaz**	**86.83**	**322**	*e*P	**P**	**11 16 10.5**	**+0.9**	
VRAC	**Vranov**	**87.17**	**320**	LR	LR	11 57 05.8		
	comp=Z,71nm,18.5s,baz=64,slow=37							
VRAC	**Vranov**	**87.17**	**320**	*e*P	**P**	**11 16 11.7**	**+0.3**	
RES	**Resolute Bay**	**87.88**	**9**	*e*P	**P**	**11 16 13.5**	**-0.8**	
	comp=Z,4.1nm,0.8s							
BRG	**Berggiesshubel**	**88.21**	**322**	*e*P	**P**	**11 16 16.6**	**+0.3**	
	comp=Z,10nm,1.2s							
	comp=N,330nm,14.5s							
	comp=E,225nm,13.4s							
	comp=Z,370nm,14.0s							
CLL	**Collm**	**88.60**	**323**	*i* P	**P**	**11 16 17.6**	**-0.5**	
	comp=Z,6.0nm,1.0s							
CLL				Lm	MLR	11 58 00.0		
	comp=Z,200nm,18.0s							
GERES	**GERESS Array B**	**89.11**	**321**	P	**P**	**11 16 20.8**	**+0.1**	
	comp=Z,1.9nm,0.9s,baz=66,slow=4.7,SNR=9.4							
GEA0	**GERESS Array S**	**89.11**	**321**	*e*P	**P**	**11 16 20.1**	**-0.6**	
MOA	**Molln**	**89.12**	**320**	*e*PcP	**P**	**11 16 21.1**	**+0.4**	
	comp=Z,9.1nm,1.3s							
SQTA	**Sankt Quirin**	**91.28**	**320**	*e*PcP	**P**	**11 16 31.4**	**+0.5**	
	comp=Z,6.8nm,1.0s							
MOTA	**Moosalm**	**91.29**	**320**	PcP	**P**	**11 16 31.9**	**+0.9**	
	comp=Z,9.8nm,1.1s							
FETA	**Feichten**	**91.66**	**320**	*e*PcP	**P**	**11 16 32.6**	**-0.1**	
	comp=Z,7.9nm,1.0s							
YKW3	**Yellowknife Ar**	**91.85**	**22**	*e*P	**P**	**11 16 32.1**	**-0.9**	
	comp=Z,5.0nm,0.9s							
YKA	**Yellowknife Ar**	**91.89**	**22**	P	**P**	**11 16 33.4**	**+0.2**	
	comp=Z,4.4nm,0

comp=Z,76nm,20.2s,baz=51,slow=38
CM01 Chiang Mai Arr 20.16 283 *e*P **P 11 20 52.9 +0.8**
CM31 Chiang Mai Arr 20.18 283 *e*P **P 11 20 51.0 -1.3**
CMAR Chiang Mai Arr 20.18 283 P Pn 11 20 56.5 +2.3
2.7nm,0.9s,baz=96,slow=9.5,SNR=18
CMAR LR LR 11 28 49.2
comp=Z,118nm,18.2s,baz=90,slow=37
JNU Nakatsue 20.77 27 LR LR 11 29 11.7
comp=Z,52nm,21.8s,baz=202,slow=37
KS15 Wonju Array Si 23.58 16 *e*P **P 11 21 27.9 -0.1**
KSRS Korea Array 23.60 17 P **P 11 21 28.1 -0.2**
2.3nm,0.8s,baz=200,slow=11,SNR=4.9
KSRS LR LR 11 31 44.8
comp=Z,76nm,18.5s,baz=176,slow=39
PSI Prapat 23.76 242 LR LR 11 30 56.7
comp=Z,77nm,18.6s,baz=82,slow=36
PSI Prapat 23.76 242 *e*P **P 11 21 32.2 +2.0**
6.6nm,0.9s
GUMO Guam 24.43 90 LR LR 11 31 00.3
comp=Z,83nm,19.0s,baz=217,slow=36
BRDH Bariadhala 27.61 290 LR LR 11 34 31.4
comp=Z,112nm,18.7s,baz=186,slow=39
USRK Ussuriysk Ar. 31.00 17 P **P 11 22 36.5 +1.6**
1.4nm,0.6s,baz=203,slow=11,SNR=4.0
FITZ Fitzroy Crossi 33.34 170 P **P 11 22 56.2 +0.6**
3.4nm,0.9s,baz=23,slow=13,SNR=3.0
FITZ Fitzroy Crossi 33.34 170 *e*P **P 11 22 56.1 +0.5**
5.6nm,1.1s
SONA0 Songino Array 34.61 344 *e*P **P 11 23 07.4 +0.8**
SONM Songino Array 34.61 344 P **P 11 23 07.4 +0.8**
1.0nm,0.6s,baz=170,slow=8.8,SNR=3.7
SONA1 Songino Array 34.62 344 *e*P **P 11 23 06.1 -0.6**
ASAJ Asahikawa 35.02 29 P **P 11 23 10.2 +0.2**
5.5nm,0.7s,baz=157,slow=7.7,SNR=7.2
KLR Kul'dur 35.61 14 P **P 11 23 15.0 0.0**
4.4nm,0.7s,baz=236,slow=7.7,SNR=16
MBWA Marble Bar 35.86 180 *e*P **P 11 23 17.4 +0.1**
9.9nm,0.7s
WRAB Tennant Creek 37.52 157 *e*P **P 11 23 29.5 -2.1**
8.3nm,0.6s
WR1 Warramunga Arr 37.53 157 *e*P **P 11 23 29.9 -1.7**
8.9nm,0.6s
WRA Warramunga Arr 37.53 157 P **P 11 23 29.9 -1.7**
6.1nm,0.6s,baz=331,slow=10,SNR=46
WB2 Warramunga Arr 37.53 157 *e*P **P 11 23 29.3 -2.3**
WC3 Warramunga Arr 37.55 157 *e*P **P 11 23 29.7 -2.2**
13nm,0.9s
AS31 Alice Springs 40.80 160 *e*P **P 11 23 57.5 -1.4**
2.6nm,0.5s
ASAR Alice Springs 40.80 160 P **P 11 23 57.9 -1.1**
5.9nm,0.5s,baz=336,slow=7.0,SNR=92
AS01 Alice Springs 40.81 160 *e*P **P 11 23 57.6 -1.5**
MK31 Makanchi Array 44.47 323 *e*P **P 11 24 29.5 +0.9**
MK32 Makanchi Array 44.47 323 *e*P **P 11 24 30.4 +1.8**
MKAR Makanchi Array 44.47 323 P **P 11 24 30.4 +1.8**
0.5nm,0.7s,baz=118,slow=9.8,SNR=5.2
MKAR PcP **PcP 11 26 12.2 +0.4**
1.0nm,0.7s,baz=108,slow=4.0,SNR=6.0
MKAR Makanchi Array 44.47 323 *e*P **P 11 24 29.1 +0.5**
9.1nm,0.8s
ZALV Zalesovo Beam 47.52 333 P **P 11 24 52.8 +0.3**
0.5nm,0.3s,baz=142,slow=8.1,SNR=3.2
ZALV Zalesovo Beam 47.52 333 *e*P **P 11 24 52.2 -0.3**
ZAA1 Zalesovo Array 47.53 333 *e*P **P 11 24 52.8 +0.2**
PETK Petropavlovsk- 48.44 30 P **P 11 24 59.8 +0.2**
4.1nm,0.8s,baz=202,slow=7.3,SNR=3.6
PETK Petropavlovsk- 48.44 30 *e*P **P 11 24 58.7 -0.9**
PEA1 Petropavlovsk- 48.44 30 *e*P **P 11 24 59.8 +0.2**
KURBB Kurchatov Arra 48.63 326 P **P 11 25 02.7 +1.6**
1.4nm,0.6s,baz=120,slow=8.5,SNR=4.4
KURK Kurchatov 48.63 326 *e*P **P 11 25 01.0 -0.1**
5.3nm,0.6s
BBOO Buckleboo 49.98 162 *e*P **P 11 25 09.8 -1.8**
4.5nm,0.7s
STKA Stephens Creek 51.06 156 P **P 11 25 21.8 +2.1**
1.4nm,0.8s,baz=324,slow=12,SNR=2.8
STKA LR LR 11 49 32.8
comp=Z,53nm,18.0s,baz=54,slow=39
STKA Stephens Creek 51.06 156 *e*P **P 11 25 19.8 +0.1**
0.8nm,1.1s
BVAR Borovoye Array 54.22 326 P **P 11 25 44.1 +1.1**
0.6nm,0.6s,baz=106,slow=10.0,SNR=3.8
BVAR PcP **PcP 11 26 47.7 +0.6**
1.1nm,0.8s,baz=140,slow=7.0,SNR=3.7
BRVK Borovoye 54.29 326 *e*P **P 11 25 42.4 -1.0**
2.4nm,0.6s
TIXI Tiksi 56.97 3 P **P 11 26 01.7 -0.7**
3.1nm,0.5s,baz=162,slow=3.5,SNR=12
TIXI Tiksi 56.97 3 *e*P **P 11 26 01.0 -1.3**
5.2nm,0.8s
ABKAR Akbulak array 59.17 319 *e*P **P 11 26 17.9 -0.3**
AKTO Aktyubinsk 60.65 320 P **P 11 26 27.9 -0.5**
0.9nm,0.7s,baz=117,slow=6.8,SNR=2.8
ANM Nome 70.16 26 *e*P **P 11 27 27.3 -2.3**
0.5nm,0.6s
IM3 Indian Mountai 75.09 25 *e*P **P 11 27 58.1 -0.8**
BKZ Black Stump Fm 75.50 138 *e*P **P 11 28 00.0 -1.7**
3.8nm,0.9s
CAST Castle Rocks 75.99 28 *e*P **P 11 28 03.3 -0.9**
11nm,1.1s
BPAW Bear Paw Mtn. 76.41 27 *e*P **P 11 28 05.8 -0.8**
6.6nm,1.2s
MLY Manley 76.42 26 *e*P **P 11 28 05.4 -1.2**
1.6nm,0.8s
RND Reindeer 77.44 27 *e*P **P 11 28 10.5 -1.9**
2.6nm,0.9s
ARA0 ARCESS Array S 77.60 339 *e*P **P 11 28 13.7 +0.6**
ARCES ARCESS Array B 77.60 339 P **P 11 28 13.7 +0.6**
4.9nm,1.0s,baz=69,slow=6.8,SNR=7.6
ARCES ARCESS Array B 77.60 339 *e*P **P 11 28 11.7 -1.4**
BR101 Keskin Array S 77.63 308 *e*P **P 11 28 15.2 +1.1**
BRTR Keskin Array B 77.63 308 P **P 11 28 15.2 +1.1**
0.3nm,0.4s,baz=116,slow=6.7,SNR=2.6
ILAR Eielson Array 78.08 26 P **P 11 28 14.4 -1.5**
0.5nm,0.9s,baz=255,slow=2.7,SNR=4.8
IL1 Eielson Array 78.08 26 *e*P **P 11 28 14.1 -1.8**
SPA0 Spitsbergen Ar 78.20 348 *e*P **P 11 28 15.6 -0.8**
SPITS Spitsbergen Ar 78.20 348 P **P 11 28 17.2 +0.9**
9.4nm,0.9s,baz=96,slow=14,SNR=7.5
FIA1 FINESS Array S 78.74 331 *e*P **P 11 28 18.4 -1.1**
FIA0 FINESS Array S 78.74 331 *e*P **P 11 28 19.9 +0.4**
FINES FINESS Array B 78.74 331 P **P 11 28 19.9 +0.4**
1.3nm,0.5s,baz=59,slow=5.4,SNR=14
RIDG Independ'e Rid 79.15 27 *e*P **P 11 28 20.4 -1.4**
8.9nm,1.1s
SCRK Sand Creek 79.47 26 *e*P **P 11 28 22.5 -1.2**
1.4nm,1.0s
DAWY Dawson 81.41 26 *e*P **P 11 28 32.7 -1.3**
4.4nm,1.0s
BUR04 Bucovina Ar. S 82.10 317 *e*P **P 11 28 37.5 -0.6**
BUR08 Bucovina Ar. S 82.10 317 *e*P **P 11 28 37.1 -1.0**
INK Inuvik 82.31 21 *e*P **P 11 28 37.5 -1.1**
3.9nm,1.1s
WHY Whitehorse 84.48 28 *e*P **P 11 28 49.0 -1.1**
7.2nm,1.1s
HFS Hagfors 84.94 331 P **P 11 28 52.3 0.0**
1.5nm,0.5s,baz=123,slow=5.5,SNR=7.1
NC405 NORSAR Array S 85.47 332 *e*P **P 11 28 54.2 -0.7**
NC303 NORSAR Array S 85.58 333 *e*P **P 11 28 54.8 -0.6**
NB2 NORSAR Subarra 85.73 332 P **P 11 28 55.6 -0.6**
comp=Z,6.7nm,0.9s,baz=66,slow=5.1
NB200 NORSAR Array S 85.73 332 *e*P **P 11 28 55.8 -0.4**
NOA NORSAR Array B 85.73 332 P **P 11 28 55.8 -0.4**
comp=Z,4.1nm,0.8s,baz=66,slow=4.6,SNR=12
NC204 NORSAR Array S 85.83 333 *e*P **P 11 28 55.6 -1.2**
GERES GERESS Array B 89.07 321 P **P 11 29 13.8 +1.1**
comp=Z,0.7nm,0.8s,baz=107,slow=4.5,SNR=3.8
GEA0 GERESS Array S 89.07 321 *e*P **P 11 29 11.7 -1.0**
YKA Yellowknife Ar 92.02 22 P **P 11 29 26.1 +0.1**
comp=Z,1.5nm,0.8s,baz=309,slow=4.3,SNR=28
YKB5 Yellowknife Ar 92.02 22 *e*P **P 11 29 24.4 -1.5**
TXAR Lajitas Array 119.27 43 PKP **PKPdf 11 35 08.0 +0.7**
comp=Z,1.2nm,0.7s,baz=323,slow=1.4,SNR=7.4
PLCA Paso Flores 152.78 163 PKPbc **PKPbc 11 36 15.6 +1.0**
comp=Z,2.4nm,0.8s,baz=210,slow=3.7,SNR=7.1
PLCA Paso Flores 152.78 163 *e*PKPdf **PKPdf 11 36 06.8 -0.7**

IDC ***14*** *11:22:03.3±1.3, 37.24N×144.28E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.3/62, mbtmp3.5/5, ML3.5/2, Error ellipse: s-maj=43.3km s-min=24.8km az=105.0*
ISCJB ***14*** *11:22:05.6±0.7, 37.41N±0.04×144.17E±0.05, h33km, mb3.6/3, Error ellipse: s-maj=6.0km s-min=5.4km az=25.3*
JMA ***14*** *11:22:07.7±0.2, 37.38N×144.02E, h52km, M3.6*
ISC 14 11:22:07.3±1.1,**37.40N**±0.06×**144.17E**±0.08,**h35km, n24,**

σ1§**89**/41,**mb3.5/3,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.32**	**294**	P		**Pn**	**11 22 43.3**	**+0.3**
JIKH				*e*S		**Sn**	**11 23 09.6**	**-0.8**
JIO	**Ouri**	**2.46**	**296**	P		**Pn**	**11 22 45.3**	**+0.3**
JIO				*e*S		**Sn**	**11 23 13.2**	**-0.6**
JKMT	**Kesennumamotoy**	**2.55**	**304**	P		**Pn**	**11 22 46.4**	**+0.3**
JKMT				S		**Sn**	**11 23 14.9**	**-1.0**
OFUJ	**Ofunato**	**2.59**	**311**	P		**Pn**	**11 22 47.0**	**+0.3**
OFUJ				*e*S		**Sn**	**11 23 15.8**	**-1.1**
JFK	**Kawauchi**	**2.62**	**270**	P		**Pn**	**11 22 47.1**	**-0.1**
JFK				*e*S		**Sn**	**11 23 16.1**	**-1.7**
JMK	**Ichinoseki**	**2.79**	**305**	P		**Pn**	**11 22 50.2**	**+0.7**
JMK				*e*S		**Sn**	**11 23 21.7**	**-0.2**
JFT	**Otama**	**3.05**	**273**	P		**Pn**	**11 22 54.1**	**+1.1**
JFT				*e*S		**Sn**	**11 23 28.4**	**+0.1**
JOM	**Ohasama**	**3.06**	**313**	P		**Pn**	**11 22 54.2**	**+1.0**
JOM				S		**Sn**	**11 23 28.5**	**-0.1**
JYK	**Kaneyama**	**3.36**	**298**	P		**Pn**	**11 22 58.8**	**+1.5**
JYK				*e*S		**Sn**	**11 23 36.3**	**+0.3**
BSO1	**Boso 1**	**3.76**	**224**	*e*S		**Sn**	**11 23 44.9**	**-0.2**
JRY	**Ryogami san**	**4.45**	**254**	P		**Pn**	**11 23 12.0**	**-0.3**
JRY				*e*S		**Sn**	**11 23 59.8**	**-3.0**
JOD2	**Odawara 2**	**4.62**	**244**	P		**Pn**	**11 23 14.2**	**-0.4**
JOD2				*e*S		**Sn**	**11 24 03.8**	**-3.2**
JOT	**Ohata**	**4.66**	**330**	P		**Pn**	**11 23 16.8**	**+1.7**
MJAR	**Matsushiro Arr**	**4.84**	**262**	Pn		**Pn**	**11 23 19.0**	**+1.3**
	2.6nm,0.3s,baz=88,slow=15,SNR=27							
MAT	**Matsushiro**	**4.85**	**262**	P		**Pn**	**11 23 18.8**	**+1.1**
MAT				*e*S		**Sn**	**11 24 07.2**	**-5.5**
JKB	**Kayabe**	**5.09**	**333**	P		**Pn**	**11 23 22.6**	**+1.5**
JCH	**Churui**	**5.25**	**354**	P		**Pn**	**11 23 23.0**	**-0.2**
JCH				*e*S		**Sn**	**11 24 19.5**	**-2.9**
NEM2	**Nemuro 2**	**6.08**	**11**	P		**Pn**	**11 23 33.0**	**-1.6**
NEM2				*e*S		**Sn**	**11 24 37.1**	**-5.9**
JTKR	**Abashiri--Toko**	**6.57**	**358**	P		**Pn**	**11 23 41.2**	**-0.1**
JTKR				*e*S		**Sn**	**11 24 51.7**	**-3.3**
JHR	**Hokuryu**	**6.61**	**344**	P		**Pn**	**11 23 42.5**	**+0.6**
JHR				*e*S		**Sn**	**11 24 55.2**	**-0.7**
ASAJ	**Asahikawa**	**6.82**	**350**	Pn		**Pn**	**11 23 45.7**	**+0.9**
	0.8nm,0.3s,baz=88,slow=33,SNR=8.2							
ASAJ				Sn		**Sn**	**11 24 59.4**	**-1.7**
	0.4nm,0.3s,baz=14,slow=19,SNR=2.4							
ILAR	**Eielson Array**	**48.01**	**33**	P		**P**	**11 30 44.7**	**+2.2**
	0.5nm,1.0s,baz=246,slow=6.8,SNR=4.3							
WRA	**Warramunga Arr**	**57.78**	**191**	P		**P**	**11 31 55.0**	**+0.1**
	0.6nm,0.7s,baz=12,slow=7.3,SNR=5.6							
ASAR	**Alice Springs**	**61.50**	**191**	P		**P**	**11 32 20.9**	**+0.4**
	0.3nm,0.9s,baz=7.5,slow=7.9,SNR=3.0							

NIED ***14*** *11:27:00, 37.40N×141.90E, h29km, Mw4.0 Best double couple: M0 1.24000×10^15 NP1:φs6.00000°, δ11.00000°, λ-159.00000°. NP2:φs256.00000°, δ86.00000°, λ-79.00000°.*
ISCJB ***14*** *11:27:33.2±0.8, 37.39N±0.03×142.01E±0.04, h22km±5km, mb4.2/37, Error ellipse: s-maj=5.8km s-min=4.0km az=39.4*
JMA ***14*** *11:27:35.2±0.2, 37.35N×141.90E, h38km±3km, M4.3*
JMA Felt I J1.
MOS ***14*** *11:27:36.1±1.4, 37.49N×141.96E, h42km, mb4.4/22, Error ellipse: s-maj=9.0km s-min=6.2km az=93.2*
NEIC ***14*** *11:27:37.5±0.4, 37.38N×141.87E, h40km±3km, mb4.3/15, Error ellipse: s-maj=4.7km s-min=3.3km az=120.0*
NEIC Recorded [1 JMA] in Fukushima and Miyagi.
IDC ***14*** *11:27:38.5±2.7, 37.30N×141.78E, h50km±25km, mb3.8/17, mb1 3.9/20, mb1mx3.8/54, mbtmp4.0/20, ML3.0/3, Error ellipse: s-maj=19.3km s-min=13.4km az=100.0*
ISC 14 11:27:33.4±1.5,**37.40N**±0.04×**141.94E**±0.05,**h9km**±9km**, n116,**σ1§**33**/125,**mb4.2**/37,**8C-2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.85**	**268**	P		**Pg**	**11 27 50.3**	**+0.5**
JFK				*e*S		**Sg**	**11 28 00.5**	**-0.4**
ONAJ	**Iwakimizuishiy**	**0.96**	**252**	P		**Pg**	**11 27 51.5**	**-0.4**
JIKH	**Ishinomakikobu**	**0.99**	**338**	P		**Pg**	**11 27 53.0**	**+0.6**
JIKH				*e*S		**Sg**	**11 28 05.4**	**+0.1**
JMM	**Marumori**	**1.03**	**298**	P		**Pg**	**11 27 53.4**	**+0.3**
JMM				*e*S		**Sg**	**11 28 06.0**	**-0.5**
JFFD	**Fukushimafurud**	**1.14**	**255**	P		**Pb**	**11 27 56.3**	**-1.1**
JFFD				*e*S		**Sg**	**11 28 07.6**	**-2.6**
JIO	**Ouri**	**1.16**	**336**	P		**Pb**	**11 27 55.7**	**+0.1**
JIO				S		**Sb**	**11 28 09.7**	**-1.0**
JFT	**Otama**	**1.28**	**276**	P		**Pn**	**11 27 57.5**	**0.0**
JFT				S		**Sb**	**11 28 13.0**	**-1.3**
JOU	**Okura**	**1.40**	**314**	P		**Pn**	**11 27 59.5**	**+0.4**
JOU				S		**Sn**	**11 28 17.6**	**-0.1**
JMK	**Ichinoseki**	**1.65**	**340**	P		**Pn**	**11 28 03.2**	**+0.6**
JMK				S		**Sn**	**11 28 23.3**	**-0.7**
JYS	**Shirataka**	**1.70**	**300**	P		**Pn**	**11 28 03.9**	**+0.7**
JYS				*e*S		**Sn**	**11 28 25.0**	**-0.1**
JFY	**Yanaizu**	**1.78**	**271**	P		**Pn**	**11 28 04.3**	**-0.1**
MJAR	**Matsushiro Arr**	**3.11**	**255**	P		**Pn**	**11 28 23.4**	**+0.7**
	5.0nm,0.3s,baz=72,slow=9.3,SNR=35							
MJAR				S		**Sn**	**11 29 02.6**	**+2.7**
	11nm,0.3s,baz=89,slow=8.3,SNR=6.1							
MAJO	**Matsushiro**	**3.11**	**255**	*e*Pn		**Pn**	**11 28 23.8**	**+1.2**
MAJO				*e*Sn		**Sn**	**11 29 02.6**	**+2.6**
MAJO	**Matsushiro**	**3.11**	**255**	*e*P		**Pn**	**11 28 23.8**	**+1.2**
MAJO				*e*			11 29 02.6	
MAT	**Matsushiro**	**3.11**	**255**	P		**Pn**	**11 28 23.8**	**+1.1**
MAT				*e*S		**Sn**	**11 29 01.1**	**+1.2**
MJB9	**Matsu-Tunnel**	**3.11**	**255**	*e*Pn		**Pn**	**11 28 23.9**	**+1.2**
INU	**Inuyama**	**4.47**	**244**	*e*Pn		**Pn**	**11 28 42.6**	**+1.3**
ERM	**Erimo**	**4.71**	**11**	*e*Pn		**Pn**	**11 28 45.6**	**+1.1**
ERM	**Erimo**	**4.71**	**11**	*e*P		**Pn**	**11 28 45.6**	**+1.1**
ASAJ	**Asahikawa**	**6.73**	**4**	P		**Pn**	**11 29 13.0**	**+0.6**
	2.6nm,0.3s,baz=214,slow=13,SNR=32							
ASAJ				S		**Sn**	**11 30 28.2**	**-1.0**
	0.8nm,0.3s,baz=0.0,slow=20,SNR=2.9							
ASAJ	**Asahikawa**	**6.73**	**4**	*e*Pn		**Pn**	**11 29 13.4**	**+1.0**
ASAJ				*e*Sn		**Sn**	**11 30 26.9**	**-2.3**
YUK	**Yuzh-Kuril'sk**	**7.27**	**23**	*e*P		**Pn**	**11 29 19.3**	**-0.4**
YUK				*e*S		**Sn**	**11 30 36.9**	**-5.4**
YUK				pmax	pmax			
	comp=Z,70nm,0.5s							
YUK				pmax	pmax			
	comp=E,16nm,0.2s							
YUK				pmax	pmax			
	comp=N,86nm,0.6s							
SHO	**Shikotan**	**7.46**	**28**	*e*P		**Pn**	**11 29 20.0**	**-2.3**
SHO				*e*S		Sn	11 30 38.3	-8.7
SHO				pmax	pmax			
	comp=Z,17nm,0.5s							
SHO				pmax	pmax			
	comp=E,5.0nm,0.3s							
SHO				pmax	pmax			
	comp=N,4.0nm,0.2s							
KUR	**Kuril'sk**	**9.01**	**28**	P		**Pn**	**11 29 45.8**	**+2.2**
KUR				S		Sn	11 31 18.2	-6.8
KUR				smax	smax			
	comp=N,32nm,0.5s							
KUR				smax	smax			
	comp=E,22nm,0.3s							
YSS	**Yuzh-Sakhalins**	**9.57**	**3**	*e*Pn		**Pn**	**11 29 52.5**	**+1.2**
YSS	**Yuzh-Sakhalins**	**9.57**	**3**	*e*P		**Pn**	**11 29 52.7**	**+1.4**
YSS				*e*S		**Sn**	**11 31 39.5**	**+0.6**
YSS				pmax	pmax			
	comp=N,20nm,0.6s							
YSS				pmax	pmax			
	comp=E,10.0nm,0.6s							
YSS				pmax	pmax			
	comp=Z,10.0nm,0.6s							
YSS				smax	smax			
	comp=E,10.0nm,0.8s							
JNU	**Nakatsue**	**10.00**	**248**	*e*Pn		**Pn**	**11 29 58.3**	**+1.0**
USA0B	**Ussuriysk Arra**	**10.15**	**315**	*e*Pn		**Pn**	**11 29 58.7**	**-0.6**
USRK	**Ussuriysk Ar.**	**10.15**	**315**	P		**Pn**	**11 30 00.0**	**+0.8**
	comp=E,0.3nm,0.3s,baz=122,slow=14,SNR=4.5							
CBIJ	**Chichi jima**	**10.27**	**179**	*e*Pn		**Pn**	**11 30 02.0**	**+1.0**
KSRS	**Korea Array**	**11.15**	**275**	P		**Pn**	**11 30 17.7**	**+4.7**
	comp=E,0.2nm,0.3s,baz=92,slow=15,SNR=3.5							
KS15	**Wonju Array Si**	**11.18**	**274**	*e*Pn		**Pn**	**11 30 13.6**	**+0.2**
KSAR	**Wonju Array Be**	**11.18**	**274**	P		**Pn**	**11 30 17.6**	**+4.3**
KSAR	**Wonju Array Be**	**11.18**	**274**	P		**Pn**	**11 30 17.7**	**+4.3**
KLR	**Kul'dur**	**13.95**	**331**	P		**Pn**	**11 30 52.8**	**+1.7**
	comp=E,0.2nm,0.3s,baz=220,slow=7.9,SNR=3.3							
KLR	**Kul'dur**	**13.95**	**331**	*i* P		**Pn**	**11 30 49.9**	**-1.2**
ZEA	**Zeya**	**19.24**	**333**	*e*P		**P**	**11 31 57.9**	**+0.1**
MA2	**Magadan**	**22.91**	**12**	P		**P**	**11 32 39.0**	**+1.7**
	comp=E,4.6nm,0.7s,baz=188,slow=8.7,SNR=5.3							
MA2	**Magadan**	**22.91**	**12**	*e*P		**P**	**11 32 37.8**	**+0.4**
	comp=E,7.7nm,1.0s							
MA2	**Magadan**	**22.91**	**12**	*ce*P		**P**	**11 32 37.6**	**+0.2**
MA2				pmax	pmax			
	comp=Z,13nm,1.7s							
SEY	**Seymchan**	**26.36**	**11**	P		**P**	**11 33 10.8**	**+1.4**
	comp=Z,2.2nm,0.5s,baz=189,slow=7.6,SNR=9.5							
SEY	**Seymchan**	**26.36**	**11**	*ce*P		**P**	**11 33 10.2**	**+0.7**
ULN	**Ulaanbaatar**	**27.50**	**303**	*i* P		**P**	**11 33 18.7**	**-1.5**
ULN				pmax	pmax			
	comp=Z,2.0nm,1.0s							
SONA1	**Songino Array**	**27.93**	**303**	*e*P		**P**	**11 33 23.2**	**-0.8**
SONA0	**Songino Array**	**27.94**	**303**	*e*P		**P**	**11 33 24.1**	**0.0**
SONM	**Songino Array**	**27.94**	**303**	P		**P**	**11 33 24.1**	**0.0**
	comp=Z,2.4nm,0.5s,baz=102,slow=9.1,SNR=10							
H11N2	**WAKE ISLAND Hy**	**27.98**	**122**	T		T	12 02 53.6	
	baz=314,slow=75,SNR=97							
H11N1	**WAKE ISLAND Hy**	**27.98**	**122**	T		T	12 02 51.6	
	baz=314,slow=75,SNR=82							
H11N3	**WAKE ISLAND Hy**	**27.99**	**122**	T		T	12 02 54.9	
	baz=314,slow=75,SNR=78							
H11S1	**WAKE ISLAND Hy**	**28.71**	**124**	T		T	12 03 47.3	
	baz=316,slow=76,SNR=68							
H11S3	**WAKE ISLAND Hy**	**28.71**	**124**	T		T	12 03 52.5	
	baz=316,slow=76,SNR=65							
H11S2	**WAKE ISLAND Hy**	**28.72**	**124**	T		T	12 03 49.5	
	baz=316,slow=76,SNR=65							
ZAK	**Zakamensk**	**30.38**	**308**	*e*P		**P**	**11 33 44.4**	**-1.3**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.1s							
BILL	**Bilibino**	**33.56**	**16**	*lj*e*P*		**P**	**11 34 12.7**	**-0.6**
BILL				*e*			11 34 22.4	
BILL							11 35 26.0	
BILL				pmax	pmax			
	comp=Z,2.0nm,1.1s							
DGZ	**Jazzator, Alta**	**40.52**	**306**	*d* P		**P**	**11 35 13.5**	**+0.7**
DGZ				pmax	pmax			
	comp=Z,8.0nm,0.8s							
FAKI	**Fak Fak**	**41.11**	**195**	*e*P		**P**	**11 35 16.9**	**-0.9**
	comp=Z,9.0nm,0.9s							
ZAA0	**Zalesovo Array**	**41.98**	**312**	*e*P		**P**	**11 35 23.8**	**-0.7**
	comp=Z,2.8nm,0.9s							
ZAA1	**Zalesovo Array**	**41.98**	**312**	*e*P		**P**	**11 35 24.5**	**-0.1**
ZALV	**Zalesovo Beam**	**41.98**	**312**	P		**P**	**11 35 24.5**	**-0.1**
	comp=Z,2.0nm,0.5s,baz=98,slow=7.6,SNR=9.8							
ZALV	**Zalesovo Beam**	**41.98**	**312**	*e*P		**P**	**11 35 23.8**	**-0.8**
CMAR	**Chiang Mai Arr**	**42.00**	**255**	*ce*P		**P**	**11 35 24.2**	**-0.9**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MK01	**Makanchi Array**	**44.28**	**302**	*e*P		**P**	**11 35 42.9**	**-0.5**
MK31	**Makanchi Array**	**44.28**	**302**	*e*P		**P**	**11 35 43.0**	**-0.3**
MK31	**Makanchi Array**	**44.28**	**302**	*e*P		**P**	**11 35 43.0**	**-0.3**
MK32	**Makanchi Array**	**44.28**	**302**	*e*P		**P**	**11 35 43.4**	**0.0**
MKAR	**Makanchi Array**	**44.28**	**302**	P		**P**	**11 35 43.4**	**0.0**
	comp=Z,2.8nm,0.7s,baz=89,slow=9.7,SNR=34							
MKAR	**Makanchi Array**	**44.28**	**302**	*e*P		**P**	**11 35 42.9**	**-0.5**
	comp=Z,22nm,0.8s							
MAKZ	**Makanchi**	**44.49**	**302**	*e*P		**P**	**11 35 44.6**	**-0.4**
	comp=Z,3.5nm,0.9s							
MAKZ	**Makanchi**	**44.49**	**302**	*e*P		**P**	**11 35 44.6**	**-0.4**
MAKZ				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KURK	**Kurchatov**	**46.04**	**308**	*e*P		**P**	**11 35 56.6**	**-0.5**
	comp=Z,6.5nm,0.7s							
KURK	**Kurchatov**	**46.04**	**308**	P		**P**	**11 35 57.4**	**+0.2**
KURK				pmax	pmax			
	comp=Z,3.0nm,0.3s							
KURBB	**Kurchatov Arra**	**46.11**	**308**	P		**P**	**11 35 57.4**	**-0.3**
	comp=Z,2.6nm,0.3s,baz=82,slow=8.0,SNR=20							
IM3	**Indian Mountai**	**46.12**	**31**	*e*P		**P**	**11 35 58.0**	**+0.4**
BPAW	**Bear Paw Mtn.**	**47.19**	**33**	*e*P		**P**	**11 36 06.4**	**+0.4**
	comp=Z,0.8nm,0.8s							
SML	**Sawmill**	**48.45**	**37**	*e*P		**P**	**11 36 17.0**	**+1.1**
	comp=Z,5.4nm,0.9s							
SML	**Sawmill**	**48.45**	**37**	*e*P		**P**	**11 36 17.0**	**+1.1**
SML				pmax	pmax			
	comp=Z,5.0nm,0.9s							
TARG	**Taragay, Kyrgy**	**48.62**	**296**	*e*P		**P**	**11 36 17.5**	**-0.4**
	comp=Z,2.3nm,0.7s							
IL1	**Eielson Array**	**48.96**	**33**	*e*P		**P**	**11 36 19.8**	**0.0**
ILAR	**Eielson Array**	**48.96**	**33**	P		**P**	**11 36 20.4**	**+0.7**
	comp=Z,1.8nm,0.8s,baz=266,slow=6.4,SNR=19							
ILB	**Eielson Array**	**48.96**	**33**	*e*P		**P**	**11 36 19.9**	**+0.2**
SCRK	**Sand Creek**	**50.27**	**33**	*e*P		**P**	**11 36 30.0**	**+0.1**
	comp=Z,3.5nm,1.2s							
BVAR	**Borovoye Array**	**50.64**	**312**	P		**P**	**11 36 31.7**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=72,slow=9.5,SNR=3.8							
AAK	**Ala-Archa**	**50.69**	**298**	*i* P		**P**	**11 36 32.2**	**-1.2**
AAK				pmax	pmax			
	comp=Z,1.0nm,1.0s							
BRVK	**Borovoye**	**50.70**	**312**	*ce*P		**P**	**11 36 34.4**	**+1.3**
BRVK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
ARSB	**Arslanbob**	**52.18**	**297**	*e*P		**P**	**11 36 44.0**	**-0.6**
	comp=Z,2.5nm,0.8s							
EPYK

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.86**	**261**	P	P	11 37 10.7	0.0
	0.8nm,0.3s,baz=96,slow=7.5,SNR=24						
ASAR	**Alice Springs**	**44.90**	**255**	P	P	11 37 10.6	-0.3
	3.2nm,0.7s,baz=92,slow=8.0,SNR=54						
ASAR				LR	LR	11 54 28.5	
	comp=Z,77nm,20.2s,baz=114,slow=34						
ILAR	**Eielson Array**	**86.98**	**13**	P	P	11 41 40.8	0.0
	0.4nm,1.0s,baz=215,slow=5.2,SNR=4.2						

IDC 14 11:33:59.8±1.8, **45.65S**×**12.55W**, **h0**km, **mb3.8**/2, **mb1 4.1**/2, **mb1mx3.6**/21, **mbtmp3.8**/2, **MS3.4**/1, **Ms1 3.3**/1, **ms1mx2.9**/15, **Error ellipse: s-maj=73.3km s-min=36.6km az=56.0, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**34.23**	**73**	LR	LR	11 51 52.7	
	comp=Z,62nm,20.4s,baz=196,slow=31						
H10S2	**ASCENSION HYDR**	**36.60**	**357**	T	T	12 20 09.1	
	baz=178,slow=75,SNR=10						
H10S3	**ASCENSION HYDR**	**36.61**	**356**	T	T	12 20 11.4	
	baz=178,slow=75,SNR=12						
H10S1	**ASCENSION HYDR**	**36.62**	**357**	T	T	12 20 12.5	
	baz=178,slow=75,SNR=12						
CPUP	**Villa Florida**	**40.42**	**283**	P	P	11 41 39.6	-0.1
	0.9nm,0.5s,baz=69,slow=8.6,SNR=2.6						
VNDA	**Vanda**	**57.06**	**179**	P	P	11 43 46.9	-0.1
	0.7nm,0.7s,baz=212,slow=9.5,SNR=4.9						
YKA	**Yellowknife Ar**	**134.37**	**321**	PKP	PKPdf	11 53 17.8	-0.6
	0.2nm,0.7s,baz=104,slow=1.9,SNR=6.7						
ILAR	**Eielson Array**	**148.66**	**324**	PKPbc	PKPbc	11 53 47.0	-0.6
	1.1nm,0.7s,baz=70,slow=1.1,SNR=21						

*GII **14** 11:50:46.2±0.0, 35.63N×21.62E, h15km*
*BJI **14** 11:50:57.1, 36.24N×21.82E, h11km, mb4.7/32, mB5.1/17, Ms4.9/4, Ms7 4.7/4*
*MED_RC **14** 11:50:57.0±1.4, 35.63N×21.62E, h10km, MW4.2/9, Moment Tensor Solution.Mantle waves: s9,c9; Duration: 1s0 Moment tensor: Scale 10^15Nm; Mrr0.48±.34; Mθθ-0.35±.32; Mϕϕ-0.13±.28; Mrθ-2.63±.54; Mϕθ-0.59±.20; Mϕr0.40±.59; Best double couple: M0 2.75000×10^15 NP1:ϕ276.00000°, δ86.00000°, λ103.00000°. NP2: ϕ23.00000°, δ13.00000°, λ17.00000°. Principal axes: T 2.8800, Plg47.0000°, Azm199.0000°; N -0.2700, Plg13.0000°, Azm95.0000°; P -2.6100, Plg40.0000°, Azm354.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*NEIC **14** 11:50:57.5±0.3, 35.68N×21.71E, h10km, mb4.5/29, ML4.1(THE), ML4.2(ATH) Error ellipse: s-maj=4.7km s-min=3.1km az=23.0*
*ISCJB **14** 11:50:58.3±0.2, 35.67N±0.0×21.60E±0.0, h33km, mb4.5/53, MS3.4/6, Error ellipse: s-maj=3.1km s-min=2.0km az=29.1*
*MOS **14** 11:50:58.2±1.0, 35.80N×21.82E, h24km, mb4.7/26, Error ellipse: s-maj=6.6km s-min=3.4km az=85.5*
*THE **14** 11:50:58.5, 35.70N×21.72E, h0km±1km, ML4.1/9, Error ellipse: s-maj=1.6km s-min=0.6km az=210.0*
*ATH **14** 11:50:58.8, 35.74N×21.75E, h20km±1km, ML4.0/17, Error ellipse: s-maj=2.3km s-min=0.9km az=49.0*
*PDG **14** 11:50:59.8±0.3, 35.96N×21.43E, h17km±4km, ML4.6/10, Error ellipse: s-maj=5.0km s-min=1.5km az=90.0*
*IDC **14** 11:51:01.2±3.0, 35.81N×21.83E, h32km±22km, mb4.1/21, mb1 4.2/31, mb1mx4.1/43, mbtmp4.2/31, ML4.1/9, MS3.4/5, Ms1 3.4/5, ms1mx2.9/32, Error ellipse: s-maj=15.0km s-min=11.5km az=178.0*

ISC 14 11:50:58.7±0.4, **35.73N**±0.0°03×**21.71E**±0.0°03, **h20**km±3km, **n492**, σ1°**99**/539, **mb4.7**/61, **MS3.3**/6, **31C-15D, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MES2	**Methoni**	**1.09**	**360**	P	**Pb**	**11 51 19.5**	**+0.6**
MES2				S	**Sn**	**11 51 34.3**	**+1.0**
DYR	**Agios Nikonas**	**1.15**	**26**	P	**Pb**	**11 51 19.8**	**0.0**
DYR				S	**Sn**	**11 51 35.4**	**+0.7**
DYR				AML	AML	11 51 41.8	
	comp=N,10485μm,0.6s						
DYR				AML	AML	11 51 43.1	
	comp=E,13461μm,1.0s						
DYR	**Agios Nikonas**	**1.15**	**26**	P	**Pb**	**11 51 19.6**	**-0.3**
DYR				S	**Sn**	**11 51 37.8**	**+3.1**
PYL	**PYLOS**	**1.16**	**1**	*e*Pn	**Pb**	**11 51 20.1**	**0.0**
PYL				*e*Sn	**Sn**	**11 51 38.5**	**+3.4**
PYL	**PYLOS**	**1.16**	**1**	P	**Pb**	**11 51 20.4**	**+0.3**
PYL				S	**Sn**	**11 51 36.5**	**+1.4**
PYL				AML	AML	11 51 44.9	
	comp=N,8570μm,0.8s						
PYL				AML	AML	11 51 47.5	
	comp=E,11238μm,0.6s						
PYL	**PYLOS**	**1.16**	**1**	P	**Pb**	**11 51 20.1**	**0.0**
PYL				S	**Sn**	**11 51 38.5**	**+3.4**
KTHR	**Kythira**	**1.18**	**63**	P	**Pb**	**11 51 20.3**	**0.0**
KTHR				S	**Sn**	**11 51 37.4**	**+2.0**
KYTH	**Kithira**	**1.21**	**63**	*e*Pn	**Pb**	**11 51 21.2**	**+0.3**
KYTH				*e*Sn	**Sn**	**11 51 39.1**	**+2.8**
KYTH	**Kithira**	**1.21**	**63**	P	**Pb**	**11 51 21.3**	**+0.4**
KYTH				S	**Sn**	**11 51 37.2**	**+0.9**
KYTH				AML	AML	11 51 43.8	
	comp=E,18531μm,0.8s						
KYTH				AML	AML	11 51 43.8	
	comp=N,20452μm,0.5s						
KYTH	**Kithira**	**1.21**	**63**	P	**Pb**	**11 51 21.2**	**+0.3**
KYTH				S	**Sn**	**11 51 39.1**	**+2.8**
ANKY	**Antikythira Is**	**1.30**	**83**	*e*Pn	**Pb**	**11 51 23.1**	**+0.6**
ANKY				*e*Sn	**Sb**	**11 51 41.8**	**+3.1**
ANKY	**Antikythira Is**	**1.30**	**83**	P	**Pb**	**11 51 23.2**	**+0.8**
ANKY				S	**Sb**	**11 51 40.5**	**+1.8**
ANKY				AML	AML	11 51 50.0	
	comp=E,11500μm,0.5s						
ANKY				AML	AML	11 51 50.4	
	comp=N,12499μm,0.7s						
ANKY	**Antikythira Is**	**1.30**	**83**	P	**Pb**	**11 51 23.1**	**+0.6**
ANKY				S	**Sb**	**11 51 41.8**	**+3.1**
VLI	**Veliai**	**1.40**	**45**	*e*Pn	**Pb**	**11 51 24.7**	**+0.6**
VLI				*e*Sn	**Sb**	**11 51 44.6**	**+3.0**
VLI	**Veliai**	**1.40**	**45**	P	**Pb**	**11 51 24.8**	**+0.7**
VLI				S	**Sb**	**11 51 44.2**	**+2.7**
VLI				AML	AML	11 51 53.5	
	comp=E,12090μm,0.6s						
VLI				AML	AML	11 51 56.1	
	comp=N,14585μm,0.9s						
VLI	**Veliai**	**1.40**	**45**	P	**Pb**	**11 51 24.7**	**+0.6**
VLI				S	**Sb**	**11 51 44.6**	**+3.0**
MNVA	**Monemvasia**	**1.44**	**48**	P	**Pb**	**11 51 25.7**	**+1.0**
ITM	**Ithomi**	**1.46**	**7**	*e*Pn	**Pb**	**11 51 24.8**	**-0.3**
ITM				*e*Sn	**Sb**	**11 51 46.6**	**+3.4**
ITM	**Ithomi**	**1.46**	**7**	P	**Pb**	**11 51 25.5**	**+0.4**
ITM				S	**Sb**	**11 51 45.5**	**+2.2**
ITM				AML	AML	11 51 57.0	
	comp=E,9637μm,0.6s						
ITM				AML	AML	11 52 01.5	
	comp=N,8348μm,0.7s						
ITM	**Ithomi**	**1.46**	**7**	P	**Pb**	**11 51 25.0**	**-0.1**
ITM				S	**Sb**	**11 51 46.6**	**+3.4**
KERA	**Keramoti**	**1.55**	**103**	P	**Pb**	**11 51 27.1**	**+0.4**
KERA				S	**Sb**	**11 51 47.8**	**+1.9**
KERA				AML	AML	11 52 05.2	
	comp=N,6558μm,0.8s						
KERA				AML	AML	11 52 05.8	
	comp=E,6159μm,0.6s						
VLX	**Vlachokerasia**	**1.73**	**18**	*e*Pn	**Pb**	**11 51 29.3**	**-0.4**
VLX				*e*Sn	**Sb**	**11 51 53.4**	**+2.4**
VLX	**Vlachokerasia**	**1.73**	**18**	P	**Pb**	**11 51 29.6**	**-0.1**
VLX				S	**Sb**	**11 51 52.2**	**+1.2**
VLX				AML	AML	11 52 02.3	
	comp=E,13863μm,0.6s						
VLX				AML	AML	11 52 03.0	
	comp=N,11997μm,0.7s						
VLX	**Vlachokerasia**	**1.73**	**18**	P	**Pb**	**11 51 29.3**	**-0.4**
VLX				S	**Sb**	**11 51 53.4**	**+2.4**
AMT	**Artemida-Makis**	**1.80**	**0**	P	**Pb**	**11 51 30.8**	**-0.5**
AMT				S	**Sb**	**11 51 55.1**	**+2.0**
TRIP	**Tripoli**	**1.85**	**14**	P	**Pb**	**11 51 31.6**	**-0.3**
TRIP				S	**Sb**	**11 51 55.1**	**+0.5**
TRIP				AML	AML	11 52 07.5	
	comp=E,4506μm,0.8s						
TRIP				AML	AML	11 52 08.6	
	comp=N,7411μm,1.0s						
TRIP	**Tripoli**	**1.85**	**14**	P	**Pb**	**11 51 31.2**	**-0.7**
TRIP				S	**Sb**	**11 51 56.6**	**+2.0**
IMMV	**Iera Moni Meta**	**1.87**	**98**	P	**Pb**	**11 51 31.5**	**-0.7**
IMMV				S	**Sb**	**11 51 55.5**	**+0.4**
IMMV				AML	AML	11 52 13.1	
	comp=N,8179μm,0.8s						
IMMV				AML	AML	11 52 18.8	
	comp=E,7163μm,0.5s						
IMMV	**Iera Moni Meta**	**1.87**	**98**	P	**Pb**	**11 51 31.2**	**-1.0**
CHAN	**Chania**	**1.91**	**96**	P	**Pb**	**11 51 32.3**	**-0.6**
KRND	**KRANIDI**	**2.02**	**35**	P	**Pb**	**11 51 33.1**	**-1.6**
VAM	**Vamos**	**2.06**	**98**	P	**Pb**	**11 51 33.8**	**-1.5**
VAM	**Vamos**	**2.06**	**98**	P	**Pb**	**11 51 33.9**	**-1.5**
VAM	**Vamos**	**2.06**	**98**	P	**Pb**	**11 51 33.8**	**-1.5**
VAM	**Vamos**	**2.06**	**98**	P	**Pb**	**11 51 33.8**	**-1.5**
GVD	**Gavdhos**	**2.14**	**114**	*e*Pn	**Pn**	**11 51 34.5**	**+1.3**
GVD	**Gavdhos**	**2.14**	**114**	P	**Pb**	**11 51 34.9**	**-1.9**
GVD	**Gavdhos**	**2.14**	**114**	P	**Pn**	**11 51 34.5**	**+1.3**
DID	**Didima**	**2.16**	**34**	*e*Pn	**Pn**	**11 51 34.7**	**+1.2**
DID	**Didima**	**2.16**	**34**	P	**Pb**	**11 51 35.4**	**-1.6**
DID				AML	AML	11 52 19.2	
	comp=N,4122μm,0.7s						
DID				AML	AML	11 52 22.3	
	comp=E,5272μm,0.9s						
DID	**Didima**	**2.16**	**34**	P	**Pn**	**11 51 34.7**	**+1.2**
DRO	**Drossia**	**2.22**	**0**	P	**Pb**	**11 51 36.4**	**-1.6**
DRO				AML	AML	11 52 21.4	
	comp=E,5821μm,0.6s						
DRO				AML	AML	11 52 31.1	
	comp=N,4875μm,0.8s						
DRO	**Drossia**	**2.22**	**0**	P	**Pb**	**11 51 36.5**	**-1.6**
GUR	**Goura**	**2.26**	**13**	*e*Pn	**Pb**	**11 51 37.5**	**-1.4**
GUR	**Goura**	**2.26**	**13**	P	**Pb**	**11 51 37.7**	**-1.2**
GUR	**Goura**	**2.26**	**13**	P	**Pb**	**11 51 37.5**	**-1.4**
RLS	**Riolos of Patr**	**2.33**	**355**	P	**Pb**	**11 51 38.5**	**-1.5**
RLS				AML	AML	11 52 31.9	
	comp=N,3056μm,0.8s						
RLS				AML	AML	11 52 36.1	
	comp=E,2689μm,0.8s						
KLV	**Kalavryta, Ach**	**2.34**	**9**	*e*Pn	**Pb**	**11 51 38.1**	**-2.0**
KLV	**Kalavryta, Ach**	**2.34**	**9**	P	**Pb**	**11 51 38.2**	**-1.9**
KLV				AML	AML	11 52 28.7	
	comp=E,2253μm,1.4s						
KLV				AML	AML	11 52 34.7	
	comp=N,2369μm,1.7s						
KLV	**Kalavryta, Ach**	**2.34**	**9**	P	**Pn**	**11 51 38.1**	**-2.0**
MHLO	**Agia Marina, M**	**2.38**	**65**	P	**Pn**	**11 51 37.6**	**+1.0**
MHLO	**Agia Marina, M**	**2.38**	**65**	P	**Pn**	**11 51 37.5**	**+1.0**
MHLA	**Plaka, Milos I**	**2.42**	**64**	P	**Pn**	**11 51 38.3**	**+1.3**
LOUT	**Loutraki**	**2.47**	**24**	P	**Pb**	**11 51 40.6**	**-1.8**
LOUT	**Loutraki**	**2.47**	**24**	P	**Pn**	**11 51 39.2**	**+1.4**
LTK	**Loutraki**	**2.50**	**23**	*e*Pn	**Pn**	**11 51 39.8**	**+1.6**
LTK	**Loutraki**	**2.50**	**23**	P	**Pb**	**11 51 40.4**	**-2.5**
LTK	**Loutraki**	**2.50**	**23**	P	**Pn**	**11 51 39.8**	**+1.6**
LAKA	**Lakka**	**2.52**	**5**	*e*Pn	**Pb**	**11 51 41.0**	**-2.2**
LAKA	**Lakka**	**2.52**	**5**	P	**Pb**	**11 51 40.8**	**-2.3**
LAKA				AML	AML	11 52 32.0	
	comp=N,3666μm,1.1s						
LAKA				AML	AML	11 52 36.1	
	comp=E,3762μm,0.9s						
LAKA	**Lakka**	**2.52**	**5**	P	**Pb**	**11 51 41.0**	**-2.2**
VLS	**Valsamata**	**2.60**	**340**	P	**Pn**	**11 51 41.1**	**+1.5**
VLS	**Valsamata**	**2.60**	**340**	P	**Pn**	**11 51 41.4**	**+1.8**
VLS				AML	AML	11 52 14.8	
	comp=N,888μm,0.3s						
VLS				AML	AML	11 52 15.3	
	comp=E,881μm,0.3s						
VLS	**Valsamata**	**2.60**	**340**	P	**Pn**	**11 51 41.1**	**+1.5**
VLS	**Valsamata**	**2.60**	**340**	P	**Pn**	**11 51 41.1**	**+1.5**
SIVA	**Sivas**	**2.63**	**105**	P	**Pn**	**11 51 42.8**	**-2.4**
IDI	**Anoyia**	**2.63**	**99**	*e*Pn	**Pn**	**11 51 41.1**	**+1.0**
IDI	**Anoyia**	**2.63**	**99**	P	**Pn**	**11 51 41.0**	**+1.0**
TRIZ	**Trizonia**	**2.65**	**6**	P	**Pb**	**11 51 42.9**	**-2.5**
SERI	**Serifos**	**2.66**	**57**	P	**Pn**	**11 51 40.9**	**+0.5**
KALE	**Kalithea**	**2.68**	**7**	*e*Pn	**Pn**	**11 51 43.1**	**+2.4**
KALE	**Kalithea**	**2.68**	**7**	P	**Pb**	**11 51 43.4**	**-2.6**
KALE	**Kalithea**	**2.68**	**7**	P	**Pn**	**11 51 43.1**	**+2.4**
EFP	**Efpalio**	**2.70**	**3**	P	**Pb**	**11 51 43.9**	**-2.4**
EFP	**Efpalio**	**2.70**	**3**	P	**Pn**	**11 51 44.0**	**-2.2**
PROD	**Prodromos**	**2.70**	**20**	P	**Pb**	**11 51 43.7**	**-2.6**
PROD	**Prodromos**	**2.70**	**20**	P	**Pb**	**11 51 43.7**	**-2.6**
VLY	**Voula,Athens**	**2.70**	**38**	*e*Pn	**Pn**	**11 51 43.2**	**+2.3**
VLY	**Voula,Athens**	**2.70**	**38**	P	**Pn**	**11 51 43.2**	**+2.3**
VLY	**Voula,Athens**	**2.70**	**38**	P	**Pn**	**11 51 43.2**	**+2.3**
VILL	**Villia**	**2.75**	**27**	P	**Pn**	**11 51 42.9**	**+1.3**
DSF	**Desfina**	**2.76**	**14**	*e*Pn	**Pn**	**11 51 43.6**	**+1.9**
DSF	**Desfina**	**2.76**	**14**	P	**Pn**	**11 51 43.6**	**+1.9**
DSF	**Desfina**	**2.76**	**14**	P	**Pn**	**11 51 43.6**	**+1.9**
ATH	**Athens Observa**	**2.76**	**35**	P	**Pb**	**11 51 45.0**	**-2.3**
VIL2	**Platees**	**2.77**	**26**	P	**Pn**	**11 51 43.9**	**+1.9**
ATHU	**Athens Univers**	**2.79**	**36**	P	**Pn**	**11 51 44.4**	**+2.2**
PVO	**Paravola**	**2.88**	**357**	P	**Pb**	**11 51 46.8**	**-2.6**
PVO	**Paravola**	**2.88**	**357**	P	**Pb**	**11 51 46.6**	**-2.8**
PTL	**Penteli**	**2.89**	**36**	*e*Pn	**Pn**	**11 51 46.1**	**+2.5**
PTL	**Penteli**	**2.89**	**36**	P	**Pn**	**11 51 46.1**	**+2.5**
PTL	**Penteli**	**2.89**	**36**	P	**Pn**	**11 51 46.1**	**+2.5**
PDO	**Prodromos**	**2.89**	**352**	P	**Pb**	**11 51 46.7**	**-2.9**
PDO	**Prodromos**	**2.89**	**352**	P	**Pn**	**11 51 46.5**	**+2.9**
DION	**Dionisos Attik**	**2.94**	**37**	P	**Pn**	**11 51 45.8**	**+1.5**
EVGI	**Lefkada island**	**3.01**	**344**	P	**Pn**	**11 51 47.5**	**+2.4**
MGNA	**Meganis**	**3.01**	**346**	P	**Pb**	**11 51 48.9**	**-2.7**
THR5	**Thira Island,**	**3.03**	**76**	P	**Pn**	**11 51 46.2**	**+0.8**
THR3	**Thira Island,**	**3.07**	**76**	*e*Pn	**Pn**	**11 51 46.7**	**+0.7**
THR3	**Thira Island,**	**3.07**	**76**	P	**Pn**	**11 51 46.7**	**+0.7**
SANT	**Santorini**	**3.11**	**77**	*e*Pn	**Pn**	**11 51 47.2**	**+0.6**
SANT	**Santorini**	**3.11**	**77**	P	**Pn**	**11 51 47.4**	**+0.8**
LAST	**Lasithi**	**3.13**	**99**	*e*Pn	**Pn**	**11 51 48.2**	**+1.3**
LAST	**Lasithi**	**3.13**	**99**	P	**Pn**	**11 51 48.8**	**+1.9**
LAST	**Lasithi**	**3.13**	**99**	P	**Pn**	**11 51 48.2**	**+1.3**
ATAL	**Atalanti**	**3.14**	**19**	*e*Pn	**Pn**	**11 51 49.2**	**+2.2**
ATAL	**Atalanti**	**3.14**	**19**	P	**Pn**	**11 51 49.1**	**+2.2**
ATAL	**Atalanti**	**3.14**	**19**	P	**Pn**	**11 51 49.2**	**+2.2**
LKD2	**Lefkada island**	**3.17**	**345**	P	**Pn**	**11 51 50.0**	**+2.6**
LKD2	**Lefkada island**	**3.17**	**345**	P	**Pn**	**11 51 50.0**	**+2.6**
EVR	**Evrytania**	**3.18**	**1**	P	**Pn**	**11 51 51.2**	**-3.4**
EREA	**Eretria**	**3.22**	**33**	P	**Pn**	**11 51 50.2**	**+2.1**
AGG	**Agios Georgios**	**3.32**	**8**	*e*Pn	**Pn**	**11 51 51.2**	**+1.7**
AGG	**Agios Georgios**	**3.32**	**8**	P	**Pn**	**11 51 52.7**	**+3.2**
AGG	**Agios Georgios**	**3.32**	**8**	P	**Pn**	**11 51 51.2**	**+1.7**
MRKA	**Markates**	**3.33**	**26**	P	**Pn**	**11 51 50.9**	**+1.3**
ANAF	**Anafi Island**	**3.35**	**78**	P	**Pn**	**11 51 50.7**	**+0.8**
ANAF	**Anafi Island**	**3.35**	**78**	P	**Pn**	**11 51 50.5**	**+0.6**
APE	**Apeiranthos**	**3.36**	**65**	*i*P	**Pn**	**11 51 50.8**	**+0.7**
APE	**Apeiranthos**	**3.36**	**65**	*i* P	**Pn**	**11 51 49.3**	**-0.8**
SMIA	**Símia**	**3.36**	**20**	P	**Pn**	**11 51 52.9**	**+2.8**
AMGA	**Amorgos Island**	**3.56**	**71**	P	**Pn**	**11 51 53.2**	**+0.5**
SKIA	**Skiathos**	**3.71**	**22**	P	**Pn**	**11 51 57.1**	**+2.4**
SKIA	**Skiathos**	**3.71**	**22**	P	**Pn**	**11 51 56.0**	**+1.3**
NEO	**Neokhori**	**3.77**	**18**	P	**Pn**	**11 51 57.5**	**+1.9**
NEO	**Neokhori**	**3.77**	**18**	P	**Pn**	**11 51 58.0**	**+2.4**
NEO	**Neokhori**	**3.77**	**18**	P	**Pn**	**11 51 57.5**	**+1.9**
FYTO	**Fytoko, Volos**	**3.80**	**15**	*e*Pn	**Pn**	**11 51 58.6**	**+2.6**
FYTO	**Fytoko, Volos**	**3.80**	**15**	P	**Pn**	**11 51 58.7**	**+2.6**
FYTO	**Fytoko, Volos**	**3.80**	**15**	P	**Pn**	**11 51 58.6**	**+2.6**
XOR	**Xorichti**	**3.82**	**18**	P	**Pn**	**11 51 58.1**	**+1.8**
XOR	**Xorichti**	**3.82**	**18**	P	**Pn**	**11 51 58.1**	**+1.8**
THL	**Klokotos Trika**	**3.84**	**4**	P	**Pn**	**11 51 58.5**	**+2.0**
AOS	**Alonnisos**	**3.84**	**26**	*e*Pn	**Pn**	**11 51 58.3**	**+1.6**
AOS	**Alonnisos**	**3.84**	**26**	P	**Pn**	**11 51 58.3**	**+1.6**
IGT	**Igoumenitsa**	**3.95**	**344**	*e*Pn	**Pn**	**11 51 59.5**	**+1.4**
IGT	**Igoumenitsa**	**3.95**	**344**	P	**Pn**	**11 51 59.5**	**+1.4**
IGT	**Igoumenitsa**	**3.95**	**344**	*e*P	**Pn**	**11 51 59.5**	**+1.4**
JAN	**Janina**	**3.98**	**350**	*e*Pn	**Pn**	**11 52 00.8**	**+2.3**
JAN	**Janina**	**3.98**	**350**	P	**Pn**	**11 52 00.8**	**+2.3**
JAN	**Janina**	**3.98**	**350**	*e*P	**Pn**	**11 52 00.8**	**+2.3**
LIT	**Litokhoron**	**4.41**	**8**	*e*Pn	**Pn**	**11 52 05.3**	**+0.9**
LIT				*e*Sn	**Sn**	**11 52 55.1**	**-0.1**
LIT	**Litokhoron**	**4.41**	**8**	P	**Pn**	**11 52 06.5**	**+2.1**
LIT	**Litokhoron**	**4.41**	**8**	*e*P	**Pn**	**11 52 05.3**	**+0.9**
LIT				*e*		11 52 55.1	
KARP	**Karpathos**	**4.45**	**91**	*e*Pn	**Pn**	**11 52 06.2**	**+1.2**
KARP	**Karpathos**	**4.45**	**91**	P	**Pn**	**11 52 06.8**	**+1.8**
PAIG	**Paliouri**	**4.47**	**20**	*e*Pn	**Pn**	**11 52 06.5**	**+1.2**
PAIG	**Paliouri**	**4.47**	**20**	*e*P	**Pn**	**11 52 06.5**	**+1.2**
PENT	**Pentalofos**	**4.48**	**354**	P	**Pn**	**11 52 08.2**	**+2.7**
KZN	**Kozani**	**4.57**	**1**	P	**Pn**	**11 52 08.8**	**+2.1**
KZN	**Kozani**	**4.57**	**1**	P	**Pn**	**11 52 08.8**	**+2.1**
KZN	**Kozani**	**4.57**	**1**	P	**Pn**	**11 52 08.8**	**+2.1**
FNA	**Florina**	**5.05**	**357**	*e*Pn	**Pn**	**11 52 14.6**	**+1.3**
FNA				*e*Sn	**Sn**	**11 53 11.6**	**+0.5**
FNA	**Florina**	**5.05**	**357**	*e*P	**Pn**	**11 52 14.6**	**+1.3**
FNA				*e*		11 53 11.6	
TIP	**Timpagrande**	**5.23**	**313**	*e*Pn	**Pn**	**11 52 16.7**	**+1.0**
TIP	**Timpagrande**	**5.23**	**313**	⇑*i*P	**Pn**	**11 52 17.0**	**+1.2**
BIA	**Bitola**	**5.29**	**357**	*i* Pn	**Pn**	**11 52 18.7**	**+2.1**
CEL	**Celeste**	**5.29**	**300**	*e*Pn	**Pn**	**11 52 18.1**	**+1.4**
OHR	**Ohrid**	**5.42**	**353**	*i* Pn	**Pn**	**11 52 19.9**	**+1.5**
VAY	**Valandovo**	**5.62**	**7**	*i* Pn	**Pn**	**11 52 22.7**	**+1.6**
KRUS	**Krusevo**	**5.64**	**356**	*i* Pn	**Pn**	**11 52 22.5**	**+1.1**
TIR	**Tirane**	**5.79**	**346**	*e*Pn	**Pn**	**11 52 24.7**	**+1.3**
TIR	**Tirane**	**5.79**	**346**	⇓*i*P	**Pn**	**11 52 24.6**	**+1.2**
TIR	**Tirane**	**5.79**	**346**	*e*P	**Pn**	**11 52 24.7**	**+1.3**
WDD	**Wied Dalam**	**5.84**	**273**	*e*Pn	**Pn**	**11 52 25.1**	**+1.0**
TAR1	**Taranto**	**5.92**	**325**	*e*Pn	**Pn**	**11 52 25.8**	**+0.6**
CGL1	**Ceglie Messapi**	**5.94**	**327**	*e*Pn	**Pn**	**11 52 25.6**	**+0.2**
STIP	**Stip**	**5.97**	**3**	*i* Pn	**Pn**	**11 52 28.0**	**+2.2**
MMB	**Musomiste**	**6.06**	**15**	*e*P	**Pn**	**11 52 28.1**	**+1.0**
MASS	**Massafra**	**6.07**	**325**	*e*Pn	**Pn**	**11 52 27.6**	**+0.3**
VAE	**Valguarnera**	**6.12**	**289**	Pn	**Pn**	**11 52 32.1**	**+4.1**
	comp=E,7.2nm,0.3s,baz=329,slow=16,SNR=3.5						
VAE				Sn	**Sn**	**11 53 42.5**	**+5.1**
	comp=E,6.2nm,0.3s,baz=56,slow=18,SNR=4.6						
FASA	**Fasano**	**6.12**	**327**	*e*Pn	**Pn**	**11 52 28.2**	**+0.2**
MANT	**Manisa**	**6.13**	**61**	*e*Pn	**Pn**	**11 52 29.1**	**+0.8**
ALN	**Alexandroupoli**	**6.18**	**32**	*e*Pn	**Pn**	**11 52 29.7**	**+0.9**
ALN	**Alexandroupoli**	**6.18**	**32**	*e*P	**Pn**	**11 52 29.7**	**+0.9**
KKB	**Krupnik**	**6.22**	**10**	*e*P	**Pn**	**11 52 30.3**	**+1.0**
SKO	**Skopje**	**6.24**	**358**	*i* Pn	**Pn**	**11 52 30.3**	**+0.7**
MATE	**Matera**	**6.30**	**323**	⇑*i*P	**Pn**	**11 52 30.8**	**+0.5**
CUC	**Castrocucco**	**6.31**	**314**	*e*Pn	**Pn**	**11 52 32.6**	**+2.0**
RZN	**Rozhen**	**6.40**	**21**	*e*P	**Pn**	**11 52 33.7**	**+1.8**
SG1	**Sgolgore (BA)**	**6.45**	**324**	*e*Pn	**Pn**	**11 52 32.9**	**+0.4**
ULC	**Ulcinj**	**6.51**	**344**	⇑*i*Pn	**Pn**	**11 52 32.6**	**-0.8**
ULC				*e*Sn	**Sn**	**11 53 43.1**	**-3.9**
BAI	**Bari**	**6.57**	**326**	*e*Pn	**Pn**	**11 52 34.3**	**+0.2**
DRME	**Dracevica, Mon**	**6.74**	**344**	⇑*i*Pn	**Pn**	**11 52 35.4**	**-1.0**
DRME				*e*Sn	**Sn**	**11 53 48.9**	**-3.7**
DRME	**Dracevica, Mon**	**6.74**	**344**	*e*Pn	**Pn**	**11 52 36.3**	**-0.1**
BUM	**Brajici-Budva**	**6.92**	**342**	⇓*i*Pn	**Pn**	**11 52 38.6**	**-0.3**
BUM				*e*Sn	**Sn**	**11 53 51.9**	**-5.1**
VTS	**Vitosha**	**6.95**	**9**	*e*Pn	**Pn**	**11 52 40.6**	**+1.1**
VTS	**Vitosha**	**6.95**	**9**	⇑*i*P	**Pn**	**11 52 40.8**	**+1.3**
VTS	**Vitosha**	**6.95**	**9**	*e*P	**Pn**	**11 52 41.3**	**+1.8**
PDG	**Podgorica**	**6.96**	**345**	⇑*i*P	**Pn**	**11 52 39.4**	**0.0**
PDG	**Podgorica**	**6.96**	**345**	*e*Pn	**Pn**	**11 52 38.9**	**-0.5**
TTG	**Podgorica**	**6.96**	**345**	⇓*i*Pn	**Pn**	**11 52 38.4**	**-1.0**
TTG				*e*Sn	**Sn**	**11 53 53.1**	**-4.8**
TTG	**Podgorica**	**6.96**	**345**	*e*Pn	**Pn**	**11 52 39.2**	**-0.2**
TTG	**Podgorica**	**6.96**	**345**	*e*P	**Pn**	**11 52 39.2**	**-0.2**
PVY	**Plav**	**6.99**	**349**

PSZ	**Piszkesteto**	**12.25**	**354**	*e*Pn		**Pn**	**11 53 49.0**	**-3.0**
PSZ				Sn		**Sn**	**11 56 13.1**	**+5.1**
PSZ	**Piszkesteto**	**12.25**	**354**	*e*P		**Pn**	**11 53 51.9**	**-0.1**
PRNI	**Paran**	**12.38**	**112**	Pn		Pn	11 53 42.4	-11
PRNI				Sn		Sn	11 56 01.0	-10
GHAJ	**Ghor Haditha**	**12.38**	**107**	Sn		Sn	11 56 01.1	-10
ARSA	**Arzberg**	**12.40**	**340**	*e*Pn		**Pn**	**11 53 53.7**	**-0.3**
	comp=Z,1.8nm,0.2s							
TRPA	**Tarpa**	**12.41**	**3**⇓	*i*P		**Pn**	**11 53 53.8**	**-0.2**
KIS	**Kishinev**	**12.45**	**23**	*e*P		**P**	**11 54 03.0**	**-3.4**
KIS				LRM		MLR	11 59 25.0	
	comp=Z,300nm,15.0s							
KIS	**Kishinev**	**12.45**	**23**	*e*P		**P**	**11 54 03.0**	**-3.4**
KIS				MLR		MLR		
	comp=Z,300nm,15.0s							
HRFI	**Mount Harif**	**12.55**	**113**	Pn		Pn	11 53 44.6	-12
HRFI				Sn		Sn	11 56 05.2	-10
MBRI	**Mt Berech**	**12.59**	**114**	Pn		Pn	11 53 45.8	-11
MBRI				Sn		Sn	11 56 06.1	-10
EIL	**Elat**	**12.68**	**115**	Pn		**Pn**	**11 53 57.6**	**-0.3**
	comp=Z,1.6nm,0.3s,baz=318,slow=5.4,SNR=13							
EIL				Sn		Sn	11 56 06.4	-12
	comp=Z,1.2nm,0.3s,baz=72,slow=20,SNR=5.5							
EIL	**Elat**	**12.68**	**115**	Pn		Pn	11 53 47.8	-10
EIL				Sn		Sn	11 56 07.1	-11
VYHS	**Vyhne**	**12.93**	**351**	*e*P		**Pn**	**11 53 59.8**	**-1.4**
VYHS	**Vyhne**	**12.93**	**351**	*e*PN		**Pn**	**11 53 59.8**	**-1.4**
CONA	**Conrad Observa**	**12.94**	**342**	*e*Pn		**Pn**	**11 54 01.5**	**+0.1**
	comp=Z,1.4nm,0.5s							
KBA	**Koelnbreinsper**	**12.95**	**334**	*e*Pn		**Pn**	**11 54 03.7**	**+2.1**
	comp=Z,3.3nm,0.3s							
KBA				*e*Sn		**Sn**	**11 56 17.7**	**-7.4**
	comp=Z,0.4nm,0.1s							
ABTA	**Abfaltersbach**	**12.99**	**331**	*e*Pn		**Pn**	**11 54 02.1**	**0.0**
	comp=Z,3.9nm,0.6s							
ABTA				Sn		**Sn**	**11 56 18.2**	**-7.8**
	comp=Z,8.8nm,0.7s							
MODS	**Modra-Piesok**	**13.05**	**347**	*e*P		**Pn**	**11 54 03.9**	**+1.0**
MODS	**Modra-Piesok**	**13.05**	**347**	*e*PN		**Pn**	**11 54 03.9**	**+1.0**
ASF	**Jabal al Asfar**	**13.10**	**101**	Pn		Pn	**11 54 04.9**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=294,slow=10.0,SNR=2.1							
ASF				Sn		**Sn**	**11 56 20.4**	**-8.4**
	comp=Z,0.4nm,0.3s,baz=313,slow=19,SNR=2.5							
MOA	**Molln**	**13.31**	**338**	*e*Pn		**Pn**	**11 54 05.5**	**-0.9**
	comp=Z,7.0nm,0.5s							
MOA				*e*Sn		**Sn**	**11 56 26.1**	**-7.7**
	comp=Z,0.7nm,0.2s							
FUORN	**Ofenpass-Fuorn**	**13.86**	**325**	*e*Pn		**Pn**	**11 54 15.7**	**+1.6**
SQTA	**Sankt Quirin**	**13.90**	**329**	*e*Pn		**Pn**	**11 54 15.2**	**+0.6**
	comp=Z,1.4nm,0.3s							
KWP	**Kalwaria Pacla**	**13.91**	**3**	*e*P		**Pn**	**11 54 15.4**	**+0.8**
KWP	**Kalwaria Pacla**	**13.91**	**3**	*e*Pn		**Pn**	**11 54 14.9**	**+0.3**
KWP	**Kalwaria Pacla**	**13.91**	**3**	*e*P		**Pn**	**11 54 15.4**	**+0.8**
FETA	**Feichten**	**13.95**	**327**	*e*Pn		**Pn**	**11 54 18.2**	**+2.8**
	comp=Z,2.7nm,0.7s							
FETA				Sn		Sn	11 56 40.4	-9.2
	comp=Z,1.1nm,0.5s							
DAVOX	**Davos/Dischmat**	**14.16**	**325**	Pn		**Pn**	**11 54 20.7**	**+2.6**
	comp=Z,0.4nm,0.3s,baz=151,slow=17,SNR=9.5							
DAVOX				Sn		**Sn**	**11 56 46.9**	**-7.8**
	comp=Z,0.2nm,0.3s,baz=328,slow=19,SNR=2.1							
LVV	**L'vov**	**14.18**	**6**	*e*P		**Pn**	**11 54 19.6**	**+1.3**
LVV				*e*S		**Sn**	**11 56 57.3**	**+2.4**
LVV				pmax		pmax		
	comp=Z,50μm,1.6s							
TUE	**Stuetta**	**14.19**	**323**	*e*Pn		**Pn**	**11 54 20.0**	**+1.4**
TREC	**Trest**	**14.30**	**343**	AMS		AMS	12 01 10.0	
	comp=Z,500nm,15.0s							
OKC	**Ostrava-Krasne**	**14.34**	**351**	*e*P		**P**	**11 54 28.8**	**+1.5**
OKC	**Ostrava-Krasne**	**14.34**	**351**	*e*P		**P**	**11 54 28.8**	**+1.5**
GEA0	**GERESS Array S**	**14.36**	**338**	*e*Pn		**Pn**	**11 54 21.2**	**+0.4**
MORC	**Moravsky Berou**	**14.37**	**349**	*e*Pn		**Pn**	**11 54 21.8**	**+1.0**
MORC	**Moravsky Berou**	**14.37**	**349**	*e*P		**Pn**	**11 54 21.8**	**+1.0**
GEC2	**GERESS Array S**	**14.37**	**338**	*e*Pn		**Pn**	**11 54 22.4**	**+1.5**
GEC2	**GERESS Array S**	**14.37**	**338**	*e*P		**Pn**	**11 54 22.4**	**+1.5**
GERES	**GERESS Array B**	**14.37**	**338**	Pn		**Pn**	**11 54 20.9**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=153,slow=13,SNR=16							
GERES				Sn		Sn	11 56 47.2	-12
	comp=Z,0.2nm,0.3s,baz=144,slow=37,SNR=4.5							
GERES				LR		LR	12 01 32.5	
	comp=Z,378nm,18.6s,baz=128,slow=44							
KHC	**Kasperske Hory**	**14.66**	**338**	*e*Pn		**Pn**	**11 54 25.9**	**+1.0**
KHC	**Kasperske Hory**	**14.66**	**338**	*e*P		**Pn**	**11 54 25.2**	**+0.3**
KHC				*e*pP		**P**	**11 54 34.1**	**+3.1**
KHC				AMS		AMS	12 01 10.0	
	comp=Z,500nm,15.6s							
KHC	**Kasperske Hory**	**14.66**	**338**	*e*P		**Pn**	**11 54 25.9**	**+1.0**
BNI	**Bardonecchia**	**14.74**	**314**	*e*Pn		**Pn**	**11 54 27.8**	**+1.8**
BNI	**Bardonecchia**	**14.74**	**314**	*e*P		**Pn**	**11 54 27.8**	**+1.8**
GOPC	**GO Pecny, Ondr**	**15.05**	**343**	AMS		AMS	12 01 30.0	
	comp=Z,500nm,16.6s							
DPC	**Dobruska-Polom**	**15.13**	**347**	*e*P		**P**	**11 54 37.2**	**+1.1**
DPC				AMS		AMS	12 01 50.0	
	comp=Z,400nm,13.9s							
DPC	**Dobruska-Polom**	**15.13**	**347**	*e*P		**P**	**11 54 37.2**	**+1.1**
DPC				MLR		MLR		
	comp=Z,400nm,13.9s							
SENIN	**Lac Senin/Sane**	**15.17**	**319**	*e*Pn		**Pn**	**11 54 32.2**	**+0.3**
	comp=Z,4.7nm,0.7s							
PRU	**Pruhonice**	**15.18**	**342**	AMS		AMS	12 01 20.0	
	comp=Z,500nm,16.7s							
AK11	**Malin Array Si**	**15.89**	**18**	*e*Pn		**Pn**	**11 54 41.0**	**+0.1**
KIEV	**Kiev**	**15.91**	**18**	*e*Pn		**Pn**	**11 54 39.0**	**-2.2**
	comp=Z,8.6nm,0.6s							
KIEV	**Kiev**	**15.91**	**18**	*i* P		**Pn**	**11 54 41.0**	**-0.2**
GRA1	**Grafenberg Arr**	**15.92**	**334**	*e*Pn		**Pn**	**11 54 42.2**	**+0.9**
	comp=Z,59nm,1.6s							
GRF	**Grafenberg Arr**	**15.92**	**334**	*e*P		**P**	**11 54 46.7**	**+1.9**
	comp=Z,9.7nm,0.7s,baz=151,slow=11							
GRF	**Grafenberg Arr**	**15.92**	**334**	*e*P		**Pn**	**11 54 42.2**	**+0.9**
GRF				pmax		pmax		
	comp=Z,59nm,1.6s							
GRFO	**Grafenberg**	**15.92**	**334**	*e*Pn		**Pn**	**11 54 41.3**	**0.0**
	comp=Z,12nm,0.8s							
GRFO	**Grafenberg**	**15.92**	**334**	*e*P		**Pn**	**11 54 41.3**	**0.0**
GRFO				pmax		pmax		
	comp=Z,12nm,0.8s							
AKASG	**Malin Array Be**	**15.92**	**18**	Pn		**Pn**	**11 54 39.3**	**-2.0**
	comp=Z,2.2nm,0.3s,baz=210,slow=12,SNR=5.5							
AKASG	**Malin Array Be**	**15.92**	**18**	*i* P		**Pn**	**11 54 39.9**	**-1.5**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.3s							
AKBB	**Malin Array Si**	**15.92**	**18**	*e*Pn		**Pn**	**11 54 39.4**	**-1.9**
	comp=Z,9.0nm,0.6s							
AKBB	**Malin Array Si**	**15.92**	**18**	*e*P		**Pn**	**11 54 39.4**	**-1.9**
AKBB				pmax		pmax		
	comp=Z,9.0nm,0.6s							
BEL	**Belsk**	**16.11**	**358**	*e*P		**P**	**11 54 48.7**	**+1.7**
BEL	**Belsk**	**16.11**	**358**	*e*P		**P**	**11 54 48.7**	**+1.7**
BRG	**Berggiesshubel**	**16.14**	**342**	*e*P		**Pn**	**11 54 44.2**	**0.0**
	comp=Z,4.8nm,1.1s							
BRG	**Berggiesshubel**	**16.14**	**342**	*e*P		**Pn**	**11 54 44.2**	**0.0**
BRG				pmax		pmax		
	comp=Z,5.0nm,1.1s							
SIRT	**Sirnak**	**16.74**	**78**	*e*Pn		**Pn**	**11 54 52.1**	**+0.1**
	comp=Z,25nm,0.8s							
CLL	**Collm**	**16.78**	**341**	*e*Pn		**P**	**11 54 53.7**	**-0.7**
	comp=Z,18nm,1.4s							
CLL	**Collm**	**16.78**	**341**	*i* sP		**P**	**11 54 56.4**	**+2.0**
CLL	**Collm**	**16.78**	**341**	*e*P		**P**	**11 54 53.7**	**-0.7**
CLL				pmax		pmax		
	comp=Z,18nm,1.4s							
WLF	**Walferdange**	**17.97**	**326**	⇑P		**Pn**	**11 55 07.3**	**+0.2**
KIV	**Kislovodsk**	**18.05**	**57**	*e*P		**P**	**11 55 08.2**	**-0.4**
KIV				pmax		pmax		
	comp=Z,11nm,1.0s							
KIV				MLR		MLR		
	comp=Z,43nm,14.0s							
SUW	**Suwalki**	**18.31**	**3**	*e*P		**Pn**	**11 55 10.9**	**-0.3**
SUW	**Suwalki**	**18.31**	**3**	*e*Pn		**Pn**	**11 55 10.7**	**-0.6**
	comp=Z,53nm,0.9s							
SUW	**Suwalki**	**18.31**	**3**	*e*P		**Pn**	**11 55 10.9**	**-0.3**
GNI	**Garni**	**18.68**	**69**	P		**Pn**	**11 55 17.1**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=244,slow=7.1,SNR=3.7							
GNI	**Garni**	**18.68**	**69**	*e*P		**P**	**11 55 15.1**	**-0.6**
	comp=Z,54nm,1.6s							
GNI	**Garni**	**18.68**	**69**	*ce*P		**P**	**11 55 14.4**	**-1.3**
GNI				pmax		pmax		
	comp=Z,113nm,1.7s							
DOU	**Dourbes**	**18.99**	**324**	⇑P		**Pn**	**11 55 20.9**	**+1.3**
PABE	**Paberze**	**19.84**	**4**	*e*P		**P**	**11 55 28.2**	**+0.3**
VSR	**Storozhevoye**	**19.92**	**34**	*e*P		**P**	**11 55 28.0**	**-1.0**
VSR				pmax		pmax		
	comp=Z,10.0nm,0.6s							
ES19	**SONSECA Array**	**20.62**	**289**	*e*P		**P**	**11 55 37.5**	**+0.8**
ESDC	**Sonseca Array**	**20.66**	**289**	P		Pn	11 55 39.1	-0.5
	comp=Z,2.0nm,0.6s,baz=88,slow=11,SNR=9.5							
LPSR	**Galich'ya Gora**	**20.82**	**31**	*e*P		**P**	**11 55 36.8**	**-1.8**
LPSR				pmax		pmax		
	comp=Z,70nm,0.5s							
PAB	**San Pablo**	**20.96**	**288**	*e*P		**P**	**11 55 41.9**	**+1.5**
	comp=Z,20nm,1.4s							
PAB	**San Pablo**	**20.96**	**288**	*e*P		**P**	**11 55 41.9**	**+1.5**
PAB				pmax		pmax		
	comp=Z,20nm,1.4s							
VRH	**Novokhopyorsk**	**21.11**	**37**	*e*P		**P**	**11 55 41.0**	**-0.8**
VRH				pmax		pmax		
	comp=Z,100nm,0.6s							
MDT	**Midelt**	**21.92**	**270**	P		**P**	**11 55 53.1**	**+2.3**
	comp=Z,5.7nm,1.0s,baz=86,slow=9.7,SNR=4.5							
OBN	**Obninsk**	**21.93**	**23**	*e*P		**P**	**11 55 50.0**	**-0.5**
	comp=Z,51nm,0.5s							
OBN	**Obninsk**	**21.93**	**23**⇓	*e*P		**P**	**11 55 48.7**	**-1.8**
OBN				*e*			11 55 54.8	
OBN							11 56 13.0	
OBN				S		**S**	**11 59 48.0**	**-3.5**
OBN				pmax		pmax		
	comp=Z,26nm,0.5s							
OBN				MLR		MLR		
	comp=Z,66nm,17.0s							
MOS	**Moscow**	**22.78**	**24**	*e*P		**P**	**11 55 57.8**	**-1.9**
MOS				*e*			11 56 02.2	
MOS				*e*			11 56 22.9	
MOS				*e*S		**S**	**12 00 03.9**	**-3.5**
MOS				*e*			12 00 15.5	
MOS				pmax		pmax		
	comp=Z,29nm,0.6s							
VSU	**Vasula**	**22.98**	**7**	*ce*P		**P**	**11 56 02.5**	**+0.8**
VSU				pmax		pmax		
	comp=Z,41nm,0.7s							
HFS	**Hagfors**	**24.96**	**350**	P		**P**	**11 56 20.5**	**0.0**
	comp=Z,3.7nm,0.4s,baz=158,slow=12,SNR=20							
KONO	**Kongsberg**	**25.20**	**346**	*e*P		**P**	**11 56 23.0**	**+0.4**
	comp=Z,49nm,1.5s							
KONO	**Kongsberg**	**25.20**	**346**	*e*P		**P**	**11 56 23.0**	**+0.4**
KONO				pmax		pmax		
	comp=Z,49nm,1.5s							
BLS5	**Blasjo**	**25.71**	**342**	*e*P		**P**	**11 56 29.4**	**+2.1**
NC602	**NORSAR Array S**	**25.86**	**349**	*e*P		**P**	**11 56 29.3**	**+0.6**
NC602	**NORSAR Array S**	**25.86**	**349**	*e*P		**P**	**11 56 30.3**	**+1.7**
FIA0	**FINESS Array S**	**25.88**	**5**	*e*P		**P**	**11 56 28.5**	**-0.3**
FIA0	**FINESS Array S**	**25.88**	**5**	*e*P		**P**	**11 56 28.5**	**-0.3**
FINES	**FINESS Array B**	**25.88**	**5**	P		**P**	**11 56 28.5**	**-0.3**
	comp=Z,6.6nm,0.7s,baz=166,slow=11,SNR=15							
FINES				LR		LR	12 07 48.2	
	comp=Z,131nm,18.9s,baz=222,slow=39							
FIA1	**FINESS Array S**	**25.89**	**5**	*e*P		**P**	**11 56 28.5**	**-0.3**
EKA	**Eskdalemuir Ar**	**25.98**	**327**	P		**P**	**11 56 30.4**	**+0.7**
	comp=Z,13nm,0.5s,baz=127,slow=8.7,SNR=37							
ESK	**Eskdalemuir**	**25.99**	**327**	*e*P		**P**	**11 56 30.7**	**+0.8**
	comp=Z,85nm,1.5s							
ESK	**Eskdalemuir**	**25.99**	**327**	*e*P		**P**	**11 56 30.7**	**+0.8**
ESK				pmax		pmax		
	comp=Z,85nm,1.5s							
NAO01	**NORSAR Array S**	**26.07**	**348**	*e*P		**P**	**11 56 31.2**	**+0.6**
NC405	**NORSAR Array S**	**26.19**	**349**	*e*P		**P**	**11 56 32.0**	**+0.3**
NB201	**NORSAR Array S**	**26.20**	**349**	*e*P		**P**	**11 56 31.5**	**-0.2**
NB2	**NORSAR Subarra**	**26.20**	**348**	P		**P**	**11 56 31.2**	**-0.6**
	comp=Z,3.0nm,0.6s,baz=161,slow=9.3							
NB200	**NORSAR Array S**	**26.20**	**348**	*e*P		**P**	**11 56 31.1**	**-0.7**
NOA	**NORSAR Array B**	**26.20**	**348**	P		**P**	**11 56 31.1**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=157,slow=9.1,SNR=16							
NOA	**NORSAR Array B**	**26.20**	**348**	P		**P**	**11 56 31.1**	**-0.7**
NOA				pmax		pmax		
	comp=Z,3.0nm,0.6s							
NBO00	**NORSAR Array S**	**26.27**	**348**	*e*P		**P**	**11 56 32.6**	**+0.3**
NC303	**NORSAR Array S**	**26.35**	**349**	*e*P		**P**	**11 56 33.6**	**+0.5**
NC204	**NORSAR Array S**	**26.50**	**348**	*e*P		**P**	**11 56 35.0**	**+0.6**
DOMB	**Dombas**	**27.51**	**347**	*e*P		**P**	**11 56 44.7**	**+1.2**
KLMR	**Klimovskoe**	**27.61**	**19**	*e*P		**P**	**11 56 44.4**	**+0.1**
KLMR				pmax		pmax		
	comp=Z,14nm,1.4s							
KLMR	**Klimovskoe**	**27.61**	**19**	*e*P		**P**	**11 56 44.4**	**+0.1**
KLMR				AMP			11 57 01.3	
	comp=Z,14nm,1.4s							
TOA1	**Torodi Ar. Sit**	**28.82**	**224**	*e*P		**P**	**11 56 56.0**	**+0.4**
TOA0	**Torodi Ar. Sit**	**28.82**	**224**	*e*P		**P**	**11 56 56.6**	**+1.0**
TORD	**Torodi Ar. Bea**	**28.82**	**224**	P		**P**	**11 56 56.0**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=31,slow=9.6,SNR=12							
AKTO	**Aktyubinsk**	**29.98**	**49**	P		**P**	**11 57 04.5**	**-1.1**
	comp=Z,1.5nm,0.5s,baz=224,slow=2.8,SNR=8.5							
ABKAR	**Akbulak array**	**30.91**	**52**	*e*P		**P**	**11 57 13.2**	**-0.7**
KONS	**Konsvik**	**31.22**	**353**	*e*P		**P**	**11 57 17.5**	**+1.2**
ARU	**Arti**	**32.32**	**39**	*e*P		**P**	**11 57 25.4**	**-0.7**
	comp=Z,11nm,1.2s							
ARU	**Arti**	**32.32**	**39**	P		**P**	**11 57 25.4**	**-0.7**
ARU							11 58 30.7	
ARU				S		**S**	**12 02 40.0**	**+1.4**
ARU				SS		**SnSn**	**12 04 29.6**	**-1.3**
STEI	**Steigen**	**32.46**	**355**	*e*P		**P**	**11 57 27.3**	**+0.1**
KTK1	**Kautokeino**	**33.35**	**1**	*e*P		**P**	**11 57 35.9**	**+0.9**
SVE	**Sverdlovsk**	**33.53**	**39**	*e*P		P	11 57 25.0	-12
SVE				pmax		pmax		
	comp=Z,18nm,0.8s							
ARA0	**ARCESS Array S**	**33.93**	**2**	*e*P		**P**	**11 57 39.9**	**-0.1**
ARCES	**ARCESS Array B**	**33.93**	**2**	P		**P**	**11 57 39.9**	**-0.1**
	comp=Z,7.7nm,0.5s,baz=189,slow=9.3,SNR=52							
ARCES	**ARCESS Array B**	**33.93**	**2**	*e*P		**P**	**11 57 39.3**	**-0.7**
ARE0	**ARCESS Array S**	**33.93**	**2**	*e*P		**P**	**11 57 39.4**	**-0.6**
	comp=Z,4.7nm,1.6s							
ARE0	**ARCESS Array S**	**33.93**	**2**	*e*P		**P**	**11 57 39.6**	**-0.3**
KEV	**Kevo**	**34.21**	**3**	*e*P		**P**	**11 57 42.1**	**-0.2**
	comp=Z,134nm,1.6s							
KEV	**Kevo**	**34.21**	**3**	*e*P		**P**	**11 57 42.2**	**-0.2**
KEV				pmax		pmax		
	comp=Z,134nm,1.6s							
HAMF	**Hammerfest**	**34.99**	**1**	*e*P		**P**	**11 57 49.9**	**+0.7**
CHGR	**Chuyangaron**	**37.59**	**71**	*e*P		**P**	**11 58 11.6**	**-0.3**
	comp=Z,21nm,0.6s							
DBIC	**Dimbokro**	**37.82**	**226**	P		**P**	**11 58 15.8**	**+1.9**
	comp=Z,4.6nm,1.0s,baz=9.6,slow=12,SNR=3.4							
DBIC				LR		LR	12 14 08.9	
	comp=Z,41nm,19.7s,baz=347,slow=37							
DBIC	**Dimbokro**	**37.82**	**226**	*e*P		**P**	**11 58 13.9**	**+0.1**
	comp=Z,5.1nm,1.0s							
BRVK	**Borovoye**	**37.96**	**47**	*e*P		**P**	**11 58 14.6**	**-0.1**
	comp=Z,3.5nm,0.8s							
BRVK	**Borovoye**	**37.96**	**47**	*ce*P		**P**	**11 58 15.2**	**+0.5**
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KK31	**Karatay Array**	**37.97**	**64**	*e*P		**P**	**11 58 14.8**	**-0.2**
KK31	**Karatay Array**	**37.97**	**64**	*e*P		**P**	**11 58 14.8**	**-0.2**
KKAR	**Karatay Array**	**37.97**	**64**	*e*P		**P**	**11 58 14.8**	**-0.2**
KKAR	**Karatay Array**	**37.97**	**64**	*e*P		**P**	**11 58 14.8**	**-0.2**
GAR	**Garm**	**38.41**	**70**	*e*P		**P**	**11 58 18.6**	**-0.3**
	comp=Z,13nm,0.7s							
GAR	**Garm**	**38.41**	**70**	*e*P		**P**	**11 58 18.6**	**-0.3**
GAR				pmax		pmax		
	comp=Z,13nm,0.7s							
KMBO	**Kilima Mbogo**	**39.43**	**155**	LR		LR	12 15 51.3	
	comp=Z,46nm,19.7s,baz=93,slow=38							
ARSB	**Arslanbob**	**40.02**	**66**	*e*P		**P**	**11 58 31.1**	**-1.2**
	comp=Z,5.7nm,0.8s							
AAK	**Ala-Archa**	**40.93**	**64**	*e*P		**P**	**11 58 39.5**	**-0.4**
	comp=Z,3.2nm,0.9s							
AAK	**Ala-Archa**	**40.93**	**64**	*ce*P		**P**	**11 58 39.2**	**-0.7**
AAK				pmax		pmax		
	comp=Z,3.0nm,0.8s							
SCO	**Scoresbysund**	**41.81**	**340**	*e*P		**P**	**11 58 47.4**	**+1.0**
	comp=Z,21nm,1.4s							
SCO	**Scoresbysund**	**41.81**	**340**	*e*P		**P**	**11 58 47.4**	**+1.0**
SCO				pmax		pmax		
	comp=Z,21nm,1.4s							
KSH	**Kashi**	**42.61**	**68**	P		**P**	**11 58 51.3**	**-2.3**
KSH				PcP		**PcP**	**12 00 45.5**	**-0.1**
KSH				S		**S**	**12 05 12.1**	**-3.3**
KSH				sS		pS	12 05 18.8	-2.6
KSH				ScS		**ScS**	**12 08 52.8**	**-1.2**
KSH				pmax		pmax		
	comp=Z,12nm,0.4s							
KSH				pmax		pmax		
	comp=Z,220nm,5.6s							
KSH				LR		LR		
	comp=Z,140nm,7.4s							
KSH				LR		LR		
	comp=Z,110nm,8.3s							
KSH				LR		LR		
	comp=Z,580nm,6.0s							
SPA0	**Spitsbergen Ar**	**42.62**	**358**	*e*P		**P**	**11 58 53.4**	**+0.4**
SPA0	**Spitsbergen Ar**	**42.62**	**358**	*e*P		**P**	**11 58 54.1**	**+1.2**
KURK	**Kurchatov**	**43.02**	**51**	*e*P		**P**	**11 58 55.8**	**-0.8**
	comp=Z,2.2nm,0.7s							
KURK	**Kurchatov**	**43.02**	**51**	*e*P		**P**	**11 58 55.8**	**-0.8**
KURK				pmax		pmax		
	comp=Z,2.0nm,0.7s							
MAKZ	**Makanchi**	**45.60**	**57**	*e*P		**P**	**11 59 16.5**	**-0.8**
	comp=Z,3.4nm,0.9s							
MAKZ	**Makanchi**	**45.60**	**57**	*e*P		**P**	**11 59 16.5**	**-0.8**
MAKZ				pmax		pmax		
	comp=Z,3.0nm,0.9s							
NVS	**Novosibirsk**	**45.68**	**45**	*e*P		**P**	**11 59 17.3**	**-0.5**
MK31	**Makanchi Array**	**45.81**	**57**	*e*P		**P**	**11 59 18.0**	**-1.0**
MK31	**Makanchi Array**	**45.81**	**57**	*e*P		**P**	**11 59 18.0**	**-1.0**
MK32	**Makanchi Array**	**45.81**	**57**	*e*P		**P**	**11 59 18.3**	**-0.8**
MKAR	**Makanchi Array**	**45.81**	**57**	P		**P**	**11 59 18.3**	**-0.8**
	comp=Z,4.2nm,0.5s,baz=281,slow=6.7,SNR=72							
MKAR				PcP		**PcP**	**12 00 56.9**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=268,slow=5.5,SNR=2.1							
MKAR	**Makanchi Array**	**45.81**	**57**	*e*P		**P**	**11 59 18.0**	**-1.0**
	comp=Z,4.5nm,0.6s							
MK01	**Makanchi Array**	**45.82**	**57**	*e*P		**P**	**11 59 18.1**	**-1.1**
ZAA0	**Zalesovo Array**	**46.65**	**46**	*e*P		**P**	**11 59 24.1**	**-1.4**
	comp=Z,4.6nm,0.6s							
ZAA1	**Zalesovo Array**	**46.65**	**46**	*e*P		**P**	**11 59 24.2**	**-1.2**
ZALV	**Zalesovo Beam**	**46.65**	**46**	P		**P**	**11 59 24.2**	**-1.2**
	comp=Z,5.3nm,0.6s,baz=272,slow=8.6,SNR=21							
ZALV				LR		LR	12 21 00.7	
	comp=Z,22nm,19.0s,baz=84,slow=39							
ZALV	**Zalesovo Beam**	**46.65**	**46**	*e*P		**P**	**11 59 23.9**	**-1.5**
NRS	**Narsarsuaq**	**48.56**	**323**	*e*P		**P**	**11 59 40.9**	**+0.7**
	comp=Z,60nm,1.2s							
NRS	**Narsarsuaq**	**48.56**	**323**	*e*P		**P**	**11 59 40.9**	**+0.7**
NRS				pmax		pmax		
	comp=Z,60nm,1.2s							
DGZ	**Jazzator, Alta**	**48.75**	**52**	*d* iP		**P**	**11 59 41.1**	**-0.9**
DGZ				pmax		pmax		
	comp=Z,1.0nm,0.5s							
WMQ	**Urumqi**	**50.15**	**59**	P		**P**	**11 59 52.9**	**+0.2**
WMQ				pP		sP	12 00 00.5	+0.5
WMQ				sP		pwP	12 00 05.0	+2.2
WMQ				pmax		pmax		
	comp=Z,330nm,5.9s							
PYUN	**Piuthan**	**51.85**	**80**	*e*P		**P**	**12 00 05.6**	**-0.2**
	comp=Z,13nm,0.6s							
DANN	**Dangsing**	**52.36**	**80**	*e*P		**P**	**12 00 09.6**	**-0.1**
	comp=Z,23nm,0.6s							
KOLN	**Koldanda**	**52.47**	**80**	*e*P		**P**	**12 00 10.2**	**-0.3**
	comp=Z,6.5nm,0.7s							
HYB	**Hyderabad**	**53.29**	**94**	*i* P		P	12 00 24.5	+8.1
DMN	**Daman**	**53.75**	**80**	*e*P		**P**	**12 00 19.4**	**-0.5**
	comp=Z,14nm,0.6s							
KKN	**Kakani**	**53.81**	**79**	*e*P		**P**	**12 00 19.7**	**-0.6**
	comp=Z,8.7nm,0.6s							
PKIN	**Phulchoki**	**54.00**	**80**	*e*P		**P**	**12 00 20.6**	**-1.2**
	comp=Z,7.7nm,0.6s							
PKI	**Pulchoki**	**54.01**	**80**	*e*P

VNDA					LR	LR	12 18 35.1		
	comp=Z,625nm,21.1s,baz=61,slow=31								
QSPA	**South Pole Qui**	**27.64**	**180**		LR	LR	12 23 26.2		
	comp=Z,339nm,21.1s,baz=50,slow=31								
TBI	**Tubuai**	**40.12**	**19**	*e*	LR	LR	12 27 36.2		
	comp=Z,346nm,27.2s,baz=195								
TBI	**Tubuai**	**40.12**	**19**	*e*	T	T	12 59 30.0		
	12nm,0.3s								
RKT	**Rikitea**	**43.56**	**38**	*e*	LR	LR	12 29 13.0		
	comp=Z,175nm,28.2s								
RKT	**Rikitea**	**43.56**	**38**	*e*	T	T	13 03 44.3		
	1.7nm,0.3s								
TVO	**Taravao**	**45.62**	**18**	*e*	T	T	13 06 22.4		
	1.0nm,0.3s								
PAE	**Paea**	**45.69**	**18**	*e*	T	T	13 06 27.4		
	1.2nm,0.3s								
PPT2	**Papeete2**	**45.76**	**17**	*e*	T	T	13 06 32.6		
	2.2nm,0.3s								
MAW	**Mawson**	**46.12**	**202**		LR	LR	12 34 54.5		
	comp=Z,144nm,20.5s,baz=154,slow=34								
STKA	**Stephens Creek**	**46.55**	**284**		LR	LR	12 33 10.0		
	comp=Z,316nm,19.3s,baz=185,slow=31								
VAH	**Vaihoa**	**48.36**	**20**	*e*	T	T	13 09 47.4		
	18nm,0.3s								
RPN	**Rapa Nui**	**49.52**	**70**		LR	LR	12 33 47.2		
	comp=Z,227nm,20.7s,baz=196,slow=30								
PLCA	**Paso Flores**	**55.75**	**113**		LR	LR	12 36 30.4		
	comp=Z,270nm,21.7s,baz=224,slow=30								
ASAR	**Alice Springs**	**57.06**	**282**		P	P	12 18 45.8	-0.2	
	1.2nm,0.8s,baz=150,slow=7.0,SNR=11								
ASAR					LR	LR	12 39 28.1		
	comp=Z,397nm,21.4s,baz=144,slow=32								
HNR	**Honiara**	**59.46**	**316**		LR	LR	12 41 42.4		
	comp=Z,124nm,19.9s,baz=158,slow=33								
WRA	**Warramunga Arr**	**60.10**	**285**		P	P	12 19 07.4	+0.2	
	1.3nm,0.8s,baz=159,slow=6.0,SNR=6.1								
WRA					LR	LR	12 42 53.2		
	comp=Z,170nm,18.2s,baz=170,slow=34								
PMG	**Port Moresby**	**64.08**	**303**		LR	LR	12 45 41.3		
	comp=Z,222nm,18.1s,baz=118,slow=34								
BATI	**Baumata**	**73.49**	**280**		LR	LR	12 49 40.7		
	comp=Z,296nm,20.2s,baz=191,slow=33								
LEM	**Lembang**	**83.89**	**267**		LR	LR	12 51 09.9		
	comp=Z,166nm,21.5s,baz=198,slow=30								
GUMO	**Guam**	**86.09**	**309**		LR	LR	12 52 54.6		
	comp=Z,43nm,21.6s,baz=142,slow=31								
BDFB	**Brasilia**	**87.09**	**119**		LR	LR	12 58 31.8		
	comp=Z,425nm,18.3s,baz=228,slow=34								
DAV	**Davao City (W)**	**87.95**	**289**		LR	LR	13 01 17.4		
	comp=Z,55nm,18.6s,baz=134,slow=36								
BOSA	**Boshof**	**89.01**	**187**		LR	LR	12 57 48.9		
	comp=Z,206nm,20.4s,baz=202,slow=33								
ZALV	**Zalesovo Beam**	**145.04**	**288**		PKPbc	PKPbc	12 28 34.5	-1.0	
	0.3nm,0.3s,baz=132,slow=2.1,SNR=3.0								

*SOME **14** 12:12:30.0,41.˝77N×72.˝73E,h10km*
*KRNET **14** 12:12:30.5±0.1,41.˝77N×72.˝74E,h17km,mb1.9*
*NNC **14** 12:12:30.9±0.6,41.˝80N×72.˝73E,h0km,mb2.6,mpv2.3,*
Error ellipse: s-maj=6.2km s-min=3.5km az=66.0
ISC 14 12:12:30.3±1.0, 41.˝77N±0.˝02×72.˝74E±0.˝03, h10km±11km, n23, σ0s69/43, 25C-13D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**0.48**	**157**	⇑*i*P	**Pg**	**12 12 39.6**	**-0.1**
ARSB	baz=58			⇑*i*S	**Sg**	**12 12 46.6**	**+0.6**
	baz=58						
ARK	**Arkit**	**0.58**	**273**	⇑*i*P	**Pg**	**12 12 41.3**	**-0.3**
ARK	baz=71			⇑*i*S	**Sg**	**12 12 49.6**	**+0.4**
	baz=71						
MNAS	**Manas**	**0.74**	**347**	⇓P	**Pg**	**12 12 44.4**	**-0.2**
MNAS	0.6nm,0.4s			⇓*i*S	**Sg**	**12 12 54.6**	**+0.3**
	3.6nm,0.3s						
MNAS	**Manas**	**0.74**	**347**	⇑*i*P	**Pg**	**12 12 44.8**	**+0.2**
MNAS	baz=46			⇑*i*S	**Sg**	**12 12 55.0**	**+0.7**
	baz=46						
AML	**Almayashu**	**0.80**	**63**	⇑*i*P	**Pg**	**12 12 46.0**	**+0.2**
AML	baz=63			⇑*i*S	**Sg**	**12 12 56.6**	**+0.3**
	baz=63						
MRKS	**Merke**	**1.04**	**20**	P	**Pg**	**12 12 49.9**	**-0.4**
MRKS	48nm,0.3s			S	**Sb**	**12 13 04.6**	**+0.3**
	4.0nm,0.2s						
MRKS	**Merke**	**1.04**	**20**	*e*P	**Pg**	**12 12 49.9**	**-0.4**
MRKS	1.0nm,0.1s			*e*S	**Sb**	**12 13 04.6**	**+0.3**
	4.0nm,0.2s						
EKS2	**Erkin-Say**	**1.18**	**40**	⇑*i*P	**Pb**	**12 12 52.5**	**-0.4**
EKS2	baz=40			⇑*i*S	**Sb**	**12 13 08.6**	**+0.3**
	baz=40						
ARLS	**Aral**	**1.19**	**85**	⇑*i*P	**Pb**	**12 12 53.2**	**+0.1**
ARLS	baz=85			⇑*i*S	**Sn**	**12 13 09.5**	**0.0**
	baz=85						
UCH	**Uchtor**	**1.40**	**70**	⇑*i*P	**Pb**	**12 12 56.9**	**0.0**
UCH	baz=70			⇑*i*S	**Sn**	**12 13 15.4**	**+0.2**
	baz=70						
AAK	**Ala-Archa**	**1.57**	**56**	⇓P	**Pb**	**12 13 00.1**	**+0.5**
AAK	0.5nm,0.3s			⇓S	**Sg**	**12 13 21.5**	**+0.7**
	1.1nm,0.5s						
AAK	**Ala-Archa**	**1.57**	**56**	⇑*i*P	**Pb**	**12 12 59.4**	**-0.1**
AAK	baz=56			⇑*i*S	**Sg**	**12 13 20.5**	**-0.3**
	baz=56						
SFK	**Sufi-Kurgan**	**1.85**	**161**	⇑Pn	**Pb**	**12 13 04.1**	**-0.2**
SFK	0.3nm,0.4s			⇓Sn	**Sg**	**12 13 29.4**	**-0.2**
	0.9nm,0.4s						
SFK	**Sufi-Kurgan**	**1.85**	**161**	Pg	**Pb**	**12 13 04.5**	**+0.2**
SFK	0.4nm,0.1s			Lg	Lg	12 13 29.5	
	1.4nm,0.3s						
SFK	**Sufi-Kurgan**	**1.85**	**161**	⇓*i*P	**Pb**	**12 13 04.1**	**-0.2**
SFK	baz=62			⇓*i*S	**Sb**	**12 13 28.4**	**+0.9**
	baz=62						
KBK	**Karagaybulak**	**1.87**	**61**	⇑*i*P	**Pb**	**12 13 04.9**	**+0.3**
KBK	baz=61			⇑*i*S	**Sg**	**12 13 29.7**	**-0.6**
	baz=61						
KZA	**Kyzart**	**1.90**	**80**	⇓*i*P	**Pb**	**12 13 05.8**	**+0.5**
KZA	baz=80			⇓*i*S	**Sg**	**12 13 31.2**	**-0.2**
	baz=80						
CHMS	**Chumysh**	**1.93**	**50**	⇑*i*P	**Pb**	**12 13 05.9**	**+0.2**
CHMS	baz=50			⇑*i*S	**Sb**	**12 13 31.3**	**+1.4**
	baz=50						
USP	**Ospenovka**	**1.99**	**40**	⇑*i*P	**Pb**	**12 13 06.4**	**-0.2**
USP	baz=40			⇑*i*S	**Sb**	**12 13 32.8**	**+1.4**
	baz=40						
KK31	**Karatay Array**	**2.12**	**310**	⇑Pn	**Pb**	**12 13 08.7**	**-0.2**
KK31	0.6nm,0.4s,baz=132,slow=16,SNR=7.8			⇓Sn	**Sg**	**12 13 37.2**	**-1.2**
	1.6nm,0.5s,baz=130,slow=28,SNR=6.2						
SGDS	**Sogindy**	**2.19**	**39**	Pg	**Pb**	**12 13 10.5**	**+0.5**
SGDS	1.9nm,0.5s			Lg	Lg	12 13 39.8	
	2.4nm,0.5s						
TKM2	**Tokmak 2**	**2.41**	**61**	⇓Pn	**Pb**	**12 13 13.2**	**-0.8**
TKM2	0.7nm,0.4s			⇑Lg	Lg	12 13 45.9	
	2.4nm,0.6s						
ULHL	**Ulahol**	**2.66**	**78**	⇓*i*P	**Pb**	**12 13 16.1**	**-2.0**
ULHL	baz=78			⇓*i*S	**Sb**	**12 13 48.9**	**-1.9**
	baz=78						

*IDC **14** 12:26:47.6±1.7,23.˝26S×175.˝59W,h0km,mb4.0/6,*
mb1 4.3/7,mb1mx4.0/23,mbtmp4.0/7,ML3.3/1,MS3.7/9,
Ms1 3.7/9,ms1mx3.5/29, Error ellipse: s-maj=97.7km
s-min=22.6km az=159.0
*NEIC **14** 12:26:49.1±0.4,22.˝81S×175.˝54W,h10km,mb4.3/11,*
Error ellipse: s-maj=15.0km s-min=8.4km az=139.0
*ISCJB **14** 12:26:50.8±0.4,22.˝91S±0.˝08×175.˝51W±0.˝09,h34km,*
mb4.1/16,MS3.8/8,Error ellipse: s-maj=14.0km
s-min=8.8km az=43.9
ISC 14 12:26:52.3±0.6, 22.˝8S±0.˝1×175.˝39W±0.˝09, h34km, n45, σ1s90/30, mb4.2/15, MS3.9/9, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**6.32**	**55**	*e*Pn	**Pn**	**12 28 21.8**	**-1.3**
NIUE				*e*Sn	**Sn**	**12 29 29.7**	**-4.4**
RAR	**Rarotonga**	**14.57**	**87**	Pn	**Pn**	**12 30 16.3**	**+0.1**
	1.3nm,0.3s,baz=254,slow=8.7,SNR=6.5						
RAR				Sn	Sn	12 32 43.1	-14
	1.1nm,0.3s,baz=108,slow=3.2,SNR=3.0						
RAR				LR	LR	12 36 18.5	
	comp=Z,126nm,18.4s,baz=276,slow=39						
RAR	**Rarotonga**	**14.57**	**87**	*e*Pn	**Pn**	**12 30 15.9**	**-0.3**
RAR				Sn	Sn	12 32 43.1	-14
URZ	**Urewera**	**16.68**	**201**	Pn	**Pn**	**12 30 41.7**	**-1.8**
	0.6nm,0.3s,baz=292,slow=6.1,SNR=5.5						
URZ				Sn	Sn	12 33 35.0	-13
	0.2nm,0.3s,baz=323,slow=20,SNR=4.1						
BKZ	**Black Stump Fm**	**17.71**	**201**	*e*Pn	**Pn**	**12 30 55.1**	**-1.3**
	4.6nm,1.0s						
BFZ	**Birch Farm**	**19.16**	**200**	*e*P	**P**	**12 31 12.0**	**-0.9**
	19nm,1.2s						
THZ	**Tophouse**	**21.29**	**205**	*e*P	**P**	**12 31 35.5**	**-0.5**
	19nm,1.1s						
TBI	**Tubuai**	**23.85**	**96**	*e*LR	LR	12 37 44.2	
	comp=Z,365nm,29.0s,baz=280						
TBI	**Tubuai**	**23.85**	**96**	*e*T	T	12 56 47.0	
	7.1nm,0.3s						
PAE	**Paea**	**24.74**	**83**	*e*T	T	12 57 36.0	
	26nm,0.3s						
PPT2	**Papeete2**	**24.76**	**83**	*e*T	T	12 57 38.5	
	15nm,0.3s						
PPT	**Papeete**	**24.77**	**83**	LR	LR	12 42 17.4	
	comp=Z,108nm,18.4s,baz=230,slow=37						
TIAR	**Tiarei**	**24.98**	**83**	*e*T	T	12 57 53.5	
	3.4nm,0.3s						
TVO	**Taravao**	**25.00**	**83**	*e*T	T	12 57 56.4	
	1.7nm,0.3s						
CTAO	**Charters Tower**	**35.74**	**267**	*e*P	**P**	**12 33 46.6**	**-1.6**
	4.1nm,0.6s						
RKT	**Rikitea**	**37.13**	**99**	*e*LR	LR	12 43 57.0	
	comp=Z,301nm,29.5s						
RKT	**Rikitea**	**37.13**	**99**	*e*T	T	13 13 24.9	
	2.2nm,0.3s						
STKA	**Stephens Creek**	**39.05**	**247**	P	**P**	**12 34 15.9**	**-0.2**
	1.4nm,0.9s,baz=97,slow=12,SNR=3.8						
STKA				LR	LR	12 49 14.0	
	comp=Z,104nm,18.1s,baz=42,slow=35						
AS31	**Alice Springs**	**46.40**	**258**	*e*P	**P**	**12 35 14.9**	**-1.0**
	0.8nm,0.8s						
ASAR	**Alice Springs**	**46.40**	**258**	P	**P**	**12 35 14.5**	**-1.4**
	0.6nm,0.4s,baz=96,slow=6.9,SNR=26						
WR1	**Warramunga Arr**	**46.72**	**264**	*e*P	**P**	**12 35 16.9**	**-1.6**
	4.0nm,0.8s						
WRA	**Warramunga Arr**	**46.72**	**264**	P	**P**	**12 35 16.9**	**-1.6**
	1.4nm,0.7s,baz=90,slow=6.0,SNR=13						
FITZ	**Fitzroy Crossi**	**55.15**	**263**	LR	LR	12 59 02.6	
	comp=Z,113nm,18.8s,baz=115,slow=35						
FITZ	**Fitzroy Crossi**	**55.15**	**263**	*e*P	**P**	**12 36 21.1**	**-0.8**
	4.6nm,1.1s						
SBA	**Scott Base**	**55.75**	**185**	*e*P	**P**	**12 36 26.3**	**+1.0**
QSPA	**South Pole Qui**	**67.27**	**180**	*e*P	**P**	**12 37 44.1**	**+0.8**
	1.7nm,0.8s						
MJAR	**Matsushiro Arr**	**73.51**	**323**	LR	LR	13 08 26.2	
	comp=Z,16nm,20.2s,baz=150,slow=34						
PETK	**Petropavlovsk-**	**79.14**	**344**	LR	LR	13 09 36.2	
	comp=Z,50nm,21.2s,baz=137,slow=32						
KSRS	**Korea Array**	**80.22**	**318**	LR	LR	13 06 05.8	
	comp=Z,66nm,21.8s,baz=146,slow=29						
NV01	**Mina Array Sit**	**81.08**	**42**	*e*P	**P**	**12 39 04.6**	**+0.2**
NVAR	**Mina Array Bea**	**81.08**	**42**	P	**P**	**12 39 07.9**	**+3.6**
	0.7nm,0.6s,baz=221,slow=8.0,SNR=5.9						
WVOR	**Wild Horse Val**	**83.38**	**39**	*e*P	**P**	**12 39 15.8**	**-0.4**
	1.0nm,0.8s						
TX31	**Lajitas Ar. Si**	**86.29**	**56**	*e*P	**P**	**12 39 32.1**	**+1.0**
LTX	**Lajitas**	**86.29**	**56**	*e*P	**P**	**12 39 34.8**	**+3.7**
TXAR	**Lajitas Array**	**86.29**	**56**	P	**P**	**12 39 34.8**	**+3.7**
	1.3nm,0.9s,baz=190,slow=6.4,SNR=5.7						
CAST	**Castle Rocks**	**87.88**	**10**	*e*P	**P**	**12 39 38.4**	**+0.4**
RND	**Reindeer**	**88.44**	**12**	*e*P	**P**	**12 39 40.9**	**+0.2**
	1.9nm,0.8s						
MLY	**Manley**	**89.60**	**10**	*e*P	**P**	**12 39 46.5**	**+0.5**
	2.6nm,1.2s						
ILAR	**Eielson Array**	**90.05**	**12**	P	**P**	**12 39 50.7**	**+2.7**
	1.6nm,1.2s,baz=208,slow=5.6,SNR=3.6						
ILAR				LR	LR	13 14 11.4	
	comp=Z,43nm,19.1s,baz=148,slow=31						
YKA	**Yellowknife Ar**	**97.60**	**24**	P	Pdif	12 40 25.4	+2.6
	0.1nm,0.6s,baz=243,slow=4.6,SNR=3.2						
SONM	**Songino Array**	**99.08**	**318**	LR	LR	13 19 17.1	
	comp=Z,60nm,20.9s,baz=3.0,slow=32						
MKAR	**Makanchi Array**	**114.54**	**312**	PKP	PKPdf	12 45 29.1	+0.3
	0.1nm,0.5s,baz=71,slow=2.4,SNR=2.3						
AKASG	**Malin Array Be**	**146.20**	**332**	PKPbc	**PKPab**	**12 46 29.5**	**-0.2**
	0.8nm,0.3s,baz=42,slow=4.0,SNR=5.7						
BRTR	**Keskin Array B**	**150.18**	**311**	PKPbc	**PKPbc**	**12 46 40.1**	**0.0**
	0.3nm,0.5s,baz=140,slow=4.2,SNR=3.6						
CLL	**Collm**	**150.82**	**349**	*e*(PKPbc)	**PKPbc**	**12 46 44.0**	**+3.0**
CLL				*e*		12 46 53.0	
CLL				L	L	13 42 00.0	
	comp=Z,100nm,21.4s						

*IDC **14** 12:37:17.9±3.5,21.˝00S×177.˝77W,h462km±40km,*
mb3.4/15,mb1 3.6/17,mb1mx3.5/31,mbtmp4.3/17,Error
ellipse: s-maj=25.8km s-min=17.5km az=164.0
*ISCJB **14** 12:37:20.0±0.7,21.˝0S±0.˝1×177.˝9W±0.˝1,h495km,*
mb3.7/15, Error ellipse: s-maj=21.9km s-min=12.4km
az=143.3
ISC 14 12:37:20.6±0.8, 21.˝1S±0.˝2×177.˝9W±0.˝1, h495km, n23, σ1s10/23, mb3.7/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.62**	**263**	P	**P**	**12 40 24.8**	**-2.3**
	0.8nm,0.3s,baz=86,slow=21,SNR=9.6						
URZ	**Urewera**	**17.68**	**193**	P	**P**	**12 40 57.3**	**-0.8**
	0.7nm,0.3s,baz=274,slow=4.1,SNR=7.8						
CTA	**Charters Tower**	**33.55**	**265**	P	**P**	**12 43 19.6**	**+0.7**
	1.8nm,0.5s,baz=95,slow=13						
STKA	**Stephens Creek**	**37.65**	**245**	P	**P**	**12 43 53.6**	**+0.8**
	2.1nm,0.6s,baz=84,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**44.50**	**257**	P	**P**	**12 44 47.9**	**+0.3**
	4.2nm,0.5s,baz=92,slow=8.3,SNR=122						
ASAR				PcP	**PcP**	**12 46 21.5**	**+0.9**
	0.6nm,0.5s,baz=104,slow=4.1,SNR=6.1						
WRA	**Warramunga Arr**	**44.64**	**263**	P	**P**	**12 44 48.5**	**-0.2**
	0.8nm,0.3s,baz=96,slow=7.5,SNR=25						
FITZ	**Fitzroy Crossi**	**53.07**	**263**	P	**P**	**12 45 51.5**	**+0.1**
	1.7nm,0.5s,baz=68,slow=5.4,SNR=11						
MJAR	**Matsushiro Arr**	**70.73**	**324**	P	**P**	**12 47 46.1**	**-0.2**
	3.5nm,0.6s,baz=164,slow=5.9,SNR=13						
PETK	**Petropavlovsk-**	**76.84**	**345**	P	**P**	**12 48 19.7**	**-1.0**
	8.3nm,0.9s,baz=152,slow=7.7,SNR=5.0						
KSRS	**Korea Array**	**77.39**	**319**	P	**P**	**12 48 25.1**	**+1.1**
	1.6nm,0.7s,baz=123,slow=5.2,SNR=6.6						
USRK	**Ussuriysk Ar.**	**79.49**	**326**	P	**P**	**12 48 36.7**	**+1.5**
	4.7nm,0.8s,baz=125,slow=4.8,SNR=9.1						
NVAR	**Mina Array Bea**	**81.35**	**43**	P	**P**	**12 48 45.6**	**+0.2**
	0.9nm,0.7s,baz=223,slow=9.6,SNR=6.4						
TXAR	**Lajitas Array**	**87.26**	**57**	P	**P**	**12 49 15.6**	**+1.2**
	0.3nm,0.7s,baz=207,slow=0.8,SNR=3.1						
ILAR	**Eielson Array**	**88.84**	**13**	P	**P**	**12 49 19.6**	**-1.2**
	0.7nm,0.7s,baz=215,slow=5.5,SNR=16						
PDAR	**Pinedale Array**	**89.29**	**43**	P	**P**	**12 49 23.4**	**-0.4**
	0.6nm,0.7s,baz=230,slow=3.7,SNR=7.2						
CMAR	**Chiang Mai Arr**	**90.41**	**290**	P	**P**	**12 49 31.6**	**+2.3**
	2.0nm,0.9s,baz=124,slow=3.1,SNR=13						
YKA	**Yellowknife Ar**	**96.97**	**25**	P	**P**	**12 49 56.9**	**-1.2**
	0.3nm,0.9s,baz=239,slow=3.9,SNR=4.1						
MKAR	**Makanchi Array**	**111.67**	**313**	PKiKP	**PKiKP**	**12 54 57.1**	**-1.4**
	0.3nm,0.8s,baz=97,slow=3.2,SNR=3.8						
ARCES	**ARCESS Array B**	**129.49**	**350**	PKP	**PKPdf**	**12 55 31.9**	**-0.1**
	3.4nm,0.9s,baz=44,slow=7.2,SNR=4.1						
AKASG	**Malin Array Be**	**143.56**	**331**	PKP	PKPab	12 55 56.1	-0.6
	3.7nm,0.5s,baz=43,slow=4.3,SNR=22						
BRTR	**Keskin Array B**	**147.30**	**312**	PKPbc	**PKPbc**	**12 56 08.6**	**+0.1**
	1.2nm,0.6s,baz=134,slow=4.9,SNR=8.7						
CLL	**Collm**	**148.64**	**347**	*i* PKP	**PKPbc**	**12 56 11.5**	**+0.2**
	comp=Z,9.0nm,0.9s						
GERES	**GERESS Array B**	**150.77**	**344**	PKPbc	**PKPbc**	**12 56 16.9**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=29,slow=3.0,SNR=6.3						

IDC 14 12:44:44.1±1.7, 4.˝61S×133.˝48E, h0km, mb3.5/1, mb1 3.9/5, mb1mx3.7/29, mbtmp3.7/5, ML3.6/4, MS3.3/3, Ms1 3.3/3, ms1mx2.8/21, Error ellipse: s-maj=66.0km s-min=25.4km az=70.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.27**	**177**	Pn	Pn	12 48 19.4	-1.7
	0.2nm,0.3s,baz=356,slow=13,SNR=4.8						
FITZ	**Fitzroy Crossi**	**15.45**	**209**	Pn	Pn	12 48 23.3	-0.2
	0.2nm,0.3s,baz=34,slow=8.2,SNR=9.2						
FITZ				Sn	Sn	12 51 07.5	-8.0
	0.1nm,0.3s,baz=180,slow=20,SNR=2.9						
ASAR	**Alice Springs**	**18.95**	**179**	P	Pn	12 49 07.8	+0.2
	0.2nm,0.3s,baz=3.9,slow=11,SNR=26						
CTA	**Charters Tower**	**19.79**	**142**	P	P	12 49 16.2	0.0
	0.1nm,0.3s,baz=330,slow=11,SNR=3.2						
HNR	**Honiara**	**26.70**	**102**	LR	LR	13 00 20.7	
	comp=Z,40nm,19.4s,baz=162,slow=35						
MKAR	**Makanchi Array**	**68.20**	**325**	P	P	12 55 46.5	0.0
	0.3nm,0.5s,baz=104,slow=7.9,SNR=5.3						
MKAR				LR	LR	13 27 24.7	
	comp=Z,27nm,21.8s,baz=74,slow=38						
ZALV	**Zalesovo Beam**	**71.04**	**332**	LR	LR	13 31 34.8	
	comp=Z,20nm,18.6s,baz=24,slow=40						

*DDA **14** 13:05:43.5,37.˝24N×37.˝13E,h7km±3km,ML2.8*
*ISK **14** 13:05:43.5,37.˝32N×37.˝11E,h12km,ML1.6/4*
ISC 14 13:05:43.6±1.2, 37.˝27N±0.˝05×37.˝11E±0.˝03, h8km±10km, n13, σ0s49/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMRS	**Kahramanmaras**	**0.29**	**325**	PG	**Pg**	**13 05 49.2**	**-0.2**
KMRS				SG	**Sg**	**13 05 53.1**	**-0.1**
GZT	**Gaziantep**	**0.37**	**77**	IAML_P			
	comp=Z,3µm,0.1s						
ANDN	**Andirin**	**0.68**	**297**	IAML_P			
	comp=Z,1µm,0.2s						
ANDN				*i* P	**Pb**	**13 05 57.7**	**-0.1**
ANDN				*i* S	**Sn**	**13 06 10.2**	**-0.3**
ATAB	**Bozova**	**0.97**	**78**	*i* P	**Pn**	**13 06 03.2**	**-0.2**
ATAB				*i* S	**Sb**	**13 06 15.8**	**+0.3**
KOZT	**Kozan**	**1.04**	**282**	PG	**Pb**	**13 06 03.9**	**0.0**
KOZT				SG	**Sn**	**13 06 18.5**	**-0.7**
ELBS	**KAHRAMANMARAS**	**1.05**	**1**	*e*P	**Pn**	**13 06 05.4**	**+0.7**
ELBS				*i* S	**Sn**	**13 06 20.2**	**+0.5**
CEYT	**Ceyhan**	**1.12**	**257**	PN	**Pn**	**13 06 05.4**	**-0.1**
TAHT	**Tahtakopru-Hat**	**1.16**	**220**	PN	**Pn**	**13 06 06.6**	**+0.5**
AKCD	**Akcadag**	**1.21**	**32**	IAML_P			
	comp=Z,674nm,0.1s						
AKCD				*i* P	**Pg**	**13 06 07.7**	**+0.8**
AKCD				*i* S	**Sn**	**13 06 23.6**	**0.0**
SURC	**SANLIURFA_SURC**	**1.27**	**107**	IAML_P			
	comp=Z,208nm,0.1s						
SURC				*i* P	**Pg**	**13 06 08.3**	**+0.4**
SURC				*i* S	**Sn**	**13 06 24.9**	**+0.2**
DARE	**Darende-Malaty**	**1.33**	**13**	PN	**Pn**	**13 06 07.9**	**-0.7**
URFA	**Urfa**	**1.38**	**82**	PN	**Pb**	**13 06 09.1**	**-0.5**
SANL	**SANLIURFA_Merk**	**1.50**	**93**	*e*P	**Pn**	**13 06 10.3**	**-0.6**
SANL				*i* S	**Sg**	**13 06 31.7**	**-0.3**

*ISK **14** 13:09:04.5,39.˝67N×25.˝64E,h8km,ML2.0/10*
*ISCJB **14** 13:09:05.5±0.4,39.˝70N±0.˝02×25.˝64E±0.˝03,h9km±4km,*
Error ellipse: s-maj=3.9km s-min=3.4km az=142.0
*DDA **14** 13:09:05.6,39.˝78N×25.˝65E,h21km±1km,ML2.7*
*ATH **14** 13:09:05.4,39.˝69N×25.˝60E,h21km±6km,ML1.7/3, Error*
ellipse: s-maj=6.5km s-min=0.8km az=240.0
ISC 14 13:09:05.5±0.9, 39.˝70N±0.˝02×25.˝65E±0.˝03, h14km±8km, n28, σ0s69/44, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOZC	**Bozcaada**	**0.34**	**65**	PG	**Pg**	**13 09 12.3**	**-0.2**
BOZC				SG	**Sg**	**13 09 17.9**	**+0.6**
BOZC	**Bozcaada**	**0.34**	**65**	*i* P	**Pb**	**13 09 13.6**	**+0.3**
BOZC				*i* S	**Sb**	**13 09 18.4**	**-0.2**
LIA	**Limnos Island**	**0.41**	**299**	P	**Pg**	**13 09 13.7**	**-0.1**
LIA				S	**Sg**	**13 09 19.1**	**-0.4**
LIA				AML	AML	13 09 19.2	
	comp=N,173µm,0.4s						
LIA				AML	AML	13 09 26.0	
	comp=E,169µm,0.4s						
SIGR	**SIGRI**	**0.51**	**162**	PG	**Pg**	**13 09 14.7**	**-0.9**
SIGR				SG	**Sg**	**13 09 21.6**	**-0.8**
SIGR	**SIGRI**	**0.51**	**162**	P	**Pg**	**13 09 15.4**	**-0.2**
SIGR				S	**Sb**	**13 09 23.1**	**-0.4**
SIGR				AML	AML	13 09 23.4	
	comp=E,389µm,0.5s						
SIGR				AML	AML	13 09 23.4	
	comp=N,450µm,0.5s						
GADA	**Gvkgeada**	**0.53**	**21**	PG	**Pb**	**13 09 15.8**	**-0.7**
GADA				SG	**Sb**	**13 09 23.8**	**-0.2**
EZN	**Ezine**	**0.53**	**76**	PG	**Pb**	**13 09 15.9**	**-0.7**
EZN				SG	**Sb**	**13 09 23.7**	**-0.4**
EFSA	**Agios Efstrati**	**0.54**	**253**	P	**Pg**	**13 09 16.

JDG				*e*S	**Sb**	13 51 54.3	+1.1
JDC	**Jersey Dam (Cr**	**0.95**	**232**	*e*P	**Pg**	13 51 41.6	+1.1
JDC				*e*S	**Sb**	13 51 54.4	+1.0
JDC	**Jersey Dam (Cr**	**0.95**	**232**	*e*P	**Pg**	13 51 41.6	+1.1
JDC				*e*S	**Sb**	13 51 54.4	+1.0
JRS	**Jersey**	**0.97**	**233**	*e*P	**Pg**	13 51 41.9	+1.0
JRS				*e*S	**Sg**	13 51 54.8	+1.3
JRS	**Jersey**	**0.97**	**233**	*e*P	**Pg**	13 51 41.9	+1.0
JRS				*e*S	**Sg**	13 51 54.8	+1.3
JSA	**Saint Aubin**	**1.01**	**235**	*e*P	**Pg**	13 51 42.5	+0.7
JSA				*e*S	**Sg**	13 51 55.6	+0.7
JSA				IAML		13 51 57.0	
	comp=E,26nm,0.2s						
JSA				IAML		13 51 57.2	
	comp=N,26nm,0.3s						
JSA	**Saint Aubin**	**1.01**	**235**	*e*P	**Pg**	13 51 42.5	+0.7
JSA				*e*S	**Sg**	13 51 55.6	+0.7
JSA				IAML		13 51 57.0	
	comp=E,26nm,0.2s						
JSA				IAML		13 51 57.2	
	comp=N,26nm,0.3s						
FLN	**La Foliniere**	**1.06**	**164**	*e*Pn	**Pb**	13 51 43.6	+1.0
	baz=342,SNR=1.0						
FLN	**La Foliniere**	**1.06**	**164**	*e*Pg	**Pg**	13 51 44.3	+1.7
	baz=342						
FLN				*e*Sg	**Sg**	13 51 57.3	+1.0
	comp=N,76nm,0.3s,baz=340						
LDF	**La Druitiere**	**1.29**	**156**	*e*Pn	**Pn**	13 51 46.5	+0.1
LDF	**La Druitiere**	**1.29**	**156**	*e*Pg	**Pn**	13 51 48.0	+1.6
LDF				*e*Sg	**Sb**	13 52 04.9	+1.5
	comp=N,38nm,0.2s,SNR=1.0						
GRR	**Gorron**	**1.39**	**179**	*e*Pg	**Pb**	13 51 49.7	+1.3
GRR				*e*Sg	**Sb**	13 52 08.1	+1.9
	comp=N,35nm,0.2s						
SGMF	**Saint Gilles**	**1.87**	**216**	*e*Pn	**Pn**	13 51 54.0	-0.3
SGMF				*e*Sn	**Sn**	13 52 14.8	-3.2
	SNR=1.0						
SGMF				*e*Sg	**Sb**	13 52 22.0	+2.0
	comp=N,6.4nm,0.2s						
DYA	**Yadsworthy**	**2.05**	**290**	*e*S	**Sn**	13 52 17.9	-4.5
DYA				IAML		13 52 29.4	
	comp=N,14nm,0.4s						
DYA				IAML		13 52 33.4	
	comp=E,8.7nm,0.6s						
DYA	**Yadsworthy**	**2.05**	**290**	*e*S	**Sn**	13 52 17.9	-4.5
DYA				IAML		13 52 29.4	
	comp=N,14nm,0.4s						
DYA				IAML		13 52 33.4	
	comp=E,8.7nm,0.6s						
ROSF	**Rostrenen**	**2.12**	**228**	*e*Pn	**Pn**	13 51 57.7	-0.1
ROSF				*e*Sg	**Sg**	13 52 30.2	-0.2
	comp=E,4.8nm,0.2s						
QUIF	**Quistinic**	**2.39**	**219**	*e*Pn	**Pn**	13 52 01.1	-0.3
QUIF				*e*Sg	**Sb**	13 52 38.1	+3.3
	comp=E,14nm,0.4s						
MFF	**Saint Martin d**	**3.22**	**171**	*e*Pn	**Pn**	13 52 11.8	-1.1
MFF				*e*Sn	**Sn**	13 52 46.4	-4.9
	SNR=1.0						
MFF				*e*Sg	**Sb**	13 53 04.2	+5.4
	comp=E,2.7nm,0.2s,SNR=1.0						
BAIF	**Baives**	**3.32**	**83**	*e*Pn	**Pn**	13 52 14.9	+0.7
BAIF				*e*Sn	**Sn**	13 52 51.4	-2.3
	comp=E,7.1nm,0.4s,SNR=1.0						
BAIF				*e*Sg	**Sg**	13 53 10.4	+1.6
	comp=E,7.4nm,0.5s						
SSF	**Saint Saulge**	**4.01**	**131**	*e*Pn	**Pn**	13 52 23.8	+0.1
SSF				*e*Sn	**Sn**	13 53 06.5	-4.1
	SNR=1.0						
SSF				*e*Sg	**Sg**	13 53 29.6	-1.2
	comp=E,7.3nm,0.6s,SNR=1.0						
LOR	**Lormes**	**4.04**	**127**	*e*Pn	**Pn**	13 52 24.1	-0.1
LOR				*e*Sn	**Sn**	13 53 07.3	-4.3
LOR				*e*Sg	**Sg**	13 53 31.8	-0.3
	comp=E,3.3nm,0.3s						
BGF	**Bois d'Agland**	**4.09**	**141**	*e*Pn	**Pn**	13 52 24.6	-0.2
BGF				*e*Sg	**Sg**	13 53 32.4	-1.1
	comp=E,13nm,0.4s						
AVF	**Avril sur Loir**	**4.13**	**135**	*e*Pn	**Pn**	13 52 25.2	-0.1
RJF	**Les Rejaudoux**	**4.77**	**159**	*e*Sn	**Sn**	13 53 24.5	-5.0
RJF				*e*Sg	**Sg**	13 53 52.8	-2.5
	comp=E,1.1nm,0.2s						
CAF	**Calviac**	**5.26**	**156**	*e*Sn	**Sn**	13 53 36.6	-5.0
	comp=E,0.8nm,0.2s,SNR=1.0						

GCMT 14 13:54:07.0±0.3, 62.77S±0.03×162.57W±0.06, h12km, MW4.8/56, Moment Tensor Solution. s27,c33; s56,c73; Duration: 0 Moment tensor: Scale 10^{16}**Nm;** M_{rr}-2.22±.10; $M_{\theta\theta}$1.56±.13; $M_{\phi\phi}$0.65±.09; $M_{r\theta}$0.19±.35; $M_{\theta\phi}$1.06±.09; $M_{\phi r}$-0.79±.26; **Best double couple:** $M_0$2.37700×10^{16} **NP1:**ϕ_s40.00000°, δ51.00000°, λ-112.00000°. **NP2:**ϕ_s253.00000°, δ44.00000°, λ-65.00000°. **Principal axes:** T 2.2780, Plg4.0000°, Azm145.0000°; N 0.1930, Plg17.0000°, Azm54.0000°; P -2.4750, Plg72.0000°, Azm247.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBI	**Tubuai**	**40.39**	**19**	*e*LR	LR	14 12 39.7	
	comp=Z,338nm,30.2s,baz=187						
TBI	**Tubuai**	**40.39**	**19**	*e*T	T	14 44 38.9	
	7.0nm,0.3s						
RKT	**Rikitea**	**43.78**	**38**	*e*T	T	14 48 56.8	
	2.0nm,0.2s						
TVO	**Taravao**	**45.89**	**18**	*e*T	T	14 51 31.0	
	0.9nm,0.3s						
PAE	**Paea**	**45.96**	**17**	*e*T	T	14 51 36.2	
	1.8nm,0.3s						
PPT2	**Papeete2**	**46.03**	**17**	*e*T	T	14 51 38.4	
	1.8nm,0.3s						
VAH	**Vaihoa**	**48.63**	**19**	*e*T	T	14 54 56.4	
	10nm,0.3s						

ISCJB ***14*** *14:16:15.1±0.9, 62.5S±0.1×162.7W±0.3, h10km, mb4.3/6, MS3.9/17 Error ellipse: s-maj=20.5km s-min=16.1km az=153.9*

IDC ***14*** *14:16:15.0±1.0, 62.50S×162.47W, h0km, mb4.1/5, mb1 4.2/6, mb1mx4.0/37, mbtmp4.0/6, ML2.9/1, MS3.9/18, Ms1 3.8/18, ms1mx3.7/32, Error ellipse: s-maj=39.2km s-min=23.9km az=24.0*

NEIC ***14*** *14:16:16.5±0.6, 62.47S×162.53W, h10km, mb4.6/4, Error ellipse: s-maj=17.2km s-min=13.6km az=63.0*

ISC 14 14:16:16.6±0.9, 62.5S±0.2×162.6W±0.2, h10km, n33, s0 f71/17, mb4.2/6, MS3.9/17, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**18.18**	**200**	*e*Pn	**Pn**	**14 20 28.6**	**0.0**
	75nm,1.8s						
VNDA	**Vanda**	**18.82**	**203**	P	**Pn**	**14 20 36.8**	**+0.5**
	0.0nm,0.3s,baz=72,slow=9.8,SNR=3.1						
VNDA				LR	LR	14 25 51.9	
	comp=Z,216nm,20.8s,baz=50,slow=31						
VNDA	**Vanda**	**18.82**	**203**	*e*P	**Pn**	**14 20 37.1**	**+0.7**
RPZ	**Rata Peaks**	**24.28**	**308**	LR	LR	14 28 49.2	
	comp=Z,224nm,18.2s,baz=84,slow=31						
URZ	**Urewera**	**27.25**	**323**	LR	LR	14 30 33.2	
	comp=Z,201nm,21.8s,baz=144,slow=31						
QSPA	**South Pole Qui**	**27.63**	**180**	P	**P**	**14 22 03.2**	**-0.8**
	2.1nm,1.0s,baz=65,slow=8.1,SNR=3.0						
PMSA	**Palmer Station**	**39.59**	**138**	LR	LR	14 36 40.1	
	comp=Z,200nm,19.2s,baz=166,slow=31						
USHA	**Ushuaia**	**45.34**	**126**	LR	LR	14 36 56.0	
	comp=Z,22nm,20.9s,baz=220,slow=27						
PPT	**Papeete**	**45.78**	**17**	LR	LR	14 38 50.9	
	comp=Z,66nm,20.2s,baz=180,slow=30						
MAW	**Mawson**	**46.13**	**202**	LR	LR	14 41 23.5	
	comp=Z,73nm,20.4s,baz=122,slow=33						
STKA	**Stephens Creek**	**46.58**	**284**	LR	LR	14 39 55.2	
	comp=Z,147nm,20.4s,baz=199,slow=30						
PLCA	**Paso Flores**	**55.72**	**113**	LR	LR	14 44 37.1	
	comp=Z,106nm,19.2s,baz=256,slow=31						
AS01	**Alice Springs**	**57.07**	**282**	*e*P	**P**	**14 26 03.4**	**+0.7**
ASAR	**Alice Springs**	**57.09**	**282**	P	**P**	**14 26 03.1**	**+0.2**
	2.4nm,1.1s,baz=150,slow=8.5,SNR=10						
ASAR				PcP	**PcP**	**14 26 57.5**	**-0.2**
	0.6nm,1.0s,baz=138,slow=5.7,SNR=2.7						
ASAR				LR	LR	14 46 55.7	
	comp=Z,164nm,21.4s,baz=136,slow=32						
HNR	**Honiara**	**59.48**	**316**	LR	LR	14 50 14.9	
	comp=Z,47nm,18.7s,baz=344,slow=34						
WR1	**Warramunga Arr**	**60.13**	**285**	*e*P	**P**	**14 26 24.4**	**+0.4**
	45nm,2.0s						
WRA	**Warramunga Arr**	**60.13**	**285**	P	**P**	**14 26 24.4**	**+0.4**
	1.4nm,1.0s,baz=160,slow=6.3,SNR=4.5						
PMG	**Port Moresby**	**64.11**	**302**	LR	LR	14 53 17.2	
	comp=Z,78nm,18.1s,baz=116,slow=35						
FITZ	**Fitzroy Crossi**	**65.70**	**278**	LR	LR	14 52 03.3	
	comp=Z,76nm,19.1s,baz=143,slow=33						
JAY	**Jayapura**	**72.95**	**299**	LR	LR	14 59 14.4	
	comp=Z,76nm,18.1s,baz=255,slow=35						
BATI	**Baumata**	**73.52**	**280**	LR	LR	14 57 46.2	
	comp=Z,130nm,18.7s,baz=206,slow=34						
CPUP	**Villa Florida**	**73.67**	**116**	P	**P**	**14 27 49.7**	**-0.5**
	5.9nm,1.2s,baz=259,slow=8.9,SNR=4.3						
CPUP				LR	LR	14 55 45.5	
	comp=Z,96nm,20.0s,baz=165,slow=32						
CPUP	**Villa Florida**	**73.67**	**116**	*e*P	**P**	**14 27 49.6**	**-0.5**
	10nm,1.4s						
LPAZ	**La Paz**	**77.74**	**102**	P	**P**	**14 28 14.6**	**+0.3**
	1.9nm,0.9s,baz=188,slow=5.3,SNR=6.0						
LPAZ	**La Paz**	**77.74**	**102**	*e*P	**P**	**14 28 15.8**	**+1.5**
	5.6nm,1.2s						
BDFB	**Brasilia**	**87.06**	**119**	LR	LR	15 05 49.0	
	comp=Z,180nm,18.7s,baz=224,slow=34						
BOSA	**Boshof**	**89.01**	**187**	LR	LR	15 05 35.2	
	comp=Z,83nm,19.4s,baz=190,slow=33						
ZALV	**Zalesovo Beam**	**145.07**	**288**	PKPbc	**PKPbc**	**14 35 51.2**	**-1.0**
	0.4nm,0.3s,baz=110,slow=3.4,SNR=2.6						
ZAA1	**Zalesovo Array**	**145.08**	**288**	*e*PKPbc	**PKPbc**	**14 35 51.2**	**-1.0**
KURBB	**Kurchatov Arra**	**145.66**	**279**	PKPbc	**PKPab**	**14 35 54.4**	**-0.1**
	1.1nm,1.0s,baz=138,slow=1.8,SNR=5.5						
KURK	**Kurchatov**	**145.68**	**279**	*e*PKPdf	**PKPab**	**14 35 54.4**	**-0.2**
BR101	**Keskin Array S**	**155.19**	**211**	*e*PKPbc	PKPbc	14 36 17.3	
BRTR	**Keskin Array B**	**155.19**	**211**	PKPbc	PKPbc	14 36 17.3	
	0.8nm,1.0s,baz=162,slow=2.3,SNR=4.4						

IDC 14 14:17:10.4±9.2, 21.33S×68.22W, h154km±63km, mb3.5/2, mb1 3.5/3, mb1mx3.2/29, mbtmp3.8/3, Error ellipse: s-maj=89.8km s-min=50.5km az=32.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.02**	**1**	P	Pn	14 18 24.8	0.0
	1.1nm,0.3s,baz=198,slow=9.6,SNR=18						
LPAZ				S	Sn	14 19 23.3	+0.6
	baz=214,slow=14,SNR=2.4						
TORD	**Torodi Ar. Bea**	**76.70**	**70**	P	P	14 28 45.1	+0.1
	1.5nm,0.6s,baz=238,slow=4.9,SNR=9.7						
YKA	**Yellowknife Ar**	**91.24**	**340**	P	P	14 29 57.7	0.0
	0.1nm,0.5s,baz=129,slow=5.7,SNR=5.1						
MKAR	**Makanchi Array**	**145.12**	**36**	PKPbc	PKPbc	14 36 28.3	-1.1
	0.2nm,0.6s,baz=320,slow=2.0,SNR=4.9						

NIED ***14*** *14:27:00, 22.70N×121.40E, h32km, Mw3.8 Best double couple: M0 6.12000×10^{14} NP1:*ϕ_s*301.00000°, δ62.00000°, λ3.00000°. NP2:*ϕ_s*210.00000°, δ87.00000°, λ152.00000°.*

IDC ***14*** *14:27:27.7±0.9, 22.85N×121.75E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.6/48, mbtmp3.6/8, Error ellipse: s-maj=40.8km s-min=17.8km az=63.0*

JMA ***14*** *14:27:28.3, 22.70N×121.38E, h0km, M3.9*

ASIES ***14*** *14:27:30.8, 22.85N×121.25E, h18km, MW3.6*

ISCJB ***14*** *14:27:31.1±0.3, 22.75N±0.02×121.31E±0.02, h20km±3km, mb3.5/8, Error ellipse: s-maj=3.1km s-min=2.8km az=32.2*

TAP ***14*** *14:27:31.2, 22.80N×121.25E, h16km, ML4.0, B*

ISC 14 14:27:31.0±0.9, 22.74N±0.02×121.29E±0.02, h18km±5km, n124, σ1§19/158, mb3.5/8, 5C-17D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.13**	**278**	⇑*i*P	**Pg**	**14 27 35.4**	**+0.4**
	baz=242						
TTN				*i* S	**Sg**	14 27 38.4	+0.8
	baz=242						
TWGBT	**Beinan**	**0.21**	**293**	⇑P	**Pb**	14 27 35.5	-0.8
	baz=280						
TWGBT				S	**Sg**	14 27 39.1	-0.3
	baz=280						
TWG	**Pinlang**	**0.21**	**293**	⇑*i*P	**Pb**	14 27 35.5	-0.9
	baz=280						
TWG				*i* S	**Sg**	14 27 39.1	-0.6
	baz=280						
ECL	**Taimali**	**0.34**	**246**	⇓*i*P	**Pb**	14 27 38.4	-0.1
	baz=245						
ECL				S	**Sb**	14 27 43.6	0.0
	baz=245						
CHKT	**Chengkung**	**0.37**	**11**	⇑P	**Pg**	14 27 38.4	-0.3
	baz=22						
CHKT				*e*S	**Sg**	14 27 43.4	-0.6
	baz=22						
ELDTW	**Lidau**	**0.51**	**331**	⇓*i*P	**Pg**	14 27 40.2	-1.3
	baz=333						
ELDTW				S	**Sg**	14 27 46.1	-2.3
	baz=333						
TAW	**Tawu**	**0.52**	**224**	P	**Pn**	14 27 42.0	-1.6
	baz=226						
TAW				S	**Sb**	14 27 50.0	+1.1
	baz=226						
EAST	**Anshuo**	**0.54**	**229**	P	**Pn**	14 27 42.3	-1.6
	baz=232						
SSD	**Sandimen**	**0.60**	**271**	⇓*i*P	**Pb**	14 27 42.3	-0.8
	baz=269						
SSD				S	**Sg**	14 27 49.2	-2.0
	baz=269						
TWF1	**Yuli**	**0.61**	**1**	P	**Pg**	14 27 41.8	-1.4
	baz=357						
MASBT	**Mashibuluo**	**0.62**	**259**	⇓P	**Pb**	14 27 42.9	-0.4
	baz=247						
MASBT				*e*S	**Sb**	14 27 50.1	-1.5
	baz=247						
SLGT	**Liugui**	**0.64**	**294**	⇓*e*P	**Pb**	14 27 42.9	-0.9
	baz=290						
STYT	**Tauyuan**	**0.65**	**311**	⇓*i*P	**Pg**	14 27 42.8	-1.1
	baz=311						
STYT				S	**Sg**	14 27 50.6	-1.9
	baz=311						
YULB	**Yu-li**	**0.65**	**1**	*e*P	**Pg**	14 27 42.0	-2.0
	baz=359						
SCZT	**Fangliau**	**0.71**	**240**	P	**Pn**	14 27 45.2	-1.1
	baz=233						
SGST	**Jiashian**	**0.73**	**298**	⇓*i*P	**Pb**	14 27 45.2	-0.2
	baz=297						
SGST				S	**Sg**	14 27 55.0	-0.2
	baz=297						
SGLT	**Jiouru**	**0.73**	**269**	*e*P	**Pb**	14 27 45.2	-0.2
	baz=265						
LAY	**Lan-yu**	**0.74**	**161**	*e*P	**Pn**	14 27 46.1	-0.6
	baz=147						
LAY				*e*S	**Sn**	14 27 57.8	+0.3
	baz=147						
HGSD	**Ruisui**	**0.76**	**10**	*e*P	**Pg**	14 27 45.2	-0.8
	baz=360						
EHY	**Hungye**	**0.77**	**2**	*e*P	**Pg**	14 27 43.9	-2.2
	baz=8.0						
WTP	**Ta-pu**	**0.80**	**309**	⇓*i*P	**Pb**	14 27 46.1	-0.4
	baz=313						
WTP				S	**Sg**	14 27 56.7	-0.6
	baz=313						
TWM1	**Shoushan**	**0.80**	**276**	⇓*i*P	**Pn**	14 27 47.3	-0.2
	baz=270						
YUS	**Yu-Shan**	**0.81**	**338**	⇓*i*P	**Pg**	14 27 45.5	-1.5
	baz=340						
YUS				S	**Sg**	14 27 55.0	-2.9
	baz=340						
TPUB	**Ta-pu**	**0.83**	**313**	⇓P	**Pg**	14 27 46.4	-0.8
	baz=312						
TPUB				S	**Sg**	14 27 57.2	-0.9
	baz=312						
CHN1	**Nanshi**	**0.83**	**303**	⇓*i*P	**Pb**	14 27 47.0	0.0
	baz=304						
CHN1				S	**Sb**	14 27 58.8	+1.0
	baz=304						
HEN	**Hengchun**	**0.89**	**215**	*e*P	**Pn**	14 27 49.3	+0.6
	baz=191						
TSEB	**Hengchuen, Pin**	**0.91**	**203**	*e*P	**Pn**	14 27 50.4	+1.5
	baz=183						
TWK	**Hsinying**	**0.91**	**306**	⇓*i*P	**Pb**	14 27 48.1	-0.2
	baz=305						
TWK				S	**Sb**	14 28 01.2	+1.1
	baz=305						
TWKBT	**Hengchun**	**0.91**	**209**	*e*P	**Pn**	14 27 48.3	-0.6
	baz=186						
TWK1	**Hengchun**	**0.91**	**210**	*e*P	**Pn**	**14 27 48.9**	**-0.1**
	baz=186						
CHN3	**Shinhua**	**0.92**	**292**	⇓*i*P	**Pn**	14 27 49.8	+0.7
	baz=291						
CHN3				*e*S	**Sn**	14 28 04.1	+2.3
	baz=291						
KAU	**Kaohsiung**	**0.92**	**260**	*e*P	**Pn**	14 27 51.1	+2.0
	baz=258						
WLCH	**Liuqiu**	**0.92**	**246**	*e*P	**Pn**	14 27 51.7	+2.5
	baz=237						
TWP	**Hsiaoliuchiu**	**0.94**	**246**	⇑*e*P	**Pn**	14 27 50.8	+1.4
	baz=237						
VWDT	**VWDT**	**1.02**	**352**	*e*P	**Pg**	14 27 49.0	-1.9
	baz=356						
CHN5	**Tsauling**	**1.02**	**327**	⇓*i*P	**Pg**	14 27 49.8	-1.1
	baz=333						
CHN5				*e*S	**Sg**	14 28 04.9	+0.5
	baz=333						
ESL	**Shilin**	**1.08**	**7**	*e*P	**Pg**	14 27 51.1	-0.9
	baz=12						
SSLB	**Suanglung**	**1.09**	**344**	P	**Pg**	14 27 50.1	-2.1
	baz=346						
CHY	**Chiayi**	**1.10**	**314**	⇓*e*P	**Pg**	14 27 51.4	-0.9
	baz=315						
SCLT	**Jiali**	**1.10**	**294**	*e*P	**Pn**	14 27 51.8	+0.2
	baz=293						
SCLT				*e*S	**Sn**	14 28 08.1	+1.8
	baz=293						
WGK	**Gukeng**	**1.16**	**325**	*e*P	**Pg**	14 27 52.6	-0.8
	baz=326						
WLGB	**Puzi**	**1.17**	**309**	P	**Pb**	14 27 52.8	0.0
	baz=309						
WLGB				S	**Sb**	14 28 09.5	+1.9
	baz=309						
WDLH	**Douliu**	**1.17**	**324**	*e*P	**Pb**	14 27 53.2	+0.4
	baz=312						
WDLH				*e*S	**Sb**	14 28 10.4	+2.8
	baz=312						
SMLT	**Sun Moon Lake**	**1.20**	**343**	*e*P	**Pg**	14 27 52.8	-1.4
	baz=350						
SMLT				*e*S	**Sg**	14 28 08.6	-1.3
	baz=350						
WJS	**Zhushan**	**1.20**	**335**	*e*P	**Pg**	14 27 53.2	-1.0
	baz=336						
ENLB	**Shoufeng**	**1.20**	**14**	*e*P	**Pg**	14 27 53.0	-1.2
	baz=18						
TYC	**Yuchr**	**1.23**	**341**	⇓P	**Pg**	14 27 53.9	-0.9
	baz=353						
TYC				S	**Sg**	14 28 10.1	-0.7
	baz=353						
WNT	**Mingjian**	**1.26**	**334**	*e*P	**Pn**	14 27 54.3	+0.4
	baz=333						
WNT				S	**Sg**	14 28 11.4	-0.6
	baz=333						
HWA	**Hwalien**	**1.27**	**13**	*e*P	**Pn**	14 27 53.7	-0.2
	baz=17						
CHGB	**Renai**	**1.32**	**356**	*e*P	**Pn**	14 27 53.4	-1.5
	baz=8.0						
WSF	**Szhu**	**1.33**	**313**	*e*P	**Pn**	14 27 54.8	+0.1
	baz=312						
WSF				*e*S	**Sg**	14 28 12.1	-2.0
	baz=312						
TWD	**Chiawan**	**1.37**	**12**	*e*P	**Pn**	14 27 53.9	-1.4
	baz=16						
WHF	**Hehuan Shan**	**1.40**	**359**	*e*P	**Pn**	14 27 55.0	-1.2
	baz=16						
RLNB	**Erlin**	**1.43**	**324**	*e*P	**Pn**	14 27 56.6	+0.5
	baz=322						
RLNB				S	**Sn**	14 28 15.3	+0.8
	baz=322						
WTCT	**Ta-ch'eng**	**1.45**	**321**	*e*P	**Pn**	14 27 57.4	+0.9
	baz=322						
NACB	**Ninganchiao**	**1.46**	**11**	*e*P	**Pn**	14 27 53.5	-3.1
	baz=15						
WCHH	**Zhanghua**	**1.50**	**334**	*e*P	**Pn**	14 27 58.1	+1.1
	baz=325						
TCU	**Taichung**	**1.51**	**338**	*e*P	**Pn**	14 27 58.6	+1.4
	baz=339						
TWT	**Tachien**	**1.51**	**356**	*e*P	**Pn**	14 27 58.2	+0.7
	baz=11						
TDCB	**Techi**	**1.51**	**356**	*e*P	**Pn**	14 27 57.0	-0.5
	baz=11						
WDGT	**Dungji**	**1.59**	**289**	*e*P	**Pn**	14 27 57.8	-0.5
	baz=292						
TWQ1	**Liyutan**	**1.67**	**344**	P	**Pb**	14 28 01.3	-0.1
	baz=343						
TWQ1				*e*S	**Sb**	14 28 24.4	+2.3
	baz=343						
NNSB	**Datong**	**1.69**	**3**	*e*P	**Pn**	14 27 58.7	-1.1
	baz=20						
NNS	**Nan Shan**	**1.70**	**3**	*e*P	**Pn**	14 28 00.4	+0.4
	baz=20						
ENA	**Nanau**	**1.73**	**14**	*e*P	**Pn**	14 28 00.8	+0.5
	baz=17						
NSY	**Sanyi**	**1.74**	**344**	*e*P	**Pn**	14 28 02.2	+1.8
	baz=343						
NSY				S	**Sn**	14 28 25.2	+3.0
	baz=343						
PHUB	**P'eng-hu**	**1.76**	**296**	*e*P	**Pn**	14 27 59.9	-0.7
	baz=298						
VCHM	**Qimei**	**1.77**	**286**	*e*P	**Pn**	14 27 60.0	-0.9
	baz=288						
PNG	**Penghu**	**1.79**	**298**	*e*P	**Pn**	14 28 00.5	-0.7
	baz=299						
NMLH	**Miaoli**	**1.85**	**346**	*e*P	**Pn**	14 28 02.6	+0.6
	baz=346						
NSTT	**Nanjuang**	**1.90**	**352**	*e*P	**Pn**	14 28 03.6	+0.9
	baz=6.0						
ENTT	**Nioudou**	**1.91**	**8**	*e*P	**Pn**	14 28 02.5	-0.3
	baz=23						
LIOB	**Emei**	**1.92**	**353**	*e*P	**Pn**	14 28 03.8	+0.9
	baz=7.0						
YHNB	**Yeheng**	**1.93**	**2**	*e*P	**Pn**	14 28 03.3	+0.2
	baz=19						
NSK	**Sanguang**	**1.93**	**2**	*e*P	**Pn**	14 28 03.3	+0.1
	baz=19						
TWC	**Suao**	**1.93**	**15**	*e*P	**Pn**	14 28 02.9	-0.2
	baz=18						
EOS1	**EOS1**	**1.96**	**23**	*e*P	**Pn**	14 28 03.6	+0.2
	baz=37						
TWE	**Neicheng**	**2.01**	**10**	*e*P	**Pn**	14 28 04.7	+0.6
	baz=13						
SLBB	**Yuanshan**	**2.03**	**9**	*e*P	**Pn**	14 28 04.7	+0.2
	baz=24						
WLTB	**Daxi**	**2.11**	**359**	*e*P	**Pn**	14 28 07.4	+2.0
	baz=16						
TATO	**Taipei**	**2.24**	**5**	*e*P	**Pn**	14 28 08.1	+0.8
	baz=21						
TWA	**Mucha**	**2.25**	**7**	*e*P	**Pn**	14 28 08.4	+1.0
	baz=21						
TIPB	**Shuangxi**	**2.28**	**12**	*e*P	**Pn**	14 28 08.2	+0.3
	baz=15						
JYNG	**Yonagunijimaku**	**2.29**	**41**	*

JIJ eS **Sn** **14 28 55.4 +0.1**
KNMB Chin-men Tao 3.17 303 eP **Pn** **14 28 19.5 -0.5**
baz=305
QZH Quanzhou 3.30 312 ePn **Pn** **14 28 22.5 +0.6**
QZH Sn **Sn** **14 28 59.0 -1.8**
QZH smax smax
comp=N,80nm,0.6s
QZH smax smax
comp=E,64nm,0.8s
JISG Ishigakijimahi 3.33 56 P **Pn** **14 28 22.2 -0.1**
JISG eS **Sn** **14 29 01.6 +0.2**
MATB Ma-tsu 3.61 340 eP **Pn** **14 28 26.2 0.0**
baz=332
MATB eS **Sn** **14 29 06.2 -2.2**
baz=332
JTJ Tarama 3.66 58 P **Pn** **14 28 27.5 +0.7**
JTJ eS **Sn** **14 29 10.5 +0.9**
JIRB Irabujima 4.12 59 P **Pn** **14 28 33.7 +0.5**
JIRB eS **Sn** **14 29 21.4 +0.4**
JMJ Miyako jima 2 4.21 60 P **Pn** **14 28 35.4 +1.0**
JIKM Ikemajima 4.23 58 P **Pn** **14 28 35.8 +1.1**
CMAR Chiang Mai Arr 21.34 263 P **P** **14 32 21.8 +4.4**
comp=E,0.5nm,0.4s,baz=64,slow=8.1,SNR=5.5
SONM Songino Array 27.74 338 P **P** **14 33 18.2 -0.5**
comp=E,0.5nm,0.6s,baz=160,slow=9.2,SNR=3.0
MKAR Makanchi Array 39.45 317 P **P** **14 35 01.6 +1.4**
comp=E,1.3nm,0.9s,baz=109,slow=7.7,SNR=7.1
ZALV Zalesovo Beam 41.51 328 P **P** **14 35 17.1 0.0**
comp=E,2.5nm,0.7s,baz=117,slow=7.4,SNR=5.7
H11N1 WAKE ISLAND Hy 42.49 85 T T 15 20 52.4
baz=282,slow=75,SNR=29
H11N2 WAKE ISLAND Hy 42.49 85 T T 15 20 52.6
baz=282,slow=75,SNR=52
H11N3 WAKE ISLAND Hy 42.51 85 T T 15 20 53.8
baz=282,slow=75,SNR=44
H11S3 WAKE ISLAND Hy 42.58 87 T T 15 20 58.7
baz=284,slow=74,SNR=95
H11S1 WAKE ISLAND Hy 42.59 87 T T 15 21 02.7
baz=284,slow=74,SNR=51
H11S2 WAKE ISLAND Hy 42.60 87 T T 15 21 03.9
baz=284,slow=74,SNR=49
KURBB Kurchatov Arra 43.28 321 P **P** **14 35 31.6 0.0**
comp=E,0.4nm,0.3s,baz=112,slow=7.5,SNR=7.5
WRA Warramunga Arr 44.29 162 P **P** **14 35 38.3 -1.7**
comp=E,0.4nm,0.6s,baz=344,slow=8.6,SNR=3.7
ASAR Alice Springs 47.73 164 P **P** **14 36 06.8 -0.3**
comp=E,0.2nm,0.3s,baz=344,slow=7.1,SNR=9.8
ASAR PcP **PcP** **14 37 35.6 -0.6**
comp=E,0.1nm,0.5s,baz=342,slow=4.0,SNR=3.2
YKA Yellowknife Ar 84.26 23 P **P** **14 40 00.5 -0.9**
comp=E,0.1nm,0.4s,baz=312,slow=4.6,SNR=3.5

*SOME **14** 14:40:06.4, 42°.32N×83°.80E, h0km*
*IDC **14** 14:40:15.3±8.8, 42°.14N×83°.43E, h27km±45km, mb3.6/2, mb1 3.4/7, mb1mx3.2/59, mbtmp3.3/7, ML2.8/5, Error ellipse: s-maj=61.0km s-min=31.2km az=152.0*
*NNC **14** 14:40:19.4±3.0, 42°.46N×83°.32E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=26.2km s-min=12.6km az=154.0*
ISC 14 14:40:17.1±1.9, 42°.43N±0°.09×83°.41E±0°.08, h10km, n35, σ2s37/42, 12C-9D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**2.99**	**285**	Pg	**Pb**	**14 41 11.0**	**+0.5**
	53nm,0.4s						
SHLS				Lg	Lg	14 41 44.0	
	286nm,1.1s						
SHLS	**Shalkode**	**2.99**	**285**	*eP*	**Pn**	**14 41 03.2**	**-1.5**
	53nm,0.4s						
SHLS				*eS*	**Sn**	**14 41 44.0**	**+3.3**
	286nm,1.1s						
PDGK	**Podgornoye**	**3.02**	**289**	Pg	**Pg**	**14 41 16.9**	**+2.0**
	3.8nm,0.6s						
PDGK				Lg	Lg	14 41 53.6	
	46nm,0.6s						
PDGK	**Podgornoye**	**3.02**	**289**	⇑Pg	**Pn**	**14 41 09.1**	**+4.1**
	4.0nm,0.3s						
PDGK				⇑Lg	Lg	14 41 52.5	
	70nm,0.4s						
DJR	**Jarkent**	**3.25**	**307**	Pg	**Pb**	**14 41 16.4**	**+1.5**
	2.3nm,0.7s						
DJR				Lg	Lg	14 42 00.5	
	7.8nm,0.5s						
DJR	**Jarkent**	**3.25**	**307**	*eP*	**Pn**	**14 41 12.8**	**+4.6**
	0.8nm,0.2s						
DJR				*eS*	**Sg**	**14 42 00.4**	**-1.1**
	18nm,0.3s						
UZB	**Uzynbulak**	**3.31**	**284**	Pg	**Pg**	**14 41 20.0**	**-0.4**
	8.2nm,0.5s						
UZB				Lg	Lg	14 41 59.7	
	49nm,0.8s						
UZB	**Uzynbulak**	**3.31**	**284**	*eP*	**Pn**	**14 41 13.0**	**+4.0**
	8.2nm,0.5s						
UZB				*eS*	**Sg**	**14 42 01.1**	**-2.2**
	49nm,0.8s						
KURS	**Kuram**	**3.99**	**287**	Pg	**Pb**	**14 41 30.6**	**+3.2**
	4.7nm,1.0s						
KURS				Lg	Lg	14 42 24.4	
	17nm,0.8s						
KAPS	**Kapalarasan**	**4.09**	**316**	*eP*	**Pb**	**14 41 28.4**	**-0.8**
	2.7nm,0.3s						
KAPS				*eS*	**Sg**	**14 42 27.4**	**-1.0**
	30nm,0.7s						
MK31	**Makanchi Array**	**4.43**	**350**	⇑Pn	**Pn**	**14 41 27.0**	**+2.5**
	0.3nm,0.3s,baz=160,slow=13,SNR=8.9						
MK31				⇑Pg	**Pg**	**14 41 41.0**	**-1.0**
	8.6nm,0.7s,baz=168,slow=16,SNR=19						
MK31				⇑Lg	Lg	14 42 40.1	
	29nm,0.7s,baz=165,slow=29,SNR=11						
MKAR	**Makanchi Array**	**4.43**	**350**	Pn	**Pn**	**14 41 26.9**	**+2.4**
	0.5nm,0.3s,baz=169,slow=11,SNR=24						
MKAR				Pg	**Pg**	**14 41 41.3**	**-0.6**
	1.9nm,0.3s,baz=176,slow=16,SNR=31						
MKAR				Sn	**Sn**	**14 42 18.7**	**+2.6**
	2.1nm,0.3s,baz=165,slow=14,SNR=5.1						
MKAR				Lg	Lg	14 42 40.5	
	5.1nm,0.3s,baz=169,slow=32,SNR=12						
ARXS	**Arharly**	**4.44**	**296**	Pg	**Pn**	**14 41 24.6**	**0.0**
	8.2nm,1.1s						
ARXS				Pg	**Pg**	**14 41 42.0**	**-0.2**
	8.9nm,0.9s						
ARXS				Lg	Lg	14 42 13.4	
	7.2nm,0.7s						
ARXS				Lg	Lg	14 42 37.2	
	52nm,0.9s						
ARXS	**Arharly**	**4.44**	**296**	*eP*	**Pb**	**14 41 32.8**	**-2.4**
	3.1nm,0.2s						
ARXS				*eS*	**Sg**	**14 42 35.3**	**-4.5**
	31nm,0.5s						
MAKZ	**Makanchi**	**4.49**	**347**	⇑Pn	**Pn**	**14 41 27.5**	**+2.3**
	0.9nm,0.6s						
MAKZ				⇓Pg	**Pg**	**14 41 42.8**	**-0.3**
	4.3nm,0.6s						
MAKZ				⇑Lg	Lg	14 42 42.1	
	16nm,0.6s						
KOTS	**Kotyrbulak**	**4.70**	**282**	Pg	**Pn**	**14 41 30.9**	**+2.8**
	1.6nm,0.2s						
KOTS				Lg	Lg	14 42 24.2	
	14nm,0.8s						
MDOK	**Medeo**	**4.74**	**281**	Pg	**Pb**	**14 41 37.3**	**-2.9**
	2.4nm,1.1s						
MDOK				Lg	Lg	14 42 35.4	
	9.2nm,0.8s						
TNSS	**Tian-Shan**	**4.80**	**279**	Pg	**Pb**	**14 41 39.9**	**-1.6**
	3.7nm,0.8s						
TNSS				Lg	Lg	14 42 39.7	
	9.8nm,0.5s						
KTBS	**Karatobe**	**5.09**	**287**	Pg	**Pn**	**14 41 37.6**	**+4.2**
	1.3nm,0.8s						
KTBS				Pg	Pg	14 41 59.7	+5.1
	2.1nm,0.7s						
KTBS				Lg	Lg	14 42 35.5	
	7.6nm,0.7s						
KTBS				Lg	Lg	14 43 07.0	
	19nm,0.4s						
MTBS	**Maitube**	**5.18**	**280**	Pg	**Pb**	**14 41 44.5**	**-3.3**
	3.6nm,0.3s						
MTBS				Lg	Lg	14 42 47.7	
	15nm,0.6s						
KST	**Kastek**	**5.52**	**279**	Pg	**Pn**	**14 41 42.1**	**+2.7**
	2.4nm,1.8s						
KST				Pg	**Pg**	**14 42 02.6**	**-0.1**
	3.5nm,1.3s						
KST				Lg	Lg	14 42 43.9	
	3.0nm,1.4s						
KST				Lg	Lg	14 43 12.5	
	12nm,1.0s						
DGS	**Degeres**	**5.67**	**281**	Pg	**Pb**	**14 41 53.6**	**-2.6**
	1.0nm,0.5s						
DGS				Pg	**Pg**	**14 42 06.5**	**+0.8**
	3.2nm,0.5s						
DGS				Lg	Lg	14 43 03.1	
	4.8nm,0.6s						
DGS				Lg	Lg	14 43 19.4	
	21nm,0.5s						
TKM2	**Tokmak 2**	**5.78**	**277**	⇓Pg	**Pb**	**14 41 59.2**	**+1.2**
	2.2nm,0.7s						
TKM2				⇓Lg	Lg	14 43 16.8	
	12nm,0.8s						
AAK	**Ala-Archa**	**6.59**	**275**	Pn	**Pn**	**14 41 53.8**	**-0.3**
	0.1nm,0.3s,baz=90,slow=1.0,SNR=2.4						
AAK				Pg	Pg	14 42 18.8	-4.4
	0.5nm,0.3s,baz=90,slow=8.1,SNR=7.1						
AAK				Lg	Lg	14 43 42.4	
	0.4nm,0.3s,baz=90,slow=3.0,SNR=4.0						
AAK	**Ala-Archa**	**6.59**	**275**	⇓Pg	Pb	14 42 18.3	+6.5
	2.0nm,0.8s						
AAK				⇑Lg	Lg	14 43 40.9	
	3.9nm,0.7s						
MNAS	**Manas**	**8.06**	**274**	⇑Pg	Pb	14 42 44.4	+7.5
	0.7nm,0.9s						
MNAS				⇓Lg	Lg	14 44 27.2	
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**8.85**	**339**	Pn	**Pn**	**14 42 26.2**	**+1.2**
	0.1nm,0.3s,baz=160,slow=12,SNR=7.5						
KURBB				Lg	Lg	14 45 02.6	
	0.1nm,0.3s,baz=165,slow=30,SNR=4.4						
KURBB	**Kurchatov Arra**	**8.85**	**339**	⇑Pn	**Pn**	**14 42 25.2**	**+0.2**
	0.5nm,0.4s						
KURBB				⇑Lg	Lg	14 45 01.5	
	14nm,0.7s						
KURK	**Kurchatov**	**8.92**	**340**	⇑Pn	**Pn**	**14 42 25.8**	**-0.1**
	2.4nm,0.8s						
KURK				⇓Lg	Lg	14 45 02.0	
	15nm,1.1s						
KK31	**Karatay Array**	**9.51**	**278**	⇓Pg	Pn	14 43 06.3	+32
	0.2nm,0.5s						
KK31				⇓Lg	Lg	14 45 16.2	
	0.8nm,0.7s						
OTUK	**Ortayu**	**9.72**	**311**	⇓Lg	Lg	14 45 29.3	
	5.4nm,1.0s						
ZALV	**Zalesovo Beam**	**11.56**	**4**	Pn	**Pn**	**14 43 00.6**	**-1.5**
	0.2nm,0.3s,baz=187,slow=22,SNR=2.5						
ZALV				Lg	Lg	14 46 26.3	
	0.2nm,0.3s,baz=194,slow=28,SNR=2.6						
BVAR	**Borovoye Array**	**13.73**	**325**	Pn	**Pn**	**14 43 29.0**	**-2.7**
	0.1nm,0.3s,baz=124,slow=8.9,SNR=2.5						
BVAR				Lg	Lg	14 47 39.0	
	0.1nm,0.3s,baz=115,slow=40,SNR=3.1						
ARCES	**ARCESS Array B**	**39.86**	**332**	P	**P**	**14 47 49.6**	**-0.8**
	3.9nm,0.9s,baz=101,slow=9.3,SNR=3.3						
ILAR	**Eielson Array**	**66.13**	**21**	P	P	14 51 01.0	-3.1
	0.3nm,0.8s,baz=332,slow=5.1,SNR=3.5						

*ISCJB **14** 14:45:35.5±0.4, 37°.42N±0°.05×135°.12E±0°.07, h378km, mb3.5/14, Error ellipse: s-maj=7.9km s-min=6.9km az=160.1*
*IDC **14** 14:45:36.8±1.0, 37°.41N×135°.18E, h380km±11km, mb3.1/13, mb1 3.3/19, mb1mx3.1/64, mbtmp3.9/19, Error ellipse: s-maj=17.0km s-min=10.9km az=73.0*
*JMA **14** 14:45:37.1±0.3, 37°.29N×135°.08E, h370km±3km, M3.4*
ISC 14 14:45:36.2±0.6, 37°.40N±0°.07×135°.21E±0°.07, h378km, n26, σ1s20/30, mb3.3/14, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJH	**Hakui**	**1.34**	**110**	P	**Pn**	**14 46 27.1**	**+0.7**
JWT	**Wachi**	**2.12**	**176**	P	**Pn**	**14 46 30.9**	**-0.2**
JWT				S	**S**	**14 47 13.0**	**-2.2**
JYTA	**Yamagatataniai**	**2.19**	**145**	P	**Pn**	**14 46 31.4**	**-0.1**
JYTA				S	**S**	**14 47 14.2**	**-1.7**
JSD	**Sado**	**2.50**	**74**	P	**Pn**	**14 46 34.8**	**+1.2**
MAT	**Matsushiro**	**2.55**	**109**	P	**Pn**	**14 46 34.8**	**+0.7**
MAT	**Matsushiro**	**2.55**	**109**	P	**Pn**	**14 46 34.9**	**+0.8**
MJAR	**Matsushiro Arr**	**2.55**	**109**	P	**Pn**	**14 46 35.4**	**+1.2**
	1.3nm,0.3s,baz=278,slow=9.1,SNR=115						
MJAR				S	**S**	**14 47 22.6**	**+1.8**
	baz=274,slow=15,SNR=2.3						
JNU	**Nakatsue**	**5.55**	**221**	P	**Pn**	**14 47 02.5**	**-0.7**
	0.4nm,0.3s,baz=52,slow=12,SNR=4.6						
KSRS	**Korea Array**	**5.80**	**273**	P	**Pn**	**14 47 05.9**	**+0.1**
	1.1nm,0.3s,baz=92,slow=12,SNR=35						
USRK	**Ussuriysk Ar.**	**7.21**	**341**	P	**P**	**14 47 23.4**	**+0.9**
	3.7nm,0.3s,baz=151,slow=11,SNR=73						
ASAJ	**Asahikawa**	**8.74**	**38**	P	**Pn**	**14 47 40.4**	**+1.1**
	3.9nm,0.3s,baz=246,slow=11,SNR=51						
ASAJ				S	**S**	**14 49 16.4**	**-3.7**
	1.5nm,0.3s,baz=108,slow=20,SNR=12						
KLR	**Kul'dur**	**12.08**	**349**	P	**P**	**14 48 18.2**	**+0.9**
	0.6nm,0.3s,baz=164,slow=13,SNR=11						
SONM	**Songino Array**	**23.50**	**305**	P	**P**	**14 50 13.4**	**-0.6**
	0.7nm,0.5s,baz=111,slow=7.9,SNR=4.0						
CMAR	**Chiang Mai Arr**	**36.89**	**249**	P	**P**	**14 52 10.9**	**+0.4**
	0.6nm,0.5s,baz=45,slow=7.7,SNR=7.1						
ZALV	**Zalesovo Beam**	**38.00**	**312**	P	**P**	**14 52 18.9**	**-0.4**
	0.7nm,0.4s,baz=48,slow=8.6,SNR=2.8						
MKAR	**Makanchi Array**	**39.70**	**301**	P	**P**	**14 52 33.5**	**+0.1**
	0.8nm,0.3s,baz=82,slow=10.0,SNR=9.2						
BVAR	**Borovoye Array**	**46.63**	**311**	P	**P**	**14 53 28.2**	**+0.2**
	0.4nm,0.3s,baz=72,slow=9.3,SNR=3.0						
ILAR	**Eielson Array**	**51.83**	**32**	P	**P**	**14 54 06.0**	**-0.6**
	0.2nm,0.6s,baz=290,slow=7.1,SNR=3.2						
AKTO	**Aktyubinsk**	**54.70**	**310**	P	**P**	**14 54 27.5**	**-0.1**
	0.5nm,0.5s,baz=69,slow=14,SNR=2.7						
FITZ	**Fitzroy Crossi**	**55.94**	**191**	P	**P**	**14 54 37.1**	**+0.5**
	3.2nm,1.0s,baz=0.0,slow=9.1,SNR=2.4						
WRA	**Warramunga Arr**	**57.04**	**181**	P	**P**	**14 54 44.5**	**+0.2**
	2.0nm,0.4s,baz=357,slow=7.5,SNR=22						
GEYT	**Alibeck**	**59.28**	**296**	P	**P**	**14 55 00.2**	**+0.6**
	26nm,0.7s,baz=75,slow=7.6,SNR=2.6						
ASAR	**Alice Springs**	**60.76**	**181**	P	**P**	**14 55 10.1**	**+0.7**
	0.4nm,0.6s,baz=359,slow=7.4,SNR=9.5						
FINES	**FINESS Array B**	**66.11**	**330**	P	**P**	**14 55 44.8**	**+1.2**
	1.9nm,0.8s,baz=0.0,slow=1.9,SNR=4.0						
AKASG	**Malin Array Be**	**70.89**	**320**	P	**P**	**14 56 13.2**	**+0.1**
	0.5nm,0.5s,baz=45,slow=6.6,SNR=2.4						
KEST	**Kesra**	**91.60**	**319**	P	**P**	**14 57 59.9**	**-1.5**
	2.0nm,0.6s,baz=90,slow=2.0,SNR=3.9						

*AEIC **14** 14:55:49.2±0.0, 55°.04N×134°.78W, h3km*
*BJI **14** 14:55:51.1, 55°.19N×135°.01W, h5km, mb5.4/68, mB5.5/49, Ms5.6/63, Ms7 5.3/60*
*NEIC **14** 14:55:51.9±0.7, 55°.16N×134°.55W, h4km±4km, mb5.2/251, MS5.1/299, MW5.5, MW5.5, ML5.5(AEIC), ML5.6(OTT), Error ellipse: s-maj=3.3km s-min=1.2km az=46.0, Moment Tensor Solution. s39 Moment tensor: Scale 10^17 Nm; Mrr0.19; Mθθ-1.68; Mϕϕ 1.49; Mrθ 0.42; Mθϕ 1.36; Mϕr 0.34; Best double couple: M☐2.20000×10^17 NP1:ϕs66.00000°, δ85.00000°, λ.15.00000°. NP2:ϕs335.00000°, δ75.00000°, λ175.00000°. Principal axes: T 2.1000, Plg14.0000°, Azm291.0000°; N 0.1100, Plg75.0000°, Azm84.0000°; P -2.2200, Plg7.0000°, Azm200.0000°;*
NEIC Felt [III] at Craig and [II] at Ketchikan, Petersburg and Sitka. Also felt at Hydaburg, Hyder, Klawock, Mellakatla and Thorne Bay. Felt in Haida Gwaii and at Prince Rupert and Terrace, British Columbia.
*MOS **14** 14:55:51.2±1.0, 55°.12N×134°.49W, h8km, mb5.5/102, MS5.0/24 Error ellipse: s-maj=9.1km s-min=3.5km az=107.1*
*IDC **14** 14:55:52.1±0.4, 55°.20N×134°.54W, h0km, mb4.8/33, mb1 4.9/41, mb1mx4.9/54, mbtmp4.8/41, ML4.2/7, MS4.9/32, Ms1 4.9/32, ms1mx4.8/41, Error ellipse: s-maj=11.5km s-min=7.5km az=39.0*
*ISCJB **14** 14:55:52.8±0.1, 55°.17N±0°.01×134°.48W±0°.03, h19km, mb5.2/298, MS5.1/422, Error ellipse: s-maj=3.0km s-min=1.2km az=140.1*
*NEIC **14** 14:55:53.0±0.0, 55°.16N×134°.55W, h11km, Moment Tensor Solution. s42 Moment tensor: Scale 10^17 Nm; Mrr0.03; Mθθ-1.44; Mϕϕ 1.41; Mrθ 1.12; Mθϕ 1.17; Mϕr 0.38; Best double couple: M☐2.20000×10^17 NP1:ϕs245.00000°, δ89.00000°, λ-32.00000°. NP2:ϕs336.00000°, δ57.00000°, λ-178.00000°. Principal axes: T 2.1200, Plg21.0000°, Azm295.0000°; N 0.1400, Plg57.0000°, Azm63.0000°; P -2.2600, Plg23.0000°, Azm195.0000°;*
*GCMT **14** 14:55:56.9±0.1, 55°.09N±0°.01×134°.73W±0°.01, h20km, MW5.5/127, Moment Tensor Solution. s101, c170; s127, c252; Duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr0.19±.03; Mθθ-1.95±.03; Mϕϕ 1.76±.04; Mrθ 0.44±.07; Mθϕ 1.80±.03; Mϕr 0.42±.07; Best double couple: M☐2.65900×10^17 NP1:ϕs68.00000°, δ84.00000°, λ13.00000°. NP2:ϕs336.00000°, δ77.00000°, λ174.00000°. Principal axes: T 2.6160, Plg13.0000°, Azm293.0000°; N 0.0820, Plg76.0000°, Azm91.0000°; P -2.7010, Plg5.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 14 14:55:53.3±0.3, 54°.96N±0°.03×134°.69W±0°.03, h13km±1km, h14km: pP-P, n1342, σ1s77/1159, mb5.3/298, MS5.1/422, 46C-11D, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NDB	**Naden**	**1.43**	**134**	P	**Pn**	**14 56 16.9**	**-2.1**
NDB				S	**Sg**	**14 56 39.1**	**-0.3**
NDB	**Naden**	**1.43**	**134**	Pn	**Pn**	**14 56 16.9**	**-2.1**
NDB				Pg	**Pb**	**14 56 18.9**	**-1.0**
NDB				Sg	**Sb**	**14 56 38.5**	**+0.4**
MASB	**Masset**	**1.82**	**120**	Pn	**Pn**	**14 56 21.9**	**-2.3**
MASB				Pg	**Pb**	**14 56 25.2**	**-1.3**
MASB				Sg	**Sb**	**14 56 49.7**	**+0.6**
WRAK	**Wrangell Islan**	**1.97**	**41**	P	**Pn**	**14 56 22.6**	**-3.8**
WRAK				S	**Sn**	**14 56 49.1**	**-1.9**
SIT	**Sitka**	**2.13**	**351**	P	**Pn**	**14 56 24.1**	**-4.5**
SIT				S	**Sn**	**14 56 52.4**	**-2.5**
SIT	**Sitka**	**2.13**	**351**	P	**Pn**	**14 56 24.1**	**-4.5**
SIT				S	**Sn**	**14 56 52.4**	**-2.5**
DIB	**Dawson Inlet,**	**2.19**	**143**	*ePn*	**Pn**	**14 56 27.5**	**-1.8**
DIB	**Dawson Inlet,**	**2.19**	**143**	Pn	**Pn**	**14 56 27.6**	**-1.7**
DIB				Sn	**Sn**	**14 56 52.0**	**-4.3**
DIB				Sg	**Sb**	**14 56 59.2**	**-0.5**
H02S1	**DAWSON INLET T**	**2.19**	**143**	Pn	**Pn**	**14 56 27.1**	**-2.3**
H02S1				Sn	**Sn**	**14 56 53.0**	**-3.3**
MOBC	**Moresby Island**	**2.42**	**137**	Pn	**Pn**	**14 56 30.1**	**-2.5**
MOBC				Sn	**Sn**	**14 56 59.6**	**-2.5**
MOBC				Sg	**Sb**	**14 57 07.6**	**+1.0**
HG1B	**Mitchell Dam**	**2.53**	**142**	Pn	**Pn**	**14 56 32.4**	**-1.6**
HG1B				Sg	**Sb**	**14 57 10.3**	**+0.8**
RUBB	**Prince Rupert**	**2.66**	**102**	Pn	**Pn**	**14 56 32.2**	**-3.5**
RUBB				Pg	**Pb**	**14 56 38.2**	**-2.4**
RUBB				Sg	**Sb**	**14 57 11.3**	**-1.8**
BNB	**Barry Inlet**	**2.96**	**143**	P	**Pn**	**14 56 37.5**	**-2.5**
BNB	**Barry Inlet**	**2.96**	**143**	Pn	**Pn**	**14 56 37.7**	**-2.3**
BNB				Pg	**Pb**	**14 56 44.6**	**-1.3**
BNB				Sg	**Sb**	**14 57 23.7**	**+1.8**
HG3B	**Hotspring**	**3.07**	**140**	Pn	**Pn**	**14 56 39.1**	**-2.3**
HG3B				Pg	**Pb**	**14 56 46.7**	**-1.0**
HG3B				Sg	**Sb**	**14 57 26.2**	**+1.3**
JIS	**Juneau Island**	**3.33**	**3**	P	**Pn**	**14 56 41.5**	**-3.5**
JIS				S	**Sn**	**14 57 22.9**	**-1.4**
BESE	**Bessie Mountai**	**3.63**	**359**	P	**Pn**	**14 56 46.1**	**-3.1**
BESE	**Bessie Mountai**	**3.63**	**359**	Pn	**Pn**	**14 56 45.1**	**-4.1**
DLBC	**Dease Lake**	**4.33**	**34**	Pn	**Pn**	**14 56 56.2**	**-2.7**
	22nm,0.3s,baz=229,slow=8.2,SNR=499						
DLBC				Sn	**Sn**	**14 57 42.0**	**-7.2**
	163nm,0.3s,baz=204,slow=16,SNR=5.3						
DLBC				Lg	Lg	14 58 01.3	
	392nm,0.3s,baz=288,slow=19,SNR=8.1						
DLBC	**Dease Lake**	**4.33**	**34**	Pn	**Pn**	**14 56 56.3**	**-2.5**
DLBC				Sg	**Sb**	**14 58 04.0**	**+2.6**
SKAG	**Skagway**	**4.53**	**356**	P	**Pn**	**14 56 58.7**	**-2.8**
DHAK	**Deception Hill**	**4.57**	**337**	P	**Pn**	**14 56 59.2**	**-2.9**
PLBC	**Pleasant Camp**	**4.60**	**349**	P	**Pn**	**14 56 59.6**	**-2.9**
PLBC	**Pleasant Camp**	**4.60**	**349**	Pn	**Pn**	**14 56 60.0**	**-2.5**
BBB	**Bella Bella**	**4.80**	**123**	Pn	**Pn**	**14 57 03.4**	**-1.9**
	17nm,0.3s,baz=297,slow=9.4,SNR=291						
BBB				Pg	**Pb**	**14 57 18.9**	**+1.6**
	49nm,0.3s,baz=315,slow=17,SNR=19						
BBB				Sn	**Sn**	**14 57 56.0**	**-4.7**
	301nm,0.3s,baz=0.0,slow=20,SNR=8.9						
BBB				Lg	Lg	14 58 18.5	
	281nm,0.3s,baz=45,slow=19,SNR=9.6						
BBB				LR	LR	14 58 50.0	
	comp=Z,22μm,21.4s,baz=346,slow=37						
BBB	**Bella Bella**	**4.80**	**123**	Pn	**Pn**	**14 57 02.7**	**-2.6**
BBB				Sn	**Sn**	**14 57 55.4**	**-5.3**
YKU2	**Yakutat**	**5.30**	**331**	*ePn*	**Pn**	**14 57 11.9**	**-0.2**
PNL	**Peninsula**	**5.37**	**334**	P	**Pn**	**14 57 10.5**	**-2.5**
PNL	**Peninsula**	**5.37**	**334**	Pn	**Pn**	**14 57 10.5**	**-2.5**
PNL				Sn	**Sn**	**14 58 09.8**	**-4.8**
BCBC	**Bella Coola**	**5.38**	**116**	Pn	**Pn**	**14 57 12.3**	**-0.9**
BCBC				Sn	**Sn**	**14 58 11.4**	**-3.5**
BCPM	**Bancas Point**	**5.67**	**334**	P	**Pn**	**14 57 14.9**	**-2.3**
WHY	**Whitehorse**	**5.72**	**359**	P	**Pn**	**14 57 15.5**	**-2.4**
WHY	**Whitehorse**	**5.72**	**359**	Pn	**Pn**	**14 57 15.6**	**-2.4**
WHY				Sn	**Sn**	**14 58 17.7**	**-5.6**
YUK7	**Dusty Glacier**	**5.88**	**343**	Pn	**Pn**	**14 57 18.2**	**-2.1**
YUK7				Sn	**Sn**	**14 58 23.8**	**-3.8**
FSB	**Fort Saint Jam**	**6.02**	**90**	P	**Pn**	**14 57 20.0**	**-2.1**
FSB	**Fort Saint Jam**	**6.02**	**90**	Pn	**Pn**	**14 57 19.3**	**-2.8**
HYT	**Haines Junctio**	**6.07**	**347**	P	**Pn**	**14 57 20.5**	**-2.3**
HYT	**Haines Junctio**	**6.07**	**347**	Pn	**Pn**	**14 57 21.1**	**-1.7**
HYT				Sn	**Sn**	**14 58 31.6**	**-0.5**
PHC	**Port Hardy**	**6.12**	**131**	Pn	**Pn**	**14 57 20.8**	**-2.5**
PHC				Sn	**Sn**	**14 58 27.9**	**-5.2**
CHX	**Chaix Hills**	**6.18**	**329**	P	**Pn**	**14 57 21.7**	**-2.5**
PACB	**Port Alice, BC**	**6.30**	**133**	Pn	**Pn**	**14 57 23.1**	**-2.7**
PACB				Sn	**Sn**	**14 58 32.9**	**-4.5**
YUK6	**Outpost Mounta**	**6.31**	**343**	P	**Pn**	**14 57 23.4**	**-2.7**
YUK6	**Outpost Mounta**	**6.31**	**343**	Pn	**Pn**	**14 57 23.7**	**-2.5**
YUK6				Sn	**Sn**	**14 58 30.7**	**-7.5**
YUK5	**Granite Creek**	**6.41**	**346**	P	**Pn**	**14 57 26.0**	**-1.5**
YUK5	**Granite Creek**	**6.41**	**346**	Pn	**Pn**	**14 57 25.6**	**-1.9**
YUK5				Sn	**Sn**	**14 58 35.8**	**-4.8**
RKAV	**Rock Avalanche**	**6.44**	**329**	P	**Pn**	**14 57 26.2**	**-1.6**
TLCB	**Telegraph Cove**	**

PGC Sidney 9.39 128 ePn Pn 14 58 08.3 +0.1
PGC Sidney 9.39 128 Pn Pn 14 58 10.7 +2.4
B009 North Saanich 9.39 128 Pn Pn 14 58 10.1 +1.8
B011 North Saanich 9.39 128 Pn Pn 14 58 10.2 +2.0
PA12 PA12 Sannich 9.39 128 Pn Pn 14 58 10.4 +2.2
SNB Saturna Island 9.43 126 Pn Pn 14 58 11.3 +2.5
DAWY Dawson 9.44 347 ePn Pn 14 58 06.9 -2.0
DAWY Dawson 9.44 347 Pn Pn 14 58 07.2 -1.6
SEW Seward 9.46 309 ePn Pn 14 58 04.8 -4.2
OFR Olym-F Res Ctr 9.52 133 Pn Pn 14 58 12.6 +2.7
VGZ Gonzales 9.62 128 Pn Pn 14 58 13.7 +2.3
MCW Mount Constitu 9.66 126 Pn Pn 14 58 14.7 +2.7
A04D Lummi Island 9.69 125 P Pn 14 58 14.4 +2.1
baz=316
KNK Knik Glacier 9.72 317 ePn Pn 14 58 10.2 -2.4
PAX Paxson 9.76 330 ePn Pn 14 58 12.2 -1.1
PAX Paxson 9.76 330 Pn Pn 14 58 12.9 -0.4
PAX Sn Sn 14 59 58.5 -4.1
PAX Paxson 9.76 330 eP Pn 14 58 12.2 -1.1
VDB Vedder Mountai 9.77 122 Pn Pn 14 58 14.9 +1.5
HOPB Hope 9.87 119 Pn Pn 14 58 16.5 +1.7
SML Sawmill 9.91 319 ePn Pn 14 58 12.8 -2.5
SML Sawmill 9.91 319 eP Pn 14 58 12.8 -2.5
DOT Dot Lake 9.93 335 ePn Pn 14 58 13.8 -1.8
DOT Dot Lake 9.93 335 Pn Pn 14 58 14.2 -1.4
BRLK Bradley Lake 9.98 305 ePn Pn 14 58 13.0 -3.2
RC01 Rabbit Creek A 10.06 314 ePn Pn 14 58 13.3 -3.9
BLN Blyn Mountain 10.08 129 Pn Pn 14 58 19.6 +1.9
PMR Palmer 10.08 317 ePn Pn 14 58 15.0 -2.6
PMR Palmer 10.08 317 eP Pn 14 58 15.0 -2.6
GHO Glory Hole Cre 10.11 318 ePn Pn 14 58 15.8 -2.2
NLWA Neilton Lookou 10.17 134 ePn Pn 14 58 19.4 +0.6
SCRK Sand Creek 10.19 336 ePn Pn 14 58 17.3 -1.9
RIDG Independ'e Rid 10.20 334 ePn Pn 14 58 17.5 -1.8
HOM Homer 10.30 304 ePn Pn 14 58 17.8 -2.7
B05A Bryant 10.30 125 P Pn 14 58 23.2 +2.5
baz=317,SNR=39
HDW Hoodsport 10.32 130 Pn Pn 14 58 22.9 +2.0
KDAK Kodiak Island 10.32 293 Pn Pn 14 58 17.5 -3.3
41nm,0.3s,baz=72,slow=7.2,SNR=206
KDAK Sn Sn 15 00 07.2 -8.9
8.1nm,0.3s,baz=106,slow=20,SNR=4.6
HILA High Level 10.34 62 Pn Pn 14 58 20.3 -0.9
D03D Eldon 10.39 131 P Pn 14 58 24.9 +3.0
baz=321,SNR=12
B06A Marblemount 10.41 123 ePn Pn 14 58 20.7 -1.5
B06A Marblemount 10.41 123 Pn Pn 14 58 24.6 +2.4
WISH Wishkah 10.43 134 Pn Pn 14 58 23.4 +1.0
JCW Jim Creek 10.43 125 Pn Pn 14 58 24.8 +2.4
SMW South Mountain 10.45 132 Pn Pn 14 58 24.3 +1.6
RPW Rockport 10.45 123 Pn Pn 14 58 22.3 -0.4
GNW Green Mountain 10.48 130 Pn Pn 14 58 25.1 +1.9
OHAK Old Harbor 10.63 290 ePn Pn 14 58 21.3 -3.9
SLEB Sale Mountain 10.66 104 Pn Pn 14 58 24.8 -0.9
SUA Susitna One 10.67 314 ePn Pn 14 58 22.2 -3.6
D04E Lakebay 10.80 131 P Pn 14 58 30.8 +3.3
baz=322
CPW Capitol Peak 10.80 133 Pn Pn 14 58 28.7 +1.1
PNT Penticton 10.84 115 Pn Pn 14 58 29.1 +1.1
RSO Redoubt South 11.11 307 ePn Pn 14 58 28.9 -2.9
C06D Leavenworth 11.11 124 P Pn 14 58 33.9 +2.1
baz=316,SNR=5.3
RND Reindeer 11.13 325 ePn Pn 14 58 30.8 -1.2
RND Reindeer 11.13 325 eP Pn 14 58 30.8 -1.2
D05A Enumclaw 11.14 129 ePn Pn 14 58 33.6 +1.5
D05A Enumclaw 11.14 129 Pn Pn 14 58 35.2 +3.1
HDA Harding Lake 11.30 332 ePn Pn 14 58 32.7 -1.5
HDA Harding Lake 11.30 332 P Pn 14 58 33.1 -1.1
baz=140,SNR=41
E04D Cinebar 11.37 133 P Pn 14 58 38.9 +3.6
baz=323,SNR=22
MCK McKinley 11.38 326 ePn Pn 14 58 34.4 -1.0
MCK McKinley 11.38 326 eP Pn 14 58 34.4 -1.0
FMW Mount Fremont 11.47 129 Pn Pn 14 58 38.6 +1.7
EPYK Eagle Plains 11.49 356 ePn Pn 14 58 35.1 -1.8
EPYK Eagle Plains 11.49 356 P Pn 14 58 35.5 -1.4
baz=174,SNR=113
LON Longmire 11.55 130 ePn Pn 14 58 37.8 0.0
LON Longmire 11.55 130 Pn Pn 14 58 39.5 +1.7
LON Longmire 11.55 130 eP Pn 14 58 37.8 0.0
IL1 Eielson Array 11.57 333 ePn Pn 14 58 36.1 -1.8
ILAR Eielson Array 11.57 333 Pn Pn 14 58 35.1 -2.8
3.1nm,0.3s,baz=152,slow=11,SNR=440
ILAR Lg Lg 15 01 57.2
0.4nm,0.3s,baz=122,slow=28,SNR=3.5
ILAR LR LR 15 03 11.1
comp=Z,10μm,19.5s,baz=149,slow=38
ILB Eielson Array 11.57 333 ePn Pn 14 58 35.7 -2.2
F04D Rainier, OR 11.57 135 P Pn 14 58 40.8 +2.8
baz=326
B08A Colville Reser 11.59 118 ePn Pn 14 58 39.4 +1.1
B08A Colville Reser 11.59 118 Pn Pn 14 58 40.0 +1.7
TRF Thorofare Moun 11.64 323 ePn Pn 14 58 38.2 -0.9
WRH Wood River Hil 11.66 330 ePn Pn 14 58 38.3 -0.9
COLA College 11.90 332 ePn Pn 14 58 40.8 -1.6
COLA College 11.90 332 *d iP* Pn 14 58 41.9 -0.6
COLA College 11.90 332 eP Pn 14 58 41.6 -0.8
TCOL CIGO, UAF Yank 11.91 332 P Pn 14 58 41.6 -0.9
baz=140,SNR=37
POKR Poker Plat Res 11.98 333 P Pn 14 58 43.3 -0.3
baz=141,SNR=32
PPLA Purkeypile 12.00 319 ePn Pn 14 58 41.9 -2.1
MDM Murphy Dome 12.07 332 ePn Pn 14 58 43.6 -1.2
G03D McMinnville, O 12.19 138 P Pn 14 58 49.4 +2.9
baz=328,SNR=10
CAST Castle Rocks 12.26 321 ePn Pn 14 58 45.3 -2.1
BPAW Bear Paw Mtn. 12.30 325 ePn Pn 14 58 45.6 -2.3
ATHA Athabasca 12.32 82 Pn Pn 14 58 46.7 -1.6
F05D White Salmon 12.38 132 P Pn 14 58 52.9 +3.8
baz=323,SNR=20
C09A Chrisman Ranch 12.49 118 ePn Pn 14 58 50.1 -0.5
E07A Sunnyside 12.58 126 ePn Pn 14 58 51.5 -0.4
SVW2 Sparrevohn 12.63 308 ePn Pn 14 58 49.5 -2.9
D08A Wollman Farm, 12.67 122 ePn Pn 14 58 53.9 +0.8
FYU Fort Yukon 12.71 341 ePn Pn 14 58 53.6 +0.2
COR Corvallis 12.71 140 ePn Pn 14 58 54.2 +0.7
COR Corvallis 12.71 140 eP Pn 14 58 54.2 +0.7
NEW Newport 12.79 114 Pn Pn 14 58 56.0 +1.2
0.6nm,0.3s,baz=326,slow=13,SNR=29
NEW Lg Lg 15 02 29.3
0.6nm,0.3s,baz=336,slow=10.0,SNR=5.9
NEW LR LR 15 03 42.0
comp=Z,16μm,21.4s,baz=296,slow=37
NEW Newport 12.79 114 ePn Pn 14 58 55.5 +0.8
NEW Lg Lg 15 02 29.3
NEW Newport 12.79 114 eP Pn 14 58 55.5 +0.8
NEW Newport 12.79 114 P Pn 14 58 56.3 +1.6
baz=309,SNR=50
YKA Yellowknife Ar 12.83 46 Pn Pn 14 58 50.1 -5.0
0.8nm,0.3s,baz=232,slow=12,SNR=61
YKA Lg Lg 15 02 16.0
0.5nm,0.3s,baz=246,slow=23,SNR=3.6
YKA LR LR 15 04 23.6
comp=Z,284nm,19.0s,baz=242,slow=40
YKB5 Yellowknife Ar 12.83 46 ePn Pn 14 58 52.2 -2.9
MLY Manley 12.85 328 ePn Pn 14 58 53.7 -1.8
YKW3 Yellowknife Ar 12.86 46 ePn Pn 14 58 52.6 -2.9
YKW3 Yellowknife Ar 12.86 46 Pn Pn 14 58 53.2 -2.3
HAWA Hanford 12.86 126 ePn Pn 14 58 56.2 +0.6
YKW1 Yellowknife Ar 12.87 46 Pn Pn 14 58 53.5 -2.1
G05D Wamic, OR 12.95 133 P Pn 14 59 00.9 +4.0
baz=324,SNR=23
PRDA Priddis 12.96 100 Pn Pn 14 58 57.0 0.0
H04D Lebanon 12.97 139 P Pn 14 58 59.9 +2.8
baz=329,SNR=14
E08A Dider Farm, El 13.01 124 ePn Pn 14 58 58.2 +0.5
F07A Phinny Hill Vi 13.05 128 ePn Pn 14 59 00.2 +2.0
H04A Detroit Lake 13.05 137 ePn Pn 14 59 00.3 +2.0
G06A Carlson Farm, 13.24 132 ePn Pn 14 59 03.0 +2.1
INK Inuvik 13.41 2 Pn Pn 14 59 00.5 -2.5
1.2nm,0.3s,baz=171,slow=12,SNR=68
INK Sn Sn 15 01 19.9 -12
0.7nm,0.3s,baz=164,slow=19,SNR=2.1
INK Lg Lg 15 02 48.9
0.3nm,0.3s,baz=76,slow=32,SNR=5.2
INK LR LR 15 04 48.6
comp=Z,6μm,19.3s,baz=179,slow=41
INK Inuvik 13.41 2 ePn Pn 14 59 01.0 -2.0
INK Sn Sn 15 01 19.9 -12
INK Lg Lg 15 02 48.9
INK Inuvik 13.41 2 Pn Pn 14 59 01.3 -1.7
INK Inuvik 13.41 2 eP Pn 14 59 01.0 -2.0
E09A Wood Farm, Sta 13.43 122 ePn Pn 14 59 03.5 +0.1

CHGN Chignik 13.46 285 ePn Pn 14 59 02.9 -0.7
I03D Drain, OR 13.46 142 P Pn 14 59 06.6 +2.8
baz=332,SNR=15
I05D Terrebonne, OR 13.68 136 P Pn 14 59 10.5 +3.7
baz=327,SNR=8.4
I04A Tendick Farm, 13.72 140 P Pn 14 59 09.8 +2.4
baz=330,SNR=36
J01E Myrtle Point 13.73 145 P P 14 59 12.4 -3.7
baz=334,SNR=5.7
G08A Pilot Rock 13.95 127 ePn Pn 14 59 11.5 +0.9
WALA Waterton Lakes 14.07 106 ePn Pn 14 59 12.5 +0.3
K02D Willamette Mer 14.23 145 P Pn 14 59 18.0 +3.4
baz=334,SNR=14
F10A Beach Ranch, E 14.27 122 ePn Pn 14 59 15.0 +0.1
BSMT Bassoo Peak 14.28 112 P Pn 14 59 16.3 +1.0
PINE Pine Mountain 14.29 136 ePn Pn 14 59 17.4 +2.0
J04D Umpqua Nationa 14.30 140 P Pn 14 59 18.4 +2.9
baz=330,SNR=22
BHMT Big Hole Peak 14.31 113 P Pn 14 59 16.9 +1.3
COLD Coldfoot 14.34 335 ePn Pn 14 59 15.4 -0.4
COLD Coldfoot 14.34 335 Pn Pn 14 59 15.7 -0.1
IM3 Indian Mountai 14.42 328 ePn Pn 14 59 15.7 -1.3
HUMO Hull Mountain 14.55 143 ePn Pn 14 59 21.6 +2.7
J05D Fort Rock, OR 14.60 138 P Pn 14 59 21.8 +2.2
baz=329,SNR=59
I07A Izee 14.65 132 ePn Pn 14 59 21.8 +1.6
SDPT Sand Point 14.72 282 ePn Pn 14 59 19.6 -1.4
L02E Cave Junction 14.74 146 P P 14 59 26.0 -1.4
baz=335,SNR=11
FBMT Ferry Basin 14.75 112 P Pn 14 59 22.9 +1.3
SWMT Swartz Lake 14.91 111 P Pn 14 59 23.4 -0.3
K04D Chiloquin, OR 14.97 140 P Pn 14 59 27.3 +2.8
baz=331
BMO Blue Mountains 15.05 125 ePn Pn 14 59 26.0 +0.4
122nm,1.6s
BMO Blue Mountains 15.05 125 eP Pn 14 59 26.0 +0.4
BMO pmax pmax
comp=Z,120nm,1.6s
L04D Klamath Falls 15.12 142 P P 14 59 31.8 0.0
baz=332,SNR=11
SLMT Seeley Lake 15.35 111 P Pn 14 59 31.3 +1.7
MSO Missoula 15.37 113 ePn Pn 14 59 29.5 -0.3
comp=Z,100nm,1.1s
MSO Missoula 15.37 113 P Pn 14 59 29.8 0.0
baz=310,SNR=36
YBH Yreka Blue Hor 15.41 144 Pn P 14 59 33.1 -1.9
comp=Z,0.1nm,0.3s,baz=347,slow=6.3,SNR=22
YBH Yreka Blue Hor 15.41 144 ePn Pn 14 59 32.3 +1.9
comp=Z,120nm,1.2s
YBH Yreka Blue Hor 15.41 144 eP Pn 14 59 32.3 +1.9
YBH pmax pmax
comp=Z,120nm,1.2s
M02C Callahan 15.67 145 P P 14 59 36.9 -0.9
baz=335,SNR=11
M04C Macdoel 15.67 142 P P 14 59 36.1 -1.8
baz=332,SNR=11
J08A Circle Bar Ran 15.68 131 ePn Pn 14 59 35.2 +1.4
comp=Z,160nm,1.1s
OVMT Ovando 15.72 111 P Pn 14 59 35.7 +1.3
JCC Jacoby Creek, 15.82 149 ePn P 14 59 39.1 -0.3
comp=Z,287nm,1.5s
KUKN Kugluktuk,NWT 15.84 28 P Pn 14 59 34.9 -0.7
KHMM Horse Mountain 15.86 148 ePn P 14 59 39.6 -0.4
comp=Z,186nm,1.3s
BPMT Black Pine Rid 15.88 114 P Pn 14 59 38.0 +1.4
N02D Trinity Center 16.10 145 P P 14 59 43.0 +0.4
baz=335,SNR=24
MOD Modoc Plateau 16.14 138 ePn Pn 14 59 40.5 +0.7
comp=Z,185nm,1.4s
ELMT Elliston 16.33 112 P Pn 14 59 43.5 +1.1
WVOR Wild Horse Val 16.36 133 ePn Pn 14 59 43.8 +1.1
comp=Z,75nm,1.1s
WVOR Wild Horse Val 16.36 133 eP Pn 14 59 43.8 +1.1
WVOR pmax pmax
comp=Z,75nm,1.1s
KMRM Mail Ridge 16.47 149 ePn P 14 59 46.7 +0.1
comp=Z,377nm,1.3s
FALS False Pass 16.47 281 ePn Pn 14 59 44.8 +0.9
comp=Z,318nm,1.0s
WDC Whiskeytown Da 16.50 146 ePn P 14 59 45.8 -1.2
comp=Z,273nm,1.4s
WDC Whiskeytown Da 16.50 146 eP P 14 59 45.8 -1.2
WDC pmax pmax
comp=Z,270nm,1.4s
HRY Holter Researc 16.57 110 ePn Pn 14 59 44.6 -0.7
HRY Holter Researc 16.57 110 P P 14 59 46.9 -0.9
HBMT Mount Humbug 16.74 114 P P 14 59 48.9 -1.0
O02D Mt. Diablo Mer 16.79 147 P P 14 59 51.9 +1.6
baz=336,SNR=18
LRM Limekiln Ridge 16.81 114 ePn Pn 14 59 41.4 -7.0
LRM Limekiln Ridge 16.81 114 P Pn 14 59 49.1 +0.7
MFID Camas Ranch 16.83 126 ePn Pn 14 59 49.2 +0.6
comp=Z,85nm,1.1s
EGMT Eagleton 16.95 104 ePn Pn 14 59 47.9 -2.1
comp=Z,566nm,1.6s
EGMT Eagleton 16.95 104 P Pn 14 59 48.2 -1.8
baz=304
KCPM Cahto Peak 17.00 149 ePn P 14 59 55.0 +2.5
comp=Z,202nm,1.4s
O03E Paynes Creek 17.01 144 P P 14 59 54.1 +1.5
baz=335,SNR=17
DLMT Dillon 17.04 115 ePn Pn 14 59 51.1 -0.1
comp=Z,240nm,1.4s
MCMT McKenzie Canyo 17.27 117 eP P 14 59 55.2 -0.5
HLID Hailey 17.39 123 ePn P 14 59 56.6 -0.4
comp=Z,166nm,1.4s
HLID Hailey 17.39 123 P P 14 59 58.0 +1.0
baz=319,SNR=71
MOMT Monida 17.67 117 P P 15 00 00.6 +0.6
ORV Oroville 17.77 145 ePn P 15 00 01.3 +0.3
comp=Z,203nm,1.9s
ORV Oroville 17.77 145 eP P 15 00 01.3 +0.3
ORV pmax pmax
comp=Z,200nm,1.9s
HOPS Hopland Field 17.79 149 ePn P 15 00 01.8 +0.7
comp=Z,173nm,1.4s
BEKR Beckworth 17.89 142 ePn P 15 00 03.4 +0.9
comp=Z,139nm,1.5s
TPMT Tepee Creek 17.95 115 P P 15 00 04.5 +1.2
AKUT Akutan 17.98 280 ePn P 15 00 03.3 +0.2
comp=Z,767nm,1.7s
ANM Nome 18.01 315 ePn P 15 00 03.4 0.0
comp=Z,811nm,1.3s
ANM Nome 18.01 315 eP P 15 00 03.4 0.0
ANM pmax pmax
comp=Z,810nm,1.3s
GDXM Geysers 18.04 149 ePn P 15 00 05.5 +1.4
comp=Z,163nm,1.9s
YHB Horse Butte 18.18 114 ePn P 15 00 05.9 +0.1
comp=Z,106nm,1.3s
GCMT Greycliff 18.32 110 ePn Pn 15 00 05.9 -1.2
YMR Madison River 18.36 114 ePn P 15 00 08.1 +0.4
comp=Z,182nm,1.2s
PAHR Pah Rah Range 18.39 140 eP Pn 15 00 09.2 +1.3
comp=Z,349nm,1.9s
UNV Unalaska Valle 18.47 280 eP Pn 15 00 09.2 +0.5
comp=Z,355nm,1.1s
YNR Norris Junctio 18.48 114 eP Pn 15 00 09.6 +0.4
comp=Z,170nm,1.5s
AFDM Forest Hills D 18.50 144 eP Pn 15 00 10.6 +1.4
comp=Z,110nm,1.6s
RDOG Red Dog Mine 18.55 326 eP P 15 00 09.2 -0.2
comp=Z,293nm,1.1s
YFT Old Faithful 18.57 115 eP Pn 15 00 13.6 +3.3
comp=Z,111nm,1.3s
MCCM Marconi Confer 18.63 150 eP Pn 15 00 11.9 +1.2
comp=Z,248nm,1.5s
VCNR Virginia City 18.65 141 eP Pn 15 00 12.7 +1.5
comp=Z,201nm,1.4s
YPP Pitchstone Pla 18.71 115 eP Pn 15 00 12.5 +0.4
comp=Z,94nm,1.4s
LKWY Lake 18.73 114 eP P 15 00 11.8 0.0
comp=Z,67nm,1.0s
LKWY Lake 18.73 114 eP P 15 00 11.8 0.0
LKWY pmax pmax
comp=Z,67nm,1.0s
H17A Grant Village 18.75 114 eP Pn 15 00 13.7 +1.2
comp=Z,62nm,1.1s
H17A Grant Village 18.75 114 P Pn 15 00 14.9 +2.5
baz=314,SNR=38
FFC Flin Flon 18.75 77 eP P 15 00 09.6 -2.0
comp=Z,118nm,1.0s
FFC Flin Flon 18.75 77 *ceP* P 15 00 10.2 -1.4
PNTR Pine Nut 18.85 141 eP Pn 15 00 14.3 +0.7
comp=Z,331nm,1.9s
FLWY Flagg Ranch 18.90 115 eP P 15 00 12.7 -0.9

comp=Z,175nm,1.4s
RLMT Red Lodge 18.96 111 eP P 15 00 14.5 +0.2
comp=Z,120nm,1.3s
RLMT Red Lodge 18.96 111 P Pn 15 00 16.0 +1.1
baz=311,SNR=45
YERR Yerington 19.07 141 eP Pn 15 00 17.4 +1.1
comp=Z,307nm,1.8s
MOOW Moose Ponds 19.11 116 eP Pn 15 00 17.6 +0.9
comp=Z,106nm,1.3s
TPAW Teton Pass 19.18 117 eP Pn 15 00 17.9 +0.2
comp=Z,138nm,1.2s
ELK Elko 19.21 130 P Pn 15 00 19.2 +1.3
comp=Z,0.3nm,0.3s,baz=323,slow=10,SNR=103
ELK Lg Lg 15 06 04.2
comp=Z,0.1nm,0.3s,baz=73,slow=20,SNR=2.7
ELK LR LR 15 07 40.9
comp=Z,4μm,18.1s,baz=326,slow=37
ELK Elko 19.21 130 P Pn 15 00 19.2 +1.3
comp=Z,26nm,0.9s
ELK Lg Lg 15 06 04.2
ELK Elko 19.21 130 eP Pn 15 00 18.6 +0.6
ELK pmax pmax
comp=Z,26nm,0.9s
LOHW Long Hollow 19.27 116 eP Pn 15 00 19.2 +0.4
comp=Z,165nm,1.4s
SNOW Snow King Moun 19.30 117 eP Pn 15 00 23.1 +4.0
comp=Z,95nm,1.1s
REDW Red Top Meadow 19.32 117 eP P 15 00 18.7 +0.4
comp=Z,172nm,1.4s
WAKR Walker 19.43 142 eP P 15 00 17.4 -2.0
comp=Z,380nm,1.6s
KVN Kaiserville 19.44 138 eP Pn 15 00 21.0 +0.3
comp=Z,243nm,1.6s
KVN Kaiserville 19.44 138 eP Pn 15 00 21.0 +0.3
KVN pmax pmax
comp=Z,240nm,1.6s
CMB Columbia Colle 19.52 144 eP Pn 15 00 21.2 -0.3
comp=Z,156nm,1.6s
CMB Columbia Colle 19.52 144 eP Pn 15 00 21.2 -0.3
CMB pmax pmax
comp=Z,160nm,1.6s
HVU Hansel Valley 19.53 123 eP P 15 00 21.0 +0.5
comp=Z,283nm,1.8s
HVU Hansel Valley 19.53 123 eP P 15 00 21.0 +0.5
HVU pmax pmax
comp=Z,280nm,1.8s
RYN Ryan 19.65 140 eP Pn 15 00 23.1 -0.1
comp=Z,382nm,1.9s
LAO LASA Array 19.68 103 eP Pn 15 00 24.0 +0.6
comp=Z,231nm,1.5s
LAO LASA Array 19.68 103 P Pn 15 00 24.2 +0.8
baz=306,SNR=21
SPIA Saint Paul Isl 19.83 291 eP Pn 15 00 24.8 -0.2
comp=Z,2μm,1.2s
DGMT Dagmar 19.87 96 eP P 15 00 24.0 +0.1
comp=Z,378nm,1.4s
DGMT Dagmar 19.87 96 P Pn 15 00 25.9 +0.3
baz=301,SNR=18
NV01 Mina Array Sit 19.91 139 eP Pn 15 00 25.9 -0.4
NVAR Mina Array Bea 19.91 139 P Pn 15 00 26.9 +0.6
comp=Z,31nm,0.9s,baz=323,slow=10,SNR=41
NVAR S Sn 15 04 16.8 +6.9
comp=Z,2.2nm,1.0s,baz=344,slow=9.4,SNR=1.9
NV11 Mina Array Sit 19.96 139 eP Pn 15 00 26.7 -0.2
comp=Z,25nm,1.7s
SPUT South Promonto 20.05 124 PFAKE 15 00 40.0 +12
SPUT LR LR
comp=Z,6μm,20.0s
BGU Big Grassy Mou 20.07 125 eP Pn 15 00 27.4 -0.8
comp=Z,143nm,1.7s
BGU LR LR
comp=Z,7μm,18.0s
NIKH Nikolski High 20.08 278 eP Pn 15 00 27.7 -0.3
comp=Z,435nm,1.1s
SAO San Andreas Ge 20.34 148 eP P 15 00 29.2 +0.1
comp=Z,128nm,1.7s
SAO LR LR
comp=Z,3μm,18.0s
SAO San Andreas Ge 20.34 148 eP P 15 00 29.2 +0.1
SAO pmax pmax
comp=Z,128nm,1.7s
SAO MLR MLR
comp=Z,3μm,18.0s
BW06 Boulder Array 20.41 116 eP Pn 15 00 31.2 -1.0
comp=Z,91nm,1.1s
BW06 LR LR
comp=Z,3μm,22.0s
BW06 Boulder Array 20.41 116 P Pn 15 00 32.4 +0.1
baz=316,SNR=90
PD31 Pinedale Array 20.41 116 eP Pn 15 00 31.3 -0.9
PDAR Pinedale Array 20.41 116 P Pn 15 00 32.0 -0.3
comp=Z,30nm,0.9s,baz=316,slow=6.2,SNR=48
PDAR S Sn 15 04 23.1 +1.0
comp=Z,0.9nm,0.8s,baz=72,slow=32,SNR=2.0
PDAR Lg Lg 15 06 37.7
comp=Z,1.3nm,1.0s,baz=319,slow=20,SNR=3.8
MLAC Mammoth, Mammo 20.42 142 P Pn 15 00 33.9 +1.6
baz=334,SNR=7.9
GAMB Gambell 20.53 310 PFAKE 15 00 40.0 +6.8
GAMB LR LR
comp=Z,8μm,19.0s
TCUT Toone Canyon 20.70 122 PFAKE 15 00 50.0 +14
TCUT LR LR
comp=Z,12μm,21.0s
DUG Dugway, Tooele 20.75 126 eP P 15 00 34.9 +1.2
comp=Z,98nm,1.2s
DUG LR LR
comp=Z,5μm,18.0s
DUG Dugway, Tooele 20.75 126 eP P 15 00 34.9 +1.2
DUG pmax pmax
comp=Z,98nm,1.2s
DUG Dugway, Tooele 20.75 126 P Pn 15 00 36.0 -0.1
baz=323,SNR=21
CTU Camp Tracy 20.86 124 eP Pn 15 00 36.5 -0.9
comp=Z,59nm,1.3s
CTU LR LR
comp=Z,7μm,21.0s
R11A Troy Canyon, C 21.05 134 eP P 15 00 38.2 +1.2
comp=Z,78nm,1.4s
R11A LR LR
comp=Z,7μm,18.0s
R11A Troy Canyon, C 21.05 134 P P 15 00 38.1 +1.1
baz=329,SNR=53
JLU Jordanelle 21.08 123 eP P 15 00 32.6 -4.7
comp=Z,110nm,1.4s
TIN Tinemaha, Big 21.15 141 P P 15 00 40.3 +2.3
baz=334,SNR=13
NLU North Lily Min 21.29 125 eP P 15 00 40.8 +1.2
comp=Z,72nm,1.3s
NLU LR LR
comp=Z,4μm,19.0s
MPU Maple Canyon 21.45 125 eP P 15 00 42.4 +1.1
comp=Z,54nm,1.5s
MPU LR LR
comp=Z,6μm,18.0s
GRAC Grapevine Rang 21.52 139 P P 15 00 43.9 +2.0
baz=333
PSUT Pine Spring 21.63 131 eP P 15 00 44.7 +1.4
comp=Z,286nm,1.7s
PSUT LR LR
comp=Z,6μm,22.0s
PAGB Antelope Grade 21.66 147 eP P 15 00 44.4 +1.0
PAGB LR LR
comp=Z,3μm,18.0s
CWC Cottonwood Cre 21.75 142 P P 15 00 46.6 +2.0
baz=334
TPNV Topopah Spring 21.99 137 eP P 15 00 47.6 +0.5
comp=Z,122nm,0.9s
TPNV LR LR
comp=Z,4μm,20.0s
TPNV Topopah Spring 21.99 137 eP P 15 00 47.6 +0.5
TPNV pmax pmax
comp=Z,120nm,1.0s
TPNV Topopah Spring 21.99 137 P P 15 00 48.3 +1.2
baz=332,SNR=65
DAC Darwin (Calif) 22.07 141 eP P 15 00 49.3 +1.3
comp=Z,104nm,1.1s
DAC LR LR
comp=Z,5μm,21.0s
DAC Darwin (Calif) 22.07 141 eP P 15 00 49.3 +1.3
DAC pmax pmax
comp=Z,100nm,1.1s
K22A Casper 22.09 112 eP P 15 00 48.0 -0.2
comp=Z,232nm,1.5s
K22A LR LR
comp=Z,15μm,19.0s
K22A Casper 22.09 112 P P 15 00 48.3 +0.2
baz=314,SNR=20

FURC **Furnace Creek,** **22.18 139** P **P** **15 00 49.8 +1.0**
baz=333,SNR=26
TCRU **Three Creeks R** **22.19 128** PFAKE 15 01 00.0 +11
TCRU LR LR
comp=Z,4µm,20.0s
TMUT **Trail Mountain** **22.21 125** *e*P **P** **15 00 50.6 +1.0**
comp=Z,90nm,1.3s
TMUT LR LR
comp=Z,6µm,19.0s
FCC **Fort Churchill** **22.27 64** *e*P **P** **15 00 49.4 -0.3**
comp=Z,700nm,1.8s
FCC LR LR
comp=Z,6µm,20.0s
FCC **Fort Churchill** **22.27 64** P **P** **15 00 49.2 -0.5**
FCC **Fort Churchill** **22.27 64** *e*P **P** **15 00 49.4 -0.3**
FCC pmax pmax
comp=Z,700nm,1.8s
P17A **Butcher Ranch,** **22.30 124** *e*P **P** **15 00 51.5 +1.1**
comp=Z,69nm,1.1s
P17A LR LR
comp=Z,5µm,20.0s
MPMC **Manual Prospec** **22.31 141** P **P** **15 00 52.3 +1.7**
baz=334,SNR=41
ISA **Isabella, Lake** **22.31 143** *e*P **P** **15 00 51.6 +1.1**
comp=Z,129nm,1.5s
ISA LR LR
comp=Z,3µm,19.0s
ISA **Isabella, Lake** **22.31 143** *e*P **P** **15 00 51.6 +1.1**
ISA pmax pmax
comp=Z,130nm,1.5s
ISA **Isabella, Lake** **22.31 143** P **P** **15 00 52.2 +1.7**
baz=336,SNR=12
MSU **Marysvale** **22.40 128** *e*P **P** **15 00 52.9 +1.4**
MSU **Marysvale** **22.40 128** *e*P **P** **15 00 52.9 +1.4**
RWWY **Rawlins** **22.40 115** *e*P **P** **15 00 51.0 -0.6**
comp=Z,104nm,0.9s
RWWY LR LR
comp=Z,4µm,21.0s
RSSD **Black Hills** **22.47 106** *e*P **P** **15 00 51.5 -0.8**
comp=Z,61nm,0.9s
RSSD LR LR
comp=Z,4µm,19.0s
RSSD **Black Hills** **22.47 106** *e*P **P** **15 00 51.5 -0.8**
RSSD pmax pmax
comp=Z,61nm,1.0s
RSSD **Black Hills** **22.47 106** P **P** **15 00 52.0 -0.3**
baz=310
Q16A **Castle Valley** **22.53 126** *e*P **P** **15 00 54.0 +1.1**
comp=Z,219nm,1.5s
Q16A LR LR
comp=Z,7µm,18.0s
PKM **Mcpherson Peak** **22.57 147** P **P** **15 00 56.9 +3.5**
baz=338,SNR=6.3
CCUT **Cedar City** **22.66 131** *e*P **P** **15 00 55.0 +0.6**
comp=Z,142nm,1.7s
CCUT LR LR
comp=Z,6µm,19.0s
SRU **San Rafael Swe** **22.69 124** *e*P **P** **15 00 56.1 +1.6**
comp=Z,151nm,1.2s
SRU LR LR
comp=Z,6µm,18.0s
SRU **San Rafael Swe** **22.69 124** *e*P **P** **15 00 56.1 +1.6**
SRU pmax pmax
comp=Z,150nm,1.2s
SZCU **Shurtz Canyon** **22.75 131** *e*P **P** **15 00 55.8 +0.5**
comp=Z,70nm,1.2s
SZCU LR LR
comp=Z,4µm,21.0s
LRMC **Laurel Mtn Rad** **22.75 142** P **P** **15 00 56.9 +1.6**
baz=335,SNR=17
MTPU **Mount Pierson** **22.78 129** *e*P **P** **15 00 57.1 +1.4**
comp=Z,62nm,1.3s
MTPU LR LR
comp=Z,6µm,18.0s
SHPR **Sheep Range** **22.80 136** *e*P **P** **15 00 55.9 +0.1**
comp=Z,55nm,1.2s
SHPR LR LR
comp=Z,6µm,20.0s
MDND **Maddock** **22.82 94** *e*P **P** **15 00 55.6 -0.1**
comp=Z,527nm,1.3s
MDND LR LR
comp=Z,700nm,19.0s
MDND **Maddock** **22.82 94** P **P** **15 00 55.4 -0.4**
baz=302
SHOC **Shoshone, Teco** **22.90 139** P **P** **15 00 59.1 +2.5**
baz=333,SNR=8.5
O20A **White River Ci** **23.02 119** *e*P **P** **15 00 57.6 -0.4**
comp=Z,91nm,1.1s
O20A LR LR
comp=Z,5µm,19.0s
O20A **White River Ci** **23.02 119** P **P** **15 00 58.4 +0.4**
baz=320,SNR=21
LCMT **Little Creek M** **23.17 132** *e*P **P** **15 01 00.0 +0.5**
comp=Z,161nm,1.5s
LCMT LR LR
comp=Z,6µm,19.0s
OSI **Osito Audit: C** **23.18 145** PFAKE 15 01 10.0 +10
OSI LR LR
comp=Z,4µm,20.0s
EDW2 **Edwards Air Fo** **23.18 143** P **P** **15 01 00.9 +1.3**
baz=336,SNR=5.8
PKCU **Pink Cliffs** **23.21 130** *e*P **P** **15 01 00.9 +0.8**
comp=Z,226nm,1.6s
PKCU LR LR
comp=Z,3µm,21.0s
GSC **Goldstone, Bar** **23.23 140** *e*P **P** **15 01 00.8 +0.7**
comp=Z,160nm,1.4s
GSC LR LR
comp=Z,4µm,20.0s
GSC **Goldstone, Bar** **23.23 140** *e*P **P** **15 01 00.8 +0.7**
GSC pmax pmax
comp=Z,160nm,1.3s
GSC **Goldstone, Bar** **23.23 140** P **P** **15 01 01.8 +1.6**
baz=334,SNR=34
KNB **Kanab** **23.34 131** *e*P **P** **15 01 01.7 +0.4**
comp=Z,224nm,1.7s
KNB LR LR
comp=Z,5µm,20.0s
KNB **Kanab** **23.34 131** *e*P **P** **15 01 01.7 +0.4**
KNB pmax pmax
comp=Z,220nm,1.7s
ATKA **Atka Island** **23.40 280** *e*P **P** **15 01 02.1 +0.6**
comp=Z,280nm,1.0s
TUQ **Turquoise Moun** **23.44 139** P **P** **15 01 03.5 +1.2**
baz=333,SNR=25
RRX **Edison Barstow** **23.54 141** P **P** **15 01 04.3 +1.2**
baz=335
PHWY **Pilot Hill** **23.60 113** *e*P **P** **15 01 03.9 -0.2**
comp=Z,159nm,1.6s
PHWY LR LR
comp=Z,10µm,22.0s
N23A **Red Feather La** **23.64 115** *e*P **P** **15 01 03.9 -0.5**
comp=Z,178nm,1.4s
N23A LR LR
comp=Z,5µm,19.0s
N23A **Red Feather La** **23.64 115** P **P** **15 01 05.0 +0.7**
baz=317,SNR=23
DECC **Green Verdugo** **23.64 144** P **P** **15 01 05.6 +1.5**
baz=337
MWC **Mount Wilson** **23.76 144** *e*P **P** **15 01 06.7 +1.2**
comp=Z,281nm,1.9s
MWC LR LR
comp=Z,3µm,20.0s
MWC **Mount Wilson** **23.76 144** *e*P **P** **15 01 06.7 +1.2**
MWC pmax pmax
comp=Z,280nm,1.9s
PASC **Pasadena Art C** **23.76 144** *e*P **P** **15 01 05.1 -0.1**
comp=Z,223nm,1.9s
PASC LR LR
comp=Z,3µm,18.0s
ULM **Lac du Bonnet** **23.81 85** P **P** **15 01 04.5 -1.1**
comp=Z,5.8nm,0.8s,baz=299,slow=9.5,SNR=13
ULM S **S** **15 05 20.7 -0.1**
comp=Z,6.9nm,1.0s,baz=288,slow=9.6,SNR=1.9
ULM Lg Lg 15 08 13.2
comp=Z,51nm,1.3s,baz=183,slow=21,SNR=8.8
ULM LR LR 15 11 04.2
comp=Z,2µm,21.9s,baz=299,slow=38
ULM **Lac du Bonnet** **23.81 85** P **P** **15 01 05.0 -0.7**
ULM **Lac du Bonnet** **23.81 85** *e*P **P** **15 01 04.8 -0.8**
ULM pmax pmax
comp=Z,200nm,1.9s
HEC **Hector,Ludlow** **23.82 140** P **P** **15 01 07.6 +1.6**
baz=334,SNR=27
PV09 **Paradox Valley** **23.84 123** *e*P **P** **15 01 06.7 +0.4**
PV21 **Cone Mtn., Par** **23.86 123** *e*P **P** **15 01 06.7 +0.2**
comp=Z,114nm,1.2s
PV21 LR LR
comp=Z,7µm,19.0s
BFSC **Mount Baldy Ra** **23.88 143** P **P** **15 01 08.3 +1.7**
baz=336,SNR=17
PV23 **Carpenter Ridg** **23.93 123** *e*P **P** **15 01 07.1 -0.1**
comp=Z,160nm,1.3s
PV23 LR LR
comp=Z,8µm,20.0s
PV10 **Paradox Valley** **23.98 123** *e*P **P** **15 01 08.5 +0.9**
PV14 **Lion Creek, Pa** **23.99 123** *e*P **P** **15 01 08.1 +0.4**
comp=Z,289nm,1.6s
PV14 LR LR
comp=Z,7µm,20.0s
PV20 **West Nyswonger** **24.04 123** *e*P **P** **15 01 08.7 +0.6**
comp=Z,124nm,1.4s
PV20 LR LR
comp=Z,6µm,20.0s
PV19 **Morning Glory** **24.06 123** *e*P **P** **15 01 08.5 +0.2**
comp=Z,162nm,1.4s
LDFC **Landfair** **24.07 138** *e*P **P** **15 01 09.4 +1.1**
comp=Z,115nm,1.1s
LDFC LR LR
comp=Z,8µm,21.0s
U15A **North Rim** **24.07 131** *e*P **P** **15 01 09.3 +0.8**
comp=Z,152nm,1.4s
U15A LR LR
comp=Z,3µm,19.0s
PV16 **Nyswonger Mesa** **24.09 123** *e*P **P** **15 01 08.8 +0.2**
comp=Z,149nm,1.4s
PV16 LR LR
comp=Z,7µm,20.0s
PV17 **East Wray Mesa** **24.09 123** *e*P **P** **15 01 08.4 -0.2**
comp=Z,225nm,1.5s
PV17 LR LR
comp=Z,8µm,19.0s
GMRC **Granite Mounta** **24.12 139** P **P** **15 01 10.3 +1.5**
baz=333,SNR=26
PV11 **David Mesa, Pa** **24.12 123** *e*P **P** **15 01 08.7 -0.1**
comp=Z,150nm,1.3s
PV11 LR LR
comp=Z,8µm,19.0s
BBRC **Big Bear Solar** **24.12 142** P **P** **15 01 10.3 +1.4**
baz=335,SNR=9.4
PV12 **Saucer Basin,** **24.14 123** *e*P **P** **15 01 09.1 0.0**
comp=Z,178nm,1.5s
PV12 LR LR
comp=Z,8µm,19.0s
PV03 **Paradox Valley** **24.16 123** *e*P **P** **15 01 09.2 -0.1**
SNCC **San Nicolas Is** **24.18 148** PFAKE 15 01 20.0 +11
SNCC LR LR
comp=Z,3µm,19.0s
PV05 **Paradox Valley** **24.18 124** *e*P **P** **15 01 09.3 -0.2**
PV13 **Radium Mtn., P** **24.25 123** *e*P **P** **15 01 10.3 +0.2**
comp=Z,285nm,1.7s
PV13 LR LR
comp=Z,6µm,18.0s
PV02 **Paradox Valley** **24.26 123** *e*P **P** **15 01 10.2 +0.1**
comp=Z,78nm,1.2s
SMCO **Snowmass** **24.38 119** *e*P **P** **15 01 11.4 0.0**
comp=Z,64nm,1.4s
SMCO LR LR
comp=Z,6µm,19.0s
PV01 **Paradox Valley** **24.39 123** *e*P **P** **15 01 11.6 +0.2**
W13A **Hualapai Mount** **24.54 135** *e*P **P** **15 01 13.3 +0.6**
comp=Z,47nm,0.9s
W13A LR LR
comp=Z,6µm,18.0s
ISCO **Idaho Springs** **24.61 116** *e*P **P** **15 01 14.9 +1.5**
comp=Z,70nm,1.4s
ISCO LR LR
comp=Z,5µm,18.0s
ISCO **Idaho Springs** **24.61 116** *e*P **P** **15 01 13.8 +0.4**
ISCO pmax pmax
comp=Z,70nm,1.4s
ISCO **Idaho Springs** **24.61 116** P **P** **15 01 14.8 +1.3**
baz=318,SNR=11
MURC **Murrieta** **24.62 143** P **P** **15 01 14.1 +0.8**
baz=336
BELC **Belle Mtn. Jos** **24.69 140** P **P** **15 01 15.5 +1.5**
baz=334,SNR=7.4
AGMN **Agassiz Nation** **24.75 89** *e*P **P** **15 01 13.7 -0.6**
comp=Z,268nm,2.0s
AGMN LR LR
comp=Z,5µm,19.0s
IRM **Iron Mountain** **24.87 139** P **P** **15 01 16.9 +1.4**
baz=333,SNR=20
PFO **Pinyon Flats O** **24.87 142** P **P** **15 01 16.8 +1.1**
comp=Z,20nm,0.9s,baz=337,slow=6.5,SNR=13
PFO Lg Lg 15 07 44.5
comp=Z,9.3nm,0.6s,baz=86,slow=1.3,SNR=11
PFO LR LR 15 11 06.9
comp=Z,6µm,20.1s,baz=332,slow=37
PFO **Pinyon Flats O** **24.87 142** *e*P **P** **15 01 16.6 +1.0**
comp=Z,25nm,1.0s
PFO Lg Lg 15 07 44.5
PFO **Pinyon Flats O** **24.87 142** *e*P **P** **15 01 16.6 +1.0**
PFO pmax pmax
comp=Z,25nm,1.0s
PFO **Pinyon Flats O** **24.87 142** P **P** **15 01 16.5 +1.0**
baz=335,SNR=8.9
XPFO **Pion Flat** **24.87 142** *e*P **P** **15 01 16.8 +1.1**
comp=Z,27nm,1.0s
XPFO LR LR
comp=Z,6µm,19.0s
TPFO **Pinon Flats** **24.88 142** P **P** **15 01 16.4 +0.7**
baz=335,SNR=11
SUSD **Miller** **25.12 100** P **P** **15 01 17.0 -0.7**
baz=308
PDMCI **Parker Dam,Lak** **25.13 137** P **P** **15 01 19.1 +1.3**
baz=332
RES **Resolute Bay** **25.13 24** P **P** **15 01 17.4 0.0**
comp=Z,14nm,0.9s,baz=238,slow=10,SNR=41
RES S **S** **15 05 43.1 +1.6**
comp=Z,8.7nm,0.9s,baz=219,slow=6.5,SNR=2.1
RES Lg Lg 15 08 52.3
comp=Z,22nm,1.2s,baz=291,slow=2.6,SNR=12
RES LR LR 15 12 05.3
comp=Z,2µm,18.9s,baz=240,slow=39
RES **Resolute Bay** **25.13 24** P **P** **15 01 17.4 0.0**
comp=Z,49nm,1.1s
RES S **S** **15 05 43.1 +1.6**
RES Lg Lg 15 08 52.3
RES **Resolute Bay** **25.13 24** P **P** **15 01 17.6 0.0**
RES **Resolute Bay** **25.13 24** *e*P **P** **15 01 17.2 -0.2**
RES pmax pmax
comp=Z,170nm,1.1s
MVCO **Mesa Verde** **25.16 124** *e*P **P** **15 01 18.4 +0.1**
comp=Z,52nm,1.0s
MVCO LR LR
comp=Z,4µm,21.0s
MVCO **Mesa Verde** **25.16 124** P **P** **15 01 19.2 +0.8**
baz=324
BC3 **Big Chuckawall** **25.20 140** P **P** **15 01 19.6 +1.0**
baz=334,SNR=6.0
WUAZ **Wupatki** **25.24 131** *e*P **P** **15 01 19.8 +0.9**
comp=Z,105nm,1.2s
WUAZ LR LR
comp=Z,3µm,19.0s
WUAZ **Wupatki** **25.24 131** P **P** **15 01 20.3 +1.3**
baz=328,SNR=37
CPE **Camp Elliot** **25.30 144** *e*P **P** **15 01 20.0 +0.7**
comp=Z,153nm,1.6s
CPE LR LR
comp=Z,3µm,18.0s
EPLO **Experimental L** **25.31 85** P **P** **15 01 19.2 -0.1**
Y12C **Blythe** **25.47 138** *e*P **P** **15 01 22.2 +1.4**
comp=Z,105nm,1.4s
Y12C LR LR
comp=Z,2µm,21.0s
Y12C **Blythe** **25.47 138** P **P** **15 01 22.4 +1.6**
baz=333,SNR=14
Q24A **Divide** **25.47 117** *e*P **P** **15 01 21.7 +0.5**
comp=Z,28nm,0.9s
Q24A LR LR
comp=Z,4µm,22.0s
Q24A **Divide** **25.47 117** P **P** **15 01 22.3 +1.0**
baz=319,SNR=8.6
MONP2 **Monument Peak** **25.53 142** P **P** **15 01 23.3 +1.6**
baz=336,SNR=18
S22A **4UR Ranch, Cre** **25.55 121** *e*P **P** **15 01 22.3 +0.3**
comp=Z,80nm,1.4s
S22A LR LR
comp=Z,7µm,18.0s
S22A **4UR Ranch, Cre** **25.55 121** P **P** **15 01 22.5 +0.5**
baz=322,SNR=16
BAR **Barrett** **25.64 143** *e*P **P** **15 01 23.8 +1.4**
comp=Z,72nm,1.4s
BAR LR LR
comp=Z,3µm,20.0s
OGNE **Ogallala** **25.69 109** *e*P **P** **15 01 23.4 +0.5**
comp=Z,203nm,1.3s
OGNE LR LR
comp=Z,4µm,20.0s
OGNE **Ogallala** **25.69 109** P **P** **15 01 23.6 +0.7**
baz=315,SNR=11
SWSC **Sam W. Stewart** **25.71 141** P **P** **15 01 24.1 +1.0**
baz=335
IKP **In-Ko-Pah, Jac** **25.86 142** P **P** **15 01 25.9 +1.4**
baz=336,SNR=10
Y14A **Wickenburg** **25.90 135** *e*P **P** **15 01 26.2 +1.3**
comp=Z,97nm,1.4s
Y14A LR LR
comp=Z,5µm,18.0s
GLA **Glamis** **25.97 139** *e*P **P** **15 01 26.9 +1.4**
comp=Z,85nm,1.1s
GLA LR LR
comp=Z,4µm,18.0s
GLA **Glamis** **25.97 139** *e*P **P** **15 01 26.9 +1.4**
GLA pmax pmax
comp=Z,85nm,1.1s
GLA **Glamis** **25.97 139** P **P** **15 01 26.8 +1.4**
baz=334
SOLO **Sioux Lookout** **26.09 83** P **P** **15 01 26.1 -0.4**
X16A **Lo Mia Camp, P** **26.14 132** *e*P **P** **15 01 28.0 +0.8**
comp=Z,40nm,0.9s
X16A LR LR
comp=Z,3µm,18.0s
SDCO **Great Sand Dun** **26.22 119** *e*P **P** **15 01 28.6 +0.6**
comp=Z,22nm,1.1s
SDCO LR LR
comp=Z,9µm,19.0s
SDCO **Great Sand Dun** **26.22 119** P **P** **15 01 28.5 +0.6**
baz=321,SNR=25
W18A **Petrified Fore** **26.30 129** P **P** **15 01 29.2 +0.6**
baz=327
113A **Mohawk Valley,** **26.63 138** *e*P **P** **15 01 32.5 +1.1**
comp=Z,23nm,1.0s
X18A **Snowflake** **26.70 130** *e*P **P** **15 01 33.2 +1.0**
comp=Z,38nm,1.0s
X18A LR LR
comp=Z,5µm,19.0s
KSCO **Kaye Shedlock'** **26.75 113** *e*P **P** **15 01 31.4 -1.3**
comp=Z,42nm,1.0s
KSCO LR LR
comp=Z,9µm,20.0s
ECSD **EROS Data Cent** **26.89 99** *e*P **P** **15 01 32.5 -1.2**
comp=Z,67nm,1.2s
ECSD LR LR
comp=Z,10µm,18.0s
ECSD **EROS Data Cent** **26.89 99** P **P** **15 01 33.2 -0.5**
baz=309,SNR=6.7
T25A **Trinidad** **27.24 118** *e*P **P** **15 01 37.3 +0.2**
comp=Z,71nm,1.7s
T25A LR LR
comp=Z,5µm,19.0s
EYMN **Ely** **27.45 87** *e*P **P** **15 01 37.4 -1.3**
comp=Z,44nm,1.0s
EYMN LR LR
comp=Z,4µm,19.0s
EYMN **Ely** **27.45 87** P **P** **15 01 38.0 -0.7**
baz=302,SNR=7.4
BGNE **Belgrade** **27.52 104** PFAKE 15 01 50.0 +11
BGNE LR LR
comp=Z,3µm,20.0s
214A **Organ Pipe Nat** **27.72 137** P **P** **15 01 42.6 +1.4**
baz=333,SNR=12
ANMO **Albuquerque** **27.96 124** P **P** **15 01 44.6 +1.0**
comp=Z,2.9nm,0.9s,baz=336,slow=9.7,SNR=5.4
ANMO S **S** **15 06 37.8 +11**
comp=Z,0.4nm,0.4s,baz=322,slow=12,SNR=2.2
ANMO LR LR 15 12 48.4
comp=Z,3µm,19.5s,baz=326,slow=36
ANMO **Albuquerque** **27.96 124** *e*P **P** **15 01 43.4 -0.2**
comp=Z,21nm,1.4s
ANMO S **S** **15 06 37.8 +11**
ANMO **Albuquerque** **27.96 124** *e*P **P** **15 01 43.4 -0.2**
ANMO pmax pmax
comp=Z,21nm,1.4s
ANMO **Albuquerque** **27.96 124** P **P** **15 01 44.3 +0.8**
baz=325
LAZ **Ladron** **28.08 126** *e*P **P** **15 01 45.3 +0.6**
E38A **The Farm, Brul** **28.13 89** PFAKE 15 02 00.0 +15
E38A LR LR
comp=Z,5µm,18.0s
SPMN **Marine on St.** **28.18 93** PFAKE 15 02 00.0 +15
SPMN LR LR
comp=Z,1µm,20.0s
TUC **Tucson** **28.23 134** *e*P **P** **15 01 46.6 +0.7**
comp=Z,52nm,1.4s
TUC LR LR
comp=Z,7µm,18.0s
TUC **Tucson** **28.23 134** *e*P **P** **15 01 46.6 +0.7**
TUC pmax pmax
comp=Z,52nm,1.4s
TUC **Tucson** **28.23 134** P **P** **15 01 47.4 +1.5**
baz=331
F38A **Pierce - Schro** **28.30 91** P **P** **15 01 46.6 +0.3**
baz=305,SNR=5.3
LENM **Lemitar** **28.36 126** *e*P **P** **15 01 47.5 +0.4**
CBKS **Cedar Bluff** **28.45 110** *e*P **P** **15 01 47.8 +0.1**
comp=Z,86nm,1.8s
CBKS LR LR
comp=Z,4µm,18.0s
CBKS **Cedar Bluff** **28.45 110** *e*P **P** **15 01 47.8 +0.1**
CBKS pmax pmax
comp=Z,86nm,1.7s
CBKS **Cedar Bluff** **28.45 110** P **P** **15 01 48.2 +0.5**
baz=317
BNM **Barren Site** **28.53 125** *e*P **P** **15 01 49.1 +0.4**
C40A **Isle Royale Na** **28.81 85** PFAKE 15 02 00.0 +9.2
C40A LR LR
comp=Z,5µm,18.0s
G39A **Holcombe** **29.09 91** P **P** **15 01 52.1 -1.3**
baz=306
GTO **Geraldton** **29.15 80** pP pP 15 01 58.0 +0.8
121A **Cookes Peak, D** **29.34 129** P **P** **15 01 57.3 +1.4**
baz=328,SNR=8.6
VIMO **Victor Mine** **29.56 73** P **P** **15 01 56.9 -0.5**
VIMO pP **sP** **15 02 02.2 -0.1**
D41A **Chassel** **29.60 86** PFAKE 15 02 10.0 +12
D41A LR LR
comp=Z,2µm,22.0s
G40A **Rib Lake** **29.66 90** PFAKE 15 02 10.0 +12
G40A LR LR
comp=Z,4µm,18.0s
BILL **Bilibino** **29.71 319** *e*P **P** **15 01 59.1 +0.5**
comp=Z,67nm,1.0s
BILL LR LR
comp=Z,4µm,20.0s
BILL **Bilibino** **29.71 319** *c i*P **P** **15 01 59.2 +0.6**
BILL *e**PP **pP** **15 02 01.0 -1.0**
BILL *e**SP **sP** **15 02 03.6 +0.2**
BILL *i* PPP PPP 15 02 58.7
BILL 15 05 07.0
BILL *e*S **S** **15 06 53.7 -0.1**
BILL *i* SS **SnSn** **15 08 26.3 +3.5**
BILL SSS SSS 15 08 50.0
BILL pmax pmax
comp=Z,60nm,1.0s
BILL MLR MLR
comp=Z,4µm,19.0s
I39A **Houston** **29.73 94** *e*P **P** **15 01 58.5 -0.6**
comp=Z,34nm,1.3s
I39A LR LR
comp=Z,3µm,20.0s
COWI **Conover** **29.80 88** PFAKE 15 02 10.0 +10
COWI LR LR
comp=Z,4µm,18.0s
J39A **Decorah** **29.95 95** P **P** **15 01 59.8 -1.1**
baz=309
KSU1 **Kansas State U** **29.96 106** *e*P **P** **15 02 00.9 -0.1**
comp=Z,17nm,0.9s
KSU1 LR LR
comp=Z,6µm,18.0s
SCIA **State Center** **29.98 98** PFAKE 15 02 10.0 +8.8
SCIA LR LR
comp=Z,10µm,21.0s
F41A **Three Lakes** **30.02 89** PFAKE 15 02 10.0 +8.4
F41A LR LR
comp=Z,5µm,19.0s
H41A **Junction City** **30.36 91** PFAKE 15 02 20.0 +15
H41A LR LR
comp=Z,5µm,21.0s
AMTX **Amarillo** **30.38 118** *e*P **P** **15 02 05.5 +0.6**
comp=Z,80nm,1.4s
AMTX LR LR

comp=Z,5µm,19.0s
AMTX Amarillo 30.38 118 P P 15 02 05.8 +0.9
baz=322
MSTX Muleshoe 30.55 120 eP P 15 02 06.6 +0.1
comp=Z,42nm,1.4s
MSTX LR LR
comp=Z,5µm,18.0s
I41A Arkdale 30.56 92 PFAKE 15 02 20.0 +14
I41A LR LR
comp=Z,4µm,19.0s
U32A Winter Ranch, 30.63 112 PFAKE 15 02 20.0 +13
U32A LR LR
comp=Z,4µm,18.0s
G42A Mountain 30.70 89 PFAKE 15 02 20.0 +12
G42A LR LR
comp=Z,3µm,22.0s
E43A Lone Tree Farm 30.88 86 PFAKE 15 02 20.0 +11
E43A LR LR
comp=Z,1µm,22.0s
L40A Anamosa 31.02 96 eP P 15 02 09.7 -0.7
comp=Z,20nm,1.0s
L40A LR LR
comp=Z,5µm,20.0s
JFWS Jewell Farm 31.05 94 PFAKE 15 02 20.0 +9.4
JFWS LR LR
comp=Z,4µm,20.0s
HSIG 31.06 137 eP P 15 02 12.1 +1.3
comp=Z,35nm,1.1s
HSIG LR LR
comp=Z,3µm,18.0s
H42A Shiocton 31.07 90 PFAKE 15 02 20.0 +9.2
H42A LR LR
comp=Z,4µm,18.0s
G43A Wallace 31.12 88 PFAKE 15 02 20.0 +8.8
G43A LR LR
comp=Z,1µm,21.0s
MNTX Cornudas Mount 31.14 126 eP P 15 02 12.6 +1.0
comp=Z,18nm,1.1s
MNTX LR LR
comp=Z,2µm,20.0s
MNTX Cornudas Mount 31.14 126 P P 15 02 12.6 +1.0
baz=328
GDL2 Guadalupe Moun 31.21 124 eP P 15 02 13.4 +1.1
I42A Draeger Farm, 31.22 91 PFAKE 15 02 20.0 +7.9
I42A LR LR
comp=Z,900nm,21.0s
E44A Grand Marais A 31.36 85 PFAKE 15 02 20.0 +6.6
E44A LR LR
comp=Z,2µm,19.0s
H43A Windswept, Lux 31.53 90 PFAKE 15 02 20.0 +5.1
H43A LR LR
comp=Z,1µm,21.0s
KAPO Kapuskasing 31.81 78 P P 15 02 16.8 -0.5
KAPO pP pwP 15 02 23.8 +0.7
TULEG Thule 31.85 24 eP P 15 02 16.9 -0.4
comp=Z,156nm,1.7s
TULEG LR LR
comp=Z,8µm,19.0s
L42A Oliver, Polo 31.95 95 PFAKE 15 02 30.0 +11
L42A LR LR
comp=Z,7µm,18.0s
WMOK Wichita Mounta 31.99 114 eP P 15 02 19.3 +0.2
comp=Z,32nm,1.2s
WMOK LR LR
comp=Z,6µm,18.0s
WMOK Wichita Mounta 31.99 114 eP P 15 02 19.3 +0.2
WMOK pmax pmax
comp=Z,32nm,1.2s
WMOK Wichita Mounta 31.99 114 P P 15 02 19.5 +0.4
baz=321,SNR=12
SRIG Santa Rosalia 32.09 140 PFAKE 15 02 30.0 +10
SRIG LR LR
comp=Z,3µm,22.0s
N41A Harden Midland 32.11 98 eP P 15 02 18.9 -1.1
N41A LR LR
comp=Z,9µm,20.0s
K43A Burlington 32.28 93 PFAKE 15 02 30.0 +8.5
K43A LR LR
comp=Z,2µm,19.0s
O41A Passleys Farm, 32.49 99 P P 15 02 22.3 -1.0
baz=312,SNR=8.0
P41A Barry, Barry 32.68 100 P P 15 02 24.2 -0.8
baz=313,SNR=6.3
TUL1 Leonard 32.71 109 eP P 15 02 22.8 -2.4
comp=Z,19nm,1.0s
TUL1 LR LR
comp=Z,6µm,18.0s
TUL1 Leonard 32.71 109 P P 15 02 25.0 -0.3
baz=318
Q41A Truxton 33.08 101 P P 15 02 27.9 -0.5
baz=314,SNR=11
HDIL Hopedale 33.10 97 eP P 15 02 27.5 -1.2
comp=Z,60nm,1.3s
HDIL LR LR
comp=Z,9µm,21.0s
GLMI Grayling 33.14 87 PFAKE 15 02 40.0 +11
GLMI LR LR
comp=Z,1µm,20.0s
P42A Winchester 33.15 99 eP P 15 02 26.8 -2.3
comp=Z,57nm,1.5s
P42A LR LR
comp=Z,7µm,22.0s
P42A Winchester 33.15 99 P P 15 02 28.0 -1.1
baz=313
ABTX Abilene, Hawle 33.20 118 PFAKE 15 02 40.0 +10
ABTX LR LR
comp=Z,6µm,20.0s
M44A Midewin, Midew 33.28 94 PFAKE 15 02 40.0 +10
M44A LR LR
comp=Z,4µm,19.0s
FRB Frobisher Bay 33.34 48 LR LR 15 15 40.7
comp=Z,3µm,21.3s,baz=284,slow=36
FRB Frobisher Bay 33.34 48 P P 15 02 30.6 +0.1
R41A Rosebud 33.45 102 P P 15 02 31.3 -0.4
baz=315,SNR=19
HHAR Hobbs 33.45 107 eP P 15 02 30.4 -1.4
HHAR LR LR
comp=Z,4µm,18.0s
Q42A Golden Eagle 33.50 100 P P 15 02 31.7 -0.5
baz=314,SNR=7.7
P43A Skaggs, Pawnee 33.58 98 P P 15 02 31.9 -1.0
baz=313
CCM Cathedral Cave 33.69 102 eP P 15 02 32.4 -1.5
CCM LR LR
comp=Z,2µm,20.0s
CCM Cathedral Cave 33.69 102 eP P 15 02 32.4 -1.5
CCM Cathedral Cave 33.69 102 P P 15 02 32.9 -0.9
baz=315
S41A Jillco Farms, 33.74 103 P P 15 02 33.2 -1.0
baz=316,SNR=7.0
R42A Luebbering 33.79 101 P P 15 02 33.6 -1.1
baz=314
SLM Saint Louis 33.86 100 PFAKE 15 02 50.0 +15
SLM LR LR
comp=Z,8µm,20.0s
X37A Clayton 33.92 111 eP P 15 02 35.6 -0.3
comp=Z,74nm,1.6s
X37A LR LR
comp=Z,9µm,19.0s
TX31 Lajitas Ar. Si 33.93 126 eP P 15 02 36.8 +0.7
TXAR Lajitas Array 33.93 126 P P 15 02 37.5 +1.4
comp=Z,2.5nm,0.6s,baz=325,slow=6.4,SNR=17
TXAR PcP PcP 15 05 14.7 +0.5
comp=Z,1.4nm,0.7s,baz=233,slow=0.9,SNR=3.7
Q43A New Douglas 33.96 99 P P 15 02 35.4 -0.7
baz=314,SNR=11
U40A Yellville 34.00 106 P P 15 02 35.4 -1.2
baz=317,SNR=11
T41A Mountain View 34.11 104 P P 15 02 35.8 -1.7
baz=316,SNR=11
S42A Caledonia 34.15 102 P P 15 02 36.8 -1.0
baz=315,SNR=9.4
P44A Sand Creek, Wi 34.21 98 P P 15 02 37.7 -0.7
baz=313
M46A Old House Fiel 34.24 93 PFAKE 15 02 50.0 +11
M46A LR LR
comp=Z,2µm,18.0s
R43A Red Bud 34.28 100 P P 15 02 37.9 -1.0
baz=314
W39A Magazine 34.34 108 eP P 15 02 39.0 -0.5
comp=Z,51nm,1.5s
W39A LR LR
comp=Z,2µm,18.0s
W39A Magazine 34.34 108 P P 15 02 39.2 -0.3
baz=318,SNR=7.9
Q44A Meyer Farm, Va 34.37 99 eP P 15 02 38.4 -1.3
comp=Z,123nm,1.8s
Q44A LR LR
comp=Z,7µm,21.0s
Q44A Meyer Farm, Va 34.37 99 P P 15 02 39.1 -0.6
baz=314
MATQ Matagami 34.38 75 P P 15 02 45.4 +5.7
baz=301,SNR=13
SFIN Lafayette 34.48 95 PFAKE 15 02 50.0 +9.3
SFIN LR LR
comp=Z,4µm,21.0s
T42A Van Buren 34.50 103 eP P 15 02 38.6 -2.2
comp=Z,18nm,1.0s
T42A LR LR
comp=Z,10µm,19.0s
T42A Van Buren 34.50 103 P P 15 02 39.1 -1.8
baz=316,SNR=9.0
U41A Viola 34.53 105 P P 15 02 39.6 -1.6
baz=317
D50A G1974 Best Tow 34.53 80 P P 15 02 47.7 +6.6
baz=304,SNR=7.8
P45A Graceland, Par 34.68 97 eP P 15 02 41.0 -1.4
P45A LR LR
comp=Z,6µm,21.0s
P45A Graceland, Par 34.68 97 P P 15 02 41.8 -0.5
baz=313
S43A Fulton Ridge, 34.69 101 P P 15 02 41.6 -0.9
baz=315,SNR=9.9
V41A Mountainview 34.80 106 P P 15 02 42.1 -1.4
baz=317,SNR=19
WHTX Lake Whitney, 34.83 116 PFAKE 15 03 00.0 +16
WHTX LR LR
comp=Z,4µm,19.0s
D51A Lot 18 Range I 34.84 80 P P 15 02 50.5 +6.8
baz=304,SNR=11
JCT Junction City 34.84 120 eP P 15 02 42.1 -1.8
comp=Z,15nm,0.9s
JCT LR LR
comp=Z,4µm,20.0s
JCT Junction City 34.84 120 eP P 15 02 42.1 -1.8
JCT pmax pmax
comp=Z,15nm,1.0s
JCT Junction City 34.84 120 P P 15 02 43.7 -0.3
baz=325
Q45A Warren Harvey, 34.87 98 P P 15 02 42.9 -1.1
baz=313
J49A Marlette 34.87 88 P P 15 02 50.9 +6.9
baz=308
U42A Revenden 34.90 104 P P 15 02 42.9 -1.5
baz=317,SNR=7.1
T43A Greenville 34.91 102 P P 15 02 43.0 -1.4
baz=316,SNR=12
MIAR Mount Ida 34.93 109 eP P 15 02 42.9 -1.7
comp=Z,26nm,0.8s
MIAR LR LR
comp=Z,3µm,18.0s
MIAR Mount Ida 34.93 109 eP P 15 02 42.9 -1.7
MIAR pmax pmax
comp=Z,25nm,0.8s
MIAR Mount Ida 34.93 109 P P 15 02 44.3 -0.4
baz=319,SNR=21
L48A N Adams 35.01 91 P P 15 02 44.7 -0.5
baz=310
OLIL Olney 35.01 98 eP P 15 02 43.8 -1.4
comp=Z,62nm,1.2s
OLIL LR LR
comp=Z,10µm,18.0s
S44A Carbondale 35.07 100 P P 15 02 44.8 -1.0
baz=315
SIUC Southern Illin 35.08 100 eP P 15 02 44.0 -1.9
comp=Z,132nm,1.8s
SIUC LR LR
comp=Z,7µm,21.0s
HPIG 35.08 131 eP P 15 02 44.1 -2.1
comp=Z,19nm,0.9s
HPIG LR LR
comp=Z,6µm,20.0s
E51A G1948 Merrick 35.09 80 P P 15 02 52.7 +6.8
baz=305,SNR=7.7
WHAR Wooly Hollow 35.09 106 eP P 15 02 44.4 -1.6
comp=Z,17nm,1.1s
WHAR LR LR
comp=Z,2µm,21.0s
LSQQ Lebel-sur-Quev 35.12 75 P P 15 02 51.6 +5.5
baz=302
M48A Edgerton 35.13 91 PFAKE 15 03 00.0 +14
M48A LR LR
comp=Z,1µm,20.0s
W41B Gary Mavity, V 35.20 106 eP P 15 02 44.8 -2.1
comp=Z,20nm,1.4s
W41B LR LR
comp=Z,2µm,18.0s
R45A Skylar, Fairfi 35.21 99 P P 15 02 46.1 -0.8
baz=314
V42A Cord 35.21 105 P P 15 02 44.6 -2.5
baz=317
AAM Ann Arbor 35.23 89 PFAKE 15 03 00.0 +13
AAM LR LR
comp=Z,2µm,18.0s
VLDQ Val d'Or 35.36 77 PFAKE 15 03 00.0 +12
VLDQ LR LR
comp=Z,1µm,21.0s
VLDQ Val d'Or 35.36 77 P P 15 02 46.8 -1.4
KUQ Kuujjuuaa 35.36 57 P P 15 02 48.0 -0.1
X40A Basin Creek Fa 35.38 108 eP P 15 02 47.2 -1.3
comp=Z,11nm,1.0s
X40A LR LR
comp=Z,4µm,20.0s
X40A Basin Creek Fa 35.38 108 P P 15 02 47.8 -0.7
baz=319
UALR University of 35.44 107 PFAKE 15 03 00.0 +11
UALR LR LR
comp=Z,4µm,20.0s
D52A ZEK Kipawa Sen 35.45 79 P P 15 02 55.9 +6.9
baz=305
P47A Martinsville 35.55 95 P P 15 02 48.9 -1.0
baz=313
BLO Bloomington 35.62 96 PFAKE 15 03 00.0 +10
BLO LR LR
comp=Z,6µm,18.0s
E52A Mattawa 35.70 80 P P 15 02 57.9 +6.7
baz=305,SNR=5.2
435B Jarrell 35.72 117 PFAKE 15 03 00.0 +8.6
435B LR LR
comp=Z,6µm,20.0s
PVMO Portageville 35.72 102 PFAKE 15 03 00.0 +8.6
PVMO LR LR
comp=Z,6µm,18.0s
USIN University of 35.78 99 PFAKE 15 03 00.0 +8.1
USIN LR LR
comp=Z,8µm,18.0s
GNAR Gosnell 35.87 103 PFAKE 15 03 00.0 +7.4
GNAR LR LR
comp=Z,5µm,18.0s
T45A Paducah 35.89 101 PFAKE 15 03 00.0 +7.2
T45A LR LR
comp=Z,10µm,19.0s
S46A Don Dixon Farm 35.95 99 P P 15 02 52.3 -1.0
baz=315
GLAT Glass 36.06 102 PFAKE 15 03 10.0 +16
GLAT LR LR
comp=Z,4µm,18.0s
CHGQ Chibougamau 36.11 72 P P 15 02 59.0 +4.5
baz=302,SNR=5.9
M50A Fremont 36.15 90 PFAKE 15 03 10.0 +15
M50A LR LR
comp=Z,2µm,19.0s
Q49A Covington 36.20 93 PFAKE 15 03 10.0 +15
Q49A LR LR
comp=Z,5µm,18.0s
R47A Wooly Knot Far 36.21 97 P P 15 02 54.5 -1.0
baz=314,SNR=9.1
E53A Dumoine, Ponti 36.21 79 P P 15 03 02.3 +6.8
baz=305
ALGO Algonquin Park 36.24 80 P P 15 03 02.7 +6.9
baz=306,SNR=8.4
SLBS Sierra La Lagu 36.24 140 eP P 15 02 55.0 -1.1
comp=Z,74nm,1.5s
SLBS LR LR
comp=Z,2µm,21.0s
HALT Halls 36.28 103 PFAKE 15 03 10.0 +14
HALT LR LR
comp=Z,1µm,22.0s
T46A Princeton 36.30 100 P P 15 02 55.8 -0.5
baz=315,SNR=6.1
SADO Sadowa 36.31 83 PFAKE 15 03 10.0 +14
SADO LR LR
comp=Z,1µm,22.0s
Z41A Richland Creek 36.32 109 PFAKE 15 03 10.0 +13
Z41A LR LR
comp=Z,5µm,18.0s
D54A Lac Fusel, La 36.34 78 P P 15 03 03.5 +6.8
baz=305,SNR=12
WCI Wyandotte Cave 36.39 97 eP P 15 02 55.2 -1.9
comp=Z,188nm,1.4s
WCI LR LR
comp=Z,5µm,20.0s
WCI Wyandotte Cave 36.39 97 eP P 15 02 55.2 -1.9
WCI pmax pmax
comp=Z,188nm,1.4s
WCI MLR MLR
comp=Z,5µm,20.0s
CCAR Cane Creek 36.39 107 PFAKE 15 03 10.0 +13
CCAR LR LR
comp=Z,6µm,18.0s
G53A Haliburton 36.40 82 P P 15 03 04.3 +7.2
baz=307,SNR=7.3
X43A Marvell 36.44 106 PFAKE 15 03 10.0 +12
X43A LR LR
comp=Z,4µm,19.0s
E54A Lac Daplat, Po 36.45 79 P P 15 03 04.5 +7.0
baz=305,SNR=15
NATX Nacogdoches 36.48 113 PFAKE 15 03 10.0 +12
NATX LR LR
comp=Z,4µm,20.0s
SEY Seymchan 36.50 313⇑ eP P 15 02 59.0 +1.3
MET Memphis--Engin 36.52 104 PFAKE 15 03 10.0 +12
MET LR LR
comp=Z,1µm,20.0s
T47A Sharon Grove 36.78 99 PFAKE 15 03 10.0 +10
T47A LR LR
comp=Z,5µm,21.0s
833A Chaparral WMA, 36.81 122 eP P 15 03 01.0 +0.2
comp=Z,56nm,1.3s
833A LR LR
comp=Z,2µm,19.0s
N51A Ashland 36.85 90 PFAKE 15 03 10.0 +9.0
N51A LR LR
comp=Z,800nm,19.0s
N51A Ashland 36.85 90 P P 15 03 07.2 +6.2
baz=311
BANO Bancroft 36.86 81 P P 15 03 08.1 +7.1
baz=307
PEMO Pembroke 36.86 80 P P 15 03 07.9 +6.9
baz=306
S48A Wiedeman Farm, 36.92 97 P P 15 03 00.5 -1.1
baz=314,SNR=7.5
ACSO Alum Creek Sta 36.95 92 PFAKE 15 03 10.0 +8.2
ACSO LR LR
comp=Z,4µm,19.0s
WVT Waverly 36.98 101 eP P 15 03 00.9 -1.2
WVT LR LR
comp=Z,6µm,19.0s
WVT Waverly 36.98 101 eP P 15 03 01.0 -1.2
WVT Waverly 36.98 101 P P 15 03 01.6 -0.5
baz=316
V46A Holladay 37.05 102 P P 15 03 01.8 -1.0
baz=316
U47A Clarksville 37.07 100 P P 15 03 02.1 -0.7
baz=316
T48A Bowling Green 37.10 98 P P 15 03 02.3 -0.9
baz=315,SNR=8.2
OXF Oxford 37.26 104 eP P 15 03 02.9 -1.6
comp=Z,87nm,1.0s
OXF LR LR
comp=Z,6µm,21.0s
OXF Oxford 37.26 104 eP P 15 03 02.9 -1.6
OXF pmax pmax
comp=Z,87nm,1.0s
OXF Oxford 37.26 104 P P 15 03 03.8 -0.8
baz=318,SNR=7.3
PLVO Plevna 37.33 81 P P 15 03 12.3 +7.3
baz=307
V47A Nunnelly 37.37 101 P P 15 03 04.3 -1.2
baz=316
G55A Calabogie 37.41 80 P P 15 03 12.9 +7.2
baz=307,SNR=9.6
U48A Cassie Pea, Po 37.44 99 P P 15 03 05.4 -0.7
baz=316,SNR=5.8
ERPA Erie 37.46 87 PFAKE 15 03 20.0 +14
ERPA LR LR
comp=Z,3µm,19.0s
R50A Paris 37.48 95 P P 15 03 05.3 -1.0
baz=314
I55A Frankford 37.48 82 P P 15 03 13.8 +7.5
baz=308
Q51A Peebles 37.54 93 PFAKE 15 03 20.0 +13
Q51A LR LR
comp=Z,2µm,19.0s
H55A Tweed 37.56 82 P P 15 03 14.7 +7.7
baz=308,SNR=5.4
T49A Edmonton 37.60 98 eP P 15 03 06.3 -1.1
comp=Z,55nm,1.8s
T49A LR LR
comp=Z,8µm,19.0s
SCHQ Schefferville 37.62 61 P P 15 03 06.8 -0.6
comp=Z,8.0nm,0.8s,baz=318,slow=8.7,SNR=8.4
SCHQ LR LR 15 18 22.7
comp=Z,2µm,20.0s,baz=303,slow=36
SCHQ Schefferville 37.62 61 eP P 15 03 06.6 -0.8
comp=Z,108nm,1.0s
SCHQ Schefferville 37.62 61 P P 15 03 07.5 +0.2
PLAL Pickwick Lake 37.67 102 eP P 15 03 06.6 -1.3
comp=Z,22nm,0.8s
PLAL LR LR
comp=Z,6µm,19.0s
O52A Adamsville 37.68 91 PFAKE 15 03 20.0 +12
O52A LR LR
comp=Z,5µm,18.0s
O52A Adamsville 37.68 91 P P 15 03 14.9 +6.8
baz=312,SNR=5.9
N53A Lisbon 37.81 89 P P 15 03 08.4 -0.7
baz=311
V48A Smith Brothers 37.83 100 eP P 15 03 07.8 -1.6
comp=Z,43nm,1.7s
V48A LR LR
comp=Z,5µm,18.0s
V48A Smith Brothers 37.83 100 P P 15 03 08.7 -0.7
baz=316
GAC Glen Almond 37.84 79 P P 15 03 09.8 +0.4
S50A Richmond 37.85 96 P P 15 03 08.7 -0.8
baz=314
U49A Red Boiling Sp 37.88 99 P P 15 03 09.2 -0.6
baz=315
R51A Hillsboro 37.89 94 P P 15 03 09.0 -0.8
baz=314
PET Petropavlovsk 37.90 295 eP P 15 03 09.9 +0.2
comp=Z,95nm,1.0s
PET Petropavlovsk 37.90 295 eP P 15 03 10.6 +0.9
PET e 15 04 40.8
PET eS S 15 09 00.9 +0.3
PET eSS SnSn 15 11 36.5 -5.0
PET pmax pmax
comp=Z,103nm,1.1s
PET pmax pmax
comp=Z,500nm,17.5s
PET MLR MLR
comp=Z,2µm,15.0s
PET MLR MLR
comp=Z,1µm,18.0s
Z45A Winona 37.95 106 PFAKE 15 03 20.0 +10
Z45A LR LR
comp=Z,2µm,19.0s
ORIO Orleans, Innes 37.98 79 P P 15 03 17.3 +6.8
baz=307,SNR=7.3
J55A Hilton 37.99 84 P P 15 03 18.1 +7.5
baz=309
M54A Oil Creek Stat 38.03 87 PFAKE 15 03 20.0 +9.0
M54A LR LR
comp=Z,3µm,18.0s
Y46A Houston 38.03 104 P P 15 03 09.9 -1.2
baz=318
T50A Nancy 38.06 97 P P 15 03 10.4 -0.9
baz=315,SNR=6.3
H56A Elgin 38.06 81 P P 15 03 18.6 +7.4
baz=308,SNR=5.8
ILULI Ilulissat 38.18 35 PFAKE 15 03 20.0 +8.1
ILULI LR LR
comp=Z,2µm,18.0s
N54A Moraine State 38.20 88 PFAKE 15 03 20.0 +7.6
N54A LR LR
comp=Z,4µm,18.0s
N54A Moraine State 38.20 88 P P 15 03 18.7 +6.3
baz=311,SNR=5.9
KVTX Kingsville 38.20 121 PFAKE 15 03 20.0 +7.5
KVTX LR LR

comp=Z,4µm,22.0s
W48A Pulaski 38.20 101 P **P** 15 03 11.3 -1.2
baz=317
ALFO Alfred 38.23 79 P P 15 03 19.4 +6.9
baz=307
MMNY Mt. Morris Dam 38.27 84 PFAKE 15 03 20.0 +7.0
MMNY LR LR
comp=Z,2µm,18.0s
S51A Beattyville 38.34 95 PFAKE 15 03 20.0 +6.3
S51A LR LR
comp=Z,5µm,18.0s
PEA0B Petropavlovsk- 38.35 296 *e*P **P** 15 03 14.4 +0.8
comp=Z,209nm,1.4s
PETK Petropavlovsk- 38.35 296 P **P** 15 03 14.9 +1.3
comp=Z,28nm,0.9s,baz=85,slow=9.4,SNR=16
PETK LR LR 15 18 40.1
comp=Z,795nm,21.1s,baz=53,slow=36
PETK Petropavlovsk- 38.35 296 *e*P **P** 15 03 14.4 +0.8
PETK Petropavlovsk- 38.35 296 *e*P **P** 15 03 14.4 +0.8
P53A Whipple 38.36 91 PFAKE 15 03 20.0 +6.2
P53A LR LR
comp=Z,2µm,18.0s
VBMS Vicksburg 38.36 108 PFAKE 15 03 30.0 +16
VBMS LR LR
comp=Z,4µm,19.0s
WBO Williamsburg 38.38 80 pP pP 15 03 21.0 +3.6
U50A Jamestown 38.48 98 P **P** 15 03 13.9 -0.9
baz=315,SNR=6.7
Y47A UCPARC, Winfie 38.58 103 P **P** 15 03 14.9 -0.8
baz=318,SNR=6.6
T51A Gray 38.61 96 P **P** 15 03 14.9 -1.0
baz=315
MA2 Magadan 38.61 308 *e*P **P** 15 03 15.8 +0.1
comp=Z,169nm,1.1s
MA2 LR LR
comp=Z,1µm,21.0s
MA2 Magadan 38.61 308 *ce*P **P** 15 03 16.7 +1.1
MA2 pmax pmax
comp=Z,157nm,1.0s
X48A Hartselle 38.63 102 *e*P **P** 15 03 14.1 -2.1
comp=Z,55nm,1.4s
X48A LR LR
comp=Z,2µm,19.0s
X48A Hartselle 38.63 102 P **P** 15 03 15.1 -1.0
baz=317
JCUZ Jacuzzi 38.76 212 PFAKE 15 03 30.0 +13
JCUZ LR LR
comp=Z,4µm,19.0s
DPQ Saint Jean 38.79 76 pP pP 15 03 24.4 +3.6
MNQ Manicouagan 38.82 68 pP pP 15 03 24.4 +3.3
V50A Pikevile 38.86 99 P **P** 15 03 17.9 -0.1
baz=316
N55A Marion Center 38.89 88 P **P** 15 03 17.5 -0.8
baz=311,SNR=6.3
DAQ Lac Daran 38.90 73 P **P** 15 03 19.3 +0.9
DAQ pP **pwP** 15 03 25.4 +1.2
Y48A Jasper 38.96 103 P **P** 15 03 17.8 -1.0
baz=318
Z47A Carrollton 38.98 104 P **P** 15 03 17.7 -1.3
baz=319
X49A Woodville 39.00 101 P **P** 15 03 18.7 -0.5
baz=317,SNR=6.4
W50A Signal Mountai 39.08 100 *e*P **P** 15 03 18.2 -1.7
comp=Z,58nm,1.5s
W50A LR LR
comp=Z,9µm,18.0s
W50A Signal Mountai 39.08 100 P **P** 15 03 18.7 -1.2
baz=316,SNR=10
TZTN Tazewell 39.13 96 *e*P **P** 15 03 19.5 -0.8
TZTN LR LR
comp=Z,7µm,18.0s
MCWV Mont Chateau 39.13 90 *e*P **P** 15 03 19.1 -1.2
comp=Z,43nm,1.2s
MCWV Mont Chateau 39.13 90 P **P** 15 03 19.4 -0.8
baz=312,SNR=5.1
Z48A Northport 39.14 104 P **P** 15 03 19.6 -0.8
baz=318
V51A Loudon 39.19 98 PFAKE 15 03 30.0 +9.2
V51A LR LR
comp=Z,11µm,18.0s
SFJD Kangerlussuaq 39.23 38 LR LR 15 18 22.0
comp=Z,2µm,21.1s,baz=299,slow=35
SFJD Kangerlussuaq 39.23 38 *e*P **P** 15 03 20.8 +0.1
comp=Z,240nm,1.7s
SFJD Kangerlussuaq 39.23 38 *i* P P 15 03 26.1 +5.4
comp=Z,153nm,1.4s
SFJD Kangerlussuaq 39.23 38 *e*P **P** 15 03 20.8 +0.1
SFJD pmax pmax
comp=Z,240nm,1.7s
P55A Reedsville 39.25 90 P **P** 15 03 19.4 -1.9
baz=312,SNR=5.2
147A Livingston 39.26 105 PFAKE 15 03 30.0 +8.6
147A LR LR
comp=Z,4µm,18.0s
CPCT Cooper Cave 39.35 99 *e*P **P** 15 03 20.8 -1.3
comp=Z,30nm,1.7s
Y49A Blount Mountai 39.43 102 *e*P **P** 15 03 21.7 -1.1
comp=Z,34nm,1.0s
Y49A LR LR
comp=Z,4µm,18.0s
Y49A Blount Mountai 39.43 102 P **P** 15 03 21.9 -0.9
baz=318,SNR=9.2
FRNY Flat Rock 39.43 79 PFAKE 15 03 30.0 +7.3
FRNY LR LR
comp=Z,4µm,22.0s
O56A Blue Knob Stat 39.47 88 PFAKE 15 03 30.0 +6.9
O56A LR LR
comp=Z,4µm,18.0s
346A Big Creek Wild 39.57 108 PFAKE 15 03 40.0 +16
346A LR LR
comp=Z,1µm,20.0s
V52A Sevierville 39.60 97 *e*P **P** 15 03 23.0 -1.2
comp=Z,40nm,1.3s
V52A LR LR
comp=Z,3µm,22.0s
V52A Sevierville 39.60 97 P **P** 15 03 23.6 -0.6
baz=316,SNR=8.2
NCB Newcomb 39.60 80 PFAKE 15 03 30.0 +5.8
NCB LR LR
comp=Z,500nm,22.0s
SSPA Standing Stone 39.62 87 *e*P **P** 15 03 24.1 -0.3
comp=Z,84nm,1.4s
SSPA LR LR
comp=Z,4µm,18.0s
LMQ La Malbaie 39.65 73 pP pP 15 03 30.6 +2.6
A54 Misere 39.65 73 pP pP 15 03 31.1 +3.1
LNIG Linares 39.66 125 *e*P **P** 15 03 24.1 -0.7
comp=Z,37nm,1.1s
LNIG LR LR
comp=Z,2µm,20.0s
A61 Sainte Mathild 39.70 73 pP pP 15 03 30.3 +1.9
LRAL Lakeview Retre 39.70 103 *e*P **P** 15 03 23.2 -1.9
comp=Z,35nm,1.4s
LRAL LR LR
comp=Z,2µm,18.0s
LRAL Lakeview Retre 39.70 103 P **P** 15 03 24.5 -0.6
baz=319
BINY Binghamton 39.70 84 *e*P **P** 15 03 24.1 -0.9
comp=Z,126nm,1.7s
BINY LR LR
comp=Z,1µm,21.0s
BINY Binghamton 39.70 84 P P 15 03 31.9 +6.8
baz=310
A64 Saint Simeon 39.73 73 pP pP 15 03 31.0 +2.3
Y50A Piedmont 39.78 101 P **P** 15 03 25.3 -0.5
baz=318,SNR=7.2
X51A Calhoun 39.79 100 *e*P **P** 15 03 24.9 -0.9
X51A LR LR
comp=Z,7µm,22.0s
X51A Calhoun 39.79 100 P **P** 15 03 25.4 -0.4
baz=317,SNR=12
Z49A Columbiana 39.85 103 P **P** 15 03 25.4 -0.8
baz=318,SNR=7.0
CNQ Baie Comeau 39.88 70 P **P** 15 03 26.6 +0.3
CNQ pP **pwP** 15 03 32.7 +0.5
W52A Murphy 39.94 98 *e*P **P** 15 03 26.1 -1.0
comp=Z,23nm,1.1s
W52A LR LR
comp=Z,8µm,19.0s
ZAIG Zacatecas 40.08 130 *e*P **P** 15 03 28.8 +0.2
comp=Z,75nm,1.8s
ZAIG LR LR
comp=Z,7µm,18.0s
SMQ Clarke City 40.09 68 pP pP 15 03 33.3 +1.6
149A Jones 40.14 104 P **P** 15 03 28.3 -0.5
baz=319
V53A Saluda 40.17 97 *e*P **P** 15 03 28.1 -0.9
comp=Z,33nm,1.4s
V53A LR LR
comp=Z,9µm,20.0s
V53A Saluda 40.17 97 P **P** 15 03 28.1 -0.9
baz=316,SNR=5.8
ICQ Pointe Anglais 40.18 69 P **P** 15 03 28.8 -0.1
ICQ pP **sP** 15 03 33.9 0.0
KSPA Keystone Colle 40.24 84 PFAKE 15 03 40.0 +11
KSPA LR LR
comp=Z,4µm,18.0s
ACCN Adirondack Com 40.28 81 PFAKE 15 03 40.0 +10
ACCN LR LR
comp=Z,2µm,21.0s
W53A Cullowhee 40.32 98 P **P** 15 03 30.1 -0.3
baz=316
348A Jackson 40.42 106 PFAKE 15 03 40.0 +9.0
348A LR LR
comp=Z,1µm,18.0s
BLA Blacksburg 40.46 93 *e*P **P** 15 03 30.6 -0.8
comp=Z,81nm,1.3s
BLA LR LR
comp=Z,3µm,18.0s
BLA Blacksburg 40.46 93 *e*P **P** 15 03 30.6 -0.8
BLA pmax pmax
comp=Z,81nm,1.2s
BLA Blacksburg 40.46 93 P **P** 15 03 30.8 -0.6
baz=314
SKR Severo-Kuril's 40.48 294 *ce*P **P** 15 03 33.6 +2.3
SUMG Summit 40.53 27 *e*P **P** 15 03 31.0 -0.9
comp=Z,131nm,1.3s
SUMG LR LR
comp=Z,2µm,20.0s
SUMG Summit 40.53 27 *i* P **P** 15 03 32.6 +0.7
comp=Z,362nm,1.3s
SUMG Summit 40.53 27 *e*P **P** 15 03 31.0 -0.9
SUMG pmax pmax
comp=Z,130nm,1.3s
PAGS Pennsylvania G 40.56 87 PFAKE 15 03 40.0 +7.9
PAGS LR LR
comp=Z,3µm,19.0s
150A Eclectic 40.57 103 P **P** 15 03 31.9 -0.4
baz=319
BG3 Lake Jocassee 40.58 98 *e*P **P** 15 03 31.6 -0.8
comp=Z,26nm,1.4s
GSQ Grosses Roches 40.62 70 P **P** 15 03 32.7 +0.2
GSQ pP **sP** 15 03 37.9 +0.3
N59A State Game Lan 40.66 85 *e*P **P** 15 03 32.6 -0.3
comp=Z,43nm,1.3s
N59A LR LR
comp=Z,5µm,19.0s
N59A State Game Lan 40.66 85 P **P** 15 03 33.3 +0.3
baz=311,SNR=5.5
X53A Estanollee 40.72 98 P **P** 15 03 32.9 -0.6
baz=317
LBNH Lisbon 40.74 78 PFAKE 15 03 40.0 +6.4
LBNH LR LR
comp=Z,4µm,18.0s
LBNH Lisbon 40.74 78 P P 15 03 41.4 +7.8
baz=309,SNR=5.2
Y52A Lilburn 40.75 100 *e*P **P** 15 03 33.2 -0.6
comp=Z,38nm,1.3s
Y52A LR LR
comp=Z,10µm,20.0s
Y52A Lilburn 40.75 100 P **P** 15 03 33.1 -0.7
baz=317
250A Grady 40.90 104 *e*P **P** 15 03 33.9 -1.1
comp=Z,139nm,1.6s
250A LR LR
comp=Z,700nm,20.0s
250A Grady 40.90 104 P **P** 15 03 34.4 -0.6
baz=319
MVL Millersville 40.92 87 PFAKE 15 03 50.0 +15
MVL LR LR
comp=Z,4µm,18.0s
Y53A Monroe 41.03 99 P **P** 15 03 35.4 -0.7
baz=317
TIXI Tiksi 41.03 331 LR LR 15 24 19.9
comp=Z,2µm,18.0s,baz=52,slow=42
TIXI Tiksi 41.03 331 *e*P **P** 15 03 35.4 -0.2
comp=Z,30nm,0.9s
TIXI Tiksi 41.03 331 *ce*P **P** 15 03 35.8 +0.2
TIXI pmax pmax
comp=Z,96nm,2.5s
SDMD Soldier's Deli 41.03 88 PFAKE 15 03 50.0 +14
SDMD LR LR
comp=Z,2µm,18.0s
Z52A Williamson 41.04 101 P **P** 15 03 35.8 -0.4
baz=318
BRAL Brewton 41.08 105 PFAKE 15 03 50.0 +14
BRAL LR LR
comp=Z,3µm,18.0s
ODNJ Ogdensburg 41.22 84 PFAKE 15 03 50.0 +13
ODNJ LR LR
comp=Z,4µm,20.0s
152A Waverly Hall 41.26 102 PFAKE 15 03 50.0 +12
152A LR LR
comp=Z,2µm,22.0s
152A Waverly Hall 41.26 102 P **P** 15 03 37.0 -1.0
baz=318
PAULI Pauline 41.34 97 *e*P **P** 15 03 37.5 -1.1
KMSC Kings Mountain 41.39 96 PFAKE 15 03 50.0 +11
KMSC LR LR
comp=Z,12µm,20.0s
R58B Mineral 41.41 90 *e*P **P** 15 03 39.0 -0.2
comp=Z,84nm,1.5s
R58B LR LR
comp=Z,1µm,20.0s
R58B Mineral 41.41 90 P **P** 15 03 39.4 +0.2
baz=314,SNR=5.8
GOGA Godfrey 41.42 100 *e*P **P** 15 03 37.9 -1.4
comp=Z,41nm,1.5s
GOGA LR LR
comp=Z,5µm,20.0s
GOGA Godfrey 41.42 100 *e*P **P** 15 03 37.9 -1.4
GOGA pmax pmax
comp=Z,41nm,1.5s
GOGA Godfrey 41.42 100 P **P** 15 03 38.5 -0.7
baz=318
BRNJ Basking Ridge 41.50 84 PFAKE 15 03 50.0 +10
BRNJ LR LR
comp=Z,3µm,21.0s
HODGE Hodges 41.51 98 *e*P **P** 15 03 39.1 -1.0
HODGE LR LR
comp=Z,5µm,20.0s
Y54A Tignall 41.54 99 P **P** 15 03 39.6 -0.6
baz=317,SNR=8.8
CBN Corbin Frederi 41.54 89 PFAKE 15 03 50.0 +10
CBN LR LR
comp=Z,6µm,18.0s
PKME Peaks-Kenny Pk 41.59 75 PFAKE 15 03 50.0 +10
PKME LR LR
comp=Z,3µm,19.0s
PAL Palisades 41.66 84 PFAKE 15 03 50.0 +8.8
PAL LR LR
comp=Z,3µm,19.0s
CPNY Central Park 41.78 84 PFAKE 15 03 50.0 +7.9
CPNY LR LR
comp=Z,5µm,18.0s
Z54A Sparta 41.90 99 P **P** 15 03 42.3 -0.9
baz=318
352A Blakely 42.03 103 PFAKE 15 04 00.0 +16
352A LR LR
comp=Z,7µm,18.0s
HRV Adam Dziewonsk 42.04 80 PFAKE 15 03 50.0 +5.8
HRV LR LR
comp=Z,700nm,20.0s
253A Americus 42.04 102 PFAKE 15 04 00.0 +16
253A LR LR
comp=Z,4µm,20.0s
JSC Jenkinsville 42.05 97 *e*P **P** 15 03 43.4 -1.0
JSC LR LR
comp=Z,8µm,19.0s
JSC Jenkinsville 42.05 97 *e*P **P** 15 03 43.4 -1.0
NATG Natashquan Que 42.12 65 pP pP 15 03 51.1 +2.8
BATG Bathurst New B 42.15 71 *e*P **P** 15 03 44.1 -1.0
comp=Z,63nm,1.1s
BATG Bathurst New B 42.15 71 P **P** 15 03 45.9 +0.8
BATG pP **pwP** 15 03 51.6 +0.6
154A Montrose 42.21 100 PFAKE 15 04 00.0 +14
154A LR LR
comp=Z,8µm,19.0s
451A Vernon 42.22 105 PFAKE 15 04 00.0 +14
451A LR LR
comp=Z,500nm,19.0s
155A Kite 42.57 100 P **P** 15 03 48.0 -0.7
baz=318
254A Abbeville 42.60 101 P **P** 15 03 47.8 -1.1
baz=319
TIGA Tifton 42.81 102 PFAKE 15 04 00.0 +9.4
TIGA LR LR
comp=Z,4µm,18.0s
JRQG Juriquilla Cam 42.82 129 PFAKE 15 04 00.0 +8.9
JRQG LR LR
comp=Z,5µm,19.0s
453A Whigham 42.84 103 PFAKE 15 04 00.0 +9.1
453A LR LR
comp=Z,7µm,18.0s
GGN Saint George 43.04 74 PFAKE 15 04 00.0 +7.7
GGN LR LR
comp=Z,4µm,20.0s
GGN Saint George 43.04 74 pP pP 15 03 59.4 +3.5
255A Hazlehurst 43.08 100 PFAKE 15 04 00.0 +7.2
255A LR LR
comp=Z,8µm,19.0s
CNNC Cliffs of the 43.30 93 PFAKE 15 04 10.0 +15
CNNC LR LR
comp=Z,900nm,19.0s
MOIG Morelia 43.39 131 PFAKE 15 04 10.0 +14
MOIG LR LR
comp=Z,4µm,22.0s
ELNB Elgin, New Bru 43.51 72 pP pP 15 04 02.0 +2.3
NHSC New Hope 43.52 97 PFAKE 15 04 10.0 +14
NHSC LR LR
comp=Z,9µm,20.0s
LMN Caledonia Moun 43.70 72 PFAKE 15 04 10.0 +12
LMN LR LR
comp=Z,700nm,18.0s
LMN Caledonia Moun 43.70 72 pP pP 15 04 03.6 +2.4
257A Skidaway Islan 43.87 99 PFAKE 15 04 10.0 +11
257A LR LR
comp=Z,5µm,21.0s
NRS Narsarsuaq 44.11 44 *i* P P 15 04 06.1 +5.4
comp=Z,68nm,1.1s
NRS Narsarsuaq 44.11 44 *i* P P 15 04 06.1 +5.4
NRS pmax pmax
comp=Z,68nm,1.1s
555A McAlpin 44.16 102 PFAKE 15 04 10.0 +8.5
555A LR LR
comp=Z,3µm,22.0s
456A Hilliard 44.23 101 PFAKE 15 04 10.0 +7.9
456A LR LR
comp=Z,6µm,18.0s
UNM Universidad Na 44.59 129 PFAKE 15 04 20.0 +15
UNM LR LR
comp=Z,6µm,18.0s
KBS Kingsbay 44.90 9 *e*P **P** 15 04 07.1 +0.3
comp=Z,52nm,1.0s
KBS LR LR
comp=Z,2µm,20.0s
KBS Kingsbay 44.90 9 *ce*P **P** 15 04 08.0 +1.2
KBS pmax pmax
comp=Z,211nm,1.3s
656A Willston 44.97 103 PFAKE 15 04 20.0 +12
656A LR LR
comp=Z,1µm,18.0s
DRLN Deer Lake 45.49 64 PFAKE 15 04 20.0 +8.1
DRLN LR LR
comp=Z,7µm,18.0s
DRLN Deer Lake 45.49 64 pP pP 15 04 18.0 +2.5
LVIG Laguna Verde 45.52 125 PFAKE 15 04 20.0 +7.6
LVIG LR LR
comp=Z,2µm,19.0s
658A Bunnell 45.65 102 PFAKE 15 04 20.0 +6.6
658A LR LR
comp=Z,5µm,19.0s
GBN Guysborough 45.78 70 PFAKE 15 04 20.0 +5.8
GBN LR LR
comp=Z,5µm,20.0s
SPA0 Spitsberger Ar 45.95 8 *e*P **P** 15 04 14.6 -0.6
YAK Yakutsk 46.07 319 *c i*P **P** 15 04 17.1 +0.8
YAK *e**PP **pwP** 15 04 23.1 +0.8
YAK *e* 15 05 50.0
YAK *e*S **S** 15 11 03.3 +2.3
YAK *e**SS sS 15 11 18.7 +12
YAK pmax pmax
comp=Z,113nm,0.8s
YAK pmax pmax
comp=N,24nm,1.1s
YAK pmax pmax
comp=E,30nm,1.1s
YAK pmax pmax
comp=Z,117nm,2.2s
YAK pmax pmax
comp=N,148nm,2.3s
YAK pmax pmax
comp=E,102nm,2.3s
YAK smax smax
comp=N,87nm,3.3s
YAK smax smax
comp=E,197nm,3.4s
YAK MLR MLR
comp=Z,2µm,17.0s
YAK MLR MLR
comp=N,1µm,19.0s
YAK MLR MLR
comp=E,2µm,16.0s
957A Wimauma 46.44 104 PFAKE 15 04 30.0 +10
957A LR LR
comp=Z,8µm,18.0s
DWPF Disney Wildern 46.55 103 PFAKE 15 04 30.0 +10
DWPF LR LR
comp=Z,3µm,22.0s
DWPF Disney Wildern 46.55 103 *e*P P 15 04 25.6 +5.1
NKL Nikolayevsk 46.79 305 *i* P **P** 15 04 23.2 +1.1
NKL *e*S **S** 15 11 13.0 +1.5
NKL pmax pmax
comp=N,21nm,1.0s
NKL pmax pmax
comp=E,21nm,1.0s
NKL pmax pmax
comp=Z,14nm,1.0s
NKL pmax pmax
comp=Z,600nm,6.0s
NKL smax smax
comp=E,800nm,16.0s
TYV Tymovskoe 47.26 301 *e*P **P** 15 04 23.3 -2.5
TYV *e*S **S** 15 11 15.4 -2.9
TYV pmax pmax
comp=Z,200nm,2.2s
TYV pmax pmax
comp=Z,30nm,1.2s
TYV smax smax
comp=E,600nm,3.6s
TYV MLR MLR
comp=E,2µm,21.0s
TYV MLR MLR
comp=Z,900nm,21.0s
059A Moore Haven 47.60 104 PFAKE 15 04 40.0 +11
059A LR LR
comp=Z,2µm,19.0s
060A Indiantown 47.98 103 PFAKE 15 04 40.0 +8.4
060A LR LR
comp=Z,4µm,19.0s
061Z Ochoppi 48.59 104 PFAKE 15 04 50.0 +14
061Z LR LR
comp=Z,6µm,18.0s
TEIG Tepich 49.14 116 *e*P **P** 15 04 40.5 -0.1
comp=Z,79nm,1.5s
YSS Yuzh-Sakhalins 49.73 297 *e*P **P** 15 04 45.0 +0.2
comp=Z,103nm,1.1s
YSS Yuzh-Sakhalins 49.73 297 *i*P **P** 15 04 46.9 +2.0
YSS *e**SP **pwP** 15 04 53.8 +2.8
YSS *e* 15 06 07.7
YSS *e*S **S** 15 11 57.0 +3.7
YSS *e*PS pS 15 12 07.9 +11
YSS *e* 15 14 36.0
YSS pmax pmax
comp=Z,60nm,1.1s
YSS pmax pmax
comp=N,30nm,0.9s
YSS pmax pmax
comp=E,40nm,1.1s
YSS pmax pmax
comp=Z,100nm,5.9s
YSS MLR MLR
comp=Z,1µm,18.0s
YSS MLR MLR
comp=N,1µm,17.0s
YSS MLR MLR
comp=E,1µm,18.0s
YUK Yuzh-Kuril'sk 50.06 292 P **P** 15 04 47.2 -0.1
YUK *i* S **S** 15 12 02.9 +5.1

YUK pmax pmax
comp=Z,263nm,0.9s
YUK pmax pmax
comp=N,99nm,1.1s
YUK MLR MLR
comp=Z,769nm,16.0s
YUK MLR MLR
comp=E,51nm,15.0s
YUK MLR MLR
comp=N,940nm,17.0s
BORG Borgarnes 50.22 31 LR LR 15 25 32.8
comp=N,1μm,18.1s,baz=317,slow=36
GRNR Gornyy 50.34 304 *e*P **P** **15 04 50.2 +0.7**
GRNR pmax pmax
comp=N,25nm,1.0s
GRNR pmax pmax
comp=E,25nm,1.0s
GRNR pmax pmax
comp=Z,65nm,1.0s
CCIG Comitan 50.53 123 PFAKE 15 05 00.0 +8.6
CCIG LR LR
comp=Z,2μm,19.0s
ASAJ Asahikawa 51.73 294 *e*P **P** **15 05 00.5 +0.6**
comp=Z,77nm,1.1s
ASAJ LR LR
comp=Z,900nm,18.0s
ZEA Zeya 52.48 312 *e*P **P** **15 05 06.0 +0.6**
ZEA *e*S S 15 12 46.0 +15
ZEA pmax pmax
comp=N,35nm,1.0s
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=Z,78nm,1.0s
ZEA smax smax
comp=E,600nm,16.0s
ZEA MLR MLR
comp=Z,4μm,14.0s
ZEA MLR MLR
comp=E,2μm,13.0s
ZEA MLR MLR
comp=N,2μm,15.0s
BBSR BB Station 52.97 85 PFAKE 15 05 20.0 +11
BBSR LR LR
comp=Z,2μm,18.0s
KLR Kul'dur 53.60 306*c i*P **P** **15 05 14.6 +0.9**
TEY Ternei 54.18 299⇓ *e*P P 15 05 24.3 +6.3
TEY pmax pmax
comp=Z,30nm,1.7s
ARCES ARCESS Array B 54.98 8 P **P** **15 05 21.4 -2.1**
comp=Z,6.3nm,0.7s,baz=342,slow=7.6,SNR=7.7
ARCES LR LR 15 30 02.6
comp=Z,44nm,19.2s,baz=342,slow=38
H11N2 WAKE ISLAND Hy 56.03 255 T T 16 06 32.9
baz=36,slow=76
H11N3 WAKE ISLAND Hy 56.04 255 T T 16 06 35.6
baz=36,slow=76
H11N1 WAKE ISLAND Hy 56.05 255 T T 16 06 29.7
baz=36,slow=76,SNR=1131
MTDJ Mount Denham 56.55 107 PFAKE 15 05 50.0 +15
MTDJ LR LR
comp=Z,2μm,18.0s
BOAB BOACO BROADBAN 57.02 118 PFAKE 15 05 50.0 +11
BOAB LR LR
comp=Z,3μm,21.0s
USA0B Ussuriysk Arra 57.08 301 *e*P **P** **15 05 39.0 +0.2**
comp=Z,35nm,1.1s
USA0B LR LR
comp=Z,1μm,20.0s
USRK Ussuriysk Ar. 57.08 301 P **P** **15 05 39.5 +0.7**
comp=Z,16nm,0.9s,baz=37,slow=6.2,SNR=16
USRK LR LR 15 31 33.8
comp=Z,1μm,20.0s,baz=29,slow=38
H11S1 WAKE ISLAND Hy 57.12 255 T T 16 07 55.3
baz=36,slow=74
H11S2 WAKE ISLAND Hy 57.14 255 T T 16 07 51.2
baz=36,slow=74
H11S3 WAKE ISLAND Hy 57.14 255 T T 16 07 58.6
baz=36
LVZ Lovozero 57.20 5 *i*P **P** **15 05 38.8 -0.6**
LVZ pmax pmax
comp=Z,5.0nm,1.0s
ESPN Las Esperanzas 57.93 117 PFAKE 15 06 00.0 +15
ESPN LR LR
comp=Z,1μm,21.0s
MDJ Mudanjiang 57.94 303 P **P** **15 05 45.3 +0.4**
MDJ PP **PP** **15 07 55.0 +2.1**
MDJ pmax pmax
comp=Z,21nm,1.0s
MDJ pmax pmax
comp=Z,440nm,3.5s
MDJ LR LR
comp=Z,1μm,13.1s
MDJ LR LR
comp=Z,2μm,15.3s
MDJ LR LR
comp=Z,2μm,21.5s
MDJ Mudanjiang 57.94 303 *e*P **P** **15 05 45.0 +0.1**
comp=Z,29nm,1.2s
MDJ LR LR
comp=Z,2μm,21.0s
MSHR Mys Shultsa 58.68 300 *i*P **P** **15 05 51.3 +1.2**
HIA Hailar 58.95 313 *e*P **P** **15 05 51.0 -0.8**
comp=Z,71nm,1.1s
HIA LR LR
comp=Z,2μm,18.0s
HIA Hailar 58.95 313 *e*P **P** **15 05 51.1 -0.8**
HIA pmax pmax
comp=Z,71nm,1.1s
JTS JuntasAbangare 59.21 119 PFAKE 15 06 10.0 +16
JTS LR LR
comp=Z,1μm,18.0s
CIT Chita 59.33 318 *e*P **P** **15 05 55.7 +1.2**
CIT *e* 15 06 02.9
SDDR Presa de Saban 59.44 101 *e*P **P** **15 05 55.5 -0.1**
comp=Z,29nm,1.0s
SDDR LR LR
comp=Z,2μm,20.0s
MJB9 Matsu-Tunnel 59.48 291 *e*P **P** **15 05 56.6 +0.8**
comp=Z,55nm,1.2s
MAJO Matsushiro 59.48 291 *e*P **P** **15 05 56.5 +0.7**
comp=Z,56nm,1.3s
MAJO Matsushiro 59.48 291 *i*P **P** **15 05 55.7 -0.1**
MAJO pmax pmax
comp=Z,20nm,1.0s
MAJO Matsushiro 59.48 291 *e*P **P** **15 05 55.3 -0.5**
MAT Matsushiro 59.48 291 P **P** **15 05 56.6 +0.8**
MAT S S 15 13 54.2 -11
MJAR Matsushiro Arr 59.48 291 P **P** **15 05 56.6 +0.8**
comp=Z,6.9nm,0.9s,baz=40,slow=4.7,SNR=11
MJAR LR LR 15 30 35.7
comp=Z,368nm,20.9s,baz=65,slow=35
HDC Heredia 59.88 118 PFAKE 15 06 10.0 +11
HDC LR LR
comp=Z,1μm,22.0s
CN2 Changchun 60.53 305 ⇑P **P** **15 06 03.1 +0.2**
CN2 *es*P pwP 15 06 10.0 +1.0
CN2 *e*S **S** **15 14 17.1 -0.8**
CN2 pmax pmax
comp=Z,50nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,1μm,16.0s
CN2 LR LR
comp=Z,1μm,16.0s
CN2 LR LR
comp=Z,1μm,17.0s
NC204 NORSAR Array S 60.93 18 *e*P **P** **15 06 04.9 -0.5**
NC303 NORSAR Array S 61.09 18 *e*P **P** **15 06 05.5 -0.9**
NB2 NORSAR Subarra 61.24 18 P **P** **15 06 06.9 -0.5**
comp=Z,3.2nm,0.8s,baz=340,slow=6.9
NOA NORSAR Array B 61.24 18 P **P** **15 06 06.6 -0.8**
comp=Z,5.2nm,0.8s,baz=339,slow=6.8,SNR=19
NOA LR LR 15 34 13.7
comp=Z,1μm,18.1s,baz=335,slow=38
NAO01 NORSAR Array S 61.36 18 *e*P **P** **15 06 07.1 -1.2**
KONO Kongsberg 62.23 20 PFAKE 15 06 30.0 +16
KONO LR LR
comp=Z,2μm,20.0s
IRK Irkutsk 62.52 324 *e*P **P** **15 06 15.2 -1.0**
IRK pmax pmax
comp=Z,100nm,2.1s
BCIP Isla Barro Col 62.80 115 PFAKE 15 06 30.0 +12
BCIP LR LR
comp=Z,1μm,21.0s
SNY Shenyang 62.93 305 ⇑P **P** **15 06 19.8 +0.8**

SNY pmax pmax
comp=Z,41nm,1.2s
SNY pmax pmax
comp=Z,420nm,6.1s
SNY LR LR
comp=Z,2μm,15.7s
SNY LR LR
comp=Z,1μm,18.8s
SNY LR LR
comp=Z,2μm,18.1s
FIA1 FINESS Array S 62.95 10 *e*P **P** **15 06 17.4 -1.4**
comp=Z,118nm,2.0s
FINES FINESS Array B 62.95 10 P **P** **15 06 17.8 -1.0**
comp=Z,9.7nm,0.8s,baz=354,slow=5.9,SNR=21
FINES LR LR 15 34 07.4
comp=Z,966nm,21.0s,baz=352,slow=37
ESK Eskdalemuir 63.13 29 PFAKE 15 06 30.0 +10
ESK LR LR
comp=Z,2μm,20.0s
STVI Saint Thomas 63.55 96 PFAKE 15 06 40.0 +17
STVI LR LR
comp=Z,1μm,21.0s
PRGR Permogore 63.75 360⇑ *i*P **P** **15 06 24.2 +0.1**
PRGR *e**PP **pwP** **15 06 30.1 -0.2**
PRGR pmax pmax
comp=Z,77nm,0.9s
DSB Dublin 64.02 32 PFAKE 15 06 40.0 +14
DSB LR LR
comp=Z,2μm,20.0s
MOY Mondy 64.11 325 *e*P **P** **15 06 28.1 +1.2**
MOY pmax pmax
comp=Z,77nm,2.5s
KS01 Wonju Array Si 64.17 299 *e*P **P** **15 06 27.7 +0.4**
KSRS Korea Array 64.17 299 P **P** **15 06 28.3 +1.0**
comp=Z,11nm,0.9s,baz=44,slow=5.7,SNR=17
KSRS LR LR 15 35 52.1
comp=Z,479nm,18.8s,baz=28,slow=37
KSAR Wonju Array Be 64.20 299 P **P** **15 06 28.3 +0.8**
KSAR Wonju Array Be 64.20 299 P **P** **15 06 28.3 +0.8**
ZAK Zakamensk 64.42 323 *e*P **P** **15 06 29.5 +0.6**
ZAK *e* 15 08 48.6
ZAK pmax pmax
comp=Z,11nm,1.3s
ZAK pmax pmax
comp=Z,6.0nm,1.2s
KLMR Klimovskoe 64.44 3 *e*P **P** **15 06 26.8 -1.9**
KLMR *e* 15 08 46.6
KLMR pmax pmax
comp=Z,76nm,1.1s
KLMR Klimovskoe 64.44 3 *e*P **P** **15 06 26.9 -1.8**
KLMR AMP 15 06 35.8
comp=Z,76nm,1.1s
KLMR *e*PP **PP** **15 08 46.6 -3.1**
SMRT St. Maarten 64.87 94 PFAKE 15 06 40.0 +7.9
SMRT LR LR
comp=Z,2μm,19.0s
ULN Ulaanbaatar 65.16 319 *e*P **P** **15 06 33.4 -0.4**
comp=Z,22nm,1.2s
ULN LR LR
comp=Z,3μm,19.0s
ULN Ulaanbaatar 65.16 319*ce*P **P** **15 06 34.2 +0.4**
ULN pmax pmax
comp=Z,42nm,2.5s
ULN Ulaanbaatar 65.16 319 P **P** **15 06 33.5 -0.4**
SNR=8.8
ULN P **P** **15 06 33.5 -0.4**
SNR=8.8
SONA1 Songino Array 65.42 320 *e*P **P** **15 06 35.1 -0.3**
SONM Songino Array 65.43 320 P **P** **15 06 36.6 +1.0**
comp=Z,8.5nm,1.1s,baz=47,slow=8.7,SNR=31
SONM LR LR 15 36 57.4
comp=Z,3μm,19.0s,baz=22,slow=38
VSU Vasula 65.94 11*ce*P **P** **15 06 37.7 -0.8**
VSU pmax pmax
comp=Z,110nm,1.7s
JNU Nakatsue 65.99 294 P **P** **15 06 40.2 +0.9**
comp=Z,16nm,0.8s,baz=62,slow=8.0,SNR=4.9
DL2 Dalian 66.14 304 P **P** **15 06 39.1 -0.9**
DL2 S **S** **15 15 29.8 +1.8**
DL2 pmax pmax
comp=Z,53nm,1.0s
DL2 LR LR
comp=Z,1μm,17.6s
DL2 LR LR
comp=Z,950nm,17.1s
DL2 LR LR
comp=Z,1μm,14.4s
NVS Novosibirsk 66.22 337⇑ *i*P **P** **15 06 39.5 -0.8**
NVS pmax pmax
comp=N,17nm,1.3s
NVS pmax pmax
comp=Z,44nm,1.3s
NVS pmax pmax
comp=E,24nm,1.4s
ZAA0 Zalesovo Array 66.68 336 *e*P **P** **15 06 42.3 -1.0**
comp=E,42nm,0.9s
ZALV Zalesovo Beam 66.68 336 P **P** **15 06 42.8 -0.5**
comp=E,24nm,0.7s,baz=15,slow=6.0,SNR=88
ZALV LR LR 15 40 02.7
comp=E,1μm,19.0s,baz=25,slow=40
ZALV Zalesovo Beam 66.68 336 *e*P **P** **15 06 42.4 -0.9**
ZALV Zalesovo Beam 66.68 336 *e*P **P** **15 06 42.4 -0.9**
ZARC Zaragoza, Cauc 66.84 111 *e*P **P** **15 06 43.4 -1.5**
ZARC Zaragoza, Cauc 66.84 111 *e*P **P** **15 06 43.4 -1.5**
BSEG Bad Segeberg 67.70 22 *e*P P 15 06 56.1 +6.4
comp=E,123nm,1.9s,baz=341,slow=6.1
BJI Beijing 67.77 308⇓ *i*P **P** **15 06 51.8 +1.4**
BJI pmax pmax
comp=E,10.0nm,1.5s
BJT Baijiatuau 67.79 308 *e*P **P** **15 06 51.1 +0.5**
comp=E,61nm,1.5s
BJT LR LR
comp=Z,2μm,18.0s
BJT Baijiatuau 67.79 308 *e*P **P** **15 06 51.1 +0.5**
BJT pmax pmax
comp=Z,61nm,1.5s
BJT MLR MLR
comp=Z,2μm,18.0s
PTBC PUERTO BERRIO, 67.86 111 *e*P **P** **15 06 49.7 -1.5**
PTBC PUERTO BERRIO, 67.86 111 *e*P **P** **15 06 49.7 -1.5**
SVE Sverdlovsk 67.88 351*de*P **P** **15 06 50.5 -0.3**
SVE pmax pmax
comp=Z,67nm,1.1s
SDV Santo Domingo 67.99 107 *e*P **P** **15 06 51.4 -1.0**
comp=Z,18nm,1.1s
SDV LR LR
comp=Z,900nm,19.0s
SDV Santo Domingo 67.99 107 *e*P **P** **15 06 55.5 +3.1**
ARU Arti 68.44 352 *e*P **P** **15 06 53.4 -1.0**
comp=Z,58nm,0.8s
ARU LR LR
comp=Z,1μm,20.0s
ARU Arti 68.44 352*c i*P **P** **15 06 53.7 -0.7**
ARU 15 09 22.7
ARU S **S** **15 15 56.1 +0.9**
ARU SS **SS** **15 20 16.5 -1.1**
ARU pmax pmax
comp=Z,64nm,0.8s
ARU MLR MLR
comp=Z,940nm,19.0s
NORC Norcasia 68.45 112 *e*P **P** **15 06 54.8 -0.3**
NORC Norcasia 68.45 112 *e*P **P** **15 06 54.8 -0.3**
BARC Barichara 68.50 110 *e*P **P** **15 06 54.9 -0.7**
BARC Barichara 68.50 110 *e*P **P** **15 06 54.9 -0.7**
RETH Rethem/Aller, 68.61 23 *e*P P 15 07 01.9 +6.4
comp=Z,96nm,1.8s,baz=341,slow=6.1
IBBN Ibbenburen 68.65 24 *e*P P 15 07 02.4 +6.7
comp=Z,54nm,1.3s,baz=341,slow=6.1
YOTC Yotoco, Valle 69.00 115 *e*P **P** **15 06 58.0 -0.6**
YOTC Yotoco, Valle 69.00 115 *e*P **P** **15 06 58.0 -0.6**
NRDL Niedersach Rie 69.00 22 *e*P P 15 07 04.4 +6.6
comp=Z,46nm,1.3s,baz=341,slow=6.1
RUSC La Rusia 69.14 111 *e*P **P** **15 06 58.2 -1.6**
RUSC La Rusia 69.14 111 *e*P **P** **15 06 58.2 -1.6**
HHC Hu-ho-hao-te 69.14 312 *e*P **P** **15 06 58.5 -0.6**
HHC pP pP 15 07 03.1 +0.3
HHC sP pwP 15 07 06.4 +1.1
HHC S **S** **15 15 58.3 -5.9**
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,300nm,5.7s
HHC LR LR
comp=Z,2μm,14.7s
HHC LR LR
comp=Z,2μm,15.3s

HHC LR LR
comp=Z,3μm,15.5s
UCC Uccle 69.21 26 PFAKE 15 07 10.0 +11
UCC LR LR
comp=Z,1μm,18.0s
BUG Bochum--Univer 69.34 24 *e*P P **15 07 06.9 +6.9**
baz=341,slow=6.1
ROSC El Rosal 69.35 112 P **P** **15 07 01.5 +0.5**
comp=Z,7.2nm,0.5s,baz=349,slow=10,SNR=3.9
ASSE Asse, Remlinge 69.47 22 *e*P P 15 07 07.2 +6.5
comp=Z,129nm,2.1s,baz=341,slow=6.1
MOS Moscow 69.48 5 *e*P **P** **15 06 59.1 -1.7**
MOS *e* 15 07 05.7
MOS pmax pmax
comp=Z,36nm,0.8s
CLZ Clausthal 69.67 22 *e*P P 15 07 08.8 +6.7
comp=Z,112nm,1.8s,baz=341,slow=6.1
MEM Membach 69.80 25⇑P **P** **15 07 02.6 -0.2**
CHIC Chingaza 69.84 112 *e*P **P** **15 07 02.5 -1.6**
CHIC Chingaza 69.84 112 *e*P **P** **15 07 02.5 -1.6**
GTTG Gvttingen 69.86 23 *e*P P 15 07 09.8 +6.6
comp=Z,81nm,1.3s,baz=341,slow=6.1
SUW Suwalki 69.87 14 *e*P **P** **15 07 02.8 -0.4**
SUW Suwalki 69.87 14 *e*P **P** **15 07 02.0 -1.2**
comp=Z,62nm,0.9s
SUW LR LR
comp=Z,1μm,21.0s
SUW Suwalki 69.87 14 *e*P **P** **15 07 02.0 -1.2**
SUW pmax pmax
comp=Z,62nm,0.9s
DGZ Jazzator, Alta 69.91 332*c i*P **P** **15 07 04.1 +0.3**
DGZ pmax pmax
comp=Z,26nm,1.5s
DOU Dourbes 69.92 27⇓P **P** **15 07 01.3 -2.2**
comp=Z,15nm,1.6s
BTO Baotou 70.00 313 *e*P **P** **15 07 03.8 -0.6**
OBN Obninsk 70.05 5*ce*P **P** **15 07 03.6 -0.7**
OBN *e**PP **pP** **15 07 07.4 -0.6**
OBN *e**SP **sP** **15 07 10.0 +0.7**
OBN 15 07 29.0
OBN *e*PS **PnS** **15 16 49.8 +10**
OBN *e*SS SS 15 20 47.5 +5.1
OBN *e*SSS SSS 15 23 43.5
OBN pmax pmax
comp=Z,143nm,2.5s
OBN MLR MLR
comp=Z,749nm,15.0s
AHRW Bad Neuenahr-A 70.12 25 *e*P P 15 07 12.0 +7.1
comp=Z,72nm,1.8s,baz=341,slow=6.1
BRVK Borovoye 70.38 344 *e*P **P** **15 07 05.6 -0.8**
comp=Z,24nm,0.8s
BRVK LR LR
comp=Z,2μm,22.0s
BRVK Borovoye 70.38 344*c i*P **P** **15 07 05.9 -0.5**
BRVK pmax pmax
comp=Z,23nm,0.9s
BRVK Borovoye 70.38 344 P **P** **15 07 06.2 -0.2**
SNR=11
BRVK P **P** **15 07 06.2 -0.2**
SNR=11
BVA0 Borovoye Array 70.40 344 P **P** **15 07 06.0 -0.5**
BVA0 pmax pmax
comp=Z,35nm,1.0s
TIA Tai'an 70.43 305 P **P** **15 07 07.8 +0.8**
TIA pP **pwP** **15 07 18.5 +5.3**
TIA S **S** **15 16 22.3 +3.0**
TIA pmax pmax
comp=Z,12nm,0.9s
TIA LR LR
comp=Z,480nm,15.0s
TIA LR LR
comp=Z,520nm,15.0s
TIA LR LR
comp=Z,840nm,16.4s
UBBA Unterbreizbach 70.55 23 *e*P P 15 07 13.9 +6.6
comp=Z,53nm,1.7s,baz=341,slow=6.1
NEUB Neuenburg 70.57 22 *e*P P 15 07 13.5 +6.0
baz=341,slow=6.1
PMOR Pomariorio Ree 70.58 194 *e*T T 16 24 12.9
comp=Z,317nm,0.3s
WLF Walferdange 70.71 26 PFAKE 15 07 20.0 +12
WLF LR LR
comp=Z,6μm,21.0s
WLF Walferdange 70.71 26⇑P **P** **15 07 03.7 -4.7**
CLL Collm 70.73 21 PFAKE 15 07 20.0 +11
CLL LR LR
comp=Z,1μm,20.0s
CLL Collm 70.73 21 *e*P P 15 07 14.3 +5.7
comp=Z,60nm,1.9s,baz=341,slow=6.1
CLL Collm 70.73 21 *i*P **P** **15 07 08.3 -0.3**
comp=Z,6.0nm,0.9s
CLL *i* P(2) 15 07 14.3
comp=Z,28nm,1.4s
CLL *e*S **S** **15 16 27.0 +4.7**
CLL *e* 15 17 27.0
CLL *e*SS SS 15 21 06.0 +13
CLL *e*(SSS) 15 24 48.0
CLL LmV 15 39 00.0
comp=Z,1μm,18.7s
CLL Collm 70.73 21 *i*P **P** **15 07 08.3 -0.3**
CLL *i* 15 07 14.3
CLL *e*S **S** **15 16 27.0 +4.7**
CLL pmax pmax
comp=Z,28nm,1.4s
CLL MLR MLR
comp=Z,1μm,18.7s
VAH Vaihoa 70.78 193 *e*T T 16 24 27.6
comp=Z,37nm,0.3s
MOX Moxa 71.07 22 *e*P P 15 07 16.6 +6.0
comp=Z,41nm,1.6s,baz=341,slow=6.1
MOX *e*L L 15 41 59.1
comp=Z,1μm,18.6s
KURK Kurchatov 71.08 338 *e*P **P** **15 07 10.1 -0.6**
comp=Z,46nm,1.0s
KURK LR LR
comp=Z,900nm,18.0s
KURK Kurchatov 71.08 338*ce*P **P** **15 07 10.3 -0.4**
KURK pmax pmax
comp=Z,35nm,1.0s
KURK Kurchatov 71.08 338 P **P** **15 07 10.5 -0.2**
SNR=15
KURK P **P** **15 07 10.5 -0.2**
SNR=15
OTAV Otavalo 71.10 119 *e*P **P** **15 07 10.4 -1.5**
comp=Z,28nm,1.4s
OTAV LR LR
comp=Z,500nm,21.0s
OTAV Otavalo 71.10 119 *e*P **P** **15 07 10.4 -1.5**
OTAV pmax pmax
comp=Z,28nm,1.3s
OTAV Otavalo 71.10 119 *e*P **P** **15 07 12.8 +1.0**
CLF Chambon-Foret 71.18 29 PFAKE 15 07 20.0 +8.7
CLF LR LR
comp=Z,2μm,20.0s
PLN Plauen 71.33 22 *e*P P 15 07 18.4 +6.1
comp=Z,36nm,1.6s,baz=341,slow=6.1
BRG Berggiesshubel 71.33 20 *e*P **P** **15 07 12.4 +0.2**
comp=Z,8.3nm,1.0s
BRG *e* 15 07 18.6
comp=Z,48nm,1.4s
BRG S **S** **15 16 31.0 +1.7**
BRG SS **SS** **15 21 08.0 +5.7**
comp=N,639nm,16.0s
comp=E,832nm,16.8s
comp=Z,885nm,15.2s
BRG Berggiesshubel 71.33 20 *e*P P 15 07 18.2 +6.0
comp=Z,45nm,1.4s,baz=341,slow=6.1
BRG Berggiesshubel 71.33 20 *e*P **P** **15 07 12.4 +0.2**
BRG *e* 15 07 18.6
BRG S **S** **15 16 31.0 +1.7**
BRG SS **SS** **15 21 08.0 +5.7**
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG pmax pmax
comp=Z,48nm,1.5s
BRG MLR MLR
comp=N,639nm,16.0s
BRG MLR MLR
comp=E,832nm,16.8s
BRG MLR MLR
comp=Z,885nm,15.2s
TIY Taiyuan 71.35 310 *e*P **P** **15 07 13.4 +0.7**
TIY LR LR
comp=Z,1μm,15.3s
TIY LR LR
comp=Z,420nm,12.0s

TIY LR LR
comp=Z,2μm,16.5s
FLOC Florencia 71.39 115 *e*P **P 15 07 12.8 -0.3**
FLOC Florencia 71.39 115 *e*P **P 15 07 12.8 -0.3**
TANN Tannenbergstha 71.46 21 *e*P P 15 07 19.3 +6.2
comp=Z,79nm,1.8s,baz=341,slow=6.1
GUNZ Gunzen 71.48 22 *e*P P 15 07 19.4 +6.2
comp=Z,65nm,2.1s,baz=341,slow=6.1
WERN Wernitzgruen 71.57 22 *e*P P 15 07 20.1 +6.4
comp=Z,64nm,2.0s,baz=341,slow=6.1
PVCC Panska Ves 71.79 20 AMS AMS 15 40 50.0
comp=Z,900nm,17.9s
KSP Ksiaz 71.82 19 *e*P **P 15 07 15.5 +0.3**
KSP Ksiaz 71.82 19 *e*P **P 15 07 15.5 +0.3**
GRA1 Grafenberg Arr 71.88 23 PFAKE 15 07 30.0 +14
GRA1 LR LR
comp=Z,1μm,20.0s
GRF Grafenberg Arr 71.88 23 *e*P P 15 07 22.1 +6.5
comp=Z,42nm,1.6s,baz=341,slow=6.1
GRF *e*L L 15 40 05.5
comp=Z,801nm,20.7s
GRFO Grafenberg 71.88 23 PFAKE 15 07 30.0 +14
GRFO LR LR
comp=Z,900nm,20.0s
UPC Upice 72.09 19 *e*P **P 15 07 17.5 +0.7**
UPC AMS AMS 15 41 30.0
comp=Z,900nm,14.4s
UPC Upice 72.09 19 *e*P **P 15 07 17.5 +0.7**
UPC MLR MLR
comp=Z,900nm,14.4s
PRA Prague 72.20 20 AMS AMS 15 40 30.0
comp=Z,900nm,15.2s
STU Stuttgart 72.28 24 PFAKE 15 07 30.0 +12
STU LR LR
comp=Z,2μm,18.0s
DPC Dobruska-Polom 72.30 19 *e*P **P 15 07 18.4 +0.3**
DPC *ex* x 15 07 23.8
DPC AMS AMS 15 41 40.0
comp=Z,1μm,16.9s
DPC Dobruska-Polom 72.30 19 *e*P **P 15 07 18.4 +0.3**
DPC *e* 15 07 23.8
DPC MLR MLR
comp=Z,1μm,16.9s
PRU Pruhonice 72.30 20 *e*SS SS 15 21 46.1 +29
PRU AMS AMS 15 40 20.0
comp=Z,800nm,16.1s
ECH Echery 72.30 26 *e*P **P 15 07 17.7 -0.4**
comp=Z,98nm,1.9s
ECH LR LR
comp=Z,2μm,20.0s
GOPC GO Pecny, Ondr 72.42 20 *e*SS SS 15 21 43.0 +24
GOPC AMS AMS 15 40 50.0
comp=Z,800nm,15.6s
BFO Black Forest 72.48 25 *e*P **P 15 07 17.7 -1.5**
comp=Z,39nm,1.3s
BFO LR LR
comp=Z,900nm,22.0s
BFO Black Forest 72.48 25 *e*P P 15 07 26.0 +6.8
comp=Z,50nm,1.4s,baz=341,slow=6.1
BFO Black Forest 72.48 25 *e*P **P 15 07 17.7 -1.5**
BFO pmax pmax
comp=Z,39nm,1.3s
KRLC Kraliky 72.64 19 *e*P **P 15 07 20.9 +0.7**
KRLC Kraliky 72.64 19 *e*P **P 15 07 20.9 +0.7**
LPSR Galich'ya Gora 72.67 4 *e*P **P 15 07 19.7 -0.5**
LPSR pmax pmax
comp=Z,20nm,0.8s
WET Wettzell 72.75 22 *e*P P 15 07 27.3 +6.5
comp=Z,32nm,1.5s,baz=341,slow=6.1
KHC Kasperske Hory 72.92 21 *e*P **P 15 07 21.4 -0.4**
comp=Z,45nm,1.8s
KHC LR LR
comp=Z,400nm,18.0s
KHC Kasperske Hory 72.92 21 *e*P **P 15 07 22.5 +0.7**
KHC *ex* x 15 07 29.4
KHC AMS AMS 15 40 10.0
comp=Z,1μm,15.9s
KHC Kasperske Hory 72.92 21 *e*P **P 15 07 21.4 -0.4**
KHC pmax pmax
comp=Z,45nm,1.8s
NJ2 Nanjing 72.98 302 *e*P **P 15 07 22.8 +0.4**
NJ2 pmax pmax
comp=Z,65nm,0.9s
OJC Ojcow 73.04 17 *e*P **P 15 07 22.3 -0.2**
OJC Ojcow 73.04 17 *e*P **P 15 07 21.6 -0.9**
comp=Z,39nm,1.3s
OJC Ojcow 73.04 17 *e*P **P 15 07 21.6 -0.9**
OJC pmax pmax
comp=Z,39nm,1.3s
MORC Moravsky Berou 73.07 18 *e*P **P 15 07 21.9 -0.8**
comp=Z,75nm,2.0s
MORC Moravsky Berou 73.07 18⇑ *i*P **P 15 07 22.8 +0.1**
MORC Moravsky Berou 73.07 18 *e*P **P 15 07 21.9 -0.8**
MORC pmax pmax
comp=Z,75nm,2.0s
MORC Moravsky Berou 73.07 18 *e*P **P 15 07 22.4 -0.3**
OKC Ostrava-Krasne 73.12 18 AMS AMS 15 40 30.0
comp=Z,700nm,15.7s
TREC Trest 73.14 20 AMS AMS 15 41 00.0
comp=Z,1μm,15.6s
GEC2 GERESS Array S 73.21 21 *e*P **P 15 07 22.9 -0.7**
comp=Z,29nm,1.3s
GEC2 GERESS Array S 73.21 21 *e*P P 15 07 29.9 +6.3
comp=Z,32nm,1.3s,baz=341,slow=6.1
GEC2 GERESS Array S 73.21 21 *e*P **P 15 07 22.9 -0.7**
GEC2 pmax pmax
comp=Z,29nm,1.3s
GERES GERESS Array B 73.21 21 P **P 15 07 23.6 0.0**
comp=Z,2.8nm,0.8s,baz=345,slow=4.6,SNR=16
GERES LR LR 15 40 43.9
comp=Z,959nm,18.4s,baz=342,slow=37
GEA0 GERESS Array S 73.22 21 *e*P **P 15 07 22.7 -1.0**
PPT Papeete 73.34 195 LR LR 15 31 45.5
comp=Z,722nm,18.9s,baz=5.0,slow=29
VRAC Vranov 73.34 19⇓ *i*P **P 15 07 25.0 +0.7**
VRAC Vranov 73.34 19 *e*P **P 15 07 24.5 +0.2**
VRAC *e* 15 07 30.1
PPT2 Papeete2 73.36 195 *e*T T 16 27 41.5
comp=Z,18nm,0.2s
PAE Paea 73.44 195 *e*T T 16 27 46.8
comp=Z,5.6nm,0.2s
TVO Taravao 73.51 194 *e*T T 16 27 51.9
comp=Z,8.5nm,0.3s
UBR Ueberruh 73.52 24 *e*P P 15 07 32.3 +6.9
comp=Z,158nm,2.1s,baz=341,slow=6.1
KRUC Moravsky 73.54 19 *e*P **P 15 07 25.5 +0.1**
KRUC *e* 15 07 31.5
DAVA Damuels 73.83 24 *e*P **P 15 07 27.9 +0.5**
comp=Z,27nm,1.2s
AKASG Malin Array Be 73.85 11 P **P 15 07 25.9 -1.2**
comp=Z,14nm,0.8s,baz=353,slow=5.8,SNR=39
AKASG LR LR 15 40 21.4
comp=Z,1μm,21.5s,baz=350,slow=36
AKASG Malin Array Be 73.85 11 P **P 15 07 26.0 -1.2**
AKBB Malin Array Si 73.85 11 *e*P **P 15 07 26.0 -1.2**
comp=Z,59nm,1.3s
AKBB Malin Array Si 73.85 11 *e*P **P 15 07 26.0 -1.2**
AKBB pmax pmax
comp=Z,59nm,1.3s
KIEV Kiev 73.86 11 *e*P **P 15 07 26.0 -1.3**
comp=Z,58nm,1.3s
KIEV Kiev 73.86 11⇑ *i*P **P 15 07 26.4 -0.8**
KIEV Kiev 73.86 11*c i*P **P 15 07 26.2 -1.0**
KIEV pmax pmax
comp=Z,25nm,0.9s
AK11 Malin Array Si 73.87 11 *e*P **P 15 07 24.9 -2.4**
NIE Niedzica 73.90 17 *e*P **P 15 07 27.9 +0.3**
NIE Niedzica 73.90 17 *e*P **P 15 07 27.9 +0.3**
MK31 Makanchi Array 73.92 335 *e*P **P 15 07 26.5 -1.2**
MK31 Makanchi Array 73.92 335 *e*P **P 15 07 26.5 -1.2**
MKAR Makanchi Array 73.92 335 P **P 15 07 27.4 -0.3**
comp=Z,21nm,0.8s,baz=38,slow=5.2,SNR=190
MKAR LR LR 15 42 04.7
comp=Z,1μm,21.6s,baz=10.0,slow=38
MKAR Makanchi Array 73.92 335 *e*P **P 15 07 26.7 -1.0**
comp=Z,136nm,0.9s
MKAR Makanchi Array 73.92 335 *e*P **P 15 07 26.7 -1.0**
MKAR pmax pmax
comp=Z,140nm,0.9s
MK01 Makanchi Array 73.94 335 *e*P **P 15 07 27.0 -0.8**
JAVC Velka Javorina 73.98 19 *e*P **P 15 07 29.0 +0.9**
JAVC *e* 15 07 35.3
MAKZ Makanchi 73.98 335 *e*P **P 15 07 27.3 -0.8**
comp=Z,79nm,1.0s
MAKZ LR LR
comp=Z,1μm,22.0s

MAKZ Makanchi 73.98 335 *e*P **P 15 07 27.3 -0.8**
MAKZ pmax pmax
comp=Z,79nm,1.0s
LANS Liptovska Anna 74.02 17 *e*P **P 15 07 29.3 +1.0**
LANS *e* 15 07 35.3
LANS Liptovska Anna 74.02 17 *e*P **P 15 07 29.3 +1.0**
LANS *e* 15 07 35.3
SENIN Lac Senin/Sane 74.06 26 *e*P **P 15 07 28.3 -0.5**
comp=Z,97nm,1.9s
SENIN LR LR
comp=Z,2μm,21.0s
MOTA Moosalm 74.06 23 *i* P **P 15 07 30.3 +1.6**
comp=Z,2.8nm,0.6s
VSR Storozhevoye 74.07 4 *e*P **P 15 07 26.7 -1.8**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR MLR MLR
comp=Z,1μm,16.0s
KWP Kalwaria Pacla 74.07 15 PFAKE 15 07 40.0 +11
KWP LR LR
comp=Z,11μm,22.0s
LVV L'vov 74.08 14 *e*P P 15 07 34.8 +6.2
LVV MLR MLR
comp=Z,500nm,18.0s
VRH Novokhopyorsk 74.16 2 *e*P **P 15 07 27.9 -1.1**
VRH pmax pmax
comp=Z,20nm,1.0s
SQTA Sankt Quirin 74.20 23 *i* P **P 15 07 30.4 +0.9**
comp=Z,21nm,1.0s
MOA Molln 74.28 21 *e*P **P 15 07 30.4 +0.6**
comp=Z,21nm,1.5s
FETA Feichten 74.28 24 *e*P **P 15 07 31.0 +1.0**
comp=Z,21nm,1.4s
SSB Saint Sauveur 74.33 29 PFAKE 15 07 40.0 +10
SSB LR LR
comp=Z,2μm,20.0s
MODS Modra-Piesok 74.37 19 *e*P **P 15 07 30.8 +0.5**
MODS *e* 15 07 36.9
MODS pmax pmax
comp=Z,54nm,1.3s
MODS Modra-Piesok 74.37 19 *e*P **P 15 07 30.8 +0.5**
MODS *e* 15 07 36.9
AKTO Aktyubinsk 74.44 352 P **P 15 07 29.9 -0.8**
AKTO pmax pmax
comp=Z,25nm,0.9s
TUE Stuetta 74.47 25 PFAKE 15 07 40.0 +8.8
TUE LR LR
comp=Z,2μm,19.0s
CONA Conrad Observa 74.53 20 *i* P **P 15 07 32.1 +0.7**
comp=Z,24nm,1.0s
VYHS Vyhne 74.54 18 *e*P **P 15 07 31.3 0.0**
VYHS *e* 15 07 36.8
VYHS pmax pmax
comp=Z,15nm,1.4s
VYHS Vyhne 74.54 18 *e*P **P 15 07 31.3 0.0**
VYHS *e* 15 07 36.8
FUORN Ofenpass-Fuorn 74.55 24 PFAKE 15 07 40.0 +8.3
FUORN LR LR
comp=Z,1μm,18.0s
OTUK Ortayu 74.68 342 P **P 15 07 31.7 -0.5**
OTUK pmax pmax
comp=Z,23nm,1.0s
KBA Koelnbreinsper 74.81 22 *e*P **P 15 07 34.0 +0.9**
comp=Z,45nm,1.3s
MTE Manteigas 74.84 39 PFAKE 15 07 40.0 +6.7
MTE LR LR
comp=Z,2μm,18.0s
UZH Uzhgorod 74.98 16 *e*P **P 15 07 31.0 -2.8**
UZH *e* 15 07 43.9
GTA Gaotai 75.10 319 *e*P **P 15 07 35.3 +0.4**
GTA pP pP 15 07 39.3 +0.7
GTA sP pwP 15 07 42.5 +1.4
GTA S **S 15 17 10.8 -1.9**
GTA SS **SS 15 21 58.8 -1.8**
GTA pmax pmax
comp=Z,13nm,1.1s
GTA pmax pmax
comp=Z,83nm,6.5s
GTA LR LR
comp=Z,860nm,20.3s
GTA LR LR
comp=Z,1μm,17.2s
GTA LR LR
comp=Z,2μm,20.6s
ARSA Arzberg 75.11 21 *e*P **P 15 07 35.4 +0.8**
comp=Z,29nm,1.6s
BNI Bardonecchia 75.11 27 PFAKE 15 07 50.0 +15
BNI LR LR
comp=Z,2μm,21.0s
WMQ Urumqi 75.21 330 P **P 15 07 36.4 +1.1**
WMQ sP pwP 15 07 42.9 +1.3
WMQ PcP **PcP 15 07 51.0 +2.2**
WMQ PP **PP 15 10 24.3 +1.3**
WMQ S **S 15 17 12.9 -0.7**
WMQ SS **SS 15 22 04.1 +2.3**
WMQ pmax pmax
comp=Z,44nm,1.3s
WMQ pmax pmax
comp=Z,410nm,3.7s
WMQ LR LR
comp=Z,3μm,16.5s
WMQ LR LR
comp=Z,3μm,18.3s
WMQ Urumqi 75.21 330 *e*P **P 15 07 35.6 +0.3**
comp=Z,81nm,1.4s
WMQ LR LR
comp=Z,1μm,20.0s
WMQ Urumqi 75.21 330 *e*P **P 15 07 35.6 +0.3**
WMQ pmax pmax
comp=Z,81nm,1.4s
WMQ MLR MLR
comp=Z,1μm,20.0s
PSZ Piszkesteto 75.28 17 *e*P **P 15 07 35.6 -0.1**
comp=Z,54nm,1.3s
PSZ LR LR
comp=Z,1μm,18.0s
PSZ Piszkesteto 75.28 17⇓ *i*P **P 15 07 36.7 +1.0**
PSZ Piszkesteto 75.28 17 *e*P **P 15 07 35.6 -0.1**
PSZ pmax pmax
comp=Z,54nm,1.3s
AB31 Akbulak array 75.43 350 *i* P **P 15 07 36.1 -0.3**
AB31 pmax pmax
comp=Z,30nm,0.9s
ABKAR Akbulak array 75.43 350 *e*P **P 15 07 35.6 -0.8**
TRPA Tarpa 75.51 16⇑ *i*P **P 15 07 36.9 +0.1**
SOKA Soboth 75.55 21 *e*P **P 15 07 37.7 +0.5**
comp=Z,23nm,1.1s
PERS Pernice 75.61 21 *e*P **P 15 07 37.6 +0.1**
OBKA Obir 75.61 21 *e*P **P 15 07 37.6 -0.1**
comp=Z,34nm,1.2s
XAN Xi'an 75.98 310 P **P 15 07 40.0 +0.1**
XAN pP pwP 15 07 46.8 +0.7
XAN sP PcP 15 07 51.8 -0.4
XAN S **S 15 17 19.6 -2.8**
XAN pmax pmax
comp=Z,42nm,1.8s
XAN LR LR
comp=Z,1μm,15.2s
XAN LR LR
comp=Z,2μm,15.7s
XAN LR LR
comp=Z,2μm,15.2s
XAN Xi'an 75.98 310 *e*P **P 15 07 38.8 -1.1**
comp=Z,56nm,1.2s
XAN LR LR
comp=Z,2μm,18.0s
XAN Xi'an 75.98 310 *e*P **P 15 07 38.8 -1.1**
XAN pmax pmax
comp=Z,56nm,1.2s
PESTR Estremoz 76.17 40 PFAKE 15 07 50.0 +9.1
PESTR LR LR
comp=Z,1μm,20.0s
TRI Trieste 76.20 22 PFAKE 15 07 50.0 +9.1
TRI LR LR
comp=Z,1μm,18.0s
VISS Visnje 76.34 21 *e*P P 15 07 50.8 +9.1
BUR08 Bucovina Ar. S 76.37 14 *e*P **P 15 07 40.9 -1.1**
LZH Lanzhou 76.40 315 *e*P **P 15 07 43.1 +0.7**
LZH pP sP 15 07 47.8 +0.4
LZH sP pwP 15 07 50.1 +1.5
LZH *e*S **S 15 17 25.5 -1.7**
LZH sS sS 15 17 34.5 +1.2
LZH pmax pmax
comp=Z,150nm,1.2s
LZH pmax pmax

comp=Z,430nm,4.6s
LZH LR LR
comp=Z,4μm,18.4s
LZH LR LR
comp=Z,4μm,17.9s
LZH LR LR
comp=Z,6μm,19.5s
BUR04 Bucovina Ar. S 76.40 14 *e*P **P 15 07 40.5 -1.6**
BURAR Bucovina Array 76.40 14⇑ *i*P **P 15 07 42.6 +0.5**
WHN Wuhan 76.40 304 P **P 15 07 40.4 -1.8**
WHN S **S 15 17 23.8 -3.2**
WHN LR LR
comp=Z,2μm,18.4s
BOJS Bojanci 76.72 21 *i* P P 15 07 50.1 +6.3
PAB San Pablo 76.74 37 *e*P **P 15 07 43.2 -0.9**
comp=Z,117nm,2.0s
PAB LR LR
comp=Z,1μm,20.0s
PAB San Pablo 76.74 37 *e*P **P 15 07 43.2 -0.9**
PAB pmax pmax
comp=Z,117nm,2.0s
PAB MLR MLR
comp=Z,1μm,20.0s
ES19 SONSECA Array 76.76 37 *e*P **P 15 07 42.8 -1.4**
ESDC Sonseca Array 76.76 37 P **P 15 07 44.2 0.0**
comp=Z,6.0nm,0.8s,baz=325,slow=5.4,SNR=29
ESLA Sonseca Array 76.76 37 *e*P **P 15 07 42.9 -1.3**
comp=Z,46nm,1.3s
DRGR 76.84 16⇑ *i*P **P 15 07 44.3 -0.3**
VLC Villacollemand 76.89 25 PFAKE 15 08 00.0 +15
VLC LR LR
comp=Z,2μm,19.0s
CJR Cluj-Napoca 77.05 15⇑ *i*P **P 15 07 46.6 +0.9**
BIZ Bicaz 77.19 13⇑ *i*P **P 15 07 47.6 +1.2**
PFVI Vila Bisbo 77.23 42 PFAKE 15 08 00.0 +13
PFVI LR LR
comp=Z,1μm,19.0s
KIS Kishinev 77.46 11 *e*P **P 15 07 45.0 -2.9**
KIS Kishinev 77.46 11 *e*PS **pS 15 17 46.0 +3.1**
KIS *e*LR LR 15 33 00.0
comp=Z,1μm,30.0s
KIS Kishinev 77.46 11 *e*P **P 15 07 45.0 -2.9**
KIS *e* 15 07 52.0
KIS MLR MLR
comp=Z,900nm,20.0s
KIS MLR MLR
comp=N,600nm,19.0s
RKT Rikitea 77.76 180 *e*S **S 15 17 45.0 +3.5**
comp=N,248nm,29.8s
RKT Rikitea 77.76 180 *e*LR LR 15 31 59.0
comp=N,1μm,28.0s,baz=360
RKT Rikitea 77.76 180 *e*T T 16 33 02.8
comp=N,15nm,0.2s
BZS Buzias 77.80 17⇓ *i*P **P 15 07 50.1 +0.2**
PDGK Podgornoye 77.85 335 P **P 15 07 50.0 -0.4**
PDGK pmax pmax
comp=Z,21nm,1.2s
DOPR Dopca 78.04 14⇑ *i*P **P 15 07 51.9 +0.7**
GZR Gura Zlata 78.21 16⇑ *i*P **P 15 07 51.7 -0.5**
LOT Lotru 78.31 15⇑ *i*P **P 15 07 51.2 -1.7**
VRI Vrincioaia 78.32 13⇑ *i*P **P 15 07 52.8 0.0**
PLOR Plostina 78.33 13⇓ *i*P **P 15 07 53.2 +0.4**
VOIR 78.51 14⇓ *i*P **P 15 07 54.0 +0.1**
ARR Arges 78.52 15⇑ *i*P **P 15 07 54.8 +0.8**
MLR Muntele Rosu 78.58 14 *e*P **P 15 07 53.9 -0.5**
comp=Z,26nm,1.3s
MLR LR LR
comp=Z,2μm,20.0s
MLR Muntele Rosu 78.58 14⇑ *i*P **P 15 07 55.3 +0.9**
MLR Muntele Rosu 78.58 14 *e*P **P 15 07 53.9 -0.5**
MLR pmax pmax
comp=Z,26nm,1.3s
HERR Herculane 78.65 16⇑ *i*P **P 15 07 55.0 +0.4**
SFS San Fernando 78.81 40 PFAKE 15 08 10.0 +14
SFS LR LR
comp=Z,1μm,20.0s
ENH Enshi 78.91 307 *e*P **P 15 07 55.9 -0.4**
comp=Z,77nm,0.9s
ENH LR LR
comp=Z,1μm,20.0s
PRZ Przheval'sk 78.92 336 PFAKE 15 08 10.0 +14
PRZ LR LR
comp=Z,2μm,18.0s
TBI Tubuai 79.01 194 *e*S **S 15 17 53.5 -1.4**
comp=Z,925nm,30.8s
TBI Tubuai 79.01 194 *e*LR LR 15 32 30.8
comp=Z,2μm,31.0s,baz=5.8
TBI Tubuai 79.01 194 *e*T T 16 34 44.3
comp=Z,32nm,0.3s
USP Ospenovka 79.04 339 P **P 15 07 57.6 +0.7**
SNR=14
TKM2 Tokmak 2 79.14 338 P **P 15 07 58.4 +0.9**
SNR=15
CFR Carcaliu 79.18 12⇑ *i*P **P 15 07 57.6 +0.2**
CHMS Chumysh 79.24 338 P **P 15 07 58.4 +0.4**
SNR=12
AQU L'Aquila 79.31 23 PFAKE 15 08 10.0 +12
AQU LR LR
comp=Z,1μm,19.0s
FRU Bishkek 79.43 339 *e*P **P 15 07 59.0 0.0**
FRU pmax pmax
comp=Z,60nm,1.6s
FRU1 Bishkek 79.45 338 PFAKE 15 08 10.0 +11
FRU1 LR LR
comp=Z,800nm,18.0s
KBK Karagaybulak 79.53 338 P **P 15 08 00.1 +0.5**
SNR=13
KDJ Kajisay 79.53 336 *e*P **P 15 07 58.2 -1.5**
comp=Z,16nm,0.9s
KDJ LR LR
comp=Z,1μm,18.0s
KDJ Kajisay 79.53 336 *e*P **P 15 07 58.2 -1.5**
KDJ pmax pmax
comp=Z,16nm,0.9s
AAK Ala-Archa 79.64 339 P **P 15 08 00.6 +0.3**
comp=Z,7.8nm,0.8s,baz=23,slow=16,SNR=38
AAK Ala-Archa 79.64 339 P **P 15 08 00.8 +0.5**
SNR=9.2
AAK Ala-Archa 79.64 339 *e*P **P 15 07 59.1 -1.2**
comp=Z,22nm,1.3s
AAK LR LR
comp=Z,1μm,18.0s
AAK Ala-Archa 79.64 339*ce*P **P 15 08 00.5 +0.3**
AAK pmax pmax
comp=Z,34nm,2.5s
AAK Ala-Archa 79.64 339 P **P 15 08 00.6 +0.3**
SNR=9.0
AAK P **P 15 08 00.6 +0.3**
SNR=9.0
CART Cartagena 79.65 36 PFAKE 15 08 10.0 +10
CART LR LR
comp=Z,1μm,19.0s
TLB Topalu 79.75 12⇓ *i*P **P 15 08 00.8 +0.2**
EKS2 Erkin-Say 79.77 339 P **P 15 08 01.6 +0.7**
SNR=17
TIRR Tirgusor 79.92 12 PFAKE 15 08 10.0 +8.5
TIRR LR LR
comp=Z,900nm,21.0s
KK31 Karatay Array 79.98 342 *e*P **P 15 08 01.0 -0.9**
KK31 Karatay Array 79.98 342 *i* P **P 15 08 01.4 -0.5**
KK31 pmax pmax
comp=Z,10.0nm,1.0s
KKAR Karatay Array 79.98 342 *e*P **P 15 08 01.1 -0.8**
KKAR Karatay Array 79.98 342 *e*P **P 15 08 01.1 -0.8**
SIM Simferopol' 80.01 8 *e*P **P 15 08 00.5 -1.5**
SIM pmax pmax
comp=Z,609nm,15.9s
SIM MLR MLR
comp=Z,610nm,17.0s
KZA Kyzart 80.02 338 P **P 15 08 03.1 +0.5**
SNR=9.1
ICOR Ion Corvin 80.18 13⇑ *i*P **P 15 08 04.5 +1.6**
MNAS Manas 80.19 340 P **P 15 08 03.1 -0.2**
MNAS pmax pmax
comp=Z,23nm,1.3s
AML Almayashu 80.30 339 P **P 15 08 04.9 +0.8**
SNR=22
GOF Gofitskoye 80.34 2⇑ *i*P **P 15 08 03.1 -0.7**
GOF pmax pmax
comp=Z,70nm,0.9s
ANN Anapa 80.39 6 *e*P **P 15 08 05.4 +1.4**
ANN *e*S **S 15 18 14.2 +4.9**
ANN pmax pmax
comp=Z,73nm,1.3s
ANN MLR MLR
comp=Z,779nm,16.0s

CD2	**Chengdu**	**80.90**	**312**	P	**P**	**15 08 02.5**	**-4.6**
CD2				pP	pP	15 08 09.1	-1.7
CD2				sP	sP	15 08 11.8	-0.4
CD2				S	**S**	**15 18 08.8**	**-6.5**
CD2				pmax	pmax		
	comp=Z,50nm,0.5s						
CD2				pmax	pmax		
	comp=Z,320nm,5.0s						
CD2				LR	LR		
	comp=Z,1μm,16.4s						
CD2				LR	LR		
	comp=Z,2μm,16.9s						
CD2				LR	LR		
	comp=Z,2μm,14.4s						
VTS	**Vitosha**	**81.01**	**16**	*e*P	**P**	**15 08 05.5**	**-2.1**
	comp=Z,27nm,1.3s						
VTS				LR	LR		
	comp=Z,1μm,19.0s						
VTS	**Vitosha**	**81.01**	**16**	⇑*i*P	**P**	**15 08 07.0**	**-0.6**
VTS	**Vitosha**	**81.01**	**16**	*e*P	**P**	**15 08 05.5**	**-2.1**
VTS				pmax	pmax		
	comp=Z,27nm,1.3s						
ARSB	**Arslanbob**	**81.22**	**339**	*e*P	**P**	**15 08 07.7**	**-1.0**
SKO	**Skopje**	**81.31**	**18**	*i* P	P	15 08 16.2	+7.2
KIV	**Kislovodsk**	**81.43**	**2**	*e*P	**P**	**15 08 09.4**	**-0.4**
KIV				pmax	pmax		
	comp=Z,35nm,1.0s						
KVAR	**Kislovodsk Arr**	**81.43**	**2**	P	**P**	**15 08 09.9**	**+0.1**
	comp=Z,6.1nm,0.8s,baz=76,slow=19,SNR=6.4						
TIR	**Tirane**	**81.63**	**19**	PFAKE		15 08 20.0	+9.3
TIR				LR	LR		
	comp=Z,1μm,19.0s						
KBZ	**Khabaz**	**81.66**	**2**	P	**P**	**15 08 10.8**	**0.0**
	comp=Z,14nm,0.8s,baz=338,slow=4.7,SNR=18						
KBZ				LR	LR	15 47 54.2	
	comp=Z,363nm,20.6s,baz=357,slow=38						
PTGA	**Pitinga**	**81.86**	**103**	*e*P	**P**	**15 08 11.3**	**-0.9**
	comp=Z,23nm,1.1s						
PTGA				LR	LR		
	comp=Z,1μm,19.0s						
PTGA	**Pitinga**	**81.86**	**103**	*e*P	**P**	**15 08 13.2**	**+1.0**
KRUS	**Krusevo**	**81.86**	**18**	*i* P	P	15 08 17.5	+5.4
NCK	**Nalchik**	**81.91**	**1**	*i* P	**P**	**15 08 12.6**	**+0.4**
NCK				pmax	pmax		
	comp=Z,17nm,1.0s						
OHR	**Ohrid**	**82.03**	**18**	*i* P	P	15 08 19.6	+6.7
DOMR	**Dombai**	**82.07**	**3**	*i* P	**P**	**15 08 14.3**	**+1.1**
DOMR				pmax	pmax		
	comp=Z,16nm,0.9s						
CUC	**Castrocucco**	**82.11**	**22**	PFAKE		15 08 20.0	+6.7
CUC				LR	LR		
	comp=Z,800nm,19.0s						
NEY	**Neytrino**	**82.14**	**2**	*i* P	**P**	**15 08 14.9**	**+1.3**
NEY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VAY	**Valandovo**	**82.14**	**17**	*i* P	P	15 08 20.0	+6.6
KSH	**Kashi**	**82.30**	**337**	P	**P**	**15 08 17.3**	**+2.8**
KSH				sP	pwP	15 08 24.4	+3.7
KSH				PP	**PP**	**15 11 25.6**	**+3.4**
KSH				S	**S**	**15 18 32.3**	**+2.6**
KSH				sS	SKKSac	15 18 39.4	+1.1
KSH				SS	**SS**	**15 23 55.6**	**+7.2**
KSH				pmax	pmax		
	comp=Z,53nm,1.1s						
KSH				pmax	pmax		
	comp=Z,290nm,4.7s						
KSH				LR	LR		
	comp=Z,410nm,9.4s						
KSH				LR	LR		
	comp=Z,1μm,14.6s						
KSH				LR	LR		
	comp=Z,2μm,19.0s						
SFK	**Sufi-Kurgan**	**82.37**	**339**	P	**P**	**15 08 14.0**	**-1.0**
SFK				pmax	pmax		
	comp=Z,44nm,1.3s						
NNA	**Nana**	**82.43**	**123**	PFAKE		15 08 30.0	+15
NNA				LR	LR		
	comp=Z,800nm,18.0s						
NNA	**Nana**	**82.43**	**123**	*i* P	**P**	**15 08 16.0**	**+0.8**
FNA	**Florina**	**82.46**	**18**	*e*P	**P**	**15 08 14.2**	**-1.0**
	comp=Z,32nm,1.3s						
FNA	**Florina**	**82.46**	**18**	*e*P	**P**	**15 08 14.2**	**-1.0**
FNA				pmax	pmax		
	comp=Z,32nm,1.2s						
ZEI	**Tsey**	**82.62**	**1**	*e*P	**P**	**15 08 15.3**	**-0.9**
ZEI				pmax	pmax		
	comp=Z,16nm,1.5s						
BTK	**Batken**	**82.87**	**341**	*e*P	**P**	**15 08 16.9**	**-0.5**
	comp=Z,38nm,1.3s						
BTK	**Batken**	**82.87**	**341**	*e*P	**P**	**15 08 16.9**	**-0.5**
BTK				pmax	pmax		
	comp=Z,38nm,1.2s						
TIP	**Timpagrande**	**83.09**	**22**	PFAKE		15 08 30.0	+11
TIP				LR	LR		
	comp=Z,900nm,20.0s						
ALN	**Alexandroupoli**	**83.10**	**15**	*e*P	**P**	**15 08 17.4**	**-1.0**
	comp=Z,61nm,1.6s						
ALN				LR	LR		
	comp=Z,400nm,20.0s						
ALN	**Alexandroupoli**	**83.10**	**15**	*e*P	**P**	**15 08 17.4**	**-1.0**
ALN				pmax	pmax		
	comp=Z,61nm,1.6s						
LIT	**Litokhoron**	**83.32**	**17**	*e*P	**P**	**15 08 19.6**	**0.0**
	comp=Z,181nm,1.9s						
LIT				LR	LR		
	comp=Z,1μm,20.0s						
LIT	**Litokhoron**	**83.32**	**17**	*e*P	**P**	**15 08 19.6**	**0.0**
LIT				pmax	pmax		
	comp=Z,181nm,1.9s						
LIT				MLR	MLR		
	comp=Z,1μm,20.0s						
GYA	**Guiyang**	**83.44**	**308**	⇑*i*P	**P**	**15 08 21.0**	**+0.4**
GYA				PP	**PP**	**15 11 33.0**	**+1.0**
GYA				SKS	**S**	**15 18 38.4**	**-3.3**
GYA				SS	**SS**	**15 24 05.5**	**-0.7**
GYA				pmax	pmax		
	comp=Z,30nm,1.0s						
GYA				pmax	pmax		
	comp=Z,150nm,5.4s						
GYA				LR	LR		
	comp=Z,490nm,20.7s						
GYA				LR	LR		
	comp=Z,450nm,19.1s						
GYA				LR	LR		
	comp=Z,420nm,19.9s						
TBLG	**Delisi**	**83.68**	**0**	*e*P	**P**	**15 08 20.3**	**-1.1**
	comp=Z,102nm,1.6s						
TBLG	**Delisi**	**83.68**	**0**	*e*P	**P**	**15 08 20.3**	**-1.1**
TBLG				pmax	pmax		
	comp=Z,100nm,1.5s						
CEL	**Celeste**	**83.78**	**23**	PFAKE		15 08 30.0	+7.9
CEL				LR	LR		
	comp=Z,500nm,19.0s						
CLTB	**Caltabellotta**	**83.80**	**25**	PFAKE		15 08 30.0	+7.8
CLTB				LR	LR		
	comp=Z,1μm,18.0s						
ILGA	**Ilgaz**	**83.85**	**9**	*e*P	**P**	**15 08 21.0**	**-1.6**
	comp=Z,31nm,1.2s						
ILGA				LR	LR		
	comp=Z,600nm,21.0s						
GAR	**Garm**	**83.99**	**341**	*e*P	**P**	**15 08 22.8**	**-0.4**
	comp=Z,89nm,1.2s						
GAR				LR	LR		
	comp=Z,2μm,20.0s						
GAR	**Garm**	**83.99**	**341**	*e*P	**P**	**15 08 22.8**	**-0.4**
GAR				pmax	pmax		
	comp=Z,89nm,1.2s						
AGG	**Agios Georgios**	**84.34**	**18**	*e*P	**P**	**15 08 24.3**	**-0.5**
	comp=Z,48nm,1.3s						
AGG				LR	LR		
	comp=Z,900nm,18.0s						
AGG	**Agios Georgios**	**84.34**	**18**	*e*P	**P**	**15 08 24.3**	**-0.5**
AGG				pmax	pmax		
	comp=Z,48nm,1.3s						
CHGR	**Chuyangaron**	**84.54**	**341**	*e*P	**P**	**15 08 25.4**	**-0.5**
	comp=Z,84nm,0.8s						
KEST	**Kesra**	**84.54**	**29**	P	**P**	**15 08 26.2**	**+0.3**
	comp=Z,7.5nm,0.9s,baz=298,slow=5.0,SNR=6.4						
KEST				LR	LR	15 47 06.1	
	comp=Z,717nm,18.4s,baz=292,slow=36						
KEST	**Kesra**	**84.54**	**29**	*e*P	**P**	**15 08 25.5**	**-0.5**
	comp=Z,55nm,1.4s						
ANTO	**Ankara**	**84.94**	**10**	*e*P	**P**	**15 08 27.4**	**-0.5**
	comp=Z,104nm,1.6s						
ANTO				LR	LR		
	comp=Z,700nm,22.0s						

ANTO	**Ankara**	**84.94**	**10**	*e*P	**P**	**15 08 27.4**	**-0.5**
ANTO				pmax	pmax		
	comp=Z,100nm,1.6s						
ANTO	**Ankara**	**84.94**	**10**	P	**P**	**15 08 28.2**	**+0.3**
	SNR=7.0						
ANTO				P	**P**	**15 08 28.2**	**+0.3**
	SNR=7.0						
ANTO	**Ankara**	**84.94**	**10**	*e*P	**P**	**15 08 28.3**	**+0.3**
BR131	**Keskin Array S**	**85.16**	**9**	*e*P	**P**	**15 08 27.9**	**-1.2**
BR131	**Keskin Array S**	**85.16**	**9**	P	**P**	**15 08 28.8**	**-0.3**
	SNR=11						
BRTR	**Keskin Array B**	**85.16**	**9**	P	**P**	**15 08 28.6**	**-0.5**
	comp=Z,5.9nm,0.8s,baz=6.9,slow=2.9,SNR=34						
BRTR				PKKP	**PKKPdf**	**15 26 26.1**	**+3.0**
	comp=Z,0.3nm,0.5s,baz=129,slow=2.0,SNR=3.7						
BRTR				LR	LR	15 50 20.8	
	comp=Z,441nm,18.8s,baz=348,slow=38						
GNI	**Garni**	**85.26**	**0**	P	**P**	**15 08 30.3**	**+0.6**
	comp=Z,11nm,0.8s,baz=4.1,slow=10,SNR=6.6						
GNI	**Garni**	**85.26**	**0**	*e*P	**P**	**15 08 29.5**	**-0.1**
	comp=Z,28nm,1.2s						
GNI				LR	LR		
	comp=Z,700nm,21.0s						
GNI	**Garni**	**85.26**	**0**	*ce*P	**P**	**15 08 29.8**	**+0.2**
GNI				pmax	pmax		
	comp=Z,47nm,0.8s						
WDD	**Wied Dalam**	**85.78**	**25**	PFAKE		15 08 40.0	+8.0
WDD				LR	LR		
	comp=Z,1μm,19.0s						
MANT	**Manisa**	**85.81**	**13**	*e*P	**P**	**15 08 31.4**	**-1.1**
	comp=Z,162nm,1.4s						
ITM	**Ithomi**	**86.06**	**19**	PFAKE		15 08 40.0	+6.5
ITM				LR	LR		
	comp=Z,700nm,21.0s						
KMI	**Kunming**	**86.36**	**310**	P	**P**	**15 08 36.3**	**+0.9**
KMI				pP	pwP	15 08 41.3	-0.4
KMI				S	**S**	**15 19 08.8**	**-2.1**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KMI				pmax	pmax		
	comp=Z,75nm,3.7s						
KMI				LR	LR		
	comp=Z,610nm,17.6s						
KMI				LR	LR		
	comp=Z,1μm,16.2s						
KMI				LR	LR		
	comp=Z,1μm,14.1s						
KMI	**Kunming**	**86.36**	**310**	PFAKE		15 08 50.0	+15
KMI				LR	LR		
	comp=Z,1μm,22.0s						
ISP	**Isparta**	**86.72**	**12**	PFAKE		15 08 50.0	+13
ISP				LR	LR		
	comp=Z,700nm,21.0s						
GEYT	**Alibeck**	**86.83**	**350**	P	**P**	**15 08 36.9**	**-0.4**
	comp=Z,6.9nm,0.9s,baz=328,slow=5.3,SNR=12						
GEYT				LR	LR	15 52 59.1	
	comp=Z,565nm,18.8s,baz=355,slow=40						
GYA0B	**ALIBECK ARRAY**	**86.83**	**350**	*e*P	**P**	**15 08 36.2**	**-1.1**
	comp=Z,52nm,1.9s						
LSA	**Lhasa**	**86.96**	**321**	*e*P	**P**	**15 08 37.9**	**-0.7**
	comp=Z,12nm,1.0s						
LSA				LR	LR		
	comp=Z,1μm,18.0s						
LSA	**Lhasa**	**86.96**	**321**	*e*P	**P**	**15 08 37.9**	**-0.7**
LSA				pmax	pmax		
	comp=Z,11nm,1.0s						
SANT	**Santorini**	**87.45**	**16**	PFAKE		15 08 50.0	+10
SANT				LR	LR		
	comp=Z,500nm,20.0s						
QIZ	**Qiongzhong**	**88.27**	**301**	P	**P**	**15 08 42.8**	**-1.6**
QIZ				S	**S**	**15 19 26.9**	**-2.0**
QIZ				sS	**pS**	**15 19 32.5**	**-1.2**
QIZ				SS	**SS**	**15 25 16.3**	**-0.9**
QIZ				LR	LR		
	comp=Z,610nm,17.7s						
QIZ				LR	LR		
	comp=Z,880nm,19.8s						
QIZ				LR	LR		
	comp=Z,590nm,18.1s						
IDI	**Anoyia**	**88.42**	**17**	PFAKE		15 09 00.0	+15
IDI				LR	LR		
	comp=Z,400nm,20.0s						
KARP	**Karpathos**	**88.52**	**15**	PFAKE		15 09 00.0	+15
KARP				LR	LR		
	comp=Z,800nm,20.0s						
NIL	**Nilore**	**88.53**	**337**	*e*P	**P**	**15 08 44.7**	**-0.8**
	comp=Z,21nm,1.1s						
NIL				LR	LR		
	comp=Z,2μm,19.0s						
NIL	**Nilore**	**88.53**	**337**	*e*P	**P**	**15 08 44.7**	**-0.8**
NIL				pmax	pmax		
	comp=Z,21nm,1.1s						
KBL	**Kabul**	**88.55**	**341**	*e*P	**P**	**15 08 44.3**	**-1.5**
KBL				LR	LR		
	comp=Z,1μm,19.0s						
KBL	**Kabul**	**88.55**	**341**	*e*P	**P**	**15 08 44.3**	**-1.5**
DAV	**Davao City (W)**	**89.82**	**282**	*e*P	**P**	**15 08 51.6**	**-0.1**
CSS	**Mathiatis**	**89.85**	**10**	PFAKE		15 09 00.0	+8.4
CSS				LR	LR		
	comp=Z,500nm,21.0s						
LPAZ	**La Paz**	**90.42**	**118**	P	**P**	**15 08 53.5**	**-1.6**
	comp=Z,2.7nm,0.7s,baz=12,slow=3.6,SNR=9.6						
LPAZ				LR	LR	15 52 40.2	
	comp=Z,381nm,19.9s,baz=326,slow=38						
SHL	**Shillong**	**90.43**	**319**	PFAKE		15 09 10.0	+15
SHL				LR	LR		
	comp=Z,1μm,19.0s						
ASF	**Jabal al Asfar**	**92.92**	**7**	P	**P**	**15 09 06.2**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=270,slow=5.1,SNR=2.2						
CHTO	**Chiang Mai**	**93.56**	**310**	*e*P	**P**	**15 09 08.2**	**-0.9**
	comp=Z,30nm,1.6s						
CHTO				LR	LR		
	comp=Z,800nm,20.0s						
CHTO	**Chiang Mai**	**93.56**	**310**	*e*P	**P**	**15 09 08.2**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,30nm,1.6s						
CHTO	**Chiang Mai**	**93.56**	**310**	*e*P	**P**	**15 09 09.2**	**+0.2**
CM31	**Chiang Mai Arr**	**93.87**	**310**	*e*P	**P**	**15 09 10.3**	**-0.2**
CM31	**Chiang Mai Arr**	**93.87**	**310**	P	**P**	**15 09 11.1**	**+0.6**
	SNR=13						
CMAR	**Chiang Mai Arr**	**93.87**	**310**	P	**P**	**15 09 11.1**	**+0.6**
	comp=Z,11nm,0.8s,baz=9.5,slow=4.8,SNR=77						
CMAR				LR	LR	15 54 44.6	
	comp=Z,898nm,19.5s,baz=26,slow=38						
CM01	**Chiang Mai Arr**	**93.90**	**310**	*e*P	**P**	**15 09 10.6**	**0.0**
PBKT	**Sadao Pong**	**94.62**	**307**	*e*P	**P**	**15 09 13.6**	**-0.3**
EIL	**Elat**	**95.25**	**9**	P	**P**	**15 09 16.4**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=351,slow=13,SNR=2.8						
PB10	**IPOC Station P**	**95.34**	**124**	PFAKE		15 09 30.0	+13
PB10				LR	LR		
	comp=Z,600nm,18.0s						
LVC	**Limon Verde**	**95.37**	**122**	*e*P	**P**	**15 09 20.2**	**+2.7**
TAM	**Tamanrasset**	**95.41**	**36**	PFAKE		15 09 30.0	+12
TAM				LR	LR		
	comp=Z,800nm,20.0s						
RCBR	**Riachuelo**	**99.79**	**86**	PFAKE		15 09 50.0	+13
RCBR				LR	LR		
	comp=Z,2μm,18.0s						
RAYN	**Ar Rayn**	**101.84**	**360**	PFAKE		15 10 00.0	+14
RAYN				LR	LR		
	comp=Z,400nm,21.0s						
PBA	**Port Blair**	**102.61**	**312**	PFAKE		15 10 00.0	+10
PBA				LR	LR		
	comp=Z,700nm,20.0s						
TORD	**Torodi Ar. Bea**	**102.83**	**44**	Pdiff	**Pdif**	**15 09 53.8**	**+3.0**
	comp=Z,0.9nm,1.1s,baz=342,slow=1.9,SNR=6.2						
TORD				PP	**PP**	**15 14 07.5**	**+3.5**
	comp=Z,1.3nm,1.1s,baz=329,slow=10,SNR=3.7						
WRA	**Warramunga Arr**	**106.63**	**259**	PKiKP	**PKiKP**	**15 14 17.5**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=23,slow=1.8,SNR=4.5						
SPB	**Sao Paulo**	**107.44**	**106**	PFAKE		15 14 30.0	+11
SPB				LR	LR		
	comp=Z,1μm,22.0s						
PSI	**Prapat**	**107.58**	**302**	PFAKE		15 14 30.0	+10
PSI				LR	LR		
	comp=Z,500nm,21.0s						
GO06	**Curarrehue**	**108.52**	**133**	PFAKE		15 14 30.0	+9.0
GO06				LR	LR		
	comp=Z,400nm,20.0s						
ASAR	**Alice Springs**	**109.82**	**257**	PKiKP	**PKiKP**	**15 14 23.9**	**0.0**
	comp=Z,0.6nm,0.9s,baz=19,slow=1.8,SNR=3.9						
DAMY	**Dhamar**	**110.74**	**1**	PFAKE		15 14 40.0	+14
DAMY				LR	LR		
	comp=Z,400nm,19.0s						
PALK	**Pallekele**	**111.33**	**322**	PFAKE		15 14 40.0	+13
PALK				LR	LR		

	comp=Z,600nm,20.0s						
ASCN	**Ascension**	**113.61**	**69**	PFAKE		15 14 40.0	+8.7
ASCN				LR	LR		
	comp=Z,9μm,22.0s						
ATD	**Arta Tunnel**	**113.73**	**3**	PFAKE		15 14 40.0	+8.3
ATD				LR	LR		
	comp=Z,300nm,18.0s						
MBAR	**Mbarara**	**124.52**	**18**	PFAKE		15 15 00.0	+7.1
MBAR				LR	LR		
	comp=Z,400nm,19.0s						
KMBO	**Kilima Mbogo**	**125.94**	**10**	PKP	**PKPdf**	**15 14 53.7**	**-1.7**
	comp=Z,2.0nm,0.6s,baz=12,slow=8.0,SNR=6.6						
KMBO	**Kilima Mbogo**	**125.94**	**10**	*e*PKPdf	**PKPdf**	**15 14 53.7**	**-1.7**
KMBO				LR	LR		
	comp=Z,400nm,22.0s						
VNDA	**Vanda**	**137.84**	**197**	PKP	**PKPdf**	**15 15 15.6**	**0.0**
	comp=Z,1.9nm,1.0s,baz=31,slow=5.9,SNR=9.0						
LSZ	**Lusaka**	**138.23**	**25**	PFAKE		15 15 30.0	+10
LSZ				LR	LR		
	comp=Z,600nm,18.0s						
TSUM	**Tsumeb**	**138.55**	**42**	PFAKE		15 15 30.0	+9.1
TSUM				LR	LR		
	comp=Z,700nm,20.0s						
QSPA	**South Pole Qui**	**144.77**	**180**	PKPbc	**PKPdf**	**15 15 28.4**	**+0.1**
	comp=Z,30nm,0.7s,baz=95,slow=0.8,SNR=169						
BOSA	**Boshof**	**149.94**	**37**	PKPbc	**PKPbc**	**15 15 42.9**	**-0.2**
	comp=Z,3.7nm,0.7s,baz=350,slow=3.6,SNR=3.5						
BOSA				PKPab	**PKPab**	**15 15 48.8**	**0.0**
	comp=Z,13nm,1.0s,baz=8.9,slow=2.0,SNR=8.3						
BOSA	**Boshof**	**149.94**	**37**	*e*P	**PKPbc**	**15 15 41.0**	**-2.1**
VNA3	**Neumayer Olymp**	**151.65**	**146**	P	**PKPbc**	**15 15 45.0**	**-0.7**
VNA1	**Neumayer--Stat**	**152.17**	**145**	P	**PKPbc**	**15 15 46.5**	**-0.3**
VNA2	**Neumayer--Watz**	**152.43**	**146**	P	**PKPbc**	**15 15 46.6**	**-0.8**
	baz=311,slow=6.2						
SNAA	**Sanae**	**153.73**	**148**	PFAKE		15 15 50.0	-0.3
SNAA				LR	LR		
	comp=Z,500nm,19.0s						
SYO	**Syowa Base**	**165.66**	**172**	⇓*e*P	PKPab	15 17 03.8	+8.7

IDC 14 15:03:08.9±10.0, **23.52S**×**179.68W**, **h450**km±95km, **mb3.3**/4, **mb1 3.4**/5, **mb1mx3.1**/38, **mbtmp4.2**/5, **Error ellipse: s-maj=82.8km s-min=24.7km az=43.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.95**	**190**	P	P	15 06 19.0	-0.3
	1.9nm,0.3s,baz=306,slow=0.7,SNR=13						
URZ				S	S	15 08 48.4	-8.3
	0.2nm,0.3s,baz=0.0,slow=3.0,SNR=4.1						
CTA	**Charters Tower**	**31.77**	**270**	P	P	15 08 56.1	+1.3
	3.3nm,0.3s,baz=90,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**42.38**	**260**	P	P	15 10 22.0	-0.6
	0.5nm,0.4s,baz=94,slow=7.6,SNR=10						
WRA	**Warramunga Arr**	**42.72**	**266**	P	P	15 10 24.5	-0.8
	1.1nm,0.5s,baz=97,slow=8.4,SNR=16						
QSPA	**South Pole Qui**	**66.56**	**180**	P	P	15 13 12.9	0.0
	1.2nm,0.6s,baz=37,slow=10,SNR=7.5						
HFS	**Hagfors**	**142.23**	**349**	PKP	PKPdf	15 21 47.3	-1.3
	0.9nm,0.3s,baz=40,slow=2.5,SNR=8.3						
AKASG	**Malin Array Be**	**144.81**	**328**	PKP	PKPab	15 21 54.0	-0.2
	0.8nm,0.4s,baz=44,slow=4.0,SNR=5.7						

*ISCJB **14** 15:09:42.5±0.6, 81.47N±0.08×2.0W±0.6, h10km, mb3.5/11, Error ellipse: s-maj=15.5km s-min=6.6km az=135.9*
*IDC **14** 15:09:42.5±0.9, 81.47N×3.29W, h0km, mb3.4/12, mb1 3.6/14, mb1mx3.5/39, mbtmp3.5/14, ML3.5/2, Error ellipse: s-maj=28.1km s-min=15.5km az=50.0*
*BER **14** 15:09:43.8±3.7, 81.95N×1.41W, h10km, ML2.0, ML3.1(NAO), Confirmed Earthquake*
*IEPN **14** 15:09:45.0, 81.39N×1.97W, h15km, station ZFI2 has station magnitude of 2.82*

ISC 14 15:09:44.1±0.7, **81.57N**±0.07×**1.75W**±0.09, **h10**km, **n27**, σ**1°25**/36, **mb3.5**/11, **1D, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**3.52**	**132**	Pn	**Pn**	**15 10 39.0**	**+0.3**
KBS				Sn	**Sn**	**15 11 22.1**	**+1.8**
KBS	**Kingsbay**	**3.52**	**132**	*e*P	**Pn**	**15 10 38.3**	**-0.5**
KBS				*e*S	**Sn**	**15 11 17.7**	**-2.6**
KBS	**Kingsbay**	**3.52**	**132**	*e*P	**Pn**	**15 10 38.2**	**-0.5**
KBS				*e*S	**Sn**	**15 11 17.8**	**-2.6**
KBS				IAML		15 11 21.8	
	comp=Z,9.3nm,0.5s						
SPA0	**Spitsbergen Ar**	**4.64**	**128**	Pn	**Pn**	**15 10 54.1**	**-0.1**
	baz=349,slow=9.3						
SPA0				Sn	**Sn**	**15 11 46.9**	**-1.1**
SPA0	**Spitsbergen Ar**	**4.64**	**128**	Pn	**Pn**	**15 10 54.1**	**-0.1**
	baz=349,slow=9.3						
SPA0				*e*S	**Sn**	**15 11 46.3**	**-1.8**
SPITS	**Spitsbergen Ar**	**4.64**	**128**	Pn	**Pn**	**15 10 54.1**	**-0.1**
	baz=14,slow=10,SNR=29						
SPITS				Sn	**Sn**	**15 11 47.0**	**-1.1**
	baz=339,slow=16,SNR=1.5						
HSP	**Hornsund**	**5.56**	**136**	Pn	**Pn**	**15 11 07.0**	**+0.1**
HSP				Sn	**Sn**	**15 12 10.6**	**-0.1**
HSPB	**Hornsund (broa**	**5.57**	**136**	*e*P	**Pn**	**15 11 07.0**	**+0.1**
HSPB				*e*S	**Sn**	**15 12 11.4**	**+0.7**
ZFI2	**Zemlya Franca-**	**7.42**	**71**	⇓*i*P	**Pn**	**15 11 32.7**	**+0.4**
	comp=Z,1μm,1.0s						
ZFI2				*e*S	**Sn**	**15 12 53.3**	**-3.1**
SUMG	**Summit**	**11.83**	**241**	*i* P	Pn	15 12 25.1	-7.9
SUMG				*e*S	Sn	15 14 19.8	-25
ARA0	**ARCESS Array S**	**13.59**	**137**	Pn	**Pn**	**15 12 55.6**	**-0.9**
	baz=339,slow=14						
ARA0	**ARCESS Array S**	**13.59**	**137**	P	**Pn**	**15 12 55.6**	**-0.9**
	baz=339,slow=14						
ARCES	**ARCESS Array B**	**13.59**	**137**	Pn	**Pn**	**15 12 57.4**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=358,slow=15,SNR=4.8						
NOA	**NORSAR Array B**	**20.93**	**162**	P	**P**	**15 14 25.9**	**-0.6**
	comp=Z,1.3nm,1.1s,baz=348,slow=10,SNR=3.3						
FINES	**FINESS Array B**	**21.55**	**142**	P	**P**	**15 14 34.4**	**+1.4**
	comp=Z,2.1nm,0.8s,baz=2.2,slow=7.4,SNR=3.1						
HFS	**Hagfors**	**21.96**	**159**	P	**P**	**15 14 38.4**	**+0.9**
	baz=333,slow=4.4						
HFS	**Hagfors**	**21.96**	**159**	P	**P**	**15 14 37.8**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=353,slow=5.8,SNR=3.2						
YKA	**Yellowknife Ar**	**31.86**	**306**	P	**P**	**15 16 07.9**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=351,slow=7.6,SNR=3.0						
YKA				PcP	**PcP**	**15 18 58.5**	**-0.3**
	comp=Z,0.5nm,1.0s,baz=23,slow=3.4,SNR=3.9						
AKASG	**Malin Array Be**	**32.46**	**142**	P	**P**	**15 16 14.3**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=349,slow=9.3,SNR=1.4						
ILAR	**Eielson Array**	**32.68**	**333**	P	**P**	**15 16 16.1**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=7.6,slow=8.2,SNR=4.1						
GERES	**GERESS Array B**	**33.23**	**161**	P	**P**	**15 16 20.9**	**0.0**

SPA0					Sn	**Sn**	**15 13 25.9**	**-0.2**
	baz=342,slow=12								
SPA0	**Spitsbergen Ar**	**4.49**	**129**		Pn	**Pn**	**15 12 34.4**	**+0.5**
	baz=344,slow=10								
SPA0					Sn	**Sn**	**15 13 25.9**	**-0.2**
	baz=342,slow=12								
SPITS	**Spitsbergen Ar**	**4.49**	**129**		Pn	**Pn**	**15 12 34.2**	**+0.3**
	baz=313,slow=9.6,SNR=13								
SPITS					Sn	**Sn**	**15 13 25.7**	**-0.4**
	baz=310,slow=24,SNR=1.8								
HSP	**Hornsund**	**5.42**	**138**		Pn	**Pn**	**15 12 47.2**	**+0.6**
HSP					Sn	**Sn**	**15 13 49.7**	**+0.7**
HSPB	**Hornsund (broa**	**5.42**	**138**	*eP*		**Pn**	**15 12 47.1**	**+0.4**
HSPB				*eS*		**Sn**	**15 13 49.6**	**+0.6**
HSPB				IAML			15 13 53.2	
	comp=Z,3.8nm,0.6s								
ZFI2	**Zemlya Franca-**	**7.30**	**71**	*eP*		**Pn**	**15 13 13.2**	**+0.7**
	comp=Z,1μm,1.0s								
ZFI2				*eS*		**Sn**	**15 14 32.4**	**-2.9**
ARA0	**ARCESS Array S**	**13.44**	**138**		Pn	**Pn**	**15 14 35.9**	**-0.6**
	baz=350,slow=10								
ARA0	**ARCESS Array S**	**13.44**	**138**		Pn	**Pn**	**15 14 35.9**	**-0.6**
	baz=350,slow=10								
ARCES	**ARCESS Array B**	**13.44**	**138**		Pn	**Pn**	**15 14 36.9**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=349,slow=14,SNR=2.7								
NOA	**NORSAR Array B**	**20.83**	**163**		P	**P**	**15 16 07.0**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=353,slow=11,SNR=2.8								
NRA0	**NORESS Array S**	**21.15**	**163**		P	**P**	**15 16 10.3**	**-0.3**
	baz=16,slow=6.9								
NRA0	**NORESS Array S**	**21.15**	**163**		P	**P**	**15 16 10.3**	**-0.3**
	baz=16,slow=6.9								
FINES	**FINESS Array B**	**21.41**	**144**		P	**P**	**15 16 14.4**	**+1.0**
	comp=Z,2.2nm,0.9s,baz=342,slow=13,SNR=2.6								
HFS	**Hagfors**	**21.85**	**160**		P	**P**	**15 16 18.6**	**+0.5**
HFS	**Hagfors**	**21.85**	**160**		P	**P**	**15 16 18.1**	**-0.1**
	comp=Z,3.6nm,0.9s,baz=354,slow=4.3,SNR=3.5								
HFS	**Hagfors**	**21.85**	**160**		P	**P**	**15 16 18.6**	**+0.5**
MKAR	**Makanchi Array**	**43.04**	**88**		P	**P**	**15 19 27.9**	**+2.6**
	comp=Z,0.2nm,0.5s,baz=340,slow=7.8,SNR=3.2								
TORD	**Torodi Ar. Bea**	**68.39**	**177**		P	**P**	**15 22 25.4**	**-2.1**
	comp=Z,0.5nm,0.7s,baz=344,slow=4.7,SNR=3.6								

IDC 14 15:28:34.4±2.8,**6°27S**×**130°19E**,**h124**km±37km,**mb3.5**/1,
mb1 3.5/5,**mb1mx3.2**/28,**mbtmp3.8**/5,**Error ellipse:**
s-maj=79.2km s-min=20.6km az=88.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.47**	**11**	P	Pn	15 29 54.0	+0.2
	3.3nm,0.3s,baz=195,slow=19,SNR=31						
SIJI				S	Sn	15 30 51.1	-4.6
	1.7nm,0.3s,baz=241,slow=23,SNR=9.1						
FITZ	**Fitzroy Crossi**	**12.56**	**200**	P	Pn	15 31 28.5	-0.4
	0.1nm,0.3s,baz=27,slow=11,SNR=30						
FITZ				S	Sn	15 33 39.0	-8.3
	0.2nm,0.3s,baz=345,slow=19,SNR=3.5						
WRA	**Warramunga Arr**	**14.17**	**164**	P	Pn	15 31 48.8	-0.8
	0.1nm,0.3s,baz=350,slow=13,SNR=4.6						
WRA				S	Sn	15 34 15.9	-10
	0.4nm,0.3s,baz=334,slow=22,SNR=6.9						
ASAR	**Alice Springs**	**17.66**	**169**	P	Pn	15 32 32.8	+0.1
	0.2nm,0.3s,baz=349,slow=11,SNR=22						
ASAR				S	S	15 35 40.3	-8.9
	0.1nm,0.3s,baz=351,slow=26,SNR=3.9						
MKAR	**Makanchi Array**	**67.73**	**327**	P		15 39 18.5	0.0
	0.5nm,0.4s,baz=116,slow=7.9,SNR=14						

IDC 14 15:46:55.7±3.3,**22°24S**×**176°21W**,**h0**km,**mb3.7**/3,
mb1 3.9/3,**mb1mx3.6**/27,**mbtmp3.7**/3,**Error ellipse:**
s-maj=161.6km s-min=42.8km az=145.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.58**	**246**	P	P	15 54 20.7	+0.2
	1.9nm,1.0s,baz=86,slow=14,SNR=3.0						
ASAR	**Alice Springs**	**45.77**	**258**	P	P	15 55 19.2	-0.1
	0.5nm,0.5s,baz=97,slow=7.1,SNR=22						
ASAR				PcP	PcP	15 56 57.2	0.0
	0.4nm,0.9s,baz=110,slow=4.1,SNR=4.1						
WRA	**Warramunga Arr**	**46.03**	**263**	P	P	15 55 21.0	-0.5
	0.2nm,0.4s,baz=103,slow=8.7,SNR=5.2						
AKASG	**Malin Array Be**	**145.34**	**331**	PKPbc	PKPbc	16 06 34.5	-0.7
	0.2nm,0.3s,baz=42,slow=4.6,SNR=2.8						
BRTR	**Keskin Array B**	**149.24**	**311**	PKPbc	PKPbc	16 06 45.9	-0.9
	0.4nm,0.7s,baz=121,slow=5.6,SNR=2.8						

*ISCJB **14** 15:56:09.3±0.7, 14°.78S±0°.07×71°.80W±0°.09, h10km, mb3.5/4, MS3.9/1, Error ellipse: s-maj=14.2km s-min=7.2km az=143.6*
*IDC **14** 15:56:09.7±1.1, 14°.73S×71°.70W, h0km, mb3.6/4, mb1 4.0/7, mb1mx3.8/32, mbtmp3.8/7, ML3.0/3, MS3.5/4, Ms1 3.5/4, ms1mx3.2/28, Error ellipse: s-maj=32.3km s-min=20.9km az=52.0*
ISC 14 15:56:11.0±0.7,**14°.71S**±0°.10×**71°.71W**±0°.10,**h10**km,**n11,**
σ0s83/11,mb3.7/4,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.79**	**115**	Pg	**Pb**	**15 57 17.7**	**-0.7**
	0.9nm,0.3s,baz=292,slow=16,SNR=19						
LPAZ				Lg	Lg	15 58 12.7	
	0.6nm,0.3s,baz=234,slow=19,SNR=1.9						
NNA	**Nana**	**5.68**	**298**	Pn	**Pn**	**15 57 35.7**	**+0.2**
	0.8nm,0.3s,baz=108,slow=20,SNR=2.4						
NNA				Sn	**Sn**	**15 58 40.1**	**-0.7**
	1.8nm,0.3s,baz=230,slow=17,SNR=1.9						
NNA				LR	LR	15 59 21.0	
	comp=Z,100nm,18.3s,baz=346,slow=34						
LVC	**Limon Verde**	**8.29**	**162**	Pn	**Pn**	**15 58 11.9**	**+0.2**
	0.8nm,0.3s,baz=325,slow=6.2,SNR=6.1						
LVC				Sn	**Sn**	**15 59 45.9**	**+0.3**
	0.3nm,0.3s,baz=252,slow=20,SNR=1.9						
ATAH	**Atahualpa**	**9.98**	**318**	LR	LR	16 03 13.9	
	comp=Z,315nm,19.8s,baz=38,slow=42						
PTGA	**Pitinga**	**18.11**	**41**	P	**P**	**16 00 23.6**	**+0.5**
	0.0nm,0.3s,baz=235,slow=11,SNR=7.4						
PTGA				LR	LR	16 07 33.3	
	comp=Z,268nm,19.8s,baz=31,slow=38						
PLCA	**Paso Flores**	**25.94**	**178**	P	**P**	**16 01 43.9**	**+0.2**
	1.8nm,1.0s,baz=328,slow=19,SNR=3.3						
TXAR	**Lajitas Array**	**53.57**	**325**	P	**P**	**16 05 32.8**	**+0.4**
	0.6nm,0.7s,baz=143,slow=6.5,SNR=5.1						
TORD	**Torodi Ar. Bea**	**77.75**	**73**	P	**P**	**16 08 09.5**	**+0.6**
	0.3nm,0.6s,baz=261,slow=6.7,SNR=2.7						
RAR	**Rarotonga**	**83.03**	**250**	LR	LR	16 35 12.9	
	comp=Z,54nm,19.3s,baz=229,slow=28						
YKA	**Yellowknife Ar**	**83.94**	**341**	P	**P**	**16 08 41.1**	**+0.3**
	0.3nm,0.7s,baz=134,slow=5.5,SNR=8.2						
ZALV	**Zalesovo Beam**	**136.74**	**20**	PKP	**PKiKP**	**16 15 33.5**	**-1.8**
	0.5nm,0.6s,baz=343,slow=2.0,SNR=2.8						

*ISK **14** 15:58:40.5, 39°.64N×25°.63E, h8km, ML2.8/19*
*ATH **14** 15:58:40.8, 39°.64N×25°.57E, h28km±1km, ML2.3/6, Error ellipse: s-maj=2.3km s-min=0.8km az=234.0*
*ISCJB **14** 15:58:41.1±0.5, 39°.65N±0°.02×25°.63E±0°.03, h8km±4km, Error ellipse: s-maj=4.5km s-min=3.0km az=159.5*
*THE **14** 15:58:41.7, 39°.66N×25°.64E, h10km±1km, ML2.2/7, Error ellipse: s-maj=1.7km s-min=0.7km az=75.0*
*DDA **14** 15:58:42.8, 39°.58N×25°.95E, h8km±4km, ML2.6*
ISC 14 15:58:41.3±1.0,**39°.64N**±0°.02×**25°.63E**±0°.02,**h10**km±9km,
n52,σ0s52/74,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOZC	**Bozcaada**	**0.39**	**58**	PG	**Pg**	**15 58 48.5**	**-0.4**
BOZC				SG	**Sg**	**15 58 53.9**	**-0.1**
BOZC	**Bozcaada**	**0.39**	**58**	IAML_P			
	comp=Z,4μm,0.2s						
BOZC				*i* P	**Pg**	**15 58 48.9**	**0.0**
LIA	**Limnos Island**	**0.43**	**307**	P	**Pg**	**15 58 50.0**	**+0.3**
LIA				S	**Sg**	**15 58 56.1**	**+0.7**
LIA				AML	AML	15 59 01.0	
	comp=N,384μm,0.3s						
LIA				AML	AML	15 59 01.8	
	comp=E,656μm,0.4s						
LIA	**Limnos Island**	**0.43**	**307**	P	**Pg**	**15 58 50.0**	**+0.3**
LIA				S	**Sg**	**15 58 56.1**	**+0.7**
GPNR	**Gulpinar-Canak**	**0.43**	**115**	PG	**Pg**	**15 58 49.9**	**+0.1**
SIGR	**SIGRI**	**0.46**	**158**	PG	**Pg**	**15 58 50.3**	**-0.1**
SIGR				SG	**Sg**	**15 58 56.2**	**-0.3**
SIGR	**SIGRI**	**0.46**	**158**	P	**Pg**	**15 58 50.5**	**+0.1**
SIGR				S	**Sb**	**15 58 57.8**	**-0.7**
SIGR				AML	AML	15 58 58.2	
	comp=E,1807μm,0.5s						
SIGR				AML	AML	15 58 58.4	
	comp=N,2218μm,0.4s						
SIGR	**SIGRI**	**0.46**	**158**	P	**Pg**	**15 58 50.5**	**+0.1**
SIGR				S	**Sb**	**15 58 57.9**	**-0.7**
EZN	**Ezine**	**0.57**	**71**	PG	**Pg**	**15 58 51.9**	**-0.5**
EZN	**Ezine**	**0.57**	**71**	P	**Pg**	**15 58 51.9**	**-0.5**
EZN				S	**Sg**	**15 58 59.5**	**-0.4**
GADA	**Gvkgeada**	**0.59**	**21**	PG	**Pg**	**15 58 52.2**	**-0.6**
GADA	**Gvkgeada**	**0.59**	**21**	P	**Pg**	**15 58 52.2**	**-0.6**
GADA				S	**Sg**	**15 59 00.7**	**+0.2**
GOKC	**Gokceada-Canak**	**0.60**	**22**	PG	**Pg**	**15 58 53.3**	**+0.3**
PRK	**Paraskevi**	**0.64**	**128**	P	**Pb**	**15 58 54.6**	**+0.1**
PRK				S	**Sb**	**15 59 04.6**	**+1.1**
PRK				AML	AML	15 59 07.5	
	comp=E,932μm,0.6s						
PRK				AML	AML	15 59 08.6	
	comp=N,949μm,0.4s						
PRK	**Paraskevi**	**0.64**	**128**	P	**Pb**	**15 58 54.9**	**+0.3**
PRK				S	**Sb**	**15 59 04.0**	**+0.5**
BAYC	**CANAKKALE_Bayr**	**0.72**	**82**	IAML_P			
	comp=Z,4μm,0.2s						
BAYC				*i* P	**Pg**	**15 58 55.4**	**+0.2**
BAYC				*i* S	**Sb**	**15 59 05.5**	**-0.3**
SMTH	**Samothraki Isl**	**0.83**	**355**	P	**Pg**	**15 58 57.0**	**-0.4**
SMTH				S	**Sg**	**15 59 08.5**	**+0.2**
SMTH				AML	AML	15 59 10.4	
	comp=N,264μm,0.4s						
SMTH				AML	AML	15 59 10.4	
	comp=E,289μm,0.4s						
SMTH	**Samothraki Isl**	**0.83**	**355**	P	**Pg**	**15 58 57.0**	**-0.4**
SMTH				S	**Sb**	**15 59 10.1**	**+0.9**
AYVA	**Ayvalik**	**0.89**	**112**	*i* P	**Pg**	**15 58 57.6**	**-0.8**
AYVA				*i* S	**Sn**	**15 59 13.8**	**+0.6**
GELI	**Tayfur-Gelibol**	**1.00**	**40**	PG	**Pg**	**15 58 59.9**	**-0.6**
LPK	**Lapseki**	**1.14**	**50**	PN	**Pb**	**15 59 02.9**	**-0.2**
DKL	**Dikili**	**1.14**	**119**	PN	**Pn**	**15 59 03.6**	**+0.2**
ENEZ	**Enez**	**1.17**	**20**	PN	**Pb**	**15 59 03.3**	**-0.3**
THAS	**Thassos island**	**1.19**	**324**	P	**Pb**	**15 59 03.4**	**-0.6**
THAS				S	**Sb**	**15 59 18.8**	**-0.7**
THAS	**Thassos island**	**1.19**	**324**	P	**Pb**	**15 59 03.5**	**-0.5**
THAS				S	**Sb**	**15 59 19.8**	**+0.4**
ERIK	**Erikli-Kesan**	**1.23**	**33**	PN	**Pn**	**15 59 04.4**	**-0.2**
FOCM	**Foa**	**1.26**	**137**	PN	**Pn**	**15 59 04.9**	**-0.2**
KRBN	**Karaburun**	**1.27**	**145**	PN	**Pn**	**15 59 05.2**	**0.0**
ALN	**Alexandroupoli**	**1.29**	**14**	PN	**Pn**	**15 59 04.1**	**-1.4**
ALN	**Alexandroupoli**	**1.29**	**14**	P	**Pn**	**15 59 04.9**	**-0.5**
ALN				S	**Sb**	**15 59 22.4**	**-0.1**
ALN				AML	AML	15 59 28.6	
	comp=E,76μm,0.6s						
ALN				AML	AML	15 59 33.8	
	comp=N,87μm,0.6s						
ALN	**Alexandroupoli**	**1.29**	**14**	P	**Pn**	**15 59 05.0**	**-0.5**
ALN				S	**Sb**	**15 59 22.4**	**-0.1**
CHOS	**Chios island**	**1.30**	**165**	PN	**Pn**	**15 59 04.3**	**-1.3**
CHOS	**Chios island**	**1.30**	**165**	P	**Pn**	**15 59 04.9**	**-0.7**
CHOS				S	**Sb**	**15 59 22.7**	**+0.1**
CHOS				AML	AML	15 59 25.4	
	comp=N,298μm,0.4s						
CHOS				AML	AML	15 59 27.5	
	comp=E,570μm,0.6s						
CHOS	**Chios island**	**1.30**	**165**	P	**Pn**	**15 59 05.2**	**-0.4**
CHOS				S	**Sb**	**15 59 22.5**	**-0.1**
KESN	**Edirne-Kesan**	**1.43**	**34**	IAML_P			
	comp=Z,262nm,0.3s						
KESN				*i* P	**Pb**	**15 59 08.9**	**+0.5**
KESN				*i* S	**Sg**	**15 59 28.0**	**+0.5**
AOS	**Alonnisos**	**1.43**	**251**	PN	**Pn**	**15 59 07.7**	**+0.3**
URLA	**Izmir**	**1.48**	**149**	PN	**Pn**	**15 59 07.9**	**-0.3**
URLA	**Izmir**	**1.48**	**149**	IAML_P			
	comp=Z,640nm,0.2s						
URLA				*i* P	**Pn**	**15 59 08.8**	**+0.6**
URLA				*i* S	**Sn**	**15 59 27.4**	**-0.2**
KRBG	**Karabiga-Canak**	**1.49**	**59**	PN	**Pn**	**15 59 08.2**	**+0.1**
RDO	**Rodhopi**	**1.50**	**357**	PN	**Pn**	**15 59 07.9**	**-0.5**
RDO	**Rodhopi**	**1.50**	**357**	P	**Pn**	**15 59 09.0**	**+0.6**
KAVA	**Kavala**	**1.60**	**328**	P	**Pn**	**15 59 09.3**	**-0.4**
KAVA	**Kavala**	**1.60**	**328**	P	**Pn**	**15 59 09.3**	**-0.4**
GONE	**Gonen-Balikesi**	**1.64**	**75**	PN	**Pn**	**15 59 10.4**	**+0.2**
BALB	**Balikesir**	**1.74**	**89**	PN	**Pn**	**15 59 11.6**	**0.0**
MRMT	**Marmara Adasi**	**1.79**	**57**	PN	**Pn**	**15 59 12.4**	**0.0**
EDC	**Edincik**	**1.86**	**67**	PN	**Pn**	**15 59 13.8**	**+0.5**
SBT4	**Kumbag-Tekirda**	**1.88**	**50**	PN	**Pn**	**15 59 14.1**	**+0.7**
KCTX	**Karacabey (Bur**	**2.19**	**73**	PN	**Pn**	**15 59 17.9**	**+0.1**
DURS	**Dursunbey**	**2.20**	**90**	IAML_P			
	comp=Z,223nm,0.2s						
DURS				*i* P	**Pn**	**15 59 18.5**	**+0.5**
EDRB	**Edirne**	**2.36**	**21**	PN	**Pn**	**15 59 20.8**	**+0.6**
ARMT	**Armutlu**	**2.65**	**69**	PN	**Pn**	**15 59 24.8**	**+0.7**

*IDC **14** 15:59:39.9±0.9, 12°.45N×143°.81E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.6/47, mbtmp3.6/6, Error ellipse: s-maj=37.5km s-min=16.2km az=124.0*
*ISCJB **14** 15:59:42.4±0.8, 12°.4N±0°.1×143°.8E±0°.2, h27km, mb3.5/6, Error ellipse: s-maj=31.6km s-min=9.6km az=39.6*
ISC 14 15:59:44.0±0.9,**12°.4N**±0°.2×**143°.8E**±0°.2,**h27**km,**n10,**
σ0s48/8,mb3.6/6,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.54**	**42**	Pn	**Pn**	**16 00 09.7**	**0.0**
	17nm,0.3s,baz=196,slow=18,SNR=13						
GUMO				Sn	**Sn**	**16 00 29.1**	**+0.2**
	36nm,0.3s,baz=247,slow=7.7,SNR=8.8						
GUMO				LR	LR	16 00 54.9	
	comp=Z,174nm,18.9s,baz=246,slow=49						
H11N1	**WAKE ISLAND Hy**	**23.31**	**69**	T	T	16 29 03.5	
	baz=255,slow=74						
H11N2	**WAKE ISLAND Hy**	**23.32**	**69**	T	T	16 29 04.1	
	baz=255,slow=74						
H11N3	**WAKE ISLAND Hy**	**23.33**	**69**	T	T	16 29 04.2	
	baz=255						
WRA	**Warramunga Arr**	**33.50**	**196**	P	**P**	**16 06 21.2**	**-0.2**
	1.5nm,0.6s,baz=20,slow=9.8,SNR=19						
ASAR	**Alice Springs**	**37.17**	**195**	P	**P**	**16 06 53.0**	**+0.1**
	0.2nm,0.4s,baz=19,slow=13,SNR=15						
CMAR	**Chiang Mai Arr**	**43.57**	**284**	P	**P**	**16 07 46.3**	**+0.2**
	0.2nm,0.3s,baz=74,slow=9.5,SNR=3.9						
ILAR	**Eielson Array**	**70.05**	**25**	P	**P**	**16 10 52.4**	**-0.9**
	0.2nm,0.7s,baz=246,slow=5.9,SNR=3.1						
YKA	**Yellowknife Ar**	**84.35**	**27**	P	**P**	**16 12 13.8**	**+0.3**
	0.2nm,0.3s,baz=287,slow=5.2,SNR=4.2						
NVAR	**Mina Array Bea**	**88.44**	**51**	P	**P**	**16 12 34.9**	**+0.5**
	0.2nm,0.3s,baz=293,slow=4.7,SNR=2.7						

*IDC **14** 16:07:15.0±0.8, 3°.89S×126°.09E, h0km, mb4.0/8, mb1 4.1/10, mb1mx3.9/38, mbtmp4.0/10, ML3.6/2, MS3.6/1, Ms1 3.6/1, ms1mx2.7/41, Error ellipse: s-maj=34.2km s-min=16.2km az=60.0*
*ISCJB **14** 16:07:17.0±0.3, 3°.98S±0°.04×126°.13E±0°.05, h33km, mb4.1/11, MS3.6/1, Error ellipse: s-maj=7.3km s-min=5.9km az=150.1*
*NEIC **14** 16:07:18.6±2.8, 3°.99S×126°.09E, h29km±22km, mb4.1/7, Error ellipse: s-maj=14.1km s-min=7.5km az=58.0*
ISC 14 16:07:19.3±0.6,**3°.99S**±0°.08×**126°.11E**±0°.07,**h35**km,**n33,**
σ1s10/36,mb4.1/11,2C-1D,Buru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**4.44**	**311**	*e*Pn	**Pn**	**16 08 23.1**	**-1.1**
TNTI	**Ternate**	**4.90**	**15**	*e*Pn	**Pn**	**16 08 31.0**	**+0.5**
SIJI	**Sorong**	**6.01**	**59**	Pn	**Pn**	**16 08 45.5**	**-0.3**
	4.4nm,0.3s,baz=212,slow=15,SNR=22						
SIJI				Sn	**Sn**	**16 09 53.4**	**-0.2**
	2.4nm,0.3s,baz=344,slow=22,SNR=9.3						
FAKI	**Fak Fak**	**6.22**	**80**	*e*Pn	**Pn**	**16 08 48.5**	**-0.2**
JAGI	**Jajag, Banyuwa**	**12.69**	**249**	*e*Pn	**Pn**	**16 10 17.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**14.03**	**182**	Pn	**Pn**	**16 10 34.9**	**-0.8**
	0.1nm,0.3s,baz=357,slow=13,SNR=4.1						
KKM	**Kota Kinabalu**	**14.04**	**315**	*e*Pn	**Pn**	**16 10 36.2**	**+0.2**
WRAB	**Tennant Creek**	**17.76**	**154**	*e*Pn	**Pn**	**16 11 22.2**	**-1.7**
	33nm,1.8s						
WR1	**Warramunga Arr**	**17.77**	**154**	*e*Pn	**Pn**	**16 11 22.3**	**-1.7**
	15nm,1.4s						
WRA	**Warramunga Arr**	**17.77**	**154**	P	**Pn**	**16 11 22.3**	**-1.7**
	0.2nm,0.3s,baz=330,slow=11,SNR=20						
WB2	**Warramunga Arr**	**17.77**	**154**	*e*Pn	**Pn**	**16 11 22.3**	**-1.7**
	29nm,1.7s						
COEN	**Coen**	**19.53**	**122**	*e*P	**P**	**16 11 44.9**	**+0.9**
	10nm,0.8s						
AS31	**Alice Springs**	**20.95**	**160**	*e*P	Pn	16 12 01.9	-0.2
	2.0nm,0.9s						
ASAR	**Alice Springs**	**20.95**	**160**	P	Pn	16 12 01.3	-0.8
	3.0nm,0.7s,baz=338,slow=8.8,SNR=61						
AS01	**Alice Springs**	**20.97**	**160**	*e*P	Pn	16 12 01.9	-0.4
CTA	**Charters Tower**	**25.32**	**131**	P	**P**	**16 12 45.3**	**+2.3**
	2.4nm,0.7s,baz=300,slow=8.1,SNR=4.3						
STKA	**Stephens Creek**	**31.32**	**154**	P	**P**	**16 13 37.8**	**+1.3**
	2.8nm,0.6s,baz=333,slow=9.1,SNR=14						
STKA	**Stephens Creek**	**31.32**	**154**	*e*P	**P**	**16 13 37.3**	**+0.9**
	1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**34.85**	**311**	P	**P**	**16 14 09.2**	**+1.8**
	0.9nm,0.7s,baz=140,slow=7.4,SNR=12						
KSRS	**Korea Array**	**41.27**	**2**	LR	LR	16 35 08.6	
	comp=Z,72nm,18.1s,baz=332,slow=41						
LSA	**Lhasa**	**47.37**	**317**	*e*P	**P**	**16 15 50.7**	**-0.1**
	3.0nm,0.6s						
MK01	**Makanchi Array**	**63.60**	**328**	*e*P	**P**	**16 17 46.9**	**+0.2**
MK01				*e*PcP	**PcP**	**16 18 23.3**	**+0.4**
MK31	**Makanchi Array**	**63.62**	**328**	*e*P	**P**	**16 17 47.3**	**+0.4**
MK31				*e*PcP	**PcP**	**16 18 23.6**	**+0.6**
MK31	**Makanchi Array**	**63.62**	**328**	Pn	**P**	**16 17 47.5**	**+0.6**
	0.6nm,0.5s,baz=117,slow=8.5,SNR=38						
MK31				⇑Sn	**PcP**	**16 18 23.2**	**+0.2**
	1.3nm,0.6s,baz=124,slow=4.3,SNR=6.6						
MK32	**Makanchi Array**	**63.62**	**328**	*e*P	**P**	**16 17 47.6**	**+0.8**
MK32				*e*PcP	**PcP**	**16 18 23.6**	**+0.6**
MKAR	**Makanchi Array**	**63.62**	**328**	P	**P**	**16 17 47.6**	**+0.8**
	1.1nm,0.4s,baz=114,slow=8.6,SNR=43						
MKAR				PcP	**PcP**	**16 18 23.6**	**+0.6**
	1.7nm,0.6s,baz=127,slow=4.4,SNR=16						
MAKZ	**Makanchi**	**63.80**	**328**	⇓Pn	**P**	**16 17 48.0**	**0.0**
	1.7nm,0.6s						
MAKZ				⇑Sn	**PcP**	**16 18 23.6**	**-0.1**
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**67.22**	**335**	P	**P**	**16 18 08.9**	**-1.0**
	0.4nm,0.3s,baz=134,slow=4.2,SNR=3.1						
ZAA1	**Zalesovo Array**	**67.22**	**335**	*e*P	**P**	**16 18 08.9**	**-1.0**
SEY	**Seymchan**	**69.65**	**12**	P	**P**	**16 18 25.5**	**+0.6**
	1.6nm,0.8s,baz=204,slow=5.9,SNR=5.4						
ARA0	**ARCESS Array S**	**97.43**	**340**	*e*P	**P**	**16 20 47.1**	**-1.9**
ARCES	**ARCESS Array B**	**97.43**	**340**	P	**P**	**16 20 47.1**	**-1.9**
	6.0nm,0.9s,baz=81,slow=5.8,SNR=4.3						
AKASG	**Malin Array Be**	**97.44**	**320**	P	**P**	**16 20 48.4**	**-1.0**
	0.4nm,0.6s,baz=69,slow=5.1,SNR=3.2						

IDC 14 16:17:05.0±3.5,**35°.39S**×**179°.38W**,**h0**km,**mb3.6**/2,
mb1 3.9/3,**mb1mx3.7**/29,**mbtmp3.6**/3,**ML3.5**/1,**Error**
ellipse: s-maj=81.5km s-min=47.8km az=129.0,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**4.02**	**224**	Pn	Pn	16 18 07.4	-0.4
	3.2nm,0.3s,baz=36,slow=8.7,SNR=21						
URZ				Sn	Sn	16 18 51.3	-4.3
	2.8nm,0.3s,baz=30,slow=24,SNR=9.5						
ASAR	**Alice Springs**	**41.95**	**273**	P	P	16 24 57.9	0.0
	0.5nm,0.9s,baz=116,slow=7.6,SNR=8.9						
WRA	**Warramunga Arr**	**43.39**	**278**	P	P	16 25 09.3	-0.2
	1.1nm,0.5s,baz=119,slow=7.7,SNR=13						
FINES	**FINESS Array B**	**149.33**	**336**	PKPbc	PKPbc	16 36 54.5	-0.5
	1.9nm,0.8s,baz=56,slow=2.5,SNR=3.2						

*BJI **14** 16:20:03.2, 36°.05N×137°.09E, h270km, mb4.2/19, mB4.7/9*
*ISCJB **14** 16:20:04.1±0.2, 36°.23N±0°.03×137°.11E±0°.04, h273km±2km, mb3.9/35, Error ellipse: s-maj=6.0km s-min=4.4km az=24.3*
*IDC **14** 16:20:04.8±0.4, 36°.20N×137°.10E, h267km±3km, mb3.4/20, mb1 3.6/24, mb1mx3.5/38, mbtmp4.0/24, Error ellipse: s-maj=11.6km s-min=9.1km az=96.0*
*NEIC **14** 16:20:04.8±0.4, 36°.12N×137°.00E, h267km±4km, mb4.5/10, Error ellipse: s-maj=10.1km s-min=5.9km az=119.0*
*JMA **14** 16:20:05.3±0.1, 36°.21N×137°.22E, h267km±1km, M3.7*
ISC 14 16:20:04.8±0.5,**36°.22N**±0°.04×**137°.14E**±0°.05,**h266**km±4km,
n89,σ1s22/111,mb4.0/35,3C-7D,Eastern Honshu

| Code | Station Name | Δ° | AZ° |

TWG	**Pinlang**	**19.30**	**231**	*e*P	**P**	**16 24 07.5**	**-2.9**
	373nm,1.6s						
HHC	**Hu-ho-hao-te**	**20.51**	**291**	*e*P	**P**	**16 24 22.3**	**-0.9**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PETK	**Petropavlovsk-**	**22.21**	**34**	P	**P**	**16 24 39.0**	**-0.1**
	2.7nm,0.8s,baz=219,slow=10.0,SNR=5.3						
GUMO	**Guam**	**23.58**	**161**	P	**P**	**16 24 52.3**	**+0.4**
	45nm,0.4s,baz=342,slow=19,SNR=4.1						
MA2	**Magadan**	**24.99**	**16**	P	**P**	**16 25 04.7**	**+0.4**
	2.6nm,0.6s,baz=174,slow=7.2,SNR=4.0						
LZH	**Lanzhou**	**26.82**	**280**	*e*P	**P**	**16 25 23.3**	**+2.2**
LZH				pP	pP	16 26 09.9	-2.2
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
CD2	**Chengdu**	**28.23**	**269**	*e*P	**P**	**16 25 31.5**	**-2.0**
SEY	**Seymchan**	**28.35**	**15**	P	**P**	**16 25 34.6**	**+0.4**
	0.6nm,0.4s,baz=207,slow=18,SNR=3.7						
KMI	**Kunming**	**31.44**	**259**	P	**P**	**16 26 00.3**	**-1.7**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**37.97**	**253**	P	**P**	**16 26 57.1**	**-0.4**
	0.2nm,0.3s,baz=50,slow=6.1,SNR=2.6						
WMQ	**Urumqi**	**38.15**	**297**	*e*P	**P**	**16 26 59.9**	**+1.2**
FAKI	**Fak Fak**	**39.20**	**188**	*e*P	**P**	**16 27 06.8**	**-0.9**
	15nm,0.7s						
ZALV	**Zalesovo Beam**	**39.95**	**313**	P	**P**	**16 27 12.0**	**-1.3**
	0.7nm,0.3s,baz=98,slow=7.6,SNR=4.0						
ZALV				PcP	**PcP**	**16 29 12.3**	**-0.6**
	0.6nm,0.4s,baz=134,slow=4.2,SNR=3.6						
MKAR	**Makanchi Array**	**41.64**	**302**	P	**P**	**16 27 27.6**	**+0.3**
	0.4nm,0.6s,baz=91,slow=10.0,SNR=5.9						
MKAR				ScP	**ScP**	**16 32 41.2**	**-1.8**
	0.2nm,0.7s,baz=64,slow=3.4,SNR=3.0						
KURBB	**Kurchatov Arra**	**43.80**	**308**	P	**P**	**16 27 44.7**	**+0.2**
	0.4nm,0.3s,baz=86,slow=8.2,SNR=5.7						
KSH	**Kashi**	**47.59**	**293**	P	P	16 28 19.1	+4.8
KSH				PP	**PP**	**16 30 12.0**	**+3.8**
KSH				PcS	**PcS**	**16 33 37.3**	**+1.8**
KSH				S	**S**	**16 34 53.9**	**+5.0**
KSH				pmax	pmax		
	comp=Z,23nm,1.6s						
KSH				pmax	pmax		
	comp=Z,250nm,5.0s						
KSH				LR	LR		
	comp=N,180nm,6.8s						
KSH				LR	LR		
	comp=E,120nm,6.8s						
KSH				LR	LR		
	comp=Z,220nm,8.5s						
MDM	**Murphy Dome**	**51.42**	**32**	*e*P	**P**	**16 28 44.0**	**+1.4**
	6.3nm,0.8s						
ILAR	**Eielson Array**	**52.01**	**32**	P	**P**	**16 28 46.8**	**0.0**
	1.5nm,0.8s,baz=286,slow=6.5,SNR=17						
ABKAR	**Akbulak array**	**55.82**	**309**	*e*P	**P**	**16 29 14.2**	**-0.3**
WRAB	**Tennant Creek**	**55.91**	**183**	*e*P	**P**	**16 29 14.7**	**-0.7**
	15nm,0.4s						
WB2	**Warramunga Arr**	**55.92**	**183**	*e*P	**P**	**16 29 14.9**	**-0.6**
WRA	**Warramunga Arr**	**55.92**	**183**	P	**P**	**16 29 15.1**	**-0.4**
	13nm,0.3s,baz=359,slow=7.6,SNR=289						
WRA				S	**S**	**16 36 40.5**	**-1.6**
	0.9nm,1.0s,baz=358,slow=13,SNR=3.6						
INK	**Inuvik**	**56.66**	**26**	*e*P	**P**	**16 29 20.7**	**+0.6**
	27nm,1.3s						
SKAG	**Skagway**	**58.43**	**37**	*e*P	**P**	**16 29 31.1**	**-1.4**
	38nm,1.2s						
AS01	**Alice Springs**	**59.63**	**183**	*e*P	**P**	**16 29 40.7**	**-0.6**
AS31	**Alice Springs**	**59.64**	**183**	*e*P	**P**	**16 29 40.8**	**-0.5**
	1.8nm,0.6s						
ASAR	**Alice Springs**	**59.64**	**183**	P	**P**	**16 29 41.1**	**-0.1**
	3.3nm,0.7s,baz=358,slow=4.4,SNR=83						
ARCES	**ARCESS Array B**	**63.52**	**339**	P	**P**	**16 30 06.0**	**-0.6**
	3.0nm,0.8s,baz=23,slow=6.6,SNR=4.9						
RES	**Resolute Bay**	**64.22**	**13**	*e*P	**P**	**16 30 11.0**	**+0.1**
	3.9nm,0.9s						
YKA	**Yellowknife Ar**	**66.21**	**29**	P	**P**	**16 30 24.1**	**+0.3**
	0.5nm,0.5s,baz=304,slow=6.6,SNR=13						
FINES	**FINESS Array B**	**67.90**	**331**	P	**P**	**16 30 34.0**	**-0.4**
	1.9nm,0.7s,baz=83,slow=7.9,SNR=8.4						
AKASG	**Malin Array Be**	**72.80**	**321**	P	**P**	**16 31 03.8**	**-0.4**
	0.5nm,0.5s,baz=48,slow=5.7,SNR=2.5						
NB2	**NORSAR Subarra**	**73.56**	**336**	P	**P**	**16 31 08.0**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=43,slow=5.9						
NOA	**NORSAR Array B**	**73.56**	**336**	P	**P**	**16 31 08.0**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=41,slow=5.9,SNR=4.3						
BRTR	**Keskin Array B**	**76.77**	**310**	P	**P**	**16 31 27.1**	**-0.2**
	comp=Z,0.7nm,1.0s,baz=25,slow=4.8,SNR=3.3						
KVN	**Kaiserville**	**77.95**	**50**	*e*P	**P**	**16 31 35.2**	**+1.3**
	comp=Z,3.8nm,0.6s						
NVAR	**Mina Array Bea**	**78.20**	**51**	P	**P**	**16 31 36.4**	**+1.0**
	comp=Z,1.3nm,0.5s,baz=296,slow=5.0,SNR=9.9						
PD31	**Pinedale Array**	**80.65**	**43**	*e*P	**P**	**16 31 49.2**	**+0.7**
PDAR	**Pinedale Array**	**80.65**	**43**	P	**P**	**16 31 48.7**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=301,slow=1.3,SNR=13						
PDAR	**Pinedale Array**	**80.65**	**43**	*e*P	**P**	**16 31 48.9**	**+0.4**
GERES	**GERESS Array B**	**81.53**	**326**	P	**P**	**16 31 52.4**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=35,slow=4.9,SNR=4.4						
ULM	**La du Bonnet**	**82.03**	**331**	P	**P**	**16 31 55.0**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=297,slow=6.8,SNR=4.3						
PV14	**Lion Creek, Pa**	**83.87**	**46**	*e*P	**P**	**16 32 06.4**	**+1.2**
	comp=Z,7.4nm,0.9s						
PV05	**Paradox Valley**	**84.02**	**47**	*e*P	**P**	**16 32 07.0**	**+1.0**
SCHQ	**Schefferville**	**87.00**	**14**	P	**P**	**16 32 20.4**	**+0.5**
	comp=Z,2.9nm,0.7s,baz=267,slow=16,SNR=4.5						
TX31	**Lajitas Ar. Si**	**93.31**	**50**	*e*P	**P**	**16 32 51.0**	**+1.1**
TXAR	**Lajitas Array**	**93.31**	**50**	P	**P**	**16 32 51.0**	**+1.1**
	comp=Z,1.7nm,0.6s,baz=298,slow=3.4,SNR=18						
LPAZ	**La Paz**	**150.03**	**55**	PKPbc	**PKPbc**	**16 39 25.3**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=256,slow=4.2,SNR=3.0						

*IDC **14** 16:43:24.1±1.2,3.2°S×148.7°E,h0km,mb3.9/8, mb1 4.1/9,mb1mx3.9/27,mbtmp3.8/9,ML1.4/1,MS3.5/11, Ms1 3.5/11,ms1mx3.3/32,Error ellipse: s-maj=43.3km s-min=18.3km az=109.0*

*ISCJB **14** 16:43:25.3±0.6,3.1°S±0.1°×148.6°E±0.0°,h18km, mb3.9/11,MS3.5/7,Error ellipse: s-maj=12.8km s-min=7.8km az=6.0*

*NEIC **14** 16:43:26.4±0.8,3.1°S×148.5°E,h10km,mb4.4/3,Error ellipse: s-maj=22.8km s-min=15.0km az=97.0*

ISC 14 16:43:27.0±0.8,3.0°S±0.1°×148.6°E±0.0°,h18km,n35, σ1ᵍ28/23,mb3.9/11,MS3.6/7,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MANU	**Manus Island**	**1.62**	**309**	*e*Pn		**Pn**	**16 43 52.2**	**-2.5**
RABL	**Rabaul**	**3.71**	**107**	*e*Pn		**Pn**	**16 44 21.6**	**-1.9**
PMG	**Port Moresby**	**6.45**	**193**	Pn		**Pn**	**16 45 00.8**	**-0.3**
	0.5nm,0.3s,baz=3.8,slow=15,SNR=2.5							
PMG				Sn		**Sn**	**16 46 14.6**	**+0.2**
	0.2nm,0.3s,baz=58,slow=19,SNR=2.6							
PMG				LR		LR	16 47 24.1	
	comp=Z,188nm,19.5s,baz=19,slow=38							
PMG	**Port Moresby**	**6.45**	**193**	*e*Pn		**Pn**	**16 44 59.2**	**-1.9**
PMG				*e*Sn		**Sn**	**16 46 14.6**	**+0.2**
JAY	**Jayapura**	**7.92**	**274**	LR		LR	16 48 11.8	
	comp=Z,203nm,18.6s,baz=48,slow=36							
HNR	**Honiara**	**12.91**	**120**	LR		LR	16 51 02.1	
	comp=Z,152nm,20.2s,baz=309,slow=36							
GUMO	**Guam**	**16.37**	**347**	LR		LR	16 53 11.9	
	comp=Z,72nm,18.9s,baz=149,slow=34							
WB2	**Warramunga Arr**	**21.79**	**219**	*e*P		**P**	**16 48 17.9**	**-0.3**
	27nm,1.4s							
WR1	**Warramunga Arr**	**21.80**	**219**	*e*P		**P**	**16 48 16.9**	**-1.4**
	57nm,1.8s							
WRA	**Warramunga Arr**	**21.80**	**219**	P		**P**	**16 48 16.9**	**-1.4**
	7.3nm,1.1s,baz=43,slow=11,SNR=15							
AS01	**Alice Springs**	**24.90**	**213**	*e*P		**P**	**16 48 48.2**	**-0.9**
AS31	**Alice Springs**	**24.92**	**214**	*e*P		**P**	**16 48 48.5**	**-0.8**
	1.4nm,0.7s							
ASAR	**Alice Springs**	**24.93**	**214**	P		**P**	**16 48 48.1**	**-1.3**
	2.1nm,0.7s,baz=42,slow=7.6,SNR=16							
ASAR				LR		LR	16 58 51.6	
	comp=Z,210nm,19.3s,baz=240,slow=37							
DAV	**Davao City (W)**	**25.11**	**294**	LR		LR	16 58 32.2	
	comp=Z,58nm,18.5s,baz=258,slow=36							
DZM	**Mont Dzumac**	**25.61**	**139**	LR		LR	16 57 38.2	
	comp=Z,177nm,19.7s,baz=217,slow=34							
BATI	**Baumata**	**25.76**	**253**	LR		LR	17 01 52.8	
	comp=Z,261nm,18.0s,baz=47,slow=43							
FITZ	**Fitzroy Crossi**	**27.01**	**235**	P		**P**	**16 49 08.8**	**+0.6**
	4.7nm,0.8s,baz=45,slow=11,SNR=4.0							
H11S3	**WAKE ISLAND Hy**	**27.86**	**39**	T		T	17 18 33.3	
	baz=220,slow=76,SNR=41							
H11S2	**WAKE ISLAND Hy**	**27.87**	**39**	T		T	17 18 34.4	
	baz=220,slow=76,SNR=28							
H11S1	**WAKE ISLAND Hy**	**27.88**	**39**	T		T	17 18 35.2	
	baz=220,slow=76,SNR=32							
H11N1	**WAKE ISLAND Hy**	**28.91**	**38**	T		T	17 19 49.2	
	baz=219,slow=76,SNR=19							
H11N3	**WAKE ISLAND Hy**	**28.92**	**38**	T		T	17 19 50.1	
	baz=219,slow=76,SNR=20							
H11N2	**WAKE ISLAND Hy**	**28.92**	**38**	T		T	17 19 51.3	
	baz=219,slow=76,SNR=28							
MJAR	**Matsushiro Arr**	**40.59**	**347**	LR		LR	17 05 16.9	
	comp=Z,40nm,21.8s,baz=315,slow=32							
KSRS	**Korea Array**	**44.67**	**336**	LR		LR	17 08 57.7	
	comp=Z,64nm,18.6s,baz=129,slow=34							
CM31	**Chiang Mai Arr**	**53.37**	**296**	*e*P		**P**	**16 52 46.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**53.37**	**296**	P		**P**	**16 52 47.7**	**+1.7**
	0.5nm,0.5s,baz=112,slow=5.9,SNR=4.3							
MK32	**Makanchi Array**	**76.31**	**320**	*e*P		**P**	**16 55 16.9**	**+1.9**
MKAR	**Makanchi Array**	**76.31**	**320**	P		**P**	**16 55 16.9**	**+1.9**
	1.3nm,1.1s,baz=97,slow=5.0,SNR=6.8							
ZALV	**Zalesovo Beam**	**77.43**	**327**	P		**P**	**16 55 21.8**	**+0.7**
	0.5nm,0.5s,baz=76,slow=6.1,SNR=3.4							
ZALV				LR		LR	17 28 47.4	
	comp=Z,43nm,21.8s,baz=66,slow=35							
ZAA1	**Zalesovo Array**	**77.43**	**327**	*e*P		**P**	**16 55 21.8**	**+0.7**
ILAR	**Eielson Array**	**82.18**	**23**	P		**P**	**16 55 47.1**	**+0.4**
	0.4nm,0.8s,baz=250,slow=4.7,SNR=3.6							
YKA	**Yellowknife Ar**	**95.85**	**28**	P		**P**	**16 56 52.5**	**+0.3**
	0.2nm,0.7s,baz=275,slow=4.7,SNR=5.0							
TORD	**Torodi Ar. Bea**	**145.81**	**289**	PKPbc		**PKPab**	**17 03 06.3**	**-0.3**
	0.6nm,0.8s,baz=80,slow=3.1,SNR=4.7							
TOA1	**Torodi Ar. Sit**	**145.81**	**289**	*e*PKPdf		**PKPab**	**17 03 06.3**	**-0.3**

*IDC **14** 17:03:22.3±3.0,15.2°S×174.2°W,h234km±28km, mb3.7/13,mb1 3.9/13,mb1mx3.7/34,mbtmp4.3/13,Error ellipse: s-maj=18.9km s-min=11.6km az=145.0*

*ISCJB **14** 17:03:23.9±0.6,15.3°S±0.1°×174.8°W±0.1°,h262km, mb3.9/14,Error ellipse: s-maj=21.6km s-min=13.2km az=142.7*

ISC 14 17:03:25.2±0.6,15.3°S±0.2°×174.8°W±0.1°,h262km,n20, σ0ᵍ97/21,mb4.1/14,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URZ	**Urewera**	**23.98**	**196**	P		**P**	**17 08 14.3**	**-1.9**
	13nm,0.5s,baz=346,slow=7.8,SNR=10							
CTA	**Chrters Tower**	**37.35**	**257**	P		**P**	**17 10 12.7**	**-0.6**
	4.4nm,0.5s,baz=73,slow=12,SNR=6.4							
STKA	**Stephens Creek**	**42.93**	**239**	P		**P**	**17 10 58.0**	**-0.7**
	8.4nm,0.8s,baz=77,slow=6.6,SNR=19							
JAY	**Jayapura**	**45.64**	**282**	P		**P**	**17 11 21.0**	**+0.6**
	8.3nm,0.7s,baz=106,slow=6.8,SNR=4.9							
WRA	**Warramunga Arr**	**48.55**	**257**	P		**P**	**17 11 42.0**	**-0.8**
	3.1nm,0.3s,baz=90,slow=7.6,SNR=40							
ASAR	**Alice Springs**	**48.86**	**252**	P		**P**	**17 11 44.7**	**-0.4**
	42nm,0.5s,baz=89,slow=7.7,SNR=1067							
ASAR				S		**S**	**17 18 30.1**	**+1.7**
	0.7nm,0.9s,baz=89,slow=14,SNR=4.9							
SIJI	**Sorong**	**55.11**	**280**	P		**P**	**17 12 30.4**	**-0.6**
	baz=121,slow=3.8,SNR=10							
VNDA	**Vanda**	**63.36**	**186**	P		**P**	**17 13 27.4**	**+1.1**
	4.4nm,0.9s,baz=7.8,slow=3.2,SNR=10.0							
NVAR	**Mina Array Bea**	**75.15**	**43**	P		**P**	**17 14 38.9**	**-0.4**
	0.6nm,0.8s,baz=218,slow=8.4,SNR=4.8							
TXAR	**Lajitas Array**	**81.67**	**57**	P		**P**	**17 15 15.8**	**+1.0**
	0.7nm,1.0s,baz=218,slow=5.7,SNR=4.4							
ILAR	**Eielson Array**	**82.60**	**12**	P		**P**	**17 15 17.9**	**-0.9**
	0.3nm,0.5s,baz=214,slow=5.3,SNR=11							
PDAR	**Pinedale Array**	**83.08**	**42**	P		**P**	**17 15 21.7**	**-0.3**
	0.9nm,0.6s,baz=215,slow=3.6,SNR=10							
MAW	**Mawson**	**87.47**	**199**	P		**P**	**17 15 43.8**	**+0.9**
	5.8nm,1.0s,baz=131,slow=9.3,SNR=5.5							
YKA	**Yellowknife Ar**	**90.53**	**24**	P		**P**	**17 15 57.2**	**+0.1**
	0.1nm,0.5s,baz=232,slow=4.7,SNR=3.4							
CMAR	**Chiang Mai Arr**	**91.30**	**289**	P		**P**	**17 16 03.4**	**+1.7**
	1.3nm,1.0s,baz=73,slow=3.0,SNR=8.3							
MKAR	**Makanchi Array**	**109.78**	**315**	PKiKP		**PKiKP**	**17 21 24.3**	**-0.9**
	0.2nm,0.7s,baz=64,slow=3.4,SNR=2.9							
ARCES	**ARCESS Array B**	**124.30**	**352**	PKP		**PKPdf**	**17 21 52.6**	**+0.3**
	2.3nm,0.9s,baz=2.2,slow=4.8,SNR=4.0							
KMBO	**Kilima Mbogo**	**144.36**	**246**	PKP		**PKPdf**	**17 22 31.4**	**-0.1**
	0.6nm,0.2s,baz=112,slow=5.0,SNR=4.1							
BRTR	**Keskin Array B**	**145.21**	**320**	PKPbc		**PKPdf**	**17 22 31.2**	**-0.8**
	1.5nm,0.8s,baz=60,slow=3.5,SNR=9.0							
GERES	**GERESS Array B**	**145.81**	**350**	PKPbc		**PKPdf**	**17 22 32.9**	**+0.1**
	0.1nm,0.3s,baz=67,slow=2.6,SNR=3.6							

*IDC **14** 17:11:42.3±1.0,41.6°N×144.0°E,h0km,mb3.6/8, mb1 3.8/8,mb1mx3.6/29,mbtmp3.6/8,ML2.8/1,MS2.6/1, Ms1 2.6/1,ms1mx2.3/34,Error ellipse: s-maj=27.9km s-min=20.6km az=82.0*

*ISCJB **14** 17:11:46.5±1.3,41.7°N±0.0°×144.0°E±0.0°, h43km±11km,mb3.6/8,Error ellipse: s-maj=15.2km s-min=9.8km az=149.4*

*JMA **14** 17:11:48.1±0.2,41.8°N×143.9°E,h50km±3km,M3.4*

ISC 14 17:11:46.4±2.2,41.7°N±0.1°×144.0°E±0.0°,h25km±14km, n25,σ0ᵍ72/24,mb3.6/8,5C,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JEM	**Erimo**	**0.69**	**291**	P		**Pn**	**17 12 00.8**	**+0.3**
JEM				*e*S		**Sn**	**17 12 10.2**	**-0.1**
JTHR	**Tokachihiroo**	**0.75**	**314**	↑↑P		**Pn**	**17 12 01.6**	**+0.3**
JTHR				*e*S		**Sn**	**17 12 11.6**	**-0.2**
JCH	**Churui**	**0.97**	**330**	↑↑P		**Pn**	**17 12 04.8**	**+0.4**
JCH				*e*S		**Sb**	**17 12 17.2**	**+0.2**
JNBK	**Urakawa-nobuka**	**1.07**	**299**	↑↑P		**Pb**	**17 12 06.7**	**+0.5**
JOB	**Onbets**	**1.14**	**353**	P		**Pb**	**17 12 07.6**	**+0.2**
JSHD	**Hidakashinhida**	**1.32**	**299**	P		**Pb**	**17 12 10.6**	**+0.2**
JAK	**Akkeshi**	**1.32**	**22**	↑↑P		**Pb**	**17 12 10.3**	**-0.2**
JAK				*e*S		**Sb**	**17 12 27.0**	**-0.1**
JAR	**Ashorobuto**	**1.54**	**353**	↑↑P		**Pn**	**17 12 12.6**	**+0.4**
JBT2	**Biratori 2**	**1.59**	**310**	P		**Pn**	**17 12 12.7**	**-0.2**
JFR	**Furan**	**1.75**	**323**	P		**Pn**	**17 12 14.4**	**-0.7**
ASAJ	**Asahikawa**	**2.57**	**336**	Pn		**Pn**	**17 12 27.4**	**+1.1**
	1.1nm,0.3s,baz=209,slow=14,SNR=4.7							
ASAJ				Sn		**Sb**	**17 13 01.1**	**-1.7**
	3.3nm,0.3s,baz=255,slow=20,SNR=4.5							
ASAJ				LR		LR	17 13 50.6	
	comp=Z,107nm,19.3s,baz=357,slow=48							
SONM	**Songino Array**	**27.18**	**296**	P		**P**	**17 17 29.1**	**+1.3**
	0.5nm,0.6s,baz=99,slow=7.4,SNR=2.3							
H11N2	**WAKE ISLAND Hy**	**29.32**	**132**	T		T	17 48 43.4	
	baz=324,slow=75,SNR=20							
H11N1	**WAKE ISLAND Hy**	**29.33**	**132**	T		T	17 48 38.9	
	baz=324,slow=75,SNR=18							
H11N3	**WAKE ISLAND Hy**	**29.33**	**132**	T		T	17 48 44.6	
	baz=324,slow=75,SNR=16							
H11S1	**WAKE ISLAND Hy**	**30.19**	**133**	T		T	17 50 00.8	
	baz=325,slow=76,SNR=42							
H11S3	**WAKE ISLAND Hy**	**30.20**	**133**	T		T	17 49 59.2	
	baz=325,slow=76,SNR=12							
H11S2	**WAKE ISLAND Hy**	**30.21**	**133**	T		T	17 49 55.6	
	baz=325,slow=76,SNR=8.9							
ZALV	**Zalesovo Beam**	**40.38**	**308**	P		**P**	**17 19 21.2**	**-0.7**
	0.7nm,0.5s,baz=94,slow=10,SNR=3.1							
MKAR	**Makanchi Array**	**43.48**	**298**	P		**P**	**17 19 47.2**	**-0.1**
	0.2nm,0.6s,baz=80,slow=9.7,SNR=4.5							
ILAR	**Eielson Array**	**44.44**	**35**	P		**P**	**17 19 56.0**	**+1.2**
	0.5nm,0.8s,baz=278,slow=7.2,SNR=7.4							
INK	**Inuvik**	**49.27**	**29**	P		**P**	**17 20 31.7**	**-0.7**
	0.7nm,0.8s,baz=301,slow=5.9,SNR=4.4							
WRA	**Warramunga Arr**	**62.05**	**190**	P		**P**	**17 22 03.9**	**-0.8**
	0.3nm,0.3s,baz=15,slow=6.9,SNR=2.6							
FINES	**FINESS Array B**	**65.57**	**332**	P		**P**	**17 22 27.6**	**+0.2**
	2.2nm,0.8s,baz=54,slow=7.1,SNR=5.4							
ASAR	**Alice Springs**	**65.78**	**190**	P		**P**	**17 22 28.6**	**-0.6**
	0.4nm,0.9s,baz=7.1,slow=6.9,SNR=4.1							

*ISCJB **14** 17:34:51.7±0.5,18.3°N±0.0°×146.4°E±0.2°,h64km, mb3.9/14,Error ellipse: s-maj=23.2km s-min=7.0km az=13.1*

*NEIC **14** 17:34:52.4±1.6,18.2°N×146.4°E,h57km±15km,mb4.8/1, Error ellipse: s-maj=21.9km s-min=12.0km az=102.0*

*IDC **14** 17:34:54.4±3.6,18.2°N×146.4°E,h75km±35km,mb3.5/13, mb1 3.7/14,mb1mx3.5/46,mbtmp3.8/14,ML4.3/1,MS2.6/1, Ms1 2.6/1,ms1mx2.3/23,Error ellipse: s-maj=30.1km s-min=18.0km az=101.0*

ISC 14 17:34:53.2±0.7,18.2°N±0.0°×146.4°E±0.2°,h64km,n27, σ0ᵍ99/22,mb3.9/14,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SARN	**Sarigan**	**1.69**	**201**	*e*Pn		**Pn**	**17 35 18.4**	**-2.3**
GUMO	**Guam**	**4.91**	**198**	P		**Pn**	**17 36 05.1**	**+0.6**
	13nm,0.3s,baz=15,slow=1.2,SNR=5.5							
GUMO				S		**Sn**	**17 37 01.4**	**+1.5**
	4.3nm,0.3s,baz=325,slow=18,SNR=2.8							
GUMO				LR		LR	17 37 30.5	
	comp=Z,57nm,18.8s,baz=50,slow=32							
H11S3	**WAKE ISLAND Hy**	**19.24**	**86**	T		T	18 00 18.6	
	baz=274							
H11S1	**WAKE ISLAND Hy**	**19.25**	**86**	T		T	18 00 23.0	
	baz=274							
H11S2	**WAKE ISLAND Hy**	**19.26**	**86**	T		T	18 00 26.3	
	baz=274							
H11N1	**WAKE ISLAND Hy**	**19.41**	**83**	T		T	18 00 23.1	
	baz=267							
H11N2	**WAKE ISLAND Hy**	**19.42**	**82**	T		T	18 00 25.5	
	baz=267							
H11N3	**WAKE ISLAND Hy**	**19.43**	**83**	T		T	18 00 25.6	
	baz=267							
KLR	**Kul'dur**	**33.06**	**342**	P		**P**	**17 41 23.8**	**+1.2**
	1.3nm,0.4s,baz=175,slow=8.2,SNR=9.4							
WR1	**Warramunga Arr**	**39.80**	**198**	*e*P		**P**	**17 42 20.2**	**-0.1**
	23nm,1.4s							
WRA	**Warramunga Arr**	**39.80**	**198**	P		**P**	**17 42 20.2**	**-0.1**
	0.3nm,0.4s,baz=27,slow=9.2,SNR=2.5							
FITZ	**Fitzroy Crossi**	**41.53**	**211**	P		**P**	**17 42 34.5**	**-0.1**
	2.1nm,0.8s,baz=30,slow=12,SNR=2.1							
ASAR	**Alice Springs**	**43.45**	**197**	P		**P**	**17 42 50.5**	**+0.3**
	0.2nm,0.6s,baz=20,slow=7.1,SNR=6.0							
MK32	**Makanchi Array**	**59.24**	**314**	*e*P		**P**	**17 44 48.1**	**+0.2**
MKAR	**Makanchi Array**	**59.24**	**314**	P		**P**	**17 44 48.1**	**+0.2**
	0.2nm,0.5s,baz=93,slow=6.3,SNR=3.6							
KURBB	**Kurchatov Arra**	**62.08**	**318**	P		**P**	**17 45 06.8**	**-0.4**
	0.6nm,0.5s,baz=94,slow=7.5,SNR=5.5							
ILAR	**Eielson Array**	**63.71**	**26**	P		**P**	**17 45 17.3**	**-0.5**
	0.8nm,0.7s,baz=255,slow=5.3,SNR=11							
ILB	**Eielson Array**	**63.71**	**26**	*e*P		**P**	**17 45 16.7**	**-1.1**
INK	**Inuvik**	**69.48**	**23**	P		**P**	**17 45 54.6**	**+0.2**
	1.5nm,0.7s,baz=260,slow=9.3,SNR=4.9							
YKB5	**Yellowknife Ar**	**78.03**	**28**	*e*P		**P**	**17 46 45.1**	**+0.5**
YKA	**Yellowknife Ar**	**78.03**	**28**	P		**P**	**17 46 45.1**	**+0.5**
	0.7nm,0.7s,baz=288,slow=5.5,SNR=11							
NVAR	**Mina Array Bea**	**82.85**	**52**	P		**P**	**17 47 11.9**	**+0.6**
	0.6nm,0.7s,baz=262,slow=6.1,SNR=3.4							
ARA0	**ARCESS Array S**	**83.09**	**342**	*e*P		**P**	**17 47 12.4**	**+0.8**
ARCES	**ARCESS Array B**	**83.09**	**342**	P		**P**	**17 47 12.4**	**+0.8**
	4.4nm,1.1s,baz=57,slow=6.6,SNR=4.2							
FIA0	**FINESS Array S**	**87.54**	**335**	*e*P		**P**	**17 47 32.4**	**-1.5**
FINES	**FINESS Array B**	**87.54**	**335**	P		**P**	**17 47 32.4**	**-1.5**
	0.9nm,0.5s,baz=66,slow=6.5,SNR=7.2							
PDAR	**Pinedale Array**	**87.62**	**46**	P		**P**	**17 47 34.2**	**-0.9**
	0.2nm,0.6s,baz=260,slow=4.3,SNR=2.9							

*ISCJB **14** 17:37:17.8±0.7,30.5°S±0.0°×179.5°W±0.1°,h321km,Error ellipse: s-maj=17.4km s-min=6.2km az=4.4*

*IDC **14** 17:37:19.4±2.9,30.6°S×179.4°W,h330km±24km,mb3.2/4, mb1 3.4/6,mb1mx3.2/

PLK2	**Peulik 2**	**0.12**	**210**	P		**Pn**	**17 50 57.0**	**+0.1**
PLK3	**Peulik 3**	**0.18**	**189**	P		**Pn**	**17 50 57.0**	**0.0**
PLK3				S		**Sn**	**17 51 09.5**	**-1.2**
PLBL	**Peulik Blue Cr**	**0.36**	**243**	P		**Pn**	**17 50 57.5**	**-0.1**
PLK5	**Peulik 5**	**0.38**	**291**	P		**Pn**	**17 50 57.9**	**+0.3**
PLK5				S		**Sn**	**17 51 10.9**	**-0.8**
KJL	**Kejulik**	**0.39**	**61**	P		**Pn**	**17 50 57.9**	**+0.2**
CNTC	**Contact Creek**	**0.43**	**24**	P		**Pn**	**17 50 58.2**	**+0.2**
ANCK	**Angle Creek**	**0.51**	**49**	P		**Pn**	**17 50 58.8**	**+0.4**
CAHL	**Cahill**	**0.52**	**69**	P		**Pn**	**17 50 58.5**	**+0.1**
KELA	**Mount Kelaz**	**0.63**	**23**	P		**Pn**	**17 50 59.4**	**+0.3**
KABU	**Katmai Buttres**	**0.64**	**50**	P		**Pn**	**17 50 59.8**	**+0.6**
KABU				S		**Sn**	**17 51 15.0**	**+0.4**
KBM	**Katmai Bkd Mtn**	**0.68**	**52**	P		**Pn**	**17 50 59.9**	**+0.5**
KVTA	**Katmai Vly 10**	**0.71**	**43**	P		**Pn**	**17 51 00.1**	**+0.5**
KABR	**Katmai Barrier**	**0.71**	**68**	P		**Pn**	**17 50 59.7**	**+0.1**
ANNE	**Aniakchak Nort**	**1.38**	**227**	P		**Pn**	**17 51 05.6**	**-0.3**
ANNW	**Aniakchak Nort**	**1.41**	**231**	P		**Pn**	**17 51 06.0**	**-0.2**
FONW	**Fourpeaked Sta**	**1.55**	**50**	P		**Pn**	**17 51 08.8**	**+1.0**
OHAK	**Old Harbor**	**1.71**	**111**	*e*Pn		**Pn**	**17 51 09.1**	**-0.3**
OHAK				S		**Sn**	**17 51 30.9**	**-1.8**
KDAK	**Kodiak Island**	**1.94**	**91**	P		**Pn**	**17 51 12.2**	**0.0**
	44nm,0.3s,baz=210,slow=3.0,SNR=2059							
KDAK				S		**Sn**	**17 51 36.4**	**-1.4**
	baz=255,slow=20							
KDAK	**Kodiak Island**	**1.94**	**91**	*e*Pn		**Pn**	**17 51 12.3**	**0.0**
KDAK				S		**Sn**	**17 51 37.1**	**-0.7**
CHGN	**Chignik**	**1.98**	**218**	*e*Pn		**Pn**	**17 51 11.5**	**-1.1**
AUW	**Augustine West**	**2.08**	**42**	P		**Pn**	**17 51 15.0**	**+1.1**
AUJK	**Augustine Jueg**	**2.09**	**43**	*e*Pn		**Pn**	**17 51 15.4**	**+1.4**
AUL	**Augustine Lava**	**2.10**	**43**	P		**Pn**	**17 51 15.6**	**+1.4**
VNSS	**Veniaminof 8**	**2.42**	**228**	P		**Pn**	**17 51 18.0**	**-0.3**
RDWB	**Redoubt West**	**3.15**	**32**	P		**Pn**	**17 51 28.9**	**+1.4**
RSO	**Redoubt South**	**3.15**	**33**	*e*Pn		**Pn**	**17 51 27.4**	**-0.2**
SVW2	**Sparrevohn**	**3.26**	**5**	*e*Pn		**Pn**	**17 51 29.6**	**+0.8**
BRLK	**Bradley Lake**	**3.36**	**53**	*e*Pn		**Pn**	**17 51 30.3**	**+0.1**
SEW	**Seward**	**4.16**	**54**	*e*Pn		**Pn**	**17 51 40.7**	**+0.1**
DT1	**Dutton Round H**	**4.35**	**233**	*e*Pn		**Pn**	**17 51 42.9**	**-0.4**
DRIA	**Deer Island**	**4.44**	**232**	P		**Pn**	**17 51 44.3**	**-0.2**
RC01	**Rabbit Creek A**	**4.62**	**43**	*e*Pn		**Pn**	**17 51 47.8**	**+1.0**
FALS	**False Pass**	**5.01**	**236**	*e*Pn		**Pn**	**17 51 52.1**	**0.0**
PWL	**Port Wells**	**5.02**	**50**	*e*Pn		**Pn**	**17 51 52.2**	**0.0**
PMR	**Palmer**	**5.17**	**41**	*e*Pn		**Pn**	**17 51 54.2**	**0.0**
KNK	**Knik Glacier**	**5.30**	**45**	*e*Pn		**Pn**	**17 51 55.5**	**-0.4**
GHO	**Glory Hole Cre**	**5.37**	**40**	*e*Pn		**Pn**	**17 51 57.1**	**+0.1**
PPLA	**Purkeypile**	**5.43**	**20**	*e*Pn		**Pn**	**17 52 00.7**	**+3.0**
SML	**Sawmill**	**5.60**	**42**	*e*Pn		**Pn**	**17 51 59.9**	**-0.1**
CAST	**Castle Rocks**	**5.93**	**18**	*e*Pn		**Pn**	**17 52 05.0**	**+0.7**
SCM	**Sheep Creek Mo**	**5.99**	**45**	*e*Pn		**Pn**	**17 52 04.7**	**-0.5**
DIV	**Divide**	**6.24**	**54**	*e*Pn		**Pn**	**17 52 08.8**	**+0.3**
TRF	**Thorofare Moun**	**6.31**	**25**	*e*Pn		**Pn**	**17 52 10.6**	**+1.0**
KLU	**Klutina**	**6.35**	**51**	*e*Pn		**Pn**	**17 52 10.0**	**-0.1**
RND	**Reindeer**	**6.63**	**30**	*e*Pn		**Pn**	**17 52 13.3**	**-0.5**
BMRM	**Bremner River**	**6.69**	**57**	*e*Pn		**Pn**	**17 52 14.6**	**0.0**
MCK	**McKinley**	**6.87**	**28**	*e*Pn		**Pn**	**17 52 16.8**	**-0.2**
UNV	**Unalaska Valle**	**7.05**	**240**	*e*Pn		**Pn**	**17 52 18.0**	**-1.4**
WRH	**Wood River Hil**	**7.70**	**27**	*e*Pn		**Pn**	**17 52 26.9**	**-1.1**
HDA	**Harding Lake**	**7.94**	**30**	*e*Pn		**Pn**	**17 52 30.5**	**-0.8**
MDM	**Murphy Dome**	**8.07**	**25**	*e*Pn		**Pn**	**17 52 32.3**	**-0.8**
IM3	**Indian Mountai**	**8.23**	**7**	*e*Pn		**Pn**	**17 52 36.7**	**+1.5**
ILAR	**Eielson Array**	**8.24**	**29**	P		**Pn**	**17 52 34.3**	**-1.1**
	0.7nm,0.3s,baz=216,slow=13,SNR=61							
ILAR				S		**Sn**	**17 54 01.2**	**-5.6**
	0.7nm,0.3s,baz=216,slow=26,SNR=15							
ILB	**Eielson Array**	**8.24**	**29**	*e*Pn		**Pn**	**17 52 34.3**	**-1.1**
IL1	**Eielson Array**	**8.24**	**29**	*e*Pn		**Pn**	**17 52 33.8**	**-1.6**
SCRK	**Sand Creek**	**8.53**	**39**	*e*Pn		**Pn**	**17 52 39.1**	**-0.3**
YKA	**Yellowknife Ar**	**20.91**	**60**	P		**P**	**17 55 11.8**	**+1.4**
	0.2nm,0.5s,baz=276,slow=9.9,SNR=5.7							
PETK	**Petropavlovsk-**	**26.13**	**280**	P		**P**	**17 55 58.6**	**-1.6**
	4.9nm,1.1s,baz=76,slow=9.8,SNR=2.9							
PDAR	**Pinedale Array**	**32.65**	**97**	P		**P**	**17 57 00.4**	**+2.2**
	0.5nm,0.6s,baz=307,slow=5.1,SNR=5.3							
TXAR	**Lajitas Array**	**45.91**	**105**	P		**P**	**17 58 50.3**	**+2.1**
	0.2nm,0.6s,baz=306,slow=6.6,SNR=3.5							
SONM	**Songino Array**	**54.67**	**305**	P		**P**	**17 59 54.1**	**+0.3**
	1.1nm,0.6s,baz=50,slow=6.5,SNR=5.6							
MKAR	**Makanchi Array**	**65.02**	**320**	P		**P**	**18 01 03.7**	**-0.7**
	0.3nm,0.9s,baz=47,slow=8.5,SNR=3.3							
AKASG	**Malin Array Be**	**71.70**	**356**	P		**P**	**18 01 45.0**	**-0.8**
	0.3nm,0.4s,baz=2.9,slow=5.6,SNR=2.3							

*NEIC **14** 18:19:24.8±0.0, 43.°91N×69.°64W, h4km, MN2.5(WES), MN2.8(OTT), After WES.*
NEIC Felt [IV] at Boothbay and [III] at Bath, Boothbay Harbor, Bowdoinham, Bristol, Brunswick, Damariscotta, Dresden, East Boothbay, Edgecomb, Newcastle, New Harbor, Walpole, Wiscasset and Woolwich. Felt in the Bangor-Portland area.
*OTT **14** 18:19:26.3±0.3, 43.°96N×69.°53W, h5km, MN2.8/15, Maine, U.S. 210km southeast from Lac-Megantic, Qc Northern Appalachians Seismic Zone.*

ISC 14 18:19:22.9±1.8, 43.°83N±0.°03×69.°54W±0.°03, h3km±13km, n40, σ1§57/63, Gulf of Maine

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WVL	**Waterville**	**0.74**	**353**	*e*Pg	**Pg**	**18 19 37.7**	**+0.5**
PKME	**Peaks-Kenny Pk**	**1.45**	**7**	*e*Pn	**Pn**	**18 19 49.8**	**-0.3**
PKME				*e*Sn	**Sg**	**18 20 07.7**	**-1.8**
FFD	**Franklin Falls**	**1.58**	**258**	*e*Pn	**Pn**	**18 19 51.4**	**-0.4**
EMMW	**East Machias**	**1.73**	**59**	*e*Pn	**Pn**	**18 19 55.7**	**+1.7**
EMMW				*e*Sn	**Sn**	**18 20 17.4**	**+0.8**
LBNH	**Lisbon**	**1.77**	**284**	*e*Pn	**Pn**	**18 19 54.9**	**+0.3**
LBNH				*e*Sn	**Sn**	**18 20 16.2**	**-1.4**
BCX	**Boston College**	**1.91**	**219**	*e*Pn	**Pn**	**18 19 55.1**	**-1.3**
BCX				*e*Sn	**Sn**	**18 20 21.1**	**+0.1**
WES	**Weston**	**1.95**	**223**	*e*Pn	**Pn**	**18 19 56.7**	**-0.2**
WES				*e*Sn	**Sn**	**18 20 20.7**	**-1.1**
HRV	**Adam Dziewonsk**	**1.98**	**229**	*e*Pn	**Pn**	**18 19 58.7**	**+1.3**
HRV				*e*Sn	**Sn**	**18 20 22.1**	**-0.6**
HNH	**Hanover**	**2.00**	**267**	*e*Pn	**Pn**	**18 19 57.8**	**+0.2**
HNH				*e*Sn	**Sn**	**18 20 21.1**	**-1.9**
GGN	**Saint George**	**2.32**	**55**	*e*Pn	**Pn**	**18 20 03.2**	**+1.1**
GGN				*e*Sn	**Sn**	**18 20 31.9**	**+0.8**
GGN	**Saint George**	**2.32**	**55**	PN	**Pn**	**18 20 03.3**	**+1.3**
GGN				SN	**Sn**	**18 20 31.9**	**+0.8**
GGN				LG	Lg	18 20 37.3	
GGN				Trac		18 20 44.0	
	comp=Z,19nm,0.1s						
VT1	**Waterbury**	**2.37**	**283**	*e*Pn	**Pn**	**18 20 03.6**	**+0.8**
BRYW	**Bryant College**	**2.41**	**218**	*e*Sn	**Sn**	**18 20 32.2**	**-1.1**
MOQ	**Mont Orford**	**2.45**	**308**	*e*Pn	**Pn**	**18 20 04.1**	**+0.3**
MOQ				*e*Sn	**Sn**	**18 20 32.6**	**-1.7**
MOQ	**Mont Orford**	**2.45**	**308**	PN	**Pn**	**18 20 05.7**	**+1.3**
MOQ				SN	**Sn**	**18 20 34.8**	**+0.5**
MOQ				Trac		18 20 39.0	
	comp=Z,23nm,0.2s						
QUA2	**Belchertown**	**2.58**	**234**	*e*Pn	**Pn**	**18 20 04.6**	**-1.0**
ACCN	**Adirondack Com**	**3.03**	**263**	*e*Pn	**Pn**	**18 20 10.8**	**-1.0**
PQI	**Presque Isle**	**3.04**	**20**	*e*Pn	**Pn**	**18 20 10.2**	**-1.7**
FRNY	**Flat Rock**	**3.08**	**291**	*e*Pn	**Pn**	**18 20 12.1**	**-0.3**
FRNY	**Flat Rock**	**3.08**	**291**	PN	**Pn**	**18 20 13.9**	**+1.4**
FRNY				SN	**Sn**	**18 20 50.9**	**+1.2**
FRNY				Trac		18 21 01.6	
	comp=Z,11nm,0.2s						
FRNY				LG	Lg	18 21 02.7	
TRY	**Troy**	**3.21**	**251**	*e*Pn	**Pn**	**18 20 12.3**	**-1.9**
BCLQ	**Boischatel**	**3.31**	**340**	SN	**Sn**	**18 20 54.0**	**-1.4**
BCLQ				LG	Lg	18 21 08.9	
MNTQ	**Montreal, Queb**	**3.36**	**301**	SN	**Sn**	**18 20 58.6**	**+1.9**
MNTQ				Trac		18 21 10.8	
	comp=Z,6.0nm,0.1s						
NCB	**Newcomb**	**3.39**	**274**	*e*Pn	**Pn**	**18 20 15.3**	**-1.5**
NCB	**Newcomb**	**3.39**	**274**	PN	**Pn**	**18 20 16.1**	**-0.7**
NCB				SN	**Sn**	**18 20 59.4**	**+1.8**
DPQ	**Saint Jean**	**3.66**	**322**	PN	**Pn**	**18 20 21.3**	**+0.9**
DPQ				SN	**Sn**	**18 21 01.7**	**-2.4**
DPQ				Trac		18 21 15.0	
	comp=Z,2.5nm,0.1s						
A54	**Misere**	**3.68**	**351**	PN	**Pn**	**18 20 24.1**	**+3.4**
A54				SN	**Sn**	**18 21 02.9**	**-1.8**
A54				LG	Lg	18 21 20.4	
A54				Trac		18 21 21.6	
	comp=Z,3.6nm,0.2s						
ELNB	**Elgin, New Bru**	**3.72**	**55**	PN	**Pn**	**18 20 22.5**	**+1.2**
ELNB				SN	**Sn**	**18 21 05.1**	**-0.5**
ELNB				LG	Lg	18 21 22.7	
ELNB				Trac		18 21 26.2	
	comp=Z,1.3nm,0.1s						
LMQ	**La Malbaie**	**3.76**	**352**	PN	**Pn**	**18 20 22.6**	**+0.7**
LMQ				SN	**Sn**	**18 21 05.2**	**-1.6**
LMQ				LG	Lg	18 21 18.7	
LMQ				Trac		18 21 24.0	
	comp=Z,8.7nm,0.2s						
A21	**Saint Andre**	**3.88**	**358**	PN	**Pn**	**18 20 24.6**	**+1.2**
A21				SN	**Sn**	**18 21 08.2**	**-1.4**
A21				Trac		18 21 32.6	
	comp=Z,6.2nm,0.2s						
A61	**Sainte Mathild**	**3.89**	**354**	PN	**Pn**	**18 20 24.6**	**+1.0**
A61				SN	**Sn**	**18 21 06.1**	**-3.6**
A61				LG	Lg	18 21 22.4	
A61				Trac		18 21 33.7	
	comp=Z,3.2nm,0.2s						
LMN	**Caledonia Moun**	**3.93**	**57**	*e*Sn	**Sn**	**18 21 10.0**	**-0.7**
LMN	**Caledonia Moun**	**3.93**	**57**	PN	**Pn**	**18 20 25.4**	**+1.3**
LMN				SN	**Sn**	**18 21 09.9**	**-0.8**
LMN				LG	Lg	18 21 32.0	
LMN				Trac		18 21 34.6	
	comp=Z,6.5nm,0.2s						
A64	**Saint Simeon**	**4.01**	**357**	PN	**Pn**	**18 20 25.9**	**+0.7**
A64				SN	**Sn**	**18 21 10.2**	**-2.5**
A64				Trac		18 21 32.3	
	comp=Z,2.9nm,0.0s						
ALFO	**Alfred**	**4.22**	**297**	PN	**Pn**	**18 20 32.3**	**+4.2**
ALFO				SN	**Sn**	**18 21 19.6**	**+1.8**
ALFO				LG	Lg	18 21 36.0	
ALFO				Trac		18 21 36.2	
	comp=Z,1.0nm,0.0s						
BATG	**Bathurst New B**	**4.23**	**34**	*e*Pn	**Pn**	**18 20 25.5**	**-2.7**
BATG	**Bathurst New B**	**4.23**	**34**	PN	**Pn**	**18 20 25.6**	**-2.6**
BATG				Trac		18 21 42.3	
	comp=Z,5.9nm,0.1s						
WBO	**Williamsburg**	**4.28**	**288**	SN	**Sn**	**18 21 19.8**	**+0.5**
WBO				Trac		18 21 36.5	
	comp=Z,4.4nm,0.2s						
DAQ	**Lac Daran**	**4.31**	**345**	PN	**Pn**	**18 20 29.8**	**+0.4**
DAQ				SN	**Sn**	**18 21 19.7**	**-0.5**
DAQ				Trac		18 21 37.1	
	comp=Z,1.2nm,0.1s						
BINY	**Binghamton**	**5.00**	**253**	*e*Sb	**Sb**	**18 21 53.3**	**+1.6**

*IDC **14** 18:28:56.2±2.8, 26.°74N×55.°27E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.2/30, mbtmp3.4/4, Error ellipse: s-maj=63.3km s-min=31.1km az=155.0*
*ISCJB **14** 18:28:58.8±0.5, 26.°80N±0.°04×55.°16E±0.°08, h10km, mb3.3/4, Error ellipse: s-maj=11.2km s-min=5.4km az=162.6*
*TEH **14** 18:28:58.4, 26.°76N×55.°25E, h10km, ML3.2*

ISC 14 18:28:58.6±0.8, 26.°75N±0.°05×55.°30E±0.°07, h10km, n21, σ1§47/21, mb3.3/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENO	**Geno**	**1.01**	**50**	*e*Pn	**Pn**	**18 29 19.4**	**+0.3**
GENO				IAMB	IAmb	18 29 40.2	
	comp=Z,0.0nm,0.3s						
NIAN	**Nian**	**1.59**	**59**	*e*Pn	**Pb**	**18 29 27.6**	**-0.5**
NIAN				IAMB	IAmb	18 29 55.5	
	comp=Z,0.0nm,0.3s						
MDH	**Madha**	**1.70**	**148**	*e*Pn	**Pb**	**18 29 29.4**	**-0.6**
UOSS	**Minazif**	**1.97**	**155**	*e*Pn	**Pb**	**18 29 34.8**	**+0.2**
FAQ	**Al Faqa, Dubai**	**2.01**	**173**	*e*Pn	**Pb**	**18 29 35.0**	**-0.3**
HATD	**Hatta, Dubai**	**2.06**	**159**	*e*Pn	**Pb**	**18 29 35.7**	**-0.4**
ASHO	**Ashiyiah**	**2.17**	**162**	*e*Pn	**Pb**	**18 29 36.9**	**-1.1**
ALNE	**Al Ain**	**2.71**	**171**	*e*Pn	**Pb**	**18 29 45.3**	**-2.0**
NGRK	**Negar Kerman**	**3.15**	**23**	*e*Pn	**Pn**	**18 29 50.0**	**+1.4**
KHGB	**Koh Gabri**	**3.76**	**16**	*e*Pn	**Pn**	**18 29 59.8**	**+2.9**
MZR	**Muzera**	**4.08**	**204**	*e*Pn	**Pg**	**18 30 19.4**	**+2.5**
IMEH	**Mehriz**	**4.67**	**353**	*e*Pn	**Pn**	**18 30 10.7**	**+1.3**
IMEH				IAMB	IAmb	18 30 14.3	
	comp=Z,133nm,0.3s						
ISAD	**Sadrabad**	**5.34**	**345**	*e*Pn	**Pn**	**18 30 21.2**	**+2.5**
ISAD				IAMB	IAmb	18 30 21.7	
	comp=Z,159nm,0.4s						
KLNJ	**Kolanjah**	**5.35**	**323**	*e*Pn	**Pn**	**18 30 20.0**	**+1.1**
KLNJ				IAMB	IAmb	18 31 24.7	
	comp=Z,0.0nm,0.4s						
IRAM	**Ramesheh**	**5.65**	**334**	*e*Pn	**Pn**	**18 30 23.5**	**+0.6**
IRAM				IAMB	IAmb	18 31 30.9	
	comp=Z,151nm,0.4s						
IGAR	**Gharneh**	**6.31**	**334**	*e*Pn	**Pn**	**18 30 33.4**	**+1.4**
IGAR				IAMB	IAmb	18 31 47.4	
	comp=N,231nm,0.5s						
IZEF	**Zefreh**	**6.65**	**338**	*e*Pn	**Pn**	**18 30 36.3**	**-0.4**
IZEF				IAMB	IAmb	18 30 38.2	
	comp=Z,73nm,0.4s						
BRTR	**Keskin Array B**	**22.20**	**311**	P	**P**	**18 33 54.7**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=123,slow=10,SNR=4.8						
MKAR	**Makanchi Array**	**29.22**	**40**	P	**P**	**18 35 00.0**	**-0.5**
	comp=Z,0.1nm,0.5s,baz=234,slow=10,SNR=2.5						
FINES	**FINESS Array B**	**39.86**	**339**	P	**P**	**18 36 30.7**	**-1.5**
	comp=Z,1.1nm,0.7s,baz=141,slow=9.9,SNR=5.8						
TORD	**Torodi Ar. Bea**	**51.83**	**266**	P	**P**	**18 38 06.1**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=60,slow=9.0,SNR=2.7						

MEX 14 18:34:35.4±0.4, 16.°28N×98.°20W, h14km±1km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.13**	**31**	*i* P	Pg	18 34 38.2	-0.8
PNIG				*i* S	Sg	18 34 40.9	-0.5

IDC 14 18:37:29.5±12.0, 17.°54S×178.°61W, h544km±123km, mb3.2/4, mb1 3.4/4, mb1mx3.0/28, mbtmp4.1/4, Error ellipse: s-maj=127.3km s-min=50.5km az=129.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.64**	**241**	P	P	18 44 06.5	-0.1
	2.5nm,0.7s,baz=78,slow=9.0,SNR=7.4						
WRA	**Warramunga Arr**	**44.51**	**259**	P	P	18 44 52.8	-0.5
	1.0nm,0.5s,baz=95,slow=7.5,SNR=24						
ASAR	**Alice Springs**	**44.71**	**254**	P	P	18 44 54.9	+0.1
	8.5nm,0.6s,baz=88,slow=8.2,SNR=220						
ASAR				PcP	PcP	18 46 24.4	-1.0
	0.3nm,0.5s,baz=102,slow=3.9,SNR=3.9						
ILAR	**Eielson Array**	**85.57**	**13**	P	P	18 49 09.4	-0.6
	0.2nm,0.4s,baz=213,slow=5.6,SNR=3.6						
BRTR	**Keskin Array B**	**144.39**	**315**	PKP	PKPbc	18 56 03.9	-0.4
	0.2nm,0.5s,baz=141,slow=3.0,SNR=4.5						
GERES	**GERESS Array B**	**147.21**	**345**	PKPbc	PKPbc	18 56 11.9	-0.1
	0.6nm,0.6s,baz=14,slow=0.6,SNR=5.3						

*ATH **14** 18:43:35.7, 39.°68N×25.°64E, h26km±1km, ML2.2/4, Error ellipse: s-maj=1.9km s-min=1.0km az=231.0*
*ISK **14** 18:43:35.3, 39.°65N×25.°62E, h11km, ML2.5/15*
*ISCJB **14** 18:43:36.1±0.4, 39.°67N±0.°02×25.°63E±0.°03, h7km±3km, Error ellipse: s-maj=3.6km s-min=3.2km az=39.2*
*THE **14** 18:43:36.5, 39.°68N×25.°64E, h7km±2km, ML1.9/6, Error ellipse: s-maj=2.7km s-min=0.9km az=135.0*
*DDA **14** 18:43:39.6, 39.°69N×25.°94E, h7km±6km, ML2.2*

ISC 14 18:43:36.3±0.9, 39.°67N±0.°02×25.°64E±0.°02, h14km±8km, n52, σ0§39/73, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOZC	**Bozcaada**	**0.36**	**61**	PG	**Pg**	**18 43 43.4**	**-0.3**
BOZC				SG	**Sg**	**18 43 48.9**	**+0.2**
BOZC	**Bozcaada**	**0.36**	**61**	IAML_P			
	comp=Z,2µm,0.1s						
BOZC				*i* P	**Pb**	**18 43 44.3**	**-0.2**
LIA	**Limnos Island**	**0.42**	**304**	P	**Pg**	**18 43 44.7**	**0.0**
LIA				S	**Sg**	**18 43 50.8**	**+0.3**
LIA				AML	AML	18 43 50.8	
	comp=E,389µm,0.2s						
LIA				AML	AML	18 43 51.3	
	comp=N,286µm,0.1s						
LIA	**Limnos Island**	**0.42**	**304**	P	**Pg**	**18 43 44.7**	**0.0**
LIA				S	**Sg**	**18 43 50.5**	**+0.1**
GPNR	**Gulpinar-Canak**	**0.43**	**118**	PG	**Pg**	**18 43 44.6**	**-0.3**
SIGR	**SIGRI**	**0.48**	**160**	PG	**Pg**	**18 43 44.9**	**-0.9**
SIGR				SG	**Sg**	**18 43 52.0**	**-0.3**
SIGR	**SIGRI**	**0.48**	**160**	P	**Pg**	**18 43 45.5**	**-0.3**
SIGR				S	**Sg**	**18 43 52.6**	**+0.3**
EFSA	**Agios Efstrati**	**0.52**	**256**	P	**Pb**	**18 43 47.4**	**+0.3**
EFSA				S	**Sb**	**18 43 54.3**	**-0.1**
EZN	**Ezine**	**0.55**	**73**	PG	**Pg**	**18 43 46.9**	**-0.2**
EZN	**Ezine**	**0.55**	**73**	P	**Pg**	**18 43 47.0**	**-0.2**
EZN				S	**Sg**	**18 43 54.6**	**+0.1**
GADA	**Gvkgeada**	**0.56**	**21**	PG	**Pg**	**18 43 47.3**	**-0.1**
GADA	**Gvkgeada**	**0.56**	**21**	P	**Pg**	**18 43 47.2**	**-0.1**
GADA				S	**Sg**	**18 43 55.0**	**+0.2**
GOKC	**Gokceada-Canak**	**0.58**	**22**	PG	**Pg**	**18 43 47.3**	**-0.3**
PRK	**Paraskevi**	**0.64**	**130**	P	**Pb**	**18 43 49.2**	**0.0**
PRK				S	**Sb**	**18 43 58.7**	**+0.6**
PRK				AML	AML	18 44 02.5	
	comp=E,473µm,0.5s						
PRK				AML	AML	18 44 02.6	
	comp=N,504µm,0.5s						
PRK	**Paraskevi**	**0.64**	**130**	P	**Pb**	**18 43 49.8**	**+0.6**
PRK				S	**Sb**	**18 43 58.9**	**+0.9**
BAYC	**CANAKKALE_Bayr**	**0.70**	**83**	*i* P	**Pb**	**18 43 50.8**	**+0.5**
BAYC				*i* S	**Sn**	**18 44 02.1**	**-0.4**
SMTH	**Samothraki Isl**	**0.81**	**354**	P	**Pg**	**18 43 51.9**	**-0.1**
SMTH				S	**Sg**	**18 44 02.6**	**0.0**
SMTH	**Samothraki Isl**	**0.81**	**354**	P	**Pg**	**18 43 51.9**	**-0.1**
SMTH				S	**Sg**	**18 44 02.6**	**0.0**
AYVA	**Ayvalik**	**0.89**	**113**	*i* P	**Pn**	**18 43 54.5**	**+0.2**
AYVA				*i* S	**Sn**	**18 44 06.4**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.97**	**41**	PG	**Pg**	**18 43 55.0**	**-0.1**
LPK	**Lapseki**	**1.11**	**50**	PN	**Pb**	**18 43 57.4**	**+0.1**
PSRA	**Psara**	**1.12**	**183**	P	**Pn**	**18 43 57.8**	**+0.3**
ENEZ	**Enez**	**1.14**	**20**	PN	**Pb**	**18 43 57.7**	**0.0**
DKL	**Dikili**	**1.15**	**121**	PN	**Pb**	**18 43 57.6**	**-0.2**
THAS	**Thassos island**	**1.18**	**323**	P	**Pn**	**18 43 58.1**	**-0.1**
THAS				S	**Sb**	**18 44 13.6**	**+0.3**
THAS				AML	AML	18 44 15.3	
	comp=E,190µm,0.3s						
THAS				AML	AML	18 44 15.4	
	comp=N,183µm,0.3s						
THAS	**Thassos island**	**1.18**	**323**	P	**Pg**	**18 43 58.9**	**0.0**
THAS				S	**Sb**	**18 44 13.5**	**+0.1**
ERIK	**Erikli-Kesan**	**1.21**	**33**	PN	**Pb**	**18 43 58.9**	**0.0**
ALN	**Alexandroupoli**	**1.27**	**14**	PN	**Pn**	**18 43 58.9**	**-0.6**
ALN	**Alexandroupoli**	**1.27**	**14**	P	**Pn**	**18 43 58.9**	**-0.6**
ALN				S	**Sg**	**18 44 16.9**	**-0.3**
ALN	**Alexandroupoli**	**1.27**	**14**	P	**Pn**	**18 43 58.8**	**-0.7**
ALN				S	**Sg**	**18 44 16.8**	**-0.5**
CHOS	**Chios island**	**1.32**	**166**	P	**Pn**	**18 43 59.9**	**-0.4**
CHOS	**Chios island**	**1.32**	**166**	P	**Pn**	**18 43 59.8**	**-0.4**
KESN	**Edirne-Kesan**	**1.41**	**34**	*i* P	**Pg**	**18 44 03.1**	**-0.3**
KESN				*i* S	**Sg**	**18 44 22.3**	**+0.6**
AOS	**Alonnisos**	**1.45**	**251**	PN	**Pn**	**18 44 01.9**	**-0.1**
AOS	**Alonnisos**	**1.45**	**251**	P	**Pb**	**18 44 03.1**	**+0.1**
AOS	**Alonnisos**	**1.45**	**251**	P	**Pb**	**18 44 03.5**	**+0.5**
KRBG	**Karabiga-Canak**	**1.47**	**60**	PN	**Pn**	**18 44 02.8**	**+0.6**
RDO	**Rodhopi**	**1.48**	**357**	PN	**Pn**	**18 44 02.6**	**+0.2**
RDO	**Rodhopi**	**1.48**	**357**	P	**Pn**	**18 44 02.0**	**-0.4**
URLA	**Izmir**	**1.50**	**150**	PN	**Pn**	**18 44 02.5**	**-0.2**
BALY	**Balya**	**1.53**	**87**	*i* P	**Pb**	**18 44 04.3**	**0.0**
PAIG	**Paliouri**	**1.53**	**280**	P	**Pb**	**18 44 04.3**	**-0.1**
SART	**Tekirdag**	**1.56**	**49**	IAML_P			
	comp=Z,460nm,0.2s						
SART				*i* P	**Pg**	**18 44 05.9**	**-0.4**
SART				*i* S	**Sg**	**18 44 26.1**	**-0.5**
KNL	**Balıkesir**	**1.57**	**67**	*i* P	**Pg**	**18 44 06.0**	**-

PALK				Sn	Sn	19 14 13.7	-11		
	1.4nm,0.3s,baz=295,slow=9.0,SNR=4.6								
CMAR	**Chiang Mai Arr**	**18.98**	**28**	P	**Pn**	**19 14 21.1**	**+0.3**		
	0.0nm,0.3s,baz=218,slow=12,SNR=9.6								
MKAR	**Makanchi Array**	**45.31**	**353**	P	**P**	**19 18 16.3**	**-0.3**		
	0.3nm,0.6s,baz=171,slow=10,SNR=6.0								
SONM	**Songino Array**	**48.16**	**15**	P	**P**	**19 18 39.0**	**0.0**		
	1.3nm,0.6s,baz=194,slow=9.1,SNR=11								
WRA	**Warramunga Arr**	**48.90**	**118**	P	**P**	**19 18 44.7**	**-0.3**		
	0.5nm,0.7s,baz=295,slow=8.6,SNR=4.1								
ASAR	**Alice Springs**	**49.95**	**123**	P	**P**	**19 18 53.3**	**+0.3**		
	0.2nm,0.6s,baz=305,slow=7.9,SNR=4.0								

*BUC **14** 19:14:36.4±0.6, 43.°86N×26.°36E, h4km±3km, MD3.1/4, Error ellipse: s-maj=6.0km s-min=3.2km az=9.0*
*SOF **14** 19:14:37.5, 43.°99N×26.°37E, h7km*
*BEO **14** 19:14:42.1±1.5, 40.°13N×23.°62E, h5km, ML2.1/3*

ISC 14 19:14:38.0±1.1, **43.°96N**±0.°02×**26.°39E**±0.°02, **h7**km±9km, **n69,** σ0**93**/91, **22C-24D, Bulgaria**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SGRR	**Singureni**	**0.40**	**312**	↑iP		**Pg**	**19 14 45.7**	**-0.1**
SGRR	**Singureni**	**0.40**	**312**	↑iP		**Pg**	**19 14 45.7**	**-0.1**
SGRR				*i* S		**Sb**	**19 14 52.2**	**-1.5**
BUC1	**Bucharest**	**0.47**	**327**	S		**Sg**	**19 14 53.9**	**+0.6**
BUC1	**Bucharest**	**0.47**	**327**	*i* S		**Sg**	**19 14 53.9**	**+0.6**
LEHL	**Lehliu**	**0.60**	**31**	↑iP		**Pb**	**19 14 50.7**	**-0.2**
LEHL	**Lehliu**	**0.60**	**31**	↑iP		**Pb**	**19 14 50.7**	**-0.2**
LEHL				*i* S		**Sb**	**19 14 59.6**	**0.0**
RASA	**Rasa**	**0.61**	**65**	↑iP		**Pg**	**19 14 49.4**	**-0.3**
RASA	**Rasa**	**0.61**	**65**	↑iP		**Pg**	**19 14 49.4**	**-0.3**
RASA				*i* S		**Sb**	**19 14 58.9**	**-0.8**
SULR		**0.73**	**353**	↓iP		**Pb**	**19 14 52.5**	**-0.5**
SULR		**0.73**	**353**	↓iP		**Pb**	**19 14 52.5**	**-0.5**
SULR				*i* S		**Sb**	**19 15 11.9**	**+0.3**
SZH	**Strazhica**	**0.76**	**206**	*i* Pg		**Pb**	**19 14 52.8**	**-0.8**
SZH	**Strazhica**	**0.76**	**206**	*i* P		**Pb**	**19 14 52.6**	**-1.0**
AMRR	**Amara**	**0.94**	**46**	S		**Sn**	**19 15 11.5**	**+0.1**
AMRR	**Amara**	**0.94**	**46**	*i* S		**Sn**	**19 15 11.5**	**+0.1**
PLAR	**PLOIESTI**	**0.99**	**345**	↑iP		**Pn**	**19 14 58.8**	**+0.5**
PLAR				S		**Sn**	**19 15 14.9**	**+2.3**
PLAR	**PLOIESTI**	**0.99**	**345**	↑iP		**Pn**	**19 14 58.8**	**+0.5**
PLAR				*i* S		**Sn**	**19 15 14.9**	**+2.3**
ICOR	**Ion Corvin**	**1.03**	**81**	↓iP		**Pg**	**19 14 57.3**	**-0.6**
ICOR	**Ion Corvin**	**1.03**	**81**	↓iP		**Pg**	**19 14 57.3**	**-0.6**
ICOR				*i* S		**Sb**	**19 15 11.9**	**0.0**
PGOR	**Pogoanele**	**1.04**	**24**	↑iP		**Pn**	**19 14 59.0**	**0.0**
PGOR				S		**Sn**	**19 15 15.4**	**+1.5**
PGOR	**Pogoanele**	**1.04**	**24**	↑iP		**Pn**	**19 14 59.0**	**0.0**
PGOR				*i* S		**Sn**	**19 15 15.4**	**+1.5**
PRD	**Provadia**	**1.05**	**135**	*i* P		**Pb**	**19 14 58.6**	**0.0**
PRD	**Provadia**	**1.05**	**135**	*i* P		**Pn**	**19 14 58.6**	**-0.4**
PVL	**Pavlikeni**	**1.06**	**226**	P		**Pn**	**19 15 00.5**	**+1.2**
PVL	**Pavlikeni**	**1.06**	**226**	*i* P		**Pn**	**19 15 00.7**	**+1.4**
ROIA	**ROIAK**	**1.12**	**140**	P		**Pn**	**19 15 00.2**	**0.0**
ROIA	**ROIAK**	**1.12**	**140**	*i* P		**Pn**	**19 15 00.3**	**+0.1**
HUMR	**Humele**	**1.16**	**300**	↓iP		**Pg**	**19 14 59.9**	**-0.4**
HUMR	**Humele**	**1.16**	**300**	↓iP		**Pg**	**19 14 59.9**	**-0.4**
HUMR				*i* S		**Sn**	**19 15 16.1**	**-0.7**
ISR	**Istrita**	**1.17**	**5**	↑iP		**Pn**	**19 15 01.2**	**+0.4**
ISR	**Istrita**	**1.17**	**5**	↑iP		**Pn**	**19 15 01.2**	**+0.4**
ISR				*i* S		**Sn**	**19 15 18.8**	**+1.8**
HARR	**Harsova**	**1.33**	**56**	↓iP		**Pn**	**19 15 02.7**	**-0.3**
HARR	**Harsova**	**1.33**	**56**	↓iP		**Pn**	**19 15 02.7**	**-0.3**
PSN	**Preselentsi**	**1.33**	**101**	P		**Pg**	**19 15 03.3**	**-0.2**
PSN	**Preselentsi**	**1.33**	**101**	*i* P		**Pn**	**19 15 02.9**	**-0.1**
TLB	**Topalu**	**1.35**	**62**	↓iP		**Pn**	**19 15 02.7**	**-0.5**
TLB	**Topalu**	**1.35**	**62**	↓iP		**Pn**	**19 15 02.7**	**-0.5**
TLB				*i* S		**Sb**	**19 15 20.9**	**0.0**
MFTR	**Murfatlar**	**1.48**	**81**	↓iP		**Pb**	**19 15 05.8**	**-0.1**
MFTR	**Murfatlar**	**1.48**	**81**	↓iP		**Pb**	**19 15 05.8**	**-0.1**
MFTR				*i* S		**Sg**	**19 15 26.9**	**+1.2**
JMB	**Yambol**	**1.50**	**174**	P		**Pg**	**19 15 07.2**	**+0.5**
TIRR	**Tirgusor**	**1.54**	**70**	↓iP		**Pn**	**19 15 05.6**	**-0.3**
TIRR	**Tirgusor**	**1.54**	**70**	↓iP		**Pn**	**19 15 05.6**	**-0.3**
TIRR				*i* S		**Sn**	**19 15 26.4**	**+0.3**
MLR	**Muntele Rosu**	**1.57**	**349**	↓iP		**Pg**	**19 15 07.6**	**-0.5**
MLR	**Muntele Rosu**	**1.57**	**349**	↓iP		**Pg**	**19 15 07.6**	**-0.5**
MLR				*i* S		**Sg**	**19 15 29.6**	**+1.2**
MTUR	**Matau**	**1.58**	**324**	↓iP		**Pb**	**19 15 07.3**	**-0.4**
MTUR	**Matau**	**1.58**	**324**	↓iP		**Pb**	**19 15 07.3**	**-0.4**
MANR	**Mangalia**	**1.60**	**94**	↑iP		**Pn**	**19 15 06.8**	**+0.2**
MANR	**Mangalia**	**1.60**	**94**	↑iP		**Pn**	**19 15 06.8**	**+0.2**
CFR	**Carcaliu**	**1.75**	**45**	↓iP		**Pn**	**19 15 09.5**	**+0.8**
CFR	**Carcaliu**	**1.75**	**45**	↓iP		**Pn**	**19 15 09.5**	**+0.8**
CFR				*i* S		**Sb**	**19 15 32.7**	**+0.2**
VOIR		**1.76**	**328**	↑iP		**Pb**	**19 15 10.3**	**-0.4**
VOIR		**1.76**	**328**	↑iP		**Pb**	**19 15 10.3**	**-0.4**
VOIR				*i* S		**Sg**	**19 15 34.5**	**-0.1**
PETR	**Petresti**	**1.87**	**18**	S		**Sg**	**19 15 37.0**	**-1.0**
PETR	**Petresti**	**1.87**	**18**	*i* S		**Sg**	**19 15 37.0**	**-1.0**
ARR	**Arges**	**1.89**	**319**	↑iP		**Pn**	**19 15 11.2**	**+0.5**
ARR	**Arges**	**1.89**	**319**	↑iP		**Pn**	**19 15 11.2**	**+0.5**
ARR				*i* S		**Sg**	**19 15 37.9**	**-0.7**
PLOR	**Plostina**	**1.90**	**6**	↓iP		**Pn**	**19 15 11.8**	**+0.9**
PLOR	**Plostina**	**1.90**	**6**	↓iP		**Pn**	**19 15 11.8**	**+0.9**
VRI	**Vrincioaia**	**1.93**	**7**	↑iP		**Pb**	**19 15 12.4**	**-1.1**
VRI	**Vrincioaia**	**1.93**	**7**	↑iP		**Pb**	**19 15 12.4**	**-1.1**
VRI				*i* S		**Sg**	**19 15 40.3**	**+0.4**
DOPR	**Dopca**	**2.13**	**341**	S		**Sb**	**19 15 43.2**	**-0.4**
DOPR	**Dopca**	**2.13**	**341**	*i* S		**Sb**	**19 15 43.2**	**-0.4**
PLD	**Plovdiv**	**2.22**	**214**	*e*Pn		**Pb**	**19 15 18.1**	**-0.4**
PLD				*e*Sn		**Sb**	**19 15 45.7**	**-0.5**
VTS	**Vitosha**	**2.69**	**241**	*e*Pn		**Pn**	**19 15 23.3**	**+1.4**
VTS				*e*Sn		**Sn**	**19 15 53.8**	**-0.9**
VTS	**Vitosha**	**2.69**	**241**	↓iP		**Pn**	**19 15 19.9**	**-2.0**
VTS	**Vitosha**	**2.69**	**241**	↓iP		**Pn**	**19 15 19.9**	**-2.0**
ZAPS	**Zavoj**	**2.81**	**257**	*e*Pn		**Pg**	**19 15 33.4**	**+1.5**
ZAPS				*e*Sn		**Sg**	**19 16 11.3**	**+3.0**
GZR	**Gura Zlata**	**2.95**	**300**	↑iP		**Pn**	**19 15 24.9**	**-0.4**
GZR	**Gura Zlata**	**2.95**	**300**	↑iP		**Pn**	**19 15 24.9**	**-0.4**
SELS	**Selova**	**3.90**	**261**	*e*Sn		**Sn**	**19 16 21.6**	**-2.7**

IDC 14 19:18:39.0±2.5, **11.°61N**×**92.°90E, h0**km, **mb3.4**/2, **mb1 3.4**/3, **mb1mx3.1**/38, **mbtmp3.2**/3, **ML2.9**/1, **Error ellipse: s-maj=69.3km s-min=31.7km az=65.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.96**	**40**		Pn	Pn	19 20 48.8	-1.1
	0.0nm,0.3s,baz=236,slow=16,SNR=2.9							
CMAR						Sn	Sn	19 22 19.0	-13
	0.1nm,0.3s,baz=239,slow=27,SNR=6.7							
H08S3	**Diego Garcia H**	**27.89**	**228**	T		T	19 54 29.2	
	baz=43,slow=76,SNR=5.5							
H08S2	**Diego Garcia H**	**27.89**	**228**	T		T	19 54 29.9	
	baz=43,slow=76,SNR=6.7							
H08S1	**Diego Garcia H**	**27.91**	**228**	T		T	19 54 28.6	
	baz=43,slow=76,SNR=5.7							
MKAR	**Makanchi Array**	**36.20**	**348**	P		P	19 25 44.2	+0.8
	0.4nm,0.8s,baz=161,slow=7.7,SNR=3.6							
WRA	**Warramunga Arr**	**51.45**	**127**	P		P	19 27 46.0	-0.5
	0.4nm,0.6s,baz=307,slow=8.5,SNR=4.4							

*NORS **14** 19:22:18.2±0.0, 42.°54N×45.°44E, h10km, MPVA3.7*
*MOS **14** 19:22:18.2±0.0, 42.°58N×45.°46E, h17km, MPVA3.6*
*DRS **14** 19:22:19.4±0.0, 42.°54N×45.°40E, h12km*

ISC 14 19:22:18.8±1.2, **42.°63N**±0.°03×**45.°52E**±0.°02, **h3**km±10km, **n26,** σ0**83**/52, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.52**	**86**		*e*Pg	**Pb**	**19 22 31.2**	**+0.6**
BTLR					*e*Sg	**Sb**	**19 22 39.4**	**+0.8**
DVE	**Vedeno**	**0.55**	**54**		*e*Pg	**Pn**	**19 22 32.0**	**-1.6**
DVE					*e*Sg	**Sn**	**19 22 41.7**	**-1.7**
GROC	**Groznyy**	**0.60**	**20**		*e*Pg	**Pn**	**19 22 33.8**	**-0.5**
GROC					*e*Sg	**Sn**	**19 22 44.5**	**-0.1**
KMGR	**Komgaron**	**0.64**	**312**		*i* Pg	**Pb**	**19 22 32.3**	**-0.3**
KMGR					*e*Sg	**Sb**	**19 22 42.2**	**+0.3**
VLKR	**Vladikavkaz**	**0.74**	**304**		*i* Pg	**Pg**	**19 22 33.6**	**+0.6**
VLKR					*e*Sg	**Sb**	**19 22 45.5**	**+0.6**
GUDG	**Gudauri**	**0.79**	**258**	P		**Pg**	**19 22 33.9**	**0.0**
GUDG				S		**Sg**	**19 22 42.9**	**-1.1**
LGD	**Lagodekhi**	**0.96**	**146**	P		**Pb**	**19 22 38.3**	**+0.2**
LGD				S		**Sb**	**19 22 50.6**	**-0.7**
LGD	**Lagodekhi**	**0.96**	**146**	*e*Pg		**Pb**	**19 22 38.3**	**+0.2**
LGD				*e*Sg		**Sb**	**19 22 50.6**	**-0.7**
BTKR	**Batakoyurt**	**1.03**	**316**	*e*Pg		**Pg**	**19 22 38.8**	**+0.3**
BTKR				*e*Sg		**Sn**	**19 22 55.2**	**+0.1**
ARNR	**Ardon**	**1.06**	**302**	*e*Pg		**Pg**	**19 22 39.3**	**+0.3**
ARNR				*e*Sg		**Sn**	**19 22 55.9**	**+0.2**
TBLG	**Delisi**	**1.07**	**213**	P		**Pg**	**19 22 39.2**	**-0.1**
TBLG				S		**Sg**	**19 22 53.3**	**+0.1**
TBLG	**Delisi**	**1.07**	**213**	*e*Pg		**Pg**	**19 22 39.2**	**-0.1**
TBLG				*e*Sg		**Sg**	**19 22 53.3**	**+0.1**
GNBR	**Gunib**	**1.10**	**102**	*e*Pg		**Pn**	**19 22 41.4**	**+0.3**
GNBR				*e*Sg		**Sn**	**19 22 57.2**	**+0.4**
KORR	**Kora**	**1.16**	**293**	*e*Pg		**Pg**	**19 22 41.4**	**+0.4**
KORR				*e*Sg		**Sn**	**19 22 58.2**	**0.0**
ZEI	**Tsey**	**1.20**	**278**	*e*Pg		**Pg**	**19 22 39.9**	**-1.9**
ZEI				*e*Sg		**Sg**	**19 22 57.7**	**+0.4**
STDR	**Stavd-Durt**	**1.29**	**305**	*e*Pg		**Pb**	**19 22 44.0**	**+0.3**
STDR				*e*Sg		**Sn**	**19 23 02.3**	**+0.7**
LSNR	**Lesken**	**1.40**	**298**	*e*Pg		**Pg**	**19 22 46.0**	**+0.4**
LSNR				*e*Sg		**Sn**	**19 23 05.5**	**+1.3**
DIGR	**Digorskoe uzhe**	**1.45**	**281**	*e*Pg		**Pn**	**19 22 44.8**	**-1.3**
DIGR				*e*Sg		**Sb**	**19 23 05.8**	**+0.3**
MAK	**Makhachkala**	**1.50**	**77**	*e*Pg		**Pg**	**19 22 46.8**	**-0.7**
MAK				*e*Sg		**Sg**	**19 23 09.8**	**+2.8**
TRLG	**Trialeti**	**1.52**	**224**	P		**Pn**	**19 22 46.8**	**-0.2**
TRLG				S		**Sn**	**19 23 07.2**	**-0.2**
NCK	**Nalchik**	**1.65**	**302**	*e*Pg		**Pb**	**19 22 50.2**	**+0.4**
NCK				*e*Sg		**Sb**	**19 23 11.0**	**0.0**
BGD	**Bogdanovka**	**1.98**	**227**	P		**Pn**	**19 22 54.2**	**+0.8**
BGD				S		**Sn**	**19 23 20.2**	**+1.4**
AKT	**Akhty**	**2.01**	**124**	*e*Pg		**Pg**	**19 22 56.9**	**-0.4**
AKT				*e*Sg		**Sg**	**19 23 23.0**	**-0.4**
NEY	**Neytrino**	**2.14**	**288**	*e*Pg		**Pn**	**19 22 56.6**	**+1.0**
NEY				*e*Sg		**Sb**	**19 23 24.7**	**-0.6**
SHA1	**Shidzhatmaz**	**2.36**	**299**	*i* Pn		**Pb**	**19 23 01.5**	**-0.6**
SHA1				*e*Sn		**Sb**	**19 23 31.5**	**-0.3**
KIV0	**Kislovodsk Arr**	**2.45**	**304**	*e*Pn		**Pb**	**19 23 02.4**	**-1.1**
KIV0				*i* Sn		**Sb**	**19 23 33.3**	**-0.7**

*ISCJB **14** 19:25:00.7±0.4, 0.°20N±0.°06×122.°27E±0.°05, h189km±4km, Error ellipse: s-maj=10.0km s-min=7.7km az=177.8*
*DJA **14** 19:25:02.6±0.4, 0.°7N±3.°×12.°2E±.°, h166km±4km, M3.9/13, mb4.1/3, MLv3.8/13*
*IDC **14** 19:25:02.1±1.0, 0.°33N×122.°51E, h197km±10km, mb2.8/4, mb1 3.1/6, mb1mx3.0/31, mbtmp3.5/6, Error ellipse: s-maj=38.0km s-min=13.3km az=56.0*

ISC 14 19:25:01.6±0.7, **0.°22N**±0.°07×**122.°27E**±0.°06, **h187**km±6km, **n24,** σ1**20**/33, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.42**	**308**	P		**Pn**	**19 25 26.0**	**-1.0**
MRSI				S		**Sn**	**19 25 44.1**	**-2.4**
APSI	**Ampana**	**1.28**	**209**	P		**Pn**	**19 25 32.5**	**+0.2**
APSI				S		**Sn**	**19 25 55.7**	**-0.5**
LUWI	**Luwuk**	**1.35**	**158**	P		**Pn**	**19 25 32.6**	**-0.3**
LUWI				S		**Sn**	**19 25 55.6**	**-1.6**
KMSI	**Cibinong**	**1.75**	**78**	P		**Pn**	**19 25 37.6**	**+1.0**
KMSI				S		**Sn**	**19 26 05.3**	**+1.6**
MPSI	**Mapaga**	**2.38**	**273**	P		**Pn**	**19 25 43.4**	**+0.1**
PCI	**Palu**	**2.68**	**245**	P		**Pn**	**19 25 46.8**	**-0.1**
PCI				S		**Sn**	**19 26 20.6**	**-1.5**
TTSI	**Tana Toraja**	**4.07**	**217**	P		**Pn**	**19 26 04.4**	**+0.6**
BNSI	**Bone**	**5.07**	**205**	P		**Pn**	**19 26 17.7**	**+1.0**
	62nm,1.0s							
TNTI	**Ternate**	**5.12**	**84**	P		**Pn**	**19 26 16.3**	**-1.1**
SIJI	**Sorong**	**9.06**	**97**	P		**Pn**	**19 27 07.7**	**-1.2**
	0.3nm,0.3s,baz=285,slow=20,SNR=2.7							
FITZ	**Fitzroy Crossi**	**18.50**	**170**	P		**P**	**19 29 04.1**	**+0.3**
	0.2nm,0.3s,baz=353,slow=9.4,SNR=5.2							
WRA	**Warramunga Arr**	**23.27**	**150**	P		**P**	**19 29 51.9**	**-0.7**
	0.6nm,0.8s,baz=327,slow=10,SNR=4.8							
WRA				pP		**pP**	**19 30 28.5**	**+1.2**
	0.5nm,0.8s,baz=337,slow=9.9,SNR=2.4							
ASAR	**Alice Springs**	**26.30**	**155**	P		**P**	**19 30 20.0**	**-0.1**
	0.3nm,1.0s,baz=342,slow=14,SNR=3.1							
ASAR				pP		**pP**	**19 30 58.2**	**+0.3**
	0.4nm,0.8s,baz=332,slow=9.7,SNR=1.3							
ASAR				ScP		**ScP**	**19 37 00.2**	**-3.5**
	0.3nm,1.0s,baz=327,slow=5.0,SNR=3.3							
CMAR	**Chiang Mai Arr**	**29.21**	**310**	P		**P**	**19 30 47.9**	**+1.9**
	0.7nm,0.8s,baz=132,slow=7.5,SNR=7.3							
RAMN	**Ramite**	**43.38**	**311**	*e*P		**P**	**19 32 47.1**	**+1.0**
	12nm,0.8s							
JIRN	**Jiri**	**44.06**	**311**	*e*P		**P**	**19 32 52.3**	**+0.7**
	13nm,0.7s							
GUN	**Gumba**	**44.43**	**311**	*e*P		**P**	**19 32 55.1**	**+0.6**
	9.8nm,0.6s							
PKI	**Pulchoki**	**44.60**	**311**	*e*P		**P**	**19 32 56.1**	**+0.2**
	1.7nm,0.5s							
PKIN	**Phulchoki**	**44.62**	**311**	*e*P		**P**	**19 32 55.8**	**-0.1**
	2.0nm,0.5s							
DMN	**Daman**	**44.85**	**311**	*e*P		**P**	**19 32 58.1**	**+0.3**
	3.9nm,0.5s							
KOLN	**Koldanda**	**46.09**	**310**	*e*P		**P**	**19 33 07.8**	**+0.4**
	7.7nm,0.6s							
DANN	**Dangsing**	**46.25**	**311**	*e*P		**P**	**19 33 09.1**	**+0.3**
	14nm,0.6s							
PYUN	**Piuthan**	**46.72**	**310**	*e*P		**P**	**19 33 12.9**	**+0.6**
	12nm,0.5s							
MKAR	**Makanchi Array**	**58.05**	**329**	P		**P**	**19 34 34.0**	**-1.1**
	0.4nm,0.5s,baz=123,slow=8.5,SNR=7.2							
MKAR				pP		**pP**	**19 35 19.3**	**+1.0**
	0.2nm,0.7s,baz=134,slow=8.3,SNR=1.3							

*DDA **14** 19:41:38.8, 42.°26N×41.°31E, h7km±3km, ML2.7*
*MOS **14** 19:41:38.9±0.0, 42.°52N×41.°02E, h10km, MPVA3.3*
*NORS **14** 19:41:40.7±0.0, 42.°60N×41.°18E, h8km, MPVA3.1*

ISC 14 19:41:35.8±1.4, **42.°35N**±0.°03×**40.°93E**±0.°04, **h2**km±12km, **n17,** σ1**09**/32, **Black Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BCA	**Borcka**	**1.04**	**150**		PG	**Pg**	**19 41 56.4**	**+0.6**
BCA					SG	**Sb**	**19 42 11.4**	**+0.7**
DOMR	**Dombai**	**1.07**	**28**		*e*Pg	**Pg**	**19 41 55.5**	**-0.8**
DOMR					*i* Sg	**Sg**	**19 42 08.4**	**-1.7**
ARTV	**Artvin**	**1.39**	**147**		IAML_P			
	comp=Z,2μm,0.1s							
ARTV					*i* P	**Pn**	**19 42 02.2**	**-0.1**
RPOR	**Krasnaya Polya**	**1.43**	**340**		*e*Pg	**Pn**	**19 42 02.6**	**-0.2**
RPOR					*e*Sg	**Sn**	**19 42 21.1**	**-1.2**
DBAD	**Bademkaya**	**1.45**	**157**		*i* P	**Pn**	**19 42 03.8**	**+0.7**
DBAD					*i* S	**Sn**	**19 42 21.4**	**-1.4**
DAGI	**Agillar**	**1.47**	**150**		IAML_P			
	comp=Z,380nm,0.2s							
DAGI					*i* P	**Pn**	**19 42 03.6**	**+0.2**
DAGI					*i* S	**Sn**	**19 42 22.3**	**-1.0**
SOC	**Sochi**	**1.52**	**324**		*e*Pg	**Pb**	**19 42 05.7**	**+1.0**
SOC					*i* Sg	**Sb**	**19 42 25.1**	**+0.7**
DDEM	**Demirkent**	**1.58**	**157**		*i* P	**Pn**	**19 42 05.9**	**+1.0**
DDEM					*i* S	**Sn**	**19 42 25.1**	**-1.0**
NEY	**Neytrino**	**1.59**	**55**		*e*Pg	**Pn**	**19 42 04.1**	**-1.0**
NEY					*e*Sg	**Sn**	**19 42 23.8**	**-2.6**
SHA1	**Shidzhatmaz**	**1.87**	**42**		*e*Pg	**Pn**	**19 42 09.2**	**+0.1**
SHA1					*e*Sg	**Sn**	**19 42 32.5**	**-0.9**
LZRR	**Lazarevskoye**	**1.95**	**325**		*e*Pg	**Pg**	**19 42 13.7**	**+0.6**
LZRR					*e*Sg	**Sb**	**19 42 36.5**	**-0.2**
DIGR	**Digorskoe uzhe**	**2.03**	**74**		*i* Pg	**Pn**	**19 42 12.4**	**+1.3**
DIGR					*e*Sg	**Sn**	**19 42 37.4**	**+0.2**
KIV0	**Kislovodsk Arr**	**2.06**	**38**		*e*Pg	**Pn**	**19 42 12.5**	**+1.1**
KIV0					*e*Sg	**Sn**	**19 42 37.8**	**0.0**
BEYR	**Belyy Ugol+**	**2.15**	**39**		*i* Pg	**Pn**	**19 42 14.1**	**+1.3**
BEYR					*i* Sg	**Sn**	**19 42 41.0**	**+0.9**
ESPY	**Espiye-Giresun**	**2.19**	**230**		*e*PG	**Pn**	**19 42 12.2**	**-1.0**
ZEI	**Tsey**	**2.23**	**78**		*e*Pg	**Pb**	**19 42 16.1**	**-0.9**
ZEI					*e*Sg	**Sn**	**19 42 43.5**	**+1.3**
ALER	**Alexandrovskoy**	**2.81**	**30**		*e*Pn	**Pb**	**19 42 28.2**	**+1.6**
ALER					*e*Sn	**Sb**	**19 43 01.3**	**-0.1**

MAN 14 19:49:46.8, 11.°28N×126.°92E, h61km, **mb4.6, ML3.5, MS3.4, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.49**	**283**	*e*P		Pn	19 50 12.2	+0.9
BESP				*e*S		Sn	19 50 31.3	+1.5
MSLP	**Maasin**	**2.32**	**241**	*e*P		Pn	19 50 24.2	+1.5

*IDC **14** 19:53:04.0±1.9, 14.°63S×71.°85W, h74km±18km, mb3.5/4, mb1 3.7/10, mb1mx3.5/38, mbtmp3.9/10, MS3.7/11, Ms1 3.7/11, ms1mx3.5/26, Error ellipse: s-maj=43.3km s-min=13.1km az=32.0*

ISC 14 19:53:02.1±0.9, **14.°6S**±0.°2×**71.°99W**±0.°10, **h50**km, **n17,** σ2**16**/15, **mb3.7**/4, **MS3.9**/5, **Central Peru**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.07**	**114**	P		**Pn**	**19 54 04.2**	**+1.9**
	0.7nm,0.3s,baz=274,slow=7.2,SNR=12							
LPAZ				S		**Sn**	**19 54 49.6**	**+0.6**
	1.1nm,0.3s,baz=286,slow=19,SNR=2.5							
NNA	**Nana**	**5.41**	**299**	P		**Pn**	**19 54 23.2**	**+3.0**
	1.8nm,0.3s,baz=158,slow=7.2,SNR=8.4							
NNA				S		**Sn**	**19 55 19.7**	**-1.6**
	1.7nm,0.3s,baz=262,slow=18,SNR=2.0							
NNA				LR		LR	19 56 51.1	
	comp=Z,470nm,21.2s,baz=140,slow=41							
LVC	**Limon Verde**	**8.45**	**160**	P		Pn	19 54 58.3	-3.8
	0.7nm,0.3s,baz=329,slow=12,SNR=7.5							
LVC				S		Sn	19 56 27.6	-8.8
	0.2nm,0.3s,baz=308,slow=19,SNR=1.7							
LVC				LR		LR	19 58 14.1	
	comp=Z,377nm,18.5s,baz=310,slow=37							
ATAH	**Atahualpa**	**9.76**	**319**	P		**Pn**	**19 55 21.7**	**+1.5**
	0.3nm,0.3s,baz=143,slow=20,SNR=1.8							
ATAH				LR		LR	19 59 16.6	
	comp=Z,441nm,18.2s,baz=171,slow=38							
SIV	**San Ignacio**	**10.62**	**99**	P		**Pn**	**19 55 30.2**	**-1.4**
	1.0nm,0.3s,baz=281,slow=12,SNR=17							
SIV				S		**Sn**	**19 57 33.3**	**+4.1**
	0.2nm,0.3s,baz=198,slow=20,SNR=2.2							
SIV				LR		LR	20 00 22.2	
	comp=Z,212nm,20.9s,baz=294,slow=42							
CPUP	**Villa Florida**	**17.98**	**133**	P		**Pn**	**19 57 06.0**	**-2.5**
	0.1nm,0.3s,baz=335,slow=9.2,SNR=3.0							
CPUP				LR		LR	20 05 09.2	
	comp=Z,228nm,20.6s,baz=324,slow=40							
PTGA	**Pitinga**	**18.23**	**42**	P		**P**	**19 57 11.2**	**-0.1**
	0.9nm,0.3s,baz=229,slow=14,SNR=11							
PTGA				LR		LR	20 03 35.4	
	comp=Z,168nm,20.1s,baz=268,slow=35							
BDFB	**Brasilia**	**23.16**	**96**	LR		LR	20 07 55.9	
	comp=Z,193nm,21.7s,baz=219,slow=39							
SDV	**Santo Domingo**	**23.41**	**3**	P		**P**	**19 58 07.1**	**0.0**
	2.8nm,0.2s,baz=160,slow=18,SNR=4.1							
MDP	**Montagnes des**	**27.44**	**46**	LR		LR	20 10 22.0	
	comp=Z,331nm,18.6s,baz=201,slow=38							
JTS	**JuntasAbangare**	**27.91**	**332**	LR		LR

CMAR				PcP	PcP	20 20 44.7	+1.8	
	0.4nm,0.7s,baz=121,slow=2.8,SNR=4.2							
CMMT	Chiang Mai	30.44	308	P	P	20 17 52.9	+2.2	
CHTO	Chiang Mai	30.44	308	P	P	20 17 52.9	+2.1	
	20nm,0.9s							
KSRS	Korea Array	37.09	6	P	P	20 18 48.2	+0.7	
	0.7nm,0.7s,baz=188,slow=7.4,SNR=2.9							
USRK	Ussuriysk Ar.	44.25	9	P	P	20 19 45.6	-0.1	
	1.9nm,0.6s,baz=173,slow=6.3,SNR=7.1							
RAMN	Ramite	44.38	310	*eP*	P	20 19 48.4	+1.0	
	9.9nm,0.7s							
JIRN	Jiri	45.05	310	*eP*	P	20 19 53.7	+0.9	
	4.6nm,0.4s							
GUN	Gumba	45.42	310	*eP*	P	20 19 56.3	+0.7	
	15nm,0.8s							
PKIN	Phulchoki	45.62	310	*eP*	P	20 19 57.4	+0.3	
DMN	Daman	45.86	309	*eP*	P	20 19 59.9	+0.9	
KOLN	Koldanda	47.10	309	*eP*	P	20 20 09.0	+0.4	
	9.0nm,0.5s							
DANN	Dangsing	47.26	310	*eP*	P	20 20 09.8	-0.1	
	20nm,0.6s							
PYUN	Piuthan	47.74	309	*eP*	P	20 20 14.2	+0.8	
	15nm,0.6s							
SONM	Songino Array	49.61	345	P	P	20 20 27.0	-0.1	
	1.4nm,0.8s,baz=153,slow=7.7,SNR=8.8							
MKAR	Makanchi Array	58.67	328	P	P	20 21 31.9	-0.3	
	1.0nm,0.3s,baz=115,slow=8.6,SNR=20							
MKAR				PcP	PcP	20 22 19.7	+0.5	
	0.8nm,0.5s,baz=168,slow=3.1,SNR=8.7							
PETK	Petropavlovsk-	59.66	23	P	P	20 21 39.5	+0.7	
	3.3nm,0.8s,baz=209,slow=2.6,SNR=3.4							
ZALV	Zalesovo Beam	62.27	335	P	P	20 21 56.0	-0.3	
	0.6nm,0.5s,baz=144,slow=7.3,SNR=2.6							
VNDA	Vanda	80.52	172	P	P	20 23 46.6	+2.1	
	1.1nm,0.9s,baz=333,slow=4.5,SNR=2.4							
ILAR	Eielson Array	89.40	25	P	P	20 24 28.7	-0.1	
	0.3nm,0.6s,baz=252,slow=3.8,SNR=3.8							
ARCES	ARCESS Array B	92.53	340	P	P	20 24 42.8	-0.4	
	3.4nm,0.9s,baz=69,slow=3.0,SNR=3.9							
FINES	FINESS Array B	93.33	332	P	P	20 24 46.1	-1.0	
	2.0nm,1.1s,baz=104,slow=5.9,SNR=4.4							

IDC 14 20:13:34.9±1.4, 15°22S×66°81E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.5/38, mbtmp3.6/8, MS3.5/6, Ms1 3.5/6, ms1mx3.1/32, Error ellipse: s-maj=45.8km s-min=26.3km az=40.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Garcia H	9.35	37	T	T	20 25 13.0	
	baz=216,slow=76,SNR=534						
H08S2	Diego Garcia H	9.36	37	T	T	20 25 15.7	
	baz=216,slow=76,SNR=664						
H08S3	Diego Garcia H	9.37	37	T	T	20 25 18.0	
	baz=216,slow=76,SNR=587						
H08N3	Diego Garcia H	9.73	25	T	T	20 25 47.1	
	baz=204,slow=75,SNR=910						
H08N1	Diego Garcia H	9.74	26	T	T	20 25 48.0	
	baz=204,slow=75,SNR=733						
H08N2	Diego Garcia H	9.75	25	T	T	20 25 51.8	
	baz=204,slow=75,SNR=818						
PALK	Pallekele	26.25	33	LR	LR	20 26 55.1	
	comp=Z,86nm,21.1s,baz=295,slow=30						
BOSA	Boshof	40.58	244	LR	LR	20 36 47.1	
	comp=Z,66nm,18.0s,baz=144,slow=34						
CMAR	Chiang Mai Arr	46.06	45	P	P	20 22 02.0	+1.2
	0.3nm,0.6s,baz=228,slow=8.0,SNR=3.2						
CMAR				LR	LR	20 39 37.5	
	comp=Z,36nm,18.1s,baz=206,slow=34						
H01W3	Cape Leeuwin H	46.65	124	T	T	21 12 07.6	
	baz=284,slow=75,SNR=15						
H01W2	Cape Leeuwin H	46.65	124	T	T	21 12 04.4	
	baz=284,slow=75,SNR=16						
H01W1	Cape Leeuwin H	46.66	124	T	T	21 12 07.6	
	baz=284,slow=75,SNR=14						
MKAR	Makanchi Array	63.28	12	P	P	20 24 04.8	-0.5
	0.2nm,0.6s,baz=211,slow=10.0,SNR=2.4						
MKAR				LR	LR	20 49 43.8	
	comp=Z,60nm,18.1s,baz=276,slow=34						
ASAR	Alice Springs	63.34	109	P	P	20 24 05.7	-0.6
	0.7nm,0.9s,baz=263,slow=6.4,SNR=5.1						
WRA	Warramunga Arr	64.18	105	P	P	20 24 11.8	-0.1
	0.9nm,0.9s,baz=271,slow=6.1,SNR=5.4						
ZALV	Zalesovo Beam	70.60	11	P	P	20 24 51.3	-0.4
	0.3nm,0.4s,baz=236,slow=4.7,SNR=2.7						
SONM	Songino Array	72.03	27	P	P	20 25 00.9	+0.2
	0.4nm,0.7s,baz=208,slow=4.9,SNR=3.4						
SONM				LR	LR	20 54 30.1	
	comp=Z,57nm,20.0s,baz=308,slow=34						
AKASG	Malin Array Be	73.44	336	P	P	20 25 07.6	-1.3
	0.1nm,0.3s,baz=144,slow=5.2,SNR=3.6						
KSRS	Korea Array	77.69	45	LR	LR	21 01 12.8	
	comp=Z,16nm,18.4s,baz=254,slow=37						
ESDC	Sonseca Array	85.44	313	P	P	20 26 16.1	+1.4
	0.2nm,0.5s,baz=112,slow=5.2,SNR=3.2						
PDAR	Pinedale Array	152.37	354	PKPbc	PKiKP	20 33 33.8	+0.1
	0.5nm,0.6s,baz=82,slow=1.5,SNR=6.0						

ISCJB 14 20:22:34.7±0.8, 62°.5S±0°.1×161°.9W±0°.3, h10km, mb4.2/8, MS3.9/11, Error ellipse: s-maj=23.3km s-min=15.4km az=43.6
IDC 14 20:22:34.9±1.0, 62°.48S×161°.77W, h0km, mb4.1/5, mb1 4.2/6, mb1mx4.0/23, mbtmp4.0/6, ML3.9/1, MS3.9/12, Ms1 3.9/12, ms1mx3.8/15, Error ellipse: s-maj=32.7km s-min=23.3km az=44.0
NEIC 14 20:22:35.9±0.7, 62°.47S×161°.65W, h10km, mb4.3/2, Error ellipse: s-maj=22.4km s-min=15.6km az=223.0
ISC 14 20:22:36.0±1.0, 62°.5S±0°.2×161°.7W±0°.2, h10km, n31, σ1°10/15, mb4.2/8, MS4.0/11, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	18.96	203	P	P	20 26 56.8	-0.1
	0.4nm,0.3s,baz=64,slow=16,SNR=19						
VNDA				LR	LR	20 32 32.0	
	comp=Z,289nm,18.2s,baz=52,slow=32						
VNDA	Vanda	18.96	203	*eP*	P	20 26 56.5	-0.3
VNDA				*ePn*	Pn	20 26 57.1	-0.5
RPZ	Rata Peaks	24.58	307	LR	LR	20 35 40.8	
	comp=Z,109nm,18.2s,baz=141,slow=32						
URZ	Urewera	27.49	322	LR	LR	20 36 44.0	
	comp=Z,92nm,21.9s,baz=162,slow=31						
QSPA	South Pole Qui	27.63	180	P	P	20 28 23.6	+0.3
	0.9nm,0.5s,baz=68,slow=5.4,SNR=4.0						
QSPA				LR	LR	20 37 15.6	
	comp=Z,84nm,20.3s,baz=52,slow=32						
TBI	Tubuai	40.00	18	*eLR*	LR	20 41 15.0	
	comp=Z,196nm,27.2s						
TBI	Tubuai	40.00	18	*eT*	T	21 12 57.2	
	21nm,0.3s						
RKT	Rikitea	43.32	37	*eT*	T	21 17 21.7	
	6.3nm,0.4s						
SNAA	Sanae	45.33	171	P	P	20 30 54.3	+0.8
	3.9nm,1.0s,baz=216,slow=18,SNR=2.8						
TVO	Taravao	45.51	17	*eT*	T	21 19 49.3	
	1.8nm,0.3s						
PAE	Paea	45.58	16	*eT*	T	21 19 54.0	
	2.8nm,0.3s						
PPT2	Papeete2	45.65	16	*eLR*	LR	20 44 00.9	
	comp=Z,207nm,25.2s						
PPT	Papeete	45.67	16	LR	LR	20 45 04.7	
	comp=Z,72nm,20.0s,baz=180,slow=30						
DZM	Mont Dzumac	45.82	317	*eLR*	LR	20 43 36.2	
	comp=Z,147nm,24.8s						
MAW	Mawson	46.26	202	LR	LR	20 47 58.5	
	comp=Z,134nm,21.7s,baz=143,slow=33						
STKA	Stephens Creek	46.96	283	LR	LR	20 46 39.5	
	comp=Z,176nm,21.8s,baz=198,slow=31						
VAH	Vaihoa	48.24	18	*eT*	T	21 23 15.2	
	27nm,0.3s						
PLCA	Paso Flores	55.36	113	LR	LR	20 49 58.3	
	comp=Z,143nm,21.1s,baz=217,slow=30						
AS01	Alice Springs	57.45	281	*eP*	P	20 32 25.3	+0.5
ASAR	Alice Springs	57.47	281	P	P	20 32 25.6	+0.7
	2.0nm,0.8s,baz=153,slow=7.6,SNR=19						
ASAR				LR	LR	20 53 29.0	
	comp=Z,193nm,21.3s,baz=156,slow=32						
AS31	Alice Springs	57.47	281	*eP*	P	20 32 25.6	+0.7
	1.0nm,1.0s						
WR1	Warramunga Arr	60.51	284	*eP*	P	20 32 46.8	+0.8
	37nm,1.8s						
WRA	Warramunga Arr	60.51	284	P	P	20 32 46.8	+0.7
	1.8nm,0.8s,baz=155,slow=6.2,SNR=11						
CPUP	Villa Florida	73.32	115	LR	LR	21 01 38.0	
	comp=Z,129nm,20.2s,baz=160,slow=32						
CPUP	Villa Florida	73.32	115	*eP*	P	20 34 06.8	-0.7
	12nm,1.4s						
LPAZ	La Paz	77.36	101	P	P	20 34 32.4	+0.8
	0.4nm,0.4s,baz=200,slow=7.3,SNR=1.2						
BDFB	Brasilia	86.72	118	LR	LR	21 12 01.3	
	comp=Z,208nm,18.5s,baz=199,slow=34						
BOSA	Boshof	89.05	186	LR	LR	21 10 44.6	
	comp=Z,73nm,21.6s,baz=174,slow=32						
ILAR	Eielson Array	127.43	8	PKP	PKPdf	20 41 39.8	+0.6
	0.2nm,0.8s,baz=198,slow=2.6,SNR=2.8						
ZALV	Zalesovo Beam	145.44	287	PKPbc	PKPdf	20 42 10.5	-2.2
	0.3nm,0.3s,baz=124,slow=4.4,SNR=2.5						
ZAA1	Zalesovo Array	145.44	287	*e*PKPdf	PKPdf	20 42 10.5	-2.2

NNC 14 21:20:28.7±7.3, 37°.05N×69°.94E, h0km, mb4.1, mpv3.8, 2C-4D, Error ellipse: s-maj=58.2km s-min=45.7km az=169.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	4.07	42	⇓P	Pn	21 21 33.2	+0.8
	3.5nm,0.4s						
SFK				⇑S	Sn	21 22 22.3	+1.5
	10nm,0.3s						
AML	Almayashu	5.84	29	P	Pn	21 21 57.4	+0.5
	SNR=62						
KK31	Karatay Array	6.06	4	⇓P	Pn	21 22 01.6	+2.1
	1.7nm,0.3s,baz=185,slow=14,SNR=65						
KK31				⇓S	Sn	21 23 12.7	+3.1
	3.1nm,0.4s,baz=191,slow=26						
UCH	Uchtor	6.26	33	P	Pn	21 22 02.2	-0.4
	SNR=36						
EKS2	Erkin-Say	6.33	27	P	Pn	21 22 04.0	+0.6
	SNR=12						
KZA	Kyzart	6.48	38	P	Pn	21 22 04.0	-1.7
	SNR=6.8						
AAK	Ala-Archa	6.59	31	P	Pn	21 22 06.5	-0.4
	SNR=9.1						
AAK	Ala-Archa	6.59	31	P	Pn	21 22 06.0	-0.9
	2.9nm,0.4s						
AAK				S	Sn	21 23 22.3	-0.6
	13nm,1.0s						
KBK	Karagaybulak	6.79	33	P	Pn	21 22 09.4	-0.3
	SNR=8.1						
USP	Osenovka	7.12	28	P	Pn	21 22 13.4	-0.7
	SNR=6.5						
TKM2	Tokmak 2	7.29	35	⇓P	Pn	21 22 14.6	-2.0
	29nm,1.2s						
TKM2				⇑S	Sn	21 23 39.1	-1.2
	4.4nm,0.8s						

NNC 14 21:50:28.9±0.3, 43°.23N×78°.28E, h0km±3km, mb3.1, mpv3.0, Error ellipse: s-maj=5.0km s-min=1.6km az=177.0
KRNET 14 21:50:29.7±0.1, 43°.28N×78°.29E, h26km, mb2.8
SOME 14 21:50:30.1, 43°.22N×78°.27E, h20km
ISC 14 21:50:29.9±1.0, 43°24N±0°.02×78°23E±0°.01, h4km±9km, n50, σ1°16/98, 17C-18D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURS	Kuram	0.25	350	P	Pg	21 50 35.7	+0.8
	29nm,0.1s						
KURS				S	Sg	21 50 39.8	+1.6
	37nm,0.2s						
KURS	Kuram	0.25	350	⇓*eP*	Pg	21 50 35.7	+0.8
	baz=37						
KURS				⇓*eS*	Sg	21 50 39.7	+1.5
	baz=37						
KURS	Kuram	0.25	350	⇓*eP*	Pg	21 50 35.7	+0.8
	29nm,0.1s						
KURS				*eS*	Sg	21 50 39.7	+1.5
	37nm,0.2s						
UZB	Uzynbulak	0.58	99	P	Pg	21 50 40.7	-0.5
	39nm,0.2s						
UZB				S	Sg	21 50 48.1	-0.7
	47nm,0.1s						
UZB	Uzynbulak	0.58	99	⇑*eP*	Pg	21 50 40.7	-0.5
	baz=4.0						
UZB				⇑*eS*	Sg	21 50 48.1	-0.7
	baz=4.0						
UZB	Uzynbulak	0.58	99	⇑*eP*	Pg	21 50 40.7	-0.5
	39nm,0.2s						
UZB				*eS*	Sg	21 50 48.1	-0.7
	47nm,0.1s						
PRZ	Przheval'sk	0.77	171	⇓*iP*	Pb	21 50 45.3	-0.6
	baz=73						
PRZ				⇓*iS*	Sb	21 50 56.8	+0.1
	baz=73						
KOTS	Kotyrbulak	0.82	270	P	Pg	21 50 46.0	+0.4
	20nm,0.2s						
KOTS				S	Sg	21 50 57.2	+1.0
	22nm,0.3s						
KOTS	Kotyrbulak	0.82	270	⇑*eP*	Pg	21 50 45.8	+0.2
	baz=67						
KOTS				⇑*eS*	Sg	21 50 57.2	+1.0
	baz=67						
KOTS	Kotyrbulak	0.82	270	⇑*eP*	Pg	21 50 45.8	+0.2
	20nm,0.2s						
KOTS				*eS*	Sg	21 50 57.2	+1.0
	22nm,0.3s						
MDOK	Medeo	0.87	265	⇓P	Pg	21 50 46.0	-0.5
	2.1nm,0.4s						
MDOK				S	Sb	21 50 59.5	-0.1
	15nm,0.6s						
MDOK	Medeo	0.87	265	Pg	Pg	21 50 46.4	-0.2
	3.3nm,0.3s						
MDOK				Lg	Lg	21 50 58.0	
	27nm,0.2s						
MDOK	Medeo	0.87	265	⇓*eP*	Pg	21 50 46.2	-0.3
	3.3nm,0.3s						
MDOK				*eS*	Sg	21 50 58.0	+0.1
	27nm,0.2s						
SHLS	Shalkode	0.90	95	P	Pn	21 50 51.7	+2.2
	6.2nm,0.3s						
SHLS				S	Sn	21 51 07.0	+4.0
	10nm,0.5s						
SHLS	Shalkode	0.90	95	*eP*	Pn	21 50 51.7	+2.2
	baz=96						
SHLS				*eS*	Sn	21 51 07.0	+4.0
	baz=96						
SHLS	Shalkode	0.90	95	*eP*	Pn	21 50 51.7	+2.2
	6.2nm,0.3s						
SHLS				*eS*	Sn	21 51 07.0	+4.0
	10nm,0.5s						
PDGK	Podgornoye	0.92	84	P	Pg	21 50 46.3	-1.3
	6.7nm,0.2s						
PDGK				S	Sg	21 50 57.7	-1.9
	8.9nm,0.2s						
PDGK	Podgornoye	0.92	84	⇓P	Pg	21 50 46.1	-1.5
	1.8nm,0.5s						
PDGK				⇓S	Sg	21 50 58.3	-1.3
	3.5nm,0.3s						
PDGK	Podgornoye	0.92	84	⇓*iP*	Pg	21 50 46.3	-1.3
	baz=87						
PDGK				⇓*iS*	Sg	21 50 57.9	-1.7
	baz=87						
KNDC	Almaty	0.93	269	⇑P	Pg	21 50 46.8	-0.8
	3.4nm,0.3s						
KNDC				⇓S	Sg	21 51 00.2	+0.5
	11nm,0.7s						
ARXS	Arharly	1.02	343	P	Pg	21 50 49.1	-0.3
	19nm,0.6s						
ARXS				S	Sg	21 51 02.5	-0.1
	22nm,0.2s						
ARXS	Arharly	1.02	343	*eP*	Pg	21 50 49.1	-0.3
	19nm,0.6s						
ARXS				*eS*	Sg	21 51 02.5	-0.1
	22nm,0.2s						
CHKK	Chushkaly	1.09	305	P	Pb	21 50 50.5	-0.9
	1.0nm,0.1s						
CHKK				S	Sg	21 51 05.2	+0.1
	91nm,0.2s						
CHKK	Chushkaly	1.09	305	*eP*	Pb	21 50 50.5	-0.9
	baz=2.0						
CHKK				*eS*	Sg	21 51 05.2	+0.1
	baz=2.0						
CHKK	Chushkaly	1.09	305	*eP*	Pb	21 50 50.5	-0.9
	1.0nm,0.1s						
CHKK				*eS*	Sg	21 51 05.2	+0.1
	91nm,0.2s						
KTBS	Karatobe	1.22	293	P	Pn	21 50 52.9	-0.9
	7.5nm,0.3s						
KTBS				S	Sb	21 51 09.0	-0.7
	32nm,0.3s						
KTBS	Karatobe	1.22	293	*eP*	Pn	21 50 52.9	-0.9
	7.5nm,0.3s						
KTBS				*eS*	Sb	21 51 09.0	-0.7
	32nm,0.3s						
MTBS	Maitube	1.32	266	P	Pn	21 50 53.8	-1.4
	8.5nm,0.3s						
MTBS				S	Sb	21 51 10.6	-2.0
	13nm,0.3s						
MTBS	Maitube	1.32	266	*eP*	Pn	21 50 53.8	-1.4
	8.5nm,0.3s						
MTBS				*eS*	Sb	21 51 10.6	-2.0
	13nm,0.3s						
KDJ	Kajisay	1.35	215	⇓*iP*	Pn	21 50 55.3	-0.4
	baz=15						
KDJ				⇓*iS*	Sg	21 51 13.8	+0.5
	baz=15						
KUU	Kurty	1.52	296	P	Pn	21 50 58.1	+0.2
	2.1nm,0.2s						
KUU				S	Sn	21 51 18.1	0.0
	17nm,0.2s						
KUU	Kurty	1.52	296	*eP*	Pn	21 50 58.1	+0.2
	baz=94						
KUU				*eS*	Sn	21 51 18.1	0.0
	baz=94						
KUU	Kurty	1.52	296	*eP*	Pn	21 50 58.1	+0.2
	2.1nm,0.2s						
KUU				*eS*	Sn	21 51 18.1	0.0
	17nm,0.2s						
TARG	Taragay, Kyrgy	1.54	192	⇑*iP*	Pb	21 50 58.4	-0.8
	baz=93						
TARG				⇑*iS*	Sg	21 51 19.3	-0.1
	baz=93						
DJR	Jarkent	1.57	45	P	Pn	21 50 58.5	-0.1
	1.2nm,0.2s						
DJR				S	Sn	21 51 18.8	-0.6
	11nm,0.3s						
DJR	Jarkent	1.57	45	*eP*	Pn	21 50 58.5	-0.1
	1.2nm,0.2s						
DJR				*eS*	Sn	21 51 18.8	-0.6
	11nm,0.3s						
KST	Kastek	1.67	264	P	Pn	21 51 00.5	+0.5
	7.4nm,0.3s						
KST				S	Sn	21 51 22.3	+0.3
	5.6nm,0.5s						
KST	Kastek	1.67	264	*eP*	Pn	21 51 00.5	+0.5
	baz=63						
KST				*eS*	Sn	21 51 22.3	+0.3
	baz=63						
KST	Kastek	1.67	264	*eP*	Pn	21 51 00.5	+0.5
	7.4nm,0.3s						
KST				*eS*	Sn	21 51 22.3	+0.3
	5.6nm,0.5s						
TDK	Taldyqorghan	1.77	4	*eP*	Pb	21 51 02.2	-0.6
	8.7nm,0.2s						
TDK				*eS*	Sb	21 51 25.0	-0.4
	25nm,0.2s						
ULHL	Ulahol	1.77	237	⇑*iP*	Pb	21 51 02.5	-0.5
	baz=36						
ULHL				⇑*iS*	Sb	21 51 25.7	+0.1
	baz=36						
DGS	Degeres	1.80	271	P	Pn	21 51 02.6	+0.8
	8.7nm,0.3s						
DGS				S	Sn	21 51 25.6	+0.6
	21nm,0.6s						
DGS	Degeres	1.80	271	*eP*	Pn	21 51 02.6	+0.8
	baz=70						
DGS				*eS*	Sn	21 51 25.7	+0.6
	baz=70						
DGS	Degeres	1.80	271	*eP*	Pn	21 51 02.6	+0.8
	8.7nm,0.3s						
DGS				*eS*	Sn	21 51 25.6	+0.6
	21nm,0.6s						
BOOM	Boomskoye usch	1.84	247	⇑*iP*	Pb	21 51 03.6	-0.6
	baz=46						
BOOM				⇑*iS*	Sb	21 51 27.1	-0.6
	baz=46						
TKM2	Tokmak 2	1.96	262	⇑Pn	Pn	21 51 04.8	+0.7
	3.0nm,0.4s						
TKM2				⇑Sn	Sg	21 51 32.5	-0.3
	5.1nm,0.4s						
KAPS	Kapalarasan	2.20	21	*eP*	Pb	21 51 09.0	-1.2
	0.7nm,0.1s						
KAPS				*eS*	Sb	21 51 37.1	-0.7
	12nm,0.2s						
KZA	Kyzart	2.49	243	⇓*iP*	Pn	21 51 12.9	+1.4
	baz=43						
KZA				⇓*iS*	Sn	21 51 43.2	+0.7
	baz=43						
AAK	Ala-Archa	2.81	259	⇓Pg	Pb	21 51 20.9	+0.2
	1.0nm,0.6s						
AAK				⇓Lg	Lg	21 51 57.2	
	1.7nm,0.6s						
UCH	Uchtor	2.92	251	⇑*iP*	Pn	21 51 19.0	+1.5
	baz=51						
UCH				⇑*iS*	Sn	21 51 54.0	+0.8
	baz=51						

NIED 14 21:52:00, 36°.30N×141°.20E, h32km, Mw3.5 Best double couple: M0 2.31000×10^14 NP1: ϕ=223.00000°, δ=25.00000°, λ=-81.00000°. NP2: ϕ=33.00000°, δ=65.00000°, λ=-94.00000°.
IDC 14 21:52:24.4±1.3, 36°.17N×141°.19E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.5/47, mbtmp3.6/8, ML2.7/1, Error ellipse: s-maj=30.1km s-min=24.5km az=34.0
JMA 14 21:52:28.9±0.1, 36°.23N×141°.13E, h46km±2km, M3.5
JMA Felt I, J1.
ISC 14 21:52:26.5±3.4, 36°24N±0°.04×141°11E±0°.06, h13km±22km, n25, σ0°83/29, mb3.5/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	Hitachinakayam	0.44	284	P	Pn	21 52 39.5	+1.0
JHYU				S	Sn	21 52 46.6	+0.3
JIHU	Itakohorinouch	0.55	240	P	Pn	21 52 41.3	+1.3
JIHU				S	Sn	21 52 50.0	+1.0
CHOJ	Chosi	0.57	201	P	Pn	21 52 40.7	+0.3
CHOJ				S	Sn	21 52 48.6	-1.1
JHO	Hitachi	0.57	311	P	Pn	21 52 40.8	+0.4
JHO				*eS*	Sn	21 52 49.4	-0.4
JYT	Yasato	0.74	269	P	Pn	21 52 43.3	+0.6
JYT				S	Sn	21 52 53.0	-0.9
JSMT	Sammumatsuo	0.80	222	*eS*	Sn	21 52 55.8	+0.5
ONAJ	Iwakimizuishiy	0.90	344	P	Pn	21 52 44.9	0.0
ONAJ				S	Sb	21 52 56.2	+0.2
JFK	Kawauchi	1.14	350	P	Pn	21 52 48.2	-0.1
JFK				S	Sb	21 53 01.8	-1.2
JAG	Ashikaga	1.35	278	P	Pb	21 52 52.0	+0.3
JFT	Otama	1.42	334	P	Pb	21 52 53.7	+0.8
JFT				S	Sb	21 53 11.3	+0.3
MJAR	Matsushiro Arr	2.36	278	Pn	Pn	21 53 06.3	+1.2
	1.6nm,0.3s,baz=114,slow=7.6,SNR=54						
MJAR				Sn	Sb	21 53 36.7	-1.3
	1.2nm,0.3s,baz=81,slow=15,SNR=5.6						
MAT	Matsushiro	2.36	278	P	Pb	21 53 07.2	-1.8
MAT				S	Sn	21 53 33.4	-0.6
H11N2	WAKE ISLAND Hy	27.96	119	T	T	22 27 32.2	
	baz=313						
H11N1	WAKE ISLAND Hy	27.97	119	T	T	22 27 30.4	
	baz=313						
H11N3	WAKE ISLAND Hy	27.98	119	T	T	22 27 24.2	
	baz=313						
SONM	Songino Array	28.04	305	P	P	21 58 16.9	-0.6
	0.5nm,0.8s,baz=101,slow=8.1,SNR=3.5						
H11S1	WAKE ISLAND Hy	28.64	121	T	T	22 28 25.0	
	baz=313						
H11S3	WAKE ISLAND Hy	28.64	121	T	T	22 28 22.2	
	baz=313						
H11S2	WAKE ISLAND Hy	28.66	121	T	T	22 28 24.2	
	baz=313						
ZALV	Zalesovo Beam	42.27	313	P	P	22 00 20.1	+0.6
	1.3nm

*ISK **14** 22:05:35.6, 37.°94N×37.°89E, h9km, ML2.0/7*
*DDA **14** 22:05:36.0, 37.°92N×37.°92E, h7km±3km, ML2.6*
ISC 14 22:05:36.5±1.3, **37.°94N**±0.°03×**37.°93E**±0.°03, **h13**km±11km, **n16**, σ1§**09**/23, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.36**	**359**	IAML_P			
	comp=Z,3μm,0.1s						
AKCD				*i* P	**Pg**	**22 05 43.1**	**-0.8**
GZT	**Gaziantep**	**0.65**	**207**	IAML_P			
	comp=Z,655nm,0.1s						
GZT				*i* P	**Pb**	**22 05 48.3**	**-1.5**
GZT				*i* S	**Sb**	**22 05 57.0**	**-1.7**
DARE	**Darende-Malaty**	**0.73**	**331**	PG	**Pg**	**22 05 49.5**	**-1.2**
DARE				SG	**Sb**	**22 06 00.5**	**-0.5**
ELBS	**KAHRAMANMARAS**	**0.74**	**302**	IAML_P			
	comp=Z,245nm,0.1s						
ELBS				*i* P	**Pb**	**22 05 51.2**	**-0.1**
ELBS				*i* S	**Sb**	**22 06 01.8**	**+0.4**
URFA	**Urfa**	**0.86**	**125**	PG	**Pb**	**22 05 52.5**	**-0.9**
URFA				SG	**Sn**	**22 06 06.4**	**-0.5**
KMRS	**Kahramanmaras**	**0.93**	**243**	PG	**Pb**	**22 05 53.4**	**-1.0**
SANL	**SANLIURFA_Merk**	**1.14**	**132**	IAML_P			
	comp=Z,516nm,0.1s						
SANL				*i* P	**Pn**	**22 05 58.8**	**+0.7**
SANL				*i* S	**Sn**	**22 06 14.5**	**+1.0**
SURC	**SANLIURFA_SURC**	**1.19**	**153**	IAML_P			
	comp=Z,315nm,0.2s						
SURC				*i* P	**Pn**	**22 05 59.1**	**+0.2**
ANDN	**Andirin**	**1.31**	**255**	IAML_P			
	comp=Z,257nm,0.2s						
ANDN				*i* P	**Pb**	**22 06 01.2**	**+0.2**
ANDN				*i* S	**Sn**	**22 06 19.2**	**+1.2**
KUZU	**Kuzuini**	**1.35**	**211**	*i* P	**Pg**	**22 06 03.1**	**+0.7**
KEMA	**Kemaliye**	**1.40**	**18**	*i* P	**Pg**	**22 06 03.5**	**0.0**
KEMA				*i* S	**Sg**	**22 06 24.0**	**+2.2**
SAIM	**ADANA**	**1.46**	**272**	IAML_P			
	comp=Z,249nm,0.2s						
SAIM				*i* P	**Pg**	**22 06 05.4**	**+0.8**
PTK	**Pertek**	**1.49**	**50**	PN	**Pb**	**22 06 03.6**	**-0.6**
KOZT	**Kozan**	**1.73**	**255**	PN	**Pb**	**22 06 06.5**	**-1.7**
BNN	**Bunyan**	**1.88**	**300**	PN	**Pn**	**22 06 07.7**	**-0.7**
TAHT	**Tahtakopru-Hat**	**2.09**	**222**	PN	**Pn**	**22 06 11.6**	**+0.4**

IDC 14 22:37:51.7±1.3, **15.°62S×173.°98W, h0km, mb4.1**/6, **mb1 4.3**/6, **mb1mx4.0**/31, **mbtmp4.1**/6, **Error ellipse: s-maj=51.6km s-min=24.1km az=134.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**23.88**	**198**	P	P	22 43 07.0	+0.1
	3.8nm,0.3s,baz=153,slow=1.3,SNR=3.7						
STKA	**Stephens Creek**	**43.44**	**240**	P	P	22 45 56.6	-0.1
	2.6nm,0.5s,baz=82,slow=10,SNR=7.7						
WRA	**Warramunga Arr**	**49.25**	**257**	P	P	22 46 42.5	0.0
	1.1nm,0.8s,baz=94,slow=7.5,SNR=13						
ASAR	**Alice Springs**	**49.51**	**252**	P	P	22 46 44.2	-0.3
	4.7nm,0.6s,baz=85,slow=7.8,SNR=51						
ILAR	**Eielson Array**	**82.77**	**11**	P	P	22 50 17.6	+0.3
	0.6nm,1.1s,baz=228,slow=6.6,SNR=5.2						
PDAR	**Pinedale Array**	**82.81**	**42**	P	P	22 50 17.9	-0.3
	0.7nm,0.8s,baz=184,slow=4.2,SNR=5.2						

*IDC **14** 22:45:17.4±1.8, 26.°61N×55.°24E, h0km, mb3.6/13, mb1 3.8/14, mb1mx3.7/51, mbtmp3.7/14, ML3.2/1, MS3.0/3, Ms1 3.1/3, ms1mx2.6/38, Error ellipse: s-maj=39.9km s-min=19.1km az=170.0*
*ISCJB **14** 22:45:19.8±0.3, 26.°80N±0.°03×55.°14E±0.°05, h10km, mb3.6/12, MS3.0/2, Error ellipse: s-maj=6.8km s-min=3.0km az=157.4*
*TEH **14** 22:45:20.0, 26.°78N×55.°22E, h10km, ML3.5*
*OMAN **14** 22:45:20.7±1.4, 27.°04N×55.°30E, h58km±38km, Error ellipse: s-maj=18.8km s-min=14.2km az=69.0*
*DSN **14** 22:45:20.1±0.7, 26.°99N×55.°41E, h15km, ML3.3/11, Error ellipse: s-maj=9.5km s-min=3.2km az=34.0*
ISC 14 22:45:20.2±0.6, **26.°73N**±0.°03×**55.°28E**±0.°04, **h10**km, **n68**, σ1§**23**/67, **mb3.6**/12, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	**1.03**	**131**	*e*P	**Pn**	**22 45 41.3**	**+0.6**
	SNR=79						
SHME				S	**Sn**	**22 45 57.5**	**+2.3**
SHME	**Shamm**	**1.03**	**131**	*e*Pg	**Pn**	**22 45 41.6**	**+0.9**
GENO	**Geno**	**1.04**	**50**	*e*Pg	**Pb**	**22 45 40.6**	**+0.2**
GENO				IAMB	IAmb	22 46 00.7	
	comp=Z,0.0nm,0.3s						
BANOM	**Banah**	**1.22**	**131**	*e*P	**Pg**	**22 45 44.4**	**+0.9**
	SNR=177						
BANOM	**Banah**	**1.22**	**131**	P	**Pg**	**22 45 44.4**	**+0.9**
	SNR=177						
UMQ	**Umm Al-Quwin**	**1.24**	**164**	P	**Pg**	**22 45 46.4**	**+2.3**
UMQ	**Umm Al-Quwin**	**1.24**	**164**	*e*Pg	**Pg**	**22 45 45.8**	**+1.7**
MSFE	**Esma-Masafi**	**1.57**	**150**	*e*P	**Pg**	**22 45 50.3**	**-0.1**
	SNR=28						
MSFE	**Esma-Masafi**	**1.57**	**150**	*e*Pn	**Pg**	**22 45 50.3**	**-0.1**
NIAN	**Nian**	**1.62**	**59**	*e*Pn	**Pb**	**22 45 49.8**	**-0.3**
NIAN				IAMB	IAmb	22 46 15.5	
	comp=N,0.0nm,0.4s						
MDH	**Madha**	**1.69**	**147**	*e*P	**Pb**	**22 45 51.8**	**+0.3**
	SNR=13						
MDH	**Madha**	**1.69**	**147**	P	**Pb**	**22 45 51.7**	**+0.3**
	SNR=13						
MDH				S	**Sg**	**22 46 15.2**	**+0.6**
MDH	**Madha**	**1.69**	**147**	*e*Pn	**Pb**	**22 45 51.7**	**+0.3**
NAZ	**Nazwa, Dubai**	**1.76**	**169**	*e*P	**Pb**	**22 45 53.6**	**+1.0**
	SNR=6.6						
NAZ	**Nazwa, Dubai**	**1.76**	**169**	P	**Pg**	**22 45 53.8**	**-0.3**
	SNR=6.7						
NAZ	**Nazwa, Dubai**	**1.76**	**169**	*e*Pn	**Pg**	**22 45 53.7**	**-0.3**
UOSS	**Minazif**	**1.96**	**155**	P	**Pb**	**22 45 55.4**	**-0.5**
FAQ	**Al Faqa, Dubai**	**1.99**	**172**	*e*P	**Pb**	**22 45 56.5**	**0.0**
	SNR=9.7						
FAQ	**Al Faqa, Dubai**	**1.99**	**172**	P	**Pb**	**22 45 56.7**	**+0.2**
	SNR=9.7						
FAQ	**Al Faqa, Dubai**	**1.99**	**172**	*e*Pn	**Pb**	**22 45 56.5**	**0.0**
HATD	**Hatta, Dubai**	**2.04**	**158**	P	**Pb**	**22 45 56.8**	**-0.6**
HATD	**Hatta, Dubai**	**2.04**	**158**	*e*Pn	**Pb**	**22 45 57.1**	**-0.3**
ASUD	**Al Ashush, Dub**	**2.09**	**179**	*e*P	**Pb**	**22 45 58.5**	**+0.3**
	SNR=14						
ASUD	**Al Ashush, Dub**	**2.09**	**179**	P	**Pb**	**22 45 58.5**	**+0.3**
	SNR=14						
ASUD	**Al Ashush, Dub**	**2.09**	**179**	*e*Pg	**Pg**	**22 46 02.0**	**+1.7**
ASHO	**Ashiyiah**	**2.15**	**161**	*e*P	**Pb**	**22 45 58.7**	**-0.5**
	SNR=28						
ASHO	**Ashiyiah**	**2.15**	**161**	P	**Pb**	**22 45 58.8**	**-0.5**
	SNR=28						
ASHO	**Ashiyiah**	**2.15**	**161**	*e*Pn	**Pb**	**22 45 58.9**	**-0.4**
JHRM	**Jahrom**	**2.33**	**320**	*e*Pn	**Pb**	**22 46 03.9**	**+1.6**
JHRM				IAMB	IAmb	22 46 42.4	
	comp=E,0.0nm,0.6s						
ALNE	**Al Ain**	**2.69**	**171**	*e*P	**Pn**	**22 46 06.1**	**+2.6**
	SNR=6.4						
ALNE	**Al Ain**	**2.69**	**171**	*e*Pn	**Pn**	**22 46 06.3**	**+2.7**
NGRK	**Negar Kerman**	**3.18**	**23**	*e*Pn	**Pn**	**22 46 11.8**	**+1.2**
NGRK				IAMB	IAmb	22 47 10.4	
	comp=Z,0.0nm,0.4s						
HOQ	**Hoqain**	**3.63**	**149**	*e*Pn	**Pb**	**22 46 22.0**	**-2.5**
CHMN	**Cheshme madani**	**3.71**	**32**	*e*Pn	**Pn**	**22 46 20.5**	**+2.7**
CHMN				IAMB	IAmb	22 47 49.9	
	comp=Z,0.0nm,1.0s						
KHGB	**Koh Gabri**	**3.79**	**16**	*e*Pn	**Pn**	**22 46 20.9**	**+2.1**
WSAR	**Wadi Sarin**	**4.62**	**138**	P	**Pn**	**22 46 31.7**	**+1.7**
	SNR=15						
IMEH	**Mehriz**	**4.68**	**353**	IAMB	IAmb	00 00 00.0	
	comp=Z,0.0nm,0.0s						
IMEH				*e*Pn	**Pn**	**22 46 33.0**	**+1.8**
ISAD	**Sadrabad**	**5.35**	**345**	*e*Pn	**Pn**	**22 46 42.8**	**+2.4**
ISAD				IAMB	IAmb	22 46 43.6	
	comp=Z,387nm,0.6s						
KLNJ	**Kolanjah**	**5.35**	**324**	*e*Pn	**Pn**	**22 46 41.7**	**+1.2**
KLNJ				IAMB	IAmb	22 47 48.1	
	comp=Z,0.0nm,0.4s						
ICHK	**Chekchek**	**5.55**	**352**	*e*Pn	**Pn**	**22 46 44.1**	**+1.0**
ICHK				IAMB	IAmb	22 46 48.6	
	comp=Z,200nm,0.4s						
IRAM	**Rameshen**	**5.66**	**334**	*e*Pn	**Pn**	**22 46 45.5**	**+0.9**
IRAM				IAMB	IAmb	22 46 46.7	
	comp=Z,303nm,0.8s						
MHTO	**MHTO**	**6.22**	**156**	P	**Pn**	**22 46 53.3**	**+1.3**
IGAR	**Gharneh**	**6.32**	**334**	*e*Pn	**Pn**	**22 46 54.5**	**+0.9**
IGAR				IAMB	IAmb	22 48 07.2	
	comp=Z,185nm,0.7s						
IKOO	**Kooshah**	**6.54**	**29**	*e*Pn	**Pn**	**22 46 58.7**	**+2.0**
IKOO				IAMB	IAmb	22 49 10.2	
	comp=E,74nm,0.5s						
ANAR	**Anarak**	**6.58**	**349**	*e*Pn	**Pn**	**22 46 57.4**	**+0.3**
IZEF	**Zefreh**	**6.66**	**338**	*e*Pn	**Pn**	**22 46 58.1**	**-0.2**
IZEF				IAMB	IAmb	22 46 58.8	
	comp=Z,151nm,0.5s						
ITEG	**Tejag**	**6.85**	**25**	*e*Pn	**Pn**	**22 47 02.2**	**+1.3**
ITEG				IAMB	IAmb	22 47 39.6	
	comp=Z,42nm,0.4s						
IPIR	**Pirpir**	**7.06**	**328**	*e*Pn	**Pn**	**22 47 04.7**	**+0.9**
IKLH	**Kolahrood**	**7.31**	**335**	*e*Pn	**Pn**	**22 47 08.3**	**+1.0**
IKLH				IAMB	IAmb	22 48 34.8	
	comp=Z,64nm,0.5s						
KRSH	**Karshahi**	**7.71**	**340**	*e*Pn	**Pn**	**22 47 13.4**	**+0.7**
KRSH				IAMB	IAmb	22 47 15.4	
	comp=Z,0.0nm,0.4s						
DMTO	**DMTO**	**8.97**	**182**	P	**Pn**	**22 47 30.3**	**+0.5**
	SNR=8.9						
GEYT	**Alibeck**	**11.43**	**11**	LR	LR	22 53 09.4	
	comp=Z,620nm,18.7s,baz=185,slow=41						
KBZ	**Khabaz**	**19.71**	**333**	P	**P**	**22 49 50.4**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=153,slow=10,SNR=5.2						
KVAR	**Kislovodsk Arr**	**19.98**	**333**	P	**P**	**22 49 53.5**	**+0.7**
	comp=Z,6.2nm,1.2s,baz=133,slow=19,SNR=6.0						
BRTR	**Keskin Array B**	**22.20**	**311**	P	**P**	**22 50 16.5**	**-0.3**
	comp=Z,2.4nm,0.9s,baz=132,slow=13,SNR=15						
AAK	**Ala-Archa**	**22.32**	**40**	P	**P**	**22 50 19.2**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=201,slow=17,SNR=3.5						
MKAR	**Makanchi Array**	**29.25**	**40**	P	**P**	**22 51 21.6**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=223,slow=6.2,SNR=4.3						
ZALV	**Zalesovo Beam**	**34.84**	**31**	P	**P**	**22 52 10.8**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=222,slow=9.7,SNR=5.5						
FINES	**FINESS Array B**	**39.88**	**339**	P	**P**	**22 52 52.7**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=141,slow=9.4,SNR=8.5						
KEST	**Kesra**	**39.99**	**325**	LR	LR	23 14 56.2	
	comp=Z,51nm,18.2s,baz=272,slow=44						
CMAR	**Chiang Mai Arr**	**40.98**	**92**	LR	LR	23 13 54.6	
	comp=Z,9.3nm,19.0s,baz=100,slow=42						
SONM	**Songino Array**	**44.86**	**48**	P	**P**	**22 53 35.0**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=261,slow=7.4,SNR=5.3						
NOA	**NORSAR Array B**	**45.29**	**332**	P	**P**	**22 53 36.5**	**-1.4**
	comp=Z,1.0nm,0.9s,baz=119,slow=6.9,SNR=2.9						
ARCES	**ARCESS Array B**	**46.23**	**346**	P	**P**	**22 53 44.2**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=157,slow=9.8,SNR=3.1						
ESDC	**Sonseca Array**	**50.40**	**301**	P	**P**	**22 54 16.3**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=72,slow=6.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**51.81**	**266**	P	**P**	**22 54 27.6**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=54,slow=7.7,SNR=3.3						
KLR	**Kul'dur**	**61.64**	**46**	P	**P**	**22 55 36.9**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=256,slow=8.3,SNR=3.9						
YKA	**Yellowknife Ar**	**90.72**	**355**	P	**P**	**22 58 22.8**	**-0.2**
	comp=Z,0.2nm,0.8s,baz=9.5,slow=5.0,SNR=4.4						

IDC 14 22:52:06.0±2.4, **7.°24S×120.°75E, h400**km±29km, **mb2.8**/3, **mb1 3.0**/6, **mb1mx2.8**/40, **mbtmp3.7**/6, **Error ellipse: s-maj=93.0km s-min=18.3km az=60.0, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.12**	**136**	P	Pn	22 53 19.1	-0.2
	5.4nm,0.3s,baz=288,slow=9.6,SNR=8.9						
BATI				S	S	22 54 13.7	-5.1
	14nm,0.3s,baz=297,slow=19,SNR=7.5						
FITZ	**Fitzroy Crossi**	**11.80**	**157**	P	P	22 54 42.5	-1.0
	0.1nm,0.3s,baz=330,slow=8.1,SNR=6.4						
WRA	**Warramunga Arr**	**18.25**	**135**	P	P	22 55 53.0	-0.4
	0.3nm,0.3s,baz=318,slow=11,SNR=16						
ASAR	**Alice Springs**	**20.65**	**144**	P	P	22 56 17.1	+0.6
	1.3nm,0.5s,baz=339,slow=15,SNR=11						
SONM	**Songino Array**	**56.28**	**348**	P	P	23 01 07.3	+0.5
	0.3nm,0.5s,baz=165,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**63.71**	**332**	P	P	23 01 56.0	-0.5
	0.4nm,0.5s,baz=147,slow=7.5,SNR=10						

*IDC **14** 22:53:19.7±2.1, 9.°41S×116.°66E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.6/36, mbtmp3.8/8, ML3.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/31, Error ellipse: s-maj=141.0km s-min=18.9km az=51.0*
*ISCJB **14** 22:53:27.7±0.6, 9.°59S±0.°08×117.°10E±0.°03, h87km, mb3.7/6, Error ellipse: s-maj=11.1km s-min=4.0km az=12.9*
*DJA **14** 22:53:30.4±0.9, 9.°5S×11.°7E±.°, h30km±8km, M4.2/10, mb4.4/2, MLv4.0/10*
ISC 14 22:53:29.4±0.8, **9.°51S**±0.°09×**117.°13E**±0.°04, **h87**km, **n21**, σ2§**34**/29, **mb3.8**/6, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.93**	**43**	P	**Pn**	**22 53 46.4**	**-1.7**
PLAI				S	**Sn**	**22 53 58.6**	**-3.5**
DNP	**Denpasar**	**2.07**	**293**	P	**Pn**	**22 54 02.1**	**-0.3**
DNP				S	**Sn**	**22 54 27.0**	**-0.7**
IGBI	**Denpasar**	**2.08**	**289**	P	**Pn**	**22 54 02.2**	**-0.4**
IGBI				S	**Sn**	**22 54 25.1**	**-2.7**
SRBI	**Singaraja**	**2.37**	**307**	P	**Pn**	**22 54 05.8**	**-0.6**
SRBI				S	**Sn**	**22 54 33.4**	**-1.3**
JAGI	**Jajag, Banyuwa**	**3.12**	**289**	P	**Pn**	**22 54 16.4**	**-0.1**
JAGI				S	**Sn**	**22 54 51.9**	**-1.0**
GMJI	**Gumukmas**	**3.84**	**288**	P	**Pn**	**22 54 27.0**	**+0.7**
GMJI				S	**Sn**	**22 55 10.0**	**-0.4**
KMMI	**Kalianget**	**3.97**	**308**	P	**Pn**	**22 54 29.7**	**+1.6**
EDFI	**Ende, Flores**	**4.56**	**81**	P	**Pn**	**22 54 37.9**	**+1.7**
EDFI				S	**Sn**	**22 55 30.6**	**+2.4**
BKSI	**Bulukumba**	**5.11**	**36**	P	**Pn**	**22 54 44.4**	**+0.9**
PWJI	**Pagerwojo**	**5.47**	**285**	P	**Pn**	**22 54 50.4**	**+1.9**
PWJI				S	**Sn**	**22 55 50.0**	**-0.1**
BNSI	**Bone**	**5.87**	**30**	P	**Pn**	**22 54 55.4**	**+1.5**
LEM	**Lembang**	**9.79**	**285**	LR	LR	23 00 01.7	
	comp=Z,56nm,18.4s,baz=44,slow=43						
FITZ	**Fitzroy Crossi**	**11.88**	**137**	Pn	**Pn**	**22 56 14.1**	**-1.7**
	0.4nm,0.3s,baz=325,slow=5.9,SNR=8.2						
FITZ				Sn	Sn	22 58 16.2	-10
	0.2nm,0.3s,baz=177,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	**19.59**	**124**	P	**Pn**	**22 57 53.2**	**+0.3**
	0.4nm,0.5s,baz=300,slow=12,SNR=6.7						
WRA				S	**S**	**23 01 19.6**	**-7.9**
	0.4nm,0.9s,baz=291,slow=30,SNR=2.8						
ASAR	**Alice Springs**	**21.33**	**133**	P	**P**	**22 58 14.8**	**+5.2**
	0.8nm,0.5s,baz=312,slow=8.8,SNR=12						
SONM	**Songino Array**	**57.88**	**351**	P	**P**	**23 03 12.8**	**+0.5**
	1.1nm,0.6s,baz=170,slow=8.9,SNR=11						
MKAR	**Makanchi Array**	**64.08**	**334**	P	**P**	**23 03 53.7**	**-0.6**
	0.8nm,0.6s,baz=150,slow=7.6,SNR=11						
KURBB	**Kurchatov Arra**	**68.62**	**335**	P	**P**	**23 04 22.7**	**-0.4**
	0.3nm,0.2s,baz=147,slow=5.4,SNR=6.6						
ZALV	**Zalesovo Beam**	**68.87**	**340**	P	**P**	**23 04 23.7**	**-0.9**
	0.9nm,0.5s,baz=93,slow=6.2,SNR=4.6						
BVAR	**Borovoye Array**	**73.89**	**333**	P	**P**	**23 04 55.0**	**+0.2**
	0.6nm,0.6s,baz=142,slow=7.4,SNR=5.9						
YKA	**Yellowknife Ar**	**115.40**	**24**	PKP	**PKPdf**	**23 12 02.5**	**+1.7**
	0.2nm,0.4s,baz=303,slow=2.0,SNR=4.5						

*NEIC **14** 23:03:00.4±0.0, 19.°44N×64.°24W, h87km, MD3.1(RSPR), After RSPR.*
RSPR 14 23:03:00.4, 19.°44N×64.°24W, h87km±11km, **MD3.1**/5, **8C-2D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.71**	**187**↓	*e*P	Pn	23 03 16.7	-0.1
ABV	**Anegada**	**0.71**	**187**	*e*S	Sn	23 03 28.5	-0.5
ABVI	**Anegada Island**	**0.71**	**187**↓	*e*P	Pn	23 03 16.7	-0.1
ABVI				*e*S	Sn	23 03 28.5	-0.5
STVI	**Saint Thomas**	**1.28**	**212**↑	*e*P	Pn	23 03 22.3	-0.9
STVI	**Saint Thomas**	**1.28**	**212**	*e*S	Sn	23 03 40.1	-0.3
STVI	**Saint Thomas**	**1.28**	**212**↑	*e*P	Pn	23 03 22.3	-0.9
STVI				*e*S	Sn	23 03 40.1	-0.3
CUPR	**Culebra, Puert**	**1.50**	**221**↑	*e*P	Pn	23 03 25.2	-0.8
CUPR	**Culebra, Puert**	**1.50**	**221**	*e*S	Sn	23 03 44.8	-0.5
CUPR	**Culebra, Puert**	**1.50**	**221**↑	*e*P	Pn	23 03 25.2	-0.8
CUPR				*e*S	Sn	23 03 44.8	-0.5
MTP	**Monte Pirata**	**1.82**	**223**↑	*e*P	Pn	23 03 29.5	-0.8
MTP	**Monte Pirata**	**1.82**	**223**	*e*S	Sn	23 03 53.1	+0.2
MTP	**Monte Pirata**	**1.82**	**223**↑	*e*P	Pn	23 03 29.5	-0.8
MTP				*e*S	Sn	23 03 53.1	+0.2
HUMP	**Col San Antoni**	**2.00**	**230**↑	*e*P	Pn	23 03 32.5	0.0
HUMP	**Col San Antoni**	**2.00**	**230**	*e*S	Sn	23 03 56.6	-0.3
HUMP	**Col San Antoni**	**2.00**	**230**↑	*e*P	Pn	23 03 32.5	0.0
HUMP				*e*S	Sn	23 03 56.6	-0.3
SDDR	**Presa de Saban**	**6.67**	**267**	Pn	Pn	23 04 36.0	+0.1

*IDC **14** 23:09:49.2±0.8, 2.°62N×126.°71E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.8/35, mbtmp4.0/8, ML3.3/1, MS3.1/4, Ms1 3.2/4, ms1mx2.8/39, Error ellipse: s-maj=53.3km s-min=15.2km az=64.0*
ISC 14 23:09:56.0±0.8, **2.°7N**±0.°2×**127.°0E**±0.°2, **h55**km, **n10**, σ1§**50**/13, **mb4.1/6, Northern Moluccan Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.52**	**130**	Pn	**Pn**	**23 11 17.7**	**+2.1**
	0.9nm,0.3s,baz=320,slow=19,SNR=2.4						
SIJI				Sn	**Sn**	**23 12 14.4**	**-3.4**
	0.1nm,0.3s,baz=292,slow=19,SNR=2.2						
SIJI				LR	LR	23 13 49.9	
	comp=Z,243nm,18.6s,baz=106,slow=42						
JAY	**Jayapura**	**14.62**	**111**	LR	LR	23 18 08.4	
	comp=Z,109nm,19.4s,baz=154,slow=34						
FITZ	**Fitzroy Crossi**	**20.68**	**184**	P	**P**	**23 14 31.7**	**+0.1**
	2.1nm,0.6s,baz=6.6,slow=9.3,SNR=10						
PMG	**Port Moresby**	**23.39**	**121**	LR	LR	23 26 44.7	
	comp=Z,55nm,21.9s,baz=281,slow=43						
WRA	**Warramunga Arr**	**23.60**	**163**	P	**P**	**23 15 01.6**	**-0.5**
	7.0nm,0.6s,baz=342,slow=10,SNR=78						
WRA				PcP	**PcP**	**23 18 46.1**	**+0.2**
	0.4nm,0.7s,baz=334,slow=2.1,SNR=4.0						
ASAR	**Alice Springs**	**27.03**	**166**	P	**P**	**23 15 33.1**	**-0.1**
	0.8nm,0.4s,baz=346,slow=6.7,SNR=8.3						
ASAR				PcP	**PcP**	**23 18 54.6**	**+1.0**
	0.4nm,0.5s,baz=324,slow=2.6,SNR=4.4						
CMAR	**Chiang Mai Arr**	**31.66**	**302**	P	**P**	**23 16 12.5**	**-1.8**
	0.4nm,0.5s,baz=123,slow=7.6,SNR=4.2						
CMAR				LR	LR	23 29 06.5	
	comp=Z,21nm,20.9s,baz=110,slow=37						
STKA	**Stephens Creek**	**37.05**	**159**	P	**P**	**23 17 01.1**	**+0.3**
	4.6nm,0.7s,baz=337,slow=8.6,SNR=12						
SONM	**Songino Array**	**48.38**	**341**	P	**P**	**23 18 32.1**	**-0.4**
	1.3nm,1.1s,baz=157,slow=7.7,SNR=3.6						
SONM				PcP	**PcP**	**23 19 59.3**	**+0.9**
	0.4nm,0.6s,baz=151,slow=3.3,SNR=3.3						
MKAR	**Makanchi Array**	**58.58**	**325**	P	**P**	**23 19 47.2**	**0.0**
	1.3nm,0.6s,baz=122,slow=8.5,SNR=20						
MKAR				PcP	**PcP**	**23 20 37.9**	**+0.9**
	0.8nm,0.9s,baz=110,slow=5.1,SNR=2.7						

*BJI **14** 23:40:41.5, 2.°00S×68.°10E, h10km, mb4.6/40, mB5.1/25, Ms4.8/9, Ms7 4.4/8*
*ISCJB **14** 23:40:42.9±0.4, 2.°02S±0.°06×68.°00E±0.°04, h15km, mb4.6/72, MS3.9/22, Error ellipse: s-maj=8.7km s-min=6.0km az=172.9*
*IDC **14** 23:40:42.8±0.5, 1.°93S×68.°13E, h0km, mb4.4/24, mb1 4.5/25, mb1mx4.3/46, mbtmp4.4/25, ML4.4/1, MS3.8/20, Ms1 3.8/20, ms1mx3.7/30, Error ellipse: s-maj=15.3km s-min=13.0km az=177.0*
*NEIC **14** 23:40:44.1±0.3, 1.°95S×68.°10E, h10km, mb4.7/28, Error ellipse: s-maj=7.1km s-min=6.1km az=174.0*
ISC 14 23:40:45.2±0.5, **1.°96S**±0.°09×**68.°08E**±0.°08, **h15**km, **n158**, σ1§**18**/152, **mb4.7**/80, **MS3.9**/23, **17C-2D, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.22**	**146**	T	T	23 47 12.0	
	baz=326,slow=75,SNR=7244						
H08N3	**Diego Garcia H**	**5.23**	**146**	T	T	23 47 12.2	
	baz=326,slow=75,SNR=3290						
H08N1	**Diego Garcia H**	**5.24**	**146**	T	T	23 47 13.0	
	baz=326,slow=75,SNR=5356						
PALK	**Pallekele**	**15.58**	**54**	Pn	**Pn**	**23 44 23.2**	**-1.3**
	1.4nm,0.3s,baz=292,slow=3.3,SNR=5.4						
PALK				LR	LR	23 49 12.4	
	comp=Z,626nm,18.4s,baz=296,slow=33						
PALK	**Pallekele**	**15.58**	**54**	*e*Pn	**Pn**	**23 44 23.0**	**-1.6**
POO	**Poona**	**21.14**	**15**	*e*P	**P**	**23 45 33.0**	**+3.2**
HYB	**Hyderabad**	**21.85**	**28**	*i* P	**P**	**23 45 40.0**	**+2.5**
OPO	**Ambohidratompo**	**26.30**

KMI					sP	sP	23 48 50.0	-0.1	
KMI					pmax	pmax			
	comp=Z,6.0nm,0.8s								
KMI					pmax	pmax			
	comp=Z,170nm,5.2s								
KMI					LR	LR			
	comp=N,190nm,14.1s								
KMI					LR	LR			
	comp=E,190nm,17.5s								
KZA	**Kyzart**	**44.32**	**8**	P	**P**	**23 48 56.5**	**+1.4**		
	SNR=21								
UCH	**Uchtor**	**44.37**	**7**	P	**P**	**23 48 57.2**	**+1.7**		
	SNR=15								
EKS2	**Erkin-Say**	**44.72**	**6**	P	**P**	**23 48 59.9**	**+2.0**		
	SNR=23								
AAK	**Ala-Archa**	**44.77**	**7**	P	**P**	**23 49 00.2**	**+1.8**		
	SNR=8.3								
AAK	**Ala-Archa**	**44.77**	**7**	*e*P	**P**	**23 48 58.8**	**+0.4**		
	12nm,1.1s								
KBK	**Karagaybulak**	**44.85**	**7**	P	**P**	**23 49 00.4**	**+1.3**		
	SNR=16								
KK31	**Karatay Array**	**44.92**	**3**	*e*P	**P**	**23 48 57.7**	**-1.7**		
KKAR	**Karatay Array**	**44.92**	**3**	*e*P	**P**	**23 48 58.2**	**-1.2**		
TKM2	**Tokmak 2**	**45.19**	**8**	P	**P**	**23 49 03.0**	**+1.2**		
	SNR=17								
USP	**Ospenovka**	**45.40**	**7**	P	**P**	**23 49 03.7**	**+0.5**		
	SNR=6.1								
GYA	**Guiyang**	**46.74**	**50**	*e*P	**P**	**23 49 15.0**	**+0.7**		
GYA				pmax	pmax				
	comp=Z,10.0nm,1.0s								
CD2	**Chengdu**	**47.13**	**43**	*e*P	**P**	**23 49 17.0**	**-0.1**		
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CD2				pmax	pmax				
	comp=Z,120nm,4.8s								
BOSA	**Boshof**	**48.65**	**233**	P	**P**	**23 49 29.1**	**+0.1**		
	3.5nm,0.7s,baz=48,slow=9.5,SNR=5.8								
BOSA				LR	LR	00 06 42.8			
	comp=Z,139nm,20.4s,baz=55,slow=32								
WMQ	**Urumqi**	**48.86**	**19**	*e*P	**P**	**23 49 31.6**	**+1.3**		
WMQ				pP	sP	23 49 35.1	-0.4		
WMQ				sP	pwP	23 49 42.3	+4.2		
WMQ				pmax	pmax				
	comp=Z,14nm,1.5s								
WMQ				pmax	pmax				
	comp=Z,410nm,5.7s								
WMQ				LR	LR				
	comp=N,140nm,18.1s								
WMQ				LR	LR				
	comp=E,130nm,24.1s								
MAKZ	**Makanchi**	**50.09**	**12**	*e*P	**P**	**23 49 38.5**	**-1.0**		
	4.7nm,1.1s								
MK01	**Makanchi Array**	**50.12**	**13**	*e*P	**P**	**23 49 38.9**	**-0.9**		
MK31	**Makanchi Array**	**50.14**	**13**	*e*P	**P**	**23 49 39.5**	**-0.5**		
MKAR	**Makanchi Array**	**50.14**	**13**	P	**P**	**23 49 39.4**	**-0.6**		
	2.7nm,0.8s,baz=187,slow=6.8,SNR=27								
MKAR	**Makanchi Array**	**50.14**	**13**	*e*P	**P**	**23 49 39.5**	**-0.5**		
GTA	**Gaotai**	**50.43**	**32**	*e*P	**P**	**23 49 42.4**	**-0.1**		
GTA				pP	sP	23 49 47.0	-0.7		
GTA				sP	pwP	23 49 50.3	0.0		
GTA				pmax	pmax				
	comp=Z,3.0nm,1.0s								
GTA				LR	LR				
	comp=N,90nm,13.7s								
GTA				LR	LR				
	comp=E,160nm,12.7s								
GTA				LR	LR				
	comp=Z,250nm,16.8s								
LZH	**Lanzhou**	**50.44**	**38**	*e*P	**P**	**23 49 42.4**	**-0.2**		
LZH				pP	pP	23 49 46.4	0.0		
LZH				sP	sP	23 49 48.9	+1.1		
LZH				pmax	pmax				
	comp=Z,25nm,1.0s								
KBZ	**Khabaz**	**50.79**	**337**	P	**P**	**23 49 44.9**	**0.0**		
	13nm,0.9s,baz=168,slow=7.0,SNR=20								
KBZ				LR	LR	00 11 29.3			
	comp=Z,102nm,19.7s,baz=144,slow=36								
ABKAR	**Akbulak array**	**51.50**	**353**	*e*P	**P**	**23 49 50.3**	**+0.2**		
BR131	**Keskin Array S**	**52.12**	**326**	*e*P	**P**	**23 49 53.7**	**-1.5**		
BRTR	**Keskin Array B**	**52.12**	**326**	P	**P**	**23 49 55.7**	**+0.6**		
	2.8nm,0.8s,baz=140,slow=11,SNR=26								
BRTR				LR	LR	00 11 58.7			
	comp=Z,77nm,20.2s,baz=104,slow=36								
XAN	**Xi'an**	**52.49**	**43**	P	**P**	**23 49 58.0**	**+0.1**		
XAN				pP	pP	23 50 01.8	+0.1		
XAN				pmax	pmax				
	comp=Z,16nm,0.9s								
XAN	**Xi'an**	**52.49**	**43**	*e*P	**P**	**23 49 57.1**	**-0.8**		
	12nm,0.8s								
KURK	**Kurchatov**	**53.25**	**8**	*e*P	**P**	**23 50 00.7**	**-2.3**		
	12nm,1.0s								
BRVK	**Borovoye**	**54.85**	**2**	*e*P	**P**	**23 50 14.7**	**0.0**		
	7.2nm,1.0s								
NWAO	**Narrogin (SRO)**	**55.38**	**129**	P	**P**	**23 50 18.6**	**-0.4**		
	15nm,1.0s,baz=190,slow=2.6,SNR=4.2								
ZAA0	**Zalesovo Array**	**57.43**	**12**	*e*P	**P**	**23 50 32.7**	**-0.5**		
	4.9nm,0.9s								
ZALV	**Zalesovo Beam**	**57.43**	**12**	P	**P**	**23 50 32.4**	**-0.8**		
	3.1nm,0.8s,baz=213,slow=7.1,SNR=15								
HHC	**Hu-ho-hao-te**	**58.14**	**38**	*e*P	**P**	**23 50 35.4**	**-3.1**		
HHC				pmax	pmax				
	comp=Z,13nm,0.9s								
HHC				pmax	pmax				
	comp=Z,210nm,5.0s								
ARU	**Arti**	**58.72**	**354**	*e*P	**P**	**23 50 41.1**	**-1.0**		
	16nm,1.0s								
NJ2	**Nanjing**	**58.76**	**50**	*e*P	**P**	**23 50 41.1**	**-1.8**		
NJ2				pmax	pmax				
	comp=Z,9.0nm,0.5s								
SONM	**Songino Array**	**59.79**	**29**	P	**P**	**23 50 50.2**	**+0.3**		
	4.9nm,0.9s,baz=226,slow=6.1,SNR=30								
SONM				LR	LR	00 16 07.9			
	comp=Z,163nm,21.1s,baz=192,slow=36								
SONA1	**Songino Array**	**59.80**	**29**	*e*P	**P**	**23 50 50.1**	**+0.1**		
VTS	**Vitosha**	**59.99**	**323**	*e*P	**P**	**23 50 51.5**	**0.0**		
	4.7nm,0.9s								
VTS	**Vitosha**	**59.99**	**323**	⇓*i*P	**P**	**23 50 51.4**	**0.0**		
VRI	**Vrincioaia**	**60.01**	**328**	⇑*i*P	**P**	**23 50 51.7**	**+0.4**		
PLOR	**Plostina**	**60.04**	**328**	⇑*i*P	**P**	**23 50 52.2**	**+0.6**		
MLR	**Muntele Rosu**	**60.19**	**327**	*e*P	**P**	**23 50 51.0**	**-1.7**		
	4.7nm,1.1s								
BJI	**Beijing**	**60.62**	**41**	⇑*e*P	**P**	**23 50 56.6**	**+1.1**		
BJI				S	S	**23 59 13.8**	**+2.4**		
VOIR		**60.65**	**327**	⇓*i*P	**P**	**23 50 55.2**	**-0.6**		
OZUR		**60.66**	**328**	⇑*i*P	**P**	**23 50 55.3**	**-0.5**		
DOPR	**Dopca**	**60.79**	**327**	⇑*i*P	**P**	**23 50 56.8**	**+0.1**		
ARR	**Arges**	**60.83**	**326**	⇑*i*P	**P**	**23 50 56.4**	**-0.6**		
PRAR	**RASCA**	**61.24**	**329**	⇑*i*P	**P**	**23 50 59.9**	**+0.2**		
BURAR	**Bucovina Array**	**61.93**	**329**	⇑*i*P	**P**	**23 51 05.2**	**+0.8**		
BUR04	**Bucovina Ar. S**	**61.93**	**329**	*e*P	**P**	**23 51 04.3**	**-0.2**		
BUR08	**Bucovina Ar. S**	**61.96**	**329**	*e*P	**P**	**23 51 04.2**	**-0.5**		
ARCR	**ARCALIA**	**62.05**	**328**	⇑*i*P	**P**	**23 51 05.5**	**+0.4**		
AKASG	**Malin Array Be**	**62.05**	**333**	P	**P**	**23 51 04.1**	**-0.9**		
	4.4nm,0.8s,baz=128,slow=5.7,SNR=15								
AKASG				LR	LR	00 19 04.3			
	comp=Z,31nm,20.1s,baz=250,slow=37								
AKBB	**Malin Array Si**	**62.05**	**333**	*e*P	**P**	**23 51 04.5**	**-0.6**		
	10nm,1.0s								
KIEV	**Kiev**	**62.06**	**333**	*e*P	**P**	**23 51 04.2**	**-0.9**		
	10nm,1.0s								
KIEV	**Kiev**	**62.06**	**333**	⇑*i*P	**P**	**23 51 04.3**	**-0.8**		
AK11	**Malin Array Si**	**62.06**	**333**	*e*P	**P**	**23 51 04.7**	**-0.4**		
OBN	**Obninsk**	**62.51**	**340**	⇑*i*P	**P**	**23 51 07.7**	**-0.3**		
BZS	**Buzias**	**62.68**	**325**	⇑*i*P	**P**	**23 51 08.9**	**-0.5**		
DRGR		**62.76**	**327**	⇑*i*P	**P**	**23 51 10.4**	**+0.4**		
TRPA	**Tarpa**	**63.66**	**328**	⇑*i*P	**P**	**23 51 15.7**	**-0.1**		
MAW	**Mawson**	**65.62**	**182**	LR	LR	00 12 56.1			
	comp=Z,76nm,20.6s,baz=23,slow=29								
VYHS	**Vyhne**	**65.88**	**326**	*e*P	**P**	**23 51 29.7**	**-0.7**		
LANS	**Liptovska Anna**	**65.91**	**327**	*e*P	**P**	**23 51 30.5**	**0.0**		
NACGM	**Naroch**	**66.05**	**335**	*e*	**P**	**23 51 31.0**	**-0.3**		
KLMR	**Klimovskoe**	**66.42**	**345**	*e*P	**P**	**23 51 31.5**	**-2.0**		
KLMR				AMP		23 51 36.3			
	comp=Z,34nm,1.4s								
MODS	**Modra-Piesok**	**66.69**	**326**	*e*P	**P**	**23 51 34.6**	**-0.9**		
JAVC	**Velka Javorina**	**66.73**	**326**	*e*P	**P**	**23 51 35.8**	**0.0**		
WRA	**Warramunga Arr**	**67.04**	**111**	P	**P**	**23 51 37.5**	**-0.9**		
	comp=Z,4.2nm,0.9s,baz=284,slow=6.2,SNR=7.6								
WRA				LR	LR	00 17 05.3			
	comp=Z,48nm,21.6s,baz=290,slow=33								
WRAB	**Tennant Creek**	**67.05**	**111**	*e*P	**P**	**23 51 38.0**	**-0.4**		
	comp=Z,4.5nm,0.9s								
ARSA	**Arzberg**	**67.11**	**324**	*e*P	**P**	**23 51 36.5**	**-1.8**		
	comp=Z,5.4nm,1.0s								
SOKA	**Soboth**	**67.11**	**323**	*e*P	**P**	**23 51 37.3**	**-1.0**		
	comp=Z,8.1nm,1.1s								
ASAR	**Alice Springs**	**67.12**	**115**	P	**P**	**23 51 37.8**	**-1.1**		
	comp=Z,2.5nm,0.8s,baz=287,slow=6.3,SNR=16								
AS01	**Alice Springs**	**67.16**	**115**	*e*P	**P**	**23 51 38.1**	**-1.0**		
CONA	**Conrad Observa**	**67.26**	**325**	*e*P	**P**	**23 51 38.8**	**-0.5**		
	comp=Z,6.3nm,0.9s								
MORC	**Moravsky Berou**	**67.30**	**327**	*e*P	**P**	**23 51 38.4**	**-1.0**		
	comp=Z,4.9nm,1.0s								
MORC	**Moravsky Berou**	**67.30**	**327**	⇑*i*P	**P**	**23 51 38.6**	**-0.8**		
MORC	**Moravsky Berou**	**67.30**	**327**	*e*P	**P**	**23 51 38.1**	**-1.3**		
TOA0	**Torodi Ar. Sit**	**67.52**	**285**	*e*P	**P**	**23 51 41.7**	**+0.2**		
TORD	**Torodi Ar. Bea**	**67.52**	**285**	P	**P**	**23 51 41.4**	**-0.1**		
	comp=Z,1.1nm,0.9s,baz=132,slow=6.6,SNR=5.3								
TORD				LR	LR	00 21 20.6			
	comp=Z,94nm,18.1s,baz=90,slow=36								
KRUC	**Moravsky**	**67.55**	**326**	*e*P	**P**	**23 51 40.0**	**-0.9**		
VRAC	**Vranov**	**67.57**	**326**	⇑*i*P	**P**	**23 51 40.7**	**-0.4**		
VRAC	**Vranov**	**67.57**	**326**	*e*P	**P**	**23 51 40.1**	**-1.0**		
KSRS	**Korea Array**	**67.73**	**48**	LR	LR	00 22 34.4			
	comp=Z,84nm,19.6s,baz=231,slow=37								
MOA	**Molln**	**68.14**	**324**	*e*P	**P**	**23 51 43.7**	**-1.0**		
	comp=Z,4.6nm,0.8s								
DPC	**Dobruska-Polom**	**68.27**	**327**	*e*P	**P**	**23 51 45.2**	**-0.4**		
ABTA	**Abfaltersbach**	**68.66**	**322**	*e*P	**P**	**23 51 47.9**	**-0.2**		
	comp=Z,8.8nm,0.9s,SNR=8.0								
GERES	**GERESS Array B**	**68.96**	**325**	P	**P**	**23 51 48.2**	**-1.8**		
	comp=Z,0.7nm,0.9s,baz=126,slow=1.8,SNR=3.9								
KHC	**Kasperske Hory**	**69.17**	**325**	*e*P	**P**	**23 51 49.6**	**-1.6**		
SYO	**Syowa Base**	**69.62**	**191**	⇑*e*PcP	**PcP**	**23 52 13.8**	**-2.6**		
SQTA	**Sankt Quirin**	**69.67**	**323**	*e*P	**P**	**23 51 53.4**	**-1.0**		
	comp=Z,10nm,1.0s,SNR=4.9								
MOTA	**Moosalm**	**69.79**	**323**	*e*P	**P**	**23 51 55.5**	**+0.3**		
	comp=Z,6.6nm,0.9s,SNR=6.3								
BRG	**Berggiesshubel**	**69.84**	**327**	*e*P	**P**	**23 51 54.8**	**-0.4**		
	comp=Z,9.1nm,1.2s								
FETA	**Feichten**	**69.88**	**322**	*e*P	**P**	**23 51 55.5**	**-0.3**		
	comp=Z,9.4nm,1.0s,SNR=6.0								
FUORN	**Ofenpass-Fuorn**	**69.98**	**322**	*e*P	**P**	**23 51 55.1**	**-1.4**		
	comp=Z,12nm,0.9s								
RETA	**Reutte**	**70.06**	**323**	*e*P	**P**	**23 51 56.2**	**-0.6**		
	comp=Z,7.5nm,1.0s								
NKC	**Novy Kostel**	**70.35**	**326**	*e*P	**P**	**23 51 59.1**	**+0.7**		
DAVA	**Damuels**	**70.51**	**322**	*i* P	**P**	**23 51 59.6**	**0.0**		
	comp=Z,31nm,0.8s								
CLL	**Collm**	**70.57**	**327**	*e*P	**P**	**23 51 58.9**	**-0.8**		
	comp=Z,9.4nm,0.9s								
CLL	**Collm**	**70.57**	**327**	*e*P	**P**	**23 52 00.0**	**+0.3**		
	comp=Z,10.0nm,0.9s								
GRA1	**Grafenberg Arr**	**70.79**	**325**	*e*P	**P**	**23 52 00.8**	**-0.3**		
	comp=Z,19nm,1.0s								
FINES	**FINESS Array B**	**70.91**	**340**	P	**P**	**23 52 01.4**	**-0.2**		
	comp=Z,5.1nm,0.9s,baz=182,slow=9.5,SNR=5.9								
ECH	**Echery**	**72.57**	**322**	*e*P	**P**	**23 52 10.7**	**-1.1**		
	comp=Z,15nm,1.1s								
USRK	**Ussuriysk Ar.**	**72.99**	**42**	LR	LR	00 28 04.3			
	comp=Z,36nm,18.7s,baz=242,slow=39								
DBIC	**Dimbokro**	**73.30**	**278**	P	**P**	**23 52 17.2**	**+0.4**		
	comp=Z,3.9nm,0.8s,baz=56,slow=7.5,SNR=4.8								
DBIC				LR	LR	00 24 00.4			
	comp=Z,94nm,18.7s,baz=102,slow=35								
KLR	**Kul'dur**	**74.64**	**38**	P	**P**	**23 52 22.3**	**-1.6**		
	comp=Z,2.7nm,0.9s,baz=252,slow=5.3								
STKA	**Stephens Creek**	**74.98**	**122**	P	**P**	**23 52 26.8**	**+0.5**		
	comp=Z,1.3nm,0.6s,baz=286,slow=4.9,SNR=3.1								
MJAR	**Matsushiro Arr**	**75.32**	**52**	P	**P**	**23 52 29.8**	**+1.6**		
	comp=Z,1.6nm,0.7s,baz=273,slow=4.7,SNR=3.4								
MJAR				LR	LR	00 27 19.7			
	comp=Z,69nm,18.5s,baz=165,slow=37								
NOA	**NORSAR Array B**	**76.34**	**335**	P	**P**	**23 52 33.1**	**-0.4**		
	comp=Z,1.9nm,1.0s,baz=113,slow=6.1,SNR=4.6								
NOA				LR	LR	00 27 25.8			
	comp=Z,41nm,18.6s,baz=210,slow=37								
ES19	**SONSECA Array**	**77.47**	**311**	*e*P	**P**	**23 52 39.9**	**-0.5**		
ESDC	**Sonseca Array**	**77.52**	**311**	P	**P**	**23 52 41.0**	**+0.4**		
	comp=Z,3.2nm,0.8s,baz=89,slow=4.8,SNR=20								
TIXI	**Tiksi**	**82.98**	**16**	*e*P	**P**	**23 53 08.8**	**-0.5**		
	comp=Z,4.7nm,0.8s								
PETK	**Petropavlovsk-**	**91.33**	**37**	LR	LR	00 37 34.7			
	comp=Z,56nm,19.0s,baz=291,slow=37								
YKA	**Yellowknife Ar**	**119.58**	**1**	PKP	**PKPdf**	**23 59 33.3**	**-0.8**		
	comp=Z,0.7nm,0.8s,baz=349,slow=2.1,SNR=16								
PDAR	**Pinedale Array**	**139.32**	**357**	PKP	**PKPdf**	**00 00 12.3**	**-0.2**		
	comp=Z,1.1nm,0.7s,baz=63,slow=2.3,SNR=11								
NVAR	**Mina Array Bea**	**143.24**	**8**	PKP	**PKPdf**	**00 00 19.5**	**-0.2**		
	comp=Z,0.3nm,0.5s,baz=4.6,slow=4.5,SNR=3.3								
TXAR	**Lajitas Array**	**151.67**	**345**	PKPbc	**PKPbc**	**00 00 40.0**	**+0.1**		
	comp=Z,2.7nm,0.8s,baz=165,slow=1.9,SNR=21								

IDC ***14*** *23:45:42.4±2.7, 20.°55S×178.°24W, h557km±28km, mb3.4/17, mb1 3.6/18, mb1mx3.5/36, mbtmp4.3/18, Error ellipse: s-maj=31.0km s-min=12.7km az=150.0*

ISC 14 23:45:40.0±1.1, 20.°6S±0.°3×178.°1W±0.°2, h534km, n59, σ0.°72/62, mb3.8/17, 1C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.46**	**261**	P		**P**	**P**	**23 48 46.5**	**+2.2**
	0.2nm,0.3s,baz=84,slow=18,SNR=3.7								
DZM				S		S	S	23 51 03.4	-13
	0.2nm,0.3s,baz=350,slow=18,SNR=2.7								
CTA	**Charters Tower**	**33.37**	**264**	P		**P**	**P**	**23 51 34.1**	**-0.1**
	1.5nm,0.5s,baz=90,slow=8.1,SNR=3.9								
ASAR	**Alice Springs**	**44.39**	**257**	P		**P**	**P**	**23 53 03.4**	**0.0**
	3.6nm,0.9s,baz=90,slow=6.4,SNR=14								
ASAR				PcP		**PcP**	**PcP**	**23 54 35.4**	**-0.4**
	1.0nm,0.6s,baz=100,slow=3.3,SNR=4.5								
ASAR				S		**S**	**S**	**23 58 57.5**	**-1.7**
	0.4nm,0.8s,baz=100,slow=15,SNR=4.0								
WRA	**Warramunga Arr**	**44.47**	**262**	P		**P**	**P**	**23 53 03.3**	**-0.8**
	1.8nm,0.6s,baz=97,slow=7.4,SNR=16								
WRA				PcP		**PcP**	**PcP**	**23 54 36.1**	**+0.1**
	0.7nm,0.8s,baz=98,slow=3.0,SNR=4.1								
MJAR	**Matsushiro Arr**	**70.20**	**324**	P		**P**	**P**	**23 55 58.7**	**-0.5**
	2.1nm,0.7s,baz=164,slow=7.6,SNR=4.2								
ASAJ	**Asahikawa**	**73.73**	**332**	P		**P**	**P**	**23 56 19.1**	**-0.5**
	4.3nm,0.5s,baz=37,slow=20,SNR=3.0								
PETK	**Petropavlovsk-**	**76.31**	**345**	P		**P**	**P**	**23 56 33.7**	**0.0**
	3.5nm,0.6s,baz=142,slow=7.5,SNR=4.2								
KSRS	**Korea Array**	**76.86**	**319**	P		**P**	**P**	**23 56 37.7**	**+0.6**
	0.7nm,0.5s,baz=121,slow=5.4,SNR=2.9								
USRK	**Ussuriysk Ar.**	**78.96**	**326**	P		**P**	**P**	**23 56 49.0**	**+0.7**
	3.8nm,0.8s,baz=121,slow=7.0,SNR=6.3								
NVAR	**Mina Array Bea**	**81.16**	**43**	P		**P**	**P**	**23 57 01.4**	**+1.2**
	1.5nm,0.7s,baz=224,slow=8.6,SNR=5.1								
KLR	**Kul'dur**	**82.53**	**330**	P		**P**	**P**	**23 57 06.8**	**+0.2**
	1.3nm,0.6s,baz=90,slow=8.1,SNR=4.4								
SEY	**Seymchan**	**86.42**	**347**	P		**P**	**P**	**23 57 25.5**	**+0.2**
	5.6nm,0.7s,baz=147,slow=6.6,SNR=16								
TXAR	**Lajitas Array**	**87.19**	**57**	P		**P**	**P**	**23 57 31.5**	**+1.6**
	1.2nm,1.0s,baz=219,slow=7.7,SNR=4.0								
ILAR	**Eielson Array**	**88.41**	**13**	P		**P**	**P**	**23 57 34.0**	**-0.7**
	1.9nm,0.6s,baz=219,slow=5.5,SNR=23								
PDAR	**Pinedale Array**	**89.09**	**43**	P		**P**	**P**	**23 57 39.0**	**+0.4**
	0.9nm,0.6s,baz=198,slow=3.1,SNR=11								
CMAR	**Chiang Mai Arr**	**90.03**	**290**	P		**P**	**P**	**23 57 44.6**	**+1.4**
	1.3nm,0.5s,baz=126,slow=3.0,SNR=12								
SONM	**Songino Array**	**95.73**	**319**	P		**P**	**P**	**23 58 08.8**	**-0.1**
	0.2nm,0.6s,baz=123,slow=5.3,SNR=2.3								
YKA	**Yellowknife Ar**	**96.63**	**25**	P		**P**	**P**	**23 58 11.8**	**-0.5**
	0.2nm,0.6s,baz=241,slow=4.2,SNR=4.0								
ZALV	**Zalesovo Beam**	**110.47**	**321**	PKiKP		**PKiKP**	**PKiKP**	**00 03 09.8**	**-1.5**
	0.3nm,0.3s,baz=325,slow=7.2,SNR=3.5								
MKAR	**Makanchi Array**	**111.16**	**313**	PKiKP		**PKiKP**	**PKiKP**	**00 03 11.7**	**-1.3**
	0.4nm,0.5s,baz=157,slow=0.1,SNR=7.4								
ARCES	**ARCESS Array B**	**128.97**	**350**	PKP		**PKPdf**	**PKPdf**	**00 03 45.5**	**-0.9**
	1.9nm,0.9s,baz=57,slow=4.5,SNR=6.3								
FINES	**FINESS Array B**	**135.81**	**344**	PKP		**PKPdf**	**PKPdf**	**00 03 57.3**	**-2.2**
	1.8nm,0.9s,baz=46,slow=4.0,SNR=3.9								
NOA	**NORSAR Array B**	**139.04**	**353**	PKhKP		PKPpre	PKPpre	00 03 58.8	
	0.2nm,0.4s,baz=6.7,slow=2.7,SNR=3.4								
AKASG	**Malin Array Be**	**143.02**	**331**	PKhKP		PKPpre	PKPpre	00 04 09.6	
	5.6nm,0.5s,baz=43,slow=4.3,SNR=36								
BSEG	**Bad Segeberg**	**146.07**	**351**	*e*PKPbc		**PKPbc**	**PKPbc**	**00 04 20.1**	**+0.2**
	baz=16,slow=2.5								
BRTR	**Keskin Array B**	**146.80**	**312**	PKPbc		**PKPbc**	**PKPbc**	**00 04 22.4**	**-0.2**
	1.5nm,0.6s,baz=150,slow=5.5,SNR=13								
RUE	**Ruedersdorf**	**146.84**	**347**	*e*PKPbc		**PKPbc**	**PKPbc**	**00 04 22.6**	**+0.5**
	baz=16,slow=2.5								
NRDL	**Niedersach Rie**	**147.50**	**351**	*e*PKPbc		**PKPbc**	**PKPbc**	**00 04 23.7**	**-0.1**
	baz=16,slow=2.5								
ASSE	**Asse, Remlinge**	**147.76**	**350**	*e*PKPbc		**PKPbc**	**PKPbc**	**00 04 24.7**	**+0.3**
	baz=16,slow=2.5								
CLZ	**Clausthal**	**148.09**	**350**	*e*PKPbc		**PKPbc**	**PKPbc**	**00 04 25.2**	**-0.3**
	baz=16,slow=2.5								
CLL	**Collm**	**148.10**	**347**	*e*PKPbc		**PKPbc**	**PKPbc**	**00 04 25.6**	**+0.2**
	baz=16,slow=2.5								
CLL	**Collm**	**148.10**	**347**	⇓*i*PKPbc		**PKPbc**	**PKPbc**	**00 04 25.4**	**0.0**
	comp=Z,9.0nm,0.8s								
CLL				⇑*i*PKPab		**PKPab**	**PKPab**	**00 04 30.0**	**-0.2**
	comp=Z,4.0nm,0.8s								
DPC	**Dobruska-Polom**	**148.16**	**342**	*e*PKP		**PKiKP**	**PKiKP**	**00 04 26.4**	**-0.6**
DPC				*ex*		x	x	00 04 29.8	
BRG	**Berggiesshubel**	**148.30**	**345**	*i* PKP		**PKPbc**	**PKPbc**	**00 04 26.1**	**+0.2**
	comp=Z,4.3nm,0.8s								
BRG				*e*				00 04 31.1	
	comp=Z,3.1nm,0.7s								
BRG	**Berggiesshubel**	**148.30**	**345**	*e*PKPbc		**PKPbc**	**PKPbc**	**00 04 26.4**	**+0.5**
	baz=16,slow=2.5								
GTTG	**Gvttingen**	**148.44**	**350**	*e*PKPbc		**PKPbc**	**PKPbc**	**00 04 26.1**	**-0.2**
	baz=16,slow=2.5								
NEUB	**Neuenburg**	**148.45**	**348**	*e*PKPbc		**PKPbc**	**PKPbc**	**00 04 26.7**	**+0.4**
	baz=16,slow=2.5								
PRA	**Prague**	**148.92**	**344**	*e*PKP		**PKiKP**	**PKiKP**	**00 04 28.1**	**-0.4**
PRU	**Pruhonice**	**148.97**	**344**	*e*PKP		**PKPbc**	**PKPbc**	**00 04 27.5**	**-0.1**
PRU				*ex*		x	x	00 04 35.1	
GOPC	**GO Pecny, Ondr**	**148.97**	**344**	*e*PKP		**PKPbc**	**PKPbc**	**00 04 27.7**	**0.0**
TANN	**Tannenbergstha**	**149.06**	**347**	*e*PKPbc		**PKPbc**	**PKPbc**	**00 04 28.4**	**+0.4**
	baz=16,slow=2.5								
GUNZ	**Gunzen**	**149.14**	**347**	*e*PKPbc		**PKPbc**	**PKPbc**	**00 04 28.4**	**+0.3**
	baz=16,slow=2.5								
WERN	**Wernitzgruen**	**149.20**	**347**	*e*PKPbc		**PKPbc**	**PKPbc**	**00 04 28.7**	**+0.4**
	baz=16,slow=2.5								
MANZ	**Manzenberg**	**149.54**	**347**	*e*PKPbc		**PKiKP**	**PKPbc**	**00 04 29.6**	**-0.3**
	baz=16,slow=2.5								
TNS	**Taunus Mts**	**149.96**	**352**	*e*PKPbc		**PKPbc**	**PKPbc**	**00 04 30.1**	**0.0**
	baz=16,slow=2.5								
GRF	**Grafenberg Arr**	**150.00**	**348**	*e*PKPbc		**PKiKP**	**PKPbc**	**00 04 30.7**	**-0.1**
	baz=16,slow=2.5								
KHC	**Kasperske Hory**	**150.00**	**345**	*e*PKP		**PKPbc**	**PKPbc**	**00 04 30.0**	**-0.2**
KHC				*ex*		x	x	00 04 38.9	
**W

comp=N,996nm,0.5s
MDOK Medeo 2.87 268 Pg Pb 00 55 44.1 +0.3
comp=N,138nm,0.4s
MDOK Medeo 2.87 268 *e*P Pb 00 55 44.1 +0.3
comp=N,138nm,0.4s
MDOK *e*S **Sb** 00 56 21.1 +2.6
comp=N,1μm,0.4s
KNDC Almaty 2.92 269 ⇑Pn Pb 00 55 41.1 -3.6
comp=N,84nm,0.4s
KNDC ⇑Pg Pn 00 55 48.3 +10
comp=N,225nm,0.3s
KNDC ⇓Lg Lg 00 56 18.0
comp=N,3μm,0.8s
CHKK Chushkaly 2.93 281 Pg Pb 00 55 44.4 -0.5
comp=N,283nm,0.4s
CHKK Lg Lg 00 56 21.4
comp=N,3μm,0.3s
CHKK Chushkaly 2.93 281 *e*P Pb 00 55 44.4 -0.5
comp=N,283nm,0.4s
CHKK *e*S **Sb** 00 56 21.4 +1.1
comp=N,3μm,0.3s
TNSS Tian-Shan 2.95 265 Pg Pb 00 55 43.9 -1.6
comp=N,216nm,0.3s
TNSS Lg Lg 00 56 20.8
comp=N,1μm,0.3s
TNSS Tian-Shan 2.95 265 *e*P Pb 00 55 45.0 -0.5
comp=N,216nm,0.3s
TNSS *e*S **Sb** 00 56 23.6 +2.3
comp=N,1μm,0.3s
AAA Alma-Ata 2.96 269 Pg Pb 00 55 45.5 +0.1
comp=N,434nm,0.3s
AAA Lg Lg 00 56 23.3
comp=N,2μm,0.3s
AAA Alma-Ata 2.96 269 *e*PN Pb 00 55 45.4 +0.1
AAA *e*S **Sb** 00 56 23.6 +2.5
AAA pmax pmax
comp=Z,435nm,0.3s
AAA smax smax
comp=N,2μm,0.3s
AAA Alma-Ata 2.96 269 *e*P Pb 00 55 45.5 +0.1
comp=N,434nm,0.3s
AAA *e*S **Sb** 00 56 23.3 +2.1
comp=N,2μm,0.3s
KDJ Kajisay 3.04 248 ⇑*i*P Pn 00 55 43.0 +3.3
baz=47
KDJ ⇑*i*S **Sn** 00 56 19.6 +4.4
baz=47
KTBS Karatobe 3.14 278 Pg Pb 00 55 48.1 -0.3
comp=N,290nm,0.3s
KTBS Lg Lg 00 56 27.9
comp=N,1μm,0.4s
KTBS Karatobe 3.14 278 *e*P Pb 00 55 48.1 -0.3
comp=N,290nm,0.3s
KTBS *e*S **Sb** 00 56 27.9 +1.7
comp=N,1μm,0.4s
IZV Izvestkoviy 3.20 266 Pg Pb 00 55 47.1 -2.3
comp=N,115nm,0.3s
IZV Izvestkoviy 3.20 266 *e*P Pb 00 55 47.9 -1.6
comp=N,89nm,0.3s
IZV *e*S **Sb** 00 56 27.5 -0.5
comp=N,1μm,0.3s
MTBS Maitube 3.32 268 Pg Pb 00 55 51.9 +0.4
comp=N,164nm,0.3s
MTBS Lg Lg 00 56 34.4
comp=N,622nm,0.3s
MTBS Maitube 3.32 268 *e*P Pb 00 55 51.9 +0.4
comp=N,164nm,0.3s
MTBS *e*S **Sb** 00 56 34.4 +2.9
comp=N,622nm,0.3s
KUU Kurty 3.40 281 Pg Pb 00 55 52.5 -0.4
comp=N,199nm,0.3s
KUU Lg Lg 00 56 35.5
comp=N,1μm,0.3s
KUU Kurty 3.40 281 *e*P Pb 00 55 52.5 -0.4
comp=N,199nm,0.3s
KUU *e*S **Sb** 00 56 35.5 +1.6
comp=N,1μm,0.3s
MAKZ Makanchi 3.54 11 *e*Pn Pn 00 55 49.1 +2.7
MAKZ Makanchi 3.54 11 ⇓Pn Pn 00 55 49.4 +2.9
comp=N,12nm,0.3s
MAKZ ⇑Pg Pb 00 55 56.8 +1.6
comp=N,71nm,0.3s
MAKZ ⇑Lg Lg 00 56 39.9
comp=N,283nm,0.4s
MK01 Makanchi Array 3.56 15 *e*Pn Pn 00 55 48.2 +1.6
MK01 *e*Sn **Sn** 00 56 20.7 -7.1
MK31 Makanchi Array 3.58 15 *e*Pn Pn 00 55 48.6 +1.7
MK31 *e*Sn **Sn** 00 56 19.8 -8.5
MK31 Makanchi Array 3.58 15 ⇑Pn Pn 00 55 48.9 +2.0
comp=N,3.4nm,0.2s,baz=200,slow=14,SNR=2819
MK31 ⇓Pg **Pb** 00 55 57.3 +1.5
comp=N,32nm,0.3s,baz=198,slow=14,SNR=33
MK31 Makanchi Array 3.58 15 PN Pn 00 55 49.1 +2.2
MK31 pmax pmax
comp=Z,8.0nm,0.3s
MKAR Makanchi Array 3.58 15 Pn Pn 00 55 48.7 +1.7
comp=Z,11nm,0.3s,baz=200,slow=12,SNR=264
MKAR Pg **Pb** 00 55 55.7 -0.1
comp=Z,42nm,0.3s,baz=202,slow=15,SNR=69
MKAR Lg Lg 00 56 41.6
comp=Z,83nm,0.3s,baz=197,slow=29,SNR=4.5
MKAR Makanchi Array 3.58 15 *e*Pn Pn 00 55 48.6 +1.7
MKAR *e*Sn **Sn** 00 56 20.0 -8.2
MKAR Lg Lg 00 56 41.6
KST Kastek 3.67 267 Pg Pb 00 55 57.6 +0.1
comp=Z,166nm,0.3s
KST Lg Lg 00 56 44.1
comp=Z,552nm,0.4s
KST Kastek 3.67 267 *e*P Pb 00 55 57.6 +0.1
comp=Z,166nm,0.3s
KST *e*S **Sb** 00 56 44.1 +2.6
comp=Z,552nm,0.4s
BOOM Boomskoye usch 3.79 259 ⇑*i*P Pn 00 55 53.3 +3.3
baz=58
BOOM ⇑*i*S **Sn** 00 56 37.5 +3.8
baz=58
DGS Degeres 3.79 270 Pg Pb 00 56 00.0 +0.5
comp=Z,255nm,0.4s
DGS Lg Lg 00 56 48.2
comp=Z,1μm,0.4s
DGS Degeres 3.79 270 *e*P Pb 00 55 59.8 +0.2
comp=Z,255nm,0.4s
DGS *e*S **Sb** 00 56 47.9 +2.8
comp=Z,1μm,0.4s
FRU1 Bishkek 4.67 266 ⇑*e*P Pn 00 56 05.4 +3.4
baz=65
FRU1 ⇑*i*S **Sn** 00 56 58.8 +3.5
baz=65
FRU Bishkek 4.68 266 *e*PN Pn 00 56 03.0 +0.9
FRU *i* 00 56 21.0
FRU *i* S **Sb** 00 57 16.0 +5.6
FRU pmax pmax
comp=Z,370nm,2.0s
FRU smax smax
comp=E,2μm,2.7s
FRU smax smax
comp=N,3μm,2.0s
AAK Ala-Archa 4.80 264 Pn Pn 00 56 05.8 +1.9
comp=N,3.1nm,0.3s,baz=92,slow=7.0,SNR=47
AAK Pg **Pb** 00 56 17.7 +1.0
comp=N,20nm,0.3s,baz=94,slow=13,SNR=31
AAK Lg Lg 00 57 18.2
comp=N,28nm,0.3s,baz=15,slow=20,SNR=4.1
AAK LR LR 00 58 05.5
comp=N,567nm,18.1s,baz=66,slow=41
AAK Ala-Archa 4.80 264 *e*Pn Pn 00 56 06.0 +2.1
AAK *e*Pg **Pb** 00 56 18.0 +1.3
AAK Lg Lg 00 57 18.2
AAK *e*S **Sb** 00 57 20.9 +6.9
AAK Ala-Archa 4.80 264 *ce*PN Pn 00 56 05.5 +1.7
AAK pmax pmax
comp=Z,8.0nm,1.0s
WMQ Urumqi 4.91 82 Pn Pn 00 56 06.3 +1.0
WMQ Sn **Sn** 00 57 03.1 +1.8
WMQ smax smax
comp=Z,650nm,0.9s
WMQ smax smax
comp=Z,630nm,1.1s
WMQ LR LR
comp=Z,2μm,4.9s
WMQ LR LR
comp=Z,2μm,6.5s
WMQ LR LR
comp=Z,1μm,5.1s
WMQ Urumqi 4.91 82 *e*Pn Pn 00 56 06.7 +1.4
WMQ *e*S **Sn** 00 57 05.5 +4.2
WMQ Urumqi 4.91 82 *e*PN Pn 00 56 06.7 +1.4
WMQ *e*S **Sn** 00 57 05.5 +4.2
ZSN Zaisan 4.94 32 Pg Pb 00 56 18.7 -0.4
comp=Z,9.0nm,0.3s
ZSN Lg Lg 00 57 21.9
comp=Z,105nm,0.4s
ZSN Zaisan 4.94 32 *e*P Pb 00 56 18.6 -0.4
comp=Z,9.0nm,0.3s
ZSN *e*S **Sb** 00 57 21.9 +3.9
comp=Z,105nm,0.4s
ARLS Aral 5.12 255 ⇓*i*P Pn 00 56 11.7 +3.4
baz=55
ARLS ⇓*i*S **Sn** 00 57 09.4 +2.9
baz=55
KSH Kashi 5.35 226 Pn Pb 00 56 19.3 -6.9
KSH Sn **Sb** 00 57 24.5 -5.5
KSH LR LR
comp=Z,3μm,8.3s
MRKS Merke 5.70 267 *e*P Pb 00 56 36.4 +4.3
comp=Z,58nm,0.4s
MRKS *e*S Sb 00 57 51.1 +11
comp=Z,140nm,0.3s
ARSB Arslanbob 6.25 254 *e*Pn Pn 00 56 26.9 +3.2
SFK Sufi-Kurgan 6.50 242 ⇓Pn Pn 00 56 29.6 +2.3
comp=Z,1.7nm,0.5s
SFK ⇑Pg Pb 00 56 54.7 +8.9
comp=Z,53nm,1.0s
SFK ⇓Lg Lg 00 58 18.1
comp=Z,190nm,1.0s
SFK Sufi-Kurgan 6.50 242 P* Pb 00 56 54.6 +8.9
SFK pmax pmax
comp=Z,53nm,1.0s
SFK pmax pmax
comp=N,190nm,1.0s
SFK Sufi-Kurgan 6.50 242 ⇓*e*P Pn 00 56 30.8 +3.5
baz=42
SFK ⇓*i*S **Sn** 00 57 42.2 +1.6
baz=42
KURBB Kurchatov Arra 7.47 348 Pn Pn 00 56 40.5 +0.1
comp=N,0.5nm,0.3s,baz=175,slow=12,SNR=24
KURBB Lg Lg 00 58 43.5
comp=N,3.5nm,0.3s,baz=158,slow=30,SNR=7.8
KURBB Kurchatov Arra 7.47 348 ⇑Pn Pn 00 56 40.7 +0.4
comp=N,7.5nm,0.3s
KURBB ⇑Pg Pb 00 57 13.9 +12
comp=N,31nm,0.7s
KURBB ⇑Lg Lg 00 58 46.2
comp=N,1μm,1.3s
KURK Kurchatov 7.55 349 *e*Pn Pn 00 56 41.6 +0.2
KURK Lg Lg 00 58 43.5
KURK *e*S Sb 00 58 49.5 +17
KURK Kurchatov 7.55 349 ⇓Pn Pn 00 56 39.6 -1.8
comp=N,7.0nm,0.4s
KURK ⇑Pg Pb 00 56 58.2 -5.2
comp=N,16nm,0.4s
KURK ⇓Lg Lg 00 58 42.6
comp=N,475nm,1.0s
KURK Kurchatov 7.55 349 *e*P Pn 00 56 41.6 +0.2
KK31 Karatay Array 7.64 272 *e*Pn Pn 00 56 44.8 +2.1
KK31 Karatay Array 7.64 272 ⇓Pn Pn 00 56 45.2 +2.5
comp=N,1.0nm,0.3s
KK31 ⇑Pg Pb 00 57 11.0 +6.0
comp=N,12nm,0.6s
KK31 ⇑Lg Lg 00 58 50.2
comp=N,161nm,0.8s
KK31 Karatay Array 7.64 272 P Pn 00 56 45.2 +2.5
KK31 pmax pmax
comp=Z,1.0nm,0.3s
KK31 pmax pmax
comp=Z,12nm,0.6s
KK31 pmax pmax
comp=N,54nm,0.5s
KKAR Karatay Array 7.64 272 *e*Pn Pn 00 56 44.8 +2.1
KKAR Karatay Array 7.64 272 *e*P Pn 00 56 44.8 +2.1
DGZ Jazzator, Alta 7.77 33 *d*iP Pn 00 56 47.0 +2.5
OTUK Ortayu 7.77 312 ⇓Pn Pn 00 56 45.1 +0.7
comp=N,4.7nm,0.4s
OTUK ⇓Pg Pb 00 57 13.7 +6.5
comp=N,9.6nm,0.5s
OTUK ⇑Lg Lg 00 58 51.3
comp=N,305nm,0.9s
BTK Batken 8.27 250 ⇓*e*P Pn 00 56 54.6 +3.2
baz=50
BTK ⇓*e*S **Sn** 00 58 23.7 -0.2
baz=50
GAR Garm 9.12 245 *e*Pn Pn 00 57 05.6 +2.4
GAR Garm 9.12 245 *e*P Pn 00 57 05.6 +2.4
CHGR Chuyangaron 10.07 246 *e*Pn Pn 00 57 17.3 +1.2
ZAA0 Zalesovo Array 10.91 12 *e*Pn Pn 00 57 27.9 +0.4
ZAA0 Zalesovo Array 10.91 12 ⇓Pn Pn 00 57 27.7 +0.2
comp=N,35nm,1.2s
ZAA0 ⇓Lg Lg 01 00 34.1
comp=N,124nm,1.1s
ZALV Zalesovo Beam 10.91 12 Pn Pn 00 57 26.5 -1.0
comp=N,1.6nm,0.3s,baz=191,slow=13,SNR=20
ZALV Lg Lg 01 00 34.1
comp=N,0.9nm,0.3s,baz=199,slow=27,SNR=4.1
ZALV LR LR 01 02 00.4
comp=N,351nm,19.4s,baz=336,slow=39
ZALV Zalesovo Beam 10.91 12 *e*Pn Pn 00 57 27.8 +0.3
ZALV Lg 01 00 34.0
ZALV Zalesovo Beam 10.91 12 *e*P Pn 00 57 27.8 +0.3
NIL Nilore 11.40 214 *e*Pn Pn 00 57 36.4 +2.1
NIL *e*S **Sn** 00 59 37.4 -3.3
NIL Nilore 11.40 214 *e*P Pn 00 57 36.4 +2.1
NIL *e*S **Sn** 00 59 37.4 -3.3
NVS Novosibirsk 11.60 7 *e*P Pn 00 57 36.2 -0.7
NVS *e* 00 59 41.4
BVA0 Borovoye Array 11.97 328 Pn Pn 00 57 41.8 -0.2
comp=N,3.0nm,0.4s,baz=139,slow=14,SNR=48
BVA0 ⇑Lg Lg 01 00 56.6
comp=N,192nm,1.1s
BVAR Borovoye Array 11.97 328 Pn Pn 00 57 41.8 -0.2
comp=N,1.1nm,0.3s,baz=142,slow=14,SNR=21
BVAR Sn Sn 00 59 45.8 -8.6
comp=N,0.4nm,0.3s,baz=121,slow=30,SNR=2.4
BVAR Lg Lg 01 01 04.6
comp=N,3.2nm,0.3s,baz=134,slow=30,SNR=6.8
BVAR LR LR 01 02 33.1
comp=N,638nm,18.8s,baz=139,slow=38
BRVK Borovoye 12.04 328 *e*Pn Pn 00 57 43.0 +0.2
BRVK *e*S Sn 01 00 09.8 +14
BRVK Borovoye 12.04 328 ⇑Pn Pn 00 57 43.0 +0.2
comp=N,13nm,1.2s
BRVK ⇓Lg Lg 01 00 50.9
comp=N,242nm,1.2s
BRVK Borovoye 12.04 328 *ce*P Pn 00 57 43.1 +0.2
BRVK pmax pmax
comp=Z,5.0nm,0.7s
KBL Kabul 12.77 230 *e*Pn Pn 00 57 55.3 +2.1
KBL Kabul 12.77 230 *e*P Pn 00 57 55.3 +2.1
KNGR Kungurtug, Tuv 13.42 51 *i*P Pn 00 58 02.5 +0.7
GTA Gaotai 14.69 99 *e*P P 00 58 25.0 -0.1
GTA pP Pn 00 58 31.3 +12
GTA sP 00 58 34.3
GTA pmax pmax
comp=Z,6.0nm,0.8s
GTA pmax pmax
comp=Z,140nm,6.5s
GTA LR LR
comp=Z,190nm,12.4s
GTA LR LR
comp=Z,300nm,13.7s
GTA LR LR
comp=Z,410nm,12.7s
DANN Dangsing 15.13 171 *e*P Pn 00 58 22.1 -3.2
comp=Z,14nm,0.5s
PYUN Piuthan 15.30 173 *e*P Pn 00 58 22.7 -4.8
comp=Z,19nm,0.7s
AB31 Akbulak array 15.66 299 ⇓Pn Pn 00 58 29.3 -2.6
comp=Z,6.7nm,0.9s,baz=100,slow=11,SNR=77
AB31 ⇑Pg **P** 00 58 36.8 +1.1
comp=Z,3.3nm,0.5s,baz=102,slow=10.0,SNR=12
AB31 ⇓Lg Lg 01 02 59.7
comp=Z,42nm,1.1s
ABKAR Akbulak array 15.66 299 *e*Pn Pn 00 58 29.8 -2.1
KOLN Koldanda 15.68 171 *e*P Pn 00 58 27.5 -5.0
comp=Z,67nm,1.1s
MOY Mondy 15.85 51 *e*P P 00 58 39.1 +1.1
MOY pmax pmax
comp=Z,22nm,1.9s
LSA Lhasa 15.87 146 *e*Pn Pn 00 58 35.6 +0.5
comp=Z,8.8nm,1.1s
LSA Lhasa 15.87 146 *e*P Pn 00 58 35.6 +0.5
LSA pmax pmax
comp=Z,9.0nm,1.1s
GUN Gumba 15.90 164 *e*P Pn 00 58 32.7 -2.7
comp=Z,59nm,0.6s
KKN Kakani 15.91 166 *e*P Pn 00 58 32.6 -2.8
PKIN Phulchoki 16.14 166 *e*P Pn 00 58 34.8 -3.5
comp=Z,14nm,0.6s
PKI Pulchoki 16.14 166 *e*P Pn 00 58 35.1 -3.4
comp=Z,13nm,0.5s
JIRN Jiri 16.21 163 *e*P Pn 00 58 36.7 -2.7
comp=Z,67nm,0.4s
ZAK Zakamensk 16.77 57 *e*P Pn 00 58 44.1 -2.0
ZAK pmax pmax
comp=Z,5.0nm,1.1s
RAMN Ramite 16.98 163 *e*P Pn 00 58 45.5 -3.6
comp=Z,19nm,0.7s
AKTO Aktyubinsk 17.17 302 P Pn 00 58 50.1 -1.0
comp=Z,0.5nm,0.3s,baz=112,slow=16,SNR=9.9
AKTO S **Sn** 01 01 56.4 -4.6
comp=Z,0.1nm,0.3s,baz=162,slow=19,SNR=2.4
AKTO Lg Lg 01 03 50.4
comp=Z,0.2nm,0.3s,baz=29,slow=19,SNR=4.1
AKTO LR LR 01 05 49.0
comp=Z,241nm,19.9s,baz=111,slow=38
AKTO Aktyubinsk 17.17 302 ⇑Pn Pn 00 58 51.3 +0.2
comp=Z,19nm,0.9s
AKTO ⇑Lg Lg 01 03 44.9
comp=Z,55nm,1.6s
GEYT Alibeck 18.14 260 P P 00 59 03.7 +0.4
comp=Z,0.3nm,0.3s,baz=102,slow=6.2,SNR=7.8
GEYT LR LR 01 06 54.6
comp=Z,157nm,18.6s,baz=95,slow=40
SONM Songino Array 18.32 67 P Pn 00 59 04.9 -0.5
comp=Z,1.0nm,0.3s,baz=271,slow=12,SNR=16
SONM Lg Lg 01 04 29.8
baz=269,slow=27,SNR=3.2
SONM LR LR 01 06 08.5
comp=Z,34nm,18.1s,baz=245,slow=37
SONM Songino Array 18.32 67 *e*P P 00 59 06.0 +0.7
SONM pmax pmax
comp=Z,1.0nm,0.3s
SONA1 Songino Array 18.33 67 *e*Pn P 00 59 05.1 -0.3
SVE Sverdlovsk 18.67 323 ⇑*e*P Pn 00 59 09.9 +0.6
SVE pmax pmax
comp=Z,17nm,0.9s
ULN Ulaanbaatar 18.77 67 *e*P P 00 59 02.7 -7.5
comp=Z,3.2nm,0.9s
ULN Ulaanbaatar 18.77 67 *ce*P Pn 00 59 10.2 -0.6
ULN pmax pmax
comp=Z,8.0nm,1.7s
ARU Arti 19.37 320 *e*P Pn 00 59 17.4 -0.5
comp=Z,12nm,0.9s
ARU Arti 19.37 320 *c*iP Pn 00 59 17.6 -0.2
ARU S **S** 01 02 56.7 +2.8
ARU pmax pmax
comp=Z,17nm,1.0s
ARU MLR MLR
comp=Z,367nm,17.0s
SHL Shillong 19.86 150 *e*P P 00 59 21.4 -0.8
comp=Z,13nm,0.5s
SHL Shillong 19.86 150 *e*P P 00 59 21.5 -0.8
SHL pmax pmax
comp=Z,13nm,0.5s
JBP Jabalpur 20.14 183 *e*P P 00 59 25.4 +0.3
JBP *e*S S 01 02 55.6 -14
BRDH Bariadhala 22.43 153 LR LR 01 10 13.6
comp=Z,141nm,18.1s,baz=330,slow=42
HHC Hu-ho-hao-te 22.78 86 *e*P P 00 59 53.8 +0.2
HHC pmax pmax
comp=Z,10.0nm,0.9s
HHC pmax pmax
comp=Z,250nm,6.2s
XAN Xi'an 23.63 104 P P 01 00 07.8 +5.7
XAN pP sP 01 00 13.8 +0.3
XAN pmax pmax
comp=Z,16nm,1.3s
XAN Xi'an 23.63 104 *e*P P 01 00 01.1 -0.9
comp=Z,14nm,1.1s
XAN Xi'an 23.63 104 *e*P P 01 00 01.2 -0.9
XAN pmax pmax
comp=Z,14nm,1.1s
BOD Bodaibo 25.17 43 *e*P P 01 00 15.9 -0.1
BOD pmax pmax
comp=Z,24nm,1.2s
KMI Kunming 25.45 129 P P 01 00 20.3 +1.2
KMI pmax pmax
comp=Z,10.0nm,0.5s
TBLG Delisi 26.61 279 *e*P P 01 00 24.7 -4.6
comp=Z,3.9nm,0.7s
TBLG Delisi 26.61 279 *e*P P 01 00 24.7 -4.6
TBLG pmax pmax
comp=Z,4.0nm,0.7s
GYA Guiyang 26.82 121 P P 01 00 33.8 +2.4
GYA pP pP 01 00 38.4 -1.1
GYA PP **PnPn** 01 01 18.0 +4.6
GYA S **S** 01 05 05.5 -0.5
GYA pmax pmax
comp=Z,10.0nm,0.7s
KBZ Khabaz 27.44 284 P P 01 00 36.1 -0.5
comp=Z,1.9nm,1.0s,baz=90,slow=5.1,SNR=2.5
KBZ LR LR 01 13 25.2
comp=Z,55nm,18.7s,baz=103,slow=41
KIV Kislovodsk 27.54 285 *e*P P 01 00 34.8 -2.9
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,48nm,15.0s
CMAR Chiang Mai Arr 29.08 143 P P 01 00 51.4 -0.1
comp=Z,0.9nm,0.4s,baz=316,slow=8.7,SNR=4.5
CMAR LR LR 01 14 05.3
comp=Z,52nm,19.0s,baz=301,slow=40
CM01 Chiang Mai Arr 29.12 143 *e*P P 01 00 53.1 +1.3
KLMR Klimovskoe 30.22 320 *e*P P 01 01 01.0 -0.1
KLMR pmax pmax
comp=Z,14nm,0.9s
KLMR Klimovskoe 30.22 320 *e*P P 01 01 01.1 -0.1
KLMR AMP 01 01 02.8
comp=Z,14nm,0.8s
OBN Obninsk 30.77 308 LR LR 01 13 44.8
comp=Z,40nm,18.3s,baz=212,slow=37
OBN Obninsk 30.77 308 *e*P P 01 01 05.7 -0.3
OBN *e*PPP PPP 01 02 13.5
OBN pmax pmax
comp=Z,24nm,2.5s
ANN Anapa 31.04 288 *e*P P 01 01 08.6 +0.1
ANN pmax pmax
comp=Z,34nm,1.1s
NJ2 Nanjing 31.78 98 *e*P P 01 01 15.8 +0.7
NJ2 pmax pmax
comp=Z,11nm,0.7s
RAYN Ar Rayn 35.23 247 *e*P P 01 01 45.3 0.0
comp=Z,3.1nm,0.5s
RAYN Ar Rayn 35.23 247 *e*P P 01 01 45.3 0.0
RAYN pmax pmax
comp=Z,3.0nm,0.5s
BRTR Keskin Array B 35.24 281 P P 01 01 46.9 +1.4
comp=Z,2.8nm,0.7s,baz=94,slow=9.7,SNR=23
BRTR LR LR 01 19 00.4
comp=Z,18nm,19.5s,baz=68,slow=41
AKASG Malin Array Be 35.40 300 P P 01 01 46.1 -0.4
comp=Z,1.1nm,0.6s,baz=69,slow=8.8,SNR=5.4
AKASG LR LR 01 16 56.1
comp=Z,95nm,18.2s,baz=55,slow=37
KIEV Kiev 35.41 300 ⇑*i*P P 01 01 47.1 +0.5
KIEV Kiev 35.41 300 ⇑P P 01 01 47.1 +0.5
KSAR Wonju Array Be 35.84 83 P P 01 01 48.6 -1.8
KSAR Wonju Array Be 35.84 83 P P 01 01 48.6 -1.8
KSRS Korea Array 35.86 83 P P 01 01 48.6 -2.0
comp=Z,1.6nm,0.7s,baz=288,slow=9.6,SNR=3.7
KSRS LR LR 01 17 07.3
comp=Z,56nm,19.8s,baz=278,slow=37
KSRS Korea Array 35.86 83 P P 01 01 48.6 -2.0
KSRS pmax pmax
comp=Z,1.0nm,0.5s
KSRS MLR MLR
comp=Z,56nm,19.8s
VSU Vasula 36.30 314 *ce*P P 01 01 54.4 +0.4
VSU pmax pmax
comp=Z,87nm,2.5s
USRK Ussuriysk Ar. 36.37 71 LR LR 01 18 30.6
comp=Z,142nm,19.2s,baz=350,slow=39
TIXI Tiksi 36.52 23 P P 01 01 55.7 -0.1
comp=Z,3.7nm,0.3s,baz=270,slow=4.5,SNR=16
TIXI Tiksi 36.52 23 *e*P P 01 01 56.2 +0.3
comp=Z,8.6nm,0.7s
TIXI Tiksi 36.52 23 *ce*P P 01 01 56.1 +0.3
TIXI pmax pmax
comp=Z,15nm,1.0s
FINES FINESS Array B 36.73 319 P P 01 01 58.4 +0.6

comp=Z,2.2nm,0.7s,baz=104,slow=10,SNR=14
BIR Birlad 37.37 294 ⇑ iP P 01 02 05.0 +1.7
BIR Birlad 37.37 294 ⇑ P P 01 02 05.0 +1.7
PRAR RASCA 38.01 296 ⇑ iP P 01 02 09.3 +0.5
PLOR Plostina 38.13 293 ⇑ iP P 01 02 10.5 +0.6
PLOR Plostina 38.13 293 ⇑ P P 01 02 10.5 +0.6
BIZ Bicaz 38.20 295 ⇑ iP P 01 02 11.9 +1.5
ARCES ARCESS Array B 38.21 332 P P 01 02 11.0 +0.8
comp=Z,6.6nm,0.7s,baz=99,slow=8.2,SNR=24
ARCES ARCESS Array B 38.21 332 eP P 01 02 09.7 -0.5
ARCES pmax pmax
comp=Z,7.0nm,0.7s
ISR Istrita 38.42 292 ⇑ iP P 01 02 14.3 +2.0
ISR Istrita 38.42 292 ⇑ P P 01 02 14.3 +2.0
BURAR Bucovina Array 38.61 296 ⇑ iP P 01 02 15.1 +1.2
BURAR Bucovina Array 38.61 296 ⇑ P P 01 02 15.1 +1.2
BUR04 Bucovina Ar. S 38.61 296 eP P 01 02 14.8 +0.9
BUR08 Bucovina Ar. S 38.61 296 eP P 01 02 15.2 +1.3
MLR Muntele Rosu 38.71 293 eP P 01 02 16.6 +1.8
comp=Z,5.3nm,0.8s
MLR Muntele Rosu 38.71 293 ⇑ iP P 01 02 16.6 +1.8
MLR Muntele Rosu 38.71 293 eP P 01 02 16.6 +1.8
MLR pmax pmax
comp=Z,5.0nm,0.8s
DOPR Dopca 38.94 294 ⇑ iP P 01 02 18.6 +2.0
ARCR ARCALIA 39.31 296 ⇑ iP P 01 02 20.6 +0.9
ARR Arges 39.63 293 ⇑ iP P 01 02 24.1 +1.7
LOT Lotru 40.18 294 ⇓ iP P 01 02 28.8 +1.7
TRPA Tarpa 40.21 298 ⇑ iP P 01 02 28.6 +1.5
DRGR 40.48 296 ⇑ iP P 01 02 30.9 +1.5
DRGR 40.48 296 ⇑ P P 01 02 30.9 +1.5
VTS Vitosha 41.53 290 ⇑ iP P 01 02 40.2 +1.9
VTS Vitosha 41.53 290 ⇑ P P 01 02 40.2 +1.9
BZS Buzias 41.56 294 ⇑ iP P 01 02 39.8 +1.5
BZS Buzias 41.56 294 ⇑ P P 01 02 39.8 +1.5
VYHS Vyhne 42.48 299 eP P 01 02 48.1 +2.3
VYHS e 01 04 25.2
VYHS Vyhne 42.48 299 eP P 01 02 48.0 +2.3
VYHS ePP **PP 01 04 25.2 +1.0**
NB2 NORSAR Subarra 43.92 319 P P 01 02 57.3 +0.1
comp=Z,1.3nm,0.5s,baz=80,slow=8.6
NOA NORSAR Array B 43.92 319 P P 01 02 57.6 +0.4
comp=Z,2.5nm,0.7s,baz=81,slow=8.0,SNR=14
NOA LR LR 01 22 21.5
comp=Z,122nm,18.7s,baz=85,slow=38
CLL Collm 45.23 305 eP P 01 03 08.0 +0.2
CLL ePP **PP 01 04 57.0 +3.4**
CLL Collm 45.23 305 eP P 01 03 08.0 +0.2
GERES GERESS Array B 45.60 301 P P 01 03 11.2 +0.4
comp=Z,0.6nm,0.6s,baz=63,slow=9.1,SNR=5.6
GERES LR LR 01 22 37.7
comp=Z,45nm,18.2s,baz=91,slow=36
BILL Bilibino 48.99 30 eP P 01 03 36.9 0.0
BILL e 01 05 29.2
BILL ePPP PPP 01 06 26.7
BILL pmax pmax
comp=Z,2.0nm,1.0s
ANM Nome 60.63 27 eP P 01 05 02.8 +1.6
comp=Z,3.0nm,0.8s
ANM Nome 60.63 27 eP P 01 05 02.8 +1.6
ANM pmax pmax
comp=Z,3.0nm,0.8s
ESDC Sonseca Array 61.01 298 P P 01 05 03.4 -0.9
comp=Z,0.1nm,0.3s,baz=58,slow=7.7,SNR=5.7
COLD Coldfoot 63.14 20 eP P 01 05 19.2 +1.2
comp=Z,7.7nm,0.9s
IM3 Indian Mountai 63.16 22 eP P 01 05 18.2 +0.1
FYU Fort Yukon 64.86 19 eP P 01 05 31.3 +2.1
COLA College 65.59 21 eP P 01 05 34.6 +0.6
comp=Z,6.3nm,0.8s
COLA College 65.59 21 eP P 01 05 34.6 +0.6
COLA pmax pmax
comp=Z,6.0nm,0.8s
INK Inuvik 65.71 13 P P 01 05 34.5 -0.2
comp=Z,2.8nm,0.5s,baz=350,slow=8.3,SNR=11
INK Inuvik 65.71 13 eP P 01 05 34.9 +0.2
comp=Z,9.8nm,1.2s
INK Inuvik 65.71 13 eP P 01 05 34.9 +0.2
INK pmax pmax
comp=Z,10.0nm,1.2s
IL1 Eielson Array 65.92 20 eP P 01 05 35.1 -1.1
ILAR Eielson Array 65.92 20 P P 01 05 35.9 -0.2
comp=Z,3.7nm,0.8s,baz=317,slow=5.3,SNR=50
ILAR LR LR 01 37 20.2
comp=Z,48nm,18.6s,baz=326,slow=39
ILB Eielson Array 65.92 20 eP P 01 05 36.2 +0.1
TORD Torodi Ar. Bea 73.33 272 P P 01 06 20.9 -1.7
comp=Z,1.1nm,0.6s,baz=37,slow=5.9,SNR=16
YKA Yellowknife Ar 73.78 7 P P 01 06 24.5 +0.1
comp=Z,4.4nm,0.7s,baz=343,slow=5.8,SNR=94
SCHQ Schefferville 78.42 342 P P 01 06 51.0 -0.1
comp=Z,1.8nm,0.6s,baz=53,slow=5.1,SNR=4.4
SCHQ LR LR 01 45 29.8
comp=Z,111nm,18.8s,baz=274,slow=39
WRA Warramunga Arr 79.77 130 P P 01 06 58.0 -0.8
comp=Z,1.1nm,0.6s,baz=334,slow=6.1,SNR=15
DBIC Dimbokro 82.43 272 P P 01 07 12.8 -0.4
comp=Z,1.8nm,0.5s,baz=43,slow=6.4,SNR=8.0
ASAR Alice Springs 82.52 132 P P 01 07 12.7 -0.7
comp=Z,1.3nm,0.8s,baz=328,slow=5.5,SNR=10
STKA Stephens Creek 93.15 132 eP P 01 08 03.1 -1.5
STKA pmax pmax
comp=Z,1.0nm,0.3s
PDAR Pinedale Array 93.76 8 P P 01 08 07.2 -0.6
comp=Z,0.4nm,0.6s,baz=8.1,slow=3.1,SNR=5.0

*MOS **15** 01:43:06.9±1.2, 47.26N×153.76E, h74km, mb4.2/12, Error ellipse: s-maj=13.7km s-min=8.2km az=70.1*
*SKHL **15** 01:43:08.3±0.6, 47.33N×153.78E, h85km±5km, mb4.8/8, msh5.5/6*
*IDC **15** 01:43:10.4±2.4, 47.44N×153.51E, h83km±22km, mb3.6/18, mb1 3.8/22, mb1mx3.7/42, mbtmp3.9/22, MS2.8/2, Ms1 2.9/2, ms1mx2.5/30, Error ellipse: s-maj=19.5km s-min=12.0km az=146.0*
ISC 15 01:43:10.3±0.6, 47.31N±0.06×153.76E±0.06, h100km, n71, σ2°24/76, mb3.9/28, 6C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.72**	**24**	**eP**	**Pn**	**01 44 03.0**	**-2.6**
SKR				AMB	AMB	01 44 05.0	
	60nm,0.3s						
SKR				*e*S	**Sn**	**01 44 43.9**	**-4.5**
SKR				A	A	01 44 46.6	
	130nm,0.3s						
SKR				A	A	01 44 46.6	
	270nm,0.3s						
SKR	**Severo-Kuril's**	**3.72**	**24**	***e***PN	**Pn**	**01 44 04.0**	**-1.6**
SKR				*e*S	**Sn**	**01 44 43.9**	**-4.5**
SKR				pmax	pmax		
	comp=Z,145nm,0.6s						
SKR				smax	smax		
	comp=N,103nm,0.4s						
SKR				smax	smax		
	comp=E,268nm,0.6s						
KUR	**Kuril'sk**	**4.58**	**245**	**⇓** ***i***P	**Pn**	**01 44 16.0**	**-1.3**
KUR				AMB	AMB	01 44 22.0	
	comp=E,50nm,0.4s						
KUR				*i* S	**Sn**	**01 45 07.3**	**-2.1**
KUR				A	A	01 45 11.0	
	comp=E,120nm,0.4s						
KUR				A	A	01 45 11.0	
	comp=E,70nm,0.4s						
KUR	**Kuril'sk**	**4.58**	**245**	***d***PN	**Pn**	**01 44 16.0**	**-1.3**
KUR				*i* S	**Sn**	**01 45 07.3**	**-2.1**
KUR				pmax	pmax		
	comp=Z,47nm,0.4s						
KUR				pmax	pmax		
	comp=N,45nm,0.3s						
KUR				pmax	pmax		
	comp=E,47nm,0.4s						
KUR				smax	smax		
	comp=N,54nm,0.4s						
KUR				smax	smax		
	comp=E,67nm,0.4s						
PAU	**Pauzhetka**	**4.62**	**24**	***e***P	**Pn**	**01 44 15.7**	**-2.0**
PAU				AMB	AMB	01 44 16.7	
	comp=E,70nm,0.8s						
PAU				*e*S	**Sn**	**01 45 05.9**	**-4.2**
PAU				A	A	01 45 06.8	
	comp=E,230nm,0.7s						
PAU				A	A	01 45 06.8	
	comp=E,360nm,0.7s						
SHO	**Shikotan**	**5.96**	**237**	**⇓** ***i***P	**Pn**	**01 44 31.4**	**-4.5**
SHO				AMB	AMB	01 44 33.0	
	comp=E,10.0nm,0.3s						
SHO				AMB	AMB	01 44 33.0	
	comp=E,30nm,0.3s						
SHO				*e*S	**Sn**	**01 45 36.6**	**-6.1**
SHO				A	A	01 45 39.5	
	comp=E,110nm,0.4s						
SHO				A	A	01 45 39.5	
	comp=E,130nm,0.4s						
SHO	**Shikotan**	**5.96**	**237**	***e***PN	Pn	01 44 31.0	-4.9
SHO				pmax	pmax		
	comp=N,10.0nm,0.3s						
SHO				pmax	pmax		
	comp=Z,31nm,0.3s						
SHO				pmax	pmax		
	comp=E,10.0nm,0.2s						
PETK	**Petropavlovsk-**	**6.33**	**22**	P	**Pn**	**01 44 39.4**	**-1.6**
	comp=E,0.7nm,0.3s,baz=176,slow=12,SNR=25						
PETK				S	**Sn**	**01 45 47.2**	**-4.6**
	comp=E,0.2nm,0.3s,baz=193,slow=24,SNR=2.7						
YUK	**Yuzh-Kuril'sk**	**6.43**	**242**	**⇓** ***e***P	**Pn**	**01 44 40.4**	**-2.0**
YUK				AMB	AMB	01 44 40.9	
	comp=E,240nm,0.9s						
PET	**Petropavlovsk**	**6.53**	**27**	***e***P	**Pn**	**01 44 41.1**	**-2.5**
PET				AMB	AMB	01 44 44.7	
	comp=E,30nm,1.0s						
PET				*i* S	**Sn**	**01 45 51.0**	**-5.5**
PET				A	A	01 45 52.0	
	comp=E,40nm,0.4s						
PET				A	A	01 45 52.0	
	comp=E,30nm,0.4s						
YSS	**Yuzh-Sakhalins**	**7.52**	**271**	***e***P	**Pn**	**01 44 57.0**	**-0.1**
YSS				AMB	AMB	01 44 58.7	
	comp=E,60nm,0.7s						
YSS				*e*S	**Sn**	**01 46 18.2**	**-2.5**
YSS	**Yuzh-Sakhalins**	**7.52**	**271**	**⇑** ***e***PN	**Pn**	**01 44 58.0**	**+0.9**
YSS				*e*S	**Sn**	**01 46 22.3**	**+1.6**
YSS				pmax	pmax		
	comp=Z,60nm,0.6s						
TYV	**Tymovskoe**	**8.11**	**300**	***e***P	**Pn**	**01 45 03.8**	**-1.4**
TYV				AMB	AMB	01 45 06.6	
	comp=Z,20nm,1.0s						
TYV				*e*S	**Sn**	**01 46 30.3**	**-4.8**
TYV				A	A	01 46 36.5	
	comp=Z,20nm,0.8s						
TYV	**Tymovskoe**	**8.11**	**300**	***e***PN	**Pn**	**01 45 06.2**	**+1.0**
TYV				*e*S	**Sn**	**01 46 35.1**	**0.0**
TYV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TYV				smax	smax		
	comp=N,13nm,0.8s						
JKA	**Kamikawa-asahi**	**8.44**	**252**	***e***P	**Pn**	**01 45 08.8**	**-0.9**
ASAJ	**Asahikawa**	**8.44**	**252**	P	**Pn**	**01 45 08.8**	**-0.9**
	comp=N,0.9nm,0.3s,baz=150,slow=7.6,SNR=5.7						
ERM	**Erimo**	**9.22**	**239**	*i* PN	**Pn**	**01 45 16.8**	**-3.5**
MA2	**Magadan**	**12.42**	**353**	P	**Pn**	**01 46 03.2**	**-0.1**
	comp=N,1.0nm,0.3s,baz=173,slow=14,SNR=3.4						
MA2	**Magadan**	**12.42**	**353**	**⇑** ***i***P	**Pn**	**01 46 02.2**	**-1.1**
MA2	**Magadan**	**12.42**	**353**	**⇑** ***i***PN	**Pn**	**01 46 02.2**	**-1.1**
USRK	**Ussuriysk Ar.**	**15.50**	**266**	P	**Pn**	**01 46 41.6**	**-1.6**
	comp=N,0.4nm,0.3s,baz=61,slow=15,SNR=6.6						
MJAO	**Matsu Arr-Jizo**	**15.75**	**233**	***e***P	**P**	**01 46 49.8**	**+1.5**
MJAR	**Matsushiro Arr**	**15.77**	**233**	P	**P**	**01 46 49.5**	**+1.0**
	comp=N,0.1nm,0.3s,baz=28,slow=9.2,SNR=5.0						
BMKR	**Bomnak**	**17.28**	**305**	***e***P	**P**	**01 47 02.2**	**-2.8**
KROS	**Kirovskiy**	**18.27**	**303**	***e***P	**Pn**	**01 47 16.0**	**-1.0**
KROS				AMB	AMB	01 47 18.2	
	comp=N,4.0nm,0.4s						
KSRS	**Korea Array**	**21.39**	**252**	P	**P**	**01 47 50.4**	**+0.6**
	comp=N,4.9nm,0.6s,baz=57,slow=10.0,SNR=14						
KSRS				LR	LR	01 55 48.0	
	comp=N,16nm,18.3s,baz=45,slow=36						
KSRS	**Korea Array**	**21.39**	**252**	***e***P	**P**	**01 47 51.0**	**+1.3**
KSRS	**Korea Array**	**21.39**	**252**	***e***P	**P**	**01 47 51.0**	**+1.3**
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BILL	**Bilibino**	**21.75**	**13**	***e***P	**P**	**01 47 54.5**	**+1.2**
BILL	**Bilibino**	**21.75**	**13**	***e***P	**P**	**01 47 54.5**	**+1.2**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.3s						
TIXI	**Tiksi**	**27.06**	**343**	**⇑** ***i***P	**P**	**01 48 43.8**	**+0.9**
TIXI	**Tiksi**	**27.06**	**343**	**⇑** ***i***P	**P**	**01 48 43.8**	**+0.9**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**29.52**	**154**	T	T	02 21 03.5	
	baz=341,slow=76,SNR=48						
H11N1	**WAKE ISLAND Hy**	**29.53**	**154**	T	T	02 21 06.8	
	baz=341,slow=76,SNR=53						
H11N3	**WAKE ISLAND Hy**	**29.54**	**154**	T	T	02 21 07.7	
	baz=341,slow=76,SNR=34						
H11S1	**WAKE ISLAND Hy**	**30.62**	**155**	T	T	02 22 19.7	
	baz=342,slow=76						
H11S3	**WAKE ISLAND Hy**	**30.63**	**155**	T	T	02 22 27.2	
	baz=342						
H11S2	**WAKE ISLAND Hy**	**30.64**	**155**	T	T	02 21 52.8	
	baz=342,slow=76						
KDAK	**Kodiak Island**	**33.41**	**52**	P	**P**	**01 49 40.6**	**+1.6**
	comp=Z,15nm,1.0s,baz=278,slow=7.1,SNR=3.9						
ILAR	**Eielson Array**	**35.84**	**39**	P	**P**	**01 50 00.4**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=268,slow=7.0,SNR=3.5						
ILAR				LR	LR	02 05 03.1	
	comp=Z,20nm,18.2s,baz=118,slow=37						
INK	**Inuvik**	**40.94**	**33**	P	P	01 50 45.0	+2.6
	comp=Z,1.6nm,0.9s,baz=6.4,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**47.08**	**297**	P	**P**	**01 51 30.7**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=69,slow=9.0,SNR=5.8						
YKA	**Yellowknife Ar**	**50.21**	**37**	P	**P**	**01 51 56.6**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=297,slow=7.3,SNR=7.8						
YKA				PcP	**PcP**	**01 53 14.9**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=308,slow=3.8,SNR=5.2						
CMAR	**Chiang Mai Arr**	**52.93**	**256**	P	**P**	**01 52 18.3**	**+1.9**
	comp=Z,1.1nm,0.3s,baz=39,slow=7.4,SNR=4.2						
JIRN	**Jiri**	**55.34**	**275**	***e***P	**P**	**01 52 35.7**	**+1.5**
	comp=Z,18nm,0.6s						
GUN	**Gumba**	**55.39**	**275**	***e***P	**P**	**01 52 35.9**	**+1.3**
	comp=Z,8.4nm,0.4s						
RAMN	**Ramite**	**55.52**	**274**	***e***P	**P**	**01 52 36.6**	**+1.2**
	comp=Z,24nm,0.6s						
PKIN	**Phulchoki**	**55.94**	**275**	***e***P	**P**	**01 52 39.3**	**+1.0**
	comp=Z,6.3nm,0.4s						
DMN	**Daman**	**56.11**	**275**	***e***P	**P**	**01 52 41.4**	**+1.8**
	comp=Z,15nm,0.5s						
DANN	**Dangsing**	**56.55**	**277**	***e***P	**P**	**01 52 44.3**	**+1.6**
	comp=Z,9.2nm,0.6s						
KOLN	**Koldanda**	**57.03**	**277**	***e***P	**P**	**01 52 47.4**	**+1.4**
	comp=Z,9.2nm,0.7s						
PYUN	**Piuthan**	**57.23**	**277**	***e***P	**P**	**01 52 48.9**	**+1.5**
	comp=Z,12nm,1.0s						
ARCES	**ARCESS Array B**	**57.47**	**341**	P	**P**	**01 52 48.3**	**+0.1**
	comp=Z,2.9nm,0.9s,baz=20,slow=11,SNR=3.1						
NVAR	**Mina Array Bea**	**61.78**	**63**	P	P	01 53 21.8	+3.2
	comp=Z,0.5nm,0.5s,baz=296,slow=6.9,SNR=4.1						
FINES	**FINESS Array B**	**63.73**	**335**	P	**P**	**01 53 31.1**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=33,slow=7.0,SNR=12						
PDAR	**Pinedale Array**	**64.06**	**54**	P	**P**	**01 53 36.1**	**+2.5**
	comp=Z,0.8nm,0.8s,baz=291,slow=1.9,SNR=9.4						
NB2	**NORSAR Subarra**	**67.84**	**341**	P	**P**	**01 53 58.1**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=27,slow=6.2						
NOA	**NORSAR Array B**	**67.84**	**341**	P	**P**	**01 53 57.9**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=28,slow=6.5,SNR=5.3						
NOA	**NORSAR Array B**	**67.84**	**341**	***e***P	**P**	**01 53 58.4**	**+1.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**69.18**	**200**	P	**P**	**01 54 07.4**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=15,slow=6.3,SNR=4.7						
WRA				pP	**PcP**	**01 54 26.1**	**-3.1**
	comp=Z,0.3nm,0.6s,baz=15,slow=6.2,SNR=2.3						
AKASG	**Malin Array Be**	**71.33**	**326**	P	**P**	**01 54 18.9**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=33,slow=6.3,SNR=3.9						
ASAR	**Alice Springs**	**72.88**	**199**	P	**P**	**01 54 30.5**	**+2.2**
	comp=Z,0.6nm,0.7s,baz=12,slow=6.2,SNR=7.1						
ASAR				pP	**pP**	**01 54 49.2**	**-3.6**
	comp=Z,0.4nm,0.5s,baz=8.5,slow=6.0,SNR=3.7						
CLL	**Collm**	**76.14**	**336**	*i* P	**P**	**01 54 47.8**	**+0.9**
CLL	**Collm**	**76.14**	**336**	*i* P	**P**	**01 54 47.8**	**+0.9**
CLL	**Collm**	**76.14**	**336**	*i* P	**P**	**01 54 47.8**	**+0.9**
TXAR	**Lajitas Array**	**76.83**	**61**	P	P	01 54 54.2	+2.9
	comp=Z,0.8nm,0.5s,baz=296,slow=4.8,SNR=12						
GERES	**GERESS Array B**	**78.15**	**334**	P	**P**	**01 54 59.5**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=36,slow=7.1,SNR=4.5						
GERES	**GERESS Array B**	**78.15**	**334**	***e***P	**P**	**01 55 00.4**	**+2.1**
GERES	**GERESS Array B**	**78.15**	**334**	***e***P	**P**	**01 55 00.4**	**+2.1**
BRTR	**Keskin Array B**	**78.29**	**317**	P	**P**	**01 55 01.1**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=16,slow=3.4,SNR=3.9						
BRTR	**Keskin Array B**	**78.29**	**317**	P	**P**	**01 55 01.1**	**+1.8**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						

JMA 15 01:44:04.0±0.1, 42.81N×143.70E, h54km±1km, M2.1, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOB	**Onbets**	**0.14**	**47**	P	Pn	01 44 12.5	+0.1
JOB				*e*S	Sn	01 44 18.5	0.0
JCH	**Churui**	**0.32**	**232**	P	Pn	01 44 13.8	+0.2
JCH				*e*S	Sn	01 44 20.7	+0.2
JAR	**Ashorobuto**	**0.49**	**6**	P	Pn	01 44 15.4	0.0
JAR				S	Sn	01 44 23.5	-0.1
JTHR	**Tokachihiroo**	**0.60**	**210**	P	Pn	01 44 16.9	+0.3
JTHR				*e*S	Sn	01 44 26.1	+0.3
JAK	**Akkeshi**	**0.76**	**75**	P	Pn	01 44 18.0	-0.6
JAK				*e*S	Sn	01 44 28.4	-0.8
JNBK	**Urakawa-nobuka**	**0.88**	**233**	P	Pn	01 44 20.0	-0.2
JFR	**Furan**	**0.89**	**294**	*e*S	Sn	01 44 32.4	+0.1
JBT2	**Biratori 2**	**0.98**	**269**	P	Pn	01 44 21.6	0.0
JBT2				*e*S	Sn	01 44 34.9	+0.3
JNK	**Nakash**	**1.07**	**44**	*e*S	Sn	01 44 35.9	-0.9
JKHN	**Kushirohamanak**	**1.11**	**75**	*e*S	Sn	01 44 36.1	-1.4
JTKR	**Abashiri--Toko**	**1.17**	**7**	P	Pn	01 44 24.7	+0.6
JTKR				S	Sn	01 44 39.8	+0.8
JMP	**Maruseppu**	**1.22**	**348**	P	Pn	01 44 25.0	+0.2
JMP				*e*S	Sn	01 44 40.6	+0.3

*ISCJB **15** 01:48:16.1±0.4, 41.17N±0.03×29.70E±0.03, h10km±3km, Error ellipse: s-maj=5.2km s-min=3.3km az=28.1*
*DDA **15** 01:48:16.1, 41.13N×29.71E, h7km±2km, ML3.0*
*ISK **15** 01:48:16.7, 41.09N×29.67E, h8km, ML2.8/29*
ISC 15 01:48:17.1±0.9, 41.13N±0.03×29.69E±0.02, h11km±6km, n54, σ0°96/61, 6C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SILT	**Sile**	**0.05**	**302**	PG	**Pg**	**01 48 19.1**	**-0.1**
SILT				SG	**Sg**	**01 48 20.8**	**+0.1**
KAND	**Kocaeli-Kandir**	**0.38**	**95**	IAML_P			
	comp=Z,4μm,0.1s						
KAND				*i* P	**Pg**	**01 48 25.0**	**+0.4**
KAND				*i* S	**Sg**	**01 48 29.8**	**+0.3**
ISK	**Istanbul-Kandi**	**0.48**	**263**	PG	**Pg**	**01 48 26.2**	**-0.3**
ISK				SG	**Sg**	**01 48 32.8**	**-0.1**
KAVV	**Kandilli-Istan**	**0.48**	**262**	PG	**Pg**	**01 48 26.3**	**-0.2**
KLYT	**Kilyos**	**0.51**	**284**	PG	**Pg**	**01 48 26.8**	**-0.2**
BUY	**Buyukada**	**0.52**	**238**	IAML_P			
	comp=Z,3μm,0.2s						
BUY				*i* P	**Pb**	**01 48 27.6**	**-0.5**
BUY				*i* S	**Sb**	**01 48 34.9**	**-0.7**
YLV	**Yalova**	**0.61**	**204**	PG	**Pg**	**01 48 28.4**	**-0.6**
YLV				SG	**Sg**	**01 48 36.8**	**-0.2**
SAUV	**Serdivan-Sakar**	**0.62**	**129**	PG	**Pg**	**01 48 28.9**	**-0.1**
SPNC	**Sapanca-Adapaz**	**0.64**	**133**	PG	**Pg**	**01 48 29.3**	**-0.2**
SPNC				SG	**Sb**	**01 48 38.5**	**-0.7**
BGKT	**Bogazkoy**	**0.70**	**275**	PG	**Pg**	**01 48 30.3**	**-0.3**
GEYV	**SAKARYA_Geyve**	**0.79**	**144**	IAML_P			
	comp=Z,5μm,0.2s						
GEYV				*i* P	**Pb**	**01 48 32.7**	**-0.1**
GEYV				*i* S	**Sg**	**01 48 42.8**	**+0.2**
GEMT	**Gemlik**	**0.79**	**209**	PG	**Pg**	**01 48 31.5**	**-0.9**
SBTS	**Esenkoy-Cinarc**	**0.79**	**231**	PG	**Pg**	**01 48 32.3**	**-0.1**
ARMT	**Armutlu**	**0.85**	**229**	PG	**Pg**	**01 48 32.8**	**-0.6**
CTKS	**Kestanelik-??a**	**0.90**	**277**	PG	**Pg**	**01 48 33.8**	**-0.7**
SAHE	**Sakarya_HENDEK**	**0.92**	**107**	*i* P	**Pg**	**01 48 34.0**	**-0.8**
CAVI	**Cavuskoy**	**0.93**	**173**	PG	**Pg**	**01 48 34.3**	**-0.7**
GULT	**Gulveren**	**0.93**	**138**	PG	**Pg**	**01 48 34.4**	**-0.7**
ELBA	**Catalca**	**0.95**	**271**	IAML_P			
	comp=Z,8μm,0.1s						
ELBA				*i* P	**Pg**	**01 48 35.3**	**-0.1**
MDNY	**Mudanya-Bursa**	**0.98**	**219**	PG	**Pg**	**01 48 35.3**	**-0.6**
KIYI	**Yalıkoy-Catalc**	**1.11**	**289**	PN	**Pb**	**01 48 38.1**	**-0.1**
CTYL	**Yalikoy Yolu**	**1.11**	**289**	PN	**Pg**	**01 48 38.4**	**-0.1**
SLVT	**Silivri**	**1.12**	**276**	PN	**Pb**	**01 48 38.4**	**-0.1**
BTAS	**Taskesti**	**1.14**	**119**	*i* P	**Pn**	**01 48 38.9**	**-0.1**
MDUB	**Mudurnu**	**1.32**	**119**	PN	**Pb**	**01 48 41.6**	**-0.3**
KCTX	**Karacabey (Bur**	**1.33**	**230**	PN	**Pn**	**01 48 41.7**	**+0.1**
BORA	**Eskisehir**	**1.38**	**155**	PN	**Pn**	**01 48 42.4**	**+0.2**
BORA	**Eskisehir**	**1.38**	**155**	IAML_P			
	comp=Z,1μm,0.2s						
BORA				*i* P	**Pn**	**01 48 42.5**	**+0.2**
BORA				*i* S	**Sg**	**01 49 01.6**	**+0.3**
CRLT	**Corlu**	**1.48**	**271**	PN	**Pn**	**01 48 43.5**	**-0.1**
EDC	**Edincik**	**1.60**	**241**	PN	**Pn**	**01 48 45.3**	**+0.1**
TKR	**Tekirdag**	**1.64**	**266**	PN	**Pn**	**01 48 45.8**	**0.0**
SBT4	**Kumbag-Tekirda**	**1.66**	**260**	PN	**Pn**	**01 48 46.3**	**+0.3**
MRMT	**Marmara Adasi**	**1.68**	**252**	PN	**Pn**	**01 48 45.9**	**-0.5**
PHSR	**Pinarhisar**	**1.71**	**288**	PN	**Pn**	**01 48 47.2**	**+0.4**
DURS	**Dursunbey**	**1.79**	**212**	IAML_P			
	comp=Z,295nm,0.2s						
DURS				*i* P	**Pn**	**01 48 48.6**	**+0.7**
BCAM	**Yenicaga**	**1.82**	**99**	IAML_P			
	comp=Z,1μm,0.2s						
BCAM				*i* P	**Pn**	**01 48 49.0**	**+0.6**
KRBG	**Karabiga-Canak**	**1.96**	**249**	PN	**Pn**	**01 48 49.9**	**-0.4**
BALB	**Balikesir**	**2.03**	**224**	PN	**Pn**	**01 48 51.2**	**0.0**
GDZ	**Gediz**	**2.04**	**185**	IAML_P			
	comp=Z,256nm,0.2s						
GDZ				*i* P	**Pb**	**01 48 54.2**	**-0.1**
GEDZ	**Gediz**	**2.09**	**186**	PN	**Pn**	**01 48 52.5**	**+0.4**
EDRB	**Edirne**	**2.33**	**289**	PN	**Pn**	**01 48 56.0**	**+0.7**
TURN	**Turunc**	**4.33**	**192**	PG	**Pg**	**01 49 44.2**	**+4.1**
TURN				SG	Pg	01 49 48.7	+8.6
BODT	**Bodrum**	**4.46**	**205**	PG	Pg	01 49 51.9	+9.3
DATC	**Datca-Mugla**	**4.64**	**201**	PG	**Pg**	**01 49 44.7**	**-1.3**
**DAT

TAHT	**Tahtakopru-Hat**	**1.18**	**221**	PN	**Pn**	**01 58 11.8**	**+0.2**
TAHT				SN	**Sn**	**01 58 28.7**	**+0.3**
AKCD	**Akcadag**	**1.19**	**31**	*i* P	**Pn**	**01 58 11.9**	**0.0**
AKCD				*i* S	**Sn**	**01 58 28.3**	**-0.6**
SURC	**SANLIURFA_SURC**	**1.24**	**108**	*i* P	**Pg**	**01 58 10.3**	**-1.3**
SURC				*i* S	**Sn**	**01 58 29.8**	**-0.1**
DARE	**Darende-Malaty**	**1.32**	**11**	PN	**Pg**	**01 58 13.1**	**-0.2**
URFA	**Urfa**	**1.34**	**82**	PN	**Pn**	**01 58 13.1**	**-0.9**
URFA				SN	**Sn**	**01 58 32.7**	**+0.1**
SANL	**SANLIURFA_Merk**	**1.47**	**93**	*i* P	**Pg**	**01 58 16.0**	**-0.2**
KRTS	**Karatas**	**1.58**	**244**	PN	**Pg**	**01 58 17.6**	**-0.6**
KARA	**Karaisali**	**1.67**	**270**	PN	**Pb**	**01 58 18.8**	**-0.7**
BNN	**Bunyan**	**1.88**	**327**	PN	**Pn**	**01 58 21.2**	**-0.2**
GULE	**Gulek** comp=Z,258nm,0.2s	**1.89**	**271**	IAML_P			
GULE				*i* P	**Pb**	**01 58 21.8**	**-1.5**
CUALT	**Altinyayla-SIV**	**2.02**	**351**	*i* P	**Pg**	**01 58 27.5**	**+0.9**
CUKAN	**kangal_SIVAS**	**2.06**	**7**	*i* P	**Pg**	**01 58 27.8**	**+0.5**
MERS	**Mersin**	**2.14**	**260**	PN	**Pb**	**01 58 25.6**	**-1.9**
CUSAR	**Sarkisla-SIVAS**	**2.26**	**342**	*i* P	**Pb**	**01 58 28.9**	**-0.7**
KEMA	**Kemaliye**	**2.26**	**28**	*i* P	**Pg**	**01 58 30.7**	**-0.4**
PTK	**Pertek**	**2.40**	**47**	PN	**Pn**	**01 58 28.7**	**+0.1**
KERG	**Konya-Eregli**	**2.41**	**274**	*i* P	**Pb**	**01 58 30.0**	**-2.2**
ILIC	**ilic-Erzincan**	**2.45**	**27**	PN	**Pn**	**01 58 29.0**	**-0.2**
DIYA	**Diyarbakir**	**2.45**	**74**	*i* P	**Pg**	**01 58 35.9**	**+1.1**
KIZK	**Mersin**	**2.53**	**253**	PN	**Pn**	**01 58 31.2**	**+1.0**
TNCL	**Tunceli-Merkez**	**2.64**	**45**	*i* P	**Pg**	**01 58 42.7**	**+4.3**
SVSK	**Karacayir**	**2.64**	**358**	PN	**Pn**	**01 58 31.9**	**+0.2**
YOZ	**Yozgat**	**2.77**	**329**	PN	**Pn**	**01 58 33.9**	**+0.3**
KEBE	**Keben-Mersin**	**2.87**	**259**	PN	**Pn**	**01 58 35.9**	**+0.9**
SVAN	**Silvan-Diyarba**	**3.33**	**73**	*i* P	**Pb**	**01 58 47.3**	**-0.6**
BTMN	**Batman**	**3.33**	**78**	*i* P	**Pg**	**01 58 51.9**	**+0.1**

IDC 15 02:13:10.1±1.4, 7°30S×155°58E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/26, mbtmp3.9/4, ML4.6/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/34, Error ellipse: s-maj=39.8km s-min=27.6km az=27.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara** comp=Z,33nm,18.6s,slow=39	**4.81**	**116**	Pn	Pn	02 14 23.7	-0.2
HNR				Sn	Sn	02 15 21.2	+0.7
	13nm,0.3s,baz=33,slow=21,SNR=4.1						
HNR				LR	LR	02 16 08.0	
	comp=Z,116nm,18.8s,baz=158,slow=37						
HNR	**Honiara**	**4.81**	**116**	*e*P	Pn	02 14 20.0	-3.9
HNR				*e*S	Sn	02 15 20.0	-0.4
WRA	**Warramunga Arr** 1.0nm,0.8s,baz=62,slow=9.7,SNR=5.0	**24.13**	**236**	P	P	02 18 28.5	+0.5
SIJI	**Sorong** comp=Z,33nm,18.6s,slow=39	**25.07**	**284**	LR	LR	02 29 37.8	
H11S3	**WAKE ISLAND Hy** baz=200,slow=74,SNR=8.5	**27.87**	**23**	T	T	02 47 20.1	
H11S2	**WAKE ISLAND Hy** baz=200,slow=74	**27.87**	**23**	T	T	02 47 22.1	
H11S1	**WAKE ISLAND Hy** baz=200	**27.89**	**23**	T	T	02 47 23.0	
SONM	**Songino Array** 1.2nm,0.8s,baz=137,slow=6.5,SNR=8.0	**69.90**	**327**	P	P	02 24 23.6	+0.5
MKAR	**Makanchi Array** 0.6nm,0.8s,baz=103,slow=4.7,SNR=6.6	**84.01**	**319**	P	P	02 25 41.8	-0.8

MAN 15 02:39:46.5, 15°67N×119°44E, h12km, MS4.7, Luzon

IDC 15 02:52:55.9±25.0, 62°42S×161°45W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/30, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=591.2km s-min=47.2km az=78.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda** 0.2nm,0.3s,baz=66,slow=17,SNR=7.1	**19.08**	**203**	P	P	02 57 19.7	+0.2
ASAR	**Alice Springs** 1.1nm,0.8s,baz=150,slow=7.2,SNR=11	**57.59**	**281**	P	P	03 02 47.5	+0.2
WRA	**Warramunga Arr** 1.0nm,0.8s,baz=159,slow=6.3,SNR=6.5	**60.62**	**284**	P	P	03 03 08.0	-0.4

*ISCJB **15** 02:54:17.2±1.1, 62°.5S±0°.2×162°.9W±0°.4, h10km, mb4.2/4, MS3.6/2, Error ellipse: s-maj=27.7km s-min=23.3km az=9.4*

*IDC **15** 02:54:17.3±0.8, 62°.50S×162°.74W, h0km, mb4.2/4, mb1 4.4/5, mb1mx4.0/30, mbtmp4.1/5, ML3.3/1, MS3.8/2, Ms1 3.8/2, ms1mx3.5/8, Error ellipse: s-maj=44.4km s-min=24.3km az=12.0*

ISC 15 02:54:18.7±0.9, 62°.5S±0°.2×162°.8W±0°.2, h10km, n11, σ0s94/9, mb4.3/4, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda** 0.1nm,0.3s,baz=74,slow=16,SNR=2.9	**18.75**	**203**	P	**Pn**	**02 58 37.9**	**+0.2**
RPZ	**Rata Peaks** comp=Z,311nm,18.6s,baz=174,slow=34	**24.21**	**309**	LR	LR	03 07 56.0	
QSPA	**South Pole Qui** comp=Z,109nm,19.2s,baz=47,slow=34	**27.61**	**180**	LR	LR	03 09 43.3	
ASAR	**Alice Springs** 4.2nm,1.1s,baz=147,slow=7.3,SNR=14	**56.99**	**282**	P	**P**	**03 04 04.8**	**+0.5**
WRA	**Warramunga Arr** 3.0nm,1.0s,baz=161,slow=6.2,SNR=8.0	**60.03**	**285**	P	**P**	**03 04 25.5**	**0.0**
CPUP	**Villa Florida** 2.5nm,1.1s,baz=218,slow=7.0,SNR=3.9	**73.76**	**116**	P	**P**	**03 05 51.9**	**-0.9**
LPAZ	**La Paz** 2.1nm,0.8s,baz=235,slow=9.4,SNR=5.4	**77.84**	**102**	P	**P**	**03 06 18.0**	**+0.9**
ULM	**Lac du Bonnet** 2.4nm,0.7s,baz=199,slow=4.9,SNR=4.4	**124.22**	**46**	PKP	**PKPdf**	**03 13 15.6**	**-0.6**
ILAR	**Eielson Array** 1.4nm,1.0s,baz=226,slow=2.2,SNR=6.1	**127.52**	**9**	PKP	**PKPdf**	**03 13 22.2**	**+0.1**
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=198,slow=2.1,SNR=4.0	**129.86**	**27**	PKP	**PKPdf**	**03 13 27.6**	**+1.1**
ZALV	**Zalesovo Beam** 1.4nm,0.7s,baz=122,slow=1.9,SNR=5.0	**144.98**	**288**	PKPbc	**PKPbc**	**03 13 52.7**	**-1.3**

IDC 15 02:55:31.0±4.5, 62°.52S×162°.67W, h0km, mb4.1/2, mb1 4.3/3, mb1mx3.9/30, mbtmp4.0/3, ML4.1/1, MS3.9/1, Ms1 4.0/1, ms1mx3.5/8, Error ellipse: s-maj=113.5km s-min=46.2km az=80.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda** 0.6nm,0.3s,baz=68,slow=17,SNR=14	**18.77**	**203**	P	P	02 59 51.3	+0.2
VNDA				LR	LR	03 05 15.3	
	comp=Z,347nm,18.8s,baz=55,slow=31						
TBI	**Tubuai** comp=Z,208nm,27.5s,baz=185	**40.16**	**19**	*e*LR	LR	03 14 07.7	
TBI	**Tubuai** 13nm,0.3s	**40.16**	**19**	*e*T	T	03 46 08.7	
RKT	**Rikitea** comp=Z,218nm,26.8s	**43.61**	**38**	*e*LR	LR	03 15 41.3	
RKT	**Rikitea** 2.9nm,0.3s	**43.61**	**38**	*e*T	T	03 50 20.0	
DZM	**Mont Dzumac** comp=Z,447nm,27.1s	**45.55**	**318**	*e*LR	LR	03 16 11.3	
PAE	**Paea** 1.9nm,0.3s	**45.73**	**18**	*e*T	T	03 53 06.2	
PPT2	**Papeete2** comp=Z,258nm,27.2s,baz=184	**45.80**	**18**	*e*LR	LR	03 16 40.0	
PPT2	**Papeete2** 3.0nm,0.3s	**45.80**	**18**	*e*T	T	03 53 11.5	
VAH	**Vaihoa** 21nm,0.3s	**48.40**	**20**	*e*T	T	03 56 26.2	
TAOE	**Nuku Hiva Isla** comp=Z,149nm,27.3s	**56.01**	**27**	*e*LR	LR	03 21 31.6	
H01W1	**Cape Leeuwin H** baz=148	**56.65**	**258**	T	T	04 06 18.6	
H01W2	**Cape Leeuwin H** baz=148	**56.66**	**258**	T	T	04 06 58.2	
H01W3	**Cape Leeuwin H** baz=148	**56.67**	**258**	T	T	04 06 48.6	
ASAR	**Alice Springs** 1.7nm,0.7s,baz=155,slow=7.4,SNR=12	**57.05**	**282**	P	P	03 05 18.6	0.0
WRA	**Warramunga Arr** 2.1nm,0.8s,baz=155,slow=5.7,SNR=8.8	**60.10**	**285**	P	P	03 05 39.6	-0.3
ZALV	**Zalesovo Beam** 1.1nm,0.7s,baz=114,slow=7.1,SNR=3.1	**145.04**	**288**	PKPbc	PKPbc	03 15 07.4	-0.8

*NEIC **15** 02:56:41.1±0.0, 55°.06N×134°.76W, h10km, mb3.8/21, ML4.1(AEIC), After AEIC.*

NEIC Felt [III] at Craig. Also felt at Klawock.

*ISCJB **15** 02:56:42.0±0.9, 55°.04N±0°.03×134°.50W±0°.06, h15km±6km, mb3.9/4, MS3.2/4, Error ellipse: s-maj=7.3km s-min=2.5km az=142.7*

*IDC **15** 02:56:42.5±1.2, 54°.99N×134°.51W, h0km, mb3.2/1, mb1 4.0/9, mb1mx3.7/49, mbtmp3.8/9, ML3.7/8, MS3.3/10, Ms1 3.3/10, ms1mx3.2/17, Error ellipse: s-maj=18.1km s-min=9.3km az=62.0*

ISC 15 02:56:45.9±1.9, 55°.00N±0°.04×134°58W±0°.06, h23km±17km, n130, σ2s18/143, mb4.0/4, MS3.3/4, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDB	**Naden**	**1.42**	**137**	P	**Pn**	**02 57 08.4**	**-1.9**
NDB	**Naden**	**1.42**	**137**	Pn	**Pn**	**02 57 08.4**	**-1.9**
NDB				Sg	**Sb**	**02 57 29.7**	**+0.4**
MASB	**Masset**	**1.79**	**122**	P	**Pn**	**02 57 13.3**	**-2.0**
MASB	**Masset**	**1.79**	**122**	Pn	**Pn**	**02 57 13.3**	**-2.0**
MASB				Sg	**Sb**	**02 57 39.3**	**-0.6**
WRAK	**Wrangell Islan**	**1.90**	**41**	P	**Pn**	**02 57 14.4**	**-2.5**
WRAK				S	**Sn**	**02 57 37.1**	**-3.0**
SIT	**Sitka**	**2.10**	**349**	P	**Pn**	**02 57 15.8**	**-3.8**
SIT				S	**Sn**	**02 57 40.4**	**-4.6**
DIB	**Dawson Inlet,**	**2.19**	**145**	*e*Pn	**Pn**	**02 57 19.3**	**-1.5**
DIB				*e*Sn	**Sn**	**02 57 47.1**	**0.0**
DIB	**Dawson Inlet,**	**2.19**	**145**	Pn	**Pn**	**02 57 19.0**	**-1.8**
DIB				Sn	**Sn**	**02 57 42.8**	**-4.3**
DIB				Sg	**Sb**	**02 57 49.7**	**-1.6**
H02S1	**DAWSON INLET T**	**2.19**	**145**	Pn	**Pn**	**02 57 19.1**	**-1.7**
H02S1				Sn	**Sn**	**02 57 45.1**	**-2.0**
MOBC	**Moresby Island**	**2.41**	**139**	Pn	**Pn**	**02 57 21.9**	**-2.1**
MOBC				Sg	**Sb**	**02 57 57.8**	**-0.1**
HG1B	**Mitchell Dam**	**2.53**	**144**	Pn	**Pn**	**02 57 23.8**	**-1.7**
HG1B				Sg	**Sb**	**02 58 01.3**	**+0.2**
RUBB	**Prince Rupert**	**2.60**	**103**	Pn	**Pn**	**02 57 23.5**	**-3.0**
RUBB				Sg	**Sb**	**02 58 02.6**	**-0.7**
BNAB	**Bonilla**	**2.76**	**122**	P	**Pn**	**02 57 26.2**	**-2.5**
BNAB	**Bonilla**	**2.76**	**122**	Pn	**Pn**	**02 57 26.2**	**-2.5**
BNAB				Sg	**Sb**	**02 58 07.9**	**0.0**
BNB	**Barry Inlet**	**2.95**	**144**	Pn	**Pn**	**02 57 29.2**	**-2.2**
BNB				Sg	**Sb**	**02 58 14.2**	**+0.8**
HG3B	**Hotspring**	**3.06**	**141**	Pn	**Pn**	**02 57 30.4**	**-2.3**
HG3B				Sg	**Sb**	**02 58 16.4**	**+0.1**
JIS	**Juneau Island**	**3.29**	**2**	P	**Pn**	**02 57 33.2**	**-2.7**
HG4B	**Hotspring**	**3.38**	**142**	Pn	**Pn**	**02 57 35.0**	**-2.2**
HG4B				Sg	**Sb**	**02 58 25.6**	**0.0**
BESE	**Bessie Mountai**	**3.59**	**358**	P	**Pn**	**02 57 38.7**	**-1.5**
BESE	**Bessie Mountai**	**3.59**	**358**	Pn	**Pn**	**02 57 38.2**	**-1.9**
DLBC	**Dease Lake** 2.0nm,0.3s,baz=216,slow=15,SNR=33	**4.26**	**34**	Pn	**Pn**	**02 57 48.1**	**-1.2**
DLBC				Lg	Lg	02 58 54.8	
	45nm,0.3s,baz=324,slow=26,SNR=8.0						
DLBC	**Dease Lake**	**4.26**	**34**	P	**Pn**	**02 57 48.0**	**-1.3**
DLBC	**Dease Lake**	**4.26**	**34**	Pn	**Pn**	**02 57 47.9**	**-1.5**
SKAG	**Skagway**	**4.49**	**355**	*e*Pn	**Pn**	**02 57 51.4**	**-1.0**
SKAG				*e*Sn	**Sn**	**02 58 42.9**	**-1.0**
PLBC	**Pleasant Camp**	**4.57**	**349**	P	**Pn**	**02 57 52.0**	**-1.6**
PLBC	**Pleasant Camp**	**4.57**	**349**	Pn	**Pn**	**02 57 51.8**	**-1.7**
BBB	**Bella Bella** 8.0nm,0.3s,baz=301,slow=8.5,SNR=195	**4.78**	**124**	Pn	**Pn**	**02 57 54.1**	**-2.2**
BBB				Sn	**Sn**	**02 58 48.7**	**-2.2**
	63nm,0.3s,baz=69,slow=17,SNR=21						
BBB				Lg	Lg	02 59 09.7	
	34nm,0.3s,baz=309,slow=8.0,SNR=5.7						
BBB				LR	LR	02 59 40.9	
	comp=Z,365nm,21.5s,baz=19,slow=38						
BBB	**Bella Bella**	**4.78**	**124**	P	**Pn**	**02 57 54.3**	**-2.1**
BBB	**Bella Bella**	**4.78**	**124**	Pn	**Pn**	**02 57 54.1**	**-2.2**
BBB				Sn	**Sn**	**02 58 46.8**	**-4.1**
BCBC	**Bella Coola**	**5.34**	**116**	Pn	**Pn**	**02 58 02.0**	**-2.1**
BCBC				Sn	**Sn**	**02 59 02.8**	**-2.2**
PNL	**Peninsula**	**5.36**	**333**	P	**Pn**	**02 58 02.4**	**-2.0**
PNL	**Peninsula**	**5.36**	**333**	Pn	**Pn**	**02 58 03.0**	**-1.4**
BCPM	**Bancas Point**	**5.66**	**333**	P	**Pn**	**02 58 06.6**	**-2.0**
WHY	**Whitehorse**	**5.68**	**359**	P	**Pn**	**02 58 07.4**	**-1.5**
WHY	**Whitehorse**	**5.68**	**359**	Pn	**Pn**	**02 58 07.1**	**-1.7**
YUK7	**Dusty Glacier**	**5.86**	**343**	Pn	**Pn**	**02 58 11.5**	**+0.1**
YUK7				Sn	**Sn**	**02 59 14.6**	**-3.4**
PCA	**Pinnacle**	**5.95**	**331**	P	**Pn**	**02 58 11.5**	**-1.1**
FSB	**Fort Saint Jam**	**5.96**	**91**	P	**Pn**	**02 58 11.6**	**-1.2**
FSB	**Fort Saint Jam**	**5.96**	**91**	Pn	**Pn**	**02 58 11.0**	**-1.7**
HYT	**Haines Junctio**	**6.04**	**346**	*e*Pn	**Pn**	**02 58 14.3**	**+0.4**
HYT	**Haines Junctio**	**6.04**	**346**	Pn	**Pn**	**02 58 13.5**	**-0.4**
PHC	**Port Hardy**	**6.10**	**132**	Pn	**Pn**	**02 58 12.5**	**-2.1**
PHC				Sn	**Sn**	**02 59 17.8**	**-5.8**
SAMH	**Samovar Hills**	**6.13**	**330**	P	**Pn**	**02 58 14.0**	**-1.0**
PACB	**Port Alice, BC**	**6.28**	**134**	Pn	**Pn**	**02 58 14.9**	**-2.1**
PACB				Sn	**Sn**	**02 59 22.7**	**-5.2**
YUK5	**Granite Creek**	**6.39**	**346**	Pn	**Pn**	**02 58 17.6**	**-1.0**
TLCB	**Telegraph Cove**	**6.48**	**130**	Pn	**Pn**	**02 58 17.8**	**-1.9**
TLCB				Sn	**Sn**	**02 59 28.6**	**-4.3**
YUK4	**Talbot Arm**	**6.71**	**343**	Pn	**Pn**	**02 58 23.0**	**-0.2**
EDB	**Eliza Dome**	**6.87**	**135**	Pn	**Pn**	**02 58 25.0**	**-0.1**
EDB				Sn	**Sn**	**02 59 40.3**	**-2.1**
WOSB	**Woss**	**6.88**	**132**	Pn	**Pn**	**02 58 24.0**	**-1.3**
WOSB				Sn	**Sn**	**02 59 38.9**	**-3.9**
BMBC	**Bull Mountain**	**7.15**	**76**	Pn	**Pn**	**02 58 27.8**	**-1.2**
GDR	**Gold River**	**7.39**	**131**	Pn	**Pn**	**02 58 31.5**	**-0.8**
GDR				Sn	**Sn**	**02 59 53.3**	**-2.0**
FNBB	**Fort Nelson**	**7.43**	**54**	Pn	**Pn**	**02 58 32.1**	**-0.7**
CBB	**Campbell River**	**7.50**	**128**	Pn	**Pn**	**02 58 33.4**	**-0.4**
CBB				Sn	**Sn**	**02 59 55.5**	**-2.7**
BMRM	**Bremner River**	**8.00**	**322**	*e*Pn	**Pn**	**02 58 42.2**	**+1.5**
TXB	**Texada**	**8.17**	**126**	Pn	**Pn**	**02 58 42.9**	**-0.1**
MGB	**Mount Grey**	**8.56**	**131**	Pn	**Pn**	**02 58 48.3**	**-0.1**
KLU	**Klutina**	**8.83**	**322**	*e*Pn	**Pn**	**02 58 51.6**	**-0.4**
KLU				*e*Sn	**Sn**	**03 00 28.8**	**-1.9**
DAWY	**Dawson**	**9.41**	**347**	*e*Pn	**Pn**	**02 58 59.4**	**-0.6**
DAWY	**Dawson**	**9.41**	**347**	Pn	**Pn**	**02 58 57.7**	**-2.2**
SCM	**Sheep Creek Mo**	**9.56**	**321**	*e*Pn	**Pn**	**02 59 00.4**	**-1.6**
KNK	**Knik Glacier**	**9.73**	**317**	*e*Pn	**Pn**	**02 59 02.9**	**-1.4**
KNK				*e*Sn	**Sn**	**03 00 53.9**	**+1.2**
PAX	**Paxson**	**9.76**	**329**	Pn	**Pn**	**02 59 04.1**	**-0.6**
DOT	**Dot Lake**	**9.92**	**335**	*e*Pn	**Pn**	**02 59 07.1**	**+0.2**
DOT	**Dot Lake**	**9.92**	**335**	Pn	**Pn**	**02 59 05.3**	**-1.6**
PMR	**Palmer**	**10.10**	**317**	*e*Pn	**Pn**	**02 59 07.4**	**-1.9**
SCRK	**Sand Creek**	**10.18**	**336**	*e*Pn	**Pn**	**02 59 10.0**	**-0.5**
KDAK	**Kodiak Island** 5.1nm,0.3s,baz=104,slow=7.2,SNR=30	**10.36**	**293**	Pn	**Pn**	**02 59 09.5**	**-3.3**
KDAK				LR	LR	03 02 31.0	
	comp=Z,142nm,20.4s,baz=110,slow=34						
SLEB	**Sale Mountain**	**10.61**	**104**	Pn	**Pn**	**02 59 16.1**	**-0.5**
RND	**Reindeer**	**11.13**	**325**	*e*Pn	**Pn**	**02 59 23.9**	**+0.4**
HDA	**Harding Lake**	**11.29**	**332**	*e*Pn	**Pn**	**02 59 25.9**	**+0.3**
MCK	**McKinley**	**11.38**	**326**	*e*Pn	**Pn**	**02 59 27.5**	**+0.6**
FMW	**Mount Fremont**	**11.45**	**130**	Pn	**Pn**	**02 59 28.8**	**+0.7**
EPYK	**Eagle Plains**	**11.46**	**356**	*e*Pn	**Pn**	**02 59 27.4**	**-0.5**
LON	**Longmire**	**11.53**	**130**	*e*Pn	**Pn**	**02 59 29.0**	**+1.0**
LON	**Longmire**	**11.53**	**130**	Pn	**Pn**	**02 59 30.1**	**+1.1**
B08A	**Colville Reser**	**11.55**	**119**	*e*Pn	**Pn**	**02 59 32.4**	**+3.1**
ILAR	**Eielson Array** 0.3nm,0.3s,baz=154,slow=13,SNR=38	**11.56**	**333**	Pn	**Pn**	**02 59 28.1**	**-1.2**
ILAR				Lg	Lg	03 02 51.4	
	0.0nm,0.3s,baz=118,slow=27,SNR=3.3						
ILAR				LR	LR	03 03 39.8	
	comp=Z,101nm,19.0s,baz=182,slow=36						
ILB	**Eielson Array**	**11.56**	**333**	*e*Pn	**Pn**	**02 59 29.0**	**-0.2**
TRF	**Thorofare Moun**	**11.65**	**323**	*e*Pn	**Pn**	**02 59 30.0**	**-0.7**
WRH	**Wood River Hil**	**11.66**	**330**	*e*Pn	**Pn**	**02 59 30.6**	**0.0**
BPAW	**Bear Paw Mtn.**	**12.30**	**324**	*e*Pn	**Pn**	**02 59 38.1**	**-1.4**
E07A	**Sunnyside**	**12.56**	**126**	*e*Pn	**Pn**	02 59 48.0	+4.9
NEW	**Newport** comp=Z,247nm,18.9s,baz=296,slow=37	**12.75**	**115**	LR	LR	03 04 33.7	
YKA	**Yellowknife Ar** 0.2nm,0.3s,baz=249,slow=12,SNR=16	**12.76**	**46**	Pn	**Pn**	**02 59 43.9**	**-1.7**
YKA				Lg	Lg	03 03 22.4	
	0.1nm,0.3s,baz=243,slow=31,SNR=4.5						
YKA				LR	LR	03 04 19.8	
	comp=Z,7.7nm,21.2s,baz=242,slow=36						
YKB5	**Yellowknife Ar**	**12.76**	**46**	*e*Pn	**Pn**	**02 59 49.5**	**+3.9**
MLY	**Manley**	**12.85**	**328**	*e*Pn	**Pn**	**02 59 47.3**	**+0.3**
INK	**Inuvik** 0.5nm,0.3s,baz=168,slow=11,SNR=14	**13.36**	**2**	Pn	**Pn**	**02 59 54.0**	**+0.2**
INK				Lg	Lg	03 03 42.5	
	0.1nm,0.3s,baz=272,slow=27,SNR=5.8						
INK				LR	LR	03 05 29.8	
	comp=Z,101nm,19.4s,baz=178,slow=39						
INK	**Inuvik**	**13.36**	**2**	*e*Pn	**Pn**	**02 59 55.6**	**+1.7**
F10A	**Beach Ranch, E**	**14.24**	**122**	*e*Pn	**Pn**	**03 00 09.0**	**+3.0**
PINE	**Pine Mountain**	**14.28**	**136**	*e*P	**P**	**03 00 13.5**	**-0.3**
COLD	**Coldfoot**	**14.33**	**335**	*e*Pn	**Pn**	**03 00 08.0**	**+0.9**
IM3	**Indian Mountai**	**14.42**	**327**	*e*Pn	**Pn**	**03 00 07.8**	**-0.5**
J08A	**Circle Bar Ran** 8.7nm,1.0s	**15.66**	**131**	*e*Pn	**P**	**03 00 28.3**	**-0.7**
WVOR	**Wild Horse Val** 2.6nm,0.9s	**16.34**	**134**	*e*Pn	**P**	**03 00 40.4**	**+3.8**
HRY	**Holter Researc**	**16.53**	**111**	*e*Pn	**P**	**03 00 39.1**	**+0.5**
MFID	**Camas Ranch** 3.4nm,1.0s	**16.80**	**126**	*e*Pn	**P**	**03 00 44.3**	**+2.6**
EGMT	**Eagleton** 6.6nm,0.7s	**16.90**	**104**	*e*Pn	**Pn**	**03 00 38.2**	**-2.6**
MCMT	**McKenzie Canyo**	**17.23**	**117**	*e*Pn	**Pn**	**03 00 43.7**	**-1.4**
HLID	**Hailey** 6.1nm,1.2s	**17.37**	**123**	*e*Pn	**P**	**03 00 49.4**	**+1.4**
ANM	**Nome** 12nm,1.0s	**18.02**	**314**	*e*Pn	**P**	**03 00 55.9**	**+1.0**
YMR	**Madison River** 7.4nm,1.0s	**18.32**	**115**	*e*Pn	**P**	**03 01 01.8**	**+3.3**
FFC	**Flin Flon** 4.3nm,0.8s	**18.68**	**77**	*e*P	**Pn**	**03 01 02.5**	**-0.1**
H17A	**Grant Village** 12nm,1.4s	**18.71**	**115**	*e*P	**Pn**	**03 01 06.9**	**+3.6**
MOOW	**Moose Ponds** 1.7nm,0.8s	**19.07**	**116**	*e*P	**Pn**	**03 01 10.0**	**+2.4**
ELK	**Elko** 0.1nm,0.3s,baz=307,slow=10,SNR=8.3	**19.19**	**130**	Pn	**Pn**	**03 01 11.1**	**+2.1**
ELK				LR	LR	03 09 20.2	
	comp=Z,113nm,18.1s,baz=325,slow=40						
LOHW	**Long Hollow** 3.7nm,1.0s	**19.24**	**116**	*e*P	**Pn**	**03 01 12.4**	**+2.7**
REDW	**Red Top Meadow** 7.7nm,1.2s	**19.29**	**117**	*e*P	**Pn**	**03 01 14.7**	**+4.4**
WAKR	**Walker** 14nm,1.5s	**19.42**	**142**	*e*P	**Pn**	**03 01 17.3**	**+5.4**
KVN	**Kaiserville** 4.4nm,0.9s	**19.43**	**138**	*e*P	**Pn**	**03 01 14.7**	**+2.7**
HVU	**Hansel Valley** 2.6nm,1.0s	**19.50**	**124**	*e*P	**Pn**	**03 01 17.2**	**+4.4**
NV01	**Mina Array Sit**	**19.90**	**140**	*e*P	**Pn**	**03 01 21.7**	**+4.2**
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=322,slow=10,SNR=2.3	**19.90**	**140**	P	**P**	**03 01 16.9**	**-0.6**
BW06	**Boulder Array** 5.6nm,1.0s	**20.38**	**117**	*e*P	Pn	03 01 24.2	+1.1
PD31	**Pinedale Array**	**20.38**	**117**	*e*P	Pn	03 01 24.3	+1.1
PDAR	**Pinedale Array** 1.0nm,0.8s,baz=327,slow=4.8,SNR=11	**20.38**	**117**	P	**P**	**03 01 21.9**	**+0.9**
PDAR				LR	LR	03 08 18.2	
	comp=Z,49nm,21.7s,baz=316,slow=34						
PDAR	**Pinedale Array**	**20.38**	**117**	*e*P	Pn	03 01 23.7	+0.5
GAMB	**Gambell** 10nm,1.0s	**20.55**	**310**	*e*P	Pn	03 01 25.2	+0.4
R11A	**Troy Canyon, C** 3.2nm,1.1s	**21.04**	**135**	*e*P	**P**	**03 01 30.6**	**+2.5**
PSUT	**Pine Spring** 6.5nm,1.1s	**21.61**	**131**	*e*P	**P**	**03 01 36.9**	**+2.5**
TPNV	**Topopah Spring** 6.1nm,0.9s	**21.98**	**138**	*e*P	P	03 01 45.0	+6.8
RSSD	**Black Hills** 9.7nm,1.3s	**22.42**	**106**	*e*P	**P**	**03 01 46.8**	**+3.8**
ULM	**Lac du Bonnet** comp=Z,127nm,18.3s,baz=44,slow=37	**23.75**	**85**	LR	LR	03 11 24.9	
RES	**Resolute Bay** comp=Z,120nm,18.0s,baz=18,slow=37	**25.07**	**24**	LR	LR	03 12 17.9	
ANMO	**Albuquerque** comp=Z,61nm,19.4s,baz=348,slow=35	**27.93**	**124**	LR	LR	03 13 02.5	
H11N2	**WAKE ISLAND Hy** baz=36,slow=76,SNR=481	**56.10**	**255**	T	T	04 07 22.6	
H11N3	**WAKE ISLAND Hy** baz=36,slow=76,SNR=661	**56.10**	**255**	T	T	04 07 39.3	
H11N1	**WAKE ISLAND Hy** baz=36,slow=76,SNR=462	**56.12**	**255**	T	T	04 07 40.7	
H11S1	**WAKE ISLAND Hy** baz=31	**57.19**	**255**	T	T	04 08 52.1	
H11S2	**WAKE ISLAND Hy** baz=31,slow=74,SNR=92	**57.21**	**255**	T	T	04 08 53.0	
H11S3	**WAKE ISLAND Hy** baz=31,slow=74,SNR=73	**57.21**	**255**	T	T	04 08 57.7	

*NIED **15** 02:58:00, 32°.60N×141°.80E, h11km, Mw4.8 Best double couple: M0 1.84000×10^16 NP1:φs=34.00000°, δ40.00000°, λ-127.00000°. NP2:φs

ERM eSn Sn 03 02 05.5 -9.3
ERM Erimo 9.56 7 *i* P **Pn** **03 00 24.8 -3.6**
ASAJ Asahikawa 11.62 3 Pn **Pn** **03 00 54.2 -2.3**
3.3nm,0.3s,baz=253,slow=9.3,SNR=15
ASAJ LR LR 03 06 08.1
comp=Z,872nm,19.1s,baz=164,slow=41
ASAJ Asahikawa 11.62 3 *e*Pn **Pn** **03 00 53.0 -3.4**
YUK Yuzh-Kuril'sk 11.96 15 *e*P **Pn** **03 00 58.6 -2.6**
YUK pmax pmax
comp=Z,131nm,0.4s
YUK pmax pmax
comp=N,68nm,0.1s
YUK pmax pmax
comp=E,62nm,0.1s
SHO Shikotan 12.04 18*d i*P **Pn** **03 00 59.9 -2.4**
SHO pmax pmax
comp=Z,37nm,0.7s
SHO pmax pmax
comp=N,18nm,0.6s
SHO pmax pmax
comp=E,26nm,0.3s
KSRS Korea Array 12.33 297 LR LR 03 06 16.0
comp=E,959nm,19.8s,baz=107,slow=40
KS15 Wonju Array Si 12.36 297 *e*Pn Pn 03 00 57.0 -10
KS01 Wonju Array Si 12.36 297 *e*Pn Pn 03 00 57.9 -8.8
TJN Taejon 12.45 292 *ce*P **Pn** **03 01 07.8 -0.1**
JOW Kunigami 12.97 248 LR LR 03 06 14.8
comp=E,1μm,18.8s,baz=125,slow=38
USRK Ussuriysk Ar. 13.93 330 Pn **Pn** **03 01 26.8 -1.3**
comp=E,0.2nm,0.3s,baz=143,slow=13,SNR=6.1
USRK LR LR 03 07 03.8
comp=E,802nm,18.3s,baz=132,slow=38
YSS Yuzh-Sakhalins 14.46 3 *e*P **Pn** **03 01 34.4 -0.8**
YSS *e*S **Sn** **03 04 13.3 -1.0**
YSS pmax pmax
comp=Z,20nm,0.9s
MDJ Mudanjiang 15.34 326 P **P** **03 01 50.3 -1.2**
MDJ pP pP 03 01 59.9 +1.5
MDJ sP sP 03 02 02.9 +1.2
MDJ S **Sn** **03 04 33.9 -2.0**
MDJ pmax pmax
comp=Z,21nm,1.1s
MDJ pmax pmax
comp=Z,150nm,3.1s
MDJ LR LR
comp=Z,880nm,9.9s
MDJ LR LR
comp=Z,1μm,11.4s
MDJ LR LR
comp=Z,940nm,10.9s
MDJ Mudanjiang 15.34 326 *e*Pn **Pn** **03 01 44.3 -2.8**
comp=Z,16nm,0.9s
UGL Uglegorsk 16.56 1 *e*P **P** **03 02 07.4 +2.5**
UGL S **Sn** **03 05 01.6 -3.8**
UGL pmax pmax
comp=E,98nm,1.0s
UGL pmax pmax
comp=Z,65nm,0.5s
UGL MLR MLR
comp=Z,2μm,15.0s
CN2 Changchun 17.02 316 *e*P **Pn** **03 02 09.0 +0.5**
CN2 *es*P pwP 03 02 24.5 +1.0
CN2 *e*S **Sn** **03 05 15.3 -1.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,840nm,10.0s
CN2 LR LR
comp=Z,1μm,10.0s
CN2 LR LR
comp=Z,1μm,10.0s
YOJ Yonaguni jima 18.26 249 *e*P **P** **03 02 23.4 -0.5**
comp=Z,211nm,1.0s
KLR Kul'dur 18.30 339 P **P** **03 02 21.6 -2.5**
comp=Z,0.6nm,0.3s,baz=147,slow=12,SNR=16
KLR Kul'dur 18.30 339 *e*P **P** **03 02 23.3 -0.9**
TYV Tymovskoe 18.36 2 *e*P **Pn** **03 02 25.4 +0.4**
TYV pmax pmax
comp=Z,14nm,1.1s
GRNR Gornyy 18.66 349 *e*P **P** **03 02 26.0 -2.2**
GRNR pmax pmax
comp=Z,13nm,1.0s
GUMO Guam 19.05 171 LR LR 03 09 19.2
comp=Z,531nm,18.0s,baz=14,slow=35
GUMO Guam 19.05 171 *e*P **Pn** **03 02 34.2 +0.7**
comp=Z,445nm,0.9s
GUMO Guam 19.05 171 *e*P **Pn** **03 02 34.2 +0.7**
GUMO pmax pmax
comp=Z,445nm,0.9s
NJ2 Nanjing 19.32 275 *e*P **P** **03 02 34.8 -0.7**
NJ2 pmax pmax
comp=Z,25nm,0.7s
NJ2 LR LR
comp=Z,790nm,11.4s
NJ2 LR LR
comp=Z,610nm,14.6s
NJ2 LR LR
comp=Z,970nm,13.0s
YHNB Yeheng 19.46 252 *e*P **P** **03 02 35.6 -1.6**
comp=Z,65nm,1.2s
YULB Yu-li 20.16 248 *e*P **P** **03 02 44.7 -0.1**
comp=Z,43nm,1.1s
SSLB Suanglung 20.23 250 *e*P **P** **03 02 44.7 -0.8**
comp=Z,58nm,1.1s
TPUB Ta-pu 20.73 249 *e*P Pn 03 02 52.0 -1.4
comp=Z,101nm,1.5s
BJI Beijing 21.86 297⇑ *e*P **P** **03 03 02.1 -0.9**
BJI pmax pmax
comp=Z,11nm,1.1s
WHN Wuhan 23.38 273 ⇑P **P** **03 03 16.1 -2.8**
WHN LR LR
comp=Z,2μm,14.8s
WHN LR LR
comp=Z,2μm,5.4s
WHN LR LR
comp=Z,2μm,13.8s
HIA Hailar 23.45 322 *e*P **P** **03 03 17.5 -2.0**
comp=Z,27nm,0.7s
HIA Hailar 23.45 322 *e*P **P** **03 03 17.5 -2.0**
HIA pmax pmax
comp=Z,27nm,0.7s
PETK Petropavlovsk- 23.60 25 LR LR 03 13 06.4
comp=Z,446nm,20.3s,baz=213,slow=38
ZEA Zeya 23.61 338 *e*P **P** **03 03 21.0 0.0**
ZEA *e* 03 08 16.0
ZEA pmax pmax
comp=N,62nm,0.8s
ZEA pmax pmax
comp=E,31nm,0.8s
ZEA pmax pmax
comp=Z,100nm,0.8s
ZEA pmax pmax
comp=N,600nm,6.0s
ZEA pmax pmax
comp=Z,600nm,6.0s
ZEA MLR MLR
comp=E,1μm,15.0s
ZEA MLR MLR
comp=Z,1μm,15.0s
ZEA MLR MLR
comp=N,700nm,16.0s
HHC Hu-ho-hao-te 25.47 298 *e*P **P** **03 03 38.0 -0.3**
HHC S **S** **03 08 05.1 +1.6**
HHC sS sS 03 08 18.9 +2.1
HHC pmax pmax
comp=N,25nm,1.0s
HHC pmax pmax
comp=N,210nm,5.3s
HHC LR LR
comp=N,810nm,13.7s
HHC LR LR
comp=N,1μm,13.7s
HHC LR LR
comp=N,980nm,13.4s
H11N2 WAKE ISLAND Hy 25.88 113 T T 03 30 41.1
baz=305,slow=74,SNR=12
H11N1 WAKE ISLAND Hy 25.88 113 T T 03 30 39.1
baz=305,slow=74,SNR=9.7
H11N3 WAKE ISLAND Hy 25.89 113 T T 03 30 40.7
baz=305,slow=74,SNR=13
H11S3 WAKE ISLAND Hy 26.43 116 T T 03 31 23.6
baz=307,slow=76,SNR=4.4
H11S1 WAKE ISLAND Hy 26.43 116 T T 03 31 25.3
baz=307,slow=76,SNR=3.6
H11S2 WAKE ISLAND Hy 26.45 116 T T 03 31 28.2
baz=307,slow=76,SNR=3.9
BTO Baotou 26.60 297 *e*P **P** **03 03 47.8 -0.7**
XAN Xi'an 27.39 282 P **P** **03 03 53.6 -2.0**
XAN pP sP 03 04 05.5 -1.2
XAN pmax pmax
comp=N,27nm,1.5s
XAN pmax pmax
comp=N,310nm,5.9s
XAN LR LR
comp=N,1μm,14.5s
XAN LR LR
comp=N,300nm,9.4s
XAN LR LR
comp=N,650nm,11.6s
XAN Xi'an 27.39 282 *e*P **P** **03 03 53.0 -2.6**
comp=N,48nm,1.4s
XAN Xi'an 27.39 282 *e*P **P** **03 03 53.0 -2.6**
XAN pmax pmax
comp=Z,48nm,1.4s
MA2 Magadan 27.75 10 P **P** **03 03 58.6 +0.2**
comp=Z,2.2nm,0.3s,baz=199,slow=12,SNR=4.2
MA2 LR LR 03 15 04.6
comp=Z,283nm,20.1s,baz=210,slow=36
MA2 Magadan 27.75 10 *ce*P **P** **03 03 56.5 -1.9**
MA2 pmax pmax
comp=Z,10.0nm,1.2s
YAK Yakutsk 30.54 349 *e*P **P** **03 04 22.6 -0.6**
YAK *e**PP **sP** **03 04 32.4 -1.4**
YAK *e* 03 05 23.3
YAK *e*S **S** **03 09 25.2 +2.6**
YAK *e*SSS SSS 03 11 30.0
YAK pmax pmax
comp=Z,30nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=N,18nm,1.2s
YAK pmax pmax
comp=Z,8.0nm,0.6s
YAK smax smax
comp=E,171nm,3.8s
YAK smax smax
comp=N,225nm,4.7s
YAK MLR MLR
comp=Z,508nm,17.0s
YAK MLR MLR
comp=N,271nm,15.0s
YAK MLR MLR
comp=E,166nm,16.0s
SONA1 Songino Array 30.71 310 *e*P **P** **03 04 25.5 +0.4**
SONM Songino Array 30.71 310 P **P** **03 04 26.0 +0.9**
comp=E,11nm,0.7s,baz=113,slow=8.2,SNR=46
SONM LR LR 03 17 25.9
comp=E,566nm,18.9s,baz=126,slow=38
SONM Songino Array 30.71 310 P **P** **03 04 26.0 +0.9**
GYA Guiyang 31.00 268 P **P** **03 04 27.5 -0.3**
GYA pP sP 03 04 40.3 +1.4
GYA PP **PnPn** **03 05 31.0 +1.7**
GYA S **S** **03 09 28.6 -2.1**
GYA sS sS 03 09 48.8 +4.9
GYA SS **SnSn** **03 11 13.3 +0.8**
GYA pmax pmax
comp=E,20nm,0.8s
GYA pmax pmax
comp=E,120nm,4.8s
GYA LR LR
comp=E,540nm,15.9s
GYA LR LR
comp=E,390nm,16.9s
GYA LR LR
comp=E,520nm,16.6s
SEY Seymchan 31.20 9 P **P** **03 04 29.7 +0.8**
comp=E,2.8nm,0.7s,baz=181,slow=8.1,SNR=5.9
SEY Seymchan 31.20 9 *ce*P **P** **03 04 28.6 -0.4**
LZH Lanzhou 31.35 287 *e*P **P** **03 04 33.0 +2.1**
LZH pP pwP 03 04 45.5 +0.5
LZH sP sP 03 04 50.3 +8.3
LZH PP **PnPn** **03 05 36.5 +2.7**
LZH pmax pmax
comp=E,25nm,0.9s
LZH LR LR
comp=E,1μm,14.4s
LZH LR LR
comp=E,2μm,16.0s
LZH LR LR
comp=E,3μm,16.3s
QIZ Qiongzhong 31.54 253 P **P** **03 04 32.8 +0.3**
QIZ S **S** **03 09 37.1 -2.0**
QIZ LR LR
comp=E,340nm,14.9s
QIZ LR LR
comp=E,420nm,19.4s
QIZ LR LR
comp=E,410nm,19.4s
BOD Bodaibo 31.55 332 *e*P **P** **03 04 32.0 -0.2**
BOD *e*S **S** **03 09 40.2 +1.7**
BOD pmax pmax
comp=Z,29nm,1.5s
CD2 Chengdu 32.21 277 P **P** **03 04 37.0 -1.4**
CD2 pP sP 03 04 48.9 -0.5
CD2 sP pwP 03 04 54.4 +1.8
CD2 PP **PP** **03 05 49.9 -1.5**
CD2 S **S** **03 09 46.6 -2.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,4.8s
CD2 LR LR
comp=Z,1μm,14.4s
CD2 LR LR
comp=Z,2μm,15.9s
CD2 LR LR
comp=Z,2μm,14.9s
ZAK Zakamensk 33.42 314 *e*P **P** **03 04 48.5 -0.3**
ZAK pmax pmax
comp=Z,9.0nm,1.4s
GTA Gaotai 34.36 294 *e*P **P** **03 04 56.0 -1.1**
GTA pP sP 03 05 08.6 +0.7
GTA sP pwP 03 05 13.3 +2.1
GTA pmax pmax
comp=Z,9.0nm,1.2s
GTA pmax pmax
comp=Z,150nm,6.5s
GTA LR LR
comp=Z,880nm,18.2s
GTA LR LR
comp=Z,630nm,15.5s
GTA LR LR
comp=Z,990nm,12.7s
KMI Kunming 34.78 268 P **P** **03 05 01.6 +0.6**
KMI pP sP 03 05 13.3 +1.2
KMI sP pwP 03 05 18.8 +3.6
KMI pmax pmax
comp=Z,15nm,0.5s
KMI LR LR
comp=Z,430nm,14.7s
KMI LR LR
comp=Z,350nm,16.0s
KMI LR LR
comp=Z,290nm,20.0s
MOY Mondy 35.18 315 *e*P **P** **03 05 04.0 0.0**
MOY pmax pmax
comp=Z,20nm,3.2s
FAKI Fak Fak 36.35 196 *e*P **P** **03 05 12.1 -2.2**
comp=Z,24nm,0.9s
FAKI *e*PcP **PcP** **03 07 36.9 -1.6**
KNGR Kungurtug, Tuv 37.04 312 *e*P **P** **03 05 20.3 +0.4**
BILL Bilibino 38.32 15 *e*P **P** **03 05 29.9 -0.5**
comp=Z,1.8nm,0.6s
BILL Bilibino 38.32 15 *e*P **P** **03 05 29.2 -1.2**
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL MLR MLR
comp=Z,372nm,17.0s
TIXI Tiksi 39.81 354 P **P** **03 05 42.3 -0.4**
comp=Z,3.5nm,0.4s,baz=156,slow=7.4,SNR=7.1
TIXI Tiksi 39.81 354 *e*P **P** **03 05 42.9 +0.2**
comp=Z,9.8nm,1.2s
TIXI Tiksi 39.81 354 *e*P **P** **03 05 42.3 -0.4**
TIXI pmax pmax
comp=Z,8.0nm,1.0s
CMAR Chiang Mai Arr 40.78 261 P **P** **03 05 49.5 -2.1**
comp=Z,0.9nm,0.3s,baz=56,slow=6.5,SNR=4.3
CMAR PcP **PcP** **03 07 54.0 +1.7**
comp=Z,0.7nm,0.3s,baz=49,slow=2.7,SNR=4.8
CMAR LR LR 03 25 08.9
comp=Z,171nm,18.2s,baz=65,slow=40
WMQ Urumqi 43.25 301 P **P** **03 06 12.6 +1.2**
WMQ pP pP 03 06 20.6 +1.2
WMQ sP pwP 03 06 30.8 +5.5
WMQ S **S** **03 12 41.4 +5.0**
WMQ pmax pmax
comp=Z,58nm,2.1s
WMQ pmax pmax
comp=Z,350nm,3.7s
WMQ LR LR
comp=Z,910nm,27.5s
WMQ LR LR
comp=Z,310nm,21.5s
WMQ LR LR
comp=Z,300nm,21.5s
WMQ Urumqi 43.25 301 *e*P **P** **03 06 13.2 +1.8**
comp=Z,65nm,1.4s
WMQ Urumqi 43.25 301 *e*P **P** **03 06 13.2 +1.8**
WMQ pmax pmax
comp=Z,65nm,1.4s
DGZ Jazzator, Alta 43.36 310*d i*P **P** **03 06 12.7 +0.4**
DGZ pmax pmax
comp=Z,14nm,0.8s
ZAA0 Zalesovo Array 45.23 316 *e*P **P** **03 06 27.0 -0.1**
comp=Z,16nm,1.1s
ZALV Zalesovo Beam 45.23 316 P **P** **03 06 26.9 -0.2**
comp=Z,11nm,0.9s,baz=99,slow=6.6,SNR=28
ZALV PcP **PcP** **03 08 06.6 0.0**
comp=Z,5.1nm,0.7s,baz=108,slow=2.7,SNR=6.1
ZALV LR LR 03 26 46.6
comp=Z,217nm,18.7s,baz=83,slow=38
ZALV Zalesovo Beam 45.23 316 *e*P **P** **03 06 26.4 -0.7**
ZALV PcP **PcP** **03 08 06.6 0.0**
ZALV Zalesovo Beam 45.23 316 *e*P **P** **03 06 26.4 -0.7**
ZALV 03 08 06.6
ANM Nome 45.39 29 *e*P **P** **03 06 29.7 +1.6**
comp=Z,15nm,1.2s
ANM Nome 45.39 29 *e*P **P** **03 06 29.7 +1.6**
ANM pmax pmax
comp=Z,15nm,1.2s
COEN Coen 46.22 178 *e*P **P** **03 06 34.7 -0.5**
comp=Z,30nm,0.8s
NVS Novosibirsk 46.22 317⇓ *i*P **P** **03 06 35.7 +0.8**
NVS *i* 03 06 52.4
NVS pmax pmax
comp=N,8.0nm,1.0s
NVS pmax pmax
comp=E,18nm,1.0s
NVS pmax pmax
comp=Z,22nm,1.0s
MK01 Makanchi Array 46.84 306 *e*P **P** **03 06 39.6 -0.3**
MK31 Makanchi Array 46.84 306 *e*P **P** **03 06 40.2 +0.3**
MK31 Makanchi Array 46.84 306 *i* P **P** **03 06 39.7 -0.2**
MK31 pmax pmax
comp=Z,25nm,1.0s
MKAR Makanchi Array 46.84 306 P **P** **03 06 40.1 +0.2**
comp=Z,11nm,0.7s,baz=90,slow=9.9,SNR=83
MKAR LR LR 03 27 27.4
comp=Z,300nm,19.1s,baz=86,slow=38
MKAR Makanchi Array 46.84 306 *e*P **P** **03 06 40.2 +0.3**
comp=Z,178nm,1.1s
MAKZ Makanchi 47.06 306 *e*P **P** **03 06 42.1 +0.5**
comp=Z,26nm,1.1s
MAKZ Makanchi 47.06 306 *e*P **P** **03 06 42.1 +0.5**
MAKZ pmax pmax
comp=Z,26nm,1.1s
KURK Kurchatov 49.01 311 *e*P **P** **03 06 56.2 -0.4**
comp=Z,36nm,1.3s
KURK Kurchatov 49.01 311*de*P **P** **03 06 55.9 -0.6**
KURK pmax pmax
comp=Z,39nm,1.7s
PDGK Podgornoye 49.22 302 P **P** **03 06 57.8 -0.7**
PDGK pmax pmax
comp=Z,24nm,1.0s
KDAK Kodiak Island 50.38 39 P **P** **03 07 06.3 -0.5**
comp=Z,14nm,1.0s,baz=260,slow=11,SNR=4.8
MLY Manley 51.60 30 *e*P **P** **03 07 17.4 +1.4**
comp=Z,10nm,1.1s
GSI Gunungsitoli 51.80 242 *e*P **P** **03 07 17.3 -0.8**
comp=Z,27nm,1.2s
KSH Kashi 52.59 297 P **P** **03 07 26.6 +2.8**
KSH pP pwP 03 07 38.3 +0.4
KSH sP sP 03 07 43.8 +9.0
KSH PcP **PcP** **03 08 36.8 +3.0**
KSH S **S** **03 14 49.3 +0.3**
KSH pmax pmax
comp=Z,18nm,0.7s
KSH pmax pmax
comp=Z,710nm,5.2s
KSH LR LR
comp=Z,180nm,5.7s
KSH LR LR
comp=Z,300nm,9.1s
KSH LR LR
comp=Z,970nm,16.4s
WRAB Tennant Creek 52.61 189 *e*P **P** **03 07 22.8 -1.2**
comp=Z,78nm,0.8s
WRAB Tennant Creek 52.61 189*ce*P **P** **03 07 22.9 -1.0**
WRAB pmax pmax
comp=Z,85nm,0.8s
WB2 Warramunga Arr 52.62 189 *e*P **P** **03 07 23.3 -0.7**
WRA Warramunga Arr 52.62 189 P **P** **03 07 23.0 -1.0**
comp=Z,62nm,0.7s,baz=7.6,slow=7.8,SNR=172
WRA Warramunga Arr 52.62 189 *i* P **P** **03 07 20.2 -3.8**
WRA pmax pmax
comp=Z,62nm,0.7s
MDM Murphy Dome 52.66 30 *e*P **P** **03 07 24.9 +1.0**
comp=Z,27nm,1.2s
COLA College 52.82 30 *i* P **P** **03 07 25.2 +0.2**
COLA pmax pmax
comp=Z,4.0nm,0.9s
FRU Bishkek 52.82 302 *e*P P 03 07 20.0 -5.4
FRU *e* 03 07 38.0
AAK Ala-Archa 52.95 302 P **P** **03 07 27.0 +0.4**
comp=Z,3.9nm,0.8s,baz=90,slow=8.3,SNR=12
AAK Ala-Archa 52.95 302 *e*P **P** **03 07 26.9 +0.4**
comp=Z,5.4nm,0.9s
AAK Ala-Archa 52.95 302*ce*P **P** **03 07 26.0 -0.6**
AAK pmax pmax
comp=Z,6.0nm,1.3s
POKR Poker Plat Res 53.00 30 P **P** **03 07 26.9 +0.5**
baz=268,SNR=5.0
HDA Harding Lake 53.20 31 *e*P **P** **03 07 27.8 0.0**
comp=Z,12nm,1.1s
HDA Harding Lake 53.20 31 P **P** **03 07 27.4 -0.4**
baz=269
ILAR Eielson Array 53.23 30 P **P** **03 07 27.9 -0.1**
comp=Z,10.0nm,1.1s,baz=268,slow=6.1,SNR=29
ILAR Eielson Array 53.23 30 P **P** **03 07 28.0 -0.1**
ILB Eielson Array 53.23 30 *e*P **P** **03 07 28.0 -0.1**
IL1 Eielson Array 53.23 30 *e*P **P** **03 07 27.1 -0.9**
OTUK Ortayu 53.36 309 P **P** **03 07 29.1 -0.2**
OTUK pmax pmax
comp=Z,32nm,1.0s
BVA0 Borovoye Array 53.86 315 P **P** **03 07 32.2 -0.7**
BVA0 pmax pmax
comp=Z,14nm,1.1s
BRVK Borovoye 53.92 315 *e*P **P** **03 07 33.7 +0.4**
comp=Z,14nm,0.9s
BRVK Borovoye 53.92 315*ce*P **P** **03 07 33.6 +0.4**
BRVK pmax pmax
comp=Z,21nm,1.3s
FYU Fort Yukon 53.94 28 *e*P **P** **03 07 35.6 +2.4**
comp=Z,53nm,1.4s
SFK Sufi-Kurgan 54.30 299 P **P** **03 07 36.4 -0.2**
SFK pmax pmax
comp=Z,15nm,1.3s
DOT Dot Lake 54.48 32 *e*P **P** **03 07 37.5 +0.3**
DOT *ep*P **pP** **03 07 43.4 -1.4**
SCRK Sand Creek 54.50 31 *e*P **P** **03 07 38.0 +0.5**
comp=Z,16nm,1.2s
EGAK Eagle 55.68 30 *e*P **P** **03 07 46.2 +0.4**
comp=Z,8.3nm,1.0s
KK31 Karatay Array 55.69 303 *e*P **P** **03 07 46.9 +0.5**
KK31 Karatay Array 55.69 303 *i* P **P** **03 07 46.6 +0.3**
KK31 pmax pmax
comp=Z,23nm,1.0s
KKAR Karatay Array 55.69 303 *e*P **P** **03 07 46.9 +0.6**
KKAR Karatay Array 55.69 303 *e*P **P** **03 07 46.9 +0.6**
AS01 Alice Springs 56.34 189 *e*P **P** **03 07 49.2 -1.8**
AS31 Alice Springs 56.35 189 *e*P **P** **03 07 50.6 -0.5**
comp=Z,3.6nm,0.8s
ASAR Alice Springs 56.35 189 P **P** **03 07 50.2 -0.8**
comp=Z,11nm,0.8s,baz=7.6,slow=5.7,SNR=69
NIL Nilore 56.37 291 *e*P **P** **03 07 50.6 -0.7**
comp=Z,39nm,0.7s

NIL **Nilore** 56.37 291 *e*P **P** 03 07 50.6 -0.7
NIL pmax pmax
comp=Z,39nm,0.7s
DAWY **Dawson** 56.51 31 *e*P **P** 03 07 53.0 +1.1
comp=Z,8.9nm,1.1s
GAR **Garm** 56.95 298 *e*P **P** 03 07 55.8 +0.3
comp=Z,43nm,1.1s
GAR **Garm** 56.95 298 *e*P **P** 03 07 55.8 +0.3
GAR pmax pmax
comp=Z,43nm,1.1s
EPYK **Eagle Plains** 57.36 28 *e*P **P** 03 07 59.4 +1.5
comp=Z,42nm,1.1s
EPYK **Eagle Plains** 57.36 28 P **P** 03 07 58.4 +0.6
baz=277,SNR=16
CHGR **Chuyangaron** 57.92 298 *e*P **P** 03 08 02.7 +0.5
comp=Z,78nm,0.8s
INK **Inuvik** 58.33 26 P **P** 03 08 04.7 +0.2
comp=Z,5.3nm,0.8s,baz=316,slow=5.6,SNR=12
INK **Inuvik** 58.33 26 *e*P **P** 03 08 05.3 +0.8
comp=Z,13nm,1.2s
HYB **Hyderabad** 58.44 271 *i* P **P** 03 08 05.0 -1.1
SVE **Sverdlovsk** 58.74 321 ⇓*i*P **P** 03 08 08.2 +0.6
SVE pmax pmax
comp=Z,35nm,0.9s
DZM **Mont Dzumac** 59.20 153 LR LR 03 33 16.2
comp=Z,242nm,19.5s,baz=50,slow=36
DZM **Mont Dzumac** 59.20 153 *e*LR LR 03 25 38.8
comp=Z,416nm,30.1s
KBL **Kabul** 59.35 294 *e*P **P** 03 08 12.4 -0.1
comp=Z,16nm,1.1s
KBL **Kabul** 59.35 294 *e*P **P** 03 08 12.4 -0.1
KBL pmax pmax
comp=Z,16nm,1.1s
ARU **Arti** 59.95 320 *e*P **P** 03 08 15.8 -0.1
comp=Z,35nm,0.8s
ARU **Arti** 59.95 320 *c i*P **P** 03 08 16.2 +0.3
ARU 03 10 24.5
ARU S **S** 03 16 29.5 +3.6
ARU SS **SS** 03 20 21.0 -1.1
ARU pmax pmax
comp=Z,38nm,0.8s
ARU MLR MLR
comp=Z,321nm,17.0s
ABKAR **Akbulak array** 61.10 312 *e*P **P** 03 08 23.7 -0.2
DLBC **Dease Lake** 62.08 37 P **P** 03 08 32.3 +1.8
comp=Z,7.4nm,1.0s,baz=322,slow=7.9,SNR=5.1
DLBC **Dease Lake** 62.08 37 *e*P **P** 03 08 33.1 +2.6
comp=Z,18nm,1.3s
STKA **Stephens Creek** 64.03 180 P **P** 03 08 43.2 -0.3
comp=Z,10nm,0.8s,baz=342,slow=8.7,SNR=28
STKA LR LR 03 36 15.8
comp=Z,142nm,18.1s,baz=34,slow=36
STKA **Stephens Creek** 64.03 180 *e*P **P** 03 08 43.6 +0.1
comp=Z,2.4nm,0.8s
FORT **Forrest** 64.25 193 *e*P **P** 03 08 44.9 0.0
comp=Z,62nm,0.6s
PRGR **Permogore** 64.71 328 *e*P **P** 03 08 46.4 -1.3
PRGR pmax pmax
comp=Z,15nm,0.8s
BBOO **Buckleboo** 65.18 185 *e*P **P** 03 08 50.9 -0.1
comp=Z,20nm,0.9s
MORW **Morawa** 65.90 205 *e*P **P** 03 08 55.6 -0.1
comp=Z,27nm,1.0s
GEYT **Alibeck** 66.30 301 P **P** 03 08 59.2 +0.8
comp=Z,27nm,0.8s,baz=20,slow=4.7,SNR=8.5
RES **Resolute Bay** 66.92 14 P **P** 03 09 02.5 +0.8
comp=Z,14nm,1.0s,baz=310,slow=7.5,SNR=30
RES **Resolute Bay** 66.92 14 *e*P **P** 03 09 02.5 +0.8
comp=Z,23nm,1.1s
RES **Resolute Bay** 66.92 14 *e*P **P** 03 09 02.5 +0.8
RES pmax pmax
comp=Z,23nm,1.1s
YKA **Yellowknife Ar** 67.62 29 P **P** 03 09 06.3 0.0
comp=Z,4.9nm,0.9s,baz=295,slow=6.2,SNR=32
KLMR **Klimovskoe** 67.73 329 *e*P **P** 03 09 06.1 -0.9
KLMR pmax pmax
comp=Z,20nm,1.3s
KLMR **Klimovskoe** 67.73 329 *e*P **P** 03 09 06.1 -0.9
KLMR AMP 03 09 08.4
comp=Z,20nm,1.2s
ARCES **ARCESS Array B** 68.32 340 P **P** 03 09 10.9 +0.3
comp=Z,2.5nm,0.8s,baz=51,slow=7.1,SNR=4.5
NWAO **Narrogin (SRO)** 69.05 202 *e*P **P** 03 09 15.7 +0.1
comp=Z,113nm,1.4s
NWAO **Narrogin (SRO)** 69.05 202 *e*P **P** 03 09 15.7 +0.1
NWAO pmax pmax
comp=Z,113nm,1.4s
TULEG **Thule** 69.55 7 *e*P **P** 03 09 18.6 +0.4
comp=Z,18nm,1.1s
TOO **Toolangi** 69.80 177 *e*P **P** 03 09 21.4 +1.2
comp=Z,24nm,1.3s
TOO **Toolangi** 69.80 177 *e*P **P** 03 09 21.4 +1.2
TOO pmax pmax
comp=Z,24nm,1.3s
D03D **Eldon** 70.04 46 P **P** 03 09 21.5 -0.2
baz=297
B05A **Bryant** 70.31 45 P **P** 03 09 23.7 +0.4
baz=297
E04D **Cinebar** 70.80 47 P **P** 03 09 26.4 0.0
baz=297
MOS **Moscow** 71.05 325 *e*P **P** 03 09 26.3 -1.3
MOS *e* 03 09 51.8
MOS *e* 03 12 02.6
MOS pmax pmax
comp=Z,20nm,0.6s
I02D **Swisshome** 71.11 49 P **P** 03 09 27.8 -0.4
baz=297
VRH **Novokhopyorsk** 71.12 319 *e*P **P** 03 09 27.0 -1.2
VRH pmax pmax
comp=Z,10.0nm,0.6s
C06D **Leavenworth** 71.19 45 P **P** 03 09 28.1 -0.6
baz=298
KEBM **Edson Butte** 71.36 51 *e*P **P** 03 09 31.3 +1.4
comp=Z,48nm,1.1s
J01E **Myrtle Point** 71.49 50 P **P** 03 09 29.9 -0.6
baz=297
I03D **Drain, OR** 71.62 50 P **P** 03 09 32.3 +1.0
baz=298
H04D **Lebanon** 71.63 49 P **P** 03 09 32.4 +1.1
baz=298
K02D **Willamette Mer** 71.88 51 P **P** 03 09 33.8 +0.7
baz=298
OBN **Obninsk** 71.88 324 *e*P **P** 03 09 32.7 +0.1
OBN *e* 03 09 44.4
OBN *e* 03 12 10.1
OBN *e*PPP PPP 03 13 55.7
OBN pmax pmax
comp=Z,24nm,1.3s
OBN MLR MLR
comp=Z,385nm,17.0s
B08A **Colville Reser** 71.90 44 *e*P **P** 03 09 34.2 +1.2
comp=Z,11nm,1.0s
H04A **Detroit Lake** 71.90 48 *e*P **P** 03 09 34.5 +1.4
H04A *ep*P **pwP** 03 09 47.0 -2.5
LPSR **Galich'ya Gora** 71.95 321 *e*P **P** 03 09 32.7 -0.4
LPSR pmax pmax
comp=Z,20nm,1.4s
L02E **Cave Junction** 72.17 51 P **P** 03 09 35.1 +0.4
baz=298
I04A **Tendick Farm,** 72.18 49 P **P** 03 09 35.7 +0.9
baz=298,SNR=5.3
G05D **Wamic, OR** 72.19 47 P **P** 03 09 35.6 +0.9
baz=298
E07A **Sunnyside** 72.45 46 *e*P **P** 03 09 37.9 +1.5
E07A *ep*P **sP** 03 09 50.0 +3.2
VSR **Storozhevoye** 72.52 320 *e*P **P** 03 09 35.5 -1.1
VSR pmax pmax
comp=Z,10.0nm,1.0s
I05D **Terrebonne, OR** 72.60 48 P **P** 03 09 37.1 -0.1
baz=299
G06A **Carlson Farm,** 72.61 47 *e*P **P** 03 09 38.8 +1.4
comp=Z,17nm,1.3s
G06A *ep*P **pwP** 03 09 51.7 -2.1
J04D **Umpqua Nationa** 72.63 50 P **P** 03 09 38.3 +0.6
baz=298
HAWA **Hanford** 72.73 46 *e*P **P** 03 09 39.4 +1.4
comp=Z,17nm,1.4s
F07A **Phinny Hill Vi** 72.73 46 *e*P **P** 03 09 39.5 +1.6
comp=Z,16nm,1.3s
D08A **Wollman Farm,** 72.77 45 *e*P **P** 03 09 39.5 +1.3
comp=Z,10nm,1.1s
C09A **Chrisman Ranch** 72.79 44 *e*P **P** 03 09 39.6 +1.3
comp=Z,7.8nm,0.9s
YBH **Yreka Blue Hor** 72.96 51 P **P** 03 09 40.6 +1.1
comp=Z,3.8nm,0.9s,baz=244,slow=2.3,SNR=5.5
YBH **Yreka Blue Hor** 72.96 51 *e*P **P** 03 09 41.2 +1.7
comp=Z,12nm,1.3s

L04D **Klamath Falls** 72.99 51 P **P** 03 09 40.5 +0.8
baz=299
M02C **Callahan** 73.03 52 P **P** 03 09 40.2 +0.3
baz=298
PINE **Pine Mountain** 73.11 49 *e*P **P** 03 09 41.6 +1.1
comp=Z,34nm,1.1s
K04D **Chiloquin, OR** 73.16 50 P **P** 03 09 41.6 +0.9
baz=299
J05D **Fort Rock, OR** 73.17 49 P **P** 03 09 41.4 +0.6
baz=299
NEW **Newport** 73.23 43 *e*P **P** 03 09 42.2 +1.3
comp=Z,15nm,1.0s
NEW **Newport** 73.23 43 *e*P **P** 03 09 42.2 +1.3
NEW pmax pmax
comp=Z,15nm,1.0s
NEW **Newport** 73.23 43 P **P** 03 09 41.4 +0.4
baz=300
N02D **Trinity Center** 73.32 52 P **P** 03 09 42.9 +1.2
baz=299
E09A **Wood Farm, Sta** 73.51 45 *e*P **P** 03 09 43.9 +1.4
comp=Z,20nm,1.3s
M04C **Macdoel** 73.51 51 P **P** 03 09 43.7 +1.0
baz=299
G08A **Pilot Rock** 73.62 47 *e*P **P** 03 09 44.6 +1.2
G08A *ep*P **pP** 03 09 52.5 +1.4
O02D **Mt. Diablo Mer** 73.65 53 P **P** 03 09 44.2 +0.6
baz=299
TBLG **Delisi** 73.86 309 *e*P **P** 03 09 46.3 +1.6
comp=Z,17nm,1.0s
TBLG **Delisi** 73.86 309 *e*P **P** 03 09 46.3 +1.6
TBLG pmax pmax
comp=Z,17nm,1.0s
I07A **Izee** 73.88 48 *e*P **P** 03 09 46.2 +1.3
comp=Z,6.0nm,1.1s
ZEI **Tsey** 73.89 311 *e*P **P** 03 09 43.8 -1.3
ZEI pmax pmax
comp=Z,8.0nm,0.7s
KBZ **Khabaz** 74.06 312 P **P** 03 09 46.9 +1.1
comp=Z,18nm,1.0s,baz=65,slow=1.2,SNR=21
KBZ LR LR 03 46 59.7
comp=Z,194nm,18.1s,baz=89,slow=40
KIV **Kislovodsk** 74.08 312 *e*P **P** 03 09 46.9 +0.9
comp=Z,62nm,1.3s
KIV **Kislovodsk** 74.08 312 *e*P **P** 03 09 46.7 +0.6
KIV pmax pmax
comp=Z,41nm,1.1s
KIV MLR MLR
comp=Z,174nm,18.0s
O03E **Paynes Creek** 74.25 52 P **P** 03 09 47.5 +0.4
baz=299
F10A **Beach Ranch, E** 74.33 45 *e*P **P** 03 09 48.5 +1.1
MOD **Modoc Plateau** 74.45 50 *e*P **P** 03 09 49.6 +1.3
comp=Z,7.7nm,1.0s
WALA **Waterton Lakes** 74.65 41 *e*P **P** 03 09 50.8 +1.4
comp=Z,25nm,1.0s
ORV **Oroville** 74.82 53 *e*P **P** 03 09 50.5 +0.2
comp=Z,17nm,1.3s
ORV **Oroville** 74.82 53 *e*P **P** 03 09 50.5 +0.2
ORV pmax pmax
comp=Z,17nm,1.3s
BMO **Blue Mountains** 74.85 46 *e*P **P** 03 09 51.5 +1.0
comp=Z,12nm,1.1s
BMO **Blue Mountains** 74.85 46 *e*P **P** 03 09 51.5 +1.0
BMO pmax pmax
comp=Z,12nm,1.1s
J08A **Circle Bar Ran** 74.89 48 *e*P **P** 03 09 52.2 +1.4
comp=Z,16nm,1.0s
SUMG **Summit** 75.20 0 *e*P **P** 03 09 54.0 +1.6
comp=Z,30nm,1.0s
SUMG **Summit** 75.20 0 *i* P **P** 03 09 53.8 +1.4
comp=Z,68nm,1.0s
SUMG **Summit** 75.20 0 *i* P **P** 03 09 53.8 +1.4
SUMG pmax pmax
comp=Z,68nm,1.0s
WVOR **Wild Horse Val** 75.25 49 *e*P **P** 03 09 53.6 +0.7
comp=Z,11nm,1.1s
WVOR **Wild Horse Val** 75.25 49 *e*P **P** 03 09 53.6 +0.7
WVOR pmax pmax
comp=Z,11nm,1.1s
BEKR **Beckworth** 75.43 52 *e*P **P** 03 09 54.8 +0.7
comp=Z,11nm,1.1s
AFDM **Forest Hills D** 75.47 53 *e*P **P** 03 09 55.6 +1.5
comp=Z,6.0nm,1.2s
AFDM *ep*P **PcP** 03 10 08.0 +0.9
MSO **Missoula** 75.82 43 P **P** 03 09 56.4 +0.3
baz=302,SNR=6.5
SOC **Sochi** 76.12 313 *e*P **P** 03 09 57.6 -0.1
SOC *e* 03 12 52.7
SOC *e*PPP PPP 03 14 43.1
SOC *e*SS SS 03 24 38.0 +5.9
SOC pmax pmax
comp=Z,40nm,1.3s
SOC MLR MLR
comp=Z,300nm,17.0s
PAHR **Pah Rah Range** 76.16 52 *e*P **P** 03 09 59.5 +1.3
comp=Z,14nm,1.4s
CMB **Columbia Colle** 76.33 54 *e*P **P** 03 10 00.2 +1.1
comp=Z,18nm,1.4s
CMB **Columbia Colle** 76.33 54 *e*P **P** 03 10 00.2 +1.1
CMB pmax pmax
comp=Z,18nm,1.4s
MFID **Camas Ranch** 76.51 47 *e*P **P** 03 10 01.5 +1.5
YERR **Yerington** 76.62 52 *e*P **P** 03 10 02.3 +1.4
comp=Z,26nm,1.4s
SCO **Scoresbysund** 76.63 354 *e*P **P** 03 10 01.8 +1.7
comp=Z,22nm,1.2s
SCO **Scoresbysund** 76.63 354 *i* P **P** 03 10 01.6 +1.5
comp=Z,21nm,1.1s
SCO **Scoresbysund** 76.63 354 *e*P **P** 03 10 01.8 +1.7
SCO pmax pmax
comp=Z,23nm,1.2s
WAKR **Walker** 76.73 53 *e*P **P** 03 10 02.9 +1.4
comp=Z,14nm,1.4s
ANN **Anapa** 76.86 315 *e*P **P** 03 10 01.5 -0.3
ANN *e* 03 10 09.7
ANN pmax pmax
comp=Z,33nm,1.2s
HRY **Holter Researc** 77.10 43 *e*P **P** 03 10 04.4 +1.1
LRM **Limekiln Ridge** 77.24 44 *e*P **P** 03 10 05.5 +1.2
RYN **Ryan** 77.28 52 *e*P **P** 03 10 05.8 +1.3
comp=Z,8.7nm,1.0s
HLID **Hailey** 77.30 46 P **P** 03 10 05.3 +0.7
baz=303
KVN **Kaiserville** 77.34 52 *e*P **P** 03 10 05.7 +0.8
comp=Z,9.9nm,1.1s
FFC **Flin Flon** 77.39 32 *e*P **P** 03 10 05.4 +0.7
comp=Z,21nm,1.0s
FFC **Flin Flon** 77.39 32 *e*P **P** 03 10 05.4 +0.7
FFC pmax pmax
comp=Z,21nm,1.0s
DLMT **Dillon** 77.41 44 *e*P **P** 03 10 06.2 +1.1
comp=Z,23nm,1.3s
OMMB **Old Mammoth Mi** 77.49 53 *e*P **P** 03 10 07.8 +1.8
comp=Z,15nm,1.4s
EGMT **Eagleton** 77.53 41 *e*P **P** 03 10 06.8 +1.2
comp=Z,34nm,1.3s
EGMT **Eagleton** 77.53 41 P **P** 03 10 06.1 +0.5
baz=305
NV01 **Mina Array Sit** 77.53 52 *e*P **P** 03 10 06.7 +0.6
NVAR **Mina Array Bea** 77.53 52 P **P** 03 10 07.2 +1.2
comp=Z,4.9nm,0.9s,baz=281,slow=6.0,SNR=20
MLAC **Mammoth, Mammo** 77.59 53 P **P** 03 10 07.2 +0.8
baz=302
NV11 **Mina Array Sit** 77.63 52 *e*P **P** 03 10 07.8 +1.2
comp=Z,0.5nm,1.3s
FCC **Fort Churchill** 77.95 26 *e*P **P** 03 10 07.8 +0.2
comp=Z,30nm,1.3s
FCC **Fort Churchill** 77.95 26 *e*P **P** 03 10 07.8 +0.2
FCC pmax pmax
comp=Z,30nm,1.3s
SMMC **Simmler** 78.00 56 P **P** 03 10 09.1 +0.6
baz=301
AKASG **Malin Array Be** 78.04 323 P **P** 03 10 07.9 -0.4
comp=Z,1.8nm,0.5s,baz=48,slow=6.1,SNR=20
AKASG LR LR 03 48 36.9
comp=Z,219nm,18.7s,baz=45,slow=39
AKBB **Malin Array Si** 78.04 323 *e*P **P** 03 10 08.4 +0.1
comp=Z,9.9nm,0.9s
KIEV **Kiev** 78.05 323 *e*P **P** 03 10 08.4 0.0
comp=Z,11nm,1.0s
KIEV **Kiev** 78.05 323 ⇑*i*P **P** 03 10 08.5 +0.1
KIEV **Kiev** 78.05 323 *i* P **P** 03 10 08.3 0.0
KIEV pmax pmax
comp=Z,20nm,1.7s
AK11 **Malin Array Si** 78.08 323 *e*P **P** 03 10 08.4 -0.1
NC405 **NORSAR Array S** 78.24 338 *e*P **P** 03 10 09.9 +0.7

ELK **Elko** 78.31 49 P **P** 03 10 12.0 +1.6
comp=Z,5.6nm,0.9s,baz=309,slow=5.0,SNR=23
ELK **Elko** 78.31 49 P **P** 03 10 12.0 +1.6
ELK pmax pmax
comp=Z,6.0nm,0.9s
VES **Vestal, Richgr** 78.36 55 P **P** 03 10 10.1 -0.3
baz=302
NC204 **NORSAR Array S** 78.42 338 *e*P **P** 03 10 10.3 0.0
NB2 **NORSAR Subarra** 78.45 338 P **P** 03 10 10.1 -0.4
comp=Z,17nm,1.1s,baz=40,slow=5.6
NOA **NORSAR Array B** 78.45 338 P **P** 03 10 10.6 +0.1
comp=Z,7.8nm,0.9s,baz=40,slow=5.4,SNR=19
NOA LR LR 03 49 13.5
comp=Z,223nm,19.6s,baz=35,slow=39
YHB **Horse Butte** 78.57 44 *e*P **P** 03 10 13.5 +1.8
comp=Z,17nm,1.0s
CWC **Cottonwood Cre** 78.73 54 P **P** 03 10 12.4 -0.3
baz=302
YMR **Madison River** 78.75 44 *e*P **P** 03 10 14.7 +2.0
comp=Z,17nm,1.1s
ISA **Isabella, Lake** 78.87 55 *e*P **P** 03 10 13.5 +0.2
comp=Z,2.7nm,0.8s
ISA **Isabella, Lake** 78.87 55 *e*P **P** 03 10 13.5 +0.2
ISA pmax pmax
comp=Z,3.0nm,0.8s
ISA **Isabella, Lake** 78.87 55 P **P** 03 10 12.4 -0.9
baz=302
YNR **Norris Junctio** 78.89 44 *e*P **P** 03 10 16.6 +3.1
comp=Z,14nm,1.0s
YFT **Old Faithful** 78.95 44 *e*P **P** 03 10 17.1 +3.3
comp=Z,12nm,1.1s
YPP **Pitchstone Pla** 79.07 44 *e*P **P** 03 10 17.5 +3.0
comp=Z,7.6nm,1.1s
H17A **Grant Village** 79.14 44 *e*P **P** 03 10 18.2 +3.3
comp=Z,25nm,1.0s
H17A **Grant Village** 79.14 44 P **P** 03 10 17.4 +2.5
baz=305
DAC **Darwin (Calif)** 79.15 54 *e*P **P** 03 10 16.8 +1.8
DAC *ep*P **pwP** 03 10 29.1 -2.3
DAC **Darwin (Calif)** 79.15 54 *e*P **P** 03 10 16.8 +1.8
DAC *e**PP **pwP** 03 10 29.1 -2.3
FLWY **Flagg Ranch** 79.24 44 *e*P **P** 03 10 17.7 +2.3
comp=Z,24nm,1.2s
FLWY *ep*P **sP** 03 10 29.4 +3.5
HVU **Hansel Valley** 79.29 47 *e*P **P** 03 10 17.3 +1.7
comp=Z,10nm,0.9s
HVU **Hansel Valley** 79.29 47 *e*P **P** 03 10 17.3 +1.7
HVU pmax pmax
comp=Z,10.0nm,0.9s
MPMC **Manual Prospec** 79.34 54 P **P** 03 10 16.0 0.0
baz=302,SNR=5.6
R11A **Troy Canyon, C** 79.38 51 *e*P **P** 03 10 17.4 +1.1
comp=Z,9.5nm,1.1s
R11A **Troy Canyon, C** 79.38 51 P **P** 03 10 16.7 +0.5
baz=303
MOOW **Moose Ponds** 79.41 45 *e*P **P** 03 10 18.1 +1.8
comp=Z,5.0nm,1.0s
RLMT **Red Lodge** 79.48 43 *e*P **P** 03 10 18.0 +1.4
comp=Z,21nm,1.3s
RLMT **Red Lodge** 79.48 43 P **P** 03 10 17.1 +0.4
baz=306,SNR=6.5
LRMC **Laurel Mtn Rad** 79.52 55 P **P** 03 10 17.3 +0.4
baz=302
FURC **Furnace Creek,** 79.55 53 P **P** 03 10 17.4 +0.6
baz=303
REDW **Red Top Meadow** 79.56 45 *e*P **P** 03 10 18.7 +1.5
comp=Z,13nm,1.2s
SNOW **Snow Mountain** 79.56 45 *e*P **P** 03 10 19.1 +1.8
comp=Z,9.7nm,1.0s
LOHW **Long Hollow** 79.57 45 *e*P **P** 03 10 18.8 +1.6
comp=Z,5.5nm,1.0s
LOHW *ep*P **pwP** 03 10 33.9 0.0
BGU **Big Grassy Mou** 79.61 48 *e*P **P** 03 10 18.8 +1.5
comp=Z,7.0nm,1.0s
EDW2 **Edwards Air Fo** 79.62 55 P **P** 03 10 17.9 +0.5
baz=302
TPNV **Topopah Spring** 79.70 53 *e*P **P** 03 10 18.9 +1.0
comp=Z,19nm,1.0s
TPNV **Topopah Spring** 79.70 53 *e*P **P** 03 10 18.9 +1.0
TPNV pmax pmax
comp=Z,19nm,1.0s
TPNV **Topopah Spring** 79.70 53 P **P** 03 10 18.3 +0.3
baz=303
SPUT **South Promonto** 79.76 47 *e*P **P** 03 10 20.4 +2.3
comp=Z,8.9nm,1.0s
DUG **Dugway, Tooele** 80.15 49 *e*P **P** 03 10 21.6 +1.3
comp=Z,19nm,1.0s
DUG **Dugway, Tooele** 80.15 49 P **P** 03 10 21.4 +1.1
baz=304
GSC **Goldstone, Bar** 80.21 54 *e*P **P** 03 10 21.5 +0.8
comp=Z,16nm,1.3s
GSC *ep*P **sP** 03 10 31.4 +0.1
GSC **Goldstone, Bar** 80.21 54 *e*P **P** 03 10 21.5 +0.8
GSC *e**PP **sP** 03 10 31.4 +0.1
GSC pmax pmax
comp=Z,16nm,1.3s
GSC **Goldstone, Bar** 80.21 54 P **P** 03 10 21.3 +0.6
baz=303
DGMT **Dagmar** 80.24 38 P **P** 03 10 19.9 -0.5
baz=309
SCI2 **San Clemente I** 80.24 57 P **P** 03 10 21.2 +0.5
baz=302
LAO **LASA Array** 80.25 40 P **P** 03 10 20.9 +0.2
baz=308
RRX **Edison Barstow** 80.31 55 P **P** 03 10 21.1 0.0
baz=303
PSUT **Pine Spring** 80.42 50 *e*P **P** 03 10 22.9 +1.1
comp=Z,10nm,1.0s
TCUT **Toone Canyon** 80.51 47 *e*P **P** 03 10 23.9 +1.6
comp=Z,25nm,1.2s
CTU **Camp Tracy** 80.54 48 *e*P **P** 03 10 23.8 +1.4
comp=Z,13nm,1.1s
SHPR **Sheep Range** 80.67 53 *e*P **P** 03 10 24.5 +1.3
comp=Z,8.9nm,1.0s
BW06 **Boulder Array** 80.68 45 *e*P **P** 03 10 23.9 +0.6
comp=Z,5.8nm,1.0s
BW06 **Boulder Array** 80.68 45 P **P** 03 10 23.0 -0.2
baz=306,SNR=5.1
PD31 **Pinedale Array** 80.68 45 *e*P **P** 03 10 23.9 +0.7
PDAR **Pinedale Array** 80.68 45 P **P** 03 10 23.9 +0.7
comp=Z,2.9nm,0.8s,baz=276,slow=4.2,SNR=21
PDAR **Pinedale Array** 80.68 45 *e*P **P** 03 10 23.2 0.0
TUQ **Turquoise Moun** 80.75 54 P **P** 03 10 23.8 +0.2
baz=303
NLU **North Lily Min** 80.76 48 *e*P **P** 03 10 25.0 +1.4
comp=Z,10nm,0.9s
JLU **Jordanelle** 80.78 48 *e*P **P** 03 10 25.2 +1.4
comp=Z,18nm,1.2s
HEC **Hector,Ludlow** 80.79 55 P **P** 03 10 24.2 +0.4
baz=303,SNR=7.5
MURC **Murrieta** 80.86 56 P **P** 03 10 24.3 +0.2
baz=303
MPU **Maple Canyon** 81.00 48 *e*P **P** 03 10 26.4 +1.4
comp=Z,17nm,1.0s
LVV **L'vov** 81.19 325 *e*P **P** 03 10 25.2 -0.2
GMRC **Granite Mounta** 81.28 54 P **P** 03 10 26.7 +0.3
baz=304,SNR=6.3
CCUT **Cedar City** 81.29 51 *e*P **P** 03 10 27.9 +1.4
comp=Z,11nm,1.0s
109C **Camp Elliot, M** 81.31 57 P **P** 03 10 26.6 +0.2
baz=303
PFO **Pinyon Flats O** 81.37 56 P **P** 03 10 27.7 +0.8
comp=Z,8.5nm,0.9s,baz=304,slow=4.5,SNR=6.7
PFO **Pinyon Flats O** 81.37 56 *e*P **P** 03 10 27.7 +0.8
comp=Z,14nm,1.0s
PFO *ep*P **sP** 03 10 39.3 +1.7
PFO **Pinyon Flats O** 81.37 56 *e*P **P** 03 10 27.7 +0.8
PFO *e**PP **sP** 03 10 39.3 +1.7
PFO pmax pmax
comp=Z,15nm,1.0s
PFO **Pinyon Flats O** 81.37 56 P **P** 03 10 26.9 -0.1
baz=303,SNR=5.2
XPFO **Pion Flat** 81.38 56 *e*P **P** 03 10 27.7 +0.7
comp=Z,17nm,1.0s
XPFO *ep*P **sP** 03 10 38.9 +1.3
SZCU **Shurtz Canyon** 81.44 51 *e*P **P** 03 10 28.5 +1.2
comp=Z,8.1nm,1.0s
BELC **Belle Mtn. Jos** 81.48 55 P **P** 03 10 27.2 -0.3
baz=304
LDFC **Landfair** 81.50 54 *e*P **P** 03 10 28.5 +0.9
comp=Z,20nm,1.1s
MSU **Marysvale** 81.51 50 *e*P **P** 03 10 29.1 +1.4
MSU **Marysvale** 81.51 50 *e*P **P** 03 10 29.1 +1.4
LCMT **Little Creek M** 81.67 51 *e*P **P** 03 10 29.8 +1.4
comp=Z,15nm,1.0s
TMUT **Trail Mountain** 81.68 49 *e*P **P** 03 10 29.9 +1.2
comp=Z,8.1nm,1.0s

MTPU **Mount Pierson** 81.78 50 *e*P P 03 10 31.0 +1.7
comp=Z,9.7nm,0.9s
MONP2 **Monument Peak** 81.79 56 P P 03 10 29.2 0.0
baz=304
P17A **Butcher Ranch,** 81.88 48 *e*P P 03 10 31.1 +1.6
comp=Z,26nm,1.0s
Q16A **Castle Valley** 81.92 49 *e*P P 03 10 31.4 +1.6
comp=Z,21nm,1.1s
KNB **Kanab** 81.94 51 *e*P P 03 10 31.5 +1.6
comp=Z,24nm,1.0s
KNB **Kanab** 81.94 51 *e*P P 03 10 31.5 +1.6
KNB pmax pmax
comp=Z,24nm,1.0s
KWP **Kalwaria Pacla** 81.95 325 *e*P P 03 10 30.4 +0.9
KWP **Kalwaria Pacla** 81.95 325 *e*P P 03 10 30.4 +0.9
IRM **Iron Mountain** 81.98 55 P P 03 10 30.2 +0.2
baz=304,SNR=5.4
BIZ **Bicaz** 81.99 321⇑ *i*P P 03 10 30.2 +0.4
BUR08 **Bucovina Ar. S** 82.01 322 *e*P P 03 10 30.8 +0.8
BUR04 **Bucovina Ar. S** 82.02 322 *e*P P 03 10 30.2 +0.2
BURAR **Bucovina Array** 82.02 322⇑ *i*P P 03 10 30.7 +0.7
BR131 **Keskin Array S** 82.05 312 *e*P P 03 10 30.9 +0.5
BRTR **Keskin Array B** 82.05 312 P P 03 10 30.4 0.0
comp=Z,4.6nm,0.9s,baz=102,slow=3.9,SNR=28
BRTR LR LR 03 52 27.3
comp=Z,57nm,18.0s,baz=72,slow=40
BC3 **Big Chuckawall** 82.05 55 P P 03 10 30.6 +0.2
baz=304
IKP **In-Ko-Pah, Jac** 82.15 56 P P 03 10 31.2 +0.2
baz=304
SWSC **Sam W. Stewart** 82.20 56 P P 03 10 31.4 +0.3
baz=304
VRI **Vrincioaia** 82.34 320⇑ *i*P P 03 10 32.0 +0.4
PLOR **Plostina** 82.39 320⇑ *i*P P 03 10 31.6 -0.3
PPT **Papeete** 82.41 116 LR LR 03 44 45.3
comp=Z,164nm,18.6s,baz=304,slow=34
PPT2 **Papeete2** 82.42 116 *e*LR LR 03 36 19.7
comp=Z,173nm,20.5s,baz=300
ANTO **Ankara** 82.49 313 *e*P P 03 10 33.6 +1.0
comp=Z,23nm,1.3s
ANTO **Ankara** 82.49 313 *e*P P 03 10 33.6 +1.0
ANTO pmax pmax
comp=Z,23nm,1.3s
K22A **Casper** 82.54 44 P P 03 10 33.2 +0.3
baz=308
PDMCI **Parker Dam,Lak** 82.59 54 P P 03 10 33.4 +0.3
baz=304
RAYN **Ar Rayn** 82.62 293 *e*P P 03 10 34.1 +0.6
comp=Z,12nm,0.8s
RAYN **Ar Rayn** 82.62 293 *e*P P 03 10 34.1 +0.6
RAYN pmax pmax
comp=Z,12nm,0.8s
U15A **North Rim** 82.63 51 *e*P P 03 10 34.9 +1.2
Y12C **Blythe** 82.64 55 P P 03 10 33.8 +0.4
baz=304
OZUR 82.70 321⇑ *i*P P 03 10 33.1 -0.4
GLA **Glamis** 82.82 55 P P 03 10 34.6 +0.2
baz=304
OJC **Ojcow** 82.94 327 *e*P P 03 10 35.1 +0.5
OJC **Ojcow** 82.94 327 *e*P P 03 10 35.0 +0.4
comp=Z,19nm,1.1s
OJC **Ojcow** 82.94 327 *e*P P 03 10 35.0 +0.4
OJC pmax pmax
comp=Z,19nm,1.1s
DOPR **Dopca** 82.99 321⇑ *i*P P 03 10 36.0 +0.9
MLR **Muntele Rosu** 83.00 320⇑ *i*P P 03 10 35.4 +0.2
O20A **White River Ci** 83.04 47 *e*P P 03 10 36.5 +0.9
comp=Z,22nm,1.1s
O20A **White River Ci** 83.04 47 P P 03 10 36.2 +0.6
baz=307,SNR=11
TRPA **Tarpa** 83.04 324⇑ *i*P P 03 10 36.3 +1.1
TRPA **Tarpa** 83.04 324⇓ *e*P P 03 10 35.1 -0.1
RSSD **Black Hills** 83.05 41 P P 03 10 35.1 -0.5
baz=309
NIE **Niedzica** 83.25 326 *e*P P 03 10 37.2 +0.9
NIE **Niedzica** 83.25 326 *e*P P 03 10 37.2 +0.9
PV09 **Paradox Valley** 83.46 48 *e*P P 03 10 39.2 +1.3
VOIR 83.52 321⇑ *i*P P 03 10 38.0 +0.2
PV21 **Cone Mtn., Par** 83.52 48 *e*P P 03 10 39.6 +1.3
comp=Z,32nm,1.1s
PV23 **Carpenter Ridg** 83.57 48 *e*P P 03 10 39.7 +1.3
comp=Z,46nm,1.0s
PV10 **Paradox Valley** 83.59 48 *e*P P 03 10 40.0 +1.4
PV14 **Lion Creek, Pa** 83.61 48 *e*P P 03 10 39.9 +1.3
comp=Z,50nm,1.1s
PV20 **West Nyswonger** 83.66 48 *e*P P 03 10 40.2 +1.4
comp=Z,48nm,1.1s
PV19 **Morning Glory** 83.67 48 *e*P P 03 10 40.1 +1.2
comp=Z,41nm,1.1s
PV17 **East Wray Mesa** 83.70 48 *e*P P 03 10 40.3 +1.2
comp=Z,54nm,1.1s
PV16 **Nyswonger Mesa** 83.71 48 *e*P P 03 10 40.4 +1.2
comp=Z,35nm,1.1s
PV05 **Paradox Valley** 83.73 49 *e*P P 03 10 40.6 +1.3
PV11 **David Mesa, Pa** 83.74 48 *e*P P 03 10 40.5 +1.2
comp=Z,50nm,1.2s
WUAZ **Wupatki** 83.76 52 *e*P P 03 10 40.5 +1.1
WUAZ **Wupatki** 83.76 52 P P 03 10 39.7 +0.3
baz=306,SNR=8.0
PV12 **Saucer Basin,** 83.78 48 *e*P P 03 10 40.8 +1.3
comp=Z,50nm,1.3s
PV03 **Paradox Valley** 83.79 48 *e*P P 03 10 40.6 +1.1
ARR **Arges** 83.79 321⇑ *i*P P 03 10 40.2 +1.0
LANS **Liptovska Anna** 83.83 326 *e*P P 03 10 41.8 +2.5
LANS **Liptovska Anna** 83.83 326 *e*P P 03 10 41.8 +2.5
DRGR 83.85 323⇑ *i*P P 03 10 40.1 +0.6
PV13 **Radium Mtn., P** 83.86 48 *e*P P 03 10 41.0 +1.0
comp=Z,28nm,1.1s
PV02 **Paradox Valley** 83.89 48 *e*P P 03 10 41.3 +1.2
comp=Z,22nm,1.1s
RUE **Ruedersdorf** 83.95 331 *e*P P 03 10 40.5 +0.8
comp=Z,7.8nm,0.9s,baz=39,slow=5.0
N23A **Red Feather La** 83.97 45 *e*P P 03 10 42.1 +1.6
comp=Z,28nm,1.2s
N23A **Red Feather La** 83.97 45 P P 03 10 41.6 +1.1
baz=308,SNR=9.9
OKC **Ostrava-Krasne** 83.97 327 AMS AMS 03 56 10.0
comp=Z,300nm,12.7s
PHWY **Pilot Hill** 84.00 44 *e*P P 03 10 41.7 +1.0
comp=Z,6.3nm,1.1s
PV01 **Paradox Valley** 84.03 48 *e*P P 03 10 41.5 +0.6
KSP **Ksiaz** 84.08 329 *e*P P 03 10 41.4 +0.9
KSP **Ksiaz** 84.08 329 *e*P P 03 10 41.4 +0.9
LOT **Lotru** 84.19 321⇑ *i*P P 03 10 41.0 -0.3
BSEG **Bad Segeberg** 84.20 334 *e*P P 03 10 41.3 +0.3
comp=Z,11nm,1.1s,baz=39,slow=5.0
BSEG *ep*P **sP** 03 10 54.3 +2.2
MORC **Moravsky Berou** 84.28 327 *e*P P 03 10 42.4 +0.7
comp=Z,21nm,1.3s
MORC **Moravsky Berou** 84.28 327⇑ *i*P P 03 10 42.3 +0.7
MORC **Moravsky Berou** 84.28 327 *e*P P 03 10 42.4 +0.7
MORC pmax pmax
comp=Z,21nm,1.3s
MORC **Moravsky Berou** 84.28 327 *e*P P 03 10 42.2 +0.6
SMCO **Snowmass** 84.40 47 *e*P P 03 10 43.5 +0.7
comp=Z,15nm,1.1s
KRLC **Kraliky** 84.42 328 *e*P P 03 10 43.6 +1.3
KRLC **Kraliky** 84.42 328 *e*P P 03 10 43.6 +1.3
DPC **Dobruska-Polom** 84.42 328 *e*P P 03 10 43.3 +1.0
DPC *ep*P **pwP** 03 10 56.5 -1.1
DPC AMS AMS 03 56 40.0
comp=Z,300nm,12.5s
DPC **Dobruska-Polom** 84.42 328 *e*P P 03 10 43.3 +1.0
DPC *e* 03 10 56.5
DPC MLR MLR
comp=Z,300nm,12.5s
UPC **Upice** 84.45 329 *e*P P 03 10 43.0 +0.6
UPC *es*P **pwP** 03 10 58.4 +0.7
UPC AMS AMS 03 55 20.0
comp=Z,400nm,16.1s
UPC **Upice** 84.45 329 *e*P P 03 10 43.0 +0.6
UPC *e* 03 10 58.4
UPC MLR MLR
comp=Z,400nm,16.1s
PSZ **Piszkesteto** 84.48 325 *e*P P 03 10 42.7 0.0
comp=Z,25nm,1.1s
PSZ **Piszkesteto** 84.48 325⇑ *i*P P 03 10 43.4 +0.7
PSZ **Piszkesteto** 84.48 325⇓ *e*P P 03 10 42.0 -0.7
PSZ **Piszkesteto** 84.48 325 *e*P P 03 10 42.7 0.0
PSZ pmax pmax
comp=Z,25nm,1.1s
AGMN **Agassiz Nation** 84.52 34 P P 03 10 42.1 -0.7
baz=314
VYHS **Vyhne** 84.59 326 *e*P P 03 10 44.0 +0.8
VYHS pmax pmax
comp=Z,13nm,1.2s
VYHS **Vyhne** 84.59 326 *e*P P 03 10 44.0 +0.8
MVCO **Mesa Verde** 84.63 49 *e*P P 03 10 44.8 +0.9
comp=Z,9.8nm,1.0s
MVCO **Mesa Verde** 84.63 49 P P 03 10 44.2 +0.3
baz=307,SNR=5.3
ISCO **Idaho Springs** 84.84 46 *e*P P 03 10 46.4 +1.4
comp=Z,7.7nm,1.2s
ISCO **Idaho Springs** 84.84 46 P P 03 10 45.8 +0.8
baz=309,SNR=5.9
214A **Organ Pipe Nat** 84.84 55 P P 03 10 45.1 +0.3
baz=305
TAOE **Nuku Hiva Isla** 84.85 104 *e*S S 03 21 12.9 +1.2
comp=Z,149nm,27.3s
TAOE **Nuku Hiva Isla** 84.85 104 *e*LR LR 03 37 33.8
comp=Z,286nm,22.4s
JAVC **Velka Javorina** 84.88 327 *e*P P 03 10 46.3 +1.6
VRAC **Vranov** 85.05 327⇑ *i*P P 03 10 46.3 +0.8
VRAC **Vranov** 85.05 327 *e*P P 03 10 46.2 +0.8
PVCC **Panska Ves** 85.06 329 *e*P P 03 10 46.1 +0.7
PVCC *ep*P **pwP** 03 10 59.6 -1.2
PVCC AMS AMS 03 55 40.0
comp=Z,300nm,16.0s
PVCC **Panska Ves** 85.06 329 *e*P P 03 10 46.1 +0.7
PVCC *e* 03 10 59.6
PVCC MLR MLR
comp=Z,300nm,16.0s
BRG **Berggiesshubel** 85.07 330 *i*P P 03 10 45.3 -0.2
comp=Z,8.7nm,1.0s
BRG **Berggiesshubel** 85.07 330 *e*P P 03 10 45.8 +0.3
comp=Z,4.3nm,0.8s,baz=39,slow=5.0
BRG **Berggiesshubel** 85.07 330 *i*P P 03 10 45.3 -0.2
BRG pmax pmax
comp=Z,9.0nm,1.0s
W18A **Petrified Fore** 85.08 51 P P 03 10 46.4 +0.2
baz=307
CLL **Collm** 85.14 331 *e*P P 03 10 45.9 +0.1
comp=Z,18nm,1.0s
CLL **Collm** 85.14 331 *e*P P 03 10 46.1 +0.3
comp=Z,11nm,0.9s,baz=39,slow=5.0
CLL **Collm** 85.14 331⇓ *i*P P 03 10 45.6 -0.2
comp=Z,21nm,1.0s
CLL *e*PcP **PcP** 03 10 49.0 0.0
CLL *ep*P **sP** 03 10 57.0 +0.1
CLL *i* sP **pwP** 03 11 01.5 +0.4
CLL *e*PP **PP** 03 14 02.0 -0.6
CLL *e*SS SS 03 26 48.0 +2.0
CLL *e*SSS SSS 03 30 36.0
CLL Lm MLR 03 55 00.0
comp=Z,300nm,18.6s
CLL **Collm** 85.14 331⇓ *i*P P 03 10 45.6 -0.2
CLL *e**PP **sP** 03 10 57.0 +0.1
CLL pmax pmax
comp=Z,21nm,1.0s
CLL MLR MLR
comp=Z,300nm,18.6s
SRO **Srobarova** 85.32 326 *e*P P 03 10 48.0 +1.2
SRO **Srobarova** 85.32 326 *e*P P 03 10 47.9 +1.2
KRUC **Moravsky** 85.32 327 *e*P P 03 10 47.3 +0.5
S22A **4UR Ranch, Cre** 85.36 48 *e*P P 03 10 48.8 +1.2
comp=Z,14nm,1.4s
S22A **4UR Ranch, Cre** 85.36 48 P P 03 10 48.5 +0.9
baz=308,SNR=8.2
NRDL **Niedersach Rie** 85.40 333 *e*P P 03 10 47.3 +0.3
comp=Z,2.9nm,0.9s,baz=39,slow=5.0
MODS **Modra-Piesok** 85.41 327 *e*P P 03 10 48.3 +1.0
MODS pmax pmax
comp=Z,25nm,1.3s
MODS **Modra-Piesok** 85.41 327 *e*P P 03 10 48.3 +1.0
GOPC **GO Pecny, Ondr** 85.42 329 *e*P P 03 10 47.7 +0.4
GOPC AMS AMS 03 57 50.0
GOPC **GO Pecny, Ondr** 85.42 329 *e*P P 03 10 47.7 +0.4
ASSE **Asse, Remlinge** 85.46 332 *e*P P 03 10 47.4 +0.1
comp=Z,7.1nm,1.1s,baz=39,slow=5.0
ASSE *ep*P **sP** 03 11 00.4 +2.0
PRU **Pruhonice** 85.47 329 *e*P P 03 10 48.3 +0.8
PRU AMS AMS 03 55 40.0
comp=Z,300nm,18.1s
PRU **Pruhonice** 85.47 329 *e*P P 03 10 48.3 +0.8
PRU MLR MLR
comp=Z,300nm,18.1s
SUSD **Miller** 85.61 39 P P 03 10 48.4 0.0
baz=312
Q24A **Divide** 85.64 46 P P 03 10 49.5 +0.5
baz=309
NEUB **Neuenburg** 85.72 331 *e*P P 03 10 49.0 +0.2
comp=Z,9.2nm,0.8s,baz=39,slow=5.0
CLZ **Clausthal** 85.80 332 *e*P P 03 10 49.6 +0.4
comp=Z,8.3nm,0.9s,baz=39,slow=5.0
TBI **Tubuai** 86.01 121 *e*LR LR 03 38 07.1
comp=Z,264nm,21.5s,baz=307
TUC **Tucson** 86.03 54 P P 03 10 51.3 +0.5
baz=306
TANN **Tannenbergstha** 86.04 330 *e*P P 03 10 50.6 +0.2
comp=Z,7.0nm,1.1s,baz=39,slow=5.0
TANN *ep*P **pwP** 03 11 03.9 -1.9
GUNZ **Gunzen** 86.13 330 *e*P P 03 10 51.3 +0.5
comp=Z,6.8nm,1.1s,baz=39,slow=5.0
WERN **Wernitzgruen** 86.17 330 *e*P P 03 10 51.6 +0.5
comp=Z,6.1nm,1.0s,baz=39,slow=5.0
SDCO **Great Sand Dun** 86.19 47 *e*P P 03 10 52.9 +1.1
comp=Z,5.3nm,1.2s
SDCO **Great Sand Dun** 86.19 47 P P 03 10 52.2 +0.5
baz=309,SNR=5.5
MOX **Moxa** 86.22 331 *e*P P 03 10 51.7 +0.5
comp=Z,6.2nm,1.1s,baz=39,slow=5.0
OGNE **Ogallala** 86.22 43 P P 03 10 51.4 -0.1
baz=311
MORH **Mrgy, Hungar** 86.29 324 *e*P P 03 10 56.1 +4.5
CONA **Conrad Observa** 86.39 327 *i*PcP P 03 10 53.1 +0.9
comp=Z,14nm,1.6s
IBBN **Ibbenburen** 86.44 334 *e*P P 03 10 52.5 +0.2
comp=Z,13nm,0.9s,baz=39,slow=5.0
KHC **Kasperske Hory** 86.53 329 *e*P P 03 10 53.0 +0.2
KHC *ex* x 03 11 01.1
KHC *ex* x 03 11 13.3
KHC AMS AMS 03 58 00.0
KHC **Kasperske Hory** 86.53 329 *e*P P 03 10 53.0 +0.2
KHC *e* 03 11 01.1
GEC2 **GERESS Array S** 86.69 329 *e*P P 03 10 53.9 +0.3
comp=Z,1.4nm,0.8s,baz=39,slow=5.0
GERES **GERESS Array B** 86.69 329 P P 03 10 53.1 -0.5
comp=Z,0.4nm,0.3s,baz=40,slow=2.3,SNR=6.4
GERES LR LR 03 53 51.3
comp=Z,164nm,18.0s,baz=58,slow=39
WET **Wettzell** 86.82 329 *e*P P 03 10 55.0 +0.8
comp=Z,1.3nm,0.8s,baz=39,slow=5.0
GRF **Grafenberg Arr** 87.11 330 *e*P P 03 10 56.1 +0.5
baz=39,slow=5.0
KSCO **Kaye Shedlock'** 87.13 45 P P 03 10 55.8 -0.3
baz=310
T25A **Trinidad** 87.25 47 P P 03 10 57.0 +0.2
baz=310
ANMO **Albuquerque** 87.32 50 P P 03 10 58.0 +0.8
comp=Z,3.1nm,1.1s,baz=307,slow=8.0,SNR=5.6
ANMO **Albuquerque** 87.32 50 *e*P P 03 10 58.6 +1.4
comp=Z,9.0nm,1.4s
ANMO **Albuquerque** 87.32 50 *ce*P P 03 10 57.3 +0.1
ANMO pmax pmax
comp=Z,4.0nm,1.3s
ANMO **Albuquerque** 87.32 50 P P 03 10 56.7 -0.4
baz=308
ECSD **EROS Data Cent** 87.32 38 *e*P P 03 10 57.2 +0.4
comp=Z,17nm,1.1s
SOKA **Soboth** 87.69 326 *i*PcP P 03 10 58.5 0.0
comp=Z,15nm,1.8s
E38A **The Farm, Brul** 87.77 34 P P 03 10 58.3 -0.5
baz=318
TNS **Taunus Mts** 87.83 332 *e*P P 03 10 58.8 -0.3
baz=39,slow=5.0
121A **Cookes Peak, D** 87.93 52 P P 03 11 00.7 +0.6
baz=308
F38A **Pierce - Schro** 88.10 34 P P 03 11 00.5 +0.1
baz=317
BGNE **Belgrade** 88.10 41 P P 03 11 00.3 -0.2
baz=313
SPMN **Marine on St.** 88.19 35 *e*P P 03 11 01.3 +0.5
comp=Z,15nm,1.0s
SPMN **Marine on St.** 88.19 35 P P 03 11 00.8 0.0
baz=317
E39A **Mellen** 88.41 33 P P 03 11 01.6 -0.3
baz=318
MEM **Membach** 88.46 334 ⇑P P 03 11 02.1 +0.1
F39A **Loretta** 88.58 34 P P 03 11 02.7 0.0
baz=318
E40A **Wakefield** 88.66 33 P P 03 11 02.7 -0.4
baz=319
G38A **Ridgeland** 88.69 35 P P 03 11 03.0 -0.2
baz=317
H38A **Maiden Rock** 88.84 35 P P 03 11 04.1 +0.2
baz=317
G39A **Holcombe** 88.93 34 P P 03 11 04.0 -0.3
baz=318
F40A **Park Falls** 88.95 33 P P 03 11 04.4 -0.1
baz=318
E41A **Kenton** 89.07 32 P P 03 11 05.0 0.0
baz=319
WLF **Walferdange** 89.17 333 ⇑P P 03 11 06.2 +0.8
comp=Z,21nm,2.6s
H39A **Augusta** 89.32 35 P P 03 11 06.5 +0.3
baz=318
BFO **Black Forest** 89.37 331 *e*P P 03 11 06.4 0.0
comp=Z,1.9nm,0.8s,baz=39,slow=5.0
FETA **Feichten** 89.37 329 *e*PcP P 03 11 06.5 -0.1
comp=Z,4.0nm,0.9s
G40A **Rib Lake** 89.40 34 P P 03 11 06.8 +0.2
baz=318
DAVA **Damuels** 89.53 330 *i*PcP P 03 11 07.4 +0.1
comp=Z,7.0nm,0.9s
F41A **Three Lakes** 89.55 33 *e*P P 03 11 07.9 +0.6
comp=Z,16nm,1.1s
F41A **Three Lakes** 89.55 33 P P 03 11 07.3 0.0
baz=319
SCHQ **Schefferville** 89.62 16 LR LR 03 54 01.3
comp=Z,726nm,20.7s,baz=303,slow=37
FUORN **Ofenpass-Fuorn** 89.89 329 *e*P P 03 11 09.3 +0.2
comp=Z,13nm,0.9s
MNTX **Cornudas Mount** 90.05 52 P P 03 11 09.6 -0.2
baz=309
J39A **Decorah** 90.10 36 P P 03 11 09.7 -0.2
baz=317
SCIA **State Center** 90.38 38 P P 03 11 11.1 -0.1
baz=316
AMTX **Amarillo** 90.39 47 P P 03 11 11.4 -0.1
baz=311
K39A **Oelwein** 90.48 36 P P 03 11 11.0 -0.7
baz=317
KSU1 **Kansas State U** 90.54 41 *e*P P 03 11 12.9 +0.9
comp=Z,12nm,1.0s
KSU1 **Kansas State U** 90.54 41 P P 03 11 11.9 -0.1
baz=314
L39A **Vinton** 90.84 37 P P 03 11 13.6 +0.2
baz=317
K40A **Colesburg** 90.85 36 P P 03 11 13.6 +0.2
baz=318
J41A **Loganville** 90.91 35 P P 03 11 13.0 -0.6
baz=319
JFWS **Jewell Farm** 91.13 35 P P 03 11 15.3 +0.6
baz=318
F45A **CMU Biological** 91.20 31 P P 03 11 15.1 +0.2
baz=322
M39A **Webster** 91.23 37 P P 03 11 14.9 -0.3
baz=317
L40A **Anamosa** 91.28 36 P P 03 11 15.1 -0.3
baz=318
K41A **Shullsburg** 91.33 36 P P 03 11 15.8 +0.2
baz=318
D48A **Paudash Townsh** 91.55 28 P P 03 11 16.5 -0.1
baz=325
M40A **Post Highland** 91.62 37 P P 03 11 16.8 -0.2
baz=318
L41A **Preston** 91.64 36 P P 03 11 16.4 -0.6
baz=318
J43A **Natural Harves** 91.66 34 P P 03 11 16.7 -0.4
baz=320
N40A **Mertquake, Sal** 91.97 37 P P 03 11 18.4 -0.2
baz=318
M41A **Milan** 92.13 37 P P 03 11 18.9 -0.4
baz=318
K43A **Burlington** 92.22 34 P P 03 11 19.0 -0.7
baz=320
H46A **Fife Lake** 92.24 32 P P 03 11 19.6 -0.2
baz=322
WMOK **Wichita Mounta** 92.26 46 *e*P P 03 11 20.6 +0.6
comp=Z,3.3nm,0.9s
WMOK **Wichita Mounta** 92.26 46 *e*P P 03 11 20.7 +0.6
WMOK pmax pmax
comp=Z,3.0nm,0.9s
L43A **Garden Prairie** 92.42 35 P P 03 11 19.9 -0.7
baz=320
F49A **Sandfield** 92.60 29 P P 03 11 20.9 -0.5
baz=324
TX31 **Lajitas Ar. Si** 92.68 53 *e*P P 03 11 23.3 +1.1
TXAR **Lajitas Array** 92.69 53 P P 03 11 23.2 +1.0
comp=Z,6.7nm,1.0s,baz=295,slow=3.6,SNR=27
N42A **Yates City** 92.80 37 P P 03 11 22.3 -0.1
baz=318
M43A **Waltham Townsh** 92.88 36 P P 03 11 22.9 +0.2
baz=319
O41A **Passleys Farm,** 92.89 38 P P 03 11 22.6 -0.3
baz=318
E51A **G1948 Merrick** 92.98 27 P P 03 11 21.7 -1.4
baz=326
TUL1 **Leonard** 93.23 43 P P 03 11 24.4 -0.1
baz=315
D54A **Lac Fusel, La** 93.52 25 P P 03 11 25.0 -0.6
baz=328
P42A **Winchester** 93.56 38 *e*P P 03 11 26.4 +0.4
comp=Z,12nm,1.0s
P42A **Winchester** 93.56 38 P P 03 11 25.3 -0.6
baz=318
Q41A **Truxton** 93.57 39 P P 03 11 25.7 -0.3
baz=318
Q42A **Golden Eagle** 93.97 38 P P 03 11 27.4 -0.4
baz=318
R41A **Rosebud** 93.97 39 P P 03 11 27.4 -0.4
baz=318
CCM **Cathedral Cave** 94.22 39 P P 03 11 28.3 -0.7
baz=318
S41A **Jillco Farms,** 94.30 40 P P 03 11 28.3 -1.1
baz=317
N46A **Monticello** 94.37 35 P P 03 11 29.2 -0.5
baz=321
JCT **Junction City** 94.48 50 P P 03 11 29.9 -0.5
baz=312
U40A **Yellville** 94.58 41 P P 03 11 30.4 -0.4
baz=316
S42A **Caledonia** 94.67 39 P P 03 11 30.9 -0.2
baz=318
T41A **Mountain View** 94.69 40 P P 03 11 30.0 -1.2
baz=317
N47A **Urbana** 94.88 34 P P 03 11 31.8 -0.2
baz=322
U41A **Viola** 95.11 41 P P 03 11 32.2 -1.0
baz=317
P46A **Rosedale** 95.12 36 P P 03 11 31.8 -1.3
baz=320
V41A **Mountainview** 95.39 41 P P 03 11 33.7 -0.7
baz=317
MIAR **Mount Ida** 95.47 43 *e*P P 03 11 35.1 +0.3
comp=Z,8.1nm,1.1s
MIAR **Mount Ida** 95.47 43 *e*P P 03 11 35.1 +0.3
MIAR pmax pmax
comp=Z,8.0nm,1.1s
MIAR **Mount Ida** 95.47 43 P P 03 11 34.2 -0.6
baz=316
R47A **Wooly Knot Far** 96.48 36 P P 03 11 38.8 -0.6
baz=321
ACSO **Alum Creek Sta** 96.65 33 P P 03 11 39.2 -0.9
baz=323
Q51A **Peebles** 97.45 34 P P 03 11 43.4 -0.4
baz=323
S49A **Springfield** 97.49 36 P P 03 11 43.8 -0.1
baz=322
Y46A **Houston** 98.61 41 P P 03 11 48.5 -0.5
baz=319
KEST **Kesra** 98.76 323 LR LR 04 02 53.3
comp=Z,110nm,18.1s,baz=240,slow=39
Q55A **Buckhannon** 98.97 32 P P 03 11 49.9 -0.7
baz=325
251A **Midway** 101.85 39 P **Pdif** 03 12 02.0 -1.5
baz=321
TORD **Torodi Ar. Bea** 120.65 313 PKP **PKPdf** 03 17 00.7 -1.6
comp=Z,1.5nm,0.8s,baz=12,slow=1.5,SNR=9.2
LPAZ **La Paz** 148.54 66 PKPbc **PKPbc** 03 17 58.6 +0.7
comp=Z,6.3nm,0.8s,baz=14,slow=5.3,SNR=19
PLCA **Paso Flores** 152.96 117 PKPbc **PKiKP** 03 18 08.1 +0.9
comp=Z,4.9nm,1.1s,baz=290,slow=5.2,SNR=4.1

IDC 15 03:03:25.5±42.0,**62°38S**×**161°32W**,**h0**km,**mb3.7**/2,
mb1 3.9/3,**mb1mx3.7**/16,**mbtmp3.6**/3,**ML3.6**/1,**MS3.8**/1,
Ms1 3.8/1,**ms1mx3.2**/16,**Error ellipse: s-maj=978.8km**

s-min=47.0km az=79.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**19.14**	**203**	P	P	03 07 49.9	+0.1
	0.2nm,0.3s,baz=68,slow=18,SNR=9.1						
USHA	**Ushuaia**	**44.92**	**125**	LR	LR	03 26 38.7	
	comp=Z,94nm,18.1s,baz=30,slow=31						
ASAR	**Alice Springs**	**57.64**	**281**	P	P	03 13 17.3	0.0
	0.7nm,0.7s,baz=157,slow=7.8,SNR=5.4						
WRA	**Warramunga Arr**	**60.67**	**283**	P	P	03 13 38.1	-0.2
	0.7nm,0.8s,baz=155,slow=5.9,SNR=12						

NDI 15 03:04:28.2±3.1, 26°39N × 89°77E, h10km, ML3.5, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURI	**Tura**	**0.98**	**149**	*e*P	Pg	03 04 46.3	-0.8
TURI				*e*S	Sg	03 04 59.0	-0.8
TURI				IAML		03 04 59.3	
	comp=E,4μm,0.2s						
TURI				IAML		03 04 59.6	
	comp=N,3μm,0.1s						
GTK	**Tadong**	**1.39**	**312**	*e*P	Pn	03 04 53.9	0.0
GTK				*e*S	Sb	03 05 11.8	-0.5
GTK				IAML		03 05 13.6	
	comp=N,250nm,0.2s						
GTK				IAML		03 05 13.6	
	comp=E,178nm,0.1s						
GUWA	**GUWAHATI**	**1.74**	**96**	*e*P	Pn	03 04 58.0	-0.5
GUWA				*e*S	Sn	03 05 19.7	-0.9
SHL	**Shillong**	**2.07**	**113**	*e*P	Pn	03 05 03.6	+0.4
SHL				*e*S	Sn	03 05 29.2	0.0
TAWA	**Tawang**	**2.22**	**57**	*e*P	Pn	03 05 05.7	+0.3
TAWA				*e*S	Sn	03 05 33.8	+0.7
TAWA				IAML		03 05 36.9	
	comp=E,593nm,0.1s						
TAWA				IAML		03 05 36.9	
	comp=N,704nm,0.2s						
TEZP	**TEZPUR**	**2.72**	**85**	*e*P	Pn	03 05 12.4	+0.4
TEZP				*e*S	Sn	03 05 44.5	-0.6
ZIRO	**ZIRO**	**3.81**	**72**	*e*P	Pn	03 05 28.6	+1.4
ZIRO				*e*S	Sn	03 06 10.3	-1.9
KOHI	**KOHIMA**	**3.96**	**99**	*e*P	Pb	03 05 33.8	-4.4
KOHI				*e*S	Sb	03 06 24.0	-2.3
MOKO	**MOKOCHONG**	**4.26**	**90**	*e*P	Pn	03 05 33.7	+0.4
MOKO				*e*S	Sn	03 06 20.4	-2.7
BOK	**Bokaro**	**4.37**	**235**	*e*P	Pn	03 05 34.8	+0.1
BOK				*e*S	Sn	03 06 24.3	-1.4
SAIH	**SAIHA**	**4.87**	**142**	*e*P	Pn	03 05 42.6	+0.9
SAIH				*e*S	Sn	03 06 34.1	-4.0
NDI	**New Delhi**	**11.37**	**284**	*e*P	Pn	03 07 09.0	-1.8

*ISCJB **15** 03:15:53.3±0.5, 30°.04N±0°.04 × 69°.70E±0°.06, h15km, mb3.8/12, MS2.9/1, Error ellipse: s-maj=7.4km s-min=4.8km az=156.4*

*IDC **15** 03:15:53.1±1.0, 30°.05N × 69°.56E, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.7/47, mbtmp3.9/10, ML4.0/2, MS2.9/1, Ms1 2.9/1, ms1mx2.6/34, Error ellipse: s-maj=24.9km s-min=22.8km az=1.0*

*NEIC **15** 03:15:59.8±1.5, 30°.16N × 69°.58E, h44km±12km, mb4.0/6, Error ellipse: s-maj=13.9km s-min=9.2km az=191.0*

*NNC **15** 03:16:05.1±5.5, 30°.16N × 69°.69E, h276km±171km, mb3.1, Error ellipse: s-maj=149.7km s-min=43.5km az=105.0*

ISC 15 03:15:55.6±0.8, 30°03N±0°.07 · 69°.64E±0°.07, h15km, n51, σ1§60/58, mb3.8/12, 5C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**4.52**	**354**	*e*Pn	**Pn**	**03 17 06.8**	**+3.0**
KBL				*e*Sn	**Sn**	**03 18 00.3**	**+4.1**
NIL	**Nilore**	**4.74**	**40**	*e*Pn	**Pn**	**03 17 09.2**	**+2.6**
NIL				*e*Sn	**Sn**	**03 18 01.0**	**-0.3**
NDI	**New Delhi**	**6.75**	**100**	*e*P	**Pn**	**03 17 38.0**	**+3.8**
NDI				*e*S	Sg	03 19 44.0	+12
CHGR	**Chuyangaron**	**8.61**	**357**	*e*Pn	**Pn**	**03 18 01.1**	**+1.3**
CHGR				*e*Sn	**Sn**	**03 19 35.5**	**-1.2**
GAR	**Garm**	**8.96**	**3**	*e*Pn	**Pn**	**03 18 05.8**	**+1.1**
GAR				*e*Sn	**Sn**	**03 19 45.0**	**-0.4**
BTK	**Batken**	**10.05**	**5**	*e*Pn	**Pn**	**03 18 18.3**	**-1.2**
SFK	**Sufi-Kurgan**	**10.45**	**17**	⇑P	**Pn**	**03 18 26.9**	**+1.8**
	6.4nm,0.5s						
SFK				⇑S	**Sn**	**03 20 24.4**	**+2.4**
	5.8nm,0.6s						
JBP	**Jabalpur**	**11.50**	**124**	*e*P	Pn	03 18 29.0	-10
JBP				*e*S	**Sn**	**03 20 46.4**	**-1.3**
ARSB	**Arslanbob**	**11.59**	**13**	*e*Pn	**Pn**	**03 18 39.9**	**-0.8**
PYUN	**Piuthan**	**11.84**	**96**	*e*P	**Pn**	**03 18 43.4**	**-0.8**
	8.6nm,0.4s						
KOLN	**Koldanda**	**12.44**	**97**	*e*P	**Pn**	**03 18 51.5**	**-0.9**
	24nm,0.9s						
DANN	**Dangsing**	**12.45**	**94**	*e*P	**Pn**	**03 18 52.0**	**-0.7**
	30nm,0.6s						
KK31	**Karatay Array**	**13.06**	**3**	*e*Pn	**Pn**	**03 18 60.0**	**-0.7**
KK31	**Karatay Array**	**13.06**	**3**	P	**Pn**	**03 18 59.5**	**-1.1**
	1.8nm,0.5s,baz=172,slow=13,SNR=36						
KK31				⇑S	**Sn**	**03 21 23.2**	**-2.6**
	3.0nm,0.6s						
KKAR	**Karatay Array**	**13.06**	**3**	*e*Pn	**Pn**	**03 18 60.0**	**-0.7**
KKAR				*e*Sn	**Sn**	**03 21 27.5**	**+1.8**
AAK	**Ala-Archa**	**13.17**	**16**	Pn	**Pn**	**03 19 01.5**	**-0.8**
	1.3nm,0.3s,baz=192,slow=6.0,SNR=18						
AAK	**Ala-Archa**	**13.17**	**16**	⇑P	**Pn**	**03 19 01.4**	**-0.8**
	4.2nm,0.5s						
AAK				⇑S	**Sn**	**03 21 25.2**	**-3.4**
	5.8nm,0.9s						
TARG	**Taragay, Kyrgy**	**13.41**	**27**	*e*Pn	**Pn**	**03 19 04.9**	**-0.9**
KDJ	**Kajisay**	**13.52**	**25**	*e*Pn	**Pn**	**03 19 08.8**	**+1.8**
DMN	**Daman**	**13.78**	**96**	*e*P	**Pn**	**03 19 08.6**	**-2.1**
	4.4nm,0.5s						
PKIN	**Phulchoki**	**14.03**	**96**	*e*P	**Pn**	**03 19 12.1**	**-2.1**
	7.2nm,0.5s						
GUN	**Gumba**	**14.38**	**94**	*e*P	**Pn**	**03 19 16.1**	**-2.9**
	50nm,0.8s						
MAKZ	**Makanchi**	**19.30**	**26**	*e*P	**Pn**	**03 20 20.9**	**-0.2**
	6.0nm,1.0s						
MK01	**Makanchi Array**	**19.39**	**27**	*e*P	**P**	**03 20 21.2**	**+0.2**
MK31	**Makanchi Array**	**19.41**	**27**	*e*P	**P**	**03 20 21.3**	**+0.1**
MK32	**Makanchi Array**	**19.41**	**27**	*e*P	**P**	**03 20 21.4**	**+0.2**
MKAR	**Makanchi Array**	**19.41**	**27**	P	**P**	**03 20 21.4**	**+0.2**
	0.2nm,0.3s,baz=207,slow=12,SNR=11						
MKAR	**Makanchi Array**	**19.41**	**27**	*e*P	**P**	**03 20 21.3**	**+0.1**
	15nm,0.7s						
ABKAR	**Akbulak array**	**20.57**	**342**	*e*P	**P**	**03 20 32.7**	**-1.0**
KURBB	**Kurchatov Arra**	**21.62**	**15**	P	**P**	**03 20 45.0**	**-0.1**
	2.3nm,0.9s,baz=207,slow=9.6,SNR=2.8						
KURK	**Kurchatov**	**21.73**	**16**	*e*P	**P**	**03 20 45.0**	**-1.2**
BRVK	**Borovoye**	**23.01**	**1**	*e*P	**P**	**03 20 58.8**	**-1.0**
	5.0nm,0.8s						
ZAA0	**Zalesovo Array**	**26.31**	**20**	*e*P	**P**	**03 21 34.0**	**+3.4**
	4.2nm,1.0s						
ZALV	**Zalesovo Beam**	**26.31**	**20**	P	**P**	**03 21 30.4**	**-0.2**
	0.9nm,0.4s,baz=218,slow=10,SNR=5.0						
ZALV	**Zalesovo Beam**	**26.31**	**20**	*e*P	**P**	**03 21 30.0**	**-0.6**
ZAA1	**Zalesovo Array**	**26.32**	**20**	*e*P	**P**	**03 21 30.4**	**-0.3**
CM31	**Chiang Mai Arr**	**29.01**	**107**	*e*P	**P**	**03 21 56.4**	**+1.3**
CMAR	**Chiang Mai Arr**	**29.01**	**107**	P	**P**	**03 21 56.4**	**+1.3**
	1.0nm,0.4s,baz=291,slow=8.4,SNR=5.3						
BR101	**Keskin Array S**	**30.90**	**298**	*e*P	**P**	**03 22 11.9**	**+0.1**
BR131	**Keskin Array S**	**30.90**	**298**	*e*P	**P**	**03 22 12.4**	**+0.6**
BRTR	**Keskin Array B**	**30.90**	**298**	P	**P**	**03 22 11.9**	**+0.1**
	1.0nm,0.7s,baz=112,slow=9.5,SNR=9.5						
XAN	**Xi'an**	**33.40**	**73**	*e*P	**P**	**03 22 36.2**	**+2.5**
	5.4nm,0.6s						
ARCES	**ARCESS Array B**	**46.76**	**340**	LR	LR	03 46 20.3	
	comp=Z,12nm,18.1s,baz=143,slow=39						
TOA1	**Torodi Ar. Sit**	**64.55**	**271**	*e*P	**P**	**03 26 31.5**	**-1.0**
TORD	**Torodi Ar. Bea**	**64.55**	**271**	P	**P**	**03 26 31.5**	**-1.0**
	0.3nm,0.7s,baz=46,slow=6.2,SNR=4.2						
ILAR	**Eielson Array**	**81.30**	**15**	P	**P**	**03 28 10.2**	**-0.8**
	0.8nm,0.8s,baz=307,slow=4.6,SNR=6.6						
ILB	**Eielson Array**	**81.30**	**15**	*e*P	**P**	**03 28 10.2**	**-0.8**
AS31	**Alice Springs**	**81.58**	**123**	*e*P	**P**	**03 28 12.8**	**-0.4**
	1.9nm,1.4s						
ASAR	**Alice Springs**	**81.58**	**123**	P	**P**	**03 28 13.0**	**-0.1**
	0.4nm,0.8s,baz=300,slow=5.2,SNR=3.5						
YKA	**Yellowknife Ar**	**87.73**	**2**	P	**P**	**03 28 43.4**	**-0.2**
	0.4nm,0.6s,baz=349,slow=4.8,SNR=5.0						
YKB5	**Yellowknife Ar**	**87.73**	**2**	*e*P	**P**	**03 28 43.4**	**-0.2**

SJA 15 03:21:21.2±0.8, 26°90S × 67°32W, h22km±8km, ML3.2, MW3.5, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSA	**Cafayete**	**1.43**	**57**	*e*P	Pb	03 21 47.9	+0.5
FSA				*e*S	Sb	03 22 08.3	+3.0
FSA				IAML		03 22 08.6	
	comp=Z,134nm,0.3s						
VCA	**Vinchina**	**1.99**	**203**	*e*P	Pb	03 21 55.4	-1.5
VCA				*e*S	Sb	03 22 21.6	+0.3
VCA				IAML		03 22 23.6	
	comp=Z,255nm,0.4s						
CYA	**Choya**	**2.04**	**139**	*e*P	Pb	03 22 04.3	+6.6
CYA				*e*S	Sb	03 22 23.1	+0.3
CYA				IAML		03 22 25.6	
	comp=Z,617nm,0.3s						
AGUA	**GUANDACOL**	**2.78**	**202**	*e*P	Pb	03 22 08.5	-1.8
AGUA				*e*S	Sb	03 22 42.5	-1.5
LCO	**Las Campanas**	**3.66**	**234**	*e*P	Pn	03 22 20.2	+3.5
AROD	**Rodeo**	**3.77**	**210**	*e*P	Pn	03 22 22.2	+4.0
ACCO	**Cerro Coronel**	**3.98**	**202**	*e*P	Pn	03 22 25.1	+3.9
HJA	**Humahuaca**	**4.06**	**26**	*e*P	Pn	03 22 26.7	+4.4
HJA				IAML		03 22 48.9	
	comp=Z,6.9nm,0.6s						
AMOG	**MOGNA**	**4.16**	**194**	*e*P	Pn	03 22 27.1	+3.7
RTLL	**Cerro Villicun**	**4.53**	**193**	*e*P	Pn	03 22 30.7	+2.2
CFA	**Coronel Fontan**	**4.76**	**189**	*e*P	Pn	03 22 34.6	+3.0
TCA	**Tanti**	**5.03**	**152**	*e*P	Pn	03 22 37.3	+2.0
RTCV	**Cerro Valdivia**	**5.06**	**192**	*e*P	Pn	03 22 41.3	+5.5
RTLS	**Leoncito**	**5.18**	**199**	*e*P	Pn	03 22 41.4	+3.7
ACAN	**Cantantal**	**5.36**	**179**	*e*P	Pn	03 22 44.1	+4.2
AUSP	**Uspallata**	**5.61**	**198**	*e*P	Pn	03 22 46.5	+3.0
ASAL	**Salagasta**	**5.83**	**193**	*e*P	Pn	03 22 48.4	+2.1
ARCO	**CERRO ARCO**	**6.09**	**193**	*e*P	Pn	03 22 52.4	+2.4
ARCO				IAML		03 24 39.5	
	comp=Z,12nm,0.5s						

IDC 15 03:24:45.9±6.4, 7°80S × 158°29E, h65km±70km, mb3.3/4, mb1 3.5/5, mb1mx3.3/21, mbtmp3.7/5, ML4.4/1, Error ellipse: s-maj=55.0km s-min=34.5km az=163.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.31**	**135**	P	Pn	03 25 21.3	-0.2
	88nm,0.3s,baz=262,slow=4.3,SNR=26						
HNR				S	Sn	03 25 49.7	+0.8
	107nm,0.3s,baz=156,slow=12,SNR=6.9						
WRA	**Warramunga Arr**	**26.16**	**240**	P	P	03 30 14.1	-0.2
	0.4nm,0.7s,baz=65,slow=8.8,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**27.41**	**18**	T	T	03 58 41.8	
	baz=198,slow=76,SNR=81						
H11S2	**WAKE ISLAND Hy**	**27.41**	**18**	T	T	03 58 42.6	
	baz=198,slow=76,SNR=95						
H11S1	**WAKE ISLAND Hy**	**27.42**	**18**	T	T	03 58 43.4	
	baz=198,slow=76,SNR=88						
H11N1	**WAKE ISLAND Hy**	**28.62**	**17**	T	T	04 00 07.1	
	baz=198,slow=76,SNR=26						
H11N3	**WAKE ISLAND Hy**	**28.63**	**17**	T	T	04 00 07.8	
	baz=198,slow=76,SNR=22						
H11N2	**WAKE ISLAND Hy**	**28.64**	**17**	T	T	04 00 08.4	
	baz=198,slow=76,SNR=27						
SONM	**Songino Array**	**71.80**	**326**	P	P	03 36 02.5	+0.9
	0.4nm,0.5s,baz=116,slow=6.9,SNR=3.6						
MKAR	**Makanchi Array**	**86.17**	**318**	P	P	03 37 20.0	-0.1
	0.2nm,0.7s,baz=125,slow=7.4,SNR=2.9						
YKA	**Yellowknife Ar**	**95.51**	**28**	P	P	03 38 02.6	-0.8
	0.2nm,0.7s,baz=263,slow=4.3,SNR=4.1						

*IDC **15** 04:04:05.9±1.4, 6°69S × 155°30E, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.7/32, mbtmp3.7/6, MS2.7/1, Ms1 2.7/1, ms1mx2.4/27, Error ellipse: s-maj=53.1km s-min=25.4km az=127.0*

*ISCJB **15** 04:04:10.1±1.5, 6°.6S±0°.3 × 155°.1E±0°.3, h33km, mb3.6/6, Error ellipse: s-maj=54.0km s-min=20.8km az=38.7*

ISC 15 04:04:11.4±1.4, 6°7S±0°3 × 155°3E±0°3, h35km, n8, σ1§16/8, mb3.5/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.44**	**251**	LR	LR	04 08 47.6	
	comp=Z,52nm,19.4s,baz=164,slow=33						
WRA	**Warramunga Arr**	**24.18**	**235**	P	**P**	**04 09 25.7**	**+0.9**
	0.5nm,0.4s,baz=57,slow=9.8,SNR=18						
WRA				PcP	**PcP**	**04 13 06.0**	**+0.8**
	0.4nm,0.5s,baz=58,slow=2.4,SNR=7.6						
ASAR	**Alice Springs**	**26.54**	**228**	P	**P**	**04 09 45.4**	**-0.8**
	0.3nm,0.4s,baz=61,slow=8.7,SNR=4.8						
CMAR	**Chiang Mai Arr**	**60.90**	**295**	P	**P**	**04 14 21.8**	**+0.5**
	2.3nm,0.7s,baz=125,slow=5.2,SNR=7.7						
SONM	**Songino Array**	**69.25**	**327**	P	**P**	**04 15 14.6**	**-0.5**
	0.3nm,0.5s,baz=141,slow=5.8,SNR=3.2						
ILAR	**Eielson Array**	**83.04**	**21**	P	**P**	**04 16 32.7**	**-0.3**
	0.1nm,0.3s,baz=235,slow=5.5,SNR=6.3						
YKA	**Yellowknife Ar**	**95.99**	**28**	P	**P**	**04 17 35.4**	**+0.8**
	0.3nm,0.6s,baz=272,slow=4.3,SNR=4.9						
TORD	**Torodi Ar. Bea**	**153.20**	**286**	PKPbc	**PKPbc**	**04 24 04.9**	**-1.8**
	0.3nm,0.4s,baz=109,slow=3.6,SNR=7.4						

*KRNET **15** 04:25:28.7±0.1, 41°.37N × 72°.98E, h19km, mb2.3*

*NNC **15** 04:25:29.2±1.0, 41°.31N × 73°.08E, h3km±10km, mb3.1, mpv3.0, Error ellipse: s-maj=10.2km s-min=2.8km az=85.0*

*SOME **15** 04:25:32.1, 41°.42N × 72°.92E, h20km*

ISC 15 04:25:27.8±0.9, 41°38N±0°.03 × 73°00E±0°.03, h17km±6km, n22, σ1§11/38, 8C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.06**	**193**	⇑*i*P	**Pg**	**04 25 31.4**	**+0.2**
	baz=80						
ARSB				⇑*i*S	**Sg**	**04 25 33.9**	**+0.4**
	baz=80						
ARK	**Arkit**	**0.88**	**299**	⇓*i*P	**Pb**	**04 25 44.5**	**-0.2**
	baz=99						
ARK				⇓*i*S	**Sb**	**04 25 57.0**	**+0.7**
	baz=99						
ARLS	**Aral**	**1.10**	**64**	⇓*i*P	**Pn**	**04 25 49.9**	**+1.3**
	baz=63						
ARLS				⇓*i*S	**Sn**	**04 26 05.4**	**+1.9**
	baz=63						
MRKS	**Merke**	**1.38**	**7**	P	**Pg**	**04 25 54.9**	**+0.6**
	17nm,0.3s						
MRKS				S	**Sg**	**04 26 11.2**	**-1.1**
	18nm,0.2s						
MRKS	**Merke**	**1.38**	**7**	*e*P	**Pg**	**04 25 54.9**	**+0.6**
	17nm,0.3s						
MRKS				*e*S	**Sg**	**04 26 11.2**	**-1.1**
	18nm,0.2s						
SFK	**Sufi-Kurgan**	**1.42**	**164**	⇑P	**Pb**	**04 25 53.7**	**-0.2**
	3.4nm,0.2s						
SFK				⇓S	**Sg**	**04 26 12.5**	**-1.1**
	10nm,0.3s						
SFK	**Sufi-Kurgan**	**1.42**	**164**	Pg	**Pg**	**04 25 54.5**	**-0.6**
	14nm,0.1s						
SFK				Lg	Lg	04 26 10.9	
	8.0nm,0.1s						
SFK	**Sufi-Kurgan**	**1.42**	**164**	⇑*i*P	**Pg**	**04 25 54.2**	**-0.9**
	baz=63						
SFK				⇑*i*S	**Sg**	**04 26 13.6**	**0.0**
	baz=63						
BTK	**Batken**	**2.12**	**232**	⇓*i*P	**Pb**	**04 26 05.2**	**-0.5**
	baz=32						
BTK				⇓*i*S	**Sb**	**04 26 32.7**	**+1.0**
	baz=32						
IUG	**Iuzhnay**	**2.35**	**290**	*e*P	**Pg**	**04 26 11.7**	**-1.2**
	4.6nm,0.3s						
IUG				*e*S	**Sb**	**04 26 39.9**	**+1.5**
	24nm,0.7s						
SGDS	**Sogindy**	**2.40**	**30**	Pg	**Pg**	**04 26 14.6**	**+0.8**
	2.0nm,0.4s						
SGDS				Lg	Lg	04 26 45.1	
	11nm,0.4s						
BOOM	**Boomskoye usch**	**2.46**	**62**	⇑*i*P	**Pb**	**04 26 10.4**	**-1.2**
	baz=62						
BOOM				⇑*i*S	**Sb**	**04 26 41.3**	**-0.4**
	baz=62						
KK31	**Karatay Array**	**2.53**	**314**	⇓P	**Pb**	**04 26 12.0**	**-0.7**
	0.4nm,0.2s,baz=130,slow=16						
KK31				⇑S	**Sg**	**04 26 46.2**	**-2.8**
	6.8nm,0.4s,baz=131,slow=27						
KST	**Kastek**	**2.76**	**52**	Pg	**Pg**	**04 26 20.9**	**+0.2**
	3.3nm,0.3s						
KST				Lg	Lg	04 26 56.3	
	9.0nm,0.5s						
KST	**Kastek**	**2.76**	**52**	*e*P	**Pg**	**04 26 20.9**	**+0.2**
	3.3nm,0.3s						
KST				*e*S	**Sg**	**04 26 56.3**	**-0.2**
	9.0nm,0.5s						
DGS	**Degeres**	**2.78**	**47**	Pg	**Pg**	**04 26 21.3**	**+0.3**
	1.1nm,0.4s						
DGS				Lg	Lg	04 26 56.9	
	6.9nm,0.5s						
DGS	**Degeres**	**2.78**	**47**	*e*P	**Pg**	**04 26 21.4**	**+0.3**
	1.1nm,0.4s						
DGS				*e*S	**Sg**	**04 26 57.0**	**0.0**
	6.9nm,0.5s						
TNSS	**Tian-Shan**	**3.37**	**59**	Pg	**Pg**	**04 26 32.6**	**+0.3**
	1.6nm,0.1s						
TNSS				Lg	Lg	04 27 16.1	
	2.3nm,0.5s						
TNSS	**Tian-Shan**	**3.37**	**59**	*e*P	**Pg**	**04 26 32.6**	**+0.3**
	1.6nm,0.1s						
TNSS				*e*S	**Sg**	**04 27 16.1**	**0.0**
	2.3nm,0.5s						
KTBS	**Karatobe**	**3.58**	**48**	Pg	**Pg**	**04 26 35.7**	**-0.8**
	0.7nm,0.3s						
KTBS				Lg	Lg	04 27 21.2	
	8.4nm,0.4s						
KTBS	**Karatobe**	**3.58**	**48**	*e*P	**Pg**	**04 26 35.7**	**-0.8**
	0.7nm,0.3s						
KTBS				*e*S	**Sg**	**04 27 21.2**	**-1.7**
	8.4nm,0.4s						
UZB	**Uzynbulak**	**4.81**	**66**	*e*P	**Pg**	**04 26 57.8**	**-2.1**
	0.9nm,0.1s						
UZB				*e*S	**Sg**	**04 27 59.7**	**-2.4**
	11nm,0.9s						

*ISCJB **15** 04:31:34.2±0.8, 36°.58N±0°.04 × 129°.76E±0°.08, h12km, mb3.4/2, Error ellipse: s-maj=10.1km s-min=4.8km az=152.1*

*KMA **15** 04:31:34.2±1.1, 36°.58N × 129°.76E, h11km±5km, Error ellipse: s-maj=10.9km s-min=3.3km az=78.0*

*IDC **15** 04:31:34.0±1.3, 36°.51N × 129°.71E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/43, mbtmp3.3/3, ML2.8/1, Error ellipse: s-maj=21.3km s-min=12.9km az=47.0*

ISC 15 04:31:35.4±0.9, 36°55N±0°.05 × 129°66E±0°.08, h12km, n14, σ0§59/17, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSULJ	**Uljin**	**0.26**	**308**	P	**Pg**	**04 31 40.6**	**-0.1**
	SNR=270						
KSULJ				S	**Sg**	**04 31 45.1**	**+0.8**
KSPHA	**Pohang**	**0.42**	**214**	P	**Pb**	**04 31 44.3**	**-0.5**
	SNR=40						
UJN	**ULJIN**	**0.49**	**336**	P	**Pg**	**04 31 44.0**	**-1.0**
	SNR=93						
UJN				S	**Sg**	**04 31 50.9**	**-0.5**
KSADO	**Andong**	**0.59**	**257**	P	**Pb**	**04 31 47.3**	**-0.3**
	SNR=287						
KSTBA	**Taebaek**	**0.81**	**316**	P	**Pg**	**04 31 50.7**	**-0.4**
	SNR=117						
KSYOC	**YEONGCHEON**	**0.81**	**225**	P	**Pb**	**04 31 51.3**	**-0.1**
	SNR=13						
KSUSN	**Ulsan**	**0.95**	**207**	P	**Pn**	**04 31 53.6**	**-0.9**
	SNR=32						
KSYCH	**Yecheon**	**1.00**	**275**	P	**Pg**	**04 31 54.6**	**0.0**
	SNR=5.8						
KSYOW	**Yeongwol**	**1.15**	**303**	P	**Pn**	**04 31 57.2**	**-0.1**
	SNR=13						
KSRS	**Korea Array**	**1.66**	**304**	Pn	**Pn**	**04 32 04.3**	**0.0**
	7.0nm,0.3s,baz=120,slow=17,SNR=46						
KSRS				Pg	**Pb**	**04 32 05.7**	**-0.1**
	7.0nm,0.3s,baz=121,slow=18,SNR=44						
KSRS				Lg	Lg	04 32 29.1	
	52nm,0.3s,baz=121,slow=30,SNR=63						
JNU	**Nakatsue**	**3.56**	**163**	Pn	**Pn**	**04 32 30.3**	**-0.2**
	1.0nm,0.3s,baz=328,slow=7.8,SNR=6.3						
JNU				Sn	**Sn**	**04 33 13.3**	**+0.8**
	0.6nm,0.3s,baz=344,slow=16,SNR=2.6						
SONM	**Songino Array**	**20.52**	**311**	P	Pn	04 36 17.1	+1.4
	0.3nm,0.6s,baz=110,slow=8.3,SNR=3.9						
ILAR	**Eielson Array**	**54.90**	**31**	P	**P**	**04 41 06.5**	**+1.0**
	0.3nm,0.9s,baz=287,slow=8.8,SNR=4.2						
WRA	**Warramunga Arr**	**56.36**	**175**	P	**P**	**04 41 16.3**	**-0.1**
	0.4nm,0.8s,baz=354,slow=8.1,SNR=3.3						

*ISCJB **15** 04:37:29.9±1.0, 19°.0S±0°.2 × 169°.6E±0°.2, h246km, mb3.8/7, Error ellipse: s-maj=25.6km s-min=16.7km az=135.4*

*IDC **15** 04:37:32.3±2.7, 19°.12S × 169°.52E, h259km±25km, mb3.6/7, mb1 4.0/9, mb1mx3.6/38, mbtmp4.4/9, Error ellipse: s-maj=42.1km s-min=21.8km az=155.0*

ISC 15 04:37:31.2±1.0, 19°.0S±0°.2 × 169°.5E±0°.2, h246km, n18, σ1§12/19, mb4.0/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.19**	**222**	P	**Pn**	**04 38 38.3**	**+1.1**
	3.3nm,0.3s,baz=56,slow=17,SNR=34						
HNR	**Honiara**	**13.25**	**314**	P	**P**	**04 40 32.4**	**+0.4**
	18nm,0.3s,baz=310,slow=2.3,SNR=4.2						
WRA	**Warramunga Arr**	**33.12**	**262**	P	**P**	**04 43 43.9**	**-0.7**
	0.2nm,0.3s,baz=81,slow=6.3,SNR=7.8						
ASAR	**Alice Springs**	**33.42**	**256**	P	**P**	**04 43 46.8**	**-0.4**
	2.1nm,0.6s,baz=83,slow=8.9,SNR=30						
ASAR				pP	**pP**	**04 44 33.9**	**-2.7**
	1.6nm,0.8s,baz=82,slow=9.1,SNR=4.8						
CMAR	**Chiang Mai Ar

Error ellipse: s-maj=46.9km s-min=9.2km az=54.0, Suspected Mining explosion.

ISC 15 05:10:55.3±1.1, 46.78N±0.04×75.03E±0.06, h0km, n11, σ0s91/13, 8C-6D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTUK	**Ortayu**	**2.34**	**310**	⇓Pn	**Pb**	**05 11 39.2**	**+0.9**
	1.9nm,0.4s						
OTUK				⇑Sn	**Sb**	**05 12 07.2**	**-0.7**
	3.5nm,0.3s						
OTUK				⇑Rg	Rg	05 12 24.2	
	3.8nm,0.3s						
OTUK	**Ortayu**	**2.34**	**310**	⇓Pn	**Pb**	**05 11 39.2**	**+0.9**
	1.9nm,0.4s						
OTUK				⇑Sn	**Sb**	**05 12 07.2**	**-0.7**
	3.5nm,0.3s						
OTUK				⇑Rg	Rg	05 12 24.2	
	3.8nm,0.3s						
KUU	**Kurty**	**3.03**	**162**	Pg	**Pb**	**05 11 51.1**	**+1.0**
	2.4nm,0.2s						
KUU				Lg	Lg	05 12 34.9	
	4.6nm,0.4s						
CHKK	**Chushkaly**	**3.23**	**154**	Pg	**Pg**	**05 11 56.3**	**-1.0**
	3.8nm,0.2s						
KTBS	**Karatobe**	**3.28**	**159**	Pg	**Pg**	**05 11 56.8**	**-1.3**
	2.8nm,0.4s						
KTBS				Lg	Lg	05 12 44.0	
	9.9nm,0.3s						
DGS	**Degeres**	**3.58**	**171**	Pg	**Pg**	**05 12 03.1**	**-0.8**
	7.9nm,0.4s						
KOTS	**Kotyrbulak**	**3.84**	**157**	Pg	**Pg**	**05 12 09.9**	**+1.1**
	2.5nm,0.3s						
KURBB	**Kurchatov Arra**	**4.49**	**30**	⇑Pn	**Pg**	**05 12 21.1**	**-0.2**
	1.7nm,0.9s						
KURBB				⇓Lg	Lg	05 13 17.7	
	10nm,0.8s						
KURBB	**Kurchatov Arra**	**4.49**	**30**	⇑Pn	**Pg**	**05 12 21.1**	**-0.2**
	1.7nm,0.9s						
KURBB				⇓Lg	Lg	05 13 17.7	
	10nm,0.8s						
KURK	**Kurchatov**	**4.60**	**30**	⇓Pn	**Pb**	**05 12 17.2**	**+0.4**
	4.0nm,1.1s						
KURK				⇑Lg	Lg	05 13 21.2	
	3.9nm,0.7s						
KURK	**Kurchatov**	**4.60**	**30**	⇓Pn	**Pb**	**05 12 17.2**	**+0.4**
	4.0nm,1.1s						
KURK				⇑Lg	Lg	05 13 21.2	
	3.9nm,0.7s						

*KRAR **15** 05:15:22.8±0.2, 53.97N×86.18E, M2.2, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

*NNC **15** 05:15:23.1±1.8, 54.19N×86.66E, h0km, mb3.2, mpv3.1, Error ellipse: s-maj=10.4km s-min=6.6km az=73.0, Suspected Mining explosion.*

IDC 15 05:15:27.5±2.4, 54.11N×86.43E, h0km, mb1 3.2/2, mb1mx2.9/38, mbtmp3.2/2, ML2.6/2, 5C-4D, Error ellipse: s-maj=19.5km s-min=11.6km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**261**	*i*		05 22 48.6	
	baz=83,slow=350,SNR=4.2						
ZAA0	**Zalesovo Array**	**0.97**	**261**	⇓P	Pg	05 15 44.3	-1.7
	4.6nm,0.8s,baz=77,slow=16						
ZAA0				⇑S	Sg	05 15 59.0	+0.5
	21nm,1.2s,baz=76,slow=28						
ZAA0				⇓Rg	Rg	05 16 05.2	
	179nm,1.6s						
ZALV	**Zalesovo Beam**	**0.97**	**261**	Pg	Pg	05 15 44.5	-1.5
	1.2nm,0.3s,baz=78,slow=16,SNR=16						
ZALV				Lg	Lg	05 15 59.4	
	2.6nm,0.3s,baz=76,slow=28,SNR=28						
ZALV				Rg	Rg	05 16 04.7	
	114nm,1.3s,baz=76,slow=33,SNR=23						
KURBB	**Kurchatov Arra**	**5.97**	**237**	Pn	Pn	05 16 58.1	+1.1
	0.1nm,0.3s,baz=56,slow=14,SNR=13						
KURBB				Lg	Lg	05 18 38.6	
	0.0nm,0.3s,baz=54,slow=34,SNR=5.5						
KURBB	**Kurchatov Arra**	**5.97**	**237**	⇑Pn	Pn	05 16 57.5	+0.5
	11nm,1.9s,baz=60,slow=14						
KURBB				⇑Sn	Sn	05 18 07.4	+1.3
	2.8nm,0.7s						
KURBB				⇑Lg	Lg	05 18 37.7	
	14nm,1.4s						
MK31	**Makanchi Array**	**7.79**	**201**	⇑Pn	Pn	05 17 23.0	+0.9
	1.3nm,0.9s,baz=60,slow=14,SNR=8.5						
MK31				⇓Sn	Sn	05 18 50.0	-1.0
	0.7nm,0.6s						
MK31				⇓Lg	Lg	05 19 33.6	
	3.8nm,1.1s						
MKAR	**Makanchi Array**	**7.79**	**201**	Pn	Pn	05 17 23.2	+1.2
	0.2nm,0.3s,baz=25,slow=14,SNR=8.6						
MKAR				Sn	Sn	05 18 50.4	-0.5
	0.1nm,0.3s,baz=24,slow=26,SNR=6.2						
MKAR				Lg	Lg	05 19 33.2	
	0.1nm,0.3s,baz=24,slow=32,SNR=7.6						

*IDC **15** 05:22:23.6±2.3, 33.02S×69.71W, h92km±21km, mb4.0/7, mb1 4.0/11, mb1mx3.8/25, mbtmp4.2/11, Error ellipse: s-maj=25.2km s-min=17.6km az=95.0*

*ISCJB **15** 05:22:24.0±0.3, 33.08S±0.03×70.01W±0.05, h123km±3km, mb4.1/8, Error ellipse: s-maj=6.4km s-min=5.3km az=175.4*

*SJA **15** 05:22:23.1±1.2, 33.15S×70.07W, h126km±7km, ML4.5, MW4.5*

*NEIC **15** 05:22:23.6±0.6, 33.12S×69.90W, h99km±7km, mb4.2/3, ML4.6(GUC), Error ellipse: s-maj=13.0km s-min=6.4km az=98.0*

NEIC Felt [II] at Maria Pinto, Melipilla, San Felipe, San Pedro and Tiltil, Chile.

*GUC **15** 05:22:24.8, 32.90S×69.95W, h104km, ML4.6*

*VAO **15** 05:22:24.7±0.5, 33.11S×69.95W, h107km±7km, mb4.4*

ISC 15 05:22:25.0±0.6, 33.06S±0.04×70.04W±0.04, h115km±5km, n92, σ1s53/110, mb4.3/8, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	**0.55**	**261**	*e*Pn	**Pn**	**05 22 42.5**	**-0.2**
PEL				*e*Sn	**Sn**	**05 22 55.4**	**-0.6**
PEL	**Peldehue**	**0.55**	**261**	*e*P	**Pn**	**05 22 42.4**	**-0.2**
PEL				*e*S	**Sn**	**05 22 56.4**	**+0.4**
ROC1	**El Roble**	**0.82**	**276**	*e*Pn	**Pn**	**05 22 44.9**	**-0.2**
ROC1				*e*Sn	**Sn**	**05 23 00.0**	**-0.2**
ROC1	**El Roble**	**0.82**	**276**	*e*P	**Pn**	**05 22 44.9**	**-0.2**
ROC1				*e*S	**Sn**	**05 23 00.0**	**-0.2**
ARCO	**CERRO ARCO**	**0.96**	**77**	*e*P	**Pn**	**05 22 46.6**	**+0.3**
ARCO				IAML		05 22 47.6	
	comp=Z,5μm,0.2s						
ARCO				*e*S	**Sn**	**05 23 03.5**	**+1.0**
AUSP	**Uspallata**	**1.00**	**34**	*e*P	**Pn**	**05 22 47.8**	**+0.9**
AAGR	**Agrelo**	**1.02**	**92**	*e*P	**Pn**	**05 22 47.1**	**+0.3**
ASAL	**Salagasta**	**1.12**	**66**	*e*P	**Pn**	**05 22 48.5**	**+0.6**
RTLS	**Leoncito**	**1.41**	**27**	*e*P	**Pn**	**05 22 52.9**	**+1.6**
RTLS				IAML		05 23 15.2	
	comp=Z,4μm,0.6s						
RTCV	**Cerro Valdivia**	**1.74**	**47**	*e*P	**Pn**	**05 22 55.6**	**+0.6**
SJA	**San Juan**	**1.98**	**40**	*e*P	**Pn**	**05 22 59.0**	**+1.0**
CFA	**Coronel Fontan**	**2.11**	**47**	*e*P	**Pn**	**05 22 59.8**	**+0.3**
RFA	**San Rafael**	**2.15**	**143**	*e*P	**Pn**	**05 22 59.1**	**-1.1**
RTLL	**Cerro Villicun**	**2.18**	**38**	*e*P	**Pn**	**05 23 01.3**	**+0.8**
RTLL				IAML		05 23 02.0	
	comp=Z,6μm,0.4s						
AMOG	**MOGNA**	**2.49**	**32**	*e*P	**Pn**	**05 23 05.6**	**+1.1**
GO05	**Huala**	**2.50**	**218**	*e*Sn	**Sn**	**05 23 29.7**	**-5.2**
ACAN	**Cantantal**	**2.53**	**73**	*e*P	**Pn**	**05 23 05.0**	**0.0**
ACCO	**Cerro Coronel**	**2.60**	**19**	*e*P	**Pn**	**05 23 07.5**	**+1.3**
AROD	**Rodeo**	**2.92**	**10**	*e*P	**Pn**	**05 23 12.4**	**+2.0**
GO04	**Tololo Observa**	**2.95**	**347**	*e*Pn	**Pn**	**05 23 11.0**	**+0.3**
GO04				*e*Sn	**Sn**	**05 23 47.1**	**+1.2**
ACDV	**Cuesta del Vie**	**2.98**	**16**	*e*P	**Pn**	**05 23 12.5**	**+1.4**
ACDV				IAML		05 23 13.5	
	comp=Z,567nm,0.4s						
MRA	**San Martin**	**3.70**	**81**	*e*P	**Pn**	**05 23 19.5**	**-1.0**
MRA				IAML		05 24 05.2	
	comp=Z,629nm,0.4s						
AGUA	**GUANDACOL**	**3.80**	**21**	*e*P	**Pn**	**05 23 22.8**	**+0.9**
APLL	**PUNTA DE LOS L**	**4.00**	**49**	*e*P	**Pn**	**05 23 23.5**	**-1.0**
LCO	**Las Campanas**	**4.07**	**352**	*e*Pn	**Pn**	**05 23 25.6**	**-0.1**
LCO				*e*Sn	**Sn**	**05 24 11.8**	**-0.9**
LCO	**Las Campanas**	**4.07**	**352**	*e*P	**Pn**	**05 23 25.5**	**-0.2**
LCO	**Las Campanas**	**4.07**	**352**	*e*P	**Pn**	**05 23 25.6**	**-0.1**
ACLC	**CERRO LA CRUZ**	**4.49**	**37**	*e*P	**Pn**	**05 23 30.1**	**-1.0**
VCA	**Vinchina**	**4.59**	**21**	*e*P	**Pn**	**05 23 32.7**	**+0.2**
VCA				IAML		05 24 26.8	
	comp=Z,540nm,0.4s						
TCA	**Tanti**	**4.93**	**71**	*e*P	**Pn**	**05 23 35.5**	**-1.5**
GO03	**Copiap**	**5.45**	**358**	*e*Pn	**Pn**	**05 23 43.4**	**-0.6**
GO03				*e*Sn	**Sn**	**05 24 43.2**	**-2.3**
CYA	**Choya**	**5.87**	**40**	*e*P	**Pn**	**05 23 47.0**	**-2.7**
GO06	**Curarrehue**	**6.61**	**190**	*e*Pn	**Pn**	**05 23 56.5**	**-3.2**
PLCA	**Paso Flores**	**7.67**	**183**	P	**Pn**	**05 24 12.1**	**-1.9**
	comp=Z,1.3nm,0.3s,baz=23,slow=11,SNR=48						
PLCA	**Paso Flores**	**7.67**	**183**	*e*Pn	**Pn**	**05 24 12.0**	**-1.9**
PLCA	**Paso Flores**	**7.67**	**183**	*e*P	**Pn**	**05 24 13.2**	**-0.8**
FSA	**Cafayete**	**7.77**	**28**	*e*P	**Pn**	**05 24 14.0**	**-1.6**
GO02	**Mina Guanaco**	**7.88**	**3**	*e*Pn	**Pn**	**05 24 14.8**	**-2.4**
TRQA	**Tornquist**	**8.25**	**129**	*e*Pn	**Pn**	**05 24 19.5**	**-2.3**
TRQA	**Tornquist**	**8.25**	**129**	*e*P	**Pn**	**05 24 19.6**	**-2.1**
LVC	**Limon Verde**	**10.46**	**6**	P	**Pn**	**05 24 49.5**	**-2.6**
	comp=Z,0.9nm,0.3s,baz=169,slow=6.2,SNR=7.5						
LVC				S	**Sn**	**05 26 41.5**	**-6.0**
	comp=Z,1.0nm,0.3s,baz=29,slow=2.7,SNR=4.2						
LVC	**Limon Verde**	**10.46**	**6**	*e*Pn	**Pn**	**05 24 49.4**	**-2.7**
LVC				*e*Pn	Pn	05 24 49.5	-2.6
LVC				*e*Sn	**Sn**	**05 26 41.5**	**-6.0**
LVC	**Limon Verde**	**10.46**	**6**	*e*P	**Pn**	**05 24 52.1**	**0.0**
PB01	**IPOC Station P**	**11.98**	**3**	*e*Pn	**Pn**	**05 25 10.4**	**-1.8**
CPUP	**Villa Florida**	**12.92**	**62**	P	Pn	05 25 19.4	-4.9
	comp=Z,0.5nm,0.3s,baz=230,slow=11,SNR=9.0						
CPUP	**Villa Florida**	**12.92**	**62**	*e*Pn	**Pn**	**05 25 22.4**	**-1.9**
PB11	**IPOC Station P**	**13.25**	**2**	*e*Pn	**Pn**	**05 25 29.7**	**+0.9**
MNMC	**Minye Minye**	**13.88**	**2**	*e*Pn	**Pn**	**05 25 38.2**	**+1.1**
PLTB	**Pedras Altas**	**13.95**	**89**	*e*P	**Pn**	**05 25 36.6**	**-1.1**
LPAZ	**La Paz**	**16.79**	**6**	P	**P**	**05 26 14.3**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=199,slow=8.5,SNR=24						
LPAZ	**La Paz**	**16.79**	**6**	*e*Pn	**P**	**05 26 15.3**	**+1.2**
	comp=Z,7.1nm,0.8s						
LPAZ	**La Paz**	**16.79**	**6**	*e*P	**P**	**05 26 14.0**	**-0.2**
CNLB	**Canela**	**16.84**	**82**	*e*P	**Pn**	**05 26 13.4**	**-0.5**
PTGB	**Pitanga**	**17.79**	**67**	*e*P	**Pn**	**05 26 24.8**	**-0.6**
AQDB	**Aquidauana**	**17.89**	**49**	*e*P	**P**	**05 26 25.2**	**-0.5**
GO09	**Cerro Castillo**	**18.28**	**185**	*e*P	**Pn**	**05 26 30.3**	**-0.6**
	comp=Z,15nm,1.0s						
TRCB	**Terra Rica**	**18.45**	**61**	*e*P	**P**	**05 26 31.3**	**-0.5**
FRTB	**Fartura**	**20.45**	**67**	*e*P	**P**	**05 26 52.9**	**-0.5**
USHA	**Ushuaia**	**21.80**	**177**	P	**P**	**05 27 09.3**	**+1.8**
	comp=Z,9.6nm,0.6s,baz=0.4,slow=8.3,SNR=14						
ITRB	**Iturama**	**22.04**	**58**	*e*P	**P**	**05 27 10.2**	**-0.2**
RCLB	**Rio Claro- Sao**	**22.52**	**68**	*e*P	**P**	**05 27 14.5**	**-0.9**
IPMB	**Ipameri, GO**	**24.70**	**58**	*e*P	**P**	**05 27 35.4**	**-0.1**
BSCB	**Bom Sucesso**	**25.44**	**68**	*e*P	**P**	**05 27 42.1**	**-0.2**
VAS01	**Vassouras-RJ**	**25.82**	**72**	*e*P	**P**	**05 27 45.9**	**+0.2**
BDFB	**Brasilia**	**26.43**	**54**	P	**P**	**05 27 50.6**	**-0.7**
	comp=Z,4.3nm,0.6s,baz=241,slow=8.7,SNR=9.5						
BDFB				pP	**pP**	**05 28 16.6**	**-0.3**
	comp=Z,6.1nm,0.8s,baz=218,slow=11,SNR=5.6						
BDFB	**Brasilia**	**26.43**	**54**	*e*P	**P**	**05 27 50.6**	**-0.7**
BDFB				*e*P	**P**	**05 27 50.9**	**-0.4**
BDFB				*e*pP	**pP**	**05 28 16.6**	**-0.3**
BDFB				*e*pP	**pP**	**05 28 16.8**	**-0.1**
DUB01	**Friburgo-RJ**	**26.78**	**73**	*e*P	**P**	**05 27 54.4**	**+0.1**
MCI6	**Montes Claros**	**28.59**	**62**	*e*P	**P**	**05 28 09.9**	**-0.6**
MCI9	**Montes Claros**	**28.66**	**62**	*e*P	**P**	**05 28 10.8**	**-0.4**
MCI7	**Montes Claros**	**28.66**	**62**	*e*P	**P**	**05 28 10.7**	**-0.5**
MCI8	**Montes Claros**	**28.67**	**62**	*e*P	**P**	**05 28 10.4**	**-0.8**
ALF01	**Guarapari-ES**	**28.84**	**72**	*e*P	**P**	**05 28 13.1**	**+0.5**
JANB	**Januaria**	**29.42**	**59**	*e*P	**P**	**05 28 17.3**	**-0.5**
SJMB	**Sao Joao De Ma**	**29.52**	**68**	*e*P	**P**	**05 28 18.4**	**-0.2**
BSFB	**Barra de Sao F**	**29.71**	**69**	*e*P	**P**	**05 28 20.0**	**-0.3**
RIB01	**Linhares ES**	**29.80**	**70**	*e*P	**P**	**05 28 21.4**	**+0.3**
VNA3	**Neumayer Olymp**	**49.61**	**158**	P	**P**	**05 31 07.4**	**+3.2**
VNA2	**Neumayer--Watz**	**50.24**	**158**	P	**P**	**05 31 10.0**	**+1.1**
	baz=283,slow=8.6						
SNAA	**Sanae**	**51.83**	**158**	P	**P**	**05 31 22.9**	**+2.1**
QSPA	**South Pole Qui**	**57.18**	**180**	*e*P	**P**	**05 32 00.6**	**+0.9**
	comp=Z,5.8nm,0.8s						
LTX	**Lajitas**	**69.76**	**329**	*e*P	**P**	**05 33 24.1**	**+1.3**
TXAR	**Lajitas Array**	**69.76**	**329**	P	**P**	**05 33 24.1**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=160,slow=10,SNR=4.4						
DBIC	**Dimbokro**	**73.30**	**70**	P	**P**	**05 33 44.3**	**0.0**
	comp=Z,2.7nm,0.5s,baz=183,slow=3.3,SNR=7.0						
BOSA	**Boshof**	**79.02**	**117**	P	**P**	**05 34 16.6**	**-0.2**
	comp=Z,4.3nm,0.7s,baz=230,slow=3.1,SNR=5.1						
TOA0	**Torodi Ar. Sit**	**82.32**	**69**	*e*P	**P**	**05 34 32.5**	**-1.8**
TOA0				*e*P	**P**	**05 34 34.6**	**+0.3**
TORD	**Torodi Ar. Bea**	**82.32**	**69**	P	**P**	**05 34 32.6**	**-1.6**
	comp=Z,2.8nm,0.9s,baz=289,slow=6.0,SNR=16						
TOA1	**Torodi Ar. Sit**	**82.32**	**69**	*e*P	**P**	**05 34 32.6**	**-1.6**
NVAR	**Mina Array Bea**	**84.08**	**324**	P	**P**	**05 34 45.4**	**+2.3**
	comp=Z,0.8nm,0.8s,baz=134,slow=8.9,SNR=3.8						
ZAA1	**Zalesovo Array**	**152.53**	**33**	*e*PKPbc	**PKiKP**	**05 42 07.9**	**+0.4**
ZALV	**Zalesovo Beam**	**152.54**	**33**	PKPbc	**PKiKP**	**05 42 07.9**	**+0.4**
	comp=Z,3.9nm,0.4s,baz=303,slow=2.9,SNR=19						
ZALV				pPKPbc	**pPKPbc**	**05 42 40.3**	**+0.5**
	comp=Z,3.7nm,0.7s,baz=302,slow=3.6,SNR=6.3						
MK32	**Makanchi Array**	**154.89**	**49**	*e*PKPbc	**PKiKP**	**05 42 13.1**	**+0.5**
MK32				*e*PKPab	**PKPab**	**05 42 28.7**	**+0.3**
MKAR	**Makanchi Array**	**154.89**	**49**	PKPbc	**PKiKP**	**05 42 13.1**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=3.8,slow=8.6,SNR=3.6						
MKAR				PKPab	**PKPab**	**05 42 28.7**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=313,slow=2.5,SNR=7.8						
MKAR				pPKPab	**pPKPab**	**05 43 01.4**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=293,slow=3.1,SNR=4.4						

*JMA **15** 05:52:16.6±0.1, 24.55N×121.74E, h67km±1km*

*ISCJB **15** 05:52:17.9±0.4, 24.57N±0.02×121.82E±0.02, h59km±4km, Error ellipse: s-maj=3.8km s-min=2.5km az=138.8*

*TAP **15** 05:52:17.3, 24.56N×121.79E, h59km, ML3.2, B*

ISC 15 05:52:18.3±1.2, 24.57N±0.03×121.81E±0.02, h57km±6km, n61, σ0s94/110, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.06**	**44**	*i* P	**Pn**	**05 52 26.8**	**-0.1**
	baz=53						
TWC				*i* S	**Sn**	**05 52 33.5**	**+0.5**
	baz=53						
ENA	**Nanau**	**0.15**	**203**	P	**Pn**	**05 52 26.8**	**-0.3**
	baz=195						
ENA				S	**Sn**	**05 52 33.8**	**+0.3**
	baz=195						
TWE	**Neicheng**	**0.20**	**320**	P	**Pn**	**05 52 27.4**	**0.0**
	baz=322						
TWE				S	**Sn**	**05 52 34.6**	**+0.8**
	baz=322						
ILA	**Ilan**	**0.20**	**345**	*e*S	**Sn**	**05 52 35.5**	**+1.5**
	baz=342						
ENTT	**Nioudou**	**0.23**	**288**	P	**Pn**	**05 52 27.4**	**-0.2**
	baz=291						
ENTT				S	**Sn**	**05 52 34.7**	**+0.4**
	baz=291						
NTC	**Toucheng**	**0.28**	**4**	P	**Pn**	**05 52 28.2**	**+0.2**
	baz=359						
NTC				*e*S	**Sn**	**05 52 35.6**	**+0.6**
	baz=359						
EOS1	**EOS1**	**0.29**	**94**	*e*P	**Pn**	**05 52 28.8**	**+0.9**
	baz=82						
EGS		**0.30**	**23**	*e*P	**Pn**	**05 52 28.4**	**+0.3**
	baz=26						
NWLT	**Wulai**	**0.34**	**307**	P	**Pn**	**05 52 27.9**	**-0.6**
	baz=309						
TIPB	**Shuangxi**	**0.40**	**2**	P	**Pn**	**05 52 28.9**	**-0.1**
	baz=354						
TIPB				S	**Sn**	**05 52 37.1**	**+0.3**
	baz=354						
YHNB	**Yeheng**	**0.41**	**284**	P	**Pn**	**05 52 28.5**	**-0.6**
	baz=286						
YHNB				S	**Sn**	**05 52 36.1**	**-0.9**
	baz=286						
NNSB	**Datong**	**0.41**	**250**	P	**Pn**	**05 52 29.0**	**-0.2**
	baz=244						
NNSB				S	**Sn**	**05 52 36.9**	**-0.2**
	baz=244						
NNS	**Nan Shan**	**0.42**	**252**	P	**Pn**	**05 52 29.0**	**-0.3**
	baz=252						
NNS				S	**Sn**	**05 52 36.9**	**-0.3**
	baz=252						
NSK	**Sanguang**	**0.42**	**285**	P	**Pn**	**05 52 28.5**	**-0.7**
	baz=286						
NSK				S	**Sn**	**05 52 36.4**	**-0.8**
	baz=286						
NACB	**Ninganchiao**	**0.44**	**206**	P	**Pn**	**05 52 28.1**	**-1.2**
	baz=213						
NACB				*e*S	**Sn**	**05 52 36.9**	**-0.4**
	baz=213						
TWA	**Mucha**	**0.46**	**334**	P	**Pn**	**05 52 29.2**	**-0.4**
	baz=326						
TWA				S	**Sn**	**05 52 37.9**	**+0.1**
	baz=326						
TWB1	**Santiao Chiao**	**0.47**	**21**	P	**Pn**	**05 52 29.3**	**-0.3**
	baz=23						
TWB1				S	**Sn**	**05 52 38.3**	**+0.4**
	baz=23						
TATO	**Taipei**	**0.50**	**324**	*e*P	**Pn**	**05 52 29.0**	**-0.9**
	baz=326						
TATO				*e*S	**Sn**	**05 52 37.8**	**-0.6**
	baz=326						
NWF	**Wu-fen Shan**	**0.50**	**357**	*e*P	**Pn**	**05 52 29.9**	**-0.2**
	baz=351						
NWF				*e*S	**Sn**	**05 52 39.3**	**+0.6**
	baz=351						
WFSB	**Wu-fen Shan**	**0.50**	**357**	*e*P	**Pn**	**05 52 29.9**	**-0.1**
	baz=351						
WFSB				*e*S	**Sn**	**05 52 38.7**	**+0.2**
	baz=351						
TWD	**Chiawan**	**0.52**	**202**	P	**Pn**	**05 52 29.5**	**-0.7**
	baz=209						
TWD				*e*S	**Sn**	**05 52 38.7**	**-0.3**
	baz=209						
YM01	**YM01**	**0.61**	**340**	*e*P	**Pn**	**05 52 31.7**	**+0.4**
	baz=333						
YM01				*e*S	**Sn**	**05 52 41.9**	**+1.1**
	baz=333						
YM11	**YM11**	**0.63**	**340**	*e*S	**Sn**	**05 52 40.8**	**-0.5**
	baz=334						
YM04	**YM04**	**0.63**	**337**	*e*P	**Pn**	**05 52 31.1**	**-0.5**
	baz=338						
YM04				S	**Sn**	**05 52 40.8**	**-0.4**
	baz=338						
YM05	**YM05**	**0.63**	**340**	*e*P	**Pn**	**05 52 30.8**	**-0.8**
	baz=333						
YM05				*e*S	**Sn**	**05 52 40.9**	**-0.4**
	baz=333						
TWS1	**Kuangyinshan**	**0.64**	**326**	P	**Pn**	**05 52 31.1**	**-0.4**
	baz=322						
TWS1				*e*S	**Sn**	**05 52 41.4**	**+0.2**
	baz=322						
WHF	**Hehuan Shan**	**0.65**	**230**	P	**Pn**	**05 52 31.8**	**-0.3**
	baz=226						
WHF				S	**Sn**	**05 52 41.7**	**-0.5**
	baz=226						
TWT	**Tachien**	**0.66**	**241**	P	**Pn**	**05 52 32.2**	**+0.2**
	baz=236						
TWT				S	**Sn**	**05 52 42.5**	**+0.6**
	baz=236						
TDCB	**Techi**	**0.67**	**242**	P	**Pn**	**05 52 32.2**	**+0.1**
	baz=236						
TDCB				*e*S	**Sn**	**05 52 42.1**	**-0.1**
	baz=236						
ENLB	**Shoufeng**	**0.69**	**196**	*e*S	**Sn**	**05 52 43.9**	**+1.5**
	baz=205						
NCU	**National Centr**	**0.69**	**305**	*e*S	**Sn**	**05 52 42.1**	**-0.4**
	baz=306						
NCUH	**Zhongli**	**0.69**	**305**	*e*S	**Sn**	**05 52 41.8**	**-0.6**
	baz=306						
LIOB	**Emei**	**0.72**	**276**	P	**Pn**	**05 52 32.2**	**-0.5**
	baz=287						
LIOB				*e*S	**Sn**	**05 52 43.4**	**+0.2**
	baz=287						
TWY	**Chenhua**	**0.73**	**345**	*e*P	**Pn**	**05 52 32.4**	**-0.3**
	baz=338						
TWY				S	**Sn**	**05 52 43.5**	**+0.3**
	baz=338						
NSTT	**Nanjuang**	**0.74**	**275**	P	**Pn**	**05 52 32.4**	**-0.4**
	baz=286						
NSTT				*e*S	**Sn**	**05 52 43.3**	**-0.1**
	baz=286						
CHGB	**Renai**	**0.77**	**229**	P	**Pn**	**05 52 33.4**	**0.0**
	baz=229						
CHGB				S	**Sn**	**05 52 44.7**	**+0.2**
	baz=229						
ESL	**Shilin**	**0.83**	**204**	*e*P	**Pn**	**05 52 32.4**	**-1.6**
	baz=203						
ESL				*e*S	**Sn**	**05 52 43.6**	**-1.8**
	baz=203						
TWQ1	**Liyutan**	**0.97**	**257**	*e*P	**Pn**	**05 52 35.9**	**+0.1**
	baz=257						
TWQ1				*e*S	**Sn**	**05 52 48.5**	**-0.2**
	baz=257						
VWDT	**VWDT**	**1.01**	**217**	*e*P	**Pn**	**05 52 36.1**	**-0.2**
	baz=209						
VWDT				*e*S	**Sn**	**05 52 49.4**	**-0.3**
	baz=209						
JYNG	**Yonagunijimaku**	**1.04**	**96**	P	**Pn**	**05 52 36.6**	**-0.1**
JYNG				S	**Sn**	**05 52 50.9**	**+0.4**
SMLT	**Sun Moon Lake**	**1.07**	**231**	*e*P	**Pn**	**05 52 37.8**	**+0.5**
	baz=224						
SMLT				*e*S	**Sn**	**05 52 51.9**	**+0.5**
	baz=224						
TYC	**Yuchr**	**1.09**	**233**	*e*P	**Pn**	**05 52 38.6**	**+1.2**
	baz=227						
TYC				*e*S	**Sn**	**05 52 52.5**	**+0.9**
	baz=227						
SSLB	**Suanglung**	**1.10**	**225**	*e*S	**Sn**	**05 52 51.9**	**0.0**
	baz=226						
HGSD	**Ruisui**	**1.13**	**198**	*e*P	**Pn**	**05 52 36

	8.4nm,0.4s								
SFK					⇑S		Sn	05 58 52.9	+2.0
	5.1nm,0.2s								
AML	**Almayashu**	**5.45**	**23**	P			Pn	05 58 33.4	-0.7
	SNR=60								
MNAS	**Manas**	**5.49**	**13**	⇑P			Pn	05 58 34.3	0.0
	5.2nm,0.8s								
MNAS					⇓S		Sn	05 59 38.9	+0.7
	4.1nm,0.3s								
UCH	**Uchtor**	**5.83**	**28**	P			Pn	05 58 37.9	-1.4
	SNR=12								
KK31	**Karatay Array**	**5.94**	**358**	P			Pn	05 58 42.0	+1.5
	3.2nm,0.2s,baz=179,slow=13,SNR=157								
KK31					⇑S		Sn	05 59 50.7	+1.5
	1.3nm,0.3s								
EKS2	**Erkin-Say**	**5.96**	**22**	P			Pn	05 58 40.2	-0.6
	SNR=8.8								
KZA	**Kyzart**	**6.00**	**34**	P			Pn	05 58 39.1	-2.6
	SNR=11								
AAK	**Ala-Archa**	**6.17**	**26**	P			Pn	05 58 42.9	-0.9
	SNR=9.5								
AAK	**Ala-Archa**	**6.17**	**26**	⇑P			Pn	05 58 42.8	-1.0
	4.0nm,0.3s								
AAK					⇑S		Sn	05 59 54.8	-0.4
	3.1nm,0.5s								
KBK	**Karagaybulak**	**6.36**	**29**	P			Pn	05 58 45.7	-0.6
	SNR=5.1								
CHMS	**Chumysh**	**6.58**	**26**	P			Pn	05 58 48.3	-1.0
	SNR=7.3								
USP	**Ospenovka**	**6.73**	**24**	P			Pn	05 58 50.1	-1.2
	SNR=17								
TKM2	**Tokmak 2**	**6.84**	**31**	P			Pn	05 58 50.7	-2.3
	SNR=7.4								

IDC 15 06:08:05.6±1.8, 1°09S×147°49E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/24, mbtmp3.4/3, Error ellipse: s-maj=135.0km s-min=29.0km az=119.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.73**	**214**	P	P	06 13 08.8	-0.6
	0.5nm,0.5s,baz=35,slow=10,SNR=8.6						
ASAR	**Alice Springs**	**26.02**	**209**	P	P	06 13 40.9	+0.3
	0.4nm,0.7s,baz=45,slow=8.0,SNR=5.3						
H11N1	**WAKE ISLAND Hy**	**28.11**	**42**	T	T	06 43 27.3	
	baz=225,slow=76,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**28.12**	**42**	T	T	06 43 28.8	
	baz=225,slow=76,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**28.12**	**42**	T	T	06 43 31.9	
	baz=225,slow=76,SNR=3.9						
ILAR	**Eielson Array**	**80.81**	**23**	P	P	06 20 21.1	+0.2
	0.7nm,1.1s,baz=244,slow=5.4,SNR=4.1						

IDC 15 06:21:24.5±8.5, 19°11S×170°49E, h247km±45km, mb3.6/4, mb1 3.8/5, mb1mx3.4/33, mbtmp4.2/5, Error ellipse: s-maj=96.0km s-min=77.4km az=110.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.80**	**231**	P	Pn	06 22 38.0	+0.2
	9.6nm,0.3s,baz=60,slow=17,SNR=87						
DZM				S	S	06 23 36.4	+0.1
	baz=132,slow=21,SNR=0.9						
CTA	**Charters Tower**	**22.85**	**263**	P	P	06 26 08.0	+1.4
	1.7nm,0.3s,baz=90,slow=9.1,SNR=3.5						
STKA	**Stephens Creek**	**28.92**	**238**	P	P	06 27 00.7	-0.1
	1.4nm,0.7s,baz=57,slow=12,SNR=5.0						
WRA	**Warramunga Arr**	**34.04**	**262**	P	P	06 27 45.3	-0.4
	1.2nm,0.3s,baz=90,slow=8.4,SNR=69						
ASAR	**Alice Springs**	**34.31**	**256**	P	P	06 27 47.8	-0.3
	4.4nm,0.6s,baz=85,slow=9.3,SNR=63						

*ISCJB **15** 06:41:28.8±1.2, 6°64S±0°.08×147°.0E±0°.2, h35km, mb3.6/5, Error ellipse: s-maj=26.8km s-min=11.6km az=174.5*
*IDC **15** 06:41:33.8±4.7, 6°.83S×147°.19E, h76km±46km, mb3.4/5, mb1 3.6/7, mb1mx3.4/34, mbtmp3.7/7, ML3.5/1, Error ellipse: s-maj=48.4km s-min=30.8km az=123.0*
ISC 15 06:41:29.7±1.3, 6°.6S±0°.1×147°.1E±0°.3, h35km, n8, σ1s66/8, mb3.7/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.75**	**179**	P	Pn	06 42 11.9	+0.6
	9.7nm,0.3s,baz=358,slow=4.9,SNR=12						
PMG				S	**Sn**	**06 42 44.8**	**+1.5**
	6.2nm,0.3s,baz=7.6,slow=15,SNR=3.8						
WRA	**Warramunga Arr**	**18.13**	**222**	P	**Pn**	**06 45 38.3**	**-0.6**
	0.2nm,0.3s,baz=46,slow=11,SNR=12						
ASAR	**Alice Springs**	**21.16**	**215**	P	**P**	**06 46 11.9**	**-0.1**
	1.5nm,0.5s,baz=54,slow=8.6,SNR=24						
FITZ	**Fitzroy Crossi**	**23.83**	**240**	P	**P**	**06 46 40.0**	**+0.2**
	2.6nm,0.6s,baz=58,slow=10,SNR=8.6						
STKA	**Stephens Creek**	**25.63**	**191**	P	**P**	**06 46 54.7**	**-1.3**
	2.0nm,0.8s,baz=357,slow=9.8,SNR=4.3						
MKAR	**Makanchi Array**	**78.06**	**321**	P	**P**	**06 53 26.9**	**+2.0**
	0.2nm,0.6s,baz=106,slow=4.9,SNR=2.6						
ILAR	**Eielson Array**	**86.02**	**23**	P	**P**	**06 54 06.3**	**0.0**
	0.6nm,1.1s,baz=245,slow=4.7,SNR=4.0						
TORD	**Torodi Ar. Bea**	**145.35**	**283**	PKPbc	**PKPdf**	**07 01 02.6**	**-2.3**
	0.6nm,0.6s,baz=90,slow=5.0,SNR=5.7						

IDC 15 06:42:19.4±2.0, 1°74N×126°67E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/36, mbtmp3.6/3, MS4.0/1, Ms1 4.0/1, ms1mx2.6/29, Error ellipse: s-maj=172.1km s-min=24.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.83**	**161**	P	P	06 47 23.0	-1.3
	1.1nm,0.4s,baz=339,slow=11,SNR=18						
ASAR	**Alice Springs**	**26.22**	**165**	P	P	06 47 57.6	+1.4
	0.3nm,0.5s,baz=355,slow=9.4,SNR=4.6						
CTA	**Charters Tower**	**28.98**	**139**	LR	LR	07 01 42.9	
	comp=Z,318nm,21.9s,baz=285,slow=40						
MKAR	**Makanchi Array**	**59.15**	**326**	P	P	06 52 21.9	-0.2
	0.4nm,0.5s,baz=118,slow=8.1,SNR=9.2						

*ISCJB **15** 06:52:29.0±0.4, 6°.49S±0°.04×147°.27E±0°.07, h63km, mb4.1/15, Error ellipse: s-maj=9.5km s-min=5.7km az=5.0*
*IDC **15** 06:52:29.6±1.9, 6°.42S×147°.50E, h56km±16km, mb3.8/12, mb1 4.1/17, mb1mx4.0/32, mbtmp4.2/17, ML4.2/4, MS3.6/14, Ms1 3.6/14, ms1mx3.5/27, Error ellipse: s-maj=16.5km s-min=10.0km az=82.0*
*NEIC **15** 06:52:30.8±0.8, 6°.49S×147°.31E, h66km±8km, mb4.2/8, Error ellipse: s-maj=9.5km s-min=6.9km az=98.0*
ISC 15 06:52:30.8±0.6, 6°.51S±0.05×147°.39E±0°.08, h63km, n43, σ1s39/45, mb4.0/15, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.89**	**184**	P	**Pn**	**06 53 13.3**	**-1.1**
	31nm,0.3s,baz=3.0,slow=6.7,SNR=27						
PMG				S	**Sn**	**06 53 50.1**	**+2.0**
	13nm,0.3s,baz=331,slow=7.7,SNR=3.5						
PMG				LR	LR	06 54 59.6	
	comp=Z,542nm,18.9s,baz=306,slow=50						
PMG	**Port Moresby**	**2.89**	**184**	*e*Pn	**Pn**	**06 53 12.8**	**-1.6**
PMG				*e*Sn	**Sn**	**06 53 50.1**	**+2.0**
RABL	**Rabaul**	**5.28**	**64**	*e*Pn	**Pn**	**06 53 48.5**	**+1.3**
JAY	**Jayapura**	**7.75**	**300**	P	**Pn**	**06 54 21.3**	**+0.3**
	1.0nm,0.3s,baz=126,slow=10,SNR=3.3						
JAY				S	**Sn**	**06 55 51.2**	**+3.7**
	0.2nm,0.3s,baz=102,slow=20,SNR=1.4						
JAY				LR	LR	06 57 42.6	
	comp=Z,649nm,19.8s,baz=15,slow=40						
COEN	**Coen**	**8.49**	**209**	*e*Pn	**Pn**	**06 54 30.3**	**-0.7**
COEN				*e*Sn	**Sn**	**06 56 03.5**	**-1.9**
HNR	**Honiara**	**12.77**	**104**	LR	LR	06 59 52.6	
	comp=Z,130nm,21.3s,baz=274,slow=35						
CTA	**Charters Tower**	**13.55**	**185**	P	**Pn**	**06 55 40.6**	**+0.5**
	0.6nm,0.3s,baz=30,slow=14,SNR=6.2						
CTAO	**Charters Tower**	**13.55**	**185**	*e*Pn	**Pn**	**06 55 40.8**	**+0.6**
SIJI	**Sorong**	**17.03**	**289**	P	**Pn**	**06 56 25.0**	**+0.1**
	2.7nm,0.3s,baz=84,slow=9.0,SNR=7.1						
SIJI				LR	LR	07 04 48.6	
	comp=Z,248nm,18.1s,baz=168,slow=43						
WRAB	**Tennant Creek**	**18.40**	**222**	*e*P	**P**	**06 56 40.3**	**-0.6**
	15nm,1.0s						
WB2	**Warramunga Arr**	**18.40**	**222**	*e*P	**P**	**06 56 39.1**	**-1.9**
WB2				*e*P	**Pn**	**06 56 40.4**	**-1.3**
WR1	**Warramunga Arr**	**18.41**	**222**	*e*P	**P**	**06 56 40.3**	**-0.8**
	14nm,0.6s						
WRA	**Warramunga Arr**	**18.41**	**222**	P	**P**	**06 56 40.3**	**-0.8**
	0.9nm,0.3s,baz=44,slow=11,SNR=42						
WRA				LR	LR	07 04 36.8	
	comp=Z,241nm,19.2s,baz=40,slow=39						
EIDS	**Eidsvold**	**19.09**	**170**	*e*P	**Pn**	**06 56 49.9**	**+0.1**
	8.5nm,0.9s						
AS01	**Alice Springs**	**21.40**	**216**	*e*P	**P**	**06 57 13.1**	**-0.4**
AS31	**Alice Springs**	**21.43**	**216**	*e*P	**P**	**06 57 13.8**	**0.0**
	4.6nm,0.6s						
ASAR	**Alice Springs**	**21.43**	**216**	P	**P**	**06 57 13.8**	**-0.1**
	7.1nm,0.6s,baz=38,slow=11,SNR=60						
ASAR				S	**S**	**07 01 12.3**	**+3.9**
	0.9nm,0.8s,baz=31,slow=22,SNR=4.0						
ASAR				LR	LR	07 06 51.6	
	comp=Z,325nm,20.4s,baz=52,slow=40						
BATI	**Baumata**	**23.75**	**259**	LR	LR	07 09 10.1	
	comp=Z,331nm,20.1s,baz=62,slow=42						
DZM	**Mont Dzumac**	**24.04**	**132**	P	**P**	**06 57 40.8**	**+0.5**
	4.9nm,0.8s,baz=160,slow=7.3,SNR=3.7						
FITZ	**Fitzroy Crossi**	**24.14**	**240**	P	**P**	**06 57 40.8**	**-0.3**
	22nm,1.0s,baz=53,slow=11,SNR=34						
FITZ				LR	LR	07 08 56.3	
	comp=Z,272nm,18.9s,baz=64,slow=41						
FITZ	**Fitzroy Crossi**	**24.14**	**240**	*e*P	**P**	**06 57 39.6**	**-1.5**
	26nm,1.0s						
STKA	**Stephens Creek**	**25.82**	**191**	P	**P**	**06 57 55.8**	**-0.4**
	7.8nm,0.9s,baz=1.4,slow=9.9,SNR=17						
STKA				LR	LR	07 08 41.5	
	comp=Z,207nm,19.3s,baz=17,slow=38						
STKA	**Stephens Creek**	**25.82**	**191**	*e*P	**P**	**06 57 56.0**	**-0.2**
	2.1nm,0.9s						
BBOO	**Buckleboo**	**28.22**	**200**	*e*P	**P**	**06 58 18.3**	**+0.5**
	9.2nm,0.9s						
KSRS	**Korea Array**	**47.36**	**339**	P	**P**	**07 00 58.5**	**0.0**
	0.5nm,0.4s,baz=163,slow=8.9,SNR=2.7						
KSRS				LR	LR	07 19 09.1	
	comp=Z,59nm,21.6s,baz=146,slow=34						
KSAR	**Wonju Array Be**	**47.36**	**339**	P	**P**	**07 00 58.5**	**-0.1**
PSI	**Prapat**	**49.26**	**279**	P	**P**	**07 01 12.9**	**-0.8**
	1.6nm,0.4s,baz=178,slow=5.3,SNR=2.5						
USRK	**Ussuriysk Ar.**	**52.35**	**346**	LR	LR	07 20 28.5	
	comp=Z,51nm,21.8s,baz=122,slow=32						
CMAR	**Chiang Mai Arr**	**53.83**	**298**	P	**P**	**07 01 49.1**	**+1.4**
PETK	**Petropavlovsk-**	**60.03**	**7**	LR	LR	07 24 45.2	
	comp=Z,50nm,21.2s,baz=207,slow=32						
SONA0	**Songino Array**	**65.03**	**331**	*e*P	**P**	**07 03 04.5**	**0.0**
SONM	**Songino Array**	**65.03**	**331**	P	**P**	**07 03 04.5**	**0.0**
	0.3nm,0.7s,baz=134,slow=5.5,SNR=3.1						
VNDA	**Vanda**	**71.39**	**177**	P	**P**	**07 03 44.5**	**+0.8**
	2.7nm,0.8s,baz=336,slow=6.3,SNR=14						
MK32	**Makanchi Array**	**78.13**	**320**	*e*P	**P**	**07 04 21.7**	**-1.5**
MKAR	**Makanchi Array**	**78.13**	**320**	P	**P**	**07 04 21.7**	**-1.5**
	0.3nm,0.5s,baz=98,slow=8.2,SNR=5.6						
ZALV	**Zalesovo Beam**	**79.64**	**328**	P	**P**	**07 04 29.2**	**-2.1**
	0.9nm,0.5s,baz=112,slow=4.5,SNR=3.2						
ZALV				LR	LR	07 38 31.8	
	comp=Z,26nm,21.6s,baz=93,slow=35						
ZAA1	**Zalesovo Array**	**79.64**	**328**	*e*P	**P**	**07 04 29.2**	**-2.1**
QSPA	**South Pole Qui**	**83.47**	**180**	*e*P	**P**	**07 04 52.2**	**+0.7**
	4.6nm,0.6s						
ILAR	**Eielson Array**	**85.79**	**23**	P	**P**	**07 05 00.9**	**-2.1**
	0.3nm,0.6s,baz=252,slow=4.7,SNR=8.4						
ILAR				LR	LR	07 38 54.1	
	comp=Z,24nm,20.1s,baz=140,slow=32						
TORD	**Torodi Ar. Bea**	**145.59**	**284**	PKPbc	**PKPdf**	**07 12 02.3**	**-0.7**
	2.6nm,0.5s,baz=66,slow=3.6,SNR=34						
TOA1	**Torodi Ar. Sit**	**145.59**	**284**	*e*PKPdf	**PKPdf**	**07 12 02.3**	**-0.7**
DBIC	**Dimbokro**	**152.43**	**272**	PKPbc	**PKiKP**	**07 12 21.4**	**+0.2**
	2.5nm,0.7s,baz=125,slow=4.4,SNR=3.7						
BDFB	**Brasilia**	**153.22**	**145**	PKPbc	**PKiKP**	**07 12 23.1**	**+0.2**
	1.0nm,0.5s,baz=207,slow=4.5,SNR=2.7						

IDC 15 06:52:41.2±1.2, 61°17N×28°16W, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.4/37, mbtmp3.5/5, ML3.5/1, MS3.2/4, Ms1 3.2/4, ms1mx2.8/28, Error ellipse: s-maj=30.1km s-min=25.8km az=12.0, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**4.76**	**38**	Pn	Pn	06 53 53.7	-0.4
	1.8nm,0.3s,baz=266,slow=14,SNR=8.1						
BORG				Sn	Sn	06 54 51.1	+1.3
	baz=241,slow=9.2,SNR=3.1						
SFJD	**Kangerlussuaq**	**11.38**	**310**	LR	LR	06 58 51.4	
	comp=Z,105nm,19.1s,baz=128,slow=32						
NOA	**NORSAR Array B**	**18.84**	**73**	LR	LR	07 03 10.0	
	comp=Z,37nm,18.7s,baz=245,slow=33						
RES	**Resolute Bay**	**26.61**	**327**	LR	LR	07 08 29.2	
	comp=Z,61nm,19.1s,baz=21,slow=36						
YKA	**Yellowknife Ar**	**37.95**	**311**	P	P	07 00 00.1	+0.2
	0.4nm,0.8s,baz=49,slow=8.6,SNR=6.8						
PDAR	**Pinedale Array**	**49.83**	**288**	P	P	07 01 35.3	-0.5
	0.8nm,0.9s,baz=62,slow=7.4,SNR=4.8						
PDAR				LR	LR	07 20 33.0	
	comp=Z,26nm,20.2s,baz=62,slow=34						
TORD	**Torodi Ar. Bea**	**52.61**	**142**	P	P	07 01 56.6	0.0
	0.5nm,0.9s,baz=347,slow=5.9,SNR=2.6						
MKAR	**Makanchi Array**	**58.73**	**49**	P	P	07 02 40.3	-0.1
	0.3nm,0.7s,baz=325,slow=6.2,SNR=4.9						

NNC 15 06:56:31.5±2.8, 37°70N×71°36E, h0km, mb3.5, mpv3.1, 3C-4D, Error ellipse: s-maj=21.2km s-min=17.6km az=169.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.85**	**35**	⇓P	Pn	06 57 18.4	-0.1
	2.4nm,0.3s						
SFK				⇓S	Sn	06 57 55.5	+1.9
	3.6nm,0.2s						
MNAS	**Manas**	**4.86**	**10**	⇑P	Pn	06 57 46.4	+0.3
	0.8nm,0.3s						
MNAS				⇑S	Sn	06 58 44.8	+1.6
	5.2nm,0.5s						
KK31	**Karatay Array**	**5.44**	**353**	P	Pn	06 57 54.7	+0.9
	0.8nm,0.2s,baz=177,slow=13,SNR=31						
KK31				⇓S	Sn	06 58 57.6	+0.5
	1.0nm,0.3s,baz=171,slow=23						
AAK	**Ala-Archa**	**5.48**	**25**	⇓P	Pn	06 57 53.4	-1.2
	1.5nm,0.5s						
AAK				⇑S	Sn	06 58 58.2	-0.3
	1.7nm,0.5s						

IDC 15 07:15:37.5±1.4, 2°13S×139°10E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/24, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=28.6km s-min=14.6km az=13.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.65**	**104**	Pn	Pn	07 16 06.8	-1.0
	25nm,0.3s,baz=266,slow=18,SNR=51						
JAY				Pg	Pg	07 16 09.3	+0.2
	25nm,0.3s,baz=244,slow=10,SNR=19						
JAY				Lg	Lg	07 16 28.5	
	15nm,0.3s,baz=82,slow=12,SNR=6.8						
WRA	**Warramunga Arr**	**18.31**	**194**	P	P	07 19 54.0	+0.6
	0.3nm,0.3s,baz=8.8,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**22.00**	**193**	P	P	07 20 32.7	-0.8
	0.8nm,0.7s,baz=24,slow=11,SNR=5.5						
MKAR	**Makanchi Array**	**69.57**	**322**	P	P	07 26 49.5	+1.0
	0.3nm,0.7s,baz=111,slow=7.9,SNR=2.3						
ILAR	**Eielson Array**	**85.14**	**24**	P	P	07 28 14.3	-1.1
	0.4nm,1.0s,baz=243,slow=6.0,SNR=2.9						

*IDC **15** 07:17:17.6±3.3, 0°.30N×98°.39E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/36, mbtmp3.6/6, ML4.7/1, MS3.1/3, Ms1 3.2/3, ms1mx2.8/32, Error ellipse: s-maj=131.6km s-min=21.1km az=59.0*
*DJA **15** 07:17:21.8±0.4, 0°N±2°×9°.8E±°, h10km, M3.9/7, MLv3.9/7*
*ISCJB **15** 07:17:23.2±0.7, 0°.50N±0°.06×98°.33E±0°.06, h35km, mb3.4/5, MS3.1/2, Error ellipse: s-maj=10.7km s-min=5.9km az=140.5*
ISC 15 07:17:23.7±0.9, 0°.44N±0°.06×98°.28E±0°.07, h35km, n18, σ2s27/16, mb3.6/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.11**	**321**	P	**Pn**	**07 17 41.7**	**-1.1**
GSI				S	**Sn**	**07 17 58.9**	**+2.1**
MNSI	**Mandailing Nat**	**1.35**	**75**	P	**Pn**	**07 17 44.5**	**-1.6**
MNSI				S	**Sn**	**07 18 02.1**	**-0.7**
SISI	**Saibi**	**1.94**	**155**	P	**Pn**	**07 17 53.9**	**-0.3**
SISI				S	**Sn**	**07 18 20.0**	**+2.7**
PDSI	**Padang**	**2.56**	**122**	P	**Pn**	**07 18 03.9**	**+1.0**
BKNI	**Bangkinang**	**2.77**	**92**	P	Pn	07 18 09.9	+4.3
BKNI				S	**Sn**	**07 18 43.4**	**+5.6**
TPTI		**3.01**	**339**	P	**Pn**	**07 18 09.9**	**+1.0**
KCSI	**Kotacane, Aceh**	**3.10**	**351**	P	**Pn**	**07 18 11.7**	**+1.5**
CMAR	**Chiang Mai Arr**	**17.92**	**2**	P	**Pn**	**07 21 29.4**	**-0.8**
	0.9nm,0.3s,baz=190,slow=10,SNR=3.2						
CMAR				LR	LR	07 29 01.1	
	comp=Z,50nm,18.2s,baz=170,slow=39						
H08S2	**Diego Garcia H**	**26.94**	**252**	T	T	07 50 27.8	
	baz=73,slow=75,SNR=67						
H08S3	**Diego Garcia H**	**26.94**	**252**	T	T	07 50 28.0	
	baz=73,slow=75,SNR=85						
H08S1	**Diego Garcia H**	**26.95**	**252**	T	T	07 50 29.0	
	baz=73,slow=75,SNR=52						
WRA	**Warramunga Arr**	**40.72**	**122**	P	**P**	**07 24 58.5**	**-3.0**
	0.1nm,0.3s,baz=298,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**42.08**	**127**	P	**P**	**07 25 10.6**	**-2.0**
	0.1nm,0.4s,baz=296,slow=7.7,SNR=2.9						
JAY	**Jayapura**	**42.52**	**94**	LR	LR	07 46 54.6	
	comp=Z,29nm,20.1s,slow=42						
KSRS	**Korea Array**	**45.87**	**33**	LR	LR	07 45 14.5	
	comp=Z,21nm,19.9s,baz=120,slow=36						
SONM	**Songino Array**	**47.73**	**7**	P	**P**	**07 25 58.1**	**+0.8**
	0.2nm,0.3s,baz=189,slow=8.5,SNR=3.4						
MKAR	**Makanchi Array**	**48.24**	**345**	P	**P**	**07 26 01.8**	**+0.6**
	0.8nm,0.8s,baz=152,slow=8.2,SNR=6.9						
ZALV	**Zalesovo Beam**	**54.48**	**350**	P	**P**	**07 26 47.1**	**-0.6**
	0.9nm,0.7s,baz=174,slow=5.8,SNR=4.1						

*ISK **15** 07:21:25.7, 38°.92N×43°.49E, h10km, ML2.1/6*
*ISCJB **15** 07:21:26.6±0.7, 38°.97N±0°.04×43°.48E±0°.05, h15km±9km, Error ellipse: s-maj=6.7km s-min=6.0km az=141.5*
*DDA **15** 07:21:26.5, 38°.97N×43°.45E, h7km±2km, ML2.6*
ISC 15 07:21:26.4±1.0, 38°.95N±0°.04×43°.48E±0°.04, h13km±8km, n11, σ0s49/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.09**	**59**	*i* P	**Pg**	**07 21 29.6**	**+0.1**
ERCV	**ERCIS-VAN**	**0.13**	**304**	PG	**Pg**	**07 21 29.6**	**-0.4**
VANB	**Van**	**0.36**	**191**	PG	**Pb**	**07 21 34.3**	**-0.4**
CLDR	**Caldiran**	**0.40**	**60**	PG	**Pg**	**07 21 34.0**	**-0.4**
CLDR				SG	**Sg**	**07 21 40.1**	**+0.3**
CLDR	**Caldiran**	**0.40**	**60**	IAML_P			
	comp=Z,4μm,0.1s						
CLDR				*i* P	**Pg**	**07 21 34.4**	**0.0**
CLDR				*i* S	**Sb**	**07 21 41.1**	**-0.4**
TVAN	**Van**	**0.42**	**188**	IAML_P			
	comp=Z,1μm,0.1s						
TVAN				*i* P	**Pb**	**07 21 35.9**	**0.0**
TVAN				*i* S	**Sb**	**07 21 42.9**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.60**	**257**	IAML_P			
	comp=Z,404nm,0.1s						
ADCV				*i* P	**Pb**	**07 21 39.0**	**0.0**
ADCV				*i* S	**Sb**	**07 21 48.4**	**+0.9**
TUTA	**Tutak**	**0.69**	**312**	*i* P	**Pg**	**07 21 39.7**	**-0.2**
TUTA				*i* S	**Sb**	**07 21 49.5**	**-0.5**
AKDM	**Akdamar-Van**	**0.73**	**213**	PG	**Pg**	**07 21 39.9**	**-0.7**
AGRB	**Hanur-Agry**	**0.73**	**329**	PG	**Pg**	**07 21 40.7**	**0.0**
GURO	**Guroymak-BITLI**	**1.20**	**251**	PN	**Pn**	**07 21 49.2**	**+0.2**

*ISK **15** 07:50:32.5, 37°.34N×37°.10E, h9km, ML2.0/5*
*DDA **15** 07:50:33.1, 37°.30N×37°.17E, h7km±4km, ML2.8*
ISC 15 07:50:32.8±1.2, 37°.32N±0°.04×37°.13E±0°.03, h7km±10km, n14, σ0s43/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRS	**Kahramanmaras**	**0.26**	**317**	PG	**Pg**	**07 50 37.8**	**-0.2**
KMRS				SG	**Sg**	**07 50 41.6**	**+0.1**
GZT	**Gaziantep**	**0.35**	**83**	IAML_P			
	comp=Z,2μm,0.1s						
GZT				*i* P	**Pg**	**07 50 40.0**	**+0.3**
KUZU	**Kuzuini**	**0.54**	**184**	IAML_P			
	comp=Z,4μm,0.1s						
KUZU				*i* P	**Pb**	**07 50 44.4**	**-0.3**
KUZU				*i* S	**Sn**	**07 50 56.9**	**+0.6**
ANDN	**Andirin**	**0.68**	**293**	IAML_P			
	comp=Z,705nm,0.2s						
ANDN				*i* P	**Pg**	**07 50 45.3**	**-0.5**
ANDN				*i* S	**Sg**	**07 50 55.0**	**+0.4**
ATAB	**Bozova**	**0.94**	**80**	*i* P	**Pb**	**07 50 51.5**	**0.0**
ATAB				*i* S	**Sb**	**07 51 04.4**	**+0.2**
ELBS	**KAHRAMANMARAS**	**1.01**	**0**	IAML_P			
	comp=Z,523nm,0.1s						
ELBS				*i* P	**Pn**	**07 50 53.6**	**+0.1**
ELBS				*i* S	**Sn**	**07 51 07.5**	**-0.4**
KOZT	**Kozan**	**1.05**	**279**	PG	**Pg**	**07 50 52.6**	**-0.3**
KOZT				SG	**Sb**	**07 51 07.3**	**+0.1**
SAIM	**ADANA**	**1.06**	**309**	IAML_P			
	comp=Z,999nm,0.2s						
SAIM				*i* P	**Pb**	**07 50 53.5**	**0.0**
SAIM				*i* S	**Sb**	**07 51 08.0**	**+0.4**
CEYT	**Ceyhan**	**1.14**	**255**	PN	**Pg**	**07 50 54.2**	**-0.5**
AKCD	**Akcadag**	**1.17**	**33**	IAML_P			
	comp=Z,693nm,0.1s						
AKCD				*i*

SIJI				S	Sn	09 11 06.8	-10		
	1.6nm,0.3s,baz=308,slow=22,SNR=5.6								
BATI	**Baumata**	**6.82**	**244**	P	Pn	09 10 09.8	+1.5		
	5.4nm,0.3s,baz=71,slow=11,SNR=2.5								
BATI				S	Sn	09 11 24.6	-0.2		
	4.6nm,0.3s,baz=52,slow=19,SNR=2.4								
FITZ	**Fitzroy Crossi**	**11.56**	**201**	P	Pn	09 11 10.6	-1.0		
	0.4nm,0.3s,baz=29,slow=9.6,SNR=22								
FITZ				S	Sn	09 13 11.3	-7.9		
	0.5nm,0.3s,baz=157,slow=20,SNR=5.8								
WRA	**Warramunga Arr**	**13.35**	**162**	P	Pn	09 11 33.8	-1.0		
	0.4nm,0.3s,baz=344,slow=13,SNR=19								
WRA				S	Sn	09 13 55.7	-6.7		
	0.8nm,0.3s,baz=336,slow=22,SNR=11								
ASAR	**Alice Springs**	**16.78**	**167**	P	Pn	09 12 18.9	+1.3		
	0.2nm,0.3s,baz=343,slow=8.8,SNR=14								
ASAR				S	Sn	09 15 20.0	-5.0		
	0.3nm,0.3s,baz=319,slow=17,SNR=7.2								
MKAR	**Makanchi Array**	**68.36**	**327**	P	P	09 19 17.1	-0.1		
	0.8nm,0.5s,baz=121,slow=7.5,SNR=5.4								

NNC ***15*** *09:14:11.2±1.6, 53.˚53N×87.˚67E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=11.1km s-min=6.9km az=71.0, Suspected Mining explosion.*

KRAR 15 09:14:08.1±0.1, 53.˚57N×87.˚64E, M2.3, 6C-4D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.72**	**284**	⇑P	Pg	09 14 42.0	+1.0
	7.4nm,0.6s,baz=106,slow=12						
ZAA0				⇑S	Sg	09 15 06.2	+3.0
	41nm,0.8s,baz=102,slow=28						
ZAA0				⇓Rg	Rg	09 15 28.0	
	35nm,1.0s						
KURK	**Kurchatov**	**6.25**	**246**	⇓Pn	Pn	09 15 45.1	+3.7
	11nm,2.2s						
KURK				⇑Lg	Lg	09 17 28.7	
	6.6nm,0.8s						
KURBB	**Kurchatov Arra**	**6.34**	**246**	⇑Pn	Pn	09 15 47.0	+4.2
	3.8nm,0.4s						
KURBB				⇓Sn	Sn	09 16 57.0	+1.2
	4.2nm,0.5s						
KURBB				⇓Lg	Lg	09 17 33.0	
	7.3nm,0.6s						
MK31	**Makanchi Array**	**7.60**	**209**	Pn	Pn	09 16 04.3	+4.2
	0.4nm,0.5s,baz=29,slow=13,SNR=26						
MK31				⇑Sn	Sn	09 17 29.4	+2.5
	0.7nm,0.6s						
MK31				⇑Lg	Lg	09 18 09.4	
	2.2nm,0.7s						

BJI ***15*** *09:20:17.8, 10.˚39S×66.˚08E, h10km, mb4.6/31, mB5.2/20, Ms4.8/9, Ms7 4.6/9*

ISCJB ***15*** *09:20:19.9±0.2, 10.˚17S±0.˚05×66.˚62E±0.˚04, h10km, mb4.6/82, MS4.1/27, Error ellipse: s-maj=6.7km s-min=5.6km az=0.7*

IDC ***15*** *09:20:20.2±0.4, 10.˚15S×66.˚61E, h0km, mb4.3/38, mb1 4.4/38, mb1mx4.3/59, mbtmp4.3/38, MS4.0/25, Ms1 4.0/25, ms1mx3.9/39, Error ellipse: s-maj=13.0km s-min=11.2km az=160.0*

NEIC ***15*** *09:20:21.6±0.2, 10.˚10S×66.˚62E, h10km, mb4.7/40, Error ellipse: s-maj=5.5km s-min=4.7km az=167.0*

GCMT ***15*** *09:20:23.6±0.3, 10.˚06S±0.˚01×66.˚47E±0.˚01, h12km, MW5.0/94, Moment Tensor Solution. s20,c26; s94,c121; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.15±.10; Mθθ-2.55±.08; Mφφ2.40±.08; Mrθ-1.74±.27; Mθφ0.85±.10; Mφr1.47±.25; Best double couple: Mo3.43100×10^16 NP1:φs143.00000°, δ89.00000°, λ-140.00000°. NP2: φs52.00000°, δ50.00000°, λ-1.00000°. Principal axes: T 3.1260, Plg26.0000°, Azm270.0000°; N 0.6100, Plg50.0000°, Azm144.0000°; P -3.7370, Plg28.0000°, Azm15.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 09:20:21.8±0.3, 10.˚16S±0.˚08×66.˚63E±0.˚07, h10km, n215, σ1930/201, mb4.6/88, MS4.1/28, 13C-5D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**5.74**	**49**	T	T	09 27 44.1	
	baz=228,slow=75,SNR=3868						
H08N1	**Diego Garcia H**	**5.76**	**49**	T	T	09 27 44.2	
	baz=228,slow=75,SNR=2819						
H08N2	**Diego Garcia H**	**5.76**	**49**	T	T	09 27 44.3	
	baz=228,slow=75,SNR=4977						
H08S1	**Diego Garcia H**	**6.29**	**67**	T	T	09 28 32.1	
	baz=246,slow=75,SNR=639						
H08S3	**Diego Garcia H**	**6.31**	**67**	T	T	09 28 25.4	
	baz=246,slow=75,SNR=846						
H08S2	**Diego Garcia H**	**6.31**	**67**	T	T	09 28 28.0	
	baz=246,slow=75,SNR=827						
DGAR	**Diego Garcia**	**6.37**	**65**	*e*Pn	**Pn**	**09 21 53.3**	**-2.4**
OPO	**Ambohidratompo**	**20.59**	**244**	P	**P**	**09 24 59.7**	**-1.7**
	2.1nm,0.7s,baz=76,slow=16,SNR=4.8						
OPO				LR	LR	09 30 57.9	
	comp=Z,358nm,20.7s,baz=67,slow=31						
ABPO	**Ambohimpanom**	**20.72**	**243**	*e*P	**P**	**09 25 02.3**	**-0.5**
	18nm,1.0s						
PALK	**Pallekele**	**22.28**	**40**	P	**P**	**09 25 19.0**	**-0.4**
	11nm,0.9s,baz=298,slow=6.3,SNR=3.9						
PALK				LR	LR	09 31 50.6	
	comp=Z,300nm,20.2s,baz=134,slow=31						
PALK	**Pallekele**	**22.28**	**40**	*e*P	**P**	**09 25 17.8**	**-1.5**
	31nm,1.1s						
KMBO	**Kilima Mbogo**	**30.55**	**285**	P	**P**	**09 26 36.2**	**+0.1**
	1.2nm,0.3s,baz=73,slow=14,SNR=5.3						
KMBO				LR	LR	09 37 10.8	
	comp=Z,355nm,18.3s,baz=94,slow=33						
KMBO	**Kilima Mbogo**	**30.55**	**285**	*e*P	**P**	**09 26 34.8**	**-1.3**
	4.3nm,1.0s						
GSI	**Gunungsitoli**	**32.84**	**71**	*e*P	**P**	**09 26 55.8**	**-0.2**
	16nm,1.1s						
UOSS	**Minazif**	**36.34**	**344**	*e*P	**P**	**09 27 25.5**	**-0.6**
	12nm,1.1s						
IPM	**Ipoh**	**37.22**	**69**	*e*P	**P**	**09 27 32.9**	**-0.9**
	12nm,1.1s						
LSZ	**Lusaka**	**37.81**	**258**	P	**P**	**09 27 38.3**	**-0.6**
	3.6nm,0.6s,baz=88,slow=9.2,SNR=9.1						
LSZ	**Lusaka**	**37.81**	**258**	*e*P	**P**	**09 27 38.0**	**-0.9**
	9.5nm,0.9s						
MATP	**Matopo**	**38.08**	**250**	P	**P**	**09 27 40.5**	**-0.7**
	4.8nm,1.1s,baz=285,slow=8.7,SNR=5.0						
KOLN	**Koldanda**	**41.13**	**23**	*e*P	**P**	**09 28 08.3**	**+1.8**
	9.4nm,0.7s						
PYUN	**Piuthan**	**41.20**	**22**	*e*P	**P**	**09 28 07.8**	**+0.7**
	12nm,0.6s						
LBTB	**Lobatse**	**41.63**	**244**	P	**P**	**09 28 10.2**	**-0.3**
	6.9nm,1.0s,baz=70,slow=11,SNR=5.5						
LBTB	**Lobatse**	**41.63**	**244**	*e*P	**P**	**09 28 10.3**	**-0.3**
	10nm,1.0s						
RAMN	**Ramite**	**41.67**	**27**	*e*P	**P**	**09 28 13.5**	**+2.5**
	16nm,0.8s						
PKI	**Pulchoki**	**41.69**	**25**	*e*P	**P**	**09 28 12.7**	**+1.5**
DANN	**Dangsing**	**41.71**	**23**	*e*P	**P**	**09 28 11.1**	**-0.3**
	18nm,0.9s						
JIRN	**Jiri**	**42.10**	**26**	*e*P	**P**	**09 28 14.6**	**-0.1**
	8.9nm,0.6s						
GUN	**Gumba**	**42.18**	**26**	*e*P	**P**	**09 28 15.0**	**-0.3**
	18nm,0.8s						
SUKH	**Sukhothai**	**42.63**	**50**	P	**P**	**09 28 22.6**	**+3.9**
CM01	**Chiang Mai Arr**	**42.71**	**48**	*e*P	**P**	**09 28 19.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**42.72**	**48**	P	**P**	**09 28 20.2**	**+0.8**
	2.3nm,0.6s,baz=242,slow=9.7,SNR=17						
CMAR				LR	LR	09 44 15.3	
	comp=Z,84nm,18.4s,baz=232,slow=34						
BOSA	**Boshof**	**42.86**	**239**	P	**P**	**09 28 21.6**	**+0.9**
	5.0nm,0.8s,baz=83,slow=6.4,SNR=6.1						
BOSA				LR	LR	09 44 43.9	
	comp=Z,145nm,18.3s,baz=57,slow=34						
BOSA	**Boshof**	**42.86**	**239**	*e*P	**P**	**09 28 20.8**	**+0.2**
	20nm,1.1s						
CHTO	**Chiang Mai**	**42.95**	**48**	*e*P	**P**	**09 28 21.1**	**-0.2**
	8.4nm,0.8s						
CHTO	**Chiang Mai**	**42.95**	**48**	P	**P**	**09 28 24.0**	**+2.7**
	49nm,1.0s						
CMMT	**Chiang Mai**	**42.95**	**48**	P	**P**	**09 28 23.9**	**+2.6**
	11nm,1.0s						
SHL	**Shillong**	**43.19**	**34**	*e*P	**P**	**09 28 22.8**	**-0.6**
	15nm,0.7s						
NANT	**Nan**	**44.24**	**50**	P	P	09 28 38.5	+6.8
KBL	**Kabul**	**44.51**	**3**	*e*P	**P**	**09 28 32.8**	**-1.0**
	6.4nm,0.9s						
LSA	**Lhasa**	**46.13**	**30**	*e*P	**P**	**09 28 46.9**	**-0.3**
	6.8nm,0.8s						
SUR	**Sutherland**	**47.63**	**235**	P	**P**	**09 29 02.1**	**+3.6**
	8.9nm,0.9s,baz=61,slow=13,SNR=3.1						
GEYT	**Alibeck**	**48.49**	**351**	LR	LR	09 47 50.7	
	comp=Z,151nm,18.9s,baz=150,slow=34						
GAR	**Garm**	**49.02**	**4**	*e*P	**P**	**09 29 08.7**	**-0.3**
	23nm,1.1s						
KMI	**Kunming**	**49.68**	**44**	P	**P**	**09 29 16.8**	**+2.4**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
H01W3	**Cape Leeuwin H**	**49.72**	**127**	T	T	10 22 27.8	
	baz=289,slow=75,SNR=112						
H01W2	**Cape Leeuwin H**	**49.72**	**127**	T	T	10 22 28.0	
	baz=289,slow=75,SNR=262						
H01W1	**Cape Leeuwin H**	**49.74**	**127**	T	T	10 22 29.2	
	baz=289,slow=75,SNR=186						
BTK	**Batken**	**50.11**	**4**	*e*P	**P**	**09 29 17.4**	**+0.1**
	11nm,1.0s						
KSH	**Kashi**	**50.18**	**9**	P	**P**	**09 29 13.6**	**-4.2**
KSH				pP	pP	09 29 17.8	-2.2
KSH				sP	sP	09 29 21.8	+1.0
KSH				PcP	**PcP**	**09 30 33.6**	**-3.5**
KSH				S	S	09 36 19.1	-11
KSH				pmax	pmax		
	comp=Z,44nm,1.1s						
KSH				pmax	pmax		
	comp=Z,140nm,2.6s						
KSH				LR	LR		
	comp=N,300nm,6.5s						
KSH				LR	LR		
	comp=E,150nm,6.2s						
KSH				LR	LR		
	comp=Z,250nm,11.5s						
AAK	**Ala-Archa**	**53.03**	**7**	P	**P**	**09 29 39.2**	**0.0**
	1.1nm,0.5s,baz=26,slow=5.1,SNR=3.7						
AAK	**Ala-Archa**	**53.03**	**7**	*e*P	**P**	**09 29 37.6**	**-1.6**
	4.6nm,0.9s						
KKAR	**Karatay Array**	**53.12**	**4**	*e*P	**P**	**09 29 38.9**	**-0.7**
GNI	**Garni**	**54.01**	**339**	P	**P**	**09 29 46.7**	**+0.3**
	6.1nm,0.6s,baz=273,slow=7.6,SNR=4.1						
GNI	**Garni**	**54.01**	**339**	*e*P	**P**	**09 29 46.0**	**-0.4**
	24nm,1.0s						
CD2	**Chengdu**	**54.19**	**40**	*e*P	**P**	**09 29 49.0**	**+1.2**
WMQ	**Urumqi**	**57.04**	**18**	*e*P	**P**	**09 30 09.3**	**+1.3**
WMQ				LR	LR		
	comp=E,640nm,11.5s						
WMQ				LR	LR		
	comp=Z,550nm,24.5s						
MAW	**Mawson**	**57.43**	**182**	P	**P**	**09 30 09.6**	**-0.8**
	4.0nm,0.8s,baz=23,slow=13,SNR=1.8						
MAW				LR	LR	09 48 49.0	
	comp=Z,265nm,21.3s,baz=23,slow=30						
ENH	**Enshi**	**57.55**	**44**	*e*P	**P**	**09 30 11.9**	**0.0**
	15nm,1.0s						
FITZ	**Fitzroy Crossi**	**57.57**	**105**	*e*P	**P**	**09 30 12.7**	**+0.5**
	2.2nm,0.7s						
KBZ	**Khabaz**	**57.81**	**340**	P	**P**	**09 30 14.7**	**+1.3**
	2.2nm,0.9s,baz=303,slow=17,SNR=2.2						
KBZ				LR	LR	09 54 31.4	
	comp=Z,97nm,20.0s,baz=159,slow=36						
LZH	**Lanzhou**	**57.84**	**35**	*e*P	**P**	**09 30 16.4**	**+2.5**
LZH				pP	pwP	09 30 23.9	+3.4
LZH				sP	sP	09 30 27.0	+10
LZH				pmax	pmax		
	comp=Z,28nm,1.0s						
GTA	**Gaotai**	**58.16**	**30**	*e*P	**P**	**09 30 16.8**	**+0.7**
GTA				pP	pwP	09 30 21.3	-1.4
GTA				sP	sP	09 30 24.0	+4.9
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,230nm,6.9s						
GTA				LR	LR		
	comp=N,190nm,17.2s						
GTA				LR	LR		
	comp=E,230nm,16.5s						
GTA				LR	LR		
	comp=Z,410nm,17.5s						
BRTR	**Keskin Array B**	**58.31**	**330**	P	**P**	**09 30 17.1**	**-0.1**
	3.6nm,0.9s,baz=143,slow=9.2,SNR=5.7						
BRTR				LR	LR	09 53 49.5	
	comp=Z,86nm,20.4s,baz=128,slow=34						
BR101	**Keskin Array S**	**58.31**	**330**	*e*P	**P**	**09 30 17.1**	**-0.1**
MAKZ	**Makanchi**	**58.34**	**12**	*e*P	**P**	**09 30 17.0**	**-0.1**
	6.6nm,1.1s						
MK01	**Makanchi Array**	**58.38**	**13**	*e*P	**P**	**09 30 15.9**	**-1.4**
MK31	**Makanchi Array**	**58.40**	**13**	*e*P	**P**	**09 30 15.5**	**-2.0**
MK32	**Makanchi Array**	**58.40**	**13**	*e*P	**P**	**09 30 16.1**	**-1.4**
MKAR	**Makanchi Array**	**58.40**	**13**	P	**P**	**09 30 16.1**	**-1.4**
	1.4nm,0.5s,baz=197,slow=5.5,SNR=24						
MKAR				LR	LR	09 55 21.2	
	comp=Z,149nm,19.1s,baz=211,slow=36						
MKAR	**Makanchi Array**	**58.40**	**13**	*e*P	**P**	**09 30 15.4**	**-2.0**
	21nm,1.0s						
ABKAR	**Akbulak array**	**59.45**	**355**	*e*P	**P**	**09 30 23.4**	**-1.3**
XAN	**Xi'an**	**59.53**	**40**	P	**P**	**09 30 26.0**	**+0.4**
XAN				pP	pwP	09 30 34.4	+2.2
XAN				sP	sP	09 30 38.4	+10
XAN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
AKTO	**Aktyubinsk**	**60.80**	**354**	P	**P**	**09 30 32.8**	**-1.2**
	1.7nm,0.7s,baz=146,slow=5.2,SNR=8.3						
KURBB	**Kurchatov Arra**	**61.41**	**9**	P	**P**	**09 30 37.2**	**-0.9**
	2.0nm,0.6s,baz=208,slow=7.2,SNR=18						
KURK	**Kurchatov**	**61.51**	**9**	*e*P	**P**	**09 30 37.1**	**-1.6**
BVAR	**Borovoye Array**	**63.01**	**3**	P	**P**	**09 30 47.4**	**-1.4**
	1.3nm,0.6s,baz=160,slow=6.1,SNR=9.4						
BRVK	**Borovoye**	**63.04**	**2**	*e*P	**P**	**09 30 48.3**	**-0.6**
	6.6nm,0.8s						
MFTR	**Murfatlar**	**64.22**	**330**	⇑*i*P	**P**	**09 30 56.6**	**-0.3**
TIRR	**Tirgusor**	**64.43**	**331**	⇑*i*P	**P**	**09 31 01.5**	**+3.2**
CFR	**Carcaliu**	**65.09**	**331**	⇑*i*P	**P**	**09 31 03.9**	**+1.3**
NJ2	**Nanjing**	**65.19**	**48**	*e*P	**P**	**09 31 03.1**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ASAR	**Alice Springs**	**65.25**	**111**	P	**P**	**09 31 04.2**	**-0.1**
	5.0nm,0.9s,baz=277,slow=6.1,SNR=42						
ASAR				LR	LR	09 56 49.3	
	comp=Z,224nm,19.0s,baz=282,slow=34						
AS31	**Alice Springs**	**65.25**	**111**	*e*P	**P**	**09 31 04.5**	**+0.3**
	1.4nm,0.8s						
AS01	**Alice Springs**	**65.29**	**111**	*e*P	**P**	**09 31 04.2**	**-0.2**
FAKI	**Fak Fak**	**65.50**	**89**	*e*P	**P**	**09 31 05.7**	**-0.2**
	14nm,0.9s						
HHC	**Hu-ho-hao-te**	**65.51**	**36**	*e*P	**P**	**09 31 07.5**	**+1.9**
HHC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,290nm,6.7s						
ZAA0	**Zalesovo Array**	**65.70**	**12**	*e*P	**P**	**09 31 05.8**	**-0.6**
	6.1nm,0.8s						
ZALV	**Zalesovo Beam**	**65.70**	**12**	P	**P**	**09 31 04.9**	**-1.4**
	2.4nm,0.5s,baz=216,slow=6.4,SNR=14						
ZALV				LR	LR	09 58 10.2	
	comp=Z,118nm,20.4s,baz=254,slow=35						
ZALV	**Zalesovo Beam**	**65.70**	**12**	*e*P	**P**	**09 31 05.2**	**-1.2**
ZAA1	**Zalesovo Array**	**65.70**	**12**	*e*P	**P**	**09 31 04.9**	**-1.5**
WRA	**Warramunga Arr**	**65.75**	**107**	P	**P**	**09 31 07.9**	**+0.4**
	8.6nm,1.0s,baz=278,slow=5.5,SNR=47						
WRA				LR	LR	09 55 49.7	
	comp=Z,378nm,21.9s,baz=265,slow=32						
WR1	**Warramunga Arr**	**65.75**	**107**	*e*P	**P**	**09 31 07.9**	**+0.5**
	10nm,0.8s						
WRAB	**Tennant Creek**	**65.76**	**107**	*e*P	**P**	**09 31 08.1**	**+0.5**
	9.9nm,0.6s						
WB2	**Warramunga Arr**	**65.76**	**107**	*e*P	**P**	**09 31 07.9**	**+0.3**
	10nm,0.8s						
VTS	**Vitosa**	**65.80**	**326**	⇓*i*P	**P**	**09 31 09.4**	**+1.9**
PLOR	**Plostina**	**66.30**	**331**	⇑*i*P	**P**	**09 31 12.8**	**+2.4**
MLR	**Muntele Rosu**	**66.38**	**330**	⇑*i*P	**P**	**09 31 15.8**	**+4.7**
VOIR		**66.79**	**329**	⇓*i*P	**P**	**09 31 14.6**	**+0.9**
ARR	**Arges**	**66.95**	**329**	⇓*i*P	**P**	**09 31 15.5**	**+0.8**
DOPR	**Dopca**	**67.00**	**330**	⇑*i*P	**P**	**09 31 15.9**	**+1.0**
BBOO	**Buckleboo**	**67.31**	**121**	*e*P	**P**	**09 31 17.2**	**0.0**
	8.6nm,0.9s						
BIZ	**Bicaz**	**67.34**	**331**	⇑*i*P	**P**	**09 31 18.6**	**+1.5**
LOT	**Lotru**	**67.44**	**329**	⇑*i*P	**P**	**09 31 19.0**	**+1.1**
SONA0	**Songino Array**	**67.64**	**28**	*e*P	**P**	**09 31 19.7**	**+0.6**
SONM	**Songino Array**	**67.64**	**28**	P	**P**	**09 31 19.7**	**+0.6**
	3.5nm,0.8s,baz=218,slow=6.4,SNR=18						
SONM				LR	LR	10 00 13.6	
	comp=Z,372nm,19.8s,baz=190,slow=35						
SONA1	**Songino Array**	**67.65**	**28**	*e*P	**P**	**09 31 19.0**	**-0.2**
GZR	**Gura Zlata**	**67.92**	**328**	⇑*i*P	**P**	**09 31 22.5**	**+1.7**
BURAR	**Bucovina Array**	**68.25**	**331**	⇓*i*P	**P**	**09 31 24.7**	**+1.8**
BUR04	**Bucovina Ar. S**	**68.26**	**331**	*e*P	**P**	**09 31 22.9**	**0.0**
TOA0	**Torodi Ar. Sit**	**68.49**	**288**	*e*P	**P**	**09 31 23.2**	**-1.7**
TORD	**Torodi Ar. Bea**	**68.49**	**288**	P	**P**	**09 31 23.9**	**-1.0**
	1.0nm,0.9s,baz=107,slow=4.7,SNR=4.6						
TORD				LR	LR	09 58 51.2	
	comp=Z,138nm,21.6s,baz=30,slow=34						
TOA1	**Torodi Ar. Sit**	**68.49**	**288**	*e*P	**P**	**09 31 23.9**	**-1.0**
BZS	**Buzias**	**68.67**	**328**	⇑*i*P	**P**	**09 31 27.1**	**+1.7**
AKASG	**Malin Array Be**	**68.77**	**336**	P	**P**	**09 31 25.4**	**-0.5**
	1.3nm,0.6s,baz=136,slow=5.5,SNR=8.2						
AKASG				LR	LR	10 04 33.0	
	comp=Z,44nm,18.5s,baz=85,slow=39						
AKBB	**Malin Array Si**	**68.77**	**336**	*e*P	**P**	**09 31 25.1**	**-0.8**
	17nm,1.1s						
KIEV	**Kiev**	**68.77**	**336**	*e*P	**P**	**09 31 25.1**	**-0.8**
	16nm,1.1s						
KIEV	**Kiev**	**68.77**	**336**	⇓*i*P	**P**	**09 31 26.5**	**+0.6**
AK11	**Malin Array Si**	**68.78**	**335**	*e*P	**P**	**09 31 25.4**	**-0.6**
DRGR		**68.90**	**329**	⇑*i*P	**P**	**09 31 27.5**	**+0.6**
TRPA	**Tarpa**	**69.90**	**330**	⇑*i*P	**P**	**09 31 33.2**	**+0.2**
STKA	**Stephens Creek**	**71.98**	**120**	P	**P**	**09 31 45.9**	**-0.2**
	2.3nm,0.8s,baz=255,slow=9.1,SNR=6.7						
STKA				LR	LR	09 59 58.4	
	comp=Z,238nm,20.0s,baz=221,slow=33						
STKA	**Stephens Creek**	**71.98**	**120**	*e*P	**P**	**09 31 45.8**	**-0.2**
	0.9nm,0.9s						
LANS	**Liptovska Anna**	**72.10**	**330**	*e*P	P	09 31 51.8	+5.4
ARSA	**Arzberg**	**72.97**	**326**	*e*P	**P**	**09 31 52.8**	**+1.2**
	12nm,1.1s						
DBIC	**Dimbokro**	**73.12**	**280**	P	**P**	**09 31 53.0**	**-0.2**
	8.2nm,1.1s,baz=97,slow=9.1,SNR=4.0						
DBIC				LR	LR	10 01 57.0	
	comp=Z,135nm,20.6s,baz=106,slow=34						
DBIC	**Dimbokro**	**73.12**	**280**	*e*P	**P**	**09 31 52.7**	**-0.5**
	5.7nm,0.9s						
CONA	**Conrad Observa**	**73.20**	**327**	*e*P	**P**	**09 31 54.4**	**+1.5**
	14nm,1.0s						
MORC	**Moravsky Berou**	**73.47**	**329**	*e*P	**P**	**09 31 53.4**	**-1.1**
	3.6nm,0.8s						
MORC	**Moravsky Berou**	**73.47**	**329**	⇑*i*P	**P**	**09 31 53.7**	**-0.8**
KLMR	**Klimovskoe**	**73.97**	**347**	*e*P	**P**	**09 31 55.1**	**-2.0**
KLMR				AMP		09 32 04.7	
	comp=Z,40nm,1.3s						
MOA	**Molln**	**74.01**	**326**	*e*P	**P**	**09 31 57.9**	**+0.2**
	comp=Z,12nm,0.8s						
KSRS	**Korea Array**	**74.32**	**46**	P	**P**	**09 31 59.4**	**-0.3**
	comp=Z,2.7nm,1.0s,baz=232,slow=6.7,SNR=5.5						
KSRS				LR	LR	10 05 21.0	
	comp=Z,87nm,18.0s,baz=246,slow=36						
ABTA	**Abfaltersbach**	**74.36**	**325**	*i* P	**P**	**09 32 00.4**	**+0.5**
DPC	**Dobruska-Polom**	**74.44**	**329**	*e*P	P	09 32 06.2	+6.0
COEN	**Coen**	**74.67**	**102**	*e*P	**P**	**09 32 01.6**	**-0.6**
	comp=Z,5.0nm,1.0s						
JNU	**Nakatsue**	**74.71**	**52**	P	**P**	**09 32 02.8**	**+0.6**
	comp=Z,11nm,1.1s,baz=304,slow=6.4,SNR=3.7						
JNU	**Nakatsue**	**74.71**	**52**	*e*P	**P**	**09 32 01.4**	**-0.7**
	comp=Z,18nm,1.0s						
GERES	**GERESS Array B**	**74.90**	**327**	P	**P**	**09 32 04.3**	**+1.4**
	comp=Z,1.5nm,0.7s,baz=124,slow=5.3,SNR=3.1						
TOO	**Toolangi**	**75.08**	**126**	*e*P	**P**	**09 32 03.8**	**-0.5**
	comp=Z,17nm,1.1s						
KHC	**Kasperske Hory**	**75.13**	**327**	*e*P	P	09 32 09.7	+5.5
WATA	**Walderalm**	**75.22**	**325**	*e*P	**P**	**09 32 05.6**	**+0.7**
	comp=Z,20nm,1.1s						
MOTA	**Moosalm**	**75.49**	**325**	*e*P	**P**	**09 32 07.9**	**+1.4**
	comp=Z,20nm,1.2s						
FETA	**Feichten**	**75.53**	**324**	*e*P	**P**	**09 32 06.7**	**0.0**
	comp=Z,15nm,1.1s						
RETA	**Reute**	**75.76**	**325**	*e*P	**P**	**09 32 09.1**	**+1.1**
	comp=Z,14nm,1.3s						
BRG	**Berggiesshuebel**	**75.96**	**329**	*e*P	**P**	**09 32 10.6**	**+1.7**
	comp=Z,6.7nm,1.3s						
BRG				*e*		09 32 15.7	
	comp=Z,13nm,1.2s						
CLL	**Collm**	**76.70**	**329**	*e*P	**P**	**09 32 12.8**	**-0.2**
	comp=Z,8.4nm,0.9s						
CLL	**Collm**	**76.70**	**329**	*e*P	**P**	**09 32 15.0**	**+2.0**
CLL				*e*		09 32 20.0	
	comp=Z,17nm,1.3s						
CTA	**Charters Tower**	**76.91**	**108**	P	**P**	**09 32 15.5**	**+0.5**
	comp=Z,6.5nm,0.8s,baz=278,slow=7.0,SNR=7.7						
CTAO	**Charters Tower**	**76.91**	**108**	*e*P	**P**	**09 32 13.9**	**-1.1**
	comp=Z,5.6nm,0.8s						
FIA0	**FINESS Array S**	**78.12**	**341**	*e*P	**P**	**09 32 22.3**	**+1.6**
FINES	**FINESS Array B**	**78.12**	**341**	P	**P**	**09 32 22.3**	**+1.6**
	comp=Z,2.1nm,1.1s,baz=128,slow=7.7,SNR=2.0						
FINES				LR	LR	10 07 33.7	
	comp=Z,70nm,18.7s,baz=146,slow=36						
PMG	**Port Moresby**	**79.15**	**98**	P	**P**	**09 32 28.1**	**+

NV01	**Mina Array Sit**	**151.50**	**8**	*e*PKPdf	**PKPdf**	**09 40 11.1**	**+0.4**
NVAR	**Mina Array Bea**	**151.50**	**8**	PKPbc	**PKPbc**	**09 40 16.9**	**0.0**
	comp=Z,1.2nm,0.6s,baz=300,slow=1.8,SNR=9.2						
SDCO	**Great Sand Dun**	**151.63**	**347**	*e*PKPdf	**PKPbc**	**09 40 15.4**	**-1.9**
PV12	**Saucer Basin,**	**151.66**	**352**	*e*PKPbc	**PKPbc**	**09 40 15.8**	**-1.4**
PV16	**Nyswonger Mesa**	**151.68**	**353**	*e*PKPab	**PKPab**	**09 40 25.3**	**-0.5**
PV11	**David Mesa, Pa**	**151.69**	**353**	*e*PKPbc	**PKPbc**	**09 40 16.8**	**-0.5**
PV11				*e*PKPab	**PKPab**	**09 40 25.3**	**-0.5**
PSUT	**Pine Spring**	**151.74**	**1**	*e*PKPbc	**PKPbc**	**09 40 17.1**	**-0.3**
PSUT				*e*PKPab	**PKPab**	**09 40 25.8**	**-0.3**
MSU	**Marysvale**	**151.75**	**358**	*e*PKPab	**PKPab**	**09 40 26.2**	**+0.1**
R11A	**Troy Canyon, C**	**151.86**	**4**	*e*PKPab	**PKPab**	**09 40 25.8**	**-0.7**
S22A	**4UR Ranch, Cre**	**151.91**	**349**	*e*PKPab	**PKPab**	**09 40 25.9**	**-1.0**
T25A	**Trinidad**	**151.94**	**345**	*e*PKPdf	**PKPdf**	**09 40 11.1**	**-0.3**
T25A				*e*PKPab	**PKPab**	**09 40 25.2**	**-1.8**
WMOK	**Wichita Mounta**	**152.14**	**334**	*e*PKPdf	**PKPdf**	**09 40 12.3**	**+0.7**
WMOK				*e*PKPab	**PKPab**	**09 40 25.1**	**-2.6**
MTPU	**Mount Pierson**	**152.22**	**358**	*e*PKPab	**PKPab**	**09 40 27.3**	**-0.9**
MNTX	**Cornudas Mount**	**157.32**	**342**	*e*PKPab	**PKPab**	**09 40 50.1**	**+0.4**
LTX	**Lajitas**	**158.87**	**336**	*e*PKPab	**PKPab**	**09 40 56.9**	**+0.3**
TXAR	**Lajitas Array**	**158.87**	**336**	PKPab	**PKPab**	**09 40 56.9**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=64,slow=2.9,SNR=6.3						

DDA ***15*** *09:49:13.7, 35°.83N×28°.20E, h7km±5km, ML2.7*
ISK ***15*** *09:49:13.5, 35°.89N×28°.18E, h9km, ML2.4/7*
ISC 15 09:49:13.8±1.7, 35°.88N±0°.06×28°.21E±0°.05, h2km±12km, n17, σ0s92/22, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.34**	**349**	PG	**Pg**	**09 49 19.9**	**-0.5**
ARG				SG	**Sg**	**09 49 26.0**	**+1.2**
KARP	**Karpathos**	**0.92**	**249**	PG	**Pg**	**09 49 30.9**	**-0.4**
KARP				SG	**Sb**	**09 49 44.3**	**-0.7**
DATC	**Datca-Mugla**	**0.98**	**333**	PG	**Pg**	**09 49 32.3**	**-0.3**
DAT	**Datca**	**0.99**	**329**	PG	**Pg**	**09 49 32.5**	**-0.2**
DAT	**Datca**	**0.99**	**329**	IAML_P			
	comp=Z,431nm,0.2s						
DAT				*i* P	**Pn**	**09 49 34.9**	**+0.1**
DALY	**Dalyan (Mula)**	**1.00**	**21**	PG	**Pg**	**09 49 33.2**	**+0.2**
DALY	**Dalyan (Mula)**	**1.00**	**21**	IAML_P			
	comp=Z,679nm,0.3s						
DALY				*i* P	**Pb**	**09 49 33.9**	**+0.1**
DALY				*i* S	**Sn**	**09 49 49.8**	**+0.3**
FETY	**Fethiye**	**1.03**	**43**	PG	**Pg**	**09 49 34.0**	**+0.4**
FETY	**Fethiye**	**1.03**	**43**	IAML_P			
	comp=Z,612nm,0.1s						
FETY				*i* P	**Pn**	**09 49 35.8**	**+0.5**
FETY				*i* S	**Sn**	**09 49 50.8**	**+0.5**
TURN	**Turunc**	**1.04**	**18**	PG	**Pg**	**09 49 31.6**	**-2.1**
TURN	**Turunc**	**1.04**	**18**	IAML_P			
	comp=Z,930nm,0.2s						
TURN				*i* P	**Pg**	**09 49 32.9**	**-0.9**
TURN				*i* S	**Sg**	**09 49 47.0**	**-0.2**
BDRM	**Kayabasi**	**1.33**	**333**	IAML_P			
	comp=Z,1μm,0.3s						
BDRM				*i* P	**Pb**	**09 49 41.8**	**+2.3**
BDRM				*i* S	**Sn**	**09 49 57.7**	**-0.1**
BODT	**Bodrum**	**1.38**	**329**	PN	**Pn**	**09 49 39.3**	**-0.8**
MLSB	**Milas**	**1.45**	**346**	PN	**Pn**	**09 49 40.3**	**-0.8**
TAVA	**DENIZLI_Tavas**	**1.68**	**19**	IAML_P			
	comp=Z,244nm,0.2s						
TAVA				*i* P	**Pb**	**09 49 45.3**	**-0.2**
GOLH	**Golhisar**	**1.74**	**38**	*i* P	Pg	09 49 52.5	+5.4
AYDN	**Tasoluk**	**1.80**	**352**	IAML_P			
	comp=Z,672nm,0.2s						
AYDN				*i* P	**Pb**	**09 49 47.2**	**-0.3**

NNC ***15*** *10:00:01.4±2.9, 45°.59N×74°.69E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=26.3km s-min=18.4km az=9.0, Suspected Mining explosion.*
ISCJB ***15*** *10:00:05.1±1.0, 42°.02N±0°.05×78°.04E±0°.09, h10km, Error ellipse: s-maj=10.5km s-min=5.0km az=34.5*
KRNET ***15*** *10:00:05.3±0.1, 42°.02N×78°.05E, h9km, mb1.5*
ISC 15 10:00:05.0±1.6, 41°.97N±0°.05×78°.12E±0°.06, h10km, n8, σ1s78/13, 8C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.34**	**225**	↓*i*P	**Pg**	**10 00 12.1**	**+0.2**
	baz=13						
TARG				↓*i*S	**Sg**	**10 00 17.0**	**+0.6**
	baz=13						
PRZ	**Przheval'sk**	**0.56**	**22**	↑*i*P	**Pg**	**10 00 15.5**	**-0.4**
	baz=31						
PRZ				↑*i*S	**Sg**	**10 00 23.7**	**+0.5**
	baz=31						
KDJ	**Kajisay**	**0.72**	**283**	↑*i*P	**Pg**	**10 00 17.8**	**-1.1**
	baz=80						
KDJ				↑*i*S	**Sg**	**10 00 26.7**	**-1.6**
	baz=80						
CHKK	**Chushkaly**	**2.06**	**337**	Pg	**Pg**	**10 00 46.0**	**+1.5**
	3.5nm,0.2s						
CHKK				Lg	Lg	10 01 18.6	
	4.0nm,0.3s						
TKM2	**Tokmak 2**	**2.10**	**298**	↑P	**Pg**	**10 00 46.8**	**+1.6**
	1.8nm,0.8s						
TKM2				↑S	**Sg**	**10 01 16.0**	**+3.6**
	1.4nm,0.5s						
TKM2	**Tokmak 2**	**2.10**	**298**	↑*i*P	**Pb**	**10 00 42.8**	**-0.5**
	baz=97						
TKM2				↑*i*S	**Sg**	**10 01 09.5**	**-2.9**
	baz=97						
DGS	**Degeres**	**2.15**	**307**	Pg	**Pg**	**10 00 46.6**	**+0.3**
	1.4nm,0.3s						
DGS				Lg	Lg	10 01 19.5	
	2.0nm,0.2s						
ARXS	**Arharly**	**2.25**	**355**	Pg	**Pg**	**10 00 47.8**	**-0.5**
	2.0nm,0.3s						
ARXS				Lg	Lg	10 01 21.7	
	3.4nm,0.4s						

NNC ***15*** *10:02:09.7±3.7, 53°.58N×87°.89E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=27.0km s-min=16.7km az=71.0, Suspected Mining explosion.*
KRAR 15 10:02:08.4±0.2, 53°.60N×87°.90E, M2.3, 4C-3D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.86**	**282**	↓P	Pn	10 02 42.1	+0.6
	4.0nm,0.5s,baz=97,slow=16						
ZAA0				↑S	Sg	10 03 07.8	-0.4
	27nm,0.5s,baz=102,slow=25						
KURBB	**Kurchatov Arra**	**6.50**	**246**	↓Pn	Pn	10 03 46.8	+1.6
	2.3nm,0.4s						
KURBB				↑Sn	Sn	10 04 58.1	-1.8
	7.1nm,0.7s						
KURBB				↑Lg	Lg	10 05 32.9	
	7.6nm,0.6s						
MK31	**Makanchi Array**	**7.70**	**210**	Pn	Pn	10 04 04.9	+3.1
	0.7nm,0.7s,baz=28,slow=13,SNR=13						
MK31				↓Sn	Sn	10 05 30.5	+0.8
	0.4nm,0.4s,baz=30,slow=26						
MK31				↑Lg	Lg	10 06 06.7	
	1.5nm,0.7s						

ISCJB ***15*** *10:13:24.2±0.6, 6°.91N±0°.03×73°.10W±0°.04, h156km±5km, mb3.2/2, Error ellipse: s-maj=7.1km s-min=4.6km az=12.6*
IDC ***15*** *10:13:25.0±4.3, 6°.72N×73°.01W, h169km±29km, mb2.9/2, mb1 3.4/3, mb1mx3.0/28, mbtmp3.5/3, Error ellipse: s-maj=74.1km s-min=27.4km az=85.0*
RSNC ***15*** *10:13:26.1±1.0, 6°.83N×73°.06W, h146km±5km, ML3.2, Mw3.4*
ISC 15 10:13:25.2±0.9, 6°.89N±0°.03×73°.09W±0°.05, h151km±6km, n24, σ1s11/41, 1C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.31**	**197**	*i* P	**Pn**	**10 13 46.0**	**-0.1**
BARC				*e*S	**Sn**	**10 14 01.3**	**-0.8**
BARC				*i*		10 14 03.8	
	comp=Z,297nm,0.3s						
BRRC	**Barranca, Sant**	**0.65**	**290**	↓*i*P	**Pn**	**10 13 48.0**	**+0.5**
BRRC				*e*S	**Sn**	**10 14 04.9**	**+0.5**
BRRC				*i*		10 14 07.8	
	comp=Z,308nm,0.1s						

RUSC	**La Rusia**	**0.99**	**179**	↓*i*P	**Pn**	**10 13 49.9**	**-0.6**
RUSC				*e*S	**Sn**	**10 14 08.8**	**-1.0**
RUSC				*i*		10 14 11.6	
	comp=Z,152nm,0.4s						
OCAC	**Ocana**	**1.36**	**351**	*e*P	**Pn**	**10 13 54.2**	**+0.7**
OCAC				*e*S	**Sn**	**10 14 16.1**	**+0.8**
OCAC				*i*		10 14 21.1	
	comp=Z,232nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.40**	**256**	*i* Pg	**Pn**	**10 13 55.0**	**+1.3**
PTBC				*e*S	**Sn**	**10 14 15.0**	**-0.6**
PTBC				*i*		10 14 19.2	
	comp=Z,157nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.85**	**289**	*e*P	**Pn**	**10 13 58.5**	**-0.1**
ZARC				*e*S	**Sn**	**10 14 25.0**	**+0.7**
ZARC				*i*		10 14 31.2	
	comp=Z,232nm,0.3s						
CTAB	**Cerro Tablazo,**	**2.17**	**211**	*e*P	**Pn**	**10 14 03.5**	**+0.7**
CTAB				*e*S	**Sn**	**10 14 31.3**	**-0.3**
CHIC	**Chingaza**	**2.33**	**196**	↑*e*P	**Pn**	**10 14 03.8**	**-0.9**
CHIC				*e*S	**Sn**	**10 14 34.3**	**-0.8**
CHIC				*i*		10 14 36.8	
	comp=Z,69nm,0.6s						
ROSC	**El Rosal**	**2.37**	**211**	P	**Pn**	**10 14 05.1**	**-0.1**
	comp=Z,18nm,0.3s,baz=314,slow=23,SNR=39						
ROSC				S	**Sn**	**10 14 36.2**	**+0.2**
	comp=Z,36nm,0.3s,baz=202,slow=23,SNR=11						
ROSC	**El Rosal**	**2.37**	**211**	↓*e*P	**Pn**	**10 14 06.2**	**+1.1**
ROSC				*e*S	**Sn**	**10 14 35.1**	**-0.8**
ROSC				*i*		10 14 42.2	
	comp=Z,141nm,0.6s						
HELC	**Santa Helena**	**2.52**	**254**	*e*P	**Pn**	**10 14 07.3**	**+0.4**
HELC				*e*S	**Sn**	**10 14 39.8**	**+0.8**
HELC				*i*		10 14 46.2	
	comp=Z,82nm,0.5s						
UREC	**San Jos de Ur**	**2.57**	**290**	*e*P	**Pn**	**10 14 05.9**	**-1.2**
UREC				*e*S	**Sn**	**10 14 38.0**	**-1.5**
VILC	**Villavicencio,**	**2.82**	**192**	*e*P	**Pn**	**10 14 09.5**	**-1.0**
VILC				*e*S	**Sn**	**10 14 43.8**	**-1.7**
VILC				*i*		10 14 53.2	
	comp=Z,132nm,0.4s						
RREF	**El Recreo**	**2.99**	**229**	*e*P	**Pn**	**10 14 13.3**	**+0.3**
RREF				*e*S	**Sn**	**10 14 50.9**	**+1.0**
RREF				*i*		10 14 57.5	
	comp=Z,136nm,0.3s						
SDV	**Santo Domingo**	**3.14**	**51**	*e*P	**Pn**	**10 14 15.2**	**+0.6**
SDV				*e*S	**Sn**	**10 14 52.7**	**-0.2**
ANIL	**Santa Ana**	**3.31**	**224**	*e*P	**Pn**	**10 14 17.0**	**+0.2**
ANIL				*e*S	**Sn**	**10 14 56.6**	**-0.1**
ANIL				*i*		10 15 05.9	
	comp=Z,59nm,0.4s						
SJCC	**San Jacinto, C**	**3.63**	**326**	*e*S	**Sn**	**10 15 01.1**	**-2.9**
SJAC	**San Juan de Ar**	**3.69**	**193**	*e*P	**Pn**	**10 14 22.1**	**+0.5**
SJAC				*i*		10 15 10.9	
	comp=Z,25nm,0.1s						
PLMC	**San Jos del P**	**3.73**	**238**	*e*P	**Pn**	**10 14 21.8**	**-0.3**
SMRC	**Santa Marta, M**	**4.39**	**345**	*e*P	**Pn**	**10 14 31.6**	**+0.9**
SMRC				*e*S	**Sn**	**10 15 19.2**	**-2.4**
SMRC				*i*		10 15 24.2	
	comp=Z,45nm,0.7s						
TXAR	**Lajitas Array**	**36.44**	**312**	P	**P**	**10 20 15.4**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=133,slow=10,SNR=3.0						
YKA	**Yellowknife Ar**	**63.21**	**340**	P	**P**	**10 23 36.0**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=134,slow=6.6,SNR=13						
ASAR	**Alice Springs**	**149.17**	**234**	PKPbc	**PKPdf**	**10 32 54.0**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=120,slow=3.2,SNR=7.1						
WRA	**Warramunga Arr**	**150.39**	**241**	PKPbc	**PKPdf**	**10 32 57.0**	**+2.6**
	comp=Z,0.2nm,0.4s,baz=107,slow=2.8,SNR=8.5						

MEX 15 10:13:45.3±1.0, 16°.18N×98°.07W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.22**	**345**	*i* P	Pg	10 13 48.7	-0.9
PNIG				*i* S	Sg	10 13 52.0	-0.5

ISCJB ***15*** *10:16:59.7±0.6, 2°.95N±0°.03×76°.06W±0°.05, h10km, mb3.2/1, Error ellipse: s-maj=7.9km s-min=4.4km az=172.7*
IDC ***15*** *10:17:00.3±1.2, 3°.22N×76°.27W, h0km, mb3.0/2, mb1 3.5/4, mb1mx3.4/30, mbtmp3.5/4, ML2.5/2, Error ellipse: s-maj=33.4km s-min=15.8km az=131.0*
ISC 15 10:16:58.6±0.7, 2°.99N±0°.03×76°.00W±0°.04, h10km, n18, σ1s50/28, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BETC	**Betania**	**0.63**	**119**	*e*P	**Pg**	**10 17 08.8**	**-2.1**
BETC				*e*S	**Sg**	**10 17 19.7**	**+0.5**
BETC				*i*		10 17 20.8	
	comp=Z,113nm,0.5s						
YOTC	**Yotoco, Valle**	**1.05**	**341**	*e*P	**Pg**	**10 17 16.1**	**-2.6**
YOTC				*e*S	**Sn**	**10 17 33.1**	**-1.1**
YOTC				*i*		10 17 34.5	
	comp=Z,454nm,0.4s						
FLOC	**Florencia**	**1.44**	**166**	*e*P	**Pn**	**10 17 21.8**	**-2.9**
FLOC				*i* Pg	**Pb**	**10 17 24.5**	**-0.9**
FLOC				*e*S	**Sn**	**10 17 42.8**	**-0.9**
FLOC				*i*		10 17 46.7	
	comp=Z,324nm,0.6s						
ANIL	**Santa Ana**	**1.61**	**22**	*e*P	**Pn**	**10 17 26.4**	**-0.9**
ANIL				*e*S	**Sg**	**10 17 50.7**	**+0.3**
MALC	**Bahia Malaga**	**1.68**	**307**	*e*P	**Pg**	**10 17 30.1**	**-0.7**
CRUC	**La Cruz**	**1.70**	**214**	*e*P	**Pb**	**10 17 29.7**	**-0.5**
PLMC	**San Jos del P**	**1.93**	**352**	*e*P	**Pn**	**10 17 31.3**	**-0.2**
PLMC				*e*S	**Sb**	**10 17 58.2**	**+0.1**
PLMC				*i*		10 18 13.7	
	comp=Z,194nm,0.6s						
RREF	**El Recreo**	**2.01**	**19**	*e*P	**Pb**	**10 17 34.7**	**-0.9**
RREF				*e*S	**Sg**	**10 18 02.2**	**-1.1**
RREF				*i*		10 18 07.7	
	comp=Z,62nm,0.3s						
SJAC	**San Juan de Ar**	**2.06**	**82**	*e*P	**Pg**	**10 17 37.2**	**-1.0**
ROSC	**El Rosal**	**2.49**	**42**	Pn	**Pb**	**10 17 42.1**	**-1.5**
	comp=Z,5.5nm,0.3s,baz=45,slow=5.7,SNR=6.2						
ROSC				Pg	**Pg**	**10 17 46.8**	**+0.5**
	comp=Z,17nm,0.3s,baz=340,slow=5.3,SNR=12						
ROSC				Lg	Lg	10 18 20.4	
	comp=Z,17nm,0.3s,baz=58,slow=23,SNR=9.0						
ROSC	**El Rosal**	**2.49**	**42**	*e*P	**Pb**	**10 17 44.2**	**+0.6**
ROSC				*e*S	**Sg**	**10 18 18.4**	**-0.2**
ROSC				*i*		10 18 29.3	
	comp=Z,96nm,0.6s						
VILC	**Villavicencio,**	**2.56**	**64**	*e*P	**Pb**	**10 17 44.6**	**-0.1**
VILC				*e*S	**Sg**	**10 18 21.7**	**+0.9**
VILC				*i*		10 18 31.6	
	comp=Z,287nm,0.5s						
PTLC	**Puerto Leguiza**	**3.04**	**157**	*e*P	**Pb**	**10 17 52.0**	**-0.9**
PTLC				*e*S	**Sg**	**10 18 38.3**	**+1.9**
ATAH	**Atahualpa**	**10.34**	**193**	Pn	**Pn**	**10 19 30.9**	**+3.5**
	comp=Z,0.2nm,0.3s,baz=34,slow=6.9,SNR=3.9						
LPAZ	**La Paz**	**20.67**	**158**	P	Pn	10 21 47.8	+6.0
	comp=Z,0.3nm,0.4s,baz=342,slow=16,SNR=2.6						
YKA	**Yellowknife Ar**	**65.91**	**341**	P	**P**	**10 27 46.8**	**+2.4**
	comp=Z,0.1nm,0.4s,baz=135,slow=6.0,SNR=4.5						
ASAR	**Alice Springs**	**144.53**	**232**	PKP	**PKPdf**	**10 36 36.8**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=116,slow=3.7,SNR=22						
WRA	**Warramunga Arr**	**145.94**	**238**	PKPbc	**PKiKP**	**10 36 41.4**	**-1.5**
	comp=Z,1.0nm,0.8s,baz=124,slow=3.0,SNR=6.2						

DDA ***15*** *10:17:50.4, 37°.29N×37°.10E, h7km±3km, ML2.5*
ISK ***15*** *10:17:50.8, 37°.33N×37°.09E, h10km, ML1.7/4*
ISCJB ***15*** *10:17:51.3±0.7, 37°.31N±0°.05×37°.10E±0°.04, h1km±8km, Error ellipse: s-maj=8.3km s-min=4.5km az=23.2*
ISC 15 10:17:50.8±1.2, 37°.30N±0°.04×37°.06E±0°.03, h7km±10km, n12, σ0s67/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMRS	**Kahramanmaras**	**0.24**	**328**	PG	**Pg**	**10 17 56.1**	**+0.4**
KMRS				SG	**Sg**	**10 17 59.9**	**+0.9**
GZT	**Gaziantep**	**0.40**	**82**	IAML_P			
	comp=Z,833nm,0.1s						
GZT				*i* P	**Pg**	**10 17 58.8**	**0.0**
GZT				*i* S	**Sg**	**10 18 03.5**	**-0.5**
KUZU	**Kuzuini**	**0.52**	**179**	*i* P	**Pn**	**10 18 04.5**	**-0.3**
KUZU				*i* S	**Sn**	**10 18 14.6**	**+0.7**
ANDN	**Andirin**	**0.64**	**296**	IAML_P			
	comp=Z,582nm,0.2s						
ANDN				*i* P	**Pb**	**10 18 04.0**	**-0.3**
ANDN				*i* S	**Sb**	**10 18 13.5**	**-0.1**

KOZT	**Kozan**	**1.00**	**281**	PG	**Pb**	**10 18 10.8**	**+0.3**
KOZT				SG	**Sn**	**10 18 25.4**	**-0.3**
ELBS	**KAHRAMANMARAS**	**1.03**	**3**	IAML_P			
	comp=Z,224nm,0.1s						
ELBS				*i* P	**Pn**	**10 18 12.0**	**+0.2**
ELBS				*i* S	**Sn**	**10 18 26.8**	**+0.2**
SAIM	**ADANA**	**1.03**	**311**	*i* P	**Pg**	**10 18 09.0**	**-1.7**
SAIM				*i* S	**Sn**	**10 18 27.4**	**+0.7**
TAHT	**Tahtakopru-Hat**	**1.16**	**218**	PN	**Pn**	**10 18 14.2**	**+0.7**
AKCD	**Akcadag**	**1.21**	**34**	IAML_P			
	comp=Z,372nm,0.2s						
AKCD				*i* P	**Pn**	**10 18 14.9**	**+0.6**
SURC	**SANLIURFA_SURC**	**1.31**	**108**	*i* P	**Pn**	**10 18 15.1**	**-0.5**
SURC				*i* S	**Sn**	**10 18 33.8**	**+0.5**
DARE	**Darende-Malaty**	**1.31**	**14**	PN	**Pn**	**10 18 15.3**	**-0.4**
URFA	**Urfa**	**1.41**	**84**	PN	**Pn**	**10 18 16.8**	**-0.2**

NIED ***15*** *10:47:00, 37°.70N×143°.70E, h5km, Mw4.2 Best double couple: M₀2.29000×10¹⁵ NP1:φs10.00000°, δ23.00000°, λ-90.00000°. NP2:φs190.00000°, δ67.00000°, λ-90.00000°.*
IDC ***15*** *10:47:05.2±0.6, 37°.62N×143°.91E, h0km, mb4.1/16, mb1 4.3/21, mb1mx4.1/38, mbtmp4.1/21, ML3.8/4, MS3.0/6, Ms1 3.0/6, ms1mx2.8/38, Error ellipse: s-maj=16.6km s-min=13.7km az=121.0*
NEIC ***15*** *10:47:06.3±0.3, 37°.61N×143°.87E, h10km, mb4.4/22, Error ellipse: s-maj=6.1km s-min=4.4km az=139.0*
ISCJB ***15*** *10:47:06.1±1.2, 37°.73N±0°.03×143°.74E±0°.03, h17km±8km, mb4.3/43, MS4.4/1, Error ellipse: s-maj=4.7km s-min=4.3km az=150.7*
BJI ***15*** *10:47:06.8, 37°.80N×143°.91E, h24km, mb4.4/37, mB5.1/18, Ms4.5/10, Ms7 4.2/10*
JMA ***15*** *10:47:07.9±0.2, 37°.73N×143°.73E, h50km, M4.2*
ISC 15 10:47:09.7±3.2, 37°.73N±0°.05×143°.78E±0°.06, h29km±22km, n103, σ1s65/120, mb4.3/43, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.92**	**288**	P	**Pn**	**10 47 38.5**	**-1.8**
JIKH				*e*S	**Sn**	**10 48 01.0**	**-2.4**
JIO	**Ouri**	**2.05**	**291**	P	**Pn**	**10 47 40.4**	**-1.7**
JIO				*e*S	**Sn**	**10 48 04.5**	**-2.2**
JKMT	**Kesennumamotoy**	**2.11**	**301**	P	**Pn**	**10 47 41.3**	**-1.7**
JKMT				S	**Sn**	**10 48 05.6**	**-2.6**
OFUJ	**Ofunato**	**2.13**	**310**	P	**Pn**	**10 47 41.5**	**-1.9**
OFUJ				*e*S	**Sn**	**10 48 06.4**	**-2.5**
JMK	**Ichinoseki**	**2.35**	**302**	P	**Pn**	**10 47 44.9**	**-1.4**
JMK				*e*S	**Sn**	**10 48 12.2**	**-2.0**
JOM	**Ohasama**	**2.61**	**313**	P	**Pn**	**10 47 48.6**	**-1.3**
JOM				S	**Sn**	**10 48 19.1**	**-1.5**
JFT	**Otama**	**2.74**	**267**	P	**Pn**	**10 47 50.5**	**-1.2**
JFT				S	**Sn**	**10 48 21.7**	**-2.2**
JYK	**Kaneyama**	**2.94**	**295**	P	**Pn**	**10 47 53.4**	**-1.0**
JYK				*e*S	**Sn**	**10 48 27.6**	**-1.1**
JANG	**Nango**	**3.17**	**327**	P	**Pn**	**10 47 56.2**	**-1.4**
JANG				S	**Sn**	**10 48 32.0**	**-2.5**
JNS	**Sasagawa**	**3.54**	**273**	P	**Pn**	**10 48 01.9**	**-0.7**
BSO1	**Boso 1**	**3.82**	**217**	P	**Pn**	**10 48 03.5**	**-2.5**
JOT	**Ohata**	**4.21**	**331**	P	**Pn**	**10 48 11.6**	**-0.3**
JOT				*e*S	**Sn**	**10 48 57.8**	**-2.3**
JRY	**Ryogami san**	**4.27**	**248**	P	**Pn**	**10 48 10.9**	**-1.8**
JRY				*e*S	**Sn**	**10 48 57.3**	**-4.3**
ERM	**Erimo**	**4.30**	**354**	*e*Pn	**Pn**	**10 48 11.7**	**-1.4**
ERM				*e*Sn	**Sn**	**10 49 00.7**	**-1.6**
JOD2	**Odawara 2**	**4.51**	**238**	P	**Pn**	**10 48 13.6**	**-2.4**
JOD2				*e*S	**Sn**	**10 49 02.3**	**-5.2**
MJAR	**Matsushiro Arr**	**4.61**	**257**	Pn	**Pn**	**10 48 17.0**	**-0.3**
	2.2nm,0.3s,baz=75,slow=9.4,SNR=119						
MJAR				Sn	**Sn**	**10 49 09.2**	**-0.7**
	0.4nm,0.3s,baz=94,slow=26,SNR=4.6						
MAJO	**Matsushiro**	**4.61**	**257**	*e*Pn	**Pn**	**10 48 17.2**	**-0.1**
MAJO				*e*Sn	**Sn**	**10 49 09.2**	**-0.7**
MAT	**Matsushiro**	**4.61**	**257**	P	**Pn**	**10 48 17.1**	**-0.3**
MAT				S	**Sn**	**10 49 10.1**	**+0.2**
MJB9	**Matsu-Tunnel**	**4.61**	**257**	*e*Pn	**Pn**	**10 48 16.8**	**-0.6**
JKB	**Kayabe**	**4.66**	**334**	P	**Pn**	**10 48 17.7**	**-0.3**
JKB				*e*S	**Sn**	**10 49 07.9**	**-3.2**
JCH	**Churui**	**4.89**	**356**	P	**Pn**	**10 48 19.4**	**-1.8**
JCH				*e*S	**Sn**	**10 49 12.2**	**-4.5**
JOSM	**Okushiri--Mats**	**5.46**	**324**	P	**Pn**	**10 48 29.2**	**-0.2**
JHJ2	**Mitsune**	**5.63**	**216**	*e*Pn	Pn	10 48 27.3	-4.1
NEM2	**Nemuro 2**	**5.82**	**14**	P	Pn	10 48 31.1	-2.9
NEM2				*e*S	**Sn**	**10 49 33.4**	**-6.3**
INU	**Inuyama**	**5.94**	**248**	*e*Pn	**Pn**	**10 48 35.8**	**+0.1**
ASAJ	**Asahikawa**	**6.44**	**352**	Pn	**Pn**	**10 48 41.9**	**-0.6**
	6.6nm,0.3s,baz=188,slow=9.4,SNR=28						
ASAJ				Sn	**Sn**	**10 49 53.1**	**-1.9**
	0.5nm,0.3s,baz=143,slow=20,SNR=3.2						
ASAJ	**Asahikawa**	**6.44**	**352**	*e*Pn	**Pn**	**10 48 42.1**	**-0.4**
USA0B	**Ussuriysk Arra**	**11.00**	**310**	*e*Pn	**Pn**	**10 49 45.9**	**+0.9**
USRK	**Ussuriysk Ar.

ANM	**Nome**	**40.02**	**31**	*e*P		**P**	**10 54 41.7**	**0.0**	
	3.7nm,1.1s								
FAKI	**Fak Fak**	**41.84**	**197**	*e*P		**P**	**10 54 55.0**	**-2.1**	
	9.8nm,1.0s								
RDOG	**Red Dog Mine**	**42.03**	**27**	*e*P		**P**	**10 54 57.9**	**-0.3**	
	2.9nm,0.7s								
WMQ	**Urumqi**	**42.21**	**297**	*e*P		**P**	**10 55 03.9**	**+3.9**	
WMQ				pP		sP	10 55 12.1	-0.1	
WMQ				sP		pP	10 55 15.4	+6.7	
WMQ				pmax		pmax			
	comp=Z,15nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,300nm,6.9s								
WMQ				LR		LR			
	comp=N,100nm,22.1s								
WMQ				LR		LR			
	comp=Z,110nm,14.3s								
ZAA0	**Zalesovo Array**	**42.84**	**312**	*e*P		**P**	**10 55 05.9**	**+1.0**	
	4.4nm,0.9s								
ZAA1	**Zalesovo Array**	**42.84**	**312**	*e*P		**P**	**10 55 06.7**	**+1.8**	
ZALV	**Zalesovo Beam**	**42.84**	**312**	P		**P**	**10 55 06.7**	**+1.8**	
	3.3nm,0.6s,baz=90,slow=4.6,SNR=4.3								
ZALV				PcP		**PcP**	**10 56 56.0**	**+0.5**	
	1.1nm,0.6s,baz=93,slow=2.6,SNR=4.2								
ZALV	**Zalesovo Beam**	**42.84**	**312**	*e*P		**P**	**10 55 05.8**	**+0.8**	
CMAR	**Chiang Mai Arr**	**43.49**	**256**	P		**P**	**10 55 12.1**	**+1.5**	
	1.1nm,0.3s,baz=55,slow=7.8,SNR=3.7								
IM3	**Indian Mountai**	**45.09**	**31**	*e*P		**P**	**10 55 23.3**	**+0.5**	
MK01	**Makanchi Array**	**45.34**	**302**	*e*P		**P**	**10 55 25.5**	**+0.4**	
MK31	**Makanchi Array**	**45.35**	**302**	*e*P		**P**	**10 55 25.4**	**+0.3**	
MK32	**Makanchi Array**	**45.35**	**302**	*e*P		**P**	**10 55 25.9**	**+0.8**	
MKAR	**Makanchi Array**	**45.35**	**302**	P		**P**	**10 55 25.9**	**+0.8**	
	1.5nm,0.8s,baz=86,slow=9.3,SNR=12								
MKAR	**Makanchi Array**	**45.35**	**302**	*e*P		**P**	**10 55 24.6**	**-0.6**	
	12nm,0.6s								
MAKZ	**Makanchi**	**45.55**	**302**	*e*P		**P**	**10 55 26.4**	**-0.4**	
	1.8nm,0.6s								
KURK	**Kurchatov**	**46.99**	**308**	*e*P		**P**	**10 55 38.2**	**+0.3**	
	6.6nm,0.6s								
RND	**Reindeer**	**47.04**	**35**	*e*P		**P**	**10 55 38.2**	**0.0**	
	3.8nm,1.1s								
SML	**Sawmill**	**47.31**	**37**	*e*P		**P**	**10 55 40.8**	**+0.4**	
	12nm,1.1s								
WRH	**Wood River Hil**	**47.38**	**33**	*e*P		**P**	**10 55 41.2**	**+0.4**	
	1.9nm,0.9s								
HDA	**Harding Lake**	**47.87**	**33**	*e*P		**P**	**10 55 45.0**	**+0.4**	
	4.9nm,1.1s								
IL1	**Eielson Array**	**47.89**	**33**	*e*P		**P**	**10 55 45.2**	**+0.4**	
ILAR	**Eielson Array**	**47.89**	**33**	P		**P**	**10 55 45.6**	**+0.8**	
	1.8nm,0.7s,baz=262,slow=6.4,SNR=28								
ILB	**Eielson Array**	**47.89**	**33**	*e*P		**P**	**10 55 45.2**	**+0.4**	
INK	**Inuvik**	**52.90**	**28**	P		**P**	**10 56 22.4**	**-0.1**	
	0.7nm,0.6s,baz=301,slow=7.8,SNR=8.0								
INK	**Inuvik**	**52.90**	**28**	*e*P		**P**	**10 56 23.0**	**+0.5**	
	0.7nm,1.1s								
KK31	**Karatay Array**	**54.40**	**300**	*e*P		**P**	**10 56 34.7**	**+0.7**	
CHGR	**Chuyangaron**	**57.06**	**296**	*e*P		**P**	**10 56 54.0**	**+0.8**	
	7.7nm,0.8s								
ARU	**Arti**	**57.08**	**319**	*e*P		**P**	**10 56 53.8**	**+0.9**	
	2.8nm,0.7s								
WRAB	**Tennant Creek**	**58.04**	**190**	*e*P		**P**	**10 56 58.3**	**-1.7**	
	8.0nm,0.8s								
WB2	**Warramunga Arr**	**58.05**	**190**	*e*P		**P**	**10 56 58.2**	**-1.8**	
	8.2nm,0.8s								
WR1	**Warramunga Arr**	**58.05**	**190**	*e*P		**P**	**10 56 58.9**	**-1.2**	
	8.7nm,0.8s								
WR1				*e*PcP		**PcP**	**10 57 51.4**	**-0.3**	
WRA	**Warramunga Arr**	**58.05**	**190**	P		**P**	**10 56 58.9**	**-1.2**	
	7.5nm,0.7s,baz=11,slow=7.3,SNR=57								
WRA				PcP		**PcP**	**10 57 51.4**	**-0.3**	
	1.0nm,0.6s,baz=6.9,slow=4.3,SNR=5.0								
ABKAR	**Akbulak array**	**58.92**	**310**	*e*P		**P**	**10 57 07.0**	**+1.0**	
RES	**Resolute Bay**	**61.45**	**15**	*e*P		**P**	**10 57 23.7**	**+0.8**	
	1.1nm,0.6s								
AS01	**Alice Springs**	**61.77**	**190**	*e*P		**P**	**10 57 24.3**	**-1.3**	
AS31	**Alice Springs**	**61.77**	**190**	*e*P		**P**	**10 57 24.4**	**-1.2**	
	1.0nm,1.0s								
ASAR	**Alice Springs**	**61.77**	**190**	P		**P**	**10 57 24.8**	**-0.9**	
	2.5nm,0.8s,baz=9.8,slow=6.5,SNR=24								
YKA	**Yellowknife Ar**	**62.25**	**31**	P		**P**	**10 57 29.0**	**+0.6**	
	0.4nm,0.7s,baz=300,slow=6.5,SNR=9.2								
FIA0	**FINESS Array S**	**69.06**	**333**	*e*P		**P**	**10 58 12.9**	**+0.5**	
FINES	**FINESS Array B**	**69.06**	**333**	P		**P**	**10 58 12.9**	**+0.5**	
	2.4nm,0.9s,baz=35,slow=5.1,SNR=3.1								
STKA	**Stephens Creek**	**69.28**	**182**	P		**P**	**10 58 13.2**	**-0.8**	
	1.3nm,0.8s,baz=315,slow=8.7,SNR=3.5								
KBZ	**Khabaz**	**71.86**	**311**	P		**P**	**10 58 31.4**	**+1.6**	
	1.4nm,0.7s,baz=18,slow=16,SNR=3.8								
FCC	**Fort Churchill**	**72.52**	**28**	*e*P		**P**	**10 58 33.1**	**-0.3**	
	2.6nm,1.1s								
NV01	**Mina Array Sit**	**73.06**	**54**	*e*P		**P**	**10 58 37.4**	**+0.1**	
NVAR	**Mina Array Bea**	**73.06**	**54**	P		**P**	**10 58 39.0**	**+1.7**	
	0.6nm,0.7s,baz=270,slow=4.5,SNR=3.1								
AKASG	**Malin Array Be**	**74.88**	**323**	P		**P**	**10 58 47.6**	**+0.2**	
	0.7nm,0.4s,baz=44,slow=6.0,SNR=4.7								
PDAR	**Pinedale Array**	**75.83**	**47**	P		**P**	**10 58 52.7**	**-0.6**	
	0.7nm,0.7s,baz=286,slow=2.7,SNR=11								
PDAR	**Pinedale Array**	**75.83**	**47**	*e*P		**P**	**10 58 52.5**	**-0.8**	
CLL	**Collm**	**81.41**	**331**	*e*P		**P**	**10 59 24.0**	**+0.4**	
CLL				*e*			10 59 36.0		

IDC 15 10:48:32.4±2.8, 67°30S×113°17E, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.9/24, mbtmp3.9/4, ML3.4/1, MS3.6/2, Ms1 3.6/2, ms1mx3.1/16, Error ellipse: s-maj=103.5km s-min=24.2km az=99.0, Antarctica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
VNDA	**Vanda**	**17.20**	**146**	P		Pn	10 52 31.7	-1.9
	0.1nm,0.3s,baz=289,slow=13,SNR=4.8							
VNDA				S		Sn	10 55 32.7	-12
	0.1nm,0.3s,baz=331,slow=13,SNR=3.1							
QSPA	**South Pole Qui**	**22.78**	**180**	P		P	10 53 36.7	+0.6
	2.0nm,0.9s,baz=312,slow=2.6,SNR=9.3							
QSPA				S		S	10 57 37.0	-8.8
	1.1nm,0.7s,baz=151,slow=13,SNR=3.4							
STKA	**Stephens Creek**	**39.22**	**40**	P		P	10 56 02.7	+0.7
	2.3nm,0.6s,baz=180,slow=8.5,SNR=7.3							
STKA				LR		LR	11 09 19.4	
	comp=Z,87nm,19.4s,baz=203,slow=32							
ASAR	**Alice Springs**	**45.52**	**27**	P		P	10 56 52.6	-0.7
	2.6nm,0.8s,baz=194,slow=6.9,SNR=26							
PALK	**Pallekele**	**77.94**	**327**	LR		LR	11 29 43.5	
	comp=Z,32nm,20.1s,baz=120,slow=32							

NIED ***15*** *10:58:00,37.70N×143.70E, h5km, Mw4.5 Best double couple: M○5.90000×10[15] NP1:φs16.00000°, δ28.00000°, λ-80.00000°. NP2:φs184.00000°, δ63.00000°, λ-95.00000°.*

IDC ***15*** *10:58:48.5±0.6, 37.55N×143.92E, h0km, mb4.1/25, mb1 4.3/31, mb1mx4.3/42, mbtmp4.1/31, ML3.7/4, MS3.5/20, Ms1 3.5/20, ms1mx3.3/34, Error ellipse: s-maj=16.4km s-min=12.3km az=142.0*

NEIC ***15*** *10:58:50.5±0.2, 37.63N×143.85E, h10km, mb4.6/57, Error ellipse: s-maj=4.5km s-min=2.7km az=153.0*

JMA ***15*** *10:58:51.1±0.2, 37.69N×143.71E, h46km, M4.1*

BJI ***15*** *10:58:53.4, 37.95N×143.71E, h32km, mb4.4/38, mB5.0/15, Ms4.6/19, Ms7 4.3/18*

MOS ***15*** *10:58:54.0±1.2, 37.93N×143.71E, h37km, mb4.6/42, Error ellipse: s-maj=8.1km s-min=4.8km az=98.0*

ISC 15 10:58:52.7±1.0, 37.74N±0.05×143.81E±0.05, h24km±6km**, n226, σ1°60/248, mb4.5/91, MS3.7/18, 9C-7D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.94**	**288**	P		**Pn**	**10 59 21.8**	**-2.3**
JIKH					*e*S	**Sn**	**10 59 44.5**	**-3.2**
JIO	**Ouri**	**2.07**	**291**	P		**Pn**	**10 59 23.9**	**-2.0**
JIO					*e*S	**Sn**	**10 59 47.9**	**-3.0**
JKMT	**Kesennumamotoy**	**2.13**	**301**	P		**Pn**	**10 59 24.6**	**-2.1**
JKMT					*e*S	**Sn**	**10 59 48.8**	**-3.6**
OFUJ	**Ofunato**	**2.15**	**309**	P		**Pn**	**10 59 25.0**	**-2.1**
OFUJ					*e*S	**Sn**	**10 59 50.0**	**-3.0**
JMK	**Ichinoseki**	**2.37**	**301**	P		**Pn**	**10 59 28.4**	**-1.7**
JMK					*e*S	**Sn**	**10 59 55.8**	**-2.6**
JOM	**Ohasama**	**2.62**	**312**	P		**Pn**	**10 59 32.2**	**-1.4**
JOM					*e*S	**Sn**	**11 00 02.6**	**-2.1**
JFT	**Otama**	**2.77**	**266**	P		**Pn**	**10 59 34.0**	**-1.6**
JFT					*e*S	**Sn**	**11 00 05.4**	**-2.8**
JYK	**Kaneyama**	**2.96**	**294**	P		**Pn**	**10 59 36.9**	**-1.3**
JYK				S		**Sn**	**11 00 11.0**	**-1.9**
JANG	**Nango**	**3.18**	**327**	P		**Pn**	**10 59 40.3**	**-0.9**
JANG					*e*S	**Sn**	**11 00 16.0**	**-2.4**
JNS	**Sasagawa**	**3.56**	**273**	P		**Pn**	**10 59 45.3**	**-1.2**
JAG	**Ashikaga**	**3.72**	**251**	P		**Pn**	**10 59 46.4**	**-2.3**
JAG					*e*S	**Sn**	**11 00 28.6**	**-3.2**
BSO1	**Boso 1**	**3.84**	**217**	P		**Pn**	**10 59 46.9**	**-2.9**
JOT	**Ohata**	**4.22**	**330**	P		**Pn**	**10 59 54.9**	**-0.6**
JOT					*e*S	**Sn**	**11 00 42.0**	**-1.9**
JRY	**Ryogami san**	**4.29**	**248**	P		**Pn**	**10 59 54.2**	**-2.4**
JRY				S		**Sn**	**11 00 41.0**	**-5.0**
ERM	**Erimo**	**4.30**	**353**	*e*Pn		**Pn**	**10 59 57.3**	**+0.7**
ERM					*e*Sn	**Sn**	**11 00 43.8**	**-2.2**
ERM	**Erimo**	**4.30**	**353**	*e*P		**Pn**	**10 59 56.0**	**-0.6**
JOD2	**Odawara 2**	**4.54**	**238**	P		**Pn**	**10 59 57.3**	**-2.6**
JOD2					*e*S	**Sn**	**11 00 47.0**	**-4.9**
MJAR	**Matsushiro Arr**	**4.63**	**257**	Pn		**Pn**	**10 59 59.6**	**-1.7**
	2.4nm,0.3s,baz=205,slow=22,SNR=85							
MJAR					Sn	**Sn**	**11 00 52.1**	**-2.1**
	baz=69,slow=17,SNR=2.6							
MJAR				LR		LR	11 02 17.2	
	comp=Z,498nm,18.6s,baz=70,slow=45							
MAJO	**Matsushiro**	**4.63**	**257**	*e*Pn		**Pn**	**11 00 00.8**	**-0.5**
MAJO					*e*Sn	**Sn**	**11 00 52.1**	**-2.2**
MAJO	**Matsushiro**	**4.63**	**257**	*d*P		**Pn**	**11 00 01.1**	**-0.2**
MAT	**Matsushiro**	**4.63**	**257**	P		**Pn**	**11 00 00.6**	**-0.7**
MAT					S	**Sn**	**11 00 52.4**	**-1.9**
MJB9	**Matsu-Tunnel**	**4.63**	**257**	*e*Pn		**Pn**	**11 00 01.2**	**-0.1**
JKB	**Kayabe**	**4.66**	**334**	P		**Pn**	**11 00 01.8**	**+0.2**
JCH	**Churui**	**4.88**	**356**	P		**Pn**	**11 00 03.1**	**-1.5**
JCH					S	**Sn**	**11 00 55.5**	**-4.8**
JOSM	**Okushiri--Mats**	**5.47**	**324**	P		**Pn**	**11 00 12.6**	**-0.1**
NEM2	**Nemuro 2**	**5.81**	**14**	P		**Pn**	**11 00 14.6**	**-2.7**
NEM2					S	**Sn**	**11 01 17.6**	**-5.5**
INU	**Inuyama**	**5.97**	**248**	*e*Pn		**Pn**	**11 00 19.9**	**+0.4**
ASAJ	**Asahikawa**	**6.43**	**352**	Pn		**Pn**	**11 00 25.6**	**-0.3**
	7.1nm,0.3s,baz=199,slow=9.5,SNR=29							
ASAJ					Sn	**Sn**	**11 01 38.1**	**-0.5**
	baz=156,slow=17,SNR=3.0							
YUK	**Yuzh-Kuril'sk**	**6.48**	**13**	*e*P		**Pn**	**11 00 25.2**	**-1.3**
YUK				*i* S		**Sn**	**11 01 35.4**	**-4.2**
YUK				pmax		pmax		
	comp=N,62nm,0.6s							
YUK				pmax		pmax		
	comp=Z,117nm,0.6s							
YUK				pmax		pmax		
	comp=E,50nm,0.1s							
SHO	**Shikotan**	**6.54**	**20**	*e*P		**Pn**	**11 00 24.9**	**-2.4**
SHO				*i* S		**Sn**	**11 01 34.0**	**-7.1**
SHO				pmax		pmax		
	comp=Z,78nm,0.7s							
SHO				pmax		pmax		
	comp=N,28nm,0.6s							
SHO				pmax		pmax		
	comp=E,40nm,0.7s							
SHO				smax		smax		
	comp=N,202nm,0.4s							
SHO				smax		smax		
	comp=E,112nm,0.5s							
KUR	**Kuril'sk**	**8.08**	**21**	*e*P		**Pn**	**11 00 46.9**	**-1.6**
KUR				*e*S		**Sn**	**11 02 13.4**	**-5.6**
KUR				smax		smax		
	comp=E,83nm,0.5s							
KUR				smax		smax		
	comp=N,63nm,0.3s							
TEY	**Ternei**	**9.08**	**326**	*e*P		**Pn**	**11 01 04.4**	**+2.2**
TEY				pmax		pmax		
	comp=N,20nm,1.2s							
TEY				pmax		pmax		
	comp=E,30nm,1.2s							
TEY				pmax		pmax		
	comp=Z,30nm,1.0s							
YSS	**Yuzh-Sakhalins**	**9.24**	**355**	*e*Pn		**Pn**	**11 01 05.1**	**+0.7**
YSS	**Yuzh-Sakhalins**	**9.24**	**355**	*e*P		**Pn**	**11 01 07.0**	**+2.6**
YSS				*e*S		**Sn**	**11 02 46.8**	**-0.7**
YSS				pmax		pmax		
	comp=Z,20nm,0.9s							
USA0B	**Ussuriysk Arra**	**11.02**	**310**	*e*Pn		**Pn**	**11 01 30.2**	**+1.5**
USRK	**Ussuriysk Ar.**	**11.02**	**310**	Pn		**Pn**	**11 01 29.4**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=104,slow=14,SNR=6.3							
USRK				LR		LR	11 05 30.1	
	comp=Z,388nm,20.0s,baz=141,slow=36							
JNU	**Nakatsue**	**11.51**	**250**	Pn		**Pn**	**11 01 33.8**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=45,slow=1.4,SNR=2.8							
JNU				LR		LR	11 06 11.2	
	comp=Z,233nm,20.1s,baz=108,slow=38							
JNU	**Nakatsue**	**11.51**	**250**	*e*Pn		**Pn**	**11 01 34.6**	**-1.0**
KSRS	**Korea Array**	**12.61**	**274**	Pn		**Pn**	**11 01 50.6**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=82,slow=14,SNR=6.0							
KSRS				LR		LR	11 06 36.5	
	comp=Z,365nm,18.1s,baz=62,slow=37							
MDJ	**Mudanjiang**	**12.71**	**307**	P		**Pn**	**11 01 49.9**	**-2.1**
MDJ				pP		P	11 01 57.3	-5.6
MDJ				sP			11 02 02.8	
MDJ				S		**Sn**	**11 04 12.8**	**+0.1**
MDJ				sS			11 04 23.9	
MDJ				PcS		**PcS**	**11 10 58.1**	**-4.0**
MDJ				pmax		pmax		
	comp=Z,5.0nm,1.3s							
MDJ				LR		LR		
	comp=Z,520nm,6.8s							
MDJ				LR		LR		
	comp=Z,650nm,4.9s							
MDJ				LR		LR		
	comp=Z,710nm,9.5s							
TYV	**Tymovskoe**	**13.14**	**357**	*e*P		**Pn**	**11 01 55.9**	**-1.9**
TYV				pmax		pmax		
	comp=Z,9.0nm,1.2s							
GRNR	**Gornyy**	**14.05**	**340**	*e*P		**Pn**	**11 02 09.8**	**-0.3**
GRNR				pmax		pmax		
	comp=Z,13nm,1.0s							
KLR	**Kul'dur**	**14.42**	**327**	Pn		**Pn**	**11 02 12.6**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=117,slow=12,SNR=6.5							
KLR				LR		LR	11 07 42.3	
	comp=Z,168nm,20.4s,baz=146,slow=36							
JOW	**Kunigami**	**17.03**	**235**	LR		LR	11 09 17.5	
	comp=Z,100nm,20.6s,baz=110,slow=37							
JOW	**Kunigami**	**17.03**	**235**	*e*P		**P**	**11 02 51.0**	**+0.1**
	comp=Z,15nm,1.0s							
PETK	**Petropavlovsk-**	**18.14**	**28**	P		**P**	**11 03 04.6**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=194,slow=11,SNR=3.6							
PETK				LR		LR	11 12 16.6	
	comp=Z,53nm,18.1s,baz=211,slow=44							
PEA1	**Petropavlovsk-**	**18.15**	**28**	*e*P		**P**	**11 03 04.6**	**+1.5**
ZEA	**Zeya**	**19.66**	**330**	*e*P		**P**	**11 03 20.0**	**+0.4**
ZEA				pmax		pmax		
	comp=N,43nm,1.2s							
ZEA				pmax		pmax		
	comp=E,43nm,1.2s							
ZEA				pmax		pmax		
	comp=Z,83nm,1.4s							
ZEA				MLR		MLR		
	comp=Z,400nm,11.0s							
HIA	**Hailar**	**20.82**	**311**	*e*P		**P**	**11 03 32.7**	**+0.3**
	comp=Z,7.4nm,1.1s							
HIA	**Hailar**	**20.82**	**311**	*e*P		**P**	**11 03 32.7**	**+0.3**
HIA				pmax		pmax		
	comp=Z,7.0nm,1.1s							
NJ2	**Nanjing**	**21.21**	**262**	*e*P		**P**	**11 03 37.8**	**+1.1**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.6s							
BJI	**Beijing**	**21.60**	**285**	*e*P		**P**	**11 03 39.9**	**-0.9**
BJI				pmax		pmax		
	comp=Z,10.0nm,0.9s							
BJT	**Baijiatuan**	**21.61**	**285**	*e*P		**P**	**11 03 40.6**	**-0.3**
BJT	**Baijiatuan**	**21.61**	**285**	*e*P		**P**	**11 03 40.6**	**-0.3**
MA2	**Magadan**	**22.30**	**9**	P		**P**	**11 03 50.5**	**+2.3**
	comp=Z,4.3nm,0.6s,baz=143,slow=20,SNR=4.4							
MA2				LR		LR	11 12 21.0	
	comp=Z,18nm,21.6s,baz=333,slow=36							
MA2	**Magadan**	**22.30**	**9**	*e*P		**P**	**11 03 48.6**	**+0.4**
	comp=Z,9.3nm,1.0s							
MA2	**Magadan**	**22.30**	**9**	*e*P		**P**	**11 03 49.2**	**+1.0**
MA2				pmax		pmax		
	comp=Z,18nm,1.7s							
GUMO	**Guam**	**24.07**	**177**	LR		LR	11 11 26.8	
	comp=Z,44nm,21.1s,baz=16,slow=32							
HHC	**Hu-ho-hao-te**	**25.07**	**287**	*e*P		**P**	**11 04 16.3**	**+0.9**
HHC				S		**S**	**11 08 39.8**	**+1.3**
HHC				pmax		pmax		
	comp=Z,19nm,1.0s							
HHC				pmax		pmax		
	comp=Z,320nm,7.8s							
HHC				LR		LR		
	comp=Z,200nm,10.8s							
HHC				LR		LR		
	comp=Z,490nm,10.2s							
HHC				LR		LR		
	comp=Z,500nm,12.9s							
WHN	**Wuhan**	**25.35**	**262**	P		P	11 04 29.8	+12
SEY	**Seymchan**	**25.76**	**9**	P		**P**	**11 04 22.5**	**+1.3**
	comp=Z,4.9nm,0.7s,baz=174,slow=5.5,SNR=12							
SEY	**Seymchan**	**25.76**	**9**	*i* P		**P**	**11 04 22.7**	**+1.4**
YAK	**Yakutsk**	**25.84**	**345**	*e*P		**P**	**11 04 20.7**	**-1.3**
YAK				*e*PP		**sP**	**11 04 29.3**	**+0.2**
YAK				*e*			11 04 58.8	
YAK				*e*PPP		PPP	11 05 12.0	
YAK				*e*S		**S**	**11 08 46.0**	**-4.0**
YAK				*e*SS		**SnSn**	**11 09 46.7**	**+0.1**
YAK				pmax		pmax		
	comp=Z,7.0nm,1.2s							
YAK				pmax		pmax		
	comp=N,5.0nm,1.1s							
YAK				pmax		pmax		
	comp=E,3.0nm,1.1s							
YAK				pmax		pmax		
	comp=Z,13nm,0.8s							
YAK				smax		smax		
	comp=N,103nm,3.5s							
YAK				smax		smax		
	comp=E,131nm,20.0s							
H11N2	**WAKE ISLAND Hy**	**26.93**	**125**	T		T	11 32 45.5	
	baz=317,slow=75,SNR=12							
H11N1	**WAKE ISLAND Hy**	**26.94**	**125**	T		T	11 32 43.8	
	baz=317,slow=75,SNR=6.8							
H11N3	**WAKE ISLAND Hy**	**26.95**	**125**	T		T	11 32 46.3	
	baz=317,slow=75,SNR=15							
H11S1	**WAKE ISLAND Hy**	**27.70**	**127**	T		T	11 33 47.8	
	baz=6.6,slow=74,SNR=5.1							
H11S2	**WAKE ISLAND Hy**	**27.72**	**127**	T		T	11 33 45.2	
	baz=323,slow=74,SNR=5.7							
BOD	**Bodaibo**	**27.99**	**325**	*e*P		**P**	**11 04 42.6**	**+1.2**
BOD				pmax		pmax		
	comp=Z,22nm,1.9s							
SONA1	**Songino Array**	**28.99**	**302**	*e*P		**P**	**11 04 50.8**	**+0.2**
SONA0	**Songino Array**	**29.00**	**302**	*e*P		**P**	**11 04 52.5**	**+1.9**
SONM	**Songino Array**	**29.00**	**302**	P		**P**	**11 04 52.5**	**+1.9**
	comp=Z,1.2nm,0.6s,baz=103,slow=11,SNR=8.8							
SONM				LR		LR	11 16 58.2	
	comp=Z,151nm,18.8s,baz=318,slow=37							
ENH	**Enshi**	**29.29**	**266**	*e*P		**P**	**11 04 53.0**	**-0.3**
	comp=Z,12nm,0.9s							
ZAK	**Zakamensk**	**31.35**	**307**	*e*P		**P**	**11 05 12.4**	**+1.0**
ZAK				pmax		pmax		
	comp=Z,7.0nm,1.1s							
LZH	**Lanzhou**	**31.83**	**279**	*e*P		**P**	**11 05 18.8**	**+3.0**
LZH				pP		pwP	11 05 28.6	-0.6
LZH				sP		sP	11 05 33.4	+10
LZH				pmax		pmax		
	comp=Z,28nm,1.1s							
LZH				LR		LR		
	comp=Z,410nm,8.9s							
LZH				LR		LR		
	comp=Z,740nm,10.0s							
LZH				LR		LR		
	comp=Z,490nm,15.2s							
BILL	**Bilibino**	**32.82**	**15**	*e*P		**P**	**11 05 24.1**	**+0.1**
	comp=Z,6.5nm,1.1s							
BILL	**Bilibino**	**32.82**	**15**	*e*P		**P**	**11 05 24.0**	**+0.1**
BILL				pmax		pmax		
	comp=Z,11nm,1.7s							
CD2	**Chengdu**	**33.58**	**270**	*e*P		**P**	**11 05 31.0**	**0.0**
GTA	**Gaotai**	**34.18**	**287**	*e*P		**P**	**11 05 37.6**	**+1.3**
GTA				pP		pwP	11 05 46.8	-2.9
GTA				sP		sP	11 05 51.0	+7.2
GTA				pmax		pmax		
	comp=Z,4.0nm,0.9s							
GTA				pmax		pmax		
	comp=Z,140nm,7.9s							
GTA				LR		LR		
	comp=Z,110nm,12.4s							
GTA				LR		LR		
	comp=Z,230nm,16.5s							
GTA				LR		LR		
	comp=Z,370nm,15.5s							
TIXI	**Tiksi**	**34.84**	**352**	*e*P		**P**	**11 05 41.4**	**0.0**
TIXI				pmax		pmax		
	comp=Z,1.0nm,1.0s							
KMI	**Kunming**	**36.95**	**262**	P		**P**	**11 06 01.0**	**+0.7**
KMI				pmax		pmax		
	comp=Z,8.0nm,0.6s							
ANM	**Nome**	**40.00**	**31**	*e*P		**P**	**11 06 26.5**	**+1.3**
	comp=Z,8.9nm,1.1s							
ANM	**Nome**	**40.00**	**31**	*e*P		**P**	**11 06 26.5**	**+1.3**
ANM				pmax		pmax		
	comp=Z,9.0nm,1.1s							
DGZ	**Jazzator, Alta**	**41.53**	**305**	*c*eP		**P**	**11 06 40.5**	**+2.3**
DGZ				pmax		pmax		
	comp=Z,4.0nm,1.0s							
RDOG	**Red Dog Mine**	**42.01**	**27**	*e*P		**P**	**11 06 42.7**	**+0.9**
	comp=Z,9.5nm,1.0s							
WMQ	**Urumqi**	**42.23**	**297**	*e*P		**P**	**11 06 47.8**	**+3.9**
WMQ				LR		LR		
	comp=Z,120nm,29.7s							
WMQ	**Urumqi**	**42.23**	**297**	*e*P		**P**	**11 06 44.2**	**+0.3**
	comp=Z,5.0nm,0.6s							
WMQ	**Urumqi**	**42.23**	**297**	*e*P		**P**	**11 06 44.2**	**+0.3**
WMQ				pmax		pmax		
	comp=Z,5.0nm,0.6s							
ZAA0	**Zalesovo Array**	**42.86**	**312**	*e*P		**P**	**11 06 48.4**	**-0.3**
	comp=Z,3.2nm,0.8s							
ZAA1	**Zalesovo Array**	**42.86**	**312**	*e*P		**P**	**11 06

	comp=Z,7.4nm,1.0s								
RND	**Reindeer**	**47.02**	**35**	*e*P		**P**		**11 07 21.7**	**-0.1**
RND				pmax		pmax			
	comp=Z,7.0nm,1.0s								
SML	**Sawmill**	**47.29**	**37**	*e*P		**P**		**11 07 24.6**	**+0.7**
	comp=Z,12nm,0.9s								
SML	**Sawmill**	**47.29**	**37**	*e*P		**P**		**11 07 24.6**	**+0.7**
SML				pmax		pmax			
	comp=Z,12nm,0.9s								
MDM	**Murphy Dome**	**47.30**	**32**	*e*P		**P**		**11 07 24.8**	**+0.8**
	comp=Z,18nm,1.2s								
COLA	**College**	**47.46**	**33**	*e*P		**P**		**11 07 25.8**	**+0.7**
	comp=Z,5.2nm,0.6s								
COLA	**College**	**47.46**	**33**⇑	*i*P		**P**		**11 07 26.7**	**+1.6**
COLA				pmax		pmax			
	comp=Z,5.0nm,1.1s								
SCM	**Sheep Creek Mo**	**47.76**	**37**	*e*P		**P**		**11 07 28.5**	**+0.8**
	comp=Z,27nm,1.2s								
SCM	**Sheep Creek Mo**	**47.76**	**37**	*e*P		**P**		**11 07 28.5**	**+0.8**
SCM				pmax		pmax			
	comp=Z,27nm,1.2s								
IL1	**Eielson Array**	**47.87**	**33**	*e*P		**P**		**11 07 28.5**	**+0.1**
ILAR	**Eielson Array**	**47.87**	**33**	P		**P**		**11 07 29.1**	**+0.7**
	comp=Z,4.0nm,0.9s,baz=265,slow=6.6,SNR=39								
ILB	**Eielson Array**	**47.87**	**33**	*e*P		**P**		**11 07 28.6**	**+0.2**
SCRK	**Sand Creek**	**49.16**	**34**	*e*P		**P**		**11 07 38.5**	**+0.1**
	comp=Z,2.6nm,1.0s								
BRVK	**Borovoye**	**51.56**	**312**	*e*P		**P**		**11 07 57.2**	**+0.6**
	comp=Z,2.6nm,0.8s								
BRVK	**Borovoye**	**51.56**	**312**⇑	*i*P		**P**		**11 07 58.0**	**+1.4**
BRVK				pmax		pmax			
	comp=Z,2.0nm,0.8s								
AAK	**Ala-Archa**	**51.83**	**299**	LR		LR		11 30 44.4	
	comp=Z,57nm,21.4s,baz=74,slow=37								
AAK	**Ala-Archa**	**51.83**	**299**	*e*P		**P**		**11 07 59.1**	**+0.1**
	comp=Z,1.9nm,1.0s								
AAK	**Ala-Archa**	**51.83**	**299**⇑	*e*P		**P**		**11 08 00.7**	**+1.7**
AAK				pmax		pmax			
	comp=Z,6.0nm,2.5s								
EPYK	**Eagle Plains**	**51.96**	**30**	*e*P		**P**		**11 07 59.6**	**+0.2**
	comp=Z,12nm,1.0s								
HYT	**Haines Junctio**	**52.59**	**37**	*e*P		**P**		**11 08 04.9**	**+0.6**
	comp=Z,12nm,1.2s								
INK	**Inuvik**	**52.88**	**28**	P		**P**		**11 08 06.3**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=328,slow=8.2,SNR=8.6								
INK	**Inuvik**	**52.88**	**28**	*e*P		**P**		**11 08 06.9**	**+0.7**
	comp=Z,4.3nm,1.1s								
ARSB	**Arslanbob**	**53.34**	**298**	*e*P		**P**		**11 08 10.2**	**0.0**
	comp=Z,5.6nm,1.1s								
KKAR	**Karatay Array**	**54.42**	**300**	*e*P		**P**		**11 08 18.3**	**+0.5**
KKAR	**Karatay Array**	**54.42**	**300**	*e*P		**P**		**11 08 18.3**	**+0.5**
BTK	**Batken**	**55.34**	**297**	*e*P		**P**		**11 08 24.4**	**-0.3**
	comp=Z,4.1nm,1.1s								
BTK	**Batken**	**55.34**	**297**	*e*P		**P**		**11 08 24.4**	**-0.3**
BTK				pmax		pmax			
	comp=Z,4.0nm,1.1s								
GSI	**Gunungsitoli**	**55.81**	**241**	*e*P		**P**		**11 08 27.9**	**-0.2**
	comp=Z,6.3nm,1.0s								
GAR	**Garm**	**56.11**	**296**	*e*P		**P**		**11 08 30.7**	**+0.4**
	comp=Z,7.7nm,0.9s								
GAR	**Garm**	**56.11**	**296**	*e*P		**P**		**11 08 30.7**	**+0.4**
GAR				pmax		pmax			
	comp=Z,8.0nm,0.9s								
DLBC	**Dease Lake**	**56.89**	**39**	P		**P**		**11 08 36.0**	**+0.6**
	comp=Z,3.4nm,1.0s,baz=251,slow=3.9,SNR=3.3								
CHGR	**Chuyangaron**	**57.08**	**296**	*e*P		**P**		**11 08 36.7**	**-0.4**
	comp=Z,29nm,1.2s								
ARU	**Arti**	**57.09**	**319**	*e*P		**P**		**11 08 36.2**	**-0.6**
	comp=Z,11nm,1.1s								
ARU	**Arti**	**57.09**	**319***c*	*i*P		**P**		**11 08 37.3**	**+0.5**
ARU								11 10 41.4	
ARU				S		**S**		**11 16 31.2**	**+1.1**
ARU				SS		**SS**		**11 20 16.6**	**-1.8**
ARU				pmax		pmax			
	comp=Z,11nm,1.2s								
WRAB	**Tennant Creek**	**58.05**	**190**	*e*P		**P**		**11 08 42.4**	**-1.5**
	comp=Z,7.4nm,0.9s								
WRAB	**Tennant Creek**	**58.05**	**190**	*e*P		**P**		**11 08 42.4**	**-1.5**
WRAB				pmax		pmax			
	comp=Z,7.0nm,0.9s								
WB2	**Warramunga Arr**	**58.06**	**190**	*e*P		**P**		**11 08 42.5**	**-1.4**
WR1	**Warramunga Arr**	**58.06**	**191**	*e*P		**P**		**11 08 42.0**	**-1.9**
	comp=Z,8.9nm,0.9s								
WRA	**Warramunga Arr**	**58.06**	**191**	P		**P**		**11 08 42.0**	**-1.9**
	comp=Z,5.8nm,0.8s,baz=11,slow=7.4,SNR=35								
ABKAR	**Akbulak array**	**58.94**	**310**	*e*P		**P**		**11 08 49.2**	**-0.6**
RES	**Resolute Bay**	**61.43**	**15**	P		**P**		**11 09 06.5**	**0.0**
	comp=Z,2.5nm,1.0s,baz=332,slow=7.3,SNR=7.7								
RES	**Resolute Bay**	**61.43**	**15**	*e*P		**P**		**11 09 06.9**	**+0.4**
	comp=Z,3.5nm,1.1s								
AS01	**Alice Springs**	**61.78**	**190**	*e*P		**P**		**11 09 07.6**	**-1.9**
AS31	**Alice Springs**	**61.79**	**190**	*e*P		**P**		**11 09 08.5**	**-1.1**
	comp=Z,1.0nm,0.8s								
ASAR	**Alice Springs**	**61.79**	**190**	P		**P**		**11 09 08.3**	**-1.2**
	comp=Z,2.2nm,0.8s,baz=8.0,slow=6.2,SNR=16								
YKA	**Yellowknife Ar**	**62.23**	**31**	P		**P**		**11 09 12.5**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=303,slow=6.8,SNR=12								
YKB5	**Yellowknife Ar**	**62.23**	**31**	*e*P		**P**		**11 09 12.0**	**-0.1**
ARA0	**ARCESS Array S**	**64.00**	**340**	*e*P		**P**		**11 09 25.0**	**+1.3**
ARCES	**ARCESS Array B**	**64.00**	**340**	P		**P**		**11 09 25.0**	**+1.3**
	comp=Z,1.3nm,0.8s,baz=54,slow=4.6,SNR=2.7								
KLMR	**Klimovskoe**	**64.17**	**328**	*e*P		**P**		**11 09 24.0**	**-0.9**
KLMR				pmax		pmax			
	comp=Z,13nm,1.5s								
KLMR	**Klimovskoe**	**64.17**	**328**	*e*P		**P**		**11 09 24.1**	**-0.9**
KLMR				AMP				11 09 38.2	
	comp=Z,13nm,1.5s								
GEYT	**Alibeck**	**65.15**	**300**	P		**P**		**11 09 32.5**	**+0.6**
	comp=Z,29nm,0.8s,baz=69,slow=7.9,SNR=3.3								
GEYT				LR		LR		11 39 46.0	
	comp=Z,65nm,18.1s,baz=95,slow=38								
H04A	**Detroit Lake**	**67.19**	**51**	*e*P		**P**		**11 09 45.6**	**+0.8**
	comp=Z,2.8nm,0.8s								
C09A	**Chrisman Ranch**	**67.88**	**46**	*e*P		**P**		**11 09 49.5**	**+0.4**
	comp=Z,2.8nm,1.0s								
PINE	**Pine Mountain**	**68.42**	**51**	*e*P		**P**		**11 09 53.2**	**+0.4**
	comp=Z,4.0nm,0.9s								
OBN	**Obninsk**	**68.66**	**324**	*e*P		**P**		**11 09 54.6**	**+0.9**
OBN				pmax		pmax			
	comp=Z,14nm,1.1s								
FIA0	**FINESS Array S**	**69.07**	**333**	*e*P		**P**		**11 09 56.7**	**+0.5**
FIA0	**FINESS Array S**	**69.07**	**333**	*e*P		**P**		**11 09 56.7**	**+0.5**
FINES	**FINESS Array B**	**69.07**	**333**	P		**P**		**11 09 56.7**	**+0.5**
	comp=Z,4.2nm,1.1s,baz=285,slow=3.7,SNR=4.9								
FINES				LR		LR		11 42 11.5	
	comp=Z,57nm,20.0s,baz=40,slow=38								
VSR	**Storozhevoye**	**69.64**	**320**	*e*P		**P**		**11 09 59.5**	**-0.4**
VSR				pmax		pmax			
	comp=Z,7.0nm,0.9s								
GOF	**Gofitskoye**	**71.03**	**313**	*e*P		P		11 10 20.4	+12
KIV	**Kislovodsk**	**71.87**	**312**	*e*P		**P**		**11 10 14.4**	**+0.6**
	comp=Z,12nm,0.7s								
KIV	**Kislovodsk**	**71.87**	**312**	*e*P		**P**		**11 10 15.4**	**+1.6**
KIV				pmax		pmax			
	comp=Z,18nm,1.0s								
KIV				MLR		MLR			
	comp=Z,44nm,18.0s								
KBZ	**Khabaz**	**71.88**	**311**	P		**P**		**11 10 15.3**	**+1.7**
	comp=Z,5.8nm,1.1s,baz=43,slow=7.2,SNR=5.9								
TBLG	**Delisi**	**71.90**	**309**	*e*P		**P**		**11 10 14.3**	**+0.4**
	comp=Z,5.5nm,0.7s								
TBLG	**Delisi**	**71.90**	**309**	*e*P		**P**		**11 10 14.3**	**+0.4**
TBLG				pmax		pmax			
	comp=Z,6.0nm,0.7s								
FFC	**Flin Flon**	**72.07**	**34**	*e*P		**P**		**11 10 14.8**	**+0.2**
	comp=Z,6.0nm,1.0s								
FFC	**Flin Flon**	**72.07**	**34**	*e*P		**P**		**11 10 14.8**	**+0.2**
FFC				pmax		pmax			
	comp=Z,6.0nm,1.0s								
DLMT	**Dillon**	**72.49**	**46**	*e*P		**P**		**11 10 17.1**	**-0.4**
	comp=Z,3.5nm,0.9s								
FCC	**Fort Churchill**	**72.50**	**28**	*e*P		**P**		**11 10 16.8**	**-0.3**
	comp=Z,5.4nm,1.0s								
FCC	**Fort Churchill**	**72.50**	**28**	*e*P		**P**		**11 10 16.8**	**-0.3**
FCC				pmax		pmax			
	comp=Z,5.0nm,1.0s								
GNI	**Garni**	**72.80**	**308**⇓	*e*P		**P**		**11 10 21.4**	**+1.9**
GNI				pmax		pmax			
	comp=Z,59nm,1.3s								
NV01	**Mina Array Sit**	**73.03**	**54**	*e*P		**P**		**11 10 21.3**	**+0.3**
NVAR	**Mina Array Bea**	**73.03**	**54**	P		**P**		**11 10 20.4**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=260,slow=6.8,SNR=4.4								
NB2	**NORSAR Subarra**	**74.26**	**338**	P		P		11 10 39.0	+12
	comp=Z,10nm,1.2s,baz=38,slow=5.9								
NB200	**NORSAR Array S**	**74.26**	**338**	*e*P		**P**		**11 10 27.4**	**-0.1**
NOA	**NORSAR Array B**	**74.26**	**338**	P		**P**		**11 10 27.4**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=24,slow=6.0,SNR=2.9								
NOA				LR		LR		11 45 59.5	
	comp=Z,34nm,21.7s,baz=245,slow=38								
R11A	**Troy Canyon, C**	**74.82**	**53**	*e*P		**P**		**11 10 31.9**	**+0.5**
	comp=Z,1.3nm,1.1s								
AKASG	**Malin Array Be**	**74.89**	**323**	P		**P**		**11 10 30.4**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=44,slow=6.6,SNR=6.3								
AKASG				LR		LR		11 45 04.4	
	comp=Z,47nm,18.9s,baz=50,slow=37								
AKBB	**Malin Array Si**	**74.89**	**323**	*e*P		**P**		**11 10 31.8**	**+0.5**
	comp=Z,1.9nm,0.9s								
AKBB	**Malin Array Si**	**74.89**	**323**	*e*P		**P**		**11 10 31.8**	**+0.5**
AKBB				pmax		pmax			
	comp=Z,2.0nm,0.9s								
KIEV	**Kiev**	**74.90**	**323**⇓	*i*P		**P**		**11 10 31.7**	**+0.4**
KIEV				pmax		pmax			
	comp=Z,3.0nm,1.1s								
BW06	**Boulder Array**	**75.80**	**47**	*e*P		**P**		**11 10 37.5**	**+0.5**
	comp=Z,3.0nm,1.0s								
PD31	**Pinedale Array**	**75.80**	**47**	*e*P		**P**		**11 10 37.4**	**+0.5**
PDAR	**Pinedale Array**	**75.80**	**47**	P		**P**		**11 10 37.5**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=269,slow=1.8,SNR=9.9								
PDAR	**Pinedale Array**	**75.80**	**47**	*e*P		**P**		**11 10 37.2**	**+0.2**
P17A	**Butcher Ranch,**	**77.15**	**50**	*e*P		**P**		**11 10 44.9**	**+0.3**
	comp=Z,3.7nm,1.1s								
ULM	**Lac du Bonnet**	**77.85**	**35**	P		**P**		**11 10 48.0**	**-0.1**
	comp=Z,3.0nm,1.2s,baz=329,slow=3.6,SNR=3.6								
ULM	**Lac du Bonnet**	**77.85**	**35**	P		**P**		**11 10 48.0**	**-0.1**
ULM				pmax		pmax			
	comp=Z,3.0nm,1.2s								
PV14	**Lion Creek, Pa**	**78.88**	**50**	*e*P		**P**		**11 10 54.8**	**+0.5**
	comp=Z,6.1nm,1.2s								
BUR04	**Bucovina Ar. S**	**78.92**	**323**	*e*P		**P**		**11 10 54.1**	**-0.1**
PV16	**Nyswonger Mesa**	**78.98**	**50**	*e*P		**P**		**11 10 55.5**	**+0.7**
	comp=Z,3.7nm,1.1s								
PV13	**Radium Mtn., P**	**79.14**	**50**	*e*P		**P**		**11 10 55.7**	**-0.1**
	comp=Z,5.8nm,1.1s								
BR101	**Keskin Array S**	**79.79**	**313**	*e*P		**P**		**11 10 59.9**	**+0.7**
BRTR	**Keskin Array B**	**79.80**	**313**	P		**P**		**11 10 59.9**	**+0.7**
	comp=Z,1.3nm,1.1s,baz=55,slow=4.7,SNR=4.3								
BRTR				LR		LR		11 50 03.7	
	comp=Z,15nm,18.6s,baz=88,slow=38								
VYHS	**Vyhne**	**81.21**	**327**	*e*P		**P**		**11 11 08.7**	**+2.3**
VYHS	**Vyhne**	**81.21**	**327**	*e*P		**P**		**11 11 08.7**	**+2.3**
CLL	**Collm**	**81.41**	**331**	*e*P		**P**		**11 11 07.0**	**-0.4**
CLL	**Collm**	**81.41**	**331**	*e*P		**P**		**11 11 07.0**	**-0.4**
ANMO	**Albuquerque**	**82.66**	**51**⇓	*e*P		**P**		**11 11 16.3**	**+1.7**
ANMO				pmax		pmax			
	comp=Z,4.0nm,1.3s								
GERES	**GERESS Array B**	**83.10**	**329**	P		**P**		**11 11 16.9**	**+0.4**
	comp=Z,0.2nm,0.2s,baz=132,slow=7.4,SNR=4.0								
PPT	**Papeete**	**83.26**	**118**	LR		LR		11 50 24.0	
	comp=Z,9.3nm,18.1s,baz=1.5,slow=37								
BFO	**Black Forest**	**85.60**	**332**	*i* P		**P**		**11 11 32.2**	**+3.2**
LTX	**Lajitas**	**88.17**	**54**	*e*P		**P**		**11 11 42.2**	**+0.2**
LTX	**Lajitas**	**88.17**	**54**	*e*P		**P**		**11 11 42.2**	**+0.2**
TXAR	**Lajitas Array**	**88.17**	**54**	P		**P**		**11 11 42.2**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=242,slow=2.7,SNR=4.5								
LPAZ	**La Paz**	**144.68**	**62**	PKP		**PKPab**		**11 18 26.2**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=323,slow=5.1,SNR=3.2								
LPAZ	**La Paz**	**144.68**	**62**	*e*PKPdf		**PKPdf**		**11 18 28.9**	**+0.3**

*ISCJB **15** 11:16:59.1±0.3,23.69N±0.02×94.66E±0.03,h114km±3km, mb4.4/50,Error ellipse: s-maj=4.5km s-min=3.7km az=147.5*
*BJI **15** 11:16:59.0,23.53N×94.67E,h115km,mb4.4/24,mB4.8/17*
*NEIC **15** 11:17:00.4±0.4,23.61N×94.71E,h111km±4km,mb4.7/32, Error ellipse: s-maj=5.8km s-min=2.8km az=54.0*
*NDI **15** 11:17:01.3±2.5,23.78N×94.55E,h15km±11km,ML4.6, mb4.7(NEIC)*
*IDC **15** 11:17:01.3±0.7,23.56N×94.65E,h117km±6km,mb3.9/19, mb1 4.0/21,mb1mx3.8/38,mbtmp4.2/21,Error ellipse: s-maj=10.1km s-min=9.8km az=82.0*
ISC 15 11:17:01.1±0.6,23.71N±0.04×94.60E±0.04,h118km±5km, n127,σ1§85/172,mb4.4/50,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.27**	**332**		Op *e*P	**Pn**	**11 17 24.3**	**-1.5**
IMP					*e*S	**Sn**	**11 17 40.6**	**-4.0**
IMP					AMP		11 17 45.7	
	comp=N,45μm,0.2s							
IMP					AMP		11 17 46.1	
	comp=E,20μm,0.1s							
AZL	**Aizawl**	**1.75**	**271**		*e*P	**Pn**	**11 17 31.6**	**+0.2**
AZL					*e*S	**Sn**	**11 17 52.7**	**-1.8**
AZL					IAML		11 17 55.7	
	comp=N,8μm,0.3s							
AZL					IAML		11 17 56.7	
	comp=E,5μm,0.2s							
SAIH	**SAIHA**	**1.91**	**231**		*e*P	**Pn**	**11 17 33.1**	**-0.4**
SAIH					*e*S	**Sn**	**11 17 57.7**	**-0.5**
SAIH					IAML		11 18 00.4	
	comp=E,4μm,0.2s							
SAIH					IAML		11 18 00.6	
	comp=N,3μm,0.3s							
SILR	**SILCHAR**	**1.96**	**304**		*e*P	**Pn**	**11 17 35.0**	**+1.1**
SILR					*e*S	**Sn**	**11 17 59.2**	**+0.3**
KOHI	**KOHIMA**	**2.06**	**348**		*e*P	**Pn**	**11 17 35.4**	**+0.1**
KOHI					*e*S	**Sn**	**11 17 58.6**	**-2.8**
MOKO	**MOKOCHONG**	**2.61**	**358**		*e*P	**Pn**	**11 17 41.5**	**-0.8**
MOKO					*e*S	**Sn**	**11 18 12.7**	**-1.3**
BRDH	**Bariadhala**	**2.91**	**250**		P	**Pn**	**11 17 45.7**	**-0.3**
	comp=N,70nm,0.3s,baz=271,slow=18,SNR=5.8							
BRDH					S	**Sn**	**11 18 21.1**	**+0.4**
	comp=N,401nm,0.3s,baz=143,slow=23,SNR=29							
BELO	**BELONIA**	**2.93**	**262**		*e*P	**Pn**	**11 17 46.6**	**+0.3**
BELO					*e*S	**Sn**	**11 18 22.3**	**+1.1**
BELO					IAML		11 18 24.4	
	comp=E,5μm,0.3s							
JORH	**JORHAT**	**3.04**	**354**		*e*P	**Pn**	**11 17 48.0**	**+0.2**
JORH					*e*S	**Sn**	**11 18 21.8**	**-2.1**
SHL	**Shillong**	**3.09**	**307**		*e*Pn	**Pn**	**11 17 49.2**	**+0.6**
SHL					*e*Sn	**Sn**	**11 18 24.2**	**-1.1**
SHL	**Shillong**	**3.09**	**307**		*e*P	**Pn**	**11 17 49.4**	**+0.8**
SHL					*e*S	**Sn**	**11 18 23.1**	**-2.2**
TEZP	**TEZPUR**	**3.33**	**331**		*e*P	**Pn**	**11 17 51.9**	**+0.4**
TEZP					*e*S	**Sn**	**11 18 27.8**	**-2.8**
ZIRO	**ZIRO**	**3.87**	**350**		*e*P	**Pn**	**11 17 59.4**	**+0.5**
ZIRO					*e*S	**Sn**	**11 18 39.5**	**-4.2**
ZIRO					IAML		11 18 43.0	
	comp=E,3μm,0.4s							
TURI	**Tura**	**4.29**	**296**		*e*P	**Pn**	**11 18 05.5**	**+1.0**
TURI					*e*S	**Sn**	**11 18 53.8**	**+0.1**
TAWA	**Tawang**	**4.59**	**328**		*e*P	**Pn**	**11 18 09.9**	**+1.2**
TAWA					*e*S	**Sn**	**11 18 59.2**	**-2.2**
DHUB	**DHUBRI**	**4.77**	**300**		*e*P	**Pn**	**11 18 10.4**	**-0.5**
DHUB					*e*S	**Sn**	**11 19 02.4**	**-2.8**
DHUB					IAML		11 19 04.3	
	comp=E,1μm,0.1s							
CHTO	**Chiang Mai**	**6.33**	**139**		*e*Pn	**Pn**	**11 18 29.6**	**-2.4**
CHTO	**Chiang Mai**	**6.33**	**139**		P	**Pn**	**11 18 33.0**	**+0.9**
CMMT	**Chiang Mai**	**6.34**	**139**		P	**Pn**	**11 18 32.9**	**+0.8**
GTK	**Tadong**	**6.50**	**305**		*e*P	**Pn**	**11 18 33.6**	**-0.8**
GTK					*e*S	**Sn**	**11 19 43.3**	**-4.0**
PAYA	**Payao**	**6.54**	**130**		P	Pn	11 18 42.6	+7.8
CM31	**Chiang Mai Arr**	**6.61**	**141**		*e*Pn	**Pn**	**11 18 33.0**	**-2.8**
CMAR	**Chiang Mai Arr**	**6.61**	**141**		P	**Pn**	**11 18 33.0**	**-2.8**
	comp=E,0.7nm,0.3s,baz=316,slow=13,SNR=16							
LSA	**Lhasa**	**6.72**	**333**		*e*Pn	**Pn**	**11 18 37.6**	**0.0**
LSA					*e*Sn	**Sn**	**11 19 55.1**	**+2.1**
ODAN	**Odare**	**7.24**	**297**		*e*Pn	**Pn**	**11 18 44.9**	**+0.4**
ODAN					*e*Sn	**Sn**	**11 20 02.2**	**-3.1**
	comp=E,509nm,0.4s							
KMI	**Kunming**	**7.55**	**78**		P	**Pn**	**11 18 47.0**	**-1.7**
KMI					pmax	pmax		
	comp=E,16nm,0.5s							
RAMN	**Ramite**	**7.92**	**296**		*e*Pn	**Pn**	**11 18 54.0**	**+0.3**
RAMN					*e*Sn	**Sn**	**11 20 18.3**	**-3.6**
	comp=E,291nm,0.4s							
BOK	**Bokaro**	**7.98**	**272**		*e*P	**Pn**	**11 18 55.0**	**+0.7**
BOK					*e*S	**Sn**	**11 20 18.4**	**-4.5**
JIRN	**Jiri**	**8.54**	**299**		*e*Pn	**Pn**	**11 19 02.7**	**+0.5**
JIRN					*e*Sn	**Sn**	**11 20 33.8**	**-3.3**
	comp=E,408nm,0.3s							
GUN	**Gumba**	**8.90**	**300**		*e*Pn	**Pn**	**11 19 07.2**	**+0.2**
GUN					*e*Sn	**Sn**	**11 20 42.1**	**-3.6**
	comp=E,254nm,0.3s							
PKI	**Pulchoki**	**9.14**	**297**		*e*Pn	**Pn**	**11 19 10.0**	**-0.3**
PKI					*e*Sn	**Sn**	**11 20 48.0**	**-3.5**
	comp=E,112nm,0.4s							
PKIN	**Phulchoki**	**9.15**	**297**		*e*Pn	**Pn**	**11 19 10.2**	**-0.2**
PKIN					*e*Sn	**Sn**	**11 20 48.1**	**-3.6**
	comp=E,98nm,0.3s							
PBKT	**Sadao Pong**	**9.28**	**139**		*e*Pn	**Pn**	**11 19 10.4**	**-1.5**
PBKT	**Sadao Pong**	**9.28**	**139**		P	**Pn**	**11 19 11.6**	**-0.3**
	comp=E,9.3nm,0.7s,comp=E,2μmcomp=E,0.1nm							
KKN	**Kakani**	**9.33**	**298**		*e*Pn	**Pn**	**11 19 12.7**	**0.0**
KKN					*e*Sn	**Sn**	**11 20 52.0**	**-4.0**
	comp=E,121nm,0.4s							
DMN	**Daman**	**9.40**	**296**		*e*Pn	**Pn**	**11 19 13.6**	**-0.1**
DMN					*e*Sn	**Sn**	**11 20 53.3**	**-4.5**
	comp=E,146nm,0.5s							
GKN	**Gorkha**	**9.94**	**298**		*e*Pn	**Pn**	**11 19 20.7**	**-0.2**
GKN					*e*Sn	**Sn**	**11 21 06.0**	**-4.6**
	comp=E,0.9nm,0.2s							
KOLN	**Koldanda**	**10.71**	**295**		*e*Pn	**Pn**	**11 19 30.4**	**-0.9**
KOLN					*e*Sn	**Sn**	**11 21 22.6**	**-6.8**
	comp=E,155nm,0.4s							
DANN	**Dangsing**	**10.79**	**298**		*e*Pn	**Pn**	**11 19 31.6**	**-0.9**
DANN					*e*Sn	**Sn**	**11 21 26.3**	**-5.1**
	comp=E,110nm,0.4s							
CD2	**Chengdu**	**10.85**	**47**		*e*P	**Pn**	**11 19 31.0**	**-2.1**
CD2					pmax	pmax		
	comp=E,10.0nm,0.5s							
PYUN	**Piuthan**	**11.33**	**295**		*e*Pn	**Pn**	**11 19 38.2**	**-1.4**
PYUN					*e*Sn	**Sn**	**11 21 37.5**	**-6.9**
	comp=E,123nm,0.5s							
JBP	**Jabalpur**	**13.43**	**271**		*e*P	**P**	**11 20 10.9**	**-1.2**
JBP					*e*S	**Sn**	**11 22 31.9**	**-3.0**
ENH	**Enshi**	**14.79**	**61**		*e*Pn	**Pn**	**11 20 24.2**	**-0.1**
KRAB	**Krabi**	**16.02**	**163**		P	**P**	**11 20 42.1**	**+1.2**
	comp=E,20μm,0.8s,comp=E,338μm							
GTA	**Gaotai**	**16.27**	**15**		*e*P	**P**	**11 20 45.8**	**+2.1**
WMQ	**Urumqi**	**20.85**	**346**		*e*P	Pn	11 21 35.6	-1.6
PSI	**Prapat**	**21.20**	**168**		P	**P**	**11 21 37.9**	**+0.3**
	comp=E,2.5nm,0.4s,baz=0.2,slow=12,SNR=3.8							
PSI	**Prapat**	**21.20**	**168**		*e*P	**P**	**11 21 37.8**	**+0.3**
	comp=E,6.9nm,1.0s							
HHC	**Hu-ho-hao-te**	**22.25**	**36**		*e*P	**P**	**11 21 48.0**	**-0.4**
HHC					pmax	pmax		
	comp=E,14nm,1.1s							
HHC					pmax	pmax		
	comp=E,240nm,5.2s							
KSH	**Kashi**	**22.29**	**319**		P	**P**	**11 21 51.8**	**+2.9**
KSH					pP	pP	11 22 14.8	+3.4
KSH					sP	sP	11 22 26.9	+0.7
KSH					S	**S**	**11 25 44.6**	**-1.5**
KSH					sS	sS	11 26 24.9	-0.1
KSH					ScS	**ScS**	**11 32 49.5**	**-2.8**
KSH					pmax	pmax		
	comp=E,29nm,1.4s							
KSH					pmax	pmax		
	comp=E,440nm,5.7s							
KSH					LR	LR		
	comp=E,400nm,5.4s							
KSH					LR	LR		
	comp=E,540nm,5.6s							
KSH					LR	LR		
	comp=E,630nm,6.7s							
GSI	**Gunungsitoli**	**22.45**	**172**		*e*P	**P**	**11 21 50.1**	**-0.5**
	comp=E,16nm,1.2s							
NJ2	**Nanjing**	**22.96**	**63**		*e*P	**P**	**11 21 54.4**	**-1.0**
NJ2					pmax	pmax		
	comp=E,13nm,0.5s							
KBL	**Kabul**	**24.73**	**302**		*e*P	**P**	**11 22

comp=Z,2.3nm,0.7s,baz=104,slow=5.1,SNR=5.2
ARE0 ARCESS Array S 60.71 338 *e*P **P 11 27 01.0 +1.4**
comp=Z,1.4nm,1.4s
KMBO Kilima Mbogo 60.88 254 P **P 11 27 02.4 +0.4**
comp=Z,0.8nm,0.3s,baz=58,slow=19,SNR=2.8
AGG Agios Georgios 62.09 303 *e*P **P 11 27 09.7 +0.2**
comp=Z,24nm,1.2s
NC405 NORSAR Array S 66.13 328 *e*P **P 11 27 36.3 +0.7**
NC602 NORSAR Array S 66.26 328 *e*P **P 11 27 36.5 +0.2**
NB2 NORSAR Subarra 66.38 328 P **P 11 27 37.7 +0.5**
comp=Z,3.2nm,0.6s,baz=84,slow=6.5
NB200 NORSAR Array S 66.38 328 *e*P **P 11 27 38.0 +0.8**
NOA NORSAR Array B 66.38 328 P **P 11 27 38.0 +0.8**
comp=Z,2.2nm,0.6s,baz=85,slow=6.3,SNR=12
NC204 NORSAR Array S 66.57 328 *e*P **P 11 27 38.9 +0.5**
GERES GERESS Array B 66.68 315 P **P 11 27 40.7 +1.4**
comp=Z,1.6nm,0.4s,baz=67,slow=6.4,SNR=13
GEA0 GERESS Array S 66.68 315 *e*P **P 11 27 40.0 +0.7**
BBOO Buckleboo 68.72 143 *e*P **P 11 27 50.6 -1.5**
comp=Z,5.9nm,0.8s
STKA Stephens Creek 71.23 139 P **P 11 28 06.9 -0.6**
comp=Z,2.9nm,0.9s,baz=321,slow=6.2,SNR=6.0
STKA Stephens Creek 71.23 139 *e*P **P 11 28 06.4 -1.1**
comp=Z,2.2nm,1.4s
SENIN Lac Senin/Sane 71.44 313 *e*P **P 11 28 10.0 +1.1**
comp=Z,25nm,1.6s
SUMG Summit 78.89 347 *e*P **P 11 28 52.0 +0.6**
comp=Z,11nm,1.2s
LBTB Lobatse 82.53 239 *e*P **P 11 29 11.4 +0.2**
comp=Z,6.1nm,0.6s
BOSA Boshof 84.61 236 P **P 11 29 22.2 +0.4**
comp=Z,5.1nm,0.5s,baz=56,slow=2.5,SNR=18
BOSA Boshof 84.61 236 *e*P **P 11 29 22.2 +0.4**
comp=Z,21nm,1.6s
TOA0 Torodi Ar. Sit 87.41 283 *e*P **P 11 29 36.2 +0.4**
TOA1 Torodi Ar. Sit 87.41 283 *e*P **P 11 29 36.4 +0.6**
TORD Torodi Ar. Bea 87.41 283 P **P 11 29 36.4 +0.6**
comp=Z,1.5nm,0.8s,baz=43,slow=4.9,SNR=8.5
TORD pP **pP 11 30 07.2 +1.0**
comp=Z,0.9nm,0.8s,baz=90,slow=3.0,SNR=3.8
YKA Yellowknife Ar 91.00 13 P **P 11 29 51.1 -0.5**
comp=Z,0.1nm,0.7s,baz=327,slow=2.5,SNR=4.2
ROSC El Rosal 149.64 338 PKPbc **PKiKP 11 36 39.9 +0.6**
comp=Z,15nm,0.5s,baz=180,slow=11,SNR=8.8
ROSC El Rosal 149.64 338 *e*PKPbc **PKiKP 11 36 40.2 +0.9**
CPUP Villa Florida 154.44 258 PKPbc **PKPbc 11 36 46.5 -1.8**
comp=Z,1.6nm,0.7s,baz=78,slow=2.5,SNR=5.3
CPUP Villa Florida 154.44 258 *e*PKPbc **PKPbc 11 36 48.0 -0.3**

STR 15 11:24:15.9±0.5, 48°N±3°×°±°, h0km, M1.4/3, MLv1.4/3, France

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ECH	**Echery**	**0.26**	**129**	Pg		Pg	11 24 20.9	0.0
ECH				Sg		Sg	11 24 24.5	+0.3
WLS	**Welschbruch**	**0.33**	**84**	Pg		Pg	11 24 21.7	-0.6
WLS				Sg		Sg	11 24 26.4	-0.2
THEF	**They Montfort**	**0.60**	**255**	Pg		Pg	11 24 27.1	-0.2
KIZ	**Kirchzarten**	**0.83**	**120**	Pg		Pg	11 24 31.7	0.0
KIZ				Sg		Sg	11 24 43.6	+1.2
OPP	**Oppenau**	**0.89**	**82**	Pg		Pg	11 24 33.0	0.0
OPP				Sg		Sg	11 24 45.4	+0.8

HEL 15 11:43:25.7±0.1, 63°13N×27°74E, h0km, ML1.6, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SUF	**Sumiainen**	**0.83**	**241**	PG		Pg	11 43 40.6	-1.0
SUF				SG		Sg	11 43 51.1	-1.3
KAF	**Kangasniemi**	**1.22**	**214**	PG		Pg	11 43 47.6	-1.3
KAF				MSG			11 44 02.5	
	comp=Z,4.8nm,0.2s							
KAF				SG		Sg	11 44 04.9	+0.2
KEF	**Keuruu**	**1.64**	**235**	PG		Pn	11 43 55.0	-0.7
KEF				SG		Sn	11 44 16.4	-1.0
JOF	**Joensuu**	**1.65**	**96**	PG		Pn	11 43 55.2	-0.6
JOF				SN		Sn	11 44 16.8	-0.8
OUF	**Merijarvi**	**1.82**	**314**	PG		Pn	11 43 58.5	+0.2
OUF				MSG			11 44 20.1	
	comp=Z,4.0nm,0.2s							
OUF				SN		Sb	11 44 23.3	+0.1
FIA0	**FINESS Array S**	**1.86**	**205**	PG		Pn	11 43 58.9	+0.1
FIA0				SG		Sn	11 44 23.1	+0.1
OUL	**Oulu**	**2.12**	**338**	PG		Pb	11 44 03.7	-1.3
	baz=153							
OUL				SG		Sb	11 44 32.1	+0.3
VAF	**Ylistaro**	**2.31**	**270**	PG		Pn	11 44 06.3	+1.4
VAF				MSG			11 44 34.1	
	comp=Z,4.5nm,0.2s							
VAF				SG		Sb	11 44 36.9	-0.2
VJF	**Virojoki**	**2.60**	**182**	MSG			11 44 42.4	
	comp=Z,1.9nm,0.2s							
VJF				SB		Sb	11 44 44.5	-1.1
KU6	**Riekki**	**3.05**	**17**	PB		Pn	11 44 17.0	+1.9
KU6				MSG			11 44 55.4	
	comp=Z,0.8nm,0.2s							
KU6				SG		Sb	11 44 57.0	-1.6
BURU	**Burvik**	**3.17**	**300**	PG		Pb	11 44 21.1	-1.7
	baz=119							
UMAU	**Umeaa**	**3.25**	**287**	PN		Pn	11 44 18.3	+0.4
TOF	**Tornio**	**3.31**	**335**	PB		Pb	11 44 22.4	-2.7
RAF	**Rauma**	**3.52**	**236**	SB		Sn	11 45 07.5	+3.8
RNF	**Rovaniemi**	**3.57**	**349**	PB		Pb	11 44 26.6	-3.0
ERTU	**Ertsjaerv**	**4.17**	**328**	PB		Pn	11 44 33.5	+3.0
HEMU	**Hemsoen**	**4.46**	**268**	SN		Sn	11 45 26.5	-0.5

*HEL **15** 11:44:43.9±0.1, 64°.93N×20°.58E, h0km, ML1.5, ML1.8(UPP), Explosion*

UPP 15 11:44:43.3±0.1, 64°93N×20°60E, h1km, ML1.8, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LILU	**Lilltraesk**	**0.48**	**319**	P		Pg	11 44 52.3	-0.1
LILU	**Lilltraesk**	**0.48**	**319**	*i* P		Pg	11 44 52.3	-0.1
BURU	**Burvik**	**0.48**	**136**	P		Pg	11 44 52.4	-0.1
BURU				S		Sg	11 44 58.8	+0.1
BURU	**Burvik**	**0.48**	**136**	*i* P		Pg	11 44 52.4	-0.1
BURU				*i* S		Sg	11 44 58.8	+0.1
BURU	**Burvik**	**0.48**	**136**	SN		Pg	11 44 52.2	-0.3
ODEU	**Stanfors**	**0.53**	**174**	P		Pg	11 44 53.2	-0.2
ODEU	**Stanfors**	**0.53**	**174**	*i* P		Pg	11 44 53.2	-0.2
SVAU	**Svanoeiden**	**0.62**	**225**	P		Pg	11 44 55.0	-0.2
SVAU	**Svanoeiden**	**0.62**	**225**	*i* P		Pg	11 44 55.0	-0.2
SJUU	**Sjulsmark**	**0.72**	**36**	P		Pg	11 44 56.7	-0.3
SJUU				S		Sg	11 45 06.3	0.0
SJUU	**Sjulsmark**	**0.72**	**36**	*i* P		Pg	11 44 56.7	-0.3
SJUU				*i* S		Sg	11 45 06.3	0.0
UMAU	**Umeaa**	**1.05**	**178**	P		Pg	11 45 02.9	-0.5
UMAU				S		Sg	11 45 16.5	-0.6
UMAU	**Umeaa**	**1.05**	**178**	*e*P		Pg	11 45 02.9	-0.5
UMAU				*e*S		Sg	11 45 16.5	-0.6
UMAU	**Umeaa**	**1.05**	**178**	SB		Sg	11 45 02.8	-0.6
HARU	**Harads**	**1.25**	**7**	P		Pg	11 45 06.3	-0.8
HARU				S		Sg	11 45 22.9	-0.4
HARU	**Harads**	**1.25**	**7**	*e*P		Pg	11 45 06.3	-0.8
HARU				*e*S		Sg	11 45 22.9	-0.4
KALU	**Kalix**	**1.48**	**50**	P		Pn	11 45 10.4	-0.6
KALU	**Kalix**	**1.48**	**50**	SG		Pn	11 45 10.4	-0.6
KALU	**Kalix**	**1.48**	**50**	*e*P		Pn	11 45 11.1	+0.1
KALU				*e*SN		Sn	11 45 32.2	+1.1
ERTU	**Ertsjaerv**	**1.76**	**21**	P		Pn	11 45 15.2	+0.3
ERTU	**Ertsjaerv**	**1.76**	**21**	*e*P		Pn	11 45 14.8	0.0
ERTU	**Ertsjaerv**	**1.76**	**21**	SN		Pn	11 45 15.0	+0.2
OUF	**Merijarvi**	**1.87**	**106**	*e*P		Pn	11 45 15.8	-0.5
OUF				*e*S		Sb	11 45 41.7	-0.3
TOF	**Tornio**	**1.93**	**52**	*e*P		Pn	11 45 17.9	+0.6
TOF				*e*SG		Sb	11 45 44.1	+0.2
VAF	**Ylistaro**	**2.11**	**153**	*e*P		Pb	11 45 21.2	-1.0
VAF				*e*S		Sn	11 45 47.1	+0.7
SOLU	**Sollefteaa**	**2.24**	**222**	P		Pn	11 45 22.2	+0.7
SOLU	**Sollefteaa**	**2.24**	**222**	*e*P		Pn	11 45 22.2	+0.7
OUL	**Oulu**	**2.25**	**84**	*e*P		Pn	11 45 21.2	-0.5
OUL				*e*S		Sn	11 45 50.4	+0.3
RNF	**Rovaniemi**	**2.80**	**51**	*e*SG		Sb	11 46 09.8	+1.1
LANU	**Lannavaara**	**3.18**	**9**	*e*P		Pn	11 45 34.3	-0.1
HEF	**Hetta**	**3.70**	**18**	*e*P		Pn	11 45 41.7	+0.2
HEF				MSG			11 46 38.2	
	comp=Z,0.7nm,0.2s							
HEF				*e*SG		Sg	11 46 38.8	-3.2

BER 15 11:48:35.1±0.5, 71°03N×7°00W, h0km±345km, ML3.7, 1C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.43**	**266**	*e*P		Pb	11 48 44.4	-1.1
JNE				IAML			11 48 54.4	
	comp=Z,5μm,0.4s							
JNW	**Jan Mayen West**	**0.47**	**271**	*e*P		Pg	11 48 45.1	+1.1
JNW				*e*S		Sb	11 48 52.2	-1.4
JNW				IAML			11 48 52.8	
	comp=Z,7μm,0.3s							
JMIC	**Jan Mayen**	**0.49**	**266**	*i* P		Pg	11 48 45.3	+0.7
JMIC				*e*S		Sb	11 48 52.9	-1.5
JMIC				IAML			11 48 53.5	
	comp=Z,4μm,0.3s							
JMI	**Jan Mayen**	**0.58**	**261**	*e*P		Pg	11 48 46.7	+0.6
JMI				*e*S		Sb	11 48 55.7	-1.1

MAN 15 11:56:47.0, 10°04N×123°19E, h1km, mb4.0, ML2.8, MS2.4, 1C-1D, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SNPH	**Sibulan**	**0.69**	**176**	*i* P		Pg	11 57 00.3	0.0
SNPH				*i* S		Sb	11 57 10.8	-1.3
TBP	**Tagbilaran**	**0.75**	**118**	*e*P		Pg	11 57 00.0	-1.3
GUIM	**Jordan**	**0.83**	**315**	*e*P		Pg	11 57 02.2	-0.8
GUIM				*e*S		Sg	11 57 13.8	0.0
RCP	**Roxas**	**1.57**	**344**	*e*P		Pn	11 57 15.9	-0.2
RCP				*e*S		Sg	11 57 38.3	+0.7
MSLP	**Maasin**	**1.64**	**87**	*e*P		Pn	11 57 17.1	+0.1
MSLP				*e*S		Sg	11 57 41.1	+1.2

IDC 15 11:58:32.4±2.2, 6°47S×130°15E, h119km±25km, mb3.5/1, mb1 3.7/6, mb1mx3.3/33, mbtmp4.1/6, Error ellipse: s-maj=29.1km s-min=19.1km az=109.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**5.67**	**11**	P		Pn	11 59 54.2	-0.3
	3.3nm,0.3s,baz=268,slow=4.8,SNR=26							
SIJI				S		Sn	12 00 53.9	-4.6
	6.9nm,0.3s,baz=96,slow=21,SNR=8.7							
BATI	**Baumata**	**7.41**	**240**	P		Pn	12 00 19.8	+1.8
	5.6nm,0.3s,baz=277,slow=1.5,SNR=8.1							
BATI				S		Sn	12 01 40.8	+0.2
	4.8nm,0.3s,baz=32,slow=22,SNR=8.8							
FITZ	**Fitzroy Crossi**	**12.37**	**200**	P		Pn	12 01 22.9	-1.6
	0.4nm,0.3s,baz=28,slow=8.9,SNR=33							
FITZ				S		Sn	12 03 32.4	-8.3
	1.4nm,0.3s,baz=256,slow=22,SNR=9.2							
WRA	**Warramunga Arr**	**14.00**	**163**	P		Pn	12 01 43.8	-1.9
	1.0nm,0.3s,baz=343,slow=13,SNR=39							
WRA				S		Sn	12 04 11.0	-9.2
	1.0nm,0.3s,baz=337,slow=22,SNR=8.3							
ASAR	**Alice Springs**	**17.48**	**168**	P		Pn	12 02 30.2	+1.3
	0.5nm,0.3s,baz=346,slow=10,SNR=23							
ASAR				S		Sn	12 05 37.3	-6.7
	0.3nm,0.3s,baz=343,slow=24,SNR=6.4							
MKAR	**Makanchi Array**	**67.87**	**327**	P		P	12 09 18.0	0.0
	0.6nm,0.5s,baz=118,slow=8.1,SNR=12							

*BJI **15** 12:07:33.0, 4°.38S×133°.23E, h10km, mb4.6/30, mB5.2/18, Ms4.9/3, Ms7 4.7/4*
*NEIC **15** 12:07:34.9±0.2, 4°.34S×133°.02E, h10km, mb4.5/24, Error ellipse: s-maj=6.8km s-min=3.9km az=68.0*
*IDC **15** 12:07:34.8±0.7, 4°.20S×133°.07E, h0km, mb4.2/11, mb1 4.3/14, mb1mx4.2/34, mbtmp4.2/14, ML4.2/3, MS3.5/15, Ms1 3.5/15, ms1mx3.3/31, Error ellipse: s-maj=31.4km s-min=14.0km az=74.0*
*ISCJB **15** 12:07:36.3±0.3, 4°.45S±0°.02×133°.02E±0°.04, h33km, mb4.4/39, MS3.4/11, Error ellipse: s-maj=5.9km s-min=3.5km az=174.6*
*DJA **15** 12:07:40.4±1.5, 4°S±4°×13°3E±°, h23km±16km, M4.9/7, mb5.2/3, mB5.1/3, MLv4.8/7, Mw(mB)4.5/3*

ISC 15 12:07:38.5±0.4, 4°42S±0°.04×133°00E±0°.06, h35km, n101, o2572/105, mb4.5/39, MS3.5/11, 2C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
FAKI	**Fak Fak**	**1.66**	**333**	*e*Pn		**Pn**	**12 08 02.6**	**-2.6**
FAKI				*e*Sn		**Sn**	**12 08 20.6**	**-4.8**
FAKI	**Fak Fak**	**1.66**	**333**	P		**Pn**	**12 08 02.3**	**-2.9**
BNDI	**Bandanaira**	**3.08**	**268**	P		**Pn**	**12 08 26.2**	**+1.4**
RKPI	**Ransiki, Papua**	**3.12**	**22**	P		**Pn**	**12 08 23.3**	**-1.9**
SIJI	**Sorong**	**3.92**	**334**	Pn		**Pn**	**12 08 33.3**	**-3.1**
	7.3nm,0.3s,baz=72,slow=23,SNR=22							
SIJI				Sn		**Sn**	**12 09 14.1**	**-7.1**
	22nm,0.3s,baz=326,slow=9.6,SNR=6.8							
SIJI				LR		LR	12 10 27.4	
	comp=Z,976nm,19.0s,slow=46							
SAUI	**Saumlaki**	**3.92**	**205**	P		Pn	12 08 44.4	+8.1
SWI	**Sorong**	**3.93**	**334**	P		**Pn**	**12 08 32.5**	**-3.9**
SWI				S		**Sn**	**12 09 14.5**	**-6.9**
NLAI	**Namlea**	**6.00**	**281**	P		**Pn**	**12 09 07.1**	**+2.3**
	142nm,0.5s,2μm							
SANI	**Sanana**	**7.38**	**288**	P		**Pn**	**12 09 22.2**	**-1.7**
MTN	**Manton Dam**	**8.57**	**192**	*e*Pn		**Pn**	**12 09 40.4**	**+0.2**
MTN				*e*Sn		**Sn**	**12 11 16.2**	**+0.4**
SOEI	**Soe**	**10.16**	**238**	*e*Pn		**Pn**	**12 10 02.9**	**+0.9**
SOEI				*e*Sn		**Sn**	**12 11 55.9**	**+1.0**
BATI	**Baumata**	**10.90**	**238**	Pn		**Pn**	**12 10 14.6**	**+2.5**
	3.5nm,0.3s,baz=76,slow=6.3,SNR=4.6							
BATI				Sn		**Sn**	**12 12 14.5**	**+1.6**
	4.1nm,0.3s,baz=286,slow=15,SNR=3.1							
DAV	**Davao City (W)**	**13.60**	**327**	LR		LR	12 16 52.2	
	comp=Z,200nm,20.8s,baz=193,slow=41							
COEN	**Coen**	**13.81**	**134**	*e*Pn		**Pn**	**12 10 51.1**	**-0.8**
PMG	**Port Moresby**	**14.91**	**110**	LR		LR	12 17 45.4	
	comp=Z,70nm,18.1s,baz=273,slow=41							
PMG	**Port Moresby**	**14.91**	**110**	*e*Pn		**Pn**	**12 11 07.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**15.39**	**207**	Pn		**Pn**	**12 11 10.8**	**-2.3**
	2.8nm,0.3s,baz=35,slow=11,SNR=29							
FITZ				Sn		**Sn**	**12 13 55.5**	**-7.0**
	1.8nm,0.3s,baz=232,slow=19,SNR=8.9							
FITZ	**Fitzroy Crossi**	**15.39**	**207**	*e*Pn		**Pn**	**12 11 12.5**	**-0.6**
	23nm,1.3s							
FITZ				*e*Sn		**Sn**	**12 13 55.5**	**-7.0**
WRAB	**Tennant Creek**	**15.48**	**175**	*e*Pn		**Pn**	**12 11 13.1**	**-1.3**
	9.1nm,0.6s							
WR1	**Warramunga Arr**	**15.49**	**175**	*e*Pn		**Pn**	**12 11 11.1**	**-3.4**
	30nm,1.4s							
WR1				*e*Sn		**Sn**	**12 13 57.6**	**-7.4**
WRA	**Warramunga Arr**	**15.49**	**175**	Pn		**Pn**	**12 11 11.1**	**-3.4**
	0.5nm,0.3s,baz=0.7,slow=13,SNR=17							
WRA				Sn		**Sn**	**12 13 57.6**	**-7.5**
	0.9nm,0.3s,baz=356,slow=23,SNR=9.1							
WRA				LR		LR	12 18 06.0	
	comp=Z,343nm,18.9s,baz=5.0,slow=40							
WB2	**Warramunga Arr**	**15.49**	**175**	*e*Pn		**Pn**	**12 11 12.5**	**-2.0**
WB2				*e*Sn		**Sn**	**12 13 56.5**	**-8.6**
JAGI	**Jajag, Banyuwa**	**19.15**	**257**	*e*P		**P**	**12 11 58.0**	**-1.1**
	38nm,1.1s							
AS31	**Alice Springs**	**19.16**	**177**	*e*P		**P**	**12 11 59.2**	**+0.1**
	4.1nm,0.6s							
AS31				*e*Sn		**Sn**	**12 15 27.9**	**-6.1**
AS01	**Alice Springs**	**19.16**	**177**	*e*P		**P**	**12 11 59.2**	**+0.1**
ASAR	**Alice Springs**	**19.16**	**177**	P		**Pn**	**12 12 00.3**	**+0.2**
	1.1nm,0.3s,baz=356,slow=9.1,SNR=24							
ASAR				S		**Sn**	**12 15 28.3**	**-5.7**
	0.3nm,0.3s,baz=359,slow=26,SNR=6.6							
ASAR				LR		LR	12 19 53.1	
	comp=Z,262nm,18.2s,baz=350,slow=38							
KKM	**Kota Kinabalu**	**19.72**	**302**	*e*P		**P**	**12 12 04.5**	**-0.8**
	105nm,1.6s							
CTA	**Charters Tower**	**20.23**	**141**	P		**P**	**12 12 11.8**	**+0.9**
	10nm,0.8s,baz=320,slow=12,SNR=17							
CTAO	**Charters Tower**	**20.23**	**141**	*e*P		**P**	**12 12 11.5**	**+0.7**
	15nm,0.7s							
MBWA	**Marble Bar**	**21.05**	**217**	*e*P		**P**	**12 12 20.2**	**+0.6**
	50nm,1.5s							
GUMO	**Guam**	**21.42**	**33**	LR		LR	12 22 20.4	
	comp=Z,36nm,18.0s,baz=198,slow=42							
KSM	**Kuching**	**23.41**	**284**	*e*P		**P**	**12 12 44.8**	**+0.1**
	43nm,1.3s							
LEM	**Lembang**	**25.37**	**263**	LR		LR	12 24 51.0	
	comp=Z,71nm,18.3s,baz=48,slow=41							
GIRL	**Giralia**	**25.65**	**223**	*e*P		**P**	**12 13 06.6**	**+1.5**
	337nm,1.5s							
BBOO	**Buckleboo**	**28.39**	**175**	*e*P		**P**	**12 13 29.8**	**+0.1**
	9.7nm,0.9s							
STKA	**Stephens Creek**	**28.49**	**165**	P		**P**	**12 13 34.4**	**+3.8**
	0.6nm,0.3s,baz=335,slow=6.9,SNR=3.8							
STKA						LR	12 27 02.3	
	comp=Z,148nm,18.1s,baz=332,slow=41							
STKA	**Stephens Creek**	**28.49**	**165**	*e*P		**P**	**12 13 31.3**	**+0.7**
	0.9nm,1.1s							
NONG	**Nongkai**	**36.95**	**308**	P		**P**	**12 14 48.1**	**+3.5**
	0.2nm,2.3s							
PBKT	**Sadao Pong**	**37.91**	**304**	*e*P		**P**	**12 14 52.3**	**-0.4**
	5.5nm,1.2s							
NJ2	**Nanjing**	**38.68**	**341**	*e*P		**P**	**12 14 59.4**	**+0.4**
NJ2					pmax	pmax		
	comp=Z,11nm,0.5s							
UTTA	**Uttaradit**	**38.85**	**305**	P		**P**	**12 15 05.2**	**+4.5**
	1.4nm,0.7s							
LAMP	**Lampang**	**40.00**	**306**	P		P	12 15 15.3	+5.0
	3.5nm,0.8s							
CM01	**Chiang Mai Arr**	**40.50**	**305**	*e*P		**P**	**12 15 14.1**	**-0.4**
CM31	**Chiang Mai Arr**	**40.53**	**305**	*e*P		**P**	**12 15 13.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**40.53**	**305**	P		**P**	**12 15 15.3**	**+0.7**
	2.7nm,0.9s,baz=130,slow=7.0,SNR=18							
CMAR						LR	12 34 07.5	
	comp=Z,25nm,18.3s,baz=118,slow=39							
CMMT	**Chiang Mai**	**40.71**	**306**	P		**P**	**12 15 18.0**	**+1.8**
	9.3nm,1.0s							
CHTO	**Chiang Mai**	**40.71**	**306**	*e*P		**P**	**12 15 15.8**	**-0.4**
	22nm,1.6s							
CHTO	**Chiang Mai**	**40.71**	**306**	P		**P**	**12 15 18.1**	**+1.9**
	39nm,1.0s							
MJAR	**Matsushiro Arr**	**41.03**	**6**	P		**P**	**12 15 17.3**	**-1.2**
	1.3nm,0.7s,baz=192,slow=9.6,SNR=3.7							
MJAR						LR	12 29 07.9	
	comp=Z,114nm,21.8s,baz=185,slow=32							
MAJO	**Matsushiro**	**41.03**	**6**	*e*P		**P**	**12 15 17.3**	**-1.3**
ENH	**Enshi**	**41.18**	**328**	*e*P		**P**	**12 15 19.9**	**0.0**
	8.9nm,0.6s							
KMI	**Kunming**	**41.55**	**316**	P		**P**	**12 15 25.1**	**+1.9**
KMI					pmax	pmax		
	comp=Z,10.0nm,0.6s							
KSRS	**Korea Array**	**41.92**	**354**	LR		LR	12 31 32.9	
	comp=Z,67nm,20.7s,baz=152,slow=34							
XAN	**Xi'an**	**44.49**	**331**	P		**P**	**12 15 47.0**	**+0.3**
XAN				pP		pP	12 15 57.3	+0.7
XAN					pmax	pmax		
	comp=Z,7.0nm,1.1s							
USRK	**Ussuriysk Ar.**	**48.40**	**359**	P		**P**	**12 16 16.8**	**-0.3**
	2.4nm,0.7s,baz=178,slow=7.5,SNR=6.8							
LZH	**Lanzhou**	**48.66**	**328**	*e*P		**P**	**12 16 24.1**	**+4.6**
LZH				pP		pP	12 16 27.6	-1.9
LZH				sP		sP	12 16 29.4	-4.1
LZH					pmax	pmax		
	comp=Z,19nm,1.1s							
HHC	**Hu-ho-hao-te**	**49.14**	**338**	*e*P		**P**	**12 16 25.4**	**+2.4**
HHC					pmax	pmax		
	comp=Z,22nm,1.0s							
HHC					pmax	pmax		
	comp=Z,250nm,6.7s							
SHL	**Shillong**	**49.78**	**309**	*e*P		**P**	**12 16 28.3**	**0.0**
	9.0nm,1.0s							
LSA	**Lhasa**	**52.52**	**313**	*e*P		**P**	**12 16 48.6**	**-0.5**
	4.5nm,1.0s							
GTA	**Gaotai**	**53.26**	**328**	*e*P		**P**	**12 16 55.3**	**+1.3**
GTA				pP		pP	12 16 59.8	-4.3
GTA				sP		sP	12 17 03.1	-5.0
GTA					pmax	pmax		
	comp=Z,5.0nm,1.2s							
KLR	**Kul'dur**	**53.44**	**359**	LR		LR	12 40 01.6	
	comp=Z,35nm,18.4s,baz=174,slow=37							
RAMN	**Ramite**	**54.59**	**308**	*e*P		**P**	**12 17 04.5**	**+0.3**
	13nm,0.6s							
JIRN	**Jiri**	**55.25**	**308**	*e*P		**P**	**12 17 09.2**	**+0.2**
GUN	**Gumba**	**55.61**	**308**	*e*P		**P**	**12 17 11.7**	**+0.1**
	19nm,0.8s							
PKI	**Pulchoki**	**55.82**	**308**	*e*P		**P**	**12 17 13.8**	**+0.7**
SONA0	**Songino Array**	**57.03**	**339**	*e*P		**P**	**12 17 22.5**	**+1.4**
SONM	**Songino Array**	**57.03**	**339**	P		**P**	**12 17 22.5**	**+1.4**
	1.4nm,0.6s,baz=154,slow=6.5,SNR=8.1							
SONA1	**Songino Array**	**57.04**	**339**	*e*P		**P**	**12 17 21.0**	**-0.2**
KOLN	**Koldanda**	**57.34**	**307**	*e*P		**P**	**12 17 24.5**	**+0.7**
	25nm,1.1s							
DANN	**Dangsing**	**57.47**	**308**	*e*P		**P**	**12 17 25.0**	**+0.2**
	12nm,0.8s							
PYUN	**Piuthan**	**57.97**	**307**	*e*P		**P**	**12 17 29.0**	**+0.8**
	25nm,0.8s							
PETK	**Petropavlovsk-**	**60.98**	**17**	LR		LR	12 48 54.7	
	comp=Z,12nm,18.0s,baz=183,slow=41							
WMQ	**Urumqi**	**62.94**	**325**	*e*P		P	12 18 06.8	+5.1
WMQ				pP		pP	12 18 09.3	-2.7
WMQ				sP		sP	12 18 15.0	-0.9
WMQ					pmax	pmax		
	comp=Z,37nm,0.7s							
WMQ					pmax	pmax		
	comp=Z,230nm,5.7s							
WMQ				LR	

n14,σ2°s34/21, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TURN	**Turunc**	**0.01**	**250**	PG	**Pb**	**12 26 26.6**	**+0.9**
TURN				SG	**Sb**	**12 26 32.6**	**+3.4**
TURN	**Turunc**	**0.01**	**250**	IAML_P			
	comp=Z,4μm,0.2s						
TURN				*i* P	**Pb**	**12 26 26.9**	**+1.2**
TURN				*i* S	**Sb**	**12 26 33.1**	**+3.9**
DALY	**Dalyan (Mula)**	**0.07**	**153**	PG	Pb	12 26 22.7	-3.2
DALY				SG	**Sb**	**12 26 26.1**	**-3.3**
DALY	**Dalyan (Mula)**	**0.07**	**153**	*i* P	**Pb**	**12 26 23.3**	**-2.6**
DALY				*i* S	**Sb**	**12 26 27.0**	**-2.5**
FETY	**Fethiye**	**0.45**	**123**	PG	**Pb**	**12 26 28.8**	**-1.5**
FETY	**Fethiye**	**0.45**	**123**	*i* P	**Pb**	**12 26 29.5**	**-0.8**
FETY				*i* S	**Sb**	**12 26 36.2**	**-0.7**
TAVA	**DENIZLI_Tavas**	**0.63**	**22**	IAML_P			
	comp=Z,1μm,0.1s						
TAVA				*i* P	**Pn**	**12 26 30.4**	**-3.3**
TAVA				*i* S	**Sb**	**12 26 38.6**	**-3.5**
DAT	**Datca**	**0.85**	**260**	PG	**Pn**	**12 26 36.1**	**-0.5**
AYDN	**Tasoluk**	**0.98**	**323**	IAML_P			
	comp=Z,982nm,0.2s						
AYDN				*i* P	**Pn**	**12 26 37.7**	**-0.7**
ELL	**Elmali**	**1.04**	**97**	PG	**Pn**	**12 26 39.1**	**-0.2**
BODT	**Bodrum**	**1.06**	**280**	PG	**Pn**	**12 26 39.5**	**0.0**
KORT	**Korkueli**	**1.40**	**84**	PN	**Pn**	**12 26 44.8**	**+0.7**
KORT	**Korkueli**	**1.40**	**84**	*i* P	**Pb**	**12 26 47.1**	**+1.0**
KORT				*i* S	**Sb**	**12 27 06.7**	**+3.0**
KHAL	**Karahalli**	**1.65**	**25**	*i* P	**Pn**	**12 26 48.2**	**+0.6**
KHAL				*i* S	**Sn**	**12 27 09.6**	**+1.9**

*IDC **15** 12:30:33.4±1.5,20°.51S×169°.62E,h0km,mb4.2/11, mb1 4.4/12,mb1mx4.2/34,mbtmp4.2/12,ML4.3/1,MS3.5/8, Ms1 3.5/8,ms1mx3.2/28,Error ellipse: s-maj=48.0km s-min=19.9km az=141.0*

*NEIC **15** 12:30:39.3±0.6,20°.35S×169°.44E,h35km,mb4.5/13,Error ellipse: s-maj=12.3km s-min=9.6km az=132.0*

*BJI **15** 12:30:39.0, 19°.82S×169°.66E,h33km,mb4.7/9,mB4.9/2, Ms4.4/1,Ms7 4.3/2*

*ISCJB **15** 12:30:40.3±0.5,20°.53S±0°.08×169°.33E±0°.08,h55km, mb4.4/21,MS3.6/6,Error ellipse: s-maj=14.0km s-min=6.0km az=137.1*

ISC 15 12:30:41.5±0.6, 20°.5S±0°.1×169°.37E±0°.10, h55km, n86, σ1s°96/77, mb4.4/21, MS3.5/7, 2C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**1.57**	**233**	*e*Pn	**Pn**	**12 31 05.9**	**-1.1**
MARNC				*e*Sn	**Sn**	**12 31 23.8**	**-2.5**
DZM	**Mont Dzumac**	**3.13**	**240**	Pn	**Pn**	**12 31 27.8**	**-0.6**
	31nm,0.3s,baz=101,slow=12,SNR=184						
DZM				Sn	**Sn**	**12 32 02.8**	**-1.9**
	62nm,0.3s,baz=148,slow=23,SNR=8.7						
DZM	**Mont Dzumac**	**3.13**	**240**	*e*Pn	**Pn**	**12 31 27.8**	**-0.6**
	111nm,0.3s						
DZM				*e*Sn	**Sn**	**12 32 03.3**	**-1.4**
	188nm,0.2s						
DZM	**Mont Dzumac**	**3.13**	**240**	*e*Pn	**Pn**	**12 31 27.9**	**-0.6**
DZM				*e*Sn	**Sn**	**12 32 02.1**	**-2.6**
ONTNC	**Ouen Toro**	**3.25**	**236**	*e*Pn	**Pn**	**12 31 29.9**	**-0.1**
ONTNC				*e*Sn	**Sn**	**12 32 07.9**	**+0.5**
HNR	**Honiara**	**14.29**	**319**	LR	LR	12 38 32.1	
	comp=Z,52nm,20.9s,baz=153,slow=33						
EIDS	**Eidsvold**	**17.52**	**251**	*e*Pn	**Pn**	**12 34 42.0**	**+0.1**
	17nm,0.9s						
ARMA	**Armidale**	**18.78**	**235**	*e*P	**Pn**	**12 34 58.1**	**+0.7**
	42nm,1.6s						
URZ	**Urewera**	**18.90**	**161**	LR	LR	12 40 48.4	
	comp=Z,136nm,19.5s,baz=333,slow=33						
BKZ	**Black Stump Fm**	**19.56**	**163**	*e*P	**Pn**	**12 35 06.5**	**0.0**
	81nm,1.5s						
CTA	**Charters Tower**	**21.69**	**267**	P	**P**	**12 35 29.9**	**+2.1**
	4.8nm,0.9s,baz=92,slow=11,SNR=6.2						
CTAO	**Charters Tower**	**21.69**	**267**	*e*P	**P**	**12 35 29.3**	**+1.5**
	24nm,1.4s						
RPZ	**Rata Peaks**	**23.16**	**177**	LR	LR	12 43 59.7	
	comp=Z,185nm,19.4s,baz=280,slow=35						
COEN	**Coen**	**25.84**	**280**	*e*P	**P**	**12 36 09.2**	**+1.3**
	12nm,1.1s						
STKA	**Stephens Creek**	**27.29**	**240**	P	**P**	**12 36 21.8**	**+0.9**
	2.2nm,0.6s,baz=46,slow=7.5,SNR=7.0						
STKA				LR	LR	12 47 27.7	
	comp=Z,91nm,18.2s,baz=81,slow=37						
STKA	**Stephens Creek**	**27.29**	**240**	*e*P	**P**	**12 36 22.0**	**+1.1**
	0.7nm,0.8s						
WB2	**Warramunga Arr**	**32.83**	**265**	*e*P	**P**	**12 37 10.2**	**+0.1**
	13nm,1.4s						
WR1	**Warramunga Arr**	**32.84**	**265**	*e*P	**P**	**12 37 09.2**	**-1.0**
	12nm,1.4s						
WRA	**Warramunga Arr**	**32.84**	**265**	P	**P**	**12 37 09.2**	**-1.0**
	0.3nm,0.4s,baz=92,slow=8.5,SNR=8.9						
WRA				LR	LR	12 50 15.0	
	comp=Z,94nm,19.2s,baz=115,slow=36						
AS01	**Alice Springs**	**32.92**	**258**	*e*P	**P**	**12 37 10.3**	**-0.5**
AS31	**Alice Springs**	**32.96**	**258**	*e*P	**P**	**12 37 10.7**	**-0.5**
	2.9nm,0.8s						
ASAR	**Alice Springs**	**32.96**	**258**	P	**P**	**12 37 11.5**	**+0.3**
	4.5nm,0.7s,baz=84,slow=9.1,SNR=74						
ASAR				PcP	**PcP**	**12 39 54.1**	**-0.3**
	0.6nm,1.1s,baz=91,slow=8.2,SNR=5.2						
ASAR				LR	LR	12 49 27.0	
	comp=Z,100nm,21.8s,baz=101,slow=34						
MTN	**Manton Dam**	**37.35**	**276**	*e*P	**P**	**12 37 48.8**	**-0.2**
	33nm,1.5s						
FORT	**Forrest**	**38.43**	**246**	*e*P	**P**	**12 37 58.9**	**+0.9**
	47nm,1.5s						
PPT2	**Papeete2**	**38.84**	**93**	*e*LR	LR	12 48 40.0	
	comp=Z,126nm,26.8s						
PPT	**Papeete**	**38.84**	**93**	LR	LR	12 49 56.4	
	comp=Z,94nm,21.1s,baz=244,slow=30						
FITZ	**Fitzroy Crossi**	**41.25**	**266**	*e*P	**P**	**12 38 22.4**	**+0.9**
	24nm,1.6s						
MJAR	**Matsushiro Arr**	**63.94**	**332**	P	**P**	**12 41 07.0**	**-1.9**
	2.9nm,0.9s,baz=171,slow=7.3,SNR=4.7						
MAJO	**Matsushiro**	**63.95**	**332**	*e*P	**P**	**12 41 07.0**	**-1.9**
QSPA	**South Pole Qui**	**69.53**	**180**	*e*P	**P**	**12 41 45.5**	**+1.2**
	6.0nm,0.8s						
KSRS	**Korea Array**	**69.64**	**326**	P	**P**	**12 41 45.5**	**+0.4**
	1.3nm,0.9s,baz=137,slow=7.8,SNR=3.6						
USRK	**Ussuriysk Ar.**	**72.33**	**333**	P	**P**	**12 42 06.2**	**+1.3**
	5.8nm,0.9s,baz=108,slow=5.2,SNR=8.4						
PETK	**Petropavlovsk-**	**74.02**	**353**	LR	LR	13 08 23.3	
	comp=Z,69nm,21.5s,baz=132,slow=31						
CM01	**Chiang Mai Arr**	**79.12**	**294**	*e*P	**P**	**12 42 41.6**	**+1.0**
CM31	**Chiang Mai Arr**	**79.15**	**294**	*e*P	**P**	**12 42 41.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**79.15**	**294**	P	**P**	**12 42 43.0**	**+2.2**
	2.6nm,0.8s,baz=129,slow=4.2,SNR=13						
CMMT	**Chiang Mai**	**79.30**	**295**	P	**P**	**12 42 44.1**	**+2.5**
	5.6nm,1.0s						
CHTO	**Chiang Mai**	**79.30**	**295**	*e*P	**P**	**12 42 40.9**	**-0.7**
	3.6nm,0.8s						
CHTO	**Chiang Mai**	**79.30**	**295**	P	**P**	**12 42 44.4**	**+2.8**
	25nm,1.0s						
SONA0	**Songino Array**	**88.32**	**323**	*e*P	**P**	**12 43 27.3**	**+0.2**
SONM	**Songino Array**	**88.32**	**323**	P	**P**	**12 43 27.3**	**+0.2**
	3.0nm,1.0s,baz=117,slow=5.7,SNR=12						
SONA1	**Songino Array**	**88.32**	**323**	*e*P	**P**	**12 43 27.0**	**-0.2**
NV01	**Mina Array Sit**	**89.56**	**48**	*e*P	**P**	**12 43 32.3**	**-1.0**
NVAR	**Mina Array Bea**	**89.56**	**48**	P	**P**	**12 43 32.5**	**-0.9**
	3.2nm,1.1s,baz=227,slow=7.5,SNR=4.6						
ILAR	**Eielson Array**	**91.42**	**17**	P	**P**	**12 43 39.7**	**-1.4**
	0.4nm,0.7s,baz=236,slow=4.7,SNR=8.9						
WMQ	**Urumqi**	**98.18**	**314**	*e*P	Pdif	12 44 14.9	+2.2
WMQ				LR	LR		
	comp=N,110nm,32.5s						
WMQ				LR	LR		
	comp=Z,71nm,18.7s						
DPC	**Dobruska-Polom**	**143.41**	**331**	*e*PKP	PKPbc	12 50 07.5	+0.5
BRG	**Berggiesshubel**	**144.07**	**333**	*i* PKP	PKPbc	12 50 09.0	+0.2
	10nm,1.0s						
BRG	**Berggiesshubel**	**144.07**	**333**	*e*PKPbc	PKPbc	12 50 09.3	+0.5
	baz=37,slow=3.2						
CLL	**Collm**	**144.13**	**335**	*e*PKPbc	PKPbc	12 50 09.3	+0.3
	baz=37,slow=3.2						
CLL	**Collm**	**144.13**	**335**	*i* PKPdf	PKPbc	12 50 09.1	+0.1
	comp=Z,11nm,1.2s						
NRDL	**Niedersach Rie**	**144.27**	**338**	*e*PKPbc	PKPbc	12 50 09.9	+0.6
	baz=37,slow=3.2						
FBE	**Freiberg**	**144.28**	**334**	*e*PKPbc	PKPbc	12 50 10.2	+0.7
	baz=37,slow=3.2						
GOPC	**GO Pecny, Ondr**	**144.41**	**332**	*e*PKP	PKPbc	12 50 10.2	+0.2
NEUB	**Neuenburg**	**144.69**	**335**	*e*PKPbc	**PKPdf**	**12 50 11.4**	**-0.4**
	baz=37,slow=3.2						
CLZ	**Clausthal**	**144.71**	**337**	*e*PKPbc	PKPbc	12 50 11.4	+0.5
	baz=37,slow=3.2						
TANN	**Tannenbergstha**	**145.04**	**334**	*e*PKPbc	**PKPdf**	**12 50 12.5**	**0.0**
	baz=37,slow=3.2						
GTTG	**Gyttingen**	**145.10**	**337**	*e*PKPbc	**PKPdf**	**12 50 12.8**	**+0.2**
	baz=37,slow=3.2						
GUNZ	**Gunzen**	**145.13**	**334**	*e*PKPbc	**PKPdf**	**12 50 13.1**	**+0.4**
	baz=37,slow=3.2						
WERN	**Wernitzgruen**	**145.17**	**334**	*e*PKPbc	**PKPdf**	**12 50 13.1**	**+0.3**
	baz=37,slow=3.2						
NKC	**Novy Kostel**	**145.18**	**334**	*e*PKP	**PKPdf**	**12 50 12.9**	**+0.1**
MOX	**Moxa**	**145.20**	**335**	*e*PKPbc	**PKPdf**	**12 50 12.9**	**+0.1**
	baz=37,slow=3.2						
IBBN	**Ibbenburen**	**145.21**	**340**	*e*PKPbc	**PKPdf**	**12 50 13.0**	**+0.3**
	baz=37,slow=3.2						
CONA	**Conrad Observa**	**145.30**	**328**	*i* PKPdf	**PKPab**	**12 50 13.7**	**+0.6**
	comp=Z,20nm,0.9s						
MANZ	**Manzenberg**	**145.51**	**334**	*e*PKPbc	**PKPab**	**12 50 14.4**	**+0.6**
	baz=37,slow=3.2						
KHC	**Kasperske Hory**	**145.52**	**332**	*e*PKP	**PKPab**	**12 50 14.1**	**+0.2**
KHC				*ep*PKP	pPKPbc	12 50 27.3	-2.0
KHC				*ex*	x	12 50 34.6	
GEC2	**GERESS Array S**	**145.68**	**331**	*e*PKPbc	**PKPab**	**12 50 14.6**	**+0.1**
	baz=37,slow=3.2						
GERES	**GERESS Array B**	**145.68**	**331**	PKPbc	**PKPab**	**12 50 14.6**	**+0.1**
	comp=Z,10nm,0.9s,baz=37,slow=3.3,SNR=48						
UBBA	**Unterreizbach**	**145.68**	**337**	*e*PKPbc	**PKPab**	**12 50 14.3**	**+0.2**
	baz=37,slow=3.2						
ARSA	**Arzberg**	**145.93**	**328**	*e*PKPab	**PKPab**	**12 50 16.2**	**+0.8**
	comp=Z,3.5nm,0.9s						
GRF	**Grafenberg Arr**	**146.10**	**334**	*e*PKPbc	**PKPab**	**12 50 16.0**	**0.0**
	baz=37,slow=3.2						
BUG	**Bochum--Univer**	**146.11**	**340**	*e*PKPbc	**PKPab**	**12 50 16.2**	**+0.3**
	baz=37,slow=3.2						
MOA	**Molln**	**146.13**	**329**	*e*PKPab	**PKPab**	**12 50 16.6**	**+0.5**
	comp=Z,11nm,1.7s						
SOKA	**Soboth**	**146.56**	**327**	*i* PKPab	**PKPbc**	**12 50 17.2**	**+0.3**
	comp=Z,5.5nm,1.3s						
TNS	**Taunus Mts**	**146.74**	**337**	*e*PKPbc	**PKPbc**	**12 50 17.9**	**+0.7**
	baz=37,slow=3.2						
RJOB	**Jochberg**	**146.90**	**331**	*e*PKPbc	**PKPab**	**12 50 18.9**	**-0.4**
	baz=37,slow=3.2						
MEM	**Membach**	**147.23**	**340**	⇓PKP	**PKPbc**	**12 50 18.6**	**+0.1**
ABTA	**Abfaltersbach**	**147.75**	**330**	*i* PKPbc	**PKPbc**	**12 50 19.6**	**-0.6**
	comp=Z,5.2nm,0.7s						
MOTA	**Moosalm**	**147.96**	**332**	*i* PKPab	**PKPbc**	**12 50 21.3**	**+0.4**
	comp=Z,3.4nm,0.5s						
WLF	**Walferdange**	**148.00**	**339**	*e*PKPbc	**PKiKP**	**12 50 22.2**	**-0.2**
	baz=37,slow=3.2						
WLF	**Walferdange**	**148.00**	**339**	⇓PKP	**PKiKP**	**12 50 22.0**	**-0.5**
SQTA	**Sankt Quirin**	**148.00**	**331**	*e*PKPbc	**PKPbc**	**12 50 20.7**	**-0.2**
	comp=Z,5.8nm,0.7s						
DOU	**Dourbes**	**148.12**	**341**	⇑PKP	**PKPbc**	**12 50 20.4**	**-0.5**
DOU				⇑pPKP	**pPKPdf**	**12 50 30.9**	**-2.8**
UBR	**Ueberruh**	**148.13**	**333**	*e*PKPbc	**PKPbc**	**12 50 21.4**	**+0.3**
	baz=37,slow=3.2						
BFO	**Black Forest**	**148.34**	**336**	*e*PKPbc	**PKiKP**	**12 50 22.9**	**-0.3**
	baz=37,slow=3.2						
FETA	**Feichten**	**148.37**	**332**	*e*PKiKP	**PKPbc**	**12 50 22.0**	**+0.1**
	comp=Z,9.8nm,1.0s						

MEX 15 12:33:19.2±0.6, 16°.34N×98°.01W, h1km±3km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.12**	**296**	*i* P	Pg	12 33 21.2	-0.4
PNIG				*i* S	Sg	12 33 23.6	+0.4

*ISCJB **15** 12:40:24.7±0.7,18°.9N±0°.1×145°.6E±0°.2,h300km, mb3.4/12,Error ellipse: s-maj=20.4km s-min=13.9km az=177.8*

*IDC **15** 12:40:26.2±4.1,18°.91N×145°.62E,h301km±40km, mb3.2/12,mb1 3.4/14,mb1mx3.2/44,mbtmp3.9/14,Error ellipse: s-maj=22.2km s-min=11.5km az=91.0*

ISC 15 12:40:26.2±0.8, 18°.9N±0°.1×145°.5E±0°.2, h300km, n15, σ0s°74/17, mb3.5/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**17.72**	**300**	P	**Pn**	**12 44 15.7**	**-0.8**
	0.5nm,0.3s,baz=116,slow=24,SNR=6.8						
MJAR	**Matsushiro Arr**	**18.70**	**341**	P	**P**	**12 44 23.4**	**+0.1**
	0.1nm,0.3s,baz=168,slow=9.9,SNR=9.1						
MAT	**Matsushiro**	**18.70**	**341**	P	**P**	**12 44 24.0**	**+0.7**
USRK	**Ussuriysk Ar.**	**27.64**	**339**	P	**P**	**12 45 46.3**	**-0.5**
	1.0nm,0.6s,baz=115,slow=8.6,SNR=3.6						
WRA	**Warramunga Arr**	**40.15**	**196**	P	**P**	**12 47 33.4**	**-0.6**
	1.4nm,0.3s,baz=20,slow=8.6,SNR=30						
WRA				PcP	**PcP**	**12 49 31.6**	**-0.3**
	0.5nm,0.6s,baz=14,slow=3.0,SNR=5.9						
SONM	**Songino Array**	**42.86**	**321**	P	**P**	**12 47 55.2**	**-0.5**
	0.2nm,0.3s,baz=130,slow=10.0,SNR=2.4						
ASAR	**Alice Springs**	**43.82**	**195**	P	**P**	**12 48 02.8**	**-0.6**
	0.2nm,0.4s,baz=16,slow=6.6,SNR=15						
ASAR				PcP	**PcP**	**12 49 45.0**	**+0.9**
	0.4nm,0.6s,baz=33,slow=3.4,SNR=5.8						
CMAR	**Chiang Mai Arr**	**44.02**	**277**	P	**P**	**12 48 06.6**	**+1.5**
	0.5nm,0.4s,baz=90,slow=5.5,SNR=3.5						
MKAR	**Makanchi Array**	**58.19**	**314**	P	**P**	**12 49 49.7**	**+0.2**
	0.8nm,0.6s,baz=93,slow=8.9,SNR=9.7						
KURBB	**Kurchatov Arra**	**61.04**	**318**	P	**P**	**12 50 08.0**	**-0.7**
	1.3nm,0.6s,baz=96,slow=7.6,SNR=11						
ILAR	**Eielson Array**	**63.52**	**26**	P	**P**	**12 50 24.2**	**-0.6**
	0.5nm,0.7s,baz=260,slow=5.0,SNR=7.8						
YKA	**Yellowknife Ar**	**77.87**	**28**	P	**P**	**12 51 50.8**	**0.0**
	0.6nm,0.6s,baz=288,slow=5.6,SNR=8.6						
ARCES	**ARCESS Array B**	**82.23**	**342**	P	**P**	**12 52 14.6**	**+0.7**
	3.5nm,1.0s,baz=64,slow=8.4,SNR=5.3						
NVAR	**Mina Array Bea**	**83.14**	**52**	P	**P**	**12 52 20.2**	**+0.8**
	0.7nm,0.8s,baz=269,slow=6.1,SNR=3.5						
FINES	**FINESS Array B**	**86.61**	**335**	P	**P**	**12 52 35.2**	**-0.6**
	1.2nm,0.4s,baz=96,slow=3.9,SNR=13						

*ISCJB **15** 12:46:37.9±0.4,38°.13N±0°.02×27°.09E±0°.03,h1km±4km, Error ellipse: s-maj=3.8km s-min=2.8km az=163.9*

*DDA **15** 12:46:37.9,38°.13N×27°.05E,h7km±2km,ML3.5*

*ATH **15** 12:46:37.9,38°.11N×27°.08E,h14km±2km,ML3.0/3,Error ellipse: s-maj=3.8km s-min=1.3km az=261.0*

*ISK **15** 12:46:37.6,38°.14N×27°.06E,h4km,ML3.0/16*

*THE **15** 12:46:39.3,38°.09N×26°.97E,h8km±6km,ML2.9/3,Error ellipse: s-maj=7.8km s-min=1.2km az=228.0*

ISC 15 12:46:38.4±0.9, 38°.12N±0°.02×27°.07E±0°.02, h9km±7km, n47, σ0s°79/65, 2C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GMLD	**Gumuldur**	**0.13**	**250**	PG	**Pg**	**12 46 41.1**	**-0.1**
GMLD				SG	**Sg**	**12 46 43.4**	**+0.2**
DGB	**zmir**	**0.16**	**245**	⇑*i*P	**Pg**	**12 46 42.3**	**+0.5**
BLCB	**Balcova**	**0.27**	**356**	PG	**Pg**	**12 46 43.5**	**-0.2**
BLCB				SG	**Sg**	**12 46 47.2**	**-0.1**
GCAM	**G?zelcaml?**	**0.44**	**163**	PG	**Pg**	**12 46 46.9**	**0.0**
GCAM	**G?zelcaml?**	**0.44**	**163**	IAML_P			
	comp=Z,14μm,0.1s						
GCAM				⇑*i*P	**Pb**	**12 46 47.9**	**-0.4**
GCAM				*i* S	**Sg**	**12 46 53.2**	**+0.5**
URLA	**Izmir**	**0.44**	**303**	PG	**Pg**	**12 46 46.7**	**-0.3**
URLA	**Izmir**	**0.44**	**303**	*i* P	**Pg**	**12 46 46.7**	**-0.3**
URLA				*i* S	**Sg**	**12 46 53.0**	**+0.1**
SMG	**Samos**	**0.45**	**204**	P	**Pg**	**12 46 46.6**	**-0.6**
SMG				S	**Sg**	**12 46 53.6**	**+0.5**
SMG				AML	AML	12 46 56.7	
	comp=N,3722μm,0.2s						
SMG				AML	AML	12 46 57.4	
	comp=E,2688μm,0.2s						
SMG	**Samos**	**0.45**	**204**	P	**Pg**	**12 46 46.6**	**-0.6**
SMG				S	**Sg**	**12 46 53.5**	**+0.5**
KRBN	**Karaburun**	**0.62**	**320**	PG	**Pg**	**12 46 50.0**	**-0.4**
FOCM	**Foa**	**0.65**	**336**	PG	**Pg**	**12 46 49.9**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**0.67**	**105**	PG	**Pg**	**12 46 50.7**	**-0.7**
AYDN	**Tasoluk**	**0.79**	**125**	IAML_P			
	comp=Z,6μm,0.1s						
AYDN				⇓*i*P	**Pb**	**12 46 54.9**	**+0.5**
AYDN				*i* S	**Sb**	**12 47 05.1**	**-0.1**
CHOS	**Chios island**	**0.84**	**289**	PG	**Pg**	**12 46 53.2**	**-1.4**
CHOS	**Chios island**	**0.84**	**289**	P	**Pg**	**12 46 53.8**	**-0.8**
CHOS				S	**Sb**	**12 47 06.4**	**-0.3**
CHOS				AML	AML	12 47 08.3	
	comp=E,2526μm,0.3s						
CHOS				AML	AML	12 47 08.3	
	comp=N,1437μm,0.4s						
CHOS	**Chios island**	**0.84**	**289**	P	**Pg**	**12 46 53.7**	**-0.8**
CHOS				S	**Sg**	**12 47 06.0**	**+0.5**
GOMA	**Golmarmara-Man**	**0.89**	**48**	PG	**Pg**	**12 46 55.5**	**0.0**
AKHS	**Akhisar**	**0.96**	**37**	IAML_P			
	comp=Z,9μm,0.2s						
AKHS				*i* P	**Pg**	**12 46 56.3**	**-0.5**
AKHS				*i* S	**Sg**	**12 47 09.1**	**-0.1**
DKL	**Dikili**	**0.96**	**352**	PG	**Pg**	**12 46 56.1**	**-0.7**
MLSB	**Milas**	**1.00**	**145**	PG	**Pb**	**12 46 57.7**	**-0.2**
BODT	**Bodrum**	**1.07**	**170**	PN	**Pg**	**12 46 58.7**	**-0.3**
BODT	**Bodrum**	**1.07**	**170**	P	**Pg**	**12 46 58.6**	**-0.4**
BDRM	**Kayabasi**	**1.09**	**164**	*i* P	**Pn**	**12 46 59.6**	**-0.3**
BDRM				*i* S	**Sb**	**12 47 14.0**	**+0.1**
AYVA	**Ayvalik**	**1.22**	**346**	IAML_P			
	comp=Z,2μm,0.2s						
AYVA				*i* P	**Pb**	**12 47 01.5**	**-0.2**
AYVA				*i* S	**Sn**	**12 47 19.6**	**+1.2**
MANT	**Manisa**	**1.23**	**72**	IAML_P			
	comp=Z,2μm,0.1s						
MANT				*i* P	**Pg**	**12 47 02.5**	**+0.5**
MANT				*i* S	**Sb**	**12 47 16.4**	**-1.7**
PRK	**Paraskevi**	**1.29**	**331**	P	**Pb**	**12 47 02.7**	**-0.1**
PRK				S	**Sn**	**12 47 21.0**	**+1.0**
PRK				AML	AML	12 47 22.3	
	comp=N,1867μm,0.5s						
PRK				AML	AML	12 47 23.3	
	comp=E,1831μm,0.6s						
PRK	**Paraskevi**	**1.29**	**331**	P	**Pg**	**12 47 03.2**	**+0.1**
PRK				S	**Sb**	**12 47 19.3**	**-0.1**
KULA	**Kula-Manisa**	**1.31**	**72**	PN	**Pg**	**12 47 03.3**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.35**	**22**	*i* P	**Pn**	**12 47 02.9**	**-0.7**
STEP				*i* S	**Sg**	**12 47 21.8**	**-0.1**
SIGR	**SIGRI**	**1.45**	**319**	PN	**Pn**	**12 47 04.9**	**+0.1**
DAT	**Datca**	**1.45**	**164**	PN	**Pb**	**12 47 05.5**	**-0.1**
DAT	**Datca**	**1.45**	**164**	*e*P	**Pn**	**12 47 03.8**	**-1.1**
DAT				*i* S	**Sg**	**12 47 28.0**	**+3.1**
AMGA	**Amorgos Island**	**1.59**	**216**	P	**Pn**	**12 47 07.1**	**+0.3**
APE	**Apeiranthos**	**1.61**	**230**	PN	**Pb**	**12 47 07.7**	**-0.6**
APE	**Apeiranthos**	**1.61**	**230**	P	**Pb**	**12 47 08.1**	**-0.3**
BALB	**Balikesir**	**1.65**	**22**	PN	**Pn**	**12 47 07.9**	**+0.4**
TURN	**Turunc**	**1.74**	**135**	PN	**Pn**	**12 47 08.2**	**-0.7**
TURN	**Turunc**	**1.74**	**135**	*i* P	**Pn**	**12 47 06.2**	**-2.6**
TURN				*i* S	**Sb**	**12 47 33.2**	**+0.6**
EZN	**Ezine**	**1.80**	**341**	PN	**Pn**	**12 47 09.9**	**+0.3**
DALY	**Dalyan (Mula)**	**1.81**	**135**	PN	**Pb**	**12 47 10.7**	**-1.0**
BOZC	**Bozcaada**	**1.89**	**336**	PN	**Pn**	**12 47 11.3**	**+0.4**
SHAP	**Saphane-Kutahy**	**1.91**	**61**	PN	**Pn**	**12 47 11.9**	**+0.6**
IOSP	**Ios island**	**1.99**	**226**	P	**Pb**	**12 47 13.9**	**-0.9**
GADA	**Gvkgeada**	**2.26**	**337**	PN	**Pn**	**12 47 16.5**	**+0.5**
LPK	**Lapseki**	**2.26**	**354**	PN	**Pn**	**12 47 16.5**	**+0.5**
KRBG	**Karabiga-Canak**	**2.28**	**4**	PN	**Pn**	**12 47 16.8**	**+0.6**
GELI	**Tayfur-Gelibol**	**2.32**	**349**	PN	**Pn**	**12 47 17.4**	**+0.6**

ISC 15 12:50:52.8±0.9, 49°.83N±0°.04×18°.56E±0°.03, h0km, n12, σ0s°63/23, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.27**	**272**	*e*PG	**Pg**	**12 50 58.7**	**+0.8**
OKC				*e*SG	**Sg**	**12 51 02.9**	**+1.6**
	comp=Z,59nm,0.9s						
MORC	**Moravsky Berou**	**0.66**	**266**	*e*PG	**Pg**	**12 51 05.8**	**+0.4**
MORC				*e*SG	**Sg**	**12 51 14.0**	**0.0**
OJC	**Ojcow**	**0.89**	**64**	*e*Pg	**Pg**	**12 51 09.8**	**-0.1**
OJC				*e*Sg	**Sb**	**12 51 22.8**	**-0.7**
LANS	**Liptovska Anna**	**0.90**	**138**	*e*PG	**Pg**	**12 51 10.3**	**+0.2**
LANS				*e*SG	**Sg**	**12 51 23.3**	**+1.6**
KRLC

*ISCJB **15** 13:09:32.5±0.8, 16°.31N±0°.07×98°.06W±0°.04, h22km±4km, mb3.4/4, MS3.0/2, Error ellipse: s-maj=12.6km s-min=4.7km az=20.3*
*IDC **15** 13:09:32.4±2.9, 16°.40N×98°.05W, h0km, mb3.5/4, mb1 3.8/7, mb1mx3.7/32, mbtmp3.5/7, ML3.2/3, MS3.1/3, Ms1 3.0/3, ms1mx2.7/25, Error ellipse: s-maj=58.1km s-min=14.7km az=12.0*
*MEX **15** 13:09:35.0±0.6, 16°.30N×98°.07W, h9km±3km, MD4.1*
*NEIC **15** 13:09:35.0±0.0, 16°.30N×98°.08W, h11km, MD4.1(MEX), After MEX.*

ISC 15 13:09:33.2±0.9, 16°.35N±0°.08×98°.03W±0°.04, h17km±5km, n28, σ1§32/37, mb3.5/4, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
PNIG	**Pinotepa**	**0.11**	**295**	*i* P	**Pg**		**13 09 36.8**	**-0.1**
PNIG				*i* S	**Sg**		**13 09 39.2**	**0.0**
PNIG	**Pinotepa**	**0.11**	**295**	*i* P	**Pg**		**13 09 36.8**	**-0.1**
PNIG				*i* S	**Sg**		**13 09 39.2**	**0.0**
VHO	**Vista Hermosa**	**1.43**	**60**	*e*P	**Pb**		**13 09 59.1**	**-0.6**
VHO	**Vista Hermosa**	**1.43**	**60**	*e*P	**Pb**		**13 09 59.1**	**-0.6**
VHO				*i* S	**Sb**		**13 10 17.5**	**-0.2**
HUIG	**Huatulco**	**1.93**	**107**	*e*P	**Pn**		**13 10 04.5**	**-0.9**
HUIG	**Huatulco**	**1.93**	**107**	*e*P	**Pn**		**13 10 04.5**	**-0.9**
HUIG				*i* S	**Sn**		**13 10 28.1**	**-1.1**
MEIG	**Mezcala**	**2.19**	**316**	*e*P	**Pn**		**13 10 07.9**	**-1.1**
MEIG	**Mezcala**	**2.19**	**316**	*e*P	**Pn**		**13 10 07.9**	**-1.1**
MEIG				*e*S	**Sn**		**13 10 34.5**	**-1.3**
CAIG	**El Cayaco**	**2.26**	**288**	*e*P	**Pn**		**13 10 07.3**	**-2.6**
CAIG	**El Cayaco**	**2.26**	**288**	*e*P	**Pn**		**13 10 08.7**	**-1.2**
CAIG				*i* S	**Sn**		**13 10 35.9**	**-1.5**
PLIG	**Platanillo**	**2.48**	**325**	*e*P	**Pn**		**13 10 11.5**	**-1.5**
PLIG	**Platanillo**	**2.48**	**325**	*e*P	**Pn**		**13 10 12.5**	**-0.5**
PLIG				*i* S	**Sn**		**13 10 41.7**	**-1.2**
YAIG	**Yautepec**	**2.69**	**339**	*e*P	**Pn**		**13 10 17.4**	**+1.4**
YAIG	**Yautepec**	**2.69**	**339**	*i* P	**Pn**		**13 10 16.5**	**+0.5**
YAIG				*i* S	**Sn**		**13 10 48.1**	**-0.2**
ARIG	**Puente Sto Nin**	**2.94**	**311**	*e*P	**Pn**		**13 10 18.8**	**-0.5**
ARIG	**Puente Sto Nin**	**2.94**	**311**	*e*P	**Pn**		**13 10 18.8**	**-0.5**
ARIG				*i* S	**Sn**		**13 10 53.6**	**-0.6**
CMIG	**Matias Romero**	**3.10**	**76**	Pn	**Pn**		**13 10 21.3**	**-0.1**
	3.4nm,0.3s,baz=260,slow=12,SNR=29							
CMIG				Pg	**Pg**		**13 10 30.9**	**-1.8**
	13nm,0.3s,baz=257,slow=16,SNR=37							
CMIG				Lg	Lg		13 11 11.0	
	78nm,0.3s,baz=189,slow=17,SNR=12							
CMIG	**Matias Romero**	**3.10**	**76**	*e*P	**Pn**		**13 10 21.0**	**-0.5**
CMIG	**Matias Romero**	**3.10**	**76**	*e*P	**Pn**		**13 10 21.4**	**0.0**
CMIG				*i* S	**Sn**		**13 10 58.2**	**0.0**
ZIIG	**Zihuatanejo**	**3.52**	**291**	*e*P	**Pn**		**13 10 30.1**	**+2.8**
APG	**El Apazote**	**7.40**	**99**	Pn	**Pn**		**13 11 23.8**	**+2.9**
	0.4nm,0.3s,baz=311,slow=19,SNR=3.3							
APG				Lg	Lg		13 13 28.4	
	1.3nm,0.3s,baz=301,slow=12,SNR=3.5							
TXAR	**Lajitas Array**	**13.93**	**339**	Lg	Lg		13 16 55.8	
	0.0nm,0.3s,baz=164,slow=17,SNR=2.4							
TXAR				LR	LR		13 19 06.8	
	comp=Z,43nm,18.4s,baz=0.0,slow=41							
ANMO	**Albuquerque**	**20.00**	**339**	P	**Pn**		**13 14 06.8**	**-0.4**
	0.1nm,0.3s,baz=135,slow=8.6,SNR=2.8							
ANMO				LR	LR		13 22 37.4	
	comp=Z,76nm,19.9s,baz=165,slow=39							
PDAR	**Pinedale Array**	**28.12**	**342**	P	**P**		**13 15 27.6**	**+2.9**
	0.4nm,0.7s,baz=140,slow=7.2,SNR=3.7							
NVAR	**Mina Array Bea**	**28.30**	**325**	P	**P**		**13 15 28.2**	**+1.8**
	0.8nm,0.8s,baz=151,slow=13,SNR=4.9							
SADO	**Sadowa**	**32.50**	**25**	LR	LR		13 30 19.8	
	comp=Z,31nm,20.6s,baz=177,slow=38							
YKA	**Yellowknife Ar**	**47.55**	**350**	P	**P**		**13 18 07.5**	**-0.1**
	0.4nm,0.9s,baz=157,slow=7.6,SNR=4.4							
ILAR	**Eielson Array**	**58.44**	**338**	P	**P**		**13 19 28.1**	**+0.2**
	0.8nm,1.1s,baz=135,slow=5.9,SNR=4.6							

*IDC **15** 13:11:30.5±1.9, 7°.09S×130°.01E, h113km±22km, mb3.9/1, mb1 3.7/6, mb1mx3.3/32, mbtmp4.0/6, Error ellipse: s-maj=37.7km s-min=15.3km az=100.0*

ISC 15 13:11:24.0±1.2, 7°.27S±0°.07×130°.0E±0°.1, h50km, n6, σ2§60/8, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
SIJI	**Sorong**	**6.47**	**11**	P	Pn		13 13 02.9	+6.1
	2.6nm,0.3s,baz=231,slow=22,SNR=21							
SIJI				S	**Sn**		**13 14 10.8**	**+1.4**
	1.5nm,0.3s,baz=264,slow=23,SNR=5.6							
BATI	**Baumata**	**6.95**	**245**	P	Pn		13 13 11.3	+8.1
	5.3nm,0.3s,baz=65,slow=5.7,SNR=3.2							
BATI				S	**Sn**		**13 14 21.9**	**+0.8**
	5.3nm,0.3s,baz=315,slow=10.0,SNR=3.1							
FITZ	**Fitzroy Crossi**	**11.59**	**201**	P	Pn		13 14 12.6	+5.8
	0.3nm,0.3s,baz=30,slow=9.8,SNR=39							
FITZ				S	**Sn**		**13 16 14.3**	**-0.5**
	0.5nm,0.3s,baz=234,slow=19,SNR=4.4							
WRA	**Warramunga Arr**	**13.27**	**162**	P	**P**		**13 14 36.1**	**-2.2**
	0.4nm,0.3s,baz=343,slow=13,SNR=17							
WRA				S	**Sn**		**13 16 56.5**	**+0.6**
	1.2nm,0.3s,baz=327,slow=24,SNR=13							
ASAR	**Alice Springs**	**16.72**	**168**	P	**P**		**13 15 21.4**	**+4.9**
	0.3nm,0.3s,baz=343,slow=9.1,SNR=26							
ASAR				S	**Sn**		**13 18 20.0**	**+0.2**
	0.2nm,0.3s,baz=342,slow=24,SNR=5.2							
MKAR	**Makanchi Array**	**68.47**	**327**	P	**P**		**13 22 19.4**	**-1.6**
	1.4nm,0.5s,baz=123,slow=7.5,SNR=28							

*DDA **15** 13:14:23.9, 37°.69N×35°.63E, h7km±1km, ML2.5*
*ISK **15** 13:14:24.8, 37°.45N×35°.68E, h20km, ML1.5/4*
*ISCJB **15** 13:14:25.9±0.9, 37°.37N±0°.08×35°.73E±0°.06, h11km±10km, Error ellipse: s-maj=14.5km s-min=6.5km az=162.3*

ISC 15 13:14:24.4±1.2, 37°.56N±0°.07×35°.65E±0°.04, h16km±9km, n7, σ0§70/11, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
KOZT	**Kozan**	**0.16**	**118**	PG	**Pb**		**13 14 29.2**	**+0.1**
KOZT				SG	**Sg**		**13 14 32.6**	**+1.1**
SAIM	**ADANA**	**0.54**	**39**	IAML_P				
	comp=Z,3μm,0.1s							
SAIM				*i* P	**Pg**		**13 14 34.5**	**-0.7**
CEYT	**Ceyhan**	**0.55**	**171**	PG	**Pg**		**13 14 34.3**	**-1.1**
KARA	**Karaisali**	**0.56**	**238**	PG	**Pb**		**13 14 35.9**	**+0.1**
KARA				SG	**Sb**		**13 14 44.0**	**+0.5**
ANDN	**Andirin**	**0.56**	**87**	IAML_P				
	comp=Z,456nm,0.1s							
ANDN				*i* P	**Pb**		**13 14 35.8**	**-0.1**
ANDN				*i* S	**Sb**		**13 14 44.0**	**+0.4**
GULE	**Gulek**	**0.74**	**249**	IAML_P				
	comp=Z,313nm,0.2s							
GULE				*i* P	**Pb**		**13 14 39.2**	**+0.1**
GULE				*i* S	**Sn**		**13 14 51.5**	**+0.1**
KMRS	**Kahramanmaras**	**1.00**	**93**	PG	**Pn**		**13 14 43.9**	**+0.1**

*GCMT **15** 13:16:00.0±0.5, 23°.49S±0°.03×115°.17W±0°.03, h26km±2km, MW4.9/64, Moment Tensor Solution. s25,c34; s64,c83; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.04±.16; Mθθ-0.81±.15; Mφφ0.84±.14; Mrθ0.13±.29; Mφθ2.32±.11; Mφr0.70±.28; Best double couple: Mo2.56000×10¹⁶ NP1:ϕs350.00000°, δ85.00000°, λ165.00000°. NP2: ϕs81.00000°, δ75.00000°, λ5.00000°. Principal axes: T 2.6420, Plg14.0000°, Azm304.0000°; N -0.1640, Plg75.0000°, Azm153.0000°; P -2.4780, Plg7.0000°, Azm36.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 15 13:15:51.2±1.4, 23.79S×115.28W, h0km, mb3.9/4, mb1 4.3/4, mb1mx3.8/34, mbtmp3.9/4, MS3.8/8, Ms1 3.8/8, ms1mx3.5/26 Error ellipse: s-maj=57.3km s-min=31.7km az=44.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
RPN	**Rapa Nui**	**6.32**	**123**	LR	LR		13 19 18.4	
	comp=Z,954nm,19.8s,baz=295,slow=33							
RKT	**Rikitea**	**18.08**	**268**	*e*LQ	LQ		13 23 18.9	
	1μm,27.0s							
RKT				*e*LR	LR		13 24 05.0	
	comp=Z,387nm,26.5s							
RKT	**Rikitea**	**18.08**	**268**	*e*T	T		13 38 14.8	
	1.0nm,0.2s							
TAOE	**Nuku Hiva Isla**	**28.04**	**298**	*e*LR	LR		13 28 42.0	
	comp=Z,739nm,25.6s							
TBI	**Tubuai**	**31.29**	**264**	*e*LR	LR		13 30 13.4	
	comp=Z,223nm,26.0s							
TBI	**Tubuai**	**31.29**	**264**	*e*T	T		13 54 44.9	
	2.7nm,0.3s							
PPT2	**Papeete2**	**32.62**	**274**	*e*S	S		13 27 32.1	-10
	52nm,24.5s							
PPT2				*e*LR	LR		13 30 29.0	
	comp=Z,291nm,27.5s							
PPT	**Papeete**	**32.62**	**274**	LR	LR		13 32 11.9	
	comp=Z,34nm,18.9s,baz=167,slow=30							
PLCA	**Paso Flores**	**40.95**	**125**	P	P		13 23 36.5	+0.7
	1.8nm,0.9s,baz=278,slow=13,SNR=3.1							
PLCA				LR	LR		13 36 29.3	
	comp=Z,264nm,18.8s,baz=289,slow=30							
LPAZ	**La Paz**	**44.76**	**89**	P	P		13 24 07.3	-0.3
	2.2nm,1.1s,baz=255,slow=1.1,SNR=3.6							
LPAZ				LR	LR		13 38 24.7	
	comp=Z,84nm,20.0s,baz=280,slow=30							
JTS	**JuntasAbangare**	**45.02**	**45**	LR	LR		13 37 57.0	
	comp=Z,66nm,21.1s,baz=196,slow=30							
APG	**El Apazote**	**45.56**	**35**	LR	LR		13 37 33.1	
	comp=Z,50nm,18.6s,baz=137,slow=29							
NVAR	**Mina Array Bea**	**61.96**	**357**	P	P		13 26 13.8	+0.6
	1.1nm,0.8s,baz=180,slow=8.0,SNR=5.2							
BDFB	**Brasilia**	**63.35**	**96**	LR	LR		13 48 50.8	
	comp=Z,184nm,20.0s,baz=264,slow=31							
DZM	**Mont Dzumac**	**71.18**	**254**	*e*LR	LR		13 48 44.8	
	comp=Z,112nm,26.9s							
YKA	**Yellowknife Ar**	**85.99**	**0**	P	P		13 28 33.0	+0.1
	1.0nm,1.0s,baz=175,slow=5.2,SNR=6.7							
H11S2	**WAKE ISLAND Hy**	**86.90**	**292**	T	T		15 04 24.8	
	baz=116,slow=75,SNR=39							
H11S1	**WAKE ISLAND Hy**	**86.91**	**292**	T	T		15 04 26.2	
	baz=116,slow=75,SNR=28							
H11S3	**WAKE ISLAND Hy**	**86.92**	**292**	T	T		15 04 28.8	
	baz=116,slow=75,SNR=32							
H11N3	**WAKE ISLAND Hy**	**87.27**	**293**	T	T		15 04 53.6	
	baz=130,slow=71,SNR=27							
H11N1	**WAKE ISLAND Hy**	**87.28**	**293**	T	T		15 04 54.0	
	baz=130,slow=71,SNR=10							
H11N2	**WAKE ISLAND Hy**	**87.28**	**293**	T	T		15 04 58.0	
	baz=130,slow=71,SNR=31							
MAW	**Mawson**	**88.87**	**179**	LR	LR		14 03 08.6	
	comp=Z,81nm,21.4s,baz=124,slow=32							
CMAR	**Chiang Mai Arr**	**147.69**	**267**	PKPbc	PKPbc		13 35 37.9	-0.7
	0.5nm,0.3s,baz=70,slow=1.1,SNR=3.6							
BRTR	**Keskin Array B**	**149.36**	**51**	PKPbc	PKPbc		13 35 40.9	-1.7
	0.4nm,0.8s,baz=250,slow=1.8,SNR=2.4							

*DJA **15** 13:19:42.9±0.6, 1°.5S×13°.7E±°, h10km, M4.2/6, mb4.1/2, MLv4.2/6*
*IDC **15** 13:19:47.7±1.3, 0°.99S×136°.79E, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.8/29, mbtmp3.9/6, ML3.5/2, Error ellipse: s-maj=36.1km s-min=20.2km az=55.0*
*ISCJB **15** 13:19:49.0±0.6, 0°.99S±0°.06×136°.68E±0°.04, h25km, mb3.9/5, Error ellipse: s-maj=9.2km s-min=5.5km az=0.9*
*NEIC **15** 13:19:49.4±0.6, 1°.00S×136°.80E, h10km, mb4.1/5, Error ellipse: s-maj=14.6km s-min=8.9km az=88.0*
NEIC Felt [III] at Biak.

ISC 15 13:19:48.6±1.1, 0°.80S±0°.10×136°.64E±0°.04, h25km, n20, σ1§94/22, mb4.0/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
BAKI	**Biak**	**0.66**	**234**	P	**Pb**		**13 19 59.8**	**-1.7**
SRPI	**Serui, Papua**	**1.13**	**201**	P	**Pb**		**13 20 08.2**	**-1.3**
SRPI				S	**Sb**		**13 20 27.3**	**+3.5**
RKPI	**Ransiki, Papua**	**2.56**	**254**	P	**Pn**		**13 20 25.8**	**-2.7**
RKPI				S	**Sn**		**13 20 59.2**	**+0.3**
GENI	**Genyem**	**3.95**	**117**	P	**Pn**		**13 20 44.7**	**-2.9**
GENI				S	**Sn**		**13 21 34.0**	**+0.8**
JAY	**Jayapura**	**4.40**	**113**	Pn	**Pn**		**13 20 53.2**	**-0.7**
	1.0nm,0.3s,baz=163,slow=18,SNR=4.4							
JAY				Sn	**Sn**		**13 21 42.1**	**-2.3**
	1.8nm,0.3s,baz=122,slow=17,SNR=4.0							
FAKI	**Fak Fak**	**4.87**	**244**	*e*Pn	**Pn**		**13 20 58.2**	**-2.0**
FAKI	**Fak Fak**	**4.87**	**244**	P	**Pn**		**13 20 57.6**	**-2.7**
FAKI				S	**Sn**		**13 21 57.5**	**+1.7**
WRAB	**Tennant Creek**	**19.14**	**187**	*e*P	**Pn**		**13 24 11.0**	**-0.1**
	31nm,1.9s							
WB2	**Warramunga Arr**	**19.15**	**187**	*e*P	**Pn**		**13 24 10.3**	**-1.0**
	21nm,1.6s							
WR1	**Warramunga Arr**	**19.16**	**187**	*e*P	**Pn**		**13 24 12.9**	**+1.7**
	32nm,1.8s							
WRA	**Warramunga Arr**	**19.16**	**187**	P	**Pn**		**13 24 12.9**	**+1.7**
	0.3nm,0.3s,baz=6.3,slow=11,SNR=19							
ANA2	**Anatahan**	**19.25**	**27**	*e*P	**Pn**		**13 24 15.7**	**+3.3**
	183nm,0.3s							
AS01	**Alice Springs**	**22.88**	**186**	*e*P	**P**		**13 24 50.6**	**+0.1**
AS31	**Alice Springs**	**22.88**	**186**	*e*P	**P**		**13 24 51.0**	**+0.5**
	3.3nm,0.6s							
ASAR	**Alice Springs**	**22.88**	**186**	P	**P**		**13 24 51.4**	**+0.9**
	11nm,0.8s,baz=11,slow=12,SNR=91							
STKA	**Stephens Creek**	**31.26**	**172**	P	**P**		**13 26 06.1**	**-0.4**
	2.1nm,0.7s,baz=8.2,slow=9.0,SNR=4.3							
STKA	**Stephens Creek**	**31.26**	**172**	*e*P	**P**		**13 26 06.9**	**+0.5**
	5.5nm,2.2s							
CMAR	**Chiang Mai Arr**	**41.70**	**299**	P	P		13 27 40.6	+4.9
	0.6nm,0.7s,baz=122,slow=7.0,SNR=6.6							
MK32	**Makanchi Array**	**67.03**	**323**	*e*P	P		13 30 44.2	+4.6
MKAR	**Makanchi Array**	**67.03**	**323**	P	P		13 30 44.2	+4.6
	0.3nm,0.5s,baz=116,slow=7.8,SNR=5.0							

*IDC **15** 13:30:59.1±1.0, 0°.70S×136°.71E, h0km, mb3.9/7, mb1 4.2/11, mb1mx4.0/32, mbtmp4.1/11, ML3.9/4, MS3.2/2, Ms1 3.2/2, ms1mx2.6/29, Error ellipse: s-maj=26.0km s-min=17.8km az=68.0*
*ISCJB **15** 13:31:00.6±0.6, 0°.73S±0°.07×136°.60E±0°.04, h23km, MS2.9/1, Error ellipse: s-maj=9.9km s-min=6.2km az=2.8*
*NEIC **15** 13:31:00.1±5.0, 0°.71S×136°.68E, h8km±32km, mb4.3/5, Error ellipse: s-maj=11.8km s-min=9.1km az=209.0*
*DJA **15** 13:31:01.8±1.5, 1°.5S×13°.7E±°, h21km±16km, M4.3/7, mB4.5/1, mb4.3/3, MLv4.3/7, Mw(mB)3.7/1*

ISC 15 13:31:01.9±0.8, 0°.71S±0°.08×136°.67E±0°.05, h23km, n28, σ1§36/31, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
SRPI	**Serui, Papua**	**1.23**	**201**	P	**Pn**		**13 31 24.0**	**+0.4**
SRPI				S	**Sb**		**13 31 41.9**	**+2.1**
RKPI	**Ransiki, Papua**	**2.62**	**252**	P	**Pn**		**13 31 40.8**	**-2.0**
RKPI				S	**Sn**		**13 32 12.4**	**-1.5**
GENI	**Genyem**	**3.96**	**118**	P	**Pn**		**13 32 03.5**	**+2.2**
JAY	**Jayapura**	**4.41**	**114**	Pn	**Pn**		**13 32 07.2**	**-0.3**
	0.7nm,0.3s,baz=294,slow=12,SNR=4.1							
JAY				Sn	**Sn**		**13 32 56.3**	**-1.9**
	1.7nm,0.3s,baz=162,slow=20,SNR=3.0							
FAKI	**Fak Fak**	**4.93**	**244**	*e*Pn	**Pn**		**13 32 13.3**	**-1.3**
FAKI	**Fak Fak**	**4.93**	**244**	P	**Pn**		**13 32 13.2**	**-1.5**
FAKI				S	**Sn**		**13 33 10.2**	**-0.9**
SIJI	**Sorong**	**5.41**	**268**	Pn	**Pn**		**13 32 20.6**	**-0.6**
	2.5nm,0.3s,baz=260,slow=23,SNR=20							
SWI	**Sorong**	**5.41**	**268**	P	**Pn**		**13 32 19.8**	**-1.4**
COEN	**Coen**	**14.65**	**154**	*e*Pn	**Pn**		**13 34 24.2**	**-3.6**
SOEI	**Soe**	**15.26**	**234**	*e*Pn	**Pn**		**13 34 36.5**	**+0.3**
	51nm,1.2s							
BATI	**Baumata**	**16.01**	**233**	Pn	**Pn**		**13 34 47.0**	**+1.3**
	3.4nm,0.3s,baz=288,slow=19,SNR=3.3							
WRAB	**Tennant Creek**	**19.24**	**187**	*e*P	**P**		**13 35 24.6**	**-0.1**
	9.9nm,0.9s							
WB2	**Warramunga Arr**	**19.25**	**187**	*e*P	**P**		**13 35 24.6**	**-0.2**
WR1	**Warramunga Arr**	**19.25**	**187**	*e*P	**Pn**		**13 35 25.7**	**-0.2**
	12nm,0.9s							
WRA	**Warramunga Arr**	**19.25**	**187**	P	**Pn**		**13 35 25.7**	**-0.2**
	0.4nm,0.3s,baz=6.3,slow=11,SNR=30							
FITZ	**Fitzroy Crossi**	**20.39**	**211**	P	**P**		**13 35 36.6**	**-0.7**
	3.4nm,0.9s,baz=63,slow=10.0,SNR=3.5							
FITZ	**Fitzroy Crossi**	**20.39**	**211**	*e*P	**P**		**13 35 36.9**	**-0.4**
	68nm,2.0s							
CTA	**Charters Tower**	**21.42**	**155**	P	**P**		**13 35 49.5**	**+1.2**
	4.5nm,0.8s,baz=295,slow=7.5,SNR=4.0							
AS01	**Alice Springs**	**22.97**	**186**	*e*P	**P**		**13 36 05.2**	**+0.3**
AS31	**Alice Springs**	**22.97**	**187**	*e*P	**P**		**13 36 06.2**	**+1.3**
	5.2nm,0.6s							
ASAR	**Alice Springs**	**22.97**	**187**	P	**P**		**13 36 06.2**	**+1.3**
	17nm,0.8s,baz=10,slow=12,SNR=186							
ASAR				LR	LR		13 45 45.8	
	comp=Z,109nm,19.1s,baz=115,slow=39							
JOW	**Kunigami**	**28.56**	**344**	LR	LR		13 48 19.4	
	comp=Z,28nm,18.2s,baz=107,slow=36							
STKA	**Stephens Creek**	**31.34**	**172**	P	**P**		**13 37 20.7**	**0.0**
	3.4nm,0.7s,baz=358,slow=11,SNR=4.2							
CMAR	**Chiang Mai Arr**	**41.69**	**299**	P	**P**		**13 38 51.5**	**+2.2**
	0.8nm,0.6s,baz=139,slow=8.4,SNR=4.2							
MK32	**Makanchi Array**	**66.98**	**323**	*e*P	**P**		**13 41 53.3**	**+0.4**
MKAR	**Makanchi Array**	**66.98**	**323**	P	**P**		**13 41 53.3**	**+0.4**
	0.4nm,0.8s,baz=119,slow=8.9,SNR=2.8							
ILAR	**Eielson Array**	**84.88**	**25**	P	**P**		**13 43 35.1**	**+0.5**
	0.2nm,0.6s,baz=271,slow=4.7,SNR=3.8							
QSPA	**South Pole Qui**	**89.22**	**180**	*e*P	**P**		**13 43 55.7**	**-0.1**
	28nm,1.9s							

MEX 15 13:36:33.8±0.4, 16°.23N×98°.05W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
PNIG	**Pinotepa**	**0.18**	**337**	*i* P	Pg		13 36 37.2	-0.2
PNIG				*i* S	Sg		13 36 39.6	-0.1

*MOS **15** 13:36:41.4±1.6, 59°.76N×150°.27E, h4km, mb3.8/3, Error ellipse: s-maj=28.6km s-min=12.0km az=96.7*
MOS Felt (IV) at Raduzhnyy, (III) at Arman', (II) at Magadan.
*NERS **15** 13:36:43.5±0.0, 59°.78N×150°.07E, h1km, Felt I=IV MSK at Raduzhnyj 2(10km); I=III at Arman'(18km); I=II at Magadan(42km)*

ISC 15 13:36:44.2±1.2, 59°.77N±0°.03×150°.17E±0°.04, h7km±10km, n21, σ1§52/36, mb3.4/3, 9C-4D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
MA2	**Magadan**	**0.36**	**122**	*i*Pg	**Pg**		**13 36 50.8**	**-0.4**
MA2				Pgmax			13 36 51.3	
	500nm,0.2s							
MA2				Pgmax			13 36 51.3	
	180nm,0.2s							
MA2				Pgmax			13 36 51.3	
	460nm,0.2s							
MA2				*e*Sg	**Sg**		**13 36 55.8**	**-0.1**
MA2				Sgmax			13 36 56.2	
	890nm,0.2s							
MA2				Sgmax			13 36 56.2	
	9μm,0.2s							
MA2	**Magadan**	**0.36**	**122**	*i*P	**Pg**		**13 36 50.8**	**-0.4**
MA2				*e*			13 36 55.8	
MA2				pmax	pmax			
	comp=Z,460nm,0.2s							
MA2				smax	smax			
	comp=E,9μm,0.2s							
MGD	**Magadan 1**	**0.40**	**45**	*i*Pg	**Pg**		**13 36 52.1**	**+0.2**
MGD				Pgmax			13 36 52.7	
	comp=E,850nm,0.2s							
MGD				*e*Sg	**Sg**		**13 36 57.8**	**+0.7**
MGD				Sgmax			13 36 58.3	
	comp=E,4μm,0.4s							
MGD				Sgmax			13 36 58.3	
	comp=E,2μm,0.2s							
TLAR	**Talaya**	**1.76**	**38**	*i*Pg	**Pn**		**13 37 16.0**	**+0.9**
TLAR				Pgmax			13 37 16.4	
	comp=E,100nm,0.3s							
TLAR				*e*Sg	**Sb**		**13 37 39.2**	**+0.1**
TLAR				Sgmax			13 37 40.6	
TLAR				Sgmax			13 37 40.6	
	comp=E,1μm,0.3s							
TLAR				Sgmax			13 37 40.6	
	comp=E,300nm,0.3s							
OCHR	**Omchak**	**2.21**	**330**	*e*P	**Pn**		**13 37 21.9**	**+0.5**
OCHR				*e*Pg	**Pb**		**13 37 23.9**	**-0.7**
OCHR				Pgmax			13 37 26.2	
	comp=E,20nm,0.3s							
OCHR				Pgmax			13 37 26.2	
	comp=E,10.0nm,0.4s							
OCHR				*e*Sg	**Sb**		**13 37 53.0**	**+0.8**
OCHR				Sgmax			13 37 53.8	
	comp=E,420nm,0.4s							
OCHR				Sgmax			13 37 53.8	
	comp=E,70nm,0.3s							
SNGR	**Sinegor'e**	**2.31**	**3**	*e*P	**Pn**		**13 37 23.8**	**+1.2**
SNGR				*e*Pg	**Pb**		**13 37 26.6**	**+0.5**
SNGR				Pgmax			13 37 27.4	
	comp=E,100nm,0.2s							
SNGR				*e*Sg	**Sb**		**13 37 56.7**	**+1.9**
SNGR				Sgmax			13 37 59.3	
	comp=E,150nm,0.3s							
SNGR				Sgmax			13 37 59.3	
	comp=E,330nm,0.3s							
SUUS	**Susuman**	**3.17**	**343**	*i*P	**Pn**		**13 37 34.9**	**+0.4**
SUUS				Pmax			13 37 35.2	
	comp=E,10.0nm,0.2s							
SUUS				Pmax			13 37 35.2	
	comp=E,10.0nm,0.2s							
SUUS				*e*S	**Sn**		**13 38 12.4**	**-0.2**
SUUS				*e*Sg	**Sb**		**13 38 22.1**	**+2.4**
SUUS				Sgmax			13 38 26.4	
	comp=E,110nm,0.4s							
SUUS				Sgmax			13 38 26.4	
	comp=E,310nm,0.4s							
SUUS	**Susuman**	**3.17**	**343**	*d*P	**Pn**		**13 37 34.9**	**+0.4**
SUUS				*e*S	**Sn**		**13 38 12.4**	**-0.2**
SUUS				pmax	pmax			
	comp=Z,10.0nm,0.2s							

comp=N,344nm,0.4s
QASN AML AML 13 43 23.5
comp=E,127nm,0.3s
BHL Bhannes 1.91 233 *e*P **Pg 13 42 45.5 -1.1**
TOTH TOTAH 1.92 208 *e*P **Pb 13 42 44.5 +0.2**
TOTH *e*S **Sn 13 43 02.9 -2.3**
TOTH AML AML 13 43 12.6
comp=N,161nm,0.3s
TOTH AML AML 13 43 16.5
comp=E,217nm,0.5s
BRBR Barbar 2.09 218 *e*P **Pb 13 42 47.6 +0.3**
BRBR *e*S **Sn 13 43 09.5 -0.1**
BRBR AML AML 13 43 21.8
comp=N,138nm,0.6s
BRBR AML AML 13 43 22.7
comp=E,168nm,0.6s
DQRL Deir Qamar 2.09 230 *e*P **Pb 13 42 48.0 +0.8**
DQRL *e*S **Sb 13 43 12.4 -0.5**
SHBL Chebaa 2.25 221 *e*P **Pb 13 42 50.3 +0.4**
SHBL *e*S **Sb 13 43 16.6 -0.8**
KRTS Karatas 2.28 312 PN **Pb 13 42 51.6 +1.2**
CEYT Ceyhan 2.40 324 PN **Pb 13 42 52.0 -0.4**
KMRS Kahramanmaras 2.48 349 PN **Pn 13 42 50.7 +1.5**
URFA Urfa 2.60 24 PN **Pn 13 42 50.9 0.0**
KOZT Kozan 2.76 331 PN **Pb 13 42 56.2 -2.3**
KARA Karaisali 2.94 319 PN **Pb 13 43 00.3 -1.4**
DARE Darende-Malaty 3.50 360 PN **Pn 13 43 04.5 +1.3**
BNN Bunyan 4.00 341 PN **Pn 13 43 13.5 +3.3**
PTK Pertek 4.11 21 PN **Pn 13 43 12.7 +1.0**
SIRT Sirnak 4.67 57 PN **Pn 13 43 21.7 +2.2**

*UCR **15** 13:42:54.1±1.5, 16°.38N×92°.66W, h0km±357km, MD4.1, mb4.3(NEIC)*
*ISCJB **15** 13:42:56.6±0.4, 15°.90N±0°.05×92°.45W±0°.05, h208km±3km, mb3.9/9, Error ellipse: s-maj=9.6km s-min=5.9km az=40.3*
*IDC **15** 13:42:56.0±0.6, 15°.72N×92°.54W, h198km±5km, mb3.7/7, mb1 3.9/11, mb1mx3.5/36, mbtmp4.2/11, MS2.3/1, Ms1 2.3/1, ms1mx2.1/31, Error ellipse: s-maj=25.4km s-min=6.4km az=32.0*
*MEX **15** 13:42:57.6±0.8, 15°.87N×92°.47W, h215km±7km, MD4.0*
*NEIC **15** 13:42:57.8±0.0, 15°.86N×92°.47W, h213km, mb4.3/9, MD4.3(MEX), After MEX.*
NEIC Felt at Comitan.
ISC 15 13:42:57.5±0.6, 15°.89N±0°.06×92°.47W±0°.05, h207km±5km, n43, σ1s64/56, mb4.0/10, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.51**	**39**	*e*Pn		**Pn**		**13 43 25.7**	**+0.1**
CCIG				*i* S		**S**		**13 43 46.4**	**-1.3**
CCIG	**Comitan**	**0.51**	**39**	*e*P		**Pn**		**13 43 25.8**	**+0.1**
CCIG				*i* S		**S**		**13 43 46.4**	**-1.3**
PCIG		**0.74**	**256**	*e*P		**Pn**		**13 43 25.8**	**-0.6**
PCIG				*e*S		**S**		**13 43 47.9**	**-0.9**
PCIG		**0.74**	**256**	*e*P		**Pn**		**13 43 25.8**	**-0.6**
PCIG				*e*S		**S**		**13 43 47.9**	**-0.9**
THIG		**0.99**	**168**	*e*P		**Pn**		**13 43 27.3**	**-0.6**
THIG				*i* S		**S**		**13 43 51.2**	**-0.3**
THIG		**0.99**	**168**	*e*P		**Pn**		**13 43 27.3**	**-0.6**
THIG				*i* S		**S**		**13 43 51.2**	**-0.3**
TGBT	**Tuxtla Gutierr**	**1.07**	**326**	*e*P		**Pn**		**13 43 28.8**	**+0.4**
APG	**El Apazote**	**2.12**	**114**	P		**Pn**		**13 43 37.1**	**-0.9**
	59nm,0.3s,baz=226,slow=16,SNR=418								
APG				S		**S**		**13 44 07.3**	**-1.9**
	88nm,0.3s,baz=343,slow=21,SNR=20								
FUG	**Fuego 3**	**2.13**	**132**	*e*P		**Pn**		**13 43 38.6**	**+0.5**
FUG				*e*S		**S**		**13 44 14.3**	**+5.2**
NBG	**Las Nubes**	**2.42**	**122**	*e*P		**Pn**		**13 43 41.7**	**+0.4**
IXG	**Ixpaco**	**2.59**	**131**	*e*P		**Pn**		**13 43 43.8**	**+0.8**
IXG				*e*S		**S**		**13 44 22.9**	**+4.9**
CMIG	**Matias Romero**	**2.61**	**298**	P		**Pn**		**13 43 42.4**	**-0.6**
	90nm,0.3s,baz=118,slow=7.7,SNR=910								
CMIG				S		**S**		**13 44 16.3**	**-1.8**
	90nm,0.3s,baz=348,slow=21,SNR=23								
CMIG				LR		LR		13 44 43.4	
	comp=Z,61nm,21.4s,baz=134,slow=41								
MRL	**Marmol**	**2.80**	**107**	*e*P		**Pn**		**13 43 45.4**	**0.0**
MRL				*e*S		**S**		**13 44 21.3**	**-1.0**
LVIG	**Laguna Verde**	**5.36**	**316**	*e*Pn		**Pn**		**13 44 17.4**	**+0.9**
MYIG	**Mrida**	**5.67**	**27**	*e*Pn		**Pn**		**13 44 20.1**	**-0.5**
TEIG	**Tepich**	**5.88**	**42**	*e*Pn		**Pn**		**13 44 21.8**	**-1.5**
MOIG	**Morelia**	**9.12**	**296**	*e*Pn		**Pn**		**13 45 08.9**	**+3.4**
JTS	**JuntasAbangare**	**9.20**	**126**	P		**Pn**		**13 45 05.1**	**-1.3**
	3.2nm,0.3s,baz=40,slow=11,SNR=8.0								
061Z	**Ochoppi**	**14.67**	**46**	*e*Pn		**P**		**13 46 16.6**	**+0.4**
555A	**McAlpin**	**16.64**	**30**	*e*P		**Pn**		**13 46 39.0**	**-0.1**
	86nm,1.5s								
TXAR	**Lajitas Array**	**16.89**	**324**	P		**Pn**		**13 46 42.7**	**+0.4**
	0.2nm,0.3s,baz=141,slow=11,SNR=12								
TX31	**Lajitas Ar. Si**	**16.89**	**324**	*e*P		**Pn**		**13 46 44.1**	**+1.8**
GTBY	**Guantanamo Bay**	**17.00**	**74**	*e*P		**P**		**13 46 42.4**	**+0.4**
	68nm,0.8s								
TIGA	**Tifton**	**17.48**	**26**	*e*P		**P**		**13 46 47.9**	**+0.8**
	33nm,0.5s								
152A	**Waverly Hall**	**18.13**	**21**	*e*P		**P**		**13 46 54.8**	**+0.6**
	9.1nm,0.8s								
154A	**Montrose**	**18.70**	**25**	*e*P		**P**		**13 47 01.4**	**+1.0**
	60nm,0.8s								
GOGA	**Godfrey**	**19.26**	**23**	*e*P		**P**		**13 47 06.5**	**+0.1**
	6.1nm,0.8s								
Y52A	**Lilburn**	**19.44**	**21**	*e*P		**P**		**13 47 08.6**	**+0.2**
	7.4nm,0.6s								
OTAV	**Otavalo**	**20.82**	**137**	*e*P		**P**		**13 47 24.9**	**+1.2**
	6.5nm,0.9s								
JSC	**Jenkinsville**	**20.91**	**27**	*e*P		**P**		**13 47 23.9**	**-0.2**
	8.1nm,0.9s								
KMSC	**Kings Mountain**	**21.62**	**25**	*e*P		**P**		**13 47 30.6**	**-0.7**
	17nm,1.3s								
SDV	**Santo Domingo**	**22.42**	**105**	P		**P**		**13 47 39.9**	**+0.5**
	4.0nm,0.4s,baz=291,slow=5.8,SNR=3.9								
NVAR	**Mina Array Bea**	**31.94**	**320**	P		**P**		**13 49 05.7**	**+1.6**
	0.6nm,0.5s,baz=143,slow=8.0,SNR=4.6								
NVAR				pP		**pP**		**13 49 47.1**	**+0.8**
	0.6nm,0.7s,baz=158,slow=8.2,SNR=3.5								
LPAZ	**La Paz**	**39.99**	**142**	P		**P**		**13 50 11.9**	**-1.1**
	5.9nm,0.6s,baz=327,slow=7.4,SNR=27								
LPAZ	**La Paz**	**39.99**	**142**	*e*P		**P**		**13 50 11.6**	**-1.4**
	6.5nm,0.6s								
MNMC	**Minye Minye**	**41.44**	**146**	*e*P		**P**		**13 50 24.7**	**+0.2**
	12nm,1.0s								
YKA	**Yellowknife Ar**	**49.10**	**347**	P		**P**		**13 51 23.3**	**-0.3**
	1.0nm,0.7s,baz=148,slow=7.5,SNR=21								
YKA				pP		**pP**		**13 52 09.0**	**0.0**
	0.4nm,0.7s,baz=149,slow=7.6,SNR=5.6								
BDFB	**Brasilia**	**53.92**	**123**	P		**P**		**13 51 57.5**	**-2.8**
	2.7nm,0.5s,baz=276,slow=9.2,SNR=3.6								
CPUP	**Vila Florida**	**54.12**	**140**	P		**P**		**13 51 58.7**	**-2.6**
	2.6nm,0.8s,baz=324,slow=8.1,SNR=6.7								
PLCA	**Paso Flores**	**59.90**	**161**	P		**P**		**13 52 40.7**	**-0.9**
	2.2nm,0.9s,baz=340,slow=7.6,SNR=3.7								
ILAR	**Eielson Array**	**60.94**	**336**	pP		pP		13 53 34.8	-0.9
	0.2nm,1.0s,baz=175,slow=30,SNR=3.2								
KSH	**Kashi**	**123.84**	**11**	PKP		**PKPdf**		**14 01 29.3**	**-2.0**
KSH				sPKP				14 02 50.3	
KSH				PP		**PP**		**14 03 20.3**	**+4.6**
KSH				AMB		AMB			
	comp=Z,400nm,5.9s								
WRA	**Warramunga Arr**	**135.38**	**258**	PKP		**PKPdf**		**14 01 54.1**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=359,slow=0.9,SNR=2.8								

*IDC **15** 13:44:06.9±1.1, 0°.08N×123°.28E, h0km, mb3.3/5, mb1 3.6/6, mb1mx3.4/30, mbtmp3.4/6, ML3.3/1, Error ellipse: s-maj=77.4km s-min=18.0km az=64.0*
*ISCJB **15** 13:44:16.5±0.6, 0°.10S±0°.06×123°.00E±0°.06, h100km, mb3.1/5, Error ellipse: s-maj=9.5km s-min=7.3km az=39.5*
*DJA **15** 13:44:18.8±0.4, 0°.5±4°×12°.3E±°, h60km±18km, M3.9/13, mb4.0/2, MLv3.8/13*
ISC 15 13:44:17.9±0.8, 0°.12S±0°.06×123°.01E±0°.06, h100km, n17, σ1s18/18, mb3.3/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.95**	**194**	P		**Pn**		**13 44 36.3**	**-1.6**
KMSI	**Cibinong**	**1.19**	**55**	P		**Pn**		**13 44 40.7**	**+0.2**
MRSI	**Marisa**	**1.22**	**299**	P		**Pn**		**13 44 39.5**	**-1.3**
MRSI				S		**Sn**		**13 44 55.2**	**-2.9**
APSI	**Ampana**	**1.57**	**240**	P		**Pn**		**13 44 44.7**	**-0.4**
MPSI	**Mapaga**	**3.14**	**278**	P		**Pn**		**13 45 05.9**	**+0.3**
SANI	**Sanana**	**3.55**	**123**	P		**Pn**		**13 45 09.5**	**-1.5**
KDI	**Kendari**	**3.84**	**186**	P		**Pn**		**13 45 15.3**	**+0.3**
TTSI	**Tana Toraja**	**4.32**	**228**	P		**Pn**		**13 45 21.6**	**+0.2**
SPSI	**Sidrap Palu**	**5.01**	**220**	P		**Pn**		**13 45 31.8**	**+1.0**
NLAI	**Namlea**	**5.13**	**127**	P		**Pn**		**13 45 32.6**	**+0.1**
BNSI	**Bone**	**5.15**	**214**	P		**Pn**		**13 45 32.0**	**-0.7**
	21nm,1.7s,0.1nm								
FITZ	**Fitzroy Crossi**	**18.06**	**172**	P		**Pn**		**13 48 22.8**	**+0.4**
	0.1nm,0.3s,baz=355,slow=11,SNR=3.0								
WRA	**Warramunga Arr**	**22.62**	**151**	P		**P**		**13 49 09.8**	**-0.8**
	0.5nm,0.7s,baz=328,slow=10,SNR=8.8								
ASAR	**Alice Springs**	**25.69**	**156**	P		**P**		**13 49 38.9**	**0.0**
	0.3nm,0.6s,baz=342,slow=16,SNR=9.1								
CMAR	**Chiang Mai Arr**	**30.00**	**309**	P		**P**		**13 50 18.4**	**+1.1**
	0.4nm,0.4s,baz=140,slow=7.1,SNR=5.2								
SONM	**Songino Array**	**49.90**	**345**	P		**P**		**13 53 01.2**	**-0.3**
	0.2nm,0.7s,baz=145,slow=8.1,SNR=2.0								
MKAR	**Makanchi Array**	**58.71**	**328**	P		**P**		**13 54 06.7**	**+1.4**
	0.1nm,0.3s,baz=116,slow=8.0,SNR=3.8								

*ISCJB **15** 13:50:57.8±0.3, 23°.73N±0°.02×121°.71E±0°.02, h50km±5km, Error ellipse: s-maj=3.7km s-min=2.5km az=34.7*
*JMA **15** 13:50:57.3±0.1, 23°.70N×121°.68E, h45km±2km, M2.4*
*TAP **15** 13:50:57.5, 23°.73N×121°.69E, h45km, ML2.8, C*
ISC 15 13:50:58.5±1.2, 23°.74N±0°.02×121°.68E±0°.03, h44km±7km, n57, σ0s64/97, 1C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ENLB	**Shoufeng**	**0.18**	**336**	P		**Pn**		**13 51 06.2**	**+0.2**
	baz=336								
ESL	**Shilin**	**0.24**	**289**	P		**Pn**		**13 51 06.2**	**-0.3**
	baz=290								
ESL				*e*S		**Sn**		**13 51 12.1**	**-0.1**
	baz=290								
HGSD	**Ruisui**	**0.34**	**225**	*e*P		**Pn**		**13 51 07.9**	**+0.4**
	baz=225								
HGSD				*e*S		**Sn**		**13 51 16.1**	**+2.2**
	baz=225								
TWD	**Chiawan**	**0.35**	**347**	⇑P		**Pn**		**13 51 07.2**	**-0.4**
	baz=348								
TWD				*e*S		**Sn**		**13 51 14.4**	**+0.3**
	baz=348								
EHY	**Hungye**	**0.40**	**235**	⇓P		**Pn**		**13 51 07.4**	**-0.9**
	baz=235								
EHY				*e*S		**Sn**		**13 51 15.2**	**+0.1**
	baz=235								
NACB	**Ninganchiao**	**0.44**	**349**	*e*P		**Pn**		**13 51 07.8**	**-0.9**
	baz=349								
NACB				*e*S		**Sn**		**13 51 16.3**	**+0.4**
	baz=349								
YULB	**Yu-li**	**0.49**	**226**	*e*P		**Pn**		**13 51 08.3**	**-1.0**
	baz=226								
VWDT	**VWDT**	**0.50**	**272**	*e*P		**Pn**		**13 51 09.2**	**-0.1**
	baz=272								
VWDT				*e*S		**Sn**		**13 51 17.4**	**+0.4**
	baz=272								
TWF1	**Yuli**	**0.52**	**223**	⇓P		**Pn**		**13 51 08.8**	**-0.9**
	baz=222								
WHF	**Hehuan Shan**	**0.56**	**317**	P		**Pn**		**13 51 09.7**	**-0.9**
	baz=317								
WHF				*e*S		**Sn**		**13 51 18.7**	**-0.5**
	baz=317								
CHGB	**Renai**	**0.57**	**305**	*e*P		**Pn**		**13 51 10.0**	**-0.5**
	baz=305								
CHGB				*e*S		**Sn**		**13 51 19.2**	**+0.1**
	baz=305								
SSLB	**Suanglung**	**0.67**	**275**	*e*P		**Pn**		**13 51 11.2**	**-0.5**
	baz=274								
SSLB				*e*S		**Sn**		**13 51 21.4**	**+0.3**
	baz=274								
ENA	**Nanau**	**0.69**	**4**	*e*P		**Pn**		**13 51 11.8**	**-0.2**
	baz=4.0								
TWT	**Tachien**	**0.69**	**318**	*e*P		**Pn**		**13 51 11.9**	**-0.2**
	baz=317								
TWT				*e*S		**Sn**		**13 51 21.6**	**-0.3**
	baz=317								
CHKT	**Chengkung**	**0.70**	**205**	*e*P		**Pn**		**13 51 11.5**	**-0.5**
	baz=204								
CHKT				*e*S		**Sn**		**13 51 21.9**	**+0.2**
	baz=204								
TDCB	**Techi**	**0.70**	**317**	*e*P		**Pn**		**13 51 11.9**	**-0.3**
	baz=317								
TDCB				*e*S		**Sn**		**13 51 21.6**	**-0.6**
	baz=317								
YUS	**Yu-Shan**	**0.71**	**250**	P		**Pn**		**13 51 12.4**	**-0.3**
	baz=250								
YUS				*e*S		**Sn**		**13 51 22.4**	**-0.4**
	baz=250								
SMLT	**Sun Moon Lake**	**0.73**	**282**	⇓P		**Pn**		**13 51 12.3**	**-0.3**
	baz=281								
SMLT				*e*S		**Sn**		**13 51 22.8**	**+0.1**
	baz=281								
NNSB	**Datong**	**0.74**	**338**	P		**Pn**		**13 51 12.2**	**-0.5**
	baz=338								
NNSB				*e*S		**Sn**		**13 51 23.0**	**0.0**
	baz=338								
NNS	**Nan Shan**	**0.76**	**338**	P		**Pn**		**13 51 12.2**	**-0.7**
	baz=338								
NNS				*e*S		**Sn**		**13 51 22.8**	**-0.5**
	baz=338								
TYC	**Yuchr**	**0.78**	**283**	*e*P		**Pn**		**13 51 12.8**	**-0.2**
	baz=283								
ELDTW	**Lidau**	**0.82**	**228**	P		**Pn**		**13 51 12.6**	**-1.2**
	baz=228								
TWC	**Suao**	**0.88**	**10**	*e*P		**Pn**		**13 51 14.7**	**+0.2**
	baz=10.0								
TWC				*e*S		**Sn**		**13 51 26.4**	**+0.2**
	baz=10.0								
ENTT	**Nioudou**	**0.91**	**353**	*e*P		**Pn**		**13 51 14.3**	**-0.6**
	baz=353								
ENTT				*e*S		**Sn**		**13 51 26.9**	**+0.1**
	baz=353								
EOS1	**EOS1**	**0.91**	**27**	*e*P		**Pn**		**13 51 15.3**	**+0.6**
	baz=26								
EOS1				*e*S		**Sn**		**13 51 27.9**	**+1.2**
	baz=26								
WNT	**Mingjian**	**0.93**	**279**	*e*P		**Pn**		**13 51 15.7**	**+0.6**
	baz=279								
WNT				*e*S		**Sn**		**13 51 28.6**	**+1.3**
	baz=279								
CHN5	**Tsauling**	**0.93**	**262**	*e*P		**Pn**		**13 51 15.4**	**+0.1**
	baz=261								
YHNB	**Yeheng**	**0.97**	**343**	*e*P		**Pn**		**13 51 15.4**	**-0.4**
	baz=343								
YHNB				*e*S		**Sn**		**13 51 28.6**	**+0.1**
	baz=343								
TWE	**Neicheng**	**0.98**	**359**	*e*P		**Pn**		**13 51 15.9**	**+0.1**
	baz=359								
TWE				*e*S		**Sn**		**13 51 28.8**	**+0.3**
	baz=359								
NSK	**Sanguang**	**0.98**	**342**	*e*P		**Pn**		**13 51 15.6**	**-0.3**
	baz=342								
NSK				*e*S		**Sn**		**13 51 28.5**	**-0.2**
	baz=342								
SLBB	**Yuanshan**	**1.01**	**358**	*e*P		**Pn**		**13 51 15.9**	**-0.5**
	baz=357								
SLBB				*e*S		**Sn**		**13 51 29.9**	**+0.4**
	baz=357								
STYT	**Tauyuan**	**1.02**	**236**	*e*P		**Pn**		**13 51 16.1**	**-0.4**
	baz=236								
TWQ1	**Liyutan**	**1.03**	**306**	*e*P		**Pn**		**13 51 16.8**	**+0.2**
	baz=306								
TWQ1				*e*S		**Sn**		**13 51 30.9**	**+1.1**
	baz=306								
TPUB	**Ta-pu**	**1.06**	**246**	*e*P		**Pn**		**13 51 17.1**	**+0.1**
	baz=246								
TPUB				*e*S		**Sn**		**13 51 32.4**	**+1.8**
	baz=246								
TWGBT	**Beinan**	**1.07**	**211**	*e*P		**Pn**		**13 51 16.1**	**-1.0**
	baz=211								
TWGBT				*e*S		**Sn**		**13 51 30.9**	**+0.1**
	baz=211								
TWG	**Pinlang**	**1.07**	**212**	*e*P		**Pn**		**13 51 16.2**	**-0.8**
	baz=211								
TWG				*e*S		**Sn**		**13 51 30.9**	**+0.1**
	baz=211								
NSTT	**Nanjuang**	**1.09**	**325**	*e*P		**Pn**		**13 51 17.4**	**0.0**
	baz=325								
NSTT				*e*S		**Sn**		**13 51 32.0**	**+0.8**
	baz=325								
LIOB	**Emei**	**1.09**	**326**	*e*P		**Pn**		**13 51 18.3**	**+0.9**
	baz=326								
TWK	**Hsinying**	**1.19**	**247**	*e*P		**Pn**		**13 51 18.8**	**0.0**
	baz=246								
TWK				*e*S		**Sn**		**13 51 33.8**	**-0.1**
	baz=246								
CHN1	**Nanshi**	**1.20**	**243**	*e*P		**Pn**		**13 51 19.1**	**+0.4**
	baz=242								
SGST	**Jiashian**	**1.20**	**237**	*e*P		**Pn**		**13 51 19.2**	**+0.4**
	baz=237								
RLNB	**Erlin**	**1.22**	**278**	*e*P		**Pn**		**13 51 19.6**	**+0.5**
	baz=277								
TATO	**Taipei**	**1.25**	**352**	*e*P		**Pn**		**13 51 19.4**	**0.0**
	baz=352								
TATO				*e*S		**Sn**		**13 51 35.9**	**+0.8**
	baz=352								
WTCT	**Ta-ch'eng**	**1.29**	**276**	*e*P		**Pn**		**13 51 20.4**	**+0.4**
	baz=275								
ECL	**Taimali**	**1.32**	**211**	P		**Pn**		**13 51 20.3**	**-0.1**
	baz=210								
ECL				S		**Sn**		**13 51 36.6**	**-0.2**
	baz=210								
JYNG	**Yonagunijimaku**	**1.35**	**58**	P		**Pn**		**13 51 21.0**	**+0.1**
SSD	**Sandimen**	**1.38**	**225**	*e*P		**Pn**		**13 51 21.7**	**+0.3**
	baz=224								
SSD				*e*S		**Sn**		**13 51 40.3**	**+1.9**
	baz=224								
MASBT	**Mashibuluo**	**1.48**	**221**	*e*P		**Pn**		**13 51 22.6**	**-0.1**
	baz=221								
EAST	**Anshuo**	**1.55**	**210**	*e*P		**Pn**		**13 51 23.3**	**-0.4**
	baz=209								
EAST				*e*S		**Sn**		**13 51 42.5**	**-0.1**
	baz=209								
PHUB	**P'eng-hu**	**1.95**	**264**	*e*P		**Pn**		**13 51 28.4**	**-0.7**
	baz=263								
PHUB				*e*S		**Sn**		**13 51 51.9**	**-0.4**
	baz=263								
PNG	**Penghu**	**1.96**	**266**	*e*P		**Pn**		**13 51 28.7**	**-0.5**
	baz=265								
IRIF	**Iriomote-Funau**	**1.96**	**72**	P		**Pn**		**13 51 29.8**	**+0.5**
IRIF				S		**Sn**		**13 51 53.1**	**+0.4**
JKRS	**Kuro-shima**	**2.19**	**76**	P		**Pn**		**13 51 32.8**	**+0.5**
JKRS				*e*S		**Sn**		**13 51 58.4**	**+0.3**
JIJ	**Ishigaki jima**	**2.33**	**74**	P		**Pn**		**13 51 34.1**	**-0.3**
JIJ				*e*S		**Sn**		**13 52 01.1**	**-0.7**
VWUC	**VWUC**	**2.39**	**302**	*e*P		**Pn**		**13 51 33.8**	**-1.3**
	baz=301								
JISG	**Ishigakijimahi**	**2.54**	**70**	P		**Pn**		**13 51 37.0**	**-0.3**
JISG				*e*S		**Sn**		**13 52 05.9**	**-1.1**
JTJ	**Tarama**	**2.90**	**71**	P		**Pn**		**13 51 42.0**	**-0.1**
JTJ				S		**Sn**		**13 52 15.6**	**-0.2**

IDC 15 13:56:57.6±3.0, 4°.43S×133°.01E, h0km, mb3.6/1, mb1 3.6/5, mb1mx3.5/26, mbtmp3.5/5, ML3.3/4, Error ellipse: s-maj=128.7km s-min=24.8km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.94**	**334**	P		**Pn**		**13 57 57.2**	**-2.2**
	1.4nm,0.3s,baz=246,slow=21,SNR=7.3								
SIJI				S		**Sn**		**13 58 35.9**	**-10**
	2.0nm,0.3s,baz=219,slow=21,SNR=6.8								
FITZ	**Fitzroy Crossi**	**15.38**	**207**	Pn		**Pn**		**14 00 35.9**	**-0.3**
	0.2nm,0.3s,baz=38,slow=11,SNR=8.5								
FITZ				Sn		**Sn**		**14 03 18.5**	**-8.9**
	0.3nm,0.3s,baz=122,slow=14,SNR=6.9								
WRA	**Warramunga Arr**	**15.48**	**175**	Pn		**Pn**		**14 00 35.9**	**-1.5**
	0.1nm,0.3s,baz=357,slow=13,SNR=5.9								
WRA				Sn		**Sn**		**14 03 21.0**	**-8.7**
	0.2nm,0.3s,baz=359,slow=23,SNR=7.1								
ASAR	**Alice Springs**	**19.15**	**178**	P		**P**		**14 01 22.8**	**+0.1**
	0.1nm,0.3s,baz=357,slow=11,SNR=12								
ASAR				S		**Sn**		**14 04 53.0**	**-5.8**
	0.1nm,0.3s,baz=356,slow=26,SNR=6.9								
MKAR	**Makanchi Array**	**67.79**	**325**	P		**P**		**14 07 58.2**	**+0.8**
	0.7nm,0.9s,baz=122,slow=8.2,SNR=5.2								

MEX 15 14:01:13.1±0.6, 16°.27N×98°.05W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.14**	**330**	*e*P		**Pg**		**14 01 15.5**	**-0.5**
PNIG				*i* S		**Sg**		**14 01 18.1**	**+0.1**
VHO	**Vista Hermosa**	**1.50**	**57**	*e*P		**Pn**		**14 01 37.2**	**-3.6**
VHO				*e*S		**Sn**		**14 01 56.4**	**-4.5**

*MDD **15** 14:13:39.0±2.3, 37°.23N×12°.60W, h0km, mb3.7/7, Error ellipse: s-maj=21.1km s-min=19.9km az=17.0, PRXIMO*
*INMG **15** 14:13:39.5±0.9, 37°.16N×13°.11W, h10km, ML2.1, Error ellipse: s-maj=5.6km s-min=4.5km az=75.0*
*IGIL **15** 14:13:40.7, 37°.29N×12°.72W, h20km, ML1.9*
ISC 15 14:13:40.0±4.1, 37°.3N±0°.1×12°.5W±0°.2, h10km, n26, σ1s22/48, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.92**	**91**	*e*Pn		**Pn**		**14 14 26.7**	**+0.2**
PFVI				*e*Sn		**Sn**		**14 15 02.2**	**+0.5**
PFVI	**Vila Bisbo**	**2.92**	**91**	P		**Pn**		**14 14 26.3**	**-0.2**
	1.7nm,0.3s,SNR=4.0								
PFVI				S		**Sn**		**14 15 02.7**	**+0.9**
	16nm,0.4s,SNR=4.0								
PTEO	**Sao Teotonio**	**3.01**	**83**	*e*Pn		**Pn**		**14 14 27.9**	**+0.2**
PTEO				*e*Sn		**Sn**		**14 15 04.6**	**+0.8**
PTEO	**Sao Teotonio**	**3.01**	**83**	P		**Pn**		**14 14 27.9**	**+0.2**
PTEO				S		**Sn**		**14 15 04.6**	**+0.8**
PMAFR	**Mafra**	**3.04**	**55**	*e*Pn		**Pn**		**14 14 28.8**	**+0.6**
PMAFR				*e*Sn		**Sn**		**14 15 06.1**	**+1.5**
PMAFR	**Mafra**	**3.04**	**55**	P		**Pn**		**14 14 28.5**	**+0.4**
	3.7nm,0.3s,SNR=7.9

EADA	**Adamuz**	**6.33**	**79**	P	**Pn**	**14 15 13.4**	**-0.1**
	comp=N,1.5nm,0.6s,SNR=7.9							
EADA				S	**Sn**	**14 16 24.1**	**-1.7**
	comp=N,2.3nm,0.5s,SNR=7.9							
PAB	**San Pablo**	**6.78**	**68**	P	**Pn**	**14 15 19.4**	**-0.3**
	comp=N,2.4nm,0.6s,SNR=7.9							
PAB				S	**Sn**	**14 16 33.8**	**-3.2**
	comp=N,3.4nm,0.6s,SNR=4.0							
ESDC	**Sonseca Array**	**7.11**	**68**	P	**Pn**	**14 15 24.5**	**+0.4**
	comp=N,1.1nm,0.1s,baz=253,slow=13,SNR=4.1							

ISCJB ***15*** *14:20:58.7±0.2,44˚.64N×6˚.01×6˚.88E±0˚.02,h14km±2km, Error ellipse: s-maj=2.8km s-min=1.9km az=153.6*
STR ***15*** *14:20:59.5±0.4,45˚.N×2˚.×˚.±˚,h5km, M2.4/7, MLv2.4/7*
ROM ***15*** *14:20:59.0±0.2,44˚.634N±0˚.008×6˚.91E±0˚.02,h10km±1km, ML2.0/12*
GEN ***15*** *14:20:59.4,44˚.62N×6˚.90E,h4km±3km, Ml2.0*
LDG ***15*** *14:20:59.6±0.0,44˚.63N×6˚.92E,h2km,Md2.5/2,Ml2.5/16, Error ellipse: s-maj=1.3km s-min=0.7km az=58.0*

ISC 15 14:20:58.8±0.8,44˚.65N±0˚.01×6˚.92E±0˚.02,h15km±5km, n63,σ0ˢ86/108, France

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.13**	**306**	*e*Pg		**Pg**		**14 21 02.5**	**-0.1**
MBDF				*e*Sg		**Sg**		**14 21 04.7**	**-0.4**
	2μm,0.2s								
SURF	**Saint Ours**	**0.18**	**205**	Pg		**Pg**		**14 21 03.0**	**-0.3**
SURF				Sg		**Sg**		**14 21 05.7**	**-0.6**
PZZ	**Stroppo**	**0.20**	**135**	P		**Pg**		**14 21 03.5**	**0.0**
PZZ				S		**Sg**		**14 21 06.4**	**-0.2**
PZZ	**Stroppo**	**0.20**	**135**	P		**Pg**		**14 21 03.5**	**0.0**
PZZ				S		**Sg**		**14 21 06.5**	**-0.2**
PZZ				AML	AML				
	comp=E,2930μm,0.9s								
PZZ				AML	AML				
	comp=N,3520μm,0.9s								
PZZ				AML	AML				
	comp=E,2930μm,0.9s								
PZZ				AML	AML				
	comp=N,3520μm,0.9s								
PZZ				AML	AML				
	comp=E,2930μm,0.9s								
PZZ				AML	AML				
	comp=N,3520μm,0.9s								
DOI	**San Damiano**	**0.27**	**122**	P		**Pg**		**14 21 05.0**	**+0.3**
DOI				S		**Sg**		**14 21 08.9**	**+0.3**
DOI				AML	AML				
	comp=E,1255μm,0.2s								
DOI				AML	AML				
	comp=N,923μm,0.2s								
DOI				AML	AML				
	comp=E,1255μm,0.2s								
DOI				AML	AML				
	comp=N,923μm,0.2s								
DOI				AML	AML				
	comp=N,923μm,0.2s								
DOI				AML	AML				
	comp=E,1255μm,0.2s								
RRL	**Rocca Remolon**	**0.29**	**341**	P		**Pg**		**14 21 05.5**	**+0.5**
RRL				S		**Sg**		**14 21 09.2**	**-0.1**
RRL	**Rocca Remolon**	**0.29**	**341**	P		**Pg**		**14 21 05.5**	**+0.5**
RRL				S		**Sb**		**14 21 10.2**	**-0.4**
RRL				AML	AML				
	comp=E,388μm,1.4s								
RRL				AML	AML				
	comp=N,424μm,1.1s								
RRL				AML	AML				
	comp=E,388μm,1.4s								
RRL				AML	AML				
	comp=N,424μm,1.1s								
RRL				AML	AML				
	comp=E,388μm,1.4s								
RRL				AML	AML				
	comp=N,424μm,1.1s								
BHB	**Bricherasio**	**0.31**	**51**	P		**Pb**		**14 21 06.2**	**0.0**
BHB				S		**Sg**		**14 21 10.4**	**+0.7**
BHB	**Bricherasio**	**0.31**	**51**	P		**Pb**		**14 21 06.2**	**0.0**
BHB				S		**Sg**		**14 21 10.4**	**+0.7**
BHB				AML	AML				
	comp=E,328μm,1.5s								
BHB				AML	AML				
	comp=N,342μm,0.7s								
BHB				AML	AML				
	comp=E,328μm,1.5s								
BHB				AML	AML				
	comp=N,342μm,0.7s								
BHB				AML	AML				
	comp=N,342μm,0.7s								
BHB				AML	AML				
	comp=E,328μm,1.5s								
OGAG	**Argentiere**	**0.33**	**235**	Pg		**Pg**		**14 21 05.5**	**-0.2**
OGAG				Sg		**Sg**		**14 21 09.8**	**-0.7**
BNI	**Bardonecchia**	**0.44**	**337**	P		**Pg**		**14 21 08.2**	**+0.6**
BNI				S		**Sb**		**14 21 14.5**	**-0.3**
BNI				AML	AML				
	comp=E,107μm,0.3s								
BNI				AML	AML				
	comp=N,83μm,0.8s								
BNI				AML	AML				
	comp=E,108μm,0.3s								
BNI				AML	AML				
	comp=N,83μm,0.8s								
BNI				AML	AML				
	comp=E,108μm,0.3s								
BNI				AML	AML				
	comp=N,83μm,0.8s								
ISO	**Isola**	**0.47**	**169**	Pg		**Pg**		**14 21 08.6**	**+0.3**
ISO				Sg		**Sg**		**14 21 15.1**	**+0.5**
STV	**Sant Anna di V**	**0.50**	**144**	P		**Pg**		**14 21 08.8**	**+0.2**
STV				S		**Sg**		**14 21 14.7**	**-0.6**
STV	**Sant Anna di V**	**0.50**	**144**	P		**Pg**		**14 21 08.8**	**+0.2**
STV				S		**Sg**		**14 21 15.6**	**+0.3**
STV				AML	AML				
	comp=E,227μm,1.2s								
STV				AML	AML				
	comp=N,179μm,0.6s								
STV				AML	AML				
	comp=E,227μm,1.2s								
STV				AML	AML				
	comp=N,179μm,0.6s								
STV				AML	AML				
	comp=N,179μm,0.6s								
STV				AML	AML				
	comp=E,227μm,1.2s								
ENR	**Entracque**	**0.55**	**140**	P		**Pg**		**14 21 09.8**	**+0.1**
ENR				S		**Sg**		**14 21 17.1**	**0.0**
RSP	**Reno Superiore**	**0.56**	**26**	P		**Pb**		**14 21 10.8**	**+0.4**
RSP				S		**Sb**		**14 21 19.0**	**+0.8**
RSP	**Reno Superiore**	**0.56**	**26**	P		**Pb**		**14 21 10.8**	**+0.4**
RSP				S		**Sb**		**14 21 19.1**	**+0.8**
RSP				AML	AML				
	comp=E,254μm,0.1s								
RSP				AML	AML				
	comp=N,273μm,0.1s								
RSP				AML	AML				
	comp=N,273μm,0.1s								
RSP				AML	AML				
	comp=E,254μm,0.1s								
OGDI	**Digne**	**0.70**	**220**	Pg		**Pn**		**14 21 14.5**	**+0.2**
GBOS	**Grotte di Boss**	**0.77**	**121**	P		**Pg**		**14 21 14.1**	**+0.3**
GBOS				S		**Sg**		**14 21 24.2**	**+0.2**
ORIF	**Oris-en-Rattie**	**0.79**	**290**	*e*Pg		**Pg**		**14 21 14.3**	**+0.1**
ORIF				*e*Sg					
	comp=E,61nm,0.4s								
ORIF	**Oris-en-Rattie**	**0.79**	**290**	Pg		**Pg**		**14 21 14.3**	**+0.1**
ORIF	**Oris-en-Rattie**	**0.79**	**290**	P		**Pg**		**14 21 14.2**	**0.0**
ORIF				AML	AML				
	comp=E,88μm,0.5s								
ORIF				AML	AML				
	comp=N,110μm,1.0s								
ORIF				AML	AML				
	comp=N,110μm,1.0s								
ORIF				AML	AML				
	comp=E,88μm,0.5s								
SAOF	**Saorge**	**0.80**	**145**	P		**Pg**		**14 21 14.7**	**+0.3**
SAOF				S		**Sg**		**14 21 25.3**	**+0.3**
SAOF				AML	AML				
	comp=E,159μm,0.3s								
SAOF				AML	AML				
	comp=N,116μm,1.0s								
SAOF				AML	AML				
	comp=E,159μm,0.3s								
SAOF				AML	AML				
	comp=N,116μm,1.0s								
SAOF				AML	AML				
	comp=E,159μm,0.3s								
LSD	**Lago del Serru**	**0.82**	**10**	P		**Pb**		**14 21 15.4**	**+0.3**
LSD				S		**Sg**		**14 21 26.0**	**+0.2**
LSD	**Lago del Serru**	**0.82**	**10**	P		**Pb**		**14 21 15.3**	**+0.3**
LSD				AML	AML				
	comp=E,140μm,0.2s								
LSD				AML	AML				
	comp=N,99μm,0.7s								
LSD				AML	AML				
	comp=N,99μm,0.7s								
LSD				AML	AML				
	comp=E,140μm,0.2s								
LPG	**La Plagne**	**0.86**	**352**	*e*Pg		**Pb**		**14 21 16.1**	**+0.5**
LPG				*e*Sg		**Sb**		**14 21 27.8**	**+0.7**
	comp=E,29nm,0.3s								
SBF	**Sospel**	**0.87**	**155**	*e*Pg		**Pb**		**14 21 15.9**	**+0.3**
SBF				*e*Sg		**Sg**		**14 21 26.6**	**-0.4**
	comp=E,87nm,0.5s								
LPL	**La Plagne**	**0.88**	**351**	*e*Pg		**Pb**		**14 21 16.6**	**+0.7**
LPL				*e*Sg		**Sb**		**14 21 28.5**	**+0.9**
	comp=E,30nm,0.4s								
ESCA	**l'Escarene**	**0.88**	**158**	Pg		**Pb**		**14 21 16.3**	**+0.5**
MGRO	**Montegrosso**	**0.88**	**133**	P		**Pg**		**14 21 15.9**	**+0.1**
MGRO				S		**Sg**		**14 21 27.2**	**-0.2**
CALF	**Calern**	**0.90**	**180**	Pg		**Pn**		**14 21 16.9**	**-0.1**
NEGI	**Seborga**	**0.98**	**145**	P		**Pg**		**14 21 18.0**	**+0.3**
NEGI				S		**Sb**		**14 21 29.6**	**-0.6**
NEGI	**Seborga**	**0.98**	**145**	P		**Pg**		**14 21 17.9**	**+0.3**
RORO	**Rocca Rossa**	**0.98**	**123**	P		**Pb**		**14 21 17.7**	**+0.1**
RORO				S		**Sb**		**14 21 29.9**	**-0.4**
RORO	**Rocca Rossa**	**0.98**	**123**	P		**Pb**		**14 21 17.6**	**+0.1**
ROTM	**Rocchetta Tana**	**1.04**	**78**	P		**Pn**		**14 21 20.0**	**+1.2**
TRAV	**Traversella**	**1.04**	**34**	P		**Pb**		**14 21 18.4**	**-0.3**
TRAV				AML	AML				
	comp=E,84μm,1.0s								
TRAV				AML	AML				
	comp=N,63μm,1.0s								
TRAV				AML	AML				
	comp=N,63μm,1.0s								
TRAV				AML	AML				
	comp=E,84μm,1.0s								
RSL	**Roselend**	**1.06**	**349**	Pg		**Pn**		**14 21 20.0**	**+0.7**
QLNO	**Quiliano**	**1.07**	**107**	P		**Pn**		**14 21 19.7**	**+0.4**
FRF	**La Foret Royal**	**1.10**	**190**	*e*Pg		**Pn**		**14 21 20.0**	**+0.2**
FRF				*e*Sg		**Sg**		**14 21 34.7**	**+0.2**
	comp=E,53nm,0.2s								
PCP	**Piancastagn**	**1.17**	**95**	P		**Pb**		**14 21 21.2**	**+0.5**
SMRF	**Simiane la Rot**	**1.18**	**236**	*e*Pn		**Pg**		**14 21 22.7**	**+1.2**
SMRF				*e*Sg		**Sn**		**14 21 38.2**	**+1.6**
	comp=E,44nm,0.3s								
ARTF	**Artigues**	**1.33**	**218**	Pg		**Pg**		**14 21 25.3**	**+0.9**
ARTF				Sg		**Sg**		**14 21 43.5**	**+1.8**
LMR	**La Mourre**	**1.35**	**193**	*e*Pn		**Pb**		**14 21 24.3**	**+0.6**
LMR				*e*Sg		**Sg**		**14 21 41.6**	**-0.6**
	comp=E,40nm,0.2s								
MMK	**Mattmark**	**1.58**	**27**	P		**Pb**		**14 21 27.8**	**-0.1**
VIVF	**Saint-Julien-l**	**1.61**	**278**	*e*Pn		**Pb**		**14 21 28.5**	**+0.1**
VIVF				*e*Sn		**Sb**		**14 21 48.7**	**+0.1**
OG35	**Corcelles**	**1.69**	**326**	Pg		**Pg**		**14 21 31.4**	**+0.1**
OG35				Sg		**Sg**		**14 21 54.1**	**+0.9**
CABF	**La Chapelle**	**2.05**	**344**	*e*Pn		**Pn**		**14 21 33.9**	**+1.1**
CABF				*e*Sn		**Sn**		**14 21 58.8**	**+0.6**
CABF				*e*Sg		**Sg**		**14 22 04.4**	**-0.3**
	comp=E,1.9nm,0.2s								
LASF	**Ste Croix**	**2.27**	**256**	*e*Pn		**Pn**		**14 21 37.2**	**+1.4**
LASF				*e*Sn		**Sn**		**14 22 04.2**	**+0.6**
PGF	**Pioggiola**	**2.59**	**144**	*e*Pn		**Pn**		**14 21 40.6**	**+0.4**
PGF				*e*Sn		**Sn**		**14 22 10.4**	**-1.1**
	comp=E,3.6nm,0.2s								
SMF	**Signal de Mont**	**2.94**	**314**	*e*Pn		**Pn**		**14 21 45.8**	**+0.8**
SMF				*e*Sn		**Sn**		**14 22 19.2**	**-0.9**
SMF				*e*Sg		**Sg**		**14 22 32.8**	**-0.5**
	comp=E,2.6nm,0.2s								
AVF	**Avril sur Loir**	**3.29**	**312**	*e*Pn		**Pn**		**14 21 50.7**	**+0.9**
LOR	**Lormes**	**3.38**	**322**	*e*Pn		**Pn**		**14 21 52.0**	**+0.9**
	baz=145								
LOR				*e*Sn		**Sn**		**14 22 30.8**	**-0.2**
	comp=E,4.8nm,0.3s								
LOR	**Lormes**	**3.38**	**322**	Pn		**Pn**		**14 21 53.2**	**+2.1**
SSF	**Saint Saulge**	**3.39**	**317**	*e*Pn		**Pn**		**14 21 52.6**	**+1.4**
SSF				*e*Sn		**Sn**		**14 22 31.2**	**-0.1**
	comp=E,0.6nm,0.2s								
MTLF	**Montolieu**	**3.64**	**251**	*e*Pn		**Pn**		**14 21 54.6**	**0.0**
TCF	**Toulx Ste Croi**	**3.70**	**298**	*e*Pn		**Pn**		**14 21 56.3**	**+0.8**
TCF				*e*Sn		**Sn**		**14 22 38.1**	**-0.7**
	comp=E,0.5nm,0.2s								
CDF	**Champ du Feu**	**3.77**	**4**	*e*Pn		**Pn**		**14 21 57.8**	**+1.3**
EPF	**Esparros**	**5.03**	**254**	*e*Pn		**Pn**		**14 22 13.6**	**-0.1**
EPF				*e*Sn		**Sn**		**14 23 08.5**	**-3.1**
	comp=E,0.1nm,0.1s								
MFF	**Saint Martin d**	**5.33**	**294**	*e*Pn		**Pn**		**14 22 18.4**	**+0.6**
MFF				*e*Sn		**Sn**		**14 23 16.8**	**-2.1**
MFF				*e*Sg					
	comp=E,0.2nm,0.2s								
GIVF	**Givet**	**5.64**	**346**	*e*Pn		**Pn**		**14 22 22.0**	**-0.1**
GIVF				*e*Sn		**Sn**		**14 23 23.9**	**-2.7**
	comp=E,2.5nm,0.2s								
BAIF	**Baives**	**5.72**	**342**	*e*Pn		**Pn**		**14 22 23.9**	**+0.8**
BAIF	**Baives**	**5.72**	**342**	*e*Pg		**Pg**		**14 22 45.4**	**-2.8**
BAIF				*e*Sn		**Sn**		**14 23 25.6**	**-2.9**
	comp=E,0.2nm,0.1s								

IDC ***15*** *14:23:34.2±1.3,36˚.68N×73˚.32E,h0km, mb3.4/5, mb1 3.6/11,mb1mx3.4/47,mbtmp3.4/11,ML3.2/7,MS3.2/5, Ms1 3.2/5,ms1mx2.8/28,Error ellipse: s-maj=30.3km s-min=17.6km az=72.0*
ISCJB ***15*** *14:23:37.6±0.6,36˚.68N±0˚.05×73˚.01E±0˚.09,h42km, mb3.2/5,MS3.2/4,Error ellipse: s-maj=11.7km s-min=5.1km az=153.3*
NDI ***15*** *14:23:38.8±2.7,33˚.29N×69˚.76E,h33km±359km, ML3.8*
NNC ***15*** *14:24:20.8±10.0,39˚.96N×73˚.00E,h0km,mb3.5,mpv3.0, Error ellipse: s-maj=146.9km s-min=29.9km az=38.0*

ISC 15 14:23:39.7±0.7,36˚.74N±0˚.07×73˚.08E±0˚.10,h42km,n32, σ2ˢ53/28,mb3.2/5,MS3.1/4,6C-3D,Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.29**	**6**	⇑Pn		Pn		14 24 34.0	+5.1
	30nm,0.5s								
SFK				⇑Lg		Lg		14 25 17.8	
	110nm,0.8s								
SFK	**Sufi-Kurgan**	**3.29**	**6**	Pg		Pn		14 24 34.6	+5.7
	15nm,0.5s								
DHRM	**DHARAMSHALA**	**5.21**	**148**	*e*P		**Pn**		**14 24 58.4**	**+3.1**
DHRM				*e*S		**Sn**		**14 25 58.6**	**+4.4**
DHRM				IAML				14 26 05.9	
	comp=N,96nm,0.4s								
DHRM				IAML				14 26 07.2	
	comp=E,81nm,0.5s								
MNAS	**Manas**	**5.76**	**356**	⇓Pn		**Pn**		**14 25 04.8**	**+2.0**
	comp=E,3.8nm,0.6s								
MNAS				⇑Lg		Lg		14 26 07.4	
	comp=E,5.7nm,0.5s								
AAK	**Ala-Archa**	**5.99**	**10**	Pn		**Pn**		**14 25 08.1**	**+2.1**
	comp=E,0.4nm,0.3s,baz=157,slow=8.6,SNR=8.1								
AAK				Lg		Lg		14 26 42.7	
	comp=E,0.8nm,0.3s,baz=9.5,slow=12,SNR=4.5								
AAK	**Ala-Archa**	**5.99**	**10**	⇓Pn		**Pn**		**14 25 09.1**	**+3.1**
	comp=E,4.4nm,0.6s								
AAK				⇓Lg		Lg		14 26 20.9	
	comp=E,46nm,1.8s								
MRKS	**Merke**	**6.00**	**1**	P		**Pn**		**14 25 07.7**	**+1.6**
TKM2	**Tokmak 2**	**6.47**	**17**	⇑Pn		**Pn**		**14 25 14.9**	**+2.3**
	comp=E,3.8nm,0.6s								
SMLA	**Simla**	**6.54**	**148**	*e*P		**Pn**		**14 25 15.7**	**+2.2**
SMLA				*e*S		**Sn**		**14 26 24.3**	**-2.5**
SMLA				IAML				14 26 34.5	
	comp=N,82nm,0.7s								
SMLA				IAML				14 26 34.6	
	comp=E,224nm,0.1s								
KK31	**Karatay Array**	**6.66**	**344**	Pn		**Pn**		**14 25 16.5**	**+1.5**
	comp=E,1.7nm,0.3s,baz=151,slow=11,SNR=40								
KK31				⇑Sn		**Sn**		**14 26 29.7**	**+0.1**
	comp=E,8.4nm,0.7s								
KK31				⇑Lg		Lg		14 27 01.7	
	comp=E,26nm,1.4s								
DGS	**Degeres**	**6.82**	**17**	Lg		Lg		14 26 38.4	
	comp=E,7.0nm,0.6s								

KKR	**Kurukshetra**	**7.45**	**154**	*e*S		Sn		14 26 28.0	-21
DDI	**Dehra Dun**	**7.63**	**146**	*e*S		**Sn**		**14 26 46.5**	**-7.0**
SHLS	**Shalkode**	**8.07**	**35**	P		**Pn**		**14 25 38.1**	**+3.7**
JOSI	**Joshimath**	**8.19**	**137**	*e*P		**Pn**		**14 25 37.2**	**+0.9**
JOSI				*e*S		**Sn**		**14 27 08.4**	**+0.7**
JOSI				IAML				14 27 19.6	
	comp=E,61nm,0.9s								
JOSI				IAML				14 27 21.1	
	comp=N,114nm,0.9s								
PDGK	**Podgornoye**	**8.21**	**35**	P		**Pn**		**14 25 38.8**	**+2.4**
GEYT	**Alibeck**	**11.97**	**280**	Pn		**Pn**		**14 26 27.4**	**-0.4**
	comp=N,0.6nm,0.3s,baz=94,slow=10.0,SNR=8.0								
MKAR	**Makanchi Array**	**12.16**	**31**	Pn		**Pn**		**14 26 28.9**	**-1.5**
	comp=N,0.1nm,0.3s,baz=206,slow=13,SNR=5.2								
KURBB	**Kurchatov Arra**	**14.42**	**14**	Pn		**Pn**		**14 26 59.6**	**-1.4**
	comp=N,0.0nm,0.3s,baz=205,slow=9.5,SNR=2.8								
AB31	**Akbulak array**	**15.75**	**327**	P		**Pn**		**14 27 16.3**	**-2.1**
	comp=N,0.8nm,0.6s,baz=147,slow=12,SNR=16								
BVAR	**Borovoye Array**	**16.40**	**354**	Pn		**Pn**		**14 27 24.6**	**-2.1**
	comp=N,0.1nm,0.3s,baz=229,slow=41,SNR=3.0								
AKTO	**Aktyubinsk**	**17.46**	**326**	P		**P**		**14 27 40.9**	**+0.1**
	comp=N,0.2nm,0.3s,baz=132,slow=8.7,SNR=6.8								
AKTO				LR		LR		14 34 53.3	
	comp=N,49nm,19.8s,baz=140,slow=39								
ZALV	**Zalesovo Beam**	**19.04**	**22**	P		**P**		**14 27 57.1**	**-1.0**
	comp=N,0.3nm,0.3s,baz=217,slow=9.2,SNR=6.4								
KBZ	**Khabaz**	**23.99**	**296**	LR		LR		14 39 56.2	
	comp=N,36nm,18.9s,baz=258,slow=41								
SONM	**Songino Array**	**26.82**	**55**	P		**P**		**14 29 14.4**	**-1.8**
	comp=N,0.1nm,0.4s,baz=258,slow=12,SNR=1.9								
CMAR	**Chiang Mai Arr**	**29.13**	**122**	P		**P**		**14 29 34.8**	**-2.0**
	comp=N,0.2nm,0.3s,baz=312,slow=9.5,SNR=2.5								
PSI	**Prapat**	**41.32**	**139**	LR		LR		14 51 47.6	
	comp=N,29nm,18.9s,baz=266,slow=41								
NOA	**NORSAR Array B**	**45.20**	**323**	LR		LR		14 52 58.5	
	comp=N,17nm,18.8s,baz=255,slow=39								
OPO	**Ambohidratompo**	**60.20**	**209**	LR		LR		15 00 00.4	
	comp=N,70nm,18.1s,baz=344,slow=36								
WRA	**Warramunga Arr**	**80.71**	**123**	P		**P**		**14 35 48.7**	**+0.1**
	comp=N,0.4nm,0.7s,baz=326,slow=5.1,SNR=4.1								
YKA	**Yellowknife Ar**	**80.92**	**4**	P		**P**		**14 35 50.1**	**+0.9**
	comp=N,0.2nm,0.6s,baz=351,slow=5.1,SNR=5.7								
ASAR	**Alice Springs**	**83.03**	**126**	P		**P**		**14 36 01.4**	**+0.5**
	comp=N,0.4nm,0.9s,baz=319,slow=5.5,SNR=4.7								

DJA 15 14:47:54.3±0.6,7˚S±9˚×10˚7E±˚,h125km±5km,M3.6/11, MLv3.6/11,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**0.51**	**76**	P		**Pn**		**14 48 14.3**	**+1.3**
DBJI	**Dramaga**	**0.54**	**317**	P		**Pn**		**14 48 14.5**	**+1.4**
DBJI				S		**Sn**		**14 48 29.1**	**+1.9**
SKJI	**Sukabumi**	**0.56**	**264**	P		**Pn**		**14 48 14.7**	**+1.5**
SKJI				S		**Sn**		**14 48 29.4**	**+2.0**
CISI	**Cisompet, Garu**	**0.92**	**131**	P		**Pn**		**14 48 16.7**	**+0.7**
CISI				S		**Sn**		**14 48 33.4**	**+0.9**
JCJI	**Jatiwangi**	**1.23**	**68**	P		**Pn**		**14 48 18.4**	**-0.7**
CMJI	**Cimerak**	**1.56**	**122**	P		**Pn**		**14 48 23.0**	**+0.3**
CMJI				S		**Sn**		**14 48 44.7**	**+0.4**
KPJI	**Karang Pucung**	**1.84**	**102**	P		**Pn**		**14 48 26.7**	**+0.7**
KASI	**Kota Agung**	**2.97**	**298**	P		**Pn**		**14 48 40.4**	**+0.1**
UGM	**Wanagama**	**3.51**	**106**	P		**Pn**		**14 48 47.1**	**-0.4**
MDSI	**Maura Dua**	**3.82**	**310**	P		**Pn**		**14 48 51.3**	**-0.2**
PCJI	**Pacitan**	**4.21**	**107**	P		**Pn**		**14 48 55.5**	**-1.2**

SOME ***15*** *15:01:19.9,42˚.28N×81˚.58E,h15km*
NNC ***15*** *15:01:19.1±9.0,44˚.92N×80˚.37E,h0km,mb2.3,mpv2.2, Error ellipse: s-maj=98.9km s-min=66.7km az=108.0*

ISC 15 15:01:20.2±3.6,42˚.2N±0˚.2×81˚.4E±0˚.2,h10km,n6, σ0ˢ96/10,2D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.45**	**327**	P		**Pn**		**15 01 46.3**	**-0.2**
KTMS				S		**Sn**		**15 02 05.8**	**+0.1**
KTMS	**Ketmen**	**1.45**	**327**	*e*P		**Pn**		**15 01 46.3**	**-0.2**
	0.5nm,0.1s								
KTMS				*e*S		**Sn**		**15 02 05.5**	**-0.2**
	0.7nm,0.1s								
PDGK	**Podgornoye**	**1.80**	**308**	P		**Pb**		**15 01 53.2**	**-0.1**
	0.4nm,0.3s								
PDGK	**Podgornoye**	**1.80**	**308**	⇓P		**Pn**		**15 01 49.8**	**-1.6**
	7.5nm,2.1s								
PDGK				⇓S		**Sn**		**15 02 13.3**	**-1.0**
	1.1nm,0.5s								
KURS	**Kuram**	**2.71**	**299**	Pg		**Pg**		**15 02 12.3**	**+0.3**
KURS				Lg		Lg		15 02 49.8	
KURS	**Kuram**	**2.71**	**299**	*e*P		**Pb**		**15 02 10.3**	**+1.7**
	2.2nm,0.4s								
KURS				*e*S		**Sg**		**15 02 47.1**	**+0.1**
	3.9nm,0.5s								

AZER ***15*** *15:14:15.5±4.3,41˚.44N×39˚.68E,h2km, ml3.4/4, Error ellipse: s-maj=84.4km s-min=27.2km az=177.0*
ISCJB ***15*** *15:14:24.2±0.2,42˚.42N±0˚.02×40˚.88E±0˚.02,h10km, mb3.6/1,Error ellipse: s-maj=2.8km s-min=2.0km az=144.5*
ISK ***15*** *15:14:25.4,42˚.28N×40˚.96E,h8km,ML3.5/8*
TIF ***15*** *15:14:25.8,42˚.30N×41˚.02E,h15km±2km*
NORS ***15*** *15:14:27.3±0.0,42˚.56N×41˚.34E,h8km,MPVA4.2*
MOS ***15*** *15:14:27.5±0.0,42˚.54N×41˚.07E,h10km,MPVA4.2*
DDA ***15*** *15:14:32.2,41˚.77N×40˚.95E,h8km±4km,ML3.0*

ISC 15 15:14:25.0±0.7,42˚.41N±0˚.02×40˚.99E±0˚.02,h10km,n84, σ1ˢ81/125,12C-8D,Black Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.96**	**147**	PG		Pg		15 14 42.7	-0.7
BATM	**Batumi**	**0.96**	**147**	P		**Pg**		**15 14 43.3**	**-0.1

KIV	Kislovodsk	1.98	38	⇓	*i*	PN	Pb	15 15 00.9	-0.4
KIV0	Kislovodsk Arr	1.99	38		*e*	Pg	Pb	15 15 00.8	-0.6
KIV0						Sg	Sb	15 15 25.7	-0.5
BEYR	Belyy Ugol+	2.09	39	⇑	*i*	PN	Pb	15 15 02.9	-0.1
BEYR					*i*	S	Sg	15 15 29.0	-3.1
BEYR	Belyy Ugol+	2.09	39		*i*	Pg	Pb	15 15 02.9	-0.1
BEYR					*i*	Sg	Sg	15 15 29.0	-3.1
BAYT	Aydıntepe-Bayb	2.11	198			PN	Pn	15 15 00.7	+0.2
ZEI	Tsey	2.18	79		*e*	PN	Pn	15 15 02.8	+1.2
ZEI					*e*	S	Sb	15 15 30.7	-1.2
ZEI	comp=Z,56nm,0.4s					pmax	pmax		
ZEI	comp=N,201nm,0.5s					smax	smax		
ZEI	Tsey	2.18	79		*e*	Pg	Pn	15 15 02.7	+1.2
ZEI					*e*	Sg	Sn	15 15 30.5	+1.8
BAYB	BAYBURT	2.21	195			IAML_P			
BAYB	comp=Z,320nm,0.1s				*i*	P	Pn	15 15 03.3	+1.3
ESPY	Espiye-Giresun	2.25	230			PN	Pn	15 15 01.7	-0.7
BGD	Bogdanovka	2.26	119			P	Pn	15 15 03.7	+1.1
BGD						S	Sn	15 15 31.7	+1.1
LSNR	Lesken	2.26	66		*e*	Pg	Pb	15 15 05.8	-0.1
LSNR					*e*	Sg	Sb	15 15 33.0	-1.0
PYA1	Pyatigorsk	2.26	42		*e*	Pg	Pn	15 15 02.9	+0.4
PYA1					*e*	Sg	Sb	15 15 31.1	-2.9
KORR	Kora	2.37	72	⇑	*e*	PN	Pn	15 15 06.5	+2.6
KORR	Kora	2.37	72		*e*	Pn	Pb	15 15 07.5	-0.2
KORR					*e*	Sn	Sb	15 15 35.4	-1.6
KOPT	Kop Dagi	2.41	189		*i*	P	Pn	15 15 07.3	+2.5
STDR	Stavd-Durt	2.46	66		*e*	Pn	Pb	15 15 09.3	0.0
STDR					*e*	Sn	Sb	15 15 37.6	-1.9
HOMI	Horasan	2.46	163		*i*	P	Pn	15 15 08.9	+3.6
TRLG	Trialeti	2.48	109			P	Pn	15 15 07.1	+1.6
TRLG						S	Sn	15 15 38.9	+3.0
LACR	Lac	2.48	79		*e*	PN	Pb	15 15 09.1	-0.6
LACR					*e*	S	Sb	15 15 39.2	-1.1
LACR	Lac	2.48	79		*e*	Pn	Pn	15 15 08.8	+3.3
LACR					*e*	Sn	Sb	15 15 38.8	-1.5
KOPR	Koprukoy-ERZUR	2.50	165			PN	Pn	15 15 06.0	+0.2
ARNR	Ardon	2.54	71		*e*	Pn	Pn	15 15 08.3	+2.0
ARNR					*e*	Sn	Sn	15 15 39.4	+2.0
GUDG	Gudauri	2.58	88			P	Pn	15 15 10.5	+3.4
GUDG						S	Sn	15 15 41.1	+2.5
KELT	Kelkit	2.61	211		*i*	P	Pn	15 15 08.8	+1.4
EAK	Akyaka	2.61	130			IAML_P			
EAK	comp=Z,732nm,0.3s				*i*	P	Pn	15 15 11.5	+4.2
DIGO	Kars	2.68	137		*i*	P	Pn	15 15 11.4	+3.0
ALER	Alexandrovskoy	2.74	30		*e*	Pn	Pn	15 15 10.5	+1.4
ALER					*e*	Sn	Sn	15 15 40.6	-1.7
PRTR	Priterechnaya	2.76	60	*ce*		PN	Pn	15 15 07.9	-1.4
EATA	Eleskirt	2.78	155		*i*	P	Pn	15 15 11.7	+1.8
VLKR	Vladikavkaz	2.79	75		*e*	Pn	Pg	15 15 19.3	+0.9
VLKR					*e*	Sn	Sg	15 15 52.2	-2.4
TBLG	Delisi	2.87	102			PN	Pn	15 15 12.7	+1.9
TBLG	Delisi	2.87	102			P	Sb	15 15 50.7	-0.8
VOZR	Vozrozhdenie	2.94	318		*e*	Pn	Pn	15 15 15.4	+3.6
VOZR					*e*	Sn	Sn	15 15 48.3	+1.1
GOF	Gofitskoye	3.04	29		*e*	PN	Pg	15 15 27.3	+4.0
GOF					*e*	S	Sg	15 16 01.0	-1.6
GOF	comp=Z,30nm,0.6s					pmax	pmax		
GOF	comp=N,10.0nm,0.7s					smax	smax		
GOF	comp=E,90nm,0.7s					smax	smax		
AGRB	Hanur-Agry	3.21	151			PN	Pn	15 15 16.3	+0.7
TUTA	Tutak	3.30	155			IAML_P			
TUTA	comp=Z,169nm,0.2s				*i*	P	Pn	15 15 18.8	+1.8
ANN	Anapa	3.52	314		*e*	PN	Pn	15 15 24.0	+4.3
ANN					*e*			15 16 06.2	
ANN	comp=Z,8.0nm,0.3s					pmax	pmax		
ANN	comp=N,34nm,0.8s					smax	smax		
ANN	comp=N,34nm,1.0s					smax	smax		
ANN	Anapa	3.52	314		*e*	Pn	Pn	15 15 23.0	+3.2
ANN					*e*	Sn	Sn	15 16 00.8	-0.7
QZX	Qazax, Azerbai	3.54	111	⇑	*i*	P	Pb	15 15 22.7	+2.6
QZX					*i*	S	Sb	15 16 12.6	+1.7
GNI	Garni	3.61	127			PN	Pn	15 15 22.6	+1.4
GNI	Garni	3.61	127	⇓	*e*	PN	Pn	15 15 24.8	+3.6
PTK	Pertek	3.71	200			PN	Pn	15 15 23.2	+0.6
GDB	GEDABAY	3.95	114	⇓		P	Pn	15 15 26.6	+0.8
GDB				⇑		S	Sb	15 16 22.3	-0.4
ZKTA	Zakatala	4.26	98	⇑		S	Sb	15 16 35.1	+3.5
GANJ	Ganja	4.37	112	⇓		S	Sb	15 16 33.4	-1.2
GNBR	Gunib	4.42	88		*e*	Pn	Pn	15 15 36.5	+4.2
GNBR					*i*	Sn	Sn	15 16 23.8	0.0
SEKA	Sheki	4.79	102	⇑		S	Sb	15 16 49.8	+3.0
SUDU	Sudak	5.01	302		*e*	PN	Pn	15 15 41.6	+1.5
SUDU					*e*	S	Sn	15 16 38.5	+0.5
SUDU	Sudak	5.01	302		*e*	Pn	Pn	15 15 41.6	+1.5
SUDU					*e*	Sn	Sn	15 16 38.5	+0.5
AKT	Akhty	5.11	98		*e*	Pn	Pn	15 15 44.7	+3.0
AKT					*i*	Sn	Sn	15 16 43.5	+2.7
ALU	Alushta	5.30	298		*e*	PN	Pn	15 15 44.7	+0.5
ALU					*e*	S	Sb	15 16 44.3	-1.0
ALU	Alushta	5.30	298		*e*	Pn	Pn	15 15 44.7	+0.5
ALU					*e*	Sn	Sn	15 16 44.3	-1.0
SEV	Sevastopol'	5.74	294	⇑	*e*	P	Pn	15 15 49.8	-0.4
SEV					*e*	S	Sn	15 16 54.3	-1.8
SEV	Sevastopol'	5.74	294		*e*	Pn	Pn	15 15 49.8	-0.4
SEV					*e*	Sn	Sn	15 16 54.3	-1.8
KIEV	Kiev	11.59	320	⇑	*e*	P	Pn	15 17 09.4	-0.9
OBN	Obninsk	13.04	349		*e*	P	Pn	15 17 30.3	+0.1
OBN	comp=Z,3.0nm,1.0s					pmax	pmax		
BRVK	Borovoye	22.24	51	⇑	*e*	P	P	15 19 20.5	-1.2
KURK	Kurchatov	26.93	59	⇓	*e*	P	P	15 20 05.5	-0.7
KURK	comp=Z,2.0nm,1.0s					pmax	pmax		

*ISCJB **15** 15:14:28.9±0.4, 36°.44N±0°.03×121°.23W±0°.04, h10km, Error ellipse: s-maj=5.2km s-min=2.6km az=144.9*
*NCEDC **15** 15:14:31.0, 36°.56N×121°.07W, h9km, MW3.5(BRK)*
*NEIC **15** 15:14:31.0±0.0, 36°.56N×121°.07W, h9km, MW3.5(BRK), After NCEDC.*
NEIC Felt [III] at Santa Cruz and Seaside; [II] at Monterey. Also felt at Aptos, Big Sur, Carmel, Pacific Grove, Salinas, San Francisco, Santa Margarita and Soquel.
*ANF **15** 15:14:31.3±0.8, 36°.40N×121°.01W, h2km±6km, ML3.6/26, Error ellipse: s-maj=5.5km s-min=3.1km az=102.0*

ISC 15 15:14:30.4±0.9, 36°.50N±0°.03×121°.08W±0°.04, h10km, n73, σ1§43/85, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAO	San Andreas Ge	0.40	311	*e*Pg	Pg	15 14 38.1	-0.2
PAGB	Antelope Grade	1.02	139	*e*Pg	Pg	15 14 50.6	+0.6
SMMC	Simmler	1.47	143	P	Pn	15 14 57.3	+0.2
SMMC	baz=325,SNR=30			S	Sb	15 15 19.1	+2.4
CMB	baz=325 Columbia Colle	1.63	20	*e*Pn	Pn	15 14 58.3	-0.9
VES	Vestal, Richgr	1.74	112	P	Pn	15 15 00.4	-0.3
VES	baz=295,SNR=19			S	Sn	15 15 23.3	+0.4
PKM	baz=295 Mcpherson Peak	1.91	147	P	Pn	15 15 03.3	+0.1
PKM	baz=329,SNR=50			S	Sn	15 15 28.8	+1.4
MLAC	baz=329 Mammoth, Mammo	2.12	57	P	Pb	15 15 08.2	-0.9
MLAC	baz=240,SNR=65			S	Sb	15 15 36.1	+0.6
MCCM	baz=240 Marconi Confer	2.18	319	*e*Pn	Pn	15 15 04.6	-2.2
ISA	Isabella, Lake	2.27	111	*e*Pn	Pn	15 15 08.3	+0.3
ISA	Isabella, Lake	2.27	111	P	Pn	15 15 08.7	+0.7
ISA	baz=294,SNR=168			S	Sn	15 15 37.7	+1.6
ARVC	baz=294 Arvin	2.28	126	P	Pn	15 15 08.7	+0.6
ARVC	baz=309,SNR=29			S	Sn	15 15 38.0	+1.7
	baz=309						

TIN	Tinemaha, Big	2.35	76			P	Pn	15 15 10.7	+1.5
TIN	baz=259,SNR=35					S	Sb	15 15 40.8	-1.2
WAKR	baz=259 Walker	2.39	33		*e*	Pn	Pb	15 15 11.7	-1.9
CWC	Cottonwood Cre	2.42	91			P	Pn	15 15 11.5	+1.4
CWC	baz=274					S	Sb	15 15 42.7	-1.3
AFDM	baz=274 Forest Hills D	2.45	2		*e*	Pn	Pn	15 15 10.6	+0.2
RUBR	Rubicon Trail	2.65	16		*e*	Pn	Pn	15 15 14.9	+1.5
GDXM	Geysers	2.68	330		*e*	Pn	Pn	15 15 12.0	-1.7
OSI	Osito Audit: C	2.69	134		*e*	Pn	Pn	15 15 13.2	-0.5
DAC	Darwin (Calif)	2.82	93		*e*	Pn	Pn	15 15 17.7	+2.0
PNTR	Pine Nut	2.84	24		*e*	Pn	Pn	15 15 16.6	+0.6
YERR	Yerington	2.88	30		*e*	Pn	Pn	15 15 17.2	+0.7
NV01	Mina Array Sit	2.93	48		*e*	Pn	Pn	15 15 18.8	+1.6
MPMC	Manual Prospec	2.93	98		P		Pn	15 15 18.2	+0.9
MPMC	baz=281,SNR=43					Sb	Sb	15 16 01.1	+2.3
LRMC	baz=281 Laurel Mtn Rad	2.93	109		P		Pn	15 15 18.0	+0.8
LRMC	baz=292,SNR=40					Sb	Sb	15 15 59.7	+0.9
RYN	baz=292 Ryan	2.94	43		*e*	Pn	Pn	15 15 18.9	+1.6
HOPS	Hopland Field	2.95	328		*e*	Pn	Pn	15 15 16.0	-1.4
EDW2	Edwards Air Fo	2.98	122		P		Pn	15 15 18.5	+0.6
VCNR	baz=305,SNR=28 Virginia City	3.01	22		*e*	Pn	Pn	15 15 18.2	-0.1
NV11	Mina Array Sit	3.02	49		*e*	Pn	Pn	15 15 19.1	+0.7
GRAC	Grapevine Rang	3.02	79		P		Pn	15 15 20.0	+1.7
ORV	baz=263,SNR=63 Oroville	3.07	354		*e*	Pn	Pn	15 15 19.1	+0.1
PASC	Pasadena Art C	3.31	134		*e*	Pn	Pn	15 15 23.4	+1.0
MWC	Mount Wilson	3.35	132		*e*	Pn	Pn	15 15 23.8	+0.7
BEKR	Beckworth	3.41	9		*e*	Pn	Pn	15 15 25.0	+1.2
PAHR	Pah Rah Range	3.47	22		*e*	Pn	Pn	15 15 25.4	+0.8
KVN	Kaiserville	3.47	42		*e*	Pn	Pn	15 15 26.5	+1.9
SNCC	San Nicolas Is	3.48	158		*e*	Pn	Pn	15 15 25.7	+1.0
SNCC	San Nicolas Is	3.48	158		S		Sn	15 16 05.9	-0.1
BFSC	baz=340 Mount Baldy Ra	3.59	128		P		Pn	15 15 26.5	+0.2
GSC	baz=311,SNR=16 Goldstone, Bar	3.67	108		*e*	Pn	Pn	15 15 28.0	+0.7
GSC	Goldstone, Bar	3.67	108		P		Pn	15 15 28.0	+0.7
RRX	baz=291,SNR=16 Edison Barstow	3.69	115		Pb		Pb	15 15 34.7	-1.0
KCPM	baz=298 Cahto Peak	3.75	329		*e*	Pn	Pn	15 15 27.6	-0.8
CIS	Catalina Islan	3.78	144		P		Pn	15 15 29.3	+0.5
CIS	baz=326					S	Sn	15 16 12.4	-1.0
O03E	baz=326 Paynes Creek	3.83	352		P		Sn	15 15 31.9	+2.4
TPNV	baz=171 Topopah Spring	3.90	82		*e*	Pn	Pn	15 15 32.1	+1.5
TPNV	Topopah Spring	3.90	82		P		Pn	15 15 32.2	+1.6
SCI2	baz=266,SNR=23 San Clemente I	4.08	149		P		Pn	15 15 33.6	+0.8
HEC	baz=331 Hector,Ludlow	4.20	112		P		Pn	15 15 35.2	+0.5
WDC	baz=296,SNR=15 Whiskeytown Da	4.23	345		*e*	Pn	Pn	15 15 34.1	-0.9
KMRM	Mail Ridge	4.25	332		*e*	Pn	Pn	15 15 36.0	+0.7
TUQ	Turquoise Moun	4.31	103		P		Pn	15 15 36.9	+0.7
GMRC	baz=287,SNR=16 Granite Mounta	4.73	110		P		Pn	15 15 42.3	+0.3
R11A	baz=294,SNR=6.7 Troy Canyon, C	4.74	65		*e*	Pn	Pn	15 15 42.8	+0.7
R11A	Troy Canyon, C	4.74	65		Sb		Sg	15 16 57.5	-5.2
PFO	baz=249 Pinyon Flats O	4.76	126		*e*	Pn	Pn	15 15 42.6	+0.3
PFO	Pinyon Flats O	4.76	126		P		Pn	15 15 43.2	+0.9
XPFO	baz=309 Pion Flat	4.76	126		*e*	Pn	Pn	15 15 42.6	+0.2
TPFO	Pinon Flats	4.76	126		P		Pn	15 15 43.1	+0.7
SHPR	baz=309 Sheep Range	4.76	88		*e*	Pn	Pn	15 15 43.9	+1.5
KHMM	Horse Mountain	4.84	335		*e*	Pn	Pn	15 15 44.9	+1.5
JCC	Jacoby Creek,	4.89	333		*e*	Pn	Pn	15 15 44.4	+0.4
M02C	Callahan	5.08	345		S		Sn	15 16 51.9	+6.5
MONP2	baz=163 Monument Peak	5.26	132		P		Pn	15 15 50.1	+0.9
BAR	baz=315 Barrett	5.26	135		*e*	Pn	Pn	15 15 49.9	+0.8
IRM	Iron Mountain	5.38	114		P		Pn	15 15 51.3	+0.5
IRM	baz=298					S	Sn	15 16 53.3	+0.5
MOD	baz=298 Modoc Plateau	5.43	6		*e*	Pn	Pn	15 15 51.1	-0.5
W13A	Hualapai Mount	6.01	101		*e*	Pn	Pn	15 16 00.7	+1.2
Y12C	Blythe	6.03	115		*e*	Pn	Pn	15 15 59.6	0.0
PSUT	Pine Spring	6.09	68		*e*	Pn	Pn	15 16 01.0	+0.4
GLA	Glamis	6.18	122		*e*	Pn	Pn	15 16 02.0	+0.1
HUMO	Hull Mountain	6.27	347		*e*	Pn	Pn	15 16 01.3	-1.7
Y14A	Wickenburg	7.08	109		*e*	Pn	Pn	15 16 14.6	+0.4

MEX 15 15:16:45.3±0.9, 14°.19N×90°.90W, h145km±49km, MD3.7, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		1.50	298	*i* P	Pn	15 17 12.7	-1.9
THIG				*i* S	Sn	15 17 35.5	-1.4
PCIG		2.70	304	*i* P	Pn	15 17 27.8	-0.9
PCIG				*i* S	Sn	15 18 00.1	-2.1

*ISCJB **15** 15:24:45.5±0.4, 6°.92N±0°.03×73°.13W±0°.04, h158km±3km, mb3.7/6, Error ellipse: s-maj=6.0km s-min=4.1km az=11.4*
*IDC **15** 15:24:46.3±0.6, 6°.74N×72°.96W, h168km±7km, mb3.4/6, mb1 3.7/10, mb1mx3.3/37, mbtmp4.0/10, Error ellipse: s-maj=21.8km s-min=7.4km az=132.0*
*RSNC **15** 15:24:47.6±1.0, 6°.86N×73°.08W, h144km±5km, ML3.9, Mw3.8*

ISC 15 15:24:46.5±0.7, 6°.90N±0°.03×73°.12W±0°.04, h154km±5km, n38, σ1§41/60, mb3.8/6, 4C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	Barichara	0.31	192	*i* P	Pn	15 25 07.6	-0.3
BARC				*e*S	Sn	15 25 22.8	-1.5
BARC				*i*		15 25 24.2	
BRRC	comp=Z,2μm,0.5s Barranca, Sant	0.62	289	⇑ *i* P	Pn	15 25 09.3	+0.3
BRRC				*e*S	Sn	15 25 25.6	-0.6
BRRC				*i*		15 25 30.4	
RUSC	comp=Z,1μm,0.1s La Rusia	1.00	178	⇓ *e*P	Pn	15 25 11.7	-0.7
RUSC				*e*S	Sn	15 25 30.0	-2.0
RUSC				*i*		15 25 32.2	
OCAC	comp=Z,601nm,0.4s Ocana	1.35	352	*e*P	Pn	15 25 15.5	+0.5
OCAC				*e*S	Sn	15 25 37.0	0.0
OCAC				*i*		15 25 41.3	
PTBC	comp=Z,632nm,0.4s PUERTO BERRIO,	1.38	255	⇑ *i* P	Pn	15 25 14.2	-1.0
PTBC				*e*S	Sn	15 25 36.5	-0.6
PTBC				*i*		15 25 39.0	
ZARC	comp=Z,811nm,0.1s Zaragoza, Cauc	1.82	289	*e*P	Pn	15 25 19.9	-0.1
ZARC				*e*S	Sn	15 25 45.7	+0.1
ZARC				*i*		15 25 51.9	
SMLC	comp=Z,1μm,0.2s San Martn de	2.11	334	*e*S	Sn	15 25 52.3	+0.7
CTAB	Cerro Tablazo,	2.16	210	*e*P	Pn	15 25 25.3	+0.9
CTAB				*e*S	Sn	15 25 54.0	+0.6
NORC	Norcasia	2.19	233	⇓ *e*P	Pn	15 25 23.7	-0.5
NORC				*e*S	Sn	15 25 52.7	-0.5
NORC				*i*		15 25 57.3	
CHIC	comp=Z,682nm,0.4s Chingaza	2.34	195	⇑ *e*P	Pn	15 25 25.8	-0.5
CHIC				*e*S	Sn	15 25 55.3	-1.7
CHIC				*i*		15 26 00.8	
ROSC	comp=Z,226nm,0.3s El Rosal	2.37	210	P	Pn	15 25 28.2	+1.5
ROSC	comp=Z,29nm,0.3s,baz=277,slow=1.3,SNR=68			S	Sn	15 25 57.7	+0.1
ROSC	comp=Z,21nm,0.3s,baz=120,slow=16,SNR=10 El Rosal	2.37	210	⇑ *e*P	Pn	15 25 27.6	+0.9
ROSC				*e*S	Sn	15 25 57.0	-0.6
ROSC				*i*		15 26 06.0	

HELC	comp=Z,447nm,0.3s Santa Helena	2.50	254		*e*P		Pn	15 25 29.2	+1.0
HELC					*e*S		Sn	15 26 01.3	+1.1
HELC					*i*			15 26 07.4	
UREC	comp=Z,362nm,0.3s San Jos de Ur	2.54	290		*e*P		Pn	15 25 27.5	-0.9
UREC					*e*S		Sn	15 25 58.7	-2.0
VILC	Villavicencio,	2.83	192		*e*P		Pn	15 25 31.9	-0.2
VILC					*e*S		Sn	15 26 06.0	-1.3
VILC					*i*			15 26 11.3	
RREF	comp=Z,351nm,0.3s El Recreo	2.98	228		*e*P		Pn	15 25 34.5	+0.1
RREF					*e*S		Sn	15 26 12.2	+0.8
RREF					*i*			15 26 18.3	
DBBC	comp=Z,330nm,0.2s Dabeiba	3.07	272		*e*P		Pn	15 25 35.1	+0.1
DBBC					*e*S		Sn	15 26 11.0	-1.7
DBBC					*i*			15 26 14.5	
SDV	comp=Z,451nm,0.4s Santo Domingo	3.16	51		P		Pn	15 25 36.6	+0.3
SDV	comp=Z,54nm,0.3s,baz=209,slow=4.1,SNR=188				S		Sn	15 26 15.3	+0.6
SDV	comp=Z,53nm,0.3s,baz=60,slow=15,SNR=31 Santo Domingo	3.16	51		*e*P		Pn	15 25 36.6	+0.3
SDV					*e*S		Sn	15 26 14.2	-0.5
ANIL	Santa Ana	3.30	224		*e*P		Pn	15 25 39.0	+0.8
ANIL					*e*S		Sn	15 26 18.2	0.0
ANIL	comp=Z,290nm,0.3s				*i*			15 26 22.4	
SJCC	San Jacinto, C	3.61	326		*e*S		Sn	15 26 22.4	-2.5
SJAC	San Juan de Ar	3.70	193		*e*P		Pn	15 25 43.9	+0.8
SJAC					*e*S		Sn	15 26 25.7	-1.4
PLMC	San Jos del P	3.72	238		*e*P		Pn	15 25 43.5	+0.2
PLMC					*e*S		Sn	15 26 22.4	-5.0
YOTC	Yotoco, Valle	4.33	228		*e*P		Pn	15 26 50.4	+0.9
SMRC	Santa Marta, M	4.38	346		*e*P		Pn	15 25 52.4	+0.5
SMRC					*e*S		Sn	15 26 40.3	-2.5
PCRV	Puerto La Cruz	9.00	68		P		Pn	15 26 53.6	+0.3
JTS	comp=Z,0.8nm,0.3s,baz=279,slow=3.1,SNR=6.3 JuntasAbangare	12.18	287		P		Pn	15 27 38.4	+3.3
TXAR	comp=Z,1.3nm,0.3s,baz=135,slow=20,SNR=3.3 Lajitas Array	36.41	312		P		P	15 31 36.5	+0.1
ULM	comp=Z,0.6nm,0.6s,baz=128,slow=10,SNR=6.6 Lac du Bonnet	47.21	340		P		P	15 33 02.8	-0.9
PDAR	comp=Z,1.0nm,0.4s,baz=126,slow=12,SNR=3.4 Pinedale Array	48.02	324		P		P	15 33 10.6	+0.2
SCHQ	comp=Z,0.2nm,0.3s,baz=354,slow=4.1,SNR=8.8 Schefferville	48.06	5		P		P	15 33 10.2	-0.1
FRB	comp=Z,2.0nm,0.8s,baz=184,slow=6.7,SNR=5.5 Frobisher Bay	56.84	2		P		P	15 34 13.9	-0.7
YKA	comp=Z,1.4nm,0.4s,baz=198,slow=6.4,SNR=3.0 Yellowknife Ar	63.19	340		P		P	15 34 57.6	-0.3
MKAR	comp=Z,0.7nm,0.6s,baz=133,slow=6.8,SNR=22 Makanchi Array	122.25	20		PKP		PKPdf	15 43 22.0	-1.4
SONM	comp=Z,0.2nm,0.3s,baz=354,slow=4.1,SNR=8.8 Songino Array	125.50	0		PKP		PKPdf	15 43 29.5	-0.2
ASAR	comp=Z,0.3nm,0.5s,baz=347,slow=2.3,SNR=3.3 Alice Springs	149.16	234		PKPbc		PKPdf	15 44 15.5	+2.2
WRA	comp=Z,0.5nm,0.5s,baz=119,slow=3.9,SNR=13 Warramunga Arr	150.38	241		PKPbc		PKPdf	15 44 18.0	+2.7
CMAR	comp=Z,0.4nm,0.4s,baz=107,slow=2.6,SNR=12 Chiang Mai Arr	153.62	17		PKPbc		PKPbc	15 44 24.6	-3.4
	comp=Z,0.3nm,0.5s,baz=330,slow=3.1,SNR=3.8								

MEX 15 15:30:15.2±0.4, 16°.00N×98°.34W, h4km±2km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.44	28	*e*P	Pg	15 30 23.1	-0.5
PNIG				*i* S	Sg	15 30 29.8	+0.4
VHO	Vista Hermosa	1.87	55	*e*P	Pn	15 30 44.5	-3.7
VHO				*e*S	Sn	15 31 07.8	-4.6

*IDC **15** 15:46:11.8±3.4, 9°.98S×113°.23E, h0km, mb3.1/3, mb1 3.5/4, mb1mx3.3/34, mbtmp3.3/4, ML3.0/1, Error ellipse: s-maj=191.9km s-min=25.0km az=45.0*
*DJA **15** 15:46:20.9±1.1, 9°.5S±4°×11°.4E±°, h17km±9km, M3.9/13, MLv3.9/13*

ISC 15 15:46:16.9±1.0, 9°.59S±0°.07×113°.75E±0°.08, h26km, n15, σ1§30/17, mb3.2/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAGI	Jajag, Banyuwa	1.18	20	P	Pn	15 46 37.9	+0.2
JAGI				S	Sn	15 46 51.1	-1.9
GMJI	Gumukmas	1.34	347	P	Pb	15 46 42.6	+1.2
GMJI				S	Sb	15 46 58.4	-0.6
IGBI	Denpasar	1.58	61	P	Pn	15 46 42.5	-0.7
DNP	Denpasar	1.70	58	P	Pn	15 46 45.2	+0.3
SRBI	Singaraja	2.08	44	P	Pn	15 46 51.0	+0.9
PWJI	Pagerwojo	2.48	309	P	Pb	15 47 00.5	-0.2
KMMI	Kalianget	2.53	5	P	Pn	15 46 58.4	+2.1
PCJI	Pacitan	2.90	298	P	Pb	15 47 08.3	+0.4
GRJI	Gresik	2.94	335	P	Pb	15 47 06.2	-2.4
UGM	Wanagama	3.60	297	P	Pb	15 47 18.1	-1.8
PLAI	Plampang	4.05	80	P	Pn	15 47 18.0	+0.8
FITZ	Fitzroy Crossi	14.30	128	Pn	Pn	15 49 37.4	-0.4
FITZ	0.1nm,0.3s,baz=310,slow=7.9,SNR=3.1			Sn	Sn	15 52 02.9	-13
WRA	0.1nm,0.3s,baz=222,slow=12,SNR=3.6 Warramunga Arr	22.38	120	P	P	15 51 14.6	+1.2
ASAR	0.4nm,0.8s,baz=293,slow=12,SNR=2.7 Alice Springs	23.80	128	P	P	15 51 28.8	+0.9
MKAR	0.4nm,0.5s,baz=302,slow=9.3,SNR=21 Makanchi Array	62.76	336	P	P	15 56 39.7	-0.2
	0.2nm,0.5s,baz=143,slow=7.6,SNR=4.3						

**MAN 15 15:52:31.6, 6°.05N×124°.17E, h33

URZ	**Urewera**	**12.26**	**199**	P		**P**	**15 55 40.2 +0.1**
	8.3nm,0.3s,baz=316,slow=4.2,SNR=23						
URZ				S		S	15 57 42.8 -11
	15nm,0.3s,baz=134,slow=24,SNR=13						
URZ	**Urewera**	**12.26**	**199**	P		Pn	15 55 30.8 -6.7
URZ				S		S	15 57 44.6 -9.4
TOZ	**Tahuroa Road**	**12.32**	**205**	P		**P**	**15 55 42.6 +1.8**
RIGZ	**Rimuhau**	**12.51**	**196**	P		Pn	15 55 36.1 -4.5
MUGZ	**Murupara**	**12.56**	**199**	P		Pn	15 55 36.1 -5.1
RTZ	**Ruatahuna**	**12.63**	**198**	P		Pn	15 55 35.7 -6.4
PRGZ	**Paritu Road**	**12.69**	**195**	P		Pn	15 55 35.5 -7.2
SNGZ	**Shannon Statio**	**12.69**	**197**	P		Pn	15 55 36.1 -6.7
SNGZ				S		S	15 57 54.0 -10
KNZ	**Kokohu**	**12.83**	**196**	P		Pn	15 55 36.2 -8.3
TLZ	**Tolley Road**	**12.83**	**204**	P		**Pn**	**15 55 45.3 +0.7**
RAHZ	**Arahi**	**12.88**	**198**	P		Pn	15 55 38.6 -6.5
RAHZ				S		S	15 57 57.5 -11
MTHZ	**Maungataniwha**	**12.89**	**199**	P		Pn	15 55 40.5 -4.8
MTHZ				S		S	15 58 00.0 -8.5
MHGZ	**Mahia Peninsul**	**12.90**	**195**	P		Pn	15 55 38.2 -7.2
NMHZ	**Naumai**	**13.13**	**198**	P		**Pn**	**15 55 44.8 -3.5**
HIZ	**Hauiti**	**13.25**	**205**	P		**P**	**15 55 52.5 +1.4**
BKZ	**Black Stump Fm**	**13.28**	**199**	P		Pn	15 55 44.5 -5.6
BKZ				S		S	15 58 07.7 -10
MCHZ	**McNeill Hill**	**13.48**	**198**	P		**Pn**	**15 55 49.7 -2.8**
WTVZ	**West Tongariro**	**13.52**	**202**	P		**Pn**	**15 55 52.6 -0.5**
OTVZ	**Oturere**	**13.54**	**202**	P		Pn	15 55 49.1 -4.2
NGZ	**Ngauruhoe**	**13.57**	**202**	P		**Pn**	**15 55 52.9 -0.8**
BHHZ	**Black Hill Sta**	**13.71**	**200**	P		Pn	15 55 51.2 -4.1
BHHZ				S		S	15 58 17.1 -10
PKVZ	**Pokaka**	**13.76**	**202**	P		**Pn**	**15 55 52.3 -3.6**
KAHZ	**Kahuranaki**	**13.76**	**197**	P		Pn	15 55 49.7 -6.2
VRZ	**Vera Road**	**13.82**	**204**	P		**Pn**	**15 55 56.2 -0.4**
PXZ	**Pawanui**	**13.98**	**197**	P		Pn	15 55 53.0 -5.6
NEZ	**North Egmont**	**14.20**	**206**	P		**P**	**15 56 03.6 +1.9**
TSZ	**Takapari Road**	**14.26**	**199**	P		Pn	15 55 53.2 -8.8
PRHZ	**Porangahau**	**14.27**	**197**	P		Pn	15 55 57.8 -4.2
MRZ	**Mangatainoka R**	**14.93**	**199**	P		P	15 56 01.2 -8.5
DZM	**Mont Dzumac**	**14.94**	**285**	P		Pn	15 56 14.3 +3.9
	0.8nm,0.3s,baz=115,slow=13,SNR=8.2						
RAR	**Rarotonga**	**17.48**	**76**	LR		LR	16 01 36.3
	comp=Z,237nm,20.6s,baz=206,slow=30						
RPZ	**Rata Peaks**	**19.18**	**205**	S		**S**	**16 00 13.7 -6.0**
	2.0nm,0.3s,baz=312,slow=24,SNR=14						
STKA	**Stephens Creek**	**35.51**	**252**	P		**P**	**15 59 25.8 +1.7**
	2.3nm,0.6s,baz=97,slow=12,SNR=6.9						
STKA				PcP		**PcP**	**16 01 49.9 +2.4**
	1.0nm,0.6s,baz=106,slow=2.3,SNR=3.4						
ASAR	**Alice Springs**	**43.48**	**263**	P		**P**	**16 00 31.2 +1.4**
	7.7nm,0.9s,baz=92,slow=7.1,SNR=89						
WRA	**Warramunga Arr**	**44.12**	**268**	P		**P**	**16 00 36.0 +1.0**
	9.2nm,0.7s,baz=106,slow=7.6,SNR=64						
WRA				PcP		**PcP**	**16 02 16.8 +1.3**
	1.2nm,0.8s,baz=104,slow=3.4,SNR=4.9						
VNDA	**Vanda**	**51.77**	**185**	P		**P**	**16 01 36.5 +4.0**
	2.1nm,0.5s,baz=2.1,slow=7.7,SNR=15						
JOW	**Kunigami**	**74.23**	**311**	LR		LR	16 31 24.5
	comp=Z,62nm,21.1s,baz=156,slow=31						
MAW	**Mawson**	**75.78**	**200**	P		**P**	**16 04 11.9 +3.1**
	4.6nm,0.6s,baz=141,slow=3.1,SNR=11						
KSRS	**Korea Array**	**81.57**	**319**	P		**P**	**16 04 40.9 +0.2**
	0.8nm,0.6s,baz=128,slow=5.8,SNR=4.6						
SNAA	**Sanae**	**81.85**	**178**	P		**P**	**16 04 43.7 +1.9**
VNA3	**Neumayer Olymp**	**81.99**	**176**	P		**P**	**16 04 44.0 +1.6**
PETK	**Petropavlovsk-**	**82.25**	**345**	P		P	16 04 44.6 +0.8
	6.7nm,1.1s,baz=134,slow=8.5,SNR=4.4						
VNA2	**Neumayer--Watz**	**82.42**	**177**	P		**P**	**16 04 46.8 +2.1**
	baz=186,slow=3.5						
VNA1	**Neumayer--Stat**	**82.65**	**177**	P		**P**	**16 04 47.7 +1.8**
PLCA	**Paso Flores**	**85.00**	**133**	P		**P**	**16 05 00.3 +1.9**
	1.7nm,0.7s,baz=196,slow=3.6,SNR=4.0						
NVAR	**Mina Array Bea**	**85.50**	**43**	P		P	16 05 01.4 +0.5
	0.5nm,0.7s,baz=196,slow=7.1,SNR=3.7						
CMAR	**Chiang Mai Arr**	**92.22**	**289**	P		**P**	**16 05 33.5 +0.8**
	0.4nm,0.6s,baz=162,slow=2.7,SNR=4.3						
PDAR	**Pinedale Array**	**93.42**	**43**	P		**P**	**16 05 37.0 -1.0**
	0.4nm,0.7s,baz=255,slow=5.7,SNR=4.0						
ILAR	**Eielson Array**	**94.32**	**13**	P		**P**	**16 05 41.0 -0.3**
	0.3nm,0.6s,baz=218,slow=5.3,SNR=6.4						
MKAR	**Makanchi Array**	**115.39**	**311**	PKP		**PKiKP**	**16 11 02.5 0.0**
	0.4nm,0.8s,baz=60,slow=2.9,SNR=5.0						
ARCES	**ARCESS Array B**	**134.98**	**349**	PKP		**PKiKP**	**16 11 40.3 -0.5**
	6.5nm,1.2s,baz=330,slow=1.2,SNR=9.9						
FINES	**FINESS Array B**	**141.67**	**342**	PKhKP		PKPpre	16 11 47.4
	0.6nm,0.5s,baz=87,slow=3.1,SNR=5.4						
NB2	**NORSAR Subarra**	**145.10**	**352**	PKP		**PKiKP**	**16 11 58.3 -3.5**
	comp=Z,1.1nm,0.5s,baz=6.5,slow=3.8						
NOA	**NORSAR Array B**	**145.10**	**352**	PKP		**PKiKP**	**16 11 58.2 -3.6**
	comp=Z,1.4nm,0.6s,baz=12,slow=4.4,SNR=9.3						
AKASG	**Malin Array Be**	**148.31**	**326**	PKPbc		**PKPab**	**16 12 07.3 -3.7**
	comp=Z,1.2nm,0.4s,baz=44,slow=4.0,SNR=4.2						
BRTR	**Keskin Array B**	**150.71**	**304**	PKPbc		**PKPab**	**16 12 14.7 -6.9**
	comp=Z,1.1nm,0.6s,baz=111,slow=3.5,SNR=6.7						
TORD	**Torodi Ar. Bea**	**166.52**	**179**	PKP		**PKPdf**	**16 12 26.6 -0.3**
	comp=Z,0.5nm,0.6s,baz=123,slow=0.7,SNR=4.0						
TORD				PKPab		**PKPab**	**16 13 31.7 +1.6**
	comp=Z,1.5nm,0.7s,baz=176,slow=5.1,SNR=11						

RSNC 15 16:02:49.8±1.1, 6°90N×76°24W, h0km±4km, ML3.1, Mw3.5, 2C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBBC	**Dabeiba**	**0.12**	**14**	*i* P	Pg	16 02 51.7	-0.4
DBBC				*i*		16 02 55.2	
	comp=Z,5μm,0.5s						
HELC	**Santa Helena**	**1.00**	**135⇓**	*e*P	Pg	16 03 07.6	-1.4
HELC				⇓*e*		16 03 07.6	
HELC				*e*S	Sg	16 03 22.1	+0.2
HELC				*i*		16 03 27.0	
	comp=Z,167nm,0.5s						
UREC	**San Jos de Ur**	**1.10**	**40**	*e*P	Pg	16 03 10.0	-0.9
UREC				*e*S	Sg	16 03 25.8	+0.6
UREC				*i*		16 03 28.2	
	comp=Z,481nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.49**	**67⇑**	*e*P	Pn	16 03 16.2	-1.7
ZARC				*e*S	Sg	16 03 36.1	-1.7
ZARC				*i*		16 03 40.1	
	comp=Z,292nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.81**	**101⇑**	*e*P	Pn	16 03 21.4	-0.8
PTBC				*e*S	Sn	16 03 45.3	-0.6
PTBC				*i*		16 03 49.7	
	comp=Z,426nm,0.5s						
NORC	**Norcasia**	**1.90**	**134**	*e*P	Pn	16 03 23.2	-0.4
NORC				*e*S	Sn	16 03 47.3	-1.0
NORC				*i*		16 03 52.6	
	comp=Z,161nm,0.5s						
CAPC	**Capurgana**	**2.05**	**327**	*e*P	Pn	16 03 24.2	-1.4
CAPC				*e*S	Sn	16 03 51.6	-0.1
CAPC				*i*		16 04 04.1	
	comp=Z,66nm,0.8s						
RREF	**El Recreo**	**2.18**	**156**	*e*P	Pn	16 03 29.0	+1.2
RREF				*e*S	Sn	16 03 55.9	0.0
RREF				*i*		16 04 05.7	
	comp=Z,73nm,0.5s						
BRRC	**Barranca, Sant**	**2.52**	**85**	*e*P	Pn	16 03 30.9	-1.1
BRRC				*e*S	Sn	16 04 03.3	-0.1
BRRC				*i*		16 04 19.1	
	comp=Z,93nm,0.6s						
ANIL	**Santa Ana**	**2.54**	**161**	*e*P	Pb	16 03 35.3	-1.1
OCAC	**Ocana**	**3.19**	**65**	*e*S	Sn	16 04 18.7	-1.4
OCAC				*i*		16 04 34.4	
	comp=Z,56nm,0.6s						
RUSC	**La Rusia**	**3.29**	**108**	*e*P	Pn	16 03 43.9	+0.8
RUSC				*e*S	Sb	16 04 30.0	-0.3

*MDD **15** 16:08:05.0±1.8, 37°25N×12°70W, h0km, mb4.1/9, Error ellipse: s-maj=16.2km s-min=12.5km az=49.0, PRXIMO*

*INMG **15** 16:08:06.1±1.1, 37.07N×13°12W, h10km, ML2.3, Error ellipse: s-maj=5.6km s-min=4.8km az=79.0*

ISC 15 16:08:03.1±3.5, 37°29N±0°10×12°8W±0°2, h10km, n45, σ1°64/82, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**3.15**	**92**	*e*Pn	**Pn**	**16 08 53.1**	**+0.3**
PFVI				*e*Sn	**Sn**	**16 09 29.0**	**-1.5**
PFVI	**Vila Bisbo**	**3.15**	**92**	P	**Pn**	**16 08 53.1**	**+0.3**
	1.7nm,0.2s,SNR=4.0						
PFVI				S	**Sn**	**16 09 29.1**	**-1.5**
	4.8nm,0.7s,SNR=4.0						
PMAFR	**Mafra**	**3.22**	**58**	*e*Pn	**Pn**	**16 08 55.4**	**+1.7**
PMAFR				*e*Sn	**Sn**	**16 09 33.0**	**+0.9**
PMAFR	**Mafra**	**3.22**	**58**	P	**Pn**	**16 08 54.1**	**+0.4**
	7.2nm,0.3s,SNR=7.9						
PMAFR				S	**Sn**	**16 09 32.5**	**+0.4**
	15nm,0.8s,SNR=7.9						
PTEO	**Sao Teotonio**	**3.23**	**84**	*e*Pn	**Pn**	**16 08 55.0**	**+1.1**
PTEO				*e*Sn	**Sn**	**16 09 31.7**	**-0.8**
PTEO	**Sao Teotonio**	**3.23**	**84**	P	**Pn**	**16 08 55.0**	**+1.1**
PTEO				S	**Sn**	**16 09 31.7**	**-0.8**
MORF	**Marmelete**	**3.29**	**88**	*e*Pn	**Pn**	**16 08 55.2**	**+0.5**
MORF				*e*Sn	**Sn**	**16 09 33.6**	**-0.3**
MORF	**Marmelete**	**3.29**	**88**	P	**Pn**	**16 08 55.2**	**+0.5**
MORF				S	**Sn**	**16 09 33.6**	**-0.3**
PNCL	**Nicolau / Gran**	**3.46**	**75**	*e*Pn	**Pn**	**16 08 59.5**	**+2.4**
PNCL				*e*Sn	**Sn**	**16 09 37.3**	**-0.9**
PNCL				A	A	16 09 44.1	
	4.5nm,0.3s						
PNCL	**Nicolau / Gran**	**3.46**	**75**	P	**Pn**	**16 08 59.5**	**+2.4**
PNCL				S	**Sn**	**16 09 37.3**	**-0.9**
	4.5nm,0.3s						
MESJ	**Messejana**	**3.66**	**80**	*e*Pn	**Pn**	**16 09 01.9**	**+2.1**
MESJ				*e*Sn	**Sn**	**16 09 41.7**	**-1.3**
MESJ				A	A	16 09 48.1	
	2.5nm,0.2s						
MESJ	**Messejana**	**3.66**	**80**	P	**Pn**	**16 09 01.9**	**+2.1**
MESJ				S	**Sn**	**16 09 41.7**	**-1.3**
	2.5nm,0.2s						
ALMR	**Almeirim**	**3.79**	**59**	*e*Pn	**Pn**	**16 09 03.8**	**+2.2**
ALMR	**Almeirim**	**3.79**	**59**	P	**Pn**	**16 09 03.8**	**+2.2**
PBDV	**Barranco-do-Ve**	**3.86**	**89**	*e*Pn	**Pn**	**16 09 04.5**	**+1.9**
PBDV				*e*Sn	**Sn**	**16 09 47.9**	**-0.1**
PBDV	**Barranco-do-Ve**	**3.86**	**89**	P	**Pn**	**16 09 04.5**	**+1.9**
PBDV				S	**Sn**	**16 09 47.9**	**-0.1**
PBEJ	**Beja**	**3.96**	**78**	*e*Pn	**Pn**	**16 09 06.6**	**+2.6**
PBEJ				*e*Sn	**Sn**	**16 09 49.4**	**-1.1**
PBEJ				A	A	16 09 55.5	
	4.6nm,0.2s						
PBEJ	**Beja**	**3.96**	**78**	P	**Pn**	**16 09 06.6**	**+2.6**
PBEJ				S	**Sn**	**16 09 49.4**	**-1.1**
	2.3nm,0.2s						
EVO	**Evora**	**3.96**	**70**	*e*Pn	**Pn**	**16 09 06.3**	**+2.3**
EVO				*e*Sn	**Sn**	**16 09 50.9**	**+0.4**
EVO				A	A	16 09 56.9	
	3.8nm,0.1s						
EVO	**Evora**	**3.96**	**70**	P	**Pn**	**16 09 06.3**	**+2.3**
EVO				S	**Sn**	**16 09 50.9**	**+0.4**
	3.8nm,0.1s						
PMTG	**Montargil**	**4.00**	**62**	*e*Pn	**Pn**	**16 09 05.8**	**+1.3**
PMTG				*e*Sn	**Sn**	**16 09 50.8**	**-0.6**
PMTG				A	A	16 09 54.5	
	2.7nm,0.9s						
PMTG	**Montargil**	**4.00**	**62**	P	**Pn**	**16 09 05.8**	**+1.3**
PMTG				S	**Sn**	**16 09 50.8**	**-0.6**
	2.7nm,0.9s						
PVAQ	**Vaqueiros**	**4.03**	**87**	*e*Pn	**Pn**	**16 09 06.2**	**+1.3**
PVAQ				*e*Sn	**Sn**	**16 09 50.1**	**-2.0**
PVAQ				A	A	16 09 57.5	
	4.3nm,0.3s						
PVAQ	**Vaqueiros**	**4.03**	**87**	P	**Pn**	**16 09 06.2**	**+1.3**
PVAQ				S	**Sn**	**16 09 50.1**	**-2.0**
	4.3nm,0.3s						
EGRO	**El Granado**	**4.22**	**85**	P	**Pn**	**16 09 08.5**	**+1.1**
	2.8nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**16 09 55.7**	**-1.1**
	1.8nm,0.3s,SNR=7.9						
PCAS	**Casmilo, Conde**	**4.34**	**49**	*e*Pn	**Pn**	**16 09 10.7**	**+1.6**
PCAS				*e*Sn	**Sn**	**16 09 59.6**	**-0.1**
PCAS				A	A	16 10 07.0	
	3.9nm,0.4s						
PCAS	**Casmilo, Conde**	**4.34**	**49**	P	**Pn**	**16 09 10.7**	**+1.6**
PCAS				S	**Sn**	**16 09 59.6**	**-0.1**
	3.9nm,0.4s						
PESTR	**Estremoz**	**4.38**	**67**	*e*Pn	**Pn**	**16 09 11.5**	**+1.8**
PESTR				*e*Sn	**Sn**	**16 10 00.5**	**-0.4**
PESTR				A	A	16 10 07.0	
	1.4nm,0.2s						
PMRV	**Marv??o**	**4.74**	**62**	*e*Pn	Pn	16 09 18.5	+3.9
PMRV				*e*Sn	**Sn**	**16 10 10.7**	**+1.1**
PMRV				A	A	16 10 14.7	
	2.8nm,0.2s						
PMRV	**Marv??o**	**4.74**	**62**	P	Pn	16 09 18.5	+3.9
PMRV				S	**Sn**	**16 10 10.7**	**+1.1**
	2.8nm,0.2s						
EBAD	**Badajoz**	**4.78**	**70**	P	**Pn**	**16 09 16.3**	**+1.2**
	1.3nm,0.1s,SNR=6.7						
EBAD				S	**Sn**	**16 10 07.5**	**-3.1**
	41nm,2.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.87**	**82**	P	**Pn**	**16 09 16.8**	**+0.4**
	2.9nm,0.3s,SNR=7.9						
EMIN				S	**Sn**	**16 10 10.5**	**-2.4**
	3.6nm,0.8s,SNR=7.9						
MTE	**Manteigas**	**5.13**	**51**	*e*Sn	**Sn**	**16 10 19.0**	**-0.4**
MTE	**Manteigas**	**5.13**	**51**	S	**Sn**	**16 10 19.0**	**-0.4**
POLO	**Lamas de Olo**	**5.62**	**42**	*e*Pn	**Pn**	**16 09 27.7**	**+0.9**
POLO				*e*Sn	**Sn**	**16 10 30.3**	**-1.1**
POLO	**Lamas de Olo**	**5.62**	**42**	P	**Pn**	**16 09 27.7**	**+0.9**
POLO				S	**Sn**	**16 10 30.3**	**-1.1**
PGAV	**Gavieira, Arco**	**5.82**	**35**	*e*Pn	**Pn**	**16 09 31.3**	**+1.7**
PGAV				*e*Sn	**Sn**	**16 10 34.0**	**-2.5**
PGAV				A	A	16 10 40.9	
	3.6nm,0.8s						
PGAV	**Gavieira, Arco**	**5.82**	**35**	P	**Pn**	**16 09 31.3**	**+1.7**
PGAV				S	**Sn**	**16 10 34.0**	**-2.5**
	3.6nm,0.8s						
ELOB	**Lobios**	**5.84**	**37**	P	**Pn**	**16 09 31.0**	**+1.1**
	1.7nm,0.3s,SNR=7.9						
ELOB				S	**Sn**	**16 10 34.1**	**-2.9**
	4.5nm,1.3s,SNR=7.9						
ECAB	**El Cabril**	**5.88**	**80**	P	**Pn**	**16 09 31.1**	**+0.7**
	1.8nm,0.2s,SNR=9.9						
ECAB				S	**Sn**	**16 10 34.4**	**-3.5**
	2.3nm,0.8s,SNR=7.9						
EPLA	**Plasencia**	**5.92**	**60**	P	**Pn**	**16 09 32.2**	**+1.2**
	1.3nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**16 10 37.0**	**-1.9**
	27nm,1.5s,SNR=7.9						
EADA	**Adamuz**	**6.55**	**80**	P	**Pn**	**16 09 40.6**	**+1.0**
	1.4nm,0.4s,SNR=7.9						
EADA				S	**Sn**	**16 10 51.5**	**-2.9**
	1.8nm,0.5s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.58**	**32**	P	**Pn**	**16 09 41.0**	**+1.1**
	2.6nm,0.3s,SNR=7.9						
EAGO				S	**Sn**	**16 10 50.1**	**-4.9**
	2.7nm,0.9s,SNR=7.9						
PAB	**San Pablo**	**6.99**	**69**	P	**Pn**	**16 09 46.6**	**+1.0**
	1.4nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**7.31**	**68**	P	**Pn**	**16 09 51.0**	**+1.0**
	0.4nm,0.2s,baz=252,slow=13,SNR=6.8						

*ISCJB **15** 16:09:35.6±0.3, 62°.53S±0°.05×161°.30W±0°.10, h10km, mb5.3/47, MS5.8/165, Error ellipse: s-maj=8.3km s-min=5.0km az=41.1*

*IDC **15** 16:09:35.5±0.5, 62°.45S×161°.85W, h0km, mb4.7/11, mb1 4.7/11, mb1mx4.7/20, mbtmp4.7/11, MS5.7/24, Ms1 5.8/24, ms1mx5.7/28, Error ellipse: s-maj=32.8km s-min=14.2km az=26.0*

*MOS **15** 16:09:36.3±1.9, 62°.59S×161°.64W, h10km, mb5.4/11, MS5.8/12, Error ellipse: s-maj=24.9km s-min=12.8km az=98.2*

*NEIC **15** 16:09:37.1±0.2, 62°.57S×161°.43W, h10km, mb5.5/41, MS5.9/126, MW6.1, MW6.1, MW6.1, Error ellipse: s-maj=12.2km s-min=5.9km az=209.0, Moment Tensor Solution. s33 Moment tensor: Scale 10¹⁸Nm; Mrr=0.07; Mθθ=1.32; Mϕϕ-1.39; Mrθ=0.33; Mθϕ 0.30; Mϕr-0.28; Best double couple: M₀1.50000×10¹⁸ NP1:ϕ₁129.00000°, δ89.00000°, λ17.00000°. NP2:ϕ₂39.00000°, δ73.00000°, λ179.00000°. Principal axes: T 1.4200, Plg13.0000°, Azm355.0000°; N 0.0700, Plg73.0000°, Azm131.0000°; P -1.4900, Plg12.0000°, Azm262.0000°;*

*NEIC **15** 16:09:37.0±0.0, 62°.76S×161°.38W, h13km, Moment Tensor Solution. s34 Moment tensor: Scale 10¹⁸Nm; Mrr0.05; Mθθ 1.27; Mϕϕ-1.31; Mrθ 0.10; Mθϕ 0.77; Mϕr-0.32; Best double couple: M₀1.50000×10¹⁸ NP1:ϕ₁299.00000°, δ82.00000°, λ-8.00000°. NP2:ϕ₂30.00000°, δ81.00000°, λ-172.00000°. Principal axes: T 1.4800, Plg0.0000°, Azm344.0000°; N 0.1100, Plg78.0000°, Azm77.0000°; P -1.6000, Plg11.0000°, Azm254.0000°;*

*BJI **15** 16:09:39.4, 62°.60S×161°.30W, h20km, mB5.9/37, Ms6.0/45, Ms7 5.8/44*

*GCMT **15** 16:09:43.1±0.1, 62°.60S×161°.94W, h12km, MW6.1/145, Moment Tensor Solution. s139, c299; s145, c492; Duration: 2ᵇ7 Moment tensor: Scale 10¹⁸Nm; Mrr-0.18±.01; Mθθ 1.66±.01; Mϕϕ-1.48±.01; Mrθ-0.31±.02; Mθϕ 0.35±.01; Mϕr 0.34±.02; Best double couple: M₀1.67700×10¹⁸ NP1:ϕ₁128.00000°, δ85.00000°, λ-16.00000°. NP2:ϕ₂219.00000°, δ74.00000°, λ-175.00000°. Principal axes: T 1.7370, Plg8.0000°, Azm175.0000°; N -0.1200, Plg73.0000°, Azm292.0000°; P -1.6180, Plg15.0000°, Azm82.0000°; nsta1 refers to body waves, cutoff=50s. Triangular moment-rate function*

*NEIC **15** 16:09:57.3±0.0, 62°.65S×161°.58W, h26km, Moment Tensor Solution. s69 Moment tensor: Scale 10¹⁸Nm; Mrr-0.16; Mθθ 2.02; Mϕϕ-1.86; Mrθ 0.37; Mθϕ 0.42; Mϕr 0.19; Best double couple: M₀2.00000×10¹⁸ NP1:ϕ₁129.00000°, δ80.00000°, λ3.00000°. NP2:ϕ₂39.00000°, δ87.00000°, λ170.00000°. Principal axes: T 2.1200, Plg10.0000°, Azm354.0000°; N -0.2100, Plg79.0000°, Azm201.0000°; P -1.9200, Plg5.0000°, Azm84.0000°;*

ISC 15 16:09:37.8±0.3, 62°.51S±0°.06×161°.28W±0°.06, h10km, n376, σ2°21/238, mb5.4/47, MS5.8/167, 7C-9D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**18.36**	**201**	*e*Pn	**Pn**	**16 13 51.8**	**-0.2**
	250nm,1.5s						
SBA	**Scott Base**	**18.36**	**201**	*e*P	**Pn**	**16 13 51.8**	**-0.2**
SBA				pmax	pmax		
	comp=Z,250nm,1.5s						
VNDA	**Vanda**	**19.03**	**204**	P	**Pn**	**16 14 02.1**	**+2.1**
	comp=Z,0.5nm,0.3s,baz=68,slow=16,SNR=23						
VNDA				LR	LR	16 19 26.2	
	comp=Z,77μm,21.2s,baz=58,slow=31						
VNDA	**Vanda**	**19.03**	**204**	*e*P	**P**	**16 13 59.3**	**0.0**
	comp=Z,152nm,1.4s						
VNDA	**Vanda**	**19.03**	**204**	*e*P	**P**	**16 13 59.3**	**0.0**
VNDA				pmax	pmax		
	comp=Z,152nm,1.4s						
MCQ	**Macquarie Isla**	**21.94**	**273**	PFAKE		16 14 40.0	+9.0
MCQ				LR	LR		
	comp=Z,39μm,21.0s						
ODZ	**Otahua Downs**	**23.80**	**304**	*e*P	**P**	**16 14 50.8**	**+0.5**
	comp=Z,319nm,1.9s						
ODZ				LR	LR		
	comp=Z,11μm,19.0s						
WHZ	**Wether Hill Ro**	**24.16**	**299**	*e*P	**P**	**16 14 53.2**	**-0.5**
	comp=Z,490nm,1.9s						
WHZ				LR	LR		
	comp=Z,8μm,20.0s						
MQZ	**McQueen's Vall**	**24.19**	**309**	*e*P	**P**	**16 14 53.8**	**-0.2**
	comp=Z,337nm,1.7s						
MQZ				LR	LR		
	comp=Z,10μm,18.0s						
CRLZ	**Canterbury Las**	**24.31**	**309**	*e*P	**P**	**16 14 55.9**	**+0.7**
	comp=Z,781nm,2.0s						
CRLZ				LR	LR		
	comp=Z,12μm,18.0s						
PYZ	**Puysegur Point**	**24.45**	**297**	PFAKE		16 15 10.0	+14
PYZ				LR	LR		
	comp=Z,11μm,20.0s						
MLZ	**Mavora Lakes**	**24.52**	**300**	*e*P	**P**	**16 14 57.0**	**-0.1**
	comp=Z,179nm,1.6s						
MLZ				LR	LR		
	comp=Z,14μm,20.0s						
LBZ	**Lake Benmore**	**24.53**	**304**	*e*P	**P**	**16 14 57.9**	**+0.8**
	comp=Z,687nm,1.9s						
LBZ				LR	LR		
	comp=Z,3μm,19.0s						
WKZ	**Wanaka**	**24.61**	**302**	*e*P	**P**	**16 14 57.6**	**-0.2**
	comp=Z,665nm,1.8s						
WKZ				LR	LR		
	comp=Z,9μm,18.0s						
OXZ	**Oxford**	**24.74**	**308**	*e*P	**P**	**16 14 58.5**	**-0.6**
	comp=Z,121nm,1.4s						
OXZ				LR	LR		
	comp=Z,14μm,21.0s						
RPZ	**Rata Peaks**	**24.77**	**307**	P	**P**	**16 15 02.2**	**+2.9**
	comp=Z,33nm,0.8s,baz=168,slow=12,SNR=6.7						
RPZ				LR	LR	16 23 27.5	
	comp=Z,6μm,18.1s,baz=141,slow=34						
RPZ	**Rata Peaks**	**24.77**	**307**	*e*P	**P**	**16 14 59.4**	**+0.1**
	comp=Z,426nm,1.7s						
DCZ	**Deep Cove**	**24.83**	**299**	*e*P	**P**	**16 14 59.0**	**-0.8**
	comp=Z,128nm,1.5s						
DCZ				LR	LR		
	comp=Z,9μm,18.0s						
LTZ	**Lake Taylor**	**25.13**	**309**	*e*P	**P**	**16 15 02.2**	**-0.4**
	comp=Z,150nm,1.4s						
LTZ				LR	LR		
	comp=Z,14μm,20.0s						
FOZ	**Fox Glacier**	**25.39**	**305**	PFAKE		16 15 20.0	+15
FOZ				LR	LR		
	comp=Z,8μm,18.0s						
SNZO	**South Karori**	**25.60**	**315**	PFAKE		16 15 20.0	+13
SNZO				LR	LR		
	comp=Z,20μm,20.0s						
BFZ	**Birch Farm**	**25.67**	**318**	*e*P	**P**	**16 15 07.9**	**+0.4**
	comp=Z,350nm,1.6s						
BFZ				LR	LR		

comp=Z,64nm,1.5s
CAN MLR MLR

comp=Z,9µm,20.0s
RAR Rarotonga 41.28 2 LR LR 16 30 13.2
comp=Z,11µm,18.7s,baz=182,slow=30
PTCN Pitcairn Islan 42.83 44 PFAKE 16 17 50.0 +14
PTCN LR LR

comp=Z,6µm,19.0s
ARPS Mount Arapiles 42.98 279 P **P** **16 17 38.3 +1.5**
baz=43,SNR=4.8
RKT Rikitea 43.21 37 *e*S **S** **16 24 08.5 +3.2**
comp=Z,6µm,29.2s
RKT *e*LQ LQ 16 27 39.4

comp=Z,67µm,29.1s
RKT *e*LR LR 16 29 42.0

comp=Z,13µm,27.5s
RKT Rikitea 43.21 37 *e*T T 17 03 40.0
comp=Z,30nm,0.3s
NIUE Niue 43.81 348 PFAKE 16 17 50.0 +6.4
NIUE LR LR

comp=Z,22µm,21.0s
ARMA Armidale 44.02 294 P **P** **16 17 46.6 +1.3**
baz=44
ARMA Armidale 44.02 294 *e*P **P** **16 17 44.7 -0.6**
comp=Z,76nm,1.7s
ARMA LR LR

comp=Z,8µm,22.0s
USHA Ushuaia 44.83 125 P **P** **16 17 51.9 +0.5**
comp=Z,8.4nm,0.9s,baz=166,slow=4.2,SNR=3.0
USHA LR LR 16 32 10.0

comp=Z,5µm,19.7s,baz=218,slow=30
VNA3 Neumayer Olymp 45.08 167 P **P** **16 17 51.6 -1.6**
VNA3 S **S** **16 24 28.4 -3.3**
GO10 Punta Arenas 45.09 122 PFAKE 16 18 00.0 +6.5
GO10 LR LR

comp=Z,12µm,21.0s
SNAA Sanae 45.27 171 P **P** **16 17 56.1 +1.3**
SNAA S **S** **16 24 36.2 +1.7**
SNAA Sanae 45.27 171 *e*P **P** **16 17 53.8 -1.0**
comp=Z,168nm,1.7s
SNAA LR LR

comp=Z,35µm,18.0s
SNAA Sanae 45.27 171‖ *e*P **P** **16 17 54.7 -0.1**
SNAA pmax pmax

comp=Z,3µm,1.1s
TVO Taravao 45.47 16 *e*T T 17 06 23.7
comp=Z,16nm,0.3s
PAE Paea 45.54 16 *e*T T 17 06 29.0
comp=Z,22nm,0.3s
VNA2 Neumayer--Watz 45.61 168 P **P** **16 17 56.5 -0.9**
baz=201,slow=8.2
VNA2 S **S** **16 24 38.8 -0.5**
PPT2 Papeete2 45.61 16 *e*S **S** **16 24 39.4 -1.1**
comp=Z,7µm,26.0s
PPT2 *e*LQ LQ 16 28 50.0

comp=Z,41µm,40.5s
PPT2 *e*LR LR 16 30 45.0

comp=Z,55µm,25.2s,baz=190
PPT2 Papeete2 45.61 16 *e*T T 17 06 29.8
comp=Z,44nm,0.3s
PPTF Pamatai, Papee 45.62 16 PFAKE 16 18 10.0 +12
PPTF LR LR

comp=Z,16µm,19.0s
CMSA Cobar Meteorol 45.62 287 P **P** **16 17 56.9 -1.1**
baz=46,SNR=7.7
PPT Papeete 45.64 16 LR LR 16 31 40.6
comp=Z,18µm,21.7s,baz=190,slow=29
TIAR Tiarei 45.67 16 *e*T T 17 06 39.7
comp=Z,14nm,0.3s
VNA1 Neumayer--Stat 45.79 168 P **P** **16 17 59.8 +1.1**
DZM Mont Dzumac 45.98 316 P **P** **16 17 58.3 -2.7**
comp=Z,37nm,1.1s,baz=179,slow=15,SNR=4.3
DZM Mont Dzumac 45.98 316 *e*P **P** **16 17 59.0 -2.0**
comp=Z,118nm,1.4s
DZM *e*S **S** **16 24 41.4 -4.4**

comp=Z,7µm,26.6s
DZM *e*LQ LQ 16 28 51.3

comp=Z,29µm,38.6s
DZM *e*LR LR 16 30 44.0

comp=Z,15µm,25.2s
DZM Mont Dzumac 45.98 316 *e*P **P** **16 18 00.7 -0.3**
comp=Z,111nm,1.4s
DZM LR LR

comp=Z,10µm,19.0s
GO09 Cerro Castillo 46.00 119 PFAKE 16 18 10.0 +9.2
GO09 LR LR

comp=Z,14µm,20.0s
MAW Mawson 46.32 202 LR LR 16 35 45.8
comp=Z,15µm,20.0s,baz=148,slow=34
NVL N'lazarevskaya 46.91 177 *e*P **P** **16 18 07.0 -0.6**
NVL *e*S **S** **16 24 57.6 -0.3**
NVL pmax pmax

comp=Z,55nm,1.2s
HTT Hallett 47.08 279 P **P** **16 18 10.5 +1.0**
baz=47,SNR=8.1
STKA Stephens Creek 47.17 283 P **P** **16 18 07.1 -3.0**
comp=Z,11nm,0.9s,baz=143,slow=12,SNR=7.7
STKA LR LR 16 34 11.0

comp=Z,8µm,20.6s,baz=140,slow=32
STKA Stephens Creek 47.17 283 P **P** **16 18 09.2 -1.0**
baz=47,SNR=12
STKA Stephens Creek 47.17 283 *e*P **P** **16 18 08.2 -1.9**
comp=Z,5.7nm,0.9s
STKA Stephens Creek 47.17 283 *e*P **P** **16 18 08.3 -1.9**
STKA pmax pmax

comp=Z,6.0nm,0.9s
SYO Syowa Base 47.93 190‖ *i*pP **P** **16 18 15.2 -0.3**
SYO Syowa Base 47.93 190‖ *i*P **P** **16 18 20.0 +4.5**
VAH Vaihoa 48.19 18 *e*T T 17 09 48.6
comp=Z,266nm,0.3s
PMOR Pomariorio Ree 48.38 17 *e*T T 17 10 03.3
comp=Z,10nm,0.3s
RMQ Roma 48.67 294 P **P** **16 18 22.8 +1.0**
baz=48,SNR=5.2
EIDS Eidsvold 48.68 297 P **P** **16 18 20.4 -1.4**
baz=48,SNR=5.0
EIDS Eidsvold 48.68 297 *e*P **P** **16 18 20.1 -1.8**
comp=Z,200nm,1.8s
EIDS LR LR

comp=Z,6µm,18.0s
BBOO Buckleboo 48.92 277 P **P** **16 18 21.0 -2.6**
baz=49,SNR=12
BBOO Buckleboo 48.92 277 *e*P **P** **16 18 20.8 -2.9**
comp=Z,92nm,1.2s
BBOO LR LR

comp=Z,10µm,19.0s
RPN Rapa Nui 48.95 69 LR LR 16 31 56.1
comp=Z,2µm,19.6s,baz=214,slow=27
QLP Quilpie 50.53 289 P **P** **16 18 34.7 -1.3**
baz=50,SNR=15
EFI East Falkland 51.16 129 PFAKE 16 18 50.0 +10
EFI LR LR

comp=Z,3µm,18.0s
EFI East Falkland 51.16 129‖ *e*P **P** **16 18 38.8 -1.6**
EFI pmax pmax

comp=Z,36nm,1.4s
FORT Forrest 54.32 271 P **P** **16 19 04.8 +0.8**
baz=54
FORT Forrest 54.32 271 *e*P **P** **16 19 02.5 -1.5**
comp=Z,73nm,1.0s
FORT LR LR

comp=Z,7µm,21.0s
PLCA Paso Flores 55.16 112 P **P** **16 19 10.4 +0.3**
comp=Z,4.5nm,1.0s,baz=248,slow=7.1,SNR=6.3
PLCA LR LR 16 37 00.5

comp=Z,11µm,21.9s,baz=234,slow=30
PLCA Paso Flores 55.16 112 *e*P **P** **16 19 09.9 -0.2**
comp=Z,41nm,1.3s
CTAO Charters Tower 55.38 295 *e*P **P** **16 19 10.3 -1.5**
comp=Z,29nm,0.9s
CTAO LR LR

comp=Z,6µm,18.0s
CTAO Charters Tower 55.38 295 *e*P **P** **16 19 10.3 -1.5**
CTAO pmax pmax

comp=Z,29nm,0.9s
CTAO MLR MLR

comp=Z,6µm,18.0s
GO06 Curarrehue 55.71 111 *e*P **P** **16 19 13.8 -0.3**
comp=Z,88nm,1.8s
GO06 LR LR

comp=Z,9µm,20.0s
TAOE Nuku Hiva Isla 55.72 26 *e*S **S** **16 27 00.9 +0.1**
comp=Z,8µm,26.4s
TAOE *e*LQ LQ 16 33 06.6

comp=Z,17µm,25.1s
TAOE *e*LR LR 16 35 24.9
comp=Z,24µm,27.0s,baz=205

HOPE Hope Point 55.78 144 PFAKE 16 19 30.0 +16
HOPE LR LR

comp=Z,12µm,20.0s
H01W1 Cape Leeuwin H 57.28 257 T T 17 21 34.6
baz=146,slow=76,SNR=127
H01W2 Cape Leeuwin H 57.28 257 T T 17 21 34.9
baz=146,slow=76,SNR=125
H01W3 Cape Leeuwin H 57.30 257 T T 17 21 28.6
baz=146,slow=76,SNR=103
NWAO Narrogin (SRO) 57.52 260 PFAKE 16 19 40.0 +13
NWAO LR LR

comp=Z,12µm,22.0s
AS01 Alice Springs 57.66 281 *e*P **P** **16 19 24.1 -4.0**
ASAR Alice Springs 57.68 281 P **P** **16 19 25.0 -3.2**
comp=Z,22nm,1.1s,baz=147,slow=6.8,SNR=28
ASAR LR LR 16 40 18.6

comp=Z,16µm,21.7s,baz=154,slow=32
AS31 Alice Springs 57.68 281 *e*P **P** **16 19 24.9 -3.4**
comp=Z,27nm,1.5s
AS31 LR LR

comp=Z,200nm,22.0s
QIS Mount Isa 57.83 288 P **P** **16 19 26.7 -2.6**
baz=58,SNR=8.0
MTSU Mount Surprise 57.94 294 P **P** **16 19 28.3 -1.7**
baz=58,SNR=11
WRKA Warakurna 59.08 275 P **P** **16 19 35.5 -2.5**
baz=59,SNR=9.3
GO05 Huala 59.32 107 PFAKE 16 19 50.0 +10
GO05 LR LR

comp=Z,8µm,21.0s
HNR Honiara 59.92 314 *e*P **P** **16 19 42.2 -1.5**
comp=Z,315nm,1.1s
HNR LR LR

comp=Z,4µm,21.0s
HNR Honiara 59.92 314 *e*P **P** **16 19 42.3 -1.5**
HNR pmax pmax

comp=Z,315nm,1.1s
HNR MLR MLR

comp=Z,4µm,21.0s
WR0 Warramunga Arr 60.61 284 PFAKE 16 20 00.0 +11
WR0 LR LR

comp=Z,12µm,18.0s
WR9 Warramunga Arr 60.63 284 PFAKE 16 20 00.0 +11
WR9 LR LR

comp=Z,10µm,20.0s
WR8 Warramunga Arr 60.64 284 PFAKE 16 20 00.0 +11
WR8 LR LR

comp=Z,11µm,21.0s
WR5 Warramunga Arr 60.67 284 PFAKE 16 20 00.0 +11
WR5 LR LR

comp=Z,10µm,18.0s
WR4 Warramunga Arr 60.68 284 PFAKE 16 20 00.0 +11
WR4 LR LR

comp=Z,10µm,21.0s
WC3 Warramunga Arr 60.69 283 PFAKE 16 20 00.0 +11
WC3 LR LR

comp=Z,11µm,21.0s
WR3 Warramunga Arr 60.69 283 PFAKE 16 20 00.0 +11
WR3 LR LR

comp=Z,11µm,21.0s
WC4 Warramunga Arr 60.70 283 PFAKE 16 20 00.0 +11
WC4 LR LR

comp=Z,10µm,21.0s
WR2 Warramunga Arr 60.71 283 PFAKE 16 20 00.0 +11
WR2 LR LR

comp=Z,10µm,22.0s
WB2 Warramunga Arr 60.71 283 *e*P **P** **16 19 44.7 -4.5**
WB2 LR LR

comp=Z,12µm,21.0s
WR1 Warramunga Arr 60.72 283 PFAKE 16 20 00.0 +11
WR1 LR LR

comp=Z,11µm,21.0s
WRA Warramunga Arr 60.72 283 P **P** **16 19 45.9 -3.4**
comp=Z,8.9nm,1.0s,baz=149,slow=5.9,SNR=18
WRA LR LR 16 42 06.9

comp=Z,12µm,21.5s,baz=155,slow=32
WC2 Warramunga Arr 60.72 283 PFAKE 16 20 00.0 +11
WC2 LR LR

comp=Z,12µm,21.0s
WRAB Tennant Creek 60.72 283 *e*P P 16 19 44.4 -4.9
comp=Z,28nm,1.0s
WRAB LR LR

comp=Z,12µm,21.0s
WRAB Tennant Creek 60.72 283‖ *e*P **P** **16 19 48.1 -1.2**
WRAB pmax pmax

comp=Z,14nm,1.2s
WB3 Warramunga Arr 60.73 283 PFAKE 16 20 00.0 +11
WB3 LR LR

comp=Z,10µm,21.0s
WC1 Warramunga Arr 60.74 283 PFAKE 16 20 00.0 +11
WC1 LR LR

comp=Z,8µm,21.0s
WB4 Warramunga Arr 60.74 283 PFAKE 16 20 00.0 +11
WB4 LR LR

comp=Z,10µm,21.0s
WB5 Warramunga Arr 60.76 284 PFAKE 16 20 00.0 +10
WB5 LR LR

comp=Z,11µm,22.0s
WB6 Warramunga Arr 60.78 284 PFAKE 16 20 00.0 +10
WB6 LR LR

comp=Z,10µm,20.0s
WB8 Warramunga Arr 60.81 284 PFAKE 16 20 00.0 +10
WB8 LR LR

comp=Z,10µm,20.0s
WB9 Warramunga Arr 60.83 284 PFAKE 16 20 00.0 +10
WB9 LR LR

comp=Z,22µm,21.0s
WB0 Warramunga Arr 60.85 284 PFAKE 16 20 00.0 +10
WB0 LR LR

comp=Z,12µm,22.0s
PAF Port-aux-Franc 61.24 216 PFAKE 16 20 00.0 +7.7
PAF LR LR

comp=Z,15µm,18.0s
MORW Morawa 61.32 262 *e*P **P** **16 19 52.0 -1.2**
comp=Z,117nm,1.8s
MORW LR LR

comp=Z,15µm,20.0s
PEL Peldehue 61.44 107 PFAKE 16 20 10.0 +16
PEL LR LR

comp=Z,7µm,21.0s
COEN Coen 62.15 295 P **P** **16 20 00.3 +1.4**
baz=62,SNR=5.6
COEN Coen 62.15 295 *e*P **P** **16 19 57.4 -1.6**
comp=Z,57nm,1.3s
COEN LR LR

comp=Z,6µm,18.0s
GO04 Tololo Observa 63.92 105 *e*P **P** **16 20 10.4 -0.4**
comp=Z,23nm,1.1s
GO04 LR LR

comp=Z,7µm,19.0s
LCO Las Campanas 64.96 105 *e*P **P** **16 20 16.6 -1.1**
comp=Z,20nm,1.1s
LCO LR LR

comp=Z,8µm,21.0s
LCO Las Campanas 64.96 105 *e*P **P** **16 20 16.6 -1.1**
LCO pmax pmax

comp=Z,20nm,1.1s
LCO MLR MLR

comp=Z,8µm,21.0s
FITZ Fitzroy Crossi 66.30 276 *e*P **P** **16 20 26.0 -0.1**
comp=Z,116nm,1.8s
FITZ LR LR

comp=Z,5µm,22.0s
MBWA Marble Bar 66.39 269 *e*P **P** **16 20 24.4 -2.2**
MBWA LR LR

comp=Z,13µm,19.0s
KNRA Kununurra 66.98 281 P **P** **16 20 31.6 +1.1**
baz=67
GIRL Giralia 67.65 264 PFAKE 16 20 50.0 +15
GIRL LR LR

comp=Z,16µm,20.0s
CRZF Crozet Islands 68.22 204 PFAKE 16 20 50.0 +12
CRZF LR LR

comp=Z,7µm,21.0s
GO02 Mina Guanaco 68.77 104 *e*P **P** **16 20 40.9 -1.2**
comp=Z,31nm,1.1s
GO02 LR LR

comp=Z,7µm,21.0s
PB10 IPOC Station P 69.75 102 PFAKE 16 21 00.0 +12
PB10 LR LR

comp=Z,7µm,20.0s
PB04 IPOC Station P 70.96 102 PFAKE 16 21 10.0 +15
PB04 LR LR

comp=Z,6µm,21.0s
LVC Limon Verde 71.28 103 *e*P **P** **16 20 57.5 -0.1**
comp=Z,23nm,1.0s
LVC LR LR

comp=Z,7µm,21.0s
LVC Limon Verde 71.28 103 *e*P **P** **16 20 57.5 -0.1**
LVC pmax pmax

comp=Z,23nm,1.0s
LVC MLR MLR

comp=Z,7µm,21.0s
PB01 IPOC Station P 72.38 102 *e*P **P** **16 21 03.7 -0.2**
comp=Z,20nm,1.0s
PB01 LR LR

comp=Z,5µm,21.0s
SAUI Saumlaki 72.62 287 PFAKE 16 21 20.0 +15
SAUI LR LR

comp=Z,9µm,21.0s
CPUP Villa Florida 73.12 114 P **P** **16 21 07.5 -0.6**
comp=Z,2.7nm,0.9s,baz=218,slow=6.1,SNR=5.7
CPUP LR LR 16 48 58.6

comp=Z,7µm,20.1s,baz=204,slow=32
CPUP Villa Florida 73.12 114 *e*P **P** **16 21 07.1 -1.0**
comp=Z,88nm,1.9s
PB11 IPOC Station P 73.42 101 *e*P **P** **16 21 09.7 -0.5**
comp=Z,26nm,0.9s
PB11 LR LR

comp=Z,4µm,20.0s
JAY Jayapura 73.49 298 LR LR 16 51 05.0
comp=Z,2µm,19.2s,baz=142,slow=34
MNMC Minye Minye 74.00 101 *e*P **P** **16 21 10.9 -2.7**
comp=Z,55nm,1.3s
MNMC LR LR

comp=Z,4µm,22.0s
BATI Baumata 74.11 279 LR LR 16 50 21.5
comp=Z,13µm,21.5s,baz=168,slow=33
SOEI Soe 74.23 279 PFAKE 16 21 30.0 +15
SOEI LR LR

comp=Z,16µm,20.0s
MMRI Maumere 76.15 278 PFAKE 16 21 40.0 +14
MMRI LR LR

comp=Z,4µm,22.0s
FAKI Fak Fak 76.72 290 PFAKE 16 21 40.0 +11
FAKI LR LR

comp=Z,4µm,19.0s
NNA Nana 76.89 91 PFAKE 16 21 40.0 +10
NNA LR LR

comp=Z,11µm,19.0s
LPAZ La Paz 77.15 100 P **P** **16 21 32.5 +0.4**
comp=Z,3.9nm,0.7s,baz=206,slow=2.4,SNR=13
LPAZ LR LR 16 48 28.7

comp=Z,5µm,19.5s,baz=192,slow=30
LPAZ La Paz 77.15 100 *e*P **P** **16 21 29.7 -2.5**
comp=Z,36nm,1.1s
SPB Sao Paulo 79.61 121 PFAKE 16 22 00.0 +15
SPB LR LR

comp=Z,6µm,19.0s
JAGI Jajag, Banyuwa 80.03 271 PFAKE 16 22 00.0 +13
JAGI LR LR

comp=Z,3µm,18.0s
PAYG Puerto Ayora 80.71 73 PFAKE 16 22 00.0 +9.1
PAYG LR LR

comp=Z,10µm,20.0s
KHU Kahuku 81.60 5 PFAKE 16 22 10.0 +14
KHU LR LR

comp=Z,11µm,19.0s
SDHHI Sand Hill 81.76 6 PFAKE 16 22 10.0 +14
SDHHI LR LR

comp=Z,11µm,19.0s
JCUZ Jacuzzi 81.76 6 PFAKE 16 22 10.0 +14
JCUZ LR LR

comp=Z,11µm,20.0s
STCH Steam Cracks 81.76 6 PFAKE 16 22 10.0 +14
STCH LR LR

comp=Z,11µm,20.0s
RIM Rim 81.77 6 PFAKE 16 22 10.0 +14
RIM LR LR

comp=Z,12µm,19.0s
WRMHI West Rim 81.78 6 PFAKE 16 22 10.0 +14
WRMHI LR LR

comp=Z,10µm,20.0s
NPH North Pit 81.78 6 PFAKE 16 22 10.0 +13
NPH LR LR

comp=Z,12µm,20.0s
BYL Byron's Ledge 81.78 6 PFAKE 16 22 10.0 +13
BYL LR LR

comp=Z,13µm,20.0s
OBL Observatory Le 81.79 6 PFAKE 16 22 10.0 +13
OBL LR LR

comp=Z,11µm,20.0s
MLOA Mauna Loa Obse 81.89 5 PFAKE 16 22 10.0 +13
MLOA LR LR

comp=Z,13µm,20.0s
XMIS Christmas Isla 82.20 262 PFAKE 16 22 10.0 +11
XMIS LR LR

comp=Z,3µm,19.0s
UGM Wanagama 82.21 268 PFAKE 16 22 10.0 +11
UGM LR LR

comp=Z,6µm,21.0s
HPAH Hawaii Prepara 82.38 5 PFAKE 16 22 10.0 +10
HPAH LR LR

comp=Z,11µm,20.0s
LUWI Luwuk 82.61 282 PFAKE 16 22 10.0 +9.0
LUWI LR LR

comp=Z,3µm,20.0s
SMRI Semarang 83.00 268 PFAKE 16 22 10.0 +6.9
SMRI LR LR

comp=Z,6µm,22.0s
CISI Cisompet, Garu 83.78 266 PFAKE 16 22 20.0 +13
CISI LR LR

comp=Z,5µm,22.0s
COCO West Island 84.70 254 PFAKE 16 22 20.0 +8.3
COCO LR LR

comp=Z,7µm,21.0s
SUR Sutherland 85.43 182 PFAKE 16 22 30.0 +15
SUR LR LR

comp=Z,5µm,20.0s
BDFB Brasilia 86.52 118 P **P** **16 22 22.6 +1.7**
comp=Z,1.1nm,0.4s,baz=153,slow=9.0,SNR=2.6
BDFB LR LR 16 57 49.1

comp=Z,10µm,19.6s,baz=195,slow=33
GUMO Guam 86.60 308 LR LR 16 55 32.3
comp=Z,1µm,21.9s,baz=148,slow=32
OTAV Otavalo 86.89 84 PFAKE 16 22 30.0 +6.9
OTAV LR LR

comp=Z,4µm,20.0s
DAV Davao City (W) 88.55 288 LR LR 16 59 40.8
comp=Z,2µm,22.0s,baz=156,slow=34
BOSA Boshof 89.05 186 P **P** **16 22 32.8 -0.1**
comp=Z,1.6nm,0.7s,baz=207,slow=14,SNR=2.1
BOSA LR LR 16 58 56.9

comp=Z,17µm,19.9s,baz=174,slow=33
H06S1 SOCORRO T 90.11 47 T T 18 02 45.2
SNR=46
H06E1 SOCORRO T-PHAS 90.17 47 T T 18 02 46.0
SNR=6.2
SBUM Sibu 90.53 274 PFAKE 16 22 50.0 +10
SBUM LR LR

comp=Z,2µm,19.0s
KSM Kuching 90.56 272 PFAKE 16 22 50.0 +10
KSM LR LR

comp=Z,2µm,18.0s
KKM Kota Kinabalu 91.86 279 PFAKE 16 23 00.0 +14
KKM LR LR

comp=Z,3µm,20.0s
MRIV Mauritius Mete 91.95 216 PFAKE 16 23 00.0 +14
MRIV LR LR

comp=Z,2µm,19.0s
JTS JuntasAbangare 92.82 73 PFAKE 16 23 00.0 +10
JTS LR LR

comp=Z,7µm,20.0s
ROSC El Rosal 92.85 85 LR LR 16 56 43.3
comp=Z,3µm,21.6s,baz=202,slow=30
HDC Heredia 92.94 74 PFAKE 16 23 00.0 +9.0
HDC LR LR

comp=Z,12µm,22.0s
MYKOM Kota Tinggi 93.83 267 PFAKE 16 23 10.0 +15
MYKOM LR LR

comp=Z,4µm,20.0s
BKNI Bangkinang 93.84 263 PFAKE 16 23 10.0 +15
BKNI LR LR

comp=Z,2µm,22.0s
BCIP Isla Barro Col 94.13 78 PFAKE 16 23 10.0 +14
BCIP LR LR

comp=Z,8µm,20.0s
MOIG Morelia 94.50 55 PFAKE 16 23 10.0 +12
MOIG LR LR

comp=Z,3µm,20.0s
PTGA Pitinga 94.58 100 PFAKE 16 23 10.0 +11
PTGA LR LR

comp=Z,4µm,22.0s
ESTN Estel 94.69 71 PFAKE 16 23 10.0 +11
ESTN LR LR
comp=Z,4µm,19.0s
ESPN Las Esperanzas 94.80 73 PFAKE 16 23 10.0 +11
ESPN LR LR
comp=Z,10µm,19.0s
UNM Universidad Na 94.96 57 PFAKE 16 23 10.0 +10
UNM LR LR
comp=Z,4µm,21.0s
SLBS Sierra La Lagu 95.05 46 PFAKE 16 23 10.0 +10
SLBS LR LR
comp=Z,2µm,20.0s
CCIG Comitan 95.06 64 PFAKE 16 23 10.0 +9.3
CCIG LR LR
comp=Z,4µm,19.0s
ABPO Ambohimpanom 95.68 207 PFAKE 16 23 10.0 +6.3
ABPO LR LR
comp=Z,14µm,20.0s
ZAIG Zacatecas 96.80 53 PFAKE 16 23 20.0 +11
ZAIG LR LR
comp=Z,3µm,19.0s
H08S2 Diego Garcia H 98.91 234 T T 18 14 09.6
baz=154,slow=76,SNR=9.9
H08S1 Diego Garcia H 98.91 234 T T 18 14 10.3
baz=154,slow=76,SNR=8.7
H08S3 Diego Garcia H 98.92 234 T T 18 14 11.1
baz=154,slow=76,SNR=12
QIZ Qiongzhong 106.17 280 Pdif **Pdif 16 23 49.4 -0.8**
QIZ PP **PP 16 28 16.1 +1.8**
QIZ SS SS 16 43 17.8 +2.1
QIZ LR LR
comp=Z,1µm,26.1s
QIZ LR LR
comp=Z,800nm,30.0s
QIZ LR LR
comp=Z,3µm,26.1s
CMAR Chiang Mai Arr 110.71 270 PP **PP 16 28 50.2 +2.8**
comp=Z,0.8nm,1.0s,baz=170,slow=6.1,SNR=3.6
GYA Guiyang 114.05 281 Pdif **Pdif 16 24 25.9 +0.7**
GYA PKP PKPdf 16 28 16.4 -0.3
GYA PP **PP 16 29 16.0 +4.6**
GYA PKS **PKSdf 16 31 52.5 -1.1**
GYA SKKS 16 36 08.3
GYA SS **SS 16 45 03.8 +2.3**
GYA AMB AMB
comp=Z,180nm,7.8s
GYA LR LR
comp=Z,420nm,20.8s
GYA LR LR
comp=Z,380nm,21.2s
GYA LR LR
comp=Z,400nm,20.5s
WHN Wuhan 114.12 290 Pdif **Pdif 16 24 26.5 +1.2**
WHN PKP **PKiKP 16 28 18.3 +1.8**
WHN PP **PP 16 29 18.3 +6.5**
WHN SS SS 16 45 08.0 +5.8
WHN LR LR
comp=Z,4µm,20.4s
WHN LR LR
comp=Z,1µm,14.9s
WHN LR LR
comp=Z,5µm,31.6s
KMI Kunming 114.70 277 PKP PKPdf 16 28 05.1 -13
KMI PP **PP 16 29 12.3 -3.8**
KMI Kunming 114.70 277 PKP PKPdf 16 28 17.1 -1.0
KMI SS SS 16 45 14.6 +4.3
KMI AMB AMB
comp=Z,250nm,5.1s
KMI LR LR
comp=Z,1µm,21.7s
KMI LR LR
comp=Z,1µm,22.8s
KMI LR LR
comp=Z,3µm,24.9s
DL2 Dalian 118.24 300 PKP **PKPdf 16 28 17.6 -6.5**
DL2 *e*PP **PP 16 29 43.8 +3.2**
DL2 Dalian 118.24 300 SS SS 16 46 05.3 +9.3
DL2 LR LR
comp=N,990nm,22.6s
DL2 LR LR
comp=E,1µm,28.4s
DL2 LR LR
comp=Z,2µm,31.4s
CD2 Chengdu 119.16 281 PKP **PKPdf 16 28 25.8 -0.5**
CD2 sPKP 16 28 30.5
CD2 PP **PP 16 29 46.8 -0.3**
CD2 SKS **SKSdf 16 35 37.9 -0.2**
CD2 SKKS **SKKSac 16 36 45.4 -1.2**
CD2 SS **SS 16 46 10.5 +2.4**
CD2 AMB AMB
comp=Z,770nm,7.0s
CD2 LR LR
comp=Z,3µm,22.4s
CD2 LR LR
comp=Z,2µm,19.4s
CD2 LR LR
comp=Z,2µm,27.3s
PETK Petropavlovsk- 119.71 333 PKP **PKPdf 16 28 26.1 -0.4**
comp=Z,3.2nm,0.9s,baz=60,slow=3.5,SNR=2.6
SNY Shenyang 119.97 303 ⇑PKP PKiKP 16 28 36.3 +8.9
SNY PP **PP 16 29 51.8 -0.7**
SNY Shenyang 119.97 303 SS SS 16 46 27.9 +10
SNY AMB AMB
comp=Z,550nm,6.1s
SNY LR LR
comp=N,1µm,19.8s
SNY LR LR
comp=E,720nm,12.8s
SNY LR LR
comp=Z,1µm,19.1s
MDJ Mudanjiang 120.13 310 PKP **PKiKP 16 28 28.6 +0.9**
MDJ AMB AMB
comp=Z,300nm,5.5s
MDJ LR LR
comp=Z,1µm,16.7s
MDJ LR LR
comp=Z,830nm,24.6s
MDJ LR LR
comp=Z,2µm,20.3s
CN2 Changchun 120.95 306 PKP **PKPdf 16 28 26.8 -2.4**
CN2 *e*SS SS 16 46 29.6 -1.3
CN2 LR LR
comp=Z,790nm,20.0s
CN2 LR LR
comp=Z,690nm,20.0s
CN2 LR LR
comp=Z,590nm,19.0s
KLR Kul'dur 123.36 314 PKP **PKPdf 16 28 33.7 0.0**
comp=Z,0.4nm,0.5s,baz=45,slow=2.9,SNR=2.7
KLR Kul'dur 123.36 314 ⇑PKIKP **PKiKP 16 28 34.1 +0.2**
LZH Lanzhou 123.47 285 *e*PKP **PKPdf 16 28 31.5 -3.0**
LZH sPKP 16 28 44.5
LZH SKS **SKSdf 16 35 40.9 -5.3**
LZH LR LR
comp=Z,3µm,21.1s
LZH LR LR
comp=Z,2µm,19.5s
LZH LR LR
comp=Z,6µm,21.7s
ULM Lac du Bonnet 123.72 45 PKP **PKiKP 16 28 35.1 +0.5**
comp=Z,2.1nm,0.9s,baz=291,slow=8.6,SNR=2.9
RAMN Ramite 123.73 264 *e*P **PKPdf 16 28 35.4 0.0**
comp=Z,20nm,0.9s
LSA Lhasa 123.96 270 PKPdf **PKPdf 16 28 35.4 -0.7**
LSA Lhasa 123.96 270 PKIKP **PKPdf 16 28 35.4 -0.7**
HHC Hu-ho-hao-te 124.04 294 *e*PKP **PKiKP 16 28 38.3 +2.6**
HHC PP **PP 16 30 24.0 +3.7**
HHC SKKS 16 37 15.4
HHC SS **SS 16 47 12.4 +2.0**
HHC AMB AMB
comp=Z,450nm,10.2s
HHC LR LR
comp=Z,1µm,21.4s
HHC LR LR
comp=Z,1µm,19.4s
HHC LR LR
comp=Z,1µm,19.6s
PKI Pulchoki 124.81 263 *e*P **PKPdf 16 28 37.2 -0.4**
comp=Z,94nm,1.4s
PKIN Phulchoki 124.82 263 *e*P **PKPdf 16 28 36.8 -0.7**
comp=Z,35nm,1.1s
GUN Gumba 124.88 264 *e*P **PKPdf 16 28 37.7 -0.1**
comp=Z,33nm,1.0s
DMN Daman 124.98 263 *e*P **PKPdf 16 28 37.7 -0.1**
comp=Z,59nm,1.1s

KOLN Koldanda 125.81 262 *e*P **PKiKP 16 28 40.6 +0.8**
comp=Z,39nm,1.3s
DANN Dangsing 126.23 262 *e*P **PKPdf 16 28 40.1 -0.2**
comp=Z,40nm,1.0s
PYUN Piuthan 126.37 261 *e*P **PKiKP 16 28 40.7 -0.2**
comp=Z,52nm,1.1s
IL1 Eielson Array 127.42 8 *e*PKPdf **PKiKP 16 28 41.5 0.0**
ILAR Eielson Array 127.42 8 PKP **PKiKP 16 28 41.6 +0.1**
comp=Z,1.1nm,0.8s,baz=219,slow=2.7,SNR=12
COLA College 127.47 7 ⇑*i*PKIKP **PKiKP 16 28 41.5 0.0**
GTA Gaotai 128.01 284 *e*PKP **PKiKP 16 28 46.9 +3.2**
GTA PP **PP 16 30 47.9 +1.1**
GTA SKKS 16 37 44.8
GTA SS **SS 16 48 01.8 +1.6**
GTA AMB AMB
comp=Z,340nm,8.6s
GTA LR LR
comp=Z,870nm,24.4s
GTA LR LR
comp=Z,1µm,24.8s
GTA LR LR
comp=Z,2µm,24.1s
IM3 Indian Mountai 128.31 4 *e*PKPdf **PKiKP 16 28 43.0 -0.2**
TOA0 Torodi Ar. Sit 129.23 158 *e*PKPdf **PKPdf 16 28 45.5 -0.5**
TORD Torodi Ar. Bea 129.23 158 PKP **PKPdf 16 28 45.8 -0.2**
comp=Z,1.6nm,0.9s,baz=245,slow=2.0,SNR=6.5
YKA Yellowknife Ar 129.55 26 PKP **PKiKP 16 28 45.7 -0.1**
comp=Z,0.2nm,0.6s,baz=212,slow=2.4,SNR=5.7
SONM Songino Array 131.86 295 PKP **PKPdf 16 28 50.6 +0.5**
comp=Z,0.4nm,0.4s,baz=156,slow=4.4,SNR=4.7
SONM PP **PP 16 31 07.7 -4.1**
comp=Z,1.8nm,1.2s,baz=160,slow=4.6,SNR=3.6
BILL Bilibino 132.34 344 *i* PKIKP **PKiKP 16 28 51.0 -0.3**
BILL *e* 16 31 14.0
BILL *e*PPP PPP 16 34 09.1
BILL pmax pmax
comp=Z,1.0nm,1.2s
YAK Yakutsk 134.66 322 *i* PKIKP **PKiKP 16 28 56.3 +0.2**
YAK *e* 16 31 29.6
YAK *e*SSS SSS 16 54 17.4
YAK pmax pmax
comp=Z,5.0nm,1.1s
YAK pmax pmax
comp=Z,131nm,3.0s
YAK pmax pmax
comp=N,172nm,4.1s
YAK pmax pmax
comp=E,164nm,4.3s
BOD Bodaibo 136.50 309 *e*PKIKP PKPpre 16 28 50.8
BOD pmax pmax
comp=Z,12nm,1.5s
WMQ Urumqi 137.03 278 PKP **PKPdf 16 29 00.3 +0.5**
WMQ PP **PP 16 31 51.1 +6.6**
WMQ SKS **SKSdf 16 36 08.4 -1.8**
WMQ SKKS **SKKSac 16 38 42.3 +4.2**
WMQ SS **SS 16 49 51.0 +1.3**
WMQ AMB AMB
comp=Z,330nm,11.7s
WMQ LR LR
comp=Z,2µm,19.5s
WMQ LR LR
comp=Z,2µm,21.3s
WMQ LR LR
comp=Z,3µm,29.1s
MOY Mondy 137.05 295 *e*PKIKP PKiKP 16 29 12.8 +11
MOY pmax pmax
comp=Z,39nm,2.3s
KNGR Kungurtug, Tuv 137.74 292 ⇓*i*PKIKP **PKiKP 16 29 02.5 -0.5**
SCHQ Schefferville 138.01 60 *e*PKPdf **PKPdf 16 29 01.3 +0.1**
KSH Kashi 139.08 263 PKP **PKiKP 16 29 05.1 -1.0**
KSH PP **PP 16 32 01.8 +4.6**
KSH PKS **PKSdf 16 32 38.8 -1.1**
KSH SKS **SKSdf 16 36 13.9 -0.1**
KSH SKKS **SKKSac 16 38 50.0 -0.6**
KSH SS **SS 16 50 12.5 -1.4**
KSH AMB AMB
comp=Z,480nm,5.5s
KSH LR LR
comp=Z,2µm,18.6s
KSH LR LR
comp=Z,500nm,8.2s
KSH LR LR
comp=Z,2µm,18.9s
DGZ Jazzator, Alta 141.54 283 ⇑*e*PKIKP **PKPdf 16 29 09.3 +1.3**
MK01 Makanchi Array 141.75 276 *e*PKPpre PKPpre 16 29 02.0
MK31 Makanchi Array 141.77 276 *e*PKPpre PKPpre 16 29 03.1
MKAR Makanchi Array 141.77 276 PKhKP PKPpre 16 29 01.4
comp=Z,0.4nm,0.8s,baz=130,slow=3.1,SNR=4.4
MKAR PKP **PKPdf 16 29 07.0 -1.3**
comp=Z,1.3nm,0.7s,baz=132,slow=2.5,SNR=8.4
MKAR Makanchi Array 141.77 276 *e*PKPpre PKPpre 16 29 03.1
MKAR Makanchi Array 141.77 276 *e*PKHKP PKPpre 16 29 03.1
MAKZ Makanchi 141.93 276 *e*PKPdf **PKPdf 16 29 08.9 +0.4**
MAKZ Makanchi 141.93 276 *e*PKIKP **PKPdf 16 29 09.0 +0.4**
TIXI Tiksi 142.15 331 *e*PKPpre PKPpre 16 29 04.9
TIXI Tiksi 142.15 331 ⇓*e*PKIKP **PKPdf 16 29 07.7 -0.5**
AAK Ala-Archa 142.23 265 *e*PKPdf **PKPdf 16 29 08.4 -1.1**
AAK Ala-Archa 142.23 265 ⇑*e*PKIKP **PKPdf 16 29 05.8 -3.7**
FRU Bishkek 142.32 265 *e*PKIKP **PKiKP 16 29 12.0 -0.5**
FRU pmax pmax
comp=Z,60nm,2.0s
KUU Kurty 142.34 268 *e*PKIKP **PKiKP 16 29 11.6 -0.9**
KUU MLR MLR
comp=Z,455nm,23.0s
KUU Kurty 142.34 268 *e*PKP **PKiKP 16 29 11.6 -0.9**
KUU *e*LRM MLR 17 30 37.3
comp=Z,455nm,23.3s
PMOZ Porto Moniz, M 142.59 126 *e*SS SS 16 51 09.8 +15
PMOZ Porto Moniz, M 142.59 126 *e*LQ LQ 17 11 57.8
PMOZ *e*LR LR 17 19 17.4
comp=Z,1µm,18.0s
RES Resolute Bay 143.57 24 *e*PKPpre PKPpre 16 29 07.6
RES Resolute Bay 143.57 24 *e*PKIKP PKPab 16 29 07.6 +0.4
JBG Jabagly 143.88 261 *d*PKIKP **PKPdf 16 29 12.1 -0.3**
JBG MLR MLR
comp=Z,566nm,19.0s
IUG luzhnay 143.90 260 *e*PKIKP PKPbc 16 29 10.2 0.0
IUG MLR MLR
comp=Z,443nm,16.0s
IUG luzhnay 143.90 260 *e*PKP PKPbc 16 29 10.3 +0.1
IUG *e*LRM MLR 17 33 05.5
comp=Z,443nm,16.1s
KK31 Karatay Array 144.43 262 *e*PKPdf **PKPab 16 29 11.3 -0.1**
KK31 Karatay Array 144.43 262 *e*PKIKP **PKPab 16 29 11.3 -0.1**
KKAR Karatay Array 144.43 262 *e*PKPdf **PKPab 16 29 11.2 -0.2**
KKAR Karatay Array 144.43 262 *e*PKIKP **PKPab 16 29 11.2 -0.2**
SEM Semipalatinsk 145.32 279 *e*PKP2 **PKPbc 16 29 11.4 -3.1**
SEM Semipalatinsk 145.32 279 *e*PKP **PKPbc 16 29 11.5 -3.1**
SEM *e*LRM MLR 17 30 22.9
comp=Z,962nm,20.8s
ZAA0 Zalesovo Array 145.65 287 *e*PKPdf **PKPdf 16 29 12.7 -2.2**
ZALV Zalesovo Beam 145.65 287 PKPbc **PKPdf 16 29 11.5 -3.3**
comp=Z,2.0nm,0.6s,baz=131,slow=3.0,SNR=13
GEYT Alibeck 145.67 243 PKPbc **PKPdf 16 29 14.5 -1.0**
comp=Z,5.0nm,0.8s,baz=186,slow=4.3,SNR=10
GYA0B ALIBECK ARRAY 145.67 243 *e*PKPdf **PKPdf 16 29 15.1 -0.4**
KURK Kurchatov 146.28 278 *e*PKPdf **PKPdf 16 29 15.2 -0.9**
KURK Kurchatov 146.28 278 ⇓*e*PKP2 **PKPdf 16 29 15.1 -0.9**
AVE Averroes 146.40 138 PKP1 **PKiKP 16 29 28.0 +6.9**
AVE *i* SS SS 16 51 48.1 +10
NVS Novosibirsk 146.94 287 *e*PKP2 **PKPdf 16 29 17.5 +0.5**
NVS *e* 16 36 24.0
NVS pmax pmax
comp=Z,152nm,2.4s
NVS pmax pmax
comp=N,63nm,2.5s
NVS pmax pmax
comp=E,44nm,2.0s
IFR Ifrane 147.29 141 PKP1 **PKiKP 16 29 29.2 +6.0**
IFR *i* SS SS 16 52 00.1 +12
BRZS Berezniki 148.51 272 *e*PKP2 **PKPbc 16 29 22.5 -0.9**
BRZS MLR MLR
comp=Z,428nm,19.0s
BRZS Berezniki 148.51 272 *e*PKP **PKPbc 16 29 22.5 -0.9**
BRZS *e*LRM MLR 17 36 32.3
comp=Z,428nm,18.8s
PFVI Vila Bisbo 149.46 133 *e*PKPbc **PKPab 16 29 34.9 +3.8**
PFVI Vila Bisbo 149.46 133 *e*SS SS 16 52 20.2 +8.0
PFVI Vila Bisbo 149.46 133 *i* LQ LQ 17 11 53.0
MORF Marmelete 149.67 133 *e*SS SS 16 52 20.9 +6.1
MORF *i* LQ LQ 16 58 02.7
PBDV Barranco-do-Ve 149.86 135 *e*SS SS 16 52 23.3 +6.6
PVAQ Vaqueiros 150.07 135 *e*SS SS 16 52 25.2 +6.1
PVAQ *i* LQ LQ 16 58 00.2

PVAQ Vaqueiros 150.07 135 *e*LQ LQ 17 11 03.2
PVAQ *e*LR LR 17 20 23.1
comp=Z,2µm,18.0s
PNCL Nicolau / Gran 150.44 133 *e*PKPbc **PKiKP 16 29 31.3 +2.0**
PNCL Nicolau / Gran 150.44 133 *e*SS SS 16 52 35.6 +12
EMAL Malaga-Limoner 150.52 140 PKP1 **PKiKP 16 29 32.5 +3.0**
EMAL SKSP 16 43 05.8
PBEJ Beja 150.59 134 *e*PKPbc **PKiKP 16 29 31.4 +1.8**
PMAFR Mafra 150.94 131 *e*SS SS 16 52 40.7 +12
PMAFR *i* LQ LQ 16 58 19.9
EVO Evora 151.00 133 PKP1 **PKPab 16 29 39.1 +1.7**
EVO SKSP 16 43 23.4
PMTG Montargil 151.41 133 *e*PKPbc **PKPab 16 29 35.4 -3.7**
PMTG Montargil 151.41 133 *e*SS SS 16 52 47.3 +13
PMTG *i* LQ LQ 16 58 25.4
PESTR Estremoz 151.44 134 *e*PKPbc **PKiKP 16 29 34.5 +3.1**
PESTR Estremoz 151.44 134 *e*SS SS 16 52 43.8 +10
PESTR *i* LQ LQ 16 58 32.1
SFJD Kangerlussuaq 151.50 50 PKPbc **PKPbc 16 29 28.0 -2.1**
comp=Z,7.6nm,1.0s,baz=304,slow=3.6,SNR=2.3
BRVK Borovoye 151.69 275 *e*PKPbc **PKPbc 16 29 29.6 -1.4**
BRVK Borovoye 151.69 275 ⇑*e*PKIKP **PKPdf 16 29 26.5 +1.8**
PTOM Tomar 151.83 132 *e*PKPbc **PKiKP 16 29 32.8 +0.7**
PCAS Casmilo, Conde 152.19 131 *e*SS SS 16 52 54.9 +12
PCAS *i* LQ LQ 16 58 40.8
CART Cartagena 152.26 145 PKP1 PKPab 16 30 02.2 +20
KEST Kesra 152.56 163 PKPbc **PKPbc 16 29 33.0 -0.7**
comp=Z,7.1nm,0.9s,baz=265,slow=12,SNR=2.8
MTE Manteigas 152.83 132 *e*PKPbc **PKiKP 16 29 37.1 +2.8**
MTE Manteigas 152.83 132 *e*SS SS 16 52 57.3 +7.6
MTE *i* LQ LQ 16 58 47.5
MTE Manteigas 152.83 132 *e*LQ LQ 17 12 36.0
MTE Manteigas 152.83 132 *e*LR LR 17 23 53.0
comp=Z,2µm,20.0s
ESDC Sonseca Array 153.34 138 PKPbc **PKPbc 16 29 34.6 -0.6**
comp=Z,2.4nm,0.8s,baz=212,slow=1.1,SNR=8.1
ES19 SONSECA Array 153.39 139 *e*PKPdf **PKPdf 16 29 27.6 -0.1**
MVO Moncorvo 153.69 132 *e*SS SS 16 53 06.2 +7.1
MVO Moncorvo 153.69 132 *e*LQ LQ 17 13 55.0
MVO Moncorvo 153.69 132 *e*LR LR 17 24 25.9
comp=Z,4µm,20.0s
PGAV Gavieira, Arco 153.96 130 *e*LR LR 17 24 25.1
comp=Z,3µm,20.0s
UCM Universidad Co 154.14 139 PKP1 **PKiKP 16 29 40.4 +3.5**
UCM SKSP 16 43 48.7
MAK Makhachkala 154.17 234 *e*PKIKP **PKPdf 16 29 27.7 -0.9**
MAK *e* 16 33 26.1
MAK *e* 16 36 34.0
MAK *e*PPP PPP 16 36 51.5
MAK *e*SS SS 16 53 07.8 +3.6
MAK pmax pmax
comp=Z,161nm,1.5s
ZEI Tsey 155.32 229 *i* PKIKP PKPdf 16 29 40.7 +10
ZEI pmax pmax
comp=Z,7.0nm,1.0s
BRTR Keskin Array B 155.46 209 PKP **PKPdf 16 29 29.6 -1.1**
comp=Z,0.5nm,0.8s,baz=158,slow=4.7,SNR=2.8
BRTR PKPbc pPKPbc 16 29 42.5 +0.3
comp=Z,1.7nm,0.8s,baz=160,slow=3.9,SNR=9.8
BRTR PKPab **PKPab 16 29 55.4 -1.1**
comp=Z,3.4nm,1.1s,baz=161,slow=5.0,SNR=5.1
MAHO Mahon 155.73 152 PKP1 PKPdf 16 29 43.0 +12
MAHO *i* SS SS 16 53 11.6 -9.0
KBZ Khabaz 156.50 228 PKPbc PKPbc 16 29 46.9
comp=Z,3.7nm,1.0s,baz=172,slow=2.2,SNR=5.2
KIV Kislovodsk 156.77 228 *e*PKIKP **PKPdf 16 29 30.2 -2.0**
KIV *e* 16 33 38.4
KIV *e*SS SS 16 53 31.1 -1.5
KIV pmax pmax
comp=Z,5.0nm,1.0s
SUMG Summit 156.99 40 *i* P **PKPab 16 30 04.6 +2.1**
comp=Z,75nm,1.2s
SUMG Summit 156.99 40 *i* PKP2 **PKPab 16 30 04.6 +2.1**
SUMG pmax pmax
comp=Z,75nm,1.2s
SOC Sochi 157.42 223 *e*PKIKP **PKPdf 16 29 30.8 -2.1**
SOC *e* 16 33 40.2
SOC *e*SS SS 16 53 31.7 -7.5
ARU Arti 159.15 271 *i* PKIKP PKPpre 16 29 29.5
ARU PPP PPP 16 36 42.5
ANN Anapa 159.22 220 *e*PKIKP **PKPdf 16 29 42.3 +7.3**
ANN *e* 16 33 59.0
ANN *e*SS SS 16 53 58.3 +0.1
ANN pmax pmax
comp=Z,107nm,1.6s
SIM Simferopol' 160.29 214 *i* PKIKP PKPdf 16 29 49.8 +14
SIM pmax pmax
comp=Z,280nm,13.4s
VRH Novokhopyorsk 163.19 238 *e*PKP2 **PKPab 16 30 28.9 -0.6**
VRH pmax pmax
comp=Z,10.0nm,1.0s
KIS Kishinev 163.44 205 *e* **PKPab 16 30 24.0 -6.6**
VSR Storozhevoye 164.19 234 *e*PKP2 **PKPab 16 30 33.4 -0.5**
VSR pmax pmax
comp=Z,10.0nm,1.3s
LPSR Galich'ya Gora 165.37 237 *e*PKP2 **PKPab 16 30 36.6 -2.5**
LPSR pmax pmax
comp=Z,5.0nm,0.6s
UZH Uzhgorod 165.95 190 *e*PKIKP PKPdf 16 29 49.4 +7.9
VYHS Vyhne 165.95 180 *e*PKP2 **PKPab 16 30 43.7 +2.0**
VYHS Vyhne 165.95 180 *e*PKP **PKPab 16 30 43.7 +2.0**
KHC Kasperske Hory 166.29 166 AMS AMS 17 51 00.0
comp=Z,5µm,19.1s
TREC Trest 166.63 171 AMS AMS 17 55 10.0
comp=Z,3µm,18.5s
AKASG Malin Array Be 166.85 211 PKP **PKPdf 16 29 42.0 -0.2**
comp=Z,0.1nm,0.3s,baz=271,slow=29,SNR=4.0
AKASG PKPab **PKPab 16 30 43.9 -1.7**
comp=Z,0.8nm,0.7s,baz=162,slow=4.4,SNR=2.7
GOPC GO Pecny, Ondr 167.19 168 AMS AMS 17 46 20.0
comp=Z,4µm,21.6s
NKC Novy Kostel 167.22 161 AMS AMS 17 45 50.0
comp=Z,5µm,24.0s
PRU Pruhonice 167.24 168 AMS AMS 17 46 10.0
comp=Z,4µm,21.9s
OKC Ostrava-Krasne 167.29 178 AMS AMS 17 45 30.0
comp=Z,4µm,26.0s
PRA Prague 167.31 167 AMS AMS 17 44 00.0
comp=Z,4µm,22.8s
DPC Dobruska-Polom 167.74 173 AMS AMS 17 50 30.0
comp=Z,5µm,21.6s
PVCC Panska Ves 167.78 167 AMS AMS 17 41 50.0
comp=Z,4µm,26.8s
UPC Upice 167.88 172 AMS AMS 17 49 50.0
comp=Z,4µm,20.8s
BRG Berggiesshubel 168.05 165 *e*PKP PKPdf 16 29 54.6 +12
comp=Z,17nm,1.8s
BRG *e* 16 33 29.0
BRG *i* 16 41 21.0
BRG SS SS 16 53 21.0 -128
comp=N,3µm,23.2s
comp=E,1µm,23.6s
comp=Z,4µm,22.2s
BRG Berggiesshubel 168.05 165 *e*PKIKP PKPdf 16 29 54.6 +12
BRG pmax pmax
comp=Z,17nm,1.8s
BRG MLR MLR
comp=N,3µm,23.2s
BRG MLR MLR
comp=E,1µm,23.6s
BRG MLR MLR
comp=Z,4µm,22.2s
MOS Moscow 168.19 244 *e*PKIKP PKPdf 16 29 51.0 +8.0
MOS *e* 16 34 47.7
MOS pmax pmax
comp=Z,21nm,0.7s
CLL Collm 168.35 162 *e*PKPdf **PKPdf 16 29 44.0 +0.8**
CLL *e*(PKPab) **sPKPab 16 30 56.0 +0.6**
CLL *e*PP **PP 16 34 37.0 -4.5**
CLL *e*PPP PPP 16 38 30.0
CLL *e*PPPP 16 41 06.0
CLL *e*SKKSac SKKSac 16 41 24.0 -3.8
CLL *e*PSKS 16 45 09.0
CLL *e*PPS PPS 16 48 27.0
CLL *e* 16 50 36.0
CLL *e* 16 51 42.0
CLL *e*SS **SS 16 55 24.0 -8.0**
CLL *e*PSS PSS 16 56 30.0
CLL *e* 16 58 30.0
CLL *e*SSrev 16 59 24.0
CLL *e*(SSS) 17 01 36.0
CLL *e*SSSS 17 06 30.0
CLL *e* 17 07 54.0
CLL *e* 17 12 24.0

CLL				Lm	MLR	17 52 00.0			
	comp=Z,4μm,19.9s								
CLL	**Collm**	**168.35**	**162**	*e*PKIKP	PKPdf	16 29 53.0	+10		
CLL				MLR	MLR				
	comp=Z,4μm,19.9s								
KLMR	**Klimovskoe**	**169.99**	**270**	*e*PKIKP	**PKPdf**	**16 29 46.7**	**+2.8**		
KLMR				pmax	pmax				
	comp=Z,11nm,1.5s								
KLMR	**Klimovskoe**	**169.99**	**270**	*e*PKPdf	**PKPdf**	**16 29 46.8**	**+2.8**		
KLMR				AMP		16 29 49.1			
	comp=Z,11nm,1.4s								
APA	**Apatity**	**172.00**	**316**	⇓*i*PKIKP	**PKPdf**	**16 29 49.2**	**+4.4**		
APA				pmax	pmax				
	comp=Z,4.0nm,0.8s								

IDC 15 16:46:41.6±1.3, 3.32S×139.74E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/21, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=40.3km s-min=13.9km az=136.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.25**	**50**	Pg	Pn	16 47 06.3	0.0
	5.4nm,0.3s,baz=214,slow=11,SNR=34						
JAY				Lg	Lg	16 47 21.7	
	30nm,0.3s,baz=209,slow=19,SNR=19						
WRA	**Warramunga Arr**	**17.35**	**197**	P	Pn	16 50 45.8	+0.4
	0.2nm,0.3s,baz=23,slow=12,SNR=6.4						
ASAR	**Alice Springs**	**21.00**	**195**	P	P	16 51 26.9	0.0
	0.8nm,0.6s,baz=28,slow=8.9,SNR=25						
MKAR	**Makanchi Array**	**70.90**	**322**	P	P	16 58 00.7	0.0
	0.2nm,0.7s,baz=134,slow=4.2,SNR=4.0						
ILAR	**Eielson Array**	**85.95**	**24**	P	P	16 59 22.8	-0.6
	0.2nm,0.6s,baz=258,slow=4.5,SNR=1.2						

MAN 15 16:50:29.5, 8.07N×124.77E, h36km, mb4.3, ML3.1, MS2.8, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.34**	**123**	*e*P	Pn	16 50 39.2	+1.2
BUKP				*e*S	Sn	16 50 47.1	+2.5
CGP	**Cagayan de Oro**	**0.39**	**349**	⇑*e*P	Pn	16 50 40.5	+2.0
CGP				*e*S	Sn	16 50 47.6	+2.5
CTBH	**Cotabato--PC H**	**0.99**	**212**	⇑*i*P	Pn	16 50 47.3	+0.5
CTBH				*i* S	Sn	16 51 00.1	+0.6
DMPH	**Davao City--Mi**	**1.22**	**143**	⇑*e*P	Pn	16 50 54.7	+4.6
DMPH				*e*S	Sn	16 51 10.0	+4.6

*IDC **15** 17:34:55.5±1.6, 23.01N×121.81E, h0km, mb3.1/3, mb1 3.4/4, mb1mx3.2/31, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=47.1km s-min=30.1km az=70.0*
*ISCJB **15** 17:34:57.6±0.3, 23.03N±0.02×121.80E±0.02, h15km±3km, mb3.1/3, Error ellipse: s-maj=2.7km s-min=2.3km az=137.6*
*JMA **15** 17:34:57.6±0.2, 23.04N×121.78E, h17km±4km, M3.7*
*TAP **15** 17:34:59.6, 23.05N×121.69E, h24km, ML3.9, C*
ISC 15 17:34:55.9±1.1, 23.04N±0.02×121.80E±0.02, h5km±9km, n120, σ0.98/178, mb3.3/3, 2C-29D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHKT	**Chengkung**	**0.40**	**278**	⇓*i*P	**Pb**	**17 35 06.1**	**+0.6**
CHKT	baz=274			S	**Sb**	**17 35 10.6**	**-1.4**
TWF1	**Yuli**	**0.55**	**304**	⇓*i*P	**Pb**	**17 35 08.7**	**+0.5**
TWF1	baz=319			*i* S	**Sg**	**17 35 14.7**	**+0.8**
HGSD	**Ruisui**	**0.56**	**323**	⇓P	**Pb**	**17 35 08.9**	**+0.6**
HGSD	baz=339			*e*S	**Sg**	**17 35 15.2**	**+1.0**
YULB	**Yu-li**	**0.58**	**307**	⇓P	**Pb**	**17 35 09.3**	**+0.7**
YULB	baz=322			S	**Sb**	**17 35 16.4**	**-0.7**
EHY	**Hungye**	**0.64**	**317**	P	**Pb**	**17 35 10.2**	**+0.6**
EHY	baz=324			S	**Sb**	**17 35 18.6**	**-0.2**
TTN	**Taitung**	**0.66**	**245**	*e*P	**Pb**	**17 35 10.4**	**+0.4**
TTN	baz=238			*e*S	**Sb**	**17 35 18.9**	**-0.6**
TWGBT	**Beinan**	**0.70**	**252**	P	**Pb**	**17 35 10.7**	**+0.1**
TWGBT	baz=240			S	**Sb**	**17 35 19.4**	**-1.1**
TWG	**Pinlang**	**0.70**	**252**	⇓P	**Pb**	**17 35 10.7**	**0.0**
TWG	baz=240			S	**Sb**	**17 35 19.6**	**-1.1**
ELDTW	**Lidau**	**0.73**	**282**	⇓*i*P	**Pb**	**17 35 11.1**	**-0.2**
ELDTW	baz=283			S	**Sg**	**17 35 19.1**	**-0.5**
ESL	**Shilin**	**0.84**	**337**	*e*P	**Pb**	**17 35 13.6**	**+0.6**
ESL	baz=353			*e*S	**Sg**	**17 35 23.6**	**+0.6**
ENLB	**Shoufeng**	**0.88**	**348**	P	**Pn**	**17 35 14.5**	**-0.4**
ENLB	baz=6.0			*e*S	**Sb**	**17 35 25.5**	**-0.1**
ECL	**Taimali**	**0.90**	**241**	⇓P	**Pb**	**17 35 13.6**	**-0.4**
ECL	baz=235			S	**Sg**	**17 35 23.7**	**-1.1**
YUS	**Yu-Shan**	**0.90**	**300**	⇓*i*P	**Pb**	**17 35 14.6**	**+0.3**
YUS	baz=303			S	**Sg**	**17 35 24.8**	**-0.1**
VWDT	**VWDT**	**0.93**	**320**	⇓P	**Pn**	**17 35 15.4**	**-0.3**
VWDT	baz=325			S	**Sg**	**17 35 26.1**	**+0.2**
HWA	**Hwalien**	**0.95**	**349**	*e*P	**Pb**	**17 35 15.4**	**+0.5**
LAY	baz=7.0 **Lan-yu**	**1.02**	**193**	*e*P	**Pb**	**17 35 16.0**	**-0.1**
LAY	baz=186			*e*S	**Sg**	**17 35 27.9**	**-1.0**
ALS	**Alishan**	**1.02**	**297**	⇓*i*P	**Pn**	**17 35 16.9**	**-0.3**
ALS	baz=300			S	**Sb**	**17 35 29.4**	**-0.8**
TWD	**Chiawan**	**1.05**	**350**	⇑*e*P	**Pb**	**17 35 16.8**	**+0.2**
TWD	baz=6.0			S	**Sg**	**17 35 29.3**	**-0.5**
SLGT	**Liugui**	**1.06**	**268**	*e*P	**Pb**	**17 35 16.9**	**+0.1**
SSLB	baz=258 **Suanglung**	**1.07**	**314**	⇓P	**Pb**	**17 35 17.1**	**+0.1**
SSLB	baz=318			*e*S	**Sg**	**17 35 29.1**	**-1.4**
TAW	**Tawu**	**1.07**	**231**	*e*P	**Pg**	**17 35 15.3**	**-1.2**
EAST	baz=237 **Anshuo**	**1.09**	**233**	⇓P	**Pg**	**17 35 16.8**	**-0.1**
TPUB	baz=240 **Ta-pu**	**1.10**	**284**	⇓P	**Pn**	**17 35 18.2**	**+0.1**
TPUB	baz=292			*e*S	**Sb**	**17 35 31.7**	**-0.5**
WTP	**Ta-pu**	**1.11**	**281**	⇓*i*P	**Pn**	**17 35 18.2**	**+0.1**
WTP	baz=281			*e*S	**Sb**	**17 35 32.1**	**-0.3**
SSD	**Sandimen**	**1.11**	**255**	⇓P	**Pg**	**17 35 17.1**	**-0.2**
SGST	baz=252 **Jiashian**	**1.12**	**272**	⇓*i*P	**Pn**	**17 35 18.5**	**+0.2**
SGST	baz=275			*e*S	**Sb**	**17 35 32.9**	**+0.2**
NACB	**Ninganchiao**	**1.14**	**351**	⇑P	**Pb**	**17 35 18.1**	**-0.1**
NACB	baz=5.0			S	**Sg**	**17 35 31.8**	**-0.9**
CHN4	**Tsaushan**	**1.15**	**286**	⇓*i*P	**Pn**	**17 35 19.2**	**+0.5**
CHN4	baz=293			S	**Sn**	**17 35 34.3**	**-0.5**
	baz=293						

MASBT	**Mashibuluo**	**1.16**	**249**	⇓P	**Pg**	**17 35 17.9**	**-0.2**
MASBT	baz=245			*e*S	**Sg**	**17 35 31.3**	**-1.8**
CHGB	baz=245 **Renai**	**1.16**	**331**	⇓P	**Pn**	**17 35 19.1**	**-0.1**
CHN5	baz=346 **Tsauling**	**1.17**	**298**	⇓*i*P	**Pn**	**17 35 19.6**	**+0.5**
CHN5	baz=301			S	**Sb**	**17 35 33.8**	**-0.3**
SMLT	baz=301 **Sun Moon Lake**	**1.18**	**316**	⇓*i*P	**Pn**	**17 35 19.2**	**+0.1**
CHN1	baz=320 **Nanshi**	**1.18**	**277**	⇓*i*P	**Pn**	**17 35 19.7**	**+0.6**
CHN1	baz=285			*e*S	**Sn**	**17 35 35.4**	**-0.1**
WHF	baz=285 **Hehuan Shan**	**1.20**	**336**	*e*P	**Pg**	**17 35 18.8**	**-0.3**
TYC	baz=341 **Yuchr**	**1.22**	**315**	⇓*i*P	**Pn**	**17 35 19.9**	**+0.3**
TYC	baz=329			*e*S	**Sg**	**17 35 34.3**	**-0.8**
TWK	baz=329 **Hsinying**	**1.23**	**281**	⇓*i*P	**Pn**	**17 35 20.3**	**+0.5**
TWK	baz=281			S	**Sn**	**17 35 36.5**	**-0.3**
SGLT	baz=281 **Jiouru**	**1.25**	**256**	*e*P	**Pn**	**17 35 21.1**	**+1.1**
WJS	baz=247 **Zhushan**	**1.25**	**309**	P	**Pn**	**17 35 21.3**	**+1.2**
WJS	baz=312			*e*S	**Sb**	**17 35 36.5**	**0.0**
SCZT	baz=312 **Fangliau**	**1.27**	**239**	*e*P	**Pn**	**17 35 20.8**	**+0.4**
SCZT	baz=229			*e*S	**Sg**	**17 35 35.1**	**-1.8**
TWM1	baz=229 **Shoushan**	**1.28**	**261**	⇓P	**Pn**	**17 35 22.5**	**+1.9**
TWM1	baz=248			*e*S	**Sn**	**17 35 40.8**	**+2.6**
WGK	baz=248 **Gukeng**	**1.30**	**300**	*e*P	**Pb**	**17 35 22.0**	**+1.0**
CHN2	baz=302 **Minshiung**	**1.31**	**292**	*e*P	**Pb**	**17 35 22.3**	**+1.2**
CHN2	baz=295			*e*S	**Sn**	**17 35 39.5**	**+0.8**
WNT	baz=295 **Mingjian**	**1.32**	**309**	⇓P	**Pb**	**17 35 22.4**	**+1.2**
WNT	baz=313			*e*S	**Sg**	**17 35 38.0**	**-0.3**
CHN3	baz=313 **Shinhua**	**1.32**	**272**	S	**Sn**	**17 35 40.6**	**+1.7**
WDLH	baz=271 **Douliu**	**1.32**	**299**	*e*P	**Pb**	**17 35 22.6**	**+1.3**
WDLH	baz=316			*e*S	**Sn**	**17 35 40.1**	**+1.0**
TWT	baz=316 **Tachien**	**1.33**	**335**	*e*P	**Pb**	**17 35 21.8**	**+0.2**
TDCB	baz=349 **Techi**	**1.34**	**334**	*e*P	**Pb**	**17 35 22.0**	**+0.3**
TDCB	baz=339			*e*S	**Sg**	**17 35 37.0**	**-2.1**
CHY	baz=339 **Chiayi**	**1.34**	**290**	*e*P	**Pb**	**17 35 22.7**	**+1.1**
CHY	baz=292			*e*S	**Sn**	**17 35 39.5**	**0.0**
ENA	baz=292 **Nanau**	**1.38**	**358**	*e*P	**Pn**	**17 35 22.2**	**+0.3**
TSEB	baz=3.0 **Hengchuen, Pin**	**1.41**	**216**	*e*P	**Pg**	**17 35 23.6**	**+0.6**
HEN	baz=213 **Hengchun**	**1.42**	**224**	*e*P	**Pg**	**17 35 23.5**	**+0.3**
TWKBT	baz=219 **Hengchun**	**1.42**	**220**	*e*P	**Pn**	**17 35 22.5**	**+0.1**
TWK1	baz=215 **Hengchun**	**1.43**	**220**	*e*P	**Pb**	**17 35 23.1**	**0.0**
NNSB	baz=215 **Datong**	**1.43**	**345**	⇓P	**Pb**	**17 35 23.3**	**+0.1**
WLGB	baz=349 **Puzi**	**1.44**	**288**	*e*P	**Pg**	**17 35 23.9**	**+0.3**
WLGB	baz=290			*e*S	**Sn**	**17 35 42.7**	**+0.6**
NNS	baz=290 **Nan Shan**	**1.45**	**344**	*e*P	**Pb**	**17 35 23.3**	**-0.1**
KAU	baz=349 **Kaohsiung**	**1.45**	**251**	*e*P	**Pg**	**17 35 25.9**	**+2.1**
WLCH	baz=248 **Liuqiu**	**1.48**	**243**	*e*P	**Pg**	**17 35 26.9**	**+2.5**
SCLT	baz=239 **Jiali**	**1.48**	**275**	*e*P	**Pg**	**17 35 24.6**	**+0.2**
SCLT	baz=275			*e*S	**Sg**	**17 35 43.9**	**+0.3**
TWP	**Hsiaoliuchiu**	**1.50**	**243**	*e*P	**Pg**	**17 35 25.9**	**+1.2**
TCU	baz=239 **Taichung**	**1.51**	**317**	*e*P	**Pg**	**17 35 25.6**	**+0.7**
EOS1	baz=321 **EOS1**	**1.53**	**11**	*e*P	**Pg**	**17 35 25.4**	**+0.1**
WCHH	baz=15 **Zhanghua**	**1.54**	**313**	*e*P	**Pg**	**17 35 25.6**	**+0.1**
WCHH	baz=316			*e*S	**Sb**	**17 35 44.8**	**+0.2**
TWC	baz=316 **Suao**	**1.56**	**2**	*e*P	**Pb**	**17 35 25.2**	**-0.2**
TWC	baz=16			*e*S	**Sn**	**17 35 43.6**	**-1.3**
WSF	baz=16 **Szhu**	**1.56**	**293**	*e*P	**Pb**	**17 35 25.2**	**-0.1**
WSF	baz=295			*e*S	**Sn**	**17 35 43.3**	**-1.7**
RLNB	baz=295 **Erlin**	**1.57**	**303**	*e*P	**Pn**	**17 35 24.6**	**+0.2**
RLNB	baz=306			*e*S	**Sn**	**17 35 44.9**	**-0.2**
TWQ1	baz=306 **Liyutan**	**1.60**	**324**	⇓*i*P	**Pg**	**17 35 27.2**	**+0.4**
TWQ1	baz=341			S	**Sb**	**17 35 46.9**	**+0.2**
ENTT	baz=341 **Nioudou**	**1.60**	**352**	*e*P	**Pb**	**17 35 26.2**	**+0.1**
NSY	baz=357 **Sanyi**	**1.67**	**325**	*e*P	**Pg**	**17 35 28.4**	**+0.5**
NSY	baz=330			*e*S	**Sg**	**17 35 49.0**	**-0.5**
YHNB	baz=330 **Yeheng**	**1.67**	**347**	⇓P	**Pb**	**17 35 27.1**	**0.0**
NSK	baz=1.0 **Sanguang**	**1.68**	**346**	*e*P	**Pb**	**17 35 27.0**	**-0.3**
NSK	baz=351			*e*S	**Sn**	**17 35 45.4**	**-2.5**
TWE	baz=351 **Neicheng**	**1.68**	**356**	*e*P	**Pb**	**17 35 27.1**	**-0.2**
PTSB	baz=348 **Yuanli**	**1.72**	**325**	*e*P	**Pg**	**17 35 29.1**	**+0.2**
NSTT	baz=328 **Nanjuang**	**1.74**	**335**	*e*P	**Pg**	**17 35 28.9**	**-0.4**
NSTT	baz=352			*e*S	**Sn**	**17 35 49.3**	**-0.2**
LIOB	baz=352 **Emei**	**1.75**	**336**	P	**Pg**	**17 35 29.1**	**-0.4**
LIOB	baz=352			*e*S	**Sn**	**17 35 49.8**	**+0.1**
NMLH	baz=352 **Miaoli**	**1.75**	**328**	*e*P	**Pb**	**17 35 28.7**	**+0.1**
NMLH	baz=347			*e*S	**Sn**	**17 35 49.6**	**-0.1**
JYNG	baz=347 **Yonagunijimaku**	**1.75**	**37**	P	**Pb**	**17 35 29.0**	**+0.4**
JYNG				S	**Sn**	**17 35 49.6**	**-0.1**
YOJ	**Yonaguni jima**	**1.80**	**38**	*e*P	**Pb**	**17 35 29.3**	**-0.1**
YOJ	baz=41 **Yonaguni jima**	**1.80**	**38**	P	**Pb**	**17 35 29.7**	**+0.3**
YOJ				S	**Sn**	**17 35 50.9**	**+0.1**
NTC	**Toucheng**	**1.81**	**1**	*e*P	**Pb**	**17 35 29.7**	**+0.2**
WLTB	baz=5.0 **Daxi**	**1.87**	**345**	*e*P	**Pg**	**17 35 31.3**	**-0.6**
SBCB	baz=356 **Hsinchu**	**1.90**	**337**	*e*P	**Pb**	**17 35 31.1**	**+0.1**
TIPB	baz=341 **Shuangxi**	**1.92**	**1**	*e*P	**Pb**	**17 35 31.4**	**-0.1**
TWA	baz=350 **Mucha**	**1.94**	**354**	*e*P	**Pb**	**17 35 31.1**	**-0.7**
TATO	baz=358 **Taipei**	**1.95**	**352**	*e*P	**Pb**	**17 35 31.7**	**-0.2**
TWB1	baz=355 **Santiao Chiao**	**1.97**	**5**	*e*P	**Pb**	**17 35 31.7**	**-0.5**
WDGT	baz=21 **Dungji**	**1.98**	**277**	*e*P	**Pn**	**17 35 30.3**	**+0.2**
	baz=276						

NWF	**Wu-fen Shan**	**2.02**	**360**	*e*P	**Pb**	**17 35 32.2**	**-1.0**
WFSB	baz=349 **Wu-fen Shan**	**2.02**	**360**	*e*P	**Pb**	**17 35 33.0**	**-0.2**
WFSB	baz=353			*e*S	**Sn**	**17 35 56.0**	**-0.4**
TWS1	baz=353 **Kuangyinshan**	**2.08**	**350**	*e*P	**Pb**	**17 35 34.1**	**0.0**
PHUB	baz=354 **P'eng-hu**	**2.10**	**283**	*e*P	**Pn**	**17 35 32.0**	**+0.3**
PHUB	baz=285			*e*S	**Sn**	**17 35 55.5**	**-2.7**
HATJ	baz=285 **Hateruma jima**	**2.10**	**61**	P	**Pb**	**17 35 33.8**	**-0.7**
HATJ				*e*S	**Sn**	**17 35 58.5**	**+0.2**
YM01	**YM01**	**2.11**	**354**	*e*P	**Pb**	**17 35 34.2**	**-0.4**
YM05	baz=358 **YM05**	**2.12**	**354**	*e*P	**Pn**	**17 35 33.3**	**+1.1**
YM11	baz=358 **YM11**	**2.12**	**355**	*e*P	**Pn**	**17 35 32.4**	**+0.2**
PNG	baz=358 **Penghu**	**2.13**	**285**	P	**Pn**	**17 35 32.8**	**+0.7**
PNG	baz=287			*e*S	**Sn**	**17 35 56.4**	**-2.6**
VCHM	**Qimei**	**2.19**	**275**	*e*P	**Pn**	**17 35 33.3**	**+0.3**
VCHM	baz=275			*e*S	**Sn**	**17 35 57.3**	**-3.1**
IRIF	baz=275 **Iriomote-Funau**	**2.19**	**54**	P	**Pb**	**17 35 35.1**	**-1.0**
IRIF				*e*S	**Sn**	**17 36 01.1**	**+0.6**
JKRS	**Kuro-shima**	**2.35**	**59**	P	**Pb**	**17 35 37.5**	**-1.3**
JKRS				*e*S	**Sn**	**17 36 05.9**	**+1.4**
JIJ	**Ishigaki jima**	**2.52**	**58**	P	**Pn**	**17 35 39.3**	**+1.7**
JIJ				S	**Sn**	**17 36 07.9**	**-0.8**
JISG	**Ishigakijimahi**	**2.77**	**56**	P	**Pn**	**17 35 42.4**	**+1.4**
JISG				S	**Sn**	**17 36 14.2**	**-0.6**
VWUC	**VWUC**	**2.89**	**313**	*e*P	**Pn**	**17 35 42.9**	**+0.2**
JTJ	baz=315 **Tarama**	**3.10**	**59**	P	**Pn**	**17 35 47.5**	**+2.0**
JTJ				S	**Sn**	**17 36 24.1**	**+1.1**
KNM	**Kinmen**	**3.37**	**295**	*e*P	**Pn**	**17 35 50.5**	**+1.2**
KNMB	baz=295 **Chin-men Tao**	**3.43**	**295**	*e*P	**Pn**	**17 35 49.8**	**-0.3**
MATB	baz=297 **Ma-tsu**	**3.52**	**332**	*e*P	**Pn**	**17 35 51.8**	**+0.4**
JIRB	baz=334 **Irabujima**	**3.56**	**59**	P	**Pn**	**17 35 53.8**	**+1.9**
JIRB				*e*S	**Sn**	**17 36 34.4**	**0.0**
JMJ	**Miyako jima 2**	**3.65**	**60**	P	**Pn**	**17 35 55.3**	**+2.2**
JIKM	**Ikemajima**	**3.67**	**59**	P	**Pn**	**17 35 55.2**	**+1.8**
JIKM				*e*S	**Sn**	**17 36 36.3**	**-0.7**
JOGS	**Gusukube**	**3.72**	**62**	P	**Pn**	**17 35 56.4**	**+2.3**
JOGS				*e*S	**Sn**	**17 36 39.0**	**+0.7**
JOW	**Kunigami**	**6.99**	**56**	Pn	**Pn**	**17 36 39.2**	**+0.2**
JOW	1.1nm,0.3s,baz=139,slow=20,SNR=2.1			Sn	**Sn**	**17 37 54.8**	**-4.0**
MKAR	0.6nm,0.3s,baz=96,slow=18,SNR=1.4 **Makanchi Array**	**39.55**	**317**	P	**P**	**17 42 28.5**	**+0.6**
H11N1	0.2nm,0.7s,baz=114,slow=10,SNR=2.5 **WAKE ISLAND Hy 42.00**	**86**		T	T	18 28 09.4	
H11N2	baz=283,slow=75,SNR=7.1 **WAKE ISLAND Hy 42.00**	**86**		T	T	18 28 11.3	
H11N3	baz=283,slow=75,SNR=9.4 **WAKE ISLAND Hy 42.02**	**86**		T	T	18 28 11.5	
H11S3	baz=283,slow=75,SNR=7.8 **WAKE ISLAND Hy 42.10**	**88**		T	T	18 28 16.6	
H11S1	baz=284,slow=75,SNR=10 **WAKE ISLAND Hy 42.10**	**88**		T	T	18 28 17.1	
H11S2	baz=284,slow=75,SNR=9.1 **WAKE ISLAND Hy 42.11**	**88**		T	T	18 28 20.4	
WRA	baz=284,slow=75,SNR=11 **Warramunga Arr**	**44.44**	**163**	P	**P**	**17 43 07.4**	**-0.6**
ASAR	0.3nm,0.6s,baz=343,slow=8.2,SNR=1.6 **Alice Springs**	**47.90**	**165**	P	**P**	**17 43 35.8**	**+0.5**
	0.1nm,0.4s,baz=340,slow=6.8,SNR=4.6						

*ISK **15** 17:40:52.1, 37.16N×28.90E, h5km, ML2.1/9*
*ISCJB **15** 17:40:53.7±0.8, 37.14N±0.05×28.89E±0.06, h12km±9km, Error ellipse: s-maj=8.1km s-min=7.6km az=137.4*
*DDA **15** 17:40:54.9, 37.16N×28.77E, h7km±6km, ML2.5*
ISC 15 17:40:53.1±1.4, 37.18N±0.03×28.87E±0.03, h1km±12km, n18, σ0.86/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAVA	**DENIZLI_Tavas**	**0.29**	**7**	IAML_P			
	comp=Z,3μm,0.1s						
TAVA				*i* P	**Pb**	**17 41 01.0**	**-0.2**
TURN	**Turunc**	**0.37**	**215**	PG	**Pn**	**17 41 05.4**	**-0.2**
TURN	**Turunc**	**0.37**	**215**	IAML_P			
	comp=Z,613nm,0.2s						
TURN				*i* P	**Pn**	**17 41 07.0**	**+1.4**
DALY	**Dalyan (Mula)**	**0.40**	**206**	PG	**Pg**	**17 41 01.2**	**+0.5**
DALY				SG	**Sb**	**17 41 08.0**	**-1.5**
DALY	**Dalyan (Mula)**	**0.40**	**206**	*i* P	**Pb**	**17 41 02.3**	**-0.6**
DALY				*i* S	**Sb**	**17 41 08.6**	**-0.8**
GOLH	**Golhisar**	**0.56**	**83**	IAML_P			
	comp=Z,718nm,0.1s						
GOLH				*i* P	**Pn**	**17 41 08.9**	**+0.6**
GOLH				*i* S	**Sn**	**17 41 18.6**	**+0.3**
FETY	**Fethiye**	**0.57**	**162**	PG	**Pg**	**17 41 03.6**	**-0.4**
FETY				SG	**Sg**	**17 41 12.3**	**+1.0**
MLSB	**Milas**	**0.88**	**278**	PG	**Pb**	**17 41 10.7**	**-0.5**
AYDN	**Tasoluk**	**0.92**	**302**	IAML_P			
	comp=Z,547nm,0.2s						
AYDN				*i* P	**Pn**	**17 41 13.1**	**-0.2**
ELL	**Elmali**	**0.94**	**117**	PG	**Pg**	**17 41 10.7**	**-0.4**
AKAS	**Kas**	**1.11**	**148**	PN	**Pb**	**17 41 14.2**	**-1.0**
AKAS	**Kas**	**1.11**	**148**	IAML_P			
	comp=Z,530nm,0.2s						
AKAS				*i* P	**Pn**	**17 41 16.6**	**+0.7**
AKAS				*i* S	**Sn**	**17 41 34.0**	**+2.0**
DAT	**Datca**	**1.12**	**247**	PN	**Pg**	**17 41 14.6**	**-0.1**
ARG	**Arkhangelos**	**1.13**	**212**	PN	**Pb**	**17 41 14.6**	**-0.8**
KORT	**Korkueli**	**1.20**	**98**	PN	**Pb**	**17 41 16.0**	**-0.7**
BODT	**Bodrum**	**1.25**	**265**	PN	**Pg**	**17 41 17.4**	**+0.3**
KHAL	**Karahalli**	**1.29**	**22**	*i* P	**Pg**	**17 41 17.9**	**0.0**
KHAL				*i* S	**Sn**	**17 41 36.0**	**-0.4**
KULA	**Kula-Manisa**	**1.35**	**353**	PN	**Pg**	**17 41 19.4**	**+0.4**

MAN 15 17:41:08.0, 7.64N×126.70E, h33km, mb4.3, ML3.1, MS2.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.81**	**213**	*e*P	Pb	17 41 23.7	-0.1
MATI				*e*S	Sb	17 41 34.8	+0.2
DMPH	**Davao City--Mi**	**1.30**	**245**	⇑*e*P	Pn	17 41 29.9	-0.1
DMPH				*e*S	Sn	17 41 46.7	+0.4

*IDC **15** 17:44:23.5±0.7, 37.75N×143.87E, h0km, mb3.8/17, mb1 4.0/22, mb1mx3.9/48, mbtmp3.8/22, ML3.3/5, Error ellipse: s-maj=17.8km s-min=14.4km az=128.0*
*NEIC **15** 17:44:25.8±2.7, 37.83N×143.87E, h14km±16km, mb4.7/9, Error ellipse: s-maj=8.8km s-min=5.1km az=126.0*
*ISCJB **15** 17:44:26.1±1.3, 37.90N±0.03×143.74E±0.04, h27km±9km, mb4.1/26, Error ellipse: s-maj=5.8km s-min=4.7km az=152.3*
*JMA **15** 17:44:27.2±0.2, 37.92N×143.71E, h48km, M4.1*
ISC 15 17:44:27.6±2.9, 37.95N±0.04×143.75E±0.04, h24km±21km, n75, σ1.49/85, mb4.1/26, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.83**	**282**	P	Pn	17 44 56.8	-0.8
JIKH				*e*S	**Sn**	**17 45 18.7**	**-1.4**
JIO	**Ouri**	**1.96**	**286**	P	Pn	17 44 58.6	-0.7
JIO				*e*S	**Sn**	**17 45 21.7**	**-1.3**
JKMT	**Kesennumamotoy**	**1.98**	**297**	P	Pn	17 44 58.9	-0.8
JKMT				*e*S	**Sn**	**17 45 22.6**	**-1.1**
OFUJ	**Ofunato**	**1.98**	**305**	P	Pn	17 44 59.0	-0.7
JMK	**Ichinoseki**	**2.22**	**298**	P	**Pn**	**17 45 02.7**	**-0.2**
JMK				*e*S	**Sn**	**17 45 29.0**	**-0.7**
JOM	**Ohasama**	**2.45**	**309**	P	**Pn**	**17 45 05.9**	**-0.2**
JOM				*e*S	**Sn**	**17 45 34.7**	**-0.6**
JFT	**Otama**	**2.73**	**262**	P	**Pn**	**17 45 09.4**	**-0.6**
JFT				*e*S	**Sn**	**17 45 40.9**	**-1.5**
JYK	**Kaneyama**	**2.83**	**291**	P	**Pn**	**17 45 11.6**	**+0.3**
JYK				*e*S	**Sn**	**17 45 44.6**	**-0.1**
JANG	**Nango**	**2.98**	**325**	P	**Pn**	**17 45 13.3**	**-0.1**

JANG				*e*S	**Sn**	17 45 47.0	-1.4
JNS	**Sasagawa**	**3.50**	**269**	P	**Pn**	17 45 21.4	+0.8
JAG	**Ashikaga**	**3.75**	**247**	P	**Pn**	17 45 23.2	-0.7
JAG				*e*S	**Sn**	17 46 05.1	-2.2
BSO1	**Boso 1**	**3.97**	**215**	P	Pn	17 45 24.5	-2.0
JOT	**Ohata**	**4.01**	**330**	*e*S	**Sn**	17 46 11.7	-2.1
ERM	**Erimo**	**4.09**	**354**	*e*Pn	**Pn**	17 45 28.0	-0.6
ERM				*e*Sn	**Sn**	17 46 13.0	-2.7
JRY	**Ryogami san**	**4.33**	**245**	P	**Pn**	17 45 31.2	-0.8
JRY				*e*S	**Sn**	17 46 17.4	-4.3
JOD2	**Odawara 2**	**4.60**	**236**	P	**Pn**	17 45 34.6	-1.1
JOD2				*e*S	**Sn**	17 46 24.0	-4.5
MJAR	**Matsushiro Arr**	**4.63**	**254**	Pn	**Pn**	17 45 37.3	+1.2
	0.8nm,0.3s,baz=89,slow=15,SNR=41						
MJAR				Sn	**Sn**	17 46 29.9	+0.7
	0.3nm,0.3s,baz=66,slow=16,SNR=5.8						
MAJO	**Matsushiro**	**4.63**	**254**	*e*Pn	**Pn**	17 45 37.0	+0.9
MAJO				*e*Sn	**Sn**	17 46 29.9	+0.7
MAT	**Matsushiro**	**4.63**	**254**	P	**Pn**	17 45 37.4	+1.3
MAT				S	**Sn**	17 46 28.6	-0.6
MJB9	**Matsu-Tunnel**	**4.64**	**254**	*e*Pn	**Pn**	17 45 37.3	+1.2
JCH	**Churui**	**4.67**	**357**	P	**Pn**	17 45 35.6	-1.0
JCH				*e*S	**Sn**	17 46 26.4	-3.7
INU	**Inuyama**	**6.00**	**246**	*e*Pn	**Pn**	17 45 55.0	+0.2
ASAJ	**Asahikawa**	**6.23**	**352**	Pn	**Pn**	17 45 58.3	+0.3
	4.7nm,0.3s,baz=198,slow=9.5,SNR=43						
ASAJ				Sn	**Sn**	17 47 04.3	-4.0
	1.2nm,0.3s,baz=17,slow=21,SNR=5.7						
ASAJ	**Asahikawa**	**6.23**	**352**	*e*Pn	**Pn**	17 45 57.8	-0.2
ASAJ				*e*Sn	**Sn**	17 47 04.3	-4.0
YSS	**Yuzh-Sakhalins**	**9.03**	**356**	*e*Pn	**Pn**	17 46 36.3	-0.1
USRK	**Ussuriysk Ar.**	**10.85**	**309**	Pn	**Pn**	17 47 03.5	+2.2
	0.3nm,0.3s,baz=116,slow=14,SNR=5.2						
KSRS	**Korea Array**	**12.54**	**273**	Pn	**Pn**	17 47 27.0	+2.4
	0.1nm,0.3s,baz=82,slow=14,SNR=3.1						
KS01	**Wonju Array Si**	**12.56**	**273**	*e*Pn	**Pn**	17 47 24.4	-0.4
KS15	**Wonju Array Si**	**12.58**	**273**	*e*Pn	**Pn**	17 47 26.6	+1.6
KSAR	**Wonju Array Be**	**12.58**	**273**	Pn	**Pn**	17 47 27.0	+2.0
KLR	**Kul'dur**	**14.22**	**326**	Pn	**Pn**	17 47 47.3	-0.1
	0.1nm,0.3s,baz=135,slow=14,SNR=2.4						
YULB	**Yu-li**	**24.07**	**239**	*e*P	**P**	17 49 40.4	-0.7
	38nm,1.6s						
SEY	**Seymchan**	**25.57**	**9**	P	**P**	17 49 55.4	+1.0
	1.3nm,0.4s,baz=189,slow=11,SNR=6.4						
H11N2	**WAKE ISLAND Hy**	**27.09**	**126**	T	T	18 18 21.5	
	baz=310,slow=74						
H11N1	**WAKE ISLAND Hy**	**27.10**	**126**	T	T	18 18 22.1	
	baz=310						
H11N3	**WAKE ISLAND Hy**	**27.11**	**126**	T	T	18 18 24.3	
	baz=310,slow=74						
SONA0	**Songino Array**	**28.84**	**302**	*e*P	**P**	17 50 25.8	+1.6
SONM	**Songino Array**	**28.84**	**302**	P	**P**	17 50 25.8	+1.6
	0.6nm,0.5s,baz=105,slow=9.3,SNR=4.0						
ZAA1	**Zalesovo Array**	**42.68**	**312**	*e*P	**P**	17 52 23.4	+1.1
ZALV	**Zalesovo Beam**	**42.68**	**312**	P	**P**	17 52 23.4	+1.1
	0.3nm,0.3s,baz=97,slow=12,SNR=2.9						
CM31	**Chiang Mai Arr**	**43.52**	**256**	*e*P	**P**	17 52 28.6	-0.8
CMAR	**Chiang Mai Arr**	**43.52**	**256**	P	**P**	17 52 29.1	-0.3
	0.5nm,0.5s,baz=51,slow=5.8,SNR=6.0						
MK01	**Makanchi Array**	**45.21**	**302**	*e*P	**P**	17 52 42.7	+0.1
MK31	**Makanchi Array**	**45.21**	**302**	*e*P	**P**	17 52 43.4	+0.7
MK32	**Makanchi Array**	**45.21**	**302**	*e*P	**P**	17 52 43.4	+0.7
MKAR	**Makanchi Array**	**45.21**	**302**	P	**P**	17 52 43.4	+0.7
	1.0nm,0.8s,baz=88,slow=9.7,SNR=11						
MKAR	**Makanchi Array**	**45.21**	**302**	*e*P	**P**	17 52 42.9	+0.2
	8.2nm,0.9s						
BPAW	**Bear Paw Mtn.**	**45.94**	**34**	*e*P	**P**	17 52 50.3	+2.1
	12nm,1.0s						
KURK	**Kurchatov**	**46.84**	**308**	*e*P	**P**	17 52 55.5	+0.2
	5.0nm,1.0s						
ILAR	**Eielson Array**	**47.73**	**33**	P	**P**	17 53 02.8	+0.7
	1.0nm,0.7s,baz=257,slow=6.5,SNR=12						
ILB	**Eielson Array**	**47.73**	**33**	*e*P	**P**	17 53 02.3	+0.1
INK	**Inuvik**	**52.73**	**28**	P	**P**	17 53 40.3	+0.4
	0.7nm,0.7s,baz=284,slow=8.3,SNR=3.1						
INK	**Inuvik**	**52.73**	**28**	*e*P	**P**	17 53 39.6	-0.2
	12nm,1.9s						
LEM	**Lembang**	**55.82**	**225**	P	**P**	17 54 01.8	-1.5
	10nm,0.4s,baz=324,slow=19,SNR=3.1						
CHGR	**Chuyangaron**	**56.95**	**296**	*e*P	**P**	17 54 11.4	+0.4
	10nm,0.9s						
WR1	**Warramunga Arr**	**58.25**	**190**	*e*P	**P**	17 54 18.5	-1.6
	32nm,1.9s						
WRA	**Warramunga Arr**	**58.25**	**190**	P	**P**	17 54 18.5	-1.6
	2.1nm,0.8s,baz=11,slow=7.5,SNR=12						
ABKAR	**Akbulak array**	**58.77**	**310**	*e*P	**P**	17 54 23.3	-0.3
AS31	**Alice Springs**	**61.98**	**190**	*e*P	**P**	17 54 43.6	-2.1
	1.8nm,1.4s						
ASAR	**Alice Springs**	**61.98**	**190**	P	**P**	17 54 43.8	-1.9
	0.6nm,0.8s,baz=12,slow=9.5,SNR=5.0						
YKA	**Yellowknife Ar**	**62.08**	**31**	P	**P**	17 54 46.5	+0.6
	0.4nm,0.7s,baz=302,slow=6.6,SNR=8.3						
YKB5	**Yellowknife Ar**	**62.08**	**31**	*e*P	**P**	17 54 46.1	+0.2
GEYT	**Alibeck**	**65.01**	**300**	P	**P**	17 55 06.2	+0.5
	1.3nm,0.7s,baz=22,slow=1.6,SNR=3.6						
FIA0	**FINESS Array S**	**68.86**	**333**	*e*P	**P**	17 55 30.6	+0.8
FINES	**FINESS Array B**	**68.86**	**333**	P	**P**	17 55 30.6	+0.8
	1.5nm,0.6s,baz=38,slow=9.6,SNR=8.1						
KBZ	**Khabaz**	**71.70**	**311**	P	**P**	17 55 49.2	+1.8
	1.4nm,0.9s,baz=51,slow=11,SNR=3.1						
NV01	**Mina Array Sit**	**72.95**	**54**	*e*P	**P**	17 55 55.4	+0.1
NVAR	**Mina Array Bea**	**72.95**	**54**	P	**P**	17 55 56.0	+0.6
	0.4nm,0.7s,baz=284,slow=6.1,SNR=2.4						
NB200	**NORSAR Array S**	**74.05**	**338**	*e*P	**P**	17 56 01.9	+0.7
NOA	**NORSAR Array B**	**74.05**	**338**	P	**P**	17 56 01.9	+0.7
	0.9nm,0.9s,baz=64,slow=10,SNR=2.4						
AKASG	**Malin Array Be**	**74.70**	**323**	P	**P**	17 56 05.5	+0.5
	0.9nm,0.5s,baz=43,slow=6.6,SNR=7.9						
AKBB	**Malin Array Si**	**74.70**	**323**	*e*P	**P**	17 56 04.6	-0.4
	16nm,1.7s						
PD31	**Pinedale Array**	**75.70**	**47**	*e*P	**P**	17 56 10.7	-0.6
PDAR	**Pinedale Array**	**75.70**	**47**	P	**P**	17 56 11.4	+0.1
	0.4nm,0.6s,baz=142,slow=0.9,SNR=3.9						
GERES	**GERESS Array B**	**82.89**	**329**	P	**P**	17 56 51.4	+1.1
	0.1nm,0.3s,baz=350,slow=5.0,SNR=3.9						

IDC 15 17:50:16.0±2.8, 16°43S×173°21W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.7/35, mbtmp3.6/4, MS3.7/1, Ms1 3.7/1, ms1mx3.2/37, Error ellipse: s-maj=218.3km s-min=27.9km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPT	**Papeete**	**22.63**	**96**	LR	LR	18 03 20.5	
	comp=Z,162nm,18.2s,baz=328,slow=35						
H11S2	**WAKE ISLAND Hy**	**39.93**	**329**	T	T	18 38 46.2	
	baz=149,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**39.95**	**329**	T	T	18 38 44.9	
	baz=149,slow=76,SNR=8.1						
H11S1	**WAKE ISLAND Hy**	**39.95**	**330**	T	T	18 38 33.6	
	baz=149,slow=76,SNR=9.4						
H11N3	**WAKE ISLAND Hy**	**40.89**	**331**	T	T	18 39 34.8	
	baz=149						
H11N1	**WAKE ISLAND Hy**	**40.90**	**331**	T	T	18 39 43.9	
	baz=149						
H11N2	**WAKE ISLAND Hy**	**40.91**	**331**	T	T	18 39 42.4	
	baz=149						
WRA	**Warramunga Arr**	**49.79**	**258**	P	P	17 59 11.5	+0.6
	0.4nm,0.8s,baz=75,slow=8.7,SNR=1.8						
ASAR	**Alice Springs**	**49.97**	**253**	P	P	17 59 11.8	-0.5
	3.8nm,1.0s,baz=87,slow=8.4,SNR=20						
NVAR	**Mina Array Bea**	**74.97**	**42**	P	P	18 01 59.6	0.0
	0.2nm,0.4s,baz=225,slow=7.5,SNR=2.1						
TXAR	**Lajitas Array**	**81.03**	**56**	P	P	18 02 33.4	+0.1
	0.2nm,0.7s,baz=227,slow=3.6,SNR=2.0						
YKA	**Yellowknife Ar**	**90.96**	**23**	P	P	18 03 30.0	+8.5
	0.2nm,0.8s,baz=229,slow=5.6,SNR=4.4						
BRTR	**Keskin Array B**	**147.06**	**320**	PKPbc	PKPbc	18 10 00.5	-0.9
	0.4nm,0.7s,baz=29,slow=3.3,SNR=2.3						

*ISCJB **15** 17:54:37.6±0.3, 56°02S±0°05×27°3W±0°1, h112km, mb4.9/32, Error ellipse: s-maj=9.7km s-min=6.5km az=144.2*
*NEIC **15** 17:54:38.2±1.6, 55°99S×27°31W, h101km±14km, mb4.9/28, Error ellipse: s-maj=10.5km s-min=7.8km az=59.0*
*IDC **15** 17:54:39.1±5.9, 56°16S×27°44W, h108km±53km, mb4.1/9, mb1 4.2/10, mb1mx4.0/26, mbtmp4.5/10, Error ellipse: s-maj=24.0km s-min=15.5km az=71.0*
ISC 15 17:54:39.3±0.4, 56°06S±0°07×27°42W±0°07, h112km, n71, σ1§25/67, mb4.9/30, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.49**	**285**	*e*Pn	**Pn**	17 55 58.5	-0.1
HOPE				*e*Sn	**Sn**	17 56 56.4	-4.1
VNA1	**Neumayer--Stat**	**16.84**	**158**	P	**Pn**	17 58 27.4	-0.4
VNA3	**Neumayer Olymp**	**17.03**	**160**	P	**Pn**	17 58 28.6	-1.5
VNA2	**Neumayer--Watz**	**17.23**	**158**	P	**P**	17 58 31.4	-1.0
	baz=313,slow=14						
EFI	**East Falkland**	**18.50**	**271**	*e*P	**P**	17 58 46.7	+0.2
	86nm,1.3s						
SNAA	**Sanae**	**18.79**	**156**	P	**P**	17 58 48.4	-1.1
SNAA	**Sanae**	**18.79**	**156**	P	**P**	17 58 48.4	-1.1
	5.7nm,0.3s,baz=301,slow=10,SNR=82						
SNAA	**Sanae**	**18.79**	**156**	*e*P	**P**	17 58 48.1	-1.4
	29nm,0.6s						
PMSA	**Palmer Station**	**19.79**	**229**	*e*P	**Pn**	17 59 04.0	+1.1
	29nm,0.8s						
USHA	**Ushuaia**	**23.05**	**256**	P	**P**	17 59 34.0	-0.6
	4.7nm,0.6s,baz=98,slow=13,SNR=2.9						
TRQA	**Tornquist**	**29.21**	**293**	*e*P	**P**	18 00 29.3	-0.8
	3.7nm,0.5s						
QSPA	**South Pole Qui**	**34.19**	**180**	P	**P**	18 01 13.2	-0.4
	5.3nm,0.5s,baz=182,slow=2.1,SNR=53						
CPUP	**Villa Florida**	**36.72**	**312**	P	**P**	18 01 35.6	+0.2
	2.6nm,0.5s,baz=147,slow=10.0,SNR=6.7						
CPUP	**Villa Florida**	**36.72**	**312**	*e*P	**P**	18 01 35.9	+0.5
	6.1nm,1.2s						
GO05	**Huala**	**36.76**	**286**	*e*P	**P**	18 01 33.8	-1.9
	8.9nm,1.0s						
PEL	**Peldehue**	**37.52**	**289**	*e*P	**P**	18 01 41.8	-0.3
	10.0nm,0.6s						
ROC1	**El Roble**	**37.82**	**289**	*e*P	**P**	18 01 44.3	-0.6
	8.5nm,0.6s						
GO04	**Tololo Observa**	**39.91**	**292**	*e*P	**P**	18 02 01.4	-1.0
	31nm,1.8s						
MAW	**Mawson**	**40.22**	**144**	*e*P	**P**	18 02 04.4	+0.2
	47nm,1.9s						
LCO	**Las Campanas**	**40.79**	**293**	*e*P	**P**	18 02 08.8	-0.9
	30nm,2.0s						
SHEL	**Horse Pasture**	**43.31**	**31**	*e*P	**P**	18 02 27.8	-2.2
	134nm,1.3s						
GO02	**Mina Guanaco**	**43.38**	**298**	*e*P	**P**	18 02 30.9	+0.1
	12nm,0.6s						
LVC	**Limon Verde**	**45.19**	**300**	*e*P	**P**	18 02 46.3	+1.0
	17nm,0.4s						
PB10	**IPOC Station P**	**45.24**	**298**	*e*P	**P**	18 02 45.0	-0.2
	82nm,1.9s						
PB04	**IPOC Station P**	**46.03**	**299**	*e*P	**P**	18 02 52.3	+0.6
	361nm,0.8s						
SBA	**Scott Base**	**46.06**	**184**	*e*P	**P**	18 02 52.4	+1.4
	70nm,1.9s						
VNDA	**Vanda**	**46.56**	**183**	P	**P**	18 02 54.5	-0.4
	2.8nm,0.6s,baz=183,slow=6.1,SNR=18						
VNDA	**Vanda**	**46.56**	**183**	*e*P	**P**	18 02 54.9	0.0
	27nm,2.0s						
H10S2	**ASCENSION HYDR**	**48.05**	**17**	T	T	18 55 56.6	
	baz=189,slow=75,SNR=16						
H10S3	**ASCENSION HYDR**	**48.05**	**17**	T	T	18 55 59.2	
	baz=189,slow=75,SNR=4.9						
H10S1	**ASCENSION HYDR**	**48.06**	**17**	T	T	18 55 57.9	
	baz=189,slow=75,SNR=13						
ASCN	**Ascension**	**49.10**	**17**	*e*P	**P**	18 03 14.1	-1.1
	127nm,1.1s						
H10N1	**ASCENSION HYDR**	**49.16**	**17**	T	T	18 57 20.8	
	baz=199						
H10N3	**ASCENSION HYDR**	**49.17**	**17**	T	T	18 57 20.6	
	baz=199,slow=74						
H10N2	**ASCENSION HYDR**	**49.18**	**17**	T	T	18 57 21.9	
	baz=199,slow=74						
LPAZ	**La Paz**	**50.27**	**305**	P	**P**	18 03 25.9	+1.0
	14nm,0.5s,baz=104,slow=5.7,SNR=46						
LPAZ	**La Paz**	**50.27**	**305**	*e*P	**P**	18 03 25.5	+0.7
	35nm,1.4s						
LPAZ				*e*S	**S**	18 10 33.9	+4.6
DBIC	**Dimbokro**	**65.23**	**25**	P	**P**	18 05 10.4	+1.8
	1.4nm,0.5s,baz=178,slow=12,SNR=4.0						
DBIC	**Dimbokro**	**65.23**	**25**	*e*P	**P**	18 05 10.6	+2.0
	16nm,1.4s						
OTAV	**Otavalo**	**69.55**	**304**	*e*P	**P**	18 05 38.5	+2.0
	13nm,1.4s						
SACV	**Santiago Islan**	**70.83**	**4**	*e*P	**P**	18 05 42.2	-1.4
	172nm,1.4s						
MBAR	**Mbarara**	**72.27**	**63**	*e*P	**P**	18 05 53.7	+1.1
TOA0	**Torodi Ar. Sit**	**73.13**	**30**	*e*P	**P**	18 05 57.2	-0.1
TORD	**Torodi Ar. Bea**	**73.13**	**30**	P	**P**	18 05 57.6	+0.3
	2.3nm,0.5s,baz=201,slow=6.3,SNR=17						
TOA1	**Torodi Ar. Sit**	**73.13**	**30**	*e*P	**P**	18 05 57.6	+0.3
SDV	**Santo Domingo**	**73.92**	**315**	*e*P	**P**	18 06 01.9	-0.3
	19nm,1.8s						
PTCN	**Pitcairn Islan**	**76.27**	**246**	*e*P	**P**	18 06 17.5	+2.0
	659nm,1.6s						
WKZ	**Wanaka**	**78.53**	**192**	*e*P	**P**	18 06 28.3	+0.4
	185nm,1.9s						
ANWB	**Willy Bob**	**78.95**	**327**	*e*P	**P**	18 06 28.4	-1.8
	74nm,0.8s						
MQZ	**McQueen's Vall**	**79.17**	**195**	*e*P	**P**	18 06 33.8	+2.5
	102nm,1.5s						
RPZ	**Rata Peaks**	**79.38**	**194**	*e*P	**P**	18 06 33.5	+1.0
	53nm,1.3s						
URZ	**Urewera**	**83.75**	**199**	P	**P**	18 06 55.0	-0.6
	5.2nm,0.8s,baz=118,slow=17,SNR=3.4						
ASAR	**Alice Springs**	**99.02**	**163**	P	**Pdif**	18 08 06.3	-1.1
	0.2nm,0.7s,baz=185,slow=4.9,SNR=4.6						
AS31	**Alice Springs**	**99.02**	**163**	*e*P	**Pdif**	18 08 06.8	-0.6
	1.9nm,1.4s						
FIA0	**FINESS Array S**	**124.45**	**28**	*e*PKPdf	**PKPdf**	18 13 24.1	+0.5
FINES	**FINESS Array B**	**124.45**	**28**	PKP	**PKPdf**	18 13 24.1	+0.5
	1.1nm,0.8s,baz=256,slow=1.1,SNR=5.5						
ARA0	**ARCESS Array S**	**131.00**	**22**	*e*PKPdf	**PKPdf**	18 13 36.4	+0.5
ARCES	**ARCESS Array B**	**131.00**	**22**	PKP	**PKPdf**	18 13 36.4	+0.5
	4.5nm,1.1s,baz=191,slow=0.9,SNR=5.6						
YKA	**Yellowknife Ar**	**136.09**	**318**	PKP	**PKPdf**	18 13 45.1	-0.5
	0.4nm,0.5s,baz=128,slow=2.2,SNR=9.2						
YKB5	**Yellowknife Ar**	**136.09**	**318**	*e*PKPdf	**PKPdf**	18 13 45.4	-0.2
MK32	**Makanchi Array**	**137.01**	**72**	*e*PKPdf	**PKPdf**	18 13 48.1	+0.2
MKAR	**Makanchi Array**	**137.01**	**72**	PKP	**PKPdf**	18 13 48.1	+0.2
	0.2nm,0.8s,baz=270,slow=0.4,SNR=2.9						
INK	**Inuvik**	**145.73**	**321**	*e*PKPdf	**PKPbc**	18 14 03.8	+0.3
EPYK	**Eagle Plains**	**146.34**	**317**	*e*PKPdf	**PKPbc**	18 14 05.5	0.0
RIDG	**Independ'e Rid**	**148.91**	**310**	*e*PKPbc	**PKPbc**	18 14 12.7	+0.3
IL1	**Eielson Array**	**150.02**	**312**	*e*PKPbc	**PKPbc**	18 14 14.9	-0.2
ILAR	**Eielson Array**	**150.02**	**312**	PKPbc	**PKPbc**	18 14 15.3	+0.2
	3.0nm,0.8s,baz=139,slow=1.9,SNR=35						
ILB	**Eielson Array**	**150.02**	**312**	*e*PKPbc	**PKPbc**	18 14 14.9	-0.2
RND	**Reindeer**	**150.57**	**309**	*e*PKPbc	**PKPbc**	18 14 16.9	+0.4
SONA0	**Songino Array**	**150.86**	**87**	*e*PKPbc	**PKPbc**	18 14 17.2	-0.5
SONM	**Songino Array**	**150.86**	**87**	PKPbc	**PKPbc**	18 14 17.2	-0.5
	0.5nm,0.4s,baz=238,slow=3.0,SNR=3.9						

*ISCJB **15** 17:59:25.0±1.0, 13°6N±0°1×90°63W±0°07, h74km±16km, Error ellipse: s-maj=23.6km s-min=4.5km az=26.7*
*UCR **15** 17:59:26.9±0.9, 13°58N×90°56W, h52km±11km, MD3.5, ML3.6*
*MEX **15** 17:59:28.6±0.6, 13°56N×90°78W, h64km±47km, MD4.2*
ISC 15 17:59:25.3±1.7, 13°5N±0°1×90°67W±0°07, h48km±52km, n21, σ0§58/31, 2C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.72**	**17**‖	*e*P	**Pn**	17 59 39.8	+0.4
PCG	**Pacaya**	**0.91**	**4**‖	*e*P	**Pn**	17 59 42.6	+0.6
PCG				*e*S	**Sn**	17 59 54.1	-0.2
FUG	**Fuego 3**	**0.98**	**350**‖	*e*P	**Pn**	17 59 43.4	+0.5
CEVE	**Cerro Verde**	**1.07**	**71**	*e*P	**Pn**	17 59 44.0	-0.1
CEVE				*e*S	**Sn**	17 59 57.9	-0.2
SBLS	**San Blas**	**1.08**	**70**	*e*P	**Pn**	17 59 44.2	-0.1
SNJE	**San Jose**	**1.11**	**69**	*e*P	**Pn**	17 59 44.6	0.0
NBG	**Las Nubes**	**1.15**	**16**‖	*e*P	**Pn**	17 59 45.9	+0.7
BOQS	**Boqueron**	**1.38**	**79**	*e*P	**Pn**	17 59 48.4	+0.1
SNET	**Serv Nac Est T**	**1.42**	**81**	*e*P	**Pn**	17 59 49.1	+0.4
SNET				*e*S	**Sn**	18 00 06.1	-0.1
OPAM	**San Salvador**	**1.45**	**80**	*e*P	**Pn**	17 59 49.6	+0.5
OPAM				*e*S	**Sn**	18 00 06.4	-0.6
LFU	**La Fuente**	**1.54**	**80**	*e*P	**Pn**	17 59 50.5	+0.1
LFU				*e*S	**Sn**	18 00 09.0	-0.2
LFRS	**El Faro**	**1.57**	**85**	*e*P	**Pn**	17 59 51.5	+0.6
LBRS	**Las Brisas**	**1.60**	**80**	*e*P	**Pn**	17 59 51.5	+0.3
PAVA	**Las Pavas**	**1.70**	**82**	*e*P	**Pn**	17 59 52.7	+0.1
PAVA				*e*S	**Sn**	18 00 12.8	-0.5
MRL	**Marmol**	**1.84**	**31**‖	*e*P	**Pn**	17 59 54.9	+0.3
THIG		**2.10**	**313**	*e*P	**Pn**	17 59 58.4	+0.5
THIG				*i* S	**Sn**	18 00 22.4	-0.5
TECA	**Tecapa**	**2.11**	**89**	*e*P	**Pn**	17 59 58.4	+0.1
PACA	**Pacayal**	**2.28**	**90**	*e*P	**Pn**	18 00 01.1	+0.5
LCND	**La Caada**	**2.71**	**93**	*e*P	**Pn**	18 00 06.7	+0.3
LCND				*e*S	**Sn**	18 00 38.1	+0.1
LCND				IAML		18 00 41.5	
	comp=Z,356nm,0.3s						
CCIG	**Comitan**	**3.13**	**333**	*e*P	**Pn**	18 00 13.1	+0.8
CCIG				*i* S	**Sn**	18 00 47.5	-1.0
PCIG		**3.31**	**312**	*e*P	**Pn**	18 00 15.4	+0.8
PCIG				*e*S	**Sn**	18 00 51.1	-1.7

*GUC **15** 18:17:21.1±0.6, 37°51S×74°10W, h10km±13km, ML4.0*
*IDC **15** 18:17:24.7±3.7, 37°22S×73°10W, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.6/30, mbtmp3.6/4, ML3.7/2, Error ellipse: s-maj=92.1km s-min=26.3km az=81.0*
*VAO **15** 18:17:26.6±0.7, 37°45S×73°21W, h10km, mb4.3*
*NEIC **15** 18:17:27.0±1.0, 37°27S×72°77W, h10km, mb4.5/11, Error ellipse: s-maj=37.2km s-min=7.9km az=86.0*
ISC 15 18:17:23.6±0.7, 37°47S±0°05×73°80W±0°09, h10km, n55, σ2§02/54, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.83**	**42**	*e*P	**Pg**	18 17 38.9	-0.7
CCSP				*i* S	**Sg**	18 17 52.6	+2.1
CCSP				IAML		18 18 03.3	
	comp=N,9μm,0.7s						
TMU	**Temuco**	**1.58**	**144**	*e*P	**Pn**	18 17 50.6	-1.1
TMU				*e*S	**Sn**	18 18 11.9	-0.3
TMU				IAML		18 18 28.5	
	comp=N,2μm,0.5s						
CCHI	**Chillan**	**1.63**	**59**	*e*P	**Pn**	18 17 51.8	-0.5
CCHI				*i* S	**Sn**	18 18 15.9	+2.6
CCHI				IAML		18 18 32.3	
	comp=N,3μm,0.5s						
GO06	**Curarrehue**	**2.79**	**140**	*e*Pn	**Pn**	18 18 08.3	-0.2
GO05	**Huala**	**2.88**	**32**	*e*Pn	**Pn**	18 18 07.4	-2.2
PLCA	**Paso Flores**	**4.13**	**143**	Pn	**Pn**	18 18 27.6	+0.8
	comp=N,0.8nm,0.3s,baz=331,slow=8.9,SNR=16						
PLCA				Sn	**Sn**	18 19 18.5	+3.4
	comp=N,3.0nm,0.3s,baz=104,slow=6.9,SNR=3.3						
PLCA	**Paso Flores**	**4.13**	**143**	*e*Pn	**Pn**	18 18 26.5	-0.3
PLCA	**Paso Flores**	**4.13**	**143**	*e*P	**Pn**	18 18 26.4	-0.3
PLCA	**Paso Flores**	**4.13**	**143**	*e*P	**Pn**	18 18 26.6	-0.2
PEL	**Peldehue**	**5.01**	**31**	*e*Pn	**Pn**	18 18 34.7	-4.2
ROC1	**El Roble**	**5.03**	**28**	*e*Pn	**Pn**	18 18 36.1	-3.2
GO04	**Tololo Observa**	**7.69**	**20**	*e*Pn	**Pn**	18 19 11.8	-4.1
GO04				*e*Sn	Sn	18 20 34.2	-9.1
LCO	**Las Campanas**	**8.82**	**18**	*e*Pn	**Pn**	18 19 31.4	0.0
LCO				*e*Sn	Sn	18 20 58.7	-12
LCO	**Las Campanas**	**8.82**	**18**	*e*P	**Pn**	18 19 34.2	+2.8
TRQA	**Tornquist**	**9.38**	**97**	*e*Pn	**Pn**	18 19 39.6	+0.7
GO02	**Mina Guanaco**	**12.78**	**18**	*e*Pn	**Pn**	18 20 21.5	-4.2
PB10	**IPOC Station P**	**14.19**	**12**	*e*Pn	**Pn**	18 20 44.6	0.0
LVC	**Limon Verde**	**15.40**	**17**	*e*Pn	**Pn**	18 21 00.1	-1.2
PB04	**IPOC Station P**	**15.41**	**13**	*e*Pn	**P**	18 21 03.5	-2.4
PB01	**IPOC Station P**	**16

Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.95**	**204**	P	Pn	18 28 59.5	+1.9
	0.7nm,0.3s,baz=330,slow=8.1,SNR=3.3						
URZ				S	S	18 30 15.6	-2.2
	0.7nm,0.3s,baz=125,slow=19,SNR=5.5						
ASAR	**Alice Springs**	**41.94**	**269**	P	P	18 34 44.6	+0.2
	0.6nm,0.5s,baz=108,slow=7.3,SNR=26						
WRA	**Warramunga Arr**	**43.07**	**275**	P	P	18 34 53.2	-0.2
	1.8nm,0.4s,baz=112,slow=8.0,SNR=29						
FINES	**FINESS Array B**	**146.19**	**338**	PKPbc	PKPdf	18 46 26.7	+0.4
	1.6nm,0.6s,baz=47,slow=3.3,SNR=10						

*IDC **15** 18:32:07.1±3.2,33.18N×56.87E,h0km,mb3.3/4,*
mb1 3.6/6,mb1mx3.4/34,mbtmp3.4/6,ML3.4/2,Error
ellipse: s-maj=66.0km s-min=28.8km az=86.0
*TEH **15** 18:32:08.0,33.41N×56.97E,h6km,ML3.7*
*ISCJB **15** 18:32:09.7±0.3,33.41N±0.03×56.97E±0.04,h10km,*
mb3.2/4, Error ellipse: s-maj=5.0km s-min=3.6km az=41.8
*THR **15** 18:32:09.1,33.44N×56.92E,h14km,ML3.6*
ISC 15 18:32:09.0±0.7,33.38N±0.03×56.97E±0.03,h10km,n51,
σ2s11/50,mb3.2/4,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKDS	**Koohdasht(Taba**	**0.26**	**29**	*e*Pg	**Pg**	**18 32 12.7**	**-1.8**
TKDS				IAMB	IAmb	18 32 17.6	
	comp=Z,0.0nm,0.2s						
TABS	**Tabas**	**0.29**	**25**	*e*Pg	**Pb**	**18 32 14.9**	**-1.6**
TABS	**Tabas**	**0.29**	**25**	*e*Pg	**Pb**	**18 32 14.9**	**-1.6**
TPRV	**Parvadeh(Tabas**	**0.42**	**214**	*e*Pg	**Pg**	**18 32 17.0**	**-0.4**
TPRV				IAMB	IAmb	18 32 35.5	
	comp=Z,0.0nm,0.1s						
TNSJ	**Nastanj**	**0.65**	**333**	*e*Pg	**Pg**	**18 32 20.6**	**-1.1**
TNSJ				IAMB	IAmb	18 32 52.3	
	comp=Z,0.0nm,1.0s						
ITEG	**Tejag**	**1.57**	**107**	*e*Pn	**Pb**	**18 32 37.5**	**-0.8**
ITEG				IAMB	IAmb	18 32 43.2	
	comp=Z,15μm,0.3s						
YZKH	**Yazd**	**2.23**	**244**	*e*Pn	**Pb**	**18 32 47.7**	**-1.8**
YZKH	**Yazd**	**2.23**	**244**	*e*Pn	**Pb**	**18 32 47.6**	**-1.8**
YZKH				*e*Sg	**Sg**	**18 33 19.0**	**-1.7**
IMON	**Monand**	**2.27**	**94**	*e*Pn	**Pb**	**18 32 48.5**	**-1.7**
IMON				IAMB	IAmb	18 33 25.6	
	comp=Z,6μm,0.3s						
ICHK	**Chekchek**	**2.44**	**243**	*e*Pn	**Pb**	**18 32 50.8**	**-2.3**
ICHK				IAMB	IAmb	18 33 34.4	
	comp=Z,3μm,0.6s						
IDAH	**Dahanechah**	**2.52**	**104**	*e*Pn	**Pb**	**18 32 51.5**	**-3.0**
IDAH				IAMB	IAmb	18 33 03.8	
	comp=Z,2μm,0.4s						
SHRO	**Shahrood**	**2.72**	**343**	*e*Pn	**Pn**	**18 32 53.8**	**+0.9**
SHRO	**Shahrood**	**2.72**	**343**	*e*Pn	**Pn**	**18 32 53.8**	**+0.9**
ANAR	**Anarak**	**2.72**	**267**	*e*Pn	**Pn**	**18 32 54.1**	**+1.2**
ANAR				IAMB	IAmb	18 33 04.5	
	comp=Z,0.0nm,0.5s						
SHRT	**Shahrakht**	**2.79**	**84**	*e*Pn	**Pb**	**18 32 55.9**	**-3.1**
SHRT	**Shahrakht**	**2.79**	**84**	*e*Pn	**Pb**	**18 32 55.9**	**-3.1**
IMEH	**Mehriz**	**2.81**	**226**	*e*Pn	**Pb**	**18 32 56.4**	**-3.1**
IMEH				IAMB	IAmb	18 33 45.7	
	comp=Z,2μm,0.5s						
KHGB	**Koh Gabri**	**3.03**	**188**	*e*Pn	**Pn**	**18 32 59.3**	**+2.1**
KHGB				IAMB	IAmb	18 34 00.2	
	comp=Z,0.0nm,0.6s						
SBZV	**Sabzevar**	**3.05**	**10**	*e*Pn	**Pn**	**18 32 58.4**	**+0.9**
ISAD	**Sadrabad**	**3.13**	**243**	*e*Pn	**Pn**	**18 32 59.2**	**+0.5**
ISAD				IAMB	IAmb	18 33 53.7	
	comp=Z,2μm,0.5s						
IMOG	**Moghan**	**3.35**	**35**	IAMB	IAmb	18 30 00.0	
	comp=Z,0.0nm,10.0s						
IMOG				*e*Pn	**Pn**	**18 33 03.7**	**+2.0**
TVBK	**TV Kerman**	**3.39**	**183**	*e*Pn	**Pn**	**18 33 05.1**	**+2.8**
TVBK				IAMB	IAmb	18 34 10.8	
	comp=Z,0.0nm,0.4s						
KRBR	**Kerman**	**3.39**	**183**	*e*Pn	**Pn**	**18 33 04.7**	**+2.4**
KRBR	**Kerman**	**3.39**	**183**	*e*AML	AML	18 34 05.5	
	comp=N,120nm,0.6s						
KRBR				*e*AML	AML	18 34 05.5	
	comp=E,136nm,0.6s						
KRBR	**Kerman**	**3.39**	**183**	*e*Pn	**Pn**	**18 33 04.7**	**+2.4**
IPAY	**Payeh**	**3.48**	**28**	IAMB	IAmb	18 33 06.3	
	comp=Z,1μm,0.3s						
IPAY				*e*Pn	**Pn**	**18 33 04.8**	**+1.3**
IAKL	**Akhelmad**	**3.53**	**24**	*e*Pn	**Pn**	**18 33 06.3**	**+2.1**
IAKL				IAMB	IAmb	18 34 06.3	
	comp=N,1μm,0.4s						
CHMN	**Cheshme madani**	**3.54**	**172**	*e*Pn	**Pn**	**18 33 07.0**	**+2.6**
CHMN				IAMB	IAmb	18 34 13.0	
	comp=Z,0.0nm,0.7s						
IKRD	**Kardeh**	**3.62**	**20**	*e*Pn	**Pb**	**18 33 11.8**	**-1.4**
IKRD				IAMB	IAmb	18 33 12.8	
	comp=Z,562nm,0.2s						
NGRK	**Negar Kerman**	**3.73**	**183**	*e*Pn	**Pn**	**18 33 09.5**	**+2.5**
NGRK				IAMB	IAmb	18 34 16.1	
	comp=Z,0.0nm,0.4s						
JRKH	**Jarkhoshk**	**3.76**	**47**	*e*Pn	**Pn**	**18 33 09.0**	**+1.9**
JRKH				IAMB	IAmb	18 34 18.0	
	comp=Z,0.0nm,0.8s						
ISFR	**Sfrayin**	**3.76**	**13**	IAMB	IAmb	18 33 11.1	
	comp=Z,700nm,0.2s						
ISFR				*e*Pn	**Pn**	**18 33 09.2**	**+1.9**
ISHM	**Shahmirzad**	**3.88**	**310**	*e*Pn	**Pn**	**18 33 10.7**	**+1.7**
ISHM				IAMB	IAmb	18 34 38.9	
	comp=Z,2μm,0.6s						
IKIA	**Kiasar**	**3.91**	**317**	IAMB	IAmb	18 34 37.8	
	comp=Z,1μm,0.7s						
IMYA	**Miami**	**3.92**	**40**	*e*Pn	**Pn**	**18 33 10.8**	**+1.4**
IMYA				IAMB	IAmb	18 34 34.7	
	comp=Z,603nm,0.8s						
IZEF	**Zefreh**	**3.92**	**264**	*e*Pn	**Pn**	**18 33 11.5**	**+1.9**
IZEF				IAMB	IAmb	18 33 26.8	
	comp=Z,484nm,0.7s						
KRSH	**Karshahi**	**4.07**	**280**	*e*Pn	**Pn**	**18 33 13.2**	**+1.7**
KRSH				IAMB	IAmb	18 34 38.3	
	comp=Z,0.0nm,0.7s						
IFIR	**Firoozkooh**	**4.15**	**304**	*e*Pn	**Pn**	**18 33 14.3**	**+1.7**
IFIR				IAMB	IAmb	18 34 30.2	
	comp=E,1μm,0.4s						
IRAM	**Ramesheh**	**4.18**	**249**	*e*Pn	**Pn**	**18 33 14.9**	**+1.9**
IRAM				IAMB	IAmb	18 34 35.9	
	comp=Z,367nm,0.7s						
IEMG	**Emamgholi**	**4.25**	**18**	*e*Pn	**Pn**	**18 33 15.7**	**+1.6**
IEMG				IAMB	IAmb	18 33 21.9	
	comp=Z,393nm,0.4s						
IGAR	**Gharneh**	**4.26**	**258**	*e*Pn	**Pn**	**18 33 15.5**	**+1.4**
IGAR				IAMB	IAmb	18 34 33.8	
	comp=N,462nm,0.5s						
IKLH	**Kolahrood**	**4.51**	**271**	*e*Pn	**Pn**	**18 33 19.7**	**+2.1**
IKLH				IAMB	IAmb	18 35 00.1	
	comp=Z,399nm,0.6s						
IDMV	**Damavand**	**4.63**	**300**	*e*Pn	**Pn**	**18 33 21.5**	**+2.2**
IDMV				IAMB	IAmb	18 35 14.1	
	comp=Z,785nm,1.1s						
GEYT	**Alibeck**	**4.63**	**11**	Pn	**Pn**	**18 33 21.1**	**+2.0**
	comp=Z,1.4nm,0.3s,baz=194,slow=16,SNR=28						
GEYT				Sn	**Sn**	**18 34 17.5**	**+4.5**
	comp=Z,1.5nm,0.3s,baz=204,slow=29,SNR=5.1						
KLNJ	**Kolanjah**	**5.13**	**244**	*e*Pn	Pn	18 33 30.5	+4.2
ZNGN	**Zangian**	**5.30**	**258**	*e*Pn	**Pn**	**18 33 32.4**	**+3.8**
AAK	**Ala-Archa**	**16.59**	**51**	Pn	**P**	**18 36 02.2**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=228,slow=14,SNR=2.9						
KURBB	**Kurchatov Arra**	**23.39**	**36**	P	**P**	**18 37 20.6**	**+2.9**
	comp=Z,0.3nm,0.8s,baz=236,slow=8.8,SNR=2.7						
MKAR	**Makanchi Array**	**23.43**	**48**	P	**P**	**18 37 19.3**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=237,slow=13,SNR=4.0						
CMAR	**Chiang Mai Arr**	**40.29**	**101**	P	**P**	**18 39 46.0**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=294,slow=7.8,SNR=5.3						
WRA	**Warramunga Arr**	**90.78**	**113**	P	**P**	**18 45 12.6**	**-0.1**
	comp=Z,0.7nm,1.1s,baz=306,slow=4.4,SNR=3.0						

*IDC **15** 18:37:10.6±1.4,33.21N×56.81E,h0km,mb3.6/8,*
mb1 3.7/11,mb1mx3.6/35,mbtmp3.6/11,ML3.5/3,Error
ellipse: s-maj=28.7km s-min=21.2km az=24.0
*TEH **15** 18:37:11.4,33.39N×56.98E,h5km,ML4.0*
*ISCJB **15** 18:37:13.0±0.2,33.39N±0.03×56.98E±0.03,h10km,*
mb3.4/8, Error ellipse: s-maj=4.1km s-min=3.2km
az=151.0
*THR **15** 18:37:14.0,33.41N×56.99E,h17km,ML4.1*
ISC 15 18:37:12.6±0.6,33.36N±0.03×56.99E±0.03,h10km,n68,
σ1s94/71,mb3.6/14,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKDS	**Koohdasht(Taba**	**0.28**	**24**	*e*Pg	**Pg**	**18 37 15.6**	**-2.7**
TKDS				IAMB	IAmb	18 37 21.1	
	comp=Z,0.0nm,0.2s						
TABS	**Tabas**	**0.31**	**21**	*e*Pg	**Pb**	**18 37 20.1**	**-0.2**
TABS	**Tabas**	**0.31**	**21**	*e*Pg	**Pb**	**18 37 20.1**	**-0.2**
TPRV	**Parvadeh(Tabas**	**0.41**	**218**	*e*Pg	**Pg**	**18 37 20.3**	**-0.5**
TPRV				IAMB	IAmb	18 37 27.9	
	comp=Z,0.0nm,0.2s						
TNSJ	**Nastanj**	**0.68**	**332**	*e*Pg	**Pb**	**18 37 24.8**	**-1.9**
TNSJ				IAMB	IAmb	18 37 52.0	
	comp=Z,0.0nm,0.7s						
ITEG	**Tejag**	**1.55**	**107**	*e*Pn	**Pg**	**18 37 41.1**	**-1.2**
ITEG				IAMB	IAmb	18 37 41.9	
	comp=Z,20μm,0.3s						
YZKH	**Yazd**	**2.24**	**245**	*e*Pn	**Pb**	**18 37 52.9**	**-0.2**
YZKH	**Yazd**	**2.24**	**245**	*e*Pn	**Pb**	**18 37 52.9**	**-0.2**
YZKH				*e*Sg	**Sg**	**18 38 25.0**	**+0.6**
IMON	**Monand**	**2.25**	**93**	*e*Pn	**Pb**	**18 37 51.9**	**-1.5**
IMON				IAMB	IAmb	18 38 28.6	
	comp=E,33μm,0.6s						
ICHK	**Chekchek**	**2.44**	**244**	*e*Pn	**Pb**	**18 37 53.9**	**-2.8**
ICHK				IAMB	IAmb	18 38 00.2	
	comp=Z,10μm,0.3s						
IDAH	**Dahanechah**	**2.50**	**104**	*e*Pn	**Pb**	**18 37 54.8**	**-2.9**
IDAH				IAMB	IAmb	18 38 03.7	
	comp=Z,3μm,0.6s						
ANAR	**Anarak**	**2.74**	**267**	*e*Pn	**Pn**	**18 37 57.4**	**+0.7**
ANAR				IAMB	IAmb	18 38 51.0	
	comp=Z,0.0nm,0.8s						
SHRO	**Shahrood**	**2.75**	**343**	*e*Pn	**Pb**	**18 37 58.8**	**-3.0**
SHRO	**Shahrood**	**2.75**	**343**	*e*Pn	**Pb**	**18 37 58.8**	**-3.0**
SHRT	**Shahrakht**	**2.77**	**83**	*e*Pn	**Pb**	**18 37 59.8**	**-2.5**
SHRT	**Shahrakht**	**2.77**	**83**	*e*Pn	**Pb**	**18 37 59.8**	**-2.5**
SHRT				*e*Sg	**Sg**	**18 38 40.3**	**-1.4**
IMEH	**Mehriz**	**2.81**	**226**	*e*Pn	**Pb**	**18 37 59.9**	**-3.1**
IMEH				IAMB	IAmb	18 38 48.9	
	comp=Z,6μm,0.8s						
KHGB	**Koh Gabri**	**3.00**	**188**	*e*Pn	**Pn**	**18 38 02.7**	**+2.2**
KHGB				IAMB	IAmb	18 39 03.5	
	comp=Z,0.0nm,0.5s						
SBZV	**Sabzevar**	**3.07**	**9**	*e*Pn	**Pn**	**18 38 02.3**	**+1.0**
SBZV				IAMB	IAmb	18 39 04.2	
	comp=Z,0.0nm,1.1s						
ISAD	**Sadrabad**	**3.14**	**244**	IAMB	IAmb	18 38 13.9	
	comp=Z,5μm,0.3s						
ISAD				*e*Pn	**Pn**	**18 38 03.8**	**+1.5**
IANJ	**Anjilo**	**3.30**	**310**	*e*Pn	**Pn**	**18 38 06.2**	**+1.7**
IANJ				IAMB	IAmb	18 39 07.8	
	comp=Z,3μm,0.4s						
IMOG	**Moghan**	**3.36**	**35**	*e*Pn	**Pn**	**18 38 07.0**	**+1.6**
IMOG				IAMB	IAmb	18 39 10.6	
	comp=Z,1μm,0.9s						
TVBK	**TV Kerman**	**3.37**	**183**	*e*Pn	**Pb**	**18 38 08.4**	**-4.2**
TVBK				IAMB	IAmb	18 39 09.5	
	comp=Z,0.0nm,0.3s						
KRBR	**Kerman**	**3.37**	**183**	*e*Pn	**Pb**	**18 38 09.0**	**-3.6**
KRBR	**Kerman**	**3.37**	**183**	*e*AML	AML	18 39 07.9	
	comp=N,485nm,0.8s						
KRBR				*e*AML	AML	18 39 10.0	
	comp=E,340nm,0.4s						
KRBR	**Kerman**	**3.37**	**183**	*e*Pn	**Pb**	**18 38 09.0**	**-3.6**
KRBR				*e*Sg	**Sg**	**18 39 00.9**	**0.0**
IPAY	**Payeh**	**3.50**	**28**	IAMB	IAmb	18 38 09.7	
	comp=Z,2μm,0.3s						
IPAY				*e*Pn	**Pn**	**18 38 08.4**	**+1.1**
CHMN	**Cheshme madani**	**3.52**	**172**	*e*Pn	**Pn**	**18 38 10.1**	**+2.5**
CHMN				IAMB	IAmb	18 39 16.3	
	comp=Z,0.0nm,0.6s						
IAKL	**Akhelmad**	**3.55**	**24**	*e*Pn	**Pn**	**18 38 09.5**	**+1.5**
IAKL				IAMB	IAmb	18 39 24.5	
	comp=N,2μm,0.5s						
IKRD	**Kardeh**	**3.63**	**20**	*e*Pn	**Pb**	**18 38 16.1**	**-0.9**
IKRD				IAMB	IAmb	18 39 35.8	
	comp=Z,2μm,1.0s						
NGRK	**Negar Kerman**	**3.71**	**183**	*e*Pn	**Pn**	**18 38 12.7**	**+2.4**
NGRK				IAMB	IAmb	18 39 16.3	
	comp=Z,0.0nm,0.4s						
JRKH	**Jarkhoshk**	**3.76**	**47**	*e*Pn	**Pn**	**18 38 12.4**	**+1.6**
JRKH				IAMB	IAmb	18 39 21.5	
	comp=Z,0.0nm,0.8s						
ILAS	**Lasjerd**	**3.90**	**302**	*e*Pn	**Pn**	**18 38 13.7**	**+1.0**
ILAS				IAMB	IAmb	18 39 29.6	
	comp=Z,2μm,0.5s						
ISHM	**Shahmirzad**	**3.91**	**310**	*e*Pn	**Pn**	**18 38 14.2**	**+1.3**
ISHM				IAMB	IAmb	18 39 19.8	
	comp=Z,3μm,0.4s						
IMYA	**Miami**	**3.93**	**40**	*e*Pn	**Pn**	**18 38 14.7**	**+1.6**
IMYA				IAMB	IAmb	18 39 33.3	
	comp=Z,2μm,1.4s						
IKIA	**Kiasar**	**3.93**	**317**	*e*Pn	**Pb**	**18 38 17.4**	**-4.8**
IKIA				IAMB	IAmb	18 39 34.1	
	comp=Z,2μm,1.2s						
IZEF	**Zefreh**	**3.94**	**265**	*e*Pn	**Pn**	**18 38 15.0**	**+1.7**
IZEF				IAMB	IAmb	18 39 28.9	
	comp=Z,1μm,0.4s						
KRSH	**Karshahi**	**4.09**	**280**	*e*Pn	**Pn**	**18 38 16.7**	**+1.3**
KRSH				IAMB	IAmb	18 39 43.4	
	comp=Z,0.0nm,0.6s						
IFIR	**Firoozkooh**	**4.17**	**304**	*e*Pn	**Pn**	**18 38 17.4**	**+0.8**
IFIR				IAMB	IAmb	18 39 29.7	
	comp=Z,1μm,0.5s						
IRAM	**Ramesheh**	**4.18**	**250**	*e*Pn	**Pn**	**18 38 18.1**	**+1.4**
IRAM				IAMB	IAmb	18 39 38.8	
	comp=Z,797nm,0.5s						
IGAR	**Gharneh**	**4.27**	**258**	*e*Pn	**Pn**	**18 38 19.3**	**+1.5**
IGAR				IAMB	IAmb	18 39 37.5	
	comp=Z,899nm,0.7s						
IEMG	**Emamgholi**	**4.27**	**18**	*e*Pn	**Pn**	**18 38 19.0**	**+1.1**
IEMG				IAMB	IAmb	18 38 28.2	
	comp=Z,503nm,0.2s						
IALA	**Alasht**	**4.39**	**309**	*e*Pn	**Pn**	**18 38 21.6**	**+2.1**
IALA				IAMB	IAmb	18 39 54.4	
	comp=Z,2μm,0.8s						
IKLH	**Kolahrood**	**4.53**	**271**	*e*Pn	**Pn**	**18 38 23.1**	**+1.7**
IKLH				IAMB	IAmb	18 39 52.5	
	comp=Z,1μm,0.6s						
GEYT	**Alibeck**	**4.65**	**11**	Pn	**Pn**	**18 38 24.6**	**+1.6**
	comp=Z,2.0nm,0.3s,baz=196,slow=16,SNR=18						
GEYT				Sn	**Sn**	**18 39 19.9**	**+2.8**
	comp=Z,2.0nm,0.3s,baz=195,slow=20,SNR=5.2						
IDMV	**Damavand**	**4.66**	**300**	*e*Pn	**Pn**	**18 38 24.7**	**+1.5**
IDMV				IAMB	IAmb	18 39 53.2	
	comp=Z,988nm,0.5s						
IPRN	**Peran**	**4.79**	**308**	*e*Pn	**Pn**	**18 38 27.1**	**+2.2**
IPRN				IAMB	IAmb	18 40 09.8	
	comp=Z,1μm,0.6s						
ROKH	**ROKH**	**5.11**	**260**	*e*Pn	**Pn**	**18 38 32.4**	**+3.0**
ROKH				IAMB	IAmb	18 40 38.9	
	comp=Z,0.0nm,0.9s						
KLNJ	**Kolanjah**	**5.14**	**244**	*e*Pn	**Pn**	**18 38 32.2**	**+2.3**
ZNGN	**Zangian**	**5.32**	**258**	*e*Pn	**Pn**	**18 38 35.3**	**+3.0**
AAK	**Ala-Archa**	**16.59**	**51**	Pn	**P**	**18 41 07.2**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=216,slow=12,SNR=5.3						
BRTR	**Keskin Array B**	**19.78**	**295**	P	**Pn**	**18 41 43.6**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=108,slow=10,SNR=4.3						
PYUN	**Piuthan**	**22.93**	**96**	*e*P	**P**	**18 42 18.2**	**+1.1**
	comp=Z,4.3nm,0.7s						
KURBB	**Kurchatov Arra**	**23.40**	**36**	P	**P**	**18 42 22.8**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=230,slow=9.1,SNR=5.5						
MKAR	**Makanchi Array**	**23.43**	**48**	P	**P**	**18 42 23.5**	**+1.6**
	comp=Z,1.6nm,1.1s,baz=230,slow=8.9,SNR=6.4						
DANN	**Dangsing**	**23.49**	**95**	*e*P	**P**	**18 42 22.9**	**0.0**
	comp=Z,19nm,1.0s						
DMN	**Daman**	**24.86**	**96**	*e*P	**P**	**18 42 36.3**	**+0.7**
KKN	**Kakani**	**24.94**	**95**	*e*P	**P**	**18 42 37.1**	**+0.7**
	comp=Z,7.2nm,0.6s						
PKIN	**Phulchoki**	**25.11**	**96**	*e*P	**P**	**18 42 38.5**	**+0.6**
PKI	**Pulchoki**	**25.12**	**96**	*e*P	**P**	**18 42 38.7**	**+0.6**
	comp=Z,5.6nm,0.7s						
GUN	**Gumba**	**25.40**	**95**	*e*P	**P**	**18 42 41.4**	**+0.7**
	comp=Z,17nm,0.9s						
RAMN	**Ramite**	**26.33**	**96**	*e*P	**P**	**18 42 49.7**	**+0.7**
	comp=Z,14nm,0.6s						
AKASG	**Malin Array Be**	**26.71**	**319**	P	**P**	**18 42 51.0**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=150,slow=8.8,SNR=3.4						
ZALV	**Zalesovo Beam**	**28.49**	**35**	P	**P**	**18 43 09.5**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=260,slow=8.6,SNR=2.8						
SONM	**Songino Array**	**39.53**	**54**	P	**P**	**18 44 45.4**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=260,slow=8.2,SNR=3.8						
CMAR	**Chiang Mai Arr**	**40.27**	**101**	P	**P**	**18 44 50.8**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=297,slow=8.7,SNR=9.8						
NOA	**NORSAR Array B**	**40.34**	**327**	P	**P**	**18 44 49.3**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=115,slow=8.1,SNR=2.7						
WRA	**Warramunga Arr**	**90.75**	**113**	P	**P**	**18 50 15.1**	**-1.1**
	comp=Z,0.4nm,1.0s,baz=320,slow=4.2,SNR=2.8						

*DDA **15** 18:41:15.9,41.13N×29.70E,h15km±3km,ML3.0*
*ISCJB **15** 18:41:16.2±0.5,41.17N±0.04×29.71E±0.02,h4km±3km,*
Error ellipse: s-maj=6.3km s-min=2.9km az=7.6
*ISK **15** 18:41:16.7,41.11N×29.67E,h7km,ML3.0/26*
ISC 15 18:41:16.5±0.9,41.12N±0.03×29.69E±0.02,h13km±6km,
n47,σ0s65/60,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SILT	**Sile**	**0.05**	**315**	PG	**Pg**	**18 41 18.9**	**0.0**
SILT				SG	**Sg**	**18 41 20.8**	**+0.1**
KAND	**Kocaeli-Kandir**	**0.38**	**94**	*i* P	**Pg**	**18 41 24.2**	**0.0**
KAND				*i* S	**Sg**	**18 41 29.2**	**-0.2**
ISK	**Istanbul-Kandi**	**0.48**	**264**	PG	**Pb**	**18 41 26.2**	**-0.6**
ISK				SG	**Sb**	**18 41 32.9**	**-0.9**
KAVV	**Kandilli-Istan**	**0.48**	**264**	PG	**Pg**	**18 41 26.1**	**+0.2**
KAVV				SG	**Sb**	**18 41 32.9**	**-0.8**
KLYT	**Kilyos**	**0.51**	**286**	PG	**Pb**	**18 41 26.7**	**-0.6**
BUY	**Buyukada**	**0.51**	**238**	IAML_P			
	comp=Z,4μm,0.2s						
BUY				*i* P	**Pb**	**18 41 27.9**	**+0.6**
BUY				*i* S	**Sb**	**18 41 35.0**	**+0.4**
YLV	**Yalova**	**0.60**	**203**	PG	**Pg**	**18 41 28.4**	**+0.1**
SAUV	**Serdivan-Sakar**	**0.62**	**128**	PG	**Pb**	**18 41 28.9**	**-0.3**
SPNC	**Sapanca-Adapaz**	**0.64**	**132**	PG	**Pb**	**18 41 29.5**	**-0.1**
BGKT	**Bogazkoy**	**0.69**	**275**	PG	**Pb**	**18 41 30.3**	**-0.2**
GEMT	**Gemlik**	**0.78**	**209**	PG	**Pb**	**18 41 31.7**	**-0.3**
SBT5	**Esenkoy-Cinarc**	**0.78**	**232**	PG	**Pb**	**18 41 31.9**	**-0.1**
GEYV	**SAKARYA_Geyve**	**0.79**	**144**	*i* P	**Pn**	**18 41 32.8**	**-0.6**
IZI	**Iznik**	**0.80**	**192**	PG	**Pb**	**18 41 32.6**	**+0.3**
ARMT	**Armutlu**	**0.83**	**229**	PG	**Pb**	**18 41 32.9**	**0.0**
CTKS	**Kestanelik-??a**	**0.90**	**278**	PG	**Pb**	**18 41 33.9**	**-0.1**
SAHE	**Sakarya_HENDEK**	**0.92**	**106**	*i* P	**Pg**	**18 41 34.0**	**-0.3**
SAHE				*i* S	**Sg**	**18 41 45.9**	**-0.5**
CAVI	**Cavuskoy**	**0.92**	**173**	PG	**Pb**	**18 41 34.3**	**-0.1**
GULT	**Gulveren**	**0.93**	**137**	PG	**Pn**	**18 41 35.1**	**-0.3**
ELBA	**Catalca**	**0.95**	**272**	*i* P	**Pn**	**18 41 35.8**	**+0.2**
ELBA				*i* S	**Sb**	**18 41 47.4**	**+0.1**
GPA	**Golpazari**	**0.95**	**150**	PG	**Pn**	**18 41 35.5**	**-0.2**
MDNY	**Mudanya-Bursa**	**0.97**	**219**	PG	**Pn**	**18 41 35.5**	**-0.3**
KIYI	**Yalıkoy-Catalc**	**1.11**	**290**	PN	**Pn**	**18 41 38.1**	**+0.4**
CTYL	**Yalikoy Yolu**	**1.11**	**289**	PN	**Pn**	**18 41 38.1**	**+0.3**
SLVT	**Silivri**	**1.12**	**276**	PN	**Pn**	**18 41 38.4**	**+0.5**
BTAS	**Taskesti**	**1.14**	**118**	*i* P	**Pn**	**18 41 39.0**	**+0.8**
ORLT	**Orhaneli**	**1.23**	**210**	PN	**Pg**	**18 41 40.3**	**+0.1**
MDUB	**Mudurnu**	**1.32**	**119**	PN	**Pg**	**18 41 41.8**	**-0.1**
KCTX	**Karacabey (Bur**	**1.32**	**230**	PN	**Pg**	**18 41 41.8**	**-0.2**
BORA	**Eskisehir**	**1.37**	**154**	PN	**Pg**	**18 41 42.4**	**-0.5**
BORA	**Eskisehir**	**1.37**	**154**	IAML_P			
	comp=Z,2μm,0.2s						
BORA				*i* P	**Pg**	**18 41 42.8**	**0.0**
BORA				*i* S	**Sg**	**18 42 01.0**	**+0.4**
CRLT	**Corlu**	**1.47**	**271**	PN	**Pb**	**18 41 43.7**	**-0.1**
EDC	**Edincik**	**1.59**	**241**	PN	**Pb**	**18 41 45.0**	**-0.7**
TKR	**Tekirdag**	**1.63**	**266**	PN	**Pb**	**18 41 45.9**	**-0.6**
SBT4	**Kumbag-Tekirda**	**1.66**	**261**	PN	**Pb**	**18 41 46.1**	**-0.7**
MRMT	**Marmara Adasi**	**1.67**	**253**	PN	**Pb**	**18 41 46.5**	**-0.7**
PHSR	**Pinarhisar**	**1.71**	**288**	PN	**Pb**	**18 41 47.1**	**-0.7**
DURS	**Dursunbey**	**1.78**	**212**	IAML_P			
	comp=Z,160nm,0.1s						
DURS				*i* P	**Pb**	**18 41 48.5**	**-0.5**
DURS				*i* S	**Sg**	**18 42 14.0**	**+0.3**
**BCAM

ISCJB ***15*** *19:04:33.7±0.4,35˚00S±0˚04×178˚86E±0˚03,h167km±4km, mb5.2/147, Error ellipse: s-maj=6.8km s-min=4.5km az=2.5*

IDC ***15*** *19:04:36.2±1.1,34˚70S×178˚95E,h183km±8km, mb4.5/19, mb1 4.5/19, mb1mx4.4/34, mbtmp5.0/19, MS3.9/12, Ms1 3.9/12, ms1mx3.6/31, Error ellipse: s-maj=13.4km s-min=9.6km az=24.0*

ISC 15 19:04:35.0±0.5,35˚27S±0˚03×178˚86E±0˚04,h180km±4km, n563,σ1‖96/588, mb5.2/137**,12C-7D, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.33**	**191**	*e*Pn	**Pn**	**19 05 17.1**	**+1.4**
MXZ				*e*Sn	**Sn**	**19 05 48.5**	**+1.0**
MXZ	**Matakaoa Point**	**2.33**	**191**	P	**Pn**	**19 05 17.4**	**+1.7**
WMGZ	**Waiomatatini S**	**2.57**	**188**	P	**Pn**	**19 05 20.8**	**+2.4**
WMGZ				S	**Sn**	**19 05 58.1**	**+5.6**
HAZ	**Te Kaha**	**2.63**	**199**	P	**Pn**	**19 05 21.0**	**+1.8**
HAZ				S	**Sn**	**19 06 01.1**	**+7.4**
PKGZ	**Pakihiroa**	**2.69**	**193**	P	**Pn**	**19 05 22.1**	**+2.2**
PKGZ				S	**Sn**	**19 05 58.9**	**+3.9**
PUZ	**Puketiti**	**2.84**	**190**	P	**Pn**	**19 05 23.5**	**+1.8**
RUGZ	**Raukumara Rang**	**2.86**	**199**	P	**Pn**	**19 05 24.2**	**+2.2**
RUGZ				S	**Sn**	**19 06 04.3**	**+5.6**
GRZ	**Great Barrier**	**2.94**	**249**	P	**Pn**	**19 05 24.4**	**+1.6**
KUZ	**Kuaotunu**	**2.94**	**239**	P	**Pn**	**19 05 25.0**	**+2.2**
TWGZ	**Tauwhareparae**	**2.99**	**193**	P	**Pn**	**19 05 26.1**	**+2.6**
WHRZ	**Whale Island**	**3.00**	**210**	P	**Pn**	**19 05 27.2**	**+3.6**
WHRZ				S	**Sn**	**19 06 10.1**	**+8.6**
OPRZ	**Ohinepanea**	**3.17**	**215**	P	**Pn**	**19 05 29.1**	**+3.4**
MARZ	**Manawahe**	**3.23**	**212**	P	**Pn**	**19 05 30.4**	**+3.9**
MWZ	**Matawai**	**3.24**	**199**	P	**Pn**	**19 05 28.6**	**+2.1**
MWZ				S	**Sn**	**19 06 13.4**	**+6.4**
CNGZ	**Carnagh Statio**	**3.25**	**189**	P	**Pn**	**19 05 29.0**	**+2.3**
TKGZ	**Te Karaka**	**3.27**	**194**	P	**Pn**	**19 05 28.7**	**+1.8**
URZ	**Urewera**	**3.30**	**205**	P	**Pn**	**19 05 29.1**	**+1.9**
	47nm,0.3s,baz=270,slow=4.2,SNR=360						
URZ				S	**Sn**	**19 06 14.2**	**+6.1**
	151nm,0.3s,baz=49,slow=21,SNR=32						
URZ	**Urewera**	**3.30**	**205**	P	**Pn**	**19 05 29.1**	**+1.9**
URZ				S	**Sn**	**19 06 14.3**	**+6.1**
EDRZ	**Edgecumbe**	**3.31**	**210**	P	**Pn**	**19 05 30.4**	**+3.0**
WIAZ	**Waiheke Island**	**3.38**	**242**	P	**Pn**	**19 05 30.9**	**+2.6**
RAGZ	**Rawiri**	**3.42**	**199**	P	**Pn**	**19 05 31.0**	**+2.2**
RAGZ				S	**Sn**	**19 06 17.7**	**+6.6**
OMRZ	**Omania**	**3.47**	**214**	P	**Pn**	**19 05 33.1**	**+3.7**
MKAZ	**Moumakai**	**3.51**	**237**	P	**Pn**	**19 05 32.8**	**+3.0**
ABAZ	**Army Bay**	**3.53**	**247**	P	**Pn**	**19 05 33.1**	**+3.0**
MBAZ	**Motutapu North**	**3.54**	**244**	P	**Pn**	**19 05 33.0**	**+2.7**
RIGZ	**Rimuhau**	**3.54**	**194**	P	**Pn**	**19 05 31.8**	**+1.5**
RIGZ				S	**Sn**	**19 06 18.3**	**+4.7**
ETAZ	**East Tamaki Re**	**3.60**	**241**	P	**Pn**	**19 05 34.4**	**+3.4**
MUGZ	**Murupara**	**3.62**	**207**	P	**Pn**	**19 05 33.3**	**+2.1**
TOZ	**Tahuroa Road**	**3.66**	**227**	P	**Pn**	**19 05 35.2**	**+3.5**
RTZ	**Ruatahuna**	**3.67**	**204**	P	**Pn**	**19 05 33.3**	**+1.4**
HBAZ	**Herne Bay Bore**	**3.70**	**244**	P	**Pn**	**19 05 36.4**	**+4.2**
EPAZ	**Eden Park BICE**	**3.70**	**243**	P	**Pn**	**19 05 36.4**	**+4.2**
SNGZ	**Shannon Statio**	**3.71**	**199**	P	**Pn**	**19 05 34.3**	**+1.8**
PRGZ	**Paritu Road**	**3.73**	**192**	P	**Pn**	**19 05 33.8**	**+1.1**
WCZ	**Waipu Caves**	**3.74**	**258**	P	**Pn**	**19 05 34.2**	**+1.5**
WTAZ	**Waiatarua**	**3.85**	**243**	P	**Pn**	**19 05 37.9**	**+3.8**
AWAZ	**Awhitu Peninsu**	**3.85**	**241**	P	**Pn**	**19 05 38.7**	**+4.6**
KNZ	**Kokohu**	**3.87**	**194**	P	**Pn**	**19 05 35.1**	**+0.8**
RAHZ	**Arahi**	**3.91**	**201**	P	**Pn**	**19 05 36.6**	**+1.7**
MHGZ	**Mahia Peninsul**	**3.95**	**191**	P	**Pn**	**19 05 36.8**	**+1.4**
OUZ	**Omahuta**	**4.31**	**269**	*e*Pn	**Pn**	**19 05 39.9**	**0.0**
BKZ	**Black Stump Fm**	**4.33**	**205**	*e*Pn	**Pn**	**19 05 41.3**	**+1.1**
HIZ	**Hauiti**	**4.56**	**224**	*e*Pn	**Pn**	**19 05 47.2**	**+4.0**
CKHZ	**Cape Kidnapper**	**4.61**	**197**	P	**Sn**	**19 06 42.3**	**+4.5**
PXZ	**Pawanui**	**5.01**	**198**	P	**Sn**	**19 06 49.9**	**+2.7**
WPHZ	**Waipukurau**	**5.16**	**201**	P	**Sn**	**19 06 54.1**	**+3.4**
PRHZ	**Porangahau**	**5.29**	**199**	P	**Sn**	**19 06 53.0**	**-0.8**
TSZ	**Takapari Road**	**5.31**	**205**	P	**Pn**	**19 05 52.2**	**-0.7**
TSZ	**Takapari Road**	**5.31**	**205**	P	**Sn**	**19 06 57.3**	**+3.1**
DVHZ	**Dannevirke**	**5.46**	**202**	P	**Sn**	**19 06 57.8**	**+0.1**
ANWZ	**Angora Road**	**5.52**	**199**	P	**Sn**	**19 06 58.8**	**-0.2**
POWZ	**Post Office Ro**	**5.67**	**205**	P	**Sn**	**19 07 05.3**	**+2.6**
PRWZ	**Pori Road**	**5.75**	**203**	P	**Sn**	**19 07 03.8**	**-0.8**
BFZ	**Birch Farm**	**5.79**	**200**	*e*Pn	**Pn**	**19 05 57.9**	**-1.2**
BFZ				*e*Sn	**Sn**	**19 07 02.4**	**-3.0**
BFZ	**Birch Farm**	**5.79**	**200**	P	**Sn**	**19 07 04.3**	**-1.1**
MRZ	**Mangatainoka R**	**5.98**	**205**	P	**Pn**	**19 06 00.3**	**-1.3**
MRZ	**Mangatainoka R**	**5.98**	**205**	P	**Sn**	**19 07 06.3**	**-3.6**
TIWZ	**Tintock**	**5.98**	**202**	P	**Sn**	**19 07 08.2**	**-1.9**
HOWZ	**Holdsworth Sta**	**6.21**	**204**	P	**Pn**	**19 06 03.0**	**-1.6**
OGWZ	**Otaki Gorge**	**6.26**	**207**	P	**Pn**	**19 06 04.4**	**-0.9**
TMWZ	**Te Maipa**	**6.28**	**201**	P	**Pn**	**19 06 04.3**	**-1.3**
KIW	**Kapiti Island**	**6.39**	**208**	P	**Pn**	**19 06 05.8**	**-1.3**
MTW	**Mount Morrison**	**6.45**	**203**	P	**Pn**	**19 06 06.5**	**-1.3**
CAW	**Cannon Point**	**6.55**	**206**	P	**Pn**	**19 06 07.8**	**-1.3**
RAO	**Raoul Island**	**6.59**	**25**	S	Sn	19 07 06.1	-18
	678nm,0.3s,baz=270,slow=23,SNR=8.5						
RAO	**Raoul Island**	**6.59**	**25**	*e*Pn	Pn	19 05 57.3	-12
RAO				*e*Sn	Sn	19 07 05.8	-19
RAO	**Raoul Island**	**6.59**	**25**	*e*P	Pn	19 05 57.3	-12
RAO				*e*		19 07 05.8	
TRWZ	**Traveller**	**6.61**	**201**	P	**Pn**	**19 06 08.6**	**-1.3**
PAWZ	**Paruwai Farm**	**6.67**	**203**	P	**Pn**	**19 06 08.5**	**-1.8**
DUWZ	**D'Urville Isla**	**6.76**	**214**	P	**Pn**	**19 06 10.9**	**-1.0**
MSWZ	**Moikau Station**	**6.76**	**204**	P	**Pn**	**19 06 10.1**	**-1.8**
SNZO	**South Karori**	**6.86**	**207**	*e*Pn	**Pn**	**19 06 11.3**	**-1.9**
SNZO				*e*Sn	**Sn**	**19 07 30.0**	**-0.7**
BHW	**Baring Head**	**6.89**	**206**	P	**Pn**	**19 06 11.6**	**-1.9**
PLWZ	**Palliser**	**6.90**	**203**	P	**Pn**	**19 06 11.7**	**-2.1**
TCW	**Tory Channel**	**6.94**	**210**	P	**Pn**	**19 06 12.6**	**-1.6**
TUWZ	**Tuamarina**	**7.26**	**211**	P	**Pn**	**19 06 16.4**	**-2.1**
NNZ	**Nelson**	**7.34**	**214**	P	**Pn**	**19 06 18.2**	**-1.3**
CMWZ	**Cape Campbell**	**7.42**	**208**	P	**Pn**	**19 06 18.9**	**-1.7**
QRZ	**Quartz Range**	**7.46**	**220**	P	**Pn**	**19 06 19.7**	**-1.5**
BSWZ	**Blackbirch Sta**	**7.53**	**210**	P	**Pn**	**19 06 20.6**	**-1.4**
THZ	**Tophouse**	**7.99**	**214**	*e*Pn	**Pn**	**19 06 27.2**	**-0.9**
THZ				*e*Sn	**Sn**	**19 07 55.7**	**-2.0**
THZ	**Tophouse**	**7.99**	**214**	P	**Pn**	**19 06 26.9**	**-1.2**
LTZ	**Lake Taylor**	**9.09**	**212**	*e*Pn	Pn	19 06 39.9	-2.6
LTZ				*e*Sn	Sn	19 08 18.0	-5.8
LTZ	**Lake Taylor**	**9.09**	**212**	P	Pn	19 06 39.8	-2.6
CRLZ	**Canterbury Las**	**9.59**	**208**	*e*Pn	Pn	19 06 45.7	-3.3
CRLZ				*e*Sn	Sn	19 08 25.9	-10
OXZ	**Oxford**	**9.62**	**211**	*e*Pn	Pn	19 06 46.9	-2.7
OXZ				*e*Sn	**Sn**	**19 08 31.9**	**-4.8**
MQZ	**McQueen's Vall**	**9.69**	**208**	*e*Pn	Pn	19 06 46.6	-3.7
MQZ				*e*Sn	**Sn**	**19 08 33.6**	**-4.6**
RPZ	**Rata Peaks**	**10.37**	**213**	P	**Pn**	**19 06 56.8**	**-2.4**
	3.2nm,0.3s,baz=216,slow=1.8,SNR=30						
RPZ				S	**Sn**	**19 08 49.5**	**-4.9**
	6.1nm,0.3s,baz=106,slow=21,SNR=10.0						
RPZ				LR	LR	19 11 42.2	
	comp=Z,318nm,20.9s,baz=20,slow=39						
RPZ	**Rata Peaks**	**10.37**	**213**	*e*Pn	Pn	19 06 55.9	-3.3
RPZ				*e*Sn	**Sn**	**19 08 49.4**	**-5.0**
FOZ	**Fox Glacier**	**10.81**	**218**	*e*Pn	**Pn**	**19 07 02.7**	**-2.3**
LBZ	**Lake Benmore**	**11.28**	**214**	*e*Pn	Pn	19 07 07.4	-3.6
ODZ	**Otahua Downs**	**11.61**	**210**	*e*Pn	Pn	19 07 12.7	-2.5
WKZ	**Wanaka**	**12.16**	**215**	*e*Pn	Pn	19 07 17.5	-4.9
MLZ	**Mavora Lakes**	**12.98**	**216**	*e*Pn	Pn	19 07 28.9	-3.9
WHZ	**Wether Hill Ro**	**13.46**	**215**	*e*Pn	Pn	19 07 35.4	-3.3
DCZ	**Deep Cove**	**13.53**	**218**	*e*Pn	Pn	19 07 35.2	-4.4
PYZ	**Puysegur Point**	**14.26**	**217**	*e*Pn	**Pn**	**19 07 46.6**	**-2.1**
OUENC	**Ouen Island, N**	**16.55**	**317**	*e*P	**P**	**19 08 13.2**	**-3.2**
	236nm,1.0s						
MARNC	**Mare, Loyalty**	**16.70**	**322**	*e*P	**P**	**19 08 16.2**	**-1.7**
	285nm,1.2s						
ONTNC	**Ouen Toro**	**16.86**	**317**	*e*P	**P**	**19 08 17.0**	**-2.7**
	196nm,1.0s						
LHI	**Lord Howe Isla**	**16.95**	**277**	P	**Pn**	**19 08 24.2**	**+2.6**
	baz=17,SNR=3.0						
DZM	**Mont Dzumac**	**17.05**	**317**	P	**P**	**19 08 21.7**	**-0.3**
	2.1nm,0.3s,baz=112,slow=14,SNR=29						
DZM				LR	LR	19 13 51.3	
	comp=Z,424nm,18.2s,baz=162,slow=33						
DZM	**Mont Dzumac**	**17.05**	**317**	*e*P	**P**	**19 08 20.6**	**-1.4**
	95nm,0.9s						
NIUE	**Niue**	**18.94**	**35**	*e*P	**P**	**19 08 37.5**	**-4.9**
	1µm,1.6s						
MGCD	**Mangrove Creek**	**23.01**	**267**	P	**P**	**19 09 28.6**	**+4.5**
	baz=23,SNR=9.0						
ARMA	**Armidale**	**23.35**	**274**	P	**P**	**19 09 31.5**	**+4.2**
	baz=23,SNR=15						
ARMA	**Armidale**	**23.35**	**274**	*e*P	**P**	**19 09 30.1**	**+2.8**
	116nm,1.2s						
CNB	**Canberra Magne**	**24.04**	**261**	P	**P**	**19 09 38.6**	**+5.0**
	baz=24,SNR=9.5						
CAN	**Canberra**	**24.33**	**261**	P	**P**	**19 09 41.8**	**+5.5**
	baz=25						
CAN	**Canberra**	**24.33**	**261**	*e*P	**P**	**19 09 40.4**	**+4.2**
	58nm,1.3s						
CAN	**Canberra**	**24.33**	**261**	*e*P	**P**	**19 09 40.4**	**+4.2**
CAN				pmax	pmax		
	comp=Z,58nm,1.3s						
YNG	**Young**	**25.00**	**263**	P	**P**	**19 09 46.7**	**+4.5**
	baz=25,SNR=5.5						
EIDS	**Eidsvold**	**25.85**	**285**	P	**P**	**19 09 52.0**	**+2.0**
	baz=26,SNR=8.0						
EIDS	**Eidsvold**	**25.85**	**285**	*e*P	**P**	**19 09 51.5**	**+1.6**
	comp=Z,95nm,1.2s						
RMQ	**Roma**	**27.20**	**280**	P	**P**	**19 10 05.1**	**+3.1**
	baz=27,SNR=15						
CMSA	**Cobar Meteorol**	**27.86**	**268**	P	**P**	**19 10 10.8**	**+2.9**
	baz=28,SNR=30						
QLP	**Quilpie**	**30.82**	**277**	P	**P**	**19 10 36.1**	**+2.1**
	baz=31,SNR=32						
HNR	**Honiara**	**30.98**	**322**	P	**P**	**19 10 33.3**	**-2.1**
	comp=Z,42nm,0.5s,baz=246,slow=11,SNR=7.1						
HNR	**Honiara**	**30.98**	**322**	*e*P	P	19 10 31.1	-4.3
	comp=Z,147nm,1.1s						
STKA	**Stephens Creek**	**31.11**	**265**	P	**P**	**19 10 39.6**	**+3.1**
	comp=Z,19nm,0.9s,baz=95,slow=9.1,SNR=26						
STKA				ScP	**ScP**	**19 16 52.2**	**-1.0**
	comp=Z,5.3nm,0.9s,baz=54,slow=4.7,SNR=8.1						
STKA	**Stephens Creek**	**31.11**	**265**	P	**P**	**19 10 40.0**	**+3.4**
	baz=31,SNR=19						
STKA	**Stephens Creek**	**31.11**	**265**	*e*P	**P**	**19 10 39.0**	**+2.4**
	comp=Z,7.8nm,1.1s						
STKA				*e*ScP	**ScP**	**19 16 52.1**	**-1.1**
CTA	**Charters Tower**	**32.42**	**289**	P	**P**	**19 10 49.6**	**+1.6**
	comp=Z,35nm,0.8s,baz=118,slow=10,SNR=26						
CTA				ScP	**ScP**	**19 16 58.6**	**+0.8**
	comp=Z,3.0nm,0.6s,baz=127,slow=6.9,SNR=4.5						
CTA	**Charters Tower**	**32.42**	**289**	P	**P**	**19 10 49.7**	**+1.6**
	baz=32						
CTAO	**Charters Tower**	**32.42**	**289**	*e*P	**P**	**19 10 48.8**	**+0.7**
	comp=Z,187nm,1.4s						
CTAO	**Charters Tower**	**32.42**	**289**	*e*P	**P**	**19 10 48.8**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,187nm,1.4s						
HTT	**Hallett**	**32.87**	**262**	P	**P**	**19 10 56.0**	**+4.1**
	baz=33,SNR=4.6						
MTSU	**Mount Surprise**	**35.04**	**290**	P	**P**	**19 11 12.3**	**+1.6**
	baz=35,SNR=32						
BBOO	**Buckleboo**	**35.35**	**261**	P	**P**	**19 11 16.3**	**+3.0**
	baz=36,SNR=5.1						
BBOO	**Buckleboo**	**35.35**	**261**	*e*P	**P**	**19 11 14.8**	**+1.6**
	comp=Z,72nm,2.0s						
TARA	**Tarawa**	**36.85**	**350**	*e*P	P	19 11 21.9	-4.2
	comp=Z,177nm,0.8s						
QIS	**Mount Isa**	**37.40**	**282**	P	**P**	**19 11 31.8**	**+1.1**
	baz=37,SNR=29						
COEN	**Coen**	**38.46**	**294**	P	**P**	**19 11 40.6**	**+1.0**
	baz=38,SNR=22						
COEN	**Coen**	**38.46**	**294**	*e*P	**P**	**19 11 40.3**	**+0.7**
	comp=Z,52nm,0.8s						
PMG	**Port Moresby**	**38.71**	**304**	P	**P**	**19 11 40.3**	**-1.4**
	comp=Z,19nm,1.0s,baz=119,slow=9.0,SNR=6.8						
PMG				LR	LR	19 25 42.8	
	comp=Z,164nm,19.2s,baz=150,slow=33						
PMG	**Port Moresby**	**38.71**	**304**	*e*P	**P**	**19 11 41.4**	**-0.3**
	comp=Z,68nm,1.4s						
PMG				*e*		19 25 42.8	
PMG	**Port Moresby**	**38.71**	**304**	*e*P	**P**	**19 11 41.4**	**-0.3**
PMG				pmax	pmax		
	comp=Z,68nm,1.4s						
RABL	**Rabaul**	**39.57**	**315**	*e*P	**P**	**19 11 48.1**	**-0.7**
	comp=Z,321nm,1.2s						
AS01	**Alice Springs**	**40.47**	**274**	*e*P	**P**	**19 11 56.1**	**0.0**
AS31	**Alice Springs**	**40.50**	**274**	*e*P	**P**	**19 11 56.9**	**+0.5**
	comp=Z,16nm,0.5s						
AS31				*e*ScP	**ScP**	**19 17 25.1**	**-2.6**
AS31				*e*S	**S**	**19 17 54.0**	**+2.1**
AS31				*e*SS	**SS**	**19 21 02.8**	**+3.8**
AS31				*e*		19 29 43.3	
ASAR	**Alice Springs**	**40.50**	**274**	P	**P**	**19 11 57.4**	**+0.9**
	comp=Z,32nm,0.5s,baz=114,slow=7.9,SNR=289						
ASAR				ScP	**ScP**	**19 17 25.1**	**-2.6**
	comp=Z,6.5nm,0.7s,baz=120,slow=4.3,SNR=20						
ASAR				S	**S**	**19 17 54.0**	**+2.1**
	comp=Z,2.5nm,0.9s,baz=114,slow=15,SNR=7.8						
ASAR				PKiKP	**PKiKP**	**19 21 02.8**	**-1.9**
	comp=Z,0.2nm,0.7s,baz=92,slow=0.8,SNR=4.1						
ASAR				LR	LR	19 29 43.3	
	comp=Z,199nm,18.6s,baz=137,slow=37						
WRAB	**Tennant Creek**	**41.94**	**279**	*e*P	**P**	**19 12 08.2**	**0.0**
	comp=Z,52nm,0.6s						
WRAB	**Tennant Creek**	**41.94**	**279**	*ce*P	**P**	**19 12 08.7**	**+0.5**
WRAB				*i* *PP	**pP**	**19 12 44.2**	**-2.5**
WRAB				pmax	pmax		
	comp=Z,50nm,0.7s						
WR1	**Warramunga Arr**	**41.95**	**279**	*e*P	**P**	**19 12 08.7**	**+0.5**
	comp=Z,65nm,0.5s						
WR1				*e*ScP	**ScP**	**19 17 30.7**	**-2.8**
WR1				*e*S	**S**	**19 18 14.0**	**+0.8**
WR1				*e*SS	SS	19 21 05.2	-22
WR1				*e*		19 29 05.6	
WRA	**Warramunga Arr**	**41.95**	**279**	P	**P**	**19 12 08.7**	**+0.4**
	comp=Z,36nm,0.5s,baz=118,slow=7.8,SNR=96						
WRA				ScP	**ScP**	**19 17 30.7**	**-2.8**
	comp=Z,2.2nm,0.7s,baz=114,slow=3.6,SNR=8.5						
WRA				S	**S**	**19 18 14.0**	**+0.8**
	comp=Z,2.0nm,0.9s,baz=117,slow=10,SNR=6.5						
WRA				PKiKP	**PKiKP**	**19 21 05.2**	**-0.8**
	comp=Z,0.2nm,0.8s,baz=134,slow=0.2,SNR=5.3						
WRA				LR	LR	19 29 05.6	
	comp=Z,159nm,18.8s,baz=225,slow=35						
FORT	**Forrest**	**42.46**	**261**	P	**P**	**19 12 15.1**	**+2.9**
	baz=43,SNR=16						
FORT	**Forrest**	**42.46**	**261**	*e*P	**P**	**19 12 15.1**	**+2.9**
	comp=Z,32nm,0.6s						
VNDA	**Vanda**	**43.01**	**185**	P	P	19 12 21.9	+5.9
	comp=Z,3.7nm,0.8s,baz=16,slow=6.7,SNR=12						
VNDA				ScP	**ScP**	**19 17 39.4**	**+2.6**
	comp=Z,1.3nm,0.7s,baz=350,slow=2.4,SNR=5.2						
VNDA				LR	LR	19 26 23.7	
	comp=Z,225nm,19.9s,baz=27,slow=30						
VNDA	**Vanda**	**43.01**	**185**	*e*P	P	19 12 21.6	+5.6
VNDA				*e*		19 12 22.0	
VNDA				*e*ScP	**ScP**	**19 17 39.4**	**+2.6**
VNDA				*e*		19 26 23.7	
SBA	**Scott Base**	**43.01**	**184**	*e*P	P	19 12 22.8	+6.8
	comp=Z,92nm,1.8s						
SBA	**Scott Base**	**43.01**	**184**	*e*P	P	19 12 22.8	+6.8
SBA				pmax	pmax		
	comp=Z,92nm,1.8s						
MANU	**Manus Island**	**44.14**	**311**	*e*P	**P**	**19 12 24.6**	**-1.3**
	comp=Z,129nm,1.3s						
WRKA	**Warakurna**	**44.48**	**269**	P	**P**	**19 12 29.2**	**+0.6**
	baz=45,SNR=21						
PATS	**Pohnpei**	**46.14**	**331**	*e*P	**P**	**19 12 39.0**	**-2.5**
	comp=Z,320nm,1.6s						
KDU	**Kakadu**	**47.45**	**286**	P	**P**	**19 12 51.8**	**+0.1**
	baz=47,SNR=5.7						
JAY	**Jayapura**	**48.09**	**304**	P	**P**	**19 12 56.8**	**+0.1**
	comp=Z,42nm,1.1s,baz=117,slow=4.5,SNR=4.8						
FITZ	**Fitzroy Crossi**	**49.95**	**276**	P	**P**	**19 13 11.7**	**+0.9**
	comp=Z,6.6nm,0.6s,baz=129,slow=5.7,SNR=18						
FITZ				LR	LR	19 33 09.0	
	comp=Z,176nm,20.3s,baz=117,slow=34						
FITZ	**Fitzroy Crossi**	**49.95**	**276**	P	**P**	**19 13 11.4**	**+0.7**
	baz=50,SNR=16						
FITZ	**Fitzroy Crossi**	**49.95**	**276**	*e*P	**P**	**19 13 11.5**	**+0.7**
	comp=Z,47nm,1.6s						
NWAO	**Narrogin (SRO)**	**50.35**	**254**	P	**P**	**19 13 14.9**	**+1.2**
	comp=Z,6.2nm,0.8s,baz=330,slow=6.0,SNR=4.5						
NWAO	**Narrogin (SRO)**	**50.35**	**254**	*e*P	**P**	**19 13 14.7**	**+1.0**
	comp=Z,131nm,1.8s						
MUN	**Mundaring**	**51.51**	**255**	P	**P**	**19 13 25.1**	**+2.8**
	baz=52,SNR=3.8						
MEEK	**Meekatharra**	**51.70**	**262**	P	**P**	**19 13 26.0**	**+2.2**
	baz=52,SNR=6.7						
MORW	**Morawa**	**52.77**	**258**	P	**P**	**19 13 35.6**	**+4.0**
	baz=53						
MORW	**Morawa**	**52.77**	**258**	*e*P	**P**	**19 13 33.2**	**+1.6**
	comp=Z,78nm,1.8s						
MBWA	**Marble Bar**	**53.26**	**269**	*e*P	**P**	**19 13 35.4**	**+0.1**
	comp=Z,68nm,1.6s						
FAKI	**Fak Fak**	**53.81**	**296**	*e*P	**P**	**19 13 38.5**	**-0.9**
	comp=Z,44nm,1.1s						
QSPA	**South Pole Qui**	**54.85**	**180**	P	P	19 13 52.2	+5.8
	comp=Z,63nm,0.6s,baz=28,slow=1.5,SNR=170						
QSPA	**South Pole Qui**	**54.85**	**180**	*e*P	P	19 13 52.0	+5.6
	comp=Z,67nm,0.6s						
SOEI	**Soe**	**55.66**	**283**	*e*P	**P**	**19 13 52.4**	**-0.4**
	comp=Z,83nm,1.4s						
BATI	**Baumata**	**55.88**	**282**	LR	LR	19 37 07.3	
	comp=Z,227nm,20.6s,baz=132,slow=35						
SIJI	**Sorong**	**55.91**	**297**	P	**P**	**19 13 54.8**	**+0.4**
	comp=Z,16nm,0.7s,baz=257,slow=1.8,SNR=12						
GIRL	**Giralia**	**57.04**	**264**	*e*P	**P**	**19 14 02.7**	**+0.4**
	comp=Z,761nm,1.9s						
GUMO	**Guam**	**58.30**	**320**	LR	LR	19 37 09.0	
	comp=Z,40nm,18.0s,baz=164,slow=34						
SANI	**Sanana**	**59.07**	**292**	P	**P**	**19 14 15.6**	**-0.9**
	comp=Z,33nm,0.8s						
KHU	**Kahuku**	**59.38**	**28**	*e*P	**P**	**19 14 16.1**	**-2.6**
	comp=Z,436nm,1.7s						
KHU	**Kahuku**	**59.38**	**28**	*e*P	**P**	**19 14 16.1**	**-2.6**
KHU				pmax	pmax		
	comp=Z,436nm,1.7s						
HLP	**Hilina Pali**	**59.55**	**29**	*e*P	**P**	**19 14 16.2**	**-3.4**
	comp=Z,142nm,0.8s						
AIN	**Ainahou**	**59.56**	**28**	*e*P	**P**	**19 14 17.4**	**-2.4**
	comp=Z,796nm,2.0s						
KHLU	**Kahalu`u**	**59.59**	**28**	*e*P	**P**	**19 14 18.1**	**-1.9**
	comp=Z,119nm,0.7s						
MWH	**Moku'aweowe**	**59.60**	**28**	*e*P	**P**	**19 14 17.2**	**-3.4**
	comp=Z,1µm,2.0s						
SDHHI	**Sand Hill**	**59.64**	**28**	*e*P	**P**	**19 14 18.1**	**-2.2**
	comp=Z,194nm,0.8s						
RIM	**Rim**	**59.65**	**29**	*e*P	**P**	**19 14 18.4**	**-2.0**
	comp=Z,162nm,0.8s						
WRMHI	**West Rim**	**59.65**	**28**	*e*P	**P**	**19 14 18.2**	**-2.2**
	comp=Z,172nm,0.8s						
PUH	**Pauahi**	**59.65**	**29**	*e*P	**P**	**19 14 18.8**	**-1.6**
	comp=Z,150nm,0.7s						
KKO	**Keanakako`i**	**59.65**	**29**	*e*P	**P**	**19 14 19.1**	**-1.3**
	comp=Z,173nm,0.9s						
NPH	**North Pit**	**59.66**	**28**	*e*P	**P**	**19 14 18.3**	**-2.2**
	comp=Z,58nm,0.7s						
NPH	**North Pit**	**59.66**	**28**	*e*P	**P**	**19 14 18.3**	**-2.2**
NPH				pmax	pmax		
	comp=Z,58nm,0.7s						
OBL	**Observatory Le**	**59.66**	**28**	*e*P	**P**	**19 14 18.5**	**-2.0**
	comp=Z,531nm,1.9s						
UWE	**Uwekahuna**	**59.66**	**28**	*e*P	**P**	**19 14 19.1**	**-1.5**
	comp=Z,134nm,0.8s						
BYL	**Byron's Ledge**	**59.67**	**29**	*e*P	**P**	**19 14 18.2**	**-2.3**
	comp=Z,125nm,0.7s						
UWB	**Uwekahuna B**	**59.67**	**28**	*e*P	**P**	**19 14 18.9**	**-1.7**
	comp=Z,74nm,0.8s						
HATHI	**Halema'uma'u T**	**59.68**	**29**	*e*P	**P**	**19 14 17.4**	**-3.2**
	comp=Z,261nm,1.4s						
SBLHI	**Steaming Bluff**	**59.68**	**28**	*e*P	**P**	**19 14 19.2**	**-1.4**
	comp=Z,65nm,0.7s						
HUH	**Hualalai**	**59.70**	**28**	*e*P	**P**	**19 14 19.7**	**-1.2**

MDJ sP sP 19 18 21.3 -0.4
MDJ S **S** **19 28 00.4 -1.3**
MDJ SS **SS** **19 34 06.3 -5.4**
MDJ pmax pmax
comp=Z,190nm,5.1s
HOPS Hopland Field 91.31 41 *e*P **P** **19 17 20.6 +0.7**
comp=Z,39nm,1.0s
GDXM Geysers 91.33 42 *e*P **P** **19 17 20.9 +0.8**
comp=Z,20nm,0.9s
EDW2 Edwards Air Fo 91.34 47 P **P** **19 17 21.2 +1.0**
baz=227,SNR=30
VES Vestal, Richgr 91.35 46 P **P** **19 17 20.5 +0.3**
baz=226
SWSC Sam W. Stewart 91.38 50 P **P** **19 17 21.8 +1.5**
baz=228,SNR=6.7
PFO Pinyon Flats O 91.41 49 *e*P **P** **19 17 21.7 +1.0**
comp=Z,19nm,0.8s
PFO Pinyon Flats O 91.41 49 *e*P **P** **19 17 21.7 +1.0**
PFO pmax pmax
comp=Z,19nm,0.8s
PFO Pinyon Flats O 91.41 49 P **P** **19 17 21.9 +1.2**
baz=228,SNR=9.4
XPFO Pion Flat 91.42 49 *e*P **P** **19 17 21.4 +0.7**
comp=Z,21nm,0.8s
KCPM Cahto Peak 91.54 41 *e*P **P** **19 17 20.6 -0.4**
comp=Z,27nm,0.8s
ISA Isabella, Lake 91.58 46 *e*P **P** **19 17 21.8 +0.5**
comp=Z,22nm,0.8s
ISA Isabella, Lake 91.58 46 *e*P **P** **19 17 21.8 +0.5**
ISA pmax pmax
comp=Z,22nm,0.8s
ISA Isabella, Lake 91.58 46 P **P** **19 17 22.3 +0.9**
baz=227,SNR=26
GO02 Mina Guanaco 91.68 123 *e*P **P** **19 17 25.2 +2.7**
comp=Z,9.9nm,0.8s
GYA Guiyang 91.74 301 P **P** **19 17 24.6 +2.2**
GYA pP pP 19 18 03.3 -3.1
GYA sP sP 19 18 26.0 +1.2
GYA PP **PP** **19 21 07.4 +3.3**
GYA SKS **SKSac** **19 27 39.8 +1.7**
GYA S **S** **19 28 06.3 -1.4**
GYA pmax pmax
comp=Z,20nm,1.0s
KMRM Mail Ridge 91.86 40 *e*P **P** **19 17 22.6 +0.1**
comp=Z,38nm,0.9s
LRMC Laurel Mtn Rad 91.93 47 P **P** **19 17 23.9 +0.9**
baz=227,SNR=11
RRX Edison Barstow 91.94 48 P **P** **19 17 23.7 +0.8**
baz=227
BELC Belle Mtn. Jos 91.96 49 P **P** **19 17 24.3 +1.1**
baz=228
HSIG 91.98 56 *e*P **P** **19 17 24.2 +1.0**
comp=Z,36nm,1.1s
GLA Glamis 92.06 50 *e*P **P** **19 17 25.1 +1.5**
comp=Z,58nm,0.8s
GLA Glamis 92.06 50 P **P** **19 17 25.4 +1.9**
baz=229,SNR=13
BC3 Big Chuckawall 92.07 50 P **P** **19 17 25.2 +1.6**
baz=228,SNR=10
CMB Columbia Colle 92.12 44 *e*P **P** **19 17 23.6 -0.2**
comp=Z,21nm,0.8s
CMB Columbia Colle 92.12 44 *e*P **P** **19 17 23.6 -0.2**
CMB pmax pmax
comp=Z,21nm,0.8s
HEC Hector,Ludlow 92.31 48 P **P** **19 17 25.6 +0.8**
baz=228,SNR=10.0
O02D Mt. Diablo Mer 92.32 41 P **P** **19 17 25.5 +0.9**
baz=224,SNR=22
KHMM Horse Mountain 92.32 40 *e*P **P** **19 17 25.3 +0.6**
comp=Z,25nm,0.7s
GSC Goldstone, Bar 92.34 48 *e*P **P** **19 17 25.4 +0.5**
comp=Z,17nm,0.8s
GSC Goldstone, Bar 92.34 48 *e*P **P** **19 17 25.4 +0.5**
GSC pmax pmax
comp=Z,17nm,0.8s
GSC Goldstone, Bar 92.34 48 P **P** **19 17 25.7 +0.8**
baz=228,SNR=12
CWC Cottonwood Cre 92.35 46 P **P** **19 17 25.5 +0.5**
baz=227
AFDM Forest Hills D 92.43 43 *e*P **P** **19 17 25.0 -0.2**
comp=Z,17nm,0.9s
MPMC Manual Prospec 92.44 47 P **P** **19 17 26.1 +0.7**
baz=227,SNR=6.0
DAC Darwin (Calif) 92.53 46 *e*P **P** **19 17 26.3 +0.5**
comp=Z,4.9nm,0.9s
CM01 Chiang Mai Arr 92.54 291 *e*P **P** **19 17 27.1 +1.0**
113A Mohawk Valley, 92.55 51 *e*P **P** **19 17 26.0 +0.3**
comp=Z,22nm,1.1s
ORV Oroville 92.57 42 *e*P **P** **19 17 25.6 -0.1**
comp=Z,11nm,0.7s
ORV Oroville 92.57 42 *e*P **P** **19 17 25.6 -0.1**
ORV pmax pmax
comp=Z,11nm,0.7s
CM31 Chiang Mai Arr 92.57 291 *e*P **P** **19 17 27.4 +1.1**
CMAR Chiang Mai Arr 92.57 291 P **P** **19 17 26.4 +0.1**
comp=Z,1.2nm,0.8s,baz=152,slow=3.6,SNR=13
CMAR PP **PP** **19 21 08.0 -2.5**
comp=Z,1.6nm,1.0s,baz=138,slow=6.3,SNR=9.1
CMAR PKKPbc **PKKPbc** **19 34 36.6 -0.6**
comp=Z,0.2nm,0.4s,baz=276,slow=4.4,SNR=3.0
CMAR Chiang Mai Arr 92.57 291 *i* P **P** **19 17 27.6 +1.4**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
IRM Iron Mountain 92.59 49 P **P** **19 17 27.5 +1.5**
baz=228,SNR=19
OMMB Old Mammoth Mi 92.62 45 *e*P **P** **19 17 26.3 -0.1**
comp=Z,29nm,1.9s
214A Organ Pipe Nat 92.63 52 P **P** **19 17 27.4 +1.2**
baz=230
TIN Tinemaha, Big 92.68 45 P **P** **19 17 27.1 +0.6**
baz=227
GMRC Granite Mounta 92.69 49 P **P** **19 17 27.8 +1.3**
baz=228
Y12C Blythe 92.71 50 *e*P **P** **19 17 27.8 +1.4**
comp=Z,20nm,0.8s
Y12C Blythe 92.71 50 P **P** **19 17 28.1 +1.6**
baz=229,SNR=6.0
MLAC Mammoth, Mammo 92.72 45 P **P** **19 17 27.0 +0.2**
baz=226
WDC Whiskeytown Da 92.74 41 *e*P **P** **19 17 26.2 -0.2**
comp=Z,20nm,0.8s
WDC Whiskeytown Da 92.74 41 *e*P **P** **19 17 26.2 -0.2**
WDC pmax pmax
comp=Z,20nm,0.8s
O03E Paynes Creek 92.93 41 P **P** **19 17 27.3 -0.1**
baz=225,SNR=8.8
N02D Trinity Center 92.93 40 P **P** **19 17 28.2 +0.7**
baz=224,SNR=11
TUQ Turquoise Moun 92.96 48 P **P** **19 17 28.7 +0.9**
baz=228,SNR=14
WAKR Walker 92.98 44 *e*P **P** **19 17 28.2 +0.3**
comp=Z,20nm,0.8s
FURC Furnace Creek, 93.09 47 P **P** **19 17 28.7 +0.6**
baz=228
GRAC Grapevine Rang 93.15 46 P **P** **19 17 29.3 +0.8**
baz=227,SNR=5.2
M02C Callahan 93.15 40 P **P** **19 17 29.3 +0.8**
baz=224,SNR=14
PNTR Pine Nut 93.30 43 *e*P **P** **19 17 29.4 0.0**
comp=Z,36nm,0.7s
PDMCI Parker Dam,Lak 93.31 50 P **P** **19 17 30.4 +1.1**
baz=229
L02E Cave Junction 93.31 39 P **P** **19 17 29.8 +0.7**
baz=224
NEE2 Needles Airpor 93.32 49 P **P** **19 17 30.5 +1.2**
baz=229
VCNR Virginia City 93.41 43 *e*P **P** **19 17 30.0 +0.2**
comp=Z,12nm,0.7s
BEKR Beckworth 93.41 42 *e*P **P** **19 17 29.1 -0.7**
comp=Z,17nm,0.7s
YERR Yerington 93.43 44 *e*P **P** **19 17 29.6 -0.3**
comp=Z,20nm,0.7s
YBH Yreka Blue Hor 93.47 40 *e*P **P** **19 17 30.4 +0.5**
comp=Z,11nm,0.8s
YBH Yreka Blue Hor 93.47 40 *e*P **P** **19 17 30.4 +0.5**
YBH pmax pmax
comp=Z,11nm,0.8s
NV01 Mina Array Sit 93.58 44 *e*P **P** **19 17 30.6 0.0**
NVAR Mina Array Bea 93.58 44 P **P** **19 17 31.1 +0.5**
comp=Z,16nm,0.8s,baz=223,slow=8.2,SNR=85
RYN Ryan 93.59 44 *e*P **P** **19 17 30.8 +0.2**
comp=Z,9.0nm,0.8s
NV11 Mina Array Sit 93.66 45 *e*P **P** **19 17 30.9 -0.1**
comp=Z,0.8nm,0.9s
K02D Willamette Mer 93.67 39 P **P** **19 17 31.4 +0.7**
baz=224,SNR=6.0
KMI Kunming 93.71 298 P **P** **19 17 34.0 +2.4**
KMI pmax pmax
comp=Z,8.0nm,0.5s
TPNV Topopah Spring 93.78 47 *e*P **P** **19 17 30.9 -0.6**
comp=Z,14nm,0.8s
TPNV Topopah Spring 93.78 47 *e*P **P** **19 17 30.9 -0.6**
TPNV pmax pmax
comp=Z,14nm,0.8s
TPNV Topopah Spring 93.78 47 P **P** **19 17 32.2 +0.6**
Y14A Wickenburg 93.79 51 *e*P **P** **19 17 32.4 +0.9**
comp=Z,11nm,0.9s
LVC Limon Verde 93.81 121 LR LR 19 50 08.5
comp=Z,81nm,21.4s,baz=219,slow=29
PAHR Pah Rah Range 93.84 43 *e*P **P** **19 17 31.5 -0.2**
comp=Z,16nm,0.9s
J01E Myrtle Point 93.87 38 P **P** **19 17 32.0 +0.5**
baz=224
M04C Macdoel 93.96 40 P **P** **19 17 32.3 +0.1**
baz=225,SNR=9.0
HUMO Hull Mountain 93.97 39 *e*P **P** **19 17 32.3 +0.2**
comp=Z,53nm,1.6s
W13A Hualapai Mount 93.99 49 *e*P **P** **19 17 33.7 +1.1**
comp=Z,6.7nm,0.9s
L04D Klamath Falls 94.03 40 P **P** **19 17 32.5 0.0**
baz=225,SNR=8.9
KVN Kaiserville 94.12 44 *e*P **P** **19 17 33.2 +0.1**
comp=Z,12nm,0.8s
KVN Kaiserville 94.12 44 *e*P **P** **19 17 33.2 +0.1**
KVN pmax pmax
comp=Z,12nm,0.8s
SHPR Sheep Range 94.13 48 *e*P **P** **19 17 33.9 +0.7**
comp=Z,5.9nm,0.9s
TUC Tucson 94.17 53 *e*P **P** **19 17 34.8 +1.4**
comp=Z,18nm,0.8s
TUC Tucson 94.17 53 *e*P **P** **19 17 34.8 +1.4**
TUC pmax pmax
comp=Z,18nm,0.8s
TUC Tucson 94.17 53 P **P** **19 17 35.2 +1.8**
baz=231
NNA Nana 94.54 108 LR LR 19 50 54.7
comp=Z,52nm,21.9s,baz=200,slow=29
I03D Drain, OR 94.55 38 P **P** **19 17 34.9 +0.3**
baz=224
I02D Swisshome 94.60 37 P **P** **19 17 34.9 +0.1**
baz=224
J04D Umpqua Nationa 94.86 39 P **P** **19 17 36.5 +0.1**
baz=225,SNR=7.1
MOD Modoc Plateau 94.86 41 *e*P **P** **19 17 36.1 -0.2**
comp=Z,18nm,0.8s
X16A Lo Mia Camp, P 95.09 51 *e*P **P** **19 17 39.0 +1.3**
comp=Z,11nm,1.0s
I04A Tendick Farm, 95.09 38 P **P** **19 17 36.9 -0.3**
baz=225,SNR=7.4
R11A Troy Canyon, C 95.10 46 *e*P **P** **19 17 37.4 -0.2**
comp=Z,2.9nm,0.9s
R11A Troy Canyon, C 95.10 46 P **P** **19 17 37.5 -0.1**
baz=228
J05D Fort Rock, OR 95.34 39 P **P** **19 17 38.6 +0.1**
baz=225,SNR=8.2
H04D Lebanon 95.45 38 P **P** **19 17 38.8 0.0**
baz=224
BMN Battle Mountai 95.55 44 *e*P **P** **19 17 39.6 +0.1**
BMN Battle Mountai 95.55 44 *e*P **P** **19 17 39.6 +0.1**
LCMT Little Creek M 95.63 48 *e*P **P** **19 17 40.8 +0.8**
comp=Z,7.5nm,0.8s
WUAZ Wupatki 95.83 50 *e*P **P** **19 17 41.8 +0.8**
comp=Z,9.3nm,0.9s
WUAZ Wupatki 95.83 50 P **P** **19 17 42.1 +1.1**
baz=230
U15A North Rim 95.84 49 *e*P **P** **19 17 42.0 +0.9**
comp=Z,14nm,0.8s
H04A Detroit Lake 95.84 38 *e*P **P** **19 17 40.3 -0.3**
comp=Z,12nm,0.8s
PINE Pine Mountain 95.85 39 *e*P **P** **19 17 41.0 +0.1**
comp=Z,24nm,0.8s
KNB Kanab 95.89 48 *e*P **P** **19 17 42.4 +1.2**
comp=Z,12nm,0.8s
CCUT Cedar City 95.90 48 *e*P **P** **19 17 42.0 +0.7**
comp=Z,15nm,1.6s
I05D Terrebonne, OR 96.03 39 P **P** **19 17 41.3 -0.1**
baz=225
WVOR Wild Horse Val 96.13 41 *e*P **P** **19 17 42.2 +0.1**
comp=Z,19nm,1.4s
WVOR Wild Horse Val 96.13 41 *e*P **P** **19 17 42.2 +0.1**
WVOR pmax pmax
comp=Z,19nm,1.4s
PSUT Pine Spring 96.25 47 *e*P **P** **19 17 43.3 +0.4**
comp=Z,4.4nm,0.9s
PKCU Pink Cliffs 96.47 48 *e*P **P** **19 17 45.5 +1.4**
comp=Z,9.0nm,0.9s
CD2 Chengdu 96.49 303 *e*P **P** **19 17 44.8 +0.9**
G05D Wamic, OR 96.67 38 P **P** **19 17 45.4 +1.1**
baz=225
I07A Izee 96.80 40 *e*P **P** **19 17 44.9 -0.1**
comp=Z,8.8nm,1.1s
J08A Circle Bar Ran 96.84 41 *e*P **P** **19 17 45.4 +0.1**
comp=Z,8.3nm,1.0s
ELK Elko 96.88 44 *e*P **P** **19 17 45.3 -0.4**
comp=Z,3.8nm,0.8s
ELK Elko 96.88 44 *e*P **P** **19 17 45.3 -0.4**
ELK pmax pmax
comp=Z,4.0nm,0.8s
MTPU Mount Pierson 96.93 48 *e*P **P** **19 17 47.5 +1.4**
comp=Z,5.8nm,0.8s
G06A Carlson Farm, 97.01 38 *e*P **P** **19 17 45.5 -0.5**
comp=Z,5.8nm,0.7s
MSU Marysvale 97.24 48 *e*P Pdif 19 17 48.1 +0.7
MSU Marysvale 97.24 48 *e*P Pdif 19 17 48.1 +0.7
D03D Eldon 97.43 35 P Pdif 19 17 48.8 +1.1
baz=224
HHC Hu-ho-hao-te 97.75 315 *e*P Pdif 19 17 50.6 +1.1
HHC sP sP 19 18 55.4 +3.4
HHC SKS **SKSac** **19 28 10.8 +1.3**
HHC S **ScS** **19 28 59.3 -0.1**
HHC pmax pmax
comp=Z,12nm,1.0s
HHC pmax pmax
comp=Z,260nm,4.7s
G08A Pilot Rock 97.91 39 *e*P **P** **19 17 49.5 -0.5**
MFID Camas Ranch 98.31 42 *e*P **P** **19 17 51.8 -0.1**
comp=Z,4.9nm,0.8s
TMUT Trail Mountain 98.32 47 *e*P Pdif 19 17 53.3 +1.0
comp=Z,7.4nm,0.8s
E07A Sunnyside 98.32 38 *e*P **P** **19 17 51.8 0.0**
comp=Z,9.4nm,0.7s
HAWA Hanford 98.37 38 *e*P Pdif 19 17 52.2 +0.3
comp=Z,4.1nm,0.8s
LTY Liberty 98.40 37 *e*P Pdif 19 17 52.5 +0.3
comp=Z,3.9nm,0.7s
ANMO Albuquerque 98.64 53 *e*P Pdif 19 17 54.5 +0.9
comp=Z,4.6nm,1.0s
ANMO Albuquerque 98.64 53↓ *e*P **P** **19 17 52.1 -1.6**
ANMO pmax pmax
comp=Z,3.0nm,1.0s
ANMO Albuquerque 98.64 53 P Pdif 19 17 54.0 +0.4
baz=233
P17A Butcher Ranch, 98.71 48 *e*P Pdif 19 17 54.7 +0.8
comp=Z,5.5nm,1.1s
HVU Hansel Valley 98.97 45 *e*P **Pdif** **19 17 55.0 0.0**
comp=Z,3.9nm,0.7s
HVU Hansel Valley 98.97 45 *e*P **Pdif** **19 17 55.0 0.0**
HVU pmax pmax
comp=Z,4.0nm,0.7s
D08A Wollman Farm, 99.13 38 *e*P **Pdif** **19 17 55.4 +0.1**
comp=Z,8.3nm,0.7s
E09A Wood Farm, Sta 99.16 39 *e*P **Pdif** **19 17 55.2 -0.2**
comp=Z,5.2nm,0.8s
HLID Hailey 99.19 43 *e*P **Pdif** **19 17 56.1 +0.3**
comp=Z,4.4nm,1.0s
HLID Hailey 99.19 43 P **Pdif** **19 17 56.4 +0.5**
baz=230
F10A Beach Ranch, E 99.27 39 *e*P **Pdif** **19 17 54.9 -1.1**
comp=Z,2.9nm,0.7s
TCUT Tonne Canyon 99.34 46 *e*Pdif **Pdif** **19 17 56.5 -0.2**
comp=Z,8.8nm,0.9s
LZH Lanzhou 99.54 307 *e*P **Pdif** **19 18 00.8 +3.2**
LZH pP pP 19 18 44.8 +3.0
LZH sP sP 19 19 02.3 +2.1
LZH pmax pmax
comp=Z,25nm,1.1s
JTS JuntasAbangare 100.89 85↑ *e*P **Pdif** **19 18 06.1 +2.2**
LOHW Long Hollow 101.36 44 *e*Pdif **Pdif** **19 18 06.2 +0.6**
BW06 Boulder Array 101.45 45 P **Pdif** **19 18 06.5 +0.4**
baz=232
PD31 Pinedale Array 101.45 45 *e*Pdif **Pdif** **19 18 07.0 +0.9**
PDAR Pinedale Array 101.45 45 P **Pdif** **19 18 05.8 -0.3**
comp=Z,2.0nm,0.7s,baz=196,slow=3.3,SNR=27
PDAR PP **PP** **19 22 16.5 -2.1**
comp=Z,0.3nm,0.7s,baz=225,slow=10,SNR=2.0
RLMT Red Lodge 103.04 44 P **Pdif** **19 18 14.3 +1.2**
baz=233
ILAR Eielson Array 103.27 14 P **Pdif** **19 18 12.7 -0.5**
comp=Z,0.3nm,0.8s,baz=198,slow=5.7,SNR=4.3
ILAR PP **PP** **19 22 25.4 -5.9**
comp=Z,1.5nm,1.2s,baz=220,slow=6.4,SNR=4.3
ILAR PKiKP **PKiKP** **19 22 30.8 -0.6**
comp=Z,0.6nm,0.7s,baz=309,slow=2.6,SNR=7.2
ILB Eielson Array 103.27 14 *e*Pdif **Pdif** **19 18 12.4 -0.8**
ILB *e*PP **PP** **19 22 24.8 -6.5**
BILL Bilibino 103.43 355 *i* P **Pdif** **19 18 10.3 -3.6**
BILL pmax pmax
comp=Z,2.0nm,1.1s
SONA0 Songino Array 104.99 318 *e*PP PKiKP 19 22 46.1 +11
SONA0 *e*PKKPbc **PKKPbc** **19 34 04.7 +1.0**
SONM Songino Array 104.99 318 PP PKiKP 19 22 46.1 +11
comp=Z,0.8nm,1.0s,baz=125,slow=7.4,SNR=4.0
SONM PKKPbc **PKKPbc** **19 34 04.7 +1.0**
comp=Z,1.0nm,0.9s,baz=222,slow=1.9,SNR=6.7
YKA Yellowknife Ar 110.97 27 Pdiff **Pdif** **19 18 52.4 +4.9**
comp=Z,0.3nm,0.7s,baz=197,slow=5.8,SNR=3.9
YKA PKiKP **PKiKP** **19 22 45.1 -0.7**
comp=Z,0.6nm,0.5s,baz=260,slow=1.8,SNR=16
YKA PP **PP** **19 23 24.4 -3.2**
comp=Z,0.6nm,0.9s,baz=233,slow=7.1,SNR=5.7
YKA PKKPbc **PKKPbc** **19 33 45.0 -0.1**
comp=Z,0.2nm,0.6s,baz=46,slow=3.4,SNR=4.7
YKB5 Yellowknife Ar 110.97 27 *e*PKiKP **PKiKP** **19 22 45.0 -0.8**
YKB5 *e*PP **PP** **19 23 23.9 -3.7**
WMQ Urumqi 114.12 308 *e*PKP **PKiKP** **19 22 54.3 +1.8**
Y54A Tignall 114.76 65 P **PKiKP** **19 22 54.7 +0.7**
baz=243
E39A Mellen 114.87 50 P **PKiKP** **19 22 55.3 +1.4**
baz=244
U51A La Follette 114.92 62 P PKPdf 19 22 53.9 -0.3
baz=244
V52A Sevierville 114.98 63 P PKPdf 19 22 54.0 -0.3
baz=244
W53A Cullowhee 115.00 64 P **PKiKP** **19 22 55.0 +0.4**
baz=243
V53A Saluda 115.48 63 P **PKPdf** **19 22 55.2 -0.2**
baz=244
Q51A Peebles 116.55 60 P **PKPdf** **19 22 56.9 -0.4**
baz=245
DGZ Jazzator, Alta 116.77 313↑ *i* PKiKP **PKPdf** **19 22 56.2 -1.4**
O50A Cable 116.82 58 P **PKPdf** **19 22 57.2 -0.6**
baz=245
M49A Liberty Center 117.13 57 P **PKPdf** **19 22 58.0 -0.3**
baz=246
ACSO Alum Creek Sta 117.30 59 P **PKPdf** **19 22 58.6 -0.1**
baz=246
K48A Perry 117.57 55 P **PKiKP** **19 22 59.1 0.0**
baz=246
P52A Corning 117.65 59 P **PKPdf** **19 22 59.1 -0.3**
baz=246
O52A Adamsville 118.06 59 P **PKPdf** **19 22 59.8 -0.4**
baz=246
MK01 Makanchi Array 118.80 309 *e*PKPdf **PKPdf** **19 22 59.5 -1.9**
MK31 Makanchi Array 118.81 309 *e*PKPdf **PKPdf** **19 22 59.4 -2.0**
MK31 Makanchi Array 118.81 309 *e*PKiKP **PKPdf** **19 22 59.4 -2.0**
MK32 Makanchi Array 118.81 309 *e*PKPdf **PKPdf** **19 22 59.5 -1.9**
MK32 *e*SKPdf **SKiKP** **19 26 20.4 +0.3**
MK32 *e*PKKPbc **PKKPab** **19 33 19.2 +1.1**
MK32 *e*PKKSdf **SKKPbc** **19 36 52.4 +3.2**
MK32 *e* 19 54 36.0
MKAR Makanchi Array 118.81 309 PKP **PKPdf** **19 22 59.5 -1.9**
comp=Z,1.7nm,0.7s,baz=185,slow=0.9,SNR=22
MKAR SKP 19 26 20.4
comp=Z,1.2nm,1.0s,baz=64,slow=2.8,SNR=4.0
MKAR PKKPbc **PKKPab** **19 33 19.2 +1.1**
comp=Z,0.4nm,0.4s,baz=306,slow=2.0,SNR=12
MKAR SKKPbc SKKPbc 19 36 52.4 +3.2
comp=Z,0.7nm,0.8s,baz=295,slow=3.2,SNR=6.5
MKAR P4KPbc 19 54 36.0
comp=Z,0.5nm,1.0s,baz=64,slow=5.5,SNR=3.8
MKAR Makanchi Array 118.81 309 *e*PKPdf **PKPdf** **19 22 59.1 -2.3**
MKAR SKP 19 26 20.4
MKAR PKKPbc **PKKPab** **19 33 19.2 +1.1**
MKAR SKKPbc SKKPbc 19 36 52.4 +3.2
MKAR *e* 19 54 36.0
MKAR Makanchi Array 118.81 309 *c i* PKiKP **PKPdf** **19 23 00.3 -1.1**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MAKZ Makanchi 119.02 309 *e*PKPdf **PKPdf** **19 22 59.7 -2.1**
MAKZ Makanchi 119.02 309 *e*PKiKP **PKPdf** **19 22 59.7 -2.1**
N53A Lisbon 119.03 59 P **PKiKP** **19 23 02.3 +0.2**
baz=247
N54A Moraine State 119.68 59 P **PKPdf** **19 23 03.0 -0.3**
baz=248
ZALV Zalesovo Beam 119.85 317 PKP **PKPdf** **19 23 01.6 -1.5**
comp=Z,1.5nm,0.6s,baz=164,slow=2.4,SNR=6.5
ZALV Zalesovo Beam 119.85 317 *e*PKPdf **PKPdf** **19 23 00.8 -2.4**
ZAA1 Zalesovo Array 119.85 317 *e*PKPdf **PKPdf** **19 23 01.6 -1.5**
O55A Ligonier 119.88 60 P **PKiKP** **19 23 03.8 0.0**
baz=248
TARG Taragay, Kyrgy 119.91 302 *e*PKPdf **PKPdf** **19 23 03.4 -0.8**
ERPA Erie 120.12 58 P **PKPdf** **19 23 03.8 -0.3**
baz=248
KSH Kashi 120.36 299 PKP **PKiKP** **19 23 08.8 +3.9**
KSH sPKP 19 24 08.5
KSH SKS **SKSdf** **19 30 02.3 +2.5**
KSH SKKS **SKKSac** **19 31 16.3 +1.2**
KSH AMB AMB
comp=Z,240nm,5.6s
O56A Blue Knob Stat 120.42 60 P **PKiKP** **19 23 04.9 +0.1**
baz=248
SSPA Standing Stone 121.04 60 P **PKPdf** **19 23 05.8 -0.1**
baz=248
G53A Haliburton 122.11 55 P **PKPdf** **19 23 07.2 -0.6**
baz=251
KURK Kurchatov 122.42 312 *e*PKPdf **PKPdf** **19 23 06.6 -1.6**
KURK Kurchatov 122.42 312 *e*PKiKP **PKPdf** **19 23 06.6 -1.6**
E52A Mattawa 122.47 53 P **PKPdf** **19 23 08.0 -0.4**
baz=251
AAK Ala-Archa 122.53 302 *e*PKPdf **PKPdf** **19 23 08.0 -0.9**
AAK Ala-Archa 122.53 302↑ *i* PKiKP **PKPdf** **19 23 07.6 -1.3**
AAK pmax pmax
comp=Z,6.0nm,2.5s
N59A State Game Lan 122.64 60 P **PKPdf** **19 23 08.3 -0.6**
baz=250
RES Resolute Bay 122.67 18 *e*PKPdf **PKPdf** **19 23 07.2 -0.8**
RES Resolute Bay 122.67 18 *e*PKiKP **PKPdf** **19 23 07.2 -0.8**
D52A ZEK Kipawa Sen 122.84 53 P **PKPdf** **19 23 08.9 -0.3**
baz=252
H55A Tweed 122.89 56 P **PKPdf** **19 23 09.0 -0.2**
baz=251
BINY Binghamton 122.93 59 P **PKPdf** **19 23 09.2 -0.3**
baz=250
E53A Dumoine, Ponti 123.15 54 P **PKPdf** **19 23 09.4 -0.3**
baz=252
G55A Calabogie 123.42 55 P **PKPdf** **19 23 09.9 -0.4**
baz=252
H56A Elgin 123.53 56 P **PKPdf** **19 23 10.2 -0.3**
baz=252
VLDQ Val d'Or 123.81 52 *e*PKPdf **PKPdf** **19 23 09.3 -1.6**
D54A Lac Fusel, La 124.04 53 P **PKPdf** **19 23 11.1 -0.4**
baz=253
GAR Garm 124.27 297 *e*PKPdf **PKPdf** **19 23 11.8 -0.5**
GAR Garm 124.27 297 *e*PKiKP **PKPdf** **19 23 11.8 -0.5**
NCB Newcomb 124.72 57 *e*PKPdf **PKPdf** **19 23 12.8 0.0**
KK31 Karatay Array 125.45 301 *e*PKPdf **PKPdf** **19 23 12.8 -1.5**
KK31 Karatay Array 125.45 301 *e*PKiKP **PKPdf** **19 23 12.8 -1.5**
KKAR Karatay Array 125.45 301 *e*PKPdf **PKPdf** **19 23 12.9 -1.4**
KKAR Karatay Array 125.45 301 *e*PKiKP **PKPdf** **19 23 12.9 -1.4**
QUA2 Belchertown 125.51 60 *e*PKPdf **PKiKP** **19 23 14.8 0.0**
VT1 Waterbury 125.84 57 *e*PKPdf **PKiKP** **19 23 15.2 -0.2**
LBNH Lisbon 126.39 57 *e*PKPdf **PKiKP** **19 23 16.3 -0.2**
LBNH Lisbon 126.39 57 *e*PKiKP **PKiKP** **19 23 16.3 -0.2**
LBNH Lisbon 126.39 57 P **PKiKP** **19 23 16.5 0.0**
baz=254
BRVK Borovoye 128.00 313 *e*PKPdf **PKPdf** **19 23 17.4 -1.4**
BRVK Borovoye 128.00 313 *i* PKiKP **PKPdf** **19 23 18.3 -0.5**
PKME Peaks-Kenny Pk 128.46 57 *e*PKPdf **PKiKP** **19 23 20.4 -0.2**
PKME Peaks-Kenny Pk 128.46 57 P **PKiKP** **19 23 20.5 -0.1**
baz=256
KMBO Kilima Mbogo 129.05 233 SKPbc SKPbc 19 26 28.0 +1.5
comp=Z,0.6nm,0.3s,baz=63,slow=6.6,SNR=5.2
SCHQ Schefferville 131.58 45 PKP **PKPdf** **19 23 24.8 -0.8**
comp=Z,5.2nm,0.8s,baz=252,slow=9.6,SNR=2.7
SCHQ SKPbc **SKPab** **19 26 34.2 -0.7**
comp=Z,6.6nm,0.8s,baz=326,slow=1.2,SNR=6.3
GEYT Alibeck 133.05 292 PKP **PKiKP** **19 23 30.0 -0.2**
comp=Z,34nm,0.7s,baz=166,slow=1.2,SNR=4.7

GEYT				SKPbc	**SKPbc**	19 26 39.7	-0.1		
	comp=Z,6.8nm,0.7s,baz=153,slow=1.7,SNR=16								
ABKAR	**Akbulak array**	**133.91**	**307**	*e*PKPdf	**PKPdf**	19 23 30.3	+0.2		
ARU	**Arti**	**135.01**	**317**	*e*PKPdf	**PKPdf**	19 23 31.1	-0.8		
ARU	**Arti**	**135.01**	**317**	*i* PKIKP	**PKPdf**	19 23 31.6	-0.3		
AKTO	**Aktyubinsk**	**135.25**	**309**	PKP	**PKPdf**	19 23 32.2	-0.4		
	comp=Z,0.9nm,0.5s,baz=97,slow=8.3,SNR=5.4								
AKTO				SKPbc	**SKPbc**	19 26 46.5	0.0		
	comp=Z,2.4nm,0.8s,baz=107,slow=6.2,SNR=6.2								
APA	**Apatity**	**142.13**	**339**	⇓*i* PKIKP	**PKiKP**	19 23 48.5	+0.8		
APA				pmax	pmax				
	comp=Z,6.0nm,1.1s								
APA				MLR	MLR				
	comp=Z,700nm,24.0s								
ARA0	**ARCESS Array S**	**142.68**	**345**	*e*PKPpre	PKPpre	19 23 42.1			
ARA0				*e*SKPbc	**SKiKP**	19 27 06.7	-1.1		
ARCES	**ARCESS Array B**	**142.68**	**345**	PKhKP	PKPpre	19 23 42.1			
ARCES				SKPbc	**SKiKP**	19 27 06.7	-1.1		
	comp=Z,6.2nm,1.0s,baz=11,slow=2.5,SNR=6.2								
KLMR	**Klimovskoe**	**143.62**	**327**	*e*PKHKP	PKPpre	19 23 43.4			
KLMR				pmax	pmax				
	comp=Z,11nm,0.9s								
KLMR	**Klimovskoe**	**143.62**	**327**	*e*PKPdf	PKPab	19 23 43.5	-1.0		
KLMR				AMP		19 23 50.4			
	comp=Z,11nm,0.8s								
GNI	**Garni**	**143.69**	**292**	⇑*e*PKIKP	PKPab	19 23 46.0	+0.3		
TBLG	**Delisi**	**143.86**	**294**	*e*PKPdf	PKPbc	19 23 47.0	+0.2		
TBLG	**Delisi**	**143.86**	**294**	*e*PKIKP	PKPbc	19 23 47.0	+0.2		
ZEI	**Tsey**	**144.56**	**296**	*i* PKIKP	**PKPab**	19 23 47.8	-1.2		
ZEI				pmax	pmax				
	comp=Z,7.0nm,0.7s								
NCK	**Nalchik**	**144.81**	**297**	⇓*e*PKIKP	**PKPdf**	19 23 50.0	-0.1		
SIRT	**Sirnak**	**145.07**	**287**	*e*PKPbc	**PKPbc**	19 23 50.7	0.0		
GOF	**Gofitskoye**	**145.22**	**300**	*e*PKHKP	PKPpre	19 23 47.8			
GOF				pmax	pmax				
	comp=Z,70nm,1.5s								
KBZ	**Khabaz**	**145.32**	**298**	PKPbc	**PKPdf**	19 23 50.2	-0.7		
	comp=Z,6.7nm,0.9s,baz=74,slow=3.0,SNR=8.7								
NEY	**Neytrino**	**145.44**	**297**	⇑*e*PKIKP	**PKPab**	19 23 53.2	+0.9		
KIV	**Kislovodsk**	**145.48**	**298**	*i* PKP2	**PKPab**	19 23 53.7	+1.4		
KIV				pmax	pmax				
	comp=Z,10.0nm,1.1s								
VRH	**Novokhopyorsk**	**145.50**	**311**	*e*PKP2	**PKPdf**	19 23 49.8	-1.2		
VRH				pmax	pmax				
	comp=Z,60nm,0.8s								
MOS	**Moscow**	**146.60**	**320**	*e*PKHKP	PKPpre	19 23 50.6			
MOS				pmax	pmax				
	comp=Z,51nm,0.6s								
LPSR	**Galich'ya Gora**	**146.87**	**314**	*e*PKIKP	**PKPdf**	19 23 54.0	+0.7		
LPSR				pmax	pmax				
	comp=Z,30nm,0.8s								
VSR	**Storozhevoye**	**147.07**	**312**	⇓*i* PKIKP	**PKPdf**	19 23 54.5	+0.9		
OBN	**Obninsk**	**147.39**	**319**	*e*PKPdf	**PKPdf**	19 23 54.6	+0.6		
OBN	**Obninsk**	**147.39**	**319***c*	*i* PKIKP	**PKPbc**	19 23 55.7	-1.1		
OBN				pmax	pmax				
	comp=Z,63nm,1.7s								
ASF	**Jabal al Asfar**	**148.34**	**275**	PKPbc	**PKPbc**	19 24 00.8	+0.6		
	comp=Z,2.8nm,0.8s,baz=80,slow=6.1,SNR=4.8								
FIA1	**FINESS Array S**	**148.62**	**335**	*e*PKPdf	**PKPdf**	19 23 57.6	+1.8		
FIA1				*e*PKPdf	**PKPbc**	19 23 58.0	-1.8		
FIA0	**FINESS Array S**	**148.62**	**335**	*e*PKPdf	**PKPdf**	19 23 57.9	+2.0		
FIA0	**FINESS Array S**	**148.62**	**335**	*e*PKIKP	**PKPdf**	19 23 57.9	+2.0		
FINES	**FINESS Array B**	**148.62**	**335**	PKPbc	**PKPdf**	19 23 57.9	+2.0		
	comp=Z,24nm,0.8s,baz=50,slow=3.8,SNR=85								
EIL	**Elat**	**149.16**	**270**	PKPbc	**PKPbc**	19 24 01.9	-0.3		
	comp=Z,3.6nm,0.6s,baz=6.3,slow=2.8,SNR=5.8								
MMAI	**Mount Meron Ar**	**149.78**	**276**	PKPbc	**PKPbc**	19 24 02.6	-1.1		
	comp=Z,5.1nm,0.5s,baz=85,slow=5.2,SNR=14								
VSU	**Vasula**	**150.37**	**330***c*	*i* PKHKP	PKPpre	19 24 03.4			
VSU				pmax	pmax				
	comp=Z,167nm,1.3s								
LIC	**Lamto**	**150.88**	**172**	*e*PKIKP	**PKPdf**	19 24 02.5	+1.5		
	comp=Z,44nm,0.6s								
KIC	**Kosan Boka**	**151.04**	**173**	*e*PKIKP	**PKPdf**	19 24 02.9	+1.7		
	comp=Z,29nm,0.6s								
TIC	**Toumodi**	**151.29**	**172**	*e*PKIKP	**PKPdf**	19 24 03.4	+1.8		
DBIC	**Dimbokro**	**151.34**	**172**	PKP	**PKPdf**	19 24 03.7	+2.1		
	comp=Z,3.1nm,0.7s,baz=127,slow=2.2,SNR=7.4								
DBIC				PKPbc	**PKiKP**	19 24 09.6	+1.3		
	comp=Z,9.4nm,0.6s,baz=194,slow=2.6,SNR=24								
DBIC	**Dimbokro**	**151.34**	**172**	*e*PKPdf	**PKPdf**	19 24 03.4	+1.7		
DBIC				*e*PKPbc	**PKiKP**	19 24 09.5	+1.3		
ILGA	**Ilgaz**	**152.11**	**292**	*e*PKPbc	**PKiKP**	19 24 09.2	-0.1		
BR101	**Keskin Array S**	**152.16**	**290**	*e*PKPbc	**PKPbc**	19 24 08.6	-0.5		
BR131	**Keskin Array S**	**152.16**	**290**	*e*PKPbc	**PKPbc**	19 24 08.5	-0.6		
BRTR	**Keskin Array B**	**152.16**	**290**	PKPbc	**PKPbc**	19 24 08.6	-0.6		
	comp=Z,3.1nm,0.5s,baz=151,slow=3.7,SNR=22								
NC303	**NORSAR Array S**	**152.82**	**347**	PKPbc	**PKPbc**	19 24 08.1	-1.6		
NB2	**NORSAR Subarra**	**153.02**	**347**	PKPdf	**PKPbc**	19 24 08.2	-2.0		
	comp=Z,8.1nm,1.0s,baz=31,slow=1.9								
NB2	**NORSAR Subarra**	**153.02**	**347**	PKPdf	**PKPbc**	19 24 08.2	-2.0		
	baz=31,slow=1.9								
NB200	**NORSAR Array S**	**153.02**	**347**	*e*PKPdf	**PKPdf**	19 24 01.8	-1.0		
NB200				*e*PKPbc	**PKPbc**	19 24 09.0	-1.2		
NOA	**NORSAR Array B**	**153.02**	**347**	PKP	**PKPdf**	19 24 01.8	-1.0		
	comp=Z,1.9nm,1.1s,baz=31,slow=1.9,SNR=2.7								
NOA				PKPbc	**PKPbc**	19 24 09.0	-1.2		
	comp=Z,5.7nm,0.8s,baz=31,slow=2.0,SNR=24								
AKASG	**Malin Array Be**	**153.20**	**315**	PKPbc	**PKPbc**	19 24 10.1	-0.7		
	comp=Z,2.9nm,0.4s,baz=60,slow=2.5,SNR=22								
AKBB	**Malin Array Si**	**153.20**	**315**	*e*PKPbc	**PKPbc**	19 24 09.2	-1.6		
AKBB				*e*PKPab	**PKPab**	19 24 22.8	-0.6		
AKBB	**Malin Array Si**	**153.20**	**315**	*e*PKIKP	**PKPbc**	19 24 09.3	-1.6		
AKBB				*e*		19 24 22.8			
KIEV	**Kiev**	**153.21**	**315**	*e*PKPbc	**PKPbc**	19 24 09.6	-1.3		
KIEV				*e*PKPab	**PKPab**	19 24 22.7	-0.8		
NC602	**NORSAR Array S**	**153.24**	**346**	*e*PKPbc	**PKPbc**	19 24 09.0	-1.7		
AK11	**Malin Array Si**	**153.24**	**315**	*e*PKPdf	**PKPdf**	19 24 02.3	-1.0		
AK11				*e*PKPbc	**PKPbc**	19 24 09.7	-1.2		
HFS	**Hagfors**	**153.32**	**343**	PKPbc	**PKPbc**	19 24 09.3	-1.5		
	comp=Z,8.9nm,0.7s,baz=108,slow=3.3,SNR=15								
BUR04	**Bucovina Ar. S**	**156.83**	**310**	*e*PKPdf	**PKPdf**	19 24 09.5	+1.1		
BUR04				*e*PKPab	**PKPab**	19 24 38.7	-0.6		
TOA0	**Torodi Ar. Sit**	**157.83**	**187**	*e*PKPdf	**PKPdf**	19 24 09.5	-1.0		
TOA0				*e*PKPdf	**PKPdf**	19 24 10.7	+0.1		
TOA0				*e*PKPab	**PKPab**	19 24 44.1	+0.1		
TOA0				*e*PKPab	**PKPab**	19 24 45.0	+1.0		
TORD	**Torodi Ar. Bea**	**157.83**	**187**	PKP	**PKPdf**	19 24 10.7	+0.1		
	comp=Z,3.7nm,1.0s,baz=347,slow=2.6,SNR=15								
TORD				PKPab	**PKPab**	19 24 45.1	+1.1		
	comp=Z,1.6nm,0.5s,baz=179,slow=3.0,SNR=8.1								
TOA1	**Torodi Ar. Sit**	**157.83**	**187**	*e*PKPdf	**PKPdf**	19 24 10.7	+0.1		
TOA1				*e*PKPab	**PKPab**	19 24 45.1	+1.1		
EKA	**Eskdalemuir Ar**	**159.88**	**3**	PKPab	**PKPab**	19 24 49.3	-2.7		
	comp=Z,1.8nm,0.7s,baz=332,slow=3.1,SNR=5.8								
VYHS	**Vyhne**	**160.18**	**318**	*e*PKP2	**PKPab**	19 24 53.6	0.0		
VYHS	**Vyhne**	**160.18**	**318**	*e*PKP	**PKPab**	19 24 53.6	0.0		
GERES	**GERESS Array B**	**162.56**	**326**	PKPab	**PKPab**	19 25 01.2	-2.9		
	comp=Z,0.4nm,0.6s,baz=43,slow=7.3,SNR=2.7								
PMPS	**Porto Santo**	**167.22**	**96**	*ep*PKPdf	pPKPdf	19 25 07.7	+1.8		
POLO	**Lamas de Olo**	**171.97**	**39**	*e*PKPab	**PKPab**	19 25 45.0	-0.9		
PVRL	**Vila Real**	**172.08**	**39**	*e*PKPdf	**PKPdf**	19 24 22.8	+0.9		
PVRL	**Vila Real**	**172.08**	**39**	*e*PKPab	**PKPab**	19 25 45.5	-0.8		
PCAS	**Casmilo, Conde**	**172.46**	**49**	*e*PKPab	**PKPab**	19 25 47.2	-0.8		
MVO	**Moncorvo**	**172.51**	**36**	*e*PKPab	**PKPab**	19 25 47.2	-1.0		
PMAFR	**Mafra**	**172.53**	**58**	*e*PKPab	**PKPab**	19 25 50.7	+2.3		
PTOM	**Tomar**	**172.77**	**51**	*e*PKPab	**PKPab**	19 25 48.9	-0.5		
PMTG	**Montargil**	**173.19**	**54**	*e*PKPab	**PKPab**	19 25 50.5	-0.8		
PNCL	**Nicolau / Gran**	**173.42**	**62**	*e*PKPdf	**PKPdf**	19 24 24.5	+2.0		
PNCL	**Nicolau / Gran**	**173.42**	**62**	*e*PKPab	**PKPab**	19 25 52.5	+0.1		
PMRV	**Marv??o**	**173.52**	**48**	*e*PKPab	**PKPab**	19 25 51.4	-1.3		
EVO	**Evora**	**173.60**	**57**	*e*PKPdf	**PKPdf**	19 24 26.5	+3.9		
EVO	**Evora**	**173.60**	**57**	*e*PKPab	**PKPab**	19 25 54.8	+1.6		
PESTR	**Estremoz**	**173.72**	**53**	*e*PKPab	**PKPab**	19 25 52.6	-1.1		
MESJ	**Messejana**	**173.75**	**64**	*e*PKPab	**PKPab**	19 25 53.9	0.0		
ES19	**SONSECA Array**	**175.06**	**26**	*e*PKPdf	**PKPdf**	19 24 23.7	+0.6		
ES19				*e*PKPab	**PKPab**	19 25 59.0	-0.5		
ESDC	**Sonseca Array**	**175.06**	**26**	PKP	**PKPdf**	19 24 23.9	+0.8		
	comp=Z,1.3nm,0.9s,baz=323,slow=0.8,SNR=4.8								

BEO ***15*** *19:11:13.5±0.8, 45.02°N×16.65°E, h5km, ML2.7/6*
SAR ***15*** *19:11:16.9±0.2, 45.03°N×17.03°E, h3km±1km, ML2.6/1*
PRU ***15*** *19:11:18.0±0.0, 44.94°N×16.93°E, h13km*
ISC 15 19:11:16.8±1.0, 45.02N±0.02×17.01E±0.02, h8km±9km, n49,σ1$33/91,2D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.30**	**155**		*e*Pg		**Pg**	**19 11 22.3**	**-0.4**
BLY					*e*Sg		**Sg**	**19 11 27.3**	**+0.6**
BLY	**Banja Luka**	**0.30**	**155**	⇓*i*	*i*Pg		**Pg**	**19 11 22.3**	**-0.4**
BLY					*e*Sg		**Sg**	**19 11 26.5**	**-0.2**

DOB	**Doboj**	**0.83**	**110**	*e*Pg		**Pg**	**19 11 31.6**	**-1.2**	
DOB				*e*Sg		**Sg**	**19 11 43.0**	**-0.5**	
UDBI	**Udbina**	**1.01**	**241**	*e*Pg		**Pb**	**19 11 35.7**	**-0.9**	
UDBI				Sg		**Sb**	**19 11 49.2**	**-0.8**	
OZLJ	**Ozalj**	**1.24**	**299**	*e*Pg		**Pn**	**19 11 39.8**	**-0.6**	
OZLJ				Sg		**Sn**	**19 11 56.3**	**-0.9**	
GCIS	**Gornji Cirnik**	**1.29**	**312**	*i* Pg		**Pg**	**19 11 41.5**	**-0.1**	
GCIS				*i* Sg		**Sn**	**19 12 00.8**	**+2.3**	
	comp=Z,24nm,0.2s								
BOJS	**Bojanci**	**1.33**	**292**	*i* Pg		**Pg**	**19 11 41.8**	**-0.6**	
BOJS				*i* Sg		**Sg**	**19 12 00.7**	**+1.1**	
	comp=Z,29nm,0.2s								
CRES	**Cresnjev**	**1.36**	**307**	*i* Pn		**Pb**	**19 11 42.1**	**-0.3**	
CRES				*i* Sn		**Sg**	**19 12 02.8**	**+2.3**	
	comp=Z,40nm,0.3s								
CRES	**Cresnjev**	**1.36**	**307**	⇓*i* Pg		**Pn**	**19 11 41.8**	**-0.3**	
CRES				*e*Sg		**Sg**	**19 12 00.4**	**-0.1**	
LEGS	**Legarje**	**1.51**	**309**	*i* Pn		**Pn**	**19 11 44.3**	**+0.2**	
LEGS				*i* Sn		**Sg**	**19 12 07.4**	**+2.1**	
NVLJ	**Novalja**	**1.59**	**254**	*e*Pn		**Pg**	**19 11 46.1**	**-1.2**	
NVLJ				Sn		**Sg**	**19 12 08.3**	**+0.5**	
GBRS	**Gornja Briga**	**1.63**	**289**	*i* Pn		**Pb**	**19 11 47.0**	**-0.1**	
GBRS				*i* Sn		**Sg**	**19 12 10.7**	**+1.4**	
MORH	**Mrgy, Hungar**	**1.66**	**43**	*e*Pn		**Pn**	**19 11 46.3**	**+0.1**	
MORH				*e*Sn		**Sn**	**19 12 08.2**	**+0.6**	
MORH	**Mrgy, Hungar**	**1.66**	**43**	*e*Pn		**Pn**	**19 11 45.1**	**-1.1**	
MORH				Sn		**Sg**	**19 12 11.0**	**+0.9**	
HAPS	**Han Pijesak,Bl**	**1.67**	**123**	*e*Pn		**Pn**	**19 11 45.6**	**-0.9**	
HAPS	**Han Pijesak,Bl**	**1.67**	**123**	*e*Pn		**Pn**	**19 11 46.1**	**-0.4**	
HAPS				*e*Sn		**Sn**	**19 12 08.7**	**+0.5**	
TEKS	**Tekeris**	**1.86**	**104**	*e*Pn		**Pn**	**19 11 50.2**	**+1.3**	
TEKS				*e*Sn		**Sb**	**19 12 16.6**	**+2.2**	
TEKS	**Tekeris**	**1.86**	**104**	*e*Pn		**Pn**	**19 11 48.9**	**0.0**	
TEKS				*e*Sn		**Sn**	**19 12 13.1**	**+0.5**	
CEY	**Cerknica**	**1.96**	**293**	*e*Pn		**Pn**	**19 11 50.9**	**+0.6**	
CEY				*e*Sn		**Sb**	**19 12 16.1**	**-1.1**	
TIH	**Tihany**	**1.98**	**18**	*e*Pn		**Pn**	**19 11 51.1**	**+0.5**	
TIH				Sn		**Sn**	**19 12 15.1**	**-0.5**	
FRGS	**Fruska Gora**	**1.99**	**85**	*e*Pn		**Pn**	**19 11 50.8**	**0.0**	
FRGS				*e*Sn		**Sb**	**19 12 19.1**	**+0.9**	
FRGS	**Fruska Gora**	**1.99**	**85**	*e*Pn		**Pn**	**19 11 51.0**	**+0.2**	
FRGS				*e*Sn		**Sn**	**19 12 16.3**	**+0.4**	
LJU	**Ljubljana**	**2.02**	**301**	*e*Pn		**Pn**	**19 11 52.0**	**+0.8**	
LJU				*e*Sn		**Sb**	**19 12 17.6**	**-1.5**	
BBLS	**Lazi?i**	**2.07**	**123**	*e*Pn		**Pn**	**19 11 52.0**	**+0.1**	
BBLS				*e*Sn		**Sb**	**19 12 20.2**	**-0.3**	
BBLS	**Lazi?i**	**2.07**	**123**	*e*Pn		**Pn**	**19 11 52.0**	**+0.1**	
BBLS				*e*Sn		**Sn**	**19 12 18.5**	**+0.6**	
SOKA	**Soboth**	**2.16**	**321**	Pn		**Pn**	**19 11 53.5**	**+0.3**	
	comp=Z,0.5nm,0.3s								
SOKA				Sn		**Sn**	**19 12 19.0**	**-1.1**	
	comp=Z,1.8nm,0.2s								
STON	**Ston**	**2.21**	**167**	*e*Pn		**Pb**	**19 11 55.3**	**-1.6**	
STON				Sn		**Sb**	**19 12 24.6**	**+0.3**	
UPM	**Unac-Piva**	**2.27**	**142**	*e*Pn		**Pn**	**19 11 55.4**	**+0.6**	
UPM				*e*Sn		**Sn**	**19 12 23.6**	**+0.5**	
OBKA	**Obir**	**2.27**	**312**	Pn		**Pn**	**19 11 56.1**	**+1.4**	
	comp=Z,0.4nm,0.2s								
OBKA				Pg		**Pg**	**19 12 02.2**	**+1.7**	
	comp=Z,8.5nm,0.4s								
DIVS	**Divibare**	**2.33**	**112**	*e*Pn		**Pn**	**19 11 55.4**	**0.0**	
DIVS				*e*Sn		**Sb**	**19 12 27.2**	**-0.7**	
DIVS	**Divibare**	**2.33**	**112**	*e*Pn		**Pn**	**19 11 55.4**	**0.0**	
DIVS				*e*Sn		**Sn**	**19 12 24.5**	**+0.3**	
BRY	**Bratogost**	**2.39**	**152**	*e*Pn		**Pn**	**19 11 57.3**	**+0.9**	
BRY				*e*Sn		**Sn**	**19 12 27.0**	**+1.1**	
ARSA	**Arzberg**	**2.46**	**336**	Pn		**Pn**	**19 11 57.1**	**-0.2**	
	comp=Z,3.2nm,0.4s								
ARSA				Sg		**Sg**	**19 12 38.1**	**+2.3**	
	comp=Z,3.8nm,0.3s								
TREB	**Trebinje**	**2.50**	**157**	*e*Sn		**Sn**	**19 12 29.6**	**+1.3**	
TRUS	**Trudelj**	**2.56**	**107**	*e*Pn		**Pn**	**19 11 59.2**	**+0.7**	
IVAS	**Ivanjica**	**2.68**	**121**	*e*Pn		**Pn**	**19 12 00.1**	**-0.2**	
SOP	**Sopron**	**2.68**	**354**	*e*Pn		**Pn**	**19 11 58.0**	**-2.2**	
SOP				Sn		**Sn**	**19 12 29.0**	**-3.9**	
GRUS	**Gruza**	**2.89**	**112**	*e*Pn		**Pn**	**19 12 03.4**	**+0.3**	
GRUS				*e*Sn		**Sn**	**19 12 41.6**	**+3.7**	
CONA	**Conrad Observa**	**3.02**	**345**	Pn		**Pn**	**19 12 06.0**	**+1.1**	
	comp=Z,3.4nm,0.3s								
CONA				Sn		**Sn**	**19 12 40.5**	**-0.7**	
	comp=Z,3.2nm,0.4s								
MODS	**Modra-Piesok**	**3.36**	**3**	*e*PN		**Pn**	**19 12 10.5**	**+0.9**	
MODS				*e*SN		**Sn**	**19 12 48.2**	**-1.5**	
MOA	**Molln**	**3.41**	**327**	*e*Pn		**Pn**	**19 12 11.9**	**+1.6**	
	comp=Z,0.8nm,0.1s								
MOA				*e*Sn		**Sn**	**19 12 45.5**	**-5.3**	
	comp=Z,4.6nm,0.2s								
PSZ	**Piszkesteto**	**3.52**	**34**	*e*Pn		**Pn**	**19 12 10.1**	**-1.8**	
PSZ				Sn		**Sn**	**19 12 51.1**	**-2.6**	
BOVS	**Bovan**	**3.65**	**111**	*e*Pn		**Pn**	**19 12 12.8**	**-0.7**	
VYHS	**Vyhne**	**3.70**	**19**	*e*PN		**Pn**	**19 12 15.1**	**+0.9**	
VYHS				*e*SN		**Sn**	**19 12 56.4**	**-1.5**	
KRUC	**Moravsky**	**4.07**	**354**	*e*PN		**Pn**	**19 12 20.1**	**+0.8**	
KRUC				*e*SN		**Sn**	**19 13 07.6**	**+0.6**	
BARS	**Barje**	**4.11**	**121**	*e*Pn		**Pn**	**19 12 20.6**	**+0.7**	
VRAC	**Vranov**	**4.30**	**356**	*e*PN		**Pn**	**19 12 23.1**	**+0.6**	
KHC	**Kasperske Hory**	**4.73**	**332**	*e*PN		**Pn**	**19 12 29.7**	**+1.2**	
KHC				*ex*		x	19 12 52.1		
KHC				*e*SN		**Sn**	**19 13 23.2**	**-0.3**	
MORC	**Moravsky Berou**	**4.77**	**4**	*e*PN		**Pn**	**19 12 30.3**	**+1.3**	
MORC				*e*SN		**Sn**	**19 13 26.7**	**+2.2**	

MOS ***15*** *19:20:24.5±0.9, 16.67°N×98.19°W, h16km, mb5.1/44, Error ellipse: s-maj=11.1km s-min=4.6km az=98.0*
ISCJB ***15*** *19:20:27.0±0.4, 16.68°N±0.02°×98.17°W±0.02, h35km±3km, mb4.9/284, MS4.2/20, Error ellipse: s-maj=3.9km s-min=2.5km az=17.7*
MEX ***15*** *19:20:27.7±0.6, 16.49°N×98.49°W, h12km±3km, MD5.0*
NEIC ***15*** *19:20:27.7±0.0, 16.49°N×98.49°W, h12km, mb5.0/295, MD5.0(MEX), After MEX.*
NEIC Felt [II] at Mexico. Also felt at Acatzingo, Cacahuatepec, Chilapa, El Colorado and Naucalpan.
BJI ***15*** *19:20:28.0, 16.70°N×98.20°W, h34km, mB5.5/2, Ms5.0/2, Ms7 4.6/1*
IDC ***15*** *19:20:32.0±2.6, 16.74°N×98.20°W, h60km±21km, mb4.3/19, mb1 4.4/24, mb1mx4.3/36, mbtmp4.5/24, ML4.2/5, MS4.1/21, Ms1 4.1/21, ms1mx3.9/37, Error ellipse: s-maj=27.0km s-min=11.0km az=49.0*
ISC 15 19:20:27.1±0.7, 16.56N±0.04×98.38W±0.03, h30km±5km, n954,σ1$20/983, mb5.0/286, MS4.2/21, 5C-5D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.29**	**125**	*e*Pg			**Pb**	**19 20 34.4**	**-0.2**
PNIG	**Pinotepa**	**0.29**	**125**	*e*P			**Pb**	**19 20 34.4**	**-0.2**
PNIG				*e*S			**Sb**	**19 20 39.7**	**+0.1**
ACP2	**Acapulco**	**1.48**	**282**	*i* P			**Pn**	**19 20 49.1**	**-2.6**
ACP2				*i* S			**Sn**	**19 21 06.0**	**-4.0**
VHO	**Vista Hermosa**	**1.66**	**72**	*e*P			**Pn**	**19 20 55.4**	**+1.0**
VHO				*i* S			**Sb**	**19 21 16.7**	**-1.1**
MEIG	**Mezcala**	**1.80**	**319**	*e*Pn			**Pn**	**19 20 55.5**	**-0.8**
MEIG	**Mezcala**	**1.80**	**319**	*e*P			**Pn**	**19 20 55.5**	**-0.8**
MEIG				*e*S			**Sn**	**19 21 15.5**	**-2.7**
CAIG	**El Cayaco**	**1.87**	**285**	*e*P			**Pn**	**19 20 54.7**	**-2.4**
CAIG				*i* S			**Sn**	**19 21 15.7**	**-4.0**
TPIG	**Tehuac#an**	**2.09**	**28**	*e*Pn			**Pn**	**19 21 00.8**	**+0.5**
TPIG	**Tehuac#an**	**2.09**	**28**	*e*P			**Pn**	**19 21 00.8**	**+0.5**
TPIG				*e*S			**Sb**	**19 21 27.1**	**-3.1**
PLIG	**Platanillo**	**2.11**	**330**	*e*P			**Pn**	**19 21 00.5**	**-0.1**
PLIG				*i* S			**Sn**	**19 21 25.2**	**-0.7**
HUIG	**Huatulco**	**2.32**	**110**	*e*P			**Pn**	**19 21 04.2**	**+0.8**
HUIG				*i* S			**Sn**	**19 21 31.5**	**+0.6**
YAIG	**Yautepec**	**2.38**	**344**	*e*P			**Pn**	**19 21 04.4**	**+0.1**
YAIG				*e*S			**Sn**	**19 21 32.2**	**-0.3**
PHPU	**Puebla**	**2.48**	**5**	*i* P			**Pn**	**19 21 05.9**	**+0.1**
PHPU				*i* S			**Sn**	**19 21 36.4**	**+1.3**
PPM	**Popocatepetl**	**2.50**	**355**	*e*Pn			**Pn**	**19 21 06.8**	**+0.5**
PPM				*e*Sn			**Sn**	**19 21 37.1**	**+1.0**
PPM	**Popocatepetl**	**2.50**	**355**	*e*P			**Pn**	**19 21 06.8**	**+0.5**
PPM				*i* S			**Sn**	**19 21 37.1**	**+1.0**
PPM	**Popocatepetl**	**2.50**	**355**	*e*P			**Pn**	**19 21 06.8**	**+0.5**
PPM				*e*				19 21 37.1	
ARIG	**Puente Sto Nin**	**2.54**	**313**	*e*P			**Pn**	**19 21 06.2**	**-0.2**
ARIG				*i* S			**Sn**	**19 21 34.5**	**-1.8**
ARIG	**Puente Sto Nin**	**2.54**	**313**	*e*P			**Pn**	**19 21 06.2**	**-0.2**
ARIG				*i* S			**Sn**	**19 21 34.5**	**-1.8**
AMVM	**AMECAMECA**	**2.59**	**351**	*i* P			**Pn**	**19 21 07.8**	**+0.5**

AMVM				*i* S			**Sn**	**19 21 38.0**	**+0.1**
UNM	**Universidad Na**	**2.86**	**345**	*e*Pn			**Pn**	**19 21 11.0**	**0.0**
UNM				*e*Sn			**Sn**	**19 21 45.3**	**+0.8**
UNM	**Universidad Na**	**2.86**	**345**	*i* P			**Pn**	**19 21 11.3**	**+0.4**
UNM				*i* S			**Sn**	**19 21 45.3**	**+0.8**
UNM	**Universidad Na**	**2.86**	**345**	*e*P			**Pn**	**19 21 11.0**	**0.0**
UNM				*e*				19 21 45.3	
CMIG	**Matias Romero**	**3.39**	**81**	P			**Pn**	**19 21 18.5**	**+0.5**
	62nm,0.3s,baz=258,slow=10,SNR=384								
CMIG				S			**Sn**	**19 21 57.8**	**+0.5**
	242nm,0.3s,baz=258,slow=22,SNR=5.6								
CMIG				LR			LR	19 23 01.6	
	comp=Z,3μm,19.4s,baz=222,slow=47								
LVIG	**Laguna Verde**	**3.66**	**30**	*e*Pn			**Pn**	**19 21 20.0**	**-1.7**
DEIG	**Demacu**	**3.77**	**351**	*e*P			**Pn**	**19 21 23.4**	**-0.1**
DEIG

baz=207
AMTX **Amarillo** 18.48 351 *e*P Pn 19 24 40.5 -0.6
comp=Z,60nm,1.1s
AMTX **Amarillo** 18.48 351 P Pn 19 24 40.6 -0.5
baz=170
X40A **Basin Creek Fa** 18.53 15 *e*P P 19 24 39.5 -1.8
comp=Z,80nm,1.3s
X40A **Basin Creek Fa** 18.53 15 P Pn 19 24 41.2 -0.4
baz=197
957A **Wimauma** 18.58 51 *e*P P 19 24 40.3 -1.6
comp=Z,162nm,0.3s
058A **Arcadia** 18.58 53 P P 19 24 40.3 -1.5
baz=239
X41A **Kaden, Bauxite** 18.62 15 P Pn 19 24 42.5 -0.2
baz=198
Z46A **Louisville** 18.62 26 P P 19 24 42.0 -0.3
baz=210
148A **Greensboro** 18.77 29 P P 19 24 42.8 -1.1
baz=214
250A **Grady** 18.88 33 *e*P P 19 24 44.7 -0.5
comp=Z,35nm,0.6s
250A **Grady** 18.88 33 P P 19 24 44.9 -0.3
baz=218
PAYG **Puerto Ayora** 18.90 154 *e*P Pn 19 24 46.7 +0.5
comp=Z,31nm,1.2s
857A **Zephyrhills** 18.91 49 P P 19 24 44.5 -1.0
baz=235,SNR=5.9
X42A **Stuttgart** 18.91 17 P Pn 19 24 45.6 -0.6
baz=200
UALR **University of** 18.93 15 *e*P P 19 24 45.1 -0.5
comp=Z,114nm,1.0s
655A **Horseshoe Beac** 18.94 44 P P 19 24 44.9 -0.9
baz=230
Y45A **Yeager Farm, C** 18.98 23 P P 19 24 46.1 -0.1
baz=207,SNR=10
Z47A **Carrollton** 19.00 27 P P 19 24 45.9 -0.5
baz=212
W39A **Magazine** 19.01 12 *e*P Pn 19 24 47.0 -0.4
comp=Z,77nm,0.8s
W39A **Magazine** 19.01 12 P Pn 19 24 47.1 -0.2
baz=194,SNR=12
BNM **Barren Site** 19.02 339 *e*P Pn 19 24 48.4 +0.6
059A **Moore Haven** 19.04 54 *e*P P 19 24 46.9 0.0
comp=Z,56nm,0.7s
149A **Jones** 19.11 31 P P 19 24 47.2 -0.4
baz=216,SNR=11
X43A **Marvell** 19.11 19 *e*P P 19 24 47.5 -0.1
comp=Z,189nm,1.1s
X43A **Marvell** 19.11 19 P P 19 24 47.5 -0.1
baz=203
LENM **Lemitar** 19.16 338 *e*P Pn 19 24 49.8 +0.4
453A **Whigham** 19.16 40 *e*P Pn 19 24 48.7 -0.5
comp=Z,55nm,0.8s
453A **Whigham** 19.16 40 P Pn 19 24 48.7 -0.5
baz=225
LPM **Los Pinos Moun** 19.17 339 *e*P P 19 24 48.2 -0.2
352A **Blakely** 19.25 37 *e*P P 19 24 48.6 -0.5
comp=Z,103nm,1.3s
352A **Blakely** 19.25 37 P P 19 24 48.8 -0.4
baz=223
Y46A **Houston** 19.26 25 P P 19 24 48.5 -0.8
baz=209,SNR=16
TUC **Tucson** 19.30 327 *e*P Pn 19 24 52.0 +1.0
comp=Z,16nm,1.0s
TUC **Tucson** 19.30 327 *e*P Pn 19 24 52.0 +1.0
TUC pmax pmax
comp=Z,16nm,1.0s
TUC **Tucson** 19.30 327 P Pn 19 24 50.8 -0.1
baz=142
W41B **Gary Mavity, V** 19.33 15 *e*P P 19 24 48.5 -1.6
comp=Z,65nm,1.1s
W41B **Gary Mavity, V** 19.33 15 P Pn 19 24 50.3 -1.0
baz=198
X44A **Crenshaw** 19.33 21 P Pn 19 24 50.3 -1.0
baz=205
656A **Willston** 19.35 46 *e*P P 19 24 48.8 -1.4
comp=Z,56nm,0.8s
656A **Willston** 19.35 46 P P 19 24 48.8 -1.4
baz=232
LRAL **Lakeview Retre** 19.36 30 *e*P Pn 19 24 50.8 -0.9
comp=Z,46nm,1.0s
LRAL *e*Sn Sn 19 28 18.3 -10
LRAL **Lakeview Retre** 19.36 30 P P 19 24 50.1 -0.3
baz=215,SNR=17
TUL1 **Leonard** 19.41 6 *e*P P 19 24 49.9 -1.0
comp=Z,223nm,1.0s
TUL1 **Leonard** 19.41 6 P P 19 24 50.1 -0.8
baz=188,SNR=9.1
DWPF **Disney Wildern** 19.41 51 *e*P P 19 24 50.2 -0.7
comp=Z,82nm,0.9s
DWPF **Disney Wildern** 19.41 51 P P 19 24 49.7 -1.3
baz=237
757A **Oxford** 19.42 48 P P 19 24 49.0 -2.0
baz=234
LAZ **Ladron** 19.43 338 *e*P P 19 24 48.8 -2.5
WHAR **Wooly Hollow** 19.43 15 *e*P P 19 24 49.0 -2.1
comp=Z,71nm,1.0s
251A **Midway** 19.43 35 P P 19 24 50.1 -1.1
baz=220,SNR=6.3
454A **Quitman** 19.49 41 P P 19 24 50.8 -1.0
baz=227
150A **Eclectic** 19.50 33 P P 19 24 50.8 -1.2
baz=218,SNR=20
BCIP **Isla Barro Col** 19.50 110 *e*P P 19 24 52.2 +0.2
comp=Z,52nm,1.0s
858A **St. Cloud** 19.52 51 P P 19 24 52.0 -0.1
baz=237
555A **McAlpin** 19.53 44 *e*P P 19 24 51.5 -0.7
comp=Z,47nm,0.8s
555A **McAlpin** 19.53 44 P P 19 24 50.8 -1.4
baz=230
X45A **UM Field Stati** 19.53 23 P P 19 24 51.6 -0.7
baz=207,SNR=6.7
353A **Camilla** 19.57 39 P P 19 24 52.1 -0.6
baz=224
OXF **Oxford** 19.60 23 *e*P P 19 24 52.9 -0.2
comp=Z,88nm,1.1s
OXF **Oxford** 19.60 23 *e*P P 19 24 52.9 -0.2
OXF pmax pmax
comp=Z,88nm,1.1s
ANMO **Albuquerque** 19.68 340 P Pn 19 24 55.4 -0.3
comp=Z,0.5nm,0.3s,baz=147,slow=12,SNR=30
ANMO LR LR 19 33 21.2
comp=Z,2µm,18.3s,baz=156,slow=39
ANMO **Albuquerque** 19.68 340 *e*P Pn 19 24 54.5 -1.2
comp=Z,16nm,0.9s
ANMO **Albuquerque** 19.68 340 *c i*P Pn 19 24 55.2 -0.5
ANMO pmax pmax
comp=Z,26nm,1.3s
ANMO **Albuquerque** 19.68 340 P Pn 19 24 55.1 -0.6
baz=157
Y47A **UCPARC, Winfie** 19.70 27 P P 19 24 53.8 -0.3
baz=211,SNR=12
Z49A **Columbiana** 19.72 31 P P 19 24 53.8 -0.5
baz=216,SNR=34
252A **Lumpkin** 19.74 36 P P 19 24 53.4 -1.2
baz=222,SNR=8.4
U32A **Winter Ranch,** 19.75 359 *e*P P 19 24 54.8 +0.2
comp=Z,162nm,0.9s
151A **Opelika** 19.81 34 P P 19 24 54.7 -0.6
baz=220,SNR=21
556A **Lake Butler** 19.82 45 P P 19 24 54.1 -1.4
baz=231,SNR=7.6
455A **Stateville** 19.89 42 P P 19 24 55.4 -0.9
baz=228
V41A **Mountainview** 19.93 15 P P 19 24 55.9 -0.8
baz=198,SNR=15
657A **Interlachen** 19.94 47 P P 19 24 54.9 -1.8
baz=233
X46A **Booneville** 19.96 24 P P 19 24 56.4 -0.5
baz=209,SNR=15
MET **Memphis--Engin** 19.97 21 *e*P P 19 24 56.0 -1.0
comp=Z,168nm,0.5s
Y48A **Jasper** 20.01 28 P P 19 24 56.3 -1.1
baz=213,SNR=16
TIGA **Tifton** 20.01 40 *e*P P 19 24 56.4 -1.1
comp=Z,96nm,0.7s
TIGA **Tifton** 20.01 40 P P 19 24 56.3 -1.3
baz=226
HHAR **Hobbs** 20.04 11 *e*P P 19 24 56.6 -1.2
comp=Z,73nm,0.9s
HBAR **Harrisburg** 20.13 19 *e*P P 19 24 57.5 -1.2
comp=Z,106nm,0.6s
253A **Americus** 20.14 37 *e*P P 19 24 56.1 -2.7
comp=Z,88nm,0.9s
V42A **Cord** 20.16 17 P P 19 24 58.0 -1.0
baz=200,SNR=12
214A **Organ Pipe Nat** 20.16 322 P Pn 19 25 00.9 -0.4
baz=137
X47A **Russelville** 20.22 26 P P 19 24 58.4 -1.4
baz=210,SNR=12
152A **Waverly Hall** 20.25 35 *e*P P 19 24 59.0 -1.1
comp=Z,67nm,1.1s
152A **Waverly Hall** 20.25 35 P P 19 24 58.5 -1.6
baz=221,SNR=14
W45A **Hickory Valley** 20.26 22 P P 19 24 59.3 -0.9
baz=206,SNR=7.3
Y49A **Blount Mountai** 20.31 30 *e*P P 19 25 00.4 -0.4
comp=Z,40nm,0.8s
Y49A **Blount Mountai** 20.31 30 P P 19 24 59.9 -1.0
baz=215,SNR=18
U40A **Yellville** 20.32 13 P P 19 25 00.1 -0.8
baz=196,SNR=28
Z51A **Franklin** 20.50 33 P P 19 25 01.8 -1.1
baz=219,SNR=12
X48A **Hartselle** 20.52 28 *e*P P 19 25 01.9 -1.1
comp=Z,41nm,0.9s
X48A **Hartselle** 20.52 28 P P 19 25 02.6 -0.4
baz=213,SNR=18
U41A **Viola** 20.52 15 P P 19 25 02.3 -0.7
baz=198,SNR=8.3
PLAL **Pickwick Lake** 20.53 25 *e*P P 19 25 02.4 -0.7
comp=Z,100nm,1.2s
456A **Hilliard** 20.54 44 *e*P P 19 25 02.0 -1.2
comp=Z,62nm,0.6s
W46A **Michie** 20.55 24 P P 19 25 02.7 -0.5
baz=208
254A **Abbeville** 20.55 39 P P 19 25 01.8 -1.6
baz=225,SNR=10
Y50A **Piedmont** 20.67 31 P P 19 25 03.8 -0.9
baz=216,SNR=17
X18A **Snowflake** 20.68 332 *e*P Pn 19 25 06.5 -1.0
comp=Z,39nm,0.9s
U42A **Reven** 20.71 16 P P 19 25 03.8 -1.2
baz=200,SNR=23
GNAR **Gosnell** 20.71 19 *e*P P 19 25 03.3 -1.8
comp=Z,443nm,1.4s
Z52A **Williamson** 20.81 35 P P 19 25 04.8 -1.3
baz=221,SNR=18
V45A **Humboldt** 20.87 22 P P 19 25 06.6 -0.1
baz=206
HALT **Halls** 20.89 21 *e*P P 19 25 01.1 -5.8
comp=Z,209nm,1.2s
X49A **Woodville** 20.89 29 P P 19 25 06.3 -0.7
baz=214
W47A **Westpoint** 20.96 25 P P 19 25 06.7 -1.1
baz=210,SNR=17
U43A **Rector** 20.96 18 P P 19 25 08.0 +0.2
baz=202
Y51A **Rockmart** 21.01 32 P P 19 25 07.8 -0.6
baz=218,SNR=45
255A **Hazlehurst** 21.04 40 *e*P P 19 25 06.7 -1.9
comp=Z,75nm,0.8s
W18A **Petrified Fore** 21.09 333 *e*P P 19 25 09.2 -0.1
comp=Z,32nm,0.9s
W18A **Petrified Fore** 21.09 333 P P 19 25 09.0 -0.3
baz=149
154A **Montrose** 21.13 38 *e*P P 19 25 07.4 -2.2
comp=Z,250nm,0.9s
154A **Montrose** 21.13 38 P P 19 25 08.4 -1.2
baz=224
W48A **Pulaski** 21.14 27 P P 19 25 08.6 -1.1
baz=212,SNR=27
X50B **Fort Payne** 21.17 30 P P 19 25 08.8 -1.3
baz=216,SNR=12
T25A **Trinidad** 21.18 347 *e*P P 19 25 11.0 +0.6
comp=Z,70nm,0.9s
T25A **Trinidad** 21.18 347 P P 19 25 10.6 +0.2
baz=164,SNR=70
PVMO **Portageville** 21.22 20 *e*P P 19 25 08.4 -2.2
comp=Z,313nm,0.3s
T41A **Mountain View** 21.23 15 P P 19 25 09.8 -0.8
baz=198,SNR=19
GLAT **Glass** 21.23 21 *e*P P 19 25 09.0 -1.7
comp=Z,424nm,1.4s
V46A **Holladay** 21.23 24 P P 19 25 08.9 -1.8
baz=208,SNR=31
U44B **Burton Farm, H** 21.27 20 P P 19 25 11.4 +0.3
baz=205
X16A **Lo Mia Camp, P** 21.30 329 *e*P P 19 25 13.7 +2.1
comp=Z,53nm,0.9s
113A **Mohawk Valley,** 21.31 322 *e*P P 19 25 11.3 -0.2
comp=Z,24nm,0.8s
U44A **Portageville** 21.31 20 P P 19 25 10.0 -1.5
baz=204
Z53A **Monticello** 21.35 36 P P 19 25 10.7 -1.2
baz=222,SNR=35
T42A **Van Buren** 21.39 16 *e*P P 19 25 11.4 -0.9
comp=Z,39nm,0.9s
T42A **Van Buren** 21.39 16 P P 19 25 11.4 -0.9
baz=200,SNR=20
W49A **Belvidere** 21.42 28 P P 19 25 12.5 -0.2
baz=214,SNR=21
UTMT **University of** 21.44 21 *e*P P 19 25 11.7 -1.2
comp=Z,226nm,0.9s
256A **Glennville** 21.44 41 P P 19 25 10.4 -2.6
baz=228
U45A **Rockin P Farm,** 21.48 22 P P 19 25 12.7 -0.7
baz=206,SNR=6.5
V47A **Nunnelly** 21.49 25 P P 19 25 12.4 -1.0
baz=210,SNR=15
GOGA **Godfrey** 21.50 36 *e*P P 19 25 12.3 -1.3
comp=Z,90nm,0.8s
GOGA **Godfrey** 21.50 36 *e*P P 19 25 12.3 -1.3
GOGA pmax pmax
comp=Z,90nm,0.8s
GOGA **Godfrey** 21.50 36 P P 19 25 12.8 -0.7
baz=222,SNR=41
Y52A **Lilburn** 21.51 34 *e*P P 19 25 12.1 -1.6
comp=Z,155nm,0.8s
Y52A *e*S S 19 29 12.0 +1.2
Y52A **Lilburn** 21.51 34 P P 19 25 12.2 -1.6
baz=220,SNR=55
155A **Kite** 21.52 39 P P 19 25 12.8 -1.0
baz=226,SNR=16
WVT **Waverly** 21.63 24 *e*P P 19 25 14.4 -0.6
comp=Z,61nm,0.9s
WVT **Waverly** 21.63 24 *e*P P 19 25 14.4 -0.6
WVT pmax pmax
comp=Z,61nm,0.9s
WVT **Waverly** 21.63 24 P P 19 25 13.7 -1.3
baz=208
X51A **Calhoun** 21.64 32 *e*P P 19 25 14.1 -1.1
comp=Z,70nm,1.0s
X51A **Calhoun** 21.64 32 P P 19 25 14.0 -1.1
baz=218,SNR=15
SWET **Sewanee** 21.66 29 *e*P P 19 25 13.7 -1.6
comp=Z,275nm,1.8s
T43A **Greenville** 21.66 18 P P 19 25 14.4 -0.9
baz=202,SNR=31
U46A **Springville** 21.70 23 P P 19 25 16.3 +0.5
baz=207
V48A **Smith Brothers** 21.70 26 *e*P P 19 25 14.1 -1.7
comp=Z,115nm,1.5s
V48A **Smith Brothers** 21.70 26 P P 19 25 14.9 -0.9
baz=211,SNR=13
Z54A **Sparta** 21.73 37 P P 19 25 14.4 -1.7
baz=224,SNR=39
Y14A **Wickenburg** 21.73 325 *e*P P 19 25 17.1 +0.9
comp=Z,48nm,1.0s
S41A **Jillco Farms,** 21.75 14 P P 19 25 15.9 -0.3
baz=198,SNR=65
Y53A **Monroe** 21.77 35 P P 19 25 14.9 -1.5
baz=221,SNR=43
T44A **Benson** 21.88 19 P P 19 25 17.3 -0.2
baz=203,SNR=6.2
W50A **Signal Mountai** 21.93 30 *e*P P 19 25 17.6 -0.7
comp=Z,96nm,0.9s
W50A **Signal Mountai** 21.93 30 P P 19 25 16.8 -1.5
baz=216,SNR=39
257A **Skidaway Islan** 21.99 43 *e*P P 19 25 18.2 -0.7
comp=Z,165nm,1.3s
SDCO **Great Sand Dun** 22.02 345 *e*P P 19 25 19.5 +0.1
comp=Z,22nm,0.9s
SDCO **Great Sand Dun** 22.02 345 P P 19 25 20.4 +1.0
baz=162,SNR=46
U47A **Clarksville** 22.12 24 P P 19 25 19.1 -1.0
baz=209,SNR=18
V49A **McMinnville** 22.12 28 P P 19 25 18.8 -1.5
baz=213,SNR=22
T45A **Paducah** 22.13 21 *e*P P 19 25 19.0 -1.2
comp=Z,91nm,0.6s
156A **Sylvania** 22.14 41 P P 19 25 18.9 -1.6
baz=228,SNR=8.6
GLA **Glamis** 22.14 321 *e*P P 19 25 22.0 +1.4
comp=Z,27nm,0.9s
GLA **Glamis** 22.14 321 P P 19 25 21.9 +1.4
baz=134
WUAZ **Wupatki** 22.15 331 *e*P P 19 25 22.1 +1.3
comp=Z,76nm,1.1s
WUAZ **Wupatki** 22.15 331 P P 19 25 22.8 +2.0
baz=146,SNR=34
S42A **Caledonia** 22.16 16 P P 19 25 20.4 -0.3
baz=200,SNR=35
W51A **Cleveland** 22.17 31 P P 19 25 19.6 -1.2
baz=217,SNR=29
X52A **Dahlonega** 22.17 33 P P 19 25 19.4 -1.4
baz=220,SNR=26
S43A **Fulton Ridge,** 22.18 18 P P 19 25 21.4 +0.5
baz=202,SNR=7.2
CBKS **Cedar Bluff** 22.20 357 *e*P P 19 25 20.9 -0.2
comp=Z,99nm,0.9s
CBKS **Cedar Bluff** 22.20 357 P P 19 25 21.6 +0.4
baz=177,SNR=15
Y54A **Tignall** 22.27 36 P P 19 25 21.1 -0.8
baz=223,SNR=55
CCM **Cathedral Cave** 22.32 15 *e*P P 19 25 20.2 -2.0
comp=Z,138nm,0.9s
CCM **Cathedral Cave** 22.32 15 *e*P P 19 25 20.3 -2.0
CCM pmax pmax
comp=Z,138nm,0.9s
CCM **Cathedral Cave** 22.32 15 P P 19 25 21.1 -1.2
baz=198
S22A **4UR Ranch, Cre** 22.38 342 *e*P P 19 25 23.6 +0.3
comp=Z,25nm,1.1s
S22A **4UR Ranch, Cre** 22.38 342 P P 19 25 23.4 +0.1
baz=159,SNR=30
X53A **Estanollee** 22.41 34 P P 19 25 22.6 -0.7
baz=221,SNR=57
T46A **Princeton** 22.41 22 P P 19 25 24.3 +1.0
baz=207,SNR=7.6
V50A **Pikeville** 22.41 29 P P 19 25 23.0 -0.4
baz=215,SNR=25
MVCO **Mesa Verde** 22.43 338 *e*P P 19 25 23.5 -0.3
MVCO **Mesa Verde** 22.43 338 P P 19 25 24.5 +0.7
baz=154,SNR=31
Y12C **Blythe** 22.45 323 *e*P P 19 25 24.9 +1.1
comp=Z,25nm,1.2s
Y12C **Blythe** 22.45 323 P P 19 25 24.8 +1.0
baz=136
FVM **French Village** 22.46 17 *e*P P 19 25 28.2 +4.3
comp=Z,52nm,0.8s
FVM **French Village** 22.46 17 *e*P P 19 25 28.2 +4.3
FVM pmax pmax
comp=Z,52nm,0.8s
U48A **Cassie Pea, Po** 22.48 26 P P 19 25 24.5 +0.4
baz=211,SNR=12
KSU1 **Kansas State U** 22.51 4 *e*P P 19 25 22.9 -1.4
comp=Z,61nm,0.9s
KSU1 **Kansas State U** 22.51 4 P P 19 25 23.6 -0.8
baz=185
R41A **Rosebud** 22.51 15 P P 19 25 24.2 -0.2
baz=198,SNR=18
CPCT **Cooper Cave** 22.51 31 *e*P P 19 25 23.5 -0.9
comp=Z,100nm,0.9s
W52A **Murphy** 22.53 32 *e*P P 19 25 24.1 -0.6
comp=Z,177nm,0.8s
W52A **Murphy** 22.53 32 P P 19 25 24.2 -0.5
baz=219,SNR=48
S44A **Carbondale** 22.54 19 P P 19 25 25.0 +0.3
baz=204,SNR=7.2
SIUC **Southern Illin** 22.57 19 *e*P P 19 25 24.0 -1.0
comp=Z,119nm,0.8s
PDMCI **Parker Dam,Lak** 22.63 324 P P 19 25 26.7 +1.0
baz=138
R42A **Luebbering** 22.64 16 P P 19 25 24.6 -1.2
baz=199
T47A **Sharon Grove** 22.66 24 *e*P P 19 25 25.8 -0.3
comp=Z,54nm,1.0s
T47A **Sharon Grove** 22.66 24 P P 19 25 26.6 +0.6
baz=209,SNR=5.6
SWSC **Sam W. Stewart** 22.67 319 P P 19 25 27.7 +1.5
baz=132
IKP **In-Ko-Pah, Jac** 22.67 318 P P 19 25 26.7 +0.5
baz=131
KSCO **Kaye Shedlock'** 22.67 351 *e*P P 19 25 25.5 -0.8
comp=Z,98nm,1.1s
KSCO **Kaye Shedlock'** 22.67 351 P P 19 25 26.2 -0.1
baz=170,SNR=18
S45A **Carrier Mills** 22.74 20 P P 19 25 26.4 -0.4
baz=205,SNR=10
HODGE **Hodges** 22.79 36 *e*P P 19 25 25.9 -1.4
comp=Z,99nm,0.8s
U49A **Red Boiling Sp** 22.80 27 P P 19 25 26.7 -0.8
baz=213,SNR=25
V51A **Loudon** 22.88 30 *e*P P 19 25 27.8 -0.5
comp=Z,87nm,1.0s
V51A **Loudon** 22.88 30 P P 19 25 28.2 -0.1
baz=217,SNR=23
BC3 **Big Chuckawall** 22.94 321 P P 19 25 30.8 +1.7
baz=134,SNR=7.3
BG3 **Lake Jocassee** 22.98 34 *e*P P 19 25 29.1 -0.3
comp=Z,54nm,0.7s
W53A **Cullowhee** 22.99 33 P P 19 25 29.2 -0.3
baz=220,SNR=34
MONP2 **Monument Peak** 23.03 318 P P 19 25 31.6 +1.5
baz=131,SNR=5.6
S46A **Don Dixon Farm** 23.05 22 P P 19 25 31.1 +1.1
baz=207
BAR **Barrett** 23.05 317 *e*P P 19 25 30.3 +0.1
comp=Z,8.1nm,0.9s
T48A **Bowling Green** 23.05 25 P P 19 25 29.4 -0.6
baz=211,SNR=16
W13A **Hualapai Mount** 23.09 326 *e*P P 19 25 31.2 +0.5
comp=Z,20nm,1.1s
Q24A **Divide** 23.09 346 *e*P P 19 25 32.0 +1.2
comp=Z,27nm,1.2s
Q24A **Divide** 23.09 346 P P 19 25 31.8 +1.0
baz=164,SNR=6.8
IRM **Iron Mountain** 23.10 322 P P 19 25 31.8 +1.2
baz=136,SNR=22
SLM **Saint Louis** 23.12 16 *e*P P 19 25 30.5 -0.3
comp=Z,66nm,0.8s
SLM **Saint Louis** 23.12 16 *e*P P 19 25 30.5 -0.3
SLM pmax pmax
comp=Z,66nm,0.8s
RGRS **Roger Stewart** 23.13 42 *e*P P 19 25 29.7 -1.2
comp=Z,1µm,0.4s
U50A **Jamestown** 23.14 29 P P 19 25 30.2 -0.8
baz=215,SNR=17
Q41A **Truxton** 23.17 14 P P 19 25 30.6 -0.7
baz=198,SNR=10
CSU **Charleston Sou** 23.26 42 *e*P P 19 25 31.1 -1.1
NHSC **New Hope** 23.27 42 *e*P P 19 25 32.2 0.0
comp=Z,375nm,1.0s
NHSC **New Hope** 23.27 42 P P 19 25 31.8 -0.4
baz=229,SNR=14
S47A **Hartford** 23.28 24 P P 19 25 32.0 -0.4
baz=209,SNR=7.3
V52A **Sevierville** 23.28 32 *e*P P 19 25 31.5 -0.9
comp=Z,54nm,0.9s
V52A **Sevierville** 23.28 32 P P 19 25 31.9 -0.6
baz=218,SNR=17
PV01 **Paradox Valley** 23.29 339 *e*P P 19 25 33.5 +0.8
Q42A **Golden Eagle** 23.30 16 P P 19 25 31.3 -1.3
baz=200,SNR=6.5
USIN **University of** 23.32 22 *e*P P 19 25 32.1 -0.6
comp=Z,123nm,1.0s
U15A **North Rim** 23.33 331 *e*P P 19 25 34.4 +1.2
comp=Z,38nm,0.9s
R45A **Skylar, Fairfi** 23.40 20 P P 19 25 33.6 +0.1
baz=205
JSC **Jenkinsville** 23.40 38 *e*P P 19 25 32.4 -1.1
comp=Z,58nm,0.8s
JSC **Jenkinsville** 23.40 38 *e*P P 19 25 32.4 -1.1
JSC pmax pmax
comp=Z,58nm,0.8s
PV02 **Paradox Valley** 23.41 339 *e*P P 19 25 34.8 +0.9
comp=Z,29nm,0.9s
T49A **Edmonton** 23.41 27 *e*P P 19 25 32.2 -1.4
T49A **Edmonton** 23.41 27 P P 19 25 33.5 -0.2
baz=212,SNR=12
PV05 **Paradox Valley** 23.42 338 *e*P P 19 25 34.4 +0.4
CPE **Camp Elliot** 23.46 317 *e*P P 19 25 34.9 +0.7
comp=Z,17nm,1.1s
PAULI **Pauline** 23.46 36 *e*P P 19 25 33.9 -0.3
comp=Z,48nm,0.8s
PV03 **Paradox Valley** 23.49 339 *e*P P 19 25 35.1 +0.4
U51A **La Follette** 23.50 30 P P 19 25 34.3 -0.3
baz=217,SNR=20
XPFO **Pion Flat** 23.52 320 *e*P P 19 25 35.9 +0.9
comp=Z,16nm,1.0s
PFO **Pinyon Flats O** 23.52 320 P P 19 25 36.7 +1.7
comp=Z,3.1nm,0.6s,baz=121,slow=8.1,SNR=3.9

PFO LR LR 19 35 28.2
comp=Z,362nm,20.6s,baz=140,slow=38
PFO Pinyon Flats O 23.52 320 *eP* **P 19 25 35.3 +0.4**
PFO Pinyon Flats O 23.52 320 P **P 19 25 36.2 +1.2**
baz=132
PV12 Saucer Basin, 23.53 339 *eP* **P 19 25 36.0 +1.0**
comp=Z,122nm,1.7s
PV11 David Mesa, Pa 23.54 339 *eP* **P 19 25 35.2 +0.1**
comp=Z,266nm,0.8s
PV17 East Wray Mesa 23.55 339 *eP* **P 19 25 36.1 +0.9**
comp=Z,19nm,1.0s
V53A Saluda 23.55 33 *eP* **P 19 25 35.5 +0.4**
comp=Z,54nm,1.0s
V53A Saluda 23.55 33 P **P 19 25 34.9 -0.2**
baz=220,SNR=23
Q43A New Douglas 23.56 17 P **P 19 25 33.7 -1.3**
baz=201,SNR=10
PV16 Nyswonger Mesa 23.56 339 *eP* **P 19 25 36.2 +0.9**
comp=Z,16nm,0.9s
PV19 Morning Glory 23.59 339 *eP* **P 19 25 35.8 +0.2**
comp=Z,16nm,0.8s
PV20 West Nyswonger 23.61 339 *eP* **P 19 25 35.8 +0.1**
comp=Z,16nm,0.8s
T50A Nancy 23.64 28 P **P 19 25 34.8 -1.1**
baz=214,SNR=22
PV14 Lion Creek, Pa 23.66 339 *eP* **P 19 25 36.5 +0.3**
comp=Z,16nm,0.9s
S48A Wiedeman Farm, 23.66 25 P **P 19 25 35.9 -0.1**
baz=211,SNR=6.3
PV10 Paradox Valley 23.66 339 *eP* **P 19 25 35.3 -1.1**
PV23 Carpenter Ridg 23.72 339 *eP* **P 19 25 37.7 +0.7**
comp=Z,75nm,1.6s
Q44A Meyer Farm, Va 23.72 18 *eP* **P 19 25 35.6 -1.0**
comp=Z,112nm,0.8s
Q44A Meyer Farm, Va 23.72 18 P **P 19 25 36.1 -0.5**
baz=203,SNR=7.9
LDFC Landfair 23.74 324 *eP* **P 19 25 39.1 +2.1**
comp=Z,72nm,1.1s
SMCO Snowmass 23.75 343 *eP* **P 19 25 38.4 +1.0**
comp=Z,36nm,1.1s
PV09 Paradox Valley 23.81 339 *eP* **P 19 25 38.5 +0.7**
PV21 Cone Mtn., Par 23.81 339 *eP* **P 19 25 38.5 +0.7**
comp=Z,59nm,1.5s
U52A Thorn Hill 23.83 31 P **P 19 25 37.8 0.0**
baz=218,SNR=25
GMRC Granite Mounta 23.85 323 P **P 19 25 39.3 +1.2**
baz=136,SNR=14
OLIL Olney 23.86 20 *eP* **P 19 25 37.1 -0.8**
comp=Z,53nm,1.1s
TZTN Tazewell 23.86 31 *eP* **P 19 25 38.0 0.0**
TZTN Tazewell 23.86 31 P **P 19 25 38.2 +0.2**
baz=217,SNR=10
P41A Barry, Barry 23.90 14 P **P 19 25 37.6 -0.7**
baz=198
KMSC Kings Mountain 23.97 36 *eP* **P 19 25 38.9 -0.1**
comp=Z,88nm,1.0s
KMSC Kings Mountain 23.97 36 P **P 19 25 38.9 -0.1**
baz=224,SNR=29
MURC Murrieta 23.98 319 P **P 19 25 40.7 +1.5**
baz=131
Q45A Warren Harvey, 23.98 20 P **P 19 25 38.5 -0.6**
baz=205,SNR=8.8
P42A Winchester 23.99 15 *eP* **P 19 25 38.0 -1.1**
comp=Z,81nm,1.0s
P42A Winchester 23.99 15 P **P 19 25 38.3 -0.8**
baz=199,SNR=25
ISCO Idaho Springs 24.00 346 *eP* **P 19 25 40.1 +0.5**
comp=Z,29nm,0.8s
ISCO Idaho Springs 24.00 346 P **P 19 25 40.2 +0.6**
baz=163,SNR=43
T51A Gray 24.01 29 P **P 19 25 38.9 -0.5**
baz=216,SNR=12
R47A Wooly Knot Far 24.03 23 P **P 19 25 39.3 -0.2**
baz=209,SNR=34
KNB Kanab 24.05 331 *eP* **P 19 25 41.4 +1.4**
comp=Z,43nm,1.1s
WCI Wyandotte Cave 24.06 24 *eP* **P 19 25 39.6 -0.1**
comp=Z,92nm,1.0s
WCI Wyandotte Cave 24.06 24 *eP* **P 19 25 39.7 -0.1**
WCI pmax pmax
comp=Z,92nm,1.0s
WCI Wyandotte Cave 24.06 24 P **P 19 25 39.5 -0.3**
baz=210
S49A Springfield 24.09 26 P **P 19 25 39.7 -0.4**
baz=212,SNR=16
PKCU Pink Cliffs 24.17 332 *eP* **P 19 25 43.6 +2.4**
comp=Z,64nm,1.0s
U53A Fall Branch 24.21 32 P **P 19 25 39.8 -1.4**
baz=220
LCMT Little Creek M 24.25 330 *eP* **P 19 25 43.0 +1.2**
comp=Z,51nm,1.8s
P43A Skaggs, Pawnee 24.26 17 P **P 19 25 41.3 -0.4**
baz=201
HEC Hector,Ludlow 24.27 322 P **P 19 25 43.8 +1.8**
baz=134,SNR=16
O41A Passleys Farm, 24.36 14 P **P 19 25 41.9 -0.7**
baz=198,SNR=26
P44A Sand Creek, Wi 24.36 19 P **P 19 25 42.4 -0.1**
baz=203,SNR=8.3
R48A Northridge Ran 24.37 24 P **P 19 25 42.2 -0.5**
baz=210,SNR=9.4
S50A Richmond 24.38 28 P **P 19 25 42.7 -0.1**
baz=214,SNR=19
TUQ Turquoise Moun 24.46 324 P **P 19 25 44.6 +0.9**
baz=136,SNR=17
OGNE Ogallala 24.50 353 *eP* **P 19 25 44.9 +1.0**
comp=Z,130nm,1.1s
OGNE Ogallala 24.50 353 P **P 19 25 44.3 +0.4**
baz=172,SNR=9.4
R49A Shelbyville 24.56 26 P **P 19 25 43.9 -0.5**
baz=212,SNR=9.6
T52A Hallie 24.58 31 P **P 19 25 44.4 -0.2**
baz=218,SNR=5.2
MTPU Mount Pierson 24.61 333 *eP* **P 19 25 47.1 +1.8**
comp=Z,84nm,0.8s
Q47A Bedord North L 24.63 23 P **P 19 25 45.1 +0.1**
baz=208,SNR=9.4
O42A Bath 24.63 15 P **P 19 25 43.7 -1.3**
baz=200
CIS Catalina Islan 24.64 317 P **P 19 25 47.4 +2.2**
baz=128
SZCU Shurtz Canyon 24.64 331 *eP* **P 19 25 46.9 +1.5**
comp=Z,13nm,0.8s
LGNH Logne 24.65 82 *eP* **P 19 25 45.1 -0.2**
BFSC Mount Baldy Ra 24.68 319 P **P 19 25 46.7 +1.0**
baz=131,SNR=6.0
P45A Graceland, Par 24.69 20 *eP* **P 19 25 45.5 -0.1**
comp=Z,48nm,0.8s
P45A Graceland, Par 24.69 20 P **P 19 25 45.8 +0.2**
baz=205
S51A Beattyville 24.72 29 *eP* **P 19 25 45.5 -0.4**
comp=Z,51nm,0.8s
S51A Beattyville 24.72 29 P **P 19 25 45.7 -0.1**
baz=216,SNR=7.5
CCUT Cedar City 24.74 331 *eP* **P 19 25 46.8 +0.6**
comp=Z,11nm,0.8s
BGNE Belgrade 24.76 0 *eP* **P 19 25 46.1 -0.1**
comp=Z,54nm,0.8s
BLO Bloomington 24.80 22 *eP* **P 19 25 46.2 -0.4**
comp=Z,33nm,0.8s
BLO Bloomington 24.80 22 *eP* **P 19 25 46.2 -0.4**
BLO pmax pmax
comp=Z,33nm,0.8s
SHPR Sheep Range 24.82 326 *eP* **P 19 25 47.6 +0.6**
comp=Z,17nm,1.1s
GSC Goldstone, Bar 24.88 322 *eP* **P 19 25 49.1 +1.7**
comp=Z,14nm,0.9s
GSC Goldstone, Bar 24.88 322 P **P 19 25 49.0 +1.6**
baz=134
Q48A North Vernon 24.89 24 P **P 19 25 46.9 -0.4**
baz=210,SNR=14
R50A Paris 24.91 27 P **P 19 25 46.7 -0.9**
baz=214,SNR=14
O43A Sugar Creek Fa 24.92 17 P **P 19 25 47.3 -0.3**
baz=201
MWC Mount Wilson 24.93 319 *eP* **P 19 25 49.5 +1.6**
comp=Z,61nm,1.6s
MWC Mount Wilson 24.93 319 *eP* **P 19 25 49.6 +1.6**
MWC pmax pmax
comp=Z,61nm,1.6s
N41A Harden Midland 24.93 14 *eP* **P 19 25 47.2 -0.5**
comp=Z,71nm,1.2s
N41A Harden Midland 24.93 14 P **P 19 25 47.1 -0.6**
baz=198,SNR=7.6
Q16A Castle Valley 24.93 336 *eP* **P 19 25 49.4 +1.4**
comp=Z,37nm,0.8s
N40A Mertquake, Sal 24.94 12 P **P 19 25 47.1 -0.7**
baz=196,SNR=5.8
P46A Rosedale 24.95 21 P **P 19 25 48.1 +0.2**
baz=206
S52A Salyersville 24.99 30 P **P 19 25 47.9 -0.5**
baz=217
MSU Marysvale 25.00 334 *eP* **P 19 25 50.5 +1.9**
MSU Marysvale 25.00 334 *eP* **P 19 25 50.5 +1.9**
O20A White River Ci 25.00 342 *eP* **P 19 25 49.9 +1.2**
comp=Z,26nm,0.9s
O20A White River Ci 25.00 342 P **P 19 25 49.3 +0.6**
baz=158,SNR=11
O44A Mansfield 25.04 18 P **P 19 25 49.0 +0.3**
baz=203
N23A Red Feather La 25.12 346 *eP* **P 19 25 50.9 +1.1**
comp=Z,27nm,0.9s
N23A Red Feather La 25.12 346 P **P 19 25 50.2 +0.5**
baz=163,SNR=20
P47A Martinsville 25.17 22 P **P 19 25 49.7 -0.2**
baz=208
HDIL Hopedale 25.18 16 *eP* **P 19 25 50.0 0.0**
comp=Z,113nm,1.3s
HDIL Hopedale 25.18 16 P **P 19 25 50.1 +0.2**
baz=201,SNR=10
TCRU Three Creeks R 25.19 333 *eP* **P 19 25 52.4 +2.0**
comp=Z,38nm,1.3s
N42A Yates City 25.24 15 P **P 19 25 50.1 -0.4**
baz=199,SNR=11
P17A Butchen Ranch, 25.25 337 *eP* **P 19 25 51.3 +0.5**
comp=Z,27nm,1.0s
R51A Hillsboro 25.26 28 P **P 19 25 50.1 -0.6**
baz=215,SNR=22
TMUT Trail Mountain 25.27 336 *eP* **P 19 25 51.9 +0.7**
comp=Z,20nm,0.7s
Q49A Aurora 25.28 25 P **P 19 25 49.9 -1.0**
baz=212,SNR=14
EDW2 Edwards Air Fo 25.31 320 P **P 19 25 52.6 +1.3**
baz=132
O45A Potomac 25.35 19 P **P 19 25 50.8 -0.8**
baz=205,SNR=13
PHWY Pilot Hill 25.40 348 *eP* **P 19 25 52.7 +0.4**
comp=Z,18nm,0.8s
M39A Webster 25.40 11 P **P 19 25 51.2 -0.7**
baz=194,SNR=9.2
M40A Post Highland 25.46 12 P **P 19 25 52.2 -0.3**
baz=196,SNR=7.3
P48A Milroy 25.46 24 P **P 19 25 51.8 -0.7**
baz=210,SNR=7.5
OTAV Otavalo 25.48 128 *eP* **P 19 25 54.1 +0.7**
comp=Z,8.1nm,1.1s
OTAV Otavalo 25.48 128 *eP* **P 19 25 54.1 +0.7**
OTAV pmax pmax
comp=Z,8.0nm,1.1s
BLG Laguna Peak, P 25.50 317 P **P 19 25 55.1 +2.0**
baz=128
LRMC Laurel Mtn Rad 25.52 321 P **P 19 25 54.3 +1.0**
baz=133,SNR=8.5
Q50A Georgetown 25.53 27 P **P 19 25 52.7 -0.5**
baz=214,SNR=23
N43A Stutzman Famil 25.57 16 P **P 19 25 53.3 -0.1**
baz=201,SNR=8.3
OSI Osito Audit: C 25.60 318 *eP* **P 19 25 55.5 +1.6**
comp=Z,21nm,0.4s
M41A Milan 25.64 14 P **P 19 25 53.6 -0.5**
baz=198
SCIA State Center 25.65 9 *eP* **P 19 25 54.0 -0.2**
comp=Z,106nm,0.8s
SCIA State Center 25.65 9 P **P 19 25 53.7 -0.5**
baz=192,SNR=19
SFIN Lafayette 25.68 20 *eP* **P 19 25 54.1 -0.3**
comp=Z,41nm,0.9s
SFIN Lafayette 25.68 20 P **P 19 25 54.3 -0.1**
baz=206,SNR=11
R52A Catlettsburg 25.72 29 P **P 19 25 54.4 -0.6**
baz=217,SNR=8.6
N44A Piper City 25.73 18 P **P 19 25 54.8 -0.2**
baz=203,SNR=13
TPNV Topopah Spring 25.74 326 *eP* **P 19 25 56.9 +1.7**
comp=Z,30nm,1.0s
TPNV Topopah Spring 25.74 326 P **P 19 25 57.0 +1.7**
baz=138,SNR=11
PSUT Pine Spring 25.76 331 *eP* **P 19 25 56.2 +0.7**
comp=Z,23nm,0.9s
MPMC Manual Prospec 25.80 322 P **P 19 25 57.2 +1.2**
baz=134,SNR=10
P49A Miami Univ. Ec 25.81 25 P **P 19 25 55.4 -0.3**
baz=211,SNR=38
O47A Sheridan 25.86 22 P **P 19 25 55.5 -0.7**
baz=208,SNR=9.8
SDDR Presa de Saban 25.90 81 *eP* **P 19 25 58.6 +1.8**
comp=Z,62nm,1.1s
Q51A Peebles 25.96 27 *eP* **P 19 25 56.7 -0.4**
comp=Z,140nm,0.9s
Q51A Peebles 25.96 27 P **P 19 25 56.7 -0.4**
baz=215,SNR=29
N45A Kentland 25.97 19 P **P 19 25 56.6 -0.5**
baz=204
BLA Blacksburg 25.98 34 *eP* **P 19 25 56.7 -0.6**
comp=Z,62nm,1.0s
BLA Blacksburg 25.98 34 *eP* **P 19 25 56.7 -0.6**
BLA pmax pmax
comp=Z,62nm,1.0s
BLA Blacksburg 25.98 34 P **P 19 25 56.9 -0.5**
baz=Z,SNR=7.0
DAC Darwin (Calif) 26.02 323 *eP* **P 19 25 59.1 +1.3**
comp=Z,21nm,1.3s
R53A Hurricane 26.05 30 P **P 19 25 57.7 -0.2**
baz=218,SNR=14
L39A Vinton 26.06 11 P **P 19 25 56.9 -1.0**
baz=194,SNR=13
MPU Maple Canyon 26.06 336 *eP* **P 19 25 58.8 +0.6**
comp=Z,16nm,0.8s
M43A Wham Townsh 26.09 16 P **P 19 25 57.7 -0.4**
baz=201
CNNC Cliffs of the 26.09 41 *eP* **P 19 25 56.3 -2.0**
comp=Z,159nm,1.0s
CNNC Cliffs of the 26.09 41 P **P 19 25 56.2 -2.0**
baz=230
ISA Isabella, Lake 26.12 321 *eP* **P 19 25 59.9 +1.2**
comp=Z,16nm,1.0s
ISA Isabella, Lake 26.12 321 *eP* **P 19 25 59.9 +1.2**
ISA pmax pmax
comp=Z,16nm,1.0s
ISA Isabella, Lake 26.12 321 P **P 19 25 60.0 +1.2**
baz=132,SNR=6.0
L40A Anamosa 26.15 12 *eP* **P 19 25 57.7 -1.0**
comp=Z,66nm,0.9s
L40A Anamosa 26.15 12 P **P 19 25 57.8 -0.9**
baz=196,SNR=9.8
RWWY Rawlins 26.17 345 *eP* **P 19 26 00.9 +1.6**
comp=Z,49nm,1.1s
NLU North Lily Min 26.18 336 *eP* **P 19 26 00.6 +1.3**
comp=Z,23nm,1.0s
GRTK Grand Turk 26.21 75 *eP* **P 19 25 59.3 -0.1**
comp=Z,408nm,1.7s
P50A Jamestown 26.25 26 P **P 19 25 59.0 -0.7**
baz=213,SNR=17
O48A Farmland 26.26 23 P **P 19 25 58.9 -0.8**
baz=210,SNR=42
N46A Monticello 26.26 20 P **P 19 25 59.5 -0.2**
baz=206,SNR=6.4
M44A Midewin, Midew 26.30 18 *eP* **P 19 25 59.6 -0.5**
M44A Midewin, Midew 26.30 18 P **P 19 25 59.9 -0.2**
baz=203,SNR=9.5
L41A Preston 26.31 13 P **P 19 25 59.8 -0.5**
baz=197,SNR=11
ROSC El Rosal 26.32 114 *eP* **P 19 25 58.6 -2.4**
comp=Z,9.3nm,0.8s
GRAC Grapevine Rang 26.39 324 P **P 19 26 02.7 +1.6**
baz=136
Q52A Bidwell 26.40 29 P **P 19 26 00.7 -0.3**
baz=217,SNR=25
R54A Victor 26.41 32 P **P 19 26 00.3 -0.9**
baz=220,SNR=6.1
CWC Cottonwood Cre 26.41 322 P **P 19 26 02.5 +1.1**
baz=134
L42A Oliver, Polo 26.44 15 *eP* **P 19 26 00.8 -0.5**
comp=Z,135nm,1.1s
L42A Oliver, Polo 26.44 15 P **P 19 26 00.8 -0.5**
baz=199,SNR=11
R11A Troy Canyon, C 26.45 329 *eP* **P 19 26 02.8 +1.1**
comp=Z,11nm,0.9s
R11A Troy Canyon, C 26.45 329 P **P 19 26 03.1 +1.4**
baz=141
P51A Williamsport 26.46 27 *eP* **P 19 26 00.7 -0.9**
comp=Z,119nm,0.9s
P51A Williamsport 26.46 27 P **P 19 26 01.0 -0.6**
baz=215,SNR=10
PKM Mcpherson Peak 26.47 318 P **P 19 26 02.6 +0.7**
baz=129
JLU Jordanelle 26.50 337 *eP* **P 19 26 02.7 +0.5**
comp=Z,11nm,1.1s
O49A Covington 26.52 25 *eP* **P 19 26 01.0 -1.1**
comp=Z,68nm,0.8s
O49A Covington 26.52 25 P **P 19 26 01.6 -0.5**
baz=212,SNR=11
M45A Boilermakers S 26.54 19 P **P 19 26 02.4 +0.1**
baz=205
N47A Urbana 26.60 22 P **P 19 26 02.0 -0.9**
baz=208,SNR=32
K39A Oelwein 26.64 11 P **P 19 26 01.7 -1.6**
baz=194,SNR=14
DUG Dugway, Tooele 26.68 335 *eP* **P 19 26 05.0 +1.2**
comp=Z,18nm,0.8s
DUG Dugway, Tooele 26.68 335 *eP* **P 19 26 05.0 +1.2**
DUG pmax pmax
comp=Z,18nm,0.8s
DUG Dugway, Tooele 26.68 335 P **P 19 26 05.3 +1.5**
baz=148,SNR=12
CTU Camp Tracy 26.69 337 *eP* **P 19 26 04.9 +1.0**
comp=Z,10nm,0.7s
O50A Cable 26.77 26 P **P 19 26 04.1 -0.3**
baz=213,SNR=15
K40A Colesburg 26.78 12 P **P 19 26 03.7 -0.8**
baz=196,SNR=7.2
N48A Decatur 26.83 23 P **P 19 26 04.1 -0.8**
baz=209,SNR=20
L43A Garden Prairie 26.84 16 P **P 19 26 04.3 -0.7**
baz=201,SNR=5.2
M46A Old House Fiel 26.85 20 *eP* **P 19 26 04.5 -0.5**
comp=Z,41nm,0.9s
M46A Old House Fiel 26.85 20 P **P 19 26 04.6 -0.4**
baz=206
K41A Shullsburg 26.86 13 P **P 19 26 04.7 -0.5**
baz=198
K22A Casper 26.92 347 *eP* **P 19 26 07.2 +1.3**
comp=Z,41nm,0.9s
K22A Casper 26.92 347 P **P 19 26 06.5 +0.6**
baz=163,SNR=12
TCUT Toone Canyon 26.93 338 *eP* **P 19 26 07.3 +1.2**
comp=Z,36nm,1.0s
P52A Corning 27.00 28 P **P 19 26 06.1 -0.4**
baz=216,SNR=8.3
M47A Cromwell 27.05 21 P **P 19 26 06.3 -0.6**
baz=208,SNR=7.9
L44A Lake County Fo 27.07 17 P **P 19 26 07.6 +0.6**
baz=203,SNR=5.7
ACSO Alum Creek Sta 27.11 26 *eP* **P 19 26 06.5 -1.0**
comp=Z,69nm,0.8s
ACSO Alum Creek Sta 27.11 26 P **P 19 26 07.0 -0.5**
baz=214,SNR=13
ECSD EROS Data Cent 27.13 3 *eP* **P 19 26 07.1 -0.4**
comp=Z,31nm,1.0s
ECSD EROS Data Cent 27.13 3 P **P 19 26 07.2 -0.4**
baz=184
JFWS Jewell Farm 27.17 13 *eP* **P 19 26 07.4 -0.5**
comp=Z,29nm,0.7s
JFWS Jewell Farm 27.17 13 *eP* **P 19 26 07.4 -0.5**
JFWS pmax pmax
comp=Z,29nm,0.7s
JFWS Jewell Farm 27.17 13 P **P 19 26 07.6 -0.3**
baz=197
SDD Santo Domingo 27.20 82 *eP* **P 19 26 08.2 -0.3**
comp=Z,133nm,1.1s
N49A Columbus Grove 27.20 24 *eP* **P 19 26 07.3 -1.0**
comp=Z,92nm,1.6s
N49A Columbus Grove 27.20 24 P **P 19 26 07.6 -0.7**
baz=211
O51A Pataskala 27.21 27 P **P 19 26 07.6 -0.7**
baz=215,SNR=10
P53A Whipple 27.23 30 *eP* **P 19 26 08.1 -0.4**
comp=Z,35nm,0.8s
P53A Whipple 27.23 30 P **P 19 26 07.9 -0.6**
baz=218
K42A Prairie Point, 27.25 15 P **P 19 26 08.1 -0.6**
baz=199
J39A Decorah 27.29 11 P **P 19 26 08.4 -0.6**
baz=194
BGU Big Grassy Mou 27.39 335 *eP* **P 19 26 10.8 +0.6**
comp=Z,19nm,1.4s
K43A Burlington 27.44 16 *eP* **P 19 26 09.2 -1.1**
comp=Z,41nm,1.1s
K43A Burlington 27.44 16 P **P 19 26 10.0 -0.3**
baz=201,SNR=5.2
SPUT South Promonto 27.49 337 *eP* **P 19 26 11.8 +0.8**
comp=Z,10nm,1.0s
M48A Edgerton 27.49 23 *eP* **P 19 26 09.9 -0.9**
comp=Z,62nm,1.0s
M48A Edgerton 27.49 23 P **P 19 26 10.3 -0.5**
baz=210,SNR=7.2
Q55A Buckhannon 27.49 32 P **P 19 26 10.0 -0.9**
baz=221,SNR=6.5
N50A Nevada 27.49 26 P **P 19 26 10.1 -0.8**
baz=213,SNR=7.7
O52A Adamsville 27.52 28 *eP* **P 19 26 10.3 -0.9**
comp=Z,144nm,0.8s
O52A Adamsville 27.52 28 P **P 19 26 10.3 -0.9**
baz=216,SNR=15
J40A Soldiers Grove 27.53 12 P **P 19 26 10.0 -1.1**
baz=196
J41A Loganville 27.65 13 P **P 19 26 11.4 -0.8**
baz=198,SNR=8.8
L47A Sherwood 27.74 21 P **P 19 26 12.4 -0.7**
baz=208,SNR=12
OMMB Old Mammoth Mi 27.75 323 *eP* **P 19 26 14.6 +1.0**
comp=Z,8.1nm,1.1s
M49A Liberty Center 27.76 24 P **P 19 26 12.3 -0.9**
baz=211,SNR=6.6
J42A Columbus 27.81 15 P **P 19 26 12.6 -1.1**
baz=199,SNR=10
BW06 Boulder Array 27.81 342 *eP* **P 19 26 14.5 +0.5**
comp=Z,40nm,1.4s
BW06 Boulder Array 27.81 342 P **P 19 26 14.7 +0.7**
baz=157,SNR=23
PD31 Pinedale Array 27.81 342 *eP* **P 19 26 14.9 +0.9**
PDAR Pinedale Array 27.81 342 P **P 19 26 14.8 +0.9**
comp=Z,8.5nm,0.8s,baz=134,slow=10.0,SNR=62
PDAR PcP **PcP** 19 29 29.8 0.0
comp=Z,0.8nm,0.5s,baz=140,slow=5.2,SNR=5.7
PDAR LR LR 19 38 12.9
comp=Z,693nm,18.8s,baz=167,slow=38
PDAR Pinedale Array 27.81 342 *eP* **P 19 26 14.2 +0.3**
PDAR PcP **PcP** 19 29 29.8 0.0
I39A Houston 27.82 11 *eP* **P 19 26 13.1 -0.7**
comp=Z,65nm,1.1s
I39A Houston 27.82 11 P **P 19 26 12.9 -0.8**
baz=194,SNR=5.1
NV11 Mina Array Sit 27.85 325 *eP* **P 19 26 16.3 +1.9**
comp=Z,1.2nm,1.0s
RSSD Black Hills 27.89 351 *eP* **P 19 26 14.2 -0.4**
comp=Z,8.9nm,0.9s
RSSD Black Hills 27.89 351 *eP* **P 19 26 14.3 -0.4**
RSSD pmax pmax
comp=Z,9.0nm,0.9s
RSSD Black Hills 27.89 351 P **P 19 26 15.1 +0.5**
baz=169
R58B Mineral 27.93 36 *eP* **P 19 26 14.3 -0.4**
comp=Z,16nm,0.8s
R58B Mineral 27.93 36 P **P 19 26 13.8 -0.9**
baz=226
NV01 Mina Array Sit 27.93 325 *eP* **P 19 26 16.0 +0.9**
NV01 *ePcP* **PcP 19 29 31.0 +0.8**
NVAR Mina Array Bea 27.93 325 P **P 19 26 17.3 +2.2**
comp=Z,16nm,1.0s,baz=149,slow=9.8,SNR=57
NVAR PcP **PcP** 19 29 31.3 +1.2
comp=Z,1.0nm,0.6s,baz=144,slow=3.2,SNR=4.4
N51A Ashland 27.94 26 *eP* **P 19 26 14.0 -0.9**
comp=Z,30nm,0.8s
N51A Ashland 27.94 26 P **P 19 26 13.9 -1.0**
baz=214,SNR=5.5
L48A N Adams 27.99 23 P **P 19 26 14.4 -0.9**
baz=210,SNR=9.5
P55A Reedsville 28.01 32 P **P 19 26 14.5 -1.0**
baz=220
HVU Hansel Valley 28.02 337 *eP* **P 19 26 16.5 +0.8**
comp=Z,19nm,0.8s
HVU Hansel Valley 28.02 337 *eP* **P 19 26 16.5 +0.8**
HVU pmax pmax
comp=Z,19nm,0.8s
I40A Norwalk 28.03 12 P **P 19 26 15.5 -0.1**
baz=196
M50A Fremont 28.07 25 *eP* **P 19 26 15.7 -0.3**
comp=Z,32nm,0.7s
M50A Fremont 28.07 25 P **P 19 26 15.4 -0.6**
baz=213
SDV Santo Domingo 28.09 102 P **P 19 26 18.9 +2.2**
comp=Z,21nm,0.8s,baz=309,slow=3.1,SNR=23
SDV Santo Domingo 28.09 102 *eP* **P 19 26 17.8 +1.0**

comp=Z,32nm,0.9s
MCWV Mont Chateau 28.11 31 *e*P P 19 26 15.9 -0.5
comp=Z,12nm,0.8s
ELK Elko 28.17 332 P P 19 26 19.5 +2.3
comp=Z,6.1nm,0.8s,baz=153,slow=7.3,SNR=18
ELK LR LR 19 37 23.3
comp=Z,364nm,18.1s,baz=145,slow=36
ELK Elko 28.17 332 *e*P P 19 26 18.9 +1.6
comp=Z,5.8nm,0.8s
K46A Dorr 28.18 20 P P 19 26 16.1 -0.9
baz=206
RYN Ryan 28.20 325 *e*P P 19 26 19.4 +2.1
comp=Z,12nm,1.2s
KVN Kaiserville 28.27 326 *e*P P 19 26 18.4 +0.4
comp=Z,12nm,1.0s
KVN Kaiserville 28.27 326 *e*P P 19 26 18.5 +0.4
KVN pmax pmax
comp=Z,12nm,1.0s
AHID Auburn Hatcher 28.29 340 *e*P P 19 26 18.7 +0.5
comp=Z,18nm,1.1s
I41A Arkdale 28.34 13 *e*P P 19 26 18.1 -0.3
comp=Z,16nm,0.9s
I41A Arkdale 28.34 13 P P 19 26 18.3 -0.1
baz=198
M51A Elyria 28.36 26 P P 19 26 17.7 -0.9
baz=214
L49A Milan 28.38 23 P P 19 26 18.1 -0.7
baz=211
I42A Draeger Farm, 28.40 14 *e*P P 19 26 18.3 -0.6
comp=Z,48nm,1.3s
I42A Draeger Farm, 28.40 14 P P 19 26 18.6 -0.4
baz=200
K47A Vermontville 28.43 21 P P 19 26 18.4 -0.7
baz=208
H38A Maiden Rock 28.50 9 P P 19 26 19.2 -0.6
baz=192,SNR=6.0
N53A Lisbon 28.53 29 P P 19 26 19.4 -0.8
baz=217,SNR=5.9
I43A Langenfeld Bro 28.59 16 P P 19 26 20.4 -0.2
baz=201
AAM Ann Arbor 28.59 23 *e*P P 19 26 19.4 -1.2
comp=Z,23nm,0.6s
AAM Ann Arbor 28.59 23 *e*P P 19 26 19.4 -1.2
AAM pmax pmax
comp=Z,23nm,0.6s
WAKR Walker 28.62 324 *e*P P 19 26 22.2 +1.0
comp=Z,6.9nm,1.0s
H39A Augusta 28.66 11 P P 19 26 20.8 -0.5
baz=194,SNR=6.4
SAO San Andreas Ge 28.67 319 *e*P P 19 26 22.8 +1.3
comp=Z,9.5nm,1.0s
L50A Kingsville 28.70 25 P P 19 26 20.8 -0.9
baz=212
REDW Red Top Meadow 28.75 341 *e*P P 19 26 22.1 -0.2
comp=Z,107nm,1.9s
H40A Chili 28.77 12 P P 19 26 21.6 -0.6
baz=196,SNR=7.2
O55A Ligonier 28.80 31 P P 19 26 21.9 -0.6
baz=221
SNOW Snow King Moun 28.81 341 *e*P P 19 26 24.2 +1.3
comp=Z,28nm,1.1s
YERR Yerington 28.84 325 *e*P P 19 26 24.8 +1.6
comp=Z,5.9nm,0.9s
CMB Columbia Colle 28.84 322 *e*P P 19 26 24.5 +1.5
comp=Z,8.2nm,1.2s
CMB Columbia Colle 28.84 322 *e*P P 19 26 24.5 +1.5
CMB pmax pmax
comp=Z,8.0nm,1.2s
K48A Perry 28.85 22 P P 19 26 21.8 -1.2
baz=209,SNR=9.7
TPAW Teton Pass 28.89 341 *e*P P 19 26 24.7 +1.1
comp=Z,19nm,0.9s
LOHW Long Hollow 28.90 341 *e*P P 19 26 24.3 +0.7
comp=Z,18nm,0.8s
H41A Junction City 28.92 13 *e*P P 19 26 22.4 -1.2
comp=Z,35nm,0.9s
H41A Junction City 28.92 13 P P 19 26 22.9 -0.7
baz=198,SNR=8.7
SPMN Marine on St. 28.96 8 *e*P P 19 26 23.2 -0.6
comp=Z,34nm,0.8s
SPMN Marine on St. 28.96 8 P P 19 26 22.9 -1.0
baz=191,SNR=7.9
J47A Sumner 28.99 21 P P 19 26 23.6 -0.6
baz=208
G38A Ridgeland 29.04 10 P P 19 26 24.0 -0.7
baz=193
N54A Moraine State 29.05 29 *e*P P 19 26 24.4 -0.4
comp=Z,26nm,1.0s
N54A Moraine State 29.05 29 P P 19 26 24.0 -0.7
baz=219
MOOW Moose Ponds 29.06 341 *e*P P 19 26 25.6 +0.4
comp=Z,61nm,1.8s
MOOW *e*PcP PcP 19 29 33.1 +0.3
H42A Shiocton 29.08 15 *e*P P 19 26 24.6 -0.4
comp=Z,32nm,1.3s
H42A Shiocton 29.08 15 P P 19 26 24.6 -0.4
baz=200
PNTR Pine Nut 29.11 325 *e*P P 19 26 26.6 +1.0
comp=Z,11nm,0.9s
O56A Blue Knob Stat 29.22 32 *e*P P 19 26 26.3 0.0
comp=Z,41nm,1.4s
O56A Blue Knob Stat 29.22 32 P P 19 26 25.5 -0.9
baz=222
G39A Holcombe 29.27 10 P P 19 26 26.2 -0.5
baz=194,SNR=11
VCNR Virginia City 29.29 325 *e*P P 19 26 26.6 -0.6
comp=Z,7.6nm,1.0s
FLWY Flagg Ranch 29.35 342 *e*P P 19 26 28.6 +1.0
comp=Z,16nm,1.0s
N55A Marion Center 29.39 31 P P 19 26 27.0 -0.8
baz=220
I46A Reed City 29.41 19 P P 19 26 26.8 -1.2
baz=206
PAHR Pah Rah Range 29.43 326 *e*P P 19 26 29.5 +1.2
comp=Z,6.6nm,1.1s
G40A Rib Lake 29.43 12 *e*P P 19 26 27.2 -0.9
comp=Z,42nm,1.1s
G40A Rib Lake 29.43 12 P P 19 26 26.8 -1.3
baz=196
F37A Hinrichs Farm, 29.47 8 P P 19 26 28.1 -0.3
baz=191
SDMD Soldier's Deli 29.52 35 *e*P P 19 26 27.6 -1.4
comp=Z,9.7nm,1.1s
ALLY Alegheny Colle 29.52 28 *e*P P 19 26 27.6 -1.3
comp=Z,40nm,0.8s
YPP Pitchstone Pla 29.55 342 *e*P P 19 26 29.4 -0.2
comp=Z,20nm,1.7s
G41A Antigo 29.59 13 P P 19 26 29.0 -0.5
baz=198
H17A Grant Village 29.60 342 *e*P P 19 26 30.8 +0.9
comp=Z,13nm,1.3s
H17A Grant Village 29.60 342 P P 19 26 31.2 +1.3
baz=156
M54A Oil Creek Stat 29.63 29 *e*P P 19 26 28.9 -1.0
comp=Z,37nm,1.0s
M54A Oil Creek Stat 29.63 29 P P 19 26 29.5 -0.4
baz=218
J49A Marlette 29.70 23 P P 19 26 29.8 -0.6
baz=211
LKWY Lake 29.70 343 *e*P P 19 26 31.1 +0.3
comp=Z,23nm,1.2s
LKWY Lake 29.70 343 *e*P P 19 26 31.1 +0.3
LKWY pmax pmax
comp=Z,23nm,1.2s
YFT Old Faithful 29.73 342 *e*P P 19 26 31.7 +0.7
comp=Z,8.1nm,1.0s
I47A Gladwin 29.79 20 P P 19 26 30.7 -0.5
baz=208
G42A Mountain 29.79 14 *e*P P 19 26 30.4 -0.9
comp=Z,34nm,1.1s
G42A Mountain 29.79 14 P P 19 26 30.1 -1.2
baz=200
AFDM Forest Hills D 29.80 323 *e*P P 19 26 31.5 +0.1
comp=Z,3.3nm,1.0s
F38A Pierce - Schro 29.81 9 P P 19 26 31.5 0.0
baz=193,SNR=5.2
SSPA Standing Stone 29.84 32 *e*P P 19 26 31.2 -0.5
comp=Z,16nm,0.9s
SSPA Standing Stone 29.84 32 P P 19 26 31.3 -0.5
baz=222
H45A Beulah 29.85 18 P P 19 26 31.7 -0.1
baz=204
RLMT Red Lodge 29.91 344 *e*P P 19 26 33.1 +0.5
comp=Z,22nm,0.8s
RLMT Red Lodge 29.91 344 P P 19 26 33.3 +0.7
baz=159,SNR=15
YNR Norris Junctio 29.92 342 *e*P P 19 26 32.6 -0.1
comp=Z,49nm,1.9s

F39A Loretta 29.93 10 P P 19 26 32.2 -0.2
baz=195
ERPA Erie 29.96 28 *e*P P 19 26 32.1 -0.7
comp=Z,27nm,0.8s
ERPA Erie 29.96 28 P P 19 26 32.2 -0.7
baz=217
YMR Madison River 29.96 342 *e*P P 19 26 34.2 +1.1
comp=Z,15nm,1.0s
G43A Wallace 29.99 15 *e*P P 19 26 31.5 -1.4
comp=Z,25nm,1.2s
G43A Wallace 29.99 15 P P 19 26 32.3 -0.7
baz=201
H46A Fife Lake 30.03 19 P P 19 26 31.9 -1.5
baz=206
F40A Park Falls 30.07 12 P P 19 26 33.3 -0.5
baz=196,SNR=10
BEKR Beckworth 30.08 325 *e*P P 19 26 35.6 +1.5
comp=Z,13nm,1.0s
YHB Horse Butte 30.11 342 *e*P P 19 26 34.7 +0.3
comp=Z,4.9nm,0.9s
F41A Three Lakes 30.11 13 *e*P P 19 26 33.5 -0.6
comp=Z,18nm,1.1s
F41A Three Lakes 30.11 13 P P 19 26 33.6 -0.5
baz=198
PAGS Pennsylvania G 30.16 34 *e*P P 19 26 35.0 +0.4
comp=Z,38nm,1.6s
HLID Hailey 30.17 336 *e*P P 19 26 35.8 +0.9
comp=Z,6.8nm,0.9s
HLID Hailey 30.17 336 P P 19 26 35.7 +0.9
baz=148,SNR=8.7
K52A Tillsonburg 30.18 26 P P 19 26 33.8 -0.9
baz=215
MVL Millersville 30.20 35 *e*P P 19 26 34.8 -0.1
comp=Z,57nm,2.0s
I48A Sherman Twp 30.21 21 P P 19 26 33.7 -1.3
baz=209,SNR=6.7
G45A Suttons Bay 30.34 18 P P 19 26 35.8 -0.3
baz=205
F42A Maple Grove Fa 30.35 14 P P 19 26 35.8 -0.3
baz=200
OBIP Obispado Ponce 30.35 82 *e*P P 19 26 34.9 -1.7
comp=Z,46nm,1.4s
H47A Mio 30.40 20 P P 19 26 36.1 -0.6
baz=208
EMPR Esperanza - Ma 30.41 82 *e*P P 19 26 40.1 +3.1
comp=Z,433nm,1.3s
E39A Mellen 30.44 11 P P 19 26 35.9 -1.1
baz=195
COWI Conover 30.45 13 *e*P P 19 26 36.6 -0.5
comp=Z,24nm,1.0s
GLMI Grayling 30.47 20 *e*P P 19 26 36.6 -0.7
comp=Z,109nm,0.4s
E38A The Farm, Brul 30.49 9 *e*P P 19 26 36.7 -0.8
comp=Z,76nm,1.4s
E38A The Farm, Brul 30.49 9 P P 19 26 36.8 -0.7
baz=193
ORV Oroville 30.51 323 *e*P P 19 26 38.4 +0.7
comp=Z,7.3nm,1.0s
ORV Oroville 30.51 323 *e*P P 19 26 38.4 +0.7
ORV pmax pmax
comp=Z,7.0nm,1.0s
MFID Camas Ranch 30.61 335 *e*P P 19 26 40.0 +1.3
comp=Z,9.8nm,1.0s
E40A Wakefield 30.62 12 P P 19 26 38.3 -0.3
baz=196,SNR=5.8
F43A Flat Rock, Esc 30.65 15 P P 19 26 37.7 -1.2
baz=202
J52A Paris 30.65 26 P P 19 26 37.5 -1.4
baz=215
MCMT McKenzie Canyo 30.70 340 *e*P P 19 26 41.6 +2.0
LAO LASA Array 30.74 349 *e*P P 19 26 38.3 -1.5
comp=Z,19nm,0.8s
LAO LASA Array 30.74 349 P P 19 26 38.8 -0.9
baz=165
E41A Kenton 30.83 13 P P 19 26 40.0 -0.5
baz=198
I51A Listowel 30.89 25 P P 19 26 40.1 -0.9
baz=214
F44A Big Bay de Noc 30.98 16 P P 19 26 41.0 -0.7
baz=203
E42A Champion 31.03 14 P P 19 26 41.1 -1.2
baz=200
HOPS Hopland Field 31.07 321 *e*P P 19 26 42.7 0.0
comp=Z,47nm,1.4s
HUMP Col San Antoni 31.07 82 *e*P P 19 26 40.3 -2.6
WVOR Wild Horse Val 31.07 330 *e*P P 19 26 44.4 +1.6
comp=Z,22nm,1.1s
WVOR Wild Horse Val 31.07 330 *e*P P 19 26 44.4 +1.6
WVOR pmax pmax
comp=Z,22nm,1.1s
DLMT Dillon 31.09 340 *e*P P 19 26 44.5 +1.5
comp=Z,22nm,0.8s
N59A State Game Lan 31.16 34 *e*P P 19 26 43.3 -0.1
comp=Z,15nm,1.1s
N59A State Game Lan 31.16 34 P P 19 26 42.5 -0.9
baz=225
E43A Lone Tree Farm 31.20 15 *e*P P 19 26 42.2 -1.6
comp=Z,38nm,1.0s
E43A Lone Tree Farm 31.20 15 P P 19 26 43.0 -0.7
baz=202
MDND Maddock 31.22 358 *e*P P 19 26 42.0 -1.8
comp=Z,66nm,0.8s
MDND Maddock 31.22 358 P P 19 26 43.9 +0.1
baz=178
F46A Macinaw City C 31.28 19 P P 19 26 43.7 -0.6
baz=206
K55A Perry 31.32 29 P P 19 26 44.5 -0.4
baz=220
MTP Monte Pirata 31.35 82 *e*P P 19 26 43.9 -1.5
comp=Z,39nm,1.0s
MMNY Mt. Morris Dam 31.40 30 *e*P P 19 26 44.2 -1.3
comp=Z,33nm,1.1s
D41A Chassel 31.48 13 *e*P P 19 26 46.1 -0.1
comp=Z,95nm,1.1s
D41A Chassel 31.48 13 P P 19 26 46.4 +0.2
baz=198
MOD Modoc Plateau 31.50 328 *e*P P 19 26 47.1 +0.5
comp=Z,13nm,0.8s
CUPR Culebra, Puert 31.60 82 *e*P P 19 26 48.8 +1.3
comp=Z,54nm,1.0s
BRNJ Basking Ridge 31.66 36 *e*P P 19 26 47.6 -0.2
comp=Z,22nm,0.9s
J08A Circle Bar Ran 31.71 332 *e*P P 19 26 49.8 +1.4
comp=Z,29nm,0.8s
AGMN Agassiz Nation 31.72 3 *e*P P 19 26 47.6 -0.6
comp=Z,24nm,0.8s
AGMN Agassiz Nation 31.72 3 P P 19 26 47.5 -0.7
baz=185,SNR=7.7
EYMN Ely 31.81 9 *e*P P 19 26 48.3 -0.7
comp=Z,54nm,1.4s
EYMN Ely 31.81 9 P P 19 26 48.0 -1.0
baz=193
J55A Hilton 31.86 29 P P 19 26 48.3 -1.2
baz=220
ODNJ Ogdensburg 31.91 35 *e*P P 19 26 49.5 -0.5
comp=Z,19nm,1.2s
E46A Sault Ste Mari 31.95 19 P P 19 26 50.1 -0.2
baz=206
BINY Binghamton 31.96 32 *e*P P 19 26 50.3 -0.2
comp=Z,21nm,0.9s
BINY Binghamton 31.96 32 P P 19 26 49.9 -0.5
baz=224
HRY Holter Researc 32.07 342 *e*P P 19 26 52.1 +0.6
N02D Trinity Center 32.14 324 P P 19 26 52.5 +0.4
baz=132
F49A Sandfield 32.16 22 P P 19 26 51.3 -0.8
baz=210,SNR=5.5
DGMT Dagmar 32.18 353 *e*P P 19 26 52.9 +0.5
comp=Z,38nm,1.1s
DGMT Dagmar 32.18 353 P P 19 26 52.5 +0.2
baz=170
M04C Macdoel 32.22 326 P P 19 26 54.0 +1.1
baz=135
E47A Iron Bridge 32.35 20 P P 19 26 53.4 -0.4
baz=208
SADO Sadowa 32.46 26 *e*P P 19 26 53.1 -1.7
comp=Z,18nm,0.9s
D46A Sault St. Mari 32.50 18 P P 19 26 55.3 +0.2
baz=206
I55A Frankford 32.65 28 P P 19 26 56.8 +0.3
baz=219
EGMT Eagleton 32.74 346 *e*P P 19 26 58.0 +0.7
comp=Z,46nm,1.4s
EGMT Eagleton 32.74 346 P P 19 26 58.9 +1.6
baz=160
E48A Lockeyer 32.74 21 P P 19 26 58.1 +0.9
baz=210
I07A Izee 32.74 331 *e*P P 19 26 58.3 +0.8

comp=Z,12nm,0.9s
L04D Klamath Falls 32.77 326 P P 19 26 58.6 +0.9
baz=134
MSO Missoula 32.83 340 *e*P P 19 26 58.8 +0.6
MSO Missoula 32.83 340 P P 19 26 59.3 +1.1
baz=152
D47A Chapleau 32.94 19 P P 19 26 58.4 -0.6
baz=208
G53A Haliburton 32.96 26 P P 19 26 58.0 -1.1
baz=217
H55A Tweed 33.14 28 P P 19 27 00.8 +0.1
baz=219,SNR=7.5
E50A Wahnapitae 33.20 23 P P 19 27 00.4 -0.8
baz=212
PINE Pine Mountain 33.20 330 *e*P P 19 27 02.8 +1.2
comp=Z,12nm,1.0s
F52A Sundridge 33.22 25 P P 19 27 00.5 -0.9
baz=215
F10A Beach Ranch, E 33.28 336 *e*P P 19 27 02.7 +0.6
comp=Z,18nm,0.9s
J04D Umpqua Nationa 33.39 328 P P 19 27 04.2 +1.0
baz=136
G08A Pilot Rock 33.44 333 *e*P P 19 27 04.3 +0.8
comp=Z,12nm,0.8s
D48A Paudash Townsh 33.47 21 P P 19 27 02.3 -1.3
baz=210
H56A Elgin 33.60 29 P P 19 27 04.3 -0.4
baz=221,SNR=5.4
ULM Lac du Bonnet 33.66 3 P P 19 27 03.4 -1.9
comp=Z,2.8nm,0.4s,baz=191,slow=8.6,SNR=5.8
ULM LR LR 19 41 43.8
comp=Z,306nm,20.6s,baz=153,slow=38
ULM Lac du Bonnet 33.66 3 *e*P P 19 27 04.1 -1.1
comp=Z,12nm,0.9s
ULM Lac du Bonnet 33.66 3 *e*P P 19 27 04.1 -1.1
ULM pmax pmax
comp=Z,12nm,0.9s
E51A G1948 Merrick 33.76 24 P P 19 27 05.3 -0.9
baz=214
I05D Terrebonne, OR 33.80 330 P P 19 27 07.2 +0.6
baz=138
G55A Calabogie 33.89 28 P P 19 27 06.9 -0.4
baz=219
I04A Tendick Farm, 33.94 328 P P 19 27 08.7 +1.0
baz=136
E09A Wood Farm, Sta 34.09 335 *e*P P 19 27 08.8 -0.2
comp=Z,8.8nm,0.9s
G06A Carlson Farm, 34.15 332 *e*P P 19 27 10.5 +0.9
comp=Z,43nm,1.9s
D50A G1974 Best Tow 34.16 23 P P 19 27 08.2 -1.3
baz=213
D51A Lot 18 Range I 34.27 23 P P 19 27 09.7 -0.9
baz=214
J01E Myrtle Point 34.29 326 P P 19 27 11.5 +0.7
baz=133
KEBM Edson Butte 34.31 325 *e*P P 19 27 12.4 +1.3
comp=Z,84nm,1.1s
I03D Drain, OR 34.35 327 P P 19 27 12.0 +0.7
baz=134
E53A Dumoine, Ponti 34.37 26 P P 19 27 11.1 -0.3
baz=217
G05D Wamic, OR 34.47 331 P P 19 27 13.4 +1.1
baz=139
H04A Detroit Lake 34.47 329 *e*P P 19 27 13.2 +0.9
comp=Z,49nm,1.1s
F55A Otter Lake 34.50 28 P P 19 27 12.5 0.0
baz=219
H04D Lebanon 34.62 329 P P 19 27 14.2 +0.5
baz=136
E07A Sunnyside 34.83 334 *e*P P 19 27 16.1 +0.6
D08A Wollman Farm, 34.84 335 *e*P P 19 27 15.7 +0.2
comp=Z,7.8nm,1.1s
F05D White Salmon 35.02 331 P P 19 27 18.8 +1.7
baz=139,SNR=7.9
NEW Newport 35.16 338 *e*P P 19 27 18.8 +0.5
comp=Z,12nm,1.4s
NEW Newport 35.16 338 *e*P P 19 27 18.8 +0.5
NEW pmax pmax
comp=Z,12nm,1.4s
NEW Newport 35.16 338 P P 19 27 19.1 +0.9
baz=148
C09A Chrisman Ranch 35.19 337 *e*P P 19 27 18.5 -0.1
comp=Z,22nm,1.3s
G03D McMinnville, O 35.38 329 P P 19 27 21.5 +1.3
baz=136
D54A Lac Fusel, La 35.40 26 P P 19 27 20.5 +0.2
baz=218
LTY Liberty 35.72 334 *e*P P 19 27 23.8 +0.6
comp=Z,35nm,1.4s
LON Longmire 35.83 332 *e*P P 19 27 24.7 +0.6
comp=Z,15nm,1.0s
LON Longmire 35.83 332 *e*P P 19 27 24.7 +0.6
LON pmax pmax
comp=Z,15nm,1.0s
E04D Cinebar 36.03 331 P P 19 27 27.0 +1.3
baz=138
B08A Colville Reser 36.06 336 *e*P P 19 27 26.2 +0.2
comp=Z,14nm,1.3s
D05A Enumclaw 36.24 332 *e*P P 19 27 28.7 +1.1
comp=Z,42nm,0.9s
C06D Leavenworth 36.34 334 P P 19 27 29.8 +1.4
baz=142
D04E Lakebay 36.59 332 P P 19 27 31.7 +1.3
baz=139
D03D Eldon 36.99 332 P P 19 27 34.6 +0.7
baz=138,SNR=16
NLWA Neilton Lookou 37.25 331 *e*P P 19 27 36.8 +0.7
comp=Z,26nm,1.1s
A04D Lummi Island 37.72 334 P P 19 27 40.9 +0.8
baz=140,SNR=7.0
PGC Sidney 37.99 333 *e*P P 19 27 43.2 +0.9
comp=Z,21nm,0.9s
FFC Flin Flon 38.19 357 *e*P P 19 27 43.3 -0.6
comp=Z,32nm,0.8s
FFC Flin Flon 38.19 357 *i* P P 19 27 44.3 +0.4
FCC Fort Churchill 42.26 3 *e*P P 19 28 17.7 +0.2
comp=Z,12nm,0.9s
FCC Fort Churchill 42.26 3 *e*P P 19 28 17.7 +0.2
FCC pmax pmax
comp=Z,12nm,0.9s
SCHQ Schefferville 45.26 25 P P 19 28 41.9 +0.1
comp=Z,22nm,0.9s,baz=244,slow=3.9,SNR=10
SCHQ LR LR 19 51 09.7
comp=Z,166nm,18.1s,baz=276,slow=41
SCHQ Schefferville 45.26 25 *e*P P 19 28 41.5 -0.3
comp=Z,37nm,1.1s
YKA Yellowknife Ar 47.28 350 P P 19 28 57.3 -0.2
comp=Z,9.3nm,0.9s,baz=158,slow=7.3,SNR=70
YKA PcP PcP 19 30 27.4 -0.8
comp=Z,1.0nm,0.8s,baz=159,slow=6.7,SNR=4.0
YKB5 Yellowknife Ar 47.28 350 *e*P P 19 28 56.7 -0.8
YKW3 Yellowknife Ar 47.34 350 *e*P P 19 28 57.2 -0.8
DLBC Dease Lake 47.91 338 *e*P P 19 29 04.6 +2.0
comp=Z,14nm,0.9s
HYT Haines Junctio 52.30 337 *e*P P 19 29 37.3 +1.4
comp=Z,28nm,1.3s
DAWY Dawson 55.06 339 *e*P P 19 29 57.0 +0.9
comp=Z,4.6nm,0.8s
INK Inuvik 56.32 345 *e*P P 19 30 05.0 +0.2
comp=Z,14nm,0.8s
INK Inuvik 56.32 345 *e*P P 19 30 05.0 +0.2
INK pmax pmax
comp=Z,14nm,0.8s
DOT Dot Lake 56.46 337 *e*P P 19 30 07.0 +1.0
comp=Z,11nm,1.0s
PAX Paxson 56.61 336 *e*P P 19 30 07.6 +0.4
comp=Z,7.4nm,1.0s
PAX Paxson 56.61 336 *e*P P 19 30 07.6 +0.4
PAX pmax pmax
comp=Z,7.0nm,1.0s
SCRK Sand Creek 56.62 338 *e*P P 19 30 09.0 +1.7
comp=Z,9.4nm,0.9s
RIDG Independ'e Rid 56.80 337 *e*P P 19 30 09.4 +1.0
comp=Z,30nm,1.1s
GHO Glory Hole Cre 57.39 334 *e*P P 19 30 13.5 +0.9
comp=Z,14nm,1.0s
DHY Denali Highway 57.41 336 *e*P P 19 30 13.6 +0.8
comp=Z,15nm,1.4s
HDA Harding Lake 57.94 337 *e*P P 19 30 16.9 +0.5
comp=Z,9.9nm,1.0s
HDA Harding Lake 57.94 337 P P 19 30 16.8 +0.5
baz=122,SNR=9.3
SUA Susitna One 58.01 333 *e*P P 19 30 18.0 +0.8
comp=Z,15nm,0.7s
PRP Porcupine Dome 58.04 339 *e*P P 19 30 18.5 +1.3
comp=Z,12nm,0.9s
IL1 Eielson Array 58.11 338 *e*P P 19 30 17.9 +0.2
ILAR Eielson Array 58.11 338 P P 19 30 18.4 +0.7

comp=Z,7.3nm,1.0s,baz=135,slow=4.8,SNR=44
ILAR LR LR 19 57 29.8
comp=Z,291nm,20.8s,baz=130,slow=38
ILB Eielson Array 58.11 338 *e*P **P 19 30 17.7 +0.1**
RND Reindeer 58.15 336 *e*P **P 19 30 18.9 +0.9**
RND *e*PcP **PcP 19 31 09.7 +0.3**
RES Resolute Bay 58.16 1 *e*P **P 19 30 17.3 -0.5**
comp=Z,6.0nm,0.8s
RES Resolute Bay 58.16 1 *e*P **P 19 30 17.3 -0.5**
RES pmax pmax
comp=Z,6.0nm,0.8s
MCK McKinley 58.34 336 *e*P **P 19 30 20.2 +0.9**
comp=Z,28nm,1.4s
MCK McKinley 58.34 336 *e*P **P 19 30 20.2 +0.9**
MCK pmax pmax
comp=Z,28nm,1.4s
CPUP Villa Florida 58.39 136 P **P 19 30 20.9 +0.9**
comp=Z,1.3nm,0.8s,baz=320,slow=12,SNR=3.4
CPUP Villa Florida 58.39 136 *e*P **P 19 30 20.4 +0.3**
comp=Z,14nm,1.8s
CPUP Villa Florida 58.39 136 *e*P **P 19 30 20.4 +0.3**
CPUP pmax pmax
comp=Z,14nm,1.8s
WRH Wood River Hil 58.40 337 *e*P **P 19 30 20.0 +0.4**
comp=Z,11nm,1.1s
RSO Redoubt South 58.48 332 *e*P **P 19 30 20.3 -0.2**
POKR Poker Plat Res 58.49 338 P **P 19 30 20.6 +0.3**
baz=122,SNR=5.2
COLA College 58.52 338 ⇓ *i*P **P 19 30 21.3 +0.9**
COLA pmax pmax
comp=Z,11nm,1.1s
TRF Thorofare Moun 58.74 336 *e*P **P 19 30 22.7 +0.5**
comp=Z,21nm,0.7s
BDFB Brasilia 59.10 120 P **P 19 30 26.4 +1.0**
comp=Z,9.2nm,0.7s,baz=284,slow=7.1,SNR=12
BDFB Brasilia 59.10 120 *e*P **P 19 30 26.2 +0.8**
comp=Z,8.9nm,0.8s
BDFB Brasilia 59.10 120 *e*P **P 19 30 26.2 +0.8**
BDFB pmax pmax
comp=Z,9.0nm,0.8s
BPAW Bear Paw Mtn. 59.32 336 *e*P **P 19 30 26.7 +0.7**
comp=Z,8.9nm,1.0s
CAST Castle Rocks 59.44 335 *e*P **P 19 30 26.9 0.0**
comp=Z,15nm,1.0s
MLY Manley 59.66 337 *e*P **P 19 30 29.1 +0.6**
comp=Z,9.6nm,0.9s
COLD Coldfoot 60.55 339 *e*P **P 19 30 35.6 +1.2**
comp=Z,12nm,1.4s
PLCA Paso Flores 62.59 156 P **P 19 30 50.4 +1.8**
comp=Z,1.3nm,0.7s,baz=326,slow=7.3,SNR=2.7
PLCA Paso Flores 62.59 156 *e*P **P 19 30 49.5 +0.9**
comp=Z,11nm,0.9s
PLCA Paso Flores 62.59 156 *e*P **P 19 30 49.5 +0.9**
PLCA pmax pmax
comp=Z,11nm,0.9s
ANM Nome 65.33 334 *e*P **P 19 31 07.0 +0.8**
ANM Nome 65.33 334 *e*P **P 19 31 07.0 +0.8**
SUMG Summit 65.49 17 *e*P **P 19 31 07.5 -0.1**
comp=Z,15nm,1.0s
SUMG Summit 65.49 17 *i*P **P 19 31 08.1 +0.5**
comp=Z,38nm,1.0s
SUMG Summit 65.49 17 *i*P **P 19 31 08.1 +0.5**
SUMG pmax pmax
comp=Z,38nm,1.0s
DAG Danmarks Havn 71.64 14 *i*P **P 19 31 45.1 -0.3**
comp=Z,11nm,1.1s
DAG Danmarks Havn 71.64 14 *i*P **P 19 31 45.1 -0.3**
DAG pmax pmax
comp=Z,14nm,1.1s
USHA Ushuaia 75.54 163 LR LR 19 58 25.9
comp=Z,259nm,19.4s,baz=266,slow=30
BILL Bilibino 76.77 337 *e*P **P 19 32 15.2 -0.3**
comp=Z,16nm,1.1s
BILL Bilibino 76.77 337 *de*P **P 19 32 16.8 +1.3**
BILL *e* 19 32 25.1
BILL *e*PPP PPP 19 36 56.0
BILL pmax pmax
comp=Z,14nm,1.0s
BILL MLR MLR
comp=Z,127nm,14.0s
ESDC Sonseca Array 82.93 51 P **P 19 32 50.1 +0.6**
comp=Z,1.2nm,0.8s,baz=289,slow=3.9,SNR=5.2
ESDC LR LR 20 07 15.9
comp=Z,54nm,19.6s,baz=265,slow=34
SEY Seymchan 83.84 334 ⇓ *i*P **P 19 32 54.9 +1.3**
KONO Kongsberg 84.62 29 *ce*P **P 19 33 00.2 +2.5**
KONO pmax pmax
comp=Z,20nm,1.7s
NB200 NORSAR Array S 84.78 27 *e*P **P 19 32 59.4 +0.9**
NOA NORSAR Array B 84.78 27 P **P 19 32 59.4 +0.9**
comp=Z,4.0nm,1.1s,baz=296,slow=5.0,SNR=5.5
NOA LR LR 20 13 29.6
comp=Z,26nm,18.6s,baz=270,slow=38
PEA1 Petropavlovsk- 85.01 324 *e*P **P 19 33 01.0 +1.2**
PETK Petropavlovsk- 85.01 324 P **P 19 33 01.0 +1.2**
comp=Z,7.0nm,0.9s,baz=91,slow=9.8,SNR=4.6
PETK Petropavlovsk- 85.01 324 P **P 19 33 01.0 +1.2**
PMSA Palmer Station 85.21 166 LR LR 20 02 52.4
comp=Z,118nm,19.0s,baz=301,slow=30
ARA0 ARCESS Array S 85.58 17 *e*P **P 19 33 02.4 +0.1**
ARCES ARCESS Array B 85.58 17 P **P 19 33 02.4 +0.1**
comp=Z,3.6nm,0.8s,baz=302,slow=7.0,SNR=7.1
HFS Hagfors 86.28 28 LR LR 20 11 53.3
comp=Z,64nm,18.3s,baz=270,slow=36
TIXI Tiksi 86.42 347 *e*P **P 19 33 05.7 -0.7**
comp=Z,8.6nm,0.5s
TIXI Tiksi 86.42 347 ⇑ *e*P **P 19 33 06.1 -0.3**
TIXI pmax pmax
comp=Z,11nm,1.3s
CLL Collm 89.94 36 *i*SP pP 19 33 32.6 -0.6
CLL Collm 89.94 36 *i*P pP 19 33 32.6 -0.6
BRG Berggiesshubel 90.67 36 *e*P **P 19 33 28.0 +1.0**
comp=Z,16nm,1.9s
BRG *e* 19 33 37.7
BRG comp=Z,5.2nm,1.0s *e*PP PP 19 36 47.2 -15
comp=Z,5.4nm,1.2s
BRG Berggiesshubel 90.67 36 *e*P **P 19 33 28.0 +1.0**
BRG *e* 19 33 37.7
BRG pmax pmax
comp=Z,16nm,1.9s
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG pmax pmax
comp=Z,5.0nm,1.2s
FIA0 FINESS Array S 90.70 23 *e*P **P 19 33 26.2 -0.7**
FIA0 FINESS Array S 90.70 23 *e*P **P 19 33 26.2 -0.7**
FINES FINESS Array B 90.70 23 P **P 19 33 26.2 -0.7**
comp=Z,5.0nm,0.9s,baz=280,slow=2.5,SNR=10.0
FINES LR LR 20 15 10.4
comp=Z,87nm,21.6s,baz=328,slow=36
GERES GERESS Array B 91.46 38 LR LR 20 15 27.1
comp=Z,84nm,19.4s,baz=291,slow=36
DBIC Dimbokro 91.48 83 P **P 19 33 31.8 +0.3**
comp=Z,2.7nm,0.8s,baz=290,slow=5.0,SNR=4.1
DBIC LR LR 20 15 27.4
comp=Z,42nm,18.3s,baz=210,slow=36
DBIC Dimbokro 91.48 83 *e*P **P 19 33 31.4 -0.1**
comp=Z,29nm,1.8s
DBIC Dimbokro 91.48 83 *e*P **P 19 33 31.4 -0.1**
DBIC pmax pmax
comp=Z,29nm,1.8s
VRAC Vranov 92.91 36 LR LR 20 17 36.8
comp=Z,74nm,18.7s,baz=294,slow=37
YAK Yakutsk 93.00 339 *e*P **P 19 33 36.9 -0.6**
YAK pmax pmax
comp=Z,10.0nm,1.0s
MODS Modra-Piesok 93.77 37 *e*P **P 19 33 42.0 +0.6**
MODS Modra-Piesok 93.77 37 *e*P **P 19 33 42.0 +0.6**
TOA1 Torodi Ar. Sit 95.70 75 *e*P **P 19 33 49.5 -1.3**
TORD Torodi Ar. Bea 95.70 75 P **P 19 33 49.5 -1.3**
comp=Z,0.6nm,0.8s,baz=285,slow=5.7,SNR=3.7
TORD LR LR 20 14 09.4
comp=Z,98nm,20.2s,baz=305,slow=34
KLMR Klimovskoe 95.82 19 *e*P **P 19 33 48.4 -2.0**
KLMR pmax pmax
comp=Z,8.0nm,1.0s
KLMR Klimovskoe 95.82 19 *e*P **P 19 33 48.5 -2.0**
KLMR AMP 19 33 50.6
comp=Z,8.0nm,1.1s
PRGR Permogore 96.99 16 *e*P **P 19 33 55.3 -0.4**
PRGR *e**PP **pP 19 34 04.8 -0.6**
PRGR pmax pmax
comp=Z,9.0nm,0.8s
KIEV Kiev 98.83 31 ⇑ *e*P Pdif 19 34 05.8 +1.5
KIEV pmax pmax

comp=Z,3.0nm,1.0s
AKASG Malin Array Be 98.83 31 LR LR 20 18 35.0
comp=Z,47nm,21.5s,baz=330,slow=35
OBN Obninsk 99.06 24 *e*P **Pdif 19 34 05.4 +0.3**
OBN *e* 19 38 08.9
OBN *e*PPP PPP 19 40 14.1
OBN pmax pmax
comp=Z,3.0nm,1.1s
OBN MLR MLR
comp=Z,83nm,17.0s
ZAA1 Zalesovo Array 109.72 358 *e*PP **PP 19 39 27.1 +1.4**
ZALV Zalesovo Beam 109.72 358 PP **PP 19 39 27.1 +1.4**
comp=Z,1.7nm,0.8s,baz=336,slow=6.8,SNR=3.7
KURK Kurchatov 112.97 2 *e*PP **PP 19 39 48.2 -0.7**
KURK Kurchatov 112.97 2 ⇑ *i*PKIKP **PKiKP 19 39 01.7 +0.4**
KURBB Kurchatov Arra 113.06 2 PP **PP 19 39 48.2 -1.4**
comp=Z,0.7nm,0.2s,baz=354,slow=6.4,SNR=5.5
HHC Hu-ho-hao-te 116.48 335 *e*PKP **PKiKP 19 39 06.8 -1.8**
MK32 Makanchi Array 116.94 359 *e*PKPdf **PKPdf 19 39 08.4 -0.8**
MKAR Makanchi Array 116.94 359 PKP **PKPdf 19 39 08.4 -0.8**
comp=Z,0.3nm,0.8s,baz=72,slow=2.5,SNR=3.6
MKAR Makanchi Array 116.94 359 *i*PKIKP **PKiKP 19 39 10.0 +0.8**
WMQ Urumqi 119.66 355 *e*PKP **PKiKP 19 39 16.3 +1.7**
WMQ LR LR
comp=Z,170nm,29.3s
NJ2 Nanjing 119.92 324 *e*PKP **PKiKP 19 39 16.8 +1.5**
GEYT Alibeck 121.47 22 PKP **PKiKP 19 39 18.4 +0.1**
comp=Z,16nm,0.5s,baz=132,slow=2.2,SNR=5.0
LZH Lanzhou 123.57 338 *e*PKP **PKiKP 19 39 23.0 +0.3**
LZH sPKP 19 39 37.3
KSH Kashi 123.97 5 PKP **PKiKP 19 39 25.5 +2.2**
KSH sPKP 19 39 37.8
KSH PP **PP 19 41 11.8 +6.5**
KSH PKS **PKSdf 19 42 56.3 -3.5**
KSH SKS **SKSdf 19 46 30.4 -2.8**
KSH SKKS **SKKSac 19 47 56.1 -7.5**
KSH LR LR
comp=Z,100nm,11.8s
KSH LR LR
comp=Z,170nm,11.2s
KSH LR LR
comp=Z,110nm,16.5s
ENH Enshi 126.25 330 *e*PKPdf **PKPdf 19 39 27.1 -0.4**
CD2 Chengdu 128.22 336 PKP **PKPdf 19 39 31.0 -0.3**
WB2 Warramunga Arr 129.97 258 *e*PKPpre PKPpre 19 39 22.6
WB2 *e*PKPdf **PKPdf 19 39 35.0 +0.3**
WRAB Tennant Creek 129.97 258 ⇓ *i*PKIKP **PKiKP 19 39 37.0 +1.4**
WR1 Warramunga Arr 129.98 258 *e*PKPdf **PKiKP 19 39 35.6 0.0**
WRA Warramunga Arr 129.98 258 PKP **PKiKP 19 39 35.6 0.0**
comp=Z,0.8nm,0.9s,baz=99,slow=1.3,SNR=5.4
ASAR Alice Springs 130.62 253 PKP **PKPdf 19 39 36.6 +0.7**
comp=Z,0.7nm,0.9s,baz=76,slow=3.9,SNR=4.2
GYA Guiyang 130.79 330 *e*Pdif **Pdif 19 36 27.0 -0.2**
GYA PKP **PKiKP 19 39 37.5 +0.2**
GYA PP **PP 19 41 56.3 +5.3**
GYA AMB AMB
comp=Z,120nm,7.8s
KMI Kunming 133.74 333 PKP **PKPdf 19 39 41.3 -0.8**
CM31 Chiang Mai Arr 141.25 333 *e*PKPdf **PKPdf 19 39 56.5 +0.7**
CMAR Chiang Mai Arr 141.25 333 PKhKP PKPpre 19 39 49.6
comp=Z,0.3nm,0.7s,baz=15,slow=3.9,SNR=3.9
CMAR PKP **PKPdf 19 39 56.7 +0.9**
comp=Z,1.7nm,0.8s,baz=325,slow=2.1,SNR=18
CM01 Chiang Mai Arr 141.28 333 *e*PKPpre PKPpre 19 39 46.2
CM01 *e*PKPdf **PKPdf 19 39 55.9 0.0**
HYB Hyderabad 146.10 5 *i*PKP **PKPbc 19 40 05.0 -0.2**
ABPO Ambohimpanom 147.19 100 *e*PKPdf **PKPbc 19 40 09.6 +1.0**
ABPO Ambohimpanom 147.19 100 *e*PKP2 **PKPbc 19 40 09.6 +1.0**
KULM Kulim 151.27 318 *ep*PKPdf **PKPbc 19 40 18.9 +0.2**

DJA 15 19:25:26.9±1.9, 2°S±8°×14°E±°, h10km, M3.3/2, MLv3.3/2,
Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.34**	**165**	P	Pg	19 25 34.4	+0.7
GENI				S	Sb	19 25 40.3	-0.3
JAY	**Jayapura**	**0.67**	**112**	P	Pb	19 25 40.5	-0.3
JAY				S	Sb	19 25 50.0	-0.2

DJA 15 19:26:35.4±1.2, 4°S±6°×137°E±°, h27km±11km, M3.9/6,
mb3.6/1, MLv4.0/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**2.16**	**340**	P	Pn	19 27 09.2	-0.5
SRPI				S	Sn	19 27 35.9	+0.3
SRPI	**Serui, Papua**	**2.16**	**340**	P	Pn	19 27 10.4	+0.7
SRPI				S	Sn	19 27 36.5	+0.9
BAKI	**Biak**	**2.84**	**342**	P	Pn	19 27 18.6	-0.4
GENI	**Genyem**	**3.43**	**68**	P	Pn	19 27 27.3	+0.1
GENI				S	Sn	19 28 08.0	+1.0
RKPI	**Ransiki, Papua**	**3.68**	**310**	P	Pn	19 27 30.8	+0.2
RKPI				S	Sn	19 28 14.3	+1.1
JAY	**Jayapura**	**3.96**	**70**	P	Pn	19 27 34.5	0.0
JAY				S	Sn	19 28 20.2	+0.1
FAKI	**Fak Fak**	**4.83**	**282**	P	Pn	19 27 46.5	0.0
FAKI				S	Sn	19 28 40.9	-0.7

*IDC **15** 19:34:33.5±1.0, 46°.33S×75°.54W, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.9/21, mbtmp3.8/6, ML3.2/1, MS4.1/5, Ms1 4.1/5, ms1mx3.6/29, Error ellipse: s-maj=48.2km s-min=21.6km az=103.0*
*NEIC **15** 19:34:34.9±0.6, 46°.16S×75°.53W, h10km, mb4.5/11, Error ellipse: s-maj=20.1km s-min=8.7km az=96.0*
*ISCJB **15** 19:34:36.6±0.7, 46°.22S±0°.06×75°.3W±0°.2, h33km, mb4.2/11, MS4.2/4, Error ellipse: s-maj=20.2km s-min=8.9km az=4.4*
ISC 15 19:34:38.2±0.8, 46°.19S±0°.08×75°.5W±0°.2, h35km, n32,
σ1s65/28, mb4.3/11, MS4.2/4, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO09	**Cerro Castillo**	**5.50**	**159**	*e*Pn	**Pn**	**19 35 55.5**	**-2.0**
PLCA	**Paso Flores**	**6.54**	**35**	Pn	**Pn**	**19 36 10.6**	**-1.4**
	0.1nm,0.3s,baz=245,slow=14,SNR=1.5						
PLCA				LR	LR	19 38 46.7	
	comp=Z,871nm,20.9s,baz=250,slow=38						
PLCA	**Paso Flores**	**6.54**	**35**	*e*Pn	**Pn**	**19 36 10.4**	**-1.5**
GO06	**Curarrehue**	**7.24**	**26**	*e*Pn	**Pn**	**19 36 18.4**	**-3.2**
TRQA	**Tornquist**	**12.91**	**56**	*e*Pn	**Pn**	**19 37 39.3**	**+0.2**
PEL	**Peldehue**	**13.55**	**18**	*e*Pn	**Pn**	**19 37 45.0**	**-2.9**
ROC1	**El Roble**	**13.64**	**16**	*e*Pn	Pn	19 37 42.8	-6.5
GO04	**Tololo Observa**	**16.41**	**15**	*e*Pn	**Pn**	**19 38 24.3**	**-1.7**
	22nm,1.3s						
LCO	**Las Campanas**	**17.56**	**14**	*e*Pn	**Pn**	**19 38 39.9**	**-0.5**
	10nm,1.2s						
PMSA	**Palmer Station**	**19.67**	**165**	*e*P	**Pn**	**19 39 04.8**	**-0.5**
	92nm,1.5s						
GO02	**Mina Guanaco**	**21.52**	**15**	*e*P	**P**	**19 39 21.6**	**-2.8**
	14nm,1.2s						
LVC	**Limon Verde**	**24.13**	**15**	P	**P**	**19 39 52.5**	**+1.3**
	3.0nm,0.6s,baz=174,slow=10,SNR=17						
LVC	**Limon Verde**	**24.13**	**15**	*e*P	**P**	**19 39 52.4**	**+1.2**
	8.7nm,1.0s						
PB04	**IPOC Station P**	**24.20**	**12**	*e*P	**P**	**19 39 53.0**	**+1.5**
	48nm,1.6s						
CPUP	**Villa Florida**	**24.55**	**42**	P	**P**	**19 39 55.9**	**+1.4**
	5.9nm,0.9s,baz=219,slow=8.8,SNR=10						
CPUP				LR	LR	19 50 27.1	
	comp=Z,331nm,19.5s,baz=224,slow=39						
CPUP	**Villa Florida**	**24.55**	**42**	*e*P	**P**	**19 39 56.0**	**+1.4**
	20nm,1.1s						
PB01	**IPOC Station P**	**25.57**	**13**	*e*P	**P**	**19 40 04.3**	**+0.5**
	12nm,1.3s						
PB11	**IPOC Station P**	**26.80**	**12**	*e*P	**P**	**19 40 15.2**	**+0.1**
	10nm,1.1s						
LPAZ	**La Paz**	**30.45**	**14**	P	**P**	**19 40 51.4**	**+3.3**
	1.0nm,0.8s,baz=212,slow=14,SNR=3.5						
LPAZ	**La Paz**	**30.45**	**14**	*e*P	**P**	**19 40 47.5**	**-0.5**
SPB	**Sao Paulo**	**31.95**	**55**	*e*P	**P**	**19 41 02.3**	**+1.7**
	34nm,1.7s						
BDFB	**Brasilia**	**38.15**	**46**	LR	LR	19 58 43.5	
	comp=Z,506nm,18.2s,baz=235,slow=38						
BDFB	**Brasilia**	**38.15**	**46**	*e*P	**P**	**19 41 54.6**	**+0.3**
	12nm,1.5s						
QSPA	**South Pole Qui**	**44.06**	**180**	P	**P**	**19 42 42.4**	**+0.1**
	0.7nm,0.3s,baz=139,slow=9.2,SNR=5.1						
RAR	**Rarotonga**	**71.11**	**259**	LR	LR	20 09 17.3	
	comp=Z,130nm,18.9s,baz=173,slow=29						
RPZ	**Rata Peaks**	**72.84**	**224**	LR	LR	20 11 33.8	
	comp=Z,118nm,19.5s,baz=102,slow=30						
LTX	**Lajitas**	**79.38**	**335**	*e*P	**P**	**19 46 41.0**	**+0.7**
TXAR	**Lajitas Array**	**79.38**	**335**	P	**P**	**19 46 41.0**	**+0.7**
	0.9nm,1.0s,baz=140,slow=4.7,SNR=4.8						
ILAR	**Eielson Array**	**123.69**	**331**	PKP	**PKPdf**	**19 53 32.9**	**+2.1**
	0.7nm,0.7s,baz=145,slow=2.1,SNR=4.6						
GEYT	**Alibeck**	**145.03**	**87**	PKPbc	**PKPdf**	**19 54 11.5**	**+0.2**
	1.3nm,0.7s,baz=201,slow=7.8,SNR=4.2						
CMAR	**Chiang Mai Arr**	**151.97**	**169**	PKPbc	**PKPbc**	**19 54 28.8**	**-0.9**
	0.7nm,0.8s,baz=212,slow=4.0,SNR=8.3						
MKAR	**Makanchi Array**	**164.71**	**80**	PKPab	**PKPab**	**19 55 34.0**	**+0.6**
	0.2nm,0.8s,baz=250,slow=4.2,SNR=1.9						

MEX 15 19:39:53.6±0.4, 13°.87N×92°.08W, h25km±14km, MD3.9,
Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**2.14**	**329**	*e*P	Pn	19 40 25.4	-2.3
PCIG				*i* S	Sn	19 40 50.7	-2.8
CCIG	**Comitan**	**2.40**	**359**	*e*P	Pn	19 40 29.6	-2.0
CCIG				*e*S	Sn	19 40 57.4	-3.0

JMA 15 19:44:52.7±0.1, 38°.60N×142°.40E, h30km±2km, M3.6,
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.75**	**310**	P	Pn	19 45 06.9	-0.3
OFUJ				S	Sb	19 45 16.7	-0.4
JKMT	**Kesennumamotoy**	**0.76**	**286**	P	Pn	19 45 07.0	-0.3
JKMT				S	Sb	19 45 16.8	-0.5
JIKH	**Ishinomakikobu**	**0.79**	**249**	P	Pn	19 45 07.2	-0.6
JIKH				S	Sb	19 45 17.2	-1.0
JIO	**Ouri**	**0.84**	**260**	P	Pn	19 45 08.2	-0.2
JIO				S	Sb	19 45 18.7	-0.9
JMK	**Ichinoseki**	**0.99**	**291**	P	Pn	19 45 10.7	+0.2
JMK				S	Sn	19 45 23.5	+0.1
JOM	**Ohasama**	**1.23**	**316**	P	Pn	19 45 14.5	+0.7
JOM				S	Sn	19 45 30.0	+0.6
JOU	**Okura**	**1.38**	**261**	P	Pn	19 45 16.9	+0.9
JOU				S	Sn	19 45 34.1	+0.9
JTH	**Tanohata**	**1.40**	**343**	P	Pn	19 45 15.8	-0.4
JTH				S	Sn	19 45 34.3	+0.6
JMM	**Marumori**	**1.46**	**240**	P	Pn	19 45 16.6	-0.4
JFK	**Kawauchi**	**1.72**	**225**	P	Pn	19 45 19.8	-0.9
JFK				S	Sn	19 45 39.5	-2.2

*GUC **15** 19:45:19.9±0.5, 37°.32S×74°.68W, h21km±4km, ML4.2*
*IDC **15** 19:45:29.8±3.9, 37°.29S×73°.12W, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.5/28, mbtmp3.4/4, ML3.7/2, Error ellipse: s-maj=92.5km s-min=18.5km az=77.0*
ISC 15 19:45:22.5±2.1, 37°.33S±0°.06×74°.4W±0°.1, h10km, n10,
σ1s67/14, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**1.15**	**66**	*e*P	**Pn**	**19 45 42.4**	**-2.2**
CCSP				*i* S	**Sb**	**19 45 59.6**	**+0.2**
CCSP				IAML		19 46 06.5	
	comp=N,13μm,0.5s						
CCHI	**Chillan**	**2.01**	**70**	*e*P	**Pn**	**19 45 55.7**	**-0.6**
CCHI				*i* S	**Sn**	**19 46 23.1**	**+1.6**
CCHI				IAML		19 46 30.1	
	comp=E,4μm,0.6s						
TMU	**Temuco**	**2.01**	**135**	*e*P	**Pn**	**19 45 54.5**	**-1.8**
TMU				*e*S	**Sn**	**19 46 21.9**	**+0.4**
TMU				IAML		19 46 26.9	
	comp=N,914nm,0.3s						
GO05	**Huala**	**3.06**	**42**	*e*P	**Pn**	**19 46 10.1**	**-0.8**
GO06	**Curarrehue**	**3.23**	**135**	⇑ *i*P	**Pn**	**19 46 12.2**	**-1.1**
GO06				*e*S	**Sn**	**19 46 53.0**	**+1.1**
GO06				IAML		19 47 17.6	
	comp=E,152nm,0.5s						
PLCA	**Paso Flores**	**4.54**	**140**	Pn	**Pn**	**19 46 31.1**	**-0.3**
	comp=E,0.6nm,0.3s,baz=338,slow=9.5,SNR=8.6						
PLCA				Pg	**Pb**	**19 46 41.8**	**-0.5**
	comp=E,2.8nm,0.3s,baz=338,slow=16,SNR=24						
PLCA				Sn	**Sn**	**19 47 26.4**	**+2.3**
	comp=E,2.8nm,0.3s,baz=26,slow=13,SNR=4.8						
PLCA				Lg	Lg	19 47 37.0	
	comp=E,1.0nm,0.3s,baz=88,slow=21,SNR=1.9						
CPUP	**Villa Florida**	**18.16**	**58**	P	**Pn**	**19 49 33.0**	**-1.8**
	comp=E,0.1nm,0.3s,baz=225,slow=17,SNR=3.3						
LPAZ	**La Paz**	**21.68**	**17**	P	P	19 50 19.5	+5.4
	comp=E,1.6nm,0.9s,baz=193,slow=14,SNR=4.2						
SIV	**San Ignacio**	**24.31**	**33**	P	**P**	**19 50 43.1**	**+2.8**
	comp=E,0.7nm,0.6s,baz=232,slow=16,SNR=3.5						
MKAR	**Makanchi Array**	**160.35**	**54**	PKPab	PKPab	20 06 08.7	+6.0
	comp=E,0.3nm,0.8s,baz=279,slow=2.8,SNR=4.2						

MEX 15 19:49:17.1±0.5, 14°.15N×92°.36W, h20km±672km, MD3.8,
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.75**	**332**	*e*P	Pn	19 49 43.8	-2.5
PCIG				*e*S	Sn	19 50 03.5	-4.5
CCIG	**Comitan**	**2.13**	**6**	*i* P	Pn	19 49 49.0	-2.7
CCIG				*i* S	Sn	19 50 14.8	-2.8

IDC 15 19:51:08.1±5.9, 25°.78N×106°.03E, h0km, mb3.5/4,
mb1 3.4/5, mbtmp3.4/35, mbtmp3.4/5, ML3.1/1, Error ellipse: s-maj=138.8km s-min=36.5km az=113.0, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.81**	**223**	Pn	Pn	19 53 31.7	+1.2
	0.0nm,0.3s,baz=35,slow=13,SNR=2.1						
SONM	**Songino Array**	**22.02**	**1**	P	P	19 56 05.5	+1.4
	0.4nm,0.6s,baz=181,slow=10,SNR=4.8						
MKAR	**Makanchi Array**	**28.20**	**324**	P	P	19 57 03.1	+0.8
	0.4nm,0.6s,baz=127,slow=9.2,SNR=5.8						
ZALV	**Zalesovo Beam**	**32.25**	**336**	P	P	19 57 37.6	-0.4
	0.6nm,0.5s,baz=139,slow=7.5,SNR=1.9						
FINES	**FINESS Array B**	**62.94**	**328**	P	P	20 01 34.3	-1.7
	0.3nm,0.4s,baz=88,slow=10,SNR=0.9						

*ISCJB **15** 19:53:23.0±0.6, 51°.52N±0°.03×16°.05E±0°.03, h0km, Error ellipse: s-maj=4.1km s-min=2.9km az=20.9*
*VIE **15** 19:53:25.9±0.9, 51°.41N×16°.03E, h0km, mb2.3/3, ml2.6/5, Error ellipse: s-maj=8.4km s-min=5.6km az=15.0 76 km WNW of Wroclaw Suspected Mining induced.*
ISC 15 19:53:23.3±0.9, 51°.62N±0°.04×16°.06E±0°.03, h0km, n24,
σ1s13/49, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.79**	**169**	*i* Pg	**Pg**	**19 53 38.5**	**+0.1**
KSP				*i* Sg	**Sg**	**19 53 47.9**	**-0.6**
UPC	**Upice**	**1.11**	**182**	*e*PG	**Pg**	**19 53 44.6**	**+0.1**
UPC				*e*SG	**Sg**	**19 53 58.5**	**-0.4**
	comp=Z,63nm,0.3s						
DPC	**Dobruska-Polom**	**1.28**	**172**	*e*PG	**Pg**	**19 53 47.4**	**-0.4**
DPC				*e*SG	**Sg**	**19 54 02.9**	**-1.4**
	comp=Z,26nm,0.3s						
PVCC	**Panska Ves**	**1.44**	**221**	*e*PG	**Pb**	**19 53 51.3**	**+0.4**
PVCC				*e*SG	**Sb**	**19 54 09.8**	**0.0**
	comp=Z,82nm,0.3s						
BRG	**Berggiesshubel**	**1.52**	**242**	PG	**Pb**	**19 53 53.0**	**+0.6**
BRG				SG	**Sn**	**19 54 13.1**	**+0.8**
	44nm,0.4s						
KRLC	**Kraliky**	**1.61**	**163**	*e*PG	**Pn**	**19 53 53.1**	**+0.1**
KRLC				*e*SG	**Sn**	**19 54 13.7**	**-0.8**
	comp=Z,5.1nm,0.5s						
PRA	**Prague**	**1.86**	**214**	*e*SG	**Sb**	**19 54 21.3**	**-0.6**
	comp=Z,18nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.89**	**206**	*e*PG	**Pb**	**19 53 59.1**	**+0.5**
GOPC				*e*SG	**Sb**	**19 54 22.0**	**-0.7**
	comp=Z,11nm,0.3s						
PRU	**Pruhonice**	**1.89**	**211**	*e*PG	**Pb**	**19 53 58.5**	**-0.2**
PRU				*e*SG	**Sb**	**19 54 22.6**	**-0.3**
	comp=Z,30nm,0.3s						
CLL	**Collm**	**1.94**	**262**	*e*Pn	**Pn**	**19 53 57.0**	**-0.4**
CLL				*e*Pg	**Pg**	**19 54 01.0**	**+0.6**
CLL				*e*		19 54 04.0	
CLL				*e*Sg	**Sg**	**19 54 26.0**	**+0.6**
	comp=

MORC	**Moravsky Berou**	**2.07**	**152**	*e*PN	**Pn**	**19 53 59.1**	**-0.2**
MORC				*e*SG	**Sb**	**19 54 28.0**	**0.0**
OKC	**Ostrava-Krasne**	**2.22**	**142**	*e*PG	**Pb**	**19 54 04.9**	**+0.6**
OKC				*e*SG	**Sb**	**19 54 32.1**	**-0.2**
	comp=Z,11nm,0.4s						
VRAC	**Vranov**	**2.34**	**171**	*e*PN	**Pn**	**19 54 03.1**	**+0.2**
VRAC				*e*SG	**Sg**	**19 54 36.9**	**-1.4**
TREC	**Trest**	**2.35**	**189**	*e*SG	**Sb**	**19 54 36.3**	**+0.2**
	comp=Z,19nm,0.3s						
KRUC	**Moravsky**	**2.57**	**175**	*e*PN	**Pn**	**19 54 06.4**	**+0.3**
KRUC				*e*SG	**Sg**	**19 54 44.3**	**-1.4**
NKC	**Novy Kostel**	**2.67**	**240**	*e*PN	**Pn**	**19 54 08.6**	**+1.0**
NKC				*e*PG	**Pg**	**19 54 15.4**	**+1.0**
NKC				*e*SG	**Sg**	**19 54 49.4**	**+0.3**
	comp=Z,24nm,0.4s						
OJC	**Ojcow**	**2.75**	**119**	*e*Pg	**Pg**	**19 54 16.5**	**+0.6**
OJC				*e*Sg	**Sg**	**19 54 52.1**	**+0.5**
KHC	**Kasperske Hory**	**2.95**	**213**	*e*PN	**Pn**	**19 54 12.3**	**+0.9**
KHC				*e*PG	**Pb**	**19 54 17.6**	**+0.8**
KHC				*e*SN	**Sn**	**19 54 46.3**	**-1.3**
KHC				*e*SG	**Sg**	**19 54 55.7**	**-2.4**
	comp=Z,8.2nm,0.4s						
MODS	**Modra-Piesok**	**3.34**	**166**	*e*SG	**Sg**	**19 55 13.2**	**+2.7**
MODS				*e*LG	Lg	19 55 14.8	
BSD	**Bornholm Skovb**	**3.57**	**349**	*i* P	**Pn**	**19 54 20.1**	**+0.2**
BSD				*e*S	**Sn**	**19 54 59.4**	**-3.3**
VYHS	**Vyhne**	**3.60**	**149**	*e*PN	**Pn**	**19 54 20.1**	**-0.2**
VYHS				*e*PG	**Pg**	**19 54 33.5**	**+1.2**
VYHS				*e*SG	**Sg**	**19 55 20.5**	**+1.6**
CONA	**Conrad Observa**	**3.69**	**182**	*e*Pn	**Pn**	**19 54 21.4**	**-0.3**
	comp=Z,0.1nm,0.2s						
CONA				Sg	**Sg**	**19 55 18.7**	**-3.2**
	comp=Z,6.4nm,0.5s						
MOA	**Molln**	**3.95**	**198**	*i* Pn	**Pn**	**19 54 25.7**	**+0.7**
	comp=Z,0.3nm,0.1s						
MOA				Sg	**Sg**	**19 55 29.2**	**-0.7**
	comp=Z,5.1nm,0.4s						
ARSA	**Arzberg**	**4.38**	**185**	Sg	**Sg**	**19 55 45.7**	**+1.7**
	comp=Z,2.0nm,0.4s						

IDC ***15*** *19:54:06.1±1.4,20.°17S×168.°32E, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.9/21, mbtmp3.8/8, ML3.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/24, Error ellipse: s-maj=55.2km s-min=19.9km az=139.0*

ISCJB ***15*** *19:54:08.7±0.8, 20.°06S±0.°08×168.°2E±0.°1, h25km, mb4.0/11, Error ellipse: s-maj=18.5km s-min=8.8km az=23.5*

NEIC ***15*** *19:54:11.3±0.6, 20.°17S×168.°29E, h35km, mb4.4/5, Error ellipse: s-maj=14.2km s-min=8.0km az=115.0*

ISC 15 19:54:10.0±0.9, 20.°2S±0.°1×168.°3E±0.°2, h25km, n21, σ0°68/23, mb3.9/11, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.35**	**191**	*e*Pn		**Pn**	**19 54 33.1**	**-0.2**
DZM	**Mont Dzumac**	**2.59**	**222**	Pn		**Pn**	**19 54 50.0**	**-0.3**
	11nm,0.3s,baz=84,slow=10,SNR=105							
DZM				Sn		**Sn**	**19 55 21.5**	**+0.4**
	26nm,0.3s,baz=143,slow=22,SNR=10							
DZM				LR		LR	19 55 50.7	
	comp=Z,221nm,18.2s,baz=296,slow=41							
DZM	**Mont Dzumac**	**2.59**	**222**	*e*Pn		**Pn**	**19 54 50.1**	**-0.2**
DZM				*e*Sn		**Sn**	**19 55 20.7**	**-0.4**
OUENC	**Ouen Island, N**	**2.64**	**211**	*e*Pn		**Pn**	**19 54 51.7**	**+0.7**
ONTNC	**Ouen Toro**	**2.76**	**219**	*e*Pn		**Pn**	**19 54 52.5**	**-0.2**
COEN	**Coen**	**24.79**	**280**	*e*P		**P**	**19 59 31.2**	**+1.0**
	32nm,1.6s							
STKA	**Stephens Creek**	**26.63**	**239**	P		**P**	**19 59 46.0**	**-0.7**
	1.5nm,0.6s,baz=90,slow=7.1,SNR=5.4							
STKA	**Stephens Creek**	**26.63**	**239**	*e*P		**P**	**19 59 46.8**	**+0.2**
	2.7nm,1.5s							
WB2	**Warramunga Arr**	**31.87**	**264**	*e*P		**P**	**20 00 32.6**	**-0.8**
	22nm,1.9s							
WR1	**Warramunga Arr**	**31.89**	**264**	*e*P		**P**	**20 00 32.4**	**-1.1**
	17nm,1.6s							
WRA	**Warramunga Arr**	**31.89**	**264**	P		**P**	**20 00 32.4**	**-1.1**
	0.2nm,0.3s,baz=91,slow=8.3,SNR=27							
AS01	**Alice Springs**	**32.03**	**257**	*e*P		**P**	**20 00 34.9**	**+0.2**
AS31	**Alice Springs**	**32.07**	**257**	*e*P		**P**	**20 00 34.6**	**-0.5**
	0.9nm,0.6s							
ASAR	**Alice Springs**	**32.07**	**257**	P		**P**	**20 00 35.2**	**+0.1**
	1.8nm,0.8s,baz=83,slow=9.1,SNR=20							
CMAR	**Chiang Mai Arr**	**78.08**	**295**	P		**P**	**20 06 08.4**	**+1.3**
	1.1nm,0.8s,baz=132,slow=4.2,SNR=9.8							
SONA0	**Songino Array**	**87.42**	**323**	*e*P		**P**	**20 06 54.6**	**-0.6**
SONM	**Songino Array**	**87.42**	**323**	P		**P**	**20 06 54.6**	**-0.6**
	0.5nm,0.9s,baz=116,slow=3.4,SNR=4.1							
NVAR	**Mina Array Bea**	**90.05**	**49**	P		**P**	**20 07 08.0**	**0.0**
	0.3nm,0.6s,baz=223,slow=6.1,SNR=2.7							
ILAR	**Eielson Array**	**91.36**	**18**	P		**P**	**20 07 12.7**	**-0.4**
	0.3nm,0.8s,baz=232,slow=4.4,SNR=3.0							
GERES	**GERESS Array B**	**144.86**	**331**	PKP		**PKPdf**	**20 13 44.6**	**-0.2**
	0.2nm,0.5s,baz=174,slow=3.9,SNR=3.7							
DAVOX	**Davos/Dischmat**	**148.13**	**331**	PKPbc		**PKPbc**	**20 13 54.6**	**+0.8**
	1.4nm,0.5s,baz=49,slow=9.3,SNR=3.5							

GUC 15 19:55:41.6±0.8, 22.°74S×67.°14W, h280km±15km, ML3.5, 4C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**2.16**	**295**	*e*P		Pn	19 56 29.5	+1.3
PB09				*e*S		S	19 57 05.8	+0.7
PB09				IAML			19 57 10.4	
	comp=E,44nm,0.4s							
PB06	**IPOC Station P**	**2.24**	**270**	*e*P		Pn	19 56 30.2	+1.4
PB06				*e*S		S	19 57 07.5	+1.1
PB06				IAML			19 57 08.8	
	comp=E,61nm,0.1s							
PB03	**IPOC Station P**	**2.51**	**285**	*e*P		Pn	19 56 32.6	+1.3
PB03				*e*S		S	19 57 11.4	+0.5
PB03				IAML			19 57 13.7	
	comp=N,114nm,0.1s							
PB07	**IPOC Station P**	**2.73**	**291**	*e*P		Pn	19 56 35.2	+1.7
PB07				*e*S		S	19 57 15.4	+0.6
PB01	**IPOC Station P**	**2.75**	**307**	*e*P		Pn	19 56 34.8	+1.1
PB01				*e*S		S	19 57 15.5	+0.4
PB04	**IPOC Station P**	**2.81**	**278**	*e*P		Pn	19 56 35.8	+1.6
PB04				*e*S		S	19 57 17.2	+1.2
PB05	**IPOC Station P**	**2.82**	**267**	*e*P		Pn	19 56 36.0	+1.7
PB05				*e*S		S	19 57 17.2	+1.0
PB08	**IPOC Station P**	**3.19**	**324**	*e*P		Pn	19 56 40.1	+1.6
PB08				*e*S		S	19 57 25.2	+1.6
GO02	**Mina Guanaco**	**3.29**	**222**	*e*P		Pn	19 56 40.5	+1.2
GO02				*i* S		S	19 57 25.2	-0.1

IDC ***15*** *20:34:20.7±1.8, 36.°45N×70.°99E, h183km±17km, mb3.8/21, mb1 4.0/27, mb1mx3.8/38, mbtmp4.4/27, Error ellipse: s-maj=11.6km s-min=9.5km az=178.0*

NNC ***15*** *20:34:20.8±7.6, 37.°09N×70.°14E, h0km, mb5.2, mpv5.3, Error ellipse: s-maj=101.3km s-min=45.5km az=150.0*

MOS ***15*** *20:34:21.7±1.0, 36.°55N×71.°01E, h201km, mb4.6/42, Error ellipse: s-maj=6.6km s-min=4.4km az=102.2*

ISCJB ***15*** *20:34:21.0±0.2, 36.°53N±0.°02×70.°98E±0.°03, h194km±2km, mb4.5/106, Error ellipse: s-maj=3.4km s-min=2.6km az=162.7*

BJI ***15*** *20:34:21.7, 36.°77N×70.°88E, h193km, mb4.4/12, mB4.6/9*

NEIC ***15*** *20:34:21.8±0.3, 36.°50N×70.°98E, h190km±3km, mb4.6/74, Error ellipse: s-maj=4.0km s-min=3.2km az=191.0*

ISC 15 20:34:21.9±0.4, 36.°51N±0.°03×70.°94E±0.°04, h195km±4km, h194km: pP-P, n328, σ1°52/370, mb4.5/109, 30C-28D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.50**	**219**	*e*Pn		**Pn**	**20 35 06.4**	**+0.6**
KBL				*e*Sn		**Sn**	**20 35 39.3**	**-0.6**
GAR	**Garm**	**2.53**	**349**	*e*Pn		**Pn**	**20 35 06.1**	**+0.2**
GAR				*e*Sn		**Sn**	**20 35 37.8**	**-2.7**
GAR	**Garm**	**2.53**	**349**	*e*Pn		**Pn**	**20 35 06.1**	**+0.2**
GAR				*e*			20 35 37.8	
CHGR	**Chuyangaron**	**2.57**	**327**	*e*Pn		**Pn**	**20 35 06.2**	**-0.1**
CHGR				*e*Sn		**Sn**	**20 35 37.7**	**-3.4**
CEP	**Cherat**	**2.79**	**163**	P		**Pn**	**20 35 10.8**	**+1.7**
CEP				S		**Sn**	**20 35 46.0**	**+0.2**
CHCP	**Chirah Chowk**	**3.42**	**146**	P		**Pn**	**20 35 18.4**	**+1.9**
NIL	**Nilore**	**3.42**	**146**	*e*Pn		**Pn**	**20 35 18.1**	**+1.6**
NIL				*e*Sn		**Sn**	**20 35 57.4**	**-1.8**
NIL	**Nilore**	**3.42**	**146**	*e*PN		**Pn**	**20 35 18.1**	**+1.6**
NIL				*e*			20 35 57.4	
BTK	**Batken**	**3.54**	**358**	*e*Pn		**Pn**	**20 35 19.1**	**+1.2**
BTK				*e*Sn		**Sn**	**20 36 01.4**	**-0.5**
BTK	**Batken**	**3.54**	**358**	*e*PN		**Pn**	**20 35 19.1**	**+1.2**
BTK				*e*			20 36 01.4	
THW	**Thamme Wali**	**3.77**	**170**	P		**Pn**	**20 35 22.1**	**+1.4**
SFK	**Sufi-Kurgan**	**4.04**	**29**	P		**Pn**	**20 35 24.4**	**+0.2**
	179nm,0.3s							
SFK				S		**Sn**	**20 36 11.4**	**-1.6**
	1µm,0.5s							
SARP	**Sargodha**	**4.80**	**162**	P		**Pn**	**20 35 34.2**	**+0.6**
KSH	**Kashi**	**4.98**	**51**	P		**Pn**	**20 35 32.3**	**-3.7**
KSH				S		Sn	20 36 24.3	-10
KSH				*s*max		*s*max		
	comp=N,2µm,0.5s							
KSH				*s*max		*s*max		
	comp=E,2µm,0.4s							
ARSB	**Arslanbob**	**5.06**	**18**	*e*Pn		**Pn**	**20 35 36.4**	**-0.6**
ARSB				*e*Sn		**Sn**	**20 36 33.7**	**-2.6**
AML	**Almayashu**	**6.00**	**20**	P		**Pn**	**20 35 49.4**	**-0.1**
	SNR=974							
DHRM	**DHARAMSHALA**	**6.14**	**132**	*e*P		**Pn**	**20 35 51.9**	**+0.8**
DHRM				*e*S		**Sn**	**20 36 59.9**	**-1.7**
UCH	**Uchtor**	**6.34**	**25**	P		**Pn**	**20 35 54.0**	**0.0**
	SNR=326							
KZA	**Kyzart**	**6.48**	**30**	P		**Pn**	**20 35 55.1**	**-0.6**
	SNR=73							
EKS2	**Erkin-Say**	**6.52**	**19**	P		**Pn**	**20 35 56.0**	**+0.1**
	SNR=712							
KK31	**Karatay Array**	**6.59**	**357**	*e*Pn		**Pn**	**20 35 56.2**	**-0.6**
KK31				*e*Sn		**Sn**	**20 37 07.1**	**-4.8**
KK31	**Karatay Array**	**6.59**	**357**	P		**Pn**	**20 35 56.0**	**-0.7**
	52nm,0.8s,baz=197,slow=23,SNR=498							
KK31				Pg			20 36 04.8	
	57nm,0.3s,baz=180,slow=13,SNR=6.6							
KK31				S		**Sn**	**20 37 04.1**	**-7.8**
	100nm,0.5s,baz=184,slow=21,SNR=9.5							
KK31	**Karatay Array**	**6.59**	**357**	*e*PN		**Pn**	**20 35 56.2**	**-0.6**
KKAR	**Karatay Array**	**6.59**	**357**	*e*Pn		**Pn**	**20 35 56.4**	**-0.3**
KKAR				*e*Sn		**Sn**	**20 37 07.1**	**-4.8**
KKAR	**Karatay Array**	**6.59**	**357**	*e*PN		**Pn**	**20 35 56.4**	**-0.3**
AAK	**Ala-Archa**	**6.70**	**23**	P		**Pn**	**20 35 58.6**	**+0.3**
	88nm,0.3s,baz=170,slow=6.2,SNR=1408							
AAK				S		**Sn**	**20 37 12.6**	**-2.1**
	21nm,0.3s,baz=309,slow=22,SNR=12							
AAK	**Ala-Archa**	**6.70**	**23**	P		**Pn**	**20 35 58.6**	**+0.3**
	SNR=158							
AAK	**Ala-Archa**	**6.70**	**23**	⇑P		**Pn**	**20 35 58.3**	**0.0**
	83nm,0.5s							
AAK				⇑S		**Sn**	**20 37 12.0**	**-2.7**
	117nm,0.5s							
KBK	**Karagaybulak**	**6.87**	**25**	P		**Pn**	**20 36 00.9**	**+0.4**
	SNR=174							
FRU1	**Bishkek**	**6.90**	**23**	*e*Pn		**Pn**	**20 36 01.3**	**+0.5**
FRU1				*e*Sn		**Sn**	**20 37 17.8**	**-1.4**
FRU1	**Bishkek**	**6.90**	**23**	*e*PN		**Pn**	**20 36 01.3**	**+0.5**
FRU1				*e*			20 37 17.8	
FRU	**Bishkek**	**6.92**	**23**	*i* PN		**Pn**	**20 36 00.0**	**-1.0**
FRU				*i* S		**Sn**	**20 37 18.0**	**-1.6**
FRU				*p*max		*p*max		
	comp=Z,160nm,1.2s							
FRU				*s*max		*s*max		
	comp=N,280nm,1.6s							
ULHL	**Ulahol**	**7.04**	**34**	P		**Pn**	**20 36 02.8**	**0.0**
	SNR=65							
CHMS	**Chumysh**	**7.11**	**23**	P		**Pn**	**20 36 03.3**	**-0.3**
	SNR=196							
USP	**Ospenovka**	**7.28**	**21**	P		**Pn**	**20 36 04.9**	**-0.8**
	SNR=217							
TKM2	**Tokmak 2**	**7.34**	**28**	P		**Pn**	**20 36 06.7**	**0.0**
	SNR=424							
TKM2	**Tokmak 2**	**7.34**	**28**	⇓P		**Pn**	**20 36 06.8**	**+0.2**
	comp=N,385nm,0.6s							
TKM2				⇓S		**Sn**	**20 37 26.4**	**-3.3**
	comp=N,65nm,0.7s							
KDJ	**Kajisay**	**7.40**	**39**	*e*Pn		**Pn**	**20 36 07.8**	**+0.3**
KDJ	**Kajisay**	**7.40**	**39**	*e*PN		**Pn**	**20 36 07.8**	**+0.3**
TARG	**Taragay, Kyrgy**	**7.45**	**44**	*e*Pn		**Pn**	**20 36 07.8**	**-0.6**
SMLA	**Simla**	**7.46**	**134**	*e*P		**Pn**	**20 36 08.3**	**+0.2**
SMLA				*e*S		**Sn**	**20 37 29.8**	**-2.5**
SMLA				IAML			20 37 31.2	
	comp=N,451nm,0.2s							
SMLA				IAML			20 37 33.1	
	comp=E,946nm,0.9s							
MDOK	**Medeo**	**8.13**	**33**	P		**Pn**	**20 36 17.3**	**+0.3**
	comp=E,111nm,0.5s							
KNDC	**Almaty**	**8.14**	**33**	⇑P		**Pn**	**20 36 17.2**	**+0.2**
	comp=E,169nm,0.5s							
PRZ	**Przheval'sk**	**8.29**	**42**	*e*Pn		**Pn**	**20 36 19.3**	**+0.2**
PRZ	**Przheval'sk**	**8.29**	**42**	*e*PN		**Pn**	**20 36 19.3**	**+0.2**
DDI	**Dehra Dun**	**8.57**	**134**	*e*P		**Pn**	**20 36 22.7**	**0.0**
DDI				*e*S		**Sn**	**20 37 52.6**	**-6.3**
DDI				IAML			20 37 60.0	
	comp=N,301nm,0.8s							
DDI				IAML			20 38 00.7	
	comp=E,399nm,0.8s							
NDI	**New Delhi**	**9.43**	**144**	*e*P		**Pn**	**20 36 33.0**	**-0.8**
NDI				*e*S		**Sn**	**20 38 14.0**	**-5.3**
PDGK	**Podgornoye**	**9.45**	**41**	⇓P		**Pn**	**20 36 33.4**	**-0.8**
	comp=E,21nm,1.1s							
GEYT	**Alibeck**	**10.33**	**282**	P		**Pn**	**20 36 43.8**	**-1.7**
	comp=E,0.8nm,0.3s,baz=120,slow=11,SNR=9.1							
GEYT				S		**Sn**	**20 38 34.5**	**-6.2**
	comp=E,0.7nm,0.3s,baz=84,slow=13,SNR=3.1							
GYA0B	**ALIBECK ARRAY**	**10.33**	**282**	*e*Pn		**Pn**	**20 36 44.9**	**-0.6**
GYA0B				*e*Sn		**Sn**	**20 38 35.0**	**-5.7**
OTUK	**Ortayu**	**11.77**	**5**	⇓P		**Pn**	**20 37 02.3**	**-1.7**
	comp=E,29nm,1.0s							
MAKZ	**Makanchi**	**13.17**	**35**	*e*Pn		**Pn**	**20 37 20.1**	**-1.5**
MAKZ	**Makanchi**	**13.17**	**35**	⇑P		**Pn**	**20 37 20.6**	**-1.0**
	comp=E,25nm,0.5s							
MAKZ	**Makanchi**	**13.17**	**35**	*e*P		**Pn**	**20 37 20.1**	**-1.5**
PYUN	**Piuthan**	**13.19**	**126**	*e*P		**Pn**	**20 37 20.7**	**-1.5**
	comp=E,62nm,0.3s							
BHJ	**Bhuj**	**13.26**	**185**	*e*P		**Pn**	**20 37 21.9**	**-1.0**
BHJ				IAmb		IAmb	20 37 23.9	
	comp=Z,1µm,0.1s							
MK01	**Makanchi Array**	**13.30**	**36**	*e*Pn		**Pn**	**20 37 22.0**	**-1.2**
MK31	**Makanchi Array**	**13.31**	**36**	*e*Pn		**Pn**	**20 37 22.4**	**-1.0**
MK31	**Makanchi Array**	**13.31**	**36**	P		**Pn**	**20 37 22.8**	**-0.6**
	comp=Z,32nm,1.1s,baz=220,slow=14,SNR=158							
MK31	**Makanchi Array**	**13.31**	**36**	*e*P		**Pn**	**20 37 22.4**	**-1.0**
MK32	**Makanchi Array**	**13.31**	**36**	*e*Pn		**Pn**	**20 37 22.4**	**-0.9**
MKAR	**Makanchi Array**	**13.31**	**36**	P		**Pn**	**20 37 22.4**	**-0.9**
	comp=Z,1.6nm,0.3s,baz=225,slow=10,SNR=130							
MKAR	**Makanchi Array**	**13.31**	**36**	*e*Pn		**Pn**	**20 37 22.2**	**-1.1**
MKAR	**Makanchi Array**	**13.31**	**36**	*ce*P		**Pn**	**20 37 23.2**	**-0.1**
MKAR				*p*max		*p*max		
	comp=Z,10.0nm,0.7s							
DANN	**Dangsing**	**13.53**	**123**	*e*P		**Pn**	**20 37 26.5**	**-0.1**
	comp=Z,28nm,0.4s							
KOLN	**Koldanda**	**13.81**	**126**	*e*P		**Pn**	**20 37 28.9**	**-1.0**
	comp=Z,12nm,0.3s							
BHPL	**Bhopal**	**14.36**	**155**	*e*P		**Pn**	**20 37 36.5**	**-0.1**
BHPL				IAmb		IAmb	20 37 41.2	
	comp=Z,60nm,0.6s							
WMQ	**Urumqi**	**14.73**	**55**	*e*Pn		**Pn**	**20 37 39.5**	**-1.5**
WMQ	**Urumqi**	**14.73**	**55**	*e*P		**Pn**	**20 37 39.5**	**-1.5**
DMN	**Daman**	**14.92**	**122**	*e*P		**Pn**	**20 37 43.7**	**0.0**
	comp=Z,32nm,0.4s							
AB31	**Akbulak array**	**15.05**	**331**	⇑P		**Pn**	**20 37 43.2**	**-1.7**
	comp=Z,26nm,0.7s,baz=144,slow=12,SNR=238							
ABKAR	**Akbulak array**	**15.05**	**331**	*e*Pn		**Pn**	**20 37 43.5**	**-1.3**
KURBB	**Kurchatov Arra**	**15.13**	**19**	P		**Pn**	**20 37 43.9**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=131,slow=18,SNR=40							
KURBB	**Kurchatov Arra**	**15.13**	**19**	⇑P		**Pn**	**20 37 43.5**	**-2.2**
	comp=Z,9.7nm,0.6s							
PKIN	**Phulchoki**	**15.14**	**122**	*e*P		**Pn**	**20 37 46.3**	**0.0**
	comp=Z,64nm,0.5s							
PKI	**Pulchoki**	**15.15**	**122**	*e*P		**Pn**	**20 37 46.8**	**+0.2**
	comp=Z,50nm,0.4s							
KURK	**Kurchatov**	**15.23**	**19**	*e*Pn		**Pn**	**20 37 43.9**	**-3.1**
KURK	**Kurchatov**	**15.23**	**19**	⇑P		**Pn**	**20 37 44.9**	**-2.1**
	comp=Z,13nm,0.9s							
KURK	**Kurchatov**	**15.23**	**19**	⇓*e*P		**Pn**	**20 37 44.9**	**-2.1**
KURK				*p*max		*p*max		
	comp=Z,15nm,1.0s							
GUN	**Gumba**	**15.26**	**120**	*e*P		**P**	**20 37 48.7**	**+0.2**
	comp=Z,25nm,0.3s							
JBP	**Jabalpur**	**15.43**	**147**	*e*P		**Pn**	**20 37 49.6**	**0.0**
JBP				*ex*		x	20 40 25.1	
JIRN	**Jiri**	**15.63**	**120**	*e*P		**P**	**20 37 52.9**	**+0.3**
	comp=Z,82nm,0.4s							
RAMN	**Ramite**	**16.36**	**121**	*e*P		**Pn**	**20 38 01.3**	**+0.2**
	comp=Z,50nm,0.4s							
BVA0	**Borovoye Array**	**16.52**	**359**	⇓P		**P**	**20 38 01.9**	**+0.2**
	comp=Z,12nm,0.6s,baz=160,slow=12							
BRVK	**Borovoye**	**16.55**	**359**	*e*P		**P**	**20 38 01.8**	**-0.3**
	comp=Z,19nm,0.9s							
BRVK	**Borovoye**	**16.55**	**359**	⇑P		**P**	**20 38 01.1**	**-0.9**
	comp=Z,16nm,0.8s							
BRVK	**Borovoye**	**16.55**	**359**	*ce*P		**P**	**20 38 02.5**	**+0.5**
BRVK				*p*max		*p*max		
	comp=Z,26nm,1.3s							
AKTO	**Aktyubinsk**	**16.75**	**330**	⇓P		**Pn**	**20 38 05.3**	**0.0**
	comp=Z,34nm,1.1s							
WSAR	**Wadi Sarin**	**16.98**	**222**	P		**P**	**20 38 05.9**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=85,slow=12,SNR=2.9							
DGZ	**Jazzator, Alta**	**17.80**	**37**	*c i*P		**Pn**	**20 38 17.6**	**-0.3**
BOK	**Bokaro**	**18.07**	**130**	*e*P		**Pn**	**20 38 20.5**	**-0.6**
POO	**Poona**	**18.09**	**171**	*e*P		**P**	**20 38 19.1**	**-0.2**
POO				IAmb		IAmb	20 38 24.2	
	comp=Z,25nm,1.1s							
LSA	**Lhasa**	**18.22**	**106**	*e*P		**P**	**20 38 21.4**	**+0.3**
	comp=Z,6.0nm,0.8s							
LSA	**Lhasa**	**18.22**	**106**	*e*P		**P**	**20 38 21.4**	**+0.3**
LSA				*p*max		*p*max		
	comp=Z,6.0nm,0.8s							
GNBR	**Gunib**	**19.40**	**295**	⇑*i*P		**Pn**	**20 38 35.7**	**-1.0**
ZAA0	**Zalesovo Array**	**19.92**	**25**	*e*P		**P**	**20 38 38.5**	**-0.1**
	comp=Z,21nm,0.7s							
ZALV	**Zalesovo Beam**	**19.92**	**25**	P		**P**	**20 38 39.2**	**+0.6**
	comp=Z,5.3nm,0.3s,baz=220,slow=12,SNR=111							
ZALV				S		**S**	**20 42 09.7**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=216,slow=14,SNR=3.9							
ZALV	**Zalesovo Beam**	**19.92**	**25**	*e*P		**P**	**20 38 38.2**	**-0.4**
ZALV				S		**S**	**20 42 09.7**	**-2.1**
ZAA1	**Zalesovo Array**	**19.93**	**25**	*e*P		**P**	**20 38 39.2**	**+0.5**
ZAA1				*e*S		**S**	**20 42 09.7**	**-2.2**
BTLR	**Botlikh**	**19.98**	**295**	*i* P		**P**	**20 38 41.4**	**+1.9**
HYB	**Hyderabad**	**20.18**	**158**	*i* P		**P**	**20 38 44.0**	**+2.3**
HYB	**Hyderabad**	**20.18**	**158**	*e*P		**P**	**20 38 42.8**	**+1.1**
NVS	**Novosibirsk**	**20.19**	**21**	⇓*i*P		**P**	**20 38 42.8**	**+1.4**
NVS				*e**PP		**pP**	**20 39 18.0**	**+2.9**
NVS				*e*			20 39 42.6	
NVS				*i* S		**S**	**20 42 16.6**	**-0.4**
NVS				*e*			20 42 44.0	
NVS				*p*max		*p*max		
	comp=Z,9.0nm,0.6s							
NVS				*p*max		*p*max		
	comp=N,8.0nm,0.7s							
NVS				*p*max		*p*max		
	comp=E,7.0nm,0.7s							
NVS				*s*max		*s*max		
	comp=N,10.0nm,1.0s							
NVS				*s*max		*s*max		
	comp=E,11nm,1.3s							
GROC	**Groznyy**	**20.39**	**297**	*e*P		**P**	**20 38 44.0**	**+0.3**
GROC				*e**PP		**pP**	**20 39 14.3**	**-2.1**
GROC				*e**SP		**sP**	**20 39 44.0**	**+2.7**
GROC				*e*S		**S**	**20 42 22.7**	**+1.6**
GROC				*p*max		*p*max		
	comp=Z,46nm,1.5s							
GNI	**Garni**	**20.85**	**288**	P		**P**	**20 38 47.6**	**-1.2**
	comp=Z,18nm,1.1s,baz=178,slow=18,SNR=2.1							
GNI	**Garni**	**20.85**	**288**	*de*P		**P**	**20 38 51.5**	**+2.7**
GNI				*p*max		*p*max		
	comp=Z,147nm,1.0s							
TBLG	**Delisi**	**20.95**	**292**	*e*P		**P**	**20 38 51.6**	**+1.9**
	comp=Z,16nm,0.8s							
TBLG	**Delisi**	**20.95**	**292**	*e*P		**P**	**20 38 51.6**	**+1.9**
TBLG				*p*max		*p*max		
	comp=Z,16nm,0.8s							
SHL	**Shillong**	**20.95**	**115**	*e*P		**P**	**20 38 50.9**	**+0.8**
	comp=Z,7.2nm,0.6s							
SHL	**Shillong**	**20.95**	**115**	*e*P		**P**	**20 38 50.9**	**+0.8**
SHL				*p*max		*p*max		
	comp=Z,7.0

KIEV	Kiev	32.91 309	⇑	*i*P	P	20 40 38.0	+0.4		
KIEV	Kiev	32.91 309	⇑	P	P	20 40 38.0	+0.4		
AK11	Malin Array Si	32.94 309		*e*P	P	20 40 37.9	0.0		
PLOR	Plostina	34.24 300	⇑	*i*P	P	20 40 48.9	-0.3		
PLOR	Plostina	34.24 300	⇑	P	P	20 40 48.9	-0.3		
MLR	Muntele Rosu	34.74 299		*e*P	P	20 40 56.0	+2.4		
	comp=Z,6.3nm,0.8s								
MLR	Muntele Rosu	34.74 299	⇓	*i*P	P	20 40 56.0	+2.4		
MLR	Muntele Rosu	34.74 299		*e*P	P	20 40 56.0	+2.4		
MLR				pmax	pmax				
	comp=Z,6.0nm,0.8s								
DOPR	Dopca	35.12 300	⇓	*i*P	P	20 40 58.2	+1.5		
BURAR	Bucovina Array	35.24 303	⇑	*i*P	P	20 40 59.1	+1.3		
BURAR	Bucovina Array	35.24 303	⇑	P	P	20 40 59.1	+1.3		
BUR04	Bucovina Ar. S	35.24 303		*e*P	P	20 40 59.0	+1.1		
BUR08	Bucovina Ar. S	35.25 303		*e*P	P	20 40 59.0	+1.1		
IDID	Didziasalis	35.29 316		*e*P	P	20 40 59.0	+1.0		
IDID				IAmb	IAmb	20 40 59.7			
	comp=Z,4.6nm,0.7s								
VOIR		35.37 299	⇓	*i*P	P	20 41 00.4	+1.5		
VOIR		35.37 299	⇓	P	P	20 41 00.4	+1.5		
IIGN	Ignalina	35.59 316		*e*P	P	20 41 01.8	+1.3		
IIGN				IAmb	IAmb	20 41 03.0			
	comp=Z,8.4nm,0.7s								
ARR	Arges	35.66 299	⇑	*i*P	P	20 41 03.3	+1.9		
IZAR	Zarasai	35.67 317		*e*P	P	20 41 01.2	0.0		
IZAR				IAmb	IAmb	20 41 04.8			
	comp=Z,7.3nm,1.0s								
VSU	Vasula	36.15 322		*ce*P	P	20 41 06.1	+0.9		
VSU				pmax	pmax				
	comp=Z,72nm,1.5s								
VSU	Vasula	36.15 322		*e*P	P	20 41 05.9	+0.7		
VSU				IAmb	IAmb	20 41 07.2			
	comp=Z,55nm,1.1s								
DRGR		36.95 302	⇓	*i*P	P	20 41 13.9	+1.6		
DRGR		36.95 302	⇓	P	P	20 41 13.9	+1.6		
KWP	Kalwaria Pacla	36.97 306		*e*P	P	20 41 14.4	+2.0		
	comp=Z,451nm,1.9s								
TRPA	Tarpa	37.05 304	⇑	*i*P	P	20 41 14.9	+1.9		
SUW	Suwalki	37.08 314		*e*P	P	20 41 12.4	-0.7		
	comp=Z,13nm,1.0s								
SUW	Suwalki	37.08 314		*e*P	P	20 41 12.4	-0.7		
SUW				pmax	pmax				
	comp=Z,13nm,1.0s								
LVZ	Lovozero	37.43 338		*e*P	P	20 41 17.0	+1.0		
	comp=Z,228nm,2.0s								
LVZ	Lovozero	37.43 338		*ce*P	P	20 41 16.4	+0.4		
LVZ				pmax	pmax				
	comp=Z,5.0nm,1.2s								
FIA0	FINESS Array S	37.45 326		*e*P	P	20 41 17.0	+0.9		
FIA0	FINESS Array S	37.45 326		*e*P	P	20 41 17.0	+0.9		
FIA1	FINESS Array S	37.45 326		*e*P	P	20 41 16.5	+0.4		
	comp=Z,58nm,1.8s								
FINES	FINESS Array B	37.45 326		P	P	20 41 17.0	+0.9		
	comp=Z,5.3nm,0.5s,baz=122,slow=9.9,SNR=73								
BZS	Buzias	37.77 300	⇑	*i*P	P	20 41 20.5	+1.4		
BZS	Buzias	37.77 300	⇑	P	P	20 41 20.5	+1.4		
LIT	Litokhoron	37.82 291		*e*P	P	20 41 20.0	+0.4		
	comp=Z,32nm,1.4s								
LIT	Litokhoron	37.82 291		*e*P	P	20 41 20.0	+0.4		
LIT				pmax	pmax				
	comp=Z,32nm,1.4s								
AGG	Agios Georgios	38.15 289		*e*P	P	20 41 23.3	+0.9		
	comp=Z,62nm,1.6s								
AGG	Agios Georgios	38.15 289		*e*P	P	20 41 23.3	+0.9		
AGG				pmax	pmax				
	comp=Z,62nm,1.6s								
FNA	Florina	38.54 292		*e*P	P	20 41 26.3	+0.7		
	comp=Z,38nm,1.4s								
FNA	Florina	38.54 292		*e*P	P	20 41 26.3	+0.7		
FNA				pmax	pmax				
	comp=Z,38nm,1.4s								
OJC	Ojcow	38.86 307		*e*P	P	20 41 29.4	+1.2		
	comp=Z,9.3nm,1.1s								
OJC	Ojcow	38.86 307		*e*P	P	20 41 29.4	+1.2		
OJC				pmax	pmax				
	comp=Z,9.0nm,1.1s								
KLNR	Kaliningrad	38.88 314		*de*P	P	20 41 29.3	+1.1		
KLNR				pmax	pmax				
	comp=Z,31nm,1.0s								
VYHS	Vyhne	39.51 304		*e*P	P	20 41 36.7	+3.1		
VYHS	Vyhne	39.51 304		*e*P	P	20 41 36.7	+3.1		
MORC	Moravsky Berou	40.32 306		*e*P	P	20 41 41.8	+1.6		
	comp=Z,20nm,1.9s								
MORC	Moravsky Berou	40.32 306		*e*P	P	20 41 41.8	+1.6		
MORC				pmax	pmax				
	comp=Z,20nm,1.9s								
KEV	Kevo	40.77 338		*e*P	P	20 41 44.7	+1.1		
	comp=Z,108nm,1.7s								
KEV	Kevo	40.77 338		*e*P	P	20 41 44.7	+1.1		
KEV				pmax	pmax				
	comp=Z,108nm,1.7s								
ARA0	ARCESS Array S	41.12 338		*e*P	P	20 41 47.6	+1.2		
ARCES	ARCESS Array B	41.12 338		P	P	20 41 47.6	+1.2		
	comp=Z,10nm,0.6s,baz=113,slow=8.0,SNR=89								
ARCES	ARCESS Array B	41.12 338		*e*P	P	20 41 47.5	+1.1		
ARE0	ARCESS Array S	41.12 338		*e*P	P	20 41 47.5	+1.1		
	comp=Z,2.5nm,1.6s								
ARE0	ARCESS Array S	41.12 338		*e*P	P	20 41 47.9	+1.4		
KULM	Kulim	41.32 132		*e*P	P	20 41 49.0	+0.3		
	comp=Z,62nm,2.0s								
KTK1	Kautokeino	41.59 336		*e*P	P	20 41 51.3	+1.0		
HAMF	Hammerfest	42.20 339		*e*P	P	20 41 56.9	+1.8		
BRG	Berggiesshubel	42.58 308		*e*P	P	20 41 56.7	-1.8		
	comp=Z,9.6nm,1.4s								
BRG	Berggiesshubel	42.58 308		*e*P	P	20 41 56.7	-1.8		
BRG				pmax	pmax				
	comp=Z,10.0nm,1.4s								
GSI	Gunungsitoli	42.83 139		*e*P	P	20 42 02.9	+2.0		
	comp=Z,7.4nm,0.9s								
CUC	Castrocucco	42.85 292		*e*P	P	20 42 01.9	+1.0		
	comp=Z,29nm,1.3s								
GEA0	GERESS Array S	42.89 305		*e*P	P	20 42 01.6	+0.4		
GERES	GERESS Array B	42.89 305		P	P	20 42 01.4	+0.3		
	comp=Z,0.2nm,0.3s,baz=90,slow=6.9,SNR=4.9								
GERES				PcP	PcP	20 43 47.3	-0.9		
	comp=Z,0.9nm,0.9s,baz=92,slow=6.7,SNR=4.3								
CLL	Collm	43.15 309		*e*P	P	20 42 04.0	+0.9		
CLL	Collm	43.15 309		*e*P	P	20 42 04.0	+0.9		
TRO	Tromso	43.24 336		*e*P	P	20 42 04.5	+1.0		
STEI	Steigen	43.94 333		*e*P	P	20 42 10.3	+1.2		
NC405	NORSAR Array S	44.11 323		*e*P	P	20 42 11.1	+0.5		
NC602	NORSAR Array S	44.16 323		*e*P	P	20 42 09.4	-1.5		
NC303	NORSAR Array S	44.29 323		*e*P	P	20 42 12.3	+0.4		
NB201	NORSAR Array S	44.31 323		*e*P	P	20 42 12.4	+0.2		
NB2	NORSAR Subarra	44.34 323		P	P	20 42 12.6	+0.1		
	comp=Z,12nm,0.8s,baz=96,slow=7.9								
NB2	NORSAR Subarra	44.34 323		P	P	20 42 12.6	+0.1		
	baz=96,slow=7.9								
NB200	NORSAR Array S	44.34 323		*e*P	P	20 42 12.9	+0.4		
NOA	NORSAR Array B	44.34 323		P	P	20 42 12.9	+0.4		
	comp=Z,8.5nm,0.7s,baz=97,slow=7.7,SNR=47								
KONS	Konsvik	44.38 331		*e*P	P	20 42 13.4	+0.8		
NAO01	NORSAR Array S	44.49 323		*e*P	P	20 42 13.4	-0.2		
NBO00	NORSAR Array S	44.55 323		*e*P	P	20 42 14.5	+0.3		
NC204	NORSAR Array S	44.59 323		*e*P	P	20 42 14.4	0.0		
LOF	Lofoten	44.61 333		*e*P	P	20 42 14.9	+0.5		
KONO	Kongsberg	45.05 321		*e*P	P	20 42 18.8	+0.8		
	comp=Z,58nm,1.6s								
KONO	Kongsberg	45.05 321		*e*P	P	20 42 18.8	+0.8		
KONO				pmax	pmax				
	comp=Z,58nm,1.6s								
FUORN	Ofenpass-Fuorn	45.48 303		*e*P	P	20 42 23.5	+1.6		
	comp=Z,28nm,1.6s								
TIXI	Tiksi	45.78 22		*e*P	P	20 42 24.2	+0.7		
	comp=Z,22nm,0.2s								
TIXI	Tiksi	45.78 22	⇑	*i*P	P	20 42 24.4	+0.9		
TIXI				pmax	pmax				
	comp=Z,3.0nm,0.5s								
SPA0	Spitsbergen Ar	47.47 347		*e*P	P	20 42 37.9	+1.2		
SPA0	Spitsbergen Ar	47.47 347		*e*P	P	20 42 38.5	+1.9		
SENIN	Lac Senin/Sane	47.54 303		*e*P	P	20 42 37.9	0.0		
	comp=Z,16nm,1.4s								
BNI	Bardonecchia	48.26 301		*e*P	P	20 42 44.4	+1.1		
	comp=Z,51nm,1.7s								
BNI	Bardonecchia	48.26 301		*e*P	P	20 42 44.4	+1.1		
BNI				pmax	pmax				
	comp=Z,51nm,1.7s								
KMBO	Kilima Mbogo	48.80 227		P	P	20 42 48.6	+0.7		
	comp=Z,3.7nm,0.6s,baz=38,slow=12,SNR=16								
KMBO	Kilima Mbogo	48.80 227		*e*P	P	20 42 49.3	+1.4		
	comp=Z,4.6nm,0.6s								
KEST	Kesra	48.99 288		P	P	20 42 50.1	+1.3		
	comp=Z,4.1nm,0.9s,baz=44,slow=3.3,SNR=5.6								
KEST	Kesra	48.99 288		*e*P	P	20 42 50.2	+1.3		
	comp=Z,41nm,1.6s								
JOW	Kunigami	49.11 84		*e*P	P	20 42 49.6	-0.3		
	comp=Z,96nm,1.6s								
SSB	Saint Sauveur	49.67 302		*e*P	P	20 42 54.6	+0.7		
	comp=Z,40nm,1.7s								
SSB	Saint Sauveur	49.67 302		*e*P	P	20 42 54.6	+0.7		
SSB				pmax	pmax				
	comp=Z,40nm,1.7s								
MBAR	Mbarara	52.48 234	⇓	*e*P	P	20 43 16.5	+1.2		
MBAR				pmax	pmax				
	comp=Z,5.0nm,0.9s								
JHJ2	Mitsune	55.54 72		*e*P	P	20 43 37.1	0.0		
	comp=Z,2μm,1.7s								
ESDC	Sonseca Array	57.41 298		P	P	20 43 49.2	-1.0		
	comp=Z,0.9nm,0.6s,baz=54,slow=7.6,SNR=9.0								
ESDC				PcP	PcP				
	comp=Z,0.3nm,0.5s,baz=46,slow=3.7,SNR=2.5								
DAV	Davao City (W)	57.64 107		*e*P	P	20 43 51.1	-0.9		
	comp=Z,196nm,0.4s								
PAB	San Pablo	57.74 298		*e*P	P	20 43 52.5	-0.1		
	comp=Z,45nm,1.8s								
PAB	San Pablo	57.74 298		*e*P	P	20 43 52.5	-0.1		
PAB				pmax	pmax				
	comp=Z,45nm,1.8s								
BORG	Borgarnes	58.57 330		*e*P	P	20 43 57.0	-0.8		
	comp=Z,433nm,1.9s								
BORG	Borgarnes	58.57 330		*e*P	P	20 43 57.0	-0.8		
BORG				pmax	pmax				
	comp=Z,433nm,1.9s								
BILL	Bilibino	58.62 26		*e*P	P	20 43 58.6	+0.5		
	comp=Z,16nm,1.6s								
BILL	Bilibino	58.62 26		*de*P	P	20 43 59.8	+1.8		
BILL				pmax	pmax				
	comp=Z,9.0nm,1.5s								
SUMG	Summit	61.04 341		*e*P	P	20 44 16.3	+1.4		
	comp=Z,29nm,1.9s								
SUMG	Summit	61.04 341		*e*P	P	20 44 16.3	+1.4		
SUMG				pmax	pmax				
	comp=Z,29nm,1.9s								
LSZ	Lusaka	65.43 226		*e*P	P	20 44 44.8	+0.6		
	comp=Z,4.6nm,0.6s								
LSZ	Lusaka	65.43 226		*e*P	P	20 44 44.8	+0.6		
LSZ				pmax	pmax				
	comp=Z,5.0nm,0.6s								
TOA1	Torodi Ar. Sit	65.67 269		*e*P	P	20 44 42.9	-2.9		
TOA0	Torodi Ar. Sit	65.67 269		*e*P	P	20 44 42.7	-3.0		
TORD	Torodi Ar. Bea	65.67 269		P	P	20 44 42.9	-2.9		
	comp=Z,2.0nm,0.6s,baz=46,slow=5.9,SNR=22								
SARN	Sarigan	68.21 85		*e*P	P	20 44 59.5	-2.2		
	comp=Z,126nm,1.7s								
FAKI	Fak Fak	69.12 110		*e*P	P	20 45 07.6	+0.2		
	comp=Z,49nm,1.1s								
ANM	Nome	70.04 22		*e*P	P	20 45 13.8	+1.6		
	comp=Z,2.9nm,0.8s								
ANM	Nome	70.04 22		*e*P	P	20 45 13.8	+1.6		
ANM				pmax	pmax				
	comp=Z,3.0nm,0.8s								
COLD	Coldfoot	71.97 16		*e*P	P	20 45 24.7	+0.9		
	comp=Z,4.1nm,1.1s								
IM3	Indian Mountai	72.18 18		*e*P	P	20 45 25.4	+0.4		
FYU	Fort Yukon	73.57 14		*e*P	P	20 45 35.4	+2.2		
	comp=Z,18nm,1.1s								
INK	Inuvik	73.90 9		P	P	20 45 35.8	+0.8		
	comp=Z,4.5nm,0.6s,baz=352,slow=6.5,SNR=35								
INK	Inuvik	73.90 9		*e*P	P	20 45 35.9	+0.9		
	comp=Z,8.0nm,1.1s								
INK	Inuvik	73.90 9		*e*P	P	20 45 35.9	+0.9		
INK				pmax	pmax				
	comp=Z,8.0nm,1.1s								
MDM	Murphy Dome	74.32 16		*e*P	P	20 45 38.6	+1.0		
	comp=Z,7.4nm,1.0s								
COLA	College	74.48 16		*e*P	P	20 45 38.0	-0.4		
	comp=Z,12nm,0.8s								
COLA	College	74.48 16		*e*P	P	20 45 38.0	-0.4		
COLA				pmax	pmax				
	comp=Z,12nm,0.8s								
LBTB	Lobatse	74.66 222		*e*P	P	20 45 41.1	+1.0		
	comp=Z,38nm,1.5s								
CAST	Castle Rocks	74.69 19		*e*P	P	20 45 40.0	+0.3		
	comp=Z,9.8nm,1.0s								
WRH	Wood River Hil	74.77 16		*e*P	P	20 45 40.4	+0.2		
	comp=Z,4.4nm,0.7s								
IL1	Eielson Array	74.78 16		*e*P	P	20 45 40.2	0.0		
ILAR	Eielson Array	74.78 16		P	P	20 45 39.4	-0.8		
	comp=Z,1.7nm,0.9s,baz=322,slow=4.7,SNR=18								
ILB	Eielson Array	74.78 16		*e*P	P	20 45 39.8	-0.4		
TSUM	Tsumeb	74.89 232		*e*P	P	20 45 42.3	+0.7		
	comp=Z,9.5nm,1.3s								
FITZ	Fitzroy Crossi	74.93 127		*e*P	P	20 45 43.2	+1.5		
	comp=Z,55nm,1.9s								
MCK	McKinley	75.20 17		*e*P	P	20 45 43.7	+1.0		
	comp=Z,11nm,0.4s								
MCK	McKinley	75.20 17		*e*P	P	20 45 43.7	+1.0		
MCK				pmax	pmax				
	comp=Z,11nm,0.4s								
SCRK	Sand Creek	76.10 15		*e*P	P	20 45 49.0	+1.2		
	comp=Z,3.4nm,0.7s								
RIDG	Independ'e Rid	76.12 16		*e*P	P	20 45 48.4	+0.4		
	comp=Z,16nm,1.5s								
DHY	Denali Highway	76.13 17		*e*P	P	20 45 48.4	+0.3		
	comp=Z,6.1nm,0.7s								
PAX	Paxson	76.66 16		*e*P	P	20 45 51.5	+0.5		
	comp=Z,4.4nm,0.8s								
PAX	Paxson	76.66 16		*e*P	P	20 45 51.5	+0.5		
PAX				pmax	pmax				
	comp=Z,4.0nm,0.8s								
GHO	Glory Hole Cre	76.87 18		*e*P	P	20 45 53.0	+0.8		
	comp=Z,62nm,1.6s								
DAWY	Dawson	76.92 13		*e*P	P	20 45 53.5	+1.1		
	comp=Z,18nm,1.8s								
SML	Sawmill	76.99 18		*e*P	P	20 45 53.5	+0.7		
	comp=Z,30nm,1.5s								
SML	Sawmill	76.99 18		*e*P	P	20 45 53.5	+0.7		
SML				pmax	pmax				
	comp=Z,30nm,1.5s								
SCM	Sheep Creek Mo	77.21 18		*e*P	P	20 45 55.0	+0.9		
	comp=Z,60nm,1.7s								
SCM	Sheep Creek Mo	77.21 18		*e*P	P	20 45 55.0	+0.9		
SCM				pmax	pmax				
	comp=Z,60nm,1.7s								
HARP	HAARP	77.22 16		*e*P	P	20 45 55.6	+1.6		
	comp=Z,106nm,1.9s								
RC01	Rabbit Creek A	77.24 19		*e*P	P	20 45 54.5	+0.3		
	comp=Z,46nm,1.8s								
BOSA	Boshof	77.73 220		P	P	20 45 57.2	-0.2		
	comp=Z,3.7nm,0.4s,baz=6.5,slow=3.3,SNR=10								
MORW	Morwa	77.79 141		*e*P	P	20 45 58.2	+0.6		
	comp=Z,99nm,1.9s								
CHGN	Chignik	78.50 26		*e*P	P	20 46 02.1	+1.0		
	comp=Z,78nm,1.4s								
BMRM	Bremner River	78.62 17		*e*P	P	20 46 03.0	+1.2		
	comp=Z,34nm,1.5s								
KDAK	Kodiak Island	79.20 22		*e*P	P	20 46 05.4	+0.5		
	comp=Z,143nm,1.9s								
KDAK	Kodiak Island	79.20 22		*e*P	P	20 46 05.4	+0.5		
KDAK				pmax	pmax				
	comp=Z,143nm,1.9s								
OHAK	Old Harbor	79.45 23		*e*P	P	20 46 07.2	+1.0		
	comp=Z,88nm,1.7s								
HYT	Haines Junctio	80.25 14		*e*P	P	20 46 12.1	+1.4		
	comp=Z,26nm,1.6s								
WHY	Whitehorse	80.89 13		*e*P	P	20 46 14.7	+0.6		
	comp=Z,38nm,1.6s								
YKW3	Yellowknife Ar	81.17 3		*e*P	P	20 46 16.2	+0.8		
	comp=Z,5.7nm,0.5s								
YKA	Yellowknife Ar	81.24 3		P	P	20 46 16.4	+0.7		
	comp=Z,5.7nm,0.4s,baz=351,slow=5.4,SNR=122								
YKB5	Yellowknife Ar	81.24 3		*e*P	P	20 46 16.5	+0.8		
YKB5				*e*pP	pP	20 47 05.0	+1.2		
WR1	Warramunga Arr	82.03 122		*e*P	P	20 46 20.0	-0.5		
	comp=Z,8.2nm,0.4s								
WRA	Warramunga Arr	82.03 122		P	P	20 46 20.0	-0.5		
	comp=Z,4.6nm,0.5s,baz=324,slow=4.9,SNR=124								
WRAB	Tennant Creek	82.04 122		*e*P	P	20 46 19.9	-0.6		
	comp=Z,11nm,1.0s								
WRAB	Tennant Creek	82.04 122		*d*P	P	20 46 20.2	-0.3		
WRAB				pmax	pmax				
	comp=Z,10.0nm,1.0s								
WB2	Warramunga Arr	82.04 122		*e*P	P	20 46 19.3	-1.3		
FCC	Fort Churchill	84.26 352		*e*P	P	20 46 31.7	+0.4		
	comp=Z,14nm,1.4s								
FCC	Fort Churchill	84.26 352		*e*P	P	20 46 31.7	+0.4		
FCC				pmax	pmax				
	comp=Z,14nm,1.4s								
AS31	Alice Springs	84.30 125		*e*P	P	20 46 31.1	-1.0		
	comp=Z,2.1nm,0.6s								
ASAR	Alice Springs	84.30 125		P	P	20 46 31.7	-0.4		
	comp=Z,5.1nm,0.5s,baz=311,slow=5.0,SNR=94								
AS01	Alice Springs	84.33 125		*e*P	P	20 46 31.5	-0.7		
FORT	Forrest	85.71 134		*e*P	P	20 46 38.7	-0.2		
	comp=Z,22nm,1.0s								
FFC	Flin Flon	88.93 356		*e*P	P	20 46 54.8	+0.8		
	comp=Z,12nm,1.5s								
FFC	Flin Flon	88.93 356		*e*P	P	20 46 54.8	+0.8		
FFC				pmax	pmax				
	comp=Z,12nm,1.5s								
STKA	Stephens Creek	94.83 126		P	P	20 47 20.7	-0.9		
	comp=Z,0.5nm,0.6s,baz=359,slow=9.8,SNR=2.9								
CPUP	Villa Florida	135.17 268		PKP	PKPdf	20 53 16.9	-1.5		
	comp=Z,0.6nm,0.3s,baz=146,slow=2.3,SNR=3.3								
PLCA	Paso Flores	149.79 250		PKPbc	PKPbc	20 53 48.9	+0.2		
	comp=Z,2.3nm,0.7s,baz=153,slow=1.2,SNR=4.9								
PLCA	Paso Flores	149.79 250		*e*PKPbc	PKPbc	20 53 48.8	+0.1		
PLCA	Paso Flores	149.79 250		*e*PKP2	PKPbc	20 53 48.8	+0.1		

ISCJB ***15*** *21:02:37.8±0.4, 43.°90N±0.°04×105.°14W±0.°04, h0km, mb4.1/5, Error ellipse: s-maj=5.7km s-min=4.4km az=160.5*

IDC ***15*** *21:02:38.0±1.1, 43.°63N×105.°32W, h0km, mb4.0/5, mb1 3.9/9, mb1mx3.6/42, mbtmp3.8/9, ML3.4/4, Error ellipse: s-maj=23.5km s-min=8.0km az=147.0*

NEIC ***15*** *21:02:40.8±0.5, 43.°82N×105.°25W, h0km, MN3.0, Error ellipse: s-maj=7.8km s-min=6.4km az=131.0, Suspected Mining explosion.*

NEIC 57 km [35 miles] SSE of Gillette.

ISC 15 21:02:39.3±0.6, 43.°89N±0.°04×105.°14W±0.°04, h0km, n29, σ1°68/38, mb4.0/5, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.83	73		*e*Pg		Pn	21 02 59.1	+0.6
RSSD						*e*S	Sg	21 03 06.7	+0.8
LAO	LASA Array	2.91	345		*e*Pn		Pn	21 03 30.2	-1.9
LAO					*e*Pg		Pg	21 03 36.9	+1.8
LAO					*e*S		Sg	21 04 11.7	-1.0
RLMT	Red Lodge	3.21	294		*e*Pn		Pn	21 03 31.7	+0.6
RLMT					*e*S		Sn	21 04 11.9	+1.8
PDAR	Pinedale Array	3.42	252		Pn		Pn	21 03 33.5	-0.5
	4.6nm,0.3s,baz=76,slow=15,SNR=52								
PDAR					Lg		Lg	21 04 16.3	
	4.5nm,0.3s,baz=78,slow=28,SNR=4.3								
BW06	Boulder Array	3.42	252		*e*Pn		Pn	21 03 34.0	0.0
BW06						*e*S	Sn	21 04 15.9	+0.5
OGNE	Ogallala	3.73	141		*e*Pn		Pn	21 03 40.5	+2.3
OGNE						*e*S	Sg	21 04 42.1	+3.1
LKWY	Lake	3.84	282		*e*Pn		Pn	21 03 41.4	+1.4
LKWY						*e*S	Sb	21 04 15.1	+0.7
ISCO	Idaho Springs	4.10	185		*e*Pn		Pn	21 03 43.9	+0.5
ISCO						*e*S	Sb	21 04 45.1	+2.4
DGMT	Dagmar	4.63	8		*e*Pn		Pn	21 03 55.0	+4.4
DGMT						*e*Pg	Pg	21 04 08.3	+0.3
EGMT	Eagleton	5.25	324		Pn		Pn	21 03 57.9	-1.1
	24nm,0.6s								
SDCO	Great Sand Dun	6.14	183		*e*Pn		Pn	21 04 11.9	+0.4
	2.9nm,0.7s								
SDCO						*e*S	Sg	21 05 53.0	-3.5
ECSD	EROS Data Cent	6.17	88		*e*Pn		Pn	21 04 13.0	+1.4
	7.8nm,0.5s								
CBKS	Cedar Bluff	6.49	139		*e*Pn		Pn	21 04 15.4	-0.7
	19nm,0.5s								
CBKS						*e*S	Sg	21 06 03.0	-4.7
HLID	Hailey	6.73	270		*e*Pn		Pn	21 04 19.9	+0.4
	2.8nm,0.8s								
DUG	Dugway, Tooele	6.80	240		*e*Pn		Pn	21 04 19.7	-0.8
	3.4nm,0.3s								
MVCO	Mesa Verde	7.14	202		*e*Pn		Pn	21 04 25.7	+0.5
	5.1nm,0.5s								
AGMN	Agassiz Nation	7.81	52		*e*Pn		Pn	21 04 33.0	-1.2
	11nm,0.6s								
KSU1	Kansas State U	7.98	124		*e*Pn		Pn	21 04 41.5	+4.9
	15nm,0.6s								
ELK	Elko	8.12	251		Pn		Pn	21 04 38.0	-0.6
	0.7nm,0.3s,baz=64,slow=8.0,SNR=7.8								
ELK					Lg		Lg	21 06 45.1	
	0.1nm,0.3s,baz=158,slow=19,SNR=1.8								
I10CA	LAC DU BONNET	8.86	41		*i*			22 01 00.0	
	baz=218,slow=311,SNR=3.0								
ULM	Lac du Bonnet	8.97	42		Pn		Pn	21 04 50.1	+0.1
	1.2nm,0.3s,baz=225,slow=12,SNR=10.0								
ULM					Pg		Pg

	comp=E,598μm,0.4s						
KERA				AML	AML	21 18 46.6	
	comp=N,1083μm,0.3s						
IMMV	**Iera Moni Meta**	**0.95**	**122**	P	**Pg**	**21 18 36.2**	**-0.8**
IMMV				S	**Sb**	**21 18 49.8**	**+0.3**
IMMV				AML	AML	21 18 52.9	
	comp=E,450μm,0.4s						
IMMV				AML	AML	21 18 55.1	
	comp=N,523μm,0.5s						
IMMV	**Iera Moni Meta**	**0.95**	**122**	P	**Pg**	**21 18 36.2**	**-0.8**
CHAN	**Chania**	**0.97**	**118**	P	**Pb**	**21 18 36.8**	**-0.3**
VAM	**Vamos**	**1.14**	**120**	P	**Pn**	**21 18 40.4**	**+0.3**
VAM				S	**Sn**	**21 18 56.2**	**+0.7**
VAM				AML	AML	21 18 58.1	
	comp=E,443μm,0.4s						
VAM				AML	AML	21 18 59.9	
	comp=N,565μm,0.3s						
MES2	**Methoni**	**1.34**	**310**	P	**Pn**	**21 18 42.6**	**-0.2**
PYL	**PYLOS**	**1.36**	**313**	P	**Pb**	**21 18 43.8**	**-0.1**
PYL				S	**Sg**	**21 19 02.3**	**-0.2**
MHLA	**Plaka, Milos I**	**1.39**	**56**	P	**Pn**	**21 18 43.5**	**0.0**
KRND	**KRANIDI**	**1.41**	**5**	P	**Pg**	**21 18 45.5**	**-0.2**
GVD	**Gavdhos**	**1.44**	**141**	P	**Pg**	**21 18 46.6**	**+0.3**
ITM	**Ithomi**	**1.48**	**325**	P	**Pg**	**21 18 46.8**	**-0.1**
DID	**Didima**	**1.54**	**7**	P	**Pn**	**21 18 46.2**	**+0.5**
TRIP	**Tripoli**	**1.66**	**340**	P	**Pg**	**21 18 50.0**	**-0.3**
SIVA	**Sivas**	**1.77**	**122**	P	**Pg**	**21 18 52.1**	**-0.3**
VLY	**Voula,Athens**	**1.98**	**19**	P	**Pb**	**21 18 53.9**	**-0.5**
GUR	**Goura**	**2.03**	**345**	P	**Pb**	**21 18 55.5**	**+0.2**
LTK	**Loutraki**	**2.04**	**359**	P	**Pb**	**21 18 55.3**	**-0.3**
KLV	**Kalavryta, Ach**	**2.17**	**342**	P	**Pb**	**21 18 58.0**	**+0.3**
LAST	**Lasithi**	**2.19**	**111**	P	**Pb**	**21 18 56.6**	**-1.3**
DION	**Dionisos Attik**	**2.23**	**19**	P	**Pn**	**21 18 56.6**	**+1.4**
VIL2	**Platees**	**2.25**	**6**	P	**Pn**	**21 18 56.1**	**+0.8**
PROD	**Prodromos**	**2.28**	**358**	P	**Pb**	**21 18 58.8**	**-0.8**
LAKA	**Lakka**	**2.40**	**341**	P	**Pb**	**21 19 01.1**	**-0.5**

*ISCJB **15** 21:20:23.3±0.5,36.7N±0.04×71.12E±0.06,h100km, Error ellipse: s-maj=7.3km s-min=5.3km az=146.6*
*IDC **15** 21:20:25.3±4.6,36.39N×71.06E,h73km±36km,mb3.1/3, mb1 3.3/9,mb1mx3.1/50,mbtmp3.6/9,ML3.3/6, Error ellipse: s-maj=45.2km s-min=17.2km az=157.0*
*NNC **15** 21:20:29.4±4.1,36.95N×70.75E,h0km,mb4.0,mpv3.7, Error ellipse: s-maj=36.2km s-min=27.4km az=152.0*

ISC 15 21:20:25.5±0.9,36°29N±0.08×71°13E±0.07,h100km,n32, σ1♀99/37,4C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.16**	**26**	⇑P	**Pn**	**21 21 28.7**	**+1.7**
	4.7nm,0.3s						
SFK				⇓S	**Sn**	**21 22 15.6**	**+0.9**
	6.2nm,0.3s						
AML	**Almayashu**	**6.16**	**18**	P	**Pn**	**21 21 55.2**	**+0.9**
	SNR=36						
UCH	**Uchtor**	**6.48**	**23**	P	**Pn**	**21 21 59.2**	**+0.5**
	SNR=11						
KZA	**Kyzart**	**6.60**	**28**	P	**Pn**	**21 22 01.0**	**+0.6**
	SNR=9.5						
EKS2	**Erkin-Say**	**6.68**	**17**	P	**Pn**	**21 22 02.2**	**+1.1**
	SNR=12						
KK31	**Karatay Array**	**6.82**	**356**	P	**Pn**	**21 22 03.8**	**+0.9**
	1.1nm,0.2s,baz=183,slow=13,SNR=165						
KK31				⇓S	**Sn**	**21 23 13.5**	**-5.5**
	3.0nm,0.5s						
AAK	**Ala-Archa**	**6.85**	**21**	P	**Pn**	**21 22 04.2**	**+0.8**
	1.8nm,0.3s,baz=177,slow=6.3,SNR=34						
AAK				S	**Sn**	**21 23 16.0**	**-3.9**
	0.2nm,0.3s,baz=180,slow=20,SNR=2.9						
AAK	**Ala-Archa**	**6.85**	**21**	P	**Pn**	**21 22 04.5**	**+1.1**
	SNR=6.8						
AAK	**Ala-Archa**	**6.85**	**21**	⇓P	**Pn**	**21 22 04.0**	**+0.5**
	4.2nm,0.5s						
AAK				⇓S	**Sn**	**21 23 17.4**	**-2.5**
	5.3nm,0.7s						
KBK	**Karagaybulak**	**7.00**	**24**	P	**Pn**	**21 22 06.7**	**+1.1**
	SNR=5.6						
CHMS	**Chumysh**	**7.25**	**22**	P	**Pn**	**21 22 09.4**	**+0.6**
	SNR=7.8						
USP	**Ospenovka**	**7.43**	**19**	P	**Pn**	**21 22 11.7**	**+0.4**
	SNR=7.6						
TKM2	**Tokmak 2**	**7.46**	**26**	P	**Pn**	**21 22 12.6**	**+0.7**
	SNR=8.6						
TKM2	**Tokmak 2**	**7.46**	**26**	⇓P	**Pn**	**21 22 12.2**	**+0.4**
	4.5nm,0.5s						
GEYT	**Alibeck**	**10.52**	**283**	P	**Pn**	**21 22 52.6**	**-0.7**
	0.2nm,0.3s,baz=101,slow=18,SNR=4.3						
GEYT				S	**Sn**	**21 24 47.3**	**-1.9**
	0.9nm,0.3s,baz=172,slow=32,SNR=7.4						
PYUN	**Piuthan**	**12.94**	**126**	*e*P	**Pn**	**21 23 23.5**	**-2.3**
	4.7nm,0.3s						
DANN	**Dangsing**	**13.29**	**123**	*e*P	**Pn**	**21 23 28.0**	**-2.5**
	2.6nm,0.3s						
MKAR	**Makanchi Array**	**13.40**	**35**	P	**Pn**	**21 23 32.1**	**-1.8**
	0.0nm,0.3s,baz=225,slow=15,SNR=3.5						
KOLN	**Koldanda**	**13.56**	**125**	*e*P	**Pn**	**21 23 32.1**	**-1.8**
DMN	**Daman**	**14.68**	**122**	*e*P	**Pn**	**21 23 45.9**	**-2.5**
	2.2nm,0.3s						
PKIN	**Phulchoki**	**14.89**	**122**	*e*P	**Pn**	**21 23 48.9**	**-2.3**
	2.2nm,0.3s						
PKI	**Pulchoki**	**14.91**	**122**	*e*P	**Pn**	**21 23 49.0**	**-2.4**
	2.8nm,0.4s						
GUN	**Gumba**	**15.02**	**120**	*e*P	**Pn**	**21 23 50.1**	**-2.8**
	4.1nm,0.5s						
AB31	**Akbulak array**	**15.31**	**331**	⇑P	**Pn**	**21 23 56.5**	**+0.5**
	0.7nm,0.7s						
AB31				⇑S	Sn	21 26 32.7	-12
	0.6nm,0.6s						
JIRN	**Jiri**	**15.39**	**120**	*e*P	**Pn**	**21 23 55.1**	**-2.5**
	8.5nm,0.4s						
BVAR	**Borovoye Array**	**16.74**	**358**	P	**P**	**21 24 15.2**	**+0.9**
	0.1nm,0.3s,baz=164,slow=9.7,SNR=3.6						
AKTO	**Aktyubinsk**	**17.01**	**330**	P	**P**	**21 24 18.6**	**+1.3**
	0.3nm,0.3s,baz=136,slow=7.2,SNR=9.2						
AKTO	**Aktyubinsk**	**17.01**	**330**	⇑P	**Pn**	**21 24 16.2**	**-0.8**
	2.2nm,0.7s						
ZALV	**Zalesovo Beam**	**20.06**	**24**	P	**P**	**21 24 50.6**	**+0.1**
	0.3nm,0.3s,baz=202,slow=10,SNR=5.0						
SONM	**Songino Array**	**28.37**	**55**	P	**P**	**21 26 13.1**	**+2.9**
	0.1nm,0.5s,baz=243,slow=9.5,SNR=2.4						
ARCES	**ARCESS Array B**	**41.37**	**338**	P	**P**	**21 28 04.0**	**+2.7**
	2.1nm,0.9s,baz=117,slow=9.8,SNR=5.0						
TORD	**Torodi Ar. Bea**	**65.82**	**269**	P	**P**	**21 31 01.7**	**+1.2**
	0.2nm,0.5s,baz=49,slow=5.7,SNR=5.8						

*IDC **15** 21:32:32.5±1.3,14.20N×146.91E,h0km,mb3.8/8, mb1 4.0/9,mb1mx3.7/43,mbtmp3.8/9,ML3.8/1, Error ellipse: s-maj=32.7km s-min=22.3km az=128.0*
*ISCJB **15** 21:32:35.4±1.1,14.2N±0.2×147.0E±0.1,h33km,mb3.8/8, Error ellipse: s-maj=24.7km s-min=10.7km az=148.2*

ISC 15 21:32:37.6±1.1,14.2N±0.2×146.9E±0.1,h35km,n10, σ0♀89/11,mb3.7/8,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.08**	**253**	Pn	**Pn**	**21 33 09.8**	**-0.1**
	36nm,0.3s,baz=87,slow=4.6,SNR=10						
GUMO				Sn	**Sn**	**21 33 35.7**	**+1.0**
	46nm,0.3s,baz=336,slow=22,SNR=5.8						
KSRS	**Korea Array**	**28.68**	**327**	P	**P**	**21 38 29.7**	**-1.5**
	0.6nm,0.5s,baz=144,slow=10,SNR=3.2						
WRA	**Warramunga Arr**	**36.11**	**200**	P	**P**	**21 39 35.7**	**-0.7**
	1.1nm,0.9s,baz=24,slow=9.7,SNR=5.8						
SONM	**Songino Array**	**47.41**	**324**	P	**P**	**21 41 09.0**	**+0.3**
	0.4nm,0.5s,baz=141,slow=7.8,SNR=4.4						
ZALV	**Zalesovo Beam**	**62.30**	**324**	P	**P**	**21 42 56.1**	**-0.1**
	0.9nm,0.5s,baz=85,slow=5.4,SNR=3.6						
MKAR	**Makanchi Array**	**62.45**	**316**	P	**P**	**21 42 57.9**	**+0.6**
	0.7nm,0.6s,baz=96,slow=7.2,SNR=7.5						
ILAR	**Eielson Array**	**67.18**	**25**	P	**P**	**21 43 28.3**	**+0.5**
	0.2nm,0.5s,baz=252,slow=5.9,SNR=3.5						
YKA	**Yellowknife Ar**	**81.41**	**28**	P	**P**	**21 44 51.8**	**+1.1**
	0.1nm,0.5s,baz=288,slow=5.3,SNR=2.8						
FINES	**FINESS Array B**	**91.45**	**336**	P	**P**	**21 45 39.5**	**-0.6**
	5.3nm,1.2s,baz=58,slow=7.2,SNR=7.0						
DBIC	**Dimbokro**	**145.16**	**305**	PKPbc	**PKPdf**	**21 52 12.8**	**+0.3**
	2.4nm,0.6s,baz=337,slow=0.9,SNR=6.3						

*NIED **15** 21:33:00,39.20N×142.40E,h53km,Mw4.0 Best double couple: M0 1.24000×10¹⁵ NP1:φs317.00000°,δ48.00000°, λ31.00000°. NP2:φs205.00000°,δ67.00000°,λ134.00000°.*

*ISCJB **15** 21:33:34.5±0.9,39.25N±0.04×142.42E±0.10,h55km±7km, mb3.7/9, Error ellipse: s-maj=12.9km s-min=5.2km az=15.3*
*JMA **15** 21:33:35.5,39.24N×142.35E,h45km±1km,M4.0*
JMA Felt II J1.
*IDC **15** 21:33:37.3±2.3,39.28N×142.41E,h69km±19km,mb3.5/9, mb1 3.7/13,mb1mx3.5/45,mbtmp3.8/13,MS2.9/4, Ms1 2.9/4,ms1mx2.6/36,Error ellipse: s-maj=23.7km s-min=13.6km az=100.0*

ISC 15 21:33:35.4±1.5,39.23N±0.05×142.42E±0.10,h47km±12km, n35,σ1♀35/39,mb3.8/9,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.57**	**307**	P	**Pn**	**21 33 46.9**	**-0.5**
MIYJ				S	**Sn**	**21 33 55.0**	**-1.0**
OFUJ	**Ofunato**	**0.60**	**255**	P	**Pn**	**21 33 47.2**	**-0.5**
OFUJ				*e*S	**Sn**	**21 33 55.6**	**-0.9**
JTH	**Tanohata**	**0.82**	**329**	P	**Pn**	**21 33 50.5**	**-0.2**
JTH				S	**Sn**	**21 34 01.4**	**-0.4**
JKMT	**Kesennumamotoy**	**0.85**	**240**	P	**Pn**	**21 33 50.5**	**-0.4**
JKMT				S	**Sn**	**21 34 01.3**	**-1.0**
JOM	**Ohasama**	**0.90**	**286**	P	**Pn**	**21 33 51.3**	**-0.4**
JOM				S	**Sn**	**21 34 03.0**	**-0.7**
JMK	**Ichinoseki**	**0.97**	**254**	P	**Pn**	**21 33 52.3**	**-0.3**
JMK				*e*S	**Sn**	**21 34 04.2**	**-1.1**
JKZ	**Kuzumaki**	**1.12**	**312**	P	**Pn**	**21 33 54.9**	**+0.1**
JKZ				S	**Sn**	**21 34 08.9**	**-0.2**
JIO	**Ouri**	**1.14**	**227**	P	**Pn**	**21 33 54.6**	**-0.3**
JIO				S	**Sn**	**21 34 08.4**	**-1.0**
JANG	**Nango**	**1.33**	**329**	P	**Pn**	**21 33 57.3**	**-0.3**
JANG				S	**Sn**	**21 34 14.1**	**-0.1**
JRG	**Rokugo**	**1.39**	**277**	P	**Pn**	**21 33 58.5**	**+0.1**
JRG				S	**Sn**	**21 34 15.9**	**+0.3**
JOU	**Okura**	**1.62**	**238**	P	**Pn**	**21 34 01.4**	**-0.1**
JYK	**Kaneyama**	**1.63**	**259**	P	**Pn**	**21 34 01.9**	**+0.3**
JAH	**Hinai**	**1.67**	**305**	P	**Pn**	**21 34 02.8**	**+0.6**
MAT	**Matsushiro**	**4.28**	**232**	P	**Pn**	**21 34 41.1**	**+3.1**
MAT				S	**Sn**	**21 35 30.0**	**+3.4**
MJAR	**Matsushiro Arr**	**4.28**	**232**	P	**Pn**	**21 34 40.3**	**+2.4**
	0.6nm,0.3s,baz=37,slow=11,SNR=43						
ASAJ	**Asahikawa**	**4.88**	**2**	P	**Pn**	**21 34 47.5**	**+1.3**
	3.3nm,0.3s,baz=224,slow=13,SNR=17						
ASAJ				S	**Sn**	**21 35 41.8**	**+0.5**
	3.0nm,0.3s,baz=117,slow=2.3,SNR=2.3						
ASAJ				LR	LR	21 36 42.1	
	comp=Z,75nm,19.5s,baz=178,slow=38						
USRK	**Ussuriysk Ar.**	**9.24**	**306**	P	**Pn**	**21 35 48.5**	**+2.6**
	0.3nm,0.3s,baz=116,slow=14,SNR=12						
JNU	**Nakatsue**	**11.14**	**240**	LR	LR	21 40 46.7	
	comp=Z,107nm,19.8s,baz=68,slow=38						
KSRS	**Korea Array**	**11.52**	**266**	P	**Pn**	**21 36 20.9**	**+3.7**
	0.2nm,0.3s,baz=81,slow=15,SNR=4.1						
KSRS				LR	LR	21 40 10.7	
	comp=Z,61nm,18.2s,baz=48,slow=34						
KLR	**Kul'dur**	**12.57**	**326**	LR	LR	21 41 01.1	
	comp=Z,57nm,20.1s,baz=158,slow=35						
SONM	**Songino Array**	**27.29**	**300**	P	**P**	**21 39 15.1**	**-0.4**
	0.3nm,0.6s,baz=89,slow=8.5,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**28.69**	**126**	T	T	22 10 01.9	
	baz=318,slow=75,SNR=92						
H11N1	**WAKE ISLAND Hy**	**28.70**	**126**	T	T	22 10 04.1	
	baz=318,slow=75,SNR=141						
H11N3	**WAKE ISLAND Hy**	**28.71**	**126**	T	T	22 10 00.8	
	baz=318,slow=75,SNR=97						
H11S1	**WAKE ISLAND Hy**	**29.48**	**128**	T	T	22 10 53.1	
	baz=319,slow=76,SNR=36						
H11S3	**WAKE ISLAND Hy**	**29.48**	**128**	T	T	22 10 56.5	
	baz=319,slow=76,SNR=49						
H11S2	**WAKE ISLAND Hy**	**29.50**	**128**	T	T	22 10 55.6	
	baz=319,slow=76,SNR=40						
ZALV	**Zalesovo Beam**	**41.05**	**311**	P	**P**	**21 41 12.1**	**-1.9**
	1.1nm,0.4s,baz=77,slow=6.5,SNR=4.2						
CMAR	**Chiang Mai Arr**	**42.84**	**254**	P	**P**	**21 41 27.8**	**-1.3**
	0.4nm,0.4s,baz=46,slow=6.9,SNR=2.5						
MKAR	**Makanchi Array**	**43.66**	**300**	P	**P**	**21 41 34.8**	**-0.5**
	0.8nm,0.8s,baz=86,slow=7.6,SNR=8.9						
WRA	**Warramunga Arr**	**59.35**	**189**	P	**P**	**21 43 32.0**	**-0.7**
	1.9nm,0.8s,baz=7.0,slow=7.0,SNR=18						
ASAR	**Alice Springs**	**63.08**	**189**	P	**P**	**21 43 57.9**	**0.0**
	0.8nm,0.7s,baz=4.9,slow=7.4,SNR=8.5						
FINES	**FINESS Array B**	**67.24**	**332**	P	**P**	**21 44 25.3**	**+0.8**
	1.3nm,0.8s,baz=85,slow=2.3,SNR=4.0						
AKASG	**Malin Array Be**	**73.04**	**322**	P	**P**	**21 44 59.6**	**-0.6**
	0.4nm,0.3s,baz=43,slow=5.6,SNR=6.9						
TXAR	**Lajitas Array**	**88.16**	**53**	P	**P**	**21 46 21.0**	**-0.5**
	0.1nm,0.3s,baz=322,slow=5.7,SNR=3.9						

*ISCJB **15** 21:38:09.6±0.6,16.4S±0.1×178.3W±0.1,h450km, mb3.9/17, Error ellipse: s-maj=15.3km s-min=13.7km az=145.8*
*IDC **15** 21:38:11.1±2.2,16.34S×178.30W,h455km±23km, mb3.6/17,mb1 3.7/17,mb1mx3.5/41,mbtmp4.4/17, Error ellipse: s-maj=16.5km s-min=12.5km az=154.0*

ISC 15 21:38:10.5±0.6,16.3S±0.1×178.3W±0.1,h450km,n22, σ1♀16/25,mb4.2/17,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.55**	**246**	P	**P**	**21 41 31.1**	**+3.4**
	0.7nm,0.3s,baz=77,slow=17,SNR=6.3						
URZ	**Urewera**	**22.26**	**190**	P	**P**	**21 42 30.1**	**-2.1**
	12nm,0.7s,baz=308,slow=7.3,SNR=5.9						
RPZ	**Rata Peaks**	**28.80**	**196**	P	**P**	**21 43 28.9**	**-1.5**
	6.7nm,0.7s,baz=331,slow=19,SNR=2.2						
PMG	**Port Moresby**	**34.38**	**277**	P	**P**	**21 44 18.4**	**-0.2**
	6.7nm,0.4s,baz=105,slow=9.2,SNR=4.7						
STKA	**Stephens Creek**	**39.56**	**239**	P	**P**	**21 45 01.9**	**+0.5**
	11nm,0.8s,baz=27,slow=7.1,SNR=25						
WRA	**Warramunga Arr**	**45.09**	**258**	P	**P**	**21 45 44.6**	**-0.8**
	6.1nm,0.5s,baz=94,slow=7.0,SNR=123						
WRA				PcP	**PcP**	**21 47 17.4**	**+0.4**
	0.6nm,0.5s,baz=105,slow=3.4,SNR=3.5						
WRA				S	**S**	**21 51 50.3**	**-0.6**
	0.5nm,0.9s,baz=94,slow=13,SNR=2.9						
ASAR	**Alice Springs**	**45.39**	**253**	P	**P**	**21 45 47.6**	**0.0**
	29nm,0.6s,baz=85,slow=8.2,SNR=244						
ASAR				PcP	**PcP**	**21 47 18.5**	**+0.5**
	1.2nm,0.8s,baz=95,slow=3.1,SNR=4.1						
ASAR				S	**S**	**21 51 53.6**	**-1.5**
	0.9nm,0.8s,baz=85,slow=15,SNR=7.5						
SIJI	**Sorong**	**52.03**	**282**	P	**P**	**21 46 37.7**	**+0.3**
	7.7nm,0.5s,baz=30,slow=5.1,SNR=4.4						
NWAO	**Narrogin (SRO)**	**60.11**	**241**	P	**P**	**21 47 33.2**	**-0.2**
	9.0nm,0.9s,baz=354,slow=9.2,SNR=3.7						
VNDA	**Vanda**	**62.05**	**185**	P	**P**	**21 47 46.1**	**+0.7**
	3.2nm,0.8s,baz=3.1,slow=8.9,SNR=4.6						
QSPA	**South Pole Qui**	**73.75**	**180**	P	**P**	**21 48 58.2**	**+0.8**
	3.2nm,0.7s,baz=69,slow=2.7,SNR=8.6						
ILAR	**Eielson Array**	**84.29**	**13**	P	**P**	**21 49 52.6**	**-0.7**
	0.5nm,0.4s,baz=231,slow=5.2,SNR=16						
TXAR	**Lajitas Array**	**85.01**	**58**	P	**P**	**21 49 59.5**	**+1.7**
	0.6nm,0.8s,baz=216,slow=6.2,SNR=4.3						
MAW	**Mawson**	**85.42**	**200**	P	**P**	**21 49 59.4**	**+0.5**
	5.5nm,0.6s,baz=135,slow=7.1,SNR=3.0						
CMAR	**Chiang Mai Arr**	**88.49**	**290**	P	**P**	**21 50 14.1**	**-0.4**
	0.4nm,0.7s,baz=100,slow=3.3,SNR=3.4						
SNAA	**Sanae**	**92.20**	**179**	P	**P**	**21 50 30.0**	**-0.7**
	1.1nm,0.6s,baz=228,slow=18,SNR=2.6						
SONM	**Songino Array**	**92.44**	**319**	P	**P**	**21 50 32.5**	**+0.2**
	0.2nm,0.7s,baz=125,slow=7.2,SNR=2.7						
YKA	**Yellowknife Ar**	**92.81**	**25**	P	**P**	**21 50 33.0**	**-0.4**
	0.1nm,0.5s,baz=247,slow=4.7,SNR=2.4						
MKAR	**Makanchi Array**	**108.12**	**315**	PKiKP	**PKiKP**	**21 55 45.0**	**-1.4**
	0.2nm,0.4s,baz=103,slow=0.5,SNR=8.5						
ARCES	**ARCESS Array B**	**124.76**	**350**	PKP	**PKPdf**	**21 56 17.2**	**-0.3**
	1.8nm,0.7s,baz=67,slow=1.6,SNR=7.1						
BRTR	**Keskin Array B**	**143.74**	**316**	PKP	PKPab	21 56 52.6	+0.2
	3.3nm,0.8s,baz=67,slow=2.9,SNR=20						
GERES	**GERESS Array B**	**146.10**	**346**	PKPbc	**PKPbc**	**21 56 59.0**	**-0.4**
	0.6nm,0.5s,baz=18,slow=4.8,SNR=7.5						

*ISCJB **15** 21:39:15.6±0.8,62.2S±0.1×162.3W±0.3,h10km,mb4.1/5, MS4.3/16,Error ellipse: s-maj=20.8km s-min=16.7km az=2.7*
*IDC **15** 21:39:15.3±1.0,62.09S×161.99W,h0km,mb4.2/5, mb1 4.3/6,mb1mx4.1/31,mbtmp4.1/6,ML3.7/1,MS4.3/17, Ms1 4.3/17,ms1mx4.1/35,Error ellipse: s-maj=36.5km s-min=24.7km az=23.0*
*GCMT **15** 21:39:22.0±0.2,62.58S±0.01×162.26W±0.03,h12km, MW5.1/75,Moment Tensor Solution. s30,c35; s75,c105; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.44±.15; Mθθ5.08±.15; Mθφ-3.63±.12; Mrθ-4.41±.45; Mφφ1.64±.14; Mrφ0.61±.35; Best double couple: Mo6.21300×10¹⁶ NP1:φs116.00000°,δ84.00000°,λ-47.00000°. NP2: φs212.00000°,δ44.00000°,λ-171.00000°. Principal axes: T 7.4330, Plg26.0000°, Azm173.0000°; N -2.4310, Plg43.0000°, Azm290.0000°; P -4.9930, Plg36.0000°, Azm62.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 15 21:39:17.1±0.9,62.2S±0.1×162.1W±0.2,h10km,n36, σ1♀20/10,mb4.2/5,MS4.3/16,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**19.14**	**203**	P	**Pn**	**21 43 42.5**	**+1.6**
	0.2nm,0.3s,baz=54,slow=14,SNR=15						
VNDA				LR	LR	21 49 06.5	
	comp=Z,2μm,21.1s,baz=58,slow=31						
RPZ	**Rata Peaks**	**24.28**	**307**	LR	LR	21 52 24.5	
	comp=Z,148nm,18.3s,baz=148,slow=32						
URZ	**Urewera**	**27.17**	**322**	LR	LR	21 53 21.3	
	comp=Z,442nm,21.3s,baz=162,slow=31						
QSPA	**South Pole Qui**	**27.89**	**180**	LR	LR	21 53 55.5	
	comp=Z,667nm,21.7s,baz=70,slow=31						
TBI	**Tubuai**	**39.80**	**18**	*e*LR	LR	21 57 25.8	
	comp=Z,1μm,28.2s,baz=188						
TBI	**Tubuai**	**39.80**	**18**	*e*T	T	22 29 07.5	
	26nm,0.3s						
RKT	**Rikitea**	**43.22**	**38**	*e*LQ	LQ	21 57 17.9	
	1μm,25.2s						
RKT	**Rikitea**	**43.22**	**38**	*e*T	T	22 33 18.2	
	4.2nm,0.2s						
PAE	**Paea**	**45.37**	**17**	*e*T	T	22 36 05.7	
	3.7nm,0.3s						
PPT2	**Papeete2**	**45.44**	**17**	*e*S	**S**	**21 54 19.0**	**+1.6**
	141nm,25.8s						
PPT2				*e*LR	LR	22 00 02.9	
	comp=Z,1μm,25.2s,baz=188						
PPT2	**Papeete2**	**45.44**	**17**	*e*T	T	22 36 11.2	
	9.9nm,0.3s						
PPT	**Papeete**	**45.47**	**17**	LR	LR	22 01 38.8	
	comp=Z,386nm,20.7s,baz=184,slow=30						
DZM	**Mont Dzumac**	**45.51**	**317**	LR	LR	22 04 18.3	
	comp=Z,253nm,18.3s,baz=196,slow=33						
DZM	**Mont Dzumac**	**45.51**	**317**	*e*LR	LR	22 00 10.0	
	comp=Z,373nm,25.4s						
TIAR	**Tiarei**	**45.51**	**17**	*e*T	T	22 36 15.6	
	2.2nm,0.3s						
SNAA	**Sanae**	**45.62**	**171**	P	**P**	**21 47 36.9**	**-0.1**
	6.3nm,1.1s,baz=190,slow=7.8,SNR=4.8						
VNA2	**Neumayer--Watz**	**45.97**	**169**	P	**P**	**21 47 39.6**	**0.0**
	baz=206,slow=7.2						
MAW	**Mawson**	**46.45**	**202**	LR	LR	22 05 26.5	
	comp=Z,308nm,20.7s,baz=146,slow=34						
STKA	**Stephens Creek**	**46.73**	**284**	LR	LR	22 03 01.3	
	comp=Z,375nm,22.0s,baz=160,slow=30						
VAH	**Vaihoa**	**48.04**	**19**	*e*T	T	22 39 25.1	
	29nm,0.2s						
CTA	**Charters Tower**	**54.90**	**296**	LR	LR	22 06 42.6	
	comp=Z,206nm,21.5s,baz=173,slow=30						
PLCA	**Paso Flores**	**55.63**	**113**	LR	LR	22 06 43.6	
	comp=Z,321nm,21.9s,baz=232,slow=30						
TAOE	**Nuku Hiva Isla**	**55.63**	**27**	*e*LR	LR	22 04 50.5	
	comp=Z,493nm,27.4s						
H01W1	**Cape Leeuwin H**	**56.97**	**257**	T	T	22 51 03.9	
	baz=146,slow=76,SNR=13						
H01W2	**Cape Leeuwin H**	**56.97**	**257**	T	T	22 51 01.6	
	baz=146,slow=76,SNR=15						
H01W3	**Cape Leeuwin H**	**56.98**	**257**	T	T	22 51 01.6	
	baz=146,slow=76,SNR=11						
ASAR	**Alice Springs**	**57.25**	**282**	P	**P**	**21 49 05.0**	**+0.5**
	1.7nm,0.9s,baz=153,slow=7.6,SNR=7.2						
ASAR				LR	LR	22 09 53.8	
	comp=Z,462nm,21.7s,baz=153,slow=32						
WRA	**Warramunga Arr**	**60.27**	**284**	P	**P**	**21 49 24.4**	**-1.2**
	1.7nm,1.1s,baz=151,slow=6.1,SNR=3.8						
WRA				LR	LR	22 13 19.0	
	comp=Z,312nm,18.1s,baz=145,slow=34						
CPUP	**Villa Florida**	**73.59**	**115**	P	**P**	**21 50 49.2**	**-1.1**
	3.7nm,1.1s,baz=194,slow=4.2,SNR=3.1						
CPUP				LR	LR	22 18 51.9	
	comp=Z,205nm,19.5s,baz=203,slow=32						
BATI	**Baumata**	**73.69**	**279**	LR	LR	22 19

	11nm,0.2s								
MRKS	**Merke**	**1.04**	**28**	*e*P		**Pb**	**21 57 11.3**	**-0.3**	
	1.4nm,0.1s								
MRKS				*e*S		**Sb**	**21 57 25.7**	**0.0**	
	11nm,0.2s								
EKS2	**Erkin-Say**	**1.23**	**47**	⇑*i*P		**Pg**	**21 57 13.5**	**-0.7**	
EKS2	baz=47			⇑*i*S		**Sg**	**21 57 29.7**	**-0.4**	
	baz=47								
ARLS	**Aral**	**1.31**	**88**	⇑*i*P		**Pg**	**21 57 15.7**	**-0.1**	
ARLS	baz=88			⇑*i*S		**Sn**	**21 57 34.2**	**-0.2**	
	baz=88								
UCH	**Uchtor**	**1.50**	**74**	⇑*i*P		**Pg**	**21 57 19.7**	**+0.2**	
UCH	baz=75			⇑*i*S		**Sn**	**21 57 40.2**	**+0.6**	
	baz=75								
AAK	**Ala-Archa**	**1.64**	**60**	⇑*i*P		**Pn**	**21 57 21.2**	**+0.4**	
AAK	baz=60			⇑*i*S		**Sb**	**21 57 43.4**	**+0.3**	
	baz=60								
IUG	**Iuzhnay**	**1.92**	**280**	Pg		**Pb**	**21 57 26.8**	**+0.3**	
	1.6nm,0.2s								
IUG				Lg		Lg	21 57 52.3		
	8.9nm,0.5s								
IUG	**Iuzhnay**	**1.92**	**280**	*e*P		**Pb**	**21 57 26.7**	**+0.1**	
	1.6nm,0.2s								
IUG				*e*S		**Sg**	**21 57 52.3**	**-0.1**	
	8.9nm,0.5s								
SFK	**Sufi-Kurgan**	**1.94**	**158**	⇓Pn		**Pn**	**21 57 25.4**	**+0.4**	
SFK	2.1nm,1.0s			⇑Sn		**Sb**	**21 57 51.6**	**-0.2**	
	0.8nm,0.4s								
SFK	**Sufi-Kurgan**	**1.94**	**158**	Pg		**Pb**	**21 57 25.8**	**-1.2**	
	0.3nm,0.1s								
SFK				Lg		Lg	21 57 50.8		
	0.5nm,0.1s								
SFK	**Sufi-Kurgan**	**1.94**	**158**	⇑*i*P		**Pg**	**21 57 27.4**	**-0.5**	
SFK	baz=58			⇑*i*S		**Sg**	**21 57 53.4**	**+0.3**	
	baz=58								
KK31	**Karatay Array**	**1.99**	**311**	⇑Pn		**Pb**	**21 57 26.5**	**-1.1**	
	0.2nm,0.2s,baz=123,slow=15,SNR=15								
KK31				⇓Pg		Pg	21 57 33.7	+4.9	
	0.2nm,0.3s,baz=129,slow=15,SNR=4.6								
KK31				⇓Sn		**Sb**	**21 57 52.9**	**0.0**	
	0.5nm,0.3s								
KZA	**Kyzart**	**2.01**	**82**	⇑*e*P		**Pb**	**21 57 28.3**	**0.0**	
KZA	baz=82			⇑*i*S		**Sg**	**21 57 55.4**	**0.0**	
	baz=82								

TAP 15 22:07:34.9,23°.19N×121°.06E,h7km,ML2.1,1C,A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
ELDTW	**Lidau**	**0.04**	**267**			P	Pg	22 07 37.0	+0.5
ELDTW	baz=263					S	Sg	22 07 37.7	+0.2
	baz=263								
TWF1	**Yuli**	**0.27**	**54**			P	Pb	22 07 41.7	-0.5
	baz=55								
STYT	**Tauyuan**	**0.28**	**264**			⇑P	Pg	22 07 41.1	+0.7
STYT	baz=263					S	Sb	22 07 46.1	-1.1
	baz=263								
CHKT	**Chengkung**	**0.30**	**108**	*e*P			Pb	22 07 43.7	+1.1
	baz=107								
YULB	**Yu-li**	**0.30**	**48**	*e*P			Pb	22 07 41.9	-0.8
	baz=47								
YUS	**Yu-Shan**	**0.31**	**342**			P	Pg	22 07 41.8	+0.6
YUS	baz=341					S	Sb	22 07 47.3	-1.3
	baz=341								
TWG	**Pinlang**	**0.37**	**178**			P	Pb	22 07 43.4	-0.5
	baz=176								
TWGBT	**Beinan**	**0.37**	**176**	*e*P			Pb	22 07 43.4	-0.5
	baz=176								
ALS	**Alishan**	**0.39**	**324**			P	Pb	22 07 43.6	-0.8
	baz=324								
EHY	**Hungye**	**0.40**	**38**			P	Pb	22 07 43.7	-0.6
	baz=39								
TPUB	**Ta-pu**	**0.41**	**286**	*e*P			Pb	22 07 44.0	-0.4
	baz=285								
WTP	**Ta-pu**	**0.41**	**278**			P	Pb	22 07 44.1	-0.4
	baz=277								
WTP				*e*S			Sb	22 07 50.0	-1.0
	baz=277								
SLGT	**Liugui**	**0.42**	**242**	*e*P			Pb	22 07 44.1	-0.7
	baz=242								
HGSD	**Ruisui**	**0.45**	**48**	*e*P			Pb	22 07 45.5	+0.2
	baz=48								
CHN1	**Nanshi**	**0.48**	**269**	*e*P			Pb	22 07 46.2	+0.4
	baz=269								
CHN1				*e*S			Sb	22 07 54.1	+0.9
	baz=269								
TWK	**Hsinying**	**0.53**	**278**	*e*P			Pb	22 07 46.7	+0.2
	baz=278								
TWK				*e*S			Sb	22 07 54.3	-0.1
	baz=278								
VWDT	**VWDT**	**0.57**	**8**	*e*P			Pg	22 07 46.3	+0.4
	baz=8.0								
SSD	**Sandimen**	**0.59**	**221**	*e*P			Pb	22 07 46.7	+0.4
	baz=220								
ECL	**Taimali**	**0.60**	**189**	*e*P			Pb	22 07 47.6	-0.2
	baz=188								
SSLB	**Suanglung**	**0.60**	**351**	*e*P			Pb	22 07 48.0	+0.2
	baz=351								
MASBT	**Mashibuluo**	**0.70**	**214**	*e*P			Pg	22 07 48.5	+0.2
	baz=214								
SMLT	**Sun Moon Lake**	**0.70**	**348**	*e*P			Pb	22 07 50.2	+0.6
	baz=348								
ESL	**Shilin**	**0.71**	**29**	*e*P			Pb	22 07 49.7	0.0
	baz=29								
EAST	**Anshuo**	**0.83**	**193**	*e*P			Pb	22 07 51.6	-0.1
	baz=192								
CHGB	**Renai**	**0.87**	**7**	*e*P			Pb	22 07 52.4	-0.2
	baz=7.0								
NACB	**Ninganchiao**	**1.10**	**27**	*e*P			Pn	22 07 57.0	+0.3
	baz=26								
NNSB	**Datong**	**1.27**	**14**	*e*P			Pg	22 07 59.6	+0.4
	baz=13								
NNS	**Nan Shan**	**1.28**	**13**	*e*P			Pg	22 07 59.8	+0.3
	baz=13								
YHNB	**Yeheng**	**1.50**	**11**	*e*P			Pg	22 08 04.0	+0.3
	baz=11								
ENTT	**Nioudou**	**1.52**	**18**	*e*P			Pg	22 08 04.9	+0.9
	baz=18								

TAP 15 22:07:39.7,23°.21N×121°.00E,h8km,ML2.1,A,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
ELDTW	**Lidau**	**0.03**	**151**			P	Pg	22 07 42.0	+0.8
	baz=140								
ELDTW						S	Sg	22 07 42.7	+0.3
	baz=140								
STYT	**Tauyuan**	**0.23**	**258**			P	Pg	22 07 44.5	+0.2
	baz=256								
STYT						S	Sg	22 07 49.5	+2.1
	baz=256								
YUS	**Yu-Shan**	**0.28**	**350**	*e*P			Pg	22 07 46.1	+0.7
	baz=349								
TWF1	**Yuli**	**0.30**	**63**	*e*P			Pb	22 07 46.6	-0.8
	baz=63								
TWF1	**Yuli**	**0.30**	**63**	S			Pb	22 07 46.5	-0.9
	baz=55								
YULB	**Yu-li**	**0.33**	**56**	*e*P			Pb	22 07 47.0	-0.8
	baz=56								
YULB	**Yu-li**	**0.33**	**56**	*e*S			Pb	22 07 47.0	-0.7
	baz=47								
ALS	**Alishan**	**0.35**	**329**	*e*P			Pb	22 07 48.7	+0.3
	baz=329								
CHKT	**Chengkung**	**0.35**	**109**	*e*P			Pb	22 07 48.8	+0.6
	baz=108								
TPUB	**Ta-pu**	**0.35**	**284**	*e*P			Pb	22 07 47.5	-0.7
	baz=284								
WTP	**Ta-pu**	**0.36**	**275**	*e*P			Pg	22 07 47.5	+0.8
	baz=275								
SLGT	**Liugui**	**0.39**	**237**	*e*P			Pb	22 07 49.1	+0.2
	baz=236								
TWG	**Pinlang**	**0.40**	**171**	*e*P			Pb	22 07 48.5	-0.4
	baz=169								
TWGBT	**Beinan**	**0.40**	**170**	*e*P			Pb	22 07 48.4	-0.6
	baz=169								
EHY	**Hungye**	**0.41**	**45**	*e*P			Pb	22 07 48.8	-0.5
	baz=46								
CHN1	**Nanshi**	**0.44**	**267**	*e*P			Pn	22 07 51.2	-1.1
	baz=266								
HGSD	**Ruisui**	**0.48**	**54**	*e*P			Pb	22 07 50.7	+0.4
	baz=54								
VWDT	**VWDT**	**0.55**	**13**	*e*P			Pb	22 07 51.3	-0.3
	baz=13								
SSD	**Sandimen**	**0.58**	**216**	*e*P			Pb	22 07 51.7	-0.3
	baz=215								
ECL	**Taimali**	**0.61**	**184**	*e*P			Pb	22 07 52.6	-0.1
	baz=183								
SMLT	**Sun Moon Lake**	**0.68**	**352**	*e*S			Sb	22 08 03.0	-0.4
	baz=352								
MASBT	**Mashibuluo**	**0.69**	**210**	*e*P			Pb	22 07 53.6	-0.3
	baz=209								
ESL	**Shilin**	**0.72**	**33**	*e*P			Pb	22 07 55.2	+0.7
	baz=33								
NACB	**Ninganchiao**	**1.10**	**29**	*e*P			Pn	22 08 02.0	+0.6
	baz=29								

MAN 15 22:11:53.2,11°.71N×124°.13E,h13km,mb4.2,ML3.0, MS2.6,Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
BESP	**Borongan**	**1.29**	**95**	*e*P			Pn	22 12 15.8	-1.2
BESP				*e*S			Sg	22 12 34.5	-0.4
MSLP	**Maasin**	**1.73**	**155**	*e*P			Pn	22 12 22.6	-0.4
MSLP				*e*S			Sb	22 12 46.3	-0.1
SCPH	**Surigao**	**2.34**	**145**	*e*P			Pb	22 12 33.4	-1.9

*ISCJB **15** 22:15:48.6±0.6,6°.72N±0°.03×73°.32W±0°.04,h141km±5km, mb3.0/1,Error ellipse: s-maj=7.3km s-min=5.5km az=14.1*
*RSNC **15** 22:15:49.9±1.2,6°.66N×73°.33W,h137km±6km,ML3.9, Mw3.8*
*IDC **15** 22:15:49.0±1.3,6°.73N×73°.38W,h153km±15km,mb2.8/1, mb1 3.3/4,mb1mx3.0/29,mbtmp3.7/4,Error ellipse: s-maj=38.1km s-min=16.8km az=129.0*

ISC 15 22:15:48.7±0.8,6°.71N±0°.04×73°.30W±0°.05,h141km±6km, n25,σ1§07/38,5C-4D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
BARC	**Barichara**	**0.16**	**135**	*e*P			Pn	**22 16 08.4**	**+0.3**
BARC				*e*S			**Sn**	**22 16 22.9**	**0.0**
BARC				*i*				22 16 24.7	
	comp=Z,2μm,0.3s								
BRRC	**Barranca, Sant**	**0.57**	**314**	⇑*i*P			Pn	**22 16 10.3**	**+0.8**
BRRC				*e*S			**Sn**	**22 16 25.9**	**+0.6**
BRRC				*i*				22 16 28.5	
	comp=N,2μm,0.5s								
RUSC	**La Rusia**	**0.84**	**165**	⇓*e*P			Pn	**22 16 11.9**	**0.0**
RUSC				*e*S			**Sn**	**22 16 28.8**	**-0.7**
RUSC				*i*				22 16 29.7	
	comp=N,626nm,0.3s								
PTBC	**PUERTO BERRIO,**	**1.17**	**262**	⇓*e*P			Pn	**22 16 13.5**	**-0.7**
PTBC				*e*S			**Sn**	**22 16 32.7**	**-0.9**
PTBC				*i*				22 16 33.0	
	comp=N,2μm,0.3s								
OCAC	**Ocana**	**1.52**	**359**	⇓*e*P			Pn	**22 16 18.8**	**+0.7**
OCAC				*e*S			**Sn**	**22 16 41.6**	**+1.1**
OCAC				*i*				22 16 43.9	
	comp=N,8μm,0.2s								
ZARC	**Zaragoza, Cauc**	**1.74**	**297**	⇑*e*P			Pn	**22 16 20.3**	**0.0**
ZARC				*e*S			**Sn**	**22 16 45.3**	**+0.9**
ZARC				*i*				22 16 49.4	
	comp=N,1μm,0.4s								
CTAB	**Cerro Tablazo,**	**1.91**	**208**	*e*P			Pn	**22 16 24.6**	**+1.8**
NORC	**Norcasia**	**1.93**	**234**	*e*P			Pn	**22 16 22.4**	**-0.3**
NORC				*e*S			**Sn**	**22 16 47.2**	**-1.3**
NORC				*i*				22 16 54.1	
	comp=N,1μm,0.2s								
CHIC	**Chingaza**	**2.11**	**192**	⇓*e*P			Pn	**22 16 25.1**	**+0.1**
CHIC				*e*S			**Sn**	**22 16 52.1**	**-0.8**
CHIC				*i*				22 16 57.1	
	comp=N,208nm,0.3s								
ROSC	**El Rosal**	**2.12**	**209**	P			Pn	**22 16 26.4**	**+1.2**
	comp=N,30nm,0.3s,baz=14,slow=8.3,SNR=34								
ROSC				S			**Sn**	**22 16 54.6**	**+1.6**
	comp=N,51nm,0.3s,baz=26,slow=21,SNR=13								
ROSC	**El Rosal**	**2.12**	**209**	⇓*e*P			Pn	**22 16 26.2**	**+1.1**
ROSC				*i*				22 17 00.7	
	comp=Z,246nm,0.3s								
HELC	**Santa Helena**	**2.28**	**257**	*e*P			Pn	**22 16 28.1**	**+1.0**
HELC				*e*S			**Sn**	**22 16 55.9**	**-0.5**
HELC				*i*				22 17 03.2	
	comp=E,436nm,0.7s								
UREC	**San Jos de Ur**	**2.45**	**295**	⇑*e*P			Pn	**22 16 27.9**	**-0.9**
UREC				*i*				22 17 07.8	
	comp=N,482nm,0.3s								
VILC	**Villavicencio,**	**2.61**	**189**	⇓*e*P			Pn	**22 16 30.6**	**-0.3**
VILC				*e*S			**Sn**	**22 17 02.9**	**-0.6**
VILC				*i*				22 17 16.2	
	comp=N,449nm,0.4s								
RREF	**El Recreo**	**2.72**	**229**	*e*P			Pn	**22 16 33.5**	**+0.7**
DBBC	**Dabeiba**	**2.91**	**276**	*e*P			Pn	**22 16 34.8**	**+0.1**
ANIL	**Santa Ana**	**3.04**	**224**	*e*P			Pn	**22 16 37.1**	**+0.6**
SDV	**Santo Domingo**	**3.41**	**50**	P			Pn	**22 16 41.6**	**+0.3**
	comp=N,14nm,0.3s,baz=195,slow=4.3,SNR=32								
SDV				S			**Sn**	**22 17 19.9**	**-2.0**
	comp=N,6.8nm,0.3s,baz=248,slow=17,SNR=7.5								
SDV	**Santo Domingo**	**3.41**	**50**	*e*P			Pn	**22 16 41.8**	**+0.5**
SMRC	**Santa Marta, M**	**4.52**	**348**	*e*P			Pn	**22 16 56.1**	**+0.4**
POPC	**Popayan, Colom**	**5.34**	**219**	*e*P			Pn	**22 17 06.3**	**-0.5**
PTGA	**Pitinga**	**15.21**	**119**	P			**P**	**22 19 19.1**	**+1.0**
	comp=N,0.2nm,0.3s,baz=313,slow=19,SNR=3.4								
YKA	**Yellowknife Ar**	**63.31**	**340**	P			**P**	**22 26 01.6**	**-0.7**
	comp=N,0.1nm,0.4s,baz=140,slow=6.3,SNR=2.4								
YKA				pP			**pP**	**22 26 35.1**	**-1.1**
	comp=N,0.3nm,0.7s,baz=128,slow=6.9,SNR=3.9								
MKAR	**Makanchi Array**	**122.49**	**20**	PKP			**PKPdf**	**22 34 25.9**	**-1.8**
	comp=N,0.1nm,0.3s,baz=343,slow=2.6,SNR=4.9								
WRA	**Warramunga Arr**	**150.13**	**241**	PKPbc			**PKPdf**	**22 35 21.6**	**+2.9**
	comp=N,0.1nm,0.3s,baz=107,slow=3.0,SNR=8.1								

IDC 15 22:16:31.4±14.0,6°.38S×128°.77E,h199km±159km, mb2.7/1,mb1 2.9/4,mb1mx2.7/28,mbtmp3.4/4,ML3.0/3, Error ellipse: s-maj=130.2km s-min=48.2km az=45.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
FITZ	**Fitzroy Crossi**	**12.04**	**194**			P	Pn	22 19 17.2	+0.3
	0.1nm,0.3s,baz=16,slow=14,SNR=1.9								
FITZ						S	Sn	22 21 22.2	-9.0
	0.1nm,0.3s,baz=313,slow=19,SNR=2.3								
WRA	**Warramunga Arr**	**14.53**	**159**			P	Pn	22 19 47.7	-0.3
	0.1nm,0.3s,baz=333,slow=13,SNR=4.2								
WRA						S		22 22 28.1	-1.6
	0.1nm,0.3s,baz=338,slow=21,SNR=3.4								
ASAR	**Alice Springs**	**17.89**	**164**			P	P	22 20 26.8	+0.5
	0.1nm,0.3s,baz=339,slow=11,SNR=4.4								
MKAR	**Makanchi Array**	**67.04**	**327**			P	P	22 27 03.1	-0.1
	0.1nm,0.4s,baz=123,slow=6.5,SNR=3.6								

IDC 15 22:20:42.0±2.8,6°.65S×129°.83E,h126km±38km,mb3.3/1, mb1 3.3/5,mb1mx3.0/29,mbtmp3.6/5,Error ellipse: s-maj=71.1km s-min=21.0km az=89.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
SIJI	**Sorong**	**5.92**	**14**			P	Pn	22 22 07.5	+0.1
	0.7nm,0.3s,baz=199,slow=22,SNR=11								
SIJI						S	Sn	22 23 09.3	-4.8
	2.1nm,0.3s,baz=233,slow=20,SNR=4.5								
FITZ	**Fitzroy Crossi**	**12.09**	**199**			P	Pn	22 23 30.4	+0.3
	0.1nm,0.3s,baz=25,slow=12,SNR=6.1								
FITZ						S	Sn	22 25 34.4	-8.9
	0.2nm,0.3s,baz=10.0,slow=17,SNR=4.1								
WRA	**Warramunga Arr**	**13.92**	**162**			P	Pn	22 23 52.6	-1.3
	0.3nm,0.3s,baz=344,slow=14,SNR=9.4								
WRA						S	Sn	22 26 18.6	-9.0
	0.3nm,0.3s,baz=340,slow=22,SNR=7.2								
ASAR	**Alice Springs**	**17.36**	**167**			P	Pn	22 24 36.9	+0.3
	0.1nm,0.3s,baz=344,slow=9.2,SNR=5.5								
ASAR						S	Sn	22 27 42.5	-8.1
	0.1nm,0.3s,baz=358,slow=24,SNR=3.5								
MKAR	**Makanchi Array**	**67.85**	**327**			P	P	22 31 26.6	0.0
	0.5nm,0.5s,baz=118,slow=7.5,SNR=11								

*IDC **15** 22:28:40.0±1.3,34°.54N×73°.35E,h0km,mb3.8/4, mb1 3.8/5,mb1mx3.4/29,mbtmp3.6/5,ML2.8/1,Error ellipse: s-maj=35.7km s-min=30.3km az=82.0*
*ISCJB **15** 22:28:42.1±0.9,34°.61N±0°.07×73°.2E±0°.1,h22km,mb3.7/4, Error ellipse: s-maj=17.8km s-min=6.5km az=151.9*

ISC 15 22:28:44.1±1.1,34°.61N±0°.09×73°.1E±0°.1,h22km,n16, σ1§72/18,mb3.7/4,2C-2D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
SFK	**Sufi-Kurgan**	**5.40**	**3**	⇑P			Pn	**22 30 06.8**	**+3.2**
	1.1nm,0.3s								
SFK				⇑S			**Sn**	**22 31 07.3**	**+2.1**
	4.8nm,0.3s								
KK31	**Karatay Array**	**8.71**	**347**	⇓P			Pn	**22 30 49.7**	**+0.8**
	0.6nm,0.3s,baz=155,slow=11,SNR=34								
KK31				⇓S			**Sn**	**22 32 22.9**	**-3.5**
	1.1nm,0.4s,baz=149,slow=28								
PYUN	**Piuthan**	**10.66**	**125**	*e*P			Pn	**22 31 17.5**	**+1.8**
	4.4nm,0.3s								
DANN	**Dangsing**	**11.03**	**122**	*e*P			Pn	**22 31 22.0**	**+1.1**
	6.7nm,0.4s								
KOLN	**Koldanda**	**11.28**	**124**	*e*P			Pn	**22 31 25.4**	**+1.1**
	2.2nm,0.3s								
DMN	**Daman**	**12.43**	**121**	*e*P			Pn	**22 31 40.4**	**+0.4**
	3.4nm,0.4s								
PKIN	**Phulchoki**	**12.65**	**120**	*e*P			Pn	**22 31 43.2**	**+0.1**
	2.6nm,0.3s								
PKI	**Pulchoki**	**12.67**	**120**	*e*P			Pn	**22 31 43.3**	**0.0**
	2.7nm,0.2s								
GUN	**Gumba**	**12.81**	**118**	*e*P			Pn	**22 31 45.0**	**-0.3**
	2.7nm,0.4s								
JIRN	**Jiri**	**13.18**	**118**	*e*P			Pn	**22 31 50.1**	**-0.2**
	6.7nm,0.4s								
RAMN	**Ramite**	**13.89**	**120**	*e*P			Pn	**22 31 58.5**	**-1.4**
	2.8nm,0.3s								
MKAR	**Makanchi Array**	**14.01**	**27**	Pn			Pn	**22 31 60.0**	**-1.3**
	0.1nm,0.3s,baz=208,slow=11,SNR=3.1								
ZALV	**Zalesovo Beam**	**21.02**	**20**	P			**P**	**22 33 24.1**	**-2.0**
	1.1nm,0.4s,baz=209,slow=11,SNR=6.1								
ARCES	**ARCESS Array B**	**43.53**	**338**	P			**P**	**22 36 47.0**	**+1.2**
	4.9nm,1.1s,baz=116,slow=8.2,SNR=4.4								
TORD	**Torodi Ar. Bea**	**67.42**	**271**	P			**P**	**22 39 38.5**	**+0.1**
	0.6nm,0.8s,baz=54,slow=5.8,SNR=3.6								
WRA	**Warramunga Arr**	**79.54**	**123**	P			**P**	**22 40 48.1**	**-1.4**
	0.5nm,0.8s,baz=320,slow=5.1,SNR=3.0								

*ISCJB **15** 22:34:46.3±0.2,5°.85S±0°.02×81°.03W±0°.03,h30km, mb4.5/73,MS4.4/23,Error ellipse: s-maj=5.3km s-min=3.0km az=153.7*
*VAO **15** 22:34:47.9±0.8,5°.86S×80°.67W,h10km,mb4.7*
*GCMT **15** 22:34:48.0±0.3,6°.00S±0°.01×81°.20W±0°.02,h31km, MW5.2/85,Moment Tensor Solution. s64,c79; s85,c129; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.04±.20; $M_{\theta\theta}$-0.09±.12; $M_{\phi\phi}$-4.95±.14; $M_{r\theta}$1.06±.14; $M_{\theta\phi}$0.47±.10; $M_{\phi r}$-4.71±.23; Best double couple: $M_0$6.96300×10^{16} NP1:ϕ_s170.00000°,δ67.00000°,λ86.00000°. NP2: ϕ_s359.00000°,δ23.00000°,λ99.00000°. Principal axes: T 7.0040, Plg68.0000°, Azm72.0000°; N -0.0830, Plg4.0000°, Azm171.0000°; P -6.9210, Plg22.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*LIM **15** 22:34:50.0,5°.74S×80°.66W,h40km,ML5.0,MB4.6(NEIC)*
*NEIC **15** 22:34:50.0±0.0,5°.74S×80°.66W,h40km,mb4.6/59, ML5.0(ARE),After ARE.*
NEIC Felt [III] at Sechura and [II] at Piura.
*IGQ **15** 22:34:51.3±0.3,6°.S±2°×8°.W±°,h20km,M5.2/29, mb5.2/29,mB5.6/22,MLv5.5/25,Mw(mB)5.1/22*
*IDC **15** 22:34:52.4±2.3,5°.67S×80°.80W,h64km±21km,mb4.1/20, mb1 4.3/25,mb1mx4.2/36,mbtmp4.5/25,MS4.5/29, Ms1 4.5/29,ms1mx4.4/33,Error ellipse: s-maj=19.5km s-min=11.6km az=61.0*

ISC 15 22:34:48.5±0.3,5°.75S±0°.04×80°.98W±0°.05,h30km,n299, σ1§53/269,mb4.6/73,MS4.4/23,2D,Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
ATAH	**Atahualpa**	**2.91**	**118**			P	Pn	**22 35 35.4**	**+2.1**
	50nm,0.3s,baz=290,slow=6.8,SNR=124								
ATAH						S	**Sb**	**22 36 14.4**	**-1.0**
	564nm,0.3s,baz=354,slow=15,SNR=15								
ATAH						LR	LR	22 36 57.9	
	comp=Z,11μm,20.6s,baz=273,slow=45								
MORR	**Playas El Morr**	**3.16**	**12**			P	Pn	**22 35 36.7**	**+0.5**
MORR						S	**Sb**	**22 36 24.4**	**+2.3**
COHC	**Cochancay**	**3.69**	**28**			P	Pn	**22 35 44.6**	**+1.0**
COHC						S	**Sb**	**22 36 36.8**	**-0.7**
MILO	**Milagro-Astudi**	**3.73**	**22**			P	Pn	**22 35 45.7**	**+1.6**
ARRY	**Arrayan**	**4.91**	**31**			P	Pn	**22 36 01.9**	**+1.2**
POND	**Pondoa**	**4.99**	**30**			P	Pn	**22 36 03.7**	**+1.9**
	352nm,0.8s,3μm1.7nm								
PUYO	**Puyo, Santa Ro**	**5.16**	**35**			P	Pn	**22 36 05.7**	**+1.8**
	713nm,0.6s,8μm7.4nm								
PIS1	**Pisayambo**	**5.33**	**29**			P	Pn	22 36 15.7	+9.0
PISA	**Pisayambo**	**5.33**	**29**			P	Pn	22 36 13.0	+6.4
	1μm,0.6s,11μm4.6nm								
ILLI	**Illinizas Sur**	**5.49**	**24**			P	Pn	**22 36 11.3**	**+2.5**
	804nm,0.6s,7μm5.4nm								
ARDO	**Archidona, Ten**	**5.69**	**34**			P	Pn	**22 36 14.3**	**+3.1**
	485nm,0.6s,5μm3.6nm								
PITA	**Cotopaxi Volc**	**5.75**	**26**			P	Pn	22 36 18.3	+5.9
	3μm,0.7s,34μm13nm								
MAG1	**Magdalena**	**5.77**	**12**			P	Pn	**22 36 14.4**	**+2.2**
NINA	**Atacazo Ninahu**	**5.83**	**24**			P	Pn	**22 36 15.4**	**+2.0**
	587nm,0.6s,5μm3.1nm								
ANTM	**Antisana-La Mi**	**5.87**	**28**			P	Pn	**22 36 16.8**	**+2.8**
	225nm,1.4s,3μm1.5nm								
ANTG	**Antisana-Guama**	**5.88**	**28**			P	Pn	**22 36 16.5**	**+2.3**
	382nm,1.1s,3μm1.5nm								
ANTI	**Antisana**	**5.97**	**28**			P	Pn	**22 36 20.3**	**+4.8**
	321nm,0.6s,5μm2.3nm								

PAYG Puerto Ayora 10.57 298 P Pn 22 37 23.9 +5.8
60nm,1.6s
ROSC El Rosal 12.45 32 LR LR 22 42 55.6
comp=Z,3µm,18.0s,baz=207,slow=39
LPAZ La Paz 16.38 131 P **Pn 22 38 37.7 +0.7**
0.4nm,0.3s,baz=315,slow=12,SNR=18
LPAZ LR LR 22 45 47.6
comp=Z,1µm,19.2s,baz=317,slow=40
LPAZ La Paz 16.38 131 *e*Pn **Pn 22 38 37.7 +0.7**
15nm,1.0s
LPAZ La Paz 16.38 131 *e*P **Pn 22 38 34.3 -2.7**
JTS JuntasAbangare 16.42 346 P **P 22 38 39.6 0.0**
0.4nm,0.3s,baz=126,slow=19,SNR=2.1
JTS LR LR 22 43 53.0
comp=Z,1µm,18.0s,baz=228,slow=33
JTS JuntasAbangare 16.42 346 *e*Pn **Pn 22 38 37.1 +0.1**
5.7nm,1.1s
JTS JuntasAbangare 16.42 346 P P 22 38 48.2 +8.6
MNMC Minye Minye 17.31 141 *e*Pn **Pn 22 38 45.7 -2.7**
7.2nm,0.7s
MNMC Minye Minye 17.31 141 P **P 22 38 52.7 +3.1**
22nm,1.3s
PB11 IPOC Station P 17.75 143 *e*Pn **Pn 22 38 52.3 -1.4**
14nm,1.0s
PB11 IPOC Station P 17.75 143 P **P 22 38 56.8 +2.4**
SDV Santo Domingo 17.83 35 P **Pn 22 38 55.0 +0.2**
1.4nm,0.3s,baz=192,slow=12,SNR=9.5
SDV LR LR 22 46 51.2
comp=Z,2µm,18.8s,baz=224,slow=41
SDV Santo Domingo 17.83 35 *e*Pn **Pn 22 38 54.4 -0.4**
9.4nm,0.6s
SDV Santo Domingo 17.83 35 P **P 22 38 57.6 +2.3**
15nm,0.7s
SDV Santo Domingo 17.83 35 *e*P **Pn 22 38 55.7 +0.9**
PB08 IPOC Station P 18.35 142 P **Pn 22 39 04.1 +2.8**
PB01 IPOC Station P 18.85 145 *e*P **P 22 39 04.8 -1.5**
15nm,1.1s
PB01 IPOC Station P 18.85 145 P **Pn 22 39 08.1 +1.1**
PB07 IPOC Station P 19.17 147 P **Pn 22 39 17.1 +6.1**
MATN Matagalpa 19.20 345 P Pn 22 39 26.9 +16
PB03 IPOC Station P 19.50 147 P **Pn 22 39 18.1 +3.1**
PB09 IPOC Station P 19.58 146 P **Pn 22 39 17.6 +1.7**
PB05 IPOC Station P 19.93 150 P Pn 22 39 29.9 +10
PB06 IPOC Station P 20.13 148 P Pn 22 39 31.3 +8.8
LVC Limon Verde 20.41 146 P Pn 22 39 25.4 -0.5
12nm,0.7s,baz=326,slow=5.9,SNR=11
LVC LR LR 22 48 23.6
comp=Z,1µm,18.8s,baz=310,slow=40
LVC Limon Verde 20.41 146 *e*P **P 22 39 23.2 -0.5**
13nm,0.8s
LVC Limon Verde 20.41 146 P Pn 22 39 29.8 +3.9
42nm,1.7s,40nm,1.7s
LVC P Pn 22 39 29.8 +3.9
42nm,1.7s,40nm,1.7s
PB14 IPOC Station P 21.34 153 P **P 22 39 35.6 +2.0**
PTGA Pitinga 21.56 77 P **P 22 39 34.8 -1.0**
15nm,0.6s,baz=262,slow=12,SNR=40
PTGA LR LR 22 48 55.2
comp=Z,4µm,20.2s,baz=260,slow=40
PTGA Pitinga 21.56 77 *e*P **P 22 39 34.8 -1.0**
SIV San Ignacio 22.01 119 P **P 22 39 40.0 -0.7**
5.1nm,0.5s,baz=308,slow=8.8,SNR=24
SIV LR LR 22 49 07.1
comp=Z,4µm,18.0s,baz=310,slow=39
GO02 Mina Guanaco 22.17 152 *e*P **P 22 39 38.5 -4.1**
28nm,0.9s
APG El Apazote 22.67 336 LR LR 22 47 19.1
comp=Z,776nm,18.9s,baz=174,slow=33
PCRV Puerto La Cruz 22.70 46 P **P 22 39 46.5 -1.6**
18nm,0.5s,baz=209,slow=6.0,SNR=11
PCRV LR LR 22 49 41.7
comp=Z,2µm,19.1s,baz=216,slow=40
LCO Las Campanas 25.09 158 *e*P **P 22 40 10.3 -0.8**
7.4nm,1.1s
LCO Las Campanas 25.09 158 *e*P **P 22 40 10.2 -0.8**
SDDR Presa de Salom 26.37 21 *e*P **P 22 40 20.1 -2.3**
CMIG Matias Romero 26.54 329 LR LR 22 48 49.0
comp=Z,588nm,21.8s,baz=172,slow=32
OBIP Obispado Ponce 27.57 31 *e*P **P 22 40 32.0 -1.2**
33nm,1.1s
SJG San Juan 27.87 31 P **P 22 40 35.7 -0.1**
26nm,0.6s,baz=195,slow=6.9,SNR=11
SJG LR LR 22 53 14.9
comp=Z,942nm,20.0s,baz=196,slow=40
SJG San Juan 27.87 31 *e*P **P 22 40 35.4 -0.4**
26nm,0.6s
SJG San Juan 27.87 31 P **P 22 40 38.4 +2.6**
CBYP Canovanas 28.15 32 *e*P **P 22 40 36.9 -1.5**
31nm,0.7s
AQDB Aquidauana 28.57 123 *e*P **P 22 40 42.1 -0.1**
MDP Montagnes des 30.28 70 P **P 22 40 56.8 -0.5**
8.7nm,0.6s,baz=267,slow=6.5,SNR=6.2
MDP LR LR 22 54 16.1
comp=Z,2µm,18.7s,baz=252,slow=39
CPUP Villa Florida 30.47 135 P **P 22 40 58.8 -0.1**
2.0nm,0.5s,baz=318,slow=10,SNR=6.8
CPUP LR LR 22 54 40.8
comp=Z,620nm,20.6s,baz=314,slow=39
CPUP Villa Florida 30.47 135 *e*P **P 22 40 58.9 0.0**
TRCB Terra Rica 32.17 125 *e*P **P 22 41 14.2 +0.2**
ITRB Iturama 32.84 118 *e*P **P 22 41 19.1 -0.8**
PTGB Pitanga 33.54 127 *e*P **P 22 41 25.5 -0.4**
BDFB Brasilia 33.80 110 P **P 22 41 27.4 -0.9**
3.8nm,0.8s,baz=261,slow=8.8,SNR=5.3
BDFB LR LR 22 56 15.0
comp=Z,3µm,18.3s,baz=272,slow=38
IPMB Ipameri, GO 34.22 114 *e*P **P 22 41 30.3 -1.7**
ITAB Concordia 34.78 131 *e*P **P 22 41 36.3 -0.3**
BB19B Bebedouro 34.94 119 *e*P **P 22 41 36.9 -1.2**
FRTB Fartura 34.94 123 *e*P **P 22 41 39.0 +0.9**
PLCA Paso Flores 36.06 166 P **P 22 41 47.5 -0.1**
6.3nm,1.2s,baz=354,slow=9.4,SNR=3.5
PLCA LR LR 22 53 33.2
comp=Z,260nm,20.3s,baz=28,slow=31
PLCA Paso Flores 36.06 166 P **P 22 41 47.5 -0.1**
2.9nm,1.0s
PLCA Paso Flores 36.06 166 *e*P **P 22 41 48.7 +1.1**
RCLB Rio Claro- Sao 36.29 120 *e*P **P 22 41 48.5 -1.3**
PLTB Pedras Altas 36.41 139 *e*P **P 22 41 50.9 +0.3**
TRQA Tornquist 36.50 154 *e*P **P 22 41 50.3 -1.0**
SPB Sao Paulo 36.83 122 *e*P **P 22 41 51.0 -3.2**
17nm,0.9s
CNLB Canela 36.86 133 *e*P **P 22 41 53.7 -0.8**
JANB Januaria 37.18 107 *e*P **P 22 41 55.4 -2.0**
TER01 Tubaro-SC 37.72 131 *e*P **P 22 42 01.1 -0.6**
MCI8 Montes Claros 37.86 110 *e*P **P 22 42 02.2 -1.0**
MCI9 Montes Claros 37.89 110 *e*P **P 22 42 02.6 -0.8**
MCI6 Montes Claros 37.92 110 *e*P **P 22 42 02.8 -0.8**
MCI7 Montes Claros 37.98 110 *e*P **P 22 42 03.4 -0.8**
BSCB Bom Sucesso 38.21 117 *e*P **P 22 42 05.0 -1.1**
LRAL Lakeview Retre 39.00 352 P **P 22 42 12.7 +0.4**
baz=170
Y54A Tignall 39.43 358 P **P 22 42 16.5 +0.5**
baz=177
Y53A Monroe 39.47 357 P **P 22 42 16.5 +0.2**
baz=175
Y51A Rockmart 39.63 355 P **P 22 42 16.9 -0.7**
baz=173
Y50A Piedmont 39.69 354 P **P 22 42 18.5 +0.4**
baz=172
HODGE Hodges 39.79 358 *e*P **P 22 42 17.2 -1.7**
7.0nm,0.9s
VAS01 Vassouras-RJ 39.79 118 *e*P **P 22 42 19.1 -0.1**
Y46A Houston 40.12 350 P **P 22 42 22.5 +0.8**
baz=167
Y45A Yeager Farm, C 40.23 349 P **P 22 42 23.8 +1.2**
baz=166
X52A Dahlonega 40.23 356 P **P 22 42 22.9 +0.3**
baz=175
BG3 Lake Jocassee 40.57 358 *e*P **P 22 42 24.2 -1.2**
15nm,1.1s
DUB01 Friburgo-RJ 40.67 117 *e*P **P 22 42 26.6 0.0**
KMSC Kings Mountain 40.68 360 *e*P **P 22 42 27.5 +1.2**
9.9nm,0.9s
KMSC Kings Mountain 40.68 360 P **P 22 42 26.4 +0.1**
baz=179
W53A Cullowhee 40.76 357 P **P 22 42 27.8 +0.6**
baz=176
SJMB Sao Joao De Ma 40.85 112 *e*P **P 22 42 27.0 -1.0**
TXAR Lajitas Array 41.14 329 P **P 22 42 31.0 +0.6**
0.3nm,0.6s,baz=146,slow=9.7,SNR=2.6
TXAR LR LR 22 58 40.7
comp=Z,486nm,18.1s,baz=0.0,slow=35
LPIG La Paz 41.21 317 LR LR 22 55 42.0
comp=Z,162nm,20.7s,baz=194,slow=30
V52A Sevierville 41.45 357 *e*P **P 22 42 31.6 -1.1**
12nm,0.9s
RIB01 Linhares ES 41.72 113 *e*P **P 22 42 34.0 -1.2**
ALF01 Guarapari-ES 41.74 115 *e*P **P 22 42 34.9 -0.4**
MIAR Mount Ida 41.81 344 *e*P **P 22 42 34.4 -1.3**
6.5nm,1.0s
MIAR Mount Ida 41.81 344 P **P 22 42 36.9 +1.3**
baz=161
W41B Gary Mavity, V 42.07 346 P **P 22 42 39.1 +1.4**
baz=163
X37A Clayton 42.37 342 *e*P **P 22 42 41.9 +1.7**
15nm,0.9s
W39A Magazine 42.48 344 *e*P **P 22 42 41.0 -0.1**
6.9nm,0.9s
W39A Magazine 42.48 344 P **P 22 42 43.1 +2.0**
baz=161
V42A Cord 42.48 347 P **P 22 42 41.0 -0.1**
baz=164
V41A Mountainview 42.63 347 P **P 22 42 42.8 +0.5**
baz=163
T48A Bowling Green 42.94 354 P **P 22 42 45.6 +0.8**
baz=172
U42A Revenden 42.98 348 P **P 22 42 45.8 +0.8**
baz=164
U41A Viola 43.12 347 P **P 22 42 47.0 +0.8**
baz=164
S50A Richmond 43.33 356 P **P 22 42 48.1 +0.2**
baz=175
U40A Yellville 43.34 346 P **P 22 42 49.1 +1.0**
baz=162
T43A Greenville 43.49 349 P **P 22 42 49.8 +0.6**
baz=166
HHAR Hobbs 43.55 345 *e*P **P 22 42 49.2 -0.5**
6.1nm,1.2s
R58B Mineral 43.59 4 P **P 22 42 50.3 +0.3**
baz=184
T42A Van Buren 43.60 348 *e*P **P 22 42 49.1 -1.0**
7.8nm,0.9s
T42A Van Buren 43.60 348 P **P 22 42 49.8 -0.3**
baz=165
WMOK Wichita Mounta 43.64 339 *e*P **P 22 42 51.4 +0.9**
6.3nm,1.0s
WMOK Wichita Mounta 43.64 339 P **P 22 42 51.2 +0.7**
baz=154
TUL1 Leonard 43.72 343 *e*P **P 22 42 50.7 -0.4**
13nm,0.8s
T41A Mountain View 43.75 347 P **P 22 42 52.0 +0.6**
baz=164
R53A Hurricane 43.87 359 P **P 22 42 51.8 -0.5**
baz=178
R51A Hillsboro 43.90 357 P **P 22 42 52.5 +0.1**
baz=176
MNTX Cornudas Mount 43.92 329 *e*P **P 22 42 52.5 -0.3**
0.7nm,0.6s
S43A Fulton Ridge, 43.93 350 P **P 22 42 52.5 -0.2**
baz=166
MSTX Muleshoe 44.57 334 P **P 22 42 59.9 +1.8**
baz=148
CCM Cathedral Cave 44.62 348 P **P 22 42 58.9 +0.7**
baz=165
Q47A Bedord North L 44.75 354 P **P 22 42 59.3 0.0**
baz=172
R42A Luebbering 44.75 349 P **P 22 42 59.8 +0.5**
baz=166
R41A Round 44.88 348 P **P 22 43 01.0 +0.7**
baz=165
AMTX Amarillo 44.89 336 P **P 22 43 01.8 +1.2**
baz=150
Q41A Truxton 45.49 349 P **P 22 43 05.9 +0.7**
baz=165
O41A Passleys Farm, 46.55 350 P **P 22 43 13.3 -0.1**
baz=166
N59A State Game Lan 46.69 5 *e*P **P 22 43 14.6 -0.1**
17nm,1.0s
N59A State Game Lan 46.69 5 P **P 22 43 14.8 +0.2**
baz=187
KSU1 Kansas State U 46.92 343 *e*P **P 22 43 17.2 +0.8**
19nm,0.8s
BINY Binghamton 47.94 5 P **P 22 43 24.5 +0.1**
baz=186
T25A Trinidad 47.96 335 *e*P **P 22 43 26.2 +1.4**
5.8nm,0.9s
T25A Trinidad 47.96 335 P **P 22 43 26.3 +1.4**
baz=148
L42A Oliver, Polo 48.19 351 P **P 22 43 25.7 -0.5**
baz=168
L43A Garden Prairie 48.23 352 P **P 22 43 25.6 -1.0**
baz=169
K48A Perry 48.41 357 P **P 22 43 28.0 +0.1**
baz=175
L40A Anamosa 48.50 350 *e*P **P 22 43 29.1 +0.5**
19nm,1.1s
L40A Anamosa 48.50 350 P **P 22 43 28.6 0.0**
baz=166
SDCO Great Sand Dun 48.94 334 *e*P **P 22 43 33.7 +1.2**
6.7nm,0.9s
SDCO Great Sand Dun 48.94 334 P **P 22 43 34.3 +1.9**
baz=146
K40A Colesburg 49.10 350 P **P 22 43 32.9 -0.3**
baz=166
K39A Oelwein 49.24 349 P **P 22 43 34.7 +0.4**
baz=165
J40A Soldiers Grove 49.71 351 P **P 22 43 37.5 -0.4**
baz=167
I48A Sherman Twp 49.77 357 P **P 22 43 37.3 -1.0**
baz=176
J39A Decorah 49.82 350 P **P 22 43 38.2 -0.5**
baz=166
DELO Deloro Mine 50.13 3 P **P 22 43 39.8 -1.3**
baz=184
I39A Houston 50.29 350 P **P 22 43 41.4 -0.9**
baz=166
H56A Elgin 50.30 4 P **P 22 43 41.3 -1.0**
baz=186
SADO Sadowa 50.32 2 P **P 22 43 40.3 -2.2**
2.7nm,0.5s,baz=225,slow=7.5,SNR=4.7
SADO PcP **PcP 22 44 58.5 -2.4**
5.6nm,0.8s,baz=173,slow=3.6,SNR=4.7
ISCO Idaho Springs 50.71 335 *e*P **P 22 43 47.3 +1.4**
3.8nm,0.9s
ISCO Idaho Springs 50.71 335 P **P 22 43 47.0 +1.1**
baz=147
PV12 Saucer Basin, 50.90 332 *e*P **P 22 43 49.5 +2.2**
G55A Calabogie 50.92 4 P **P 22 43 45.9 -1.1**
baz=185
BUKO Buck Lake 50.99 1 P **P 22 43 46.2 -1.3**
baz=182
ECSD EROS Data Cent 51.25 345 P **P 22 43 48.4 -1.1**
baz=160
G38A Ridgeland 51.62 350 P **P 22 43 51.6 -0.7**
baz=166
SPMN Marine on St. 51.84 349 *e*P **P 22 43 53.5 -0.5**
8.8nm,0.7s
SPMN Marine on St. 51.84 349 P **P 22 43 53.4 -0.5**
baz=165
E51A G1948 Merrick 52.07 1 P **P 22 43 54.2 -1.4**
baz=182
E43A Lone Tree Farm 52.17 355 P **P 22 43 55.9 -0.5**
baz=177
HEC Hector,Ludlow 52.34 323 P **P 22 43 59.9 +2.0**
baz=133
F38A Pierce - Schro 52.39 350 P **P 22 43 57.8 -0.2**
baz=166
E40A Wakefield 52.57 352 P **P 22 43 59.3 0.0**
baz=168
P17A Butcher Ranch, 52.73 331 *e*P **P 22 44 02.9 +2.0**
4.9nm,1.0s
D54A Lac Fusel, La 52.81 4 P **P 22 43 59.4 -1.7**
baz=185
RSSD Black Hills 53.82 340 *e*P **P 22 44 08.9 +0.1**
1.8nm,0.6s
RSSD Black Hills 53.82 340 P **P 22 44 10.3 +1.4**
baz=151
RKT Rikitea 54.73 246 *e*LR LR 23 00 16.0
comp=Z,762nm,28.5s
RKT Rikitea 54.73 246 *e*T T 23 42 51.8
2.0nm,0.3s
PD31 Pinedale Array 54.83 334 *e*P **P 22 44 16.5 +0.3**
PDAR Pinedale Array 54.83 334 P **P 22 44 16.4 +0.3**
2.3nm,0.8s,baz=124,slow=8.3,SNR=16
PDAR LR LR 23 07 45.5
comp=Z,429nm,18.1s,baz=156,slow=36
BW06 Boulder Array 54.83 334 *e*P **P 22 44 16.4 +0.2**
4.2nm,1.1s
BGU Big Grassy Mou 54.97 331 *e*P **P 22 44 18.6 +1.4**
6.3nm,1.2s
AGMN Agassiz Nation 55.39 348 *e*P **P 22 44 19.8 -0.1**
9.2nm,0.6s
OMMB Old Mammoth Mi 55.81 324 *e*P **P 22 44 22.3 -1.2**
1.3nm,1.0s
REDW Red Top Meadow 55.87 334 *e*P **P 22 44 24.7 +1.0**
4.1nm,1.1s
NV01 Mina Array Sit 55.96 325 *e*P **P 22 44 27.0 +2.6**
NVAR Mina Array Bea 55.96 325 P **P 22 44 25.9 +1.4**
1.1nm,0.8s,baz=136,slow=6.5,SNR=5.5
NVAR PcP **PcP 22 45 23.4 +0.7**
1.0nm,0.7s,baz=141,slow=5.8,SNR=3.6
LOHW Long Hollow 55.96 334 *e*P **P 22 44 25.6 +1.3**
3.8nm,1.1s
MOOW Moose Ponds 56.13 334 *e*P **P 22 44 23.7 -1.9**
1.1nm,1.0s
FLWY Flagg Ranch 56.38 335 *e*P **P 22 44 25.9 -1.4**
3.3nm,0.8s
RLMT Red Lodge 56.63 336 *e*P **P 22 44 29.2 +0.1**
2.6nm,0.5s
RLMT Red Lodge 56.63 336 P **P 22 44 29.3 +0.2**
baz=145
YHB Horse Butte 57.13 335 *e*P **P 22 44 32.2 -0.5**
4.7nm,0.8s
ULM Lac du Bonnet 57.25 349 P **P 22 44 32.6 -0.5**
3.7nm,0.8s,baz=167,slow=14,SNR=6.4
ULM PcP **PcP 22 45 25.3 -1.9**
5.1nm,0.8s,baz=148,slow=5.2,SNR=3.7
HLID Hailey 57.64 332 *e*P **P 22 44 37.1 +0.9**
5.5nm,0.8s
HLID Hailey 57.64 332 P **P 22 44 37.6 +1.4**
baz=139
BOZ Bozeman (W) 57.99 335 P **P 22 44 39.5 +0.9**
baz=143
MFID Camas Ranch 58.21 331 *e*P **P 22 44 40.1 -0.1**
11nm,1.1s
DLMT Dillon 58.22 334 *e*P **P 22 44 39.6 -0.6**
5.8nm,1.1s
HRY Holter Researc 58.97 336 *e*P **P 22 44 46.4 +1.0**
MOD Modoc Plateau 59.45 327 *e*P **P 22 44 50.2 +1.4**
9.7nm,0.9s
MSO Missoula 59.95 334 *e*P **P 22 44 53.3 +1.2**
12nm,1.0s
MSO Missoula 59.95 334 P **P 22 44 53.2 +1.2**
baz=141
F10A Beach Ranch, E 60.77 332 *e*P **P 22 44 59.0 +1.2**
8.1nm,0.9s
J05D Fort Rock, OR 60.89 327 P **P 22 45 00.1 +1.5**
baz=132
PINE Pine Mountain 61.08 328 *e*P **P 22 45 04.0 +4.0**
6.8nm,1.0s
G08A Pilot Rock 61.11 330 *e*P **P 22 45 01.5 +1.3**
6.9nm,0.9s
SCHQ Schefferville 61.51 9 P **P 22 45 00.0 -2.4**
2.6nm,0.5s,baz=213,slow=5.6,SNR=8.7
SCHQ LR LR 23 14 54.6
comp=Z,102nm,18.0s,baz=290,slow=39
E09A Wood Farm, Sta 61.60 332 *e*P **P 22 45 04.7 +1.4**
11nm,1.0s
WALA Waterton Lakes 61.68 336 *e*P **P 22 45 05.5 +1.6**
7.8nm,0.8s
K02D Willamette Mer 61.84 325 P **P 22 45 06.7 +1.7**
baz=130
G05D Wamic, OR 62.27 329 P **P 22 45 10.1 +2.4**
baz=133
FCC Fort Churchill 65.16 353 *e*P **P 22 45 26.3 -0.2**
6.5nm,0.6s
PPT Papeete 67.90 253 LR LR 23 08 58.6
comp=Z,252nm,18.1s,baz=31,slow=30
PPT2 Papeete2 67.90 253 *e*S **S 22 54 41.9 -0.3**
82nm,23.2s
PPT2 Papeete2 67.90 253 *e*LR LR 23 06 26.0
comp=Z,608nm,25.5s,baz=91
TBI Tubuai 68.00 247 *e*S **S 22 54 44.4 +1.4**
320nm,32.0s
TBI Tubuai 68.00 247 *e*LR LR 23 06 18.3
comp=Z,276nm,26.0s,baz=81
TBI Tubuai 68.00 247 *e*T T 23 59 31.4
9.2nm,0.2s
YKA Yellowknife Ar 72.75 344 P **P 22 46 13.0 -0.6**
2.1nm,0.8s,baz=135,slow=5.5,SNR=32
LIC Lamto 76.74 82 *e*P **P 22 46 37.4 -0.4**
34nm,1.3s
TIC Toumodi 76.80 82 *e*P **P 22 46 37.9 -0.2**
DBIC Dimbokro 76.96 82 P **P 22 46 37.3 -1.7**
4.1nm,0.7s,baz=263,slow=2.8,SNR=6.1
DBIC LR LR 23 19 20.7
comp=Z,931nm,18.9s,baz=240,slow=35
DBIC Dimbokro 76.96 82 *e*P **P 22 46 40.1 +1.1**
KIC Kosan Boka 77.04 82 *e*P **P 22 46 39.3 -0.2**
37nm,1.3s
VNA3 Neumayer Olymp 78.61 162 P **P 22 46 46.8 -0.4**
VNA2 Neumayer--Watz 79.25 161 P **P 22 46 50.1 -0.5**
baz=287,slow=6.4
SNAA Sanae 80.84 162 P **P 22 46 58.8 -0.5**
SNAA Sanae 80.84 162 *e*P **P 22 46 58.9 -0.5**
8.9nm,0.9s
INK Inuvik 82.38 343 P **P 22 47 07.2 -0.1**
3.9nm,0.8s,baz=148,slow=2.6,SNR=11
INK Inuvik 82.38 343 *e*P **P 22 47 07.5 +0.2**
ESDC Sonseca Array 83.73 49 P **P 22 47 15.4 +0.4**
0.9nm,0.5s,baz=262,slow=5.0,SNR=18
ESDC LR LR 23 22 28.1
comp=Z,122nm,19.4s,baz=235,slow=34
ES19 SONSECA Array 83.78 49 *e*P **P 22 47 15.7 +0.4**
TOA0 Torodi Ar. Sit 84.20 76 *e*P **P 22 47 17.3 -0.5**
TORD Torodi Ar. Bea 84.20 76 P **P 22 47 16.1 -1.7**
4.7nm,0.5s,baz=287,slow=4.7,SNR=58
TORD LR LR 23 24 23.0
comp=Z,726nm,18.8s,baz=290,slow=35
QSPA South Pole Qui 84.33 180 *e*P **P 22 47 17.8 +0.2**
65nm,1.0s
ILAR Eielson Array 85.18 337 P **P 22 47 20.4 -1.3**
0.6nm,0.9s,baz=148,slow=3.3,SNR=6.4
ILAR LR LR 23 26 46.6
comp=Z,178nm,19.5s,baz=135,slow=37
CAST Castle Rocks 86.79 335 *e*P **P 22 47 29.5 -0.3**
9.3nm,1.1s
IM3 Indian Mountai 88.30 337 *e*P **P 22 47 36.4 -0.4**
TAM Tamanrasset 88.99 67 *e*P **P 22 47 41.3 0.0**
2.9nm,1.0s
VNDA Vanda 90.09 191 LR LR 23 20 11.7
comp=Z,99nm,19.4s,baz=112,slow=30
KEST Kesra 93.58 55 LR LR 23 29 47.5
comp=Z,146nm,20.0s,baz=246,slow=35
SYO Syowa Base 95.13 162‖ *e*P pP 22 48 19.0 +0.8
SYO Syowa Base 95.13 162‖ *e*sP sP 22 48 24.0 +2.3
NOA NORSAR Array B 96.06 29 LR LR 23 28 49.3
comp=Z,58nm,20.9s,baz=275,slow=34
DZM Mont Dzumac 108.49 245 *e*PS PS 23 03 11.2 +5.5
977nm,32.2s
DZM Mont Dzumac 108.49 245 *e*LR LR 23 25 11.0
comp=Z,176nm,30.6s
H11N3 WAKE ISLAND Hyl 112.72 289 T T 00 55 42.1
baz=79,slow=74,SNR=56
H11N2 WAKE ISLAND Hyl 112.73 289 T T 00 55 39.1
baz=79,slow=74,SNR=33
H11N1 WAKE ISLAND Hyl 112.74 289 T T 00 55 41.7
baz=79,slow=74,SNR=37
H11S2 WAKE ISLAND Hyl 112.95 288 T T 00 55 56.2
baz=87,slow=71,SNR=93
H11S1 WAKE ISLAND Hyl 112.96 288 T T 00 55 55.4
baz=87,slow=71,SNR=81
H11S3 WAKE ISLAND Hyl 112.97 288 T T 00 55 56.4
baz=87,slow=71,SNR=62
KBZ Khabaz 118.08 43 PKP **PKPdf 22 53 32.0 -0.8**
1.0nm,1.0s,baz=207,slow=6.8,SNR=2.0
ZALV Zalesovo Beam 130.58 11 PKP **PKPdf 22 53 55.5 -0.9**
1.0nm,0.4s,baz=259,slow=2.4,SNR=6.8
ASAR Alice Springs 135.12 228 PKP **PKPdf 22 54 05.6 -0.4**
1.1nm,0.8s,baz=112,slow=1.8,SNR=12
MKAR Makanchi Array 136.64 17 PKP **PKPdf 22 54 07.0 -1.1**
0.4nm,0.5s,baz=298,slow=1.9,SNR=8.9
WRA Warramunga Arr 136.89 233 PKP **PKPdf 22 54 09.0 -0.3**
1.4nm,0.7s,baz=115,slow=1.9,SNR=10
SONM Songino Array 137.60 353 PKhKP PKPpre 22 53 58.7
0.4nm,0.8s,baz=349,slow=1.5,SNR=3.9
KSH Kashi 140.48 28 PKP **PKPdf 22 54 13.5 -2.0**
KSH sPKP 22 54 28.9
KSH PP PP 22 57 21.4 +7.9
KSH AMB AMB
comp=Z,160nm,6.4s
MBWA Marble Bar 146.41 217 *e*PKPdf **PKPab 22 54 27.2 -1.1**
LZH Lanzhou 149.49 352 *e*PKPbc **PKPdf 22 54 30.3 -0.9**
LZH pPKP PKPab 22 54 40.6 +0.2
LZH sPKP 22 54 45.5
XAN Xi'an 150.40 343 *e*PKPdf **PKPdf 22 54 33.2 +0.7**
XAN *e*PKPbc **PKPbc 22 54 37.4 -0.4**
XAN *e*PKPab **pPKPdf 22 54 42.9 +0.4**

IDC ***15*** *22:51:57.7±1.5, 39.52N×20.53E, h0km, mb3.7/4, mb1 3.7/4, mb1mx3.4/33, mbtmp3.7/4, Error ellipse: s-maj=64.7km s-min=25.6km az=129.0*
ATH ***15*** *22:52:00.6, 39.53N×20.48E, h15km±1km, ML2.9/17, Error ellipse: s-maj=1.4km s-min=0.8km az=277.0*
BEO ***15*** *22:52:00.6±0.9, 39.46N×20.35E, h12km±2km, ML2.7/5*
ISCJB ***15*** *22:52:01.1±0.4, 39.55N±0.02×20.43E±0.03, h13km±3km, mb3.6/4, Error ellipse: s-maj=3.8km s-min=2.7km az=158.1*
THE ***15*** *22:52:01.2, 39.53N×20.49E, h8km±1km, ML2.8/6, Error ellipse: s-maj=1.8km s-min=0.6km az=252.0*

ISC 15 22:52:00.6±0.7, 39.53N±0.02×20.47E±0.02, h15km±4km, n95, σ1¶14/125, mb3.7/4, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.10**	**273**	*e*Pg	**Pg**	**22 52 03.9**	**0.0**
IGT				*e*Sg	**Sg**	**22 52 06.1**	**0.0**
IGT	**Igoumenitsa**	**0.10**	**273**	*e*Pg	**Pg**	**22 52 03.9**	**0.0**
IGT				*e*Sg	**Sg**	**22 52 06.1**	**0.0**
IGT	**Igoumenitsa**	**0.10**	**273**	P	**Pg**	**22 52 03.9**	**0.0**
IGT				S	**Sg**	**22 52 06.0**	**0.0**
IGT				AML	AML	22 52 09.1	
	comp=E,13543μm,0.5s						
IGT				AML	AML	22 52 10.6	
	comp=N,12486μm,0.3s						
IGT	**Igoumenitsa**	**0.10**	**273**	P	**Pg**	**22 52 03.9**	**0.0**
IGT				S	**Sg**	**22 52 06.3**	**+0.2**
JAN	**Janina**	**0.32**	**66**	P	**Pg**	**22 52 07.0**	**-0.3**
JAN				S	**Sg**	**22 52 12.2**	**+0.3**
JAN				AML	AML	22 52 13.1	
	comp=N,58318μm,0.2s						
JAN				AML	AML	22 52 13.4	
	comp=E,65579μm,0.2s						
JAN	**Janina**	**0.32**	**66**	P	**Pg**	**22 52 06.9**	**-0.4**
JAN				S	**Sg**	**22 52 12.2**	**+0.3**
KASA	**Kassiopi**	**0.47**	**298**	P	**Pg**	**22 52 10.3**	**+0.4**
KASA				S	**Sb**	**22 52 17.5**	**+0.3**
KASA				AML	AML	22 52 22.0	
	comp=N,4013μm,0.6s						
KASA				AML	AML	22 52 24.7	
	comp=E,4165μm,0.4s						
SRN	**Sarande**	**0.50**	**314**	P	**Pg**	**22 52 10.9**	**+0.3**
SRN				S	**Sg**	**22 52 17.9**	**+0.6**
KEK	**Kerkira**	**0.55**	**290**	P	**Pg**	**22 52 11.8**	**+0.4**
KEK				S	**Sb**	**22 52 19.8**	**+0.2**
KEK				AML	AML	22 52 27.7	
	comp=N,3126μm,0.5s						
KEK				AML	AML	22 52 32.5	
	comp=E,3162μm,0.7s						
KEK	**Kerkira**	**0.55**	**290**	P	**Pg**	**22 52 11.6**	**+0.2**
KEK				S	**Sb**	**22 52 20.5**	**+0.9**
TSLK	**Tsoukalades, L**	**0.72**	**168**	P	**Pg**	**22 52 14.2**	**-0.3**
TSLK				S	**Sb**	**22 52 24.6**	**+0.2**
TSLK				AML	AML	22 52 34.4	
	comp=N,1388μm,0.5s						
TSLK				AML	AML	22 52 35.2	
	comp=E,1346μm,0.5s						
LKD2	**Lefkada island**	**0.75**	**169**	P	**Pg**	**22 52 14.5**	**-0.7**
LKD2				S	**Sb**	**22 52 26.4**	**+0.9**
LKD2				AML	AML	22 52 33.3	
	comp=E,1362μm,0.4s						
LKD2				AML	AML	22 52 33.7	
	comp=N,1189μm,0.4s						
LKD2	**Lefkada island**	**0.75**	**169**	P	**Pg**	**22 52 14.9**	**-0.3**
LKD2				S	**Sb**	**22 52 26.3**	**+0.8**
TPE	**Tepelena**	**0.84**	**336**	P	**Pb**	**22 52 17.5**	**+0.5**
PENT	**Pentalofos**	**0.84**	**38**	P	**Pg**	**22 52 16.4**	**-0.6**
EVGI	**Lefkada island**	**0.92**	**171**	P	**Pg**	**22 52 17.2**	**-1.1**
EVGI	**Lefkada island**	**0.92**	**171**	P	**Pg**	**22 52 18.2**	**-0.1**
NEST	**Nestorio**	**0.99**	**27**	P	**Pg**	**22 52 19.4**	**-0.5**
NEST				AML	AML	22 52 42.3	
	comp=E,993μm,0.3s						
NEST				AML	AML	22 52 42.7	
	comp=N,757μm,0.5s						
NEST	**Nestorio**	**0.99**	**27**	P	**Pg**	**22 52 19.3**	**-0.5**
PDO	**Prodromos**	**1.08**	**149**	P	**Pb**	**22 52 20.6**	**-0.5**
PDO				S	**Sn**	**22 52 36.6**	**+0.6**
PDO				AML	AML	22 52 40.1	
	comp=E,2380μm,0.7s						
PDO				AML	AML	22 52 44.1	
	comp=N,2681μm,0.4s						
PDO	**Prodromos**	**1.08**	**149**	P	**Pb**	**22 52 21.0**	**0.0**
PDO				S	**Sn**	**22 52 37.4**	**+1.4**
THL	**Klokotos Trika**	**1.20**	**88**	P	**Pn**	**22 52 22.3**	**-0.5**
THL				S	**Sn**	**22 52 39.6**	**+0.8**
THL				AML	AML	22 52 45.8	
	comp=E,652μm,0.5s						
THL				AML	AML	22 52 46.9	
	comp=N,596μm,0.6s						
THL	**Klokotos Trika**	**1.20**	**88**	P	**Pn**	**22 52 22.3**	**-0.5**
EVR	**Evrytania**	**1.21**	**120**	P	**Pn**	**22 52 22.9**	**-0.1**
EVR				AML	AML	22 52 45.5	
	comp=E,1297μm,0.5s						
EVR				AML	AML	22 52 45.5	
	comp=N,1088μm,0.5s						
EVR	**Evrytania**	**1.21**	**120**	P	**Pn**	**22 52 22.6**	**-0.5**
PVO	**Paravola**	**1.23**	**137**	P	**Pg**	**22 52 24.7**	**+0.5**
PVO				S	**Sg**	**22 52 40.7**	**+0.5**
PVO				AML	AML	22 52 47.5	
	comp=N,1427μm,0.6s						
PVO				AML	AML	22 52 47.7	
	comp=E,1217μm,0.9s						
PVO	**Paravola**	**1.23**	**137**	P	**Pg**	**22 52 24.2**	**0.0**
KZN	**Kozani**	**1.27**	**52**	P	**Pn**	**22 52 24.1**	**+0.2**
KZN				AML	AML	22 52 49.4	
	comp=N,649μm,0.5s						
KZN				AML	AML	22 52 50.5	
	comp=E,882μm,0.4s						
KZN	**Kozani**	**1.27**	**52**	P	**Pn**	**22 52 24.1**	**+0.2**
VLS	**Valsamata**	**1.35**	**176**	P	**Pb**	**22 52 25.8**	**+0.2**
VLS				S	**Sg**	**22 52 45.3**	**+1.1**
VLS				AML	AML	22 52 53.6	
	comp=E,560μm,0.5s						
VLS				AML	AML	22 52 59.2	
	comp=N,716μm,0.4s						
FNA	**Florina**	**1.44**	**29**	P	**Pb**	**22 52 26.9**	**-0.1**
FNA				S	**Sg**	**22 52 47.3**	**+0.5**
FNA				AML	AML	22 52 51.0	
	comp=E,1244μm,0.4s						
FNA				AML	AML	22 52 51.5	
	comp=N,1142μm,0.4s						
FNA	**Florina**	**1.44**	**29**	P	**Pb**	**22 52 27.1**	**0.0**
AGG	**Agios Georgios**	**1.53**	**109**	P	**Pb**	**22 52 28.4**	**-0.3**
AGG				AML	AML	22 52 54.5	
	comp=E,947μm,0.7s						
AGG				AML	AML	22 52 56.5	
	comp=N,1187μm,0.4s						
AGG	**Agios Georgios**	**1.53**	**109**	P	**Pb**	**22 52 28.6**	**-0.1**
EFP	**Efpalio**	**1.57**	**134**	P	**Pg**	**22 52 30.7**	**0.0**
OHR	**Ohrid**	**1.60**	**9**	*i* Pn	**Pg**	**22 52 33.1**	**+1.7**
BIA	**Bitola**	**1.63**	**23**	*i* Pn	**Pb**	**22 52 30.6**	**+0.2**
LIT	**Litokhoron**	**1.66**	**69**	P	**Pb**	**22 52 30.7**	**-0.2**
LIT				AML	AML	22 52 58.5	
	comp=E,640μm,0.3s						
LIT				AML	AML	22 52 59.2	
	comp=N,970μm,0.4s						
LIT	**Litokhoron**	**1.66**	**69**	P	**Pb**	**22 52 30.7**	**-0.2**
TRIZ	**Trizonia**	**1.71**	**132**	P	**Pg**	**22 52 32.8**	**-0.6**
KALE	**Kalithea**	**1.73**	**131**	P	**Pg**	**22 52 32.9**	**-0.9**
KALE				AML	AML	22 53 07.2	
	comp=E,417μm,0.4s						
KALE				AML	AML	22 53 07.9	
	comp=N,560μm,0.6s						
LAKA	**Lakka**	**1.75**	**137**	P	**Pg**	**22 52 33.2**	**-0.9**
DRO	**Drossia**	**1.85**	**148**	P	**Pb**	**22 52 34.1**	**-0.1**
FYTO	**Fytoko, Volos**	**1.92**	**93**	P	**Pb**	**22 52 34.5**	**-0.7**
KRUS	**Krusevo**	**1.93**	**18**	*i* Pn	**Pb**	**22 52 36.7**	**+1.1**
DSF	**Desfina**	**1.96**	**124**	P	**Pb**	**22 52 35.8**	**-0.1**
KLV	**Kalavryta, Ach**	**1.98**	**138**	P	**Pb**	**22 52 36.4**	**0.0**
GRG	**Griva**	**2.06**	**45**	P	**Pb**	**22 52 37.0**	**-0.6**
XOR	**Xorichti**	**2.12**	**94**	P	**Pb**	**22 52 38.3**	**-0.4**
NEO	**Neokhori**	**2.15**	**95**	P	**Pb**	**22 52 37.8**	**-1.3**
GUR	**Goura**	**2.16**	**137**	P	**Pn**	**22 52 37.7**	**+1.6**
THE	**Thessaloniki**	**2.21**	**59**	P	**Pn**	**22 52 38.2**	**+1.4**
PROD	**Prodromos**	**2.28**	**123**	P	**Pn**	**22 52 39.5**	**+1.7**
VAY	**Valandovo**	**2.41**	**41**	*e*Pn	**Pn**	**22 52 41.2**	**+1.8**
VAY				*e*Sn	**Sb**	**22 53 12.5**	**-0.6**
VAY	**Valandovo**	**2.41**	**41**	*e*Pn	**Pn**	**22 52 41.2**	**+1.8**
VAY				*e*Sn	**Sb**	**22 53 12.5**	**-0.6**
PLG	**Polygyros**	**2.44**	**69**	P	**Pn**	**22 52 41.5**	**+1.6**
KNT	**Kendrikon**	**2.47**	**48**	P	**Pn**	**22 52 41.9**	**+1.5**
PAIG	**Paliouri**	**2.51**	**80**	P	**Pn**	**22 52 42.2**	**+1.3**
STIP	**Stip**	**2.53**	**31**	*i* Pn	**Pb**	**22 52 45.8**	**+0.1**
SKO	**Skopje**	**2.55**	**17**	*e*Pn	**Pb**	**22 52 44.0**	**-2.1**
SKO				*e*Sn	**Sb**	**22 53 15.5**	**-1.8**
SKO	**Skopje**	**2.55**	**17**	*e*Pn	**Pb**	**22 52 44.0**	**-2.1**
SKO				*e*Sn	**Sb**	**22 53 15.5**	**-1.8**
SKO	**Skopje**	**2.55**	**17**	*i* Pn	**Pb**	**22 52 45.9**	**-0.2**
VIL2	**Platees**	**2.55**	**120**	P	**Pb**	**22 52 44.0**	**-2.1**
SOH	**Sokhos**	**2.56**	**59**	P	**Pn**	**22 52 43.8**	**+2.2**
SRS	**Serrai**	**2.87**	**55**	*e*Pn	**Pn**	**22 52 47.7**	**+1.9**
SRS				*e*Sn	**Sn**	**22 53 23.1**	**+3.0**
SRS	**Serrai**	**2.87**	**55**	*e*Pn	**Pn**	**22 52 47.7**	**+1.9**
SRS				*e*Sn	**Sn**	**22 53 23.1**	**+3.0**
SRS	**Serrai**	**2.87**	**55**	P	**Pn**	**22 52 47.7**	**+1.9**
EREA	**Eretria**	**2.92**	**111**	P	**Pn**	**22 52 48.8**	**+2.3**
VLY	**Voula,Athens**	**3.09**	**122**	P	**Pn**	**22 52 50.9**	**+2.0**
NVR	**Nevrokopi**	**3.17**	**54**	P	**Pn**	**22 52 51.7**	**+1.8**
BARS	**Barje**	**3.44**	**17**	*e*Pn	**Pn**	**22 52 55.3**	**+1.6**
BARS	**Barje**	**3.44**	**17**	*e*Pn	**Pn**	**22 52 55.3**	**+1.6**
VTS	**Vitosha**	**3.70**	**33**	*e*Pn	**Pn**	**22 52 59.1**	**+1.8**
VTS				*e*Sn	**Sn**	**22 53 42.4**	**+1.7**
VTS	**Vitosha**	**3.70**	**33**	*e*Pn	**Pn**	**22 52 59.1**	**+1.8**
VTS				*e*Sn	**Sn**	**22 53 42.4**	**+1.7**
SELS	**Selova**	**3.72**	**7**	*e*Pn	**Pn**	**22 52 59.0**	**+1.5**
SELS	**Selova**	**3.72**	**7**	*e*Pn	**Pn**	**22 52 59.0**	**+1.5**
STON	**Ston**	**3.94**	**329**	*e*Pn	**Pn**	**22 53 01.1**	**+0.6**
STON				Sn	**Sn**	**22 53 45.2**	**-1.2**
IVAS	**Ivanjica**	**4.05**	**357**	*e*Pn	**Pn**	**22 53 03.3**	**+1.2**
IVAS	**Ivanjica**	**4.05**	**357**	*e*Pn	**Pn**	**22 53 03.3**	**+1.2**
ZAPS	**Zavoj**	**4.08**	**23**	*e*Pn	**Pn**	**22 53 03.4**	**+0.9**
ZAPS	**Zavoj**	**4.08**	**23**	*e*Pn	**Pn**	**22 53 03.4**	**+0.9**
BOVS	**Bovan**	**4.21**	**12**	*e*Pn	**Pn**	**22 53 05.5**	**+1.3**
BOVS	**Bovan**	**4.21**	**12**	*e*Pn	**Pn**	**22 53 05.5**	**+1.3**
GRUS	**Gruza**	**4.36**	**2**	*e*Pn	**Pn**	**22 53 06.8**	**+0.5**
GRUS	**Gruza**	**4.36**	**2**	*e*Pn	**Pn**	**22 53 06.8**	**+0.5**
DIVS	**Divibare**	**4.58**	**356**	*e*Pn	**Pn**	**22 53 10.1**	**+0.7**
DIVS	**Divibare**	**4.58**	**356**	*e*Pn	**Pn**	**22 53 10.1**	**+0.7**
HAPS	**Han Pijesak,Bl**	**4.69**	**347**	*e*Pn	**Pn**	**22 53 11.5**	**+0.5**
HAPS	**Han Pijesak,Bl**	**4.69**	**347**	*e*Pn	**Pn**	**22 53 11.5**	**+0.5**
UDBI	**Udbina**	**6.10**	**327**	*e*Pn	**Pn**	**22 53 30.9**	**+0.6**
UDBI				Sn	**Sn**	**22 54 38.6**	**-1.2**
NVLJ	**Novalja**	**6.53**	**322**	*e*Pn	**Pn**	**22 53 36.7**	**+0.6**
NVLJ				Sn	**Sn**	**22 54 47.0**	**-3.3**
FINES	**FINESS Array B**	**22.21**	**7**	P	**P**	**22 56 55.5**	**-0.7**
	comp=N,1.9nm,0.8s,baz=181,slow=11,SNR=4.0						
TORD	**Torodi Ar. Bea**	**31.06**	**217**	P	**P**	**22 58 17.7**	**-0.5**
	comp=N,0.3nm,0.5s,baz=31,slow=8.5,SNR=5.7						
MKAR	**Makanchi Array**	**44.64**	**60**	P	**P**	**23 00 11.7**	**-0.8**
	comp=N,0.9nm,0.4s,baz=277,slow=7.4,SNR=32						
ZALV	**Zalesovo Beam**	**44.83**	**49**	P	**P**	**23 00 12.6**	**-1.2**
	comp=N,0.5nm,0.3s,baz=285,slow=8.8,SNR=3.0						

ISCJB ***15*** *22:53:18.8±0.4, 60.32N±0.03×153.31W±0.08, h170km±4km, mb3.4/2, Error ellipse: s-maj=7.5km s-min=4.5km az=31.1*
IDC ***15*** *22:53:18.1±1.8, 60.29N×153.63W, h149km±28km, mb3.2/2, mb1 3.1/6, mb1mx2.9/43, mbtmp3.5/6, Error ellipse: s-maj=39.1km s-min=18.6km az=112.0*
NEIC ***15*** *22:53:20.9±0.0, 60.31N×153.29W, h164km, ML3.1(AEIC), After AEIC.*

ISC 15 22:53:19.5±0.9, 60.31N±0.04×153.31W±0.05, h169km±6km, n69, σ0¶99/76, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILW	**Iliamna West**	**0.27**	**161**	P	**Pn**	**22 53 42.5**	**+0.1**
RDWB	**Redoubt West**	**0.29**	**53**	P	**Pn**	**22 53 42.4**	**0.0**
RDWB				S	**Sn**	**22 53 59.0**	**-1.1**
ILIM	**Iliamna**	**0.29**	**143**	P	**Pn**	**22 53 42.5**	**+0.1**
IVE	**Iliamna Volcan**	**0.33**	**154**	P	**Pn**	**22 53 42.6**	**+0.1**
RDN	**Redoubt North**	**0.34**	**53**	P	**Pn**	**22 53 42.6**	**+0.1**
RDJH	**Redoubt Jeurge**	**0.37**	**42**	P	**Pn**	**22 53 42.8**	**+0.2**
RDJH				S	**Sn**	**22 53 59.9**	**-0.5**
ILS	**Iliamna Low So**	**0.38**	**161**	P	**Pn**	**22 53 42.5**	**-0.2**
DFR	**Drift River**	**0.41**	**48**	P	**Pn**	**22 53 42.7**	**0.0**
RDT	**Redoubt**	**0.52**	**59**	P	**Pn**	**22 53 43.2**	**+0.1**
AUL	**Augustine Lava**	**0.94**	**184**	P	**Pn**	**22 53 46.0**	**+0.5**
AUL				S	**Sn**	**22 54 05.5**	**-0.1**
AUW	**Augustine West**	**0.95**	**185**	P	**Pn**	**22 53 46.2**	**+0.5**
AUE	**Augustine Isla**	**0.96**	**182**	P	**Pn**	**22 53 46.0**	**+0.3**
SPWE	**Spurr West**	**1.03**	**21**	P	**Pn**	**22 53 47.0**	**+0.7**
CKT	**Bend**	**1.04**	**31**	P	**Pn**	**22 53 47.0**	**+0.6**
SPNN	**North Nagishla**	**1.10**	**15**	P	**Pn**	**22 53 47.5**	**+0.5**
SPNN				S	**Sn**	**22 54 07.6**	**-0.7**
BRLK	**Bradley Lake**	**1.33**	**113**	P	**Pn**	**22 53 49.1**	**+0.2**
BRLK				S	**Sn**	**22 54 10.6**	**-1.0**
SVW2	**Sparrevohn**	**1.37**	**306**	P	**Pn**	**22 53 48.4**	**-0.8**
FONW	**Fourpeaked Sta**	**1.52**	**192**	P	**Pn**	**22 53 50.9**	**+0.1**
SLKM	**Skilak Lake**	**1.54**	**81**	P	**Pn**	**22 53 50.6**	**-0.3**
RC01	**Rabbit Creek A**	**1.92**	**65**	P	**Pn**	**22 53 54.5**	**-0.3**
KAHG	**Katmai Hook Gl**	**1.93**	**200**	P	**Pn**	**22 53 55.2**	**+0.1**
SEW	**Seward**	**1.94**	**95**	P	**Pn**	**22 53 55.1**	**+0.1**
KABR	**Katmai Barrier**	**2.35**	**202**	P	**Pn**	**22 53 59.8**	**0.0**
ANCK	**Angle Creek**	**2.40**	**209**	P	**Pn**	**22 54 00.6**	**+0.2**
PMR	**Palmer**	**2.41**	**56**	P	**Pn**	**22 53 59.6**	**-0.7**
CAHL	**Cahill**	**2.49**	**205**	P	**Pn**	**22 54 01.6**	**+0.2**
PWL	**Port Wells**	**2.51**	**75**	P	**Pn**	**22 54 00.9**	**-0.7**
KJL	**Kejulik**	**2.55**	**208**	P	**Pn**	**22 54 02.6**	**+0.5**
KDAK	**Kodiak Island**	**2.57**	**171**	P	**Pn**	**22 54 00.9**	**-1.3**
	5.1nm,0.3s,baz=22,slow=9.4,SNR=29						
KDAK				S	**Sn**	**22 54 32.5**	**-2.9**
	21nm,0.3s,baz=308,slow=19,SNR=13						
KDAK	**Kodiak Island**	**2.57**	**171**	*e*Pn	**Pn**	**22 54 00.9**	**-1.3**
KDAK				*e*S	Sn	22 54 23.4	-12
GHO	**Glory Hole Cre**	**2.59**	**54**	P	**Pn**	**22 54 02.0**	**-0.5**
KNK	**Knik Glacier**	**2.62**	**63**	P	**Pn**	**22 54 02.3**	**-0.6**
PPLA	**Purkeypile**	**2.65**	**11**	P	**Pn**	**22 54 04.5**	**+1.2**
SML	**Sawmill**	**2.84**	**56**	P	**Pn**	**22 54 05.1**	**-0.5**
TT01	**Tatalina**	**2.91**	**335**	P	**Pn**	**22 54 06.0**	**-0.4**
PLK2	**Peulik 2**	**3.00**	**213**	P	**Pn**	**22 54 07.8**	**+0.3**
CAST	**Castle Rocks**	**3.17**	**10**	P	**Pn**	**22 54 10.3**	**+0.7**
SCM	**Sheep Creek Mo**	**3.28**	**60**	P	**Pn**	**22 54 10.7**	**-0.4**
TRF	**Thorofare Moun**	**3.46**	**23**	P	**Pn**	**22 54 13.5**	**+0.2**
RND	**Reindeer**	**3.75**	**32**	P	**Pn**	**22 54 17.1**	**+0.1**
DIV	**Divide**	**3.79**	**74**	P	**Pn**	**22 54 17.4**	**-0.2**
KLU	**Klutina**	**3.80**	**69**	P	**Pn**	**22 54 17.4**	**-0.2**
BPAW	**Bear Paw Mtn.**	**3.95**	**15**	P	**Pn**	**22 54 19.3**	**-0.2**
DHY	**Denali Highway**	**3.96**	**43**	P	**Pn**	**22 54 19.8**	**+0.1**
MCK	**McKinley**	**4.00**	**29**	P	**Pn**	**22 54 20.3**	**+0.2**
SGAM	**Sherman Glacie**	**4.02**	**84**	P	**Pn**	**22 54 21.1**	**+0.7**
ANNE	**Aniakchak Nort**	**4.22**	**218**	P	**Pn**	**22 54 22.9**	**-0.2**
BWN	**Browne**	**4.27**	**23**	P	**Pn**	**22 54 24.0**	**+0.4**
BMRM	**Bremner River**	**4.34**	**78**	P	**Pn**	**22 54 24.5**	**0.0**
HARP	**HAARP**	**4.45**	**58**	P	**Pn**	**22 54 27.3**	**+1.3**
PAX	**Paxson**	**4.59**	**51**	P	**Pn**	**22 54 28.4**	**+0.6**
NICHA	**Nichawak Mount**	**4.65**	**87**	P	**Pn**	**22 54 28.9**	**+0.3**
NEA	**Nenana**	**4.71**	**23**	P	**Pn**	**22 54 28.9**	**-0.3**
WRH	**Wood River Hil**	**4.83**	**28**	P	**Pn**	**22 54 30.5**	**-0.3**
CHGN	**Chignik**	**4.84**	**216**	P	**Pn**	**22 54 30.1**	**-0.9**
MLY	**Manley**	**4.88**	**13**	P	**Pn**	**22 54 31.1**	**-0.4**
MCARA	**McCarthy VSAT**	**5.14**	**74**	P	**Pn**	**22 54 35.5**	**+1.0**
PS08	**TAPS Pump Stn8**	**5.20**	**33**	P	**Pn**	**22 54 35.9**	**+0.2**
RIDG	**Independ'e Rid**	**5.26**	**46**	P	**Pn**	**22 54 37.5**	**+1.0**
ILAR	**Eielson Array**	**5.37**	**31**	P	**Pn**	**22 54 37.6**	**-0.2**
	3.3nm,0.3s,baz=216,slow=14,SNR=101						
ILAR				S	**Sn**	**22 55 33.9**	**-5.5**
	1.8nm,0.3s,baz=218,slow=23,SNR=9.6						
MESA	**MESA**	**5.66**	**86**	P	**Pn**	**22 54 43.1**	**+1.2**
IM3	**Indian Mountai**	**5.70**	**358**	P	**Pn**	**22 54 42.8**	**+0.7**
SCRK	**Sand Creek**	**5.71**	**46**	P	**Pn**	**22 54 42.7**	**+0.3**
EGAK	**Eagle**	**7.18**	**46**	*e*Pn	**Pn**	**22 55 02.4**	**+0.7**
INK	**Inuvik**	**11.68**	**38**	P	**Pn**	**22 56 00.3**	**-0.5**
	0.1nm,0.3s,baz=231,slow=12,SNR=4.1						
INK	**Inuvik**	**11.68**	**38**	*e*Pn	**Pn**	**22 56 02.3**	**+1.5**
YKA	**Yellowknife Ar**	**18.46**	**66**	P	**P**	**22 57 24.5**	**+2.5**
	0.1nm,0.3s,baz=278,slow=10,SNR=5.5						
FINES	**FINESS Array B**	**58.57**	**0**	P	**P**	**23 02 58.5**	**+0.9**
	1.8nm,1.1s,baz=18,slow=6.5,SNR=3.8						
MKAR	**Makanchi Array**	**64.09**	**321**	P	**P**	**23 03 35.0**	**0.0**
	0.1nm,0.4s,baz=42,slow=6.8,SNR=5.8						

DJA 15 23:01:46.8±0.5, 0°S±4°×12°3E±°, h161km±5km, M3.6/9, MLv3.6/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.05**	**198**	P	Pn	23 02 13.4	+0.3
LUWI				S	Sn	23 02 34.2	+0.9
KMSI	**Cibinong**	**1.07**	**56**	P	Pn	23 02 13.9	+0.7
MRSI	**Marisa**	**1.25**	**294**	P	Pn	23 02 15.1	+0.3
MRSI				S	Sn	23 02 36.1	-0.2
APSI	**Ampana**	**1.69**	**239**	P	Pn	23 02 19.6	+0.5
APSI				S	Sn	23 02 44.5	+0.5
MPSI	**Mapaga**	**3.21**	**277**	P	Pn	23 02 37.2	-0.1
MPSI				S	Sn	23 03 16.4	-0.1
PCI	**Palu**	**3.37**	**255**	P	Pn	23 02 40.0	+0.7
SANI	**Sanana**	**3.52**	**125**	P	Pn	23 02 39.9	-1.3
TTSI	**Tana Toraja**	**4.43**	**227**	P	Pn	23 02 53.8	+0.8

HEL ***15*** *23:07:30.8, 67.18N×20.63E, h0km, ML1.4, Explosion*

UPP 15 23:07:30.5±0.1, 67.19N×20.69E, h0km, ML1.8, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.09**	**214**	P	Pg	23 07 32.4	+0.2
DUNU				S	Sg	23 07 33.0	-0.2
DUNU	**Dundret**	**0.09**	**214**	*i* P	Pg	23 07 32.4	+0.2
DUNU				*i* S	Sg	23 07 33.0	-0.2
RATU	**Laukkuluspa**	**0.76**	**327**	P	Pg	23 07 44.8	-0.3
RATU				S	Sg	23 07 54.8	-0.2
RATU	**Laukkuluspa**	**0.76**	**327**	*i* P	Pg	23 07 44.8	-0.3
RATU				*i* S	Sg	23 07 54.8	-0.2
KUA	**Kurravaara**	**0.78**	**350**	P	Pg	23 07 45.0	-0.4
KUA				S	Sg	23 07 55.7	+0.3
KUA	**Kurravaara**	**0.78**	**350**	*i* P	Pg	23 07 45.0	-0.4
KUA				*i* S	Sg	23 07 55.7	+0.3
SALU	**Saltoluokta**	**0.87**	**284**	P	Pg	23 07 46.7	-0.4
SALU				S	Sg	23 07 57.8	-0.5
SALU	**Saltoluokta**	**0.87**	**284**	*i* P	Pg	23 07 46.7	-0.4
SALU				*i* S	Sg	23 07 57.8	-0.5
ERTU	**Ertsjaerv**	**0.87**	**137**	P	Pg	23 07 46.6	-0.6
ERTU				S	Sg	23 07 58.4	-0.1
ERTU	**Ertsjaerv**	**0.87**	**137**	*e*P	Pg	23 07 46.4	-0.7
	baz=317						
ERTU				*e*S	Sg	23 07 58.3	-0.2
NIKU	**Nikkaluokta**	**0.93**	**318**	P	Pg	23 07 47.7	-0.5
NIKU	**Nikkaluokta**	**0.93**	**318**	*e*P	Pg	23 07 47.7	-0.5
PAJU	**Pajala**	**0.96**	**99**	P	Pg	23 07 48.5	-0.4
PAJU				S	Sg	23 08 01.6	+0.2
PAJU	**Pajala**	**0.96**	**99**	*e*P	Pg	23 07 48.5	-0.4
PAJU				*e*S	Sg	23 08 01.6	+0.2
LANU	**Lannavaara**	**0.99**	**29**	P	Pg	23 07 49.1	-0.5
LANU	**Lannavaara**	**0.99**	**29**	*e*P	Pg	23 07 49.1	-0.4
LANU				*e*S	Sg	23 08 02.4	0.0
HARU	**Harads**	**1.04**	**174**	P	Pg	23 07 49.6	-0.8
HARU				S	Sg	23 08 03.9	+0.1
HARU	**Harads**	**1.04**	**174**	*e*P	Pg	23 07 49.6	-0.8
HARU				*e*S	Sg	23 08 03.9	+0.1
HEF	**Hetta**	**1.66**	**41**	*e*P	Pn	23 08 00.9	0.0
HEF				MSG		23 08 21.1	
	comp=Z,1.9nm,0.2s						
HEF				*e*SG	Sn	23 08 22.7	-0.1
KALU	**Kalix**	**1.71**	**140**	P	Pn	23 08 01.6	+0.1
KALU	**Kalix**	**1.71**	**140**	*e*PG	Pn	23 08 01.7	+0.3
	baz=320						
SJUU	**Sjulsmark**	**1.73**	**167**	P	Pn	23 08 01.8	+0.1
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P	Pn	23 08 01.8	+0.1
KIF	**Kilpisjarvi**	**1.82**	**1**	*e*PN	Pb	23 08 04.2	-0.4
	baz=181						
KIF				MSG		23 08 26.5	
	comp=Z,2.8nm,0.2s						
KIF				*e*SG	Sg	23 08 29.1	+0.1
TOF	**Tornio**	**1.83**	**126**	*e*PG	Pn	23 08 03.9

comp=Z,535nm,0.2s
MLSB Milas 1.70 322 PN **Pn** **23 45 14.7 -0.3**
BODT Bodrum 1.81 308 PN **Pn** **23 45 16.5 0.0**
BRDR BURDUR-Merkez 1.91 24 *i* P **Pb** **23 45 20.9 0.0**
BRDR *i* S **Sb** **23 45 48.0 +3.8**
BRDR IAML_P
comp=Z,444nm,0.3s
AYDN Tasoluk 1.96 331 *i* P **Pb** **23 45 20.4 -1.3**
AYDN *i* S **Sb** **23 45 44.3 -1.5**
AYDN IAML_P
comp=Z,192nm,0.1s
AYDB Zeytinkoy-Aydi 2.21 335 PN **Pn** **23 45 21.6 -0.5**
GCAM G?zelcaml? 2.29 320 PN **Pn** **23 45 23.0 -0.1**

UCR 15 23:52:56.9±1.4, 11°17N×85°96W, h108km±7km, MD3.7, 2C-2D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS3	**Finca Las Img**	**0.63**	**128**	*i* P	Pn	23 53 14.5	0.0
GB1A	**Borinquen Arri**	**0.65**	**122**	*e*P	Pn	23 53 14.9	+0.1
GB1A				*e*S	Sn	23 53 30.5	+2.3
LAPC	**Finca la Perla**	**0.65**	**128**	*i* P	Pn	23 53 14.5	-0.2
LAPC				*i* S	Sn	23 53 27.8	-0.3
BUEV	**Buena Vista**	**0.66**	**124**	*i* P	Pn	23 53 14.9	+0.1
BUEV				*e*S	Sn	23 53 29.1	+0.9
NY14	**Universidad de**	**0.67**	**141**	*i* P	Pn	23 53 15.5	+0.7
NY14				*i* S	Sn	23 53 29.3	+1.1
BUAI	**Buenos Aires**	**0.68**	**115**	*i* P	Pn	23 53 14.8	-0.1
GPS3	**Bodega del ICE**	**0.71**	**125**	*i* P	Pn	23 53 15.3	+0.1
GPS3				*i* S	Sn	23 53 29.2	+0.2
GPS1	**Guardaparques**	**0.72**	**123**	*i* P	Pn	23 53 15.3	0.0
LIM1	**Limonal**	**0.84**	**124**	*i* P	Pn	23 53 16.4	0.0
MESS	**Mesas**	**0.86**	**119**	*i* P	Pn	23 53 16.5	-0.2
MESS				⇓*e*P		23 53 16.6	
MESS				*i* S	Sn	23 53 31.5	+0.1
MESS				*e*S		23 53 31.8	
HORNC	**Hornillas**	**0.89**	**121**	*i* P	Pn	23 53 16.8	-0.1
CUI	**Cuipilapa**	**0.93**	**123**	*i* P	Pn	23 53 17.5	+0.2
CUI				*e*S	Sn	23 53 34.6	+1.9
ACAL	**Aguas Claras**	**1.05**	**120**	*i* P	Pn	23 53 18.8	+0.3
PTEN	**Parque Tenorio**	**1.06**	**115**	*i* P	Pn	23 53 18.6	0.0
JTS	**JuntasAbangare**	**1.32**	**131**	⇓*e*P	Pn	23 53 21.4	-0.1
ARE1	**Arenal 1**	**1.41**	**120**	⇓*e*P	Pn	23 53 23.0	+0.4
ARE1				*e*S	Sn	23 53 42.9	+1.0
CEDE	**Laguna Cedeo**	**1.41**	**119**	*e*P	Pn	23 53 22.9	+0.3
LCR2	**La Lucha 2**	**2.39**	**126**	*e*P	Pn	23 53 36.3	+1.2

*ISCJB **15** 23:58:56.6±0.4, 1°.64S±0°.05×15°.60W±0°.06, h12km, mb4.2/20, MS4.1/22, Error ellipse: s-maj=9.2km s-min=7.4km az=24.7*
*IDC **15** 23:58:56.9±0.7, 1°.57S×15°.65W, h0km, mb4.0/13, mb1 4.1/13, mb1mx3.9/46, mbtmp4.0/13, MS4.0/23, Ms1 4.0/23, ms1mx3.9/31, Error ellipse: s-maj=21.9km s-min=17.3km az=136.0*
*NEIC **15** 23:58:58.2±0.3, 1°.57S×15°.63W, h10km, mb4.6/7, Error ellipse: s-maj=7.3km s-min=6.2km az=103.0*
*GCMT **15** 23:59:03.2±0.2, 1°.27S±0°.01×15°.67W±0°.01, h24km±1km, MW5.0/99, Moment Tensor Solution. s43,c55; s99,c145; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.04±.16; $M_{\theta\theta}$1.72±.13; $M_{\phi\phi}$-1.76±.13; $M_{r\theta}$0.20±.18; $M_{r\phi}$-3.82±.11; $M_{\theta\phi}$0.81±.18; Best double couple: $M_0$4.27800×10^{16} NP1:ϕ_s167.00000°,δ85.00000°,λ-10.00000°. NP2: ϕ_s258.00000°,δ80.00000°,λ-175.00000°. Principal axes: T 4.1950, Plg4.0000°, Azm213.0000°; N 0.1640, Plg79.0000°, Azm323.0000°; P -4.3600, Plg10.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 23:58:58.4±0.5, 1°.56S±0°.08×15°.56W±0°.08, h12km, n59, σ1s51/38, mb4.3/20, MS4.1/22, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**6.32**	**170**	T	T	00 07 12.4	
	baz=350,slow=73,SNR=274						
H10N3	**ASCENSION HYDR**	**6.33**	**170**	T	T	00 07 14.3	
	baz=350,slow=73,SNR=306						
H10N1	**ASCENSION HYDR**	**6.34**	**170**	T	T	00 07 13.2	
	baz=350,slow=73,SNR=278						
ASCN	**Ascension**	**6.45**	**169**	*e*Pn	**Pn**	**00 00 31.9**	**-1.4**
H10S1	**ASCENSION HYDR**	**7.39**	**173**	T	T	00 08 34.5	
	baz=352,slow=74,SNR=142						
H10S3	**ASCENSION HYDR**	**7.40**	**173**	T	T	00 08 35.1	
	baz=352,slow=74,SNR=199						
H10S2	**ASCENSION HYDR**	**7.41**	**173**	T	T	00 08 36.9	
	baz=352,slow=74,SNR=117						
DBIC	**Dimbokro**	**13.45**	**52**	Pn	**Pn**	**00 02 07.0**	**-2.3**
	2.1nm,0.3s,baz=224,slow=13,SNR=28						
DBIC				Sn	Sn	00 04 27.5	-11
	1.9nm,0.3s,baz=290,slow=9.1,SNR=4.5						
DBIC				LR	LR	00 06 19.2	
	comp=Z,1μm,19.1s,baz=210,slow=33						
DBIC	**Dimbokro**	**13.45**	**52**	*e*Pn	**Pn**	**00 02 08.5**	**-0.8**
DBIC				Sn	Sn	00 04 27.5	-11
SACV	**Santiago Islan**	**18.25**	**334**	*e*Sn	**Sn**	**00 06 34.4**	**-1.1**
TOA0	**Torodi Ar. Sit**	**22.51**	**49**	*e*P	**P**	**00 03 58.4**	**+0.2**
TOA0				*e*S	**S**	**00 08 03.1**	**-2.0**
TORD	**Torodi Ar. Bea**	**22.51**	**49**	P	**P**	**00 03 58.2**	**+0.1**
	8.6nm,1.1s,baz=231,slow=10,SNR=19						
TORD				S	**S**	**00 08 00.9**	**-4.2**
	1.6nm,0.6s,baz=249,slow=20,SNR=6.3						
TORD				LR	LR	00 11 52.3	
	comp=Z,857nm,18.1s,baz=270,slow=34						
TOA1	**Torodi Ar. Sit**	**22.51**	**49**	*e*P	**P**	**00 03 58.2**	**0.0**
TOA1				*e*S	**S**	**00 08 00.9**	**-4.2**
BDFB	**Brasilia**	**34.92**	**245**	P	**P**	**00 05 49.3**	**-1.3**
	4.4nm,0.8s,baz=54,slow=14,SNR=6.2						
TSUM	**Tsumeb**	**36.89**	**121**	P	**P**	**00 06 09.4**	**+2.0**
	2.7nm,0.8s,baz=288,slow=7.6,SNR=5.1						
ESDC	**Sonseca Array**	**42.39**	**13**	LR	LR	00 24 58.7	
	comp=Z,305nm,18.8s,baz=180,slow=37						
KEST	**Kesra**	**43.78**	**30**	LR	LR	00 26 16.6	
	comp=Z,345nm,19.4s,baz=180,slow=37						
LSZ	**Lusaka**	**45.26**	**110**	LR	LR	00 22 59.3	
	comp=Z,218nm,21.4s,baz=277,slow=32						
LSZ	**Lusaka**	**45.26**	**110**	*e*P	**P**	**00 07 16.4**	**+0.1**
	1.6nm,0.5s						
LBTB	**Lobatse**	**46.04**	**124**	P	**P**	**00 07 22.9**	**+0.5**
	3.5nm,0.7s,baz=293,slow=7.0,SNR=6.5						
LBTB				LR	LR	00 23 58.6	
	comp=Z,147nm,19.3s,baz=268,slow=33						
LBTB	**Lobatse**	**46.04**	**124**	*e*P	**P**	**00 07 22.9**	**+0.5**
	6.5nm,0.8s						
MBAR	**Mbarara**	**46.30**	**89**	*e*P	**P**	**00 07 25.4**	**+0.7**
	14nm,1.0s						
SIV	**San Ignacio**	**47.07**	**250**	P	**P**	**00 07 30.3**	**-0.3**
	1.6nm,0.9s,baz=90,slow=12,SNR=5.6						
CPUP	**Villa Florida**	**47.08**	**235**	P	**P**	**00 07 30.6**	**+0.1**
	1.4nm,0.8s,baz=84,slow=12,SNR=3.5						
CPUP				LR	LR	00 24 41.8	
	comp=Z,235nm,21.1s,baz=80,slow=33						
CPUP	**Villa Florida**	**47.08**	**235**	*e*P	**P**	**00 07 29.7**	**-0.7**
	6.8nm,1.3s						
BOSA	**Boshof**	**47.31**	**129**	P	**P**	**00 07 32.6**	**+0.2**
	7.2nm,0.8s,baz=301,slow=7.1,SNR=14						
BOSA				LR	LR	00 24 12.0	
	comp=Z,121nm,19.6s,baz=263,slow=32						
H05S1	**Guadeloupe/Mar**	**47.55**	**291**	T	T	00 58 17.6	
	SNR=5.4						
KMBO	**Kilima Mbogo**	**52.80**	**90**	LR	LR	00 28 39.7	
	comp=Z,195nm,19.6s,baz=344,slow=34						
LPAZ	**La Paz**	**53.77**	**251**	LR	LR	00 30 08.0	
	comp=Z,236nm,20.4s,baz=86,slow=35						
LVC	**Limon Verde**	**55.83**	**244**	*e*P	**P**	**00 08 35.9**	**-0.6**
TRQA	**Tornquist**	**55.91**	**224**	*e*P	**P**	**00 08 36.0**	**-0.5**
	4.2nm,1.0s						
GEA0	**GERESS Array S**	**56.22**	**23**	*e*P	**P**	**00 08 39.5**	**+0.9**
GERES	**GERESS Array B**	**56.23**	**23**	P	**P**	**00 08 38.9**	**+0.3**
	0.3nm,0.4s,baz=211,slow=5.5,SNR=4.0						
GERES				LR	LR	00 32 35.9	
	comp=Z,67nm,18.7s,baz=248,slow=36						
BRG	**Berggiesshubel**	**57.97**	**22**	*e*P	P	00 09 02.1	+11
	7.2nm,1.3s						
	comp=N,156nm,12.6s						
	comp=E,124nm,14.6s						
	comp=Z,163nm,18.3s						
BR101	**Keskin Array S**	**60.88**	**42**	*e*P	**P**	**00 09 13.4**	**+2.1**
BR131	**Keskin Array S**	**60.88**	**42**	*e*P	**P**	**00 09 11.9**	**+0.5**
BRTR	**Keskin Array B**	**60.88**	**42**	P	**P**	**00 09 13.4**	**+2.1**
	comp=Z,1.8nm,0.8s,baz=224,slow=6.9,SNR=4.7						
BRTR				LR	LR	00 37 28.9	
	comp=Z,65nm,19.1s,baz=208,slow=38						
PLCA	**Paso Flores**	**63.04**	**224**	LR	LR	00 32 25.9	
	comp=Z,152nm,21.6s,baz=82,slow=32						
KIEV	**Kiev**	**64.50**	**30**	*e*P	**P**	**00 09 35.1**	**+0.1**
	comp=Z,3.6nm,0.8s						
AKASG	**Malin Array Be**	**64.51**	**30**	P	**P**	**00 09 34.7**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=232,slow=6.8,SNR=4.4						
AKASG				LR	LR	00 39 35.7	
	comp=Z,206nm,18.6s,baz=230,slow=38						
AKBB	**Malin Array Si**	**64.51**	**30**	*e*P	**P**	**00 09 34.7**	**-0.4**
	comp=Z,5.8nm,1.1s						
NB2	**NORSAR Subarra**	**65.75**	**14**	P	**P**	**00 09 45.6**	**+2.6**
	comp=Z,12nm,1.7s,baz=209,slow=6.5						
NB200	**NORSAR Array S**	**65.75**	**14**	*e*P	**P**	**00 09 44.0**	**+1.0**
NOA	**NORSAR Array B**	**65.75**	**14**	P	**P**	**00 09 44.0**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=208,slow=6.8,SNR=2.8						
NOA				LR	LR	00 39 07.6	
	comp=Z,115nm,21.0s,baz=210,slow=37						
KIV	**Kislovodsk**	**68.82**	**41**	*e*P	**P**	**00 10 02.5**	**-0.4**
	comp=Z,4.9nm,1.0s						
KBZ	**Khabaz**	**68.87**	**41**	LR	LR	00 42 03.6	
	comp=Z,36nm,20.9s,baz=244,slow=38						
FIA0	**FINESS Array S**	**70.41**	**20**	*e*P	**P**	**00 10 12.5**	**+0.3**
FINES	**FINESS Array B**	**70.41**	**20**	P	**P**	**00 10 12.5**	**+0.3**
	comp=Z,1.8nm,0.9s,baz=197,slow=4.4,SNR=2.9						
FINES				LR	LR	00 43 29.2	
	comp=Z,142nm,18.2s,baz=224,slow=38						
ARA0	**ARCESS Array S**	**76.12**	**14**	*e*P	**P**	**00 10 47.4**	**+1.6**
ARCES	**ARCESS Array B**	**76.12**	**14**	P	**P**	**00 10 47.4**	**+1.6**
	comp=Z,1.9nm,0.9s,baz=208,slow=3.1,SNR=2.8						
GEYT	**Alibeck**	**78.13**	**51**	LR	LR	00 48 00.9	
	comp=Z,109nm,19.9s,baz=60,slow=38						
ULM	**Lac du Bonnet**	**84.99**	**321**	LR	LR	00 44 49.7	
	comp=Z,62nm,18.2s,baz=89,slow=32						
TXAR	**Lajitas Array**	**89.10**	**299**	LR	LR	00 48 42.3	
	comp=Z,23nm,20.2s,baz=0.0,slow=34						
PDAR	**Pinedale Array**	**93.99**	**313**	LR	LR	00 48 30.6	
	comp=Z,111nm,21.2s,baz=92,slow=32						
MKAR	**Makanchi Array**	**96.51**	**43**	LR	LR	01 00 38.2	
	comp=Z,67nm,19.3s,baz=306,slow=38						
ZALV	**Zalesovo Beam**	**97.37**	**36**	LR	LR	01 00 11.0	
	comp=Z,77nm,18.8s,baz=30,slow=38						
TBI	**Tubuai**	**128.79**	**238**	*e*LR	LR	00 58 17.6	
	comp=Z,203nm,30.5s						
PPT2	**Papeete2**	**130.88**	**245**	*e*LR	LR	00 59 26.7	
	comp=Z,83nm,23.0s						
ASAR	**Alice Springs**	**141.14**	**132**	PKhKP	PKPpre	00 18 23.7	
	comp=Z,0.2nm,0.5s,baz=224,slow=2.6,SNR=3.7						

*VAO **16** 00:07:37.5±0.4, 15°.00S×71°.04W, h10km, mb4.2*
*ISCJB **16** 00:07:39.1±0.2, 15°.01S±0°.03×70°.86W±0°.04, h35km, mb4.6/94, MS3.8/10, Error ellipse: s-maj=6.4km s-min=3.3km az=149.3*
*IDC **16** 00:07:39.0±3.4, 15°.02S×70°.67W, h26km±23km, mb4.2/12, mb1 4.4/17, mb1mx4.2/33, mbtmp4.3/17, ML3.8/5, MS3.8/15, Ms1 3.8/15, ms1mx3.6/27, Error ellipse: s-maj=21.6km s-min=14.9km az=60.0*
*NEIC **16** 00:07:42.8±0.6, 15°.10S×70°.80W, h57km±6km, mb4.6/87, Error ellipse: s-maj=8.8km s-min=4.2km az=61.0*
*BJI **16** 00:07:43.8, 15°.10S×70°.80W, h57km*

ISC 16 00:07:40.6±0.4, 15°.00S±0°.05×70°.87W±0°.06, h35km, n175, σ1s23/173, mb4.7/94, MS3.9/10, 1C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.94**	**116**	Pg	**Pn**	**00 08 29.6**	**+4.2**
	14nm,0.3s,baz=306,slow=13,SNR=97						
LPAZ				Lg	Lg	00 09 08.7	
	baz=198,slow=20,SNR=1.3						
MNMC	**Minye Minye**	**4.28**	**164**	*e*Pn	**Pn**	**00 08 44.8**	**+1.3**
PB11	**IPOC Station P**	**4.87**	**166**	*e*Pn	**Pn**	**00 08 52.2**	**+0.6**
PB01	**IPOC Station P**	**6.15**	**168**	*e*Pn	**Pn**	**00 09 09.8**	**+0.7**
NNA	**Nana**	**6.53**	**297**	Pn	**Pn**	**00 09 16.2**	**+1.8**
	1.7nm,0.3s,baz=134,slow=7.9,SNR=6.0						
NNA				Lg	Lg	00 11 16.8	
	0.6nm,0.3s,baz=222,slow=20,SNR=1.9						
NNA				LR	LR	00 12 03.6	
	comp=Z,338nm,21.3s,baz=144,slow=39						
NNA	**Nana**	**6.53**	**297**	*e*P	**Pn**	**00 09 16.9**	**+2.5**
NNA	**Nana**	**6.53**	**297**	*e*Pn	**Pn**	**00 09 16.7**	**+2.4**
NNA				Lg	Lg	00 11 16.8	
PB04	**IPOC Station P**	**7.32**	**175**	*e*Pn	**Pn**	**00 09 27.0**	**+1.7**
LVC	**Limon Verde**	**7.79**	**166**	Pn	**Pn**	**00 09 30.6**	**-1.3**
	1.6nm,0.3s,baz=333,slow=8.4,SNR=26						
LVC				Sn	**Sn**	**00 11 01.8**	**+2.7**
	0.2nm,0.3s,baz=330,slow=20,SNR=1.8						
LVC				LR	LR	00 12 54.3	
	comp=Z,390nm,18.1s,baz=312,slow=41						
LVC	**Limon Verde**	**7.79**	**166**	*e*Pn	**Pn**	**00 09 32.0**	**+0.1**
LVC				Sn	**Sn**	**00 11 01.8**	**+2.7**
LVC	**Limon Verde**	**7.79**	**166**	*e*P	**Pn**	**00 09 32.0**	**+0.1**
PB10	**IPOC Station P**	**8.47**	**178**	*e*Pn	**Pn**	**00 09 41.1**	**+0.3**
SIV	**San Ignacio**	**9.50**	**97**	Pn	**Pn**	**00 09 55.4**	**+0.4**
	1.7nm,0.3s,baz=285,slow=13,SNR=48						
SIV				Sn	**Sn**	**00 11 41.0**	**+0.3**
	0.2nm,0.3s,baz=319,slow=20,SNR=1.6						
SIV				Lg	Lg	00 12 36.0	
	0.6nm,0.3s,baz=224,slow=19,SNR=2.2						
SIV				LR	LR	00 13 33.3	
	comp=Z,306nm,21.1s,baz=290,slow=38						
GO02	**Mina Guanaco**	**10.18**	**173**	*e*Pn	**Pn**	**00 10 03.8**	**-0.7**
ATAH	**Atahualpa**	**10.75**	**316**	Pn	**Pn**	**00 10 14.9**	**+2.4**
	0.2nm,0.3s,baz=108,slow=16,SNR=2.7						
ATAH				Lg	Lg	00 13 24.0	
	0.2nm,0.3s,baz=64,slow=22,SNR=3.3						
ATAH				LR	LR	00 14 28.6	
	comp=Z,306nm,18.2s,baz=154,slow=38						
LCO	**Las Campanas**	**13.94**	**179**	*e*Pn	**Pn**	**00 10 55.4**	**-0.5**
LCO	**Las Campanas**	**13.94**	**179**	*e*P	**Pn**	**00 10 55.6**	**-0.4**
GO04	**Tololo Observa**	**15.10**	**180**	*e*Pn	**Pn**	**00 11 11.0**	**-0.6**
AQDB	**Aquidauana**	**15.44**	**113**	*e*P	**Pn**	**00 11 18.2**	**+2.3**
OTAV	**Otavalo**	**16.89**	**333**	*e*Pn	**Pn**	**00 11 36.3**	**+1.3**
OTAV	**Otavalo**	**16.89**	**333**	*e*P	**Pn**	**00 11 32.6**	**-2.3**
CPUP	**Villa Florida**	**16.94**	**134**	Pn	**Pn**	**00 11 32.6**	**-2.3**
	0.1nm,0.3s,baz=333,slow=12,SNR=2.3						
CPUP	**Villa Florida**	**16.94**	**134**	*e*Pn	**Pn**	**00 11 34.3**	**-0.7**
	18nm,1.6s						
PTGA	**Pitinga**	**17.81**	**38**	P	**Pn**	**00 11 43.3**	**-2.5**
	2.6nm,0.3s,baz=223,slow=13,SNR=65						
PTGA				S	Sn	00 14 55.2	-8.4
	0.1nm,0.3s,baz=95,slow=23,SNR=2.4						
PTGA				Lg	Lg	00 16 58.0	
	0.1nm,0.3s,baz=149,slow=19,SNR=2.9						
PTGA				LR	LR	00 19 25.0	
	comp=Z,422nm,18.0s,baz=255,slow=40						
PTGA	**Pitinga**	**17.81**	**38**	*e*P	**Pn**	**00 11 44.0**	**-1.9**
	37nm,0.9s						
PTGA				S	Sn	00 14 55.1	-8.4
PTGA				Lg	Lg	00 16 58.0	
ROC1	**El Roble**	**17.89**	**180**	*e*P	**Pn**	**00 11 44.4**	**-2.6**
	11nm,0.9s						
PEL	**Peldehue**	**18.06**	**179**	*e*P	**Pn**	**00 11 48.4**	**-0.5**
	18nm,1.2s						
ROSC	**El Rosal**	**20.01**	**350**	LR	LR	00 20 33.3	
	comp=Z,266nm,21.3s,baz=198,slow=39						
ITRB	**Iturama**	**20.13**	**106**	*e*P	**P**	**00 12 13.9**	**+2.1**
PTGB	**Pitanga**	**20.14**	**122**	*e*P	Pn	00 12 14.6	+0.7
FRTB	**Fartura**	**21.75**	**116**	*e*P	**P**	**00 12 31.9**	**+2.6**
BDFB	**Brasilia**	**22.06**	**95**	P	**P**	**00 12 33.6**	**+0.9**
	2.7nm,0.8s,baz=301,slow=9.1,SNR=3.9						
BDFB				LR	LR	00 20 51.4	
	comp=Z,348nm,20.1s,baz=248,slow=36						
BB19B	**Bebedouro**	**22.08**	**109**	*e*P	**P**	**00 12 32.7**	**-0.1**
RCLB	**Rio Claro- Sao**	**23.29**	**112**	*e*P	**P**	**00 12 47.1**	**+1.7**
SDV	**Santo Domingo**	**23.74**	**1**	P	**P**	**00 12 50.5**	**+0.6**
	7.2nm,0.7s,baz=216,slow=6.8,SNR=8.1						
SDV				LR	LR	00 23 06.2	
	comp=Z,519nm,18.4s,baz=255,slow=39						
SDV	**Santo Domingo**	**23.74**	**1**	*e*P	**P**	**00 12 50.2**	**+0.3**
	21nm,1.1s						
SDV	**Santo Domingo**	**23.74**	**1**	*e*P	**P**	**00 12 51.1**	**+1.2**
TER01	**Tubaro-SC**	**24.21**	**127**	*e*P	**P**	**00 12 56.2**	**+2.1**
TRQA	**Tornquist**	**24.27**	**163**	*e*P	**P**	**00 12 53.9**	**-0.7**
	15nm,1.4s						
TRQA	**Tornquist**	**24.27**	**163**	*e*P	**P**	**00 12 54.7**	**+0.1**
GO06	**Curarrehue**	**24.49**	**181**	*e*P	**P**	**00 12 55.9**	**-0.8**
	8.7nm,1.0s						
PLCA	**Paso Flores**	**25.64**	**179**	P	**P**	**00 13 05.5**	**-1.4**
	12nm,0.8s,baz=19,slow=12,SNR=20						
PLCA	**Paso Flores**	**25.64**	**179**	*e*P	**P**	**00 13 06.5**	**-0.5**
	18nm,0.9s						
PLCA	**Paso Flores**	**25.64**	**179**	*e*P	**P**	**00 13 07.1**	**+0.1**
JANB	**Januaria**	**25.65**	**94**	*e*P	**P**	**00 13 08.6**	**+1.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**25.77**	**14**	LR	LR	00 24 53.3	
	comp=Z,133nm,21.1s,baz=180,slow=40						
MCI8	**Montes Claros**	**25.98**	**97**	*e*P	**P**	**00 13 11.8**	**+1.5**
MDP	**Montagnes des**	**26.94**	**43**	LR	LR	00 24 28.2	
	comp=Z,455nm,18.1s,baz=192,slow=38						
JTS	**JuntasAbangare**	**28.74**	**330**	LR	LR	00 26 25.5	
	comp=Z,123nm,18.4s,baz=214,slow=39						
STVI	**Saint Thomas**	**33.65**	**10**	*e*P	**P**	**00 14 18.4**	**+0.3**
	46nm,1.1s						
LNIG	**Linares**	**48.48**	**325**	*e*P	**P**	**00 16 20.1**	**0.0**
	15nm,0.8s						
UALR	**University of**	**53.54**	**338**	*e*P	**P**	**00 17 00.0**	**+2.1**
	7.4nm,0.6s						
T49A	**Edmonton**	**53.64**	**345**	*e*P	**P**	**00 16 58.0**	**-0.6**
	9.3nm,1.1s						
MIAR	**Mount Ida**	**53.80**	**337**	*e*P	**P**	**00 17 00.1**	**+0.3**
	12nm,1.3s						
TX31	**Lajitas Ar. Si**	**54.27**	**324**	*e*P	**P**	**00 17 03.9**	**+0.4**
TXAR	**Lajitas Array**	**54.27**	**324**	P	**P**	**00 17 04.0**	**+0.5**
	3.6nm,0.8s,baz=147,slow=8.2,SNR=28						
W39A	**Magazine**	**54.45**	**337**	*e*P	**P**	**00 17 05.5**	**+1.0**
	40nm,1.5s						
X37A	**Clayton**	**54.54**	**335**	*e*P	**P**	**00 17 06.5**	**+1.3**
	20nm,1.3s						
ABTX	**Abilene, Hawle**	**54.78**	**330**	*e*P	**P**	**00 17 07.4**	**+0.3**
	25nm,1.2s						
T42A	**Van Buren**	**55.15**	**340**	*e*P	**P**	**00 17 09.5**	**-0.1**
	15nm,1.5s						
HHAR	**Hobbs**	**55.47**	**337**	*e*P	**P**	**00 17 11.9**	**-0.1**
	20nm,1.5s						
TUL1	**Leonard**	**55.86**	**336**	*e*P	**P**	**00 17 14.7**	**-0.1**
	10nm,0.9s						
CCM	**Cathedral Cave**	**56.14**	**341**	*e*P	**P**	**00 17 16.3**	**-0.4**
	9.8nm,1.1s						
MNTX	**Cornudas Mount**	**57.03**	**325**	*e*P	**P**	**00 17 22.9**	**-0.2**
	6.8nm,0.9s						
MSTX	**Muleshoe**	**57.40**	**329**	*e*P	**P**	**00 17 25.9**	**0.0**
	19nm,1.3s						
BNM	**Barren Site**	**59.56**	**326**	*e*P	**P**	**00 17 41.6**	**+0.5**
LAZ	**Ladron**	**60.03**	**326**	*e*P	**P**	**00 17 44.2**	**-0.1**
ANMO	**Albuquerque**	**60.07**	**327**	*e*P	**P**	**00 17 45.2**	**+0.7**
	2.6nm,0.8s						
X18A	**Snowflake**	**61.69**	**324**	*e*P	**P**	**00 17 56.4**	**+0.8**
	11nm,1.1s						
SDCO	**Great Sand Dun**	**61.74**	**329**	*e*P	**P**	**00 17 56.9**	**+0.9**
	7.4nm,1.0s						
W18A	**Petrified Fore**	**62.00**	**324**	*e*P	**P**	**00 17 58.3**	**+0.7**
	5.5nm,0.8s						
X16A	**Lo Mia Camp, P**	**62.48**	**323**	*e*P	**P**	**00 18 01.8**	**+1.0**
	11nm,1.1s						
113A	**Mohawk Valley,**	**62.75**	**320**	*e*P	**P**	**00 18 02.6**	**+0.2**
	8.4nm,0.9s						
MVCO	**Mesa Verde**	**62.86**	**327**	*e*P	**P**	**00 18 03.9**	**+0.5**
	9.2nm,1.1s						
ECSD	**EROS Data Cent**	**63.02**	**339**	*e*P	**P**	**00 18 04.5**	**+0.4**
	8.9nm,1.3s						
WUAZ	**Wupatki**	**63.21**	**324**	*e*P	**P**	**00 18 06.9**	**+1.2**
SMCO	**Snowmass**	**63.58**	**329**	*e*P	**P**	**00 18 09.3**	**+1.0**
	5.0nm,1.0s						
PV01	**Paradox Valley**	**63.59**	**327**	*e*P	**P**	**00 18 08.9**	**+0.6**
PV02	**Paradox Valley**	**63.73**	**327**	*e*P	**P**	**00 18 09.2**	**+0.1**
	14nm,1.4s						
PV13	**Radium Mtn., P**	**63.74**	**327**	*e*P	**P**	**00 18 09.9**	**+0.7**
	5.7nm,0.9s						
PV03	**Paradox Valley**	**63.83**	**327**	*e*P	**P**	**00 18 10.2**	**+0.4**
PV12	**Saucer Basin,**	**63.85**	**327**	*e*P	**P**	**00 18 10.3**	**+0.4**
	32nm,1.8s						
U15A	**North Rim**	**64.38**	**324**	*e*P	**P**	**00 18 14.7**	**+1.1**
	4.9nm,1.0s						
BAR	**Barrett**	**64.54**	**318**	*e*P	**P**	**00 18 15.6**	**+1.3**
	13nm,1.1s						
O20A	**White River Ci**	**64.94**	**329**	*e*P	**P**	**00 18 18.0**	**+1.1**
	11nm,1.1s						
PFO	**Pinyon Flats O**	**65.00**	**319**	*e*P	**P**	**00 18 18.1**	**+0.7**
	10nm,1.3s						
KNB	**Kanab**	**65.10**	**324**	*e*P	**P**	**00 18 20.3**	**+2.2**
	16nm,1.1s						
LCMT	**Little Creek M**	**65.34**	**324**	*e

I07A	**Izee**	**73.62**	**326**	*e*P	**P**	**00 19 11.4**	**+0.8**
	16nm,1.8s						
F10A	**Beach Ranch, E**	**73.69**	**328**	*e*P	**P**	**00 19 13.8**	**+2.9**
	7.2nm,1.1s						
PINE	**Pine Mountain**	**74.23**	**325**	*e*P	**P**	**00 19 14.7**	**+0.5**
	6.0nm,0.9s						
QSPA	**South Pole Qui**	**75.15**	**180**	*e*P	**P**	**00 19 18.7**	**-0.5**
	6.0nm,0.9s						
FCC	**Fort Churchill**	**75.92**	**348**	*e*P	**P**	**00 19 22.9**	**-0.4**
	1.9nm,0.7s						
TOA0	**Torodi Ar. Sit**	**77.06**	**72**	*e*P	P	00 19 27.8	-3.0
	4.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**77.06**	**72**	P	**P**	**00 19 28.7**	**-2.1**
	2.6nm,0.7s,baz=265,slow=5.9,SNR=16						
TORD				LR	LR	00 50 36.4	
	comp=Z,72nm,20.6s,baz=290,slow=34						
ESDC	**Sonseca Array**	**82.59**	**46**	P	**P**	**00 20 00.3**	**-0.1**
	1.2nm,0.7s,baz=256,slow=5.1,SNR=7.2						
ES19	**SONSECA Array**	**82.65**	**46**	*e*P	**P**	**00 19 60.0**	**-0.6**
VNDA	**Vanda**	**82.89**	**190**	P	**P**	**00 20 02.1**	**+0.9**
	3.1nm,0.9s,baz=115,slow=3.8,SNR=4.6						
SYO	**Syowa Base**	**83.21**	**160**	*e*X	**P**	**00 20 02.0**	**-0.9**
TSUM	**Tsumeb**	**83.76**	**108**	*e*P	**P**	**00 20 05.9**	**-1.0**
	8.4nm,1.2s						
YKA	**Yellowknife Ar**	**84.47**	**341**	P	**P**	**00 20 09.2**	**-0.1**
	4.7nm,0.7s,baz=135,slow=5.2,SNR=100						
YKB5	**Yellowknife Ar**	**84.47**	**341**	*e*P	**P**	**00 20 08.8**	**-0.5**
YKW3	**Yellowknife Ar**	**84.53**	**341**	*e*P	**P**	**00 20 09.5**	**-0.1**
	8.3nm,0.9s						
BOSA	**Boshof**	**88.17**	**119**	LR	LR	00 55 32.0	
	comp=Z,43nm,19.5s,baz=220,slow=33						
RES	**Resolute Bay**	**90.77**	**354**	*e*P	**P**	**00 20 39.2**	**-0.2**
	0.9nm,0.6s						
MAW	**Mawson**	**91.06**	**164**	LR	LR	01 02 54.3	
	comp=Z,49nm,18.3s,baz=177,slow=36						
INK	**Inuvik**	**94.23**	**341**	*e*P	**P**	**00 20 55.1**	**-0.5**
	5.1nm,1.1s						
ILAR	**Eielson Array**	**97.61**	**335**	P	**P**	**00 21 11.7**	**+0.7**
	0.3nm,0.8s,baz=140,slow=5.7,SNR=3.5						
ILAR				PP	**PP**	**00 25 11.6**	**+2.6**
	1.5nm,1.2s,baz=106,slow=6.7,SNR=5.3						
ASAR	**Alice Springs**	**134.57**	**213**	PKP	**PKPdf**	**00 26 55.5**	**-0.7**
	0.8nm,0.8s,baz=139,slow=3.6,SNR=6.1						
ZAA0	**Zalesovo Array**	**136.72**	**21**	*e*PKPdf	**PKPdf**	**00 26 58.7**	**-0.4**
ZALV	**Zalesovo Beam**	**136.72**	**21**	PKP	**PKPdf**	**00 26 59.5**	**+0.4**
	3.0nm,0.8s,baz=276,slow=2.4,SNR=13						
ZALV	**Zalesovo Beam**	**136.72**	**21**	*e*PKPdf	**PKPdf**	**00 26 58.6**	**-0.5**
WRA	**Warramunga Arr**	**137.33**	**216**	PKP	**PKPdf**	**00 27 00.8**	**-0.5**
	1.3nm,0.7s,baz=143,slow=1.7,SNR=1.6						
WRAB	**Tennant Creek**	**137.33**	**216**	*e*PKPdf	**PKPdf**	**00 27 01.0**	**-0.4**
AAK	**Ala-Archa**	**139.50**	**40**	*e*PKPdf	**PKPdf**	**00 27 04.4**	**-0.4**
MKAR	**Makanchi Array**	**141.20**	**30**	PKP	**PKPdf**	**00 27 06.8**	**-0.8**
	0.2nm,0.7s,baz=326,slow=2.9,SNR=4.8						
MK01	**Makanchi Array**	**141.22**	**30**	*e*PKPdf	**PKPdf**	**00 27 06.9**	**-0.7**
KSH	**Kashi**	**142.08**	**43**	PKP	**PKPdf**	**00 27 05.1**	**-4.4**
KSH				PP	**PP**	**00 30 14.6**	**-0.5**
KSH				PKS	**PKSdf**	**00 30 41.0**	**-4.5**
HIA	**Hailar**	**144.74**	**348**	*e*PKPdf	**PKPab**	**00 27 13.1**	**+0.5**
USRK	**Ussuriysk Ar.**	**145.00**	**331**	PKPbc	**PKPbc**	**00 27 14.3**	**+0.6**
	3.5nm,0.7s,baz=98,slow=4.2,SNR=8.1						
WMQ	**Urumqi**	**145.96**	**28**	*e*PKPbc	**PKPdf**	**00 27 15.1**	**-1.0**
MJAR	**Matsushiro Arr**	**146.37**	**315**	PKPbc	**PKPdf**	**00 27 17.8**	**+0.8**
	10nm,0.7s,baz=7.9,slow=1.5,SNR=4.6						
SONA1	**Songino Array**	**147.18**	**3**	*e*PKPbc	**PKPdf**	**00 27 19.3**	**+1.2**
SONM	**Songino Array**	**147.19**	**3**	PKPbc	**PKPdf**	**00 27 18.8**	**+0.7**
	3.6nm,0.7s,baz=331,slow=2.2,SNR=30						
KS01	**Wonju Array Si**	**152.10**	**327**	*e*PKPbc	**PKPbc**	**00 27 32.4**	**-0.2**
KSRS	**Korea Array**	**152.10**	**327**	PKPbc	**PKPbc**	**00 27 32.5**	**-0.1**
	3.1nm,0.8s,baz=35,slow=1.9,SNR=4.0						
HHC	**Hu-ho-hao-te**	**154.16**	**356**	*e*PKPbc	**PKPdf**	**00 27 30.8**	**+1.7**
GTA	**Gaotai**	**154.35**	**17**	*e*PKPbc	**PKPdf**	**00 27 30.6**	**+1.2**
NJ2	**Nanjing**	**160.85**	**334**	*e*PKP	**PKPdf**	**00 27 36.3**	**-1.2**

IDC ***16*** *00:11:04.7±1.2,1°.85S×68°.17E,h0km,mb3.9/10, mb1 4.1/10,mb1mx3.8/44,mbtmp3.9/10,MS3.3/1, Ms1 3.3/1,ms1mx2.7/27,Error ellipse: s-maj=38.5km s-min=21.1km az=41.0*

ISCJB ***16*** *00:11:05.2±0.7,1°.8S±0°.1×68°.2E±0°.1,h15km,mb4.1/16, Error ellipse: s-maj=16.6km s-min=12.7km az=135.9*

NEIC ***16*** *00:11:06.4±0.5,1°.83S×68°.21E,h10km,mb4.1/4,Error ellipse: s-maj=11.8km s-min=11.4km az=64.0*

ISC 16 00:11:07.3±0.9,1°.8S±0°.2×68°.2E±0°.1,h15km,n36, σ0§57/34,mb4.0/16,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
H08N2	**Diego Garcia H**	**5.27**	**148**	T	T		00 17 39.5	
	baz=328,slow=75,SNR=986							
H08N3	**Diego Garcia H**	**5.29**	**148**	T	T		00 17 44.6	
	baz=328,slow=75,SNR=50							
H08N1	**Diego Carcia H**	**5.29**	**148**	T	T		00 17 45.3	
	baz=328,slow=75,SNR=752							
PALK	**Pallekele**	**15.41**	**54**	LR	LR		00 19 12.0	
	comp=Z,107nm,19.2s,baz=296,slow=32							
CM31	**Chiang Mai Arr**	**36.36**	**55**	*e*P	**P**		**00 18 11.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**36.36**	**55**	P	**P**		**00 18 11.7**	**+0.6**
	0.5nm,0.3s,baz=256,slow=9.2,SNR=4.5							
LSZ	**Lusaka**	**41.65**	**249**	*e*P	**P**		**00 18 56.0**	**+0.3**
	1.5nm,0.5s							
BTK	**Batken**	**41.76**	**3**	*e*P	**P**		**00 18 56.6**	**+0.5**
	6.5nm,1.0s							
AAK	**Ala-Archa**	**44.63**	**7**	*e*P	**P**		**00 19 19.9**	**+0.5**
	0.5nm,0.5s							
GNI	**Garni**	**46.96**	**335**	*e*P	**P**		**00 19 38.0**	**+0.2**
MK01	**Makanchi Array**	**49.96**	**13**	*e*P	**P**		**00 20 00.1**	**-0.7**
MK31	**Makanchi Array**	**49.98**	**13**	*e*P	**P**		**00 20 00.7**	**-0.2**
MK32	**Makanchi Array**	**49.98**	**13**	*e*P	**P**		**00 20 00.4**	**-0.5**
MK32				*e*PcP	**PcP**		**00 21 20.6**	**-0.3**
MKAR	**Makanchi Array**	**49.98**	**13**	P	**P**		**00 20 00.4**	**-0.5**
	0.5nm,0.7s,baz=188,slow=7.1,SNR=7.7							
MKAR				PcP	**PcP**		**00 21 20.6**	**-0.3**
	0.8nm,1.0s,baz=197,slow=3.0,SNR=4.6							
KBZ	**Khabaz**	**50.71**	**336**	P	**P**		**00 20 06.9**	**+0.6**
	4.3nm,1.0s,baz=166,slow=7.1,SNR=6.1							
ABKAR	**Akbulak array**	**51.38**	**353**	*e*P	**P**		**00 20 11.1**	**-0.3**
KURK	**Kurchatov**	**53.10**	**8**	*e*P	**P**		**00 20 23.6**	**-0.4**
BRVK	**Borovoye**	**54.72**	**2**	*e*P	**P**		**00 20 36.5**	**+0.6**
ZALV	**Zalesovo Beam**	**57.28**	**12**	P	**P**		**00 20 53.6**	**-0.6**
	1.0nm,0.6s,baz=219,slow=6.7,SNR=4.6							
ZALV	**Zalesovo Beam**	**57.28**	**12**	*e*P	**P**		**00 20 53.0**	**-1.2**
ZAA1	**Zalesovo Array**	**57.28**	**12**	*e*P	**P**		**00 20 53.6**	**-0.6**
ARU	**Arti**	**58.59**	**354**	*e*P	**P**		**00 21 03.0**	**-0.3**
	2.9nm,0.4s							
SONA0	**Songino Array**	**59.62**	**29**	*e*P	**P**		**00 21 11.2**	**+0.4**
SONM	**Songino Array**	**59.62**	**29**	P	**P**		**00 21 11.2**	**+0.4**
	2.1nm,1.0s,baz=225,slow=6.9,SNR=9.4							
SONA1	**Songino Array**	**59.63**	**29**	*e*P	**P**		**00 21 11.1**	**+0.1**
AKASG	**Malin Array Be**	**61.98**	**333**	P	**P**		**00 21 25.8**	**-0.9**
	0.3nm,0.5s,baz=134,slow=5.4,SNR=3.6							
AKBB	**Malin Array Si**	**61.98**	**333**	*e*P	**P**		**00 21 25.8**	**-0.9**
	24nm,1.9s							
WR1	**Warramunga Arr**	**66.98**	**111**	*e*P	**P**		**00 22 00.1**	**0.0**
	44nm,1.8s							
WRA	**Warramunga Arr**	**66.98**	**111**	P	**P**		**00 22 00.1**	**0.0**
	2.7nm,1.1s,baz=286,slow=6.1,SNR=2.2							
ASAR	**Alice Springs**	**67.07**	**115**	P	**P**		**00 22 00.1**	**-0.5**
	0.5nm,0.4s,baz=282,slow=6.5,SNR=5.1							
AS01	**Alice Springs**	**67.11**	**115**	*e*P	**P**		**00 21 59.9**	**-1.0**
ARA0	**ARCESS Array S**	**76.78**	**346**	*e*P	**P**		**00 22 57.5**	**-0.4**
ARCES	**ARCESS Array B**	**76.78**	**346**	P	**P**		**00 22 57.5**	**-0.4**
	0.9nm,0.8s,baz=121,slow=8.5,SNR=3.9							
ESDC	**Sonseca Array**	**77.51**	**311**	P	**P**		**00 23 03.0**	**+0.3**
	1.0nm,0.8s,baz=72,slow=4.2,SNR=3.8							
LTX	**Lajitas**	**151.57**	**345**	*e*PKPbc	**PKPbc**		**00 31 02.5**	**+0.7**
TXAR	**Lajitas Array**	**151.57**	**345**	PKPbc	**PKPbc**		**00 31 02.5**	**+0.7**
	0.4nm,0.6s,baz=48,slow=1.3,SNR=5.1							

IDC 16 00:17:39.4±2.2,29°.64N×91°.92E,h0km,mb3.6/4, mb1 3.7/5,mb1mx3.4/44,mbtmp3.5/5,ML3.1/1,Error ellipse: s-maj=83.1km s-min=24.7km az=76.0,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MKAR	**Makanchi Array**	**18.70**	**339**	P	P		00 21 59.1	-0.2
	0.1nm,0.3s,baz=144,slow=12,SNR=5.1							
SONM	**Songino Array**	**21.32**	**28**	P	P		00 22 28.4	+0.5
	2.1nm,0.7s,baz=209,slow=12,SNR=8.4							
WRA	**Warramunga Arr**	**64.03**	**135**	P	P		00 28 15.2	+0.1
	0.4nm,0.6s,baz=328,slow=6.8,SNR=4.6							
ASAR	**Alice Springs**	**66.61**	**138**	P	P		00 28 31.7	-0.1
	0.3nm,0.5s,baz=327,slow=6.6,SNR=3.2							
ILAR	**Eielson Array**	**75.44**	**22**	P	P		00 29 24.6	-0.2
	0.2nm,0.7s,baz=292,slow=4.8,SNR=4.3							

NIED ***16*** *00:25:00,38°.60N×142°.00E,h53km,Mw4.0 Best double couple: M0 1.21000×10¹⁵ NP1:φ0 191.00000°,δ14.00000°, λ69.00000°. NP2:φ0 33.00000°,δ77.00000°,λ95.00000°.*

ISCJB ***16*** *00:25:02.2±0.8,38°.63N±0°.04×141°.99E±0°.09,h52km±5km, mb3.7/14,MS3.7/2,Error ellipse: s-maj=12.8km s-min=5.2km az=16.7*

JMA ***16*** *00:25:03.3,38°.63N×141°.93E,h48km±1km,M3.9*

JMA Felt I J1.

IDC ***16*** *00:25:06.2±2.4,38°.61N×141°.89E,h74km±20km,mb3.4/14, mb1 3.6/18,mb1mx3.5/35,mbtmp3.8/18,MS3.2/5, Ms1 3.2/5,ms1mx2.9/25,Error ellipse: s-maj=22.7km s-min=16.7km az=138.0*

ISC 16 00:25:03.0±1.2,38°.60N±0°.05×141°.97E±0°.09,h44km±9km, n39,σ1§45/44,mb3.8/14,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JKMT	**Kesennumamotoy**	**0.44**	**298**	P		**Pn**	**00 25 13.3**	**+0.1**
JKMT				*e*S		**Sn**	**00 25 20.3**	**-0.1**
JIKH	**Ishinomakikobu**	**0.49**	**234**	P		**Pn**	**00 25 14.1**	**+0.3**
JIKH				S		**Sn**	**00 25 21.7**	**+0.2**
JIO	**Ouri**	**0.51**	**253**	P		**Pn**	**00 25 14.2**	**+0.2**
JIO				S		**Sn**	**00 25 21.6**	**-0.3**
OFUJ	**Ofunato**	**0.53**	**334**	P		**Pn**	**00 25 14.4**	**+0.1**
OFUJ				S		**Sn**	**00 25 22.1**	**-0.3**
JMK	**Ichinoseki**	**0.68**	**301**	P		**Pn**	**00 25 16.3**	**0.0**
JMK				S		**Sn**	**00 25 25.7**	**-0.1**
JOM	**Ohasama**	**1.01**	**329**	P		**Pn**	**00 25 20.9**	**+0.1**
JOM				*e*S		**Sn**	**00 25 33.6**	**-0.3**
JOU	**Okura**	**1.05**	**257**	P		**Pn**	**00 25 21.5**	**+0.2**
JOU				*e*S		**Sn**	**00 25 34.7**	**-0.1**
JMM	**Marumori**	**1.18**	**232**	P		**Pn**	**00 25 23.1**	**0.0**
JMM				S		**Sn**	**00 25 38.0**	**0.0**
JYK	**Kaneyama**	**1.30**	**284**	P		**Pn**	**00 25 24.8**	**+0.1**
JRG	**Rokugo**	**1.31**	**308**	P		**Pn**	**00 25 24.9**	**+0.1**
JFK	**Kawauchi**	**1.51**	**215**	P		**Pn**	**00 25 27.8**	**+0.2**
JFK				*e*S		**Sn**	**00 25 45.6**	**-0.5**
JYS	**Shirataka**	**1.54**	**256**	P		**Pn**	**00 25 28.5**	**+0.4**
MAT	**Matsushiro**	**3.63**	**237**	P		**Pn**	**00 26 00.0**	**+3.3**
MAT				*e*S		**Sn**	**00 26 34.3**	**-4.0**
MJAR	**Matsushiro Arr**	**3.63**	**237**	P		**Pn**	**00 25 59.0**	**+2.3**
	0.8nm,0.3s,baz=38,slow=12,SNR=20							
MJAR				S		**Sn**	**00 26 43.7**	**+5.4**
	0.3nm,0.3s,baz=52,slow=24,SNR=4.8							
ASAJ	**Asahikawa**	**5.53**	**5**	P		**Pn**	**00 26 24.3**	**+1.6**
	3.3nm,0.3s,baz=162,slow=10,SNR=8.5							
ASAJ				S		**Sn**	**00 27 24.4**	**-0.6**
	2.4nm,0.3s,baz=254,slow=19,SNR=5.4							
ASAJ				LR	LR		00 28 30.5	
	comp=Z,108nm,21.7s,baz=294,slow=37							
USRK	**Ussuriysk Ar.**	**9.35**	**310**	P		**Pn**	**00 27 18.9**	**+3.8**
	0.5nm,0.3s,baz=120,slow=15,SNR=8.1							
KSRS	**Korea Array**	**11.14**	**268**	P		Pn	00 27 44.1	+4.5
	0.1nm,0.3s,baz=72,slow=16,SNR=4.1							
KSRS				LR	LR		00 31 24.7	
	comp=Z,78nm,18.5s,baz=90,slow=34							
KLR	**Kul'dur**	**12.91**	**329**	LR	LR		00 32 35.2	
	comp=Z,70nm,19.7s,baz=154,slow=35							
SEY	**Seymchan**	**25.17**	**11**	P		**P**	**00 30 23.6**	**-0.2**
	3.5nm,0.8s,baz=202,slow=6.6,SNR=9.0							
SONM	**Songino Array**	**27.31**	**301**	P		**P**	**00 30 42.5**	**-1.0**
	0.6nm,0.7s,baz=91,slow=11,SNR=3.7							
H11N2	**WAKE ISLAND Hy**	**28.62**	**124**	T		T	01 01 17.6	
	baz=317,slow=75,SNR=24							
H11N1	**WAKE ISLAND Hy**	**28.62**	**124**	T		T	01 01 18.3	
	baz=317,slow=75,SNR=40							
H11N3	**WAKE ISLAND Hy**	**28.63**	**124**	T		T	01 01 24.0	
	baz=317,slow=75,SNR=104							
H11S1	**WAKE ISLAND Hy**	**29.38**	**126**	T		T	01 02 10.3	
	baz=318,slow=76,SNR=19							
H11S3	**WAKE ISLAND Hy**	**29.39**	**126**	T		T	01 02 15.4	
	baz=318,slow=76,SNR=35							
H11S2	**WAKE ISLAND Hy**	**29.40**	**126**	T		T	01 02 22.6	
	baz=318,slow=76,SNR=21							
ZALV	**Zalesovo Beam**	**41.20**	**311**	P		**P**	**00 32 42.4**	**-0.7**
	1.7nm,0.5s,baz=86,slow=7.6,SNR=11							
ZALV				PcP		**PcP**	**00 34 41.0**	**-0.4**
	0.6nm,0.4s,baz=98,slow=4.4,SNR=3.7							
MKAR	**Makanchi Array**	**43.67**	**301**	P		**P**	**00 33 03.3**	**-0.1**
	1.0nm,0.6s,baz=86,slow=9.9,SNR=19							
ILAR	**Eielson Array**	**47.94**	**33**	P		**P**	**00 33 37.1**	**+0.5**
	0.6nm,0.7s,baz=263,slow=6.0,SNR=10							
WRA	**Warramunga Arr**	**58.67**	**188**	P		**P**	**00 34 55.1**	**-0.8**
	0.4nm,0.5s,baz=7.8,slow=7.7,SNR=4.9							
RES	**Resolute Bay**	**60.97**	**15**	P		**P**	**00 35 11.7**	**+0.6**
	0.4nm,0.6s,baz=348,slow=14,SNR=3.2							
YKA	**Yellowknife Ar**	**62.23**	**31**	P		**P**	**00 35 19.9**	**+0.2**
	0.2nm,0.6s,baz=301,slow=6.2,SNR=4.8							
FINES	**FINESS Array B**	**67.63**	**332**	P		**P**	**00 35 54.1**	**-0.8**
	1.9nm,0.8s,baz=56,slow=10,SNR=3.8							
FINES				LR	LR		01 07 13.3	
	comp=Z,44nm,18.1s,baz=223,slow=37							
NB2	**NORSAR Subarra**	**72.91**	**337**	P		**P**	**00 36 26.7**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=39,slow=6.2							
NOA	**NORSAR Array B**	**72.91**	**337**	P		**P**	**00 36 26.6**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=39,slow=6.1,SNR=4.9							
AKASG	**Malin Array Be**	**73.33**	**322**	P		**P**	**00 36 29.2**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=50,slow=6.1,SNR=3.9							
AKASG				LR		LR	01 09 41.4	
	comp=Z,38nm,19.8s,baz=55,slow=36							
PDAR	**Pinedale Array**	**76.26**	**46**	P		**P**	**00 36 47.9**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=337,slow=3.9,SNR=3.4							
BRTR	**Keskin Array B**	**78.14**	**312**	P		**P**	**00 36 57.6**	**0.0**
	comp=Z,0.3nm,0.4s,baz=115,slow=3.3,SNR=5.9							
GERES	**GERESS Array B**	**81.61**	**328**	P		**P**	**00 37 15.9**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=32,slow=3.8,SNR=4.1							

NEIC ***16*** *00:38:08.7±0.0,57°.62N×142°.41W,h10km,ML3.2(OTT), After OTT.*

PGC 16 00:38:08.7±0.1,57°.62N×142°.41W,h10km,ML3.2/6, 252km Wsw of Yakutat, Ak Gulf Of Alaska,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PNL	**Peninsula**	**2.59**	**36**	P		Pn	00 38 49.3	-1.4
PNL				S		Sn	00 39 19.5	-2.7
PNL	**Peninsula**	**2.59**	**36**	P		Pn	00 38 49.3	-1.4
PNL				S		Sn	00 39 19.5	-2.7
HMT	**Hamilton**	**2.89**	**341**	*e*Pn		Pn	00 38 50.7	-4.0
BMRM	**Bremner River**	**3.54**	**342**	*e*Pn		Pn	00 38 59.2	-4.5
YUK7	**Dusty Glacier**	**3.66**	**35**	Pn		Pn	00 39 05.2	-0.3
YUK7				Sn		Sn	00 39 46.7	-2.0
YUK7	**Dusty Glacier**	**3.66**	**35**	Pn		Pn	00 39 05.2	-0.3
YUK7				Sn		Sn	00 39 46.7	-2.0
PLBC	**Pleasant Camp**	**3.67**	**57**	Pn		Pn	00 39 04.9	-0.5
PLBC	**Pleasant Camp**	**3.67**	**57**	Pn		Pn	00 39 04.9	-0.5
PLBC				Sn		Sn	00 39 46.7	-1.9
YUK6	**Outpost Mounta**	**3.93**	**30**	Pn		Pn	00 39 08.8	-0.4
YUK6	**Outpost Mounta**	**3.93**	**30**	Pn		Pn	00 39 08.8	-0.4
YUK6				Sn		Sn	00 39 53.5	-1.9
HYT	**Haines Junctio**	**4.09**	**36**	Sn		Sn	00 39 55.6	-3.5
YUK4	**Talbot Arm**	**4.20**	**26**	Pn		Pn	00 39 14.2	+1.3
YUK5	**Granite Creek**	**4.22**	**32**	Pn		Pn	00 39 13.2	0.0
YUK5				Sn		Sn	00 40 00.6	-1.9
KLU	**Klutina**	**4.28**	**337**	*e*Pn		Pn	00 39 09.8	-4.0
BRLK	**Bradley Lake**	**4.92**	**300**	*e*Pn		Pn	00 39 19.3	-3.3
WHY	**Whitehorse**	**4.93**	**49**	Pn		Pn	00 39 22.5	-0.4
WHY				Sn		Sn	00 40 15.9	-4.0
WHY	**Whitehorse**	**4.93**	**49**	Pn		Pn	00 39 22.5	-0.4
WHY				Sn		Sn	00 40 15.9	-4.0
HOM	**Homer**	**5.24**	**297**	*e*Pn		Pn	00 39 23.5	-3.4
KDAK	**Kodiak Island**	**5.46**	**276**	*e*Pn		Pn	00 39 25.5	-4.4
DLBC	**Dease Lake**	**6.63**	**78**	Pn		Pn	00 39 45.7	-0.4
DLBC	**Dease Lake**	**6.63**	**78**	Pn		Pn	00 39 45.7	-0.4

SJA 16 00:41:47.2±1.1,31°.60S×69°.43W,h124km±5km,ML3.4, MW4.4,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RTLS	**Leoncito**	**0.23**	**149**	*i* P		Pn	00 42 05.6	+0.8
RTLS				IAML			00 42 18.4	
	comp=Z,849nm,0.3s							
RTLS				*i* S		Sn	00 42 18.8	+0.8
SJA	**San Juan**	**0.75**	**84**	*i* P		Pn	00 42 07.4	0.0
SJA				IAML			00 42 23.6	
	comp=Z,201nm,0.2s							
SJA				*i* S		Sn	00 42 23.6	+1.0
RTCV	**Cerro Valdivia**	**0.80**	**109**	*i* P		Pn	00 42 08.5	+0.7
RTCV				*i* S		Sn	00 42 24.2	+0.8
RTLL	**Cerro Villicun**	**0.86**	**72**	*i* P		Pn	00 42 08.8	+0.5
RTLL				*i* S		Sn	00 42 25.4	+1.0
RTLL				IAML			00 42 25.8	
	comp=Z,142nm,0.3s							
AMOG	**MOGNA**	**1.04**	**51**	*i* P		Pn	00 42 11.2	+1.1
AMOG				*i* S		Sn	00 42 28.3	+0.9
ACCO	**Cerro Coronel**	**1.06**	**17**	*i* P		Pn	00 42 11.6	+1.0
ACCO				*i* S		Sn	00 42 29.5	+1.3
ACCO				IAML			00 42 30.8	
	comp=Z,130µm,0.3s							
ARCO	**CERRO ARCO**	**1.31**	**161**	*i* P		Pn	00 42 14.1	+1.2
ARCO				*i* S		Sn	00 42 33.8	+1.4
ARCO				IAML			00 42 35.3	
	comp=Z,247nm,0.5s							
ACDV	**Cuesta del Vie**	**1.45**	**11**	*i* P		Pn	00 42 16.1	+1.5
ACDV				*i* S		Sn	00 42 37.0	+1.7
ACDV				IAML			00 42 38.1	
	comp=Z,50nm,0.1s							
ACAN	**Cantantal**	**2.02**	**110**	*i* P		Pn	00 42 21.6	+0.5
ACAN				*i* S		Sn	00 42 48.1	+0.9
APLL	**PUNTA DE LOS L**	**2.77**	**65**	*i* P		Pn	00 42 30.9	+0.2
APLL				*i* S		Sn	00 43 04.9	+0.8
APLL				IAML			00 43 06.3	
	comp=Z,35nm,0.2s							

LDO ***16*** *00:53:03.0,46°.09N×75°.41W,h12km*

ISCJB ***16*** *00:53:04.0±0.3,46°.08N±0°.02×75°.42W±0°.02,h26km±3km, Error ellipse: s-maj=2.7km s-min=1.8km az=169.5*

NEIC ***16*** *00:53:04.9±0.0,46°.06N×75°.44W,h18km,MN3.5(OTT), After OTT.*

NEIC Felt at L'Ange-Gardien, Mont-Laurier, Notre-Dame-du-Laus, Riviere-Rouge, Val-des-Bois and Val-des-Monts.

ANF ***16*** *00:53:04.5±0.3,46°.04N×75°.48W,h14km±2km,ML3.5/22, Error ellipse: s-maj=2.6km s-min=2.5km az=32.0*

OTT ***16*** *00:53:05.2±0.1,46°.04N×75°.45W,h21km,MN3.5/35*

OTT 18km northeast from Val-des-Bois, Qc. Felt Western Quebec Seismic Zone. Felt in L"Ange Gardien, Riviere-Rouge, Val-des-Bois, Mont-Laurier, Notre-Dame Du Laus, Lac Simon, Val-des-Monts, Qc.

ISC 16 00:53:03.3±1.0,46°.10N±0°.02×75°.46W±0°.02,h18km±4km, n133,σ1§75/240,1C-2D,Southern Quebec

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
VABQ	**Val Des Bois**	**0.23**	**208**	⇓P	G	**Pg**	**00 53 09.6**	**+1.1**
VABQ				SG		**Sg**	**00 53 12.9**	**+0.7**
VABQ				Trac			00 53 13.4	
	comp=Z,295nm,0.0s							
GAC	**Glen Almond**	**0.40**	**182**	Pg		**Pb**	**00 53 12.1**	**+0.3**
GAC				Sg		**Sb**	**00 53 17.2**	**-0.5**
GAC	**Glen Almond**	**0.40**	**182**	⇓P	G	**Pb**	**00 53 12.1**	**+0.3**
GAC				SG		**Sb**	**00 53 17.2**	**-0.5**
GAC				Trac			00 53 17.6	
	comp=Z,1µm,0.1s							
ALFO	**Alfred**	**0.62**	**140**	Pg		**Pb**	**00 53 15.7**	**+0.2**
ALFO				Sg		**Sb**	**00 53 23.8**	**-0.1**
ALFO	**

comp=Z,42nm,0.1s
DPQ Saint Jean 1.94 72 Pn **Pn** **00 53 37.1 +1.8**
DPQ Sn **Sn** **00 54 01.0 +1.8**
DPQ Saint Jean 1.94 72 PN **Pn** **00 53 37.1 +1.8**
DPQ SN **Sn** **00 54 01.0 +1.8**
DPQ Trac 00 54 05.4
comp=Z,141nm,0.1s
H55A Tweed 1.97 219 P **Pn** **00 53 37.1 +1.4**
baz=38,SNR=78
KGNO Kingston 2.02 202 Pn **Pn** **00 53 38.0 +1.7**
KGNO Sn **Sn** **00 54 01.2 +0.2**
KGNO Kingston 2.02 202 PN **Pn** **00 53 38.0 +1.7**
KGNO SN **Sn** **00 54 01.2 +0.2**
KGNO LG Lg 00 54 07.0
KGNO Trac 00 54 08.5
comp=Z,53nm,0.1s
BANO Bancroft 2.05 239 Pn **Pn** **00 53 38.2 +1.5**
BANO Sn **Sn** **00 54 02.4 +0.6**
BANO Bancroft 2.05 239 PN **Pn** **00 53 38.2 +1.5**
BANO SN **Sn** **00 54 02.4 +0.6**
BANO LG Lg 00 54 08.1
BANO Trac 00 54 14.0
comp=Z,66nm,0.1s
BANO Bancroft 2.05 239 P **Pn** **00 53 38.2 +1.5**
baz=58
BECQ Becancour 2.08 82 PN **Pb** **00 53 39.4 -1.0**
BECQ SN **Sn** **00 54 03.4 +0.8**
BECQ Trac 00 54 09.2
comp=Z,26nm,0.1s
DELO Deloro Mine 2.20 225 Pn **Pn** **00 53 40.0 +1.2**
DELO Sn **Sn** **00 54 06.7 +1.1**
DELO Deloro Mine 2.20 225 PN **Pn** **00 53 40.0 +1.2**
DELO SN **Sn** **00 54 06.7 +1.1**
DELO LG Lg 00 54 12.2
DELO Trac 00 54 13.1
comp=Z,46nm,0.1s
DELO Deloro Mine 2.20 225 S **Sn** **00 54 07.6 +2.0**
baz=44
D52A ZEK Kipawa Sen 2.22 294 P **Pn** **00 53 40.9 +1.8**
baz=112
D52A S **Sb** **00 54 09.4 -0.5**
baz=112
E52A Mattawa 2.23 276 P **Pn** **00 53 40.7 +1.5**
baz=94
E52A S **Sn** **00 54 08.8 +2.5**
baz=94
LATQ La Tuque 2.24 54 Pn **Pn** **00 53 41.7 +2.3**
LATQ Sn **Sn** **00 54 08.3 +1.7**
LATQ La Tuque 2.24 54 PN **Pn** **00 53 41.7 +2.3**
LATQ SN **Sn** **00 54 08.3 +1.7**
LATQ LG Lg 00 54 16.4
LATQ Trac 00 54 16.8
comp=Z,116nm,0.0s
LATQ La Tuque 2.24 54 P **Pb** **00 53 42.3 -0.9**
baz=235
NCB Newcomb 2.31 157 *e*Pn **Pn** **00 53 41.9 +1.5**
NCB *e*Sn **Sn** **00 54 09.7 +1.4**
NCB Newcomb 2.31 157 PN **Pn** **00 53 41.7 +1.3**
NCB SN **Sn** **00 54 08.6 +0.3**
NCB LG Lg 00 54 16.1
MOQ Mont Orford 2.38 108 *e*Pn **Pn** **00 53 43.2 +1.8**
MOQ *e*Sn **Sn** **00 54 10.7 +0.6**
MOQ Mont Orford 2.38 108 PN **Pn** **00 53 43.4 +1.9**
MOQ SN **Sn** **00 54 10.8 +0.6**
MOQ Trac 00 54 20.2
comp=Z,30nm,0.1s
VLDQ Val d'Or 2.43 327 Pn **Pb** **00 53 46.6 +0.2**
VLDQ Sn **Sb** **00 54 16.9 +1.0**
VLDQ Val d'Or 2.43 327 PN **Pb** **00 53 46.6 +0.2**
VLDQ SN **Sb** **00 54 16.9 +1.0**
VLDQ Trac 00 54 30.7
comp=Z,20nm,0.1s
G53A Haliburton 2.43 247 P **Pn** **00 53 43.2 +1.2**
baz=66
G53A S **Sn** **00 54 12.9 +1.6**
baz=66
I55A Frankford 2.46 221 S **Sn** **00 54 13.9 +1.9**
baz=40
EEO Eldee 2.56 283 Pn **Pn** **00 53 45.8 +1.9**
EEO Sn **Sn** **00 54 15.6 +1.1**
EEO Eldee 2.56 283 PN **Pn** **00 53 45.8 +1.9**
EEO SN **Sn** **00 54 15.6 +1.1**
EEO Trac 00 54 25.6
comp=Z,47nm,0.1s
VT1 Waterbury 2.61 132 *e*Pn **Pn** **00 53 46.1 +1.6**
VT1 *e*Sn **Sn** **00 54 15.7 0.0**
F52A Sundridge 2.71 265 S **Sn** **00 54 20.5 +2.2**
baz=82
E51A G1948 Merrick 2.83 280 P **Pn** **00 53 49.4 +1.8**
baz=98
BUKO Buck Lake 2.84 258 Pn **Pn** **00 53 48.7 +1.0**
BUKO Sn **Sn** **00 54 22.1 +0.8**
BUKO Buck Lake 2.84 258 PN **Pn** **00 53 48.7 +1.0**
BUKO SN **Sn** **00 54 22.1 +0.8**
BUKO LG Lg 00 54 33.2
BUKO Trac 00 54 34.1
comp=Z,33nm,0.1s
BUKO Buck Lake 2.84 258 P **Pn** **00 53 48.6 +1.0**
baz=76
SADO Sadowa 2.92 244 *e*Pn **Pn** **00 53 51.1 +2.4**
SADO *e*Sn **Sn** **00 54 24.6 +1.3**
SADO Sadowa 2.92 244 PN **Pn** **00 53 49.7 +1.0**
SADO SN **Sn** **00 54 24.0 +0.7**
SADO LG Lg 00 54 38.5
SADO Trac 00 54 39.1
comp=Z,36nm,0.1s
QCQ Quebec 2.97 75 Pn **Pn** **00 53 51.8 +2.4**
QCQ Sn **Sg** **00 54 40.4 +1.8**
QCQ Quebec 2.97 75 PN **Pn** **00 53 51.8 +2.4**
QCQ SN **Sn** **00 54 25.8 +1.2**
QCQ Trac 00 54 40.4
comp=Z,30nm,0.1s
ACCN Adirondack Com 3.00 154 *e*Pn **Pn** **00 53 50.5 +0.6**
ACCN *e*Sn **Sn** **00 54 25.7 +0.3**
WLVO Wesleyville 3.02 225 SN **Sn** **00 54 24.7 -1.0**
WLVO SN **Sb** **00 54 26.4 -6.5**
WLVO LG Lg 00 54 41.0
WLVO Trac 00 54 41.5
comp=Z,28nm,0.1s
BCLQ Boischatel 3.07 73 Pn **Pn** **00 53 52.0 +1.2**
BCLQ Sn **Sn** **00 54 28.0 +0.9**
BCLQ Boischatel 3.07 73 PN **Pn** **00 53 52.0 +1.2**
BCLQ SN **Sn** **00 54 28.0 +0.9**
BCLQ LG Lg 00 54 38.5
BCLQ Trac 00 54 46.3
comp=E,62nm,0.2s
LBNH Lisbon 3.12 125 *e*Pn **Pn** **00 53 52.7 +1.2**
LBNH *e*Sn **Sn** **00 54 29.6 +1.4**
LBNH Lisbon 3.12 125 PN **Pn** **00 53 52.1 +0.6**
LBNH SN **Sn** **00 54 27.7 -0.6**
LBNH LG Lg 00 54 42.0
LBNH Lisbon 3.12 125 S **Sn** **00 54 30.4 +2.1**
baz=308
D50A G1974 Best Tow 3.20 291 P **Pn** **00 53 53.5 +0.9**
baz=108,SNR=18
HNH Hanover 3.29 136 *e*Pn **Pn** **00 53 54.4 +0.5**
HNH *e*Sn **Sn** **00 54 33.9 +1.4**
PKRO Pickering 3.34 231 Pn **Pb** **00 54 01.5 -0.4**
PKRO Pickering 3.34 231 PN **Pb** **00 54 01.5 -0.4**
KLBO Killbear Provi 3.41 259 Pn **Pn** **00 53 56.5 +1.0**
KLBO Sn **Sn** **00 54 35.4 -0.2**
KLBO Killbear Provi 3.41 259 PN **Pn** **00 53 56.5 +1.0**
KLBO SN **Sn** **00 54 35.4 -0.2**
KLBO Trac 00 54 49.9
comp=Z,52nm,0.3s
KLBO LG Lg 00 54 52.3
DAQ Lac Daran 3.43 56 Pn **Pn** **00 53 56.7 +0.8**
DAQ Sn **Sn** **00 54 36.3 +0.2**
DAQ Lac Daran 3.43 56 PN **Pn** **00 53 56.7 +0.8**
DAQ SN **Sn** **00 54 36.3 +0.2**
DAQ Trac 00 54 52.9
comp=Z,53nm,0.2s
H52A Wyevale 3.45 246 S **Sn** **00 54 36.3 -0.1**
baz=64
TRY Troy 3.61 159 *e*Pn **Pn** **00 53 57.7 -0.5**
TRY *e*Pb **Pb** **00 54 07.6 +1.1**
TRY *e*Sn **Sn** **00 54 39.8 -0.5**
J54A Appleton 3.63 220 S **Sn** **00 54 40.3 -0.5**
baz=38
A54 Misere 3.72 67 PN **Pn** **00 54 00.5 +0.7**
A54 SN **Sn** **00 54 43.2 0.0**
A54 LG Lg 00 55 00.4
A54 Trac 00 55 02.7
comp=Z,20nm,0.1s
MMNY Mt. Morris Dam 3.80 208 *e*Pn **Pn** **00 54 02.4 +1.6**
MMNY *e*Pb **Pb** **00 54 09.9 +0.1**
MMNY *e*Sb **Sb** **00 54 56.8 +1.3**
LMQ La Malbaie 3.81 66 Pn **Pn** **00 54 01.6 +0.6**
LMQ Sn **Sn** **00 54 45.5 +0.2**
LMQ La Malbaie 3.81 66 PN **Pn** **00 54 01.6 +0.6**
LMQ SN **Sn** **00 54 45.5 +0.2**
LMQ LG Lg 00 55 02.0
LMQ Trac 00 55 04.5
comp=Z,47nm,0.1s
K55A Perry 3.86 210 S **Sn** **00 54 46.0 -0.6**
baz=29
BINY Binghamton 3.92 186 *e*Pn **Pn** **00 54 03.8 +1.2**
BINY *e*Pg **Pg** **00 54 17.6 -0.8**
BINY *e*Sn **Sn** **00 54 48.9 +0.7**
BINY *e*Sg **Sb** **00 55 03.7 +4.7**
BINY Binghamton 3.92 186 S **Sn** **00 54 49.7 +1.6**
baz=5.9
A61 Sainte Mathild 4.01 65 PN **Pn** **00 54 04.3 +0.6**
A61 SN **Sn** **00 54 50.3 +0.1**
A61 LG Lg 00 55 08.4
A61 Trac 00 55 18.4
comp=Z,42nm,0.3s
EFO Effingham 4.08 224 Pn **Pn** **00 54 07.0 +2.2**
EFO Sn **Sn** **00 54 51.7 -0.3**
EFO Effingham 4.08 224 PN **Pn** **00 54 07.0 +2.2**
EFO SN **Sn** **00 54 51.7 -0.3**
EFO Trac 00 55 23.4
comp=Z,30nm,0.3s
PKME Peaks-Kenny Pk 4.40 99 *e*Pn **Pn** **00 54 09.6 +0.5**
PKME *e*Sn **Sn** **00 54 59.6 -0.3**
PKME Peaks-Kenny Pk 4.40 99 S **Sn** **00 54 59.5 -0.3**
baz=283
QUA2 Belchertown 4.43 149 *e*Pn **Pn** **00 54 10.3 +0.8**
D48A Paudash Townsh 4.50 286 S **Sn** **00 55 01.7 -0.7**
baz=102
KSPA Keystone Colle 4.55 183 *e*Pn **Pn** **00 54 13.8 +2.5**
KSPA *e*Sg **Sb** **00 55 21.1 +4.1**
HRV Adam Dziewonsk 4.56 141 *e*Pn **Pn** **00 54 13.1 +1.8**
I51A Listowel 4.57 242 S **Sn** **00 55 02.4 -1.7**
baz=58
BRCO Bruce Peninsul 4.62 248 Pn Pn 00 54 17.4 +5.2
BRCO Sn **Sn** **00 55 04.6 -0.7**
BRCO Bruce Peninsul 4.62 248 PN Pn 00 54 17.4 +5.2
BRCO SN **Sn** **00 55 04.6 -0.7**
BRCO LG Lg 00 55 31.1
BRCO Trac 00 55 41.7
comp=Z,49nm,0.2s
ODNJ Ogdensburg 5.06 173 *e*Pn **Pn** **00 54 18.6 +0.4**
ODNJ *e*Sn **Sn** **00 55 14.6 -1.5**
ODNJ *e*Sg **Sg** **00 55 39.0 -6.6**
N59A State Game Lan 5.19 183 *e*Pn **Pn** **00 54 19.9 -0.1**
N59A *e*Sn **Sn** **00 55 20.0 +0.6**
N59A *e*Sg **Sb** **00 55 41.8 +6.3**
PAL Palisades 5.22 167 *e*Pn **Pn** **00 54 20.3 -0.1**
M54A Oil Creek Stat 5.51 215 *e*Pn **Pn** **00 54 24.9 +0.4**
M54A *e*Sn **Sn** **00 55 28.0 +0.7**
M54A *e*Sg **Sg** **00 55 54.0 -6.0**
SSPA Standing Stone 5.75 199 *e*Pn **Pn** **00 54 29.3 +1.6**
SSPA *e*Sn **Sn** **00 55 32.7 -0.3**
SSPA *e*Sg **Sg** **00 56 04.3 -3.3**
KAPO Kapuskasing 5.81 308 Pn **Pn** **00 54 29.8 +1.3**
KAPO Sn **Sn** **00 55 32.9 -1.7**
KAPO Kapuskasing 5.81 308 PN **Pn** **00 54 29.8 +1.3**
KAPO SN **Sn** **00 55 32.9 -1.7**
KAPO Trac 00 56 16.8
comp=Z,18nm,0.4s
CNQ Baie Comeau 5.92 55 Pn **Pn** **00 54 28.9 -1.1**
CNQ Sn **Sn** **00 55 36.7 -0.6**
CNQ Baie Comeau 5.92 55 PN **Pn** **00 54 28.9 -1.1**
CNQ SN **Sn** **00 55 36.7 -0.6**
CNQ Trac 00 56 08.8
comp=Z,17nm,0.3s
N54A Moraine State 6.10 214 *e*Pn **Pn** **00 54 34.0 +1.4**
O56A Blue Knob Stat 6.26 202 *e*Pn **Pn** **00 54 36.8 +2.1**
O56A *e*Sg **Sg** **00 56 15.6 -8.4**
GSQ Grosses Roches 6.31 61 Pn **Pn** **00 54 36.0 +0.7**
GSQ Sn **Sn** **00 55 45.0 -2.0**
GSQ Grosses Roches 6.31 61 PN **Pn** **00 54 36.0 +0.7**
GSQ SN **Sn** **00 55 45.0 -2.0**
GSQ Trac 00 56 30.2
comp=Z,9.6nm,0.3s
ICQ Pointe Anglais 6.49 55 Pn **Pn** **00 54 37.0 -0.7**
ICQ Sn **Sn** **00 55 48.2 -3.0**
ICQ Pointe Anglais 6.49 55 PN **Pn** **00 54 37.0 -0.7**
ICQ SN **Sn** **00 55 48.2 -3.0**
ICQ Trac 00 56 37.7
comp=Z,48nm,0.6s
BATG Bathurst New B 6.57 76 Pn **Pn** **00 54 39.0 +0.1**
BATG Bathurst New B 6.57 76 PN **Pn** **00 54 39.0 +0.1**
BATG Trac 00 55 52.2
comp=Z,3.5nm,0.1s
SDMD Soldier's Deli 6.77 189 *e*Pn **Pn** **00 54 43.1 +1.4**
SDMD *e*Sg **Sb** **00 56 29.5 +8.8**
WEMQ Wemindji, Queb 7.15 348 PN **Pn** **00 54 48.2 +1.4**
WEMQ Trac 00 56 54.3
comp=Z,2µm,3.8s
ELNB Elgin, New Bru 7.19 88 PN **Pn** **00 54 48.6 +1.3**
ELNB Trac 00 56 44.2
comp=Z,148nm,1.6s
LMN Caledonia Moun 7.43 88 PN **Pn** **00 54 48.8 -1.9**
LMN Trac 00 56 57.1
comp=Z,932nm,4.3s
GBN Guysborough 9.78 89 PN **Pn** **00 55 21.1 -1.8**
GBN SN **Sn** **00 57 07.1 -5.0**
GBN Trac 00 57 38.2
comp=Z,1µm,3.7s
CHEG Cheticamp, Nov 10.23 81 PN **Pn** **00 55 30.2 +1.1**
CHEG Trac 00 57 37.7
comp=Z,2µm,4.1s
SCHQ Schefferville 10.31 29 PN **Pn** **00 55 29.6 -0.6**
SCHQ SN **Sn** **00 57 19.3 -5.9**
SCHQ Trac 00 58 22.0
comp=Z,2µm,4.5s
SCHQ LG Lg 00 58 31.1

*ISCJB **16** 01:26:18.9±0.7, 62°.0S±0°.1×162°.1W±0°.3, h10km, mb4.4/9, MS4.1/12, Error ellipse: s-maj=19.0km s-min=14.5km az=151.1*
*NEIC **16** 01:26:20.5±0.4, 62°.01S×161°.85W, h10km, mb4.6/4, Error ellipse: s-maj=13.3km s-min=10.8km az=70.0*
*IDC **16** 01:26:20.1±0.9, 62°.17S×162°.18W, h0km, mb4.1/5, mb1 4.3/6, mb1mx4.1/21, mbtmpa4.1/6, ML3.0/1, MS4.0/14, Ms1 4.0/14, ms1mx4.0/16, Error ellipse: s-maj=33.6km s-min=23.6km az=25.0*
ISC 16 01:26:20.8±0.7, 62°.1S±0°.1×162°.0W±0°.2, h10km, n38, σ0s87/19, mb4.4/9, MS4.1/12, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**19.30**	**203**	P	**Pn**	**01 30 46.0**	**-0.4**
	0.1nm,0.3s,baz=36,slow=13,SNR=4.7						
VNDA				LR	LR	01 36 10.8	
	comp=Z,669nm,20.9s,baz=55,slow=31						
RPZ	**Rata Peaks**	**24.23**	**307**	LR	LR	01 39 16.3	
	comp=Z,164nm,19.1s,baz=150,slow=32						
QSPA	**South Pole Qui**	**28.05**	**180**	P	**P**	**01 32 11.9**	**-0.1**
	0.8nm,0.3s,baz=84,slow=10,SNR=3.3						
TBI	**Tubuai**	**39.64**	**18**	*e*LR	LR	01 44 43.0	
	comp=Z,394nm,27.5s,baz=188						
TBI	**Tubuai**	**39.64**	**18**	*e*T	T	02 16 08.7	
	14nm,0.3s						
RAR	**Rarotonga**	**40.85**	**3**	*e*P	**P**	**01 34 01.5**	**-1.0**
	104nm,1.4s						
RKT	**Rikitea**	**43.06**	**38**	*e*T	T	02 20 23.3	
	3.0nm,0.3s						
PAE	**Paea**	**45.21**	**17**	*e*T	T	02 23 06.7	
	2.2nm,0.3s						
PPT2	**Papeete2**	**45.28**	**17**	*e*LR	LR	01 47 29.2	
	comp=Z,438nm,25.0s						
PPT2	**Papeete2**	**45.28**	**17**	*e*T	T	02 23 12.2	
	5.4nm,0.4s						
PPT	**Papeete**	**45.30**	**17**	LR	LR	01 48 32.1	
	comp=Z,155nm,19.8s,baz=184,slow=29						
DZM	**Mont Dzumac**	**45.43**	**317**	*e*LR	LR	01 47 32.5	
	comp=Z,163nm,25.8s						
SNAA	**Sanae**	**45.76**	**171**	*e*P	**P**	**01 34 41.3**	**-0.4**
	20nm,1.4s						
MAW	**Mawson**	**46.61**	**202**	LR	LR	01 52 31.2	
	comp=Z,136nm,20.1s,baz=149,slow=34						
STKA	**Stephens Creek**	**46.74**	**283**	LR	LR	01 50 15.2	
	comp=Z,164nm,20.7s,baz=176,slow=31						
VAH	**Vaihoa**	**47.88**	**19**	*e*T	T	02 26 26.0	
	14nm,0.3s						
PLCA	**Paso Flores**	**55.64**	**113**	LR	LR	01 54 19.3	
	comp=Z,173nm,20.0s,baz=239,slow=30						
H01W1	**Cape Leeuwin H**	**57.05**	**257**	T	T	02 38 11.6	
	baz=145						
H01W2	**Cape Leeuwin H**	**57.05**	**257**	T	T	02 38 07.9	
	baz=145						
H01W3	**Cape Leeuwin H**	**57.07**	**257**	T	T	02 38 10.5	
	baz=145						
AS01	**Alice Springs**	**57.24**	**281**	*e*P	**P**	**01 36 08.5**	**+0.3**
ASAR	**Alice Springs**	**57.26**	**281**	P	**P**	**01 36 08.3**	**0.0**
	1.7nm,0.9s,baz=149,slow=6.9,SNR=15						
ASAR				LR	LR	01 57 29.5	
	comp=Z,196nm,20.2s,baz=149,slow=33						
AS31	**Alice Springs**	**57.26**	**281**	*e*P	**P**	**01 36 08.3**	**0.0**
	3.4nm,1.5s						
WR1	**Warramunga Arr**	**60.28**	**284**	*e*P	**P**	**01 36 29.3**	**0.0**
	22nm,1.9s						
WRA	**Warramunga Arr**	**60.28**	**284**	P	**P**	**01 36 29.3**	**0.0**
	1.5nm,0.9s,baz=159,slow=6.1,SNR=6.0						
WRA				LR	LR	02 00 05.2	
	comp=Z,149nm,18.4s,baz=160,slow=34						
CPUP	**Villa Florida**	**73.61**	**115**	P	**P**	**01 37 54.0**	**0.0**
	2.6nm,1.1s,baz=199,slow=4.1,SNR=3.2						
CPUP				LR	LR	02 05 37.0	
	comp=Z,115nm,20.2s,baz=198,slow=32						
CPUP	**Villa Florida**	**73.61**	**115**	*e*P	**P**	**01 37 54.0**	**0.0**
	7.7nm,1.3s						
LPAZ	**La Paz**	**77.57**	**101**	P	**P**	**01 38 18.8**	**+1.3**
	2.9nm,0.9s,baz=192,slow=4.8,SNR=6.9						
LPAZ				LR	LR	02 01 54.5	
	comp=Z,99nm,21.4s,baz=169,slow=28						
LPAZ	**La Paz**	**77.57**	**101**	*e*P	**P**	**01 38 16.4**	**-1.1**
	5.2nm,1.0s						
BDFB	**Brasilia**	**87.03**	**118**	LR	LR	02 15 06.1	
	comp=Z,216nm,19.2s,baz=234,slow=34						
BOSA	**Boshof**	**89.45**	**186**	LR	LR	02 15 42.1	
	comp=Z,150nm,20.3s,baz=208,slow=33						
ROSC	**El Rosal**	**93.15**	**86**	LR	LR	02 16 20.5	
	comp=Z,54nm,18.9s,baz=90,slow=32						
GCMT	**Greyclift**	**115.40**	**38**	*e*PKPdf	**PKPdf**	**01 45 00.7**	**-1.0**
ILAR	**Eielson Array**	**127.03**	**8**	PKP	**PKiKP**	**01 45 26.3**	**+2.5**
	0.3nm,0.9s,baz=196,slow=2.6,SNR=3.6						
MK32	**Makanchi Array**	**141.38**	**277**	*e*PKPdf	**PKPdf**	**01 45 50.8**	**+0.1**
MKAR	**Makanchi Array**	**141.38**	**277**	PKP	**PKPdf**	**01 45 50.8**	**+0.1**
	0.5nm,1.0s,baz=147,slow=3.4,SNR=2.3						
SIRT	**Sirnak**	**151.13**	**223**	*e*PKPdf	**PKPdf**	**01 46 08.0**	**+0.4**
ESDC	**Sonseca Array**	**153.90**	**139**	PKPab	**PKPab**	**01 46 33.1**	**+0.4**
	0.2nm,0.5s,baz=190,slow=2.3,SNR=4.0						

*ARE **16** 01:29:15.0±0.0, 15°.85S×71°.91W, h50km*
*ISCJB **16** 01:29:17.4±0.5, 15°.95S±0°.04×71°.72W±0°.07, h10km, mb4.1/6, MS3.6/2, Error ellipse: s-maj=9.7km s-min=4.3km az=156.1*
*IDC **16** 01:29:17.8±1.1, 15°.80S×71°.76W, h0km, mb4.0/5, mb1 4.1/7, mb1mx3.8/32, mbtmp4.0/7, ML3.7/2, MS3.2/8, Ms1 3.2/8, ms1mx3.1/28, Error ellipse: s-maj=31.5km s-min=20.8km az=62.0*
*NEIC **16** 01:29:22.1±0.6, 15°.86S×71°.82W, h35km, mb4.6/2, ML4.2(ARE), Error ellipse: s-maj=15.3km s-min=7.9km az=78.0*
NEIC Felt [II] at Huambo.
ISC 16 01:29:19.4±0.6, 15°.83S±0°.06×71°.68W±0°.08, h10km, n33, σ2s05/38, mb4.1/6, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.44**	**98**	Pg	**Pb**	**01 30 21.8**	**+0.9**
	0.3nm,0.3s,baz=265,slow=8.0,SNR=11						
LPAZ				LR	LR	01 31 14.0	
	comp=Z,67nm,19.9s,baz=270,slow=33						
LPAZ	**La Paz**	**3.44**	**98**	*e*Pn	**Pn**	**01 30 13.7**	**0.0**
MNMC	**Minye Minye**	**3.84**	**149**	*e*Pn	**Pn**	**01 30 21.8**	**+3.0**
MNMC				*e*Sn	**Sn**	**01 31 01.4**	**-2.8**
PB11	**IPOC Station P**	**4.36**	**154**	*e*Pn	**Pn**	**01 30 27.9**	**+2.0**
PB11				*e*Sn	**Sn**	**01 31 14.1**	**-2.8**
PB01	**IPOC Station P**	**5.58**	**158**	*e*Pn	**Pn**	**01 30 43.3**	**+0.6**
PB01				*e*Sn	**Sn**	**01 31 43.5**	**-3.5**
NNA	**Nana**	**6.30**	**307**	Pn	Pn	01 30 55.1	+2.5
	0.8nm,0.3s,baz=145,slow=12,SNR=5.5						
NNA				Sn	**Sn**	**01 32 07.0**	**+2.3**
	0.9nm,0.3s,baz=166,slow=12,SNR=1.9						
NNA				LR	LR	01 32 58.9	
	comp=Z,84nm,18.3s,baz=132,slow=36						
PB04	**IPOC Station P**	**6.63**	**168**	*e*Pn	**Pn**	**01 30 56.7**	**-0.5**
PB04				*e*Sn	**Sn**	**01 32 11.5**	**-1.4**
LVC	**Limon Verde**	**7.23**	**159**	Pn	**Pn**	**01 31 06.3**	**+0.7**
	2.9nm,0.3s,baz=325,slow=7.5,SNR=28						
LVC				Sn	**Sn**	**01 32 29.4**	**+1.4**
	baz=278,slow=14,SNR=3.2						
LVC				LR	LR	01 34 22.4	
	comp=Z,133nm,20.1s,baz=330,slow=42						
LVC	**Limon Verde**	**7.23**	**159**	*e*Pn	**Pn**	**01 31 05.7**	**+0.1**
LVC				*e*Sn	**Sn**	**01 32 23.9**	**-4.2**
LVC				Sn	**Sn**	**01 32 29.4**	**+1.4**
PB10	**IPOC Station P**	**7.71**	**172**	*e*Pn	**Pn**	**01 31 10.6**	**-1.3**
PB10				*e*Sn	**Sn**	**01 32 35.8**	**-3.6**
GO02	**Mina Guanaco**	**9.49**	**168**	*e*Pn	**Pn**	**01 31 35.5**	**-1.0**
GO02				*e*Sn	**Sn**	**01 33 27.0**	**+3.5**
SIV	**San Ignacio**	**10.21**	**92**	Pn	**Pn**	**01 31 48.3**	**+2.2**
	0.2nm,0.3s,baz=289,slow=14,SNR=6.6						
SIV				LR	LR	01 35 25.1	
	comp=Z,101nm,19.5s,baz=292,slow=36						
ATAH	**Atahualpa**	**10.86**	**322**	LR	LR	01 36 48.1	
	comp=Z,275nm,19.6s,baz=180,slow=42						
LCO	**Las Campanas**	**13.15**	**176**	*e*Pn	**Pn**	**01 32 24.7**	**-1.9**
CPUP	**Villa Florida**	**16.97**	**130**	LR	LR	01 41 20.5	
	comp=Z,125nm,19.3s,baz=313,slow=42						
PTGA	**Pitinga**	**18.94**	**39**	P	**Pn**	**01 33 43.8**	**+2.4**
	0.1nm,0.3s,baz=205,slow=17,SNR=3.6						
PTGA	**Pitinga**	**18.94**	**39**	*e*P	**Pn**	**01 33 41.6**	**+0.2**
BDFB	**Brasilia**	**22.78**	**93**	LR	LR	01 42 37.1	
	comp=Z,80nm,19.9s,baz=52,slow=35						
SDV	**Santo Domingo**	**24.58**	**2**	P	**P**	**01 34 39.3**	**-0.8**
	2.5nm,0.6s,baz=162,slow=19,SNR=2.6						
PLCA	**Paso Flores**	**24.83**	**178**	P	**P**	**01 34 42.0**	**-0.1**
	4.2nm,1.0s,baz=34,slow=10,SNR=5.9						
PLCA	**Paso Flores**	**24.83**	**178**	*e*P	**P**	**01 34 44.4**	**+2.4**
	9.4nm,1.3s						
CCUT	**Cedar City**	**66.00**	**325**	*e*P	**P**	**01 40 04.1**	**-2.4**
	14nm,1.2s						
ULM	**Lac du Bonnet**	**69.16**	**344**	P	**P**	**01 40 27.0**	**+1.1**
	2.0nm,0.9s,baz=143,slow=5.1,SNR=3.6						
QSPA	**South Pole Qui**	**74.33**	**180**	*e*P	**P**	**01 41 00.1**	**+3.0**
TOA1	**Torodi Ar. Sit**	**78.05**	**73**	*e*P	**P**	**01 41 18.6**	**-0.5**
TORD	**Torodi Ar. Bea**	**78.05**	**73**	P	**P**	**01 41 18.6**	**-0.5**
	0.8nm,1.0s,baz=226,slow=5.2,SNR=3.8						
YKA	**Yellowknife Ar**	**85.00**	**341**	P	**P**	**01 41 53.1**	**-1.6**
	0.8nm,0.8s,baz=135,slow=5.1,SNR=16						
YKB5	**Yellowknife Ar**	**85.00**	**341**	*e*P	**P**	**01 41 53.1**	**-1.6**
ILAR	**Eielson Array**	**98.03**	**335**	LR	LR	02 32 12.2	
	comp=Z,58nm,18.6s,baz=238,slow=38						
MK32	**Makanchi Array**	**142.30**	**30**	*e*PKPdf	**PKPdf**	**01 48 51.9**	**-0.6**
MKAR	**Makanchi Array**	**142.30**	**30**	PKP	**PKPdf**	**01 48 51.9**	**-0.6**
	0.2nm,0.7s,baz=307,slow=1.0,SNR=2.6						
SONA0	**Songino Array**	**148.05**	**2**	*e*pPKPdf	**PKPab**	**01 49 06.6**	**-1.6**
SONM	**Songino Array**	**148.05**	**2**	PKPbc	**PKPab**	**01 49 06.6**	**-1.6**
	0.5nm,0.7s,baz=327,slow=1.5,SNR=3.7						

IDC 16 01:44:39.1±1.8, 3°.85N×123°.23E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/48, mbtmp3.5/4, Error ellipse: s-maj=144.7km s-min=23.4km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.93**	**174**	P	P	01 49 35.5	+1.1
	1.8nm,1.0s,baz=0.0,slow=10,SNR=4.3						
WRA	**Warramunga Arr**	**26.04**	**156**	P	P	01 50 14.1	-0.2
	0.6nm,0.4s,baz=336,slow=9.8,SNR=7.2						
ASAR	**Alice Springs**	**29.26**	**160**	P	P	01 50 42.5	-0.6
	0.2nm,0.4s,baz=329,slow=7.4,SNR=3.8						
MKAR	**Makanchi Array**	**55.51**	**327**	P	P	01 54 16.1	0.0
	0.2nm,0.4s,baz=127,slow=8.2,SNR=8.6						

IDC 16 01:53:55.0±37.0, 62°.12S×163°.88W, h0km, mb3.8/1, mb1 3.9/2, mb1mx3.7/14, mbtmp3.7/2, ML3.6/1, MS3.8/7, Ms1 3.8/7, ms1mx3.6/21, Error ellipse: s-maj=861.0km s-min=45.4km az=78.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**18.92**	**202**	P	P	01 58 16.9	0.0
	0.2nm,0.3s,baz=38,slow=12,SNR=10						
VNDA				LR	LR	02 03 38.3	
	comp=Z,308nm,21.2s,baz=56,slow=31						
TBI	**Tubuai**	**39.98**	**21**	eLR	LR	02 12 09.4	
	comp=Z,219nm,28.8s						
TBI	**Tubuai**	**39.98**	**21**	*e*T	T	02 43 39.2	
	19nm,0.3s						
RAR	**Rarotonga**	**40.97**	**6**	LR	LR	02 13 40.3	
	comp=Z,95nm,20.6s,baz=252,slow=29						
RKT	**Rikitea**	**43.66**	**40**	*e*T	T	02 47 51.5	
	2.8nm,0.2s						
DZM	**Mont Dzumac**	**44.88**	**319**	LR	LR	02 18 32.0	
	comp=Z,63nm,19.5s,baz=218,slow=33						
PPT2	**Papeete2**	**45.60**	**19**	eLR	LR	02 14 55.2	
	comp=Z,216nm,25.5s						
PPT	**Papeete**	**45.62**	**19**	LR	LR	02 15 50.2	
	comp=Z,78nm,20.1s,baz=194,slow=29						
STKA	**Stephens Creek**	**45.90**	**285**	LR	LR	02 17 34.1	
	comp=Z,127nm,20.0s,baz=186,slow=31						
VAH	**Vaihoa**	**48.23**	**21**	*e*T	T	02 53 56.8	
	20nm,0.3s						
H01W1	**Cape Leeuwin H**	**56.18**	**258**	T	T	03 05 29.5	
	baz=146						
H01W2	**Cape Leeuwin H**	**56.18**	**258**	T	T	03 05 30.2	
	baz=146						
H01W3	**Cape Leeuwin H**	**56.20**	**258**	T	T	03 05 31.0	
	baz=146						
ASAR	**Alice Springs**	**56.41**	**283**	P	P	02 03 38.4	+0.2
	0.8nm,0.7s,baz=145,slow=6.9,SNR=7.2						
PLCA	**Paso Flores**	**56.43**	**114**	LR	LR	02 23 34.3	
	comp=Z,68nm,18.1s,baz=237,slow=32						
WRA	**Warramunga Arr**	**59.45**	**286**	P	P	02 03 59.1	-0.3
	6um,1.0s,baz=157,slow=6.3,SNR=1.0						
BOSA	**Boshof**	**89.29**	**188**	LR	LR	02 43 08.6	
	comp=Z,88nm,19.8s,baz=204,slow=33						

NORS ***16*** *02:08:26.3±0.0, 42.˚58N×45.˚44E, h12km, MPVA3.6*
MOS ***16*** *02:08:26.5±0.0, 42.˚60N×45.˚44E, h13km, MPVA3.4*
TIF ***16*** *02:08:27.6, 42.˚61N×45.˚46E, h13km±2km*
DRS ***16*** *02:08:28.8±0.0, 42.˚56N×45.˚46E, h13km*
ISC 16 02:08:28.0±1.1**, 42.˚58N**±0.˚03×**45.˚45E**±0.˚02**, h13**km±9km**, n27,** σ1**°01/54, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.58**	**81**	*e*Pg	**Pb**	**02 08 39.6**	**-0.4**
BTLR				*e*Sg	**Sn**	**02 08 49.3**	**-2.2**
DVE	**Vedeno**	**0.63**	**53**	*e*Pg	**Pb**	**02 08 40.7**	**-0.2**
DVE				*e*Sg	**Sb**	**02 08 49.9**	**+0.3**
KMGR	**Komgaron**	**0.64**	**319**	*i* Pg	**Pb**	**02 08 41.1**	**0.0**
KMGR				*e*Sg	**Sb**	**02 08 50.5**	**+0.5**
GUDG	**Gudauri**	**0.72**	**261**	P	**Pb**	**02 08 42.4**	**-0.2**
GUDG				S	**Sg**	**02 08 51.5**	**-0.1**
VLKR	**Vladikavkaz**	**0.73**	**310**	*e*Pg	**Pb**	**02 08 42.3**	**-0.4**
VLKR				*e*Sg	**Sb**	**02 08 52.5**	**-0.2**
LACR	**Lac**	**0.88**	**287**	*e*Pg	**Pg**	**02 08 43.6**	**-1.4**
LACR				*e*Sg	**Sg**	**02 08 55.4**	**-1.3**
XNZR	**Khunzakh**	**0.93**	**92**	*e*Pg	**Pn**	**02 08 46.6**	**-0.3**
XNZR				*e*Sg	**Sn**	**02 08 59.4**	**-0.9**
SEAG	**Tbilisi Sea**	**0.94**	**211**	P	**Pn**	**02 08 46.8**	**-0.2**
SEAG				S	**Sn**	**02 09 01.9**	**+1.6**
LGD	**Lagodekhi**	**0.95**	**141**	P	**Pn**	**02 08 46.8**	**-0.2**
LGD				S	**Sb**	**02 08 58.9**	**+0.2**
LGD	**Lagodekhi**	**0.95**	**141**	*e*Pg	**Pn**	**02 08 46.8**	**-0.2**
LGD				*e*Sg	**Sb**	**02 08 58.9**	**+0.2**
TBLG	**Delisi**	**1.00**	**212**	P	**Pn**	**02 08 47.7**	**0.0**
TBLG				S	**Sn**	**02 09 02.9**	**+1.3**
TBLG	**Delisi**	**1.00**	**212**	*e*Pg	**Pn**	**02 08 47.7**	**0.0**
TBLG				*e*Sg	**Sn**	**02 09 02.9**	**+1.3**
ARNR	**Ardon**	**1.05**	**306**	*e*Pg	**Pn**	**02 08 48.2**	**-0.2**
ARNR				*e*Sg	**Sn**	**02 09 03.7**	**+0.8**
DBC	**Dubki**	**1.11**	**66**	*e*Pg	**Pg**	**02 08 50.2**	**+0.8**
DBC				*e*Sg	**Sn**	**02 09 06.3**	**+1.7**
KORR	**Kora**	**1.14**	**297**	*e*Pg	**Pg**	**02 08 50.5**	**+0.7**
KORR				*e*Sg	**Sn**	**02 09 07.3**	**+2.1**
GNBR	**Gunib**	**1.14**	**99**	*i* Pg	**Pg**	**02 08 50.2**	**+0.3**
GNBR				*i* Sg	**Sn**	**02 09 05.8**	**+0.6**
ZEI	**Tsey**	**1.16**	**281**	*e*Pg	**Pb**	**02 08 48.4**	**-1.6**
ZEI				*e*Sg	**Sb**	**02 09 04.0**	**-1.0**
STDR	**Stavd-Durt**	**1.29**	**308**	*e*Pg	**Pg**	**02 08 53.5**	**+0.7**
STDR				*e*Sg	**Sg**	**02 09 12.4**	**+3.0**
LSNR	**Lesken**	**1.38**	**301**	*e*Pg	**Pg**	**02 08 54.5**	**0.0**
LSNR				*e*Sg	**Sb**	**02 09 13.4**	**+1.0**
DIGR	**Digorskoe uzhe**	**1.41**	**284**	*i* Pg	**Pn**	**02 08 53.4**	**-0.2**
DIGR				*e*Sg	**Sb**	**02 09 12.2**	**-0.1**
TRLG	**Trialeti**	**1.44**	**224**	P	**Pg**	**02 08 55.6**	**0.0**
TRLG				S	**Sg**	**02 09 15.6**	**+1.3**
AKT	**Akhty**	**2.02**	**122**	*e*Pg	**Pg**	**02 09 06.1**	**-0.7**
AKT				*e*Sg	**Sg**	**02 09 33.2**	**+0.2**
NEY	**Neytrino**	**2.11**	**289**	*e*Pg	**Pb**	**02 09 05.2**	**-1.0**
NEY				*e*Sg	**Sb**	**02 09 32.5**	**+0.1**
PYA1	**Pyatigorsk**	**2.27**	**312**	*e*Pn	**Pb**	**02 09 06.7**	**-2.1**
PYA1				*e*Sn	**Sb**	**02 09 35.2**	**-1.6**
SHA1	**Shidzhatmaz**	**2.35**	**301**	*e*Pn	**Pb**	**02 09 09.7**	**-0.6**
SHA1				*e*Sn	**Sb**	**02 09 39.3**	**+0.1**
KIV0	**Kislovodsk Arr**	**2.44**	**305**	*i* Pn	**Pb**	**02 09 11.0**	**-0.7**
KIV0				*e*Sn	**Sb**	**02 09 42.0**	**+0.2**
ALER	**Alexandrovskoy**	**2.85**	**321**	*e*Pn	**Pn**	**02 09 12.6**	**-0.7**
ALER				*i* Sn	**Sn**	**02 09 47.7**	**+0.2**

MEX 16 02:15:06.3±1.1**, 19.˚23N×97.˚51W, h30**km±21km**, MD3.8, Veracruz**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPIG	**Tehuac#an**	**0.82**	**170**	*e*P	Pn	02 15 17.7	-4.3
TPIG				*i* S	Sb	02 15 30.6	-2.4
LVIG	**Laguna Verde**	**1.14**	**64**	*e*P	Pn	02 15 23.5	-2.7
LVIG				*e*S	Sn	02 15 38.5	-2.3
VTVM	**Tizayuca**	**1.31**	**294**	*e*P	Pn	02 15 27.2	-1.7
VTVM				*i* S	Sn	02 15 42.8	-2.8
YAIG	**Yautepec**	**1.52**	**256**	*e*P	Pn	02 15 29.4	-2.2
YAIG				*e*S	Sn	02 15 48.1	-2.5
DEIG	**Demacu**	**1.79**	**307**	*i* P	Pn	02 15 33.6	-1.8
DEIG				*i* S	Sn	02 15 54.5	-2.8

ISCJB ***16*** *02:32:44.2±0.5, 36.˚26N×0.˚03×4.˚85W×0.˚02, h98km±3km, Error ellipse: s-maj=4.7km s-min=2.8km az=179.3*
SFS ***16*** *02:32:45.7, 36.˚12N×4.˚82W, h87km, ML3.3, ALBORAN W.*
INMG ***16*** *02:32:45.5±1.9, 36.˚15N×4.˚82W, h76km±5km, ML2.6, Error ellipse: s-maj=3.3km s-min=3.1km az=156.0*
MDD ***16*** *02:32:45.0±0.6, 36.˚08N×4.˚78W, h83km±5km, mb3.3/20, Error ellipse: s-maj=5.2km s-min=3.7km az=177.0, PRXIMO*
IGIL ***16*** *02:32:45.2, 36.˚08N×4.˚80W, h82km, ML2.8*
ISC 16 02:32:42.0±1.3**, 36.˚07N**±0.˚04×**4.˚80W**±0.˚02**, h104**km±6km**, n86,** σ2**°06/156, 5C-14D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEU	**Ceuta**	**0.49**	**250**	⇑P	**Pn**	**02 32 58.0**	**-0.1**
CEU				S	**Sn**	**02 33 08.2**	**-2.1**
CEU	**Ceuta**	**0.49**	**250**	⇑*i*P	**Pn**	**02 32 58.0**	**-0.1**
CEU				S	**Sn**	**02 33 08.2**	**-2.1**
EMIJ	**Mijas**	**0.50**	**2**	⇑P	**Pn**	**02 32 57.9**	**-0.3**
	12nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**02 33 08.2**	**-2.3**
	49nm,0.1s,SNR=44						
REAL	**Reales**	**0.53**	**322**	P	**Pn**	**02 33 00.3**	**+1.6**
REAL				S	**Sn**	**02 33 10.7**	**-0.5**
REAL	**Reales**	**0.53**	**322**	*e*P	**Pn**	**02 33 00.3**	**+1.6**
REAL				*e*S	**Sn**	**02 33 10.7**	**-0.5**
EJIF	**Jimena Fronter**	**0.66**	**306**	⇓P	**Pn**	**02 33 01.0**	**+1.5**
	33nm,0.1s,SNR=18						
EJIF				S	**Sn**	**02 33 10.7**	**-1.9**
	11nm,0.2s,SNR=7.9						
EMAL	**Malaga-Limoner**	**0.76**	**23**	⇑*i*P	**Pn**	**02 33 00.6**	**+0.3**
EMAL				*e*S	**Sn**	**02 33 12.4**	**-1.7**
LIJA	**Lijar**	**0.97**	**330**	P	**Pn**	**02 33 04.5**	**+2.0**
LIJA				S	**Sn**	**02 33 19.2**	**+1.2**
LIJA	**Lijar**	**0.97**	**330**	*i* P	**Pn**	**02 33 04.5**	**+2.0**
LIJA				*e*S	**Sn**	**02 33 19.2**	**+1.2**
CNIL	**Conil**	**1.06**	**287**	⇓P	**Pn**	**02 33 05.7**	**+2.4**
CNIL	**Conil**	**1.06**	**287**	⇓*i*P	**Pn**	**02 33 05.7**	**+2.4**
ESPR	**Espera**	**1.17**	**314**	P	**Pn**	**02 33 06.0**	**+1.5**
	24nm,0.1s,SNR=118						
ESPR				S	**Sn**	**02 33 20.3**	**-1.4**
	3.0nm,0.1s,SNR=8.5						
EGOR	**Sierra Gorda,**	**1.18**	**28**	P	**Pn**	**02 33 06.7**	**+1.8**
	3.1nm,0.1s,SNR=7.9						
EGOR				S	**Sn**	**02 33 22.0**	**-0.2**
	2.6nm,0.1s,SNR=7.9						
SFS	**San Fernando**	**1.21**	**290**	⇓P	**Pn**	**02 33 08.0**	**+3.0**
SFS	**San Fernando**	**1.21**	**290**	⇓*i*P	**Pn**	**02 33 08.0**	**+3.0**
GIBL	**Gibalbin**	**1.21**	**309**	P	**Pn**	**02 33 07.0**	**+1.9**
GIBL				S	**Sn**	**02 33 23.6**	**+1.0**
GIBL	**Gibalbin**	**1.21**	**309**	*i* P	**Pn**	**02 33 07.0**	**+1.9**
GIBL				*e*S	**Sn**	**02 33 23.6**	**+1.0**
ELGU	**Los Guajares,**	**1.24**	**49**	P	**Pn**	**02 33 05.8**	**+0.4**
	6.2nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**02 33 21.5**	**-1.7**
	11nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**1.58**	**43**	P	**Pn**	**02 33 11.3**	**+1.8**
	1.0nm,0.1s,SNR=6.0						
EQUE				S	**Sn**	**02 33 30.2**	**-0.2**
	1.1nm,0.1s,SNR=7.1						
EMEL	**Melilla**	**1.68**	**116**	P	**Pn**	**02 33 11.7**	**+1.0**
	123nm,0.2s,SNR=7.9						
EMEL				S	**Sn**	**02 33 30.9**	**-1.7**
	23nm,0.1s,SNR=7.9						
MELI	**Melilla**	**1.70**	**116**	P	**Pn**	**02 33 12.2**	**+1.3**
	15nm,0.1s,SNR=7.9						
MELI				S	**Sn**	**02 33 31.9**	**-1.0**
	2.7nm,0.0s,SNR=7.9						
MELI	**Melilla**	**1.70**	**116**	*e*S	**Sn**	**02 33 33.5**	**+0.6**
EBER	**Berja**	**1.75**	**61**	P	**Pn**	**02 33 12.9**	**+1.2**
	6.3nm,0.2s,SNR=33						
EBER				S	**Sn**	**02 33 33.9**	**-0.4**
	0.2nm,0.1s,SNR=8.7						
GORA	**Gorafe**	**2.00**	**44**	P	**Pn**	**02 33 16.6**	**+1.8**
	0.7nm,0.1s,SNR=7.9						
GORA				S	**Sn**	**02 33 40.5**	**+0.8**
	2.1nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**2.06**	**346**	⇓P	**Pn**	**02 33 16.7**	**+1.1**
	2.2nm,0.1s,SNR=18						
ECAB				S	**Sn**	**02 33 39.5**	**-1.8**
	20nm,0.1s,SNR=11						
EADA	**Adamuz**	**2.10**	**5**	⇓P	**Pn**	**02 33 17.8**	**+1.7**
	9.9nm,0.1s,SNR=18						
EADA				S	**Sn**	**02 33 41.4**	**-0.7**
	11nm,0.0s,SNR=5.7						
EQES	**Quesada**	**2.22**	**38**	P	**Pn**	**02 33 20.0**	**+2.4**
	1.3nm,0.1s,SNR=40						
EQES				S	**Sn**	**02 33 45.3**	**+0.4**
	9.6nm,0.2s,SNR=18						
EMIN	**Mina Concepcio**	**2.27**	**319**	⇓P	**Pn**	**02 33 19.3**	**+1.2**
	66nm,0.1s,SNR=18						
EMIN				S	**Sn**	**02 33 44.0**	**-1.8**
	4.5nm,0.1s,SNR=7.0						
ENIJ	**Nijar**	**2.27**	**66**	P	**Pn**	**02 33 19.8**	**+1.6**
	1.6nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	**02 33 45.6**	**-0.5**
	6.5nm,0.3s,SNR=7.9						
IFR	**Ifrane**	**2.56**	**186**	⇓*i*P	**Pn**	**02 33 23.2**	**+1.0**
IFR				*e*S	**Sn**	**02 33 50.8**	**-2.2**
EGRO	**El Granado**	**2.60**	**305**	⇓P	**Pn**	**02 33 23.8**	**+1.3**
	32nm,0.1s,SNR=18						
EGRO				S	**Sn**	**02 33 52.3**	**-1.4**
	7.9nm,0.1s,SNR=5.9						
PVAQ	**Vaqueiros**	**2.70**	**301**	⇓*e*P	**Pn**	**02 33 24.8**	**+1.0**
PVAQ				*e*S	**Sn**	**02 33 54.8**	**-1.1**
PVAQ				A	A	02 33 56.8	
	30nm,0.1s						
SESP	**Santiago Espad**	**2.73**	**41**	P	**Pn**	**02 33 26.5**	**+2.1**
	0.7nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**02 33 55.6**	**-1.3**
	5.5nm,0.1s,SNR=7.9						
PBAR	**Barrancos**	**2.76**	**320**	*e*P	**Pn**	**02 33 26.1**	**+1.4**
PBAR				*e*S	**Sn**	**02 33 56.8**	**-0.7**
PBAR				A	A	02 33 57.7	
	23nm,0.4s						
PBDV	**Barranco-do-Ve**	**2.78**	**296**	⇓*e*P	**Pn**	**02 33 26.0**	**+1.1**
PBDV				*e*S	**Sn**	**02 33 56.7**	**-1.2**
PBDV				A	A	02 33 58.1	
	16nm,0.3s						
PBEJ	**Beja**	**3.14**	**309**	*e*P	**Pn**	**02 33 32.0**	**+2.4**
PBEJ				*e*S	**Sn**	**02 34 05.8**	**-0.6**
PBEJ				A	A	02 34 07.5	
	12nm,0.4s						
EBAD	**Badajoz**	**3.21**	**327**	P	**Pn**	**02 33 32.3**	**+1.7**
	8.0nm,0.1s,SNR=132						
EBAD				S	**Sn**	**02 34 07.2**	**-1.0**
	5.6nm,0.1s,SNR=7.1						
MESJ	**Messejana**	**3.26**	**304**	*e*P	**Pn**	**02 33 32.5**	**+1.2**
MESJ				*e*S	**Sn**	**02 34 06.9**	**-2.5**
MESJ				AML	AML	02 34 10.1	
	comp=N,22nm,0.1s						
MESJ	**Messejana**	**3.26**	**304**	*e*P	**Pn**	**02 33 32.7**	**+1.4**
MESJ				*e*S	**Sn**	**02 34 08.2**	**-1.2**
MESJ				A	A	02 34 10.0	
	comp=N,16nm,0.4s						
MORF	**Marmelete**	**3.33**	**293**	*e*P	**Pn**	**02 33 33.2**	**+0.8**
MORF				*e*S	**Sn**	**02 34 08.5**	**-2.7**
MORF				AML	AML	02 34 11.9	
	comp=N,54nm,0.1s						
MORF	**Marmelete**	**3.33**	**293**	*e*P	**Pn**	**02 33 33.1**	**+0.8**
MORF				*e*S	**Sn**	**02 34 09.5**	**-1.7**
MORF				A	A	02 34 11.8	
	comp=N,31nm,0.1s						
PFVI	**Vila Bisbo**	**3.41**	**289**	*e*P	**Pn**	**02 33 34.3**	**+1.0**
PFVI				*e*S	**Sn**	**02 34 11.0**	**-1.9**
PFVI				A	A	02 34 13.4	
	comp=N,22nm,0.1s						
PFVI	**Vila Bisbo**	**3.41**	**289**	P	**Pn**	**02 33 34.3**	**+1.0**
	comp=N,2.4nm,0.1s,SNR=19						
PFVI				S	**Sn**	**02 34 11.0**	**-1.9**
	comp=N,4.8nm,0.1s,SNR=14						
PTEO	**Sao Teotonio**	**3.48**	**296**	*e*P	**Pn**	**02 33 35.6**	**+1.4**
PTEO				*e*S	**Sn**	**02 34 14.2**	**-0.3**
PTEO				A	A	02 34 18.1	
	comp=N,15nm,0.3s						
PAB	**San Pablo**	**3.49**	**6**	P	**Pn**	**02 33 35.9**	**+1.5**
	comp=N,1.2nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**02 34 13.1**	**-1.9**
	comp=N,1.8nm,0.1s,SNR=7.9						
AVE	**Averroes**	**3.50**	**219**	⇑*i*P	**Pn**	**02 33 36.0**	**+1.4**
AVE				*e*S	**Sn**	**02 34 13.5**	**-1.7**
EVO	**Evora**	**3.55**	**315**	*e*P	**Pn**	**02 33 39.0**	**+3.8**
EVO				*e*S	**Sn**	**02 34 17.0**	**+0.7**
EVO				A	A	02 34 19.4	
	comp=N,18nm,0.3s						
EVO	**Evora**	**3.55**	**315**	⇓*i*P	**Pn**	**02 33 38.9**	**+3.8**
EVO				*e*S	**Sn**	**02 34 16.9**	**+0.5**
PESTR	**Estremoz**	**3.57**	**322**	*e*P	**Pn**	**02 33 37.2**	**+1.8**
PESTR				*e*S	**Sn**	**02 34 15.4**	**-1.4**
PESTR				A	A	02 34 17.4	
	comp=N,6.7nm,0.5s						
PNCL	**Nicolau / Gran**	**3.61**	**305**	⇓*e*P	**Pn**	**02 33 37.5**	**+1.5**
PNCL				*e*S	**Sn**	**02 34 15.5**	**-2.3**
PNCL				A	A	02 34 17.4	
	comp=N,12nm,0.1s						
ETOB	**Tobarra**	**3.65**	**44**	P	**Pn**	**02 33 38.8**	**+2.2**
	comp=N,2.0nm,0.1s,SNR=36						
ETOB				S	**Sn**	**02 34 17.4**	**-1.4**
	comp=N,1.1nm,0.1s,SNR=8.2						
ESDC	**Sonseca Array**	**3.66**	**10**	P	**Pn**	**02 33 38.4**	**+1.7**
	comp=N,0.7nm,0.2s,baz=194,slow=13,SNR=21						
ESDC				S	**Sn**	**02 34 17.1**	**-2.0**
	baz=192,slow=23,SNR=7.9						
PMRV	**Marv??o**	**3.94**	**329**	*e*P	**Pn**	**02 33 42.1**	**+1.8**
PMRV				*e*S	**Sn**	**02 34 23.6**	**-2.0**
PMRV				A	A	02 34 37.1	
	comp=N,8.1nm,0.5s						
PMTG	**Montargil**	**4.05**	**319**	*e*P	**Pn**	**02 33 43.3**	**+1.5**
PMTG				A	A	02 34 26.6	
	comp=N,4.8nm,0.5s						
PMTG				*e*S	**Sn**	**02 34 26.7**	**-1.6**
EPLA	**Plasencia**	**4.12**	**346**	P	**Pn**	**02 33 44.8**	**+2.0**
	comp=N,4.7nm,0.1s,SNR=55						
EPLA				S	**Sn**	**02 34 28.1**	**-1.8**
	comp=N,3.4nm,0.1s,SNR=8.8						
ALMR	**Almeirim**	**4.30**	**317**	*e*S	**Sn**	**02 34 30.3**	**-4.1**
ALMR				AML	AML	02 34 33.3	
	comp=N,9.0nm,0.2s						
ALMR	**Almeirim**	**4.30**	**317**	*e*P	**Pn**	**02 33 47.1**	**+1.9**
ALMR				*e*S	**Sn**	**02 34 32.5**	**-1.9**
ALMR				A	A	02 34 45.1	
	comp=N,8.2nm,0.8s						
PCBR	**Castelo Branco**	**4.32**	**331**	*e*P	**Pn**	**02 33 47.5**	**+2.0**
PCBR				*e*S	**Sn**	**02 34 33.0**	**-1.8**
PCBR				A	A	02 34 33.3	
	comp=N,4.4nm,0.3s						
PMST	**Lisbon--Monsan**	**4.39**	**309**	*e*P	**Pn**	**02 33 48.7**	**+2.2**
PMST				*e*S	**Sn**	**02 34 35.6**	**-0.9**
UCM	**Universidad Co**	**4.41**	**16**	*e*P	**Sn**	**02 33 49.2**	**+2.5**
UCM				*e*S	**Sn**	**02 34 35.5**	**-1.5**
PTOM	**Tomar**	**4.55**	**322**	*e*P	**Pn**	**02 33 50.5**	**+1.9**
PTOM				*e*S	**Sn**	**02 34 38.4**	**-2.1**
PTOM				A	A	02 34 43.1	
	comp=N,5.9nm,0.6s						
PMAFR	**Mafra**	**4.58**	**310**	*e*P	**Pn**	**02 33 51.1**	**+2.1**
PMAFR				*e*S	**Sn**	**02 34 39.1**	**-2.1**
PMAFR	**Mafra**	**4.58**	**310**	P	**Pn**	**02 33 51.2**	**+2.1**
	comp=N,1.0nm,0.1s,SNR=11						
PMAFR				S	**Sn**	**02 34 38.4**	**-2.9**
	comp=N,0.8nm,0.1s						
GUD	**Guadarrama**	**4.60**	**6**	P	**Pn**	**02 33 51.2**	**+1.8**
	comp=N,0.0nm,0.1s,SNR=7.3						
GUD				S	**Sn**	**02 34 39.1**	**-2.6**
	comp=N,0.4nm,0.0s,SNR=6.1						
ECHE	**Chera**	**4.64**	**40**	S	**Sn**	**02 34 41.7**	**-1.0**
	comp=N,0.7nm,0.0s,SNR=7.9						
MTE	**Manteigas**	**4.84**	**334**	*e*P	**Pn**	**02 33 54.4**	**+1.9**
MTE				*e*S	**Sn**	**02 34 46.1**	**-1.3**
MTE				A	A	02 34 47.9	
	comp=N,5.1nm,0.5s						
PCAS	**Casmilo, Conde**	**4.94**	**325**	*e*P	**Pn**	**02 33 55.9**	**+2.1**
PCAS				*e*S	**Sn**	**02 34 47.7**	**-2.0**
PCAS				A	A	02 34 55.8	
	comp=N,3.1nm,0.7s						
PVIS	**Viseu**	**5.24**	**333**	*e*P	**Pn**	**02 33 59.7**	**+1.7**
PVIS				*e*S	**Sn**	**02 34 56.0**	**-1.2**
PVIS				A	A	02 34 58.9	
	comp=N,4.9nm,0.3s						
MVO	**Moncorvo**	**5.38**	**342**	*e*P	**Pn**	**02 34 01.5**	**+1.6**
MVO				*e*S	**Sn**	**02 34 58.1**	**-2.5**
MVO				A	A	02 35 15.4	
	comp=N,6.1nm,0.5s						
MVO	**Moncorvo**	**5.38**	**342**	P	**Pn**	**02 34 01.8**	**+1.9**
	comp=N,0.8nm,0.1s,SNR=22						
MVO				S	**Sn**	**02 34 58.9**	**-1.7**
	comp=N,0.5nm,0.0s						
EMOS	**Mosqueruela**	**5.48**	**37**	S	**Sn**	**02 35 00.8**	**-2.3**
	comp=N,2.3nm,0.2s,SNR=7.9						
PVRL	**Vila Real**	**5.68**	**337**	*e*P	**Pn**	**02 34 06.0**	**+2.1**
PVRL				*e*S	**Sn**	**02 35 05.1**	**-2.7**
PVRL				A	A	02 35 08.8	
	comp=N,19nm,0.5s						
POLO	**Lamas de Olo**	**5.79**	**337**	*e*P	**Pn**	**02 34 07.8**	**+2.3**
POLO				*e*S	**Sn**	**02 35 08.5**	**-2.1**
POLO				A	A	02 35 12.3	
	comp=N,1.6nm,0.4s						
PTO	**Porto**	**5.88**	**331**	*e*P	**Pn**	**02 34 08.9**	**+2.4**
PBRG	**Braganca**	**5.93**	**346**	*e*P	**Pn**	**02 34 09.7**	**+2.4**
PBRG				*e*S	**Sn**	**02 35 10.6**	**-3.2**
PBRG				A	A	02 35 15.3	
	comp=N,2.2nm,0.2s						
ECAL	**Calabor**	**6.06**	**346**	P	**Pn**	**02 34 11.8**	**+2.7**
	comp=N,0.5nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**02 35 13.8**	**-3.2**
	comp=N,3.7nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**6.33**	**337**	P	**Pn**	**02 34 15.2**	**+2.5**
	comp=N,2.4nm,0.1s,SNR=17						
ELOB				S	**Sn**	**02 35 20.1**	**-3.4**
	comp=N,0.2nm,0.0s						
PGAV	**Gavieira, Arco**	**6.48**	**336**	*e*P	**Pn**	**02 34 17.4**	**+2.6**
PGAV				*e*S	**Sn**	**02 35 23.7**	**-3.6**
EAGO	**Agolada(Pontev**	**7.19**	**340**	S	**Sn**	**02 35 40.2**	**-4.3**
	comp=N,0.2nm,0.0s,SNR=7.9						
ELAN	**Lanestosa**	**7.23**	**8**	S	**Sn**	**02 35 40.6**	**-4.9**
	comp=N,2.9nm,0.0s,SNR=7.9						
EORO	**Oroz-Betelu**	**7.33**	**21**	S	**Sn**	**02 35 45.8**	**-2.2**
	comp=N,0.1nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**7.47**	**347**	S	**Sn**	**02 35 47.6**	**-3.8**
	comp=N,1.0nm,0.0s,SNR=7.9						
EALK	**Alkurruntz**	**7.58**	**19**	S	**Sn**	**02 35 49.8**	**-4.3**
	comp=N,0.1nm,0.0s,SNR=4.5						
ECHI	**Chisagues Biel**	**7.64**	**29**	S	**Sn**	**02 35 50.7**	**-4.9**
	comp=N,0.4nm,0.1s,SNR=7.9						
ATE	**Arette**	**7.69**	**23**	P	**Pn**	**02 34 35.0**	**+3.8**
	comp=N,1.5nm,0.0s,SNR=7.9						
ATE				S	**Sn**	**02 35 53.3**	**-3.3**
	comp=N,0.7nm,0.1s,SNR=7.9						
CSOR	**Sort**	**7.80**	**34**	S	**Sn**	**02 35 55.6**	**-3.9**
	comp=N,0.2nm,0.1s,SNR=7.9						

NIED ***16*** *02:34:00, 37.˚70N×143.˚70E, h11km, Mw3.7 Best double couple: M0 3.41000×10^14 NP1:φs338.

s-min=3.0km az=126.0 Best double couple: NP1: ϕ=262.00000°, δ31.00000°, λ-140.00000°. NP2: ϕ=137.00000°, δ71.00000°, λ-65.00000°. Principal axes: T 1.1100, Plg22.0000°, Azm208.0000°; N 0.2200, Plg23.0000°, Azm308.0000°; P -1.3400, Plg57.0000°, Azm80.0000°;

NEIC Felt on Saipan.

BJI **16** *02:38:23.3, 17°.40N×146°.00E, h124km, mb4.7/53, mB5.2/44*

MOS **16** *02:38:23.6±1.1, 17°.47N×145°.70E, h135km, mb4.9/72, MS4.0/8, Error ellipse: s-maj=7.7km s-min=4.8km az=91.6*

GCMT **16** *02:38:24.8±0.1, 17°.37N±0°.01×146°.18E±0°.01, h102km±1km, MW5.3/111, Moment Tensor Solution. s97,c143; s111,c196; Duration: 1ṡ1 Moment tensor: Scale 10¹⁷Nm; Mrr-0.04±.02; Mθθ0.53±.02; Mϕϕ-0.48±.02; Mrθ-0.40±.01; Mθϕ-0.48±.02; Mϕr0.81±.01; Best double couple: Mo1.14600×10¹⁷ NP1:ϕ155.00000°, δ89.00000°, λ-52.00000°. NP2:ϕ247.00000°, δ38.00000°, λ-178.00000°. Principal axes: T 1.1720, Plg33.0000°, Azm214.0000°; N -0.0510, Plg38.0000°, Azm334.0000°; P -1.1210, Plg35.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC **16** *02:38:25.0±1.0, 17°.48N×145°.71E, h135km±8km, mb4.6/38, mb1 4.7/39, mb1mx4.7/42, mbtmp5.0/39, MS3.9/26, Ms1 3.9/26, ms1mx3.9/29 Error ellipse: s-maj=11.1km s-min=6.8km az=91.0*

ISC 16 02:38:24.1±0.4, 17°.47N±0°.03×146°.01E±0°.04, h126km±3km, h126km:pP-P,n782,σ1ṡ81/823, mb5.2/376, 7C-13D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**0.80**	**196**	*e*Pn		**Pn**		**02 38 40.3**	**-4.6**
GUMO	**Guam**	**4.01**	**196**	P		**Pn**		**02 39 22.6**	**-1.4**
	262nm,0.3s,baz=12,slow=0.3,SNR=47								
GUMO				S		**Sn**		**02 40 07.2**	**-3.2**
	282nm,0.3s,baz=342,slow=19,SNR=8.3								
GUMO				LR		LR		02 40 37.7	
	comp=Z,1μm,20.8s,baz=32,slow=34								
GUMO	**Guam**	**4.01**	**196**	*e*Sn		**Sn**		**02 40 06.6**	**-3.7**
GUMO				*e*Sn		Sn		02 40 07.2	-3.2
JCJ	**Chichijima**	**10.21**	**340**	S		**Sn**		**02 42 35.1**	**-4.9**
	15nm,0.3s,baz=180,slow=20,SNR=2.2								
PATS	**Pohnpei**	**16.00**	**130**	*e*Pn		**Pn**		**02 41 59.0**	**-3.1**
	299nm,0.7s								
PATS				*e*Sn		Sn		02 44 40.4	-19
JHJ	**Hachijo jima 2**	**16.56**	**341**	LR		LR		02 47 02.5	
	comp=Z,556nm,21.4s,baz=113,slow=32								
JOW	**Kunigami**	**18.86**	**303**	P		**Pn**		**02 42 37.4**	**+0.9**
	7.9nm,0.3s,baz=130,slow=11,SNR=24								
JOW				LR		LR		02 48 34.9	
	comp=Z,2μm,19.6s,baz=137,slow=33								
JOW	**Kunigami**	**18.86**	**303**	*e*P		**Pn**		**02 42 37.2**	**+0.7**
	243nm,1.3s								
MANU	**Manus Island**	**19.43**	**176**	*e*P		**P**		**02 42 42.0**	**+1.2**
	172nm,0.8s								
INU	**Inuyama**	**19.52**	**338**	*e*P		**P**		**02 42 42.3**	**+0.7**
	23nm,1.0s								
WAKE	**Wake Island**	**19.68**	**82**	*e*P		**P**		**02 42 42.8**	**-0.6**
	343nm,1.3s								
WAKE				*e*S		**S**		**02 46 09.9**	**-8.7**
H11S3	**WAKE ISLAND Hy**	**19.70**	**84**	T		T		03 03 31.2	
	baz=288,slow=73,SNR=24								
H11S1	**WAKE ISLAND Hy**	**19.71**	**84**	T		T		03 03 42.6	
	baz=288,slow=73,SNR=23								
H11S2	**WAKE ISLAND Hy**	**19.71**	**84**	T		T		03 03 33.1	
	baz=288,slow=73,SNR=36								
H11N1	**WAKE ISLAND Hy**	**19.92**	**80**	T		T		03 03 45.7	
	baz=266,slow=74,SNR=63								
H11N2	**WAKE ISLAND Hy**	**19.93**	**80**	T		T		03 03 46.8	
	baz=266,slow=74,SNR=63								
H11N3	**WAKE ISLAND Hy**	**19.94**	**80**	T		T		03 03 47.7	
	baz=266,slow=74,SNR=58								
MJAR	**Matsushiro Arr**	**20.21**	**342**	P		**P**		**02 42 48.8**	**-0.3**
	7.4nm,0.4s,baz=168,slow=9.9,SNR=16								
MJAR				S		**S**		**02 46 23.1**	**-5.9**
	1.2nm,0.4s,baz=168,slow=17,SNR=4.5								
MJAR				LR		LR		02 49 34.1	
	comp=Z,438nm,19.6s,baz=125,slow=33								
MJAR				ScP		**ScP**		**02 50 20.1**	**-2.9**
	4.5nm,0.8s,baz=176,slow=2.7,SNR=8.3								
MJAR	**Matsushiro Arr**	**20.21**	**342**	P		**P**		**02 42 48.8**	**-0.3**
MJAR				S		**S**		**02 46 23.1**	**-5.9**
MJAR				pmax	pmax				
	comp=Z,6.0nm,0.5s								
MJAR				smax	smax				
	comp=N,1.0nm,0.4s								
MJAR				MLR	MLR				
	comp=Z,438nm,19.6s								
MJAR				pmax	pmax				
	comp=N,5.0nm,0.8s								
MAJO	**Matsushiro**	**20.21**	**342**	*e*P		**P**		**02 42 50.1**	**+1.0**
	comp=N,24nm,0.6s								
MAJO				*e*S		**S**		**02 46 23.1**	**-5.9**
MAJO	**Matsushiro**	**20.21**	**342**	ǁ*e*P		**P**		**02 42 49.3**	**+0.2**
MAJO				pmax	pmax				
	comp=Z,12nm,0.5s								
MAT	**Matsushiro**	**20.21**	**342**	P		**P**		**02 42 50.3**	**+1.2**
MAT				S		**S**		**02 46 26.8**	**-2.2**
MJB9	**Matsu-Tunnel**	**20.22**	**342**	*e*P		Pn		02 42 51.8	-0.5
	comp=Z,25nm,0.6s								
JAY	**Jayapura**	**20.53**	**195**	P		**P**		**02 42 53.2**	**+0.5**
	comp=Z,231nm,0.9s,baz=355,slow=5.3,SNR=25								
JAY	**Jayapura**	**20.53**	**195**	P		**P**		**02 42 53.1**	**+0.4**
	comp=Z,2μm,0.9s,comp=Z,23μm								
JNU	**Nakatsue**	**20.70**	**322**	P		**P**		**02 42 54.0**	**-0.3**
	comp=Z,11nm,1.0s,baz=105,slow=20,SNR=2.4								
JNU				LR		LR		02 49 17.5	
	comp=Z,423nm,19.7s,baz=130,slow=32								
JNU	**Nakatsue**	**20.70**	**322**	*e*P		**P**		**02 42 55.0**	**+0.7**
	comp=Z,27nm,1.1s								
GENI	**Genyem**	**20.75**	**197**	P		**P**		**02 42 55.8**	**+0.9**
BUTP	**Butuan**	**21.55**	**250**	*e*P		**P**		**02 43 09.1**	**+5.5**
MSLP	**Maasin**	**21.78**	**253**	*e*P		**P**		**02 43 08.0**	**+2.1**
RKPI	**Ransiki, Papua**	**22.17**	**213**	P		**P**		**02 43 10.6**	**+0.6**
	comp=Z,156nm,1.4s,comp=Z,5μm								
RABL	**Rabaul**	**22.36**	**164**	*e*P		**P**		**02 43 10.7**	**-1.3**
	comp=Z,192nm,0.5s								
DAV	**Davao City (W)**	**22.45**	**245**	P		**P**		**02 43 11.7**	**-1.2**
	comp=Z,148nm,0.3s,baz=65,slow=17,SNR=3.4								
DAV	**Davao City (W)**	**22.45**	**245**	*e*P		**P**		**02 43 12.7**	**-0.2**
	comp=Z,299nm,0.4s								
BUKP	**Musuan**	**22.52**	**248**	*e*P		**P**		**02 43 15.4**	**+1.7**
RCP	**Roxas**	**23.26**	**259**	ǁ*e*P		**P**		**02 43 22.8**	**+2.3**
SWI	**Sorong**	**23.30**	**220**	P		**P**		**02 43 21.4**	**+0.5**
SIJI	**Sorong**	**23.30**	**220**	P		**P**		**02 43 21.4**	**+0.5**
	comp=Z,308nm,0.6s,baz=20,slow=8.5,SNR=172								
NACB	**Ninganchiao**	**23.75**	**290**	*e*P		**P**		**02 43 27.2**	**+2.2**
	comp=Z,96nm,1.3s								
YULB	**Yu-li**	**23.88**	**288**	*e*P		**P**		**02 43 27.2**	**+1.1**
	comp=Z,23nm,0.7s								
TWG	**Pinlang**	**23.99**	**287**	*e*P		**P**		**02 43 27.8**	**+0.6**
	comp=Z,373nm,1.4s								
PAGZ	**Pagadian**	**24.03**	**249**	*e*P		**P**		**02 43 29.6**	**+2.0**
YHNB	**Yeheng**	**24.05**	**292**	*e*P		**P**		**02 43 27.5**	**-0.3**
	comp=Z,132nm,0.9s								
SSLB	**Suanglung**	**24.25**	**289**	*e*P		**P**		**02 43 31.4**	**+1.8**
	comp=Z,59nm,0.7s								
SSLB				*e*S		**S**		**02 47 42.3**	**+2.9**
TGY	**Tagaytay City**	**24.35**	**266**	P		**P**		**02 43 32.3**	**+1.8**
	comp=Z,589nm,0.8s,baz=45,slow=20,SNR=10								
FAKI	**Fak Fak**	**24.39**	**215**	*e*P		**P**		**02 43 30.6**	**-0.1**
	comp=Z,496nm,1.5s								
FAKI	**Fak Fak**	**24.39**	**215**	P		**P**		**02 43 30.7**	**-0.1**
	comp=Z,214nm,0.9s,comp=Z,2μm								
TPUB	**Ta-pu**	**24.47**	**288**	*e*P		**P**		**02 43 33.1**	**+1.6**
	comp=Z,53nm,0.9s								
ERM	**Erimo**	**24.59**	**355**	ǁ*e*P		**P**		**02 43 33.2**	**+0.9**
ERM				pmax	pmax				
	comp=Z,34nm,0.8s								
TNTI	**Ternate**	**24.73**	**230**	*e*P		**P**		**02 43 35.3**	**+1.4**
	comp=Z,74nm,0.9s								
TNTI	**Ternate**	**24.73**	**230**	P		**P**		**02 43 34.7**	**+0.8**
KSRS	**Korea Array**	**25.48**	**325**	P		**P**		**02 43 39.4**	**-1.1**
	comp=Z,2.3nm,0.8s,baz=143,slow=8.9,SNR=5.5								
KSRS				ScP		**ScP**		**02 50 35.1**	**-1.7**
	comp=Z,3.5nm,0.8s,baz=137,slow=3.3,SNR=7.5								
KSRS				LR		LR		02 52 16.4	
	comp=Z,135nm,21.1s,baz=135,slow=33								
KS15	**Wonju Array Si**	**25.50**	**325**	*e*P		**P**		**02 43 42.6**	**+2.0**
KS15				*e*ScP		**ScP**		**02 50 35.1**	**-1.7**
KSAR	**Wonju Array Be**	**25.50**	**325**	P		**P**		**02 43 39.4**	**-1.2**
KSAR	**Wonju Array Be**	**25.50**	**325**	P		**P**		**02 43 39.4**	**-1.2**
QZH	**Quanzhou**	**26.58**	**291**	P		**P**		**02 43 54.6**	**+4.0**
QZH				pP		**pwP**		**02 44 20.1**	**-1.1**
QZH				sP		**sP**		**02 44 35.5**	**+4.7**
QZH				S		**S**		**02 48 16.8**	**+0.7**
QZH				LR		LR			
	comp=Z,500nm,17.4s								
ASAJ	**Asahikawa**	**26.72**	**355**	P		**P**		**02 43 51.9**	**+0.4**
	comp=Z,27nm,0.7s,baz=228,slow=9.6,SNR=27								
ASAJ	**Asahikawa**	**26.72**	**355**	*e*P		**P**		**02 43 52.3**	**+0.7**
	comp=Z,24nm,0.7s								
PMG	**Port Moresby**	**26.73**	**177**	P		**P**		**02 43 51.4**	**-0.5**
	comp=Z,122nm,0.8s,baz=343,slow=8.2,SNR=23								
PMG				S		**S**		**02 48 15.9**	**-2.4**
	comp=Z,17nm,1.0s,baz=277,slow=14,SNR=3.3								
PMG	**Port Moresby**	**26.73**	**177**	*e*P		**P**		**02 43 51.8**	**-0.1**
	comp=Z,132nm,0.9s								
PMG				*e*S		**S**		**02 48 15.9**	**-2.4**
PMG	**Port Moresby**	**26.73**	**177**	*e*P		**P**		**02 43 51.8**	**-0.1**
PMG				*e*S		**S**		**02 48 15.9**	**-2.4**
PMG				pmax	pmax				
	comp=Z,132nm,0.9s								
SANI	**Sanana**	**27.67**	**227**	P		**P**		**02 43 59.0**	**-1.4**
NLAI	**Namlea**	**27.77**	**224**	P		**P**		**02 44 02.1**	**+0.8**
	comp=Z,71nm,1.0s,comp=Z,2μm								
NJ2	**Nanjing**	**28.51**	**306**	*e*P		**P**		**02 44 08.3**	**+0.6**
NJ2				pmax	pmax				
	comp=Z,14nm,0.5s								
NJ2				LR		LR			
	comp=Z,910nm,17.9s								
NJ2				LR		LR			
	comp=Z,590nm,14.6s								
NJ2				LR		LR			
	comp=Z,650nm,21.7s								
MRSI	**Marisa**	**29.08**	**237**	P		**P**		**02 44 12.5**	**-0.4**
USRK	**Ussuriysk Ar.**	**29.15**	**339**	P		**P**		**02 44 11.8**	**-1.4**
	comp=Z,1.2nm,0.6s,baz=137,slow=6.4,SNR=3.3								
USRK				LR		LR		02 55 15.5	
	comp=Z,178nm,18.2s,baz=145,slow=35								
LUWI	**Luwuk**	**29.37**	**234**	*e*P		**P**		**02 44 15.4**	**0.0**
	comp=Z,101nm,0.9s								
LUWI	**Luwuk**	**29.37**	**234**	P		**P**		**02 44 14.2**	**-1.2**
YSS	**Yuzh-Sakhalins**	**29.53**	**355**	ǁ*e*P		**P**		**02 44 16.6**	**+0.2**
YSS				*e*				02 44 59.1	
YSS				*e*				02 45 16.0	
YSS				*e*S		**S**		**02 48 59.5**	**-2.3**
YSS				pmax	pmax				
	comp=Z,20nm,1.0s								
YSS				pmax	pmax				
	comp=Z,300nm,4.4s								
YSS				MLR	MLR				
	comp=N,400nm,16.0s								
YSS				MLR	MLR				
	comp=Z,400nm,16.0s								
APSI	**Ampana**	**30.16**	**235**	P		**P**		**02 44 19.3**	**-3.1**
TSM	**Tawau**	**30.51**	**248**	P		**P**		**02 44 28.1**	**+2.6**
SDKM	**Sandakan**	**30.52**	**251**	P		**P**		**02 44 27.9**	**+2.2**
KKM	**Kota Kinabalu**	**31.24**	**252**	*e*P		**P**		**02 44 34.4**	**+2.2**
	comp=Z,68nm,0.9s								
KKM	**Kota Kinabalu**	**31.24**	**252**	P		**P**		**02 44 34.2**	**+2.1**
COEN	**Coen**	**31.35**	**185**	*e*P		**P**		**02 44 32.4**	**-0.4**
	comp=Z,34nm,1.0s								
KDI	**Kendari**	**31.40**	**229**	P		**P**		**02 44 32.5**	**-0.9**
CN2	**Changchun**	**31.48**	**331**	*e*P		**P**		**02 44 37.8**	**+4.1**
CN2				*e*S		**S**		**02 49 36.4**	**+4.0**
CN2				pmax	pmax				
	comp=Z,10.0nm,1.0s								
CN2				pmax	pmax				
	comp=Z,200nm,3.0s								
CN2				LR	LR				
	comp=Z,500nm,16.0s								
CN2				LR	LR				
	comp=Z,500nm,16.0s								
CN2				LR	LR				
	comp=Z,500nm,13.0s								
TTSI	**Tana Toraja**	**32.91**	**234**	P		**P**		**02 44 47.9**	**+1.4**
	comp=Z,63nm,0.7s,comp=Z,1μm								
TYV	**Tymovskoe**	**33.42**	**356**	*e*P		**P**		**02 44 49.7**	**-0.9**
TYV				*e*S		**S**		**02 50 03.6**	**+1.2**
TYV				pmax	pmax				
	comp=Z,18nm,0.9s								
TYV				pmax	pmax				
	comp=Z,300nm,4.2s								
TYV				smax	smax				
	comp=N,15nm,2.0s								
TYV				smax	smax				
	comp=N,600nm,5.2s								
SMKI	**Samarinda**	**33.48**	**241**	P		**P**		**02 44 53.4**	**+1.9**
	comp=N,106nm,1.2s								
SPSI	**Sidrap Palu**	**33.53**	**233**	P		**P**		**02 44 52.5**	**+0.6**
BNSI	**Bone**	**33.56**	**232**	P		**P**		**02 44 53.4**	**+1.2**
	comp=N,99nm,1.7s,comp=N,1μm								
KLR	**Kul'dur**	**33.73**	**343**	P		**P**		**02 44 51.6**	**-1.6**
	comp=N,2.2nm,0.3s,baz=133,slow=9.7,SNR=21								
KLR	**Kul'dur**	**33.73**	**343**	ǁ*e*P		**P**		**02 44 51.3**	**-1.9**
BKSI	**Bulukumba**	**34.15**	**231**	P		**P**		**02 44 57.7**	**+0.4**
QIZ	**Qiongzhong**	**34.34**	**278**	P		**P**		**02 44 59.8**	**+0.8**
QIZ				S		**S**		**02 50 19.4**	**+1.9**
QIZ				sS		**ScP**		**02 51 06.3**	**+0.4**
QIZ				LR	LR				
	comp=N,370nm,10.4s								
QIZ				LR	LR				
	comp=N,300nm,6.3s								
QIZ				LR	LR				
	comp=N,440nm,27.5s								
SOEI	**Soe**	**34.54**	**220**	*e*P		**P**		**02 44 59.3**	**-1.5**
	comp=N,114nm,1.1s								
SOEI	**Soe**	**34.54**	**220**	P		**P**		**02 44 58.5**	**-2.3**
MMRI	**Maumere**	**34.99**	**224**	*e*P		**P**		**02 45 02.9**	**-1.6**
	comp=N,113nm,0.7s								
MMRI	**Maumere**	**34.99**	**224**	P		**P**		**02 45 03.9**	**-0.7**
BATI	**Baumata**	**35.27**	**220**	P		**P**		**02 45 05.1**	**-1.8**
BTM	**Bintulu**	**35.27**	**250**	P		**P**		**02 45 10.0**	**+3.0**
MIDW	**Midway**	**35.28**	**66**	*e*P		**P**		**02 45 08.3**	**+1.4**
	comp=N,234nm,1.3s								
EDFI	**Ende, Flores**	**35.44**	**225**	P		**P**		**02 45 08.6**	**+0.1**
	comp=N,41nm,0.9s								
ENH	**Enshi**	**35.59**	**298**	*e*P		**P**		**02 45 09.6**	**0.0**
	comp=N,26nm,1.0s								
SBUM	**Sibu**	**36.37**	**250**	*e*P		**P**		**02 45 18.3**	**+1.9**
	comp=N,26nm,0.6s								
SBUM	**Sibu**	**36.37**	**250**	P		**P**		**02 45 18.7**	**+2.3**
PETK	**Petropavlovsk-**	**36.72**	**12**	P		**P**		**02 45 19.7**	**+0.8**
	comp=N,23nm,0.8s,baz=190,slow=6.9,SNR=18								
PETK				ScP		**ScP**		**02 51 13.6**	**-0.3**
	comp=N,8.9nm,0.8s,baz=185,slow=4.5,SNR=6.9								
PETK				LR		LR		02 58 29.4	
	comp=N,515nm,21.1s,baz=194,slow=33								
PETK	**Petropavlovsk-**	**36.72**	**12**	*e*P		**P**		**02 45 20.0**	**+1.1**
PETK	**Petropavlovsk-**	**36.72**	**12**	*e*P		**P**		**02 45 20.0**	**+1.1**
PEA1	**Petropavlovsk-**	**36.73**	**12**	*e*P		**P**		**02 45 19.7**	**+0.8**
PEA1				*e*ScP		**ScP**		**02 51 13.6**	**-0.3**
PET	**Petropavlovsk**	**36.84**	**13**	*e*P		**P**		**02 45 22.4**	**+2.6**
PET				pmax	pmax				
	comp=Z,18nm,0.5s								
XAN	**Xi'an**	**37.01**	**304**	P		**P**		**02 45 24.3**	**+2.6**
XAN				pmax	pmax				
	comp=Z,6.0nm,0.8s								
XAN				pmax	pmax				
	comp=Z,120nm,4.9s								
XAN	**Xi'an**	**37.01**	**304**	*e*P		**P**		**02 45 21.4**	**-0.3**
	comp=Z,4.7nm,0.7s								
XAN	**Xi'an**	**37.01**	**304**	*e*P		**P**		**02 45 21.4**	**-0.3**
XAN				pmax	pmax				
	comp=Z,5.0nm,0.7s								
CTA	**Charters Tower**	**37.32**	**180**	P		**P**		**02 45 24.4**	**+0.1**
	comp=Z,27nm,1.0s,baz=353,slow=10.0,SNR=19								
CTAO	**Charters Tower**	**37.32**	**180**	*e*P		**P**		**02 45 23.6**	**-0.7**
	comp=Z,43nm,1.0s								
CTAO	**Charters Tower**	**37.32**	**180**	*e*P		**P**		**02 45 23.6**	**-0.7**
CTAO				pmax	pmax				
	comp=Z,43nm,1.0s								
GYA	**Guiyang**	**37.45**	**291**	ǁ*e*P		**P**		**02 45 27.8**	**+2.3**
GYA				pP		pwP		02 45 55.3	-1.9
GYA				sP		sP		02 46 10.0	+3.6
GYA				PP		**PnPn**		**02 46 57.4**	**+1.6**
GYA				S		**S**		**02 51 06.5**	**+1.6**
GYA				sS		sS		02 51 55.0	+2.4
GYA				SS		**SS**		**02 53 46.9**	**-7.4**
GYA				pmax	pmax				
	comp=Z,20nm,0.7s								
GYA				pmax	pmax				
	comp=Z,140nm,5.0s								
GYA				LR	LR				
	comp=Z,300nm,16.0s								
GYA				LR	LR				
	comp=Z,350nm,16.2s								
GYA				LR	LR				
	comp=Z,310nm,16.5s								
HHC	**Hu-ho-hao-te**	**37.67**	**315**	*e*P		**P**		**02 45 28.9**	**+1.7**
HHC				sP		sP		02 46 10.8	+2.5
HHC				S		**S**		**02 51 11.5**	**+3.5**
HHC				sS		sS		02 51 53.8	-1.9
HHC				SS		**SS**		**02 53 53.0**	**-5.5**
HHC				pmax	pmax				
	comp=Z,14nm,0.9s								
HHC				pmax	pmax				
	comp=Z,280nm,7.0s								
HHC				LR	LR				
	comp=Z,2μm,13.8s								
HHC				LR	LR				
	comp=Z,3μm,13.8s								
HHC				LR	LR				
	comp=Z,2μm,14.7s								
STKI	**Sintang**	**38.13**	**247**	P		**P**		**02 45 32.8**	**+1.6**
HIA	**Hailar**	**38.18**	**332**	*e*P		**P**		**02 45 30.7**	**-0.5**
	comp=Z,6.4nm,0.6s								
HIA	**Hailar**	**38.18**	**332**	*e*P		**P**		**02 45 30.7**	**-0.5**
HIA				pmax	pmax				
	comp=Z,6.0nm,0.6s								
PLAI	**Plampang**	**38.22**	**229**	P		**P**		**02 45 31.6**	**-0.4**
KSM	**Kuching**	**38.51**	**250**	*e*P		**P**		**02 45 35.4**	**+0.9**
	comp=Z,74nm,0.6s								
KSM	**Kuching**	**38.51**	**250**	P		**P**		**02 45 36.0**	**+1.6**
WRAB	**Tennant Creek**	**38.89**	**198**	*e*P		**P**		**02 45 36.1**	**-1.3**
	comp=Z,48nm,0.8s								
WRAB	**Tennant Creek**	**38.89**	**198**	*c i*P		**P**		**02 45 36.5**	**-1.0**
WRAB				*i* *PP		**pP**		**02 46 03.4**	**-1.7**
WRAB				pmax	pmax				
	comp=Z,43nm,0.7s								
WB2	**Warramunga Arr**	**38.90**	**198**	*e*P		**P**		**02 45 36.6**	**-0.9**
WR1	**Warramunga Arr**	**38.90**	**198**	*e*P		**P**		**02 45 36.3**	**-1.3**
	comp=Z,61nm,0.8s								
WR1				*e*ScP		**ScP**		**02 51 20.5**	**-2.1**
WRA	**Warramunga Arr**	**38.90**	**198**	P		**P**		**02 45 36.3**	**-1.3**
	comp=Z,36nm,0.7s,baz=19,slow=9.4,SNR=1.8								
WRA				ScP		**ScP**		**02 51 20.5**	**-2.1**
	comp=Z,6.8nm,0.9s,baz=20,slow=4.3,SNR=0.6								
WRA				LR		LR		03 01 54.6	
	comp=Z,275nm,20.5s,baz=190,slow=36								
WRA	**Warramunga Arr**	**38.90**	**198**	P		**P**		**02 45 36.3**	**-1.3**
WRA								02 51 20.5	
WRA				pmax	pmax				
	comp=Z,37nm,0.8s								
WRA				pmax	pmax				
	comp=N,7.0nm,0.9s								
WRA				MLR	MLR				
	comp=Z,275nm,20.5s								
ZEA	**Zeya**	**39.02**	**342**	*e*P		P		02 45 51.4	+13
ZEA				*e*				02 51 23.8	
ZEA				pmax	pmax				
	comp=Z,10.0nm,0.8s								
SRBI	**Singaraja**	**39.63**	**233**	P		**P**		**02 45 45.4**	**+1.7**
	comp=Z,37nm,0.9s,comp=Z,815nm								
SKNT	**Sakolnakorn**	**40.09**	**276**	P		**P**		**02 45 50.7**	**+3.2**
	comp=Z,6.0nm,0.9s								
CD2	**Chengdu**	**40.56**	**297**	P		**P**		**02 45 51.8**	**+0.5**
CD2				pP		pP		02 46 19.6	+1.1
CD2				sP		sP		02 46 34.0	+1.5
CD2				PP		**PP**		**02 47 27.8**	**+0.6**
CD2				S		**S**		**02 51 52.3**	**+0.9**
CD2				pmax	pmax				
	comp=Z,40nm,0.5s								
CD2				pmax	pmax				
	comp=Z,220nm,4.8s								
CD2				LR	LR				
	comp=Z,1μm,17.2s								
CD2				LR	LR				
	comp=Z,1μm,15.2s								
FITZ	**Fitzroy Crossi**	**40.63**	**211**	*e*P		**P**		**02 45 52.7**	**+0.9**
	comp=Z,55nm,0.8s								
JAGI	**Jajag, Banyuwa**	**40.68**	**233**	*e*P		**P**		**02 45 53.3**	**+0.9**
	comp=Z,95nm,1.2s								
NONG	**Nongkai**	**40.76**	**278**	P		**P**		**02 45 56.1**	**+3.1**
	comp=Z,0.6nm,0.9s,comp=Z,111nm								
KMI	**Kunming**	**40.89**	**288**	P		**P**		**02 45 58.8**	**+4.5**
KMI				pP		pwP		02 46 23.6	-2.8
KMI				PP		**PnPn**		**02 47 33.5**	**-3.0**
KMI				S		**S**		**02 51 59.1**	**+2.4**
KMI				sS		sS		02 52 42.3	-2.6
KMI				pmax	pmax				
	comp=Z,120nm,5.5s								
KMI				LR	LR				
	comp=Z,210nm,9.8s								
KMI				LR	LR				
	comp=Z,260nm,11.9s								
KMI				LR	LR				
	comp=Z,440nm,34.2s								
LZH	**Lanzhou**	**41.58**	**305**	*e*P		**P**		**02 46 03.5**	**+3.8**
LZH				pP		pP		02 46 26.3	-0.8
LZH				sP		sP		02 46 39.3	-1.6
LZH				S		**S**		**02 52 12.8**	**+6.2**
LZH				sS		sS		02 52 52.1	-2.8
LZH				pmax	pmax				
	comp=Z,90nm,1.1s								
LZH				pmax	pmax				
	comp=Z,300nm,4.8s								
LZH				LR	LR				
	comp=Z,1μm,14.1s								
LZH				LR	LR				
	comp=Z,890nm,15.7s								
LZH

SONM LR LR 03 05 37.1
comp=Z,86nm,20.0s,baz=116,slow=37
SONA1 Songino Array 44.29 322 *e*P **P 02 46 22.0 +0.7**
UTHA Uthaitani 44.60 275 P **P 02 46 26.4 +2.3**
comp=Z,21nm,0.7s,comp=Z,136nm
CMMT Chiang Mai 44.64 279 P **P 02 46 26.9 +2.5**
comp=Z,16nm,1.0s,comp=Z,602nm
CHTO Chiang Mai 44.64 279 *e*P **P 02 46 25.9 +1.5**
comp=Z,10nm,0.8s
CHTO Chiang Mai 44.64 279 *e*P **P 02 46 25.9 +1.5**
CHTO pmax pmax
comp=Z,10.0nm,0.8s
CHTO Chiang Mai 44.64 279 P **P 02 46 27.0 +2.6**
comp=Z,72nm,1.0s
CM01 Chiang Mai Arr 44.67 279 *e*P **P 02 46 26.3 +1.7**
CM31 Chiang Mai Arr 44.68 279 *e*P **P 02 46 27.3 +2.6**
CM31 *e*ScP **ScP 02 51 45.5 -0.4**
CMAR Chiang Mai Arr 44.68 279 P **P 02 46 26.0 +1.3**
comp=Z,35nm,1.0s,baz=71,slow=6.5,SNR=72
CMAR ScP **ScP 02 51 45.5 -0.4**
comp=Z,1.2nm,0.3s,baz=137,slow=3.3,SNR=5.3
CMAR LR LR 03 04 19.8
comp=Z,61nm,21.8s,baz=91,slow=35
CMAR Chiang Mai Arr 44.68 279 *i* P **P 02 46 26.5 +1.8**
CMAR pmax pmax
comp=Z,35nm,1.0s
PHET Kaeng Krachan 44.90 271 P **P 02 46 30.5 +4.0**
comp=Z,13nm,0.8s
UMPA Umpang Tak 45.05 276 P **P 02 46 31.2 +3.5**
comp=Z,17nm,1.0s,comp=Z,919nm
SRDT SRDT 45.11 273 P **P 02 46 30.9 +2.8**
comp=Z,26nm,0.8s
CISI Cisompet, Garu 45.19 240 *e*P **P 02 46 28.0 -0.8**
comp=Z,51nm,0.5s
GTA Gaotai 45.53 308 *e*P **P 02 46 33.8 +2.5**
GTA pP pwP 02 47 01.9 -1.6
GTA sP sP 02 47 17.0 +4.0
GTA ScP **ScP 02 51 47.9 -1.3**
GTA S **S 02 53 05.3 +1.3**
GTA sS sS 02 53 52.9 0.0
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,110nm,8.9s
GTA LR LR
comp=Z,670nm,18.5s
GTA LR LR
comp=Z,310nm,20.3s
GTA LR LR
comp=Z,430nm,20.6s
SEY Seymchan 45.63 4 P **P 02 46 32.1 +0.6**
comp=Z,5.0nm,0.5s,baz=184,slow=6.3,SNR=13
SEY Seymchan 45.63 4⇑ *e*P **P 02 46 32.2 +0.7**
IPM Ipoh 45.88 259 *e*P **P 02 46 36.9 +2.7**
comp=Z,16nm,0.6s
IPM Ipoh 45.88 259 P **P 02 46 36.9 +2.7**
KULM Kulim 45.96 260 *e*P **P 02 46 37.1 +2.3**
comp=Z,32nm,0.6s
YAK Yakutsk 45.98 349 *e*P **P 02 46 31.9 -2.3**
YAK *e**PP **sP 02 47 15.4 -1.2**
YAK *e* 02 48 15.2
YAK *e*S **S 02 53 03.8 -5.5**
YAK *e* 02 56 10.8
YAK pmax pmax
comp=Z,25nm,1.1s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK pmax pmax
comp=Z,121nm,3.0s
YAK pmax pmax
comp=E,95nm,2.8s
YAK pmax pmax
comp=N,73nm,3.2s
YAK smax smax
comp=E,83nm,2.3s
YAK smax smax
comp=N,47nm,2.1s
MBWA Marble Bar 46.23 215 *e*P **P 02 46 37.0 +0.2**
comp=N,76nm,0.8s
ATKA Atka Island 46.65 33 *e*P **P 02 46 40.9 +1.2**
comp=N,81nm,0.7s
BOD Bodaibo 46.75 337 *e*P **P 02 46 39.7 -0.6**
BOD pmax pmax
comp=Z,9.0nm,1.6s
ZAK Zakamensk 47.31 324 *e*P **P 02 46 43.6 -1.4**
ZAK pmax pmax
comp=Z,3.0nm,0.2s
ZAK pmax pmax
comp=Z,4.0nm,1.3s
ARMA Armidale 47.92 173 *e*P **P 02 46 50.3 +0.5**
comp=Z,76nm,1.1s
PSI Prapat 48.42 258 *e*P **P 02 46 56.4 +2.3**
comp=Z,21nm,0.7s
PSI Prapat 48.42 258 *e*P **P 02 46 56.4 +2.3**
PSI pmax pmax
comp=Z,21nm,0.7s
XMIS Christmas Isla 48.59 238 *e*P **P 02 46 53.2 -2.0**
comp=Z,136nm,1.4s
MOY Mondy 49.18 324 *e*P P 02 47 15.0 +16
MOY pmax pmax
comp=Z,19nm,3.3s
STKA Stephens Creek 49.25 185 P **P 02 46 59.1 -0.7**
comp=Z,18nm,0.6s,baz=349,slow=9.1,SNR=30
STKA S **S 02 53 51.8 -4.5**
comp=Z,0.4nm,0.2s,baz=270,slow=20,SNR=2.6
STKA LR LR 03 10 08.4
comp=Z,103nm,18.4s,baz=6.2,slow=39
STKA Stephens Creek 49.25 185 *e*P **P 02 46 59.4 -0.4**
comp=Z,4.6nm,0.9s
STKA Stephens Creek 49.25 185 *e*P **P 02 46 59.4 -0.4**
STKA pmax pmax
comp=Z,5.0nm,0.9s
GSI Gunungsitoli 50.22 257 *e*P **P 02 47 08.3 +0.7**
comp=Z,105nm,0.5s
GIRL Giralia 50.55 219 *e*P **P 02 47 12.4 +2.6**
comp=Z,178nm,1.1s
SHL Shillong 50.71 289 *e*P **P 02 47 11.6 +0.2**
comp=Z,22nm,0.3s
SHL Shillong 50.71 289 *e*P **P 02 47 11.6 +0.2**
SHL pmax pmax
comp=Z,23nm,0.3s
SHL Shillong 50.71 289 *e*P **P 02 47 10.9 -0.4**
SHL IAmb IAmb 02 47 14.4
comp=Z,23nm,0.2s
BBOO Buckleboo 50.89 191 *e*P **P 02 47 12.1 -0.2**
comp=Z,108nm,0.6s
FORT Forrest 50.98 200 *e*P **P 02 47 13.1 +0.2**
comp=Z,85nm,0.6s
SPIA Saint Paul Isl 51.26 29 *e*P **P 02 47 16.5 +1.8**
comp=Z,170nm,0.8s
LSA Lhasa 51.31 294 *e*P **P 02 47 19.8 +3.6**
comp=Z,15nm,0.7s
LSA Lhasa 51.31 294 *e*P **P 02 47 19.8 +3.6**
LSA pmax pmax
comp=Z,15nm,0.7s
UNV Unalaska Valle 51.50 34 *e*P **P 02 47 17.3 +0.7**
comp=Z,57nm,0.7s
PBA Port Blair 51.75 271 *e*P P 02 47 20.4 +1.4
CMBY CAMPBELL BAY 51.80 265 *e*P **P 02 47 18.7 -0.8**
AKUT Akutan 52.02 34 *e*P **P 02 47 21.0 +0.7**
comp=Z,116nm,0.8s
BILL Bilibino 52.18 9 *e*P **P 02 47 21.6 +0.2**
comp=Z,24nm,0.8s
BILL Bilibino 52.18 9 *d i*P **P 02 47 21.4 0.0**
BILL pmax pmax
comp=Z,26nm,0.8s
CAN Canberra 52.58 177 *e*P **P 02 47 25.0 +0.2**
comp=Z,136nm,1.2s
CAN Canberra 52.58 177 *e*P **P 02 47 25.0 +0.2**
CAN pmax pmax
comp=Z,136nm,1.2s
KIP Kipapa 52.71 76 *e*P **P 02 47 27.8 +1.8**
comp=Z,78nm,0.8s
KIP Kipapa 52.71 76 *e*P **P 02 47 27.8 +1.8**
KIP pmax pmax
comp=Z,78nm,0.8s
FALS False Pass 53.57 34 *e*P **P 02 47 32.7 +0.9**
comp=Z,109nm,0.8s
KHLH Kahului Airpor 54.24 77 *e*P **P 02 47 40.5 +3.3**
comp=Z,225nm,1.5s
GAMB Gambell 54.48 22 *e*P **P 02 47 39.4 +1.2**
comp=Z,28nm,0.8s
MORW Morawa 54.58 212 *e*P **P 02 47 39.1 -0.4**
comp=Z,94nm,0.6s
ODAN Odare 54.68 291 *e*P **P 02 47 37.6 -3.1**
comp=Z,5.7nm,0.3s
TOO Toolangi 54.75 181 *e*P **P 02 47 41.6 +1.1**
comp=Z,53nm,1.0s
TOO Toolangi 54.75 181 *e*P **P 02 47 41.6 +1.1**
TOO pmax pmax
comp=Z,53nm,1.0s
MHA Mahukona 54.81 77 *e*P **P 02 47 44.3 +3.0**
MHA Mahukona 54.81 77 *e*P **P 02 47 44.3 +3.0**
KHLU Kahalu`u 54.90 78 *e*P **P 02 47 44.0 +1.8**
comp=Z,185nm,0.8s
HPAH Hawaii Prepara 55.02 77 *e*P **P 02 47 44.9 +1.9**
comp=Z,196nm,0.8s
TIXI Tiksi 55.12 353 P **P 02 47 40.5 -2.2**
comp=Z,2.0nm,0.4s,baz=155,slow=6.1,SNR=4.6
TIXI Tiksi 55.12 353⇓ *e*P **P 02 47 41.1 -1.6**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
POHA Pohakuloa 55.22 78 *e*P **P 02 47 46.6 +2.0**
comp=Z,230nm,0.8s
HMH Hunu'ula Sheep 55.28 78 *e*P **P 02 47 47.8 +2.7**
comp=Z,554nm,1.5s
SDPT Sand Point 55.32 34 *e*P **P 02 47 45.4 +1.0**
comp=Z,239nm,0.8s
WMQ Urumqi 55.34 312 *e*P **P 02 47 47.6 +2.7**
WMQ PcP **PcP 02 48 47.3 +3.3**
WMQ S **S 02 55 26.3 +6.9**
WMQ pmax pmax
comp=Z,25nm,1.9s
WMQ pmax pmax
comp=Z,210nm,4.9s
WMQ LR LR
comp=Z,610nm,25.1s
WMQ LR LR
comp=Z,360nm,25.1s
WMQ LR LR
comp=Z,520nm,28.7s
WMQ Urumqi 55.34 312 *e*P **P 02 47 45.0 +0.1**
WMQ Urumqi 55.34 312 *e*P **P 02 47 45.0 +0.1**
AIN Ainahou 55.34 78 *e*P **P 02 47 47.7 +2.3**
comp=Z,336nm,0.9s
RAMN Ramite 55.38 291 *e*P **P 02 47 42.9 -2.8**
comp=Z,1.6nm,0.3s
MLH Mauna Loa 55.39 78 *e*P **P 02 47 48.0 +2.2**
comp=Z,205nm,1.0s
MLH Mauna Loa 55.39 78 *e*P **P 02 47 48.1 +2.2**
MLH pmax pmax
comp=Z,205nm,1.0s
WRMHI West Rim 55.48 78 *e*P **P 02 47 48.4 +2.0**
comp=Z,231nm,0.8s
UWE Uwekahuna 55.49 78 *e*P **P 02 47 48.5 +2.1**
comp=Z,196nm,0.9s
SDHHI Sand Hill 55.49 78 *e*P **P 02 47 48.4 +2.0**
comp=Z,238nm,0.8s
NPH North Pit 55.50 78 *e*P **P 02 47 48.4 +1.9**
comp=Z,72nm,0.8s
NPH North Pit 55.50 78 *e*P **P 02 47 48.4 +1.9**
NPH pmax pmax
comp=Z,72nm,0.8s
UWB Uwekahuna B 55.50 78 *e*P **P 02 47 48.5 +2.0**
comp=Z,116nm,1.0s
RIM Rim 55.51 78 *e*P **P 02 47 48.5 +2.0**
comp=Z,178nm,0.8s
KKO Keanakako`i 55.51 78 *e*P **P 02 47 49.0 +2.4**
comp=Z,236nm,0.9s
PUH Pauahi 55.56 78 *e*P **P 02 47 48.9 +2.0**
comp=Z,183nm,0.9s
JIRN Jiri 55.71 292 *e*P P 02 47 40.5 -7.7
comp=Z,21nm,0.6s
BOK Bokaro 56.27 287 *e*P **P 02 47 51.8 0.0**
BOK IAmb IAmb 02 47 55.7
comp=Z,73nm,0.2s
PKI Pulchoki 56.41 292 *e*P P 02 47 46.8 -6.3
comp=Z,7.2nm,0.5s
PKIN Phulchoki 56.42 292 *e*P P 02 47 48.0 -5.1
comp=Z,8.8nm,0.5s
KKN Kakani 56.51 292 *e*P P 02 47 46.3 -7.4
comp=Z,4.5nm,0.4s
DGZ Jazzator, Alta 56.63 318 *de*P **P 02 47 53.7 -0.4**
DGZ pmax pmax
comp=Z,2.0nm,0.9s
DMN Daman 56.67 292 *e*P P 02 47 49.5 -5.4
comp=Z,9.1nm,0.5s
CHGN Chignik 56.74 33 *e*P **P 02 47 55.1 +0.6**
comp=Z,131nm,1.2s
NWAO Narrogin (SRO) 57.17 209 *e*P **P 02 47 57.8 0.0**
comp=Z,62nm,0.7s
NWAO Narrogin (SRO) 57.17 209 *e*P **P 02 47 57.8 0.0**
NWAO pmax pmax
comp=Z,62nm,0.7s
ANM Nome 57.21 23 *e*P **P 02 47 58.8 +1.1**
comp=Z,26nm,0.8s
ANM Nome 57.21 23 *e*P **P 02 47 58.8 +1.1**
ANM pmax pmax
comp=Z,26nm,0.8s
DANN Dangsing 57.81 293 *e*P P 02 47 55.5 -7.5
comp=Z,1.5nm,0.3s
KOLN Koldanda 57.99 292 *e*P **P 02 48 01.8 -2.3**
comp=Z,14nm,0.5s
ZAA0 Zalesovo Array 59.17 323 *e*P **P 02 48 10.1 -1.4**
comp=Z,6.3nm,0.9s
ZALV Zalesovo Beam 59.17 323 P **P 02 48 09.1 -2.4**
comp=Z,2.3nm,0.6s,baz=104,slow=6.6,SNR=11
ZALV ScP **ScP 02 52 44.9 -2.8**
comp=Z,3.7nm,0.9s,baz=98,slow=3.1,SNR=3.7
ZALV S **S 02 56 05.9 -3.1**
comp=Z,0.6nm,0.6s,baz=84,slow=15,SNR=3.7
ZALV LR LR 03 14 26.5
comp=Z,76nm,18.5s,baz=68,slow=37
ZALV Zalesovo Beam 59.17 323 *e*P **P 02 48 09.6 -1.9**
ZALV Zalesovo Beam 59.17 323 *i* P **P 02 48 12.8 +1.3**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
ZAA1 Zalesovo Array 59.17 323 *e*P **P 02 48 09.1 -2.4**
ZAA1 *e*ScP **ScP 02 52 44.9 -2.8**
MK01 Makanchi Array 59.52 314 *e*P **P 02 48 13.2 -0.8**
MK31 Makanchi Array 59.52 314 *e*P **P 02 48 13.6 -0.6**
MK31 Makanchi Array 59.52 314 *e*P **P 02 48 13.6 -0.6**
MK32 Makanchi Array 59.52 314 *e*P **P 02 48 13.2 -1.0**
MK32 *e*ScP **ScP 02 52 47.5 -2.0**
MKAR Makanchi Array 59.52 314 P **P 02 48 13.2 -1.0**
comp=Z,0.9nm,0.4s,baz=89,slow=7.6,SNR=26
MKAR ScP **ScP 02 52 47.5 -2.0**
comp=Z,2.4nm,0.9s,baz=93,slow=4.7,SNR=4.2
MKAR LR LR 03 16 10.8
comp=Z,82nm,18.9s,baz=92,slow=38
MKAR PKP2bc 03 17 51.0
comp=Z,0.5nm,0.7s,baz=267,slow=2.4,SNR=3.7
MKAR Makanchi Array 59.52 314 *e*P **P 02 48 13.6 -0.6**
comp=Z,26nm,0.8s
MKAR Makanchi Array 59.52 314 *ce*P **P 02 48 13.3 -0.9**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
OHAK Old Harbor 59.71 33 *e*P **P 02 48 16.2 +1.1**
comp=Z,108nm,0.9s
MAKZ Makanchi 59.74 314 *e*P **P 02 48 15.3 -0.3**
comp=Z,5.6nm,0.8s
MAKZ Makanchi 59.74 314 *e*P **P 02 48 15.3 -0.3**
MAKZ pmax pmax
comp=Z,6.0nm,0.8s
RDOG Red Dog Mine 59.88 20 *e*P **P 02 48 17.6 +1.4**
comp=Z,32nm,1.0s
KDAK Kodiak Island 60.22 33 P **P 02 48 19.5 +0.9**
comp=Z,34nm,0.4s,baz=203,slow=2.5,SNR=99
KDAK S **S 02 56 24.9 +2.5**
comp=Z,17nm,1.0s,baz=229,slow=17,SNR=8.3
KDAK Kodiak Island 60.22 33 *e*P **P 02 48 19.8 +1.1**
comp=Z,54nm,0.7s
H01W1 Cape Leeuwin H 60.23 210 P **P 02 48 19.7 +1.0**
baz=78,slow=5.4,SNR=3.4
H01W3 Cape Leeuwin H 60.23 210 P **P 02 48 20.4 +1.7**
baz=78,slow=5.4,SNR=3.0
H01W2 Cape Leeuwin H 60.24 210 P **P 02 48 20.6 +1.8**
baz=78,slow=5.4,SNR=2.5
NVS Novosibirsk 60.27 324 *e*P P 02 48 24.8 +5.8
RSO Redoubt South 60.88 30 *e*P **P 02 48 24.3 +1.0**
PDGK Podgornoye 61.22 310 P **P 02 48 25.3 -0.6**
PDGK pmax pmax
comp=Z,14nm,1.1s
BRLK Bradley Lake 61.59 31 *e*P **P 02 48 28.3 +0.4**
comp=Z,64nm,0.9s
PPLA Purkeypile 61.85 27 *e*P **P 02 48 31.2 +1.4**
comp=Z,46nm,1.3s
CAST Castle Rocks 62.05 27 *e*P **P 02 48 32.0 +1.0**
comp=Z,43nm,0.8s
IM3 Indian Mountai 62.22 24 *e*P **P 02 48 32.6 +0.6**
SEW Seward 62.37 31 *e*P **P 02 48 34.1 +1.0**
comp=Z,64nm,0.9s
KURK Kurchatov 62.38 319 *e*P **P 02 48 32.2 -1.1**
comp=Z,16nm,0.9s
KURK Kurchatov 62.38 319⇑ *e*P **P 02 48 32.8 -0.5**
KURK pmax pmax
comp=Z,15nm,1.2s
RC01 Rabbit Creek A 62.47 30 *e*P **P 02 48 34.4 +0.6**
comp=Z,50nm,1.1s
DDI Dehra Dun 62.63 296 *e*P **P 02 48 34.5 -1.0**
DDI IAmb IAmb 02 48 37.2
comp=Z,192nm,0.1s
BPAW Bear Paw Mtn. 62.72 26 *e*P **P 02 48 36.3 +0.9**
comp=Z,36nm,0.8s
TRF Thorofare Moun 62.84 27 *e*P **P 02 48 36.6 +0.2**
comp=Z,28nm,0.8s
PMR Palmer 62.88 29 *e*P **P 02 48 36.2 -0.2**
comp=Z,20nm,0.9s
PMR Palmer 62.88 29 *e*P **P 02 48 36.2 -0.2**
PMR pmax pmax
comp=Z,20nm,0.9s
GHO Glory Hole Cre 63.02 29 *e*P **P 02 48 38.2 +0.7**
comp=Z,31nm,0.8s
MLY Manley 63.10 25 *e*P **P 02 48 38.7 +0.8**
comp=Z,30nm,0.8s
BKZ Black Stump Fm 63.14 154 *e*P **P 02 48 39.1 +0.6**
comp=Z,48nm,1.4s
KNK Knik Glacier 63.15 29 *e*P **P 02 48 39.3 +1.0**
comp=Z,39nm,0.8s
SML Sawmill 63.30 29 *e*P **P 02 48 39.9 +0.6**
comp=Z,77nm,0.9s
SML Sawmill 63.30 29 *e*P **P 02 48 39.9 +0.6**
SML pmax pmax
comp=Z,77nm,0.9s
SMLA Simla 63.33 296 *e*P **P 02 48 40.1 +0.2**
RND Reindeer 63.45 27 *e*P **P 02 48 40.4 +0.1**
comp=Z,22nm,0.8s
RND Reindeer 63.45 27 *e*P **P 02 48 40.4 +0.1**
RND pmax pmax
comp=Z,22nm,0.8s
MCK McKinley 63.49 27 *e*P **P 02 48 40.9 +0.4**
comp=Z,37nm,1.4s
MCK McKinley 63.49 27 *e*P **P 02 48 40.9 +0.4**
MCK pmax pmax
comp=Z,37nm,1.4s
NRN Naryn 63.76 308 *e*P **P 02 48 44.0 +0.9**
comp=Z,7.0nm,1.0s
NRN *e*pP **pP 02 49 10.2 -2.5**
SCM Sheep Creek Mo 63.77 29 *e*P **P 02 48 43.7 +1.3**
comp=Z,70nm,0.8s
SCM Sheep Creek Mo 63.77 29 *e*P **P 02 48 43.7 +1.3**
SCM pmax pmax
comp=Z,70nm,0.8s
KSH Kashi 63.82 306 P **P 02 48 46.0 +2.8**
KSH pP pP 02 49 12.8 -0.1
KSH PcP **PcP 02 49 20.6 +2.6**
KSH S **S 02 57 07.6 -1.0**
KSH sS sS 02 58 04.3 +5.0
KSH ScS **SKSac 02 58 25.5 +0.4**
KSH pmax pmax
comp=Z,13nm,0.8s
KSH pmax pmax
comp=Z,260nm,5.0s
KSH LR LR
comp=Z,350nm,5.9s
KSH LR LR
comp=Z,470nm,5.7s
KSH LR LR
comp=Z,610nm,12.2s
COLD Coldfoot 63.97 23 *e*P **P 02 48 45.2 +1.7**
comp=Z,6.3nm,0.7s
DHRM DHARAMSHALA 63.97 298 *e*P **P 02 48 44.2 -0.2**
DHRM IAmb IAmb 02 49 05.3
comp=Z,14nm,0.7s
HYB Hyderabad 64.01 281 *i* P **P 02 48 44.0 -0.7**
HYB Hyderabad 64.01 281 *e*P **P 02 48 43.5 -1.2**
HYB IAmb IAmb 02 48 46.4
comp=Z,4.8nm,0.3s
DHY Denali Highway 64.02 28 *e*P **P 02 48 45.0 +0.8**
comp=Z,15nm,0.4s
WRH Wood River Hil 64.04 26 *e*P **P 02 48 43.7 -0.3**
comp=Z,16nm,0.9s
BHPL Bhopal 64.05 288 *e*P **P 02 48 44.0 -0.9**
BHPL IAmb IAmb 02 48 46.9
comp=Z,9.4nm,0.3s
MDM Murphy Dome 64.10 26 *e*P **P 02 48 45.5 +1.0**
comp=Z,20nm,0.7s
TCOL CIGO, UAF Yank 64.23 26 P **P 02 48 45.0 -0.3**
baz=256
COLA College 64.24 26 *e*P **P 02 48 46.7 +1.4**
comp=Z,17nm,0.8s
COLA College 64.24 26⇓ *e*P **P 02 48 46.4 +1.1**
COLA pmax pmax
comp=Z,14nm,0.8s
KLU Klutina 64.36 30 *e*P **P 02 48 47.8 +1.5**
comp=Z,29nm,0.9s
DIV Divide 64.36 30 *e*P **P 02 48 47.5 +1.3**
comp=Z,24nm,0.6s
POKR Poker Plat Res 64.47 25 P **P 02 48 46.7 -0.2**
baz=256
HDA Harding Lake 64.51 26 *e*P **P 02 48 46.9 -0.2**
comp=Z,12nm,0.8s
HDA Harding Lake 64.51 26 P **P 02 48 46.6 -0.5**
baz=257
IL1 Eielson Array 64.61 26 *e*P **P 02 48 46.7 -1.0**
ILAR Eielson Array 64.61 26 P **P 02 48 47.0 -0.8**
comp=Z,12nm,0.7s,baz=250,slow=5.9,SNR=202
ILAR S **S 02 57 21.0 +3.7**
comp=Z,0.3nm,0.9s,baz=263,slow=14,SNR=4.1
ILB Eielson Array 64.61 26 *e*P **P 02 48 47.0 -0.8**
PAX Paxson 64.85 28 *e*P **P 02 48 50.1 +0.7**
comp=Z,24nm,0.6s
PAX Paxson 64.85 28 *e*P **P 02 48 50.1 +0.7**
PAX pmax pmax
comp=Z,25nm,0.6s
AAK Ala-Archa 64.87 309⇓ *e*P **P 02 48 49.7 -0.4**
AAK pmax pmax
comp=Z,3.0nm,1.0s
HARP HAARP 64.88 29 *e*P **P 02 48 50.8 +1.2**
comp=Z,58nm,0.8s
BMRM Bremner River 64.89 30 *e*P **P 02 48 50.5 +0.7**
HMT Hamilton 64.96 31 *e*P **P 02 48 51.3 +1.2**
comp=Z,42nm,0.9s
OXZ Oxford 65.05 159 *e*P **P 02 48 51.2 +0.4**
comp=Z,36nm,1.2s
RIDG Independ'e Rid 65.27 27 *e*P **P 02 48 52.6 +0.5**
comp=Z,34nm,0.9s
DOT Dot Lake 65.60 27 *e*P **P 02 48 54.6 +0.4**
comp=Z,29nm,0.8s
FYU Fort Yukon 65.69 24 *e*P **P 02 48 56.1 +1.5**
comp=Z,87nm,1.4s
SCRK Sand Creek 65.69 27 *e*P **P 02 48 55.2 +0.3**
comp=Z,21nm,0.9s
SFK Sufi-Kurgan 65.70 307 *i* P **P 02 48 55.0 -0.6**
SFK pmax pmax
comp=Z,17nm,1.2s
ARSB Arslanbob 66.04 308 *e*P **P 02 48 57.9 +0.3**
comp=Z,9.4nm,0.9s
NIL Nilore 66.39 300 *e*P **P 02 49 00.7 +0.9**
comp=Z,24nm,0.8s
NIL Nilore 66.39 300 *e*P **P 02 49 00.7 +0.9**
NIL pmax pmax
comp=Z,25nm,0.8s
EGAK Eagle 67.03 26 *e*P **P 02 49 03.7 +0.4**
comp=Z,8.3nm,0.4s
TRD Trivandrum 67.58 272 *e*P **P 02 49 06.2 -1.4**
BVA0 Borovoye Array 67.61 321 *i* P **P 02 49 06.0 -1.1**
BVA0 pmax pmax
comp=Z,5.0nm,1.0s
BRVK Borovoye 67.67 321 *e*P **P 02 49 06.5 -1.0**
comp=Z,5.3nm,0.7s
BRVK Borovoye 67.67 321 *d i*P **P 02 49 06.4 -1.1**
BRVK pmax pmax
comp=Z,8.0nm,1.1s
DAWY Dawson 67.70 27 *e*P **P 02 49 08.7 +1.1**
comp=Z,17nm,0.8s
KK31 Karatay Array 67.78 310 *e*P **P 02 49 07.6 -0.8**
KK31 Karatay Array 67.78 310 *e*P **P 02 49 07.6 -0.8**
KKAR Karatay Array 67.78 310 *e*P **P 02 49 07.6 -0.8**
KKAR Karatay Array 67.78 310 *e*P **P 02 49 07.6 -0.8**
POO Poona 68.18 283 *e*P **P 02 49 08.6 -2.8**
HYT Haines Junctio 68.32 31 *e*P **P 02 49 13.8 +2.2**
comp=Z,42nm,0.9s
GOA Goa 68.85 280 *e*P **P 02 49 13.7 -1.8**
EPYK Eagle Plains 69.03 25 *e*P **P 02 49 16.6 +0.8**
comp=Z,20nm,0.8s
EPYK Eagle Plains 69.03 25 P **P 02 49 15.9 0.0**
baz=266

SKAG **Skagway** 69.37 32 *e*P P 02 49 19.6 +1.7
comp=Z,14nm,0.8s
WHY **Whitehorse** 69.61 31 *e*P P 02 49 20.9 +1.4
comp=Z,51nm,1.4s
BESE **Bessie Mountai** 69.61 33 *e*P P 02 49 21.4 +1.9
comp=Z,47nm,1.3s
KBL **Kabul** 69.75 301 *e*P P 02 49 21.1 +0.1
comp=Z,6.6nm,0.7s
KBL **Kabul** 69.75 301 *e*P P 02 49 21.1 +0.1
KBL pmax pmax
comp=Z,7.0nm,0.7s
JIS **Juneau Island** 69.86 34 *e*P P 02 49 22.8 +1.9
comp=Z,26nm,1.0s
INK **Inuvik** 70.39 23 P P 02 49 24.3 +0.4
comp=Z,27nm,0.9s,baz=267,slow=6.4,SNR=111
INK S S 02 58 24.4 -1.6
comp=Z,3.5nm,1.0s,baz=40,slow=17,SNR=28
INK **Inuvik** 70.39 23 *e*P P 02 49 24.0 +0.1
comp=Z,27nm,0.8s
BHJ **Bhuj** 71.08 289 *e*P P 02 49 27.8 -1.2
BHJ IAmb IAmb 02 49 33.0
comp=Z,15nm,0.4s
DLBC **Dease Lake** 72.15 33 P P 02 49 36.6 +1.8
comp=Z,15nm,0.4s,baz=256,slow=7.1,SNR=26
DLBC **Dease Lake** 72.15 33 *e*P P 02 49 36.7 +1.8
comp=Z,19nm,0.5s
PPT **Papeete** 72.32 115 P P 02 49 39.1 +2.6
comp=Z,88nm,1.0s,baz=324,slow=5.9,SNR=5.4
PPT LR LR 03 13 47.6
comp=Z,173nm,19.8s,baz=332,slow=29
PPT2 **Papeete2** 72.33 115 *e*T T 02 50 42.9
comp=Z,4.2nm,0.3s
PPT2 **Papeete2** 72.33 115 *e*P P 02 49 38.5 +1.9
comp=Z,90nm,1.1s
PPT2 *e*S S 02 58 47.1 -3.1
comp=Z,134nm,28.8s
PPT2 *e*LQ LQ 03 08 37.0
comp=Z,806nm,25.2s
PPT2 *e*LR LR 03 11 27.7
comp=Z,819nm,32.8s
PPTF **Pamatai, Papee** 72.34 115 *e*P P 02 49 39.6 +2.9
comp=Z,136nm,1.2s
PAE **Paea** 72.36 116 *e*T T 02 50 37.7
comp=Z,1.7nm,0.3s
PAE **Paea** 72.36 116 *e*P P 02 49 38.2 +1.6
comp=Z,9.2nm,0.8s
TVO **Taravao** 72.69 116 *e*T T 02 50 33.0
comp=Z,1.4nm,0.3s
PMOR **Pomariorio Ree** 72.72 112 *e*P P 02 49 40.7 +1.8
comp=Z,216nm,1.0s
VAH **Vaihoa** 73.06 112 *e*P P 02 49 42.4 +1.6
comp=Z,111nm,1.1s
BBB **Bella Bella** 73.90 40 P P 02 49 46.0 +0.9
comp=Z,15nm,0.7s,baz=285,slow=4.8,SNR=6.9
BBB **Bella Bella** 73.90 40 *e*P P 02 49 46.0 +0.9
comp=Z,64nm,1.4s
ARU **Arti** 74.23 325 *e*P P 02 49 45.7 -1.4
comp=Z,8.6nm,0.7s
ARU **Arti** 74.23 325 *d i*P P 02 49 45.6 -1.5
ARU 02 50 00.4
ARU *PP pP 02 50 17.7 +0.1
ARU 02 52 31.8
ARU S S 02 59 10.2 -0.2
ARU SS SS 03 03 53.6 -4.4
ARU pmax pmax
comp=Z,8.0nm,0.7s
AB31 **Akbulak array** 74.44 317 *i*P P 02 49 46.4 -2.0
AB31 pmax pmax
comp=Z,4.0nm,0.7s
ABKAR **Akbulak array** 74.44 317 *e*P P 02 49 46.5 -1.9
TBI **Tubuai** 74.95 121 *e*S S 02 59 16.3 -3.0
comp=Z,169nm,25.8s
TBI **Tubuai** 74.95 121 *e*LR LR 03 12 23.7
comp=Z,158nm,39.2s
AKTO **Aktyubinsk** 75.48 319 P P 02 49 52.0 -2.3
AKTO pmax pmax
comp=Z,3.0nm,0.7s
NLWA **Neilton Lookou** 77.44 44 *e*P P 02 50 07.8 +2.3
comp=Z,31nm,0.9s
PGC **Sidney** 77.45 43 *e*P P 02 50 07.1 +1.7
comp=Z,23nm,0.8s
TAOE **Nuku Hiva Isla** 77.48 104 *e*LR LR 03 13 59.9
comp=Z,643nm,28.3s
GEYT **Alibeck** 77.85 306 P P 02 50 07.5 -0.6
comp=Z,4.5nm,1.1s,baz=75,slow=6.1,SNR=4.4
GEYT LR LR 03 26 37.5
comp=Z,122nm,21.5s,baz=50,slow=37
A04D **Lummi Island** 77.92 43 P P 02 50 09.6 +1.6
baz=283,SNR=15
D03D **Eldon** 77.92 44 P P 02 50 10.3 +2.1
baz=283,SNR=21
KEBM **Edson Butte** 78.09 49 *e*P P 02 50 12.2 +3.0
comp=Z,83nm,1.0s
I02D **Swisshome** 78.16 47 P P 02 50 11.3 +1.8
baz=283
D04E **Lakebay** 78.21 44 P P 02 50 11.1 +1.4
baz=283
J01E **Myrtle Point** 78.31 48 P P 02 50 12.1 +1.7
baz=283
G03D **McMinnville, O** 78.32 46 P P 02 50 12.4 +2.0
baz=283
B05A **Bryant** 78.41 43 P P 02 50 12.6 +1.8
baz=283,SNR=19
E04D **Cinebar** 78.49 45 P P 02 50 13.1 +1.9
baz=283,SNR=8.7
I03D **Drain, OR** 78.60 48 P P 02 50 13.9 +1.9
baz=283,SNR=6.7
K02D **Willamette Mer** 78.61 49 P P 02 50 13.4 +1.3
baz=283
D05A **Enumclaw** 78.73 44 *e*P P 02 50 14.9 +2.3
comp=Z,48nm,0.8s
B06A **Marblemount** 78.75 43 *e*P P 02 50 14.3 +1.7
comp=Z,22nm,0.8s
L02E **Cave Junction** 78.77 49 P P 02 50 14.8 +1.9
baz=283,SNR=7.9
H04D **Lebanon** 78.84 47 P P 02 50 15.0 +1.7
baz=284
YKW3 **Yellowknife Ar** 78.91 28 *e*P P 02 50 13.4 +0.2
comp=Z,16nm,0.8s
YKA **Yellowknife Ar** 78.93 28 P P 02 50 13.4 +0.1
comp=Z,14nm,0.7s,baz=289,slow=5.5,SNR=157
YKA S S 03 00 00.3 -1.0
comp=Z,0.5nm,0.9s,baz=284,slow=8.9,SNR=3.5
YKB5 **Yellowknife Ar** 78.93 28 *e*P P 02 50 12.6 -0.8
LON **Longmire** 78.95 44 *e*P P 02 50 15.1 +1.2
comp=Z,11nm,0.6s
LON **Longmire** 78.95 44 *e*P P 02 50 15.1 +1.2
LON pmax pmax
comp=Z,11nm,0.6s
KHMM **Horse Mountain** 78.98 51 *e*P P 02 50 17.1 +2.8
comp=Z,42nm,0.8s
HUMO **Hull Mountain** 79.14 49 *e*P P 02 50 16.5 +1.5
comp=Z,20nm,0.8s
KMRM **Mail Ridge** 79.15 51 *e*P P 02 50 17.8 +2.7
comp=Z,28nm,0.9s
H04A **Detroit Lake** 79.19 47 *e*P P 02 50 16.6 +1.4
comp=Z,35nm,0.8s
I04A **Tendick Farm,** 79.24 47 P P 02 50 16.8 +1.3
baz=284,SNR=15
C06D **Leavenworth** 79.28 43 P P 02 50 17.0 +1.4
baz=284,SNR=6.1
KCPM **Cahto Peak** 79.37 52 *e*P P 02 50 18.9 +2.5
comp=Z,82nm,0.7s
F05D **White Salmon** 79.39 45 P P 02 50 17.9 +1.6
baz=284,SNR=8.6
M02C **Callahan** 79.50 50 P P 02 50 19.0 +2.0
baz=284,SNR=16
YBH **Yreka Blue Hor** 79.52 50 P P 02 50 18.8 +1.7
comp=Z,20nm,0.7s,baz=319,slow=2.4,SNR=67
YBH **Yreka Blue Hor** 79.52 50 *e*P P 02 50 19.1 +2.0
comp=Z,24nm,0.8s
YBH **Yreka Blue Hor** 79.52 50 *e*P P 02 50 19.1 +2.0
YBH pmax pmax
comp=Z,24nm,0.8s
LTY **Liberty** 79.59 44 *e*P P 02 50 18.6 +1.2
comp=Z,32nm,0.8s
J04D **Umpqua Nationa** 79.59 48 P P 02 50 19.3 +1.7
baz=284,SNR=26
PRGR **Permogore** 79.63 331 *e*P P 02 50 14.8 -2.3
PRGR pmax pmax
comp=Z,8.0nm,0.4s
G05D **Wamic, OR** 79.65 46 P P 02 50 19.3 +1.6
baz=284,SNR=6.1
L04D **Klamath Falls** 79.70 49 P P 02 50 19.6 +1.4
baz=284,SNR=15
N02D **Trinity Center** 79.71 50 P P 02 50 20.1 +1.9
baz=284,SNR=16
O02D **Mt. Diablo Mer** 79.84 51 P P 02 50 21.0 +2.1
baz=284,SNR=18
I05D **Terrebonne, OR** 79.86 47 P P 02 50 20.1 +1.3
baz=284,SNR=5.8
HOPS **Hopland Field** 79.92 52 *e*P P 02 50 21.3 +2.0
comp=Z,23nm,0.9s
WDC **Whiskeytown Da** 79.93 51 *e*P P 02 50 20.8 +1.6
comp=Z,14nm,0.9s
WDC **Whiskeytown Da** 79.93 51 *e*P P 02 50 20.8 +1.6
WDC pmax pmax
comp=Z,14nm,0.9s
K04D **Chiloquin, OR** 79.99 48 P P 02 50 21.2 +1.4
baz=284
M04C **Macdoel** 80.14 49 P P 02 50 22.0 +1.5
baz=285,SNR=22
GDXM **Geysers** 80.18 52 *e*P P 02 50 22.7 +2.0
comp=Z,27nm,0.9s
B08A **Colville Reser** 80.18 42 *e*P P 02 50 21.3 +0.8
comp=Z,52nm,0.8s
J05D **Fort Rock, OR** 80.19 48 P P 02 50 22.7 +1.9
baz=285,SNR=85
PINE **Pine Mountain** 80.27 47 *e*P P 02 50 23.3 +2.0
comp=Z,125nm,0.7s
MCCM **Marconi Confer** 80.28 53 *e*P P 02 50 22.8 +1.7
comp=Z,36nm,0.8s
E07A **Sunnyside** 80.30 44 *e*P P 02 50 22.8 +1.6
comp=Z,33nm,0.8s
F07A **Phinny Hill Vi** 80.43 45 *e*P P 02 50 23.8 +2.0
comp=Z,17nm,0.8s
O03E **Paynes Creek** 80.54 51 P P 02 50 23.9 +1.2
baz=285,SNR=26
RES **Resolute Bay** 80.54 14 *e*P P 02 50 22.0 +0.1
comp=Z,20nm,0.8s
RES **Resolute Bay** 80.54 14 *e*P P 02 50 22.0 +0.1
RES pmax pmax
comp=Z,20nm,0.8s
HAWA **Hanford** 80.56 44 *e*P P 02 50 24.0 +1.5
comp=Z,26nm,0.8s
D08A **Wollman Farm,** 80.79 44 *e*P P 02 50 25.1 +1.4
comp=Z,32nm,0.8s
E08A **Dider Farm, El** 80.85 44 *e*P P 02 50 25.8 +1.8
comp=Z,14nm,0.8s
ORV **Oroville** 80.96 51 *e*P P 02 50 25.9 +1.1
comp=Z,30nm,0.8s
ORV **Oroville** 80.96 51 *e*P P 02 50 25.9 +1.1
ORV pmax pmax
comp=Z,30nm,0.8s
C09A **Chrisman Ranch** 81.01 43 *e*P P 02 50 26.1 +1.1
comp=Z,30nm,0.8s
I07A **Izee** 81.20 47 *e*P P 02 50 27.5 +1.4
comp=Z,11nm,0.8s
MOD **Modoc Plateau** 81.22 49 *e*P P 02 50 27.7 +1.4
comp=Z,29nm,0.8s
G08A **Pilot Rock** 81.24 45 *e*P P 02 50 27.5 +1.1
comp=Z,12nm,0.9s
E09A **Wood Farm, Sta** 81.45 44 *e*P P 02 50 28.6 +1.4
comp=Z,28nm,0.8s
AFDM **Forest Hills D** 81.51 52 *e*P P 02 50 29.2 +1.4
comp=Z,26nm,0.9s
NEW **Newport** 81.62 42 P P 02 50 29.3 +1.1
comp=Z,30nm,0.8s,baz=272,slow=4.1,SNR=73
NEW **Newport** 81.62 42 *e*P P 02 50 29.3 +1.1
comp=Z,31nm,0.8s
NEW **Newport** 81.62 42 P P 02 50 29.0 +0.8
baz=287
BEKR **Beckworth** 81.72 51 *e*P P 02 50 30.3 +1.3
comp=Z,50nm,0.8s
SAO **San Andreas Ge** 81.73 54 *e*P P 02 50 30.6 +1.7
comp=Z,15nm,0.8s
SAO **San Andreas Ge** 81.73 54 *e*P P 02 50 30.6 +1.7
SAO pmax pmax
comp=Z,15nm,0.8s
J08A **Circle Bar Ran** 82.12 47 *e*P P 02 50 32.3 +1.3
comp=Z,33nm,0.8s
CMB **Columbia Colle** 82.20 53 *e*P P 02 50 32.8 +1.4
comp=Z,39nm,0.8s
CMB **Columbia Colle** 82.20 53 *e*P P 02 50 32.8 +1.4
CMB pmax pmax
comp=Z,39nm,0.8s
F10A **Beach Ranch, E** 82.22 44 *e*P P 02 50 32.7 +1.3
comp=Z,10nm,0.9s
APA **Apatity** 82.26 339 ‖ *i*P P 02 50 26.2 -4.8
APA pmax pmax
comp=Z,7.0nm,1.2s
WVOR **Wild Horse Val** 82.26 48 *e*P P 02 50 33.1 +1.4
comp=Z,25nm,0.8s
WVOR **Wild Horse Val** 82.26 48 *e*P P 02 50 33.1 +1.4
WVOR pmax pmax
comp=Z,25nm,0.8s
VCNR **Virginia City** 82.41 51 *e*P P 02 50 34.6 +2.0
comp=Z,24nm,0.8s
PAHR **Pah Rah Range** 82.49 51 *e*P P 02 50 34.4 +1.3
comp=Z,29nm,1.0s
BMO **Blue Mountains** 82.49 45 *e*P P 02 50 34.0 +1.2
comp=Z,32nm,0.9s
BMO **Blue Mountains** 82.49 45 *e*P P 02 50 34.0 +1.2
BMO pmax pmax
comp=Z,32nm,0.9s
PNTR **Pine Nut** 82.50 52 *e*P P 02 50 35.0 +1.8
comp=Z,51nm,0.8s
KLMR **Klimovskoe** 82.67 332 *e*P P 02 50 30.1 -3.2
KLMR pmax pmax
comp=Z,8.0nm,1.2s
KLMR **Klimovskoe** 82.67 332 *e*P P 02 50 30.1 -3.2
KLMR AMP 02 50 48.4
comp=Z,8.0nm,1.2s
WAKR **Walker** 82.79 52 *e*P P 02 50 36.4 +1.8
comp=Z,21nm,0.8s
YERR **Yerington** 82.80 52 *e*P P 02 50 36.2 +1.5
comp=Z,36nm,0.9s
PAGB **Antelope Grade** 82.95 55 *e*P P 02 50 37.3 +2.0
comp=Z,55nm,0.9s
SMMC **Simmler** 83.26 55 P P 02 50 38.7 +1.8
baz=287,SNR=5.2
OMMB **Old Mammoth Mi** 83.38 53 *e*P P 02 50 39.6 +1.8
comp=Z,16nm,1.0s
WALA **Waterton Lakes** 83.41 41 *e*P P 02 50 39.3 +1.8
comp=Z,34nm,1.4s
RYN **Ryan** 83.44 52 *e*P P 02 50 39.5 +1.6
comp=Z,32nm,0.9s
MLAC **Mammoth, Mammo** 83.50 53 P P 02 50 39.9 +1.6
baz=287,SNR=7.4
PKM **Mcpherson Peak** 83.53 56 P P 02 50 40.3 +1.8
baz=287,SNR=32
KVN **Kaiserville** 83.63 51 *e*P P 02 50 40.4 +1.5
comp=Z,33nm,0.9s
NV01 **Mina Array Sit** 83.66 52 *e*P P 02 50 39.7 +0.5
NVAR **Mina Array Bea** 83.66 52 P P 02 50 40.7 +1.5
comp=Z,25nm,0.6s,baz=268,slow=5.8,SNR=144
SBC **Santa Barbara** 83.74 56 P P 02 50 40.9 +1.6
baz=287
ARA0 **ARCESS Array S** 83.75 342 *e*P P 02 50 36.6 -2.0
ARCES **ARCESS Array B** 83.75 342 P P 02 50 36.6 -2.0
comp=Z,3.7nm,0.7s,baz=52,slow=7.3,SNR=20
NV11 **Mina Array Sit** 83.77 52 *e*P P 02 50 41.1 +1.4
comp=Z,2.1nm,0.9s
VES **Vestal, Richgr** 83.82 55 P P 02 50 40.4 +0.7
baz=287,SNR=6.8
BMN **Battle Mountai** 83.87 50 *e*P P 02 50 41.5 +1.4
BMN **Battle Mountai** 83.87 50 *e*P P 02 50 41.5 +1.4
TULEG **Thule** 83.89 8 *e*P P 02 50 39.6 +0.4
comp=Z,20nm,0.9s
MFID **Camas Ranch** 83.94 46 *e*P P 02 50 41.8 +1.4
comp=Z,39nm,0.8s
MSO **Missoula** 84.11 43 *e*P P 02 50 41.8 +0.6
comp=Z,10nm,1.2s
MSO **Missoula** 84.11 43 P P 02 50 41.3 +0.2
baz=289
TIN **Tinemaha, Big** 84.13 53 P P 02 50 42.7 +1.3
baz=287
ARVC **Arvin** 84.23 55 P P 02 50 42.8 +1.0
baz=287,SNR=6.5
SNCC **San Nicolas Is** 84.23 57 P P 02 50 43.0 +1.1
baz=287
BLG **Laguna Peak, P** 84.35 56 P P 02 50 43.3 +0.9
baz=287
ISA **Isabella, Lake** 84.35 55 *e*P P 02 50 43.2 +0.7
comp=Z,12nm,1.0s
ISA **Isabella, Lake** 84.35 55 *e*P P 02 50 43.2 +0.7
ISA pmax pmax
comp=Z,12nm,1.0s
ISA **Isabella, Lake** 84.35 55 P P 02 50 43.2 +0.7
baz=287,SNR=12
CWC **Cottonwood Cre** 84.42 54 P P 02 50 43.9 +1.0
baz=288
GRAC **Grapevine Rang** 84.80 53 P P 02 50 46.1 +1.4
baz=288,SNR=8.4
DAC **Darwin (Calif)** 84.85 54 *e*P P 02 50 47.5 +2.3
comp=Z,7.1nm,0.9s
DAC **Darwin (Calif)** 84.85 54 *e*P P 02 50 47.5 +2.3
DAC pmax pmax
comp=Z,7.0nm,0.9s
HLID **Hailey** 84.87 46 *e*P P 02 50 46.4 +1.3
comp=Z,18nm,0.9s
HLID **Hailey** 84.87 46 P P 02 50 46.2 +1.1
baz=289
DECC **Green Verdugo** 84.88 56 P P 02 50 46.1 +0.9
baz=288
EDW2 **Edwards Air Fo** 84.96 55 P P 02 50 46.8 +1.3
baz=288,SNR=15
MPMC **Manual Prospec** 85.00 54 P P 02 50 47.1 +1.2
baz=288,SNR=21
LRMC **Laurel Mtn Rad** 85.02 55 P P 02 50 47.2 +1.2
baz=288,SNR=12
PASC **Pasadena Art C** 85.02 56 *e*P P 02 50 47.2 +1.4
comp=Z,28nm,0.8s
CIS **Catalina Islan** 85.07 57 P P 02 50 47.0 +0.9
baz=288,SNR=5.9
FMP **Fort Macarthur** 85.08 56 P P 02 50 46.8 +0.7
baz=288
SCI2 **San Clemente I** 85.09 57 P P 02 50 46.8 +0.6
baz=288
MWC **Mount Wilson** 85.11 56 *e*P P 02 50 47.9 +1.4
comp=Z,26nm,0.9s
MWC **Mount Wilson** 85.11 56 *e*P P 02 50 47.9 +1.4
MWC pmax pmax
comp=Z,26nm,0.9s
ELK **Elko** 85.20 49 P P 02 50 48.0 +1.1
comp=Z,28nm,0.9s,baz=296,slow=5.4,SNR=97
ELK **Elko** 85.20 49 *e*P P 02 50 48.4 +1.5
comp=Z,26nm,0.8s
ELK **Elko** 85.20 49 *e*P P 02 50 48.4 +1.5
ELK pmax pmax
comp=Z,26nm,0.8s
FURC **Furnace Creek,** 85.35 53 P P 02 50 48.8 +1.5
baz=288,SNR=9.6
BFSC **Mount Baldy Ra** 85.42 56 P P 02 50 48.6 +0.6
baz=288
LRM **Limekiln Ridge** 85.43 43 *e*P P 02 50 49.2 +1.3
DLMT **Dillon** 85.49 44 *e*P P 02 50 49.0 +0.9
comp=Z,13nm,0.6s
DAG **Danmarks Havn** 85.51 356 *i*P P 02 50 56.8 +9.4
comp=Z,11nm,0.9s
DAG **Danmarks Havn** 85.51 356 *e*P P 02 50 56.8 +9.4
DAG pmax pmax
comp=Z,10.0nm,0.9s
MCMT **McKenzie Canyo** 85.51 44 *e*P P 02 50 49.7 +1.4
HRY **Holter Researc** 85.52 42 *e*P P 02 50 49.4 +1.2
TPNV **Topopah Spring** 85.67 53 *e*P P 02 50 50.5 +1.3
comp=Z,24nm,0.8s
TPNV **Topopah Spring** 85.67 53 *e*P P 02 50 50.5 +1.3
TPNV pmax pmax
comp=Z,24nm,0.8s
TPNV **Topopah Spring** 85.67 53 P P 02 50 50.4 +1.2
baz=289,SNR=31
R11A **Troy Canyon, C** 85.72 51 *e*P P 02 50 50.7 +1.2
comp=Z,44nm,1.4s
R11A **Troy Canyon, C** 85.72 51 P P 02 50 50.7 +1.2
baz=289,SNR=32
RRX **Edison Barstow** 85.74 55 P P 02 50 50.6 +1.2
baz=288
GSC **Goldstone, Bar** 85.76 54 *e*P P 02 50 50.7 +1.2
comp=Z,24nm,1.1s
GSC **Goldstone, Bar** 85.76 54 *e*P P 02 50 50.7 +1.2
GSC pmax pmax
comp=Z,24nm,1.1s
GSC **Goldstone, Bar** 85.76 54 P P 02 50 50.8 +1.2
baz=288,SNR=14
SHOC **Shoshone, Teco** 85.98 54 P P 02 50 51.8 +1.3
baz=289
MURC **Murrieta** 85.98 56 P P 02 50 51.5 +0.8
baz=288,SNR=6.5
BBRC **Big Bear Solar** 85.99 55 P P 02 50 51.4 +0.5
baz=288
BOZ **Bozeman (W)** 86.05 43 *e*P P 02 50 52.0 +1.1
comp=Z,16nm,0.8s
BOZ **Bozeman (W)** 86.05 43 *e*P P 02 50 52.0 +1.1
BOZ pmax pmax
comp=Z,15nm,0.8s
HEC **Hector,Ludlow** 86.27 55 P P 02 50 53.2 +1.1
baz=289,SNR=15
109C **Camp Elliot, M** 86.28 57 P P 02 50 53.1 +1.1
baz=288,SNR=5.1
CPE **Camp Elliot** 86.28 57 *e*P P 02 50 53.5 +1.5
comp=Z,32nm,0.8s
EGMT **Eagleton** 86.36 41 *e*P P 02 50 53.3 +1.0
comp=Z,25nm,1.0s
EGMT **Eagleton** 86.36 41 P P 02 50 52.5 +0.2
baz=292
TUQ **Turquoise Moun** 86.40 54 P P 02 50 53.8 +1.1
baz=289,SNR=11
OBN **Obninsk** 86.46 327 *e*P P 02 50 50.3 -2.1
OBN *i* 02 54 12.9
OBN pmax pmax
comp=Z,2.0nm,0.9s
PFO **Pinyon Flats O** 86.56 56 P P 02 50 54.5 +0.9
comp=Z,21nm,1.0s,baz=277,slow=3.5,SNR=13
PFO **Pinyon Flats O** 86.56 56 *e*P P 02 50 54.9 +1.3
comp=Z,28nm,1.1s
PFO **Pinyon Flats O** 86.56 56 P P 02 50 54.5 +0.9
baz=289,SNR=13
XPFO **Pion Flat** 86.57 56 *e*P P 02 50 54.9 +1.3
comp=Z,30nm,1.1s
HVU **Hansel Valley** 86.61 47 *e*P P 02 50 55.3 +1.6
comp=Z,40nm,1.0s
YHB **Horse Butte** 86.64 44 *e*P P 02 50 56.1 +2.2
comp=Z,36nm,0.9s
SHPR **Sheep Range** 86.64 53 *e*P P 02 50 55.6 +1.6
comp=Z,10nm,0.9s
VSR **Storozhevoye** 86.67 323 ‖ *e*P P 02 50 52.4 -1.2
VSR pmax pmax
comp=Z,4.0nm,0.9s
BAR **Barrett** 86.69 57 *e*P P 02 50 55.3 +1.2
comp=Z,18nm,0.9s
BGU **Big Grassy Mou** 86.72 48 *e*P P 02 50 55.7 +1.4
comp=Z,9.3nm,0.8s
BELC **Belle Mtn. Jos** 86.80 55 P P 02 50 55.5 +0.7
baz=289,SNR=6.9
GMRC **Granite Mounta** 86.81 55 P P 02 50 56.0 +1.2
baz=289,SNR=15
YMR **Madison River** 86.82 44 *e*P P 02 50 56.8 +2.1
comp=Z,41nm,0.8s
MONP2 **Monument Peak** 86.82 57 P P 02 50 56.0 +1.0
baz=289,SNR=10
ZEI **Tsey** 86.87 314 *e*P P 02 51 01.1 +6.1
ZEI pmax pmax
comp=Z,5.0nm,1.1s
PSUT **Pine Spring** 86.94 51 *e*P P 02 50 56.7 +1.3
comp=Z,31nm,0.8s
YFT **Old Faithful** 86.98 44 *e*P P 02 50 59.0 +3.5
comp=Z,21nm,0.8s
YNR **Norris Junctio** 86.99 44 *e*P P 02 50 58.6 +3.0
comp=Z,40nm,1.2s
SPUT **South Promonto** 87.00 48 *e*P P 02 50 56.3 +0.7
comp=Z,28nm,0.9s
YPP **Pitchstone Pla** 87.07 44 *e*P P 02 50 58.7 +2.6
comp=Z,8.8nm,0.9s
RKT **Rikitea** 87.08 115 *e*LR LR 03 18 28.0
comp=Z,463nm,33.0s
DUG **Dugway, Tooele** 87.13 49 *e*P P 02 50 57.5 +1.3
DUG **Dugway, Tooele** 87.13 49 P P 02 50 57.5 +1.3
baz=290
IKP **Ki-Ko-Pah, Jac** 87.15 57 P P 02 50 57.2 +0.8
baz=289
H17A **Grant Village** 87.18 44 *e*P P 02 50 59.9 +3.3
comp=Z,34nm,1.2s
H17A **Grant Village** 87.18 44 P P 02 50 59.0 +2.5
baz=292
FLWY **Flagg Ranch** 87.21 45 *e*P P 02 50 58.6 +2.0
comp=Z,33nm,0.8s
KBZ **Khabaz** 87.22 315 P P 02 50 54.7 -1.6
comp=Z,2.5nm,0.9s,baz=145,slow=3.3,SNR=3.6
KBZ LR LR 03 31 57.3
comp=Z,98nm,21.2s,baz=61,slow=37
KBZ **Khabaz** 87.22 315 P P 02 50 54.7 -1.6
KBZ pmax pmax
comp=Z,2.0nm,0.8s
KBZ MLR MLR
comp=Z,98nm,21.2s
LKWY **Lake** 87.23 44 *e*P P 02 50 58.1 +1.3
comp=Z,12nm,0.8s
TPAW **Teton Pass** 87.26 45 *e*P P 02 50 58.4 +1.4
comp=Z,12nm,0.7s
KIV **Kislovodsk** 87.28 315 *e*P P 02 50 53.9 -2.9
KIV *e* 03 01 09.1
KIV pmax pmax

	comp=Z,5.0nm,1.1s							
KIV				MLR		MLR		
SWSC	**Sam W. Stewart**	**87.30**	**56**	P		**P**	**02 50 57.9**	**+0.9**
	baz=289							
MOOW	**Moose Ponds**	**87.30**	**45**	*e*P		**P**	**02 50 58.2**	**+1.1**
	comp=Z,14nm,0.8s							
BC3	**Big Chuckawall**	**87.34**	**56**	P		**P**	**02 50 58.4**	**+1.0**
	baz=289,SNR=13							
REDW	**Red Top Meadow**	**87.37**	**45**	*e*P		**P**	**02 50 59.1**	**+1.7**
	comp=Z,16nm,1.3s							
SNOW	**Snow King Moun**	**87.40**	**45**	*e*P		**P**	**02 50 59.5**	**+1.9**
	comp=Z,7.7nm,0.9s							
AHID	**Auburn Hatcher**	**87.42**	**46**	*e*P		**P**	**02 50 58.8**	**+1.2**
	comp=Z,31nm,0.8s							
IRM	**Iron Mountain**	**87.42**	**55**	P		**P**	**02 50 58.9**	**+1.2**
	baz=289,SNR=11							
LOHW	**Long Hollow**	**87.45**	**45**	*e*P		**P**	**02 50 59.0**	**+1.2**
	comp=Z,8.8nm,0.8s							
CCUT	**Cedar City**	**87.64**	**51**	*e*P		**P**	**02 51 01.1**	**+2.2**
	comp=Z,22nm,1.0s							
CTU	**Camp Tracy**	**87.71**	**48**	*e*P		**P**	**02 51 00.6**	**+1.5**
	comp=Z,26nm,0.9s							
RLMT	**Red Lodge**	**87.77**	**43**	*e*P		**P**	**02 51 01.2**	**+1.9**
	comp=Z,9.3nm,0.6s							
RLMT	**Red Lodge**	**87.77**	**43**	P		**P**	**02 51 00.8**	**+1.5**
	baz=293							
TCUT	**Toone Canyon**	**87.80**	**48**	*e*P		**P**	**02 51 01.0**	**+1.5**
	comp=Z,36nm,0.7s							
SZCU	**Shurtz Canyon**	**87.83**	**51**	*e*P		**P**	**02 51 01.6**	**+1.9**
	comp=Z,15nm,0.9s							
LCMT	**Little Creek M**	**87.92**	**52**	*e*P		**P**	**02 51 02.0**	**+2.0**
	comp=Z,21nm,1.2s							
JLU	**Jordanelle**	**87.96**	**48**	*e*P		**P**	**02 51 01.6**	**+1.3**
	comp=Z,40nm,0.9s							
FFC	**Flin Flon**	**87.97**	**33**	*e*P		**P**	**02 51 00.2**	**+0.5**
	comp=Z,35nm,0.9s							
FFC	**Flin Flon**	**87.97**	**33**	*i* P		**P**	**02 51 00.4**	**+0.7**
GLA	**Glamis**	**88.04**	**56**	*e*P		**P**	**02 51 02.4**	**+1.8**
	comp=Z,22nm,0.8s							
GLA	**Glamis**	**88.04**	**56**	*e*P		**P**	**02 51 02.4**	**+1.8**
GLA				pmax		pmax		
	comp=Z,22nm,0.8s							
GLA	**Glamis**	**88.04**	**56**	P		**P**	**02 51 01.9**	**+1.3**
	baz=290,SNR=6.5							
MPU	**Maple Canyon**	**88.04**	**49**	*e*P		**P**	**02 51 02.0**	**+1.3**
	comp=Z,19nm,0.8s							
Y12C	**Blythe**	**88.04**	**55**	*e*P		**P**	**02 51 02.0**	**+1.5**
	comp=Z,15nm,0.8s							
Y12C	**Blythe**	**88.04**	**55**	P		**P**	**02 51 01.8**	**+1.3**
	baz=290,SNR=5.9							
W13A	**Hualapai Mount**	**88.08**	**54**	*e*P		**P**	**02 51 02.5**	**+1.5**
	comp=Z,10.0nm,0.8s							
FIA0	**FINESS Array S**	**88.12**	**335**	*e*P		**P**	**02 50 56.9**	**-3.4**
FIA0	**FINESS Array S**	**88.12**	**335**	*e*P		**P**	**02 50 56.9**	**-3.4**
FINES	**FINESS Array B**	**88.12**	**335**	P		**P**	**02 50 56.9**	**-3.4**
	comp=Z,2.8nm,0.5s,baz=65,slow=5.0,SNR=23							
FINES				LR		LR	03 32 48.7	
	comp=Z,95nm,18.1s,baz=60,slow=37							
FINES	**FINESS Array B**	**88.12**	**335**	*i* P		**P**	**02 50 57.9**	**-2.4**
FINES				pmax		pmax		
	comp=Z,3.0nm,0.5s							
PDMCI	**Parker Dam,Lak**	**88.16**	**55**	P		**P**	**02 51 02.3**	**+1.3**
	baz=290,SNR=6.4							
MSU	**Marysvale**	**88.18**	**50**	*e*P		**P**	**02 51 03.1**	**+1.7**
MSU	**Marysvale**	**88.18**	**50**	*e*P		**P**	**02 51 03.1**	**+1.7**
KNB	**Kanab**	**88.23**	**52**	*e*P		**P**	**02 51 03.5**	**+1.9**
	comp=Z,36nm,1.0s							
KNB	**Kanab**	**88.23**	**52**	*e*P		**P**	**02 51 03.5**	**+1.9**
KNB				pmax		pmax		
	comp=Z,36nm,1.0s							
MTPU	**Mount Pierson**	**88.34**	**51**	*e*P		**P**	**02 51 04.2**	**+1.8**
	comp=Z,12nm,0.8s							
BW06	**Boulder Array**	**88.47**	**46**	*e*P		**P**	**02 51 03.2**	**+0.5**
	comp=Z,6.7nm,1.2s							
BW06	**Boulder Array**	**88.47**	**46**	P		**P**	**02 51 02.8**	**+0.1**
	baz=292							
PD31	**Pinedale Array**	**88.47**	**46**	*e*P		**P**	**02 51 03.1**	**+0.5**
PDAR	**Pinedale Array**	**88.47**	**46**	P		**P**	**02 51 03.0**	**+0.3**
	comp=Z,2.7nm,0.4s,baz=255,slow=2.0,SNR=49							
PDAR				LR		LR	03 22 36.5	
	comp=Z,78nm,20.8s,baz=290,slow=30							
PDAR	**Pinedale Array**	**88.47**	**46**	*e*P		**P**	**02 51 03.0**	**+0.3**
TMUT	**Trail Mountain**	**88.61**	**49**	*e*P		**P**	**02 51 05.1**	**+1.7**
	comp=Z,20nm,0.8s							
Q16A	**Castle Valley**	**88.77**	**50**	*e*P		**P**	**02 51 06.1**	**+2.0**
	comp=Z,28nm,0.8s							
U15A	**North Rim**	**88.84**	**52**	*e*P		**P**	**02 51 06.3**	**+1.7**
	comp=Z,17nm,0.8s							
P17A	**Butcher Ranch,**	**88.88**	**49**	*e*P		**P**	**02 51 06.2**	**+1.7**
	comp=Z,25nm,1.0s							
Y14A	**Wickenburg**	**89.17**	**55**	*e*P		**P**	**02 51 07.5**	**+1.6**
	comp=Z,24nm,0.8s							
DGMT	**Dagmar**	**89.57**	**39**	P		**P**	**02 51 07.3**	**-0.1**
	baz=296							
FCC	**Fort Churchill**	**89.62**	**27**	*e*P		**P**	**02 51 07.5**	**+0.2**
	comp=Z,11nm,0.8s							
FCC	**Fort Churchill**	**89.62**	**27**	*e*P		**P**	**02 51 07.5**	**+0.2**
FCC				pmax		pmax		
	comp=Z,11nm,0.8s							
WUAZ	**Wupatki**	**89.86**	**53**	*e*P		**P**	**02 51 11.1**	**+1.9**
	comp=Z,20nm,0.8s							
WUAZ	**Wupatki**	**89.86**	**53**	P		**P**	**02 51 10.9**	**+1.7**
	baz=292							
214A	**Organ Pipe Nat**	**90.01**	**57**	P		**P**	**02 51 11.4**	**+1.6**
	baz=291							
SUMG	**Summit**	**90.12**	**1**	*e*P		**P**	**02 51 14.4**	**+4.4**
	comp=Z,15nm,1.2s							
SUMG	**Summit**	**90.12**	**1**	*i* P		P	02 51 15.8	+5.8
SUMG	**Summit**	**90.12**	**1**	*e*P		**P**	**02 51 14.4**	**+4.4**
SUMG				pmax		pmax		
	comp=Z,15nm,1.2s							
X16A	**Lo Mia Camp, P**	**90.21**	**54**	*e*P		**P**	**02 51 13.1**	**+2.2**
	comp=Z,7.6nm,1.1s							
O20A	**White River Ci**	**90.41**	**48**	*e*P		**P**	**02 51 12.6**	**+0.9**
	comp=Z,26nm,0.8s							
O20A	**White River Ci**	**90.41**	**48**	P		**P**	**02 51 12.4**	**+0.6**
	baz=293							
PV09	**Paradox Valley**	**90.41**	**49**	*e*P		**P**	**02 51 13.4**	**+1.5**
PV21	**Cone Mtn., Par**	**90.50**	**49**	*e*P		**P**	**02 51 13.4**	**+1.2**
	comp=Z,36nm,0.8s							
PV23	**Carpenter Ridg**	**90.51**	**49**	*e*P		**P**	**02 51 13.6**	**+1.3**
	comp=Z,64nm,0.8s							
PV14	**Lion Creek, Pa**	**90.53**	**49**	*e*P		**P**	**02 51 13.6**	**+1.2**
	comp=Z,63nm,0.8s							
K22A	**Casper**	**90.57**	**45**	*e*P		**P**	**02 51 13.2**	**+0.8**
	comp=Z,20nm,1.3s							
K22A	**Casper**	**90.57**	**45**	P		**P**	**02 51 13.1**	**+0.7**
	baz=295							
PV19	**Morning Glory**	**90.59**	**49**	*e*P		**P**	**02 51 13.8**	**+1.1**
	comp=Z,48nm,0.9s							
PV20	**West Nyswonger**	**90.59**	**49**	*e*P		**P**	**02 51 14.1**	**+1.5**
	comp=Z,50nm,0.8s							
PV17	**East Wray Mesa**	**90.62**	**49**	*e*P		**P**	**02 51 14.0**	**+1.2**
	comp=Z,44nm,0.9s							
PV16	**Nyswonger Mesa**	**90.64**	**49**	*e*P		**P**	**02 51 14.0**	**+1.1**
	comp=Z,39nm,0.8s							
PV11	**David Mesa, Pa**	**90.67**	**49**	*e*P		**P**	**02 51 14.2**	**+1.2**
	comp=Z,53nm,0.7s							
PV12	**Saucer Basin,**	**90.72**	**49**	*e*P		**P**	**02 51 14.7**	**+1.5**
	comp=Z,45nm,0.9s							
PV13	**Radium Mtn., P**	**90.77**	**50**	*e*P		**P**	**02 51 14.5**	**+1.0**
	comp=Z,26nm,0.8s							
PV02	**Paradox Valley**	**90.81**	**49**	*e*P		**P**	**02 51 15.0**	**+1.3**
	comp=Z,30nm,0.8s							
W18A	**Petrified Fore**	**91.25**	**53**	*e*P		**P**	**02 51 17.7**	**+2.0**
	comp=Z,13nm,1.0s							
W18A	**Petrified Fore**	**91.25**	**53**	P		**P**	**02 51 17.3**	**+1.5**
	baz=292							
X18A	**Snowflake**	**91.31**	**53**	*e*P		**P**	**02 51 18.1**	**+2.0**
	comp=Z,10nm,0.9s							
MVCO	**Mesa Verde**	**91.37**	**50**	*e*P		**P**	**02 51 17.8**	**+1.5**
	comp=Z,23nm,1.3s							
MVCO	**Mesa Verde**	**91.37**	**50**	P		**P**	**02 51 17.3**	**+1.0**
	baz=293							
TUC	**Tucson**	**91.49**	**56**	*e*P		**P**	**02 51 18.9**	**+2.1**
	comp=Z,12nm,1.1s							
TUC	**Tucson**	**91.49**	**56**	P		**P**	**02 51 18.4**	**+1.6**
	baz=292							
RSSD	**Black Hills**	**91.58**	**43**	*e*P		**P**	**02 51 17.8**	**+0.7**
	comp=Z,21nm,1.4s							
RSSD	**Black Hills**	**91.58**	**43**	*e*P		**P**	**02 51 17.8**	**+0.7**
RSSD				pmax		pmax		
	comp=Z,21nm,1.4s							
RSSD	**Black Hills**	**91.58**	**43**	P		**P**	**02 51 17.4**	**+0.2**
	baz=296							
SMCO	**Snowmass**	**91.69**	**48**	*e*P		**P**	**02 51 19.2**	**+1.3**
	comp=Z,29nm,0.8s							
N23A	**Red Feather La**	**91.70**	**46**	*e*P		**P**	**02 51 19.5**	**+1.7**
	comp=Z,51nm,1.0s							
N23A	**Red Feather La**	**91.70**	**46**	P		**P**	**02 51 19.4**	**+1.7**
	baz=295							
PHWY	**Pilot Hill**	**91.86**	**46**	*e*P		**P**	**02 51 20.0**	**+1.4**
	comp=Z,16nm,1.1s							
S22A	**4UR Ranch, Cre**	**92.37**	**49**	*e*P		**P**	**02 51 22.3**	**+1.3**
	comp=Z,18nm,0.9s							
S22A	**4UR Ranch, Cre**	**92.37**	**49**	P		**P**	**02 51 22.3**	**+1.3**
	baz=294							
ISCO	**Idaho Springs**	**92.39**	**47**	*e*P		**P**	**02 51 22.8**	**+1.7**
	comp=Z,14nm,0.8s							
ISCO	**Idaho Springs**	**92.39**	**47**	*e*P		**P**	**02 51 22.8**	**+1.7**
ISCO				pmax		pmax		
	comp=Z,14nm,0.8s							
ISCO	**Idaho Springs**	**92.39**	**47**	P		**P**	**02 51 22.5**	**+1.4**
	baz=295							
AKASG	**Malin Array Be**	**92.48**	**325**	LR		LR	03 36 16.5	
	comp=Z,77nm,18.1s,baz=265,slow=38							
HSIG		**92.56**	**59**	*e*P		**P**	**02 51 23.4**	**+1.8**
	comp=Z,18nm,0.8s							
Q24A	**Divide**	**93.06**	**48**	P		**P**	**02 51 25.2**	**+1.0**
	baz=295							
SDCO	**Great Sand Dun**	**93.33**	**49**	*e*P		**P**	**02 51 26.4**	**+1.0**
	comp=Z,12nm,1.0s							
SDCO	**Great Sand Dun**	**93.33**	**49**	P		**P**	**02 51 26.4**	**+1.0**
	baz=295							
ULM	**Lac du Bonnet**	**93.44**	**35**	P		**P**	**02 51 25.3**	**0.0**
	comp=Z,7.8nm,0.8s,baz=302,slow=6.1,SNR=12							
ULM				LR		LR	03 28 52.7	
	comp=Z,56nm,22.0s,baz=302,slow=32							
ULM	**Lac du Bonnet**	**93.44**	**35**	*e*P		**P**	**02 51 25.5**	**+0.2**
	comp=Z,11nm,0.9s							
LAZ	**Ladron**	**93.50**	**52**	*e*P		**P**	**02 51 27.9**	**+1.8**
LENM	**Lemitar**	**93.72**	**53**	*e*P		**P**	**02 51 28.8**	**+1.6**
121A	**Cookes Peak, D**	**93.75**	**54**	P		**P**	**02 51 28.5**	**+1.2**
	baz=293							
ANMO	**Albuquerque**	**93.79**	**52**	P		**P**	**02 51 28.9**	**+1.4**
	comp=Z,6.0nm,1.0s,baz=271,slow=4.5,SNR=16							
ANMO	**Albuquerque**	**93.79**	**52**	*e*P		**P**	**02 51 29.1**	**+1.6**
	comp=Z,8.2nm,1.0s							
ANMO	**Albuquerque**	**93.79**	**52**	*e*P		**P**	**02 51 29.1**	**+1.6**
ANMO				pmax		pmax		
	comp=Z,8.0nm,1.0s							
ANMO	**Albuquerque**	**93.79**	**52**	P		**P**	**02 51 28.5**	**+1.0**
	baz=294							
NB200	**NORSAR Array S**	**93.82**	**340**	*e*P		**P**	**02 51 24.4**	**-2.4**
NOA	**NORSAR Array B**	**93.82**	**340**	P		**P**	**02 51 24.4**	**-2.4**
	comp=Z,0.6nm,0.7s,baz=37,slow=4.4,SNR=3.2							
NOA				LR		LR	03 38 01.5	
	comp=Z,71nm,19.9s,baz=50,slow=38							
T25A	**Trinidad**	**94.37**	**49**	*e*P		**P**	**02 51 31.6**	**+1.5**
	comp=Z,15nm,1.1s							
T25A	**Trinidad**	**94.37**	**49**	P		**P**	**02 51 31.0**	**+0.8**
	baz=296							
AGMN	**Agassiz Nation**	**94.50**	**36**	P		**P**	**02 51 28.3**	**-1.9**
	baz=293							
KSCO	**Kaye Shedlock'**	**94.81**	**47**	*e*P		**P**	**02 51 33.2**	**+1.2**
	comp=Z,15nm,0.9s							
KSCO	**Kaye Shedlock'**	**94.81**	**47**	P		**P**	**02 51 32.8**	**+0.8**
	baz=297							
BR101	**Keskin Array S**	**95.17**	**314**	*e*P		**P**	**02 51 31.1**	**-2.6**
BRTR	**Keskin Array B**	**95.18**	**314**	P		**P**	**02 51 31.1**	**-2.6**
	comp=Z,1.2nm,0.9s,baz=85,slow=2.9,SNR=5.5							
BRTR				LR		LR	03 40 50.2	
	comp=Z,20nm,18.1s,baz=10.0,slow=39							
VNDA	**Vanda**	**95.25**	**177**	P		**P**	**02 51 33.4**	**+0.6**
	comp=Z,2.1nm,1.0s,baz=336,slow=1.4,SNR=3.9							
VNDA				LR		LR	03 33 55.7	
	comp=Z,53nm,18.6s,baz=349,slow=35							
MNTX	**Cornudas Mount**	**95.95**	**54**	*e*P		**P**	**02 51 38.4**	**+1.2**
	comp=Z,4.1nm,0.8s							
MNTX	**Cornudas Mount**	**95.95**	**54**	P		**P**	**02 51 38.3**	**+1.1**
	baz=295							
ECSD	**EROS Data Cent**	**96.47**	**40**	P		**P**	**02 51 38.9**	**-0.3**
	baz=302							
CBKS	**Cedar Bluff**	**96.90**	**46**	P		**P**	**02 51 41.8**	**+0.4**
	baz=299							
AMTX	**Amarillo**	**97.36**	**50**	*e*P		Pdif	02 51 44.5	+0.9
	comp=Z,12nm,0.9s							
AMTX	**Amarillo**	**97.36**	**50**	P		Pdif	02 51 43.9	+0.3
	baz=297							
F38A	**Pierce - Schro**	**98.06**	**37**	P		**P**	**02 51 46.2**	**-0.1**
	baz=305							
LTX	**Lajitas**	**98.28**	**56**	*e*P		Pdif	02 51 48.8	+0.9
LTX				*e*PP		**PP**	**02 55 53.3**	**+4.5**
LTX	**Lajitas**	**98.28**	**56**	*e*P		Pdif	02 51 48.8	+0.9
LTX				*e*			02 55 53.3	
TX31	**Lajitas Ar. Si**	**98.28**	**56**	*e*P		Pdif	02 51 53.6	+5.7
TXAR	**Lajitas Array**	**98.28**	**56**	P		Pdif	02 51 48.8	+0.9
	comp=Z,0.4nm,0.5s,baz=306,slow=4.3,SNR=7.6							
TXAR				PP		**PP**	**02 55 53.3**	**+4.5**
	comp=Z,0.9nm,0.9s,baz=290,slow=5.2,SNR=4.1							
TXAR				LR		LR	03 32 07.0	
	comp=Z,39nm,19.7s,baz=0.0,slow=33							
G38A	**Ridgeland**	**98.53**	**37**	P		**P**	**02 51 48.2**	**-0.2**
	baz=305							
E39A	**Mellen**	**98.56**	**36**	P		**P**	**02 51 47.9**	**-0.7**
	baz=306							
H38A	**Maiden Rock**	**98.56**	**38**	P		**P**	**02 51 47.9**	**-0.7**
	baz=305							
F39A	**Loretta**	**98.63**	**36**	P		**P**	**02 51 48.2**	**-0.8**
	baz=306							
G39A	**Holcombe**	**98.85**	**37**	P		**P**	**02 51 49.7**	**-0.2**
	baz=306							
E40A	**Wakefield**	**98.88**	**35**	P		**P**	**02 51 50.1**	**+0.1**
	baz=307							
G40A	**Rib Lake**	**99.42**	**37**	P		**Pdif**	**02 51 52.4**	**-0.1**
	baz=307							
WMOK	**Wichita Mounta**	**99.53**	**49**	*e*Pdif		**Pdif**	**02 51 54.1**	**+0.9**
	comp=Z,4.1nm,0.9s							
WMOK	**Wichita Mounta**	**99.53**	**49**	*e*P		**Pdif**	**02 51 54.1**	**+0.9**
WMOK				pmax		pmax		
	comp=Z,4.0nm,0.9s							
WMOK	**Wichita Mounta**	**99.53**	**49**	P		**Pdif**	**02 51 53.2**	**0.0**
	baz=299							
ABTX	**Abilene, Hawle**	**99.90**	**51**	P		**Pdif**	**02 51 54.9**	**0.0**
	baz=298							
I41A	**Arkdale**	**100.33**	**37**	P		**Pdif**	**02 51 55.4**	**-1.1**
	baz=307							
JCT	**Junction City**	**100.78**	**53**	P		**Pdif**	**02 51 58.8**	**-0.1**
	baz=298							
H42A	**Shiocton**	**100.82**	**36**	P		**Pdif**	**02 51 57.4**	**-1.3**
	baz=308							
N45A	**Kentland**	**103.66**	**39**	P		**Pdif**	**02 52 11.2**	**-0.2**
	baz=308							
ESDC	**Sonseca Array**	**116.62**	**334**	PKKPab		PKKPab	03 07 28.0	-0.1
	comp=Z,2.7nm,0.9s,baz=215,slow=5.0,SNR=9.4							
LSZ	**Lusaka**	**120.53**	**262**	*e*PKPdf		**PKPdf**	**02 57 01.9**	**+0.1**
LSZ	**Lusaka**	**120.53**	**262**	*e*PKIKP		**PKPdf**	**02 57 01.9**	**+0.1**
YOTC	**Yotoco, Valle**	**133.09**	**67**	*e*P		**PKPdf**	**02 57 25.8**	**-0.1**
YOTC	**Yotoco, Valle**	**133.09**	**67**	*e*P		**PKPdf**	**02 57 25.8**	**-0.1**
TOA1	**Torodi Ar. Sit**	**133.45**	**308**	*e*PKPdf		**PKPdf**	**02 57 24.8**	**-1.6**
TOA1				*e*PP		**PP**	**02 59 47.6**	**-7.3**
TOA1				*e*SKPbc		**SKPbc**	**03 00 39.1**	**-4.2**
TORD	**Torodi Ar. Bea**	**133.45**	**308**	PKP		**PKPdf**	**02 57 24.8**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=36,slow=2.4,SNR=5.6							
TORD				PP		**PP**	**02 59 47.6**	**-7.3**
	comp=Z,0.6nm,0.9s,baz=347,slow=4.9,SNR=4.1							
TORD				SKPbc		**SKPbc**	**03 00 39.1**	**-4.2**
	comp=Z,7.5nm,1.0s,baz=57,slow=2.5,SNR=18							
TORD				SKKPbc		**SKKPbc**	**03 10 01.0**	**+2.6**
	comp=Z,1.5nm,0.9s,baz=261,slow=2.4,SNR=6.9							
POPC	**Popayan, Colom**	**133.46**	**69**	*e*P		**PKPdf**	**02 57 25.9**	**-0.9**
POPC	**Popayan, Colom**	**133.46**	**69**	*e*P		**PKPdf**	**02 57 25.9**	**-0.9**
SOTA	**Rioblanco**	**133.70**	**69**	*e*P		**PKPdf**	**02 57 28.4**	**+0.8**
SOTA	**Rioblanco**	**133.70**	**69**	*e*P		**PKPdf**	**02 57 28.4**	**+0.8**
RUSC	**La Rusia**	**134.95**	**62**	*e*P		**PKiKP**	**02 57 31.1**	**-0.2**
RUSC	**La Rusia**	**134.95**	**62**	*e*P		**PKiKP**	**02 57 31.1**	**-0.2**
SDV	**Santo Domingo**	**135.32**	**57**	PKhKP		PKPpre	02 57 16.5	
	comp=Z,2.4nm,0.6s,baz=298,slow=1.9,SNR=3.7							
SDV				SKPbc		**SKPbc**	**03 00 49.9**	**+0.3**
	comp=Z,16nm,0.8s,baz=315,slow=2.8,SNR=10							
SDV	**Santo Domingo**	**135.32**	**57**	*e*PKPpre		PKPpre	02 57 16.6	
SDV				*e*SKPbc		**SKPbc**	**03 00 50.5**	**+0.9**
VILC	**Villavicencio,**	**135.34**	**65**	*e*P		**PKPdf**	**02 57 26.5**	**-3.6**
VILC	**Villavicencio,**	**135.34**	**65**	*e*P		**PKPdf**	**02 57 26.5**	**-3.6**
ATAH	**Atahualpa**	**135.52**	**82**	PKP		**PKiKP**	**02 57 32.0**	**-0.4**
	comp=Z,8.8nm,1.0s,baz=6.6,slow=2.9,SNR=3.0							
ATAH				SKPbc		**SKPbc**	**03 00 50.9**	**+0.3**
	comp=Z,15nm,0.8s,baz=339,slow=3.8,SNR=3.0							
PTLC	**Puerto Leguiza**	**136.19**	**71**	*e*P		**PKiKP**	**02 57 33.1**	**-0.2**
PTLC	**Puerto Leguiza**	**136.19**	**71**	*e*P		**PKiKP**	**02 57 33.1**	**-0.2**
PLCA	**Paso Flores**	**140.94**	**134**	PKhKP		PKPpre	02 57 34.8	
	comp=Z,4.7nm,0.9s,baz=241,slow=6.2							
PLCA				SKPbc		**SKPbc**	**03 01 04.8**	**+0.1**
	comp=Z,5.0nm,1.0s,baz=303,slow=2.0,SNR=6.3							
PLCA	**Paso Flores**	**140.94**	**134**	*e*PKPpre		PKPpre	02 57 35.3	
PLCA				*e*SKPbc		**SKiKP**	**03 01 06.8**	**0.0**
DBIC	**Dimbokro**	**142.53**	**307**	PKhKP		PKPpre	02 57 37.8	
	comp=Z,1.2nm,0.3s,baz=43,slow=4.6,SNR=11							
DBIC				SKPbc		**SKPbc**	**03 01 06.8**	**-2.7**
	comp=Z,4.0nm,0.8s,baz=1.4,slow=2.6,SNR=3.8							
GO04	**Tololo Observa**	**144.19**	**118**	*e*PKPdf		PKPbc	02 57 45.1	+0.8
LCO	**Las Campanas**	**144.50**	**116**	*e*PKPdf		**PKPdf**	**02 57 46.6**	**+0.1**
LCO	**Las Campanas**	**144.50**	**116**	*e*PKIKP		**PKPdf**	**02 57 46.6**	**+0.1**
PB10	**IPOC Station P**	**145.29**	**106**	*e*PKPdf		**PKPab**	**02 57 49.3**	**+1.4**
PB10	**IPOC Station P**	**145.29**	**106**	*e*P		**PKPab**	**02 57 48.5**	**+0.6**
PB05	**IPOC Station P**	**145.65**	**105**	*e*P		**PKPab**	**02 57 49.7**	**+0.3**
PB04	**IPOC Station P**	**145.71**	**104**	*e*PKPdf		**PKPab**	**02 57 50.7**	**+1.0**
PB04	**IPOC Station P**	**145.71**	**104**	*e*Pn		**PKPab**	**02 57 50.7**	**+1.0**
PSGCX	**Pisagua**	**145.72**	**99**	*e*P		**PKPbc**	**02 57 49.2**	**+0.1**
PB07	**IPOC Station P**	**145.97**	**103**	*e*P		**PKPab**	**02 57 51.6**	**+0.9**
GO02	**Mina Guanaco**	**146.04**	**109**	*e*PKPdf		**PKPab**	**02 57 51.6**	**+0.5**
PB03	**IPOC Station P**	**146.09**	**104**	*e*P		**PKPab**	**02 57 51.3**	**+0.1**
PB11	**IPOC Station P**	**146.16**	**100**	*e*PKPdf		**PKPab**	**02 57 51.6**	**+0.1**
PB11	**IPOC Station P**	**146.16**	**100**	*e*P		**PKPab**	**02 57 51.8**	**+0.4**
MNMCX	**Minye Minye**	**146.19**	**98**	*e*P		**PKPab**	**02 57 51.7**	**0.0**
PB06	**IPOC Station P**	**146.24**	**105**	*e*P		**PKPbc**	**02 57 50.9**	**+0.2**
PB01	**IPOC Station P**	**146.34**	**102**	*e*PKPdf		**PKPbc**	**02 57 51.8**	**+0.8**
PB09	**IPOC Station P**	**146.57**	**103**	*e*P		**PKPbc**	**02 57 52.5**	**+0.7**
PB08	**IPOC Station P**	**146.65**	**100**	*e*P		**PKPab**	**02 57 54.0**	**+0.4**
LVC	**Limon Verde**	**146.85**	**105**	PKPbc		**PKPab**	**02 57 54.3**	**-0.1**
	comp=Z,28nm,0.8s,baz=270,slow=2.9,SNR=32							
LVC	**Limon Verde**	**146.85**	**105**	*e*P		**PKPab**	**02 57 53.9**	**-0.4**
TRQA	**Tornquist**	**148.05**	**136**	*e*PKPbc		**PKPbc**	**02 57 56.1**	**+1.0**
TRQA	**Tornquist**	**148.05**	**136**	*e*PKP2		**PKPbc**	**02 57 56.1**	**+1.0**
CYA	**Choya**	**148.83**	**116**	*e*P		**PKPbc**	**02 57 58.4**	**+0.9**
FSA	**Cafayete**	**149.14**	**112**	*e*P		**PKiKP**	**02 57 59.6**	**0.0**
PTGA	**Pitinga**	**149.51**	**60**	PKPbc		**PKPbc**	**02 57 59.7**	**+0.2**
	comp=Z,27nm,0.3s,baz=317,slow=3.0,SNR=11							
SLA	**San Lorenzo**	**149.78**	**109**	*e*P		**PKiKP**	**02 58 01.3**	**+0.3**
YJA	**Yavi**	**150.01**	**104**	*e*P		**PKiKP**	**02 58 02.5**	**+0.6**
HJA	**Humahuaca**	**150.03**	**106**	*e*P		**PKiKP**	**02 58 02.8**	**+0.9**
AZAP	**Zapla**	**150.24**	**108**	*e*P		**PKiKP**	**02 58 02.1**	**0.0**
MDP	**Montagnes des**	**150.98**	**41**	PKPbc		**PKPbc**	**02 58 02.9**	**-0.1**
	comp=Z,11nm,0.4s,baz=288,slow=2.6,SNR=24							
ALOL	**LOMAS DE OLMED**	**151.27**	**108**	*e*P		**PKPbc**	**02 58 03.7**	**+0.2**
CPUP	**Villa Florida**	**156.65**	**116**	PKP		**PKPdf**	**02 58 04.7**	**-0.1**
	comp=Z,2.6nm,1.1s,baz=179,slow=5.5,SNR=3.0							
CPUP				PKPab		**PKPab**	**02 58 35.1**	**+0

	comp=Z,2µm,0.2s								
GZT					*i* P		**Pg**	03 08 06.2	-0.3
GZT					*i* S		**Sg**	03 08 12.0	+0.6
KUZU	**Kuzuini**	0.54	184		IAML_P				
	comp=Z,2µm,0.1s								
KUZU					*i* P		**Pb**	03 08 11.4	+0.7
KUZU					*i* S		**Sn**	03 08 22.5	+0.5
ANDN	**Andirin**	0.67	294		IAML_P				
	comp=Z,582nm,0.2s								
ANDN					*i* P		**Pg**	03 08 12.5	+0.2
ANDN					*i* S		**Sn**	03 08 25.0	-0.4
ATAB	**Bozova**	0.95	80		IAML_P				
	comp=Z,3µm,0.2s								
ATAB					*i* P		**Pg**	03 08 17.3	-0.4
ELBS	**KAHRAMANMARAS**	1.01	1		IAML_P				
	comp=Z,1µm,0.1s								
ELBS					*i* P		**Pn**	03 08 20.3	+0.7
ELBS					*i* S		**Sn**	03 08 35.8	+1.9
KOZT	**Kozan**	1.04	280		PG		**Pb**	03 08 18.6	-0.8
SAIM	**ADANA**	1.06	309		IAML_P				
	comp=Z,412nm,0.1s								
SAIM					*i* P		**Pn**	03 08 20.0	-0.1
SAIM					*i* S		**Sn**	03 08 35.9	+0.9
AKCD	**Akcadag**	1.17	33		IAML_P				
	comp=Z,989nm,0.1s								
AKCD					*i* P		**Pg**	03 08 21.7	-0.2
AKCD					*i* S		**Sn**	03 08 38.2	+0.3
TAHT	**Tahtakopru-Hat**	1.20	219		PN		**Pn**	03 08 21.4	-0.6
SURC	**SANLIURFA_SURC**	1.27	109		IAML_P				
	comp=Z,204nm,0.1s								
SURC					*i* P		**Pb**	03 08 23.4	+0.1
SURC					*i* S		**Sg**	03 08 40.4	+0.2
DARE	**Darende-Malaty**	1.29	13		PN		**Pn**	03 08 22.7	-0.7
URFA	**Urfa**	1.36	84		PN		**Pb**	03 08 24.7	-0.2
SANL	**SANLIURFA_Merk**	1.50	95		IAML_P				
	comp=Z,700nm,0.1s								
SANL					*i* P		**Pg**	03 08 28.5	+0.4
SANL					*i* S		**Sn**	03 08 44.2	-1.6
BNN	**Bunyan**	1.84	327		PN		**Pn**	03 08 30.3	-0.6
KEMA	**Kemaliye**	2.24	29		*i* S		**Sg**	03 09 10.8	-0.4
PTK	**Pertek**	2.39	48		PN		**Pn**	03 08 38.9	+0.3

ISK ***16*** *03:17:17.9, 39˚.70N×25˚.52E, h9km, ML3.8/18*
ISCJB ***16*** *03:17:18.7±0.4, 39˚.70N±0˚.01×25˚.56E±0˚.02, h9km±3km, Error ellipse: s-maj=2.4km s-min=2.1km az=11.8*
ATH ***16*** *03:17:18.8, 39˚.70N×25˚.57E, h31km, ML3.4/22, Error ellipse: s-maj=1.1km s-min=0.8km az=64.0*
DDA ***16*** *03:17:19.1, 39˚.72N×25˚.65E, h28km±1km, ML3.7*
THE ***16*** *03:17:19.5, 39˚.74N×25˚.61E, h8km±1km, ML3.3/14, Error ellipse: s-maj=1.4km s-min=0.6km az=71.0*

ISC 16 03:17:18.6±1.1, 39.72N±0.02×25.61E±0.02, h12km±9km, n158, σ1§22/183, 15C-13D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
BOZC	**Bozcaada**	0.37	70	PG		**Pb**	**03 17 27.0**		**-0.1**
BOZC				SG		**Sb**	**03 17 32.7**		**-0.1**
BOZC	**Bozcaada**	0.37	70	IAML_P					
	comp=Z,46µm,0.2s								
BOZC				*i* P		**Pb**	**03 17 27.9**		**+0.8**
LIA	**Limnos Island**	0.38	299	P		**Pb**	**03 17 27.3**		**0.0**
LIA				S		**Sb**	**03 17 32.6**		**-0.4**
LIA				AML		AML	03 17 37.6		
	comp=N,6808µm,0.4s								
LIA				AML		AML	03 17 38.0		
	comp=E,10362µm,0.4s								
LIA	**Limnos Island**	0.38	299	P		**Pb**	**03 17 27.2**		**0.0**
LIA				S		**Sb**	**03 17 32.4**		**-0.6**
GPNR	**Gulpinar-Canak**	0.48	122	PG		**Pb**	**03 17 29.0**		**0.0**
EFSA	**Agios Efstrati**	0.51	250	P		**Pb**	**03 17 30.6**		**+1.1**
EFSA				S		**Sb**	**03 17 37.4**		**+0.5**
EFSA				AML		AML	03 17 38.8		
	comp=N,17686µm,0.3s								
EFSA				AML		AML	03 17 39.3		
	comp=E,26076µm,0.6s								
GADA	**Gvkgeada**	0.53	25	PG		**Pb**	**03 17 29.5**		**-0.3**
GADA	**Gvkgeada**	0.53	25	P		**Pb**	**03 17 29.9**		**+0.1**
GADA				S		**Sb**	**03 17 36.2**		**-1.2**
SIGR	**SIGRI**	0.54	159	PG		**Pg**	**03 17 29.4**		**+0.2**
SIGR				SG		**Sb**	**03 17 37.2**		**-0.5**
SIGR	**SIGRI**	0.54	159	P		**Pb**	**03 17 29.8**		**-0.2**
SIGR				S		**Sb**	**03 17 37.6**		**-0.1**
SIGR				AML		AML	03 17 38.1		
SIGR				AML		AML	03 17 38.3		
	comp=E,90021µm,0.4s								
SIGR	**SIGRI**	0.54	159	P		**Pb**	**03 17 29.6**		**-0.4**
SIGR				S		**Sb**	**03 17 37.6**		**-0.1**
EZN	**Ezine**	0.56	78	PG		**Pb**	**03 17 30.5**		**0.0**
EZN	**Ezine**	0.56	78	P		**Pb**	**03 17 30.4**		**0.0**
EZN				S		**Sb**	**03 17 37.9**		**-0.6**
PRK	**Paraskevi**	0.69	132	P		**Pn**	**03 17 34.0**		**-0.2**
PRK				S		**Sn**	**03 17 44.0**		**-1.0**
PRK				AML		AML	03 17 46.2		
	comp=E,26847µm,0.5s								
PRK				AML		AML	03 17 47.7		
	comp=N,23069µm,0.3s								
PRK	**Paraskevi**	0.69	132	P		**Pn**	**03 17 33.9**		**-0.4**
PRK				S		**Sb**	**03 17 42.9**		**+0.7**
BAYC	**CANAKKALE_Bayr**	0.72	88	*i* P		**Pn**	**03 17 33.9**		**-0.9**
BAYC				*i* S		**Sn**	**03 17 44.1**		**-1.6**
SMTH	**Samothraki Isl**	0.76	356	P		**Pn**	**03 17 34.4**		**-0.8**
SMTH				S		**Sn**	**03 17 45.2**		**-1.4**
SMTH				AML		AML	03 17 46.7		
	comp=N,3945µm,0.3s								
SMTH				AML		AML	03 17 46.8		
	comp=E,4148µm,0.2s								
SMTH	**Samothraki Isl**	0.76	356	P		**Pb**	**03 17 34.0**		**+0.2**
SMTH				S		**Sb**	**03 17 44.1**		**0.0**
AYVA	**Ayvalik**	0.93	116	*i* P		**Pn**	**03 17 37.1**		**-0.4**
AYVA				*i* S		**Sn**	**03 17 50.5**		**-0.3**
GELI	**Tayfur-Gelibol**	0.95	44	PG		**Pn**	**03 17 37.9**		**0.0**
LPK	**Lapseki**	1.10	53	PN		**Pn**	**03 17 40.7**		**+0.8**
ENEZ	**Enez**	1.10	22	PN		**Pn**	**03 17 40.3**		**+0.4**
THAS	**Thassos island**	1.12	323	P		**Pn**	**03 17 40.2**		**0.0**
THAS				S		**Sn**	**03 17 54.9**		**-0.5**
THAS				AML		AML	03 17 56.5		
	comp=N,5009µm,0.4s								
THAS				AML		AML	03 17 58.5		
	comp=E,5098µm,0.4s								
THAS	**Thassos island**	1.12	323	P		**Pn**	**03 17 40.3**		**+0.1**
THAS				S		**Sn**	**03 17 55.0**		**-0.5**
PSRA	**Psara**	1.17	182	P		**Pg**	**03 17 41.4**		**-0.3**
ERIK	**Erikli-Kesan**	1.18	36	PN		**Pn**	**03 17 41.7**		**+0.7**
DKL	**Dikili**	1.19	122	PN		**Pg**	**03 17 42.1**		**+0.5**
ALN	**Alexandroupoli**	1.23	16	PN		**Pn**	**03 17 41.2**		**-0.4**
ALN	**Alexandroupoli**	1.23	16	P		**Pg**	**03 17 41.7**		**-0.5**
ALN				S		**Sn**	**03 17 58.2**		**+0.1**
ALN				AML		AML	03 17 59.6		
	comp=E,2138µm,0.4s								
ALN				AML		AML	03 18 07.6		
	comp=N,1135µm,0.4s								
ALN	**Alexandroupoli**	1.23	16	P		**Pg**	**03 17 41.8**		**-0.5**
ALN				S		**Sn**	**03 17 58.4**		**+0.2**
FOCM	**Foa**	1.33	139	PN		**Pg**	**03 17 43.7**		**-0.4**
KRBN	**Karaburun**	1.34	146	PN		**Pg**	**03 17 44.1**		**-0.3**
CHOS	**Chios island**	1.37	165	PN		**Pn**	**03 17 43.7**		**0.0**
CHOS	**Chios island**	1.37	165	P		**Pn**	**03 17 43.5**		**-0.2**
CHOS				AML		AML	03 18 06.2		
	comp=N,5700µm,0.5s								
CHOS				AML		AML	03 18 07.7		
	comp=E,6576µm,0.7s								
CHOS	**Chios island**	1.37	165	P		**Pn**	**03 17 43.5**		**-0.2**
CHOS				S		**Sg**	**03 18 04.0**		**+1.2**
KESN	**Edirne-Kesan**	1.38	36	IAML_P					
	comp=Z,613nm,0.1s								
KESN				*i* P		**Pg**	**03 17 44.8**		**-0.4**
OUR	**Ouranopolis**	1.39	297	PN		**Pn**	**03 17 43.1**		**-0.8**
OUR	**Ouranopolis**	1.39	297	P		**Pb**	**03 17 44.2**		**-0.4**
OUR	**Ouranopolis**	1.39	297	P		**Pn**	**03 17 44.1**		**+0.2**
RDO	**Rodhopi**	1.43	358	PN		**Pg**	**03 17 44.9**		**-1.2**
RDO	**Rodhopi**	1.43	358	P		**Pg**	**03 17 44.9**		**-1.2**
RDO	**Rodhopi**	1.43	358	P		**Pg**	**03 17 45.0**		**-1.2**
AOS	**Alonnisos**	1.44	248	PN		**Pn**	**03 17 43.9**		**-0.7**
AOS	**Alonnisos**	1.44	248	P		**Pn**	**03 17 44.5**		**-0.2**
AOS				S		**Sn**	**03 18 02.5**		**-1.0**
AOS				AML		AML	03 18 08.2		
	comp=E,3462µm,0.6s								
AOS				AML		AML	03 18 08.3		
	comp=N,2913µm,0.5s								
AOS	**Alonnisos**	1.44	248	P		**Pn**	**03 17 44.4**		**-0.2**
AOS				S		**Sg**	**03 18 05.5**		**+0.4**
KRBG	**Karabiga-Canak**	1.46	62	PN		**Pg**	**03 17 46.5**		**-0.3**
PAIG	**Paliouri**	1.50	279	P		**Pn**	**03 17 45.2**		**-0.1**
PAIG	**Paliouri**	1.50	279	P		**Pn**	**03 17 45.2**		**-0.1**
PAIG				S		**Sg**	**03 18 06.7**		**-0.2**
KAVA	**Kavala**	1.53	327	P		**Pn**	**03 17 45.5**		**-0.2**
KAVA				AML		AML	03 18 10.3		
	comp=N,1183µm,0.4s								
KAVA				AML		AML	03 18 10.7		
	comp=E,1924µm,0.2s								
KAVA	**Kavala**	1.53	327	P		**Pn**	**03 17 45.6**		**-0.2**
KAVA				S		**Sn**	**03 18 04.8**		**-0.8**
KVLA	**Kavala**	1.54	323	P		**Pb**	**03 17 46.3**		**-0.8**
SART	**Tekirdag**	1.55	51	IAML_P					
	comp=Z,11µm,0.2s								
SART				*i* P		**Pg**	**03 17 48.5**		**+0.2**
BALY	**Balya**	1.55	88	IAML_P					
	comp=Z,2µm,0.1s								
BALY				*i* P		**Pb**	**03 17 47.0**		**-0.4**
BALY				*i* S		**Sg**	**03 18 08.7**		**+0.2**
URLA	**Izmir**	1.56	150	PN		**Pn**	**03 17 46.3**		**+0.1**
KNL	**Balıkesir**	1.57	69	IAML_P					
	comp=Z,8µm,0.2s								
KNL				*i* P		**Pg**	**03 17 49.3**		**+0.4**
KNL				*i* S		**Sg**	**03 18 09.0**		**-0.3**
GONE	**Gonen-Balikesi**	1.63	78	PN		**Pb**	**03 17 48.6**		**-0.1**
STEP	**BALIKESIR_Sava**	1.67	101	IAML_P					
	comp=Z,7µm,0.2s								
STEP				*i* P		**Pb**	**03 17 48.9**		**-0.4**
STEP				*i* S		**Sg**	**03 18 13.6**		**+1.3**
BLCB	**Balcova**	1.73	139	PN		**Pb**	**03 17 49.7**		**-0.7**
SKIA	**Skiathos**	1.75	252	P		**Pn**	**03 17 49.0**		**+0.2**
SKIA				AML		AML	03 18 18.2		
	comp=E,3979µm,0.4s								
SKIA				AML		AML	03 18 19.1		
	comp=N,4314µm,0.6s								
BALB	**Balikesir**	1.75	92	PN		**Pb**	**03 17 50.2**		**-0.6**
MRMT	**Marmara Adasi**	1.76	59	PN		**Pb**	**03 17 50.4**		**-0.6**
PLG	**Polygyros**	1.79	292	P		**Pn**	**03 17 50.1**		**+0.8**
PLG	**Polygyros**	1.79	292	P		**Pn**	**03 17 50.2**		**+0.8**
PLG				S		**Sb**	**03 18 13.2**		**-0.5**
EREA	**Eretria**	1.84	226	P		**Pn**	**03 17 49.4**		**-0.7**
EREA				AML		AML	03 18 20.5		
	comp=N,1151µm,0.6s								
EREA				AML		AML	03 18 21.9		
	comp=E,1186µm,0.4s								
EDC	**Edincik**	1.84	69	PN		**Pb**	**03 17 51.8**		**-0.5**
SBT4	**Kumbag-Tekirda**	1.85	52	PN		**Pb**	**03 17 51.5**		**-0.7**
MRKA	**Markates**	1.86	238	P		**Pn**	**03 17 51.0**		**+0.5**
MRKA				AML		AML	03 18 19.6		
	comp=N,1749µm,0.6s								
MRKA				AML		AML	03 18 21.4		
	comp=E,2358µm,0.6s								
XOR	**Xorichti**	1.90	260	P		**Pn**	**03 17 51.7**		**+0.8**
XOR				AML		AML	03 18 21.3		
	comp=E,756µm,0.4s								
XOR				AML		AML	03 18 22.3		
	comp=N,2020µm,0.5s								
AKHS	**Akhisar**	1.91	115	IAML_P					
	comp=Z,3µm,0.1s								
AKHS				*i* P		**Pb**	**03 17 52.3**		**-1.0**
GMLD	**Gumuldur**	1.93	148	PN		**Pn**	**03 17 51.9**		**+0.7**
KDZ	**Kurdzhali**	1.94	356	PN		**Pn**	**03 17 51.7**		**+0.3**
TKR	**Tekirdag**	1.95	49	PN		**Pb**	**03 17 52.8**		**-1.3**
SMIA	**Simia**	2.04	247	P		**Pn**	**03 17 52.9**		**+0.1**
SMIA				AML		AML	03 18 31.8		
	comp=E,3436µm,0.5s								
SMIA				AML		AML	03 18 32.9		
	comp=N,5959µm,0.5s								
SOH	**Sokhos**	2.05	303	P		**Pn**	**03 17 53.5**		**+0.5**
SOH				AML		AML	03 18 27.8		
	comp=N,620µm,0.4s								
SOH				AML		AML	03 18 34.9		
	comp=E,885µm,0.5s								
SOH	**Sokhos**	2.05	303	P		**Pn**	**03 17 53.7**		**+0.7**
SOH				S		**Sb**	**03 18 19.9**		**-1.4**
GOMA	**Golmarmara-Man**	2.06	119	PN		**Pn**	**03 17 54.2**		**+1.2**
SRS	**Serrai**	2.08	313	P		**Pn**	**03 17 53.4**		**+0.1**
SRS				AML		AML	03 18 28.3		
	comp=N,660µm,0.7s								
SRS				AML		AML	03 18 30.1		
	comp=E,691µm,0.3s								
SRS	**Serrai**	2.08	313	P		**Pn**	**03 17 53.5**		**+0.1**
SRS				S		**Sn**	**03 18 20.5**		**+1.3**
FYTO	**Fytoko, Volos**	2.08	262	P		**Pn**	**03 17 53.7**		**+0.3**
DION	**Dionisos Attik**	2.09	219	P		**Pn**	**03 17 52.9**		**-0.7**
NVR	**Nevrokopi**	2.11	321	P		**Pn**	**03 17 54.2**		**+0.4**
NVR				AML		AML	03 18 28.0		
	comp=E,611µm,0.3s								
NVR				AML		AML	03 18 29.8		
	comp=N,527µm,0.6s								
NVR	**Nevrokopi**	2.11	321	P		**Pn**	**03 17 54.1**		**+0.4**
NVR				S		**Sn**	**03 18 21.1**		**+1.2**
PTL	**Penteli**	2.15	220	P		**Pn**	**03 17 53.6**		**-0.7**
PTL				AML		AML	03 18 28.9		
	comp=E,531µm,0.8s								
PTL				AML		AML	03 18 31.7		
	comp=N,676µm,0.7s								
CRLT	**Corlu**	2.15	48	PN		**Pn**	**03 17 55.1**		**+0.7**
KCTX	**Karacabey (Bur**	2.18	75	PN		**Pb**	**03 17 56.2**		**-1.9**
TNSA	**Tinos**	2.20	189	P		**Pn**	**03 17 54.7**		**-0.2**
DURS	**Dursunbey**	2.22	92	IAML_P					
	comp=Z,801nm,0.1s								
DURS				*i* P		**Pb**	**03 17 56.7**		**-1.9**
SMG	**Samos**	2.22	154	P		**Pn**	**03 17 55.9**		**+0.6**
SMG				AML		AML	03 18 33.8		
	comp=E,1032µm,0.4s								
SMG				AML		AML	03 18 34.5		
	comp=N,1207µm,0.4s								
THE	**Thessaloniki**	2.22	295	P		**Pn**	**03 17 56.1**		**+0.8**
ATAL	**Atalanti**	2.25	244	P		**Pn**	**03 17 55.6**		**-0.2**
ATH	**Athens Observa**	2.28	221	P		**Pn**	**03 17 55.6**		**-0.5**
EDRB	**Edirne**	2.30	22	PN		**Pn**	**03 17 57.6**		**+1.2**
DST	**Dursunbey**	2.33	92	PN		**Pb**	**03 17 58.6**		**-2.0**
VLY	**Voula,Athens**	2.34	218	P		**Pn**	**03 17 56.4**		**-0.5**
VIL2	**Platees**	2.36	231	P		**Pn**	**03 17 56.6**		**-0.6**
VIL2				AML		AML	03 18 38.7		
	comp=E,835µm,0.6s								
VIL2				AML		AML	03 18 39.9		
	comp=N,720µm,0.5s								
PHSR	**Pinarhisar**	2.41	37	PN		**Pb**	**03 17 59.4**		**-2.5**
LIT	**Litokhoron**	2.43	280	P		**Pn**	**03 17 58.0**		**-0.2**
SLVT	**Silivri**	2.50	52	PN		**Pb**	**03 18 00.9**		**-2.5**
DEMI	**Demirci**	2.50	105	IAML_P					
	comp=Z,945nm,0.2s								
DEMI				*i* P		**Pb**	**03 18 01.6**		**-1.9**
KNT	**Kendrikon**	2.52	306	P		**Pn**	**03 18 00.5**		**+1.1**
KNT	**Kendrikon**	2.52	306	P		**Pn**	**03 18 00.6**		**+1.1**
ORLT	**Orhaneli**	2.55	81	PN		**Pb**	**03 18 01.8**		**-2.6**
PROD	**Prodromos**	2.56	236	P		**Pn**	**03 17 59.1**		**-0.9**
MDNY	**Mudanya-Bursa**	2.60	74	PN		**Pn**	**03 18 02.3**		**+1.8**
MANT	**Manisa**	2.60	117	*i* P		**Pn**	**03 18 02.8**		**+2.0**
AGG	**Agios Georgios**	2.63	256	P		**Pn**	**03 18 01.1**		**+0.1**
APE	**Apeiranthos**	2.64	181	P		**Pn**	**03 18 00.9**		**-0.2**
APE	**Apeiranthos**	2.64	181	⇑*i* P		**Pn**	**03 17 59.2**		**-1.9**
LTK	**Loutraki**	2.67	231	P		**Pn**	**03 18 01.3**		**-0.1**
LOUT	**Loutraki**	2.68	231	P		**Pn**	**03 18 02.0**		**+0.3**
LOUT				AML		AML	03 18 49.4		
	comp=E,198µm,0.7s								
LOUT				AML		AML	03 18 49.9		
	comp=N,116µm,0.5s								
SERI	**Serifos**	2.70	199	P		**Pn**	**03 18 01.1**		**-0.7**
THL	**Klokotos Trika**	2.78	268	P		**Pn**	**03 18 03.2**		**+0.3**
VAY	**Valandovo**	2.82	306	*i* Pn		**Pg**	**03 18 13.2**		**+0.6**
DID	**Didima**	2.88	221	P		**Pn**	**03 18 03.9**		**-0.6**
BUY	**Buyukada**	2.92	66	IAML_P					
	comp=Z,694nm,0.3s								
BUY				*i* P		**Pn**	**03 18 05.5**		**+0.7**
BUY				*i* S		**Sg**	**03 18 51.9**		**-0.4**
KALE	**Kalithea**	3.01	245	P		**Pn**	**03 18 05.9**		**-0.2**
EVR	**Evrytania**	3.05	256	P		**Pn**	**03 18 07.4**		**+0.6**
GDZ	**Gediz**	3.06	101	*i* P		**Pn**	**03 18 09.2**		**+2.2**
GUR	**Goura**	3.11	236	P		**Pn**	**03 18 07.4**		**-0.2**
EFP	**Efpalio**	3.15	247	P		**Pn**	**03 18 08.5**		**+0.3**
KLV	**Kalavryta, Ach**	3.17	239	P		**Pn**	**03 18 08.5**		**+0.1**
LAKA	**Lakka**	3.19	244	P		**Pn**	**03 18 09.0**		**+0.3**
STIP	**Stip**	3.27	308	*i* Pn		**Pn**	**03 18 09.7**		**0.0**
KHAL	**Karahalli**	3.31	113	*i* P		**Pn**	**03 18 12.2**		**+1.8**
VTS	**Vitosha**	3.40	329	⇓*i* P		**Pn**	**03 18 13.6**		**+2.0**
BIA	**Bitola**	3.52	293	*i* Pn		**Pn**	**03 18 15.3**		**+2.0**
GEYV	**SAKARYA_Geyve**	3.68	76	IAML_P					
	comp=Z,588nm,0.1s								
GEYV				*i* P		**Pn**	**03 18 16.7**		**+1.4**
KRUS	**Krusevo**	3.71	298	*i* Pn		**Pg**	**03 18 29.0**		**-0.7**
BORA	**Eskisehir**	3.74	86	IAML_P					
	comp=Z,649nm,0.1s								
BORA				*i* P		**Pn**	**03 18 18.1**		**+1.9**
KAND	**Kocaeli-Kandir**	3.76	67	*i* P		**Pn**	**03 18 19.1**		**+2.6**
SAHE	**Sakarya_HENDEK**	4.17	73	IAML_P					
	comp=Z,178nm,0.3s								
SAHE				*i* P		**Pn**	**03 18 23.8**		**+1.7**
BOLV	**Bolvadin**	4.27	102	IAML_P					
	comp=Z,286nm,0.2s								
BOLV				*i* P		**Pn**	**03 18 25.8**		**+2.2**
VLAD	**Vladila**	4.37	349	⇑*i* P		**Pn**	**03 18 28.9**		**+4.0**
HUMR	**Humele**	4.83	355	⇓*i* P		**Pn**	**03 18 35.4**		**+4.2**
SULR		4.98	5	⇑*i* P		Pn	03 18 38.7		+5.5
TIRR	**Tirgusor**	5.18	23	⇑*i* P		**Pn**	**03 18 37.0**		**+1.1**
TLB	**Topalu**	5.19	20	⇓*i* P		**Pn**	**03 18 37.1**		**+1.0**
SECR		5.33	4	⇓*i* P		Pn	03 18 44.3		+6.3
ISR	**Istrita**	5.45	7	⇓*i* P		Pn	03 18 46.1		+6.4
HERR	**Herculane**	5.68	336	⇑*i* P		**Pn**	**03 18 46.6**		**+3.8**
ARR	**Arges**	5.70	353	⇓*i* P		**Pn**	**03 18 44.2**		**+1.1**
VOIR		5.73	356	⇑*i* P		**Pn**	**03 18 45.2**		**+1.6**
GRER		5.75	10	⇓*i* P		Pb	03 18 51.4		-7.5
MLR	**Muntele Rosu**	5.78	2	⇑*i* P		**Pn**	**03 18 47.7**		**+3.4**
MDVR	**Moldovita**	5.83	332	⇓*i* P		Pn	03 18 39.9		-5.0
LOT	**Lotru**	5.89	347	⇑*i* P		**Pn**	**03 18 46.3**		**+0.5**
GZR	**Gura Zlata**	6.05	341	⇓*i* P		**Pn**	**03 18 49.1**		**+1.2**
ODBI	**Odobesti**	6.14	10	⇑*i* P		Pn	03 18 56.1		+7.0
PLOR	**Plostina**	6.18	7	⇓*i* P		**Pn**	**03 18 55.9**		**+6.2**
VRI	**Vrincioaia**	6.20	7	⇑*i* P		**Pn**	**03 18 53.0**		**+3.0**
DOPR	**Dopca**	6.25	359	⇓*i* P		**Pn**	**03 18 52.7**		**+2.0**
OZUR		6.38	1	⇑*i* P		**Pn**	**03 18 54.8**		**+2.3**
MDB	**Medias**	6.49	352	⇓*i* P		**Pn**	**03 18 57.4**		**+3.5**
BZS	**Buzias**	6.59	335	⇓*i* P		**Pn**	**03 18 56.8**		**+1.5**
BIR	**Birlad**	6.71	12	⇑*i* P		**Pn**	**03 18 59.7**		**+2.7**
BIZ	**Bicaz**	7.23	3	⇑*i* P		**Pn**	**03 19 07.1**		**+3.0**
DRGR		7.38	344	⇑*i* P		**Pn**	**03 19 07.6**		**+1.3**
BURAR	**Bucovina Array**	7.90	358	⇑*i* P		**Pn**	**03 19 16.7**		**+3.3**

IDC 16 03:18:54.4±1.1, 15.62S×71.53W, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.7/25, mbtmp3.9/5, ML3.5/2, MS2.8/3, Ms1 2.9/3, ms1mx2.7/31, Error ellipse: s-maj=34.6km s-min=23.0km az=45.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
LPAZ	**La Paz**	3.34	102	Pg		Pb	03 19 56.4		+1.5
	0.3nm,0.3s,baz=283,slow=10,SNR=13								
LPAZ				LR		LR	03 21 20.7		
	comp=Z,108nm,21.2s,baz=294,slow=44								
NNA	**Nana**	6.29	304	Pn		Pn	03 20 29.6		+1.0
	0.4nm,0.3s,baz=149,slow=5.9,SNR=2.8								
NNA				Sn		Sn	03 21 40.1		-1.2
	0.5nm,0.3s,baz=225,slow=19,SNR=2.0								
LVC	**Limon Verde**	7.38	161	Pn		Pn	03 20 43.2		-0.6
	3.9nm,0.3s,baz=339,slow=8.0,SNR=28								
LVC				Sn		Sn	03 22 07.0		-1.6
	0.5nm,0.3s,baz=319,slow=20,SNR=2.4								
LVC				LR		LR	03 23 00.6		
	comp=Z,34nm,20.2s,baz=330,slow=33								
BDFB	**Brasilia**	22.65	93	LR		LR	03 33 32.2		
	com

RFA	**San Rafael**	**3.44**	**188**	*eP*	**Pn**	**03 41 35.0**	**+1.7**
FSA	**Cafayete**	**5.50**	**19**	*eP*	**Pn**	**03 42 03.3**	**+1.6**
FSA				IAML		03 43 46.6	
	comp=Z,8.8nm,0.4s						
LVC	**Limon Verde**	**8.76**	**354**	Pn	**Pn**	**03 42 47.4**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=169,slow=10,SNR=3.7						
LVC				Sn	**Sn**	**03 44 20.9**	**-5.2**
	comp=Z,0.1nm,0.3s,baz=87,slow=18,SNR=2.0						
LVC				Lg	Lg	03 45 17.0	
	comp=Z,0.4nm,0.3s,baz=288,slow=7.8,SNR=3.6						
PLCA	**Paso Flores**	**9.60**	**192**	Lg	Lg	03 45 46.1	
	comp=Z,0.2nm,0.3s,baz=131,slow=10,SNR=2.8						
TORD	**Torodi Ar. Bea**	**80.02**	**68**	P	**P**	**03 52 47.8**	**-2.2**
	comp=Z,0.4nm,0.5s,baz=251,slow=4.4,SNR=7.4						
PDAR	**Pinedale Array**	**83.08**	**330**	P	**P**	**03 53 09.6**	**+3.8**
	comp=Z,0.3nm,0.8s,baz=131,slow=5.7,SNR=3.3						
WRA	**Warramunga Arr**	**124.70**	**206**	PKP	**PKPdf**	**03 59 42.1**	**+1.6**
	comp=Z,95nm,0.9s,baz=160,slow=1.8,SNR=5.6						
ZALV	**Zalesovo Beam**	**150.13**	**33**	PKPbc	**PKPbc**	**04 00 32.9**	**+2.4**
	comp=Z,0.9nm,0.6s,baz=333,slow=1.9,SNR=3.9						
MKAR	**Makanchi Array**	**152.42**	**47**	PKPbc	**PKPbc**	**04 00 34.5**	**-1.6**
	comp=Z,0.3nm,0.8s,baz=284,slow=1.5,SNR=3.5						

IDC ***16*** *04:11:03.1±1.6,2.52S×101.66E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/44, mbtmp3.9/6, Error ellipse: s-maj=72.9km s-min=20.6km az=52.0*
ISCJB ***16*** *04:11:23.5±0.5,2.34S±0.07×102.05E±0.06, h200km, mb3.4/6, Error ellipse: s-maj=11.8km s-min=5.1km az=43.5*
DJA ***16*** *04:11:24.7±0.4,2.5S×10.2E±°, h170km±4km, M3.8/12, mb3.9/3, mB4.5/1, MLv3.8/12, Mw(mB)3.7/1*

ISC 16 04:11:24.7±0.8,2.32S±0.09×102.09E±0.09, h200km, n21, σ1§87/22, mb3.6/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**0.83**	**169**	P	**Pn**	**04 11 52.5**	**-0.9**
MASI				S	**Sn**	**04 12 12.2**	**-3.7**
LHSI	**Lahat**	**2.07**	**136**	P	**Pn**	**04 12 03.2**	**-0.7**
PPSI	**Pulau Pagai**	**2.12**	**258**	P	**Pn**	**04 12 04.9**	**+0.5**
PPSI				S	**Sn**	**04 12 34.8**	**-0.6**
PDSI	**Padang**	**2.14**	**311**	P	**Pn**	**04 12 03.8**	**-0.9**
PDSI				S	**Sn**	**04 12 31.8**	**-4.1**
MNAI	**Manna**	**2.21**	**157**	P	**Pn**	**04 12 04.4**	**-1.0**
MNAI				S	**Sn**	**04 12 34.6**	**-2.6**
PPI	**Padang Panjang**	**2.50**	**318**	S	**Sn**	**04 12 40.8**	**-2.1**
MDSI	**Maura Dua**	**3.00**	**136**	P	**Pn**	**04 12 13.7**	**-0.6**
SISI	**Saibi**	**3.15**	**288**	P	**Pn**	**04 12 16.3**	**+0.2**
SISI				S	**Sn**	**04 12 54.4**	**-2.0**
KASI	**Kota Agung**	**3.99**	**143**	P	**Pn**	**04 12 25.0**	**-1.3**
GSI	**Gunungsitoli**	**5.77**	**309**	P	**Pn**	**04 12 48.5**	**-0.5**
KCSI	**Kotacane, Aceh**	**7.23**	**323**	P	**Pn**	**04 13 06.5**	**-1.5**
TPTI		**7.40**	**318**	P	**Pn**	**04 13 08.6**	**-1.6**
H08S2	**Diego Garcia H**	**29.394**	**259**	T	T	04 46 49.0	
	baz=82,slow=76,SNR=5.1						
H08S3	**Diego Garcia H**	**29.95**	**259**	T	T	04 46 49.5	
	baz=82,slow=76,SNR=5.2						
H08S1	**Diego Carcia H**	**29.96**	**259**	T	T	04 46 44.2	
	baz=82,slow=76,SNR=4.8						
WRA	**Warramunga Arr**	**36.04**	**121**	P	**P**	**04 18 07.7**	**+0.4**
	0.2nm,0.3s,baz=286,slow=8.0,SNR=4.8						
ASAR	**Alice Springs**	**37.39**	**127**	P	**P**	**04 18 20.8**	**+2.2**
	1.2nm,0.6s,baz=300,slow=7.9,SNR=10						
SONM	**Songino Array**	**50.09**	**4**	P	P	04 20 02.2	+2.9
	0.9nm,0.6s,baz=188,slow=8.9,SNR=9.0						
MKAR	**Makanchi Array**	**51.92**	**343**	P	**P**	**04 20 14.2**	**+1.3**
	0.7nm,0.7s,baz=144,slow=7.6,SNR=5.7						
ZALV	**Zalesovo Beam**	**57.89**	**348**	P	**P**	**04 20 56.7**	**+1.2**
	0.9nm,0.4s,baz=159,slow=5.6,SNR=2.6						
BRTR	**Keskin Array B**	**75.08**	**312**	P	**P**	**04 22 46.4**	**+1.5**
	0.9nm,0.7s,baz=124,slow=8.2,SNR=5.2						

JMA ***16*** *04:17:46.0±0.2,32.91N×138.15E, h377km, M2.6*
IDC ***16*** *04:17:51.0±2.1,33.02N×138.15E, h315km±21km, mb2.7/4, mb1 2.9/6, mb1mx2.7/49, mbtmp3.3/6, Error ellipse: s-maj=28.3km s-min=20.7km az=104.0*
ISCJB ***16*** *04:17:54.6±1.1,33.3N±0.1×138.07E±0.08, h300km, mb2.9/4, Error ellipse: s-maj=17.8km s-min=11.7km az=137.6*

ISC 16 04:17:54.1±1.3,33.4N±0.1×138.07E±0.08, h300km, n19, σ2§80/22, mb2.9/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTO4	**TONANKAI O.B.S**	**0.79**	**327**	P	**Pn**	**04 18 35.7**	**+2.4**
TTO2	**TONANKAI O.B.S**	**0.95**	**294**	P	**Pn**	**04 18 36.0**	**+2.1**
JIE	**Ise**	**1.54**	**313**	P	**Pn**	**04 18 39.0**	**+1.5**
JOD2	**Odawara 2**	**2.09**	**24**	P	**Pn**	**04 18 44.4**	**+2.8**
JTNC	**Tanabenakahech**	**2.10**	**284**	P	**Pn**	**04 18 42.1**	**+0.4**
JTNC				S	**S**	**04 19 26.3**	**+6.7**
JWY	**Kouya**	**2.23**	**294**	P	**Pn**	**04 18 43.9**	**+1.0**
JYTA	**Yamagatataniai**	**2.50**	**334**	P	**Pn**	**04 18 46.9**	**+1.9**
BSO1	**Boso 1**	**2.75**	**61**	P	**Pn**	**04 18 47.1**	**+0.3**
BSO1				S	**S**	**04 19 34.6**	**+5.7**
JRY	**Ryogami san**	**2.75**	**14**	P	**Pn**	**04 18 49.7**	**+2.2**
JWT	**Wachi**	**2.93**	**312**	P	**Pn**	**04 18 50.1**	**+1.0**
MJAR	**Matsushiro Arr**	**3.19**	**2**	P	**Pn**	**04 18 52.9**	**+1.2**
	0.2nm,0.3s,baz=188,slow=11,SNR=8.2						
MJAR				S	**S**	**04 19 38.8**	**+1.0**
	0.0nm,0.3s,baz=195,slow=17,SNR=3.0						
MAT	**Matsushiro**	**3.19**	**2**	P	**Pn**	**04 18 53.2**	**+1.5**
MAT				*e*S	**S**	**04 19 41.0**	**+3.2**
MAT	**Matsushiro**	**3.19**	**2**	P	**Pn**	**04 18 53.4**	**+1.7**
JAG	**Ashikaga**	**3.28**	**20**	P	**Pn**	**04 18 53.1**	**+0.5**
KSRS	**Korea Array**	**9.24**	**299**	P	**Pn**	**04 20 01.8**	**-1.0**
	0.2nm,0.3s,baz=117,slow=15,SNR=5.2						
SONM	**Songino Array**	**27.84**	**311**	P	**P**	**04 23 14.8**	**-1.7**
	0.2nm,0.3s,baz=104,slow=6.1,SNR=2.9						
WRA	**Warramunga Arr**	**53.11**	**184**	P	P	04 26 34.6	-6.9
	0.2nm,0.4s,baz=12,slow=8.0,SNR=6.7						
ILAR	**Eielson Array**	**54.06**	**31**	P	**P**	**04 26 45.5**	**-2.5**
	0.5nm,1.0s,baz=276,slow=4.4,SNR=4.6						
YKA	**Yellowknife Ar**	**68.36**	**28**	P	**P**	**04 28 19.6**	**-3.6**
	0.1nm,0.5s,baz=297,slow=6.5,SNR=3.9						

IDC ***16*** *04:28:38.5±2.2,67.29S×113.87E, h0km, mb4.1/4, mb1 4.3/5, mb1mx4.1/18, mbtmp4.1/5, ML3.5/1, MS3.3/2, Ms1 3.4/2, ms1mx3.0/22, Error ellipse: s-maj=95.6km s-min=21.8km az=98.0*

ISC 16 04:28:39.8±1.4,67.53S±0.10×114.4E±0.3, h10km, n8, σ2§10/10, mb4.2/4, Antarctica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**16.75**	**146**	Pn	**P**	**04 32 35.9**	**-0.4**
	0.2nm,0.3s,baz=286,slow=13,SNR=8.2						
VNDA				Sn	**Sn**	**04 35 39.8**	**+0.1**
	0.2nm,0.3s,baz=340,slow=15,SNR=5.5						
VNDA				LR	LR	04 39 36.1	
	comp=Z,98nm,18.0s,baz=315,slow=39						
QSPA	**South Pole Qui**	**22.55**	**180**	P	**P**	**04 33 42.9**	**+3.2**
	2.6nm,0.8s,baz=313,slow=7.6,SNR=11						
QSPA				S	**S**	**04 37 42.7**	**-3.9**
	1.6nm,0.8s,baz=195,slow=20,SNR=4.0						
QSPA				LR	LR	04 42 36.3	
	comp=Z,84nm,19.7s,baz=190,slow=37						
STKA	**Stephens Creek**	**39.10**	**38**	P	**P**	**04 36 07.8**	**+1.0**
	2.9nm,0.5s,baz=192,slow=10,SNR=14						
ASAR	**Alice Springs**	**45.51**	**25**	P	**P**	**04 36 58.0**	**-1.2**
	3.2nm,0.7s,baz=195,slow=7.0,SNR=35						
WRA	**Warramunga Arr**	**49.23**	**25**	P	**P**	**04 37 26.7**	**-1.4**
	2.2nm,0.8s,baz=193,slow=6.7,SNR=18						
PDAR	**Pinedale Array**	**145.93**	**114**	PKPbc	**PKPab**	**04 48 19.8**	**+0.6**
	0.4nm,0.6s,baz=143,slow=5.2,SNR=4.9						
ILAR	**Eielson Array**	**149.21**	**56**	PKPbc	**PKPbc**	**04 48 26.2**	**-0.4**
	1.2nm,0.8s,baz=257,slow=3.9,SNR=7.2						
YKA	**Yellowknife Ar**	**159.18**	**80**	PKPab	**PKPab**	**04 49 14.0**	**+0.4**
	0.3nm,0.8s,baz=240,slow=4.2,SNR=4.0						

IDC 16 04:39:43.2±1.8,6.62S×128.91E, h0km, mb4.1/2, mb1 3.8/4, mb1mx3.5/34, mbtmp3.7/4, ML3.6/2, Error ellipse: s-maj=145.9km s-min=29.0km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.25**	**159**	Pn	Pn	04 43 05.1	-1.3
	0.3nm,0.3s,baz=341,slow=13,SNR=14						
WRA				Sn	Sn	04 45 30.1	-15
	0.7nm,0.3s,baz=344,slow=22,SNR=8.7						
ASAR	**Alice Springs**	**17.61**	**165**	P	P	04 43 51.1	-0.2
	0.2nm,0.3s,baz=341,slow=11,SNR=8.5						
ASAR				S	Sn	04 46 52.6	-15
	0.1nm,0.3s,baz=354,slow=25,SNR=3.2						
MKAR	**Makanchi Array**	**67.32**	**327**	P	P	04 50 41.0	+1.0
	2.4nm,0.4s,baz=122,slow=7.9,SNR=23						
KURBB	**Kurchatov Arra**	**71.63**	**329**	P	P	04 51 05.3	-1.2
	0.3nm,0.4s,baz=127,slow=5.0,SNR=3.3						

MEX 16 04:40:49.9±0.4,15.86N×97.21W, h8km±2km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**1.03**	**301**	*e*P	Pg	04 41 06.9	-2.8
PNIG				*e*S	Sg	04 41 19.8	-3.3
HUIG	**Huatulco**	**1.06**	**95**	*e*P	Pg	04 41 07.1	-3.2
HUIG				*e*S	Sg	04 41 21.8	-2.4
VHO	**Vista Hermosa**	**1.29**	**21**	*e*P	Pn	04 41 11.5	-3.0
VHO				*e*S	Sb	04 41 26.8	-4.7

SJA ***16*** *04:53:05.9±0.5,33.53S×72.59W, h5km±4km, ML3.9, MW3.7*
IDC ***16*** *04:53:07.9±0.8,33.58S×71.85W, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.9/26, mbtmp3.9/8, ML4.1/2, MS3.4/4, Ms1 3.4/4, ms1mx3.1/18, Error ellipse: s-maj=37.0km s-min=20.5km az=80.0*
GUC ***16*** *04:53:11.0±0.5,33.66S×72.09W, h29km±4km, ML3.8*

ISC 16 04:53:11.3±0.8,33.69S±0.04×72.12W±0.08, h22km±6km, n38, σ2§02/45, mb4.0/6, 1C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**1.17**	**53**	*e*P	**Pb**	**04 53 32.3**	**-0.7**
ROC1				*e*S	**Sb**	**04 53 53.9**	**+6.1**
ROCH	**El Roble**	**1.17**	**53**	*e*P	**Pb**	**04 53 31.7**	**-1.3**
ROCH				*e*S	**Sb**	**04 53 46.8**	**-1.0**
ROCH				IAML		04 53 54.3	
	comp=E,2μm,0.6s						
PEL	**Peldehue**	**1.32**	**66**	*i*P	**Pb**	**04 53 34.2**	**-1.1**
PEL				*e*S	**Sb**	**04 53 51.1**	**-0.8**
PEL				IAML		04 53 56.1	
	comp=N,3μm,0.6s						
GO05	**Huala**	**1.32**	**173**	*i*P	**Pn**	**04 53 34.5**	**0.0**
GO05				*e*S	**Sb**	**04 53 51.9**	**-0.1**
GO05				IAML		04 53 57.1	
	comp=E,3μm,0.3s						
CLCH	**Cerro Calan**	**1.35**	**78**	*e*P	**Pn**	**04 53 34.4**	**-0.6**
CLCH				*e*S	**Sb**	**04 53 53.0**	**+0.1**
FCH	**Farellones**	**1.57**	**77**	*e*P	**Pb**	**04 53 38.1**	**-1.8**
FCH				*e*S	**Sb**	**04 53 58.9**	**-0.6**
FCH				IAML		04 54 00.6	
	comp=E,2μm,0.3s						
LMEL	**Las Melosas**	**1.60**	**96**	*e*P	**Pn**	**04 53 38.3**	**-0.1**
LMEL				*e*S	**Sb**	**04 53 59.6**	**-0.6**
CMCH	**Combarbala**	**2.68**	**21**	*e*P	**Pn**	**04 53 52.4**	**-0.8**
CMCH				*e*S	**Sb**	**04 54 32.7**	**+1.5**
AUSP	**Uspallata**	**2.72**	**58**	*e*P	**Pb**	**04 53 57.8**	**-1.7**
AUSP				*e*S	**Sb**	**04 54 35.5**	**+2.9**
ARCO	**CERRO ARCO**	**2.80**	**73**	*e*P	**Pb**	**04 53 59.2**	**-1.5**
ARCO				*e*S	**Sb**	**04 54 38.7**	**+4.0**
ARCO				IAML		04 54 41.8	
	comp=Z,435nm,0.6s						
CCHI	**Chillan**	**2.90**	**179**	*e*P	**Pn**	**04 53 57.6**	**+1.4**
CCHI				*e*S	**Sn**	**04 54 32.9**	**+2.5**
CCHI				IAML		04 54 50.9	
	comp=E,983nm,0.6s						
ASAL	**Salagasta**	**2.97**	**69**	*e*P	**Pb**	**04 54 01.2**	**-2.3**
RTLS	**Leoncito**	**3.04**	**52**	*e*P	**Pb**	**04 54 01.6**	**-3.3**
RTLS				*e*S	**Sb**	**04 54 42.5**	**+0.9**
RTLS				IAML		04 54 56.6	
	comp=Z,245nm,0.6s						
RFA	**San Rafael**	**3.21**	**111**	*e*P	**Pb**	**04 54 05.7**	**-2.0**
RFA				IAML		04 54 57.8	
	comp=Z,162nm,0.5s						
RTCV	**Cerro Valdivia**	**3.52**	**60**	*e*P	Pb	04 54 08.2	-4.8
RTCV				*e*S	**Sb**	**04 54 54.6**	**-0.8**
RTLL	**Cerro Villicun**	**3.88**	**54**	*e*P	**Pn**	**04 54 12.9**	**+3.2**
RTLL				IAML		04 55 11.4	
	comp=E,153nm,0.5s						
CFA	**Coronel Fontan**	**3.88**	**59**	*e*P	Pb	04 54 13.2	-5.9
ACCO	**Cerro Coronel**	**4.04**	**41**	*e*P	**Pn**	**04 54 14.7**	**+2.6**
AMOG	**MOGNA**	**4.12**	**49**	*e*P	**Pn**	**04 54 16.0**	**+3.0**
AROD	**Rodeo**	**4.17**	**33**	*e*P	**Pn**	**04 54 15.9**	**+2.0**
ACDV	**Cuesta del Vie**	**4.34**	**37**	*e*P	**Pn**	**04 54 18.2**	**+2.1**
AGUA	**GUANDACOL**	**5.21**	**37**	*e*P	**Pn**	**04 54 29.6**	**+1.5**
APLL	**PUNTA DE LOS L**	**5.77**	**57**	*e*P	Pn	04 54 39.3	+3.6
APLL				IAML		04 55 54.5	
	comp=Z,31nm,0.5s						
VCA	**Vinchina**	**5.97**	**35**	*e*P	**Pn**	**04 54 40.1**	**+1.5**
ACLC	**CERRO LA CRUZ**	**6.13**	**47**	*e*P	**Pn**	**04 54 43.5**	**+2.8**
PLCA	**Paso Flores**	**7.14**	**170**	Pn	**Pn**	**04 54 55.5**	**+1.0**
	comp=Z,1.0nm,0.3s,baz=357,slow=12,SNR=49						
PLCA				Lg	Lg	04 56 50.6	
	comp=Z,0.3nm,0.3s,baz=287,slow=19,SNR=2.6						
PLCA				LR	LR	04 58 00.4	
	comp=Z,167nm,18.0s,baz=28,slow=41						
LVC	**Limon Verde**	**11.40**	**15**	LR	LR	05 00 39.5	
	comp=Z,164nm,18.3s,baz=212,slow=40						
LPAZ	**La Paz**	**17.70**	**13**	P	**P**	**04 57 16.3**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=180,slow=7.2,SNR=11						
BDFB	**Brasilia**	**28.22**	**56**	LR	LR	05 11 37.1	
	comp=Z,141nm,20.7s,baz=170,slow=40						
ROSC	**El Rosal**	**38.38**	**356**	LR	LR	05 17 03.2	
	comp=Z,56nm,18.1s,baz=272,slow=38						
SNAA	**Sanae**	**51.90**	**158**	P	**P**	**05 02 18.1**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=246,slow=12,SNR=3.1						
QSPA	**South Pole Qui**	**56.54**	**180**	P	**P**	**05 02 53.1**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=153,slow=5.1,SNR=4.1						
TXAR	**Lajitas Array**	**69.43**	**331**	P	**P**	**05 04 18.4**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=155,slow=8.8,SNR=10						
DBIC	**Dimbokro**	**75.14**	**71**	P	**P**	**05 04 51.8**	**-0.4**
	comp=Z,2.8nm,1.1s,baz=210,slow=9.2,SNR=2.6						
PDAR	**Pinedale Array**	**83.46**	**333**	P	**P**	**05 05 37.5**	**+0.4**
	comp=Z,0.4nm,0.9s,baz=156,slow=4.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**84.17**	**70**	P	**P**	**05 05 39.0**	**-2.2**
	comp=Z,1.2nm,0.8s,baz=286,slow=5.4,SNR=8.9						
WRA	**Warramunga Arr**	**121.00**	**209**	PKP	**PKiKP**	**05 12 02.3**	**-0.5**
	comp=Z,1.1nm,1.2s,baz=159,slow=1.1,SNR=3.5						
ZALV	**Zalesovo Beam**	**154.00**	**32**	PKPbc	**PKiKP**	**05 13 07.5**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=293,slow=3.3,SNR=5.9						

IDC ***16*** *05:04:53.3±1.1,38.24N×20.14E, h0km, mb3.6/11, mb1 3.7/15, mb1mx3.6/37, mbtmp3.6/15, ML3.5/4, MS2.8/1, Ms1 2.8/1, ms1mx2.1/44, Error ellipse: s-maj=20.5km s-min=19.1km az=144.0*
ISCJB ***16*** *05:04:55.6±0.6,38.33N±0.03×20.19E±0.03, h16km±4km, mb3.6/11, Error ellipse: s-maj=5.1km s-min=2.7km az=40.4*
THE ***16*** *05:04:57.2,38.32N×20.37E, h4km, ML3.3/21, Error ellipse: s-maj=1.1km s-min=0.6km az=61.0*
ATH ***16*** *05:04:57.2,38.33N×20.38E, h15km±1km, ML3.3/8, Error ellipse: s-maj=1.8km s-min=0.8km az=75.0*

ISC 16 05:04:56.6±0.9,38.30N±0.02×20.32E±0.03, h18km±6km, n99, σ1§38/142, mb3.7/11, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.24**	**120**	P	**Pg**	**05 05 02.4**	**+0.2**
VLS				S	**Sg**	**05 05 06.0**	**0.0**
VLS	**Valsamata**	**0.24**	**120**	P	**Pg**	**05 05 02.4**	**+0.2**
VLS				S	**Sg**	**05 05 05.7**	**-0.3**
EVGI	**Lefkada island**	**0.41**	**39**	P	**Pg**	**05 05 04.5**	**-0.6**
EVGI				S	**Sg**	**05 05 09.9**	**-1.0**
EVGI	**Lefkada island**	**0.41**	**39**	P	**Pg**	**05 05 04.5**	**-0.6**
EVGI				S	**Sg**	**05 05 09.6**	**-1.3**
MGNA	**Meganis**	**0.51**	**46**	P	**Pg**	**05 05 06.5**	**-0.3**
MGNA				S	**Sg**	**05 05 13.2**	**-0.6**
MGNA				AML	AML	05 05 14.8	
	comp=N,8243μm,0.1s						
MGNA				AML	AML	05 05 15.8	
	comp=E,7048μm,0.1s						
LKD2	**Lefkada island**	**0.56**	**28**	P	**Pg**	**05 05 06.9**	**-0.8**
LKD2				S	**Sg**	**05 05 14.3**	**-0.9**
LKD2				AML	AML	05 05 19.4	
	comp=N,6852μm,0.3s						
LKD2				AML	AML	05 05 19.5	
	comp=E,6610μm,0.3s						
LKD2	**Lefkada island**	**0.56**	**28**	P	**Pg**	**05 05 06.9**	**-0.8**
LKD2				S	**Sg**	**05 05 14.9**	**-0.3**

TSLK	**Tsoukalades, L**	**0.59**	**26**	P	**Pg**	**05 05 07.6**	**-0.7**
TSLK				S	**Sg**	**05 05 15.3**	**-0.8**
TSLK				AML	AML	05 05 19.6	
	comp=E,6377μm,0.4s						
TSLK				AML	AML	05 05 20.5	
	comp=N,9890μm,0.6s						
PDO	**Prodromos**	**0.74**	**66**	P	**Pg**	**05 05 09.9**	**-1.1**
PDO				S	**Sg**	**05 05 20.2**	**-0.7**
PDO				AML	AML	05 05 25.1	
	comp=E,7343μm,0.3s						
PDO				AML	AML	05 05 27.0	
	comp=N,9007μm,0.3s						
PDO	**Prodromos**	**0.74**	**66**	P	**Pg**	**05 05 09.8**	**-1.3**
PDO				S	**Sg**	**05 05 20.8**	**-0.1**
VTN	**Vitineika**	**0.78**	**119**	P	**Pn**	**05 05 12.4**	**-0.3**
RLS	**Riolos of Patr**	**0.93**	**105**	P	**Pb**	**05 05 13.8**	**-0.4**
RLS	**Riolos of Patr**	**0.93**	**105**	P	**Pb**	**05 05 13.7**	**-0.5**
RLS				S	**Sn**	**05 05 27.2**	**-0.5**
PVO	**Paravola**	**1.00**	**71**	P	**Pg**	**05 05 15.0**	**-0.9**
PVO				S	**Sg**	**05 05 28.5**	**-0.5**
PVO				AML	AML	05 05 32.8	
	comp=E,5421μm,0.7s						
PVO				AML	AML	05 05 36.3	
	comp=N,5136μm,0.5s						
PVO	**Paravola**	**1.00**	**71**	P	**Pg**	**05 05 15.0**	**-0.9**
PVO				S	**Sg**	**05 05 29.2**	**+0.2**
DRO	**Drossia**	**1.15**	**107**	P	**Pn**	**05 05 18.1**	**+0.4**
DRO				S	**Sn**	**05 05 34.2**	**+1.2**
DRO				AML	AML	05 05 41.0	
	comp=E,5525μm,0.5s						
DRO				AML	AML	05 05 47.9	
	comp=N,3591μm,0.5s						
DRO	**Drossia**	**1.15**	**107**	P	**Pn**	**05 05 17.6**	**-0.2**
DRO				S	**Sn**	**05 05 34.5**	**+1.5**
IGT	**Igoumenitsa**	**1.23**	**0**	P	**Pb**	**05 05 20.7**	**+0.9**
IGT				S	**Sb**	**05 05 36.8**	**+1.9**
IGT				AML	AML	05 05 43.1	
	comp=N,2907μm,0.4s						
IGT				AML	AML	05 05 43.3	
	comp=E,2604μm,0.5s						
IGT	**Igoumenitsa**	**1.23**	**0**	P	**Pn**	**05 05 20.0**	**+1.1**
IGT				S	**Sn**	**05 05 37.7**	**+2.6**
EFP	**Efpalio**	**1.25**	**84**	P	**Pn**	**05 05 19.0**	**-0.2**
EFP	**Efpalio**	**1.25**	**84**	P	**Pn**	**05 05 18.6**	**-0.5**
EFP				S	**Sn**	**05 05 37.5**	**+2.0**
LAKA	**Lakka**	**1.30**	**92**	P	**Pn**	**05 05 19.9**	**0.0**
LAKA	**Lakka**	**1.30**	**92**	P	**Pn**	**05 05 19.8**	**-0.1**
LAKA				S	**Sg**	**05 05 39.1**	**+0.3**
EVR	**Evrytania**	**1.32**	**62**	P	**Pn**	**05 05 20.7**	**+0.5**
EVR	**Evrytania**	**1.32**	**62**	P	**Pn**	**05 05 20.0**	**-0.2**
EVR				S	**Sb**	**05 05 39.0**	**+1.6**
AMT	**Artemida-Makis**	**1.34**	**124**	P	**Pg**	**05 05 22.5**	**+0.2**
AMT				S	**Sg**	**05 05 40.5**	**+0.6**
AMT				AML	AML	05 05 47.2	
	comp=N,2006μm,0.6s						
AMT				AML	AML	05 05 51.6	
	comp=E,2449μm,0.5s						
AMT	**Artemida-Makis**	**1.34**	**124**	P	**Pg**	**05 05 21.6**	**-0.8**
AMT				S	**Sg**	**05 05 40.8**	**+1.0**
TRIZ	**Trizonia**	**1.38**	**87**	P	**Pn**	**05 05 21.1**	**+0.2**
TRIZ	**Trizonia**	**1.38**	**87**	P	**Pn**	**05 05 20.8**	**-0.1**
TRIZ				S	**Sg**	**05 05 41.2**	**+0.1**
ALIK	**Aliki, Aigiali**	**1.41**	**91**	P	**Pn**	**05 05 21.6**	**+0.3**
ALIK				S	**Sg**	**05 05 41.9**	**+0.2**
JAN	**Janina**	**1.42**	**17**	P	**Pb**	**05 05 23.6**	**+1.1**
JAN	**Janina**	**1.42**	**17**	P	**Pn**	**05 05 22.7**	**+1.2**
JAN				S	**Sn**	**05 05 41.8**	**+2.1**
KALE	**Kalithea**	**1.43**	**86**	P	**Pn**	**05 05 21.8**	**+0.1**
KALE				S	**Sg**	**05 05 42.3**	**-0.6**
KLV	**Kalavryta, Ach**	**1.46**	**99**	P	**Pb**	**05 05 22.7**	**-0.5**
KLV	**Kalavryta, Ach**	**1.46**	**99**	P	**Pb**	**05 05 22.6**	**-0.7**
KLV				S	**Sg**	**05 05 43.2**	**-0.7**
KEK	**Kerkira**	**1.47**	**344**	P	**Pb**	**05 05 24.1**	**+0.7**
KEK	**Kerkira**	**1.47**	**344**	P	**Pb**	**05 05 23.8**	**+0.4**
KEK				S	**Sb**	**05 05 44.1**	**+2.4**
KASA	**Kassiopi**	**1.48**	**348**	P	**Pb**	**05 05 24.4**	**+0.9**
MES3	**Kyparissia**	**1.50**	**134**	P	**Pg**	**05 05 25.5**	**+0.1**
MES3				S	**Sg**	**05 05 46.2**	**+1.3**
GUR	**Goura**	**1.63**	**102**	P	**Pb**	**05 05 25.6**	**-0.6**
GUR				S	**Sg**	**05 05 47.5**	**-1.8**
ITM	**Ithomi**	**1.69**	**131**	P	**Pg**	**05 05 28.7**	**-0.5**
ITM	**Ithomi**	**1.69**	**131**	P	**P

NOA	**NORSAR Array B**	**23.47**	**349**	P	**P**	**05 10 03.9**	**-0.9**
	comp=E,0.6nm,0.7s,baz=157,slow=10,SNR=4.6						
TORD	**Torodi Ar. Bea**	**30.03**	**218**	P	**P**	**05 11 03.0**	**-1.5**
	comp=E,0.5nm,0.9s,baz=25,slow=9.1,SNR=3.1						
ARCES	**ARCESS Array B**	**31.42**	**3**	P	**P**	**05 11 16.6**	**+0.3**
	comp=E,2.0nm,1.0s,baz=183,slow=11,SNR=3.3						
KURBB	**Kurchatov Arra**	**42.28**	**54**	P	**P**	**05 12 48.9**	**+0.1**
	comp=E,0.4mm,0.6s,baz=281,slow=9.1,SNR=2.2						
MKAR	**Makanchi Array**	**45.37**	**58**	P	**P**	**05 13 13.4**	**-0.3**
	comp=E,0.5nm,0.4s,baz=272,slow=7.7,SNR=8.4						
ZALV	**Zalesovo Beam**	**45.73**	**48**	P	**P**	**05 13 16.3**	**0.0**
	comp=E,1.3nm,0.4s,baz=278,slow=7.7,SNR=5.6						
SONM	**Songino Array**	**60.50**	**51**	P	**P**	**05 15 05.9**	**+0.4**
	comp=E,0.3nm,0.3s,baz=251,slow=4.4,SNR=3.2						
YKA	**Yellowknife Ar**	**73.22**	**340**	P	**P**	**05 16 27.1**	**+1.0**
	comp=E,0.1nm,0.5s,baz=30,slow=5.6,SNR=2.9						

ISCJB ***16*** *05:05:05.9±0.6, 23.°90N±0.°02×122.°53E±0.°02, h6km±4km, Error ellipse: s-maj=2.9km s-min=2.4km az=155.1*
JMA ***16*** *05:05:07.2±0.3, 23.°96N×122.°50E, h19km±4km, M2.2*
TAP ***16*** *05:05:07.5, 23.°97N×122.°53E, h26km, ML2.9, D*
ISC 16 05:05:06.3±1.0, 23.°91N±0.°02×122.°50E±0.°02, h15km±8km, n69, σ0.°66/125, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.67**	**37**	P		P	**Pg**	**05 05 19.6**	**+0.1**
JYNG				S		S	**Sg**	**05 05 27.3**	**-1.1**
YOJ	**Yonaguni jima**	**0.72**	**40**	P		P	**Pg**	**05 05 20.3**	**0.0**
	baz=48								
YOJ				*e*S			**Sg**	**05 05 29.9**	**+0.1**
	baz=48								
YOJ	**Yonaguni jima**	**0.72**	**40**	P		P	**Pg**	**05 05 20.3**	**0.0**
YOJ				S			**Sg**	**05 05 28.7**	**-1.1**
EOS1	**EOS1**	**0.72**	**332**	*i* P			**Pg**	**05 05 21.0**	**+0.6**
	baz=327								
EOS1				*e*S			**Sn**	**05 05 31.9**	**-0.7**
	baz=327								
ENLB	**Shoufeng**	**0.83**	**270**	*e*P			**Pg**	**05 05 22.8**	**+0.4**
	baz=254								
ENLB				*e*S			**Sg**	**05 05 33.5**	**+0.2**
	baz=254								
TWD	**Chiawan**	**0.85**	**282**	*e*P			**Pb**	**05 05 22.7**	**0.0**
	baz=278								
TWD				S			**Sg**	**05 05 34.7**	**+0.8**
	baz=278								
ENA	**Nanau**	**0.87**	**307**	P			**Pg**	**05 05 23.3**	**+0.1**
	baz=302								
ENA				*e*S			**Sn**	**05 05 36.2**	**-0.1**
	baz=302								
NACB	**Ninganchiao**	**0.87**	**288**	*e*P			**Pb**	**05 05 23.2**	**+0.1**
	baz=269								
NACB				*e*S			**Sn**	**05 05 35.9**	**-0.6**
	baz=269								
TWC	**Suao**	**0.92**	**319**	P			**Pb**	**05 05 23.7**	**-0.2**
	baz=316								
TWC				S			**Sb**	**05 05 35.3**	**-0.6**
	baz=316								
ESL	**Shilin**	**0.99**	**265**	*e*P			**Pg**	**05 05 25.3**	**-0.1**
	baz=261								
ESL				*e*S			**Sn**	**05 05 38.7**	**-0.6**
	baz=261								
EGS		**1.07**	**331**	*i* P			**Pg**	**05 05 27.0**	**+0.1**
	baz=315								
EGS				S			**Sn**	**05 05 41.5**	**+0.2**
	baz=315								
HGSD	**Ruisui**	**1.07**	**247**	*e*P			**Pn**	**05 05 26.8**	**0.0**
	baz=245								
HGSD				*e*S			**Sb**	**05 05 40.4**	**-0.1**
	baz=245								
TWE	**Neicheng**	**1.11**	**317**	*e*P			**Pb**	**05 05 27.1**	**-0.1**
	baz=314								
TWE				*e*S			**Sg**	**05 05 42.5**	**+0.2**
	baz=314								
ENTT	**Nioudou**	**1.12**	**310**	P			**Pb**	**05 05 27.4**	**0.0**
	baz=292								
ENTT				*e*S			**Sg**	**05 05 43.3**	**+0.6**
	baz=292								
NTC	**Toucheng**	**1.12**	**327**	P			**Pg**	**05 05 28.4**	**+0.3**
	baz=324								
NTC				S			**Sg**	**05 05 42.8**	**+0.2**
	baz=324								
NNSB	**Datong**	**1.15**	**297**	P			**Pb**	**05 05 28.2**	**+0.3**
	baz=293								
NNSB				*e*S			**Sb**	**05 05 42.8**	**+0.1**
	baz=293								
EHY	**Hungye**	**1.16**	**250**	*e*P			**Pn**	**05 05 27.7**	**-0.2**
	baz=247								
EHY				S			**Sg**	**05 05 43.7**	**0.0**
	baz=247								
WHF	**Hehuan Shan**	**1.16**	**282**	*i* P			**Pb**	**05 05 28.2**	**-0.1**
	baz=279								
WHF				S			**Sn**	**05 05 43.6**	**-0.5**
	baz=279								
NNS	**Nan Shan**	**1.16**	**297**	P			**Pb**	**05 05 28.4**	**+0.2**
	baz=294								
NNS				*e*S			**Sg**	**05 05 44.1**	**+0.2**
	baz=294								
IRIF	**Iriomote-Funau**	**1.20**	**69**	P			**Pb**	**05 05 28.8**	**+0.1**
IRIF				S			**Sb**	**05 05 44.1**	**+0.1**
HATJ	**Hateruma jima**	**1.20**	**83**	S			**Sn**	**05 05 44.5**	**0.0**
YULB	**Yu-li**	**1.22**	**245**	P			**Pb**	**05 05 29.1**	**0.0**
	baz=243								
YULB				*e*S			**Sn**	**05 05 44.8**	**-0.3**
	baz=243								
TIPB	**Shuangxi**	**1.22**	**330**	*i* P			**Pn**	**05 05 29.0**	**+0.1**
	baz=327								
TIPB				S			**Sn**	**05 05 45.4**	**+0.2**
	baz=327								
CHGB	**Renai**	**1.23**	**277**	*e*P			**Pn**	**05 05 29.0**	**-0.1**
	baz=275								
CHGB				S			**Sn**	**05 05 45.4**	**-0.1**
	baz=275								
TWF1	**Yuli**	**1.24**	**244**	*e*P			**Pb**	**05 05 29.6**	**+0.1**
	baz=241								
TWF1				S			**Sg**	**05 05 45.9**	**-0.5**
	baz=241								
NWLT	**Wulai**	**1.26**	**314**	P			**Pb**	**05 05 29.9**	**+0.2**
	baz=297								
NWLT				*e*S			**Sg**	**05 05 47.2**	**+0.3**
	baz=297								
TWT	**Tachien**	**1.26**	**286**	*e*P			**Pg**	**05 05 30.7**	**0.0**
	baz=271								
TWT				S			**Sg**	**05 05 47.4**	**+0.3**
	baz=271								
TDCB	**Techi**	**1.28**	**286**	P			**Pb**	**05 05 30.0**	**-0.1**
	baz=271								
TDCB				*e*S			**Sb**	**05 05 46.1**	**-0.4**
	baz=271								
YHNB	**Yeheng**	**1.28**	**306**	*e*P			**Pb**	**05 05 30.2**	**0.0**
	baz=291								
YHNB				*e*S			**Sg**	**05 05 47.8**	**+0.1**
	baz=291								
NSK	**Sanguang**	**1.29**	**306**	P			**Pb**	**05 05 30.3**	**-0.1**
	baz=291								
NSK				*e*S			**Sb**	**05 05 46.7**	**-0.2**
	baz=291								
CHKT	**Chengkung**	**1.32**	**232**	*e*S			**Sn**	**05 05 46.1**	**-1.5**
	baz=219								
NWF	**Wu-fen Shan**	**1.33**	**330**	*e*P			**Pn**	**05 05 30.1**	**-0.3**
	baz=328								
NWF				*e*S			**Sg**	**05 05 49.1**	**-0.2**
	baz=328								
WFSB	**Wu-fen Shan**	**1.33**	**330**	*e*P			**Pb**	**05 05 30.8**	**-0.2**
	baz=328								
WFSB				*e*S			**Sg**	**05 05 49.4**	**+0.1**
	baz=328								
TWA	**Mucha**	**1.35**	**322**	*e*S			**Sg**	**05 05 51.7**	**+1.6**
	baz=320								
TATO	**Taipei**	**1.41**	**319**	*e*P			**Pb**	**05 05 32.1**	**-0.2**
	baz=317								
TATO				*e*S			**Sg**	**05 05 51.2**	**-0.5**
	baz=317								
JKRS	**Kuro-shima**	**1.41**	**76**	P			**Pb**	**05 05 32.7**	**+0.3**
JKRS				S			**Sb**	**05 05 50.6**	**+0.4**
SMLT	**Sun Moon Lake**	**1.47**	**269**	*e*P			**Pg**	**05 05 34.0**	**-0.6**
	baz=267								
SMLT				*e*S			**Sg**	**05 05 52.9**	**-0.8**
	baz=267								
YM01	**YM01**	**1.50**	**325**	*e*P			**Pg**	**05 05 34.8**	**-0.3**
	baz=323								
YM01				*e*S			**Sn**	**05 05 52.3**	**+0.4**
	baz=323								
TYC	**Yuchr**	**1.51**	**270**	*e*P			**Pb**	**05 05 34.2**	**+0.2**
	baz=268								
TYC				*e*S			**Sg**	**05 05 54.4**	**-0.6**
	baz=268								
YM11	**YM11**	**1.51**	**326**	*e*P			**Pg**	**05 05 35.0**	**-0.4**
	baz=324								
YM11				*e*S			**Sb**	**05 05 53.0**	**0.0**
	baz=324								
YM05	**YM05**	**1.51**	**326**	*e*P			**Pb**	**05 05 33.7**	**-0.4**
	baz=324								
YM05				*e*S			**Sb**	**05 05 52.8**	**-0.3**
	baz=324								
YM04	**YM04**	**1.52**	**325**	*e*P			**Pb**	**05 05 33.7**	**-0.5**
	baz=323								
YM04				*e*S			**Sn**	**05 05 52.6**	**+0.1**
	baz=323								
YM08	**YM08**	**1.52**	**327**	*e*P			**Pb**	**05 05 35.0**	**+0.7**
	baz=325								
ELDTW	**Lidau**	**1.54**	**243**	*e*P			**Pb**	**05 05 34.1**	**-0.6**
	baz=241								
ELDTW				*e*S			**Sn**	**05 05 52.6**	**-0.6**
	baz=241								
LIOB	**Emei**	**1.54**	**299**	P			**Pb**	**05 05 34.9**	**+0.3**
	baz=296								
LIOB				*e*S			**Sb**	**05 05 54.8**	**+0.8**
	baz=296								
NSTT	**Nanjuang**	**1.55**	**298**	*e*P			**Pb**	**05 05 34.6**	**-0.1**
	baz=295								
NSTT				*e*S			**Sg**	**05 05 55.5**	**-0.8**
	baz=295								
JIJ	**Ishigaki jima**	**1.56**	**73**	P			**Pn**	**05 05 33.8**	**+0.3**
JIJ				*e*S			**Sn**	**05 05 52.6**	**-0.9**
ALS	**Alishan**	**1.61**	**256**	*e*P			**Pb**	**05 05 35.4**	**-0.5**
	baz=254								
ALS				*e*S			**Sg**	**05 05 57.3**	**-0.9**
	baz=254								
WJS	**Zhushan**	**1.63**	**267**	*e*S			**Sg**	**05 05 57.6**	**-1.3**
	baz=265								
TWQ1	**Liyutan**	**1.64**	**286**	*e*P			**Pb**	**05 05 36.4**	**+0.2**
	baz=284								
TWQ1				*e*S			**Sg**	**05 05 58.3**	**-0.9**
	baz=284								
WNT	**Mingjian**	**1.67**	**269**	*e*S			**Sg**	**05 05 58.7**	**-1.3**
	baz=267								
TCU	**Taichung**	**1.69**	**278**	*e*S			**Sg**	**05 05 59.6**	**-1.2**
	baz=276								
JISG	**Ishigakijimahi**	**1.78**	**67**	S			**Sn**	**05 05 58.4**	**-0.5**
WDLH	**Douliu**	**1.81**	**263**	*e*P			**Pb**	**05 05 39.5**	**+0.3**
	baz=262								
WDLH				*e*S			**Sg**	**05 06 03.4**	**-1.4**
	baz=262								
TPUB	**Ta-pu**	**1.82**	**251**	*e*P			**Pb**	**05 05 39.7**	**+0.3**
	baz=239								
TPUB				S			**Sb**	**05 06 02.4**	**+0.3**
	baz=239								
CHN4	**Tsaushan**	**1.84**	**253**	*e*P			**Pb**	**05 05 39.5**	**-0.2**
	baz=251								
CHN4				*e*S			**Sb**	**05 06 03.5**	**+1.0**
	baz=251								
WTP	**Ta-pu**	**1.86**	**249**	*e*P			**Pb**	**05 05 39.2**	**-0.8**
	baz=237								
WTP				*e*S			**Sb**	**05 06 03.0**	**0.0**
	baz=237								
SLGT	**Liugui**	**1.94**	**242**	*e*P			**Pb**	**05 05 42.1**	**+0.8**
	baz=232								
SLGT				*e*S			**Sb**	**05 06 05.8**	**+0.6**
	baz=232								
CHN1	**Nanshi**	**1.95**	**249**	S			**Sb**	**05 06 06.7**	**+0.9**
	baz=247								
TWK	**Hsinying**	**1.96**	**251**	*e*P			**Pb**	**05 05 40.8**	**-0.9**
	baz=250								
TWK				S			**Sb**	**05 06 06.2**	**+0.2**
	baz=250								
RLNB	**Erlin**	**1.96**	**270**	*e*S			**Sg**	**05 06 07.7**	**-1.8**
	baz=282								
LAY	**Lan-yu**	**2.06**	**205**	*e*S			**Sn**	**05 06 06.1**	**+0.2**
	baz=205								
MASBT	**Mashibuluo**	**2.15**	**233**	*e*P			**Pn**	**05 05 43.0**	**+1.3**
	baz=225								
MASBT				*e*S			**Sb**	**05 06 11.0**	**-0.5**
	baz=225								
EAST	**Anshuo**	**2.15**	**225**	*e*P			**Pn**	**05 05 42.2**	**+0.5**
	baz=225								
EAST				*e*S			**Sn**	**05 06 08.4**	**+0.2**
	baz=225								
WDGT	**Dungji**	**2.69**	**257**	*e*P			**Pn**	**05 05 50.5**	**+1.5**
	baz=255								
PNG	**Penghu**	**2.72**	**263**	*e*P			**Pn**	**05 05 51.2**	**+1.7**
	baz=262								
PNG				*e*S			**Sn**	**05 06 23.5**	**+1.3**
	baz=262								
VCHM	**Qimei**	**2.91**	**257**	*e*S			**Sn**	**05 06 28.9**	**+2.2**
	baz=255								
VWUC	**VWUC**	**2.98**	**292**	*e*P			**Pn**	**05 05 53.2**	**+0.1**
	baz=290								
VWUC				*e*S			**Sn**	**05 06 27.6**	**-1.0**
	baz=290								
PTMZ	**Houxiangcun**	**3.28**	**291**	*e*P			**Pn**	**05 05 57.3**	**+0.1**
	baz=289								
PTMZ				*e*S			**Sn**	**05 06 34.3**	**-1.6**
	baz=289								

IDC ***16*** *05:21:43.4±2.5, 24.°89N×127.°84E, h0km, mb3.7/6, mb1 3.7/6, mb1mx3.4/32, mbtmp3.7/6, Error ellipse: s-maj=159.7km s-min=29.5km az=66.0*
JMA ***16*** *05:21:46.8±0.2, 24.°94N×127.°82E, h60km, M3.5*
ISC 16 05:21:43.4±2.8, 24.°86N±0.°05×127.°92E±0.°04, h9km±17km, n26, σ2.s16/43, mb3.6/6, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**1.28**	**354**	P			**Pn**	**05 22 07.8**	**+0.3**
JJT3				S			**Sg**	**05 22 23.0**	**-1.6**
JKE	**Kume jima 2**	**1.78**	**325**	P			**Pn**	**05 22 14.6**	**+0.3**
JKE				S			**Sn**	**05 22 34.6**	**-2.5**
JAGN	**Aguni-jima**	**1.82**	**341**	P			**Pn**	**05 22 15.6**	**+0.7**
JAGN				S			**Sn**	**05 22 35.8**	**-2.3**
JOW	**Kunigami**	**1.99**	**9**	P			**Pn**	**05 22 17.4**	**+0.2**
JOW				S			**Sn**	**05 22 39.1**	**-3.1**
JIH	**Iheya**	**2.16**	**1**	P			**Pn**	**05 22 20.9**	**+1.3**
JIH				*e*S			**Sn**	**05 22 44.3**	**-2.2**
JYRO	**Yoronjima**	**2.20**	**12**	P			**Pn**	**05 22 20.5**	**+0.3**
JYRO				S			**Sn**	**05 22 43.8**	**-3.8**
JOGS	**Gusukube**	**2.29**	**268**	P			**Pn**	**05 22 22.3**	**+1.0**
JOGS				*e*S			**Sn**	**05 22 47.9**	**-1.7**
JMJ	**Miyako jima 2**	**2.39**	**269**	*e*S			**Sn**	**05 22 50.2**	**-1.9**
JIKM	**Ikemajima**	**2.43**	**272**	P			**Pn**	**05 22 23.8**	**+0.6**
JIKM				*e*S			**Sn**	**05 22 50.9**	**-2.2**
JIRB	**Irabujima**	**2.50**	**270**	P			**Pn**	**05 22 23.7**	**-0.5**
JIRB				S			**Sn**	**05 22 52.2**	**-2.6**
JOKE	**Okinoerabujima**	**2.56**	**13**	P			**Pn**	**05 22 26.3**	**+1.3**
JOKE				*e*S			**Sn**	**05 22 54.6**	**-1.6**
JTJ	**Tarama**	**2.93**	**266**	P			**Pn**	**05 22 30.5**	**+0.3**
JTJ				S			**Sn**	**05 23 02.2**	**-3.4**
JTK	**Tokunoshima**	**3.05**	**17**	P			**Pn**	**05 22 32.9**	**+1.0**
JTK				*e*S			**Sn**	**05 23 05.4**	**-3.1**
JMZ	**Minamidaito 2**	**3.13**	**72**	P			**Pn**	**05 22 32.2**	**-0.8**
JMZ				S			**Sn**	**05 23 05.6**	**-4.9**
JISG	**Ishigakijimahi**	**3.29**	**266**	P			**Pn**	**05 22 35.3**	**+0.1**
JISG				S			**Sn**	**05 23 09.8**	**-4.7**
JIJ	**Ishigaki jima**	**3.47**	**263**	P			**Pn**	**05 22 37.6**	**0.0**
JIJ				S			**Sn**	**05 23 14.7**	**-4.2**
JAMN	**Amaminishikomi**	**3.55**	**18**	P			**Pn**	**05 22 39.8**	**+1.2**
JAMN				*e*S			**Sn**	**05 23 18.6**	**-2.1**
JKRS	**Kuro-shima**	**3.62**	**261**	P			**Pn**	**05 22 40.1**	**+0.5**
JKRS				*e*S			**Sn**	**05 23 18.8**	**-3.6**
HATJ	**Hateruma jima**	**3.83**	**259**	P			**Pn**	**05 22 42.9**	**+0.3**
JAM	**Amami Oshima**	**3.84**	**23**	P			**Pn**	**05 22 43.5**	**+0.8**
MKAR	**Makanchi Array**	**42.25**	**313**	P			**P**	**05 29 37.5**	**+0.6**
	0.3nm,0.5s,baz=99,slow=10.0,SNR=7.1								
ZALV	**Zalesovo Beam**	**43.17**	**324**	P			**P**	**05 29 45.2**	**+0.9**
	0.5nm,0.4s,baz=121,slow=9.0,SNR=3.5								
WRA	**Warramunga Arr**	**44.97**	**171**	P			**P**	**05 30 00.6**	**+1.5**
	0.5nm,0.6s,baz=354,slow=8.8,SNR=0.2								
KURBB	**Kurchatov Arra**	**45.66**	**317**	P			**P**	**05 30 04.3**	**+0.1**
	0.2nm,0.4s,baz=109,slow=8.7,SNR=2.8								
FINES	**FINESS Array B**	**73.91**	**331**	P			**P**	**05 33 20.2**	**+1.6**
	0.7nm,0.6s,baz=62,slow=6.5,SNR=3.9								
AKASG	**Malin Array Be**	**76.39**	**320**	P			**P**	**05 33 34.2**	**+1.2**
	2.6nm,0.6s,baz=59,slow=6.2,SNR=3.5								

IDC 16 05:23:27.1±2.6, 54.°12N×86.°28E, h0km, mb1 2.7/2, mb1mx2.6/34, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=19.5km s-min=12.2km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.88**	**259**	*i*				05 30 50.0	
	baz=78,slow=342,SNR=1.4								
ZALV	**Zalesovo Beam**	**0.88**	**259**	Pg		Pg	Pg	05 23 42.8	-1.2
	1.3nm,0.3s,baz=77,slow=17,SNR=16								
ZALV				Lg		Lg	Lg	05 23 56.9	
	1.6nm,0.3s,baz=79,slow=31,SNR=14								
ZALV				Rg		Rg	Rg	05 24 03.2	
	6.7nm,0.5s,baz=76,slow=34,SNR=35								
KURBB	**Kurchatov Arra**	**5.90**	**237**	Pn		Pn	Pn	05 24 57.1	+1.4
	0.0nm,0.3s,baz=54,slow=14,SNR=3.8								
KURBB				Lg		Lg	Lg	05 26 33.6	
	0.0nm,0.3s,baz=50,slow=30,SNR=3.6								
MKAR	**Makanchi Array**	**7.77**	**201**	Pn		Pn	Pn	05 25 22.3	+0.9
	0.1nm,0.3s,baz=24,slow=14,SNR=7.4								
MKAR				Lg		Lg	Lg	05 27 34.5	
	0.0nm,0.3s,baz=27,slow=33,SNR=5.9								

NNC ***16*** *05:30:42.1±1.7, 54.°41N×86.°53E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=35.9km s-min=9.2km az=161.0, Suspected Mining explosion.*
IDC 16 05:30:46.1±2.3, 54.°09N×86.°39E, h0km, mb1 3.2/2, mb1mx3.0/34, mbtmp3.2/2, ML2.8/2, 4C-4D, Error ellipse: s-maj=18.9km s-min=12.0km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**262**	*i*				05 38 10.0	
	baz=83,slow=344,SNR=1.2								
ZAA0	**Zalesovo Array**	**0.94**	**262**	⇓P			Pg	05 31 02.9	-1.1
	0.7nm,0.3s								
ZAA0				⇑S			Sb	05 31 18.6	+0.4
	3.2nm,0.7s								
ZALV	**Zalesovo Beam**	**0.94**	**262**	Pg			Pg	05 31 02.6	-1.5
	0.9nm,0.3s,baz=80,slow=17,SNR=12								
ZALV				Lg			Lg	05 31 17.5	
	2.0nm,0.3s,baz=78,slow=28,SNR=19								
ZALV				Rg			Rg	05 31 22.4	
	49nm,1.2s,baz=78,slow=36,SNR=31								
KURK	**Kurchatov**	**5.83**	**238**	⇓Pn			Pn	05 32 13.3	-0.4
	1.8nm,1.1s								
KURK				⇓Lg			Lg	05 33 54.0	
	7.8nm,1.4s								
KURBB	**Kurchatov Arra**	**5.94**	**237**	Pn			Pn	05 32 16.4	+1.2
	0.1nm,0.3s,baz=54,slow=14,SNR=10								
KURBB				Lg			Lg	05 33 53.5	
	baz=48,slow=34,SNR=2.7								
KURBB	**Kurchatov Arra**	**5.94**	**237**	⇓Pn			Pn	05 32 16.5	+1.3
	4.8nm,0.9s								
KURBB				⇑Lg			Lg	05 33 57.9	
	10nm,1.2s								
MK31	**Makanchi Array**	**7.76**	**201**	⇑Pn			Pn	05 32 40.7	+0.5
	0.1nm,0.2s,baz=27,slow=13,SNR=19								
MK31				⇑Lg			Lg	05 34 56.4	
	3.1nm,1.3s,baz=101,slow=13,SNR=3.1								
MKAR	**Makanchi Array**	**7.76**	**201**	Pn			Pn	05 32 41.3	+1.0
	0.3nm,0.3s,baz=23,slow=13,SNR=17								
MKAR				Lg			Lg	05 34 51.9	
	0.0nm,0.3s,baz=25,slow=32,SNR=3.5								

JMA ***16*** *05:47:09.3±0.2, 22.°98N×122.°87E, h49km, M3.6*
TAP ***16*** *05:47:11.6, 23.°07N×122.°82E, h59km±1km, ML3.5, D*
ISC 16 05:47:07.5±1.4, 23.°06N±0.°04×122.°85E±0.°03, h12km±10km, n61, σ0.°89/100, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.33**	**41**	P			**Pg**	**05 47 32.7**	**-0.3**
HATJ				S			**Sn**	**05 47 49.3**	**-0.1**
HGSD	**Ruisui**	**1.38**	**289**	*e*P			**Pn**	**05 47 32.9**	**+0.3**
	baz=289								
JYNG	**Yonagunijimaku**	**1.39**	**4**	P			**Pg**	**05 47 34.1**	**-0.2**
JYNG				S			**Sg**	**05 47 52.1**	**-0.3**
YOJ	**Yonaguni jima**	**1.41**	**6**	*e*P			**Pg**	**05 47 34.7**	**+0.1**
	baz=7.0								
YOJ	**Yonaguni jima**	**1.41**	**6**	P			**Pg**	**05 47 34.5**	**-0.1**
YOJ				S			**Sg**	**05 47 52.9**	**+0.1**
ENLB	**Shoufeng**	**1.42**	**307**	*e*P			**Pg**	**05 47 34.8**	**0.0**
	baz=307								
ENLB				*e*S			**Sb**	**05 47 51.9**	**-0.2**
	baz=307								
TWF1	**Yuli**	**1.46**	**282**	P			**Pb**	**05 47 34.3**	**-0.3**
	baz=282								
TWF1				S			**Sn**	**05 47 51.8**	**-0.9**
	baz=282								
YULB	**Yu-li**	**1.47**	**283**	*e*P			**Pb**	**05 47 34.4**	**-0.4**
	baz=283								
YULB				*e*S			**Sn**	**05 47 51.9**	**-1.0**
	baz=283								
ESL	**Shilin**	**1.50**	**300**	*e*P			**Pb**	**05 47 34.8**	**-0.5**
	baz=301								
ESL				*e*S			**Sn**	**05 47 52.0**	**-1.8**
	baz=301								
IRIF	**Iriomote-Funau**	**1.51**	**32**	P			**Pb**	**05 47 35.5**	**+0.1**
IRIF				S			**Sb**	**05 47 54.6**	**+0.1**
TWD	**Chiawan**	**1.54**	**312**	P			**Pb**	**05 47 35.7**	**-0.2**
	baz=305								
TWD				*e*S			**Sn**	**05 47 52.8**	**-1.8**
	baz=305								
JKRS	**Kuro-shima**	**1.58**	**42**	P			**Pb**	**05 47 36.5**	**-0.2**
JKRS				*e*S			**Sn**	**05 47 55.3**	**-0.5**
NACB	**Ninganchiao**	**1.60**	**314**	*e*P			**Pb**	**05 47 36.4**	**-0.6**
	baz=308								
NACB				*e*S			**Sn**	**05 47 54.6**	**-1.6**
	baz=308								
EOS1	**EOS1**	**1.63**	**336**	*e*P			**Pb**	**05 47 37.7**	**+0.3**
	baz=329								
EOS1				*e*S			**Sn**	**05 47 56.6**	**-0.2**
	baz=329								
TWGBT	**Beinan**	**1.65**	**262**	*e*P			**Pn**	**05 47 37.0**	**+0.8**
	baz=261		

SMLT	**Sun Moon Lake**	**1.97**	**295**	P		**Pb**	**05 47 42.8**	**-0.6**
	baz=295							
TWE	**Neicheng**	**1.98**	**327**	*e*P		**Pb**	**05 47 43.4**	**-0.1**
	baz=328							
TYC	**Yuchr**	**2.02**	**295**	*e*P		**Pb**	**05 47 43.5**	**-0.5**
	baz=300							
JISG	**Ishigakijimahi**	**2.03**	**41**	P		**Pn**	**05 47 42.1**	**+0.6**
JISG				S		**Sn**	**05 48 06.0**	**-0.7**
TPUB	**Ta-pu**	**2.06**	**277**	*e*P		**Pb**	**05 47 44.4**	**-0.4**
	baz=277							
TPUB				*e*S		**Sn**	**05 48 07.0**	**-0.5**
	baz=277							
WTP	**Ta-pu**	**2.07**	**276**	P		**Pb**	**05 47 45.2**	**+0.2**
	baz=277							
WTP				*e*S		**Sn**	**05 48 08.3**	**+0.5**
	baz=277							
CHN5	**Tsauling**	**2.07**	**286**	P		**Pb**	**05 47 45.2**	**+0.2**
	baz=291							
CHN5				*e*S		**Sb**	**05 48 09.8**	**-0.9**
	baz=291							
SSD	**Sandimen**	**2.07**	**262**	*e*P		**Pn**	**05 47 43.3**	**+1.3**
	baz=261							
SSD				*e*S		**Sn**	**05 48 07.5**	**-0.2**
	baz=261							
MASBT	**Mashibuluo**	**2.09**	**258**	*e*P		**Pn**	**05 47 43.7**	**+1.3**
	baz=252							
CHN4	**Tsaushan**	**2.10**	**278**	P		**Pb**	**05 47 45.4**	**-0.1**
	baz=276							
CHN4				*e*S		**Sn**	**05 48 09.4**	**+0.9**
	baz=276							
YHNB	**Yeheng**	**2.10**	**320**	*e*P		**Pn**	**05 47 43.3**	**+0.8**
	baz=311							
YHNB				*e*S		**Sn**	**05 48 08.5**	**-0.1**
	baz=311							
NSK	**Sanguang**	**2.11**	**320**	*e*P		**Pb**	**05 47 45.0**	**-0.8**
	baz=311							
NSK				*e*S		**Sn**	**05 48 08.2**	**-0.7**
	baz=311							
TIPB	**Shuangxi**	**2.12**	**334**	*e*P		**Pb**	**05 47 45.4**	**-0.6**
	baz=335							
TIPB				*e*S		**Sn**	**05 48 08.3**	**-0.9**
	baz=335							
CHN1	**Nanshi**	**2.14**	**274**	*e*P		**Pb**	**05 47 46.3**	**0.0**
	baz=278							
WNT	**Mingjian**	**2.15**	**293**	*e*P		**Pb**	**05 47 45.4**	**-1.0**
	baz=293							
TWK	**Hsinying**	**2.18**	**276**	P		**Pb**	**05 47 46.9**	**-0.1**
	baz=275							
TWK				*e*S		**Sb**	**05 48 13.1**	**-0.9**
	baz=275							
TWKBT	**Hengchun**	**2.19**	**240**	*e*P		**Pn**	**05 47 44.9**	**+1.2**
	baz=239							
TWKBT				*e*S		**Sn**	**05 48 09.6**	**-1.1**
	baz=239							
TWQ1	**Liyutan**	**2.30**	**304**	*e*P		**Pb**	**05 47 48.9**	**0.0**
	baz=305							
LIOB	**Emei**	**2.31**	**314**	*e*P		**Pb**	**05 47 48.7**	**-0.4**
	baz=307							
LIOB				*e*S		**Sn**	**05 48 14.8**	**+1.1**
	baz=307							
NSTT	**Nanjuang**	**2.31**	**313**	*e*P		**Pb**	**05 47 48.8**	**-0.3**
	baz=307							
NSTT				*e*S		**Sn**	**05 48 15.3**	**+1.7**
	baz=307							
JTJ	**Tarama**	**2.32**	**47**	P		**Pn**	**05 47 46.4**	**+1.0**
JTJ				S		**Sn**	**05 48 13.4**	**-0.4**
RLNB	**Erlin**	**2.43**	**290**	*e*P		**Pb**	**05 47 49.6**	**-1.6**
	baz=297							
JIRB	**Irabujima**	**2.76**	**50**	P		**Pn**	**05 47 52.5**	**+0.9**
JMJ	**Miyako jima 2**	**2.84**	**51**	P		**Pn**	**05 47 53.4**	**+0.8**
JIKM	**Ikemajima**	**2.88**	**49**	P		**Pn**	**05 47 53.9**	**+0.8**
WDGT	**Dungji**	**2.94**	**275**	*e*P		**Pn**	**05 47 56.5**	**+2.4**
	baz=274							
PHUB	**P'eng-hu**	**3.05**	**279**	*e*P		**Pn**	**05 47 57.9**	**+2.4**
	baz=268							
PNG	**Penghu**	**3.07**	**280**	*e*P		**Pn**	**05 47 58.4**	**+2.6**
	baz=268							
PNG				*e*S		**Sn**	**05 48 33.0**	**+0.5**
	baz=268							
VCHM	**Qimei**	**3.15**	**273**	*e*P		**Pn**	**05 47 58.8**	**+1.8**
	baz=272							
VCHM				*e*S		**Sn**	**05 48 33.3**	**-1.2**
	baz=272							
VWUC	**VWUC**	**3.66**	**302**	*e*P		**Pn**	**05 48 05.9**	**+2.0**
	baz=303							

NNC ***16*** *05:52:08.1±2.3, 53.97N×90.85E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=18.0km s-min=14.2km az=41.0, Suspected Mining explosion.*

ASRS 16 05:52:05.3, 53.85N×91.01E, M2.9, 11C-1D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.66**	**274**	⇑Pg	Pb	05 53 12.0	+1.2
	14nm,1.1s						
ZAA0				⇑Lg	Lg	05 54 01.4	
	49nm,0.9s						
KURK	**Kurchatov**	**8.22**	**253**	⇑Pn	Pn	05 54 07.8	+2.1
	3.9nm,1.0s						
KURK				⇑Sn	Sn	05 55 42.9	+3.8
	11nm,1.1s						
KURK				⇓Lg	Lg	05 56 27.6	
	30nm,1.1s						
KURBB	**Kurchatov Arra**	**8.31**	**252**	⇑Pn	Pn	05 54 10.7	+3.8
	1.5nm,0.5s						
KURBB				⇑Sn	Sn	05 55 44.0	+2.6
	17nm,0.8s						
KURBB				⇑Lg	Lg	05 56 30.3	
	25nm,0.8s						
MK31	**Makanchi Array**	**8.99**	**222**	Pn	Pn	05 54 20.4	+4.1
	2.5nm,1.1s,baz=40,slow=13,SNR=13						
MK31				⇑Sn	Sn	05 56 02.6	+4.4
	3.4nm,1.1s						
MK31				⇑Lg	Lg	05 56 54.8	
	14nm,1.1s,baz=59,slow=36,SNR=5.8						
MAKZ	**Makanchi**	**9.11**	**223**	⇑Pn	Pn	05 54 19.8	+1.9
	1.8nm,1.0s						
MAKZ				⇑Lg	Lg	05 56 55.6	
	8.1nm,0.9s						

IDC 16 05:54:11.8±5.3, 5.38S×147.72E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/20, mbtmp3.5/4, Error ellipse: s-maj=172.8km s-min=30.3km az=103.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.47**	**221**	P	P	05 58 40.8	+0.5
	baz=45,slow=11,SNR=0.6						
ASAR	**Alice Springs**	**22.53**	**215**	P	P	05 59 13.3	-0.2
	0.2nm,0.3s,baz=44,slow=8.8,SNR=5.0						
SONM	**Songino Array**	**64.22**	**330**	P	P	06 04 50.3	+1.6
	0.2nm,0.5s,baz=127,slow=5.1,SNR=2.9						
ZALV	**Zalesovo Beam**	**78.88**	**328**	P	P	06 06 15.2	-1.6
	0.4nm,0.4s,baz=111,slow=6.3,SNR=1.4						

ISCJB ***16*** *06:26:34.5±0.4, 35.64N±0.03×97.35W±0.02, h11km±3km, Error ellipse: s-maj=4.9km s-min=3.1km az=177.2*
ANF ***16*** *06:26:34.1±0.5, 35.59N×97.36W, ML4.0/12, Error ellipse: s-maj=6.9km s-min=2.8km az=151.0*
NEIC ***16*** *06:26:35.3±0.2, 35.62N×97.34W, h5km, MN3.2, Error ellipse: s-maj=4.2km s-min=2.8km az=180.0*
NEIC Felt [III] at Edmond, Jones and Oklahoma City and [II] at Spencer. Also felt at Arcadia, Mustang, Newalla and Norman.

ISC 16 06:26:35.4±1.0, 35.59N±0.04×97.36W±0.03, h8km±6km, n58, σ0.87/71, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK001	**Jones High Sch**	**0.06**	**118**	*e*Pg	**Pg**	**06 26 37.1**	**-0.3**
OK001				*e*		06 26 37.3	
OK001				*e*Sg	**Sg**	**06 26 38.6**	**-0.2**
OK002	**Wilshire Harra**	**0.14**	**107**	*e*Pg	**Pg**	**06 26 38.9**	**+0.4**
OK002				*e*Sg	**Sg**	**06 26 41.3**	**+0.8**
OK005	**Luther M Schoo**	**0.15**	**65**	*e*Pg	**Pg**	**06 26 38.6**	**0.0**
TUL1	**Leonard**	**1.31**	**75**	*e*Pn	**Pn**	**06 26 58.7**	**-1.4**
TUL1				*e*Sn	**Sn**	**06 27 17.7**	**0.0**
TUL1	**Leonard**	**1.31**	**75**	P	**Pn**	**06 26 58.6**	**-1.4**
	baz=256						
TUL1				S	**Sb**	**06 27 16.9**	**-0.4**
	baz=256						
WMOK	**Wichita Mounta**	**1.44**	**234**	*e*Pn	**Pn**	**06 27 01.5**	**-0.4**
WMOK				*e*Sn	**Sn**	**06 27 20.2**	**-0.7**
WMOK	**Wichita Mounta**	**1.44**	**234**	P	**Pn**	**06 27 01.4**	**-0.4**
	baz=53						
WMOK				S	**Sn**	**06 27 20.8**	**-0.1**
	baz=53						
U32A	**Winter Ranch,**	**1.55**	**301**	*e*Pn	**Pn**	**06 27 03.5**	**+0.2**
U32A				*e*Sn	**Sb**	**06 27 24.5**	**+0.3**
X37A	**Clayton**	**1.91**	**121**	*e*Pn	**Pn**	**06 27 09.2**	**+0.9**
X37A				*e*Sn	**Sb**	**06 27 34.0**	**-0.5**
HHAR	**Hobbs**	**2.86**	**75**	*e*Pn	**Pn**	**06 27 21.5**	**+0.2**
W39A	**Magazine**	**2.95**	**97**	*e*Pn	**Pn**	**06 27 22.8**	**+0.3**
W39A				*e*Sn	**Sn**	**06 27 58.6**	**+0.5**
W39A	**Magazine**	**2.95**	**97**	P	**Pn**	**06 27 22.7**	**+0.2**
	baz=279						
W39A				S	**Sn**	**06 27 58.5**	**+0.5**
	baz=279						
MIAR	**Mount Ida**	**3.27**	**107**	*e*Pn	**Pn**	**06 27 27.7**	**+0.7**
MIAR	**Mount Ida**	**3.27**	**107**	P	**Pn**	**06 27 28.1**	**+1.1**
	baz=290						
MIAR				S	**Sn**	**06 28 07.1**	**+1.0**
	baz=290						
ABTX	**Abilene, Hawle**	**3.51**	**213**	*e*Pn	**Pn**	**06 27 30.8**	**+0.4**
KSU1	**Kansas State U**	**3.56**	**9**	*e*Pn	**Pn**	**06 27 29.5**	**-1.3**
KSU1	**Kansas State U**	**3.56**	**9**	P	**Pn**	**06 27 31.2**	**+0.3**
	baz=190						
WHTX	**Lake Whitney,**	**3.59**	**181**	*e*Pn	**Pn**	**06 27 31.8**	**+0.5**
WHTX	**Lake Whitney,**	**3.59**	**181**	P	**Pn**	**06 27 31.9**	**+0.6**
	baz=1.3						
WHTX				S	**Sn**	**06 28 15.1**	**+1.2**
	baz=1.3						
AMTX	**Amarillo**	**3.61**	**260**	*e*Pn	**Pn**	**06 27 33.2**	**+1.5**
U40A	**Yellville**	**3.73**	**77**	P	**Pn**	**06 27 33.0**	**-0.3**
	baz=259						
CBKS	**Cedar Bluff**	**3.74**	**330**	*e*Pn	**Pn**	**06 27 33.6**	**+0.2**
X40A	**Basin Creek Fa**	**3.87**	**105**	*e*Pn	**Pn**	**06 27 34.5**	**-0.7**
X40A	**Basin Creek Fa**	**3.87**	**105**	P	**Pn**	**06 27 36.5**	**+1.3**
	baz=288						
WLAR	**White Oak Lake**	**3.98**	**117**	*e*Pn	**Pn**	**06 27 37.1**	**+0.3**
WHAR	**Wooly Hollow**	**4.15**	**93**	*e*Pn	**Pn**	**06 27 38.8**	**-0.2**
UALR	**University of**	**4.19**	**100**	*e*Pn	**Pn**	**06 27 40.1**	**+0.6**
W41B	**Gary Mavity, V**	**4.20**	**94**	*e*Pn	**Pn**	**06 27 40.0**	**+0.3**
W41B	**Gary Mavity, V**	**4.20**	**94**	P	**Pn**	**06 27 39.9**	**+0.3**
	baz=277						
W41B				S	**Sn**	**06 28 29.0**	**+0.2**
	baz=277						
V41A	**Mountainview**	**4.24**	**86**	P	**Pn**	**06 27 40.1**	**-0.2**
	baz=269						
Y41A	**Eaglette Beard**	**4.26**	**112**	S	**Sn**	**06 28 29.8**	**-0.7**
	baz=295						
Z41A	**Richland Creek**	**4.42**	**120**	*e*Pn	**Pn**	**06 27 42.1**	**-0.7**
MSTX	**Muleshoe**	**4.74**	**252**	*e*Pn	**Pn**	**06 27 49.4**	**+2.1**
435B	**Jarrell**	**4.80**	**182**	*e*Pn	**Pn**	**06 27 48.9**	**+1.0**
V42A	**Cord**	**4.86**	**86**	P	**Pn**	**06 27 48.1**	**-0.7**
	baz=269						
T42A	**Van Buren**	**5.26**	**72**	*e*Pn	**Pn**	**06 27 53.8**	**-0.5**
KSCO	**Kaye Shedlock'**	**5.41**	**311**	*e*Pn	**Pn**	**06 27 57.5**	**+1.0**
CCM	**Cathedral Cave**	**5.49**	**62**	*e*Pn	**Pn**	**06 27 57.9**	**+0.5**
JCT	**Junction City**	**5.49**	**203**	*e*Pn	**Pn**	**06 27 58.4**	**+0.8**
JCT	**Junction City**	**5.49**	**203**	P	**Pn**	**06 27 58.2**	**+0.7**
	baz=21						
R41A	**Rosebud**	**5.50**	**59**	P	**Pn**	**06 27 57.2**	**-0.4**
	baz=242						
S42A	**Caledonia**	**5.71**	**66**	P	**Pn**	**06 28 00.4**	**0.0**
	baz=250						
T25A	**Trinidad**	**5.90**	**287**	*e*Pn	**Pn**	**06 28 03.6**	**+0.4**
OGNE	**Ogallala**	**6.49**	**327**	*e*Pn	**Pn**	**06 28 11.3**	**0.0**
OXF	**Oxford**	**6.61**	**97**	*e*Pn	**Pn**	**06 28 11.8**	**-1.0**
GDL2	**Guadalupe Moun**	**6.74**	**242**	*e*Pn	**Pn**	**06 28 14.8**	**+0.1**
P42A	**Winchester**	**6.85**	**52**	*e*Pn	**Pn**	**06 28 16.1**	**0.0**
SIUC	**Southern Illin**	**6.88**	**70**	*e*Pn	**Pn**	**06 28 15.7**	**-0.8**
SDCO	**Great Sand Dun**	**6.89**	**291**	*e*Pn	**Pn**	**06 28 18.0**	**+1.1**
Q24A	**Divide**	**7.07**	**301**	*e*Pn	**Pn**	**06 28 19.4**	**0.0**
N41A	**Harden Midland**	**7.23**	**43**	*e*Pn	**Pn**	**06 28 21.2**	**-0.1**
Q44A	**Meyer Farm, Va**	**7.43**	**61**	*e*Pn	**Pn**	**06 28 24.3**	**+0.2**
ANMO	**Albuquerque**	**7.47**	**268**	*e*Pn	**Pn**	**06 28 25.9**	**+1.0**
MNTX	**Cornudas Mount**	**7.73**	**242**	*e*Pn	**Pn**	**06 28 26.1**	**-2.2**
BNM	**Barren Site**	**7.75**	**262**	*e*Pn	**Pn**	**06 28 29.0**	**+0.2**
ISCO	**Idaho Springs**	**7.78**	**305**	*e*Pn	**Pn**	**06 28 29.2**	**+0.1**
LAZ	**Ladron**	**8.11**	**264**	*e*Pn	**Pn**	**06 28 30.8**	**-2.9**
TX31	**Lajitas Ar. Si**	**8.20**	**222**	*e*Pn	**Pn**	**06 28 36.7**	**+1.9**

ISK ***16*** *06:31:56.5, 39.53N×25.77E, h8km, ML2.7/12*
ISCJB ***16*** *06:31:57.9±0.5, 39.53N±0.02×25.85E±0.03, h9km±4km, Error ellipse: s-maj=4.6km s-min=3.6km az=152.6*
ATH ***16*** *06:31:57.9, 39.52N×25.86E, h27km±3km, ML2.4/2, Error ellipse: s-maj=4.2km s-min=1.4km az=223.0*
DDA ***16*** *06:31:57.8, 39.55N×25.92E, h7km±4km, ML2.9*

ISC 16 06:31:57.8±1.0, 39.53N±0.02×25.85E±0.03, h10km±9km, n37, σ0.56/48, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.32**	**179**	PG	**Pg**	**06 32 03.1**	**-1.0**
SIGR				SG	**Sg**	**06 32 09.4**	**+1.1**
SIGR	**SIGRI**	**0.32**	**179**	P	**Pb**	**06 32 05.1**	**-0.5**
SIGR				S	**Sb**	**06 32 10.2**	**-0.5**
SIGR				AML	AML	06 32 10.6	
	comp=N,2843μm,0.3s						
SIGR				AML	AML	06 32 11.2	
	comp=E,1258μm,0.2s						
BOZC	**Bozcaada**	**0.35**	**26**	PG	**Pg**	**06 32 04.4**	**-0.4**
BOZC				SG	**Sg**	**06 32 10.3**	**+0.8**
BOZC	**Bozcaada**	**0.35**	**26**	IAML_P			
	comp=Z,7μm,0.1s						
BOZC				*i* P	**Pb**	**06 32 05.5**	**-0.6**
PRK	**Paraskevi**	**0.43**	**131**	P	**Pb**	**06 32 07.8**	**+0.3**
PRK				S	**Sb**	**06 32 13.1**	**-0.9**
PRK				AML	AML	06 32 14.5	
	comp=N,885μm,0.3s						
PRK				AML	AML	06 32 14.8	
	comp=E,1115μm,0.5s						
EZN	**Ezine**	**0.47**	**51**	PG	**Pg**	**06 32 07.1**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.58**	**68**	*i* P	**Pb**	**06 32 09.6**	**-0.5**
BAYC				*i* S	**Sg**	**06 32 16.9**	**+0.2**
LIA	**Limnos Island**	**0.63**	**306**	P	**Pb**	**06 32 11.3**	**+0.3**
LIA				S	**Sb**	**06 32 20.3**	**+0.3**
GADA	**Gvkgeada**	**0.66**	**3**	PG	**Pg**	**06 32 10.3**	**-0.4**
EFSA	**Agios Efstrati**	**0.67**	**271**	P	**Pb**	**06 32 12.6**	**+1.0**
AYVA	**Ayvalik**	**0.69**	**108**	IAML_P			
	comp=Z,1μm,0.2s						
AYVA				*i* P	**Pg**	**06 32 11.1**	**0.0**
AYVA				*i* S	**Sg**	**06 32 20.5**	**+0.4**
DKL	**Dikili**	**0.94**	**119**	PG	**Pg**	**06 32 15.9**	**0.0**
SMTH	**Samothraki Isl**	**0.97**	**345**	P	**Pg**	**06 32 16.6**	**0.0**
SMTH				S	**Sb**	**06 32 29.9**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.99**	**29**	PG	**Pg**	**06 32 16.4**	**-0.6**
FOCM	**Foa**	**1.06**	**140**	PN	**Pg**	**06 32 18.1**	**-0.2**
LPK	**Lapseki**	**1.10**	**39**	PN	**Pg**	**06 32 18.4**	**-0.5**
CHOS	**Chios island**	**1.15**	**172**	PN	**Pg**	**06 32 19.3**	**-0.6**
CHOS	**Chios island**	**1.15**	**172**	P	**Pg**	**06 32 19.4**	**-0.5**
ENEZ	**Enez**	**1.23**	**11**	PN	**Pb**	**06 32 20.6**	**-0.6**
ERIK	**Erikli-Kesan**	**1.25**	**24**	PN	**Pn**	**06 32 21.1**	**-0.3**
URLA	**Izmir**	**1.30**	**153**	PN	**Pn**	**06 32 22.1**	**0.0**
URLA	**Izmir**	**1.30**	**153**	IAML_P			
	comp=Z,1μm,0.2s						
URLA				*i* P	**Pb**	**06 32 22.4**	**0.0**
ALN	**Alexandroupoli**	**1.38**	**6**	PN	**Pn**	**06 32 22.4**	**-0.7**
ALN	**Alexandroupoli**	**1.38**	**6**	P	**Pn**	**06 32 22.5**	**-0.6**
BALY	**Balya**	**1.38**	**81**	IAML_P			
	comp=Z,1μm,0.3s						
BALY				*i* P	**Pg**	**06 32 25.6**	**+1.3**
BALY				*i* S	**Sn**	**06 32 41.8**	**+0.2**
KRBG	**Karabiga-Canak**	**1.41**	**52**	PN	**Pn**	**06 32 23.5**	**0.0**
STEP	**BALIKESIR_Sava**	**1.45**	**95**	*i* P	**Pg**	**06 32 25.4**	**-0.3**
STEP				*i* S	**Sg**	**06 32 44.4**	**-0.3**
BLCB	**Balcova**	**1.47**	**140**	PN	**Pn**	**06 32 24.3**	**-0.1**
KNL	**Balıkesir**	**1.49**	**60**	*i* P	**Pn**	**06 32 24.8**	**+0.2**
KNL				*i* S	**Sg**	**06 32 46.0**	**+0.3**
GONE	**Gonen-Balikesi**	**1.51**	**69**	PN	**Pn**	**06 32 25.2**	**+0.3**
BALB	**Balikesir**	**1.57**	**85**	PN	**Pn**	**06 32 25.9**	**+0.1**
RDO	**Rodhopi**	**1.64**	**352**	PN	**Pn**	**06 32 26.1**	**-0.6**
MRMT	**Marmara Adasi**	**1.72**	**51**	PN	**Pn**	**06 32 28.2**	**+0.3**
EDC	**Edincik**	**1.75**	**61**	PN	**Pn**	**06 32 28.6**	**+0.3**
SBT4	**Kumbag-Tekirda**	**1.83**	**44**	PN	**Pn**	**06 32 29.8**	**+0.6**
DURS	**Dursunbey**	**2.03**	**87**	IAML_P			
	comp=Z,200nm,0.1s						
DURS				*i* P	**Pb**	**06 32 34.3**	**-0.5**
DEMI	**Demirci**	**2.28**	**101**	IAML_P			
	comp=Z,374nm,0.1s						
DEMI				*i* P	**Pb**	**06 32 40.2**	**+1.1**

IDC ***16*** *06:36:00.7±1.9, 1.10N×96.82E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.6/37, mbtmp3.7/7, ML3.5/2, Error ellipse: s-maj=51.2km s-min=22.4km az=60.0*
ISCJB ***16*** *06:36:03.2±0.9, 1.22N±0.06×96.88E±0.07, h25km, mb3.6/5, Error ellipse: s-maj=11.4km s-min=5.8km az=142.9*
DJA ***16*** *06:36:04.7±1.0, 1.N±6°×97°E±°, h21km±9km, M3.5/6, MLv3.5/6*

ISC 16 06:36:04.8±1.2, 1.27N±0.08×96.89E±0.09, h25km, n22, σ0.92/17, mb3.6/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.69**	**87**	P	**Pb**	**06 36 18.2**	**0.0**
SNSI	**Sinabang, Aceh**	**1.27**	**334**	P	**Pn**	**06 36 26.5**	**-0.5**
SNSI				S	**Sn**	**06 36 42.8**	**-0.4**
TPTI		**2.00**	**8**	P	**Pn**	**06 36 35.7**	**-1.4**
TPTI				S	**Sn**	**06 37 00.6**	**-0.8**
KCSI	**Kotacane, Aceh**	**2.41**	**21**	P	**Pn**	**06 36 42.6**	**-0.1**
KCSI				S	**Sn**	**06 37 12.8**	**+1.3**
PSI	**Prapat**	**2.54**	**53**	Pn	**Pn**	**06 36 44.7**	**0.0**
	2.2nm,0.3s,baz=180,slow=3.9,SNR=11						
MNSI	**Mandailing Nat**	**2.73**	**100**	P	**Pn**	**06 36 47.0**	**-0.1**
MNSI				S	**Sn**	**06 37 17.5**	**-1.8**
PPI	**Padang Panjang**	**3.90**	**116**	P	**Pn**	**06 37 03.9**	**+0.7**
CMAR	**Chiang Mai Arr**	**17.20**	**7**	P	**P**	**06 40 05.3**	**+0.3**
	0.2nm,0.3s,baz=194,slow=11,SNR=4.9						
H08S2	**Diego Garcia H**	**25.89**	**250**	T	T	07 08 31.9	
	baz=71,slow=76,SNR=528						
H08S3	**Diego Garcia H**	**25.90**	**250**	T	T	07 08 24.3	
	baz=71,slow=76,SNR=906						
H08S1	**Diego Carcia H**	**25.91**	**250**	T	T	07 08 28.2	
	baz=71,slow=76,SNR=710						
H08N1	**Diego Carcia H**	**26.91**	**253**	T	T	07 10 36.3	
	baz=132,slow=74,SNR=4.2						
H08N2	**Diego Garcia H**	**26.92**	**253**	T	T	07 10 33.2	
	baz=132,slow=74,SNR=2.9						
H08N3	**Diego Garcia H**	**26.93**	**253**	T	T	07 10 40.0	
	baz=132,slow=74,SNR=4.3						
H01W3	**Cape Leeuwin H**	**39.42**	**157**	T	T	07 25 11.2	
	baz=334,slow=76,SNR=7.5						
H01W2	**Cape Leeuwin H**	**39.44**	**157**	T	T	07 25 18.0	
	baz=334,slow=76,SNR=7.5						
H01W1	**Cape Leeuwin H**	**39.44**	**157**	T	T	07 25 17.4	
	baz=334,slow=76,SNR=7.5						
WRA	**Warramunga Arr**	**42.33**	**122**	P	**P**	**06 43 56.5**	**-0.6**
	0.4nm,0.6s,baz=301,slow=9.1,SNR=5.2						
ASAR	**Alice Springs**	**43.68**	**127**	P	**P**	**06 44 07.3**	**-0.8**
	0.3nm,0.3s,baz=298,slow=7.6,SNR=4.2						
MKAR	**Makanchi Array**	**47.10**	**346**	P	**P**	**06 44 36.1**	**+1.3**
	0.3nm,0.5s,baz=163,slow=9.5,SNR=10.0						
SONM	**Songino Array**	**47.12**	**9**	P	**P**	**06 44 35.7**	**+0.7**
	0.6nm,0.5s,baz=186,slow=9.6,SNR=5.7						
ZALV	**Zalesovo Beam**	**53.45**	**351**	P	**P**	**06 45 22.7**	**0.0**
	1.1nm,0.5s,baz=152,slow=6.7,SNR=4.6						

IDC ***16*** *06:47:07.5±0.9, 41.84N×82.19E, h0km, mb3.7/8, mb1 3.8/14, mb1mx3.6/50, mbtmp3.7/14, ML3.4/5, MS3.7/3, Ms1 3.7/3, ms1mx2.8/46, Error ellipse: s-maj=20.8km s-min=17.5km az=61.0*
SOME ***16*** *06:47:09.7, 41.93N×82.13E, h0km*
MOS ***16*** *06:47:11.5±1.0, 41.95N×82.39E, h33km, mb4.0/6, Error ellipse: s-maj=13.5km s-min=7.4km az=105.8*
BJI ***16*** *06:47:11.2, 41.98N×82.28E, h10km, ML3.5/12*
NNC ***16*** *06:47:12.5±1.0, 42.02N×82.08E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=7.6km s-min=5.0km az=148.0*

ISC 16 06:47:10.6±0.7, 41.85N±0.05×82.19E±0.03, h14km, n94, σ2.47/125, mb3.7/10, MS3.8/3, 24C-20D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.09**	**320**	Pg	**Pb**	**06 47 48.0**	**-0.3**
	113nm,0.1s						
KTMS				Lg	Lg	06 48 16.2	
	731nm,0.5s						
KTMS	**Ketmen**	**2.09**	**320**	*e*P	**Pb**	**06 47 48.0**	**-0.3**
	113nm,0.1s						
KTMS				*e*S	**Sg**	**06 48 16.2**	**-1.6**
	731nm,0.5s						
SHLS	**Shalkode**	**2.40**	**304**	Pg	**Pn**	**06 47 50.7**	**+1.1**
	291nm,0.2s						
SHLS				Lg	Lg	06 48 20.2	
	1μm,0.4s						
SHLS	**Shalkode**	**2.40**	**304**	*e*P	**Pn**	**06 47 50.7**	**+1.1**
	291nm,0.2s						
SHLS				*e*S	**Sn**	**06 48 20.2**	**+1.3**
	1μm,0.4s						
PDGK	**Podgornoye**	**2.48**	**307**	Pg	**Pb**	**06 47 54.9**	**-0.1**
	53nm,0.4s						
PDGK				Lg	Lg	06 48 27.6	
	293nm,0.7s						
PDGK	**Podgornoye**	**2.48**	**307**	⇑Pn	**Pb**	**06 47 53.4**	**-1.5**
	83nm,0.6s						
PDGK				⇑Lg	Lg	06 48 27.6	
	812nm,1.0s						
PDGK	**Podgornoye**	**2.48**	**307**	PN	**Pb**	**06 47 53.5**	**-1.5**
PDGK						06 47 58.1	
PDGK						06 48 27.5	
PDGK				pmax	pmax		
	comp=Z,35nm,0.5s						
PDGK				pmax	pmax		
	comp=Z,83nm,0

KOTS				*e*S		**Sb**	**06 49 14.3**	**+5.1**
	comp=N,155nm,0.5s								
KAPS	**Kapalarasan**	**4.00**	**330**	Pg		**Pb**	**06 48 17.8**	**-3.0**
	comp=N,46nm,0.3s								
KAPS				Lg		Lg	06 49 07.5		
	comp=N,93nm,0.6s								
KAPS	**Kapalarasan**	**4.00**	**330**	*e*P		**Pb**	**06 48 21.1**	**+0.3**
	comp=N,43nm,0.4s								
KAPS				*e*S		**Sb**	**06 49 12.5**	**+3.4**
	comp=N,92nm,0.4s								
MDOK	**Medeo**	**4.02**	**291**	⇑Pn		**Pn**	**06 48 15.1**	**+3.2**
	comp=N,21nm,0.7s								
MDOK				⇓Pg		**Pb**	**06 48 24.2**	**+2.9**
	comp=N,32nm,0.6s								
MDOK				⇓Lg		Lg	06 49 15.6		
	comp=N,86nm,0.6s								
MDOK	**Medeo**	**4.02**	**291**	Pg		**Pb**	**06 48 21.0**	**-0.3**
	comp=N,34nm,0.4s								
MDOK				Lg		Lg	06 49 12.6		
	comp=N,68nm,0.7s								
MDOK	**Medeo**	**4.02**	**291**	*e*P		**Pb**	**06 48 21.0**	**-0.3**
	comp=N,34nm,0.4s								
MDOK				⇑*i*S		**Sb**	**06 49 12.6**	**+2.8**
	comp=N,68nm,0.7s								
TNSS	**Tian-Shan**	**4.06**	**289**	Pg		**Pb**	**06 48 23.0**	**+1.0**
	comp=N,58nm,0.5s								
TNSS				Lg		Lg	06 49 16.5		
	comp=N,94nm,0.8s								
TNSS	**Tian-Shan**	**4.06**	**289**	*e*P		**Pb**	**06 48 23.1**	**+1.0**
	comp=N,58nm,0.5s								
TNSS				*e*S		**Sg**	**06 49 16.5**	**-4.4**
	comp=N,94nm,0.8s								
AAA	**Alma-Ata**	**4.13**	**291**	Pg		**Pb**	**06 48 26.3**	**+3.3**
	comp=N,74nm,0.3s								
AAA				Lg		Lg	06 49 21.7		
	comp=N,105nm,0.5s								
AAA	**Alma-Ata**	**4.13**	**291**	*e*PN		**Pg**	**06 48 29.3**	**-0.3**
AAA				*e*S		**Sg**	**06 49 21.6**	**-1.4**
AAA				pmax		pmax			
	comp=Z,74nm,0.3s								
AAA				smax		smax			
	comp=N,105nm,0.5s								
AAA	**Alma-Ata**	**4.13**	**291**	*e*P		**Pb**	**06 48 26.3**	**+3.3**
	comp=N,74nm,0.3s								
AAA				*e*S		**Sg**	**06 49 21.7**	**-1.4**
	comp=N,105nm,0.5s								
TDK	**Taldyqorghan**	**4.18**	**320**	Pg		**Pb**	**06 48 23.9**	**0.0**
	comp=N,76nm,0.6s								
TDK				Lg		Lg	06 49 17.2		
	comp=N,330nm,0.7s								
TDK	**Taldyqorghan**	**4.18**	**320**	*e*P		**Pb**	**06 48 23.9**	**0.0**
	comp=N,76nm,0.6s								
TDK				*e*S		**Sb**	**06 49 17.2**	**+2.9**
	comp=N,330nm,0.7s								
IZV	**Izvestkoviy**	**4.29**	**288**	Pg		**Pb**	**06 48 27.5**	**+1.6**
	comp=N,42nm,0.8s								
IZV				Lg		Lg	06 49 22.9		
	comp=N,140nm,0.6s								
IZV	**Izvestkoviy**	**4.29**	**288**	*e*P		**Pb**	**06 48 27.5**	**+1.6**
	comp=N,42nm,0.8s								
IZV				*e*S		**Sb**	**06 49 22.9**	**+5.2**
	comp=N,140nm,0.6s								
CHKK	**Chushkaly**	**4.32**	**299**	Pg		**Pb**	**06 48 28.5**	**+2.3**
	comp=N,18nm,0.4s								
CHKK				Lg		Lg	06 49 26.0		
	comp=N,71nm,0.5s								
CHKK	**Chushkaly**	**4.32**	**299**	*e*P		**Pb**	**06 48 29.1**	**+2.9**
	comp=N,8.6nm,0.5s								
CHKK				⇑*i*S		**Sg**	**06 49 26.0**	**-3.1**
	comp=N,108nm,0.3s								
MTBS	**Maitube**	**4.45**	**289**	Pg		**Pb**	**06 48 30.5**	**+2.0**
	comp=N,24nm,0.5s								
MTBS				Lg		Lg	06 49 29.1		
	comp=N,46nm,0.6s								
MTBS	**Maitube**	**4.45**	**289**	*e*P		**Pb**	**06 48 30.5**	**+2.0**
	comp=N,24nm,0.5s								
MTBS				⇓*i*S		**Sg**	**06 49 29.1**	**-4.2**
	comp=N,46nm,0.6s								
KTBS	**Karatobe**	**4.46**	**296**	Pg		**Pb**	**06 48 30.5**	**+1.9**
	comp=N,20nm,0.5s								
KTBS				Lg		Lg	06 49 28.6		
	comp=N,113nm,0.7s								
KTBS	**Karatobe**	**4.46**	**296**	*e*P		**Pb**	**06 48 30.5**	**+1.9**
	comp=N,20nm,0.5s								
KTBS				*e*S		**Sg**	**06 49 28.6**	**-5.1**
	comp=N,113nm,0.7s								
WMQ	**Urumqi**	**4.50**	**62**	Pn		**Pn**	**06 48 22.5**	**+4.1**
WMQ				Sg		**Sg**	**06 49 32.6**	**-2.4**
WMQ				smax		smax			
	comp=N,12nm,0.7s								
WMQ				smax		smax			
	comp=N,11nm,0.8s								
KST	**Kastek**	**4.76**	**287**	Pg		**Pb**	**06 48 34.0**	**+0.1**
	comp=N,35nm,0.6s								
KST				Lg		Lg	06 49 35.5		
	comp=N,96nm,0.9s								
KST	**Kastek**	**4.76**	**287**	*e*P		**Pb**	**06 48 34.3**	**+0.5**
	comp=N,35nm,0.6s								
KST				⇓*i*S		**Sb**	**06 49 35.5**	**+4.5**
	comp=N,96nm,0.9s								
KUU	**Kurty**	**4.76**	**297**	Pg		**Pb**	**06 48 35.8**	**+2.0**
	comp=N,14nm,0.4s								
KUU				Lg		Lg	06 49 38.3		
	comp=N,60nm,0.4s								
KUU	**Kurty**	**4.76**	**297**	*e*P		**Pb**	**06 48 35.8**	**+2.0**
	comp=N,14nm,0.4s								
KUU				⇓*i*S		**Sg**	**06 49 38.3**	**-5.0**
	comp=N,60nm,0.4s								
MK31	**Makanchi Array**	**4.94**	**1**	Pn		**Pn**	**06 48 25.1**	**+0.8**
	comp=N,3.0nm,0.3s,baz=186,slow=13,SNR=354								
MK31				⇑Pg		**Pb**	**06 48 38.7**	**+1.9**
	comp=N,4.2nm,0.3s,baz=176,slow=16,SNR=10								
MK31				⇓Sn		**Sn**	**06 49 23.3**	**+2.1**
	comp=N,14nm,0.5s								
MK31				⇑Lg		Lg	06 49 42.3		
	comp=N,35nm,0.5s								
MK31	**Makanchi Array**	**4.94**	**1**	PN		**Pn**	**06 48 25.1**	**+0.8**
MK31				*e*S		**Pb**	**06 48 38.7**	**+1.9**
MK31							06 49 23.3		
MK31							06 49 40.2		
MK31				pmax		pmax			
	comp=Z,3.0nm,0.4s								
MK31				smax		smax			
	comp=N,14nm,0.5s								
MK31				pmax		pmax			
	comp=N,35nm,0.5s								
MKAR	**Makanchi Array**	**4.94**	**1**	Pn		**Pn**	**06 48 25.4**	**+1.0**
	comp=N,3.3nm,0.3s,baz=191,slow=13,SNR=147								
MKAR				Sn		**Sn**	**06 49 22.5**	**+1.3**
	comp=N,4.4nm,0.3s,baz=180,slow=20,SNR=5.2								
MKAR				Lg		Lg	06 49 40.0		
	comp=N,7.8nm,0.3s,baz=182,slow=30,SNR=6.4								
DGS	**Degeres**	**4.94**	**288**	Pg		**Pb**	**06 48 39.7**	**+2.8**
	comp=N,25nm,0.4s								
DGS				Lg		Lg	06 49 44.8		
	comp=N,132nm,0.4s								
DGS	**Degeres**	**4.94**	**288**	*e*P		**Pb**	**06 48 39.7**	**+2.8**
	comp=N,25nm,0.4s								
DGS				*e*S		**Sg**	**06 49 44.8**	**-4.3**
	comp=N,132nm,0.4s								
MAKZ	**Makanchi**	**4.96**	**358**	⇑Pn		**Pn**	**06 48 25.6**	**+1.0**
	comp=N,10nm,0.6s								
MAKZ				⇑Pg		**Pb**	**06 48 40.4**	**+3.4**
	comp=N,8.4nm,0.6s								
MAKZ				⇓Sn		**Sn**	**06 49 22.8**	**+1.1**
	comp=N,12nm,0.4s								
MAKZ				⇑Lg		Lg	06 49 43.8		
	comp=N,50nm,0.8s								
MAKZ	**Makanchi**	**4.96**	**358**	PN		**Pn**	**06 48 25.5**	**+1.0**
MAKZ							06 48 40.4		
MAKZ							06 49 22.8		
MAKZ							06 49 40.4		
MAKZ				pmax		pmax			
	comp=Z,10.0nm,0.6s								
MAKZ				pmax		pmax			
	comp=Z,8.0nm,0.6s								
MAKZ				smax		smax			
	comp=N,13nm,0.4s								
MAKZ				pmax		pmax			
	comp=N,87nm,1.4s								
TKM2	**Tokmak 2**	**5.00**	**285**	⇑Pn		**Pn**	**06 48 28.3**	**+3.0**
	comp=N,16nm,0.7s								
TKM2				⇓Pg		**Pb**	**06 48 42.1**	**+4.1**
	comp=N,14nm,0.7s								
TKM2				⇓Lg		Lg	06 49 48.8		
	comp=N,37nm,0.6s								
TKM2	**Tokmak 2**	**5.00**	**285**	PN		**Pn**	**06 48 28.3**	**+3.0**
TKM2							06 49 46.8		
TKM2				pmax		pmax			
	comp=Z,5.0nm,0.4s								
TKM2				pmax		pmax			
	comp=Z,33nm,1.1s								
TKM2				pmax		pmax			
	comp=N,37nm,0.6s								
KSH	**Kashi**	**5.27**	**246**	Pn		Pb	06 48 37.3	-5.3
KSH				Sn		**Sb**	**06 49 41.8**	**-4.0**
KSH				smax		smax			
	comp=N,120nm,0.6s								
KSH				smax		smax			
	comp=N,100nm,0.8s								
FRU	**Bishkek**	**5.70**	**282**	*e*PN		Pb	06 48 55.0	+5.2
FRU				*e*			06 50 06.0		
FRU				pmax		pmax			
	comp=Z,40nm,1.8s								
FRU				smax		smax			
	comp=N,150nm,1.8s								
AAK	**Ala-Archa**	**5.77**	**280**	Pn		**Pn**	**06 48 37.6**	**+1.8**
	comp=N,1.3nm,0.3s,baz=96,slow=7.5,SNR=16								
AAK				Lg		Lg	06 50 08.6		
	comp=N,1.3nm,0.3s,baz=237,slow=22,SNR=5.4								
AAK	**Ala-Archa**	**5.77**	**280**	⇓Pn		**Pn**	**06 48 38.7**	**+2.8**
	comp=N,3.1nm,0.6s								
AAK				⇓Pg		Pb	06 48 56.1	+5.1	
	comp=N,9.1nm,0.8s								
AAK				⇑Lg		Lg	06 50 12.4		
	comp=N,56nm,0.9s								
AAK	**Ala-Archa**	**5.77**	**280**	PN		**Pn**	**06 48 39.7**	**+3.8**
AAK							06 48 58.7		
AAK				pmax		pmax			
	comp=Z,3.0nm,0.6s								
AAK				pmax		pmax			
	comp=Z,9.0nm,0.8s								
AAK				pmax		pmax			
	comp=N,56nm,0.9s								
ZSN	**Zaisan**	**5.91**	**18**	Pg		**Pb**	**06 48 56.7**	**+3.4**
	comp=N,5.5nm,0.5s								
ZSN				Lg		Lg	06 50 13.4		
	comp=N,31nm,0.7s								
ZSN	**Zaisan**	**5.91**	**18**	*e*P		**Pb**	**06 48 56.7**	**+3.4**
	comp=N,5.5nm,0.5s								
ZSN				*e*S		**Sg**	**06 50 13.4**	**-6.8**
	comp=N,31nm,0.7s								
MRKS	**Merke**	**6.71**	**281**	Pg		Pg	06 49 13.8	-5.1	
	comp=N,8.9nm,0.5s								
MRKS				Lg		Lg	06 50 43.5		
	comp=N,19nm,0.6s								
SFK	**Sufi-Kurgan**	**6.83**	**257**	⇓Pg		Pb	06 49 15.5	+6.3	
	comp=N,1.7nm,0.4s								
SFK				⇑Lg		Lg	06 50 44.9		
	comp=N,7.4nm,0.5s								
MNAS	**Manas**	**7.22**	**278**	⇑Pn		**Pn**	**06 48 59.7**	**+3.9**
	comp=N,1.5nm,0.5s								
MNAS				⇓Pg		Pg	06 49 23.7	-5.1	
	comp=N,4.0nm,0.8s								
MNAS				⇓Lg		Lg	06 50 59.8		
	comp=N,15nm,1.2s								
MNAS	**Manas**	**7.22**	**278**	*i* P		**Pn**	**06 48 59.7**	**+3.9**
MNAS				pmax		pmax			
	comp=Z,2.0nm,0.4s								
DGZ	**Jazzator, Alta**	**8.66**	**23**	*i* P		**Pn**	**06 49 15.4**	**-0.1**
KK31	**Karatay Array**	**8.72**	**282**	⇑Pg		Pg	06 49 47.8	-10	
	comp=Z,1.9nm,0.6s,baz=90,slow=16,SNR=5.6								
KK31				⇑Lg		Lg	06 51 46.9		
	comp=Z,3.8nm,0.6s,baz=94,slow=28,SNR=4.1								
KURBB	**Kurchatov Arra**	**9.13**	**345**	Pn		**Pn**	**06 49 22.6**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=172,slow=12,SNR=4.3								
KURBB				Sn		**Sn**	**06 50 59.1**	**-5.2**
	comp=Z,0.2nm,0.3s,baz=72,slow=25,SNR=4.6								
KURBB				Lg		Lg	06 51 53.8		
	comp=Z,0.2nm,0.3s,baz=175,slow=31,SNR=6.7								
KURBB	**Kurchatov Arra**	**9.13**	**345**	⇓Pn		**Pn**	**06 49 22.1**	**+0.3**
	comp=Z,4.4nm,0.6s								
KURBB				⇑Sn		**Sn**	**06 51 06.0**	**+1.7**
	comp=Z,20nm,0.7s								
KURBB				⇑Lg		Lg	06 51 56.5		
	comp=Z,53nm,0.7s								
KURK	**Kurchatov**	**9.20**	**346**	⇑Pn		**Pn**	**06 49 24.2**	**+1.5**
	comp=Z,4.6nm,0.7s								
KURK				⇑Sn		**Sn**	**06 51 09.2**	**+3.2**
	comp=Z,15nm,1.1s								
KURK				⇓Lg		Lg	06 51 58.6		
	comp=Z,36nm,0.8s								
KURK	**Kurchatov**	**9.20**	**346**	P		**Pn**	**06 49 22.6**	**-0.1**
KURK							06 50 59.1		
OTUK	**Ortayu**	**9.45**	**316**	⇑Pn		**Pn**	**06 49 27.9**	**+1.6**
	comp=Z,1.4nm,0.6s								
OTUK				⇓Lg		Lg	06 52 07.7		
	comp=Z,21nm,0.8s								
ZALV	**Zalesovo Beam**	**12.23**	**7**	Pn		**Pn**	**06 50 04.6**	**+0.4**
	baz=186,slow=13,SNR=2.6								
ZALV				Sn		**Sn**	**06 52 15.2**	**-5.0**
	comp=Z,0.3nm,0.3s,baz=175,slow=23,SNR=4.3								
ZALV				Lg		Lg	06 53 30.3		
	comp=Z,0.1nm,0.3s,baz=194,slow=24,SNR=3.5								
BVA0	**Borovoye Array**	**13.71**	**329**	Pn		**Pn**	**06 50 26.3**	**+1.9**
	comp=Z,2.0nm,0.8s,baz=123,slow=11,SNR=7.5								
BVA0				⇓Lg		Lg	06 54 21.8		
	comp=Z,18nm,1.1s								
BVAR	**Borovoye Array**	**13.71**	**329**	Pn		**Pn**	**06 50 25.9**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=150,slow=14,SNR=2.8								
BVAR				Lg		Lg	06 54 20.4		
	comp=Z,0.2nm,0.3s,baz=148,slow=27,SNR=3.5								
BRVK	**Borovoye**	**13.78**	**328**	⇑Pn		**Pn**	**06 50 27.0**	**+1.6**
	comp=Z,2.1nm,0.5s								
BRVK				⇑Lg		Lg	06 54 23.6		
	comp=Z,12nm,1.0s								
BRVK	**Borovoye**	**13.78**	**328**	*i* P		**Pn**	**06 50 25.2**	**-0.2**
SONM	**Songino Array**	**18.14**	**63**	P		**Pn**	**06 51 20.7**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=236,slow=10,SNR=3.7								
AKTO	**Aktyubinsk**	**18.75**	**305**	P		**Pn**	**06 51 29.4**	**0.0**
	comp=Z,0.1nm,0.3s,baz=121,slow=13,SNR=4.4								
ARU	**Arti**	**21.10**	**322**	*di* P		**P**	**06 51 54.4**	**0.0**
ARU							06 52 11.2		
ARU				S		**S**	**06 55 47.6**	**-1.0**
ARU				SS		**SnSn**	**06 56 06.8**	**-3.2**
ARU				pmax		pmax			
	comp=Z,6.0nm,0.6s								
FINES	**FINESS Array B**	**38.45**	**320**	P		**P**	**06 54 31.0**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=102,slow=10,SNR=3.2								
ARCES	**ARCESS Array B**	**39.95**	**333**	P		**P**	**06 54 43.0**	**-1.0**
	comp=Z,3.0nm,0.9s,baz=85,slow=10.0,SNR=4.8								
ARCES	**ARCESS Array B**	**39.95**	**333**	P		**P**	**06 54 43.0**	**-1.0**
ARCES				pmax		pmax			
	comp=Z,3.0nm,0.9s								
ASAJ	**Asahikawa**	**43.38**	**66**	LR		LR	07 14 09.2		
	comp=Z,103nm,18.8s,baz=174,slow=37								
NOA	**NORSAR Array B**	**45.63**	**320**	P		**P**	**06 55 28.7**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=81,slow=8.0,SNR=2.4								
BILL	**Bilibino**	**49.84**	**29**	*e*P		**P**	**06 56 05.2**	**+2.5**
BILL				pmax		pmax			
	comp=Z,1.0nm,1.1s								
ILAR	**Eielson Array**	**66.99**	**21**	P		**P**	**06 58 01.0**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=326,slow=4.5,SNR=4.7								
TORD	**Torodi Ar. Bea**	**74.31**	**274**	P		**P**	**06 58 46.6**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=52,slow=4.7,SNR=7.8								
YKA	**Yellowknife Ar**	**75.13**	**8**	P		**P**	**06 58 50.4**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=338,slow=5.6,SNR=7.0								
WRA	**Warramunga Arr**	**78.12**	**131**	P		**P**	**06 59 09.2**	**0.0**
	comp=Z,0.6nm,0.8s,baz=329,slow=5.5,SNR=4.1								
ASAR	**Alice Springs**	**80.85**	**133**	P		**P**	**06 59 23.4**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=325,slow=5.6,SNR=3.7								
ULM	**Lac du Bonnet**	**88.26**	**359**	LR		LR	07 44 12.7		
	comp=Z,40nm,18.3s,baz=26,slow=39								
NEW	**Newport**	**88.65**	**13**	LR		LR	07 44 06.5		
	comp=Z,31nm,18.2s,baz=139,slow=39								

MEX 16 06:55:44.7±0.4, 16°.00N×98°.29W, h5km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.42**	**21**	*i* P		Pg		06 55 52.1	-0.7
PNIG				*i* S		Sg		06 55 58.5	+0.1
VHO	**Vista Hermosa**	**1.83**	**54**	*e*P		Pn		06 56 13.7	-3.4
VHO				*i* S		Sn		06 56 36.3	-4.5
HUIG	**Huatulco**	**2.11**	**96**	*e*P		Pn		06 56 17.4	-3.3
HUIG				*i* S		Sn		06 56 42.4	-4.9
CMIG	**Matias Romero**	**3.44**	**71**	*e*P		Pn		06 56 35.5	-3.5
CMIG				*i* S		Sn		06 57 16.0	-4.2

*IDC **16** 06:59:32.9±1.7, 3°.45S×131°.13E, h0km, mb3.9/2, mb1 4.0/5, mb1mx3.7/37, mbtmp3.9/5, ML3.7/3, MS3.1/2, Ms1 3.1/2, ms1mx2.5/42, Error ellipse: s-maj=86.5km s-min=22.3km az=84.0*

*ISCJB **16** 06:59:34.6±0.6, 3°.46S±0°.05×131°.08E±0°.05, h30km, mb3.9/1, MS3.0/2, Error ellipse: s-maj=7.4km s-min=5.8km az=43.6*

*DJA **16** 06:59:37.8±1.9, 3°S±6°×13°1E±°, h20km±19km, M4.0/7, MLv4.0/7*

ISC 16 06:59:36.8±0.8, 3°.40S±0°.07×131°.12E±0°.05, h30km, n14, σ1ŝ79/17, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.22**	**67**	P		P	**Pb**	**06 59 59.3**	**0.0**
FAKI				S		S	**Sb**	**07 00 15.2**	**+0.4**
BNDI	**Bandanaira**	**1.65**	**227**	P		P	**Pb**	**07 00 07.0**	**+0.4**
SIJI	**Sorong**	**2.52**	**3**	Pn		Pn	**Pn**	**07 00 15.6**	**-0.1**
	11nm,0.3s,baz=208,slow=23,SNR=14								
SIJI				Sn		Sn	**Sn**	**07 00 44.2**	**-1.1**
	17nm,0.3s,baz=210,slow=20,SNR=9.4								
SWI	**Sorong**	**2.52**	**3**	P		Pn	**Pn**	**07 00 16.2**	**+0.5**
SWI				S		Sn	**Sn**	**07 00 45.3**	**-0.2**
RKPI	**Ransiki, Papua**	**3.58**	**59**	P		Pn	**Pn**	**07 00 31.6**	**+1.2**
RKPI				S		Sn	**Sn**	**07 01 10.4**	**-1.3**
NLAI	**Namlea**	**4.02**	**272**	P		Pn	**Pn**	**07 00 39.0**	**+2.7**
NLAI				S		Sn	**Sn**	**07 01 23.2**	**+0.8**
SANI	**Sanana**	**5.30**	**284**	P		Pn	**Pn**	**07 00 51.4**	**-2.5**
BAKI	**Biak**	**5.44**	**66**	P		Pn	**Pn**	**07 00 58.1**	**+2.2**
FITZ	**Fitzroy Crossi**	**15.57**	**200**	Pn		Pn	**Pn**	**07 03 11.2**	**-3.0**
	0.4nm,0.3s,baz=28,slow=10,SNR=12								
FITZ				Sn		Sn		07 05 53.6	-12
	0.2nm,0.3s,baz=184,slow=16,SNR=2.8								
WRA	**Warramunga Arr**	**16.74**	**169**	Pn		Pn	**Pn**	**07 03 26.3**	**-3.0**
	0.2nm,0.3s,baz=356,slow=13,SNR=8.6								
WRA				Sn		Sn		07 06 22.1	-12
	0.3nm,0.3s,baz=336,slow=23,SNR=5.5								
ASAR	**Alice Springs**	**20.33**	**173**	P		P	**P**	**07 04 11.7**	**+1.0**
	2.8nm,0.3s,baz=352,slow=11,SNR=39								
ASAR				S		S		07 07 47.2	-10
	1.0nm,0.7s,baz=352,slow=26,SNR=4.1								
JOW	**Kunigami**	**30.18**	**355**	LR		LR		07 16 32.2	
	comp=Z,52nm,19.4s,baz=78,slow=34								
KSRS	**Korea Array**	**40.75**	**356**	LR		LR		07 24 30.0	
	comp=Z,15nm,18.9s,baz=100,slow=37								
MKAR	**Makanchi Array**	**65.87**	**325**	P		**P**	**07 10 20.9**	**+1.2**
	1.0nm,0.8s,baz=122,slow=7.9,SNR=8.3								

*IDC **16** 07:04:10.7±0.7, 5°.84S×76°.91W, h0km, mb4.0/12, mb1 4.1/19, mb1mx4.0/36, mbtmp4.0/19, ML3.3/7, MS3.7/12, Ms1 3.7/12, ms1mx3.4/30, Error ellipse: s-maj=18.5km s-min=12.4km az=79.0*

*ISCJB **16** 07:04:11.0±0.2, 5°.82S±0°.02×76°.85W±0°.04, h10km, mb4.3/26, MS3.6/8, Error ellipse: s-maj=5.8km s-min=3.2km az=161.2*

*NEIC **16** 07:04:14.9±1.9, 5°.82S×76°.92W, h26km±15km, mb4.2/21, ML4.2(ARE), Error ellipse: s-maj=9.4km s-min=4.9km az=73.0*

NEIC Felt [II] at Moyobamba.

*VAO **16** 07:04:15.1±0.6, 5°.88S×76°.55W, h10km, mb4.5*

*IGQ **16** 07:04:16.3±0.6, 6°S±5°×7°.7W±1°.0, h100km, M4.7/11, mb4.7/5, mB4.7/4, MLv4.9/11, Mw(mB)4.0/4*

ISC 16 07:04:13.0±0.4, 5°.81S±0°.04×76°.88W±0°.05, h10km, n165, σ1ŝ79/141, mb4.3/26, MS3.6/8, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.00**	**229**	Pn		Pn	**Pn**	**07 04 46.5**	**-0.7**
	38nm,0.3s,baz=29,slow=10,SNR=132								
ATAH				Sn		Sn	**Sn**	**07 05 10.4**	**-2.2**
	74nm,0.3s,baz=47,slow=4.9,SNR=6.7								
COHC	**Cochancay**	**4.07**	**324**	P		Pn	**Pn**	**07 05 16.5**	**+1.1**
COHC				S		Sn	**Sn**	**07 06 04.7**	**+1.6**
MILO	**Milagro-Astudi**	**4.40**	**323**	P		Pn	**Pn**	**07 05 19.7**	**-0.2**
PUYO	**Puyo, Santa Ro**	**4.43**	**345**	P		Pn	**Pn**	**07 05 20.7**	**+0.2**
ARRY	**Arrayan**	**4.55**	**340**	P		Pn	**Pn**	**07 05 23.4**	**+1.1**
POND	**Pondoa**	**4.63**	**340**	P		Pn	**Pn**	**07 05 24.2**	**+0.8**
MORR	**Playas El Morr**	**4.66**	**312**	P		Pn	**Pn**	**07 05 28.1**	**+4.6**
ARDO	**Archidona, Ten**	**4.87**	**349**	P		Pn	**Pn**	**07 05 24.9**	**-1.5**
PIS1	**Pisayambo**	**4.95**	**342**	P		Pn	**Pn**	**07 05 28.9**	**+1.0**
ILLI	**Illinizas Sur**	**5.38**	**340**	P		Pn	**Pn**	**07 05 37.6**	**+3.7**
	82nm,1.3s,996nm0.7nm								
ANTM	**Antisana-La Mi**	**5.40**	**346**	P		Pn	**Pn**	**07 05 32.8**	**-1.3**
	34nm,0.5s,898nm0.5nm								
PITA	**Cotopaxi Volc**	**5.44**	**343**	P		Pn	**Pn**	**07 05 35.7**	**+1.1**
	275nm,0.5s,3.6nm								
ANTG	**Antisana-Guama**	**5.44**	**345**	P		Pn	**Pn**	**07 05 37.6**	**+2.8**
	57nm,1.0s,751nm0.5nm								
NINA	**Atacazo Ninahu**	**5.65**	**342**	P		Pb	**Pb**	**07 05 54.9**	**+2.9**
GGPC	**Guagua Pichinc**	**5.84**	**343**	P		Pb	**Pb**	**07 05 57.3**	**+1.9**
CAYA	**Cayambe**	**5.94**	**349**	P		Pb		07 05 52.2	-4.8
NNA	**Nana**	**6.14**	**180**	Pn		Pn	**Pn**	**07 05 43.3**	**-0.6**
	4.0nm,0.3s,baz=1.0,slow=6.0,SNR=13								
NNA				Sn		Sn	**Sn**	**07 06 52.7**	**-1.6**
	6.7nm,0.3s,baz=330,slow=20,SNR=3.9								
**NNA

BARC	Barichara	12.86	17	*e*P		Pn	07 07 23.0	+6.8	
TAMC	Tame, Arauca	13.18	23	*e*P		**Pn**	**07 07 18.0**	**-2.4**	
TAMC	Tame, Arauca	13.18	23	*e*P		**Pn**	**07 07 18.0**	**-2.4**	
TAMC	Tame, Arauca	13.18	23	*e*P		**Pn**	**07 07 18.0**	**-2.4**	
ZARC	Zaragoza, Cauc	13.36	9	*e*P		**P**	**07 07 34.4**	**+1.8**	
ZARC	Zaragoza, Cauc	13.36	9	*e*P		**P**	**07 07 34.4**	**+1.8**	
ZARC	Zaragoza, Cauc	13.36	9	*e*P		**P**	**07 07 34.4**	**+1.8**	
LPAZ	La Paz	13.50	141		Pn	**Pn**	**07 07 22.9**	**-2.3**	
	0.1nm,0.3s,baz=321,slow=11,SNR=4.6								
LPAZ				Lg		Lg	07 11 20.0		
	0.5nm,0.3s,baz=215,slow=13,SNR=3.1								
LPAZ	La Paz	13.50	141	*e*Pn		**Pn**	**07 07 23.9**	**-1.3**	
LPAZ				Lg		Lg	07 11 20.0		
LPAZ	La Paz	13.50	141	*e*P		Pn	07 07 21.7	-3.6	
MNMC	Minye Minye	15.03	152	*e*Pn		**Pn**	**07 07 47.1**	**+1.3**	
	13nm,0.9s								
MNMC	Minye Minye	15.03	152	P		**P**	**07 07 50.7**	**-0.6**	
PB11	IPOC Station P	15.55	154	*e*Pn		**Pn**	**07 07 54.5**	**+1.8**	
	10nm,0.7s								
PB11	IPOC Station P	15.55	154	P		**P**	**07 08 01.2**	**+4.2**	
SDV	Santo Domingo	15.87	23	Pn		**Pn**	**07 07 56.5**	**-0.3**	
	0.3nm,0.3s,baz=184,slow=7.5,SNR=6.0								
SDV				Lg		Lg	07 12 39.8		
	0.6nm,0.3s,baz=62,slow=18,SNR=2.5								
SDV				LR		LR	07 15 11.6		
	comp=Z,184nm,18.9s,baz=236,slow=42								
SDV	Santo Domingo	15.87	23	*e*Pn		**Pn**	**07 07 57.1**	**+0.3**	
	13nm,1.1s								
SDV				Lg		Lg	07 12 39.8		
SDV	Santo Domingo	15.87	23	P		**Pn**	**07 08 00.6**	**+3.8**	
SDV	Santo Domingo	15.87	23	*e*P		**Pn**	**07 07 56.9**	**+0.1**	
PB08	IPOC Station P	16.11	153	P		**P**	**07 08 06.4**	**+2.9**	
PB01	IPOC Station P	16.76	155	*e*Pn		**Pn**	**07 08 09.1**	**+1.0**	
	9.3nm,1.1s								
PB01	IPOC Station P	16.76	155	P		**P**	**07 08 15.3**	**+5.0**	
PB02	IPOC Station P	16.84	157	P		**P**	**07 08 15.7**	**+4.4**	
PB07	IPOC Station P	17.22	158	P		**Pn**	**07 08 16.2**	**+2.3**	
PB09	IPOC Station P	17.53	156	P		**P**	**07 08 20.6**	**+1.6**	
PB03	IPOC Station P	17.56	158	P		**Pn**	**07 08 20.3**	**+2.1**	
PTGA	Pitinga	17.62	74	P		**Pn**	**07 08 17.9**	**-0.9**	
	0.5nm,0.3s,baz=230,slow=15,SNR=4.1								
PTGA				S		Sn	07 11 22.4	-13	
	0.3nm,0.3s,baz=36,slow=13,SNR=2.2								
PTGA				Lg		Lg	07 13 26.0		
	1.0nm,0.3s,baz=343,slow=19,SNR=2.9								
PTGA				LR		LR	07 15 52.2		
	comp=Z,344nm,19.1s,baz=260,slow=40								
PTGA	Pitinga	17.62	74	*e*Pn		**Pn**	**07 08 18.6**	**-0.3**	
	7.2nm,0.7s								
PTGA				S		Sn	07 11 22.4	-13	
PTGA				Lg		Lg	07 13 26.0		
PTGA	Pitinga	17.62	74	*e*P		**Pn**	**07 08 17.3**	**-1.5**	
JTS	JuntasAbangare	17.90	333	P		**Pn**	**07 08 20.1**	**-2.2**	
	0.1nm,0.3s,baz=280,slow=14,SNR=2.5								
JTS	JuntasAbangare	17.90	333	*e*Pn		**Pn**	**07 08 20.1**	**-2.2**	
	6.2nm,1.1s								
LVC	Limon Verde	18.40	156	P		**Pn**	**07 08 28.6**	**-0.1**	
	0.2nm,0.3s,baz=296,slow=9.3,SNR=5.7								
LVC				LR		LR	07 16 26.4		
	comp=Z,380nm,18.5s,baz=319,slow=40								
LVC	Limon Verde	18.40	156	*e*P		**Pn**	**07 08 28.6**	**-0.1**	
LVC				*e*P		**P**	**07 08 29.8**	**+1.1**	
LVC	Limon Verde	18.40	156	P		**P**	**07 08 31.4**	**+2.7**	
LVC				P		**P**	**07 08 31.4**	**+2.7**	
GO02	Mina Guanaco	20.48	161	*e*P		**P**	**07 08 52.5**	**+1.1**	
	7.9nm,1.0s								
LCO	Las Campanas	23.81	166	*e*P		**P**	**07 09 25.3**	**-1.2**	
	8.5nm,1.1s								
APG	El Apazote	24.67	327	P		**P**	**07 09 35.3**	**+0.8**	
	4.0nm,1.0s,baz=155,slow=17,SNR=3.1								
APG				LR		LR	07 18 08.3		
	comp=Z,86nm,18.6s,baz=206,slow=34								
GO04	Tololo Observa	24.91	167	*e*P		**P**	**07 09 34.9**	**-1.7**	
	12nm,1.0s								
AQDB	Aquidauana	25.21	127	*e*P		**P**	**07 09 39.4**	**+0.3**	
SJG	San Juan	26.02	24	P		**P**	**07 09 47.3**	**+0.9**	
	20nm,0.8s,baz=218,slow=3.0,SNR=2.4								
SJG				LR		LR	07 21 58.6		
	comp=Z,173nm,18.5s,baz=219,slow=41								
C2SB	Chapadao do Su	26.75	121	*e*P		**P**	**07 09 53.7**	**+0.6**	
ROC1	El Roble	27.58	169	*e*P		**P**	**07 09 59.5**	**-1.3**	
	7.6nm,0.9s								
CPUP	Villa Florida	27.66	140	P		**P**	**07 09 59.9**	**-1.3**	
	2.7nm,0.8s,baz=320,slow=9.1,SNR=6.6								
CPUP				LR		LR	07 23 54.5		
	comp=Z,165nm,18.2s,baz=328,slow=43								
CPUP	Villa Florida	27.66	140	*e*P		**P**	**07 10 02.0**	**+0.8**	
	2.6nm,0.8s								
CPUP	Villa Florida	27.66	140	*e*P		**P**	**07 09 59.9**	**-1.3**	
TRCB	Terra Rica	28.86	128	*e*P		**P**	**07 10 12.2**	**+0.2**	
CMIG	Matias Romero	28.88	322	LR		LR	07 20 16.0		
	comp=Z,95nm,19.1s,baz=158,slow=33								
BB19B	Bebedouro	31.39	122	*e*P		**P**	**07 10 32.9**	**-1.6**	
ITAB	Concordia	31.76	135	*e*P		**P**	**07 10 36.4**	**-1.1**	
RCLB	Rio Claro- Sao	32.80	123	*e*P		**P**	**07 10 46.7**	**-0.1**	
JANB	Januaria	33.28	109	*e*P		**P**	**07 10 49.8**	**-1.3**	
MCI8	Montes Claros	34.02	111	*e*P		**P**	**07 10 56.1**	**-1.5**	
MCI7	Montes Claros	34.15	111	*e*P		**P**	**07 10 57.9**	**-0.7**	
BSCB	Bom Sucesso	34.59	119	*e*P		**P**	**07 11 01.9**	**-0.6**	
TER01	Tubarao-SC	34.67	134	*e*P		**P**	**07 11 02.5**	**-0.5**	
PLCA	Paso Flores	35.24	172	P		**P**	**07 11 06.5**	**-1.3**	
	1.7nm,1.1s,baz=18,slow=17,SNR=3.9								
SJMB	Sao Joao De Ma	37.07	113	*e*P		**P**	**07 11 23.1**	**-0.6**	
BSFB	Barra de Sao F	37.41	113	*e*P		**P**	**07 11 26.5**	**-0.1**	
LTX	Lajitas	43.40	325	*e*P		**P**	**07 12 15.2**	**-0.9**	
TXAR	Lajitas Array	43.40	325	P		**P**	**07 12 15.2**	**-0.9**	
	0.4nm,0.7s,baz=152,slow=8.5,SNR=4.7								
ANMO	Albuquerque	49.19	328	*e*P		**P**	**07 13 01.5**	**-0.2**	
	2.5nm,0.8s								
SDCO	Great Sand Dun	50.87	331	*e*P		**P**	**07 13 13.2**	**-1.4**	
	5.2nm,1.1s								
WUAZ	Wupatki	52.35	324	*e*P		**P**	**07 13 24.2**	**-1.3**	
	4.8nm,0.9s								
PV13	Radium Mtn., P	52.86	328	*e*P		**P**	**07 13 29.4**	**0.0**	
	5.5nm,1.2s								
MWC	Mount Wilson	55.65	319	*e*P		**P**	**07 13 48.9**	**-0.8**	
	29nm,0.9s								
PD31	Pinedale Array	56.72	332	*e*P		**P**	**07 13 55.9**	**-1.3**	
PDAR	Pinedale Array	56.72	332	P		**P**	**07 13 55.9**	**-1.3**	
	0.3nm,0.7s,baz=122,slow=4.4,SNR=2.8								
ELK	Elko	58.17	326	LR		LR	07 38 58.5		
	comp=Z,73nm,18.3s,baz=162,slow=36								
ULM	Lac du Bonnet	58.20	346	P		**P**	**07 14 06.1**	**-1.1**	
	2.2nm,0.9s,baz=140,slow=7.4,SNR=3.1								
NV01	Mina Array Sit	58.41	322	*e*P		**P**	**07 14 09.4**	**+0.2**	
NVAR	Mina Array Bea	58.41	322	P		**P**	**07 14 09.4**	**+0.2**	
	0.6nm,0.7s,baz=123,slow=11,SNR=3.7								
MFID	Camas Ranch	60.33	328	*e*P		**P**	**07 14 22.6**	**+0.4**	
	4.9nm,0.9s								
ORV	Oroville	61.07	322	*e*P		**P**	**07 14 27.7**	**+0.5**	
	3.3nm,1.0s								
YBH	Yreka Blue Hor	63.11	323	LR		LR	07 41 16.4		
	comp=Z,34nm,18.5s,baz=176,slow=35								
LIC	Lamto	72.71	82	*e*P		**P**	**07 15 43.3**	**+1.4**	
	44nm,1.7s								
TIC	Toumodi	72.78	81	*e*P		**P**	**07 15 42.1**	**-0.3**	
DBIC	Dimbokro	72.94	81	P		**P**	**07 15 42.8**	**-0.6**	
	1.2nm,0.6s,baz=205,slow=5.8,SNR=2.5								
DBIC				LR		LR	07 45 44.7		
	comp=Z,79nm,18.8s,baz=226,slow=34								
DBIC	Dimbokro	72.94	81	*e*P		**P**	**07 15 42.8**	**-0.6**	
	3.3nm,1.1s								
KIC	Kosan Boka	73.01	82	*e*P		**P**	**07 15 45.7**	**+2.0**	
	112nm,2.0s								
YKA	Yellowknife Ar	73.95	343	P		**P**	**07 15 47.3**	**-0.9**	
	0.4nm,0.6s,baz=138,slow=6.1,SNR=8.6								
TOA1	Torodi Ar. Sit	80.25	76	*e*P		**P**	**07 16 24.3**	**-0.4**	
TOA0	Torodi Ar. Sit	80.26	76	*e*P		**P**	**07 16 23.7**	**-1.0**	
TORD	Torodi Ar. Bea	80.26	76	P		**P**	**07 16 24.3**	**-0.4**	
	2.0nm,0.8s,baz=308,slow=7.3,SNR=6.3								
INK	Inuvik	83.68	342	*e*P		**P**	**07 16 41.5**	**0.0**	
	4.1nm,1.0s								
ILAR	Eielson Array	86.84	336	P		**P**	**07 16 56.6**	**-0.9**	
	0.5nm,0.9s,baz=97,slow=2.6,SNR=4.1								
CAST	Castle Rocks	88.59	334	*e*P		**P**	**07 17 05.1**	**-0.8**	
	4.2nm,1.0s								
NOA	NORSAR Array B	94.11	29	LR		LR	07 59 21.8		
	comp=Z,9.4nm,18.6s,baz=260,slow=35								
ASAR	Alice Springs	138.04	225	PKP		**PKPdf**	**07 23 39.9**	**+0.7**	
	0.5nm,0.8s,baz=141,slow=1.8,SNR=2.6								
KSH	Kashi	138.46	32	PKP		**PKPdf**	**07 23 38.0**	**-1.5**	
KSH				sPKP			07 23 54.1		
KSH				PP		**PP**	**07 26 34.1**	**+5.4**	
KSH				AMB		AMB			
	comp=Z,230nm,6.3s								
WMQ	Urumqi	139.78	17	*e*P		**PKPdf**	**07 23 41.8**	**+0.1**	
XAN	Xi'an	151.39	350	P		**PKPdf**	**07 24 06.3**	**+4.6**	
XAN				pmax	pmax				
	comp=Z,7.0nm,1.1s								
XAN				pmax	pmax				
	comp=Z,150nm,6.0s								

IDC ***16*** *07:07:19.2±1.6, 13.˝00N×126.˝35E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/44, mbtmp3.7/6, MS2.5/1, Ms1 2.7/1, ms1mx2.3/40, Error ellipse: s-maj=68.4km s-min=19.3km az=66.0*

ISCJB ***16*** *07:07:23.1±0.9, 12.˚89N±0.˚08×126.˚17E±0.˚08, h40km, mb3.6/6, MS2.4/1, Error ellipse: s-maj=11.9km s-min=10.6km az=31.3*

MAN ***16*** *07:07:23.8, 12.˚84N×126.˚13E, h45km, mb4.2, ML3.0, MS2.7*

ISC 16 07:07:25.1±1.2, 12.˚87N±0.˚09×126.˚1E±0.˚1, h40km, n9, σ1°15/11, mb3.6/6, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.43**	**208**	*e*P		**Pn**	**Pn**	**07 07 47.6**	**-1.0**
BESP				*e*S		**Sn**	**Sn**	**07 08 05.4**	**-0.8**
CNP	**Catarman**	**1.47**	**256**	*e*P		**Pn**	**Pn**	**07 07 48.4**	**-0.8**
CNP				*e*S		**Sn**	**Sn**	**07 08 07.0**	**-0.1**
RCP	**Roxas**	**3.55**	**249**	⇑*e*P		**Pn**	**Pn**	**07 08 18.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**26.74**	**285**	P		**P**	**P**	**07 13 01.6**	**+0.4**
CMAR	2.1nm,0.3s,baz=102,slow=8.4,SNR=4.4			LR		LR	LR	07 24 44.9	
	comp=Z,10nm,18.8s,baz=20,slow=39								
FITZ	**Fitzroy Crossi**	**30.78**	**181**	P		**P**	**P**	**07 13 38.5**	**+1.6**
	1.8nm,0.7s,baz=4.0,slow=11,SNR=13								
WRA	**Warramunga Arr**	**33.59**	**166**	P		**P**	**P**	**07 14 01.2**	**-0.6**
	0.1nm,0.4s,baz=346,slow=9.1,SNR=3.2								
ASAR	**Alice Springs**	**37.10**	**168**	P		**P**	**P**	**07 14 32.0**	**+0.1**
	0.2nm,0.3s,baz=346,slow=7.2,SNR=3.2								
SONM	**Songino Array**	**38.55**	**339**	P		**P**	**P**	**07 14 42.1**	**-1.9**
	0.5nm,0.8s,baz=153,slow=9.7,SNR=3.0								
MKAR	**Makanchi Array**	**49.90**	**322**	P		**P**	**P**	**07 16 16.0**	**+1.3**
	0.7nm,0.7s,baz=116,slow=9.3,SNR=9.3								

ISCJB ***16*** *07:12:43.8±0.6, 18.˚0S±0.˚1×177.˚3W±0.˚1, h361km, mb3.8/13, Error ellipse: s-maj=19.1km s-min=12.8km az=147.7*

IDC ***16*** *07:12:46.6±3.0, 18.˚06S×177.˚23W, h380km±30km, mb3.5/14, mb1 3.7/15, mb1mx3.6/39, mbtmp4.3/15, Error ellipse: s-maj=20.2km s-min=14.5km az=152.0*

ISC 16 07:12:44.6±0.7, 18.˚1S±0.˚2×177.˚2W±0.˚1, h361km, n19, σ0°92/21, mb3.8/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.85**	**253**	P		**Pn**	**Pn**	**07 16 10.4**	**-0.8**
	0.7nm,0.3s,baz=82,slow=20,SNR=6.7								
URZ	**Urewera**	**20.73**	**193**	P		**P**	**P**	**07 16 57.3**	**-1.1**
	2.2nm,0.3s,baz=284,slow=4.2,SNR=4.8								
CTA	**Charters Tower**	**34.53**	**261**	P		**P**	**P**	**07 19 01.3**	**+0.7**
	14nm,0.8s,baz=92,slow=12,SNR=15								
STKA	**Stephens Creek**	**39.55**	**242**	P		**P**	**P**	**07 19 43.3**	**+1.1**
	2.5nm,0.7s,baz=78,slow=10,SNR=7.3								
JAY	**Jayapura**	**44.03**	**286**	P		**P**	**P**	**07 20 19.1**	**+0.7**
	baz=146,slow=8.3,SNR=1.9								
WRA	**Warramunga Arr**	**45.71**	**260**	P		**P**	**P**	**07 20 31.2**	**-0.2**
	0.7nm,0.3s,baz=92,slow=7.6,SNR=20								
ASAR	**Alice Springs**	**45.83**	**254**	P		**P**	**P**	**07 20 32.4**	**0.0**
	9.6nm,0.7s,baz=86,slow=8.4,SNR=83								
ASAR				PcP		**PcP**	**PcP**	**07 22 02.1**	**-0.9**
	0.3nm,0.4s,baz=95,slow=4.1,SNR=2.4								
ASAR				ScP		**ScP**	**ScP**	**07 25 19.0**	**-1.9**
	0.4nm,0.9s,baz=90,slow=4.6,SNR=3.1								
SIJI	**Sorong**	**53.36**	**283**	P		**P**	**P**	**07 21 29.5**	**+0.9**
	12nm,0.9s,baz=71,slow=5.1,SNR=6.6								
MJAR	**Matsushiro Arr**	**68.70**	**323**	P		**P**	**P**	**07 23 09.6**	**-0.7**
	3.2nm,0.7s,baz=167,slow=6.5,SNR=6.9								
PETK	**Petropavlovsk-**	**74.11**	**345**	P		**P**	**P**	**07 23 41.3**	**-0.7**
	1.7nm,0.6s,baz=141,slow=9.3,SNR=4.3								
NVAR	**Mina Array Bea**	**78.75**	**43**	P		**P**	**P**	**07 24 08.8**	**+0.4**
	1.2nm,0.7s,baz=227,slow=9.8,SNR=7.8								
KLR	**Kul'dur**	**80.81**	**329**	P		**P**	**P**	**07 24 18.8**	**0.0**
	1.1nm,0.9s,baz=31,slow=7.3,SNR=4.0								
TXAR	**Lajitas Array**	**85.13**	**57**	P		**P**	**P**	**07 24 43.1**	**+1.8**
	2.5nm,0.8s,baz=222,slow=5.0,SNR=26								
ILAR	**Eielson Array**	**85.78**	**13**	P		**P**	**P**	**07 24 43.0**	**-0.6**
	0.3nm,0.4s,baz=232,slow=5.3,SNR=14								
PDAR	**Pinedale Array**	**86.69**	**43**	P		**P**	**P**	**07 24 48.4**	**-0.4**
	0.3nm,0.6s,baz=230,slow=3.5,SNR=3.8								
PLCA	**Paso Flores**	**90.42**	**133**	P		**P**	**P**	**07 25 06.5**	**+0.3**
	1.0nm,0.9s,baz=254,slow=5.1,SNR=5.1								
ARCES	**ARCESS Array B**	**126.65**	**350**	PKP		**PKPdf**	**PKPdf**	**07 31 04.2**	**-0.7**
	3.1nm,0.9s,baz=3.8,slow=2.7,SNR=3.3								
BRTR	**Keskin Array B**	**145.68**	**315**	PKPbc		**PKPdf**	**PKPdf**	**07 31 41.3**	**+0.3**
	0.4nm,0.5s,baz=139,slow=4.1,SNR=5.1								
GERES	**GERESS Array B**	**148.03**	**346**	PKPbc		**PKPbc**	**PKPbc**	**07 31 47.4**	**-0.7**
	0.9nm,0.6s,baz=46,slow=3.9,SNR=5.9								

NNC ***16*** *07:20:17.9±2.8, 47.˚18N×94.˚53E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=29.5km s-min=22.6km az=157.0*

IDC ***16*** *07:20:18.5±0.9, 46.˚70N×94.˚34E, h0km, mb3.8/13, mb1 3.9/17, mb1mx3.8/48, mbtmp3.8/17, ML3.3/4, MS3.2/6, Ms1 3.2/6, ms1mx2.8/34, Error ellipse: s-maj=23.9km s-min=11.4km az=7.0*

NEIC ***16*** *07:20:20.4±0.5, 46.˚80N×94.˚30E, h10km, mb4.2/5, Error ellipse: s-maj=14.2km s-min=5.8km az=175.0*

ISC 16 07:20:20.8±0.5, 47.˚05N±0.˚08×94.˚41E±0.˚03, h10km, n51, σ1°65/49, mb3.8/15, MS3.0/4, 5C-9D, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**5.72**	**238**	*e*Pn		**Pn**	**Pn**	**07 21 45.3**	**-0.5**
WMQ				*e*Sg		**Sb**	**Sb**	**07 23 10.4**	**+1.1**
SONA0	**Songino Array**	**8.16**	**80**	*e*Pn		**Pn**	**Pn**	**07 22 21.3**	**+2.0**
SONA0				*e*Pg		**Pb**	**Pb**	**07 22 50.3**	**+8.0**
SONM	**Songino Array**	**8.16**	**80**	Pn		**Pn**	**Pn**	**07 22 21.3**	**+2.0**
SONM	0.3nm,0.3s,baz=264,slow=14,SNR=10.0			Pg		Pb	Pb	07 22 50.3	+8.0
	2.8nm,0.3s,baz=266,slow=16,SNR=20								
SONM				Lg		Lg	Lg	07 24 39.6	
	11nm,0.3s,baz=267,slow=28,SNR=13								
SONM				LR		LR	LR	07 25 41.0	
	comp=Z,176nm,19.0s,baz=330,slow=39								
SONA1	**Songino Array**	**8.17**	**80**	*e*Pn		**Pn**	**Pn**	**07 22 20.4**	**+0.9**
SONA1				*e*Pg		Pb	Pb	07 22 50.8	+8.5
MK01	**Makanchi Array**	**8.30**	**273**	*e*Pn		**Pn**	**Pn**	**07 22 20.1**	**-1.1**
MK01				*e*Sn		**Sn**	**Sn**	**07 23 52.1**	**-2.8**
MK31	**Makanchi Array**	**8.30**	**273**	*e*Pn		**Pn**	**Pn**	**07 22 20.2**	**-1.0**
MK31	**Makanchi Array**	**8.30**	**273**	Pn		**Pn**	**Pn**	**07 22 19.8**	**-1.4**
	1.1nm,0.5s,baz=92,slow=14,SNR=24								
MK31				⇓Pg		Pb	Pb	07 22 50.1	+5.5
	2.0nm,0.5s,baz=293,slow=7.6,SNR=4.3								
MK31				⇑Lg		Lg	Lg	07 24 44.4	
	21nm,0.7s,baz=86,slow=28,SNR=3.9								
MK32	**Makanchi Array**	**8.30**	**273**	*e*Pn		**Pn**	**Pn**	**07 22 20.1**	**-1.1**
MK32				*e*Sn		**Sn**	**Sn**	**07 23 53.1**	**-2.0**
MKAR	**Makanchi Array**	**8.30**	**273**	Pn		**Pn**	**Pn**	**07 22 20.1**	**-1.1**
	0.3nm,0.3s,baz=92,slow=15,SNR=17								
MKAR				Sn		**Sn**	**Sn**	**07 23 53.1**	**-2.0**
	1.4nm,0.3s,baz=81,slow=24,SNR=6.0								
MKAR				Lg		Lg	Lg	07 24 40.0	
	2.0nm,0.3s,baz=86,slow=28,SNR=6.0								
MKAR				LR		LR	LR	07 25 35.4	
	comp=Z,112nm,20.1s,baz=62,slow=38								
MAKZ	**Makanchi**	**8.52**	**273**	*e*Pn		**Pn**	**Pn**	**07 22 21.6**	**-2.5**
MAKZ	**Makanchi**	**8.52**	**273**	⇑Pn		**Pn**	**Pn**	**07 22 22.4**	**-1.7**
	2.6nm,1.1s								
MAKZ				⇓Pg				07 22 54.3	
	3.4nm,0.7s								
MAKZ				⇓Lg		Lg	Lg	07 24 53.6	
	30nm,1.0s								
ULN	**Ulaanbaatar**	**8.61**	**80**	*e*Pn		**Pn**	**Pn**	**07 22 27.3**	**+1.9**
ZALV	**Zalesovo Beam**	**9.22**	**322**	Lg		Lg	Lg	07 25 19.5	
	0.6nm,0.3s,baz=136,slow=28,SNR=3.8								
KURK	**Kurchatov**	**11.03**	**295**	*e*Pn		**Pn**	**Pn**	**07 22 58.0**	**-0.4**
KURK				*e*Pn		Pn	Pn	07 23 08.3	+10
KURK	**Kurchatov**	**11.03**	**295**	⇑Lg		Lg	Lg	07 26 08.0	
	31nm,0.8s								
KURBB	**Kurchatov Arra**	**11.06**	**295**	Pn		**Pn**	**Pn**	**07 22 58.0**	**-0.9**
	0.3nm,0.3s,baz=101,slow=14,SNR=8.6								
KURBB				Lg		Lg	Lg	07 26 11.5	
	0.1nm,0.3s,baz=106,slow=34,SNR=7.4								
KURBB	**Kurchatov Arra**	**11.06**	**295**	⇑Lg		Lg	Lg	07 26 09.1	
	74nm,0.9s								
PDGK	**Podgornoye**	**11.17**	**256**	⇓Pn		**Pn**	**Pn**	**07 23 02.9**	**+2.4**
	9.8nm,1.1s								
PDGK				⇓Sn		**Sn**	**Sn**	**07 25 08.9**	**+3.4**
	11nm,0.7s								
PDGK				⇓Lg		Lg	Lg	07 26 16.7	
	18nm,0.9s								
HHC	**Hu-ho-hao-te**	**13.81**	**110**	*e*P		**P**	**P**	**07 23 46.4**	**+1.2**
HHC				pmax	pmax				
	comp=Z,17nm,0.7s								
HHC				pmax	pmax				
	comp=Z,190nm,4.5s								
AAK	**Ala-Archa**	**14.79**	**260**	Lg		Lg	Lg	07 28 05.4	
	comp=Z,0.1nm,0.3s,baz=191,slow=19,SNR=2.4								
BVA0	**Borovoye Array**	**16.51**	**300**	⇑Pn		**Pn**	**Pn**	**07 24 10.8**	**-1.4**
	comp=Z,6.0nm,0.8s,baz=101,slow=12,SNR=30								
BVA0				⇓Lg		Lg	Lg	07 29 03.5	
	comp=Z,12nm,1.2s								
BVAR	**Borovoye Array**	**16.51**	**300**	Pn		**Pn**	**Pn**	**07 24 12.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=109,slow=12,SNR=8.3								
BVAR				Lg		Lg	Lg	07 29 07.7	
	comp=Z,0.2nm,0.3s,baz=111,slow=23,SNR=3.1								
BRVK	**Borovoye**	**16.58**	**300**	*e*Pn		**Pn**	**Pn**	**07 24 14.9**	**+1.8**
	comp=Z,4.8nm,0.6s								
BRVK	**Borovoye**	**16.58**	**300**	⇓Pn		**Pn**	**Pn**	**07 24 12.7**	**-0.5**
	comp=Z,3.5nm,0.6s								
BRVK				⇓Lg		Lg	Lg	07 29 04.6	
	comp=Z,7.9nm,1.1s								
CHGR	**Chuyangaron**	**20.26**	**255**	*e*P		**P**	**P**	**07 24 56.1**	**-0.2**
	comp=Z,8.4nm,0.6s								
ABKAR	**Akbulak array**	**22.99**	**288**	*e*P		**P**	**P**	**07 25 22.9**	**-2.5**
AKTO	**Aktyubinsk**	**24.08**	**292**	P		**P**	**P**	**07 25 37.9**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=90,slow=8.8,SNR=4.9								
AKTO				LR		LR	LR	07 35 23.7	
	comp=Z,43nm,19.2s,baz=80,slow=38								
KLR	**Kul'dur**	**24.85**	**71**	P		**P**	**P**	**07 25 44.6**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=122,slow=7.7,SNR=2.9								
KSRS	**Korea Array**	**26.42**	**99**	LR		LR	LR	07 37 23.7	
	comp=Z,39nm,21.4s,baz=120,slow=39								
TIXI	**Tiksi**	**29.46**	**21**	LR		LR	LR	07 38 50.5	
	comp=Z,48nm,18.7s,baz=179,slow=37								
ARA0	**ARCESS Array S**	**39.68**	**329**	*e*P		**P**	**P**	**07 27 54.6**	**+2.1**
ARCES	**ARCESS Array B**	**39.68**	**329**	P		**P**	**P**	**07 27 54.6**	**+2.1**
	comp=Z,2.0nm,0.8s,baz=60,slow=7.2,SNR=5.3								
FIA0	**FINESS Array S**	**40.43**	**316**	*e*P		**P**	**P**	**07 27 59.9**	**+1.1**
FINES	**FINESS Array B**	**40.

PS11	**TAPS Pump St11**	**0.13**	**125**	P	**Pg**	**07 33 43.1 0.0**
PS11				S	**Sg**	**07 33 47.5 +1.8**
HARP	**HAARP**	**0.36**	**45**	P	**Pg**	**07 33 45.8 -0.9**
KLU	**Klutina**	**0.67**	**189**	P	**Pb**	**07 33 51.8 -0.8**
KLU				S	**Sb**	**07 34 01.6 0.0**
PS12	**TAPS Pump St12**	**0.73**	**159**	P	**Pb**	**07 33 52.7 -0.8**
PAX	**Paxson**	**0.83**	**7**	P	**Pg**	**07 33 53.2 -2.1**
SCM	**Sheep Creek Mo**	**0.83**	**248**	P	**Pb**	**07 33 54.6 -0.7**
SCM				S	**Sb**	**07 34 06.5 +0.3**
DIV	**Divide**	**1.03**	**182**	P	**Pg**	**07 33 57.3 -1.9**
VMT	**TAPS Tl Valdez**	**1.12**	**197**	P	**Pg**	**07 33 58.8 -2.0**
VMT				S	**Sg**	**07 34 12.7 -2.8**
DHY	**Denali Highway**	**1.21**	**321**	P	**Pg**	**07 34 00.1 -2.4**
PS10	**TAPS Pump St10**	**1.27**	**359**	P	**Pn**	**07 34 01.3 -1.0**
SML	**Sawmill**	**1.29**	**256**	P	**Pn**	**07 34 01.6 -0.9**
BMRM	**Bremner River**	**1.30**	**156**	P	**Pn**	**07 34 01.0 -1.6**
MCARA	**McCarthy VSAT**	**1.49**	**120**	P	**Pn**	**07 34 04.5 -0.7**
KNK	**Knik Glacier**	**1.51**	**242**	P	**Pn**	**07 34 05.5 +0.1**
KNK				S	**Sn**	**07 34 24.6 0.0**
GHO	**Glory Hole Cre**	**1.57**	**257**	P	**Pn**	**07 34 06.0 -0.4**
RIDG	**Independ'e Rid**	**1.64**	**13**	P	**Pn**	**07 34 07.6 +0.3**
DOT	**Dot Lake**	**1.68**	**26**	P	**Pn**	**07 34 07.9 +0.1**
SGAM	**Sherman Glacie**	**1.68**	**172**	P	**Pn**	**07 34 07.7 -0.1**
PMR	**Palmer**	**1.72**	**252**	P	**Pn**	**07 34 07.9 -0.4**
PWL	**Port Wells**	**1.81**	**225**	P	**Pb**	**07 34 11.0 -0.9**
RND	**Reindeer**	**1.92**	**312**	P	**Pn**	**07 34 12.1 +1.0**
HMT	**Hamilton**	**1.95**	**158**	P	**Pb**	**07 34 13.6 -0.8**
SCRK	**Sand Creek**	**1.99**	**22**	P	**Pn**	**07 34 12.1 -0.1**
SCRK				S	**Sn**	**07 34 38.5 +1.8**
HUR	**Hurricane**	**2.00**	**296**	P	**Pb**	**07 34 13.8 -1.3**
BCA3	**Beaver Creek A**	**2.03**	**61**	P	**Pn**	**07 34 12.3 -0.3**
KHIT	**Khitrov Hills**	**2.09**	**144**	P	**Pb**	**07 34 14.7 -2.0**
NICHA	**Nichawak Mount**	**2.10**	**156**	P	**Pb**	**07 34 16.2 -0.6**
MCK	**McKinley**	**2.17**	**318**	P	**Pb**	**07 34 16.6 -1.4**
RC01	**Rabbit Creek A**	**2.20**	**243**	P	**Pb**	**07 34 17.5 -1.1**
SUCK	**Suckling Hills**	**2.29**	**155**	P	**Pb**	**07 34 18.2 -1.8**
HDA	**Harding Lake**	**2.33**	**347**	P	**Pn**	**07 34 17.8 +1.0**
KULT	**Kultieth River**	**2.40**	**142**	P	**Pb**	**07 34 19.8 -2.1**
SNH	**Sunshine Point**	**2.42**	**144**	P	**Pb**	**07 34 20.0 -2.3**
PS08	**TAPS Pump Stn8**	**2.45**	**349**	P	**Pn**	**07 34 18.8 +0.4**
TRF	**Thorofare Moun**	**2.48**	**304**	P	**Pn**	**07 34 20.3 +1.4**
WRH	**Wood River Hil**	**2.56**	**336**	P	**Pn**	**07 34 20.7 +0.8**
ILAR	**Eielson Array**	**2.68**	**349**	Pn	**Pn**	**07 34 21.1 -0.4**
	2.5nm,0.3s,baz=173,slow=15,SNR=97					
ILAR				Pg	**Pb**	**07 34 25.7 -1.0**
	33nm,0.3s,baz=167,slow=16,SNR=278					
ILAR				Lg	Lg	07 35 00.4
	22nm,0.3s,baz=170,slow=27,SNR=5.9					
ILB	**Eielson Array**	**2.68**	**349**	P	**Pn**	**07 34 21.2 -0.4**
MESA	**MESA**	**2.69**	**136**	P	**Pb**	**07 34 24.0 -3.0**
SEW	**Seward**	**2.75**	**223**	P	**Pn**	**07 34 24.4 +2.0**
NEA	**Nenana**	**2.87**	**329**	P	**Pn**	**07 34 25.2 +1.1**
COLA	**College**	**2.89**	**342**	P	**Pn**	**07 34 26.4 +2.0**
MDM	**Murphy Dome**	**3.03**	**339**	P	**Pn**	**07 34 26.7 +0.3**
BPAW	**Bear Paw Mtn.**	**3.09**	**311**	P	**Pn**	**07 34 28.8 +1.6**
PPLA	**Purkeypile**	**3.10**	**287**	P	**Pn**	**07 34 30.1 +2.7**
CAST	**Castle Rocks**	**3.19**	**296**	P	**Pn**	**07 34 31.2 +2.5**
EGAK	**Eagle**	**3.33**	**36**	*e*Pn	**Pn**	**07 34 30.9 +0.5**
PRP	**Porcupine Dome**	**3.38**	**1**	P	**Pn**	**07 34 31.6 +0.3**
SPNN	**North Nagishla**	**3.42**	**260**	P	**Pn**	**07 34 34.3 +2.4**
DAWY	**Dawson**	**3.45**	**53**	P	**Pn**	**07 34 32.5 +0.3**
YUK4	**Talbot Arm**	**3.45**	**101**	P	**Pn**	**07 34 34.6 +2.3**
BRLK	**Bradley Lake**	**3.48**	**229**	P	**Pn**	**07 34 34.6 +2.0**
MLY	**Manley**	**3.66**	**324**	P	**Pn**	**07 34 36.6 +1.6**
DFR	**Drift River**	**3.71**	**248**	P	**Pn**	**07 34 38.9 +3.1**
YUK6	**Outpost Mounta**	**3.72**	**106**	P	**Pn**	**07 34 38.8 +2.8**
RDWB	**Redoubt West**	**3.83**	**247**	P	**Pn**	**07 34 40.5 +3.1**
YUK5	**Granite Creek**	**3.88**	**102**	P	**Pn**	**07 34 40.3 +2.1**
FYU	**Fort Yukon**	**4.43**	**2**	P	**Pn**	**07 34 46.5 +0.9**
TT01	**Tatalina**	**4.84**	**284**	P	**Pn**	**07 34 52.8 +1.6**
KDAK	**Kodiak Island**	**5.58**	**221**	Pn	**Pn**	**07 35 02.8 +1.4**
	0.7nm,0.3s,baz=39,slow=13,SNR=22					
KDAK				Sn	**Sn**	**07 36 04.4 -0.6**
	3.3nm,0.3s,baz=323,slow=22,SNR=14					
INK	**Inuvik**	**8.00**	**34**	Pn	**Pn**	**07 35 34.6 +0.1**
	0.7nm,0.3s,baz=224,slow=15,SNR=31					
INK				Sn	**Sn**	**07 37 00.3 -4.1**
	0.2nm,0.3s,baz=227,slow=19,SNR=2.1					
INK				Lg	Lg	07 37 43.8
	0.4nm,0.3s,baz=204,slow=10.0,SNR=3.1					
DLBC	**Dease Lake**	**8.62**	**109**	Lg	Lg	07 38 10.7
	0.0nm,0.3s,baz=210,slow=20,SNR=1.8					
YKA	**Yellowknife Ar**	**14.38**	**75**	Pn	**Pn**	**07 37 00.5 -1.2**
	0.0nm,0.3s,baz=280,slow=13,SNR=3.9					
RES	**Resolute Bay**	**21.56**	**34**	P	**P**	**07 38 26.3 -1.0**
	0.5nm,0.6s,baz=192,slow=19,SNR=2.4					
PDAR	**Pinedale Array**	**28.77**	**116**	P	**P**	**07 39 38.3 +2.2**
	0.7nm,0.9s,baz=318,slow=2.6,SNR=3.9					
NVAR	**Mina Array Bea**	**29.08**	**132**	P	**P**	**07 39 42.4 +3.6**
	0.2nm,0.4s,baz=296,slow=4.9,SNR=3.9					
SCHQ	**Schefferville**	**39.41**	**63**	P	**P**	**07 41 07.9 +0.2**
	4.5nm,1.0s,baz=318,slow=12,SNR=2.1					
TXAR	**Lajitas Array**	**42.71**	**120**	P	**P**	**07 41 37.7 +2.6**
	0.2nm,0.7s,baz=325,slow=7.7,SNR=2.8					

ISK ***16*** *07:39:38.7, 38°.69N×43°.17E, h21km, ML2.1/6*
DDA ***16*** *07:39:40.1, 38°.69N×43°.18E, h7km±5km, ML2.8*

ISC 16 07:39:39.4±1.4, 38°.68N±0°.03×43°.17E±0°.04, h15km±12km, n11, σ0°90/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.20**	**117**	PG	**Pb**	**07 39 45.0**	**+0.2**
VANB				SG	**Sb**	**07 39 49.6**	**+1.2**
ADCV	**BITLIS_Adilcev**	**0.37**	**290**	IAML_P			
	comp=Z,661nm,0.1s						
ADCV				*i* P	**Pb**	**07 39 48.4**	**+0.7**
ADCV				*i* S	**Sb**	**07 39 54.8**	**+1.4**
GEVA	**Gevas**	**0.38**	**193**	IAML_P			
	comp=Z,5μm,0.1s						
GEVA				*i* P	**Pb**	**07 39 47.8**	**-0.2**
GEVA				*i* S	**Sb**	**07 39 54.9**	**+1.1**
AKDM	**Akdamar-Van**	**0.38**	**202**	PG	**Pg**	**07 39 47.3**	**+0.1**
VMUR	**Van-Muradiye**	**0.44**	**46**	*i* P	**Pb**	**07 39 49.5**	**+0.5**
VMUR				*i* S	**Sb**	**07 39 56.8**	**+1.2**
MLAZ	**Malazgirt-MUS**	**0.66**	**314**	PG	**Pg**	**07 39 51.8**	**-0.6**
TUTA	**Tutak**	**0.77**	**339**	IAML_P			
	comp=Z,2μm,0.1s						
TUTA				*i* P	**Pb**	**07 39 54.6**	**-0.1**
GURO	**Guroymak-BITLI**	**0.90**	**262**	PG	**Pg**	**07 39 56.8**	**0.0**
GURO				SG	**Sb**	**07 40 09.8**	**+1.2**
AGRB	**Hanur-Agry**	**0.90**	**351**	PG	**Pg**	**07 39 56.5**	**-0.4**
AGRB				SG	**Sn**	**07 40 09.8**	**-0.9**
EATA	**Eleskirt**	**1.29**	**336**	IAML_P			
	comp=Z,334nm,0.3s						
EATA				*i* P	**Pg**	**07 40 04.5**	**+0.2**
SIRT	**Sirnak**	**1.31**	**206**	PN	**Pn**	**07 40 02.2**	**-1.1**

IDC 16 08:10:22.1±1.7, 54°.70N×83°.79E, h0km, mb1 3.0/3, mb1mx2.9/45, mbtmp3.0/3, ML2.7/3, Error ellipse: s-maj=16.5km s-min=10.5km az=12.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**141**	*i*		08 17 00.0	
	baz=323,slow=313,SNR=1.1						
ZALV	**Zalesovo Beam**	**0.96**	**141**	Pg	Pg	08 10 40.1	-0.3
	3.2nm,0.3s,baz=319,slow=14,SNR=22						
ZALV				Lg	Lg	08 10 54.3	
	6.3nm,0.3s,baz=321,slow=30,SNR=20						
ZALV				Rg	Rg	08 10 59.2	
	19nm,0.8s,baz=314,slow=26,SNR=28						
KURBB	**Kurchatov Arra**	**5.18**	**220**	Pn	Pn	08 11 40.7	-0.2
	0.1nm,0.3s,baz=40,slow=14,SNR=3.5						
KURBB				Lg	Lg	08 13 10.7	
	0.1nm,0.3s,baz=43,slow=32,SNR=7.4						
MKAR	**Makanchi Array**	**7.97**	**187**	Pn	Pn	08 12 19.2	+0.1
	0.1nm,0.3s,baz=8.8,slow=12,SNR=4.5						
MKAR				Lg	Lg	08 14 29.6	
	0.1nm,0.3s,baz=15,slow=24,SNR=3.2						
BVAR	**Borovoye Array**	**8.10**	**264**	Pn	Pn	08 12 20.2	-0.6
	0.3nm,0.3s,baz=73,slow=12,SNR=3.8						

IDC ***16*** *08:31:39.9±0.5, 12°.25N×143°.99E, h0km, mb4.3/15, mb1 4.4/15, mb1mx4.1/42, mbtmp4.3/15, MS3.4/8, Ms1 3.4/8, ms1mx3.0/37, Error ellipse: s-maj=19.6km s-min=12.7km az=92.0*
NEIC ***16*** *08:31:41.5±0.3, 12°.22N×143°.94E, h10km, mb4.7/13, Error ellipse: s-maj=10.4km s-min=6.9km az=99.0*
ISCJB ***16*** *08:31:42.3±0.4, 12°.21N±0°.05×143°.91E±0°.08, h27km, mb4.4/27, MS3.4/6, Error ellipse: s-maj=11.2km s-min=7.1km az=22.9*

ISC 16 08:31:44.0±0.5, 12°.25N±0°.08×144°.0E±0°.1, h27km, n52, σ0°78/47, mb4.6/27, MS3.4/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.57**	**32**	Pn	**Pn**	**08 32 10.2**	**+0.1**
	130nm,0.3s,baz=18,slow=3.2,SNR=105						
GUMO				LR	LR	08 32 18.7	
	comp=Z,107nm,18.8s,baz=192,slow=25						
GUMO				Sn	**Sn**	**08 32 30.0**	**+0.5**
	164nm,0.3s,baz=82,slow=11,SNR=8.0						
GUMO	**Guam**	**1.57**	**32**	*e*Pn	**Pn**	**08 32 10.2**	**+0.1**
GUMO				*e*Pn	**Pb**	**08 32 10.5**	**-1.9**
GUMO				*e*Sg	**Sn**	**08 32 30.0**	**+0.5**
JAY	**Jayapura**	**15.04**	**193**	LR	LR	08 39 34.0	
	comp=Z,121nm,20.7s,baz=359,slow=32						
DAV	**Davao City (W)**	**18.89**	**256**	LR	LR	08 42 29.1	
	comp=Z,60nm,20.1s,baz=149,slow=34						
H11S3	**WAKE ISLAND Hy**	**22.71**	**71**	T	T	09 00 20.0	
	baz=254,slow=77,SNR=6.3						
H11S1	**WAKE ISLAND Hy**	**22.73**	**71**	T	T	09 00 15.0	
	baz=254,slow=77,SNR=4.1						
H11S2	**WAKE ISLAND Hy**	**22.73**	**71**	T	T	09 00 18.4	
	baz=254,slow=77,SNR=7.7						
H11N1	**WAKE ISLAND Hy**	**23.19**	**68**	T	T	09 00 53.7	
	baz=255,slow=75,SNR=17						
H11N2	**WAKE ISLAND Hy**	**23.20**	**68**	T	T	09 00 54.9	
	baz=255,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**23.21**	**68**	T	T	09 00 52.2	
	baz=255,slow=75,SNR=11						
JNU	**Nakatsue**	**24.00**	**332**	LR	LR	08 46 09.0	
	comp=Z,37nm,18.3s,baz=115,slow=36						
MJAR	**Matsushiro Arr**	**24.75**	**349**	LR	LR	08 45 02.5	
	comp=Z,78nm,19.9s,baz=155,slow=32						
WR1	**Warramunga Arr**	**33.38**	**197**	*e*P	**P**	**08 38 19.8**	**-0.6**
	9.3nm,0.9s						
WRA	**Warramunga Arr**	**33.38**	**197**	P	**P**	**08 38 19.8**	**-0.6**
	2.3nm,0.6s,baz=19,slow=9.7,SNR=28						
WRA				PcP	**PcP**	**08 41 02.6**	**+0.8**
	0.6nm,0.8s,baz=10,slow=3.0,SNR=6.9						
AS31	**Alice Springs**	**37.04**	**196**	*e*P	**P**	**08 38 51.5**	**-0.4**
	1.6nm,0.6s						
ASAR	**Alice Springs**	**37.04**	**196**	P	**P**	**08 38 51.5**	**-0.4**
	2.6nm,0.6s,baz=20,slow=10,SNR=45						
ASAR				PcP	**PcP**	**08 41 13.2**	**+0.8**
	1.4nm,0.7s,baz=34,slow=2.8,SNR=9.4						
KLR	**Kul'dur**	**38.24**	**347**	P	**P**	**08 39 02.5**	**+0.7**
	1.7nm,0.7s,baz=122,slow=9.5,SNR=3.4						
DZM	**Mont Dzumac**	**40.59**	**147**	P	**P**	**08 39 21.5**	**-0.2**
	4.6nm,0.5s,baz=312,slow=14,SNR=5.4						
CM31	**Chiang Mai Arr**	**43.81**	**284**	*e*P	**P**	**08 39 48.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**43.81**	**284**	P	**P**	**08 39 48.2**	**+0.2**
	0.9nm,0.3s,baz=88,slow=6.7,SNR=5.4						
CMAR				PcP	**PcP**	**08 41 35.0**	**+0.6**
	1.3nm,0.3s,baz=68,slow=1.9,SNR=5.0						
CMAR				LR	LR	08 58 16.9	
	comp=Z,24nm,19.1s,baz=114,slow=36						
STKA	**Stephens Creek**	**43.94**	**183**	P	**P**	**08 39 47.8**	**-1.0**
	2.2nm,0.5s,baz=3.3,slow=8.2,SNR=8.6						
STKA				LR	LR	09 00 35.0	
	comp=Z,68nm,18.1s,baz=209,slow=40						
BBOO	**Buckleboo**	**45.45**	**189**	*e*P	**P**	**08 40 00.4**	**-0.4**
	12nm,0.7s						
SONA0	**Songino Array**	**47.35**	**326**	*e*P	**P**	**08 40 15.7**	**-0.1**
SONM	**Songino Array**	**47.35**	**326**	P	**P**	**08 40 15.7**	**-0.1**
	0.3nm,0.4s,baz=147,slow=6.5,SNR=3.1						
SONM				PcP	**PcP**	**08 41 45.9**	**-0.4**
	0.2nm,0.4s,baz=162,slow=5.2,SNR=3.5						
MK32	**Makanchi Array**	**61.88**	**317**	*e*P	**P**	**08 42 01.2**	**+0.1**
MKAR	**Makanchi Array**	**61.88**	**317**	P	**P**	**08 42 01.2**	**+0.1**
	1.8nm,0.9s,baz=93,slow=8.6,SNR=15						
MKAR	**Makanchi Array**	**61.88**	**317**	*e*P	**P**	**08 42 01.3**	**+0.1**
	10.0nm,0.9s						
MAKZ	**Makanchi**	**62.09**	**317**	*e*P	**P**	**08 42 02.3**	**-0.2**
	2.7nm,0.8s						
KURK	**Kurchatov**	**65.07**	**320**	*e*P	**P**	**08 42 22.0**	**-0.1**
	7.4nm,0.9s						
KURK				*e*P	**P**	**08 42 22.2**	**+0.1**
KURBB	**Kurchatov Arra**	**65.11**	**320**	P	**P**	**08 42 22.2**	**-0.1**
	4.1nm,0.8s,baz=103,slow=6.6,SNR=26						
KDAK	**Kodiak Island**	**65.64**	**32**	LR	LR	09 04 49.1	
	comp=Z,53nm,21.8s,baz=248,slow=30						
NIL	**Nilore**	**67.36**	**301**	*e*P	**P**	**08 42 37.5**	**+0.4**
	13nm,0.9s						
ILAR	**Eielson Array**	**70.12**	**25**	P	**P**	**08 42 52.2**	**-1.5**
	1.1nm,0.8s,baz=250,slow=6.1,SNR=13						
BVAR	**Borovoye Array**	**70.46**	**322**	P	**P**	**08 42 55.9**	**-0.1**
	2.4nm,0.5s,baz=104,slow=7.9,SNR=22						
BRVK	**Borovoye**	**70.53**	**322**	*e*P	**P**	**08 42 56.5**	**+0.1**
	4.0nm,0.8s						
CHGR	**Chuyangaron**	**70.67**	**307**	*e*P	**P**	**08 42 57.5**	**-0.2**
	8.4nm,0.7s						
INK	**Inuvik**	**75.91**	**22**	*e*P	**P**	**08 43 28.3**	**+0.4**
	3.2nm,0.9s						
ABKAR	**Akbulak array**	**76.97**	**318**	*e*P	**P**	**08 43 33.8**	**-0.5**
BBB	**Bella Bella**	**79.13**	**39**	LR	LR	09 13 06.3	
	comp=Z,43nm,20.2s,baz=168,slow=31						
GEYT	**Alibeck**	**79.38**	**307**	P	**P**	**08 43 48.2**	**+0.3**
	5.6nm,0.6s,baz=112,slow=1.6,SNR=4.2						
YKA	**Yellowknife Ar**	**84.42**	**27**	P	**P**	**08 44 13.9**	**+0.1**
	2.0nm,0.8s,baz=289,slow=5.3,SNR=15						
YKB5	**Yellowknife Ar**	**84.42**	**27**	*e*P	**P**	**08 44 13.8**	**-0.1**
B08A	**Colville Reser**	**85.32**	**42**	*e*P	**P**	**08 44 20.1**	**+1.3**
	3.7nm,0.9s						
RES	**Resolute Bay**	**86.03**	**13**	*e*P	**P**	**08 44 22.3**	**+0.5**
	5.2nm,1.0s						
NEW	**Newport**	**86.77**	**41**	*e*P	**P**	**08 44 27.1**	**+1.1**
	6.3nm,1.1s						
NV01	**Mina Array Sit**	**88.40**	**51**	*e*P	**P**	**08 44 35.5**	**+1.3**
NVAR	**Mina Array Bea**	**88.40**	**51**	P	**P**	**08 44 36.0**	**+1.8**
	2.3nm,0.8s,baz=262,slow=6.0,SNR=11						
FIA0	**FINESS Array S**	**92.02**	**335**	*e*P	**P**	**08 44 48.5**	**-1.8**
FINES	**FINESS Array B**	**92.02**	**335**	P	**P**	**08 44 48.5**	**-1.8**
	2.6nm,0.9s,baz=180,slow=3.6,SNR=4.6						
PLCA	**Paso Flores**	**138.48**	**139**	PKP	**PKiKP**	**08 51 09.6**	**-0.1**
	1.1nm,0.7s,baz=306,slow=1.3,SNR=4.6						
DBIC	**Dimbokro**	**143.79**	**300**	PKP	PKPbc	08 51 15.3	-0.1
	2.9nm,0.7s,baz=117,slow=2.2,SNR=5.1						
LPAZ	**La Paz**	**148.61**	**101**	PKPbc	**PKPbc**	**08 51 30.9**	**+0.6**
	1.7nm,0.8s,baz=9.5,slow=3.9,SNR=7.4						

DJA 16 08:39:36.6±0.3, 1°.S±2°×120°.0E±°, h17km, M3.7/12, MLv3.7/12, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCI	**Palu**	**0.59**	**28**	P	Pg	08 39 46.6	-1.7
PCI				S	Sg	08 39 56.0	-0.2
TTSI	**Tana Toraja**	**1.62**	**171**	P	Pn	08 40 03.0	-1.5
TTSI				S	Sn	08 40 24.8	-0.2
MPSI	**Mapaga**	**1.79**	**11**	P	Pn	08 40 07.6	+0.9
APSI	**Ampana**	**2.15**	**76**	P	Pn	08 40 11.8	+0.1
APSI				S	Sn	08 40 39.2	+1.2
SPSI	**Sidrap Palu**	**2.53**	**175**	P	Pn	08 40 16.6	-0.3
SPSI				S	Sn	08 40 48.8	+1.5
BNSI	**Bone**	**3.00**	**170**	P	Pn	08 40 22.3	-1.1
MRSI	**Marisa**	**3.04**	**52**	P	Pn	08 40 22.0	-2.0
LUWI	**Luwuk**	**3.23**	**83**	P	Pn	08 40 26.1	-0.5
KBKI	**Kotabaru**	**3.87**	**241**	P	Pn	08 40 34.2	-1.1
BKSI	**Bulukumba**	**3.91**	**172**	P	Pn	08 40 37.0	+1.1

STR ***16*** *08:44:11.5±0.8, 49°.N±2°×°±°, h0km±8km, MLv1.1/6*

LDG 16 08:44:12.8±0.1, 49°.15N×8°.14E, h10km, MI1.7/4, Error ellipse: s-maj=2.4km s-min=1.4km az=96.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTD	**Kalmit**	**0.17**	**348**	Pg	Pg	08 44 14.4	-2.2
KTD				Sg	Sg	08 44 16.5	-2.7
LANF	**Langenberg**	**0.28**	**232**	Pg	Pg	08 44 17.4	-1.0
OPP	**Oppenau**	**0.66**	**177**	Pg	Pg	08 44 25.1	-0.4
OPP				Sg	Sg	08 44 33.9	-0.2
WLS	**Welschbruch**	**0.90**	**215**	Pn	Pb	08 44 30.6	0.0
WLS				Sg	Sb	08 44 42.6	-0.1
CDF	**Champ du Feu**	**0.94**	**218**	*e*Pg	Pg	08 44 30.3	-0.5
CDF				*e*Sg	Sg	08 44 42.5	-0.5
	0.8nm,0.2s						
ECH	**Echery**	**1.14**	**215**	Pn	Pn	08 44 34.8	0.0
ECH				Sg	Sn	08 44 50.1	-0.4
HINF	**Hinteralfeld**	**1.59**	**213**	*e*Pn	Pn	08 44 39.7	-1.3
HINF	**Hinteralfeld**	**1.59**	**213**	*e*Pg	Pb	08 44 42.5	+0.3
HINF				*e*Sn	Sn	08 44 58.9	-2.7
HINF				*e*Sg	Sb	08 45 02.9	+0.5
	0.8nm,0.2s						
PAGF	**Fort de Pagny**	**1.70**	**250**	*e*Pn	Pn	08 44 41.1	-1.4
PAGF				*e*Sn	Sn	08 45 00.8	-3.6
	2.5nm,0.4s						
CABF	**La Chapelle**	**2.89**	**209**	*e*Pn	Pn	08 44 57.5	-1.5
CABF				*e*Sn	Sn	08 45 30.2	-3.7
	0.2nm,0.2s						

ISK ***16*** *08:45:34.9, 38°.73N×43°.11E, h22km, ML2.2/4*
ISCJB ***16*** *08:45:36.1±1.6, 38°.69N±0°.06×43°.3E±0°.1, h40km±18km, Error ellipse: s-maj=18.6km s-min=9.1km az=21.1*
DDA ***16*** *08:45:37.1, 38°.74N×43°.20E, h7km±5km, ML2.6*

ISC 16 08:45:36.4±1.0, 38°.70N±0°.04×43°.20E±0°.06, h31km±9km, n10, σ1°02/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.18**	**124**	PG	**Pb**	**08 45 42.5**	**-0.2**
VANB				SG	**Sb**	**08 45 47.8**	**+0.8**
TVAN	**Van**	**0.24**	**136**	IAML_P			
	comp=Z,3μm,0.2s						
TVAN				*i* P	**Pb**	**08 45 43.5**	**+0.1**
TVAN				*i* S	**Sb**	**08 45 48.3**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.38**	**287**	IAML_P			
	comp=Z,390nm,0.1s						
ADCV				*i* P	**Pb**	**08 45 45.0**	**-0.2**
GEVA	**Gevas**	**0.40**	**196**	IAML_P			
	comp=Z,2μm,0.1s						
GEVA				*i* P	**Pb**	**08 45 45.1**	**-0.4**
GEVA				*i* S	**Sn**	**08 45 53.5**	**+0.8**
AKDM	**Akdamar-Van**	**0.41**	**205**	PG	**Pb**	**08 45 43.8**	**-1.8**
VMUR	**Van-Muradiye**	**0.41**	**45**	IAML_P			
	comp=Z,833nm,0.2s						
VMUR				*i* P	**Pb**	**08 45 45.0**	**-0.7**
VMUR				*i* S	**Sb**	**08 45 51.4**	**-0.7**
TUTA	**Tutak**	**0.76**	**337**	*i* P	**Pb**	**08 45 50.6**	**-0.8**
TUTA				*i* S	**Sb**	**08 46 01.1**	**-0.5**
AGRB	**Hanur-Agry**	**0.89**	**350**	PG	**Pn**	**08 45 51.9**	**-1.0**
EATA	**Eleskirt**	**1.28**	**335**	*i* P	**Pn**	**08 45 59.3**	**+0.8**
EATA				*i* S	**Sb**	**08 46 18.5**	**+2.1**
TASB	**TASBURUN-IGDIR**	**1.52**	**32**	PN	**Pn**	**08 46 01.7**	**+0.3**

NNC ***16*** *08:56:54.8±2.8, 53°.58N×87°.73E, h6km±16km, mb3.5, mpv3.2, Error ellipse: s-maj=26.5km s-min=15.7km az=32.0, Suspected Mining explosion.*

KRAR 16 08:56:52.2±0.1, 53°.63N×87°.91E, M2.7, 5C-7D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.86**	**281**	⇓Pg	Pn	08 57 26.1	+0.8
	9.4nm,0.8s						
ZAA0				⇓Lg	Lg	08 57 53.1	
	35nm,0.7s						
KURK	**Kurchatov**	**6.42**	**247**	⇓Sn	Sn	08 59 40.5	-1.2
	2.7nm,0.8s						
KURK				⇑Lg	Lg	09 00 15.3	
	17nm,1.1s						
KURBB	**Kurchatov Arra**	**6.51**	**246**	⇓Pn	Pn	08 58 30.6	+1.4
	2.7nm,0.6s						
KURBB				⇓Sn	Sn	08 59 43.3	-0.8
	7.7nm,0.6s						
KURBB				⇓Lg	Lg	09 00 19.1	
	18nm,0.8s						
MK31	**Makanchi Array**	**7.73**	**210**	⇑Pn	Pn	08 58 47.7	+1.7
	0.7nm,0.7s,baz=28,slow=12,SNR=9.2						
MK31				Sn	Sn	09 00 15.0	+0.8
	1.8nm,0.8s,baz=31,slow=21,SNR=4.9						
MK31				⇑Lg	Lg	09 00 56.1	
	3.6nm,0.8s,baz=32,slow=28,SNR=3.7						
MAKZ	**Makan

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DCZ				S	Sg	09 39 18.9	+1.4
PYZ	Puysegur Point	0.49	198	P	Pb	09 39 18.7	-0.5
PYZ				S	Sb	09 39 25.6	-1.2
WHZ	Wether Hill Ro	0.75	105	P	Pn	09 39 24.5	-0.8
WHZ				S	Sb	09 39 35.6	+1.4
MLZ	Mavora Lakes	0.91	69	P	Pb	09 39 26.2	-0.1
MLZ				S	Sb	09 39 39.0	+0.2
MSZ	Milford Sound	1.25	36	P	Pg	09 39 28.7	-3.3
APZ	The Paps	1.36	147	P	Pg	09 39 34.4	+0.3
APZ				S	Sn	09 39 53.1	+0.9
WKZ	Wanaka	1.73	60	P	Pn	09 39 38.6	-0.1
EAZ	Earnscleugh	1.75	75	P	Pn	09 39 39.6	+0.5
EAZ				S	Sn	09 40 01.8	0.0
SYZ	Scrubby Hill	1.77	119	P	Pb	09 39 40.6	-0.3
TUZ	Tuapeka	1.92	99	P	Pb	09 39 43.2	-0.4
JCZ	Jackson Bay	2.10	40	P	Pn	09 39 44.0	+0.1
HHSZ	Highcliff Hill	2.59	95	P	Pn	09 39 52.3	+1.7
LBZ	Lake Benmore	2.67	62	P	Pn	09 39 51.1	-0.6
ODZ	Otahua Downs	2.71	77	P	Pn	09 39 51.5	-0.8
FOZ	Fox Glacier	3.00	45	P	Pn	09 39 57.4	+1.2
WVZ	Waitaha Valley	3.80	48	P	Pn	09 40 10.5	+3.3
MQZ	McQueen's Vall	4.56	66	P	Pn	09 40 18.0	+0.4
LTZ	Lake Taylor	4.83	55	P	Pn	09 40 21.4	0.0
DSZ	Denniston Nort	5.31	44	P	Pn	09 40 28.3	+0.3
THZ	Tophouse	5.86	50	P	Pn	09 40 37.1	+1.6
QRZ	Quartz Range	6.37	42	P	Pn	09 40 42.5	0.0

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*BJI **16** 09:52:59.7, 60°.67N×28°.48W, h13km, mb4.6/10, mB5.0/3, Ms7 4.6/1*
*ISCJB **16** 09:53:01.8±0.3, 61°.17N±0°.04×27°.97W±0°.06, h10km, mb4.4/47, MS3.5/16, Error ellipse: s-maj=6.1km s-min=3.1km az=153.6*
*REY **16** 09:53:01.7, 60°.44N×25°.87W, h10km*
*IDC **16** 09:53:02.0±1.2, 61°.07N×28°.13W, h0km, mb3.8/15, mb1 4.0/17, mb1mx3.8/58, mbtmp3.8/17, ML3.9/2, MS3.5/20, Ms1 3.5/20, ms1mx3.3/47, Error ellipse: s-maj=37.0km s-min=13.4km az=170.0*
*NEIC **16** 09:53:03.4±0.3, 61°.03N×28°.13W, h10km, mb4.5/25, Error ellipse: s-maj=7.8km s-min=4.6km az=184.0*
ISC 16 09:53:03.6±0.5**, 61°.07N**±0°.08×**28°.03W**±0°.05**, h10km, n102, σ1s.69**/99**, mb4.5**/47**, MS3.4**/16**, 2D, Iceland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
INYL	Nylenda	3.81	38	P	Pn	09 54 02.3	+0.1
	baz=21						
INYL				S	Sn	09 54 47.6	+0.6
	baz=21						
IKRI	Krysuvik	3.95	42	P	Pn	09 54 02.0	-2.0
	baz=26						
IVOS	Vogsosar	4.05	44	P	Pn	09 54 03.6	-2.0
	baz=28						
IVOS				S	Sn	09 54 50.8	-2.2
	baz=28						
IKAS	Kald??rsel	4.12	41	P	Pn	09 54 04.0	-2.4
	baz=26						
ISAN	Sandskeio	4.23	42	P	Pn	09 54 06.1	-1.9
	baz=27						
ISAN				S	Sn	09 54 56.3	-1.1
	baz=27						
IBJA	Bjarnastaoir	4.25	44	P	Pn	09 54 05.3	-2.9
	baz=29						
IBJA				S	Sn	09 54 55.0	-2.8
	baz=29						
IKUD	Kuludalsa	4.32	38	P	Pn	09 54 08.0	-1.3
	baz=24						
ISOL	Solvholt	4.36	46	P	Pn	09 54 06.2	-3.6
	baz=31						
ISOL				S	Sn	09 54 56.6	-3.9
	baz=31						
IKRO	Krokur	4.41	43	P	Pn	09 54 08.0	-2.4
	baz=29						
IKRO				S	Sn	09 54 59.4	-2.3
	baz=29						
IASM	Asmuli	4.42	48	P	Pn	09 54 07.4	-3.2
	baz=34						
IHEI	Heioarbar	4.44	42	P	Pn	09 54 09.2	-1.6
	baz=28						
IHEI				S	Sn	09 55 01.1	-1.3
	baz=28						
ISAU	Saurbar	4.58	47	P	Pn	09 54 08.9	-3.9
	baz=33						
ISAU				S	Sn	09 55 02.6	-3.4
	baz=33						
ISMJ	Smjorgil	4.69	53	P	Pn	09 54 09.1	-5.3
	baz=39						
BORG	Borgarnes	4.79	37	Pn	Pn	09 54 14.4	-1.4
	5.6nm,0.3s,baz=267,slow=6.2,SNR=23						
BORG				Sn	Sn	09 55 11.7	+0.4
	3.1nm,0.3s,baz=196,slow=21,SNR=7.1						
BORG				LR	LR	09 55 38.7	
	comp=Z,199nm,19.6s,baz=258,slow=32						
BORG	Borgarnes	4.79	37	*e*Pn	Pn	09 54 15.6	-0.1
BORG				*e*Sn	Sn	09 55 12.7	+1.4
IASB	`sbjarnarst	4.80	37	P	Pn	09 54 14.7	-1.0
	baz=24						
IGOD	Go??abunga	4.82	54	P	Pn	09 54 10.9	-5.3
	baz=41						
IGYG	Gygjarholskot	4.83	45	P	Pn	09 54 12.9	-3.3
	baz=32						
IGYG				S	Sn	09 55 09.9	-2.2
	baz=32						
ANGG	Ammassalik, Gr	6.28	321	*e*Pn	Pn	09 54 35.8	-0.2
NRS	Narsarsuaq	8.42	278	*e*Pn	Pn	09 55 01.9	-3.5
IVI	Ivigtut	9.73	280	*e*Pn	Pn	09 55 21.5	-2.0
SCO	Scoresbysund	9.77	12	*e*Pn	Pn	09 55 24.5	+0.6
SFJD	Kangerlussuaq	11.49	311	LR	LR	09 59 36.5	
	comp=Z,614nm,18.3s,baz=86,slow=34						
SUMG	Summit	12.23	345	*e*Pn	Pn	09 55 57.1	-0.7
ILULI	Ilulissat	12.59	320	*e*Pn	Pn	09 56 02.7	+0.3
DSB	Dublin	14.07	114	*e*Pn	Pn	09 56 25.2	+2.5
EKA	Eskdalemuir Ar	14.26	103	Pn	Pn	09 56 25.4	0.0
	baz=316,slow=9.1,SNR=3.5						
NC204	NORSAR Array S	18.53	72	*e*P	P	09 57 18.8	-1.1
FRB	Frobisher Bay	18.73	296	LR	LR	10 03 31.5	
	comp=Z,244nm,21.1s,baz=44,slow=34						
NOA	NORSAR Array B	18.81	73	LR	LR	10 04 05.2	
	comp=Z,91nm,18.1s,baz=280,slow=35						
HFS	Hagfors	20.26	74	LR	LR	10 04 29.5	
	comp=Z,126nm,19.4s,baz=266,slow=34						
TULEG	Thule	20.65	334	*e*P	P	09 57 42.7	-0.1
	54nm,1.6s						
DOU	Dourbes	21.22	106	⇓P	P	09 57 51.4	+2.2
SCHQ	Schefferville	21.26	270	P	P	09 57 49.4	-0.2
	9.9nm,1.1s,baz=41,slow=11,SNR=4.2						
SCHQ	Schefferville	21.26	270	*e*P	P	09 57 48.0	-1.6
	14nm,1.2s						
MEM	Membach	21.53	104	⇓P	P	09 57 52.0	-0.6
CLF	Chambon-Foret	21.64	113	*e*P	P	09 57 53.4	-0.3
	166nm,1.6s						
KBS	Kingsbay	21.66	20	*e*P	P	09 57 54.6	+0.9
	49nm,1.1s						
SPA0	Spitsbergen Ar	22.07	23	*e*P	P	09 58 00.1	+1.9
BRG	Berggiesshubel	25.17	95	*e*P	P	09 58 40.5	+12
	19nm,1.6s						
	comp=N,190nm,15.1s						
	comp=E,113nm,14.1s						
	comp=Z,242nm,13.7s						
SENIN	Lac Senin/Sane	25.17	110	*e*P	P	09 58 27.9	-1.1
	comp=Z,18nm,1.4s						
FINES	FINESS Array B	25.40	65	P	P	09 58 32.1	+1.4
	comp=Z,3.5nm,1.0s,baz=316,slow=5.3,SNR=4.4						
FINES				LR	LR	10 08 21.6	
	comp=Z,44nm,20.2s,baz=308,slow=36						
DAVOX	Davos/Dischmat	26.05	106	LR	LR	10 07 56.6	
	comp=Z,44nm,21.0s,baz=264,slow=34						
ESDC	Sonseca Array	26.07	134	LR	LR	10 06 59.0	
	comp=Z,65nm,20.0s,baz=285,slow=32						
GERES	GERESS Array B	26.40	99	LR	LR	10 08 53.1	
	comp=Z,100nm,18.2s,baz=278,slow=36						
RES	Resolute Bay	26.72	327	LR	LR	10 08 49.0	
	comp=Z,109nm,19.2s,baz=12,slow=36						
RES	Resolute Bay	26.72	327	*e*P	P	09 58 43.7	+1.1
	comp=Z,6.5nm,1.5s						
VRAC	Vranov	27.48	95	LR	LR	10 10 36.8	
	comp=Z,90nm,19.0s,baz=304,slow=38						
SUW	Suwalki	27.73	81	*e*P	P	09 58 51.2	-0.6
	comp=Z,39nm,0.3s						
BLY	Banja Luka	31.00	101	*e*P	P	09 59 20.6	-0.2
	comp=Z,38nm,1.6s						
FFD	Franklin Falls	31.21	256	*e*P	P	09 59 21.8	-0.9
	comp=Z,27nm,1.3s						
FCC	Fort Churchill	31.93	296	*e*P	P	09 59 29.0	+0.1
	comp=Z,11nm,1.4s						
KIEV	Kiev	32.69	82	*e*P	P	09 59 33.9	-1.7
	comp=Z,5.2nm,1.2s						
AKASG	Malin Array Be	32.69	82	LR	LR	10 13 27.9	
	comp=Z,51nm,18.4s,baz=245,slow=37						
TRY	Troy	32.72	257	*e*P	P	09 59 35.7	-0.3
	comp=Z,25nm,1.4s						
BUR08	Bucovina Ar. S	32.80	90	*e*P	P	09 59 37.7	+0.9
KEST	Kesra	34.67	120	LR	LR	10 13 37.4	
	comp=Z,98nm,19.1s,baz=314,slow=36						
ULM	Lac du Bonnet	38.03	285	LR	LR	10 14 59.0	
	comp=Z,200nm,18.4s,baz=72,slow=35						
YKA	Yellowknife Ar	38.05	311	P	P	10 00 21.5	-0.1
	comp=Z,0.9nm,0.8s,baz=52,slow=9.0,SNR=16						
INK	Inuvik	40.27	326	P	P	10 00 40.0	-0.1
	comp=Z,1.5nm,0.9s,baz=40,slow=12,SNR=5.6						
BRTR	Keskin Array B	42.76	91	LR	LR	10 21 18.1	
	comp=Z,34nm,18.7s,baz=276,slow=40						
ECSD	EROS Data Cent	43.06	279	*e*P	P	10 01 03.4	+0.2
	comp=Z,14nm,1.6s						
KBZ	Khabaz	44.19	79	LR	LR	10 20 21.1	
	comp=Z,55nm,18.9s,baz=338,slow=37						
DAWY	Dawson	45.01	325	*e*P	P	10 01 18.8	+0.2
	comp=Z,8.4nm,1.3s						
AKTO	Aktyubinsk	46.11	62	P	P	10 01 27.4	-0.1
	comp=Z,1.8nm,1.0s,baz=316,slow=9.0,SNR=5.0						
ILAR	Eielson Array	46.45	329	P	P	10 01 30.8	+0.8
	comp=Z,0.8nm,0.8s,baz=29,slow=7.4,SNR=11						
ILAR				PcP	PcP	10 03 03.5	-0.8
	comp=Z,0.6nm,0.9s,baz=353,slow=2.2,SNR=5.0						
ILAR				LR	LR	10 21 05.8	
	comp=Z,89nm,18.6s,baz=50,slow=36						
IM3	Indian Mountai	47.07	333	*e*P	P	10 01 35.6	+0.9
ABKAR	Akbulak array	47.83	62	*e*P	P	10 01 41.4	+0.5
BVAR	Borovoye Array	49.20	52	P	P	10 01 51.5	+0.1
	comp=Z,0.9nm,0.8s,baz=318,slow=8.0,SNR=5.1						
YPP	Pitchstone Pla	49.32	290	*e*P	P	10 01 53.3	+0.5
	comp=Z,11nm,1.5s						
N23A	Red Feather La	49.68	284	*e*P	P	10 01 55.8	+0.3
	comp=Z,12nm,1.3s						
C09A	Chrisman Ranch	49.91	298	*e*P	P	10 01 56.9	0.0
	comp=Z,8.2nm,1.4s						
PD31	Pinedale Array	49.91	288	*e*P	P	10 01 56.5	-0.7
PDAR	Pinedale Array	49.91	288	P	P	10 01 56.4	-0.9
	comp=Z,1.8nm,0.9s,baz=56,slow=6.5,SNR=13						
PDAR				LR	LR	10 22 23.6	
	comp=Z,111nm,19.3s,baz=46,slow=35						
PDAR	Pinedale Array	49.91	288	*e*P	P	10 01 56.3	-1.0
WMOK	Wichita Mounta	51.12	273	*e*P	P	10 02 06.0	-0.2
	comp=Z,6.5nm,1.1s						
O20A	White River Ci	51.36	285	*e*P	P	10 02 07.7	-0.5
	comp=Z,4.3nm,1.1s						
BMO	Blue Mountains	51.78	295	*e*P	P	10 02 10.6	-0.6
	comp=Z,2.3nm,0.9s						
T25A	Trinidad	51.91	279	*e*P	P	10 02 11.8	-0.6
	comp=Z,6.1nm,1.0s						
SPUT	South Promonto	52.39	289	*e*P	P	10 02 15.7	-0.1
	comp=Z,4.0nm,1.1s						
S22A	4UR Ranch, Cre	52.59	282	*e*P	P	10 02 17.9	+0.5
	comp=Z,5.0nm,1.1s						
ABTX	Abilene, Hawle	53.25	272	*e*P	P	10 02 21.2	-0.9
	comp=Z,16nm,1.4s						
ELK	Elko	54.12	290	P	P	10 02 28.4	-0.1
	comp=Z,1.7nm,0.8s,baz=43,slow=4.9,SNR=6.7						
ANMO	Albuquerque	54.66	279	P	P	10 02 31.7	-0.9
	comp=Z,1.2nm,0.9s,baz=23,slow=9.8,SNR=5.7						
MOD	Modoc Plateau	55.45	295	*e*P	P	10 02 38.4	+0.2
	comp=Z,8.8nm,1.4s						
KVN	Kaiserville	56.78	291	*e*P	P	10 02 47.2	-0.5
	comp=Z,3.0nm,0.9s						
PAHR	Pah Rah Range	56.83	293	*e*P	P	10 02 48.6	+0.6
	comp=Z,7.6nm,1.5s						
DBIC	Dimbokro	56.99	152	LR	LR	10 24 59.9	
	comp=Z,68nm,18.0s,baz=338,slow=34						
NVAR	Mina Array Bea	57.38	291	P	P	10 02 51.2	-0.8
	comp=Z,0.2nm,0.3s,baz=64,slow=4.1,SNR=3.2						
TXAR	Lajitas Array	57.91	273	P	P	10 02 55.2	-0.5
	comp=Z,0.4nm,0.7s,baz=62,slow=6.1,SNR=3.8						
TXAR				LR	LR	10 26 53.0	
	comp=Z,72nm,18.5s,baz=0.0,slow=35						
MKAR	Makanchi Array	58.74	49	P	P	10 03 01.7	+0.5
	comp=Z,1.2nm,0.8s,baz=339,slow=6.5,SNR=11						
MKAR	Makanchi Array	58.74	49	*e*P	P	10 03 01.6	+0.5
	comp=Z,20nm,1.6s						
GAR	Garm	60.48	62	*e*P	P	10 03 14.4	+0.9
	comp=Z,10nm,0.9s						
KSH	Kashi	62.43	58	P	P	10 03 27.3	+0.7
KSH				PcP	PcP	10 04 02.8	-3.2
KSH				PP	PP	10 05 47.3	+3.8
KSH				S	S	10 11 50.8	-2.6
KSH				ScS	SKKSac	10 13 13.0	-5.7
KSH				pmax	pmax		
	comp=Z,130nm,9.1s						
WMQ	Urumqi	63.25	47	P	P	10 03 37.0	+5.1
WMQ				pmax	pmax		
	comp=Z,17nm,0.8s						
JRQG	Juriquilla Cam	63.60	265	*e*P	P	10 03 35.0	+0.3
	comp=Z,63nm,0.3s						
SONM	Songino Array	65.39	32	P	P	10 03 45.4	-0.6
	comp=Z,0.4nm,0.8s,baz=327,slow=10,SNR=2.6						
HHC	Hu-ho-hao-te	73.23	31	*e*P	P	10 04 34.5	-0.1
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,210nm,7.3s						
LZH	Lanzhou	75.55	39	*e*P	P	10 04 47.8	-0.4
LZH				pP	sP	10 04 51.8	-0.9
LZH				sP	pP	10 04 54.0	+2.5
LZH				pmax	pmax		
	comp=Z,30nm,1.1s						
NJ2	Nanjing	83.36	28	*e*P	P	10 05 32.8	+2.3
NJ2				pmax	pmax		
	comp=Z,18nm,0.7s						
KMI	Kunming	85.35	44	P	P	10 05 40.4	-0.6
CMAR	Chiang Mai Arr	90.15	49	P	P	10 06 05.2	+1.2
	comp=Z,0.7nm,0.3s,baz=336,slow=5.0,SNR=5.0						

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*ISK **16** 10:18:17.0, 37°.21N×27°.88E, h15km±1km, ML2.1/5, Suspected Mining explosion.*
DDA 16 10:18:18.9, 37°.34N×27°.57E, h7km±6km, ML2.5, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MLSB	Milas	0.17	106	PG	Pg	10 18 20.5	-1.9
MLSB				SG	Sg	10 18 23.7	-1.0
BDRM	Kayabasi	0.29	200	IAML_P			
	comp=Z,2μm,0.2s						
BDRM				*i* P	Pg	10 18 24.5	-0.2
BDRM				*i* S	Sb	10 18 31.4	-0.3
BODT	Bodrum	0.35	217	PG	Pb	10 18 27.1	-0.4
BODT				SG	Sb	10 18 34.0	+0.8
AYDN	Tasoluk	0.40	38	IAML_P			
	comp=Z,4μm,0.3s						
AYDN				*i* P	Pb	10 18 27.6	-0.8
DAT	Datca	0.61	180	PG	Pg	10 18 28.2	-2.5
DAT				SG	Sg	10 18 36.2	-2.5
AYDB	Zeytinkoy-Aydi	0.65	23	PG	Pg	10 18 31.9	+0.4
TURN	Turunc	0.95	119	PG	Pg	10 18 27.6	-10
TAVA	DENIZLI_Tavas	1.07	83	*i* P	Pg	10 18 35.2	-4.3

IDC 16 10:21:18.1±2.9**, 29°.68N×140°.13E, h0km, mb3.4**/4**, mb1 3.5**/5**, mb1mx3.4**/25**, mbtmp3.4**/5**, ML2.4**/1**, MS3.1**/2**, Ms1 3.2**/2**, ms1mx2.7**/26**, Error ellipse: s-maj=113.3km s-min=22.7km az=73.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	7.03	347	Pn	Pn	10 23 02.9	+0.5
	0.1nm,0.3s,baz=163,slow=12,SNR=4.4						
SONM	Songino Array	31.61	314	P	P	10 27 41.8	-1.0
	0.2nm,0.4s,baz=113,slow=8.3,SNR=3.6						
CMAR	Chiang Mai Arr	39.05	263	LR	LR	10 45 07.3	
	comp=Z,16nm,18.5s,baz=139,slow=37						
HNR	Honiara	43.31	151	LR	LR	10 47 19.1	
	comp=Z,34nm,18.5s,baz=326,slow=36						
MKAR	Makanchi Array	47.45	308	P	P	10 29 54.9	+0.3
	0.5nm,0.6s,baz=87,slow=9.6,SNR=7.0						
WRA	Warramunga Arr	49.65	187	P	P	10 30 11.6	0.0
	0.1nm,0.3s,baz=6.5,slow=7.7,SNR=6.0						
ASAR	Alice Springs	53.37	187	P	P	10 30 39.4	-0.1
	0.1nm,0.5s,baz=352,slow=4.5,SNR=3.7						

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*IDC **16** 10:31:32.9±2.2, 35°.89N×141°.02E, h0km, mb3.5/6, mb1 3.6/8, mb1mx3.4/50, mbtmp3.6/8, ML3.2/2, MS3.0/3, Ms1 3.1/3, ms1mx2.5/42, Error ellipse: s-maj=64.6km s-min=19.2km az=66.0*
*ISCJB **16** 10:31:42.7±0.5, 35°.56N±0°.04×140°.20E±0°.05, h74km±4km, mb3.5/6, Error ellipse: s-maj=7.3km s-min=5.8km az=139.8*
*JMA **16** 10:31:42.8±0.2, 35°.66N×140°.17E, h67km±2km, M2.9*
ISC 16 10:31:43.8±0.9**, 35°.59N**±0°.04×**140°.17E**±0°.05**, h67km**±7km**, n23, σ0s.86**/31**, mb3.5**/6**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCN	Nagara	0.17	172	P	Pn	10 31 53.8	-0.1
JCN				*e*S	Sn	10 32 02.9	+1.6
JSMT	Sammumatsuo	0.23	76	P	Pn	10 31 53.7	-0.5
JSMT				S	Sn	10 32 01.2	-0.6
BSO3	Boso 3	0.83	160	P	Pn	10 31 59.5	-0.3
JOD2	Odawara 2	0.94	250	P	Pn	10 32 01.0	-0.5
JOD2				S	Sn	10 32 14.2	-0.3
JAG	Ashikaga	1.02	325	P	Pn	10 32 01.2	-1.2
JIM2	Oshima 3	1.06	215	P	Pn	10 32 02.2	-0.7
JIM2				S	Sn	10 32 16.5	-0.7
JRY	Ryogami san	1.12	293	P	Pn	10 32 03.5	-0.2
BSO1	Boso 1	1.14	144	S	Sn	10 32 18.8	+0.6
JFNN	Fujinakano	1.28	253	P	Pn	10 32 05.7	0.0
JFNN				S	Sn	10 32 22.6	+0.5
JYN	Shimob	1.33	267	P	Pn	10 32 06.2	-0.3
JYN				S	Sn	10 32 23.8	+0.3
JIZS	Izushimoda	1.37	231	P	Pn	10 32 06.6	-0.4
JIZS				S	Sn	10 32 23.6	-0.7
JKT	Katashina	1.39	328	P	Pn	10 32 06.3	-1.1
MJAR	Matsushiro Arr	1.85	302	Pn	Pn	10 32 12.3	-1.1
	1.8nm,0.3s,baz=110,slow=12,SNR=74						
MJAR				Sn	Sn	10 32 37.5	+1.5
	2.1nm,0.3s,baz=18,slow=37,SNR=9.6						
MJAR				LR	LR	10 33 19.6	
	comp=Z,80nm,21.9s,baz=270,slow=46						
MAT	Matsushiro	1.86	302	P	Pn	10 32 13.4	-0.1
MAT				S	Sn	10 32 36.8	+0.8
JHJ	Hachijo jima 2	2.48	188	Pn	Pn	10 32 22.2	+0.2
	29nm,0.3s,baz=80,slow=19,SNR=4.2						
JHJ				Sn	Sn	10 32 49.8	-1.4
	27nm,0.3s,baz=68,slow=19,SNR=3.6						
SONM	Songino Array	27.80	307	P	P	10 37 25.6	-1.1
	0.2nm,0.4s,baz=108,slow=9.3,SNR=2.2						
ZALV	Zalesovo Beam	42.16	314	P	P	10 39 30.8	+1.2
	0.9nm,0.6s,baz=90,slow=5.8,SNR=3.2						
MKAR	Makanchi Array	44.05	303	P	P	10 39 45.6	+0.7
	0.6nm,0.7s,baz=94,slow=8.6,SNR=6.4						
PMG	Port Moresby	45.23	170	LR	LR	10 59 39.7	
	comp=Z,21nm,18.6s,baz=132,slow=37						
KURBB	Kurchatov Arra	46.11	309	P	P	10 40 01.2	0.0
	0.8nm,0.6s,baz=82,slow=7.4,SNR=6.9						
WRA	Warramunga Arr	55.50	187	P	P	10 41 11.3	-0.7
	0.3nm,0.5s,baz=1.0,slow=7.6,SNR=8.8						
ASAR	Alice Springs	59.23	187	P	P	10 41 39.3	+1.1
	0.2nm,0.5s,baz=16,slow=14,SNR=4.9						
ESDC	Sonseca Array	98.13	333	LR	LR	11 36 53.0	
	comp=Z,18nm,18.4s,baz=220,slow=40						

IDC 16 10:39:40.4±7.6**, 8°.13S×156°.19E, h0km, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.6**/39**, mbtmp4.0**/3**, MS3.1**/4**, Ms1 3.1**/4**, ms1mx2.7**/35**, Error ellipse: s-maj=125.8km s-min=90.0km az=27.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	9.02	261	LR	LR	10 44 59.6	
	comp=Z,118nm,19.1s,baz=74,slow=35						
WRA	Warramunga Arr	24.20	239	P	P	10 44 58.2	-0.7
	2.3nm,0.8s,baz=64,slow=9.3,SNR=11						
WRA				LR	LR	10 53 26.1	
	comp=Z,38nm,20.6s,baz=160,slow=34						
ASAR	Alice Springs	26.36	232	P	P	10 45 18.4	-0.2
	2.9nm,0.9s,baz=68,slow=9.5,SNR=22						
STKA	Stephens Creek	27.26	208	P	P	10 45 27.5	+1.0
	1.5nm,0.6s,baz=38,slow=15,SNR=3.9						
STKA				LR	LR	10 56 36.8	
	comp=Z,28nm,18.1s,baz=195,slow=37						
LPIG	La Paz	96.45	67	LR	LR	11 35 19.4	
	comp=Z,14nm,18.1s,baz=18,slow=35						

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*ISCJB **16** 10:40:40.9±0.6, 40°.15N±0°.04×29°.98E±0°.04, h0km, Error ellipse: s-maj=6.0km s-min=4.0km az=159.3*
*ISK **16** 10:40:40.9, 40°.21N×29°.98E, h13km, ML2.3/7, Suspected Mining explosion.*
*DDA **16** 10:40:41.2, 40°.14N×30°.06E, h7km±1km, ML2.7*
ISC 16 10:40:40.5±0.9**, 40°.22N**±0°.04×**30°.01E**±0°.03**, h0km, n18, σ0s.91**/23**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAVI	Cavuskoy	0.13	262	PG	Pg	10 40 44.2	+1.3
CAVI				SG	Sg	10 40 46.7	+2.1
GPA	Golpazari	0.24	73	PG	Pb	10 40 47.3	+2.2
GEYV	SAKARYA_Geyve	0.34	40	*i* P	Pb	10 40 49.3	-0.2
GEYV				*i* S	Sb	10 40 55.8	+0.2
GULT	Gulveren	0.44	61	PG	Pb	10 40 50.8	-0.5
GULT				SG	Sb	10 40 57.6	-0.9
BORA	Eskisehir	0.48	135	PG	Pg	10 40 50.0	+0.3
BORA	Eskisehir	0.48	135	*i* P	Pg	10 40 49.9	+0.2
SAUV	Serdivan-Sakar	0.57	25	PG	Pb	10 40 52.8	-0.7
BTAS	Taskesti	0.83	65	IAML_P			
	comp=Z,2μm,0.3s						
BTAS				*i* P	Pb	10 40 57.7	-0.2
BTAS				*i* S	Sn	10 41 11.8	-0.8
KAND	Kocaeli-Kandir	0.89	9	*i* P	Pn	10 41 00.4	+0.2
SAHE	Sakarya_HENDEK	0.90	45	IAML_P			
	comp=Z,243nm,0.2s						
SAHE				*i* P	Pb	10 40 59.6	+0.5
SAHE				*i* S	Sn	10 41 13.2	-1.1
MDUB	Mudurnu	0.94	74	PG	Pb	10 40 59.6	-0.2
SILT	Sile	0.97	344	PG	Pb	10 41 00.0	-0.2
KAVV	Kandilli-Istan	1.11	320	PN	Pn	10 41 02.5	-0.8
GDZ	Gediz	1.20	200	*i* P	Pb	10 41 03.6	-0.6
KLYT	Kilyos	1.27	325	PN	Pb	10 41 04.6	-0.6
DURS	Dursunbey	1.33	243	*i* P	Pn	10 41 05.8	-0.6
SVRH	Sivrihisar-ESK	1.40	123	PN	Pn	10 41 07.1	-0.3
DEMI	Demirci	1.54	221	IAML_P			
	comp=Z,836nm,0.3s						
DEMI				*i* P	Pg	10 41 10.1	0.0

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*IDC **16** 10:46:29.1±9.6, 24°.19S×179°.50E, h488km±96km, mb3.4/4, mb1 3.5/5, mb1mx3.1/33, mbtmp4.3/5, Error ellipse: s-maj=87.9km s-min=37.7km az=34.0*
ISC 16 10:46:29.6±3.0**, 24°.2S**±0°.2×**179°.6E**±0°.4**, h500km, n6, σ0s.70**/7**, mb3.9**/4**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	14.14	188	P	P	10 49 30.4	-0.1
	0.8nm,0.3s,baz=296,slow=3.3,SNR=8.7						
URZ				S	S	10 51 59.8	+0.1
	0.2nm,0.3s,baz=152,slow=13,SNR=4.3						
CTA	Charters Tower	31.10	271	P	P	10 52 07.3	+0.7
	4.1nm,0.4s,baz=93,slow=10,SNR=14						
ASAR	Alice Springs	41.61	261	P	P	10 53 33.4	-0.2
	1.0nm,0.5s,baz=98,slow=7.1,SNR=21						
WRA	Warramunga Arr	42.01	267	P	P	10 53 35.6	-1.1
	2.2nm,0.3s,baz=96,slow=8.4,SNR=91						
FITZ	Fitzroy Crossi	50.43	266	P	P	10 54 40.3	-0.5
	2.0nm,0.8s,baz=124,slow=5.7,SNR=6.6						
BRTR	Keskin Array B	147.48	307	PKPbc	PKPbc	11 05 17.5	+0.2
	0.8nm,0.7s,baz=54,slow=6.1,SNR=3.1						

IDC 16 10:46:41.4±2.1**, 1°.63N×126°.27E, h0km, mb3.1**/3**, mb1 3.4**/3**, mb1mx3.2**/45**, mbtmp3.2**/3**, Error ellipse: s-maj=184.9km s-min=24.8km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.85	160	P	P	10 51 44.8	-1.7
	0.3nm,0.5s,baz=338,slow=11,SNR=7.8						
ASAR	Alice Springs	26.22	164	P	P	10 52 19.5	+1.3
	0.2nm,0.4s,baz=346,slow=12,SNR=4.3						
MKAR	Makanchi Array	59.02	326	P	P	10 56 43.0	-0.1

0.1nm,0.5s,baz=117,slow=6.2,SNR=2.9

PGC 16 10:47:01.0±0.7, 52°50N×132°44W, h35km, ML3.5/12, 93km southwest of Sandspit, Bc Haida Gwaii Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.42**	**80**	P	Pb	10 47 10.6	0.0
BNB				S	Sb	10 47 17.2	-0.1
HG1B	**Mitchell Dam**	**0.47**	**23**	P	Pb	10 47 11.1	-0.2
HG1B				S	Sb	10 47 18.3	0.0
HG3B	**Hotspring**	**0.61**	**83**	P	Pb	10 47 13.3	-0.1
HG3B				S	Sb	10 47 22.2	+0.2
DIB	**Dawson Inlet,**	**0.70**	**358**	P	Pn	10 47 14.1	-0.4
DIB				S	Sn	10 47 21.3	-2.8
MOBC	**Moresby Island**	**0.70**	**24**	P	Pb	10 47 14.8	-0.2
MOBC				S	Sb	10 47 25.1	+0.6
HG4B	**Hotspring**	**0.79**	**105**	P	Pn	10 47 15.5	-0.1
HG4B				S	Sn	10 47 25.7	-0.5
NDB	**Naden**	**1.49**	**348**	Pn	Pn	10 47 25.8	+0.5
MASB	**Masset**	**1.54**	**9**	Pn	Pb	10 47 29.5	+0.6
RUBB	**Prince Rupert**	**2.25**	**35**	Pn	Pn	10 47 37.4	+1.7
RUBB				Sn	Sn	10 48 04.7	+2.5
BBB	**Bella Bella**	**2.67**	**95**	Pn	Pn	10 47 42.4	+0.9
PHC	**Port Hardy**	**3.60**	**118**	Pn	Pn	10 47 54.5	+0.2
PHC				Sn	Sn	10 48 33.1	-2.5
PACB	**Port Alice, BC**	**3.72**	**122**	Pn	Pn	10 47 58.0	+2.0
TLCB	**Telegraph Cove**	**4.01**	**117**	Pn	Pn	10 48 00.3	+0.5
WOSB	**Woss**	**4.36**	**120**	Pn	Pn	10 48 06.2	+1.4
NCRB	**Newcastle Ridg**	**4.51**	**115**	Pn	Pn	10 48 07.8	+0.9
FSB	**Fort Saint Jam**	**5.23**	**65**	Pn	Pn	10 48 18.7	+2.0

*ISCJB **16** 10:49:08.0±0.8, 5°.81N±0°.07×125°.9E±0°.1, h127km±7km, mb3.1/5, Error ellipse: s-maj=18.8km s-min=12.2km az=178.3*
*MAN **16** 10:49:09.4, 5°.85N×125°.65E, h144km, mb4.5, ML3.3, MS3.2*
*IDC **16** 10:49:10.3±1.1, 6°.03N×126°.14E, h136km±11km, mb3.0/5, mb1 3.2/5, mb1mx3.0/46, mbtmp3.3/5, Error ellipse: s-maj=58.7km s-min=16.5km az=76.0*
ISC 16 10:49:09.0±1.0, 5°.82N±0°.08×125°.9E±0°.1, h120km±8km, n11, σ1°35/17, mb3.2/5, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.36**	**321**	*eP*	**Pn**	**10 49 25.3**	**-0.9**
DDMP				*eS*	**Sn**	**10 49 38.6**	**-0.6**
GSPH	**General Santos**	**1.02**	**285**	*i P*	**Pn**	**10 49 31.6**	**+0.3**
GSPH				*i S*	**Sn**	**10 49 48.2**	**0.0**
DAV	**Davao City (W)**	**1.29**	**344**	P	**Pn**	**10 49 34.9**	**+0.8**
	30nm,0.3s,baz=198,slow=3.2,SNR=2.3						
DAV				S	**Sn**	**10 49 54.8**	**+1.7**
	57nm,0.3s,baz=45,slow=20,SNR=3.8						
DMPH	**Davao City--Mi**	**1.32**	**341**	*eP*	**Pn**	**10 49 33.4**	**-1.1**
DMPH				*eS*	**Sn**	**10 49 55.1**	**+1.3**
SKMP	**Bagumbayan, Su**	**1.55**	**297**	*eP*	**Pn**	**10 49 37.0**	**0.0**
SKMP				*eS*	**Sn**	**10 49 58.0**	**-0.3**
BUKP	**Musuan**	**2.22**	**337**	*eP*	**Pn**	**10 49 45.6**	**+0.3**
BUKP				*eS*	**Sn**	**10 50 13.8**	**+0.7**
FITZ	**Fitzroy Crossi**	**23.77**	**181**	P	**P**	**10 54 13.1**	**+2.5**
	1.8nm,0.8s,baz=0.0,slow=11,SNR=5.0						
WRA	**Warramunga Arr**	**26.90**	**162**	P	**P**	**10 54 41.3**	**+2.3**
	0.2nm,0.6s,baz=344,slow=9.9,SNR=2.4						
ASAR	**Alice Springs**	**30.32**	**165**	P	**P**	**10 55 08.6**	**-0.7**
	0.1nm,0.5s,baz=339,slow=7.0,SNR=3.1						
MKAR	**Makanchi Array**	**55.40**	**325**	P	**P**	**10 58 29.8**	**-1.0**
	0.1nm,0.3s,baz=136,slow=5.5,SNR=4.1						
ILAR	**Eielson Array**	**83.57**	**26**	P	**P**	**11 01 21.9**	**-1.5**
	0.3nm,0.8s,baz=259,slow=5.2,SNR=6.0						

IDC 16 10:52:00.3±1.1, 1°89S×67°94E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.6/48, mbtmp4.0/5, MS3.5/6, Ms1 3.4/6, ms1mx3.0/44, Error ellipse: s-maj=36.5km s-min=29.1km az=128.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.36**	**145**	T	T	10 58 49.1	
	baz=325,slow=76,SNR=1777						
H08N3	**Diego Garcia H**	**5.38**	**146**	T	T	10 58 50.0	
	baz=325,slow=76,SNR=1299						
H08N1	**Diego Garcia H**	**5.38**	**145**	T	T	10 58 50.8	
	baz=325,slow=76,SNR=1918						
H08S3	**Diego Garcia H**	**7.28**	**142**	T	T	11 01 21.1	
	baz=290,slow=76,SNR=9.2						
H08S1	**Diego Garcia H**	**7.29**	**142**	T	T	11 01 20.4	
	baz=290,slow=76,SNR=9.2						
H08S2	**Diego Garcia H**	**7.30**	**142**	T	T	11 01 27.1	
	baz=290,slow=76,SNR=6.7						
PALK	**Pallekele**	**15.65**	**54**	LR	LR	11 00 15.1	
	comp=Z,164nm,21.9s,baz=296,slow=32						
OPO	**Ambohidratompo**	**26.24**	**229**	LR	LR	11 05 37.5	
	comp=Z,104nm,18.3s,baz=18,slow=31						
WSAR	**Wadi Sarin**	**26.57**	**341**	LR	LR	11 06 05.1	
	comp=Z,55nm,20.2s,baz=186,slow=32						
GEYT	**Ailbeck**	**40.65**	**348**	LR	LR	11 15 19.3	
	comp=Z,59nm,21.1s,baz=35,slow=34						
LSZ	**Lusaka**	**41.39**	**249**	P	P	10 59 49.3	+0.4
	2.1nm,0.5s,baz=112,slow=6.6,SNR=4.4						
BOSA	**Boshof**	**48.58**	**233**	LR	LR	11 19 02.2	
	comp=Z,34nm,18.3s,baz=32,slow=33						
MKAR	**Makanchi Array**	**50.10**	**13**	P	P	11 00 56.9	-0.3
	0.7nm,0.7s,baz=203,slow=8.8,SNR=7.2						
ZALV	**Zalesovo Beam**	**57.39**	**12**	P	P	11 01 49.9	-0.5
	1.9nm,0.6s,baz=207,slow=7.4,SNR=9.1						
SONM	**Songino Array**	**59.79**	**29**	P	P	11 02 08.5	+1.0
	1.5nm,0.8s,baz=229,slow=7.0,SNR=8.1						
SONM				LR	LR	11 28 22.1	
	comp=Z,73nm,18.1s,baz=52,slow=36						
WRA	**Warramunga Arr**	**67.20**	**111**	P	P	11 02 56.9	0.0
	0.9nm,0.9s,baz=294,slow=6.0,SNR=4.0						
YKA	**Yellowknife Ar**	**119.51**	**1**	PKP	PKPdf	11 10 50.4	-1.3
	0.2nm,0.8s,baz=331,slow=2.7,SNR=4.3						
TXAR	**Lajitas Array**	**151.56**	**344**	PKPbc	PKPbc	11 11 56.9	-0.5
	0.8nm,0.9s,baz=147,slow=3.0,SNR=4.6						

MAN 16 10:52:26.1, 5°90N×125°39E, h3km, mb4.7, ML3.6, MS3.6, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.38**	**57**	*eP*	Pn	10 52 39.1	+0.5
DDMP				*eS*	Sb	10 52 49.2	+7.3
GSPH	**General Santos**	**0.48**	**294**	*i P*	Pn	10 52 41.8	+1.8
GSPH				*i S*	Sb	10 52 53.5	+8.8
SKMP	**Bagumbayan, Su**	**1.04**	**306**	*eP*	Pg	10 52 45.8	-0.4
SKMP				*eS*	Sn	10 53 03.1	+0.3
DMPH	**Davao City--Mi**	**1.19**	**61**	*eP*	Pg	10 52 49.1	+0.2
DMPH				*eS*	Sn	10 53 06.0	-0.3

*IDC **16** 11:10:57.9±1.8, 37°.54N×143°.76E, h0km, mb3.6/5, mb1 3.8/9, mb1mx3.5/59, mbtmp3.7/9, ML3.6/3, MS2.5/1, Ms1 2.5/1, ms1mx2.2/43, Error ellipse: s-maj=45.0km s-min=20.3km az=74.0*
*ISCJB **16** 11:11:00.3±0.7, 37°.56N±0°.03×143°.65E±0°.06, h33km, mb3.6/5, Error ellipse: s-maj=6.7km s-min=4.9km az=11.6*
*JMA **16** 11:11:00.8±0.2, 37°.61N×143°.62E, h52km, M3.5*
*NIED **16** 11:11:00, 37°.60N×143°.60E, h17km, Mw3.6 Best double couple: $M_0$2.48000×10^{14} NP1:ϕ_s59.00000°, δ70.00000°, λ17.00000°. NP2:ϕ_s323.00000°, δ74.00000°, λ159.00000°.*
ISC 16 11:11:01.7±1.2, 37°.62N±0°.05×143°.69E±0°.09, h35km, n34, σ2°03/39, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.89**	**292**	P	**Pn**	**11 11 30.8**	**-0.6**
JIKH				*eS*	**Sn**	**11 11 52.9**	**-1.1**
JIO	**Ouri**	**2.03**	**295**	P	**Pn**	**11 11 33.0**	**-0.3**
JIO				*eS*	**Sn**	**11 11 56.5**	**-0.9**
JKMT	**Kesennumamotoy**	**2.11**	**305**	P	**Pn**	**11 11 34.1**	**-0.3**
JKMT				*eS*	**Sn**	**11 11 58.1**	**-1.4**
OFUJ	**Ofunato**	**2.15**	**313**	P	**Pn**	**11 11 34.7**	**-0.4**
JMK	**Ichinoseki**	**2.35**	**305**	P	**Pn**	**11 11 37.8**	**0.0**
JOM	**Ohasama**	**2.64**	**315**	P	**Pn**	**11 11 41.9**	**+0.2**
JOM				*eS*	**Sn**	**11 12 12.4**	**0.0**
JFT	**Otama**	**2.67**	**269**	P	**Pn**	**11 11 42.7**	**+0.6**
JFT				*eS*	**Sn**	**11 12 12.6**	**-0.6**
JYK	**Kaneyama**	**2.92**	**297**	P	**Pn**	**11 11 46.3**	**+0.7**
JANG	**Nango**	**3.23**	**329**	P	**Pn**	**11 11 50.5**	**+0.7**
JAG	**Ashikaga**	**3.59**	**252**	P	**Pn**	**11 11 55.1**	**+0.2**
BSO1	**Boso 1**	**3.69**	**217**	P	**Pn**	**11 11 55.2**	**-0.5**
BSO1				*eS*	**Sn**	**11 12 36.8**	**-0.8**
JRY	**Ryogami san**	**4.16**	**249**	P	**Pn**	**11 12 02.7**	**0.0**
JRY				S	**Sn**	**11 12 47.5**	**-2.7**
JOT	**Ohata**	**4.27**	**332**	P	**Pn**	**11 12 05.8**	**+1.6**
JOD2	**Odawara 2**	**4.39**	**239**	P	**Pn**	**11 12 05.3**	**-0.6**
JOD2				*eS*	**Sn**	**11 12 53.1**	**-2.8**
MJAR	**Matsushiro Arr**	**4.51**	**258**	Pn	**Pn**	**11 12 08.4**	**+0.9**
	0.5nm,0.3s,baz=66,slow=5.7,SNR=34						
MJAR				Sn	**Sn**	**11 12 59.6**	**+0.8**
	0.2nm,0.3s,baz=95,slow=27,SNR=5.0						
MAT	**Matsushiro**	**4.51**	**258**	P	Pn	11 12 09.4	+1.9
MAT				S	**Sn**	**11 12 59.9**	**+1.1**
JCH	**Churui**	**4.99**	**357**	P	**Pn**	**11 12 14.0**	**0.0**
JCH				*eS*	**Sn**	**11 13 07.3**	**-3.2**
JHJ2	**Mitsune**	**5.50**	**216**	P	**Pn**	**11 12 20.4**	**-0.7**
JHJ2				*eS*	**Sn**	**11 13 16.9**	**-6.2**
JHJ	**Hachijo jima 2**	**5.51**	**217**	Pn	**Pn**	**11 12 18.8**	**-2.5**
	21nm,0.3s,baz=75,slow=12,SNR=3.3						
JHJ				Sn	**Sn**	**11 13 17.9**	**-5.4**
	29nm,0.3s,baz=73,slow=19,SNR=3.7						
NEM2	**Nemuro 2**	**5.95**	**15**	P	**Pn**	**11 12 25.8**	**-1.3**
NEM2				*eS*	**Sn**	**11 13 29.3**	**-4.6**
ASAJ	**Asahikawa**	**6.54**	**353**	Pn	**Pn**	**11 12 36.1**	**+0.8**
	1.3nm,0.3s,baz=225,slow=12,SNR=6.1						
ASAJ				Sn	**Sn**	**11 13 46.7**	**-1.9**
	0.5nm,0.3s,baz=131,slow=9.3,SNR=3.0						
USRK	**Ussuriysk Ar.**	**11.02**	**310**	Pn	Pn	11 13 40.1	+3.5
	0.2nm,0.3s,baz=120,slow=13,SNR=3.3						
KSRS	**Korea Array**	**12.52**	**274**	LR	LR	11 18 56.3	
	comp=Z,21nm,19.5s,baz=111,slow=38						
H11N2	**WAKE ISLAND Hy**	**26.94**	**125**	T	T	11 45 00.2	
	baz=317,slow=75,SNR=6.2						
H11N1	**WAKE ISLAND Hy**	**26.95**	**125**	T	T	11 45 04.2	
	baz=317,slow=75,SNR=5.3						
H11N3	**WAKE ISLAND Hy**	**26.96**	**125**	T	T	11 45 02.9	
	baz=317,slow=75,SNR=8.7						
H11S1	**WAKE ISLAND Hy**	**27.71**	**127**	T	T	11 45 57.3	
	baz=318,slow=76,SNR=4.6						
H11S3	**WAKE ISLAND Hy**	**27.71**	**127**	T	T	11 45 56.2	
	baz=318,slow=76,SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**27.73**	**127**	T	T	11 45 55.5	
	baz=318,slow=76,SNR=4.5						
SONM	**Songino Array**	**28.98**	**303**	P	P	11 17 00.5	+2.5
	0.2nm,0.4s,baz=78,slow=9.3,SNR=2.8						
ZALV	**Zalesovo Beam**	**42.87**	**312**	P	**P**	**11 18 57.6**	**+1.3**
	0.4nm,0.4s,baz=74,slow=7.7,SNR=2.9						
MKAR	**Makanchi Array**	**45.34**	**302**	P	**P**	**11 19 18.0**	**+1.7**
	0.4nm,0.7s,baz=83,slow=9.4,SNR=4.5						
WRA	**Warramunga Arr**	**57.93**	**190**	P	**P**	**11 20 51.5**	**+1.1**
	1.1nm,0.6s,baz=8.6,slow=7.1,SNR=15						
ASAR	**Alice Springs**	**61.65**	**190**	P	**P**	**11 21 17.5**	**+1.5**
	0.5nm,0.8s,baz=2.3,slow=7.0,SNR=4.8						

IDC 16 11:13:58.6±6.6, 18°.74S×178°.17W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/47, mbtmp3.8/3, Error ellipse: s-maj=282.9km s-min=38.9km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.71**	**260**	P	P	11 22 14.1	+0.2
	0.6nm,0.3s,baz=96,slow=7.5,SNR=33						
ASAR	**Alice Springs**	**44.79**	**255**	P	P	11 22 13.9	-0.5
	1.1nm,0.5s,baz=92,slow=7.7,SNR=15						
ILAR	**Eielson Array**	**86.64**	**13**	P	P	11 26 43.6	0.0
	0.3nm,0.6s,baz=214,slow=5.6,SNR=4.1						

*ISCJB **16** 11:21:57.6±0.5, 61°.02N±0°.08×28°.0W±0°.1, h10km, mb3.8/17, MS3.1/6, Error ellipse: s-maj=11.3km s-min=7.8km az=164.8*
*IDC **16** 11:21:58.0±0.7, 61°.01N×28°.06W, h0km, mb3.7/17, mb1 3.9/20, mb1mx3.8/60, mbtmp3.7/20, ML3.2/3, MS3.1/9, Ms1 3.1/9, ms1mx2.8/45, Error ellipse: s-maj=21.1km s-min=12.3km az=5.0*
ISC 16 11:21:59.4±0.6, 61°.0N±0°.1×28°.01W±0°.08, h10km, n26, σ1°18/23, mb3.8/17, MS3.0/6, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**4.84**	**36**	Pn	**Pn**	**11 23 10.8**	**-1.3**
	5.3nm,0.3s,baz=270,slow=5.7,SNR=20						
BORG				Sn	**Sn**	**11 24 09.0**	**+0.7**
	baz=79,slow=19,SNR=2.5						
SFJD	**Kangerlussuaq**	**11.55**	**311**	LR	LR	11 28 09.5	
	comp=Z,94nm,20.4s,baz=136,slow=32						
EKA	**Eskdalemuir Ar**	**14.23**	**102**	Pn	**Pn**	**11 25 20.1**	**-0.6**
	baz=316,slow=11,SNR=3.3						
FRB	**Frobisher Bay**	**18.77**	**296**	LR	LR	11 32 37.7	
	comp=Z,65nm,21.8s,baz=182,slow=34						
NOA	**NORSAR Array B**	**18.81**	**73**	P	**P**	**11 26 17.3**	**-1.5**
	0.0nm,0.3s,baz=290,slow=10,SNR=2.3						
NOA				LR	LR	11 32 06.8	
	comp=Z,40nm,19.9s,baz=290,slow=32						
HFS	**Hagfors**	**20.27**	**74**	LR	LR	11 33 33.2	
	comp=Z,45nm,18.9s,baz=250,slow=34						
SCHQ	**Schefferville**	**21.27**	**271**	P	**P**	**11 26 45.2**	**-0.3**
	8.6nm,1.1s,baz=32,slow=9.5,SNR=4.0						
FINES	**FINESS Array B**	**25.42**	**65**	P	**P**	**11 27 26.4**	**-0.2**
	3.6nm,0.9s,baz=310,slow=9.2,SNR=4.6						
ESDC	**Sonseca Array**	**26.01**	**134**	P	**P**	**11 27 34.1**	**+1.8**
	0.4nm,0.5s,baz=335,slow=8.0,SNR=4.6						
DAVOX	**Davos/Dischmat**	**26.02**	**106**	LR	LR	11 37 23.6	
	comp=Z,34nm,18.4s,baz=47,slow=36						
VRAC	**Vranov**	**27.46**	**9**	LR	LR	11 38 04.0	
	comp=Z,47nm,18.2s,baz=296,slow=35						
AKASG	**Malin Array Be**	**32.68**	**82**	P	**P**	**11 28 30.6**	**-0.7**
	1.5nm,0.4s,baz=313,slow=8.2,SNR=5.2						
YKA	**Yellowknife Ar**	**38.11**	**311**	P	**P**	**11 29 17.8**	**-0.1**
	0.9nm,0.7s,baz=52,slow=9.0,SNR=21						
YKA				PcP	**PcP**	**11 31 31.0**	**-1.5**
	0.2nm,0.8s,baz=47,slow=2.9,SNR=3.6						
INK	**Inuvik**	**40.34**	**326**	P	**P**	**11 29 35.6**	**-0.8**
	1.3nm,0.8s,baz=17,slow=9.2,SNR=5.5						
BRTR	**Keskin Array B**	**42.75**	**91**	P	**P**	**11 29 56.7**	**0.0**
	0.5nm,0.7s,baz=308,slow=7.0,SNR=3.0						
BRTR				LR	LR	11 49 56.7	
	comp=Z,13nm,18.0s,baz=268,slow=39						
ILAR	**Eielson Array**	**46.52**	**329**	P	**P**	**11 30 26.6**	**+0.3**
	0.7nm,0.8s,baz=34,slow=7.0,SNR=11						
ILAR				PcP	**PcP**	**11 31 58.3**	**-2.0**
	0.6nm,0.6s,baz=14,slow=4.2,SNR=10						
PDAR	**Pinedale Array**	**49.95**	**288**	P	**P**	**11 30 52.5**	**-0.7**
	1.8nm,0.7s,baz=55,slow=7.0,SNR=20						
PDAR				LR	LR	11 50 14.4	
	comp=Z,36nm,21.7s,baz=34,slow=34						
TORD	**Torodi Ar. Bea**	**52.43**	**142**	P	**P**	**11 31 11.2**	**-0.7**
	1.0nm,0.9s,baz=343,slow=8.0,SNR=5.7						
ZALV	**Zalesovo Beam**	**53.66**	**43**	P	**P**	**11 31 22.6**	**+2.1**
	0.4nm,0.3s,baz=316,slow=8.1,SNR=5.5						
ANMO	**Albuquerque**	**54.69**	**279**	P	**P**	**11 31 29.0**	**+0.5**
	1.1nm,0.8s,baz=42,slow=8.3,SNR=5.2						
DBIC	**Dimbokro**	**56.92**	**152**	LR	LR	11 53 27.5	
	comp=Z,23nm,19.2s,baz=303,slow=33						
NVAR	**Mina Array Bea**	**57.42**	**291**	P	**P**	**11 31 48.0**	**0.0**
	0.3nm,0.4s,baz=35,slow=3.3,SNR=3.2						
TXAR	**Lajitas Array**	**57.93**	**273**	P	**P**	**11 31 52.5**	**+0.9**
	0.3nm,0.6s,baz=67,slow=6.9,SNR=4.0						
MKAR	**Makanchi Array**	**58.78**	**49**	P	**P**	**11 31 57.6**	**+0.4**
	0.7nm,0.7s,baz=339,slow=5.8,SNR=10						
SONM	**Songino Array**	**65.44**	**32**	P	**P**	**11 32 43.2**	**+1.2**
	0.1nm,0.3s,baz=324,slow=7.1,SNR=2.7						
CMAR	**Chiang Mai Arr**	**90.19**	**49**	P	**P**	**11 35 01.8**	**+2.0**
	0.6nm,0.4s,baz=319,slow=4.0,SNR=4.1						

*IDC **16** 11:23:00.4±0.9, 9°.63S×155°.12E, h0km, mb4.3/11, mb1 4.5/11, mb1mx4.2/39, mbtmp4.3/11, MS3.7/11, Ms1 3.7/11, ms1mx3.5/19, Error ellipse: s-maj=32.1km s-min=19.2km az=118.0*
*BJI **16** 11:23:01.6, 9°.18S×155°.07E, h4km, mb4.6/29, mB5.1/8, Ms4.9/5, Ms7 4.8/5*
*NEIC **16** 11:23:02.0±0.3, 9°.70S×155°.06E, h10km, mb4.7/15, Error ellipse: s-maj=8.6km s-min=5.3km az=104.0*
*ISCJB **16** 11:23:04.2±0.3, 9°.69S±0°.05×155°.07E±0°.07, h33km, mb4.7/35, MS3.5/8, Error ellipse: s-maj=10.2km s-min=7.1km az=22.7*
ISC 16 11:23:05.3±0.5, 9°.74S±0°.07×155°.00E±0°.10, h33km, n65, σ1°35/60, mb4.6/35, MS3.5/8, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.89**	**87**	LR	LR	11 25 54.7	
	comp=Z,1μm,20.0s,baz=265,slow=36						
RABL	**Rabaul**	**6.20**	**333**	*e*Pn	**Pn**	**11 24 32.6**	**-1.9**
PMG	**Port Moresby**	**7.74**	**272**	LR	LR	11 28 04.9	
	comp=Z,2μm,20.7s,baz=100,slow=39						
CTAO	**Charters Tower**	**13.31**	**218**	*e*Pn	**Pn**	**11 26 08.3**	**-3.8**
EIDS	**Eidsvold**	**15.98**	**193**	*e*Pn	**Pn**	**11 26 45.1**	**-2.7**
	23nm,0.9s						
DZM	**Mont Dzumac**	**16.46**	**139**	*e*P	**P**	**11 26 56.2**	**-0.2**
	103nm,1.6s						
DZM				*e*LR	LR	11 30 51.3	
	comp=Z,837nm,24.3s						
DZM	**Mont Dzumac**	**16.46**	**139**	LR	LR	11 32 00.8	
	comp=Z,526nm,21.6s,baz=218,slow=33						
DZM	**Mont Dzumac**	**16.46**	**139**	*e*Pn	**Pn**	**11 26 53.6**	**-0.4**
	118nm,1.9s						
PATS	**Pohnpei**	**16.80**	**11**	*e*Pn	**Pn**	**11 26 57.5**	**-0.7**
	208nm,1.4s						
ARMA	**Armidale**	**20.81**	**188**	*e*P	**P**	**11 27 45.4**	**+1.3**
	34nm,1.3s						
KWAJ	**Kwajalein Atol**	**22.30**	**35**	*e*P	**P**	**11 27 59.2**	**-0.9**
	232nm,0.9s						
WRAB	**Tennant Creek**	**22.36**	**241**	*e*P	**P**	**11 28 01.1**	**+0.3**
	65nm,1.9s						
WB2	**Warramunga Arr**	**22.36**	**241**	*e*P	**P**	**11 28 02.4**	**+1.5**
WRA	**Warramunga Arr**	**22.37**	**241**	P	**P**	**11 28 01.7**	**+0.7**
	12nm,0.9s,baz=65,slow=9.3,SNR=25						
WRA				LR	LR	11 36 29.6	
	comp=Z,324nm,19.0s,baz=65,slow=36						
AS01	**Alice Springs**	**24.41**	**233**	*e*P	**P**	**11 28 21.7**	**+0.6**
AS01				*e*Sn	S	11 32 57.9	+19
AS31	**Alice Springs**	**24.44**	**233**	*e*P	**P**	**11 28 22.0**	**+0.6**
	6.0nm,1.0s						
ASAR	**Alice Springs**	**24.45**	**233**	P	**P**	**11 28 22.6**	**+1.2**
	16nm,0.9s,baz=63,slow=9.5,SNR=94						
ASAR				PcP	**PcP**	**11 32 00.6**	**+0.7**
	0.5nm,0.8s,baz=77,slow=1.2,SNR=3.3						
ASAR				LR	LR	11 37 35.3	
	comp=Z,151nm,20.1s,baz=72,slow=36						
SIJI	**Sorong**	**25.20**	**289**	LR	LR	11 39 46.3	
	comp=Z,112nm,21.2s,baz=102,slow=40						
GUMO	**Guam**	**25.27**	**336**	LR	LR	11 36 59.1	
	comp=Z,51nm,18.9s,baz=133,slow=33						
STKA	**Stephens Creek**	**25.29**	**208**	P	**P**	**11 28 30.5**	**+1.6**
	13nm,0.8s,baz=4.4,slow=9.6,SNR=18						
STKA				LR	LR	11 38 24.4	
	comp=Z,134nm,18.3s,baz=24,slow=36						
STKA	**Stephens Creek**	**25.29**	**208**	*e*P	**P**	**11 28 29.9**	**+1.1**
	4.4nm,0.9s						
BBOO	**Buckleboo**	**28.86**	**215**	*e*P	**P**	**11 29 01.6**	**+0.7**
	36nm,1.4s						
FITZ	**Fitzroy Crossi**	**29.65**	**251**	LR	LR	11 40 31.3	
	comp=Z,201nm,21.4s,baz=74,slow=35						
URZ	**Urewera**	**34.65**	**149**	*e*P	**P**	**11 29 52.0**	**+0.3**
	126nm,1.9s						
NJ2	**Nanjing**	**54.05**	**322**	*e*P	**P**	**11 32 25.9**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PPT	**Papeete**	**54.26**	**105**	LR	LR	11 50 54.7	
	comp=Z,58nm,21.3s,baz=300,slow=31						
TBI	**Tubuai**	**54.62**	**112**	*e*LR	LR	11 48 20.9	
	comp=Z,140nm,33.0s						
USRK	**Ussuriysk Ar.**	**57.60**	**341**	P	**P**	**11 32 52.3**	**+0.2**
	4.4nm,1.1s,baz=165,slow=7.9,SNR=4.2						
KMI	**Kunming**	**61.58**	**305**	P	**P**	**11 33 23.3**	**+3.1**
KMI				pmax	pmax		
	comp=Z,11nm,0.5s						
CM01	**Chiang Mai Arr**	**61.97**	**297**	*e*P	**P**	**11 33 22.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**62.00**	**297**	P	**P**	**11 33 23.9**	**+1.1**
	1.0nm,0.4s,baz=118,slow=5.6,SNR=10						
CMMT	**Chiang Mai**	**62.13**	**297**	P	**P**	**11 33 26.1**	**+2.4**
	6.1nm,1.6s						
CHTO	**Chiang Mai**	**62.13**	**297**	P	**P**	**11 33 26.1**	**+2.4**
	28nm,1.6s						
HHC	**Hu-ho-hao-te**	**64.31**	**325**	*e*P	**P**	**11 33 40.8**	**+2.9**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LZH	**Lanzhou**	**66.29**	**316**	*e*P	**P**	**11 33 51.6**	**+0.8**
LZH				pP	pP	11 33 57.3	-2.8
LZH				sP	sP	11 34 00.5	-2.9
LZH				pmax	pmax		
	comp=Z,28nm,1.0s						
GTA	**Gaotai**	**70.75**	**318**	*e*P	**P**	**11 34 19.6**	**+1.0**
GTA				pP	pP	11 34 23.8	-4.2
GTA				sP	sP	11 34 26.9	-4.4
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
**

n73, σ1ᵗ**04**/105**, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISA	**Isabella, Lake**	**0.24**	**320**	*e*Pg	**Pg**	**11 25 45.0**	**+0.1**
ISA				*e*Sg	**Sg**	**11 25 48.2**	**0.0**
ISA	**Isabella, Lake** baz=138,SNR=1000	**0.24**	**320**	P	**Pg**	**11 25 45.1**	**+0.1**
ISA	baz=138			S	**Sg**	**11 25 47.8**	**-0.4**
LRMC	**Laurel Mtn Rad** baz=271,SNR=1000	**0.49**	**90**	P	**Pg**	**11 25 49.9**	**+0.3**
LRMC	baz=271			S	**Sg**	**11 25 56.5**	**+0.6**
ARVC	**Arvin** baz=51,SNR=101	**0.57**	**232**	P	**Pg**	**11 25 51.5**	**+0.4**
ARVC	baz=51			S	**Sg**	**11 25 59.1**	**+0.6**
EDW2	**Edwards Air Fo** baz=339,SNR=180	**0.64**	**158**	P	**Pg**	**11 25 52.4**	**0.0**
EDW2	baz=339			S	**Sg**	**11 26 01.1**	**+0.4**
VES	**Vestal, Richgr** baz=118,SNR=1000	**0.75**	**299**	P	**Pg**	**11 25 54.4**	**-0.2**
VES	baz=118			S	**Sg**	**11 26 04.2**	**-0.1**
MPMC	**Manual Prospec** baz=228,SNR=392	**0.87**	**48**	P	**Pg**	**11 25 56.6**	**-0.2**
MPMC	baz=228			S	**Sg**	**11 26 08.2**	**+0.1**
OSI	**Osito Audit: C**	**0.93**	**203**	*e*Pg	**Pg**	**11 25 57.6**	**-0.5**
OSI	**Osito Audit: C** baz=22,SNR=32	**0.93**	**203**	P	**Pg**	**11 25 57.8**	**-0.3**
DAC	**Darwin (Calif)**	**0.97**	**35**	*e*Pg	**Pg**	**11 25 58.4**	**-0.4**
DAC				*e*Sg	**Sg**	**11 26 10.8**	**-0.7**
DAC				*e*Sn	**Sb**	**11 26 12.3**	**-0.6**
CWC	**Cottonwood Cre** baz=190	**0.97**	**10**	P	**Pg**	**11 25 58.2**	**-0.7**
CWC	baz=190			S	**Sg**	**11 26 11.0**	**-0.6**
RRX	**Edison Barstow** baz=301,SNR=57	**1.21**	**119**	P	**Pg**	**11 26 03.0**	**-0.4**
RRX	baz=301			S	**Sg**	**11 26 19.9**	**+0.9**
GSC	**Goldstone, Bar**	**1.22**	**98**	*e*Pg	**Pg**	**11 26 03.0**	**-0.5**
GSC				*e*Sg	**Sb**	**11 26 20.4**	**+0.6**
GSC	**Goldstone, Bar** baz=279,SNR=565	**1.22**	**98**	P	**Pg**	**11 26 03.0**	**-0.5**
GSC	baz=279			S	**Sg**	**11 26 19.6**	**+0.3**
DECC	**Green Verdugo** baz=2.1,SNR=72	**1.22**	**182**	P	**Pg**	**11 26 03.1**	**-0.4**
DECC	baz=2.1			S	**Sb**	**11 26 20.5**	**+0.7**
MWC	**Mount Wilson**	**1.26**	**172**	*e*Pg	**Pg**	**11 26 04.0**	**-0.4**
PASC	**Pasadena Art C**	**1.30**	**177**	*e*Pn	**Pn**	**11 26 04.2**	**-0.8**
PASC				*e*Pg	**Pb**	**11 26 05.1**	**-0.1**
PASC				*e*Sg	**Sg**	**11 26 20.2**	**-1.8**
PASC				*e*Sn	**Sb**	**11 26 20.8**	**-1.4**
BFSC	**Mount Baldy Ra** baz=338,SNR=65	**1.34**	**157**	P	**Pn**	**11 26 04.8**	**-0.8**
BFSC	baz=338			S	**Sg**	**11 26 22.8**	**-0.3**
PKM	**Mcpherson Peak** baz=64,SNR=52	**1.39**	**245**	P	**Pn**	**11 26 05.3**	**-1.0**
PKM	baz=64			S	**Sb**	**11 26 23.8**	**-0.9**
SMMC	**Simmler** baz=82,SNR=33	**1.41**	**264**	P	**Pn**	**11 26 05.5**	**-1.1**
SMMC	baz=82			S	**Sb**	**11 26 24.4**	**-0.9**
BLG	**Laguna Peak, P** baz=25,SNR=11	**1.51**	**206**	Pb	**Pn**	**11 26 08.1**	**+0.2**
BLG	baz=25			Sb	**Sn**	**11 26 28.7**	**+0.7**
FURC	**Furnace Creek,** baz=230	**1.52**	**49**	Pg	**Pb**	**11 26 08.9**	**+0.2**
FURC	baz=230			Sb	**Sb**	**11 26 28.7**	**+0.4**
SBC	**Santa Barbara** baz=48	**1.57**	**229**	Pg	**Pb**	**11 26 10.0**	**+0.4**
SBC	baz=48			Sb	**Sg**	**11 26 30.7**	**+0.2**
TIN	**Tinemaha, Big** baz=182	**1.57**	**1**	Pb	**Pn**	**11 26 09.2**	**+0.4**
PAGB	**Antelope Grade**	**1.62**	**280**	*e*Pn	**Pn**	**11 26 08.5**	**-1.0**
PAGB				*e*Sn	**Sn**	**11 26 29.4**	**-1.4**
BBRC	**Big Bear Solar** baz=318	**1.65**	**137**	Pg	**Pb**	**11 26 11.3**	**+0.2**
BBRC	baz=318			Sb	**Sb**	**11 26 32.8**	**+0.5**
SHOC	**Shoshone, Teco** baz=256,SNR=161	**1.69**	**75**	P	**Pn**	**11 26 09.0**	**-1.3**
SHOC	baz=256			Sb	**Sb**	**11 26 33.7**	**+0.4**
GRAC	**Grapevine Rang** baz=206	**1.69**	**26**	Pg	**Pb**	**11 26 11.6**	**-0.1**
HEC	**Hector,Ludlow** baz=293,SNR=184	**1.72**	**111**	P	**Pn**	**11 26 09.9**	**-0.9**
FMP	**Fort Macarthur** baz=0.4	**1.76**	**180**	Pg	**Pb**	**11 26 13.7**	**+0.8**
FMP	baz=0.4			Sb	**Sb**	**11 26 36.3**	**+1.0**
TUQ	**Turquoise Moun** baz=272,SNR=71	**1.92**	**91**	P	**Pn**	**11 26 12.5**	**-1.2**
CIS	**Catalina Islan** baz=3.0	**2.07**	**183**	P	**Pn**	**11 26 15.1**	**-0.5**
CIS	baz=3.0			Sb	**Sb**	**11 26 45.9**	**+1.6**
MURC	**Murrieta** baz=335,SNR=25	**2.08**	**154**	P	**Pn**	**11 26 15.4**	**-0.2**
MURC	baz=335			Sb	**Sb**	**11 26 45.8**	**+1.3**
MLAC	**Mammoth, Mammo** baz=168	**2.19**	**348**	Pb	**Pb**	**11 26 19.9**	**-0.6**
MLAC	baz=168			Sb	**Sb**	**11 26 49.2**	**+1.1**
TPNV	**Topopah Spring**	**2.20**	**48**	*e*Pn	**Pn**	**11 26 17.2**	**-0.4**
TPNV	**Topopah Spring** baz=229,SNR=47	**2.20**	**48**	P	**Pn**	**11 26 17.2**	**-0.4**
TPNV	baz=229			Sb	**Sb**	**11 26 49.7**	**+1.5**
GMRC	**Granite Mounta** baz=289,SNR=15	**2.26**	**107**	P	**Pn**	**11 26 16.7**	**-1.5**
BELC	**Belle Mtn. Jos** baz=309	**2.39**	**127**	P	**Pn**	**11 26 18.9**	**-1.1**
PFO	**Pinyon Flats O**	**2.39**	**141**	*e*Pn	**Pn**	**11 26 19.8**	**-0.4**
PFO	**Pinyon Flats O** baz=322,SNR=27	**2.39**	**141**	P	**Pn**	**11 26 19.5**	**-0.6**
PFO	baz=322			Sb	**Sb**	**11 26 55.0**	**+1.3**
XPFO	**Pion Flat**	**2.40**	**140**	*e*Pn	**Pn**	**11 26 19.8**	**-0.4**
TPFO	**Pinon Flats** baz=322	**2.40**	**141**	Sb	**Sb**	**11 26 55.1**	**+1.3**
SNCC	**San Nicolas Is**	**2.45**	**205**	*e*Pn	**Pn**	**11 26 20.7**	**-0.1**
SCI2	**San Clemente I** baz=5.0	**2.50**	**185**	Pg	**Pb**	**11 26 27.4**	**+1.8**
LDFC	**Landfair**	**2.62**	**98**	*e*Pn	**Pn**	**11 26 21.5**	**-1.8**
SHPR	**Sheep Range**	**2.73**	**67**	*e*Pn	**Pn**	**11 26 24.3**	**-0.5**
109C	**Camp Elliot, M** baz=340	**2.76**	**159**	Sb	**Sb**	**11 27 05.1**	**+1.0**
SAO	**San Andreas Ge**	**2.87**	**298**	*e*Pn	**Pn**	**11 26 26.8**	**+0.3**
IRM	**Iron Mountain** baz=298,SNR=25	**2.90**	**116**	P	**Pn**	**11 26 25.6**	**-1.4**
NV01	**Mina Array Sit**	**2.95**	**360**	*e*Pn	**Pn**	**11 26 28.8**	**+1.0**
NV11	**Mina Array Sit**	**2.95**	**2**	*e*Pn	**Pn**	**11 26 27.6**	**-0.3**
MONP2	**Monument Peak** baz=330	**3.00**	**149**	Sb	**Sb**	**11 27 13.3**	**+2.0**
CMB	**Columbia Colle**	**3.06**	**327**	*e*Pn	**Pn**	**11 26 28.1**	**-1.2**
NEE2	**Needles Airpor** baz=284	**3.08**	**102**	P	**Pn**	**11 26 28.0**	**-1.5**
BAR	**Barrett**	**3.09**	**154**	*e*Pn	**Pn**	**11 26 29.2**	**-0.4**
RYN	**Ryan**	**3.15**	**357**	*e*Pn	**Pb**	**11 26 36.0**	**-0.7**
WAKR	**Walker**	**3.16**	**343**	*e*Pn	**Pb**	**11 26 35.5**	**-1.4**
SWSC	**Sam W. Stewart** baz=322	**3.26**	**140**	P	**Pn**	**11 26 30.8**	**-1.1**
Y12C	**Blythe**	**3.54**	**118**	*e*Pn	**Pn**	**11 26 34.3**	**-1.6**
Y12C	**Blythe** baz=300	**3.54**	**118**	P	**Pn**	**11 26 34.6**	**-1.2**
KVN	**Kaiserville**	**3.57**	**2**	*e*Pn	**Pn**	**11 26 37.7**	**+1.3**
YERR	**Yerington**	**3.58**	**348**	*e*Pn	**Pn**	**11 26 40.6**	**+4.0**
R11A	**Troy Canyon, C**	**3.59**	**36**	*e*Pn	**Pn**	**11 26 37.3**	**+0.7**
W13A	**Hualapai Mount**	**3.62**	**95**	*e*Pn	**Pn**	**11 26 36.3**	**-0.8**
GLA	**Glamis** baz=311	**3.75**	**129**	Pg	**Pg**	**11 26 50.9**	**-1.0**
LCMT	**Little Creek M**	**4.35**	**68**	*e*Pn	**Pn**	**11 26 46.7**	**-0.3**
Y14A	**Wickenburg**	**4.61**	**108**	*e*Pn	**Pn**	**11 26 49.5**	**-1.0**
113A	**Mohawk Valley,**	**4.62**	**125**	*e*Pn	**Pn**	**11 26 47.8**	**-2.7**
KNB	**Kanab**	**4.67**	**69**	*e*Pn	**Pn**	**11 26 51.9**	**+0.4**
ORV	**Oroville**	**4.81**	**329**	*e*Pn	**Pn**	**11 26 56.0**	**+2.8**
U15A	**North Rim**	**4.95**	**77**	*e*Pn	**Pn**	**11 26 56.1**	**+0.6**
WUAZ	**Wupatki** 4.9nm,0.5s	**5.63**	**88**	*e*Pn	**Pn**	**11 27 04.6**	**-0.1**
ELK	**Elko**	**5.78**	**24**	*e*Pn	**Pn**	**11 27 08.3**	**+1.5**

IDC 16 11:27:35.4±1.8**, 9°.69S**×**155°.35E, h0**km**, mb3.8**/5**, mb1 4.1**/5**, mb1mx3.8**/32**, mbtmp3.9**/5**, Error ellipse: s-maj=67.2km s-min=26.3km az=122.0, D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 2.5nm,0.8s,baz=65,slow=9.6,SNR=9.1	**22.70**	**241**	P	P	11 32 38.2	-0.7
ASAR	**Alice Springs** 2.9nm,0.8s,baz=60,slow=9.6,SNR=18	**24.75**	**233**	P	P	11 32 58.8	-0.2
STKA	**Stephens Creek** 2.3nm,0.7s,baz=32,slow=10,SNR=4.7	**25.49**	**208**	P	P	11 33 05.3	-0.2
MKAR	**Makanchi Array** 0.4nm,0.8s,baz=103,slow=6.5,SNR=3.2	**85.65**	**319**	P	P	11 40 16.8	+0.7
ILAR	**Eielson Array** 1.0nm,1.1s,baz=232,slow=6.7,SNR=5.2	**85.74**	**21**	P	P	11 40 16.2	0.0

*DDA **16** 11:32:47.0, 39°.85N×28°.97E, h7**km**±7**km**, ML2.9*
*ISCJB **16** 11:32:50.4±0.6, 39°.56N±0°.03×28°.90E±0°.05, h0**km**, Error ellipse: s-maj=5.8km s-min=4.6km az=14.2*
*ISK **16** 11:32:51.3, 39°.59N×28°.84E, h19**km**, ML2.4/9, Suspected Mining explosion.*
ISC 16 11:32:50.5±0.9**, 39°.59N**±0°.03×**28°.93E**±0°.04**, h0**km**, n16, σ0ˢ49/19, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.35**	**272**	*i* P	**Pg**	**11 32 57.2**	**-0.1**
DURS				*i* S	**Sg**	**11 33 02.0**	**+0.1**
DEMI	**Demirci** comp=Z,2μm,0.1s	**0.57**	**197**	IAML_P			
GDZ	**Gediz**	**0.65**	**139**	*i* P	**Pb**	**11 33 04.7**	**-0.1**
MDNY	**Mudanya-Bursa**	**0.78**	**357**	PG	**Pb**	**11 33 07.2**	**+0.2**
MDNY				SG	**Sb**	**11 33 18.7**	**+0.6**
CAVI	**Cavuskoy**	**0.93**	**48**	PG	**Pn**	**11 33 10.7**	**-0.2**
ARMT	**Armutlu**	**0.98**	**357**	PG	**Pb**	**11 33 10.4**	**0.0**
ARMT				SG	**Sb**	**11 33 24.6**	**+0.7**
YLV	**Yalova**	**1.03**	**19**	PG	**Pg**	**11 33 10.0**	**-0.3**
YLV				SG	**Sb**	**11 33 26.7**	**+1.2**
SBT5	**Esenkoy-Cinarc**	**1.04**	**358**	PG	**Pb**	**11 33 11.3**	**-0.1**
KULA	**Kula-Manisa**	**1.09**	**191**	PN	**Pb**	**11 33 12.4**	**+0.1**
EDC	**Edincik**	**1.12**	**313**	PG	**Pg**	**11 33 11.7**	**-0.2**
AKHS	**Akhisar** comp=Z,2μm,0.2s	**1.12**	**231**	IAML_P			
AKHS				*i* P	**Pn**	**11 33 13.3**	**-0.2**
MANT	**Manisa**	**1.13**	**195**	*i* P	**Pg**	**11 33 12.0**	**-0.2**
BORA	**Eskisehir**	**1.21**	**75**	PN	**Pn**	**11 33 14.6**	**-0.1**
KAVV	**Kandilli-Istan**	**1.48**	**4**	PN	**Pn**	**11 33 17.6**	**-0.8**
GULT	**Gulveren**	**1.48**	**55**	PN	**Pg**	**11 33 18.7**	**-0.1**
ISK	**Istanbul-Kandi**	**1.48**	**4**	PN	**Pn**	**11 33 17.6**	**-0.8**

*ISCJB **16** 11:44:28.8±0.4, 59°.69N±0°.03×22°.39E±0°.04, h0**km**, Error ellipse: s-maj=4.1km s-min=2.7km az=172.4*
*HEL **16** 11:44:29.4±0.4, 59°.62N×22°.34E, h0**km**, ML2.2, Explosion*
*EST **16** 11:44:30.6±0.1, 59°.69N×22°.35E, h0**km**, ML2.2(HEL), Explosion*
*NAO **16** 11:44:31.7±1.4, 59°.74N×22°.19E, ML2.0*
*IDC **16** 11:44:31.7±2.2, 59°.75N×22°.30E, h0**km**, mb1 3.1/3, mb1mx2.9/45, mbtmp3.0/3, ML2.2/3, Error ellipse: s-maj=27.4km s-min=11.4km az=166.0*
*UPP **16** 11:44:31.0±1.2, 59°.74N×22°.24E, h0**km**, ML2.1, Suspected explosion*
*BER **16** 11:44:33.8±3.4, 59°.70N×22°.03E, h0**km**, ML2.0(NAO), Suspected explosion*
ISC 16 11:44:29.5±0.7**, 59°.76N**±0°.03×**22°.41E**±0°.02**, h0**km**, n39, σ1ˢ57/66, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**1.10**	**65**	*e*PB	**Pn**	**11 44 51.8**	**-0.3**
MEF				*e*SB	**Sn**	**11 45 07.3**	**-0.6**
MTSE	**Matsula**	**1.28**	**145**	*e*PB	**Pg**	**11 44 53.0**	**-0.9**
MTSE				*e*SB	**Sg**	**11 45 09.1**	**-1.4**
AAL	**Aland**	**1.28**	**290**	P	**Pg**	**11 44 53.4**	**-0.7**
AAL				S	**Sg**	**11 45 10.1**	**-0.6**
AAL	**Aland**	**1.28**	**290**	*e*P	**Pg**	**11 44 53.3**	**-0.7**
AAL				*e*S	**Sg**	**11 45 10.1**	**-0.6**
RAF	**Rauma**	**1.30**	**346**	*e*P	**Pn**	**11 44 55.3**	**+0.4**
RAF	comp=Z,18nm,0.2s			MSG		11 45 12.5	
RAF				*e*SB	**Sn**	**11 45 14.0**	**+1.0**
NUR	**Nurmijrvi**	**1.35**	**55**	*e*P	**Pb**	**11 44 56.7**	**+1.1**
NUR				*e*SN	**Sn**	**11 45 10.2**	**+2.1**
ARBE	**Arbavere**	**1.85**	**99**	*e*PG	**Pg**	**11 45 04.1**	**0.0**
ARBE				*e*SG	**Sg**	**11 45 30.5**	**+1.8**
PVF	**Pernaja**	**1.90**	**64**	*e*PG	**Pg**	**11 45 05.7**	**-0.1**
PVF	comp=Z,18nm,0.2s			MSG		11 45 27.0	
PVF				*e*SG	**Sg**	**11 45 31.2**	**+0.9**
NRTU	**Norrtaelje**	**1.92**	**269**	P	**Pn**	**11 45 03.3**	**0.0**
NRTU				S	**Sn**	**11 45 28.5**	**+0.4**
GRAU	**Graesoe**	**2.02**	**288**	P	**Pn**	**11 45 05.1**	**+0.3**
GRAU				S	**Sn**	**11 45 31.5**	**+0.8**
SLIT	**Slitere, Latvi**	**2.14**	**182**	*e*PB	**Pn**	**11 45 06.6**	**+0.2**
SLIT				*e*SG	**Sn**	**11 45 34.6**	**+1.0**
FLYU	**Flymyra**	**2.31**	**281**	P	**Pn**	**11 45 09.1**	**+0.4**
NYNU	**Nynaeshamn**	**2.38**	**253**	P	**Pn**	**11 45 10.2**	**+0.5**
FIA0	**FINESS Array S** baz=229,slow=14	**2.47**	**45**	Pn	**Pb**	**11 45 14.8**	**0.0**
FIA0	baz=226,slow=22			Sn	**Sg**	**11 45 48.0**	**-0.8**
FIA0	**FINESS Array S** baz=229,slow=14	**2.47**	**45**	Pn	**Pb**	**11 45 14.8**	**0.0**
FIA0	baz=226,slow=22			Sn	**Sg**	**11 45 48.0**	**-0.8**
FIA0	**FINESS Array S**	**2.47**	**45**	*e*PB	**Pb**	**11 45 14.3**	**-0.4**
FIA0				*e*SB	**Sb**	**11 45 47.2**	**+1.5**
FIA0	comp=Z,8.4nm,0.1s			MSG		11 45 51.4	
FINES	**FINESS Array B** comp=Z,0.4nm,0.3s,baz=229,slow=14,SNR=51	**2.47**	**45**	Pn	**Pb**	**11 45 14.5**	**-0.2**
FINES	comp=Z,2.3nm,0.3s,baz=233,slow=28,SNR=23			Sn	**Sg**	**11 45 47.5**	**-1.4**
FIBU	**Brunna**	**2.56**	**275**	P	**Pn**	**11 45 13.4**	**+1.2**
VSU	**Vasula**	**2.58**	**118**	Pn	**Pb**	**11 45 15.7**	**-0.9**
VSU				Sn	**Sb**	**11 45 49.5**	**+0.7**
VSU	**Vasula**	**2.58**	**118**	Pn	**Pb**	**11 45 15.7**	**-0.9**
VSU				Sn	**Sb**	**11 45 49.5**	**+0.7**
VSU	**Vasula**	**2.58**	**118**	*e*SG	**Sb**	**11 45 49.4**	**+0.5**
BACU	**Backbrunna**	**2.68**	**274**	P	**Pn**	**11 45 15.0**	**+1.2**
VJF	**Virojoki** comp=Z,10nm,0.2s	**2.69**	**71**	MSG		11 45 49.3	
VJF				*e*SG	**Sg**	**11 45 54.6**	**-1.1**
OSTU	**Oestervaala**	**2.69**	**282**	P	**Pn**	**11 45 14.9**	**+0.9**
KEF	**Keuruu**	**2.69**	**25**	*e*PB	**Pb**	**11 45 18.5**	**0.0**
KEF				*e*SG	**Sg**	**11 45 55.0**	**-0.9**
IGGU	**Iggoen**	**2.77**	**296**	P	**Pn**	**11 45 16.0**	**+1.0**
KAF	**Kangasniemi**	**3.03**	**37**	*e*PB	**Pb**	**11 45 23.8**	**-0.4**
KAF	comp=Z,9.0nm,0.2s			MSG		11 46 01.0	
KAF				*e*SB	**Sb**	**11 46 03.0**	**+1.3**
VAF	**Ylistaro**	**3.29**	**2**	*e*PB	**Pb**	**11 45 28.8**	**+0.1**
SUF	**Sumiainen**	**3.47**	**30**	*e*P	**Pn**	**11 45 28.2**	**+3.5**
HFS	**Hagfors** baz=110,slow=12	**4.40**	**279**	Pn	**Pn**	**11 45 38.3**	**+0.9**
HFS	baz=90,slow=28			Sn	**Sn**	**11 46 27.3**	**-2.0**
HFS	baz=86,slow=37			Lg	Lg	11 46 44.9	
HFS	**Hagfors** baz=110,slow=12	**4.40**	**279**	Pn	**Pn**	**11 45 38.3**	**+0.9**
HFS	baz=90,slow=28			Sn	**Sn**	**11 46 27.3**	**-2.0**
HFS	baz=86,slow=37			Sg	**Sb**	**11 46 44.9**	**+3.8**
NRA0	**NORESS Array S** baz=86,slow=12	**5.50**	**285**	Pn	**Pn**	**11 45 52.9**	**+0.4**
NRA0	baz=97,slow=22			Sn	**Sn**	**11 46 54.4**	**-2.1**
NRA0				Lg	Lg	11 47 18.1	
NRA0	**NORESS Array S** baz=92,slow=28	**5.50**	**285**	Pn	**Pn**	**11 45 52.9**	**+0.4**
NRA0	baz=97,slow=22			Sn	**Sn**	**11 46 54.4**	**-2.1**
NRA0	baz=92,slow=28			Sg	**Sb**	**11 47 18.1**	**+5.4**
NB2	**NORSAR Subarra** baz=99,slow=12	**5.70**	**288**	Pn	**Pn**	**11 45 54.8**	**-0.5**
NB2	**NORSAR Subarra** baz=99,slow=12	**5.70**	**288**	Pn	**Pn**	**11 45 54.8**	**-0.5**
NOA	**NORSAR Array B** comp=Z,0.0nm,0.3s,baz=100,slow=10,SNR=4.0	**5.70**	**288**	Pn	**Pn**	**11 45 54.7**	**-0.5**
NOA	comp=Z,0.0nm,0.3s,baz=170,slow=17,SNR=2.6			Sn	**Sn**	**11 46 58.3**	**-3.0**
ARA0	**ARCESS Array S** baz=186,slow=14	**9.90**	**6**	Pn	**Pn**	**11 46 53.1**	**+0.3**
ARA0	**ARCESS Array S** baz=186,slow=14	**9.90**	**6**	Pn	**Pn**	**11 46 53.1**	**+0.3**
ARCES	**ARCESS Array B** comp=Z,0.1nm,0.3s,baz=186,slow=13,SNR=9.1	**9.90**	**6**	Pn	**Pn**	**11 46 53.2**	**+0.4**
ARCES	comp=Z,0.1nm,0.3s,baz=183,slow=23,SNR=3.0			Sn	**Sn**	**11 48 38.5**	**-6.0**

*ISCJB **16** 11:59:00.4±0.3, 59°.63N±0°.02×22°.41E±0°.03, h0**km**, Error ellipse: s-maj=3.5km s-min=2.4km az=166.7*
*HEL **16** 11:59:01.8±0.1, 59°.62N×22°.32E, h0**km**, ML2.4, Explosion*
*UPP **16** 11:59:02.4±1.3, 59°.77N×22°.32E, h0**km**, ML2.3, Suspected explosion*
*EST **16** 11:59:02.2±0.1, 59°.64N×22°.34E, h0**km**, ML2.4(HEL), Explosion*
*NAO **16** 11:59:03.2±1.4, 59°.72N×22°.20E, ML2.0*
*IDC **16** 11:59:03.3±1.9, 59°.72N×22°.37E, h0**km**, mb1 3.2/4, mb1mx2.9/41, mbtmp3.1/4, ML2.4/4, Error ellipse: s-maj=26.7km s-min=9.2km az=158.0*
*BER **16** 11:59:05.2±2.4, 59°.81N×22°.10E, h0**km**, ML2.0(NAO), Suspected explosion*
ISC 16 11:59:01.2±0.7**, 59°.75N**±0°.03×**22°.43E**±0°.02**, h0**km**, n46, σ1ˢ79/77, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**1.09**	**64**	*e*PB	**Pn**	**11 59 23.8**	**+0.1**
MEF				*e*SB	**Sn**	**11 59 39.1**	**-0.4**
MTSE	**Matsula**	**1.26**	**145**	*e*PN	**Pg**	**11 59 25.1**	**-0.1**
MTSE				*e*SN	**Sg**	**11 59 42.3**	**+0.8**
AAL	**Aland**	**1.30**	**290**	P	**Pg**	**11 59 25.4**	**-0.8**
AAL				S	**Sg**	**11 59 42.6**	**-0.3**
AAL	**Aland**	**1.30**	**290**	*e*P	**Pg**	**11 59 25.3**	**-0.8**
AAL				*e*SN	**Sn**	**11 59 46.6**	**+1.9**
RAF	**Rauma**	**1.32**	**346**	*e*P	**Pn**	**11 59 27.3**	**+0.4**
RAF	comp=Z,27nm,0.2s			MSG		11 59 44.8	
RAF				*e*S	**Sn**	**11 59 45.5**	**+0.4**
NUR	**Nurmijrvi**	**1.35**	**54**	*e*PG	**Pn**	**11 59 28.4**	**+1.2**
NUR				*e*SB	**Sn**	**11 59 47.8**	**+2.1**
ARBE	**Arbavere**	**1.83**	**98**	*e*PG	**Pb**	**11 59 36.0**	**+0.5**
ARBE				*e*SG	**Sg**	**12 00 00.9**	**+0.9**
PVF	**Pernaja**	**1.89**	**64**	*e*PG	**Pg**	**11 59 37.8**	**+0.4**
PVF	comp=Z,33nm,0.2s			MSG		12 00 01.1	
PVF				*e*SG	**Sg**	**12 00 03.4**	**+1.5**
NRTU	**Norrtaelje**	**1.93**	**270**	P	**Pn**	**11 59 35.4**	**+0.2**
NRTU				S	**Sn**	**12 00 00.2**	**+0.1**
GRAU	**Graesoe**	**2.04**	**288**	P	**Pn**	**11 59 37.1**	**+0.4**
GRAU				S	**Sn**	**12 00 03.7**	**+0.9**
SLIT	**Slitere, Latvi**	**2.13**	**182**	*e*PG	**Pn**	**11 59 38.6**	**+0.7**
SLIT				*e*SG	**Sn**	**12 00 06.5**	**+1.5**
FLYU	**Flymyra**	**2.32**	**281**	P	**Pn**	**11 59 41.2**	**+0.6**
FLYU				S	**Sn**	**12 00 10.1**	**+0.3**
NYNU	**Nynaeshamn**	**2.39**	**254**	P	**Pn**	**11 59 42.3**	**+0.8**
UPP	**Uppsala**	**2.43**	**275**	P	**Pn**	**11 59 43.1**	**+1.1**
FIA0	**FINESS Array S** baz=234,slow=14	**2.48**	**45**	Pn	**Pb**	**11 59 46.3**	**-0.2**
FIA0	baz=240,slow=37			Sn	**Sg**	**12 00 20.4**	**-0.1**
FIA0	**FINESS Array S** baz=234,slow=14	**2.48**	**45**	Pn	**Pb**	**11 59 46.3**	**-0.2**
FIA0	baz=240,slow=37			Sn	**Sg**	**12 00 20.4**	**-0.1**
FIA0	**FINESS Array S**	**2.48**	**45**	*e*PB	**Pb**	**11 59 46.8**	**+0.3**
FIA0				*e*SB	**Sg**	**12 00 19.6**	**-1.0**
FIA0	comp=Z,13nm,0.2s			MSG		12 00 22.2	
FINES	**FINESS Array B** comp=Z,1.0nm,0.3s,baz=230,slow=14,SNR=58	**2.48**	**45**	Pn	**Pb**	**11 59 46.3**	**-0.2**
FINES	comp=Z,3.9nm,0.3s,baz=239,slow=24,SNR=27			Sn	**Sg**	**12 00 19.3**	**-1.3**
FIA1	**FINESS Array S**	**2.48**	**45**	*e*SB	**Sg**	**12 00 20.3**	**-0.3**
FIA1	comp=Z,15nm,0.2s			MSG		12 00 22.1	
VSU	**Vasula**	**2.57**	**118**	Pn	**Pb**	**11 59 46.7**	**-1.3**
VSU				Sn	**Sb**	**12 00 20.9**	**+0.9**
VSU	**Vasula**	**2.57**	**118**	Pn	**Pb**	**11 59 46.7**	**-1.3**
VSU				Sn	**Sb**	**12 00 20.9**	**+0.9**
VSU	**Vasula**	**2.57**	**118**	*e*PG	**Pb**	**11 59 47.8**	**-0.2**
VSU				*e*SG	**Sb**	**12 00 21.1**	**+1.1**
FIBU	**Brunna**	**2.57**	**276**	P	**Pn**	**11 59 45.2**	**+1.2**
VJF	**Virojoki**	**2.68**	**71**	*e*P	**Pb**	**11 59 48.0**	**-1.9**
VJF				*e*S	**Sb**	**12 00 22.4**	**-0.9**
VJF	comp=Z,18nm,0.2s			MSG		12 00 23.7	
BACU	**Backbrunna**	**2.69**	**275**	P	**Pn**	**11 59 46.7**	**+1.0**
KEF	**Keuruu**	**2.70**	**25**	*e*PB	**Pb**	**11 59 50.4**	**0.0**
KEF				*e*SB	**Sg**	**12 00 26.6**	**-1.3**
OSTU	**Oestervaala**	**2.71**	**283**	P	**Pn**	**11 59 46.8**	**+0.9**
KAF	**Kangasniemi**	**3.03**	**37**	*e*PB	**Pb**	**11 59 55.7**	**-0.3**
KAF	comp=Z,13nm,0.2s			MSG		12 00 34.8	
KAF				*e*SB	**Sb**	**12 00 35.4**	**+1.9**
VAF	**Ylistaro**	**3.31**	**2**	*e*PB	**Pb**	**12 00 00.9**	**+0.3**
SUF	**Sumiainen**	**3.48**	**29**	*e*P	**Pb**	**12 00 00.2**	**-3.4**
HEMU	**Hemsoen**	**3.63**	**326**	*e*P	**Pn**	**12 00 01.1**	**+2.5**
UMAU	**Umeaa**	**4.23**	**349**	*e*P	**Pn**	**12 00 10.1**	**+3.3**
HFS	**Hagfors** baz=79,slow=14	**4.41**	**279**	Pn	**Pn**	**12 00 10.1**	**+0.8**
HFS	baz=94,slow=28			Lg	Lg	12 01 16.0	
HFS	**Hagfors** comp=Z,0.2nm,0.3s,baz=89,slow=16,SNR=17	**4.41**	**279**	Pn	**Pn**	**12 00 09.7**	**+0.3**
HFS	comp=Z,1.1nm,0.3s,baz=95,slow=31,SNR=7.4			Lg	Lg	12 01 15.9	
HFS	**Hagfors** baz=79,slow=14

ARCES	**ARCESS Array B**	**9.91**	**6**	Pn		**Pn**	**12 01 25.0**	**+0.3**	
	comp=Z,0.3nm,0.3s,baz=191,slow=14,SNR=19								
ARCES				Sn		**Sn**	**12 03 10.0**	**-6.5**	
	comp=Z,0.2nm,0.3s,baz=182,slow=24,SNR=3.0								

SJA ***16*** *12:10:06.6±0.7, 31°.25S×68°.05W, h10km±6km, ML2.7, MW3.3*
GUC ***16*** *12:10:08.2±1.4, 31°.17S×67°.89W, h33km, ML3.6*
ISC 16 12:10:05.6±1.1**, 31°.20S**±0°.03×**67°.97W**±0°.03**, h11**km±10km**, n29,σ1§02/36, 1C, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.45**	**253**	*e*P		**Pb**	**12 10 14.7**	**-1.0**
RTLL				*e*S		**Sg**	**12 10 20.4**	**-0.2**
RTLL				IAML			12 10 20.6	
	comp=Z,1μm,0.3s							
RTLL	**Cerro Villicun**	**0.45**	**253**	*i* S		**Sg**	**12 10 20.4**	**-0.2**
RTLL				IAML			12 10 20.9	
	comp=N,2μm,0.5s							
CFA	**Coronel Fontan**	**0.47**	**209**	*e*P		**Pb**	**12 10 15.1**	**-0.8**
CFA				*e*S		**Sg**	**12 10 20.7**	**-0.4**
AMOG	**MOGNA**	**0.52**	**299**	*e*P		**Pg**	**12 10 17.1**	**+1.4**
AMOG				*e*S		**Sb**	**12 10 24.1**	**-0.1**
SJA	**San Juan**	**0.61**	**237**	AMSG			12 10 24.9	
	comp=Z,15μm,0.1s							
SJA				IAML			12 10 25.1	
	comp=Z,1μm,0.2s							
RTCV	**Cerro Valdivia**	**0.82**	**216**	*e*P		**Pb**	**12 10 20.7**	**-1.3**
ACCO	**Cerro Coronel**	**1.12**	**302**	*e*P		**Pn**	**12 10 27.2**	**-0.3**
ACAN	**Cantantal**	**1.26**	**149**	*e*P		**Pg**	**12 10 30.7**	**+0.8**
RTLS	**Leoncito**	**1.28**	**242**	*e*P		**Pn**	**12 10 28.5**	**-1.3**
RTLS				IAML			12 10 48.4	
	comp=Z,68nm,0.2s							
ACDV	**Cuesta del Vie**	**1.42**	**316**	*e*P		**Pg**	**12 10 33.3**	**+0.3**
ACDV				IAML			12 10 51.8	
	comp=Z,71nm,0.1s							
APLL	**PUNTA DE LOS L**	**1.47**	**58**	*e*P		**Pg**	**12 10 35.8**	**+1.9**
APLL				IAML			12 10 57.0	
	comp=Z,217nm,0.3s							
ASAL	**Salagasta**	**1.57**	**208**	*e*P		**Pb**	**12 10 34.3**	**-0.5**
AUSP	**Uspallata**	**1.59**	**229**	*e*P		**Pn**	**12 10 33.5**	**-0.3**
AROD	**Rodeo**	**1.65**	**308**	*e*P		**Pb**	**12 10 36.3**	**+0.1**
AGUA	**GUANDACOL**	**1.76**	**345**	*e*P		**Pg**	**12 10 39.7**	**+0.3**
ARCO	**CERRO ARCO**	**1.83**	**206**	*e*P		**Pb**	**12 10 38.7**	**-0.5**
ARCO				IAML			12 11 06.4	
	comp=Z,44nm,0.2s							
ACLC	**CERRO LA CRUZ**	**1.97**	**27**	*e*P		**Pg**	**12 10 43.8**	**+0.3**
AAGR	**Agrelo**	**2.02**	**201**	*e*P		**Pb**	**12 10 42.1**	**-0.3**
MRA	**San Martin**	**2.27**	**123**	*e*P		**Pb**	**12 10 45.8**	**-0.9**
MRA				IAML			12 11 20.4	
	comp=Z,78nm,0.4s							
VCA	**Vinchina**	**2.46**	**355**	*e*P		**Pb**	**12 10 50.0**	**+0.1**
VCA				IAML			12 11 28.5	
	comp=Z,83nm,0.3s							
VCA	**Vinchina**	**2.46**	**355**	*i* P		**Pb**	**12 10 50.3**	**+0.4**
VCA				*e*S		**Sg**	**12 11 23.6**	**-1.0**
VCA				IAML			12 11 27.0	
	comp=N,143nm,0.3s							
CMCH	**Combarbala**	**2.60**	**270**	*e*P		**Pb**	**12 10 50.7**	**-1.6**
CMCH				*i* S		**Sb**	**12 11 23.3**	**-1.0**
CMCH				IAML			12 11 26.7	
	comp=E,726nm,0.8s							
GO04	**Tololo Observa**	**2.64**	**292**	*e*P		**Pb**	**12 10 52.9**	**-0.2**
GO04				*i* S		**Sb**	**12 11 26.5**	**+0.9**
GO04				IAML			12 11 30.5	
	comp=E,311nm,0.2s							
TCA	**Tanti**	**2.89**	**94**	*e*P		**Pg**	**12 10 60.0**	**-1.0**
TCA				IAML			12 11 43.6	
	comp=Z,8.2nm,0.7s							
FCH	**Farellones**	**2.90**	**222**	*e*P		**Pb**	**12 10 56.8**	**-0.7**
FCH				*i* S		**Sb**	**12 11 33.7**	**+0.7**
ROCH	**El Roble**	**3.13**	**235**	*e*P		**Pb**	**12 11 01.1**	**-0.3**
ROCH				*e*S		**Sn**	**12 11 34.2**	**+1.6**
ROC1	**El Roble**	**3.14**	**235**	*e*P		**Pn**	**12 10 57.2**	**+2.0**
LCO	**Las Campanas**	**3.22**	**312**	*e*P		**Pb**	**12 11 00.5**	**-2.4**
LCO				*e*S		**Sb**	**12 11 41.6**	**-0.6**
LCO				IAML			12 11 45.5	
	comp=E,86nm,0.2s							
CYA	**Choya**	**3.33**	**35**	IAML			12 12 04.8	
	comp=Z,32nm,0.6s							

IDC 16 12:21:43.1±2.5**, 5°.96S**×**127°.53E, h0**km**, mb3.3**/1**, mb1 3.7**/3**, mb1mx3.4**/29**, mbtmpb3.5**/3**, ML3.2**/2**, Error ellipse: s-maj=313.7km s-min=29.5km az=65.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.39**	**155**	Pn		Pn	12 25 23.1	+1.3
	0.1nm,0.3s,baz=333,slow=13,SNR=3.9							
ASAR	**Alice Springs**	**18.64**	**161**	P		P	12 26 01.9	-0.7
	0.2nm,0.3s,baz=345,slow=12,SNR=20							
MKAR	**Makanchi Array**	**66.03**	**328**	P		P	12 32 31.8	0.0
	0.1nm,0.4s,baz=121,slow=5.4,SNR=3.0							

ISCJB ***16*** *12:24:00.6±0.4, 59°.67N±0°.02×22°.39E±0°.04, h0km, Error ellipse: s-maj=3.7km s-min=2.7km az=165.0*
HEL ***16*** *12:24:00.7±0.1, 59°.62N×22°.22E, h0km, ML2.3, Explosion*
EST ***16*** *12:24:02.3±0.1, 59°.68N×22°.32E, h0km, ML2.3(HEL), Explosion*
UPP ***16*** *12:24:02.7±1.2, 59°.75N×22°.24E, h0km, ML2.2, Suspected explosion*
IDC ***16*** *12:24:04.4±2.0, 59°.84N×22°.25E, h0km, mb1 3.2/3, mb1mx3.0/42, mbtmpb3.1/3, ML2.5/3, Error ellipse: s-maj=24.8km s-min=12.8km az=162.0*
ISC 16 12:24:00.2±0.8**, 59°.71N**±0°.03×**22°.22E**±0°.02**, h0km, n30,** σ1§59/46**, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MEF	**Metsahovi**	**1.20**	**64**	*e*P		**Pb**	**12 24 23.5**	**-0.4**
MEF				*e*SB		**Sg**	**12 24 39.0**	**+0.1**
AAL	**Aland**	**1.22**	**294**	P		**Pn**	**12 24 25.1**	**+0.7**
AAL				S		**Sn**	**12 24 41.9**	**+0.3**
AAL	**Aland**	**1.22**	**294**	*e*P		**Pn**	**12 24 25.1**	**+0.7**
AAL				*e*SB		**Sn**	**12 24 41.7**	**+0.2**
MTSE	**Matsula**	**1.29**	**140**	*e*PB		**Pb**	**12 24 24.7**	**-0.6**
MTSE				*e*SB		**Sg**	**12 24 41.1**	**-0.7**
RAF	**Rauma**	**1.33**	**350**	*e*PG		**Pb**	**12 24 27.0**	**+0.9**
RAF				MSG			12 24 43.7	
	comp=Z,19nm,0.2s							
RAF				*e*SB		**Sn**	**12 24 45.4**	**+0.8**
NUR	**Nurmijrvi**	**1.45**	**56**	*e*PG		**Pb**	**12 24 28.1**	**0.0**
NUR				*e*SB		**Sb**	**12 24 47.0**	**-0.2**
NRTU	**Norrtaelje**	**1.82**	**270**	P		**Pg**	**12 24 35.2**	**+0.1**
NRTU				S		**Sg**	**12 25 00.2**	**+1.5**
ARBE	**Arbavere**	**1.93**	**97**	*e*PG		**Pb**	**12 24 35.8**	**-0.5**
ARBE				*e*SG		**Sb**	**12 25 01.0**	**+0.1**
GRAU	**Graesoe**	**1.95**	**290**	P		**Pb**	**12 24 36.8**	**+0.2**
GRAU				S		**Sg**	**12 25 03.4**	**+0.6**
PVF	**Pernaja**	**2.00**	**64**	*e*PG		**Pb**	**12 24 37.4**	**-0.1**
PVF				MSG			12 25 01.6	
	comp=Z,22nm,0.2s							
PVF				*e*SG		**Sb**	**12 25 03.3**	**+0.4**
SLIT	**Slitere, Latvi**	**2.09**	**179**	*e*PB		**Pb**	**12 24 38.3**	**-0.6**
SLIT				*e*SG		**Sg**	**12 25 06.4**	**-0.9**
FLYU	**Flymyra**	**2.23**	**283**	P		**Pb**	**12 24 40.9**	**-0.3**
NYNU	**Nynaeshamn**	**2.27**	**254**	P		**Pb**	**12 24 42.0**	**-0.1**
FIBU	**Brunna**	**2.47**	**276**	P		**Pb**	**12 24 45.0**	**-0.4**
FIA0	**FINESS Array S**	**2.58**	**46**	*e*PB		**Pb**	**12 24 46.6**	**-0.7**
FIA0				*e*SB		**Sb**	**12 25 19.3**	**-0.1**
FIA0				MSG			12 25 21.9	
	comp=Z,12nm,0.1s							
FINES	**FINESS Array B**	**2.58**	**46**	Pn		**Pb**	**12 24 46.6**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=232,slow=16,SNR=55							
FINES				Sn		**Sb**	**12 25 18.8**	**-0.6**
	comp=Z,4.1nm,0.3s,baz=235,slow=30,SNR=34							
FIA1	**FINESS Array S**	**2.58**	**46**	*e*SB		**Sb**	**12 25 19.8**	**+0.4**
BACU	**Backbrunna**	**2.59**	**275**	P		**Pb**	**12 24 46.7**	**-0.8**
OSTU	**Oestervaala**	**2.61**	**284**	P		**Pb**	**12 24 46.6**	**-1.2**
VSU	**Vasula**	**2.65**	**116**	*e*SG		**Sb**	**12 25 21.1**	**-0.3**
IGGU	**Iggoen**	**2.71**	**298**	P		**Pb**	**12 24 47.8**	**-1.6**
KEF	**Keuruu**	**2.78**	**27**	*e*PB		**Pb**	**12 24 50.2**	**-0.5**
KEF				*e*SB		**Sb**	**12 25 25.7**	**+0.4**
VJF	**Virojoki**	**2.79**	**70**	*e*S		**Sn**	**12 25 22.6**	**+2.1**
VJF				MSG			12 25 24.1	
	comp=Z,17nm,0.2s							
KAF	**Kangasniemi**	**3.13**	**38**	*e*PB		**Pb**	**12 24 55.5**	**-1.1**
KAF				MSG			12 25 34.8	
	comp=Z,11nm,0.2s							
KAF				*e*SB		**Sb**	**12 25 35.2**	**0.0**
VAF	**Ylistaro**	**3.35**	**3**	*e*PB		**Pb**	**12 25 00.3**	**-0.1**
SUF	**Sumiainen**	**3.56**	**31**	*e*P		**Pn**	**12 24 60.0**	**+3.3**
HEMU	**Hemsoen**	**3.60**	**328**	*e*P		**Pb**	**12 25 01.1**	**-3.5**
UMAU	**Umeaa**	**4.25**	**351**	*e*P		**Pn**	**12 25 09.1**	**+3.0**
NOA	**NORSAR Array B**	**5.62**	**288**	Pn		**Pn**	**12 25 26.8**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=104,slow=8.8,SNR=6.8							
ARCES	**ARCESS Array B**	**9.96**	**7**	Pn		**Pn**	**12 26 25.0**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=186,slow=13,SNR=11							
ARCES				Sn		**Sn**	**12 28 09.4**	**-7.3**
	comp=Z,0.1nm,0.3s,baz=194,slow=25,SNR=4.2							

ISCJB ***16*** *12:29:51.6±0.5, 39°.69N±0°.02×25°.56E±0°.03, h6km±4km, Error ellipse: s-maj=4.1km s-min=3.3km az=164.8*
ATH ***16*** *12:29:51.4, 39°.72N×25°.55E, h26km±3km, ML2.7/3, Error ellipse: s-maj=4.1km s-min=1.4km az=229.0*
ISK ***16*** *12:29:51.1, 39°.68N×25°.58E, h5km, ML2.6/14*
THE ***16*** *12:29:51.9, 39°.69N×25°.57E, h9km±1km, ML2.5/5, Error ellipse: s-maj=1.8km s-min=0.7km az=20.0*
DDA ***16*** *12:29:52.3, 39°.73N×25°.60E, h7km±3km, ML3.0*
ISC 16 12:29:51.9±1.0**, 39°.70N**±0°.02×**25°.58E**±0°.02**, h10**km±9km**, n42,**σ0§59/60**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
LIA	**Limnos Island**	**0.36**	**304**	P		**Pg**	**12 29 58.8**	**-0.2**
LIA				S		**Sg**	**12 30 04.0**	**+0.1**
LIA				AML		AML	12 30 04.2	
	comp=E,2531μm,0.3s							
LIA				AML		AML	12 30 04.4	
	comp=N,3831μm,0.3s							
LIA	**Limnos Island**	**0.36**	**304**	P		**Pg**	**12 29 58.9**	**-0.2**
LIA				S		**Sg**	**12 30 03.9**	**-0.1**
BOZC	**Bozcaada**	**0.40**	**68**	PG		**Pg**	**12 29 59.6**	**-0.2**
BOZC				SG		**Sg**	**12 30 05.6**	**+0.6**
BOZC	**Bozcaada**	**0.40**	**68**	IAML_P				
	comp=Z,9μm,0.1s							
BOZC				*i* P		**Pg**	**12 29 59.5**	**-0.2**
EFSA	**Agios Efstrati**	**0.48**	**251**	P		**Pb**	**12 30 02.0**	**-0.4**
SIGR	**SIGRI**	**0.53**	**156**	PG		**Pg**	**12 30 01.3**	**-0.9**
SIGR	**SIGRI**	**0.53**	**156**	P		**Pg**	**12 30 02.0**	**-0.2**
SIGR				S		**Sg**	**12 30 10.2**	**+1.1**
SIGR				AML		AML	12 30 15.7	
	comp=E,732μm,0.7s							
SIGR				AML		AML	12 30 16.3	
	comp=N,1204μm,0.5s							
SIGR	**SIGRI**	**0.53**	**156**	P		**Pg**	**12 30 01.8**	**-0.4**
SIGR				S		**Sg**	**12 30 09.8**	**+0.6**
GADA	**Gvkgeada**	**0.55**	**27**	PG		**Pg**	**12 30 02.7**	**0.0**
GADA	**Gvkgeada**	**0.55**	**27**	P		**Pg**	**12 30 02.6**	**-0.1**
GADA				S		**Sg**	**12 30 10.3**	**+0.3**
EZN	**Ezine**	**0.59**	**77**	PG		**Pg**	**12 30 02.9**	**-0.5**
EZN				SG		**Sg**	**12 30 11.3**	**+0.1**
EZN	**Ezine**	**0.59**	**77**	P		**Pg**	**12 30 03.1**	**-0.3**
EZN				S		**Sg**	**12 30 11.4**	**+0.2**
PRK	**Paraskevi**	**0.70**	**130**	P		**Pb**	**12 30 06.2**	**0.0**
PRK				S		**Sb**	**12 30 16.6**	**+0.7**
PRK				AML		AML	12 30 20.4	
	comp=N,1405μm,0.3s							
PRK				AML		AML	12 30 23.2	
	comp=E,1609μm,0.6s							
PRK	**Paraskevi**	**0.70**	**130**	P		**Pb**	**12 30 06.3**	**+0.1**
PRK				S		**Sb**	**12 30 16.3**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**0.75**	**86**	*i* P		**Pg**	**12 30 06.6**	**+0.2**
BAYC				*i* S		**Sb**	**12 30 17.2**	**-0.2**
SMTH	**Samothraki Isl**	**0.78**	**357**	P		**Pg**	**12 30 06.7**	**-0.2**
SMTH	**Samothraki Isl**	**0.78**	**357**	P		**Pb**	**12 30 06.9**	**-0.6**
SMTH				S		**Sb**	**12 30 18.5**	**+0.4**
AYVA	**Ayvalik**	**0.94**	**114**	*i* P		**Pn**	**12 30 11.1**	**-0.2**
AYVA				*i* S		**Sn**	**12 30 24.9**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.98**	**44**	PG		**Pg**	**12 30 10.6**	**-0.2**
GELI				SG		**Sb**	**12 30 24.5**	**+0.4**
ENEZ	**Enez**	**1.13**	**23**	PN		**Pn**	**12 30 14.1**	**+0.3**
LPK	**Lapseki**	**1.13**	**53**	PN		**Pb**	**12 30 13.6**	**0.0**
LPK				SN		**Sn**	**12 30 29.5**	**+0.1**
DKL	**Dikili**	**1.20**	**121**	PN		**Pb**	**12 30 14.7**	**-0.1**
ERIK	**Erikli-Kesan**	**1.21**	**36**	PN		**Pg**	**12 30 14.9**	**-0.3**
ALN	**Alexandroupoli**	**1.25**	**17**	PN		**Pn**	**12 30 14.7**	**-0.8**
ALN	**Alexandroupoli**	**1.25**	**17**	P		**Pn**	**12 30 14.6**	**-0.8**
ALN	**Alexandroupoli**	**1.25**	**17**	P		**Pn**	**12 30 14.9**	**-0.6**
ALN				S		**Sn**	**12 30 32.3**	**-0.1**
CHOS	**Chios island**	**1.36**	**164**	PN		**Pn**	**12 30 17.1**	**+0.1**
CHOS	**Chios island**	**1.36**	**164**	P		**Pn**	**12 30 16.0**	**-0.9**
CHOS	**Chios island**	**1.36**	**164**	P		**Pn**	**12 30 16.2**	**-0.8**
CHOS				S		**Sb**	**12 30 34.2**	**-0.7**
KESN	**Edirne-Kesan**	**1.41**	**36**	IAML_P				
	comp=Z,296nm,0.2s							
KESN				*i* P		**Pg**	**12 30 19.6**	**+0.6**
KESN				*i* S		**Sg**	**12 30 38.3**	**+0.9**
AOS	**Alonnisos**	**1.41**	**249**	PN		**Pn**	**12 30 17.6**	**-0.1**
RDO	**Rodhopi**	**1.45**	**359**	PN		**Pn**	**12 30 17.6**	**-0.5**
RDO	**Rodhopi**	**1.45**	**359**	P		**Pn**	**12 30 17.6**	**-0.5**
KRBG	**Karabiga-Canak**	**1.50**	**62**	PN		**Pb**	**12 30 19.3**	**-0.4**
URLA	**Izmir**	**1.55**	**149**	PN		**Pn**	**12 30 19.5**	**-0.1**
BALB	**Balikesir**	**1.78**	**91**	PN		**Pn**	**12 30 23.4**	**+0.7**
MRMT	**Marmara Adasi**	**1.79**	**59**	PN		**Pb**	**12 30 24.2**	**-0.7**
EDC	**Edincik**	**1.87**	**69**	PN		**Pb**	**12 30 25.4**	**-0.8**
SBT4	**Kumbag-Tekirda**	**1.88**	**52**	PN		**Pb**	**12 30 25.6**	**-0.6**
KDZ	**Kurdzhali**	**1.96**	**357**	PN		**Pn**	**12 30 26.1**	**+0.9**
EDRB	**Edirne**	**2.33**	**22**	PN		**Pb**	**12 30 32.1**	**-1.8**
STIP	**Stip**	**3.26**	**309**	*i* Pn		**Pb**	**12 30 51.4**	**+1.5**

ISCJB ***16*** *12:31:47.3±0.3, 59°.69N±0°.03×22°.39E±0°.03, h0km, Error ellipse: s-maj=3.9km s-min=2.4km az=168.9*
HEL ***16*** *12:31:47.9±0.1, 59°.62N×22°.33E, h0km, ML2.4, Explosion*
EST ***16*** *12:31:48.7±0.1, 59°.68N×22°.32E, h0km, ML2.3(HEL), Explosion*
NAO ***16*** *12:31:50.1±1.9, 59°.81N×22°.14E, ML2.0*
IDC ***16*** *12:31:50.0±1.6, 59°.80N×22°.29E, h0km, mb1 3.1/4, mb1mx2.9/49, mbtmpb3.0/4, ML2.4/4, Error ellipse: s-maj=21.8km s-min=7.5km az=162.0*
UPP ***16*** *12:31:51.0±1.0, 59°.73N×21°.98E, h0km, ML2.2, Suspected explosion*
BER ***16*** *12:31:52.2±3.7, 59°.79N×22°.09E, h0km, ML2.0(NAO), Suspected explosion*
ISC 16 12:31:47.4±0.7**, 59°.70N**±0°.03×**22°.40E**±0°.02**, h0km, n48,** σ1§49/78**, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MEF	**Metsahovi**	**1.13**	**62**	*e*P		**Pb**	**12 32 09.8**	**0.0**
MEF				*e*S		**Sb**	**12 32 25.1**	**0.0**
MTSE	**Matsula**	**1.23**	**143**	*e*PB		**Pg**	**12 32 11.0**	**+0.2**
MTSE				*e*SB		**Sb**	**12 32 27.5**	**-0.2**
AAL	**Aland**	**1.30**	**293**	P		**Pg**	**12 32 11.3**	**-1.0**
AAL	**Aland**	**1.30**	**293**	*e*P		**Pg**	**12 32 11.2**	**-1.2**
AAL				*e*SN		**Sn**	**12 32 32.5**	**+1.6**
RAF	**Rauma**	**1.37**	**347**	*e*P		**Pg**	**12 32 13.3**	**-0.4**
RAF				MSG			12 32 31.2	
	comp=Z,30nm,0.2s							
RAF				*e*SB		**Sg**	**12 32 31.5**	**+0.1**
NUR	**Nurmijrvi**	**1.39**	**53**	*e*P		**Pb**	**12 32 14.3**	**+0.1**
NUR				*e*SB		**Sn**	**12 32 33.4**	**+0.2**
ARBE	**Arbavere**	**1.84**	**97**	*e*PN		**Pb**	**12 32 22.1**	**+0.1**
ARBE				*e*SG		**Sg**	**12 32 46.5**	**-0.2**
PVF	**Pernaja**	**1.93**	**62**	*e*PG		**Pb**	**12 32 23.7**	**+0.3**
PVF				MSG			12 32 47.2	
	comp=Z,28nm,0.2s							
PVF				*e*SG		**Sg**	**12 32 49.2**	**-0.3**
SLIT	**Slitere, Latvi**	**2.07**	**182**	*e*PB		**Pn**	**12 32 24.8**	**+1.3**
SLIT				*e*SG		**Sb**	**12 32 51.6**	**-0.6**
FLYU	**Flymyra**	**2.31**	**283**	P		**Pn**	**12 32 27.2**	**+0.5**
FLYU				S		**Sn**	**12 32 56.6**	**+0.7**
NYNU	**Nynaeshamn**	**2.35**	**255**	P		**Pn**	**12 32 28.3**	**+1.0**
NYNU				S		**Sb**	**12 32 59.4**	**-0.8**
UPP	**Uppsala**	**2.42**	**276**	P		**Pn**	**12 32 29.4**	**+1.3**
FIA0	**FINESS Array S**	**2.53**	**44**	Pn		**Pb**	**12 32 32.7**	**-0.9**
FIA0	baz=234,slow=14			Sn		**Sb**	**12 33 06.4**	**+1.2**
	baz=230,slow=37							
FIA0	**FINESS Array S**	**2.53**	**44**	Pn		**Pb**	**12 32 32.7**	**-0.9**
	baz=234,slow=14							
FIA0	baz=230,slow=37			Sn		**Sb**	**12 33 06.4**	**+1.2**
FIA0	**FINESS Array S**	**2.53**	**44**	*e*PB		**Pb**	**12 32 32.9**	**-0.7**
FIA0				*e*SB		**Sb**	**12 33 05.6**	**+0.4**
FIA0				MSG			12 33 08.2	
	comp=Z,10nm,0.2s							
FINES	**FINESS Array B**	**2.53**	**44**	Pn		**Pb**	**12 32 32.3**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=230,slow=14,SNR=41							
FINES				Sn		**Sb**	**12 33 05.3**	**+0.1**
	comp=Z,3.8nm,0.3s,baz=232,slow=28,SNR=24							
FIA1	**FINESS Array S**	**2.53**	**44**	*e*SB		**Sb**	**12 33 06.1**	**+0.9**
FIA1				MSG			12 33 08.1	
	comp=Z,14nm,0.2s							
FIBU	**Brunna**	**2.56**	**277**	P		**Pn**	**12 32 31.4**	**+1.4**
FIBU				S		**Sn**	**12 33 02.9**	**+1.1**
VSU	**Vasula**	**2.56**	**117**	*e*P		**Pn**	**12 32 31.8**	**+1.7**
VSU				*e*SG		**Sg**	**12 33 08.0**	**-1.5**
BACU	**Backbrunna**	**2.68**	**276**	P		**Pn**	**12 32 32.7**	**+0.9**
OSTU	**Oestervaala**	**2.70**	**284**	P		**Pn**	**12 32 32.9**	**+0.8**
VJF	**Virojoki**	**2.72**	**70**	*e*P		**Pn**	**12 32 33.9**	**+1.6**
VJF				*e*S		**Sb**	**12 33 08.6**	**-2.1**
VJF				MSG			12 33 09.5	
	comp=Z,17nm,0.2s							
KEF	**Keuruu**	**2.76**	**25**	*e*PB		**Pb**	**12 32 36.4**	**-1.2**
KEF				*e*SB		**Sb**	**12 33 12.4**	**+0.5**
IGGU	**Iggoen**	**2.79**	**297**	P		**Pn**	**12 32 34.1**	**+0.8**
KAF	**Kangasniemi**	**3.09**	**37**	*e*PB		**Pb**	**12 32 41.0**	**-2.2**
KAF				MSG			12 33 20.9	
	comp=Z,11nm,0.2s							
KAF				*e*SB		**Sb**	**12 33 20.9**	**-0.4**
ESKU	**Eskilstuna**	**3.10**	**264**	P		**Pn**	**12 32 38.3**	**+0.8**
ARNU	**Arnoeviken**	**3.18**	**311**	P		**Pn**	**12 32 39.8**	**+1.2**
ARNU				S		**Sn**	**12 33 18.1**	**+0.9**
VAF	**Ylistaro**	**3.36**	**2**	*e*P		**Pn**	**12 32 44.0**	**+2.9**
FALU	**Falun**	**3.38**	**287**	P		**Pn**	**12 32 42.1**	**+0.7**
SUF	**Sumiainen**	**3.54**	**29**	*e*P		**Pn**	**12 32 46.0**	**+2.5**
HEMU	**Hemsoen**	**3.66**	**327**	P		**Pn**	**12 32 47.4**	**+2.2**
HEMU	**Hemsoen**	**3.66**	**327**	*e*P		**Pn**	**12 32 46.8**	**+1.5**
ROTU	**Roteberg**	**3.68**	**301**	P		**Pn**	**12 32 45.9**	**+0.4**
HASU	**Hassela**	**3.75**	**314**	P		**Pn**	**12 32 47.8**	**+1.4**
UMAU	**Umeaa**	**4.28**	**350**	*e*P		**Pn**	**12 32 55.7**	**+2.0**
HFS	**Hagfors**	**4.40**	**279**	Pn		**Pn**	**12 32 55.6**	**+0.2**
	baz=105,slow=14							
HFS				Sn		**Sn**	**12 33 45.2**	**-2.2**
	baz=86,slow=28							
HFS				Lg		Lg	12 34 03.0	
	baz=86,slow=37							
HFS	**Hagfors**	**4.40**	**279**	Pn		**Pn**	**12 32 55.8**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=86,slow=15,SNR=17							
HFS				Sn		**Sn**	**12 33 47.2**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=85,slow=25,SNR=3.3							
HFS				Lg		Lg	12 34 03.8	
	comp=Z,1.6nm,0.3s,baz=92,slow=28,SNR=11							
HFS	**Hagfors**	**4.40**	**279**	Pn		**Pn**	**12 32 55.6**	**+0.2**
	baz=105,slow=14							
HFS				Sn		**Sn**	**12 33 45.2**	**-2.2**
	baz=86,slow=28							
HFS				Sg		**Sb**	**12 34 03.0**	**+3.9**
	baz=86,slow=37							
NRA0	**NORESS Array S**	**5.51**	**286**	Pn		**Pn**	**12 33 10.7**	**+0.1**
	baz=90,slow=10							
NRA0				Sn		**Sn**	**12 34 12.8**	**-1.9**
	baz=102,slow=28							
NRA0				Lg		Lg	12 34 36.6	
	baz=93,slow=37							
NRA0	**NORESS Array S**	**5.51**	**286**	Pn		**Pn**	**12 33 10.7**	**+0.1**
	baz=90,slow=10							
NRA0				Sn		**Sn**	**12 34 12.8**	**-1.9**
	baz=102,slow=28							
NRA0				Sg		**Sb**	**12 34 36.6**	**+5.6**
	baz=93,slow=37							
NB2	**NORSAR Subarra**	**5.71**	**288**	Pn		**Pn**	**12 33 13.2**	**-0.2**
	baz=98,slow=14							
NB2				Sn		**Sn**	**12 34 16.8**	**-2.8**
	baz=98,slow=22							
NB2	**NORSAR Subarra**	**5.71**	**288**	Pn		**Pn**	**12 33 13.2**	**-0.2**
	baz=98,slow=14							
NB2				Sn		**Sn**	**12 34 16.8**	**-2.8**
	baz=98,slow=22							
NOA	**NORSAR Array B**	**5.71**	**288**	Pn		**Pn**

IDC ***16*** *12:44:37.8±1.4,5°.94S×150°.48E, h0km, mb4.4/5, mb1 4.6/6, mb1mx4.0/36, mbtmp4.5/6, ML2.6/1, MS3.0/5, Ms1 3.0/5, ms1mx2.7/28, Error ellipse: s-maj=30.1km s-min=24.5km az=107.0*

ISCJB ***16*** *12:44:42.2±0.6,6°.05S±0°.06×150°.46E±0°.08, h48km, mb4.2/8, MS3.0/3, Error ellipse: s-maj=12.6km s-min=7.6km az=25.1*

NEIC ***16*** *12:44:42.7±0.5,6°.07S×150°.51E, h35km, mb4.5/9, Error ellipse: s-maj=10.7km s-min=7.0km az=110.0*

ISC 16 12:44:43.8±0.7,6°.02S±0°.08×150°.50E±0°.09, h48km, n32, σ0ᵍ94/33, mb4.3/8, MS3.0/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.46**	**42**	*e*Pn	**Pn**	**12 45 22.4**	**+1.0**
PMG	**Port Moresby**	**4.72**	**224**	Pn	**Pn**	**12 45 52.1**	**-0.4**
	17nm,0.3s,baz=37,slow=12,SNR=49						
PMG				Sn	**Sn**	**12 46 48.6**	**+2.6**
	8.2nm,0.3s,baz=236,slow=19,SNR=5.8						
PMG				LR	LR	12 47 31.2	
	comp=Z,121nm,18.6s,baz=72,slow=36						
PMG	**Port Moresby**	**4.72**	**224**	*e*Pn	**Pn**	**12 45 53.0**	**+0.5**
PMG				*e*Sn	**Sn**	**12 46 47.6**	**+1.6**
PMG				*e*Sn	Sn	12 46 48.6	+2.6
MANU	**Manus Island**	**5.04**	**321**	*e*Pn	**Pn**	**12 45 56.4**	**-0.5**
HNR	**Honiara**	**9.95**	**110**	LR	LR	12 50 56.2	
	comp=Z,40nm,19.9s,baz=329,slow=38						
COEN	**Coen**	**10.69**	**222**	*e*Pn	**Pn**	**12 47 14.0**	**-0.4**
CTA	**Charters Tower**	**14.58**	**196**	Pn	**P**	**12 48 13.4**	**+0.7**
	0.2nm,0.3s,baz=22,slow=14,SNR=6.8						
CTAO	**Charters Tower**	**14.58**	**196**	*e*Pn	**Pn**	**12 48 05.4**	**-1.9**
EIDS	**Eidsvold**	**19.25**	**178**	*e*P	**P**	**12 49 03.9**	**-0.4**
	18nm,1.3s						
MTN	**Manton Dam**	**20.27**	**249**	*e*P	**P**	**12 49 14.8**	**-0.7**
	40nm,1.1s						
GUMO	**Guam**	**20.27**	**344**	*e*P	**P**	**12 49 16.0**	**+0.6**
	337nm,1.5s						
WRAB	**Tennant Creek**	**20.92**	**227**	*e*P	**P**	**12 49 22.6**	**0.0**
	17nm,0.6s						
WB2	**Warramunga Arr**	**20.93**	**227**	*e*P	**P**	**12 49 22.6**	**0.0**
WR1	**Warramunga Arr**	**20.94**	**227**	*e*P	**P**	**12 49 22.6**	**0.0**
	23nm,1.0s						
WRA	**Warramunga Arr**	**20.94**	**227**	P	**P**	**12 49 22.6**	**-0.1**
	13nm,0.7s,baz=51,slow=11,SNR=101						
DZM	**Mont Dzumac**	**22.18**	**138**	P	**P**	**12 49 36.7**	**+0.6**
	6.6nm,0.8s,baz=325,slow=16,SNR=5.4						
DZM	**Mont Dzumac**	**22.18**	**138**	*e*P	**P**	**12 49 35.3**	**-0.8**
	51nm,1.6s						
AS01	**Alice Springs**	**23.70**	**221**	*e*P	**P**	**12 49 51.2**	**-0.2**
AS31	**Alice Springs**	**23.73**	**221**	*e*P	**P**	**12 49 51.4**	**-0.3**
	3.0nm,0.9s						
ASAR	**Alice Springs**	**23.73**	**221**	P	**P**	**12 49 52.4**	**+0.7**
	3.7nm,0.4s,baz=53,slow=9.1,SNR=164						
ASAR				LR	LR	13 00 19.3	
	comp=Z,44nm,19.3s,baz=78,slow=40						
SOEI	**Soe**	**26.25**	**260**	*e*P	**P**	**12 50 14.1**	**-0.7**
	29nm,0.9s						
STKA	**Stephens Creek**	**27.04**	**197**	P	**P**	**12 50 21.6**	**-0.1**
	4.9nm,1.0s,baz=7.7,slow=9.4,SNR=8.9						
STKA				LR	LR	13 02 08.3	
	comp=Z,46nm,18.7s,baz=32,slow=39						
STKA	**Stephens Creek**	**27.04**	**197**	*e*P	**P**	**12 50 21.5**	**-0.1**
	7.2nm,1.9s						
FITZ	**Fitzroy Crossi**	**27.07**	**241**	P	**P**	**12 50 22.2**	**+0.1**
	5.8nm,0.4s,baz=50,slow=7.8,SNR=40						
FITZ				LR	LR	13 00 08.3	
	comp=Z,27nm,18.9s,baz=62,slow=34						
FITZ	**Fitzroy Crossi**	**27.07**	**241**	*e*P	**P**	**12 50 21.9**	**-0.1**
	45nm,1.7s						
FORT	**Forrest**	**32.42**	**218**	*e*P	**P**	**12 51 07.1**	**-2.2**
	17nm,0.8s						
MK32	**Makanchi Array**	**79.75**	**320**	*e*P	**P**	**12 56 47.9**	**+1.1**
MKAR	**Makanchi Array**	**79.75**	**320**	P	**P**	**12 56 47.9**	**+1.1**
	0.1nm,0.5s,baz=104,slow=6.1,SNR=2.8						
SDDR	**Presa de Saban**	**137.34**	**69**	*e*PKPdf	**PKPdf**	**13 04 02.3**	**-0.7**
TOA0	**Torodi Ar. Sit**	**148.46**	**285**	*e*PKPbc	**PKPbc**	**13 04 25.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**148.46**	**285**	PKPbc	**PKPbc**	**13 04 26.8**	**+0.5**
	1.3nm,0.6s,baz=105,slow=2.9,SNR=7.1						
TOA1	**Torodi Ar. Sit**	**148.47**	**285**	*e*PKPbc	**PKPbc**	**13 04 26.8**	**+0.5**

IDC 16 12:49:07.7±12.0, 22°.87N×12°.11W, h0km, mb3.3/1, mb1 3.3/2, mb1mx3.1/31, mbtmp3.3/2, ML3.3/1, Error ellipse: s-maj=336.6km s-min=64.7km az=59.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I11CV	**MAIO ISLAND IN**	**12.91**	**236**	*i*		14 10 00.0	
	baz=52,slow=313,SNR=1.3						
TORD	**Torodi Ar. Bea**	**16.29**	**124**	Pn	Pn	12 52 57.9	-0.1
	0.1nm,0.3s,baz=316,slow=12,SNR=3.6						
MKAR	**Makanchi Array**	**76.58**	**45**	P	P	13 01 00.2	+0.1
	0.1nm,0.5s,baz=303,slow=5.5,SNR=4.9						

ISCJB ***16*** *12:51:06.9±0.5,59°.67N±0°.03×22°.28E±0°.05, h0km, Error ellipse: s-maj=3.7km s-min=3.5km az=10.6*

HEL ***16*** *12:51:08.1±0.2,59°.62N×22°.32E, h0km, ML2.0, Explosion*

EST ***16*** *12:51:09.1±0.1,59°.68N×22°.30E, h0km, ML2.0(HEL), Explosion*

IDC ***16*** *12:51:10.3±2.3,59°.76N×22°.44E, h0km, mb1 3.0/3, mb1mx2.8/41, mbtmp2.8/3, ML2.0/3, Error ellipse: s-maj=28.0km s-min=11.8km az=166.0*

ISC 16 12:51:07.0±0.8, 59°.71N±0°.03×22°.32E±0°.03, h0km, n21, σ1ᵍ70/35, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**1.16**	**63**	*e*P	**Pb**	**12 51 30.1**	**+0.2**
MEF				*e*S	**Sb**	**12 51 45.5**	**+0.1**
MTSE	**Matsula**	**1.26**	**142**	*e*PB	**Pn**	**12 51 31.6**	**-0.2**
MTSE				*e*SB	**Sb**	**12 51 47.9**	**-0.3**
AAL	**Aland**	**1.26**	**293**	*e*P	**Pg**	**12 51 31.5**	**+0.3**
AAL				*e*SB	**Sb**	**12 51 48.6**	**+0.2**
RAF	**Rauma**	**1.35**	**348**	*e*P	**Pb**	**12 51 33.5**	**+0.4**
RAF				MSG		12 51 51.1	
	comp=Z,11nm,0.2s						
RAF				*e*SB	**Sb**	**12 51 51.5**	**+0.6**
NUR	**Nurmijrvi**	**1.42**	**54**	*e*P	**Pb**	**12 51 34.5**	**+0.3**
NUR				*e*SB	**Sn**	**12 51 54.1**	**+0.8**
ARBE	**Arbavere**	**1.88**	**97**	*e*PN	**Pb**	**12 51 42.4**	**+0.3**
ARBE				*e*SG	**Sg**	**12 52 07.2**	**-0.1**
PVF	**Pernaja**	**1.96**	**63**	*e*PB	**Pb**	**12 51 44.0**	**+0.5**
PVF				MSG		12 52 07.7	
	comp=Z,12nm,0.2s						
PVF				*e*SG	**Sg**	**12 52 10.3**	**+0.5**
SLIT	**Slitere, Latvi**	**2.09**	**180**	*e*PB	**Pb**	**12 51 45.0**	**-0.6**
SLIT				*e*SG	**Sg**	**12 52 12.8**	**-1.1**
FIA0	**FINESS Array S**	**2.54**	**45**	*e*PB	**Pb**	**12 51 53.3**	**-0.1**
FIA0				*e*SB	**Sb**	**12 52 26.5**	**+1.3**
FIA0				MSG		12 52 28.6	
	comp=Z,4.7nm,0.1s						
FINES	**FINESS Array B**	**2.54**	**45**	Pn	**Pb**	**12 51 52.4**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=231,slow=15,SNR=13						
FINES				Sn	**Sb**	**12 52 25.8**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=231,slow=26,SNR=12						
FIA1	**FINESS Array S**	**2.54**	**45**	*e*SB	**Sb**	**12 52 26.2**	**+1.0**
VSU	**Vasula**	**2.60**	**117**	*e*SB	**Sb**	**12 52 27.3**	**+0.6**
VJF	**Virojoki**	**2.75**	**70**	*e*S	**Sn**	**12 52 28.8**	**+2.7**
VJF				MSG		12 52 30.0	
	comp=Z,5.1nm,0.2s						
KEF	**Keuruu**	**2.76**	**26**	*e*PB	**Pb**	**12 51 56.7**	**-0.4**
KEF				*e*SB	**Sb**	**12 52 32.8**	**+1.2**
KAF	**Kangasniemi**	**3.10**	**37**	*e*PB	**Pb**	**12 52 02.3**	**-0.5**
KAF				MSG		12 52 41.1	
	comp=Z,3.2nm,0.2s						
KAF				*e*SB	**Sb**	**12 52 41.2**	**0.0**
VAF	**Ylistaro**	**3.35**	**3**	*e*PB	**Pb**	**12 52 07.1**	**0.0**
SUF	**Sumiainen**	**3.54**	**30**	*e*P	**Pn**	**12 52 06.3**	**+3.1**
HEMU	**Hemsoen**	**3.63**	**327**	*e*P	**Pn**	**12 52 07.2**	**+2.9**
UMAU	**Umeaa**	**4.26**	**350**	*e*PG	**Pg**	**12 52 26.2**	**-2.4**
NOA	**NORSAR Array B**	**5.67**	**288**	Pn	**Pn**	**12 52 33.7**	**+1.3**
	comp=Z,0.0nm,0.3s,baz=92,slow=12,SNR=2.3						
NOA				Sn	**Sn**	**12 53 39.4**	**+1.2**
	comp=Z,0.0nm,0.3s,baz=128,slow=24,SNR=2.3						
ARCES	**ARCESS Array B**	**9.96**	**6**	Pn	**Pn**	**12 53 31.0**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=185,slow=14,SNR=5.2						
ARCES				Sn	**Sn**	**12 55 16.5**	**-7.0**
	comp=Z,0.1nm,0.3s,baz=190,slow=21,SNR=2.2						

IDC 16 13:01:52.2±1.0, 19°.70N×145°.00E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/47, mbtmp3.7/6, Error ellipse: s-maj=84.3km s-min=19.7km az=109.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.76**	**195**	P	P	13 09 34.9	-0.3
	0.8nm,0.6s,baz=20,slow=9.0,SNR=15						
FITZ	**Fitzroy Crossi**	**42.10**	**208**	P	P	13 09 47.1	+0.9
	2.7nm,0.9s,baz=32,slow=9.0,SNR=11						
ASAR	**Alice Springs**	**44.44**	**195**	P	P	13 10 04.3	-0.9
	0.6nm,0.6s,baz=16,slow=6.2,SNR=7.9						
ILAR	**Eielson Array**	**63.05**	**26**	P	P	13 12 21.2	+0.3
	0.1nm,0.3s,baz=259,slow=5.7,SNR=7.3						
YKA	**Yellowknife Ar**	**77.42**	**28**	P	P	13 13 49.5	+0.5
	0.1nm,0.5s,baz=291,slow=5.4,SNR=3.7						
FINES	**FINESS Array B**	**85.70**	**335**	P	P	13 14 31.9	-1.0
	1.1nm,0.7s,baz=64,slow=3.2,SNR=4.6						

ISCJB ***16*** *13:02:37.6±0.4,59°.68N±0°.03×22°.40E±0°.04, h0km, Error ellipse: s-maj=3.8km s-min=3.1km az=4.1*

HEL ***16*** *13:02:39.3±0.1,59°.70N×22°.33E, h0km, ML1.7, ML1.5(UPP), Explosion*

UPP ***16*** *13:02:40.9±1.0,59°.72N×22°.05E, h0km, ML1.5, Suspected explosion*

IDC ***16*** *13:02:40.6±2.1,59°.81N×22°.20E, h0km, mb1 3.4/2, mb1mx3.0/43, mbtmp3.2/2, ML1.7/3, Error ellipse: s-maj=27.0km s-min=12.8km az=160.0*

ISC 16 13:02:36.6±0.8, 59.74N±0°.03×22°.25E±0°.02, h0km, n33, σ1ᵍ31/46, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**1.18**	**65**	*e*PB	**Pn**	**13 03 00.6**	**+0.2**
MEF				*e*S	**Sg**	**13 03 14.7**	**+0.2**
AAL	**Aland**	**1.22**	**292**	P	**Pn**	**13 03 02.0**	**+1.1**
AAL				S	**Sn**	**13 03 18.9**	**+0.9**
AAL	**Aland**	**1.22**	**292**	*e*P	**Pn**	**13 03 02.0**	**+1.1**
AAL				*e*S	**Sn**	**13 03 18.2**	**+0.2**
MTSE	**Matsula**	**1.31**	**141**	*e*P	**Pg**	**13 03 01.8**	**+0.1**
MTSE				*e*SB	**Sg**	**13 03 18.5**	**-0.1**
RAF	**Rauma**	**1.31**	**350**	*e*P	**Pn**	**13 03 03.8**	**+1.7**
RAF				MSG		13 03 20.8	
	comp=Z,7.2nm,0.2s						
RAF				*e*S	**Sn**	**13 03 21.9**	**+1.7**
NUR	**Nurmijrvi**	**1.43**	**56**	*e*P	**Pb**	**13 03 04.9**	**+0.8**
NUR				*e*S	**Sb**	**13 03 23.1**	**+0.3**
NRTU	**Norrtaelje**	**1.84**	**270**	P	**Pg**	**13 03 12.0**	**+0.2**
NRTU	**Norrtaelje**	**1.84**	**270**	*e*P	**Pg**	**13 03 12.0**	**+0.2**
ARBE	**Arbavere**	**1.92**	**98**	*e*PG	**Pb**	**13 03 12.8**	**+0.3**
ARBE				*e*SG	**Sg**	**13 03 38.3**	**-0.1**
GRAU	**Graesoe**	**1.96**	**289**	P	**Pb**	**13 03 13.7**	**+0.6**
GRAU	**Graesoe**	**1.96**	**289**	*e*P	**Pb**	**13 03 13.7**	**+0.6**
PVF	**Pernaja**	**1.98**	**64**	*e*PG	**Pg**	**13 03 14.6**	**+0.1**
PVF				MSG		13 03 37.7	
	comp=Z,5.7nm,0.2s						
SLIT	**Slitere, Latvi**	**2.12**	**179**	*e*PB	**Pb**	**13 03 15.6**	**-0.2**
SLIT				*e*SG	**Sg**	**13 03 43.8**	**-0.9**
FLYU	**Flymyra**	**2.23**	**282**	P	**Pb**	**13 03 17.9**	**+0.1**
FLYU	**Flymyra**	**2.23**	**282**	*e*P	**Pb**	**13 03 17.9**	**+0.1**
NYNU	**Nynaeshamn**	**2.30**	**253**	P	**Pb**	**13 03 19.2**	**+0.4**
NYNU	**Nynaeshamn**	**2.30**	**253**	*e*P	**Pb**	**13 03 19.2**	**+0.4**
FIBU	**Brunna**	**2.48**	**276**	P	**Pb**	**13 03 22.4**	**+0.4**
FIA0	**FINESS Array S**	**2.55**	**46**	*e*PB	**Pb**	**13 03 23.3**	**+0.2**
FIA0				*e*SB	**Sb**	**13 03 56.3**	**+1.4**
FINES	**FINESS Array B**	**2.55**	**46**	Pn	**Pb**	**13 03 23.7**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=229,slow=13,SNR=11						
FINES				Sn	**Sb**	**13 03 56.4**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=233,slow=27,SNR=11						
BACU	**Backbrunna**	**2.60**	**275**	P	**Pb**	**13 03 23.5**	**-0.6**
BACU	**Backbrunna**	**2.60**	**275**	*e*P	**Pb**	**13 03 23.5**	**-0.6**
OSTU	**Oestervaala**	**2.62**	**283**	P	**Pb**	**13 03 23.8**	**-0.6**
OSTU	**Oestervaala**	**2.62**	**283**	*e*P	**Pb**	**13 03 23.8**	**-0.6**
VSU	**Vasula**	**2.65**	**117**	*e*PB	**Pb**	**13 03 23.4**	**-1.4**
VSU				*e*SB	**Sb**	**13 03 56.9**	**-0.9**
IGGU	**Iggoen**	**2.71**	**297**	P	**Pb**	**13 03 24.6**	**-1.3**
IGGU	**Iggoen**	**2.71**	**297**	*e*P	**Pb**	**13 03 24.6**	**-1.3**
KEF	**Keuruu**	**2.75**	**27**	*e*PB	**Pb**	**13 03 27.1**	**+0.5**
KAF	**Kangasniemi**	**3.10**	**38**	*e*P	**Pn**	**13 03 27.4**	**+0.7**
KAF				MSG		13 04 11.1	
	comp=Z,1.9nm,0.2s						
KAF				*e*SB	**Sb**	**13 04 12.0**	**+1.3**
HEMU	**Hemsoen**	**3.58**	**327**	P	**Pb**	**13 03 37.9**	**-2.8**
HEMU	**Hemsoen**	**3.58**	**327**	*e*P	**Pb**	**13 03 37.9**	**-2.8**
NOA	**NORSAR Array B**	**5.62**	**288**	Pn	**Pn**	**13 04 03.1**	**+1.6**
	comp=Z,0.0nm,0.3s,baz=89,slow=15,SNR=1.9						
ARCES	**ARCESS Array B**	**9.93**	**7**	Pn	**Pn**	**13 05 00.1**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=185,slow=13,SNR=3.5						
ARCES				Sn	**Sn**	**13 06 47.1**	**-5.3**
	comp=Z,0.1nm,0.3s,baz=194,slow=22,SNR=3.0						

ISCJB ***16*** *13:15:55.4±0.4,59°.69N±0°.03×22°.38E±0°.04, h0km, Error ellipse: s-maj=4.1km s-min=2.6km az=162.6*

HEL ***16*** *13:15:56.5±0.1,59°.64N×22°.30E, h0km, ML1.9, Explosion*

EST ***16*** *13:15:57.1±0.1,59°.68N×22°.28E, h0km, ML1.9(HEL), Explosion*

UPP ***16*** *13:15:57.0±1.1,59°.65N×22°.24E, h0km, ML1.9, Suspected explosion*

IDC ***16*** *13:15:57.6±2.4,59°.70N×22°.57E, h0km, mb1 2.9/3, mb1mx2.8/35, mbtmp2.8/3, ML2.0/3, Error ellipse: s-maj=29.2km s-min=10.2km az=159.0*

ISC 16 13:15:55.7±0.8, 59.76N±0°.03×22°.38E±0°.03, h0km, n28, σ1ᵍ24/44, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**1.11**	**65**	*e*P	**Pb**	**13 16 18.2**	**+0.5**
MEF				*e*S	**Sb**	**13 16 33.6**	**+0.8**
AAL	**Aland**	**1.27**	**290**	P	**Pg**	**13 16 19.6**	**-0.5**
AAL				S	**Sg**	**13 16 36.2**	**-0.3**
AAL	**Aland**	**1.27**	**290**	*e*P	**Pg**	**13 16 19.6**	**-0.5**
AAL				*e*SB	**Sg**	**13 16 36.0**	**-0.5**
MTSE	**Matsula**	**1.28**	**144**	*e*PB	**Pg**	**13 16 19.8**	**-0.3**
MTSE				*e*SB	**Sg**	**13 16 35.7**	**-1.0**
RAF	**Rauma**	**1.31**	**347**	*e*PG	**Pn**	**13 16 21.7**	**+0.6**
RAF				MSG		13 16 39.0	
	comp=Z,7.6nm,0.2s						
RAF				*e*SB	**Sn**	**13 16 39.8**	**+0.5**
NUR	**Nurmijrvi**	**1.36**	**55**	*e*P	**Pb**	**13 16 22.8**	**+0.8**
NUR				*e*S	**Sn**	**13 16 41.6**	**+0.9**
ARBE	**Arbavere**	**1.86**	**98**	*e*PG	**Pb**	**13 16 30.9**	**+0.4**
ARBE				*e*SG	**Sg**	**13 16 55.9**	**+0.5**
NRTU	**Norrtaelje**	**1.90**	**269**	P	**Pn**	**13 16 29.8**	**+0.5**
NRTU				S	**Sn**	**13 16 54.4**	**+0.5**
PVF	**Pernaja**	**1.91**	**64**	*e*PB	**Pb**	**13 16 32.2**	**+0.8**
PVF				MSG		13 16 55.9	
	comp=Z,8.4nm,0.2s						
PVF				*e*SG	**Sg**	**13 16 57.9**	**+0.9**
GRAU	**Graesoe**	**2.01**	**288**	P	**Pn**	**13 16 31.8**	**+1.0**
SLIT	**Slitere, Latvi**	**2.14**	**181**	*e*PB	**Pn**	**13 16 33.2**	**+0.7**
SLIT				*e*SG	**Sn**	**13 17 00.1**	**+0.5**
FLYU	**Flymyra**	**2.29**	**281**	P	**Pn**	**13 16 35.8**	**+1.1**
NYNU	**Nynaeshamn**	**2.36**	**253**	P	**Pn**	**13 16 36.9**	**+1.2**
NYNU				S	**Sn**	**13 17 07.1**	**+1.8**
FIA0	**FINESS Array S**	**2.49**	**46**	*e*PB	**Pb**	**13 16 41.0**	**-0.2**
FIA0				*e*SB	**Sg**	**13 17 14.5**	**-1.0**
FIA0				MSG		13 17 16.5	
	comp=Z,3.0nm,0.1s						
FINES	**FINESS Array B**	**2.49**	**46**	Pn	**Pb**	**13 16 40.5**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=226,slow=14,SNR=24						
FINES				Lg	Lg	13 17 14.3	
	comp=Z,1.1nm,0.3s,baz=233,slow=31,SNR=6.2						
FIA1	**FINESS Array S**	**2.49**	**46**	*e*SB	**Sg**	**13 17 14.6**	**-0.9**
FIA1				MSG		13 17 15.9	
	comp=Z,3.4nm,0.2s						
FIBU	**Brunna**	**2.54**	**275**	P	**Pn**	**13 16 39.7**	**+1.6**
BACU	**Backbrunna**	**2.67**	**274**	P	**Pn**	**13 16 41.6**	**+1.8**
VJF	**Virojoki**	**2.70**	**71**	MSG		13 17 18.4	
	comp=Z,4.4nm,0.2s						
VJF				*e*SG	**Sg**	**13 17 22.6**	**+0.2**
KEF	**Keuruu**	**2.71**	**26**	*e*PB	**Pb**	**13 16 45.2**	**+0.3**
KEF				*e*SB	**Sg**	**13 17 21.2**	**-1.3**
GOTU	**Gotland**	**2.88**	**225**	P	**Pn**	**13 16 40.0**	**-2.7**
KAF	**Kangasniemi**	**3.04**	**37**	*e*PB	**Pb**	**13 16 50.2**	**-0.4**
KAF				MSG		13 17 29.3	
	comp=Z,4.1nm,0.2s						
KAF				*e*SB	**Sb**	**13 17 29.6**	**+1.3**
ESKU	**Eskilstuna**	**3.10**	**263**	P	**Pn**	**13 16 46.6**	**+0.9**
ARNU	**Arnoeviken**	**3.13**	**310**	P	**Pn**	**13 16 48.3**	**+2.1**
VIKU	**Vikbolandet**	**3.19**	**249**	P	**Pn**	**13 16 47.4**	**+0.4**
VAF	**Ylistaro**	**3.30**	**2**	*e*PB	**Pb**	**13 16 55.4**	**+0.4**
NOA	**NORSAR Array B**	**5.68**	**288**	Pn	**Pn**	**13 17 21.8**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=81,slow=12,SNR=3.0						
NOA				Sn	**Sn**	**13 18 27.8**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=147,slow=16,SNR=2.2						
ARCES	**ARCESS Array B**	**9.91**	**6**	Pn	**Pn**	**13 18 19.2**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=186,slow=15,SNR=4.0						
ARCES				Sn	**Sn**	**13 20 06.0**	**-4.9**
	comp=Z,0.1nm,0.3s,baz=189,slow=23,SNR=2.9						

IDC 16 13:23:58.3±2.3, 1°.20N×127°.18E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/30, mbtmp3.6/3, Error ellipse: s-maj=174.8km s-min=27.2km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.15**	**162**	P	P	13 28 54.2	-1.7
	0.7nm,0.5s,baz=340,slow=11,SNR=20						
ASAR	**Alice Springs**	**25.56**	**166**	P	P	13 29 30.4	+1.2
	1.5nm,0.6s,baz=351,slow=11,SNR=25						
MKAR	**Makanchi Array**	**59.89**	**326**	P	P	13 34 05.8	-0.2
	0.3nm,0.8s,baz=126,slow=7.4,SNR=3.5						

ISCJB ***16*** *13:29:35.7±0.4,59°.69N±0°.03×22°.35E±0°.04, h0km, Error ellipse: s-maj=4.3km s-min=2.6km az=160.2*

UPP ***16*** *13:29:36.5±1.3,59°.77N×22°.32E, h0km, ML2.0, Suspected explosion*

EST ***16*** *13:29:36.9±0.1,59°.67N×22°.34E, h0km, ML2.1(HEL), Explosion*

HEL ***16*** *13:29:36.9±0.1,59°.67N×22°.33E, h0km, ML2.1, ML2.0(UPP), Explosion*

IDC ***16*** *13:29:37.0±2.3,59°.61N×22°.54E, h0km, mb1 3.2/3, mb1mx2.9/37, mbtmp3.1/3, ML2.2/3, Error ellipse: s-maj=26.9km s-min=11.2km az=165.0*

ISC 16 13:29:35.6±0.8, 59.72N±0°.03×22°.36E±0°.02, h0km, n37, σ1ᵍ31/60, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**1.14**	**63**	*e*P	**Pb**	**13 29 57.8**	**-0.3**
MEF				*e*S	**Sb**	**13 30 13.1**	**-0.3**
MTSE	**Matsula**	**1.26**	**143**	*e*P	**Pg**	**13 29 58.9**	**-0.7**
MTSE				*e*S	**Sg**	**13 30 15.1**	**-0.8**
AAL	**Aland**	**1.27**	**292**	P	**Pg**	**13 29 59.2**	**-0.8**
AAL				S	**Sg**	**13 30 16.3**	**-0.1**
AAL	**Aland**	**1.27**	**292**	*e*P	**Pg**	**13 29 59.2**	**-0.8**
AAL				*e*S	**Sg**	**13 30 16.9**	**+0.4**
RAF	**Rauma**	**1.34**	**347**	*e*P	**Pg**	**13 30 01.1**	**0.0**
RAF				MSG		13 30 16.8	
	comp=Z,13nm,0.2s						
RAF				*e*S	**Sn**	**13 30 20.2**	**+0.4**
NUR	**Nurmijrvi**	**1.39**	**55**	*e*P	**Pg**	**13 30 02.1**	**0.0**
NUR				*e*S	**Sn**	**13 30 21.4**	**+0.2**
ARBE	**Arbavere**	**1.87**	**97**	*e*P	**Pb**	**13 30 10.2**	**-0.3**
ARBE				*e*S	**Sn**	**13 30 33.5**	**+0.6**
NRTU	**Norrtaelje**	**1.89**	**270**	P	**Pn**	**13 30 09.3**	**+0.3**
NRTU				S	**Sb**	**13 30 34.8**	**-0.2**
NRTU	**Norrtaelje**	**1.89**	**270**	*e*P	**Pn**	**13 30 09.3**	**+0.3**
NRTU				*e*S	**Sb**	**13 30 34.8**	**-0.2**
PVF	**Pernaja**	**1.94**	**63**	*e*P	**Pb**	**13 30 11.9**	**+0.2**
PVF				MSG		13 30 35.7	
	comp=Z,13nm,0.2s						
PVF				*e*S	**Sg**	**13 30 37.3**	**-0.4**
GRAU	**Graesoe**	**2.01**	**289**	P	**Pn**	**13 30 11.3**	**+0.6**
GRAU	**Graesoe**	**2.01**	**289**	*e*P	**Pn**	**13 30 11.3**	**+0.6**
FLYU	**Flymyra**	**2.29**	**282**	P	**Pn**	**13 30 15.7**	**+1.2**
FLYU	**Flymyra**	**2.29**	**282**	*e*P	**Pn**	**13 30 15.7**	**+1.2**
NYNU	**Nynaeshamn**	**2.34**	**254**	P	**Pn**	**13 30 16.5**	**+1.3**
NYNU				S	**Sb**	**13 30 47.9**	**-0.1**
NYNU	**Nynaeshamn**	**2.34**	**254**	*e*P	**Pn**	**13 30 16.5**	**+1.3**
FIA0	**FINESS Array S**	**2.52**	**45**	*e*P	**Pb**	**13 30 21.1**	**-0.4**
FIA0				*e*SB	**Sb**	**13 30 53.8**	**+0.8**
FINES	**FINESS Array B**	**2.52**	**45**	Pn	**Pb**	**13 30 20.7**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=224,slow=15,SNR=24						
FINES				Sn	**Sb**	**13 30 53.5**	**+0.5**
	comp=Z,2.3nm,0

SANI	Sanana	5.09 310	P	Pn	13 46 56.9	+0.7
FITZ	Fitzroy Crossi	13.33 198	P	P	13 48 41.2	+0.5
	0.5nm,0.3s,baz=28,slow=12,SNR=21					
FITZ			S	S	13 51 02.1	-5.3
	0.2nm,0.3s,baz=170,slow=18,SNR=3.2					
WRA	Warramunga Arr	15.14 164	P	Pn	13 49 03.4	+2.1
	0.2nm,0.3s,baz=340,slow=13,SNR=17					
WRA			S	S	13 51 47.7	-0.5
	0.5nm,0.3s,baz=322,slow=9.7,SNR=10					
ASAR	Alice Springs	18.62 168	P	Pn	13 49 44.3	+2.0
	0.5nm,0.3s,baz=344,slow=11,SNR=57					
ASAR			S	S	13 52 59.1	+1.5
	0.1nm,0.3s,baz=360,slow=23,SNR=3.4					
CMAR	Chiang Mai Arr	38.61 309	P	P	13 52 43.6	+4.7
	0.4nm,0.3s,baz=141,slow=7.5,SNR=2.8					
MKAR	Makanchi Array	66.80 326	P	P	13 56 09.6	+5.4
	0.7nm,0.6s,baz=111,slow=7.9,SNR=18					

IDC 16 13:52:57.1±3.9,**60°58N**×**27°96W**,**h0**km,**mb3.2**/4,
mb1 3.5/4,**mb1mx3.3**/48,**mbtmp3.2**/4,**Error ellipse: s-maj=106.1km s-min=34.3km az=177.0**,**Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	Yellowknife Ar	38.40	312	P	P	14 00 20.5	+0.9
	0.2nm,0.6s,baz=51,slow=9.0,SNR=6.0						
ILAR	Eielson Array	46.89	329	P	P	14 01 27.6	-0.9
	0.2nm,0.8s,baz=36,slow=4.8,SNR=3.1						
PDAR	Pinedale Array	50.10	288	P	P	14 01 53.3	-0.4
	0.2nm,0.6s,baz=43,slow=6.7,SNR=3.5						
MKAR	Makanchi Array	59.04	49	P	P	14 02 58.5	+0.1
	0.3nm,0.6s,baz=331,slow=5.2,SNR=5.1						

MOS ***16*** *13:53:36.4*±*0.0,41°.70N*×*44°.83E,h28*km±*2*km*, MPVA2.8*
TIF ***16*** *13:53:38.4,41°.83N*×*44°.89E,h17*km
ISCJB ***16*** *13:53:39.3*±*0.6,41°.86N*±*0°.03*×*44°.88E*±*0°.05,h10*km±*5*km*,*
Error ellipse: s-maj=6.9km s-min=4.4km az=171.8
NORS ***16*** *13:53:39.2*±*0.0,41°.75N*×*44°.64E,h13*km*, MPVA3.6*

ISC 16 13:53:39.0±0.9,**41°81N**±0°.03×**44°90E**±0°.04,**h18**km±6km,
n12,σ0**s54**/23,**Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEAG	Tbilisi Sea	0.08	240	P	Pg	13 53 42.3	-0.2
SEAG				S	Sg	13 53 45.0	+0.1
TBLG	Delisi	0.14	238	P	Pg	13 53 43.0	-0.1
TBLG				S	Sb	13 53 46.1	+1.0
TBLG	Delisi	0.14	238	*e*Pg	Pg	13 53 43.0	-0.1
TBLG				*e*Sg	Sb	13 53 46.1	+1.0
TRLG	Trialeti	0.65	246	P	Pb	13 53 52.0	0.0
TRLG				S	Sb	13 54 01.3	+0.5
GUDG	Gudauri	0.73	335	P	Pb	13 53 54.0	+0.7
GUDG				S	Sg	13 54 03.1	0.0
LGD	Lagodekhi	1.01	88	P	Pb	13 53 57.9	0.0
LGD				S	Sn	13 54 12.3	+0.3
LGD	Lagodekhi	1.01	88	*e*Pg	Pb	13 53 57.9	0.0
LGD				*e*Sg	Sn	13 54 12.3	+0.3
BGD	Bogdanovka	1.11	241	P	Sg	13 54 15.3	+0.1
LACR	Lac	1.11	337	*e*Pg	Pb	13 53 59.2	-0.6
LACR				*e*Sg	Sb	13 54 14.6	+0.5
ZEI	Tsey	1.23	323	*e*Pg	Pn	13 54 00.9	-0.6
ZEI				*e*Sg	Sb	13 54 17.2	-0.3
KORR	Kora	1.42	335	*e*Pg	Pg	13 54 06.0	-0.4
KORR				*e*Sg	Sg	13 54 25.8	+0.9
ARNR	Ardon	1.45	342	*e*Pg	Pg	13 54 06.5	-0.4
ARNR				*e*Sg	Sg	13 54 26.5	+0.7

ISCJB ***16*** *13:55:23.0*±*0.3,30°.19S*±*0°.03*×*176°.38W*±*0°.05,h33*km*,*
mb4.6/20,MS3.5/7, Error ellipse: s-maj=5.9km
s-min=3.8km az=2.3
NEIC ***16*** *13:55:28.8*±*1.5,29°.66S*×*176°.56W,h57*km±*11*km*,mb4.7/21,*
Error ellipse: s-maj=15.0km s-min=8.9km az=156.0
WEL ***16*** *13:55:28.0,29°.66S*×*176°.56W,h57*km*, ML5.0/2*
IDC ***16*** *13:55:30.3*±*2.3,29°.60S*×*176°.52W,h66*km±*17*km*,mb4.2/11,*
mb1 4.4/11,mb1mx4.1/43,mbtmp4.5/11,MS3.5/9,
Ms1 3.5/9,ms1mx3.3/27,Error ellipse: s-maj=21.4km
s-min=19.2km az=69.0

ISC 16 13:55:25.0±0.5,**29°98S**±0°.06×**176°25W**±0°.07,**h35**km,
n144,σ2**s14**/133,**mb4.6**/20,**MS3.5**/7,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.62	296	P	Pn	13 55 49.5	-1.6
GLKZ				S	Sn	13 56 10.6	-0.1
RAO	Raoul Island	1.62	296	P	Pn	13 55 50.1	-0.9
	475nm,0.3s,baz=89,slow=8.2,SNR=9.5						
RAO				S	Sn	13 56 08.6	-2.1
	2µm,0.3s,baz=113,slow=22,SNR=7.7						
RIZ	Raoul Island	1.64	296	P	Pn	13 55 49.8	-1.4
RIZ				S	Sn	13 56 10.4	-0.7
MXZ	Matakaoa Point	8.82	209	*e*Pn	Pn	13 57 28.8	-1.1
MXZ	Matakaoa Point	8.82	209	P	Pn	13 57 28.2	-1.8
WMGZ	Waiomatatini S	8.99	208	P	Pn	13 57 30.9	-1.4
PKGZ	Pakihiroa	9.19	209	P	Pn	13 57 32.7	-2.4
PKGZ				S	Sn	13 59 18.5	+1.1
HAZ	Te Kaha	9.21	211	P	Pn	13 57 34.0	-1.3
HAZ				S	Sn	13 59 20.9	+3.2
PUZ	Puketiti	9.27	208	P	Pn	13 57 33.7	-2.5
PUZ				S	Sn	13 59 21.1	+1.8
RUGZ	Raukumara Rang	9.43	211	P	Pn	13 57 36.8	-1.6
TWGZ	Tauwhareparae	9.48	209	P	Pn	13 57 37.0	-2.0
TWGZ				S	Sn	13 59 26.7	+2.4
KUZ	Kuaotunu	9.52	223	P	Pn	13 57 44.8	+5.3
CNGZ	Carnagh Statio	9.65	207	P	Pn	13 57 39.0	-2.2
TKGZ	Te Karaka	9.75	208	P	Pn	13 57 41.1	-1.7
TKGZ				S	Sn	13 59 32.4	+1.4
MWZ	Matawai	9.80	210	P	Pn	13 57 40.8	-2.7
OPRZ	Ohinepanea	9.87	215	P	Pn	13 57 44.5	+0.2
WCZ	Waipu Caves	9.89	231	P	Pn	13 57 50.6	+6.0
URZ	Urewera	9.93	212	P	Pn	13 57 42.4	-2.7
	1.5nm,0.3s,baz=264,slow=5.2,SNR=29						
URZ				S	Sn	13 59 34.0	-1.2
	8.1nm,0.3s,baz=203,slow=20,SNR=10						
URZ	Urewera	9.93	212	P	Pn	13 57 42.4	-2.7
RIGZ	Rimuhau	10.02	208	P	Pn	13 57 43.4	-2.9
OUZ	Omahuta	10.04	236	*e*Pn	Pn	13 57 52.8	+6.2
OUZ	Omahuta	10.04	236	P	Pn	13 57 51.8	+5.2
MKAZ	Moumakai	10.09	223	P	Pn	13 57 49.9	+2.5
PRGZ	Paritu Road	10.15	207	P	Pn	13 57 45.2	-3.1
SNGZ	Shannon Statio	10.26	209	P	Pn	13 57 47.1	-2.5
MUGZ	Murupara	10.26	212	P	Pn	13 57 46.5	-3.2
TOZ	Tahuroa Road	10.34	219	P	Pn	13 57 52.2	+1.5
MHGZ	Mahia Peninsul	10.34	206	P	Pn	13 57 47.5	-3.3
RAHZ	Arahi	10.48	210	P	Pn	13 57 51.8	-0.8
MTHZ	Maungataniwha	10.53	211	P	Pn	13 57 50.4	-3.0
WHHZ	Waihua	10.55	209	P	Pn	13 57 51.7	-1.9
NMHZ	Naumai	10.75	210	P	Pn	13 57 53.8	-2.6
ARHZ	Aropaoanui	10.80	209	P	Pn	13 57 53.9	-3.3
BKZ	Black Stump Fm	10.94	211	*e*Pn	Pn	13 57 55.2	-3.9
BKZ	Black Stump Fm	10.94	211	P	Pn	13 57 55.4	-3.7
MCHZ	McNeill Hill	11.08	210	P	Pn	13 57 58.9	-2.1
HIZ	Hauiti	11.25	218	*e*Pn	Pn	13 58 05.9	+2.6
HIZ	Hauiti	11.25	218	P	Pn	13 58 04.0	+0.8
KAHZ	Kahuranaki	11.30	208	P	Pn	13 57 59.1	-4.9
BHHZ	Black Hill Sta	11.40	212	P	Pn	13 58 03.3	-2.1
PXZ	Pawanui	11.51	208	P	Pn	13 58 03.8	-2.9
VRZ	Vera Road	11.75	217	P	Pn	13 58 15.5	+5.4
TSZ	Takapari Road	11.91	210	P	Pn	13 58 07.8	-4.5
DVHZ	Dannevirke	12.02	209	P	Pn	13 58 10.9	-2.9
NIUE	Niue	12.28	29	*e*Pn	Pn	13 58 06.3	-11
BFZ	Birch Farm	12.31	208	*e*Pn	Pn	13 58 14.5	-3.2
BFZ	Birch Farm	12.31	208	P	Pn	13 58 12.7	-5.0
PRWZ	Pori Road	12.32	209	P	Pn	13 58 14.8	-3.0
MTW	Mount Morrison	13.02	209	P	Pn	13 58 21.6	-5.7
SNZO	South Karori	13.48	211	*e*Pn	Pn	13 58 30.9	-2.8
NNZ	Nelson	14.02	214	P	Pn	13 58 34.2	-6.9
QRZ	Quartz Range	14.16	217	P	Pn	13 58 41.8	-1.2
BSWZ	Blackbirch Sta	14.18	212	P	Pn	13 58 44.3	+1.1
THZ	Tophouse	14.67	214	*e*Pn	Pn	13 58 48.0	-1.9
THZ	Tophouse	14.67	214	P	Pn	13 58 45.3	-4.7
DSZ	Denniston Nort	15.21	216	P	Pn	13 58 54.7	-2.4
LTZ	Lake Taylor	15.75	213	*e*Pn	Pn	13 59 00.8	-3.4
	20nm,0.8s						
LTZ	Lake Taylor	15.75	213	P	Pn	13 59 00.6	-3.5
AMCZ	Amberley	15.89	211	P	Pn	13 59 03.4	-2.4
INZ	Inchbonnie	16.11	214	P	Pn	13 59 04.0	-4.6
CRLZ	Canterbury Las	16.22	210	*e*Pn	Pn	13 59 08.0	-2.0
	212nm,1.7s						
CRLZ	Canterbury Las	16.22	210	P	Pn	13 59 07.9	-2.1
OXZ	Oxford	16.28	212	*e*Pn	Pn	13 59 07.9	-3.0
	28nm,0.5s						
OXZ	Oxford	16.28	212	P	Pn	13 59 05.1	-5.8
MQZ	McQueen's Vall	16.31	210	*e*Pn	Pn	13 59 06.9	-4.3
	142nm,1.9s						
MQZ	McQueen's Vall	16.31	210	P	Pn	13 59 06.3	-4.9
WVZ	Waitaha Valley	16.72	215	P	P	13 59 18.3	-0.1
RPZ	Rata Peaks	17.04	213	P	Pn	13 59 19.2	-1.2
	2.6nm,0.3s,baz=67,slow=5.6,SNR=9.3						
RPZ	Rata Peaks	17.04	213	*e*Pn	Pn	13 59 17.6	-2.9
	35nm,1.2s						
RPZ	Rata Peaks	17.04	213	P	Pn	13 59 17.6	-2.9
RAR	Rarotonga	17.22	63	LR	LR	14 04 57.1	
	comp=Z,113nm,21.4s,baz=251,slow=33						
DZM	Mont Dzumac	17.42	293	*e*LR	LR	14 03 14.2	
	comp=Z,132nm,20.9s						
DZM	Mont Dzumac	17.42	293	LR	LR	14 05 16.5	
	comp=Z,187nm,18.9s,baz=197,slow=34						
FOZ	Fox Glacier	17.51	216	*e*Pn	Pn	13 59 24.3	-2.0
	60nm,1.2s						
LBZ	Lake Benmore	17.96	213	*e*Pn	Pn	13 59 31.3	-0.5
	76nm,1.7s						
ODZ	Otahua Downs	18.25	211	*e*Pn	P	13 59 33.6	-1.7
	98nm,1.7s						
WKZ	Wanaka	18.84	214	*e*P	P	13 59 38.5	-3.4
	292nm,2.0s						
MLZ	Mavora Lakes	19.68	214	*e*P	P	13 59 48.5	-2.5
TBI	Tubuai	24.80	81	*e*S	S	14 05 01.6	-2.4
	210nm,29.5s						
TBI				*e*LR	LR	14 06 41.9	
	comp=Z,177nm,29.2s						
TBI	Tubuai	24.80	81	*e*T	T	14 26 36.0	
	5.8nm,0.4s						
PAE	Paea	27.23	69	*e*T	T	14 29 30.2	
	2.5nm,0.3s						
PPT2	Papeete2	27.27	69	*e*S	S	14 05 40.3	-3.1
	462nm,38.0s						
PPT2				*e*LR	LR	14 07 44.0	
	comp=Z,236nm,27.5s						
PPT2	Papeete2	27.27	69	*e*T	T	14 29 34.5	
	1.5nm,0.3s						
PPT	Papeete	27.28	69	LR	LR	14 09 28.8	
	comp=Z,69nm,21.4s,baz=218,slow=31						
VAH	Vaihoa	30.11	67	*e*T	T	14 33 04.4	
	4.4nm,0.2s						
HNR	Honiara	30.21	308	LR	LR	14 13 32.4	
	comp=Z,29nm,18.0s,baz=360,slow=36						
CTAO	Charters Tower	35.24	277	*e*P	P	14 02 15.6	-0.8
	8.7nm,0.6s						
STKA	Stephens Creek	36.05	256	P	P	14 02 25.1	+1.9
	12nm,0.7s,baz=99,slow=11,SNR=39						
STKA				LR	LR	14 15 44.5	
	comp=Z,165nm,19.0s,baz=36,slow=34						
STKA	Stephens Creek	36.05	256	*e*P	P	14 02 24.1	+1.0
	2.3nm,0.6s						
AS01	Alice Springs	44.61	266	*e*P	P	14 03 32.9	-1.3
AS31	Alice Springs	44.65	266	*e*P	P	14 03 33.6	-0.9
	1.2nm,0.6s						
ASAR	Alice Springs	44.65	266	P	P	14 03 33.5	-1.0
	1.7nm,0.5s,baz=105,slow=7.6,SNR=50						
ASAR				PcP	PP	14 05 17.9	-1.1
	0.9nm,0.8s,baz=115,slow=4.1,SNR=4.2						
ASAR				LR	LR	14 22 12.9	
	comp=Z,184nm,18.6s,baz=90,slow=36						
WB2	Warramunga Ar	45.59	271	*e*P	P	14 03 40.4	-1.6
WRAB	Tennant Creek	45.60	271	*e*P	P	14 03 40.6	-1.4
	9.9nm,0.7s						
WR1	Warramunga Arr	45.60	271	*e*P	P	14 03 40.6	-1.5
	15nm,0.7s						
WR1				*e*PcP	PcP	14 05 21.6	+1.5
WRA	Warramunga Arr	45.60	271	P	P	14 03 40.6	-1.5
	12nm,0.6s,baz=110,slow=7.7,SNR=92						
WRA				PcP	PcP	14 05 21.6	+1.5
	1.7nm,0.8s,baz=118,slow=3.5,SNR=4.6						
VNDA	Vanda	48.67	186	P	P	14 04 10.8	+5.6
	2.3nm,1.1s,baz=7.5,slow=5.3,SNR=3.9						
VNDA				LR	LR	14 20 49.8	
	comp=Z,41nm,22.0s,baz=20,slow=31						
FITZ	Fitzroy Crossi	53.88	269	P	P	14 04 44.9	-0.2
	4.9nm,0.8s,baz=68,slow=6.2,SNR=7.6						
FITZ	Fitzroy Crossi	53.88	269	*e*P	P	14 04 44.5	-0.5
	53nm,1.9s						
SIJI	Seoja	57.60	290	P	P	14 05 10.7	-1.1
	4.9nm,0.6s,baz=79,slow=8.8,SNR=4.6						
QSPA	South Pole Qui	60.13	180	P	P	14 05 33.7	+4.9
	9.9nm,0.9s,baz=38,slow=1.7,SNR=44						
QSPA	South Pole Qui	60.13	180	*e*P	P	14 05 33.3	+4.5
	8.9nm,0.8s						
VNA3	Neumayer Olymp	78.62	176	P	P	14 07 25.7	+3.0
MJAR	Matsushiro Arr	78.77	324	P	P	14 07 23.6	-0.3
	2.8nm,0.7s,baz=157,slow=5.4,SNR=5.6						
MAJO	Matsushiro	78.78	324	*e*P	P	14 07 23.6	-0.3
VNA2	Neumayer~Watz	79.07	176	P	P	14 07 28.5	+3.3
	baz=190,slow=3.0						
GSC	Goldstone, Bar	85.71	45	*e*P	P	14 08 01.4	+1.0
	3.8nm,0.9s						
NV01	Mina Array Sit	86.90	42	*e*P	P	14 08 07.4	+1.0
NVAR	Mina Array Bea	86.90	42	P	P	14 08 07.5	+1.1
	3.3nm,1.0s,baz=223,slow=9.1,SNR=11						
TPNV	Topopah Spring	87.13	44	*e*P	P	14 08 08.7	+1.2
	4.3nm,1.1s						
KVN	Kaiserville	87.44	41	*e*P	P	14 08 09.6	+0.7
	4.4nm,1.1s						
USRK	Ussuriysk Ar.	87.66	326	P	P	14 08 10.4	+0.9
	2.2nm,0.8s,baz=154,slow=3.7,SNR=5.0						
LCMT	Little Creek M	89.01	46	*e*P	P	14 08 17.7	+1.4
U15A	North Rim	89.23	46	*e*P	P	14 08 19.4	+1.8
	5.4nm,1.1s						
LTX	Lajitas	90.89	56	*e*P	P	14 08 25.9	+0.6
TXAR	Lajitas Array	90.89	56	P	P	14 08 25.9	+0.6
	0.4nm,0.8s,baz=232,slow=6.2,SNR=4.9						
TXAR				LR	LR	14 43 08.4	
	comp=Z,19nm,19.9s,baz=0.0,slow=31						
G08A	Pilot Rock	91.21	36	*e*P	P	14 08 27.2	+0.8
ENH	Enshi	92.62	304	*e*P	P	14 08 34.5	+1.3
	12nm,0.8s						
PDAR	Pinedale Array	94.79	43	LR	LR	14 45 30.1	
	comp=Z,21nm,18.9s,baz=310,slow=32						
MK01	Makanchi Array	118.65	310	*e*PKPdf	PKiKP	14 14 09.1	0.0
MK32	Makanchi Array	118.66	310	*e*PKPdf	PKiKP	14 14 09.2	+0.1
MKAR	Makanchi Array	118.66	310	PKP	PKiKP	14 14 09.2	+0.1
	0.6nm,0.6s,baz=84,slow=2.3,SNR=8.8						
KK31	Karatay Array	126.10	304	*e*PKPdf	PKiKP	14 14 23.9	0.0
KKAR	Karatay Array	126.10	304	*e*PKPdf	PKiKP	14 14 23.8	-0.1
AKTO	Aktyubinsk	134.93	313	PKP	PKiKP	14 14 41.2	-0.2
	1.0nm,0.7s,baz=109,slow=1.1,SNR=6.0						
FIA1	FINESS Array S	145.25	341	*e*PKPbc	PKPbc	14 14 57.4	-0.5
FIA0	FINESS Array S	145.25	341	*e*PKPbc	PKPdf	14 14 57.8	-0.4
FINES	FINESS Array B	145.25	341	PKP	PKPdf	14 14 57.8	-0.4
	5.3nm,0.6s,baz=56,slow=3.2,SNR=24						
OBN	Obninsk	145.67	326	PKPbc	PKPab	14 14 59.5	-0.3
	3.9nm,0.4s,baz=0.0,slow=2.0,SNR=3.4						
OBN	Obninsk	145.67	326	*e*PKPdf	PKPbc	14 14 59.0	-0.5
KBZ	Khabaz	146.12	305	PKPbc	PKPab	14 15 01.9	0.0
	2.1nm,0.7s,baz=142,slow=1.6,SNR=6.1						
NC303	NORSAR Array S	148.34	353	*e*PKPbc	PKPbc	14 15 07.1	+0.2
NB2	NORSAR Subarra	148.54	353	PKP	PKPbc	14 15 07.0	-0.5
	comp=Z,1.4nm,0.7s,baz=8.2,slow=2.9						
NB200	NORSAR Array S	148.54	353	*e*PKPbc	PKPbc	14 15 07.2	-0.2
NOA	NORSAR Array B	148.54	353	PKPbc	PKPbc	14 15 07.2	-0.2
	comp=Z,1.4nm,0.7s,baz=13,slow=4.4,SNR=7.8						
HFS	Hagfors	149.11	350	PKPbc	PKPbc	14 15 08.6	-0.3
	comp=Z,2.6nm,0.7s,baz=211,slow=2.6,SNR=4.2						
AKASG	Malin Array Be	151.86	325	PKPbc	PKiKP	14 15 16.0	-0.1
	comp=Z,3.0nm,0.5s,baz=46,slow=2.9,SNR=15						
AKBB	Malin Array Si	151.86	325	*e*PKPbc	PKiKP	14 15 16.0	0.0
AK11	Malin Array Si	151.90	325	*e*PKPbc	PKiKP	14 15 15.9	-0.2
BR101	Keskin Array S	153.72	300	*e*PKPbc	PKiKP	14 15 20.7	+0.2
BRTR	Keskin Array B	153.72	300	PKPbc	PKiKP	14 15 20.7	+0.2
	comp=Z,0.5nm,0.6s,baz=52,slow=2.4,SNR=2.9						
TOA0	Torodi Ar. Sit	163.15	173	*e*PKPab	PKPab	14 16 16.4	+2.1
TORD	Torodi Ar. Bea	163.15	173	PKPab	PKPab	14 16 16.8	+2.5
	comp=Z,4.2nm,0.9s,baz=188,slow=4.2,SNR=17						
TOA1	Torodi Ar. Sit	163.15	173	*e*PKPab	PKPab	14 16 16.8	+2.5

MEX 16 13:56:45.9±0.6,**16°34N**×**98°22W**,**h14**km±2km,**MD3.5,**
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.11	59	*e*P	Pg	13 56 48.2	-0.9
PNIG				*i* S	Sg	13 56 51.0	-0.3
VHO	Vista Hermosa	1.60	63	*i* P	Pn	13 57 10.2	-3.8
VHO				*i* S	Sn	13 57 29.7	-5.0
HUIG	Huatulco	2.11	105	*i* P	Pn	13 57 17.1	-3.7
HUIG				*i* S	Sn	13 57 43.0	-3.9

ISCJB ***16*** *14:01:46.9*±*0.6,6°.91N*±*0°.03*×*73°.10W*±*0°.04,h148*km±*5*km*,*
mb3.2/2, Error ellipse: s-maj=7.0km s-min=5.0km az=21.1
IDC ***16*** *14:01:46.2*±*1.3,6°.78N*×*73°.06W,h148*km±*40*km*,mb3.0/2,*
mb1 3.3/4,mb1mx3.0/39,mbtmp3.4/4,Error ellipse:
s-maj=107.7km s-min=7.7km az=133.0
RSNC ***16*** *14:01:48.4*±*0.9,6°.85N*×*73°.05W,h140*km±*5*km*, ML3.2,*
Mw3.4

ISC 16 14:01:47.1±1.0,**6°89N**±0°.04×**73°08W**±0°.05,**h146**km±7km,
n22,σ1**s14**/38,**2C,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.31	199	*i* P	Pn	14 02 08.0	+0.6
BARC				*e*S	Sn	14 02 22.6	-0.3
BARC				*i*		14 02 24.4	
	comp=Z,487nm,0.2s						
BRRC	Barranca, Sant	0.66	289	*e*P	Pn	14 02 08.8	0.0
BRRC				*e*S	Sn	14 02 26.8	+1.3
BRRC				*i*		14 02 29.8	
	comp=Z,294nm,0.2s						
RUSC	La Rusia	0.99	180⇑	*i* P	Pn	14 02 12.0	+0.1
RUSC				*e*S	Sn	14 02 30.2	-0.6
RUSC				*i*		14 02 32.0	
	comp=Z,180nm,0.3s						
OCAC	Ocana	1.37	350	*e*P	Pn	14 02 16.0	+0.9
OCAC				*e*S	Sn	14 02 37.2	+0.7
OCAC				*i*		14 02 45.6	
	comp=Z,120nm,0.3s						
PTBC	PUERTO BERRIO,	1.41	256	*e*P	Pn	14 02 14.6	-0.8
PTBC				*e*S	Sn	14 02 35.5	-1.4
PTBC				*i*		14 02 40.3	
	comp=Z,143nm,0.1s						
ZARC	Zaragoza, Cauc	1.86	289	*e*P	Pn	14 02 21.1	+0.7
ZARC				*e*S	Sn	14 02 46.2	+0.3
ZARC				*i*		14 02 52.4	
	comp=Z,249nm,0.4s						
CTAB	Cerro Tablazo,	2.17	211	*e*P	Pn	14 02 25.9	+1.4
CHIC	Chingaza	2.33	196⇑	*e*P	Pn	14 02 26.6	+0.3
CHIC				*e*S	Sn	14 02 55.9	-0.6
CHIC				*i*		14 02 59.0	
	comp=Z,64nm,0.3s						
ROSC	El Rosal	2.38	211	P	Pn	14 02 27.0	+0.1
	comp=Z,8.3nm,0.3s,baz=29,slow=19,SNR=16						
ROSC				S	Sn	14 02 55.2	-2.3
	comp=Z,30nm,0.3s,baz=105,slow=16,SNR=13						
ROSC	El Rosal	2.38	211	*e*P	Pn	14 02 28.1	+1.2
ROSC				*e*S	Sn	14 02 57.5	0.0
ROSC				*i*		14 03 02.1	
	comp=Z,93nm,0.3s						
HELC	Santa Helena	2.53	254	*e*P	Pn	14 02 29.7	+1.0
HELC				*e*S	Sn	14 03 01.9	+1.2
HELC				*i*		14 03 06.1	
	comp=Z,50nm,0.4s						
UREC	San Jos de Ur	2.58	290	*e*P	Pn	14 02 30.9	+1.9
UREC				*e*S	Sn	14 02 58.5	-2.8
VILC	Villavicencio,	2.82	193	*e*S	Sn	14 03 05.9	-1.0
VILC				*i*		14 03 11.1	
	comp=Z,76nm,0.3s						
RREF	El Recreo	2.99	229	*e*P	Pn	14 02 36.2	+1.4
RREF				*e*S	Sn	14 03 12.8	+1.2
RREF				*i*		14 03 15.5	
	comp=Z,64nm,0.2s						
DBBC	Dabeiba	3.11	273	*e*P	Pn	14 02 36.6	+0.8
DBBC				*e*S	Sn	14 03 12.6	-0.8
DBBC				*i*		14 03 19.5	
	comp=Z,49nm,0.4s						
SDV	Santo Domingo	3.14	50	P	Pn	14 02 36.6	+0.4
	comp=Z,2.3nm,0.3s,baz=263,slow=8.1,SNR=5.5						
SDV				S	Sn	14 03 14.9	+0.7
	comp=Z,11nm,0.3s,baz=66,slow=23,SNR=20						
SDV	Santo Domingo	3.14	50	*e*S	Sn	14 03 14.2	0.0
TOLC	Tolima	3.19	224	*e*P	Pn	14 02 38.0	+1.0
TOLC				*e*S	Sn	14 03 16.2	+0.5
ANIL	Santa Ana	3.32	224	*e*P	Pn	14 02 39.6	+1.0
ANIL				*e*S	Sn	14 03 18.9	+0.4
ANIL				*i*		14 03 24.5	
	comp=Z,54nm,0.2s						
SJCC	San Jacinto, C	3.64	325	*e*S	Sn	14 03 23.6	-2.2

	43nm,0.3s							
MDOK	**Medeo**	**1.17**	**280**	⇑	P	**Pn**	**14 04 37.9**	**-0.9**
	4.5nm,0.2s							
MDOK				⇑	S	**Sb**	**14 04 53.5**	**-0.4**
	43nm,0.4s							
MDOK	**Medeo**	**1.17**	**280**		Pg	**Pn**	**14 04 38.1**	**-0.8**
	21nm,0.1s							
MDOK					Lg	Lg	14 04 53.9	
	68nm,0.4s							
MDOK	**Medeo**	**1.17**	**280**	⇓	*eP*	**Pn**	**14 04 38.0**	**-0.8**
	baz=80							
MDOK				⇑	*iS*	**Sb**	**14 04 53.9**	**-0.1**
	baz=80							
MDOK	**Medeo**	**1.17**	**280**	⇓	*eP*	**Pn**	**14 04 38.0**	**-0.8**
	21nm,0.1s							
MDOK				⇑	*iS*	**Sb**	**14 04 53.9**	**-0.1**
	68nm,0.4s							
TNSS	**Tian-Shan**	**1.23**	**274**		P	**Pn**	**14 04 39.6**	**-0.3**
	5.3nm,0.2s							
TNSS					S	**Sn**	**14 04 56.3**	**-0.5**
	20nm,0.2s							
TNSS	**Tian-Shan**	**1.23**	**274**		*eP*	**Pn**	**14 04 39.6**	**-0.3**
	baz=73							
TNSS					*eS*	**Sn**	**14 04 56.3**	**-0.5**
	baz=73							
TNSS	**Tian-Shan**	**1.23**	**274**		*eP*	**Pn**	**14 04 39.6**	**-0.3**
	5.3nm,0.2s							
TNSS					*eS*	**Sn**	**14 04 56.3**	**-0.5**
	20nm,0.2s							
KTMS	**Ketmen**	**1.35**	**69**		P	**Pn**	**14 04 40.5**	**-0.7**
	29nm,0.1s							
KTMS					S	**Sn**	**14 04 58.0**	**-1.3**
	59nm,0.2s							
KTMS	**Ketmen**	**1.35**	**69**		*eP*	**Pn**	**14 04 40.5**	**-0.7**
	baz=68							
KTMS					*eS*	**Sn**	**14 04 57.9**	**-1.3**
	baz=68							
KTMS	**Ketmen**	**1.35**	**69**		*eP*	**Pn**	**14 04 40.5**	**-0.7**
	29nm,0.1s							
KTMS					*eS*	**Sn**	**14 04 58.0**	**-1.3**
	59nm,0.2s							
KDJ	**Kajisay**	**1.36**	**232**	⇑	*iP*	**Pb**	**14 04 41.8**	**-0.1**
	baz=33							
KDJ				⇑	*iS*	**Sg**	**14 05 00.3**	**+0.3**
	baz=33							
ARXS	**Arharly**	**1.37**	**335**		P	**Pb**	**14 04 41.8**	**-0.2**
	28nm,0.1s							
ARXS					S	**Sg**	**14 05 00.1**	**-0.3**
	46nm,0.2s							
ARXS	**Arharly**	**1.37**	**335**		*eP*	**Pb**	**14 04 41.8**	**-0.2**
	28nm,0.1s							
ARXS					*eS*	**Sg**	**14 05 00.1**	**-0.3**
	46nm,0.2s							
TARG	**Taragay, Kyrgy**	**1.38**	**206**	⇑	*iP*	**Pn**	**14 04 41.6**	**-0.3**
	baz=8.0							
TARG				⇑	*iS*	**Sn**	**14 04 59.5**	**-1.0**
	baz=8.0							
IZV	**Izvestkoviy**	**1.48**	**273**		P	**Pb**	**14 04 44.0**	**+0.1**
	4.7nm,0.1s							
IZV					S	**Sg**	**14 05 04.1**	**+0.2**
	39nm,0.2s							
IZV	**Izvestkoviy**	**1.48**	**273**		*eP*	**Pb**	**14 04 44.0**	**+0.1**
	baz=73							
IZV					*eS*	**Sg**	**14 05 04.1**	**+0.2**
	baz=73							
IZV	**Izvestkoviy**	**1.48**	**273**		*eP*	**Pb**	**14 04 44.0**	**+0.1**
	4.7nm,0.1s							
IZV					*eS*	**Sg**	**14 05 04.1**	**+0.2**
	39nm,0.2s							
CHKK	**Chushkaly**	**1.48**	**307**		P	**Pb**	**14 04 43.9**	**0.0**
	9.8nm,0.1s							
CHKK					S	**Sg**	**14 05 03.7**	**-0.3**
	113nm,0.2s							
CHKK	**Chushkaly**	**1.48**	**307**		*eP*	**Pb**	**14 04 43.9**	**0.0**
	baz=7.0							
CHKK					*eS*	**Sg**	**14 05 03.7**	**-0.3**
	baz=7.0							
CHKK	**Chushkaly**	**1.48**	**307**		*eP*	**Pb**	**14 04 43.9**	**0.0**
	9.8nm,0.1s							
CHKK					*eS*	**Sg**	**14 05 03.7**	**-0.3**
	113nm,0.2s							
DJR	**Jarkent**	**1.60**	**31**		P	**Pb**	**14 04 45.9**	**-0.1**
	2.8nm,0.1s							
DJR					S	**Sg**	**14 05 07.0**	**-0.7**
	54nm,0.3s							
DJR	**Jarkent**	**1.60**	**31**		*eP*	**Pb**	**14 04 45.9**	**-0.1**
	2.8nm,0.1s							
DJR					*eS*	**Sg**	**14 05 07.0**	**-0.7**
	54nm,0.3s							
KTBS	**Karatobe**	**1.60**	**298**		P	**Pb**	**14 04 46.1**	**+0.2**
	10.0nm,0.2s							
KTBS					S	**Sg**	**14 05 07.5**	**-0.2**
	47nm,0.3s							
KTBS	**Karatobe**	**1.60**	**298**		*eP*	**Pb**	**14 04 46.1**	**+0.2**
	baz=96							
KTBS					*eS*	**Sg**	**14 05 07.5**	**-0.2**
	baz=96							
KTBS	**Karatobe**	**1.60**	**298**		*eP*	**Pb**	**14 04 46.1**	**+0.2**
	10.0nm,0.2s							
KTBS					*eS*	**Sg**	**14 05 07.5**	**-0.2**
	47nm,0.3s							
MTBS	**Maitube**	**1.62**	**276**		P	**Pg**	**14 04 47.2**	**-0.1**
	8.5nm,0.1s							
MTBS					S	**Sg**	**14 05 09.6**	**+1.3**
	26nm,0.2s							
MTBS	**Maitube**	**1.62**	**276**		*eP*	**Pg**	**14 04 47.2**	**-0.1**
	baz=76							
MTBS					*eS*	**Sg**	**14 05 09.7**	**+1.3**
	baz=76							
MTBS	**Maitube**	**1.62**	**276**		*eP*	**Pg**	**14 04 47.2**	**-0.1**
	8.5nm,0.1s							
MTBS					*eS*	**Sg**	**14 05 09.6**	**+1.3**
	26nm,0.2s							
KUU	**Kurty**	**1.91**	**300**		P	**Pb**	**14 04 51.2**	**+0.1**
	8.3nm,0.2s							
KUU					S	**Sb**	**14 05 16.4**	**+1.5**
	47nm,0.4s							
KUU	**Kurty**	**1.91**	**300**		*eP*	**Pb**	**14 04 51.2**	**+0.1**
	baz=99							
KUU					*eS*	**Sb**	**14 05 16.4**	**+1.5**
	baz=99							
KUU	**Kurty**	**1.91**	**300**		*eP*	**Pb**	**14 04 51.2**	**+0.1**
	8.3nm,0.2s							
KUU					*eS*	**Sb**	**14 05 16.4**	**+1.5**
	47nm,0.4s							
ULHL	**Ulahol**	**1.91**	**248**	⇑	*iP*	**Pb**	**14 04 51.2**	**0.0**
	baz=49							
ULHL				⇑	*iS*	**Sb**	**14 05 16.3**	**+1.2**
	baz=49							
KST	**Kastek**	**1.96**	**273**		Pg	**Pb**	**14 04 52.3**	**+0.3**
	5.9nm,0.2s							
KST					Lg	Lg	14 05 18.5	
	13nm,0.3s							
KST	**Kastek**	**1.96**	**273**		*eP*	**Pb**	**14 04 52.3**	**+0.3**
	baz=73							
KST					*eS*	**Sg**	**14 05 18.4**	**-0.7**
	baz=73							
KST	**Kastek**	**1.96**	**273**		*eP*	**Pb**	**14 04 52.3**	**+0.3**
	5.9nm,0.2s							
KST					*eS*	**Sg**	**14 05 18.5**	**-0.7**
	13nm,0.3s							
TDK	**Taldyqorghan**	**2.04**	**356**		Pg	**Pb**	**14 04 53.5**	**+0.2**
	39nm,0.2s							
TDK					Lg	Lg	14 05 20.5	
	60nm,0.2s							
TDK	**Taldyqorghan**	**2.04**	**356**		*eP*	**Pb**	**14 04 53.5**	**+0.2**
	39nm,0.2s							
TDK					*eS*	**Sg**	**14 05 20.5**	**-1.2**
	60nm,0.2s							
BOOM	**Boomskoye usch**	**2.04**	**257**	⇓	*iP*	**Pb**	**14 04 53.1**	**-0.3**
	baz=57							
BOOM				⇓	*iS*	**Sb**	**14 05 19.5**	**+0.6**
	baz=57							
DGS	**Degeres**	**2.11**	**278**		Pg	**Pb**	**14 04 54.8**	**+0.2**
	14nm,0.4s							
DGS					Lg	Lg	14 05 22.9	
	33nm,0.2s							
DGS	**Degeres**	**2.11**	**278**		*eP*	**Pb**	**14 04 54.8**	**+0.2**
	baz=78							
DGS					*eS*	**Sg**	**14 05 22.9**	**-1.1**
	baz=78							
DGS	**Degeres**	**2.11**	**278**		*eP*	**Pb**	**14 04 54.8**	**+0.2**
	14nm,0.4s							
DGS					*eS*	**Sg**	**14 05 22.9**	**-1.1**
	33nm,0.2s							
TKM2	**Tokmak 2**	**2.23**	**270**	⇓	Pn	**Pb**	**14 04 54.9**	**-1.7**
	3.0nm,0.3s							
TKM2				⇑	Lg	Lg	14 05 27.4	
	9.0nm,0.3s							
TKM2	**Tokmak 2**	**2.23**	**270**	⇑	*iP*	**Pb**	**14 04 55.8**	**-0.9**
	baz=70							
TKM2				⇑	*iS*	**Sb**	**14 05 24.7**	**+0.4**
	baz=70							
KAPS	**Kapalarasan**	**2.37**	**13**		Pg	**Pb**	**14 04 59.1**	**0.0**
	5.9nm,0.2s							
KAPS					Lg	Lg	14 05 30.3	
	42nm,0.2s							
KAPS	**Kapalarasan**	**2.37**	**13**		*eP*	**Pb**	**14 04 59.1**	**0.0**
	5.9nm,0.2s							
KAPS					*eS*	**Sg**	**14 05 30.3**	**-2.2**
	42nm,0.2s							
KZA	**Kyzart**	**2.65**	**251**	⇑	*iP*	**Pn**	**14 05 01.5**	**+2.1**
	baz=52							
KZA				⇑	*iS*	**Sb**	**14 05 35.0**	**-1.8**
	baz=52							
KBK	**Karagaybulak**	**2.73**	**265**	⇑	*iP*	**Pb**	**14 05 02.8**	**-2.4**
	baz=65							
KBK				⇑	*iS*	**Sb**	**14 05 36.8**	**-1.9**
	baz=65							
CHMS	**Chumysh**	**2.84**	**272**	⇑	*eP*	**Pb**	**14 05 04.4**	**-2.7**
	baz=72							
CHMS				⇑	*iS*	**Sb**	**14 05 39.7**	**-2.2**
	baz=72							
AAK	**Ala-Archa**	**3.06**	**265**	⇑	Pg	**Pb**	**14 05 12.4**	**+1.6**
	1.5nm,0.4s							
AAK				⇓	Lg	Lg	14 05 53.5	
	6.7nm,0.6s							
ARLS	**Aral**	**3.38**	**252**	⇑	*iP*	**Pn**	**14 05 11.1**	**+2.0**
	baz=52							
ARLS				⇑	*iS*	**Sn**	**14 05 51.0**	**+1.7**
	baz=52							
MAKZ	**Makanchi**	**4.51**	**31**	⇑	Pn	**Pn**	**14 05 24.5**	**-0.2**
	2.0nm,1.0s							
MAKZ				⇓	Lg	Lg	14 06 38.9	
	3.3nm,0.7s							
MK31	**Makanchi Array**	**4.62**	**33**	⇓	Pn	**Pn**	**14 05 26.1**	**0.0**
	0.1nm,0.2s,baz=274,slow=4.8,SNR=22							
MK31					Lg	Lg	14 06 38.6	
	0.3nm,0.2s,baz=215,slow=29,SNR=7.4							
KK31	**Karatay Array**	**5.95**	**274**		Lg	Lg	14 07 24.0	
	0.5nm,0.4s,baz=86,slow=28,SNR=6.8							
OTUK	**Ortayu**	**6.87**	**322**	⇑	Lg	Lg	14 07 54.8	
	2.3nm,0.6s							
KURBB	**Kurchatov Arra**	**7.65**	**360**	⇑	Lg	Lg	14 08 19.0	
	6.2nm,0.7s							
KURK	**Kurchatov**	**7.75**	**360**	⇑	Lg	Lg	14 08 21.6	
	4.4nm,0.9s							

ISCJB ***16*** *14:06:32.1±0.5,6.°90N±0.°03×73.°14W±0.°04,h155km±4km, mb3.4/4,Error ellipse: s-maj=6.3km s-min=4.2km az=12.5*
IDC ***16*** *14:06:32.7±0.8,6.°70N×72.°85W,h168km±9km,mb3.1/4, mb1 3.5/7,mb1mx3.2/42,mbtmp3.8/7,Error ellipse: s-maj=30.8km s-min=7.4km az=132.0*
RSNC ***16*** *14:06:33.8±1.1,6.°84N×73.°10W,h146km±6km,ML3.8, Mw3.8*

ISC 16 14:06:32.7±0.8,6.°88N±0.°03×73.°13W±0.°04,h154km±6km, n31,σ1s05/52,mb3.4/4,3C-4D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.29**	**191**	*iP*	**Pn**	**14 06 53.9**	**-0.1**
BARC				*eS*	**Sn**	**14 07 08.9**	**-1.2**
BARC				*i*		14 07 12.2	
	comp=Z,1μm,0.4s						
BRRC	**Barranca, Sant**	**0.62**	**291**	⇑ *iP*	**Pn**	**14 06 55.8**	**+0.6**
BRRC				*eS*	**Sn**	**14 07 12.7**	**+0.4**
BRRC				*i*		14 07 18.9	
	comp=Z,442nm,0.2s						
RUSC	**La Rusia**	**0.98**	**178**	⇓ *iP*	**Pn**	**14 06 57.7**	**-0.5**
RUSC				*eS*	**Sn**	**14 07 16.6**	**-1.2**
RUSC				*i*		14 07 19.2	
	comp=Z,632nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.36**	**256**	⇓ *iP*	**Pn**	**14 07 00.3**	**-0.9**
PTBC				*eS*	**Sn**	**14 07 22.1**	**-0.9**
PTBC				*i*		14 07 24.1	
	comp=Z,762nm,0.4s						
OCAC	**Ocana**	**1.36**	**352**	*eP*	**Pn**	**14 07 02.3**	**+0.9**
OCAC				*eS*	**Sn**	**14 07 23.8**	**+0.4**
OCAC				*i*		14 07 29.7	
	comp=Z,639nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.82**	**290**	⇑ *eP*	**Pn**	**14 07 06.0**	**-0.1**
ZARC				*eS*	**Sn**	**14 07 32.2**	**+0.5**
ZARC				*i*		14 07 38.9	
	comp=Z,546nm,0.4s						
CTAB	**Cerro Tablazo,**	**2.14**	**210**	*eP*	**Pn**	**14 07 11.1**	**+0.9**
CHIC	**Chingaza**	**2.31**	**195**	⇓ *iP*	**Pn**	**14 07 11.5**	**-0.7**
CHIC				*eS*	**Sn**	**14 07 41.3**	**-1.3**
CHIC				*i*		14 07 49.8	
	comp=Z,262nm,0.6s						
ROSC	**El Rosal**	**2.35**	**210**	P	**Pn**	**14 07 13.7**	**+1.1**
	comp=Z,88nm,0.3s,baz=307,slow=8.9,SNR=56						
ROSC				S	**Sn**	**14 07 45.4**	**+2.1**
	comp=Z,122nm,0.3s,baz=72,slow=21,SNR=21						
ROSC	**El Rosal**	**2.35**	**210**	⇓ *iP*	**Pn**	**14 07 13.3**	**+0.7**
ROSC				*eS*	**Sn**	**14 07 44.0**	**+0.8**
ROSC				*i*		14 07 48.5	
	comp=Z,493nm,0.4s						
HELC	**Santa Helena**	**2.48**	**254**	*eP*	**Pn**	**14 07 14.4**	**+0.2**
HELC				*eS*	**Sn**	**14 07 46.4**	**+0.3**
HELC				*i*		14 07 52.2	
	comp=Z,325nm,0.3s						
HELC				*i*		14 07 53.5	
	comp=N,362nm,0.3s						
UREC	**San Jos de Ur**	**2.54**	**290**	*eP*	**Pn**	**14 07 13.8**	**-0.8**
UREC				*eS*	**Sn**	**14 07 44.9**	**-1.9**
VILC	**Villavicencio,**	**2.81**	**192**	*eP*	**Pn**	**14 07 17.3**	**-0.6**
VILC				*eS*	**Sn**	**14 07 51.2**	**-1.7**
VILC				*i*		14 07 57.1	
	comp=Z,328nm,0.5s						
RREF	**El Recreo**	**2.96**	**228**	*eP*	**Pn**	**14 07 20.4**	**+0.1**
RREF				*eS*	**Sn**	**14 07 57.4**	**+0.4**
RREF				*i*		14 08 04.9	
	comp=Z,353nm,0.2s						
DBBC	**Dabeiba**	**3.06**	**273**	*eP*	**Pn**	**14 07 21.3**	**+0.2**
DBBC				*eS*	**Sn**	**14 07 57.5**	**-1.1**
DBBC				*i*		14 08 02.0	
	comp=Z,286nm,0.5s						
TOLC	**Tolima**	**3.16**	**224**	*eP*	**Pn**	**14 07 23.3**	**+0.7**
TOLC				*eS*	**Sn**	**14 08 01.4**	**+0.4**
SDV	**Santo Domingo**	**3.17**	**51**	P	**Pn**	**14 07 23.2**	**+0.5**
	comp=Z,34nm,0.3s,baz=236,slow=8.4,SNR=77						
SDV				S	**Sn**	**14 08 00.5**	**-0.8**
	comp=Z,46nm,0.3s,baz=270,slow=19,SNR=29						
SDV	**Santo Domingo**	**3.17**	**51**	*eP*	**Pn**	**14 07 23.1**	**+0.5**
SDV				*eS*	**Sn**	**14 08 00.7**	**-0.6**
ANIL	**Santa Ana**	**3.28**	**224**	⇑ *eP*	**Pn**	**14 07 24.9**	**+0.8**
ANIL				*eS*	**Sn**	**14 08 03.7**	**-0.2**
ANIL				*i*		14 08 10.0	
	comp=Z,180nm,0.4s						
SJCC	**San Jacinto, C**	**3.62**	**326**	*eS*	**Sn**	**14 08 09.3**	**-2.0**
SJAC	**San Juan de Ar**	**3.67**	**193**	*eP*	**Pn**	**14 07 29.4**	**+0.4**
SJAC				*eS*	**Sn**	**14 08 12.6**	**-0.1**
PLMC	**San Jos del P**	**3.70**	**238**	*eP*	**Pn**	**14 07 29.6**	**+0.3**
YOTC	**Yotoco, Valle**	**4.31**	**228**	*eP*	**Pn**	**14 07 36.3**	**-0.9**
YOTC				*eS*	**Sn**	**14 08 25.3**	**-2.1**
SMRC	**Santa Marta, M**	**4.39**	**346**	*eP*	**Pn**	**14 07 38.9**	**+0.6**
SMRC				*eS*	**Sn**	**14 08 27.0**	**-2.3**
APG	**El Apazote**	**18.83**	**297**	P	**Pn**	**14 10 45.1**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=90,slow=8.1,SNR=3.5						
TXAR	**Lajitas Array**	**36.42**	**312**	P	**P**	**14 13 23.4**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=132,slow=9.0,SNR=8.2						
PDAR	**Pinedale Array**	**48.03**	**324**	P	**P**	**14 14 57.1**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=118,slow=11,SNR=3.0						
SCHQ	**Schefferville**	**49.09**	**5**	P	**P**	**14 14 56.7**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=185,slow=9.5,SNR=3.8						
YKA	**Yellowknife Ar**	**63.21**	**340**	P	**P**	**14 16 44.5**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=135,slow=6.7,SNR=8.6						
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc	**PKPbc**	**14 26 02.0**	**-1.9**
	comp=Z,0.6nm,0.6s,baz=118,slow=4.9,SNR=3.9						
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc	**PKPbc**	**14 26 05.2**	**-1.7**
	comp=Z,0.7nm,0.6s,baz=106,slow=2.6,SNR=5.8						

ISCJB ***16*** *14:12:58.9±0.7,38.°30N±0.°03×38.°88E±0.°04,h1km±6km, Error ellipse: s-maj=5.9km s-min=4.2km az=20.0*
DDA ***16*** *14:12:58.4,38.°28N×38.°90E,h7km±6km,ML2.8*
ISK ***16*** *14:12:58.3,38.°30N×38.°82E,h5km,ML2.6/5*

ISC 16 14:12:58.9±1.2,38.°30N±0.°03×38.°90E±0.°03,h11km±11km, n17,σ1s09/27,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTK	**Pertek**	**0.71**	**33**	PG	**Pb**	**14 13 13.3**	**-0.2**
PTK				SG	**Sb**	**14 13 23.4**	**0.0**
AKCD	**Akcadag**	**0.77**	**270**	*i* P	**Pb**	**14 13 14.0**	**-0.4**
URFA	**Urfa**	**0.86**	**184**	PG	**Pg**	**14 13 15.1**	**-0.4**
URFA				SG	**Sb**	**14 13 27.8**	**+0.3**
ATAB	**Bozova**	**0.95**	**210**	*i* P	**Pn**	**14 13 18.1**	**-0.3**
ATAB				*i* S	**Sb**	**14 13 30.7**	**+0.5**
KEMA	**Kemaliye**	**1.02**	**342**	IAML_P			
	comp=Z,2μm,0.2s						
KEMA				*i* P	**Pn**	**14 13 18.5**	**-0.9**
KEMA				*i* S	**Sn**	**14 13 34.8**	**+1.0**
DIYA	**Diyarbakir**	**1.04**	**111**	*i* P	**Pn**	**14 13 20.1**	**+0.6**
DIYA				*i* S	**Sg**	**14 13 32.1**	**-0.3**
SANL	**SANLIURFA_Merk**	**1.13**	**176**	*i* P	**Pn**	**14 13 21.3**	**+0.6**
SANL				*i* S	**Sn**	**14 13 35.9**	**-0.3**
DARE	**Darende-Malaty**	**1.14**	**284**	PN	**Pb**	**14 13 19.1**	**-1.7**
ILIC	**ilic-Erzincan**	**1.18**	**348**	PN	**Pn**	**14 13 21.2**	**-0.4**
ELBS	**KAHRAMANMARAS**	**1.39**	**272**	IAML_P			
	comp=Z,858nm,0.4s						
ELBS				*i* P	**Pg**	**14 13 25.6**	**0.0**
ELBS				*i* S	**Sg**	**14 13 47.6**	**+4.0**
GZT	**Gaziantep**	**1.41**	**229**	IAML_P			
	comp=Z,1μm,0.1s						
GZT				*i* P	**Pg**	**14 13 25.3**	**-0.8**
GZT				*i* S	**Sg**	**14 13 44.9**	**+0.4**
SURC	**SANLIURFA_SURC**	**1.43**	**189**	IAML_P			
	comp=Z,338nm,0.1s						
SURC				*i* P	**Pg**	**14 13 26.4**	**-0.1**
SURC				*i* S	**Sg**	**14 13 45.1**	**+0.1**
GAZ	**Gaziantep**	**1.75**	**230**	PN	**Pn**	**14 13 29.3**	**0.0**
KMRS	**Kahramanmaras**	**1.77**	**244**	PN	**Pb**	**14 13 30.0**	**-1.4**
MARD	**Mardin**	**1.79**	**123**	IAML_P			
	comp=Z,104nm,0.2s						
MARD				*i* P	**Pb**	**14 13 32.0**	**+0.2**
MARD				*i* S	**Sg**	**14 13 56.1**	**-0.3**
ANDN	**Andirin**	**2.14**	**251**	IAML_P			
	comp=Z,145nm,0.1s						
ANDN				*i* P	**Pn**	**14 13 33.9**	**-0.9**
TAHT	**Tahtakopru-Hat**	**2.89**	**229**	PN	**Pn**	**14 13 46.1**	**+1.1**

BJI ***16*** *14:14:15.7,2.°38S×139.°63E,h91km,mb4.6/8,mB5.0/5*
ISCJB ***16*** *14:14:16.2±0.3,2.°68S±0.°03×139.°33E±0.°03,h100km, mb4.3/18,Error ellipse: s-maj=5.0km s-min=3.9km az=20.4*
DJA ***16*** *14:14:17.6±0.5,3.°3S±5.°×13.°9E±.°,h91km±13km,M4.8/6, mB4.7/1,mb4.5/4,MLv5.0/6,Mw(mB)4.0/1*
NEIC ***16*** *14:14:17.4±0.9,2.°68S×139.°30E,h98km±10km,mb4.6/12, Error ellipse: s-maj=8.0km s-min=7.1km az=102.0*
IDC ***16*** *14:14:18.0±1.0,2.°66S×139.°44E,h99km±12km,mb3.8/12, mb1 4.0/17,mb1mx3.8/37,mbtmp4.3/17,MS2.8/1, Ms1 2.8/1,ms1mx2.4/23,Error ellipse: s-maj=16.7km s-min=9.8km az=97.0*

ISC 16 14:14:17.7±0.5,2.79S±0.°05×139.°33E±0.°04,h100km,n72, σ2s09/82,mb4.5/27,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.86**	**77**	P	**Pn**	**14 14 36.1**	**-0.5**
GENI				S	**Sn**	**14 14 49.7**	**-1.1**
JAY	**Jayapura**	**1.40**	**79**	P	**Pn**	**14 14 41.6**	**-1.1**
	192nm,0.3s,baz=234,slow=9.1,SNR=481						
JAY				S	**Sn**	**14 14 59.0**	**-2.7**
	419nm,0.3s,baz=99,slow=19,SNR=21						
JAY				LR	LR	14 15 16.9	
	comp=Z,599nm,18.7s,slow=46						
JAY	**Jayapura**	**1.40**	**79**	P	**Pn**	**14 14 41.5**	**-1.2**
JAY				S	**Sn**	**14 14 58.4**	**-3.3**
SRPI	**Serui, Papua**	**3.22**	**286**	P	**Pn**	**14 15 06.2**	**-0.2**
SRPI				S	**Sn**	**14 15 41.8**	**-2.2**
BAKI	**Biak**	**3.59**	**296**	P	**Pn**	**14 15 10.3**	**-1.1**
RKPI	**Ransiki, Papua**	**5.31**	**284**	P	**Pn**	**14 15 34.3**	**-0.3**
RKPI				S	**Sn**	**14 16 33.7**	**-0.8**
MMPI	**Merauke**	**5.74**	**170**	S	**Sn**	**14 16 46.4**	**+1.5**
FAKI	**Fak Fak**	**7.08**	**269**	*eP*	**Pn**	**14 15 58.5**	**-0.1**
FAKI	**Fak Fak**	**7.08**	**269**	P	**Pn**	**14 15 58.5**	**-0.1**
FAKI				S	**Sn**	**14 17 12.1**	**-5.5**
MANU	**Manus Island**	**8.06**	**85**	*eP*	**Pn**	**14 16 11.7**	**-0.3**
SIJI	**Sorong**	**8.29**	**283**	P	**Pn**	**14 16 16.6**	**+1.5**
	8.0nm,0.3s,baz=54,slow=15,SNR=29						
SIJI				S	**Sn**	**14 17 45.7**	**-1.4**
	2.0nm,0.3s,baz=296,slow=22,SNR=6.8						
SIJI				LR	LR	14 20 30.5	
	comp=Z,63nm,20.3s,baz=93,slow=45						
PMG	**Port Moresby**	**10.18**	**131**	P	**Pn**	**14 16 42.8**	**+1.8**
	1.1nm,0.3s,baz=306,slow=14,SNR=3.8						
COEN	**Coen**	**11.73**	**161**	*eP*	**Pn**	**14 17 02.0**	**+0.2**
SOEI	**Soe**	**16.49**	**245**	*eP*	**Pn**	**14 18 02.9**	**-0.3**
	41nm,1.0s						
BATI	**Baumata**	**17.21**	**244**	P	**Pn**	**14 18 14.9**	**+2.9**
	10.0nm,0.3s,baz=59,slow=6.3,SNR=12						
BATI	**Baumata**	**17.21**	**244**	P	**Pn**	**14 18 14.8**	**+2.7**
WRAB	**Tennant Creek**	**17.72**	**196**	*eP*	**P**	**14 18 17.1**	**-0.5**
	57nm,1.8s						
WB2	**Warramunga Arr**	**17.73**	**196**	*eP*	**Pn**	**14 18 18.6**	**+0.3**
WR1	**Warramunga Arr**	**17.73**	**196**	*eP*	**Pn**	**14 18 19.6**	**+1.4**
	34nm,1.4s						
WR1				*eS*	**Sn**	**14 21 27.1**	**-8.9**
WRA	**Warramunga Arr**	**17.73**	**196**	P	**Pn**	**14 18 19.6**	**+1.4**
	0.7nm,0.3s,baz=19,slow=12,SNR=47						
WRA				S	**Sn**	**14 21 27.1**	**-8.9**
	0.3nm,0.3s,baz=26,slow=22,SNR=3.1						
CTA	**Charters Tower**	**18.47**	**159**	P	**Pn**	**14 18 28.2**	**+1.1**
	0.8nm,0.3s,baz=336,slow=13,SNR=10						
CTAO	**Charters Tower**	**18.47**	**159**	*eP*	**Pn**	**14 18

KKN	**Kakani**	**60.19**	**304**	*e*P	**P**	**14**	**24**	**15.8 +0.1**
	19nm,0.7s							
DMN	**Daman**	**60.27**	**304**	*e*P	**P**	**14**	**24**	**16.6 +0.3**
	14nm,0.6s							
KOLN	**Koldanda**	**61.58**	**304**	*e*P	**P**	**14**	**24**	**25.3 +0.2**
	4.2nm,0.3s							
DANN	**Dangsing**	**61.65**	**304**	*e*P	**P**	**14**	**24**	**25.7 0.0**
	10nm,0.5s							
PYUN	**Piuthan**	**62.20**	**304**	*e*P	**P**	**14**	**24**	**29.4 +0.1**
	41nm,0.8s							
MK01	**Makanchi Array**	**70.22**	**322**	*e*P	**P**	**14**	**25**	**19.7 -0.2**
MK31	**Makanchi Array**	**70.23**	**322**	*e*P	**P**	**14**	**25**	**19.9 -0.1**
MK32	**Makanchi Array**	**70.23**	**322**	*e*P	**P**	**14**	**25**	**20.3 +0.3**
MKAR	**Makanchi Array**	**70.23**	**322**	P	**P**	**14**	**25**	**20.3 +0.3**
	2.0nm,0.5s,baz=98,slow=8.6,SNR=56							
MKAR	**Makanchi Array**	**70.23**	**322**	*e*P	**P**	**14**	**25**	**19.9 -0.1**
	12nm,0.5s							
MAKZ	**Makanchi**	**70.43**	**322**	*e*P	**P**	**14**	**25**	**21.2 0.0**
	4.7nm,0.5s							
ZALV	**Zalesovo Beam**	**72.32**	**330**	P	**P**	**14**	**25**	**31.3 -1.1**
	1.3nm,0.5s,baz=102,slow=5.7,SNR=5.3							
ZALV	**Zalesovo Beam**	**72.32**	**330**	*e*P	**P**	**14**	**25**	**31.0 -1.3**
ZAA1	**Zalesovo Array**	**72.32**	**330**	*e*P	**P**	**14**	**25**	**31.3 -1.1**
BVAR	**Borovoye Array**	**79.73**	**325**	P	**P**	**14**	**26**	**14.6 +0.1**
	2.7nm,0.6s,baz=114,slow=8.1,SNR=11							
ILAR	**Eielson Array**	**85.65**	**24**	P	**P**	**14**	**26**	**43.6 -1.3**
	0.9nm,0.8s,baz=271,slow=4.6,SNR=10.0							
ILB	**Eielson Array**	**85.65**	**24**	*e*P	**P**	**14**	**26**	**43.9 -1.0**
LTY	**Liberty**	**98.83**	**43**	*e*P	Pdif	14	27	**47.1 +0.5**
	14nm,1.6s							
DBIC	**Dimbokro**	**144.11**	**277**	PKP	PKPbc	14	33	41.3 +0.2
	3.0nm,0.5s,baz=63,slow=1.3,SNR=5.3							
DBIC	**Dimbokro**	**144.11**	**277**	*e*PKPdf	**PKPab**	**14**	**33**	**40.9 +0.3**

ISCJB ***16*** *14:53:53.6±1.2, 32.92S±0.05×70.72W±0.08, h99km±8km, Error ellipse: s-maj=12.4km s-min=8.0km az=155.5*
SJA ***16*** *14:53:53.7±0.7, 32.88S×70.69W, h92km±5km, ML2.8, MW3.1*
GUC ***16*** *14:53:55.0±0.7, 32.85S×70.57W, h87km±6km, ML2.9*

ISC 16 14:53:53.9±2.3, 32.94S±0.07×70.72W±0.08, h97km±15km, n23, σ0.68/30, 3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
PEL	**Peldehue**	**0.21**	**171**	*e*P	**Pn**	**14**	**54**	**07.4 -0.4**
PEL				*i* S	**Sn**	**14**	**54**	**17.5 -0.6**
PEL				IAML		14	54	18.0
	comp=N,419nm,0.3s							
ROCH	**El Roble**	**0.24**	**262**	⇓*i*P	**Pn**	**14**	**54**	**08.3 +0.2**
ROCH				*i* S	**Sn**	**14**	**54**	**19.0 +0.3**
ROC1	**El Roble**	**0.25**	**261**	*e*P	**Pn**	**14**	**54**	**08.4 +0.2**
ROC1				*e*S	**Sn**	**14**	**54**	**18.9 +0.1**
CLCH	**Cerro Calan**	**0.48**	**161**	*e*P	**Pn**	**14**	**54**	**09.4 0.0**
CLCH				*e*S	**Sn**	**14**	**54**	**20.3 -0.6**
CLCH				IAML		14	54	22.8
	comp=E,404nm,0.4s							
FCH	**Farellones**	**0.53**	**137**	⇓*i*P	**Pn**	**14**	**54**	**09.8 -0.1**
FCH				*i* S	**Sn**	**14**	**54**	**21.7 -0.3**
FCH				IAML		14	54	23.9
	comp=E,1μm,0.3s							
LMEL	**Las Melosas**	**1.01**	**155**	⇓*i*P	**Pn**	**14**	**54**	**14.8 +0.5**
LMEL				*i* S	**Sn**	**14**	**54**	**30.6 +1.0**
LMEL				IAML		14	54	32.9
	comp=N,962nm,0.1s							
AUSP	**Uspallata**	**1.33**	**58**	*e*P	**Pn**	**14**	**54**	**18.8 +0.5**
AUSP				*e*S	**Sn**	**14**	**54**	**36.9 +0.3**
ARCO	**CERRO ARCO**	**1.51**	**87**	*e*P	**Pn**	**14**	**54**	**20.6 +0.4**
AAGR	**Agrelo**	**1.60**	**96**	*e*P	**Pn**	**14**	**54**	**21.8 +0.5**
ASAL	**Salagasta**	**1.63**	**78**	*e*P	**Pn**	**14**	**54**	**22.1 +0.4**
RTLS	**Leoncito**	**1.66**	**47**	*e*P	**Pn**	**14**	**54**	**23.0 +0.8**
RTLS				IAML		14	54	45.8
	comp=Z,72nm,0.3s							
CMCH	**Combarbala**	**1.77**	**352**	IAML		14	54	48.1
	comp=E,118nm,0.3s							
RTCV	**Cerro Valdivia**	**2.13**	**60**	*e*P	**Pn**	**14**	**54**	**28.4 +0.3**
CFA	**Coronel Fontan**	**2.49**	**58**	*e*P	**Pn**	**14**	**54**	**32.6 -0.2**
RTLL	**Cerro Villicun**	**2.49**	**51**	*e*P	**Pn**	**14**	**54**	**32.9 +0.1**
RTLL				IAML		14	55	04.2
	comp=Z,46nm,0.3s							
ACCO	**Cerro Coronel**	**2.73**	**32**	*e*P	**Pn**	**14**	**54**	**36.9 +0.5**
AMOG	**MOGNA**	**2.75**	**44**	*e*P	**Pn**	**14**	**54**	**36.5 +0.2**
GO04	**Tololo Observa**	**2.76**	**359**	*e*P	**Pn**	**14**	**54**	**36.4 -0.1**
GO04				*i* S	**Sn**	**14**	**55**	**08.3 -1.0**
AROD	**Rodeo**	**2.96**	**21**	*e*P	**Pn**	**14**	**54**	**40.8 +1.5**
ACAN	**Cantantal**	**3.06**	**78**	*e*P	**Pn**	**14**	**54**	**40.0 -0.4**
ACDV	**Cuesta del Vie**	**3.08**	**27**	*e*P	**Pn**	**14**	**54**	**41.6 +0.8**
ACDV				IAML		14	54	42.5
	comp=Z,31nm,0.4s							
AGUA	**GUANDACOL**	**3.94**	**30**	*e*P	**Pn**	**14**	**54**	**52.5 +0.2**
APLL	**PUNTA DE LOS L**	**4.38**	**56**	*e*P	**Pn**	**14**	**54**	**56.4 -1.9**

ISCJB ***16*** *15:00:18.4±0.5, 8.79S±0.08×122.36E±0.07, h145km±6km, mb3.5/4, Error ellipse: s-maj=15.3km s-min=7.5km az=40.3*
DJA ***16*** *15:00:20.4±0.7, 9°S±6'×12°2E±°, h113km±9km, M4.1/11, mb5.1/1, MLv3.7/11*
IDC ***16*** *15:00:20.2±2.6, 8.77S×122.46E, h138km±30km, mb3.3/4, mb1 3.2/7, mb1mx3.1/29, mbtmp3.5/7, MS4.1/1, Ms1 4.1/1, ms1mx2.7/22, Error ellipse: s-maj=70.1km s-min=28.2km az=66.0*

ISC 16 15:00:19.5±1.0, 8.74S±0.08×122.39E±0.09, h131km±10km, n18, σ0.93/18, mb3.6/4, Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
MMRI	**Maumere**	**0.18**	**305**	P	**Pn**	**15**	**00**	**36.6 -0.9**
EDFI	**Ende, Flores**	**0.69**	**269**	P	**Pn**	**15**	**00**	**39.6 -0.5**
BATI	**Baumata**	**1.92**	**139**	P	**Pn**	**15**	**00**	**53.4 +0.7**
	15nm,0.3s,baz=90,slow=3.0,SNR=12							
BATI				S	**Sn**	**15**	**01**	**19.5 +1.4**
	17nm,0.3s,baz=266,slow=16,SNR=5.9							
BATI	**Baumata**	**1.92**	**139**	P	**Pn**	**15**	**00**	**53.2 +0.5**
SOEI	**Soe**	**2.11**	**119**	P	**Pn**	**15**	**00**	**55.6 +0.6**
WSI	**Waingapu**	**2.26**	**246**	P	**Pn**	**15**	**00**	**56.9 +0.1**
BASI	**Baing, Sumba**	**2.31**	**230**	P	**Pn**	**15**	**00**	**57.2 -0.3**
BKSI	**Bulukumba**	**4.08**	**326**	P	**Pn**	**15**	**01**	**20.7 +0.3**
PLAI	**Plampang**	**4.56**	**269**	P	**Pn**	**15**	**01**	**27.2 +0.4**
IGBI	**Denpasar**	**7.16**	**269**	P	**Pn**	**15**	**02**	**00.5 -1.3**
FITZ	**Fitzroy Crossi**	**9.82**	**162**	P	**Pn**	**15**	**02**	**35.8 -1.7**
FITZ	0.2nm,0.3s,baz=346,slow=12,SNR=11			S	Sn	15	04	17.7 -8.4
	0.5nm,0.3s,baz=161,slow=18,SNR=4.7							
WRA	**Warramunga Arr**	**16.05**	**135**	P	**Pn**	**15**	**03**	**57.8 -0.2**
	0.1nm,0.3s,baz=312,slow=12,SNR=10							
WRA				S	Sn	15	06	45.5 -11
	0.2nm,0.3s,baz=306,slow=23,SNR=5.1							
ASAR	**Alice Springs**	**18.48**	**145**	P	**P**	**15**	**04**	**25.6 0.0**
	0.1nm,0.3s,baz=328,slow=13,SNR=8.3							
ASAR				S	S	15	07	41.9 -8.0
	0.1nm,0.3s,baz=313,slow=22,SNR=3.5							
USRK	**Ussuriysk Ar.**	**53.41**	**9**	P	**P**	**15**	**09**	**25.0 -0.7**
	0.5nm,0.5s,baz=203,slow=7.3,SNR=4.5							
RPZ	**Rata Peaks**	**54.73**	**138**	LR	LR	15	32	55.4
	comp=Z,189nm,20.5s,baz=48,slow=36							
SONM	**Songino Array**	**58.09**	**347**	P	**P**	**15**	**09**	**58.8 -0.4**
	0.5nm,0.8s,baz=157,slow=7.8,SNR=3.0							
MKAR	**Makanchi Array**	**65.81**	**331**	P	**P**	**15**	**10**	**50.5 -0.2**
	0.3nm,0.5s,baz=135,slow=7.9,SNR=6.2							
ZALV	**Zalesovo Beam**	**70.04**	**337**	P	**P**	**15**	**11**	**18.5 +1.5**
	0.7nm,0.3s,baz=141,slow=5.2,SNR=2.7							

IDC ***16*** *15:00:20.5±2.0, 18.68S×71.75W, h0km, mb3.7/2, mb1 3.7/5, mb1mx3.6/26, mbtmp3.6/5, ML3.4/3, MS3.2/2, Ms1 3.2/2, ms1mx2.6/26, Error ellipse: s-maj=45.0km s-min=37.1km az=44.0*
GUC ***16*** *15:00:24.2±0.7, 18.54S×71.06W, h39km±5km, ML3.1*

ISC 16 15:00:24.3±1.6, 18.54S±0.06×71.0W±0.1, h34km, n10, σ1.26/12, 3C-2D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
PB12	**IPOC Station P**	**0.66**	**97**	⇓*e*P	**Pb**	**15**	**00**	**37.4 -0.2**
PB12				⇓*e*S	**Sb**	**15**	**00**	**47.0 +0.3**
PB12				IAML		15	00	47.3
	comp=N,928nm,0.2s							
PSGC	**Pisagua**	**1.35**	**141**	⇑*i*P	**Pb**	**15**	**00**	**47.7 -1.5**
PSGC				*e*S	**Sb**	**15**	**01**	**05.7 -0.6**
PSGC				IAML		15	01	16.9
	comp=N,232nm,0.4s							
MNMC	**Minye Minye**	**1.48**	**114**	⇑*i*P	**Pb**	**15**	**00**	**50.0 -1.3**
MNMC				*e*S	**Sb**	**15**	**01**	**11.0 +1.1**
MNMC				IAML		15	01	21.3
	comp=E,1μm,0.4s							
PB11	**IPOC Station P**	**1.78**	**134**	⇑*i*P	**Pb**	**15**	**00**	**54.6 -1.7**
PB11				*e*S	**Sb**	**15**	**01**	**17.5 -0.8**
PB11				IAML		15	01	21.1
	comp=E,686nm,0.4s							
LPAZ	**La Paz**	**3.55**	**51**	Pn	**Pb**	**15**	**01**	**25.2 -1.6**
	comp=E,1.0nm,0.3s,baz=241,slow=11,SNR=19							
LVC	**Limon Verde**	**4.51**	**154**	Pn	**Pn**	**15**	**01**	**31.9 +1.4**
	comp=E,3.3nm,0.3s,baz=331,slow=7.4,SNR=25							
LVC				Sn	**Sn**	**15**	**02**	**22.8 +0.8**
	comp=E,2.4nm,0.3s,baz=271,slow=22,SNR=10.0							
LVC				Lg	Lg	15	02	41.5
	comp=E,2.4nm,0.3s,baz=166,slow=20,SNR=6.6							
LVC				LR	LR	15	03	19.3
	comp=E,44nm,19.3s,baz=333,slow=38							
SIV	**San Ignacio**	**9.84**	**77**	Pn	Pn	15	02	51.2 +7.8
	comp=E,0.3nm,0.3s,baz=264,slow=10,SNR=3.8							
TORD	**Torodi Ar. Bea**	**78.28**	**72**	P	P	15	12	28.5 +7.2
	comp=E,0.2nm,0.5s,baz=261,slow=5.4,SNR=2.5							
YKA	**Yellowknife Ar**	**87.75**	**341**	P	**P**	**15**	**13**	**09.5 +0.2**
	comp=E,0.1nm,0.4s,baz=133,slow=5.1,SNR=5.9							
RPZ	**Rata Peaks**	**96.00**	**220**	LR	LR	15	49	18.6
	comp=E,60nm,21.2s,baz=280,slow=31							

ISCJB ***16*** *15:00:38.1±0.9, 43.79N±0.06×146.96E±0.07, h87km±7km, Error ellipse: s-maj=12.2km s-min=6.3km az=142.9*
SKHL ***16*** *15:00:38.7±0.3, 43.80N×146.93E, h90km±1km, mb4.6/3, msh5.4/4*
JMA ***16*** *15:00:39.2±0.2, 43.68N×146.92E, h90km±2km, M3.2*

ISC 16 15:00:38.7±1.8, 43.78N±0.07×146.99E±0.08, h83km±10km, n18, σ0.66/31, 1C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
SHO	**Shikotan**	**0.15**	**308**	⇓*i*P	**Pn**	**15**	**00**	**51.0 +0.4**
SHO				AMB	AMB	15	00	51.0
	10.0nm,0.1s							
SHO				AMB	AMB	15	00	51.0
	20nm,0.1s							
SHO				AMB	AMB	15	00	51.0
	70nm,0.1s							
SHO				*e*S	**Sn**	**15**	**01**	**00.0 +0.6**
SHO				A	A	15	01	01.0
	630nm,0.2s							
SHO				A	A	15	01	01.0
	1μm,0.2s							
YUK	**Yuzh-Kuril'sk**	**0.85**	**288**	⇓*i*P	**Pn**	**15**	**00**	**56.0 -0.2**
YUK				AMB	AMB	15	00	56.0
	40nm,0.2s							
YUK				AMB	AMB	15	00	56.0
	60nm,0.2s							
YUK				AMB	AMB	15	00	56.0
	240nm,0.2s							
YUK				*i* S	**Sn**	**15**	**01**	**09.0 -0.3**
YUK				A	A	15	01	10.0
	750nm,0.2s							
YUK				A	A	15	01	10.0
	790nm,0.2s							
GRPR	**Tuman**	**0.91**	**284**	*e*P	**Pn**	**15**	**00**	**56.0 -0.8**
GRPR				AMB	AMB	15	00	57.0
	30nm,0.2s							
GRPR				AMB	AMB	15	00	57.0
	20nm,0.2s							
GRPR				AMB	AMB	15	00	57.0
	140nm,0.2s							
GRPR				*e*S	**Sn**	**15**	**01**	**09.0 -1.3**
GRPR				A	A	15	01	10.0
	300nm,0.2s							
GRPR				A	A	15	01	10.0
	330nm,0.2s							
NEM2	**Nemuro 2**	**1.00**	**246**	P	**Pn**	**15**	**00**	**58.0 +0.2**
NEM2				*e*S	**Sn**	**15**	**01**	**12.1 0.0**
JRA	**Rausu**	**1.36**	**277**	P	**Pn**	**15**	**01**	**03.0 +0.7**
JRA				*e*S	**Sn**	**15**	**01**	**20.8 +0.7**
JKHN	**Kushirohamanak**	**1.50**	**243**	P	**Pn**	**15**	**01**	**04.4 +0.3**
JKHN				*e*S	**Sn**	**15**	**01**	**22.9 -0.5**
KUR	**Kuril'sk**	**1.58**	**23**	⇓*i*P	**Pn**	**15**	**01**	**05.0 -0.2**
KUR				AMB	AMB	15	01	05.0
	10.0nm,0.2s							
KUR				AMB	AMB	15	01	05.0
	40nm,0.2s							
KUR				AMB	AMB	15	01	05.0
	50nm,0.2s							
KUR				*i* S	**Sn**	**15**	**01**	**25.0 -0.2**
KUR				A	A	15	01	26.0
	250nm,0.3s							
KUR				A	A	15	01	26.0
	160nm,0.3s							
JNK	**Nakash**	**1.66**	**264**	P	**Pn**	**15**	**01**	**06.1 -0.1**
JAK	**Akkeshi**	**1.85**	**246**	P	**Pn**	**15**	**01**	**08.4 -0.2**
JAK				*e*S	**Sn**	**15**	**01**	**30.7 -0.6**
JTKR	**Abashiri--Toko**	**2.24**	**276**	P	**Pn**	**15**	**01**	**14.1 +0.3**
JTKR				*e*S	**Sn**	**15**	**01**	**40.7 +0.1**
JAR	**Ashorobuto**	**2.39**	**259**	P	**Pn**	**15**	**01**	**16.5 +0.6**
JAR				*e*S	**Sn**	**15**	**01**	**44.6 +0.3**
JOB	**Onbets**	**2.46**	**250**	P	**Pn**	**15**	**01**	**17.1 +0.3**
JOB				*e*S	**Sn**	**15**	**01**	**45.4 -0.6**
JMP	**Maruseppu**	**2.63**	**276**	P	**Pn**	**15**	**01**	**19.6 +0.5**
JMP				*e*S	**Sn**	**15**	**01**	**50.4 +0.2**
JCH	**Churui**	**2.90**	**248**	P	**Pn**	**15**	**01**	**22.3 -0.4**
JCH				*e*S	**Sn**	**15**	**01**	**55.1 -1.4**
JFR	**Furan**	**3.26**	**261**	P	**Pn**	**15**	**01**	**28.9 +1.3**
JEM	**Erimo**	**3.32**	**239**	P	**Pn**	**15**	**01**	**29.6 +1.2**
JNBK	**Urakawa-nobuka**	**3.45**	**246**	P	**Pn**	**15**	**01**	**29.5 -0.6**
YSS	**Yuzh-Sakhalins**	**4.36**	**318**	⇑*e*P	**Pn**	**15**	**01**	**42.5 +0.1**

IDC ***16*** *15:14:19.9±2.3, 25.69S×179.67E, h533km±26km, mb3.3/6, mb1 3.5/8, mb1mx3.3/28, mbtmp4.3/8, Error ellipse: s-maj=30.6km s-min=19.1km az=147.0*

ISC 16 15:14:16.7±1.3, 25.55S±0.1×179.8E±0.2, h493km, n12, σ1.79/13, mb3.6/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
DZM	**Mont Dzumac**	**12.67**	**283**	P	**P**	**15**	**17**	**06.0 +3.4**
	0.3nm,0.3s,baz=78,slow=14,SNR=4.1							
URZ	**Urewera**	**12.89**	**189**	P	**P**	**15**	**17**	**06.5 +1.9**
	3.1nm,0.3s,baz=19,slow=1.8,SNR=22							
URZ				S	**S**	**15**	**19**	**22.1 -0.9**
	0.6nm,0.3s,baz=30,slow=20,SNR=4.9							
STKA	**Stephens Creek**	**33.95**	**250**	P	**P**	**15**	**20**	**18.1 -0.2**
	1.3nm,0.6s,baz=100,slow=12,SNR=5.9							
ASAR	**Alice Springs**	**41.59**	**262**	P	**P**	**15**	**21**	**20.3 -0.7**
	4.3nm,0.6s,baz=91,slow=7.0,SNR=98							
ASAR				PcP	**PcP**	**15**	**23**	**06.3 -0.5**
	0.5nm,0.8s,baz=111,slow=4.5,SNR=3.5							
ASAR				S	**S**	**15**	**26**	**58.3 -2.8**
	0.6nm,1.0s,baz=95,slow=16,SNR=3.9							
WRA	**Warramunga Arr**	**42.11**	**268**	P	**P**	**15**	**21**	**24.0 -1.1**
	3.8nm,0.5s,baz=103,slow=8.0,SNR=39							
MJAR	**Matsushiro Arr**	**73.12**	**326**	P	**P**	**15**	**24**	**56.0 -0.4**
	1.4nm,0.6s,baz=172,slow=5.6,SNR=5.1							
KSRS	**Korea Array**	**79.36**	**320**	P	**P**	**15**	**25**	**31.1 +0.4**
	1.3nm,0.7s,baz=133,slow=7.1,SNR=4.7							
USRK	**Ussuriysk Ar.**	**82.02**	**327**	P	**P**	**15**	**25**	**45.4 +0.9**
	1.2nm,0.7s,baz=157,slow=4.4,SNR=3.7							
NB2	**NORSAR Subarra**	**143.65**	**351**	PKP	PKPab	15	32	52.5 -0.6
	comp=Z,1.1nm,0.6s,baz=17,slow=3.4							
NOA	**NORSAR Array B**	**143.65**	**351**	PKP	PKPbc	15	32	52.6 -0.6
	comp=Z,2.3nm,0.8s,baz=22,slow=3.9,SNR=10							
AKASG	**Malin Array Be**	**146.21**	**326**	PKPbc	**PKPbc**	**15**	**32**	**59.8 -1.3**
	comp=Z,0.5nm,0.4s,baz=42,slow=3.9,SNR=4.3							
BRTR	**Keskin Array B**	**148.36**	**305**	PKPbc	**PKPbc**	**15**	**33**	**05.6 -1.8**
	comp=Z,0.5nm,0.5s,baz=135,slow=0.4,SNR=3.6							

ISCJB ***16*** *15:19:53.2±0.4, 25.60N±0.04×105.67E±0.04, h10km, mb4.1/19, Error ellipse: s-maj=6.3km s-min=4.1km az=145.7*
IDC ***16*** *15:19:53.7±0.8, 25.60N×105.78E, h0km, mb3.8/13, mb1 3.9/14, mb1mx3.8/38, mbtmp3.8/14, ML3.3/1, Error ellipse: s-maj=21.3km s-min=16.3km az=74.0*
NEIC ***16*** *15:19:53.5±1.7, 25.49N×105.74E, h3km±11km, mb4.5/5, ML3.9(BJI), Error ellipse: s-maj=8.8km s-min=8.0km az=159.0*
BJI ***16*** *15:19:53.8, 25.52N×105.71E, h6km, mb3.8/5, ML3.9/17, Ms3.5/8, Ms7 3.3/8*

ISC 16 15:19:54.6±0.6, 25.52N±0.05×105.71E±0.04, h10km, n56, σ1.38/67, mb4.1/19, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
GYA	**Guiyang**	**1.27**	**42**	*i* Pg	**Pn**	**15**	**20**	**17.5 -1.0**
GYA				Sg	**Sb**	**15**	**20**	**34.1 -1.0**
GYA				smax	smax			
	comp=N,3μm,0.7s							
GYA				smax	smax			
	comp=E,2μm,0.6s							
GYA	**Guiyang**	**1.27**	**42**	*i* Pg	**Pn**	**15**	**20**	**17.5 -1.0**
GYA				Sg	**Sb**	**15**	**20**	**34.1 -1.0**
KMI	**Kunming**	**2.72**	**262**	Pn	**Pb**	**15**	**20**	**40.3 -3.1**
KMI				Sn	**Sb**	**15**	**21**	**15.9 -1.0**
KMI				Sg	**Sg**	**15**	**21**	**24.0 +2.1**
KMI				smax	smax			
	comp=N,450nm,0.9s							
KMI				smax	smax			
	comp=E,200nm,0.8s							
KMI	**Kunming**	**2.72**	**262**	Pn	**Pb**	**15**	**20**	**40.3 -3.1**
KMI				Sn	**Sb**	**15**	**21**	**15.9 -1.0**
KMI				Sg	**Sg**	**15**	**21**	**24.0 +2.1**
CD2	**Chengdu**	**5.64**	**343**	Pn	**Pn**	**15**	**21**	**21.0 +2.5**
CD2				Sn	**Sn**	**15**	**22**	**21.6 -1.8**
CD2				Sg	**Sg**	**15**	**22**	**56.0 +0.3**
CD2				smax	smax			
	comp=N,390nm,0.9s							
CD2				smax	smax			
	comp=E,360nm,1.0s							
CD2	**Chengdu**	**5.64**	**343**	Pn	**Pn**	**15**	**21**	**21.0 +2.5**
CD2				Sn	**Sn**	**15**	**22**	**21.6 -1.8**
CD2				Sg	**Sg**	**15**	**22**	**56.0 +0.3**
ENH	**Enshi**	**5.79**	**34**	*e*Pn	**Pn**	**15**	**21**	**22.1 +1.5**
QIZ	**Qiongzhong**	**7.51**	**149**	*e*Pn	**Pn**	**15**	**21**	**42.9 -1.3**
XAN	**Xi'an**	**8.94**	**17**	P	**Pn**	**15**	**22**	**03.5 -0.3**
XAN				S	**Sn**	**15**	**23**	**46.1 +1.6**
XAN				LR	LR			
	comp=N,190nm,3.8s							
XAN				LR	LR			
	comp=Z,170nm,8.7s							
XAN	**Xi'an**	**8.94**	**17**	*e*Pn	**Pn**	**15**	**22**	**03.1 -0.7**
CMAR	**Chiang Mai Arr**	**9.42**	**223**	Pn	**Pn**	**15**	**22**	**13.4 +2.9**
	0.1nm,0.3s,baz=38,slow=12,SNR=4.1							
CMAR				Pg		15	22	47.5
	0.2nm,0.3s,baz=46,slow=17,SNR=3.3							
CMAR				Lg	Lg	15	24	56.5
	0.2nm,0.3s,baz=43,slow=29,SNR=4.8							
SHL	**Shillong**	**12.48**	**273**	*e*Pn	**Pn**	**15**	**22**	**50.8 -1.7**
LSA	**Lhasa**	**13.56**	**291**	*e*Pn	**Pn**	**15**	**23**	**08.0 +0.5**
GTA	**Gaotai**	**14.71**	**342**	*e*P	**P**	**15**	**23**	**30.1 +1.0**
GTA				pP	Pn	15	23	34.4 +12
GTA				sP		15	23	37.3
GTA				pmax	pmax			
	comp=Z,4.0nm,0.8s							
RAMN	**Ramite**	**17.21**	**279**	*e*P	**Pn**	**15**	**23**	**54.3 -1.1**
	comp=Z,12nm,0.7s							
JIRN	**Jiri**	**17.59**	**281**	*e*P	**Pn**	**15**	**23**	**58.9 -1.4**
	comp=Z,42nm,0.7s							
GUN	**Gumba**	**17.88**	**282**	*e*P	**Pn**	**15**	**24**	**02.9 -0.9**
	comp=Z,13nm,0.6s							
PKI	**Pulchoki**	**18.28**	**281**	*e*P	**Pn**	**15**	**24**	**06.7 -2.0**
	comp=Z,9.8nm,0.7s							
PKIN	**Phulchoki**	**18.29**	**281**	*e*P	**Pn**	**15**	**24**	**07.1 -1.7**
	comp=Z,7.0nm,0.6s							
KKN	**Kakani**	**18.40**	**282**	*e*P	**Pn**	**15**	**24**	**08.0 -2.1**
DMN	**Daman**	**18.55**	**281**	*e*P	**P**	**15**	**24**	**09.6 -2.2**
	comp=Z,14nm,0.8s							
DANN	**Dangsing**	**19.77**	**283**	*e*P	**P**	**15**	**24**	**23.5 -1.7**
	comp=Z,17nm,0.5s							
KOLN	**Koldanda**	**19.89**	**281**	*e*P	**P**	**15**	**24**	**23.5 -2.9**
	comp=Z,10nm,0.8s							
KS15	**Wonju Array Si**	**22.27**	**52**	*e*P	**P**	**15**	**24**	**52.4 +0.5**
SONA0	**Songino Array**	**22.28**	**1**	*e*P	**P**	**15**	**24**	**52.2 +0.2**
SONM	**Songino Array**	**22.28**	**1**	P	**P**	**15**	**24**	**52.2 +0.2**
	comp=Z,1.8nm,0.7s,baz=184,slow=10.0,SNR=12							
SONA1	**Songino Array**	**22.29**	**1**	*e*P	**P**	**15**	**24**	**50.6 -1.5**
KSRS	**Korea Array**	**22.31**	**52**	P	**P**	**15**	**24**	**52.4 +0.2**
	comp=Z,0.8nm,0.5s,baz=241,slow=10.0,SNR=5.7							
WMQ	**Urumqi**	**23.42**	**326**	*e*P	**P**	**15**	**25**	**06.1 +2.2**
WMQ				sP	sP	15	25	11.3 +2.9
MK01	**Makanchi Array**	**28.22**	**325**	*e*P	**P**	**15**	**25**	**48.3 +0.7**
MK31	**Makanchi Array**	**28.24**	**325**	*e*P	**P**	**15**	**25**	**48.7 +1.0**
MK32	**Makanchi Array**	**28.24**	**325**	*e*P	**P**	**15**	**25**

Error ellipse: s-maj=9.3km s-min=7.1km az=96.0
*ISCJB **16** 15:52:50.6±0.5, 36˚.35N±0˚.04×142˚.64E±0˚.05, h15km, mb4.2/27, MS4.0/3, Error ellipse: s-maj=6.4km s-min=4.3km az=137.2*
*IDC **16** 15:52:50.5±0.7, 36˚.31N×142˚.65E, h0km, mb3.8/14, mb1 4.0/20, mb1mx3.9/34, mbtmp3.8/20, ML3.2/6, MS3.1/3, Ms1 3.2/3, ms1mx2.8/30, Error ellipse: s-maj=18.3km s-min=16.2km az=138.0*
*JMA **16** 15:52:53.2±0.2, 36˚.37N×142˚.57E, h47km, M3.8*

ISC 16 15:52:52.5±0.6, 36˚.28N±0˚.06×142˚.66E±0˚.06, h15km, n76, σ1§59/80, mb4.2/27, MS3.7/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.57**	**249**	P	**Pn**	**15 53 18.5**	**-1.2**
CHOJ				S	**Sn**	**15 53 37.9**	**-1.8**
JHYU	**Hitachinakayam**	**1.67**	**273**	P	**Pn**	**15 53 19.8**	**-1.4**
JHYU				S	**Sn**	**15 53 38.8**	**-3.6**
ONAJ	**Iwakimizuishiy**	**1.70**	**299**	P	**Pn**	**15 53 20.0**	**-1.7**
JHO	**Hitachi**	**1.71**	**282**	P	**Pn**	**15 53 20.2**	**-1.6**
JHO				*e*S	**Sn**	**15 53 40.4**	**-3.1**
JIHU	**Itakohorinouch**	**1.75**	**260**	P	**Pn**	**15 53 21.9**	**-0.4**
BSO1	**Boso 1**	**2.12**	**221**	P	**Pn**	**15 53 27.3**	**+0.4**
BSO1				*e*S	**Sn**	**15 53 53.9**	**+1.2**
JFT	**Otama**	**2.23**	**304**	P	**Pn**	**15 53 28.0**	**-1.0**
JAG	**Ashikaga**	**2.59**	**274**	P	**Pn**	**15 53 32.7**	**-1.1**
JMK	**Ichinoseki**	**2.90**	**337**	P	**Pn**	**15 53 36.1**	**-2.0**
JRY	**Ryogami san**	**3.05**	**266**	P	**Pn**	**15 53 39.3**	**-0.9**
JOD2	**Odawara 2**	**3.07**	**252**	P	**Pn**	**15 53 40.4**	**-0.1**
JYK	**Kaneyama**	**3.21**	**326**	P	**Pn**	**15 53 40.3**	**-2.0**
JOM	**Ohasama**	**3.37**	**342**	P	**Pn**	**15 53 42.2**	**-2.3**
JYN	**Shimob**	**3.43**	**258**	P	**Pn**	**15 53 45.5**	**+0.1**
JYN				S	**Sn**	**15 54 24.5**	**-1.3**
MJAR	**Matsushiro Arr**	**3.60**	**276**	Pn	**Pn**	**15 53 47.3**	**-0.4**
	1.6nm,0.3s,baz=86,slow=9.4,SNR=38						
MJAR				Sn	**Sn**	**15 54 33.0**	**+3.1**
	0.5nm,0.3s,baz=140,slow=10,SNR=5.7						
MAJO	**Matsushiro**	**3.60**	**276**	*e*Pn	**Pn**	**15 53 47.8**	**+0.1**
MAT	**Matsushiro**	**3.60**	**276**	P	**Pn**	**15 53 47.9**	**+0.2**
MAT				*e*S	**Sn**	**15 54 29.8**	**-0.2**
MAT	**Matsushiro**	**3.60**	**276**	P	**Pn**	**15 53 47.1**	**-0.6**
MJB9	**Matsu-Tunnel**	**3.60**	**276**	*e*Pn	**Pn**	**15 53 47.8**	**0.0**
JHJ2	**Mitsune**	**3.93**	**217**	*e*Pn	**Pn**	**15 53 51.6**	**-0.7**
JHJ	**Hachijo jima 2**	**3.94**	**218**	Pn	**Pn**	**15 53 52.8**	**+0.4**
	15nm,0.3s,baz=43,slow=18,SNR=2.8						
JHJ				Sn	**Sn**	**15 54 35.3**	**-3.1**
	39nm,0.3s,baz=53,slow=23,SNR=6.3						
INU	**Inuyama**	**4.67**	**260**	*e*Pn	**Pn**	**15 54 02.4**	**-0.1**
ERM	**Erimo**	**5.74**	**4**	*e*Pn	**Pn**	**15 54 14.0**	**-3.2**
ASAJ	**Asahikawa**	**7.83**	**360**	*e*Pn	**Pn**	**15 54 43.4**	**-2.4**
CBIJ	**Chichi jima**	**9.16**	**183**	*e*Pn	**Pn**	**15 55 02.2**	**-1.9**
JNU	**Nakatsue**	**10.19**	**255**	Pn	**Pn**	**15 55 19.0**	**+0.7**
	0.3nm,0.3s,baz=21,slow=14,SNR=3.2						
JNU				LR	LR	15 59 35.2	
	comp=Z,90nm,21.3s,baz=78,slow=40						
JNU	**Nakatsue**	**10.19**	**255**	*e*Pn	**Pn**	**15 55 18.4**	**+0.2**
USA0B	**Ussuriysk Arra**	**11.35**	**317**	*e*Pn	**Pn**	**15 55 34.9**	**+0.8**
USRK	**Ussuriysk Ar.**	**11.35**	**317**	Pn	**Pn**	**15 55 33.9**	**-0.2**
	0.4nm,0.3s,baz=124,slow=14,SNR=10						
KSRS	**Korea Array**	**11.86**	**280**	Pn	**Pn**	**15 55 42.7**	**+1.7**
	0.2nm,0.3s,baz=228,slow=28,SNR=5.3						
KSAR	**Wonju Array Be**	**11.89**	**280**	Pn	**Pn**	**15 55 42.7**	**+1.3**
CN2	**Changchun**	**15.15**	**305**	*e*P	**Pn**	**15 56 26.9**	**+1.0**
CN2				*e*S	**Sn**	**15 59 19.6**	**+6.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=N,400nm,12.0s						
CN2				LR	LR		
	comp=E,300nm,12.0s						
CN2				LR	LR		
	comp=Z,300nm,13.0s						
KLR	**Kul'dur**	**15.20**	**332**	Pn	**Pn**	**15 56 23.9**	**-2.6**
	0.1nm,0.3s,baz=139,slow=9.3,SNR=3.0						
JOW	**Kunigami**	**15.44**	**236**	LR	LR	16 01 51.8	
	comp=Z,35nm,21.9s,baz=100,slow=35						
NJ2	**Nanjing**	**20.13**	**265**	*e*P	**P**	**15 57 25.5**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MA2	**Magadan**	**23.90**	**10**	P	**P**	**15 58 04.1**	**-1.2**
	4.4nm,0.7s,baz=176,slow=15,SNR=3.0						
HHC	**Hu-ho-hao-te**	**24.66**	**290**	*e*P	**P**	**15 58 10.3**	**-2.4**
HHC				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC				pmax	pmax		
	comp=Z,150nm,7.0s						
H11N2	**WAKE ISLAND Hy**	**26.90**	**121**	T	T	16 26 47.3	
	baz=313						
H11N1	**WAKE ISLAND Hy**	**26.91**	**121**	T	T	16 26 51.1	
	baz=313						
H11N3	**WAKE ISLAND Hy**	**26.92**	**121**	T	T	16 26 47.3	
	baz=313						
XAN	**Xi'an**	**27.59**	**275**	P	**P**	**15 58 38.5**	**-0.7**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,91nm,3.8s						
XAN	**Xi'an**	**27.59**	**275**	*e*P	**P**	**15 58 37.2**	**-1.9**
	6.0nm,0.8s						
ENH	**Enshi**	**28.28**	**267**	*e*P	**P**	**15 58 43.5**	**-1.8**
	12nm,0.9s						
ULN	**Ulaanbaatar**	**28.61**	**305**	*e*P	**P**	**15 58 47.5**	**-0.8**
SONA1	**Songino Array**	**29.03**	**305**	*e*P	**P**	**15 58 51.5**	**-0.5**
SONM	**Songino Array**	**29.04**	**305**	P	**P**	**15 58 52.5**	**+0.5**
	1.5nm,0.5s,baz=107,slow=7.9,SNR=15						
LZH	**Lanzhou**	**31.19**	**281**	*e*P	**P**	**15 59 11.8**	**+0.6**
LZH				pP	sP	15 59 16.6	-1.1
LZH				sP	pP	15 59 19.5	+3.7
LZH				pmax	pmax		
	comp=Z,35nm,1.2s						
LZH				pmax	pmax		
	comp=Z,170nm,4.6s						
LZH				LR	LR		
	comp=N,360nm,10.8s						
LZH				LR	LR		
	comp=E,390nm,12.5s						
LZH				LR	LR		
	comp=Z,470nm,13.0s						
CD2	**Chengdu**	**32.69**	**272**	*e*P	**P**	**15 59 24.0**	**-0.3**
GTA	**Gaotai**	**33.74**	**289**	*e*P	**P**	**15 59 33.6**	**+0.1**
GTA				pP	sP	15 59 38.0	-2.0
GTA				sP	pP	15 59 41.1	+3.0
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KMI	**Kunming**	**35.85**	**263**	P	**P**	**15 59 51.1**	**-0.9**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
WMQ	**Urumqi**	**42.07**	**298**	*e*P	**P**	**16 00 44.8**	**+1.1**
WMQ				pP	sP	16 00 48.5	-1.7
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,70nm,4.3s						
WMQ				LR	LR		
	comp=N,190nm,21.5s						
WMQ				LR	LR		
	comp=E,140nm,21.5s						
WMQ				LR	LR		
	comp=Z,82nm,15.7s						
CMAR	**Chiang Mai Arr**	**42.29**	**257**	P	**P**	**16 00 45.9**	**+0.3**
	0.5nm,0.4s,baz=58,slow=9.0,SNR=4.5						
ZALV	**Zalesovo Beam**	**43.16**	**313**	P	**P**	**16 00 52.0**	**-0.3**
	1.1nm,0.4s,baz=79,slow=6.4,SNR=5.0						
ZALV	**Zalesovo Beam**	**43.16**	**313**	*e*P	**P**	**16 00 51.5**	**-0.8**
MK01	**Makanchi Array**	**45.36**	**303**	*e*P	**P**	**16 01 09.0**	**-1.1**
MK31	**Makanchi Array**	**45.37**	**303**	*e*P	**P**	**16 01 08.8**	**-1.3**
MKAR	**Makanchi Array**	**45.37**	**303**	P	**P**	**16 01 10.1**	**0.0**
	2.1nm,0.7s,baz=90,slow=9.7,SNR=19						
MKAR	**Makanchi Array**	**45.37**	**303**	*e*P	**P**	**16 01 09.2**	**-0.9**
	14nm,0.6s						
MAKZ	**Makanchi**	**45.58**	**303**	*e*P	**P**	**16 01 11.3**	**-0.5**
	3.3nm,0.9s						
KURK	**Kurchatov**	**47.18**	**309**	*e*P	**P**	**16 01 23.6**	**-0.7**
	13nm,1.4s						
ILAR	**Eielson Array**	**49.60**	**32**	P	**P**	**16 01 43.0**	**+0.2**
	0.6nm,0.8s,baz=270,slow=6.2,SNR=7.1						
KSH	**Kashi**	**51.63**	**295**	P	P	16 02 03.6	+5.0
KSH				pP	sP	16 02 07.6	+2.4
KSH				PcS	**PcS**	**16 07 14.5**	**+4.3**
KSH				S	S	16 09 27.8	+8.6
KSH				sS	sS	16 09 39.1	+12
KSH				pmax	pmax		
	comp=Z,5.0nm,0.4s						
KSH				pmax	pmax		
	comp=Z,380nm,5.9s						
KSH				LR	LR		
	comp=N,89nm,8.7s						
KSH				LR	LR		
	comp=E,190nm,5.8s						
KSH				LR	LR		
	comp=Z,290nm,8.8s						
ARSB	**Arslanbob**	**53.21**	**298**	*e*P	**P**	**16 02 09.3**	**-1.0**
	4.7nm,0.8s						
GAR	**Garm**	**55.93**	**296**	*e*P	**P**	**16 02 30.1**	**0.0**
	5.8nm,0.9s						
WRA	**Warramunga Arr**	**56.47**	**189**	P	**P**	**16 02 33.8**	**0.0**
	0.9nm,0.8s,baz=7.9,slow=7.5,SNR=6.7						
CHGR	**Chuyangaron**	**56.89**	**296**	*e*P	**P**	**16 02 36.5**	**-0.5**
	11nm,0.8s						
ABKAR	**Akbulak array**	**59.19**	**311**	*e*P	**P**	**16 02 51.8**	**-0.8**
ASAR	**Alice Springs**	**60.19**	**189**	P	**P**	**16 02 59.8**	**0.0**
	0.3nm,0.8s,baz=3.0,slow=7.9,SNR=7.0						
YKA	**Yellowknife Ar**	**63.96**	**30**	P	**P**	**16 03 25.2**	**+0.6**
	0.4nm,0.7s,baz=300,slow=6.8,SNR=6.0						
FINES	**FINESS Array B**	**69.94**	**333**	P	**P**	**16 04 02.4**	**-0.4**
	1.5nm,0.7s,baz=57,slow=7.0,SNR=3.7						
NVAR	**Mina Array Bea**	**74.64**	**54**	P	**P**	**16 04 31.3**	**-0.2**
	0.4nm,0.7s,baz=289,slow=5.4,SNR=2.6						
NOA	**NORSAR Array B**	**75.27**	**338**	LR	LR	16 41 50.1	
	comp=Z,36nm,19.4s,baz=10.0,slow=39						
AKASG	**Malin Array Be**	**75.50**	**323**	P	**P**	**16 04 35.3**	**-0.6**
	0.3nm,0.3s,baz=45,slow=6.0,SNR=4.8						
BRTR	**Keskin Array B**	**80.10**	**312**	P	**P**	**16 05 02.8**	**+0.8**
	0.4nm,0.6s,baz=123,slow=4.6,SNR=3.5						
TXAR	**Lajitas Array**	**89.78**	**53**	P	**P**	**16 05 52.4**	**+1.7**
	0.1nm,0.5s,baz=277,slow=7.2,SNR=2.2						
LPAZ	**La Paz**	**146.19**	**62**	PKPbc	**PKPab**	**16 12 34.3**	**+0.2**
	0.8nm,0.7s,baz=63,slow=4.5,SNR=2.5						

MAN 16 16:02:17.9, 6˚.94N×125˚.82E, h29km, mb4.1, ML2.9, MS2.6, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DMPH	**Davao City--Mi**	**0.34**	**294**	⇓*i*P	Pn	16 02 26.7	-0.1
DMPH				*e*S	Sn	16 02 32.8	0.0
MATI	**Mati**	**0.44**	**90**	*e*P	Pn	16 02 28.8	+0.6
MATI				*e*S	Sn	16 02 36.6	+1.3
DDMP	**Don Marcelino,**	**0.84**	**187**	*e*P	Pb	16 02 34.9	+0.9
DDMP				*e*S	Sb	16 02 44.7	-0.3
BUKP	**Musuan**	**1.19**	**321**	*e*P	Pn	16 02 38.5	-0.2
BUKP				*e*S	Sn	16 02 54.2	+0.3
GSPH	**General Santos**	**1.21**	**225**	⇑*i*P	Pb	16 02 39.8	-0.6
SKMP	**Bagumbayan, Su**	**1.33**	**252**	*e*P	Pn	16 02 40.6	0.0
SKMP				*e*S	Sn	16 02 57.7	+0.3

*SOME **16** 16:04:22.7, 42˚.67N×83˚.90E, h5km*
*NNC **16** 16:04:24.6±1.9, 42˚.80N×83˚.80E, h3km±9km, mb3.7, mpv3.4, Error ellipse: s-maj=13.8km s-min=6.5km az=141.0*

ISC 16 16:04:25.7±2.0, 42˚.83N±0˚.09×83˚.77E±0˚.08, h10km, n33, σ2§27/41, 7C-10D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**2.58**	**285**	Pg	**Pb**	**16 05 11.7**	**-0.4**
	11nm,0.1s						
KTMS				Lg	Lg	16 05 47.1	
	135nm,0.3s						
KTMS	**Ketmen**	**2.58**	**285**	*e*P	**Pb**	**16 05 11.7**	**-0.4**
	11nm,0.1s						
KTMS				*e*S	**Sg**	**16 05 47.1**	**-1.4**
	135nm,0.3s						
PDGK	**Podgornoye**	**3.18**	**281**	Pg	**Pb**	**16 05 20.5**	**-1.8**
	3.6nm,0.3s						
PDGK				Lg	Lg	16 06 02.6	
	28nm,0.3s						
PDGK	**Podgornoye**	**3.18**	**281**	⇑Pn	**Pn**	**16 05 16.7**	**+0.9**
	6.5nm,0.6s						
PDGK				⇑Lg	Lg	16 06 06.2	
	40nm,0.5s						
SHLS	**Shalkode**	**3.18**	**277**	*e*P	**Pn**	**16 05 17.1**	**+1.2**
	38nm,0.4s						
SHLS				*e*S	**Sn**	**16 05 56.4**	**+2.5**
	149nm,0.4s						
DJR	**Jarkent**	**3.26**	**299**	Pg	**Pb**	**16 05 24.0**	**+0.3**
	2.6nm,0.3s						
DJR				Lg	Lg	16 06 08.1	
	24nm,0.6s						
DJR	**Jarkent**	**3.26**	**299**	*e*P	**Pb**	**16 05 24.0**	**+0.3**
	2.6nm,0.3s						
DJR				*e*S	**Sg**	**16 06 08.1**	**-2.3**
	24nm,0.6s						
UZB	**Uzynbulak**	**3.50**	**277**	*e*P	**Pb**	**16 05 25.8**	**-2.0**
	2.8nm,0.3s						
UZB				*e*S	**Sb**	**16 06 11.0**	**+0.6**
	22nm,0.4s						
SATY	**Saty**	**3.94**	**275**	Pg	**Pg**	**16 05 39.0**	**-2.2**
	22nm,0.5s						
SATY				Lg	Lg	16 06 34.0	
	41nm,0.2s						
SATY	**Saty**	**3.94**	**275**	*e*P	**Pg**	**16 05 39.0**	**-2.2**
	22nm,0.5s						
SATY				*e*S	**Sg**	**16 06 34.0**	**+1.6**
	41nm,0.2s						
KAPS	**Kapalarasan**	**4.02**	**309**	Pg	**Pg**	**16 05 41.2**	**-1.5**
	8.0nm,0.6s						
KAPS				Lg	Lg	16 06 38.2	
	22nm,0.5s						
KAPS	**Kapalarasan**	**4.02**	**309**	*e*P	**Pg**	**16 05 41.2**	**-1.5**
	8.0nm,0.6s						
KAPS				*e*S	**Sg**	**16 06 38.1**	**+3.4**
	22nm,0.5s						
MK31	**Makanchi Array**	**4.10**	**346**	Pn	**Pn**	**16 05 28.0**	**-0.5**
	0.2nm,0.2s,baz=165,slow=14,SNR=20						
MK31				⇑Pg	**Pb**	**16 05 40.5**	**+2.5**
	0.6nm,0.3s,baz=158,slow=15,SNR=13						
MK31				⇓Lg	Lg	16 06 34.6	
	11nm,0.6s						
KURS	**Kuram**	**4.15**	**281**	Pg	**Pb**	**16 05 41.4**	**+2.5**
	7.6nm,0.7s						
KURS				Lg	Lg	16 06 38.3	
	6.9nm,0.4s						
KURS	**Kuram**	**4.15**	**281**	*e*P	**Pb**	**16 05 41.4**	**+2.5**
	7.6nm,0.7s						
KURS				*e*S	**Sg**	**16 06 38.3**	**-0.7**
	6.9nm,0.4s						
MAKZ	**Makanchi**	**4.18**	**343**	⇓Pn	**Pn**	**16 05 28.9**	**-0.7**
	1.0nm,0.6s						
MAKZ				⇑Pg	**Pb**	**16 05 41.6**	**+2.3**
	1.8nm,0.5s						
MAKZ				⇑Lg	Lg	16 06 40.5	
	5.6nm,0.7s						
ARXS	**Arharly**	**4.54**	**290**	Pg	**Pg**	**16 05 48.9**	**-3.7**
	3.9nm,0.4s						
ARXS				Lg	Lg	16 06 51.4	
	34nm,0.5s						
ARXS	**Arharly**	**4.54**	**290**	*e*P	**Pg**	**16 05 48.9**	**-3.7**
	3.9nm,0.4s						
ARXS				*e*S	**Sg**	**16 06 51.4**	**0.0**
	34nm,0.5s						
ZSN	**Zaisan**	**4.69**	**9**	Pg	**Pb**	**16 05 50.0**	**+2.0**
	1.0nm,0.4s						
ZSN				Lg	Lg	16 06 52.9	
	4.5nm,0.6s						
ZSN	**Zaisan**	**4.69**	**9**	⇓*i*P	**Pb**	**16 05 50.0**	**+2.0**
	1.0nm,0.4s						
ZSN				*e*S	**Sg**	**16 06 52.9**	**-3.2**
	4.5nm,0.6s						
MDOK	**Medeo**	**4.94**	**276**	⇓Pg	**Pb**	**16 05 54.3**	**+1.9**
	3.4nm,0.5s						
MDOK				⇑Lg	Lg	16 07 03.0	
	19nm,0.7s						
MDOK	**Medeo**	**4.94**	**276**	Pg	**Pg**	**16 05 57.0**	**-3.4**
	5.0nm,0.5s						
MDOK				Lg	Lg	16 07 05.1	
	17nm,0.5s						
MDOK	**Medeo**	**4.94**	**276**	*e*P	**Pg**	**16 05 57.0**	**-3.4**
	5.0nm,0.5s						
MDOK				*e*S	**Sg**	**16 07 05.1**	**+0.8**
	17nm,0.5s						
TNSS	**Tian-Shan**	**5.01**	**275**	Pg	**Pb**	**16 05 56.3**	**+2.6**
	7.5nm,0.4s						
TNSS				Lg	Lg	16 07 04.0	
	12nm,0.6s						
TNSS	**Tian-Shan**	**5.01**	**275**	⇓*i*P	**Pb**	**16 05 56.3**	**+2.6**
	7.5nm,0.4s						
TNSS				*e*S	**Sg**	**16 07 04.0**	**-2.7**
	12nm,0.6s						
KTBS	**Karatobe**	**5.25**	**282**	Pg	Pg	16 06 01.3	-4.9
	2.1nm,0.5s						
KTBS				Lg	Lg	16 07 12.2	
	15nm,0.6s						
KUU	**Kurty**	**5.52**	**284**	Pg	**Pb**	**16 06 05.6**	**+3.4**
	1.3nm,0.1s						
KUU				Lg	Lg	16 07 20.4	
	11nm,0.3s						
KST	**Kastek**	**5.74**	**275**	Pg	**Pb**	**16 06 09.1**	**+3.2**
	2.8nm,0.4s						
KST				Lg	Lg	16 07 26.1	
	11nm,0.8s						
TKM2	**Tokmak 2**	**6.01**	**274**	⇓Pn	**Pn**	**16 05 56.0**	**+1.2**
	1.3nm,0.6s						
TKM2				⇓Lg	Lg	16 07 35.0	
	5.9nm,0.6s						
AAK	**Ala-Archa**	**6.83**	**272**	⇓Lg	Lg	16 08 01.7	
	6.3nm,0.8s						
KURBB	**Kurchatov Arra**	**8.59**	**337**	⇓Lg	Lg	16 08 58.8	
	8.2nm,0.7s						
KURK	**Kurchatov**	**8.64**	**338**	⇓Lg	Lg	16 09 00.1	
	3.0nm,0.7s						
OTUK	**Ortayu**	**9.68**	**308**	⇑Lg	Lg	16 09 32.5	
	6.9nm,1.3s						

*IDC **16** 16:24:41.4±0.6, 35˚.82S×103˚.21W, h0km, mb4.3/14, mb1 4.5/14, mb1mx4.4/24, mbtmp4.3/14, MS4.2/15, Ms1 4.2/15, ms1mx4.1/19, Error ellipse: s-maj=18.9km s-min=17.8km az=98.0*
*ISCJB **16** 16:24:42.3±0.5, 36˚.00S±0˚.08×102˚.93W±0˚.10, h12km, mb4.5/45, MS4.2/14, Error ellipse: s-maj=13.3km s-min=8.9km az=43.5*
*NEIC **16** 16:24:43.7±0.5, 35˚.95S×102˚.92W, h10km, mb4.6/34, Error ellipse: s-maj=15.0km s-min=9.6km az=216.0*
*GCMT **16** 16:24:45.7±0.1, 35˚.91S±0˚.01×103˚.13W±0˚.01, h21km, MW5.2/114, Moment Tensor Solution. s78,c123; s114,c190; Duration: 1§0 Moment tensor: Scale 10^{16} Nm; M_{rr}-0.15±.14; $M_{\theta\theta}$-1.59±.13; $M_{\phi\phi}$ 1.74±.13; $M_{r\theta}$0.11±.22; $M_{\theta\phi}$-7.44±.13; $M_{\phi r}$-1.79±.24; Best double couple: $M_0$7.83000×10^{16} NP1:ϕ_s186.00000°, δ88.00000°, λ13.00000°. NP2:ϕ_s96.00000°, δ77.00000°, λ178.00000°. Principal axes: T 7.9670, Plg10.0000°, Azm52.0000°; N -0.2770, Plg77.0000°, Azm194.0000°; P -7.6930, Plg8.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 16:24:43.9±0.5, 35˚.95S±0˚.1×103˚.0W±0˚.1, h12km, n83, σ1§75/71, mb4.6/45, MS4.2/14, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**10.29**	**326**	LR	LR	16 29 59.1	
	comp=Z,9μm,22.0s,baz=114,slow=31						
GO06	**Curarrehue**	**25.12**	**108**	*e*P	**P**	**16 30 09.4**	**+0.7**
	8.9nm,1.0s						
PLCA	**Paso Flores**	**25.81**	**111**	P	**P**	**16 30 17.4**	**+2.4**
	7.9nm,1.0s,baz=310,slow=9.5,SNR=7.3						
PLCA				LR	LR	16 37 51.9	
	comp=Z,333nm,20.2s,baz=284,slow=30						
PLCA	**Paso Flores**	**25.81**	**111**	*e*P	**P**	**16 30 16.6**	**+1.7**
	14nm,1.1s						
GO04	**Tololo Observa**	**27.50**	**87**	*e*P	**P**	**16 30 28.9**	**-1.6**
	13nm,0.9s						
LCO	**Las Campanas**	**28.00**	**85**	*e*P	**P**	**16 30 35.0**	**-0.1**
	12nm,1.3s						
RKT	**Rikitea**	**30.47**	**286**	*e*LQ	LQ	16 36 52.9	
	1μm,33.2s						
GO02	**Mina Guanaco**	**30.55**	**79**	*e*P	**P**	**16 30 58.0**	**+0.3**
	30nm,1.5s						
LVC	**Limon Verde**	**32.37**	**75**	P	**P**	**16 31 14.4**	**+0.6**
	5.4nm,0.9s,baz=240,slow=9.6,SNR=6.1						
LVC	**Limon Verde**	**32.37**	**75**	*e*P	**P**	**16 31 13.5**	**-0.3**
	31nm,1.7s						
PB11	**IPOC Station P**	**33.37**	**70**	*e*P	**P**	**16 31 21.2**	**-1.1**
	18nm,1.1s						
MNMC	**Minye Minye**	**33.79**	**69**	*e*P	**P**	**16 31 24.9**	**-1.2**
	13nm,1.0s						
ATAH	**Atahualpa**	**36.42**	**44**	P	**P**	**16 31 49.2**	**+0.2**
	3.3nm,0.6s,baz=214,slow=15,SNR=2.9						
LPAZ	**La Paz**	**36.62**	**67**	P	**P**	**16 31 51.1**	**+0.2**
	4.7nm,0.9s,baz=236,slow=4.9,SNR=12						
LPAZ				LR	LR	16 44 15.1	
	comp=Z,238nm,19.4s,baz=240,slow=32						
LPAZ	**La Paz**	**36.62**	**67**	*e*P	**P**	**16 31 50.1**	**-0.8**
	12nm,1.2s						
CPUP	**Villa Florida**	**39.93**	**89**	P	**P**	**16 32 18.0**	**0.0**
	1.6nm,0.7s,baz=276,slow=10,SNR=3.3						
CPUP				LR	LR	16 46 00.6	
	comp=Z,202nm,20.2s,baz=250,slow=32						
TBI	**Tubuai**	**41.93**	**274**	*e*S	S	16 38 24.4	-28
	50nm,25.0s						
TBI				*e*LQ	LQ	16 41 44.9	
	2μm,33.8s						
TBI				*e*LR	LR	16 43 28.7	
	comp=Z,498nm,23.2s						
TAOE	**Nuku Hiva Isla**	**43.23**	**299**	*e*LR	LR	16 44 03.0	
	comp=Z,751nm,24.2s						
PPT2	**Papeete2**	**44.97**	**281**	*e*S	S	16 39 07.6	-30
	385nm,27.0s						
PPT2				*e*LQ	LQ	16 42 59.7	
	446nm,23.0s						
PPT2				*e*LR	LR	16 43 54.2	
	comp=Z,305nm,26.0s						
PPT	**Papeete**	**44.98**	**281**	LR	LR	16 45 49.9	
	comp=Z,132nm,21.0s,baz=114,slow=28						
ROSC	**El Rosal**	**48.63**	**40**	P	**P**	**16 33 27.9**	**-0.2**
	4.8nm,0.4s,baz=357,slow=8.8,SNR=5.5						
ROSC				LR	LR	16 50 21.5	
	comp=Z,491nm,20.4s,baz=262,slow=32						
RAR	**Rarotonga**	**51.32**	**270**	LR	LR	16 51 00.0	
	comp=Z,83nm,18.5s,baz=110,slow=31						
BDFB	**Brasilia**	**52.74**	**82**	P	**P**	**16 33 59.7**	**+0.8**
	2.3nm,0.6s,baz=246,slow=6.1,SNR=3.8						
BDFB				LR	LR	16 55 08.8	
	comp=Z,192nm,18.2s,baz=250,slow=34						
QSPA	**South Pole Qui**	**54.31**	**180**	P	**P**	**16 34 08.9**	**-1.0**

	10nm,1.5s							
DZM	**Mont Dzumac**	**77.84**	**252**	*e*LR	LR	17 00 13.6		
	comp=Z,748nm,27.8s							
BW06	**Boulder Array**	**78.52**	**355**	*e*P	**P**	**16 36 43.2**	**-1.8**	
	8.1nm,1.0s							
PD31	**Pinedale Array**	**78.52**	**355**	*e*P	**P**	**16 36 42.9**	**-2.0**	
PDAR	**Pinedale Array**	**78.52**	**355**	P	**P**	**16 36 43.3**	**-1.6**	
	5.1nm,0.7s,baz=158,slow=5.7,SNR=29							
PDAR	**Pinedale Array**	**78.52**	**355**	*e*P	**P**	**16 36 42.1**	**-2.8**	
MOD	**Modoc Plateau**	**79.04**	**347**	*e*P	**P**	**16 36 48.2**	**+0.5**	
	18nm,1.6s							
TPAW	**Teton Pass**	**79.35**	**354**	*e*P	**P**	**16 36 51.6**	**+2.1**	
	13nm,1.3s							
LOHW	**Long Hollow**	**79.44**	**354**	*e*P	**P**	**16 36 51.4**	**+1.4**	
	7.1nm,1.3s							
ECSD	**EROS Data Cent**	**79.47**	**5**	*e*P	**P**	**16 36 46.7**	**-3.1**	
	7.7nm,0.9s							
MOOW	**Moose Ponds**	**79.59**	**354**	*e*P	**P**	**16 36 51.4**	**+0.7**	
	2.7nm,0.8s							
HLID	**Hailey**	**79.77**	**352**	*e*P	**P**	**16 36 53.1**	**+1.4**	
	8.0nm,0.9s							
FLWY	**Flagg Ranch**	**79.92**	**354**	*e*P	**P**	**16 36 54.0**	**+1.5**	
	5.2nm,0.8s							
J08A	**Circle Bar Ran**	**80.14**	**349**	*e*P	**P**	**16 36 56.4**	**+2.7**	
	6.0nm,1.0s							
RLMT	**Red Lodge**	**80.85**	**355**	*e*P	**P**	**16 36 59.4**	**+1.8**	
	6.3nm,1.0s							
I07A	**Izee**	**81.01**	**348**	*e*P	**P**	**16 37 00.2**	**+1.9**	
	5.3nm,0.9s							
G08A	**Pilot Rock**	**82.10**	**349**	*e*P	**P**	**16 37 06.5**	**+2.5**	
	6.3nm,1.3s							
ULM	**Lac du Bonnet**	**86.01**	**5**	P	**P**	**16 37 22.0**	**-1.6**	
	3.0nm,0.9s,baz=236,slow=11,SNR=2.6							
STKA	**Stephens Creek**	**89.41**	**230**	LR	LR	17 11 26.2		
	comp=Z,283nm,18.8s,baz=172,slow=31							
SCHQ	**Schefferville**	**95.56**	**20**	LR	LR	17 18 17.9		
	comp=Z,146nm,18.9s,baz=297,slow=34							
YKA	**Yellowknife Ar**	**98.50**	**355**	P	**P**	**16 38 20.3**	**-1.2**	
	0.4nm,0.7s,baz=167,slow=4.5,SNR=9.1							
BOSA	**Boshof**	**99.42**	**136**	LR	LR	17 15 39.9		
	comp=Z,126nm,21.3s,baz=208,slow=31							
ASAR	**Alice Springs**	**100.00**	**231**	LR	LR	17 17 29.6		
	comp=Z,320nm,19.6s,baz=136,slow=32							
H01W1	**Cape Leeuwin H**	**101.51**	**210**	T	T	18 32 20.2		
	baz=148,slow=76,SNR=10.1							
H01W2	**Cape Leeuwin H**	**101.52**	**210**	T	T	18 32 23.1		
	baz=148,slow=76,SNR=9.9							
H01W3	**Cape Leeuwin H**	**101.53**	**210**	T	T	18 32 21.5		
	baz=148,slow=76,SNR=8.2							
CLL	**Collm**	**132.67**	**50**	*e*PKPdf	**PKiKP**	**16 43 59.0**	**-0.1**	
CLL				*e*PP	**PP**	**16 46 18.0**	**-5.0**	
CLL				*e*SS	SS	17 04 06.0	+2.6	
CLL				*e*SSS	SSS	17 09 00.0		
NJ2	**Nanjing**	**145.28**	**276**	*e*PKPbc	**PKPdf**	**16 44 22.0**	**+0.4**	
BR131	**Keskin Array S**	**145.76**	**70**	*e*PKPbc	**PKPab**	**16 44 23.7**	**+0.5**	
BRTR	**Keskin Array B**	**145.76**	**70**	PKPbc	**PKPdf**	**16 44 21.1**	**-1.2**	
	3.1nm,0.9s,baz=221,slow=3.6,SNR=11							
RAYN	**Ar Rayn**	**150.11**	**106**	*e*PKPbc	**PKPbc**	**16 44 34.7**	**-0.2**	
HHC	**Hu-ho-hao-te**	**152.58**	**291**	*e*PKPbc	**PKPdf**	**16 44 35.4**	**+2.2**	
KBZ	**Khabaz**	**152.80**	**63**	PKP	**PKPdf**	**16 44 33.6**	**+0.3**	
	1.7nm,1.0s,baz=307,slow=3.2,SNR=2.6							
CMAR	**Chiang Mai Arr**	**153.98**	**234**	PKP	**PKPdf**	**16 44 36.2**	**+0.4**	
	0.2nm,0.3s,baz=132,slow=1.3,SNR=3.9							
CMAR				PKPbc	**PKPbc**	**16 44 43.9**	**+0.1**	
	0.2nm,0.4s,baz=198,slow=1.4,SNR=3.4							
SONM	**Songino Array**	**155.24**	**308**	PKP	**PKPdf**	**16 44 35.6**	**-1.2**	
	0.4nm,0.8s,baz=96,slow=1.4,SNR=3.1							
SONM				PKPbc	pPKPbc	16 44 45.5	-3.0	
	0.7nm,0.7s,baz=116,slow=2.0,SNR=4.2							
SONM				PKPab	**PKPab**	**16 45 00.1**	**-1.7**	
	3.2nm,0.9s,baz=98,slow=4.1,SNR=12							
MKAR	**Makanchi Array**	**168.42**	**342**	PKPab	**PKPab**	**16 45 58.6**	**-0.6**	
	0.5nm,1.0s,baz=25,slow=3.8,SNR=2.8							
WMQ	**Urumqi**	**168.61**	**317**	*e*PKP	**PKPdf**	**16 44 50.4**	**0.0**	
WMQ				LR	LR			
	comp=E,210nm,27.3s							
KSH	**Kashi**	**176.30**	**13**	PKP	**PKPdf**	**16 44 56.4**	**+2.4**	
KSH				PP	**PP**	**16 50 33.5**	**+6.9**	

ISCJB ***16*** *16:43:31.3±1.1, 17.5S±0.4×178.7W±0.3, h547km, mb3.7/8, Error ellipse: s-maj=60.9km s-min=15.1km az=151.8*
IDC ***16*** *16:43:35.3±6.4, 17.68S×178.63W, h589km±82km, mb3.3/8, mb1 3.6/9, mb1mx3.3/32, mbtmp4.2/9, Error ellipse: s-maj=56.6km s-min=26.7km az=163.0*

ISC 16 16:43:32.1±1.3, 17.5S±0.4×178.6W±0.3, h547km, n11, σ0.980/11, mb3.8/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.82**	**250**	P	**P**	**16 46 41.3**	**+1.3**
	0.3nm,0.3s,baz=79,slow=18,SNR=3.7						
STKA	**Stephens Creek**	**38.70**	**241**	P	**P**	**16 50 08.8**	**-0.6**
	2.4nm,0.6s,baz=98,slow=9.7,SNR=6.6						
WRA	**Warramunga Arr**	**44.56**	**259**	P	**P**	**16 50 55.1**	**-0.9**
	3.1nm,0.7s,baz=96,slow=7.2,SNR=68						
ASAR	**Alice Springs**	**44.76**	**254**	P	**P**	**16 50 56.8**	**-0.7**
	15nm,0.7s,baz=87,slow=9.0,SNR=269						
SIJI	**Sorong**	**51.99**	**283**	P	**P**	**16 51 51.8**	**+0.5**
	baz=126,slow=14						
NVAR	**Mina Array Bea**	**79.23**	**44**	P	**P**	**16 54 41.7**	**+0.6**
	1.2nm,0.7s,baz=226,slow=8.7,SNR=7.0						
ILAR	**Eielson Array**	**85.52**	**13**	P	**P**	**16 55 11.7**	**-0.3**
	0.4nm,0.4s,baz=218,slow=5.0,SNR=15						
TXAR	**Lajitas Array**	**85.90**	**58**	P	**P**	**16 55 15.2**	**+0.4**
	1.1nm,0.7s,baz=220,slow=5.8,SNR=12						
PDAR	**Pinedale Array**	**87.15**	**44**	P	**P**	**16 55 20.7**	**+0.1**
	1.1nm,0.5s,baz=245,slow=3.1,SNR=6.9						
YKA	**Yellowknife Ar**	**94.02**	**25**	P	**P**	**16 55 51.4**	**-0.1**
	0.1nm,0.5s,baz=235,slow=4.5,SNR=3.3						
GERES	**GERESS Array B**	**147.17**	**345**	PKPbc	**PKPbc**	**17 02 13.3**	**-0.9**
	0.4nm,0.4s,baz=40,slow=2.3,SNR=4.6						

IDC 16 16:53:52.2±0.9, 13.67N×145.06E, h138km±5km, mb2.9/5, mb1 3.2/5, mb1mx3.0/32, mbtmp3.3/5, Error ellipse: s-maj=41.8km s-min=18.1km az=103.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.20**	**248**	P	Pn	16 54 12.5	+1.4
	baz=90,slow=4.0						
GUMO				S	Sn	16 54 26.3	+0.9
	493nm,0.3s,baz=49,slow=19,SNR=57						
WRA	**Warramunga Arr**	**35.02**	**198**	P	P	17 00 31.6	-0.2
	0.6nm,0.8s,baz=20,slow=9.4,SNR=4.4						
ASAR	**Alice Springs**	**38.67**	**196**	P	P	17 01 02.5	-0.2
	0.5nm,1.1s,baz=21,slow=13,SNR=3.0						
MKAR	**Makanchi Array**	**61.56**	**316**	P	P	17 03 55.0	+0.1
	0.1nm,0.5s,baz=92,slow=7.0,SNR=2.7						
ILAR	**Eielson Array**	**68.42**	**25**	P	P	17 04 38.4	-0.5
	0.3nm,0.4s,baz=248,slow=6.1,SNR=9.9						
YKA	**Yellowknife Ar**	**82.70**	**27**	P	P	17 06 00.4	+0.2
	0.1nm,0.4s,baz=285,slow=5.6,SNR=3.4						

IGIL ***16*** *17:19:47.8, 39.57N×12.07W, h30km, ML2.6*
MDD ***16*** *17:19:48.1±1.3, 39.59N×11.75W, h0km, mb4.2/7, Error ellipse: s-maj=12.5km s-min=6.5km az=84.0, PRXIMO*
INMG ***16*** *17:19:49.8±1.1, 39.61N×12.21W, h10km, ML2.5, Error ellipse: s-maj=5.8km s-min=2.6km az=88.0*

ISC 16 17:19:42.4±2.2, 39.62N±0.04×12.1W±0.1, h10km, n56, σ2.971/111, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMAFR	**Mafra**	**2.29**	**106**	*e*Pn	**Pn**	**17 20 22.8**	**+2.5**
PMAFR				*e*Sn	**Sn**	**17 20 47.8**	**-0.8**
PMAFR				A	A	17 20 51.6	
	35nm,0.2s						
PMAFR	**Mafra**	**2.29**	**106**	P	**Pn**	**17 20 22.6**	**+2.3**
	4.5nm,0.1s,SNR=9.6						
PMAFR				S	**Sn**	**17 20 47.2**	**-1.4**
	85nm,0.3s,SNR=7.9						
PMST	**Lisbon--Monsan**	**2.44**	**110**	*e*Pn	**Pn**	**17 20 25.1**	**+2.8**
PMST				*e*Sn	**Sn**	**17 20 52.2**	**0.0**
PMST				A	A	17 20 54.3	
	34nm,0.2s						
PCAS	**Casmilo, Conde**	**2.81**	**80**	*e*Pn	**Pn**	**17 20 30.2**	**+2.7**
PCAS				*e*Sn	**Sn**	**17 21 00.5**	**-1.0**
PCAS				A	A	17 21 03.5	
	6.8nm,0.3s						
PCAS	**Casmilo, Conde**	**2.81**	**80**	P	**Pn**	**17 20 30.2**	**+2.7**
PCAS				S	**Sn**	**17 21 00.5**	**-1.0**
	6.8nm,0.3s						
PTOM	**Tomar**	**2.86**	**89**	*e*Pn	**Pn**	**17 20 30.7**	**+2.6**
PTOM				*e*Sn	**Sn**	**17 21 01.3**	**-1.2**
PTOM				A	A	17 21 03.2	
	15nm,0.1s						
PTOM	**Tomar**	**2.86**	**89**	P	**Pn**	**17 20 30.7**	**+2.6**
PTOM				S	**Sn**	**17 21 01.3**	**-1.2**
	7.5nm,0.1s						
PMTG	**Montargil**	**3.06**	**99**	*e*Pn	**Pn**	**17 20 33.2**	**+2.3**
PMTG				*e*Sn	**Sn**	**17 21 05.6**	**-2.0**
PMTG				A	A	17 21 11.6	
	7.0nm,0.1s						
PMTG	**Montargil**	**3.06**	**99**	P	**Pn**	**17 20 33.2**	**+2.3**
PMTG				S	**Sn**	**17 21 05.6**	**-2.0**
	7.0nm,0.1s						
PNCL	**Nicolau / Gran**	**3.17**	**117**	*e*Pn	**Pn**	**17 20 35.0**	**+2.6**
PNCL				*e*Sn	**Sn**	**17 21 08.8**	**-1.5**
PNCL				A	A	17 21 12.7	
	5.6nm,0.1s						
PNCL	**Nicolau / Gran**	**3.17**	**117**	P	**Pn**	**17 20 35.0**	**+2.6**
PNCL				S	**Sn**	**17 21 08.8**	**-1.5**
	5.6nm,0.1s						
PTEO	**Sao Teotonio**	**3.37**	**127**	*e*Pn	**Pn**	**17 20 37.1**	**+2.1**
PTEO				*e*Sn	**Sn**	**17 21 12.6**	**-2.4**
PTEO				A	A	17 21 15.4	
	9.5nm,0.3s						
PTEO	**Sao Teotonio**	**3.37**	**127**	P	**Pn**	**17 20 37.1**	**+2.1**
PTEO				S	**Sn**	**17 21 12.6**	**-2.4**
	4.8nm,0.3s						
EVO	**Evora**	**3.37**	**107**	*e*Pn	**Pn**	**17 20 39.4**	**+4.3**
EVO				*e*Sn	**Sn**	**17 21 16.1**	**+1.0**
EVO				A	A	17 21 18.8	
	11nm,0.2s						
EVO	**Evora**	**3.37**	**107**	P	**Pn**	**17 20 39.4**	**+4.3**
EVO				S	**Sn**	**17 21 16.1**	**+1.0**
	11nm,0.2s						
MESJ	**Messejana**	**3.52**	**119**	*e*P	**Pn**	**17 20 38.5**	**+1.2**
MESJ				*e*S	**Sn**	**17 21 15.5**	**-3.4**
MESJ				AML	AML	17 21 20.3	
	comp=N,12nm,0.2s						
MESJ	**Messejana**	**3.52**	**119**	*e*Pn	**Pn**	**17 20 39.7**	**+2.5**
MESJ				*e*Sn	**Sn**	**17 21 17.1**	**-1.8**
MESJ				A	A	17 21 21.7	
	comp=N,5.4nm,0.1s						
MESJ	**Messejana**	**3.52**	**119**	P	**Pn**	**17 20 39.7**	**+2.5**
MESJ				S	**Sn**	**17 21 17.1**	**-1.8**
	comp=N,5.4nm,0.1s						
MORF	**Marmelete**	**3.56**	**129**	*e*P	**Pn**	**17 20 39.1**	**+1.3**
MORF				*e*S	**Sn**	**17 21 16.4**	**-3.6**
MORF				AML	AML	17 21 19.6	
	comp=N,25nm,0.4s						
MORF	**Marmelete**	**3.56**	**129**	*e*Pn	**Pn**	**17 20 39.5**	**+1.7**
MORF				*e*Sn	**Sn**	**17 21 17.1**	**-2.9**
MORF				A	A	17 21 21.5	
	comp=N,11nm,0.5s						
MORF	**Marmelete**	**3.56**	**129**	P	**Pn**	**17 20 39.5**	**+1.7**
MORF				S	**Sn**	**17 21 17.1**	**-2.9**
	comp=N,11nm,0.5s						
PCBR	**Castelo Branco**	**3.58**	**85**	*e*Pn	**Pn**	**17 20 40.9**	**+2.9**
PCBR				*e*Sn	**Sn**	**17 21 18.9**	**-1.4**
PCBR				A	A	17 21 19.3	
	comp=N,3.3nm,0.1s						
PCBR	**Castelo Branco**	**3.58**	**85**	P	**Pn**	**17 20 40.9**	**+2.9**
PCBR				S	**Sn**	**17 21 18.9**	**-1.4**
	comp=N,1.7nm,0.1s						
PFVI	**Vila Bisbo**	**3.58**	**133**	*e*Pn	**Pn**	**17 20 39.7**	**+1.7**
PFVI				*e*Sn	**Sn**	**17 21 16.8**	**-3.5**
PFVI				A	A	17 21 22.2	
	comp=N,5.9nm,0.1s						
PFVI	**Vila Bisbo**	**3.58**	**133**	P	**Pn**	**17 20 39.5**	**+1.5**
	comp=N,2.2nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**17 21 16.2**	**-4.1**
	comp=N,6.4nm,0.2s,SNR=7.9						
PESTR	**Estremoz**	**3.59**	**101**	*e*Pn	**Pn**	**17 20 40.2**	**+2.0**
PESTR				*e*Sn	**Sn**	**17 21 18.1**	**-2.5**
PESTR				A	A	17 21 22.1	
	comp=N,6.8nm,0.3s						
EZAM	**Zamans**	**3.62**	**45**	P	**Pn**	**17 20 40.7**	**+2.1**
	comp=N,2.0nm,0.1s,SNR=7.9						
EZAM				S	**Sn**	**17 21 18.8**	**-2.6**
	comp=N,7.7nm,0.1s,SNR=7.9						
POLO	**Lamas de Olo**	**3.73**	**61**	*e*Pn	**Pn**	**17 20 43.4**	**+3.2**
POLO				*e*Sn	**Sn**	**17 21 22.2**	**-2.0**
POLO				A	A	17 21 23.3	
	comp=N,1.2nm,0.1s						
POLO	**Lamas de Olo**	**3.73**	**61**	P	**Pn**	**17 20 43.4**	**+3.2**
POLO				S	**Sn**	**17 21 22.2**	**-2.0**
	comp=N,1.2nm,0.1s						
PGAV	**Gavieira, Arco**	**3.74**	**50**	*e*Pn	**Pn**	**17 20 43.7**	**+3.4**
PGAV				*e*Sn	**Sn**	**17 21 22.2**	**-2.3**
PGAV				A	A	17 21 23.6	
	comp=N,6.8nm,0.1s						
PGAV	**Gavieira, Arco**	**3.74**	**50**	P	**Pn**	**17 20 43.7**	**+3.4**
PGAV				S	**Sn**	**17 21 22.2**	**-2.3**
	comp=N,6.8nm,0.1s						
PCAB	**Cabril**	**3.74**	**55**	*e*Pn	**Pn**	**17 20 43.8**	**+3.5**
PCAB				*e*Sn	**Sn**	**17 21 22.4**	**-2.0**
PCAB				A	A	17 21 24.2	
	comp=N,11nm,0.1s						
PCAB	**Cabril**	**3.74**	**55**	P	**Pn**	**17 20 43.8**	**+3.5**
PCAB				S	**Sn**	**17 21 22.4**	**-2.0**
	comp=N,5.6nm,0.1s						
ELOB	**Lobios**	**3.81**	**53**	P	**Pn**	**17 20 43.6**	**+2.3**
	comp=N,3.1nm,0.0s,SNR=7.9						
ELOB				S	**Sn**	**17 21 23.7**	**-2.5**
	comp=N,4.0nm,0.2s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**4.05**	**125**	*e*Pn	**Pn**	**17 20 47.2**	**+2.7**
PBDV				*e*Sn	**Sn**	**17 21 30.1**	**-1.9**
PBDV	**Barranco-do-Ve**	**4.05**	**125**	P	**Pn**	**17 20 47.2**	**+2.7**
PBDV				S	**Sn**	**17 21 30.1**	**-1.9**
EBAD	**Badajoz**	**4.05**	**101**	P	**Pn**	**17 20 46.3**	**+1.8**
	comp=N,2.0nm,0.1s,SNR=13						
EBAD				S	**Sn**	**17 21 28.6**	**-3.5**
	comp=N,5.3nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**4.08**	**34**	P	**Pn**	**17 20 47.1**	**+2.2**
	comp=N,1.0nm,0.1s,SNR=4.0						
EMAZ				S	**Sn**	**17 21 28.8**	**-3.9**
	SNR=7.9						
PVAQ	**Vaqueiros**	**4.09**	**121**	*e*Pn	**Pn**	**17 20 47.8**	**+2.7**
PVAQ				*e*Sn	**Sn**	**17 21 30.9**	**-2.1**
PVAQ				A	A	17 21 33.6	
	comp=N,6.9nm,0.9s						
PVAQ	**Vaqueiros**	**4.09**	**121**	P	**Pn**	**17 20 47.8**	**+2.7**
PVAQ				S	**Sn**	**17 21 30.9**	**-2.1**
	comp=N,6.9nm,0.9s						
MVO	**Moncorvo**	**4.18**	**67**	*e*Pn	**Pn**	**17 20 49.0**	**+2.7**
MVO				*e*Sn	**Sn**	**17 21 31.5**	**-3.7**
MVO	**Moncorvo**	**4.18**	**67**	P	**Pn**	**17 20 49.2**	**+2.9**
	comp=N,1.6nm,0.1s,SNR=5.7						
MVO				S	**Sn**	**17 21 33.2**	**-2.0**
	comp=N,1.0nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.18**	**118**	P	**Pn**	**17 20 48.2**	**+1.9**
	comp=N,0.8nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**17 21 32.8**	**-2.3**
	comp=N,1.4nm,0.2s,SNR=7.9						
EAGO	**Agolada(Pontev**	**4.40**	**42**	P	**Pn**	**17 20 51.7**	**+2.4**
	comp=N,1.2nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**17 21 36.3**	**-4.2**
	SNR=7.9						
PBRG	**Braganca**	**4.63**	**60**	*e*Pn	**Pn**	**17 20 55.8**	**+3.3**
PBRG				*e*Sn	**Sn**	**17 21 42.6**	**-3.7**
PBRG				A	A	17 21 46.1	
	comp=N,2.8nm,0.1s						
PBRG	**Braganca**	**4.63**	**60**	P	**Pn**	**17 20 55.8**	**+3.3**
PBRG				S	**Sn**	**17 21 42.6**	**-3.7**
	comp=N,1.4nm,0.1s						
EMIN	**Mina Concepcio**	**4.64**	**112**	P	**Pn**	**17 20 54.9**	**+2.3**
	comp=N,0.4nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**17 21 43.4**	**-3.1**
	comp=N,0.1nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**4.66**	**83**	P	**Pn**	**17 20 55.0**	**+2.1**
	comp=N,0.9nm,0.2s,SNR=7.9						
EPLA				S	**Sn**	**17 21 43.6**	**-3.5**
	comp=N,1.6nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**4.69**	**59**	P	**Pn**	**17 20 56.2**	**+2.8**
	comp=N,2.0nm,0.1s,SNR=8.2						
ECAL				S	**Sn**	**17 21 45.7**	**-2.2**
	comp=N,0.1nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**5.25**	**44**	P	**Pn**	**17 21 03.2**	**+2.1**
	comp=N,0.8nm,0.1s,SNR=7.9						
EPON				S	**Sn**	**17 21 56.7**	**-5.0**
	comp=N,0.8nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**5.45**	**104**	P	**Pn**	**17 21 06.0**	**+2.3**
	comp=N,0.5nm,0.1s,SNR=7.2						
ECAB				S	**Sn**	**17 22 03.2**	**-3.2**
	comp=N,0.7nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**6.00**	**88**	P	**Pn**	**17 21 13.6**	**+2.3**
	comp=N,0.9nm,0.2s,SNR=7.9						
PAB				S	**Sn**	**17 22 15.6**	**-4.4**
	comp=N,0.2nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**6.05**	**101**	P	**Pn**	**17 21 13.6**	**+1.6**
	comp=N,0.6nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**17 22 17.2**	**-4.2**
	comp=N,0.2nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**6.18**	**78**	P	**Pn**	**17 21 16.4**	**+2.5**
	comp=N,0.4nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**17 22 19.9**	**-4.8**
	comp=N,0.2nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**6.29**	**87**	P	**Pn**	**17 21 17.9**	**+2.6**
	comp=N,5.3nm,0.1s,baz=270,slow=13,SNR=7.7						
EARI	**Arriondas**	**6.36**	**52**	P	**Pn**	**17 21 20.6**	**+4.4**
	comp=N,1.2nm,0.1s,SNR=10						
EARI				S	**Sn**	**17 22 26.6**	**-2.3**
	comp=N,0.3nm,0.1s,SNR=7.9						

MEX 16 17:22:10.2±0.3, 13.32N×92.40W, h24km±23km, MD3.6, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.58**	**5**	*i* P	Pn	17 22 34.5	-2.2
THIG				*i* S	Sn	17 22 52.8	-3.6
PCIG		**2.50**	**342**	*e*P	Pn	17 22 47.1	-2.1
PCIG				*i* S	Sn	17 23 15.5	-3.4
CCIG	**Comitan**	**2.95**	**5**	*e*P	Pn	17 22 54.0	-1.8
CCIG				*e*S	Sn	17 23 27.6	-3.0

IDC 16 17:23:57.7±1.6, 4.49N×123.79E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/39, mbtmp3.6/5, Error ellipse: s-maj=154.3km s-min=19.9km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.52**	**175**	P	P	17 28 59.1	-0.1
	3.0nm,1.0s,baz=355,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**26.40**	**157**	P	P	17 29 36.4	+0.3
	0.4nm,0.4s,baz=337,slow=9.5,SNR=19						
ASAR	**Alice Springs**	**29.67**	**161**	P	P	17 30 05.1	-0.3
	0.2nm,0.3s,baz=336,slow=8.2,SNR=14						
MKAR	**Makanchi Array**	**55.28**	**326**	P	P	17 33 33.4	+0.4
	0.5nm,0.6s,baz=121,slow=8.3,SNR=7.3						
KURBB	**Kurchatov Arra**	**59.54**	**328**	P	P	17 34 02.2	-0.7
	0.2nm,0.4s,baz=129,slow=6.8,SNR=3.7						

ISCJB ***16*** *17:50:48.5±1.6, 58.01S±0.06×25.2W±0.1, h44km±16km, mb4.7/21, MS3.7/14, Error ellipse: s-maj=13.3km s-min=7.1km az=146.1*
NEIC ***16*** *17:50:49.2±0.2, 57.94S×25.13W, h35km, mb4.8/13, Error ellipse: s-maj=9.1km s-min=6.8km az=219.0*
IDC ***16*** *17:50:50.2±0.6, 57.92S×25.31W, h44km±5km, mb4.4/12, mb1 4.5/14, mb1mx4.3/26, mbtmp4.7/14, ML4.7/2, MS3.7/15, Ms1 3.7/15, ms1mx3.6/28, Error ellipse: s-maj=15.7km s-min=14.1km az=65.0*

ISC 16 17:50:49.8±0.6, 58.17S±0.07×25.11W±0.08, h47km±5km, h46km: pP-P, n150, σ1.949/156, mb4.8/21, MS3.7/14, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.44**	**297**	*e*Pn	**Pn**	**17 52 36.3**	**+0.7**
VNA1	**Neumayer--Stat**	**14.40**	**157**	P	**Pn**	**17 54 12.8**	**+2.3**
VNA3	**Neumayer Olymp**	**14.61**	**160**	P	**Pn**	**17 54 15.1**	**+1.9**
VNA3				S	**Sn**	**17 56 45.4**	**-8.2**
VNA2	**Neumayer--Watz**	**14.80**	**157**	P	**Pn**	**17 54 17.0**	**+1.3**
	baz=324,slow=13						
VNA2				S	**Sn**	**17 56 51.0**	**-7.2**
	baz=320,slow=22						
SNAA	**Sanae**	**16.34**	**155**	P	**P**	**17 54 38.7**	**+0.8**
SNAA				S	**Sn**	**17 57 31.5**	**-4.1**
SNAA	**Sanae**	**16.34**	**155**	P	**P**	**17 54 38.9**	**+1.0**
	4.0nm,0.3s,baz=319,slow=14,SNR=31						
SNAA				S	**Sn**	**17 57 30.3**	**-5.3**
	0.3nm,0.3s,baz=49,slow=20,SNR=3.7						
SNAA				LR	LR	17 58 52.4	
	comp=Z,97nm,20.9s,baz=302,slow=29						
SNAA	**Sanae**	**16.34**	**155**	*e*Pn	**P**	**17 54 38.8**	**+0.8**
	46nm,1.4s						
SNAA				S	**Sn**	**17 57 30.3**	**-5.3**
PMSA	**Palmer Station**	**19.46**	**234**	P	**Pn**	**17 55 14.7**	**+1.0**
	1.5nm,0.3s,baz=37,slow=6.1,SNR=4.8						
USHA	**Ushuaia**	**23.83**	**259**	P	**P**	**17 55 58.0**	**-0.1**
	9.4nm,0.8s,baz=119,slow=10,SNR=3.2						
QSPA	**South Pole Qui**	**32.08**	**180**	P	**P**	**17 57 14.9**	**+2.9**
	12nm,0.8s,baz=35,slow=1.8,SNR=90						
QSPA				PcP

10nm,0.6s
H10N1 ASCENSION HYDR 50.87 14 T T 18 55 33.3
baz=188,slow=74
H10N3 ASCENSION HYDR 50.87 14 T T 18 54 51.8
baz=188,slow=74
H10N2 ASCENSION HYDR 50.89 14 T T 18 55 35.6
baz=188
LPAZ La Paz 52.52 304 P **P 17 59 57.5 -1.4**
4.1nm,0.4s,baz=106,slow=3.8,SNR=17
LPAZ PcP **PcP 18 01 08.8 +0.1**
1.9nm,0.5s,baz=149,slow=5.9,SNR=2.3
LPAZ LR LR 18 22 30.0
comp=Z,31nm,21.2s,baz=99,slow=36
LPAZ La Paz 52.52 304 *e*P **P 17 59 56.9 -1.9**
LPAZ PcP **PcP 18 01 08.8 +0.1**
LPAZ La Paz 52.52 304 *e*P **P 17 59 57.6 -1.2**
NNA Nana 60.25 298 LR LR 18 25 23.9
comp=Z,58nm,19.2s,baz=177,slow=34
PTGA Pitinga 63.53 320 LR LR 18 27 01.1
comp=Z,46nm,19.5s,baz=156,slow=34
PTGA Pitinga 63.53 320 *e*P **P 18 01 14.0 -1.2**
14nm,1.1s
PTGA Pitinga 63.53 320 *e*P **P 18 01 14.1 -1.2**
ATAH Atahualpa 65.22 299 LR LR 18 28 12.7
comp=Z,46nm,20.4s,baz=233,slow=34
LIC Lamto 66.20 22 *e*P **P 18 01 32.7 +0.2**
22nm,0.4s
KIC Kosan Boka 66.39 22 *e*P **P 18 01 33.8 +0.1**
25nm,0.8s
TIC Toumodi 66.61 22 *e*P **P 18 01 35.3 +0.2**
DBIC Dimbokro 66.67 22 P **P 18 01 35.5 0.0**
6.9nm,0.4s,baz=168,slow=6.4,SNR=20
DBIC LR LR 18 25 37.5
comp=Z,34nm,19.1s,baz=119,slow=31
DBIC Dimbokro 66.67 22 *e*P **P 18 01 35.0 -0.4**
14nm,1.1s
DBIC Dimbokro 66.67 22 *e*P **P 18 01 35.7 +0.3**
OTAV Otavalo 71.76 302 *e*P **P 18 02 08.2 +0.6**
21nm,1.6s
OTAV Otavalo 71.76 302 *e*P **P 18 02 07.8 +0.2**
TOA0 Torodi Ar. Sit 74.39 27 *e*P **P 18 02 22.3 -0.2**
TORD Torodi Ar. Bea 74.39 27 P **P 18 02 21.6 -0.9**
11nm,0.6s,baz=199,slow=5.7,SNR=53
TORD pP **pP 18 02 35.5 +0.5**
6.4nm,0.6s,baz=202,slow=5.5,SNR=9.3
TORD LR LR 18 28 05.0
comp=Z,55nm,21.4s,baz=320,slow=30
TOA1 Torodi Ar. Sit 74.39 27 *e*P **P 18 02 21.6 -0.9**
TOA1 epP **pP 18 02 35.5 +0.4**
KMBO Kilima Mbogo 74.79 67 LR LR 18 33 23.8
comp=Z,90nm,18.4s,baz=108,slow=34
PCRV Puerto La Cruz 75.31 320 LR LR 18 35 37.3
comp=Z,214nm,21.0s,baz=80,slow=36
SDV Santo Domingo 76.30 313 *e*P **P 18 02 33.2 -0.5**
8.4nm,0.9s
SDV Santo Domingo 76.30 313 *e*P **P 18 02 33.5 -0.2**
STKA Stephens Creek 89.61 169 P **P 18 03 44.0 +1.8**
3.9nm,0.6s,baz=182,slow=3.6,SNR=4.2
STKA Stephens Creek 89.61 169 *e*P **P 18 03 43.8 +1.6**
1.6nm,1.0s
PPT Papeete 91.82 232 LR LR 18 38 53.9
comp=Z,50nm,19.4s,baz=350,slow=31
ASAR Alice Springs 96.62 161 P **P 18 04 15.6 +0.9**
1.7nm,0.8s,baz=185,slow=4.4,SNR=19
AS31 Alice Springs 96.62 161 *e*P **P 18 04 15.6 +0.9**
1.9nm,0.8s
AS01 Alice Springs 96.63 161 *e*P **P 18 04 15.2 +0.5**
HHAR Hobbs 110.18 307 *e*Pdif **Pdif 18 05 12.4 -2.0**
PDAR Pinedale Array 122.41 300 PKP **PKPdf 18 09 38.5 -0.6**
0.5nm,0.4s,baz=119,slow=5.2,SNR=16
PDAR pPKP **pPKPdf 18 09 52.9 +0.5**
0.4nm,0.5s,baz=129,slow=3.8,SNR=3.3
HWUT Hardware Ranch 122.44 298 *e*PKPdf **PKiKP 18 09 39.6 +0.3**
ULM Lac du Bonnet 122.55 314 PKP **PKPdf 18 09 38.1 -0.7**
2.5nm,0.6s,baz=176,slow=1.1,SNR=4.7
NV01 Mina Array Sit 123.23 290 *e*PKPdf **PKiKP 18 09 41.5 +0.5**
NVAR Mina Array Bea 123.23 290 PKP **PKiKP 18 09 41.5 +0.5**
1.1nm,0.8s,baz=170,slow=3.1,SNR=6.3
CM01 Chiang Mai Arr 123.25 110 *e*PKPdf **PKiKP 18 09 41.6 +0.3**
CM31 Chiang Mai Arr 123.27 110 *e*PKPdf **PKPdf 18 09 40.4 -0.8**
CMAR Chiang Mai Arr 123.27 110 PKP **PKiKP 18 09 41.9 +0.5**
2.2nm,0.8s,baz=232,slow=3.7,SNR=19
CMAR pPKP **pPKPdf 18 09 55.3 +0.8**
1.2nm,0.7s,baz=248,slow=3.9,SNR=3.0
LOHW Long Hollow 123.55 300 *e*PKPdf **PKiKP 18 09 41.9 +0.4**
MOOW Moose Ponds 123.72 300 *e*PKPdf **PKiKP 18 09 42.1 +0.3**
FIA0 FINESS Array S 125.74 27 *e*PKPdf **PKPdf 18 09 44.4 -0.1**
FINES FINESS Array B 125.74 27 PKP **PKPdf 18 09 44.4 -0.1**
2.5nm,0.5s,baz=147,slow=2.1,SNR=23
WVOR Wild Horse Val 126.45 293 *e*PKPdf **PKiKP 18 09 48.9 +1.7**
MSO Missoula 127.52 300 *e*PKPdf **PKiKP 18 09 49.6 +0.5**
ABKAR Akbulak array 127.64 56 *e*PKPdf **PKiKP 18 09 49.0 -0.1**
KK31 Karatay Array 127.98 68 *e*PKPdf **PKiKP 18 09 50.0 -0.1**
KKAR Karatay Array 127.98 68 *e*PKPdf **PKiKP 18 09 50.0 -0.1**
G08A Pilot Rock 128.74 295 *e*PKPdf **PKiKP 18 09 52.5 +0.8**
AAK Ala-Archa 129.61 71 *e*PKPdf **PKPdf 18 09 52.2 -0.6**
ARA0 ARCESS Array S 132.50 22 *e*PKPdf **PKPdf 18 09 57.2 0.0**
ARCES ARCESS Array B 132.50 22 PKP **PKPdf 18 09 57.2 0.0**
3.1nm,0.8s,baz=269,slow=2.3,SNR=8.7
MK32 Makanchi Array 136.47 72 *e*PKPpre PKPpre 18 09 57.9
MK32 *e*PKPdf **PKiKP 18 10 06.3 -0.8**
MK32 *ep*PKPdf pPKPdf 18 10 20.4 +1.7
MKAR Makanchi Array 136.47 72 PKhKP PKPpre 18 09 57.9
0.5nm,0.8s,baz=119,slow=1.5,SNR=3.7
MKAR PKP **PKiKP 18 10 06.3 -0.8**
0.9nm,0.7s,baz=258,slow=3.0,SNR=8.8
MKAR pPKP pPKPdf 18 10 20.4 +1.7
0.6nm,0.7s,baz=196,slow=1.4,SNR=3.1
YKA Yellowknife Ar 138.49 316 PKhKP PKPpre 18 09 58.1
0.4nm,0.5s,baz=116,slow=2.8,SNR=7.3
YKA PKP **PKPdf 18 10 08.7 +0.2**
4.1nm,0.7s,baz=128,slow=2.2,SNR=38
YKA PP **PP 18 12 55.4 -4.9**
0.5nm,0.8s,baz=120,slow=6.5,SNR=4.2
YKB5 Yellowknife Ar 138.49 316 *e*PKPdf **PKPdf 18 10 08.7 +0.2**
YKW3 Yellowknife Ar 138.54 316 *e*PKPdf **PKPdf 18 10 08.9 +0.3**
ZALV Zalesovo Beam 142.26 65 PKP **PKPdf 18 10 16.3 +0.7**
0.9nm,0.4s,baz=237,slow=2.8,SNR=3.9
ZAA1 Zalesovo Array 142.26 65 *e*PKPdf **PKPdf 18 10 16.3 +0.7**
SKAG Skagway 145.35 303 *e*PKPbc **PKPab 18 10 21.5 +0.5**
WHY Whitehorse 145.72 305 *e*PKPdf **PKPbc 18 10 22.3 +0.1**
HYT Haines Junctio 146.94 304 *e*PKPdf **PKPdf 18 10 24.4 +0.7**
INK Inuvik 148.15 318 *e*PKPbc **PKPbc 18 10 28.6 0.0**
EPYK Eagle Plains 148.73 314 *e*PKPbc **PKPbc 18 10 29.4 -0.8**
DAWY Dawson 149.03 309 *e*PKPdf **PKPbc 18 10 29.8 -1.3**
SONA0 Songino Array 149.69 89 *e*PKPbc **PKiKP 18 10 34.1 -0.2**
SONM Songino Array 149.69 89 PKPbc **PKiKP 18 10 34.1 -0.2**
8.5nm,0.8s,baz=225,slow=3.3,SNR=49
SONM pPKPbc **sPKPdf 18 10 46.8 +0.1**
3.4nm,0.6s,baz=230,slow=3.3,SNR=8.1
SONA1 Songino Array 149.70 89 *e*PKPbc **PKiKP 18 10 34.0 -0.4**
EGAK Eagle 149.99 310 *e*PKPbc **PKPbc 18 10 33.5 +0.2**
ULN Ulaanbaatar 150.06 89 *e*PKPbc **PKPbc 18 10 34.8 +0.5**
DIV Divide 150.76 301 *e*PKPbc **PKiKP 18 10 36.6 +0.6**
DOT Dot Lake 150.85 307 *e*PKPbc **PKiKP 18 10 36.4 +0.3**
SCRK Sand Creek 150.92 307 *e*PKPbc **PKiKP 18 10 36.5 +0.2**
KLU Klutina 150.96 302 *e*PKPbc **PKiKP 18 10 37.3 +0.9**
RIDG Independ'e Rid 151.21 307 *e*PKPbc **PKiKP 18 10 37.5 +0.6**
PAX Paxson 151.25 305 *e*PKPbc **PKiKP 18 10 37.5 +0.5**
SCM Sheep Creek Mo 151.70 302 *e*PKPbc **PKiKP 18 10 39.1 +1.2**
PRP Porcupine Dome 151.96 310 *e*PKPbc **PKiKP 18 10 38.6 +0.1**
FYU Fort Yukon 152.08 312 *e*PKPbc **PKiKP 18 10 39.0 +0.6**
DHY Denali Highway 152.10 305 *e*PKPbc **PKiKP 18 10 39.3 +0.4**
HDA Harding Lake 152.28 308 *e*PKPbc **PKiKP 18 10 39.2 +0.2**
IL1 Eielson Array 152.35 308 *e*PKPbc **PKPbc 18 10 38.8 -0.1**
ILAR Eielson Array 152.35 308 PKPbc **PKiKP 18 10 39.1 0.0**
7.2nm,0.5s,baz=139,slow=2.8,SNR=116
ILB Eielson Array 152.35 308 *e*PKPbc **PKPbc 18 10 38.2 -0.6**
KDAK Kodiak Island 152.72 292 PKPbc **PKiKP 18 10 40.5 +0.4**
18nm,0.7s,baz=139,slow=2.5,SNR=22
KS15 Wonju Array Si 152.78 128 *e*PKPbc **PKiKP 18 10 41.6 +0.7**
WRH Wood River Hil 152.78 307 *e*PKPbc **PKiKP 18 10 39.9 -0.1**
KSRS Korea Array 152.80 128 PKPbc **PKiKP 18 10 41.6 +0.7**
1.6nm,0.7s,baz=178,slow=1.4,SNR=3.3
RND Reindeer 152.85 305 *e*PKPbc **PKiKP 18 10 40.7 +0.4**
MDM Murphy Dome 152.95 308 *e*PKPbc **PKPbc 18 10 40.1 -0.1**
MCK McKinley 152.96 306 *e*PKPbc **PKiKP 18 10 41.1 +0.7**
TRF Thorofare Moun 153.48 305 *e*PKPbc **PKiKP 18 10 41.9 +0.2**
BPAW Bear Paw Mtn. 153.93 306 *e*PKPbc **PKiKP 18 10 42.5 +0.1**
MLY Manley 154.01 308 *e*PKPbc **PKiKP 18 10 43.4 +0.8**
CAST Castle Rocks 154.25 304 *e*PKPbc **PKiKP 18 10 43.2 +0.1**
IM3 Indian Mountai 155.39 310 *e*PKPbc PKPbc 18 10 45.0

IDC ***16*** *17:57:59.4±1.1, 17.°82S×167.°81E, h0km, mb4.3/8, mb1 4.5/10, mb1mx4.2/31, mbtmp4.5/10, ML4.8/2, MS3.6/9, Ms1 3.6/9, ms1mx3.3/37, Error ellipse: s-maj=24.5km s-min=21.6km az=31.0*

ISCJB ***16*** *17:58:01.8±0.5, 17.°88S±0.°05×167.°68E±0.°07, h23km, mb4.5/16, MS3.6/8, Error ellipse: s-maj=10.1km s-min=7.4km az=163.0*

NEIC ***16*** *17:58:03.3±3.5, 17.°85S×167.°75E, h24km±25km, mb4.9/9, Error ellipse: s-maj=16.6km s-min=10.6km az=75.0*

ISC 16 17:58:03.3±0.7, 17.°92S±0.°07×167.°8E±0.°1, h23km, n33, σ1s06/30, mb4.6/16, MS3.5/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**3.55**	**176**	*e*Pn		**Pn**	**Pn**	**17 58 57.6**	**+0.6**
DZM	**Mont Dzumac**	**4.30**	**196**	Pn		**Pn**	**Pn**	**17 59 08.4**	**+0.9**
	126nm,0.3s,baz=66,slow=9.9,SNR=1284								
DZM				Sn		**Sn**	**Sn**	**17 59 54.9**	**-2.2**
	100nm,0.3s,baz=117,slow=21,SNR=16								
ONTNC	**Ouen Toro**	**4.53**	**195**	*e*Pn		**Pn**	**Pn**	**17 59 11.7**	**+1.2**
HNR	**Honiara**	**11.34**	**317**	Pn		**Pn**	**Pn**	**18 00 43.1**	**-1.0**
	2.8nm,0.3s,baz=146,slow=3.6,SNR=3.1								
HNR				Sn		**Sn**	**Sn**	**18 02 51.0**	**+0.8**
	4.4nm,0.3s,baz=69,slow=17,SNR=3.3								
HNR				LR		LR	LR	18 04 43.7	
	comp=Z,116nm,19.3s,baz=70,slow=36								
HNR	**Honiara**	**11.34**	**317**	*e*P		Pn	Pn	18 00 59.0	+15
CTA	**Charters Tower**	**20.44**	**261**	P		**P**	**P**	**18 02 39.0**	**-0.3**
	6.9nm,1.1s,baz=70,slow=15,SNR=2.4								
URZ	**Urewera**	**21.85**	**160**	P		**P**	**P**	**18 02 55.2**	**+0.9**
	20nm,0.7s,baz=19,slow=3.3,SNR=7.1								
URZ				LR		LR	LR	18 09 29.5	
	comp=Z,151nm,18.4s,baz=336,slow=32								
CAN	**Canberra**	**24.04**	**220**	*e*P		**P**	**P**	**18 03 18.2**	**+1.4**
	17nm,0.5s								
RPZ	**Rata Peaks**	**25.86**	**175**	LR		LR	LR	18 11 53.7	
	comp=Z,89nm,18.5s,baz=352,slow=32								
STKA	**Stephens Creek**	**27.40**	**235**	P		**P**	**P**	**18 03 48.6**	**+1.3**
	3.9nm,0.6s,baz=56,slow=8.7,SNR=11								
WR1	**Warramunga Arr**	**31.64**	**261**	*e*P		**P**	**P**	**18 04 24.6**	**-0.4**
	38nm,1.9s								
WRA	**Warramunga Arr**	**31.64**	**261**	P		**P**	**P**	**18 04 24.6**	**-0.4**
	1.2nm,0.7s,baz=94,slow=9.1,SNR=11								
WRA				LR		LR	LR	18 16 13.4	
	comp=Z,107nm,20.8s,baz=35,slow=34								
AS31	**Alice Springs**	**32.10**	**254**	*e*P		**P**	**P**	**18 04 29.2**	**+0.2**
	1.9nm,0.8s								
ASAR	**Alice Springs**	**32.10**	**254**	P		**P**	**P**	**18 04 29.0**	**-0.1**
	3.8nm,0.7s,baz=81,slow=8.6,SNR=81								
ASAR				LR		LR	LR	18 16 55.3	
	comp=Z,148nm,20.6s,baz=90,slow=35								
FITZ	**Fitzroy Crossi**	**39.98**	**263**	P		**P**	**P**	**18 05 37.0**	**+0.5**
	6.3nm,0.7s,baz=100,slow=7.6,SNR=8.0								
FITZ				LR		LR	LR	18 21 40.4	
	comp=Z,87nm,18.9s,baz=116,slow=36								
BATI	**Baumata**	**43.36**	**274**	LR		LR	LR	18 23 50.8	
	comp=Z,59nm,19.5s,baz=212,slow=36								
VNDA	**Vanda**	**59.70**	**181**	P		**P**	**P**	**18 08 05.1**	**-0.4**
	1.8nm,1.1s,baz=39,slow=8.0,SNR=3.4								
QSPA	**South Pole Qui**	**72.12**	**180**	*e*P		**P**	**P**	**18 09 26.3**	**+0.4**
	9.3nm,0.9s								
SUA	**Susitna One**	**85.75**	**19**	*e*P		**P**	**P**	**18 10 42.2**	**+1.8**
	19nm,1.1s								
ISA	**Isabella, Lake**	**87.76**	**51**	*e*P		**P**	**P**	**18 10 51.2**	**+0.4**
	2.8nm,0.9s								
NV01	**Mina Array Sit**	**89.00**	**49**	*e*P		**P**	**P**	**18 10 56.4**	**-0.4**
NVAR	**Mina Array Bea**	**89.00**	**49**	P		**P**	**P**	**18 10 56.4**	**-0.4**
	1.3nm,0.7s,baz=233,slow=8.5,SNR=8.3								
ILAR	**Eielson Array**	**89.41**	**18**	LR		LR	LR	18 43 53.6	
	comp=Z,67nm,20.6s,baz=251,slow=31								
J08A	**Circle Bar Ran**	**90.87**	**44**	*e*P		**P**	**P**	**18 11 04.3**	**-1.0**
	17nm,1.1s								
VNA3	**Neumayer Olymp**	**91.05**	**181**	P		**P**	**P**	**18 11 05.1**	**-0.5**
VNA2	**Neumayer--Watz**	**91.32**	**182**	P		**P**	**P**	**18 11 06.6**	**-0.1**
U15A	**North Rim**	**92.69**	**53**	*e*P		**P**	**P**	**18 11 14.4**	**+0.4**
	3.0nm,0.8s								
BOZ	**Bozeman (W)**	**96.25**	**44**	*e*P		**P**	**P**	**18 11 27.2**	**-2.8**
	3.3nm,0.6s								
TXAR	**Lajitas Array**	**97.39**	**62**	LR		LR	LR	18 49 43.0	
	comp=Z,14nm,20.0s,baz=0.0,slow=32								
ARA0	**ARCESS Array S**	**123.44**	**345**	*e*PKPdf		**PKPdf**	**PKPdf**	**18 16 57.4**	**-0.6**
ARCES	**ARCESS Array B**	**123.44**	**345**	PKP		**PKPdf**	**PKPdf**	**18 16 57.4**	**-0.6**
	14nm,1.2s,baz=75,slow=1.4,SNR=5.2								
TORD	**Torodi Ar. Bea**	**165.75**	**252**	PKP		**PKPdf**	**PKPdf**	**18 18 06.2**	**-1.0**
	0.9nm,1.0s,baz=48,slow=2.1,SNR=3.7								
TOA1	**Torodi Ar. Sit**	**165.76**	**253**	*e*PKPdf		**PKPdf**	**PKPdf**	**18 18 06.2**	**-1.0**

IDC ***16*** *18:19:49.6±1.3, 36.°32N×141.°58E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.4/43, mbtmp3.5/6, ML3.2/2, Error ellipse: s-maj=27.6km s-min=24.1km az=75.0*

ISCJB ***16*** *18:19:54.0±1.2, 36.°06N±0.°05×141.°34E±0.°08, h28km±6km, mb3.5/4, Error ellipse: s-maj=11.5km s-min=7.4km az=163.6*

JMA ***16*** *18:19:56.1±0.2, 36.°04N×141.°15E, h40km±2km, M3.1*

ISC 16 18:19:55.3±1.7, 36.°13N±0.°04×141.°16E±0.°08, h24km±12km, n20, σ0s77/20, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.49**	**209**	P		**Pb**	**Pb**	**18 20 05.4**	**+0.1**
CHOJ				S		**Sb**	**Sb**	**18 20 12.0**	**-0.2**
JHYU	**Hitachinakayam**	**0.50**	**294**	P		**Pn**	**Pn**	**18 20 07.5**	**+0.6**
JHYU				eS		**Sn**	**Sn**	**18 20 15.6**	**+0.7**
JIHU	**Itakohorinouch**	**0.54**	**252**	P		**Pn**	**Pn**	**18 20 07.4**	**0.0**
JIHU				S		**Sn**	**Sn**	**18 20 15.4**	**-0.3**
JHO	**Hitachi**	**0.67**	**315**	P		**Pn**	**Pn**	**18 20 09.8**	**+0.5**
JSMT	**Sammumatsuo**	**0.76**	**230**	P		**Pb**	**Pb**	**18 20 10.0**	**+0.2**
JYT	**Yasato**	**0.78**	**277**	P		**Pn**	**Pn**	**18 20 10.7**	**-0.1**
JYT				S		**Sb**	**Sb**	**18 20 20.7**	**+0.3**
JFK	**Kawauchi**	**1.25**	**350**	P		**Pb**	**Pb**	**18 20 18.0**	**-0.2**
MJAR	**Matsushiro Arr**	**2.41**	**281**	Pn		**Pn**	**Pn**	**18 20 34.2**	**+0.9**
	1.4nm,0.3s,baz=116,slow=6.9,SNR=77								
MJAR				Sn		**Sb**	**Sb**	**18 21 06.7**	**-0.6**
	0.6nm,0.3s,baz=298,slow=32,SNR=6.2								
MAT	**Matsushiro**	**2.42**	**281**	P		**Pn**	**Pn**	**18 20 35.0**	**+1.7**
MAT				eS		**Sb**	**Sb**	**18 21 05.9**	**-1.5**
JHJ	**Hachijo jima 2**	**3.21**	**201**	Pn		**Pn**	**Pn**	**18 20 45.2**	**+1.0**
	16nm,0.3s,baz=24,slow=19,SNR=2.5								
JHJ				Sn		**Sn**	**Sn**	**18 21 21.1**	**-0.6**
	7.9nm,0.3s,baz=105,slow=20,SNR=3.3								
H11N2	**WAKE ISLAND Hy**	**27.88**	**119**	T		T	T	18 54 51.1	
	baz=311,slow=75,SNR=11								
H11N1	**WAKE ISLAND Hy**	**27.89**	**119**	T		T	T	18 54 51.8	
	baz=311,slow=75,SNR=8.6								
H11N3	**WAKE ISLAND Hy**	**27.90**	**119**	T		T	T	18 54 54.7	
	baz=311,slow=75,SNR=9.5								
H11S1	**WAKE ISLAND Hy**	**28.56**	**121**	T		T	T	18 55 43.1	
	baz=314,slow=76,SNR=20								
H11S3	**WAKE ISLAND Hy**	**28.56**	**121**	T		T	T	18 55 42.8	
	baz=314,slow=76,SNR=16								
H11S2	**WAKE ISLAND Hy**	**28.57**	**121**	T		T	T	18 55 43.5	
	baz=314,slow=76,SNR=13								
MKAR	**Makanchi Array**	**44.42**	**303**	P		**P**	**P**	**18 28 04.0**	**-0.1**
	0.5nm,0.7s,baz=94,slow=9.0,SNR=7.1								
ILAR	**Eielson Array**	**50.37**	**32**	P		P	P	18 28 44.9	-5.1
	0.5nm,1.1s,baz=258,slow=8.2,SNR=4.1								
WRA	**Warramunga Arr**	**56.14**	**188**	P		**P**	**P**	**18 29 32.4**	**-0.5**
	0.3nm,0.4s,baz=5.9,slow=7.5,SNR=4.9								
ASAR	**Alice Springs**	**59.87**	**188**	P		**P**	**P**	**18 29 58.8**	**-0.2**
	0.2nm,0.6s,baz=22,slow=11,SNR=3.7								

IDC 16 18:44:36.8±1.0, 58.°74S×29.°94W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.8/19, mbtmp3.9/3, MS3.1/1, Ms1 3.2/1, ms1mx2.7/15, Error ellipse: s-maj=47.6km s-min=33.3km az=84.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**37.63**	**317**	LR		LR	LR	19 08 07.8	
	comp=Z,29nm,19.0s,baz=17,slow=38								
VNDA	**Vanda**	**43.80**	**184**	P		P	P	18 52 43.6	+0.1
	1.3nm,0.8s,baz=194,slow=7.1,SNR=4.5								
LPAZ	**La Paz**	**50.84**	**310**	P		P	P	18 53 39.5	-0.3
	1.0nm,0.7s,baz=170,slow=13,SNR=3.1								
H10S2	**ASCENSION HYDR**	**51.03**	**20**	T		T	T	19 48 58.8	
	baz=190,slow=75,SNR=4.3								
H10S3	**ASCENSION HYDR**	**51.03**	**20**	T		T	T	19 48 58.5	
	baz=190,slow=75,SNR=3.9								
H10S1	**ASCENSION HYDR**	**51.05**	**20**	T		T	T	19 49 00.0	
	baz=190,slow=75,SNR=5.2								
H10N1	**ASCENSION HYDR**	**52.15**	**20**	T		T	T	19 50 24.4	
	baz=189,slow=76,SNR=4.1								
H10N3	**ASCENSION HYDR**	**52.15**	**20**	T		T	T	19 50 25.8	
	baz=189,slow=76,SNR=8.5								
H10N2	**ASCENSION HYDR**	**52.16**	**20**	T		T	T	19 50 25.7	
	baz=189,slow=76,SNR=4.1								
TORD	**Torodi Ar. Bea**	**76.14**	**32**	P		P	P	18 56 26.6	+0.3
	1.2nm,0.8s,baz=215,slow=4.8,SNR=7.3								
YKA	**Yellowknife Ar**	**137.16**	**317**	PKP		PKPdf	PKPdf	19 03 59.7	-0.5
	0.3nm,0.7s,baz=124,slow=2.4,SNR=6.5								
MKAR	**Makanchi Array**	**139.07**	**76**	PKP		PKPdf	PKPdf	19 04 03.7	-0.7
	0.4nm,0.9s,baz=222,slow=1.9,SNR=2.4								
ZALV	**Zalesovo Beam**	**144.82**	**69**	PKP		PKPab	PKPab	19 04 12.2	-1.1
	0.5nm,0.3s,baz=264,slow=3.9,SNR=3.0								
INK	**Inuvik**	**146.89**	**319**	PKPbc		PKPbc	PKPbc	19 04 19.1	-0.2
	1.3nm,0.8s,baz=194,slow=1.5,SNR=4.0								
ILAR	**Eielson Array**	**150.72**	**309**	PKPbc		PKPbc	PKPbc	19 04 28.9	-0.4
	2.1nm,0.8s,baz=154,slow=2.0,SNR=26								

ISCJB ***16*** *18:49:38.2±0.7, 42.°1S±0.°1×85.°7E±0.°2, h10km, mb4.3/15, MS4.3/23, Error ellipse: s-maj=21.8km s-min=14.1km az=38.3*

NEIC ***16*** *18:49:38.8±0.8, 42.°07S×85.°73E, h10km, mb4.7/7, Error ellipse: s-maj=27.8km s-min=21.7km az=67.0*

IDC ***16*** *18:49:38.8±1.0, 42.°16S×85.°65E, h0km, mb4.1/9, mb1 4.2/9, mb1mx3.9/30, mbtmp4.1/9, MS4.2/23, Ms1 4.2/23, ms1mx4.1/33, Error ellipse: s-maj=31.9km s-min=24.6km az=41.0*

GCMT ***16*** *18:49:41.8±0.2, 41.°75S±0.°01×84.°86E±0.°01, h16km±1km, MW5.1/99, Moment Tensor Solution. s59,c82; s99,c154; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.45±.14; Mθθ 5.97±.15; Mϕϕ-5.52±.14; Mrθ 0.54±.36; Mrϕ-0.17±.11; Mθϕ 0.30±.33; Best double couple: M0 5.77900×10^16 NP1:ϕs 46.00000°, δ89.00000°, λ174.00000°. NP2: ϕs 136.00000°, δ84.00000°, λ1.00000°. Principal axes: T 6.0170, Plg5.0000°, Azm1.0000°; N -0.4710, Plg84.0000°, Azm217.0000°; P -5.5410, Plg3.0000°, Azm91.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 18:49:39.5±0.9, 42.°1S±0.°2×85.°7E±0.°2, h10km, n58, σ1s53/36, mb4.6/18, MS4.2/23, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**23.34**	**81**	T		T	T	19 19 30.5	
	baz=245,slow=74,SNR=53								
H01W3	**Cape Leeuwin H**	**23.35**	**81**	T		T	T	19 19 31.0	
	baz=245,slow=74,SNR=74								
H01W1	**Cape Leeuwin H**	**23.36**	**81**	T		T	T	19 19 31.8	
	baz=245,slow=74,SNR=69								
NWAO	**Narrogin (SRO)**	**26.54**	**80**	LR		LR	LR	19 03 45.7	
	comp=Z,482nm,20.6s,baz=110,slow=32								
MAW	**Mawson**	**28.35**	**198**	LR		LR	LR	19 04 16.1	
	comp=Z,501nm,22.0s,baz=34,slow=31								
H08S2	**Diego Garcia H**	**36.27**	**338**	T		T	T	19 34 12.5	
	baz=164,slow=76,SNR=249								
H08S1	**Diego Carcia H**	**36.27**	**338**	T		T	T	19 34 13.2	
	baz=164,slow=76,SNR=331								
H08S3	**Diego Garcia H**	**36.28**	**338**	T		T	T	19 34 14.3	
	baz=164,slow=76,SNR=301								
LEM	**Lembang**	**40.18**	**35**	LR		LR	LR	19 10 34.1	
	comp=Z,288nm,19.8s,baz=208,slow=31								
ASAR	**Alice Springs**	**43.86**	**81**	P		**P**	**P**	**18 57 48.0**	**+1.9**
	1.2nm,0.8s,baz=220,slow=6.2,SNR=12								
ASAR				PcP		**PcP**	**PcP**	**18 59 32.9**	**+0.5**
	0.6nm,0.8s,baz=234,slow=2.1,SNR=4.3								
ASAR				LR		LR	LR	19 14 22.5	
	comp=Z,920nm,19.9s,baz=242,slow=34								
AS01	**Alice Springs**	**43.90**	**81**	*e*P		**P**	**P**	**18 57 44.3**	**-2.1**
STKA	**Stephens Creek**	**45.11**	**96**	P		**P**	**P**	**18 57 56.9**	**+0.9**
	0.5nm,0.4s,baz=216,slow=8.7,SNR=1.6								
STKA				LR		LR	LR	19 13 24.5	
	comp=Z,466nm,21.6s,baz=226,slow=32								
VNDA	**Vanda**	**46.30**	**163**	LR		LR	LR	19 15 40.5	
	comp=Z,491nm,21.2s,baz=282,slow=34								
WR1	**Warramunga Arr**	**46.47**	**77**	*e*P		**P**	**P**	**18 58 07.2**	**+0.3**
	67nm,2.0s								
WRA	**Warramunga Arr**	**46.47**	**77**	P		**P**	**P**	**18 58 07.2**	**+0.3**
	2.1nm,0.8s,baz=230,slow=7.9,SNR=6.2								
WRA				LR		LR	LR	19 15 37.6	
	comp=Z,220nm,21.1s,baz=230,slow=34								
QSPA	**South

*SOME **16** 19:13:55.9, 40˚.50N×72˚.17E, h5km*
*KRNET **16** 19:13:55.4±0.1, 40˚.51N×72˚.14E, h6km, mb2.6*
*NNC **16** 19:13:55.4±0.5, 40˚.50N×72˚.16E, h2km_6km, mb3.4, mpv3.1, Error ellipse: s-maj=4.6km s-min=1.9km az=51.0*
*ISCJB **16** 19:13:56.1±0.6, 40˚.47N±0˚.04×72˚.15E±0˚.04, h10km, Error ellipse: s-maj=5.6km s-min=4.3km az=145.6*

ISC 16 19:13:54.7±0.9, **40˚.50N**±0˚.04×**72˚.15E**±0˚.03, **h10km, n36, σ2§08/57, 20C-10D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**1.04**	**37**	⇓*i*P	**Pg**	**19 14 14.8**	**0.0**
	baz=38						
ARSB				⇓*i*S	**Sb**	**19 14 29.3**	**+0.6**
	baz=38						
BTK	**Batken**	**1.11**	**247**	⇑*i*P	**Pb**	**19 14 16.0**	**0.0**
	baz=46						
BTK				⇑*i*S	**Sn**	**19 14 31.5**	**-0.2**
	baz=46						
SFK	**Sufi-Kurgan**	**1.14**	**114**	⇑P	**Pb**	**19 14 17.0**	**+0.3**
	4.8nm,0.2s						
SFK				⇓S	**Sb**	**19 14 32.8**	**+1.0**
	37nm,0.2s						
SFK	**Sufi-Kurgan**	**1.14**	**114**	Pg	**Pb**	**19 14 17.2**	**+0.5**
	15nm,0.1s						
SFK				Lg	Lg	19 14 33.0	
	93nm,0.2s						
SFK	**Sufi-Kurgan**	**1.14**	**114**	⇑*i*P	**Pb**	**19 14 16.7**	**0.0**
	baz=15						
SFK				⇑*i*S	**Sb**	**19 14 33.1**	**+1.4**
	baz=15						
ARK	**Arkit**	**1.31**	**354**	⇓*i*P	**Pg**	**19 14 19.4**	**-0.5**
	baz=55						
ARK				⇓*i*S	**Sn**	**19 14 36.8**	**0.0**
	baz=55						
AML	**Almayashu**	**2.01**	**35**	⇑*i*P	**Pb**	**19 14 30.9**	**-0.6**
	baz=35						
AML				⇑*i*S	**Sb**	**19 14 57.5**	**+0.7**
	baz=35						
ARLS	**Aral**	**2.14**	**50**	⇑*i*P	**Pn**	**19 14 31.9**	**+1.3**
	baz=50						
ARLS				⇑*i*S	**Sb**	**19 15 00.5**	**+0.3**
	baz=50						
IUG	**Iuzhnay**	**2.29**	**317**	Pg	**Pg**	**19 14 37.5**	**-1.2**
	25nm,0.2s						
IUG				Lg	Lg	19 15 07.5	
	53nm,0.6s						
IUG	**Iuzhnay**	**2.29**	**317**	*e*P	**Pg**	**19 14 37.5**	**-1.2**
	25nm,0.2s						
IUG				*e*S	**Sg**	**19 15 07.5**	**-0.9**
	53nm,0.6s						
MRKS	**Merke**	**2.39**	**19**	Pg	**Pg**	**19 14 39.0**	**-1.5**
	2.7nm,0.2s						
MRKS				Lg	Lg	19 15 10.3	
	7.6nm,0.4s						
MRKS	**Merke**	**2.39**	**19**	*e*P	**Pg**	**19 14 39.0**	**-1.5**
	2.7nm,0.2s						
MRKS				*e*S	**Sg**	**19 15 10.3**	**-1.2**
	7.6nm,0.4s						
UCH	**Uchtor**	**2.48**	**45**	⇑*i*P	**Pn**	**19 14 37.5**	**+1.9**
	baz=45						
UCH				⇑*i*S	**Sb**	**19 15 09.2**	**-1.3**
	baz=45						
EKS2	**Erkin-Say**	**2.49**	**29**	⇓*i*P	**Pn**	**19 14 37.3**	**+1.9**
	baz=29						
EKS2				⇓*i*S	**Sb**	**19 15 08.5**	**-1.8**
	baz=29						
AAK	**Ala-Archa**	**2.77**	**39**	⇓Pn	**Pn**	**19 14 41.0**	**+1.7**
AAK				⇑Pg	**Pg**	**19 14 47.6**	**-0.2**
	3.1nm,0.5s						
AAK				⇑Lg	Lg	19 15 23.8	
	10.0nm,0.5s						
AAK	**Ala-Archa**	**2.77**	**39**	⇑*i*P	**Pn**	**19 14 41.5**	**+2.2**
	baz=39						
AAK				⇑*i*S	**Sb**	**19 15 15.8**	**-2.7**
	baz=39						
KZA	**Kyzart**	**2.82**	**55**	⇑*i*P	**Pn**	**19 14 42.6**	**+2.4**
	baz=55						
KZA				⇑*i*S	**Sb**	**19 15 17.8**	**-2.4**
	baz=55						
KK31	**Karatay Array**	**2.88**	**335**	⇑Pg	**Pg**	**19 14 48.2**	**-1.6**
	1.1nm,0.3s,baz=160,slow=15,SNR=40						
KK31				Lg	Lg	19 15 25.4	
	3.8nm,0.3s,baz=149,slow=28,SNR=4.0						
KBK	**Karagaybulak**	**3.01**	**43**	⇓*i*P	**Pn**	**19 14 44.9**	**+2.2**
	baz=44						
KBK				⇓*i*S	**Sn**	**19 15 21.5**	**+2.6**
	baz=44						
SGDS	**Sogindy**	**3.49**	**31**	Pg	**Pb**	**19 14 58.5**	**+1.9**
	2.8nm,0.5s						
SGDS				Lg	Lg	19 15 43.9	
	4.7nm,0.5s						
TKM2	**Tokmak 2**	**3.54**	**46**	⇑Pn	**Pn**	**19 14 51.5**	**+1.6**
	1.7nm,0.3s						
TKM2				⇑Lg	Lg	19 15 48.5	
	3.3nm,0.5s						
KST	**Kastek**	**3.83**	**47**	Pg	**Pg**	**19 15 05.4**	**-2.5**
	2.8nm,0.4s						
KST				Lg	Lg	19 15 55.9	
	9.3nm,0.5s						
KST	**Kastek**	**3.83**	**47**	*e*P	**Pg**	**19 15 05.4**	**-2.5**
	2.8nm,0.4s						
KST				*e*S	**Sg**	**19 15 55.9**	**-1.6**
	9.3nm,0.5s						
DGS	**Degeres**	**3.85**	**43**	Pg	**Pg**	**19 15 06.2**	**-2.3**
	2.5nm,1.0s						
DGS				Lg	Lg	19 15 57.2	
	8.5nm,0.6s						
DGS	**Degeres**	**3.85**	**43**	*e*P	**Pg**	**19 15 06.2**	**-2.3**
	2.5nm,1.0s						
DGS				*e*S	**Sg**	**19 15 57.2**	**-1.2**
	8.5nm,0.6s						
TNSS	**Tian-Shan**	**4.40**	**53**	Pg	**Pg**	**19 15 17.0**	**-1.9**
	1.4nm,0.3s						
TNSS				Lg	Lg	19 16 15.5	
	5.1nm,0.6s						
TNSS	**Tian-Shan**	**4.40**	**53**	*e*P	**Pg**	**19 15 17.0**	**-1.9**
	1.4nm,0.3s						
TNSS				*e*S	**Sg**	**19 16 15.5**	**-0.4**
	5.1nm,0.6s						
MDOK	**Medeo**	**4.53**	**52**	Lg	Lg	19 16 20.2	
	3.8nm,0.6s						
KUU	**Kurty**	**4.61**	**41**	Pg	**Pb**	**19 15 18.9**	**+3.3**
	1.1nm,0.7s						
KUU				Lg	Lg	19 16 19.0	
	5.8nm,0.7s						
KUU	**Kurty**	**4.61**	**41**	*e*P	**Pb**	**19 15 18.9**	**+3.3**
	1.1nm,0.7s						
KUU				*e*S	**Sg**	**19 16 19.0**	**-3.6**
	5.8nm,0.7s						
KOTS	**Kotyrbulak**	**4.61**	**52**	Pg	**Pg**	**19 15 20.3**	**-2.6**
	1.9nm,0.6s						
KOTS				Lg	Lg	19 16 21.6	
	6.4nm,0.5s						
KOTS	**Kotyrbulak**	**4.61**	**52**	*e*P	**Pg**	**19 15 20.3**	**-2.6**
	1.9nm,0.6s						
KOTS				*e*S	**Sg**	**19 16 21.6**	**-1.0**
	6.4nm,0.5s						
KTBS	**Karatobe**	**4.66**	**45**	Pg	**Pb**	**19 15 20.1**	**+3.6**
	0.8nm,0.4s						
KTBS				Lg	Lg	19 16 20.6	
	6.4nm,0.5s						
KTBS	**Karatobe**	**4.66**	**45**	*e*P	**Pb**	**19 15 20.1**	**+3.6**
	0.8nm,0.4s						
KTBS				*e*S	**Sg**	**19 16 20.6**	**-3.7**
	6.4nm,0.5s						
CHKK	**Chushkaly**	**4.92**	**45**	Pg	**Pg**	**19 15 25.3**	**-3.6**
	0.2nm,0.1s						
CHKK				Lg	Lg	19 16 29.6	
	4.5nm,0.3s						
CHKK	**Chushkaly**	**4.92**	**45**	*e*P	**Pg**	**19 15 25.3**	**-3.6**
	0.2nm,0.1s						
CHKK				*e*S	**Sg**	**19 16 29.6**	**-3.0**
	4.5nm,0.3s						

*ISCJB **16** 19:41:02.4±0.8, 6˚.62S±0˚.06×130˚.3E±0˚.1, h146km, mb2.8/1, Error ellipse: s-maj=19.3km s-min=8.4km az=1.5*
*IDC **16** 19:41:04.9±2.1, 6˚.62S×130˚.01E, h147km_25km, mb2.5/1, mb1 3.1/6, mb1mx3.0/28, mbtmp3.6/6, Error ellipse: s-maj=38.2km s-min=19.7km az=95.0*

ISC 16 19:41:03.2±0.9, **6˚.67S**±0˚.06×**130˚.3E**±0˚.2, **h146km, n6, σ2§67/9, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.83**	**9**	P	**Pn**	**19 42 29.4**	**+1.7**
	0.7nm,0.3s,baz=183,slow=17,SNR=39						
SIJI				S	**Sn**	**19 43 30.6**	**-3.1**
	2.5nm,0.3s,baz=232,slow=24,SNR=14						
BATI	**Baumata**	**7.48**	**241**	P	**Pn**	**19 42 48.8**	**-1.0**
	2.2nm,0.3s,baz=63,slow=9.0,SNR=4.3						
FITZ	**Fitzroy Crossi**	**12.25**	**202**	P	**Pn**	**19 43 53.4**	**+0.4**
	0.2nm,0.3s,baz=17,slow=9.0,SNR=10						
FITZ				S	Sn	19 45 58.0	-10
	0.3nm,0.3s,baz=252,slow=20,SNR=4.2						
WRA	**Warramunga Arr**	**13.76**	**164**	P	**Pn**	**19 44 13.8**	**+1.5**
	0.2nm,0.3s,baz=339,slow=13,SNR=11						
WRA				S	**Sn**	**19 46 40.8**	**-3.9**
	0.3nm,0.3s,baz=336,slow=23,SNR=6.4						
ASAR	**Alice Springs**	**17.25**	**169**	P	**Pn**	**19 44 58.8**	**+3.4**
	0.1nm,0.3s,baz=345,slow=9.9,SNR=7.8						
ASAR				S	**S**	**19 48 07.2**	**+0.1**
	0.1nm,0.3s,baz=316,slow=14,SNR=4.2						
MKAR	**Makanchi Array**	**68.13**	**327**	P	**P**	**19 51 47.6**	**+0.1**
	0.1nm,0.5s,baz=111,slow=7.9,SNR=3.2						

IDC 16 19:56:59.1±2.6, **6˚.10S×130˚.16E, h119km_38km, mb3.0/1, mb1 3.1/5, mb1mx2.9/33, mbtmp3.4/5, MS2.9/1, Ms1 2.9/1, ms1mx2.4/15, Error ellipse: s-maj=73.0km s-min=16.9km az=91.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.31**	**12**	P	Pn	19 58 18.0	+1.7
	1.0nm,0.3s,baz=229,slow=19,SNR=9.6						
SIJI				S	Sn	19 59 15.9	-0.4
	2.0nm,0.3s,baz=232,slow=22,SNR=18						
FITZ	**Fitzroy Crossi**	**12.72**	**200**	P	Pn	19 59 55.8	0.0
	0.1nm,0.3s,baz=31,slow=12,SNR=4.6						
FITZ				S	Sn	20 02 06.9	-9.1
	0.2nm,0.3s,baz=94,slow=19,SNR=3.8						
WRA	**Warramunga Arr**	**14.35**	**164**	P	Pn	20 00 15.9	-0.9
	0.1nm,0.3s,baz=346,slow=13,SNR=9.5						
WRA				S	Sn	20 02 43.4	-12
	0.1nm,0.3s,baz=331,slow=24,SNR=3.9						
ASAR	**Alice Springs**	**17.84**	**169**	P	P	20 00 59.0	+0.1
	0.0nm,0.3s,baz=343,slow=8.2,SNR=4.1						
LEM	**Lembang**	**22.41**	**267**	LR	LR	20 10 49.2	
	comp=Z,30nm,20.9s,baz=282,slow=37						
MKAR	**Makanchi Array**	**67.56**	**327**	P	P	20 07 42.8	0.0
	0.2nm,0.4s,baz=119,slow=7.2,SNR=6.2						

MEX 16 20:18:33.4±0.5, **16˚.18N×98˚.30W, h5km, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.27**	**38**	*i* P	Pg	20 18 37.0	-1.8
PNIG				*i* S	Sg	20 18 41.4	-1.0
VHO	**Vista Hermosa**	**1.75**	**59**	*i* P	Pn	20 19 00.8	-3.9
VHO				*e*S	Sn	20 19 21.9	-5.5

*ISCJB **16** 20:20:18.6±0.4, 39˚.40N±0˚.04×136˚.95E±0˚.06, h300km, mb3.2/8, Error ellipse: s-maj=6.3km s-min=5.6km az=143.2*
*IDC **16** 20:20:19.0±1.2, 39˚.34N×136˚.64E, h281km_13km, mb3.0/8, mb1 3.1/13, mb1mx2.9/42, mbtmp3.6/13, Error ellipse: s-maj=24.1km s-min=15.1km az=73.0*
*JMA **16** 20:20:21.0±0.3, 39˚.24N×137˚.07E, h29.4km_3km, M3.4*

ISC 16 20:20:19.2±0.7, **39˚.33N**±0˚.06×**136˚.99E**±0˚.07, **h300km, n33, σ1§23/35, mb3.3/8, Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHG	**Hegura jima**	**1.48**	**182**	P	**Pn**	**20 21 02.9**	**+0.6**
JSD	**Sado**	**1.63**	**142**	P	**Pn**	**20 21 03.4**	**+0.1**
JSZ	**Suzu**	**1.90**	**171**	P	**Pn**	**20 21 06.0**	**+0.7**
JNS	**Sasagawa**	**2.36**	**129**	P	**Pn**	**20 21 09.6**	**+0.5**
JHK	**Hiroka**	**2.62**	**142**	P	**Pn**	**20 21 12.1**	**+0.7**
JYK	**Kaneyama**	**2.65**	**98**	P	**Pn**	**20 21 12.5**	**+0.9**
MAT	**Matsushiro**	**2.94**	**161**	P	**Pn**	**20 21 14.8**	**+0.3**
MAT	**Matsushiro**	**2.94**	**161**	P	**Pn**	**20 21 15.2**	**+0.7**
MJAR	**Matsushiro Arr**	**2.94**	**161**	P	**Pn**	**20 21 14.8**	**+0.3**
	0.4nm,0.3s,baz=338,slow=11,SNR=31						
JNG	**Nsakai**	**3.04**	**163**	P	**Pn**	**20 21 16.2**	**+0.6**
JMK	**Ichinoseki**	**3.31**	**95**	P	**Pn**	**20 21 18.9**	**+0.8**
JMK				S	**S**	**20 22 03.9**	**-1.2**
JMM	**Marumori**	**3.32**	**115**	P	**Pn**	**20 21 18.9**	**+0.7**
JMM				*e*S	**S**	**20 22 04.2**	**-1.1**
JOM	**Ohasama**	**3.33**	**86**	P	**Pn**	**20 21 20.0**	**+1.7**
JOM				*e*S	**S**	**20 22 05.1**	**-0.5**
JFK	**Kawauchi**	**3.63**	**121**	P	**Pn**	**20 21 22.2**	**+0.7**
JRY	**Ryogami san**	**3.63**	**155**	P	**Pn**	**20 21 22.2**	**+0.6**
JOT	**Ohata**	**3.72**	**55**	P	**Pn**	**20 21 23.8**	**+1.5**
JKY	**Yasaka**	**3.99**	**203**	P	**Pn**	**20 21 26.2**	**+0.8**
JKSM	**Kasumi**	**4.17**	**207**	P	**Pn**	**20 21 27.9**	**+0.5**
JWT	**Wachi**	**4.23**	**198**	P	**Pn**	**20 21 28.4**	**+0.3**
JOD2	**Odawara 2**	**4.39**	**157**	*e*S	**S**	**20 22 23.9**	**-2.6**
JIE	**Ise**	**4.93**	**183**	P	**Pn**	**20 21 36.5**	**+0.5**
USRK	**Ussuriysk Ar.**	**6.14**	**324**	P	Pn	20 21 47.8	-2.3
	0.2nm,0.3s,baz=142,slow=9.8,SNR=5.2						
ASAJ	**Asahikawa**	**6.36**	**39**	P	**Pn**	**20 21 53.1**	**+0.4**
	1.3nm,0.3s,baz=215,slow=11,SNR=19						
ASAJ				S	**S**	**20 23 04.1**	**-4.1**
	0.3nm,0.3s,baz=143,slow=20,SNR=3.8						
KSRS	**Korea Array**	**7.37**	**258**	P	Pn	20 22 01.2	-3.8
	0.1nm,0.3s,baz=75,slow=12,SNR=4.7						
KLR	**Kul'dur**	**10.59**	**341**	P	**Pn**	**20 22 44.1**	**-0.3**
	0.1nm,0.3s,baz=176,slow=5.9,SNR=6.3						
SONM	**Songino Array**	**23.62**	**301**	P	**P**	**20 25 03.5**	**-0.4**
	0.8nm,0.8s,baz=93,slow=9.4,SNR=2.3						
MKAR	**Makanchi Array**	**39.95**	**299**	P	**P**	**20 27 23.5**	**-1.5**
	0.3nm,0.8s,baz=91,slow=6.6,SNR=3.4						
KURBB	**Kurchatov Arra**	**41.84**	**306**	P	**P**	**20 27 39.0**	**-1.1**
	0.3nm,0.4s,baz=90,slow=9.5,SNR=3.3						
WRA	**Warramunga Arr**	**59.01**	**183**	P	**P**	**20 29 49.7**	**+1.6**
	0.5nm,1.1s,baz=360,slow=7.3,SNR=2.6						
ARCES	**ARCESS Array B**	**60.60**	**338**	P	**P**	**20 29 59.4**	**+1.2**
	3.1nm,0.9s,baz=55,slow=7.8,SNR=3.8						
FINES	**FINESS Array B**	**65.13**	**330**	P	**P**	**20 30 28.8**	**+0.8**
	1.2nm,0.7s,baz=53,slow=7.4,SNR=5.0						
AKASG	**Malin Array Be**	**70.33**	**320**	P	**P**	**20 31 00.9**	**+0.4**
	0.5nm,0.4s,baz=50,slow=5.5,SNR=6.6						
NOA	**NORSAR Array B**	**70.69**	**335**	P	**P**	**20 31 03.7**	**+1.2**
	0.7nm,0.8s,baz=38,slow=6.3,SNR=3.1						

IDC 16 20:24:04.9±1.0, **15˚.80S×174˚.80W, h0km, mb4.1/7, mb1 4.4/7, mb1mx4.0/22, mbtmp4.1/7, Error ellipse: s-maj=49.1km s-min=19.7km az=137.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**23.48**	**196**	P	P	20 29 16.1	-0.2
	3.8nm,0.5s,baz=53,slow=10,SNR=2.7						
STKA	**Stephens Creek**	**42.67**	**240**	P	P	20 32 03.5	0.0
	2.0nm,0.6s,baz=63,slow=10,SNR=8.0						
WRA	**Warramunga Arr**	**48.44**	**257**	P	P	20 32 49.5	0.0
	2.2nm,0.5s,baz=96,slow=6.3,SNR=91						
ASAR	**Alice Springs**	**48.70**	**252**	P	P	20 32 51.4	-0.1
	5.6nm,0.5s,baz=87,slow=7.9,SNR=130						
NVAR	**Mina Array Bea**	**75.53**	**43**	P	P	20 35 53.1	+1.5
	1.0nm,0.8s,baz=228,slow=9.5,SNR=6.7						
ILAR	**Eielson Array**	**83.10**	**12**	P	P	20 36 31.6	-0.5
	0.2nm,0.4s,baz=230,slow=5.8,SNR=8.4						
PDAR	**Pinedale Array**	**83.46**	**42**	P	P	20 36 33.6	-1.2
	0.4nm,0.5s,baz=224,slow=4.7,SNR=6.2						

MAN 16 20:31:20.6, 5˚.72N×126˚.11E, h2km, mb3.8, ML2.5, MS2.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.55**	**314**	*e*P	Pn	20 31 37.0	+1.5
DDMP				*e*S	Sn	20 31 52.3	+7.1
MATI	**Mati**	**1.23**	**7**	*e*P	Pg	20 31 43.6	-0.6
MATI				*e*S	Sn	20 32 01.9	0.0
DMPH	**Davao City--Mi**	**1.48**	**336**	*e*P	Pn	20 31 47.6	-0.7
DMPH				*e*S	Sb	20 32 04.4	-3.8

*IDC **16** 20:44:29.3±0.6, 10˚.60N×126˚.70E, h0km, mb4.0/14, mb1 4.2/14, mb1mx3.9/47, mbtmp4.0/14, Error ellipse: s-maj=38.3km s-min=14.2km az=70.0*
*ISCJB **16** 20:44:30.7±0.4, 10˚.67N±0˚.04×126˚.86E±0˚.04, h20km, mb4.2/20, Error ellipse: s-maj=6.3km s-min=5.7km az=32.7*
*MAN **16** 20:44:33.7, 10˚.70N×126˚.75E, h28km, mb4.6, ML3.5, MS3.4*
*NEIC **16** 20:44:34.4±0.5, 10˚.66N×126˚.95E, h35km, mb4.4/9, Error ellipse: s-maj=17.6km s-min=8.4km az=74.0*

ISC 16 20:44:32.5±0.6, **10˚.67N**±0˚.05×**126˚.81E**±0˚.08, **h20km, n43, σ1§07/51, mb4.2/20, 2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.57**	**236**	*e*P	**Pn**	**20 44 59.1**	**-0.2**
SCPH				*i* S	**Sn**	**20 45 18.0**	**-1.2**
BESP	**Borongan**	**1.63**	**304**	*e*P	**Pn**	**20 44 58.9**	**-1.3**
BESP				*e*S	**Sn**	**20 45 19.4**	**-1.2**
PLP	**Palo**	**1.86**	**285**	⇓*e*P	**Pn**	**20 45 03.0**	**-0.4**
PLP				*e*S	**Sn**	**20 45 25.6**	**-0.7**
MSLP	**Maasin**	**2.00**	**255**	*e*P	**Pn**	**20 45 05.9**	**+0.8**
MSLP				*e*S	**Sn**	**20 45 29.2**	**-0.3**
BUTP	**Butuan**	**2.06**	**215**	*e*P	**Pn**	**20 45 06.8**	**+0.8**
BUTP				*e*S	**Sn**	**20 45 31.4**	**+0.3**
RCP	**Roxas**	**4.09**	**283**	⇓*e*P	**Pn**	**20 45 36.0**	**+2.1**
SBUM	**Sibu**	**16.63**	**242**	*e*Pn	**P**	**20 48 27.4**	**+0.5**
	3.8nm,0.5s						
BATI	**Baumata**	**20.98**	**189**	P	**P**	**20 49 15.3**	**+0.7**
	19nm,0.6s,baz=90,slow=4.8,SNR=4.7						
ENH	**Enshi**	**25.30**	**323**	*e*P	**P**	**20 49 59.1**	**+1.2**
	6.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**28.03**	**289**	P	**P**	**20 50 21.4**	**-1.3**
	0.9nm,0.8s,baz=99,slow=8.3,SNR=7.7						
WR1	**Warramunga Arr**	**31.31**	**166**	*e*P	**P**	**20 50 49.7**	**-1.9**
	61nm,1.9s						
WR1				*e*PcP	**PcP**	**20 53 45.5**	**-0.1**
WRA	**Warramunga Arr**	**31.31**	**166**	P	**P**	**20 50 49.7**	**-1.9**
	0.4nm,0.7s,baz=344,slow=9.0,SNR=4.7						
WRA				PcP	**PcP**	**20 53 45.5**	**-0.1**
	0.4nm,0.9s,baz=344,slow=2.8,SNR=5.8						
ASAR	**Alice Springs**	**34.83**	**169**	P	**P**	**20 51 21.6**	**-0.7**
	0.6nm,0.5s,baz=349,slow=6.7,SNR=13						
ASAR				PcP	**PcP**	**20 53 55.7**	**+0.3**
	0.6nm,0.5s,baz=345,slow=2.8,SNR=9.6						
LSA	**Lhasa**	**38.23**	**305**	*e*P	**P**	**20 51 50.5**	**-1.4**
	1.8nm,0.8s						
KLR	**Kul'dur**	**38.66**	**5**	P	**P**	**20 51 55.3**	**+0.7**
	0.7nm,0.5s,baz=208,slow=3.9,SNR=5.0						
STKA	**Stephens Creek**	**44.61**	**162**	P	**P**	**20 52 42.4**	**-1.2**
	0.9nm,0.4s,baz=350,slow=9.2,SNR=6.4						
STKA	**Stephens Creek**	**44.61**	**162**	*e*P	**P**	**20 52 42.5**	**-1.1**
	5.1nm,1.9s						
MK32	**Makanchi Array**	**52.03**	**322**	*e*P	**P**	**20 53 41.9**	**+1.2**
MKAR	**Makanchi Array**	**52.03**	**322**	P	**P**	**20 53 41.9**	**+1.1**
	3.0nm,0.6s,baz=117,slow=8.3,SNR=36						
MKAR	**Makanchi Array**	**52.03**	**322**	*e*P	**P**	**20 53 40.8**	**0.0**
	21nm,0.6s						
MAKZ	**Makanchi**	**52.23**	**322**	*e*P	**P**	**20 53 43.7**	**+1.5**
	5.2nm,1.0s						
ZALV	**Zalesovo Beam**	**54.53**	**331**	P	**P**	**20 53 58.9**	**0.0**
	1.0nm,0.6s,baz=116,slow=4.1,SNR=4.3						
ZAA1	**Zalesovo Array**	**54.53**	**331**	*e*P	**P**	**20 53 59.0**	**0.0**
KURK	**Kurchatov**	**56.04**	**325**	*e*P	**P**	**20 54 11.0**	**+1.1**
	4.1nm,0.6s						
KK31	**Karatay Array**	**58.35**	**314**	*e*P	**P**	**20 54 27.0**	**+0.6**
KKAR	**Karatay Array**	**58.35**	**314**	*e*P	**P**	**20 54 27.0**	**+0.6**
BRVK	**Borovoye**	**61.71**	**325**	*e*P	**P**	**20 54 50.6**	**+1.3**
	3.4nm,0.8s						
ABKAR	**Abkulak array**	**66.92**	**319**	*e*P	**P**	**20 55 23.7**	**+0.2**
ARA0	**ARCESS Array S**	**84.00**	**340**	*e*P	**P**	**20 57 01.7**	**+0.5**
ARCES	**ARCESS Array B**	**84.00**	**340**	P	**P**	**20 57 01.7**	**+0.5**
	3.7nm,0.8s,baz=90,slow=7.2,SNR=2.5						
BR101	**Keskin Array S**	**85.69**	**309**	*e*P	**P**	**20 57 09.7**	**-0.8**
BR131	**Keskin Array S**	**85.69**	**309**	*e*P	**P**	**20 57 09.7**	**-0.8**
BRTR	**Keskin Array B**	**85.69**	**309**	P	**P**	**20 57 09.7**	**-0.8**
	1.4nm,0.7s,baz=124,slow=5.3,SNR=8.6						
FIA0	**FINESS Array S**	**85.79**	**332**	*e*P	**P**	**20 57 10.0**	**-0.3**
FINES	**FINESS Array B**	**85.79**	**332**	P	**P**	**20 57 10.0**	**-0.3**
	1.9nm,0.4s,baz=76,slow=5.1,SNR=19						
ANTO	**Ankara**	**86.30**	**310**	*e*P	**P**	**20 57 17.0**	**+3.6**
	22nm,0.8s						
AKASG	**Malin Array Be**	**86.59**	**321**	P	**P**	**20 57 14.5**	**0.0**
	0.2nm,0.3s,baz=75,slow=2.0,SNR=4.0						
VNDA	**Vanda**	**90.26**	**173**	P	**P**	**20 57 32.0**	**+0.8**
	0.6nm,0.5s,baz=0.0,slow=6.1,SNR=4.1						
VNDA	**Vanda**	**90.26**	**173**	*e*P	**P**	**20 57 31.5**	**+0.3**
YKA	**Yellowknife Ar**	**93.17**	**24**	P	**P**	**20 57 45.8**	**+0.6**
	0.1nm,0.5s,baz=308,slow=4.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**120.61**	**292**	PKP	**PKPdf**	**21 03 22.9**	**-1.0**
	0.3nm,0.7s,baz=45,slow=2.2,SNR=3.8						
TOA1	**Torodi Ar. Sit**	**120.61**	**292**	*e*PKPdf	**PKPdf**	**21 03 22.9**	**-1.0**
PLCA	**Paso Flores**	**146.36**	**156**	PKPbc	**PKPab**	**21 04 12.8**	**-0.3**
	1.7nm,0.8s,baz=233,slow=5.1,SNR=3.6						

*ANF **16** 20:51:41.7±0.7, 35˚.60N×97˚.38W, ML4.0/10, Error ellipse: s-maj=9.3km s-min=3.4km az=155.0*
*ISCJB **16** 20:51:42.4±0.6, 35˚.62N±0˚.03×97˚.34W±0˚.03, h12km_3km, Error ellipse: s-maj=5.3km s-min=3.7km az=0.4*
*TUL **16** 20:51:43.0, 35˚.59N×97˚.36W, h5km, ML3.2*
*NEIC **16** 20:51:43.0±0.0, 35˚.59N×97˚.36W, h5km, ML3.2(TUL), After TUL.*
*NEIC Felt [III] at Edmond and Jones. Also felt at Broken Arrow, Okl

Z42A	**Norrel Spur, H**	**5.02**	**116**	S	**Sn**	**20 53 57.5**	**+0.1**
	baz=299						
T42A	**Van Buren**	**5.24**	**72**	*e*Pn	**Pn**	**20 53 01.4**	**-0.7**
KSCO	**Kaye Shedlock'**	**5.42**	**310**	*e*Pg	**Pb**	**20 53 22.1**	**+3.7**
CCM	**Cathedral Cave**	**5.47**	**62**	*e*Pn	**Pn**	**20 53 03.7**	**-1.5**
JCT	**Junction City**	**5.51**	**203**	*e*Pn	**Pn**	**20 53 04.3**	**-1.5**
BGNE	**Belgrade**	**5.83**	**354**	*e*Pn	**Pn**	**20 53 09.7**	**-0.5**
SDCO	**Great Sand Dun**	**6.90**	**290**	*e*Pn	**Pn**	**20 53 25.2**	**+0.1**
ISCO	**Idaho Springs**	**7.78**	**305**	*e*Pn	**Pn**	**20 53 36.6**	**-0.7**

IDC ***16*** *20:58:27.6±4.2, 19°.42S×178°.18W, h462km±44km, mb3.0/7, mb1 3.4/8, mb1mx3.2/26, mbtmp3.9/8, Error ellipse: s-maj=24.5km s-min=15.5km az=114.0*

ISC 16 20:58:27.2±0.8, 19°.5S±0°.2×178°.1W±0°.2, h450km, n11, σ1§02/12, mb3.4/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**19.20**	**192**	P	**P**	**21 02 20.1**	**-1.0**
	1.5nm,0.3s,baz=333,slow=6.8,SNR=4.2						
URZ				S	**S**	**21 05 33.4**	**+1.4**
	0.4nm,0.3s,baz=252,slow=20,SNR=4.6						
WRA	**Warramunga Arr**	**44.65**	**261**	P	**P**	**21 05 58.1**	**-0.5**
	0.5nm,0.3s,baz=98,slow=8.0,SNR=21						
ASAR	**Alice Springs**	**44.67**	**256**	P	**P**	**21 05 57.4**	**-1.3**
	1.8nm,0.9s,baz=88,slow=8.9,SNR=14						
ASAR				PcP	**pwP**	**21 07 28.8**	**+0.8**
	0.4nm,0.6s,baz=92,slow=4.0,SNR=5.3						
NVAR	**Mina Array Bea**	**80.33**	**44**	P	**P**	**21 09 51.3**	**+0.6**
	0.7nm,0.8s,baz=226,slow=8.3,SNR=3.7						
TXAR	**Lajitas Array**	**86.58**	**57**	P	**P**	**21 10 21.6**	**-0.5**
	0.6nm,0.7s,baz=224,slow=7.0,SNR=5.0						
ILAR	**Eielson Array**	**87.32**	**13**	P	**P**	**21 10 24.5**	**0.0**
	0.4nm,0.7s,baz=216,slow=6.1,SNR=5.9						
PDAR	**Pinedale Array**	**88.27**	**43**	P	**P**	**21 10 29.4**	**-0.4**
	0.1nm,0.4s,baz=189,slow=2.9,SNR=3.5						
CMAR	**Chiang Mai Arr**	**89.67**	**290**	P	**P**	**21 10 37.3**	**+0.7**
	0.7nm,0.8s,baz=102,slow=2.9,SNR=6.4						
AKASG	**Malin Array Be**	**142.04**	**332**	PKhKP	PKPpre	21 17 01.8	
	0.4nm,0.4s,baz=39,slow=4.3,SNR=9.6						
BRTR	**Keskin Array B**	**146.05**	**313**	PKPbc	**PKPdf**	**21 17 13.9**	**-0.5**
	0.9nm,0.7s,baz=131,slow=4.5,SNR=4.5						
GERES	**GERESS Array B**	**149.16**	**345**	PKPbc	**PKPdf**	**21 17 20.7**	**+1.4**
	0.5nm,0.7s,baz=129,slow=2.8,SNR=5.2						

JMA 16 21:20:47.9±0.2, 38°.08N×144°.30E, h41km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.25**	**277**	P	Pn	21 21 23.7	+1.2
JIKH				S	Sn	21 21 50.0	+1.0
OFUJ	**Ofunato**	**2.29**	**297**	P	Pn	21 21 24.5	+1.3
OFUJ				S	Sn	21 21 52.1	+1.9
JKMT	**Kesennumamotoy**	**2.34**	**289**	P	Pn	21 21 25.1	+1.3
JKMT				S	Sn	21 21 52.7	+1.5
JIO	**Ouri**	**2.35**	**280**	P	Pn	21 21 25.6	+1.6
JIO				S	Sn	21 21 52.9	+1.3
JMK	**Ichinoseki**	**2.57**	**291**	P	Pn	21 21 28.5	+1.5
JMK				S	Sn	21 21 59.3	+2.3
JOM	**Ohasama**	**2.73**	**302**	P	Pn	21 21 31.1	+1.9
JOM				S	Sn	21 22 03.5	+2.5
JANG	**Nango**	**3.15**	**318**	P	Pn	21 21 36.3	+1.3
JANG				*e*S	Sn	21 22 11.8	+0.5
JFT	**Otama**	**3.19**	**261**	P	Pn	21 21 38.0	+2.5
JFT				S	Sn	21 22 14.5	+2.2
JYK	**Kaneyama**	**3.20**	**286**	P	Pn	21 21 38.3	+2.6
JYK				S	Sn	21 22 15.8	+3.2
JOT	**Ohata**	**4.14**	**324**	P	Pn	21 21 50.3	+1.7
JOT				*e*S	Sn	21 22 36.0	+0.3
JKB	**Kayabe**	**4.56**	**328**	P	Pn	21 21 54.5	+0.2
JCH	**Churui**	**4.59**	**351**	P	Pn	21 21 54.9	+0.2
JCH				*e*S	Sn	21 22 44.4	-2.3
JRY	**Ryogami san**	**4.78**	**246**	P	Pn	21 21 58.5	+1.0
JRY				S	Sn	21 22 50.4	-1.3
JOD2	**Odawara 2**	**5.04**	**238**	*e*S	Sn	21 22 56.2	-1.9
NEM2	**Nemuro 2**	**5.39**	**11**	P	Pn	21 22 04.1	-1.6
NEM2				*e*S	Sn	21 23 01.4	-5.1

DJA ***16*** *21:22:33.2±3.1, 5°S±21°×14°9E±1°6, h123km±16km, M5.5/9, mb5.0/9, mB5.3/4, MLv5.9/1, Mw(mB)4.7/4*
BJI ***16*** *21:22:35.0, 6°.17S×149°.30E, h150km, mb4.7/40, mB5.1/24*
IDC ***16*** *21:22:37.9±0.5, 5°.76S×149°.10E, h131km±5km, mb4.4/22, mb1 4.5/27, mb1mx4.4/38, mbtmp4.8/27, MS3.5/7, Ms1 3.5/7, ms1mx3.2/32, Error ellipse: s-maj=12.7km s-min=7.9km az=97.0*
ISCJB ***16*** *21:22:38.8±0.2, 5°.75S±0°.03×148°.94E±0°.05, h150km, mb4.6/73, Error ellipse: s-maj=6.9km s-min=4.0km az=17.3*
NEIC ***16*** *21:22:40.7±0.6, 5°.77S×148°.99E, h155km±5km, mb4.7/46, Error ellipse: s-maj=6.4km s-min=4.0km az=100.0*

ISC 16 21:22:39.8±0.4, 5°.79S±0°.05×149°.04E±0°.06, h150km, n116, σ1§52/134, mb4.7/73, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.50**	**63**	*e*Pn	**Pn**	**21 23 32.6**	**-1.0**
PMG	**Port Moresby**	**4.05**	**207**	P	**Pn**	**21 23 40.9**	**+0.2**
	55nm,0.3s,baz=36,slow=5.4,SNR=46						
PMG				S	**Sn**	**21 24 29.1**	**+1.0**
	355nm,0.3s,baz=44,slow=16,SNR=24						
PMG	**Port Moresby**	**4.05**	**207**	*e*Pn	**Pn**	**21 23 41.0**	**+0.2**
PMG				*e*S	**Sn**	**21 24 27.2**	**-0.8**
MANU	**Manus Island**	**4.08**	**336**	*e*Pn	**Pn**	**21 23 43.4**	**+2.3**
JAY	**Jayapura**	**8.92**	**291**	P	**Pn**	**21 24 44.6**	**-1.1**
	1.0nm,0.3s,baz=126,slow=19,SNR=3.2						
COEN	**Coen**	**9.96**	**215**	*e*Pn	**Pn**	**21 25 00.6**	**+1.2**
COEN				*e*Sn	**Sn**	**21 26 46.6**	**-3.1**
HNR	**Honiara**	**11.40**	**109**	LR	LR	21 29 26.5	
	comp=Z,97nm,18.1s,baz=359,slow=36						
CTA	**Charters Tower**	**14.47**	**191**	P	**Pn**	**21 25 58.2**	**+0.5**
	0.6nm,0.3s,baz=0.0,slow=12,SNR=18						
CTAO	**Charters Tower**	**14.47**	**191**	*e*Pn	**Pn**	**21 25 59.1**	**+1.4**
SIJI	**Sorong**	**18.40**	**285**	P	**P**	**21 26 43.9**	**+0.3**
	1.0nm,0.3s,baz=68,slow=16,SNR=3.8						
EIDS	**Eidsvold**	**19.57**	**174**	*e*P	**P**	**21 26 58.1**	**+1.9**
	122nm,0.8s						
GUMO	**Guam**	**19.69**	**348**	P	**P**	**21 26 58.4**	**+0.8**
	17nm,0.3s,baz=171,slow=18,SNR=2.4						
WRAB	**Tennant Creek**	**20.04**	**224**	*e*P	**P**	**21 27 01.8**	**+0.4**
	43nm,0.6s						
WRAB				*e*S	**S**	**21 30 37.5**	**-1.1**
WB2	**Warramunga Arr**	**20.04**	**224**	*e*P	**P**	**21 27 01.2**	**-0.2**
WB2				*e*S	**S**	**21 30 38.3**	**-0.4**
WRA	**Warramunga Arr**	**20.05**	**224**	P	**P**	**21 27 02.4**	**+0.9**
	30nm,0.6s,baz=50,slow=11,SNR=163						
WRA				S	**S**	**21 30 37.6**	**-1.2**
	17nm,1.0s,baz=47,slow=20,SNR=14						
WRA				ScP	**ScP**	**21 34 34.5**	**+0.9**
	5.7nm,0.9s,baz=40,slow=2.6,SNR=9.0						
WRA				LR	LR	21 35 05.4	
	comp=Z,103nm,20.8s,baz=70,slow=37						
AS01	**Alice Springs**	**22.95**	**218**	*e*P	**P**	**21 27 32.2**	**+0.9**
AS31	**Alice Springs**	**22.98**	**218**	*e*P	**P**	**21 27 32.8**	**+1.2**
	6.3nm,0.6s						
AS31				*e*S	**S**	**21 31 37.5**	**+6.9**
ASAR	**Alice Springs**	**22.98**	**218**	P	**P**	**21 27 32.7**	**+1.1**
	16nm,0.8s,baz=54,slow=8.5,SNR=174						
ASAR				PcP	**PcP**	**21 31 16.7**	**-0.2**
	3.1nm,0.9s,baz=48,slow=4.1,SNR=5.0						
ASAR				ScP	**ScP**	**21 34 42.0**	**+1.1**
	1.8nm,0.9s,baz=32,slow=3.3,SNR=5.7						
ASAR				LR	LR	21 37 22.7	
	comp=Z,107nm,18.6s,baz=28,slow=38						
DZM	**Mont Dzumac**	**23.35**	**136**	P	**P**	**21 27 35.6**	**+0.6**
	34nm,0.9s,baz=292,slow=9.4,SNR=16						
DZM				pP	**pP**	**21 27 59.7**	**-2.4**
	7.1nm,0.6s,baz=12,slow=10,SNR=2.4						
DZM	**Mont Dzumac**	**23.35**	**136**	*e*P	**P**	**21 27 35.6**	**+0.6**
	23nm,0.9s						
ARMA	**Armidale**	**24.62**	**175**	*e*P	**P**	**21 27 48.0**	**+1.5**
	21nm,0.9s						
BATI	**Baumata**	**25.50**	**258**	P	**P**	**21 27 54.1**	**-0.4**
	41nm,0.7s,baz=182,slow=3.0,SNR=6.2						
FITZ	**Fitzroy Crossi**	**25.91**	**240**	P	**P**	**21 27 58.8**	**+0.7**
	160nm,0.7s,baz=56,slow=6.3,SNR=32						
FITZ				pP	**pP**	**21 28 25.2**	**-3.4**
	32nm,0.8s,baz=67,slow=8.5,SNR=1.2						
FITZ	**Fitzroy Crossi**	**25.91**	**240**	*e*P	**P**	**21 27 58.7**	**+0.5**
	161nm,0.8s						
STKA	**Stephens Creek**	**26.87**	**194**	LR	LR	21 39 32.6	
	comp=Z,75nm,18.2s,baz=28,slow=38						
STKA	**Stephens Creek**	**26.87**	**194**	*e*P	**P**	**21 28 06.6**	**-0.1**
	1.7nm,0.8s						
EDFI	**Ende, Flores**	**27.28**	**262**	P	**P**	**21 28 08.2**	**-2.4**
CAN	**Canberra**	**29.39**	**180**	*e*P	**P**	**21 28 30.4**	**+1.3**
	6.1nm,0.7s						
BBOO	**Buckleboo**	**29.48**	**203**	*e*P	**P**	**21 28 30.1**	**+0.3**
	9.1nm,0.9s						
FORT	**Forrest**	**31.72**	**216**	*e*P	**P**	**21 28 49.6**	**0.0**
	19nm,0.6s						
TOO	**Toolangi**	**31.80**	**185**	*e*P	**P**	**21 28 51.6**	**+1.4**
	26nm,0.9s						
MBWA	**Marble Bar**	**32.24**	**239**	*e*P	**P**	**21 28 54.5**	**+0.2**
	48nm,0.7s						
JOW	**Kunigami**	**38.16**	**329**	P	**P**	**21 29 46.1**	**+1.3**
	46nm,0.7s,baz=168,slow=12,SNR=5.9						
JOW	**Kunigami**	**38.16**	**329**	*e*P	**P**	**21 29 46.0**	**+1.3**
	51nm,0.8s						
JNU	**Nakatsue**	**42.36**	**337**	P	**P**	**21 30 19.8**	**+0.5**
	53nm,0.8s,baz=151,slow=2.6,SNR=19						
RPZ	**Rata Peaks**	**42.45**	**156**	P	**P**	**21 30 19.6**	**-0.3**
	24nm,0.9s,baz=35,slow=1.9,SNR=5.7						
INU	**Inuyama**	**42.45**	**345**	*e*P	**P**	**21 30 20.5**	**+0.5**
	39nm,1.1s						
MJAR	**Matsushiro Arr**	**43.31**	**347**	P	**P**	**21 30 27.3**	**+0.4**
	35nm,0.9s,baz=175,slow=8.2,SNR=48						
MAJO	**Matashiro**	**43.31**	**347**	*e*P	**P**	**21 30 27.0**	**0.0**
	45nm,0.8s						
MAT	**Matsushiro**	**43.31**	**347**	P	**P**	**21 30 26.7**	**-0.2**
MJB9	**Matsu-Tunnel**	**43.32**	**347**	*e*P	**P**	**21 30 27.6**	**+0.7**
	45nm,0.8s						
KSRS	**Korea Array**	**47.31**	**337**	P	**P**	**21 30 59.4**	**+1.0**
	14nm,0.8s,baz=154,slow=8.6,SNR=26						
KSAR	**Wonju Array Be**	**47.32**	**337**	P	**P**	**21 30 59.4**	**+0.9**
SKNT	**Sakolnakorn**	**49.94**	**298**	P	**P**	**21 31 18.4**	**-0.4**
	7.0nm,0.7s						
ASAJ	**Asahikawa**	**50.01**	**354**	P	**P**	**21 31 20.1**	**+1.3**
	25nm,0.9s,baz=187,slow=8.7,SNR=9.3						
ASAJ				LR	LR	21 50 25.3	
	comp=Z,72nm,19.2s,baz=58,slow=33						
USRK	**Ussuriysk Ar.**	**52.08**	**344**	P	**P**	**21 31 35.8**	**+1.5**
	16nm,0.7s,baz=181,slow=7.8,SNR=32						
USA0B	**Ussuriysk Arra**	**52.08**	**344**	*e*P	**P**	**21 31 36.0**	**+1.7**
	17nm,0.8s						
GYA	**Guiyang**	**52.08**	**310**	*e*P	**P**	**21 31 37.0**	**+2.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
UTTA	**Uttaradit**	**53.26**	**297**	P	**P**	**21 31 42.8**	**-0.6**
	3.5nm,0.7s						
KMI	**Kunming**	**54.49**	**306**	P	**P**	**21 31 54.5**	**+1.9**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
XAN	**Xi'an**	**54.83**	**319**	P	**P**	**21 31 54.1**	**-0.5**
XAN				pmax	pmax		
	comp=Z,16nm,0.8s						
XAN				pmax	pmax		
	comp=Z,140nm,6.5s						
CM01	**Chiang Mai Arr**	**54.92**	**297**	*e*P	**P**	**21 31 54.7**	**-0.8**
CM31	**Chiang Mai Arr**	**54.95**	**297**	*e*P	**P**	**21 31 55.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**54.95**	**297**	P	**P**	**21 31 55.1**	**-0.6**
	3.0nm,0.8s,baz=121,slow=5.8,SNR=26						
CMMT	**Chiang Mai**	**55.07**	**298**	P	**P**	**21 31 56.2**	**-0.4**
	3.7nm,1.0s						
CHTO	**Chiang Mai**	**55.07**	**298**	*e*P	**P**	**21 31 55.2**	**-1.4**
	4.0nm,1.0s						
CHTO	**Chiang Mai**	**55.07**	**298**	P	**P**	**21 31 56.3**	**-0.3**
	17nm,1.5s						
CD2	**Chengdu**	**56.60**	**313**	*e*P	**P**	**21 32 07.5**	**+0.2**
KLR	**Kul'dur**	**56.83**	**347**	P	**P**	**21 32 08.8**	**+0.3**
	14nm,1.0s,baz=166,slow=4.1,SNR=24						
KLR				LR	LR	21 55 23.3	
	comp=Z,67nm,20.4s,baz=72,slow=35						
HHC	**Hu-ho-hao-te**	**57.74**	**327**	*e*P	**P**	**21 32 18.8**	**+3.6**
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				pmax	pmax		
	comp=Z,110nm,5.5s						
PETK	**Petropavlovsk-**	**59.13**	**6**	P	**P**	**21 32 25.4**	**+0.9**
	17nm,0.5s,baz=167,slow=7.8,SNR=42						
GTA	**Gaotai**	**63.89**	**319**	*e*P	**P**	**21 32 59.3**	**+2.4**
GTA				pP	PcP	21 33 32.4	+1.1
GTA				sP	sP	21 33 48.1	-0.1
GTA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ULN	**Ulaanbaatar**	**64.92**	**330**	*e*P	**P**	**21 33 03.1**	**-0.3**
	2.1nm,0.7s						
SONM	**Songino Array**	**65.22**	**330**	P	**P**	**21 33 04.7**	**-0.6**
	1.9nm,0.6s,baz=139,slow=5.0,SNR=7.3						
SONM				pP	**PcP**	**21 33 37.4**	**+0.8**
	1.9nm,0.9s,baz=154,slow=7.6,SNR=2.1						
SONM				LR	LR	22 00 44.5	
	comp=Z,64nm,21.3s,baz=56,slow=35						
SONA1	**Songino Array**	**65.23**	**330**	*e*P	**P**	**21 33 06.0**	**+0.6**
LSA	**Lhasa**	**65.75**	**306**	*e*P	**P**	**21 33 08.8**	**-0.6**
	2.7nm,0.8s						
SEY	**Seymchan**	**68.58**	**2**	P	**P**	**21 33 25.4**	**-0.6**
	6.5nm,0.9s,baz=179,slow=14,SNR=8.8						
VNDA	**Vanda**	**72.01**	**177**	P	**P**	**21 33 47.5**	**+0.7**
	2.3nm,0.8s,baz=330,slow=6.4,SNR=11						
VNDA				pP	**pP**	**21 34 19.0**	**-3.0**
	7.1nm,0.9s,baz=315,slow=6.8,SNR=11						
WMQ	**Urumqi**	**73.96**	**319**	*e*P	**P**	**21 34 00.8**	**+1.9**
WMQ				LR	LR		
	comp=N,560nm,33.7s						
WMQ				LR	LR		
	comp=E,250nm,27.1s						
WMQ				LR	LR		
	comp=Z,210nm,27.1s						
BILL	**Bilibino**	**74.66**	**7**	*e*P	**P**	**21 34 03.4**	**+1.1**
	8.8nm,1.0s						
ANM	**Nome**	**77.86**	**18**	*e*P	**P**	**21 34 22.4**	**+1.9**
	6.9nm,0.9s						
MK01	**Makanchi Array**	**78.62**	**320**	*e*P	**P**	**21 34 23.7**	**-1.4**
MK31	**Makanchi Array**	**78.63**	**320**	*e*P	**P**	**21 34 24.1**	**-1.0**
MKAR	**Makanchi Array**	**78.63**	**320**	P	**P**	**21 34 23.6**	**-1.5**
	1.0nm,0.4s,baz=99,slow=8.3,SNR=21						
MKAR				PP	**PP**	**21 37 22.5**	**-2.8**
	0.7nm,1.0s,baz=120,slow=8.5,SNR=3.6						
MKAR	**Makanchi Array**	**78.63**	**320**	*e*P	**P**	**21 34 24.1**	**-1.0**
MAKZ	**Makanchi**	**78.84**	**320**	*e*P	**P**	**21 34 25.0**	**-1.3**
	2.1nm,0.6s						
ZALV	**Zalesovo Beam**	**79.92**	**327**	P	**P**	**21 34 30.3**	**-1.6**
	2.1nm,0.5s,baz=114,slow=5.8,SNR=8.2						
ZALV	**Zalesovo Beam**	**79.92**	**327**	*e*P	**P**	**21 34 31.3**	**-0.6**
KSH	**Kashi**	**80.75**	**311**	P	**P**	**21 34 37.9**	**+1.0**
KSH				pP	pP	21 35 13.8	-0.4
KSH				sP	sP	21 35 32.5	+2.4
KSH				PP	**PP**	**21 37 45.8**	**+2.7**
KSH				S	**S**	**21 44 26.5**	**-6.1**
KSH				pmax	pmax		
	comp=Z,36nm,1.6s						
KSH				pmax	pmax		
	comp=Z,250nm,6.0s						
KSH				LR	LR		
	comp=N,140nm,7.8s						
KSH				LR	LR		
	comp=E,130nm,6.8s						
KSH				LR	LR		
	comp=Z,270nm,8.7s						
RDOG	**Red Dog Mine**	**80.96**	**16**	*e*P	**P**	**21 34 38.9**	**+1.6**
	6.1nm,0.8s						
NIL	**Nilore**	**81.46**	**305**	*e*P	**P**	**21 34 41.1**	**+0.4**
	4.1nm,0.6s						
RC01	**Rabbit Creek A**	**81.65**	**25**	*e*P	**P**	**21 34 41.4**	**+0.4**
	26nm,1.2s						
CAST	**Castle Rocks**	**81.85**	**23**	*e*P	**P**	**21 34 42.3**	**+0.3**
	17nm,0.9s						
KURK	**Kurchatov**	**82.26**	**323**	*e*P	**P**	**21 34 43.5**	**-0.8**
	4.4nm,1.0s						
TRF	**Thorofare Moun**	**82.56**	**23**	*e*P	**P**	**21 34 45.7**	**-0.2**
	9.2nm,0.9s						
IM3	**Indian Mountai**	**82.58**	**20**	*e*P	**P**	**21 34 46.2**	**+0.5**
BPAW	**Bear Paw Mtn.**	**82.61**	**23**	*e*P	**P**	**21 34 46.1**	**+0.2**
	5.7nm,0.8s						
RND	**Reindeer**	**83.11**	**24**	*e*P	**P**	**21 34 48.6**	**0.0**
	25nm,0.8s						
MLY	**Manley**	**83.17**	**22**	*e*P	**P**	**21 34 49.7**	**+0.8**
	11nm,0.9s						
MCK	**McKinley**	**83.23**	**23**	*e*P	**P**	**21 34 49.1**	**0.0**
	30nm,0.9s						
DIV	**Divide**	**83.40**	**26**	*e*P	**P**	**21 34 51.6**	**+1.5**
	18nm,1.1s						
KLU	**Klutina**	**83.48**	**26**	*e*P	**P**	**21 34 51.3**	**+0.7**
	18nm,0.9s						
DHY	**Denali Highway**	**83.56**	**24**	*e*P	**P**	**21 34 51.6**	**+0.6**
	13nm,0.8s						
WRH	**Wood River Hil**	**83.90**	**23**	*e*P	**P**	**21 34 52.3**	**-0.2**
	16nm,1.0s						
COLA	**College**	**84.17**	**23**	*e*P	**P**	**21 34 53.0**	**-0.9**
	8.3nm,0.8s						
QSPA	**South Pole Qui**	**84.18**	**180**	*e*P	**P**	**21 34 54.1**	**-0.1**
	5.4nm,1.0s						
HDA	**Harding Lake**	**84.31**	**23**	*e*P	**P**	**21 34 54.4**	**-0.3**
	12nm,1.2s						
IL1	**Eielson Array**	**84.50**	**23**	*e*P	**P**	**21 34 54.3**	**-1.3**
ILAR	**Eielson Array**	**84.50**	**23**	P	**P**	**21 34 54.5**	**-1.1**
	9.3nm,0.8s,baz=253,slow=5.2,SNR=60						
ILAR				pP	**pP**	**21 35 28.3**	**-4.4**
	2.0nm,0.9s,baz=246,slow=5.3,SNR=2.9						
ILB	**Eielson Array**	**84.50**	**23**	*e*P	**P**	**21 34 54.8**	**-0.7**
RIDG	**Independ'e Rid**	**84.87**	**24**	*e*P	**P**	**21 34 58.2**	**+0.7**
	14nm,1.1s						
DOT	**Dot Lake**	**85.15**	**24**	*e*P	**P**	**21 34 59.6**	**+0.7**
	15nm,0.9s						
SCRK	**Sand Creek**	**85.31**	**24**	*e*P	**P**	**21 35 00.4**	**+0.7**
	8.3nm,1.0s						
KK31	**Karatay Array**	**85.60**	**314**	*e*P	**P**	**21 35 00.4**	**-1.2**
KKAR	**Karatay Array**	**85.60**	**314**	*e*P	**P**	**21 35 00.4**	**-1.2**
HYT	**Haines Junctio**	**87.05**	**28**	*e*P	**P**	**21 35 10.0**	**+1.6**
	20nm,0.8s						
DAWY	**Dawson**	**87.23**	**25**	*e*P	**P**	**21 35 09.1**	**0.0**
	14nm,1.0s						
WHY	**Whitehorse**	**88.24**	**29**	*e*P	**P**	**21 35 15.5**	**+1.5**
	6.1nm,0.8s						
INK	**Inuvik**	**90.72**	**21**	*e*P	**P**	**21 35 24.3**	**-0.9**
	6.1nm,1.0s						
NVAR	**Mina Array Bea**	**95.64**	**52**	P	**P**	**21 35 49.8**	**+0.9**
	0.4nm,0.5s,baz=264,slow=5.3,SNR=2.8						
YKA	**Yellowknife Ar**	**98.04**	**28**	P	**P**	**21 35 59.6**	**+0.7**
	0.3nm,0.6s,baz=282,slow=5.1,SNR=5.4						
YKA				PP	**PP**	**21 39 58.8**	**-0.9**
	0.2nm,0.9s,baz=268,slow=8.0,SNR=3.6						
YKA				PKKPbc	**PKKPbc**	**21 52 30.7**	**-3.6**
	0.6nm,0.6s,baz=88,slow=2.8,SNR=13						
GO02	**Mina Guanaco**	**131.45**	**131**	*e*PKPpre	PKPpre	21 41 27.2	
LPAZ	**La Paz**	**137.18**	**121**	PKP	**PKPdf**	**21 41 47.6**	**+0.6**
	1.0nm,0.6s,baz=291,slow=4.6,SNR=3.8						
TOA0	**Torodi Ar. Sit**	**147.00**	**285**	*e*PKPdf	**PKPdf**	**21 42 04.5**	**+0.8**
TORD	**Torodi Ar. Bea**	**147.00**	**285**	PKPbc	**PKPdf**	**21 42 04.1**	**+0.4**
	5.6nm,1.0s,baz=79,slow=2.9,SNR=28						
BDFB	**Brasilia**	**152.82**	**142**	PKPbc	**PKPbc**	**21 42 19.8**	**-0.4**
	3.3nm,0.5s,baz=149,slow=3.9,SNR=6.0						
BDFB				pPKPbc	**pPKPdf**	**21 42 54.6**	**+1.6**
	3.7nm,0.4s,baz=176,slow=3.0,SNR=4.9						

ISCJB ***16*** *21:23:34.4±0.5, 21°.62N±0°.06×143°.2E±0°.1, h311km, mb3.8/17, Error ellipse: s-maj=16.9km s-min=8.4km az=172.3*
IDC ***16*** *21:23:34.9±2.0, 21°.57N×143°.17E, h298km±19km, mb3.6/18, mb1 3.7/21, mb1mx3.5/46, mbtmp4.3/21, Error ellipse: s-maj=16.6km s-min=9.9km az=89.0*

ISC 16 21:23:35.9±0.6, 21°.64N±0°.07×143°.2E±0°.1, h311km, n23, σ1§33/27, mb3.7/17, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.50**	**351**	P	**Pn**	**21 24 57.6**	**-2.0**
	42nm,0.3s,baz=0.1,slow=24,SNR=8.1						
JCJ				S	**S**	**21 26 03.3**	**-3.8**
	9.2nm,0.3s,baz=180,slow=20,SNR=2.6						
JOW	**Kunigami**	**14.53**	**294**	P	**P**	**21 26 46.7**	**-0.5**
	2.2nm,0.3s,baz=245,slow=19,SNR=2.8						
JNU	**Nakatsue**	**15.79**	**319**	P	**P**	**21 27 02.4**	**+1.4**
	0.2nm,0.3s,baz=108,slow=3.2,SNR=2.8						
KSRS	**Korea Array**	**20.55**	**323**	P	**P**	**21 27 53.5**	**+2.0**
	2.9nm,0.7s,baz=142,slow=9.0,SNR=6.5						
KLR	**Kul'dur**	**28.99**	**344**	P	**P**	**21 29 07.8**	**+0.4**
	1.7nm,0.6s,baz=147,slow=6.3,SNR=8.7						
SONM	**Songino Array**	**39.37**	**321**	P	**P**	**21 30 37.4**	**+1.3**
	0.4nm,0.5s,baz=134,slow=7.8,SNR=3.2						
WRA	**Warramunga Arr**	**42.22**	**192**	P	**P**	**21 30 59.5**	**+0.2**
	6.0nm,0.6s,baz=15,slow=9.1,SNR=16						
ASAR	**Alice Springs**	**45.93**	**192**	P	**P**	**21 31 27.8**	**-0.7**
	2.2nm,0.6s,baz=16,slow=6.8,SNR=6.5						
ASAR				S	**S**	**21 37 48.0**	**-1.1**
	0.7nm,0.9s,baz=14,slow=16,SNR=3.0						
STKA	**Stephens Creek**	**53.

CGP	**Cagayan de Oro**	2.72	319	ǁ	*i*	P	**Pn**	21 45 32.8	+1.0
CGP					*e*	S	**Sn**	21 46 09.9	+6.3
SGSI	**Sangihe**	2.85	200		P	P	**Pn**	21 45 34.4	+0.9
PAGZ	**Pagadian**	3.41	295		*e*	P	**Pn**	21 45 40.5	-0.7
SCPH	**Surigao**	3.52	344		*e*	P	**Pn**	21 45 43.5	+0.9
SCPH					*i*	S	Sn	21 45 54.7	-28
DCPH	**Dipolog City**	3.80	305	ĥ	*e*	P	**Pn**	21 45 48.2	+1.6
MSLP	**Maasin**	4.06	337		*e*	P	**Pn**	21 45 50.7	+0.7
MSLP					*e*	S	**Sn**	21 46 37.5	+1.1
IPIL	**Ipil**	4.13	290		*e*	P	**Pn**	21 45 51.6	+0.5
IPIL					*e*	S	**Sn**	21 46 37.7	-0.5
TBP	**Tagbilaran**	4.19	322		*e*	P	**Pn**	21 45 51.0	-0.9
SNPH	**Sibulan**	4.36	313		*e*	P	**Pn**	21 45 57.5	+3.2
SNPH					*i*	S	**Sn**	21 46 46.9	+3.0
ZCP	**Zamboanga City**	4.42	277	ĥ	*i*	P	**Pn**	21 45 54.5	-0.5
ZCP					*i*	S	**Sn**	21 46 42.3	-3.0
LLP	**Lapu-Lapu**	4.64	328	ǁ	*e*	P	**Pn**	21 45 58.8	+0.8
LLP					*e*	S	**Sn**	21 46 50.5	-0.1
PLP	**Palo**	4.98	343	ǁ	*e*	P	Pn	21 46 07.4	+4.8
BESP	**Borongan**	5.29	349		*e*	P	**Pn**	21 46 11.2	+4.3
TNTI	**Ternate**	5.64	171		*e*	Pn	**Pn**	21 46 13.5	+1.7
TNTI					*e*	Sn	**Sn**	21 47 16.7	+1.5
TNTI	**Ternate**	5.64	171		P	P	**Pn**	21 46 13.3	+1.5
KMSI	**Cibinong**	6.29	204		P	P	**Pn**	21 46 21.1	+0.4
RCP	**Roxas**	6.33	325	ĥ	*e*	P	**Pn**	21 46 23.4	+2.2
MRSI	**Marisa**	7.42	218		P	P	**Pn**	21 46 36.4	+0.3
LUWI	**Luwuk**	8.26	207		*e*	Pn	**Pn**	21 46 50.6	+3.0
LUWI					*e*	Sn	**Sn**	21 48 27.2	+7.7
LUWI	**Luwuk**	8.26	207		P	P	**Pn**	21 46 50.4	+2.8
SANI	**Sanana**	8.39	183		P	P	**Pn**	21 46 47.5	-1.9
SWI	**Sorong**	8.63	146		P	P	**Pn**	21 46 55.7	+3.1
SIJI	**Sorong**	8.64	146		P	P	**Pn**	21 46 52.5	-0.3
	27nm,0.3s,baz=4.5,slow=6.3,SNR=38								
SIJI						S	**Sn**	21 48 23.9	-4.9
	1.1nm,0.3s,baz=353,slow=19,SNR=1.4								
SIJI						LR	LR	21 50 48.9	
	comp=Z,127nm,19.1s,baz=16,slow=41								
APSI	**Ampana**	8.71	214		P	P	**Pn**	21 46 56.9	+3.1
TSM	**Tawau**	8.83	257		P	P	**Pn**	21 46 57.1	+1.7
MPSI	**Mapaga**	8.91	228		P	P	**Pn**	21 46 54.3	-2.2
SDKM	**Sandakan**	9.28	266		P	P	**Pn**	21 47 02.6	+1.0
KDM	**Kudat**	9.61	274		P	P	Pn	21 47 11.5	+5.4
PCI	**Palu**	9.83	223		P	P	**Pn**	21 47 08.6	-0.5
KKM	**Kota Kinabalu**	10.22	269		*e*	Pn	**Pn**	21 47 17.2	+2.7
KKM	**Kota Kinabalu**	10.22	269		P	P	**Pn**	21 47 18.0	+3.5
FAKI	**Fak Fak**	10.88	148		*e*	Pn	**Pn**	21 47 24.0	+0.6
FAKI	**Fak Fak**	10.88	148		P	P	**Pn**	21 47 24.3	+0.8
RKPI	**Ransiki, Papua**	10.97	135		P	P	**Pn**	21 47 28.4	+3.7
KDI	**Kendari**	10.98	201		P	P	**Pn**	21 47 24.1	-0.6
SMKI	**Samarinda**	11.49	234		P	P	Pn	21 47 38.0	+6.3
TTSI	**Tana Toraja**	11.50	216		P	P	**Pn**	21 47 33.6	+1.8
BKB	**Balikpapan**	12.23	232		P	P	P	21 47 46.9	-5.0
SPSI	**Sidrap Palu**	12.28	213		P	P	**Pn**	21 47 44.8	+2.3
BNSI	**Bone**	12.47	211		P	P	**Pn**	21 47 47.0	+1.9
SRPI	**Serui, Papua**	12.73	130		P	P	**P**	21 47 55.9	-1.6
BKSI	**Bulukumba**	13.26	209		P	P	**Pn**	21 47 56.9	+1.1
SBUM	**Sibu**	14.76	255		*e*	Pn	**P**	21 48 18.5	-1.6
MMRI	**Maumere**	15.51	196		*e*	Pn	**Pn**	21 48 23.9	-1.4
	75nm,0.9s								
EDFI	**Ende, Flores**	15.78	198		P	P	**Pn**	21 48 28.9	+0.1
SOEI	**Soe**	16.19	188		*e*	Pn	**P**	21 48 36.2	+0.1
	61nm,0.6s								
SOEI					*e*	Sn	S	21 51 55.3	+13
SOEI	**Soe**	16.19	188		P	P	**P**	21 48 36.2	+0.1
JAY	**Jayapura**	16.72	122		P	P	**P**	21 48 41.4	-0.5
	1.3nm,0.3s,baz=282,slow=17,SNR=3.9								
JAY						LR	LR	21 54 46.3	
	comp=Z,128nm,20.6s,baz=197,slow=36								
BATI	**Baumata**	16.72	190		P	P	**P**	21 48 42.5	+0.6
	25nm,0.3s,baz=340,slow=0.8,SNR=18								
BATI						S	**S**	21 51 53.4	-0.1
	1.8nm,0.3s,baz=124,slow=11,SNR=2.8								
BATI	**Baumata**	16.72	190		P	P	**P**	21 48 42.6	+0.6
KSM	**Kuching**	16.86	254		*e*	Pn	**Pn**	21 48 42.0	-0.4
	84nm,0.8s								
PLAI	**Plampang**	17.43	210		P	P	**Pn**	21 48 49.3	-0.1
BASI	**Baing, Sumba**	17.52	200		P	P	**Pn**	21 48 48.9	-1.5
JAGI	**Jajag, Banyuwa**	19.21	220		*e*	P	**Pn**	21 49 10.9	0.0
	97nm,1.1s								
QIZ	**Qiongzhong**	20.51	309		P	P	**P**	21 49 22.6	-0.8
QIZ						S	**S**	21 53 09.9	+0.5
QIZ	**Qiongzhong**	20.51	309		*e*	P	**P**	21 49 23.3	-0.1
	34nm,1.4s								
SMRI	**Semarang**	20.85	230		*e*	P	Pn	21 49 29.4	-0.8
	85nm,0.9s								
PCJI	**Pacitan**	21.05	227		P	P	**P**	21 49 29.9	+0.7
UGM	**Wanagama**	21.34	228		*e*	P	**P**	21 49 31.0	-1.4
	84nm,1.0s								
KPJI	**Karang Pucung**	22.20	232		P	P	**P**	21 49 42.2	+0.7
LEM	**Lembang**	22.96	235		P	P	**P**	21 49 50.8	+1.0
	163nm,0.9s,baz=29,slow=7.1,SNR=24								
LEM						LR	LR	22 00 06.4	
	comp=Z,130nm,18.8s,baz=40,slow=40								
LEM	**Lembang**	22.96	235		P	P	**P**	21 49 50.8	+1.0
MYKOM	**Kota Tinggi**	23.04	260		*e*	P	**P**	21 49 51.3	+0.9
	34nm,0.7s								
MYKOM	**Kota Tinggi**	23.04	260		P	P	**P**	21 49 51.4	+1.0
CISI	**Cisompet, Garu**	23.21	234		*e*	P	**P**	21 49 50.9	-1.3
	80nm,0.8s								
KTGM	**Kuala Trenggan**	23.26	269		P	P	**P**	21 49 53.2	+0.6
KGM	**Kluang**	23.51	260		P	P	**P**	21 49 56.9	+2.0
FITZ	**Fitzroy Crossi**	24.34	182		P	P	**P**	21 50 03.4	+1.1
	29nm,0.5s,baz=7.5,slow=9.8,SNR=24								
FITZ	**Fitzroy Crossi**	24.34	182		P	P	**P**	21 50 03.4	+1.1
FITZ					*e*	P	**P**	21 50 03.8	+1.5
SKNT	**Sakolnakorn**	24.40	297		P	P	**P**	21 50 03.5	+0.6
	11nm,0.8s								
FRIM	**Kepong**	24.97	264		P	P	**P**	21 50 09.7	+1.5
IPM	**Ipoh**	25.42	267		*e*	P	**P**	21 50 12.3	0.0
	54nm,0.8s								
NONG	**Nongkai**	25.56	299		P	P	**P**	21 50 15.1	+1.6
	0.4nm,0.9s								
KULM	**Kulim**	25.73	269		*e*	P	**P**	21 50 16.0	+0.9
	60nm,1.1s								
CHAI	**Chaiyaphum**	25.81	294		P	P	**P**	21 50 17.0	+1.2
	11nm,0.8s,96nm								
PMG	**Port Moresby**	25.89	127		LR	LR	22 01 37.4		
	comp=Z,56nm,19.1s,baz=303,slow=39								
BKNI	**Bangkinang**	26.10	258		*e*	P	**P**	21 50 19.5	+1.0
	76nm,0.5s								
COEN	**Coen**	26.13	141		*e*	P	**P**	21 50 19.6	+1.0
	14nm,0.6s								
NJ2	**Nanjing**	26.51	345		*e*	P	**P**	21 50 19.6	-2.3
NJ2						pmax	pmax		
	comp=Z,11nm,0.6s								
PBKT	**Sadao Pong**	26.95	294		*e*	P	**P**	21 50 26.9	+0.9
	22nm,0.8s								
PBKT	**Sadao Pong**	26.95	294		P	P	**P**	21 50 27.5	+1.5
	31nm,0.7s								
PHET	**Kaeng Krachan**	27.25	286		P	P	**P**	21 50 32.0	+3.3
	7.5nm,0.9s								
WRAB	**Tennant Creek**	27.27	164		*e*	P	**P**	21 50 29.3	+0.4
	21nm,0.8s								
WRA	**Warramunga Arr**	27.28	164		P	P	**P**	21 50 28.8	-0.1
	8.2nm,0.5s,baz=343,slow=10,SNR=32								
WRA						PcP	**PcP**	21 53 47.6	+0.2
	2.4nm,0.7s,baz=326,slow=2.6,SNR=3.0								
WRA						ScP	**ScP**	21 57 23.5	+1.0
	1.3nm,0.6s,baz=339,slow=3.2,SNR=5.9								
WB2	**Warramunga Arr**	27.28	164		*e*	P	**P**	21 50 28.9	0.0
PSI	**Prapat**	27.70	264		P	P	**P**	21 50 31.5	-1.5
	9.9nm,0.7s,baz=360,slow=5.4,SNR=6.4								
PSI						PcP	**PcP**	21 53 47.5	-1.3
	7.4nm,0.7s,baz=180,slow=1.4,SNR=6.7								
PSI						ScP	**ScP**	21 57 24.1	0.0
	2.5nm,0.5s,baz=2.7,slow=1.0,SNR=4.2								
UTTA	**Uttaradit**	27.72	296		P	P	**P**	21 50 36.6	+3.7
	2.9nm,0.8s								
UTHA	**Uthaitani**	28.04	291		P	P	P	21 50 43.0	+7.2
MBWA	**Marble Bar**	28.17	193		*e*	P	**P**	21 50 36.2	-0.6
	36nm,0.8s								
ENH	**Enshi**	28.64	328		*e*	P	**P**	21 50 40.0	-1.0
	7.8nm,0.9s								
UMPA	**Umpang Tak**	28.76	292		P	P	P	21 50 47.4	+5.1
	7.1nm,0.9s,212nm								
GSI	**Gunungsitoli**	29.28	261		*e*	P	**P**	21 50 44.5	-2.4
	91nm,0.7s								
GSI					*e*	PcP	**PcP**	21 53 53.0	+0.5
JHJ	**Hachijo jima 2**	29.33	23		LR	LR	22 01 56.8		
	comp=Z,84nm,19.7s,baz=106,slow=35								
CM01	**Chiang Mai Arr**	29.38	297		*e*	P	**P**	21 50 47.2	-0.5
KMI	**Kunming**	29.39	312		P	P	**P**	21 50 48.9	+0.9
KMI						pmax	pmax		
	comp=Z,12nm,0.5s								
KMI						LR	LR		
	comp=N,140nm,5.0s								
KMI						LR	LR		
	comp=E,170nm,7.3s								
KMI						LR	LR		
	comp=Z,100nm,6.2s								
CMAR	**Chiang Mai Arr**	29.40	297		P	P	**P**	21 50 47.8	-0.1
	2.6nm,0.8s,baz=112,slow=6.8,SNR=16								
CMAR						ScP	**ScP**	21 57 30.1	+0.9
	2.2nm,0.7s,baz=117,slow=1.7,SNR=14								
CMAR						LR	LR	22 04 13.1	
	comp=Z,61nm,18.3s,baz=104,slow=40								
CMMT	**Chiang Mai**	29.53	297		P	P	**P**	21 50 50.0	+1.0
	5.9nm,0.8s								
CHTO	**Chiang Mai**	29.53	297		*e*	P	**P**	21 50 49.3	+0.3
	4.1nm,0.8s								
CHTO	**Chiang Mai**	29.53	297		P	P	**P**	21 50 50.1	+1.1
	26nm,0.9s								
AS31	**Alice Springs**	30.73	167		*e*	P	**P**	21 50 59.9	+0.3
	4.1nm,0.7s								
ASAR	**Alice Springs**	30.73	167		P	P	**P**	21 50 59.5	0.0
	5.3nm,0.5s,baz=336,slow=6.4,SNR=53								
ASAR						PcP	**PcP**	21 53 56.9	+0.8
	3.7nm,0.5s,baz=350,slow=2.5,SNR=9.3								
ASAR						ScP	**ScP**	21 57 33.6	+0.3
	1.3nm,0.9s,baz=339,slow=2.8,SNR=5.0								
AS01	**Alice Springs**	30.74	167		*e*	P	**P**	21 50 59.5	-0.1
KSAR	**Wonju Array Be**	30.94	2		P	P	**P**	21 51 00.7	-0.5
KSAR						PcP	**PcP**	21 53 56.7	+0.3
KSRS	**Korea Array**	30.95	2		P	P	**P**	21 51 00.7	-0.6
	1.0nm,0.8s,baz=187,slow=11,SNR=2.8								
KSRS						PcP	**PcP**	21 53 56.7	+0.3
	1.4nm,0.8s,baz=165,slow=2.3,SNR=3.7								
MJAR	**Matsushiro Arr**	31.87	18		P	P	**P**	21 51 07.9	-1.5
	0.4nm,0.3s,baz=195,slow=8.6,SNR=2.3								
MJAR						LR	LR	22 03 01.5	
	comp=Z,85nm,21.5s,baz=90,slow=34								
XAN	**Xi'an**	31.97	332		P	P	**P**	21 51 11.4	+1.0
XAN						pmax	pmax		
	comp=Z,6.0nm,0.6s								
XAN						pmax	pmax		
	comp=Z,57nm,4.6s								
XAN	**Xi'an**	31.97	332		*e*	P	**P**	21 51 11.2	+0.8
	17nm,0.7s								
CD2	**Chengdu**	32.40	322		*e*	P	**P**	21 51 14.5	+0.3
CD2						pmax	pmax		
	comp=Z,10.0nm,0.5s								
CD2						pmax	pmax		
	comp=Z,140nm,4.8s								
CTA	**Charters Tower**	32.71	144		P	P	**P**	21 51 17.9	+0.9
	11nm,0.8s,baz=326,slow=10,SNR=11								
CTAO	**Charters Tower**	32.71	144		*e*	P	**P**	21 51 17.8	+0.8
	19nm,0.9s								
BJT	**Baijiatuan**	34.75	346		*e*	P	**P**	21 51 35.4	+0.9
	11nm,0.6s								
LZH	**Lanzhou**	36.12	328		*e*	P	P	21 51 52.4	+5.9
LZH						pP	pP	21 52 05.8	+3.5
LZH						PP	**PP**	21 53 12.4	+2.6
LZH						S	**S**	21 57 23.9	+2.2
LZH						pmax	pmax		
	comp=Z,45nm,1.0s								
LZH						pmax	pmax		
	comp=Z,200nm,4.9s								
LZH						LR	LR		
	comp=N,800nm,14.3s								
LZH						LR	LR		
	comp=E,640nm,14.6s								
LZH						LR	LR		
	comp=Z,850nm,16.7s								
MORW	**Morawa**	36.66	195		*e*	P	**P**	21 51 51.2	+0.3
	28nm,0.9s								
HHC	**Hu-ho-hao-te**	36.82	341		*e*	P	**P**	21 51 50.1	-2.2
HHC						pmax	pmax		
	comp=Z,10.0nm,0.6s								
HHC						pmax	pmax		
	comp=Z,220nm,5.7s								
FORT	**Forrest**	36.98	178		*e*	P	**P**	21 51 54.2	+0.5
	36nm,0.6s								
USRK	**Ussuriysk Ar.**	37.97	6		P	P	**P**	21 51 59.8	-2.0
	1.6nm,0.7s,baz=187,slow=8.4,SNR=4.6								
SHL	**Shillong**	38.16	304		*e*	P	**P**	21 52 03.5	-0.5
	13nm,0.6s								
SHL	**Shillong**	38.16	304		*e*	P	**P**	21 52 06.5	+2.5
EIDS	**Eidsvold**	39.60	144		*e*	P	**P**	21 52 16.5	+0.8
	16nm,0.9s								
BBOO	**Buckleboo**	40.03	167		*e*	P	**P**	21 52 19.8	+0.6
	33nm,0.6s								
NWAO	**Narrogin (SRO)**	40.07	192		P	P	**P**	21 52 20.2	+0.6
	17nm,0.4s,baz=250,slow=7.0,SNR=38								
NWAO	**Narrogin (SRO)**	40.07	192		*e*	P	**P**	21 52 19.9	+0.3
	31nm,0.8s								
NWAO						P	P	21 52 20.2	+0.6
ASAJ	**Asahikawa**	40.15	18		P	P	**P**	21 52 21.1	+1.1
	2.5nm,0.4s,baz=153,slow=2.4,SNR=6.0								
LSA	**Lhasa**	40.55	309		*e*	P	**P**	21 52 22.6	-1.5
	2.4nm,0.8s								
STKA	**Stephens Creek**	40.69	160		P	P	**P**	21 52 25.4	+0.7
	40nm,0.9s,baz=338,slow=8.3,SNR=73								
STKA						LR	LR	22 11 29.8	
	comp=Z,48nm,18.3s,baz=23,slow=39								
STKA	**Stephens Creek**	40.69	160		*e*	P	**P**	21 52 25.3	+0.7
	8.2nm,0.8s								
GTA	**Gaotai**	40.73	328		*e*	P	**P**	21 52 25.3	+0.2
GTA						pP	pP	21 52 37.9	-3.2
GTA						sP	sP	21 52 42.4	-6.2
GTA						pmax	pmax		
	comp=Z,1.0nm,0.7s								
H11S3	**WAKE ISLAND Hy**	40.95	69		T	T		22 36 32.4	
	baz=258,slow=75								
H11S1	**WAKE ISLAND Hy**	40.96	69		T	T		22 36 35.2	
	baz=258,slow=75								
H11S2	**WAKE ISLAND Hy**	40.97	69		T	T		22 36 34.6	
	baz=258,slow=75								
H11N1	**WAKE ISLAND Hy**	41.40	67		T	T		22 37 08.1	
	baz=264,slow=74								
H11N2	**WAKE ISLAND Hy**	41.41	67		T	T		22 37 10.0	
	baz=264,slow=74								
H11N3	**WAKE ISLAND Hy**	41.42	67		T	T		22 37 10.0	
	baz=264,slow=74								
KLR	**Kul'dur**	42.93	5		P	P	**P**	21 52 42.1	-0.6
	0.8nm,0.5s,baz=167,slow=8.5,SNR=6.3								
RAMN	**Ramite**	43.07	303		*e*	P	**P**	21 52 44.2	-0.4
	6.7nm,0.5s								
ARMA	**Armidale**	43.81	148		*e*	P	**P**	21 52 51.6	+1.4
	23nm,0.8s								
GUN	**Gumba**	44.02	304		*e*	P	**P**	21 52 51.4	-0.9
	15nm,0.4s								
PKI	**Pulchoki**	44.28	303		*e*	P	**P**	21 52 53.1	-1.3
	4.0nm,0.6s								
PKIN	**Phulchoki**	44.30	303		*e*	P	**P**	21 52 52.7	-1.7
	2.7nm,0.5s								
KKN	**Kakani**	44.47	304		*e*	P	**P**	21 52 54.5	-1.2
	5.7nm,0.6s								
ULN	**Ulaanbaatar**	44.54	341		*e*	P	**P**	21 52 56.4	+0.6
	3.2nm,0.6s								
DMN	**Daman**	44.55	303		*e*	P	**P**	21 52 55.4	-1.0
SONM	**Songino Array**	44.73	341		P	P	**P**	21 52 58.0	+0.6
	0.8nm,0.6s,baz=154,slow=8.0,SNR=5.6								
SONM						PcP	**PcP**	21 54 38.8	+0.1
	1.2nm,0.7s,baz=145,slow=3.5,SNR=2.7								
SONA1	**Songino Array**	44.73	341		*e*	P	**P**	21 52 55.5	-1.9
PALK	**Pallekele**	45.46	274		P	P	**P**	21 53 03.5	-0.1
	9.8nm,0.9s,baz=115,slow=7.3,SNR=4.3								
KOLN	**Koldanda**	45.86	303		*e*	P	**P**	21 53 05.9	-0.8
	15nm,0.5s								
DANN	**Dangsing**	45.92	304		*e*	P	**P**	21 53 06.2	-1.1
	29nm,0.6s								
PYUN	**Piuthan**	46.48	303		*e*	P	**P**	21 53 10.6	-1.0
	13nm,0.7s								
CAN	**Canberra**	46.59	154		*e*	P	**P**	21 53 11.3	-0.8
	25nm,1.0s								
TOO	**Toolangi**	47.19	159		*e*	P	**P**	21 53 19.0	+2.3
	13nm,1.0s								
WMQ	**Urumqi**	50.44	324		P	P	**P**	21 53 43.1	+1.5
WMQ						pP	pP	21 53 57.4	-0.8
WMQ						sP	sP	21 54 05.3	-0.2
WMQ						pmax	pmax		
	comp=Z,13nm,0.7s								
WMQ						pmax	pmax		
	comp=Z,360nm,5.7s								
WMQ						LR	LR		
	comp=N,390nm,28.1s								
WMQ						LR	LR		
	comp=E,260nm,28.1s								
WMQ						LR	LR		
	comp=Z,290nm,28.1s								
PETK	**Petropavlovsk-**	53.08	23		P	P	**P**	21 54 00.1	-1.0
	2.0nm,0.7s,baz=199,slow=8.4,SNR=2.5								
MK01	**Makanchi Array**	55.24	324		*e*	P	**P**	21 54 15.7	-1.3
MK31	**Makanchi Array**	55.26	324		*e*	P	**P**	21 54 16.3	-0.8
MKAR	**Makanchi Array**	55.26	324		P	P	**P**	21 54 16.1	-1.0
	5.5nm,0.7s,baz=118,slow=6.9,SNR=82								
MKAR						ScP	**ScP**	21 59 08.7	-1.8
	0.8nm,0.8s,baz=138,slow=4.2,SNR=4.1								
MKAR	**Makanchi Array**	55.26	324		P	P	**P**	21 54 16.1	-1.0
MKAR					*e*	P	**P**	21 54 16.3	-0.8
MKAR						ScP	**ScP**	21 59 08.8	-1.8
MAKZ	**Makanchi**	55.45	324		*e*	P	**P**	21 54 17.6	-0.9
	4.7nm,0.8s								
KSH	**Kashi**	56.02	314		P	P	**P**	21 54 26.3	+3.5
KSH					pP	pP	21 54 39.0	-0.5	
KSH					PcP	**PcP**	21 55 25.3	+4.8	
KSH					S	**S**	22 02 10.1	+3.4	
KSH					sS	sS	22 02 32.5	-3.0	
KSH					ScS	**ScS**	22 04 07.8	+1.3	
KSH					pmax	pmax			
	comp=Z,3.0nm,0.7s								
KSH					pmax	pmax			
	comp=Z,250nm,6.8s								
KSH					LR	LR			
	comp=N,120nm,6.8s								
KSH					LR	LR			
	comp=E,190nm,4.9s								
KSH					LR	LR			
	comp=Z,380nm,7.0s								
ZALV	**Zalesovo Beam**	58.13	332		P	P	**P**	21 54 35.9	-1.4
	2.1nm,0.6s,baz=114,slow=5.5,SNR=7.6								
ZALV						LR	LR	22 23 14.4	
	comp=Z,50nm,18.2s,baz=54,slow=40								
ZALV	**Zalesovo Beam**	58.13	332		P	P	**P**	21 54 35.9	-1.4
ZALV					*e*	P	**P**	21 54 36.6	-0.7
AAK	**Ala-Archa**	58.26	317		P	P	**P**	21 54 36.7	-1.9
	1.0nm,0.6s,baz=132,slow=10,SNR=4.0								
KURK	**Kurchatov**	59.40	327		P	P	**P**	21 54 44.4	-1.7
KURK					*e*	P	**P**	21 54 44.6	-1.5
KURBB	**Kurchatov Arra**	59.40	327		P	P	**P**	21 54 44.4	-1.7
	4.5nm,0.6s,baz=125,slow=6.6,SNR=25								
KBL	**Kabul**	59.75	306		*e*	P	**P**	21 54 48.1	-1.0
	5.8nm,1.1s								
BTK	**Batken**	59.94	313		*e*	P	**P**	21 54 49.7	-0.4
	3.0nm,0.6s								
KK31	**Karatay Array**	61.15	316		*e*	P	**P**	21 54 57.1	-1.1
KKAR	**Karatay Array**	61.15	316		*e*	P	**P**	21 54 57.1	-1.1
BVAR	**Borovoye Array**	64.98	326		P	P	**P**	21 55 22.7	-0.8
	4.3nm,0.7s,baz=111,slow=6.5,SNR=14								
BRVK	**Borovoye**	65.06	326		*e*	P	**P**	21 55 23.2	-0.7
	5.7nm,0.8s								
GEYT	**Alibeck**	69.07	308		P	P	**P**	21 55 50.9	+1.1
	2.0nm,0.7s,baz=133,slow=6.3,SNR=4.4								
GEYT						LR	LR	22 27 58.0	
	comp=Z,59nm,18.5s,baz=10.0,slow=38								
ABKAR	**Akbulak array**	69.96	320		*e*	P	**P**	21 55 53.7	-1.3
AKTO	**Aktyubinsk**	71.45	321		P	P	**P**	21 56 02.5	-1.5
	3.9nm,0.7s,baz=99,slow=6.3,SNR=18								
ARU	**Arti**	72.58	327		*e*	P	**P**	21 56 08.8	-1.8
	6.1nm,0.5s								
RAYN	**Ar Rayn**	79.24	293		*e*	P	**P**	21 56 47.8	-1.5
	8.4nm,0.9s								
KDAK	**Kodiak Island**	79.79	33		P	P

SIGR				SG	**Sg**	**21 49 57.8**	**+0.2**
SIGR	**SIGRI**	**0.50**	**154**	P	**Pb**	**21 49 52.0**	**-0.3**
SIGR				S	**Sb**	**21 49 59.8**	**+0.2**
SIGR				AML	AML	21 50 00.0	
	comp=E,2532µm,0.3s						
SIGR				AML	AML	21 50 00.2	
	comp=N,3778µm,0.7s						
SIGR	**SIGRI**	**0.50**	**154**	P	**Pb**	**21 49 51.9**	**-0.3**
GADA	**Gvkgeada**	**0.59**	**25**	PG	**Pb**	**21 49 53.4**	**-0.4**
GADA	**Gvkgeada**	**0.59**	**25**	P	**Pb**	**21 49 53.4**	**-0.4**
EZN	**Ezine**	**0.60**	**74**	PG	**Pb**	**21 49 53.7**	**-0.3**
EZN	**Ezine**	**0.60**	**74**	P	**Pb**	**21 49 53.7**	**-0.3**
EZN				S	**Sb**	**21 50 02.0**	**-0.6**
PRK	**Paraskevi**	**0.68**	**127**	P	**Pn**	**21 49 56.5**	**-0.6**
PRK				S	**Sn**	**21 50 06.5**	**-1.3**
PRK				AML	AML	21 50 09.5	
	comp=N,1570µm,0.3s						
PRK				AML	AML	21 50 11.1	
	comp=E,1678µm,0.7s						
PRK	**Paraskevi**	**0.68**	**127**	P	**Pn**	**21 49 56.5**	**-0.6**
PRK				S	**Sn**	**21 50 06.9**	**-0.9**
BAYC	**CANAKKALE_Bayr**	**0.75**	**83**	*i* P	**Pn**	**21 49 57.6**	**-0.6**
BAYC				*i* S	**Sb**	**21 50 06.5**	**-0.6**
SMTH	**Samothraki Isl**	**0.81**	**358**	P	**Pb**	**21 49 57.3**	**-0.4**
SMTH				S	**Sb**	**21 50 08.0**	**-0.8**
SMTH				AML	AML	21 50 10.4	
	comp=E,424µm,0.4s						
SMTH				AML	AML	21 50 10.4	
	comp=N,411µm,0.4s						
SMTH	**Samothraki Isl**	**0.81**	**358**	P	**Pn**	**21 49 57.9**	**-1.1**
SMTH				S	**Sb**	**21 50 08.6**	**-0.1**
AYVA	**Ayvalik**	**0.93**	**112**	*i* P	**Pn**	**21 50 01.1**	**+0.5**
AYVA				*i* S	**Sn**	**21 50 15.4**	**+1.4**
GELI	**Tayfur-Gelibol**	**1.01**	**43**	PG	**Pg**	**21 50 00.7**	**-0.1**
THAS	**Thassos island**	**1.15**	**325**	P	**Pb**	**21 50 01.3**	**-2.1**
THAS	**Thassos island**	**1.15**	**325**	P	**Pg**	**21 50 03.7**	**+0.1**
THAS				S	**Sn**	**21 50 18.9**	**-0.6**
LPK	**Lapseki**	**1.16**	**52**	PN	**Pg**	**21 50 03.0**	**0.0**
ENEZ	**Enez**	**1.16**	**22**	PN	**Pg**	**21 50 03.0**	**0.0**
DKL	**Dikili**	**1.19**	**119**	PN	**Pb**	**21 50 04.0**	**0.0**
ERIK	**Erikli-Kesan**	**1.24**	**35**	PN	**Pg**	**21 50 05.0**	**-0.2**
ALN	**Alexandroupoli**	**1.29**	**16**	PN	**Pn**	**21 50 04.7**	**-0.8**
ALN	**Alexandroupoli**	**1.29**	**16**	P	**Pb**	**21 50 05.1**	**-0.7**
ALN				S	**Sg**	**21 50 23.3**	**+0.5**
ALN				AML	AML	21 50 24.8	
	comp=E,199µm,0.4s						
ALN				AML	AML	21 50 33.3	
	comp=N,255µm,0.6s						
ALN	**Alexandroupoli**	**1.29**	**16**	P	**Pb**	**21 50 05.4**	**-0.4**
ALN				S	**Sg**	**21 50 22.9**	**0.0**
CHOS	**Chios island**	**1.32**	**164**	PN	**Pn**	**21 50 05.8**	**-0.3**
CHOS	**Chios island**	**1.32**	**164**	P	**Pn**	**21 50 06.0**	**-0.1**
CHOS				S	**Sg**	**21 50 25.7**	**+1.7**
CHOS	**Chios island**	**1.32**	**164**	P	**Pn**	**21 50 06.0**	**-0.1**
OUR	**Ouranopolis**	**1.40**	**299**	PN	**Pn**	**21 50 06.8**	**-0.2**
AOS	**Alonnisos**	**1.40**	**250**	PN	**Pn**	**21 50 06.7**	**-0.4**
AOS	**Alonnisos**	**1.40**	**250**	P	**Pg**	**21 50 08.3**	**0.0**
KESN	**Edirne-Kesan**	**1.44**	**36**	IAML_P			
	comp=Z,204nm,0.2s						
KESN				*i* P	**Pg**	**21 50 09.2**	**+0.1**
KESN				*i* S	**Sg**	**21 50 28.4**	**+0.7**
RDO	**Rodhopi**	**1.48**	**359**	PN	**Pn**	**21 50 07.7**	**-0.5**
RDO	**Rodhopi**	**1.48**	**359**	P	**Pn**	**21 50 08.0**	**-0.2**
RDO				AML	AML	21 50 33.3	
	comp=E,128µm,0.4s						
RDO				AML	AML	21 50 35.8	
	comp=N,219µm,0.8s						
RDO	**Rodhopi**	**1.48**	**359**	P	**Pb**	**21 50 08.6**	**-0.6**
RDO				S	**Sg**	**21 50 28.6**	**-0.6**
PAIG	**Paliouri**	**1.49**	**281**	P	**Pb**	**21 50 09.2**	**0.0**
KRBG	**Karabiga-Canak**	**1.51**	**60**	PN	**Pb**	**21 50 09.5**	**-0.1**
URLA	**Izmir**	**1.52**	**148**	PN	**Pn**	**21 50 08.9**	**+0.1**
URLA	**Izmir**	**1.52**	**148**	*i* P	**Pb**	**21 50 09.6**	**-0.2**
KAVA	**Kavala**	**1.56**	**329**	P	**Pn**	**21 50 08.9**	**-0.4**
SART	**Tekirdag**	**1.60**	**50**	IAML_P			
	comp=Z,2µm,0.2s						
SART				*i* P	**Pg**	**21 50 12.1**	**0.0**
SART				*i* S	**Sg**	**21 50 32.1**	**-0.8**
KNL	**Balıkesir**	**1.62**	**67**	*i* P	**Pg**	**21 50 12.1**	**-0.3**
KNL				*i* S	**Sg**	**21 50 33.0**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.68**	**99**	IAML_P			
	comp=Z,780nm,0.2s						
STEP				*i* P	**Pb**	**21 50 12.5**	**0.0**
STEP				*i* S	**Sg**	**21 50 36.9**	**+1.5**
BLCB	**Balcova**	**1.71**	**138**	PN	**Pn**	**21 50 11.7**	**+0.4**
BALB	**Balikesir**	**1.78**	**90**	PN	**Pn**	**21 50 12.6**	**+0.3**
MRMT	**Marmara Adasi**	**1.81**	**58**	PN	**Pb**	**21 50 13.6**	**-1.2**
EDC	**Edincik**	**1.89**	**68**	PN	**Pn**	**21 50 14.2**	**+0.4**
SBT4	**Kumbag-Tekirda**	**1.90**	**51**	PN	**Pb**	**21 50 15.1**	**-1.0**
AKHS	**Akhisar**	**1.90**	**113**	*i* P	**Pn**	**21 50 14.4**	**+0.4**
KDZ	**Kurdzhali**	**1.99**	**357**	P	**Pg**	**21 50 23.0**	**+3.4**
RZN	**Rozhen**	**2.13**	**342**	P	**Pb**	**21 50 20.6**	**+0.3**
NVR	**Nevrokopi**	**2.14**	**323**	P	**Pn**	**21 50 16.9**	**-0.4**
CRLT	**Corlu**	**2.21**	**48**	PN	**Pn**	**21 50 19.2**	**+1.0**
KCTX	**Karacabey (Bur**	**2.22**	**73**	PN	**Pn**	**21 50 18.7**	**+0.3**
DURS	**Dursunbey**	**2.24**	**91**	*i* P	**Pb**	**21 50 20.8**	**-1.2**
DURS				*i* S	**Sb**	**21 50 48.7**	**-1.2**
EDRB	**Edirne**	**2.36**	**22**	PN	**Pn**	**21 50 20.8**	**+0.5**
SLVT	**Silivri**	**2.55**	**51**	PN	**Pn**	**21 50 23.7**	**+0.8**
MDNY	**Mudanya-Bursa**	**2.64**	**73**	PN	**Pn**	**21 50 24.8**	**+0.7**
KKB	**Krupnik**	**2.91**	**320**	P	**Pg**	**21 50 36.1**	**-1.0**
STIP	**Stip**	**3.28**	**309**	*i* Pn	**Pn**	**21 50 32.3**	**-0.6**
VTS	**Vitosha**	**3.43**	**329**	⇑ *i*P	**Sn**	**21 51 17.8**	**+1.8**
MDVR	**Moldovita**	**5.87**	**332**	⇓ *i*P	**Pg**	**21 51 33.1**	**-0.6**
GZR	**Gura Zlata**	**6.09**	**341**	⇑ *i*P	**Pn**	**21 51 15.6**	**+4.0**
BZS	**Buzias**	**6.63**	**335**	⇑ *i*P	**Pn**	**21 51 22.3**	**+3.4**
DRGR		**7.43**	**345**	⇑ *i*P	Pb	21 51 42.1	-8.3
VYHS	**Vyhne**	**10.07**	**333**	*e*PG	Pn	21 52 53.1	+47

DDA **16** *22:12:09.9,39°.26N×41°.51E,h7km±5km, ML2.7*
ISK **16** *22:12:10.6,39°.01N×41°.43E,h5km, ML1.9/6*
ISCJB **16** *22:12:11.4±0.7,39°.08N±0°.06×41°.52E±0°.06,h9km, Error ellipse: s-maj=9.2km s-min=5.4km az=38.5*
ISC 16 22:12:11.1±1.1,**39°.17N**±0°.05×**41°.53E**±0°.05,**h9**km,**n10,**
σ1§**68/13,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KARO	**Karliova-Bingo**	**0.40**	**291**	PG		**Pg**	**22 12 18.3**	**-0.7**
BGOL	**Bingol**	**0.69**	**255**	IAML_P				
	comp=Z,184nm,0.1s							
BGOL				*i* P		**Pb**	**22 12 24.5**	**-0.8**
BGOL				*i* S		**Sb**	**22 12 34.6**	**-0.5**
GURO	**Guroymak-BITLI**	**0.73**	**147**	PG		**Pg**	**22 12 23.9**	**-1.3**
GURO				SG		**Sg**	**22 12 32.9**	**-1.8**
KOPR	**Koprukoy-ERZUR**	**0.86**	**17**	PG		**Pn**	**22 12 31.2**	**+1.6**
ADCV	**BITLIS_Adilcev**	**1.00**	**111**	IAML_P				
	comp=Z,280nm,0.1s							
ADCV				*i* P		**Pn**	**22 12 31.2**	**-0.3**
SRTM	**Siirt_Merkez**	**1.21**	**165**	*i* P		**Pn**	**22 12 34.5**	**+0.2**
BTMN	**Batman**	**1.29**	**189**	IAML_P				
	comp=Z,220nm,0.3s							
BTMN				*i* P		**Pg**	**22 12 37.0**	**+1.2**
BTMN				*i* S		**Sn**	**22 12 56.9**	**+4.2**
BAYT	**Aydıntepe-Bayb**	**1.63**	**319**	PN		**Pg**	**22 12 41.9**	**-0.4**
PTK	**Pertek**	**1.69**	**261**	PN		**Pn**	**22 12 40.3**	**-0.6**
SIRT	**Sirnak**	**1.81**	**156**	PN		**Pn**	**22 12 42.4**	**-0.1**

IDC 16 22:25:46.8±1.7,**28°.51S**×**62°.71E,h0**km,**mb4.1**/4,
mb1 4.4/4,**mb1mx3.6**/41,**mbtmp4.1**/4,**Error ellipse:**
s-maj=49.9km s-min=38.2km az=97.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMAR	**Chiang Mai Arr**	**58.37**	**41**	P		P	22 35 43.5	-0.7
	1.0nm,0.3s,baz=235,slow=6.6,SNR=4.4							
QSPA	**South Pole Qui**	**61.65**	**180**	P		P	22 36 05.9	-0.3
	0.6nm,0.2s,baz=252,slow=6.4,SNR=2.4							
ASAR	**Alice Springs**	**63.28**	**104**	P		P	22 36 18.1	+0.2
	1.5nm,0.6s,baz=247,slow=6.1,SNR=21							
WRA	**Warramunga Arr**	**65.05**	**100**	P		P	22 36 29.4	0.0
	1.0nm,0.6s,baz=249,slow=5.8,SNR=9.5							
YKA	**Yellowknife Ar**	**145.96**	**358**	PKPbc		PKPbc	22 45 27.4	-0.3
	0.2nm,0.4s,baz=351,slow=3.3,SNR=7.3							

IDC **16** *22:41:36.4±0.7,11°.30S×112°.68E,h0km,mb4.1/18,*
mb1 4.2/20,mb1mx4.1/49,mbtmp4.1/20,ML4.7/2,MS3.4/11,

2013 JAN

Ms1 3.4/11,ms1mx3.3/34,Error ellipse: s-maj=23.7km s-min=11.5km az=43.0
NEIC **16** *22:41:36.1±0.4,11°.56S×112°.52E,h10km,mb4.5/12,Error ellipse: s-maj=10.6km s-min=6.0km az=46.0*
ISCJB **16** *22:41:38.8±0.3,11°.35S±0°.04×112°.62E±0°.04,h33km, mb4.3/32,MS3.5/10,Error ellipse: s-maj=5.8km s-min=4.5km az=37.8*
DJA **16** *22:41:39.8±1.3,11°.5S±8°×11°.3E±°,h34km±34km,M5.0/18, mb5.0/7,mB5.2/4,MLv5.1/18,Mw(mB)4.5/4*
ISC 16 22:41:39.9±0.4,**11°.49S**±0°.05×**112°.62E**±0°.05,**h35**km,**n98,**
σ2§**53/97,mb4.5/37,MS3.5/10,South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GMJI	**Gumukmas**	**3.30**	**14**	P		**Pn**	**22 42 28.0**	**-1.1**
GMJI				S		**Sn**	**22 43 05.3**	**-1.8**
JAGI	**Jajag, Banyuwa**	**3.36**	**27**	*e*Pn		**Pn**	**22 42 30.5**	**+0.5**
JAGI				*e*Sn		**Sn**	**22 43 06.0**	**-2.5**
JAGI	**Jajag, Banyuwa**	**3.36**	**27**	P		**Pn**	**22 42 29.4**	**-0.5**
PWJI	**Pagerwojo**	**3.54**	**347**	P		**Pn**	**22 42 29.6**	**-2.8**
PWJI				S		**Sn**	**22 43 09.1**	**-3.9**
PCJI	**Pacitan**	**3.57**	**336**	P		**Pn**	**22 42 29.9**	**-2.9**
DNP	**Denpasar**	**3.78**	**43**	P		**Pn**	**22 42 35.3**	**-0.5**
UGM	**Wanagama**	**4.11**	**330**	*e*Pn		**Pn**	**22 42 38.5**	**-1.8**
UGM				*e*Sn		**Sn**	**22 43 22.1**	**-5.2**
UGM	**Wanagama**	**4.11**	**330**	P		**Pn**	**22 42 38.5**	**-1.8**
SRBI	**Singaraja**	**4.24**	**37**	P		**Pn**	**22 42 42.6**	**+0.6**
YOGI	**Yogyakarta**	**4.31**	**328**	P		Pn	22 42 50.9	+7.9
GRJI	**Gresik**	**4.55**	**358**	P		**Pn**	**22 42 44.0**	**-2.3**
KMMI	**Kalianget**	**4.61**	**17**	P		**Pn**	**22 42 48.1**	**+1.0**
SMRI	**Semarang**	**4.91**	**334**	*e*Pn		**Pn**	**22 42 50.8**	**-0.5**
SMRI	**Semarang**	**4.91**	**334**	P		**Pn**	**22 42 51.3**	**0.0**
KPJI	**Karang Pucung**	**5.50**	**318**	P		**Pn**	**22 42 59.4**	**0.0**
CMJI	**Cimerak**	**5.52**	**311**	P		**Pn**	**22 42 57.3**	**-2.4**
PLAI	**Plampang**	**5.72**	**63**	P		**Pn**	**22 43 01.6**	**-0.9**
CISI	**Cisompet, Garu**	**6.14**	**309**	*e*Pn		**Pn**	**22 43 05.7**	**-2.6**
CISI				*e*Sn		**Sn**	**22 44 08.6**	**-8.8**
CISI	**Cisompet, Garu**	**6.14**	**309**	P		**Pn**	**22 43 07.6**	**-0.7**
LEM	**Lembang**	**6.77**	**313**	Pn		**Pn**	**22 43 16.9**	**-0.1**
	6.5nm,0.3s,baz=352,slow=21,SNR=7.5							
LEM				Sn		Sn	22 44 20.9	-12
	4.8nm,0.3s,baz=176,slow=19,SNR=3.5							
LEM				LR		LR	22 46 34.1	
	comp=Z,256nm,20.3s,baz=130,slow=44							
XMIS	**Christmas Isla**	**6.92**	**278**	*e*Pn		**Pn**	**22 43 15.1**	**-3.7**
EDFI	**Ende, Flores**	**9.33**	**74**	P		**Pn**	**22 43 52.1**	**-0.1**
MMRI	**Maumere**	**9.88**	**74**	*e*Pn		Pn	22 44 06.2	+6.6
KASI	**Kota Agung**	**9.98**	**306**	P		**Pn**	**22 44 00.0**	**-0.9**
BATI	**Baumata**	**10.92**	**84**	Pn		**Pn**	**22 44 12.7**	**-1.1**
	11nm,0.3s,baz=257,slow=3.7,SNR=8.1							
BATI				Sn		**Sn**	**22 46 08.3**	**-6.6**
	8.2nm,0.3s,baz=30,slow=20,SNR=2.9							
GIRL	**Giralia**	**11.20**	**172**	*e*Pn		**Pn**	**22 44 15.8**	**-1.8**
SOEI	**Soe**	**11.58**	**83**	*e*Pn		Pn	22 44 30.0	+7.1
MBWA	**Marble Bar**	**11.79**	**146**	*e*Pn		**Pn**	**22 44 22.3**	**-3.3**
MBWA				*e*S		Sn	22 46 19.7	-16
FITZ	**Fitzroy Crossi**	**14.20**	**119**	Pn		**Pn**	**22 44 55.8**	**-2.8**
	0.9nm,0.3s,baz=304,slow=8.9,SNR=33							
FITZ				Sn		Sn	22 47 20.8	-14
	2.6nm,0.3s,baz=170,slow=21,SNR=8.5							
FITZ				LR		LR	22 50 55.9	
	comp=Z,141nm,18.5s,baz=306,slow=39							
FITZ	**Fitzroy Crossi**	**14.20**	**119**	*e*Pn		**Pn**	**22 44 58.7**	**+0.1**
MORW	**Morawa**	**17.78**	**170**	*e*Pn		**Pn**	**22 45 40.7**	**-4.0**
	21nm,1.1s							
KKM	**Kota Kinabalu**	**17.78**	**12**	*e*Pn		**Pn**	**22 45 42.4**	**-2.5**
	7.4nm,1.0s							
GSI	**Gunungsitoli**	**19.62**	**309**	*e*P		**P**	**22 46 02.0**	**-3.6**
	12nm,0.7s							
PSI	**Prapat**	**19.67**	**315**	P		**P**	**22 46 04.2**	**-2.1**
	baz=180,slow=6.0,SNR=4.5							
FAKI	**Fak Fak**	**21.24**	**68**	*e*P		**P**	**22 46 23.4**	**+0.3**
	21nm,0.9s							
SIJI	**Sorong**	**21.30**	**62**	P		**P**	**22 46 23.3**	**-0.6**
	10nm,0.7s,baz=192,slow=12,SNR=2.0							
NWAO	**Narrogin (SRO)**	**21.75**	**169**	P		**P**	**22 46 33.4**	**+4.9**
	22nm,1.0s,baz=309,slow=6.5,SNR=2.9							
NWAO				S		**S**	**22 50 19.7**	**-7.7**
	12nm,0.7s,baz=17,slow=19,SNR=3.4							
DAV	**Davao City (W)**	**22.50**	**36**	LR		LR	22 55 48.5	
	comp=Z,80nm,21.4s,baz=247,slow=38							
WRA	**Warramunga Arr**	**22.51**	**115**	P		**P**	**22 46 38.0**	**+1.1**
	4.3nm,0.7s,baz=295,slow=11,SNR=22							
WRA				S		**S**	**22 50 37.1**	**-4.7**
	2.7nm,0.7s,baz=282,slow=25,SNR=5.8							
WRA				LR		LR	22 55 14.0	
	comp=Z,103nm,21.1s,baz=290,slow=36							
WRAB	**Tennant Creek**	**22.52**	**115**	*e*P		**P**	**22 46 37.9**	**+1.0**
	7.3nm,0.6s							
WB2	**Warramunga Arr**	**22.52**	**115**	*e*P		**P**	**22 46 37.9**	**+1.0**
	3.3nm,0.5s							
ASAR	**Alice Springs**	**23.59**	**124**	P		**P**	**22 46 49.0**	**+1.3**
	0.9nm,0.5s,baz=300,slow=10,SNR=13							
ASAR				S		**S**	**22 51 06.4**	**+6.5**
	2.2nm,0.8s,baz=304,slow=24,SNR=3.2							
ASAR				LR		LR	22 56 13.2	
	comp=Z,130nm,20.4s,baz=303,slow=37							
AS31	**Alice Springs**	**23.59**	**124**	*e*P		**P**	**22 46 43.8**	**-3.9**
	1.2nm,1.0s							
AS01	**Alice Springs**	**23.63**	**124**	*e*P		**P**	**22 46 44.6**	**-3.4**
FORT	**Forrest**	**23.94**	**146**	*e*P		**P**	**22 46 51.8**	**+0.9**
	22nm,0.9s							
CMAR	**Chiang Mai Arr**	**32.67**	**335**	P		**P**	**22 48 10.0**	**+1.0**
	1.1nm,0.6s,baz=164,slow=8.2,SNR=6.3							
CMAR				LR		LR	23 01 22.7	
	comp=Z,25nm,20.8s,baz=154,slow=36							
STKA	**Stephens Creek**	**33.53**	**132**	P		**P**	**22 48 19.5**	**+3.1**
	1.6nm,0.7s,baz=306,slow=6.7,SNR=4.1							
STKA				LR		LR	23 03 49.0	
	comp=Z,89nm,18.0s,baz=1.2,slow=40							
KMI	**Kunming**	**37.64**	**345**	P		**P**	**22 48 53.0**	**+1.0**
KMI				pmax		pmax		
	comp=Z,6.0nm,0.8s							
BRDH	**Bariadhala**	**39.69**	**329**	LR		LR	23 06 56.1	
	comp=Z,68nm,20.1s,baz=168,slow=38							
H08S2	**Diego Garcia H**	**39.73**	**272**	T		T	23 31 26.4	
	baz=98,slow=75,SNR=16							
H08S3	**Diego Garcia H**	**39.74**	**272**	T		T	23 31 15.5	
	baz=98,slow=75,SNR=17							
H08S1	**Diego Garcia H**	**39.75**	**272**	T		T	23 31 17.9	
	baz=98,slow=75,SNR=13							
XAN	**Xi'an**	**45.41**	**356**	P		P	22 50 01.3	+6.0
XAN				pmax		pmax		
	comp=Z,3.0nm,0.6s							
XAN				pmax		pmax		
	comp=Z,210nm,5.7s							
LSA	**Lhasa**	**45.88**	**334**	*e*P		**P**	**22 50 00.6**	**+0.9**
	6.6nm,0.9s							
JIRN	**Jiri**	**46.59**	**327**	*e*P		**P**	**22 50 05.8**	**+0.6**
PKI	**Pulchoki**	**46.94**	**326**	*e*P		**P**	**22 50 08.0**	**+0.2**
	8.6nm,0.8s							
PKIN	**Phulchoki**	**46.95**	**326**	*e*P		**P**	**22 50 07.7**	**-0.2**
GUN	**Gumba**	**46.96**	**327**	*e*P		**P**	**22 50 08.6**	**+0.6**
	16nm,0.7s							
DMN	**Daman**	**47.14**	**326**	*e*P		**P**	**22 50 09.5**	**+0.2**
KKN	**Kakani**	**47.18**	**326**	*e*P		**P**	**22 50 09.8**	**+0.2**
LZH	**Lanzhou**	**48.04**	**350**	*e*P		**P**	**22 50 18.3**	**+2.3**
LZH				pP		pP	22 50 22.6	-2.7
LZH				sP		sP	22 50 25.8	-3.2
LZH				pmax		pmax		
	comp=Z,28nm,1.0s							
KOLN	**Koldanda**	**48.10**	**325**	*e*P		**P**	**22 50 16.9**	**+0.2**
	16nm,0.8s							
DANN	**Dangsing**	**48.46**	**325**	*e*P		**P**	**22 50 19.7**	**+0.1**
	25nm,0.8s							
PYUN	**Piuthan**	**48.70**	**324**	*e*P		**P**	**22 50 21.5**	**+0.2**
	18nm,1.0s							
KSRS	**Korea Array**	**50.76**	**16**	LR		LR	23 13 05.6	
	comp=Z,44nm,19.0s,baz=68,slow=37							
MJAR	**Matsushiro Arr**	**53.51**	**26**	P		**P**	**22 50 58.0**	**+0.9**
	0.9nm,0.4s,baz=196,slow=7.4,SNR=3.5							
MJAR	**Matsushiro Arr**	**53.51**	**26**	P		**P**	**22 50 58.0**	**+0.9**
USRK	**Ussuriysk Ar.**	**58.15**	**16**	P		**P**	**22 51 29.9**	**-0.3**
	0.9nm,0.6s,baz=212,slow=5.1,SNR=3.5							
NIL	**Nilore**	**58.47**	**322**	*e*P		**P**	**22 51 32.1**	**-0.6**
	11nm,0.8s							
SONM	**Songino Array**	**59.32**	**355**	P		**P**	**22 51 39.5**	**+1.2**
	1.4nm,0.6s,baz=173,slow=9.2,SNR=14							
WMQ	**Urumqi**	**59.54**	**339**	*e*P		**P**	**22 51 41.8**	**+1.9**
WMQ				pP		pP	22 51 47.0	-2.4
WMQ				sP		sP	22 51 49.4	-3.7
WMQ				pmax		pmax		
	comp=Z,10.0nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,330nm,5.7s							
KSH	**Kashi**	**61.12**	**328**	P		**P**	**22 51 50.8**	**-0.1**
KSH				sP		pP	22 52 00.6	+0.2
KSH				PP		**PP**	**22 54 13.0**	**+7.0**
KSH				S		**S**	**23 00 11.5**	**+3.5**
KSH				sS		pS	23 00 18.8	-0.7
KSH				ScS		**ScS**	**23 01 41.5**	**+1.8**
KSH				pmax		pmax		
	comp=Z,3.0nm,0.7s							
KSH				pmax		pmax		
	comp=Z,250nm,5.7s							
KSH				LR		LR		
	comp=N,140nm,8.3s							
KSH				LR		LR		
	comp=E,180nm,8.8s							
KSH				LR		LR		
	comp=Z,220nm,14.7s							
KBL	**Kabul**	**61.67**	**320**	*e*P		**P**	**22 51 54.9**	**+0.1**
	3.8nm,0.8s							
KLR	**Kul'dur**	**62.76**	**14**	P		**P**	**22 52 01.4**	**-0.1**
	0.7nm,0.6s,baz=202,slow=11,SNR=2.3							
OPO	**Ambohidratompo**	**63.31**	**255**	P		**P**	**22 52 07.5**	**+1.4**
	1.6nm,0.5s,baz=118,slow=4.7,SNR=3.3							
KZA	**Kyzart**	**63.40**	**330**	P		**P**	**22 52 08.2**	**+1.8**
	SNR=8.6							
TKM2	**Tokmak 2**	**63.86**	**330**	P		**P**	**22 52 10.3**	**+1.1**
	SNR=16							
KBK	**Karagaybulak**	**63.98**	**330**	P		**P**	**22 52 11.7**	**+1.7**
	SNR=19							
MK01	**Makanchi Array**	**64.03**	**337**	*e*P		**P**	**22 52 10.8**	**+0.8**
MK31	**Makanchi Array**	**64.05**	**337**	*e*P		**P**	**22 52 09.8**	**-0.4**
MKAR	**Makanchi Array**	**64.05**	**337**	P		**P**	**22 52 11.1**	**+0.9**
	3.0nm,0.7s,baz=146,slow=7.8,SNR=34							
AAK	**Ala-Archa**	**64.19**	**330**	P		**P**	**22 52 12.6**	**+1.3**
	5.9nm,0.9s,baz=171,slow=7.3,SNR=13							
AAK	**Ala-Archa**	**64.19**	**330**	*e*P		**P**	**22 52 11.9**	**+0.5**
	5.7nm,0.9s							
AML	**Almayashu**	**64.22**	**329**	P		**P**	**22 52 13.0**	**+1.1**
	SNR=6.3							
BTK	**Batken**	**64.28**	**325**	*e*P		**P**	**22 52 10.3**	**-1.6**
	5.9nm,1.0s							
EKS2	**Erkin-Say**	**64.56**	**329**	P		**P**	**22 52 15.7**	**+1.9**
	SNR=7.9							
USP	**Ospenovka**	**64.65**	**330**	P		**P**	**22 52 15.6**	**+1.4**
	SNR=6.6							
KURBB	**Kurchatov Arra**	**68.62**	**337**	P		**P**	**22 52 40.2**	**+0.9**
	0.6nm,0.5s,baz=153,slow=6.0,SNR=4.2							
KURK	**Kurchatov**	**68.66**	**338**	P		**P**	**22 52 40.2**	**+0.7**
ZALV	**Zalesovo Beam**	**69.33**	**343**	P		**P**	**22 52 44.2**	**+0.5**
	1.8nm,0.8s,baz=151,slow=1.7,SNR=5.7							
VNDA	**Vanda**	**70.59**	**170**	LR		LR	23 21 59.7	
	comp=Z,42nm,18.5s,baz=328,slow=34							
GEYT	**Alibeck**	**70.80**	**317**	P		**P**	**22 52 54.5**	**+1.4**
	5.7nm,0.8s,baz=151,slow=3.4,SNR=7.3							
BVAR	**Borovoye Array**	**73.70**	**335**	P		**P**	**22 53 11.1**	**+1.0**
	0.7nm,0.7s,baz=148,slow=8.7,SNR=5.2							
KMBO	**Kilima Mbogo**	**75.44**	**272**	LR		LR	23 20 27.0	
	comp=Z,32nm,19.4s,baz=98,slow=31							
ABKAR	**Akbulak array**	**76.12**	**328**	*e*P		**P**	**22 53 24.6**	**+0.5**
BRTR	**Keskin Array B**	**88.94**	**311**	P		**P**	**22 54 32.5**	**+1.3**
	1.0nm,0.8s,baz=104,slow=5.2,SNR=5.2							
C09A	**Chrisman Ranch**	**124.26**	**39**	*e*PKPpre		PKPpre	23 00 27.9	
HHAR	**Hobbs**	**145.59**	**40**	*e*PKPdf		**PKPdf**	**23 01 12.6**	**-2.4**

IDC **16** *23:25:02.5±1.6,5°.01S×144°.79E,h79km±15km,mb3.6/11, mb1 3.8/15,mb1mx3.6/46,mbtm

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GERES	**GERESS Array B**	**119.85**	**325**	PKP	**PKiKP**	**23 43 44.1**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=126,slow=1.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**142.68**	**285**	PKP	**PKPdf**	**23 44 24.7**	**-2.6**
	comp=Z,0.4nm,0.6s,baz=18,slow=2.9,SNR=4.2						
KIC	**Kosan Boka**	**149.61**	**274**	*e*PKP1	**PKiKP**	**23 44 45.0**	**+0.2**
	comp=Z,28nm,1.3s						
DBIC	**Dimbokro**	**149.72**	**275**	PKPbc	**PKPbc**	**23 44 43.2**	**-0.8**
	comp=Z,2.3nm,0.7s,baz=63,slow=5.3,SNR=4.4						
TIC	**Toumodi**	**149.88**	**275**	*e*PKP1	**PKiKP**	**23 44 45.6**	**+0.2**
LIC	**Lamto**	**149.89**	**274**	*e*PKP1	**PKiKP**	**23 44 45.7**	**+0.3**
	comp=Z,7.3nm,0.3s						

NIED ***16*** *23:32:00, 42.°30N×144.°80E, h35km, Mw4.7 Best double couple: M0 1.10000×10¹⁶ NP1:φs234.00000°, δ27.00000°, λ115.00000°. NP2:φs26.00000°, δ66.00000°, λ78.00000°.*
BJI ***16*** *23:32:43.5, 42.°33N×144.°90E, h22km, mb4.9/63, mB5.1/48, Ms4.3/43, Ms7 4.1/39*
SKHL ***16*** *23:32:46.8±0.4, 42.°10N×144.°96E, h47km±4km, mb4.9/17*
MOS ***16*** *23:32:47.1±1.0, 42.°25N×144.°66E, h40km, mb4.9/62, Error ellipse: s-maj=6.2km s-min=4.7km az=103.6*
JMA ***16*** *23:32:47.7, 42.°27N×144.°78E, h28km±1km, M4.7 Broadband fault plane solution: P waves. NP1: φs22.00000°, δ71.00000°, λ72.00000°. NP2:φs247.00000°, δ26.00000°, λ132.00000°. Principal axes: T Plg60.0000°, Azm266.0000°; N Plg17.0000°, Azm28.0000°; P Plg24.0000°, Azm126.0000°;*
JMA Felt II J1.
ISCJB ***16*** *23:32:47.3±0.4, 42.°26N±0.°03×144.°67E±0.°03, h36km±3km, mb4.6/143, MS4.2/28 Error ellipse: s-maj=5.3km s-min=2.7km az=142.6*
IDC ***16*** *23:32:48.1±2.7, 42.°28N×144.°75E, h34km±20km, mb4.3/29, mb1 4.5/35, mb1mx4.4/54, mbtmp4.5/35, ML3.7/6, MS3.9/21, Ms1 3.9/21, ms1mx3.7/42, Error ellipse: s-maj=15.6km s-min=10.9km az=154.0*
NEIC ***16*** *23:32:49.9±0.6, 42.°30N×144.°60E, h45km±5km, mb4.6/67, Error ellipse: s-maj=5.9km s-min=3.8km az=160.0*
NEIC Recorded [2 JMA] in eastern Hokkaido.
ISC 16 23:32:48.1±0.6**, 42.°31N**±0.°04×**144.°75E**±0.°04**, h33**km±2km**, n400, σ1.ˢ34**/428**, mb4.7**/152**, MS4.3**/28**, 48C-23D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.69**	**357**	⇓P	**Pb**	**23 33 01.4**	**-0.3**
JAK				*e*S	**Sn**	**23 33 12.4**	**+1.3**
JKHN	**Kushirohamanak**	**0.83**	**21**	P	**Pb**	**23 33 04.0**	**-0.1**
JKHN				*e*S	**Sn**	**23 33 16.7**	**+2.1**
JOB	**Onbets**	**0.90**	**312**	⇓P	**Pn**	**23 33 05.1**	**+0.6**
JCH	**Churui**	**1.07**	**287**	⇓P	**Pn**	**23 33 07.7**	**+0.9**
JCH				*e*S	**Sb**	**23 33 22.6**	**+0.8**
JTHR	**Tokachihiroo**	**1.08**	**270**	⇑P	**Pn**	**23 33 07.6**	**+0.7**
ERM	**Erimo**	**1.22**	**257**	*e*Pn	**Pn**	**23 33 10.0**	**+1.1**
ERM				*e*S	**Sn**	**23 33 21.2**	**-3.0**
ERM	**Erimo**	**1.22**	**257**	⇑*e*P	**Pn**	**23 33 09.4**	**+0.5**
ERM	**Erimo**	**1.22**	**257***c*	*e*PN	**Pn**	**23 33 09.4**	**+0.5**
ERM				pmax	pmax		
	comp=Z,2µm,0.7s						
JEM	**Erimo**	**1.22**	**257**	P	**Pn**	**23 33 09.3**	**+0.4**
JAR	**Ashorobuto**	**1.22**	**324**	⇓P	**Pn**	**23 33 09.2**	**+0.3**
JNK	**Nakash**	**1.27**	**359**	⇓P	**Pn**	**23 33 09.6**	**-0.1**
JNK				*e*S	**Sn**	**23 33 26.3**	**+0.7**
NEM2	**Nemuro 2**	**1.28**	**34**	P	**Pn**	**23 33 09.6**	**-0.1**
NEM2				*e*S	**Sn**	**23 33 26.1**	**+0.3**
JNBK	**Urakawa-nobuka**	**1.48**	**270**	⇑P	**Pn**	**23 33 12.3**	**-0.2**
GRPR	**Tuman**	**1.84**	**24**	⇓*i*P	**Pn**	**23 33 17.0**	**-0.4**
GRPR				AMB	AMB	23 33 19.0	
	comp=Z,200nm,0.3s						
GRPR				AMB	AMB	23 33 19.0	
	comp=Z,170nm,0.3s						
GRPR				AMB	AMB	23 33 19.0	
	comp=Z,520nm,0.3s						
GRPR				*e*S	**Sn**	**23 33 40.0**	**+0.4**
GRPR				A	A	23 33 42.0	
	comp=Z,6µm,0.5s						
GRPR				A	A	23 33 42.0	
	comp=Z,12µm,0.5s						
GRPR	**Tuman**	**1.84**	**24**	⇓*i*PN	**Pn**	**23 33 17.6**	**+0.2**
GRPR				*e*S	**Sn**	**23 33 40.7**	**+1.1**
GRPR				pmax	pmax		
	comp=Z,521nm,0.3s						
GRPR				pmax	pmax		
	comp=E,172nm,0.2s						
GRPR				pmax	pmax		
	comp=N,196nm,0.4s						
GRPR				smax	smax		
	comp=N,6µm,0.4s						
GRPR				smax	smax		
	comp=E,12µm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.91**	**25**	*e*P	**Pn**	**23 33 18.3**	**0.0**
YUK				AMB	AMB	23 33 19.0	
	comp=E,110nm,0.3s						
YUK				AMB	AMB	23 33 19.0	
	comp=E,100nm,0.3s						
YUK				AMB	AMB	23 33 19.0	
	comp=E,470nm,0.3s						
YUK				*e*S	**Sn**	**23 33 41.6**	**+0.4**
YUK				A	A	23 33 44.0	
	comp=E,5µm,0.5s						
YUK				A	A	23 33 44.0	
	comp=E,7µm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.91**	**25**	*e*PN	**Pn**	**23 33 18.3**	**0.0**
YUK				*e*S	**Sn**	**23 33 42.4**	**+1.2**
YUK				pmax	pmax		
	comp=Z,474nm,0.3s						
YUK				pmax	pmax		
	comp=N,107nm,0.2s						
YUK				pmax	pmax		
	comp=E,95nm,0.3s						
YUK				smax	smax		
	comp=E,7µm,0.4s						
YUK				smax	smax		
	comp=N,5µm,0.5s						
SHO	**Shikotan**	**2.18**	**44**	⇑*e*P	**Pn**	**23 33 21.5**	**-0.6**
SHO				AMB	AMB	23 33 22.0	
	comp=N,4.0nm,0.2s						
SHO				AMB	AMB	23 33 22.0	
	comp=N,20nm,0.2s						
SHO				AMB	AMB	23 33 22.0	
	comp=N,30nm,0.2s						
SHO				*i* S	**Sn**	**23 33 47.3**	**-0.6**
SHO				A	A	23 33 55.0	
	comp=N,2µm,0.6s						
SHO				A	A	23 33 55.0	
	comp=N,880nm,0.6s						
SHO	**Shikotan**	**2.18**	**44**	*e*PN	**Pn**	**23 33 21.3**	**-0.8**
SHO				S	**Sn**	**23 33 50.1**	**+2.2**
SHO				pmax	pmax		
	comp=Z,32nm,0.3s						
SHO				pmax	pmax		
	comp=N,4.0nm,0.2s						
SHO				pmax	pmax		
	comp=E,23nm,0.4s						
SHO				smax	smax		
	comp=E,879nm,0.5s						
SHO				smax	smax		
	comp=N,2µm,0.6s						
JKA	**Kamikawa-asahi**	**2.39**	**320**	*e*P	**Pn**	**23 33 26.7**	**+1.7**
ASAJ	**Asahikawa**	**2.40**	**320**	Pn	**Pn**	**23 33 26.7**	**+1.7**
	comp=N,56nm,0.3s,baz=137,slow=9.6,SNR=61						
ASAJ				Sn	**Sb**	**23 33 59.2**	**-0.5**
	comp=N,88nm,0.3s,baz=40,slow=17,SNR=13						
ASAJ				LR	LR	23 34 44.2	
	comp=N,3µm,18.9s,baz=182,slow=48						
KUR	**Kuril'sk**	**3.69**	**37**	⇓*e*P	**Pn**	**23 33 44.3**	**+1.5**
KUR				AMB	AMB	23 33 46.0	
	comp=N,40nm,0.2s						
KUR				AMB	AMB	23 33 46.0	
	comp=N,20nm,0.2s						
KUR				AMB	AMB	23 33 46.0	
	comp=N,160nm,0.2s						
KUR				*e*S	**Sn**	**23 34 25.1**	**-0.1**
KUR				A	A	23 34 35.0	
	comp=N,960nm,0.5s						
KUR				A	A	23 34 35.0	
	comp=N,720nm,0.5s						
KUR				A	A	23 34 46.6	
	comp=N,3µm,2.0s						
KUR				A	A	23 34 46.6	
	comp=N,1µm,1.2s						
KUR	**Kuril'sk**	**3.69**	**37**	⇓*i*PN	**Pn**	**23 33 45.1**	**+2.3**
KUR				*e*S	**Sn**	**23 34 28.5**	**+3.3**
KUR				pmax	pmax		
	comp=Z,250nm,0.9s						
KUR				pmax	pmax		
	comp=N,84nm,0.5s						
KUR				pmax	pmax		
	comp=E,101nm,0.5s						
KUR				smax	smax		
	comp=N,543nm,0.5s						
KUR				smax	smax		
	comp=E,333nm,0.6s						
KUR				smax	smax		
	comp=N,3µm,2.2s						
KUR				smax	smax		
	comp=E,1µm,1.2s						
YSS	**Yuzh-Sakhalins**	**4.86**	**344**	⇑*e*P	**Pn**	**23 34 01.5**	**+2.7**
YSS				AMB	AMB	23 34 02.8	
	comp=E,30nm,1.0s						
YSS				*e*S	**Sn**	**23 34 57.1**	**+3.2**
YSS				A	A	23 34 59.1	
	comp=E,110nm,0.6s						
YSS	**Yuzh-Sakhalins**	**4.86**	**344**	⇑*e*PN	**Pn**	**23 34 01.5**	**+2.7**
YSS				*e*S	**Sn**	**23 34 57.1**	**+3.2**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				smax	smax		
	comp=N,110nm,0.6s						
YSS				MLR	MLR		
	comp=Z,1µm,12.0s						
YSS				MLR	MLR		
	comp=N,900nm,17.0s						
YSS				MLR	MLR		
	comp=E,2µm,14.0s						
TEY	**Ternei**	**6.50**	**298**	⇓*e*P	Pn	23 34 26.3	+4.8
TEY				AMB	AMB	23 34 28.8	
	comp=E,50nm,0.7s						
TEY	**Ternei**	**6.50**	**298**	⇑*e*PN	**Pn**	**23 34 24.7**	**+3.2**
TEY				pmax	pmax		
	comp=E,40nm,0.7s						
TEY				pmax	pmax		
	comp=Z,20nm,1.1s						
MJAR	**Matsushiro Arr**	**7.67**	**223**	Pn	**Pn**	**23 34 36.8**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=29,slow=13,SNR=88						
MJAR				LR	LR	23 38 08.0	
	comp=Z,447nm,19.7s,baz=35,slow=42						
MJB9	**Matsu-Tunnel**	**7.67**	**223**	*e*Pn	**Pn**	**23 34 36.9**	**-0.6**
MAJO	**Matsushiro**	**7.67**	**223**	*e*Pn	**Pn**	**23 34 36.9**	**-0.6**
MAJO				*e*S	**Sn**	**23 36 01.2**	**-2.0**
MAJO	**Matsushiro**	**7.67**	**223***c*	*i*PN	**Pn**	**23 34 36.7**	**-0.8**
MAT	**Matsushiro**	**7.67**	**223**	P	**Pn**	**23 34 36.5**	**-1.0**
MAT				S	**Sn**	**23 36 04.4**	**+1.2**
TYV	**Tymovskoe**	**8.68**	**351**	*e*P	**Pn**	**23 34 54.4**	**+3.2**
TYV				AMB	AMB	23 35 03.1	
	comp=Z,20nm,0.9s						
TYV	**Tymovskoe**	**8.68**	**351**	*e*PN	Pn	23 35 01.5	+10
TYV				pmax	pmax		
	comp=Z,21nm,0.9s						
INU	**Inuyama**	**9.20**	**223**	*e*Pn	**Pn**	**23 34 58.9**	**+0.4**
USRK	**Ussuriysk Ar.**	**9.50**	**286**	Pn	**Pn**	**23 35 04.4**	**+1.8**
	comp=Z,1.2nm,0.3s,baz=88,slow=14,SNR=21						
USRK				LR	LR	23 39 01.5	
	comp=Z,681nm,18.7s,baz=77,slow=39						
USA0B	**Ussuriysk Arra**	**9.50**	**286**	*e*Pn	**Pn**	**23 35 05.8**	**+3.2**
VLA	**Vladivostok**	**9.51**	**279**	*e*P	**Pn**	**23 35 01.7**	**-0.9**
VLA	**Vladivostok**	**9.51**	**279**	*e*PN	**Pn**	**23 35 01.7**	**-0.9**
MSHR	**Mys Shultsa**	**10.05**	**276**	*i* PN	**Pn**	**23 35 09.7**	**-0.4**
GRNR	**Gornyy**	**10.22**	**329**	*e*P	**Pn**	**23 35 17.1**	**+4.7**
GRNR				AMB	AMB	23 35 18.1	
	comp=Z,10.0nm,0.5s						
GRNR	**Gornyy**	**10.22**	**329**	*e*PN	**Pn**	**23 35 09.0**	**-3.4**
NKL	**Nikolayevsk**	**11.19**	**347**	⇓*e*P	**Pn**	**23 35 27.2**	**+1.7**
NKL				AMB	AMB	23 35 29.2	
	comp=Z,20nm,0.7s						
MDJ	**Mudanjiang**	**11.26**	**287**	P	**Pn**	**23 35 28.8**	**+2.2**
MDJ				pP		23 35 34.6	
MDJ				sP		23 35 38.3	
MDJ				S	**Sn**	**23 37 33.1**	**+1.9**
MDJ				pmax	pmax		
	comp=Z,24nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,260nm,4.8s						
MDJ				LR	LR		
	comp=Z,400nm,6.9s						
MDJ				LR	LR		
	comp=Z,900nm,12.0s						
MDJ				LR	LR		
	comp=Z,990nm,12.6s						
MDJ	**Mudanjiang**	**11.26**	**287**	*e*Pn	**Pn**	**23 35 27.0**	**+0.4**
OKH	**Okha**	**11.31**	**354**	⇑*e*P	**Pn**	**23 35 30.5**	**+3.2**
OKH				AMB	AMB	23 35 31.9	
	comp=Z,40nm,0.4s						
KLR	**Kul'dur**	**11.41**	**312**	Pn	**Pn**	**23 35 29.8**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=116,slow=14,SNR=18						
KLR				LR	LR	23 40 28.2	
	comp=Z,919nm,19.6s,baz=126,slow=40						
SKR	**Severo-Kuril's**	**11.46**	**39**	⇓*i*P	**Pn**	**23 35 29.2**	**-0.1**
SKR				AMB	AMB	23 35 35.1	
	comp=Z,20nm,0.8s						
SKR	**Severo-Kuril's**	**11.46**	**39**	*i* PN	**Pn**	**23 35 32.5**	**+3.2**
EKMR	**Ekimchan**	**13.36**	**328**	*e*P	**Pn**	**23 35 57.8**	**+2.5**
EKMR				AMB	AMB	23 36 03.5	
	comp=Z,10.0nm,0.5s						
KSRS	**Korea Array**	**13.80**	**255**	Pn	**Pn**	**23 36 00.5**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=62,slow=12,SNR=5.8						
KSRS				LR	LR	23 41 20.4	
	comp=Z,642nm,18.7s,baz=60,slow=37						
KSAR	**Wonju Array Be**	**13.83**	**255**	Pn	**Pn**	**23 36 00.5**	**-1.3**
KSAR	**Wonju Array Be**	**13.83**	**255**	P	**Pn**	**23 36 00.5**	**-1.3**
PETK	**Petropavlovsk-**	**13.86**	**34**	Pn	**Pn**	**23 36 00.6**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=207,slow=9.1,SNR=2.2						
PETK				LR	LR	23 41 46.0	
	comp=Z,233nm,19.5s,baz=210,slow=39						
CN2	**Changchun**	**14.19**	**283**	*e*P	**Pn**	**23 36 05.8**	**-0.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,400nm,17.0s						
CN2				LR	LR		
	comp=Z,700nm,17.0s						
CN2				LR	LR		
	comp=Z,800nm,18.0s						
JNU	**Nakatsue**	**14.29**	**235**	LR	LR	23 42 19.4	
	comp=Z,223nm,20.2s,baz=117,slow=40						
BMKR	**Bomnak**	**16.23**	**325**	⇑*i*P	**P**	**23 36 35.7**	**-0.6**
BMKR				AMB	AMB	23 36 36.8	
	comp=Z,20nm,0.7s						
ZEA	**Zeya**	**16.31**	**321**	*e*P	**Pn**	**23 36 35.2**	**+0.7**
ZEA				AMB	AMB	23 36 37.2	
	comp=Z,50nm,0.7s						
ZEA				AMB	AMB	23 36 37.2	
	comp=Z,40nm,0.7s						
ZEA				AMB	AMB	23 36 37.2	
	comp=Z,60nm,0.7s						
ZEA	**Zeya**	**16.31**	**321**	*e*P	**Pn**	**23 36 35.2**	**+0.7**
ZEA				pmax	pmax		
	comp=E,36nm,0.8s						
ZEA				pmax	pmax		
	comp=N,45nm,0.7s						
ZEA				pmax	pmax		
	comp=Z,57nm,0.7s						
ZEA				MLR	MLR		
	comp=Z,1µm,15.0s						
ZEA				MLR	MLR		
	comp=E,700nm,16.0s						
ZEA				MLR	MLR		
	comp=N,700nm,17.0s						
KROS	**Kirovskiy**	**16.87**	**322**	⇓*e*P	**Pn**	**23 36 37.2**	**-4.4**
KROS				AMB	AMB	23 36 38.5	
	comp=N,10.0nm,0.8s						
MA2	**Magadan**	**17.68**	**10**	LR	LR	23 43 38.0	
	comp=N,153nm,20.0s,baz=170,slow=37						
HIA	**Hailar**	**18.72**	**300**	*e*P	**P**	**23 37 02.8**	**-1.1**
	comp=N,30nm,0.6s						
HIA	**Hailar**	**18.72**	**300**	*e*P	**P**	**23 37 02.8**	**-1.1**
HIA				pmax	pmax		
	comp=Z,30nm,0.6s						
SEY	**Seymchan**	**21.14**	**10**	P	**P**	**23 37 26.9**	**-3.0**
	comp=Z,3.4nm,0.5s,baz=193,slow=11,SNR=12						
BJT	**Baijiatuau**	**21.60**	**274**	*e*P	**P**	**23 37 33.6**	**-1.4**
	comp=Z,23nm,0.7s						
BJT	**Baijiatuau**	**21.60**	**274**	*e*P	**P**	**23 37 33.7**	**-1.4**
BJT	**Baijiatuau**	**21.60**	**274**	*e*P	**P**	**23 37 33.7**	**-1.4**
BJT				pmax	pmax		
	comp=Z,23nm,0.7s						
YAK	**Yakutsk**	**21.70**	**341**	*e*P	**P**	**23 37 31.3**	**-4.6**
YAK				*e**PP	**sP**	**23 37 49.3**	**+0.5**
YAK				*e*S	**S**	**23 41 27.7**	**-6.4**
YAK				*e*		23 41 30.2	
YAK				pmax	pmax		
	comp=Z,23nm,0.6s						
YAK				pmax	pmax		
	comp=N,7.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.6s						
YAK				smax	smax		
	comp=N,45nm,1.3s						
YAK				smax	smax		
	comp=E,21nm,1.1s						
TIA	**Tai'an**	**22.19**	**263**	P	**P**	**23 37 39.4**	**-2.0**
TIA				pmax	pmax		
	comp=E,18nm,0.7s						
NJ2	**Nanjing**	**22.95**	**252**	*e*P	**P**	**23 37 49.9**	**+0.3**
NJ2				pmax	pmax		
	comp=E,14nm,0.6s						
NJ2				LR	LR		
	comp=E,520nm,14.6s						
NJ2				LR	LR		
	comp=E,810nm,14.6s						
NJ2				LR	LR		
	comp=E,1µm,17.9s						
HHC	**Hu-ho-hao-te**	**24.78**	**278**	*e*P	**P**	**23 38 06.8**	**-0.2**
HHC				PP	**PnPn**	**23 38 44.5**	**+4.7**
HHC				S	**S**	**23 42 24.8**	**-2.5**
HHC				pmax	pmax		
	comp=E,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=E,340nm,7.4s						
HHC				LR	LR		
	comp=E,560nm,12.1s						
HHC				LR	LR		
	comp=E,460nm,12.1s						
HHC				LR	LR		
	comp=E,450nm,13.8s						
BOD	**Bodaibo**	**24.81**	**319**	*e*P	**P**	**23 38 03.7**	**-3.2**
BTO	**Baotou**	**25.98**	**278**	*e*P	**P**	**23 38 15.6**	**-2.2**
ULN	**Ulaanbaatar**	**27.00**	**295**	*e*P	**P**	**23 38 26.9**	**-0.1**
	comp=E,18nm,0.8s						
ULN	**Ulaanbaatar**	**27.00**	**295**	⇑*e*P	**P**	**23 38 26.2**	**-0.8**
ULN	**Ulaanbaatar**	**27.00**	**295***c*	*e*P	**P**	**23 38 26.2**	**-0.8**
ULN				pmax	pmax		
	comp=Z,30nm,1.3s						
SONA1	**Songino Array**	**27.43**	**295**	*e*P	**P**	**23 38 30.8**	**-0.1**
SONM	**Songino Array**	**27.44**	**295**	P	**P**	**23 38 31.2**	**+0.2**
	comp=Z,24nm,0.7s,baz=81,slow=7.9,SNR=136						
SONM				LR	LR	23 50 15.4	
	comp=Z,311nm,19.5s,baz=153,slow=38						
BILL	**Bilibino**	**28.24**	**17**	⇓*e*P	**P**	**23 38 40.8**	**+3.1**
BILL	**Bilibino**	**28.24**	**17**	*e*P	**P**	**23 38 36.6**	**-1.1**
BILL				*e*		23 39 26.7	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
XAN	**Xi'an**	**29.18**	**266**	P	**P**	**23 38 46.8**	**+0.3**
XAN				pP	pP	23 38 54.4	-1.5
XAN				pmax	pmax		
	comp=Z,11nm,0.8s						
XAN				pmax	pmax		
	comp=Z,92nm,5.2s						
XAN	**Xi'an**	**29.18**	**266**	*e*P	**P**	**23 38 46.1**	**-0.4**
	comp=Z,7.4nm,0.6s						
XAN	**Xi'an**	**29.18**	**266**	*e*P	**P**	**23 38 46.1**	**-0.4**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**29.28**	**133**	T	T	00 09 52.8	
	baz=326,slow=76						
H11N1	**WAKE ISLAND Hy**	**29.29**	**133**	T	T	00 09 50.4	
	baz=326,slow=76						
H11N3	**WAKE ISLAND Hy**	**29.30**	**133**	T	T	00 09 52.0	
	baz=326,slow=76						
ZAK	**Zakamensk**	**29.42**	**300**	*e*P	**P**	**23 38 48.9**	**+0.4**
ZAK	**Zakamensk**	**29.42**	**300**	*e*P	**P**	**23 38 48.9**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,21nm,1.1s						
H11S1	**WAKE ISLAND Hy**	**30.18**	**135**	T	T	00 11 04.6	
	baz=328,slow=76						
H11S3	**WAKE ISLAND Hy**	**30.18**	**135**	T	T	00 11 16.4	
	baz=328,slow=76						
H11S2	**WAKE ISLAND Hy**	**30.20**	**135**	T	T	00 11 15.9	
	baz=328,slow=76						
TIXI	**Tiksi**	**30.45**	**350**	*i* P	**P**	**23 38 53.5**	**-3.7**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ENH	**Enshi**	**30.64**	**258**	*e*P	**P**	**23 38 58.8**	**-0.6**
	comp=Z,11nm,0.6s						
MOY	**Mondy**	**30.86**	**303**	*e*P	**P**	**23 39 01.9**	**+0.6**
MOY				pmax	pmax		
	comp=Z,26nm,2.1s						
LZH	**Lanzhou**	**32.07**	**273**	*e*P	**P**	**23 39 13.8**	**+1.7**
LZH				pP	pP	23 39 22.4	+0.8
LZH				sP	sP	23 39 26.9	+1.4
LZH				S	**S**	**23 44 17.9**	**-4.3**
LZH				sS	pS	23 44 35.3	+2.6
LZH				SS	**SnSn**	**23 46 12.5**	**-0.7**
LZH				pmax	pmax		
	comp=Z,53nm,1.1s						
LZH				pmax	pmax		
	comp=Z,230nm,4.3s						
LZH				LR	LR		
	comp=Z,620nm,13.6s						
LZH				LR	LR		
	comp=Z,710nm,13.0s						
LZH				LR	LR		
	comp=Z,760nm,14.0s						
GTA	**Gaotai**	**33.81**	**280**	*e*P	**P**	**23 39 27.3**	**0.0**
GTA				pP	pP	23 39 34.5	-2.2
GTA				sP	sP	23 39 38.0	-2.7
GTA				PcP	**PcP**	**23 42 07.0**	**+1.2**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,100nm,7.9s						
GTA				LR	LR		
	comp=Z,230nm,17.9s						
GTA				LR	LR		
	comp=Z,180nm,17.2s						
GTA				LR	LR		
	comp=Z,300nm,16.5s						
CD2	**Chengdu**	**34.51**	**264**	*e*P	**P**	**23 39 32.5**	**-0.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,4.8s						
GYA	**Guiyang**	**34.86**	**255**	⇑*i*P	**P**	**23 39 36.4**	**0.0**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
ANM	**Nome**	**35.77**	**34**	*e*P	**P**	**23 39 44.9**	**+1.2**
	comp=Z,1.8nm,0.8s						
ANM	**Nome**	**35.77**	**34**	*e*P	**P**	**23 39 44.9**	**+1.2**
ANM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
QIZ	**Qiongzhong**	**37.55**	**243**	P	**P**	**23 40 00.3**	**+1.0**
QIZ				S	**S**	**23 45 49.8**	**+3.4**
QIZ				LR	LR		
	comp=Z,170nm,4.8s						
QIZ				LR	LR		
	comp=Z,200nm,11.8s						
KMI	**Kunming**	**38.48**	**257**	P	**P**	**23 40 08.0**	**+0.6**
KMI				pP	pP	23 40 16.8	-0.2
KMI				pmax	pmax		
	comp=Z,31nm,1.0s						
KMI				LR	LR		
	comp=Z,130nm,5.4s						
KMI				LR	LR		
	comp=Z,280nm,5.8s						
KMI				LR	LR		
	comp=Z,230nm,8.0s						
DGZ	**Jazzator, Alta**	**39.63**	**301**	*i* P	**P**	**23 40 16.8**	**+0.1**
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZAA0	**Zalesovo Array**	**40.48**	**308**	*e*P	**P**	**23 40 23.1**	**-0.3**
	comp=Z,12nm,0.8s						
ZALV	**Zalesovo Beam**	**40.48**	**308**	P	**P**	**23 40 23.4**	**-0.1**
	comp=Z,9.8nm,0.7s,baz=84,slow=7.7,SNR=41						
ZALV				PcP	**PcP**	**23 42 26.0**	**+0.4**
	comp=Z,7.9nm,0.7s,baz=81,slow=2.8,SNR=8.2						
ZALV				ScP	**ScP**	**23 46 13.1**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=35,slow=5.3,SNR=3.6						
ZALV				LR	LR	23 57 48.5	
	comp=Z,113nm,21.4s,baz=68,slow=37						
ZALV	**Zalesovo Beam**	**40.48**	**308**	*e*P	**P**	**23 40 22.9**	**-0.6**
IM3	**Indian Mountai**	**40.82**	**33**	*e*P	**P**	**23 40 26.3**	**+0.2**
WMQ	**Urumqi**	**41.00**	**292**	*e*P	**P**	**23 40 27.8**	**-0.2**

WMQ pP pP 23 40 33.3 -4.3
WMQ sP sP 23 40 42.3 +0.8
WMQ pmax pmax
comp=Z,27nm,0.9s
WMQ pmax pmax
comp=Z,540nm,4.9s
WMQ LR LR
comp=Z,270nm,21.3s
WMQ LR LR
comp=Z,330nm,21.3s
WMQ LR LR
comp=Z,460nm,18.1s
WMQ Urumqi 41.00 292 *e*P **P 23 40 27.9 -0.1**
comp=Z,24nm,1.1s
WMQ Urumqi 41.00 292 *e*P **P 23 40 27.9 -0.1**
WMQ pmax pmax
comp=Z,24nm,1.1s
RSO Redoubt South 41.21 42 *e*P **P 23 40 31.6 +1.9**
NVS Novosibirsk 41.26 310⇑*i*P **P 23 40 30.3 +0.4**
NVS Novosibirsk 41.26 310⇑*i*P **P 23 40 30.3 +0.4**
NVS pmax pmax
comp=Z,14nm,0.9s
NVS pmax pmax
comp=N,2.0nm,0.4s
NVS pmax pmax
comp=E,7.0nm,0.7s
PPLA Purkeypile 41.40 38 *e*P **P 23 40 32.8 +1.6**
comp=E,6.8nm,1.1s
CAST Castle Rocks 41.45 37 *e*P **P 23 40 32.8 +1.4**
comp=E,8.2nm,0.8s
KDAK Kodiak Island 41.52 46 P **P 23 40 30.3 -1.6**
comp=E,25nm,1.2s,baz=241,slow=10,SNR=2.9
MLY Manley 42.03 35 *e*P **P 23 40 37.4 +1.2**
comp=E,4.0nm,1.1s
NONG Nongkai 42.75 249 P **P 23 40 43.9 +1.5**
comp=E,0.6nm,1.0s
MCK McKinley 42.84 37 *e*P **P 23 40 43.6 +0.9**
comp=E,9.6nm,0.9s
MCK McKinley 42.84 37 *e*P **P 23 40 43.6 +0.9**
MCK McKinley 42.84 37 *e*P **P 23 40 43.6 +0.9**
MCK pmax pmax
comp=Z,10.0nm,0.9s
RND Reindeer 42.90 37 *e*P **P 23 40 43.8 +0.6**
comp=Z,6.5nm,0.8s
RND Reindeer 42.90 37 *e*P **P 23 40 43.8 +0.6**
RND pmax pmax
comp=Z,7.0nm,0.8s
MDM Murphy Dome 43.10 35 *e*P **P 23 40 45.2 +0.4**
comp=Z,4.1nm,0.8s
WRH Wood River Hil 43.18 36 *e*P **P 23 40 45.9 +0.5**
comp=Z,10.0nm,1.2s
COLA College 43.27 35 *e*P **P 23 40 47.3 +1.3**
comp=Z,9.7nm,0.9s
COLA College 43.27 35 *e*P **P 23 40 47.3 +1.3**
COLA College 43.27 35 *e*P **P 23 40 47.3 +1.3**
COLA pmax pmax
comp=Z,10.0nm,0.9s
DHY Denali Highway 43.59 38 *e*P **P 23 40 49.6 +0.7**
comp=Z,5.8nm,0.8s
HDA Harding Lake 43.68 36 *e*P **P 23 40 50.0 +0.5**
comp=Z,7.2nm,0.5s
IL1 Eielson Array 43.68 35 *e*P **P 23 40 49.1 -0.4**
ILAR Eielson Array 43.68 35 P **P 23 40 49.8 +0.3**
comp=Z,6.2nm,0.9s,baz=248,slow=4.7,SNR=44
ILAR PcP **PcP 23 42 34.8 -1.2**
comp=Z,0.5nm,0.7s,baz=255,slow=3.7,SNR=1.8
ILAR LR LR 00 01 23.0
comp=Z,91nm,19.2s,baz=266,slow=39
ILB Eielson Array 43.68 35 *e*P **P 23 40 50.0 +0.5**
MK31 Makanchi Array 43.70 298 *e*P **P 23 40 49.6 -0.3**
MK31 Makanchi Array 43.70 298 *e*P **P 23 40 49.6 -0.3**
MKAR Makanchi Array 43.70 298 P **P 23 40 49.7 -0.2**
comp=Z,5.5nm,0.6s,baz=83,slow=9.8,SNR=67
MKAR PcP **PcP 23 42 36.5 +0.1**
comp=Z,0.9nm,0.5s,baz=65,slow=4.1,SNR=2.4
MKAR LR LR 23 59 58.8
comp=Z,126nm,20.2s,baz=44,slow=37
MKAR Makanchi Array 43.70 298 *e*P **P 23 40 49.6 -0.2**
comp=Z,74nm,0.6s
MK01 Makanchi Array 43.70 298 *e*P **P 23 40 49.5 -0.4**
MAKZ Makanchi 43.90 298 *e*P **P 23 40 51.3 -0.2**
comp=Z,17nm,1.0s
MAKZ Makanchi 43.90 298 *e*P **P 23 40 51.3 -0.2**
MAKZ pmax pmax
comp=Z,17nm,1.0s
FYU Fort Yukon 44.27 33 *e*P **P 23 40 55.8 +1.7**
comp=Z,9.9nm,0.6s
LSA Lhasa 44.47 272 *e*P **P 23 40 57.6 +0.8**
comp=Z,8.2nm,1.1s
LSA Lhasa 44.47 272 *e*P **P 23 40 57.6 +0.8**
LSA Lhasa 44.47 272 *e*P **P 23 40 57.6 +0.8**
LSA pmax pmax
comp=Z,8.0nm,1.1s
UTTA Uttaradit 44.77 251 P **P 23 40 59.7 +1.1**
comp=Z,5.7nm,0.8s,comp=Z,51nm
KURK Kurchatov 44.88 305 *e*P **P 23 40 59.0 -0.2**
comp=Z,16nm,0.6s
KURK Kurchatov 44.88 305⇑*e*P **P 23 40 58.9 -0.3**
KURK Kurchatov 44.88 305*ce*P **P 23 40 58.9 -0.3**
KURK pmax pmax
comp=Z,15nm,0.7s
LAMP Lampang 44.89 252 P **P 23 41 01.1 +1.4**
comp=Z,6.9nm,0.8s
KURBB Kurchatov Arra 44.97 304 P **P 23 40 59.6 -0.2**
comp=Z,16nm,0.6s,baz=74,slow=8.7,SNR=90
KURBB PcP **PcP 23 42 40.1 -0.6**
comp=Z,3.1nm,0.7s,baz=78,slow=3.7,SNR=4.1
SCRK Sand Creek 45.01 36 *e*P **P 23 41 00.4 +0.2**
comp=Z,7.1nm,0.8s
DOT Dot Lake 45.02 37 *e*P **P 23 41 00.4 +0.3**
comp=Z,3.4nm,0.7s
CHAI Chaiyaphum 45.04 247 P **P 23 41 01.7 +0.9**
comp=Z,6.1nm,0.7s,comp=Z,106nm
CMMT Chiang Mai 45.19 253 P **P 23 41 02.9 +0.9**
comp=Z,15nm,0.8s
CHTO Chiang Mai 45.19 253 *e*P **P 23 41 02.8 +0.8**
comp=Z,11nm,0.8s
CHTO Chiang Mai 45.19 253 *e*P **P 23 41 02.8 +0.8**
CHTO pmax pmax
comp=Z,11nm,0.8s
CHTO Chiang Mai 45.19 253 P **P 23 41 03.0 +1.0**
comp=Z,68nm,0.8s
CMAR Chiang Mai Arr 45.42 253 P **P 23 41 04.0 +0.1**
comp=Z,3.4nm,0.6s,baz=44,slow=7.0,SNR=27
CMAR LR LR 00 01 58.1
comp=Z,195nm,19.4s,baz=54,slow=38
CMAR Chiang Mai Arr 45.42 253 *e*P **P 23 41 04.0 +0.1**
CMAR Chiang Mai Arr 45.42 253 P **P 23 41 04.0 +0.1**
CMAR pmax pmax
comp=Z,4.0nm,0.7s
CMAR MLR MLR
comp=Z,195nm,19.4s
CM01 Chiang Mai Arr 45.44 253 *e*P **P 23 41 04.7 +0.7**
SUKH Sukhothai 45.59 251 P **P 23 41 07.1 +1.9**
comp=Z,4.9nm,0.9s
EGAK Eagle 46.12 35 *e*P **P 23 41 10.1 +1.3**
comp=Z,9.7nm,1.0s
INK Inuvik 48.53 29 P **P 23 41 27.9 +0.4**
comp=Z,7.3nm,0.6s,baz=295,slow=6.5,SNR=34
HYT Haines Junctio 48.56 40 *e*P **P 23 41 30.3 +2.3**
comp=Z,22nm,0.9s
PHET Kaeng Krachan 48.76 247 P **P 23 41 32.0 +2.1**
comp=Z,9.3nm,0.8s
BRVK Borovoye 49.11 310 *e*P **P 23 41 32.0 -0.1**
comp=Z,15nm,1.0s
BRVK Borovoye 49.11 310⇑*i*P **P 23 41 32.3 +0.1**
BRVK Borovoye 49.11 310*c i*P **P 23 41 32.3 +0.1**
BRVK pmax pmax
comp=Z,12nm,1.0s
JIRN Jiri 49.24 272 *e*P **P 23 41 34.2 +0.2**
comp=Z,13nm,0.4s
RAMN Ramite 49.33 271 *e*P **P 23 41 34.3 -0.2**
comp=Z,30nm,0.8s
GUN Gumba 49.33 273 *e*P **P 23 41 34.6 -0.1**
comp=Z,48nm,0.6s
KKN Kakani 49.84 273 *e*P **P 23 41 38.4 0.0**
PKI Pulchoki 49.87 273 *e*P **P 23 41 38.5 -0.2**
comp=Z,9.0nm,0.6s
PKIN Phulchoki 49.87 273 *e*P **P 23 41 38.1 -0.6**
comp=Z,4.1nm,0.4s
DMN Daman 50.07 273 *e*P **P 23 41 40.3 +0.1**
comp=Z,11nm,0.7s
AAK Ala-Archa 50.39 296 P **P 23 41 42.1 -0.2**
comp=Z,1.6nm,0.5s,baz=70,slow=4.1,SNR=8.4
AAK Ala-Archa 50.39 296 *e*P **P 23 41 41.3 -1.0**
comp=Z,4.9nm,1.1s
AAK Ala-Archa 50.39 296 *i*P **P 23 41 42.5 +0.2**
AAK pmax pmax
comp=Z,2.0nm,0.9s
DANN Dangsing 50.66 275 *e*P **P 23 41 45.2 +0.5**
comp=Z,75nm,0.7s
KSH Kashi 50.75 291 P **P 23 41 49.0 +4.0**
KSH sP sP 23 42 01.1 +2.4
KSH PcP **PcP 23 43 06.3 +4.6**
KSH S **S 23 49 01.8 +3.5**
KSH ScS **ScS 23 51 35.5 +2.2**
KSH pmax pmax
comp=Z,27nm,1.2s
KSH pmax pmax
comp=Z,300nm,5.7s
KSH LR LR
comp=Z,200nm,5.7s
KSH LR LR
comp=Z,89nm,7.8s
KSH LR LR
comp=Z,220nm,14.7s
KOLN Koldanda 51.10 274 *e*P **P 23 41 47.6 -0.3**
comp=Z,18nm,0.5s
PYUN Piuthan 51.37 275 *e*P **P 23 41 50.1 +0.2**
comp=Z,21nm,0.5s
KK31 Karatay Array 52.83 298 *e*P **P 23 42 00.0 -0.3**
KK31 Karatay Array 52.83 298 *e*P **P 23 42 00.0 -0.3**
KKAR Karatay Array 52.83 298 *e*P **P 23 42 00.0 -0.3**
KKAR Karatay Array 52.83 298 *e*P **P 23 42 00.0 -0.3**
DLBC Dease Lake 52.92 41 P **P 23 42 01.7 +0.9**
comp=Z,1.4nm,0.7s,baz=280,slow=11,SNR=3.8
SVE Sverdlovsk 52.98 317‖*e*P **P 23 42 01.3 +0.1**
SVE Sverdlovsk 52.98 317*de*P **P 23 42 01.3 +0.1**
SVE pmax pmax
comp=Z,34nm,0.8s
ARU Arti 54.19 317 *e*P **P 23 42 09.2 -0.8**
comp=Z,22nm,0.7s
ARU Arti 54.19 317⇑*i*P **P 23 42 09.6 -0.5**
ARU Arti 54.19 317*c i*P **P 23 42 09.6 -0.5**
ARU 23 43 11.8
ARU 23 44 08.0
ARU S **S 23 49 45.2 +0.5**
ARU SS **SKiKP 23 53 17.7 -0.8**
ARU SSS SSS 23 55 28.5
ARU pmax pmax
comp=Z,25nm,0.8s
ARU MLR MLR
comp=Z,239nm,15.0s
ABKAR Akbulak array 56.59 309 *e*P **P 23 42 27.5 +0.1**
PSI Prapat 56.71 239 P **P 23 42 28.6 -0.3**
comp=Z,6.1nm,0.8s,baz=0.0,slow=10,SNR=4.1
RES Resolute Bay 56.84 16 P **P 23 42 28.7 -0.1**
comp=Z,8.6nm,0.7s,baz=314,slow=7.6,SNR=19
RES Resolute Bay 56.84 16 *e*P **P 23 42 28.3 -0.5**
comp=Z,9.8nm,0.8s
PRGR Permogore 57.79 326 *e*P **P 23 42 34.5 -1.1**
PRGR pmax pmax
comp=Z,10.0nm,0.6s
YKA Yellowknife Ar 57.97 33 P **P 23 42 36.6 -0.3**
comp=Z,2.0nm,0.7s,baz=304,slow=6.8,SNR=24
YKB5 Yellowknife Ar 57.97 33 *e*P **P 23 42 35.4 -1.6**
KBL Kabul 58.02 289 *e*P **P 23 42 37.3 -0.7**
comp=Z,14nm,0.8s
LEM Lembang 59.47 224 LR LR 00 09 31.9
comp=Z,30nm,21.3s,baz=108,slow=37
ARCES ARCESS Array B 59.98 339 P **P 23 42 49.8 -1.0**
comp=Z,4.2nm,0.8s,baz=50,slow=13,SNR=11
KLMR Klimovskoe 60.70 327 *e*P **P 23 42 54.0 -1.8**
KLMR pmax pmax
comp=Z,11nm,1.2s
KLMR Klimovskoe 60.70 327 *e*P **P 23 42 54.0 -1.8**
KLMR AMP 23 42 56.0
comp=Z,11nm,1.2s
DAG Danmarks Havn 60.73 356 *i*P **P 23 42 57.1 +1.3**
DAG Danmarks Havn 60.73 356 *i*P **P 23 42 57.1 +1.3**
comp=Z,8.0nm,1.0s
DAG Danmarks Havn 60.73 356 *i*P **P 23 42 57.1 +1.3**
DAG pmax pmax
comp=Z,8.0nm,1.0s
WRAB Tennant Creek 62.67 191 *e*P **P 23 43 10.6 +1.1**
WRAB Tennant Creek 62.67 191*ce*P **P 23 43 11.2 +1.7**
WRAB pmax pmax
comp=Z,29nm,2.5s
WRA Warramunga Arr 62.68 191 P **P 23 43 08.6 -1.0**
comp=Z,1.3nm,0.8s,baz=9.2,slow=6.8,SNR=7.5
LTY Liberty 63.21 50 *e*P **P 23 43 09.8 -3.3**
comp=Z,12nm,0.6s
GEYT Alibeck 63.58 298 P **P 23 43 15.4 -0.1**
comp=Z,12nm,0.9s,baz=45,slow=3.1,SNR=16
GEYT LR LR 00 13 20.5
comp=Z,178nm,18.1s,baz=80,slow=38
NEW Newport 64.60 47 *e*P **P 23 43 23.4 +1.2**
comp=Z,4.1nm,1.0s
NEW Newport 64.60 47 *e*P **P 23 43 23.4 +1.2**
NEW pmax pmax
comp=Z,4.0nm,1.0s
FIA1 FINESS Array S 65.34 332 *e*P **P 23 43 26.2 -0.4**
FINES FINESS Array B 65.34 332 P **P 23 43 26.1 -0.6**
comp=Z,18nm,0.6s,baz=47,slow=7.9,SNR=124
FINES LR LR 00 15 05.0
comp=Z,195nm,18.1s,baz=42,slow=39
SUMG Summit 65.39 1 *e*P **P 23 43 27.6 +0.3**
comp=Z,16nm,0.9s
SUMG Summit 65.39 1 *i*P **P 23 43 27.5 +0.3**
comp=Z,33nm,0.7s
SUMG Summit 65.39 1 *e*P **P 23 43 27.6 +0.3**
SUMG pmax pmax
comp=Z,16nm,0.9s
VRH Novokhopyorsk 65.41 318 *e*P **P 23 43 26.0 -1.2**
VRH *e*SP **pP 23 43 38.2 +0.9**
VRH pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 65.42 323 *e*P **P 23 43 26.2 -1.0**
OBN Obninsk 65.42 323 *e*P **P 23 43 26.2 -1.0**
OBN *e* 23 43 35.0
OBN *e* 23 43 59.7
OBN *e* 23 45 51.2
OBN pmax pmax
comp=Z,21nm,1.7s
OBN MLR MLR
comp=Z,195nm,19.0s
LPSR Galich'ya Gora 65.91 320 *e*P **P 23 43 29.7 -0.8**
LPSR *e*SP **pP 23 43 42.0 +1.5**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
ASAR Alice Springs 66.41 191 P **P 23 43 34.1 +0.2**
comp=Z,0.5nm,0.5s,baz=12,slow=6.2,SNR=4.8
VSR Storozhevoye 66.67 319*c i*P **P 23 43 34.2 -1.1**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSU Vasula 67.21 330*ce*P **P 23 43 37.6 -1.0**
VSU pmax pmax
comp=Z,72nm,1.3s
BEKR Beckworth 67.70 56 *e*P **P 23 43 43.7 +1.4**
comp=Z,2.3nm,0.9s
FFC Flin Flon 67.90 35 *e*P **P 23 43 43.0 -0.1**
comp=Z,6.8nm,0.8s
FFC Flin Flon 67.90 35 *i*P **P 23 43 44.0 +0.9**
FFC Flin Flon 67.90 35 *i*P **P 23 43 44.0 +0.9**
FCC Fort Churchill 68.14 29 *e*P **P 23 43 44.5 +0.1**
comp=Z,6.5nm,0.9s
FCC Fort Churchill 68.14 29 *e*P **P 23 43 44.6 +0.1**
FCC Fort Churchill 68.14 29 *e*P **P 23 43 44.6 +0.1**
FCC pmax pmax
comp=Z,7.0nm,0.9s
HRY Holter Researc 68.40 46 *e*P **P 23 43 47.9 +1.4**
GOF Gofitskoye 68.50 312 *e*P **P 23 43 47.8 +0.8**
GOF pmax pmax
comp=Z,30nm,0.6s
LRM Limekiln Ridge 68.62 47 *e*P **P 23 43 49.2 +1.1**
DLMT Dillon 68.83 48 *e*P **P 23 43 51.1 +1.8**
comp=Z,6.7nm,1.1s
BOZ Bozeman (W) 69.21 47 *e*P **P 23 43 52.3 +0.7**
comp=Z,7.4nm,1.0s
BOZ Bozeman (W) 69.21 47 *e*P **P 23 43 52.5 +0.9**
BOZ Bozeman (W) 69.21 47 *e*P **P 23 43 52.3 +0.7**
BOZ pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 69.39 311 *e*P **P 23 43 53.4 +0.6**
comp=Z,21nm,0.8s
KIV Kislovodsk 69.39 311 *e*P **P 23 43 53.2 +0.5**
KIV Kislovodsk 69.39 311 *e*P **P 23 43 53.2 +0.5**
KIV pmax pmax
comp=Z,30nm,1.1s
KIV MLR MLR
comp=Z,335nm,17.0s
KBZ Khabaz 69.42 311 P **P 23 43 53.2 +0.5**
comp=Z,12nm,0.8s,baz=40,slow=3.7,SNR=20
KBZ LR LR 00 19 48.8
comp=Z,197nm,18.5s,baz=24,slow=41
ZEI Tsey 69.44 309 *e*P **P 23 43 52.2 -1.0**
ZEI pmax pmax
comp=Z,7.0nm,0.8s
KVN Kaiserville 69.58 56 *e*P **P 23 43 55.8 +1.7**
comp=Z,3.3nm,1.0s
KVN Kaiserville 69.58 56 *e*P **P 23 43 55.8 +1.7**
KVN pmax pmax
comp=Z,3.0nm,1.0s
TBLG Delisi 69.62 308 *e*P **P 23 43 55.2 +1.1**
comp=Z,18nm,0.9s
TBLG Delisi 69.62 308 *e*P **P 23 43 55.2 +1.1**
TBLG pmax pmax
comp=Z,18nm,0.9s
NEY Neytrino 69.82 310 *i*P **P 23 43 55.2 -0.3**
NEY pmax pmax
comp=Z,2.0nm,1.0s
NV01 Mina Array Sit 69.84 56 *e*P **P 23 43 57.0 +1.3**
NVAR Mina Array Bea 69.84 56 P **P 23 43 56.4 +0.7**
comp=Z,1.7nm,0.7s,baz=284,slow=6.4,SNR=9.1
YHB Horse Butte 69.99 47 *e*P **P 23 43 58.4 +1.8**
comp=Z,4.5nm,0.8s
NC405 NORSAR Array S 70.09 338 *e*P **P 23 43 56.4 -0.2**
NC303 NORSAR Array S 70.10 338 *e*P **P 23 43 56.6 0.0**
YMR Madison River 70.17 47 *e*P **P 23 43 59.6 +1.9**
comp=Z,6.3nm,1.2s
NC204 NORSAR Array S 70.22 338 *e*P **P 23 43 57.6 +0.1**
NB201 NORSAR Array S 70.26 338 *e*P **P 23 43 57.7 0.0**
NB2 NORSAR Subarra 70.29 338 P **P 23 43 57.2 -0.7**
comp=Z,2.6nm,0.4s,baz=34,slow=6.5
NOA NORSAR Array B 70.29 338 P **P 23 43 57.4 -0.4**
comp=Z,8.4nm,0.7s,baz=35,slow=6.2,SNR=32
YFT Old Faithful 70.38 47 *e*P **P 23 44 02.6 +3.7**
comp=Z,5.3nm,0.9s
H17A Grant Village 70.56 47 *e*P **P 23 44 03.0 +2.9**
comp=Z,6.9nm,1.0s
GNI Garni 70.61 307 *i*P **P 23 44 01.0 +0.6**
GNI pmax pmax
comp=Z,42nm,0.9s
IMW Indian Meadow 70.68 48 *e*P **P 23 44 02.8 +2.0**
comp=Z,6.2nm,0.9s
MOOW Moose Ponds 70.88 48 *e*P **P 23 44 03.8 +1.8**
comp=Z,3.8nm,1.0s
TPAW Teton Pass 70.94 48 *e*P **P 23 44 05.3 +2.9**
comp=Z,6.3nm,1.0s
AKASG Malin Array Be 71.68 323 P **P 23 44 05.1 -1.3**
comp=Z,4.7nm,0.6s,baz=42,slow=6.2,SNR=20
AKASG Malin Array Be 71.68 323 *i*P **P 23 44 05.9 -0.5**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKBB Malin Array Si 71.68 323 *e*P **P 23 44 06.2 -0.2**
comp=Z,6.3nm,0.8s
KIEV Kiev 71.69 323 *e*P **P 23 44 05.1 -1.3**
comp=Z,6.3nm,0.8s
KIEV Kiev 71.69 323⇑*i*P **P 23 44 06.1 -0.3**
KIEV Kiev 71.69 323 P **P 23 44 05.5 -0.9**
KIEV pmax pmax
comp=Z,7.0nm,1.1s
AK11 Malin Array Si 71.72 323 *e*P **P 23 44 06.3 -0.3**
TPNV Topopah Spring 72.03 56 *e*P **P 23 44 10.6 +1.6**
comp=Z,4.0nm,0.8s
TPNV Topopah Spring 72.03 56 *e*P **P 23 44 10.6 +1.6**
TPNV pmax pmax
comp=Z,4.0nm,0.8s
PD31 Pinedale Array 72.18 48 *e*P **P 23 44 10.6 +0.7**
PDAR Pinedale Array 72.18 48 P **P 23 44 09.7 -0.2**
comp=Z,0.9nm,0.5s,baz=340,slow=0.5,SNR=10
SHPR Sheep Range 72.99 56 *e*P **P 23 44 17.0 +2.3**
comp=Z,2.8nm,0.9s
SIM Simferopol' 73.35 316 P **P 23 44 17.1 +0.7**
SIM pmax pmax
comp=Z,8.0nm,0.6s
SIM MLR MLR
comp=Z,110nm,17.6s
ULM Lac du Bonnet 73.70 36 P **P 23 44 17.7 -0.7**
comp=Z,3.0nm,0.7s,baz=286,slow=7.1,SNR=5.9
ULM Lac du Bonnet 73.70 36 P **P 23 44 17.7 -0.7**
ULM pmax pmax
comp=Z,4.0nm,0.8s
U15A North Rim 74.79 55 *e*P **P 23 44 26.7 +1.3**
PV10 Paradox Valley 75.41 51 *e*P **P 23 44 30.7 +1.8**
PV17 East Wray Mesa 75.52 51 *e*P **P 23 44 30.7 +1.2**
comp=Z,6.5nm,1.0s
PV13 Radium Mtn., P 75.69 51 *e*P **P 23 44 32.1 +1.7**
comp=Z,4.9nm,1.1s
BUR08 Bucovina Ar. S 75.72 323 *e*P **P 23 44 30.5 +0.2**
BUR04 Bucovina Ar. S 75.73 323 *e*P **P 23 44 30.4 0.0**
BURAR Bucovina Array 75.73 323‖*i*P **P 23 44 30.9 +0.5**
BIZ Bicaz 75.83 322⇑*i*P **P 23 44 31.2 +0.4**
OJC Ojcow 76.05 327 *e*P **P 23 44 32.5 +0.5**
OJC Ojcow 76.05 327 *e*P **P 23 44 32.5 +0.5**
comp=Z,19nm,0.9s
OJC Ojcow 76.05 327 *e*P **P 23 44 32.5 +0.5**
OJC Ojcow 76.05 327 *e*P **P 23 44 32.5 +0.5**
UZH Uzhgorod 76.25 325 *e*P **P 23 44 34.3 +1.2**
UZH Uzhgorod 76.25 325 *e*P **P 23 44 34.3 +1.2**
VRI Vrincioaia 76.33 321⇑*i*P **P 23 44 34.6 +0.9**
ARCR ARCALIA 76.52 323⇑*i*P **P 23 44 35.8 +1.1**
OZUR 76.60 321‖*i*P **P 23 44 36.5 +1.2**
X16A Lo Mia Camp, P 76.64 56 *e*P **P 23 44 37.7 +1.8**
comp=Z,3.3nm,0.8s
TLB Topalu 76.65 319‖*i*P **P 23 44 36.0 +0.6**
DOPR Dopca 76.88 321⇑*i*P **P 23 44 37.5 +0.7**
PGOR Pogoanele 76.92 320‖*i*P **P 23 44 38.5 +1.5**
KSP Ksiaz 76.93 329 *e*P **P 23 44 37.5 +0.5**
KSP Ksiaz 76.93 329 *e*P **P 23 44 37.5 +0.5**
ISR Istrita 76.97 320⇑*i*P **P 23 44 39.0 +1.6**
MLR Muntele Rosu 76.98 321⇑*i*P **P 23 44 38.4 +0.9**
LANS Liptovska Anna 77.02 327 *e*P **P 23 44 39.4 +1.8**
LANS Liptovska Anna 77.02 327 *e*P **P 23 44 39.4 +1.8**
ICOR Ion Corvin 77.11 319⇑*i*P **P 23 44 39.4 +1.3**
BR131 Keskin Array S 77.24 312 *e*P **P 23 44 39.5 +0.4**
BRTR Keskin Array B 77.24 312 P **P 23 44 38.9 -0.2**
comp=Z,2.1nm,0.7s,baz=66,slow=3.7,SNR=14
BRTR LR LR 00 23 27.4
comp=Z,70nm,19.1s,baz=38,slow=39
BRTR Keskin Array B 77.24 312*ce*P **P 23 44 39.5 +0.4**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
MORC Moravsky Berou 77.30 328 *e*P **P 23 44 39.7 +0.5**
comp=Z,9.7nm,0.9s
MORC Moravsky Berou 77.30 328⇑*i*P **P 23 44 39.6 +0.5**
MORC Moravsky Berou 77.30 328 *e*P **P 23 44 39.7 +0.5**
MORC pmax pmax
comp=Z,10.0nm,0.9s
MORC Moravsky Berou 77.30 328 *e*P **P 23 44 39.5 +0.4**
UPC Upice 77.31 329 *e*P **P 23 44 39.7 +0.6**
UPC Upice 77.31 329 *e*P **P 23 44 39.7 +0.6**
DPC Dobruska-Polom 77.31 329 *e*P **P 23 44 39.9 +0.7**
DPC *e*PCP **pP 23 44 47.8 -1.7**
DPC Dobruska-Polom 77.31 329 *e*P **P 23 44 39.9 +0.7**
DPC *e* 23 44 47.8
KRLC Kraliky 77.36 329 *e*P **P 23 44 39.2 -0.2**
KRLC Kraliky 77.36 329 *e*P **P 23 44 39.2 -0.2**
VOIR 77.44 321⇑*i*P **P 23 44 41.5 +1.5**
DRGR 77.47 323⇑*i*P **P 23 44 40.6 +0.4**
ARR Arges 77.68 321‖*i*P **P 23 44 42.6 +1.2**
CLL Collm 77.76 331 *e*P **P 23 44 41.0 -0.5**
comp=Z,9.9nm,0.8s
CLL Collm 77.76 331⇑*i*P **P 23 44 41.1 -0.5**
comp=Z,12nm,0.9s
CLL *e*pP **sP 23 44 56.0 +0.4**
CLL Collm 77.76 331⇑*i*P **P 23 44 41.1 -0.5**
CLL Collm 77.76 331⇑*i*P **P 23 44 41.1 -0.5**
CLL *e*SP **sP 23 44 56.0 +0.4**
CLL pmax pmax
comp=Z,12nm,0.9s
BRG Berggiesshubel 77.78 331 *e*P **P 23 44 41.7 0.0**
comp=Z,9.3nm,1.1s
comp=N,198nm,12.9s
comp=E,151nm,16.7s
comp=Z,317nm,15.3s
BRG Berggiesshubel 77.78 331 *e*P **P 23 44 41.7 0.0**
BRG pmax pmax
comp=Z,9.0nm,1.1s
BRG MLR MLR
comp=N,198nm,12.9s
BRG MLR MLR
comp=E,151nm,16.7s
BRG MLR MLR
comp=Z,317nm,15.3s
VYHS Vyhne 77.80 327 *e*P **P 23 44 42.2 +0.3**

VYHS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
VYHS	**Vyhne**	**77.80**	**327**	*eP*	**P**	**23 44 42.2**	**+0.3**
PSZ	**Piszkesteto**	**77.81**	**326**	*eP*	**P**	**23 44 42.7**	**+0.6**
	comp=Z,9.4nm,1.0s						
PSZ	**Piszkesteto**	**77.81**	**326⇑**	*iP*	**P**	**23 44 42.8**	**+0.7**
PSZ	**Piszkesteto**	**77.81**	**326**	*eP*	**P**	**23 44 42.7**	**+0.6**
PSZ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
PVCC	**Panska Ves**	**77.83**	**330**	*eP*	**P**	**23 44 42.4**	**+0.4**
PVCC				AMS	AMS	00 22 20.0	
	comp=Z,300nm,18.1s						
PVCC	**Panska Ves**	**77.83**	**330**	*eP*	**P**	**23 44 42.4**	**+0.4**
JAVC	**Velka Javorina**	**77.98**	**327**	*eP*	**P**	**23 44 44.4**	**+1.4**
VRAC	**Vranov**	**78.05**	**328⇑**	*iP*	**P**	**23 44 43.6**	**+0.3**
VRAC	**Vranov**	**78.05**	**328**	*eP*	**P**	**23 44 43.8**	**+0.5**
GOPC	**GO Pecny, Ondr**	**78.25**	**330**	*eP*	**P**	**23 44 45.2**	**+0.8**
GOPC				*ex*	x	23 44 50.4	
GOPC	**GO Pecny, Ondr**	**78.25**	**330**	*eP*	**P**	**23 44 45.2**	**+0.8**
GOPC				*e*		23 44 50.4	
PRU	**Pruhonice**	**78.28**	**330**	*eP*	**P**	**23 44 45.3**	**+0.8**
PRU				*ex*	x	23 44 50.7	
PRU				AMS	AMS	00 22 10.0	
	comp=Z,400nm,23.7s						
PRU	**Pruhonice**	**78.28**	**330**	*eP*	**P**	**23 44 45.3**	**+0.8**
PRU	**Pruhonice**	**78.28**	**330**	*eP*	**P**	**23 44 45.3**	**+0.8**
PRU				*e*		23 44 50.7	
KRUC	**Moravsky**	**78.32**	**328**	*eP*	**P**	**23 44 45.3**	**+0.5**
SIRR	**Siria**	**78.34**	**324⇑**	*iP*	**P**	**23 44 45.6**	**+0.7**
TREC	**Trest**	**78.48**	**329**	*eP*	**P**	**23 44 44.7**	**-1.0**
TREC	**Trest**	**78.48**	**329**	*eP*	**P**	**23 44 44.7**	**-1.0**
GZR	**Gura Zlata**	**78.51**	**322⇓**	*iP*	**P**	**23 44 46.4**	**+0.4**
MODS	**Modra-Piesok**	**78.53**	**327**	*eP*	**P**	**23 44 46.8**	**+0.9**
MODS				pmax	pmax		
	comp=Z,11nm,1.1s						
MODS	**Modra-Piesok**	**78.53**	**327**	*eP*	**P**	**23 44 46.8**	**+0.9**
BZS	**Buzias**	**78.86**	**323⇑**	*iP*	**P**	**23 44 47.7**	**-0.1**
ANMO	**Albuquerque**	**79.27**	**52**	*ceP*	**P**	**23 44 52.4**	**+1.9**
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.7s						
PUNG	**Punghina**	**79.30**	**322⇑**	*iP*	**P**	**23 44 50.5**	**+0.3**
KHC	**Kasperske Hory**	**79.34**	**330**	*eP*	**P**	**23 44 51.0**	**+0.6**
	comp=Z,4.1nm,0.9s						
KHC	**Kasperske Hory**	**79.34**	**330**	*eP*	**P**	**23 44 51.0**	**+0.6**
KHC				*e*PCP	**PcP**	**23 44 56.2**	**-2.3**
KHC				AMS	AMS	00 22 40.0	
	comp=Z,400nm,19.9s						
KHC	**Kasperske Hory**	**79.34**	**330**	*eP*	**P**	**23 44 51.0**	**+0.6**
KHC	**Kasperske Hory**	**79.34**	**330**	*eP*	**P**	**23 44 51.0**	**+0.6**
KHC				*e*		23 44 56.2	
CONA	**Conrad Observa**	**79.45**	**328**	*eP*	**P**	**23 44 52.0**	**+0.9**
	comp=Z,8.4nm,1.4s						
MDVR	**Moldovita**	**79.47**	**323⇓**	*iP*	**P**	**23 44 51.2**	**0.0**
GERES	**GERESS Array B**	**79.53**	**330**	P	**P**	**23 44 51.5**	**0.0**
	comp=Z,1.9nm,0.5s,baz=38,slow=6.3,SNR=17						
GERES				LR	LR	00 23 20.1	
	comp=Z,238nm,19.8s,baz=56,slow=38						
SCHQ	**Schefferville**	**79.55**	**18**	P	**P**	**23 44 51.5**	**+0.1**
	comp=Z,6.0nm,0.8s,baz=353,slow=7.7,SNR=6.0						
ARSA	**Arzberg**	**80.13**	**328**	*eP*	**P**	**23 44 55.3**	**+0.6**
	comp=Z,8.7nm,0.9s						
MOA	**Molln**	**80.13**	**329**	*eP*	**P**	**23 44 55.1**	**+0.4**
	comp=Z,2.3nm,0.7s						
VTS	**Vitosha**	**80.46**	**320**	*eP*	**P**	**23 44 57.0**	**+0.3**
	comp=Z,12nm,0.8s						
VTS	**Vitosha**	**80.46**	**320⇑**	*iP*	**P**	**23 44 57.4**	**+0.7**
VTS	**Vitosha**	**80.46**	**320**	*eP*	**P**	**23 44 57.0**	**+0.3**
VTS				pmax	pmax		
	comp=Z,12nm,0.8s						
SOKA	**Soboth**	**80.79**	**328**	*eP*	**P**	**23 44 58.8**	**+0.5**
	comp=Z,26nm,1.1s,SNR=16						
PERS	**Pernice**	**80.79**	**327**	*i* P	**P**	**23 44 58.8**	**+0.5**
RAYN	**Ar Rayn**	**80.98**	**293**	*eP*	**P**	**23 44 59.8**	**+0.1**
	comp=Z,9.6nm,0.8s						
RAYN	**Ar Rayn**	**80.98**	**293**	*eP*	**P**	**23 44 59.8**	**+0.1**
RAYN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WATA	**Walderalm**	**81.58**	**330**	*eP*	**P**	**23 45 03.0**	**+0.4**
	comp=Z,5.1nm,0.5s						
VISS	**Visnje**	**81.58**	**327**	*i* P	**P**	**23 45 02.3**	**-0.1**
WTTA	**Wattenberg**	**81.62**	**330**	*eP*	**P**	**23 45 03.4**	**+0.6**
	comp=Z,3.8nm,0.6s						
BOJS	**Bojanci**	**81.66**	**327**	*i* P	**P**	**23 45 02.7**	**-0.2**
MOTA	**Moosalm**	**81.75**	**330**	*eP*	**P**	**23 45 03.6**	**+0.1**
	comp=Z,2.7nm,0.5s,SNR=11						
RETA	**Reutte**	**81.75**	**330**	*eP*	**P**	**23 45 03.9**	**+0.5**
	comp=Z,9.6nm,1.1s,SNR=5.3						
SQTA	**Sankt Quirin**	**81.81**	**330**	*eP*	**P**	**23 45 04.3**	**+0.5**
	comp=Z,13nm,1.0s,SNR=4.9						
JAVS	**Javornik**	**81.82**	**328**	*i* P	**P**	**23 45 03.1**	**-0.7**
FETA	**Feichten**	**82.16**	**330**	*eP*	**P**	**23 45 06.1**	**+0.4**
	comp=Z,9.6nm,0.9s						
DAVA	**Damuels**	**82.24**	**331**	*i* P	**P**	**23 45 06.4**	**+0.3**
	comp=Z,7.7nm,0.6s,SNR=5.1						
PDG	**Podgorica**	**82.42**	**323⇑**	*iP*	**P**	**23 45 07.5**	**+0.6**
FUORN	**Ofenpass-Fuorn**	**82.67**	**330**	*eP*	**P**	**23 45 09.2**	**+0.8**
	comp=Z,18nm,1.0s						
PMOR	**Pomariorio Ree**	**84.06**	**116**	*eT*	T	01 18 00.9	
	comp=Z,13nm,0.2s						
PPT	**Papeete**	**84.82**	**119**	LR	LR	00 15 16.3	
	comp=Z,74nm,21.3s,baz=259,slow=30						
PPT2	**Papeete2**	**84.84**	**119**	*e*LR	LR	00 11 50.6	
	comp=Z,130nm,23.5s						
TX31	**Lajitas Ar. Si**	**84.92**	**55**	*eP*	**P**	**23 45 20.9**	**+0.8**
TXAR	**Lajitas Array**	**84.92**	**55**	P	**P**	**23 45 20.7**	**+0.7**
	comp=Z,2.1nm,0.7s,baz=300,slow=3.6,SNR=21						
TBI	**Tubuai**	**89.12**	**123**	*eT*	T	01 24 21.3	
	comp=Z,3.9nm,0.3s						
KEST	**Kesra**	**92.28**	**325**	LR	LR	00 33 38.8	
	comp=Z,105nm,18.1s,baz=242,slow=40						
ESDC	**Sonseca Array**	**93.60**	**336**	P	**P**	**23 46 00.6**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=13,slow=4.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	**115.21**	**320**	PKP	**PKPdf**	**23 51 24.6**	**-1.9**
	comp=Z,0.3nm,0.4s,baz=357,slow=3.0,SNR=7.7						
SNAA	**Sanae**	**146.55**	**198**	PKP	**PKPdf**	**23 52 23.9**	**+0.5**
VNA2	**Neumayer--Watz**	**148.10**	**197**	PKP	**PKPbc**	**23 52 28.9**	**-0.2**
VNA3	**Neumayer Olymp**	**148.32**	**195**	PKP	**PKPbc**	**23 52 28.7**	**-1.0**
VNA1	**Neumayer--Stat**	**148.50**	**197**	PKP	**PKPdf**	**23 52 28.2**	**+1.7**

IDC ***16*** *23:40:59.6±0.7, 19.°55N×64.°31W, h0km, mb3.8/11, mb1 4.1/15, mb1mx3.9/35, mbtmp3.9/15, ML3.1/4, MS3.5/8, Ms1 3.5/8, ms1mx3.3/26, Error ellipse: s-maj=22.7km s-min=14.3km az=70.0*

ISCJB ***16*** *23:41:03.6±0.6, 19.°57N±0.°04×64.°43W±0.°02, h34km±7km, mb3.9/14, MS3.5/6, Error ellipse: s-maj=6.1km s-min=3.7km az=8.9*

NEIC ***16*** *23:41:04.1±0.0, 19.°65N×64.°42W, h15km, mb4.2/9, MD3.7(RSPR), After RSPR.*

RSPR ***16*** *23:41:04.1, 19.°65N×64.°42W, h15km±5km, MD3.7/13*

ISC 16 23:41:01.9±1.4, 19.°55N±0.°04×64.°38W±0.°03, h15km±9km, n121, σ1§79/148, mb3.9/14, MS3.5/6, 28C-16D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABV	**Anegada**	**0.81**	**177⇑**	*eP*	**Pn**	**23 41 19.3**	**+0.5**
ABVI	**Anegada Island**	**0.81**	**177⇑**	*eP*	**Pn**	**23 41 19.3**	**+0.5**
ABVI				*e*Sn	**Sg**	**23 41 27.0**	**-1.3**
TBVI	**Tortola**	**1.15**	**191⇑**	*eP*	**Pg**	**23 41 23.5**	**-0.5**
TBVI				*e*S	**Sn**	**23 41 39.9**	**+1.1**
TBVI	**Tortola**	**1.15**	**191⇑**	*eP*	**Pg**	**23 41 23.5**	**-0.5**
TBVI				*e*S	**Sn**	**23 41 39.9**	**+1.1**
STVI	**Saint Thomas**	**1.31**	**205⇓**	*eP*	**Pn**	**23 41 25.7**	**+0.1**
STVI	**Saint Thomas**	**1.31**	**205**	*e*S	**Sn**	**23 41 43.2**	**+0.3**
STVI	**Saint Thomas**	**1.31**	**205⇓**	*eP*	**Pn**	**23 41 25.7**	**+0.1**
STVI				*e*S	**Sn**	**23 41 43.2**	**+0.3**
CUPR	**Culebra, Puert**	**1.50**	**215⇓**	*eP*	**Pn**	**23 41 28.3**	**0.0**
CUPR	**Culebra, Puert**	**1.50**	**215**	*e*S	**Sb**	**23 41 47.5**	**-0.8**
CUPR	**Culebra, Puert**	**1.50**	**215⇓**	*eP*	**Pn**	**23 41 28.3**	**0.0**
CUPR				*e*S	**Sb**	**23 41 47.5**	**-0.8**
MTP	**Monte Pirata**	**1.82**	**218⇑**	*eP*	**Pn**	**23 41 33.2**	**+0.5**
MTP	**Monte Pirata**	**1.82**	**218**	*e*S	**Sn**	**23 41 55.9**	**+0.3**
MTP	**Monte Pirata**	**1.82**	**218⇑**	*eP*	**Pn**	**23 41 33.2**	**+0.5**
MTP				*e*S	**Sn**	**23 41 55.9**	**+0.3**
CDVI	**St. Croix**	**1.82**	**192**	*e*Pn	**Pb**	**23 41 34.6**	**-0.4**
CBYP	**Canovanas**	**1.89**	**228⇓**	*eP*	**Pn**	**23 41 33.3**	**-0.4**
CBYP	**Canovanas**	**1.89**	**228**	*e*S	**Sn**	**23 41 56.6**	**-0.8**
CBYP	**Canovanas**	**1.89**	**228⇓**	*eP*	**Pn**	**23 41 33.3**	**-0.4**
CBYP				*e*S	**Sn**	**23 41 56.6**	**-0.8**
SMRT	**St. Maarten**	**1.93**	**140⇓**	*eP*	**Pn**	**23 41 34.9**	**+0.6**
SMRT	**St. Maarten**	**1.93**	**140**	*e*S	**Sn**	**23 41 59.6**	**+1.2**
SMRT	**St. Maarten**	**1.93**	**140**	*eP*	Pn	23 41 28.5	-5.8
SMRT				*e*S	**Sn**	**23 42 00.1**	**+1.7**
HUMP	**Col San Antoni**	**1.97**	**225⇑**	*eP*	**Pn**	**23 41 34.6**	**-0.2**
HUMP	**Col San Antoni**	**1.97**	**225**	*e*S	**Sn**	**23 41 58.8**	**-0.5**
HUMP	**Col San Antoni**	**1.97**	**225⇑**	*eP*	**Pn**	**23 41 34.6**	**-0.2**
HUMP				*e*S	**Sn**	**23 41 58.8**	**-0.5**
SABA	**Saba**	**2.20**	**150⇑**	*eP*	**Pn**	**23 41 40.4**	**+2.4**
SABA	**Saba**	**2.20**	**150⇑**	*eP*	**Pn**	**23 41 40.4**	**+2.4**
SABA	**Saba**	**2.20**	**150**	*eP*	**Pb**	**23 41 42.0**	**+0.6**
SABA				*e*S	**Sg**	**23 42 13.6**	**+1.0**
SJG	**San Juan**	**2.20**	**230⇑**	*eP*	**Pn**	**23 41 38.4**	**+0.5**
SJG	**San Juan**	**2.20**	**230**	*e*S	**Sn**	**23 42 05.0**	**0.0**
SJG	**San Juan**	**2.20**	**230**	Pn	**Pn**	**23 41 38.0**	**0.0**
	16nm,0.3s,baz=48,slow=14,SNR=18						
SJG					Sn	**Sn**	**23 42 04.6**	**-0.4**
	52nm,0.3s,baz=26,slow=14,SNR=14						
SJG					LR	LR	23 42 59.0	
	comp=Z,2μm,19.1s,baz=90,slow=53						
SJG	**San Juan**	**2.20**	**230⇑**	*eP*	**Pn**	**23 41 38.4**	**+0.5**
SJG				*e*S	**Sn**	**23 42 05.0**	**0.0**
EMPR	**Esperanza - Ma**	**2.29**	**243⇓**	*eP*	**Pn**	**23 41 39.3**	**+0.1**
EMPR	**Esperanza - Ma**	**2.29**	**243**	*e*S	**Sn**	**23 42 05.9**	**-1.4**
EMPR	**Esperanza - Ma**	**2.29**	**243⇓**	*eP*	**Pn**	**23 41 39.3**	**+0.1**
EMPR				*e*S	**Sn**	**23 42 05.9**	**-1.4**
SEUS	**St. Eustatius**	**2.44**	**147**	*eP*	**Pn**	**23 41 42.6**	**+1.4**
SEUS				*e*S	**Sb**	**23 42 15.5**	**+0.2**
CELP	**Cerrillos**	**2.55**	**235⇓**	*eP*	**Pn**	**23 41 42.8**	**+0.1**
CELP				*e*S	**Sn**	**23 42 12.6**	**-0.9**
CELP	**Cerrillos**	**2.55**	**235⇓**	*eP*	**Pn**	**23 41 42.8**	**+0.1**
CELP				*e*S	**Sn**	**23 42 12.6**	**-0.9**
OBIP	**Obispado Ponce**	**2.58**	**235⇑**	*eP*	**Pn**	**23 41 43.3**	**+0.1**
OBIP	**Obispado Ponce**	**2.58**	**235**	*e*S	**Sn**	**23 42 14.3**	**-0.1**
OBIP	**Obispado Ponce**	**2.58**	**235⇑**	*eP*	**Pn**	**23 41 43.3**	**+0.1**
OBIP				*e*S	**Sn**	**23 42 14.3**	**-0.1**
AGPR	**Aguadilla, PR**	**2.80**	**248⇑**	*eP*	**Pn**	**23 41 46.6**	**+0.4**
AGPR	**Aguadilla, PR**	**2.80**	**248**	*e*S	**Sn**	**23 42 19.1**	**-0.6**
AGPR	**Aguadilla, PR**	**2.80**	**248⇑**	*eP*	**Pn**	**23 41 46.6**	**+0.4**
AGPR				*e*S	**Sn**	**23 42 19.1**	**-0.6**
GBPR	**Guanica, Bosqu**	**2.84**	**237⇑**	*eP*	**Pn**	**23 41 47.2**	**+0.5**
GBPR	**Guanica, Bosqu**	**2.84**	**237**	*e*S	**Sn**	**23 42 20.0**	**-0.6**
GBPR	**Guanica, Bosqu**	**2.84**	**237⇑**	*eP*	**Pn**	**23 41 47.2**	**+0.5**
GBPR				*e*S	**Sn**	**23 42 20.0**	**-0.6**
AGP	**Aguadilla**	**2.85**	**247**	*e*Pn	**Pn**	**23 41 46.6**	**-0.3**
LSP	**Las Mesas**	**2.90**	**242⇑**	*eP*	**Pn**	**23 41 48.3**	**+0.6**
LSP	**Las Mesas**	**2.90**	**242**	*e*S	**Sn**	**23 42 21.7**	**-0.7**
LSP	**Las Mesas**	**2.90**	**242⇑**	*eP*	**Pn**	**23 41 48.3**	**+0.6**
LSP				*e*S	**Sn**	**23 42 21.7**	**-0.7**
MPR	**Mayaguez**	**2.93**	**244**	*e*Pn	**Pn**	**23 41 48.8**	**+0.8**
NEV	**Hard Times**	**2.95**	**144**	*eP*	**Pn**	**23 41 46.7**	**-1.6**
NEV				*e*S	**Sn**	**23 42 16.5**	**-7.0**
CRPR	**Cabo Rojo, PR**	**3.01**	**240⇑**	*eP*	**Pn**	**23 41 49.4**	**+0.3**
CRPR	**Cabo Rojo, PR**	**3.01**	**240**	*e*S	**Sn**	**23 42 23.9**	**-0.9**
CRPR	**Cabo Rojo, PR**	**3.01**	**240⇑**	*eP*	**Pn**	**23 41 49.4**	**+0.3**
CRPR				*e*S	**Sn**	**23 42 23.9**	**-0.9**
ANWB	**Willy Bob**	**3.09**	**127**	*e*Pn	**Pn**	**23 41 49.7**	**-0.4**
ANWB				*e*S	**Sn**	**23 42 21.2**	**-5.7**
ANWB	**Willy Bob**	**3.09**	**127**	*eP*	**Pn**	**23 41 50.1**	**-0.1**
ANWB				*e*S	**Sn**	**23 42 25.5**	**-1.4**
IDE	**Isla Desecheo**	**3.15**	**249⇓**	*eP*	**Pn**	**23 41 50.8**	**-0.2**
IDE	**Isla Desecheo**	**3.15**	**249**	*e*S	**Sn**	**23 42 27.3**	**-1.1**
IDE	**Isla Desecheo**	**3.15**	**249⇓**	*eP*	**Pn**	**23 41 50.8**	**-0.2**
IDE				*e*S	**Sn**	**23 42 27.3**	**-1.1**
BPA	**Boggy Peak**	**3.45**	**136**	*eP*	**Pn**	**23 41 58.5**	**+3.2**
BPA				*e*S	**Sn**	**23 42 37.4**	**+1.4**
MLYT	**Lee's Yard**	**3.50**	**143**	*eP*	**Pn**	**23 41 58.1**	**+2.3**
MLYT				*e*S	**Sn**	**23 42 32.0**	**-5.0**
MLYT				*e*S	**Sn**	**23 42 32.0**	**-5.0**
DR12	**Loma Pena Alta**	**4.79**	**262⇓**	*eP*	**Pn**	**23 42 13.0**	**-0.7**
DR12	**Loma Pena Alta**	**4.79**	**262⇓**	*eP*	**Pn**	**23 42 13.0**	**-0.7**
MDPV	**Dominica, Penn**	**4.81**	**144**	*eP*	**Pn**	**23 42 17.8**	**+3.8**
MDPO	**Dominica; Chan**	**4.84**	**144**	*eP*	**Pn**	**23 42 17.5**	**+3.2**
MDPO	**Dominica; Chan**	**4.84**	**144**	*e*S	**Sn**	**23 43 11.8**	**+1.7**
FDF	**Fort de France**	**5.70**	**147**	*e*Pn	**Pn**	**23 42 27.9**	**+1.8**
BANI	**BANI**	**5.77**	**260**	*e*Pn	**Pn**	**23 42 30.9**	**+3.6**
SDDR	**Presa de Saban**	**6.55**	**266⇑**	*eP*	**Pn**	**23 42 39.1**	**+1.3**
SDDR	**Presa de Saban**	**6.55**	**266⇑**	*eP*	**Pn**	**23 42 39.1**	**+1.3**
GRTK	**Grand Turk**	**6.62**	**288**	*e*Pn	**Pn**	**23 42 36.9**	**-2.4**
GRTK				*e*S	Sn	23 44 44.3	-10.0
PCRV	**Puerto La Cruz**	**9.32**	**182**	Pn	**Pn**	**23 43 14.9**	**-0.9**
	0.4nm,0.3s,baz=13,slow=14,SNR=1.9						
PCRV					Sn	**Sn**	**23 44 58.5**	**-2.1**
	0.5nm,0.3s,baz=81,slow=18,SNR=1.6						
SDV	**Santo Domingo**	**12.21**	**211**	Pn	**Pn**	**23 43 55.3**	**-0.3**
	0.1nm,0.3s,baz=45,slow=11,SNR=2.2						
SDV					Sn	**Sn**	**23 46 10.2**	**-1.4**
	0.5nm,0.3s,baz=265,slow=12,SNR=2.9						
SDV	**Santo Domingo**	**12.21**	**211**	*e*Pn	**Pn**	**23 44 00.2**	**+4.6**
SDV				*e*S	**Sn**	**23 46 10.7**	**-0.9**
BBSR	**BB Station**	**12.78**	**359**	*e*Pn	**Pn**	**23 44 00.3**	**-2.8**
OCAC	**Ocana**	**14.19**	**219**	*eP*	**Pn**	**23 44 25.8**	**+3.1**
OCAC	**Ocana**	**14.19**	**219**	*eP*	**Pn**	**23 44 25.8**	**+3.1**
PAMC	**Pamplona, Colo**	**14.58**	**215**	*eP*	**P**	**23 44 33.1**	**-1.6**
PAMC	**Pamplona, Colo**	**14.58**	**215**	*eP*	**P**	**23 44 33.1**	**-1.6**
BARC	**Barichara**	**15.46**	**215**	*eP*	**Pn**	**23 44 39.8**	**-0.1**
BARC	**Barichara**	**15.46**	**215**	*eP*	**Pn**	**23 44 39.8**	**-0.1**
ZARC	**Zaragoza, Cauc**	**15.72**	**222**	*eP*	**Pn**	**23 44 45.1**	**+2.1**
ZARC	**Zaragoza, Cauc**	**15.72**	**222**	*eP*	**Pn**	**23 44 45.1**	**+2.1**
RUSC	**La Rusia**	**16.00**	**213⇑**	*eP*	**P**	**23 44 50.4**	**-0.1**
RUSC	**La Rusia**	**16.00**	**213⇑**	*eP*	**P**	**23 44 50.4**	**-0.1**
PTBC	**PUERTO BERRIO,**	**16.22**	**218**	*eP*	**Pn**	**23 44 48.2**	**-1.3**
PTBC	**PUERTO BERRIO,**	**16.22**	**218**	*eP*	**Pn**	**23 44 48.2**	**-1.3**
CHIC	**Chingaza**	**17.41**	**213⇑**	*eP*	**Pn**	**23 45 04.4**	**-0.5**
CHIC	**Chingaza**	**17.41**	**213⇑**	*eP*	**Pn**	**23 45 04.4**	**-0.5**
ROSC	**El Rosal**	**17.54**	**215**	P	**Pn**	**23 45 07.0**	**+0.6**
	1.9nm,0.3s,baz=38,slow=12,SNR=9.3						
ROSC					LR	LR	23 53 16.5	
	comp=Z,121nm,18.2s,baz=32,slow=42						
ROSC	**El Rosal**	**17.54**	**215**	*e*Pn	**P**	**23 45 10.7**	**+3.2**
DWPF	**Disney Wildern**	**17.76**	**302**	*e*Pn	**Pn**	**23 45 09.5**	**+0.8**
GUYC	**Guyana, Colomb**	**17.82**	**218**	*eP*	**Pn**	**23 45 03.7**	**-6.4**
GUYC	**Guyana, Colomb**	**17.82**	**218**	*eP*	**Pn**	**23 45 03.7**	**-6.4**
658A	**Bunnell**	**18.22**	**306**	*e*Pn	**Pn**	**23 45 12.7**	**-1.7**
	22nm,0.6s						
NHSC	**New Hope**	**19.53**	**317**	*eP*	**Pn**	**23 45 30.4**	**+0.2**
	14nm,0.7s						
CNNC	**Cliffs of the**	**19.67**	**325**	*eP*	**Pn**	**23 45 32.0**	**+0.2**
	7.2nm,0.4s						
555A	**McAlpin**	**19.86**	**306**	*eP*	**Pn**	**23 45 37.0**	**+2.8**
	6.6nm,0.7s						
255A	**Hazlehurst**	**20.40**	**311**	*eP*	Pn	23 45 47.5	+6.9
	16nm,0.7s						
PTGA	**Pitinga**	**20.61**	**167**	P	**P**	**23 45 39.4**	**-1.4**
	4.0nm,0.8s,baz=1.6,slow=11,SNR=5.8						
GOGA	**Godfrey**	**21.92**	**313**	*eP*	**P**	**23 45 55.7**	**+0.9**
	5.5nm,1.0s						
BLA	**Blacksburg**	**22.50**	**325**	*eP*	**P**	**23 46 04.5**	**+3.4**
	6.4nm,0.8s						
OTAV	**Otavalo**	**23.63**	**217**	*eP*	**P**	**23 46 12.6**	**-0.6**
	2.5nm,0.4s						
TZTN	**Tazewell**	**23.86**	**319**	*eP*	**P**	**23 46 16.7**	**+1.8**
	2.4nm,0.7s						
SSPA	**Standing Stone**	**23.99**	**334**	*eP*	**P**	**23 46 17.7**	**+1.7**
SCHQ	**Schefferville**	**35.27**	**358**	LR	LR	23 59 24.3	
	comp=Z,97nm,21.7s,baz=40,slow=31						
LPAZ	**La Paz**	**35.80**	**186**	P	**P**	**23 48 02.9**	**+1.4**
	0.7nm,0.6s,baz=20,slow=7.1,SNR=3.1						
LPAZ					LR	LR	00 03 18.8	
	comp=Z,79nm,19.9s,baz=346,slow=37						
TXAR	**Lajitas Array**	**36.92**	**293**	P	**P**	**23 48 11.5**	**+0.9**
	1.1nm,0.8s,baz=107,slow=10,SNR=6.0						
BDFB	**Brasilia**	**38.49**	**154**	P	**P**	**23 48 25.1**	**+1.2**
	2.7nm,0.6s,baz=306,slow=6.7,SNR=5.0						
ULM	**Lac du Bonnet**	**39.53**	**328**	P	**P**	**23 48 31.1**	**-1.0**
	1.8nm,0.7s,baz=140,slow=9.4,SNR=3.8						
PDAR	**Pinedale Array**	**44.39**	**312**	P	**P**	**23 49 12.2**	**-0.1**
	0.3nm,0.4s,baz=114,slow=9.9,SNR=4.9						
CPUP	**Villa Florida**	**46.11**	**171**	P	**P**	**23 49 23.9**	**-1.8**
	2.1nm,0.8s,baz=2.8,slow=8.6,SNR=7.8						
CPUP					LR	LR	00 09 28.1	
	comp=Z,50nm,20.3s,baz=351,slow=37						
NVAR	**Mina Array Bea**	**50.06**	**304**	P	**P**	**23 49 57.0**	**+0.4**
	0.4nm,0.5s,baz=92,slow=8.1,SNR=3.2						
YKA	**Yellowknife Ar**	**54.92**	**334**	P	**P**	**23 50 32.4**	**+0.5**
	0.7nm,0.7s,baz=108,slow=7.4,SNR=9.3						
ESDC	**Sonseca Array**	**55.19**	**55**	LR	LR	00 08 17.8	
	comp=Z,54nm,21.5s,baz=5.0,slow=30						
PLCA	**Paso Flores**	**60.24**	**185**	LR	LR	00 18 18.7	
	comp=Z,16nm,19.7s,baz=30,slow=37						
TORD	**Torodi Ar. Bea**	**63.40**	**85**	P	**P**	**23 51 30.9**	**-0.5**
	0.4nm,0.6s,baz=291,slow=4.4,SNR=3.0						
TORD					LR	LR	00 16 08.9	
	comp=Z,55nm,19.2s,baz=310,slow=33						
ILAR	**Eielson Array**	**69.32**	**333**	P	**P**	**23 52 09.3**	**+0.8**
	1.1nm,1.1s,baz=105,slow=4.5,SNR=8.2						
WRA	**Warramunga Arr**	**162.37**	**266**	PKPab	**PKPab**	**00 01 51.4**	**-0.1**
	0.3nm,0.5s,baz=87,slow=4.0,SNR=5.3						
ASAR	**Alice Springs**	**162.51**	**253**	PKPab	**PKPab**	**00 01 52.3**	**+0.3**
	0.4nm,0.7s,baz=107,slow=3.2,SNR=3.5						

ISCJB ***16*** *23:54:53.1±0.9, 14.°5N±0.°1×119.°2E±0.°1, h36km, mb3.6/5, MS3.3/1, Error ellipse: s-maj=23.5km s-min=10.6km az=27.2*

IDC ***16*** *23:54:57.9±2.6, 14.°58N×119.°45E, h65km±27km, mb3.3/6, mb1 3.6/6, mb1mx3.3/35, mbtmp3.6/6, MS3.4/1, Ms1 3.4/1, ms1mx2.8/23, Error ellipse: s-maj=32.1km s-min=16.7km az=53.0*

ISC 16 23:54:55.2±0.9, 14.°6N±0.°2×119.°3E±0.°1, h36km, n8, σ1§12/8, mb3.7/5, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**1.64**	**106**	P	**Pn**	**23 55 22.1**	**+0.5**
	105nm,0.3s,baz=307,slow=9.1,SNR=11						
TGY					S	**Sn**	**23 55 42.1**	**+0.6**
	153nm,0.3s,baz=8.8,slow=12,SNR=5.8						
CMAR	**Chiang Mai Arr**	**19.90**	**284**	P	**Pn**	**23 59 27.4**	**+1.8**
	0.8nm,0.3s,baz=92,slow=10,SNR=3.4						
KSRS	**Korea Array**	**24.05**	**17**	LR	LR	00 10 59.8	
	comp=Z,91nm,18.4s,baz=35,slow=40						
SONM	**Songino Array**	**34.86**	**345**	P	**P**	**00 01 42.4**	**-0.7**
	0.2nm,0.5s,baz=164,slow=7.5,SNR=2.2						
WRA	**Warramunga Arr**	**37.35**	**156**	P	**P**	**00 02 03.1**	**-1.3**
	3.7nm,1.0s,baz=336,slow=9.6,SNR=11						
ASAR	**Alice Springs**	**40.59**	**159**	P	**P**	**00 02 31.3**	**-

mpv4.0,Error ellipse: s-maj=30.5km s-min=24.0km az=133.0

ISC 17 01:04:12.2±0.7,**36°07'N**±0°08×**70°95'E**±0°06,**h102**km,**n42,** σ2§**00**/49,**mb3.5/7,5C-6D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.43**	**26**	⇓P	**Pn**	**01 05 19.8**	**+2.4**
	15nm,0.4s						
SFK				⇓S	**Sn**	**01 06 09.2**	**+1.3**
	5.2nm,0.2s						
AML	**Almayashu**	**6.42**	**19**	P	**Pn**	**01 05 45.0**	**+0.5**
	SNR=31						
UCH	**Uchtor**	**6.75**	**23**	P	**Pn**	**01 05 49.5**	**+0.5**
	SNR=13						
KZA	**Kyzart**	**6.87**	**28**	P	**Pn**	**01 05 51.1**	**+0.4**
	SNR=11						
EKS2	**Erkin-Say**	**6.94**	**18**	P	**Pn**	**01 05 52.2**	**+0.9**
	SNR=30						
KK31	**Karatay Array**	**7.04**	**357**	⇓P	**Pn**	**01 05 52.2**	**-0.4**
	5.0nm,0.5s,baz=184,slow=13,SNR=106						
KK31				⇓S	**Sn**	**01 07 05.3**	**-5.6**
	16nm,0.8s,baz=182,slow=22,SNR=7.1						
AAK	**Ala-Archa**	**7.11**	**22**	P	**Pn**	**01 05 54.5**	**+0.8**
	2.8nm,0.3s,baz=178,slow=6.0,SNR=60						
AAK				S	**Sn**	**01 07 11.1**	**-2.0**
	0.8nm,0.3s,baz=310,slow=23,SNR=8.4						
AAK	**Ala-Archa**	**7.11**	**22**	P	**Pn**	**01 05 54.4**	**+0.7**
	SNR=11						
AAK	**Ala-Archa**	**7.11**	**22**	⇑P	**Pn**	**01 05 54.5**	**+0.8**
	5.8nm,0.5s						
AAK				⇑S	**Sn**	**01 07 10.3**	**-2.7**
	24nm,0.7s						
KBK	**Karagaybulak**	**7.27**	**24**	P	**Pn**	**01 05 56.8**	**+0.9**
	SNR=7.1						
USP	**Ospenovka**	**7.69**	**20**	P	**Pn**	**01 06 02.2**	**+0.7**
	SNR=10						
TKM2	**Tokmak 2**	**7.73**	**26**	P	**Pn**	**01 06 02.4**	**+0.3**
	SNR=14						
TKM2	**Tokmak 2**	**7.73**	**26**	⇑P	**Pn**	**01 06 02.4**	**+0.3**
	4.7nm,0.5s						
TKM2				⇓S	**Sn**	**01 07 26.5**	**-1.6**
	10nm,0.8s						
GEYT	**Alibeck**	**10.44**	**284**	P	**Pn**	**01 06 38.1**	**-0.7**
	1.3nm,0.3s,baz=100,slow=10,SNR=13						
GEYT				S	**Sn**	**01 08 29.8**	**-3.9**
	0.9nm,0.3s,baz=105,slow=17,SNR=6.6						
PYUN	**Piuthan**	**12.92**	**125**	*e*P	**Pn**	**01 07 10.0**	**-2.2**
	35nm,0.4s						
DANN	**Dangsing**	**13.29**	**122**	*e*P	**Pn**	**01 07 14.7**	**-2.3**
	53nm,0.7s						
KOLN	**Koldanda**	**13.55**	**124**	*e*P	**Pn**	**01 07 18.0**	**-2.4**
	21nm,0.4s						
MK31	**Makanchi Array**	**13.67**	**35**	P	**Pn**	**01 07 20.4**	**-1.3**
	3.8nm,1.1s,baz=211,slow=11,SNR=11						
MKAR	**Makanchi Array**	**13.67**	**35**	P	**Pn**	**01 07 20.9**	**-0.7**
	0.1nm,0.3s,baz=220,slow=12,SNR=10						
DMN	**Daman**	**14.68**	**121**	*e*P	**Pn**	**01 07 32.9**	**-2.1**
	18nm,0.4s						
KKN	**Kakani**	**14.69**	**120**	*e*P	**Pn**	**01 07 32.8**	**-2.3**
	14nm,0.4s						
PKIN	**Phulchoki**	**14.90**	**121**	*e*P	**Pn**	**01 07 35.1**	**-2.7**
	14nm,0.5s						
PKI	**Pulchoki**	**14.91**	**121**	*e*P	**Pn**	**01 07 35.9**	**-2.1**
	26nm,0.6s						
GUN	**Gumba**	**15.04**	**119**	*e*P	**Pn**	**01 07 36.9**	**-2.7**
	8.6nm,0.3s						
JIRN	**Jiri**	**15.41**	**119**	*e*P	**Pn**	**01 07 42.1**	**-2.2**
	49nm,0.3s						
AB31	**Akbulak array**	**15.45**	**332**	P	**Pn**	**01 07 42.6**	**-1.6**
	0.9nm,0.5s,baz=140,slow=11,SNR=58						
KURBB	**Kurchatov Arra**	**15.55**	**18**	P	**P**	**01 07 47.5**	**0.0**
	0.1nm,0.3s,baz=207,slow=10,SNR=11						
KURBB	**Kurchatov Arra**	**15.55**	**18**	⇑P	**P**	**01 07 47.6**	**0.0**
	3.5nm,0.7s						
KURK	**Kurchatov**	**15.65**	**18**	⇑P	**P**	**01 07 49.0**	**+0.1**
	3.4nm,1.0s						
BVAR	**Borovoye Array**	**16.96**	**359**	P	**P**	**01 08 03.1**	**-0.2**
	0.3nm,0.3s,baz=165,slow=12,SNR=12						
AKTO	**Aktyubinsk**	**17.14**	**331**	P	**Pn**	**01 08 05.7**	**+0.5**
	0.3nm,0.3s,baz=153,slow=16,SNR=13						
AKTO	**Aktyubinsk**	**17.14**	**331**	⇓P	**P**	**01 08 04.2**	**-1.1**
	6.8nm,0.8s						
ZALV	**Zalesovo Beam**	**20.33**	**24**	P	**P**	**01 08 40.0**	**0.0**
	1.8nm,0.3s,baz=212,slow=10,SNR=19						
GNI	**Garni**	**21.00**	**289**	P	**P**	**01 08 52.1**	**+4.6**
	4.2nm,0.6s,baz=33,slow=8.0,SNR=5.5						
SONM	**Songino Array**	**28.61**	**55**	P	**P**	**01 09 58.3**	**-0.6**
	0.2nm,0.4s,baz=260,slow=8.3,SNR=4.0						
ARCES	**ARCESS Array B**	**41.53**	**338**	P	**P**	**01 11 51.4**	**+2.3**
	2.2nm,0.8s,baz=116,slow=8.4,SNR=3.6						
NB2	**NORSAR Subarra**	**44.70**	**323**	P	**P**	**01 12 16.3**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.70**	**323**	P	**P**	**01 12 16.8**	**+2.0**
	comp=Z,1.0nm,0.7s,baz=96,slow=7.9,SNR=5.6						
TORD	**Torodi Ar. Bea**	**65.67**	**269**	P	**P**	**01 14 47.0**	**+1.0**
	comp=Z,0.5nm,0.9s,baz=39,slow=6.6,SNR=5.3						
TORD				sP	**PcP**	**01 15 13.2**	**-3.4**
	comp=Z,0.5nm,0.8s,baz=37,slow=8.8,SNR=3.6						
INK	**Inuvik**	**74.34**	**9**	P	**P**	**01 15 40.1**	**+2.0**
	comp=Z,0.7nm,0.5s,baz=359,slow=4.8,SNR=5.7						
ILAR	**Eielson Array**	**75.21**	**16**	P	**P**	**01 15 44.5**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=308,slow=4.4,SNR=4.7						
YKA	**Yellowknife Ar**	**81.68**	**3**	P	**P**	**01 16 20.5**	**+1.7**
	comp=Z,0.3nm,0.4s,baz=350,slow=5.4,SNR=9.8						

*NIED **17** 01:12:00,44°10N×148°20E,h47km,Mw4.0 Best double couple: Mo1.09000×10¹⁵ NP1:φ=229.00000°,δ=39.00000°, λ=157.00000°. NP2:φ=337.00000°,δ=76.00000°,λ=53.00000°.*
*MOS **17** 01:12:49.7±1.3,44°59N×148°36E,h73km,mb4.1/9, Error ellipse: s-maj=11.0km s-min=9.0km az=74.3*
*ISCJB **17** 01:12:49.6±0.7,44°55N±0°04×148°38E±0°07,h70km±6km, mb3.7/19, Error ellipse: s-maj=9.9km s-min=4.9km az=34.0*
*JMA **17** 01:12:50.0±0.4,44°14N×148°20E,h0km,M4.7*
*SKHL **17** 01:12:50.6±0.6,44°63N×148°34E,h81km±5km,mb4.9/10, msh5.8/5*
*IDC **17** 01:12:54.3±2.5,44°71N×148°23E,h94km±21km,mb3.4/14, mb1 3.6/18,mb1mx3.6/32,mbtmp3.7/18,MS3.2/4, Ms1 3.2/4,ms1mx2.8/41, Error ellipse: s-maj=21.6km s-min=14.4km az=152.0*

ISC 17 01:12:50.6±1.0,**44°57N**±0°05×**148°38E**±0°07,**h63**km±9km, **n78,** σ1§**59**/95,**mb3.7**/19,**1C-5D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.76**	**331**	⇓*i*P	**Pn**	**01 13 05.0**	**-0.7**
KUR				AMB	AMB	01 13 05.0	
	280nm,0.3s						
KUR				AMB	AMB	01 13 05.0	
	210nm,0.3s						
KUR				AMB	AMB	01 13 05.0	
	1μm,0.3s						
KUR				*i* S	**Sn**	**01 13 16.0**	**-0.7**
KUR				A	A	01 13 17.1	
	5μm,0.5s						
KUR				A	A	01 13 17.1	
	7μm,0.5s						
KUR	**Kuril'sk**	**0.76**	**331**	*d*iPN	**Pn**	**01 13 05.2**	**-0.5**
KUR				*i* S	**Sn**	**01 13 16.4**	**-0.3**
KUR				pmax	pmax		
	comp=N,278nm,0.2s						
KUR				pmax	pmax		
	comp=E,206nm,0.2s						
KUR				pmax	pmax		
	comp=Z,1μm,0.2s						
KUR				smax	smax		
	comp=N,5μm,0.3s						
KUR				smax	smax		
	comp=E,7μm,0.5s						
SHO	**Shikotan**	**1.32**	**238**	⇓*i*P	**Pn**	**01 13 12.0**	**-0.9**
SHO				AMB	AMB	01 13 12.0	
	comp=E,30nm,0.2s						
SHO				AMB	AMB	01 13 12.0	
	comp=E,40nm,0.2s						
SHO				AMB	AMB	01 13 12.0	
	comp=E,70nm,0.2s						
SHO				*i* S	**Sn**	**01 13 28.2**	**-1.4**
SHO				A	A	01 13 28.7	
	comp=E,640nm,0.3s						
SHO				A	A	01 13 28.7	
	comp=E,2μm,0.3s						
SHO	**Shikotan**	**1.32**	**238**	*d* iPN	**Pn**	**01 13 12.0**	**-0.9**
SHO				*e*S	**Sn**	**01 13 27.7**	**-1.9**
SHO				pmax	pmax		
	comp=N,32nm,0.2s						
SHO				pmax	pmax		
	comp=E,36nm,0.2s						
SHO				pmax	pmax		
	comp=Z,69nm,0.2s						
SHO				smax	smax		
	comp=N,636nm,0.3s						
SHO				smax	smax		
	comp=E,2μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.89**	**254**	*e*P	**Pn**	**01 13 20.9**	**+0.4**
YUK				AMB	AMB	01 13 21.9	
	comp=E,270nm,0.3s						
YUK				AMB	AMB	01 13 21.9	
	comp=E,250nm,0.3s						
YUK				AMB	AMB	01 13 21.9	
	comp=E,1μm,0.3s						
YUK				*e*S	**Sn**	**01 13 44.2**	**+0.9**
YUK				A	A	01 13 45.5	
	comp=E,700nm,0.3s						
YUK				A	A	01 13 45.5	
	comp=E,1μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.89**	**254**	*e*PN	**Pn**	**01 13 20.9**	**+0.4**
YUK				*e*S	**Sn**	**01 13 44.2**	**+0.9**
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				pmax	pmax		
	comp=N,274nm,0.1s						
YUK				pmax	pmax		
	comp=E,249nm,0.1s						
YUK				smax	smax		
	comp=N,700nm,0.2s						
YUK				smax	smax		
	comp=E,1μm,0.4s						
GRPR	**Tuman**	**1.96**	**254**	*e*P	**Pn**	**01 13 22.0**	**+0.5**
GRPR				AMB	AMB	01 13 23.0	
	comp=E,90nm,0.2s						
GRPR				AMB	AMB	01 13 23.0	
	comp=E,70nm,0.2s						
GRPR				AMB	AMB	01 13 23.0	
	comp=E,280nm,0.2s						
GRPR				*e*S	**Sn**	**01 13 45.0**	**-0.1**
GRPR				A	A	01 13 47.0	
	comp=E,950nm,0.4s						
GRPR				A	A	01 13 47.0	
	comp=E,1μm,0.4s						
GRPR	**Tuman**	**1.96**	**254**	*e*PN	**Pn**	**01 13 22.4**	**+0.9**
GRPR				*e*S	**Sn**	**01 13 45.8**	**+0.7**
GRPR				pmax	pmax		
	comp=N,87nm,0.1s						
GRPR				pmax	pmax		
	comp=E,65nm,0.1s						
GRPR				pmax	pmax		
	comp=Z,279nm,0.1s						
GRPR				smax	smax		
	comp=N,946nm,0.4s						
GRPR				smax	smax		
	comp=E,1μm,0.4s						
NEM2	**Nemuro 2**	**2.25**	**239**	P	**Pn**	**01 13 24.8**	**-0.7**
NEM2				*e*S	**Sn**	**01 13 50.3**	**-1.9**
JRA	**Rausu**	**2.43**	**256**	P	**Pn**	**01 13 29.0**	**+1.2**
JKHN	**Kushirohamanak**	**2.77**	**239**	P	**Pn**	**01 13 32.2**	**-0.3**
JKHN				*e*S	**Sn**	**01 14 02.6**	**-2.1**
JNK	**Nakash**	**2.82**	**251**	P	**Pn**	**01 13 34.0**	**+0.8**
JNK				*e*S	**Sn**	**01 14 06.2**	**+0.2**
JAK	**Akkeshi**	**3.10**	**241**	P	**Pn**	**01 13 36.7**	**-0.3**
JAK				*e*S	**Sn**	**01 14 11.4**	**-1.4**
JTKR	**Abashiri--Toko**	**3.27**	**261**	P	**Pn**	**01 13 40.2**	**+0.9**
JAR	**Ashorobuto**	**3.57**	**251**	P	**Pn**	**01 13 44.8**	**+1.4**
JAR				*e*S	**Sn**	**01 14 25.6**	**+1.3**
JKK2	**Kamakawa 2**	**4.11**	**262**	P	**Pn**	**01 13 53.0**	**+2.1**
JCH	**Churui**	**4.14**	**244**	P	**Pn**	**01 13 52.0**	**+0.8**
JCH				*e*S	**Sn**	**01 14 39.1**	**+0.8**
JSE	**Soyaes**	**4.15**	**277**	P	**Pn**	**01 13 52.6**	**+1.3**
ASAJ	**Asahikawa**	**4.17**	**266**	P	**Pn**	**01 13 53.8**	**+2.1**
	comp=E,3.2nm,0.3s,baz=58,slow=24,SNR=8.5						
ASAJ				S	Sn	01 14 55.0	+16
	comp=E,1.6nm,0.3s,baz=29,slow=25,SNR=2.1						
ASAJ				LR	LR	01 15 02.4	
	comp=E,111nm,18.9s,baz=156,slow=31						
JFR	**Furan**	**4.42**	**253**	P	**Pn**	**01 13 57.6**	**+2.5**
JFR				*e*S	**Sn**	**01 14 49.0**	**+3.8**
ERM	**Erimo**	**4.59**	**238**	*e*P	**Pn**	**01 14 00.1**	**+2.7**
ERM	**Erimo**	**4.59**	**238**	*i* PN	**Pn**	**01 14 00.1**	**+2.7**
YSS	**Yuzh-Sakhalins**	**4.60**	**303**	⇓*i*P	**Pn**	**01 13 58.2**	**+0.7**
YSS				AMB	AMB	01 13 58.9	
	comp=E,30nm,0.3s						
YSS				*e*S	**Sn**	**01 14 48.0**	**-1.6**
YSS				A	A	01 14 53.2	
	comp=E,30nm,0.4s						
YSS				A	A	01 14 53.2	
	comp=E,20nm,0.4s						
YSS	**Yuzh-Sakhalins**	**4.60**	**303**	*e*PN	**Pn**	**01 13 57.6**	**+0.1**
YSS				*e*S	**Sn**	**01 14 44.9**	**-4.7**
YSS				pmax	pmax		
	comp=Z,30nm,0.3s						
YSS				smax	smax		
	comp=N,20nm,1.3s						
YSS				smax	smax		
	comp=E,30nm,0.9s						
YSS				MLR	MLR		
	comp=Z,500nm,14.0s						
JWK2	**Keihoku**	**4.66**	**281**	P	**Pn**	**01 14 01.2**	**+2.8**
JNBK	**Urakawa-nobuka**	**4.70**	**243**	P	**Pn**	**01 13 59.3**	**+0.4**
JKB	**Kayabe**	**6.00**	**246**	P	**Pn**	**01 14 17.3**	**+0.6**
JKB				*e*S	**Sn**	**01 15 22.7**	**-1.3**
UGL	**Uglegorsk**	**6.25**	**318**	*e*P	**Pn**	**01 14 19.7**	**-0.4**
UGL				AMB	AMB	01 14 25.3	
	comp=Z,40nm,0.4s						
UGL				*e*S	**Sn**	**01 15 27.4**	**-2.7**
UGL				A	A	01 15 32.3	
	comp=Z,40nm,0.5s						
UGL				A	A	01 15 32.3	
	comp=Z,60nm,0.5s						
JOT	**Ohata**	**6.25**	**242**	P	**Pn**	**01 14 20.3**	**+0.1**
JOT				*e*S	**Sn**	**01 15 27.2**	**-3.0**
JANG	**Nango**	**6.58**	**233**	P	**Pn**	**01 14 23.2**	**-1.5**
JANG				*e*S	**Sn**	**01 15 32.7**	**-5.7**
TYV	**Tymovskoe**	**7.38**	**331**	*e*P	**Pn**	**01 14 36.0**	**+0.4**
TYV				AMB	AMB	01 14 39.5	
	comp=Z,20nm,0.8s						
TYV				AMB	AMB	01 14 41.1	
	comp=Z,300nm,4.6s						
TYV				*e*S	**Sn**	**01 15 55.3**	**-2.5**
TYV				A	A	01 16 03.0	
	comp=Z,40nm,0.7s						
TYV				A	A	01 16 08.0	
	comp=Z,800nm,5.0s						
TYV	**Tymovskoe**	**7.38**	**331**	*e*PN	**Pn**	**01 14 36.6**	**+1.0**
TYV				*e*S	**Sn**	**01 16 00.9**	**+3.1**
TYV				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TYV				pmax	pmax		
	comp=Z,300nm,4.6s						
TYV				smax	smax		
	comp=N,4.0nm,0.7s						
TYV				smax	smax		
	comp=N,800nm,5.2s						
TEY	**Ternei**	**8.39**	**277**	*e*P	**Pn**	**01 14 50.4**	**+1.0**
TEY				AMB	AMB	01 14 51.7	
	comp=N,30nm,0.7s						
NKL	**Nikolayevsk**	**9.97**	**332**	⇑*e*P	**Pn**	**01 15 11.9**	**+1.1**
NKL				AMB	AMB	01 15 13.8	
	comp=N,20nm,1.0s						
PETK	**Petropavlovsk-**	**10.51**	**32**	P	**Pn**	**01 15 20.7**	**+2.4**
	comp=N,0.2nm,0.3s,baz=193,slow=15,SNR=2.6						
MJAR	**Matsushiro Arr**	**11.14**	**227**	P	**Pn**	**01 15 25.8**	**-1.2**
	comp=N,0.1nm,0.3s,baz=24,slow=13,SNR=4.6						
USRK	**Ussuriysk Ar.**	**11.74**	**274**	P	**Pn**	**01 15 37.4**	**+2.3**
	comp=N,0.2nm,0.3s,baz=92,slow=13,SNR=8.4						
KLR	**Kul'dur**	**12.29**	**298**	P	**Pn**	**01 15 44.9**	**+2.3**
	comp=N,0.1nm,0.3s,baz=110,slow=18,SNR=4.7						
EKMR	**Ekimchan**	**13.23**	**315**	*e*P	**Pn**	**01 15 56.1**	**+0.7**
MA2	**Magadan**	**15.10**	**5**	LR	LR	01 23 02.0	
	comp=N,127nm,18.6s,baz=99,slow=41						
BILL	**Bilibino**	**25.33**	**16**	*e*P	**P**	**01 18 11.3**	**+0.3**
BILL	**Bilibino**	**25.33**	**16**	*e*P	**P**	**01 18 11.3**	**+0.3**
BILL				*e*		01 18 47.5	
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONM	**Songino Array**	**28.98**	**292**	P	**P**	**01 18 43.5**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=75,slow=9.2,SNR=4.7						
SONM				LR	LR	01 30 27.3	
	comp=Z,78nm,18.9s,baz=72,slow=36						
H11N2	**WAKE ISLAND Hy**	**29.17**	**142**	T	T	01 49 35.6	
	baz=333,slow=76,SNR=134						
H11N1	**WAKE ISLAND Hy**	**29.19**	**142**	T	T	01 49 35.7	
	baz=333,slow=76,SNR=112						
H11N3	**WAKE ISLAND Hy**	**29.19**	**142**	T	T	01 49 44.0	
	baz=333,slow=76,SNR=109						
H11S1	**WAKE ISLAND Hy**	**30.17**	**144**	T	T	01 50 56.8	
	baz=334,slow=76,SNR=248						
H11S3	**WAKE ISLAND Hy**	**30.18**	**144**	T	T	01 50 47.2	
	baz=334,slow=76,SNR=192						
H11S2	**WAKE ISLAND Hy**	**30.19**	**144**	T	T	01 50 47.9	
	baz=334,slow=76,SNR=180						
ILAR	**Eielson Array**	**40.30**	**37**	P	**P**	**01 20 21.8**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=266,slow=8.1,SNR=6.0						
ILAR				PcP	**PcP**	**01 22 23.0**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=245,slow=3.9,SNR=3.2						
DGZ	**Jazzator, Alta**	**40.78**	**300**	*i* P	**P**	**01 20 27.0**	**+1.5**
DGZ				pmax	pmax		
	comp=Z,1.0nm,1.3s						
ZALV	**Zalesovo Beam**	**41.22**	**307**	PcP	**PcP**	**01 22 26.2**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=58,slow=3.8,SNR=3.8						
MKAR	**Makanchi Array**	**44.99**	**297**	P	**P**	**01 20 59.8**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=77,slow=8.4,SNR=5.2						
MKAR				PcP	**PcP**	**01 22 39.6**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=63,slow=4.7,SNR=4.8						
MKAR	**Makanchi Array**	**44.99**	**297**	*e*P	**P**	**01 21 00.1**	**+0.6**
MKAR	**Makanchi Array**	**44.99**	**297**	*e*P	**P**	**01 21 00.1**	**+0.6**
INK	**Inuvik**	**45.24**	**31**	P	**P**	**01 21 01.1**	**0.0**
	comp=Z,0.3nm,0.3s,baz=279,slow=7.0,SNR=16						
BRVK	**Borovoye**	**49.71**	**309**	*i* P	**P**	**01 21 35.8**	**-0.2**
BRVK	**Borovoye**	**49.71**	**309**	*i* P	**P**	**01 21 35.8**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
YKA	**Yellowknife Ar**	**54.62**	**34**	P	**P**	**01 22 12.1**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=299,slow=7.1,SNR=6.4						
YKA				PcP	**PcP**	**01 23 14.6**	**+0.2**
	comp=Z,0.1nm,0.6s,baz=297,slow=3.3,SNR=2.9						
FINES	**FINESS Array B**	**64.54**	**333**	P	**P**	**01 23 18.3**	**-2.2**
	comp=Z,1.5nm,0.9s,baz=46,slow=8.5,SNR=7.0						
FINES	**FINESS Array B**	**64.54**	**333**	*e*P	**P**	**01 23 18.8**	**-1.7**
FINES	**FINESS Array B**	**64.54**	**333**	*e*P	**P**	**01 23 18.8**	**-1.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
OBN	**Obninsk**	**65.17**	**324**	LR	LR	01 52 56.3	
	comp=Z,14nm,20.0s,baz=349,slow=37						
OBN	**Obninsk**	**65.17**	**324**	*e*P	**P**	**01 23 22.6**	**-2.0**
OBN	**Obninsk**	**65.17**	**324**	*e*P	**P**	**01 23 22.6**	**-2.0**
OBN				*e*		01 25 46.0	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WRA	**Warramunga Arr**	**65.47**	**195**	P	**P**	**01 23 27.1**	**+0.2**
	comp=Z,44nm,0.5s,baz=11,slow=6.4,SNR=2.0						
NVAR	**Mina Array Bea**	**66.39**	**59**	P	**P**	**01 23 34.2**	**+1.1**
	comp=Z,1.3nm,1.0s,baz=286,slow=6.6,SNR=5.2						
PDAR	**Pinedale Array**	**68.70**	**51**	P	**P**	**01 23 48.1**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=225,slow=1.3,SNR=5.1						
NB2	**NORSAR Subarra**	**69.15**	**339**	P	**P**	**01 23 49.2**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**69.15**	**339**	P	**P**	**01 23 49.1**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=31,slow=6.6,SNR=13						
NOA	**NORSAR Array B**	**69.15**	**339**	*e*P	**P**	**01 23 49.4**	**-0.4**
NOA	**NORSAR Array B**	**69.15**	**339**	*e*P	**P**	**01 23 49.4**	**-0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**69.19**	**194**	P	**P**	**01 23 51.5**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=17,slow=6.5,SNR=4.9						
ULM	**Lac du Bonnet**	**70.31**	**38**	P	**P**	**01 23 56.4**	**-0.7**
	comp=Z,2.3nm,1.0s,baz=22,slow=9.5,SNR=2.2						
BRTR	**Keskin Array B**	**77.61**	**314**	P	**P**	**01 24 39.5**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=41,slow=4.3,SNR=3.4						
GERES	**GERESS Array B**	**78.87**	**331**	P	**P**	**01 24 46.4**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=27,slow=6.6,SNR=3.8						
TXAR	**Lajitas Array**	**81.46**	**57**	P	**P**	**01 25 01.6**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=296,slow=4.4,SNR=12						
TORD	**Torodi Ar. Bea**	**115.07**	**324**	PKP	PKPdf	01 31 23.4	-1.4
	comp=Z,0.3nm,0.8s,baz=45,slow=0.2,SNR=2.9						

*IDC **17** 01:37:09.7±2.7,36°08N×68°22E,h0km,mb3.2/2, mb1 3.5/7,mb1mx3.3/40,mbtmp3.5/7,ML3.3/5, Error ellipse: s-maj=38.5km s-min=27.8km az=162.0*
*ISCJB **17** 01:37:14.8±1.3,36°6N±0°1×67°90E±0°07,h30km,mb3.2/1, Error ellipse: s-maj=16.8km s-min=6.1km az=161.7*
*NNC **17** 01:37:19.1±5.3,36°94N×67°96E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=54.5km s-min=32.3km az=165.0*

ISC 17 01:37:16.2±1.7,**36°5N**±0°2×**67°98E**±0°07,**h30**km,**n13,** σ1§**81**/19,**4C-2D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**5.60**	**49**	⇓Pn	**Pn**	**01 38 39.3**	**+1.7**
	1.2nm,0.3s						
SFK				⇑Sn	**Sn**	**01 39 43.4**	**+2.4**
	9.1nm,0.4s						
KK31	**Karatay Array**	**6.89**	**16**	Pn	**Pn**	**01 38 56.9**	**+1.7**
	0.3nm,0.2s,baz=208,slow=16,SNR=32						
KK31				⇑Sn	**Sn**	**01 40 11.1**	**-1.5**
	1.2nm,0.2s,baz=202,slow=24,SNR=7.4						
AAK	**Ala-Archa**	**7.94**	**37**	Pn	**Pn**	**01 39 10.5**	**+0.7**
	0.5nm,0.3s,baz=211,slow=5.9,SNR=4.9						
AAK				Sn	**Sn**	**01 40 38.6**	**0.0**
	0.7nm,0.3s,baz=133,slow=22,SNR=2.2						
AAK				Lg	Lg	01 41 26.3	
	baz=342,slow=18,SNR=1.7						
AAK	**Ala-Archa**	**7.94**	**37**	Pn	**Pn**	**01 39 14.2**	**+4.5**
	1.8nm,0.5s						
AAK				⇓Sn	**Sn**	**01 40 40.1**	**+1.5**
	4.3nm,0.9s						
GEYT	**Alibeck**	**8.00**	**283**	Pn	**Pn**	**01 39 11.2**	**+0.8**
	0.5nm,0.3s,baz=100,slow=9.9,SNR=2.4						
GEYT				Sn	**Sn**	**01 40 39.8**	**-0.1**
	1.2nm,0.3s,baz=240,slow=31,SNR=5.8						
GEYT				Lg	Lg	01 41 46.0	
	baz=102,slow=34,SNR=1.3						

*IDC **17** 01:42:04.8±1.3,39°.21S×175°.70E,h111km±13km,mb4.0/3, mb1 4.1/4,mb1mx3.7/24,mbtmp4.4/4,MS2.9/1,Ms1 2.9/1, ms1mx2.6/20,Error ellipse: s-maj=26.7km s-min=17.2km az=156.0*

*WEL **17** 01:42:06.0,39°.1S×1°.0×17°6E±°,h108km±1km*

ISC 17 01:42:05.3±0.7,**39°17S**±0'.03×**175°50E**±0'.03,**h118**km±4km, **n160**,σ1§47/187,**mb4.5**/8,**North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COVZ	**Chateau Observ**	**0.05**	**135**	P	**Pn**	**01 42 21.2**	**-0.4**
COVZ				S	**Sn**	**01 42 32.6**	**-1.3**
NGZ	**Ngauruhoe**	**0.08**	**96**	P	**Pn**	**01 42 21.1**	**-0.6**
WTVZ	**West Tongariro**	**0.09**	**53**	P	**Pn**	**01 42 20.9**	**-0.8**
WTVZ				S	**Sn**	**01 42 32.3**	**-1.6**
FWVZ	**Far West T-bar**	**0.10**	**155**	P	**Pn**	**01 42 21.5**	**-0.4**
FWVZ				S	**Sn**	**01 42 33.0**	**-1.3**
TWVZ	**Taurewa**	**0.11**	**333**	P	**Pn**	**01 42 20.9**	**-0.8**
TWVZ				S	**Sn**	**01 42 32.1**	**-1.9**
DRZ	**Dome Shelter**	**0.12**	**156**	P	**Pn**	**01 42 21.9**	**-0.1**
KRVZ	**Karewarewa**	**0.13**	**56**	P	**Pn**	**01 42 21.0**	**-0.7**
WHVZ	**Whangaehu Hut**	**0.13**	**149**	P	**Pn**	**01 42 21.7**	**-0.2**
TRVZ	**Turoa**	**0.14**	**164**	P	**Pn**	**01 42 21.7**	**-0.2**
TUVZ	**Tukino**	**0.16**	**130**	P	**Pn**	**01 42 21.7**	**-0.2**
PKVZ	**Pokaka**	**0.17**	**224**	P	**Pn**	**01 42 21.5**	**-0.2**
MTVZ	**Mangateitei**	**0.22**	**186**	P	**Pn**	**01 42 21.8**	**0.0**
KATZ	**Kakaramea**	**0.24**	**38**	P	**Pn**	**01 42 21.1**	**-0.9**
MOVZ	**Moawhango**	**0.31**	**141**	P	**Pn**	**01 42 21.6**	**-0.3**
RITZ	**Rihia Road**	**0.34**	**56**	P	**Pn**	**01 42 21.7**	**-0.5**
RATZ	**Rangitukua**	**0.37**	**35**	P	**Pn**	**01 42 21.4**	**-1.0**
WATZ	**Wairara**	**0.49**	**22**	P	**Pn**	**01 42 22.3**	**-0.8**
HATZ	**Hinemaiaia**	**0.54**	**59**	P	**Pn**	**01 42 22.4**	**-1.0**
BHHZ	**Black Hill Sta**	**0.54**	**127**	P	**Pn**	**01 42 23.2**	**-0.2**
BHHZ				S	**Sn**	**01 42 35.7**	**-1.3**
VRZ	**Vera Road**	**0.58**	**274**	P	**Pn**	**01 42 23.4**	**-0.1**
VRZ				S	**Sn**	**01 42 37.0**	**-0.3**
WHTZ	**Whakaora**	**0.61**	**36**	P	**Pn**	**01 42 23.4**	**-0.5**
WAZ	**Wanganui**	**0.71**	**214**	P	**Pn**	**01 42 25.4**	**+0.9**
KUTZ	**Kaahu Road**	**0.72**	**21**	P	**Pn**	**01 42 24.1**	**-0.6**
KWHZ	**Kaweka Forest**	**0.76**	**110**	P	**Pn**	**01 42 25.5**	**+0.4**
BKZ	**Black Stump Fm**	**0.77**	**90**	*e*Pn	**Pn**	**01 42 24.7**	**-0.5**
BKZ				*e*Sn	**Sn**	**01 42 36.1**	**-4.0**
BKZ	**Black Stump Fm**	**0.77**	**90**	P	**Pn**	**01 42 24.7**	**-0.5**
MRHZ	**Matea Rd**	**0.79**	**65**	P	**Pn**	**01 42 24.3**	**-1.0**
MRHZ				S	**Sn**	**01 42 38.0**	**-2.3**
HIZ	**Hauiti**	**0.82**	**322**	*e*Pn	**Pn**	**01 42 24.9**	**-0.7**
HIZ				*e*Sn	**Sn**	**01 42 40.1**	**-0.7**
HIZ	**Hauiti**	**0.82**	**322**	P	**Pn**	**01 42 24.8**	**-0.8**
WPRZ	**Whakapapatarin**	**0.83**	**39**	P	**Pn**	**01 42 24.8**	**-0.8**
TLZ	**Tolley Road**	**0.84**	**2**	P	**Pn**	**01 42 24.7**	**-1.0**
TLZ				S	**Sn**	**01 42 38.7**	**-2.4**
ALRZ	**Allen Road**	**0.89**	**48**	P	**Pn**	**01 42 25.2**	**-1.0**
LREZ	**Lake Rotokare**	**0.90**	**251**	P	**Pn**	**01 42 26.9**	**+0.7**
MHEZ	**Mangahewa**	**0.92**	**275**	P	**Pn**	**01 42 26.9**	**+0.5**
GRRZ	**Galatos Road**	**0.94**	**30**	P	**Pn**	**01 42 26.1**	**-0.6**
TSZ	**Takapari Road**	**0.96**	**158**	P	**Pn**	**01 42 28.0**	**+1.2**
PRRZ	**Plateau Road**	**0.96**	**47**	P	**Pn**	**01 42 26.0**	**-0.9**
MCHZ	**McNeill Hill**	**0.97**	**107**	P	**Pn**	**01 42 28.2**	**+1.3**
HRRZ	**Handcock Road**	**0.99**	**39**	P	**Pn**	**01 42 26.5**	**-0.6**
DREZ	**Durham Road**	**1.01**	**268**	P	**Pn**	**01 42 27.9**	**+0.6**
NMHZ	**Naumai**	**1.02**	**86**	P	**Pn**	**01 42 28.0**	**+0.6**
HSRZ	**Hossack Road**	**1.03**	**34**	P	**Pn**	**01 42 26.9**	**-0.7**
OHWZ	**Ohakea**	**1.05**	**188**	P	**Pn**	**01 42 29.6**	**+2.0**
PRRZ	**Palmer Road**	**1.06**	**260**	P	**Pn**	**01 42 28.8**	**+1.0**
MTHZ	**Maungataniwha**	**1.09**	**74**	P	**Pn**	**01 42 27.6**	**-0.5**
UTU	**Utuhina**	**1.13**	**29**	P	**Pn**	**01 42 28.2**	**-0.3**
HLRZ	**Highlands Stat**	**1.13**	**36**	P	**Pn**	**01 42 28.6**	**0.0**
RRRZ	**Republican Roa**	**1.15**	**44**	P	**Pn**	**01 42 27.9**	**-0.8**
WPHZ	**Waipukurau**	**1.15**	**141**	P	**Pn**	**01 42 29.9**	**+1.1**
KHEZ	**Kahui Hut**	**1.16**	**263**	P	**Pn**	**01 42 29.6**	**+0.7**
ARHZ	**Aropaoanui**	**1.17**	**95**	P	**Pn**	**01 42 30.0**	**+1.1**
PKE	**Pukeiti**	**1.18**	**268**	P	**Pn**	**01 42 29.5**	**+0.5**
NGRZ	**Ngongotaha**	**1.19**	**27**	P	**Pn**	**01 42 28.7**	**-0.5**
TARZ	**Mount Tarawera**	**1.22**	**41**	P	**Pn**	**01 42 29.0**	**-0.5**
KAHZ	**Kahuranaki**	**1.23**	**121**	P	**Pn**	**01 42 30.7**	**+1.0**
POWZ	**Post Office Ro**	**1.24**	**171**	P	**Pn**	**01 42 30.7**	**+1.0**
DVHZ	**Dannevirke**	**1.24**	**156**	P	**Pn**	**01 42 30.7**	**+1.0**
OMRZ	**Omania**	**1.26**	**33**	P	**Pn**	**01 42 29.3**	**-0.7**
RAHZ	**Arahi**	**1.26**	**79**	P	**Pn**	**01 42 30.1**	**+0.2**
NBEZ	**Newall Road No**	**1.27**	**265**	P	**Pn**	**01 42 30.6**	**+0.5**
RTZ	**Ruatahuna**	**1.28**	**65**	P	**Pn**	**01 42 30.9**	**+0.7**
NMEZ	**Namu Road**	**1.28**	**258**	P	**Pn**	**01 42 30.9**	**+0.7**
KARZ	**Kaharoa**	**1.28**	**27**	P	**Pn**	**01 42 29.7**	**-0.5**
CKHZ	**Cape Kidnapper**	**1.32**	**112**	P	**Pn**	**01 42 31.6**	**+1.1**
WHHZ	**Waihua**	**1.35**	**87**	P	**Pn**	**01 42 31.6**	**+0.7**
PXZ	**Pawanui**	**1.36**	**130**	P	**Pn**	**01 42 31.9**	**+1.0**
KMRZ	**Kaimai**	**1.36**	**15**	P	**Pn**	**01 42 30.6**	**-0.6**
PRHZ	**Porangahau**	**1.40**	**142**	P	**Pn**	**01 42 32.7**	**+1.2**
PRWZ	**Pori Road**	**1.43**	**166**	P	**Pn**	**01 42 33.3**	**+1.4**
TOZ	**Tahuroa Road**	**1.43**	**0**	P	**Pn**	**01 42 30.9**	**-1.0**
SNGZ	**Shannon Statio**	**1.48**	**76**	P	**Pn**	**01 42 32.2**	**-0.3**
ANWZ	**Angora Road**	**1.49**	**150**	P	**Pn**	**01 42 33.8**	**+1.3**
MRZ	**Mangatainoka R**	**1.49**	**178**	P	**Pn**	**01 42 33.4**	**+0.9**
MARZ	**Manawahe**	**1.50**	**38**	P	**Pn**	**01 42 32.0**	**-0.6**
URZ	**Urewera**	**1.55**	**55**	P	**Pn**	**01 42 31.9**	**-1.3**
	62nm,0.3s,baz=249,slow=4.1,SNR=274						
URZ				S	**Sn**	**01 42 51.0**	**-3.4**
	300nm,0.3s,baz=247,slow=14,SNR=24						
URZ				LR	LR	01 43 09.1	
	comp=Z,234nm,21.2s,baz=245,slow=44						
URZ	**Urewera**	**1.55**	**55**	*e*Pn	**Pn**	**01 42 32.0**	**-1.3**
URZ				*e*Sn	**Sn**	**01 42 51.5**	**-3.0**
URZ	**Urewera**	**1.55**	**55**	P	**Pn**	**01 42 32.0**	**-1.3**
TGRZ	**Tauranga**	**1.56**	**23**	P	**Pn**	**01 42 32.5**	**-0.8**
OPRZ	**Ohinepanea**	**1.56**	**32**	P	**Pn**	**01 42 32.6**	**-0.7**
BFZ	**Birch Farm**	**1.62**	**159**	*e*Pn	**Pn**	**01 42 35.0**	**+0.9**
BFZ				*e*Sn	**Sn**	**01 42 52.4**	**-3.4**
BFZ	**Birch Farm**	**1.62**	**159**	P	**Pn**	**01 42 34.9**	**+0.9**
TIWZ	**Tintock**	**1.63**	**170**	P	**Pn**	**01 42 35.3**	**+1.1**
RAGZ	**Rawiri**	**1.64**	**66**	P	**Pn**	**01 42 33.9**	**-0.4**
OGWZ	**Otaki Gorge**	**1.67**	**189**	P	**Pn**	**01 42 35.6**	**+1.0**
KNZ	**Kokohu**	**1.70**	**86**	P	**Pn**	**01 42 34.9**	**0.0**
HOWZ	**Holdsworth Sta**	**1.73**	**180**	P	**Pn**	**01 42 36.0**	**+0.6**
KIW	**Kapiti Island**	**1.75**	**195**	P	**Pn**	**01 42 36.2**	**+0.6**
MWZ	**Matawai**	**1.79**	**63**	P	**Pn**	**01 42 35.2**	**-0.9**
CPWZ	**Castlepoint**	**1.82**	**163**	P	**Pn**	**01 42 37.9**	**+1.4**
RIGZ	**Rimuhau**	**1.82**	**76**	P	**Pn**	**01 42 36.5**	**0.0**
MHGZ	**Mahia Peninsul**	**1.87**	**90**	P	**Pn**	**01 42 37.3**	**+0.2**
PRGZ	**Paritu Road**	**1.87**	**83**	P	**Pn**	**01 42 37.0**	**-0.1**
TMWZ	**Te Maipa**	**1.96**	**171**	P	**Pn**	**01 42 38.8**	**+0.6**
CAW	**Cannon Point**	**1.97**	**190**	P	**Pn**	**01 42 38.7**	**+0.5**
MYRZ	**Mayor Island**	**1.97**	**17**	P	**Pn**	**01 42 38.2**	**-0.2**
TKGZ	**Te Karaka**	**1.97**	**69**	P	**Pn**	**01 42 38.3**	**0.0**
MTW	**Mount Morrison**	**1.99**	**180**	P	**Pn**	**01 42 38.9**	**+0.4**
DUWZ	**D'Urville Isla**	**2.03**	**216**	P	**Pn**	**01 42 39.3**	**+0.2**
MKAZ	**Moumakai**	**2.08**	**352**	P	**Pn**	**01 42 38.7**	**-1.0**
RUGZ	**Raukumara Rang**	**2.09**	**56**	P	**Pn**	**01 42 38.3**	**-1.6**
TWGZ	**Tauwhareparae**	**2.18**	**64**	P	**Pn**	**01 42 40.7**	**-0.2**
AWAZ	**Awhitu Peninsu**	**2.21**	**342**	P	**Pn**	**01 42 40.1**	**-0.6**
AWAZ				P	**Pn**	**01 42 40.7**	**-0.6**
PAWZ	**Paruwai Farm**	**2.21**	**181**	P	**Pn**	**01 42 41.5**	**+0.1**
CNGZ	**Carnagh Statio**	**2.22**	**73**	P	**Pn**	**01 42 41.4**	**0.0**
SNZO	**South Karori**	**2.23**	**196**	*e*Pn	**Pn**	**01 42 41.6**	**+0.1**
SNZO				*e*Sn	**Sn**	**01 43 06.0**	**-3.2**
TRWZ	**Traveller**	**2.23**	**176**	P	**Pn**	**01 42 41.9**	**+0.3**
TCW	**Tory Channel**	**2.25**	**204**	P	**Pn**	**01 42 41.8**	**+0.1**
MSWZ	**Moikau Station**	**2.25**	**185**	P	**Pn**	**01 42 42.0**	**+0.1**
ETAZ	**East Tamaki Re**	**2.26**	**348**	P	**Pn**	**01 42 41.3**	**-0.6**
HAZ	**Te Kaha**	**2.28**	**53**	P	**Pn**	**01 42 40.6**	**-1.5**
BHW	**Baring Head**	**2.29**	**192**	P	**Pn**	**01 42 42.3**	**0.0**
WTAZ	**Waiatarua**	**2.35**	**342**	P	**Pn**	**01 42 43.0**	**-0.1**
WIAZ	**Waiheke Island**	**2.39**	**353**	P	**Pn**	**01 42 42.9**	**-0.7**
PKGZ	**Pakihiroa**	**2.39**	**59**	P	**Pn**	**01 42 42.7**	**-0.9**
PLWZ	**Palliser**	**2.41**	**184**	P	**Pn**	**01 42 43.7**	**-0.2**
PUZ	**Puketiti**	**2.42**	**64**	P	**Pn**	**01 42 42.9**	**-1.1**
KUZ	**Kuaotunu**	**2.42**	**4**	P	**Pn**	**01 42 43.1**	**-0.9**
MBAZ	**Motutaru North**	**2.44**	**349**	P	**Pn**	**01 42 43.6**	**-0.7**
TUWZ	**Tuamarina**	**2.46**	**207**	P	**Pn**	**01 42 45.5**	**-0.1**
NNZ	**Nelson**	**2.61**	**218**	P	**Pn**	**01 42 46.2**	**-0.3**
ABAZ	**Army Bay**	**2.62**	**348**	P	**Pn**	**01 42 46.2**	**-0.3**
WMGZ	**Waiomatatini S**	**2.65**	**60**	P	**Pn**	**01 42 45.7**	**-1.2**
MXZ	**Matakaoa Point**	**2.73**	**55**	*e*Pn	**Pn**	**01 42 47.2**	**-0.8**
MXZ				*e*Sn	**Sn**	**01 43 18.9**	**-1.9**
MXZ	**Matakaoa Point**	**2.73**	**55**	P	**Pn**	**01 42 47.0**	**-0.9**
QRZ	**Quartz Range**	**2.82**	**233**	P	**Pn**	**01 42 48.9**	**-0.3**
BSWZ	**Blackbirch Sta**	**2.83**	**205**	P	**Pn**	**01 42 49.0**	**-0.3**
GRZ	**Great Barrier**	**2.91**	**359**	P	**Pn**	**01 42 49.5**	**-0.9**
THZ	**Tophouse**	**3.26**	**217**	*e*Pn	**Pn**	**01 42 54.7**	**-0.4**
THZ				*e*Sn	**Sn**	**01 43 33.0**	**-0.5**
THZ	**Tophouse**	**3.26**	**217**	P	**Pn**	**01 42 54.5**	**-0.5**
WCZ	**Waipu Caves**	**3.35**	**344**	P	**Pn**	**01 42 56.0**	**-0.2**
DSZ	**Denniston Nort**	**3.82**	**226**	P	**Pn**	**01 43 01.4**	**-0.9**
OUZ	**Omahuta**	**4.22**	**338**	P	**Pn**	**01 43 07.8**	**0.0**
LTZ	**Lake Taylor**	**4.36**	**213**	*e*Pn	**Pn**	**01 43 07.9**	**-1.8**
LTZ				*e*Sn	**Sn**	**01 43 57.1**	**-2.5**
LTZ	**Lake Taylor**	**4.36**	**213**	P	**Pn**	**01 43 07.8**	**-1.8**
OXZ	**Oxford**	**4.91**	**211**	*e*Pn	**Pn**	**01 43 14.6**	**-2.4**
OXZ				*e*Sn	**Sn**	**01 44 08.8**	**-3.8**
CRLZ	**Canterbury Las**	**4.91**	**205**	*e*Pn	Pn	01 43 11.1	-5.8
CRLZ				*e*Sn	**Sn**	**01 44 08.3**	**-4.3**
MQZ	**McQueen's Vall**	**5.01**	**204**	*e*Pn	**Pn**	**01 43 15.3**	**-3.1**
MQZ				*e*Sn	**Sn**	**01 44 10.1**	**-5.1**
RPZ	**Rata Peaks**	**5.64**	**215**	P	**Pn**	**01 43 25.7**	**-1.1**
	6.7nm,0.3s,baz=213,slow=1.4,SNR=22						
RPZ				S	**Sn**	**01 44 25.4**	**-4.9**
	20nm,0.3s,baz=137,slow=23,SNR=15						
RPZ				LR	LR	01 45 24.8	
	comp=Z,114nm,18.8s,baz=348,slow=35						
LBZ	**Lake Benmore**	**6.55**	**216**	*e*Pn	**Pn**	**01 43 37.5**	**-1.7**
LBZ				*e*Sn	**Sn**	**01 44 44.4**	**-8.1**
ODZ	**Otahua Downs**	**6.89**	**210**	*e*Pn	**Pn**	**01 43 41.7**	**-2.0**
ODZ				*e*Sn	**Sn**	**01 44 56.2**	**-4.4**
STKA	**Stephens Creek**	**28.42**	**274**	P	**P**	**01 47 51.4**	**+2.6**
	2.1nm,0.6s,baz=133,slow=5.9,SNR=4.0						
STKA	**Stephens Creek**	**28.42**	**274**	*e*P	**P**	**01 47 51.4**	**+2.6**
	0.5nm,0.8s						
BBOO	**Buckleboo**	**32.35**	**269**	*e*P	**P**	**01 48 25.0**	**+1.6**
	11nm,1.3s						
HNR	**Honiara**	**32.72**	**331**	*e*P	**P**	**01 48 26.6**	**-0.1**
	171nm,0.9s						
AS01	**Alice Springs**	**38.33**	**281**	*e*P	**P**	**01 49 15.9**	**+1.2**
AS31	**Alice Springs**	**38.36**	**281**	*e*P	**P**	**01 49 16.1**	**+1.1**
	4.2nm,1.4s						
ASAR	**Alice Springs**	**38.36**	**281**	P	**P**	**01 49 16.1**	**+1.1**
	3.3nm,0.8s,baz=126,slow=7.9,SNR=20						
WB2	**Warramunga Arr**	**40.19**	**286**	*e*P	**P**	**01 49 31.6**	**+1.5**
	14nm,1.4s						
WR1	**Warramunga Arr**	**40.19**	**286**	*e*P	**P**	**01 49 31.6**	**+1.3**
WRA	**Warramunga Arr**	**40.19**	**286**	P	**P**	**01 49 31.6**	**+1.3**
	75nm,0.5s,baz=125,slow=8.1,SNR=1.1						
FITZ	**Fitzroy Crossi**	**47.87**	**281**	P	**P**	**01 50 32.8**	**+1.4**
	5.2nm,0.6s,baz=121,slow=11,SNR=16						
FITZ	**Fitzroy Crossi**	**47.87**	**281**	*e*P	**P**	**01 50 32.8**	**+1.4**
	8.7nm,0.8s						
KBZ	**Khabaz**	**144.56**	**293**	PKP	**PKPab**	**02 01 26.4**	**+0.2**
	2.3nm,0.8s,baz=61,slow=1.8,SNR=4.1						
ARA0	**ARCESS Array S**	**145.65**	**342**	*e*PKPdf	**PKPdf**	**02 01 28.7**	**+0.2**
ARCES	**ARCESS Array B**	**145.65**	**342**	PKPbc	**PKPdf**	**02 01 28.7**	**+0.2**
	4.9nm,0.8s,baz=38,slow=4.6,SNR=7.8						
DBIC	**Dimbokro**	**147.65**	**179**	PKPbc	**PKPbc**	**02 01 37.0**	**+0.6**
	2.0nm,0.7s,baz=153,slow=9.0,SNR=3.4						
BR101	**Keskin Array S**	**150.69**	**283**	*e*PKPbc	**PKPbc**	**02 01 43.3**	**-0.2**
BR101				*e*PKPab	**PKPab**	**02 01 50.9**	**+0.1**
BRTR	**Keskin Array B**	**150.69**	**283**	PKPbc	**PKPbc**	**02 01 43.3**	**-0.2**
	0.7nm,1.0s,baz=126,slow=5.2,SNR=3.0						
BRTR				PKPab	**PKPab**	**02 01 50.9**	**+0.1**
	0.6nm,0.8s,baz=129,slow=3.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**153.51**	**194**	PKPbc	**PKPbc**	**02 01 50.3**	**0.0**
	0.3nm,0.5s,baz=172,slow=2.8,SNR=8.8						
TORD				PKPab	**PKPab**	**02 02 03.2**	**+0.2**
	1.6nm,0.8s,baz=160,slow=4.3,SNR=9.3						
TOA1	**Torodi Ar. Sit**	**153.52**	**194**	*e*PKPbc	**PKPbc**	**02 01 50.3**	**0.0**
TOA1				*e*PKPab	**PKPab**	**02 02 03.2**	**+0.2**

*ISCJB **17** 01:47:31.3±0.4,5°.12N±0°.05×94°.60E±0°.05,h50km, mb4.2/23,MS3.4/1,Error ellipse: s-maj=9.6km s-min=3.7km az=44.5*

*NEIC **17** 01:47:35.8±1.4,5°.22N×94°.80E,h72km±11km,mb4.5/12, Error ellipse: s-maj=16.7km s-min=4.9km az=57.0*

*DJA **17** 01:47:35.6±1.0,5°N±7°×9°5E±°,h46km±107km,M4.0/6, mb4.3/1,MLv3.9/6*

*IDC **17** 01:47:35.6±3.9,5°.25N×94°.79E,h69km±34km,mb3.8/12, mb1 4.0/14,mb1mx3.7/37,mbtmp4.1/14,ML4.3/2,MS3.0/4, Ms1 3.0/4,ms1mx2.8/29,Error ellipse: s-maj=42.0km s-min=13.6km az=54.0*

ISC 17 01:47:33.3±0.6,**5°16N**±0'.07×**94°67E**±0'.07,**h50**km,**n58**, σ1§00/63,**mb4.3**/23,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**2.27**	**88**	P	**Pn**	**01 48 09.3**	**+0.9**
LHMI				S	**Sn**	**01 48 36.8**	**+1.6**
TPTI		**3.13**	**127**	P	**Pn**	**01 48 20.3**	**0.0**
TPTI				S	**Sn**	**01 48 54.8**	**-1.7**
SNSI	**Sinabang, Aceh**	**3.19**	**149**	P	**Pn**	**01 48 20.7**	**-0.4**
SNSI				S	**Sn**	**01 48 57.7**	**-0.2**
KCSI	**Kotacane, Aceh**	**3.49**	**118**	P	**Pn**	**01 48 27.0**	**+1.8**
KCSI				S	**Sn**	**01 49 05.8**	**+0.4**
GSI	**Gunungsitoli**	**4.80**	**143**	P	**Pn**	**01 48 44.0**	**+0.8**
PSI	**Prapat**	**4.85**	**119**	P	**Pn**	**01 48 45.6**	**+1.7**
	3.2nm,0.3s,baz=360,slow=14,SNR=12						
PSI				S	**Sn**	**01 49 40.1**	**+1.3**
	1.4nm,0.3s,baz=360,slow=18,SNR=3.3						
PSI				LR	LR	01 50 53.0	
	comp=Z,128nm,19.1s,baz=82,slow=41						
PSI	**Prapat**	**4.85**	**119**	*e*Pn	**Pn**	**01 48 46.7**	**+2.8**
KULM	**Kulim**	**5.96**	**88**	*e*Pn	**Pn**	**01 48 59.2**	**+0.1**
KULM				*e*Sn	**Sn**	**01 50 03.3**	**-2.7**
IPM	**Ipoh**	**6.37**	**96**	*e*Pn	**Pn**	**01 49 03.5**	**-1.2**
IPM				*e*Sn	**Sn**	**01 50 14.1**	**-2.2**
CM31	**Chiang Mai Arr**	**13.86**	**17**	*e*Pn	**Pn**	**01 50 49.2**	**+1.9**
CMAR	**Chiang Mai Arr**	**13.86**	**17**	P	**Pn**	**01 50 49.2**	**+1.9**
	1.0nm,0.3s,baz=206,slow=12,SNR=4.0						
CMAR				LR	LR	01 56 54.2	
	comp=Z,35nm,18.6s,baz=124,slow=41						
PALK	**Pallekele**	**14.04**	**279**	LR	LR	01 55 42.4	
	comp=Z,41nm,20.3s,baz=116,slow=34						
LSA	**Lhasa**	**24.64**	**353**	*e*P	**P**	**01 52 49.7**	**-0.1**
	5.7nm,0.5s						
H08S3	**Diego Garcia H**	**25.52**	**240**	T	T	02 19 59.0	
	baz=61,slow=75,SNR=84						
H08S2	**Diego Garcia H**	**25.52**	**240**	T	T	02 20 08.4	
	baz=61,slow=75,SNR=84						
H08S1	**Diego Garcia H**	**25.54**	**240**	T	T	02 20 14.6	
	baz=61,slow=75,SNR=24						
FITZ	**Fitzroy Crossi**	**38.31**	**128**	P	**P**	**01 54 48.9**	**-0.5**
	4.5nm,1.1s,baz=315,slow=11,SNR=2.8						
TARG	**Taragay, Kyrgy**	**39.41**	**340**	*e*P	**P**	**01 54 59.3**	**+0.5**
	10nm,1.3s						
MTN	**Manton Dam**	**40.40**	**117**	*e*P	**P**	**01 55 06.5**	**-0.5**
	63nm,1.4s						
ARSB	**Arslanbob**	**40.90**	**335**	*e*P	**P**	**01 55 10.8**	**-0.1**
	5.5nm,0.6s						
AAK	**Ala-Archa**	**41.40**	**337**	P	**P**	**01 55 15.4**	**+0.4**
	1.6nm,0.5s,baz=119,slow=5.5,SNR=8.8						
AAK	**Ala-Archa**	**41.40**	**337**	*e*P	**P**	**01 55 16.9**	**+1.9**
MK01	**Makanchi Array**	**42.81**	**347**	*e*P	**P**	**01 55 25.8**	**-0.5**
MK31	**Makanchi Array**	**42.84**	**347**	*e*P	**P**	**01 55 25.5**	**-1.0**
MK32	**Makanchi Array**	**42.84**	**347**	*e*P	**P**	**01 55 26.0**	**-0.5**
MK32				*e*PcP	**PcP**	**01 57 16.2**	**-0.7**
MKAR	**Makanchi Array**	**42.84**	**347**	P	**P**	**01 55 26.0**	**-0.4**
	1.4nm,0.6s,baz=171,slow=7.4,SNR=20						
MKAR				PcP	**PcP**	**01 57 16.2**	**-0.7**
	0.2nm,0.5s,baz=190,slow=3.5,SNR=4.0						
MKAR	**Makanchi Array**	**42.84**	**347**	*e*P	**P**	**01 55 26.1**	**-0.4**
	11nm,0.8s						
MKAR				PcP	**PcP**	**01 57 16.2**	**-0.7**
MAKZ	**Makanchi**	**42.92**	**347**	*e*P	**P**	**01 55 27.0**	**-0.2**
	2.1nm,0.6s						
KK31	**Karatay Array**	**43.42**	**334**	*e*P	**P**	**01 55 30.9**	**-0.3**
KKAR	**Karatay Array**	**43.42**	**334**	*e*P	**P**	**01 55 31.4**	**+0.1**
SONA0	**Songino Array**	**43.70**	**11**	*e*P	**P**	**01 55 32.3**	**-1.2**
SONA0				*e*PcP	**PcP**	**01 57 19.4**	**-0.5**
SONM	**Songino Array**	**43.70**	**11**	P	**P**	**01 55 32.3**	**-1.2**
	1.5nm,0.8s,baz=192,slow=8.1,SNR=12						
SONM				PcP	**PcP**	**01 57 19.4**	**-0.5**
	0.4nm,0.5s,baz=184,slow=4.8,SNR=3.8						
SONA1	**Songino Array**	**43.71**	**11**	*e*P	**P**	**01 55 32.9**	**-0.8**
WR1	**Warramunga Arr**	**46.29**	**124**	*e*P	**P**	**01 55 54.5**	**0.0**
	15nm,1.2s						
WRA	**Warramunga Arr**	**46.29**	**124**	P	**P**	**01 55 54.5**	**0.0**
	2.4nm,0.6s,baz=304,slow=9.3,SNR=20						
WB2	**Warramunga Arr**	**46.30**	**124**	*e*P	**P**	**01 55 54.5**	**0.0**
	3.0nm,1.2s						
GEYT	**Ailbeck**	**46.58**	**320**	P	**P**	**01 55 57.1**	**+0.6**
	1.4nm,0.5s,baz=142,slow=7.3,SNR=3.7						
KURK	**Kurchatov**	**47.36**	**346**	*e*P	**P**	**01 56 02.5**	**+0.3**
	3.0nm,0.9s						
ASAR	**Alice Springs**	**47.80**	**128**	P	**P**	**01 56 06.2**	**0.0**
	0.9nm,0.4s,baz=298,slow=7.9,SNR=8.5						
AS31	**Alice Springs**	**47.80**	**128**	*e*P	**P**	**01 56 06.2**	**0.0**
	1.6nm,1.1s						
ZAA0	**Zalesovo Array**	**49.30**	**352**	*e*P	**P**	**01 56 17.1**	**-0.1**
	4.1nm,0.6s						
ZALV	**Zalesovo Beam**	**49.30**	**352**	P	**P**	**01 56 16.5**	**-0.7**
	4.5nm,0.5s,baz=184,slow=7.5,SNR=26						
ZALV	**Zalesovo Beam**	**49.30**	**352**	*e*P	**P**	**01 56 16.7**	**-0.5**
ZAA1	**Zalesovo Array**	**49.31**	**352**	*e*P	**P**	**01 56 16.5**	**-0.7**
BRVK	**Borovoye**	**51.78**	**342**	*e*P	**P**	**01 56 35.8**	**-0.1**
	5.3nm,1.3s						
ABKAR	**Akbulak array**	**52.86**	**332**	*e*P	**P**	**01 56 44.3**	**+0.3**
BR101	**Keskin Array S**	**64.60**	**312**	*e*P	**P**	**01 58 05.5**	**-0.5**
BRTR	**Keskin Array B**	**64.60**	**312**	P	**P**	**01 58 05.5**	**-0.5**
	0.4nm,0.6s,baz=128,slow=7.3,SNR=2.9						
FIA0	**FINESS Array S**	**75.35**	**332**	*e*P	**P**	**01 59 10.9**	**-0.4**
FINES	**FINESS Array B**	**75.35**	**332**	P	**P**	**01 59 10.9**	**-0.4**
	0.8nm,0.6s,baz=106,slow=8.8,SNR=4.2						
ARA0	**ARCESS Array S**	**77.98**	**340**	*e*P	**P**	**01 59 25.5**	**-0.5**
ARCES	**ARCESS Array B**	**77.98**	**340**	P	**P**	**01 59 25.5**	**-0.5**
	5.8nm,0.8s,baz=46,slow=3.5,SNR=5.9						
GERES	**GERESS Array B**	**80.19**	**319**	P	**P**	**01 59 39.8**	**+1.1**
	0.6nm,0.6s,baz=103,slow=5.8,SNR=6.2						
ESDC	**Sonseca Array**	**93.36**	**310**	LR	LR	02 45 30.5

CPUP	**Villa Florida**	**16.80**	**133**	P		**P**	**02 08 33.9**	**+1.0**	
	0.1nm,0.3s,baz=295,slow=8.8,SNR=4.2								
CPUP				LR		LR	02 16 28.6		
	comp=Z,106nm,18.1s,baz=322,slow=42								
CPUP	**Villa Florida**	**16.80**	**133**	*e*Pn		**Pn**	**02 08 29.0**	**-3.4**	
	6.0nm,1.4s								
CPUP	**Villa Florida**	**16.80**	**133**	*e*P		**P**	**02 08 35.7**	**+2.8**	
OTAV	**Otavalo**	**17.10**	**333**	*e*P		**Pn**	**02 08 30.9**	**-5.7**	
PTGA	**Pitinga**	**18.02**	**38**	P		**P**	**02 08 42.5**	**-4.1**	
	2.1nm,0.3s,baz=222,slow=16,SNR=39								
PTGA				LR		LR	02 16 12.4		
	comp=Z,355nm,18.1s,baz=213,slow=39								
TRCB	**Terra Rica**	**18.82**	**116**	*e*P		**Pn**	**02 08 56.8**	**-0.1**	
PTGB	**Pitanga**	**20.03**	**121**	*e*P		**Pn**	**02 09 12.8**	**+1.7**	
ROSC	**El Rosal**	**20.25**	**350**	LR		LR	02 17 30.0		
	comp=Z,162nm,19.4s,baz=196,slow=38								
BDFB	**Brasilia**	**22.07**	**94**	LR		LR	02 18 41.4		
	comp=Z,150nm,19.9s,baz=246,slow=38								
SDV	**Santo Domingo**	**23.98**	**1**	P		**P**	**02 09 46.2**	**-2.7**	
	6.1nm,0.9s,baz=236,slow=12,SNR=6.1								
SDV				LR		LR	02 19 54.1		
	comp=Z,191nm,18.8s,baz=246,slow=38								
SDV	**Santo Domingo**	**23.98**	**1**	*e*P		**P**	**02 09 47.9**	**-1.0**	
PLCA	**Paso Flores**	**25.39**	**179**	P		**P**	**02 10 03.5**	**+2.1**	
	4.3nm,0.9s,baz=31,slow=13,SNR=4.8								
PLCA	**Paso Flores**	**25.39**	**179**	*e*P		**P**	**02 10 03.5**	**+2.1**	
	8.8nm,1.1s								
PLCA	**Paso Flores**	**25.39**	**179**	*e*P		**P**	**02 10 06.1**	**+4.7**	
MDP	**Montagnes des**	**27.13**	**43**	LR		LR	02 20 40.5		
	comp=Z,129nm,18.8s,baz=236,slow=36								
JTS	**JuntasAbangare**	**28.94**	**330**	LR		LR	02 21 51.9		
	comp=Z,64nm,19.8s,baz=179,slow=36								
AGP	**Aguadilla**	**33.65**	**6**	*e*P		**P**	**02 11 16.0**	**+1.4**	
	142nm,1.1s								
LNIG	**Linares**	**48.67**	**325**	*e*P		**P**	**02 13 18.1**	**+0.6**	
	11nm,0.9s								
LTX	**Lajitas**	**54.45**	**324**	*e*P		**P**	**02 14 01.0**	**+0.3**	
TXAR	**Lajitas Array**	**54.45**	**324**	P		**P**	**02 14 01.0**	**+0.3**	
	1.6nm,0.7s,baz=146,slow=6.6,SNR=13								
TX31	**Lajitas Ar. Si**	**54.45**	**324**	*e*P		**P**	**02 14 01.6**	**+0.9**	
MNTX	**Cornudas Mount**	**57.21**	**325**	*e*P		**P**	**02 14 21.0**	**+0.8**	
	6.4nm,1.2s								
MSTX	**Muleshoe**	**57.60**	**329**	*e*P		**P**	**02 14 24.5**	**+1.5**	
	4.8nm,0.9s								
LAZ	**Ladron**	**60.21**	**326**	*e*P		**P**	**02 14 43.8**	**+2.6**	
SDCO	**Great Sand Dun**	**61.93**	**329**	*e*P		**P**	**02 14 54.4**	**+1.6**	
	3.1nm,0.9s								
KNB	**Kanab**	**65.28**	**324**	*e*P		**P**	**02 15 17.9**	**+3.1**	
	7.0nm,1.0s								
CCUT	**Cedar City**	**65.96**	**324**	*e*P		**P**	**02 15 22.2**	**+2.9**	
	2.2nm,0.9s								
TPNV	**Topopah Spring**	**67.23**	**322**	*e*P		**P**	**02 15 30.0**	**+2.7**	
	8.2nm,1.4s								
DUG	**Dugway, Tooele**	**67.53**	**326**	*e*P		**P**	**02 15 32.9**	**+3.8**	
	2.9nm,0.9s								
DAC	**Darwin (Calif)**	**67.60**	**321**	*e*P		**P**	**02 15 33.0**	**+3.4**	
	3.5nm,1.0s								
ISA	**Isabella, Lake**	**67.75**	**320**	*e*P		**P**	**02 15 33.4**	**+3.0**	
	3.1nm,0.9s								
PD31	**Pinedale Array**	**67.78**	**330**	*e*P		**P**	**02 15 32.9**	**+2.3**	
PDAR	**Pinedale Array**	**67.78**	**330**	P		**P**	**02 15 32.9**	**+2.3**	
	0.7nm,0.9s,baz=123,slow=6.7,SNR=4.2								
R11A	**Troy Canyon, C**	**67.78**	**323**	*e*P		**P**	**02 15 33.2**	**+2.5**	
	5.3nm,1.5s								
BGU	**Big Grassy Mou**	**68.17**	**327**	*e*P		**P**	**02 15 36.3**	**+3.3**	
	5.0nm,1.2s								
ULM	**Lac du Bonnet**	**68.82**	**343**	P		**P**	**02 15 36.4**	**-0.3**	
	1.5nm,0.8s,baz=162,slow=8.2,SNR=2.9								
IMW	**Indian Meadow**	**69.29**	**330**	*e*P		**P**	**02 15 43.0**	**+3.0**	
	2.2nm,0.8s								
FLWY	**Flagg Ranch**	**69.31**	**330**	*e*P		**P**	**02 15 43.1**	**+3.0**	
	4.7nm,0.9s								
OMMB	**Old Mammoth Mi**	**69.32**	**321**	*e*P		**P**	**02 15 42.9**	**+2.5**	
	2.6nm,0.9s								
NV01	**Mina Array Sit**	**69.43**	**322**	*e*P		**P**	**02 15 42.8**	**+1.8**	
NVAR	**Mina Array Bea**	**69.43**	**322**	P		**P**	**02 15 42.8**	**+1.8**	
	0.5nm,0.7s,baz=134,slow=6.5,SNR=4.2								
GCMT	**Greycliff**	**70.13**	**332**	*e*P		**P**	**02 15 47.9**	**+2.9**	
YERR	**Yerington**	**70.35**	**322**	*e*P		**P**	**02 15 50.4**	**+3.8**	
	4.1nm,1.0s								
VCNR	**Virginia City**	**70.79**	**322**	*e*P		P	02 15 53.3	+4.0	
	2.9nm,0.8s								
MFID	**Camas Ranch**	**71.40**	**327**	*e*P		**P**	**02 15 55.2**	**+2.5**	
	2.8nm,0.8s								
ORV	**Oroville**	**72.07**	**321**	*e*P		**P**	**02 15 60.0**	**+3.3**	
	9.8nm,1.4s								
MOD	**Modoc Plateau**	**72.84**	**324**	*e*P		**P**	**02 16 03.8**	**+2.4**	
	2.9nm,0.8s								
QSPA	**South Pole Qui**	**74.91**	**180**	P		**P**	**02 16 15.6**	**+2.5**	
	0.9nm,0.3s,baz=200,slow=1.4,SNR=3.8								
TOA1	**Torodi Ar. Sit**	**77.17**	**72**	*e*P		**P**	**02 16 26.4**	**-0.3**	
TOA0	**Torodi Ar. Sit**	**77.17**	**72**	*e*P		**P**	**02 16 27.6**	**+0.9**	
TORD	**Torodi Ar. Bea**	**77.17**	**72**	P		**P**	**02 16 26.4**	**-0.3**	
	1.3nm,0.8s,baz=245,slow=5.4,SNR=6.7								
TORD				LR		LR	02 47 54.0		
	comp=Z,21nm,18.2s,baz=350,slow=34								
VNDA	**Vanda**	**82.64**	**190**	LR		LR	02 48 40.4		
	comp=Z,320nm,20.2s,baz=208,slow=32								
ESDC	**Sonseca Array**	**82.79**	**46**	P		**P**	**02 16 57.3**	**+0.8**	
	1.3nm,0.8s,baz=259,slow=5.3,SNR=5.7								
YKA	**Yellowknife Ar**	**84.69**	**341**	P		**P**	**02 17 06.5**	**+0.9**	
	2.2nm,0.8s,baz=134,slow=5.1,SNR=23								
YKB5	**Yellowknife Ar**	**84.69**	**341**	*e*P		**P**	**02 17 06.6**	**+1.0**	
YKW3	**Yellowknife Ar**	**84.75**	**341**	*e*P		**P**	**02 17 07.0**	**+1.1**	
	4.4nm,1.0s								
BOSA	**Boshof**	**88.08**	**119**	LR		LR	02 52 35.3		
	comp=Z,28nm,21.9s,baz=290,slow=33								
NOA	**NORSAR Array B**	**99.44**	**29**	LR		LR	02 59 24.5		
	comp=Z,19nm,19.3s,baz=15,slow=33								
AS31	**Alice Springs**	**134.35**	**213**	*e*PKPdf		**PKiKP**	**02 23 51.8**	**0.0**	
ASAR	**Alice Springs**	**134.35**	**213**	PKP		**PKiKP**	**02 23 51.8**	**0.0**	
	0.3nm,0.4s,baz=113,slow=1.4,SNR=4.6								
ZAA1	**Zalesovo Array**	**136.96**	**21**	*e*PKPdf		**PKiKP**	**02 23 55.2**	**-0.8**	
ZALV	**Zalesovo Beam**	**136.97**	**21**	PKP		**PKiKP**	**02 23 55.2**	**-0.8**	
	2.1nm,0.8s,baz=290,slow=2.9,SNR=8.2								
WR1	**Warramunga Arr**	**137.11**	**216**	*e*PKPdf		**PKiKP**	**02 23 57.5**	**0.0**	
WRA	**Warramunga Arr**	**137.11**	**216**	PKP		**PKiKP**	**02 23 57.5**	**0.0**	
	1.1nm,0.8s,baz=149,slow=1.8,SNR=7.4								
KSH	**Kashi**	**142.28**	**44**	PKP		**PKPdf**	**02 24 00.9**	**-3.6**	
KSH				pPKP		PKiKP	02 24 16.8	+9.2	
KSH				sPKP			02 24 25.1		
KSH				PP		**PP**	**02 27 15.3**	**+3.5**	
WMQ	**Urumqi**	**146.19**	**28**	*e*PKPbc		**PKiKP**	**02 24 14.6**	**-0.8**	
WMQ				pPKP		pPKPdf	02 24 26.8	-13	
MJAR	**Matsushiro Arr**	**146.52**	**315**	PKPbc		**PKiKP**	**02 24 14.5**	**-1.7**	
	6.6nm,1.0s,baz=336,slow=0.7,SNR=9.0								
MAJO	**Matsushiro**	**146.52**	**315**	*e*PKPdf		**PKiKP**	**02 24 14.5**	**-1.7**	
SONA0	**Songino Array**	**147.43**	**3**	*e*PKPdf		**PKPab**	**02 24 16.5**	**-1.4**	
SONM	**Songino Array**	**147.43**	**3**	PKPbc		**PKPab**	**02 24 16.5**	**-1.4**	
	1.9nm,0.7s,baz=331,slow=1.3,SNR=13								
CN2	**Changchun**	**148.11**	**337**	*e*PKPbc		**PKPbc**	**02 24 17.3**	**-0.8**	
KSRS	**Korea Array**	**152.29**	**326**	PKPbc		**PKiKP**	**02 24 29.7**	**+1.6**	
	3.5nm,0.8s,baz=338,slow=1.2,SNR=7.1								
KS15	**Wonju Array Si**	**152.32**	**327**	*e*PKPbc		**PKiKP**	**02 24 29.7**	**+1.5**	
KSAR	**Wonju Array Be**	**152.32**	**327**	PKPbc		**PKiKP**	**02 24 29.7**	**+1.5**	
HHC	**Hu-ho-hao-te**	**154.40**	**356**	*e*PKPbc		**PKPdf**	**02 24 24.9**	**+0.8**	
GTA	**Gaotai**	**154.59**	**17**	*e*PKPbc		**PKPbc**	**02 24 29.4**	**-3.5**	
GTA				pPKP		PKiKP	02 24 38.3	+5.3	
GTA				sPKP			02 24 41.8		
NJ2	**Nanjing**	**161.06**	**334**	*e*PKP		**PKPdf**	**02 24 36.3**	**+3.9**	

*ISK **17** 02:15:57.1, 39.68N×25.55E, h5km, ML3.4/29*
*DDA **17** 02:15:58.3, 39.66N×25.65E, h23km±1km, ML3.5*
*ISCJB **17** 02:15:58.1±0.5, 39.66N±0.02×25.59E±0.02, h4km±3km, Error ellipse: s-maj=3.2km s-min=2.3km az=38.0*
*THE **17** 02:15:58.8, 39.69N×25.63E, h6km, ML2.9/7, Error ellipse: s-maj=0.6km s-min=0.3km az=80.0*
*ATH **17** 02:15:58.3, 39.68N×25.58E, h27km±1km, ML3.1/4, Error ellipse: s-maj=3.0km s-min=1.1km az=236.0*
*SOF **17** 02:16:23.2, 41.01N×24.68E, h14km*

ISC 17 02:15:58.3±1.0, 39.68N±0.02×25.58E±0.02, h10km±9km, n107, σ1833/126, 12C-6D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.38**	**306**	P	**Pb**	**02 16 06.7**	**-0.4**
LIA				S	**Sb**	**02 16 12.5**	**-0.6**
LIA				AML	AML	02 16 20.8	
	comp=E,5184μm,0.8s						
LIA				AML	AML	02 16 22.4	
	comp=N,6175μm,0.5s						
LIA	**Limnos Island**	**0.38**	**306**	P	**Pb**	**02 16 06.7**	**-0.4**
LIA				S	**Sb**	**02 16 12.5**	**-0.6**
BOZC	**Bozcaada**	**0.40**	**66**	PG	**Pg**	**02 16 05.8**	**-0.3**
BOZC				SG	**Sg**	**02 16 11.6**	**+0.2**
BOZC	**Bozcaada**	**0.40**	**66**	IAML_P			
	comp=Z,15μm,0.1s						
BOZC				*i* P	**Pb**	**02 16 06.8**	**-0.7**
GPNR	**Gulpinar-Canak**	**0.48**	**117**	PG	**Pg**	**02 16 07.7**	**+0.1**
SIGR	**SIGRI**	**0.51**	**155**	PG	**Pg**	**02 16 07.5**	**-0.7**
SIGR				SG	**Sg**	**02 16 15.3**	**+0.3**
SIGR	**SIGRI**	**0.51**	**155**	P	**Pg**	**02 16 08.5**	**+0.3**
SIGR				S	**Sb**	**02 16 16.4**	**-0.5**
SIGR				AML	AML	02 16 17.1	
	comp=N,6084μm,0.5s						
SIGR				AML	AML	02 16 17.2	
	comp=E,3665μm,0.4s						
SIGR	**SIGRI**	**0.51**	**155**	P	**Pg**	**02 16 08.5**	**+0.3**
SIGR				S	**Sb**	**02 16 16.0**	**-0.9**
GADA	**Gvkgeada**	**0.57**	**25**	PG	**Pg**	**02 16 09.2**	**-0.1**
GADA	**Gvkgeada**	**0.57**	**25**	P	**Pg**	**02 16 09.3**	**-0.1**
GADA				S	**Sb**	**02 16 17.5**	**-1.0**
EZN	**Ezine**	**0.59**	**75**	PG	**Pg**	**02 16 09.4**	**-0.4**
EZN	**Ezine**	**0.59**	**75**	P	**Pg**	**02 16 09.4**	**-0.4**
EZN				S	**Sg**	**02 16 17.5**	**0.0**
PRK	**Paraskevi**	**0.69**	**129**	P	**Pb**	**02 16 12.8**	**+0.4**
PRK				S	**Sb**	**02 16 22.7**	**+0.8**
PRK				AML	AML	02 16 27.0	
	comp=N,5493μm,0.4s						
PRK				AML	AML	02 16 29.5	
	comp=E,5364μm,0.7s						
BAYC	**CANAKKALE_Bayr**	**0.75**	**85**	IAML_P			
	comp=Z,11μm,0.1s						
BAYC				*i* P	**Pg**	**02 16 12.9**	**+0.2**
BAYC				*i* S	**Sg**	**02 16 22.2**	**-0.3**
SMTH	**Samothraki Isl**	**0.79**	**357**	P	**Pg**	**02 16 13.7**	**+0.2**
SMTH	**Samothraki Isl**	**0.79**	**357**	P	**Pg**	**02 16 13.8**	**+0.2**
SMTH				S	**Sb**	**02 16 25.1**	**0.0**
AYVA	**Ayvalik**	**0.93**	**113**	*i* P	**Pb**	**02 16 16.3**	**-0.3**
AYVA				*i* S	**Sn**	**02 16 30.4**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.99**	**43**	PG	**Pb**	**02 16 16.8**	**-0.8**
THAS	**Thassos island**	**1.14**	**325**	P	**Pg**	**02 16 20.1**	**0.0**
THAS				S	**Sn**	**02 16 35.9**	**-0.2**
THAS				AML	AML	02 16 37.1	
	comp=N,1241μm,0.3s						
THAS				AML	AML	02 16 43.0	
	comp=E,1123μm,0.3s						
THAS	**Thassos island**	**1.14**	**325**	P	**Pg**	**02 16 20.2**	**0.0**
THAS				S	**Sn**	**02 16 36.7**	**+0.7**
LPK	**Lapseki**	**1.14**	**52**	PN	**Pb**	**02 16 19.3**	**-0.8**
ENEZ	**Enez**	**1.14**	**22**	PN	**Pn**	**02 16 19.9**	**-0.5**
DKL	**Dikili**	**1.19**	**120**	PN	**Pb**	**02 16 20.8**	**-0.2**
ERIK	**Erikli-Kesan**	**1.22**	**35**	PN	**Pn**	**02 16 20.8**	**-0.7**
ALN	**Alexandroupoli**	**1.27**	**16**	PN	**Pn**	**02 16 21.4**	**-0.7**
ALN	**Alexandroupoli**	**1.27**	**16**	P	**Pn**	**02 16 21.7**	**-0.5**
ALN	**Alexandroupoli**	**1.27**	**16**	P	**Pb**	**02 16 21.8**	**-0.5**
ALN				S	**Sg**	**02 16 39.4**	**+0.3**
FOCM	**Foa**	**1.31**	**137**	PN	**Pn**	**02 16 22.2**	**-0.5**
CHOS	**Chios island**	**1.34**	**164**	PN	**Pb**	**02 16 23.1**	**-0.6**
CHOS	**Chios island**	**1.34**	**164**	P	**Pn**	**02 16 22.9**	**-0.3**
CHOS	**Chios island**	**1.34**	**164**	P	**Pb**	**02 16 23.0**	**-0.6**
OUR	**Ouranopolis**	**1.39**	**299**	PN	**Pn**	**02 16 22.8**	**-1.0**
OUR	**Ouranopolis**	**1.39**	**299**	P	**Pb**	**02 16 24.3**	**-0.1**
OUR				S	**Sg**	**02 16 44.1**	**+1.0**
AOS	**Alonnisos**	**1.41**	**249**	PN	**Pn**	**02 16 23.6**	**-0.5**
AOS	**Alonnisos**	**1.41**	**249**	P	**Pb**	**02 16 24.5**	**-0.3**
KESN	**Edirne-Kesan**	**1.42**	**36**	IAML_P			
	comp=Z,1μm,0.3s						
KESN				*i* P	**Pb**	**02 16 24.8**	**-0.4**
KESN				*i* S	**Sg**	**02 16 45.0**	**+0.9**
RDO	**Rodhopi**	**1.47**	**359**	PN	**Pn**	**02 16 23.7**	**-1.2**
RDO	**Rodhopi**	**1.47**	**359**	P	**Pn**	**02 16 24.8**	**-0.1**
RDO	**Rodhopi**	**1.47**	**359**	P	**Pb**	**02 16 24.7**	**-0.1**
PAIG	**Paliouri**	**1.49**	**280**	P	**Pb**	**02 16 26.0**	**0.0**
PAIG				S	**Sg**	**02 16 46.3**	**+0.2**
KRBG	**Karabiga-Canak**	**1.50**	**61**	PN	**Pb**	**02 16 25.5**	**-0.7**
URLA	**Izmir**	**1.54**	**149**	PN	**Pn**	**02 16 25.6**	**-0.2**
URLA	**Izmir**	**1.54**	**149**	*i* P	**Pn**	**02 16 25.7**	**-0.2**
KAVA	**Kavala**	**1.55**	**329**	P	**Pb**	**02 16 26.1**	**-1.0**
KAVA	**Kavala**	**1.55**	**329**	P	**Pb**	**02 16 26.1**	**-1.0**
KAVA				S	**Sg**	**02 16 47.3**	**-0.8**
BALY	**Balya**	**1.57**	**87**	IAML_P			
	comp=Z,2μm,0.1s						
BALY				*i* P	**Pb**	**02 16 27.7**	**+0.2**
BALY				*i* S	**Sb**	**02 16 47.8**	**+0.3**
SART	**Tekirdag**	**1.59**	**50**	IAML_P			
	comp=Z,6μm,0.2s						
SART				*i* P	**Pb**	**02 16 28.0**	**+0.2**
SART				*i* S	**Sg**	**02 16 49.6**	**+0.3**
KNL	**Balıkesir**	**1.61**	**68**	IAML_P			
	comp=Z,5μm,0.3s						
KNL				*i* P	**Pb**	**02 16 28.1**	**0.0**
KNL				*i* S	**Sg**	**02 16 50.1**	**+0.1**
GONE	**Gonen-Balikesi**	**1.66**	**77**	PN	**Pb**	**02 16 27.9**	**-1.1**
STEP	**BALIKESIR_Sava**	**1.68**	**100**	IAML_P			
	comp=Z,1μm,0.1s						
STEP				*i* P	**Pb**	**02 16 29.4**	**+0.1**
STEP				*i* S	**Sb**	**02 16 50.3**	**-0.3**
BLCB	**Balcova**	**1.72**	**138**	PN	**Pn**	**02 16 28.7**	**+0.4**
BALB	**Balikesir**	**1.77**	**90**	PN	**Pn**	**02 16 29.2**	**+0.1**
PLG	**Polygyros**	**1.78**	**294**	P	**Pb**	**02 16 29.8**	**-1.3**
PLG				S	**Sb**	**02 16 53.6**	**+0.1**
MRMT	**Marmara Adasi**	**1.80**	**58**	PN	**Pn**	**02 16 29.6**	**+0.1**
EDC	**Edincik**	**1.88**	**68**	PN	**Pn**	**02 16 30.6**	**+0.1**
SBT4	**Kumbag-Tekirda**	**1.89**	**52**	PN	**Pn**	**02 16 31.0**	**+0.5**
AKHS	**Akhisar**	**1.91**	**114**	IAML_P			
	comp=Z,1μm,0.1s						
AKHS				*i* S	**Sg**	**02 17 00.4**	**+0.8**
KDZ	**Kurdzhali**	**1.97**	**356**	P	**Pg**	**02 16 37.8**	**+1.7**
SOH	**Sokhos**	**2.05**	**305**	P	**Pn**	**02 16 33.5**	**+0.5**
SRS	**Serrai**	**2.09**	**314**	P	**Pn**	**02 16 33.8**	**+0.3**
HORT	**Hortiatis**	**2.11**	**297**	PN	**Pn**	**02 16 33.4**	**-0.4**
RZN	**Rozhen**	**2.11**	**342**	P	**Pb**	**02 16 36.2**	**-0.6**
NVR	**Nevrokopi**	**2.12**	**322**	P	**Pn**	**02 16 34.4**	**+0.5**
CRLT	**Corlu**	**2.19**	**48**	PN	**Pn**	**02 16 34.8**	**0.0**
SMG	**Samos**	**2.20**	**153**	P	**Pn**	**02 16 35.1**	**+0.2**
KCTX	**Karacabey (Bur**	**2.21**	**74**	PN	**Pn**	**02 16 35.3**	**+0.2**
EDRB	**Edirne**	**2.34**	**22**	PN	**Pn**	**02 16 36.9**	**0.0**
DST	**Dursunbey**	**2.35**	**91**	PN	**Pn**	**02 16 37.6**	**+0.6**
MMB	**Musomiste**	**2.37**	**324**	P	**Pb**	**02 16 39.5**	**-1.7**
PHSR	**Pinarhisar**	**2.45**	**37**	PN	**Pn**	**02 16 38.9**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**2.50**	**133**	PN	**Pn**	**02 16 39.7**	**+0.5**
PLD	**Plovdiv**	**2.51**	**345**	P	**Pg**	**02 16 45.5**	**-1.0**
KNT	**Kendrikon**	**2.53**	**307**	P	**Pn**	**02 16 40.5**	**+1.1**
SLVT	**Silivri**	**2.54**	**51**	PN	**Pn**	**02 16 40.2**	**+0.7**
MANT	**Manisa**	**2.60**	**116**	*i* P	**Pn**	**02 16 41.4**	**+0.7**
APE	**Apeiranthos**	**2.60**	**181**	↑*i* P	**Pn**	**02 16 42.0**	**+1.4**
APE	**Apeiranthos**	**2.60**	**181**	S	**Sb**	**02 17 14.4**	**-2.8**
MDNY	**Mudanya-Bursa**	**2.63**	**74**	PN	**Pn**	**02 16 41.5**	**+0.7**
KULA	**Kula-Manisa**	**2.66**	**115**	PN	**Pn**	**02 16 42.1**	**+0.7**
SBT5	**Esenkoy-Cinarc**	**2.70**	**68**	PN	**Pn**	**02 16 42.3**	**+0.5**
CTKS	**Kestanelik-??a**	**2.72**	**54**	PN	**Pn**	**02 16 42.3**	**+0.2**
CTYL	**Yalikoy Yolu**	**2.73**	**48**	PN	**Pn**	**02 16 43.0**	**+0.7**
VAY	**Valandovo**	**2.82**	**307**	*i* Pn	**Pg**	**02 16 53.7**	**+1.3**
BGKT	**Bogazkoy**	**2.86**	**57**	PN	**Pn**	**02 16 44.9**	**+0.9**
KKB	**Krupnik**	**2.90**	**320**	P	**Pb**	**02 16 49.5**	**-0.6**
PGB	**Panagyurishte**	**3.06**	**340**	P	**Pn**	**02 16 49.0**	**+2.1**
STIP	**Stip**	**3.27**	**309**	*i* Pn	**Pn**	**02 16 49.7**	**0.0**
KHAL	**Karahalli**	**3.31**	**112**	*i* P	**Pn**	**02 16 51.8**	**+1.4**
VTS	**Vitosha**	**3.42**	**329**	↑*i*P	**Pn**	**02 16 54.9**	**+3.1**
VTS	**Vitosha**	**3.42**	**329**	S	**Sb**	**02 17 36.9**	**-3.8**
VLAD	**Vladila**	**4.41**	**349**	↑*i*P	**Pn**	**02 17 07.9**	**+2.7**
ICOR	**Ion Corvin**	**4.73**	**20**	↓*i*P	Pn	02 17 14.5	+4.7
ICOR	**Ion Corvin**	**4.73**	**20**	S	**Sb**	**02 18 12.2**	**-6.2**
TIRR	**Tirgusor**	**5.22**	**23**	↓*i*P	**Pn**	**02 17 20.4**	**+4.0**
TLB	**Topalu**	**5.23**	**20**	↓*i*P	Pn	02 17 20.9	+4.3
HERR	**Herculane**	**5.70**	**337**	↓*i*P	**Pn**	**02 17 25.2**	**+2.1**
ARR	**Arges**	**5.73**	**353**	↓*i*P	**Pn**	**02 17 26.5**	**+3.0**
VOIR		**5.77**	**356**	↑*i*P	**Pn**	**02 17 26.8**	**+2.7**
MLR	**Muntele Rosu**	**5.81**	**3**	↑*i*P	**Pn**	**02 17 28.5**	**+3.7**
MDVR	**Moldovita**	**5.85**	**332**	↑*i*P	**Pn**	**02 17 28.2**	**+3.0**
LOT	**Lotru**	**5.92**	**348**	↑*i*P	**Pn**	**02 17 28.7**	**+2.5**
GZR	**Gura Zlata**	**6.08**	**341**	↑*i*P	**Pn**	**02 17 29.8**	**+1.5**
PLOR	**Plostina**	**6.22**	**7**	↓*i*P	Pn	02 17 34.7	+4.5
VRI	**Vrincioaia**	**6.24**	**7**	↑*i*P	Pn	02 17 35.3	+4.8
DOPR	**Dopca**	**6.29**	**359**	↑*i*P	**Pn**	**02 17 34.8**	**+3.7**
OZUR		**6.42**	**1**	↑*i*P	Pn	02 17 37.2	+4.3
BZS	**Buzias**	**6.62**	**335**	↑*i*P	**Pn**	**02 17 38.5**	**+2.9**

*ISCJB **17** 02:31:18.7±1.3, 37.87N±0.09×72.33E±0.09, h119km, mb3.2/2, Error ellipse: s-maj=15.2km s-min=7.3km az=145.3*
*IDC **17** 02:31:19.6±5.7, 37.79N×72.50E, h135km±36km, mb3.1/2, mb1 3.2/8, mb1mx3.0/41, mbtmp3.7/8, MS3.2/1, Ms1 3.2/1, ms1mx2.4/21, Error ellipse: s-maj=82.1km s-min=23.1km az=148.0*
*NNC **17** 02:31:23.8±4.4, 38.12N×72.28E, h112km±61km, mb2.9, mpv3.8, Error ellipse: s-maj=40.4km s-min=38.1km az=60.0*

ISC 17 02:31:18.4±1.5, 37.8N±0.1×72.42E±0.09, h119km, n14, σ1960/18, 2C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.33**	**21**	↓P	**Pn**	**02 31 58.5**	**+2.4**
	60nm,0.3s						
SFK				↑S	**Sn**	**02 32 25.8**	**+0.8**
	87nm,0.2s						
AAK	**Ala-Archa**	**5.05**	**18**	P	**Pn**	**02 32 34.2**	**+2.2**
	1.4nm,0.3s,baz=185,slow=17,SNR=20						
AAK				S	**Sn**	**02 33 28.6**	**-0.7**
	1.2nm,0.3s,baz=140,slow=3.4,SNR=4.3						
AAK	**Ala-Archa**	**5.05**	**18**	↓P	**Pn**	**02 32 33.4**	**+1.4**
	1.1nm,0.3s						
AAK				↑S	**Sn**	**02 33 28.3**	**-1.1**
	21nm,0.6s						
KK31	**Karatay Array**	**5.45**	**345**	P	**Pn**	**02 32 40.2**	**+2.9**
	4.8nm,0.3s,baz=166,slow=14,SNR=272						
KK31				↓S	**Sn**	**02 33 38.1**	**-0.8**
	6.0nm,0.3s,baz=170,slow=23,SNR=18						
GEYT	**Alibeck**	**11.30**	**275**	P	**Pn**	**02 33 57.1**	**+0.8**
	0.2nm,0.3s,baz=84,slow=15,SNR=3.3						
GEYT				S	**Sn**	**02 35 59.5**	**-1.2**
	0.7nm,0.3s,baz=91,slow=17,SNR=4.4						
MKAR	**Makanchi Array**	**11.54**	**36**	P	**Pn**	**02 33 59.8**	**+0.4**
	0.1nm,0.3s,baz=218,slow=13,SNR=3.3						
KURBB	**Kurchatov Arra**	**13.50**	**17**	P	**P**	**02 34 27.6**	**-2.3**
	0.1nm,0.3s,baz=204,slow=11,SNR=8.7						
AB31	**Akbulak array**	**14.53**	**326**	↓P	**P**	**02 34 39.9**	**-1.5**
	0.5nm,0.6s						
AKTO	**Aktyubinsk**	**16.25**	**325**	P	**P**	**02 35 00.9**	**+0.6**
	0.1nm,0.3s,baz=118,slow=10,SNR=4.2						
AKTO	**Aktyubinsk**	**16.25**	**325**	↓P	**P**	**02 35 02.3**	**+1.9**
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**18.

RSPR 17 03:11:34.9, 19.60N × 64.26W, h63 km ± 4 km, MD3.3/7, 20C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.87**	**184**	*e*P	Pn	03 11 50.7	-0.7
ABV	**Anegada**	**0.87**	**184**	*e*S	Sn	03 12 03.1	-0.6
ABVI	**Anegada Island**	**0.87**	**184**	*e*P	Pn	03 11 50.7	-0.7
ABVI				*e*S	Sn	03 12 03.1	-0.6
TBVI	**Tortola**	**1.23**	**196**	*e*P	Pn	03 11 55.3	-0.8
TBVI	**Tortola**	**1.23**	**196**	*e*P	Pn	03 11 55.3	-0.8
STVI	**Saint Thomas**	**1.41**	**208**	*e*P	Pn	03 11 57.6	-0.9
STVI	**Saint Thomas**	**1.41**	**208**	*e*S	Sn	03 12 15.3	-0.8
STVI	**Saint Thomas**	**1.41**	**208**	*e*P	Pn	03 11 57.6	-0.9
STVI				*e*S	Sn	03 12 15.3	-0.8
CUPR	**Culebra, Puert**	**1.61**	**217**	*e*P	Pn	03 12 00.3	-0.8
CUPR	**Culebra, Puert**	**1.61**	**217**	*e*S	Sn	03 12 20.3	-0.6
CUPR	**Culebra, Puert**	**1.61**	**217**	*e*P	Pn	03 12 00.3	-0.8
CUPR				*e*S	Sn	03 12 20.3	-0.6
MTP	**Monte Pirata**	**1.93**	**219**	*e*S	Sn	03 12 28.1	-0.7
MTP	**Monte Pirata**	**1.93**	**219**	*e*P	Pn	03 12 04.9	-0.6
MTP	**Monte Pirata**	**1.93**	**219**	*e*P	Pn	03 12 04.9	-0.6
MTP				*e*S	Sn	03 12 28.1	-0.7
CBYP	**Canovanas**	**2.01**	**229**	*e*S	Sn	03 12 30.3	-0.4
CBYP	**Canovanas**	**2.01**	**229**	*e*P	Pn	03 12 05.7	-0.9
CBYP	**Canovanas**	**2.01**	**229**	*e*P	Pn	03 12 05.7	-0.9
CBYP				*e*S	Sn	03 12 30.3	-0.4
HUMP	**Col San Antoni**	**2.09**	**226**	*e*S	Sn	03 12 32.1	-0.5
HUMP	**Col San Antoni**	**2.09**	**226**	*e*P	Pn	03 12 07.0	-0.6
HUMP	**Col San Antoni**	**2.09**	**226**	*e*P	Pn	03 12 07.0	-0.6
HUMP				*e*S	Sn	03 12 32.1	-0.5
SJG	**San Juan**	**2.32**	**231**	*e*P	Pn	03 12 10.3	-0.5
SJG	**San Juan**	**2.32**	**231**	*e*S	Sn	03 12 37.8	-0.5
SJG	**San Juan**	**2.32**	**231**	*e*P	Pn	03 12 10.3	-0.5
SJG				*e*S	Sn	03 12 37.8	-0.5
CELP	**Cerrillos**	**2.67**	**236**	*e*P	Pn	03 12 15.1	-0.5
CELP	**Cerrillos**	**2.67**	**236**	*e*P	Pn	03 12 15.1	-0.5
OBIP	**Obispado Ponce**	**2.71**	**235**	*e*P	Pn	03 12 15.5	-0.6
OBIP	**Obispado Ponce**	**2.71**	**235**	*e*S	Sn	03 12 47.2	-0.5
OBIP	**Obispado Ponce**	**2.71**	**235**	*e*P	Pn	03 12 15.5	-0.6
OBIP				*e*S	Sn	03 12 47.2	-0.5
SDDR	**Presa de Saban** 19nm,0.6s	**6.66**	**266**	*e*Pn	Pn	03 13 10.1	-0.1

SJA 17 03:37:34.2 ± 0.8, 32.80S × 69.19W, h32 km ± 2 km, ML3.3, MW3.7, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCO	**CERRO ARCO**	**0.23**	**102**	*e*P	Pn	03 37 41.4	-0.1
ARCO				*e*S	Sn	03 37 47.0	+0.8
ARCO	comp=Z,4μm,0.2s			IAML		03 37 48.1	
ASAL	**Salagasta**	**0.36**	**56**	*e*P	Pn	03 37 43.5	+0.1
AAGR	**Agrelo**	**0.42**	**133**	*e*P	Pn	03 37 44.0	-0.3
AUSP	**Uspallata**	**0.59**	**344**	*e*P	Pn	03 37 47.2	+0.5
RTLS	**Leoncito**	**1.00**	**355**	*e*P	Pb	03 37 53.9	+0.8
RTLS	comp=Z,181nm,0.6s			IAML		03 38 10.6	
RTCV	**Cerro Valdivia**	**1.08**	**31**	*e*P	Pb	03 37 54.9	+0.5
RTCV				*e*S	Sb	03 38 10.3	+2.1
PEL	**Peldehue**	**1.30**	**254**	*e*P	Pb	03 37 58.3	+0.2
PEL				*e*S	Sb	03 38 15.2	+0.7
CFA	**Coronel Fontan**	**1.44**	**35**	*e*P	Pb	03 38 00.1	-0.3
ROC1	**El Roble**	**1.54**	**263**	*e*P	Pb	03 38 02.3	-0.1
RTLL	**Cerro Villicun**	**1.58**	**23**	*e*P	Pb	03 38 02.5	-0.5
RTLL	comp=Z,900nm,0.4s			IAML		03 38 26.1	
ACAN	**Cantantal**	**1.77**	**73**	*e*P	Pb	03 38 04.7	-1.4
AMOG	**MOGNA**	**1.94**	**18**	*e*P	Pb	03 38 08.2	-0.8
ACCO	**Cerro Coronel**	**2.20**	**3**	*e*P	Pb	03 38 12.5	-1.1
ACLV	**Cuesta del Vie**	**2.62**	**355**	*e*P	Pb	03 38 19.4	-2.1
AROD	**Rodeo**	**2.63**	**355**	*e*P	Pb	03 38 19.1	-1.8
MRA	**San Martin**	**2.96**	**84**	*e*P	Pn	03 38 19.9	+0.8
AGUA	**GUANDACOL**	**3.35**	**11**	*e*P	Pn	03 38 27.7	+3.1

DJA 17 03:45:45.3 ± 1.1, 10.5 ± 7 × 11.2 E ± °, h10 km, M3.6/6, MLv3.6/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**2.01**	**343**	P	Pn	03 46 18.5	-0.8
PCJI				S	Sn	03 46 44.6	+0.1
UGM	**Wanagama**	**2.52**	**331**	P	Pn	03 46 26.2	-0.2
UGM				S	Sn	03 46 57.9	+0.6
NGJI	**Ngawi**	**2.76**	**354**	P	Pn	03 46 29.7	0.0
NGJI				S	Sb	03 47 07.6	-1.1

IDC 17 04:27:19.7 ± 1.8, 3.38S × 144.10E, h0 km, mb3.4/3, mb1 3.6/4, mb1mx3.4/23, mbtmp3.3/4, ML3.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/23, Error ellipse: s-maj=90.0km s-min=27.5km az=121.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=31,slow=12,SNR=3.1	**19.02**	**209**	P	P	04 31 42.9	-0.4
WRA	comp=Z,44nm,19.2s,baz=155,slow=36			LR	LR	04 38 50.1	
ASAR	**Alice Springs** 0.2nm,0.3s,baz=26,slow=12,SNR=2.8	**22.45**	**205**	P	P	04 32 20.8	+0.3
FITZ	**Fitzroy Crossi** 1.6nm,0.7s,baz=69,slow=19,SNR=6.4	**23.26**	**230**	P	P	04 32 29.5	+0.5
ILAR	**Eielson Array** 0.5nm,0.9s,baz=253,slow=5.8,SNR=4.8	**84.24**	**24**	P	P	04 39 52.6	-0.3

VAO ***17*** *04:54:55.6 ± 0.4, 28.62S × 69.13W, h10 km, mb4.6*
SJA ***17*** *04:54:58.0 ± 1.0, 28.62S × 69.55W, h126 km ± 6 km, ML4.1, MW4.4*
NEIC ***17*** *04:54:58.0 ± 0.0, 28.62S × 69.55W, h126 km, mb4.4/49, MW4.5, MD4.4(SJA), Moment Tensor Solution. s19 Moment tensor: Scale 10^{15} Nm; M_{rr}=6.78; $M_{\theta\theta}$=-0.83; $M_{\phi\phi}$=7.61; $M_{r\theta}$=-2.45; $M_{r\phi}$=1.41; $M_{\theta\phi}$=1.02; Best double couple: M_0=7.80000×10^{15} NP1:ϕ_s=170.00000°, δ51.00000°, λ=-117.00000°. NP2:ϕ_s=29.00000°, δ46.00000°, λ=-60.00000°. Principal axes: T 7.8700, Plg3.0000°, Azm278.0000°; N -0.0700, Plg21.0000°, Azm188.0000°; P -7.8000, Plg69.0000°, Azm15.0000°; After SJA.*
NEIC Felt [IV] at Copiapo and Tierra Amarilla, Chile.
GUC ***17*** *04:54:58.3 ± 0.6, 28.63S × 69.61W, h128 km ± 5 km, ML4.8*
ISCJB ***17*** *04:54:58.2 ± 0.2, 28.54S ± 0.02 × 69.42W ± 0.03, h103 km ± 2 km, mb4.4/61, Error ellipse: s-maj=4.3km s-min=3.1km az=164.8*
IDC ***17*** *04:55:00.9 ± 0.6, 28.50S × 69.28W, h115 km ± 3 km, mb4.1/11, mb1 4.1/15, mb1mx4.0/27, mbtmp4.4/15, MS2.7/2, Ms1 2.7/2, ms1mx2.6/19, Error ellipse: s-maj=17.2km s-min=12.8km az=65.0*

ISC 17 04:54:59.5 ± 0.4, 28.59S ± 0.03 × 69.55W ± 0.03, h110 km ± 3 km, h111 km: pP-P, n191, σ1 §78/236, mb4.4/61, 5C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**1.10**	**247**	*e*Pn	**Pn**	**04 55 21.2**	**-0.9**
LCO				*e*Sn	**Sn**	**04 55 38.4**	**-0.7**
LCO	**Las Campanas**	**1.10**	**247**	*i* P	**Pn**	**04 55 21.7**	**-0.5**
LCO				*i* S	**Sn**	**04 55 38.5**	**-0.6**
LCO	**Las Campanas**	**1.10**	**247**	*i*P	**Pn**	**04 55 21.6**	**-0.5**
LCO				*e*S	**Sn**	**04 55 38.4**	**-0.7**
LCO	comp=E,26μm,0.3s			IAML		04 55 39.0	
LCO	**Las Campanas**	**1.10**	**247**	*e*P	**Pn**	**04 55 20.9**	**-1.2**
GO03	**Copiap**	**1.16**	**328**	*e*Pn	**Pn**	**04 55 22.5**	**-0.2**
GO03				*e*Sn	**Sn**	**04 55 39.6**	**-0.4**
GO03	**Copiap**	**1.16**	**328**	*i*P	**Pn**	**04 55 22.4**	**-0.2**
GO03				*e*S	**Sn**	**04 55 40.2**	**+0.1**
GO03	comp=N,17μm,0.1s			IAML		04 55 41.1	
VCA	**Vinchina**	**1.19**	**97**	*i* P	**Pn**	**04 55 23.9**	**+1.0**
VCA	comp=Z,9μm,0.2s			IAML		04 55 24.4	
VCA				*e*S	**Sn**	**04 55 41.8**	**+1.2**
VCA	**Vinchina**	**1.19**	**97**	*i*P	**Pn**	**04 55 23.8**	**+0.8**
VCA				*e*S	**Sn**	**04 55 41.6**	**+1.0**
VCA	comp=N,13μm,0.4s			IAML		04 55 42.8	
AGUA	**GUANDACOL**	**1.29**	**134**	*i* P	**Pn**	**04 55 24.3**	**+0.3**
AGUA				*e*S	**Sn**	**04 55 41.8**	**-0.7**
AROD	**Rodeo**	**1.57**	**178**	*i* P	**Pn**	**04 55 28.2**	**+0.6**
AROD				*i* S	**Sn**	**04 55 50.1**	**+1.2**
ACDV	**Cuesta del Vie**	**1.62**	**167**	*e*P	**Pn**	**04 55 28.6**	**+0.5**
ACDV				*e*S	**Sn**	**04 55 51.1**	**+1.5**
GO04	**Tololo Observa**	**1.92**	**214**	*e*Pn	**Pn**	**04 55 30.6**	**-1.2**
GO04				*e*Sn	**Sn**	**04 55 54.4**	**-2.0**
GO04	**Tololo Observa**	**1.92**	**214**	*i*P	**Pn**	**04 55 30.8**	**-1.0**
GO04				*e*S	**Sn**	**04 55 54.6**	**-1.8**
GO04	comp=E,8μm,0.5s			IAML		04 55 58.0	
LSCH	**La Serena**	**1.98**	**228**	*i*P	**Pn**	**04 55 30.9**	**-1.4**
LSCH				*e*S	**Sn**	**04 55 55.2**	**-2.1**
ACCO	**Cerro Coronel**	**2.04**	**168**	*e*P	**Pn**	**04 55 33.7**	**+0.4**
ACCO				*e*S	**Sn**	**04 56 00.0**	**+0.9**
ACLC	**CERRO LA CRUZ**	**2.42**	**111**	*e*P	**Pn**	**04 55 38.0**	**0.0**
ACLC				*i* S	**Sn**	**04 56 08.1**	**+0.4**
AMOG	**MOGNA**	**2.51**	**159**	*e*P	**Pn**	**04 55 38.8**	**-0.4**
AMOG				*e*S	**Sn**	**04 56 08.4**	**-1.3**
RTLL	**Cerro Villicun**	**2.88**	**161**	*i* P	**Pn**	**04 55 43.9**	**-0.1**
RTLL				*e*S	**Sn**	**04 56 16.5**	**-1.9**
RTLL	comp=Z,431nm,0.4s			IAML		04 56 19.6	
SJA	**San Juan**	**3.05**	**164**	*i* P	**Pn**	**04 55 47.4**	**+1.2**
SJA				*e*S	**Sn**	**04 56 18.3**	**-4.0**
APLL	**PUNTA DE LOS L**	**3.19**	**125**	*i* P	**Pn**	**04 55 47.5**	**-0.6**
APLL	comp=Z,460nm,0.5s			IAML		04 55 47.9	
APLL				*e*S	**Sn**	**04 56 22.7**	**-2.9**
RTLS	**Leoncito**	**3.21**	**176**	*e*P	**Pn**	**04 55 48.9**	**+0.3**
RTLS				*e*S	**Sn**	**04 56 26.2**	**-0.2**
RTLS	comp=Z,326nm,0.6s			IAML		04 56 32.5	
CFA	**Coronel Fontan**	**3.21**	**160**	*i* P	**Pn**	**04 55 48.0**	**-0.4**
CFA				*i* S	**Sn**	**04 56 24.9**	**-1.2**
CYA	**Choya**	**3.30**	**88**	*i* P	**Pn**	**04 55 49.2**	**-0.3**
CYA	comp=Z,810nm,0.7s			IAML		04 55 50.0	
CYA				*i* S	**Sn**	**04 56 24.9**	**-3.2**
RTCV	**Cerro Valdivia**	**3.38**	**165**	*e*P	**Pn**	**04 55 50.5**	**-0.1**
RTCV				*e*S	**Sn**	**04 56 28.5**	**-1.5**
GO02	**Mina Guanaco**	**3.41**	**359**	*e*Pn	**Pn**	**04 55 51.5**	**+0.2**
GO02				*e*Sn	Sn	04 56 21.8	-10
GO02	**Mina Guanaco**	**3.41**	**359**	*i*P	**Pn**	**04 55 51.6**	**+0.3**
AUSP	**Uspallata**	**3.63**	**178**	*e*P	**Pn**	**04 55 54.5**	**+0.3**
FSA	**Cafayete**	**4.02**	**53**	*i* P	**Pn**	**04 56 00.1**	**+0.8**
FSA	comp=Z,81nm,0.5s			IAML		04 56 03.0	
PB14	**IPOC Station P**	**4.02**	**349**	*e*P	**Pn**	**04 55 58.7**	**-0.8**
ACAN	**Cantantal**	**4.20**	**152**	*i* P	**Pn**	**04 56 01.1**	**-0.5**
ROC1	**El Roble**	**4.55**	**196**	*e*Pn	**Pn**	**04 56 03.3**	**-3.2**
ROC1				*e*Sn	Sn	04 56 41.2	-17
ROC1	**El Roble**	**4.55**	**196**	*e*P	**Pn**	**04 56 03.7**	**-2.9**
PEL	**Peldehue**	**4.64**	**192**	*e*Pn	**Pn**	**04 56 05.7**	**-1.9**
PEL				*e*Sn	Sn	04 56 40.9	-20
MRA	**San Martin**	**5.05**	**140**	*e*P	**Pn**	**04 56 11.8**	**-1.3**
MRA	comp=Z,112nm,0.6s			IAML		04 56 23.8	
MRA				*i* S	**Sn**	**04 57 05.7**	**-4.6**
TCA	**Tanti**	**5.09**	**124**	*i* P	**Pn**	**04 56 11.8**	**-1.9**
TCA				*e*S	**Sn**	**04 57 04.9**	**-6.5**
TCA	comp=Z,162nm,0.7s			IAML		04 57 08.7	
PB10	**IPOC Station P**	**5.13**	**350**	*e*Pn	**Pn**	**04 56 12.3**	**-2.0**
PB10	**IPOC Station P**	**5.13**	**350**	*e*P	**Pn**	**04 56 12.1**	**-2.1**
SLA	**San Lorenzo**	**5.28**	**44**	*i* P	**Pn**	**04 56 17.4**	**+1.0**
SLA	comp=Z,44nm,0.6s			IAML		04 56 38.5	
PB05	**IPOC Station P**	**5.74**	**354**	*i* P	**Pn**	**04 56 19.9**	**-2.7**
PB05				*i* S	Sn	04 57 38.2	+11
PB06	**IPOC Station P**	**5.86**	**360**	*i* P	**Pn**	**04 56 22.3**	**-1.9**
LVC	**Limon Verde**	**5.98**	**6**	P	**Pn**	**04 56 24.4**	**-1.6**
LVC	comp=Z,9.2nm,0.3s,baz=178,slow=8.8,SNR=81			S	**Sn**	**04 57 30.3**	**-3.1**
LVC	comp=Z,18nm,0.3s,baz=4.9,slow=19,SNR=8.8			LR	LR	04 58 42.6	
LVC	**Limon Verde**	**5.98**	**6**	*i* P	**Pn**	**04 56 24.6**	**-1.5**
LVC	**Limon Verde**	**5.98**	**6**	*e*P	**Pn**	**04 56 24.6**	**-1.5**
SUCO	**SUCO**	**6.20**	**141**	*i* P	**Pn**	**04 56 28.0**	**-0.7**
SUCO	comp=Z,75nm,0.5s			IAML		04 57 34.5	
PB04	**IPOC Station P**	**6.25**	**355**	*e*Pn	**Pn**	**04 56 26.5**	**-3.0**
PB04	**IPOC Station P**	**6.25**	**355**	*i* P	**Pn**	**04 56 26.5**	**-3.0**
PB03	**IPOC Station P**	**6.51**	**358**	*e*P	**Pn**	**04 56 30.1**	**-3.0**
HJA	**Humahuaca**	**6.52**	**36**	*e*P	**Pn**	**04 56 35.1**	**+1.7**
HJA	comp=Z,46nm,0.6s			IAML		04 56 36.9	
GO05	**Huala**	**6.72**	**197**	*e*Pn	Pn	04 56 29.8	-5.8
PB09	**IPOC Station P**	**6.77**	**2**	*e*P	**Pn**	**04 56 35.6**	**-0.9**
PB09				*e*S	**Sn**	**04 57 50.6**	**-1.7**
PB07	**IPOC Station P**	**6.84**	**357**	*e*P	**Pn**	**04 56 34.3**	**-3.2**
PB02	**IPOC Station P**	**7.24**	**357**	*e*P	**Pn**	**04 56 39.2**	**-3.6**
YJA	**Yavi**	**7.35**	**31**	*e*P	**Pn**	**04 56 47.6**	**+3.0**
PB01	**IPOC Station P**	**7.51**	**0**	*e*Pn	**Pn**	**04 56 44.0**	**-2.5**
PB01	**IPOC Station P**	**7.51**	**0**	*e*P	**Pn**	**04 56 43.8**	**-2.7**
PB11	**IPOC Station P**	**8.79**	**359**	*e*Pn	Pn	04 56 59.0	-4.9
PB11				*e*Sn	**Sn**	**04 58 38.8**	**-2.5**
PB11	**IPOC Station P**	**8.79**	**359**	*e*P	**Pn**	**04 56 59.2**	**-4.7**
MNMC	**Minye Minye**	**9.41**	**360**	*e*Pn	**Pn**	**04 57 08.3**	**-4.2**
PB12	**IPOC Station P**	**9.96**	**356**	*e*P	**Pn**	**04 57 15.5**	**-4.1**
CPUP	**Villa Florida**	**11.08**	**81**	P	**Pn**	**04 57 30.9**	**-3.8**
CPUP	comp=Z,0.6nm,0.3s,baz=254,slow=12,SNR=16 **Villa Florida**	**11.08**	**81**	*e*Pn	**Pn**	**04 57 31.8**	**-2.9**
GO06	**Currarehue**	**11.08**	**188**	*e*Pn	**Pn**	**04 57 31.4**	**-3.4**
PLCA	**Paso Flores**	**12.14**	**184**	P	**Pn**	**04 57 52.1**	**+3.2**
PLCA	comp=Z,0.1nm,0.3s,baz=349,slow=16,SNR=2.4			LR	LR	05 03 16.3	
LPAZ	**La Paz**	**12.31**	**6**	P	**Pn**	**04 57 51.1**	**-0.6**
CPSB	comp=Z,0.5nm,0.3s,baz=191,slow=7.8,SNR=16 **Cacapava Do Su**	**14.14**	**101**	*e*P	**Pn**	**04 58 10.8**	**-4.1**
PLTB	**Pedras Altas**	**14.15**	**107**	*e*P	**Pn**	**04 58 11.3**	**-3.6**
AQDB	**Aquidauana**	**14.96**	**60**	*e*P	**Pn**	**04 58 23.5**	**-1.8**
ITAB	**Concordia**	**15.46**	**89**	*e*P	**Pn**	**04 58 28.4**	**-3.1**
PTGB	**Pitanga**	**16.09**	**80**	*e*P	**Pn**	**04 58 37.9**	**-1.7**
TRCB	**Terra Rica**	**16.29**	**73**	*e*P	**Pn**	**04 58 39.4**	**-2.6**
CNLB	**Canela**	**16.38**	**97**	*e*P	**Pn**	**04 58 41.6**	**-1.4**
C2SB	**Chapadao do Su**	**18.14**	**61**	*e*P	**Pn**	**04 59 04.2**	**-0.2**
FRTB	**Fartura**	**18.70**	**78**	*e*P	**Pn**	**04 59 10.4**	**-0.7**
ITRB	**Iturama**	**19.59**	**67**	*e*P	**P**	**04 59 19.1**	**0.0**
SPB	**Sao Paulo**	**20.46**	**81**	*e*P	**P**	**04 59 27.1**	**-1.4**
BB19B	comp=Z,16nm,1.0s **Bebedouro**	**20.48**	**73**	*e*P	**P**	**04 59 28.3**	**-0.4**
BDFB	**Brasilia**	**23.70**	**62**	P	**P**	**05 00 00.4**	**-1.1**
VAS01	comp=Z,5.7nm,0.7s,baz=221,slow=8.5,SNR=12 **Vassouras-RJ**	**24.37**	**81**	*e*P	**P**	**05 00 11.7**	**+4.3**
CAM01	**Campos-RJ**	**26.08**	**81**	*e*P	**P**	**05 00 27.4**	**+4.5**
MCI6	**Montes Claros**	**26.35**	**69**	*e*P	**P**	**05 00 30.0**	**+4.5**
PTGA	**Pitinga**	**29.18**	**20**	P	**P**	**05 00 50.3**	**-0.3**
PTGA	comp=Z,3.0nm,0.5s,baz=204,slow=8.5,SNR=8.0 **Pitinga**	**29.18**	**20**	*e*P	**P**	**05 00 50.3**	**-0.3**
OTAV	comp=Z,36nm,2.0s **Otavalo**	**29.91**	**342**	*e*P	**P**	**05 01 00.3**	**+2.7**
CHIC	comp=Z,13nm,1.8s **Chingaza**	**33.27**	**352**	*e*P	**P**	**05 01 28.4**	**+1.4**
CHIC	**Chingaza**	**33.27**	**352**	*e*P	**P**	**05 01 28.4**	**+1.4**
ROSC	**El Rosal**	**33.55**	**351**	P	**P**	**05 01 31.7**	**+2.3**
RUSC	comp=Z,3.6nm,0.4s,baz=143,slow=14,SNR=5.5 **La Rusia**	**34.45**	**354**	*e*P	**P**	**05 01 38.5**	**+1.2**
RUSC	**La Rusia**	**34.45**	**354**	*e*P	**P**	**05 01 38.5**	**+1.2**
HELC	**Santa Helena**	**35.05**	**350**	*e*P	**P**	**05 01 43.9**	**+1.6**
HELC	**Santa Helena**	**35.05**	**350**	*e*P	**P**	**05 01 43.9**	**+1.6**
BARC	**Barichara**	**35.15**	**354**	*e*P	**P**	**05 01 41.8**	**-1.2**
BARC	**Barichara**	**35.15**	**354**	*e*P	**P**	**05 01 41.8**	**-1.2**
PTBC	**PUERTO BERRIO,**	**35.24**	**352**	*e*P	**P**	**05 01 43.0**	**-0.5**
PTBC	**PUERTO BERRIO,**	**35.24**	**352**	*e*P	**P**	**05 01 43.0**	**-0.5**
BRRC	**Barranca, Sant**	**35.71**	**353**	*e*P	**P**	05 01 41.3	-6.3
BRRC	**Barranca, Sant**	**35.71**	**353**	*e*P	**P**	05 01 41.3	-6.3
PAMC	**Pamplona, Colo**	**35.85**	**355**	*e*P	**P**	**05 01 49.5**	**+0.3**
PAMC	**Pamplona, Colo**	**35.85**	**355**	*e*P	**P**	**05 01 49.5**	**+0.3**
DBBC	**Dabeiba**	**35.98**	**349**	*e*P	**P**	**05 01 52.3**	**+2.4**
DBBC	**Dabeiba**	**35.98**	**349**	*e*P	**P**	**05 01 52.3**	**+2.4**
ZARC	**Zaragoza, Cauc**	**36.23**	**351**	*e*P	**P**	**05 01 52.1**	**0.0**
ZARC	**Zaragoza, Cauc**	**36.23**	**351**	*e*P	**P**	**05 01 52.1**	**0.0**
SDV	**Santo Domingo**	**37.27**	**358**	*e*P	**P**	**05 02 00.5**	**-0.5**
SDV	comp=Z,6.3nm,0.8s **Santo Domingo**	**37.27**	**358**	*e*P	**P**	**05 01 59.7**	**-1.3**
SDV	**Santo Domingo**	**37.27**	**358**	*e*P	**P**	**05 01 59.7**	**-1.3**
OBIP	**Obispado Ponce**	**46.44**	**4**	*e*P	**P**	**05 03 15.6**	**+0.2**
	comp=Z,46nm,1.4s						
TEIG	**Tepich**	**51.79**	**337**	*e*P	**P**	**05 03 56.0**	**-0.1**
VNA3	comp=Z,80nm,1.4s **Neumayer Olymp**	**53.61**	**160**	P	**P**	**05 04 08.4**	**-0.6**
VNA2	**Neumayer--Watz**	**54.22**	**159**	P	**P**	**05 04 12.6**	**-0.8**
SNAA	**Sanae**	**55.83**	**159**	P	**P**	**05 04 23.7**	**-1.3**
QSPA	**South Pole Qui** comp=Z,13nm,0.9s	**61.63**	**180**	*e*P	**P**	**05 05 06.4**	**+1.0**
LTX	**Lajitas**	**66.19**	**328**	*e*P	**P**	**05 05 37.0**	**+1.4**
LTX				*e*pP	**PcP**	**05 06 05.5**	**+0.5**
LTX				*e*sP	**sP**	**05 06 17.7**	**+1.5**
TXAR	**Lajitas Array** comp=Z,1.2nm,0.8s,baz=148,slow=8.7,SNR=15	**66.19**	**328**	P	**P**	**05 05 37.0**	**+1.4**
TXAR	comp=Z,0.5nm,0.6s,baz=152,slow=7.4,SNR=4.8			*e*pP	**PcP**	**05 06 05.5**	**+0.5**
TXAR	comp=Z,0.3nm,0.7s,baz=159,slow=7.7,SNR=2.3			*e*sP	**sP**	**05 06 17.7**	**+1.5**
WVT	**Waverly** comp=Z,5.7nm,0.7s	**66.64**	**344**	*e*P	**P**	**05 05 38.2**	**+0.1**
ABTX	**Abilene, Hawle** comp=Z,8.9nm,1.0s	**67.25**	**333**	*e*P	**P**	**05 05 43.6**	**+1.5**
MNTX	**Cornudas Mount** comp=Z,2.2nm,0.8s	**68.97**	**328**	*e*P	**P**	**05 05 53.3**	**+0.4**
CCM	**Cathedral Cave** comp=Z,15nm,0.9s	**69.34**	**342**	*e*P	**P**	**05 05 55.2**	**+0.2**
MSTX	**Muleshoe** comp=Z,12nm,0.8s	**69.72**	**331**	*e*P	**P**	**05 05 58.3**	**+0.7**
LIC	**Lamto** comp=Z,24nm,0.8s	**71.04**	**72**	*e*P	**P**	**05 06 06.2**	**+0.2**
TIC	**Toumodi**	**71.28**	**71**	*e*P	**P**	**05 06 07.5**	**+0.1**
KIC	**Kosan Boka** comp=Z,78nm,1.5s	**71.35**	**72**	*e*P	**P**	**05 06 08.3**	**+0.4**
DBIC	**Dimbokro** comp=Z,8.8nm,0.6s,baz=216,slow=6.6,SNR=21	**71.42**	**71**	P	**P**	**05 06 08.5**	**+0.2**
T25A	**Trinidad** comp=Z,4.9nm,0.8s	**73.12**	**331**	*e*P	**P**	**05 06 19.9**	**+1.8**
X16A	**Lo Mia Camp, P** comp=Z,4.1nm,1.0s	**74.14**	**325**	*e*P	**P**	**05 06 25.8**	**+1.7**
MVCO	**Mesa Verde** comp=Z,4.2nm,0.9s	**74.97**	**329**	*e*P	**P**	**05 06 30.9**	**+2.0**
WUAZ	**Wupatki** comp=Z,6.7nm,1.0s	**74.97**	**326**	*e*P	**P**	**05 06 31.5**	**+2.6**
ISCO	**Idaho Springs** comp=Z,2.1nm,0.8s	**75.87**	**332**	*e*P	**P**	**05 06 35.3**	**+1.2**
PV13	**Radium Mtn., P** comp=Z,6.3nm,0.9s	**75.89**	**329**	*e*P	**P**	**05 06 36.3**	**+2.1**
SMCO	**Snowmass** comp=Z,8.0nm,1.3s	**75.92**	**331**	*e*P	**P**	**05 06 37.0**	**+2.5**
ECSD	**EROS Data Cent** comp=Z,5.3nm,0.9s	**76.13**	**340**	*e*P	**P**	**05 06 35.9**	**+0.8**
U15A	**North Rim** comp=Z,5.5nm,1.0s	**76.15**	**326**	*e*P	**P**	**05 06 37.8**	**+2.0**
PV10	**Paradox Valley**	**76.17**	**329**	*e*P	**P**	**05 06 37.3**	**+1.6**
KNB	**Kanab** comp=Z,12nm,1.1s	**76.87**	**326**	*e*P	**P**	**05 06 42.2**	**+2.6**
O20A	**White River Ci** comp=Z,5.7nm,0.8s	**77.26**	**331**	*e*P	**P**	**05 06 43.1**	**+1.4**
MTPU	**Mount Pierson** comp=Z,4.1nm,0.9s	**77.37**	**327**	*e*P	**P**	**05 06 43.5**	**+0.9**
SZCU	**Shutz Canyon** comp=Z,5.0nm,1.2s	**77.46**	**326**	*e*P	**P**	**05 06 45.1**	**+2.2**
CCUT	**Cedar City** comp=Z,6.9nm,0.9s	**77.56**	**326**	*e*P	**P**	**05 06 46.2**	**+2.7**
MSU	**Marysvale**	**77.74**	**327**	*e*P	**P**	**05 06 46.8**	**+2.3**
P17A	**Butcher Ranch,** comp=Z,8.4nm,0.8s	**77.83**	**329**	*e*P	**P**	**05 06 42.3**	**-2.6**
PSUT	**Pine Spring** comp=Z,4.4nm,0.8s	**78.57**	**326**	*e*P	**P**	**05 06 51.2**	**+2.2**
TSUM	**Tsumeb** comp=Z,9.3nm,1.0s	**78.62**	**106**	*e*P	**P**	**05 06 50.8**	**+0.9**
R11A	**Troy Canyon, C** comp=Z,5.1nm,1.4s	**79.29**	**325**	*e*P	**P**	**05 06 54.9**	**+1.9**
DUG	**Dugway, Tooele** comp=Z,3.7nm,1.0s	**79.37**	**328**	*e*P	**P**	**05 06 54.9**	**+1.6**
BW06	**Boulder Array** comp=Z,4.6n

HYB	**Hyderabad**	**148.69**	**104**	*i* PKP		**PKPbc**	**05**	**14**	**35.0 +0.5**
MK32	**Makanchi Array**	**151.47**	**43**	*e*PKPdf		**PKPdf**	**05**	**14**	**34.8 +0.7**
MK32				*e*PKPbc		**PKiKP**	**05**	**14**	**41.0 +0.1**
MK32				*e*PKPab		**PKPab**	**05**	**14**	**50.5 +1.4**
MKAR	**Makanchi Array**	**151.47**	**43**	PKP		**PKPdf**	**05**	**14**	**34.8 +0.7**
	comp=Z,2.7nm,1.2s,baz=7.3,slow=2.8,SNR=4.1								
MKAR				PKPbc		**PKiKP**	**05**	**14**	**41.0 +0.1**
	comp=Z,9.8nm,0.7s,baz=315,slow=1.9,SNR=80								
MKAR				PKPab		**PKPab**	**05**	**14**	**50.5 +1.4**
	comp=Z,3.6nm,0.9s,baz=270,slow=4.3,SNR=5.9								
MKAR				pPKPbc		**pPKPbc**	**05**	**15**	**11.3 -0.5**
	comp=Z,4.5nm,0.9s,baz=292,slow=3.5,SNR=4.1								
SONA0	**Songino Array**	**160.53**	**8**	*e*PKPab		**PKPab**	**05**	**15**	**29.1 +1.1**
SONM	**Songino Array**	**160.53**	**8**	PKPab		**PKPab**	**05**	**15**	**29.1 +1.1**
	comp=Z,0.5nm,0.6s,baz=1.3,slow=6.2,SNR=4.1								

KRSC 17 04:55:22.9±0.7, 54°33N×161°15E, h75km±16km, ML4.0,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
KZV	**Kizimen**	**0.93**	**328**	*e*P		Pn	04	55	42.4	+1.4
KZV				*e*S		Sn	04	55	55.7	+1.3
TUMR	**Tumrok**	**1.12**	**329**	*e*P		Pn	04	55	45.1	+1.9
TUMR				*e*S		Sn	04	56	00.3	+1.9
SPN	**Mys Shipunski**	**1.40**	**209**	*e*P		Pn	04	55	47.8	+1.1
SPN				*e*S		Sn	04	56	05.2	+0.5
NLC	**Nalytchevo**	**1.58**	**223**	*e*P		Pn	04	55	50.6	+1.6
NLC				*e*S		Sn	04	56	10.2	+1.5
ZLN	**Zelenaya**	**1.70**	**353**	*e*P		Pn	04	55	52.9	+2.1
ZLN				*e*S		Sn	04	56	13.9	+2.0
SDLR	**Sedlovina**	**1.71**	**233**	*e*P		Pn	04	55	52.9	+2.1
SMAR	**Somma**	**1.75**	**233**	*e*P		Pn	04	55	53.7	+2.1
SMAR				*e*S		Sn	04	56	15.1	+1.8
KRX	**Arik**	**1.77**	**238**	*e*P		Pn	04	55	54.3	+2.6
LGNR	**Loginova**	**1.78**	**352**	*e*P		Pn	04	55	54.3	+2.4
LGNR				*e*S		Sn	04	56	16.7	+2.8
UGLR	**Uglovaya**	**1.78**	**232**	*e*P		Pn	04	55	53.9	+2.1
UGLR				*e*S		Sn	04	56	15.6	+1.9
AVH	**Avacha**	**1.78**	**234**	*e*P		Pn	04	55	54.2	+2.4
AVH				*e*S		Sn	04	56	16.5	+2.7
KOK	**Koryaka**	**1.82**	**236**	*e*P		Pn	04	55	54.5	+2.2
KOZ	**Kozyrevsk**	**1.88**	**338**	*e*P		Pn	04	55	54.6	+1.6
KRSR	**Krestovskiy**	**1.92**	**350**	*e*P		Pn	04	55	55.6	+1.9
KRSR				*e*S		Sn	04	56	18.5	+1.4
DALK	**Dalny**	**1.93**	**229**	*e*P		Pn	04	55	55.5	+1.9
DALK				*e*S		Sn	04	56	18.4	+1.4
PET	**Petropavlovsk**	**1.98**	**230**	*e*P		Pn	04	55	56.3	+2.0
PET				*e*S		Sn	04	56	19.8	+1.6
GNL	**Ganaly**	**2.00**	**253**	*e*P		Pn	04	55	56.6	+1.9
KLY	**Klyuchi**	**2.01**	**352**	*e*P		Pn	04	55	56.6	+1.9
KLY				*e*S		Sn	04	56	20.1	+1.1
KBTR	**Krutoberegovo**	**2.11**	**26**	*e*P		Pn	04	55	58.4	+2.3
KBTR				*e*S		Sn	04	56	23.1	+1.7
ESO	**Esso**	**2.13**	**320**	*e*P		Pn	04	55	57.6	+1.2
SRDR	**Sredinnyy**	**2.15**	**338**	*e*P		Pn	04	55	58.1	+1.4
BDR	**Baidarnaya**	**2.25**	**1**	*e*P		Pn	04	55	59.9	+1.9
SMKR	**Semkarok**	**2.27**	**4**	*e*P		Pn	04	56	00.6	+2.4
SRKR	**Sorokina**	**2.33**	**0**	*e*P		Pn	04	56	01.8	+2.7
SRKR				*e*S		Sn	04	56	29.4	+2.6
KRMR	**Karymshinskiy**	**2.34**	**231**	*e*P		Pn	04	56	02.0	+2.8
KRMR				*e*S		Sn	04	56	29.4	+2.4
RUS	**Russkaya**	**2.47**	**221**	*e*P		Pn	04	56	02.4	+1.5
MTVR	**Mutnovka**	**2.56**	**225**	*e*P		Pn	04	56	04.3	+2.0
MTVR				*e*S		Sn	04	56	34.3	+1.7

*MAN **17** 04:58:11.3, 5°.60N×124°.75E, h29km, mb5.1, ML4.0, MS4.1*
MAN INTENSITY III - GENERAL SANTOS CITY; INTENSITY II - POLOMOLOK TUPI SOUTH COTABATO; ALABEL SARANGANI; INTENSITY I - DAVAO CITY.
*BJI **17** 04:58:13.0, 5°.46N×124°.95E, h70km, mb4.9/55, mB5.2/36, Ms4.6/26, Ms7 4.3/22*
*ISCJB **17** 04:58:14.5±0.3, 5°.77N±0°.02×124°.91E±0°.03, h63km±2km, mb4.8/131, Error ellipse: s-maj=4.5km s-min=3.0km az=7.7*
*DJA **17** 04:58:14.2±1.1, 6°N±3°×12°5E±°, h29km±9km, M5.1/41, mb4.9/41, mB5.5/13, MLv5.4/12, Mw(mB)5.0/13, Mwp6.1/1*
*MOS **17** 04:58:16.4±1.0, 5°.86N×124°.91E, h85km, mb4.8/43, Error ellipse: s-maj=10.6km s-min=5.8km az=115.1*
*IDC **17** 04:58:16.8±1.1, 5°.82N×124°.93E, h72km±10km, mb4.3/28, mb1 4.4/30, mb1mx4.3/41, mbtmp4.6/30, MS3.7/12, Ms1 3.7/12, ms1mx3.5/38, Error ellipse: s-maj=13.2km s-min=7.6km az=82.0*
*NEIC **17** 04:58:17.4±0.8, 5°.82N×124°.92E, h72km±7km, mb4.9/64, Error ellipse: s-maj=5.9km s-min=4.9km az=98.0*
NEIC Felt [IV] at General Santos. Felt [II PIVS] at Alabel, Polomolok and Tupi; [I PIVS] at Davao.
*KLM **17** 04:58:17.9, 5°.83N×124°.81E, h64km, mb4.9*
ISC 17 04:58:16.4±0.6, 5°.78N±0°.03×124°.80E±0°.04, h65km±6km,
n281, σ1°71/300, mb4.8/140, 10C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
GSPH	**General Santos**	**0.34**	**26**	*i*P		**Pn**	**04**	**58**	**24.9**	**-2.6**
GSPH				*i* S		**Sn**	**04**	**58**	**31.5**	**-4.0**
DMPH	**Davao City--Mi**	**1.48**	**29**	*e*P		**Pn**	**04**	**58**	**39.9**	**-1.0**
DMPH				*i* S		**Sn**	**04**	**58**	**59.2**	**-0.2**
DAV	**Davao City (W)**	**1.50**	**31**	P		**Pn**	**04**	**58**	**40.8**	**-0.4**
	2µm,0.3s,baz=224,slow=1.5,SNR=37									
DAV				S		**Sn**	**04**	**58**	**58.2**	**-1.7**
	2µm,0.3s,baz=221,slow=20,SNR=24									
DAV				LR		LR	04	59	30.1	
	comp=Z,10µm,18.6s,baz=182,slow=52									
CTBH	**Cotabato--PC H**	**1.54**	**339**	*i*P		**Pn**	**04**	**58**	**39.5**	**-2.2**
CTBH				*i* S		**Sn**	**04**	**58**	**57.4**	**-3.4**
SGSI	**Sangihe**	**2.20**	**161**	P		**Pn**	**04**	**58**	**49.9**	**-0.8**
CGP	**Cagayan de Oro**	**2.66**	**358**	*e*P		**Pn**	**04**	**58**	**56.3**	**-0.7**
CGP				*e*S		**Sn**	**04**	**59**	**28.6**	**+0.6**
BIPH	**Bislig**	**2.85**	**33**	*e*P		**Pn**	**04**	**58**	**59.6**	**+0.2**
BIPH				*e*S		**Sn**	**04**	**59**	**38.7**	**+6.0**
ZCP	**Zamboanga City**	**2.94**	**293**	*i*P		**Pn**	**04**	**58**	**57.9**	**-2.8**
ZCP				*i* S		**Sn**	**04**	**59**	**29.9**	**-5.0**
DCPH	**Dipolog City**	**3.13**	**333**	*e*P		**Pn**	**04**	**59**	**04.9**	**+1.5**
SNPH	**Sibulan**	**3.87**	**336**	*e*P		**Pn**	**04**	**59**	**16.5**	**+3.1**
SNPH				*i* S		Sn	05	00	12.8	+15
LLP	**Lapu-Lapu**	**4.58**	**350**	*e*P		**Pn**	**04**	**59**	**22.0**	**-1.3**
LLP				*e*S		**Sn**	**05**	**00**	**18.5**	**+3.3**
KMSI	**Cibinong**	**5.23**	**189**	P		**Pn**	**04**	**59**	**33.2**	**+1.1**
PLP	**Palo**	**5.36**	**2**	*e*P		**Pn**	**04**	**59**	**33.6**	**-0.2**
TNTI	**Ternate**	**5.59**	**153**	P		Pn	04	59	44.2	+7.1
MRSI	**Marisa**	**5.99**	**209**	P		**Pn**	**04**	**59**	**40.5**	**-1.9**
TSM	**Tawau**	**7.05**	**258**	P		**Pn**	**04**	**59**	**55.8**	**-1.3**
LUWI	**Luwuk**	**7.07**	**197**	*e*Pn		**Pn**	**04**	**59**	**59.1**	**+1.9**
LUWI				*e*Sn		**Sn**	**05**	**01**	**15.0**	**-1.2**
LUWI	**Luwuk**	**7.07**	**197**	P		**Pn**	**04**	**59**	**59.0**	**+1.8**
MPSI	**Mapaga**	**7.29**	**222**	P		**Pn**	**05**	**00**	**01.7**	**+1.5**
APSI	**Ampana**	**7.35**	**205**	P		**Pn**	**05**	**00**	**01.0**	**-0.1**
SDKM	**Sandakan**	**7.57**	**269**	P		**Pn**	**05**	**00**	**02.9**	**-1.2**
SANI	**Sanana**	**7.87**	**171**	P		**Pn**	**05**	**00**	**06.3**	**-1.8**
KDM	**Kudat**	**8.00**	**279**	P		**Pn**	**05**	**00**	**11.1**	**+1.1**
PCI	**Palu**	**8.28**	**217**	P		**Pn**	**05**	**00**	**15.6**	**+1.7**
KKM	**Kota Kinabalu**	**8.54**	**272**	*e*Pn		**Pn**	**05**	**00**	**18.4**	**+0.9**
KKM	**Kota Kinabalu**	**8.54**	**272**	P		**Pn**	**05**	**00**	**18.4**	**+0.9**
SIJI	**Sorong**	**9.24**	**135**	P		**Pn**	**05**	**00**	**25.0**	**-1.9**
	3.1nm,0.3s,baz=113,slow=23,SNR=4.6									
SIJI				S		**Sn**	**05**	**02**	**08.3**	**-1.0**
	0.7nm,0.3s,baz=163,slow=19,SNR=2.4									
NLAI	**Namlea**	**9.25**	**166**	P		**Pn**	**05**	**00**	**27.6**	**+0.6**
SGKI	**Sangatta, Kali**	**9.53**	**229**	P		**Pn**	**05**	**00**	**30.9**	**-0.1**
KDI	**Kendari**	**9.91**	**193**	P		**Pn**	**05**	**00**	**36.1**	**0.0**
TTSI	**Tana Toraja**	**10.08**	**210**	P		**Pn**	**05**	**00**	**38.4**	**0.0**
SPSI	**Sidrap Palu**	**10.90**	**208**	P		**Pn**	**05**	**00**	**49.7**	**0.0**
BNSI	**Bone**	**11.14**	**205**	P		**Pn**	**05**	**00**	**53.0**	**+0.1**
SBUM	**Sibu**	**12.97**	**256**	*e*Pn		**Pn**	**05**	**01**	**21.4**	**+3.4**
SBUM	**Sibu**	**12.97**	**256**	P		**P**	**05**	**01**	**22.0**	**-4.2**
STKI	**Sintang**	**14.46**	**247**	P		**P**	**05**	**01**	**46.4**	**+3.7**
KSM	**Kuching**	**15.08**	**254**	*e*Pn		**P**	**05**	**01**	**49.0**	**-0.6**
	94nm,1.4s									
KSM	**Kuching**	**15.08**	**254**	P		**P**	**05**	**01**	**49.6**	**0.0**
BATI	**Baumata**	**15.92**	**184**	P		**Pn**	**05**	**01**	**55.8**	**-0.7**
	2.4nm,0.3s,baz=96,slow=2.3,SNR=1.4									
PLAI	**Plampang**	**16.11**	**206**	P		**Pn**	**05**	**02**	**00.0**	**+1.1**
JAGI	**Jajag, Banyuwa**	**17.69**	**217**	*e*P		**P**	**05**	**02**	**22.9**	**+4.3**
	37nm,0.9s									
JAGI	**Jajag, Banyuwa**	**17.69**	**217**	P		**P**	**05**	**02**	**19.9**	**+1.3**
TPUB	**Ta-pu**	**17.88**	**347**	*e*P		**P**	**05**	**02**	**20.3**	**-0.3**
	38nm,0.8s									

JAY	**Jayapura**	**17.90**	**117**	P		**P**	**05**	**02**	**18.5 -2.4**
	0.4nm,0.3s,baz=323,slow=20,SNR=2.1								
JAY				LR		LR	05	09	06.7
	comp=Z,192nm,21.4s,slow=36								
GMJI	**Gumukmas**	**17.97**	**219**	P		**Pn**	**05**	**02**	**23.3 +1.4**
NGJI	**Ngawi**	**18.64**	**226**	P		**Pn**	**05**	**02**	**31.0 +1.0**
PWJI	**Pagerwojo**	**18.86**	**224**	P		**Pn**	**05**	**02**	**35.0 +2.3**
PCJI	**Pacitan**	**19.42**	**225**	P		**Pn**	**05**	**02**	**39.5 +0.2**
QIZ	**Qiongzhong**	**19.64**	**313**	P		**Pn**	**05**	**02**	**42.0 +0.1**
QIZ				S		**S**	**05**	**06**	**19.8 +1.5**
UGM	**Wanagama**	**19.69**	**226**	*e*P		**Pn**	**05**	**02**	**43.7 +1.2**
	182nm,1.3s								
UGM	**Wanagama**	**19.69**	**226**	P		**Pn**	**05**	**02**	**42.4 -0.1**
KPJI	**Karang Pucung**	**20.50**	**231**	P		Pn	05	02	51.2 -0.8
JCJI	**Jatiwangi**	**20.51**	**234**	P		Pn	05	02	59.3 +7.2
JOW	**Kunigami**	**21.20**	**9**	P		**P**	**05**	**02**	**56.5 -0.2**
	179nm,0.9s,baz=190,slow=8.5,SNR=15								
JOW				LR		LR	05	11	03.9
	comp=Z,210nm,21.1s,baz=285,slow=36								
JOW	**Kunigami**	**21.20**	**9**	*e*P		**P**	**05**	**02**	**56.6 -0.1**
	213nm,0.9s								
LEM	**Lembang**	**21.23**	**234**	P		**P**	**05**	**02**	**59.3 +2.0**
	10nm,0.4s,baz=63,slow=9.6,SNR=7.0								
LEM				LR		LR	05	11	34.0
	comp=Z,501nm,20.5s,baz=45,slow=37								
GUMO	**Guam**	**21.24**	**67**	LR		LR	05	10	07.0
	comp=Z,111nm,21.2s,baz=270,slow=34								
MYKOM	**Kota Tinggi**	**21.27**	**260**	*e*P		**P**	**05**	**03**	**00.5 +2.9**
	89nm,1.1s								
CISI	**Cisompet, Garu**	**21.50**	**232**	*e*P		**P**	**05**	**03**	**03.3 +3.2**
	56nm,0.8s								
KTGM	**Kuala Trenggan**	**21.57**	**270**	P		**P**	**05**	**03**	**03.7 +2.9**
MDSI	**Maura Dua**	**22.98**	**244**	P		**P**	**05**	**03**	**17.7 +2.0**
KASI	**Kota Agung**	**23.17**	**241**	P		**P**	**05**	**03**	**19.7 +2.1**
LHSI	**Lahat**	**23.29**	**246**	P		**P**	**05**	**03**	**22.1 +3.3**
	63nm,1.0s								
LWLI	**Liwa**	**23.32**	**243**	P		**P**	**05**	**03**	**21.3 +2.1**
IPM	**Ipoh**	**23.71**	**268**	*e*P		**P**	**05**	**03**	**23.7 +1.0**
	71nm,0.9s								
FITZ	**Fitzroy Crossi**	**23.74**	**178**	P		**P**	**05**	**03**	**22.9 +0.1**
	29nm,1.1s,baz=7.8,slow=8.4,SNR=33								
FITZ				LR		LR	05	14	52.2
	comp=Z,66nm,20.2s,baz=358,slow=42								
KULM	**Kulim**	**24.04**	**270**	*e*P		**P**	**05**	**03**	**27.0 +1.4**
	184nm,1.2s								
MASI	**Maura Aman, Be**	**24.21**	**249**	P		P	05	03	38.6 +11
CHAI	**Chaiyaphum**	**24.53**	**296**	P		**P**	**05**	**03**	**31.0 +0.9**
	7.8nm,0.9s								
TRTT	**Trang**	**25.01**	**276**	P		**P**	**05**	**03**	**36.2 +1.7**
	22nm,1.0s								
PDSI	**Padang**	**25.19**	**255**	P		**P**	**05**	**03**	**39.3 +3.1**
	39nm,1.2s								
PHET	**Kaeng Krachan**	**25.81**	**288**	P		**P**	**05**	**03**	**44.5 +2.8**
	8.7nm,1.0s								
PSI	**Prapat**	**25.97**	**265**	P		**P**	**05**	**03**	**42.9 -0.4**
	11nm,0.9s,baz=121,slow=0.1,SNR=8.1								
PSI				LR		LR	05	15	25.3
	comp=Z,212nm,21.6s,baz=88,slow=39								
PSI	**Prapat**	**25.97**	**265**	*e*P		**P**	**05**	**03**	**44.7 +1.4**
	17nm,1.0s								
PSI	**Prapat**	**25.97**	**265**	*e*P		**P**	**05**	**03**	**44.7 +1.4**
PSI				pmax		pmax			
	comp=Z,17nm,1.0s								
WHN	**Wuhan**	**26.52**	**339**	P		**P**	**05**	**03**	**50.3 +2.3**
WHN				S		**S**	**05**	**08**	**23.4 +5.7**
WHN				pmax		pmax			
	comp=Z,82nm,1.1s								
WHN				LR		LR			
	comp=Z,650nm,13.3s								
UTHA	**Uthaitani**	**26.71**	**293**	P		**P**	**05**	**03**	**51.2 +1.4**
	comp=Z,6.5nm,1.0s								
NJ2	**Nanjing**	**26.72**	**349**	*e*P		**P**	**05**	**03**	**50.4 +0.7**
NJ2				pmax		pmax			
	comp=Z,17nm,0.7s								
GYA	**Guiyang**	**26.88**	**322**	*e*P		**P**	**05**	**03**	**53.8 +2.4**
GYA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
CBIJ	**Chichi jima**	**26.90**	**36**	*e*P		**P**	**05**	**03**	**49.1 -2.3**
	comp=Z,121nm,0.7s								
JCJ	**Chichijima**	**26.90**	**36**	P		**P**	**05**	**03**	**49.1 -2.3**
	comp=Z,91nm,0.5s,baz=180,slow=23,SNR=6.4								
PMG	**Port Moresby**	**26.91**	**124**	P		**P**	**05**	**03**	**49.7 -1.9**
	comp=Z,5.7nm,0.4s,baz=6.3,slow=9.2,SNR=2.3								
PMG				LR		LR	05	15	12.2
	comp=Z,134nm,20.1s,baz=358,slow=38								
PMG	**Port Moresby**	**26.91**	**124**	*i* P		**P**	**05**	**03**	**51.4 -0.2**
PMG				pmax		pmax			
	comp=Z,39nm,0.8s								
KCSI	**Kotacane, Aceh**	**27.03**	**266**	P		**P**	**05**	**03**	**53.3 +0.5**
	comp=Z,55nm,1.0s								
SUKH	**Sukhothai**	**27.21**	**297**	P		**P**	**05**	**03**	**57.7 +3.4**
	comp=Z,3.8nm,0.9s								
WRAB	**Tennant Creek**	**27.22**	**160**	*e*P		**P**	**05**	**03**	**51.7 -2.6**
	comp=Z,27nm,1.1s								
WRAB	**Tennant Creek**	**27.22**	**160**	*ce*P		**P**	**05**	**03**	**54.1 -0.3**
WRAB				pmax		pmax			
	comp=Z,26nm,1.7s								
WR1	**Warramunga Arr**	**27.23**	**160**	*e*P		**P**	**05**	**03**	**53.9 -0.6**
	comp=Z,18nm,1.0s								
WRA	**Warramunga Arr**	**27.23**	**160**	P		**P**	**05**	**03**	**53.9 -0.6**
	comp=Z,3.9nm,0.5s,baz=334,slow=11,SNR=23								
UMPA	**Umpang Tak**	**27.45**	**294**	P		**P**	**05**	**04**	**01.0 +4.5**
	comp=Z,5.0nm,1.0s,comp=Z,2µm								
GSI	**Gunungsitoli**	**27.52**	**262**	*e*P		**P**	**05**	**03**	**57.1 -0.1**
	comp=Z,27nm,0.7s								
GSI	**Gunungsitoli**	**27.52**	**262**	P		**P**	**05**	**03**	**57.4 +0.2**
	comp=Z,40nm,0.8s								
LAMP	**Lampang**	**27.62**	**300**	P		**P**	**05**	**04**	**00.2 +2.2**
	comp=Z,5.3nm,0.9s,comp=Z,284nm								
JNU	**Nakatsue**	**27.79**	**11**	P		**P**	**05**	**03**	**58.8 -0.5**
	comp=Z,19nm,1.0s,baz=110,slow=6.6,SNR=4.6								
JNU	**Nakatsue**	**27.79**	**11**	*e*P		**P**	**05**	**03**	**58.8 -0.5**
	comp=Z,46nm,1.2s								
CM31	**Chiang Mai Arr**	**28.19**	**299**	*e*P		**P**	**05**	**04**	**04.1 +1.0**
CMAR	**Chiang Mai Arr**	**28.19**	**299**	P		**P**	**05**	**04**	**04.1 +1.0**
	comp=Z,4.2nm,0.7s,baz=119,slow=8.3,SNR=21								
CMAR				LR		LR	05	15	22.7
	comp=Z,160nm,19.3s,baz=114,slow=36								
ENH	**Enshi**	**28.31**	**331**	*e*P		**P**	**05**	**04**	**05.3 +1.3**
	comp=Z,21nm,0.6s								
CMMT	**Chiang Mai**	**28.33**	**300**	P		**P**	**05**	**04**	**05.6 +1.3**
	comp=Z,16nm,1.2s								
CHTO	**Chiang Mai**	**28.33**	**300**	*e*P		**P**	**05**	**04**	**05.4 +1.0**
	comp=Z,11nm,0.8s								
CHTO	**Chiang Mai**	**28.33**	**300**	*e*P		**P**	**05**	**04**	**05.4 +1.0**
CHTO				pmax		pmax			
	comp=Z,11nm,0.8s								
CHTO	**Chiang Mai**	**28.33**	**300**	P		**P**	**05**	**04**	**05.7 +1.3**
	comp=Z,73nm,1.0s								
KMI	**Kunming**	**28.58**	**315**	P		**P**	**05**	**04**	**08.8 +2.1**
KMI				pP		pP	05	04	24.1 +1.6
KMI				sP		sP	05	04	34.8 +4.7
KMI				pmax		pmax			
	comp=Z,19nm,0.9s								
KMI				pmax		pmax			
	comp=Z,190nm,4.3s								
KMI				LR		LR			
	comp=Z,190nm,7.0s								
KMI				LR		LR			
	comp=Z,250nm,5.8s								
KMI				LR		LR			
	comp=Z,360nm,18.4s								
AS31	**Alice Springs**	**30.58**	**163**	*e*P		**P**	**05**	**04**	**24.4 +0.2**
	comp=Z,3.0nm,0.6s								
ASAR	**Alice Springs**	**30.59**	**163**	P		**P**	**05**	**04**	**24.4 +0.2**
	comp=Z,3.7nm,0.7s,baz=348,slow=7.1,SNR=30								
ASAR				LR		LR	05	18	08.4
	comp=Z,56nm,18.2s,baz=340,slow=39								
INU	**Inuyama**	**31.51**	**19**	*e*P		**P**	**05**	**04**	**32.5 +0.3**
	comp=Z,24nm,1.3s								
KS15	**Wonju Array Si**	**31.64**	**5**	*e*P		**P**	**05**	**04**	**33.6 +0.3**
KSAR	**Wonju Array Be**	**31.64**	**5**	P		**P**	**05**	**04**	**33.6 +0.3**
KSAR	**Wonju Array Be**	**31.64**	**5**	P		**P**	**05**	**04**	**33.6 +0.3**
KSRS	**Korea Array**	**31.66**	**5**	P		**P**	**05**	**04**	**33.6 +0.2**
	comp=Z,4.4nm,0.9s,baz=191,slow=9.0,SNR=5.6								
XAN	**Xi'an**	**31.74**	**334**	P		**P**	**05**	**04**	**35.0 +0.7**
XAN				pmax		pmax			
	comp=Z,30nm,1.5s								
XAN				pmax		pmax			
	comp=Z,260nm,3.8s								
CD2	**Chengdu**	**31.87**	**324**	*e*P		**P**	**05**	**04**	**36.0 +0.5**
CD2				S		**S**	**05**	**09**	**42.6 +0.8**
CD2				pmax		pmax			
	comp=Z,70nm,0.6s								
CD2				pmax		pmax			
	comp=Z,140nm,5.0s								
CD2				LR		LR			
	comp=Z,800nm,14.7s								
CD2				LR		LR			
	comp=Z,810nm,15.7s								
MAJO	**Matsushiro**	**32.99**	**20**	*e*P		**P**	**05**	**04**	**43.6 -1.7**
MAJO	**Matsushiro**	**32.99**	**20**	*e*P		**P**	**05**	**04**	**43.6 -1.7**
MAT	**Matsushiro**	**32.99**	**20**	P		**P**	**05**	**04**	**44.0 -1.3**
MAT				*e*S		**S**	**05**	**09**	**59.2 +0.1**
MJAR	**Matsushiro Arr**	**32.99**	**20**	P		**P**	**05**	**04**	**43.6 -1.7**
	comp=Z,7.2nm,0.7s,baz=194,slow=9.5,SNR=8.2								
CTA	**Charters Tower**	**33.26**	**141**	P		**P**	**05**	**04**	**48.1 +0.4**
	comp=Z,2.3nm,0.4s,baz=296,slow=13,SNR=3.5								
BJT	**Baijiatuau**	**34.96**	**348**	*e*P		**P**	**05**	**05**	**02.8 +0.6**
	comp=Z,19nm,1.1s								
BJT	**Baijiatuau**	**34.96**	**348**	*e*P		**P**	**05**	**05**	**02.8 +0.6**
BJT				pmax		pmax			
	comp=Z,19nm,1.1s								
BJI	**Beijing**	**34.98**	**348**	P		**P**	**05**	**05**	**03.0 +0.6**
LZH	**Lanzhou**	**35.78**	**330**	*e*P		**P**	**05**	**05**	**11.5 +2.0**
LZH				pP		sP	05	05	28.4 -5.2
LZH				sP		pP	05	05	38.8 +13
LZH				PP		**PP**	**05**	**06**	**32.8 +0.9**
LZH				S		**S**	**05**	**10**	**35.8 -6.5**
LZH				SS		**SnSn**	**05**	**13**	**12.9 +2.4**
LZH				pmax		pmax			
	comp=Z,69nm,1.0s								
LZH				pmax		pmax			
	comp=Z,410nm,4.9s								
LZH				LR		LR			
	comp=Z,460nm,12.1s								
LZH				LR		LR			
	comp=Z,440nm,12.5s								
LZH				LR		LR			
	comp=Z,570nm,13.0s								
BRDH	**Bariadhala**	**36.13**	**301**	P		**P**	**05**	**05**	**14.1 +1.6**
	comp=Z,99nm,0.4s,baz=106,slow=4.2,SNR=8.9								
HHC	**Hu-ho-hao-te**	**36.88**	**343**	*e*P		**P**	**05**	**05**	**20.3 +1.5**
HHC				S		**S**	**05**	**10**	**58.9 0.0**
HHC				sS		sS	05	11	29.8 +4.7
HHC				pmax		pmax			
	comp=Z,21nm,0.8s								
HHC				pmax		pmax			
	comp=Z,240nm,6.0s								
HHC				LR		LR			
	comp=Z,240nm,7.8s								
HHC				LR		LR			
	comp=Z,350nm,9.6s								
HHC				LR		LR			
	comp=Z,190nm,13.0s								
SHL	**Shillong**	**37.12**	**306**	*e*P		**P**	**05**	**05**	**21.9 +0.8**
	comp=Z,47nm,0.8s								
SHL	**Shillong**	**37.12**	**306**	*e*P		**P**	**05**	**05**	**22.0 +0.8**
SHL				pmax		pmax			
	comp=Z,47nm,0.8s								
SHL	**Shillong**	**37.12**	**306**

comp=Z,72nm,0.9s
TARG Taragay, Kyrgy 54.95 318 *e*P **P 05 07 42.8 +1.5**
comp=Z,7.7nm,0.9s
MAKZ Makanchi 54.97 325 *e*P **P 05 07 41.4 +0.5**
comp=Z,20nm,1.0s
MAKZ Makanchi 54.97 325 *e*P **P 05 07 41.4 +0.5**
MAKZ pmax pmax
comp=Z,20nm,1.0s
NIL Nilore 55.16 307 *e*P **P 05 07 43.4 +0.9**
comp=Z,33nm,0.9s
NIL Nilore 55.16 307 *e*P **P 05 07 43.4 +0.9**
NIL pmax pmax
comp=Z,33nm,0.9s
KSH Kashi 55.24 315 P **P 05 07 44.5 +1.3**
KSH PcP **PcP 05 08 46.3 +2.9**
KSH S **S 05 15 17.0 -5.2**
KSH ScS **ScS 05 17 20.3 -6.5**
KSH pmax pmax
comp=Z,12nm,0.4s
KSH pmax pmax
comp=Z,320nm,5.2s
KSH LR LR
comp=Z,150nm,7.6s
KSH LR LR
comp=Z,250nm,8.0s
KSH LR LR
comp=Z,140nm,11.5s
YAK Yakutsk 56.25 3 *e*P **P 05 07 49.6 -0.1**
YAK pmax pmax
comp=Z,20nm,0.8s
YAK pmax pmax
comp=N,10.0nm,1.1s
KZA Kyzart 56.81 317 P **P 05 07 56.1 +1.5**
SNR=6.1
TKM2 Tokmak 2 56.95 318 P **P 05 07 56.5 +1.1**
SNR=8.8
TKM2 Tokmak 2 56.95 318 P **P 05 07 56.0 +0.6**
TKM2 pmax pmax
comp=Z,6.0nm,0.8s
SFK Sufi-Kurgan 57.19 315 P **P 05 07 57.8 +0.7**
SFK pmax pmax
comp=Z,8.0nm,0.6s
UCH Uchtor 57.37 317 P **P 05 08 00.4 +1.7**
SNR=11
AAK Ala-Archa 57.56 318 *e*P **P 05 08 00.9 +1.3**
comp=Z,8.6nm,1.2s
AAK Ala-Archa 57.56 318 *i*P **P 05 08 00.3 +0.7**
AAK pmax pmax
comp=Z,4.0nm,1.1s
AML Almayashu 57.89 317 P **P 05 08 03.4 +1.2**
SNR=10.0
ZAA0 Zalesovo Array 57.90 333 *e*P **P 05 08 01.2 -0.3**
comp=Z,8.7nm,1.0s
ZALV Zalesovo Beam 57.90 333 P **P 05 07 60.0 -1.6**
comp=Z,1.8nm,0.5s,baz=138,slow=5.5,SNR=6.6
ZALV Zalesovo Beam 57.90 333 *e*P **P 05 08 00.6 -1.0**
ZALV Zalesovo Beam 57.90 333 *i*P **P 05 08 00.8 -0.8**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZAA1 Zalesovo Array 57.91 333 *e*P **P 05 07 60.0 -1.7**
EKS2 Erkin-Say 58.05 317 P **P 05 08 04.5 +1.5**
SNR=7.6
ARSB Arslanbob 58.06 316 *e*P **P 05 08 04.2 +1.1**
comp=Z,24nm,1.4s
KBL Kabul 58.76 307 *e*P **P 05 08 08.9 +0.7**
comp=Z,12nm,0.8s
KBL Kabul 58.76 307 *e*P **P 05 08 08.9 +0.7**
KBL pmax pmax
comp=Z,12nm,0.8s
KURK Kurchatov 58.99 328 *e*P **P 05 08 09.3 +0.1**
comp=Z,33nm,1.1s
KURK Kurchatov 58.99 328 *e*P **P 05 08 09.3 +0.1**
KURK pmax pmax
comp=Z,33nm,1.1s
BTK Batken 59.12 314 *e*P **P 05 08 12.1 +1.6**
comp=Z,12nm,0.8s
BTK Batken 59.12 314 *e*P **P 05 08 12.1 +1.6**
BTK pmax pmax
comp=Z,12nm,0.8s
NVS Novosibirsk 59.19 333 *e*P **P 05 08 09.4 -1.1**
KK31 Karatay Array 60.43 317 *e*P **P 05 08 19.9 +0.6**
KK31 Karatay Array 60.43 317 *i*P **P 05 08 19.4 +0.1**
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 60.43 317 *e*P **P 05 08 19.9 +0.6**
KKAR Karatay Array 60.43 317 *e*P **P 05 08 19.9 +0.6**
BVA0 Borovoye Array 64.56 327 *i*P **P 05 08 46.4 -0.3**
BVA0 pmax pmax
comp=Z,15nm,1.3s
BRVK Borovoye 64.64 327 *e*P **P 05 08 47.0 -0.1**
comp=Z,19nm,1.1s
BRVK Borovoye 64.64 327 *e*P **P 05 08 47.0 -0.1**
BRVK pmax pmax
comp=Z,19nm,1.1s
TIXI Tiksi 65.84 1 *e*P **P 05 08 53.1 -1.5**
comp=Z,3.5nm,0.4s
TIXI Tiksi 65.84 1 *ce*P **P 05 08 52.5 -2.1**
TIXI pmax pmax
comp=Z,16nm,1.7s
BILL Bilibino 68.09 16 *e*P **P 05 09 08.7 -0.3**
BILL *e* 05 09 30.5
BILL *e* 05 11 40.2
BILL pmax pmax
comp=Z,3.0nm,1.1s
GEYT Alibeck 68.12 309 P **P 05 09 10.3 +0.5**
comp=Z,6.1nm,0.7s,baz=122,slow=5.4,SNR=9.1
AB31 Akbulak array 69.36 321 *i*P **P 05 09 16.6 -0.6**
AB31 pmax pmax
comp=Z,11nm,1.3s
ABKAR Akbulak array 69.36 321 *e*P **P 05 09 16.8 -0.4**
ARU Arti 72.19 328 *e*P **P 05 09 32.2 -2.0**
comp=Z,7.4nm,0.6s
ARU Arti 72.19 328 *c i*P **P 05 09 32.1 -2.1**
ARU *PP **PcP 05 09 52.3 +0.2**
ARU 05 12 11.0
ARU S **S 05 18 50.2 -1.5**
ARU SS **SS 05 23 28.4 -1.8**
ARU pmax pmax
comp=Z,6.0nm,0.7s
GAMB Gambell 73.33 25 *e*P **P 05 09 42.3 +1.5**
comp=Z,14nm,1.2s
ZEI Tsey 79.42 312 *e*P **P 05 10 15.4 -0.7**
ZEI pmax pmax
comp=Z,7.0nm,0.7s
PRGR Permogore 79.80 332 *e*P **P 05 10 15.2 -2.2**
PRGR pmax pmax
comp=Z,9.0nm,0.7s
ABPO Ambohimpanom 80.20 250 *e*P **P 05 10 21.2 +0.6**
comp=Z,9.2nm,0.8s
ABPO Ambohimpanom 80.20 250 *e*P **P 05 10 21.2 +0.6**
ABPO pmax pmax
comp=Z,9.0nm,0.8s
KIV Kislovodsk 80.34 313 *e*P **P 05 10 18.6 -2.3**
KIV pmax pmax
comp=Z,12nm,1.0s
SIRT Sirnak 80.45 307 *e*P **P 05 10 22.4 +0.8**
VRH Novokhopyorsk 81.19 321 *e*P **P 05 10 23.6 -1.4**
VRH pmax pmax
comp=Z,4.0nm,0.3s
RSO Redoubt South 81.28 30 *e*P **P 05 10 26.1 +0.4**
PPLA Purkeypile 81.70 27 *e*P **P 05 10 29.1 +1.3**
comp=Z,8.6nm,0.9s
CAST Castle Rocks 81.78 27 *e*P **P 05 10 29.5 +1.4**
comp=Z,18nm,1.0s
BRLK Bradley Lake 82.18 31 *e*P **P 05 10 30.2 +0.1**
comp=Z,23nm,0.9s
BPAW Bear Paw Mtn. 82.31 26 *e*P **P 05 10 31.8 +1.0**
comp=Z,24nm,1.1s
MLY Manley 82.46 25 *e*P **P 05 10 32.7 +1.1**
comp=Z,11nm,1.0s
TRF Thorofare Moun 82.59 27 *e*P **P 05 10 33.2 +0.8**
comp=Z,22nm,1.1s
KLMR Klimovskoe 82.69 331 *e*P **P 05 10 30.7 -2.0**
KLMR *e* 05 13 40.9
KLMR pmax pmax
comp=Z,11nm,0.8s
KLMR Klimovskoe 82.69 331 *e*P **P 05 10 30.7 -2.0**
KLMR AMP 05 10 43.3
comp=Z,11nm,0.8s
KLMR *e*PP **PP 05 13 40.9 -2.2**
RC01 Rabbit Creek A 82.78 29 *e*P **P 05 10 34.1 +0.9**
comp=Z,16nm,1.0s
VSR Storozhevoye 82.80 321 *e*P **P 05 10 31.5 -2.0**
VSR pmax pmax
comp=Z,7.0nm,0.8s
LPSR Galich'ya Gora 82.94 322 *e*P **P 05 10 32.8 -1.4**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
PMR Palmer 83.08 29 *e*P **P 05 10 35.4 +0.7**
comp=Z,18nm,1.0s
PMR Palmer 83.08 29 *e*P **P 05 10 35.4 +0.7**
PMR pmax pmax
comp=Z,18nm,1.0s
MCK McKinley 83.20 27 *e*P **P 05 10 35.7 +0.3**
comp=Z,32nm,1.0s
RND Reindeer 83.23 27 *e*P **P 05 10 35.7 +0.1**
comp=Z,16nm,1.1s
RND Reindeer 83.23 27 *e*P **P 05 10 35.7 +0.1**
RND pmax pmax
comp=Z,16nm,1.1s
KNK Knik Glacier 83.41 29 *e*P **P 05 10 37.8 +1.3**
comp=Z,28nm,1.0s
MDM Murphy Dome 83.52 25 *e*P **P 05 10 37.5 +0.5**
comp=Z,20nm,1.3s
WRH Wood River Hil 83.58 26 *e*P **P 05 10 37.9 +0.6**
comp=Z,17nm,1.0s
COLA College 83.68 25 *e*P **P 05 10 40.7 +3.0**
comp=Z,10nm,0.8s
COLA College 83.68 25 *i*P **P 05 10 36.7 -1.1**
COLA pmax pmax
comp=Z,8.0nm,1.0s
HDA Harding Lake 84.07 26 *e*P **P 05 10 39.3 -0.5**
comp=Z,14nm,0.8s
ILAR Eielson Array 84.09 26 P **P 05 10 39.1 -0.8**
comp=Z,4.7nm,0.9s,baz=248,slow=4.9,SNR=39
ILB Eielson Array 84.09 26 *e*P **P 05 10 39.1 -0.8**
OBN Obninsk 84.29 325 *e*P **P 05 10 38.7 -2.3**
OBN *e* 05 13 59.7
OBN *e*PPP PPP 05 15 52.2
OBN pmax pmax
comp=Z,56nm,1.7s
FYU Fort Yukon 84.73 24 *e*P **P 05 10 45.8 +2.7**
comp=Z,24nm,1.2s
PAX Paxson 84.78 27 *e*P **P 05 10 45.5 +2.0**
comp=Z,8.4nm,0.9s
PAX Paxson 84.78 27 *e*P **P 05 10 45.5 +2.0**
PAX pmax pmax
comp=Z,8.0nm,0.9s
MAW Mawson 85.00 200 LR LR 05 42 20.7
comp=Z,79nm,20.6s,baz=70,slow=31
RIDG Independ'e Rid 85.02 27 *e*P **P 05 10 45.5 +0.8**
comp=Z,27nm,1.1s
DOT Dot Lake 85.37 27 *e*P **P 05 10 47.3 +0.9**
comp=Z,13nm,1.3s
SCRK Sand Creek 85.39 26 *e*P **P 05 10 47.6 +1.0**
comp=Z,8.2nm,0.9s
VNDA Vanda 85.69 172 P **P 05 10 47.8 +0.2**
comp=Z,2.6nm,0.9s,baz=354,slow=4.6,SNR=6.1
BR101 Keskin Array S 87.24 309 *e*P **P 05 10 54.7 -1.6**
BRTR Keskin Array B 87.24 309 P **P 05 10 54.7 -1.6**
comp=Z,1.7nm,0.9s,baz=122,slow=4.9,SNR=7.3
BRTR Keskin Array B 87.24 309 *ce*P **P 05 10 55.2 -1.1**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
DAWY Dawson 87.39 26 *e*P **P 05 10 57.1 +0.8**
comp=Z,9.9nm,1.4s
KMBO Kilima Mbogo 87.67 269 P **P 05 10 59.4 +0.4**
comp=Z,2.2nm,0.8s,baz=37,slow=5.5,SNR=6.2
KMBO LR LR 05 51 28.2
comp=Z,33nm,18.5s,baz=103,slow=36
KMBO Kilima Mbogo 87.67 269 *e*P **P 05 10 59.4 +0.4**
comp=Z,4.4nm,1.0s
KMBO Kilima Mbogo 87.67 269 *e*P **P 05 10 59.4 +0.4**
KMBO pmax pmax
comp=Z,4.0nm,1.0s
INK Inuvik 88.97 21 *e*P **P 05 11 03.3 -0.4**
comp=Z,4.4nm,1.1s
AKASG Malin Array Be 89.10 321 P **P 05 11 03.0 -1.6**
comp=Z,1.6nm,0.8s,baz=74,slow=4.3,SNR=7.8
AKASG Malin Array Be 89.10 321 *ce*P **P 05 11 02.5 -2.1**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKBB Malin Array Si 89.10 321 *e*P **P 05 11 03.0 -1.6**
comp=Z,14nm,1.4s
KIEV Kiev 89.11 321 *i*P **P 05 11 01.9 -2.7**
KIEV pmax pmax
comp=Z,3.0nm,1.1s
FIA0 FINESS Array S 89.13 332 *e*P **P 05 11 02.8 -1.7**
FIA0 FINESS Array S 89.13 332 *e*P **P 05 11 02.8 -1.7**
FINES FINESS Array B 89.13 332 P **P 05 11 02.8 -1.7**
comp=Z,1.5nm,0.5s,baz=64,slow=4.8,SNR=8.7
FINES FINESS Array B 89.13 332 *i*P **P 05 11 03.7 -0.8**
FINES pmax pmax
comp=Z,2.0nm,0.5s
AK11 Malin Array Si 89.14 321 *e*P **P 05 11 04.3 -0.5**
VSU Vasula 89.33 329 *i*P **P 05 11 02.7 -2.8**
VSU pmax pmax
comp=Z,31nm,1.1s
YKA Yellowknife Ar 98.43 24 P **P 05 11 46.7 -0.4**
comp=Z,0.9nm,0.8s,baz=302,slow=4.8,SNR=11
TORD Torodi Ar. Bea 120.45 289 PKP **PKPdf 05 16 59.4 -2.1**
comp=Z,0.5nm,0.7s,baz=28,slow=2.6,SNR=3.5
TOA1 Torodi Ar. Sit 120.45 289 *e*PKPdf **PKPdf 05 16 59.4 -2.1**
LTX Lajitas 121.83 50 *e*PKPdf **PKPdf 05 17 03.9 -0.1**
LTX Lajitas 121.83 50 *e*PKIKP **PKPdf 05 17 03.9 -0.1**
TXAR Lajitas Array 121.83 50 PKP **PKPdf 05 17 03.9 -0.1**
comp=Z,0.5nm,0.9s,baz=264,slow=1.8,SNR=4.2

*JMA **17** 05:09:26.9±0.1, 22.°90N×121.°23E, h47km±1km, M4.4*
*ISCJB **17** 05:09:27.6±0.2, 22.°83N±0.°01×121.°36E±0.°02, h44km±4km,*
Error ellipse: s-maj=2.7km s-min=2.3km az=39.9
*TAP **17** 05:09:28.0, 22.°85N×121.29E, h43km, ML4.3, C*
ISC 17 05:09:28.9±0.9, 22.°84N±0.°02×121.°33E±0.°02, h35km±5km,
n116, σ1°26/193, 16C-15D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
TTN	**Taitung** baz=240	**0.19**	**242**	⇓P		**Pb**	**05 09 36.0**	**+0.4**
TTN				S		**Sb**	**05 09 41.5**	**+1.3**
TWGBT	**Beinan** baz=263	**0.23**	**264**	⇓P		**Pn**	**05 09 35.5**	**0.0**
TWGBT				S		**Sb**	**05 09 40.6**	**-0.3**
TWG	**Pinlang** baz=262	**0.24**	**265**	⇓*i*P		**Pn**	**05 09 35.5**	**-0.1**
TWG				*i* S		**Sb**	**05 09 40.6**	**-0.3**
CHKT	**Chengkung** baz=17	**0.26**	**8**	⇓P		**Pb**	**05 09 36.3**	**0.0**
CHKT				*e*S		**Sb**	**05 09 42.3**	**+0.9**
ECL	**Taimali** baz=229	**0.42**	**235**	⇑*i*P		**Pb**	**05 09 37.0**	**-1.4**
ECL				S		**Sb**	**05 09 43.5**	**-1.5**
ELDTW	**Lidau** baz=324	**0.45**	**320**	⇓*i*P		**Pb**	**05 09 37.8**	**-1.1**
ELDTW				*e*S		**Sb**	**05 09 44.3**	**-1.5**
TWF1	**Yuli** baz=2.0	**0.51**	**357**	⇑*i*P		**Pn**	**05 09 38.2**	**-1.6**
YULB	**Yu-li** baz=8.0	**0.55**	**357**	⇑P		**Pn**	**05 09 38.6**	**-1.7**
STYT	**Tauyuan** baz=306	**0.61**	**301**	P		**Pn**	**05 09 40.7**	**-0.5**
STYT				*e*S		**Sb**	**05 09 49.9**	**-0.1**
TAW	**Tawu** baz=219	**0.63**	**220**	*e*P		**Pn**	**05 09 39.8**	**-1.5**
EAST	**Anshuo** baz=221	**0.64**	**224**	⇑*i*P		**Pn**	**05 09 40.0**	**-1.4**
EAST				*e*S		**Sn**	**05 09 48.5**	**-1.9**
SLGT	**Liugui** baz=284	**0.65**	**284**	⇑P		**Pn**	**05 09 41.4**	**-0.2**
SLGT				*e*S		**Sn**	**05 09 50.5**	**-0.1**
SSD	**Sandimen** baz=261	**0.65**	**262**	⇑*i*P		**Pn**	**05 09 40.9**	**-0.7**
SSD				S		**Sn**	**05 09 49.3**	**-1.3**
HGSD	**Ruisui** baz=20	**0.65**	**8**	P		**Pn**	**05 09 40.7**	**-0.9**
HGSD				S		**Sn**	**05 09 50.5**	**-0.3**
EHY	**Hungye** baz=3.0	**0.66**	**360**	*e*P		**Pn**	**05 09 39.9**	**-1.9**
MASBT	**Mashibuluo** baz=243	**0.68**	**250**	⇑P		**Pn**	**05 09 41.5**	**-0.6**
MASBT				*e*S		**Sn**	**05 09 50.4**	**-1.1**
YUS	**Yu-Shan** baz=337	**0.73**	**332**	⇑*i*P		**Pn**	**05 09 42.5**	**-0.7**
YUS				*e*S		**Sn**	**05 09 52.0**	**-1.4**
WTP	**Ta-pu** baz=303	**0.77**	**302**	⇓P		**Pn**	**05 09 43.3**	**0.0**
WTP				S		**Sb**	**05 09 54.7**	**+0.4**
SGLT	**Jiouru** baz=260	**0.78**	**261**	⇑P		**Pb**	**05 09 44.4**	**+0.3**
TPUB	**Ta-pu** baz=314	**0.79**	**305**	⇓P		**Pn**	**05 09 43.5**	**0.0**
TPUB				S		**Sb**	**05 09 54.7**	**0.0**
SCZT	**Fangliau** baz=233	**0.80**	**234**	⇑P		**Pn**	**05 09 43.1**	**-0.6**
SCZT				S		**Sn**	**05 09 53.9**	**-0.6**
CHN1	**Nanshi** baz=296	**0.81**	**295**	⇓*e*P		**Pn**	**05 09 44.2**	**+0.3**
CHN1				*i* S		**Sb**	**05 09 56.0**	**+0.6**
LAY	**Lan-yu** baz=164	**0.83**	**165**	P		**Pn**	**05 09 42.9**	**-1.2**
LAY				*e*S		**Sn**	**05 09 54.7**	**-0.4**
TWM1	**Shoushan** baz=269	**0.83**	**269**	P		**Pb**	**05 09 45.4**	**+0.3**
TWM1				*e*S		**Sb**	**05 09 58.0**	**+2.0**
CHN4	**Tsaushan** baz=308	**0.84**	**307**	⇓*e*P		**Pn**	**05 09 44.1**	**-0.2**
CHN4				S		**Sb**	**05 09 56.9**	**+0.6**
TWK	**Hsinying** baz=300	**0.88**	**299**	P		**Pn**	**05 09 44.8**	**-0.1**
TWK				S		**Sn**	**05 09 56.7**	**+0.2**
CHN3	**Shinhua** baz=285	**0.92**	**285**	*e*P		**Pn**	**05 09 45.3**	**0.0**
CHN5	**Tsauling** baz=310	**0.96**	**322**	*e*P		**Pn**	**05 09 45.9**	**-0.1**
CHN5				S		**Sb**	**05 09 59.9**	**+0.3**
ESL	**Shilin** baz=16	**0.97**	**6**	*e*P		**Pn**	**05 09 44.0**	**-2.1**
ESL				*e*S		**Sn**	**05 09 55.1**	**-3.6**
KAU	**Kaohsiung** baz=253	**0.98**	**254**	*e*P		**Pn**	**05 09 46.5**	**+0.3**
HEN	**Hengchun** baz=202	**1.00**	**213**	*e*P		**Pn**	**05 09 46.9**	**+0.5**
SSLB	**Suanglung** baz=334	**1.00**	**340**	⇑P		**Pn**	**05 09 46.1**	**-0.4**
SSLB				*e*S		**Sn**	**05 09 58.7**	**-0.8**
WLCH	**Liuqiu** baz=240	**1.00**	**241**	*e*P		**Pb**	**05 09 48.6**	**+0.7**
TWKBT	**Hengchun** baz=199	**1.02**	**208**	⇑P		**Pn**	**05 09 45.5**	**-1.1**
TWKBT				S		**Sn**	**05 09 58.3**	**-1.5**
TWK1	**Hengchun** baz=199	**1.02**	**208**	⇑*i*P		**Pn**	**05 09 45.6**	**-1.1**
TWK1				S		**Sn**	**05 09 58.3**	**-1.5**
TSEB	**Hengchuen, Pin** baz=196	**1.02**	**203**	⇑P		**Pn**	**05 09 46.0**	**-0.8**
TSEB				S		**Sn**	**05 09 59.7**	**-0.1**
TWP	**Hsiaoliuchiu** baz=240	**1.02**	**241**	*e*P		**Pb**	**05 09 47.9**	**-0.3**
CHN2	**Minshiung** baz=312	**1.04**	**311**	*e*P		**Pn**	**05 09 47.3**	**+0.3**
CHN2				*e*S		**Sb**	**05 10 01.2**	**-0.7**
CHY	**Chiayi** baz=310	**1.06**	**308**	*e*P		**Pn**	**05 09 47.0**	**-0.2**
CHY				*e*S		**Sn**	**05 10 01.3**	**+0.6**
ENLB	**Shoufeng** baz=6.0	**1.09**	**13**	*e*P		**Pn**	**05 09 46.2**	**-1.4**
ENLB				*e*S		**Sn**	**05 10 00.6**	**-0.9**
SCLT	**Jiali** baz=288	**1.09**	**288**	*e*P		**Pn**	**05 09 46.9**	**-0.8**
SCLT				S		**Sn**	**05 10 02.3**	**+0.6**
WGK	**Gukeng** baz=310	**1.09**	**320**	*e*P		**Pn**	**05 09 47.6**	**-0.2**
WGK				*e*S		**Sb**	**05 10 02.6**	**-0.8**
SMLT	**Sun Moon Lake** baz=341	**1.11**	**339**	P		**Pn**	**05 09 47.9**	**-0.1**
SMLT				S		**Sn**	**05 10 02.7**	**+0.5**
WDLH	**Douliu** baz=320	**1.11**	**319**	*e*P		**Pn**	**05 09 48.0**	**0.0**
WJS	**Zhushan** baz=332	**1.12**	**331**	*e*P		**Pn**	**05 09 48.7**	**+0.6**
WJS				*e*S		**Sb**	**05 10 03.5**	**-0.7**
WLGB	**Puzi** baz=305	**1.14**	**304**	*e*P		**Pn**	**05 09 47.8**	**-0.6**
WLGB				S		**Sb**	**05 10 03.6**	**-1.0**
CHN8	**Yiju** baz=297	**1.14**	**296**	*e*P		**Pn**	**05 09 47.9**	**-0.5**
CHN8				S		**Sn**	**05 10 03.0**	**+0.2**
HWA	**Hwalien** baz=15	**1.16**	**13**	*e*P		**Pn**	**05 09 47.5**	**-1.1**
WNT	**Mingjian** baz=332	**1.19**	**330**	⇓P		**Pn**	**05 09 49.3**	**+0.2**
WNT				S		**Sb**	**05 10 05.0**	**-1.1**
CHGB	**Renai** baz=3.0	**1.22**	**353**	⇑P		**Pn**	**05 09 49.0**	**-0.7**
CHGB				*e*S		**Sn**	**05 10 03.3**	**-1.8**
TWD	**Chiawan** baz=12	**1.26**	**11**	*e*P		**Pn**	**05 09 48.0**	**-2.0**
TWD				*e*S		**Sn**	**05 10 02.2**	**-3.5**
WSF	**Szhu** baz=309	**1.29**	**308**	P		**Pn**	**05 09 49.5**	**-0.9**
WSF				S		**Sn**	**05 10 05.9**	**-0.6**
WHF	**Hehuan Shan** baz=8.0	**1.30**	**358**	*e*P		**Pn**	**05 09 49.5**	**-1.5**
WHF				*e*S		**Sn**	**05 10 05.1**	**-2.2**
NACB	**Ninganchiao** baz=11	**1.35**	**10**	⇑P		**Pn**	**05 09 49.0**	**-2.2**
NACB				*e*S		**Sn**	**05 10 04.3**	**-3.7**
RLNB	**Erlin** baz=309	**1.37**	**320**	*e*P		**Pn**	**05 09 49.9**	**-1.6**
TWT	**Tachien** baz=1.0	**1.41**	**354**	*e*P		**Pn**	**05 09 52.0**	**-0.3**
TWT				*e*S		**Sn**	**05 10 08.3**	**-1.5**
TDCB	**Techi** baz=1.0	**1.41**	**354**	*e*P		**Pn**	**05 09 52.0**	**-0.3**
TDCB				*e*S		**Sn**	**05 10 08.2**	**-1.6**
WCHH	**Zhanghua** baz=331	**1.42**	**330**	*e*P		**Pn**	**05 09 52.2**	**0.0**
TCU	**Taichung** baz=336	**1.43**	**335**	*e*P		**Pn**	**05 09 52.3**	**-0.1**
TCU				S		**Sn**	**05 10 10.7**	**+0.8**
NNSB	**Datong** baz=8.0	**1.58**	**2**	P		**Pn**	**05 09 53.7**	**-0.9**
NNSB				*e*S		**Sn**	**05 10 13.0**	**-0.9**
TWQ1	**Liyutan** baz=342	**1.58**	**341**	*e*P		**Pn**	**05 09 55.0**	**+0.5**
TWQ1				*e*S		**Sn**	**05 10 14.7**	**+0.9**
NNS	**Nan Shan** baz=14	**1.59**	**2**	*e*P		**Pn**	**05 09 53.7**	**-1.1**
WDGT	**Dungji** baz=286	**1.59**	**285**	⇓P		**Pn**	**05 09 53.3**	**-1.3**
WDGT				*e*S		**Sn**	**05 10 11.0**	**-2.9**
ENA	**Nanau** baz=7.0	**1.62**	**13**	*e*P		**Pn**	**05 09 53.4**	**-1.7**

NSY	**Sanyi**	**1.65**	**342**	*e*P		**Pn**	**05 09 55.0**	**-0.5**
	baz=342								
NSY				*e*S		**Sb**	**05 10 17.7**	**-1.5**
	baz=342								
PTSB	**Yuanli**	**1.69**	**340**	*e*P		**Pn**	**05 09 57.2**	**+1.2**
	baz=341								
PTSB				*e*S		**Sn**	**05 10 18.3**	**+1.8**
	baz=341								
PHUB	**P'eng-hu**	**1.75**	**293**	P		**Pn**	**05 09 55.3**	**-1.5**
	baz=293								
PHUB				*e*S		**Sn**	**05 10 14.4**	**-3.4**
	baz=293								
NMLH	**Miaoli**	**1.76**	**344**	*e*P		**Pn**	**05 09 58.2**	**+1.3**
	baz=344								
PNG	**Penghu**	**1.78**	**294**	⇓P		**Pn**	**05 09 55.9**	**-1.3**
	baz=284								
PNG				*e*S		**Sn**	**05 10 15.2**	**-3.4**
	baz=284								
ENTT	**Nioudou**	**1.80**	**7**	*e*P		**Pn**	**05 09 56.5**	**-1.1**
	baz=17								
NSTT	**Nanjuang**	**1.81**	**351**	*e*P		**Pn**	**05 09 59.0**	**+1.5**
	baz=351								
NSTT				*e*S		**Sn**	**05 10 20.2**	**+1.0**
	baz=351								
LIOB	**Emei**	**1.82**	**351**	*e*P		**Pn**	**05 09 58.9**	**+1.2**
	baz=351								
LIOB				*e*S		**Sn**	**05 10 21.4**	**+1.8**
	baz=351								
YHNB	**Yeheng**	**1.82**	**1**	⇓P		**Pn**	**05 09 57.7**	**-0.1**
	baz=12								
YHNB				*e*S		**Sn**	**05 10 17.9**	**-1.8**
	baz=12								
TWC	**Suao**	**1.82**	**15**	*e*P		**Pn**	**05 09 57.0**	**-0.8**
	baz=8.0								
NSK	**Sanguang**	**1.82**	**1**	⇓P		**Pn**	**05 09 57.8**	**-0.1**
	baz=12								
NSK				*e*S		**Sn**	**05 10 18.9**	**-1.0**
	baz=12								
EOS1	**EOS1**	**1.85**	**23**	*e*P		**Pn**	**05 09 58.1**	**-0.1**
	baz=33								
EOS1				*e*S		**Sn**	**05 10 22.2**	**+1.9**
	baz=33								
TWE	**Neicheng**	**1.90**	**9**	*e*P		**Pn**	**05 09 57.3**	**-1.5**
	baz=19								
WLTB	**Daxi**	**2.00**	**358**	*e*P		**Pn**	**05 10 00.6**	**+0.4**
	baz=344								
NTC	**Toucheng**	**2.06**	**13**	*e*P		**Pn**	**05 10 01.4**	**+0.4**
	baz=14								
EGS		**2.07**	**15**	*e*P		**Pn**	**05 10 01.6**	**+0.4**
	baz=7.0								
TATO	**Taipei**	**2.13**	**4**	*e*P		**Pn**	**05 10 01.0**	**-1.0**
	baz=13								
TATO				*e*S		**Sn**	**05 10 26.7**	**-0.5**
	baz=13								
TWA	**Mucha**	**2.14**	**6**	*e*P		**Pn**	**05 10 01.4**	**-0.8**
	baz=16								
TIPB	**Shuangxi**	**2.17**	**12**	*e*P		**Pn**	**05 10 01.8**	**-0.8**
	baz=11								
TIPB				S		**Sn**	**05 10 26.8**	**-1.5**
	baz=11								
JYNG	**Yonagunijimaku**	**2.18**	**43**	P		**Pn**	**05 10 02.4**	**-0.3**
JYNG				S		**Sn**	**05 10 27.9**	**-0.7**
YOJ	**Yonaguni jima**	**2.23**	**43**	*e*P		**Pn**	**05 10 03.4**	**0.0**
	baz=50								
YOJ				*e*S		**Sn**	**05 10 30.5**	**+0.7**
	baz=50								
YOJ	**Yonaguni jima**	**2.23**	**43**	P		**Pn**	**05 10 03.4**	**0.0**
YOJ				S		**Sn**	**05 10 29.5**	**-0.3**
TWB1	**Santiao Chiao**	**2.24**	**16**	*e*P		**Pn**	**05 10 03.1**	**-0.4**
	baz=8.0								
TWB1				*e*S		**Sn**	**05 10 29.1**	**-0.8**
	baz=8.0								
TWS1	**Kuangyinshan**	**2.25**	**2**	*e*P		**Pn**	**05 10 04.8**	**+1.1**
	baz=16								
NWF	**Wu-fen Shan**	**2.26**	**11**	*e*P		**Pn**	**05 10 03.4**	**-0.4**
	baz=11								
WFSB	**Wu-fen Shan**	**2.26**	**11**	*e*P		**Pn**	**05 10 02.9**	**-0.9**
	baz=10.0								
WFSB				S		**Sn**	**05 10 29.2**	**-1.2**
	baz=10.0								
YM01	**YM01**	**2.30**	**6**	*e*P		**Pn**	**05 10 04.9**	**+0.5**
	baz=18								
YM04	**YM04**	**2.31**	**5**	*e*P		**Pn**	**05 10 03.4**	**-1.1**
	baz=17								
YM05	**YM05**	**2.32**	**5**	*e*P		**Pn**	**05 10 03.5**	**-1.2**
	baz=18								
YM11	**YM11**	**2.32**	**6**	*e*P		**Pn**	**05 10 03.3**	**-1.5**
	baz=18								
YM08	**YM08**	**2.35**	**6**	*e*P		**Pn**	**05 10 04.0**	**-1.1**
	baz=18								
HATJ	**Hateruma jima**	**2.58**	**62**	P		**Pn**	**05 10 08.2**	**0.0**
HATJ				*e*S		**Sn**	**05 10 38.1**	**-0.2**
IRIF	**Iriomote-Funau**	**2.66**	**56**	P		**Pn**	**05 10 09.6**	**+0.3**
IRIF				*e*S		**Sn**	**05 10 41.1**	**+0.8**
JKRS	**Kuro-shima**	**2.83**	**60**	P		**Pn**	**05 10 12.1**	**+0.5**
JKRS				*e*S		**Sn**	**05 10 45.0**	**+0.6**
PTMZ	**Houxiangcun**	**2.98**	**318**	*e*P		**Pn**	**05 10 12.1**	**-1.6**
	baz=316								
JIJ	**Ishigaki jima**	**2.99**	**59**	P		**Pn**	**05 10 14.0**	**+0.1**
JIJ				*e*S		**Sn**	**05 10 47.9**	**-0.7**
PTTC	**Pingtan**	**3.00**	**332**	*e*P		**Pn**	**05 10 14.0**	**0.0**
	baz=331								
KNM	**Kinmen**	**3.08**	**301**	*e*P		**Pn**	**05 10 15.1**	**0.0**
	baz=298								
KNM				*e*S		**Sn**	**05 10 50.2**	**-0.6**
	baz=298								
KNMB	**Chin-men Tao**	**3.14**	**301**	*e*P		**Pn**	**05 10 14.4**	**-1.5**
	baz=300								
KNMB				*e*S		**Sn**	**05 10 48.7**	**-3.5**
	baz=300								
JISG	**Ishigakijimahi**	**3.24**	**57**	P		**Pn**	**05 10 16.8**	**-0.5**
JISG				S		**Sn**	**05 10 53.5**	**-1.1**
QZH	**Quanzhou**	**3.26**	**310**	⇓*i*Pn		**Pn**	**05 10 15.8**	**-1.8**
QZH				Sn		**Sn**	**05 10 50.9**	**-4.3**
QZH				smax	smax			
	comp=N,160nm,0.3s							
QZH				smax	smax			
	comp=E,110nm,0.4s							
ZPLA	**Ao Xicun**	**3.46**	**289**	*e*P		**Pn**	**05 10 19.2**	**-1.1**
	baz=287								
ZPLA				*e*S		**Sn**	**05 10 57.1**	**-3.0**
	baz=287								
MATB	**Ma-tsu**	**3.53**	**339**	*e*P		**Pn**	**05 10 20.0**	**-1.2**
	baz=338								
JTJ	**Tarama**	**3.57**	**59**	P		**Pn**	**05 10 21.9**	**0.0**
JTJ				S		**Sn**	**05 11 03.0**	**+0.1**
AXDP	**Jialang**	**3.69**	**304**	*e*P		**Pn**	**05 10 21.3**	**-2.2**
	baz=302								
AXDP				*e*S		**Sn**	**05 11 02.5**	**-3.3**
	baz=302								
ZZJH	**Jiuhuzhen**	**3.76**	**296**	*e*P		**Pn**	**05 10 22.7**	**-1.7**
	baz=294								
MHZQ	**Yeshan**	**3.86**	**328**	*e*P		**Pn**	**05 10 24.8**	**-1.0**
	baz=326								
LYJJ	**Jianjiangzhen**	**3.96**	**339**	*e*P		**Pn**	**05 10 26.1**	**-1.0**
	baz=350								
JIRB	**Irabujima**	**4.04**	**60**	P		**Pn**	**05 10 28.1**	**-0.2**
JIRB				*e*S		**Sn**	**05 11 12.8**	**-1.6**
JMJ	**Miyako jima 2**	**4.13**	**61**	P		**Pn**	**05 10 29.7**	**+0.2**
JMJ				*e*S		**Sn**	**05 11 16.6**	**0.0**
XPSS	**Dashiqiu**	**4.20**	**346**	*e*P		**Pn**	**05 10 29.7**	**-0.8**
	baz=346								
VDOS	**Pratas Island**	**4.77**	**244**	*e*P		**Pn**	**05 10 38.3**	**-0.1**
	baz=243								

NIED ***17*** *05:13:00, 42.°10N×142.°80E, h50km, Mw4.8 Best double couple: M₀1.85000×10¹⁶ NP1:φ₈146.00000°, δ45.00000°, λ117.00000°. NP2:φ₈291.00000°, δ51.00000°, λ66.00000°.*

BJI ***17*** *05:13:19.0, 41.°97N×143.°15E, h47km, mb4.8/57, mB5.1/40, Ms4.5/25, Ms7 4.2/19*

MOS ***17*** *05:13:23.1±1.1, 42.°08N×142.°68E, h56km, mb5.1/79, MS4.0/9, Error ellipse: s-maj=6.2km s-min=4.4km az=91.1*

JMA ***17*** *05:13:23.7±0.2, 42.°08N×142.°75E, h48km±2km, M4.9 Broadband fault plane solution: P waves. NP1: φ₈141.00000°, δ51.00000°, λ86.00000°. NP2: φ₈328.00000°, δ39.00000°, λ95.00000°. Principal axes: T Plg83.0000°, Azm27.0000°; N Plg3.0000°, Azm144.0000°; P Plg6.0000°, Azm234.0000°;*

JMA Felt III J1.

IDC ***17*** *05:13:23.7±0.5, 42.°17N×142.°69E, h45km±3km, mb4.5/29, mb1 4.6/34, mb1mx4.6/38, mbtmp4.7/34, MS3.8/22, Ms1 3.8/22, ms1mx3.7/49 Error ellipse: s-maj=11.3km s-min=8.6km az=117.0*

ISCJB ***17*** *05:13:23.5±0.2, 42.°10N±0.°02×142.°67E±0.°02, h54km±2km, mb4.8/288, MS4.0/24, Error ellipse: s-maj=3.9km s-min=2.2km az=154.9*

NEIC ***17*** *05:13:25.6±0.4, 42.°14N×142.°61E, h57km±3km, mb4.8/191, Error ellipse: s-maj=4.1km s-min=2.6km az=163.0*

NEIC Recorded [3 JMA] in southern Hokkaido.

ISC 17 05:13:24.0±0.3, 42.°06N±0.°03×142.°78E±0.°03, h49km±2km, h49km:pP-P, n805, σ1°37/879, mb4.8/296, MS4.1/25, 39C-10D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.22**	**354**	⇑P		**Pn**	**05 13 31.6**	**-0.7**
JNBK				*e*S		**Sn**	**05 13 38.0**	**-0.3**
ERM	**Erimo**	**0.28**	**99**	*e*Pn		**Pn**	**05 13 33.0**	**+0.2**
ERM	**Erimo**	**0.28**	**99**	*ce*PN		**Pn**	**05 13 32.7**	**-0.1**
JEM	**Erimo**	**0.28**	**99**	⇑P		**Pn**	**05 13 32.8**	**0.0**
JSHD	**Hidakashinhida**	**0.42**	**326**	⇑P		**Pn**	**05 13 33.6**	**-0.6**
JTHR	**Tokachihiroo**	**0.45**	**59**	⇓P		**Pn**	**05 13 34.3**	**-0.2**
JTHR				*e*S		**Sn**	**05 13 42.5**	**+0.5**
JCH	**Churui**	**0.70**	**37**	⇓P		**Pn**	**05 13 37.3**	**-0.4**
JBT2	**Biratori 2**	**0.78**	**337**	⇑P		**Pn**	**05 13 38.2**	**-0.6**
JIAM	**Iburiatsuma**	**0.85**	**312**	P		**Pn**	**05 13 40.4**	**+0.7**
JFR	**Furan**	**1.11**	**353**	⇓P		**Pn**	**05 13 42.6**	**-0.6**
JFR				*e*S		**Sn**	**05 13 58.0**	**+0.5**
JOB	**Onbets**	**1.15**	**42**	⇓P		**Pn**	**05 13 44.4**	**+0.8**
JKB	**Kayabe**	**1.32**	**263**	⇓P		**Pn**	**05 13 45.1**	**-0.8**
JKB				*e*S		**Sn**	**05 14 01.2**	**-1.1**
JNB	**Noboribetsu**	**1.36**	**288**	⇓P		**Pn**	**05 13 45.6**	**-0.9**
JAR	**Ashorobuto**	**1.44**	**30**	⇓P		**Pn**	**05 13 47.3**	**-0.3**
ASAJ	**Asahikawa**	**2.06**	**356**	*e*Pn		**Pn**	**05 13 56.9**	**+0.8**
GRPR	**Tuman**	**2.92**	**48**	⇑*i*PN		**Pn**	**05 14 08.9**	**+1.0**
GRPR				*i* S		**Sn**	**05 14 43.2**	**+1.5**
GRPR				pmax	pmax			
	comp=Z,2μm,0.3s							
GRPR				pmax	pmax			
	comp=E,224nm,0.2s							
GRPR				pmax	pmax			
	comp=N,362nm,0.4s							
GRPR				smax	smax			
	comp=N,3μm,0.4s							
GRPR				smax	smax			
	comp=E,5μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**3.00**	**48**	⇑*i*PN		**Pn**	**05 14 10.2**	**+1.3**
YUK				*e*S		**Sn**	**05 14 45.4**	**+1.8**
YUK				pmax	pmax			
	comp=Z,2μm,0.3s							
YUK				pmax	pmax			
	comp=E,297nm,0.2s							
YUK				pmax	pmax			
	comp=N,453nm,0.4s							
YUK				smax	smax			
	comp=N,6μm,0.4s							
YUK				smax	smax			
	comp=E,6μm,0.6s							
SHO	**Shikotan**	**3.48**	**57**	*e*PN		**Pn**	**05 14 15.7**	**+0.2**
SHO				*e*S		**Sn**	**05 14 53.8**	**-1.6**
SHO				pmax	pmax			
	comp=Z,218nm,0.2s							
SHO				pmax	pmax			
	comp=N,49nm,0.1s							
SHO				pmax	pmax			
	comp=E,140nm,0.3s							
SHO				smax	smax			
	comp=N,4μm,0.4s							
SHO				smax	smax			
	comp=E,3μm,0.3s							
KUR	**Kuril'sk**	**4.87**	**48**	*e*PN		**Pn**	**05 14 36.6**	**+2.1**
KUR				*i* S		**Sn**	**05 15 32.2**	**+2.7**
KUR				pmax	pmax			
	comp=Z,559nm,0.9s							
KUR				pmax	pmax			
	comp=N,118nm,0.3s							
KUR				pmax	pmax			
	comp=E,114nm,0.3s							
KUR				smax	smax			
	comp=N,3μm,2.3s							
KUR				smax	smax			
	comp=N,840nm,0.5s							
KUR				smax	smax			
	comp=E,546nm,0.4s							
YSS	**Yuzh-Sakhalins**	**4.89**	**360**	*ce*PN		**Pn**	**05 14 37.3**	**+2.4**
YSS				*e*S		**Sn**	**05 15 31.0**	**+0.8**
YSS				pmax	pmax			
	comp=Z,700nm,1.8s							
YSS				pmax	pmax			
	comp=Z,280nm,1.4s							
YSS				smax	smax			
	comp=E,270nm,1.0s							
YSS				MLR	MLR			
	comp=Z,1μm,16.0s							
YSS				MLR	MLR			
	comp=N,1μm,18.0s							
YSS				MLR	MLR			
	comp=E,1μm,13.0s							
TEY	**Ternei**	**5.39**	**306**	⇑*e*PN		**Pn**	**05 14 43.7**	**+2.0**
TEY				pmax	pmax			
	comp=Z,40nm,1.2s							
TEY				pmax	pmax			
	comp=N,10.0nm,1.0s							
TEY				pmax	pmax			
	comp=E,40nm,0.9s							
MJB9	**Matsu-Tunnel**	**6.55**	**214**	*e*Pn		**Pn**	**05 14 59.4**	**+1.6**
MAJO	**Matsushiro**	**6.55**	**214**	*e*Pn		**Pn**	**05 14 59.1**	**+1.4**
MAJO	**Matsushiro**	**6.55**	**214**	*e*PN		**Pn**	**05 14 59.1**	**+1.4**
MAT	**Matsushiro**	**6.55**	**214**	P		**Pn**	**05 14 59.0**	**+1.2**
MAT				*e*S		**Sn**	**05 16 14.1**	**+3.0**
MJAR	**Matsushiro Arr**	**6.55**	**214**	P		**Pn**	**05 14 59.1**	**+1.4**
	comp=E,1.8nm,0.3s,baz=22,slow=15,SNR=37							
MJAR				S		**Sn**	**05 16 13.0**	**+1.9**
	baz=29,slow=22,SNR=1.8							
MJAR				LR	LR		05 18 01.2	
	comp=E,1μm,20.8s,baz=15,slow=42							
UGL	**Uglegorsk**	**7.04**	**356**	*e*PN		**Pn**	**05 15 06.7**	**+2.4**
UGL				*e*			05 16 27.5	
UGL				pmax	pmax			
	comp=Z,183nm,0.7s							
UGL				pmax	pmax			
	comp=E,172nm,0.5s							
INU	**Inuyama**	**8.07**	**216**	*e*Pn		**Pn**	**05 15 20.8**	**+2.2**
USA0B	**Ussuriysk Arra**	**8.18**	**289**	*e*Pn		**Pn**	**05 15 21.7**	**+1.7**
USRK	**Ussuriysk Ar.**	**8.18**	**289**	P		**Pn**	**05 15 21.5**	**+1.5**
	comp=E,0.8nm,0.3s,baz=96,slow=15,SNR=22							
USRK				LR		LR	05 18 50.6	
	comp=E,618nm,20.9s,baz=126,slow=40							
TYV	**Tymovskoe**	**8.81**	**359**	*e*PN		**Pn**	**05 15 31.7**	**+3.2**
TYV				*e*S		**Sn**	**05 17 13.6**	**+7.3**
TYV				pmax	pmax			
	comp=Z,200nm,1.0s							
TYV				pmax	pmax			
	comp=Z,128nm,0.8s							
TYV				smax	smax			
	comp=N,7.0nm,1.1s							
JHJ	**Hachijo jima 2**	**9.23**	**196**	P		**Pn**	**05 15 37.0**	**+2.5**
	comp=N,46nm,0.3s,baz=72,slow=20,SNR=2.7							
JHJ				S		**Sn**	**05 17 09.9**	**-7.1**
	comp=N,96nm,0.3s,baz=223,slow=23,SNR=6.1							
MDJ	**Mudanjiang**	**9.95**	**289**	*e*Pn		**Pn**	**05 15 43.8**	**-0.4**
KLR	**Kul'dur**	**10.53**	**317**	P		**Pn**	**05 15 54.0**	**+1.9**
	comp=N,0.3nm,0.3s,baz=127,slow=13,SNR=27							
KLR				LR		LR	05 20 18.9	
	comp=N,734nm,21.3s,baz=165,slow=40							
NKL	**Nikolayevsk**	**11.19**	**353**	*e*PN		**Pn**	**05 16 04.0**	**+3.0**
NKL				pmax	pmax			
	comp=Z,110nm,0.9s							
KSRS	**Korea Array**	**12.32**	**253**	P		**Pn**	**05 16 19.5**	**+2.8**
	comp=Z,3.7nm,0.3s,baz=63,slow=14,SNR=40							
KSRS				S		**Sn**	**05 18 37.8**	**+5.3**
	comp=Z,1.8nm,0.3s,baz=67,slow=24,SNR=9.9							
KS01	**Wonju Array Si**	**12.33**	**253**	*e*Pn		**Pn**	**05 16 20.0**	**+3.2**
KS01				*e*Sn		**Sn**	**05 18 37.5**	**+4.8**
KS15	**Wonju Array Si**	**12.36**	**253**	*e*Pn		**Pn**	**05 16 19.4**	**+2.3**
KS15				*e*Sn		**Sn**	**05 18 39.4**	**+6.1**
KSAR	**Wonju Array Be**	**12.36**	**253**	P		**Pn**	**05 16 19.5**	**+2.4**
KSAR				S		**Sn**	**05 18 37.8**	**+4.5**
KSAR	**Wonju Array Be**	**12.36**	**253**	PN		**Pn**	**05 16 19.5**	**+2.4**
KSAR				S		**Sn**	**05 18 37.8**	**+4.5**
SKR	**Severo-Kuril's**	**12.60**	**42**	*e*PN		**Pn**	**05 16 20.0**	**-0.3**
SKR				pmax	pmax			
	comp=Z,270nm,1.1s							
SKR				MLR	MLR			
	comp=Z,4μm,21.0s							
CN2	**Changchun**	**12.83**	**284**	*e*P		**Pn**	**05 16 26.1**	**+2.6**
CN2				*es*P		P	05 16 41.0	+7.9
CN2				*e*S		**Sn**	**05 18 47.8**	**+3.1**
CN2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
CN2				LR	LR			
	comp=Z,900nm,17.0s							
CN2				LR	LR			
	comp=Z,440nm,17.0s							
JNU	**Nakatsue**	**12.98**	**230**	P		**Pn**	**05 16 27.0**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=46,slow=16,SNR=2.9							
JNU				LR		LR	05 21 20.9	
	comp=Z,476nm,21.1s,baz=56,slow=37							
PETK	**Petropavlovsk-**	**14.91**	**37**	P		**Pn**	**05 16 50.3**	**-1.2**
	comp=Z,2.4nm,0.3s,baz=214,slow=11,SNR=15							
PETK				LR		LR	05 22 39.0	
	comp=Z,445nm,18.8s,baz=230,slow=37							
CBIJ	**Chichi jima**	**14.94**	**182**	P		**Pn**	**05 16 49.2**	**-2.7**
CBIJ				S		Sn	05 19 24.9	-11
JCJ	**Chichijima**	**14.94**	**182**	P		**Pn**	**05 16 49.2**	**-2.7**
	comp=Z,22nm,0.3s,baz=180,slow=24,SNR=7.7							
JCJ				S		Sn	05 19 24.9	-11
	comp=Z,14nm,0.3s,baz=179,slow=23,SNR=4.3							
ZEA	**Zeya**	**15.61**	**324**	*e*P		**Pn**	**05 17 00.5**	**0.0**
ZEA				pmax	pmax			
	comp=E,96nm,1.8s							
ZEA				pmax	pmax			
	comp=N,74nm,1.4s							
ZEA				pmax	pmax			
	comp=Z,100nm,1.6s							
ZEA				MLR	MLR			
	comp=Z,600nm,14.0s							
ZEA				MLR	MLR			
	comp=N,500nm,13.0s							
ZEA				MLR	MLR			
	comp=E,500nm,13.0s							
MA2	**Magadan**	**18.23**	**13**	P		**P**	**05 17 31.8**	**-1.0**
	comp=E,1.8nm,0.3s,baz=177,slow=12,SNR=6.9							
MA2				LR		LR	05 24 35.2	
	comp=E,105nm,20.3s,baz=179,slow=37							
MA2	**Magadan**	**18.23**	**13**	*e*P		**Pn**	**05 17 33.9**	**+0.8**
	comp=E,23nm,0.8s							
MA2	**Magadan**	**18.23**	**13**	*i* P		**Pn**	**05 17 33.4**	**+0.3**
MA2				pmax	pmax			
	comp=Z,22nm,1.0s							
JOW	**Kunigami**	**19.29**	**223**	LR		LR	05 25 30.6	
	comp=Z,598nm,19.4s,baz=284,slow=38							
BJT	**Baijiatuao**	**20.16**	**273**	*e*P		**P**	**05 17 51.6**	**-2.4**
	comp=Z,33nm,1.0s							
BJT	**Baijiatuao**	**20.16**	**273**	*e*P		**P**	**05 17 51.6**	**-2.4**
BJT				pmax	pmax			
	comp=Z,33nm,1.0s							
TIA	**Tai'an**	**20.70**	**262**	P		**P**	**05 17 57.8**	**-2.2**
TIA				pmax	pmax			
	comp=Z,11nm,0.7s							
YAK	**Yakutsk**	**21.48**	**343**	*e*P		**P**	**05 18 05.4**	**-2.7**
YAK				*e**PP		**sP**	**05 18 23.7**	**-2.2**
YAK				*e*S		**S**	**05 21 58.0**	**-5.5**
YAK				*e*			05 22 07.2	
YAK				*e**SS		**sS**	**05 22 22.8**	**+1.0**
YAK				pmax	pmax			
	comp=Z,15nm,0.6s							
YAK				pmax	pmax			
	comp=N,4.0nm,0.7s							
YAK				pmax	pmax			
	comp=E,4.0nm,0.8s							
YAK				smax	smax			
	comp=N,112nm,1.3s							
YAK				smax	smax			
	comp=E,38nm,1.2s							
NJ2	**Nanjing**	**21.49**	**250**	*e*P		**P**	**05 18 09.1**	**+0.6**
NJ2				pmax	pmax			
	comp=E,27nm,0.7s							
HHC	**Hu-ho-hao-te**	**23.37**	**278**	*e*P		**P**	**05 18 26.8**	**-1.4**
HHC				S		**S**	**05 22 28.3**	**-9.3**
HHC				SS		**SnSn**	**05 23 21.5**	**+5.6**
HHC				pmax	pmax			
	comp=E,16nm,0.8s							
HHC				pmax	pmax			
	comp=E,310nm,6.1s							
HHC				LR	LR			
	comp=E,1μm,16.4s							
HHC				LR	LR			
	comp=E,1μm,15.6s							
HHC				LR	LR			
	comp=E,1μm,17.3s							
BOD	**Bodaibo**	**24.06**	**321**	*e*P		**P**	**05 18 30.2**	**-4.2**
BOD				pmax	pmax			
	comp=Z,6.0nm,1.2s							
WHN	**Wuhan**	**25.52**	**252**	P		**P**	**05 18 48.3**	**+0.5**
WHN				S		**S**	**05 23 13.1**	**+1.2**
WHN				pmax	pmax			
	comp=Z,44nm,0.7s							
WHN				LR	LR			
	comp=Z,1μm,22.7s							
ULN	**Ulaanbaatar**	**25.78**	**295**	*e*P		**P**	**05 18 49.9**	**-0.4**
	comp=Z,7.7nm,0.8s							
ULN	**Ulaanbaatar**	**25.78**	**295**	*ce*P		**P**	**05 18 49.4**	**-0.9**
ULN				pmax	pmax			
	comp=Z,14nm,1.3s							
SONA1	**Songino Array**	**26.22**	**295**	*e*P		**P**	**05 18 53.4**	**-0.8**
SONM	**Songino Array**	**26.22**	**295**	P		**P**	**05 18 53.8**	**-0.5**
	comp=Z,5.0nm,0.5s,baz=91,slow=8.7,SNR=39							
SONM				pP		**pP**	**05 19 05.0**	**-1.8**
	comp=Z,5.8nm,0.8s,baz=84,slow=8.0,SNR=6.3							
SONM				PcP		**PcP**	**05 22 19.9**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=131,slow=2.2,SNR=4.4							
SONM	**Songino Array**	**26.22**	**295**	P		**P**	**05 18 53.8**	**-0.5**
SONM				*PP		**pP**	**05 19 05.0**	**-1.8**
SONM							05 22 19.9	
SONM				pmax	pmax			
	comp=Z,5.0nm,0.6s							
SONM				pmax	pmax			
	comp=Z,7.0nm,1.0s							
SONM				pmax	pmax			
	comp=Z,1.0nm,0.6s							
XAN	**Xi'an**	**27.70**	**264**	P		**P**	**05 19 07.0**	**-0.6**
XAN				pP		pP	05 19 15.4	-4.5
XAN				pmax	pmax			
	comp=Z,14nm,0.9s							
XAN				pmax	pmax			
	comp=Z,160nm,5.4s							
ZAK	**Zakamensk**	**28.29**	**301**	*e*P		**P**	**05 19 11.0**	**-1.7**
ZAK				pmax	pmax			
	comp=Z,7.0nm,1.3s							
GUMO	**Guam**	**28.42**	**176**	LR		LR	05 30 08.9	
	comp=Z,195nm,19.9s,baz=22,slow=35							
BILL	**Bilibino**	**28.92**	**18**	*e*P		**P**	**05 19 18.3**	**+0.3**
BILL				*e*			05 20 13.8	
BILL				*e*			05 22 26.1	
BILL				*e*S		**S**	**05 24 11.4**	**+6.6**
BILL				*e*SS		**SnSn**	**05 25 37.5**	**+6.8**
BILL				pmax	pmax			
	comp=Z,3.0nm,0.9s							
BILL				MLR	MLR			
	comp=Z,277nm,23.0s							
ENH	**Enshi**	**29.16**	**257**	*e*P		**P**	**05 19 19.1**	**-1.5**
	comp=Z,17nm,0.8s							
MOY	**Mondy**	**29.78**	**303**	*e*P		**P**	**05 19 25.9**	**0.0**
MOY				pmax	p

H11S1 WAKE ISLAND Hy 31.07 132 T T 05 52 03.1
baz=325,slow=76,SNR=539
H11S3 WAKE ISLAND Hy 31.07 132 T T 05 52 07.5
baz=325,slow=76,SNR=399
H11S2 WAKE ISLAND Hy 31.09 132 T T 05 52 12.7
baz=325,slow=76,SNR=387
KNGR Kungurtug, Tuv 31.97 301 *c iP* **P 05 19 43.2 -2.0**
GTA Gaotai 32.42 280 ⇓P **P 05 19 49.6 +0.3**
GTA PcP **PcP 05 22 36.8 +1.1**
GTA S **S 05 25 04.9 +4.5**
GTA PcS **PcS 05 26 21.9 +1.1**
GTA pmax pmax
comp=Z,9.0nm,1.1s
GTA pmax pmax
comp=Z,93nm,6.2s
GTA LR LR
comp=Z,220nm,19.0s
GTA LR LR
comp=Z,250nm,18.1s
CD2 Chengdu 33.03 263 *e*P **P 05 19 53.5 -1.2**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,140nm,4.8s
GYA Guiyang 33.38 254 *e*P **P 05 20 00.1 +2.3**
GYA pmax pmax
comp=Z,10.0nm,0.8s
QIZ Qiongzhong 36.14 241 P **P 05 20 22.6 +1.0**
QIZ S **S 05 25 59.6 +1.7**
QIZ LR LR
comp=Z,160nm,5.7s
QIZ LR LR
comp=Z,260nm,4.7s
QIZ LR LR
comp=Z,240nm,6.5s
ANM Nome 36.81 35 *e*P **P 05 20 30.1 +3.3**
comp=Z,8.0nm,1.0s
ANM *e*PcP **PcP 05 22 49.5 +1.8**
ANM Nome 36.81 35 *e*P **P 05 20 30.1 +3.3**
ANM *e* 05 22 49.5
ANM pmax pmax
comp=Z,8.0nm,1.0s
KMI Kunming 37.00 256 P **P 05 20 30.9 +1.8**
KMI pmax pmax
comp=Z,26nm,1.1s
KMI pmax pmax
comp=Z,240nm,7.3s
DGZ Jazzator, Alta 38.51 301 *c iP* **P 05 20 41.5 0.0**
DGZ pmax pmax
comp=Z,13nm,1.1s
ZAA0 Zalesovo Array 39.48 308 *e*P **P 05 20 48.9 -0.5**
comp=Z,44nm,0.9s
ZAA0 *e*PcP **PcP 05 22 56.6 +0.4**
ZALV Zalesovo Beam 39.48 308 P **P 05 20 48.9 -0.5**
comp=Z,41nm,0.8s,baz=86,slow=7.5,SNR=133
ZALV PcP **PcP 05 22 55.9 -0.3**
comp=Z,12nm,0.9s,baz=94,slow=2.3,SNR=7.2
ZALV LR LR 05 38 22.6
comp=Z,122nm,19.1s,baz=72,slow=38
ZALV Zalesovo Beam 39.48 308 *e*P **P 05 20 48.5 -0.8**
ZALV *e*PcP **PcP 05 22 56.0 -0.2**
ZALV Zalesovo Beam 39.48 308 *i* P **P 05 20 49.0 -0.4**
ZALV pmax pmax
comp=Z,41nm,0.8s
WMQ Urumqi 39.74 292 P **P 05 20 51.8 +0.1**
WMQ pP pP 05 21 02.6 -1.9
WMQ sP sP 05 21 10.6 +0.4
WMQ pmax pmax
comp=Z,77nm,1.1s
WMQ pmax pmax
comp=Z,440nm,5.5s
WMQ LR LR
comp=Z,370nm,20.3s
WMQ LR LR
comp=Z,360nm,22.3s
WMQ LR LR
comp=Z,390nm,21.3s
WMQ Urumqi 39.74 292 *e*P **P 05 20 52.1 +0.4**
comp=Z,29nm,0.9s
WMQ Urumqi 39.74 292 *e*P **P 05 20 52.1 +0.4**
WMQ pmax pmax
comp=Z,29nm,0.9s
NVS Novosibirsk 40.30 310 ⇓ *i*P **P 05 20 56.2 +0.1**
NVS pmax pmax
comp=Z,15nm,0.5s
NVS pmax pmax
comp=N,3.0nm,0.6s
NVS pmax pmax
comp=E,11nm,0.6s
NONG Nongkai 41.30 247 P P 05 20 59.9 -4.9
comp=E,0.5nm,1.0s,comp=E,122nm
IM3 Indian Mountai 41.83 33 *e*P **P 05 21 07.8 -0.8**
IM3 *e*PcP **PcP 05 23 05.0 +1.4**
PPLA Purkeypile 42.50 38 *e*P **P 05 21 18.4 +4.2**
comp=E,41nm,1.4s
CAST Castle Rocks 42.53 37 *e*P **P 05 21 15.4 +1.1**
comp=E,9.0nm,0.8s
MK01 Makanchi Array 42.53 298 *e*P **P 05 21 13.7 -0.8**
MK31 Makanchi Array 42.53 298 *e*P **P 05 21 13.8 -0.8**
MK31 Makanchi Array 42.53 298 *i* P **P 05 21 13.8 -0.8**
MK31 pmax pmax
comp=Z,26nm,0.9s
MKAR Makanchi Array 42.53 298 P **P 05 21 13.8 -0.8**
comp=Z,20nm,0.9s,baz=80,slow=8.2,SNR=128
MKAR PcP **PcP 05 23 06.2 -0.2**
comp=Z,2.2nm,0.5s,baz=74,slow=5.5,SNR=6.9
MKAR ScP **ScP 05 26 51.9 -1.1**
comp=Z,0.6nm,0.8s,baz=83,slow=6.1,SNR=3.8
MKAR Makanchi Array 42.53 298 *e*P **P 05 21 13.8 -0.8**
comp=Z,108nm,0.8s
MKAR PcP **PcP 05 23 06.2 -0.2**
MKAR ScP **ScP 05 26 51.9 -1.1**
MAKZ Makanchi 42.73 298 *e*P **P 05 21 15.7 -0.5**
comp=Z,28nm,0.9s
KDAK Kodiak Island 42.74 46 P **P 05 21 15.2 -0.8**
comp=Z,13nm,0.7s,baz=283,slow=3.5,SNR=12
KDAK Kodiak Island 42.74 46 *i* P **P 05 21 15.9 -0.1**
BPAW Bear Paw Mtn. 42.99 36 *e*P **P 05 21 18.8 +0.7**
comp=Z,8.5nm,0.8s
BPAW *e*PcP **PcP 05 23 08.6 +1.1**
LSA Lhasa 43.02 271 *e*P **P 05 21 19.7 +0.4**
comp=Z,12nm,0.8s
LSA Lhasa 43.02 271 *e*P **P 05 21 19.7 +0.4**
LSA pmax pmax
comp=Z,12nm,0.8s
MLY Manley 43.08 35 *e*P **P 05 21 19.8 +1.0**
comp=Z,5.8nm,0.7s
TRF Thorofare Moun 43.33 37 *e*P **P 05 21 22.4 +1.4**
comp=Z,11nm,1.0s
LAMP Lampang 43.43 251 P **P 05 21 23.1 +1.0**
comp=Z,5.9nm,0.7s
CHAI Chaiyaphum 43.60 246 P **P 05 21 24.0 +0.5**
comp=Z,12nm,0.9s,comp=Z,106nm
CMMT Chiang Mai 43.72 252 P **P 05 21 24.9 +0.5**
comp=Z,15nm,0.6s,comp=Z,964nm
CHTO Chiang Mai 43.72 252 *e*P **P 05 21 25.1 +0.6**
comp=Z,16nm,1.0s
CHTO Chiang Mai 43.72 252 P **P 05 21 25.0 +0.6**
comp=Z,64nm,0.7s
KURK Kurchatov 43.82 304 *e*P **P 05 21 24.2 -0.7**
comp=Z,31nm,0.8s
KURK Kurchatov 43.82 304 *ce*P **P 05 21 23.9 -1.0**
KURK pmax pmax
comp=Z,53nm,1.3s
PBKT Sadao Pong 43.83 247 P **P 05 21 25.7 +0.4**
comp=Z,9.0nm,1.4s,comp=Z,950nm
MCK McKinley 43.92 37 *e*P **P 05 21 26.5 +0.9**
comp=Z,20nm,1.1s
CMAR Chiang Mai Arr 43.96 251 P **P 05 21 26.9 +0.6**
comp=Z,3.8nm,0.6s,baz=48,slow=6.6,SNR=22
CMAR PcP **PcP 05 23 12.0 +0.5**
comp=Z,2.0nm,0.6s,baz=19,slow=2.0,SNR=6.1
CMAR LR LR 05 41 18.3
comp=Z,129nm,18.1s,baz=58,slow=38
CM01 Chiang Mai Arr 43.97 251 *e*P **P 05 21 26.7 +0.2**
RND Reindeer 43.98 37 *e*P **P 05 21 26.4 +0.3**
comp=Z,18nm,1.1s
RND Reindeer 43.98 37 *e*P **P 05 21 26.4 +0.3**
RND pmax pmax
comp=Z,18nm,1.1s
SIJI Sorong 43.98 197 P **P 05 21 26.6 +0.1**
comp=Z,21nm,0.6s,baz=30,slow=4.2,SNR=5.3
PMR Palmer 44.02 40 *e*P **P 05 21 27.7 +1.4**
comp=Z,13nm,1.1s
PMR Palmer 44.02 40 *e*P **P 05 21 27.7 +1.4**
PMR pmax pmax

comp=Z,13nm,1.1s
SUKH Sukhothai 44.13 250 P **P 05 21 28.7 +1.0**
comp=Z,8.2nm,1.0s
MDM Murphy Dome 44.14 35 *e*P **P 05 21 28.2 +0.9**
comp=Z,10nm,0.8s
WRH Wood River Hil 44.24 35 *e*P **P 05 21 31.4 +3.3**
comp=Z,9.8nm,1.0s
WRH *e*PP **PcP 05 23 12.1 +0.4**
COLA College 44.31 35 *e*P **P 05 21 29.3 +0.7**
comp=Z,22nm,0.8s
COLA College 44.31 35 *e*P **P 05 21 29.3 +0.7**
COLA pmax pmax
comp=Z,22nm,0.8s
KNK Knik Glacier 44.37 40 *e*P **P 05 21 31.9 +2.8**
comp=Z,27nm,1.2s
POKR Poker Plat Res 44.47 35 P **P 05 21 29.8 -0.1**
baz=274
DHY Denali Highway 44.68 37 *e*P **P 05 21 32.2 +0.4**
comp=Z,18nm,1.0s
DHY *e*PcP **PP 05 23 15.2 -1.2**
SHL Shillong 44.71 265 *e*P **P 05 21 32.5 0.0**
comp=Z,14nm,1.0s
SHL Shillong 44.71 265 *e*P **P 05 21 30.0 -2.5**
IL1 Eielson Array 44.73 35 *e*P **P 05 21 31.4 -0.6**
ILAR Eielson Array 44.73 35 P **P 05 21 31.4 -0.5**
comp=Z,3.4nm,0.6s,baz=259,slow=4.9,SNR=37
ILAR PcP **PcP 05 23 12.6 -0.9**
comp=Z,3.1nm,0.8s,baz=284,slow=3.5,SNR=5.1
ILAR LR LR 05 39 34.9
comp=Z,108nm,21.2s,baz=270,slow=35
ILB Eielson Array 44.73 35 *e*P **P 05 21 32.1 +0.2**
HDA Harding Lake 44.73 36 *e*P **P 05 21 32.4 +0.4**
comp=Z,13nm,1.1s
HDA Harding Lake 44.73 36 P **P 05 21 32.0 0.0**
baz=275,SNR=8.2
SRAK Srakaew 44.91 244 P **P 05 21 31.9 -2.0**
comp=Z,71nm,1.0s,comp=Z,3μm
FYU Fort Yukon 45.27 32 *e*P **P 05 21 37.7 +1.6**
comp=Z,13nm,0.8s
MRSI Marisa 45.46 210 P **P 05 21 38.6 +0.4**
comp=Z,40nm,1.0s
PDGK Podgornoye 45.53 294 P **P 05 21 37.5 -1.3**
PDGK pmax pmax
comp=Z,13nm,0.9s
UMPA Umpang Tak 45.54 249 P **P 05 21 41.9 +2.9**
comp=Z,3.3nm,0.8s,comp=Z,2μm
KLU Klutina 45.56 40 *e*P **P 05 21 40.8 +2.1**
comp=Z,71nm,2.0s
UTHA Uthaitani 45.58 248 P **P 05 21 41.0 +1.8**
comp=Z,2.9nm,0.7s
RIDG Independ'e Rid 45.73 36 *e*P **P 05 21 39.4 -0.5**
comp=Z,15nm,1.0s
HARP HAARP 45.78 38 *e*P **P 05 21 41.8 +1.4**
comp=Z,29nm,0.9s
SCRK Sand Creek 46.07 36 *e*P **P 05 21 42.9 +0.1**
comp=Z,16nm,1.1s
DOT Dot Lake 46.09 36 *e*P **P 05 21 43.3 +0.6**
comp=Z,11nm,1.0s
SANI Sanana 46.47 203 P **P 05 21 46.7 +0.5**
EGAK Eagle 47.16 35 *e*P **P 05 21 50.8 -0.3**
comp=Z,9.1nm,0.9s
PHET Kaeng Krachan 47.32 245 P **P 05 21 55.0 +2.1**
comp=Z,11nm,0.9s
JIRN Jiri 47.79 271 *e*P **P 05 21 57.0 +0.1**
comp=Z,74nm,0.8s
RAMN Ramite 47.87 270 *e*P **P 05 21 57.1 -0.3**
comp=Z,66nm,0.7s
GUN Gumba 47.88 272 *e*P **P 05 21 57.5 -0.1**
comp=Z,103nm,0.4s
BRVK Borovoye 48.14 309 *e*P **P 05 21 58.7 -0.2**
comp=Z,17nm,0.9s
BRVK Borovoye 48.14 309 *d iP* **P 05 21 58.0 -0.9**
BRVK pmax pmax
comp=Z,14nm,0.9s
TKM2 Tokmak 2 48.32 295 P **P 05 22 00.5 -0.2**
SNR=48
KKN Kakani 48.40 272 *e*P **P 05 22 01.2 -0.2**
PKI Pulchoki 48.42 272 *e*P **P 05 22 01.3 -0.4**
comp=Z,22nm,0.5s
PKIN Phulchoki 48.42 272 *e*P **P 05 22 01.1 -0.6**
comp=Z,11nm,0.4s
OTUK Ortayu 48.47 303 P **P 05 22 00.7 -0.8**
OTUK pmax pmax
comp=Z,11nm,0.8s
DMN Daman 48.62 272 *e*P **P 05 22 03.0 -0.2**
comp=Z,36nm,0.8s
EPYK Eagle Plains 48.67 32 P **P 05 22 02.7 -0.1**
baz=282
KBK Karagaybulak 48.87 295 P **P 05 22 04.8 0.0**
SNR=32
KZA Kyzart 48.89 294 P **P 05 22 05.9 +0.6**
SNR=10.0
USP Ospenovka 48.92 296 P **P 05 22 04.9 -0.2**
SNR=13
FRU Bishkek 49.02 295 *e*P **P 05 22 03.0 -2.8**
AAK Ala-Archa 49.18 295 LR LR 05 44 52.1
comp=Z,145nm,18.6s,baz=56,slow=38
AAK Ala-Archa 49.18 295 P **P 05 22 06.8 -0.4**
SNR=7.3
AAK Ala-Archa 49.18 295 *e*P **P 05 22 06.7 -0.4**
comp=Z,7.4nm,0.6s
AAK Ala-Archa 49.18 295 *ce*P **P 05 22 06.2 -1.0**
AAK pmax pmax
comp=Z,14nm,1.7s
DANN Dangsing 49.23 274 *e*P **P 05 22 08.0 +0.1**
comp=Z,44nm,0.4s
INK Inuvik 49.46 29 P **P 05 22 08.4 -0.3**
comp=Z,4.1nm,0.4s,baz=286,slow=5.5,SNR=42
INK PcP **PcP 05 23 30.5 +0.4**
comp=Z,5.3nm,0.8s,baz=287,slow=3.2,SNR=4.0
INK Inuvik 49.46 29 *e*P **P 05 22 08.8 +0.1**
comp=Z,6.6nm,0.8s
INK PcP **PcP 05 23 30.5 +0.4**
INK Inuvik 49.46 29 *e*P **P 05 22 08.8 +0.1**
INK 05 23 30.5
INK pmax pmax
comp=Z,7.0nm,0.8s
KSH Kashi 49.47 291 P **P 05 22 13.3 +3.9**
KSH pP sP 05 22 28.4 +0.3
KSH PP **PP 05 24 10.5 +6.8**
KSH S **S 05 29 16.1 +2.7**
KSH pmax pmax
comp=Z,23nm,0.8s
KSH pmax pmax
comp=Z,500nm,6.9s
KSH LR LR
comp=Z,360nm,15.8s
KSH LR LR
comp=Z,240nm,8.1s
KSH LR LR
comp=Z,320nm,9.2s
EKS2 Erkin-Say 49.65 295 P **P 05 22 10.7 -0.1**
SNR=9.5
KOLN Koldanda 49.66 273 *e*P **P 05 22 11.0 -0.1**
comp=Z,19nm,0.5s
HYT Haines Junctio 49.69 39 *e*P **P 05 22 13.0 +2.3**
comp=Z,41nm,1.0s
AML Almayashu 49.93 295 P **P 05 22 13.2 0.0**
SNR=8.0
PYUN Piuthan 49.93 274 *e*P **P 05 22 12.9 -0.2**
BNSI Bone 50.64 210 P **P 05 22 18.7 +0.5**
SFK Sufi-Kurgan 50.97 292 P **P 05 22 19.8 -1.1**
SFK pmax pmax
comp=Z,21nm,0.8s
WHY Whitehorse 50.97 39 *e*P **P 05 22 22.2 +1.8**
comp=Z,8.2nm,0.8s
KK31 Karatay Array 51.65 297 *e*P **P 05 22 24.9 -0.7**
KK31 Karatay Array 51.65 297 *e*P **P 05 22 25.0 -0.7**
KKAR Karatay Array 51.65 297 *e*P **P 05 22 24.9 -0.7**
KKAR Karatay Array 51.65 297 *e*P **P 05 22 25.0 -0.7**
SVE Sverdlovsk 52.16 316 *e*P **P 05 22 29.5 +0.3**
SVE pmax pmax
comp=Z,36nm,0.9s
ARU Arti 53.37 316 *e*P **P 05 22 37.6 -0.6**
comp=Z,20nm,0.8s
ARU Arti 53.37 316 *c iP* **P 05 22 37.6 -0.6**
ARU *PP **pP 05 22 53.1 +1.6**
ARU 05 23 42.6
ARU 05 24 39.3
ARU S **S 05 30 07.2 +0.8**
ARU SS **SKiKP 05 33 48.2 -1.5**
ARU pmax pmax
comp=Z,22nm,0.8s
DLBC Dease Lake 54.07 40 P **P 05 22 44.3 +1.0**
comp=Z,2.7nm,0.5s,baz=222,slow=4.5,SNR=8.5
NIL Nilore 54.17 285 *e*P **P 05 22 44.4 0.0**
comp=Z,76nm,1.0s

NIL Nilore 54.17 285 *e*P **P 05 22 44.4 0.0**
NIL pmax pmax
comp=Z,76nm,1.0s
PSI Prapat 55.34 237 *e*P **P 05 22 53.8 +0.7**
comp=Z,20nm,1.2s
PSI Prapat 55.34 237 *e*P **P 05 22 53.8 +0.7**
PSI pmax pmax
comp=Z,20nm,1.2s
AB31 Akbulak array 55.60 308 *i* P **P 05 22 53.8 -0.6**
AB31 pmax pmax
comp=Z,6.0nm,0.5s
ABKAR Akbulak array 55.60 308 *e*P **P 05 22 53.9 -0.5**
KBL Kabul 56.72 289 *e*P **P 05 23 01.6 -1.3**
comp=Z,12nm,0.8s
KBL Kabul 56.72 289 *e*P **P 05 23 01.6 -1.3**
KBL pmax pmax
comp=Z,12nm,0.8s
PRGR Permogore 57.17 326 *e*P **P 05 23 04.5 -0.9**
PRGR pmax pmax
comp=Z,15nm,0.8s
GSI Gunungsitoli 57.34 237 *e*P **P 05 23 09.2 +1.9**
comp=Z,21nm,0.9s
GSI Gunungsitoli 57.34 237 P **P 05 23 07.6 +0.4**
RES Resolute Bay 57.48 15 P **P 05 23 06.4 -1.0**
comp=Z,8.1nm,0.6s,baz=310,slow=6.6,SNR=40
KPJI Karang Pucung 58.07 221 P **P 05 23 12.7 +0.4**
YKW3 Yellowknife Ar 58.92 32 *e*P **P 05 23 17.7 +0.1**
YKA Yellowknife Ar 58.96 32 P **P 05 23 17.4 -0.5**
comp=Z,1.1nm,0.4s,baz=304,slow=6.4,SNR=25
ARCES ARCESS Array B 59.69 339 P **P 05 23 21.1 -1.8**
comp=Z,7.8nm,0.9s,baz=46,slow=7.7,SNR=14
ARCES pP **pP 05 23 34.7 -1.7**
comp=Z,7.9nm,1.0s,baz=52,slow=10,SNR=2.2
ARCES LR LR 05 54 12.7
comp=Z,10nm,19.5s,baz=165,slow=41
KLMR Klimovskoe 60.11 327 *e*P **P 05 23 23.2 -2.6**
KLMR pmax pmax
comp=Z,21nm,1.4s
KLMR Klimovskoe 60.11 327 *e*P **P 05 23 23.2 -2.6**
KLMR AMP 05 23 26.9
comp=Z,21nm,1.4s
DAG Danmarks Havn 60.86 355 *i* P **P 05 23 29.4 -1.3**
comp=Z,8.1nm,1.0s
DAG Danmarks Havn 60.86 355 *i* P **P 05 23 29.4 -1.3**
DAG pmax pmax
comp=Z,8.0nm,1.0s
CTAO Charters Tower 61.91 176 *e*P **P 05 23 38.9 +0.4**
comp=Z,25nm,1.4s
CTAO Charters Tower 61.91 176 *e*P **P 05 23 38.9 +0.4**
CTAO pmax pmax
comp=Z,25nm,1.4s
WRAB Tennant Creek 62.17 189 *e*P **P 05 23 40.0 -0.2**
comp=Z,26nm,0.9s
WRAB *e*pP **pP 05 23 54.2 +0.6**
WRAB Tennant Creek 62.17 189 *ce*P **P 05 23 39.5 -0.7**
WRAB pmax pmax
comp=Z,35nm,1.3s
WB2 Warramunga Arr 62.18 189 *e*P **P 05 23 40.0 -0.2**
WRA Warramunga Arr 62.18 189 P **P 05 23 39.2 -1.1**
comp=Z,20nm,0.9s,baz=6.7,slow=6.9,SNR=88
WRA pP **pP 05 23 55.0 +1.2**
comp=Z,9.0nm,0.9s,baz=6.5,slow=6.9,SNR=4.3
WRA LR LR 05 48 28.2
comp=Z,46nm,21.5s,baz=60,slow=34
WRA PKP2bc 05 52 53.7
comp=Z,1.9nm,0.8s,baz=202,slow=2.4,SNR=9.2
POO Poona 62.30 270 *e*P **P 05 23 39.0 -2.4**
GEYT Alibeck 62.40 297 P **P 05 23 40.9 -0.9**
comp=Z,91nm,1.4s,baz=45,slow=2.5,SNR=15
GEYT LR LR 05 51 55.6
comp=Z,152nm,22.0s,baz=70,slow=37
GYA0B ALIBECK ARRAY 62.40 297 *e*P **P 05 23 41.7 -0.1**
comp=Z,15nm,0.9s
D03D Eldon 62.97 49 P **P 05 23 46.1 +0.8**
baz=304
B05A Bryant 63.12 48 P **P 05 23 47.1 +0.8**
baz=304
E04D Cinebar 63.81 50 P **P 05 23 51.4 +0.5**
baz=304
LON Longmire 64.13 50 *e*P **P 05 23 54.7 +1.6**
comp=Z,16nm,0.4s
LON Longmire 64.13 50 *e*P **P 05 23 54.7 +1.6**
LON pmax pmax
comp=Z,16nm,0.4s
LTY Liberty 64.48 49 *e*P **P 05 23 56.4 +0.9**
comp=Z,5.5nm,1.0s
B08A Colville Reser 64.58 47 *e*P **P 05 23 57.0 +0.9**
comp=Z,14nm,1.6s
VRH Novokhopyorsk 64.60 317 *e*P **P 05 23 54.3 -1.7**
VRH pmax pmax
comp=Z,10.0nm,0.4s
OBN Obninsk 64.74 322 *e*P **P 05 23 55.2 -1.6**
OBN *e* 05 24 07.2
OBN *e* 05 24 28.5
OBN *e*PPP PPP 05 27 49.3
OBN *e*S **S 05 32 38.1 +4.8**
OBN *e*SS **SS 05 36 38.8 -5.3**
OBN pmax pmax
comp=Z,32nm,1.3s
OBN MLR MLR
comp=Z,182nm,18.0s
FINES FINESS Array B 64.88 332 P **P 05 23 56.7 -1.0**
comp=Z,15nm,0.5s,baz=50,slow=7.4,SNR=125
FINES pP **pP 05 24 11.1 -0.3**
comp=Z,4.8nm,0.5s,baz=48,slow=8.4,SNR=4.2
H04A Detroit Lake 65.09 52 *e*P **P 05 24 00.8 +1.4**
comp=Z,10nm,1.0s
LPSR Galich'ya Gora 65.16 319 *e*P **P 05 23 58.2 -1.4**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
G05D Wamic, OR 65.28 51 P **P 05 24 01.0 +0.5**
baz=306
E07A Sunnyside 65.34 49 *e*P **P 05 24 02.4 +1.4**
E07A *e*pP **pP 05 24 16.1 +1.3**
K02D Willamette Mer 65.36 54 P **P 05 24 01.6 +0.3**
baz=305
I04A Tendick Farm, 65.47 52 P **P 05 24 02.3 +0.5**
baz=306
C09A Chrisman Ranch 65.49 47 *e*P **P 05 24 02.9 +1.1**
comp=Z,7.6nm,0.8s
D08A Wollman Farm, 65.57 48 *e*P **P 05 24 03.0 +0.6**
comp=Z,5.7nm,0.8s
HAWA Hanford 65.62 49 *e*P **P 05 24 04.0 +1.2**
comp=Z,9.9nm,1.3s
HAWA *e*pP **pP 05 24 15.3 -1.3**
SUMG Summit 65.66 0 *e*P **P 05 24 02.2 -0.8**
comp=Z,15nm,0.8s
SUMG Summit 65.66 0 *i* P **P 05 24 03.2 +0.1**
comp=Z,21nm,0.7s
SUMG Summit 65.66 0 *e*P **P 05 24 02.2 -0.8**
SUMG pmax pmax
comp=Z,15nm,0.8s
F07A Phinny Hill Vi 65.69 49 *e*P **P 05 24 04.8 +1.6**
comp=Z,8.3nm,0.6s
L02E Cave Junction 65.71 55 P **P 05 24 03.7 +0.3**
baz=306
I05D Terrebonne, OR 65.79 52 P **P 05 24 04.2 +0.3**
baz=306
NEW Newport 65.84 46 *e*P **P 05 24 04.9 +0.7**
comp=Z,15nm,1.4s
NEW *e*pP **pP 05 24 18.2 +0.2**
NEW Newport 65.84 46 P **P 05 24 04.2 +0.1**
baz=307
VSR Storozhevoye 65.88 318 ⇑ *iP* **P 05 24 02.6 -1.7**
VSR pmax pmax
comp=Z,10.0nm,0.7s
ASAR Alice Springs 65.91 189 P **P 05 24 04.7 0.0**
comp=Z,7.5nm,0.8s,baz=9.8,slow=6.2,SNR=45
ASAR pP **pP 05 24 20.2 +2.0**
comp=Z,2.5nm,0.8s,baz=4.5,slow=7.1,SNR=3.6
ASAR PKP2bc 05 52 45.0
comp=Z,1.3nm,1.1s,baz=205,slow=4.1,SNR=4.2
ASAR Alice Springs 65.91 189 P **P 05 24 04.7 0.0**
ASAR *PP **pP 05 24 20.3 +2.0**
ASAR pmax pmax
comp=Z,7.0nm,0.8s
ASAR pmax pmax
comp=Z,3.0nm,0.8s
ASAR pmax pmax
comp=Z,1.0nm,1.1s
J04D Umpqua Nationa 65.97 53 P **P 05 24 05.7 +0.4**
baz=306
E09A Wood Farm, Sta 66.32 48 *e*P **P 05 24 08.6 +1.4**
comp=Z,14nm,1.0s
PINE Pine Mountain 66.34 52 *e*P **P 05 24 09.5 +1.8**
comp=Z,11nm,0.9s

L04D	**Klamath Falls**	66.46	54	P		P		05 24 09.4	+1.0
	baz=306,SNR=5.2								
J05D	**Fort Rock, OR**	66.47	52	P		P		05 24 09.3	+0.9
	baz=306								
YBH	**Yreka Blue Hor**	66.50	54	*eP*		P		05 24 10.5	+1.9
	comp=Z,12nm,1.3s								
YBH	**Yreka Blue Hor**	66.50	54	*eP*		P		05 24 10.5	+1.9
YBH				pmax		pmax			
	comp=Z,13nm,1.3s								
M02C	**Callahan**	66.61	55	P		P		05 24 09.9	+0.7
	baz=306								
VSU	**Vasula**	66.68	329	*ce*P		P		05 24 08.2	-1.0
VSU				pmax		pmax			
	comp=Z,65nm,1.3s								
N02D	**Trinity Center**	66.95	55	P		P		05 24 12.4	+1.0
	baz=306								
M04C	**Macdoel**	66.99	54	P		P		05 24 12.8	+1.0
	baz=307,SNR=5.5								
O02D	**Mt. Diablo Mer**	67.37	56	P		P		05 24 14.7	+0.6
	baz=307								
GOF	**Gofitskoye**	67.57	311	*eP*		P		05 24 13.7	-1.5
GOF				pmax		pmax			
	comp=Z,30nm,0.8s								
BMO	**Blue Mountains**	67.79	49	*eP*		P		05 24 17.9	+1.2
	comp=Z,4.8nm,1.0s								
BMO	**Blue Mountains**	67.79	49	*eP*		P		05 24 17.9	+1.2
BMO				pmax		pmax			
	comp=Z,5.0nm,1.0s								
MOD	**Modoc Plateau**	67.84	53	*eP*		P		05 24 18.8	+1.6
	comp=Z,9.8nm,1.4s								
O03E	**Paynes Creek**	67.90	55	P		P		05 24 17.4	-0.1
	baz=307								
J08A	**Circle Bar Ran**	68.03	51	*eP*		P		05 24 19.8	+1.5
	comp=Z,8.2nm,1.1s								
MSO	**Missoula**	68.42	46	*eP*		P		05 24 21.5	+0.9
	comp=Z,4.9nm,1.0s								
MSO	**Missoula**	68.42	46	P		P		05 24 20.9	+0.2
	baz=309								
KIV	**Kislovodsk**	68.45	310	*eP*		P		05 24 21.8	+1.0
	comp=Z,76nm,1.5s								
KIV	**Kislovodsk**	68.45	310	*eP*		P		05 24 21.1	+0.3
KIV				pmax		pmax			
	comp=Z,32nm,1.0s								
KIV				MLR		MLR			
	comp=Z,140nm,17.0s								
ZEI	**Tsey**	68.47	309	*eP*		P		05 24 19.2	-1.9
ZEI				pmax		pmax			
	comp=Z,6.0nm,0.6s								
KBZ	**Khabaz**	68.47	310	P		P		05 24 20.9	+0.1
	comp=Z,7.0nm,0.9s,baz=108,slow=3.1,SNR=8.7								
KBZ	**Khabaz**	68.47	310	P		P		05 24 20.9	+0.1
KBZ				pmax		pmax			
	comp=Z,8.0nm,0.9s								
WVOR	**Wild Horse Val**	68.50	52	*eP*		P		05 24 21.7	+0.5
	comp=Z,7.3nm,1.0s								
WVOR				*e*pP		pP		05 24 34.0	-1.2
WVOR	**Wild Horse Val**	68.50	52	*eP*		P		05 24 21.7	+0.5
WVOR				*e**PP		pP		05 24 34.0	-1.2
WVOR				pmax		pmax			
	comp=Z,7.0nm,1.0s								
FFC	**Flin Flon**	68.93	34	*eP*		P		05 24 23.2	-0.3
	comp=Z,11nm,0.8s								
FFC	**Flin Flon**	68.93	34	*eP*		P		05 24 23.2	-0.3
FFC				pmax		pmax			
	comp=Z,11nm,0.8s								
BEKR	**Beckworth**	69.04	55	*eP*		P		05 24 24.9	+0.1
	comp=Z,10nm,1.2s								
FCC	**Fort Churchill**	69.05	28	*eP*		P		05 24 24.2	+0.1
	comp=Z,13nm,1.4s								
FCC	**Fort Churchill**	69.05	28	*eP*		P		05 24 24.2	+0.1
FCC				pmax		pmax			
	comp=Z,13nm,1.4s								
NACGM	**Naroch**	69.13	326	*e*		P		05 24 26.0	+1.3
AFDM	**Forest Hills D**	69.23	56	*eP*		P		05 24 26.9	+1.2
	comp=Z,6.9nm,1.1s								
GNI	**Garni**	69.59	306	*eP*		P		05 24 29.3	+1.2
	comp=Z,15nm,0.9s								
GNI	**Garni**	69.59	306	*i* P		P		05 24 28.7	+0.6
GNI				pmax		pmax			
	comp=Z,68nm,1.1s								
HRY	**Holter Researc**	69.61	45	*eP*		P		05 24 29.2	+1.1
PAHR	**Pah Rah Range**	69.73	55	*eP*		P		05 24 30.3	+1.3
	comp=Z,9.7nm,1.1s								
NC405	**NORSAR Array S**	69.76	337	*eP*		P		05 24 28.1	-0.5
VCNR	**Virginia City**	69.82	55	*eP*		P		05 24 31.7	+2.1
	comp=Z,6.4nm,0.8s								
EGMT	**Eagleton**	69.84	43	*eP*		P		05 24 30.9	+1.5
	comp=Z,14nm,1.0s								
EGMT	**Eagleton**	69.84	43	P		P		05 24 29.3	-0.1
	baz=311								
NC204	**NORSAR Array S**	69.91	338	*eP*		P		05 24 29.1	-0.4
NB201	**NORSAR Array S**	69.94	337	*eP*		P		05 24 29.2	-0.5
NB2	**NORSAR Subarra**	69.97	337	P		P		05 24 28.9	-1.0
	comp=Z,4.4nm,0.6s,baz=36,slow=6.5								
NOA	**NORSAR Array B**	69.97	337	P		P		05 24 28.9	-1.0
	comp=Z,6.3nm,0.7s,baz=36,slow=6.1,SNR=30								
NOA				pP		pP		05 24 42.0	-1.8
	comp=Z,4.1nm,0.7s,baz=36,slow=6.2,SNR=6.3								
PNTR	**Pine Nut**	69.98	55	*eP*		P		05 24 32.8	+2.2
	comp=Z,7.7nm,0.8s								
DLMT	**Dillon**	70.07	47	*eP*		P		05 24 32.1	+1.2
	comp=Z,20nm,1.4s								
NBO00	**NORSAR Array S**	70.10	337	*eP*		P		05 24 30.1	-0.5
CMB	**Columbia Colle**	70.15	56	*eP*		P		05 24 32.3	+0.9
	comp=Z,12nm,1.1s								
CMB	**Columbia Colle**	70.15	56	*eP*		P		05 24 32.3	+0.9
CMB				pmax		pmax			
	comp=Z,13nm,1.1s								
HLID	**Hailey**	70.22	49	*eP*		P		05 24 33.2	+1.3
	comp=Z,5.8nm,1.2s								
HLID	**Hailey**	70.22	49	P		P		05 24 32.2	+0.3
	baz=310								
YERR	**Yerington**	70.27	55	*eP*		P		05 24 33.9	+1.6
	comp=Z,12nm,0.8s								
SOC	**Sochi**	70.36	311	*eP*		P		05 24 34.6	+2.1
BOZ	**Bozeman (W)**	70.44	46	*eP*		P		05 24 34.0	+0.8
	comp=Z,5.8nm,0.6s								
BOZ	**Bozeman (W)**	70.44	46	*eP*		P		05 24 34.0	+0.8
BOZ				pmax		pmax			
	comp=Z,6.0nm,0.6s								
BOZ	**Bozeman (W)**	70.44	46	P		P		05 24 33.3	+0.1
	baz=311								
WAKR	**Walker**	70.44	56	*eP*		P		05 24 35.2	+1.8
	comp=Z,7.0nm,1.0s								
ANN	**Anapa**	70.83	313	*eP*		P		05 24 33.4	-1.9
ANN				*e**PP		pP		05 24 49.9	+0.7
ANN				*eS*		S		05 33 45.0	-1.6
ANN				*e*SS		SS		05 38 12.7	-6.1
ANN				pmax		pmax			
	comp=Z,69nm,1.0s								
KVN	**Kaiserville**	70.92	54	*eP*		P		05 24 37.8	+1.6
	comp=Z,34nm,1.5s								
KVN	**Kaiserville**	70.92	54	*eP*		P		05 24 37.8	+1.6
KVN				pmax		pmax			
	comp=Z,34nm,1.5s								
RYN	**Ryan**	70.93	55	*eP*		P		05 24 37.8	+1.5
	comp=Z,6.3nm,0.9s								
AKASG	**Malin Array Be**	70.99	322	P		P		05 24 35.3	-0.9
	comp=Z,9.0nm,0.6s,baz=44,slow=6.1,SNR=27								
AKASG				pP		pP		05 24 48.6	-1.5
	comp=Z,1.7nm,0.4s,baz=43,slow=6.6,SNR=4.7								
AKBB	**Malin Array Si**	70.99	322	*eP*		P		05 24 35.4	-0.8
	comp=Z,8.1nm,0.8s								
KIEV	**Kiev**	71.00	322	*eP*		P		05 24 35.2	-1.0
	comp=Z,8.2nm,0.8s								
KIEV	**Kiev**	71.00	322	*eP*		P		05 24 35.2	-1.0
KIEV				pmax		pmax			
	comp=Z,8.0nm,0.8s								
AK11	**Malin Array Si**	71.03	322	*eP*		P		05 24 35.8	-0.6
NV01	**Mina Array Sit**	71.19	55	*eP*		P		05 24 38.9	+1.0
NVAR	**Mina Array Bea**	71.19	55	P		P		05 24 39.1	+1.2
	comp=Z,4.6nm,0.7s,baz=292,slow=6.1,SNR=32								
NVAR				pP		pP		05 24 49.5	-2.3
	comp=Z,3.2nm,0.8s,baz=293,slow=4.8,SNR=6.9								
YHB	**Horse Butte**	71.23	46	*eP*		P		05 24 40.1	+2.0
	comp=Z,8.8nm,1.1s								
OMMB	**Old Mammoth Mi**	71.27	56	*eP*		P		05 24 40.3	+1.7
	comp=Z,6.5nm,1.2s								
OMMB				*e*pP		pP		05 24 51.8	-0.7
NV11	**Mina Array Sit**	71.27	55	*eP*		P		05 24 39.9	+1.5
MLAC	**Mammoth, Mammo**	71.36	56	P		P		05 24 40.3	+1.3
	baz=309								
YMR	**Madison River**	71.40	46	*eP*		P		05 24 41.3	+2.2
	comp=Z,8.1nm,1.1s								
PAGB	**Antelope Grade**	71.67	58	*eP*		P		05 24 42.4	+1.8
	comp=Z,21nm,1.1s								
YPP	**Pitchstone Pla**	71.75	47	*eP*		P		05 24 44.4	+3.0
	comp=Z,12nm,1.7s								
H17A	**Grant Village**	71.79	46	*e*P		P		05 24 44.4	+2.8
	comp=Z,9.5nm,1.0s								
H17A	**Grant Village**	71.79	46	P		P		05 24 43.0	+1.5
	baz=312								
IMW	**Indian Meadow**	71.92	47	*eP*		P		05 24 43.9	+1.6
	comp=Z,4.9nm,0.8s								
RLMT	**Red Lodge**	72.01	45	*eP*		P		05 24 44.0	+1.2
	comp=Z,8.8nm,1.4s								
RLMT	**Red Lodge**	72.01	45	P		P		05 24 43.5	+0.8
	baz=312								
SMMC	**Simmler**	72.09	59	P		P		05 24 43.5	+0.3
	baz=309								
MOOW	**Moose Ponds**	72.13	47	*eP*		P		05 24 45.2	+1.7
	comp=Z,11nm,1.2s								
TPAW	**Teton Pass**	72.19	47	*eP*		P		05 24 45.8	+1.8
	comp=Z,12nm,1.2s								
DGMT	**Dagmar**	72.28	40	*eP*		P		05 24 44.5	+0.4
	comp=Z,13nm,0.8s								
DGMT	**Dagmar**	72.28	40	P		P		05 24 44.2	+0.1
	baz=314								
HVU	**Hansel Valley**	72.30	49	*eP*		P		05 24 46.5	+2.0
	comp=Z,7.7nm,1.1s								
HVU	**Hansel Valley**	72.30	49	*eP*		P		05 24 46.5	+2.0
HVU				pmax		pmax			
	comp=Z,8.0nm,1.1s								
LOHW	**Long Hollow**	72.30	47	*eP*		P		05 24 46.2	+1.7
	comp=Z,6.4nm,1.4s								
SNOW	**Snow King Moun**	72.31	47	*eP*		P		05 24 47.2	+2.5
	comp=Z,5.9nm,1.0s								
REDW	**Red Top Meadow**	72.33	47	*eP*		P		05 24 46.3	+1.6
	comp=Z,8.5nm,1.1s								
VES	**Vestal, Richgr**	72.33	58	P		P		05 24 45.0	+0.4
	baz=310								
PKM	**Mcpherson Peak**	72.47	59	P		P		05 24 46.6	+1.0
	baz=310								
LAO	**LASA Array**	72.52	42	*eP*		P		05 24 47.2	+1.6
	comp=Z,20nm,1.4s								
LAO	**LASA Array**	72.52	42	P		P		05 24 45.8	+0.3
	baz=313								
CWC	**Cottonwood Cre**	72.58	57	P		P		05 24 46.4	+0.2
	baz=310								
BGU	**Big Grassy Mou**	72.71	50	*eP*		P		05 24 48.8	+1.9
	comp=Z,3.0nm,1.0s								
ISA	**Isabella, Lake**	72.83	57	*eP*		P		05 24 48.1	+0.5
	comp=Z,3.9nm,0.9s								
ISA	**Isabella, Lake**	72.83	57	*eP*		P		05 24 48.1	+0.5
ISA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
ISA	**Isabella, Lake**	72.83	57	P		P		05 24 47.7	0.0
	baz=310								
R11A	**Troy Canyon, C**	72.88	54	*eP*		P		05 24 49.0	+0.9
	comp=Z,8.7nm,1.3s								
R11A	**Troy Canyon, C**	72.88	54	P		P		05 24 48.8	+0.7
	baz=310,SNR=8.4								
ARVC	**Arvin**	72.95	58	P		P		05 24 48.4	+0.2
	baz=310								
DAC	**Darwin (Calif)**	72.99	56	*eP*		P		05 24 49.9	+1.2
	comp=Z,8.4nm,1.1s								
DAC	**Darwin (Calif)**	72.99	56	*eP*		P		05 24 49.9	+1.2
DAC				pmax		pmax			
	comp=Z,8.0nm,1.1s								
MPMC	**Manual Prospec**	73.19	57	P		P		05 24 50.7	+0.8
	baz=310,SNR=8.1								
DUG	**Dugway, Tooele**	73.31	51	*eP*		P		05 24 52.0	+1.5
	comp=Z,6.0nm,0.8s								
DUG	**Dugway, Tooele**	73.31	51	*eP*		P		05 24 52.0	+1.5
DUG				pmax		pmax			
	comp=Z,6.0nm,0.8s								
DUG	**Dugway, Tooele**	73.31	51	P		P		05 24 51.6	+1.1
	baz=311,SNR=8.4								
FURC	**Furnace Creek,**	73.32	56	P		P		05 24 51.6	+1.2
	baz=310,SNR=15								
TPNV	**Topopah Spring**	73.38	55	*eP*		P		05 24 52.5	+1.5
	comp=Z,15nm,1.0s								
TPNV	**Topopah Spring**	73.38	55	P		P		05 24 51.7	+0.7
	baz=310,SNR=11								
BW06	**Boulder Array**	73.43	47	*eP*		P		05 24 51.4	+0.1
	comp=Z,6.7nm,0.8s								
BW06	**Boulder Array**	73.43	47	P		P		05 24 51.4	+0.1
	baz=312								
PD31	**Pinedale Array**	73.43	47	*eP*		P		05 24 51.9	+0.6
PDAR	**Pinedale Array**	73.43	47	P		P		05 24 51.7	+0.4
	comp=Z,3.6nm,0.7s,baz=254,slow=2.1,SNR=36								
PDAR				LR		LR		05 59 46.4	
	comp=Z,25nm,18.8s,baz=324,slow=38								
PDAR	**Pinedale Array**	73.43	47	*eP*		P		05 24 50.3	-0.9
LRMC	**Laurel Mtn Rad**	73.44	57	P		P		05 24 52.1	+0.8
	baz=310								
BLG	**Laguna Peak, P**	73.44	59	P		P		05 24 51.8	+0.6
	baz=310								
TCUT	**Toone Canyon**	73.50	49	*eP*		P		05 24 53.8	+2.1
	comp=Z,18nm,1.0s								
STKA	**Stephens Creek**	73.58	181	P		P		05 24 52.2	+0.5
	comp=Z,4.1nm,0.7s,baz=330,slow=4.7,SNR=7.1								
CTU	**Camp Tracy**	73.59	50	*eP*		P		05 24 53.9	+1.8
	comp=Z,4.3nm,0.9s								
EDW2	**Edwards Air Fo**	73.63	58	P		P		05 24 53.2	+0.9
	baz=310,SNR=5.8								
PSUT	**Pine Spring**	73.79	53	*eP*		P		05 24 55.0	+1.6
	comp=Z,4.7nm,0.9s								
JLU	**Jordanelle**	73.82	50	*eP*		P		05 24 55.5	+1.8
	comp=Z,5.7nm,1.1s								
NLU	**North Lily Min**	73.89	51	*eP*		P		05 24 55.4	+1.4
	comp=Z,6.6nm,1.1s								
LVV	**L'vov**	73.95	324	*eP*		P		05 24 53.9	0.0
SHOC	**Shoshone, Teco**	74.05	56	P		P		05 24 55.6	+0.9
	baz=311								
GSC	**Goldstone, Bar**	74.10	57	*eP*		P		05 24 56.4	+1.3
	comp=Z,28nm,1.9s								
GSC	**Goldstone, Bar**	74.10	57	*eP*		P		05 24 56.4	+1.3
GSC				pmax		pmax			
	comp=Z,28nm,1.9s								
GSC	**Goldstone, Bar**	74.10	57	P		P		05 24 56.0	+0.8
	baz=311								
MPU	**Maple Canyon**	74.11	50	*eP*		P		05 24 56.6	+1.4
	comp=Z,10nm,1.1s								
BFSC	**Mount Baldy Ra**	74.25	58	P		P		05 24 56.9	+0.8
	baz=310								
CIS	**Catalina Islan**	74.31	59	P		P		05 24 57.0	+0.7
	baz=310								
SHPR	**Shep Range**	74.34	55	*eP*		P		05 24 58.4	+1.8
	comp=Z,11nm,1.1s								
TUQ	**Turquoise Moun**	74.56	56	P		P		05 24 58.5	+0.7
	baz=311								
KWP	**Kalwaria Pacla**	74.67	324	*eP*		P		05 24 58.7	+0.7
KWP	**Kalwaria Pacla**	74.67	324	*eP*		P		05 24 58.7	+0.7
HEC	**Hector,Ludlow**	74.70	57	P		P		05 24 59.5	+0.9
	baz=311								
CCUT	**Cedar City**	74.73	53	*eP*		P		05 25 00.7	+1.8
	comp=Z,3.6nm,0.9s								
ULM	**Lac du Bonnet**	74.75	35	P		P		05 24 58.1	-0.4
	comp=Z,3.2nm,0.5s,baz=312,slow=5.3,SNR=12								
ULM				LR		LR		05 58 53.6	
	comp=Z,109nm,21.3s,baz=320,slow=36								
TMUT	**Trail Mountain**	74.83	51	*eP*		P		05 25 01.0	+1.4
	comp=Z,13nm,1.4s								
MDND	**Maddock**	74.88	38	P		P		05 24 59.5	+0.1
	baz=317								
MURC	**Murrieta**	74.96	58	P		P		05 25 00.5	+0.4
	baz=311								
P17A	**Butcher Ranch,**	74.98	50	*eP*		P		05 25 01.6	+1.3
	comp=Z,22nm,1.2s								
BUR08	**Bucovina Ar. S**	75.02	322	*eP*		P		05 25 00.4	+0.1
BUR04	**Bucovina Ar. S**	75.03	322	*eP*		P		05 25 00.0	-0.3
BURAR	**Bucovina Array**	75.03	322	*i*P		P		05 25 00.0	-0.3
MTPU	**Mount Pierson**	75.10	52	*eP*		P		05 25 03.2	+2.0
	comp=Z,21nm,1.9s								
Q16A	**Castle Valley**	75.11	51	*eP*		P		05 25 03.1	+2.0
	comp=Z,10nm,1.3s								
BIZ	**Bicaz**	75.11	321	*i*P		P		05 25 01.0	+0.4
K22A	**Casper**	75.14	46	*eP*		P		05 25 02.4	+1.3
	comp=Z,26nm,1.5s								
K22A	**Casper**	75.14	46	P		P		05 25 01.3	+0.1
	baz=314								
GMRC	**Granite Mounta**	75.15	57	P		P		05 25 02.0	+0.7
	baz=311,SNR=5.3								
LCMT	**Little Creek M**	75.16	53	*eP*		P		05 25 03.0	+1.7
	comp=Z,8.8nm,1.3s								
SRU	**San Rafael Swe**	75.35	50	*eP*		P		05 25 03.7	+1.3
	comp=Z,16nm,1.0s								
CFR	**Carcaliu**	75.39	318	*i*P		P		05 25 01.8	-0.5
KNB	**Kanab**	75.41	53	*eP*		P		05 25 04.7	+1.9
	comp=Z,5.4nm,1.0s								
RSSD	**Black Hills**	75.41	43	*eP*		P		05 25 03.2	+0.5
	comp=Z,11nm,1.3s								
RSSD	**Black Hills**	75.41	43	*eP*		P		05 25 03.2	+0.5
RSSD				pmax		pmax			
	comp=Z,11nm,1.3s								
RSSD	**Black Hills**	75.41	43	P		P		05 25 02.6	-0.1
	baz=315								
PFO	**Pinyon Flats O**	75.42	58	*eP*		P		05 25 03.9	+1.1
	comp=Z,5.2nm,0.8s								
PFO	**Pinyon Flats O**	75.42	58	*eP*		P		05 25 03.9	+1.1
PFO				pmax		pmax			
	comp=Z,5.0nm,0.8s								
PFO	**Pinyon Flats O**	75.42	58	P		P		05 25 03.3	+0.5
	baz=311								
BELC	**Belle Mtn. Jos**	75.45	57	P		P		05 25 02.8	-0.3
	baz=311								
VRI	**Vrincioaia**	75.59	320	*i*P		P		05 25 03.2	-0.2
PLOR	**Plostina**	75.64	320	*i*P		P		05 25 04.3	+0.6
OZUR		75.87	320	*i*P		P		05 25 05.5	+0.4
IRM	**Iron Mountain**	75.89	57	P		P		05 25 06.3	+1.0
	baz=312,SNR=6.1								
MONP2	**Monument Peak**	75.91	58	P		P		05 25 06.2	+0.5
	baz=311								
O20A	**White River Ci**	75.94	48	*eP*		P		05 25 06.7	+0.9
	comp=Z,15nm,1.3s								
O20A	**White River Ci**	75.94	48	P		P		05 25 06.1	+0.3
	baz=314,SNR=6.2								
BC3	**Big Chuckawall**	76.02	57	P		P		05 25 07.1	+0.8
	baz=312								
W13A	**Hualapai Mount**	76.04	55	*eP*		P		05 25 08.0	+1.5
	comp=Z,6.3nm,0.9s								
BSEG	**Bad Segeberg**	76.06	333	*eP*		P		05 25 06.1	+0.2
	comp=Z,5.6nm,0.8s,baz=35,slow=5.6								
BSEG				*e*pP		pP		05 25 20.5	+0.6
U15A	**North Rim**	76.12	53	*eP*		P		05 25 08.8	+1.8
	comp=Z,12nm,1.1s								
DOPR	**Dopca**	76.16	320	*i*P		P		05 25 05.8	-0.9
AGMN	**Agassiz Nation**	76.23	36	P		P		05 25 06.9	-0.1
	baz=319								
IKP	**In-Ko-Pah, Jac**	76.27	58	P		P		05 25 08.5	+0.9
	baz=312								
SWSC	**Sam W. Stewart**	76.27	58	P		P		05 25 08.0	+0.5
	baz=312								
BR131	**Keskin Array S**	76.32	311	*eP*		P		05 25 08.0	+0.1
BRTR	**Keskin Array B**	76.32	311	P		P		05 25 07.2	-0.7
	comp=Z,3.3nm,0.9s,baz=68,slow=4.5,SNR=10								
BRTR				pP		PcP		05 25 19.5	-0.1
	comp=Z,1.5nm,0.7s,baz=79,slow=3.4,SNR=3.9								
BRTR				PP		PP		05 27 59.1	0.0
	comp=Z,1.4nm,0.9s,baz=31,slow=12,SNR=4.7								
BRTR				LR		LR		06 03 15.7	
	comp=Z,49nm,20.0s,baz=51,slow=39								
ICOR	**Ion Corvin**	76.32	318	*i*P		P		05 25 07.4	-0.2
KSP	**Ksiaz**	76.39	328	*eP*		P		05 25 08.2	+0.3
KSP	**Ksiaz**	76.39	328	*eP*		P		05 25 08.2	+0.3
PDMCI	**Parker Dam,Lak**	76.41	56	P		P		05 25 09.5	+1.2
	baz=312								
Y12C	**Blythe**	76.54	57	*eP*		P		05 25 10.6	+1.5
	comp=Z,13nm,1.1s								
Y12C	**Blythe**	76.54	57	P		P		05 25 10.0	+1.0
	baz=312								
PV09	**Paradox Valley**	76.56	50	*eP*		P		05 25 11.1	+1.6
PV21	**Cone Mtn., Par**	76.61	50	*eP*		P		05 25 11.0	+1.3
	comp=Z,16nm,1.0s								
PHWY	**Pilot Hill**	76.65	46	*eP*		P		05 25 10.7	+0.8
	comp=Z,9.9nm,1.4s								
PV23	**Carpenter Ridg**	76.66	50	*eP*		P		05 25 11.4	+1.3
	comp=Z,19nm,1.0s								
N23A	**Red Feather La**	76.68	47	*eP*		P		05 25 11.4	+1.4
	comp=Z,9.1nm,1.0s								
N23A	**Red Feather La**	76.68	47	P		P		05 25 10.8	+0.8
	baz=315,SNR=5.9								
PV10	**Paradox Valley**	76.70	50	*eP*		P		05 25 11.7	+1.5
VOIR		76.71	320	*i*P		P		05 25 10.7	+0.8
PV14	**Lion Creek, Pa**	76.71	50	*eP*		P		05 25 11.6	+1.3
	comp=Z,18nm,1.1s								
UPC	**Upice**	76.76	328	*eP*		P		05 25 10.7	+0.7
UPC	**Upice**	76.76	328	*eP*		P		05 25 10.7	+0.7
DPC	**Dobruska-Polom**	76.77	328	*eP*		P		05 25 10.8	+0.7
DPC	**Dobruska-Polom**	76.77	328	*eP*		P		05 25 10.8	+0.7
PV20	**West Nyswonger**	76.77	50	*eP*		P		05 25 11.9	+1.5
	comp=Z,19nm,1.0s								
PV19	**Morning Glory**	76.78	50	*eP*		P		05 25 11.8	+1.2
	comp=Z,19nm,1.1s								
DRGR		76.79	322	*i*P		P		05 25 09.8	-0.5
PV17	**East Wray Mesa**	76.81	50	*eP*		P		05 25 12.1	+1.3
	comp=Z,25nm,1.1s								
GLA	**Glamis**	76.81	57	P		P		05 25 11.7	+1.0
	baz=312			

MVCO **Mesa Verde** 77.81 51 *e*P P 05 25 17.7 +1.2
comp=Z,26nm,1.7s
MVCO **Mesa Verde** 77.81 51 P P 05 25 16.9 +0.5
baz=314,SNR=7.2
MODS **Modra-Piesok** 77.94 326 *e*P P 05 25 17.2 +0.6
MODS **Modra-Piesok** 77.94 326 *e*P P 05 25 17.2 +0.6
X16A **Lo Mia Camp, P** 77.99 54 *e*P P 05 25 19.1 +1.7
GTTG **Gvttingen** 78.16 332 *e*P P 05 25 18.1 +0.4
comp=Z,15nm,1.0s,baz=35,slow=5.6
BZS **Buzias** 78.17 322 ⇑*i*P P 05 25 17.5 -0.5
IBBN **Ibbenburen** 78.27 334 *e*P P 05 25 18.5 +0.1
baz=35,slow=5.6
GUNZ **Gunzen** 78.28 330 *e*P P 05 25 18.1 -0.4
comp=Z,2.8nm,0.7s,baz=35,slow=5.6
MOX **Moxa** 78.31 331 *e*P P 05 25 18.2 -0.5
comp=Z,2.6nm,0.7s,baz=35,slow=5.6
WERN **Wernitzgruen** 78.33 330 *e*P P 05 25 18.8 +0.1
comp=Z,2.8nm,0.6s,baz=35,slow=5.6
EYMN **Ely** 78.36 34 *e*P P 05 25 19.4 +0.4
comp=Z,21nm,1.0s
EYMN **Ely** 78.36 34 P P 05 25 19.6 +0.6
baz=322
S22A **4UR Ranch, Cre** 78.39 49 *e*P P 05 25 21.4 +1.6
comp=Z,7.8nm,1.1s
S22A **4UR Ranch, Cre** 78.39 49 P P 05 25 20.5 +0.8
baz=315,SNR=5.5
Q24A **Divide** 78.47 48 *e*P P 05 25 21.2 +1.1
comp=Z,6.9nm,0.8s
Q24A **Divide** 78.47 48 P P 05 25 20.7 +0.6
baz=316,SNR=5.3
W18A **Petrified Fore** 78.53 53 P P 05 25 21.3 +0.9
baz=314
OGNE **Ogallala** 78.72 44 *e*P P 05 25 21.6 +0.5
comp=Z,30nm,1.1s
OGNE **Ogallala** 78.72 44 P P 05 25 21.3 +0.2
baz=317
MDVR **Moldovita** 78.77 322 ⇑*i*P P 05 25 20.6 -0.7
214A **Organ Pipe Nat** 78.81 57 P P 05 25 22.7 +0.9
baz=313
KHC **Kasperske Hory** 78.81 329 *e*P P 05 25 21.8 +0.4
comp=Z,2.4nm,0.7s
KHC **Kasperske Hory** 78.81 329 *e*P P 05 25 21.9 +0.4
KHC *ex* x 05 25 34.0
KHC AMS AMS 05 59 00.0
comp=Z,300nm,14.4s
KHC **Kasperske Hory** 78.81 329 *e*P P 05 25 21.9 +0.4
KHC *e* 05 25 34.0
KHC MLR MLR
comp=Z,300nm,14.4s
CONA **Conrad Observa** 78.87 327 *e*P P 05 25 22.7 +0.8
comp=Z,6.2nm,1.0s
GEC2 **GERESS Array S** 78.99 329 *e*P P 05 25 22.4 -0.2
comp=Z,3.9nm,1.1s,baz=35,slow=5.6
GERES **GERESS Array B** 78.99 329 P P 05 25 21.8 -0.7
comp=Z,1.7nm,0.7s,baz=39,slow=5.9,SNR=13
GERES pP pP 05 25 34.5 -2.1
comp=Z,1.3nm,0.7s,baz=31,slow=6.2,SNR=4.4
GEA0 **GERESS Array S** 79.00 329 *e*P P 05 25 22.0 -0.6
WET **Wettzell** 79.07 329 *e*P P 05 25 23.2 +0.3
comp=Z,4.9nm,1.0s,baz=35,slow=5.6
SDCO **Great Sand Dun** 79.14 49 *e*P P 05 25 25.0 +1.2
comp=Z,5.2nm,1.0s
SDCO **Great Sand Dun** 79.14 49 P P 05 25 24.5 +0.7
baz=316,SNR=8.7
BUG **Bochum--Univer** 79.16 333 *e*P P 05 25 23.5 +0.2
comp=Z,7.1nm,0.9s,baz=35,slow=5.6
GRF **Grafenberg Arr** 79.24 330 *e*P P 05 25 24.1 +0.3
comp=Z,9.8nm,0.6s,baz=35,slow=5.6
ECSD **EROS Data Cent** 79.34 39 *e*P P 05 25 24.8 +0.3
comp=Z,10nm,0.9s
ECSD **EROS Data Cent** 79.34 39 P P 05 25 24.3 -0.2
baz=320,SNR=7.7
E38A **The Farm, Brul** 79.39 35 P P 05 25 24.2 -0.5
baz=322
ARSA **Arzberg** 79.55 327 *e*P P 05 25 25.9 +0.4
comp=Z,8.4nm,1.3s
F37A **Hinrichs Farm,** 79.62 36 P P 05 25 25.5 -0.4
baz=322
VTS **Vitosha** 79.71 319 *e*P P 05 25 26.7 +0.1
comp=Z,11nm,0.8s
VTS **Vitosha** 79.71 319 ⇑*i*P P 05 25 26.9 +0.3
RAYN **Ar Rayn** 79.73 292 *e*P P 05 25 26.7 -0.2
comp=Z,29nm,1.4s
RAYN **Ar Rayn** 79.73 292 *e*P P 05 25 26.7 -0.2
RAYN pmax pmax
comp=Z,29nm,1.4s
F38A **Pierce - Schro** 79.76 35 P P 05 25 26.5 -0.1
baz=322,SNR=5.6
TNS **Taunus Mts** 79.79 332 *e*P P 05 25 27.1 +0.2
comp=Z,2.8nm,0.8s,baz=35,slow=5.6
KSCO **Kaye Shedlock'** 79.81 46 *e*P P 05 25 27.9 +0.7
comp=Z,30nm,1.4s
KSCO **Kaye Shedlock'** 79.81 46 P P 05 25 27.6 +0.4
baz=317
TUC **Tucson** 79.83 56 *e*P P 05 25 29.2 +1.9
comp=Z,9.9nm,1.3s
TUC **Tucson** 79.83 56 *e*P P 05 25 29.2 +1.9
TUC pmax pmax
comp=Z,10.0nm,1.3s
TUC **Tucson** 79.83 56 P P 05 25 28.1 +0.7
baz=314
SPMN **Marine on St.** 79.94 36 P P 05 25 27.5 -0.1
baz=322
AHRW **Bad Neuenahr-A** 79.99 333 *e*P P 05 25 28.4 +0.6
comp=Z,3.1nm,0.7s,baz=35,slow=5.6
E39A **Mellen** 79.99 34 P P 05 25 28.0 +0.1
baz=323
T25A **Trinidad** 80.18 48 *e*P P 05 25 30.1 +0.8
comp=Z,16nm,1.0s
T25A **Trinidad** 80.18 48 P P 05 25 29.8 +0.4
baz=316,SNR=8.6
F39A **Loretta** 80.21 35 P P 05 25 29.4 +0.4
baz=323
SOKA **Soboth** 80.21 326 *i*P P 05 25 27.1 -2.1
comp=Z,15nm,1.2s
E40A **Wakefield** 80.21 34 P P 05 25 28.9 -0.2
baz=323
SCHQ **Schefferville** 80.22 17 P P 05 25 28.8 -0.2
comp=Z,3.8nm,0.7s,baz=216,slow=14,SNR=6.6
RJOB **Jochberg** 80.25 328 *e*P P 05 25 29.6 +0.3
comp=Z,5.5nm,0.8s,baz=35,slow=5.6
RJOB *e*pP pP 05 25 42.1 -1.4
BGNE **Belgrade** 80.35 42 *e*P P 05 25 30.7 +0.7
comp=Z,33nm,1.1s
BGNE **Belgrade** 80.35 42 P P 05 25 29.8 -0.1
baz=319
FUR **Furstenfeldbru** 80.48 329 *e*P P 05 25 30.6 +0.1
comp=Z,15nm,0.6s,baz=35,slow=5.6
F40A **Park Falls** 80.54 34 P P 05 25 30.5 -0.4
baz=323
LAZ **Ladron** 80.56 52 *e*P P 05 25 33.3 +1.9
ANMO **Albuquerque** 80.58 51 *e*P P 05 25 33.1 +1.6
comp=Z,6.2nm,1.0s
ANMO **Albuquerque** 80.58 51 *ce*P P 05 25 29.4 -2.1
ANMO pmax pmax
comp=Z,8.0nm,1.3s
ANMO **Albuquerque** 80.58 51 P P 05 25 32.3 +0.9
baz=315
BNM **Barren Site** 81.04 52 *e*P P 05 25 35.6 +1.6
WATA **Walderalm** 81.05 329 *i*P P 05 25 34.0 +0.3
comp=Z,5.1nm,0.5s
MOTA **Moosalm** 81.22 329 *i*P P 05 25 35.9 +1.2
comp=Z,15nm,1.0s
RETA **Reutte** 81.24 329 *i*P P 05 25 35.0 +0.4
comp=Z,17nm,1.3s
SQTA **Sankt Quirin** 81.29 329 *i*P P 05 25 35.3 +0.3
comp=Z,9.1nm,1.0s
BFO **Black Forest** 81.43 331 *e*P P 05 25 35.4 -0.1
comp=Z,3.7nm,0.9s,baz=35,slow=5.6
BFO **Black Forest** 81.43 331 *i*P P 05 25 35.9 +0.3
H40A **Chili** 81.46 35 P P 05 25 35.6 -0.2
baz=323
121A **Cookes Peak, D** 81.49 54 P P 05 25 37.2 +0.8
baz=315,SNR=7.8
I39A **Houston** 81.58 36 P P 05 25 35.4 -1.0
baz=323
FETA **Feichten** 81.64 329 *i*P P 05 25 37.0 +0.2
comp=Z,11nm,1.1s
DAVA **Damuels** 81.74 330 *i*P P 05 25 37.5 +0.1
comp=Z,10nm,0.9s
J39A **Decorah** 81.91 37 P P 05 25 37.5 -0.7
baz=322
FUORN **Ofenpass-Fuorn** 82.15 329 *e*P P 05 25 40.1 +0.4
comp=Z,16nm,0.8s
DAVOX **Davos/Dischmat** 82.16 329 LR LR 06 05 15.3
comp=Z,172nm,19.9s,baz=8.5,slow=38
K39A **Oelwein** 82.32 37 P P 05 25 39.6 -0.7
baz=322
K40A **Colesburg** 82.66 37 P P 05 25 40.8 -1.3
baz=323
L39A **Vinton** 82.73 38 P P 05 25 42.1 -0.4
baz=322
KSU1 **Kansas State U** 82.86 42 *e*P P 05 25 42.8 -0.4
KSU1 **Kansas State U** 82.86 42 P P 05 25 42.5 -0.7
baz=320
JFWS **Jewell Farm** 82.89 36 P P 05 25 42.3 -1.0
baz=323
J42A **Columbus** 83.05 35 P P 05 25 43.7 -0.4
baz=324
K41A **Shullsburg** 83.11 36 P P 05 25 43.7 -0.7
baz=323
L40A **Anamosa** 83.13 37 P P 05 25 44.1 -0.4
baz=323
M39A **Webster** 83.16 38 P P 05 25 44.3 -0.4
baz=322
AMTX **Amarillo** 83.33 48 *e*P P 05 25 47.0 +1.2
comp=Z,14nm,1.3s
AMTX **Amarillo** 83.33 48 P P 05 25 45.9 0.0
baz=318
MSTX **Muleshoe** 83.39 50 *e*P P 05 25 47.0 +0.8
comp=Z,12nm,1.2s
MSTX **Muleshoe** 83.39 50 P P 05 25 46.1 -0.1
baz=317
VLDQ **Val d'Or** 83.43 26 *e*P P 05 25 45.1 -0.8
comp=Z,22nm,0.9s
L41A **Preston** 83.45 37 P P 05 25 45.9 -0.2
baz=323
MNTX **Cornudas Mount** 83.52 53 *e*P P 05 25 47.6 +0.9
comp=Z,11nm,1.1s
MNTX **Cornudas Mount** 83.52 53 P P 05 25 46.9 +0.2
baz=316,SNR=9.3
M40A **Post Highland** 83.52 38 P P 05 25 46.1 -0.4
baz=323
GDL2 **Guadalupe Moun** 83.76 52 *e*P P 05 25 49.5 +1.4
L42A **Oliver, Polo** 83.88 36 P P 05 25 47.6 -0.8
baz=324
N40A **Mertquake, Sal** 83.90 38 P P 05 25 47.8 -0.7
baz=323
M41A **Milan** 83.99 37 P P 05 25 48.3 -0.6
baz=323
I46A **Reed City** 84.08 33 P P 05 25 49.1 -0.2
baz=326
E51A **G1948 Merrick** 84.12 28 P P 05 25 48.9 -0.7
baz=330
N41A **Harden Midland** 84.38 38 P P 05 25 50.6 -0.3
baz=323
J46A **Howard City** 84.49 33 P P 05 25 51.3 -0.1
baz=326
F51A **Arnstein** 84.49 28 P P 05 25 50.7 -0.7
baz=330
D54A **Lac Fusel, La** 84.53 26 P P 05 25 51.3 -0.3
baz=332
N42A **Yates City** 84.65 37 P P 05 25 51.9 -0.4
baz=324
O41A **Passleys Farm,** 84.84 38 P P 05 25 52.9 -0.4
baz=323
J47A **Sunmer** 84.92 33 P P 05 25 53.4 -0.2
baz=327
N43A **Stutzman Famil** 84.95 37 P P 05 25 53.6 -0.2
baz=324
E54A **Lac Laplat, Po** 84.99 26 P P 05 25 53.5 -0.4
baz=332
WMOK **Wichita Mounta** 85.03 47 *e*P P 05 25 55.1 +0.7
comp=Z,13nm,1.1s
WMOK **Wichita Mounta** 85.03 47 *e*P P 05 25 55.1 +0.7
WMOK pmax pmax
comp=Z,13nm,1.1s
WMOK **Wichita Mounta** 85.03 47 P P 05 25 54.7 +0.3
baz=319,SNR=11
M44A **Midewin, Midew** 85.09 36 P P 05 25 54.8 +0.3
baz=325
P41A **Barry, Barry** 85.11 39 P P 05 25 54.5 -0.1
baz=323
HDIL **Hopedale** 85.21 37 *e*P P 05 25 55.5 +0.4
comp=Z,17nm,0.9s
HDIL **Hopedale** 85.21 37 P P 05 25 54.7 -0.4
baz=324
P42A **Winchester** 85.51 38 P P 05 25 56.5 -0.1
baz=324
N44A **Piper City** 85.53 36 P P 05 25 56.6 -0.2
baz=325
K48A **Perry** 85.56 33 P P 05 25 55.7 -1.1
baz=327
Q41A **Truxton** 85.60 39 P P 05 25 57.1 0.0
baz=323
H52A **Wyevale** 85.61 29 P P 05 25 56.4 -0.6
baz=330
TUL1 **Leonard** 85.72 44 *e*P P 05 25 58.5 +0.8
comp=Z,17nm,0.8s
TUL1 **Leonard** 85.72 44 P P 05 25 58.0 +0.3
baz=321
N45A **Kentland** 85.76 36 P P 05 25 57.7 -0.2
baz=325
F55A **Otter Lake** 85.79 26 P P 05 25 57.8 -0.1
baz=332
L47A **Sherwood** 85.81 34 P P 05 25 58.4 +0.3
baz=327
P43A **Skaggs, Pawnee** 85.84 38 P P 05 25 57.6 -0.6
baz=324
Q42A **Golden Eagle** 85.96 39 P P 05 25 58.9 0.0
baz=324,SNR=5.3
PPT **Papeete** 85.98 118 LR LR 05 55 16.7
comp=Z,55nm,21.7s,baz=264,slow=29
PPT2 **Papeete2** 86.00 118 *e*LR LR 05 53 08.5
comp=Z,221nm,25.8s
PPT2 **Papeete2** 86.00 118 *e*T T 07 00 38.0
comp=Z,27nm,0.3s
R41A **Rosebud** 86.05 40 P P 05 25 59.3 -0.1
baz=323
ABTX **Abilene, Hawle** 86.15 49 *e*P P 05 26 00.8 +0.8
comp=Z,12nm,1.0s
ABTX **Abilene, Hawle** 86.15 49 P P 05 26 00.2 +0.2
baz=319,SNR=6.2
L48A **N Adams** 86.15 33 P P 05 25 59.8 0.0
baz=327
O45A **Potomac** 86.16 36 P P 05 25 60.0 +0.2
baz=325
G55A **Calabogie** 86.18 27 P P 05 25 58.9 -0.9
baz=332
TXAR **Lajitas Array** 86.25 53 P P 05 26 01.3 +0.7
comp=Z,8.2nm,0.7s,baz=293,slow=3.6,SNR=108
L49A **Milan** 86.28 33 P P 05 25 59.6 -0.9
baz=327
CCM **Cathedral Cave** 86.31 40 *e*P P 05 26 00.7 +0.1
comp=Z,14nm,0.8s
CCM **Cathedral Cave** 86.31 40 *e*P P 05 26 00.7 +0.1
CCM pmax pmax
comp=Z,14nm,0.8s
CCM **Cathedral Cave** 86.31 40 P P 05 26 00.3 -0.3
baz=323
R42A **Luebbering** 86.34 39 P P 05 26 00.7 -0.1
baz=323
HHAR **Hobbs** 86.38 43 *e*P P 05 26 01.2 +0.1
comp=Z,7.3nm,0.9s
P44A **Sand Creek, Wi** 86.39 37 P P 05 26 00.9 -0.1
baz=325
S41A **Jillco Farms,** 86.44 40 P P 05 26 01.2 -0.1
baz=323
N47A **Urbana** 86.51 35 P P 05 26 01.1 -0.5
baz=326
K51A **Iona Station** 86.66 31 P P 05 26 02.2 0.0
baz=329
P45A **Graceland, Par** 86.74 37 P P 05 26 02.8 +0.1
baz=325
S42A **Caledonia** 86.75 40 P P 05 26 02.7 -0.1
baz=323,SNR=7.4
R43A **Red Bud** 86.75 39 P P 05 26 02.4 -0.4
baz=324
HPIG 86.76 56 *e*P P 05 26 04.2 +1.0
comp=Z,16nm,1.0s
T41A **Mountain View** 86.86 41 P P 05 26 03.1 -0.3
baz=323,SNR=6.7
U40A **Yellville** 86.87 42 P P 05 26 03.2 -0.2
baz=322,SNR=11
Q45A **Warren Harvey,** 87.07 37 P P 05 26 04.4 +0.2
baz=325
N49A **Columbus Grove** 87.11 34 P P 05 26 04.4 -0.1
baz=327
T42A **Van Buren** 87.20 40 *e*P P 05 26 05.3 +0.3
comp=Z,9.3nm,0.9s
T42A **Van Buren** 87.20 40 P P 05 26 04.7 -0.2
baz=323,SNR=7.7
S43A **Fulton Ridge,** 87.25 39 P P 05 26 05.1 -0.1
baz=324,SNR=6.4
O48A **Farmland** 87.26 35 P P 05 26 05.3 +0.1
baz=327
W39A **Magazine** 87.31 43 P P 05 26 05.5 -0.1
baz=322
U41A **Viola** 87.34 41 P P 05 26 05.2 -0.5
baz=323
P47A **Martinsville** 87.42 36 P P 05 26 05.8 -0.2
baz=326
S44A **Carbondale** 87.54 39 P P 05 26 06.8 +0.2
baz=324,SNR=10
SIUC **Southern Illin** 87.54 39 *e*P P 05 26 07.3 +0.7
comp=Z,39nm,0.8s
T43A **Greenville** 87.54 40 P P 05 26 06.5 -0.1
baz=324
JCT **Junction City** 87.66 50 *e*P P 05 26 08.0 +0.6
comp=Z,20nm,1.4s
JCT **Junction City** 87.66 50 *e*P P 05 26 08.0 +0.6
JCT pmax pmax
comp=Z,20nm,1.4s
JCT **Junction City** 87.66 50 P P 05 26 07.2 -0.2
baz=319
N50A **Nevada** 87.66 33 P P 05 26 07.2 +0.1
baz=328
O49A **Covington** 87.66 34 P P 05 26 07.2 0.0
baz=327
V41A **Mountainview** 87.67 42 P P 05 26 06.7 -0.6
baz=323
Q47A **Bedord North L** 87.80 36 P P 05 26 07.8 0.0
baz=326,SNR=7.6
P48A **Milroy** 87.81 35 P P 05 26 06.9 -0.9
baz=326
WHTX **Lake Whitney,** 87.83 48 P P 05 26 08.1 0.0
baz=320
N51A **Ashland** 87.85 33 P P 05 26 08.6 +0.6
baz=328
S45A **Carrier Mills** 87.86 38 P P 05 26 08.2 0.0
baz=325
R46A **Gibon Southern** 87.92 37 P P 05 26 08.3 -0.1
baz=325
MIAR **Mount Ida** 87.92 43 *e*P P 05 26 09.2 +0.7
comp=Z,9.9nm,0.8s
MIAR **Mount Ida** 87.92 43 *e*P P 05 26 09.2 +0.7
MIAR pmax pmax
comp=Z,10.0nm,0.8s
MIAR **Mount Ida** 87.92 43 P P 05 26 08.6 +0.1
baz=322,SNR=7.8
WHAR **Wooly Hollow** 87.99 42 *e*P P 05 26 09.2 +0.4
comp=Z,18nm,0.9s
O50A **Cable** 87.99 34 P P 05 26 08.8 0.0
baz=328
V42A **Cord** 88.03 41 P P 05 26 08.9 0.0
baz=323
P49A **Miami Univ. Ec** 88.05 35 P P 05 26 09.1 +0.1
baz=327
U43A **Rector** 88.06 40 P P 05 26 09.2 +0.1
baz=324
W41B **Gary Mavity, V** 88.10 42 P P 05 26 09.1 -0.2
baz=323
Q48A **North Vernon** 88.11 36 P P 05 26 08.9 -0.4
baz=326
ACSO **Alum Creek Sta** 88.19 33 *e*P P 05 26 10.1 +0.5
comp=Z,13nm,0.8s
ACSO **Alum Creek Sta** 88.19 33 P P 05 26 09.7 0.0
baz=328
S46A **Don Dion Farm** 88.25 38 P P 05 26 09.9 -0.1
baz=325
R47A **Wooly Knot Far** 88.29 37 P P 05 26 10.1 0.0
baz=326
X40A **Basin Creek Fa** 88.35 43 P P 05 26 10.5 0.0
baz=322
P50A **Jamestown** 88.37 34 P P 05 26 10.6 +0.1
baz=328
M54A **Oil Creek Stat** 88.40 30 P P 05 26 10.6 -0.1
baz=330
Q49A **Aurora** 88.41 35 P P 05 26 10.8 +0.1
baz=327
WCI **Wyandotte Cave** 88.45 37 P P 05 26 10.9 0.0
baz=326
R48A **Northridge Ran** 88.49 36 P P 05 26 11.2 +0.1
baz=326
N53A **Lisbon** 88.55 32 P P 05 26 11.3 -0.1
baz=329
U44B **Burton Farm, H** 88.58 40 P P 05 26 12.0 +0.4
baz=324
T46A **Princeton** 88.70 38 P P 05 26 12.5 +0.4
baz=325,SNR=5.9
N54A **Moraine State** 88.75 31 *e*P P 05 26 12.3 0.0
comp=Z,109nm,1.5s
N54A **Moraine State** 88.75 31 P P 05 26 12.6 +0.3
baz=330,SNR=5.9
O52A **Adamsville** 88.75 33 *e*P P 05 26 12.8 +0.5
comp=Z,60nm,1.5s
O52A **Adamsville** 88.75 33 P P 05 26 12.4 +0.1
baz=329
P51A **Williamsport** 88.79 34 *e*P P 05 26 12.9 +0.4
comp=Z,16nm,0.8s
P51A **Williamsport** 88.79 34 P P 05 26 12.5 +0.1
baz=328
O53A **New Philadelph** 88.88 32 P P 05 26 12.9 0.0
baz=329
Q50A **Georgetown** 88.94 35 P P 05 26 13.1 -0.1
baz=327
Y41A **Eaglette Beard** 88.94 43 P P 05 26 13.5 +0.2
baz=322
S48A **Wiedeman Farm,** 89.02 37 P P 05 26 13.7 +0.1
baz=326
P52A **Corning** 89.04 33 P P 05 26 13.4 -0.2
baz=328
Q51A **Peebles** 89.05 34 *e*P P 05 26 14.5 +0.7
comp=Z,28nm,0.8s
Q51A **Peebles** 89.05 34 P P 05 26 14.0 +0.2
baz=328,SNR=8.6
S49A **Springfield** 89.26 36 P P 05 26 15.0 +0.3
baz=327
R50A **Paris** 89.26 35 P P 05 26 14.7 -0.1
baz=327
O54A **Avella** 89.27 32 P P 05 26 15.2 +0.4
baz=330,SNR=5.2
N55A **Marion Center** 89.28 30 P P 05 26 15.1 +0.2
baz=330
T48A **Bowling Green** 89.33 37 P P 05 26 15.5 +0.4
baz=326
CCAR **Cane Creek** 89.34 43 *e*P P 05 26 16.5 +1.3
comp=Z,20nm,0.8s
Y42A **Garnett, Star** 89.39 43 P P 05 26 16.0 +0.6
baz=323
P53A **Whipple** 89.46 33 P P 05 26 15.6 0.0
baz=329
U47A **Clarksville** 89.47 38 P P 05 26 15.6 -0.1
baz=325
WVT **Waverly** 89.47 39 P P 05 26 15.9 +0.2
baz=325
Q52A **Bidwell** 89.55 33 P P 05 26 16.1 0.0
baz=328
R51A **Hillsboro** 89.56 35 P P 05 26 16.2 0.0
baz=328
V46A **Holladay** 89.60 39 P P 05 26 16.6 +0.2
baz=325
W45A **Hickory Valley** 89.62 40 P P 05 26 16.5 0.0
baz=324
O55A **Ligonier** 89.66 31 P P 05 26 16.4 -0.2
baz=330
T49A **Edmonton** 89.71 37 *e*P P 05 26 17.6 +0.7
comp=Z,12nm,0.8s
T49A **Edmonton** 89.71 37 P P 05 26 17.2 +0.3
baz=326,SNR=5.1
S50A **Richmond** 89.73 36 P P 05 26 16.9 -0.1
baz=327
U48A **Cassie Pea, Po** 89.75 38 P P 05 26 17.2 +0.1
baz=326
SSPA **Standing Stone** 89.82 30 *e*P P 05 26 18.0 +0.7
comp=Z,22nm,0.9s
SSPA **Standing Stone** 89.82 30 P P 05 26 17.3 0.0
baz=331
V47A **Nunnelly** 89.86 39 P P 05 26 17.9 +0.3
baz=325
O56A **Blue Knob Stat** 89.89 30 *e*P P 05 26 18.4 +0.7
comp=Z,15nm,0.8s
O56A **Blue Knob Stat** 89.89 30 P P 05 26 17.9 +0.2
baz=331
MCWV **Mont Chateau** 89.93 32 P P 05 26 17.5 -0.3
baz=330
R52A **Catlettsburg** 89.93 34 P P 05 26 18.0 +0.1
baz=328
OXF **Oxford** 90.03 41 P P 05 26 18.5 +0.1
baz=324
P55A **Reedsville** 90.06 32 P P 05 26 17.9 -0.6
baz=330
T50A **Nancy** 90.09 36 P P 05 26 18.5 -0.2

	baz=327,SNR=6.0								
U49A	**Red Boiling Sp**	**90.09**	**37**	P		**P**	**05 26 18.9**	**+0.2**
	baz=326,SNR=5.3								
S51A	**Beattyville**	**90.11**	**35**	P		**P**	**05 26 18.8**	**+0.1**
	baz=328								
TBI	**Tubuai**	**90.22**	**122**	*e*T		T	07 05 50.3		
	comp=Z,8.9nm,0.3s								
V48A	**Smith Brothers**	**90.26**	**38**	*e*P		**P**	**05 26 20.4**	**+0.9**
	comp=Z,12nm,1.0s								
V48A	**Smith Brothers**	**90.26**	**38**	P		**P**	**05 26 19.5**	**+0.1**
	baz=326								
HRV	**Adam Dziewonsk**	**90.31**	**25**	P		**P**	**05 26 19.2**	**-0.3**
	baz=335								
N59A	**State Game Lan**	**90.34**	**28**	*e*P		**P**	**05 26 20.6**	**+0.9**
	comp=Z,21nm,0.9s								
N59A	**State Game Lan**	**90.34**	**28**	P		**P**	**05 26 19.9**	**+0.2**
	baz=333								
Q55A	**Buckhannon**	**90.41**	**32**	P		**P**	**05 26 20.3**	**+0.2**
	baz=330								
T51A	**Gray**	**90.53**	**36**	P		**P**	**05 26 20.6**	**-0.1**
	baz=327								
U50A	**Jamestown**	**90.59**	**37**	P		**P**	**05 26 21.1**	**+0.1**
	baz=327								
V49A	**McMinnville**	**90.66**	**38**	P		**P**	**05 26 21.4**	**+0.1**
	baz=326								
W48A	**Pulaski**	**90.70**	**39**	P		**P**	**05 26 21.7**	**+0.1**
	baz=326								
Y46A	**Houston**	**90.81**	**41**	P		**P**	**05 26 22.2**	**+0.2**
	baz=324								
PAL	**Palisades**	**90.90**	**27**	P		**P**	**05 26 22.5**	**+0.2**
	baz=334								
U51A	**La Follette**	**90.99**	**36**	P		**P**	**05 26 22.4**	**-0.4**
	baz=327								
W49A	**Belvidere**	**91.03**	**38**	P		**P**	**05 26 22.9**	**-0.1**
	baz=326								
TZTN	**Tazewell**	**91.05**	**36**	P		**P**	**05 26 23.2**	**0.0**
	baz=328								
V50A	**Pikevile**	**91.10**	**37**	P		**P**	**05 26 23.1**	**-0.3**
	baz=327								
CPCT	**Cooper Cave**	**91.54**	**37**	*e*P		**P**	**05 26 25.9**	**+0.5**
	comp=Z,12nm,1.0s								
Y48A	**Jasper**	**91.59**	**40**	P		**P**	**05 26 25.3**	**-0.4**
	baz=326								
V52A	**Sevierville**	**91.62**	**36**	P		**P**	**05 26 25.9**	**+0.1**
	baz=328								
U53A	**Fall Branch**	**91.62**	**35**	P		**P**	**05 26 25.5**	**-0.3**
	baz=328								
KEST	**Kesra**	**91.64**	**324**	LR		LR	06 12 34.4		
	comp=Z,96nm,18.5s,baz=323,slow=39								
245A	**Little AP, Sta**	**91.79**	**43**	P		**P**	**05 26 27.0**	**+0.4**
	baz=324								
BLA	**Blacksburg**	**91.80**	**33**	P		**P**	**05 26 26.3**	**-0.3**
	baz=330								
X50B	**Fort Payne**	**91.85**	**38**	P		**P**	**05 26 27.5**	**+0.6**
	baz=326								
Y49A	**Blount Mountai**	**92.00**	**39**	P		**P**	**05 26 27.5**	**0.0**
	baz=326								
Y50A	**Piedmont**	**92.28**	**39**	P		**P**	**05 26 28.5**	**-0.4**
	baz=326								
Z49A	**Columbiana**	**92.49**	**40**	P		**P**	**05 26 29.4**	**-0.4**
	baz=326								
X52A	**Dahlonega**	**92.53**	**37**	P		**P**	**05 26 29.8**	**-0.2**
	baz=327								
149A	**Jones**	**92.85**	**40**	P		**P**	**05 26 31.4**	**-0.1**
	baz=326								
X53A	**Estanollee**	**92.88**	**37**	P		**P**	**05 26 31.7**	**+0.1**
	baz=328								
ES19	**SONSECA Array**	**93.18**	**335**	*e*P		**P**	**05 26 32.8**	**-0.2**
KMSC	**Kings Mountain**	**93.19**	**35**	P		**P**	**05 26 33.1**	**0.0**
	baz=329								
150A	**Eclectic**	**93.21**	**40**	P		**P**	**05 26 33.3**	**+0.1**
	baz=326								
ESDC	**Sonseca Array**	**93.22**	**335**	P		**P**	**05 26 32.5**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=19,slow=3.4,SNR=5.6								
ESDC				LR		LR	06 13 03.6		
	comp=Z,47nm,19.7s,baz=55,slow=38								
Y54A	**Tignall**	**93.69**	**36**	P		**P**	**05 26 35.4**	**+0.1**
	baz=328								
251A	**Midway**	**93.93**	**39**	P		**P**	**05 26 36.1**	**-0.4**
	baz=326								
TORD	**Torodi Ar. Bea**	**114.43**	**318**	PKiKP		**PKiKP**	**05 31 57.5**	**-1.3**
	comp=Z,1.2nm,0.9s,baz=346,slow=3.1,SNR=5.6								
TORD				PP		**PP**	**05 32 51.1**	**-3.6**
	comp=Z,1.4nm,0.9s,baz=12,slow=6.7,SNR=5.8								
VNDA	**Vanda**	**119.89**	**175**	PKP		**PKiKP**	**05 32 07.5**	**0.0**
	comp=Z,1.5nm,0.8s,baz=319,slow=4.1,SNR=5.2								
SDV	**Santo Domingo**	**120.78**	**39**	*e*PKPdf		**PKPdf**	**05 32 11.1**	**-0.2**
DBIC	**Dimbokro**	**123.22**	**321**	PKP		**PKPdf**	**05 32 14.7**	**-1.0**
	comp=Z,3.7nm,0.7s,baz=330,slow=2.4,SNR=6.3								
LPAZ	**La Paz**	**143.09**	**55**	PKP		PKPbc	05 32 51.6	+1.1	
	comp=Z,1.4nm,0.7s,baz=267,slow=2.6,SNR=4.6								
SNAA	**Sanae**	**145.85**	**199**	PKP		**PKPbc**	**05 32 56.5**	**-0.2**
VNA2	**Neumayer--Watz**	**147.43**	**198**	PKP		**PKPbc**	**05 33 01.3**	**+0.1**
VNA3	**Neumayer Olymp**	**147.69**	**196**	PKP		**PKPbc**	**05 33 01.6**	**-0.2**
VNA1	**Neumayer--Stat**	**147.83**	**198**	PKP		**PKPbc**	**05 33 01.2**	**-1.0**
LCO	**Las Campanas**	**150.00**	**75**	*e*PKPdf		**PKPdf**	**05 33 05.6**	**+1.2**
LCO				*e*PKPbc		**PKiKP**	**05 33 10.0**	**-0.3**
LCO				*e*PKPab		**PKPab**	**05 33 16.8**	**+1.5**
LCO	**Las Campanas**	**150.00**	**75**	*e*PKiKP		**PKPdf**	**05 33 05.6**	**+1.2**
LCO				*e*			05 33 10.0		
LCO				*e*			05 33 16.8		
BDFB	**Brasilia**	**152.08**	**23**	PKPbc		**PKPbc**	**05 33 14.1**	**-0.2**
	comp=Z,16nm,0.8s,baz=12,slow=3.2,SNR=20								
BDFB				PKPab		**PKPab**	**05 33 24.4**	**+0.6**
	comp=Z,8.2nm,0.8s,baz=211,slow=11,SNR=6.1								
PLCA	**Paso Flores**	**155.04**	**98**	PKPab		**PKPab**	**05 33 36.5**	**+0.5**
	comp=Z,3.3nm,0.7s,baz=288,slow=2.0,SNR=7.3								
CPUP	**Villa Florida**	**157.22**	**53**	PKP		**PKPdf**	**05 33 13.8**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=30,slow=1.9,SNR=4.0								
CPUP				PKPab		**PKPab**	**05 33 45.2**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=343,slow=3.8,SNR=6.1								

ISCJB ***17*** *05:15:34.4±0.2,22.°82N±0.°02×121.°38E±0.°02, h40km±5km, Error ellipse: s-maj=2.7km s-min=2.3km az=135.8*
JMA ***17*** *05:15:34.1±0.1,22.°90N×121.°28E, h39km±2km, M4.5*
TAP ***17*** *05:15:34.8, 22.°85N×121.°27E, h42km, ML4.1, C*

ISC 17 05:15:35.2±1.0, 22.°84N±0.°02×121.°34E±0.°02, h33km±3km, n113, σ1s09/180, 17C-10D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTN	**Taitung**	**0.19**	**245**	P	**Pb**	**05 15 42.6**	**+1.0**
	baz=239						
TTN				*e*S	**Sb**	**05 15 48.6**	**+2.5**
	baz=239						
TWGBT	**Beinan**	**0.24**	**266**	⇓P	**Pn**	**05 15 42.2**	**+0.1**
	baz=263						
TWGBT				S	**Sb**	**05 15 46.9**	**-0.1**
	baz=263						
TWG	**Pinlang**	**0.25**	**267**	⇓*i*P	**Pn**	**05 15 42.2**	**0.0**
	baz=263						
TWG				*i* S	**Sb**	**05 15 47.3**	**+0.2**
	baz=263						
CHKT	**Chengkung**	**0.26**	**5**	P	Pn	05 15 43.1	+0.6
	baz=18						
CHKT				S	**Sb**	**05 15 49.3**	**+1.8**
	baz=18						
ECL	**Taimali**	**0.43**	**236**	⇑*i*P	**Pb**	**05 15 43.8**	**-0.9**
	baz=228						
ECL				S	**Sb**	**05 15 50.1**	**-1.0**
	baz=228						
ELDTW	**Lidau**	**0.46**	**320**	⇓*i*P	**Pb**	**05 15 44.6**	**-0.6**
	baz=326						
ELDTW				S	**Sb**	**05 15 51.0**	**-1.1**
	baz=326						
TWF1	**Yuli**	**0.52**	**356**	⇑*i*P	**Pb**	**05 15 45.0**	**-1.0**
	baz=3.0						
YULB	**Yu-li**	**0.56**	**356**	⇑*i*P	**Pn**	**05 15 45.4**	**-1.4**
	baz=356						
YULB				*e*S	**Sb**	**05 15 52.4**	**-2.2**
	baz=356						
STYT	**Tauyuan**	**0.63**	**301**	P	**Pn**	**05 15 47.5**	**-0.3**
	baz=307						
STYT				*e*S	**Sn**	**05 15 56.4**	**-0.3**
	baz=307						
TAW	**Tawu**	**0.63**	**221**	P	**Pn**	**05 15 46.6**	**-1.1**
	baz=215						
EAST	**Anshuo**	**0.64**	**225**	⇑*i*P	**Pn**	**05 15 46.8**	**-1.1**
	baz=220						
SLGT	**Liugui**	**0.66**	**284**	⇑P	**Pn**	**05 15 48.3**	**+0.1**
	baz=284						
SLGT				S	**Sn**	**05 15 57.2**	**-0.2**
	baz=284						
HGSD	**Ruisui**	**0.66**	**7**	⇑P	**Pn**	**05 15 47.6**	**-0.6**
	baz=21						
HGSD				S	**Sn**	**05 15 57.7**	**+0.3**
	baz=21						
SSD	**Sandimen**	**0.66**	**262**	⇑*i*P	**Pn**	**05 15 47.7**	**-0.4**
	baz=261						
SSD				S	**Sn**	**05 15 56.0**	**-1.4**
	baz=261						
EHY	**Hungye**	**0.67**	**359**	⇑*i*P	**Pn**	**05 15 46.9**	**-1.4**
	baz=3.0						
EHY				*e*S	**Sn**	**05 15 55.1**	**-2.5**
	baz=3.0						
MASBT	**Mashibuluo**	**0.69**	**251**	⇑P	**Pn**	**05 15 48.2**	**-0.4**
	baz=245						
MASBT				S	**Sn**	**05 15 57.0**	**-1.1**
	baz=245						
YUS	**Yu-Shan**	**0.74**	**331**	⇑*i*P	**Pn**	**05 15 49.3**	**-0.5**
	baz=339						
YUS				*e*S	**Sn**	**05 15 58.3**	**-1.9**
	baz=339						
WTP	**Ta-pu**	**0.78**	**302**	⇓*i*P	**Pn**	**05 15 50.2**	**+0.2**
	baz=304						
WTP				S	**Sn**	**05 16 01.3**	**+0.7**
	baz=304						
SGLT	**Jiouru**	**0.79**	**262**	P	**Pn**	**05 15 51.2**	**+1.2**
	baz=260						
TPUB	**Ta-pu**	**0.80**	**305**	⇓P	**Pn**	**05 15 50.3**	**+0.2**
	baz=315						
TPUB				S	**Sn**	**05 16 01.7**	**+0.7**
	baz=315						
SCZT	**Fangliau**	**0.81**	**235**	*e*P	**Pn**	**05 15 49.8**	**-0.4**
	baz=233						
SCZT				S	**Sn**	**05 16 00.9**	**-0.2**
	baz=233						
LAY	**Lan-yu**	**0.82**	**166**	*e*P	**Pn**	**05 15 49.9**	**-0.5**
	baz=163						
LAY				*e*S	**Sn**	**05 16 01.3**	**-0.1**
	baz=163						
CHN1	**Nanshi**	**0.82**	**295**	P	**Pn**	**05 15 50.8**	**+0.4**
	baz=296						
CHN1				S	**Sn**	**05 16 02.7**	**+1.2**
	baz=296						
TWM1	**Shoushan**	**0.84**	**269**	⇑P	**Pb**	**05 15 52.1**	**+0.7**
	baz=269						
TWM1				*e*S	**Sb**	**05 16 05.5**	**+3.0**
	baz=269						
CHN4	**Tsaushan**	**0.86**	**307**	⇑*e*P	**Pn**	**05 15 51.1**	**+0.2**
	baz=309						
CHN4				*e*S	**Sn**	**05 16 03.5**	**+1.2**
	baz=309						
TWK	**Hsinying**	**0.89**	**299**	⇓P	**Pn**	**05 15 51.5**	**0.0**
	baz=301						
TWK				S	**Sn**	**05 16 04.0**	**+0.7**
	baz=301						
CHN3	**Shinhua**	**0.93**	**285**	*e*P	**Pn**	**05 15 51.4**	**-0.5**
	baz=286						
CHN3				*e*S	**Sb**	**05 16 06.9**	**+2.0**
	baz=286						
CHN5	**Tsauling**	**0.97**	**321**	*e*P	**Pn**	**05 15 52.6**	**0.0**
	baz=333						
CHN5				*e*S	**Sb**	**05 16 06.9**	**+0.7**
	baz=333						
ESL	**Shilin**	**0.98**	**5**	*e*P	**Pn**	**05 15 50.8**	**-1.8**
	baz=16						
ESL				*e*S	**Sn**	**05 16 02.0**	**-3.3**
	baz=16						
KAU	**Kaohsiung**	**0.99**	**255**	*e*P	**Pb**	**05 15 54.3**	**+0.5**
	baz=253						
HEN	**Hengchun**	**1.00**	**214**	*e*P	**Pn**	**05 15 53.6**	**+0.8**
	baz=202						
WLCH	**Liuqiu**	**1.01**	**242**	*e*P	**Pb**	**05 15 55.2**	**+1.1**
	baz=240						
SSLB	**Suanglung**	**1.01**	**340**	⇑P	**Pn**	**05 15 52.9**	**-0.2**
	baz=335						
SSLB				*e*S	**Sn**	**05 16 06.4**	**+0.2**
	baz=335						
TWKBT	**Hengchun**	**1.01**	**209**	⇑P	**Pn**	**05 15 52.2**	**-0.9**
	baz=199						
TWKBT				S	**Sn**	**05 16 05.1**	**-1.1**
	baz=199						
TSEB	**Hengchuen, Pin**	**1.02**	**204**	*e*P	**Pn**	**05 15 52.5**	**-0.6**
	baz=196						
TSEB				S	**Sn**	**05 16 06.4**	**+0.2**
	baz=196						
TWK1	**Hengchun**	**1.02**	**209**	⇑P	**Pn**	**05 15 52.3**	**-0.8**
	baz=199						
TWK1				S	**Sn**	**05 16 05.0**	**-1.2**
	baz=199						
TWP	**Hsiaoliuchiu**	**1.02**	**242**	*e*P	**Pb**	**05 15 55.0**	**+0.6**
	baz=240						
CHY	**Chiayi**	**1.07**	**308**	*e*P	**Pn**	**05 15 53.9**	**0.0**
	baz=310						
CHY				S	**Sn**	**05 16 08.6**	**+1.1**
	baz=310						
ENLB	**Shoufeng**	**1.09**	**13**	*e*P	**Pn**	**05 15 53.6**	**-0.5**
	baz=7.0						
ENLB				*e*S	**Sn**	**05 16 07.7**	**-0.4**
	baz=7.0						
SCLT	**Jiali**	**1.11**	**288**	*e*P	**Pn**	**05 15 53.6**	**-0.7**
	baz=289						
SCLT				S	**Sn**	**05 16 09.4**	**+0.9**
	baz=289						
WGK	**Gukeng**	**1.11**	**320**	*e*P	**Pn**	**05 15 54.5**	**+0.1**
	baz=312						
WGK				*e*S	**Sn**	**05 16 10.2**	**+1.7**
	baz=312						
SMLT	**Sun Moon Lake**	**1.12**	**339**	⇑P	**Pn**	**05 15 55.1**	**+0.5**
	baz=342						
SMLT				*e*S	**Sn**	**05 16 09.4**	**+0.5**
	baz=342						
WDLH	**Douliu**	**1.12**	**319**	*e*P	**Pn**	**05 15 55.1**	**+0.5**
	baz=321						
WJS	**Zhushan**	**1.13**	**330**	*e*P	**Pn**	**05 15 55.4**	**+0.7**
	baz=332						
WLGB	**Puzi**	**1.15**	**304**	*e*P	**Pn**	**05 15 54.6**	**-0.3**
	baz=305						
WLGB				*e*S	**Sn**	**05 16 10.0**	**+0.5**
	baz=305						
TYC	**Yuchr**	**1.15**	**338**	*e*P	**Pn**	**05 15 55.7**	**+0.7**
	baz=340						
TYC				S	**Sn**	**05 16 10.9**	**+1.3**
	baz=340						
HWA	**Hwalien**	**1.16**	**12**	*e*P	**Pn**	**05 15 54.0**	**-1.1**
	baz=15						
WNT	**Mingjian**	**1.20**	**330**	P	**Pn**	**05 15 56.4**	**+0.7**
	baz=332						
WNT				S	**Sn**	**05 16 12.4**	**+1.6**
	baz=332						
CHGB	**Renai**	**1.23**	**353**	⇑*e*P	**Pn**	**05 15 55.9**	**-0.4**
	baz=4.0						
CHGB				*e*S	**Sn**	**05 16 10.9**	**-0.9**
	baz=4.0						
TWD	**Chiawan**	**1.26**	**11**	*e*P	**Pn**	**05 15 54.8**	**-1.7**
	baz=13						
WSF	**Szhu**	**1.30**	**308**	P	**Pn**	**05 15 56.5**	**-0.5**
	baz=309						
WSF				S	**Sn**	**05 16 13.2**	**0.0**
	baz=309						
WHF	**Hehuan Shan**	**1.30**	**357**	*e*P	**Pn**	**05 15 56.3**	**-1.1**
	baz=8.0						
WHF				*e*S	**Sn**	**05 16 13.0**	**-1.0**
	baz=8.0						
NACB	**Ninganchiao**	**1.35**	**10**	P	**Pn**	**05 15 55.9**	**-1.8**
	baz=12						
TWT	**Tachien**	**1.42**	**354**	⇓*e*P	**Pn**	**05 15 58.9**	**0.0**
	baz=2.0						
TWT				*e*S	**Sn**	**05 16 15.4**	**-1.0**
	baz=2.0						
TDCB	**Techi**	**1.42**	**353**	*e*P	**Pn**	**05 15 58.9**	**+0.1**
	baz=355						
WCHH	**Zhanghua**	**1.43**	**330**	*e*P	**Pn**	**05 15 59.2**	**+0.4**
	baz=331						
WCHH				*e*S	**Sn**	**05 16 17.7**	**+1.2**
	baz=331						
TCU	**Taichung**	**1.44**	**335**	*e*P	**Pn**	**05 15 59.6**	**+0.6**
	baz=337						
TCU				*e*S	**Sn**	**05 16 18.3**	**+1.6**
	baz=337						
NNSB	**Datong**	**1.59**	**1**	*e*P	**Pn**	**05 16 00.6**	**-0.5**
	baz=14						
TWQ1	**Liyutan**	**1.59**	**341**	*e*P	**Pn**	**05 16 01.5**	**+0.5**
	baz=342						
TWQ1				*e*S	**Sn**	**05 16 22.6**	**+2.0**
	baz=342						
NNS	**Nan Shan**	**1.60**	**1**	*e*P	**Pn**	**05 16 00.7**	**-0.5**
	baz=14						
WDGT	**Dungji**	**1.60**	**286**	P	**Pn**	**05 15 59.8**	**-1.3**
	baz=286						
WDGT				*e*S	**Sn**	**05 16 17.7**	**-3.0**
	baz=286						
ENA	**Nanau**	**1.63**	**13**	*e*P	**Pn**	**05 16 00.1**	**-1.4**
	baz=15						
NSY	**Sanyi**	**1.66**	**342**	*e*P	**Pn**	**05 16 03.7**	**+1.7**
	baz=343						
NSY				*e*S	**Sb**	**05 16 25.1**	**-0.7**
	baz=343						
PTSB	**Yuanli**	**1.71**	**340**	*e*P	**Pn**	**05 16 03.8**	**+1.1**
	baz=342						
PTSB				*e*S	**Sn**	**05 16 25.5**	**+2.2**
	baz=342						
PHUB	**P'eng-hu**	**1.76**	**293**	⇓P	**Pn**	**05 16 02.1**	**-1.2**
	baz=293						
PHUB				*e*S	**Sn**	**05 16 21.3**	**-3.3**
	baz=293						
NMLH	**Miaoli**	**1.77**	**344**	*e*P	**Pn**	**05 16 04.8**	**+1.3**
	baz=344						
PNG	**Penghu**	**1.79**	**294**	⇓P	**Pn**	**05 16 02.8**	**-1.0**
	baz=284						
PNG				*e*S	**Sn**	**05 16 23.1**	**-2.3**
	baz=284						
VCHM	**Qimei**	**1.80**	**282**	*e*P	**Pn**	**05 16 02.7**	**-1.2**
	baz=282						
ENTT	**Nioudou**	**1.81**	**7**	*e*P	**Pn**	**05 16 02.6**	**-1.4**
	baz=17						
NSTT	**Nanjuang**	**1.81**	**350**	*e*P	**Pn**	**05 16 05.6**	**+1.5**
	baz=351						
NSTT				*e*S	**Sn**	**05 16 26.6**	**+0.6**
	baz=351						
LIOB	**Emei**	**1.83**	**351**	*e*P	**Pn**	**05 16 05.4**	**+1.1**
	baz=352						
LIOB				*e*S	**Sn**	**05 16 28.6**	**+2.3**
	baz=352						
TWC	**Suao**	**1.83**	**15**	*e*P	**Pn**	**05 16 04.4**	**+0.2**
	baz=7.0						
TWC				*e*S	**Sn**	**05 16 26.1**	**-0.2**
	baz=7.0						
YHNB	**Yeheng**	**1.83**	**1**	P	**Pn**	**05 16 04.4**	**+0.1**
	baz=14						
NSK	**Sanguang**	**1.83**	**1**	⇓*e*P	**Pn**	**05 16 04.5**	**+0.1**
	baz=13						
EOS1	**EOS1**	**1.85**	**23**	*e*P	**Pn**	**05 16 05.2**	**+0.6**
	baz=33						
EOS1				*e*S	**Sn**	**05 16 29.4**	**+2.5**
	baz=33						
TWE	**Neicheng**	**1.90**	**9**	*e*P	**Pn**	**05 16 04.2**	**-1.1**
	baz=20						
WLTB	**Daxi**	**2.01**	**358**	*e*P	**Pn**	**05 16 08.0**	**+1.2**
	baz=344						
NTC	**Toucheng**	**2.06**	**13**	*e*P	**Pn**	**05 16 08.2**	**+0.8**
	baz=14						
EGS		**2.07**	**15**	*e*P	**Pn**	**05 16 08.4**	**+0.8**
	baz=7.0						
TATO	**Taipei**	**2.13**	**4**	*e*P	**Pn**	**05 16 08.8**	**+0.3**
	baz=14						
TATO				*e*S	**Sn**	**05 16 33.9**	**+0.1**
	baz=14						
TWA	**Mucha**	**2.15**	**6**	*e*P	**Pn**	**05 16 08.8**	**+0.1**
	baz=15						
TWA				*e*S	**Sn**	**05 16 32.8**	**-1.4**
	baz=15						
TIPB	**Shuangxi**	**2.17**	**12**	*e*P	**Pn**	**05 16 08.9**	**-0.1**
	baz=11						
TIPB				*e*S	**Sn**	**05 16 34.4**	**-0.5**
	baz=11						
JYNG	**Yonagunijimaku**	**2.18**	**42**	P	**Pn**	**05 16 09.7**	**+0.6**
JYNG				*e*S	**Sn**	**05 16 35.9**	**+0.9**
YOJ	**Yonaguni jima**	**2.23**	**43**	*e*P	**Pn**	**05 16 10.2**	**+0.4**
	baz=50						
YOJ				*e*S	**Sn**	**05 16 37.4**	**+1.2**
	baz=50						
YOJ	**Yonaguni jima**	**2.23**	**43**	P	**Pn**	**05 16 10.4**	**+0.6**
YOJ				S	**Sn**	**05 16 36.6**	**+0.4**
TWB1	**Santiao Chiao**	**2.24**	**15**	*e*P	**Pn**	**05 16 10.2**	**+0.2**
	baz=17						
TWS1	**Kuangyinshan**	**2.26**	**2**	*e*P	**Pn**	**05 16 10.4**	**+0.2**
	baz=16						
NWF	**Wu-fen Shan**	**2.26**	**10**	*e*P	**Pn**	**05 16 10.2**	**-0.2**
	baz=11						
WFSB	**Wu-fen Shan**	**2.26**	**10**	*e*P	**Pn**	**05 16 10.5**	**+0.2**
	baz=11						
YM01	**YM01**	**2.31**	**5**	*e*P	**Pn**	**05 16 11.8**	**+0.8**
	baz=19						
YM04	**YM04**	**2.31**	**4**	*e*P	**Pn**	**05 16 10.8**	**-0.2**
	baz=18						
YM05	**YM05**	**2.33**	**5**	*e*P	**Pn**	**05 16 10.4**	**-0.8**
	baz=18						
YM11	**YM11**	**2.33**	**5**	*e*P	**Pn**	**05 16 10.4**	**-0.9**
	baz=18						
HATJ	**Hateruma jima**	**2.57**	**61**	P	**Pn**	**05 16 14.8**	**+0.3**
HATJ				S	**Sn**	**05 16 44.8**	**+0.2**
IRIF	**Iriomote-Funau**	**2.65**	**55**	P	**Pn**	**05 16 16.2**	**+0.6**
IRIF				*e*S	**Sn**	**05 16 47.7**	**+1.0**
JKRS	**Kuro-shima**	**2.82**	**60**	P	**Pn**	**05 16 18.7**	**+0.8**
JKRS				*e*S	**Sn**	**05 16 51.4**	**+0.6**
JIJ	**Ishigaki jima**	**2.99**	**59**	P	**Pn**	**05 16 20.2**	**0.0**
JIJ				S	**Sn**	**05 16 54.7**	**-0.2**
PTMZ	**Houxiangcun**	**2.99**	**318**	*e*P	**Pn**	**05 16 18.8**	**-1.5**
	baz=317						
PTTC	**Pingtan**	**3.01**	**332**	*e*P	**Pn**	**05 16 19.4**	**-1.2**
	baz=331						
KNM	**Kinmen**	**3.09**	**301**	*e*P	**Pn**	**05 16 21.9**	**+0.3**
	baz=298						
KNMB	**Chin-men Tao**	**3.15**	**302**	*e*P	**Pn**	**05 16 21.1**	**-1.4**
	baz=300						
JISG	**Ishigakijimahi**	**3.23**	**57**	P	**Pn**	**05 16 23.2**	**-0.4**
JISG				S	**Sn**	**05 17 00.3**	**-0.7**
ZPLA	**Ao Xicun**	**3.47**	**289**	*e*P	**Pn**	**05 16 25.8**	**-1.1**
	baz=287						
MATB	**Ma-tsu**	**3.54**	**339**	*e*P	**Pn**	**05 16 26.7**	**-1.1**
	baz=338						
JTJ	**Tarama**	**3.57**	**59**	P	**Pn**	**05 16 28.3**	**+0.1**
JTJ				*e*S	**Sn**	**05 17 09.3**	**+0.1**
AXDP	**Jialang**	**3.71**	**304**	*e*P	**Pn**	**05 16 28.7**	**-1.4**
	baz=302						
ZZJH	**Jiuhuzhen**	**3.77**	**296**	*e*P	**Pn**	**05 16 29.8**	**-1.1**
	baz=294						
MHZQ	**Yeshan**	**3.87**	**328**	*e*P	**Pn**	**05 16 31.3**	**-1.1**
	baz=326						
JIRB	**Irabujima**	**4.03**	**60**	P	**Pn**	**05 16 34.9**	**+0.3**
JIRB				*e*S	**Sn**	**05 17 20.1**	**-0.6**
JMJ	**Miyako jima 2**	**4.12**	**61**	P	**Pn**	**05 16 36.6**	**+0.8**
JMJ				*e*S	**Sn**	**05 17 22.6**	**-0.3**
JIKM	**Ikemajima**	**4.14**	**59**	P	**Pn**	**05 16 36.1**	**+0.1**
JIKM				*e*S	**Sn**	**05 17 22.8**	**-0.5**
JOGS	**Gusukube**	**4.19**	**62**	P	**Pn**	**05 16 37.5**	**+0.7**
XPSS	**Dashiqiu**	**4.21**	**346**	*e*P	**Pn**	**05 16 36.3**	**-0.7**
	baz=346						

ISCJB ***17*** *05:49:04.8±0.4,35.°15N±0.°04×9.°48E±0.°05, h10km, mb3.6/13, MS3.1/5, Error ellipse: s-maj=5.6km s-min=5.1km az=157.2*
*IDC

2.5nm,0.3s,baz=0.0,slow=19,SNR=4.5
PGF Pioggiola 7.42 357 *e*Pn **Pn 05 50 58.0 +3.6**
PGF *e*Sn **Sn 05 52 18.2 -0.5**
23nm,0.8s
LMR La Mourre 8.51 345 *e*Pn **Pn 05 51 11.3 +2.1**
LMR *e*Sn **Sn 05 52 42.8 -2.5**
3.9nm,0.3s
FRF La Foret Royal 8.70 346 *e*Pn **Pn 05 51 14.2 +2.3**
FRF *e*Sn **Sn 05 52 49.3 -0.7**
1.1nm,0.3s
SBF Sospel 8.87 350 *e*Pn **Pn 05 51 16.4 +2.2**
SBF *e*Sn **Sn 05 52 51.8 -2.4**
3.1nm,0.4s
SMRF Simiane la Rot 9.34 342 *e*Pn **Pn 05 51 22.3 +1.7**
SMRF *e*Sn **Sn 05 53 02.7 -2.9**
1.4nm,0.3s
MBDF Montbardon 9.81 349 *e*Pn **Pn 05 51 30.1 +2.9**
MBDF *e*Sn **Sn 05 53 15.3 -2.2**
0.2nm,0.2s
LASF Ste Croix 9.93 336 *e*Pn **Pn 05 51 30.1 +1.4**
LASF *e*Sn **Sn 05 53 16.6 -3.6**
2.2nm,0.4s
MTLF Montolieu 9.94 328 *e*Pn **Pn 05 51 28.7 -0.1**
MTLF *e*Sn **Sn 05 53 15.8 -4.7**
7.0nm,0.5s
VIVF Saint-Julien-l 10.39 341 *e*Pn **Pn 05 51 36.5 +1.5**
VIVF *e*Sn **Sn 05 53 28.1 -3.4**
0.5nm,0.2s
LPG La Plagne 10.57 350 *e*Pn **Pn 05 51 40.0 +2.3**
LPG *e*Sn **Sn 05 53 33.3 -2.9**
0.3nm,0.2s
LPL La Plagne 10.59 349 *e*Pn **Pn 05 51 40.5 +2.6**
LPL *e*Sn **Sn 05 53 34.4 -2.2**
0.3nm,0.2s
EPF Esparros 10.61 321 *e*Pn **Pn 05 51 38.4 +0.4**
EPF *e*Sn **Sn 05 53 30.9 -6.0**
0.6nm,0.3s
ETSF Etsaut 11.00 318 *e*Pn **Pn 05 51 43.9 +0.5**
SJPF Ste Jean 11.51 317 *e*Pn **Pn 05 51 50.8 +0.5**
ESDC Sonseca Array 11.60 297 Pn **Pn 05 51 51.6 -0.1**
0.2nm,0.3s,baz=108,slow=13,SNR=2.6
DAVOX Davos/Dischmat 11.65 1 Pn **Pn 05 51 52.0 -0.4**
0.1nm,0.3s,baz=173,slow=17,SNR=1.7
RJF Les Rejaudoux 11.84 332 *e*Pn **Pn 05 51 55.6 +0.8**
LFF La Frestale 11.86 328 *e*Pn **Pn 05 51 55.2 +0.2**
LFF *e*Sn **Sn 05 54 00.9 -6.5**
1.3nm,0.3s
MDT Midelt 11.91 263 Pn **Pn 05 51 55.5 -0.3**
0.1nm,0.3s,baz=48,slow=16,SNR=6.5
MDT LR LR 05 56 55.3
comp=Z,113nm,18.4s,baz=77,slow=40
SMF Signal de Mont 12.27 341 *e*Pn **Pn 05 52 02.4 +1.8**
TCF Toulx Ste Croi 12.43 336 *e*Pn **Pn 05 52 04.6 +1.7**
BGF Bois d'Agland 12.47 338 *e*Pn **Pn 05 52 04.8 +1.4**
BGF *e*Sn **Sn 05 54 17.1 -5.2**
0.6nm,0.2s
AVF Avril sur Loir 12.53 340 *e*Pn **Pn 05 52 05.9 +1.7**
HYF Humbligny 13.17 339 *e*Pn **Pn 05 52 14.3 +1.3**
BZS Buzias 13.97 38⇑*i*P **P 05 52 29.8 -2.2**
GERES GERESS Array B 14.07 12 Pn **Pn 05 52 25.0 -0.3**
baz=198,slow=9.3,SNR=2.6
VOIR 15.71 44⇑*i*P **P 05 52 55.2 +3.8**
QUIF Quistinic 15.87 327 *e*Pn **Pn 05 52 50.8 +1.5**
QUIF Quistinic 15.87 327 *e*P **P 05 52 54.2 +1.1**
DOPR Dopca 16.21 40⇑*i*P **Pn 05 52 55.1 +1.4**
MLR Muntele Rosu 16.26 45 Pn **Pn 05 52 55.6 +1.2**
0.1nm,0.3s,baz=264,slow=7.6,SNR=2.2
MLR LR LR 06 00 56.7
comp=Z,210nm,19.4s,baz=62,slow=44
MLR Muntele Rosu 16.26 45⇑*i*P **P 05 53 01.5 +4.0**
PLOR Plostina 16.87 45⇑*i*P **P 05 53 07.9 +3.7**
BRTR Keskin Array B 19.72 69 P **Pn 05 53 36.7 -0.5**
0.0nm,0.3s,baz=249,slow=10,SNR=2.9
KIEV Kiev 21.14 37⇑*i*P **P 05 53 50.5 -0.4**
AKASG Malin Array Be 21.16 37 P **P 05 53 50.8 -0.2**
1.3nm,0.6s,baz=232,slow=9.3,SNR=5.0
MMAI Mount Meron Ar 21.57 88 P **P 05 53 55.8 0.0**
1.1nm,0.2s,baz=262,slow=17,SNR=3.8
EKA Eskdalemuir Ar 22.01 341 P **P 05 54 00.3 +0.1**
0.4nm,0.5s,baz=162,slow=12,SNR=3.2
TORD Torodi Ar. Bea 22.98 200 P **P 05 54 09.9 -0.9**
0.9nm,0.4s,baz=10,slow=10,SNR=12
TORD LR LR 06 03 37.1
comp=Z,61nm,22.0s,baz=350,slow=38
HFS Hagfors 25.18 5 P **P 05 54 29.8 -1.4**
1.9nm,0.6s,baz=164,slow=12,SNR=6.8
NOA NORSAR Array B 25.96 2 P **P 05 54 37.3 -1.1**
0.7nm,0.7s,baz=186,slow=9.2,SNR=3.0
FINES FINESS Array B 28.39 17 P **P 05 55 00.7 +0.6**
2.4nm,0.8s,baz=212,slow=6.8,SNR=4.1
DBIC Dimbokro 31.23 208 LR LR 06 07 50.1
comp=Z,76nm,20.0s,baz=15,slow=36
ARCES ARCESS Array B 35.59 10 P **P 05 56 04.0 +0.8**
2.5nm,0.8s,baz=192,slow=9.3,SNR=5.7
ARCES LR LR 06 11 48.2
comp=Z,5.3nm,20.9s,baz=152,slow=38
KMBO Kilima Mbogo 44.45 138 LR LR 06 16 08.7
comp=Z,36nm,19.0s,baz=100,slow=37
ZALV Zalesovo Beam 54.23 45 P **P 05 58 32.6 +0.9**
0.6nm,0.5s,baz=265,slow=6.9,SNR=3.5
MKAR Makanchi Array 54.38 54 P **P 05 58 32.6 -0.2**
0.4nm,0.6s,baz=277,slow=6.3,SNR=6.2
SONM Songino Array 69.11 46 P **P 06 00 12.2 -0.1**
0.5nm,0.6s,baz=256,slow=5.8,SNR=3.5
YKA Yellowknife Ar 72.90 336 P **P 06 00 34.6 -0.2**
0.2nm,0.6s,baz=45,slow=6.3,SNR=3.5
PDAR Pinedale Array 84.57 320 P **P 06 01 41.7 +2.0**
0.7nm,0.9s,baz=59,slow=3.5,SNR=3.3
LPAZ La Paz 89.46 250 LR LR 06 41 25.7
comp=Z,25nm,21.1s,baz=18,slow=35

IDC 17 06:02:44.6±1.5, 61°38S×52°70W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/24, mbtmp4.0/4, MS3.3/3, Ms1 3.3/3, ms1mx2.9/29, Error ellipse: s-maj=87.0km s-min=36.5km az=104.0, South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**23.37**	**324**	LR	LR	06 16 12.8	
	comp=Z,43nm,18.4s,baz=210,slow=35						
QSPA	**South Pole Qui**	**28.85**	**180**	P	P	06 08 44.4	-0.1
	2.0nm,0.8s,baz=185,slow=3.2,SNR=8.3						
H10S2	**ASCENSION HYDR**	**59.33**	**45**	T	T	07 18 26.1	
	baz=202,slow=75,SNR=19						
H10S3	**ASCENSION HYDR**	**59.33**	**45**	T	T	07 18 27.3	
	baz=202,slow=75,SNR=16						
H10S1	**ASCENSION HYDR**	**59.34**	**45**	T	T	07 18 27.8	
	baz=202,slow=75,SNR=19						
H10N3	**ASCENSION HYDR**	**60.42**	**45**	T	T	07 19 48.5	
	baz=202,slow=75,SNR=28						
H10N1	**ASCENSION HYDR**	**60.42**	**45**	T	T	07 19 48.8	
	baz=202,slow=75,SNR=33						
H10N2	**ASCENSION HYDR**	**60.44**	**45**	T	T	07 19 53.1	
	baz=202,slow=75,SNR=29						
LBTB	**Lobatse**	**62.80**	**93**	LR	LR	06 36 58.9	
	comp=Z,28nm,18.9s,baz=26,slow=33						
APG	**El Apazote**	**81.82**	**323**	LR	LR	06 43 02.9	
	comp=Z,29nm,21.9s,baz=205,slow=30						
TORD	**Torodi Ar. Bea**	**85.70**	**53**	P	P	06 15 25.6	+0.5
	0.2nm,0.5s,baz=220,slow=3.8,SNR=3.4						
ASAR	**Alice Springs**	**95.09**	**186**	P	P	06 16 10.4	+1.1
	0.6nm,0.9s,baz=171,slow=5.2,SNR=3.1						
WRA	**Warramunga Arr**	**98.76**	**187**	P	P	06 16 24.7	-1.3
	0.8nm,0.8s,baz=179,slow=4.0,SNR=2.8						
YKA	**Yellowknife Ar**	**132.14**	**326**	PKP	PKiKP	06 21 59.7	+0.1
	0.1nm,0.5s,baz=158,slow=2.1,SNR=4.6						
ILAR	**Eielson Array**	**143.80**	**314**	PKP	PKPab	06 22 17.2	+0.3
	0.3nm,0.6s,baz=179,slow=2.4,SNR=4.7						
MKAR	**Makanchi Array**	**150.54**	**99**	PKPbc	PKPbc	06 22 34.7	-2.5
	0.2nm,0.5s,baz=209,slow=1.5,SNR=3.0						
SONM	**Songino Array**	**161.94**	**129**	PKPab	PKPab	06 23 33.6	+0.8
	0.5nm,0.9s,baz=193,slow=5.9,SNR=2.3						

IDC 17 06:09:48.9±9.6, 1°93S×138°80E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/34, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=410.6km s-min=28.7km az=85.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.43**	**193**	P	Pn	06 14 05.3	-0.7
	0.1nm,0.3s,baz=15,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**22.12**	**192**	P	P	06 14 46.6	+0.3
	0.2nm,0.3s,baz=17,slow=11,SNR=3.5						

2013 JAN

MKAR Makanchi Array 69.23 322 P **P** 06 20 57.7 0.0
0.2nm,0.6s,baz=104,slow=6.1,SNR=3.2

ISK ***17*** *06:13:08.8, 38.64N×43.14E, h3km, ML2.2/5*
DDA ***17*** *06:13:10.1, 38.66N×43.19E, h7km±4km, ML3.0*
ISC 17 06:13:10.2±1.0, 38°65N±0°03×43°16E±0°03, h12km±9km, n14, σ0.79/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.19**	**107**	PG	**Pg**	**06 13 14.2**	**-0.3**
VANB				SG	**Sg**	**06 13 18.5**	**+1.1**
TVAN	**Van**	**0.23**	**122**	IAML_P			
	comp=Z,15μm,0.1s						
TVAN				*i* P	**Pg**	**06 13 14.5**	**-0.7**
GEVA	**Gevas**	**0.35**	**193**	IAML_P			
	comp=Z,8μm,0.1s						
GEVA				*i* P	**Pb**	**06 13 17.6**	**-0.8**
GEVA				*i* S	**Sb**	**06 13 23.8**	**-0.1**
AKDM	**Akdamar-Van**	**0.35**	**203**	PG	**Pg**	**06 13 16.9**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.37**	**295**	IAML_P			
	comp=Z,2μm,0.1s						
ADCV				*i* P	**Pb**	**06 13 18.6**	**-0.3**
ADCV				*i* S	**Sb**	**06 13 25.5**	**+0.8**
VMUR	**Van-Muradiye**	**0.47**	**44**	*i* P	**Pb**	**06 13 19.6**	**-1.0**
VMUR				*i* S	**Sb**	**06 13 28.6**	**+1.0**
CLDR	**Caldiran**	**0.77**	**50**	PG	**Pg**	**06 13 24.6**	**-0.6**
CLDR				SG	**Sb**	**06 13 36.6**	**+0.3**
CLDR	**Caldiran**	**0.77**	**50**	*i* P	**Pb**	**06 13 25.1**	**-0.6**
CLDR				*i* S	**Sn**	**06 13 38.0**	**-0.9**
TUTA	**Tutak**	**0.80**	**341**	*i* P	**Pb**	**06 13 26.0**	**-0.2**
GURO	**Guroymak-BITLI**	**0.89**	**264**	PG	**Pg**	**06 13 26.3**	**-1.1**
GURO				SG	**Sg**	**06 13 38.9**	**0.0**
AGRB	**Hanur-Agry**	**0.93**	**352**	PG	**Pg**	**06 13 27.4**	**-0.9**
SRTM	**Siirt_Merkez**	**1.17**	**236**	*i* P	**Pn**	**06 13 34.1**	**+1.5**
EATA	**Eleskirt**	**1.31**	**337**	IAML_P			
	comp=Z,393nm,0.2s						
EATA				*i* P	**Pb**	**06 13 35.0**	**-0.1**
BTMN	**Batman**	**1.67**	**244**	*i* P	**Pb**	**06 13 41.0**	**0.0**
BTMN				*i* S	**Sg**	**06 14 03.3**	**-0.6**

IDC ***17*** *06:13:07.5±5.3, 31°81S×179°74E, h298km±44km, mb3.2/3, mb1 3.6/5, mb1mx3.3/27, mbtmp4.2/5, Error ellipse: s-maj=52.6km s-min=24.7km az=45.0*
ISCJB ***17*** *06:13:12.0±0.6, 32°25S±0°07×179°7W±0°2, h350km, mb3.2/3, Error ellipse: s-maj=19.7km s-min=6.3km az=21.7*
WEL ***17*** *06:13:16.0±0.8, 32°S±6°×18°0W±1°3, h281km±14km*
ISC 17 06:13:11.3±0.9, 32°15S±0°08×179°9W±0°1, h350km, n61, σ2.9 17/68, mb3.2/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.35**	**31**	P	**Pn**	**06 14 13.8**	**-0.1**
GLKZ				S	**S**	**06 15 02.3**	**-2.0**
MXZ	**Matakaoa Point**	**5.60**	**195**	P	**Pn**	**06 14 40.9**	**+3.4**
MXZ				S	**S**	**06 15 44.9**	**-2.3**
WMGZ	**Waiomatatini S**	**5.82**	**193**	P	**Pn**	**06 14 40.8**	**+0.8**
KUZ	**Kuaotunu**	**5.84**	**217**	P	**Pn**	**06 14 44.4**	**+4.2**
HAZ	**Te Kaha**	**5.91**	**198**	P	**Pn**	**06 14 42.3**	**+1.4**
HAZ				S	**S**	**06 15 51.9**	**-1.7**
PKGZ	**Pakihiroa**	**5.96**	**196**	P	**Pn**	**06 14 43.7**	**+2.0**
WCZ	**Waipu Caves**	**6.09**	**230**	P	**Pn**	**06 14 45.3**	**+2.2**
PUZ	**Puketiti**	**6.10**	**194**	P	**Pn**	**06 14 45.6**	**+2.5**
PUZ				S	**S**	**06 15 56.0**	**-1.7**
RUGZ	**Raukumara Rang**	**6.13**	**198**	P	**Pn**	**06 14 45.8**	**+2.1**
OUZ	**Omahuta**	**6.22**	**239**	P	**Pn**	**06 14 46.0**	**+1.4**
TWGZ	**Tauwhareparae**	**6.26**	**196**	P	**Pn**	**06 14 49.7**	**+4.6**
MBAZ	**Motutapu North**	**6.30**	**222**	P	**Pn**	**06 14 48.6**	**+3.2**
OPRZ	**Ohinepanea**	**6.38**	**206**	P	**Pn**	**06 14 50.5**	**+4.1**
CNGZ	**Carnagh Station**	**6.50**	**193**	P	**Pn**	**06 14 50.7**	**+2.9**
MWZ	**Matawai**	**6.52**	**198**	P	**Pn**	**06 14 51.1**	**+3.1**
MWZ				S	**S**	**06 16 05.0**	**-1.5**
TKGZ	**Te Karaka**	**6.54**	**196**	P	**Pn**	**06 14 47.2**	**-1.0**
URZ	**Urewera**	**6.57**	**201**	P	**Pn**	**06 14 47.8**	**-0.7**
	3.7nm,0.3s,baz=349,slow=10,SNR=47						
URZ				S	**S**	**06 16 04.0**	**-3.5**
	11nm,0.3s,baz=57,slow=21,SNR=22						
URZ	**Urewera**	**6.57**	**201**	P	**Pn**	**06 14 48.6**	**+0.1**
RAGZ	**Rawiri**	**6.70**	**198**	P	**Pn**	**06 14 50.2**	**0.0**
RAGZ				S	**S**	**06 16 09.5**	**-1.0**
TOZ	**Tahuroa Road**	**6.73**	**213**	P	**Pn**	**06 14 53.5**	**+3.1**
RIGZ	**Rimuhau**	**6.81**	**196**	P	**Pn**	**06 14 53.7**	**+2.3**
RTZ	**Ruatahuna**	**6.94**	**201**	P	**Pn**	**06 14 55.1**	**+2.2**
SNGZ	**Shannon Statio**	**6.99**	**198**	P	**Pn**	**06 14 54.8**	**+1.3**
PRDZ	**Paritu Road**	**6.99**	**194**	P	**Pn**	**06 14 56.9**	**+3.3**
PRRZ	**Plateau Road**	**7.02**	**205**	P	**Pn**	**06 14 55.9**	**+2.1**
ALRZ	**Allen Road**	**7.09**	**205**	P	**Pn**	**06 14 56.8**	**+2.1**
KNZ	**Kokohu**	**7.13**	**195**	P	**Pn**	**06 14 57.8**	**+2.7**
RAHZ	**Arahi**	**7.18**	**199**	P	**Pn**	**06 14 58.2**	**+2.4**
MTHZ	**Maungataniwha**	**7.20**	**201**	P	**Pn**	**06 14 57.5**	**+1.6**
MHGZ	**Mahia Peninsul**	**7.21**	**194**	P	**Pn**	**06 14 57.8**	**+1.7**
KUTZ	**Kaahu Road**	**7.22**	**208**	P	**Pn**	**06 15 00.0**	**+3.8**
WHHZ	**Waihua**	**7.29**	**198**	P	**Pn**	**06 14 59.7**	**+2.6**
MRHZ	**Matea Rd**	**7.31**	**203**	P	**Pn**	**06 14 59.0**	**+1.7**
NMHZ	**Naumai**	**7.43**	**200**	P	**Pn**	**06 14 59.9**	**+1.2**
ARHZ	**Aropaoanui**	**7.53**	**199**	P	**Pn**	**06 15 00.6**	**+0.8**
BKZ	**Black Stump Fm**	**7.59**	**202**	P	**Pn**	**06 15 01.4**	**+0.8**
HIZ	**Hauiti**	**7.66**	**213**	P	**Pn**	**06 15 06.0**	**+4.7**
MCHZ	**McNeill Hill**	**7.78**	**200**	P	**Pn**	**06 15 05.0**	**+2.2**
CKHZ	**Cape Kidnapper**	**7.88**	**197**	P	**Pn**	**06 15 06.1**	**+2.1**
NGZ	**Ngauruhoe**	**7.91**	**206**	P	**Pn**	**06 15 06.1**	**+1.7**
FWZ	**Far West T-bar**	**7.99**	**206**	P	**Pn**	**06 15 06.2**	**+0.7**
BHHZ	**Black Hill Sta**	**8.02**	**203**	P	**Pn**	**06 15 06.0**	**+0.3**
TRVZ	**Turoa**	**8.03**	**206**	P	**Pn**	**06 15 07.3**	**+1.3**
MOVZ	**Moawhango**	**8.05**	**205**	P	**Pn**	**06 15 06.1**	**0.0**
KAHZ	**Kahuranaki**	**8.06**	**198**	P	**Pn**	**06 15 07.8**	**+1.7**
VRZ	**Vera Road**	**8.20**	**210**	P	**P**	**06 15 10.3**	**-0.4**
PXZ	**Pawanui**	**8.29**	**198**	P	**Pn**	**06 15 09.9**	**+1.2**
WPHZ	**Waipukurau**	**8.43**	**200**	P	**Pn**	**06 15 11.6**	**+1.1**
PRHZ	**Porangahau**	**8.57**	**198**	P	**Pn**	**06 15 13.5**	**+1.4**
TSZ	**Takapari Road**	**8.57**	**202**	P	**Pn**	**06 15 11.8**	**-0.4**
DVHZ	**Dannevirke**	**8.73**	**200**	P	**Pn**	**06 15 13.9**	**-0.1**
ANWZ	**Angora Road**	**8.79**	**198**	P	**Pn**	**06 15 15.5**	**+0.8**
PRWZ	**Pori Road**	**9.02**	**200**	P	**Pn**	**06 15 17.6**	**+0.2**
BFZ	**Birch Farm**	**9.06**	**199**	P	**Pn**	**06 15 17.0**	**-0.9**
MRZ	**Mangatainoka R**	**9.24**	**202**	P	**Pn**	**06 15 18.8**	**-1.3**
TIWZ	**Tintock**	**9.25**	**200**	P	**Pn**	**06 15 20.2**	**0.0**
RPZ	**Rata Peaks**	**13.56**	**209**	P	**P**	**06 16 09.3**	**-0.8**
	2.1nm,0.3s,baz=29,slow=19,SNR=11						
RPZ				S	S	06 18 29.0	-9.2
	1.5nm,0.3s,baz=153,slow=24,SNR=7.7						
ASAR	**Alice Springs**	**41.43**	**270**	P	**P**	**06 20 23.5**	**-1.7**
	0.5nm,0.4s,baz=104,slow=7.7,SNR=7.4						
WRA	**Warramunga Arr**	**42.58**	**275**	P	**P**	**06 20 32.2**	**-2.2**
	0.9nm,0.3s,baz=112,slow=7.9,SNR=20						
QSPA	**South Pole Qui**	**57.96**	**180**	P	**P**	**06 22 31.5**	**+3.5**
	0.8nm,0.7s,baz=112,slow=19,SNR=6.0						
FINES	**FINESS Array B**	**146.19**	**339**	PKPbc	**PKPbc**	**06 32 09.6**	**-0.6**
	1.0nm,0.4s,baz=46,slow=3.3,SNR=7.1						

NNC ***17*** *06:27:54.5±2.2, 50°43N×82°13E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=22.9km s-min=7.1km az=33.0, Suspected Mining explosion.*
SOME ***17*** *06:27:56.3, 50°45N×82°05E, h15km*
ISC 17 06:27:52.0±1.9, 50°5N±0°1×82°2E±0°1, h0km, n11, σ1.9 10/14, 3C-8D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SEM	**Semipalatinsk**	**1.24**	**264**	P	**Pn**	**06 28 17.7**	**+0.9**
	66nm,0.2s						
SEM				S	**Sn**	**06 28 34.1**	**-0.3**
	473nm,0.3s						
SEM	**Semipalatinsk**	**1.24**	**264**	*e*P	**Pn**	**06 28 17.7**	**+0.9**
	66nm,0.2s						
SEM				*e*S	**Sn**	**06 28 34.1**	**-0.3**
	473nm,0.3s						
KURK	**Kurchatov**	**2.27**	**276**	⇑Pg	**Pg**	**06 28 35.3**	**-0.3**
	17nm,0.6s						
KURK				⇓Lg	Lg	06 29 06.3	
	47nm,0.4s						
KURBB	**Kurchatov Arra**	**2.33**	**273**	⇓Pg	**Pg**	**06 28 36.2**	**-0.4**
	26nm,0.4s						
KURBB				⇓Lg	Lg	06 29 08.9	
	85nm,0.3s						
ZSN	**Zaisan**	**3.56**	**149**	Pg	**Pb**	**06 28 56.3**	**+0.4**
	3.7nm,0.6s						
ZSN				Lg	Lg	06 29 39.8	
	29nm,0.7s						
ZSN	**Zaisan**	**3.56**	**149**	*e*P	**Pb**	**06 28 55.9**	**0.0**
	2.4nm,0.4s						
ZSN				*e*S	**Sb**	**06 29 39.0**	**-0.8**
	12nm,0.6s						
MAKZ	**Makanchi**	**3.74**	**182**	⇓Pn	**Pn**	**06 28 53.7**	**+2.7**
	1.7nm,0.3s						
MAKZ				⇑Lg	Lg	06 29 45.6	
	16nm,0.6s						
MK31	**Makanchi Array**	**3.75**	**179**	Pn	**Pn**	**06 28 52.1**	**+0.9**
	1.0nm,0.3s,baz=5.2,slow=11,SNR=113						
MK31				⇓Pg	**Pg**	**06 29 02.6**	**-1.3**
	1.2nm,0.3s,baz=1.7,slow=14,SNR=5.1						
MK31				Lg	Lg	06 29 45.3	
	6.7nm,0.3s,baz=5.1,slow=29,SNR=7.9						
OTUK	**Ortayu**	**6.83**	**254**	⇑Lg	Lg	06 31 29.4	
	5.2nm,0.6s						
PDGK	**Podgornoye**	**7.45**	**195**	⇓Lg	Lg	06 31 43.0	
	3.2nm,0.6s						
BVA0	**Borovoye Array**	**7.72**	**293**	⇓Pn	**Pn**	**06 29 45.0**	**-0.6**
	0.5nm,0.5s,baz=95,slow=14,SNR=4.6						
BVA0				⇓Sn	**Sn**	**06 31 13.1**	**-0.7**
	0.7nm,0.3s,baz=110,slow=26,SNR=7.6						

UCR 17 06:38:41.9±1.3, 13°06N×89°11W, h52km±12km, MD3.6, ML3.6, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UESV	**Ojushtada**	**0.44**	**44**	*e*P	Pn	06 38 55.2	+2.5
UESV				*e*S	Sn	06 39 05.8	+5.4
LFRS	**El Faro**	**0.56**	**4**	*e*P	Pn	06 38 54.0	-0.1
SNVI	**San Vicente**	**0.61**	**25**	*e*P	Pn	06 38 55.0	+0.3
SNET	**Serv Nac Est T**	**0.63**	**349**	*e*P	Pn	06 38 55.0	0.0
SNET				*e*S	Sn	06 39 05.1	+0.6
UTEC	**San Salvador**	**0.64**	**352**	*e*P	Pn	06 38 55.1	0.0
UTEC				*e*S	Sn	06 39 05.4	+0.8
UESS	**San Salvador**	**0.65**	**352**	*e*P	Pn	06 38 55.5	+0.3
OPAM	**San Salvador**	**0.66**	**352**	*e*P	Pn	06 38 55.4	+0.1
OPAM				*e*S	Sn	06 39 05.9	+1.0
OPAM				IAML		06 39 09.9	
	comp=Z,3μm,0.2s						
UDBS	**Soyapango**	**0.66**	**356**	*e*P	Pn	06 38 55.4	0.0
UDBS				*e*S	Sn	06 39 05.6	+0.5
PAVA	**Las Pavas**	**0.67**	**14**	*e*P	Pn	06 38 55.6	+0.2
PAVA				*e*S	Sn	06 39 06.6	+1.3
UEES	**San Salvador**	**0.67**	**349**	*e*S	Sn	06 39 06.1	+0.8
LBRS	**Las Brisas**	**0.68**	**5**	*e*P	Pn	06 38 55.8	+0.3
LFU	**La Fuente**	**0.68**	**359**	*e*P	Pn	06 38 55.9	+0.2
LFU				*e*S	Sn	06 39 06.1	+0.5
BOQS	**Boqueron**	**0.69**	**346**	*e*P	Pn	06 38 56.0	+0.2
BOQS				*e*S	Sn	06 39 07.2	+1.3
TECA	**Tecapa**	**0.73**	**54**	*e*P	Pn	06 38 56.6	+0.3
PACA	**Pacayal**	**0.86**	**62**	*e*P	Pn	06 38 58.3	+0.3
PACA				*e*S	Sn	06 39 11.4	+1.6
LCY	**Lacayo**	**0.87**	**65**	*e*P	Pn	06 38 58.6	+0.5
LCY				*e*S	Sn	06 39 10.9	+1.1
VSM	**San Miguel**	**0.89**	**66**	*e*P	Pn	06 38 59.0	+0.5
CEVE	**Cerro Verde**	**0.91**	**327**	*e*P	Pn	06 38 59.1	+0.3
CEVE				*e*S	Sn	06 39 12.6	+1.5
SBLS	**San Blas**	**0.92**	**327**	*e*P	Pn	06 38 59.1	+0.2
SNJE	**San Jose**	**0.94**	**329**	*e*P	Pn	06 38 59.4	+0.3
SNJE				*e*S	Sn	06 39 12.0	+0.4
RTR	**El Retiro**	**0.98**	**328**	*e*P	Pn	06 39 00.1	+0.4
UNIC	**Santa Ana**	**1.02**	**335**	*e*P	Pn	06 39 00.3	+0.2
UNIC				*e*S	Sn	06 39 14.1	+0.7
LLGN	**La Laguna**	**1.11**	**8**	*e*P	Pn	06 39 01.5	+0.2
LLGN				*e*S	Sn	06 39 16.6	+0.9
CAHU	**Cacacuatique**	**1.12**	**51**	*e*P	Pn	06 39 02.2	+0.7
LCND	**La Caada**	**1.21**	**78**	*e*P	Pn	06 39 02.8	+0.3
LCND				*e*S	Sn	06 39 19.3	+1.5
CNCH	**Conchagua**	**1.26**	**80**	*e*P	Pn	06 39 03.5	+0.2
IXG	**Ixpaco**	**1.71**	**310**	*e*P	Pn	06 39 09.7	+0.1
IXG				*e*S	Sn	06 39 30.5	+0.1
NBG	**Las Nubes**	**1.94**	**322**	*e*P	Pn	06 39 14.5	+1.8
ESTN	**Estel**	**2.67**	**89**	*e*P	Pn	06 39 22.4	-0.1
ESTN				*e*S	Sn	06 39 54.1	+0.4
MATN	**Matagalpa**	**3.10**	**92**	*e*P	Pn	06 39 28.2	-0.3
MATN				*e*S	Sn	06 40 03.8	-0.6

ISK ***17*** *06:40:02.9, 34.60N×33.55E, h16km, ML2.8/6*
NIC ***17*** *06:40:05.0±0.1, 34.56N×33.49E, h35km, ML2.8*
ISC 17 06:40:02.9±2.5, 34°6N±0°1×33°52E±0°06, h17km±10km, n14, σ0.39/20, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CSS	**Mathiatis**	**0.44**	**339**	PG	**Pg**	**06 40 11.5**	**-0.4**
CSS				SG	**Sg**	**06 40 17.4**	**-0.5**
SZAC	**Souni**	**0.56**	**291**	P	**Pn**	**06 40 15.9**	**-0.3**
	baz=111						
SZAC				S	**Sn**	**06 40 24.8**	**-0.4**
PHNC	**Paralimni**	**0.62**	**43**	P	**Pn**	**06 40 17.2**	**+0.2**
	baz=225						
MAMC	**Mammari**	**0.67**	**338**	P	**Pn**	**06 40 17.8**	**+0.2**
	baz=159						
LEF	**Lefka**	**0.77**	**318**	PG	**Pg**	**06 40 18.3**	**+0.3**
LEF				SG	**Sg**	**06 40 29.0**	**+

KZA	**Kyzart**	**6.16**	**29**	P		**Pn**	**07 04 07.0**	**-1.0**
	SNR=11							
EKS2	**Erkin-Say**	**6.23**	**17**	P		**Pn**	**07 04 08.6**	**0.0**
	SNR=39							
KK31	**Karatay Array**	**6.39**	**355**	*e*Pn		**Pn**	**07 04 09.8**	**-0.8**
KK31				*e*Sn		**Sn**	**07 05 20.2**	**-3.6**
KK31	**Karatay Array**	**6.39**	**355**	⇑P		**Pn**	**07 04 10.0**	**-0.6**
	16nm,0.3s,baz=181,slow=13,SNR=332							
KK31				⇓S		**Sn**	**07 05 19.2**	**-4.5**
	20nm,0.5s,baz=158,slow=14,SNR=19							
KKAR	**Karatay Array**	**6.39**	**355**	*e*Sn		**Sn**	**07 05 20.0**	**-3.8**
AAK	**Ala-Archa**	**6.40**	**22**	P		**Pn**	**07 04 10.8**	**0.0**
	14nm,0.3s,baz=166,slow=5.3,SNR=118							
AAK				S		**Sn**	**07 05 19.1**	**-5.0**
	3.4nm,0.3s,baz=123,slow=22,SNR=12							
AAK	**Ala-Archa**	**6.40**	**22**	P		**Pn**	**07 04 10.4**	**-0.4**
	SNR=37							
AAK	**Ala-Archa**	**6.40**	**22**	*e*Pn		**Pn**	**07 04 09.8**	**-1.0**
AAK				*e*Sn		**Sn**	**07 05 22.9**	**-1.2**
AAK	**Ala-Archa**	**6.40**	**22**	⇑P		**Pn**	**07 04 10.5**	**-0.4**
	22nm,0.4s							
AAK				⇓S		**Sn**	**07 05 20.7**	**-3.4**
	52nm,0.8s							
KBK	**Karagaybulak**	**6.56**	**24**	P		**Pn**	**07 04 12.9**	**0.0**
	SNR=7.3							
FRU1	**Bishkek**	**6.59**	**22**	*e*Pn		**Pn**	**07 04 12.9**	**-0.4**
ULHL	**Ulahol**	**6.71**	**33**	P		**Pn**	**07 04 14.8**	**-0.1**
	SNR=6.8							
CHMS	**Chumysh**	**6.80**	**22**	P		**Pn**	**07 04 16.0**	**0.0**
	SNR=6.0							
USP	**Ospenovka**	**6.98**	**20**	P		**Pn**	**07 04 18.4**	**+0.1**
	SNR=18							
TKM2	**Tokmak 2**	**7.02**	**27**	P		**Pn**	**07 04 18.7**	**-0.1**
	SNR=39							
TKM2	**Tokmak 2**	**7.02**	**27**	⇑P		**Pn**	**07 04 18.5**	**-0.4**
	28nm,0.7s							
TKM2				⇑S		**Sn**	**07 05 33.8**	**-4.9**
	22nm,1.1s							
TARG	**Taragay, Kyrgy**	**7.11**	**43**	*e*Pn		**Pn**	**07 04 18.9**	**-1.4**
MDOK	**Medeo**	**7.80**	**33**	⇑P		**Pn**	**07 04 29.0**	**0.0**
	25nm,0.5s							
PRZ	**Przheval'sk**	**7.95**	**42**	*e*Pn		**Pn**	**07 04 30.2**	**-0.8**
GEYT	**Alibeck**	**10.55**	**280**	P		**Pn**	**07 05 01.9**	**-2.8**
	1.2nm,0.3s,baz=99,slow=11,SNR=6.1							
GEYT				S		**Sn**	**07 06 59.1**	**-3.4**
	1.4nm,0.3s,baz=105,slow=15,SNR=3.5							
MAKZ	**Makanchi**	**12.84**	**35**	*e*Pn		**Pn**	**07 05 33.0**	**-0.7**
MK01	**Makanchi Array**	**12.96**	**36**	*e*Pn		**Pn**	**07 05 34.5**	**-0.7**
MK31	**Makanchi Array**	**12.97**	**36**	*e*Pn		**Pn**	**07 05 34.7**	**-0.6**
MK31	**Makanchi Array**	**12.97**	**36**	P		**Pn**	**07 05 34.5**	**-0.9**
	1.7nm,0.4s,baz=208,slow=9.2,SNR=36							
MKAR	**Makanchi Array**	**12.97**	**36**	P		**Pn**	**07 05 34.3**	**-1.1**
	0.5nm,0.3s,baz=221,slow=13,SNR=22							
MKAR				S		**Sn**	**07 08 07.2**	**+7.3**
	0.1nm,0.3s,baz=216,slow=22,SNR=2.2							
MKAR	**Makanchi Array**	**12.97**	**36**	*e*Pn		**Pn**	**07 05 34.8**	**-0.5**
PYUN	**Piuthan**	**13.10**	**128**	*e*P		**Pn**	**07 05 34.4**	**-2.9**
	11nm,0.4s							
DANN	**Dangsing**	**13.43**	**125**	*e*P		**Pn**	**07 05 39.4**	**-2.1**
	8.8nm,0.4s							
KOLN	**Koldanda**	**13.72**	**127**	*e*P		**Pn**	**07 05 43.4**	**-1.6**
	4.3nm,0.3s							
WMQ	**Urumqi**	**14.38**	**55**	*e*P		**P**	**07 05 52.8**	**-1.5**
WMQ				LR		LR		
	comp=N,95nm,15.7s							
WMQ				LR		LR		
	comp=E,60nm,22.1s							
WMQ				LR		LR		
	comp=Z,69nm,22.1s							
DMN	**Daman**	**14.81**	**124**	*e*P		**Pn**	**07 05 57.5**	**-1.0**
	6.4nm,0.3s							
KURBB	**Kurchatov Arra**	**14.83**	**18**	P		**Pn**	**07 05 56.3**	**-2.0**
	0.2nm,0.3s,baz=209,slow=11,SNR=6.7							
AB31	**Akbulak array**	**14.99**	**330**	⇓P		**P**	**07 06 01.5**	**+0.5**
	0.9nm,0.3s,baz=144,slow=13,SNR=94							
ABKAR	**Akbulak array**	**14.99**	**330**	*e*Pn		**P**	**07 06 00.1**	**-0.9**
PKIN	**Phulchoki**	**15.02**	**123**	*e*P		**Pn**	**07 06 00.1**	**-1.1**
	28nm,0.7s							
PKI	**Pulchoki**	**15.04**	**123**	*e*P		**Pn**	**07 06 01.0**	**-0.4**
	27nm,0.7s							
GUN	**Gumba**	**15.14**	**121**	*e*P		**P**	**07 06 02.6**	**-0.5**
	14nm,0.5s							
JIRN	**Jiri**	**15.51**	**121**	*e*P		**Pn**	**07 06 06.5**	**-0.6**
	39nm,0.5s							
RAMN	**Ramite**	**16.24**	**123**	*e*P		**P**	**07 06 14.9**	**-0.3**
BVAR	**Borovoye Array**	**16.31**	**358**	P		**Pn**	**07 06 15.9**	**-0.2**
	0.8nm,0.3s,baz=160,slow=11,SNR=22							
BRVK	**Borovoye**	**16.34**	**358**	*e*P		**Pn**	**07 06 16.1**	**-0.4**
	4.4nm,0.9s							
AKTO	**Aktyubinsk**	**16.70**	**329**	P		**Pn**	**07 06 22.1**	**+1.3**
	1.7nm,0.3s,baz=140,slow=8.7,SNR=31							
AKTO				S		**S**	**07 09 20.8**	**-3.0**
	0.1nm,0.3s,baz=156,slow=20,SNR=4.0							
AKTO	**Aktyubinsk**	**16.70**	**329**	⇓P		**Pn**	**07 06 21.5**	**+0.7**
	3.7nm,0.5s							
ZAA0	**Zalesovo Array**	**19.61**	**24**	*e*P		**P**	**07 06 51.8**	**+0.5**
	9.7nm,0.7s							
ZALV	**Zalesovo Beam**	**19.61**	**24**	P		**Pn**	**07 06 52.4**	**-2.7**
	2.0nm,0.3s,baz=226,slow=11,SNR=31							
ZALV	**Zalesovo Beam**	**19.61**	**24**	*e*P		**P**	**07 06 52.0**	**+0.7**
SONM	**Songino Array**	**28.02**	**56**	P		**P**	**07 08 13.0**	**+2.2**
	0.2nm,0.5s,baz=262,slow=10.0,SNR=3.0							
BRTR	**Keskin Array B**	**29.58**	**287**	P		**P**	**07 08 26.8**	**+2.1**
	1.0nm,0.5s,baz=106,slow=9.4,SNR=6.6							
HHC	**Hu-ho-hao-te**	**31.47**	**70**	*e*P		**P**	**07 08 42.8**	**+1.6**
HHC				pmax		pmax		
	comp=Z,20nm,0.7s							
HHC				pmax		pmax		
	comp=Z,140nm,5.2s							
AKASG	**Malin Array Be**	**32.98**	**309**	P		**P**	**07 08 55.9**	**+1.8**
	1.4nm,0.3s,baz=83,slow=7.7,SNR=16							
AKBB	**Malin Array Si**	**32.98**	**309**	*e*P		**P**	**07 08 56.0**	**+2.0**
	2.6nm,0.5s							
KIEV	**Kiev**	**32.99**	**308**	*e*P		**P**	**07 08 55.8**	**+1.7**
	2.6nm,0.5s							
AK11	**Malin Array Si**	**33.01**	**308**	*e*P		**P**	**07 08 55.8**	**+1.4**
MLR	**Muntele Rosu**	**34.87**	**299**	*e*P		**P**	**07 09 12.6**	**+2.0**
	9.1nm,1.0s							
BUR04	**Bucovina Ar. S**	**35.36**	**303**	*e*P		**P**	**07 09 17.0**	**+2.3**
FIA1	**FINESS Array S**	**37.42**	**326**	*e*P		**P**	**07 09 33.5**	**+1.7**
	2.5nm,0.8s							
FINES	**FINESS Array B**	**37.42**	**326**	P		**P**	**07 09 33.9**	**+2.0**
	2.0nm,0.4s,baz=124,slow=9.7,SNR=17							
ARCES	**ARCESS Array B**	**41.02**	**337**	P		**P**	**07 10 03.8**	**+2.3**
	1.7nm,0.5s,baz=112,slow=8.5,SNR=16							
ARE0	**ARCESS Array S**	**41.02**	**337**	*e*P		**P**	**07 10 03.8**	**+2.3**
CN2	**Changchun**	**41.30**	**63**	*e*P		**P**	**07 10 07.5**	**+3.4**
GERES	**GERESS Array B**	**42.98**	**305**	P		**P**	**07 10 20.4**	**+2.6**
	0.5nm,0.6s,baz=80,slow=7.1,SNR=2.7							
NC405	**NORSAR Array S**	**44.10**	**323**	*e*P		**P**	**07 10 28.3**	**+1.9**
NC602	**NORSAR Array S**	**44.15**	**322**	*e*P		**P**	**07 10 28.4**	**+1.6**
NC303	**NORSAR Array S**	**44.28**	**323**	*e*P		**P**	**07 10 29.9**	**+2.1**
NB201	**NORSAR Array S**	**44.30**	**323**	*e*P		**P**	**07 10 29.6**	**+1.7**
NB2	**NORSAR Subarra**	**44.33**	**323**	P		**P**	**07 10 29.8**	**+1.5**
	comp=Z,2.0nm,0.5s,baz=97,slow=7.9							
NOA	**NORSAR Array B**	**44.33**	**323**	P		**P**	**07 10 30.1**	**+1.8**
	comp=Z,2.7nm,0.6s,baz=96,slow=7.7,SNR=16							
NBO00	**NORSAR Array S**	**44.55**	**323**	*e*P		**P**	**07 10 31.4**	**+1.5**
NC204	**NORSAR Array S**	**44.57**	**323**	*e*P		**P**	**07 10 31.9**	**+1.8**
KONO	**Kongsberg**	**45.05**	**321**	*e*P		**P**	**07 10 35.5**	**+1.6**
	comp=Z,10nm,1.0s							
ESDC	**Sonseca Array**	**57.55**	**298**	P		**P**	**07 12 09.1**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=65,slow=7.3,SNR=5.1							
TOA0	**Torodi Ar. Sit**	**65.95**	**269**	*e*P		**P**	**07 13 02.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**65.95**	**269**	P		**P**	**07 13 01.4**	**-1.9**
	comp=Z,2.1nm,0.6s,baz=52,slow=5.7,SNR=16							
INK	**Inuvik**	**73.64**	**9**	P		**P**	**07 13 49.7**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=314,slow=5.6,SNR=7.0							
YKA	**Yellowknife Ar**	**81.00**	**3**	P		**P**	**07 14 32.2**	**+2.0**
	comp=Z,0.7nm,0.6s,baz=349,slow=5.5,SNR=20							
WRA	**Warramunga Arr**	**81.92**	**122**	P		**P**	**07 14 35.4**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=327,slow=4.8,SNR=4.1							
ASAR	**Alice Springs**	**84.20**	**125**	P		**P**	**07 14 46.7**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=306,slow=5.0,SNR=6.3							
PLCA	**Paso Flores**	**150.12**	**250**	PKPbc		**PKPbc**	**07 22 04.3**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=35,slow=1.6,SNR=3.0							

*ISCJB **17** 07:24:35.6±0.6, 13°.33N±0°.05×89°.93W±0°.04, h71km±4km, mb4.0/31, Error ellipse: s-maj=9.9km s-min=4.2km az=40.6*
*UCR **17** 07:24:36.8±1.1, 13°.37N×89°.92W, h52km±4km, ML4.4, mb4.1(NEIC)*
*SNET **17** 07:24:36.0±0.0, 13°.36N×89°.92W, h53km*
*NEIC **17** 07:24:37.6±0.9, 13°.29N×89°.90W, h79km±8km, mb4.1/29,*
MD4.6(SNET), Error ellipse: s-maj=15.1km s-min=6.8km az=222.0
NEIC Felt [III] at San Salvador.
*IDC **17** 07:24:38.9±1.1, 13°.75N×89°.38W, h83km±8km, mb3.5/10, mb1 3.8/12, mb1mx3.6/34, mbtmp3.9/12, MS3.3/5, Ms1 3.3/5, ms1mx3.1/19, Error ellipse: s-maj=32.9km s-min=8.6km az=46.0*

ISC 17 07:24:36.8±1.1, 13°.37N±0°.08×89°.89W±0°.07, h65km±8km, n106, σ1§42/120, mb4.1/31, 1C-3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CEVE	**Cerro Verde**	**0.53**	**30**	*e*P		**Pn**	**07 24 49.0**	**-0.7**
CEVE				IAML			07 25 02.2	
	comp=Z,36μm,0.3s							
SBLS	**San Blas**	**0.54**	**29**	⇓*i*P		**Pn**	**07 24 49.2**	**-0.6**
SNJE	**San Jose**	**0.57**	**29**	⇓*i*P		**Pn**	**07 24 49.6**	**-0.6**
RTR	**El Retiro**	**0.58**	**25**	⇓*i*P		**Pn**	**07 24 49.8**	**-0.3**
BOQS	**Boqueron**	**0.70**	**59**	⇑*e*P		**Pn**	**07 24 51.3**	**-0.2**
CLUB	**San Salvador**	**0.70**	**62**	*e*P		**Pn**	**07 24 51.2**	**-0.2**
CLUB				IAML			07 24 52.6	
	comp=Z,30μm,0.3s							
CLUB				*e*S		**Sn**	**07 25 02.6**	**+0.4**
UNIC	**Santa Ana**	**0.70**	**28**	*e*P		**Pn**	**07 24 51.1**	**-0.3**
SNET	**Serv Nac Est T**	**0.72**	**64**	*e*P		**Pn**	**07 24 51.2**	**-0.4**
SNET				AML		AML	07 24 51.8	
	comp=Z,31μm,0.2s							
SNET				*e*S		**Sn**	**07 25 02.7**	**+0.1**
UEES	**San Salvador**	**0.73**	**61**	*e*P		**Pn**	**07 24 51.4**	**-0.3**
UTEC	**San Salvador**	**0.75**	**64**	*e*P		**Pn**	**07 24 51.7**	**-0.3**
UTEC				*e*S		**Sn**	**07 25 03.5**	**+0.3**
UESS	**San Salvador**	**0.75**	**64**	*e*P		**Pn**	**07 24 52.1**	**+0.1**
UESS				*e*S		**Sn**	**07 25 03.9**	**+0.7**
OPAM	**San Salvador**	**0.76**	**63**	*e*P		**Pn**	**07 24 52.0**	**-0.1**
OPAM				*e*S		**Sn**	**07 25 03.0**	**-0.3**
OPAM				IAML			07 25 07.6	
	comp=Z,21μm,0.2s							
UDBS	**Soyapango**	**0.80**	**64**	*e*P		**Pn**	**07 24 52.4**	**-0.2**
UDBS				*e*S		**Sn**	**07 25 04.6**	**+0.4**
LFRS	**El Faro**	**0.85**	**73**	*e*P		**Pn**	**07 24 52.7**	**-0.5**
LFU	**La Fuente**	**0.85**	**63**	*e*P		**Pn**	**07 24 53.2**	**0.0**
LBRS	**Las Brisas**	**0.91**	**66**	*e*P		**Pn**	**07 24 54.0**	**+0.1**
PAVA	**Las Pavas**	**0.99**	**70**	*e*P		**Pn**	**07 24 55.1**	**+0.1**
PAVA				*e*S		**Sn**	**07 25 09.8**	**+1.2**
SNVI	**San Vicente**	**1.05**	**77**	*e*P		**Pn**	**07 24 55.9**	**+0.1**
LLGN	**La Laguna**	**1.21**	**49**	*e*P		**Pn**	**07 24 57.6**	**-0.2**
LLGN				*e*S		**Sn**	**07 25 14.5**	**+0.8**
LLGN				IAML			07 25 16.8	
	comp=Z,5μm,0.6s							
TECA	**Tecapa**	**1.36**	**85**	*e*P		**Pn**	**07 24 60.0**	**+0.1**
PACA	**Pacayal**	**1.53**	**86**	*e*P		**Pn**	**07 25 02.4**	**+0.3**
LCY	**Lacayo**	**1.56**	**88**	*e*P		**Pn**	**07 25 02.9**	**+0.5**
VSM	**San Miguel**	**1.58**	**88**	*e*P		**Pn**	**07 25 03.4**	**+0.6**
CAHU	**Cacaouatique**	**1.68**	**76**	*e*P		**Pn**	**07 25 04.5**	**+0.2**
APG	**El Apazote**	**1.72**	**341**	P		**Pn**	**07 25 05.0**	**+0.3**
	comp=Z,68nm,0.3s,baz=148,slow=8.2,SNR=563							
APG				S		**Sn**	**07 25 27.4**	**+1.5**
	comp=Z,208nm,0.3s,baz=68,slow=19,SNR=10							
LCND	**La Caada**	**1.95**	**92**	*e*P		**Pn**	**07 25 08.1**	**+0.5**
LCND				*e*S		**Sn**	**07 25 32.8**	**+1.7**
CNCH	**Conchagua**	**2.01**	**92**	*e*P		**Pn**	**07 25 08.9**	**+0.4**
TGUH	**Tegucigalpa,Un**	**2.64**	**75**	*e*Pn		**Pn**	**07 25 17.3**	**+0.3**
CRIN	**San Cristobal**	**2.85**	**103**	*e*P		**Pn**	**07 25 20.3**	**+0.3**
CNGN	**Cerro Negro**	**3.23**	**105**	*e*P		**Pn**	**07 25 26.4**	**+1.3**
CNGN				IAML			07 26 12.7	
	comp=E,400nm,0.6s							
MOMN	**Momotombo**	**3.41**	**106**	*e*P		**Pn**	**07 25 27.9**	**+0.3**
COPN	**Copaltepe**	**3.43**	**110**	*e*P		**Pn**	**07 25 28.2**	**+0.3**
ESTN	**Estel**	**3.44**	**94**	*e*Pn		**Pn**	**07 25 28.4**	**+0.4**
ESTN	**Estel**	**3.44**	**94**	*e*P		**Pn**	**07 25 28.5**	**+0.4**
ESTN				IAML			07 26 13.5	
	comp=E,98nm,0.9s							
BRAN	**Las Pilas**	**3.51**	**100**	*e*P		**Pn**	**07 25 32.9**	**+3.9**
BRAN				*e*S		**Sn**	**07 26 11.0**	**+1.7**
CCIG	**Comitan**	**3.62**	**323**	*e*Pn		**Pn**	**07 25 32.2**	**+1.7**
MGAN	**Managua**	**3.76**	**108**	*e*P		**Pn**	**07 25 32.9**	**+0.6**
MGAN				*e*S		**Sn**	**07 26 13.1**	**-2.2**
CRUN	**El Crucero**	**3.77**	**111**	*e*P		**Pn**	**07 25 34.2**	**+1.7**
MATN	**Matagalpa**	**3.89**	**96**	*e*P		**Pn**	**07 25 34.3**	**+0.1**
BOAB	**BOACO BROADBAN**	**4.22**	**102**	*e*Pn		**Pn**	**07 25 38.2**	**-0.4**
BOAB	**BOACO BROADBAN**	**4.22**	**102**	*e*P		**Pn**	**07 25 38.4**	**-0.2**
CONN	**Concepcion**	**4.54**	**113**	*e*P		**Pn**	**07 25 44.2**	**+1.2**
ACON	**Acoyapa**	**4.81**	**106**	*e*P		**Pn**	**07 25 46.8**	**+0.1**
ESPN	**Las Esperanzas**	**5.58**	**101**	*e*Pn		**Pn**	**07 25 59.5**	**+2.2**
JTS	**JuntasAbangare**	**5.72**	**122**	P		**Pn**	**07 26 00.2**	**+1.0**
	comp=E,6.7nm,0.3s,baz=10,slow=24,SNR=54							
JTS				S		**Sn**	**07 26 59.3**	**-4.3**
	comp=E,3.9nm,0.3s,baz=322,slow=19,SNR=1.4							
JTS	**JuntasAbangare**	**5.72**	**122**	*e*Pn		**Pn**	**07 26 00.6**	**+1.3**
CMIG	**Matias Romero**	**6.07**	**308**	P		**Pn**	**07 26 05.2**	**+1.2**
	comp=E,3.3nm,0.3s,baz=105,slow=11,SNR=40							
CMIG				S		**Sn**	**07 27 11.2**	**-1.0**
	comp=E,5.8nm,0.3s,baz=98,slow=19,SNR=3.2							
HDC	**Heredia**	**6.58**	**120**	*e*Pn		**Pn**	**07 26 12.0**	**+1.0**
TEIG	**Tepich**	**6.99**	**13**	*e*Pn		**Pn**	**07 26 17.8**	**+1.2**
TEIG	**Tepich**	**6.99**	**13**	*e*P		**Pn**	**07 26 14.0**	**+1.8**
MYIG	**Mrida**	**7.55**	**1**	*e*Pn		**Pn**	**07 26 25.7**	**+1.5**
555A	**McAlpin**	**17.86**	**20**	*e*P		**Pn**	**07 28 45.7**	**+4.9**
	comp=E,13nm,0.9s							
VBMS	**Vicksburg**	**18.77**	**358**	*e*P		**Pn**	**07 28 52.8**	**+1.0**
	comp=E,47nm,0.7s							
SDV	**Santo Domingo**	**19.41**	**101**	P		**P**	**07 28 55.3**	**-2.7**
	comp=E,0.6nm,0.3s,baz=285,slow=5.3,SNR=12							
SDV	**Santo Domingo**	**19.41**	**101**	*e*P		**P**	**07 28 56.9**	**-1.1**
	comp=E,7.7nm,0.8s							
BANI	**BANI**	**19.44**	**73**	*e*P		**P**	**07 28 58.5**	**+0.3**
Z41A	**Richland Creek**	**19.98**	**353**	*e*P		Pn	07 29 06.5	+0.4
	comp=E,25nm,0.9s							
TX31	**Lajitas Ar. Si**	**20.39**	**323**	*e*P		**P**	**07 29 09.9**	**+1.4**
TXAR	**Lajitas Array**	**20.39**	**323**	P		**P**	**07 29 10.4**	**+2.0**
	comp=E,1.1nm,0.5s,baz=143,slow=11,SNR=33							
TXAR				PcP		**PcP**	**07 33 18.1**	**-0.9**
	comp=E,0.3nm,0.5s,baz=171,slow=2.7,SNR=7.5							
Y49A	**Blount Mountai**	**20.64**	**8**	*e*P		**P**	**07 29 11.5**	**+0.4**
	comp=E,14nm,0.9s							
GOGA	**Godfrey**	**20.79**	**15**	*e*P		**P**	**07 29 13.8**	**+1.2**
	comp=E,6.6nm,1.1s							
OXF	**Oxford**	**21.05**	**1**	*e*P		**P**	**07 29 17.1**	**+1.6**
	comp=E,17nm,0.7s							
ABTX	**Abilene, Hawle**	**21.14**	**337**	*e*P		**P**	**07 29 17.0**	**+0.5**
	comp=E,5.8nm,0.5s							
MIAR	**Mount Ida**	**21.35**	**352**	*e*P		**P**	**07 29 19.1**	**+0.5**
	comp=E,3.7nm,0.8s							
W41B	**Gary Mavity, V**	**21.81**	**355**	*e*P		**P**	**07 29 24.4**	**+0.8**
	comp=E,6.7nm,0.9s							
WHAR	**Wooly Hollow**	**21.93**	**355**	*e*P		**P**	**07 29 26.3**	**+1.5**
	comp=E,4.1nm,0.9s							
CPCT	**Cooper Cave**	**22.51**	**12**	*e*P		**P**	**07 29 31.8**	**+0.7**
	comp=E,2.2nm,0.7s							
WVT	**Waverly**	**22.74**	**4**	*e*P		**P**	**07 29 34.0**	**+0.5**
	comp=E,5.7nm,0.9s							
WMOK	**Wichita Mounta**	**22.75**	**341**	*e*P		**P**	**07 29 32.0**	**-1.6**
	comp=E,3.4nm,0.8s							
MNTX	**Cornudas Mount**	**23.13**	**325**	*e*P		**P**	**07 29 37.2**	**-0.3**
	comp=E,1.2nm,0.6s							
ATAH	**Atahualpa**	**23.35**	**150**	P		**P**	**07 29 42.9**	**+2.7**
	comp=E,4.6nm,0.7s,baz=68,slow=3.3,SNR=3.5							
T42A	**Van Buren**	**23.59**	**358**	*e*P		**P**	**07 29 40.6**	**-1.1**
	comp=E,3.2nm,0.7s							
T47A	**Sharon Grove**	**23.65**	**6**	*e*P		**P**	**07 29 45.0**	**+2.7**
	comp=E,10nm,0.7s							
AMTX	**Amarillo**	**23.93**	**336**	*e*P		**P**	**07 29 45.3**	**+0.3**
	comp=E,9.6nm,1.1s							
T49A	**Edmonton**	**23.96**	**9**	*e*P		**P**	**07 29 45.9**	**+0.8**
	comp=E,7.8nm,0.8s							
SIUC	**Southern Illin**	**24.25**	**1**	*e*P		**P**	**07 29 49.3**	**+1.6**
	comp=E,9.3nm,0.8s							
CCM	**Cathedral Cave**	**24.62**	**357**	*e*P		**P**	**07 29 51.5**	**+0.4**
	comp=E,8.2nm,1.1s							
WCI	**Wyandotte Cave**	**24.97**	**7**	*e*P		**P**	**07 29 55.0**	**+0.8**
	comp=E,6.8nm,0.8s							
ANMO	**Albuquerque**	**26.19**	**328**	P		**P**	**07 30 03.8**	**-1.8**
	comp=E,0.2nm,0.3s,baz=126,slow=19,SNR=1.9							
ECSD	**EROS Data Cent**	**30.81**	**350**	*e*P		**P**	**07 30 45.0**	**-1.4**
	comp=E,4.6nm,1.0s							
RWWY	**Rawlins**	**31.99**	**335**	*e*P		**P**	**07 30 58.2**	**+1.1**
	comp=E,6.3nm,1.0s							
TCRU	**Three Creeks R**	**32.12**	**326**	*e*P		**P**	**07 30 58.2**	**-0.1**
	comp=E,1.7nm,0.6s							
HRV	**Adam Dziewonsk**	**33.09**	**25**	*e*P		**P**	**07 31 06.6**	**+0.2**
PDAR	**Pinedale Array**	**33.87**	**334**	P		**P**	**07 31 11.7**	**-1.7**
	comp=E,0.1nm,0.4s,baz=116,slow=11,SNR=2.2							
PDAR				PcP		**PcP**	**07 33 49.5**	**-1.5**
	comp=E,0.4nm,0.7s,baz=134,slow=4.3,SNR=3.7							
REDW	**Red Top Meadow**	**34.91**	**333**	*e*P		**P**	**07 31 22.2**	**-0.2**
	comp=E,3.0nm,0.7s							
NV01	**Mina Array Sit**	**35.46**	**320**	*e*P		**P**	**07 31 27.1**	**-0.1**
NVAR	**Mina Array Bea**	**35.46**	**320**	P		**P**	**07 31 28.2**	**+1.0**
	comp=E,3.8nm,0.7s,baz=135,slow=8.3,SNR=31							
NVAR				PcP		**PcP**	**07 33 56.5**	**+0.8**
	comp=E,1.7nm,0.7s,baz=137,slow=3.9,SNR=10							
LPAZ	**La Paz**	**36.48**	**143**	LR		LR	07 45 54.9	
	comp=E,37nm,18.7s,baz=332,slow=35							
MCMT	**McKenzie Canyo**	**36.95**	**333**	*e*P		**P**	**07 31 39.9**	**0.0**
DGMT	**Dagmar**	**36.95**	**344**	*e*P		**P**	**07 31 39.7**	**0.0**
	comp=E,6.6nm,0.8s							
ULM	**Lac du Bonnet**	**37.10**	**354**	P		**P**	**07 31 38.0**	**-2.8**
	comp=E,3.3nm,0.6s,baz=170,slow=7.3,SNR=7.9							
ULM				LR		LR	07 47 56.7	
	comp=E,68nm,19.6s,baz=100,slow=38							
YBH	**Yreka Blue Hor**	**40.13**	**321**	LR		LR	07 51 17.0	
	comp=E,48nm,21.9s,baz=321,slow=40							
SCHQ	**Schefferville**	**45.13**	**19**	P		**P**	**07 32 44.1**	**-2.6**
	comp=E,4.9nm,0.7s,baz=226,slow=8.5,SNR=11							
SCHQ	**Schefferville**	**45.13**	**19**	*e*P		**P**	**07 32 44.7**	**-1.9**
	comp=E,7.5nm,0.8s							
FCC	**Fort Churchill**	**45.42**	**357**	*e*P		**P**	**07 32 47.1**	**-1.7**
	comp=E,2.6nm,0.9s							
CPUP	**Villa Florida**	**50.60**	**141**	P		**P**	**07 33 28.9**	**-0.3**
	comp=E,0.7nm,0.9s,baz=17,slow=6.9,SNR=3.0							
YKA	**Yellowknife Ar**	**52.12**	**346**	P		**P**	**07 33 38.6**	**-1.5**
	comp=E,0.8nm,0.5s,baz=140,slow=7.4,SNR=24							
YKA				PcP		**PcP**	**07 34 50.1**	**-1.1**
	comp=E,0.2nm,0.6s,baz=152,slow=4.1,SNR=3.8							
YKB5	**Yellowknife Ar**	**52.12**	**346**	*e*P		**P**	**07 33 39.2**	**-0.9**
ILAR	**Eielson Array**	**64.23**	**336**	P		**P**	**07 35 02.5**	**-2.1**
	comp=E,0.3nm,0.6s,baz=132,slow=5.2,SNR=5.5							
MDT	**Midelt**	**78.97**	**59**	LR		LR	08 06 36.0	
	comp=E,22nm,19.2s,baz=349,slow=32							
NOA	**NORSAR Array B**	**83.72**	**29**	LR		LR	08 12 51.9	
	comp=E,9.4nm,21.2s,baz=335,slow=35							
MKAR	**Makanchi Array**	**119.70**	**6**	PKP		**PKPdf**

MTN	Manton Dam	52.40	271	*e*P		P	07 51 48.6	-1.9	
	12nm,0.9s								
FITZ	Fitzroy Crossi	55.99	263	*e*P		P	07 52 15.4	-1.2	
	23nm,1.1s								
VNDA	Vanda	56.43	186	P		P	07 52 18.7	-0.1	
	3.8nm,1.0s,baz=32,slow=6.3,SNR=9.3								
VNDA	Vanda	56.43	186	*e*P		P	07 52 20.3	+1.4	
	5.2nm,1.0s								
SOEI	Soe	59.77	272	*e*P		P	07 52 42.5	-0.9	
	66nm,0.8s								
MBWA	Marble Bar	60.61	258	*e*P		P	07 52 47.9	-1.0	
	16nm,0.9s								
MMRI	Maumere	62.04	272	*e*P		P	07 52 56.8	-1.9	
	46nm,0.9s								
MORW	Morawa	62.13	248	*e*P		P	07 52 57.6	-1.4	
	6.0nm,0.9s								
QSPA	South Pole Qui	67.77	180	*e*P		P	07 53 35.5	+0.3	
	22nm,1.1s								
MJAR	Matsushiro Arr	73.59	322	P		P	07 54 11.1	+0.1	
	3.5nm,0.6s,baz=166,slow=5.6,SNR=9.3								
MAJO	Matsushiro	73.59	322	*e*P		P	07 54 11.1	+0.1	
MAT	Matsushiro	73.59	322	P		P	07 54 11.3	+0.3	
KMRM	Mail Ridge	78.17	37	*e*P		P	07 54 36.6	-0.5	
	14nm,1.0s								
ISA	Isabella, Lake	78.36	44	*e*P		P	07 54 37.8	-0.4	
	1.0nm,1.1s								
CMB	Columbia Colle	78.66	41	*e*P		P	07 54 39.0	-0.8	
	3.0nm,1.0s								
PETK	Petropavlovsk-	78.88	343	P		P	07 54 41.2	+0.6	
	10nm,0.8s,baz=134,slow=7.3,SNR=6.3								
PETK	Petropavlovsk-	78.88	343	*e*P		P	07 54 39.2	-1.3	
PEA1	Petropavlovsk-	78.88	343	*e*P		P	07 54 41.2	+0.6	
AFDM	Forest Hills D	78.90	40	*e*P		P	07 54 39.9	-1.2	
	3.9nm,1.1s								
WAKR	Walker	79.54	41	*e*P		P	07 54 44.2	-0.6	
	3.9nm,1.0s								
YBH	Yreka Blue Hor	79.75	37	P		P	07 54 46.6	+0.9	
	3.1nm,0.9s,baz=220,slow=2.7,SNR=8.1								
YBH	Yreka Blue Hor	79.75	37	*e*P		P	07 54 45.0	-0.7	
	6.4nm,1.1s								
PNTR	Pine Nut	79.81	40	*e*P		P	07 54 46.3	0.0	
	7.7nm,1.0s								
BEKR	Beckworth	79.86	39	*e*P		P	07 54 46.0	-0.5	
	3.2nm,1.2s								
YERR	Yerington	79.96	41	*e*P		P	07 54 47.0	-0.1	
	3.2nm,0.8s								
NV01	Mina Array Sit	80.18	42	*e*P		P	07 54 48.1	-0.2	
NVAR	Mina Array Bea	80.18	42	P		P	07 54 49.1	+0.8	
	1.2nm,0.6s,baz=224,slow=7.8,SNR=12								
NV11	Mina Array Sit	80.27	42	*e*P		P	07 54 48.1	-0.6	
	0.3nm,1.0s								
KSRS	Korea Array	80.39	317	P		P	07 54 50.4	+1.3	
	7.6nm,1.0s,baz=139,slow=6.3,SNR=10								
KSAR	Wonju Array Be	80.40	317	P		P	07 54 50.4	+1.2	
KS01	Wonju Array Si	80.42	317	*e*P		P	07 54 48.7	-0.6	
KVN	Kaiserville	80.69	41	*e*P		P	07 54 50.6	-0.4	
	1.9nm,1.0s								
PINE	Pine Mountain	82.09	36	*e*P		P	07 54 58.2	-0.1	
	5.9nm,1.1s								
USRK	Ussuriysk Ar.	82.29	324	P		P	07 55 00.7	+1.7	
	15nm,1.1s,baz=127,slow=5.0,SNR=13								
LCMT	Little Creek M	82.55	45	*e*P		P	07 54 59.4	-1.4	
	1.7nm,1.0s								
J08A	Circle Bar Ran	83.18	38	*e*P		P	07 55 03.5	-0.4	
	2.2nm,1.1s								
NJ2	Nanjing	83.52	308	*e*P		P	07 55 08.4	+2.7	
NJ2					pmax	pmax			
	comp=Z,23nm,0.9s								
MTPU	Mount Pierson	83.83	45	*e*P		P	07 55 06.9	-0.7	
	10nm,1.2s								
MDJ	Mudanjiang	83.86	324	*e*P		P	07 55 04.9	-2.3	
	49nm,1.4s								
TMUT	Trail Mountain	85.16	44	*e*P		P	07 55 13.2	-1.1	
	8.6nm,1.1s								
LTX	Lajitas	85.36	56	*e*P		P	07 55 15.8	+0.5	
TX31	Lajitas Ar. Si	85.36	56	*e*P		P	07 55 14.1	-1.2	
TXAR	Lajitas Array	85.36	56	P		P	07 55 15.8	+0.5	
	2.2nm,0.9s,baz=211,slow=7.0,SNR=17								
SUA	Susitna One	85.66	11	*e*P		P	07 55 15.1	-0.9	
	8.8nm,0.8s								
CN2	Changchun	85.71	321	*e*P		P	07 55 20.0	+3.5	
GAMB	Gambell	85.83	1	*e*P		P	07 55 16.6	0.0	
	21nm,1.1s								
ANMO	Albuquerque	86.06	50	P		P	07 55 19.2	+0.5	
	2.1nm,0.8s,baz=208,slow=6.2,SNR=7.7								
ANMO	Albuquerque	86.06	50	*e*P		P	07 55 17.4	-1.3	
	3.2nm,0.9s								
SNAA	Sanae	86.09	177	P		P	07 55 19.5	+1.3	
SNAA	Sanae	86.09	177	*e*P		P	07 55 18.4	+0.2	
	4.2nm,1.1s								
IPM	Ipoh	86.54	276	*e*P		P	07 55 21.6	+0.1	
	30nm,0.9s								
VNA2	Neumayer--Watz	86.58	176	P		P	07 55 20.6	+0.1	
TRF	Thorofare Moun	87.58	11	*e*P		P	07 55 25.1	-0.4	
	8.6nm,0.9s								
RND	Reindeer	87.79	11	*e*P		P	07 55 25.2	-1.1	
	14nm,1.1s								
PSI	Prapat	87.84	274	*e*P		P	07 55 26.7	-1.2	
	20nm,1.0s								
PDAR	Pinedale Array	88.11	42	P		P	07 55 27.9	-0.7	
	0.5nm,0.8s,baz=250,slow=3.9,SNR=4.7								
GSI	Gunungsitoli	88.53	272	*e*P		P	07 55 31.1	+0.1	
	54nm,1.0s								
WRH	Wood River Hil	88.91	11	*e*P		P	07 55 31.1	-0.4	
	8.8nm,1.2s								
DOT	Dot Lake	88.95	13	*e*P		P	07 55 31.2	-0.5	
	8.7nm,1.1s								
MDM	Murphy Dome	89.33	11	*e*P		P	07 55 32.9	-0.6	
	13nm,1.2s								
ILAR	Eielson Array	89.40	11	P		P	07 55 33.3	-0.5	
	5.1nm,1.1s,baz=213,slow=5.1,SNR=20								
ILB	Eielson Array	89.40	11	*e*P		P	07 55 33.4	-0.5	
IL1	Eielson Array	89.40	11	*e*P		P	07 55 33.1	-0.7	
IM3	Indian Mountai	89.43	8	*e*P		P	07 55 33.0	-0.9	
ENH	Enshi	89.72	303	*e*P		P	07 55 37.2	+1.0	
	65nm,1.3s								
NONG	Nongkai	89.91	289	P		P	07 55 40.4	+3.1	
DAWY	Dawson	90.35	15	*e*P		P	07 55 37.4	-1.0	
	12nm,1.1s								
EGAK	Eagle	90.56	14	*e*P		P	07 55 38.8	-0.4	
	6.6nm,1.0s								
XAN	Xi'an	91.79	306	P		P	07 55 47.8	+2.0	
XAN				pP		pwP	07 55 58.8	-0.2	
XAN					pmax	pmax			
	comp=Z,28nm,1.0s								
XAN					pmax	pmax			
	comp=Z,91nm,4.6s								
SUKH	Sukhothai	92.77	288	P		P	07 55 53.9	+3.4	
HHC	Hu-ho-hao-te	92.93	313	*e*P		P	07 55 53.5	+2.6	
HHC					pmax	pmax			
	comp=Z,13nm,0.8s								
CM31	Chiang Mai Arr	93.75	288	*e*P		P	07 55 55.9	+0.8	
CMAR	Chiang Mai Arr	93.75	288	P		P	07 55 57.1	+2.0	
	5.9nm,0.8s,baz=122,slow=3.0,SNR=31								
CMMT	Chiang Mai	93.88	289	P		P	07 55 58.4	+2.7	
CHTO	Chiang Mai	93.88	289	*e*P		P	07 55 54.4	-1.2	
	14nm,1.1s								
CHTO	Chiang Mai	93.88	289	P		P	07 55 58.5	+2.8	
LZH	Lanzhou	96.43	306	*e*P		P	07 56 10.8	+3.7	
LZH				pP		sP	07 56 17.6	+0.9	
LZH				sP		pwP	07 56 20.8	+0.4	
YKA	Yellowknife Ar	96.83	24	P		P	07 56 07.1	-1.0	
	1.0nm,0.8s,baz=236,slow=4.2,SNR=17								
YKB5	Yellowknife Ar	96.83	24	*e*P		P	07 56 06.5	-1.6	
LPAZ	La Paz	98.40	111	LR		LR	08 34 46.4		
	comp=Z,56nm,18.0s,baz=292,slow=32								
SONA0	Songino Array	99.24	318	*e*P		Pdif	07 56 18.9	-0.6	
SONM	Songino Array	99.24	318	P		Pdif	07 56 18.9	-0.6	
	0.5nm,0.8s,baz=132,slow=5.8,SNR=4.1								
WMQ	Urumqi	110.55	310	*e*PKP		PKiKP	08 01 11.1	+0.9	
WMQ				LR		LR			
	comp=E,580nm,17.9s								
WMQ				LR		LR			
	comp=Z,530nm,13.1s								
ZALV	Zalesovo Beam	113.92	321	PKiKP		PKiKP	08 01 15.6	-0.5	
	0.9nm,0.4s,baz=90,slow=2.9,SNR=1.5								
MKAR	Makanchi Array	114.78	313	PKP		PKiKP	08 01 18.1	0.0	
	0.3nm,0.6s,baz=40,slow=1.2,SNR=5.6								
KSH	Kashi	118.56	304	PKP		PKiKP	08 01 27.1	+1.3	
KSH				sPKP			08 01 37.9		
KSH				PP		PP	08 02 49.0	+5.5	
BVAR	Borovoye Array	122.54	320	PKP		PKPdf	08 01 32.4	-0.4	
	0.8nm,0.6s,baz=101,slow=3.0,SNR=7.2								
ARA0	ARCESS Array S	131.25	351	*e*PKPdf		PKiKP	08 01 49.8	-0.1	
ARCES	ARCESS Array B	131.25	351	PKP		PKiKP	08 01 49.8	-0.1	
	3.8nm,0.7s,baz=4.3,slow=1.6,SNR=16								

KLMR	Klimovskoe	134.81	337	*e*PKPdf		PKPdf	08 01 54.8	-1.1	
KLMR				AMP			08 02 01.1		
	comp=Z,111nm,1.4s								
FIA0	FINESS Array S	138.37	345	*e*PKPdf		PKPdf	08 02 02.9	+0.4	
FINES	FINESS Array B	138.37	345	PKP		PKPdf	08 02 02.9	+0.4	
	comp=Z,2.5nm,0.7s,baz=42,slow=3.1,SNR=5.4								
SUW	Suwalki	145.62	341	*e*PKP		PKPab	08 02 16.5	+0.3	
MUD	Monsted U'grnd	145.79	356	⇑*i*P		PKPab	08 02 17.0	+0.3	
	comp=Z,32nm,1.0s								
AKASG	Malin Array Be	146.12	333	PKPbc		PKPbc	08 02 17.5	0.0	
	comp=Z,7.3nm,0.7s,baz=42,slow=4.2,SNR=32								
AKBB	Malin Array Si	146.12	333	*e*PKPdf		PKPdf	08 02 16.9	+0.3	
KIEV	Kiev	146.14	333	*e*PKPdf		PKPdf	08 02 17.0	+0.4	
KIEV	Kiev	146.14	333	⇑*i*P		PKPbc	08 02 17.8	+0.2	
AK11	Malin Array Si	146.16	333	*e*PKPdf		PKPdf	08 02 16.9	+0.2	
AK11				*e*PKPbc		PKPab	08 02 18.2	-0.1	
BSEG	Bad Segeberg	148.21	355	*e*PKPbc		PKiKP	08 02 24.3	-0.6	
	baz=14,slow=2.6								
BEL	Belsk	148.23	342	*e*PKP		PKiKP	08 02 24.7	-0.4	
RUE	Ruedersdorf	149.21	350	*e*PKPbc		PKiKP	08 02 26.7	-0.4	
	baz=14,slow=2.6								
KWP	Kalwaria Pacla	149.52	338	*e*PKP		PKPab	08 02 32.8	+1.1	
NRDL	Niedersach Rie	149.66	354	*e*PKPbc		PKiKP	08 02 28.4	+0.5	
	baz=14,slow=2.6								
OJC	Ojcow	149.95	341	*e*PKP		PKiKP	08 02 28.9	+0.1	
OJC	Ojcow	149.95	341	*e*PKPdf		PKPdf	08 02 22.9	0.0	
OJC				*e*PKPbc		PKiKP	08 02 29.0	+0.3	
OJC				*e*PKPab		PKPab	08 02 33.3	-0.2	
ASSE	Asse, Remlinge	149.96	354	*e*PKPbc		PKiKP	08 02 28.6	0.0	
	baz=14,slow=2.6								
IBBN	Ibbenburen	150.00	357	*e*PKPbc		PKiKP	08 02 29.5	+0.7	
	baz=14,slow=2.6								
BUR08	Bucovina Ar. S	150.16	333	*e*PKPbc		PKPbc	08 02 28.7	+0.1	
BUR08				*e*PKPab		PKPab	08 02 34.1	-0.5	
BUR04	Bucovina Ar. S	150.18	333	*e*PKPbc		PKiKP	08 02 29.9	+0.5	
BURAR	Bucovina Array	150.18	333	⇑*i*P		PKiKP	08 02 30.1	+0.7	
CLZ	Clausthal	150.28	354	*e*PKPbc		PKiKP	08 02 30.1	+0.7	
	baz=14,slow=2.6								
KSP	Ksiaz	150.29	346	*e*PKP		PKiKP	08 02 30.1	+0.7	
BIZ	Bicaz	150.31	331	⇑*i*P		PKiKP	08 02 30.5	+0.9	
BR101	Keskin Array S	150.43	312	*e*PKPbc		PKiKP	08 02 30.1	-0.2	
BR131	Keskin Array S	150.43	312	*e*PKPbc		PKPbc	08 02 27.8	-1.7	
BRTR	Keskin Array B	150.43	312	PKPbc		PKiKP	08 02 30.1	-0.2	
	comp=Z,4.2nm,0.9s,baz=148,slow=3.2,SNR=15								
CLL	Collm	150.47	350	*e*PKPbc		PKiKP	08 02 30.0	+0.3	
	baz=14,slow=2.6								
CLL	Collm	150.47	350	⇑*i*PKPbc		PKiKP	08 02 30.0	+0.3	
	comp=Z,35nm,1.0s								
CLL				*e*PKPab		pPKPbc	08 02 36.0	-0.3	
	comp=Z,25nm,1.3s								
CLL				*ep*PKPab		pPKPab	08 02 43.0	+0.3	
CLL				Lm		MLR	09 24 00.0		
	comp=Z,300nm,19.4s								
NIE	Niedzica	150.51	340	*e*PKP		PKiKP	08 02 31.0	+1.0	
CFR	Carcaliu	150.59	326	⇑*i*P		PKPbc	08 02 29.5	0.0	
GTTG	Gyttingen	150.61	354	*e*PKPbc		PKiKP	08 02 30.6	+0.6	
	baz=14,slow=2.6								
BRG	Berggiesshubel	150.73	349	*e*PKP		PKPdf	08 02 25.1	+1.0	
	comp=Z,8.4nm,1.3s								
BRG	Berggiesshubel	150.73	349	*i* PKP		PKiKP	08 02 30.6	+0.3	
	comp=Z,27nm,1.0s								
	comp=N,136nm,15.4s								
	comp=E,209nm,12.4s								
	comp=Z,391nm,16.6s								
BRG	Berggiesshubel	150.73	349	*e*PKPbc		PKiKP	08 02 30.9	+0.6	
	baz=14,slow=2.6								
NEUB	Neuenburg	150.74	352	*e*PKPbc		PKiKP	08 02 31.1	+0.9	
	baz=14,slow=2.6								
DPC	Dobruska-Polom	150.74	346	⇑*e*PKP		PKiKP	08 02 31.4	+1.0	
DPC				*e*PKPAB		pPKPbc	08 02 37.9	+0.9	
DPC				*ep*PKP		pPKPab	08 02 43.7	-0.2	
DPC				*ex*		x	08 03 09.2		
FBE	Freiberg	150.78	350	*e*PKPbc		PKiKP	08 02 30.9	+0.5	
	baz=14,slow=2.6								
VRI	Vrincioaia	150.81	329	⇑*i*P		PKiKP	08 02 30.9	+0.2	
PLOR	Plostina	150.86	329	⇑*i*P		PKiKP	08 02 30.8	0.0	
BUG	Bochum--Univer	150.89	358	*e*PKPbc		PKiKP	08 02 31.9	+1.3	
	baz=14,slow=2.6								
KRLC	Kraliky	150.89	345	⇑*e*PKP		PKiKP	08 02 31.2	+0.5	
KRLC				*ep*PKP		pPKPab	08 02 43.8	-0.8	
TIRR	Tirgusor	150.94	325	⇓*i*P		PKPab	08 02 39.4	+1.7	
PVCC	Panska Ves	150.94	348	⇑*e*PKP		PKiKP	08 02 31.6	+0.8	
PVCC				*ep*PKP		sPKPbc	08 02 41.5	+1.6	
MORC	Moravsky Berou	150.98	344	⇑*i*P		PKiKP	08 02 31.7	+0.8	
MORC	Moravsky Berou	150.98	344	*e*PKP		PKiKP	08 02 31.5	+0.6	
LANS	Liptovska Anna	151.00	341	*e*PKP		PKiKP	08 02 32.4	+1.4	
LANS				*e*			08 02 41.5		
TLB	Topalu	151.05	325	⇓*i*P		PKiKP	08 02 32.5	+1.4	
OZUR		151.09	330	⇑*i*P		PKPbc	08 02 30.5	-0.2	
MOX	Moxa	151.31	352	*e*PKPbc		PKiKP	08 02 32.1	+0.5	
	baz=14,slow=2.6								
UBBA	Unterbreizbach	151.33	354	*e*PKPbc		PKiKP	08 02 32.3	+0.9	
	baz=14,slow=2.6								
DOPR	Dopca	151.37	330	⇑*i*P		PKiKP	08 02 33.5	+1.7	
TANN	Tannenbergstha	151.42	351	*e*PKPbc		PKiKP	08 02 32.4	+0.5	
	baz=14,slow=2.6								
MLR	Muntele Rosu	151.46	329	*e*PKPbc		PKiKP	08 02 32.6	+0.4	
MLR	Muntele Rosu	151.46	329	⇑*i*P		PKPbc	08 02 31.9	+0.2	
PRU	Pruhonice	151.47	348	⇑*e*PKP		PKiKP	08 02 32.8	+0.9	
PRU				*ex*		x	08 02 46.4		
GOPC	GO Pecny, Ondr	151.49	347	⇑*e*PKP		PKiKP	08 02 32.5	+0.6	
GOPC				*ep*PKP		pPKPab	08 02 46.4	-0.6	
GUNZ	Gunzen	151.49	351	*e*PKPbc		PKiKP	08 02 32.7	+0.7	
	baz=14,slow=2.6								
WERN	Wernitzgruen	151.55	351	*e*PKPbc		PKiKP	08 02 33.0	+0.9	
	baz=14,slow=2.6								
VRAC	Vranov	151.65	345	*e*PKP		PKiKP	08 02 33.9	+1.6	
MEM	Membach	151.75	359	⇑PKP		PKiKP	08 02 32.8	+0.4	
VYHS	Vyhne	151.78	341	*e*PKP		PKiKP	08 02 33.3	+0.7	
VYHS				*e*			08 02 42.9		
JAVC	Velka Javorina	151.78	343	*e*PKP		PKiKP	08 02 34.4	+1.8	
AHRW	Bad Neuenahr-A	151.80	358	*e*PKPbc		PKiKP	08 02 34.1	+1.6	
	baz=14,slow=2.6								
MANZ	Manzenberg	151.89	351	*e*PKPbc		PKiKP	08 02 33.9	+1.2	
	baz=14,slow=2.6								
VOIR		151.92	330	⇑*i*P		PKiKP	08 02 34.2	+1.1	
KRUC	Moravsky	151.93	345	*e*PKP		PKiKP	08 02 33.5	+0.7	
TNS	Taunus Mts	152.04	356	*e*PKPbc		PKiKP	08 02 34.5	+1.3	
	baz=14,slow=2.6								
ARR	Arges	152.16	330	⇑*i*P		PKiKP	08 02 34.8	+1.2	
DOU	Dourbes	152.26	1	⇑PKP		PKiKP	08 02 34.2	+0.7	
MODS	Modra-Piesok	152.33	343	*e*PKP		PKiKP	08 02 34.9	+1.2	
MODS				*e*			08 02 46.7		
KHC	Kasperske Hory	152.47	348	*e*PKPdf		PKPdf	08 02 26.9	+0.1	
KHC				*e*PKPbc		sPKPdf	08 02 35.6	-1.1	
KHC				*e*PKPab		PKPab	08 02 45.8	+1.8	
KHC	Kasperske Hory	152.47	348	⇑*e*PKP		PKiKP	08 02 34.7	+0.7	
KHC				*e*PKPAB		PKPab	08 02 45.4	+1.4	
KHC				*ex*		x	08 03 13.4		
WLF	Walferdange	152.70	359	⇑PKP		PKiKP	08 02 35.9	+1.5	
GEC2	GERESS Array S	152.72	348	*e*PKPbc		PKiKP	08 02 35.7	+1.1	
	baz=14,slow=2.6								
GERES	GERESS Array B	152.72	348	PKP		PKPdf	08 02 27.4	+0.1	
	comp=Z,0.2nm,0.4s,baz=222,slow=1.8,SNR=3.5								
GERES				PKPbc		pPKPdf	08 02 35.3	+0.7	
	comp=Z,3.0nm,0.9s,baz=50,slow=2.1,SNR=15								
GEA0	GERESS Array S	152.73	348	*e*PKPbc		PKiKP	08 02 35.9	+1.2	
GZR	Gura Zlata	152.97	333	⇑*i*P		PKPbc	08 02 35.0	0.0	
CONA	Conrad Observa	153.11	344	*ep*PKPdf		PKPbc	08 02 36.7	+1.4	
	comp=Z,15nm,1.4s								
BZS	Buzias	153.27	334	⇑*i*P		PKiKP	08 02 36.3	+0.6	
FUR	Furstenfeldbru	153.78	351	*e*PKPbc		PKiKP	08 02 38.0	+1.3	
	baz=14,slow=2.6								
RJOB	Jochberg	153.96	349	*e*PKPbc		PKiKP	08 02 38.6	+1.4	
	baz=14,slow=2.6								
ABTA	Abfaltersbach	154.96	348	PKiKP		PKiKP	08 02 39.5	+0.2	
	comp=Z,9.6nm,1.2s								
TOA0	Torodi Ar. Sit	170.21	158	*e*PKPdf		PKPdf	08 02 46.4	+0.1	
TOA0				*e*PKPab		PKPab	08 04 02.5	+0.6	
TORD	Torodi Ar. Bea	170.21	158	PKP		PKPdf	08 02 44.9	-1.4	
	comp=Z,0.9nm,0.9s,baz=288,slow=1.4,SNR=4.0								
TORD				PKPab		PKPab	08 04 00.5	-1.4	
	comp=Z,1.6nm,1.0s,baz=168,slow=7.6,SNR=5.1								
TOA1	Torodi Ar. Sit	170.21	158	*e*PKPdf		PKPdf	08 02 44.9	-1.4	
TOA1				*e*PKPab		PKPab	08 04 00.5	-1.5	

NNC ***17*** *07:59:47.5±3.4,54.00N×86.41E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=34.5km s-min=22.1km az=165.0, Suspected Mining explosion.*

IDC 17 07:59:45.6±2.4,54.09N×86.40E,h0km,mb1 3.3/2, mb1mx3.0/42,mbtmp3.3/2,ML3.2/2,1C-1D,Error ellipse: s-maj=19.2km s-min=11.8km az=58.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.95	262	*i*		08 07 11.2	
	baz=79,slow=353,SNR=1.0						
ZALV	Zalesovo Beam	0.95	262	Pg	Pg	08 00 02.3	-1.4
	3.9nm,0.3s,baz=78,slow=17,SNR=56						
ZALV				Lg	Lg	08 00 17.3	
	4.1nm,0.3s,baz=80,slow=30,SNR=13						
KURK	Kurchatov	5.84	238	⇓Pn	Pn	08 01 14.7	+1.3
	0.7nm,0.4s						
KURK				Sn	Sn	08 02 22.1	+1.1
	0.4nm,0.6s						
KURK				⇑Lg	Lg	08 02 56.0	
	4.2nm,0.9s						
KURBB	Kurchatov Arra	5.94	237	Pn	Pn	08 01 16.3	+1.5
	0.5nm,0.3s,baz=54,slow=13,SNR=14						
KURBB				Lg	Lg	08 02 54.2	
	0.0nm,0.3s,baz=53,slow=31,SNR=2.8						
KURBB	Kurchatov Arra	5.94	237	Pn	Pn	08 01 16.2	+1.4
	1.4nm,0.2s						
KURBB				Sn	Sn	08 02 24.7	+1.2
	1.0nm,0.5s						
KURBB				Lg	Lg	08 02 58.4	
	3.3nm,0.7s						
MK31	Makanchi Array	7.76	201	Pn	Pn	08 01 41.1	+1.2
	0.2nm,0.3s,baz=24,slow=14,SNR=32						
MK31				Sn	Sn	08 03 08.4	-0.1
	0.6nm,0.7s,baz=31,slow=26,SNR=2.5						
MK31				Lg	Lg	08 03 51.1	
	1.5nm,0.9s						
MKAR	Makanchi Array	7.76	201	Pn	Pn	08 01 40.9	+1.1
	0.4nm,0.3s,baz=17,slow=12,SNR=20						
MKAR				Sn	Sn	08 03 06.5	-1.9
	0.1nm,0.3s,baz=23,slow=27,SNR=2.9						
MKAR				Lg	Lg	08 03 50.4	
	0.1nm,0.3s,baz=18,slow=32,SNR=6.6						

ISCJB ***17*** *08:06:06.6±1.2,39.02N±0.03×142.44E±0.07,h20km±7km, mb3.4/3,Error ellipse: s-maj=9.6km s-min=5.0km az=19.6*
JMA ***17*** *08:06:07.9±0.1,39.05N×142.38E,h30km±1km,M3.6*
IDC ***17*** *08:06:11.6±3.3,39.01N×142.32E,h59km±31km,mb3.1/3, mb1 3.4/5,mb1mx3.1/37,mbtmp3.3/5,ML2.8/2,Error ellipse: s-maj=43.2km s-min=17.2km az=111.0*

ISC 17 08:06:07.9±1.5,39.05N±0.04×142.37E±0.07,h19km±4km, n23,σ1°55/30,mb3.5/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.54	273	P	Pg	08 06 19.1	+0.3
OFUJ				*e*S	Sb	08 06 26.8	+0.7
MIYJ	Miyakonagasawa	0.68	321	P	Pb	08 06 20.7	-0.3
MIYJ				*e*S	Sb	08 06 29.7	-0.2
JKMT	Kesennumamotoy	0.73	251	P	Pb	08 06 21.7	-0.3
JKMT				S	Sb	08 06 31.3	-0.4
JMK	Ichinoseki	0.90	264	P	Pb	08 06 24.5	-0.3
JMK				S	Sb	08 06 36.1	-0.3
JOM	Ohasama	0.93	297	P	Pb	08 06 25.3	-0.1
JOM				S	Sb	08 06 37.8	+0.4
JTH	Tanohata	0

	baz=273								
TWC	**Suao**	**0.25**	**320**	⇑	*i*	P	**Pg**	**08 30 46.5**	**-1.3**
	baz=327								
TWC						S	**Sg**	**08 30 49.8**	**-1.6**
	baz=327								
ENA	**Nanau**	**0.26**	**273**	⇓	*i*	P	**Pg**	**08 30 46.7**	**-1.3**
	baz=273								
ENA						S	**Sg**	**08 30 50.0**	**-1.6**
	baz=273								
ILA	**Ilan**	**0.43**	**324**	⇑	*i*	P	**Pg**	**08 30 50.2**	**-0.8**
	baz=320								
ILA					*e*	S	**Sg**	**08 30 56.4**	**-0.5**
	baz=320								
EGS		**0.44**	**349**	⇑		P	**Pg**	**08 30 50.4**	**-0.8**
	baz=347								
EGS					*e*	S	**Sg**	**08 30 57.3**	**+0.2**
	baz=347								
NACB	**Ninganchiao**	**0.46**	**239**		*e*	Pg	**Pg**	**08 30 50.7**	**-1.0**
NACB					*e*	Sg	**Sg**	**08 30 56.2**	**-1.6**
NACB	**Ninganchiao**	**0.46**	**239**	⇓		P	**Pg**	**08 30 50.6**	**-1.0**
	baz=234								
NACB						S	**Sg**	**08 30 57.1**	**-0.7**
	baz=234								
NTC	**Toucheng**	**0.47**	**338**		*e*	P	**Pg**	**08 30 51.2**	**-0.7**
	baz=351								
ENTT	**Nioudou**	**0.47**	**298**	⇑		P	**Pg**	**08 30 50.7**	**-1.2**
	baz=297								
ENTT						S	**Sg**	**08 30 56.3**	**-1.9**
	baz=297								
TWD	**Chiawan**	**0.52**	**230**	⇓	*i*	P	**Pg**	**08 30 51.8**	**-0.9**
	baz=230								
TWD						S	**Sg**	**08 30 58.9**	**-0.6**
	baz=230								
HWA	**Hwalien**	**0.58**	**221**		*e*	P	**Pg**	**08 30 54.3**	**+0.4**
	baz=223								
TIPB	**Shuangxi**	**0.58**	**342**	⇑		P	**Pg**	**08 30 52.9**	**-1.0**
	baz=343								
TIPB						S	**Sg**	**08 31 00.4**	**-1.3**
	baz=343								
NNSB	**Datong**	**0.58**	**271**	⇓		P	**Pg**	**08 30 52.8**	**-1.2**
	baz=269								
NNSB						S	**Sg**	**08 30 60.0**	**-1.9**
	baz=269								
TWB1	**Santiao Chiao**	**0.59**	**357**	⇑	*e*	P	**Pg**	**08 30 53.1**	**-1.0**
	baz=353								
TWB1					*e*	S	**Sg**	**08 31 01.4**	**-0.5**
	baz=353								
NNS	**Nan Shan**	**0.59**	**272**	⇓	*i*	P	**Pg**	**08 30 52.9**	**-1.3**
	baz=270								
NNS						S	**Sg**	**08 30 59.9**	**-2.2**
	baz=270								
NWLT	**Wulai**	**0.60**	**307**	⇑	*e*	P	**Pg**	**08 30 53.1**	**-1.1**
	baz=299								
NWLT					*e*	S	**Sg**	**08 31 00.2**	**-1.9**
	baz=299								
ENLB	**Shoufeng**	**0.64**	**217**		*e*	P	**Pb**	**08 30 56.5**	**+0.9**
	baz=212								
YHNB	**Yeheng**	**0.64**	**293**		*e*	Pg	**Pg**	**08 30 54.2**	**-0.9**
YHNB					*e*	Sg	**Sg**	**08 31 02.5**	**-1.1**
YHNB	**Yeheng**	**0.64**	**293**	⇑		P	**Pg**	**08 30 54.1**	**-1.0**
	baz=293								
NSK	**Sanguang**	**0.66**	**293**	⇑	*i*	P	**Pg**	**08 30 54.3**	**-1.2**
	baz=297								
NSK					*e*	S	**Sg**	**08 31 01.9**	**-2.3**
	baz=297								
NWF	**Wu-fen Shan**	**0.69**	**341**	⇑	*i*	P	**Pg**	**08 30 55.6**	**-0.3**
	baz=332								
NWF						S	**Sg**	**08 31 05.0**	**-0.1**
	baz=332								
WFSB	**Wu-fen Shan**	**0.69**	**341**	⇑		P	**Pg**	**08 30 55.4**	**-0.6**
	baz=332								
WFSB					*e*	S	**Sb**	**08 31 05.4**	**-0.5**
	baz=332								
TWA	**Mucha**	**0.69**	**325**	⇑	*i*	P	**Pg**	**08 30 55.1**	**-0.9**
	baz=326								
TWA						S	**Sg**	**08 31 04.8**	**-0.3**
	baz=326								
TATO	**Taipei**	**0.74**	**319**		*e*	Pg	**Pg**	**08 30 56.1**	**-0.8**
TATO					*e*	Sg	**Sg**	**08 31 05.5**	**-1.2**
TATO	**Taipei**	**0.74**	**319**	⇑		P	**Pg**	**08 30 56.2**	**-0.8**
	baz=309								
TATO						S	**Sg**	**08 31 05.1**	**-1.6**
	baz=309								
WHF	**Hehuan Shan**	**0.74**	**249**	⇓	*i*	P	**Pg**	**08 30 55.9**	**-1.1**
	baz=256								
WHF						S	**Sg**	**08 31 06.2**	**-0.7**
	baz=256								
ESL	**Shilin**	**0.81**	**222**	⇓		P	**Pg**	**08 30 57.1**	**-1.1**
	baz=225								
TDCB	**Techi**	**0.81**	**259**	⇓		P	**Pg**	**08 30 57.2**	**-1.0**
	baz=256								
TDCB						S	**Sg**	**08 31 07.3**	**-1.5**
	baz=256								
WLTB	**Daxi**	**0.83**	**302**	⇑		P	**Pg**	**08 30 58.5**	**-0.1**
	baz=301								
WLTB					*e*	S	**Sg**	**08 31 09.0**	**-0.4**
	baz=301								
YM01	**YM01**	**0.84**	**330**	⇑	*e*	P	**Pb**	**08 30 59.3**	**+0.3**
	baz=331								
YM01						S	**Sg**	**08 31 09.7**	**-0.1**
	baz=331								
JYNG	**Yonagunijimaku**	**0.84**	**87**			P	**Pg**	**08 30 58.7**	**-0.1**
JYNG						S	**Sb**	**08 31 10.3**	**+0.1**
YM11	**YM11**	**0.85**	**331**	⇑		P	**Pg**	**08 30 58.6**	**-0.5**
	baz=332								
YM11						S	**Sb**	**08 31 10.8**	**+0.2**
	baz=332								
CHGB	**Renai**	**0.85**	**246**	⇓		P	**Pg**	**08 30 58.1**	**-1.0**
	baz=252								
CHGB						S	**Sg**	**08 31 09.1**	**-1.3**
	baz=252								
YM05	**YM05**	**0.85**	**331**	⇑		P	**Pg**	**08 30 58.5**	**-0.6**
	baz=331								
YM05						S	**Sb**	**08 31 11.5**	**+0.7**
	baz=331								
YM04	**YM04**	**0.86**	**329**	⇑		P	**Pg**	**08 30 58.6**	**-0.6**
	baz=315								
YM04						S	**Sb**	**08 31 11.3**	**+0.5**
	baz=315								
YM08	**YM08**	**0.86**	**333**	⇑		P	**Pg**	**08 30 58.5**	**-0.8**
	baz=333								
YM08						S	**Sg**	**08 31 10.1**	**-0.5**
	baz=333								
TWS1	**Kuangyinshan**	**0.88**	**321**	⇑	*i*	P	**Pg**	**08 30 59.4**	**-0.1**
	baz=314								
TWS1						S	**Sg**	**08 31 10.7**	**-0.3**
	baz=314								
YOJ	**Yonaguni jima**	**0.90**	**87**		*e*	Pg	**Pg**	**08 30 59.7**	**-0.2**
YOJ					*e*	Sg	**Sg**	**08 31 11.8**	**+0.1**
YOJ	**Yonaguni jima**	**0.90**	**87**	⇓		P	**Pg**	**08 30 59.7**	**-0.2**
	baz=88								
YOJ					*e*	S	**Sg**	**08 31 11.4**	**-0.3**
	baz=88								
YOJ	**Yonaguni jima**	**0.90**	**87**		*e*	P	**Pg**	**08 30 59.7**	**-0.2**
YOJ					*e*			08 31 11.8	
YOJ	**Yonaguni jima**	**0.90**	**87**			P	**Pg**	**08 30 59.6**	**-0.3**
YOJ						S	**Sb**	**08 31 12.0**	**+0.1**
NTST	**Danshui**	**0.91**	**325**		*e*	P	**Pb**	**08 31 00.2**	**0.0**
	baz=326								
TWY	**Chenhua**	**0.94**	**336**			P	**Pg**	**08 31 00.3**	**-0.4**
	baz=336								
TWY					*e*	S	**Sn**	**08 31 13.9**	**-1.0**
	baz=336								
NCU	**National Centr**	**0.94**	**306**			P	**Pb**	**08 31 00.7**	**0.0**
	baz=306								
NCU					*e*	S	**Sb**	**08 31 13.6**	**+0.4**
	baz=306								
NCUH	**Zhongli**	**0.94**	**306**		*e*	P	**Pb**	**08 31 00.9**	**+0.2**
	baz=305								
NCUH					*e*	S	**Sb**	**08 31 13.8**	**+0.6**
	baz=305								
LIOB	**Emei**	**0.95**	**284**	⇓		P	**Pg**	**08 31 00.3**	**-0.6**
	baz=283								
LIOB						S	**Sg**	**08 31 11.9**	**-1.3**
	baz=283								
NSTT	**Nanjuang**	**0.96**	**283**	⇓	*i*	P	**Pb**	**08 31 00.2**	**-0.8**
	baz=282								
NSTT					*e*	S	**Sg**	**08 31 11.4**	**-2.1**
	baz=282								
SBCB	**Hsinchu**	**1.02**	**292**			P	**Pn**	**08 31 02.6**	**+0.1**
	baz=285								
SBCB					*e*	S	**Sg**	**08 31 15.5**	**0.0**
	baz=285								
HSN	**Hsinchu**	**1.03**	**292**		*e*	P	**Pg**	**08 31 02.4**	**-0.1**
	baz=288								
HSN						S	**Sg**	**08 31 16.3**	**+0.3**
	baz=288								
VWDT	**VWDT**	**1.04**	**231**	⇓		P	**Pb**	**08 31 01.3**	**-1.1**
	baz=236								
HGSD	**Ruisui**	**1.07**	**211**	⇑		P	**Pb**	**08 31 02.7**	**-0.3**
	baz=210								
HGSD					*e*	S	**Sn**	**08 31 19.8**	**+1.7**
	baz=210								
EHY	**Hungye**	**1.11**	**216**		*e*	P	**Pb**	**08 31 02.6**	**-1.0**
	baz=223								
NMLH	**Miaoli**	**1.13**	**276**		*e*	P	**Pg**	**08 31 04.4**	**+0.1**
	baz=275								
TWQ1	**Liyutan**	**1.14**	**267**	⇓		P	**Pb**	**08 31 04.0**	**-0.2**
	baz=266								
NSY	**Sanyi**	**1.15**	**270**			P	**Pn**	**08 31 04.5**	**+0.1**
	baz=284								
SMLT	**Sun Moon Lake**	**1.16**	**243**	⇓	*i*	P	**Pb**	**08 31 03.8**	**-0.7**
	baz=248								
SMLT					*e*	S	**Sb**	**08 31 19.6**	**+0.2**
	baz=248								
SSLB	**Suanglung**	**1.16**	**238**		*e*	Pg	**Pb**	**08 31 03.7**	**-0.8**
SSLB					*e*	Sg	**Sb**	**08 31 17.4**	**-2.1**
SSLB	**Suanglung**	**1.16**	**238**	⇓		P	**Pb**	**08 31 03.7**	**-0.8**
	baz=243								
SSLB					*e*	S	**Sb**	**08 31 19.0**	**-0.5**
	baz=243								
PTSB	**Yuanli**	**1.20**	**272**	⇓	*i*	P	**Pg**	**08 31 05.9**	**+0.2**
	baz=271								
PTSB					*e*	S	**Sg**	**08 31 22.6**	**+1.2**
	baz=271								
PCYT	**Pengchaiyu**	**1.21**	**2**		*e*	P	**Pn**	**08 31 03.5**	**-1.7**
	baz=3.0								
PCYT					*e*	S	**Sb**	**08 31 19.9**	**-1.0**
	baz=3.0								
YULB	**Yu-li**	**1.22**	**213**		*e*	Pg	**Pn**	**08 31 04.7**	**-0.6**
YULB					*e*	Sg	**Sb**	**08 31 20.9**	**-0.2**
YULB	**Yu-li**	**1.22**	**213**	⇑		P	**Pn**	**08 31 04.7**	**-0.6**
	baz=210								
TWF1	**Yuli**	**1.25**	**212**		*e*	P	**Pn**	**08 31 05.0**	**-0.8**
	baz=225								
TCU	**Taichung**	**1.26**	**258**	⇓	*e*	P	**Pg**	**08 31 06.8**	**+0.1**
	baz=257								
WJS	**Zhushan**	**1.32**	**244**		*e*	P	**Pg**	**08 31 07.8**	**-0.2**
	baz=235								
WNT	**Mingjian**	**1.34**	**247**		*e*	P	**Pg**	**08 31 08.3**	**+0.1**
	baz=260								
WNT					*e*	S	**Sg**	**08 31 28.5**	**+2.8**
	baz=260								
YUS	**Yu-Shan**	**1.35**	**227**	⇓		P	**Pn**	**08 31 07.5**	**0.0**
	baz=225								
WCHH	**Zhanghua**	**1.38**	**256**		*e*	P	**Pb**	**08 31 08.2**	**0.0**
	baz=255								
ALS	**Alishan**	**1.43**	**231**	⇓	*e*	P	**Pb**	**08 31 09.4**	**0.0**
	baz=231								
ALS					*e*	S	**Sg**	**08 31 29.6**	**+0.8**
	baz=231								
CHKT	**Chengkung**	**1.44**	**205**		*e*	P	**Pn**	**08 31 07.6**	**-0.8**
	baz=184								
CHN5	**Tsauling**	**1.48**	**237**	⇓		P	**Pb**	**08 31 10.2**	**+0.2**
	baz=238								
CHN5					*e*	S	**Sg**	**08 31 31.9**	**+1.7**
	baz=238								
WGK	**Gukeng**	**1.52**	**242**		*e*	P	**Pb**	**08 31 11.1**	**+0.5**
	baz=242								
ELDTW	**Lidau**	**1.53**	**217**		*e*	P	**Pn**	**08 31 09.9**	**+0.1**
	baz=215								
WDLH	**Douliu**	**1.54**	**242**		*e*	P	**Pb**	**08 31 11.0**	**0.0**
	baz=242								
IRIF	**Iriomote-Funau**	**1.56**	**93**			P	**Pn**	**08 31 08.9**	**-1.1**
IRIF						S	**Sn**	**08 31 29.1**	**-0.9**
RLNB	**Erlin**	**1.61**	**251**		*e*	P	**Pb**	**08 31 12.5**	**+0.4**
	baz=263								
HATJ	**Hateruma jima**	**1.66**	**102**			P	**Pn**	**08 31 11.4**	**0.0**
HATJ						S	**Sn**	**08 31 33.1**	**+0.4**
CHN2	**Minshiung**	**1.67**	**239**		*e*	P	**Pg**	**08 31 14.2**	**-0.4**
	baz=223								
CHN4	**Tsaushan**	**1.69**	**231**	⇓	*e*	P	**Pb**	**08 31 13.4**	**0.0**
	baz=231								
WTCT	**Ta-ch'eng**	**1.69**	**251**		*e*	P	**Pb**	**08 31 12.8**	**-0.6**
	baz=252								
TPUB	**Ta-pu**	**1.69**	**229**		*e*	Pn	**Pb**	**08 31 13.3**	**-0.3**
TPUB					*e*	Sn	**Sb**	**08 31 34.4**	**-0.4**
TPUB	**Ta-pu**	**1.69**	**229**	⇓		P	**Pb**	**08 31 13.4**	**-0.2**
	baz=229								
STYT	**Tauyuan**	**1.70**	**223**		*e*	P	**Pb**	**08 31 13.3**	**-0.5**
	baz=224								
STYT					*e*	S	**Sg**	**08 31 37.1**	**-0.3**
	baz=224								
CHY	**Chiayi**	**1.73**	**238**		*e*	P	**Pb**	**08 31 14.1**	**0.0**
	baz=223								
WTP	**Ta-pu**	**1.74**	**228**	⇓	*e*	P	**Pb**	**08 31 13.8**	**-0.6**
	baz=228								
WMLT	**Mailiao**	**1.75**	**250**		*e*	P	**Pb**	**08 31 14.8**	**+0.2**
	baz=251								
TWGBT	**Beinan**	**1.81**	**209**		*e*	P	**Pn**	**08 31 12.6**	**-0.9**
	baz=192								
TWG	**Pinlang**	**1.81**	**209**		*e*	Pn	**Pn**	**08 31 12.6**	**-0.9**
TWG					*e*	Sn	**Sn**	**08 31 36.5**	**+0.1**
TWG	**Pinlang**	**1.81**	**209**		*e*	P	**Pn**	**08 31 12.4**	**-1.1**
	baz=192								
TWK	**Hsinying**	**1.81**	**231**		*e*	P	**Pb**	**08 31 15.9**	**+0.2**
	baz=231								
JKRS	**Kuro-shima**	**1.82**	**95**			P	**Pn**	**08 31 13.3**	**-0.3**
JKRS					*e*	S	**Sn**	**08 31 35.4**	**-1.1**
WSF	**Szhu**	**1.82**	**245**		*e*	P	**Pb**	**08 31 15.8**	**+0.1**
	baz=255								
WSF					*e*	S	**Sg**	**08 31 40.9**	**-0.3**
	baz=255								
WLGB	**Puzi**	**1.83**	**240**	⇓	*e*	P	**Pb**	**08 31 15.6**	**-0.3**
	baz=243								
WLGB					*e*	S	**Sg**	**08 31 40.9**	**-0.6**
	baz=243								
CHN1	**Nanshi**	**1.84**	**229**		*e*	P	**Pb**	**08 31 16.6**	**+0.5**
	baz=228								
TTN	**Taitung**	**1.84**	**206**		*e*	P	**Pn**	**08 31 13.7**	**-0.2**
	baz=203								
SLGT	**Liugui**	**1.90**	**222**	⇓	*e*	P	**Pb**	**08 31 16.5**	**-0.6**
	baz=225								
SLGT					*e*	S	**Sg**	**08 31 42.7**	**-0.9**
	baz=225								
JIJ	**Ishigaki jima**	**1.93**	**91**			P	**Pn**	**08 31 14.0**	**-1.1**
JIJ						S	**Sn**	**08 31 37.8**	**-1.5**
CHN3	**Shinhua**	**2.02**	**229**		*e*	P	**Pb**	**08 31 18.9**	**-0.3**
	baz=230								
SCLT	**Jiali**	**2.08**	**234**		*e*	P	**Pb**	**08 31 20.1**	**-0.1**
	baz=235								
JISG	**Ishigakijimahi**	**2.09**	**85**			P	**Pn**	**08 31 16.2**	**-1.1**
JISG						S	**Sn**	**08 31 42.5**	**-0.7**
SSD	**Sandimen**	**2.10**	**218**		*e*	P	**Pb**	**08 31 20.2**	**-0.3**
	baz=230								
TWM1	**Shoushan**	**2.16**	**223**		*e*	P	**Pb**	**08 31 21.9**	**+0.3**
	baz=222								
MASBT	**Mashibuluo**	**2.20**	**216**		*e*	P	**Pn**	**08 31 20.4**	**+1.5**
	baz=218								
MASBT						S	**Sb**	**08 31 49.0**	**-0.5**
	baz=218								
EAST	**Anshuo**	**2.29**	**208**		*e*	P	**Pn**	**08 31 20.2**	**+0.1**
	baz=193								
TAW	**Tawu**	**2.30**	**207**		*e*	P	**Pn**	**08 31 20.1**	**0.0**
	baz=204								
LAY	**Lan-yu**	**2.41**	**191**		*e*	P	**Pn**	**08 31 19.9**	**-1.8**
	baz=188								
SCZT	**Fangliau**	**2.41**	**213**		*e*	P	**Pn**	**08 31 23.2**	**+1.5**
	baz=197								
SCZT					*e*	S	**Sb**	**08 31 56.2**	**+0.8**
	baz=197								
PNG	**Penghu**	**2.41**	**250**		*e*	P	**Pn**	**08 31 23.1**	**+1.3**
	baz=251								
VWUC	**VWUC**	**2.41**	**284**		*e*	P	**Pn**	**08 31 20.9**	**-0.8**
	baz=284								
PHUB	**P'eng-hu**	**2.42**	**249**		*e*	P	**Pn**	**08 31 22.0**	**+0.2**
	baz=250								
JTJ	**Tarama**	**2.45**	**84**			P	**Pn**	**08 31 22.1**	**-0.1**
JTJ						S	**Sn**	**08 31 51.8**	**-0.3**
WDGT	**Dungji**	**2.45**	**243**		*e*	P	**Pn**	**08 31 23.6**	**+1.3**
	baz=244								
WLCH	**Liuqiu**	**2.55**	**217**		*e*	P	**Pb**	**08 31 28.2**	**0.0**
	baz=216								
MATB	**Ma-tsu**	**2.56**	**313**		*e*	P	**Pn**	**08 31 22.3**	**-1.4**
	baz=311								
TWP	**Hsiaoliuchiu**	**2.56**	**217**		*e*	P	**Pb**	**08 31 27.8**	**-0.6**
	baz=216								
VCHM	**Qimei**	**2.66**	**244**		*e*	P	**Pn**	**08 31 25.5**	**+0.3**
	baz=246								
HEN	**Hengchun**	**2.67**	**207**		*e*	P	**Pn**	**08 31 27.6**	**+2.3**
	baz=193								
TWKBT	**Hengchun**	**2.70**	**205**		*e*	P	**Pn**	**08 31 25.4**	**-0.3**
	baz=190								
TWK1	**Hengchun**	**2.71**	**205**		*e*	P	**Pn**	**08 31 25.6**	**-0.1**
	baz=190								
TSEB	**Hengchuen, Pin**	**2.71**	**203**		*e*	P	**Pn**	**08 31 24.9**	**-0.9**
	baz=189								
JIRB	**Irabujima**	**2.89**	**81**			P	**Pn**	**08 31 28.3**	**-0.1**
JIRB						S	**Sn**	**08 32 02.1**	**-1.0**
JIKM	**Ikemajima**	**2.98**	**80**			P	**Pn**	**08 31 29.8**	**+0.3**
JIKM						S	**Sn**	**08 32 05.4**	**+0.3**
JMJ	**Miyako jima 2**	**3.00**	**82**		*e*	P	**Pn**	**08 31 29.3**	**-0.6**
	baz=84								
JMJ	**Miyako jima 2**	**3.00**	**82**			P	**Pn**	**08 31 30.3**	**+0.5**
JMJ						S	**Sn**	**08 32 05.7**	**0.0**
JOGS	**Gusukube**	**3.10**	**83**			P	**Pn**	**08 31 31.9**	**+0.7**
JOGS						S	**Sn**	**08 32 07.5**	**-0.6**
QZH	**Quanzhou**	**3.17**	**280**			Pn	**Pn**	**08 31 32.5**	**+0.4**
QZH						Sn	**Sn**	**08 32 05.3**	**-4.5**
QZH						LR	LR		
	comp=N,17µm,12.3s								
QZH						LR	LR		
	comp=E,8µm,11.6s								
QZH						LR	LR		
	comp=Z,7µm,11.4s								
KNM	**Kinmen**	**3.27**	**271**		*e*	P	**Pn**	**08 31 35.7**	**+2.1**
	baz=271								
KNMB	**Chin-men Tao**	**3.31**	**272**		*e*	P	**Pn**	**08 31 34.5**	**+0.3**
	baz=272								
JOW	**Kunigami**	**6.13**	**66**			P	**Pn**	**08 32 14.7**	**+1.8**
	14nm,0.3s,baz=247,slow=17,SNR=10								
JOW						S	**Sn**	**08 33 24.1**	**+1.1**
	baz=345,slow=28,SNR=1.8								
JOW	**Kunigami**	**6.13**	**66**		*e*	Pn	**Pn**	**08 32 13.7**	**+0.8**
JOW					*e*	Sn	**Sn**	**08 33 23.1**	**+0.1**
JOW	**Kunigami**	**6.13**	**66**		*e*	P	**Pn**	**08 32 13.6**	**+0.7**
	baz=71								
SSE	**Sheshan**	**6.70**	**354**			Pn	**Pn**	**08 32 19.9**	**-0.7**
SSE						LR	LR		
	comp=N,2µm,11.6s								
SSE						LR	LR		
	comp=E,1µm,7.9s								
SSE	**Sheshan**	**6.70**	**354**		*e*	Pn	**Pn**	**08 32 19.7**	**-0.9**
GZH	**Guangzhou**	**8.06**	**262**			Pn	**Pn**	**08 32 35.5**	**-3.9**
GZH						Sn	Sn	08 34 00.8	-10
GZH						smax	smax		
	comp=N,400nm,0.9s								
GZH						smax	smax		
	comp=E,220nm,1.1s								
NJ2	**Nanjing**	**8.11**	**341**		*e*	P	**Pn**	**08 32 38.9**	**-1.1**
NJ2						S	**Sn**	**08 34 06.5**	**-5.0**
NJ2						pmax	pmax		
	comp=E,23nm,0.8s								
NJ2						smax	smax		
	comp=E,310nm,1.0s								
NJ2						smax	smax		
	comp=E,130nm,0.6s								
NJ2						LR	LR		
	comp=E,4µm,11.4s								
NJ2						LR	LR		
	comp=E,3µm,7.6s								
NJ2						LR	LR		
	comp=E,5µm,10.8s								
WHN	**Wuhan**	**9.15**	**314**			P	Pn	08 33 00.4	+6.1
WHN						S	**Sn**	**08 34 45.3**	**+8.2**
WHN						LR	LR		
	comp=E,12µm,9.1s								
WHN						LR	LR		
	comp=E,11µm,8.3s								
WHN						LR	LR		
	comp=E,8µm,10.7s								
TGY	**Tagaytay City**	**10.31**	**186**			LR	LR	08 37 50.8	
	comp=E,491nm,21.4s,baz=298,slow=41								
JNU	**Nakatsue**	**11.64**	**40**			P	**Pn**	**08 33 30.0**	**+1.5**
	comp=E,0.2nm,0.3s,baz=204,slow=18,SNR=2.0								
JNU						LR	LR	08 39 00.1	
	comp=E,2µm,18.2s,baz=230,slow=43								
JNU	**Nakatsue**	**11.64**	**40**		*e*	Pn	**Pn**	**08 33 28.9**	**+0.5**
QIZ	**Qiongzhong**	**12.52**	**247**			P	**Pn**	**08 33 39.1**	**-1.5**
QIZ						S	**Sn**	**08 36 02.3**	**+2.3**
QIZ						LR	LR		
	comp=N,2µm,14.9s								
QIZ						LR	LR		
	comp=E,1µm,9.0s								
QIZ						LR	LR		
	comp=Z,960nm,9.4s								
KS15	**Wonju Array Si**	**13.92**	**20**		*e*	Pn	**Pn**	**08 33 59.6**	**0.0**
KSRS	**Korea Array**	**13.94**	**20**			P	**Pn**	**08 33 59.6**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=196,slow=11,SNR=3.2								
KSRS						LR	LR	08 39 58.3	
	comp=Z,2µm,18.2s,baz=202,slow=40								
GYA	**Guiyang**	**14.03**	**282**		*e*	P	**Pn**	**08 34 02.4**	**+1.2**
GYA						S	**Sn**	**08 36 39.4**	**+2.5**
GYA						pmax	pmax		
	comp=Z,10.0nm,0.6s								
GYA						LR	LR		
	comp=Z,7µm,14.6s								
GYA						LR	LR		
	comp=Z,2µm,13.9s								
GYA						LR	LR		
	comp=Z,3µm,12.7s								
DL2	**Dalian**	**14.45**	**359**			P	**Pn**	**08 34 09.3**	**+2.5**
DL2						S	**Sn**	**08 36 50.9**	**+4.0**
DL2						pmax	pmax		
	comp=Z,29nm,0.9s								
DL2						pmax	pmax		
	comp=Z,250nm,5.5s								
DL2						LR	LR		
	comp=Z,2µm,13.8s								
DL2						LR	LR		
	comp=Z,1µm,13.9s								
DL2						LR	LR		
	comp=Z,2µm,14.6s								
XAN	**Xi'an**	**14.91**	**313**			P	**P**	**08 34 18.4**	**-0.5**
XAN						pP	Pn	08 34 22.0	+8.8
XAN						S	**Sn**	**08 37 02.8**	**+4.4**
XAN						pmax	pmax		
	comp=Z,7.0nm,0.7s								
XAN						LR	LR		
	comp=Z,5µm,10.6s								
XAN						LR	LR		
	comp=Z,3µm,11.4s								
XAN						LR	LR		
	comp=Z,3µm,11.1s								
BJI	**Beijing**	**16.34**	**344**			P	**P**	**08 34 33.3**	**-1.3**
BJI						S	**Sn**	**08 37 27.3**	**-5.5**
BJI						pmax	pmax		

comp=Z,938nm,18.9s,baz=245,slow=39
HHC Hu-ho-hao-te 18.58 334 *e*P **P** **08 34 52.6 -6.9**
HHC S Sn 08 38 15.8 -12
HHC pmax pmax
comp=E,31nm,0.8s
HHC pmax pmax
comp=Z,210nm,6.1s
HHC LR LR
comp=N,2µm,14.5s
HHC LR LR
comp=E,1µm,12.9s
HHC LR LR
comp=Z,2µm,14.1s
LZH Lanzhou 19.51 311 *e*P **P** **08 35 09.8 0.0**
LZH pP pP 08 35 13.6 +0.7
LZH sP pwP 08 35 16.1 +1.1
LZH PP **PnPn** **08 35 30.6 +6.2**
LZH S **Sn** **08 38 46.3 -3.6**
LZH sS sS 08 38 56.1 +1.1
LZH SS **SnSn** **08 39 07.3 +3.1**
LZH pmax pmax
comp=Z,39nm,1.0s
LZH pmax pmax
comp=Z,140nm,4.2s
LZH LR LR
comp=Z,3µm,11.9s
LZH LR LR
comp=Z,2µm,10.9s
LZH LR LR
comp=Z,2µm,12.2s
CN2 Changchun 19.54 7 *e*P Pn 08 35 20.4 +9.3
MDJ Mudanjiang 21.08 15 *e*P **P** **08 35 26.8 +0.3**
comp=Z,35nm,1.4s
USRK Ussuriysk Ar. 21.35 20 P **P** **08 35 30.4 +0.9**
comp=Z,7.5nm,1.0s,baz=195,slow=11,SNR=5.1
USRK LR LR 08 44 27.1
comp=Z,581nm,18.9s,baz=187,slow=38
CHTO Chiang Mai 22.16 260 *e*P **P** **08 35 38.4 0.0**
comp=Z,9.4nm,1.0s
CHTO Chiang Mai 22.16 260 *e*P **P** **08 35 38.4 0.0**
CHTO pmax pmax
comp=Z,9.0nm,1.0s
CM31 Chiang Mai Arr 22.27 259 *e*P **P** **08 35 42.2 +2.6**
CMAR Chiang Mai Arr 22.27 259 P **P** **08 35 42.2 +2.6**
comp=Z,1.0nm,0.3s,baz=54,slow=11,SNR=9.8
CMAR LR LR 08 44 39.4
comp=Z,332nm,18.8s,baz=54,slow=37
SBUM Sibu 23.80 205 *e*P **P** **08 35 53.9 -1.4**
comp=Z,6.1nm,0.9s
GTA Gaotai 23.97 314 ⇓P **P** **08 35 58.3 +1.4**
GTA pP sP 08 36 01.9 0.0
GTA sP pP 08 36 05.3 +4.9
GTA S **S** **08 40 18.3 +4.8**
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,110nm,4.8s
GTA LR LR
comp=Z,1µm,15.9s
GTA LR LR
comp=Z,1µm,17.1s
GTA LR LR
comp=Z,1µm,15.9s
TNTI Ternate 24.07 167 *e*P **P** **08 35 58.1 +0.3**
comp=Z,46nm,1.0s
GUMO Guam 24.10 112 LR LR 08 45 03.1
comp=Z,292nm,19.2s,baz=294,slow=36
HIA Hailar 24.87 356 *e*P **P** **08 36 04.2 -0.7**
comp=Z,8.3nm,0.9s
HIA Hailar 24.87 356 *e*P **P** **08 36 04.2 -0.7**
HIA pmax pmax
comp=Z,8.0nm,0.9s
ASAJ Asahikawa 25.86 35 P **P** **08 36 13.1 -0.8**
comp=Z,2.2nm,0.4s,baz=234,slow=19,SNR=2.9
ASAJ Asahikawa 25.86 35 *e*P **P** **08 36 13.7 -0.2**
comp=Z,54nm,1.6s
KLR Kul'dur 25.92 15 P **P** **08 36 14.2 -0.1**
comp=Z,2.4nm,0.5s,baz=231,slow=7.6,SNR=11
KLR LR LR 08 47 22.9
comp=Z,667nm,18.7s,baz=198,slow=38
ULN Ulaanbaatar 26.25 337 *e*P **P** **08 36 16.9 -0.7**
comp=Z,7.4nm,0.8s
ULN Ulaanbaatar 26.25 337⇓ *e*P **P** **08 36 17.9 +0.4**
ULN pmax pmax
comp=Z,8.0nm,1.1s
SONA0 Songino Array 26.46 336 *e*P **P** **08 36 20.3 +0.9**
SONA0 *e*PcP **PcP** **08 39 44.7 +0.3**
SONA0 *e*ScP **ScP** **08 43 18.3 -5.9**
SONM Songino Array 26.46 336 P **P** **08 36 20.3 +0.9**
comp=Z,5.2nm,0.9s,baz=153,slow=9.3,SNR=29
SONM PcP **PcP** **08 39 44.7 +0.3**
comp=Z,0.5nm,0.6s,baz=179,slow=6.8,SNR=3.7
SONM ScP **ScP** **08 43 18.3 -5.9**
comp=Z,0.3nm,0.8s,baz=119,slow=1.8,SNR=2.5
SONM LR LR 08 48 07.8
comp=Z,970nm,18.6s,baz=164,slow=39
SIJI Sorong 26.69 159 P **P** **08 36 20.7 -0.9**
comp=Z,21nm,0.8s,baz=253,slow=4.0,SNR=5.5
SIJI LR LR 08 44 34.8
comp=Z,131nm,21.3s,slow=31
SHL Shillong 27.32 279 *e*P **P** **08 36 27.1 -0.4**
comp=Z,38nm,1.6s
SHL Shillong 27.32 279 *e*P **P** **08 36 27.1 -0.4**
SHL pmax pmax
comp=Z,38nm,1.6s
YSS Yuzh-Sakhalins 27.93 31 *e*P **P** **08 36 28.4 -4.1**
LSA Lhasa 27.95 288 *e*P **P** **08 36 32.2 -1.2**
comp=Z,5.0nm,0.8s
LSA Lhasa 27.95 288 *e*P **P** **08 36 32.2 -1.2**
LSA pmax pmax
comp=Z,5.0nm,0.8s
FAKI Fak Fak 28.93 159 *e*P **P** **08 36 40.6 -1.1**
comp=Z,32nm,0.9s
ZEA Zeya 29.55 6 *e*P **P** **08 36 48.8 +2.0**
ZEA pmax pmax
comp=Z,30nm,1.6s
ZEA MLR MLR
comp=Z,1µm,13.0s
ZEA MLR MLR
comp=E,700nm,12.0s
ZEA MLR MLR
comp=N,1µm,14.0s
PSI Prapat 30.96 230 LR LR 08 50 26.6
comp=N,418nm,18.2s,baz=88,slow=38
KNGR Kungurtug, Tuv 32.29 330 *i*P **P** **08 37 11.0 -0.2**
WMQ Urumqi 34.05 313 *e*P **P** **08 37 28.9 +2.3**
WMQ LR LR
comp=N,2µm,10.3s
WMQ LR LR
comp=N,1µm,12.5s
WMQ LR LR
comp=N,530nm,17.5s
DGZ Jazzator, Alta 36.88 322 *i*P **P** **08 37 50.3 -0.6**
DGZ pmax pmax
comp=Z,1.0nm,0.9s
MK32 Makanchi Array 38.71 315 *e*P **P** **08 38 07.3 +1.0**
MK32 *e*PcP **PcP** **08 40 17.8 -0.2**
MKAR Makanchi Array 38.71 315 P **P** **08 38 07.3 +1.0**
comp=Z,4.8nm,0.7s,baz=106,slow=9.7,SNR=8.3
MKAR PcP **PcP** **08 40 17.8 -0.2**
comp=Z,1.1nm,0.8s,baz=99,slow=7.7,SNR=3.9
MKAR ScP **S** **08 44 02.7 -0.3**
comp=Z,0.5nm,0.7s,baz=104,slow=6.0,SNR=4.4
MKAR LR LR 08 53 51.5
comp=Z,313nm,19.5s,baz=113,slow=36
MKAR Makanchi Array 38.71 315 *e*P **P** **08 38 06.5 +0.2**
comp=Z,19nm,0.7s
MKAR Makanchi Array 38.71 315 *i*P **P** **08 38 10.1 +3.8**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MAKZ Makanchi 38.91 315 *e*P **P** **08 38 07.9 -0.1**
comp=Z,4.1nm,0.6s
MAKZ Makanchi 38.91 315 *e*P **P** **08 38 07.9 -0.1**
MAKZ pmax pmax
comp=Z,4.0nm,0.6s
PETK Petropavlovsk- 39.25 34 LR LR 08 54 25.7
comp=Z,282nm,19.6s,baz=221,slow=36
ZALV Zalesovo Beam 40.47 327 P **P** **08 38 20.8 -0.1**
comp=Z,4.9nm,0.9s,baz=116,slow=7.7,SNR=8.3
ZALV ScP **ScP** **08 44 07.4 -5.2**
comp=Z,0.6nm,0.6s,baz=108,slow=4.7,SNR=2.4
ZALV LR LR 08 56 24.8
comp=Z,458nm,18.6s,baz=73,slow=38
ZAA1 Zalesovo Array 40.47 327 *e*P **P** **08 38 20.8 -0.1**
PMG Port Moresby 41.62 141 *i*P **P** **08 38 31.4 +0.8**
PMG pmax pmax
comp=Z,54nm,1.1s

KURK Kurchatov 42.41 320 *e*P **P** **08 38 36.8 0.0**
KURK Kurchatov 42.41 320 *e*P **P** **08 38 36.8 0.0**
KURBB Kurchatov Arra 42.43 319 P **P** **08 38 36.8 -0.2**
comp=Z,1.5nm,0.8s,baz=112,slow=9.7,SNR=4.9
AAK Ala-Archa 42.98 307 P **P** **08 38 41.8 0.0**
comp=Z,1.1nm,0.5s,baz=162,slow=9.6,SNR=5.2
AAK Ala-Archa 42.98 307 *i*P **P** **08 38 43.0 +1.3**
AAK pmax pmax
comp=Z,2.0nm,0.8s
COEN Coen 43.37 149 *e*P **P** **08 38 44.5 -0.4**
comp=Z,23nm,0.9s
WR1 Warramunga Arr 45.69 164 *e*P **P** **08 39 02.6 -0.8**
comp=Z,15nm,0.8s
WR1 *e*PcP **PcP** **08 40 41.0 -0.3**
WRA Warramunga Arr 45.69 164 P **P** **08 39 02.6 -0.8**
comp=Z,8.1nm,0.8s,baz=346,slow=8.7,SNR=32
WRA PcP **PcP** **08 40 41.0 -0.4**
comp=Z,1.1nm,0.6s,baz=349,slow=3.7,SNR=4.9
WRA LR LR 09 00 58.7
comp=Z,32nm,19.9s,baz=55,slow=40
WRA Warramunga Arr 45.69 164 *i*P **P** **08 39 04.1 +0.7**
WRA pmax pmax
comp=Z,8.0nm,0.8s
TIXI Tiksi 47.42 3 P **P** **08 39 15.1 -1.2**
comp=Z,2.4nm,0.3s,baz=156,slow=5.5,SNR=12
TIXI Tiksi 47.42 3 *i*P **P** **08 39 14.9 -1.5**
TIXI pmax pmax
comp=Z,8.0nm,1.0s
BVAR Borovoye Array 47.98 320 P **P** **08 39 21.5 +0.5**
comp=Z,1.6nm,0.6s,baz=122,slow=9.7,SNR=10
BRVK Borovoye 48.05 320 *e*P **P** **08 39 21.7 +0.2**
comp=Z,6.2nm,1.0s
BRVK Borovoye 48.05 320 *i*P **P** **08 39 22.1 +0.5**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
ASAR Alice Springs 49.17 166 P **P** **08 39 30.4 0.0**
comp=Z,2.4nm,0.6s,baz=345,slow=7.2,SNR=31
ASAR PcP **PcP** **08 40 52.7 -1.0**
comp=Z,0.7nm,0.6s,baz=329,slow=3.7,SNR=2.6
ASAR LR LR 09 02 06.2
comp=Z,67nm,19.6s,baz=5.0,slow=38
CTAO Charters Tower 50.13 150 *e*P **P** **08 39 38.0 +0.2**
comp=Z,9.0nm,0.8s
CTAO Charters Tower 50.13 150 *e*P **P** **08 39 38.0 +0.2**
CTAO pmax pmax
comp=Z,9.0nm,0.8s
BILL Bilibino 51.21 20 *e*P **P** **08 39 45.9 +0.5**
BILL *e* 08 40 58.6
BILL pmax pmax
comp=Z,1.0nm,0.9s
ABKAR Akbulak array 53.83 314 *e*P **P** **08 40 05.4 +0.3**
AKTO Aktyubinsk 55.15 316 P **P** **08 40 14.5 -0.1**
comp=Z,1.8nm,0.8s,baz=97,slow=8.8,SNR=5.7
GEYT Alibeck 55.34 300 P **P** **08 40 17.4 +1.0**
comp=Z,3.8nm,0.4s,baz=116,slow=3.4,SNR=6.1
EIDS Eidsvold 56.92 148 *e*P **P** **08 40 27.7 +0.1**
comp=Z,5.3nm,0.8s
BBOO Buckleboo 58.46 166 *e*P **P** **08 40 38.3 0.0**
comp=Z,36nm,1.5s
STKA Stephens Creek 59.02 161 P **P** **08 40 40.0 -2.2**
comp=Z,4.1nm,0.7s,baz=327,slow=6.2,SNR=7.2
STKA LR LR 09 07 35.5
comp=Z,103nm,20.4s,baz=18,slow=37
STKA Stephens Creek 59.02 161 *e*P **P** **08 40 40.0 -2.2**
ANM Nome 60.76 28 *e*P **P** **08 40 54.4 +0.6**
comp=Z,12nm,1.6s
ANM Nome 60.76 28 *e*P **P** **08 40 54.4 +0.6**
ANM pmax pmax
comp=Z,13nm,1.6s
ARMA Armidale 61.47 151 *e*P **P** **08 40 59.2 0.0**
comp=Z,5.5nm,0.8s
CAN Canberra 64.67 156 *e*P **P** **08 41 20.3 0.0**
comp=Z,10nm,1.1s
CAN Canberra 64.67 156 *e*P **P** **08 41 20.3 0.0**
CAN pmax pmax
comp=Z,10.0nm,1.1s
GNI Garni 65.30 305 LR LR 09 12 36.2
comp=Z,154nm,18.4s,baz=95,slow=38
TOO Toolangi 65.49 160 *e*P **P** **08 41 25.7 +0.2**
comp=Z,3.8nm,0.6s
TOO Toolangi 65.49 160 *e*P **P** **08 41 25.7 +0.2**
TOO pmax pmax
comp=Z,4.0nm,0.6s
KIV Kislovodsk 66.04 309 *e*P P 08 41 22.6 -6.6
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,188nm,17.0s
CAST Castle Rocks 66.64 29 *e*P **P** **08 41 32.5 -0.2**
comp=Z,9.1nm,1.6s
PPLA Purkeypile 66.67 30 *e*P **P** **08 41 33.6 +0.6**
comp=Z,36nm,1.7s
MLY Manley 66.99 27 *e*P **P** **08 41 35.9 +1.0**
comp=Z,7.3nm,1.4s
BPAW Bear Paw Mtn. 67.03 28 *e*P **P** **08 41 35.9 +0.8**
comp=Z,9.9nm,1.3s
TRF Thorofare Moun 67.44 29 *e*P **P** **08 41 38.8 +0.9**
comp=Z,2.5nm,0.8s
OBN Obninsk 67.79 322 *e*P **P** **08 41 43.1 +3.1**
OBN *e* 08 42 08.4
OBN *e* 08 44 06.6
OBN *e*PPP PPP 08 45 41.9
OBN pmax pmax
comp=Z,3.0nm,0.8s
MCK McKinley 67.98 29 *e*P **P** **08 41 41.9 +0.8**
comp=Z,16nm,1.6s
MDM Murphy Dome 68.06 27 *e*P **P** **08 41 42.0 +0.3**
comp=Z,7.4nm,1.2s
RND Reindeer 68.08 29 *e*P **P** **08 41 41.3 -0.5**
comp=Z,5.8nm,0.7s
RND Reindeer 68.08 29 *e*P **P** **08 41 41.3 -0.5**
RND pmax pmax
comp=Z,6.0nm,0.7s
WRH Wood River Hil 68.21 28 *e*P **P** **08 41 42.8 +0.3**
comp=Z,1.4nm,0.8s
SML Sawmill 68.63 31 *e*P **P** **08 41 45.8 +0.6**
comp=Z,30nm,1.7s
SML Sawmill 68.63 31 *e*P **P** **08 41 45.8 +0.6**
SML pmax pmax
comp=Z,30nm,1.7s
KNK Knik Glacier 68.65 31 *e*P **P** **08 41 46.0 +0.6**
comp=Z,17nm,1.1s
ILAR Eielson Array 68.66 27 P **P** **08 41 43.6 -1.7**
comp=Z,0.3nm,0.7s,baz=286,slow=8.0,SNR=14
ILAR LR LR 09 15 46.6
comp=Z,131nm,18.3s,baz=270,slow=39
ILB Eielson Array 68.66 27 *e*P **P** **08 41 43.6 -1.7**
SCM Sheep Creek Mo 69.09 31 *e*P **P** **08 41 48.0 -0.2**
comp=Z,47nm,1.5s
SCM Sheep Creek Mo 69.09 31 *e*P **P** **08 41 48.0 -0.2**
SCM pmax pmax
comp=Z,47nm,1.5s
SPITS Spitsbergen Ar 69.42 348 LR LR 09 16 09.0
comp=Z,233nm,18.2s,baz=45,slow=39
ARA0 ARCESS Array S 69.61 338 *e*P **P** **08 41 49.9 -1.3**
ARCES ARCESS Array B 69.61 338 P **P** **08 41 49.9 -1.3**
comp=Z,2.5nm,0.9s,baz=52,slow=7.3,SNR=2.2
RIDG Independ'e Rid 69.76 28 *e*P **P** **08 41 51.3 -0.9**
comp=Z,7.7nm,1.2s
KLU Klutina 69.82 31 *e*P **P** **08 41 53.0 +0.3**
comp=Z,6.1nm,1.0s
FIA0 FINESS Array S 71.63 330 *e*P **P** **08 42 03.1 -0.5**
FIA0 FINESS Array S 71.63 330 *e*P **P** **08 42 03.1 -0.5**
FINES FINESS Array B 71.63 330 P **P** **08 42 03.1 -0.5**
comp=Z,4.7nm,0.9s,baz=60,slow=5.6,SNR=9.2
FINES LR LR 09 16 40.4
comp=Z,484nm,18.7s,baz=72,slow=38
INK Inuvik 72.72 22 *e*P **P** **08 42 08.6 -1.4**
comp=Z,5.8nm,1.2s
INK Inuvik 72.72 22 *e*P **P** **08 42 08.6 -1.4**
INK pmax pmax
comp=Z,6.0nm,1.2s
AKASG Malin Array Be 73.21 318 P **P** **08 42 13.0 -0.2**
comp=Z,0.5nm,0.5s,baz=58,slow=6.4,SNR=2.9
AKASG LR LR 09 14 53.6
comp=Z,209nm,18.9s,baz=80,slow=36
AKBB Malin Array Si 73.21 318 *e*P **P** **08 42 13.0 -0.2**
AKBB Malin Array Si 73.21 318 *e*P **P** **08 42 13.0 -0.2**
BR101 Keskin Array S 73.65 307 *e*P **P** **08 42 16.7 +0.4**
BRTR Keskin Array B 73.65 307 P **P** **08 42 16.7 +0.4**
comp=Z,1.3nm,0.8s,baz=94,slow=5.8,SNR=5.5
BRTR LR LR 09 17 16.0
comp=Z,96nm,19.2s,baz=84,slow=38
BRTR Keskin Array B 73.65 307 *i*P **P** **08 42 18.5 +2.2**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
MMAI Mount Meron Ar 74.45 299 LR LR 09 20 55.9

comp=Z,128nm,18.8s,baz=50,slow=40
HFS Hagfors 77.74 331 LR LR 09 20 10.8
comp=Z,619nm,19.1s,baz=64,slow=38
NB2 NORSAR Subarra 78.38 332 P **P** **08 42 43.7 +1.1**
comp=Z,0.5nm,0.6s,baz=59,slow=5.6
NB200 NORSAR Array S 78.38 332 *e*P **P** **08 42 42.2 -0.5**
NOA NORSAR Array B 78.38 332 P **P** **08 42 42.2 -0.5**
comp=Z,1.4nm,0.8s,baz=57,slow=5.7,SNR=3.5
NOA LR LR 09 19 46.8
comp=Z,246nm,18.2s,baz=65,slow=38
JMIC Jan Mayen 78.80 345 LR LR 09 21 51.7
comp=Z,197nm,18.1s,baz=75,slow=39
RPZ Rata Peaks 81.35 146 P **P** **08 42 58.2 -0.6**
comp=Z,21nm,0.9s,baz=222,slow=14,SNR=4.2
CLL Collm 82.33 323 *e*P **P** **08 43 07.0 +3.0**
YKA Yellowknife Ar 82.46 23 P **P** **08 43 03.1 -1.4**
comp=Z,1.0nm,0.7s,baz=314,slow=4.9,SNR=24
YKB5 Yellowknife Ar 82.46 23 *e*P **P** **08 43 03.1 -1.4**
GERES GERESS Array B 83.15 321 P **P** **08 43 09.0 +0.5**
comp=Z,0.3nm,0.5s,baz=41,slow=3.1,SNR=3.2
KMBO Kilima Mbogo 85.70 267 *i*P **P** **08 43 25.7 +3.5**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
BORG Borgarnes 86.70 345 LR LR 09 27 00.3
comp=Z,118nm,19.7s,baz=19,slow=39
B08A Colville Reser 89.15 36 *e*P **P** **08 43 38.5 +0.5**
D08A Wollman Farm, 90.16 37 *e*P **P** **08 43 41.6 -1.1**
comp=Z,4.1nm,1.0s
PINE Pine Mountain 90.95 40 *e*P **P** **08 43 46.4 -0.3**
comp=Z,4.1nm,0.9s
FFC Flin Flon 92.61 24 *i*P **P** **08 43 53.9 0.0**
NV01 Mina Array Sit 95.74 43 *e*P **P** **08 44 07.0 -1.9**
NVAR Mina Array Bea 95.74 43 P **P** **08 44 07.0 -1.9**
comp=Z,1.1nm,0.8s,baz=288,slow=4.4,SNR=5.6
ULM Lac du Bonnet 98.43 23 LR LR 09 32 10.9
comp=Z,163nm,18.7s,baz=4.0,slow=38
PLCA Paso Flores 160.62 150 PKPab **PKPab** **08 51 22.3 -1.7**
comp=Z,1.0nm,0.6s,baz=268,slow=4.3,SNR=7.1

NNC ***17*** *08:32:48.1±1.6, 53°.49N×87°.47E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=12.7km s-min=10.4km az=17.0, Suspected Mining explosion.*
KRAR 17 08:32:43.8±0.5, 53°.59N×87°.59E, M2.9, 6C-5D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**6.22**	**246**	⇑P	Pn	08 34 19.5	+2.6
	2.2nm,0.6s						
KURK				⇑Sn	Sn	08 35 32.1	+3.5
	2.2nm,0.6s						
KURK				⇓Lg	Lg	08 36 01.4	
	7.9nm,0.7s						
KURBB	**Kurchatov Arra**	**6.32**	**246**	⇓P	Pn	08 34 21.0	+2.8
	6.0nm,0.6s						
KURBB				⇓Sn	Sn	08 35 33.1	+2.1
	7.4nm,0.6s						
KURBB				⇑Lg	Lg	08 36 06.5	
	17nm,0.7s						
MK31	**Makanchi Array**	**7.60**	**209**	⇑P	Pn	08 34 39.3	+3.5
	1.6nm,0.6s,baz=28,slow=12,SNR=42						
MK31				Sn	Sn	08 36 04.6	+1.9
	3.1nm,0.7s,baz=30,slow=26,SNR=4.8						
MK31				⇑Lg	Lg	08 36 45.5	
	4.6nm,0.8s,baz=35,slow=31,SNR=5.8						
MAKZ	**Makanchi**	**7.68**	**210**	⇓P	Pn	08 34 38.9	+2.0
	1.9nm,0.6s						
MAKZ				⇑Sn	Sn	08 36 07.4	+2.8
	3.0nm,0.7s						
MAKZ				⇓Lg	Lg	08 36 47.8	
	5.9nm,0.9s						

ISCJB ***17*** *08:35:02.1±0.3, 24°.42N±0°.02×122°.02E±0°.02, h3km±3km, Error ellipse: s-maj=2.7km s-min=2.3km az=162.8*
JMA ***17*** *08:35:02.7±0.1, 24°.41N×121°.98E, h14km, M2.9*
TAP ***17*** *08:35:02.5, 24°.45N×121°.98E, h13km, ML3.4, C*
ISC 17 08:35:02.3±0.8, 24°.42N±0°.02×122°.01E±0°.02, h12km±5km, n69, σ0°.69/108, 3C-8D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.16**	**40**	⇓P	**Pg**	**08 35 06.8**	**+0.8**
	baz=46						
EOS1				S	**Sb**	**08 35 10.2**	**+1.7**
	baz=46						
TWC	**Suao**	**0.24**	**321**	⇑*i*P	**Pg**	**08 35 07.1**	**-0.2**
	baz=325						
TWC				*i* S	**Sg**	**08 35 09.8**	**-0.9**
	baz=325						
NANB	**Nanao**	**0.24**	**271**	⇓P	**Pg**	**08 35 07.3**	**-0.1**
	baz=271						
NANB				S	**Sg**	**08 35 10.4**	**-0.4**
	baz=271						
ENA	**Nanau**	**0.25**	**271**	P	**Pg**	**08 35 07.4**	**-0.1**
	baz=270						
ENA				S	**Sg**	**08 35 10.6**	**-0.4**
	baz=270						
ILA	**Ilan**	**0.42**	**325**	P	**Pg**	**08 35 10.9**	**+0.3**
	baz=326						
ILA				*e*S	**Sb**	**08 35 18.1**	**+0.1**
	baz=326						
EGS		**0.42**	**350**	*e*P	**Pb**	**08 35 12.0**	**+0.2**
	baz=348						
TWE	**Neicheng**	**0.43**	**313**	⇑P	**Pg**	**08 35 10.8**	**-0.1**
	baz=318						
TWE				S	**Sg**	**08 35 15.8**	**-0.9**
	baz=318						
NACB	**Ninganchiao**	**0.46**	**237**	⇓P	**Pg**	**08 35 11.2**	**-0.2**
	baz=233						
NACB				S	**Sg**	**08 35 17.3**	**-0.1**
	baz=233						
NTC	**Toucheng**	**0.46**	**339**	*e*P	**Pg**	**08 35 11.7**	**+0.3**
	baz=351						
ENTT	**Nioudou**	**0.46**	**298**	*e*P	**Pg**	**08 35 11.4**	**0.0**
	baz=296						
ENTT				S	**Sg**	**08 35 16.9**	**-0.6**
	baz=296						
TWD	**Chiawan**	**0.51**	**228**	P	**Pg**	**08 35 12.2**	**-0.1**
	baz=230						
TWD				*e*S	**Sg**	**08 35 18.9**	**-0.3**
	baz=230						
TIPB	**Shuangxi**	**0.57**	**343**	P	**Pg**	**08 35 13.8**	**+0.2**
	baz=343						
TIPB				*e*S	**Sg**	**08 35 21.5**	**+0.4**
	baz=343						
NNSB	**Datong**	**0.57**	**271**	⇓P	**Pg**	**08 35 13.4**	**-0.2**
	baz=268						
NNSB				S	**Sg**	**08 35 20.2**	**-1.0**
	baz=268						
HWA	**Hwalien**	**0.58**	**220**	*e*P	**Pb**	**08 35 14.5**	**0.0**
	baz=223						
TWB1	**Santiao Chiao**	**0.58**	**358**	*e*P	**Pg**	**08 35 13.7**	**0.0**
	baz=352						
NWLT	**Wulai**	**0.58**	**307**	*e*P	**Pg**	**08 35 13.9**	**+0.2**
	baz=298						
NWLT				*e*S	**Sg**	**08 35 21.3**	**-0.1**
	baz=298						
NNS	**Nan Shan**	**0.58**	**272**	⇓*i*P	**Pg**	**08 35 13.5**	**-0.2**
	baz=269						
NNS				S	**Sg**	**08 35 20.9**	**-0.7**
	baz=269						
YHNB	**Yeheng**	**0.63**	**293**	P	**Pg**	**08 35 14.7**	**0.0**
	baz=291						
YHNB				S	**Sg**	**08 35 21.3**	**-1.7**
	baz=291						
ENLB	**Shoufeng**	**0.64**	**216**	*e*P	**Pb**	**08 35 16.0**	**+0.5**
	baz=221						
NSK	**Sanguang**	**0.65**	**293**	*e*P	**Pg**	**08 35 14.9**	**-0.1**
	baz=296						
NSK				*e*S	**Sg**	**08 35 22.5**	**-1.0**
	baz=296						
NWF	**Wu-fen Shan**	**0.68**	**342**	P	**Pb**	**08 35 16.0**	**-0.2**
	baz=331						
NWF				S	**Sb**	**08 35 25.0**	**-0.6**
	baz=331						
TWA	**Mucha**	**0.68**	**325**	*e*P	**Pg**	**08 35 15.2**	**-0.3**
	baz=325						
TWA				*e*S	**Sg**	**08 35 24.5**	**0.0**
	baz=325						
WFSB	**Wu-fen Shan**	**0.68**	**342**	P	**Pb**	**08 35 16.2**	**0.0**
	baz=331						
WFSB				S	**Sb**	**08 35 25.2**	**-0.3**
	baz=331						

TATO	**Taipei**	**0.73**	**319**	*e*P		**Pb**	**08 35 16.8**	**-0.2**
	baz=308							
TATO				*e*S		**Sg**	**08 35 25.5**	**-0.5**
	baz=308							
WHF	**Hehuan Shan**	**0.74**	**248**	⇓P		**Pg**	**08 35 16.5**	**-0.2**
	baz=255							
WHF				S		**Sg**	**08 35 26.0**	**-0.4**
	baz=255							
TDCB	**Techi**	**0.80**	**258**	*e*P		**Pb**	**08 35 18.1**	**-0.2**
	baz=256							
TDCB				*e*S		**Sg**	**08 35 27.6**	**-0.7**
	baz=256							
ESL	**Shilin**	**0.81**	**221**	*e*P		**Pg**	**08 35 17.6**	**-0.4**
	baz=225							
WLTB	**Daxi**	**0.81**	**302**	*e*P		**Pb**	**08 35 18.8**	**+0.3**
	baz=300							
WLTB				*e*S		**Sb**	**08 35 29.5**	**+0.1**
	baz=300							
YM01	**YM01**	**0.82**	**331**	P		**Pn**	**08 35 20.1**	**+0.2**
	baz=330							
YM01				*e*S		**Sb**	**08 35 30.1**	**+0.3**
	baz=330							
YM11	**YM11**	**0.84**	**332**	⇑P		**Pb**	**08 35 19.4**	**+0.4**
	baz=332							
YM05	**YM05**	**0.84**	**331**	P		**Pb**	**08 35 19.2**	**+0.2**
	baz=332							
YM04	**YM04**	**0.85**	**329**	*e*P		**Pb**	**08 35 19.3**	**+0.2**
	baz=329							
YM04				*e*S		**Sg**	**08 35 29.4**	**-0.4**
	baz=329							
CHGB	**Renai**	**0.85**	**245**	*e*P		**Pg**	**08 35 18.7**	**-0.1**
	baz=253							
CHGB				*e*S		**Sg**	**08 35 29.5**	**-0.4**
	baz=253							
JYNG	**Yonagunijimaku**	**0.85**	**88**	P		**Pb**	**08 35 19.3**	**+0.3**
JYNG				*e*S		**Sb**	**08 35 31.4**	**+1.0**
YM08	**YM08**	**0.85**	**333**	⇓*e*P		**Pb**	**08 35 19.2**	**+0.1**
	baz=333							
YM08				*e*S		**Sb**	**08 35 31.2**	**+0.7**
	baz=333							
NTST	**Danshui**	**0.90**	**325**	*e*P		**Pn**	**08 35 20.8**	**0.0**
	baz=333							
YOJ	**Yonaguni jima**	**0.91**	**87**	P		**Pg**	**08 35 20.0**	**+0.1**
YOJ				*e*S		**Sb**	**08 35 32.9**	**+0.7**
NCU	**National Centr**	**0.93**	**306**	*e*P		**Pn**	**08 35 21.9**	**+0.6**
	baz=305							
NCU				*e*S		**Sn**	**08 35 34.9**	**+0.4**
	baz=305							
NCUH	**Zhongli**	**0.93**	**306**	*e*P		**Pn**	**08 35 21.5**	**+0.2**
	baz=304							
NCUH				*e*S		**Sn**	**08 35 34.5**	**-0.1**
	baz=304							
TWY	**Chenhua**	**0.93**	**336**	*e*P		**Pn**	**08 35 20.7**	**-0.5**
	baz=337							
LIOB	**Emei**	**0.94**	**284**	*e*P		**Pb**	**08 35 20.7**	**+0.1**
	baz=283							
NSTT	**Nanjuang**	**0.94**	**283**	*e*P		**Pb**	**08 35 20.9**	**+0.2**
	baz=281							
NSTT				S		**Sg**	**08 35 32.4**	**-0.5**
	baz=281							
SBCB	**Hsinchu**	**1.00**	**292**	*e*P		**Pn**	**08 35 22.6**	**+0.3**
	baz=284							
SBCB				*e*S		**Sn**	**08 35 36.6**	**+0.2**
	baz=284							
HSN	**Hsinchu**	**1.02**	**292**	*e*P		**Pn**	**08 35 23.0**	**+0.4**
	baz=287							
VWDT	**VWDT**	**1.04**	**230**	*e*P		**Pg**	**08 35 22.4**	**+0.1**
	baz=235							
HGSD	**Ruisui**	**1.07**	**210**	*e*P		**Pn**	**08 35 23.5**	**+0.2**
	baz=207							
EHY	**Hungye**	**1.11**	**215**	*e*P		**Pb**	**08 35 23.6**	**0.0**
	baz=217							
NMLH	**Miaoli**	**1.12**	**276**	*e*P		**Pg**	**08 35 24.9**	**+1.0**
	baz=275							
TWQ1	**Liyutan**	**1.13**	**266**	*e*P		**Pg**	**08 35 24.4**	**+0.2**
	baz=265							
NSY	**Sanyi**	**1.14**	**270**	*e*P		**Pg**	**08 35 25.4**	**+1.1**
	baz=268							
SMLT	**Sun Moon Lake**	**1.15**	**242**	*e*P		**Pb**	**08 35 24.1**	**-0.2**
	baz=248							
SSLB	**Suanglung**	**1.16**	**237**	⇓P		**Pb**	**08 35 24.1**	**-0.2**
	baz=235							
YULB	**Yu-li**	**1.22**	**213**	*e*P		**Pn**	**08 35 25.2**	**0.0**
	baz=210							
YUS	**Yu-Shan**	**1.35**	**226**	*e*P		**Pb**	**08 35 27.7**	**-0.1**
	baz=225							
CHN5	**Tsauling**	**1.47**	**236**	P		**Pg**	**08 35 31.1**	**+0.5**
	baz=236							
CHN5				*e*S		**Sg**	**08 35 52.7**	**+2.9**
	baz=236							
IRIF	**Iriomote-Funau**	**1.57**	**93**	P		**Pn**	**08 35 29.5**	**-0.5**
IRIF				*e*S		**Sn**	**08 35 49.5**	**-0.8**
RLNB	**Erlin**	**1.60**	**251**	*e*P		**Pg**	**08 35 32.9**	**-0.2**
	baz=262							
HATJ	**Hateruma jima**	**1.68**	**102**	P		**Pn**	**08 35 32.4**	**+0.9**
HATJ				S		**Sn**	**08 35 52.7**	**-0.3**
CHN4	**Tsaushan**	**1.68**	**231**	*e*P		**Pg**	**08 35 34.1**	**-0.5**
	baz=233							
CHN4				*e*S		**Sg**	**08 35 58.6**	**+2.1**
	baz=233							
TPUB	**Ta-pu**	**1.69**	**229**	*e*P		**Pb**	**08 35 33.9**	**+0.5**
	baz=228							
TWK	**Hsinying**	**1.81**	**231**	*e*P		**Pg**	**08 35 36.5**	**-0.6**
	baz=231							
JKRS	**Kuro-shima**	**1.83**	**95**	P		**Pn**	**08 35 33.7**	**+0.1**
JKRS				*e*S		**Sn**	**08 35 56.3**	**-0.5**
CHN1	**Nanshi**	**1.84**	**228**	*e*P		**Pb**	**08 35 36.6**	**+0.7**
	baz=229							
JIJ	**Ishigaki jima**	**1.94**	**91**	P		**Pn**	**08 35 35.5**	**+0.3**
JIJ				S		**Sn**	**08 35 57.8**	**-1.8**
JISG	**Ishigakijimahi**	**2.10**	**85**	P		**Pn**	**08 35 36.9**	**-0.4**
JISG				S		**Sn**	**08 36 02.1**	**-1.3**
MASBT	**Mashibuluo**	**2.21**	**215**	*e*P		**Pb**	**08 35 40.6**	**-1.6**
	baz=203							
VWUC	**VWUC**	**2.40**	**284**	*e*P		**Pn**	**08 35 41.2**	**-0.3**
	baz=283							
MATB	**Ma-tsu**	**2.54**	**313**	*e*P		**Pn**	**08 35 45.4**	**+1.9**
	baz=311							
KNMB	**Chin-men Tao**	**3.31**	**271**	*e*P		**Pn**	**08 35 54.5**	**+0.6**
	baz=271							

TAP ***17*** *08:36:52.8, 24.°44N×121.°99E, h13km, ML2.8, C*
ISCJB ***17*** *08:36:53.1±0.5, 24.°43N±0.°02×121.°98E±0.°03, h6km±4km, Error ellipse: s-maj=4.5km s-min=2.9km az=30.3*
JMA ***17*** *08:36:53.1±0.1, 24.°39N×121.°99E, h21km*

ISC 17 08:36:52.6±0.9, 24.°42N±0.°02×121.°99E±0.°03, h14km±6km, n36, σ0=57/58, 2C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EOS1	**EOS1**	**0.18**	**44**	⇑P		**Pg**	**08 36 57.2**	**+0.3**
	baz=42							
EOS1				S		**Sg**	**08 37 00.6**	**+0.9**
	baz=42							
NANB	**Nanao**	**0.22**	**272**	⇓P		**Pg**	**08 36 57.8**	**+0.2**
	baz=273							
NANB				S		**Sg**	**08 37 01.1**	**+0.2**
	baz=273							
TWC	**Suao**	**0.23**	**325**	⇑*i*P		**Pg**	**08 36 57.6**	**-0.1**
	baz=324							
TWC				S		**Sg**	**08 37 00.4**	**-0.7**
	baz=324							
ENA	**Nanau**	**0.23**	**272**	⇓*i*P		**Pg**	**08 36 57.8**	**+0.1**
	baz=272							
ENA				*i* S		**Sg**	**08 37 01.1**	**0.0**
	baz=272							
ILA	**Ilan**	**0.41**	**327**	*e*P		**Pg**	**08 37 01.1**	**+0.2**
	baz=318							
ILA				*e*S		**Sg**	**08 37 07.0**	**+0.5**
	baz=318							
TWE	**Neicheng**	**0.42**	**315**	P		**Pg**	**08 37 01.4**	**+0.3**
	baz=317							
TWE				S		**Sg**	**08 37 05.9**	**-0.9**
	baz=317							
NACB	**Ninganchiao**	**0.44**	**236**	P		**Pg**	**08 37 01.5**	**+0.1**
	baz=234							
NACB				S		**Sg**	**08 37 07.7**	**+0.3**
	baz=234							
ENTT	**Nioudou**	**0.45**	**299**	P		**Pg**	**08 37 01.8**	**+0.3**
	baz=297							
NTC	**Toucheng**	**0.46**	**341**	*e*P		**Pg**	**08 37 01.8**	**+0.1**
	baz=350							
TWD	**Chiawan**	**0.50**	**227**	P		**Pg**	**08 37 02.6**	**+0.2**
	baz=231							
TWD				S		**Sb**	**08 37 09.8**	**-0.4**
	baz=231							
NNSB	**Datong**	**0.56**	**271**	⇓P		**Pg**	**08 37 03.9**	**+0.2**
	baz=269							
NNSB				S		**Sg**	**08 37 10.9**	**-0.2**
	baz=269							
NNS	**Nan Shan**	**0.56**	**272**	P		**Pg**	**08 37 03.9**	**+0.1**
	baz=270							
NNS				S		**Sg**	**08 37 11.4**	**0.0**
	baz=270							
TIPB	**Shuangxi**	**0.57**	**345**	*e*P		**Pg**	**08 37 04.0**	**+0.1**
	baz=343							
TIPB				*e*S		**Sg**	**08 37 11.6**	**+0.1**
	baz=343							
YHNB	**Yeheng**	**0.61**	**294**	⇓P		**Pg**	**08 37 05.1**	**+0.4**
	baz=292							
YHNB				S		**Sg**	**08 37 12.6**	**-0.3**
	baz=292							
NSK	**Sanguang**	**0.63**	**294**	P		**Pg**	**08 37 05.2**	**+0.1**
	baz=297							
NSK				S		**Sg**	**08 37 12.9**	**-0.5**
	baz=297							
TWA	**Mucha**	**0.67**	**326**	*e*P		**Pb**	**08 37 06.3**	**+0.2**
	baz=325							
TWA				S		**Sg**	**08 37 15.1**	**+0.5**
	baz=325							
NWF	**Wu-fen Shan**	**0.68**	**343**	P		**Pb**	**08 37 06.4**	**+0.2**
	baz=331							
NWF				*e*S		**Sg**	**08 37 15.1**	**+0.2**
	baz=331							
WFSB	**Wu-fen Shan**	**0.68**	**343**	P		**Pb**	**08 37 06.5**	**+0.3**
	baz=331							
WFSB				S		**Sg**	**08 37 15.2**	**+0.4**
	baz=331							
TATO	**Taipei**	**0.72**	**320**	*e*P		**Pn**	**08 37 08.0**	**-0.3**
	baz=308							
TATO				S		**Sb**	**08 37 15.8**	**-0.8**
	baz=308							
WHF	**Hehuan Shan**	**0.72**	**248**	P		**Pg**	**08 37 06.7**	**0.0**
	baz=256							
WHF				S		**Sg**	**08 37 16.7**	**+0.4**
	baz=256							
TDCB	**Techi**	**0.78**	**258**	*e*P		**Pg**	**08 37 08.1**	**+0.3**
	baz=250							
ESL	**Shilin**	**0.79**	**220**	*e*P		**Pb**	**08 37 07.9**	**-0.3**
	baz=226							
YM01	**YM01**	**0.82**	**332**	*e*P		**Pn**	**08 37 10.0**	**+0.2**
	baz=330							
YM01				*e*S		**Sg**	**08 37 20.2**	**+0.9**
	baz=330							
CHGB	**Renai**	**0.83**	**245**	*e*P		**Pb**	**08 37 07.8**	**-1.2**
	baz=252							
CHGB				*e*S		**Sg**	**08 37 20.2**	**+0.5**
	baz=252							
YM11	**YM11**	**0.83**	**333**	*e*P		**Pn**	**08 37 10.0**	**0.0**
	baz=332							
YM05	**YM05**	**0.84**	**332**	*e*P		**Pg**	**08 37 09.5**	**+0.6**
	baz=332							
YM08	**YM08**	**0.85**	**334**	*e*P		**Pg**	**08 37 09.8**	**+0.7**
	baz=334							
JYNG	**Yonagunijimaku**	**0.87**	**88**	P		**Pb**	**08 37 09.4**	**-0.1**
JYNG				S		**Sb**	**08 37 18.8**	**-2.1**
LIOB	**Emei**	**0.92**	**284**	*e*P		**Pn**	**08 37 11.1**	**0.0**
	baz=283							
NSTT	**Nanjuang**	**0.93**	**283**	*e*P		**Pg**	**08 37 11.1**	**+0.4**
	baz=282							
SBCB	**Hsinchu**	**0.99**	**292**	*e*P		**Pg**	**08 37 13.0**	**+1.3**
	baz=284							
VWDT	**VWDT**	**1.02**	**230**	*e*P		**Pg**	**08 37 12.7**	**+0.3**
	baz=234							
VWDT				S		**Sn**	**08 37 27.2**	**+0.5**
	baz=234							
HGSD	**Ruisui**	**1.06**	**209**	*e*P		**Pg**	**08 37 14.4**	**+1.2**
	baz=192							
SMLT	**Sun Moon Lake**	**1.13**	**242**	*e*P		**Pb**	**08 37 14.3**	**+0.2**
	baz=249							
YULB	**Yu-li**	**1.21**	**212**	*e*P		**Pb**	**08 37 15.3**	**+0.1**
	baz=211							
CHN5	**Tsauling**	**1.46**	**236**	*e*P		**Pg**	**08 37 21.3**	**+0.7**
	baz=236							

MAN 17 08:37:53.9, 6.°13N×124.°90E, h44km, mb3.6, ML2.3, MS1.8, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GSPH	**General Santos**	**0.07**	**132**	⇓*i*P		Pn	08 38 04.4	+3.3
GSPH				*i* S		Sn	08 38 12.1	+5.9
SKMP	**Bagumbayan, Su**	**0.52**	**317**	*e*P		Pn	08 38 06.8	+1.6
SKMP				*e*S		Sn	08 38 16.2	+3.0
DDMP	**Don Marcelino,**	**0.81**	**92**	*e*P		Pn	08 38 12.0	+3.1
DDMP				*e*S		Sn	08 38 24.8	+5.0

MEX 17 08:38:14.6±0.5, 15.°20N×95.°27W, h16km±10km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HUIG	**Huatulco**	**0.99**	**305**	*e*P		Pb	08 38 30.2	-3.1
HUIG				*e*S		Sb	08 38 41.5	-4.6
CMIG	**Matias Romero**	**1.91**	**11**	*e*P		Pn	08 38 42.8	-3.7
CMIG				*e*S		Sn	08 39 06.2	-4.1
PCIG		**2.04**	**76**	*e*P		Pn	08 38 44.9	-3.3
PCIG				*i* S		Sn	08 39 08.2	-5.2
VHO	**Vista Hermosa**	**2.33**	**323**	*i* P		Pn	08 38 49.9	-2.6
VHO				*e*S		Sn	08 39 17.1	-3.8

TAP 17 08:38:49.1, 24.°46N×121.°97E, h15km, ML2.2, 1C-1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EOS1	**EOS1**	**0.17**	**57**	P		Pb	08 38 53.6	-0.2
	baz=49							
EOS1				S		Sb	08 38 57.2	+0.2
	baz=49							
TWC	**Suao**	**0.19**	**323**	⇑*i*P		Pg	08 38 53.8	+0.2
	baz=324							
TWC				S		Sg	08 38 56.3	-0.4
	baz=324							
NANB	**Nanao**	**0.21**	**262**	P		Pg	08 38 53.9	+0.1
	baz=268							
NANB				S		Sg	08 38 57.1	+0.1
	baz=268							
ENA	**Nanau**	**0.21**	**262**	⇓P		Pg	08 38 54.0	0.0
	baz=268							
ENA				S		Sg	08 38 57.2	-0.1
	baz=268							
TWE	**Neicheng**	**0.38**	**313**	*e*P		Pg	08 38 57.0	+0.2
	baz=314							
TWE				*e*S		Sg	08 39 02.5	+0.3
	baz=314							
ENTT	**Nioudou**	**0.41**	**296**	*e*P		Pg	08 38 57.4	-0.1
	baz=296							
ENTT				*e*S		Sg	08 39 03.5	+0.4
	baz=296							
NACB	**Ninganchiao**	**0.45**	**231**	P		Pg	08 38 57.8	-0.3
	baz=232							
NACB				*e*S		Sg	08 39 04.1	0.0
	baz=232							
TWD	**Chiawan**	**0.51**	**223**	P		Pg	08 38 59.1	-0.1
	baz=229							
TWD				S		Sg	08 39 06.1	+0.1
	baz=229							
TIPB	**Shuangxi**	**0.53**	**345**	P		Pb	08 39 00.4	+0.3
	baz=344							
NWLT	**Wulai**	**0.53**	**307**	*e*P		Pb	08 39 00.3	+0.2
	baz=301							
NNSB	**Datong**	**0.54**	**267**	P		Pg	08 39 00.0	+0.2
	baz=268							
NNS	**Nan Shan**	**0.55**	**268**	*e*P		Pg	08 38 59.9	-0.1
	baz=269							
YHNB	**Yeheng**	**0.58**	**291**	*e*P		Pb	08 39 01.4	+0.4
	baz=296							
NSK	**Sanguang**	**0.60**	**291**	*e*P		Pb	08 39 01.3	0.0
	baz=291							
NSK				*e*S		Sg	08 39 09.3	+0.3
	baz=291							
WFSB	**Wu-fen Shan**	**0.64**	**344**	*e*P		Pb	08 39 02.4	+0.6
	baz=334							
TATO	**Taipei**	**0.68**	**319**	*e*P		Pb	08 39 03.0	+0.4
	baz=308							
TATO				*e*S		Sb	08 39 12.4	+0.6
	baz=308							
WHF	**Hehuan Shan**	**0.72**	**244**	P		Pg	08 39 03.1	-0.1
	baz=255							
WHF				*e*S		Sg	08 39 12.7	-0.1
	baz=255							
YM01	**YM01**	**0.78**	**332**	*e*P		Pn	08 39 04.9	-0.6
	baz=338							
YM01				*e*S		Sb	08 39 15.0	+0.3
	baz=338							
YM11	**YM11**	**0.79**	**333**	*e*P		Pb	08 39 04.9	+0.3
	baz=332							
YM05	**YM05**	**0.80**	**332**	*e*P		Pn	08 39 05.3	-0.5
	baz=341							
CHGB	**Renai**	**0.83**	**242**	*e*P		Pb	08 39 05.5	+0.2
	baz=252							
CHGB				*e*S		Sb	08 39 16.7	+0.4
	baz=252							
NCU	**National Centr**	**0.88**	**306**	*e*P		Pb	08 39 04.6	-1.4
	baz=305							

TAP 17 08:38:56.4, 24.°46N×121.°98E, h16km, ML2.5, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EOS1	**EOS1**	**0.16**	**56**	P		Pb	08 39 01.0	-0.1
	baz=49							
EOS1				*e*S		Sb	08 39 04.6	+0.4
	baz=49							
TWC	**Suao**	**0.19**	**322**	P		Pg	08 39 01.2	+0.2
	baz=323							
TWC				S		Sg	08 39 03.9	-0.2
	baz=323							
NANB	**Nanao**	**0.21**	**262**	P		Pg	08 39 01.2	-0.1
	baz=268							
NANB				S		Sg	08 39 04.7	+0.1
	baz=268							
ENA	**Nanau**	**0.22**	**262**	P		Pg	08 39 01.5	0.0
	baz=268							
ENA				*i* S		Sg	08 39 04.8	0.0
	baz=268							
ILA	**Ilan**	**0.37**	**326**	*e*P		Pg	08 39 03.9	-0.1
	baz=318							
ILA				*e*S		Sb	08 39 09.9	-0.3
	baz=318							
TWE	**Neicheng**	**0.39**	**313**	*e*P		Pg	08 39 04.6	+0.3
	baz=314							
TWE				S		Sg	08 39 09.8	+0.1
	baz=314							
ENTT	**Nioudou**	**0.42**	**296**	*e*P		Pb	08 39 05.3	-0.1
	baz=296							
ENTT				*e*S		Sb	08 39 11.1	-0.4
	baz=296							
NACB	**Ninganchiao**	**0.45**	**231**	*e*P		Pg	08 39 05.5	0.0
	baz=232							
NACB				S		Sg	08 39 11.8	+0.2
	baz=232							
TWD	**Chiawan**	**0.51**	**223**	P		Pg	08 39 06.7	+0.1
	baz=229							
TWD				S		Sg	08 39 13.4	-0.1
	baz=229							
TIPB	**Shuangxi**	**0.53**	**345**	*e*P		Pb	08 39 08.2	+0.8
	baz=343							
TIPB				*e*S		Sb	08 39 15.5	+0.7
	baz=343							
TIPB	**Shuangxi**	**0.53**	**345**	*e*S		Pb	08 39 08.1	+0.7
	baz=344							
NWLT	**Wulai**	**0.54**	**306**	*e*P		Pb	08 39 07.7	+0.2
	baz=301							
NWLT				*e*S		Sb	08 39 15.4	+0.4
	baz=301							
NWLT	**Wulai**	**0.54**	**306**	*e*S		Pb	08 39 07.6	+0.1
	baz=301							
NNSB	**Datong**	**0.54**	**267**	*e*P		Pb	08 39 07.5	-0.2
	baz=268							
NNSB				*e*S		Sg	08 39 14.8	+0.3
	baz=268							
NNSB	**Datong**	**0.54**	**267**	*e*S		Pb	08 39 07.4	-0.3
	baz=268							
NNS	**Nan Shan**	**0.55**	**268**	*e*P		Pb	08 39 07.6	-0.2
	baz=269							
NNS				*e*S		Sg	08 39 15.1	+0.2
	baz=269							
NNS	**Nan Shan**	**0.55**	**268**	*e*S		Pb	08 39 07.6	-0.2
	baz=269							
HWA	**Hwalien**	**0.59**	**215**	*e*P		Pg	08 39 07.8	-0.3
	baz=222							
YHNB	**Yeheng**	**0.59**	**291**	*e*P		Pb	08 39 08.8	+0.4
	baz=296							
YHNB				*e*S		Sb	08 39 16.3	-0.2
	baz=296							
YHNB	**Yeheng**	**0.59**	**291**	*e*S		Pb	08 39 08.5	+0.1
	baz=296							
NSK	**Sanguang**	**0.60**	**291**	P		Pg	08 39 08.4	0.0
	baz=291							
NSK				S		Sb	08 39 16.9	-0.2
	baz=291							
TWA	**Mucha**	**0.63**	**325**	*e*P		Pg	08 39 08.6	-0.2
	baz=312							
NWF	**Wu-fen Shan**	**0.64**	**344**	*e*P		Pb	08 39 09.4	+0.2
	baz=334							
NWF				*e*S		Sb	08 39 18.9	+0.9
	baz=334							
WFSB	**Wu-fen Shan**	**0.64**	**344**	P		Pb	08 39 09.4	+0.2
	baz=334							
WFSB				*e*S		Sb	08 39 18.9	+1.0
	baz=334							
TATO	**Taipei**	**0.68**	**319**	*e*P		Pn	08 39 11.1	-0.3
	baz=308							
TATO				*e*S		Sb	08 39 19.7	+0.6
	baz=308							
WHF	**Hehuan Shan**	**0.72**	**245**	P		Pg	08 39 10.4	-0.2
	baz=253							
WHF				*e*S		Sb	08 39 20.8	+0.1
	baz=253							
YM11	**YM11**	**0.79**	**333**	*e*P		Pn	08 39 13.2	+0.1
	baz=332							
YM05	**YM05**	**0.80**	**332**	*e*P		Pn	08 39 13.0	-0.1
	baz=331							
YM05				*e*S		Sn	08 39 23.9	-0.7
	baz=331							
YM04	**YM04**	**0.80**	**330**	*e*P		Pn	08 39 13.1	0.0
	baz=315							
YM04				*e*S		Sg	08 39 23.6	+1.0
	baz=315							
ESL	**Shilin**	**0.81**	**218**	*e*P		Pb	08 39 12.0	-0.1
	baz=227							
CHGB	**Renai**	**0.83**	**242**	*e*P		Pb	08 39 12.6	0.0
	baz=250							
CHGB				*e*S		Sb	08 39 24.1	+0.4
	baz=250							

ISCJB ***17*** *08:43:46.6±0.3, 24.°43N±0.°02×122.°04E±0.°02, h6km±2km, Error ellipse: s-maj=2.7km s-min=2.3km az=137.8*
JMA ***17*** *08:43:47.2±0.1, 24.°40N×121.°98E, h20km, M2.8*
TAP ***17*** *08:43:47.0, 24.°44N×121.°99E, h14km, ML3.3, B*

ISC 17 08:43:46.8±0.8, 24.°42N±0.°02×122.°02E±0.°02, h15km±6km, n67, σ0=68/105, 3C-13D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EOS1	**EOS1**	**0.17**	**38**	⇑P		**Pg**	**08 43 51.5**	**+0.6**
	baz=42							
EOS1				*e*S		**Sg**	**08 43 54.9**	**+1.3**
	baz=42							
NANB	**Nanao**	**0.24**	**272**	⇓P		**Pg**	**08 43 52.1**	**0.0**
	baz=273							
NANB				S		**Sg**	**08 43 55.4**	**-0.3**
	baz=273							
TWC	**Suao**	**0.24**	**321**	⇓*i*P		**Pg**	**08 43 51.9**	**-0.2**
	baz=325							
TWC				*i* S		**Sg**	**08 43 54.8**	**-1.0**
	baz=325							
ENA	**Nanau**	**0.25**	**272**	⇓*i*P		**Pg**	**08 43 52.1**	**-0.1**
	baz=272							
ENA				*i* S		**Sg**	**08 43 55.4**	**-0.6**
	baz=272							
ILA	**Ilan**	**0.42**	**325**	P		**Pg**	**08 43 55.5**	**+0.2**
	baz=319							
ILA				S		**Sg**	**08 44 01.2**	**+0.1**
	baz=319							
TWE	**Neicheng**	**0.44**	**314**	⇓*i*P		**Pg**	**08 43 55.5**	**0.0**
	baz=318							
TWE				S		**Sg**	**08 44 00.5**	**-1.0**
	baz=318							
NACB	**Ninganchiao**	**0.46**	**238**	⇑P		**Pg**	**08 43 55.9**	**0.0**
	baz=234							
NACB				S		**Sg**	**08 44 02.0**	**0.0**
	baz=234							
ENTT	**Nioudou**	**0.47**	**298**	⇓*i*P		**Pg**

ENTT			S		Sg	08 44 02.1	-0.3
	baz=297						
NTC	**Toucheng**	**0.47 339**	*eP*		**Pg**	**08 43 56.1**	**+0.1**
	baz=350						
TWD	**Chiawan**	**0.51 229**	⇑P		**Pg**	**08 43 56.9**	**0.0**
	baz=231						
TWD			*i* S		**Sb**	**08 44 04.2**	**-0.4**
	baz=231						
NNSB	**Datong**	**0.58 271**	⇓P		**Pg**	**08 43 58.2**	**0.0**
	baz=269						
NNSB			S		**Sg**	**08 44 05.3**	**-0.6**
	baz=269						
HWA	**Hwalien**	**0.58 221**	*eP*		**Pb**	**08 43 58.5**	**-0.1**
	baz=224						
TIPB	**Shuangxi**	**0.58 343**	*eP*		**Pb**	**08 43 58.6**	**0.0**
	baz=343						
TIPB			*eS*		**Sg**	**08 44 05.4**	**-0.6**
	baz=343						
NNS	**Nan Shan**	**0.59 272**	⇓*i*P		**Pg**	**08 43 58.3**	**0.0**
	baz=270						
NNS			S		**Sg**	**08 44 05.6**	**-0.6**
	baz=270						
TWB1	**Santiao Chiao**	**0.59 358**	P		**Pb**	**08 43 58.9**	**+0.1**
	baz=352						
TWB1			*eS*		**Sg**	**08 44 04.8**	**-1.4**
	baz=352						
NWLT	**Wulai**	**0.59 308**	*eP*		**Pb**	**08 43 58.5**	**-0.3**
	baz=307						
YHNB	**Yeheng**	**0.64 293**	⇓P		**Pb**	**08 43 59.5**	**-0.1**
	baz=297						
YHNB			S		**Sg**	**08 44 07.0**	**-0.7**
	baz=297						
ENLB	**Shoufeng**	**0.64 217**	*eP*		**Pn**	**08 44 01.6**	**+0.4**
	baz=221						
ENLB			*eS*		**Sn**	**08 44 12.7**	**+1.6**
	baz=221						
NSK	**Sanguang**	**0.65 293**	⇓*i*P		**Pb**	**08 43 59.7**	**-0.2**
	baz=297						
NSK			S		**Sg**	**08 44 07.6**	**-0.7**
	baz=297						
NWF	**Wu-fen Shan**	**0.68 342**	*eP*		**Pb**	**08 44 00.6**	**+0.2**
	baz=331						
NWF			*eS*		**Sg**	**08 44 09.3**	**0.0**
	baz=331						
TWA	**Mucha**	**0.68 325**	⇓P		**Pb**	**08 44 00.8**	**+0.3**
	baz=325						
TWA			S		**Sg**	**08 44 09.0**	**-0.2**
	baz=325						
WFSB	**Wu-fen Shan**	**0.68 342**	*eP*		**Pb**	**08 44 00.6**	**+0.2**
	baz=331						
WFSB			*eS*		**Sg**	**08 44 09.1**	**-0.2**
	baz=331						
TATO	**Taipei**	**0.73 319**	*eP*		**Pn**	**08 44 01.8**	**-0.8**
	baz=308						
TATO			S		**Sg**	**08 44 10.2**	**-0.6**
	baz=308						
WHF	**Hehuan Shan**	**0.74 249**	⇓*i*P		**Pb**	**08 44 01.3**	**-0.2**
	baz=256						
WHF			*eS*		**Sg**	**08 44 10.8**	**-0.3**
	baz=256						
TWT	**Tachien**	**0.78 258**	*eP*		**Pn**	**08 44 02.6**	**-0.8**
	baz=256						
TDCB	**Techi**	**0.80 258**	*eP*		**Pg**	**08 44 02.8**	**+0.4**
	baz=256						
TDCB			*eS*		**Sb**	**08 44 12.0**	**-1.2**
	baz=256						
ESL	**Shilin**	**0.80 222**	*eP*		**Pb**	**08 44 01.9**	**-0.6**
	baz=226						
WLTB	**Daxi**	**0.82 302**	P		**Pn**	**08 44 03.6**	**-0.2**
	baz=301						
WLTB			S		**Sg**	**08 44 14.0**	**+0.5**
	baz=301						
YM01	**YM01**	**0.83 331**	*eP*		**Pn**	**08 44 04.8**	**+0.8**
	baz=331						
YM01			S		**Sg**	**08 44 14.5**	**+0.6**
	baz=331						
YM11	**YM11**	**0.85 332**	*eP*		**Pn**	**08 44 04.1**	**-0.1**
	baz=332						
CHGB	**Renai**	**0.85 245**	*eP*		**Pg**	**08 44 03.5**	**+0.3**
	baz=253						
CHGB			S		**Sg**	**08 44 14.5**	**+0.1**
	baz=253						
JYNG	**Yonagunijimaku**	**0.85 88**	P		**Pb**	**08 44 03.8**	**+0.6**
JYNG			*eS*		**Sb**	**08 44 14.4**	**0.0**
YM05	**YM05**	**0.85 331**	*eP*		**Pn**	**08 44 03.9**	**-0.3**
	baz=331						
YM05			*eS*		**Sg**	**08 44 14.3**	**-0.1**
	baz=331						
YM04	**YM04**	**0.85 329**	*eP*		**Pb**	**08 44 03.1**	**-0.2**
	baz=339						
YM08	**YM08**	**0.86 333**	*eP*		**Pn**	**08 44 04.2**	**-0.2**
	baz=334						
TWS1	**Kuangyinshan**	**0.87 321**	*eP*		**Pn**	**08 44 04.7**	**+0.2**
	baz=314						
TWS1			*eS*		**Sn**	**08 44 15.9**	**-1.0**
	baz=314						
NTST	**Danshui**	**0.90 325**	*eP*		**Pn**	**08 44 05.9**	**+1.0**
	baz=326						
YOJ	**Yonaguni jima**	**0.91 87**	*eP*		**Pb**	**08 44 04.3**	**+0.1**
	baz=88						
YOJ	**Yonaguni jima**	**0.91 87**	P		**Pb**	**08 44 04.6**	**+0.4**
YOJ			S		**Sb**	**08 44 16.4**	**+0.3**
NCU	**National Centr**	**0.93 306**	*eP*		**Pn**	**08 44 06.0**	**+0.7**
	baz=306						
NCUH	**Zhongli**	**0.93 306**	*eP*		**Pn**	**08 44 06.2**	**+0.8**
	baz=306						
TWY	**Chenhua**	**0.93 336**	*eP*		**Pn**	**08 44 05.5**	**+0.2**
	baz=336						
TWY			*eS*		**Sb**	**08 44 16.7**	**-0.1**
	baz=336						
LIOB	**Emei**	**0.94 284**	⇓P		**Pn**	**08 44 05.6**	**+0.1**
	baz=283						
NSTT	**Nanjuang**	**0.95 283**	P		**Pn**	**08 44 05.7**	**+0.2**
	baz=282						
SBCB	**Hsinchu**	**1.01 292**	*eP*		**Pg**	**08 44 07.6**	**+1.3**
	baz=284						
SBCB			*eS*		**Sn**	**08 44 22.8**	**+2.4**
	baz=284						
HSN	**Hsinchu**	**1.03 292**	*eP*		**Pg**	**08 44 07.7**	**+1.1**
	baz=289						
VWDT	**VWDT**	**1.04 231**	*eP*		**Pg**	**08 44 07.0**	**+0.2**
	baz=234						
VWDT			*eS*		**Sn**	**08 44 21.0**	**0.0**
	baz=234						
HGSD	**Ruisui**	**1.07 211**	*eP*		**Pg**	**08 44 07.7**	**+0.3**
	baz=208						
TWQ1	**Liyutan**	**1.14 267**	*eP*		**Pg**	**08 44 09.2**	**+0.5**
	baz=265						
SMLT	**Sun Moon Lake**	**1.15 243**	*eP*		**Pn**	**08 44 08.5**	**+0.1**
	baz=249						
SSLB	**Suanglung**	**1.16 237**	⇓P		**Pg**	**08 44 08.9**	**-0.2**
	baz=243						
SSLB			*eS*		**Sb**	**08 44 23.0**	**-0.3**
	baz=243						
YULB	**Yu-li**	**1.22 213**	*eP*		**Pb**	**08 44 09.6**	**+0.1**
	baz=211						
TWF1	**Yuli**	**1.25 212**	*eP*		**Pg**	**08 44 10.8**	**0.0**
	baz=225						
YUS	**Yu-Shan**	**1.34 227**	*eP*		**Pg**	**08 44 12.7**	**-0.1**
	baz=225						
CHN5	**Tsauling**	**1.47 237**	*eP*		**Pg**	**08 44 15.6**	**+0.5**
	baz=238						
CHN5			*eS*		**Sg**	**08 44 36.4**	**+2.2**
	baz=238						
IRIF	**Iriomote-Funau**	**1.56 93**	P		**Pn**	**08 44 13.8**	**-0.2**
IRIF			S		**Sn**	**08 44 33.7**	**-0.3**
HATJ	**Hateruma jima**	**1.67 102**	P		**Pn**	**08 44 15.6**	**+0.1**
CHN4	**Tsaushan**	**1.68 231**	*eP*		**Pg**	**08 44 19.2**	**+0.2**
	baz=230						
TPUB	**Ta-pu**	**1.69 229**	*eP*		**Pg**	**08 44 18.8**	**-0.5**
	baz=228						
TWK	**Hsinying**	**1.81 231**	*eP*		**Pg**	**08 44 20.7**	**-0.8**
	baz=230						
JKRS	**Kuro-shima**	**1.83 95**	P		**Pn**	**08 44 18.0**	**+0.4**
JKRS			S		**Sn**	**08 44 40.3**	**-0.2**
CHN1	**Nanshi**	**1.83 228**	*eP*		**Pb**	**08 44 20.7**	**+0.7**
	baz=228						
JIJ	**Ishigaki jima**	**1.94 91**	S		**Sn**	**08 44 41.6**	**-1.7**
JISG	**Ishigakijimahi**	**2.10 85**	P		**Pn**	**08 44 19.6**	**-1.7**
JISG			S		**Sn**	**08 44 45.6**	**-1.6**
MASBT	**Mashibuluo**	**2.20 216**	*eP*		**Pb**	**08 44 26.1**	**-0.2**
	baz=213						
JTJ	**Tarama**	**2.46 84**	P		**Pn**	**08 44 27.0**	**+0.7**
JTJ			S		**Sn**	**08 44 56.3**	**+0.3**
MATB	**Ma-tsu**	**2.55 313**	*eP*		**Pn**	**08 44 28.3**	**+0.7**
	baz=312						

DJA 17 08:59:04.0±1.0, 11°S±7°, 11°E±°, h10km, M3.6/7, MLv3.6/7, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**2.34**	**26**	P	Pn	08 59 42.7	+0.1
PLAI				S	Sn	09 00 11.5	0.0
IGBI	**Denpasar**	**2.64**	**323**	P	Pn	08 59 46.2	-0.4
JAGI	**Jajag, Banyuwa**	**3.55**	**314**	P	Pn	08 59 54.1	-5.1

IDC 17 08:58:59.3±1.3, 5.°84N×125.°09E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/47, mbtmp3.5/4, Error ellipse: s-maj=82.0km s-min=25.4km az=72.0
ISCJB 17 08:59:05.2±1.0, 5.°70N±0.°06×124.°8E±0.°2, h62km, mb3.4/4, Error ellipse: s-maj=25.2km s-min=8.9km az=4.6
ISC 17 08:59:07.0±1.2, 5.°75N±0.°10×124.°9E±0.°2, h62km, n7, σ1s60/9, mb3.3/4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.35**	**14**	⇑*i*P	**Pn**	**08 59 16.1**	**-1.8**
GSPH				*i* S	**Sn**	**08 59 23.5**	**-2.2**
DMPH	**Davao City--Mi**	**1.48**	**26**	⇓*e*P	**Pn**	**08 59 31.0**	**-0.4**
DMPH				*eS*	**Sn**	**08 59 51.2**	**+1.4**
CGP	**Cagayan de Oro**	**2.70**	**356**	*eP*	Pn	08 59 57.3	+9.3
CGP				*eS*	**Sn**	**09 00 19.9**	**+0.4**
WRA	**Warramunga Arr**	**27.18**	**160**	P	**P**	**09 04 43.8**	**-1.0**
	0.9nm,1.0s,baz=336,slow=10,SNR=3.1						
ASAR	**Alice Springs**	**30.54**	**164**	P	**P**	**09 05 16.2**	**+1.5**
	0.5nm,0.8s,baz=344,slow=7.3,SNR=4.4						
MKAR	**Makanchi Array**	**54.85**	**325**	P	**P**	**09 08 32.2**	**+1.2**
	0.5nm,0.8s,baz=123,slow=8.7,SNR=4.3						
ILAR	**Eielson Array**	**84.10**	**26**	P	**P**	**09 11 30.4**	**-0.4**
	0.2nm,0.6s,baz=246,slow=5.2,SNR=4.4						

IDC 17 09:01:08.3±2.0, 38.°23N×144.°31E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.3/53, mbtmp3.5/5, ML2.8/2, Error ellipse: s-maj=55.3km s-min=27.8km az=73.0
ISCJB 17 09:01:13.7±0.9, 38.°00N±0.°05×143.°89E±0.°07, h33km, Error ellipse: s-maj=8.1km s-min=7.1km az=146.7
JMA 17 09:01:15.0±0.2, 38.°02N×143.°79E, h43km, M3.2
ISC 17 09:01:13.7±1.3, 38.°12N±0.°06×144.°02E±0.°08, h35km, n18, σ1s93/29, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.02**	**276**	P	**Pn**	**09 01 45.3**	**+0.1**
JIKH				S	**Sn**	**09 02 07.5**	**-1.8**
OFUJ	**Ofunato**	**2.08**	**298**	P	**Pn**	**09 01 46.7**	**+0.7**
OFUJ				*eS*	**Sn**	**09 02 10.5**	**-0.2**
JKMT	**Kesennumamotoy**	**2.12**	**290**	P	**Pn**	**09 01 46.9**	**+0.4**
JKMT				*eS*	**Sn**	**09 02 10.2**	**-1.4**
JIO	**Ouri**	**2.13**	**280**	P	**Pn**	**09 01 47.1**	**+0.4**
JIO				*eS*	**Sn**	**09 02 10.3**	**-1.6**
JMK	**Ichinoseki**	**2.35**	**292**	P	**Pn**	**09 01 51.6**	**+1.8**
JMK				*eS*	**Sn**	**09 02 18.0**	**+0.6**
JOM	**Ohasama**	**2.53**	**303**	P	**Pn**	**09 01 53.7**	**+1.5**
JOM				*eS*	**Sn**	**09 02 22.4**	**+0.7**
JFT	**Otama**	**2.98**	**260**	P	**Pn**	**09 01 59.1**	**+0.7**
JFT				S	**Sn**	**09 02 32.1**	**-0.8**
JYK	**Kaneyama**	**2.98**	**287**	P	**Pn**	**09 01 59.5**	**+1.0**
JAG	**Ashikaga**	**4.01**	**247**	P	**Pn**	**09 02 13.1**	**+0.4**
JAG				*eS*	**Sn**	**09 02 56.4**	**-2.1**
JCH	**Churui**	**4.52**	**354**	P	**Pn**	**09 02 21.3**	**+1.7**
JCH				*eS*	**Sn**	**09 03 10.8**	**-0.1**
JRY	**Ryogami san**	**4.60**	**244**	P	**Pn**	**09 02 20.7**	**0.0**
JRY				*eS*	**Sn**	**09 03 09.4**	**-3.5**
JOD2	**Odawara 2**	**4.88**	**236**	*eS*	**Sn**	**09 03 16.2**	**-3.6**
MJAR	**Matsushiro Arr**	**4.89**	**253**	Pn	**Pn**	**09 02 26.7**	**+2.0**
	0.3nm,0.3s,baz=74,slow=8.8,SNR=15						
MAT	**Matsushiro**	**4.89**	**253**	P	**Pn**	**09 02 26.3**	**+1.6**
ASAJ	**Asahikawa**	**6.09**	**350**	Pn	**Pn**	**09 02 38.6**	**-2.5**
	0.2nm,0.3s,baz=100,slow=18,SNR=3.0						
ASAJ				Sn	**Sn**	**09 03 43.9**	**-5.7**
	0.2nm,0.3s,baz=160,slow=32,SNR=2.0						
MKAR	**Makanchi Array**	**45.31**	**302**	P	**P**	**09 09 28.6**	**+0.6**
	0.2nm,0.7s,baz=80,slow=9.7,SNR=2.3						
WRA	**Warramunga Arr**	**58.46**	**191**	P	**P**	**09 11 07.3**	**+1.2**
	2.0nm,0.8s,baz=12,slow=7.3,SNR=14						
ASAR	**Alice Springs**	**62.18**	**190**	P	**P**	**09 11 32.1**	**+0.6**
	0.4nm,0.8s,baz=4.8,slow=7.2,SNR=5.1						

IDC 17 09:02:39.9±2.9, 63.°17N×151.°64W, h0km, mb2.9/1, mb1 3.3/4, mb1mx3.1/65, mbtmp3.0/4, ML2.8/3, Error ellipse: s-maj=37.3km s-min=23.4km az=110.0
ISCJB 17 09:02:40.7±0.3, 63.°15N±0.°02×151.°47W±0.°05, h11km, mb2.9/1, Error ellipse: s-maj=3.4km s-min=3.3km az=13.8
NEIC 17 09:02:41.0±0.0, 63.°13N×151.°46W, h10km, ML3.2(AEIC), After AEIC.
ISC 17 09:02:40.6±0.8, 63.°17N±0.°03×151.°47W±0.°03, h11km, n53, σ1s23/58, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAST	**Castle Rocks**	**0.38**	**313**	P	**Pb**	**09 02 49.0**	**-0.3**
CAST				S	**Sg**	**09 02 54.2**	**+1.1**
PPLA	**Purkeypile**	**0.43**	**231**	P	**Pg**	**09 02 48.3**	**-0.8**
PPLA				S	**Sg**	**09 02 53.4**	**-1.3**
TRF	**Thorofare Moun**	**0.60**	**61**	P	**Pb**	**09 02 53.0**	**-0.3**
CHUM	**Lake Minchumin**	**0.81**	**333**	P	**Pn**	**09 02 57.6**	**-0.4**
CHUM				S	**Sb**	**09 03 08.8**	**+1.1**
HUR	**Hurricane**	**0.86**	**102**	P	**Pg**	**09 02 56.9**	**-0.3**
BPAW	**Bear Paw Mtn.**	**0.96**	**13**	P	**Pb**	**09 02 59.9**	**+0.6**
RND	**Reindeer**	**1.21**	**77**	P	**Pn**	**09 03 03.3**	**-0.2**
RND				S	**Sn**	**09 03 20.1**	**+0.2**
MCK	**McKinley**	**1.27**	**62**	P	**Pb**	**09 03 04.7**	**0.0**
SUA	**Susitna One**	**1.74**	**168**	P	**Pn**	**09 03 11.2**	**+0.3**
NEA	**Nenana**	**1.77**	**36**	P	**Pn**	**09 03 11.0**	**-0.1**
GHO	**Glory Hole Cre**	**1.83**	**139**	P	**Pn**	**09 03 11.9**	**-0.2**
DHY	**Denali Highway**	**1.86**	**91**	P	**Pn**	**09 03 13.2**	**+0.6**
MLY	**Manley**	**1.90**	**9**	P	**Pn**	**09 03 13.5**	**+0.5**
SPNN	**North Nagishla**	**1.90**	**198**	P	**Pn**	**09 03 13.1**	**0.0**
PMR	**Palmer**	**1.92**	**144**	P	**Pn**	**09 03 13.3**	**+0.1**
SPWE	**Spurr West**	**1.97**	**195**	P	**Pn**	**09 03 14.9**	**+0.9**
WRH	**Wood River Hil**	**1.99**	**47**	P	**Pn**	**09 03 14.0**	**-0.2**
SML	**Sawmill**	**2.00**	**132**	P	**Pn**	**09 03 14.0**	**-0.3**
CKT	**Bend**	**2.00**	**190**	P	**Pn**	**09 03 15.0**	**+0.5**
TT01	**Tatalina**	**2.09**	**265**	P	**Pn**	**09 03 15.5**	**-0.1**
RC01	**Rabbit Creek A**	**2.24**	**158**	P	**Pn**	**09 03 18.3**	**+0.7**
KNK	**Knik Glacier**	**2.25**	**140**	P	**Pn**	**09 03 18.6**	**+0.7**
MDM	**Murphy Dome**	**2.29**	**37**	P	**Pn**	**09 03 18.5**	**+0.1**
COLA	**College**	**2.34**	**41**	P	**Pn**	**09 03 20.6**	**+1.7**
SCM	**Sheep Creek Mo**	**2.34**	**123**	P	**Pn**	**09 03 20.3**	**+1.2**
HDA	**Harding Lake**	**2.36**	**56**	P	**Pn**	**09 03 19.7**	**+0.3**
PS08	**TAPS Pump Stn8**	**2.48**	**54**	P	**Pn**	**09 03 21.3**	**+0.4**
ILAR	**Eielson Array**	**2.58**	**49**	Pn	**Pn**	**09 03 22.2**	**-0.2**
	1.8nm,0.3s,baz=237,slow=14,SNR=59						
ILAR				Lg	Lg	09 04 02.5	
	24nm,0.3s,baz=236,slow=28,SNR=22						
PS10	**TAPS Pump St10**	**2.59**	**82**	P	**Pn**	**09 03 23.3**	**+0.8**
DFR	**Drift River**	**2.65**	**193**	P	**Pn**	**09 03 24.2**	**+0.8**
RDJH	**Redoubt Jeurge**	**2.66**	**194**	P	**Pn**	**09 03 24.8**	**+1.2**
PAX	**Paxson**	**2.74**	**91**	P	**Pn**	**09 03 25.4**	**+0.8**
PWL	**Port Wells**	**2.75**	**146**	P	**Pn**	**09 03 25.6**	**+0.9**
RDWB	**Redoubt West**	**2.77**	**194**	P	**Pn**	**09 03 25.8**	**+0.8**
PS06	**TAPS Pump Stn6**	**2.80**	**15**	P	**Pn**	**09 03 26.6**	**+1.3**
GCSA	**Galena City Sc**	**2.87**	**306**	P	**Pn**	**09 03 27.8**	**+1.7**
PS11	**TAPS Pump St11**	**2.98**	**109**	P	**Pn**	**09 03 29.0**	**+1.2**
IM3	**Indian Mountai**	**2.99**	**342**	P	**Pn**	**09 03 28.9**	**+1.0**
HARP	**HAARP**	**3.00**	**102**	P	**Pn**	**09 03 29.4**	**+1.3**
RIDG	**Independ'e Rid**	**3.03**	**76**	P	**Pn**	**09 03 30.5**	**+1.9**
SEW	**Seward**	**3.22**	**162**	P	**Pn**	**09 03 32.8**	**+1.7**
DIV	**Divide**	**3.37**	**125**	P	**Pn**	**09 03 34.3**	**+1.1**
DOT	**Dot Lake**	**3.37**	**78**	P	**Pn**	**09 03 34.7**	**+1.6**
SCRK	**Sand Creek**	**3.44**	**73**	P	**Pn**	**09 03 35.6**	**+1.3**
COLD	**Coldfoot**	**4.11**	**7**	P	**Pn**	**09 03 45.5**	**+2.2**
MCARA	**McCarthy VSAT**	**4.33**	**111**	P	**Pn**	**09 03 48.0**	**+1.6**
BCA3	**Beaver Creek A**	**4.40**	**87**	P	**Pn**	**09 03 49.5**	**+2.1**
EGAK	**Eagle**	**4.82**	**66**	P	**Pn**	**09 03 55.3**	**+2.2**
BM3	**Burnt Mountain**	**5.15**	**31**	P	**Pn**	**09 03 57.7**	**+0.1**
DAWY	**Dawson**	**5.46**	**75**	P	**Pn**	**09 04 02.7**	**+0.8**
INK	**Inuvik**	**8.98**	**47**	Pn	**Pn**	**09 04 50.1**	**+0.1**
	0.1nm,0.3s,baz=238,slow=13,SNR=3.9						
INK				Sn	**Sn**	**09 06 25.9**	**-5.2**
	0.0nm,0.3s,baz=191,slow=19,SNR=2.2						
INK				Lg	Lg	09 07 24.1	
	0.1nm,0.3s,baz=100,slow=7.6,SNR=3.1						

YKA	**Yellowknife Ar**	**16.70**	**76**	Pn	**Pn**	**09 06 34.6**	**+0.3**
	0.1nm,0.3s,baz=290,slow=9.7,SNR=3.2						
TXAR	**Lajitas Array**	**45.53**	**115**	P	**P**	**09 11 00.3**	**+0.2**
	0.1nm,0.6s,baz=343,slow=8.5,SNR=2.3						

JMA 17 09:09:08.9±0.1, 24.°38N×122.°00E, h20km, M2.4
TAP 17 09:09:08.8, 24.°44N×121.°99E, h13km, ML2.6, C
ISCJB 17 09:09:09.0±0.5, 24.°42N±0.°02×121.°98E±0.°03, h4km±6km, Error ellipse: s-maj=4.8km s-min=3.0km az=34.6
ISC 17 09:09:08.5±0.9, 24.°42N±0.°02×122.°01E±0.°03, h14km±7km, n43, σ0s48/60, 4C-6D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.17**	**40**	⇓P	**Pg**	**09 09 13.2**	**+0.7**
	baz=42						
EOS1				S	**Sb**	**09 09 16.7**	**0.0**
	baz=42						
NANB	**Nanao**	**0.24**	**272**	⇓P	**Pg**	**09 09 13.8**	**+0.2**
	baz=273						
NANB				S	**Sg**	**09 09 16.9**	**-0.2**
	baz=273						
TWC	**Suao**	**0.24**	**322**	⇑*i*P	**Pg**	**09 09 13.7**	**0.0**
	baz=325						
TWC				*i* S	**Sg**	**09 09 16.5**	**-0.7**
	baz=325						
ENA	**Nanau**	**0.24**	**272**	⇓P	**Pg**	**09 09 13.9**	**+0.1**
	baz=273						
ENA				S	**Sg**	**09 09 17.1**	**-0.3**
	baz=273						
ILA	**Ilan**	**0.42**	**325**	*eP*	**Pg**	**09 09 16.0**	**-0.9**
	baz=317						
EGS		**0.43**	**351**	*eP*	**Pb**	**09 09 17.9**	**0.0**
	baz=346						
EGS				*eS*	**Sg**	**09 09 22.0**	**-0.9**
	baz=346						
TWE	**Neicheng**	**0.43**	**314**	⇑P	**Pg**	**09 09 17.3**	**+0.1**
	baz=318						
TWE				S	**Sg**	**09 09 22.7**	**-0.3**
	baz=318						
NACB	**Ninganchiao**	**0.45**	**237**	⇓P	**Pg**	**09 09 17.7**	**+0.1**
	baz=234						
NACB				S	**Sg**	**09 09 23.6**	**0.0**
	baz=234						
ENTT	**Nioudou**	**0.46**	**298**	⇑*i*P	**Pg**	**09 09 17.9**	**+0.2**
	baz=297						
ENTT				S	**Sg**	**09 09 23.2**	**-0.6**
	baz=297						
NTC	**Toucheng**	**0.46**	**339**	*eP*	**Pg**	**09 09 17.8**	**+0.1**
	baz=350						
TWD	**Chiawan**	**0.51**	**228**	*eP*	**Pg**	**09 09 18.6**	**0.0**
	baz=230						
NNSB	**Datong**	**0.57**	**271**	*eP*	**Pg**	**09 09 19.8**	**0.0**
	baz=269						
NNSB				*eS*	**Sg**	**09 09 26.6**	**-0.8**
	baz=269						
TIPB	**Shuangxi**	**0.57**	**343**	*eP*	**Pg**	**09 09 19.9**	**+0.1**
	baz=343						
TIPB				S	**Sg**	**09 09 27.8**	**+0.3**
	baz=343						
NNS	**Nan Shan**	**0.58**	**272**	*eP*	**Pg**	**09 09 19.8**	**-0.2**
	baz=270						
NNS				*eS*	**Sg**	**09 09 27.1**	**-0.6**
	baz=270						
TWB1	**Santiao Chiao**	**0.58**	**358**	*eP*	**Pb**	**09 09 21.0**	**+0.5**
	baz=351						
YHNB	**Yeheng**	**0.63**	**293**	⇑P	**Pb**	**09 09 21.3**	**-0.1**
	baz=292						
YHNB				S	**Sg**	**09 09 28.6**	**-0.7**
	baz=292						
NSK	**Sanguang**	**0.65**	**293**	*eP*	**Pg**	**09 09 20.9**	**-0.2**
	baz=292						
TWA	**Mucha**	**0.68**	**325**	*eP*	**Pb**	**09 09 22.3**	**+0.1**
	baz=326						
WFSB	**Wu-fen Shan**	**0.68**	**342**	P	**Pb**	**09 09 22.5**	**+0.3**
	baz=331						
WFSB				S	**Sb**	**09 09 31.6**	**+0.1**
	baz=331						
TATO	**Taipei**	**0.73**	**319**	P	**Pb**	**09 09 23.6**	**+0.6**
	baz=308						
TATO				S	**Sg**	**09 09 32.1**	**-0.2**
	baz=308						
WHF	**Hehuan Shan**	**0.73**	**248**	⇓*i*P	**Pg**	**09 09 23.0**	**+0.1**
	baz=256						
WHF				*eS*	**Sg**	**09 09 32.6**	**-0.1**
	baz=256						
TWT	**Tachien**	**0.78**	**258**	*eP*	**Pn**	**09 09 25.1**	**-0.2**
	baz=250						
ESL	**Shilin**	**0.80**	**221**	*eP*	**Pg**	**09 09 23.9**	**-0.2**
	baz=226						
YM01	**YM01**	**0.82**	**331**	*eP*	**Pn**	**09 09 26.4**	**+0.6**
	baz=330						
YM01				*eS*	**Sb**	**09 09 36.5**	**+0.8**
	baz=330						
YM11	**YM11**	**0.84**	**332**	P	**Pn**	**09 09 25.9**	**-0.2**
	baz=333						
YM05	**YM05**	**0.84**	**331**	⇓P	**Pn**	**09 09 25.9**	**-0.2**
	baz=332						
CHGB	**Renai**	**0.84**	**245**	P	**Pb**	**09 09 25.2**	**+0.1**
	baz=253						
CHGB				*eS*	**Sb**	**09 09 36.5**	**+0.1**
	baz=253						
YM04	**YM04**	**0.85**	**330**	*eP*	**Pn**	**09 09 25.7**	**-0.4**
	baz=339						
YM08	**YM08**	**0.85**	**334**	*eP*	**Pg**	**09 09 25.5**	**+0.4**
	baz=334						
JYNG	**Yonagunijimaku**	**0.85**	**88**	P	**Pb**	**09 09 24.5**	**-0.6**
TWS1	**Kuangyinshan**	**0.86**	**322**	*eP*	**Pn**	**09 09 26.8**	**+0.5**
	baz=322						
TWY	**Chenhua**	**0.93**	**336**	*eP*	**Pb**	**09 09 26.3**	**-0.1**
	baz=337						
LIOB	**Emei**	**0.93**	**284**	*eP*	**Pn**	**09 09 28.5**	**+1.2**
	baz=283						
NSTT	**Nanjuang**	**0.94**	**283**	*eP*	**Pn**	**09 09 28.2**	**+0.8**
	baz=282						
VWDT	**VW

CCIG				*i* S		**Sn**	**09 12 45.1 +0.1**	
RTR	**El Retiro**	**2.84**	**93**	*e*P		**Pn**	**09 12 26.7 +0.9**	
CEVE	**Cerro Verde**	**2.87**	**94**	*e*P		**Pn**	**09 12 26.8 +0.5**	
CEVE				IAML			09 13 09.5	
	comp=Z,889nm,0.3s							
SBLS	**San Blas**	**2.87**	**94**	*e*P		**Pn**	**09 12 26.3 0.0**	
UNIC	**Santa Ana**	**2.92**	**91**	*e*P		**Pn**	**09 12 27.3 +0.5**	
UNIC				*e*S		**Sn**	**09 12 58.5 -2.6**	
MRL	**Marmol**	**2.96**	**70⇓**	*e*P		**Pn**	**09 12 28.2 +0.7**	
BOQS	**Boqueron**	**3.21**	**95**	*e*P		**Pn**	**09 12 31.5 +0.6**	
BOQS				IAML			09 13 12.8	
	comp=Z,117nm,0.4s							
SNET	**Serv Nac Est T**	**3.26**	**96**	*e*P		**Pn**	**09 12 31.8 +0.3**	
SNET				IAML			09 12 32.8	
	comp=Z,278nm,0.2s							
OPAM	**San Salvador**	**3.29**	**95**	*e*P		**Pn**	**09 12 32.7 +0.8**	
OPAM				IAML			09 13 15.8	
	comp=Z,282nm,0.3s							
LFU	**La Fuente**	**3.37**	**95**	*e*P		**Pn**	**09 12 33.4 +0.4**	
LFRS	**El Faro**	**3.43**	**97**	*e*P		**Pn**	**09 12 34.0 +0.2**	
LBRS	**Las Brisas**	**3.44**	**95**	*e*P		**Pn**	**09 12 34.4 +0.4**	
CMIG	**Matias Romero**	**3.76**	**324**	Pn		**Pn**	**09 12 38.1 -0.2**	
	comp=Z,5.7nm,0.3s,baz=142,slow=15,SNR=39							
CMIG				Lg		Lg	09 13 22.9	
	comp=Z,16nm,0.3s,baz=114,slow=12,SNR=4.9							
CMIG				LR		LR	09 13 34.8	
	comp=Z,60nm,19.2s,baz=28,slow=33							
JTS	**JuntasAbangare**	**8.33**	**116**	Pn		Pn	09 13 47.0 +5.9	
	comp=Z,0.7nm,0.3s,baz=308,slow=16,SNR=5.9							
TXAR	**Lajitas Array**	**18.36**	**328**	P		**P**	**09 15 53.4 -1.5**	
	baz=145,slow=10.0,SNR=2.6							
SJG	**San Juan**	**25.69**	**77**	LR		LR	09 27 02.1	
	comp=Z,32nm,18.2s,baz=262,slow=36							
SADO	**Sadowa**	**32.68**	**18**	LR		LR	09 30 56.9	
	comp=Z,68nm,19.1s,baz=310,slow=36							
NVAR	**Mina Array Bea**	**33.29**	**322**	P		**P**	**09 18 19.7 +1.9**	
	comp=Z,0.4nm,0.7s,baz=124,slow=8.1,SNR=3.0							
YKA	**Yellowknife Ar**	**50.85**	**347**	P		**P**	**09 20 39.7 -0.6**	
	comp=Z,0.5nm,0.6s,baz=150,slow=7.3,SNR=13							
ILAR	**Eielson Array**	**62.58**	**337**	P		**P**	**09 22 04.0 +0.4**	
	comp=Z,0.4nm,0.9s,baz=116,slow=8.1,SNR=3.6							

DJA 17 09:16:30.7±0.6,3°S±5°×10°2E±°,h154km±5km,M3.9/9, MLv3.9/9,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**0.51**	**186**	P	Pn	09 16 53.3	+0.7
LHSI	**Lahat**	**1.71**	**134**	P	Pn	09 17 03.6	+0.8
MNAI	**Manna**	**1.84**	**159**	P	Pn	09 17 04.3	0.0
PPSI	**Pulau Pagai**	**2.28**	**267**	P	Pn	09 17 09.7	+0.3
PDSI	**Padang**	**2.50**	**313**	P	Pn	09 17 11.8	-0.3
MDSI	**Maura Dua**	**2.64**	**134**	P	Pn	09 17 14.2	+0.5
SISI	**Saibi**	**3.45**	**292**	P	Pn	09 17 24.1	+0.1
KASI	**Kota Agung**	**3.62**	**143**	P	Pn	09 17 25.2	-1.0

ISCJB 17 09:17:23.6±0.5,24°.42N±0°.02×121°.98E±0°.03,h5km±4km, Error ellipse: s-maj=4.7km s-min=3.1km az=33.0
JMA 17 09:17:23.2±0.1,24°.42N×122°.00E,h3km
TAP 17 09:17:23.4,24°.45N×121°.98E,h14km,ML2.6,C
ISC 17 09:17:23.5±0.9,24°.43N±0°.02×121°.99E±0°.03,h13km±7km, n42,σ0.41/57,1C-4D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.18**	**47**	⇓P	**Pg**	**09 17 27.8**	**+0.2**
	baz=47						
EOS1				*e*S	**Sg**	**09 17 31.2**	**+0.7**
	baz=47						
NANB	**Nanao**	**0.21**	**270**	⇓P	**Pg**	**09 17 28.3**	**0.0**
NANB				S	**Sg**	**09 17 31.3**	**-0.2**
	baz=270						
TWC	**Suao**	**0.22**	**326**	⇑*i*P	**Pg**	**09 17 28.1**	**-0.3**
	baz=325						
TWC				*i* S	**Sg**	**09 17 30.8**	**-0.8**
	baz=325						
ENA	**Nanau**	**0.22**	**270**	P	**Pg**	**09 17 28.3**	**-0.1**
	baz=270						
ENA				S	**Sg**	**09 17 31.6**	**-0.1**
	baz=270						
ILA	**Ilan**	**0.40**	**327**	*e*P	**Pg**	**09 17 31.6**	**0.0**
	baz=316						
TWE	**Neicheng**	**0.41**	**315**	P	**Pg**	**09 17 31.9**	**+0.1**
	baz=318						
TWE				S	**Sg**	**09 17 36.4**	**-1.0**
	baz=318						
ENTT	**Nioudou**	**0.44**	**299**	*e*P	**Pg**	**09 17 32.2**	**0.0**
	baz=297						
NACB	**Ninganchiao**	**0.44**	**235**	⇓P	**Pg**	**09 17 32.2**	**-0.1**
	baz=232						
NACB				S	**Sg**	**09 17 38.3**	**+0.2**
	baz=232						
NTC	**Toucheng**	**0.45**	**342**	*e*P	**Pb**	**09 17 32.6**	**-0.7**
	baz=351						
TWD	**Chiawan**	**0.50**	**226**	*e*P	**Pg**	**09 17 33.2**	**-0.1**
	baz=229						
TWD				S	**Sg**	**09 17 40.1**	**+0.2**
	baz=229						
NNSB	**Datong**	**0.55**	**270**	P	**Pg**	**09 17 34.3**	**-0.1**
	baz=268						
NNSB				*e*S	**Sg**	**09 17 41.2**	**-0.5**
	baz=268						
NNS	**Nan Shan**	**0.56**	**271**	P	**Pg**	**09 17 34.4**	**-0.2**
	baz=269						
NNS				S	**Sg**	**09 17 41.9**	**-0.1**
	baz=269						
NWLT	**Wulai**	**0.56**	**309**	*e*P	**Pb**	**09 17 34.8**	**-0.4**
	baz=307						
TIPB	**Shuangxi**	**0.56**	**345**	*e*P	**Pg**	**09 17 34.5**	**-0.1**
	baz=350						
YHNB	**Yeheng**	**0.61**	**294**	P	**Pb**	**09 17 35.7**	**-0.3**
	baz=296						
YHNB				S	**Sg**	**09 17 42.9**	**-0.6**
	baz=296						
NSK	**Sanguang**	**0.62**	**294**	*e*P	**Pg**	**09 17 35.6**	**-0.1**
	baz=296						
NSK				*e*S	**Sg**	**09 17 43.6**	**-0.5**
	baz=296						
TWA	**Mucha**	**0.66**	**327**	*e*P	**Pb**	**09 17 36.9**	**0.0**
	baz=326						
NWF	**Wu-fen Shan**	**0.67**	**344**	*e*P	**Pb**	**09 17 37.3**	**+0.2**
	baz=332						
WFSB	**Wu-fen Shan**	**0.67**	**344**	*e*P	**Pb**	**09 17 37.0**	**0.0**
	baz=332						
TATO	**Taipei**	**0.71**	**320**	P	**Pb**	**09 17 37.8**	**+0.1**
	baz=308						
TATO				S	**Sg**	**09 17 46.6**	**-0.1**
	baz=308						
WHF	**Hehuan Shan**	**0.71**	**247**	⇓P	**Pg**	**09 17 37.4**	**-0.1**
	baz=255						
WHF				*e*S	**Sg**	**09 17 47.0**	**-0.1**
	baz=255						
TWT	**Tachien**	**0.76**	**257**	*e*P	**Pb**	**09 17 39.1**	**+0.4**
	baz=255						
TDCB	**Techi**	**0.77**	**257**	*e*P	**Pb**	**09 17 39.1**	**+0.1**
	baz=249						
ESL	**Shilin**	**0.79**	**220**	*e*P	**Pg**	**09 17 38.6**	**-0.3**
	baz=225						
YM01	**YM01**	**0.81**	**332**	*e*P	**Pn**	**09 17 41.1**	**+0.4**
	baz=331						
YM01				*e*S	**Sn**	**09 17 52.9**	**+0.3**
	baz=331						
CHGB	**Renai**	**0.83**	**244**	P	**Pg**	**09 17 39.7**	**+0.1**
	baz=252						
CHGB				*e*S	**Sb**	**09 17 51.1**	**+0.1**
	baz=252						
YM11	**YM11**	**0.83**	**333**	*e*P	**Pb**	**09 17 40.3**	**+0.5**
	baz=332						
YM05	**YM05**	**0.83**	**333**	*e*P	**Pb**	**09 17 40.0**	**+0.2**
	baz=332						
YM04	**YM04**	**0.83**	**331**	*e*P	**Pb**	**09 17 40.4**	**+0.5**
	baz=330						
YM08	**YM08**	**0.84**	**335**	*e*P	**Pb**	**09 17 40.1**	**+0.1**
	baz=334						
TWS1	**Kuangyinshan**	**0.85**	**323**	*e*P	**Pn**	**09 17 41.1**	**-0.1**
	baz=322						
JYNG	**Yonagunijimaku**	**0.88**	**88**	*e*S	**Sg**	**09 17 51.0**	**-0.9**
LIOB	**Emei**	**0.91**	**284**	*e*P	**Pb**	**09 17 41.8**	**+0.6**
	baz=283						
VWDT	**VWDT**	**1.02**	**229**	*e*P	**Pg**	**09 17 43.2**	**-0.1**
	baz=236						
HGSD	**Ruisui**	**1.06**	**209**	*e*P	**Pg**	**09 17 42.8**	**-1.2**
	baz=207						
SMLT	**Sun Moon Lake**	**1.13**	**242**	*e*P	**Pb**	**09 17 45.4**	**+0.4**
	baz=249						
SSLB	**Suanglung**	**1.14**	**236**	*e*P	**Pg**	**09 17 45.2**	**-0.2**
	baz=235						
TYC	**Yuchr**	**1.16**	**243**	*e*P	**Pb**	**09 17 44.8**	**-0.5**
	baz=242						
YULB	**Yu-li**	**1.21**	**212**	*e*P	**Pb**	**09 17 46.5**	**+0.2**
	baz=210						
TWF1	**Yuli**	**1.24**	**211**	*e*P	**Pn**	**09 17 46.8**	**+0.2**
	baz=225						
CHN5	**Tsauling**	**1.45**	**236**	*e*P	**Pg**	**09 17 52.0**	**+0.5**
	baz=236						
TPUB	**Ta-pu**	**1.67**	**228**	*e*P	**Pg**	**09 17 55.2**	**-0.5**
	baz=229						

IDC 17 09:20:29.1±2.5,54°.15N×86°.39E,h0km,mb1 3.0/2, mb1mx2.9/38,mbtmp3.0/2,ML2.8/2,Error ellipse: s-maj=20.9km s-min=12.0km az=59.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**258**	*i*		09 27 58.5	
	baz=79,slow=356,SNR=1.4						
ZALV	**Zalesovo Beam**	**0.95**	**258**	Pg	Pg	09 20 46.0	-1.3
	4.9nm,0.3s,baz=76,slow=16,SNR=45						
ZALV				Lg	Lg	09 21 01.1	
	9.3nm,0.3s,baz=75,slow=30,SNR=5.9						
KURBB	**Kurchatov Arra**	**5.97**	**237**	Pn	Pn	09 21 59.7	+1.0
	0.1nm,0.3s,baz=53,slow=13,SNR=5.5						
MKAR	**Makanchi Array**	**7.82**	**201**	Pn	Pn	09 22 25.3	+1.2
	0.4nm,0.3s,baz=24,slow=14,SNR=20						
MKAR				Lg	Lg	09 24 35.5	
	0.0nm,0.3s,baz=19,slow=31,SNR=3.4						

TAP 17 09:25:20.8,23°.25N×121°.44E,h37km,ML2.5,3D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.16**	**205**	*e*P	Pn	09 25 27.4	-4.0
	baz=199						
CHKT				S	Sn	09 25 32.5	-9.4
	baz=199						
TWF1	**Yuli**	**0.17**	**309**	⇓*i*P	Pn	09 25 27.5	-3.6
	baz=310						
TWF1				*e*S	Sn	09 25 31.9	-9.4
	baz=310						
YULB	**Yu-li**	**0.20**	**318**	⇓P	Pn	09 25 27.6	-2.7
	baz=307						
YULB				*e*S	Sn	09 25 32.3	-7.2
	baz=307						
HGSD	**Ruisui**	**0.25**	**357**	*e*P	Pn	09 25 28.2	-1.0
	baz=355						
HGSD				*e*S	Sn	09 25 34.5	-2.7
	baz=355						
EHY	**Hungye**	**0.28**	**337**	*e*P	Pn	09 25 28.4	-0.6
	baz=326						
EHY				*e*S	Sn	09 25 33.6	-2.8
	baz=326						
ELDTW	**Lidau**	**0.39**	**262**	⇓*i*P	Pn	09 25 29.8	-0.1
	baz=260						
ELDTW				*e*S	Sn	09 25 35.6	-1.1
	baz=260						
YUS	**Yu-Shan**	**0.51**	**299**	P	Pn	09 25 32.3	+0.3
	baz=298						
YUS				*e*S	Sn	09 25 40.4	+0.6
	baz=298						
TWGBT	**Beinan**	**0.54**	**218**	*e*P	Pn	09 25 30.9	-1.1
	baz=221						
TWGBT				*e*S	Sn	09 25 38.4	-1.4
	baz=221						
TWG	**Pinlang**	**0.54**	**219**	*e*P	Pn	09 25 31.3	-0.8
	baz=221						
TWG				S	Sn	09 25 38.5	-1.5
	baz=221						
ESL	**Shilin**	**0.57**	**359**	*e*P	Pn	09 25 32.4	-0.1
	baz=350						
ESL				*e*S	Sn	09 25 39.0	-1.6
	baz=350						
VWDT	**VWDT**	**0.58**	**332**	P	Pn	09 25 32.7	+0.1
	baz=335						
VWDT				*e*S	Sn	09 25 40.9	+0.1
	baz=335						
STYT	**Tauyuan**	**0.63**	**263**	P	Pn	09 25 33.7	+0.3
	baz=263						
SSLB	**Suanglung**	**0.70**	**321**	*e*P	Pn	09 25 34.4	+0.1
	baz=320						
SSLB				*e*S	Sn	09 25 43.8	0.0
	baz=320						
TPUB	**Ta-pu**	**0.75**	**274**	P	Pn	09 25 36.0	+1.2
	baz=275						
TPUB				*e*S	Sn	09 25 46.8	+1.9
	baz=275						
WTP	**Ta-pu**	**0.76**	**270**	P	Pn	09 25 36.1	+1.1
	baz=271						
WTP				*e*S	Sn	09 25 47.4	+2.1
	baz=271						
SLGT	**Liugui**	**0.77**	**251**	*e*P	Pn	09 25 36.1	+0.9
	baz=251						
SLGT				*e*S	Sn	09 25 46.6	+1.0
	baz=251						
CHN5	**Tsauling**	**0.78**	**297**	*e*P	Pn	09 25 36.9	+1.5
	baz=296						
CHN5				*e*S	Sn	09 25 47.2	+1.2
	baz=296						
ECL	**Taimali**	**0.79**	**215**	*e*P	Pn	09 25 35.5	+0.2
	baz=217						
SMLT	**Sun Moon Lake**	**0.81**	**322**	*e*P	Pn	09 25 36.6	+0.9
	baz=322						
SMLT				*e*S	Sn	09 25 47.5	+1.0
	baz=322						
CHN1	**Nanshi**	**0.84**	**266**	*e*P	Pn	09 25 37.2	+1.1
	baz=267						
CHN1				*e*S	Sn	09 25 49.7	+2.4
	baz=267						
TYC	**Yuchr**	**0.85**	**321**	P	Pn	09 25 37.3	+1.2
	baz=326						
TYC				*e*S	Sn	09 25 48.6	+1.2
	baz=326						
CHGB	**Renai**	**0.85**	**343**	*e*P	Pn	09 25 36.4	0.0
	baz=347						
TWK	**Hsinying**	**0.88**	**272**	*e*P	Pn	09 25 38.1	+1.5
	baz=272						
TWK				*e*S	Sn	09 25 51.5	+3.3
	baz=272						
SSD	**Sandimen**	**0.90**	**236**	*e*P	Pn	09 25 37.7	+0.9
	baz=235						
MASBT	**Mashibuluo**	**0.97**	**230**	*e*P	Pn	09 25 38.0	0.0
	baz=229						
MASBT				*e*S	Sn	09 25 50.6	+0.1
	baz=229						
EAST	**Anshuo**	**1.02**	**213**	*e*P	Pn	09 25 39.0	+0.5
	baz=209						
TWT	**Tachien**	**1.03**	**346**	*e*P	Pn	09 25 40.2	+1.4
	baz=336						
SCZT	**Fangliau**	**1.15**	**221**	*e*P	Pn	09 25 41.4	+1.1
	baz=215						
LAY	**Lan-yu**	**1.21**	**175**	*e*P	Pn	09 25 39.7	-1.4
	baz=178						
WTCT	**Ta-ch'eng**	**1.23**	**300**	*e*P	Pn	09 25 40.4	-0.9
	baz=301						
TWQ1	**Liyutan**	**1.26**	**331**	*e*P	Pn	09 25 43.9	+2.1
	baz=329						
TWQ1				*e*S	Sn	09 26 01.5	+4.0
	baz=329						

ISCJB 17 09:25:26.1±0.4,24°.42N±0°.02×122°.01E±0°.02,h12km±2km, Error ellipse: s-maj=3.7km s-min=3.2km az=136.9
JMA 17 09:25:26.4±0.1,24°.38N×121°.99E,h28km
TAP 17 09:25:26.4,24°.45N×121°.99E,h15km,ML3.0,C
ISC 17 09:25:25.6±1.0,24°.41N±0°.03×122°.02E±0°.03,h15km±7km, n40,σ0.42/65,2C-9D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.18**	**35**	⇑P	**Pb**	**09 25 30.8**	**+0.2**
	baz=45						
EOS1				S	**Sb**	**09 25 34.2**	**+0.3**
	baz=45						
NANB	**Nanao**	**0.24**	**275**	⇓P	**Pg**	**09 25 31.4**	**+0.5**
	baz=270						
NANB				S	**Sg**	**09 25 34.6**	**0.0**
	baz=270						
ENA	**Nanau**	**0.25**	**275**	⇓*i*P	**Pg**	**09 25 31.5**	**+0.4**
	baz=269						
ENA				S	**Sg**	**09 25 34.7**	**-0.1**
	baz=269						
TWC	**Suao**	**0.26**	**323**	⇑*i*P	**Pg**	**09 25 31.2**	**0.0**
	baz=323						
TWC				*i* S	**Sg**	**09 25 34.0**	**-0.9**
	baz=323						
ILA	**Ilan**	**0.43**	**326**	*e*P	**Pg**	**09 25 34.4**	**0.0**
	baz=318						
ILA				*e*S	**Sg**	**09 25 40.7**	**+0.5**
	baz=318						
TWE	**Neicheng**	**0.45**	**315**	*e*P	**Pg**	**09 25 34.9**	**+0.3**
	baz=313						
TWE				*e*S	**Sg**	**09 25 39.8**	**-0.9**
	baz=313						
NACB	**Ninganchiao**	**0.45**	**239**	⇓P	**Pb**	**09 25 35.2**	**0.0**
	baz=233						
NACB				S	**Sb**	**09 25 41.4**	**-0.3**
	baz=233						
ENTT	**Nioudou**	**0.47**	**300**	⇓*i*P	**Pg**	**09 25 35.4**	**+0.3**
	baz=296						
ENTT				S	**Sg**	**09 25 41.0**	**-0.4**
	baz=296						
NTC	**Toucheng**	**0.48**	**339**	*e*P	**Pg**	**09 25 35.4**	**+0.2**
	baz=347						
TWD	**Chiawan**	**0.50**	**230**	P	**Pb**	**09 25 36.3**	**+0.2**
	baz=230						
TWD				*e*S	**Sb**	**09 25 43.3**	**0.0**
	baz=230						
HWA	**Hwalien**	**0.57**	**222**	*e*P	**Pn**	**09 25 38.4**	**-0.7**
	baz=223						
NNSB	**Datong**	**0.58**	**272**	⇓P	**Pb**	**09 25 37.5**	**0.0**
	baz=268						
NNSB				*e*S	**Sg**	**09 25 44.7**	**-0.1**
	baz=268						
NNS	**Nan Shan**	**0.59**	**274**	⇓P	**Pb**	**09 25 37.6**	**-0.1**
	baz=269						
NNS				S	**Sg**	**09 25 44.9**	**-0.2**
	baz=269						
TIPB	**Shuangxi**	**0.59**	**343**	P	**Pg**	**09 25 37.5**	**+0.2**
	baz=343						
TIPB				*e*S	**Sg**	**09 25 44.5**	**-0.6**
	baz=343						
NWLT	**Wulai**	**0.60**	**308**	*e*P	**Pb**	**09 25 37.7**	**-0.1**
	baz=306						
TWB1	**Santiao Chiao**	**0.60**	**358**	*e*P	**Pg**	**09 25 37.2**	**-0.2**
	baz=353						
YHNB	**Yeheng**	**0.64**	**294**	⇓P	**Pb**	**09 25 38.8**	**+0.2**
	baz=296						
YHNB				S	**Sg**	**09 25 45.9**	**-0.8**
	baz=296						
NSK	**Sanguang**	**0.66**	**294**	⇓P	**Pb**	**09 25 39.0**	**+0.2**
	baz=291						
NSK				*e*S	**Sg**	**09 25 46.6**	**-0.6**
	baz=291						
TWA	**Mucha**	**0.69**	**326**	*e*P	**Pb**	**09 25 39.6**	**+0.2**
	baz=325						
TWA				*e*S	**Sg**	**09 25 48.4**	**0.0**
	baz=325						
NWF	**Wu-fen Shan**	**0.70**	**342**	*e*P	**Pb**	**09 25 39.8**	**+0.2**
	baz=331						
NWF				*e*S	**Sg**	**09 25 48.4**	**-0.1**
	baz=331						
WFSB	**Wu-fen Shan**	**0.70**	**342**	*e*P	**Pb**	**09 25 40.0**	**+0.5**
	baz=331						
WFSB				*e*S	**Sg**	**09 25 48.0**	**-0.4**
	baz=331						
WHF	**Hehuan Shan**	**0.73**	**250**	*e*P	**Pb**	**09 25 40.6**	**+0.2**
	baz=255						
WHF				*e*S	**Sb**	**09 25 50.4**	**+0.1**
	baz=255						
TATO	**Taipei**	**0.74**	**320**	P	**Pg**	**09 25 40.8**	**+0.7**
	baz=308						
TATO				S	**Sb**	**09 25 49.3**	**-1.0**
	baz=308						
TWT	**Tachien**	**0.78**	**259**	*e*P	**Pg**	**09 25 41.3**	**+0.5**
	baz=255						
TDCB	**Techi**	**0.80**	**259**	*e*P	**Pg**	**09 25 41.8**	**+0.6**
	baz=336						
TDCB	**Techi**	**0.80**	**259**	*e*P	**Pn**	**09 25 42.2**	**-0.3**
	baz=256						
TDCB				*e*S	**Sg**	**09 25 52.0**	**+0.3**
	baz=256						
WLTB	**Daxi**	**0.83**	**303**	*e*P	**Pn**	**09 25 42.6**	**-0.1**
	baz=301						
WLTB				*e*S	**Sg**	**09 25 53.0**	**+0.4**
	baz=301						
CHGB	**Renai**	**0.84**	**246**	*e*P	**Pn**	**09 25 42.8**	**-0.3**
	baz=243						
YM01	**YM01**	**0.84**	**331**	*e*P	**Pn**	**09 25 43.9**	**+0.9**
	baz=331						
YM01				*e*S	**Sg**	**09 25 53.1**	**0.0**
	baz=331						
YM10	**YM10**	**0.85**	**331**	*e*P	**Pn**	**09 25 43.2**	**0.0**
	baz=330						
YM10				*e*S	**Sb**	**09 25 53.1**	**-0.4**
	baz=330						
YM11	**YM11**	**0.86**	**332**	*e*P	**Pn**	**09 25 43.2**	**0.0**
	baz=332						
YM05	**YM05**	**0.86**	**332⇓**	*e*P	**Pn**	**09 25 43.1**	**-0.1**
	baz=331						
YM05				*e*S	**Sb**	**09 25 53.6**	**-0.1**
	baz=331						
YM04	**YM04**	**0.86**	**330**	*e*P	**Pn**	**09 25 43.2**	**-0.1**
	baz=330						
TWS1	**Kuangyinshan**	**0.88**	**322**	*e*P	**Pn**	**09 25 44.1**	**+0.6**
	baz=322						
YOJ	**Yonaguni jima**	**0.91**	**86**	P	**Pb**	**09 25 42.8**	**-0.3**
LIOB	**Emei**	**0.94**	**285**	*e*P	**Pn**	**09 25 44.9**	**+0.5**
	baz=283						
NSTT	**Nanjuang**	**0.95**	**284**	*e*P	**Pn**	**09 25 44.6**	**+0.2**
	baz=281						
JKRS	**Kuro-shima**	**1.82**	**95**	P	**Pn**	**09 25 56.8**	**+0.4**
JIJ	**Ishigaki jima**	**1.94**	**91**	P	**Pn**	**09 25 58.4**	**+0.4**
JIJ				S	**Sn**	**09 26 21.6**	**-0.5**
JISG	**Ishigakijimahi**	**2.10**	**85**	P	**Pn**	**09 26 00.6**	**+0.4**

ISCJB 17 09:33:02.4±0.4,24°.43N±0°.02×122°.00E±0°.02,h9km±2km, Error ellipse: s-maj=3.6km s-min=2.8km az=142.2
JMA 17 09:33:02.7±0.1,24°.37N×121°.98E,h28km,M2.7
TAP 17 09:33:02.5,24°.45N×121°.98E,h14km,ML2.6,C
ISC 17 09:33:02.6±1.0,24°.43N±0°.02×121°.99E±0°.02,h18km±3km, n43,σ0.56/64,2C-4D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.17**	**46**	P	**Pb**	**09 33 06.9**	**0.0**
	baz=45						
EOS1				S	**Sb**	**09 33 10.4**	**+0.7**
	baz=45						
NANB	**Nanao**	**0.22**	**270**	⇓P	**Pg**	**09 33 07.3**	**-0.5**
	baz=271						
NANB				S	**Sb**	**09 33 10.4**	**-1.0**
	baz=271						
TWC	**Suao**	**0.22**	**324**	⇑*i*P	**Pg**	**09 33 07.2**	**-0.7**
	baz=325						
TWC				*i* S	**Sb**	**09 33 09.9**	**-1.5**
	baz=325						
ENA	**Nanau**	**0.23**	**270**	P	**Pg**	**09 33 07.4**	**-0.6**
	baz=271						
ENA				S	**Sb**	**09 33 10.4**	**-1.3**
	baz=271						
ILA	**Ilan**	**0.40**	**327**	*e*P	**Pg**	**09 33 10.3**	**-0.6**
	baz=317						
ENTT	**Nioudou**	**0.44**	**299**	*e*P	**Pg**	**09 33 11.7**	**+0.1**
	baz=296						
ENTT				*e*S	**Sg**	**09 33 16.9**	**-0.8**
	baz=296						
NACB	**Ninganchiao**	**0.44**	**235**	⇓P	**Pg**	**09 33 11.2**	**-0.5**
	baz=233						
NACB				S	**Sg**	**09 33 17.5**	**-0.2**
	baz=233						
NTC	**Toucheng**	**0.45**	**341**	*e*P	**Pg**	**09 33 11.6**	**-0.2**
	baz=351						
TWD	**Chiawan**	**0.50**	**226**	*e*P	**Pg**	**09 33 12.4**	**-0.3**
	baz=230						
TWD				S	**Sg**	**09 33 19.4**	**-0.1**
	baz=230						
NNSB	**Datong**	**0.55**	**270**	⇓P	**Pg**	**09 33 13.5**	**-0.2**
	baz=268						
NNSB				S	**Sg**	**09 33 20.7**	**-0.6**
	baz=268						
TIPB	**Shuangxi**	**0.56**	**345**	P	**Pg**	**09 33 13.7**	**-0.2**
	baz=343						
TIPB				*e*S	**Sg**	**09 33 21.6**	**+0.2**
	baz=343

NNS				*e*S		**Sg**	**09 33 21.1**	**-0.5**
	baz=269							
NWLT	**Wulai**	**0.56**	**308**	*e*P		**Pg**	**09 33 13.8**	**-0.1**
	baz=307							
TWB1	**Santiao Chiao**	**0.58**	**360**	*e*P		**Pg**	**09 33 13.5**	**-0.6**
	baz=352							
YHNB	**Yeheng**	**0.61**	**293**	⇑P		**Pg**	**09 33 14.9**	**+0.1**
	baz=297							
YHNB				S		**Sg**	**09 33 22.1**	**-0.8**
	baz=297							
NSK	**Sanguang**	**0.63**	**293**	*e*P		**Pb**	**09 33 15.0**	**-0.1**
	baz=297							
NSK				S		**Sg**	**09 33 22.7**	**-0.7**
	baz=297							
TWA	**Mucha**	**0.66**	**326**	*e*P		**Pb**	**09 33 15.6**	**0.0**
	baz=325							
TWA				*e*S		**Sb**	**09 33 24.6**	**0.0**
	baz=325							
NWF	**Wu-fen Shan**	**0.67**	**343**	*e*P		**Pb**	**09 33 16.2**	**+0.4**
	baz=332							
WFSB	**Wu-fen Shan**	**0.67**	**343**	*e*P		**Pb**	**09 33 16.0**	**+0.3**
	baz=332							
TATO	**Taipei**	**0.71**	**320**	P		**Pb**	**09 33 16.9**	**+0.5**
	baz=308							
TATO				S		**Sb**	**09 33 25.6**	**-0.3**
	baz=308							
WHF	**Hehuan Shan**	**0.72**	**247**	⇓*i*P		**Pb**	**09 33 16.5**	**-0.4**
	baz=256							
WHF				S		**Sg**	**09 33 26.5**	**0.0**
	baz=256							
TWT	**Tachien**	**0.76**	**257**	*e*P		**Pb**	**09 33 17.5**	**0.0**
	baz=255							
WLTB	**Daxi**	**0.79**	**302**	*e*P		**Pb**	**09 33 18.5**	**+0.6**
	baz=290							
ESL	**Shilin**	**0.80**	**220**	*e*P		**Pb**	**09 33 18.2**	**+0.3**
	baz=225							
YM01	**YM01**	**0.81**	**332**	*e*P		**Pn**	**09 33 20.0**	**+0.8**
	baz=341							
YM11	**YM11**	**0.82**	**333**	*e*P		**Pg**	**09 33 19.3**	**+0.5**
	baz=333							
YM05	**YM05**	**0.83**	**332**	*e*P		**Pb**	**09 33 19.3**	**+0.8**
	baz=332							
CHGB	**Renai**	**0.83**	**244**	P		**Pb**	**09 33 18.8**	**+0.1**
	baz=252							
CHGB				S		**Sb**	**09 33 30.0**	**+0.4**
	baz=252							
YM04	**YM04**	**0.83**	**330**	*e*P		**Pb**	**09 33 19.3**	**+0.8**
	baz=339							
YM08	**YM08**	**0.84**	**334**	*e*P		**Pb**	**09 33 18.7**	**0.0**
	baz=334							
TWS1	**Kuangyinshan**	**0.85**	**322**	*e*P		**Pb**	**09 33 19.4**	**+0.5**
	baz=322							
JYNG	**Yonagunijimaku**	**0.87**	**88**	P		**Pb**	**09 33 18.6**	**-0.6**
JYNG				S		**Sb**	**09 33 30.7**	**+0.2**
LIOB	**Emei**	**0.91**	**284**	*e*P		**Pb**	**09 33 20.5**	**+0.5**
	baz=283							
LIOB				*e*S		**Sb**	**09 33 32.7**	**+0.9**
	baz=283							
NSTT	**Nanjuang**	**0.92**	**283**	*e*P		**Pb**	**09 33 20.7**	**+0.5**
	baz=282							
VWDT	**VWDT**	**1.03**	**229**	*e*P		**Pb**	**09 33 22.4**	**+0.5**
	baz=233							
VWDT				*e*S		**Sn**	**09 33 36.6**	**+0.5**
	baz=233							
HGSD	**Ruisui**	**1.07**	**209**	*e*P		**Pn**	**09 33 23.7**	**+1.0**
	baz=208							
EHY	**Hungye**	**1.10**	**214**	*e*P		**Pb**	**09 33 23.7**	**+0.5**
	baz=223							
SSLB	**Suanglung**	**1.14**	**236**	P		**Pn**	**09 33 24.3**	**+0.6**
	baz=243							
SSLB				*e*S		**Sb**	**09 33 38.8**	**+0.4**
	baz=243							
TYC	**Yuchr**	**1.16**	**243**	*e*P		**Pn**	**09 33 23.8**	**-0.2**
	baz=242							
YULB	**Yu-li**	**1.21**	**212**	*e*P		**Pn**	**09 33 25.1**	**+0.4**
	baz=210							
TWF1	**Yuli**	**1.25**	**211**	*e*P		**Pn**	**09 33 25.8**	**+0.6**
	baz=225							
JIJ	**Ishigaki jima**	**1.96**	**91**	S		**Sn**	**09 33 58.9**	**-0.3**
JISG	**Ishigakijimahi**	**2.12**	**85**	P		**Pn**	**09 33 36.9**	**-0.3**
JISG				S		**Sn**	**09 34 03.4**	**+0.3**

IDC ***17*** *09:37:50.3±1.1, 36.°90N×140.°93E, h0km, mb3.4/6, mb1 3.6/8, mb1mx3.4/48, mbtmp3.4/8, ML3.4/2, Error ellipse: s-maj=28.8km s-min=21.8km az=69.0*

ISCJB ***17*** *09:37:53.2±0.5, 36.°86N±0.°03×140.°65E±0.°05, h23km±4km, mb3.4/6, Error ellipse: s-maj=6.7km s-min=4.6km az=21.0*

JMA ***17*** *09:37:54.4, 36.°87N×140.°53E, h7km±1km, M3.5 Broadband fault plane solution: P waves. NP1: ϕs190.00000°, δ47.00000°, λ-94.00000°. NP2: ϕs16.00000°, δ43.00000°, λ-85.00000°. Principal axes: T Plg2.0000°, Azm283.0000°; N Plg3.0000°, Azm193.0000°; P Plg86.0000°, Azm51.0000°;*

JMA Felt II J1.

ISC 17 09:37:53.5±0.9, 36.°87N±0.°03×140.°58E±0.°04, h17km±6km, n24, σ0s96/28, mb3.5/6, 9C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFFD	**Fukushimafurud**	**0.22**	**356**	⇑P	**Pg**	**09 37 58.8**	**+0.1**
JFFD				*e*S	**Sg**	**09 38 01.9**	**-0.3**
JHO	**Hitachi**	**0.26**	**182**	⇑P	**Pg**	**09 37 59.6**	**+0.4**
JHO				*e*S	**Sg**	**09 38 03.3**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.29**	**37**	⇑P	**Pb**	**09 38 00.5**	**+0.2**
ONAJ				*e*S	**Sb**	**09 38 05.0**	**+0.1**
JSB	**Shiboa**	**0.54**	**281**	⇑P	**Pb**	**09 38 04.7**	**+0.2**
JSB				S	**Sb**	**09 38 12.1**	**+0.2**
JFK	**Kawauchi**	**0.55**	**25**	⇑P	**Pb**	**09 38 05.0**	**+0.3**
JFT	**Otama**	**0.68**	**343**	⇑P	**Pb**	**09 38 07.1**	**+0.2**
JFT				S	**Sb**	**09 38 16.2**	**+0.2**
JYT	**Yasato**	**0.71**	**206**	⇑P	**Pb**	**09 38 07.4**	**0.0**
JYT				S	**Sb**	**09 38 16.9**	**0.0**
JFY	**Yanaizu**	**0.88**	**308**	⇑P	**Pb**	**09 38 10.3**	**0.0**
JFY				S	**Sb**	**09 38 21.6**	**-0.2**
JAG	**Ashikaga**	**1.01**	**244**	⇑P	**Pb**	**09 38 12.2**	**-0.3**
JAG				S	**Sb**	**09 38 25.5**	**+0.1**
MJAR	**Matsushiro Arr**	**1.93**	**261**	Pn	**Pb**	**09 38 27.2**	**-1.0**
	5.2nm,0.3s,baz=81,slow=15,SNR=234						
MJAR				Sn	**Sn**	**09 38 50.6**	**+1.1**
	4.6nm,0.3s,baz=48,slow=8.9,SNR=10						
MAT	**Matsushiro**	**1.93**	**261**	P	**Pb**	**09 38 27.5**	**-0.8**
MAT				S	**Sb**	**09 38 52.2**	**+0.1**
ASAJ	**Asahikawa**	**7.40**	**11**	Pn	**Pn**	**09 39 39.5**	**-1.1**
	0.7nm,0.3s,baz=236,slow=9.8,SNR=6.0						
SONM	**Songino Array**	**27.32**	**304**	P	**P**	**09 43 36.9**	**-0.6**
	0.2nm,0.5s,baz=105,slow=9.3,SNR=1.6						
H11N2	**WAKE ISLAND Hy**	**28.64**	**119**	T	T	10 13 35.3	
	baz=312,slow=74,SNR=29						
H11N1	**WAKE ISLAND Hy**	**28.65**	**119**	T	T	10 13 37.0	
	baz=312,slow=74,SNR=19						
H11N3	**WAKE ISLAND Hy**	**28.66**	**119**	T	T	10 13 36.5	
	baz=312,slow=74,SNR=26						
H11S1	**WAKE ISLAND Hy**	**29.34**	**121**	T	T	10 14 27.8	
	baz=314,slow=76,SNR=58						
H11S3	**WAKE ISLAND Hy**	**29.34**	**122**	T	T	10 14 27.6	
	baz=314,slow=76,SNR=42						
H11S2	**WAKE ISLAND Hy**	**29.35**	**122**	T	T	10 14 26.5	
	baz=314,slow=76,SNR=44						
MKAR	**Makanchi Array**	**43.64**	**302**	P	**P**	**09 45 58.6**	**+1.6**
	0.2nm,0.6s,baz=71,slow=11,SNR=2.1						
KURBB	**Kurchatov Arra**	**45.58**	**308**	P	**P**	**09 46 15.2**	**+2.8**
	0.3nm,0.4s,baz=82,slow=8.7,SNR=6.0						
WRA	**Warramunga Arr**	**56.81**	**187**	P	**P**	**09 47 37.5**	**+0.6**
	0.4nm,0.4s,baz=0.7,slow=7.4,SNR=5.7						
ASAR	**Alice Springs**	**60.54**	**187**	P	**P**	**09 48 02.7**	**-0.1**
	0.3nm,0.8s,baz=31,slow=5.6,SNR=3.0						
TXAR	**Lajitas Array**	**90.75**	**52**	P	**P**	**09 50 53.5**	**-2.4**
	0.2nm,0.8s,baz=324,slow=5.6,SNR=3.0						

IDC 17 09:40:56.7±2.0, 54.°52N×83.°45E, h0km, mb1 2.5/2, mb1mx2.5/48, mbtmp2.5/2, ML2.2/2, Error ellipse: s-maj=17.7km s-min=10.5km az=164.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.99**	**125**	*i*		**09 47 11.8**	
	baz=309,slow=333,SNR=8.3						
ZALV	**Zalesovo Beam**	**0.99**	**125**	Pg	Pg	09 41 15.9	+0.2
	2.0nm,0.3s,baz=306,slow=17,SNR=12						
ZALV				Lg	Lg	09 41 28.9	
	2.1nm,0.3s,baz=305,slow=28,SNR=17						
KURBB	**Kurchatov Arra**	**4.92**	**219**	Pn	Pn	09 42 11.6	-0.2
	0.0nm,0.3s,baz=37,slow=15,SNR=2.9						
KURBB				Lg	Lg	09 43 29.9	
	0.0nm,0.3s,baz=31,slow=31,SNR=2.7						
MKAR	**Makanchi Array**	**7.77**	**186**	Pn	Pn	09 42 52.2	+1.2
	0.1nm,0.3s,baz=8.6,slow=12,SNR=5.1						
MKAR				Lg	Lg	09 45 02.3	
	0.0nm,0.3s,baz=0.7,slow=22,SNR=3.3						

ISCJB ***17*** *09:44:02.5±0.3, 13.°16S±0.°04×167.°26E±0.°08, h200km, mb4.2/31, Error ellipse: s-maj=11.0km s-min=6.0km az=5.3*

IDC ***17*** *09:44:04.5±1.9, 13.°31S×167.°31E, h212km±17km, mb3.8/18, mb1 4.0/19, mb1mx3.9/34, mbtmp4.3/19, Error ellipse: s-maj=18.0km s-min=12.0km az=117.0*

NEIC ***17*** *09:44:05.1±1.4, 13.°19S×167.°28E, h214km±13km, mb4.4/14, Error ellipse: s-maj=8.8km s-min=8.7km az=108.0*

ISC 17 09:44:03.5±0.5, 13.°19S±0.°07×167.°3E±0.°1, h200km, n63, σ1s03/68, mb4.3/31, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**8.28**	**175**	*e*Pn	**Pn**	**09 46 01.6**	**+1.3**
DZM	**Mont Dzumac**	**8.87**	**185**	P	**Pn**	**09 46 08.7**	**+0.5**
	0.1nm,0.3s,baz=300,slow=20,SNR=2.4						
DZM				S	**Sn**	**09 47 46.1**	**-1.8**
	baz=96,slow=19,SNR=2.1						
EIDS	**Eidsvold**	**19.50**	**229**	*e*P	**P**	**09 48 17.3**	**+1.8**
CTA	**Charters Tower**	**21.29**	**248**	P	**P**	**09 48 35.0**	**+0.3**
	6.1nm,0.7s,baz=74,slow=12,SNR=13						
CTAO	**Charters Tower**	**21.29**	**248**	*e*P	**P**	**09 48 35.3**	**+0.6**
	5.0nm,0.7s						
ARMA	**Armidale**	**22.44**	**218**	*e*P	**P**	**09 48 47.2**	**+1.3**
	7.1nm,0.8s						
COEN	**Coen**	**23.46**	**265**	*e*P	**P**	**09 48 56.9**	**+1.6**
	18nm,1.0s						
URZ	**Urewera**	**26.45**	**162**	*e*P	**P**	**09 49 23.9**	**+1.9**
	11nm,0.9s						
BKZ	**Black Stump Fm**	**27.12**	**164**	*e*P	**P**	**09 49 28.6**	**+0.5**
	15nm,1.2s						
THZ	**Tophouse**	**28.89**	**171**	*e*P	**P**	**09 49 44.9**	**+1.2**
	36nm,1.1s						
STKA	**Stephens Creek**	**30.03**	**228**	P	**P**	**09 49 52.6**	**-1.2**
	8.6nm,0.6s,baz=50,slow=8.4,SNR=26						
STKA				PcP	**PcP**	**09 52 48.7**	**-2.2**
	0.8nm,0.4s,baz=105,slow=2.4,SNR=4.4						
WB2	**Warramunga Arr**	**32.25**	**254**	*e*P	**P**	**09 50 12.4**	**-1.0**
WR1	**Warramunga Arr**	**32.26**	**254**	*e*P	**P**	**09 50 12.6**	**-0.9**
	7.4nm,1.0s						
WRA	**Warramunga Arr**	**32.26**	**254**	P	**P**	**09 50 12.6**	**-0.9**
	3.0nm,0.5s,baz=86,slow=9.2,SNR=48						
WRA				ScP	**ScP**	**09 56 20.4**	**-1.5**
	0.9nm,0.9s,baz=84,slow=3.5,SNR=4.5						
ASAR	**Alice Springs**	**33.27**	**247**	P	**P**	**09 50 21.4**	**-0.9**
	5.9nm,0.5s,baz=76,slow=9.0,SNR=178						
ASAR				PcP	**PcP**	**09 52 59.5**	**-0.4**
	1.1nm,0.7s,baz=112,slow=2.3,SNR=6.3						
ASAR				ScP	**ScP**	**09 56 23.8**	**-1.6**
	2.3nm,0.8s,baz=86,slow=3.4,SNR=14						
MJAR	**Matsushiro Arr**	**56.56**	**332**	P	**P**	**09 53 24.9**	**-0.5**
	2.9nm,0.8s,baz=175,slow=8.1,SNR=5.2						
MAJO	**Matsushiro**	**56.56**	**332**	*e*P	**P**	**09 53 24.9**	**-0.5**
VNDA	**Vanda**	**64.39**	**181**	P	**P**	**09 54 18.0**	**+0.3**
	0.8nm,0.7s,baz=341,slow=4.6,SNR=6.9						
CASY	**Casey**	**64.96**	**202**	*e*PcP	**PcP**	**09 54 55.6**	**+2.7**
USRK	**Ussuriysk Ar.**	**65.53**	**333**	P	**P**	**09 54 27.3**	**+1.9**
	3.0nm,0.8s,baz=129,slow=6.5,SNR=7.0						
PETK	**Petropavlovsk-**	**66.54**	**354**	P	**P**	**09 54 33.0**	**+1.3**
	2.8nm,0.5s,baz=168,slow=6.2,SNR=9.7						
PEA1	**Petropavlovsk-**	**66.55**	**354**	*e*P	**P**	**09 54 33.0**	**+1.3**
CMAR	**Chiang Mai Arr**	**74.36**	**294**	P	**P**	**09 55 20.9**	**+1.2**
	2.2nm,0.3s,baz=132,slow=5.0,SNR=8.9						
SEY	**Seymchan**	**76.76**	**353**	P	**P**	**09 55 33.1**	**+0.7**
	2.7nm,0.7s,baz=173,slow=8.5,SNR=5.6						
QSPA	**South Pole Qui**	**76.83**	**180**	*e*P	**P**	**09 55 33.3**	**+0.1**
	6.9nm,0.9s						
ULN	**Ulaanbaatar**	**80.92**	**324**	*e*P	**P**	**09 55 56.7**	**+1.1**
	5.9nm,1.1s						
SONA0	**Songino Array**	**81.28**	**323**	*e*P	**P**	**09 55 58.0**	**+0.5**
SONM	**Songino Array**	**81.28**	**323**	P	**P**	**09 55 58.0**	**+0.5**
	0.9nm,0.5s,baz=145,slow=6.3,SNR=8.6						
SONA1	**Songino Array**	**81.28**	**323**	*e*P	**P**	**09 55 58.4**	**+0.8**
CAST	**Castle Rocks**	**82.52**	**17**	*e*P	**P**	**09 56 03.5**	**0.0**
	6.0nm,0.7s						
RND	**Reindeer**	**83.47**	**18**	*e*P	**P**	**09 56 08.9**	**+0.5**
	2.9nm,0.6s						
WRH	**Wood River Hil**	**84.48**	**18**	*e*P	**P**	**09 56 13.6**	**+0.2**
	5.2nm,0.8s						
HDA	**Harding Lake**	**84.78**	**18**	*e*P	**P**	**09 56 15.3**	**+0.4**
	10nm,0.8s						
MDM	**Murphy Dome**	**84.80**	**17**	*e*P	**P**	**09 56 14.9**	**-0.1**
	4.9nm,0.9s						
ILAR	**Eielson Array**	**85.06**	**18**	P	**P**	**09 56 15.8**	**-0.5**
	4.5nm,0.6s,baz=240,slow=5.1,SNR=99						
ILB	**Eilson Array**	**85.06**	**18**	*e*P	**P**	**09 56 15.8**	**-0.5**
NV01	**Mina Array Sit**	**86.25**	**49**	*e*P	**P**	**09 56 23.0**	**0.0**
NVAR	**Mina Array Bea**	**86.25**	**49**	P	**P**	**09 56 23.0**	**0.0**
	0.3nm,0.7s,baz=243,slow=5.0,SNR=2.9						
TIXI	**Tiksi**	**88.47**	**349**	P	**P**	**09 56 32.5**	**-0.1**
	0.9nm,0.5s,baz=75,slow=2.8,SNR=4.0						
PDAR	**Pinedale Array**	**93.88**	**47**	P	**P**	**09 56 58.3**	**-0.4**
	0.1nm,0.5s,baz=249,slow=7.6,SNR=2.1						
MK01	**Makanchi Array**	**96.10**	**316**	*e*P	**P**	**09 57 07.8**	**-0.6**
MK31	**Makanchi Array**	**96.11**	**316**	*e*P	**P**	**09 57 08.7**	**+0.2**
MK32	**Makanchi Array**	**96.11**	**316**	*e*P	**P**	**09 57 08.5**	**+0.1**
MKAR	**Makanchi Array**	**96.11**	**316**	P	**P**	**09 57 08.5**	**+0.1**
	1.8nm,0.5s,baz=86,slow=6.1,SNR=37						
MKAR	**Makanchi Array**	**96.11**	**316**	*e*P	**P**	**09 57 08.2**	**-0.3**
	14nm,0.6s						
YKA	**Yellowknife Ar**	**96.17**	**27**	P	**P**	**09 57 07.0**	**-1.3**
	0.2nm,0.5s,baz=257,slow=4.8,SNR=5.1						
YKA	**Yellowknife Ar**	**96.17**	**27**	P	**P**	**09 57 07.0**	**-1.3**
ZALV	**Zalesovo Beam**	**96.17**	**324**	P	**P**	**09 57 07.9**	**-0.5**
	1.1nm,0.6s,baz=103,slow=3.2,SNR=3.5						
ZAA1	**Zalesovo Array**	**96.17**	**324**	*e*P	**P**	**09 57 07.9**	**-0.6**
ARA0	**ARCESS Array S**	**118.78**	**346**	*e*PKPdf	**PKPdf**	**10 02 26.9**	**-0.4**
ARCES	**ARCESS Array B**	**118.78**	**346**	PKP	**PKPdf**	**10 02 26.9**	**-0.4**
	2.4nm,0.4s,baz=80,slow=2.2,SNR=22						
FIA0	**FINESS Array S**	**124.31**	**339**	*e*PKPdf	**PKPdf**	**10 02 38.3**	**+0.1**
FINES	**FINESS Array B**	**124.31**	**339**	PKP	**PKPdf**	**10 02 38.3**	**+0.1**
	1.2nm,0.4s,baz=90,slow=3.8,SNR=7.4						
NB200	**NORSAR Array S**	**129.15**	**345**	*e*PKPdf	**PKPdf**	**10 02 47.2**	**-0.3**
NOA	**NORSAR Array B**	**129.15**	**345**	PKP	**PKPdf**	**10 02 47.2**	**-0.3**
	0.4nm,0.5s,baz=37,slow=2.1,SNR=2.2						
AKASG	**Malin Array Be**	**129.48**	**327**	PKP	**PKPdf**	**10 02 45.8**	**-2.5**
	0.8nm,0.5s,baz=49,slow=2.5,SNR=5.0						
BR101	**Keskin Array S**	**131.52**	**312**	*e*PKPdf	**PKPdf**	**10 02 52.0**	**-0.7**
BRTR	**Keskin Array B**	**131.52**	**312**	PKP	**PKPdf**	**10 02 52.0**	**-0.7**
	0.3nm,0.4s,baz=136,slow=5.3,SNR=3.1						
GERES	**GERESS Array B**	**138.29**	**334**	PKP	**PKPdf**	**10 03 05.2**	**+0.2**
	0.8nm,0.6s,baz=9.5,slow=1.6,SNR=5.6						
KEST	**Kesra**	**150.03**	**322**	PKPbc	**PKPbc**	**10 03 30.1**	**-0.7**
	8.4nm,0.6s,baz=345,slow=2.8,SNR=7.2						
ESDC	**Sonseca Array**	**152.51**	**345**	PKPbc	**PKPbc**	**10 03 35.2**	**-1.2**
	0.8nm,0.4s,baz=30,slow=2.6,SNR=6.9						
TORD	**Torodi Ar. Bea**	**165.98**	**271**	PKP	**PKPdf**	**10 03 44.6**	**-0.9**
	0.9nm,1.0s,baz=355,slow=2.0,SNR=3.8						
TOA1	**Torodi Ar. Sit**	**165.98**	**271**	*e*PKPdf	**PKPdf**	**10 03 44.6**	**-0.9**

ISCJB ***17*** *09:47:29.2±0.3, 24.°41N±0.°02×121.°98E±0.°02, h17km±5km, Error ellipse: s-maj=3.7km s-min=2.3km az=30.4*

JMA ***17*** *09:47:29.1±0.1, 24.°36N×121.°88E, h32km±4km, M2.9*

TAP ***17*** *09:47:29.1, 24.°43N×121.°91E, h23km, ML3.1, C*

ISC 17 09:47:28.5±0.9, 24.°40N±0.°02×122.°00E±0.°02, h26km±6km, n63, σ1s04/100, 4C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.19**	**40**	⇓P	**Pb**	**09 47 35.3**	**+1.2**
	baz=53						
EOS1				*e*S	**Sb**	**09 47 40.4**	**+2.5**
	baz=53						
NANB	**Nanao**	**0.23**	**276**	⇑*i*P	**Pb**	**09 47 33.9**	**-0.7**
	baz=269						
NANB				S	**Sb**	**09 47 37.3**	**-1.4**
	baz=269						
ENA	**Nanau**	**0.23**	**276**	P	**Pb**	**09 47 33.9**	**-0.8**
	baz=268						
ENA				S	**Sb**	**09 47 37.5**	**-1.5**
	baz=268						
TWC	**Suao**	**0.24**	**327**	⇓*i*P	**Pb**	**09 47 34.6**	**-0.3**
	baz=344						
TWC				*i* S	**Sb**	**09 47 38.0**	**-1.2**
	baz=344						
ILA	**Ilan**	**0.42**	**328**	*e*P	**Pb**	**09 47 36.5**	**-1.1**
	baz=330						
ILA				S	**Sb**	**09 47 43.5**	**-0.2**
	baz=330						
NACB	**Ninganchiao**	**0.43**	**238**	⇓P	**Pb**	**09 47 37.0**	**-0.7**
	baz=233						
NACB				S	**Sb**	**09 47 43.4**	**-0.5**
	baz=233						
TWE	**Neicheng**	**0.43**	**317**	P	**Pb**	**09 47 37.5**	**-0.3**
	baz=324						
TWE				*e*S	**Sb**	**09 47 42.6**	**-1.3**
	baz=324						
EGS		**0.44**	**352**	*e*P	**Pn**	**09 47 38.2**	**-1.1**
	baz=4.0						
ENTT	**Nioudou**	**0.46**	**301**	P	**Pb**	**09 47 37.7**	**-0.4**
	baz=304						
ENTT				S	**Sb**	**09 47 43.3**	**-1.3**
	baz=304						
NTC	**Toucheng**	**0.47**	**341**	*e*P	**Pb**	**09 47 38.5**	**+0.1**
	baz=350						
NTC				*e*S	**Sb**	**09 47 44.9**	**-0.1**
	baz=350						
TWD	**Chiawan**	**0.49**	**229**	⇓*e*P	**Pn**	**09 47 38.8**	**-1.0**
	baz=220						
TWD				*e*S	**Sb**	**09 47 45.9**	**+0.5**
	baz=220						
NNSB	**Datong**	**0.56**	**273**	⇑P	**Pb**	**09 47 39.3**	**-0.6**
	baz=276						
NNSB				S	**Sb**	**09 47 46.1**	**-1.5**
	baz=276						
NNS	**Nan Shan**	**0.57**	**274**	P	**Pb**	**09 47 39.5**	**-0.6**
	baz=277						
NNS				*e*S	**Sb**	**09 47 46.1**	**-1.7**
	baz=277						
TIPB	**Shuangxi**	**0.59**	**345**	⇓P	**Pb**	**09 47 40.5**	**-0.8**
	baz=357						
TIPB				S	**Sb**	**09 47 47.9**	**-0.4**
	baz=357						
TWB1	**Santiao Chiao**	**0.60**	**359**	P	**Pn**	**09 47 41.1**	**-0.3**
	baz=2.0						
TWB1				S	**Sb**	**09 47 48.8**	**+0.2**
	baz=2.0						
ENLB	**Shoufeng**	**0.61**	**216**	*e*P	**Pb**	**09 47 40.4**	**-0.3**
	baz=208						
YHNB	**Yeheng**	**0.62**	**295**	⇑P	**Pb**	**09 47 40.5**	**-0.4**
	baz=296						
YHNB				S	**Sb**	**09 47 47.3**	**-2.0**
	baz=296						
NSK	**Sanguang**	**0.64**	**295**	⇑P	**Pb**	**09 47 40.6**	**-0.6**
	baz=296						
NSK				S	**Sb**	**09 47 48.1**	**-1.7**
	baz=296						
TWA	**Mucha**	**0.69**	**327**	*e*P	**Pn**	**09 47 42.3**	**-0.3**
	baz=323						
TWA				*e*S	**Sb**	**09 47 50.2**	**-0.8**
	baz=323						
NWF	**Wu-fen Shan**	**0.69**	**344**	*e*P	**Pn**	**09 47 42.7**	**-0.1**
	baz=343						
NWF				*e*S	**Sb**	**09 47 51.5**	**+0.2**
	baz=343						
WFSB	**Wu-fen Shan**	**0.69**	**344**	*e*P	**Pn**	**09 47 42.6**	**0.0**
	baz=343						
WFSB				*e*S	**Sb**	**09 47 51.6**	**+0.4**
	baz=343						
WHF	**Hehuan Shan**	**0.71**	**249**	⇓*e*P	**Pb**	**09 47 42.2**	**-0.5**
	baz=251						
WHF				*e*S	**Sb**	**09 47 51.6**	**-0.6**
	baz=251						
TWT	**Tachien**	**0.76**	**259**	*e*P	**Pn**	**09 47 43.7**	**-0.1**
	baz=256						
TWT				*e*S	**Sn**	**09 47 54.5**	**0.0**
	baz=256						
TDCB	**Techi**	**0.78**	**259**	*e*P	**Pn**	**09 47 43.6**	**-0.4**
	baz=256						
TDCB				*e*S	**Sb**	**09 47 53.5**	**-0.3**
	baz=256						
ESL	**Shilin**	**0.78**	**221**	*e*P	**Pn**	**09 47 43.4**	**-0.5**
	baz=230						
ESL				*e*S	**Sn**	**09 47 55.3**	**+0.6**
	baz=230						
WLTB	**Daxi**	**0.81**	**304**	*e*P	**Pb**	**09 47 43.8**	**-0.2**
	baz=309						
WLTB				*e*S	**Sb**	**09 47 54.9**	**+0.3**
	baz=309						
CHGB	**Renai**	**0.82**	**246**	P	**Pn**	**09 47 44.5**	**-0.2**
	baz=248						
CHGB				*e*S	**Sb**	**09 47 54.7**	**-0.5**
	baz=248						
YM01	**YM01**	**0.83**	**332**	*e*P	**Pn**	**09 47 46.2**	**+1.5**
	baz=337						
YM01				*e*S	**Sn**	**09 47 56.9**	**+0.8**
	baz=337						
YM11	**YM11**	**0.85**	**333**	*e*P	**Pn**	**09 47 45.5**	**+0.6**
	baz=337						
YM05	**YM05**	**0.85**	**333**	*e*P	**Pn**	**09 47 45.7**	**+0.8**
	baz=337						
YM05				*e*S	**Sn**	**09 47 56.9**	**+0.3**
	baz=337						
YM04	**YM04**	**0.85**	**331**	*e*P	**Pn**	**09 47 45.4**	**+0.5**
	baz=335						
YM08	**YM08**	**0.86**	**335**	*e*P	**Pn**	**09 47 45.2**	**+0.1**
	baz=339						
JYNG	**Yonagunijimaku**	**0.87**	**87**	P	**Pn**	**09 47 46.9**	**+1.8**
TWS1	**Kuang

baz=224
JKRS Kuro-shima 1.84 95 P **Pb** **09 48 01.2 -0.4**
JKRS eS **Sb** **09 48 23.7 -0.5**
JIJ Ishigaki jima 1.96 91 P **Pb** **09 48 02.0 -1.5**
JIJ eS **Sb** **09 48 25.5 -2.0**
JISG Ishigakijimahi 2.12 85 P **Pb** **09 48 03.9 -2.3**
JISG eS **Sb** **09 48 29.4 -2.7**
MASBT Mashibuluo 2.18 215 eP **Pb** **09 48 05.5 -1.8**
baz=212

ISK ***17*** *09:58:21.9, 38°.47N × 43°.64E, h3km, ML2.5/5*
DDA ***17*** *09:58:22.1, 38°.57N × 43°.71E, h7km ± 4km, ML3.1*
ISCJB ***17*** *09:58:23.3 ± 0.7, 38°.47N ± 0°.03 × 43°.57E ± 0°.05, h9km ± 5km, Error ellipse: s-maj=7.4km s-min=4.4km az=155.4*
ISC 17 09:58:22.4 ± 1.1, 38°.51N ± 0°.03 × 43°.65E ± 0°.04, h11km ± 8km, n13, σ0°.72/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.19**	**276**	IAML_P				
	comp=Z,14μm,0.1s							
TVAN				*i* P	**Pg**		**09 58 27.0**	**+0.3**
VANB	**Van**	**0.22**	**293**	PG	**Pg**		**09 58 26.5**	**-0.6**
VANB				SG	**Sg**		**09 58 30.2**	**-0.2**
VMUR	**Van-Muradiye**	**0.48**	**353**	IAML_P				
	comp=Z,3μm,0.2s							
VMUR				*i* P	**Pg**		**09 58 31.2**	**-0.7**
VMUR				*i* S	**Sb**		**09 58 41.4**	**+1.2**
GEVA	**Gevas**	**0.50**	**247**	IAML_P				
	comp=Z,5μm,0.2s							
GEVA				*i* P	**Pb**		**09 58 32.9**	**-0.4**
GEVA				*i* S	**Sn**		**09 58 43.3**	**-1.0**
BASK	**Baskale_VAN**	**0.54**	**148**	*i* P	**Pb**		**09 58 33.4**	**-0.5**
BASK				*i* S	**Sb**		**09 58 42.2**	**+0.5**
AKDM	**Akdamar-Van**	**0.55**	**251**	PG	**Pg**		**09 58 33.1**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.78**	**293**	*i* P	**Pg**		**09 58 37.3**	**-0.2**
ADCV				*i* S	**Sb**		**09 58 49.4**	**+0.6**
TUTA	**Tutak**	**1.10**	**324**	*i* P	**Pg**		**09 58 43.3**	**-0.4**
TUTA				*i* S	**Sn**		**09 58 59.0**	**-0.3**
CUKT	**Cukurca**	**1.26**	**181**	PN	**Pb**		**09 58 45.9**	**-0.3**
CUKT				SN	**Sn**		**09 59 03.7**	**+0.8**
GURO	**Guroymak-BITLI**	**1.27**	**272**	PN	**Pn**		**09 58 45.8**	**-0.3**
SIRT	**Sirnak**	**1.39**	**224**	PN	**Pb**		**09 58 48.6**	**+0.3**
IGDI	**IGDIR**	**1.40**	**14**	IAML_P				
	comp=Z,208nm,0.2s							
IGDI				*i* P	**Pg**		**09 58 48.4**	**-0.9**
IGDI				*i* S	**Sg**		**09 59 09.0**	**+1.6**
GNI	**Garni**	**1.85**	**27**	PN	**Pb**		**09 58 56.2**	**0.0**

IDC 17 10:06:47.5 ± 2.3, 23°.36S × 175°.85W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.8/21, mbtmp3.8/4, Error ellipse: s-maj=181.7km s-min=33.4km az=159.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.45**	**248**	P		P	10 14 10.7	-0.6
	0.7nm,0.3s,baz=104,slow=8.3,SNR=2.5							
ASAR	**Alice Springs**	**45.88**	**259**	P		P	10 15 11.8	-0.2
	0.4nm,0.3s,baz=94,slow=7.3,SNR=28							
WRA	**Warramunga Arr**	**46.25**	**264**	P		P	10 15 15.2	+0.2
	1.3nm,0.4s,baz=103,slow=8.1,SNR=43							
TXAR	**Lajitas Array**	**86.94**	**56**	P		P	10 19 34.9	0.0
	0.2nm,0.8s,baz=218,slow=5.7,SNR=3.7							

IDC 17 10:36:39.9 ± 2.3, 2°.38S × 141°.67E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/33, mbtmp3.3/3, ML3.5/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/16, Error ellipse: s-maj=41.8km s-min=29.4km az=90.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.98**	**262**	Pn		Pn	10 37 00.8	-0.1
	100nm,0.3s,baz=52,slow=20,SNR=672							
JAY				Sn		Sg	10 37 11.2	-0.1
	70nm,0.3s,baz=0.0,slow=20,SNR=19							
WRA	**Warramunga Arr**	**18.87**	**202**	P		P	10 41 01.9	-0.1
	0.1nm,0.3s,baz=26,slow=11,SNR=11							
ASAR	**Alice Springs**	**22.46**	**199**	P		P	10 41 41.0	+0.1
	0.4nm,0.5s,baz=30,slow=11,SNR=4.1							
JOW	**Kunigami**	**31.79**	**337**	LR		LR	10 54 10.2	
	comp=Z,134nm,21.7s,baz=286,slow=33							
MKAR	**Makanchi Array**	**71.36**	**321**	P		P	10 48 01.9	+0.1
	0.2nm,0.6s,baz=116,slow=6.6,SNR=2.6							

IDC ***17*** *10:41:16.7 ± 1.6, 36°.36N × 143°.97E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.3/52, mbtmp3.5/4, ML2.9/2, Error ellipse: s-maj=33.7km s-min=32.5km az=110.0*
ISCJB ***17*** *10:41:20.4 ± 0.9, 36°.59N ± 0°.05 × 143°.77E ± 0°.07, h33km, mb3.8/2, Error ellipse: s-maj=8.1km s-min=6.5km az=36.9*
JMA ***17*** *10:41:21.2 ± 0.2, 36°.62N × 143°.73E, h47km, M3.4*
ISC 17 10:41:21.2 ± 1.2, 36°.61N ± 0°.06 × 143°.86E ± 0°.08, h35km, n17, σ1°.49/22, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**2.50**	**282**	S		**Sn**	**10 42 28.1**	**-0.7**
JFK	**Kawauchi**	**2.51**	**288**	S		**Sn**	**10 42 27.5**	**-1.4**
JIKH	**Ishinomakikobu**	**2.55**	**312**	P		**Pn**	**10 41 59.9**	**-0.2**
JIKH				eS		**Sn**	**10 42 28.1**	**-1.8**
JIO	**Ouri**	**2.72**	**313**	P		**Pn**	**10 42 02.4**	**+0.1**
JIO				S		**Sn**	**10 42 32.4**	**-1.5**
JFT	**Otama**	**2.96**	**289**	eS		**Sn**	**10 42 39.1**	**-0.9**
BSO1	**Boso 1**	**3.05**	**231**	P		**Pn**	**10 42 06.4**	**-0.1**
BSO1				S		**Sn**	**10 42 39.9**	**-1.6**
JMK	**Ichinoseki**	**3.14**	**319**	P		**Pn**	**10 42 08.4**	**+0.3**
JOM	**Ohasama**	**3.50**	**325**	P		**Pn**	**10 42 13.9**	**+0.7**
JAG	**Ashikaga**	**3.56**	**268**	S		**Sn**	**10 42 53.9**	**-0.8**
JYK	**Kaneyama**	**3.61**	**311**	P		**Pn**	**10 42 15.5**	**+0.9**
JRY	**Ryogami san**	**4.05**	**263**	P		**Pn**	**10 42 21.0**	**+0.3**
JOD2	**Odawara 2**	**4.10**	**252**	S		**Sn**	**10 43 08.5**	**+0.4**
JANG	**Nango**	**4.18**	**335**	P		**Pn**	**10 42 23.7**	**+1.2**
MJAR	**Matsushiro Arr**	**4.55**	**271**	Pn		**Pn**	**10 42 28.5**	**+1.0**
	0.2nm,0.3s,baz=89,slow=16,SNR=8.2							
MJAR				Sn		**Sn**	**10 43 22.1**	**+2.8**
	baz=51,slow=20,SNR=3.1							
ASAJ	**Asahikawa**	**7.56**	**353**	Pn		**Pn**	**10 43 11.5**	**+2.7**
	0.4nm,0.3s,baz=75,slow=21,SNR=2.4							
ASAJ				Sn		**Sn**	**10 44 30.5**	**-2.8**
	0.3nm,0.3s,baz=16,slow=22,SNR=1.9							
WRA	**Warramunga Arr**	**56.96**	**191**	P		**P**	**10 51 02.1**	**-1.0**
	0.7nm,0.9s,baz=11,slow=7.2,SNR=5.5							
TXAR	**Lajitas Array**	**88.81**	**54**	P		**P**	**10 54 13.2**	**+1.4**
	0.6nm,1.1s,baz=324,slow=4.5,SNR=2.9							

ISCJB ***17*** *10:50:37.1 ± 0.2, 47°.92N ± 0°.01 × 17°.96E ± 0°.02, h0km, Error ellipse: s-maj=2.1km s-min=1.8km az=10.0*
VIE ***17*** *10:50:38.9 ± 0.3, 47°.91N × 18°.01E, h11km ± 2km, mb2.7/8, ml3.3/9, Error ellipse: s-maj=3.2km s-min=2.3km az=174.0 21 km NNW of Komarom*
IPEC ***17*** *10:50:39.3 ± 0.1, 47°.89N × 17°.99E, h19km ± 1km, ML2.8/5, Error ellipse: s-maj=0.8km s-min=0.7km az=7.0*
PRU ***17*** *10:50:39.6 ± 0.0, 47°.99N × 17°.99E, h4km, Slovakia-near Nove Zamky*
BGR ***17*** *10:50:42.6 ± 0.4, 48°.06N × 17°.78E, h1km, ML3.1/6, Error ellipse: s-maj=8.9km s-min=5.6km az=106.0*
ISC 17 10:50:38.1 ± 0.7, 47°.90N ± 0°.02 × 17°.99E ± 0°.02, h0km, n90, σ1°.12/141, 11C-2D, Hungary

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SRO	**Srobarova**	**0.24**	**111**	ePG		**Pg**	**10 50 44.0**	**+1.4**
SRO				eSG		**Sg**	**10 50 46.7**	**+1.1**
ZST	**Bratislava**	**0.66**	**297**	ePG		**Pb**	**10 50 51.8**	**-0.7**
ZST				eSG		**Sb**	**10 51 01.0**	**-1.2**
MODS	**Modra-Piesok**	**0.67**	**315**	ePG		**Pb**	**10 50 53.2**	**+0.5**
MODS				eSG		**Sb**	**10 51 02.3**	**-0.2**
MODS				eLG		Lg	10 51 05.1	
BUD	**Budapest**	**0.82**	**120**	*i* Pg		**Pg**	**10 50 54.0**	**+0.3**
BUD				ePn		**Pn**	**10 50 57.1**	**+0.3**
BUD				eSg		**Sb**	**10 51 06.0**	**-0.6**
VYHS	**Vyhne**	**0.82**	**43**	ePG		**Pb**	**10 50 54.9**	**-0.3**
VYHS				eSG		**Sb**	**10 51 05.6**	**-1.3**
VYHS				eLG		Lg	10 51 06.6	
JAVC	**Velka Javorina**	**0.98**	**348**	ePG		**Pb**	**10 50 58.4**	**+0.4**
JAVC				eSG		**Sg**	**10 51 10.2**	**+0.6**
JAVC	**Velka Javorina**	**0.98**	**348**	ePg		**Pb**	**10 50 58.3**	**+0.3**
	baz=168							
JAVC				eSg		**Sg**	**10 51 10.1**	**+0.5**
	262nm,0.3s,baz=168							
JAVC	**Velka Javorina**	**0.98**	**348**	ePg		**Pn**	**10 50 58.7**	**-0.5**
SOP	**Sopron**	**0.99**	**258**	ePn		**Pg**	**10 50 57.1**	**+0.1**
SOP				eSg		**Sb**	**10 51 12.0**	**+0.5**
TIH	**Tihany**	**1.00**	**184**	ePn		**Pb**	**10 50 58.0**	**-0.2**
TIH				eSg		**Sn**	**10 51 13.0**	**-1.2**
PSZ	**Piszkesteto**	**1.28**	**88**	*i* P		**Pg**	**10 51 02.6**	**-0.1**
PSZ	**Piszkesteto**	**1.28**	**88**	S		**Sg**	**10 51 19.6**	**+0.3**
PSZ	**Piszkesteto**	**1.28**	**88**	ePn		**Pg**	**10 51 03.1**	**-0.1**
PSZ				eSg		**Sg**	**10 51 19.1**	**-0.2**
CONA	**Conrad Observa**	**1.43**	**272**	ePn		**Pn**	**10 51 04.7**	**-0.7**
	31nm,0.2s,SNR=69							
CONA				eSn		**Sg**	**10 51 24.0**	**+0.1**
	97nm,0.2s							
KRUC	**Moravsky**	**1.57**	**318**	ePN		**Pn**	**10 51 06.2**	**-1.0**
KRUC				eSN		**Sn**	**10 51 26.6**	**-1.7**
KRUC	**Moravsky**	**1.57**	**318**	ePn		**Pn**	**10 51 06.1**	**-1.1**
	baz=137							
KRUC				eSn		**Sn**	**10 51 26.5**	**-1.7**
	78nm,0.3s,baz=137							
KRUC	**Moravsky**	**1.57**	**318**	ePn		**Pn**	**10 51 06.2**	**-1.1**
KRUC				eSg		**Sn**	**10 51 26.5**	**-1.8**
LANS	**Liptovska Anna**	**1.59**	**38**	ePG		**Pg**	**10 51 08.9**	**+0.3**
LANS				eSG		**Sg**	**10 51 29.4**	**+0.2**
BEHE	**Becsehely**	**1.65**	**210**	ePn		**Pb**	**10 51 09.1**	**-0.3**
BEHE				Sn		**Sg**	**10 51 32.1**	**+1.0**
BEHE	**Becsehely**	**1.65**	**210**	ePn		**Pb**	**10 51 09.1**	**-0.3**
VRAC	**Vranov**	**1.69**	**327**	*i* P		**Pn**	**10 51 08.0**	**-0.8**
VRAC	**Vranov**	**1.69**	**327**	S		**Sn**	**10 51 29.3**	**-1.8**
VRAC	**Vranov**	**1.69**	**327**	ePN		**Pn**	**10 51 07.9**	**-0.8**
VRAC				eSN		**Sn**	**10 51 29.3**	**-1.8**
VRAC	**Vranov**	**1.69**	**327**	ePn		**Pn**	**10 51 07.8**	**-1.0**
	baz=146							
VRAC				eSn		**Sn**	**10 51 29.2**	**-1.8**
	53nm,0.3s,baz=146							
VRAC	**Vranov**	**1.69**	**327**	ePn		**Pn**	**10 51 08.0**	**-0.8**
VRAC				eSg		**Sn**	**10 51 29.2**	**-1.8**
MORH	**Mrgy, Hungar**	**1.75**	**165**	ePn		**Pn**	**10 51 08.1**	**-1.5**
MORH				eSg		**Pg**	**10 51 13.0**	**+1.6**
MORH				Sn		**Sb**	**10 51 33.0**	**-0.3**
MORH	**Mrgy, Hungar**	**1.75**	**165**	ePn		**Pn**	**10 51 08.3**	**-1.3**
ARSA	**Arzberg**	**1.79**	**250**	ePn		**Pn**	**10 51 09.8**	**-0.5**
ARSA	**Arzberg**	**1.79**	**250**	ePn		**Pn**	**10 51 09.7**	**-0.5**
	2.9nm,0.1s,SNR=8.9							
ARSA				Sn		**Sn**	**10 51 32.6**	**-1.0**
	62nm,0.5s							
ARSA				Sg		**Sg**	**10 51 38.4**	**+2.9**
	67nm,0.4s							
KOGS	**Kog**	**1.87**	**220**	*i* Pn		**Pn**	**10 51 11.5**	**+0.2**
MORC	**Moravsky Berou**	**1.90**	**351**	*i* P		**Pn**	**10 51 11.2**	**-0.6**
MORC	**Moravsky Berou**	**1.90**	**351**	S		**Sn**	**10 51 34.9**	**-1.5**
MORC	**Moravsky Berou**	**1.90**	**351**	ePN		**Pn**	**10 51 11.2**	**-0.6**
MORC				eSN		**Sn**	**10 51 35.0**	**-1.5**
MORC	**Moravsky Berou**	**1.90**	**351**	ePn		**Pn**	**10 51 11.1**	**-0.7**
	baz=171							
MORC				eSn		**Sn**	**10 51 34.9**	**-1.5**
	74nm,0.5s,baz=171							
MORC	**Moravsky Berou**	**1.90**	**351**	ePn		**Pn**	**10 51 11.5**	**-0.3**
MORC				eSg		**Sn**	**10 51 35.0**	**-1.5**
OKC	**Ostrava-Krasne**	**1.94**	**3**	eSG		**Sn**	**10 51 37.3**	**-0.1**
	comp=Z,51nm,0.6s							
OKC	**Ostrava-Krasne**	**1.94**	**3**	ePn		**Pn**	**10 51 12.0**	**-0.3**
NIE	**Niedzica**	**2.16**	**44**	ePn		**Pb**	**10 51 18.4**	**+0.4**
NIE				ePg		**Pg**	**10 51 21.2**	**+1.8**
NIE				eSg		**Sg**	**10 51 50.7**	**+3.3**
NIE	**Niedzica**	**2.16**	**44**	ePn		**Pb**	**10 51 18.6**	**+0.5**
KRLC	**Kraliky**	**2.32**	**340**	ePn		**Pn**	**10 51 17.9**	**+0.4**
SOKA	**Soboth**	**2.35**	**240**	ePn		**Pn**	**10 51 17.8**	**-0.2**
	1.6nm,0.1s							
SOKA				Pg		**Pg**	**10 51 24.5**	**+1.4**
	10.0nm,0.4s							
SOKA				Sn		**Sn**	**10 51 46.0**	**-1.6**
	6.9nm,0.2s							
DOBS	**Dobrina**	**2.46**	**225**	*i* Pn		**Pn**	**10 51 18.7**	**-0.6**
MOA	**Molln**	**2.50**	**270**	ePn		**Pn**	**10 51 20.5**	**+0.4**
MOA				ePg		**Pg**	**10 51 26.5**	**+0.5**
MOA	**Molln**	**2.50**	**270**	ePn		**Pn**	**10 51 20.3**	**+0.3**
	3.1nm,0.3s,SNR=8.2							
MOA				ePg		**Pg**	**10 51 26.8**	**+0.7**
	5.9nm,0.2s							
MOA				Sn		**Sn**	**10 51 51.7**	**+0.4**
	14nm,0.4s							
MOA				Sg		**Sg**	**10 52 00.9**	**+2.4**
	48nm,0.3s							
OJC	**Ojcow**	**2.61**	**27**	ePn		**Pb**	**10 51 25.3**	**-0.4**
OJC				ePg		**Pg**	**10 51 29.9**	**+1.8**
OJC				eSg		**Sg**	**10 52 01.3**	**-0.6**
LEGS	**Legarje**	**2.67**	**224**	*i* Pn		**Pn**	**10 51 21.6**	**-0.8**
DPC	**Dobruska-Polom**	**2.69**	**337**	ePN		**Pn**	**10 51 23.1**	**+0.5**
DPC	**Dobruska-Polom**	**2.69**	**337**	ePn		**Pn**	**10 51 23.0**	**+0.5**
CRES	**Cresnjev**	**2.70**	**221**	*i* Pn		**Pn**	**10 51 22.1**	**-0.7**
CRES	**Cresnjev**	**2.70**	**221**	ePn		**Pn**	**10 51 21.9**	**-0.9**
OBKA	**Obir**	**2.73**	**241**	ePn		**Pn**	**10 51 23.4**	**+0.2**
OBKA	**Obir**	**2.73**	**241**	ePn		**Pn**	**10 51 23.2**	**+0.1**
	2.8nm,0.1s,SNR=9.4							
OBKA				Sn		**Sn**	**10 51 56.2**	**-0.7**
	12nm,0.3s							
UPC	**Upice**	**2.91**	**334**	ePN		**Pn**	**10 51 26.0**	**+0.4**
GOPC	**GO Pecny, Ondr**	**2.92**	**315**	ePN		**Pn**	**10 51 26.0**	**+0.3**
SIRR	**Siria**	**3.00**	**122**	*i* P		**Pn**	**10 51 27.0**	**+0.2**
GEC2	**GERESS Array S**	**3.01**	**290**	ePn		**Pn**	**10 51 27.3**	**+0.3**
LJU	**Ljubljana**	**3.01**	**233**	ePn		**Pn**	**10 51 26.5**	**-0.5**
FRGS	**Fruska Gora**	**3.02**	**155**	ePn		**Pn**	**10 51 26.5**	**-0.6**
TRPA	**Tarpa**	**3.07**	**84**	*i* P		**Pn**	**10 51 26.5**	**-1.2**
PRU	**Pruhonice**	**3.08**	**314**	ePN		**Pn**	**10 51 29.2**	**+1.2**
PRU				eSN		**Sn**	**10 52 03.7**	**-1.9**
PRU				eSG		**Sg**	**10 52 16.4**	**-0.7**
	comp=Z,19nm,0.4s							
PRU	**Pruhonice**	**3.08**	**314**	ePn		**Pn**	**10 51 27.3**	**-0.7**
KHC	**Kasperske Hory**	**3.18**	**294**	ePN		**Pn**	**10 51 29.9**	**+0.6**
KHC				ePG		**Pg**	**10 51 37.6**	**-1.3**
KHC				eSN		**Sn**	**10 52 07.2**	**-0.7**
KHC				eSG		**Sg**	**10 52 19.1**	**-1.0**
	comp=Z,32nm,0.4s							
KHC	**Kasperske Hory**	**3.18**	**294**	ePn		**Pn**	**10 51 29.9**	**+0.6**
BLY	**Banja Luka**	**3.20**	**190**	*i* P		**Pn**	**10 51 29.6**	**0.0**
BLY	**Banja Luka**	**3.20**	**190**	ePn		**Pn**	**10 51 28.4**	**-1.2**
MYKA	**Terra Mystica**	**3.22**	**248**	*i* Pn		**Pn**	**10 51 30.3**	**+0.4**
	1.0nm,0.1s							
MYKA				*i* Sn		**Sn**	**10 52 07.0**	**-2.0**
	15nm,0.6s							
CEY	**Cerknica**	**3.26**	**230**	ePn		**Pn**	**10 51 29.6**	**-0.9**
BZS	**Buzias**	**3.38**	**131**	*i* P		**Pn**	**10 51 33.3**	**+1.2**
DRGR		**3.40**	**107**	*i* P		**Pn**	**10 51 31.5**	**-0.9**
RJOB	**Jochberg**	**3.50**	**269**	ePn		**Pn**	**10 51 34.9**	**+1.1**
TEKS	**Tekeris**	**3.52**	**162**	ePn		**Pn**	**10 51 33.5**	**-0.5**
WET	**Wettzell**	**3.62**	**292**	ePn		**Pn**	**10 51 35.8**	**+0.5**
UDBI	**Udbina**	**3.71**	**205**	ePn		**Pn**	**10 51 35.3**	**-1.4**
HAPS	**Han Pijesak,BI**	**3.87**	**170**	ePn		**Pn**	**10 51 37.8**	**-1.1**
ABTA	**Abfaltersbach**	**3.90**	**255**	ePn		**Pn**	**10 51 41.6**	**+2.3**
	1.1nm,0.3s							
ABTA				Pg		**Pg**	**10 51 54.8**	**+2.1**
	5.7nm,0.5s							
NVLJ	**Novalja**	**3.98**	**214**	ePn		**Pn**	**10 51 39.8**	**-0.4**
NVLJ				Sn		**Sn**	**10 52 25.4**	**-2.1**
BRG	**Berggiesshubel**	**3.98**	**320**	PG		**Pg**	**10 51 54.9**	**+0.6**
BRG				SG		**Sb**	**10 52 40.6**	**+3.0**
	12nm,1.1s							
MDVR	**Moldovita**	**4.05**	**139**	*i* P		**Pn**	**10 51 40.9**	**-0.4**
DIVS	**Divibare**	**4.05**	**159**	ePn		**Pn**	**10 51 40.3**	**-1.1**
GZR	**Gura Zlata**	**4.14**	**125**	*i* P		**Pn**	**10 51 43.8**	**+1.2**
BBLS	**Lazići**	**4.16**	**166**	ePn		**Pn**	**10 51 41.4**	**-1.4**
WTTA	**Wattenberg**	**4.34**	**264**	ePn		**Pn**	**10 51 46.4**	**+0.9**
	1.0nm,0.1s							
TANN	**Tannenbergstha**	**4.41**	**307**	ePn		**Pn**	**10 51 46.2**	**-0.1**
SQTA	**Sankt Quirin**	**4.64**	**264**	*i* Pn		**Pn**	**10 51 50.4**	**+0.9**
	1.2nm,0.1s							
SQTA				*i* Sn		**Sn**	**10 52 40.8**	**-3.2**
	4.0nm,0.3s							
CLL	**Collm**	**4.70**	**318**	ePn		**Pn**	**10 51 51.0**	**+0.8**
CLL				eSg		**Sg**	**10 53 10.0**	**+0.9**
	comp=Z,18nm,0.9s							
BURAR	**Bucovina Array**	**4.89**	**91**	*i* P		**Pn**	**10 51 52.4**	**-0.4**
RETA	**Reutte**	**4.89**	**268**	ePn		**Pn**	**10 51 52.9**	**-0.1**
	comp=Z,0.9nm,0.2s							
RETA				*i* Sg		**Sg**	**10 53 15.3**	**+0.1**
	comp=Z,9.1nm,0.5s							
FETA	**Feichten**	**5.00**	**263**	*i* Pn		**Pn**	**10 51 55.2**	**+0.8**
	comp=Z,1.0nm,0.2s							
FETA				eSn		**Sn**	**10 52 51.0**	**-2.0**
	comp=Z,1.8nm,0.5s							
DOPR	**Dopca**	**5.43**	**108**	*i* P		**Pn**	**10 52 01.0**	**+0.8**
VOIR		**5.45**	**114**	*i* P		**Pn**	**10 52 00.7**	**+0.1**

ISCJB ***17*** *11:04:22.1 ± 0.3, 24°.43N ± 0°.01 × 122°.05E ± 0°.01, h3km ± 2km, Error ellipse: s-maj=2.2km s-min=2.0km az=154.0*
JMA ***17*** *11:04:22.8 ± 0.1, 24°.39N × 122°.00E, h17km, M3.3*
TAP ***17*** *11:04:22.8, 24°.45N × 121°.99E, h13km, ML3.7, B*
ISC 17 11:04:22.5 ± 0.9, 24°.43N ± 0°.02 × 122°.03E ± 0°.02, h11km ± 6km, n101, σ0°.69/158, 20C-13D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.15**	**36**	⇑P		**Pb**	**11 04 27.2**	**-0.2**
	baz=43							
EOS1				S		**Sg**	**11 04 30.6**	**+2.1**
	baz=43							
TWC	**Suao**	**0.25**	**318**	⇑*i* P		**Pg**	**11 04 27.6**	**-0.1**
	baz=324							
TWC				*i* S		**Sg**	**11 04 30.3**	**-0.8**
	baz=324							
NANB	**Nanao**	**0.26**	**271**	⇓P		**Pg**	**11 04 27.8**	**-0.1**
	baz=272							
NANB				S		**Sg**	**11 04 30.9**	**-0.5**
	baz=272							
ENA	**Nanau**	**0.26**	**271**	⇓*i* P		**Pg**	**11 04 27.8**	**-0.2**
	baz=271							
ENA				eS		**Sg**	**11 04 31.1**	**-0.5**
	baz=271							
ILA	**Ilan**	**0.42**	**323**	⇑*i* P		**Pg**	**11 04 31.3**	**+0.3**
	baz=318							
ILA				eS		**Sg**	**11 04 37.0**	**+0.3**
	baz=318							
EGS		**0.43**	**348**	⇑P		**Pg**	**11 04 31.2**	**+0.2**
	baz=348							
TWE	**Neicheng**	**0.44**	**312**	⇑*i* P		**Pg**	**11 04 31.2**	**-0.1**
	baz=317							
TWE				S		**Sg**	**11 04 36.0**	**-1.2**
	baz=317							
NTC	**Toucheng**	**0.47**	**337**	eP		**Pg**	**11 04 31.7**	**0.0**
	baz=350							
NACB	**Ninganchiao**	**0.47**	**238**	⇓P		**Pg**	**11 04 31.6**	**-0.2**
	baz=234							
NACB				S		**Sg**	**11 04 37.5**	**-0.5**
	baz=234							
ENTT	**Nioudou**	**0.47**	**297**	⇓*i* P		**Pg**	**11 04 31.9**	**+0.1**
	baz=296							
ENTT				eS		**Sg**	**11 04 37.4**	**-0.8**
	baz=296							
TWD	**Chiawan**	**0.53**	**229**	P		**Pg**	**11 04 32.8**	**-0.1**
	baz=230							
TWD				S		**Sg**	**11 04 39.8**	**0.0**
	baz=230							
TIPB	**Shuangxi**	**0.57**	**341**	⇑*i* P		**Pg**	**11 04 33.9**	**+0.1**
	baz=342							
TIPB				eS		**Sg**	**11 04 40.6**	**-0.8**
	baz=342							
TWB1	**Santiao Chiao**	**0.58**	**356**	eP		**Pg**	**11 04 33.9**	**0.0**
	baz=352							
TWB1				eS		**Sg**	**11 04 42.0**	**+0.4**
	baz=352							
NNSB	**Datong**	**0.59**	**270**	⇓P		**Pg**	**11 04 33.9**	**-0.2**
	baz=268							
NNSB				S		**Sg**	**11 04 41.1**	**-0.8**
	baz=268							
HWA	**Hwalien**	**0.59**	**221**	eP		**Pb**	**11 04 35.5**	**+0.6**
	baz=223							
NWLT	**Wulai**	**0.59**	**306**	eP		**Pg**	**11 04 34.3**	**+0.1**
	baz=307							
NNS	**Nan Shan**	**0.60**	**272**	⇓*i* P		**Pg**	**11 04 34.0**	**-0.3**
	baz=269							
NNS				S		**Sg**	**11 04 40.9**	**-1.3**
	baz=269							
YHNB	**Yeheng**	**0.64**	**292**	⇓P		**Pg**	**11 04 35.2**	**+0.1**
	baz=291							
YHNB				S		**Sg**	**11 04 42.0**	**-1.6**
	baz=291							
ENLB	**Shoufeng**	**0.65**	**217**	eP		**Pn**	**11 04 36.6**	**-1.0**
	baz=222							
NSK	**Sanguang**	**0.66**	**292**	⇓*i* P		**Pg**	**11 04 35.4**	**0.0**
	baz=296							
NSK				S		**Sg**	**11 04 42.8**	**-1.4**
	baz=296							
NWF	**Wu-fen Shan**	**0.68**	**341**	⇑P		**Pb**	**11 04 36.2**	**-0.3**
	baz=331							
NWF				S		**Sb**	**11 04 45.5**	**-0.5**
	baz=331							

baz=305
LIOB Emei 0.95 284 P **Pb 11 04 41.1 +0.1**
LIOB baz=282 S **Sg 11 04 52.9 -0.4**
baz=282
NSTT Nanjuang 0.96 283 ⇑P **Pn 11 04 41.5 -0.4**
NSTT baz=281 S **Sg 11 04 52.8 -0.8**
baz=281
SBCB Hsinchu 1.02 291 *e*P **Pn 11 04 42.7 0.0**
SBCB baz=284 *e*S **Sn 11 04 57.2 +0.2**
baz=284
HSN Hsinchu 1.04 291 *e*P **Pn 11 04 42.9 -0.1**
HSN baz=286 *e*S **Sb 11 04 56.1 0.0**
baz=286
VWDT VWDT 1.05 231 P **Pg 11 04 42.7 -0.1**
VWDT baz=234 S **Sg 11 04 56.8 +0.3**
baz=234
HGSD Ruisui 1.08 211 *e*P **Pn 11 04 43.7 +0.1**
HGSD baz=210 *e*S **Sn 11 05 01.8 +3.2**
baz=210
EHY Hungye 1.12 215 P **Pb 11 04 43.6 -0.3**
baz=223
NMLH Miaoli 1.14 276 *e*P **Pg 11 04 45.1 +0.7**
baz=275
TWQ1 Liyutan 1.15 266 ⇑P **Pg 11 04 45.3 +0.6**
baz=265
NSY Sanyi 1.16 270 *e*P **Pg 11 04 45.6 +0.8**
baz=268
SMLT Sun Moon Lake 1.17 243 ⇑P **Pg 11 04 45.0 0.0**
baz=248
SMLT *e*S **Sb 11 04 59.2 -0.6**
baz=248
SSLB Suanglung 1.17 237 ⇓P **Pn 11 04 44.6 -0.2**
baz=244
SSLB *e*S **Sb 11 04 58.4 -1.6**
baz=244
TYC Yuchr 1.19 244 *e*P **Pb 11 04 44.6 -0.4**
baz=249
TYC S **Sb 11 04 60.0 -0.5**
baz=249
PTSB Yuanli 1.21 271 *e*P **Pg 11 04 47.4 +1.6**
baz=282
YULB Yu-li 1.23 213⇑ *e*P **Pn 11 04 45.1 -0.5**
baz=210
TWF1 Yuli 1.26 212 ⇑P **Pn 11 04 45.6 -0.4**
baz=225
TCU Taichung 1.27 258 *e*P **Pg 11 04 47.9 +1.0**
baz=256
WJS Zhushan 1.33 243 *e*P **Pg 11 04 48.2 0.0**
baz=234
WNT Mingjian 1.34 246 *e*P **Pg 11 04 49.1 +0.7**
baz=244
YUS Yu-Shan 1.36 227 *e*P **Pg 11 04 48.3 -0.4**
baz=227
YUS *e*S **Sg 11 05 07.6 +1.2**
baz=227
WCHH Zhanghua 1.39 256 *e*P **Pg 11 04 49.7 +0.5**
baz=255
ALS Alishan 1.44 231 *e*P **Pg 11 04 49.9 -0.4**
baz=215
CHKT Chengkung 1.45 205 *e*P **Pn 11 04 48.2 -0.4**
baz=184
CHN5 Tsauling 1.49 237 *e*P **Pg 11 04 51.1 0.0**
baz=237
CHN5 *e*S **Sg 11 05 11.6 +1.1**
baz=237
WGK Gukeng 1.53 242 *e*P **Pg 11 04 51.8 -0.1**
baz=241
ELDTW Lidau 1.54 217 *e*P **Pn 11 04 50.1 0.0**
baz=214
WDLH Douliu 1.55 242 *e*P **Pg 11 04 52.3 0.0**
baz=241
IRIF Iriomote-Funau 1.55 93 P **Pn 11 04 49.4 -0.7**
IRIF S **Sn 11 05 09.8 -0.4**
RLNB Erlin 1.62 251 *e*P **Pb 11 04 52.6 +0.2**
baz=263
HATJ Hateruma jima 1.66 102 P **Pn 11 04 49.9 -1.6**
HATJ S **Sn 11 05 13.0 +0.2**
TPUB Ta-pu 1.70 229 *e*P **Pg 11 04 55.0 -0.3**
baz=231
TPUB *e*S **Sg 11 05 18.4 +1.1**
baz=231
STYT Tauyuan 1.71 223 *e*P **Pb 11 04 53.8 -0.3**
baz=221
CHY Chiayi 1.73 238 *e*P **Pg 11 04 55.4 -0.4**
baz=223
WTP Ta-pu 1.75 228 *e*P **Pb 11 04 54.8 +0.1**
baz=229
WTP *e*S **Sg 11 05 18.6 -0.2**
baz=229
JKRS Kuro-shima 1.81 96 P **Pn 11 04 53.7 0.0**
JKRS S **Sn 11 05 16.2 -0.4**
TWGBT Beinan 1.82 209 *e*P **Pn 11 04 52.6 -1.1**
baz=192
TWG Pinlang 1.82 209 *e*P **Pn 11 04 53.3 -0.5**
baz=192
TWK Hsinying 1.82 231 *e*P **Pb 11 04 56.1 +0.1**
baz=234
TWK *e*S **Sg 11 05 22.3 +1.1**
baz=234
CHN1 Nanshi 1.85 228 *e*P **Pb 11 04 56.6 +0.3**
baz=231
CHN1 *e*S **Sg 11 05 22.2 +0.1**
baz=231
SLGT Liugui 1.91 222 *e*P **Pb 11 04 57.1 -0.2**
baz=221
JIJ Ishigaki jima 1.93 91 P **Pn 11 04 54.6 -0.6**
JIJ S **Sn 11 05 17.8 -1.6**
CHN8 Yiju 1.98 238 *e*P **Pb 11 04 59.1 +0.5**
baz=238
JISG Ishigakijimahi 2.08 85 P **Pn 11 04 56.8 -0.6**
JISG *e*S **Sn 11 05 22.1 -1.2**
SSD Sandimen 2.11 218 *e*P **Pb 11 04 59.6 -1.1**
baz=229
MASBT Mashibuluo 2.21 216 *e*P **Pn 11 05 00.3 +1.1**
baz=214
EAST Anshuo 2.31 208 *e*P **Pn 11 05 01.5 +1.0**
baz=192
PTTC Pingtan 2.31 298 *e*P **Pn 11 05 01.0 +0.5**
baz=297
VWUC VWUC 2.41 284 *e*P **Pn 11 05 01.5 -0.4**
baz=283
SCZT Fangliau 2.42 213 *e*P **Pn 11 05 03.3 +1.3**
baz=196
PHUB P'eng-hu 2.42 249 *e*P **Pn 11 05 02.3 +0.2**
baz=250
JTJ Tarama 2.44 84 P **Pn 11 05 02.8 +0.5**
JTJ S **Sn 11 05 32.4 +0.3**
MATB Ma-tsu 2.55 313 *e*P **Pn 11 05 05.5 +1.6**
baz=312
PTMZ Houxiangcun 2.72 284 *e*P **Pn 11 05 07.3 +1.2**
baz=283
LYJJ Jianjiangzhen 2.95 316 *e*P **Pn 11 05 10.1 +0.8**
baz=315
XPSS Dashiqiu 3.00 327 *e*P **Pn 11 05 09.1 -0.8**
baz=326
KNMB Chin-men Tao 3.32 271 *e*P **Pn 11 05 14.5 +0.2**
baz=271
AXDP Jialang 3.72 278 *e*P **Pn 11 05 20.4 +0.4**
baz=277

*IDC **17** 11:13:50.0±4.0, 17°.85S×178°.51W, h515km±47km, mb3.4/16, mb1 3.6/17, mb1mx3.4/38, mbtmp4.3/17, Error ellipse: s-maj=21.1km s-min=18.6km az=170.0*
*ISCJB **17** 11:13:53.9±0.7, 18°.0S±0°.1×178°.7W±0°.1, h579km, mb3.9/16, Error ellipse: s-maj=21.0km s-min=12.0km az=143.2*

ISC 17 11:13:55.1±0.8, 18°.0S±0°.2×178°.7W±0°.1, h579km, n20, σ1§12/22, mb3.8/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.56**	**251**	P	**P**	**11 16 57.9**	**-1.9**
	2.4nm,0.3s,baz=74,slow=20,SNR=14						
URZ	**Urewera**	**20.52**	**190**	P	**P**	**11 17 52.8**	**-1.4**
	4.6nm,0.5s,baz=262,slow=2.5,SNR=8.6						
CTA	**Charters Tower**	**33.19**	**261**	P	**P**	**11 19 45.3**	**+0.1**
	4.1nm,0.5s,baz=99,slow=11,SNR=15						
STKA	**Stephens Creek**	**38.37**	**241**	P	**P**	**11 20 29.6**	**+1.8**
	10nm,0.5s,baz=90,slow=10,SNR=39						
JAY	**Jayapura**	**42.69**	**286**	P	**P**	**11 21 02.0**	**-0.4**
	11nm,0.7s,baz=165,slow=8.4,SNR=4.4						
WRA	**Warramunga Arr**	**44.37**	**260**	P	**P**	**11 21 15.1**	**-0.2**
	5.3nm,0.7s,baz=93,slow=6.9,SNR=126						
WRA				PcP	**PcP**	**11 22 47.3**	**+0.8**
	0.2nm,0.4s,baz=80,slow=4.0,SNR=3.2						
ASAR	**Alice Springs**	**44.53**	**254**	P	**P**	**11 21 17.1**	**+0.6**
	54nm,0.6s,baz=88,slow=8.2,SNR=969						
ASAR				PcP	**PcP**	**11 22 47.8**	**+0.8**
	0.6nm,0.5s,baz=100,slow=4.1,SNR=2.9						
SIJI	**Sorong**	**52.01**	**283**	P	**P**	**11 22 12.7**	**+0.6**
	9.2nm,0.6s,baz=90,slow=12,SNR=4.1						
FITZ	**Fitzroy Crossi**	**52.77**	**261**	P	**P**	**11 22 18.3**	**+0.9**
	1.4nm,0.3s,baz=56,slow=5.4,SNR=15						
MJAR	**Matsushiro Arr**	**67.83**	**324**	P	**P**	**11 23 55.3**	**-1.1**
	1.3nm,0.5s,baz=168,slow=6.5,SNR=6.5						
ASAJ	**Asahikawa**	**71.24**	**332**	P	**P**	**11 24 17.3**	**+0.8**
	5.0nm,0.9s,baz=226,slow=3.4,SNR=2.9						
PETK	**Petropavlovsk-**	**73.70**	**345**	P	**P**	**11 24 29.7**	**-0.7**
	2.8nm,0.7s,baz=134,slow=6.7,SNR=5.5						
USRK	**Ussuriysk Ar.**	**76.55**	**326**	P	**P**	**11 24 48.2**	**+1.7**
	0.6nm,0.6s,baz=132,slow=46,SNR=2.5						
NVAR	**Mina Array Bea**	**79.66**	**44**	P	**P**	**11 25 03.9**	**+0.3**
	0.4nm,0.5s,baz=224,slow=7.7,SNR=4.8						
ILAR	**Eielson Array**	**86.03**	**13**	P	**P**	**11 25 32.9**	**-1.6**
	0.6nm,0.5s,baz=224,slow=5.0,SNR=13						
TXAR	**Lajitas Array**	**86.25**	**58**	P	**P**	**11 25 38.2**	**+1.6**
	0.2nm,0.7s,baz=248,slow=4.8,SNR=2.6						
PDAR	**Pinedale Array**	**87.59**	**44**	P	**P**	**11 25 42.7**	**0.0**
	0.3nm,0.5s,baz=226,slow=4.4,SNR=3.8						
YKA	**Yellowknife Ar**	**94.52**	**25**	P	**P**	**11 26 12.7**	**-1.1**
	0.2nm,0.6s,baz=248,slow=4.1,SNR=4.1						
BRTR	**Keskin Array B**	**144.67**	**315**	PKP	**PKPab**	**11 32 28.2**	**+0.1**
	0.4nm,0.4s,baz=53,slow=5.6,SNR=3.4						
GERES	**GERESS Array B**	**147.63**	**345**	PKPbc	**PKPbc**	**11 32 35.3**	**+0.1**
	0.7nm,0.5s,baz=36,slow=5.0,SNR=5.6						

*IDC **17** 11:22:17.4±1.0, 39°.1N×110°.6E, h0km, mb3.5/8, mb1 3.8/9, mb1mx3.6/33, mbtmp3.6/9, Error ellipse: s-maj=27.4km s-min=18.1km az=76.0*
*ISCJB **17** 11:22:20.5±0.9, 39°.2N±0°.0×110°.7E±0°.2, h33km, mb3.5/8, Error ellipse: s-maj=24.5km s-min=10.7km az=166.6*

ISC 17 11:22:22.7±1.0, 39°.1N±0°.1×110°.6E±0°.2, h35km, n9, σ1§17/10, mb3.5/8, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**9.22**	**342**	Pn	**Pn**	**11 24 32.7**	**-0.5**
	baz=159,slow=13,SNR=18						
SONM				Sn	**Sn**	**11 26 15.6**	**-0.1**
	0.1nm,0.3s,baz=148,slow=22,SNR=3.3						
SONM				Lg	Lg	11 27 09.3	
	0.2nm,0.3s,baz=160,slow=26,SNR=4.6						
MKAR	**Makanchi Array**	**21.98**	**300**	P	**P**	**11 27 13.0**	**-0.6**
	1.9nm,0.8s,baz=99,slow=12,SNR=17						
ZALV	**Zalesovo Beam**	**22.92**	**319**	P	**P**	**11 27 24.1**	**+0.7**
	0.5nm,0.4s,baz=133,slow=10,SNR=3.3						
CMAR	**Chiang Mai Arr**	**22.93**	**209**	P	**P**	**11 27 22.9**	**-0.9**
	3.0nm,0.7s,baz=12,slow=9.2,SNR=18						
KURBB	**Kurchatov Arra**	**25.24**	**308**	P	**P**	**11 27 45.5**	**+0.3**
	0.8nm,0.7s,baz=108,slow=10.0,SNR=4.2						
ILAR	**Eielson Array**	**60.31**	**29**	P	**P**	**11 32 25.4**	**-2.0**
	0.4nm,0.3s,baz=290,slow=8.1,SNR=14						
NOA	**NORSAR Array B**	**60.82**	**327**	P	**P**	**11 32 32.0**	**+0.9**
	0.2nm,0.4s,baz=69,slow=7.7,SNR=2.6						
ASAR	**Alice Springs**	**66.17**	**157**	P	**P**	**11 33 07.2**	**+0.5**
	0.3nm,0.7s,baz=346,slow=7.0,SNR=3.9						
YKA	**Yellowknife Ar**	**72.42**	**20**	P	**P**	**11 33 46.5**	**+1.6**
	0.1nm,0.5s,baz=320,slow=6.1,SNR=3.7						

*NIED **17** 11:58:00, 39°.10N×142°.40E, h20km, Mw3.7 Best double couple: M0=4.25000×10^14 NP1:φs=316.00000°, δ=62.00000°, λ=-157.00000°. NP2:φs=215.00000°, δ=70.00000°, λ=-30.00000°.*

JMA 17 11:58:42.0±0.1, 39°.1N×142°.3E, h33km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.56**	**265**	P	Pb	11 58 53.4	-0.2
OFUJ				S	Sb	11 59 01.1	-0.4
MIYJ	**Miyakonagasawa**	**0.63**	**315**	P	Pn	11 58 54.1	-0.5
MIYJ				S	Sb	11 59 02.4	-0.9
JKMT	**Kesennumamotoy**	**0.78**	**246**	P	Pn	11 58 56.4	-0.3
JKMT				S	Sn	11 59 06.4	-0.8
JTH	**Tanohata**	**0.90**	**333**	P	Pn	11 58 58.2	-0.2
JOM	**Ohasama**	**0.92**	**292**	P	Pn	11 58 58.8	+0.2
JOM				S	Sn	11 59 11.0	+0.4
JMK	**Ichinoseki**	**0.93**	**259**	P	Pn	11 58 58.8	+0.1
JMK				S	Sn	11 59 10.8	-0.1
JIO	**Ouri**	**1.06**	**231**	P	Pn	11 59 00.0	-0.5
JIO				S	Sn	11 59 12.6	-1.4
JKZ	**Kuzumaki**	**1.18**	**316**	P	Pn	11 59 02.9	+0.6
JKZ				S	Sn	11 59 18.0	+0.7
JRG	**Rokugo**	**1.39**	**282**	P	Pn	11 59 06.2	+1.1
JRG				S	Sb	11 59 24.8	0.0
JANG	**Nango**	**1.41**	**332**	P	Pn	11 59 06.0	+0.6

MEX 17 12:13:07.5±0.8, 16°.14N×98°.51W, h2km±6km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.44**	**56**	*i* P	Pg	12 13 15.3	-0.7
PNIG				*i* S	Sg	12 13 22.4	+0.6
VHO	**Vista Hermosa**	**1.94**	**61**	*i* P	Pn	12 13 38.1	-3.5
VHO				*i* S	Sn	12 14 01.8	-4.8

*NNC **17** 12:25:15.1±1.2, 41°.29N×71°.04E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=12.9km s-min=5.6km az=37.0*
*KRNET **17** 12:25:15.3±0.1, 41°.39N×70°.92E, h17km, mb2.4*

ISC 17 12:25:15.4±1.5, 41°.34N±0°.04×71°.00E±0°.04, h2km±12km, n18, σ1§48/30, 21C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARK	**Arkit**	**0.86**	**57**	*i*P	**Pg**	**12 25 32.0**	**+0.1**
ARK	baz=63			⇑*i*S	**Sb**	**12 25 44.9**	**-0.2**
	baz=63						
IUG	**Iuzhnay**	**1.09**	**318**	P	**Pb**	**12 25 36.0**	**-1.1**
	24nm,0.6s						
IUG				S	**Sn**	**12 25 52.6**	**-0.9**
BTK	**Batken**	**1.28**	**186**	⇓*i*P	**Pg**	**12 25 40.4**	**+0.4**
BTK	baz=83			⇓*i*S	**Sn**	**12 25 58.2**	**-0.1**
	baz=83						
ARSB	**Arslanbob**	**1.49**	**90**	⇑*i*P	**Pg**	**12 25 43.9**	**-0.1**
ARSB	baz=92			⇑*i*S	**Sg**	**12 26 04.5**	**+1.2**
	baz=92						
KK31	**Karatay Array**	**1.81**	**348**	⇑Pg	**Pb**	**12 25 48.9**	**-0.3**
	4.6nm,0.4s,baz=162,slow=15,SNR=58						
KK31				⇑Lg	Lg	12 26 15.9	
	8.1nm,0.5s,baz=167,slow=34,SNR=23						
AML	**Almayashu**	**2.17**	**68**	⇓*i*P	**Pb**	**12 25 53.7**	**-1.9**
AML	baz=69			⇓*i*S	**Sb**	**12 26 22.8**	**-0.2**
	baz=69						
MRKS	**Merke**	**2.17**	**49**	Pg	**Pb**	**12 25 54.6**	**-1.0**
	5.8nm,0.3s						
MRKS				Lg	Lg	12 26 26.3	
	8.5nm,0.2s						
SFK	**Sufi-Kurgan**	**2.31**	**124**	⇓Pg	**Pg**	**12 25 59.8**	**0.0**
SFK	0.6nm,0.4s			⇓Lg	Lg	12 26 27.2	
	4.0nm,0.5s						
SFK	**Sufi-Kurgan**	**2.31**	**124**	Pg	**Pn**	**12 25 55.0**	**+0.2**
SFK				Lg	Lg	12 26 27.1	
SFK	**Sufi-Kurgan**	**2.31**	**124**	⇑*i*P	**Pb**	**12 25 57.1**	**-0.9**
	baz=24						
SFK				⇑*i*S	**Sb**	**12 26 27.1**	**-0.1**
	baz=24						
EKS2	**Erkin-Say**	**2.46**	**56**	⇑*i*P	**Pb**	**12 25 58.4**	**-2.0**
	baz=58						
EKS2				⇑*i*S	**Sb**	**12 26 29.1**	**-2.1**
	baz=58						
ARLS	**Aral**	**2.54**	**77**	⇑*i*P	**Pb**	**12 25 59.6**	**-2.3**
	baz=78						
ARLS				⇑*i*S	**Sb**	**12 26 32.5**	**-1.2**
	baz=78						
UCH	**Uchtor**	**2.77**	**70**	⇑*i*P	**Pn**	**12 26 02.6**	**+1.3**
	baz=71						
UCH				⇑*i*S	**Sb**	**12 26 38.2**	**-2.4**
	baz=71						
AAK	**Ala-Archa**	**2.91**	**62**	⇑Pg	**Pb**	**12 26 07.3**	**-0.8**
	0.6nm,0.3s						
AAK				⇓Lg	Lg	12 26 45.9	
	2.0nm,0.5s						
AAK	**Ala-Archa**	**2.91**	**62**	⇑*i*P	**Pn**	**12 26 04.5**	**+1.6**
	baz=64						
AAK				⇑*i*S	**Sb**	**12 26 41.2**	**-3.0**
	baz=64						
USP	**Ospenovka**	**3.23**	**52**	⇑*i*P	**Pn**	**12 26 09.2**	**+1.9**
	baz=54						
USP				⇑*i*S	**Sn**	**12 26 47.3**	**+0.9**
	baz=54						
KZA	**Kyzart**	**3.27**	**75**	⇑*i*P	**Pn**	**12 26 09.9**	**+1.9**
	baz=77						
KZA				⇑*i*S	**Sn**	**12 26 49.8**	**+2.1**
	baz=77						
DGS	**Degeres**	**4.02**	**60**	Pg	**Pb**	**12 26 27.4**	**+0.4**
	2.2nm,0.6s						
DGS				Lg	Lg	12 27 22.0	
	3.4nm,0.5s						

JMA 17 12:26:55.6±0.2, 38°.05N×143°.83E, h41km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.88**	**279**	P	Pn	12 27 26.2	+1.0
JIKH				S	Sn	12 27 48.8	+1.1
OFUJ	**Ofunato**	**1.98**	**302**	P	Pn	12 27 27.8	+1.2
OFUJ				*e*S	Sn	12 27 51.5	+1.3
JIO	**Ouri**	**2.00**	**282**	P	Pn	12 27 28.1	+1.3
JIO				S	Sn	12 27 51.3	+0.8
JKMT	**Kesennumamotoy**	**2.00**	**293**	P	Pn	12 27 28.0	+1.1
JKMT				S	Sn	12 27 51.6	+0.9
JMK	**Ichinoseki**	**2.24**	**295**	S	Sn	12 27 58.8	+2.3
JOM	**Ohasama**	**2.44**	**306**	P	Pn	12 27 34.6	+1.7
JOM				*e*S	Sn	12 28 04.2	+2.7
JFT	**Otama**	**2.82**	**260**	P	Pn	12 27 40.1	+2.0
JFT				*e*S	Sn	12 28 12.8	+1.9
JYK	**Kaneyama**	**2.86**	**289**	P	Pn	12 27 40.9	+2.2
JYK				*e*S	Sn	12 28 14.7	+2.9
JANG	**Nango**	**2.94**	**323**	*e*S	Sn	12 28 13.9	+0.2
JAG	**Ashikaga**	**3.85**	**246**	P	Pn	12 27 53.9	+1.6
JAG				*e*S	Sn	12 28 37.5	+1.2
JOT	**Ohata**	**3.96**	**328**	*e*S	Sn	12 28 38.7	-0.2
JRY	**Ryogami san**	**4.43**	**244**	P	Pn	12 28 01.5	+1.1
JCH	**Churui**	**4.57**	**356**	P	Pn	12 28 02.1	-0.1
MAT	**Matsushiro**	**4.73**	**253**	P	Pn	12 28 07.6	+3.2
MAT				*e*S	Sn	12 28 59.6	+1.6

IDC 17 12:38:29.2±1.2, 2°.85S×129°.34E, h0km, mb3.9/3, mb1 4.1/6, mb1mx3.7/38, mbtmp3.9/6, ML3.6/3, Error ellipse: s-maj=41.9km s-min=22.6km az=84.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**2.75**	**45**	Pn	Pn	12 39 14.4	-0.3
	17nm,0.3s,baz=89,slow=18,SNR=116						
SIJI				Sn	Sn	12 39 44.2	-4.6
	11nm,0.3s,baz=210,slow=23,SNR=8.5						
FITZ	**Fitzroy Crossi**	**15.58**	**193**	Pn	Pn	12 42 11.9	+1.5
	0.1nm,0.3s,baz=20,slow=15,SNR=2.6						
WRA	**Warramunga Arr**	**17.68**	**164**	P	Pn	12 42 36.0	-1.1
	0.4nm,0.3s,baz=345,slow=13,SNR=19						
ASAR	**Alice Springs**	**21.16**	**168**	P	P	12 43 16.2	0.0
	7.2nm,0.7s,baz=347,slow=12,SNR=86						
ASAR				PcP	PcP	12 47 22.6	+0.1
	0.4nm,0.5s,baz=1.9,slow=1.7,SNR=9.7						
MKAR	**Makanchi Array**	**64.42**	**326**	P	P	12 49 07.4	+0.1
	0.2nm,0.5s,baz=120,slow=5.2,SNR=2.3						
KURBB	**Kurchatov Arra**	**68.65**	**328**	P	P	12 49 34.0	-0.3
	0.3nm,0.2s,baz=129,slow=6.1,SNR=2.6						

*IDC **17** 12:50:38.8±1.2, 51°.06N×98°.04E, h0km, mb3.0/1, mb1 3.3/6, mb1mx3.1/37, mbtmp3.2/6, ML2.9/5, Error ellipse: s-maj=26.3km s-min=13.0km az=177.0*
*MOS **17** 12:50:39.5±2.6, 51°.40N×98°.21E, h2km, mb4.4/1, Error ellipse: s-maj=17.9km s-min=11.8km az=175.6*
*ASRS **17** 12:50:42.7±3.2, 51°.65N×97°.88E, h15km, Ms3.3/2*

ISC 17 12:50:39.8±0.8, 51°.34N±0°.08×98°.16E±0°.04, h10km, n21, σ1§89/22, 1C-1D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORL	**Orlik**	**1.58**	**40**	⇓*i*PG	**Pn**	**12 51 06.4**	**-1.6**
ORL				*e*		12 51 26.6	
ORL				pmax	pmax		
	comp=Z,198nm,0.3s						
ORL				smax	smax		
	comp=E,625nm,0.8s						
MOY	**Mondy**	**1.80**	**78**	⇑*i*PN	**Pb**	**12 51 11.4**	**-1.5**
MOY				*e*		12 51 35.9	
MOY				pmax	pmax		
	comp=Z,218nm,0.5s						
MOY				smax	smax		
	comp=N,2μm,0.8s						
ARS	**Arshan**	**2.72**	**76**	*e*PN	**Pn**	**12 51 24.2**	**+0.6**
ARS				*e*		12 51 27.6	
ARS				pmax	pmax		
	comp=Z,135nm,0.3s						
ZAK	**Zakamensk**	**3.38**	**104**	*e*PN	**Pn**	**12 51 33.1**	**+0.4**
ZAK				*e*		12 52 25.0	
ZAK				pmax	pmax		
	comp=Z,87nm,0.4s						
ZAK				smax	smax		
	comp=N,281nm,0.4s						
TLY	**Talaya**	**3.44**	**82**	*e*PN	**Pb**	**12 51 40.2**	**-0.6**
IRK	**Irkutsk**	**3.90**	**74**	*e*PN	**Pb**	**12 51 47.7**	**-0.9**
IRK				*e*		12 52 37.2	
IRK				pmax	pmax		
	comp=Z,117nm,0.2s						
IRK				smax	smax		
	comp=N,1μm,0.5s						
LSTR	**Listvyanka**	**4.19**	**80**	*e*PN	**Pb**	**12 51 54.6**	**+1.0**
LSTR				*e*		12 52 48.2	
LSTR				pmax	pmax		
	comp=Z,30nm,0.5s						
LSTR				smax	smax		
	comp=N,338nm,0.5s						
CERR	**Cheremushki**	**4.43**	**293**	*e*Pn	**Pn**	**12 51 46.6**	**-0.4**
CERR				*e*Pg	**Pb**	**12 51 55.9**	**-1.7**
CERR				*e*Sg	**Sb**	**12 52 52.8**	**+1.8**
CERR	**Cheremushki**	**4.43**	**293**	*e*PN	**Pn**	**12 51 46.6**	**-0.4**
CERR				*e*		12 52 52.8	
SONM	**Songino Array**	**6.40**	**120**	Pn	**Pn**	**12 52 14.1**	**0.0**
	comp=N,0.4nm,0.3s,baz=306,slow=14,SNR=20						
SONM				Pg	**Pb**	**12 52 32.9**	**+1.7**
	comp=N,3.7nm,0.3s,baz=303,slow=17,SNR=70						
SONM				Sn	**Sn**	**12 53 25.5**	**-1.8**
	comp=N,1.7nm,0.3s,baz=321,slow=20,SNR=4.4						
SONM				Lg	Lg	12 54 00.9	
	comp=N,4.7nm,0.3s,baz=302,slow=28,SNR=9.8						
TASR	**Tashtagol**	**6.50**	**287**	*e*Pg	**Pb**	**12 52 33.8**	**+0.9**
TASR	**Tashtagol**	**6.50**	**287**	*e*PN	**Pb**	**12 52 33.8**	**+0.9**
ELT	**Eltsovka**	**7.56**	**289**	*e*Pg	Pg	12 52 59.4	-5.0
ELT				*e*Sg	Sb	12 54 30.3	+9.3
UKR	**Ust'-Kan**	**8.43**	**273**	*e*Sg	Sb	12 54 58.7	+13
ZALV	**Zalesovo Beam**	**8.53**	**293**	Pn	**Pn**	**12 52 43.5**	**+0.4**
	comp=N,0.2nm,0.3s,baz=98,slow=8.9,SNR=2.9						
ZALV				Lg	Lg	12 54 57.4	
	comp=N,0.5nm,0.3s,baz=111,slow=28,SNR=5.3						
NVS	**Novosibirsk**	**9.64**	**297**	*e*Sg	Sn	12 55 31.8	+45
MKAR	**Makanchi Array**	**11.36**	**253**	Pn	**Pn**	**12 53 20.8**	**-1.2**
	comp=N,0.1nm,0.3s,baz=73,slow=13,SNR=4.4						
MKAR				Sn	**Sn**	**12 55 22.7**	**-6.2**
	comp=N,0.2nm,0.3s,baz=65,slow=18,SNR=4.5						
MKAR				Lg	Lg	12 56 32.9	
	comp=N,0.2nm,0.3s,baz=62,slow=34,SNR=6.3						
KURBB	**Kurchatov Arra**	**12.39**	**274**	Lg	Lg	12 57 04.3	
	comp=N,0.1nm,0.3s,baz=78,slow=32,SNR=3.6						
BVAR	**Borovoye Array**	**17.08**	**287**	P	**Pn**	**12 54 38.6**	**+0.2**
	comp=N,0.1nm,0.3s,baz=94,slow=15,SNR=3.7						
AAK	**Ala-Archa**	**18.28**	**251**	P	**Pn**	**12 54 52.6**	**-0.9**
	comp=N,0.1nm,0.3s,baz=51,slow=5.8,SNR=3.9						
YKA	**Yellowknife Ar**	**63.59**	**16**	P	**P**	**13 01 12.4**	**+2.3**
	comp=N,0.1nm,0.5s,baz=339,slow=6.6,SNR=2.8						

MAN 17 12:52:11.9, 10.09N×126.24E, h16km, mb4.6, ML3.4, MS3.3, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.80**	**247**	⇑*iP*	Pb	12 52 27.2	-0.4
SCPH				*i* S	Sg	12 52 38.2	0.0
BUTP	**Butuan**	**1.27**	**209**	*eP*	Pn	12 52 32.4	-2.7
BUTP				*eS*	Sn	12 52 52.5	+0.6
MSLP	**Maasin**	**1.36**	**272**	*eP*	Pn	12 52 35.7	-0.6
MSLP				*eS*	Sb	12 52 54.2	0.0
BESP	**Borongan**	**1.69**	**332**	*eP*	Pn	12 52 40.4	-0.5
BESP				*eS*	Sn	12 53 03.0	+0.8
BUKP	**Musuan**	**2.49**	**208**	*eP*	Pn	12 52 52.8	+0.9
BUKP				*eS*	Sb	12 53 25.5	-1.3

IDC 17 13:12:14.2±2.7, 6.62S×129.87E, h147km±37km, mb3.2/1, mb1 3.1/5, mb1mx3.0/40, mbtmp3.5/5, Error ellipse: s-maj=70.1km s-min=20.3km az=89.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.88**	**14**	P	Pn	13 13 39.5	+0.2
	0.7nm,0.3s,baz=249,slow=21,SNR=14						
SIJI				S	Sn	13 14 41.3	-4.6
	0.4nm,0.3s,baz=173,slow=22,SNR=5.6						
FITZ	**Fitzroy Crossi**	**12.13**	**199**	P	Pn	13 15 02.5	+0.1
	0.1nm,0.3s,baz=25,slow=12,SNR=7.3						
FITZ				S	Sn	13 17 09.6	-7.0
	0.2nm,0.3s,baz=164,slow=3.3,SNR=5.7						
WRA	**Warramunga Arr**	**13.94**	**162**	P	Pn	13 15 24.0	-1.6
	0.1nm,0.3s,baz=345,slow=13,SNR=5.0						
WRA				S	Sn	13 17 52.8	-7.3
	0.2nm,0.3s,baz=337,slow=22,SNR=6.0						
ASAR	**Alice Springs**	**17.39**	**168**	P	Pn	13 16 08.4	+0.3
	0.1nm,0.3s,baz=341,slow=10,SNR=8.1						
ASAR				S	S	13 19 16.8	-4.1
	0.0nm,0.3s,baz=358,slow=27,SNR=3.2						
MKAR	**Makanchi Array**	**67.83**	**327**	P	P	13 22 56.5	-0.1
	0.3nm,0.4s,baz=115,slow=8.1,SNR=7.8						

IGQ ***17*** *13:12:42.0±0.7, 1°S±3°×8°1W±°, h10km, M4.8/19, MLv4.8/19*

IDC ***17*** *13:12:44.6±0.7, 0.49S×80.14W, h0km, mb3.8/14, mb1 4.0/21, mb1mx4.0/50, mbtmp3.9/21, ML3.7/6, MS3.4/6, Ms1 3.4/6, ms1mx3.0/39, Error ellipse: s-maj=23.2km s-min=13.7km az=59.0*

NEIC ***17*** *13:12:49.9±0.7, 0.62S×80.20W, h37km±7km, mb4.4/7, Error ellipse: s-maj=8.3km s-min=6.1km az=66.0*

NEIC Felt [III] at Manta and [II] at Bahia de Caraquez. Also felt at Charapoto, Jaramijo and Portoviejo.

ISC 17 13:12:42.6±1.6, 1.06S±0.04×80.66W±0.05, h3km±10km, n148, σ1.69/152, mb4.0/18, MS3.5/5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAG1	**Magdalena**	**1.33**	**42**	P	Pn	13 13 05.8	-2.2
MAG1	**Magdalena**	**1.33**	**42**	P	Pn	13 13 05.9	-2.2
MORR	**Playas El Morr**	**1.60**	**168**	P	Pg	13 13 13.2	-0.2
MORR	**Playas El Morr**	**1.60**	**168**	P	Pg	13 13 13.7	+0.4
MILO	**Milagro-Astudi**	**1.64**	**137**	P	Pn	13 13 10.8	-1.5
MILO				S	Sn	13 13 31.0	-2.9
MILO	**Milagro-Astudi**	**1.64**	**137**	P	Pn	13 13 10.9	-1.4
MILO				S	Sn	13 13 30.8	-3.1
COHC	**Cochancay**	**1.98**	**135**	P	Pn	13 13 16.7	-0.4
COHC				S	Sn	13 13 41.0	-1.4
COHC	**Cochancay**	**1.98**	**135**	P	Pn	13 13 16.7	-0.4
COHC				S	Sn	13 13 41.0	-1.4
NINA	**Atacazo Ninahu**	**2.15**	**72**	P	Pn	13 13 18.3	-1.6
NINA	**Atacazo Ninahu**	**2.15**	**72**	P	Pn	13 13 18.3	-1.6
BIL2	**Estacion Bilba**	**2.20**	**100**	P	Pn	13 13 20.7	+0.5
BIL2	**Estacion Bilba**	**2.20**	**100**	P	Pn	13 13 21.4	+1.2
BIL2				S	Sb	13 13 50.3	-0.5
JUI6	**Juive**	**2.22**	**99**	P	Pn	13 13 21.6	+1.0
JUI6	**Juive**	**2.22**	**99**	P	Pn	13 13 21.8	+1.2
NAS2	**Nasa**	**2.23**	**79**	P	Pn	13 13 21.3	+0.3
NAS2	**Nasa**	**2.23**	**79**	P	Pn	13 13 21.3	+0.3
NAS2				S	Sn	13 13 49.8	+0.5
POND	**Pondoa**	**2.24**	**99**	P	Pn	13 13 20.9	+0.1
POND	**Pondoa**	**2.24**	**99**	P	Pn	13 13 21.0	+0.1
POND				S	Sg	13 13 56.6	+1.9
GGPC	**Guagua Pichinc**	**2.25**	**67**	P	Pn	13 13 19.0	-2.1
GGPC				S	Sb	13 13 52.1	-0.5
GGPC	**Guagua Pichinc**	**2.25**	**67**	P	Pn	13 13 19.2	-1.9
GGPC				S	Sb	13 13 52.1	-0.5
RETU	**Refugio**	**2.25**	**100**	P	Pb	13 13 23.4	-0.8
RETU	**Refugio**	**2.25**	**100**	P	Pb	13 13 23.1	-1.1
ARRY	**Arrayan**	**2.25**	**101**	P	Pn	13 13 21.1	0.0
ARRY	**Arrayan**	**2.25**	**101**	P	Pn	13 13 21.1	0.0
RUN5	**Runtun**	**2.27**	**99**	P	Pb	13 13 23.6	-0.7
RUN5	**Runtun**	**2.27**	**99**	P	Pb	13 13 22.8	+1.5
PAT1	**Patacocha**	**2.27**	**101**	P	Pn	13 13 23.5	-1.0
PAT1	**Patacocha**	**2.27**	**101**	P	Pn	13 13 23.1	+1.7
PISA	**Pisayambo**	**2.28**	**90**	P	Pn	13 13 22.3	+0.7
PISA	**Pisayambo**	**2.28**	**90**	P	Pn	13 13 22.3	+0.7
PITA	**Cotopaxi Volc**	**2.29**	**77**	P	Pn	13 13 21.2	-0.5
PITA	**Cotopaxi Volc**	**2.29**	**77**	P	Pn	13 13 21.2	-0.5
PAC1	**Pacto, Paraso**	**2.29**	**55**	P	Pn	13 13 18.4	-3.0
PAC1	**Pacto, Paraso**	**2.29**	**55**	P	Pn	13 13 19.6	-1.8
PAC1				S	Sb	13 13 53.4	0.0
YANA	**Yana**	**2.29**	**66**	P	Pn	13 13 19.4	-2.3
YANA	**Yana**	**2.29**	**66**	P	Pn	13 13 20.3	-1.5
ANTG	**Antisana-Guama**	**2.47**	**77**	P	Pn	13 13 24.0	-0.3
ANTG	**Antisana-Guama**	**2.47**	**77**	P	Pn	13 13 24.1	-0.3
ANTG				S	Sb	13 13 58.4	-0.7
ANTM	**Antisana-La Mi**	**2.50**	**78**	P	Pn	13 13 24.1	-0.5
ANTM	**Antisana-La Mi**	**2.50**	**78**	P	Pn	13 13 24.4	-0.2
ANTM				S	Sb	13 14 00.2	+0.4
OTAV	**Otavalo**	**2.56**	**60**	*e*Pn	Pn	13 13 27.2	-2.2
OTAV				*e*Sn	Sn	13 13 43.4	-1.4
CUSE	**Cuicocha Este**	**2.64**	**59**	P	Pn	13 13 25.2	-1.3
CUSE	**Cuicocha Este**	**2.64**	**59**	P	Pn	13 13 25.5	-1.0
CUSE				S	Sn	13 14 00.4	+1.2
CUIC	**Cuicocha-Domo**	**2.67**	**59**	P	Pn	13 13 25.1	-1.8
CUIC	**Cuicocha-Domo**	**2.67**	**59**	P	Pn	13 13 25.6	-1.3
COTA	**Cotacachi**	**2.71**	**59**	P	Pn	13 13 27.1	-0.5
COTA	**Cotacachi**	**2.71**	**59**	P	Pn	13 13 27.2	-0.3
IMBA	**Imbabura, San**	**2.80**	**62**	P	Pn	13 13 28.7	0.0
IMBA	**Imbabura, San**	**2.80**	**62**	P	Pn	13 13 28.8	0.0
URCU	**Urcuqui**	**2.83**	**58**	P	Pn	13 13 28.4	-0.7
URCU	**Urcuqui**	**2.83**	**58**	P	Pn	13 13 28.6	-0.5
ARDO	**Archidona, Ten**	**2.86**	**89**	P	Pn	13 13 32.0	+2.7
ARDO				S	Sn	13 14 07.0	+2.7
ARDO	**Archidona, Ten**	**2.86**	**89**	P	Pn	13 13 31.9	+2.7
ARDO				S	Sn	13 14 07.0	+2.7
CAYA	**Cayambe**	**2.90**	**67**	P	Pn	13 13 30.4	+0.3
CAYA	**Cayambe**	**2.90**	**67**	P	Pn	13 13 31.1	+0.9
YAHU	**Yahuarcocha**	**2.96**	**61**	P	Pn	13 13 30.6	-0.2
YAHU	**Yahuarcocha**	**2.96**	**61**	P	Pn	13 13 31.0	+0.1
TUMC	**Tumaco**	**3.46**	**34**	*e*P	Pn	13 13 36.8	-0.6
TUMC	**Tumaco**	**3.46**	**34**	*e*P	Pn	13 13 36.8	-0.6
TUMC	**Tumaco**	**3.46**	**34**	*e*P	Pn	13 13 36.8	-0.6
CMBC	**Cumbal**	**3.47**	**55**	*e*P	Pn	13 13 40.3	+2.4
CMBC	**Cumbal**	**3.47**	**55**	*e*P	Pn	13 13 40.3	+2.4
CMBC	**Cumbal**	**3.47**	**55**	*e*P	Pn	13 13 40.3	+2.4
GCUF	**Volcan Galeras**	**4.02**	**56**	*e*P	Pn	13 13 47.6	+2.1
GCUF	**Volcan Galeras**	**4.02**	**56**	*e*P	Pn	13 13 47.6	+2.1
GCUF	**Volcan Galeras**	**4.02**	**56**	*e*P	Pn	13 13 47.6	+2.1
CRUC	**La Cruz**	**4.54**	**55**	*e*P	Pn	13 13 54.5	+1.9
CRUC	**La Cruz**	**4.54**	**55**	*e*P	Pn	13 13 54.5	+1.9
CRUC	**La Cruz**	**4.54**	**55**	*e*P	Pn	13 13 54.5	+1.9
POPC	**Popayan, Colom**	**5.36**	**48**	*e*P	Pn	13 14 03.5	-0.3
POPC	**Popayan, Colom**	**5.36**	**48**	*e*P	Pn	13 14 03.5	-0.3
POPC	**Popayan, Colom**	**5.36**	**48**	*e*P	Pn	13 14 03.5	-0.3
FLOC	**Florencia**	**5.66**	**62**	*e*P	Pn	13 14 07.9	+0.2
FLOC	**Florencia**	**5.66**	**62**	*e*P	Pn	13 14 07.9	+0.2
FLOC	**Florencia**	**5.66**	**62**	*e*P	Pn	13 14 07.9	+0.2
PTLC	**Puerto Leguiza**	**5.99**	**78**	*e*P	Pn	13 14 13.4	+1.2
PTLC	**Puerto Leguiza**	**5.99**	**78**	*e*P	Pn	13 14 13.4	+1.2
PTLC	**Puerto Leguiza**	**5.99**	**78**	*e*P	Pn	13 14 13.4	+1.2
MALC	**Bahia Malaga**	**6.04**	**33**	*e*P	Pn	13 14 15.3	+2.4
MALC	**Bahia Malaga**	**6.04**	**33**	*e*P	Pn	13 14 15.3	+2.4
MALC	**Bahia Malaga**	**6.04**	**33**	*e*P	Pn	13 14 15.3	+2.4
ATAH	**Atahualpa**	**6.44**	**160**	Pn	Pn	13 14 26.0	+7.2
	1.1nm,0.3s,baz=350,slow=12,SNR=7.0						
ATAH				Sn	**Sb**	**13 15 49.2**	**-4.0**
	1.1nm,0.3s,baz=342,slow=20,SNR=3.0						
YOTC	**Yotoco, Valle**	**6.62**	**41**	*e*P	**Pn**	**13 14 18.4**	**-2.5**
YOTC	**Yotoco, Valle**	**6.62**	**41**	*e*P	**Pn**	**13 14 18.4**	**-2.5**
YOTC	**Yotoco, Valle**	**6.62**	**41**	*e*P	**Pn**	**13 14 18.4**	**-2.5**
ANIL	**Santa Ana**	**7.62**	**44**	*e*P	**Pn**	**13 14 36.5**	**+1.6**
ANIL	**Santa Ana**	**7.62**	**44**	*e*P	**Pn**	**13 14 36.5**	**+1.6**
ANIL	**Santa Ana**	**7.62**	**44**	*e*P	**Pn**	**13 14 36.5**	**+1.6**
RREF	**El Recreo**	**7.96**	**42**	*e*P	**Pn**	**13 14 41.1**	**+1.3**
RREF	**El Recreo**	**7.96**	**42**	*e*P	**Pn**	**13 14 41.1**	**+1.3**
RREF	**El Recreo**	**7.96**	**42**	*e*P	**Pn**	**13 14 41.1**	**+1.3**
ROSC	**El Rosal**	**8.63**	**47**	Pn	Pn	13 14 42.5	-6.3
	0.4nm,0.3s,baz=114,slow=23,SNR=1.7						
ROSC	**El Rosal**	**8.63**	**47**	*e*Pn	Pn	13 14 44.0	-4.8
ROSC	**El Rosal**	**8.63**	**47**	*e*P	**Pn**	**13 14 52.2**	**+3.4**
ROSC	**El Rosal**	**8.63**	**47**	*e*P	**Pn**	**13 14 52.2**	**+3.4**
ROSC	**El Rosal**	**8.63**	**47**	*e*P	**Pn**	**13 14 52.2**	**+3.4**
VILC	**Villavicencio,**	**8.66**	**54**	*e*P	**Pn**	**13 14 47.5**	**-1.5**
VILC	**Villavicencio,**	**8.66**	**54**	*e*P	**Pn**	**13 14 47.5**	**-1.5**
VILC	**Villavicencio,**	**8.66**	**54**	*e*P	**Pn**	**13 14 47.5**	**-1.5**
CHIC	**Chingaza**	**8.94**	**51**	*e*P	**Pn**	**13 14 52.0**	**-1.1**
CHIC	**Chingaza**	**8.94**	**51**	*e*P	**Pn**	**13 14 52.0**	**-1.1**
CHIC	**Chingaza**	**8.94**	**51**	*e*P	**Pn**	**13 14 52.0**	**-1.1**
PAYG	**Puerto Ayora**	**9.63**	**272**	*e*Pn	Pn	13 15 10.8	+8.6
PTBC	**PUERTO BERRIO,**	**9.77**	**39**	*e*P	**Pn**	**13 15 02.3**	**-1.8**
PTBC	**PUERTO BERRIO,**	**9.77**	**39**	*e*P	**Pn**	**13 15 02.3**	**-1.8**
PTBC	**PUERTO BERRIO,**	**9.77**	**39**	*e*P	**Pn**	**13 15 02.3**	**-1.8**
NNA	**Nana**	**11.50**	**161**	Pn	Pn	13 15 35.8	+8.0
	2.6nm,0.3s,baz=355,slow=11,SNR=4.6						
NNA				LR	LR	13 20 28.5	
	comp=Z,48nm,20.4s,baz=348,slow=39						
NNA	**Nana**	**11.50**	**161**	*e*Pn	Pn	13 15 36.2	+8.4
JTS	**JuntasAbangare**	**12.06**	**339**	Pn	**Pn**	**13 15 34.4**	**-1.1**
	0.3nm,0.3s,baz=150,slow=14,SNR=1.8						
JTS	**JuntasAbangare**	**12.06**	**339**	*e*Pn	**Pn**	**13 15 36.7**	**+1.2**
SDV	**Santo Domingo**	**14.06**	**45**	Pn	Pn	13 15 54.2	-8.7
	0.5nm,0.3s,baz=353,slow=10,SNR=2.3						
SDV	**Santo Domingo**	**14.06**	**45**	*e*Pn	Pn	13 15 57.7	-5.2
MTDJ	**Mount Denham**	**19.41**	**9**	*eP*	**P**	**13 17 06.8**	**-3.4**
	66nm,1.2s						
PCRV	**Puerto La Cruz**	**19.47**	**55**	P	**P**	**13 17 06.0**	**-4.8**
	0.6nm,0.3s,baz=1.3,slow=23,SNR=1.6						
LPAZ	**La Paz**	**19.53**	**141**	P	**Pn**	**13 17 16.8**	**+3.5**
	0.1nm,0.3s,baz=328,slow=13,SNR=5.5						
LPAZ	**La Paz**	**19.53**	**141**	*eP*	**Pn**	**13 17 15.6**	**+2.3**
	4.8nm,0.8s						
PTGA	**Pitinga**	**20.70**	**89**	P	**P**	**13 17 21.5**	**-2.6**
	0.9nm,0.3s,baz=151,slow=8.9,SNR=2.0						
MNMC	**Minye Minye**	**20.98**	**150**	*eP*	Pn	13 17 31.1	+1.1
	15nm,0.5s						
TEIG	**Tepich**	**22.43**	**341**	*eP*	**P**	**13 17 44.0**	**+1.3**
	179nm,2.0s						
SIV	**San Ignacio**	**24.36**	**129**	P	**P**	**13 18 03.1**	**+1.0**
	0.7nm,0.6s,baz=312,slow=12,SNR=2.0						
BDFB	**Brasilia**	**35.31**	**116**	LR	LR	13 36 31.8	
	comp=Z,70nm,19.9s,baz=277,slow=41						
TXAR	**Lajitas Array**	**37.38**	**326**	P	**P**	**13 19 58.5**	**+1.6**
	0.2nm,0.8s,baz=155,slow=8.8,SNR=2.3						
TXAR				PcP	**PcP**	**13 22 16.2**	**+0.1**
	0.4nm,0.8s,baz=161,slow=5.7,SNR=4.5						
PLCA	**Paso Flores**	**40.54**	**168**	P	P	13 20 29.3	+6.1
	1.9nm,0.9s,baz=4.9,slow=9.4,SNR=3.6						
PLCA				LR	LR	13 34 30.5	
	comp=Z,45nm,19.1s,baz=354,slow=32						
ANMO	**Albuquerque**	**43.20**	**329**	P	**P**	**13 20 45.4**	**+0.2**
	1.4nm,0.6s,baz=147,slow=12						
ANMO	**Albuquerque**	**43.20**	**329**	*eP*	**P**	**13 20 46.2**	**+1.0**
	2.1nm,0.8s						
SDCO	**Great Sand Dun**	**44.92**	**332**	*eP*	**P**	**13 21 01.1**	**+1.9**
	2.1nm,0.7s						
PDAR	**Pinedale Array**	**50.79**	**333**	P	**P**	**13 21 45.3**	**+0.8**
	0.3nm,0.7s,baz=131,slow=9.7,SNR=2.4						
NV01	**Mina Array Sit**	**52.38**	**323**	*eP*	**P**	**13 21 59.4**	**+2.9**
NVAR	**Mina Array Bea**	**52.38**	**323**	P	**P**	**13 21 58.2**	**+1.8**
	0.3nm,0.6s,baz=116,slow=10,SNR=3.1						
ULM	**Lac du Bonnet**	**52.75**	**348**	P	**P**	**13 21 58.1**	**-0.6**
	0.8nm,0.4s,baz=156,slow=8.1,SNR=5.7						
USHA	**Ushuaia**	**54.52**	**171**	LR	LR	13 43 42.3	
	comp=Z,44nm,18.5s,baz=257,slow=34						
SCHQ	**Schefferville**	**56.86**	**10**	P	**P**	**13 22 27.0**	**-1.5**
	4.3nm,1.0s,baz=206,slow=4.4,SNR=2.4						
FCC	**Fort Churchill**	**60.59**	**352**	*eP*	**P**	**13 22 53.6**	**-0.7**
	4.9nm,0.9s						
YKA	**Yellowknife Ar**	**68.36**	**344**	P	**P**	**13 23 44.8**	**-0.3**
	1.0nm,0.9s,baz=133,slow=6.4,SNR=16						
LIC	**Lamto**	**75.84**	**83**	*eP*	**P**	**13 24 30.6**	**-0.4**
	26nm,1.0s						
TIC	**Toumodi**	**75.87**	**83**	*eP*	**P**	**13 24 32.6**	**+1.5**
DBIC	**Dimbokro**	**76.03**	**83**	P	**P**	**13 24 31.9**	**-0.2**
	4.4nm,0.7s,baz=234,slow=4.5,SNR=5.5						
RES	**Resolute Bay**	**76.13**	**356**	P	**P**	**13 24 30.7**	**-0.6**
	0.3nm,0.3s,baz=194,slow=13,SNR=3.5						
KIC	**Kosan Boka**	**76.13**	**83**	*eP*	**P**	**13 24 32.4**	**-0.2**
	23nm,0.8s						
RAR	**Rarotonga**	**79.46**	**249**	LR	LR	13 51 46.0	
	comp=Z,68nm,21.3s,baz=332,slow=29						
ILAR	**Eielson Array**	**81.02**	**337**	P	**P**	**13 24 58.9**	**+0.4**
	0.2nm,0.8s,baz=116,slow=6.1,SNR=3.7						
TOA0	**Torodi Ar. Sit**	**82.80**	**77**	*eP*	**P**	**13 25 07.4**	**-1.6**
TORD	**Torodi Ar. Bea**	**82.80**	**77**	P	**P**	**13 25 06.8**	**-2.1**
	0.8nm,1.0s,baz=268,slow=4.3,SNR=4.7						
TORD				LR	LR	13 58 56.9	
	comp=Z,25nm,21.5s,baz=305,slow=34						
KSH	**Kashi**	**136.19**	**26**	PKP	**PKPdf**	**13 32 06.0**	**-0.1**
ASAR	**Alice Springs**	**138.38**	**232**	PKP	**PKiKP**	**13 32 15.0**	**+2.4**
	0.5nm,0.9s,baz=113,slow=2.5,SNR=4.3						
HHC	**Hu-ho-hao-te**	**138.88**	**346**	*e*P	**PKPdf**	**13 32 11.3**	**+0.3**
WRA	**Warramunga Arr**	**139.84**	**237**	PKP	**PKiKP**	**13 32 17.9**	**+2.3**
	0.7nm,0.9s,baz=101,slow=2.1,SNR=4.7						
FITZ	**Fitzroy Crossi**	**147.87**	**232**	PKPbc	**PKPab**	**13 32 35.9**	**+3.3**
	4.5nm,0.9s,baz=135,slow=5.7,SNR=5.4						

HLW 17 13:13:06.3, 34.40N×27.69E, h32km±19km, Md3.5, Ml3.5, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLUM	**Salum**	**3.57**	**216**	P	Pn	13 13 59.1	-0.4
	baz=217						
SLUM				AMP		13 14 00.0	
	baz=217						
SWA2		**5.48**	**201**	P	Pn	13 14 26.0	+0.3
	baz=201						
SWA2				AMP		13 15 00.0	
	baz=201						
SWA2				S	Sn	13 15 23.8	-3.9
	baz=201						
RSH		**6.13**	**122**	P	Pn	13 14 35.1	+0.4
	baz=122						
HNKL	**Nakhl**	**6.95**	**128**	P	Pn	13 14 46.1	+0.2
	baz=128						
HFRF	**Wahat Farafira**	**7.24**	**176**	P	Pn	13 14 50.5	+0.5
	baz=175						

IDC ***17*** *13:21:48.3±1.0, 43.62N×16.39E, h0km, mb3.8/9, mb1 3.9/16, mb1mx3.7/59, mbtmp3.8/16, ML3.6/7, Error ellipse: s-maj=19.7km s-min=13.5km az=40.0*

ZAG ***17*** *13:21:49.4±0.0, 43.71N×16.48E, h0km*

NEIC ***17*** *13:21:49.9±1.1, 43.62N×16.38E, h9km±9km, ML4.0(ZAG), ML4.1(PDG), Error ellipse: s-maj=6.5km s-min=3.6km az=192.0*

NEIC Felt at Split.

PDG ***17*** *13:21:50.0±0.5, 43.65N×16.47E, h0km±11km, MD4.1/5, ML4.1/9, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*

SAR ***17*** *13:21:50.5±0.4, 43.63N×16.39E, h4km±2km, ML4.0/1*

BEO ***17*** *13:21:50.8±0.4, 43.66N×16.42E, h0km, ML3.9/15*

PRU ***17*** *13:21:51.3±0.0, 43.53N×16.33E, h19km*

LDG ***17*** *13:21:52.3±0.1, 43.81N×16.48E, h10km, Ml4.1/16, Error ellipse: s-maj=4.1km s-min=2.2km az=17.0*

ROM ***17*** *13:21:53.0, 43.78N×16.55E, h5km, ML4.2*

ISC 17 13:21:50.5±1.1, 43.65N±0.02×16.38E±0.02, h17km±7km, n207, σ2.25/346, mb3.9/9, 29C-13D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDBI	**Udbina**	**0.99**	**334**	*i* Pg	**Pb**	**13 22 08.2**	**-1.0**
UDBI				Sg	**Sb**	**13 22 22.3**	**+0.3**
STON	**Ston**	**1.24**	**128**	*e*Pn	**Pn**	**13 22 11.9**	**-1.1**
STON				Sn	**Sg**	**13 22 30.8**	**+0.2**
STON	**Ston**	**1.24**	**128**	*e*Pg	**Pn**	**13 22 12.0**	**-1.0**
STON				Sg	**Sg**	**13 22 30.1**	**-0.5**
BLY	**Banja Luka**	**1.25**	**27**	*e*Pg	**Pn**	**13 22 12.9**	**-0.3**
BLY				*e*Sg	**Sg**	**13 22 31.4**	**+0.5**
BLY	**Banja Luka**	**1.25**	**27**	⇑*iP*	**Pn**	**13 22 13.2**	**0.0**
BLY				S	**Sb**	**13 22 29.6**	**+0.2**
BLY	**Banja Luka**	**1.25**	**27**	⇓*i*Pg	**Pn**	**13 22 12.7**	**-0.5**
BLY				*e*Sg	**Sg**	**13 22 30.9**	**0.0**
NVLJ	**Novalja**	**1.42**	**311**	*i* Pn	**Pn**	**13 22 15.7**	**+0.1**
NVLJ				Sn	**Sg**	**13 22 37.3**	**+0.8**
DOB	**Doboj**	**1.65**	**48**	⇑*i*Pn	**Pn**	**13 22 19.3**	**+0.6**
TREB	**Trebinje**	**1.71**	**122**	*e*Pn	**Pb**	**13 22 20.9**	**-0.7**
TREB				*e*Sn	**Sg**	**13 22 44.7**	**-1.1**
TREB	**Trebinje**	**1.71**	**122**	⇑*iP*n	**Pn**	**13 22 20.3**	**+0.7**
TREB				*e*Sn	**Sb**	**13 22 43.1**	**+0.3**
BRY	**Bratogost**	**1.74**	**114**	⇓*i*Pn	**Pn**	**13 22 21.0**	**+0.8**
BRY				*e*Sn	**Sg**	**13 22 46.9**	**+0.1**
BRY	**Bratogost**	**1.74**	**114**	⇓P	**Pb**	**13 22 21.8**	**-0.4**
BRY				S	**Sg**	**13 22 47.1**	**+0.4**
BRY	**Bratogost**	**1.74**	**114**	⇑*i*Pn	**Pn**	**13 22 21.2**	**+1.0**
BRY				*e*Sn	**Sb**	**13 22 44.3**	**+0.5**
HAPS	**Han Pijesak,Bl**	**1.91**	**76**	*e*Pn	**Pn**	**13 22 23.3**	**+0.9**
HAPS				*e*Sn	**Sb**	**13 22 48.6**	**-0.1**
HAPS	**Han Pijesak,Bl**	**1.91**	**76**	⇓*i*Pn	**Pn**	**13 22 23.0**	**+0.6**
HAPS				*e*Sn	**Sn**	**13 22 47.8**	**+1.6**
HCY	**Herceg Novi**	**1.96**	**127**	⇓*i*Pn	**Pn**	**13 22 24.5**	**+1.5**
HCY				*e*Sn	**Sg**	**13 22 52.0**	**-1.6**
HCY	**Herceg Novi**	**1.96**	**127**	⇑P	**Pn**	**13 22 24.2**	**+1.2**
HCY				S	**Sg**	**13 22 52.6**	**-1.0**
HCY	**Herceg Novi**	**1.96**	**127**	⇑*i*Pn	**Pn**	**13 22 23.8**	**+0.8**
HCY				*e*Sn	**Sb**	**13 22 49.5**	**-0.4**
BOJS	**Bojanci**	**2.02**	**337**	*i* Pn	**Pb**	**13 22 26.3**	**-0.6**
BOJS				*i* Sn	**Sb**	**13 22 53.4**	**+1.6**
OZLJ	**Ozalj**	**2.08**	**342**	*i* Pn	**Pb**	**13 22 26.8**	**-0.9**
OZLJ				Sn	**Sb**	**13 22 53.7**	**+0.6**
NKME	**Niksic**	**2.08**	**114**	⇑*i*Pn	**Pb**	**13 22 26.6**	**-1.2**
NKME				*e*Sn	**Sb**	**13 22 54.8**	**+1.5**
NKY	**Niksic**	**2.08**	**113**	⇑*i*Pn	**Pb**	**13 22 26.9**	**-1.1**
NKY				*e*Sn	**Sb**	**13 22 55.0**	**+1.4**
RIY	**Rijeka**	**2.16**	**322**	*e*Pn	**Pb**	**13 22 29.4**	**+0.2**
RIY				Sn	**Sb**	**13 22 57.2**	**+1.6**
CEME	**Cevo**	**2.16**	**120**	⇓*i*Pn	**Pb**	**13 22 27.8**	**-1.4**
CEME				*e*Sn	**Sb**	**13 22 56.8**	**+1.1**
BBLS	**Lazići**	**2.20**	**83**	*e*Pn	**Pn**	**13 22 28.1**	**+1.7**
BBLS				*e*Sn	**Sn**	**13 22 55.4**	**+2.1**
BBLS	**Lazići**	**2.20**	**83**	*e*Pn	**Pn**	**13 22 28.2**	**+1.8**
BBLS				*e*Sn	**Sn**	**13 22 55.4**	**+2.1**
PLE	**Pljevlja**	**2.21**	**97**	⇑*i*Pn	**Pb**	**13 22 28.9**	**-1.3**
PLE				*e*Sn	**Sb**	**13 22 58.1**	**+0.8**
CRES	**Cresnjev**	**2.28**	**344**	*e*Pn	**Pn**	**13 22 29.2**	**+1.8**
CRES				*e*Sn	**Sb**	**13 22 57.5**	**-1.6**
PTJ	**Puntijarka**	**2.28**	**353**	*e*Pn	**Pn**	**13 22 28.4**	**+1.0**
PTJ

ABTA					Sg		Sg	13 24 04.6	+1.3
	175nm,0.6s								
BZS	**Buzias**	**4.23**	**60**	*e*Pn			**Pn**	**13 22 55.1**	**+1.0**
BZS	**Buzias**	**4.23**	**60**	⇑*i*P			**Pn**	**13 22 56.3**	**+2.2**
BZS	**Buzias**	**4.23**	**60**	S			**Sn**	**13 23 44.0**	**+0.9**
ZAGS	**Zajecar**	**4.25**	**86**	*e*Pn			**Pn**	**13 22 56.6**	**+2.2**
KRUS	**Krusevo**	**4.26**	**121**	*i* Pn			**Pn**	**13 22 56.9**	**+2.2**
CONA	**Conrad Observa**	**4.30**	**355**	*e*Pn			**Pn**	**13 22 56.7**	**+1.5**
	11nm,0.2s,SNR=12								
CONA					*e*Sn		**Sn**	**13 23 46.7**	**+1.7**
	31nm,0.3s								
SRO	**Srobarova**	**4.38**	**17**	*e*PN			**Pn**	**13 22 57.7**	**+1.4**
SRO					*e*SN		**Sn**	**13 23 47.6**	**+0.7**
MOA	**Molln**	**4.46**	**341**	*i* Pn			**Pn**	**13 23 00.1**	**+2.7**
	68nm,0.3s,SNR=50								
MOA					*i* Sn		**Sn**	**13 23 51.1**	**+2.3**
	29nm,0.3s								
TIP	**Timpagrande**	**4.47**	**176**	⇑*i*P			**Pn**	**13 22 59.7**	**+2.1**
HERR	**Herculane**	**4.51**	**72**	⇑*i*P			**Pn**	**13 22 59.3**	**+1.3**
HERR	**Herculane**	**4.51**	**72**	S			**Sn**	**13 23 49.7**	**-0.3**
ZAPS	**Zavoj**	**4.57**	**93**	*e*Pn			**Pn**	**13 23 00.7**	**+1.8**
ZAPS					*e*Sn		**Sn**	**13 23 52.9**	**+1.3**
SIRR	**Siria**	**4.57**	**53**	⇓*i*P			**Pn**	**13 23 00.5**	**+1.6**
MODS	**Modra-Piesok**	**4.77**	**7**	*e*PN			**Pn**	**13 23 02.3**	**+0.7**
MODS					*e*SN		**Sn**	**13 23 57.0**	**+0.5**
GZR	**Gura Zlata**	**4.90**	**67**	⇑*i*P			**Pn**	**13 23 05.0**	**+1.6**
GZR	**Gura Zlata**	**4.90**	**67**	S			**Sn**	**13 24 00.8**	**+1.1**
WTTA	**Wattenberg**	**4.92**	**319**	*e*Pn			**Pn**	**13 23 06.6**	**+2.7**
	20nm,0.3s								
WTTA					*e*Sn		**Sn**	**13 24 05.6**	**+5.2**
	23nm,0.5s								
PSZ	**Piszkesteto**	**4.93**	**29**	⇑*i*P			**Pn**	**13 23 04.4**	**+0.5**
PSZ	**Piszkesteto**	**4.93**	**29**	S			**Sn**	**13 23 59.6**	**-0.9**
PSZ	**Piszkesteto**	**4.93**	**29**	*e*Pn			**Pn**	**13 23 04.1**	**+0.2**
PSZ					*e*Sn		**Sn**	**13 24 00.1**	**-0.4**
WATA	**Walderalm**	**5.00**	**319**	*i* Pn			**Pn**	**13 23 07.7**	**+2.7**
	13nm,0.2s,SNR=11								
WATA					*e*Sn		**Sn**	**13 24 09.0**	**+6.6**
	8.0nm,0.2s								
SRE	**Strehaia**	**5.02**	**76**	⇑*i*P			**Pn**	**13 23 07.6**	**+2.6**
SQTA	**Sankt Quirin**	**5.10**	**316**	*i* Pn			**Pn**	**13 23 08.9**	**+2.7**
	22nm,0.4s,SNR=9.5								
VTS	**Vitosha**	**5.11**	**100**	*e*Pn			**Pn**	**13 23 08.0**	**+1.6**
VTS					*e*Sn		**Sn**	**13 24 05.3**	**+0.2**
VTS	**Vitosha**	**5.11**	**100**	⇑*i*P			**Pn**	**13 23 08.9**	**+2.5**
VTS	**Vitosha**	**5.11**	**100**	S			**Sn**	**13 24 08.7**	**+3.6**
VYHS	**Vyhne**	**5.14**	**19**	*e*PN			**Pn**	**13 23 08.1**	**+1.4**
VYHS					*e*SN		**Sn**	**13 24 06.0**	**+0.3**
FETA	**Feichten**	**5.22**	**312**	*e*Pn			**Pn**	**13 23 09.8**	**+1.8**
	7.0nm,0.4s								
FETA					Sg		**Sg**	**13 24 36.1**	**-2.0**
	64nm,0.7s								
MOTA	**Moosalm**	**5.24**	**317**	*i* Pn			**Pn**	**13 23 11.7**	**+3.5**
	29nm,0.6s,SNR=22								
JAVC	**Velka Javorina**	**5.29**	**9**	*e*PN			**Pn**	**13 23 10.4**	**+1.6**
JAVC					*e*SN		**Sn**	**13 24 11.6**	**+2.2**
KRUC	**Moravsky**	**5.42**	**0**	*e*PN			**Pn**	**13 23 11.3**	**+0.8**
KRUC					*e*SN		**Sn**	**13 24 12.2**	**-0.2**
DRGR		**5.47**	**53**	⇑*i*P			**Pn**	**13 23 13.6**	**+2.3**
RETA	**Reutte**	**5.50**	**316**	*e*Pn			**Pn**	**13 23 14.6**	**+2.8**
	5.3nm,0.5s								
RETA					*i* Sn		**Sn**	**13 24 20.3**	**+5.7**
	21nm,0.6s								
RETA					*i* Sg		**Sg**	**13 24 51.3**	**+4.1**
	60nm,0.5s								
PGF	**Pioggiola**	**5.51**	**261**	*e*Pn			**Pn**	**13 23 17.8**	**+1.8**
PGF					*e*Sn		**Sn**	**13 24 12.6**	**-2.4**
PGF	**Pioggiola**	**5.51**	**261**	*e*Pn			**Pn**	**13 23 13.7**	**+1.8**
PGF					*e*Sn		**Sn**	**13 24 12.6**	**-2.4**
GERES	**GERESS Array B**	**5.52**	**341**	Pn			**Pn**	**13 23 13.0**	**+1.0**
	7.3nm,0.3s,baz=158,slow=13,SNR=66								
GERES					Sn		**Sn**	**13 24 15.7**	**+0.6**
	12nm,0.3s,baz=149,slow=23,SNR=11								
DAVOX	**Davos/Dischmat**	**5.56**	**307**	Pn			**Pn**	**13 23 13.8**	**+1.2**
	3.9nm,0.3s,baz=121,slow=20,SNR=23								
DAVOX					Sn		**Sn**	**13 24 18.1**	**+1.9**
	0.9nm,0.3s,baz=129,slow=22,SNR=2.2								
VRAC	**Vranov**	**5.67**	**1**	Pn			**Pn**	**13 23 15.3**	**+1.3**
	1.8nm,0.3s,baz=178,slow=16,SNR=5.2								
VRAC					Sn		**Sn**	**13 24 17.8**	**-0.8**
	1.6nm,0.3s,baz=177,slow=5.6,SNR=3.1								
VRAC	**Vranov**	**5.67**	**1**	⇑*i*P			**Pn**	**13 23 13.4**	**-0.5**
VRAC	**Vranov**	**5.67**	**1**	S			**Sn**	**13 24 16.5**	**-2.1**
VRAC	**Vranov**	**5.67**	**1**	*e*PN			**Pn**	**13 23 15.0**	**+1.1**
VRAC					*e*SN		**Sn**	**13 24 17.7**	**-0.8**
KHC	**Kasperske Hory**	**5.82**	**342**	*e*PN			**Pn**	**13 23 17.4**	**+1.4**
KHC					*e*SN		**Sn**	**13 24 22.4**	**0.0**
DAVA	**Damuels**	**5.84**	**311**	*i* Pn			**Pn**	**13 23 19.0**	**+2.5**
DAVA					*e*Sn		**Sn**	**13 24 30.8**	**+7.7**
	25nm,0.5s								
DAVA					Sg		**Sg**	**13 25 00.9**	**+2.9**
	66nm,0.8s								
LANS	**Liptovska Anna**	**5.91**	**20**	*e*PN			**Pn**	**13 23 20.6**	**+3.3**
ARR	**Arges**	**6.15**	**71**	⇑*i*P			**Pn**	**13 23 24.7**	**+4.1**
ARR	**Arges**	**6.15**	**71**	S			**Sn**	**13 24 35.7**	**+5.1**
MORC	**Moravsky Berou**	**6.19**	**7**	⇑*i*P			**Pn**	**13 23 24.1**	**+3.0**
MORC	**Moravsky Berou**	**6.19**	**7**	S			**Sn**	**13 24 29.4**	**-2.0**
MORC	**Moravsky Berou**	**6.19**	**7**	*e*PN			**Pn**	**13 23 23.6**	**+2.5**
MORC					*e*SN		**Sn**	**13 24 32.3**	**+0.9**
TRPA	**Tarpa**	**6.21**	**42**	⇓*i*P			**Pn**	**13 23 23.2**	**+1.8**
TRPA	**Tarpa**	**6.21**	**42**	S			**Sn**	**13 24 30.5**	**-1.5**
KRLC	**Kraliky**	**6.44**	**2**	*e*SN			**Sn**	**13 24 38.2**	**+0.6**
VOIR		**6.45**	**71**	⇑*i*P			**Pn**	**13 23 28.8**	**+4.0**
PRU	**Pruhonice**	**6.47**	**349**	*e*PN			**Pn**	**13 23 26.2**	**+1.3**
PRU					*e*SN		**Sn**	**13 24 38.7**	**+0.4**
SBF	**Sospel**	**6.48**	**275**	*e*Pn			**Pn**	**13 23 26.4**	**+1.2**
SBF					*e*Sn		**Sn**	**13 24 36.9**	**-1.8**
	18nm,0.3s								
SBF	**Sospel**	**6.48**	**275**	*e*Pn			**Pn**	**13 23 26.4**	**+1.2**
SBF					*e*Sn		**Sn**	**13 24 36.9**	**-1.8**
DPC	**Dobruska-Polom**	**6.71**	**360**	*e*SN			**Sn**	**13 24 43.2**	**-1.1**
MBDF	**Montbardon**	**6.99**	**282**	*e*Pn			**Pn**	**13 23 32.5**	**+0.2**
MBDF					*e*Sn		**Sn**	**13 24 48.9**	**-2.5**
	15nm,0.3s								
MBDF	**Montbardon**	**6.99**	**282**	*e*Pn			**Pn**	**13 23 32.5**	**+0.2**
MBDF					*e*Sn		**Sn**	**13 24 48.9**	**-2.5**
FRF	**La Foret Royal**	**7.07**	**273**	*e*Pn			**Pn**	**13 23 34.2**	**+1.1**
FRF					*e*Sn		**Sn**	**13 24 51.3**	**-1.7**
	27nm,0.6s								
FRF	**La Foret Royal**	**7.07**	**273**	*e*Pn			**Pn**	**13 23 34.2**	**+1.1**
FRF					*e*Sn		**Sn**	**13 24 51.3**	**-1.7**
MLR	**Muntele Rosu**	**7.08**	**72**	Pn			**Pn**	**13 23 35.5**	**+2.1**
	0.2nm,0.3s,baz=315,slow=16,SNR=4.7								
MLR					Sn		**Sn**	**13 24 54.7**	**+1.2**
	0.3nm,0.3s,baz=273,slow=13,SNR=2.3								
MLR	**Muntele Rosu**	**7.08**	**72**	⇑*i*P			**Pn**	**13 23 34.6**	**+1.2**
LPG	**La Plagne**	**7.12**	**288**	*e*Sn			**Sn**	**13 24 51.9**	**-2.9**
	45nm,0.5s								
LPG	**La Plagne**	**7.12**	**288**	*e*Sn			**Sn**	**13 24 51.9**	**-2.9**
LPL	**La Plagne**	**7.14**	**289**	*e*Pn			**Pn**	**13 23 35.4**	**+1.1**
LPL					*e*Sn		**Sn**	**13 24 52.2**	**-2.9**
	64nm,0.4s								
LPL	**La Plagne**	**7.14**	**289**	*e*Pn			**Pn**	**13 23 35.4**	**+1.1**
LPL					*e*Sn		**Sn**	**13 24 52.2**	**-2.9**
LMR	**La Mourre**	**7.18**	**271**	*e*Pn			**Pn**	**13 23 35.7**	**+0.9**
LMR					*e*Sn		**Sn**	**13 24 53.6**	**-2.3**
LMR	**La Mourre**	**7.18**	**271**	*e*Pn			**Pn**	**13 23 35.7**	**+0.9**
LMR					*e*Sn		**Sn**	**13 24 53.6**	**-2.3**
BURAR	**Bucovina Array**	**7.36**	**54**	⇓*i*P			**Pn**	**13 23 39.0**	**+1.8**
BRG	**Berggiesshubel**	**7.42**	**348**	PB			**Pn**	**13 23 39.4**	**+1.4**
BRG					PG		Pb	13 23 52.0	-6.7
BRG					SN		Sn	13 24 40.9	-21
BRG					SG		**Sb**	**13 25 30.5**	**+3.7**
	12nm,0.8s								
ORIF	**Oris-en-Rattie**	**7.64**	**283**	*e*Pn			**Pn**	**13 23 41.9**	**+0.8**
ORIF					*e*Sn		**Sn**	**13 25 04.6**	**-2.7**
	25nm,0.4s								
ORIF	**Oris-en-Rattie**	**7.64**	**283**	*e*Pn			**Pn**	**13 23 41.9**	**+0.8**
ORIF					*e*Sn		**Sn**	**13 25 04.6**	**-2.7**
SMRF	**Simiane la Rot**	**7.82**	**276**	*e*Pn			**Pn**	**13 23 43.4**	**-0.2**
SMRF					*e*Sn		**Sn**	**13 25 09.8**	**-1.9**
SMRF	**Simiane la Rot**	**7.82**	**276**	*e*Pn			**Pn**	**13 23 43.4**	**-0.2**
SMRF					*e*Sn		**Sn**	**13 25 09.8**	**-1.9**
CABF	**La Chapelle**	**7.86**	**296**	*e*Pn			**Pn**	**13 23 44.3**	**+0.2**
CABF					*e*Sn		**Sn**	**13 25 09.4**	**-3.2**
CABF	**La Chapelle**	**7.86**	**296**	*e*Pn			**Pn**	**13 23 44.3**	**+0.2**
CABF					*e*Sn		**Sn**	**13 25 09.4**	**-3.2**
HINF	**Hinteralfeld**	**7.86**	**305**	*e*Pn			**Pn**	**13 23 44.6**	**+0.5**
HINF					*e*Sn		**Sn**	**13 25 08.0**	**-4.6**
	18nm,0.5s								
HINF	**Hinteralfeld**	**7.86**	**305**	*e*Pn			**Pn**	**13 23 44.6**	**+0.5**
HINF					*e*Sn		**Sn**	**13 25 08.0**	**-4.6**
CDF	**Champ du Feu**	**7.92**	**310**	*e*Pn			**Pn**	**13 23 44.9**	**-0.1**
CDF					*e*Sn		**Sn**	**13 25 08.4**	**-5.9**
CDF	**Champ du Feu**	**7.92**	**310**	*e*Pn			**Pn**	**13 23 44.9**	**-0.1**
CDF					*e*Sn		**Sn**	**13 25 08.4**	**-5.9**
CLL	**Collm**	**8.00**	**345**	*e*Pn			Pn	13 23 51.0	+5.1
CLL					*e*Sn		**Sn**	**13 25 14.0**	**-1.9**
CLL					*e*Sg			13 26 04.0	
	comp=Z,34nm,1.0s								
HAU	**Haudompre**	**8.25**	**305**	*e*Pn			**Pn**	**13 23 49.2**	**-0.2**
HAU					*e*Sn		**Sn**	**13 25 17.2**	**-4.9**
	comp=Z,26nm,0.5s								
HAU	**Haudompre**	**8.25**	**305**	*e*Pn			**Pn**	**13 23 49.2**	**-0.2**
HAU					*e*Sn		**Sn**	**13 25 17.2**	**-4.9**
VIVF	**Saint-Julien-l**	**8.49**	**282**	*e*Pn			**Pn**	**13 23 51.7**	**-1.0**
VIVF					*e*Sn		**Sn**	**13 25 24.9**	**-3.2**
	comp=Z,7.5nm,0.4s								
VIVF	**Saint-Julien-l**	**8.49**	**282**	*e*Pn			**Pn**	**13 23 51.7**	**-1.0**
VIVF					*e*Sn		**Sn**	**13 25 24.9**	**-3.2**
PAGF	**Fort de Pagny**	**8.88**	**307**	*e*Pn			**Pn**	**13 23 58.5**	**+0.5**
PAGF					*e*Sn		**Sn**	**13 25 31.2**	**-6.4**
PAGF	**Fort de Pagny**	**8.88**	**307**	*e*Pn			**Pn**	**13 23 58.5**	**+0.5**
PAGF					*e*Sn		**Sn**	**13 25 31.2**	**-6.4**
LASF	**Ste Croix**	**9.06**	**277**	*e*Pn			**Pn**	**13 24 01.5**	**+1.0**
LASF	**Ste Croix**	**9.06**	**277**	*e*Pn			**Pn**	**13 24 01.5**	**+1.0**
SMF	**Signal de Mont**	**9.35**	**293**	*e*Pn			**Pn**	**13 24 04.0**	**-0.5**
SMF					*e*Sn		**Sn**	**13 25 43.7**	**-5.6**
	comp=Z,14nm,0.4s								
SMF	**Signal de Mont**	**9.35**	**293**	*e*Pn			**Pn**	**13 24 04.0**	**-0.5**
SMF					*e*Sn		**Sn**	**13 25 43.7**	**-5.6**
AVF	**Avril sur Loir**	**9.71**	**293**	*e*Pn			**Pn**	**13 24 09.6**	**+0.2**
AVF					*e*Sn		**Sn**	**13 25 52.1**	**-6.0**
	comp=Z,21nm,1.0s								
AVF	**Avril sur Loir**	**9.71**	**293**	*e*Pn			**Pn**	**13 24 09.6**	**+0.2**
AVF					*e*Sn		**Sn**	**13 25 52.1**	**-6.0**
BGF	**Bois d'Agland**	**10.00**	**292**	*e*Pn			**Pn**	**13 24 13.7**	**+0.3**
BGF					*e*Sn		**Sn**	**13 25 57.7**	**-7.5**
	comp=Z,19nm,0.5s								
BGF	**Bois d'Agland**	**10.00**	**292**	*e*Pn			**Pn**	**13 24 13.7**	**+0.3**
BGF					*e*Sn		**Sn**	**13 25 57.7**	**-7.5**
MTLF	**Montolieu**	**10.30**	**273**	*e*Pn			**Pn**	**13 24 17.4**	**0.0**
MTLF					*e*Sn		**Sn**	**13 26 08.9**	**-3.5**
MTLF	**Montolieu**	**10.30**	**273**	*e*Pn			**Pn**	**13 24 17.4**	**0.0**
MTLF					*e*Sn		**Sn**	**13 26 08.9**	**-3.5**
HYF	**Humbligny**	**10.31**	**295**	*e*Pn			**Pn**	**13 24 17.2**	**-0.4**
HYF	**Humbligny**	**10.31**	**295**	*e*Pn			**Pn**	**13 24 17.2**	**-0.4**
CAF	**Calviac**	**10.35**	**282**	*e*Pn			**Pn**	**13 24 18.7**	**+0.6**
CAF					*e*Sn		**Sn**	**13 26 08.7**	**-5.0**
CAF	**Calviac**	**10.35**	**282**	*e*Pn			**Pn**	**13 24 18.7**	**+0.6**
CAF					*e*Sn		**Sn**	**13 26 08.7**	**-5.0**
TCF	**Toulx Ste Croi**	**10.38**	**290**	*e*Pn			**Pn**	**13 24 19.1**	**+0.5**
TCF					*e*Sn		**Sn**	**13 26 09.8**	**-4.8**
	comp=Z,8.5nm,0.5s								
TCF	**Toulx Ste Croi**	**10.38**	**290**	*e*Pn			**Pn**	**13 24 19.1**	**+0.5**
TCF					*e*Sn		**Sn**	**13 26 09.8**	**-4.8**
RJF	**Les Rejaudoux**	**10.75**	**284**	*e*Pn			**Pn**	**13 24 24.1**	**+0.4**
RJF					*e*Sn		**Sn**	**13 26 18.6**	**-5.0**
RJF	**Les Rejaudoux**	**10.75**	**284**	*e*Pn			**Pn**	**13 24 24.1**	**+0.4**
RJF					*e*Sn		**Sn**	**13 26 18.6**	**-5.0**
HFS	**Hagfors**	**16.59**	**355**	Pn			**P**	**13 25 43.8**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=172,slow=12,SNR=6.6								
NB2	**NORSAR Subarra**	**17.70**	**352**	P			**P**	**13 25 56.9**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=169,slow=11								
NOA	**NORSAR Array B**	**17.70**	**352**	P			**P**	**13 25 57.0**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=166,slow=11,SNR=3.9								
FINES	**FINESS Array B**	**18.74**	**15**	P			**Pn**	**13 26 08.7**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=186,slow=9.8,SNR=9.8								
GEYT	**Ailbeck**	**31.86**	**86**	P			**P**	**13 28 15.5**	**+0.8**
	comp=Z,1.6nm,0.5s,baz=279,slow=10,SNR=3.0								
TORD	**Torodi Ar. Bea**	**32.91**	**207**	P			**P**	**13 28 25.0**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=16,slow=10,SNR=4.4								
ZALV	**Zalesovo Beam**	**44.57**	**52**	P			**P**	**13 30 00.5**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=287,slow=8.4,SNR=5.1								
MKAR	**Makanchi Array**	**45.31**	**62**	P			**P**	**13 30 07.1**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=292,slow=6.4,SNR=8.8								
MKAR				PcP			**PcP**	**13 31 46.6**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=287,slow=2.8,SNR=2.9								
SONM	**Songino Array**	**59.46**	**51**	P			**P**	**13 31 52.4**	**0.0**
	comp=Z,0.5nm,0.6s,baz=288,slow=9.7,SNR=5.1								
INK	**Inuvik**	**66.11**	**348**	P			**P**	**13 32 37.1**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=353,slow=5.1,SNR=3.5								
YKA	**Yellowknife Ar**	**67.17**	**338**	P			**P**	**13 32 43.3**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=35,slow=5.8,SNR=7.2								
ILAR	**Eielson Array**	**71.13**	**353**	P			**P**	**13 33 08.3**	**+0.7**
	comp=Z,0.4nm,0.9s,baz=10,slow=5.5,SNR=2.9								
CMAR	**Chiang Mai Arr**	**72.21**	**81**	P			**P**	**13 33 14.9**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=303,slow=7.2,SNR=5.4								

*SJA **17** 13:37:06.7±0.7,24.°36S×67.°20W,h193km±9km, ML2.7, MW3.2*
*ISCJB **17** 13:37:07.4±0.4,24.°26S±0.°04×67.°25W±0.°04,h182km±5km, mb3.5/3,Error ellipse: s-maj=7.5km s-min=4.6km az=27.9*
*IDC **17** 13:37:08.1±1.4,24.°21S×67.°08W,h168km±15km,mb3.4/3, mb1 3.4/9,mb1mx3.2/48,mbtmp3.8/9,Error ellipse: s-maj=19.0km s-min=18.1km az=122.0*
*GUC **17** 13:37:09.2±0.6,24.°25S×67.°55W,h187km±15km,ML4.0*

ISC 17 13:37:08.0±0.8,24.°26S±0.°05×67.°24W±0.°05,h178km±7km, n36,σ1°11/48,mb3.6/3,3C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.65**	**107**	*e*P			**Pn**	**13 37 41.7**	**+0.3**
SLA				IAML				13 37 42.5	
	comp=Z,57nm,0.6s								
SLA				*e*S			**Sn**	**13 38 07.1**	**-0.2**
AZAP	**Zapla**	**1.98**	**89**	*e*P			**Pn**	**13 37 45.0**	**0.0**
AZAP				IAML				13 37 47.9	
	comp=Z,14nm,0.3s								
AZAP				*e*S			**Sn**	**13 38 13.6**	**-0.1**
FSA	**Cafayete**	**2.17**	**148**	*e*P			**Pn**	**13 37 46.5**	**-0.5**
FSA				IAML				13 37 46.7	
	comp=Z,28nm,0.4s								
LVC	**Limon Verde**	**2.25**	**317**	P			**Pn**	**13 37 49.4**	**+1.3**
	comp=Z,31nm,0.3s,baz=131,slow=7.2,SNR=150								
LVC				S			**Sn**	**13 38 19.5**	**+0.3**
	comp=Z,73nm,0.3s,baz=108,slow=20,SNR=51								
LVC	**Limon Verde**	**2.25**	**317**	*e*P			**Pn**	**13 37 49.5**	**+1.4**
LVC				IAML				13 38 23.4	
	comp=Z,91nm,0.4s								
GO02	**Mina Guanaco**	**2.32**	**247**	⇑*i*P			**Pn**	**13 37 48.8**	**0.0**
GO02				*e*S			**Sn**	**13 38 19.6**	**-0.9**
GO02				IAML				13 38 20.4	
	comp=N,524nm,0.3s								
YJA	**Yavi**	**2.61**	**38**	*e*P			**Pn**	**13 37 53.9**	**+1.5**
YJA				IAML				13 38 35.2	
	comp=Z,6.7nm,0.7s								
PB06	**IPOC Station P**	**2.64**	**305**	*e*P			**Pn**	**13 37 53.7**	**+1.2**
PB06	**IPOC Station P**	**2.64**	**305**	⇑*i*P			**Pn**	**13 37 53.3**	**+0.8**
PB06				*e*S			**Sn**	**13 38 26.4**	**-0.7**
PB06				IAML				13 38 28.8	
	comp=E,655nm,0.3s								
PB14	**IPOC Station P**	**2.91**	**262**	*e*P			**Pn**	**13 37 55.8**	**0.0**
ALOL	**LOMAS DE OLMED**	**3.01**	**82**	*e*P			**Pn**	**13 37 56.4**	**-0.3**
PB05	**IPOC Station P**	**3.06**	**297**	*e*P			**Pn**	**13 37 58.1**	**+0.6**
PB05	**IPOC Station P**	**3.06**	**297**	*e*P			**Pn**	**13 37 57.8**	**+0.3**
PB05				*i* S			**Sn**	**13 38 33.9**	**-2.1**
PB05				IAML				13 38 40.1	
	comp=N,238nm,0.4s								
PB09	**IPOC Station P**	**3.07**	**323**	*e*P			**Pn**	**13 37 59.2**	**+1.6**
PB09	**IPOC Station P**	**3.07**	**323**	⇑*i*P			**Pn**	**13 37 58.8**	**+1.1**
PB09				*e*S			**Sn**	**13 38 36.7**	**+0.4**
PB09				IAML				13 38 42.5	
	comp=N,150nm,0.3s								
PB10	**IPOC Station P**	**3.12**	**283**	*e*P			**Pn**	**13 37 59.0**	**+0.8**
PB10	**IPOC Station P**	**3.12**	**283**	*e*P			**Pn**	**13 37 58.5**	**+0.3**
PB10				*i* S			**Sn**	**13 38 34.8**	**-2.4**
PB10				IAML				13 38 43.1	
	comp=N,221nm,0.4s								
PB03	**IPOC Station P**	**3.19**	**313**	*e*P			**Pn**	**13 38 00.1**	**+0.9**
PB03	**IPOC Station P**	**3.19**	**313**	*e*P			**Pn**	**13 37 59.8**	**+0.7**
PB03				*e*S			**Sn**	**13 38 38.2**	**-0.8**
PB03				IAML				13 38 40.6	
	comp=E,288nm,0.2s								
PB04	**IPOC Station P**	**3.29**	**305**	*e*P			**Pn**	**13 38 01.0**	**+0.6**
PB04	**IPOC Station P**	**3.29**	**305**	*e*P			**Pn**	**13 38 00.8**	**+0.4**
PB04				*e*S			**Sn**	**13 38 39.5**	**-1.7**
PB04				IAML				13 38 46.6	
	comp=N,332nm,0.5s								
PB07	**IPOC Station P**	**3.51**	**315**	*e*P			**Pn**	**13 38 03.8**	**+0.7**
PB07	**IPOC Station P**	**3.51**	**315**	*e*P			**Pn**	**13 38 03.6**	**+0.6**
PB07				*i* S			**Sn**	**13 38 44.5**	**-1.5**
PB08	**IPOC Station P**	**4.47**	**336**	*e*P			**Pn**	**13 38 16.5**	**+1.0**
PB11	**IPOC Station P**	**5.01**	**333**	*e*P			**Pn**	**13 38 21.8**	**-0.5**
PB12	**IPOC Station P**	**6.31**	**332**	*e*P			**Pn**	**13 38 38.1**	**-1.1**
LPAZ	**La Paz**	**7.98**	**354**	P			**Pn**	**13 39 02.7**	**+1.0**
	comp=N,2.0nm,0.3s,baz=153,slow=5.7,SNR=30								
LPAZ					S		**Sn**	**13 40 28.6**	**-2.9**
	baz=333,slow=23,SNR=2.8								
CPUP	**Villa Florida**	**9.20**	**105**	P			**Pn**	**13 39 15.3**	**-1.8**
	comp=N,0.0nm,0.3s,baz=297,slow=14,SNR=1.6								
SIV	**San Ignacio**	**10.06**	**36**	P			**Pn**	**13 39 26.9**	**-1.6**
	comp=N,0.4nm,0.3s,baz=228,slow=13,SNR=14								
PLCA	**Paso Flores**	**16.66**	**189**	P			**Pn**	**13 40 51.9**	**+0.6**
	comp=N,0.1nm,0.3s,baz=21,slow=8.6,SNR=3.4								
BDFB	**Brasilia**	**19.98**	**68**	P			**P**	**13 41 26.9**	**-0.2**
	comp=N,0.4nm,0.3s,baz=242,slow=7.5,SNR=3.5								
QSPA	**South Pole Qui**	**65.94**	**180**	P			**P**	**13 47 36.0**	**+1.3**
	comp=N,0.5nm,0.5s,baz=205,slow=1.5,SNR=8.8								
TORD	**Torodi Ar. Bea**	**76.86**	**69**	P			**P**	**13 48 40.6**	**-0.2**
	comp=N,0.7nm,0.5s,baz=255,slow=5.7,SNR=9.5								
YKA	**Yellowknife Ar**	**94.29**	**340**	P			**P**	**13 50 07.4**	**+1.0**
	comp=N,0.1nm,0.4s,baz=130,slow=4.6,SNR=4.7								
ZALV	**Zalesovo Beam**	**143.72**	**28**	PKP			**PKPdf**	**13 56 21.1**	**-0.2**
	comp=N,0.5nm,0.4s,baz=0.0,slow=0.6,SNR=3.1								
MKAR	**Makanchi Array**	**146.86**	**40**	PKPbc			**PKPab**	**13 56 30.7**	**-0.3**
	comp=N,1.1nm,0.6s,baz=308,slow=3.2

	2.6nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**4.71**	**298**	P		**Pn**	**13 46 48.3**	**+0.5**
	2.9nm,0.4s,SNR=20							
EMIN				S		**Sn**	**13 47 40.6**	**-1.8**
	3.0nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**4.72**	**9**	P		**Pn**	**13 46 50.5**	**+2.5**
	6.3nm,0.5s,SNR=7.1							
EMOS				S		**Sn**	**13 47 42.8**	**-0.1**
	2.0nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**5.22**	**292**	P		**Pn**	**13 46 56.0**	**+1.1**
	4.2nm,0.3s,SNR=22							
EGRO				S		**Sn**	**13 47 52.2**	**-2.8**
	5.8nm,0.2s,SNR=7.9							
ETOS	**Mallorca**	**5.26**	**38**	P		**Pn**	**13 46 56.2**	**+0.8**
	1.4nm,0.1s,SNR=7.9							
ETOS				S		**Sn**	**13 47 54.3**	**-1.7**
	4.5nm,0.2s,SNR=7.9							
PVAQ	**Vaqueiros**	**5.36**	**290**	*e*Pn		**Pn**	**13 46 57.4**	**+0.7**
PVAQ				*e*Sn		**Sn**	**13 47 57.0**	**-1.4**
PVAQ				A		A	13 47 59.1	
	6.6nm,0.9s							
GUD	**Guadarrama**	**5.39**	**337**	P		**Pn**	**13 46 60.0**	**+2.6**
	1.4nm,0.3s,SNR=7.8							
GUD				S		**Sn**	**13 47 59.0**	**-0.4**
	2.6nm,0.3s,SNR=7.9							
EBAD	**Badajoz**	**5.42**	**306**	P		**Pn**	**13 46 59.3**	**+1.8**
	2.3nm,0.3s,SNR=6.1							
EBAD				S		**Sn**	**13 47 57.7**	**-2.1**
	14nm,0.2s,SNR=143							
ERTA	**Horta de San J**	**5.43**	**14**	P		**Pn**	**13 47 00.6**	**+2.9**
	3.9nm,0.3s,SNR=7.9							
ERTA				S		**Sn**	**13 47 59.5**	**-0.6**
	3.8nm,0.2s,SNR=7.9							
PBDV	**Barranco-do-Ve**	**5.48**	**288**	*e*Pn		**Pn**	**13 46 59.0**	**+0.6**
PBDV				*e*Sn		**Sn**	**13 48 00.9**	**-0.6**
PBDV				A		A	13 48 03.2	
	6.3nm,0.5s							
PBEJ	**Beja**	**5.68**	**296**	*e*Pn		**Pn**	**13 47 03.5**	**+2.4**
EPLA	**Plasencia**	**5.72**	**321**	P		**Pn**	**13 47 03.3**	**+1.6**
	1.5nm,0.3s,SNR=6.4							
EPLA				S		**Sn**	**13 48 05.4**	**-1.9**
	5.1nm,0.4s,SNR=7.9							
PESTR	**Estremoz**	**5.86**	**305**	*e*Pn		**Pn**	**13 47 04.7**	**+1.1**
PESTR				*e*Sn		**Sn**	**13 48 10.1**	**-0.7**
MESJ	**Messejana**	**5.87**	**293**	*e*P		**Pn**	**13 47 04.4**	**+0.6**
MESJ	**Messejana**	**5.87**	**293**	*e*Pn		**Pn**	**13 47 04.7**	**+0.9**
MESJ				*e*Sn		**Sn**	**13 48 10.9**	**-0.2**
MESJ				A		A	13 48 14.6	
	5.7nm,0.3s							
EPOB	**Poblet**	**5.97**	**18**	P		**Pn**	**13 47 06.8**	**+1.6**
	1.0nm,0.4s,SNR=7.9							
EPOB				S		**Sn**	**13 48 11.9**	**-1.8**
	7.5nm,0.4s,SNR=7.9							
MORF	**Marmelete**	**6.05**	**288**	*e*P		**Pn**	**13 47 06.5**	**+0.1**
MORF	**Marmelete**	**6.05**	**288**	*e*Pn		**Pn**	**13 47 06.9**	**+0.6**
MORF				*e*Sn		**Sn**	**13 48 13.5**	**-2.1**
MORF				A		A	13 48 20.7	
	6.4nm,0.5s							
PFVI	**Vila Bisbo**	**6.15**	**286**	*e*Pn		**Pn**	**13 47 07.9**	**+0.3**
PFVI				*e*Sn		**Sn**	**13 48 15.5**	**-2.5**
PFVI				A		A	13 48 39.1	
	11nm,0.7s							
PFVI	**Vila Bisbo**	**6.15**	**286**	P		**Pn**	**13 47 07.5**	**-0.2**
	0.8nm,0.1s,SNR=7.9							
PFVI				S		**Sn**	**13 48 15.1**	**-2.9**
	9.3nm,0.4s,SNR=7.9							
PTEO	**Sao Teotonio**	**6.17**	**290**	*e*Pn		**Pn**	**13 47 09.2**	**+1.4**
PTEO				*e*Sn		**Sn**	**13 48 16.5**	**-1.8**
PNCL	**Nicolau / Gran**	**6.20**	**295**	*e*Pn		**Pn**	**13 47 09.2**	**+1.0**
PNCL				*e*Sn		**Sn**	**13 48 17.3**	**-1.7**
PNCL				A		A	13 48 25.6	
	4.0nm,0.7s							
PCBR	**Castelo Branco**	**6.34**	**313**	*e*Pn		**Pn**	**13 47 12.2**	**+2.0**
PCBR				*e*Sn		**Sn**	**13 48 22.4**	**-0.2**
PCBR				A		A	13 48 23.1	
	5.5nm,0.3s							
PMTG	**Montargil**	**6.39**	**304**	*e*Pn		**Pn**	**13 47 12.1**	**+1.2**
PMTG				*e*Sn		**Sn**	**13 48 21.5**	**-2.3**
PMTG				A		A	13 48 22.1	
	5.1nm,0.5s							
CFON	**Fontmartina**	**6.76**	**25**	P		**Pn**	**13 47 17.6**	**+1.5**
	7.5nm,0.2s,SNR=17							
CFON				S		**Sn**	**13 48 29.5**	**-3.5**
	8.6nm,0.3s,SNR=7.9							
CSOR	**Sort**	**6.96**	**16**	P		**Pn**	**13 47 21.9**	**+3.1**
	1.0nm,0.3s,SNR=7.9							
CSOR				S		**Sn**	**13 48 36.9**	**-1.0**
	1.8nm,0.3s,SNR=7.9							
MVO	**Moncorvo**	**7.02**	**323**	*e*Pn		**Pn**	**13 47 22.7**	**+3.1**
MVO				*e*Sn		**Sn**	**13 48 38.6**	**-0.8**
MVO				A		A	13 48 42.4	
	4.2nm,0.4s							
MVO	**Moncorvo**	**7.02**	**323**	P		**Pn**	**13 47 21.2**	**+1.6**
	1.7nm,0.2s,SNR=7.9							
MVO				S		**Sn**	**13 48 37.4**	**-2.0**
	5.6nm,0.4s,SNR=7.9							
PCAS	**Casmilo, Conde**	**7.10**	**310**	*e*Pn		**Pn**	**13 47 22.6**	**+2.0**
PCAS				*e*Sn		**Sn**	**13 48 38.8**	**-2.4**
IELO	**Elcoad**	**7.14**	**1**	P		**Pn**	**13 47 23.5**	**+2.3**
	1.2nm,0.2s,SNR=7.9							
ETSF	**Etsaut**	**7.22**	**5**	*e*Pn		**Pn**	**13 47 19.9**	**-2.5**
ETSF	**Etsaut**	**7.22**	**5**	*e*P		**Pn**	**13 47 25.3**	**+2.9**
ETSF				*e*Sn		**Sn**	**13 48 36.0**	**-8.4**
	1.2nm,0.2s							
CLLI	**Llivia**	**7.26**	**20**	P		**Pn**	**13 47 24.9**	**+1.9**
	0.6nm,1.0s,SNR=7.9							
CLLI				S		**Sn**	**13 48 42.6**	**-2.9**
	0.9nm,0.3s,SNR=7.9							
PBRG	**Braganca**	**7.39**	**327**	*e*Pn		**Pn**	**13 47 27.9**	**+3.3**
ATE	**Arette**	**7.40**	**4**	P		**Pn**	**13 47 28.5**	**+3.7**
	2.0nm,1.6s,SNR=7.9							
SJPF	**Ste Jean**	**7.41**	**1**	*e*Pn		**Pn**	**13 47 22.1**	**-2.8**
SJPF	**Ste Jean**	**7.41**	**1**	*e*P		**Pn**	**13 47 28.4**	**+3.5**
SJPF				*e*Sn		**Sn**	**13 48 40.5**	**-8.4**
	0.7nm,0.2s							
EPF	**Esparros**	**7.45**	**10**	*e*Pn		**Pn**	**13 47 22.8**	**-2.7**
EPF	**Esparros**	**7.45**	**10**	*e*P		**Pn**	**13 47 27.9**	**+2.4**
EPF				*e*Sn		**Sn**	**13 48 41.3**	**-8.6**
	1.4nm,0.2s							
ECAL	**Calabor**	**7.50**	**328**	P		**Pn**	**13 47 28.2**	**+2.1**
	3.1nm,2.1s,SNR=7.9							
ECAL				S		**Sn**	**13 48 48.7**	**-2.4**
	5.2nm,0.3s,SNR=7.9							
EALK	**Alkurruntz**	**7.51**	**359**	P		Pn	13 47 30.9	+4.5
	4.8nm,0.3s,SNR=10							
POLO	**Lamas de Olo**	**7.56**	**320**	*e*Pn		**Pn**	**13 47 29.6**	**+2.5**
POLO				*e*Sn		**Sn**	**13 48 53.0**	**+0.2**
ELAN	**Lanestosa**	**7.69**	**349**	P		**Pn**	**13 47 32.2**	**+3.5**
	7.5nm,0.7s,SNR=7.9							
PCAB	**Cabril**	**7.93**	**321**	*e*Pn		**Pn**	**13 47 34.2**	**+2.2**
PCAB				*e*Sn		**Sn**	**13 49 01.4**	**-0.2**
ELOB	**Lobios**	**8.06**	**322**	P		**Pn**	**13 47 36.4**	**+2.5**
	5.3nm,0.5s,SNR=7.9							
ELOB				S		**Sn**	**13 49 01.5**	**-3.5**
	4.7nm,0.3s,SNR=7.9							
EARI	**Arriondas**	**8.14**	**340**	P		**Pn**	**13 47 37.9**	**+2.9**
	36nm,1.2s,SNR=5.7							
EARI				S		**Sn**	**13 49 05.3**	**-1.7**
	0.6nm,0.2s,SNR=7.9							
PGAV	**Gavieira, Arco**	**8.24**	**322**	*e*Pn		**Pn**	**13 47 39.0**	**+2.7**
PGAV				*e*Sn		**Sn**	**13 49 07.8**	**-1.6**
PGAV				A		A	13 49 12.0	
	4.7nm,1.0s							
KEST	**Kesra**	**8.74**	**87**	Pn		**Pn**	**13 47 43.9**	**+0.5**
	baz=267,slow=12,SNR=2.6							
TORD	**Torodi Ar. Bea**	**22.62**	**172**	P		**P**	**13 50 40.5**	**+2.7**
	0.2nm,0.6s,baz=351,slow=11,SNR=2.8							
NOA	**NORSAR Array B**	**26.61**	**14**	LR		LR	14 01 46.4	
	comp=Z,8.5nm,20.4s,baz=335,slow=36							

*IDC **17** 13:46:08.6±0.9,51.°78N×176.°50E,h0km,mb3.5/9, mb1 3.8/11,mb1mx3.6/56,mbtmp3.6/11,ML3.2/2,MS3.2/1, Ms1 3.2/1,ms1mx2.6/41,Error ellipse: s-maj=32.0km s-min=16.7km az=165.0*

*ISCJB **17** 13:46:11.8±0.6,51.°7N±0.°1×176.°67E±0.°06,h31km, mb3.5/9,Error ellipse: s-maj=15.8km s-min=4.6km az=9.6*

*NEIC **17** 13:46:12.2±0.0,51.°71N×176.°67E,h28km,ML3.5(AEIC), After AEIC.*

ISC 17 13:46:12.7±0.8,51.°8N±0.°1×176.°58E±0.°05,h31km,n32, σ1§00/30,mb3.6/9,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSSA	**Little Sitkin**	**1.22**	**80**	P		**Pn**	**13 46 32.6**	**-1.0**
LSPA	**Little Sitkin**	**1.26**	**80**	P		**Pn**	**13 46 33.2**	**-0.8**
AMKA	**Amchitka**	**1.74**	**101**	P		**Pn**	**13 46 40.5**	**-0.2**
AMKA				S		**Sn**	**13 46 59.3**	**-2.5**
SMY	**Shemya**	**1.81**	**304**	P		**Pn**	**13 46 42.6**	**+0.9**
SMY				S		**Sb**	**13 47 05.8**	**-1.7**
TASE	**Tanaga Southea**	**3.35**	**86**	P		**Pn**	**13 47 02.9**	**+0.1**
TAFP	**Tanaga Falls P**	**3.38**	**85**	P		**Pn**	**13 47 03.2**	**0.0**
TAFP				S		**Sn**	**13 47 42.0**	**-0.3**
TAPA	**Tanaga Point A**	**3.48**	**87**	P		**Pn**	**13 47 04.8**	**+0.1**
KIMD	**Kanaga Island**	**3.85**	**87**	P		**Pn**	**13 47 09.6**	**0.0**
KIKV	**Kanaga Island**	**3.88**	**86**	P		**Pn**	**13 47 10.2**	**0.0**
ADK	**Adak**	**4.18**	**85**	P		**Pn**	**13 47 14.3**	**0.0**
ADK				S		**Sn**	**13 48 01.6**	**-0.5**
ETKA	**Kagalaska Isla**	**4.36**	**86**	P		**Pn**	**13 47 16.9**	**+0.3**
GSTD	**Great Sitkin T**	**4.52**	**83**	P		**Pn**	**13 47 19.0**	**+0.1**
GSTD				S		**Sn**	**13 48 10.8**	**+0.4**
GSMY	**Great Sitkin M**	**4.57**	**83**	P		**Pn**	**13 47 20.1**	**+0.4**
ATKA	**Atka Island**	**5.72**	**82**	P		**Pn**	**13 47 35.9**	**+0.6**
PETK	**Petropavlovsk-**	**11.61**	**284**	Pn		**Pn**	**13 48 53.4**	**-2.6**
	0.1nm,0.3s,baz=90,slow=21,SNR=2.9							
MA2	**Magadan**	**16.45**	**309**	LR		LR	13 55 49.8	
	comp=Z,81nm,19.6s,baz=112,slow=35							
KDAK	**Kodiak Island**	**18.68**	**59**	P		**P**	**13 50 26.7**	**-1.1**
	0.5nm,0.3s,baz=280,slow=7.0,SNR=8.8							
ILAR	**Eielson Array**	**22.82**	**41**	P		**P**	**13 51 12.6**	**0.0**
	0.3nm,0.4s,baz=260,slow=6.5,SNR=13							
H11N2	**WAKE ISLAND Hy**	**32.84**	**197**	T		T	14 27 34.6	
	baz=11,slow=76,SNR=108							
H11N3	**WAKE ISLAND Hy**	**32.85**	**197**	T		T	14 27 35.4	
	baz=11,slow=76,SNR=66							
H11N1	**WAKE ISLAND Hy**	**32.86**	**197**	T		T	14 27 36.0	
	baz=11,slow=76,SNR=70							
H11S1	**WAKE ISLAND Hy**	**34.07**	**197**	T		T	14 29 19.1	
	baz=11,slow=76,SNR=68							
H11S3	**WAKE ISLAND Hy**	**34.09**	**197**	T		T	14 29 09.8	
	baz=11,slow=76,SNR=40							
H11S2	**WAKE ISLAND Hy**	**34.09**	**197**	T		T	14 29 16.1	
	baz=11,slow=76,SNR=38							
YKA	**Yellowknife Ar**	**37.06**	**46**	P		**P**	**13 53 20.2**	**+0.9**
	0.4nm,0.3s,baz=284,slow=8.3,SNR=12							
SONM	**Songino Array**	**43.88**	**294**	P		**P**	**13 54 16.7**	**+0.6**
	1.3nm,0.5s,baz=306,slow=6.6,SNR=8.7							
NVAR	**Mina Array Bea**	**46.35**	**80**	P		**P**	**13 54 37.3**	**+1.4**
	0.2nm,0.5s,baz=306,slow=6.6,SNR=2.9							
ELK	**Elko**	**46.78**	**75**	P		**P**	**13 54 40.6**	**+1.3**
	0.2nm,0.3s,baz=300,slow=4.6,SNR=3.0							
MKAR	**Makanchi Array**	**57.51**	**306**	P		**P**	**13 55 58.7**	**+0.1**
	0.8nm,0.6s,baz=54,slow=5.4,SNR=12							
TXAR	**Lajitas Array**	**61.43**	**78**	P		**P**	**13 56 26.4**	**+0.4**
	0.1nm,0.4s,baz=316,slow=5.0,SNR=5.1							
WRA	**Warramunga Arr**	**80.36**	**220**	P		**P**	**13 58 21.2**	**+0.5**
	0.7nm,0.9s,baz=31,slow=6.4,SNR=3.3							
ASAR	**Alice Springs**	**83.89**	**219**	P		**P**	**13 58 40.1**	**+1.0**
	0.5nm,0.9s,baz=21,slow=5.7,SNR=9.1							

*IDC **17** 14:13:54.7±2.7,32.°10S×70.°24W,h87km±23km,mb3.7/4, mb1 3.6/9,mb1mx3.5/28,mbtmp3.9/9,Error ellipse: s-maj=52.0km s-min=16.5km az=101.0*

*SJA **17** 14:13:55.1±0.7,32.°06S×70.°26W,h114km±6km,ML4.2, MW4.3*

*ISCJB **17** 14:13:56.1±0.4,32.°13S±0.°03×70.°19W±0.°04,h119km±4km, mb4.0/4,Error ellipse: s-maj=6.0km s-min=4.1km az=19.4*

*GUC **17** 14:13:56.6±0.8,32.°17S×70.°41W,h132km±8km,ML4.2*

ISC 17 14:13:56.7±0.7,32.°12S±0.°04×70.°20W±0.°04,h109km±6km, n28,σ1§08/45,mb4.1/4,6C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AUSP	**Uspallata**	**0.69**	**99**	*i* P		**Pn**	**14 14 15.9**	**+0.7**
AUSP				*i* S		**Sn**	**14 14 31.0**	**+1.8**
RTLS	**Leoncito**	**0.83**	**68**	*i* P		**Pn**	**14 14 16.6**	**+0.2**
RTLS				IAML			14 14 32.1	
	comp=Z,3μm,0.2s							
RTLS				*i* S		**Sn**	**14 14 32.9**	**+1.5**
ROCH	**El Roble**	**1.09**	**219**	⇓*i* P		**Pn**	**14 14 19.1**	**0.0**
ROCH				*e*S		**Sn**	**14 14 36.2**	**+0.3**
ROCH				IAML			14 14 38.3	
	comp=N,4μm,0.5s							
ROC1	**El Roble**	**1.10**	**219**	*i* P		**Pn**	**14 14 19.1**	**0.0**
ROC1				*i* S		**Sn**	**14 14 36.6**	**+0.6**
PEL	**Peldehue**	**1.10**	**202**	*i* P		**Pn**	**14 14 18.9**	**0.0**
PEL				*i* S		**Sn**	**14 14 36.2**	**+0.4**
PEL	**Peldehue**	**1.10**	**202**	⇑*e*P		**Pn**	**14 14 18.6**	**-0.3**
PEL				*e*S		**Sn**	**14 14 35.8**	**0.0**
PEL				IAML			14 14 36.8	
	comp=E,4μm,0.4s							
CMCH	**Combarbala**	**1.17**	**324**	*e*P		**Pn**	**14 14 20.6**	**+0.9**
CMCH				*e*S		**Sn**	**14 14 38.5**	**+1.5**
FCH	**Farellones**	**1.21**	**184**	⇑*i*P		**Pn**	**14 14 20.6**	**+0.2**
FCH				*e*S		**Sn**	**14 14 39.5**	**+1.2**
FCH				IAML			14 14 39.9	
	comp=E,5μm,0.3s							
CLCH	**Cerro Calan**	**1.30**	**193**	⇑*e*P		**Pn**	**14 14 21.5**	**+0.2**
CLCH				*i* S		**Sn**	**14 14 40.4**	**+0.6**
CLCH				IAML			14 14 41.8	
	comp=E,5μm,0.4s							
RTCV	**Cerro Valdivia**	**1.43**	**80**	*i* P		**Pn**	**14 14 22.7**	**0.0**
RTCV				*i* S		**Sn**	**14 14 44.0**	**+1.6**
RTLL	**Cerro Villicun**	**1.67**	**62**	*i* P		**Pn**	**14 14 25.6**	**0.0**
RTLL				IAML			14 14 47.9	
	comp=Z,2μm,0.3s							
RTLL				*i* S		**Sn**	**14 14 48.0**	**+0.5**
LMEL	**Las Melosas**	**1.72**	**180**	⇑*i*P		**Pn**	**14 14 26.6**	**+0.3**
LMEL				*e*S		**Sn**	**14 14 49.9**	**+1.0**
LMEL				IAML			14 14 56.3	
	comp=N,2μm,0.5s							
CFA	**Coronel Fontan**	**1.75**	**73**	*i* P		**Pn**	**14 14 26.4**	**-0.1**
CFA				*i* S		**Sn**	**14 14 49.5**	**+0.3**
AMOG	**MOGNA**	**1.87**	**52**	*i* P		**Pn**	**14 14 28.1**	**0.0**
AMOG				*i* S		**Sn**	**14 14 51.7**	**-0.3**
GO04	**Tololo Observa**	**2.01**	**345**	⇑*i*P		**Pn**	**14 14 30.6**	**+0.6**
GO04				*i* S		**Sn**	**14 14 56.7**	**+1.3**
GO04				IAML			14 15 01.4	
	comp=N,6μm,0.6s							
LSCH	**La Serena**	**2.38**	**338**	*e*S		**Sn**	**14 15 03.6**	**+0.1**
LSCH				IAML			14 15 06.7	
	comp=E,554nm,0.3s							
LCO	**Las Campanas**	**3.13**	**352**	⇑*i*P		**Pn**	**14 14 45.0**	**+0.3**
LCO				*e*S		**Sn**	**14 15 22.1**	**+0.5**
LCO				IAML			14 15 24.3	
	comp=E,800nm,0.3s							
PLCA	**Paso Flores**	**8.60**	**182**	P		**Pn**	**14 15 57.2**	**-1.2**
	comp=E,0.1nm,0.3s,baz=6.0,slow=12,SNR=4.9							
LVC	**Limon Verde**	**9.54**	**7**	P		**Pn**	**14 16 07.7**	**-3.7**
	comp=E,0.7nm,0.3s,baz=189,slow=10,SNR=4.9							
CPUP	**Villa Florida**	**12.63**	**66**	P		**Pn**	**14 16 52.0**	**-0.4**
	comp=E,0.1nm,0.3s,baz=194,slow=8.3,SNR=2.2							
LPAZ	**La Paz**	**15.87**	**7**	P		**Pn**	**14 17 35.0**	**+0.3**
	comp=E,0.2nm,0.3s,baz=170,slow=9.9,SNR=9.0							
SIV	**San Ignacio**	**18.07**	**29**	P		**P**	**14 17 59.9**	**+0.1**
	comp=E,0.2nm,0.3s,baz=229,slow=7.8,SNR=5.8							
USHA	**Ushuaia**	**22.74**	**177**	P		**P**	**14 18 49.9**	**+0.5**
	comp=E,8.8nm,0.9s,baz=360,slow=3.8,SNR=3.7							
SNAA	**Sanae**	**52.75**	**158**	P		**P**	**14 23 00.2**	**+0.2**
	comp=E,1.3nm,0.5s,baz=217,slow=20,SNR=3.8							
QSPA	**South Pole Qui**	**58.11**	**180**	P		**P**	**14 23 38.8**	**+0.2**
	comp=E,3.4nm,1.0s,baz=150,slow=1.1,SNR=14							
TORD	**Torodi Ar. Bea**	**82.11**	**69**	P		**P**	**14 26 05.8**	**+0.3**
	comp=E,0.3nm,0.5s,baz=242,slow=3.1,SNR=3.1							
ZALV	**Zalesovo Beam**	**151.82**	**32**	PKPbc		**PKPbc**	**14 33 39.2**	**+1.1**
	comp=E,1.8nm,0.3s,baz=287,slow=3.6,SNR=7.4							
ZALV				pPKPbc		**pPKPbc**	**14 34 04.2**	**-3.4**
	comp=E,1.2nm,0.4s,baz=329,slow=4.2,SNR=4.9							
MKAR	**Makanchi Array**	**154.36**	**47**	PKPbc		**PKPbc**	**14 33 44.7**	**+0.7**
	comp=E,0.2nm,0.8s,baz=294,slow=1.4,SNR=2.4							

IDC 17 14:25:11.8±4.3,3.°05S×100.°83E,h0km,mb3.3/4, mb1 3.5/4,mb1mx3.3/40,mbtmp3.3/4,Error ellipse: s-maj=177.7km s-min=23.9km az=56.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H08S2	**Diego Garcia H**	**28.57**	**260**	T		T	15 00 16.1	
	baz=82,slow=76,SNR=189							
H08S3	**Diego Garcia H**	**28.58**	**260**	T		T	15 00 16.7	
	baz=82,slow=76,SNR=183							
H08S1	**Diego Garcia H**	**28.59**	**260**	T		T	15 00 17.5	
	baz=82,slow=76,SNR=163							
H08N1	**Diego Garcia H**	**29.89**	**263**	T		T	15 02 37.6	
	SNR=7.2							
H08N2	**Diego Garcia H**	**29.91**	**263**	T		T	15 02 37.3	
	SNR=6.9							
H08N3	**Diego Garcia H**	**29.91**	**263**	T		T	15 02 39.3	
	SNR=8.8							
H01W3	**Cape Leeuwin H**	**34.00**	**160**	T		T	15 07 26.0	
	baz=336,slow=76,SNR=10							
H01W2	**Cape Leeuwin H**	**34.02**	**160**	T		T	15 07 27.7	
	baz=336,slow=76,SNR=13							
H01W1	**Cape Leeuwin H**	**34.02**	**160**	T		T	15 07 28.9	
	baz=336,slow=76,SNR=7.6							
WRA	**Warramunga Arr**	**36.75**	**120**	P		P	14 32 19.9	-1.5
	0.3nm,0.8s,baz=312,slow=8.8,SNR=2.9							
ASAR	**Alice Springs**	**37.97**	**126**	P		P	14 32 32.6	+1.0
	0.2nm,0.5s,baz=299,slow=7.7,SNR=6.5							
SONM	**Songino Array**	**50.91**	**5**	P		P	14 34 15.4	+0.6
	0.4nm,0.6s,baz=187,slow=11,SNR=3.5							
MKAR	**Makanchi Array**	**52.26**	**344**	P		P	14 34 23.8	-1.1
	0.4nm,0.6s,baz=147,slow=8.9,SNR=5.2							
TXAR	**Lajitas Array**	**145.00**	**39**	PKPbc		PKPab	14 44 51.2	0.0
	0.3nm,0.6s,baz=244,slow=1.3,SNR=4.3							

IDC 17 14:39:51.2±1.9,17.°68S×177.°30W,h0km,mb3.8/5, mb1 4.1/5,mb1mx3.7/37,mbtmp3.8/5,Error ellipse: s-maj=109.4km s-min=26.2km az=148.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**39.66**	**241**	P		P	14 47 24.5	-0.6
	0.8nm,0.3s,baz=72,slow=6.4,SNR=2.7							
WRA	**Warramunga Arr**	**45.71**	**259**	P		P	14 48 14.7	+0.3
	1.1nm,0.4s,baz=97,slow=7.4,SNR=34							
ASAR	**Alice Springs**	**45.87**	**254**	P		P	14 48 15.8	+0.1
	1.6nm,0.5s,baz=94,slow=7.5,SNR=64							
TXAR	**Lajitas Array**	**84.98**	**57**	P		P	14 52 29.9	+1.0
	0.3nm,0.7s,baz=205,slow=5.5,SNR=3.7							
ILAR	**Eielson Array**	**85.43**	**13**	P		P	14 52 29.1	-1.1
	0.1nm,0.4s,baz=219,slow=5.2,SNR=4.8							

MAN 17 14:44:10.8,6.°27N×124.°93E,h25km,mb3.8,ML2.5,MS2.0, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GSPH	**General Santos**	**0.18**	**174**	⇑*i*P		Pn	14 44 19.4	+1.3
GSPH				*i* S		Sb	14 44 22.7	+2.5
SKMP	**Bagumbayan, Su**	**0.46**	**303**	*e*P		Pn	14 44 21.3	-0.5
SKMP				*e*S		Sn	14 44 30.6	+1.4
DDMP	**Don Marcelino,**	**0.80**	**102**	*e*P		Pb	14 44 25.9	-0.2
DDMP				*e*S		Sn	14 44 40.2	+2.6

*DDA **17** 15:01:17.6,37.°45N×35.°70E,h7km±5km,ML3.0*

*ISK **17** 15:01:17.2,37.°52N×35.°65E,h2km,ML2.2/6*

*ISCJB **17** 15:01:18.6±0.6,37.°49N±0.°03×35.°68E±0.°03,h5km±5km, Error ellipse: s-maj=5.0km s-min=4.0km az=162.7*

ISC 17 15:01:18.4±1.1,37.°49N±0.°03×35.°68E±0.°03,h10km±9km, n18,σ0§69/28,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KOZT	**Kozan**	**0.12**	**94**	PG		**Pg**	**15 01 21.1**	**-0.1**
CEYT	**Ceyhan**	**0.48**	**174**	PG		**Pb**	**15 01 28.5**	**-0.4**
CEYT				SG		**Sb**	**15 01 36.1**	**+0.1**
ANDN	**Andirin**	**0.54**	**80**	*i* P		**Pb**	**15 01 28.9**	**-1.0**
KARA	**Karaisali**	**0.55**	**246**	PG		**Pb**	**15 01 28.7**	**-1.4**
SAIM	**ADANA**	**0.58**	**33**	*i* P		**Pb**	**15 01 29.8**	**-0.9**
SAIM				*i* S		**Sb**	**15 01 39.0**	**-0.1**
GULE	**Gulek**	**0.75**	**254**	*i* P		**Pb**	**15 01 33.1**	**-0.5**
GULE				*i* S		**Sb**	**15 01 44.4**	**+0.5**
MERS	**Mersin**	**1.11**	**237**	PN		**Pb**	**15 01 39.1**	**-0.6**
TAHT	**Tahtakopru-Hat**	**1.18**	**160**	PN		**Pn**	**15 01 41.0**	**+0.1**
KERG	**Konya-Eregli**	**1.24**	**267**	*i* P		**Pn**	**15 01 42.1**	**+0.3**
K

comp=E,0.4nm,0.3s,baz=163,slow=23,SNR=5.8
SONM Lg Lg 15 38 15.8
baz=163,slow=26,SNR=10
WMQ Urumqi 17.70 293 *e*P **P 15 37 32.4 -0.5**
WMQ LR LR
comp=E,150nm,19.5s
WMQ LR LR
comp=Z,89nm,23.9s
MKAR Makanchi Array 21.95 300 P **P 15 38 19.3 +0.2**
comp=Z,1.5nm,0.9s,baz=96,slow=13,SNR=14
CMAR Chiang Mai Arr 22.80 209 P **P 15 38 27.8 -0.6**
comp=Z,2.6nm,0.9s,baz=12,slow=9.0,SNR=21
KURBB Kurchatov Arra 25.23 308 P **P 15 38 51.6 +0.3**
comp=Z,0.8nm,0.8s,baz=108,slow=10.0,SNR=3.8

GUC 17 15:51:06.4±0.4, 22°79S×66°77W, h265km±20km, ML3.5, 5C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB09	**IPOC Station P**	**2.49**	**293**	⇑ *i*P		Pn	15 51 57.8	+2.9
PB09				*e*S		S	15 52 35.3	+2.0
PB09				IAML			15 52 41.6	
	comp=E,25nm,0.5s							
PB06	**IPOC Station P**	**2.59**	**271**	*e*P		Pn	15 51 58.1	+2.3
PB06				*e*S		S	15 52 37.4	+2.5
PB06				IAML			15 52 42.0	
	comp=E,76nm,0.1s							
PB03	**IPOC Station P**	**2.86**	**284**	⇑ *i*P		Pn	15 52 00.9	+2.4
PB03				*i* S		S	15 52 42.1	+2.3
PB03				IAML			15 52 44.2	
	comp=N,81nm,0.1s							
PB01	**IPOC Station P**	**3.06**	**304**	⇑ *i*P		Pn	15 52 03.0	+2.4
PB01				*e*S		S	15 52 46.5	+2.9
PB01				IAML			15 52 47.8	
	comp=E,29nm,0.2s							
PB07	**IPOC Station P**	**3.08**	**289**	⇑ *i*P		Pn	15 52 03.3	+2.5
PB07				*e*S		S	15 52 46.4	+2.5
PB07				IAML			15 52 48.0	
	comp=N,50nm,0.3s							
PB04	**IPOC Station P**	**3.16**	**278**	*e*P		Pn	15 52 03.8	+2.1
PB04				*e*S		S	15 52 48.0	+2.4
PB04				IAML			15 52 52.9	
	comp=N,76nm,0.4s							
PB05	**IPOC Station P**	**3.17**	**268**	⇑ *i*P		Pn	15 52 04.0	+2.3
PB05				*e*S		S	15 52 47.7	+2.0
PB05				IAML			15 52 52.5	
	comp=N,45nm,0.5s							

GUC 17 16:03:28.3±0.6, 23°98S×67°29W, h192km±16km, ML3.8, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GO02	**Mina Guanaco**	**2.40**	**240**	⇑ *i*P		Pn	16 04 12.0	+1.1
GO02				*e*S		Sn	16 04 46.3	+2.1
GO02				IAML			16 04 49.3	
	comp=N,287nm,0.1s							
PB06	**IPOC Station P**	**2.45**	**301**	⇑ *i*P		Pn	16 04 13.1	+1.7
PB06				*e*S		Sn	16 04 46.8	+2.0
PB06				IAML			16 04 50.3	
	comp=E,240nm,0.3s							
PB09	**IPOC Station P**	**2.82**	**320**	*e*P		Pn	16 04 17.8	+2.1
PB09				*i* S		Sn	16 04 54.5	+2.0
PB05	**IPOC Station P**	**2.90**	**292**	*e*P		Pn	16 04 18.3	+1.8
PB05				*i* S		Sn	16 04 56.0	+1.9
PB03	**IPOC Station P**	**2.97**	**310**	*e*P		Pn	16 04 19.1	+1.6
PB03				*i* S		Sn	16 04 57.8	+2.0
PB03				IAML			16 04 59.1	
	comp=E,135nm,0.2s							
PB10	**IPOC Station P**	**3.03**	**278**	*e*P		Pn	16 04 19.9	+2.0
PB10				*e*S		Sn	16 04 58.4	+1.9
PB04	**IPOC Station P**	**3.10**	**301**	*e*P		Pn	16 04 20.8	+1.8
PB04				*i* S		Sn	16 05 00.5	+2.1
PB07	**IPOC Station P**	**3.28**	**313**	*e*P		Pn	16 04 22.6	+1.5
PB07				*e*S		Sn	16 05 04.0	+1.6
PB01	**IPOC Station P**	**3.56**	**325**	*e*P		Pn	16 04 25.4	+0.9
PB01				*i* S		Sn	16 05 09.8	+1.4
PB01				*e*S			16 05 09.8	

*ISCJB **17** 16:04:44.3±0.6, 5°79S±0°08×154°05E±0°07, h35km, mb3.8/10, MS3.8/3, Error ellipse: s-maj=11.6km s-min=9.2km az=143.4*
*IDC **17** 16:04:48.4±2.9, 5°88S×153°98E, h58km±28km, mb3.7/11, mb1 3.9/14, mb1mx3.8/35, mbtmp4.1/14, ML3.4/3, MS3.6/5, Ms1 3.7/5, ms1mx3.3/20, Error ellipse: s-maj=21.6km s-min=18.5km az=96.0*
ISC 17 16:04:47.0±0.7, 5°69S±0°09×153°91E±0°07, h35km, n19, σ2s30/19, mb3.9/10, MS3.9/3, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**7.04**	**122**	P		**Pn**	**16 06 26.6**	**-1.1**
	1.9nm,0.3s,baz=281,slow=5.2,SNR=2.8							
HNR				S		**Sn**	**16 07 51.9**	**+5.3**
	3.8nm,0.3s,baz=243,slow=14,SNR=3.1							
HNR				LR		LR	16 09 09.6	
	comp=Z,284nm,18.7s,baz=290,slow=38							
PMG	**Port Moresby**	**7.65**	**241**	P		**Pn**	**16 06 37.2**	**+1.1**
	8.8nm,0.3s,baz=56,slow=6.9,SNR=27							
PMG				S		**Sn**	**16 08 05.0**	**+3.5**
	2.7nm,0.3s,baz=60,slow=6.7,SNR=12							
PMG				LR		LR	16 09 32.6	
	comp=Z,279nm,21.4s,baz=86,slow=37							
CTA	**Charters Tower**	**16.14**	**207**	P		**Pn**	**16 08 30.1**	**-1.3**
	0.2nm,0.3s,baz=38,slow=16,SNR=3.6							
DZM	**Mont Dzumac**	**20.30**	**145**	P		**P**	**16 09 16.9**	**-3.3**
	4.2nm,0.5s,baz=306,slow=9.1,SNR=10							
DZM				LR		LR	16 16 17.0	
	comp=Z,172nm,19.0s,baz=335,slow=34							
WRA	**Warramunga Arr**	**23.73**	**232**	P		**P**	**16 09 54.3**	**-1.9**
	2.0nm,0.8s,baz=57,slow=9.8,SNR=9.9							
WRA				PcP		**PcP**	**16 13 38.3**	**-1.5**
	0.7nm,0.4s,baz=53,slow=2.6,SNR=14							
ASAR	**Alice Springs**	**26.28**	**225**	P		**P**	**16 10 18.1**	**-1.4**
	1.4nm,0.7s,baz=56,slow=8.9,SNR=23							
ASAR				PcP		**PcP**	**16 13 44.0**	**-1.5**
	1.3nm,0.5s,baz=59,slow=2.5,SNR=16							
H11S3	**WAKE ISLAND Hy 27.13**	**27**		T		T	16 38 47.5	
	baz=208,slow=76,SNR=13							
H11S2	**WAKE ISLAND Hy 27.13**	**27**		T		T	16 38 46.8	
	baz=208,slow=76,SNR=9.8							
H11S1	**WAKE ISLAND Hy 27.15**	**27**		T		T	16 38 47.0	
	baz=208,slow=76,SNR=8.3							
STKA	**Stephens Creek**	**28.50**	**202**	P		**P**	**16 10 38.0**	**-1.2**
	0.7nm,0.5s,baz=21,slow=8.5,SNR=3.1							
KSRS	**Korea Array**	**49.29**	**333**	P		**P**	**16 13 32.0**	**-0.6**
	0.9nm,0.7s,baz=139,slow=6.8,SNR=3.6							
USRK	**Ussuriysk Ar.**	**53.44**	**340**	P		**P**	**16 14 05.3**	**+1.8**
	2.2nm,0.9s,baz=116,slow=4.6,SNR=4.6							
CMAR	**Chiang Mai Arr**	**59.26**	**295**	P		**P**	**16 14 46.0**	**+0.5**
	2.2nm,0.9s,baz=113,slow=5.3,SNR=17							
SONM	**Songino Array**	**67.66**	**328**	P		**P**	**16 15 40.5**	**-0.3**
	0.8nm,0.6s,baz=139,slow=7.0,SNR=4.3							
MKAR	**Makanchi Array**	**81.72**	**319**	P		**P**	**16 17 00.7**	**-1.5**
	0.3nm,0.4s,baz=95,slow=7.8,SNR=6.6							
ZALV	**Zelesovo Beam**	**82.50**	**326**	P		**P**	**16 17 06.3**	**+0.3**
	0.5nm,0.4s,baz=111,slow=6.9,SNR=3.5							
ILAR	**Eielson Array**	**82.56**	**22**	P		**P**	**16 17 06.5**	**+0.4**
	0.5nm,0.5s,baz=246,slow=4.7,SNR=12							
ILAR				LR		LR	16 55 13.6	
	comp=Z,47nm,18.1s,baz=243,slow=37							
GEYT	**Alibeck**	**98.03**	**307**	LR		LR	17 05 28.1	
	comp=Z,52nm,18.9s,baz=30,slow=37							
TORD	**Torodi Ar. Bea**	**151.63**	**287**	PKPbc		**PKPdf**	**16 24 36.0**	**+3.5**
	1.4nm,0.6s,baz=73,slow=3.0,SNR=9.2							

MEX 17 16:36:18.5±0.8, 17°11N×94°39W, h158km±8km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMIG	**Matias Romero**	**0.48**	**268**	*i* P		Pn	16 36 39.6	-1.1
CMIG				*i* S		Sn	16 36 55.0	-2.6
PCIG		**1.79**	**141**	*e*P		Pn	16 36 51.2	-0.6
PCIG				*e*S		Sn	16 37 15.5	-2.0
HUIG	**Huatulco**	**2.12**	**231**	*e*P		Pn	16 36 53.4	-2.2
HUIG				*e*S		Sn	16 37 22.9	-1.3
VHO	**Vista Hermosa**	**2.24**	**269**	*e*P		Pn	16 36 56.2	-1.0
VHO				*i* S		Sn	16 37 25.7	-1.3

*BJI **17** 16:55:31.5, 5°79S×131°70E, h77km, mb4.7/34, mB5.1/25, Ms4.8/8, Ms7 4.5/6*
*ISCJB **17** 16:55:34.7±0.4, 5°73S±0°02×131°28E±0°03, h85km±4km, mb4.8/66, Error ellipse: s-maj=4.2km s-min=3.8km az=161.6*
*IDC **17** 16:55:35.8±2.0, 5°58S×131°13E, h71km±19km, mb4.1/13, mb1 4.3/17, mb1mx4.1/34, mbtmp4.5/17, MS3.3/5, Ms1 3.3/5, ms1mx3.0/26, Error ellipse: s-maj=15.7km s-min=13.4km az=83.0*
*NEIC **17** 16:55:36.3±0.6, 5°59S×131°19E, h78km±6km, mb4.9/48, Error ellipse: s-maj=5.8km s-min=4.6km az=48.0*
*DJA **17** 16:55:39.2±0.2, 5°S±3°×13°1E±°, h113km, M5.0/20, mB5.2/6, mb4.6/20, MLv5.4/11, Mw(mB)4.6/6*
ISC 17 16:55:35.2±0.5, 5.71S±0.04×131.32E±0.04, h76km±5km, n178, σ2s17/199, mb4.9/76, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BNDI	**Bandanaira**	**1.84**	**310**	P		**Pn**	**16 56 06.9**	**+2.1**
BNDI				S		**Sn**	**16 56 28.0**	**+0.7**
SAUI	**Saumlaki**	**2.25**	**180**	*e*Pn		Pn	16 56 15.0	+4.6
SAUI				*e*Sn		**Sn**	**16 56 40.3**	**+3.0**
SAUI	**Saumlaki**	**2.25**	**180**	P		Pn	16 56 18.6	+8.2
KMPI	**Kaimana, Papua**	**3.13**	**50**	P		**Pn**	**16 56 24.5**	**+2.2**
KMPI				S		**Sn**	**16 56 59.1**	**+0.4**
SIJI	**Sorong**	**4.81**	**359**	P		**Pn**	**16 56 43.7**	**-1.6**
	224nm,0.3s,baz=358,slow=24,SNR=1005							
SIJI				S		**Sn**	**16 57 31.7**	**-8.0**
	176nm,0.3s,baz=294,slow=22,SNR=20							
SWI	**Sorong**	**4.82**	**359**	P		**Pn**	**16 56 43.9**	**-1.4**
NLAI	**Namlea**	**4.87**	**300**	P		**Pn**	**16 56 46.6**	**+0.7**
NLAI				S		**Sn**	**16 57 41.1**	**+0.1**
RKPI	**Ransiki, Papua**	**5.06**	**34**	P		**Pn**	**16 56 49.4**	**+0.8**
SRPI	**Serui, Papua**	**6.22**	**52**	P		**Pn**	**16 57 06.3**	**+1.8**
SANI	**Sanana**	**6.44**	**304**	P		**Pn**	**16 57 07.8**	**+0.4**
	240nm,0.5s,4µm1.2nm							
BAKI	**Biak**	**6.56**	**47**	P		**Pn**	**16 57 10.8**	**+1.7**
MTN	**Manton Dam**	**7.09**	**181**	*e*Pn		**Pn**	**16 57 19.1**	**+2.9**
MTN				*e*Sn		**Sn**	**16 58 35.1**	**-0.3**
TNTI	**Ternate**	**7.55**	**328**	*e*Pn		**Pn**	**16 57 22.5**	**-0.2**
TNTI				*e*Sn		**Sn**	**16 58 43.9**	**-2.9**
SOEI	**Soe**	**8.05**	**240**	*e*Pn		**Pn**	**16 57 32.5**	**+2.9**
SOEI				*e*Sn		**Sn**	**16 58 59.7**	**+0.4**
SOEI	**Soe**	**8.05**	**240**	P		**Pn**	**16 57 32.5**	**+2.9**
	70nm,0.7s							
BATI	**Baumata**	**8.79**	**239**	P		**Pn**	**16 57 40.6**	**+0.9**
	17nm,0.3s,baz=106,slow=4.3,SNR=17							
BATI				S		**Sn**	**16 59 15.6**	**-1.6**
	25nm,0.3s,baz=155,slow=22,SNR=8.6							
BATI				LR		LR	17 00 47.4	
	comp=Z,110nm,18.8s,baz=349,slow=36							
BATI	**Baumata**	**8.79**	**239**	P		**Pn**	**16 57 41.8**	**+2.2**
BATI				S		**Sn**	**16 59 17.0**	**-0.2**
MMRI	**Maumere**	**9.46**	**252**	*e*Pn		**Pn**	**16 57 46.1**	**-2.7**
KMSI	**Cibinong**	**9.63**	**310**	P		**Pn**	**16 57 51.2**	**+0.2**
	93nm,1.2s							
JAY	**Jayapura**	**9.89**	**72**	P		**Pn**	**16 57 57.4**	**+2.8**
	1.1nm,0.3s,baz=220,slow=12,SNR=6.2							
EDFI	**Ende, Flores**	**10.01**	**252**	P		Pn	16 58 00.5	+4.2
	18nm,0.8s,1µm							
APSI	**Ampana**	**10.76**	**296**	P		**Pn**	**16 58 07.0**	**+0.5**
	20nm,0.9s,423nm							
BKSI	**Bulukumba**	**11.15**	**271**	P		Pn	16 58 15.1	+3.4
	17nm,1.0s							
MRSI	**Marisa**	**11.20**	**303**	P		**Pn**	**16 58 12.0**	**-0.4**
	27nm,0.7s,314nm							
BNSI	**Bone**	**11.24**	**276**	P		**Pn**	**16 58 16.2**	**+3.2**
	35nm,1.2s							
SPSI	**Sidrap Palu**	**11.63**	**278**	P		**Pn**	**16 58 20.6**	**+2.2**
	16nm,0.8s							
TTSI	**Tana Toraja**	**11.76**	**283**	P		Pn	16 58 14.5	-5.6
MPSI	**Mapaga**	**12.89**	**297**	P		**Pn**	**16 58 35.6**	**+0.2**
	7.2nm,0.8s							
FITZ	**Fitzroy Crossi**	**13.50**	**204**	P		**Pn**	**16 58 41.0**	**-2.6**
	9.1nm,0.3s,baz=26,slow=9.5,SNR=112							
FITZ				S		**Sn**	**17 01 03.0**	**-8.9**
	10nm,0.3s,baz=82,slow=18,SNR=7.8							
FITZ	**Fitzroy Crossi**	**13.50**	**204**	*e*Pn		**Pn**	**16 58 40.6**	**-2.9**
PLAI	**Plampang**	**13.78**	**256**	P		**Pn**	**16 58 48.3**	**+1.1**
COEN	**Coen**	**14.26**	**126**	*e*Pn		**Pn**	**16 58 54.1**	**+0.5**
COEN				*e*Sn		**Sn**	**17 01 21.8**	**-8.7**
WRAB	**Tennant Creek**	**14.44**	**168**	*e*Pn		**Pn**	**16 58 53.5**	**-2.3**
WR1	**Warramunga Arr**	**14.45**	**169**	*e*Pn		**Pn**	**16 58 53.6**	**-2.3**
WR1				*e*Sn		**Sn**	**17 01 27.9**	**-7.0**
WR1				*e*			17 05 17.7	
WRA	**Warramunga Arr**	**14.45**	**169**	P		**Pn**	**16 58 53.6**	**-2.3**
	7.1nm,0.3s,baz=353,slow=13,SNR=87							
WRA				S		**Sn**	**17 01 27.9**	**-7.0**
	11nm,0.3s,baz=357,slow=23,SNR=11							
WRA				LR		LR	17 05 17.7	
	comp=Z,68nm,18.1s,baz=35,slow=40							
WB2	**Warramunga Arr**	**14.45**	**168**	*e*Pn		**Pn**	**16 58 51.6**	**-4.4**
WB2				*e*Sn		Sn	17 01 25.8	-9.2
PMG	**Port Moresby**	**16.13**	**104**	P		**P**	**16 59 20.6**	**+1.3**
	0.7nm,0.3s,baz=312,slow=15,SNR=4.0							
PMG				S		**Sn**	**17 02 10.1**	**-5.6**
	0.9nm,0.3s,baz=189,slow=19,SNR=5.9							
PMG	**Port Moresby**	**16.13**	**104**	*e*Pn		**P**	**16 59 19.8**	**+0.5**
	17nm,1.0s							
PMG				*e*Sn		**Sn**	**17 02 11.5**	**-4.2**
TSM	**Tawau**	**16.70**	**306**	P		**P**	**16 59 26.8**	**+1.2**
JAGI	**Jajag, Banyuwa**	**17.25**	**260**	*e*Pn		**Pn**	**16 59 29.6**	**-1.7**
	59nm,1.3s							
JAGI				*e*Sn		**S**	**17 02 50.5**	**+3.3**
KMMI	**Kalianget**	**17.29**	**265**	P		**P**	**16 59 34.1**	**+1.9**
AS31	**Alice Springs**	**18.02**	**172**	*e*P		**Pn**	**16 59 40.7**	**+0.1**
	21nm,0.6s							
AS31				*e*Sn		**Sn**	**17 02 53.0**	**-8.4**
ASAR	**Alice Springs**	**18.02**	**172**	P		**Pn**	**16 59 41.4**	**+0.7**
	7.6nm,0.3s,baz=346,slow=8.3,SNR=244							
ASAR				S		**Sn**	**17 02 53.6**	**-7.8**
	2.7nm,0.3s,baz=356,slow=27,SNR=9.2							
AS01	**Alice Springs**	**18.03**	**172**	*e*P		**Pn**	**16 59 41.0**	**+0.2**
SDKM	**Sandakan**	**18.05**	**308**	P		**Pn**	**16 59 41.7**	**+0.6**
MBWA	**Marble Bar**	**19.02**	**215**	*e*P		**Pn**	**16 59 53.5**	**+0.8**
	58nm,1.5s							
KKM	**Kota Kinabalu**	**19.07**	**308**	*e*P		**P**	**16 59 51.4**	**-0.4**
	39nm,0.9s							
KDM	**Kudat**	**19.14**	**311**	P		**Pn**	**16 59 55.8**	**+1.7**
BTM	**Bintulu**	**20.25**	**295**	P		Pn	17 00 05.7	-1.5
CTA	**Charters Tower**	**20.37**	**136**	P		Pn	17 00 09.5	+1.0
	4.8nm,0.8s,baz=307,slow=11,SNR=5.6							
CTAO	**Charters Tower**	**20.37**	**136**	*e*P		Pn	17 00 10.4	+1.9
	14nm,1.1s							
SBUM	**Sibu**	**20.72**	**293**	*e*P		**P**	**17 00 09.4**	**-0.3**
	6.5nm,0.7s							
SBUM	**Sibu**	**20.72**	**293**	P		**P**	**17 00 10.1**	**+0.4**
UGM	**Wanagama**	**20.76**	**263**	*e*P		**P**	**17 00 08.6**	**-1.5**
	244nm,1.4s							
KSM	**Kuching**	**22.16**	**288**	*e*P		**P**	**17 00 24.1**	**-0.9**
	22nm,1.3s							
CISI	**Cisompet, Garu**	**23.41**	**264**	*e*P		**P**	**17 00 37.3**	**-0.5**
	85nm,0.6s							
GIRL	**Giralia**	**23.56**	**223**	*e*P		**P**	**17 00 41.6**	**+2.5**
	465nm,1.4s							
LEM	**Lembang**	**23.58**	**266**	P		**P**	**17 00 37.4**	**-2.1**
	19nm,0.6s,baz=13,slow=21,SNR=6.6							
FORT	**Forrest**	**25.12**	**187**	*e*P		**P**	**17 00 55.5**	**+2.4**
	41nm,0.7s							
BBOO	**Buckleboo**	**27.32**	**171**	*e*P		**P**	**17 01 15.3**	**+2.4**
	48nm,1.4s							
MORW	**Morawa**	**27.36**	**210**	*e*P		**P**	**17 01 14.2**	**+0.8**
	77nm,1.8s							
STKA	**Stephens Creek**	**27.75**	**161**	P		**P**	**17 01 20.1**	**+3.3**
	3.5nm,0.3s,baz=339,slow=7.5,SNR=39							
STKA				LR		LR	17 12 23.5	
	comp=Z,75nm,18.5s,baz=22,slow=36							
STKA	**Stephens Creek**	**27.75**	**161**	*e*P		**P**	**17 01 19.8**	**+3.1**
	7.3nm,1.7s							
MYKOM	**Kota Tinggi**	**28.42**	**284**	*e*P		**P**	**17 01 22.9**	**-0.1**
	46nm,1.4s							
HNR	**Honiara**	**28.61**	**99**	LR		LR	17 14 04.7	
	comp=Z,47nm,18.1s,baz=334,slow=38							
TPUB	**Ta-pu**	**30.67**	**340**	*e*P		**P**	**17 01 40.5**	**-2.2**
	226nm,1.9s							
YOJ	**Yonaguni jima**	**31.07**	**345**	*e*P		**P**	**17 01 43.1**	**-3.0**
	190nm,1.0s							
IPM	**Ipoh**	**31.90**	**288**	*e*P		**P**	**17 01 53.5**	**-0.2**
	36nm,1.4s							
KULM	**Kulim**	**32.51**	**289**	*e*P		**P**	**17 01 57.6**	**-1.4**
	41nm,1.5s							
CAN	**Canberra**	**33.67**	**153**	*e*P		**P**	**17 02 13.0**	**+4.0**
	31nm,1.7s							
TOO	**Toolangi**	**34.24**	**160**	*e*P		P	17 02 18.7	+4.8
	22nm,1.6s							
GSI	**Gunungsitoli**	**34.41**	**281**	*e*P		**P**	**17 02 15.1**	**-0.5**
	28nm,1.3s							
CHAI	**Chaiyaphum**	**36.12**	**307**	P		**P**	**17 02 29.9**	**-0.3**
	6.3nm,0.8s,86nm							
CHAI	**Chaiyaphum**	**36.12**	**307**	P		**P**	**17 02 29.9**	**-0.3**
	6.3nm,0.8s,86nm							
NONG	**Nongkai**	**36.48**	**311**	P		**P**	**17 02 33.2**	**-0.1**
	0.4nm,0.8s							
NONG	**Nongkai**	**36.48**	**311**	P		**P**	**17 02 33.2**	**-0.1**
	0.4nm,0.8s							
PBKT	**Sadao Pong**	**37.30**	**307**	*e*P		**P**	**17 02 39.9**	**-0.3**
PBKT	**Sadao Pong**	**37.30**	**307**	P		**P**	**17 02 41.4**	**+1.2**
	5.9nm,0.6s,1µm							
PBKT	**Sadao Pong**	**37.30**	**307**	P		**P**	**17 02 41.4**	**+1.2**
	5.9nm,0.6s,1µm							
SSE	**Sheshan**	**37.86**	**346**	*e*P		**P**	**17 02 45.4**	**+0.7**
	44nm,0.8s							
UTHA	**Uthaitani**	**37.99**	**304**	P		**P**	**17 02 45.9**	**-0.2**
	10nm,0.7s,86nm							
UTHA	**Uthaitani**	**37.99**	**304**	P		**P**	**17 02 45.9**	**-0.2**
	10nm,0.7s,86nm							
UTTA	**Uttaradit**	**38.28**	**308**	P		**P**	**17 02 48.6**	**+0.1**
	5.1nm,0.9s,51nm							
UTTA	**Uttaradit**	**38.28**	**308**	P		**P**	**17 02 48.6**	**+0.1**
	5.1nm,0.9s,51nm							
MARNC	**Mare, Loyalty**	**38.84**	**117**	*e*P		**P**	**17 02 55.6**	**+2.5**
	203nm,1.4s							
SUKH	**Sukhothai**	**38.87**	**307**	P		**P**	**17 02 54.4**	**+1.0**
	5.2nm,0.7s							
SUKH	**Sukhothai**	**38.87**	**307**	P		**P**	**17 02 54.4**	**+1.0**
	5.2nm,0.7s							
NJ2	**Nanjing**	**39.39**	**343**	*e*P		**P**	**17 02 57.5**	**0.0**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.7s							
LAMP	**Lampang**	**39.44**	**308**	P		**P**	**17 02 58.5**	**+0.3**
	5.8nm,0.6s,86nm							
LAMP	**Lampang**	**39.44**	**308**	P		**P**	**17 02 58.5**	**+0.3**
	5.8nm,0.6s,86nm							
WHN	**Wuhan**	**39.54**	**337**	P		**P**	**17 02 59.8**	**+0.9**
CM01	**Chiang Mai Arr**	**39.91**	**308**	*e*P		**P**	**17 03 02.1**	**-0.1**
GYA	**Guiyang**	**39.92**	**324**	*e*P		**P**	**17 03 04.0**	**+1.8**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
CM31	**Chiang Mai Arr**	**39.95**	**308**	*e*P		**P**	**17 03 02.5**	**0.0**
CMAR	**Chiang Mai Arr**	**39.95**	**308**	P		**P**	**17 03 02.4**	**0.0**
	6.2nm,0.5s,baz=132,slow=6.7,SNR=95							
CMMT	**Chiang Mai**	**40.14**	**308**	P		**P**	**17 03 03.7**	**-0.4**
	18nm,0.9s							
CMMT	**Chiang Mai**	**40.14**	**308**	P		**P**	**17 03 03.7**	**-0.4**
CHTO	**Chiang Mai**	**40.15**	**308**	*e*P		**P**	**17 03 04.0**	**-0.1**
	15nm,1.0s							
CHTO	**Chiang Mai**	**40.15**	**308**	P		**P**	**17 03 03.8**	**-0.3**
	76nm,0.9s							
KMI	**Kunming**	**41.37**	**319**	P		**P**	**17 03 16.3**	**+1.9**
KMI				pmax		pmax		
	comp=Z,13nm,0.5s							
KMI				pmax		pmax		
	comp=Z,150nm,5.7s							
ENH	**Enshi**	**41.45**	**331**	*e*P		**P**	**17 03 14.1**	**-0.6**
	10nm,0.8s							
MJAR	**Matsushiro Arr**	**42.53**	**8**	P		**P**	**17 03 22.6**	**-0.7**
	3.2nm,0.9s,baz=195,slow=12,SNR=4.7							
MAJO	**Matsushiro**	**42.53**	**8**	*e*P		**P**	**17 03 22.6**	**-0.7**
KSAR	**Wonju Array Be**	**43.05**	**356**	P		**P**	**17 03 27.4**	**-0.1**
KSRS	**Korea Array**	**43.06**	**356**	P		**P**	**17 03 27.4**	**-0.2**
	1.1nm,0.8s,baz=175,slow=9.6,SNR=4.0							
XAN	**Xi'an**	**44.85**	**333**	P		**P**	**17 03 41.3**	**-0.8**
XAN				pmax		pmax		
	comp=Z,12nm,0.6s							
XAN				pmax		pmax		
	comp=Z,140nm,5.2s							
CD2	**Chengdu**	**44.95**	**326**	*e*P		**P**	**17 03 43.0**	**+0.1**
LZH	**Lanzhou**	**48.92**	**330**	*e*P		**P**	**17 04 18.3**	**+4.4**
LZH				pP		pwP	17 04 36.8	-3.1
LZH				sP		sP	17 04 45.8	+7.5
LZH				pmax		pmax		
	comp=Z,28nm,1.1s							
LZH				pmax		pmax		
	comp=Z,96nm,4.5s							
CN2	**Changchun**	**49.57**	**354**	*e*P		**P**	**17 04 14.8**	**-3.7**
USA0B	**Ussuriysk Arra**	**49.69**	**1**	*e*P		**P**	**17 04 20.3**	**+0.9**
	29nm,1.5s							
USRK	**Ussuriysk Ar.**	**49.69**	**1**	P		**P**	**17 04 19.9**	**+0.5**
	2.4nm,0.6s,baz=188,slow=7.4,SNR=9.2							
HHC	**Hu-ho-hao-te**	**49.76**	**340**	*e*P		**P**	**17 04 23.1**	**+3.0**
HHC				pmax		pmax		
	comp=Z,20nm,0.7s							
HHC				pmax		pmax		
	comp=Z,94nm,5.2s							
PALK	**P

USP	**Ospenovka** SNR=8.0	**70.71**	**320**	P	**P**	**17 06 44.1**	**+0.8**
AML	**Almayashu** SNR=10	**70.71**	**318**	P	**P**	**17 06 45.0**	**+1.3**
ARSB	**Arslanbob** 12nm,0.8s	**70.83**	**317**	*eP*	**P**	**17 06 44.2**	**+0.1**
EKS2	**Erkin-Say** SNR=6.0	**70.90**	**319**	P	**P**	**17 06 45.6**	**+1.1**
KBL	**Kabul** 9.7nm,1.0s	**70.95**	**309**	*eP*	**P**	**17 06 44.9**	**-0.2**
ZAA0	**Zalesovo Array** 5.2nm,0.8s	**71.03**	**333**	*eP*	**P**	**17 06 44.5**	**-0.3**
ZALV	**Zalesovo Beam** 4.5nm,0.5s,baz=120,slow=5.1,SNR=21	**71.03**	**333**	P	**P**	**17 06 44.4**	**-0.4**
ZALV	**Zalesovo Beam**	**71.03**	**333**	*eP*	**P**	**17 06 44.0**	**-0.8**
ZALV				*es*P	**pwP**	**17 07 11.6**	**+0.5**
ZAA1	**Zalesovo Array**	**71.03**	**333**	*eP*	**P**	**17 06 44.4**	**-0.4**
GAR	**Garm** 11nm,0.8s	**71.70**	**314**	*eP*	**P**	**17 06 48.8**	**-0.6**
GAR				*es*P	**pwP**	**17 07 16.8**	**+0.4**
BTK	**Batken** 4.1nm,0.9s	**71.78**	**315**	*eP*	**P**	**17 06 50.7**	**+0.9**
KURK	**Kurchatov**	**72.12**	**328**	*eP*	**P**	**17 06 51.0**	**-0.4**
KURK				*es*P	**pwP**	**17 07 18.9**	**+0.3**
KIWB	**Kanaga Island**	**72.16**	**31**	*eP*	**P**	**17 06 51.3**	**-0.4**
CHGR	**Chuyangaron** 16nm,1.0s	**72.40**	**313**	*eP*	**P**	**17 06 53.3**	**-0.2**
KK31	**Karatay Array**	**73.25**	**318**	*eP*	**P**	**17 06 58.3**	**-0.1**
KK31				*es*P	**pwP**	**17 07 26.3**	**+0.8**
KKAR	**Karatay Array**	**73.25**	**318**	*eP*	**P**	**17 06 58.7**	**+0.3**
KKAR				*es*P	**pwP**	**17 07 26.3**	**+0.8**
HATHI	**Halema'uma'u T** 110nm,0.9s	**76.39**	**69**	*eP*	**P**	**17 07 17.2**	**+0.1**
PUH	**Pauahi** 43nm,0.8s	**76.43**	**69**	*eP*	**P**	**17 07 19.1**	**+1.8**
MAW	**Mawson** 70nm,1.9s	**76.62**	**201**	*eP*	**P**	**17 07 17.4**	**+0.1**
BRVK	**Borovoye** 4.4nm,0.8s	**77.76**	**327**	*eP*	**P**	**17 07 23.6**	**-0.3**
GEYT	**Alibeck** 1.1nm,0.7s,baz=64,slow=3.4,SNR=3.8	**80.39**	**310**	P	**P**	**17 07 38.4**	**-0.4**
ABKAR	**Akbulak array**	**82.33**	**321**	*eP*	**P**	**17 07 47.7**	**-0.9**
ANM	**Nome** 22nm,2.0s	**84.04**	**23**	*eP*	**P**	**17 07 58.7**	**+1.6**
QSPA	**South Pole Qui** 19nm,1.8s	**84.25**	**180**	*eP*	**P**	**17 08 00.1**	**+1.7**
ARU	**Arti** 9.4nm,1.2s	**85.32**	**328**	*eP*	**P**	**17 08 03.7**	**0.0**
OHAK	**Old Harbor** 264nm,2.0s	**86.93**	**32**	*eP*	**P**	**17 08 12.7**	**+1.1**
ILAR	**Eielson Array** 0.8nm,0.7s,baz=261,slow=4.2,SNR=16	**91.63**	**25**	P	**P**	**17 08 32.8**	**-0.9**
ILB	**Eielson Array**	**91.63**	**25**	*eP*	**P**	**17 08 33.1**	**-0.5**
ARA0	**ARCESS Array S**	**100.83**	**340**	*e*Pdif	**Pdif**	**17 09 15.1**	**-0.2**
ARCES	**ARCESS Array B** 4.0nm,0.9s,baz=72,slow=4.0,SNR=3.8	**100.83**	**340**	P	**Pdif**	**17 09 15.1**	**-0.2**
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=297,slow=2.0,SNR=5.2	**106.03**	**26**	PKiKP	**PKiKP**	**17 13 51.1**	**+1.0**
TORD	**Torodi Ar. Bea** 1.0nm,0.6s,baz=92,slow=2.0,SNR=7.0	**129.83**	**282**	PKP	**PKPdf**	**17 14 37.4**	**+0.5**
TORD				SKPbc	SKPab	17 17 51.0	-1.4
TOA1	**Torodi Ar. Sit** 1.3nm,1.0s,baz=242,slow=3.2,SNR=5.4	**129.83**	**282**	*e*PKPdf	**PKPdf**	**17 14 37.4**	**+0.5**
TOA1				*e*		17 17 51.0	
DBIC	**Dimbokro** 1.7nm,0.5s,baz=144,slow=12,SNR=3.4	**136.43**	**274**	PKP	**PKPdf**	**17 14 50.7**	**+1.3**
CPUP	**Villa Florida** 1.0nm,0.4s,baz=76,slow=1.4,SNR=3.9	**147.06**	**166**	PKPbc	**PKPab**	**17 15 12.3**	**+0.6**

DDA ***17*** *16:59:06.7, 38.74N×35.55E, h7km±2km, ML2.5*
ISK ***17*** *16:59:06.3, 38.74N×35.54E, h1km, ML1.9/7*
ISCJB ***17*** *16:59:07.6±0.7, 38.75N±0.05×35.54E±0.06, h6km, Error ellipse: s-maj=7.6km s-min=5.8km az=142.0*

ISC 17 16:59:06.9±1.0, 38.75N±0.05×35.53E±0.04, h6km, n11, σ0s63/14, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNN	**Bunyan**	**0.27**	**68**			PG	**Pg**	**16 59 12.4**	**+0.2**
AVNS	**Nevsehir-Avano** comp=Z,1μm,0.1s	**0.53**	**276**			IAML_P			
AVNS				*i* P		**Pb**		**16 59 18.1**	**-0.6**
CUSAR	**Sarkisla-SIVAS**	**0.87**	**40**	*i* P		**Pg**		**16 59 23.8**	**+0.2**
SAIM	**ADANA** comp=Z,592nm,0.2s	**0.89**	**150**			IAML_P			
SAIM				*i* P		**Pn**		**16 59 26.4**	**+0.4**
SAIM				*i* S		**Sb**		**16 59 36.1**	**-0.7**
KOZT	**Kozan**	**1.29**	**169**	PN		**Pg**		**16 59 31.8**	**+0.2**
KOZT				SN		**Sn**		**16 59 50.2**	**+1.2**
ELBS	**KAHRAMANMARAS**	**1.33**	**108**	*i* P		**Pg**		**16 59 32.4**	**0.0**
ELBS				*i* S		**Sn**		**16 59 50.3**	**+0.2**
YAYX	**Yaylak**	**1.35**	**279**	PN		**Pg**		**16 59 33.3**	**+0.5**
DARE	**Darende-Malaty**	**1.54**	**96**	PN		**Pg**		**16 59 36.1**	**-0.3**
CORM	**Corum**	**1.59**	**334**	PN		**Pb**		**16 59 36.6**	**-0.1**
SVSK	**Karacayir**	**1.63**	**44**	PN		**Pb**		**16 59 37.1**	**-0.2**
AFSR	**Afar-Bala (An**	**2.03**	**291**	PN		**Pb**		**16 59 43.1**	**-1.2**

TAP 17 17:01:16.4, 24.82N×121.98E, h7km, ML2.0, 4C-1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EGS		**0.05**	**297**	*eP*			Pg	17 01 18.6	+0.7
	baz=300								
NTC	**Toucheng** baz=282	**0.14**	**283**	⇑P			Pg	17 01 20.4	+1.0
NTC				*es*			Sg	17 01 23.0	+1.7
	baz=282								
TWB1	**Santiao Chiao** baz=5.0	**0.18**	**3**	⇑P			Pg	17 01 20.9	+0.8
TWB1				S			Sg	17 01 23.6	+1.0
	baz=5.0								
TIPB	**Shuangxi** baz=316	**0.20**	**317**	⇑*i* P			Pg	17 01 21.6	+1.2
TIPB				*i* S			Sg	17 01 24.8	+1.6
	baz=316								
TWC	**Suao** baz=206	**0.24**	**209**	*i* P			Pg	17 01 21.8	+0.6
TWC				*i* S			Sg	17 01 27.1	+2.7
	baz=206								
TWE	**Neicheng** baz=248	**0.30**	**250**	⇓*i* P			Pg	17 01 23.1	+0.8
TWE				S			Sg	17 01 27.3	+1.0
	baz=248								
NWF	**Wu-fen Shan** baz=324	**0.30**	**324**	*eP*			Pb	17 01 23.8	-0.4
NWF				*es*			Sb	17 01 28.7	-0.8
	baz=324								
WFSB	**Wu-fen Shan** baz=323	**0.30**	**324**	*eP*			Pb	17 01 23.6	-0.5
WFSB				S			Sb	17 01 28.7	-0.6
	baz=323								
EOS1	**EOS1** baz=153	**0.31**	**153**	*eP*			Pb	17 01 23.4	-0.7
EOS1				*es*			Sb	17 01 30.0	+0.7
	baz=153								
TWA	**Mucha** baz=293	**0.39**	**294**	*eP*			Pb	17 01 25.2	-0.4
TWA				*es*			Sb	17 01 31.1	-0.8
	baz=293								
ENTT	**Nioudou** baz=243	**0.42**	**244**	P			Pb	17 01 25.4	-0.7
ENTT				*es*			Sb	17 01 32.8	+0.2
	baz=243								
NWLT	**Wulai** baz=263	**0.43**	**264**	*eP*			Pb	17 01 25.6	-0.7
NWLT				*es*			Sb	17 01 33.7	+0.6
	baz=263								
NANB	**Nanao** baz=207	**0.45**	**208**	*eP*			Pb	17 01 25.8	-0.7
NANB				*es*			Sb	17 01 32.2	-1.2
	baz=207								
ENA	**Nanau** baz=207	**0.45**	**209**	*eP*			Pb	17 01 26.1	-0.6
ENA				*es*			Sb	17 01 32.4	-1.1
	baz=207								
TATO	**Taipei** baz=288	**0.47**	**289**	*es*			Sb	17 01 33.3	-0.8
YM01	**YM01** baz=310	**0.49**	**311**	*eP*			Pb	17 01 28.5	+1.1
YM11	**YM11** baz=312	**0.50**	**313**	⇑P			Pb	17 01 27.8	+0.3
YM05	**YM05** baz=312	**0.51**	**312**	P			Pb	17 01 27.8	+0.2
YM08	**YM08** baz=315	**0.51**	**316**	P			Pb	17 01 27.6	0.0
YM04	**YM04** baz=309	**0.52**	**309**	*eP*			Pb	17 01 27.7	-0.1
YHNB	**Yeheng** baz=254	**0.57**	**254**	*eP*			Pb	17 01 28.3	-0.4
NSK	**Sanguang** baz=254	**0.58**	**255**	*eP*			Pb	17 01 28.4	-0.6
NSK				*es*			Sb	17 01 37.6	+0.2
	baz=254								
NNS	**Nan Shan** baz=234	**0.67**	**235**	*eP*			Pb	17 01 30.4	-0.1
NNSB	**Datong** baz=233	**0.67**	**234**	*eP*			Pg	17 01 29.8	+0.5
NACB	**Ninganchiao** baz=208	**0.74**	**208**	*eP*			Pb	17 01 31.6	+0.2
NACB				*es*			Sb	17 01 41.1	-0.7
	baz=208								
PCYT	**Pengchaiyu** baz=6.0	**0.81**	**6**	*e*S			Sb	17 01 45.0	+1.2
LIOB	**Emei** baz=258	**0.89**	**259**	*eP*			Pb	17 01 34.6	+0.4
LIOB				*es*			Sn	17 01 47.9	-0.6
	baz=258								
WHF	**Hehuan Shan** baz=223	**0.94**	**224**	*eP*			Pg	17 01 34.2	-0.3
WHF				*es*			Sb	17 01 47.8	-0.2
	baz=223								
CHGB	**Renai** baz=223	**1.06**	**224**	*eP*			Pb	17 01 37.0	-0.1
CHGB				*es*			Sn	17 01 52.4	-0.5
	baz=223								
VWDT	**VWDT** baz=215	**1.31**	**216**	*eP*			Pb	17 01 41.4	+0.1
VWDT				*es*			Sb	17 01 58.3	0.0
	baz=215								
SSLB	**Suanglung** 145nm,1.9s	**1.39**	**222**	*eP*			Pb	17 01 42.8	+0.1
SSLB	**Suanglung** baz=222	**1.39**	**222**	*eP*			Pg	17 01 43.1	0.0

ISCJB ***17*** *17:11:06.9±0.7, 46.93N±0.07×147.0E±0.2, h350km, mb3.0/6, Error ellipse: s-maj=15.0km s-min=8.6km az=16.8*
IDC ***17*** *17:11:09.1±2.1, 47.12N×146.85E, h364km±22km, mb2.7/6, mb1 2.9/9, mb1mx2.7/33, mbtmp3.5/9, Error ellipse: s-maj=23.6km s-min=17.9km az=95.0*

ISC 17 17:11:07.3±0.9, 46.86N±0.09×147.0E±0.1, h350km, n19, σ1s98/22, mb3.0/6, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.61**	**195**	P		P	**Pn**	**17 12 12.8**	**+0.4**
NEM2				*es*		**S**	**S**	**17 13 04.2**	**-0.7**
JTKR	**Abashiri--Toko**	**3.62**	**218**	P		P	**Pn**	**17 12 15.4**	**+2.9**
JSE	**Soyaes**	**3.62**	**240**	P		P	**Pn**	**17 12 16.9**	**+4.4**
JNK	**Nakash**	**3.65**	**207**	P		P	**Pn**	**17 12 15.2**	**+2.3**
ASAJ	**Asahikawa** 0.3nm,0.3s,baz=38,slow=17,SNR=3.8	**4.14**	**230**	P		P	**Pn**	**17 12 20.7**	**+3.0**
JAK	**Akkeshi**	**4.20**	**204**	P		P	**Pn**	**17 12 19.1**	**+0.7**
JAK				*es*		**S**	**S**	**17 13 14.5**	**-1.2**
JAR	**Ashorobuto**	**4.24**	**214**	P		P	**Pn**	**17 12 21.0**	**+2.2**
JCH	**Churui**	**4.97**	**213**	P		P	**Pn**	**17 12 27.3**	**+0.6**
JCH				*es*		**S**	**S**	**17 13 27.8**	**-3.0**
JNBK	**Urakawa-nobuka**	**5.49**	**215**	P		P	**Pn**	**17 12 32.9**	**+0.5**
JKB	**Kayabe**	**6.56**	**223**	P		P	**Pn**	**17 12 45.2**	**+0.7**
JKB				*es*		S	S	17 13 58.2	-5.2
JOT	**Ohata**	**6.95**	**220**	P		P	**Pn**	**17 12 49.7**	**+0.6**
JOT				*es*		S	S	17 14 05.9	-6.0
KLR	**Kul'dur** 0.1nm,0.3s,baz=105,slow=13,SNR=12	**10.48**	**289**	P		P	**P**	**17 13 31.2**	**-0.8**
USRK	**Ussuriysk Ar.** 0.2nm,0.3s,baz=69,slow=12,SNR=5.0	**10.86**	**261**	P		P	**Pn**	**17 13 36.6**	**+1.2**
ILAR	**Eielson Array** 0.2nm,0.8s,baz=266,slow=6.2,SNR=4.7	**39.08**	**38**	P		P	**P**	**17 18 00.3**	**-1.0**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=83,slow=8.3,SNR=4.0	**43.12**	**295**	P		P	**P**	**17 18 33.1**	**-1.1**
FINES	**FINESS Array B** 1.2nm,0.5s,baz=44,slow=8.5,SNR=8.8	**62.06**	**332**	P		P	**P**	**17 20 49.3**	**-2.0**
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=7.5,slow=6.8,SNR=6.0	**67.47**	**193**	P		P	**P**	**17 21 27.6**	**+1.3**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=5.3,slow=5.8,SNR=7.4	**71.19**	**193**	P		P	**P**	**17 21 50.9**	**+2.0**
TXAR	**Lajitas Array** 0.1nm,0.4s,baz=300,slow=2.7,SNR=3.6	**81.02**	**57**	P		P	**P**	**17 22 45.0**	**+1.0**

TIR 17 17:21:50.8, 43.41N×16.40E, h24km, Md4.3/5, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGRT	**San Giovanni R**	**1.72**	**197**	*i* PN			Pb	17 22 22.6	+0.8
SGRT				*i* SN			Sb	17 22 48.5	+5.4
NOCI	**Noci**	**2.67**	**169**	*i* PN			Pb	17 22 36.1	-1.7
NOCI				*i* SN			Sb	17 23 10.0	-0.1
TIR	**Tirane**	**3.29**	**128**	*i* PN			Pn	17 22 38.1	-2.8
TIR				*i* SN			Sb	17 23 26.4	-1.7
PHP	**Peshkopia**	**3.45**	**119**	*i* PN			Pb	17 22 47.3	-3.9
PHP				*i* SN			Sb	17 23 31.6	-1.1
SCTE	**Santa Cesarea**	**3.68**	**154**	*i* PN			Pn	17 22 48.0	+1.9

AZER ***17*** *17:27:42.5±0.2, 38.34N×46.43E, h10km±1km, ml3.8/27, Error ellipse: s-maj=6.8km s-min=1.3km az=34.0*
NSSP ***17*** *17:27:45.6, 38.53N×46.52E, h10km, Ms3.7*
THR ***17*** *17:27:45.9, 38.53N×46.56E, h14km, ML3.3*
TEH ***17*** *17:27:45.3, 38.50N×46.59E, h4km, ML3.4*

ISC 17 17:27:46.4±1.0, 38.55N±0.02×46.58E±0.02, h16km±8km, n64, σ1s70/93, 29C-18D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IHRS	**Heris**	**0.43**	**122**	*e*Pg			**Pg**	**17 27 53.7**	**-1.4**
IHRS	comp=Z,60μm,0.2s				IAMB		IAmb	17 28 01.6	
ITBZ	**Tabriz**	**0.46**	**228**	*e*Pg			**Pg**	**17 27 54.1**	**-1.6**
ITBZ	comp=Z,33μm,0.2s				IAMB		IAmb	17 28 01.0	
ORD	**Ordubad**	**0.60**	**310**	⇑P			**Pg**	**17 27 58.1**	**-0.1**
ORD				⇑S			**Sb**	**17 28 07.1**	**+0.3**
IBST	**Bostanabad**	**0.88**	**164**	*e*Pg			**Pg**	**17 28 00.7**	**-2.8**
IBST	comp=Z,23μm,0.2s				IAMB		IAmb	17 28 01.1	
NAX	**Nakhchivan** SNR=31	**1.05**	**307**	⇓P			**Pn**	**17 28 06.6**	**0.0**
NAX				⇓S			**Sn**	**17 28 22.0**	**+0.9**
GRMI	**Germi**	**1.06**	**75**	*e*Pn			**Pb**	**17 28 06.2**	**-0.3**
GRMI	**Germi**	**1.06**	**75**	*e*Pg			**Pb**	**17 28 06.2**	**-0.3**
ISRB	**Sarab**	**1.12**	**130**	*e*Sg			**Sb**	**17 28 21.6**	**-0.3**
ISRB				*e*Pg			**Pb**	**17 28 05.7**	**-1.8**
ISRB	comp=Z,10μm,0.4s				IAMB		IAmb	17 28 31.5	
SBZ	**Shahbuz**	**1.17**	**317**	⇑P			**Pg**	**17 28 08.8**	**-0.1**
SBZ				⇑S			**Sn**	**17 28 25.8**	**+1.8**
LRK	**Lerik** SNR=6.3	**1.38**	**85**	⇑P			**Pg**	**17 28 12.7**	**-0.3**
GLBA	**Clilabad** SNR=36	**1.58**	**63**	P			**Pg**	**17 28 16.7**	**0.0**
GLBA				⇑S			**Sg**	**17 28 41.3**	**+4.2**
MAKU	**Maku**	**1.69**	**299**	*e*Pn			**Pb**	**17 28 17.1**	**-0.1**
MAKU	**Maku** comp=N,420nm,0.5s	**1.69**	**299**	*e*AML			AML	17 28 41.4	
MAKU	comp=E,227nm,0.4s			*e*AML			AML	17 28 47.5	
MAKU	**Maku**	**1.69**	**299**	*e*Pn			**Pb**	**17 28 17.1**	**-0.1**
MAKU				*e*Sg			**Sg**	**17 28 39.3**	**-1.5**
LKRN	**Lenkeran, Azer** SNR=29	**1.73**	**84**	⇓P			**Pb**	**17 28 18.4**	**+0.6**
LKRN				⇓S			**Sg**	**17 28 43.2**	**+1.1**
ASTR	**Astara** SNR=59	**1.73**	**89**	P			**Pb**	**17 28 18.4**	**+0.6**
ASTR				⇑S			**Sg**	**17 28 43.0**	**+0.9**
BRDA	**Brd** SNR=5.0	**1.78**	**15**	⇓P			**Pg**	**17 28 20.5**	**0.0**
BRDA				⇑S			**Sg**	**17 28 45.8**	**+2.2**
HYR	**Heyderabad**	**1.78**	**312**	⇓P			**Pb**	**17 28 19.1**	**+0.3**
HYR				⇓S			**Sg**	**17 28 44.7**	**+0.9**
ZRD	**Zardab** SNR=18	**1.93**	**26**	⇑P			**Pg**	**17 28 22.8**	**-0.6**
ZRD				⇑S			**Sg**	**17 28 52.0**	**+3.5**
YOVA	**Hakkari_Yksek**	**2.05**	**243**	*i* P			**Pn**	**17 28 20.6**	**+0.2**
GANJ	**Ganja** SNR=54	**2.11**	**355**	P			**Pb**	**17 28 25.2**	**+0.9**
GANJ				⇑S			**Sg**	**17 28 53.3**	**-0.9**
GNI	**Garni**	**2.15**	**319**	*eP*			**Pg**	**17 28 26.5**	**-1.1**
GNI	**Garni**	**2.15**	**319**	⇑*i*P			**Pg**	**17 28 26.4**	**-1.2**
GNI				⇑*i*S			**Sg**	**17 28 55.3**	**-0.1**
CLDR	**Caldiran**	**2.16**	**287**	*eP*			**Pb**	**17 28 26.4**	**+1.1**
CLDR				*es*			**Sg**	**17 28 56.9**	**+0.9**
KDMR	**Kurdemir** SNR=5.6	**2.21**	**34**	⇑P			**Pb**	**17 28 26.3**	**+0.4**
KDMR				⇓S			**Sg**	**17 28 58.9**	**+1.5**
MNGR	**Mingechevir, A**	**2.26**	**10**	⇓P			**Pb**	**17 28 26.6**	**-0.1**
MNGR				⇓S			**Sg**	**17 28 59.8**	**+0.8**
GDB	**GEDABAY** SNR=7.6	**2.27**	**344**	⇑P			**Pb**	**17 28 26.7**	**-0.3**
TASB	**TASBURUN-IGDIR**	**2.32**	**309**	*eP*			**Pb**	**17 28 27.8**	**-0.1**
TASB				*es*			**Sg**	**17 28 59.9**	**-1.0**
IGDI	**IGDIR**	**2.35**	**305**	*i* P			**Pb**	**17 28 28.2**	**-0.2**
IGDI				*i* S			**Sb**	**17 28 58.2**	**+1.0**
ALIB	**Äli-Bayra**	**2.35**	**52**	⇑S			**Sg**	**17 29 02.4**	**+0.4**
VMUR	**Van-Muradiye**	**2.39**	**282**	*i* P			**Pb**	**17 28 29.8**	**+0.6**
TVAN	**Van**	**2.49**	**271**	*i* P			**Pg**	**17 28 34.2**	**0.0**
VANB	**Van**	**2.50**	**272**	*eP*			**Pg**	**17 28 36.9**	**+2.5**
ZNJK	**Zanjan**	**2.51**	**138**	*e*Pn			**Pn**	**17 28 28.4**	**+1.6**
ZNJK	**Zanjan**	**2.51**	**138**	*e*Pn			**Pn**	**17 28 28.4**	**+1.6**
IML	**Ismayilli**	**2.56**	**28**	⇓P			**Pb**	**17 28 30.8**	**-1.2**
IML				⇑S			**Sb**	**17 29 05.3**	**+1.9**
QBL	**Gabala** SNR=9.4	**2.59**	**22**	⇓P			**Pb**	**17 28 31.7**	**-0.7**
QBL				⇑S			**Sg**	**17 29 07.3**	**-2.2**
QZX	**Qazax, Azerbai** SNR=15	**2.68**	**340**	⇓P			**Pn**	**17 28 31.2**	**+2.3**
QZX				⇑S			**Sg**	**17 29 09.9**	**-2.5**
CUKT	**Cukurca**	**2.69**	**242**	*eP*			**Pg**	**17 28 36.9**	**-1.0**
CUKT	**Cukurca**	**2.69**	**242**	*i* P			**Pg**	**17 28 37.0**	**-0.8**
GBS	**Qobustan** SNR=4.8	**2.70**	**42**	⇑P			**Pb**	**17 28 32.8**	**-1.6**
GBS				⇑S			**Sg**	**17 29 11.9**	**-1.2**
SEKA	**Sheki** SNR=14	**2.70**	**10**	P			**Pb**	**17 28 33.3**	**-1.1**
PQL	**Pirkuli** SNR=7.5	**2.73**	**34**	⇑P			**Pb**	**17 28 33.1**	**-1.8**
PQL				⇑S			**Sb**	**17 29 10.7**	**+2.5**
GEVA	**Gevas**	**2.78**	**266**	*i* P			**Pb**	**17 28 35.3**	**-0.5**
AKDM	**Akdamar-Van**	**2.84**	**267**	*eP*			**Pg**	**17 28 40.7**	**-0.1**
XNQ	**Khinaliq** SNR=4.8	**2.88**	**24**	⇑P			**Pb**	**17 28 35.4**	**-2.3**
XNQ				⇑S			**Sb**	**17 29 13.3**	**+0.5**
ATGJ	**Altiaghaj** SNR=9.7	**2.94**	**37**	⇓P			**Pb**	**17 28 36.2**	**-2.3**
TUTA	**Tutak**	**3.06**	**287**	*i* P			**Pg**	**17 28 43.7**	**-1.3**
ZKTA	**Zakatala** SNR=5.7	**3.09**	**1**	⇑P			**Pb**	**17 28 38.1**	**-2.9**
ZKTA				⇑S			**Sb**	**17 29 20.5**	**+2.1**
SIZA	**Siyzn**	**3.09**	**35**	⇓P			**Pb**	**17 28 39.0**	**-2.1**
QUBA	**Quba, Azerbaij** SNR=5.6	**3.17**	**27**	⇓P			**Pb**	**17 28 39.8**	**-2.5**
QSAR	**Qusar** SNR=14	**3.23**	**23**	⇓P			**Pb**	**17 28 40.4**	**-3.1**
LGD	**Lagodekhi**	**3.30**	**356**	P			**Pb**	**17 28 41.9**	**-2.6**
LGD				S			**Sg**	**17 29 29.8**	**-2.5**
SIRT	**Sirnak**	**3.43**	**254**	*eP*			**Pb**	**17 28 45.9**	**-1.0**
SIRN	**Sirnak**	**3.45**	**254**	*i* P			**Pg**	**17 28 53.0**	**+0.4**
TBLG	**Delisi**	**3.48**	**337**	*eP*			**Pb**	**17 28 47.4**	**-0.3**
TBLG	**Delisi**	**3.48**	**337**	P			**Pb**	**17 28 49.9**	**+2.2**
TBLG				S			**Sg**	**17 29 36.2**	**-2.0**
SEAG	**Tbilisi Sea**	**3.49**	**338**	P			**Sn**	**17 29 21.1**	**0.0**
SEAG				S			**Sg**	**17 29 38.7**	**+0.2**
HKZM	**Kohzaman**	**3.67**	**149**	*e*Pn			**Pn**	**17 28 45.6**	**+2.9**
HKZM	comp=Z,0.0nm,0.9s				IAMB		IAmb	17 28 56.8	
SRTM	**Siirt_Merkez**	**3.71**	**263**	*i* P			**Pb**	**17 28 53.4**	**+1.8**
IRAZ	**Razeghan**	**4.12**	**138**	*e*Pn			**Pn**	**17 28 51.2**	**+2.2**
IRAZ	comp=Z,477nm,0.7s				IAMB		IAmb	17 30 03.9	
IMHD	**Mahdasht**	**4.34**	**130**	*e*Pn			**Pn**	**17 28 54.2**	**+2.4**
IMHD	comp=Z,411nm,0.6s				IAMB		IAmb	17 29 49.4	
AB31	**Akbulak array** comp=Z,0.5nm,0.5s,baz=223,slow=12,SNR=17	**14.38**	**38**	Pn			**Pn**	**17 31 09.6**	**+0.4**
AB31				⇑Sn			**Sn**	**17 33 44.9**	**-3.3**
AKTO	**Aktyubinsk** comp=Z,1.3nm,0.6s	**14.40**	**31**	⇓Pn			**Pn**	**17 31 09.5**	**0.0**
AKTO	comp=Z,2.7nm,1.1s			⇑Sn			**Sn**	**17 33 42.9**	**-5.8**

JMA ***17*** *17:38:32.8±0.1, 24.40N×121.99E, h14km, M2.7*
TAP ***17*** *17:38:33.0, 24.45N×121.98E, h14km, ML3.1, C*

ISC 17 17:38:32.6±0.9, 24.42N±0.02×122.01E±0.02, h13km±6km, n76, σ0s62/115, 6C-10D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EOS1	**EOS1** baz=45	**0.16**	**40**	⇓P			**Pg**	**17 38 37.5**	**+1.0**
EOS1				S			**Sb**	**17 38 41.1**	**+0.4**
	baz=45								
TWC	**Suao** baz=326	**0.24**	**321**	⇑*i*P			**Pg**	**17 38 37.7**	**0.0**
TWC				*i* S			**Sg**	**17 38 40.6**	**-0.6**
	baz=326								
NANB	**Nanao** baz=272	**0.24**	**271**	⇓P			**Pg**	**17 38 38.0**	**+0.2**
NANB				S			**Sg**	**17 38 41.0**	**-0.2**
	baz=272								
ENA	**Nanau** baz=271	**0.25**	**271**	⇓*i*P			**Pg**	**17 38 38.0**	**+0.1**
ENA				*i* S			**Sg**	**17 38 41.1**	**-0.4**
	baz=271								
ILA	**Ilan** baz=319	**0.42**	**325**	*eP*			**Pg**	**17 38 41.3**	**+0.4**
ILA				*es*			**Sg**	**17 38 46.8**	**+0.2**
	baz=319								
EGS		**0.42**	**350**	*eP*			**Pg**	**17 38 41.2**	**+0.1**
	baz=349								
TWE	**Neicheng** baz=318	**0.43**	**313**	⇑*i*P			**Pg**	**17 38 41.4**	**+0.2**
TWE				*es*		

	baz=326							
WFSB	**Wu-fen Shan**	**0.68**	**342**	P		**Pb**	**17 38 46.4**	**+0.1**
	baz=332							
WFSB				*e*S		**Sb**	**17 38 55.5**	**-0.1**
	baz=332							
TATO	**Taipei**	**0.73**	**319**	P		**Pb**	**17 38 47.5**	**+0.4**
	baz=308							
TATO				S		**Sg**	**17 38 55.5**	**-0.8**
	baz=308							
WHF	**Hehuan Shan**	**0.74**	**248**	⇓*i*P		**Pg**	**17 38 47.0**	**0.0**
	baz=256							
WHF				S		**Sb**	**17 38 56.9**	**-0.7**
	baz=256							
TAP	**Taipei**	**0.77**	**323**	*e*P		**Pn**	**17 38 49.2**	**+0.1**
	baz=315							
TAP				*e*S		**Sb**	**17 38 57.9**	**-0.2**
	baz=315							
TWT	**Tachien**	**0.78**	**258**	*e*P		**Pb**	**17 38 48.2**	**+0.1**
	baz=256							
TWT				*e*S		**Sb**	**17 38 58.5**	**-0.1**
	baz=256							
TDCB	**Techi**	**0.80**	**258**	*e*P		**Pb**	**17 38 48.4**	**0.0**
	baz=256							
TDCB				*e*S		**Sg**	**17 38 58.0**	**-0.6**
	baz=256							
ESL	**Shilin**	**0.81**	**221**	*e*P		**Pg**	**17 38 48.0**	**-0.3**
	baz=225							
WLTB	**Daxi**	**0.81**	**302**	*e*P		**Pn**	**17 38 49.7**	**0.0**
	baz=301							
WLTB				*e*S		**Sb**	**17 39 00.0**	**+0.6**
	baz=301							
YM01	**YM01**	**0.82**	**331**	*e*P		**Pn**	**17 38 50.4**	**+0.5**
	baz=331							
YM01				S		**Sb**	**17 39 00.2**	**+0.4**
	baz=331							
YM11	**YM11**	**0.84**	**332**	*e*P		**Pn**	**17 38 49.7**	**-0.4**
	baz=333							
YM05	**YM05**	**0.84**	**331**	*e*P		**Pn**	**17 38 49.8**	**-0.4**
	baz=332							
YM04	**YM04**	**0.84**	**329**	P		**Pn**	**17 38 49.9**	**-0.3**
	baz=339							
CHGB	**Renai**	**0.85**	**245**	⇓P		**Pb**	**17 38 49.2**	**0.0**
	baz=252							
CHGB				*e*S		**Sb**	**17 39 00.2**	**-0.4**
	baz=252							
YM08	**YM08**	**0.85**	**333**	*e*P		**Pb**	**17 38 49.7**	**+0.5**
	baz=333							
YM08				*e*S		**Sn**	**17 39 01.7**	**-0.9**
	baz=333							
TWS1	**Kuangyinshan**	**0.86**	**321**	*e*P		**Pn**	**17 38 50.7**	**+0.3**
	baz=314							
TWS1				*e*S		**Sb**	**17 39 01.6**	**+0.7**
	baz=314							
NTST	**Danshui**	**0.90**	**325**	*e*P		**Pn**	**17 38 51.3**	**+0.4**
	baz=326							
YOJ	**Yonaguni jima**	**0.91**	**87**	P		**Pb**	**17 38 50.4**	**+0.1**
NCU	**National Centr**	**0.93**	**306**	*e*P		**Pn**	**17 38 51.8**	**+0.5**
	baz=306							
NCUH	**Zhongli**	**0.93**	**306**	*e*P		**Pn**	**17 38 52.1**	**+0.8**
	baz=306							
TWY	**Chenhua**	**0.93**	**336**	*e*P		**Pn**	**17 38 51.6**	**+0.3**
	baz=338							
LIOB	**Emei**	**0.93**	**284**	P		**Pn**	**17 38 51.6**	**+0.2**
	baz=283							
LIOB				*e*S		**Sb**	**17 39 03.3**	**+0.4**
	baz=283							
NSTT	**Nanjuang**	**0.94**	**283**	*e*P		**Pn**	**17 38 51.4**	**-0.1**
	baz=282							
NSTT				*e*S		**Sg**	**17 39 03.0**	**-0.2**
	baz=282							
SBCB	**Hsinchu**	**1.00**	**292**	*e*P		**Pn**	**17 38 53.1**	**+0.8**
	baz=284							
SBCB				*e*S		**Sn**	**17 39 07.2**	**+0.8**
	baz=284							
VWDT	**VWDT**	**1.04**	**230**	*e*P		**Pn**	**17 38 52.7**	**-0.1**
	baz=233							
VWDT				*e*S		**Sn**	**17 39 06.8**	**-0.3**
	baz=233							
HGSD	**Ruisui**	**1.07**	**210**	*e*P		**Pg**	**17 38 53.9**	**+0.6**
	baz=208							
EHY	**Hungye**	**1.11**	**215**	*e*P		**Pg**	**17 38 54.2**	**+0.1**
	baz=223							
NMLH	**Miaoli**	**1.12**	**276**	*e*P		**Pg**	**17 38 55.7**	**+1.6**
	baz=275							
NSY	**Sanyi**	**1.14**	**270**	*e*P		**Pg**	**17 38 56.9**	**+2.2**
	baz=269							
SMLT	**Sun Moon Lake**	**1.15**	**242**	⇑P		**Pg**	**17 38 55.1**	**+0.3**
	baz=249							
SSLB	**Suanglung**	**1.16**	**237**	⇑P		**Pg**	**17 38 55.0**	**+0.1**
	baz=243							
SSLB				*e*S		**Sg**	**17 39 09.6**	**-0.4**
	baz=243							
TYC	**Yuchr**	**1.18**	**244**	*e*P		**Pg**	**17 38 55.3**	**0.0**
	baz=250							
TYC				*e*S		**Sn**	**17 39 10.5**	**-0.1**
	baz=250							
PTSB	**Yuanli**	**1.19**	**271**	*e*P		**Pg**	**17 38 57.6**	**+2.0**
	baz=270							
YULB	**Yu-li**	**1.22**	**213**	*e*P		**Pn**	**17 38 55.4**	**0.0**
	baz=210							
TWF1	**Yuli**	**1.25**	**212**	*e*P		**Pb**	**17 38 56.2**	**+0.1**
	baz=226							
WNT	**Mingjian**	**1.33**	**246**	*e*P		**Pg**	**17 38 59.0**	**+0.8**
	baz=245							
YUS	**Yu-Shan**	**1.34**	**226**	*e*P		**Pb**	**17 38 58.1**	**+0.2**
	baz=225							
ALS	**Alishan**	**1.43**	**231**	*e*P		**Pg**	**17 39 00.3**	**+0.1**
	baz=229							
CHN5	**Tsauling**	**1.47**	**236**	*e*P		**Pg**	**17 39 01.8**	**+0.9**
	baz=236							
WGK	**Gukeng**	**1.52**	**241**	*e*P		**Pg**	**17 39 02.5**	**+0.7**
	baz=241							
ELDTW	**Lidau**	**1.53**	**217**	*e*P		**Pn**	**17 38 59.7**	**0.0**
	baz=215							
WDLH	**Douliu**	**1.53**	**242**	*e*P		**Pg**	**17 39 02.7**	**+0.6**
	baz=242							
IRIF	**Iriomote-Funau**	**1.57**	**93**	P		**Pn**	**17 39 00.0**	**-0.1**
IRIF				*e*S		**Sn**	**17 39 19.8**	**-0.5**
RLNB	**Erlin**	**1.60**	**251**	*e*P		**Pg**	**17 39 03.5**	**+0.2**
	baz=263							
TPUB	**Ta-pu**	**1.69**	**229**	*e*P		**Pg**	**17 39 04.7**	**-0.4**
	baz=230							
TPUB				*e*S		**Sg**	**17 39 28.6**	**+1.6**
	baz=230							
STYT	**Tauyuan**	**1.70**	**223**	*e*P		**Pb**	**17 39 04.4**	**+0.6**
	baz=222							
WTP	**Ta-pu**	**1.74**	**228**	*e*P		**Pg**	**17 39 05.5**	**-0.5**
	baz=228							
TWK	**Hsinying**	**1.81**	**231**	*e*P		**Pg**	**17 39 07.1**	**-0.3**
	baz=231							
JKRS	**Kuro-shima**	**1.83**	**95**	P		**Pn**	**17 39 04.3**	**+0.6**
JKRS				*e*S		**Sn**	**17 39 26.7**	**-0.1**
CHN1	**Nanshi**	**1.83**	**228**	*e*P		**Pb**	**17 39 06.8**	**+0.8**
	baz=232							
CHN1				*e*S		**Sg**	**17 39 32.3**	**+0.6**
	baz=232							
SLGT	**Liugui**	**1.90**	**222**	*e*P		**Pb**	**17 39 07.8**	**+0.8**
	baz=222							
JIJ	**Ishigaki jima**	**1.94**	**91**	P		**Pn**	**17 39 05.6**	**+0.3**
JIJ				S		**Sn**	**17 39 28.0**	**-1.6**
SSD	**Sandimen**	**2.10**	**217**	*e*P		**Pb**	**17 39 11.1**	**+0.6**
	baz=230							
JISG	**Ishigakijimahi**	**2.10**	**85**	P		**Pn**	**17 39 07.4**	**0.0**
JISG				*e*S		**Sn**	**17 39 33.2**	**-0.2**
MASBT	**Mashibuluo**	**2.20**	**215**	*e*P		**Pb**	**17 39 11.0**	**-1.3**
	baz=216							
PTTC	**Pingtan**	**2.30**	**298**	*e*P		**Pb**	**17 39 12.3**	**-1.6**
	baz=297							
XPSS	**Dashiqiu**	**2.99**	**327**	*e*P		**Pn**	**17 39 20.1**	**+0.4**
	baz=325							

*ISCJB **17** 17:58:35.0±1.0,36°.20N±0°.06×71°.1E±0°.1,h200km, Error ellipse: s-maj=15.7km s-min=6.9km az=162.2*
*NNC **17** 17:58:36.1±3.5,36°.75N×70°.27E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=35.9km s-min=18.8km az=157.0*

ISC 17 17:58:35.4±1.4, 36°.25N±0°.09×71°.1E±0°.1, h200km, n11, σ2s07/14, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.23**	**26**	⇑P		**Pn**	**17 59 40.4**	**+0.2**
	3.8nm,0.3s							
SFK				⇑S		**Sn**	**18 00 31.6**	**+0.3**
	4.2nm,0.2s							
KK31	**Karatay Array**	**6.86**	**357**	⇑P		**Pn**	**18 00 12.4**	**-1.4**
	0.8nm,0.3s,baz=183,slow=13,SNR=10.0							
KK31				⇓S		**Sn**	**18 01 27.2**	**-4.6**
	1.1nm,0.5s,baz=181,slow=25,SNR=5.2							
AAK	**Ala-Archa**	**6.92**	**22**	P		**Pn**	**18 00 16.8**	**+2.1**
	0.7nm,0.4s							
AAK				⇑S		**Sn**	**18 01 32.7**	**-0.7**
	4.0nm,0.5s							
PYUN	**Piuthan**	**12.96**	**125**	*e*P		**Pn**	**18 01 31.3**	**-1.3**
	2.6nm,0.3s							
DANN	**Dangsing**	**13.31**	**123**	*e*P		**Pn**	**18 01 35.6**	**-1.6**
	4.7nm,0.4s							
KOLN	**Koldanda**	**13.58**	**125**	*e*P		**Pn**	**18 01 39.1**	**-1.3**
	1.8nm,0.3s							
PKIN	**Phulchoki**	**14.92**	**121**	*e*P		**Pn**	**18 01 56.0**	**-1.0**
	3.0nm,0.4s							
GUN	**Gumba**	**15.06**	**119**	*e*P		**Pn**	**18 01 58.2**	**-0.5**
	2.9nm,0.3s							
AB31	**Akbulak array**	**15.33**	**331**	⇓P		**P**	**18 02 02.6**	**+0.9**
	0.4nm,0.2s,baz=164,slow=12,SNR=51							
JIRN	**Jiri**	**15.43**	**119**	*e*P		**P**	**18 02 03.8**	**+0.4**
	11nm,0.4s							
AKTO	**Aktyubinsk**	**17.02**	**330**	⇑P		**Pn**	**18 02 24.9**	**+3.2**
	0.6nm,0.6s							

*ISCJB **17** 17:59:47.7±0.7,22°.1N±0°.1×143°.2E±0°.2, h33km, mb3.7/11, Error ellipse: s-maj=23.0km s-min=15.3km az=172.6*
*IDC **17** 17:59:55.9±8.1,22°.08N×143°.10E, h91km±74km, mb3.4/12, mb1 3.6/12, mb1mx3.4/46, mbtmp3.7/12, MS3.3/3, Ms1 3.4/3, ms1mx2.9/28, Error ellipse: s-maj=28.7km s-min=16.4km az=87.0*

ISC 17 17:59:49.7±0.9, 22°.1N±0°.1×143°.1E±0°.2, h35km, n18, σ0s57/13, mb3.7/11, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.18**	**323**	P		Pn	18 04 24.4	+1.2
	1.5nm,0.7s,baz=144,slow=9.1,SNR=5.2							
H11S3	**WAKE ISLAND Hy**	**22.37**	**95**	T		T	18 28 00.8	
	baz=283,slow=75,SNR=16							
H11S1	**WAKE ISLAND Hy**	**22.38**	**95**	T		T	18 27 49.6	
	baz=283,slow=75,SNR=13							
H11S2	**WAKE ISLAND Hy**	**22.39**	**95**	T		T	18 27 59.9	
	baz=283,slow=75,SNR=13							
DAV	**Davao City (W)**	**22.57**	**231**	LR		LR	18 13 02.5	
	comp=Z,41nm,21.6s,baz=81,slow=35							
KLR	**Kul'dur**	**28.56**	**344**	P		**P**	**18 05 42.7**	**+0.6**
	1.1nm,0.6s,baz=157,slow=13,SNR=6.8							
SONM	**Songino Array**	**39.02**	**320**	P		**P**	**18 07 13.1**	**+0.1**
	0.5nm,0.5s,baz=132,slow=6.2,SNR=5.0							
CMAR	**Chiang Mai Arr**	**41.51**	**273**	LR		LR	18 24 45.0	
	comp=Z,35nm,19.4s,baz=58,slow=36							
WRA	**Warramunga Arr**	**42.64**	**192**	P		**P**	**18 07 43.6**	**+0.7**
	0.8nm,0.6s,baz=13,slow=8.9,SNR=6.8							
ASAR	**Alice Springs**	**46.35**	**192**	P		**P**	**18 08 12.3**	**-0.2**
	0.7nm,0.7s,baz=13,slow=10,SNR=8.2							
ASAR				LR		LR	18 27 02.4	
	comp=Z,74nm,18.6s,baz=56,slow=35							
ZALV	**Zalesovo Beam**	**53.88**	**321**	P		**P**	**18 09 08.7**	**-0.6**
	1.6nm,0.7s,baz=99,slow=9.2,SNR=5.8							
MKAR	**Makanchi Array**	**54.41**	**312**	P		**P**	**18 09 13.7**	**+0.4**
	0.5nm,0.6s,baz=93,slow=9.7,SNR=7.1							
MKAR				PcP		**PcP**	**18 10 15.7**	**-1.1**
	0.3nm,0.6s,baz=83,slow=5.3,SNR=3.2							
ILAR	**Eielson Array**	**61.72**	**27**	P		**P**	**18 10 03.7**	**-0.4**
	0.3nm,0.7s,baz=267,slow=6.2,SNR=3.6							
BVAR	**Borovoye Array**	**62.35**	**319**	P		**P**	**18 10 08.4**	**-0.2**
	1.4nm,0.5s,baz=101,slow=7.7,SNR=7.3							
INK	**Inuvik**	**67.24**	**24**	P		**P**	**18 10 40.6**	**+0.6**
	0.6nm,0.8s,baz=225,slow=2.9,SNR=3.1							
YKA	**Yellowknife Ar**	**76.14**	**28**	P		**P**	**18 11 33.9**	**+0.2**
	0.3nm,0.5s,baz=293,slow=5.8,SNR=5.6							
NVAR	**Mina Array Bea**	**82.94**	**51**	PKPbc		**PKPbc**	**18 12 11.3**	**-0.2**
	0.6nm,0.6s,baz=259,slow=4.9,SNR=4.3							
LPAZ	**La Paz**	**149.95**	**84**	PKPbc		**PKPbc**	**18 19 37.9**	**-0.1**
	1.0nm,0.7s,baz=210,slow=4.7,SNR=4.5							

*ISCJB **17** 18:04:58.4±0.3,67°.08N±0°.02×20°.91E±0°.06, h0km, Error ellipse: s-maj=3.4km s-min=2.5km az=169.9*
*UPP **17** 18:04:58.9±0.1,67°.08N×20°.91E, h0km, ML2.2, Explosion*
*HEL **17** 18:04:59.7±0.1,67°.09N×20°.91E, h0km, ML2.1, ML2.2(UPP), Explosion*
*NAO **17** 18:04:59.6±0.8,67°.02N×21°.10E, ML2.4*
*IDC **17** 18:05:00.3±0.8,67°.03N×21°.24E, h0km, mb1 3.3/5, mb1mx3.1/45, mbtmp3.3/5, ML2.1/4, Error ellipse: s-maj=13.7km s-min=6.8km az=109.0*
*BER **17** 18:05:01.4±0.8,66°.95N×21°.05E, h0km, ML1.7, ML2.4(NAO), Suspected explosion*

ISC 17 18:04:58.2±0.7, 67°.05N±0°.02×20°.80E±0°.02, h0km, n67, σ1s65/100, Sweden

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.62**	**48**	P		**Pg**	**18 05 09.7**	**-0.3**
MASU	**Masugnsbyn**	**0.62**	**48**	*i* P		**Pg**	**18 05 09.7**	**-0.3**
ERTU	**Ertsjaerv**	**0.74**	**132**	P		**Pg**	**18 05 12.7**	**+0.2**
ERTU	**Ertsjaerv**	**0.74**	**132**	*e*P		**Pg**	**18 05 12.4**	**0.0**
ERTU				*e*S		**Sg**	**18 05 23.2**	**+1.1**
HARU	**Harads**	**0.90**	**176**	P		**Pg**	**18 05 16.1**	**+0.8**
HARU	**Harads**	**0.90**	**176**	*e*P		**Pg**	**18 05 16.1**	**+0.8**
RATU	**Laukkuluspa**	**0.90**	**329**	P		**Pg**	**18 05 15.7**	**+0.3**
RATU				S		**Sb**	**18 05 28.9**	**-0.4**
RATU	**Laukkuluspa**	**0.90**	**329**	*e*P		**Pg**	**18 05 15.7**	**+0.3**
RATU				*e*S		**Sb**	**18 05 28.9**	**-0.4**
PAJU	**Pajala**	**0.91**	**91**	P		**Pg**	**18 05 14.9**	**-0.6**
PAJU	**Pajala**	**0.91**	**91**	*i* P		**Pg**	**18 05 14.9**	**-0.6**
KUA	**Kurravaara**	**0.92**	**349**	P		**Pg**	**18 05 15.8**	**0.0**
KUA	**Kurravaara**	**0.92**	**349**	*e*P		**Pg**	**18 05 15.8**	**0.0**
SALU	**Saltoluokta**	**0.95**	**291**	P		**Pg**	**18 05 17.4**	**+1.0**
SALU	**Saltoluokta**	**0.95**	**291**	*e*P		**Pg**	**18 05 17.4**	**+1.0**
NIKU	**Nikkaluokta**	**1.06**	**321**	P		**Pg**	**18 05 18.8**	**+0.3**
NIKU	**Nikkaluokta**	**1.06**	**321**	*e*P		**Pg**	**18 05 18.8**	**+0.3**
LANU	**Lannavaara**	**1.10**	**24**	P		**Pg**	**18 05 18.2**	**-1.0**
LANU	**Lannavaara**	**1.10**	**24**	*e*P		**Pg**	**18 05 18.3**	**-1.0**
LANU				*e*SB		**Sg**	**18 05 33.3**	**-0.1**
KALU	**Kalix**	**1.58**	**138**	P		**Pn**	**18 05 27.5**	**+0.1**
KALU	**Kalix**	**1.58**	**138**	*e*P		**Pn**	**18 05 27.4**	**+0.1**
KALU				*e*SN		**Sg**	**18 05 50.4**	**+1.6**
SJUU	**Sjulsmark**	**1.59**	**168**	P		**Pn**	**18 05 28.2**	**+0.7**
SJUU	**Sjulsmark**	**1.59**	**168**	*e*P		**Pn**	**18 05 28.2**	**+0.7**
TOF	**Tornio**	**1.71**	**123**	*e*P		**Pn**	**18 05 29.8**	**+0.5**
	baz=309							
TOF				MSG			18 05 50.5	
	comp=Z,23nm,0.2s							
TOF				*e*SN		**Sn**	**18 05 52.9**	**+1.1**
HEF	**Hetta**	**1.74**	**37**	*e*P		**Pn**	**18 05 29.4**	**-0.3**
	baz=222							
HEF				MSG			18 05 51.2	
	comp=Z,20nm,0.2s							
HEF				*e*SG		**Sn**	**18 05 52.1**	**-0.5**
LILU	**Lilltraesk**	**1.82**	**193**	P		**Pn**	**18 05 32.5**	**+1.8**
LILU	**Lilltraesk**	**1.82**	**193**	*e*P		**Pn**	**18 05 32.5**	**+1.8**
KIF	**Kilpisjarvi**	**1.96**	**360**	Pn		**Pb**	**18 05 34.5**	**-0.2**
KIF				Sn		**Sg**	**18 06 01.8**	**+0.7**
KIF	**Kilpisjarvi**	**1.96**	**360**	P		**Pb**	**18 05 34.5**	**-0.2**
KIF				S		**Sg**	**18 06 01.8**	**+0.7**
KIF	**Kilpisjarvi**	**1.96**	**360**	*e*PB		**Pb**	**18 05 34.4**	**-0.3**
KIF				MSG			18 05 57.7	
	comp=Z,24nm,0.2s							
KIF				*e*SG		**Sg**	**18 06 01.5**	**+0.4**
RNF	**Rovaniemi**	**2.11**	**100**	*e*P		**Pn**	**18 05 35.7**	**+1.0**
RNF				*e*SG		**Sb**	**18 06 04.3**	**+0.4**
SGF	**Sodankyl**	**2.26**	**77**	*e*P		**Pn**	**18 05 37.7**	**+1.0**
SGF				*e*SG		**Sb**	**18 06 07.7**	**-0.5**
STEI	**Steigen**	**2.31**	**295**	*e*P		**Pb**	**18 05 39.9**	**-0.8**
BURU	**Burvik**	**2.49**	**174**	*e*P		**Pn**	**18 05 42.1**	**+2.1**
	baz=358							
BURU				*e*SG		**Sg**	**18 06 18.6**	**+0.5**
TRO	**Tromso**	**2.68**	**346**	*e*P		**Pb**	**18 05 45.0**	**-2.0**
TRO				*e*S		**Sb**	**18 06 18.3**	**-2.1**
TRO				IAML			18 06 24.0	
	comp=Z,6.8nm,0.2s							
MOR8	**Moi Rana**	**2.69**	**254**	*e*P		**Pn**	**18 05 45.2**	**+2.5**
OUL	**Oulu**	**2.87**	**131**	*e*P		**Pn**	**18 05 47.4**	**+2.3**
LOF	**Lofoten**	**2.98**	**295**	*e*Pg		**Pg**	**18 05 55.2**	**-0.2**
ARA0	**ARCESS Array S**	**3.04**	**33**	Pn		**Pn**	**18 05 48.1**	**+0.6**
	baz=220,slow=14							
ARA0				Sn		**Sn**	**18 06 25.1**	**+0.4**
	baz=218,slow=22							
ARA0	**ARCESS Array S**	**3.04**	**33**	Pn		**Pn**	**18 05 48.1**	**+0.6**
	baz=220,slow=14							
ARA0				Sn		**Sn**	**18 06 25.1**	**+0.4**
	baz=218,slow=22							
ARCES	**ARCESS Array B**	**3.04**	**33**	Pn		**Pn**	**18 05 48.1**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=210,slow=14,SNR=61							
ARCES				Sn		**Sn**	**18 06 25.8**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=210,slow=23,SNR=14							
ARE0	**ARCESS Array S**	**3.04**	**33**	*e*P		**Pn**	**18 05 49.0**	**+1.4**
ARE0	**ARCESS Array S**	**3.04**	**33**	*e*S		**Sn**	**18 06 26.3**	**+1.7**
KONS	**Konsvik**	**3.10**	**263**	*e*P		**Pn**	**18 05 52.0**	**+3.8**
KONS				IAML			18 06 39.2	
	comp=Z,6.0nm,0.7s							
OUF	**Merijarvi**	**3.15**	**147**	*e*P		**Pn**	**18 05 51.1**	**+2.2**
OUF				MSG			18 06 31.1	
	comp=Z,2.0nm,0.2s							
UMAU	**Umeaa**	**3.19**	**181**	*e*P		**Pn**	**18 05 51.6**	**+2.2**
VRF	**Varrio**	**3.47**	**74**	*e*P		**Pn**	**18 05 54.2**	**+0.8**
VRF				*e*SG		**Sb**	**18 06 44.2**	**+1.1**
MSF	**Maaselka**	**3.50**	**105**	*e*P		**Pn**	**18 05 56.2**	**+2.5**
	baz=290							
KEV	**Kevo**	**3.55**	**37**	*e*P		**Pn**	**18 05 55.5**	**+1.0**
KEV				*e*S		**Sn**	**18 06 37.1**	**0.0**
KU6	**Riekki**	**3.78**	**102**	*e*P		**Pn**	**18 05 59.0**	**+1.4**
	baz=289							
VAF	**Ylistaro**	**4.11**	**168**	*e*P		**Pn**	**18 06 04.2**	**+2.1**
	baz=349							
NSS	**Namsos**	**4.43**	**239**	*e*P		**Pn**	**18 06 09.5**	**+2.9**
APA0	**Apatity Array**	**4.75**	**78**	Pn		**Pn**	**18 06 11.1**	**+0.2**
	baz=266,slow=11							
APA0				Sn		**Sn**	**18 07 05.6**	**-1.0**
	baz=255,slow=22							
APA0				Lg		Lg	18 07 24.2	
	baz=282,slow=28							
APA0	**Apatity Array**	**4.75**	**78**	Pn		**Pn**	**18 06 11.1**	**+0.2**
	baz=266,slow=11							
APA0				Sn		**Sn**	**18 07 05.6**	**-1.0**
	baz=255,slow=22							
APA0				Sg		**Sb**	**18 07 24.2**	**+4.4**
	baz=282,slow=28							
FIA0	**FINESS Array S**	**6.08**	**155**	Pn		**Pn**	**18 06 30.6**	**+1.4**
	baz=342,slow=14							
FIA0				Sn		**Sn**	**18 07 39.0**	**-0.4**
	baz=341,slow=22							
FIA0				Lg		Lg	18 08 07.5	
	baz=348,slow=28							
FIA0	**FINESS Array S**	**6.08**	**155**	Pn		**Pn**	**18 06 30.6**	**+1.4**
	baz=342,slow=14							
FIA0				Sn		**Sn**	**18 07 39.0**	**-0.4**
	baz=341,slow=22							
FIA0				Sg		**Sg**	**18 08 07.5**	**-5.8**
	baz=348,slow=28							
FINES	**FINESS Array B**	**6.08**	**155**	Pn		**Pn**	**18 06 31.7**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=346,slow=12,SNR=7.6							
FINES				Sn		**Sn**	**18 07 38.5**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=355,slow=22,SNR=7.6							
FINES				Lg		Lg	18 08 06.8	
	comp=Z,0.4nm,0.3s,baz=346,slow=26,SNR=5.9							
NB2	**NORSAR Subarra**	**7.35**	**219**	Pn		**Pn**	**18 06 48.0**	**+1.4**
	baz=21,slow=12							
NB2	**NORSAR Subarra**	**7.35**	**219**	Pn		**Pn**	**18 06 48.0**	**+1.4**
	baz=21,slow=12							
NOA	**NORSAR Array B**	**7.35**	**219**	Pn		**Pn**	**18 06 48.7**	**+2.0**
	comp=Z,0.0nm,0.3s,baz=8.2,slow=14,SNR=2.9							
NOA				Sn		**Sn**	**18 08 09.7**	**-1.0**
	comp=Z,0.0nm,0.3s,baz=26,slow=20,SNR=2.7							
NRA0	**NORESS Array S**	**7.54**	**217**	Pn		**Pn**	**18 06 51.0**	**+1.9**
	baz=19,slow=16							
NRA0				Sn		**Sn**	**18 08 14.7**	**-0.5**
	baz=32,slow=37							
NRA0				Lg		Lg	18 08 53.1	
	baz=30,slow=22							
NRA0	**NORESS Array S**	**7.54**	**217**	Pn		**Pn**	**18 06 51.0**	**+1.9**
	baz=19,slow=16							
NRA0				Sn		**Sn**	**18 08 14.7**	**-0.5**
	baz=32,slow=37							
NRA0				Sg		**Sg**	**18 08 53.1**	**-6.8**
	baz=30,slow=22							
HFS	**Hagfors**	**7.63**	**208**	Pn		**Pn**	**18 06 51.6**	**+1.1**
	baz=17,slow=12							
HFS				Sn		**Sn**	**18 08 14.0**	**-3.5**
	baz=26,slow=28							
HFS				Lg		Lg	18 08 55.7	
	baz=30,slow=28							
HFS	**Hagfors**	**7.63**	**208**	Pn		**Pn**	**18 06 51.6**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=20,slow=14,SNR=4.3							
HFS				Sn		**Sn**	**18 08 16.6**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=27,slow=26,SNR=4.4							
HFS				Lg		Lg	18 08 57.4	
	comp=Z,0.3nm,0.3s,baz=30,slow=27,SNR=4.5							
HFS	**Hagfors**	**7.63**	**208**	Pn		**Pn**	**18 06 51.6**	**+1.1**
	baz=17,slow=12							
HFS				Sn		**Sn**	**18 08 14.0**	**-3.5**
	baz=26,slow=28							
HFS				Sg		Sg	18 08 55.7	-7.2
	baz=30,slow=28							
SPA0	**Spitsbergen Ar**	**11.26**	**355**	Pn		**Pn**	**18 07 40.9**	**+0.8**
	baz=182,slow=16							
SPA0	**Spitsbergen Ar**	**11.26**	**355**	Pn		**Pn**	**18 07 40.9**	**+0.8**
	baz=182,slow=16							
SPITS	**Spitsbergen Ar**	**11.26**	**355**	Pn		**

MEX 17 18:45:33.6±0.5, 16°01'N×98°17'W, h4km±2km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.38**	**6**	*i* P	Pg	18 45 40.4	-0.6
PNIG				*i* S	Sg	18 45 46.0	0.0
VHO	**Vista Hermosa**	**1.73**	**52**	*e*P	Pn	18 46 02.0	-2.8
VHO				*i* S	Sn	18 46 23.0	-4.5
HUIG	**Huatulco**	**2.00**	**97**	*e*P	Pn	18 46 05.1	-3.1
HUIG				*i* S	Sn	18 46 28.9	-4.8
CAIG	**El Cayaco**	**2.26**	**297**	*e*P	Pn	18 46 08.3	-3.5
CAIG				*i* S	Sn	18 46 36.0	-4.2
MEIG	**Mezcala**	**2.36**	**324**	*e*P	Pn	18 46 10.7	-2.5
MEIG				*i* S	Sn	18 46 38.2	-4.5
PLIG	**Platanillo**	**2.69**	**332**	*i* P	Pn	18 46 14.4	-3.4
PLIG				*i* S	Sn	18 46 47.0	-3.9
ARIG	**Puente Sto Nin**	**3.07**	**318**	*i* P	Pn	18 46 20.5	-2.6
ARIG				*i* S	Sn	18 46 56.4	-3.9
ZIIG	**Zihuatanejo**	**3.53**	**297**	*i* P	Pn	18 46 26.1	-3.2
ZIIG				*i* S	Sn	18 47 07.2	-4.4

MAN 17 18:46:48.2, 9°22'N×125°89'E, h1km, mb4.3, ML3.2, MS2.9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.36**	**227**	*e*P	Pg	18 46 55.5	+0.3
BUTP				*e*S	Sb	18 47 01.8	-1.8
SCPH	**Surigao**	**0.69**	**325**	*e*P	Pg	18 47 01.9	+0.5
SCPH				*e*S	Sg	18 47 11.5	+1.2
BUKP	**Musuan**	**1.56**	**212**	*e*P	Pn	18 47 16.6	-0.6
BUKP				*e*S	Sg	18 47 38.7	+0.2

MEX 17 18:57:57.2±0.5, 15°93'N×98°31'W, h3km±3km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.49**	**21**	*i* P	Pg	18 58 06.1	-0.6
PNIG				*i* S	Sg	18 58 13.7	+0.6
VHO	**Vista Hermosa**	**1.89**	**53**	*e*P	Pn	18 58 27.8	-2.8
VHO				*i* S	Sn	18 58 50.7	-4.3

IDC 17 19:05:25.6±61.0, 16°74S×179°62E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/33, mbtmp3.9/3, Error ellipse: s-maj=1097.0km s-min=149.1km az=77.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.57**	**239**	P	P	19 12 42.0	+0.2
	2.2nm,0.8s,baz=70,slow=12,SNR=3.1						
WRA	**Warramunga Arr**	**43.00**	**259**	P	P	19 13 26.9	-0.2
	0.1nm,0.3s,baz=93,slow=7.8,SNR=4.9						
ASAR	**Alice Springs**	**43.30**	**253**	P	P	19 13 29.2	-0.4
	1.7nm,0.4s,baz=88,slow=7.9,SNR=36						

*IDC **17** 19:22:37.1±1.2, 56°43S×26°62W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.8/17, mbtmp3.9/3, Error ellipse: s-maj=51.2km s-min=31.7km az=93.0*
*ISCJB **17** 19:22:47.7±1.1, 56°45S±0°2×26°9W±0°3, h100km, mb3.8/3, Error ellipse: s-maj=43.3km s-min=15.9km az=157.2*
ISC 17 19:22:49.4±1.1, 56°5S±0°2×26°9W±0°3, h100km, n7, σ1§29/7, mb3.9/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.34**	**158**	P	**Pn**	**19 26 32.1**	**-0.3**
VNA2	**Neumayer--Watz**	**16.73**	**158**	P	**P**	**19 26 37.0**	**-0.9**
	baz=319,slow=14						
SNAA	**Sanae**	**18.28**	**156**	P	**Pn**	**19 26 57.6**	**+1.6**
VNDA	**Vanda**	**46.16**	**183**	P	**P**	**19 31 02.7**	**-0.4**
	0.5nm,0.7s,baz=177,slow=6.7,SNR=4.6						
LPAZ	**La Paz**	**50.76**	**305**	P	**P**	**19 31 39.5**	**-0.3**
	1.0nm,0.5s,baz=166,slow=4.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**73.34**	**29**	P	**P**	**19 34 09.5**	**-0.4**
	1.1nm,0.6s,baz=193,slow=7.2,SNR=9.9						
ILAR	**Eielson Array**	**150.53**	**311**	PKPbc	**PKiKP**	**19 42 30.1**	**+1.7**
	0.5nm,0.7s,baz=132,slow=4.6,SNR=7.7						

*JMA **17** 19:31:59.3±0.1, 24°40N×122°00E, h12km*
*TAP **17** 19:31:59.3, 24°45N×121°98E, h13km, ML3.0, C*
ISC 17 19:31:59.4±0.9, 24°43N±0°02×122°00E±0°03, h13km±6km, n61, σ0§56/105, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.17**	**46**	P	**Pg**	**19 32 03.7**	**+0.4**
	baz=44						
EOS1				S	**Sg**	**19 32 07.2**	**+1.2**
	baz=44						
TWC	**Suao**	**0.22**	**323**	*i* P	**Pg**	**19 32 03.9**	**-0.3**
	baz=324						
TWC				*i* S	**Sg**	**19 32 06.7**	**-0.8**
	baz=324						
NANB	**Nanao**	**0.23**	**269**	*e*P	**Pg**	**19 32 04.1**	**-0.2**
	baz=271						
NANB				S	**Sg**	**19 32 07.5**	**-0.1**
	baz=271						
ENA	**Nanau**	**0.23**	**269**	*i* P	**Pg**	**19 32 04.2**	**-0.3**
	baz=271						
ENA				S	**Sg**	**19 32 07.6**	**-0.3**
	baz=271						
ILA	**Ilan**	**0.40**	**326**	P	**Pg**	**19 32 07.4**	**0.0**
	baz=325						
ILA				*e*S	**Sg**	**19 32 13.3**	**+0.4**
	baz=325						
TWE	**Neicheng**	**0.42**	**314**	P	**Pg**	**19 32 07.5**	**-0.2**
	baz=317						
TWE				S	**Sg**	**19 32 13.0**	**-0.3**
	baz=317						
ENTT	**Nioudou**	**0.44**	**298**	*e*P	**Pg**	**19 32 08.2**	**0.0**
	baz=296						
ENTT				*e*S	**Sg**	**19 32 13.8**	**-0.4**
	baz=296						
NTC	**Toucheng**	**0.45**	**340**	*e*P	**Pg**	**19 32 08.2**	**-0.1**
	baz=339						
NTC				*e*S	**Sb**	**19 32 15.9**	**+0.1**
	baz=339						
NACB	**Ninganchiao**	**0.45**	**235**	*e*P	**Pg**	**19 32 08.0**	**-0.3**
	baz=233						
NACB				*e*S	**Sg**	**19 32 14.6**	**+0.2**
	baz=233						
TWD	**Chiawan**	**0.51**	**226**	*e*P	**Pg**	**19 32 09.2**	**-0.2**
	baz=230						
TWD				S	**Sg**	**19 32 16.3**	**+0.1**
	baz=230						
NNSB	**Datong**	**0.56**	**270**	*e*P	**Pg**	**19 32 10.3**	**-0.1**
	baz=268						
NNSB				*e*S	**Sg**	**19 32 17.5**	**-0.4**
	baz=268						
TIPB	**Shuangxi**	**0.56**	**344**	*e*P	**Pg**	**19 32 10.3**	**-0.1**
	baz=343						
TIPB				*e*S	**Sg**	**19 32 18.1**	**+0.2**
	baz=343						
NWLT	**Wulai**	**0.57**	**307**	*i* P	**Pg**	**19 32 10.8**	**+0.3**
	baz=298						
NWLT				*e*S	**Sg**	**19 32 17.5**	**-0.6**
	baz=298						
NNS	**Nan Shan**	**0.57**	**271**	*e*P	**Pg**	**19 32 10.4**	**-0.2**
	baz=269						
NNS				S	**Sg**	**19 32 17.8**	**-0.5**
	baz=269						
TWB1	**Santiao Chiao**	**0.57**	**359**	*e*P	**Pb**	**19 32 11.3**	**0.0**
	baz=352						
YHNB	**Yeheng**	**0.61**	**293**	*e*P	**Pg**	**19 32 11.6**	**+0.1**
	baz=291						
YHNB				*e*S	**Sg**	**19 32 19.0**	**-0.6**
	baz=291						
NSK	**Sanguang**	**0.63**	**293**	P	**Pg**	**19 32 11.8**	**0.0**
	baz=296						
NSK				S	**Sg**	**19 32 19.4**	**-0.8**
	baz=296						
TWA	**Mucha**	**0.66**	**325**	P	**Pb**	**19 32 12.8**	**-0.1**
	baz=325						
TWA				*e*S	**Sb**	**19 32 21.6**	**-0.4**
	baz=325						
WFSB	**Wu-fen Shan**	**0.67**	**343**	P	**Pb**	**19 32 13.1**	**+0.1**
	baz=331						
WFSB				*e*S	**Sb**	**19 32 21.9**	**-0.2**
	baz=331						
TATO	**Taipei**	**0.71**	**320**	P	**Pb**	**19 32 13.8**	**+0.1**
	baz=308						
TATO				*e*S	**Sg**	**19 32 22.4**	**-0.3**
	baz=308						
WHF	**Hehuan Shan**	**0.73**	**247**	P	**Pg**	**19 32 13.3**	**-0.3**
	baz=255						
WHF				S	**Sb**	**19 32 23.7**	**-0.5**
	baz=255						
TWT	**Tachien**	**0.77**	**257**	*e*P	**Pb**	**19 32 14.4**	**-0.4**
	baz=255						
TWT				S	**Sg**	**19 32 24.6**	**0.0**
	baz=255						
TDCB	**Techi**	**0.79**	**257**	*e*P	**Pg**	**19 32 14.4**	**-0.3**
	baz=256						
TDCB				*e*S	**Sg**	**19 32 24.7**	**-0.4**
	baz=256						
WLTB	**Daxi**	**0.80**	**302**	*e*P	**Pn**	**19 32 15.8**	**-0.6**
	baz=300						
WLTB				*e*S	**Sb**	**19 32 26.2**	**+0.4**
	baz=300						
ESL	**Shilin**	**0.80**	**220**	*e*P	**Pg**	**19 32 14.5**	**-0.5**
	baz=225						
ESL				*e*S	**Sb**	**19 32 26.1**	**+0.1**
	baz=225						
YM01	**YM01**	**0.81**	**331**	*e*P	**Pn**	**19 32 16.4**	**-0.1**
	baz=330						
YM01				*e*S	**Sb**	**19 32 26.5**	**+0.2**
	baz=330						
YM11	**YM11**	**0.83**	**332**	P	**Pb**	**19 32 16.2**	**+0.5**
	baz=331						
YM11				*e*S	**Sg**	**19 32 26.1**	**-0.2**
	baz=331						
YM05	**YM05**	**0.83**	**332**	*e*P	**Pn**	**19 32 16.4**	**-0.5**
	baz=331						
YM05				*e*S	**Sb**	**19 32 26.9**	**+0.1**
	baz=331						
YM04	**YM04**	**0.83**	**330**	*e*P	**Pb**	**19 32 16.1**	**+0.4**
	baz=338						
YM04				*e*S	**Sg**	**19 32 26.3**	**-0.2**
	baz=338						
CHGB	**Renai**	**0.84**	**244**	P	**Pb**	**19 32 15.7**	**-0.3**
	baz=252						
CHGB				S	**Sb**	**19 32 27.2**	**0.0**
	baz=252						
YM08	**YM08**	**0.84**	**334**	*e*P	**Pb**	**19 32 16.1**	**+0.2**
	baz=333						
YM08				*e*S	**Sb**	**19 32 28.2**	**+1.1**
	baz=333						
TWS1	**Kuangyinshan**	**0.85**	**322**	*e*P	**Pn**	**19 32 17.4**	**+0.3**
	baz=313						
TWS1				*e*S	**Sb**	**19 32 27.9**	**+0.6**
	baz=313						
NTST	**Danshui**	**0.88**	**326**	*e*P	**Pn**	**19 32 17.2**	**-0.3**
	baz=326						
NCUH	**Zhongli**	**0.91**	**306**	*e*P	**Pn**	**19 32 18.3**	**+0.3**
	baz=304						
NCUH				*e*S	**Sn**	**19 32 31.0**	**0.0**
	baz=304						
TWY	**Chenhua**	**0.92**	**337**	*e*S	**Sn**	**19 32 30.6**	**-0.4**
	baz=336						
LIOB	**Emei**	**0.92**	**284**	*e*P	**Pn**	**19 32 17.6**	**-0.5**
	baz=282						
LIOB				*e*S	**Sb**	**19 32 29.2**	**-0.2**
	baz=282						
YOJ	**Yonaguni jima**	**0.92**	**88**	P	**Pg**	**19 32 16.7**	**-0.6**
NSTT	**Nanjuang**	**0.93**	**283**	P	**Pn**	**19 32 18.0**	**-0.2**
	baz=281						
NSTT				S	**Sb**	**19 32 29.6**	**0.0**
	baz=281						
SBCB	**Hsinchu**	**0.99**	**291**	*e*P	**Pn**	**19 32 19.4**	**+0.4**
	baz=284						
SBCB				*e*S	**Sn**	**19 32 33.3**	**+0.4**
	baz=284						
VWDT	**VWDT**	**1.03**	**229**	*e*P	**Pn**	**19 32 19.5**	**-0.1**
	baz=233						
VWDT				*e*S	**Sn**	**19 32 33.4**	**-0.5**
	baz=233						
HGSD	**Ruisui**	**1.07**	**209**	*e*P	**Pn**	**19 32 21.2**	**+1.0**
	baz=210						
HGSD				*e*S	**Sn**	**19 32 36.4**	**+1.5**
	baz=210						
EHY	**Hungye**	**1.11**	**214**	*e*P	**Pb**	**19 32 20.3**	**-0.2**
	baz=212						
TWQ1	**Liyutan**	**1.12**	**266**	P	**Pg**	**19 32 21.8**	**+0.8**
	baz=265						
SMLT	**Sun Moon Lake**	**1.14**	**242**	*e*P	**Pg**	**19 32 21.2**	**-0.3**
	baz=248						
SSLB	**Suanglung**	**1.15**	**236**	*e*P	**Pg**	**19 32 21.2**	**-0.4**
	baz=235						
TYC	**Yuchr**	**1.17**	**243**	P	**Pn**	**19 32 21.3**	**-0.1**
	baz=249						
TYC				*e*S	**Sb**	**19 32 36.0**	**-0.5**
	baz=249						
YULB	**Yu-li**	**1.22**	**212**	*e*P	**Pn**	**19 32 21.7**	**-0.5**
	baz=223						
YULB				*e*S	**Sg**	**19 32 39.0**	**+0.3**
	baz=223						
TWF1	**Yuli**	**1.25**	**211**	*e*P	**Pb**	**19 32 22.9**	**0.0**
	baz=225						
WNT	**Mingjian**	**1.32**	**246**	*e*P	**Pg**	**19 32 25.5**	**+0.7**
	baz=260						
WNT				*e*S	**Sg**	**19 32 44.7**	**+2.7**
	baz=260						
ALS	**Alishan**	**1.43**	**230**	P	**Pg**	**19 32 27.0**	**+0.1**
	baz=235						
ALS				*e*S	**Sg**	**19 32 46.2**	**+0.8**
	baz=235						
CHN5	**Tsauling**	**1.47**	**236**	P	**Pg**	**19 32 28.2**	**+0.6**
	baz=238						
CHN5				*e*S	**Sg**	**19 32 48.3**	**+1.6**
	baz=238						
WGK	**Gukeng**	**1.51**	**241**	*e*P	**Pg**	**19 32 28.8**	**+0.4**
	baz=240						
WDLH	**Douliu**	**1.53**	**241**	*e*P	**Pg**	**19 32 29.2**	**+0.5**
	baz=241						
ELDTW	**Lidau**	**1.53**	**216**	*e*P	**Pb**	**19 32 28.0**	**+0.3**
	baz=214						
IRIF	**Iriomote-Funau**	**1.58**	**93**	P	**Pn**	**19 32 26.2**	**-1.0**
TPUB	**Ta-pu**	**1.68**	**228**	*e*P	**Pg**	**19 32 30.9**	**-0.9**
	baz=230						
TPUB				*e*S	**Sg**	**19 32 53.1**	**-0.5**
	baz=230						
STYT	**Tauyuan**	**1.70**	**222**	*e*P	**Pg**	**19 32 31.1**	**-1.0**
	baz=221						
TWK	**Hsinying**	**1.81**	**230**	*e*P	**Pb**	**19 32 32.5**	**+0.1**
	baz=234						
TWK				*e*S	**Sg**	**19 32 57.3**	**-0.2**
	baz=234						
CHN1	**Nanshi**	**1.83**	**228**	P	**Pg**	**19 32 33.7**	**-0.9**
	baz=228						
JKRS	**Kuro-shima**	**1.84**	**96**	P	**Pn**	**19 32 30.6**	**-0.2**
SLGT	**Liugui**	**1.89**	**221**	*e*P	**Pb**	**19 32 33.8**	**-0.1**
	baz=221						

*IDC **17** 19:33:51.9±5.7, 8°75S×124°34E, h66km±66km, mb2.9/1, mb1 3.6/4, mb1mx3.2/32, mbtmp3.6/4, ML3.8/3, Error ellipse: s-maj=52.6km s-min=31.9km az=19.0*
*ISCJB **17** 19:33:52.8±1.1, 8°84S±0°09×124°13E±0°08, h100km, mb3.0/1, Error ellipse: s-maj=14.8km s-min=8.1km az=37.9*
*DJA **17** 19:33:57.4±0.7, 9°S±2°×12°4E±°, h13km±9km, M3.3/7, MLv3.3/7*
ISC 17 19:33:54.4±1.3, 8°9S±0°1×124°1E±0°1, h100km, n9, σ1§32/13, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.89**	**166**	P	**Pn**	**19 34 15.1**	**+1.3**
SOEI				S	**Sn**	**19 34 29.2**	**+0.9**
BATI	**Baumata**	**1.36**	**196**	P	**Pn**	**19 34 19.7**	**+0.7**
	126nm,0.3s,baz=28,slow=3.8,SNR=168						
BATI				S	**Sn**	**19 34 37.8**	**+0.2**
	53nm,0.3s,baz=146,slow=22,SNR=19						
BATI	**Baumata**	**1.36**	**196**	P	**Pn**	**19 34 19.7**	**+0.7**
BATI				S	**Sn**	**19 34 38.3**	**+0.7**
MMRI	**Maumere**	**1.81**	**278**	P	**Pn**	**19 34 24.7**	**+0.2**
EDFI	**Ende, Flores**	**2.33**	**273**	P	**Pn**	**19 34 31.9**	**+0.5**
EDFI				S	**Sn**	**19 34 58.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**9.28**	**171**	P	**Pn**	**19 36 02.9**	**-2.5**
	0.8nm,0.3s,baz=348,slow=8.8,SNR=50						
FITZ				S	Sn	19 37 39.1	-8.9
	3.5nm,0.3s,baz=324,slow=17,SNR=13						
WRA	**Warramunga Arr**	**14.82**	**139**	P	**Pn**	**19 37 16.8**	**-2.3**
	0.4nm,0.3s,baz=320,slow=13,SNR=33						
WRA				S	Sn	19 39 51.1	-11
	0.8nm,0.3s,baz=308,slow=26,SNR=11						
ASAR	**Alice Springs**	**17.46**	**148**	P	**Pn**	**19 37 52.0**	**+0.2**
	0.2nm,0.3s,baz=320,slow=12,SNR=15						
ASAR				S	Sn	19 40 54.7	-12
	0.2nm,0.3s,baz=317,slow=19,SNR=6.2						
MKAR	**Makanchi Array**	**66.74**	**330**	P	**P**	**19 44 36.0**	**+1.1**
	0.2nm,0.8s,baz=134,slow=8.2,SNR=2.8						

MAN 17 19:48:07.0, 6°54N×125°15E, h32km, mb3.8, ML2.5, MS2.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.49**	**204**	*i* P	Pb	19 48 17.4	-0.2
GSPH				*i* S	Sn	19 48 35.0	+9.5
SKMP	**Bagumbayan, Su**	**0.61**	**268**	*e*P	Pn	19 48 19.9	+0.5
SKMP				*e*S	Sn	19 49 29.1	+1.1
DDMP	**Don Marcelino,**	**0.70**	**128**	*e*P	Pb	19 48 24.4	+3.5
DDMP				*e*S	Sn	19 48 38.0	+7.5

IDC 17 19:49:49.2±51.0, 17°17S×179°47E, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.7/28, mbtmp4.2/3, Error ellipse: s-maj=919.3km s-min=140.3km az=77.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.23**	**240**	P	P	19 57 03.2	+0.6
	2.3nm,0.9s,baz=72,slow=9.6,SNR=3.0						
WRA	**Warramunga Arr**	**42.78**	**259**	P	P	19 57 48.4	-0.5
	0.6nm,0.4s,baz=96,slow=7.9,SNR=26						
ASAR	**Alice Springs**	**43.05**	**254**	P	P	19 57 50.8	-0.4
	5.0nm,0.5s,baz=88,slow=8.3,SNR=91						

IDC 17 19:50:31.6±2.0, 0°70N×126°53E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/28, mbtmp3.3/3, Error ellipse: s-maj=175.3km s-min=25.6km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.90**	**160**	P	P	19 55 25.9	-0.6
	0.2nm,0.5s,baz=340,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**25.26**	**164**	P	P	19 56 00.2	+0.5
	0.9nm,0.9s,baz=340,slow=15,SNR=4.9						
MKAR	**Makanchi Array**	**59.93**	**326**	P	P	20 00 39.6	-0.1
	0.2nm,0.5s,baz=130,slow=8.1,SNR=3.4						

*IDC **17** 20:18:14.8±2.0, 43°51N×105°31W, h0km, mb1 3.3/4, mb1mx3.2/47, mbtmp3.0/4, ML2.6/3, Error ellipse: s-maj=46.3km s-min=9.2km az=151.0*
*ISCJB **17** 20:18:15.4±0.5, 43°61N±0°04×105°24W±0°06, h0km, Error ellipse: s-maj=6.2km s-min=5.0km az=164.0*
*NEIC **17** 20:18:16.7±0.3, 43°63N×105°21W, h0km, ML3.4, Error ellipse: s-maj=4.5km s-min=3.9km az=92.0, Suspected Mining explosion.*
NEIC 77 km [48 miles] SSE of Gillette.
ISC 17 20:18:16.1±1.0, 43°61N±0°05×105°25W±0°05, h0km, n45, σ1§21/44, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.02**	**59**	*e*Pg	**Pg**	**20 18 35.5**	**-0.1**
K22A	**Casper**	**1.33**	**225**	*e*Pg	**Pg**	**20 18 40.4**	**-1.3**
PHWY	**Pilot Hill**	**2.31**	**184**	*e*Pn	**Pn**	**20 18 56.6**	**+0.9**
RWWY	**Rawlins**	**2.40**	**218**	*e*Pn	**Pn**	**20 18 58.6**	**+1.8**
N23A	**Red Feather La**	**2.76**	**191**	*e*Pn	**Pn**	**20 19 02.9**	**+1.1**
LAO	**LASA Array**	**3.16**	**348**	*e*Pn	**Pn**	**20 19 07.7**	**+0.7**
RLMT	**Red Lodge**	**3.25**	**299**	*e*Pn	**Pn**	**20 19 08.1**	**+0.6**
BW06	**Boulder Array**	**3.26**	**257**	*e*Pn	**Pn**	**20 19 08.5**	**-0.2**
PD31	**Pinedale Array**	**3.26**	**257**	*e*Pn	**Pn**	**20 19 09.5**	**+0.9**
PDAR	**Pinedale Array**	**3.26**	**257**	Pn	**Pn**	**20 19 09.2**	**+0.5**
	3.4nm,0.3s,baz=81,slow=16,SNR=43						
PDAR				Lg	Lg	20 19 54.4	
	8.7nm,0.3s,baz=85,slow=32,SNR=20						
OGNE	**Ogallala**	**3.58**	**137**	*e*Pn	**Pn**	**20 19 13.8**	**+1.0**
ISCO	**Idaho Springs**	**3.81**	**184**	*e*Pn	**Pn**	**20 19 17.9**	**+1.6**
GCMT	**Greycliff**	**3.83**	**306**	*e*Pn	**Pn**	**20 19 17.3**	**+0.9**
LOHW	**Long Hollow**	**3.89**	**272**	*e*Pn	**Pn**	**20 19 18.3**	**+1.1**
H17A	**Grant Village**	**3.92**	**283**	*e*Pn	**Pn**	**20 19 19.7**	**+2.0**
FLWY	**Flagg Ranch**	**3.97**	**279**	*e*Pn	**Pn**	**20 19 20.4**	**+2.0**
MOOW	**Moose Ponds**	**3.99**	**274**	*e*Pn	**Pn**	**20 19 19.9**	**+1.3**
YPP	**Pinchstone Pla**	**4.06**	**281**	*e*Pn	**Pn**	**20 19 20.8**	**+1.1**
REDW	**Red Top Meadow**	**4.08**	**268**	*e*Pn	**Pn**	**20 19 21.6**	**+1.6**
O20A	**White River Ci**	**4.13**	**214**	*e*Pn	**Pn**	**20 19 22.0**	**+1.5**
IMW	**Indian Meadow**	**4.13**	**276**	*e*Pn	**Pn**	**20 19 21.7**	**+1.1**
TPAW	**Teton Pass**	**4.14**	**270**	*e*Pn	**Pn**	**20 19 21.8**	**+0.9**
FXWY	**Fox Creek**	**4.19**	**272**	*e*Pn	**Pn**	**20 19 21.7**	**+0.2**
YMR	**Madison River**	**4.25**	**286**	*e*Pn	**Pn**	**20 19 22.9**	**+0.7**
AHID	**Auburn Hatcher**	**4.36**	**261**	*e*Pn	**Pn**	**20 19 23.5**	**-0.2**
YHB	**Horse Butte**	**4.42**	**287**	*e*Pn	**Pn**	**20 19 26.5**	**+1.9**
DGMT	**Dagmar**	**4.92**	**8**	*e*Pn	**Pn**	**20 19 31.6**	**+0.3**
KSCO	**Kaye Shedlock'**	**5.00**	**156**	*e*Pn	**Pn**	**20 19 32.6**	**+0.1**
HWUT	**Hardware Ranch**	**5.07**	**249**	*e*Pn	**Pn**	**20 19 33.9**	**+0.5**
TCUT	**Toone Canyon**	**5.20**	**243**	*e*Pn	**Pn**	**20 19 34.9**	**-0.4**
PV21	**Cone Mtn., Par**	**5.77**	**210**	*e*Pn	**Pn**	**20 19 44.2**	**+1.0**
P17A	**Butcher Ranch,**	**5.83**	**227**	*e*Pn	**Pn**	**20 19 43.7**	**-0.2**
HVU	**Hansel Valley**	**5.84**	**254**	*e*Pn	**Pn**	**20 19 45.0**	**+1.0**
PV23	**Carpenter Ridg**	**5.88**	**210**	*e*Pn	**Pn**	**20 19 46.6**	**+1.9**
PV09	**Paradox Valley**	**5.89**	**211**	*e*Pn	**Pn**	**20 19 44.9**	**+0.1**
PV14	**Lion Creek, Pa**	**5.96**	**210**	*e*Pn	**Pn**	**20 19 47.4**	**+1.5**
PV11	**David Mesa, Pa**	**5.97**	**209**	*e*Pn	**Pn**	**20 19 47.5**	**+1.7**
PV16	**Nyswonger Mesa**	**5.97**	**209**	*e*Pn	**Pn**	**20 19 46.6**	**+0.7**
S22A	**4UR Ranch, Cre**	**5.98**	**192**	*e*Pn	**Pn**	**20 19 47.9**	**+1.8**
PV02	**Paradox Valley**	**6.01**	**207**	*e*Pn	**Pn**	**20 19 47.8**	**+1.4**
PV13	**Radium Mtn., P**	**6.08**	**208**	*e*Pn	**Pn**	**20 19 47.5**	**+0.2**
I10CA	**LAC DU BONNET**	**9.13**	**41**	*i*		21 15 30.0	
	baz=216,slow=329,SNR=1.7						
ULM	**Lac du Bonnet**	**9.23**	**41**	Pn	**Pn**	**20 20 28.2**	**-2.1**
	0.6nm,0.3s,baz=225,slow=13,SNR=6.1						
ULM				Lg	Lg	20 23 01.8	
	0.2nm,0.3s,baz=322,slow=19,SNR=2.7						
NVAR	**Mina Array Bea**	**11.13**	**247**	Pn	**Pn**	**20 20 58.0**	**+1.4**
	0.1nm,0.3s,baz=72,slow=12,SNR=2.5						
YKA	**Yellowknife Ar**	**19.70**	**347**	P	**P**	**20 22 47.1**	**+0.5**
	0.0nm,0.3s,baz=139,slow=9.6,SNR=3.0						

*DDA **17** 20:20:39.9, 39°42N×28°45E, h7km±2km, ML2.6*
*ISCJB **17** 20:20:40.1±0.5, 39°42N±0°03×28°42E±0°04, h5km±6km, Error ellipse: s-maj=5.3km s-min=4.4km az=178.1*
*ISK **17** 20:20:40.1, 39°44N×28°43E, h5km, ML2.1/7*
ISC 17 20:20:40.3±1.0, 39°43N±0°03×28°43E±0°03, h9km±11km, n18, σ0§47/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.17**	**10**	IAML_P			
	comp=Z,3μm,0.1s						
DST	**Dursunbey**	**0.23**	**39**	PG	**Pg**	**20 20 44.8**	**-0.1**
DST				SG	**Sg**	**20 20 48.2**	**+0.2**
DEMI	**Demirci**	**0.44**	**150**	*i* P

ISCJB 17 20:35:24.8±1.3,8.1N±0.2×69.2E±0.2, h10km, Error ellipse: s-maj=34.5km s-min=13.7km az=38.6
IDC 17 20:35:24.4±1.4, 8.00N×68.85E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.6/43, mbtmp3.7/9, ML3.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/34, Error ellipse: s-maj=50.8km s-min=21.0km az=55.0

ISC 17 20:35:26.8±1.4, 8.2N±0.2×69.3E±0.1, h10km, n15, σ1°88/13, Arabian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.34**	**94**	Pn			**Pn**	**20 38 09.9**	**+0.8**
	0.5nm,0.3s,baz=295,slow=13,SNR=3.2								
PALK				Sn			**Sn**	**20 40 12.3**	**-3.7**
	0.9nm,0.3s,baz=295,slow=10,SNR=4.2								
PALK				LR			LR	20 42 10.2	
	comp=Z,64nm,21.1s,baz=293,slow=34								
H08N2	**Diego Garcia H**	**14.50**	**173**	T			T	20 53 27.9	
	baz=355,slow=22								
H08N1	**Diego Garcia H**	**14.52**	**173**	T			T	20 53 32.3	
	baz=355,slow=22								
H08N3	**Diego Garcia H**	**14.52**	**173**	T			T	20 53 34.5	
	baz=355,slow=22								
WSAR	**Wadi Sarin**	**18.14**	**327**	P			**Pn**	**20 39 38.0**	**-1.0**
	0.2nm,0.3s,baz=304,slow=15,SNR=2.0								
MKAR	**Makanchi Array**	**40.06**	**14**	P			**P**	**20 43 04.0**	**+1.7**
	0.2nm,0.6s,baz=181,slow=6.8,SNR=3.7								
KURBB	**Kurchatov Arra**	**43.01**	**9**	P			**P**	**20 43 27.0**	**+0.6**
	0.3nm,0.8s,baz=217,slow=7.2,SNR=3.1								
BRTR	**Keskin Array B**	**44.74**	**320**	P			**P**	**20 43 39.1**	**-1.6**
	0.2nm,0.5s,baz=140,slow=6.3,SNR=3.2								
ZALV	**Zalesovo Beam**	**47.33**	**12**	P			**P**	**20 44 00.8**	**+0.1**
	0.5nm,0.4s,baz=206,slow=10.0,SNR=2.6								
SONM	**Songino Array**	**50.48**	**32**	P			**P**	**20 44 27.9**	**+2.8**
	0.2nm,0.5s,baz=215,slow=7.0,SNR=2.8								
ARCES	**ARCESS Array B**	**67.45**	**345**	P			**P**	**20 46 21.4**	**-1.1**
	3.6nm,0.8s,baz=95,slow=5.5,SNR=6.6								
WRA	**Warramunga Arr**	**69.81**	**115**	P			**P**	**20 46 39.2**	**+1.1**
	1.2nm,0.8s,baz=299,slow=5.7,SNR=11								
ASAR	**Alice Springs**	**70.56**	**119**	P			**P**	**20 46 44.0**	**+1.4**
	0.8nm,0.7s,baz=292,slow=5.8,SNR=10								
PDAR	**Pinedale Array**	**129.30**	**359**	PKP			**PKPdf**	**20 54 34.8**	**-1.4**
	0.3nm,0.5s,baz=70,slow=1.9,SNR=3.9								
TXAR	**Lajitas Array**	**142.10**	**350**	PKP			**PKPdf**	**20 55 00.1**	**-0.2**
	0.2nm,0.6s,baz=326,slow=0.3,SNR=2.8								

TIF 17 20:38:15.9, 42.48N×43.02E, h21km±5km
NORS 17 20:38:16.6±0.0, 42.30N×42.97E, h11km, MPVA3.4
MOS 17 20:38:17.2±0.0, 42.32N×43.02E, h8km, MPVA3.2
DDA 17 20:38:19.7, 42.05N×43.11E, h7km±3km, ML2.9

ISC 17 20:38:18.2±1.2, 42.34N±0.02×43.03E±0.02, h8km±11km, n31, σ1°00/60, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.69**	**36**	*e*Pg			**Pg**	**20 38 30.2**	**-1.3**
DIGR				*e*Sg			**Sg**	**20 38 40.9**	**+0.3**
ZEI	**Tsey**	**0.79**	**55**	*i* Pg			**Pg**	**20 38 31.9**	**-1.4**
ZEI				*e*Sg			**Sg**	**20 38 43.8**	**+0.2**
NEY	**Neytrino**	**0.93**	**346**	*e*Pg			**Pb**	**20 38 35.1**	**-1.7**
NEY				*e*Sg			**Sg**	**20 38 48.4**	**+0.1**
LACR	**Lac**	**1.06**	**62**	*e*Pg			**Pb**	**20 38 37.5**	**-1.4**
LACR				*e*Sg			**Sb**	**20 38 52.8**	**-0.1**
KORR	**Kora**	**1.07**	**46**	*e*Pg			**Pb**	**20 38 37.6**	**-1.3**
KORR				*e*Sg			**Sg**	**20 38 53.4**	**+0.7**
LSNR	**Lesken**	**1.10**	**32**	*e*Pg			**Pb**	**20 38 38.2**	**-1.4**
LSNR				*e*Sg			**Sn**	**20 38 55.4**	**-0.1**
BGD	**Bogdanovka**	**1.16**	**158**	P			**Pb**	**20 38 40.8**	**+0.2**
BGD				S			**Sn**	**20 38 57.4**	**+0.3**
NCK	**Nalchik**	**1.23**	**20**	*e*Pg			**Pn**	**20 38 40.8**	**-0.9**
NCK				*e*Sg			**Sg**	**20 38 58.4**	**+0.7**
ARNR	**Ardon**	**1.25**	**48**	*e*Pg			**Pn**	**20 38 41.6**	**-0.4**
ARNR				*e*Sg			**Sg**	**20 38 58.9**	**+0.6**
STDR	**Stavd-Durt**	**1.28**	**36**	*e*Pg			**Pb**	**20 38 42.6**	**0.0**
STDR				*e*Sg			**Sg**	**20 39 00.4**	**+1.1**
DOMR	**Dombai**	**1.40**	**313**	*e*Pg			**Pb**	**20 38 44.9**	**+0.1**
DOMR				*e*Sg			**Sg**	**20 39 05.2**	**+1.9**
VLKR	**Vladikavkaz**	**1.41**	**59**	*e*Pg			**Pb**	**20 38 44.8**	**+0.1**
VLKR				*e*Sg			**Sg**	**20 39 04.4**	**+1.0**
TBLG	**Delisi**	**1.42**	**115**	P			**Pn**	**20 38 43.6**	**-0.6**
TBLG				S			**Sb**	**20 39 03.3**	**+0.2**
TBLG	**Delisi**	**1.42**	**115**	IAML_P					
	comp=Z,2μm,0.2s								
TBLG				*i* P			**Pn**	**20 38 44.1**	**-0.1**
TBLG				*i* S			**Sb**	**20 39 03.6**	**+0.5**
TBLG	**Delisi**	**1.42**	**115**	*e*Pg			**Pn**	**20 38 43.6**	**-0.6**
TBLG				*e*Sg			**Sb**	**20 39 03.3**	**+0.2**
ARTV	**Artvin**	**1.42**	**216**	IAML_P					
	comp=Z,3μm,0.2s								
ARTV				*i* P			**Pn**	**20 38 43.7**	**-0.8**
ARTV				*i* S			**Sb**	**20 39 03.3**	**0.0**
SHA1	**Shidzhatmaz**	**1.42**	**349**	*e*Pg			**Pn**	**20 38 44.7**	**+0.2**
SHA1				*e*Sg			**Sg**	**20 39 04.2**	**+0.3**
DBOC	**Borcka**	**1.42**	**226**	IAML_P					
	comp=Z,3μm,0.3s								
DBOC				*i* P			**Pn**	**20 38 43.9**	**-0.5**
KBTC	**Kuba-Taba**	**1.50**	**11**	*e*Pg			**Pg**	**20 38 47.6**	**+0.7**
KBTC				*e*Sg			**Sg**	**20 39 07.4**	**+1.0**
DAGI	**Agillar**	**1.51**	**214**	IAML_P					
	comp=Z,2μm,0.5s								
DAGI				*i* P			**Pn**	**20 38 45.9**	**+0.2**
DAGI				*i* S			**Sb**	**20 39 06.8**	**+0.8**
BTKR	**Batakoyurt**	**1.52**	**47**	*e*Pg			**Pg**	**20 38 48.5**	**+1.2**
BTKR				*e*Sg			**Sg**	**20 39 09.6**	**+2.6**
KMGR	**Komgaron**	**1.53**	**62**	*e*Pg			**Pg**	**20 38 48.1**	**+0.5**
KMGR				*e*Sg			**Sg**	**20 39 09.6**	**+2.1**
KIV0	**Kislovodsk Arr**	**1.63**	**352**	*e*Pg			**Pb**	**20 38 48.2**	**-0.4**
KIV0				*e*Sg			**Sg**	**20 39 10.5**	**-0.1**
DBAD	**Bademkaya**	**1.66**	**217**	*i* P			**Pn**	**20 38 48.4**	**+0.8**
DBAD				*i* S			**Sb**	**20 39 10.1**	**0.0**
EAK	**Akyaka**	**1.71**	**165**	IAML_P					
	comp=Z,922nm,0.4s								
EAK				*i* P			**Pn**	**20 38 48.6**	**+0.2**
EAK				*i* S			**Sb**	**20 39 11.5**	**-0.2**
PYA1	**Pyatigorsk**	**1.72**	**2**	*e*Pg			**Pb**	**20 38 49.3**	**-0.7**
PYA1				*e*Sg			**Sb**	**20 39 12.0**	**+0.1**
DDEM	**Demirkent**	**1.74**	**214**	*i* P			**Pn**	**20 38 49.4**	**+0.6**
DDEM				*i* S			**Sb**	**20 39 12.8**	**+0.4**
BTLR	**Botlikh**	**2.39**	**81**	*e*Pn			**Pb**	**20 39 00.5**	**-0.9**
BTLR				*e*Sn			**Sg**	**20 39 33.9**	**-0.9**
LGD	**Lagodekhi**	**2.45**	**101**	P			**Pb**	**20 39 01.1**	**-1.4**
LGD				S			**Sb**	**20 39 34.7**	**+1.9**
LGD	**Lagodekhi**	**2.45**	**101**	*e*Pn			**Pb**	**20 39 01.1**	**-1.4**
LGD				*e*Sn			**Sb**	**20 39 34.7**	**+1.9**
BAYB	**BAYBURT**	**2.95**	**226**	*i* P			**Pb**	**20 39 09.0**	**-2.1**

TEH 17 20:43:41.5, 38.42N×54.00E, h10km, ML3.5, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IALA	**Alasht**	**2.52**	**202**	*e*Pn			Pn	20 44 24.2	+1.4
IALA					IAMB	IAmb	20 44 55.1		
	comp=Z,5μm,0.2s								
IPRN	**Peran**	**2.55**	**212**	*e*Pn			Pn	20 44 23.2	+0.2
IPRN					IAMB	IAmb	20 44 54.6		
	comp=Z,5μm,0.2s								
ISHM	**Shahmirzad**	**2.67**	**192**	*e*Pn			Pn	20 44 27.0	+2.2
ISHM					IAMB	IAmb	20 45 03.9		
	comp=Z,1μm,0.3s								
IFIR	**Firoozkooh**	**2.95**	**200**	*e*Pn			Pb	20 44 31.6	-2.7
IFIR					IAMB	IAmb	20 45 12.0		
	comp=Z,835nm,0.4s								
IANJ	**Anjilo**	**2.95**	**181**	*e*Pn			Pn	20 44 31.3	+2.7
IANJ					IAMB	IAmb	20 45 08.9		
	comp=Z,234nm,0.2s								
ISFR	**Sfrayin**	**3.45**	**112**	*e*Pn			Pn	20 44 38.3	+2.7
ISFR					IAMB	IAmb	20 44 39.7		
	comp=Z,388nm,0.2s								
IKRD	**Kardeh**	**3.94**	**113**	*e*Pn			Pb	20 44 53.5	+2.2
IKRD					IAMB	IAmb	20 45 23.6		
	comp=Z,148nm,0.2s								
TNSJ	**Nastanj**	**4.92**	**154**	*e*Pn			Pn	20 44 58.3	+2.6
TNSJ					IAMB	IAmb	20 44 58.7		
	comp=Z,0.0nm,0.3s								
ISRB	**Sarab**	**5.03**	**265**	*e*Pn			Pn	20 44 59.0	+1.8
ISRB					IAMB	IAmb	20 45 01.8		
	comp=Z,235nm,0.2s								
TKDS	**Koohdasht(Taba**	**5.42**	**151**		IAMB	IAmb		20 45 05.0	
	comp=Z,0.0nm,0.2s								
TKDS				*e*Pn			Pn	20 45 04.3	+1.8
IHRS	**Heris**	**5.47**	**271**	*e*Pn			Pn	20 45 06.1	+2.9
IHRS					IAMB	IAmb	20 46 11.3		
	comp=Z,112nm,0.1s								
TPRV	**Parvadeh(Tabas**	**5.81**	**157**	*e*Pn			Pn	20 45 10.1	+2.3
ITEG	**Tejag**	**6.73**	**144**	*e*Pn			Pn	20 45 22.9	+2.3
ITEG					IAMB	IAmb	20 45 23.2		
	comp=Z,734nm,0.2s								

MAN 17 20:43:48.9, 7.38N×125.86E, h18km±45km, mb4.7, ML3.6, MS3.5, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**0.46**	**230**	*e*P			Pn	20 44 01.9	+1.3
DMPH				*e*S			Sn	20 44 12.0	+3.7
MATI	**Mati**	**0.59**	**138**	*e*P			Pb	20 44 01.3	+0.7
MATI				*e*S			Sn	20 44 12.0	+0.5
BUKP	**Musuan**	**0.93**	**302**	*e*P			Pb	20 44 05.3	-1.2
BUKP				*e*S			Sn	20 44 20.6	+0.5
BIPH	**Bislig**	**0.94**	**32**	*e*P			Pb	20 44 05.6	-1.1
BIPH				*e*S			Sb	20 44 16.1	-2.6
BUTP	**Butuan**	**1.59**	**351**	*e*P			Pn	20 44 16.0	-0.2
BUTP				*e*S			Sg	20 44 41.7	+1.3

IDC 17 20:47:37.1±3.6, 8.34S×158.61E, h118km±45km, mb3.4/5, mb1 3.6/5, mb1mx3.3/38, mbtmp3.7/5, MS3.6/1, Ms1 3.6/1, ms1mx2.8/13, Error ellipse: s-maj=53.8km s-min=22.4km az=131.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.71**	**130**	P			Pn	20 48 06.9	0.0
	137nm,0.3s,baz=300,slow=11,SNR=31								
HNR				S			Sn	20 48 29.7	+0.1
	62nm,0.3s,baz=311,slow=21,SNR=6.1								
DZM	**Mont Dzumac**	**15.60**	**152**	LR			LR	20 55 54.1	
	comp=Z,221nm,21.9s,baz=30,slow=32								
WRA	**Warramunga Arr**	**26.17**	**241**	P			P	20 53 00.2	-0.5
	0.4nm,0.4s,baz=66,slow=9.2,SNR=10								
H11S3	**WAKE ISLAND Hy**	**27.83**	**17**	T			T	21 22 04.2	
	baz=198,slow=76,SNR=29								
H11S2	**WAKE ISLAND Hy**	**27.83**	**17**	T			T	21 22 01.4	
	baz=198,slow=76,SNR=41								
H11S1	**WAKE ISLAND Hy**	**27.85**	**17**	T			T	21 21 56.1	
	baz=198,slow=76,SNR=20								
ASAR	**Alice Springs**	**28.14**	**234**	P			P	20 53 18.1	-0.2
	0.5nm,0.5s,baz=62,slow=9.6,SNR=11								
STKA	**Stephens Creek**	**28.27**	**212**	P			P	20 53 19.8	+0.4
	0.9nm,0.4s,baz=44,slow=15,SNR=3.5								
H11N1	**WAKE ISLAND Hy**	**29.05**	**16**	T			T	21 23 45.5	
	baz=196,slow=76,SNR=14								
H11N3	**WAKE ISLAND Hy**	**29.05**	**16**	T			T	21 23 33.4	
	baz=196,slow=76,SNR=12								
H11N2	**WAKE ISLAND Hy**	**29.06**	**16**	T			T	21 23 51.0	
	baz=196,slow=76,SNR=10								
SONM	**Songino Array**	**72.42**	**326**	P			P	20 58 51.9	+1.2
	0.5nm,0.6s,baz=130,slow=5.9,SNR=4.7								
ILAR	**Eielson Array**	**83.33**	**21**	P			P	20 59 49.4	-1.2
	0.4nm,0.9s,baz=246,slow=5.6,SNR=2.9								

IDC 17 20:59:44.9±1.2, 29.26N×81.53E, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.6/44, mbtmp3.7/11, ML3.8/2, MS3.5/2, Ms1 3.5/2, ms1mx2.7/39, Error ellipse: s-maj=38.6km s-min=20.3km az=56.0
ISCJB 17 20:59:47.9±0.4, 29.42N±0.05×81.46E±0.04, h27km, mb3.8/10, MS3.5/2, Error ellipse: s-maj=8.0km s-min=4.2km az=14.8
NDI 17 20:59:50.0±1.9, 29.35N×81.33E, h10km, ML3.6
NEIC 17 20:59:51.1±1.8, 29.41N×81.43E, h39km±17km, mb4.5/1, Error ellipse: s-maj=24.1km s-min=11.5km az=218.0

ISC 17 20:59:49.5±0.6, 29.35N±0.06×81.43E±0.05, h27km, n30, σ1°79/37, mb3.8/10, Nepal

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**1.08**	**281**	*e*P			**Pn**	**21 00 08.4**	**-0.6**
PTH				*e*S			**Sn**	**21 00 23.0**	**-0.2**
DDI	**Dehra Dun**	**3.09**	**289**	*e*P			**Pn**	**21 00 39.8**	**+3.2**
DDI				*e*S			**Sn**	**21 01 13.4**	**+0.7**
DDI					IAML			21 01 17.2	
	comp=N,494nm,0.1s								
DDI					IAML			21 01 17.9	
	comp=E,365nm,0.3s								
NDI	**New Delhi**	**3.75**	**261**	*e*P			**Pn**	**21 00 47.0**	**+1.4**
NDI				*e*S			**Sn**	**21 01 28.5**	**-0.4**
SMLA	**Simla**	**4.09**	**297**	*e*P			**Pn**	**21 00 52.4**	**+2.1**
SMLA				*e*S			**Sn**	**21 01 35.9**	**-1.4**
SMLA					IAML			21 02 00.5	
	comp=E,295nm,0.4s								
SMLA					IAML			21 02 01.9	
	comp=N,166nm,0.5s								
DHRM	**DHARAMSHALA**	**5.28**	**304**	*e*P			**Pn**	**21 01 08.6**	**+1.8**
DHRM				*e*S			**Sn**	**21 02 05.0**	**-1.8**
DHRM					IAML			21 02 11.1	
	comp=N,118nm,0.4s								
DHRM					IAML			21 02 11.4	
	comp=E,123nm,0.3s								
GTK	**Tadong**	**6.63**	**106**	*e*P			**Pn**	**21 01 27.7**	**+2.4**
GTK				*e*S			**Sn**	**21 02 40.0**	**-0.1**
GTK					IAML			21 02 45.2	
	comp=N,40nm,0.6s								
GTK					IAML			21 02 45.4	
	comp=E,29nm,0.1s								
BHPL	**Bhopal**	**7.07**	**212**	*e*S			**Sn**	**21 02 48.2**	**-2.5**
BHPL					IAML			21 02 53.4	
	comp=N,29nm,0.2s								
BHPL					IAML			21 02 53.7	
	comp=E,62nm,0.2s								
CHCP	**Chirah Chowk**	**8.19**	**304**	P			**Pn**	**21 01 47.8**	**+1.2**
NIL	**Nilore**	**8.19**	**304**	*e*P			**Pn**	**21 01 47.3**	**+0.7**
	comp=E,24nm,0.4s								
LSA	**Lhasa**	**8.47**	**85**	*e*P			**Pn**	**21 01 52.9**	**+2.0**
	comp=E,8.9nm,0.7s								
THW	**Thamme Wali**	**8.99**	**295**	P			**Pn**	**21 01 58.2**	**+0.6**
CEP	**Cherat**	**9.26**	**301**	P			**Pn**	**21 02 02.3**	**+0.9**
CEP				S			**Sn**	**21 03 41.0**	**-3.8**
SHL	**Shillong**	**10.02**	**110**	*ex*			**Pn**	**21 02 11.9**	**+0.2**
SHL				*e*S			**Sn**	**21 03 59.8**	**-3.6**
HYB	**Hyderabad**	**12.17**	**193**	*i* P			**Pn**	**21 02 45.0**	**+3.8**
HYB				*e*				21 04 50.0	
POO	**Poona**	**12.80**	**214**	*e*P			**Pn**	**21 02 49.0**	**-0.8**
AAK	**Ala-Archa**	**14.39**	**339**	Pn			**Pn**	**21 03 10.0**	**-1.4**
	comp=E,0.5nm,0.3s,baz=113,slow=9.9,SNR=8.2								
AAK	**Ala-Archa**	**14.39**	**339**	*e*P			**Pn**	**21 03 10.3**	**-1.2**
MKAR	**Makanchi Array**	**17.43**	**2**	P			**Pn**	**21 03 48.7**	**-1.9**
	comp=E,0.2nm,0.3s,baz=181,slow=12,SNR=13								
CMAR	**Chiang Mai Arr**	**19.31**	**120**	P			**Pn**	**21 04 14.0**	**+0.3**
	comp=E,0.2nm,0.3s,baz=300,slow=12,SNR=4.6								
KURBB	**Kurchatov Arra**	**21.36**	**355**	P			**P**	**21 04 34.0**	**-0.5**
	comp=E,1.2nm,0.7s,baz=178,slow=10.0,SNR=9.3								
KURK	**Kurchatov**	**21.44**	**355**	*e*P			**P**	**21 04 34.8**	**-0.6**
	comp=E,12nm,0.6s								
ZALV	**Zalesovo Beam**	**24.70**	**5**	P			**P**	**21 05 07.2**	**-0.9**
	comp=E,1.2nm,0.4s,baz=194,slow=9.5,SNR=8.0								
SONM	**Songino Array**	**26.67**	**39**	P			**P**	**21 05 27.0**	**+0.9**
	comp=E,0.5nm,0.6s,baz=234,slow=8.8,SNR=6.3								
AKASG	**Malin Array Be**	**44.23**	**314**	P			**P**	**21 07 56.7**	**+0.5**
	comp=E,0.6nm,0.4s,baz=83,slow=7.5,SNR=6.5								
AKASG					LR		LR	21 30 47.6	
	comp=E,39nm,18.1s,baz=35,slow=42								
FINES	**FINESS Array B**	**48.23**	**328**	P			**P**	**21 08 29.1**	**+1.6**
	comp=E,0.8nm,0.7s,baz=116,slow=8.7,SNR=4.2								
ARCES	**ARCESS Array B**	**51.06**	**338**	P			**P**	**21 08 49.9**	**+0.9**
	comp=E,10nm,1.1s,baz=97,slow=7.7,SNR=5.8								
VRAC	**Vranov**	**52.29**	**312**	LR			LR	21 32 56.9	
	comp=E,67nm,19.4s,baz=137,slow=38								
NOA	**NORSAR Array B**	**55.26**	**326**	P			**P**	**21 09 19.8**	**-0.3**
	comp=E,0.4nm,0.6s,baz=108,slow=9.4,SNR=3.2								
WRA	**Warramunga Arr**	**70.73**	**127**	P			**P**	**21 11 03.2**	**-0.2**
	comp=E,0.9nm,1.0s,baz=323,slow=6.1,SNR=4.4								
ASAR	**Alice Springs**	**72.97**	**130**	P			**P**	**21 11 14.2**	**-2.6**
	comp=E,0.3nm,0.7s,baz=315,slow=6.7,SNR=2.4								

ISCJB 17 21:06:40.5±0.4, 43.77N±0.03×105.22W±0.04, h0km, mb3.9/2, Error ellipse: s-maj=4.7km s-min=3.4km az=152.4
IDC 17 21:06:41.6±0.9, 44.07N×105.76W, h0km, mb3.9/2, mb1 3.7/8, mb1mx3.5/49, mbtmp3.5/8, ML3.4/6, Error ellipse: s-maj=25.8km s-min=8.5km az=145.0
NEIC 17 21:06:41.5±0.5, 43.82N×105.26W, h0km, ML3.5, Error ellipse: s-maj=8.7km s-min=7.7km az=143.0, Suspected Mining explosion.
NEIC 58 km [36 miles] SSE of Gillette.
ANF 17 21:06:41.3±0.5, 43.77N×105.28W, ML3.5/7, Error ellipse: s-maj=7.8km s-min=5.5km az=140.0

ISC 17 21:06:41.0±0.6, 43.78N±0.03×105.20W±0.03, h0km, n28, σ1°58/45, Wyoming

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.91**	**67**	*e*Pg			**Pb**	**21 06 60.0**	**+0.2**
RSSD	**Black Hills**	**0.91**	**67**	P			**Pb**	**21 06 59.6**	**-0.2**
	baz=252								
K22A	**Casper**	**1.48**	**221**	P			**Pn**	**21 07 07.4**	**-1.7**
	baz=38								
K22A				S			**Sg**	**21 07 28.8**	**+0.1**
	baz=38								
N23A	**Red Feather La**	**2.93**	**191**	P			**Pn**	**21 07 30.0**	**+0.9**
	baz=9.5								
LAO	**LASA Array**	**3.00**	**346**	*e*Pn			**Pn**	**21 07 31.7**	**+1.8**
LAO				*e*Pb			**Pb**	**21 07 36.0**	**+0.7**
LAO				*e*Sn			**Sn**	**21 08 05.0**	**-0.6**
LAO				*e*Sb			**Sb**	**21 08 11.7**	**-0.8**
RLMT	**Red Lodge**	**3.21**	**296**	*e*Pn			**Pn**	**21 07 32.6**	**-0.3**
RLMT				*e*Pb			**Pb**	**21 07 39.8**	**+0.8**
RLMT				*e*Sn			**Sn**	**21 08 11.9**	**0.0**
RLMT	**Red Lodge**	**3.21**	**296**	P			**Pn**	**21 07 32.5**	**-0.3**
	baz=113								
PDAR	**Pinedale Array**	**3.34**	**254**	Pn			**Pn**	**21 07 32.9**	**-1.7**
	2.9nm,0.3s,baz=72,slow=17,SNR=15								
PDAR				Lg			Lg	21 08 18.2	
	8.3nm,0.3s,baz=69,slow=32,SNR=5.3								
OGNE	**Ogallala**	**3.68**	**139**	*e*Pn			**Pn**	**21 07 41.4**	**+2.3**
OGNE				*e*Pb			**Pg**	**21 07 50.5**	**-0.9**
OGNE				*e*Sg			**Sg**	**21 08 02.4**	**+2.9**
LKWY	**Lake**	**3.82**	**284**	*e*Pn			**Pn**	**21 07 42.8**	**+1.5**
LKWY				*e*Pb			**Pb**	**21 07 51.2**	**+1.7**
LKWY				*e*Sg			**Sg**	**21 08 46.7**	**+2.9**
H17A	**Grant Village**	**3.92**	**281**	P			**Pn**	**21 07 43.9**	**+1.2**
	baz=97								
ISCO	**Idaho Springs**	**3.98**	**185**	*e*Pn			**Pn**	**21 07 44.9**	**+1.3**
ISCO				*e*Sb			**Sb**	**21 08 43.7**	**+2.6**
ISCO	**Idaho Springs**	**3.98**	**185**	P			**Pn**	**21 07 44.8**	**+1.2**
	baz=3.6								
DGMT	**Dagmar**	**4.75**	**8**	*e*Pn			**Pn**	**21 07 55.4**	**+1.5**
DGMT				*e*Pb			**Pb**	**21 08 06.7**	**+1.6**
DGMT				S			**Sb**	**21 09 06.2**	**+3.4**
KSCO	**Kaye Shedlock'**	**5.14**	**157**	P			**Pn**	**21 07 59.7**	**+0.4**
	baz=338								
EGMT	**Eagleton**	**5.30**	**325**	*e*Pn			**Pn**	**21 08 02.2**	**+0.7**
	20nm,0.5s								
EGMT				*e*Pg			**Pg**	**21 08 20.8**	**-1.8**
EGMT				*e*Sn			**Sn**	**21 09 04.4**	**+1.0**
EGMT				*e*Sb			**Sb**	**21 09 20.1**	**+1.2**
SDCO	**Great Sand Dun**	**6.03**	**182**	*e*Pn			**Pn**	**21 08 12.6**	**+0.9**
	3.9nm,0.5s								
SDCO				*e*Sg			**Sg**	**21 09 51.1**	**-3.5**
SDCO	**Great Sand Dun**	**6.03**	**182**	P			**Pn**	**21 08 12.6**	**+0.9**
	baz=1.6								
ECSD	**EROS Data Cent**	**6.22**	**87**	*e*Pn			**Pn**	**21 08 15.5**	**+1.5**
	8.7nm,0.4s								
ECSD				*e*Sg			**Sg**	**21 09 59.8**	**-0.9**
ELK	**Elko**	**8.04**	**251**	Pn			**Pn**	**21 08 39.1**	**-0.1**
	0.3nm,0.3s,baz=75,slow=4.0,SNR=4.8								
ELK					Lg		Lg	21 10 47.1	
	0.0nm,0.3s,baz=265,slow=16,SNR=2.3								
I10CA	**LAC DU BONNET**	**8.97**	**41**	*i*				22 02 20.0	
	baz=218,slow=326,SNR=2.9								
ULM	**Lac du Bonnet**	**9.08**	**41**	Pn			**Pn**	**21 08 52.5**	**-0.7**
	2.0nm,0.3s,baz=236,slow=11,SNR=13								
ULM					Lg		Lg	21 11 19.4	
	1.0nm,0.3s,baz=93,slow=9.6,SNR=2.3								
FFC	**Flin Flon**	**11.16**	**10**	*e*Pn			**Pn**	**21 09 20.0**	**-1.6**
	2.4nm,0.5s								
NVAR	**Mina Array Bea**	**11.23**	**246**	Pn			**Pn**	**21 09 23.3**	**+0.3**
	0.1nm,0

ellipse: s-maj=5.6km s-min=3.1km az=100.2
IDC 17 21:17:38.2±2.9, 32°.07N±0°.70E, h33km±22km, mb4.3/31, mb1 4.5/38, mb1mx4.4/47, mbtmp4.5/38, ML4.6/7, MS3.3/15, Ms1 3.3/15, ms1mx3.1/49, Error ellipse: s-maj=12.0km s-min=10.3km az=7.0
GII 17 21:17:39.0±0.3, 31°.99N±0°.89E, h40km, mb4.4/6, MD4.4/6
GRAL 17 21:17:39.0±0.5, 31°.97N±0°.91E, h15km±32km, MD4.7
PDG 17 21:17:40.7±0.1, 31°.83N±28°.88E, h12km, ML5.2/12, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0
THE 17 21:17:40.8, 32°.39N±0°.49E, h6km±5km, ML5.2/10, Error ellipse: s-maj=8.5km s-min=1.6km az=164.0
NIC 17 21:17:43.5±0.2, 32°.84N±0°.36E, h10km, mb4.7, ML4.5
DDA 17 21:18:14.6, 35°.04N±0°.45E, h27km±5km, ML3.8
ISC 17 21:17:35.1±0.9, 32°.03N±0°.03×30°.64E±0°.03, h11km±5km, n727, σ1§82/788, mb4.8/175, 52C-22D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HBRG	Burj al `Arab	1.60	206	P			Pg	21 18 05.3	-0.5
HMYD	Mayadein	2.23	176	P			Pn	21 18 13.1	+1.2
KOT	Kottamia	2.33	154	P			Pn	21 18 14.5	+1.2
KOT				S			Sn	21 18 39.7	-2.2
HHAG	Hagoal	2.42	148	P			Pn	21 18 15.4	+0.9
HHAG				S			Sn	21 18 41.8	-2.3
PPCY	Paphos baz=219	3.19	26	P			Pn	21 18 25.9	+0.9
SZAC	Souni baz=228	3.30	34	P			Pn	21 18 28.7	+2.0
SZAC				S			Sn	21 19 04.1	-1.9
ALFC	Alefka baz=219	3.52	27	P			Pn	21 18 30.6	+0.9
ALFC				S			Sn	21 19 07.4	-4.0
LEF	Lefka	3.61	31	P			Pn	21 18 32.7	+1.8
LEF	Lefka	3.61	31	*i* P			Pn	21 18 32.9	+2.0
LEF				*i* S			Sn	21 19 10.9	-2.6
AMAZ	Amatzia	3.67	97	P			Pn	21 18 31.0	-0.8
AMAZ	Amatzia	3.67	97	Pn			Pn	21 18 30.9	-0.8
AMAZ				Sn			Sn	21 19 10.6	-4.5
CSS	Mathiatis	3.69	37	P			Pn	21 18 32.9	+0.9
CSS	Mathiatis	3.69	37	*e*Pn			Pn	21 18 33.2	+1.3
CSS				*e*Sn			Sn	21 19 13.5	-2.0
CSS	Mathiatis	3.69	37	P			Pn	21 18 33.8	+1.8
CSS				S			Sn	21 19 14.6	-0.9
CSS	Mathiatis	3.69	37	P			Pn	21 18 34.0	+2.0
CSS	Mathiatis	3.69	37	Pn			Pn	21 18 33.3	+1.3
CSS				Sn			Sn	21 19 14.0	-1.5
OFRI	`Ofer	3.73	80	Pn			Pn	21 18 30.6	-1.9
OFRI				Sn			Sn	21 19 11.2	-5.2
SLTI	Sal'it	3.74	86	Pn			Pn	21 18 31.5	-1.2
SLTI				Sn			Sn	21 19 11.7	-5.0
MAMC	Mammari baz=226	3.80	34	P			Pn	21 18 36.1	+2.6
RMNI	Mount Ramon	3.80	111	Pn			Pn	21 18 33.0	-0.6
YTIR	Yattir	3.87	99	Pn			Pn	21 18 34.0	-0.6
BLGI	Bet Lehem HaGe	3.91	78	Pn			Pn	21 18 33.5	-1.6
HNTI	Hanita	3.97	73	Pn			Pn	21 18 34.7	-1.2
DSI	Dead Sea	4.06	95	Pn			Pn	21 18 36.2	-0.9
DSI				Sn			Sn	21 19 20.9	-3.7
MMLI	Mount Malkishu	4.07	83	P			Pn	21 18 36.4	-0.9
MMLI	Mount Malkishu	4.07	83	P			Pn	21 18 36.2	-1.0
MMLI	Mount Malkishu	4.07	83	Pn			Pn	21 18 36.3	-1.0
MZDA	Masada	4.09	99	Pn			Pn	21 18 36.6	-0.8
MZDA				Sn			Sn	21 19 20.8	-4.4
PRNI	Paran	4.09	113	Pn			Pn	21 18 36.5	-1.1
PRNI				Sn			Sn	21 19 20.8	-4.7
PHNC	Paralimni baz=235	4.10	43	P			Pn	21 18 39.8	+2.1
PHNC				S			Sn	21 19 25.3	-0.3
MMAI	Mount Meron Ar 1µm,0.3s,baz=266,slow=12,SNR=1446	4.14	75	Pn			Pn	21 18 38.6	+0.3
MMAI	430nm,0.3s,baz=266,slow=26,SNR=10			Sn			Sn	21 19 20.8	-5.9
HMDT	Nahal Hemdat	4.15	86	Pn			Pn	21 18 37.6	-0.7
HMDT				Sn			Sn	21 19 22.4	-4.4
ZFRI	Zfri	4.15	110	Pn			Pn	21 18 36.9	-1.4
LISJ	El Lisan	4.20	99	P			Pn	21 18 38.6	-0.4
KSL	Kastellorizon	4.21	348	P			Pn	21 18 38.9	-0.2
KSL	Kastellorizon	4.21	348	P			Pn	21 18 38.9	-0.2
GHAJ	Ghor Haditha	4.26	98	P			Pn	21 18 39.7	-0.1
GHAJ	Ghor Haditha	4.26	98	Pn			Pn	21 18 38.9	-0.9
GHAJ				Sn			Sn	21 19 25.5	-4.0
HRFI	Mount Harif	4.26	117	P			Pn	21 18 38.9	-1.0
HRFI	Mount Harif	4.26	117	P			Pn	21 18 38.8	-1.1
HRFI	Mount Harif	4.26	117	Pn			Pn	21 18 38.8	-1.1
AKAS	Kas	4.28	346	P			Pn	21 18 41.0	+0.7
AKAS	Kas comp=Z,10µm,0.4s	4.28	349	IAML_P					
AKAS				*i* P			Pn	21 18 40.8	+0.5
MBRI	Mt Berech	4.29	120	Pn			Pn	21 18 39.4	-1.0
KARJ		4.37	101	P			Pn	21 18 38.2	-3.2
EIL	Elat comp=Z,61nm,0.3s,baz=306,slow=3.5,SNR=789	4.39	121	Pn			Pn	21 18 40.5	-1.1
EIL	comp=Z,285nm,0.3s,baz=356,slow=3.3,SNR=16			Sn			Sn	21 19 27.6	-5.0
EIL	Elat	4.39	121	P			Pn	21 18 40.6	-1.0
EIL	Elat	4.39	121	Pn			Pn	21 18 40.5	-1.1
SHMJ	Saham	4.39	79	Pn			Pn	21 18 41.3	0.0
KSDI	Kefar Szold	4.39	73	P			Pn	21 18 41.8	+0.2
KSDI	Kefar Szold	4.39	73	Pn			Pn	21 18 41.4	-0.2
KSDI				Sn			Sn	21 19 29.4	-3.3
WALJ	Wala	4.43	95	P			Pn	21 18 41.3	-0.8
AQBJ	Aqaba	4.43	120	P			Pn	21 18 42.2	0.0
NATI	Neve Ativ	4.47	73	Pn			Pn	21 18 42.5	-0.2
DQRL	Deir Qamar	4.47	67	*e*P			Pn	21 18 42.6	-0.3
DQRL				*e*S			Sn	21 19 29.8	-5.1
BEYL	Beirut	4.47	64	*e*P			Pn	21 18 42.5	-0.3
BEYL				*e*S			Sn	21 19 29.6	-5.2
JDRJ	Daraweish	4.49	105	P			Pn	21 18 43.0	-0.1
KARP	Karpathos	4.55	321	P			Pn	21 18 43.4	-0.5
KARP	Karpathos	4.55	321	*e*Pn			Pn	21 18 44.7	+0.9
KARP	Karpathos	4.55	321	P			Pn	21 18 44.6	+0.7
EREN	Erenkoy	4.56	39	P			Pn	21 18 46.1	+2.1
EREN	Erenkoy	4.56	39	*i* P			Pn	21 18 45.9	+1.9
BHL	Bhannes	4.61	65	*e*P			Pn	21 18 44.4	-0.3
BHL				*e*S			Sn	21 19 33.0	-5.3
ARG	Arkhangelos	4.67	334	P			Pn	21 18 44.0	-1.5
ARG	Arkhangelos	4.67	334	P			Pn	21 18 45.9	+0.4
ARG				S			Sn	21 19 35.6	-4.0
ARG	Arkhangelos	4.67	334	P			Pn	21 18 45.9	+0.4
ARG				S			Sn	21 19 35.6	-4.0
ARG	Arkhangelos	4.67	334	P			Pn	21 18 45.9	+0.4
ARG				S			Sn	21 19 35.6	-4.0
HSNJ	Maan	4.67	111	P			Pn	21 18 44.9	-0.7
SWQJ	Swaqa	4.69	98	P			Pn	21 18 45.1	-0.7
HSUJ	Al Zarqa comp=Z,515nm,0.5s,comp=Z,3.3nmcomp=Z,7.9nm	4.71	88	P			Pn	21 18 45.6	-0.5
ELL	Elmali	4.75	353	*e*P			Pn	21 18 50.2	+3.5
AKK2	Akkuyu-Mersin	4.76	30	*e*P			Pn	21 18 48.5	+1.9
FETY	Fethiye	4.77	345	P			Pn	21 18 47.1	+0.2
FETY				S			Sn	21 19 37.8	-4.4
FETY	Fethiye	4.77	345	P			Pn	21 18 47.1	+0.2
FETY				S			Sn	21 19 37.8	-4.4
FETY	Fethiye comp=Z,9µm,0.1s	4.77	345	IAML_P					
FETY				*i* P			Pn	21 18 48.7	+1.8
AKKU	Akkuyu-Mersin	4.78	30	*e*P			Pn	21 18 49.0	+2.1
OREN	Orenkoy-Mersin	4.78	28	*e*P			Pn	21 18 49.4	+2.4
GULN	MERSIN_Gulnar	4.79	29	*i* P			Pn	21 18 49.4	+2.2
ZKR	Zakros	4.81	311	*e*P			Pn	21 18 48.5	+1.1
ZKR	Zakros	4.81	311	P			Pn	21 18 47.9	+0.5
ZKR				S			Sn	21 19 40.9	-2.1
ZKR	Zakros	4.81	311	P			Pn	21 18 47.9	+0.5
ZKR				S			Sn	21 19 40.9	-2.1
BERE	Bereket-Mersin	4.81	26	*e*P			Pn	21 18 49.7	+2.2
YESI	Yesilovacik-Me	4.85	30	*e*P			Pn	21 18 49.9	+2.0
IKL	Isikli	4.90	30	*e*P			Pn	21 18 51.1	+2.5
KEPZ	Antalya-Kepez comp=Z,7µm,0.3s	4.93	9	IAML_P					
KEPZ				*i* P			Pn	21 18 50.4	+1.4
STIA	Sitia Lasithi	4.94	311	P			Pn	21 18 50.5	+1.3
STIA				S			Sn	21 19 44.3	-2.0
KORT	Korkueli	4.97	357	*e*P			Pn	21 18 53.4	+3.7
KORT	Korkueli	4.97	357	*i* P			Pn	21 18 51.4	+1.7
ERMK	Ermenek	4.97	22	*i* P			Pn	21 18 53.9	+4.1
TEVE	Tevekalti-Mers	4.97	27	*e*P			Pn	21 18 52.3	+2.6
HWQ	Hawqa	4.98	62	*e*P			Pn	21 18 49.6	-0.3
HWQ				*e*S			Sn	21 19 41.4	-6.1
DALY	Dalyan (Mula)	5.05	342	*e*P			Pn	21 18 51.7	+1.0
DALY	Dalyan (Mula)	5.05	342	*i* P			Pn	21 18 52.1	+1.4
KEBE	Keben-Mersin	5.09	29	*e*P			Pn	21 18 54.2	+2.9
TURN	Turunc	5.12	341	*e*P			Pn	21 18 53.8	+2.2
TURN	Turunc	5.12	341	*i* P			Pn	21 18 53.7	+2.2
HDMB	Hadim	5.16	17	*e*P			Pn	21 18 55.4	+3.1
GOLH	Golhisar	5.27	351	*i* P			Pb	21 19 02.4	-4.9
NPS	Neapolis	5.29	309	P			Pn	21 18 55.1	+1.1
NPS				S			Sn	21 19 53.7	-1.3
NPS	Neapolis	5.29	309	P			Pn	21 18 55.1	+1.1
NPS				S			Sn	21 19 52.4	-2.6
KIZK	Mersin	5.30	32	*e*P			Pn	21 18 57.4	+3.2
KIZK	Mersin	5.30	32	*i* P			Pn	21 18 57.1	+2.9
ASF	Jabal al Asfar comp=Z,20nm,0.3s,baz=221,slow=7.7,SNR=116	5.31	87	Pn			Pn	21 18 53.6	-0.8
ASF				Sn			Sn	21 19 52.0	-3.6
ASF	Jabal al Asfar comp=Z,14nm,0.3s,baz=143,slow=20,SNR=3.1	5.31	87	P			Pn	21 18 53.6	-0.8
LAST	Lasithi comp=Z,126nm,0.8s,comp=Z,0.7nm	5.32	307	P			Pn	21 18 55.4	+0.9
LAST				S			Sn	21 19 54.7	-1.1
LAST	Lasithi	5.32	307	P			Pn	21 18 55.4	+0.9
LAST				S			Sn	21 19 51.9	-3.9
DAT	Datca	5.33	332	*e*P			Pn	21 18 56.1	+1.5
DAT	Datca	5.33	332	*i* P			Pn	21 18 55.1	+0.4
BCK	Bucak	5.42	360	*e*P			Pn	21 18 59.7	+3.8
TAVA	DENIZLI_Tavas	5.61	346	*i* P			Pn	21 19 01.1	+2.6
BDRM	Kayabasi	5.68	333	*i* P			Pn	21 18 59.5	+0.2
BRDR	BURDUR-Merkez	5.68	355	*i* P			Pn	21 19 01.8	+2.4
KSTL	Kastelli Herak	5.68	307	P			Pn	21 18 57.5	-1.8
KSTL				S			Sn	21 19 56.0	-8.5
IACM	Heraklion	5.68	307	P			Pn	21 19 00.9	+1.6
IACM				S			Sn	21 20 02.9	-1.6
SIVA	Sivas	5.71	303	P			Pn	21 19 00.3	+0.6
SIVA	Sivas	5.71	303	P			Pn	21 19 00.3	+0.6
BODT	Bodrum	5.72	332	P			Pn	21 18 59.7	-0.3
BODT				S			Sn	21 19 59.7	-6.0
BODT	Bodrum	5.72	332	P			Pn	21 18 59.7	-0.3
BODT				S			Sn	21 19 59.7	-6.0
MLSB	Milas	5.76	337	*e*P			Pn	21 19 03.3	+2.8
ISP	Isparta	5.78	359	*e*P			Pn	21 19 03.4	+2.5
ISP	Isparta	5.78	359	*e*Pn			Pn	21 19 03.7	+2.9
ISP				*e*Sn			Sn	21 20 05.9	-1.3
ISP	Isparta	5.78	359	⇑*i*P			Pn	21 19 03.7	+2.9
ISP	Isparta	5.78	359	S			Sn	21 20 09.0	+1.8
ISP	Isparta	5.78	359	P			Pn	21 19 03.6	+2.7
ISP	Isparta	5.78	359	*e*P			Pn	21 19 03.7	+2.9
ISP				*e*				21 20 05.9	
ISP	Isparta	5.78	359	Pn			Pn	21 19 03.3	+2.4
IDI	Anoyia	5.79	306	*e*P			Pn	21 19 00.8	-0.2
IDI	Anoyia	5.79	306	*e*Pn			Pn	21 19 01.7	+0.7
IDI	Anoyia	5.79	306	⇑*i*P			Pn	21 19 01.4	+0.4
IDI	Anoyia	5.79	306	S			Sn	21 19 59.3	-8.1
IDI	Anoyia	5.79	306	P			Pn	21 19 01.4	+0.4
MERS	Mersin	5.80	33	*e*P			Pn	21 19 03.3	+2.3
DENT	Denizli	5.86	347	*e*P			Pn	21 19 03.6	+1.7
KMER	Konya-Meram	5.90	13	*i* P			Pn	21 19 05.7	+3.2
ANAF	Anafi Island	5.91	318	P			Pn	21 19 02.1	-0.4
ANAF				S			Sn	21 20 05.0	-5.2
BAGO	Egridir - ISPA comp=Z,6µm,0.4s	5.95	1	IAML_P					
BAGO				*i* P			Pn	21 19 05.2	+2.0
AYDN	Tasoluk	6.06	339	*i* P			Pn	21 19 06.8	+2.2
KONT	Konya--Tatoy comp=Z,4µm,0.6s	6.07	13	IAML_P					
KONT				*i* P			Pn	21 19 07.0	+2.3
KERG	Konya-Eregli	6.09	27	*i* P			Pn	21 19 07.4	+2.3
SANT	Santorini	6.10	317	*e*P			Pn	21 19 03.0	-2.1
SANT	Santorini	6.10	317	*e*Pn			Pn	21 19 04.2	-0.9
SANT	Santorini	6.10	317	⇑*i*P			Pn	21 19 04.2	-0.9
SANT	Santorini	6.10	317	S			Sn	21 20 08.1	-6.8
SANT	Santorini	6.10	317	P			Pn	21 19 04.5	-0.6
SANT				S			Sn	21 20 09.6	-5.3
THR8	Santorini-Mono	6.11	317	P			Pn	21 19 04.6	-0.7
DOGA	KONYA_Doganhis	6.12	8	*i* P			Pn	21 19 08.8	+3.3
THR6	Thira Island,	6.12	316	P			Pn	21 19 05.1	-0.3
THR6	Thira Island,	6.12	316	P			Pn	21 19 05.3	-0.3
THT1	Athinios (Pele	6.13	317	P			Pn	21 19 04.7	-0.7
SAP2K	Karterados	6.13	317	P			Pn	21 19 05.0	-0.6
SAP2K				S			Sn	21 20 10.9	-4.8
SFIR	Foira Santorin	6.15	317	P			Pn	21 19 05.7	-0.1
THR7	Fira-Santorini	6.15	317	P			Pn	21 19 05.5	-0.3
GVD	Gavdhos	6.16	299	*e*P			Pn	21 19 05.9	+0.1
GVD	Gavdhos	6.16	299	P			Pn	21 19 06.0	+0.1
GVD				S			Sn	21 20 13.6	-2.6
GVD	Gavdhos	6.16	299	P			Pn	21 19 06.0	+0.1
GVD				S			Sn	21 20 13.6	-2.6
THR3	Thira Island,	6.16	317	P			Pn	21 19 05.5	-0.4
THR3	Thira Island,	6.16	317	P			Pn	21 19 05.5	-0.4
THT2	Imerovigli	6.17	317	P			Pn	21 19 06.2	+0.2
THT2				S			Sn	21 20 11.9	-4.6
THR2	Thira island,	6.17	317	P			Pn	21 19 05.5	-0.5
THR2	Thira island,	6.17	317	P			Pn	21 19 05.5	-0.5
AMGA	Amorgos Island	6.19	322	P			Pn	21 19 05.9	-0.5
AMGA				S			Sn	21 20 11.3	-5.9
KZIL	AFYON_Kizioren	6.23	356	*i* P			Pn	21 19 10.0	+3.0
GULE	Gulek	6.25	32	*i* P			Pn	21 19 09.9	+2.6
GCAM	G?zelcaml?	6.31	335	*e*P			Pn	21 19 09.3	+1.3
GCAM	G?zelcaml?	6.31	335	*i* P			Pn	21 19 09.9	+1.9
TAHT	Tahtakopru-Hat	6.32	45	*e*P			Pn	21 19 09.8	+1.7
LADK	Ladik-KONYA	6.32	12	*e*P			Pn	21 19 10.6	+2.4
AYDB	Zeytinkoy-Aydi	6.32	340	*e*P			Pn	21 19 08.4	+0.1
VAM	Vamos	6.34	304	P			Pn	21 19 09.2	+0.8
VAM				S			Sn	21 20 19.4	-1.3
VAM	Vamos	6.34	304	P			Pn	21 19 09.2	+0.8
VAM				S			Sn	21 20 17.8	-2.9
VAM	Vamos	6.34	304	P			Pn	21 19 09.2	+0.8
VAM				S			Sn	21 20 19.4	-1.3
KARA	Karaisali	6.36	34	*e*P			Pn	21 19 11.4	+2.7
KHAL	Karahalli	6.40	352	*i* P			Pn	21 19 10.8	+1.5
CHAN	Chania	6.50	304	P			Pn	21 19 11.9	+1.3
CHAN				S			Sn	21 20 22.8	-2.0
SHUT	Suhut-Afyon	6.51	359	*e*P			Pn	21 19 13.4	+2.5
CEYT	Ceyhan	6.52	39	*e*P			Pn	21 19 11.9	+1.1
IMMV	Iera Moni Meta	6.52	303	*e*P			Pn	21 19 10.8	-0.1
IMMV	Iera Moni Meta	6.52	303	P			Pn	21 19 11.7	+0.8
IMMV				S			Sn	21 20 22.4	-2.8
APE	Apeiranthos	6.56	321	*e*P			Pn	21 19 08.9	-2.6
APE	Apeiranthos	6.56	321	P			Pn	21 19 10.9	-0.6
APE				S			Sn	21 20 20.2	-6.1
APE	Apeiranthos	6.56	321	⇓*i*P			Pn	21 19 10.8	-0.7
APE	Apeiranthos	6.56	321	P			Pn	21 19 10.9	-0.6
APE				S			Sn	21 20 20.2	-6.1
APE	Apeiranthos	6.56	321	P			Pn	21 19 10.9	-0.6
APE				S			Sn	21 20 20.2	-6.1
KDHN	Kadinhani comp=Z,468nm,0.2s	6.59	10	IAML_P					
KDHN				*i* P			Pn	21 19 14.1	+2.1
MANT	Manisa	6.67	346	*e*Pn			Pn	21 19 14.5	+1.3
MANT	Manisa	6.67	346	*i* P			Pn	21 19 14.2	+1.0
KULA	Kula-Manisa	6.67	347	*e*P			Pn	21 19 14.9	+1.9
BOLV	Bolvadin	6.68	2	*i* P			Pn	21 19 15.8	+2.6
DGB	zmir	6.75	334	*i* P			Pn	21 19 14.8	+0.8
MHLO	Agia Marina, M	6.95	314	P			Pn	21 19 16.7	0.0
BLCB	Balcova	6.99	336	*e*P			Pn	21 19 19.4	+2.0
GDZ	Gediz	7.11	353	*i* P			Pn	21 19 20.5	+1.4
KUZU	Kuzuini	7.12	47	*i* P			Pn	21 19 20.2	+1.0
DEMI	Demirci	7.17	348	*i* P			Pn	21 19 20.8	+0.9
AKHS	Akhisar	7.21	342	*i* P			Pn	21 19 20.6	+0.2
ANDN	Andirin	7.26	39	*i* P			Pn	21 19 23.3	+2.1
KKUL	Konya-Kulu	7.37	14	*i* P			Pn	21 19 25.8	+3.2
SAIM	ADANA	7.43	35	*i* P			Pn	21 19 26.5	+3.1
AVNS	Nevsehir-Avano	7.58	26	*i* P			Pn	21 19 32.1	+6.5
KTHR	Kythira	7.61	306	P			Pn	21 19 25.0	-0.8
AFAR	Afar-Bala (An	7.66	14	*e*P			Pn	21 19 29.0	+2.4
STEP	BALIKESIR_Sava	7.71	343	*i* P			Pn	21 19 28.2	+1.0
DURS	Dursunbey	7.76	348	*i* P			Pn	21 19 28.4	+0.5
BBAL	Bala	7.77	14	*i* P			Pn	21 19 29.5	+1.4
GZT	Gaziantep	7.79	45	*i* P			Pn	21 19 29.7	+1.2
BORA	Eskisehir comp=Z,621nm,0.1s	7.84	359	IAML_P					
BORA				*i* P			Pn	21 19 30.3	+1.2
VLI	Veliai	7.90	308	P			Pn	21 19 28.6	-1.2
VLI	Veliai	7.90	308	P			Pn	21 19 28.6	-1.2
BR231	Keskin MP Arra	7.99	12	*e*Pn			Pn	21 19 32.1	+1.0
ANTO	Ankara	8.02	12	*e*Pn			Pn	21 19 32.5	+1.0
ANTO	Ankara	8.02	12	⇑*i*P			Pn	21 19 33.1	+1.6
ANTO	Ankara	8.02	12	*e*P			Pn	21 19 32.5	+1.0
BR131	Keskin Array S	8.06	17	*e*Pn			Pn	21 19 34.0	+1.8
BRTR	Keskin Array B comp=Z,3.7nm,0.3s,baz=190,slow=16,SNR=148	8.06	17	Pn			Pn	21 19 33.9	+1.7
BRTR				Sn			Sn	21 20 58.1	-5.1
BALY	Balya comp=Z,0.8nm,0.3s,baz=196,slow=22,SNR=4.4	8.08	343	*i* P			Pn	21 19 33.0	+0.7
KRND	KRANIDI	8.16	313	P			Pn	21 19 32.9	-0.5
ATHU	Athens Univers	8.17	318	P			Pn	21 19 33.3	-0.2
ATHU	Athens Univers	8.17	318	P			Pn	21 19 33.3	-0.2
SURC	SANLIURFA_SURC	8.17	51	*i* P			Pn	21 19 34.3	+0.8
PTL	Penteli	8.18	319	P			Pn	21 19 33.7	0.0
PTL	Penteli	8.18	319	P			Pn	21 19 33.7	0.0
DID	Didima	8.18	314	P			Pn	21 19 32.4	-1.3
DID	Didima	8.18	314	P			Pn	21 19 32.4	-1.3
DELI	KIRIKKALE	8.38	18	*i* P			Pn	21 19 38.4	+1.8
CMDR	Camlidere-ANKA comp=Z,5µm,0.5s	8.58	9	IAML_P					
CMDR				*i* P			Pn	21 19 40.8	+1.5
KNL	Balıkesir comp=Z,1µm,0.3s	8.60	344	IAML_P					
KNL				*i* P			Pn	21 19 39.8	+0.4
AKCD	Akcadag	8.64	42	*i* P			Pn	21 19 42.7	+2.6
VLX	Vlachokerasia	8.64	310	P			Pn	21 19 38.8	-1.3
VLX	Vlachokerasia	8.64	310	P			Pn	21 19 38.8	-1.3
LOUT	Loutraki	8.65	316	P			Pn	21 19 39.6	-0.6
LTK	Loutraki	8.68	316	P			Pn	21 19 40.1	-0.4
LTK	Loutraki	8.68	316	P			Pn	21 19 40.1	-0.4
CUALT	Altinyayla-SIV	8.77	33	*i* P			Pn	21 19 46.0	+4.0
SAHE	Sakarya_HENDEK comp=Z,210nm,0.3s	8.81	1	IAML_P					
SAHE				*i* P			Pn	21 19 42.2	-0.1
ITM	Ithomi	8.83	308	*e*Pn			Pn	21 19 42.2	-0.4
BCAM	Yenicaga comp=Z,1µm,0.2s	8.85	7	IAML_P					
BCAM				*i* P			Pn	21 19 44.5	+1.6
PROD	Prodromos	8.88	317	P			Pn	21 19 43.2	0.0
GUR	Goura	9.00	313	P			Pn	21 19 43.7	-1.4
GUR	Goura	9.00	313	P			Pn	21 19 43.7	-1.4
KAND	Kocaeli-Kandir	9.06	358	*i* P			Pn	21 19 47.9	+2.3
LKR	Lokris	9.09	319	P			Pn	21 19 44.4	-1.7
LKR	Lokris	9.09	319	P			Pn	21 19 44.4	-1.7
CUKAN	kangal_SIVAS	9.15	35	*i* P			Pn	21 19 51.4	+4.3
DSF	Desfina	9.20	316	P			Pn	21 19 46.7	-1.0
DSF	Desfina	9.20	316	P			Pn	21 19 46.7	-1.0
ALIK	Aliki, Aigiali	9.35	314	P			Pn	21 19 48.2	-1.5
TRIZ	Trizonia	9.44	314	P			Pn	21 19 50.2	-0.7
SERG	Sergoula	9.48	315	P			Pn	21 19 50.9	-0.6
ALN	Alexandroupoli	9.59	339	*e*Pn			Pn	21 19 54.4	+1.4
ALN	Alexandroupoli	9.59	339	*e*P			Pn	21 19 54.4	+1.4
KEMA	Kemaliye	9.64	39	*i* P			Pn	21 19 56.3	+2.5
AGG	Agios Georgios	9.72	318	*e*Pn			Pn	21 19 55.0	+0.2
AGG	Agios Georgios	9.72	318	*e*P			Pn	21 19 55.1	+0.2
DIYA	Diyarbakir	9.75	50	*i* P			Pn	21 19 57.7	+2.4
PDO	Prodromos	10.13	313	P			Pn

KBZ MLR MLR
comp=Z,74nm,20.8s
KIV Kislovodsk 15.21 35 *e*Pn **Pn 21 21 10.5 +0.7**
comp=Z,22nm,1.0s
KIV Kislovodsk 15.21 35 *e*P **Pn 21 21 11.9 +2.1**
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,26nm,12.0s
KVAR Kislovodsk Arr 15.21 35 Pn **P 21 21 16.4 +1.5**
baz=264,slow=20,SNR=9.8
GIRR Girov 15.24 349⇑ *i*P **Pn 21 21 12.5 +2.4**
BZS Buzias 15.27 335⇑ *i*P **P 21 21 16.3 +1.0**
BIZ Bicaz 15.29 348⇑ *i*P **Pn 21 21 11.4 +0.6**
CLTB Caltabellotta 15.34 296 *e*Pn **Pn 21 21 12.4 +0.8**
comp=Z,90nm,1.3s
PYA1 Pyatigorsk 15.49 36 *i* P **P 21 21 16.1 -1.8**
PYA1 pmax pmax
comp=Z,1.0nm,1.2s
FRGS Fruska Gora 15.59 330 *e*Pn **Pn 21 21 11.0 -3.7**
RAYN Ar Rayn 15.63 119 *e*Pn **Pn 21 21 17.2 +1.8**
comp=Z,15nm,0.8s
RAYN Ar Rayn 15.63 119 *i* P **Pn 21 21 17.3 +1.9**
SNR=14
RAYN Ar Rayn 15.63 119 *e*P **Pn 21 21 17.2 +1.8**
RAYN pmax pmax
comp=Z,15nm,0.8s
CJR Cluj-Napoca 15.63 342⇑ *i*P **Pn 21 21 16.7 +1.4**
SIRR Siria 15.82 337⇑ *i*P **P 21 21 22.8 +1.3**
DRGR 15.95 340⇓ *i*P **Pn 21 21 20.7 +1.3**
BURAR Bucovina Array 16.11 347⇑ *i*P **P 21 21 25.0 +0.2**
BUR04 Bucovina Ar. S 16.11 347 *e*Pn **Pn 21 21 22.8 +1.3**
BUR08 Bucovina Ar. S 16.14 347 *e*Pn **P 21 21 24.2 -0.9**
GROC Groznyy 16.36 43 *e*P **Pn 21 21 23.3 -1.3**
GROC *e*S **Sn 21 24 29.3 +3.2**
GROC pmax pmax
comp=Z,51nm,1.3s
BLY Banja Luka 16.48 324⇓ *i*P **Pn 21 21 23.0 -3.1**
BMR Baia Mare 16.55 343⇓ *i*P **P 21 21 29.1 -0.4**
LTVH Ltavrtes, Hu 16.73 339 *e*Pn **P 21 21 31.1 -0.4**
MORH Mrgy, Hungar 16.92 330 *e*Pn **P 21 21 35.4 +1.7**
MORH Mrgy, Hungar 16.92 330 *e*Pn **P 21 21 35.1 +1.4**
AQU L'Aquila 17.14 312 *e*Pn **Pn 21 21 35.2 +0.7**
comp=Z,37nm,0.9s
AQU L'Aquila 17.14 312 *e*P **Pn 21 21 35.2 +0.7**
AQU pmax pmax
comp=Z,37nm,0.9s
AQU L'Aquila 17.14 312 *e*Pn **Pn 21 21 34.6 0.0**
TRPA Tarpa 17.22 341 *e*Pn **P 21 21 38.1 +1.1**
NVLJ Novalja 17.57 320 *e*Pn **Pn 21 21 34.8 -4.9**
NVLJ Sn Sn 21 24 36.3 -19
UZH Uzhgorod 17.75 342 *e*P **Pn 21 21 42.3 +0.4**
TIH Tihany 17.78 330 *e*Pn **P 21 21 44.1 +0.9**
BUD Budapest 17.80 333 *e*Pn **P 21 21 45.0 +1.7**
PSZ Piszkesteto 17.85 336 *e*Pn **P 21 21 44.5 +0.5**
comp=Z,45nm,0.8s
PSZ Piszkesteto 17.85 336⇑ *i*P **P 21 21 45.0 +1.0**
PSZ Piszkesteto 17.85 336 *e*P **P 21 21 44.5 +0.5**
PSZ pmax pmax
comp=Z,45nm,0.8s
PSZ Piszkesteto 17.85 336 *e*Pn **P 21 21 45.1 +1.0**
BEHE Becsehely 17.94 327 *e*Pn **P 21 21 46.0 +1.1**
KEST Kesra 18.06 288 P **P 21 21 47.8 +1.4**
comp=Z,1.3nm,0.3s,baz=48,slow=3.7,SNR=18
KEST S Sn 21 24 56.0 -11
comp=Z,0.1nm,0.3s,baz=72,slow=20,SNR=5.9
CRES Cresnjev 18.11 324 *e*Pn **Pn 21 21 42.1 -4.3**
SRO Srobarova 18.35 333 *e*P **P 21 21 51.1 +1.7**
SRO Srobarova 18.35 333 *e*P **P 21 21 51.1 +1.7**
TAMR Tamra 18.42 292 *e*P **Pn 21 21 51.1 +0.8**
comp=Z,110nm,1.2s
LVV L'vov 18.45 346 *e*P **P 21 21 50.4 -0.1**
KWP Kalwaria Pacla 18.56 344 *e*P **Pn 21 21 55.1 +3.1**
KWP Kalwaria Pacla 18.56 344 *e*P **Pn 21 21 55.1 +3.1**
CEY Cerknica 18.57 322 *e*Pn **P 21 21 49.4 -2.5**
KIEV Kiev 18.68 357 *e*P **P 21 21 52.5 -0.5**
comp=Z,21nm,0.6s
KIEV Kiev 18.68 357 *i* P **Pn 21 21 53.3 -0.1**
SNR=22
KIEV Kiev 18.68 357⇑ *e*P **P 21 21 51.4 -1.6**
KIEV pmax pmax
comp=Z,13nm,0.4s
AKASG Malin Array Be 18.69 357 P **P 21 21 52.6 -0.5**
comp=Z,5.5nm,0.3s,baz=180,slow=9.1,SNR=71
AKASG PcP **PcP 21 26 20.7 -0.3**
comp=Z,0.8nm,0.3s,baz=154,slow=1.0,SNR=4.8
AKASG Malin Array Be 18.69 357 *c e*P **P 21 21 52.5 -0.6**
AKASG pmax pmax
comp=Z,4.0nm,0.3s
VYHS Vyhne 18.72 335 *e*P **Pn 21 21 54.8 +0.9**
VYHS pmax pmax
comp=Z,26nm,1.4s
VYHS Vyhne 18.72 335 *e*P **Pn 21 21 54.8 +0.9**
LJU Ljubljana 18.73 323 *e*Pn **P 21 21 49.3 -4.3**
TRI Trieste 18.90 321 *e*P **Pn 21 21 56.3 +0.2**
comp=Z,87nm,1.3s
TRI Trieste 18.90 321 *e*P **Pn 21 21 56.3 +0.2**
TRI pmax pmax
comp=Z,87nm,1.3s
SOKA Soboth 18.91 325 *e*P **Pn 21 21 56.2 -0.2**
comp=Z,5.3nm,0.7s
SOP Sopron 18.96 330 *e*Pn **Pn 21 21 57.1 +0.3**
NIE Niedzica 19.03 339 *e*P **Pn 21 22 01.0 +3.3**
NIE Niedzica 19.03 339 *e*P **Pn 21 22 01.0 +3.3**
OBKA Obir 19.04 324 *e*Pn **Pn 21 21 58.8 +1.0**
comp=Z,7.4nm,0.7s
LANS Liptovska Anna 19.06 337 *e*P **Pn 21 21 59.6 +1.6**
LANS Liptovska Anna 19.06 337 *e*P **Pn 21 21 59.6 +1.6**
ARSA Arzberg 19.10 327 *e*Pn **Pn 21 21 58.6 +0.1**
comp=Z,4.3nm,0.5s
MODS Modra-Piesok 19.21 332 *e*P **Pn 21 21 59.9 +0.1**
MODS pmax pmax
comp=Z,78nm,1.1s
MODS Modra-Piesok 19.21 332 *e*P **Pn 21 21 59.9 +0.1**
JAVC Velka Javorina 19.45 334⇑ *i*P **Pn 21 22 03.0 +0.3**
CONA Conrad Observa 19.45 329 *e*Pn **Pn 21 22 03.0 +0.2**
comp=Z,5.5nm,0.5s,SNR=5.4
MYKA Terra Mystica 19.57 323 *e*Pn **Pn 21 22 04.0 -0.3**
comp=Z,7.5nm,0.6s
OJC Ojcow 19.89 339 *e*P **Pn 21 22 07.4 -0.5**
OJC Ojcow 19.89 339 *e*P **Pn 21 22 07.4 -0.5**
VLC Villacollemand 19.96 313 *e*P **P 21 22 07.5 +0.4**
comp=Z,55nm,1.6s
OKC Ostrava-Krasne 20.09 336 *e*P Pn 21 22 10.0 -0.3
OKC Ostrava-Krasne 20.09 336 *e*P Pn 21 22 10.0 -0.3
KRUC Moravsky 20.11 332⇑ *i*P **P 21 22 08.9 +0.2**
MOA Molln 20.12 326 *e*Pn Pn 21 22 10.0 -0.7
comp=Z,11nm,0.7s
VSR Storozhevoye 20.18 16 *c i*P **P 21 22 09.7 +0.3**
VSR pmax pmax
comp=Z,88nm,0.7s
VRAC Vranov 20.23 333 P **P 21 22 10.5 +0.5**
comp=Z,39nm,0.8s,baz=143,slow=9.7,SNR=49
VRAC Vranov 20.23 333⇑ *i*P **P 21 22 10.5 +0.5**
VRAC Vranov 20.23 333⇑ *i*P **P 21 22 10.4 +0.5**
ABTA Abfaltersbach 20.24 322 *e*Pn Pn 21 22 12.5 +0.4
comp=Z,25nm,0.9s
MORC Moravsky Berou 20.25 335 *e*P **P 21 22 11.1 +0.8**
comp=Z,19nm,1.0s
MORC Moravsky Berou 20.25 335⇓ *i*P **P 21 22 11.3 +1.0**
MORC Moravsky Berou 20.25 335 *e*P **P 21 22 11.1 +0.8**
MORC pmax pmax
comp=Z,19nm,1.0s
MORC Moravsky Berou 20.25 335 *e*P **P 21 22 11.1 +0.8**
KRLC Kraliky 20.78 334 *e*P Pn 21 22 17.5 -0.9
KRLC Kraliky 20.78 334 *e*P Pn 21 22 17.5 -0.9
VRH Novokhopyorsk 20.83 20 *e*P **P 21 22 16.6 +0.2**
VRH pmax pmax
comp=Z,210nm,0.7s
WTTA Wattenberg 21.03 322 *e*Pn **P 21 22 20.6 +1.7**
comp=Z,16nm,0.5s,SNR=7.0
BEL Belsk 21.07 343 *e*P **P 21 22 18.9 -0.1**
BEL Belsk 21.07 343 *e*P **P 21 22 19.0 -0.1**
GEC2 GERESS Array S 21.10 328 *e*P **P 21 22 20.1 +0.6**
comp=Z,13nm,0.7s,baz=131,slow=9.7
GERES GERESS Array B 21.10 328 P **P 21 22 20.0 +0.5**
comp=Z,18nm,0.6s,baz=136,slow=10,SNR=136
GERES PcP **PcP 21 26 25.3 -0.2**
comp=Z,1.3nm,0.5s,baz=143,slow=1.8,SNR=9.7
GERES LR LR 21 33 13.7
comp=Z,63nm,18.3s,baz=134,slow=44
WATA Walderalm 21.11 322 *e*Pn **P 21 22 21.3 +1.6**
comp=Z,15nm,0.5s,SNR=8.5
DPC Dobruska-Polom 21.18 334 *e*P **P 21 22 20.8 +0.5**
DPC *e*pP **pP 21 22 22.7 -0.6**
DPC *ex* x 21 22 31.9
DPC Dobruska-Polom 21.18 334 *e*P **P 21 22 20.8 +0.5**
DPC *e* 21 22 31.9
SQTA Sankt Quirin 21.23 321 *e*Pn **P 21 22 22.7 +1.8**
comp=Z,26nm,0.7s,SNR=12
KHC Kasperske Hory 21.36 328 *e*P **P 21 22 21.9 -0.4**
comp=Z,13nm,1.3s
KHC Kasperske Hory 21.36 328 *e*P **P 21 22 22.3 0.0**
KHC *e*pP **pP 21 22 25.5 +0.2**
KHC Kasperske Hory 21.36 328 *e*P **P 21 22 22.3 0.0**
MOTA Moosalm 21.36 321 *e*P **P 21 22 24.9 +2.5**
comp=Z,16nm,0.5s,SNR=25
FETA Feichten 21.36 320 *e*P **P 21 22 24.6 +2.2**
comp=Z,20nm,0.6s,SNR=14
FUORN Ofenpass-Fuorn 21.38 319 *e*P **P 21 22 24.4 +1.7**
comp=Z,29nm,1.2s
UPC Upice 21.42 334 *e*P **P 21 22 23.3 +0.5**
UPC Upice 21.42 334 *e*P **P 21 22 23.3 +0.5**
LPSR Galich'ya Gora 21.43 14 *e*P **P 21 22 23.0 +0.1**
LPSR pmax pmax
comp=Z,90nm,0.7s
GOPC GO Pecny, Ondr 21.43 331 *e*P **P 21 22 22.5 -0.5**
GOPC *ex* x 21 22 25.9
GOPC GO Pecny, Ondr 21.43 331 *e*P **P 21 22 22.5 -0.5**
KSP Ksiaz 21.59 335 *e*P **P 21 22 24.7 +0.1**
KSP Ksiaz 21.59 335 *e*P **P 21 22 24.7 +0.1**
PRU Pruhonice 21.59 331 *e*P **P 21 22 23.8 -0.8**
PRU *ex* x 21 22 26.9
RETA Reutte 21.63 321 *e*P **P 21 22 26.5 +1.3**
comp=Z,28nm,0.7s,SNR=8.3
DAVOX Davos/Dischmat 21.69 319 P **P 21 22 27.5 +1.5**
comp=Z,14nm,0.5s,baz=159,slow=4.3,SNR=32
DAVOX LR LR 21 33 13.1
comp=Z,55nm,21.1s,baz=99,slow=43
WET Wettzell 21.69 327 *e*P **P 21 22 25.9 +0.1**
baz=131,slow=9.7
PRA Prague 21.70 331 *e*P **P 21 22 25.3 -0.5**
PRA Prague 21.70 331 *e*P **P 21 22 25.3 -0.5**
FUR Furstenfeldbru 21.80 323 *e*P **P 21 22 28.9 +1.9**
comp=Z,21nm,0.6s,baz=131,slow=9.7
DAVA Damuels 21.98 320 *e*P **P 21 22 30.6 +1.5**
comp=Z,16nm,0.4s,SNR=7.4
PVCC Panska Ves 22.00 332 *e*P **P 21 22 28.5 -0.5**
PVCC Panska Ves 22.00 332 *e*P **P 21 22 28.5 -0.5**
BRG Berggiesshubel 22.52 332 *e*P **P 21 22 35.6 +1.0**
comp=Z,6.2nm,0.7s
BRG Berggiesshubel 22.52 332 *e*P **P 21 22 34.2 -0.3**
comp=Z,5.2nm,0.8s,baz=131,slow=9.7
BRG Berggiesshubel 22.52 332 *e*P **P 21 22 35.6 +1.0**
BRG pmax pmax
comp=Z,6.0nm,0.7s
SUW Suwalki 22.62 349 *e*P **P 21 22 34.5 -1.1**
SUW Suwalki 22.62 349 *e*P **P 21 22 34.5 -1.1**
MANZ Manzenberg 22.64 328 *e*P **P 21 22 36.4 +0.4**
comp=Z,110nm,0.8s,baz=131,slow=9.7
NKC Novy Kostel 22.67 329 *e*P **P 21 22 34.3 -1.9**
NKC Novy Kostel 22.67 329 *e*P **P 21 22 34.3 -1.9**
BNI Bardonecchia 22.71 312 *e*P **P 21 22 37.8 +0.9**
comp=Z,116nm,2.0s
BNI Bardonecchia 22.71 312 *e*P **P 21 22 37.8 +0.9**
BNI pmax pmax
comp=Z,116nm,2.0s
WERN Wernitzgruen 22.74 329 *e*P **P 21 22 36.6 -0.4**
baz=131,slow=9.7
GUNZ Gunzen 22.81 329 *e*P **P 21 22 37.3 -0.5**
comp=Z,8.7nm,1.1s,baz=131,slow=9.7
GRA1 Grafenberg Arr 22.84 326 *e*P **P 21 22 38.5 +0.4**
comp=Z,16nm,0.8s
GRF Grafenberg Arr 22.84 326 *e*P **P 21 22 39.2 +1.1**
comp=Z,13nm,0.8s,baz=131,slow=9.7
GRF Grafenberg Arr 22.84 326 *e*P **P 21 22 38.5 +0.4**
GRF pmax pmax
comp=Z,16nm,0.8s
GRFO Grafenberg 22.84 326 *e*P **P 21 22 38.5 +0.4**
comp=Z,12nm,0.8s
GRFO Grafenberg 22.84 326 *e*P **P 21 22 38.5 +0.4**
GRFO pmax pmax
comp=Z,13nm,0.8s
ASUD Al Ashush, Dub 22.92 103 *i* P **P 21 22 39.5 +0.5**
SNR=7.5
SENIN Lac Senin/Sane 22.96 315 *e*P **P 21 22 40.7 +1.2**
comp=Z,46nm,1.1s
NACGM Naroch 23.03 354 *e* **P 21 22 37.0 -2.9**
NAZ Nazwa, Dubai 23.05 101 *i* P **P 21 22 41.0 +0.6**
SNR=10
GEYT Ailsack 23.23 68 P **P 21 22 42.3 +0.1**
comp=Z,3.6nm,0.7s,baz=274,slow=10,SNR=9.6
BANOM Banah 23.23 99 *i* P **P 21 22 42.7 +0.4**
SNR=5.6
CLL Collm 23.23 331 *e*P **P 21 22 42.0 0.0**
comp=Z,16nm,0.8s
CLL Collm 23.23 331 *e*P **P 21 22 41.9 -0.1**
comp=Z,12nm,0.8s,baz=131,slow=9.7
CLL Collm 23.23 331 *i* P **P 21 22 41.7 -0.3**
comp=Z,18nm,1.0s
CLL *i* 21 22 56.4
CLL *e*S **S 21 26 54.0 +0.2**
CLL Collm 23.23 331 *i* P **P 21 22 41.7 -0.3**
CLL *e*S **S 21 26 54.0 +0.2**
CLL pmax pmax
comp=Z,18nm,1.0s
STU Stuttgart 23.25 322 *e*P **P 21 22 43.4 +1.1**
comp=Z,21nm,0.7s,baz=131,slow=9.7
ATD Arta Tunnel 23.30 148 LR LR 21 30 23.5
comp=Z,67nm,20.9s,baz=103,slow=33
GKP Gorka Klasztor 23.33 339 *e*P **P 21 22 42.0 -1.0**
GKP Gorka Klasztor 23.33 339 *e*P **P 21 22 42.0 -1.0**
MOX Moxa 23.33 328 *e*P **P 21 22 43.9 +0.8**
comp=Z,24nm,0.7s,baz=131,slow=9.7
IDID Didziasalis 23.44 354 *e*P **P 21 22 43.1 -1.0**
IDID IAmb IAmb 21 22 45.5
comp=Z,16nm,0.9s
BFO Black Forest 23.45 320 *e*P **P 21 22 45.5 +1.2**
comp=Z,22nm,0.9s
BFO Black Forest 23.45 320 *e*P **P 21 22 45.9 +1.6**
comp=Z,12nm,0.7s,baz=131,slow=9.7
BFO Black Forest 23.45 320 *e*P **P 21 22 45.5 +1.2**
BFO pmax pmax
comp=Z,22nm,0.9s
OBN Obninsk 23.46 9 P **P 21 22 44.5 +0.2**
comp=Z,8.6nm,0.3s,baz=342,slow=1.9,SNR=9.9
OBN Obninsk 23.46 9 *e*P **P 21 22 44.7 +0.5**
OBN Obninsk 23.46 9⇓ *e*P **P 21 22 44.1 -0.1**
OBN *e* 21 23 00.1
OBN *e*PPP PPP 21 23 17.7
OBN pmax pmax
comp=Z,39nm,0.4s
HATD Hatta, Dubai 23.50 101 *i* P **P 21 22 46.0 +1.0**
SNR=6.8
UOSS Minazif 23.52 101 *e*P **P 21 22 44.1 -1.1**
comp=Z,20nm,0.9s
IIGN Ignalina 23.52 354 *e*P **P 21 22 44.0 -1.0**
IIGN IAmb IAmb 21 22 46.4
comp=Z,10nm,0.9s
NEUB Neuenburg 23.67 330 *e*P **P 21 22 46.2 -0.1**
comp=Z,26nm,0.9s,baz=131,slow=9.7
ISAL Salakas 23.75 354 *e*P **P 21 22 46.1 -1.0**
ISAL IAmb IAmb 21 22 48.4
comp=Z,14nm,0.8s
KLNR Kaliningrad 23.76 345 *i* P **P 21 22 45.5 -1.7**
KLNR pmax pmax
comp=Z,58nm,0.5s
RUE Ruedersdorf 23.84 334 *e*P **P 21 22 46.5 -1.4**
IZAR Zarasai 23.92 354 *e*P **P 21 22 48.0 -0.7**
IZAR IAmb IAmb 21 22 50.1
comp=Z,13nm,0.9s
PABE Paberze 23.94 351 *e*P **P 21 22 48.0 -0.9**
PABE IAmb IAmb 21 22 50.1
comp=Z,48nm,0.7s
ECH Echery 24.02 319 *e*P **P 21 22 50.8 +0.9**
comp=Z,39nm,1.1s
ECH Echery 24.02 319 *e*P **P 21 22 50.8 +0.9**
ECH pmax pmax
comp=Z,39nm,1.1s
TAM Tamanrasset 24.07 254 *e*P **P 21 22 52.2 +1.5**
comp=Z,16nm,1.2s
SSB Saint Sauveur 24.18 311 *e*P **P 21 22 51.1 -0.2**
comp=Z,35nm,1.6s
SSB Saint Sauveur 24.18 311 *e*P **P 21 22 51.1 -0.2**
SSB pmax pmax
comp=Z,35nm,1.6s
MOS Moscow 24.21 10 *e*P **P 21 22 50.1 -1.3**
MOS pmax pmax
comp=Z,40nm,1.1s
TNS Taunus Mts 24.54 324 *e*P **P 21 22 54.9 +0.3**
comp=Z,7.1nm,0.8s,baz=131,slow=9.7
GTTG Gyttingen 24.71 328 *e*P **P 21 22 56.4 +0.4**
comp=Z,15nm,0.7s,baz=131,slow=9.7
CLZ Clausthal 24.74 329 *e*P **P 21 22 56.0 -0.4**
comp=Z,5.2nm,0.8s,baz=131,slow=9.7
PBUR Paburg 24.75 348 *e*P **P 21 22 56.6 +0.3**
PBUR IAmb IAmb 21 22 57.9
comp=Z,173nm,0.9s
ASSE Asse, Remlinge 24.81 330 *e*P **P 21 22 56.7 -0.2**
comp=Z,13nm,1.0s,baz=131,slow=9.7
NRDL Niedersach Rie 25.32 330 *e*P **P 21 23 01.4 0.0**
comp=Z,6.8nm,0.7s,baz=131,slow=9.7
WLF Walferdange 25.39 321 *e*P **P 21 23 02.8 +0.6**
comp=Z,126nm,1.2s
WLF Walferdange 25.39 321 *e*P **P 21 23 02.5 +0.3**
baz=131,slow=9.7
WLF Walferdange 25.39 321 *e*P **P 21 23 02.8 +0.6**
WLF pmax pmax
comp=Z,126nm,1.2s
WLF Walferdange 25.39 321⇑ P **P 21 23 02.8 +0.6**
AHRW Bad Neuenahr-A 25.43 324 *e*P **P 21 23 03.4 +0.9**
baz=131,slow=9.7
BSD Bornholm Skovb 25.62 339 *i* P **P 21 23 03.3 -0.9**
comp=Z,4.9nm,0.4s
BSD Bornholm Skovb 25.62 339 *i* P **P 21 23 03.3 -0.9**
BSD pmax pmax
comp=Z,5.0nm,0.4s
BUG Bochum-Univer 25.89 325 *e*P **P 21 23 07.6 +0.8**
comp=Z,8.2nm,0.7s,baz=131,slow=9.7
MEM Membach 26.01 323⇑ P **P 21 23 08.5 +0.6**
comp=Z,30nm,0.8s
HGN Heimansgroeve 26.14 323 *e*P **P 21 23 12.6 +3.6**
comp=Z,14nm,0.6s
WSAR Wadi Sarin 26.24 102 P **P 21 23 09.9 -0.3**
comp=Z,4.4nm,0.7s,baz=278,slow=7.4,SNR=4.8
WSAR LR LR 21 36 20.2
comp=Z,42nm,20.8s,baz=238,slow=43
BSEG Bad Segeberg 26.29 332 *e*P **P 21 23 09.6 -0.7**
comp=Z,14nm,0.8s,baz=131,slow=9.7
BEBN Eben Emael 26.29 323⇓ P **P 21 23 13.9 +3.5**
DOU Dourbes 26.46 321⇑ P **P 21 23 15.1 +3.1**
VSU Vasula 26.57 355⇑ *i*P **P 21 23 14.2 +1.4**
VSU pmax pmax
comp=Z,41nm,0.5s
VSU Vasula 26.57 355 *e*P **P 21 23 14.6 +1.8**
VSU IAmb IAmb 21 23 16.6
comp=Z,62nm,0.5s
CLF Chambon-Foret 26.77 315 *e*P **P 21 23 15.7 +1.0**
comp=Z,127nm,1.8s
SNF Seneffe 26.86 321⇑ P **P 21 23 19.0 +3.6**
AKTO Aktyubinsk 27.36 40 P **P 21 23 20.6 +0.5**
comp=Z,14nm,0.8s,baz=242,slow=9.9,SNR=21
AKTO LR LR 21 36 38.7
comp=Z,69nm,19.0s,baz=211,slow=42
ABKAR Akbulak array 27.87 43 *e*P **P 21 23 25.1 +0.5**
ESDC Sonseca Array 28.93 295 P **P 21 23 35.3 +1.0**
comp=Z,2.0nm,0.8s,baz=83,slow=8.8,SNR=7.7
ESDC PcP **PcP 21 26 43.0 -0.1**
comp=Z,0.3nm,0.6s,baz=62,slow=0.8,SNR=5.2
KLMR Klimovskoe 29.42 9 *e*P **P 21 23 36.8 -1.4**
KLMR pmax pmax
comp=Z,22nm,0.8s
KLMR Klimovskoe 29.42 9 *e*P **P 21 23 36.8 -1.4**
KLMR AMP 21 23 39.5
comp=Z,22nm,0.8s
FINES FINESS Array B 29.58 356 P **P 21 23 39.0 -0.6**
comp=Z,4.3nm,0.5s,baz=162,slow=10.0,SNR=19
FINES PcP **PcP 21 26 43.7 -0.5**
comp=Z,1.2nm,0.5s,baz=184,slow=5.6,SNR=5.4
FINES LR LR 21 37 50.5
comp=Z,44nm,18.1s,baz=150,slow=41
MDT Midelt 29.68 281 P **P 21 23 41.4 +0.3**
comp=Z,1.6nm,0.8s,baz=68,slow=11,SNR=2.4
MDT LR LR 21 37 39.7
comp=Z,51nm,21.9s,baz=155,slow=40
HFS Hagfors 30.28 343 P **P 21 23 45.8 -0.1**
comp=Z,2.5nm,0.4s,baz=153,slow=12,SNR=23
SFS San Fernando 30.66 289 *e*P **P 21 23 49.4 -0.1**
comp=Z,102nm,0.9s
SFS San Fernando 30.66 289 *e*P **P 21 23 49.4 -0.1**
SFS pmax pmax
comp=Z,102nm,0.9s
KONO Kongsberg 30.99 339 *e*P **P 21 23 52.3 +0.1**
comp=Z,31nm,1.2s
KONO Kongsberg 30.99 339 *e*P **P 21 23 52.3 +0.1**
KONO pmax pmax
comp=Z,31nm,1.2s
KONO Kongsberg 30.99 339 *e*P **P 21 23 51.0 -1.2**
ARU Arti 31.16 30 *e*P **P 21 23 53.6 0.0**
comp=Z,18nm,0.7s
ARU Arti 31.16 30 *c i*P **P 21 23 53.7 +0.1**
ARU 21 24 51.5
ARU 21 26 45.8
ARU S **S 21 29 01.4 +2.3**
ARU SS **SnSn 21 30 37.1 -3.7**
ARU pmax pmax
comp=Z,15nm,0.6s
PRGR Permogore 31.18 14 *e*P **P 21 23 52.2 -1.6**
PRGR pmax pmax
comp=Z,45nm,0.8s
NC602 NORSAR Array S 31.35 342 *e*P **P 21 23 54.1 -1.1**
NB2 NORSAR Subarra 31.69 342 P **P 21 23 57.1 -1.3**
comp=Z,1.8nm,0.5s,baz=148,slow=9.3
NB2 NORSAR Subarra 31.69 342 P **P 21 23 57.1 -1.3**
baz=148,slow=9.3
NOA NORSAR Array B 31.69 342 P **P 21 23 57.6 -0.7**
comp=Z,2.2nm,0.6s,baz=139,slow=8.7,SNR=15
NOA LR LR 21 40 39.8
comp=Z,26nm,19.6s,baz=155,slow=44
CHGR Chuyangaron 31.93 67 *e*P **P 21 24 02.2 +1.4**
comp=Z,10nm,0.8s
SVE Sverdlovsk 32.30 31 *e*P **P 21 24 04.2 +0.5**
SVE pmax pmax
comp=Z,26nm,1.1s
TOA0 Torodi Ar. Sit 32.51 241 *e*P **P 21 24 07.0 +1.1**
comp=Z,2.8nm,0.9s
TOA0 *e*PcP **PcP 21 26 53.1 +0.3**
TORD Torodi Ar. Bea 32.51 241 P **P 21 24 05.6 -0.3**
comp=Z,0.6nm,0.6s,baz=48,slow=8.1,SNR=6.7
TORD PcP **PcP 21 26 51.9 -0.9**
comp=Z,1.0nm,0.5s,baz=57,slow=2.2,SNR=7.8
TORD LR LR 21 39 25.6
comp=Z,66nm,18.5s,baz=0.0,slow=40
GAR Garm 32.84 67 *e*P **P 21 24 10.0 +1.2**
GAR Garm 32.84 67 *e*P **P 21 24 10.0 +1.2**
KK31 Karatay Array 33.20 59 *i* P **P 21 24 12.1 +0.3**
KK31 pmax pmax
comp=Z,4.0nm,0.4s
KKAR Karatay Array 33.20 59 *e*P **P 21 24 12.6 +0.8**
KKAR Karatay Array 33.20 59 *e*P **P 21 24 12.6 +0.8**
KMBO Kilima Mbogo 33.56 168 LR LR 21 38 38.9
comp=Z,52nm,19.6s,baz=78,slow=38
NSS Namsos 34.53 346 *e*P **P 21 24 22.3 -0.7**
ARSB Arslanbob 34.91 62 *e*P **P 21 24 27.2 +0.3**
comp=Z,27nm,1.8s
OTUK Ortayu 35.27 50 *i* P **P 21 24 29.9 +0.2**
OTUK pmax pmax
comp=Z,9.0nm,0.8s
SFK Sufi-Kurgan 35.30 65 *i* P **P 21 24 31.2 +0.9**
SFK pmax pmax
comp=Z,20nm,0.4s
BRVK Borovoye 35.36 42 *e*P **P 21 24 30.8 +0.5**
BRVK Borovoye 35.36 42⇓ *i*P **P 21 24 30.0 -0.3**
BRVK pmax pmax
comp=Z,10.0nm,1.1s
APA Apatity 35.62 2⇓ *i*P **P 21 24 31.6 -0.8**
APA pmax pmax
comp=Z,7.0nm,0.7s
APA MLR MLR
comp=Z,700nm,10.0s
KONS Konsvik 36.07 348 *e*P **P 21 24 35.1 -1.2**
AAK Ala-Archa 36.08 60 *e*P **P 21 24 37.9 +1.0**
comp=Z,8.2nm,0.8s
AAK Ala-Archa 36.08 60 *i* P **P 21 24 37.5 +0.6**
SNR=10.0
AAK Ala-Archa 36.08 60⇓ *i*P **P 21 24 37.2 +0.3**
AAK pmax pmax
comp=Z,8.0nm,0.7s
FRU1 Bishkek 36.19 60 *e*P **P 21 24 39.2 +1.6**
comp=Z,20nm,0.6s
FRU1 Bishkek 36.19 60 *e*P **P 21 24 39.3 +1.6**
FRU1 pmax pmax
comp=Z,20nm,0.6s
TKM2 Tokmak 2 36.91 60 *i* P **P 21 24 44.6 +0.6**
TKM2 pmax pmax

comp=Z,9.0nm,0.6s
STEI **Steigen** 37.05 350 *e*P P 21 24 43.4 -1.2
NRN **Naryn** 37.18 62 *e*P P 21 24 47.5 +1.1
comp=Z,29nm,0.8s
NRN **Naryn** 37.18 62 *e*P P 21 24 47.6 +1.1
NRN pmax pmax
comp=Z,29nm,0.8s
ARCES **ARCESS Array B** 37.67 357 P P 21 24 49.0 -0.8
comp=Z,7.5nm,0.5s,baz=172,slow=7.6,SNR=62
ARCES PcP PcP 21 27 06.5 -0.5
comp=Z,8.2nm,1.2s,baz=48,slow=1.8,SNR=5.7
ARE0 **ARCESS Array S** 37.67 357 *e*P P 21 24 49.5 -0.4
KEV **Kevo** 37.83 358 *e*P P 21 24 51.0 -0.2
comp=Z,123nm,1.6s
KEV **Kevo** 37.83 358 *e*P P 21 24 51.0 -0.2
KEV pmax pmax
comp=Z,123nm,1.6s
KDJ **Kajisay** 38.06 61 *e*P P 21 24 55.3 +1.5
comp=Z,7.6nm,0.7s
KDJ **Kajisay** 38.06 61 *e*P P 21 24 55.3 +1.5
KDJ pmax pmax
comp=Z,8.0nm,0.7s
TRO **Tromso** 38.23 353 *e*P P 21 24 53.5 -1.0
PRZ **Przheval'sk** 38.97 61 *e*P P 21 25 02.9 +1.5
comp=Z,14nm,0.8s
PRZ **Przheval'sk** 38.97 61 *e*P P 21 25 02.9 +1.5
PRZ pmax pmax
comp=Z,14nm,0.8s
KURK **Kurchatov** 39.75 48 *e*P P 21 25 07.9 +0.4
KURK **Kurchatov** 39.75 48 *e*P P 21 25 07.9 +0.4
PDGK **Podgornoye** 39.76 59 *i*P P 21 25 07.9 0.0
PDGK pmax pmax
comp=Z,13nm,0.5s
MAKZ **Makanchi** 41.58 54 *e*P P 21 25 23.1 +0.4
comp=Z,7.7nm,0.6s
MAKZ **Makanchi** 41.58 54 *e*P P 21 25 23.1 +0.4
MAKZ pmax pmax
comp=Z,8.0nm,0.6s
DBIC **Dimbokro** 41.60 240 P P 21 25 23.9 +0.7
comp=Z,1.8nm,0.6s,baz=38,slow=6.5,SNR=4.5
DBIC PcP PcP 21 27 20.5 +0.2
comp=Z,3.8nm,0.5s,baz=26,slow=3.9,SNR=7.3
DBIC LR LR 21 42 52.1
comp=Z,68nm,18.2s,baz=26,slow=36
DBIC **Dimbokro** 41.60 240 *e*P P 21 25 24.3 +1.1
comp=Z,20nm,1.5s
DBIC PcP PcP 21 27 20.5 +0.2
DBIC **Dimbokro** 41.60 240 *e*P P 21 25 24.3 +1.1
DBIC 21 27 20.5
DBIC pmax pmax
comp=Z,20nm,1.5s
MKAR **Makanchi Array** 41.79 54 P P 21 25 24.8 +0.3
comp=Z,8.1nm,0.7s,baz=261,slow=6.2,SNR=67
MKAR LR LR 21 47 02.9
comp=Z,56nm,20.2s,baz=28,slow=42
MKAR **Makanchi Array** 41.79 54 *e*P P 21 25 24.8 +0.3
comp=Z,58nm,0.7s
NVS **Novosibirsk** 43.20 42 *e*P P 21 25 36.4 +0.6
NVS pmax pmax
comp=Z,5.0nm,0.4s
NVS pmax pmax
comp=N,2.0nm,0.6s
NVS pmax pmax
comp=E,2.0nm,0.3s
ZAA0 **Zalesovo Array** 43.98 44 *e*P P 21 25 41.6 -0.5
comp=E,8.8nm,0.5s
ZALV **Zalesovo Beam** 43.98 44 P P 21 25 41.5 -0.7
comp=E,8.9nm,0.4s,baz=264,slow=9.2,SNR=50
HOPEN **Hopen** 44.65 358 *e*P P 21 25 47.4 +0.3
PYUN **Piuthan** 45.12 81 *e*P P 21 25 52.7 +0.9
comp=E,20nm,0.5s
DGZ **Jazzator, Alta** 45.30 50⇓ *i*P P 21 25 53.2 +0.3
DGZ pmax pmax
comp=Z,3.0nm,0.7s
DANN **Dangsing** 45.68 80 *e*P P 21 25 57.6 +1.2
comp=Z,61nm,0.7s
WMQ **Urumqi** 45.69 58 P P 21 25 56.8 +0.8
WMQ sP sP 21 26 05.5 +4.6
WMQ S S 21 32 40.4 +1.5
WMQ pmax pmax
comp=Z,30nm,0.7s
KOLN **Koldanda** 45.73 81 *e*P P 21 25 57.3 +0.6
comp=Z,13nm,0.7s
SPA0 **Spitsbergen Ar** 46.67 356 *e*P P 21 26 04.1 +0.9
SPA0 **Spitsbergen Ar** 46.67 356 *e*P P 21 26 03.5 +0.4
DMN **Daman** 47.05 81 *e*P P 21 26 07.7 +0.6
comp=Z,30nm,0.9s
LSZ **Lusaka** 47.09 183 P P 21 26 08.2 +1.0
comp=Z,2.3nm,0.4s,baz=16,slow=8.4,SNR=8.4
LSZ **Lusaka** 47.09 183 *e*P P 21 26 07.9 +0.8
comp=Z,3.7nm,0.8s
KKN **Kakni** 47.13 80 *e*P P 21 26 08.3 +0.6
comp=Z,69nm,0.6s
PKIN **Phulchoki** 47.30 81 *e*P P 21 26 09.0 -0.1
comp=Z,30nm,0.6s
PKI **Pulchoki** 47.31 81 *e*P P 21 26 09.5 +0.3
comp=Z,39nm,0.6s
GUN **Gumba** 47.60 80 *e*P P 21 26 12.1 +0.6
comp=Z,105nm,0.6s
KBS **Kingsbay** 47.67 355 *e*P P 21 26 10.3 -0.6
comp=Z,15nm,0.5s
KBS **Kingsbay** 47.67 355 *e*P P 21 26 10.3 -0.6
KBS pmax pmax
comp=Z,13nm,0.5s
KBS **Kingsbay** 47.67 355 *e*P P 21 26 11.3 +0.4
ROSA **Rosais** 47.77 295 *e*P P 21 26 12.2 -0.1
comp=Z,208nm,1.2s
SCO **Scoresbysund** 47.90 339 *e*P P 21 26 13.5 +0.8
comp=Z,33nm,1.7s
SCO **Scoresbysund** 47.90 339 *e*P P 21 26 13.5 +0.8
SCO pmax pmax
comp=Z,33nm,1.7s
JIRN **Jiri** 47.94 80 *e*P P 21 26 14.5 +0.4
comp=Z,45nm,0.5s
RAMN **Ramite** 48.52 81 *e*P P 21 26 17.8 -0.7
DAG **Danmarks Havn** 50.12 347⇑ *i*P P 21 26 29.5 -0.2
comp=Z,4.9nm,0.5s
DAG **Danmarks Havn** 50.12 347⇑ *i*P P 21 26 29.5 -0.2
DAG pmax pmax
comp=Z,4.0nm,0.5s
LSA **Lhasa** 51.39 76 *e*P P 21 26 40.3 -0.2
comp=Z,4.9nm,0.8s
LSA **Lhasa** 51.39 76 *e*P P 21 26 40.3 -0.2
LSA pmax pmax
comp=Z,5.0nm,0.8s
MATP **Matopo** 52.20 183 P P 21 26 46.4 +0.3
comp=Z,2.9nm,0.8s,baz=8.3,slow=8.6,SNR=5.2
TSUM **Tsumeb** 52.45 196 *e*P P 21 26 48.3 +0.3
comp=Z,1.8nm,0.7s
SUMG **Summit** 53.52 340 *e*P P 21 26 55.8 +0.2
comp=Z,26nm,2.0s
SUMG **Summit** 53.52 340 *i*P P 21 26 55.8 +0.2
comp=Z,23nm,0.8s
SUMG **Summit** 53.52 340 *e*P P 21 26 55.8 +0.2
SUMG pmax pmax
comp=Z,26nm,2.0s
ZAK **Zakamensk** 55.41 48 *e*P P 21 27 09.6 +0.2
ZAK pmax pmax
comp=Z,7.0nm,1.1s
GTA **Gaotai** 55.41 62 ⇑P P 21 27 09.8 +0.2
GTA pP sP 21 27 14.3 -0.2
GTA sP pP 21 27 16.8 +3.6
GTA pmax pmax
comp=Z,13nm,0.9s
GTA pmax pmax
comp=Z,130nm,5.7s
GTA LR LR
comp=Z,85nm,19.7s
GTA LR LR
comp=Z,150nm,18.7s
LBTB **Lobatse** 56.93 185 *e*P P 21 27 20.8 +0.5
comp=Z,11nm,1.4s
LBTB **Lobatse** 56.93 185 *e*P P 21 27 20.8 +0.5
LBTB pmax pmax
comp=Z,11nm,1.4s
IVI **Ivigtut** 57.21 326 *e*P P 21 27 21.7 -0.1
comp=Z,100nm,1.6s
ILULI **Ilulissat** 57.55 335 *e*P P 21 27 23.2 -0.9
comp=Z,42nm,1.6s
ILULI **Ilulissat** 57.55 335 *e*P P 21 27 23.2 -0.9
ILULI pmax pmax
comp=Z,42nm,1.6s
SFJD **Kangerlussuaq** 57.59 333 *e*P P 21 27 24.2 -0.2
comp=Z,7.9nm,0.5s
SFJD **Kangerlussuaq** 57.59 333 *e*P P 21 27 24.2 -0.2
SFJD pmax pmax
comp=Z,8.0nm,0.5s
SONM **Songino Array** 57.94 50 P P 21 27 27.4 0.0
comp=Z,5.7nm,0.8s,baz=300,slow=7.1,SNR=41
SONM LR LR 21 55 14.1
comp=Z,120nm,18.6s,baz=72,slow=39
SONA1 **Songino Array** 57.94 50 *e*P P 21 27 27.2 -0.2
LZH **Lanzhou** 59.45 64 *e*P P 21 27 39.5 +1.4
LZH pP sP 21 27 44.8 +1.7
LZH sP pP 21 27 48.1 +6.3
LZH pmax pmax
comp=Z,29nm,1.2s
LZH pmax pmax
comp=Z,150nm,4.8s
LZH LR LR
comp=Z,700nm,13.6s
LZH LR LR
comp=Z,570nm,14.1s
LZH LR LR
comp=Z,310nm,11.9s
BOD **Bodaibo** 60.11 38 *e*P P 21 27 41.1 -1.0
BOD pmax pmax
comp=Z,19nm,0.7s
PBA **Port Blair** 60.31 95 *e*P P 21 27 42.4 -1.7
comp=Z,154nm,1.0s
CD2 **Chengdu** 61.20 70 *e*P P 21 27 49.0 -1.1
TULEG **Thule** 61.29 345 *e*P P 21 27 49.3 -0.5
comp=Z,17nm,0.8s
CHTO **Chiang Mai** 62.18 84 *e*P P 21 27 56.3 -0.5
comp=Z,14nm,1.5s
CHTO **Chiang Mai** 62.18 84 *e*P P 21 27 56.3 -0.5
CHTO pmax pmax
comp=Z,14nm,1.5s
CHTO **Chiang Mai** 62.18 84 P P 21 27 57.1 +0.3
comp=Z,24nm,1.7s
CMMT **Chiang Mai** 62.19 84 P P 21 27 57.0 +0.2
comp=Z,5.3nm,1.7s
CMAR **Chiang Mai Arr** 62.34 85 P P 21 27 57.3 -0.6
comp=Z,4.9nm,0.7s,baz=293,slow=8.6,SNR=36
CMAR LR LR 21 59 10.7
comp=Z,27nm,18.3s,baz=340,slow=40
CM01 **Chiang Mai Arr** 62.37 85 *e*P P 21 27 57.3 -0.8
TIXI **Tiksi** 62.48 21 *e*P P 21 27 57.5 -0.3
comp=Z,6.3nm,0.6s
TIXI **Tiksi** 62.48 21 *ce*P P 21 27 57.6 -0.3
TIXI pmax pmax
comp=Z,8.0nm,0.7s
KMI **Kunming** 62.65 76 P P 21 28 00.8 +0.7
KMI pmax pmax
comp=Z,10.0nm,0.5s
KMI pmax pmax
comp=Z,160nm,4.0s
LAMP **Lampang** 62.90 84 P P 21 28 01.8 +0.2
comp=Z,8.4nm,0.8s,comp=Z,91nm
HHC **Hu-ho-hao-te** 63.54 57 *e*P P 21 28 05.4 -0.3
HHC pmax pmax
comp=Z,26nm,0.8s
HHC pmax pmax
comp=Z,260nm,6.2s
UTTA **Uttaradit** 64.03 85 P P 21 28 08.9 -0.1
XAN **Xi'an** 64.07 65 P P 21 28 08.8 -0.4
XAN pmax pmax
comp=Z,9.0nm,0.6s
XAN pmax pmax
comp=Z,180nm,6.0s
DRLN **Deer Lake** 65.37 314 *e*P P 21 28 17.2 -0.1
comp=Z,175nm,1.8s
RES **Resolute Bay** 67.82 346 *e*P P 21 28 33.3 +0.8
comp=Z,11nm,1.4s
RES **Resolute Bay** 67.82 346 *e*P P 21 28 33.3 +0.8
RES pmax pmax
comp=Z,11nm,1.4s
SCHQ **Schefferville** 68.50 322 P P 21 28 37.3 +0.1
comp=Z,10nm,0.6s,baz=66,slow=5.3,SNR=21
SCHQ **Schefferville** 68.50 322 *e*P P 21 28 37.6 +0.4
comp=Z,76nm,2.0s
PSI **Prapat** 70.15 99 *e*P P 21 28 47.5 -0.6
comp=Z,14nm,0.8s
PSI **Prapat** 70.15 99 *e*P P 21 28 47.5 -0.6
PSI pmax pmax
comp=Z,15nm,0.8s
KULM **Kulim** 70.28 96 *e*P P 21 28 48.6 -0.1
comp=Z,76nm,1.8s
LMN **Caledonia Moun** 71.27 313 *e*P P 21 28 55.0 +0.7
comp=Z,193nm,1.9s
NJ2 **Nanjing** 72.47 63 *e*P P 21 29 02.0 +0.2
NJ2 pmax pmax
comp=Z,9.0nm,0.8s
BILL **Bilibino** 74.89 16 *e*P P 21 29 15.0 -0.4
comp=Z,2.7nm,0.7s
BILL **Bilibino** 74.89 16 *e*P P 21 29 14.2 -1.2
BILL *e* 21 29 29.2
BILL *e* 21 32 00.3
BILL pmax pmax
comp=Z,5.0nm,1.2s
USRK **Ussuriysk Ar.** 75.73 47 P P 21 29 19.4 -1.3
comp=Z,3.7nm,0.7s,baz=291,slow=4.6,SNR=14
MA2 **Magadan** 76.27 27 *e*P P 21 29 24.2 +0.8
comp=Z,17nm,0.9s
KS01 **Wonju Array Si** 76.44 54 *e*P P 21 29 24.6 -0.2
KSAR **Wonju Array Be** 76.45 54 P P 21 29 24.1 -0.8
KSAR **Wonju Array Be** 76.45 54 P P 21 29 24.1 -0.8
KSRS **Korea Array** 76.47 54 P P 21 29 24.1 -0.9
comp=Z,2.4nm,0.6s,baz=305,slow=5.5,SNR=6.8
FCC **Fort Churchill** 78.56 334 *e*P P 21 29 36.4 +0.2
comp=Z,1.7nm,0.4s
FCC **Fort Churchill** 78.56 334 *e*P P 21 29 36.4 +0.2
FCC pmax pmax
comp=Z,2.0nm,0.4s
INK **Inuvik** 79.27 354 P P 21 29 39.2 -0.7
comp=Z,4.9nm,0.9s,baz=12,slow=10,SNR=14
INK **Inuvik** 79.27 354 *e*P P 21 29 39.9 -0.1
comp=Z,11nm,1.2s
INK **Inuvik** 79.27 354 *e*P P 21 29 39.9 -0.1
INK pmax pmax
comp=Z,11nm,1.2s
RDOG **Red Dog Mine** 79.71 5 *e*P P 21 29 43.0 +0.6
comp=Z,23nm,1.8s
N59A **State Game Lan** 80.65 313 *e*P P 21 29 49.0 +1.0
comp=Z,40nm,1.6s
EPYK **Eagle Plains** 81.44 355 *e*P P 21 29 52.1 +0.4
comp=Z,10nm,0.8s
SBUM **Sibu** 81.56 92 *e*P P 21 29 52.9 -0.3
comp=Z,4.7nm,1.2s
YKW3 **Yellowknife Ar** 81.70 345 *e*P P 21 29 53.5 +0.4
comp=Z,7.6nm,0.9s
YKA **Yellowknife Ar** 81.75 344 P P 21 29 53.5 +0.1
comp=Z,4.6nm,0.6s,baz=28,slow=5.5,SNR=72
YKB5 **Yellowknife Ar** 81.75 344 *e*P P 21 29 53.4 0.0
IM3 **Indian Mountai** 82.25 2 *e*P P 21 29 56.4 +0.4
ANM **Nome** 82.91 7 *e*P P 21 29 59.9 +0.5
comp=Z,5.4nm,1.0s
ANM **Nome** 82.91 7 *e*P P 21 29 59.9 +0.5
ANM pmax pmax
comp=Z,5.0nm,1.0s
MLY **Manley** 83.26 1 *e*P P 21 30 01.9 +0.6
comp=Z,19nm,1.7s
EGAK **Eagle** 83.30 356 *e*P P 21 30 02.1 +0.7
comp=Z,36nm,1.8s
MDM **Murphy Dome** 83.33 360 *e*P P 21 30 02.3 +0.6
comp=Z,23nm,1.2s
COLA **College** 83.41 359 *e*P P 21 30 02.1 +0.1
comp=Z,2.9nm,0.6s
IL1 **Eielson Array** 83.50 359 *e*P P 21 30 02.2 -0.3
ILAR **Eielson Array** 83.50 359 P P 21 30 02.4 -0.2
comp=Z,1.2nm,0.6s,baz=328,slow=4.1,SNR=25
ILB **Eielson Array** 83.50 359 *e*P P 21 30 03.3 +0.8
PETK **Petropavlovsk-** 83.54 29 P P 21 30 01.3 -1.7
comp=Z,5.4nm,0.9s,baz=258,slow=13,SNR=5.2
E43A **Lone Tree Farm** 83.80 322 *e*P P 21 30 04.4 +0.1
comp=Z,59nm,1.3s
WRH **Wood River Hil** 83.82 359 *e*P P 21 30 04.5 +0.4
comp=Z,5.8nm,0.7s
HDA **Harding Lake** 83.87 359 *e*P P 21 30 04.6 +0.2
comp=Z,19nm,1.6s
MJAR **Matsushiro Arr** 83.89 51 P P 21 30 04.5 -0.6
comp=Z,5.1nm,0.8s,baz=298,slow=5.2,SNR=7.0
MJAR **Matsushiro Arr** 83.89 51 P P 21 30 04.5 -0.6
MJAR pmax pmax
comp=Z,6.0nm,1.1s
DAWY **Dawson** 83.91 356 *e*P P 21 30 05.1 +0.5
comp=Z,14nm,1.3s
BPAW **Bear Paw Mtn.** 84.19 1 *e*P P 21 30 06.3 +0.2
comp=Z,4.6nm,0.7s
SCRK **Sand Creek** 84.23 358 *e*P P 21 30 07.6 +1.3
comp=Z,12nm,0.9s
FFC **Flin Flon** 84.48 335 *e*P P 21 30 07.1 -0.5
comp=Z,23nm,1.8s
FFC **Flin Flon** 84.48 335 *i*P P 21 30 08.4 +0.7
DOT **Dot Lake** 84.56 358 *e*P P 21 30 09.1 +1.1
comp=Z,16nm,0.9s
MCK **McKinley** 84.57 360 *e*P P 21 30 08.3 +0.3
comp=Z,22nm,1.5s
MCK **McKinley** 84.57 360 *e*P P 21 30 08.3 +0.3
MCK pmax pmax
comp=Z,22nm,1.5s
TRF **Thorofare Moun** 84.85 0 *e*P P 21 30 09.9 +0.3
comp=Z,10nm,0.8s
CAST **Castle Rocks** 84.86 1 *e*P P 21 30 10.2 +0.8
comp=Z,26nm,1.8s
RND **Reindeer** 84.89 360 *e*P P 21 30 10.3 +0.6
comp=Z,20nm,1.6s
RND **Reindeer** 84.89 360 *e*P P 21 30 10.3 +0.6
RND pmax pmax
comp=Z,20nm,1.6s
DHY **Denali Highway** 85.21 359 *e*P P 21 30 11.6 +0.2
comp=Z,25nm,1.6s
ULM **Lac du Bonnet** 85.40 329 P P 21 30 10.6 -1.8
comp=Z,1.8nm,0.6s,baz=84,slow=3.9,SNR=6.8
ULM **Lac du Bonnet** 85.40 329 *e*P P 21 30 11.6 -0.8
comp=Z,15nm,1.4s
ULM **Lac du Bonnet** 85.40 329 *e*P P 21 30 11.6 -0.8
ULM pmax pmax
comp=Z,15nm,1.4s
Q51A **Peebles** 86.44 315 *e*P P 21 30 17.1 -0.7
comp=Z,29nm,0.8s
SCM **Sheep Creek Mo** 86.46 359 *e*P P 21 30 18.1 +0.6
comp=Z,105nm,1.9s
SCM **Sheep Creek Mo** 86.46 359 *e*P P 21 30 18.1 +0.6
SCM pmax pmax
comp=Z,105nm,1.9s
HYT **Haines Junctio** 86.98 354 *e*P P 21 30 20.7 +0.6
comp=Z,10nm,0.8s
RC01 **Rabbit Creek A** 87.22 0 *e*P P 21 30 21.6 +0.5
comp=Z,13nm,0.5s
BESE **Bessie Mountai** 88.92 352 *e*P P 21 30 29.4 0.0
comp=Z,84nm,1.6s
PDAR **Pinedale Array** 97.09 332 P P 21 31 06.1 -1.5
comp=Z,0.3nm,0.5s,baz=12,slow=4.6,SNR=3.1

MEX 17 21:17:41.3±0.6, 16°06'N×95°67'W, h15km±6km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.51**	**236**	*i* P	Pg	21 17 49.7	-1.8
HUIG				*i* S	Sg	21 17 57.1	-1.3
CMIG	**Matias Romero**	**1.27**	**36**	*e*P	Pn	21 18 01.0	-3.5
CMIG				*i* S	Sb	21 18 15.7	-5.4
VHO	**Vista Hermosa**	**1.43**	**315**	*e*P	Pn	21 18 03.2	-3.7
VHO				*i* S	Sn	21 18 20.2	-5.4

*ISCJB **17** 21:30:00.7±0.7, 12°.3N±0°.1×87°.96W±0°.08, h35km, mb4.1/15, MS3.0/1, Error ellipse: s-maj=17.7km s-min=5.6km az=35.8*
*SNET **17** 21:30:00.0±0.0, 12°.05N×88°.22W, h33km*
*NEIC **17** 21:30:03.4±1.2, 12°.30N×87°.90W, h35km, mb4.1/9, MD4.2(SNET), Error ellipse: s-maj=27.5km s-min=10.2km az=206.0*
NEIC Felt [I] at San Miguel, El Salvador.
*IDC **17** 21:30:04.5±2.3, 12°.50N×87°.65W, h56km±22km, mb3.7/5, mb1 3.9/7, mb1mx3.5/38, mbtmp3.9/7, ML2.9/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/41, Error ellipse: s-maj=52.7km s-min=13.5km az=48.0*
ISC 17 21:30:01.7±0.8, 12°.2N±0°.1×88°.04W±0°.09, h35km, n27, σ1s71/30, mb4.1/15, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOAB	**BOACO BROADBAN**	**3.33**	**84**	*e*Pn	Pn	**21 30 37.9**	**+0.4**
JTS	**JuntasAbangare**	**3.59**	**122**	P	Pn	**21 30 56.1**	**+1.2**
	1.5nm,0.3s,baz=0.9,slow=13,SNR=3.6						
JTS				S	Sn	**21 31 35.2**	**-0.9**
	6.7nm,0.3s,baz=331,slow=21,SNR=5.4						
JTS	**JuntasAbangare**	**3.59**	**122**	*e*Pn	Pn	**21 30 55.0**	**+0.2**
APG	**El Apazote**	**3.63**	**320**	P	Pn	21 31 01.1	+5.5
	0.6nm,0.3s,baz=119,slow=12,SNR=2.4						
APG				S	Sn	**21 31 38.1**	**+0.8**
	2.0nm,0.3s,baz=39,slow=10.0,SNR=3.6						
CMIG	**Matias Romero**	**8.20**	**307**	P	Pn	**21 31 58.0**	**-0.2**
	0.4nm,0.3s,baz=139,slow=13,SNR=5.1						
CMIG				S	Sn	**21 33 28.4**	**-1.3**
	0.3nm,0.3s,baz=11,slow=16,SNR=2.1						
LVIG	**Laguna Verde**	**10.97**	**314**	*e*Pn	Pn	**21 32 34.9**	**-1.3**
MTDJ	**Mount Denham**	**11.75**	**58**	*e*Pn	Pn	**21 32 47.6**	**+0.6**
GRTK	**Grand Turk**	**18.61**	**58**	*e*P	P	**21 34 16.7**	**+0.6**
	507nm,1.9s						
833A	**Chaparral WMA,**	**19.21**	**328**	*e*P	P	**21 34 23.6**	**+0.9**
	20nm,0.8s						
JCT	**Junction City**	**21.18**	**331**	*e*P	P	**21 34 44.6**	**+0.5**
	4.0nm,0.5s						
TXAR	**Lajitas Array**	**22.38**	**322**	P	P	**21 34 57.2**	**0.0**
	2.1nm,0.8s,baz=138,slow=9.5,SNR=5.4						
TX31	**Lajitas Ar. Si**	**22.39**	**322**	*e*P	P	**21 35 00.5**	**+3.3**
MIAR	**Mount Ida**	**22.78**	**348**	*e*P	P	**21 35 02.7**	**+1.5**
	10nm,0.8s						
LPIG	**La Paz**	**24.19**	**302**	LR	LR	21 46 02.8	
	comp=Z,51nm,18.0s,baz=9.5,slow=39						
WMOK	**Wichita Mounta**	**24.44**	**338**	*e*P	P	**21 35 17.6**	**+0.3**
	2.4nm,0.7s						
MNTX	**Cornudas Mount**	**25.11**	**323**	*e*P	P	**21 35 25.8**	**+2.4**
	1.4nm,0.8s						
SDCO	**Great Sand Dun**	**29.82**	**331**	*e*P	P	**21 36 08.2**	**+2.4**
	1.0nm,0.7s						
W18A	**Petrified Fore**	**30.10**	**323**	*e*P	P	**21 36 12.0**	**+3.8**
	24nm,1.0s						
U15A	**North Rim**	**32.51**	**322**	*e*P	P	**21 36 32.6**	**+3.0**
	12nm,1.0s						
REDW	**Red Top Meadow**	**36.75**	**332**	*e*P	P	**21 37 08.9**	**+2.9**
	4.4nm,1.0s						
ULM	**Lac du Bonnet**	**38.45**	**352**	P	P	**21 37 18.2**	**-1.8**
	4.7nm,0.6s,baz=161,slow=9.5,SNR=8.8						
SIV	**San Ignacio**	**38.70**	**136**	P	P	**21 37 23.0**	**+0.4**
	1.3nm,0.8s,baz=320,slow=11,SNR=6.3						
SCHQ	**Schefferville**	**45.65**	**17**	P	P	**21 38 17.4**	**-1.3**
	3.7nm,0.8s,baz=222,slow=11,SNR=4.0						
FCC	**Fort Churchill**	**46.66**	**356**	*e*P	P	**21 38 25.7**	**-0.9**
	1.9nm,0.5s						
YKA	**Yellowknife Ar**	**53.67**	**345**	P	P	**21 39 18.7**	**-0.9**
	0.7nm,0.7s,baz=145,slow=7.2,SNR=15						
YKA				PcP	PcP	**21 40 25.5**	**-0.1**
	0.2nm,0.6s,baz=141,slow=4.2,SNR=5.2						
RES	**Resolute Bay**	**62.55**	**358**	*e*P	P	**21 40 20.5**	**-1.1**
	0.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**148.74**	**347**	PKP	PKPdf	**21 49 40.1**	**-2.4**
	0.3nm,0.5s,baz=320,slow=1.4,SNR=2.7						
CMAR				PKPbc	PKPbc	**21 49 46.1**	**-0.2**
	0.5nm,0.5s,baz=329,slow=3.2,SNR=4.1						

*IDC **17** 21:40:55.2±6.5, 15°.33N×98°.69W, h0km, mb3.5/4, mb1 3.9/6, mb1mx3.6/48, mbtmp3.5/6, ML3.5/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/32, Error ellipse: s-maj=121.7km s-min=29.2km az=3.0*
*ISCJB **17** 21:41:04.1±0.8, 16°.41N±0°.09×98°.65W±0°.04, h28km, mb3.4/4, MS3.2/1, Error ellipse: s-maj=13.1km s-min=4.0km az=15.4*
*NEIC **17** 21:41:06.8±0.0, 16°.40N×98°.66W, h20km, MD4.1(MEX), After MEX.*
*MEX **17** 21:41:06.9±0.5, 16°.40N×98°.66W, h16km±4km, MD4.0*
ISC 17 21:41:05.4±1.0, 16°.38N±0°.09×98°.66W±0°.04, h28km, n19, σ1s45/28, mb3.5/4, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.51**	**88**	*i* P	Pb	**21 41 15.4**	**-0.5**
PNIG				*e*S	Sb	**21 41 21.9**	**-1.2**
PNIG	**Pinotepa**	**0.51**	**88**	*i* P	Pb	**21 41 15.4**	**-0.5**
PNIG				*i* S	Sb	**21 41 21.9**	**-1.2**
ACP2	**Acapulco**	**1.28**	**293**	*i* P	Pn	**21 41 25.7**	**-1.7**
ACP2				*i* S	Sn	**21 41 41.8**	**-1.9**
CAIG	**El Cayaco**	**1.68**	**294**	*e*P	Pn	**21 41 31.7**	**-1.2**
CAIG				*e*S	Sn	**21 41 51.8**	**-1.8**
CAIG	**El Cayaco**	**1.68**	**294**	*e*P	Pn	**21 41 31.7**	**-1.2**
CAIG				*e*S	Sn	**21 41 51.8**	**-1.8**
VHO	**Vista Hermosa**	**1.97**	**69**	*e*P	Pn	**21 41 36.7**	**-0.4**
VHO	**Vista Hermosa**	**1.97**	**69**	*e*P	Pn	**21 41 36.7**	**-0.4**
VHO				*i* S	Sn	**21 41 59.0**	**-2.0**
PLIG	**Platanillo**	**2.16**	**338**	*e*P	Pn	**21 41 39.3**	**-0.4**

PLIG				*e*S	**Sn**	**21 42 04.1**	**-1.5**
PLIG	**Platanillo**	**2.16**	**338**	*e*P	**Pn**	**21 41 39.3**	**-0.4**
PLIG				*e*S	**Sn**	**21 42 04.1**	**-1.5**
HUIG	**Huatulco**	**2.52**	**103**	*e*P	**Pn**	**21 41 44.7**	**+0.1**
HUIG	**Huatulco**	**2.52**	**103**	*e*P	**Pn**	**21 41 44.7**	**+0.1**
HUIG				*e*S	**Sn**	**21 42 13.4**	**-0.9**
CMIG	**Matias Romero**	**3.69**	**78**	Pn	**Pn**	**21 42 00.1**	**-0.5**
	4.4nm,0.3s,baz=257,slow=8.9,SNR=31						
CMIG				Pg	**Pb**	**21 42 08.5**	**-1.3**
	7.8nm,0.3s,baz=263,slow=11,SNR=26						
CMIG				Sn	**Sn**	**21 42 40.4**	**-2.7**
	12nm,0.3s,baz=59,slow=22,SNR=5.0						
CMIG				Lg	Lg	21 42 59.9	
	24nm,0.3s,baz=343,slow=9.4,SNR=20						
TXAR	**Lajitas Array**	**13.70**	**341**	Pn	**P**	**21 44 28.2**	**+1.9**
	0.0nm,0.3s,baz=152,slow=14,SNR=5.7						
ANMO	**Albuquerque**	**19.77**	**341**	LR	LR	21 54 00.9	
	comp=Z,73nm,18.9s,baz=226,slow=38						
PDAR	**Pinedale Array**	**27.91**	**343**	P	**P**	**21 46 55.2**	**+1.9**
	0.4nm,0.8s,baz=148,slow=6.9,SNR=3.4						
NVAR	**Mina Array Bea**	**27.93**	**326**	P	**P**	**21 46 56.0**	**+2.4**
	0.6nm,0.8s,baz=150,slow=9.3,SNR=4.0						
YKA	**Yellowknife Ar**	**47.41**	**350**	P	**P**	**21 49 37.4**	**+0.3**
	0.4nm,0.7s,baz=156,slow=7.2,SNR=5.4						
ILAR	**Eielson Array**	**58.18**	**338**	P	**P**	**21 50 57.9**	**+1.2**
	0.7nm,1.1s,baz=107,slow=6.1,SNR=4.4						
CPUP	**Villa Florida**	**58.45**	**136**	LR	LR	22 13 07.9	
	comp=Z,16nm,18.1s,baz=60,slow=34						

IDC ***17*** *21:41:16.1±4.9,21.°52S×179.°33W,h0km,mb4.1/3, mb1 4.4/3,mb1mx3.7/33,mbtmp4.1/3,MS3.5/1,Ms1 3.5/1, ms1mx2.9/30,Error ellipse: s-maj=211.4km s-min=53.6km az=149.0*

ISCJB ***17*** *21:42:09.5±1.5,24.°5S±0.°1×179.°9W±0.°2,h500km,mb3.7/3, Error ellipse: s-maj=28.9km s-min=11.9km az=153.4*

WEL ***17*** *21:42:11.0±1.4,25.°S±11.°×18.°0W±4.°6,h489km±31km*

ISC 17 21:42:09.5±1.4,24.°5S±0.°1×179.°7W±0.°2,h500km,n26,
σ1§65/30,mb3.7/3,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.03**	**162**	P	**P**	**21 43 39.0**	**+2.4**
GLKZ				S	**S**	**21 44 45.3**	**-2.6**
WCZ	**Waipu Caves**	**12.51**	**203**	P	**P**	**21 44 54.3**	**+1.0**
KUZ	**Kuaotunu**	**12.84**	**197**	P	**P**	**21 44 56.7**	**0.0**
MXZ	**Matakaoa Point**	**13.15**	**187**	P	**P**	**21 44 59.5**	**-0.5**
WMGZ	**Waiomatatini S**	**13.39**	**186**	P	**P**	**21 45 03.4**	**+0.8**
HAZ	**Te Kaha**	**13.41**	**189**	P	**P**	**21 45 02.0**	**-0.7**
PKGZ	**Pakihiroa**	**13.50**	**187**	P	**P**	**21 45 02.7**	**-1.0**
PKGZ				S	**S**	**21 47 29.8**	**+2.3**
RUGZ	**Raukumara Rang**	**13.63**	**189**	P	**P**	**21 45 05.6**	**+0.4**
RUGZ				S	**S**	**21 47 27.1**	**-3.0**
PUZ	**Puketiti**	**13.66**	**187**	P	**P**	**21 45 06.7**	**+1.3**
TWGZ	**Tauwhareparae**	**13.79**	**188**	P	**P**	**21 45 07.4**	**+0.5**
TWGZ				S	**S**	**21 47 35.3**	**+2.1**
TOZ	**Tahuroa Road**	**13.82**	**196**	P	**P**	**21 45 10.1**	**+3.0**
URZ	**Urewera**	**14.00**	**190**	P	**P**	**21 45 06.7**	**-2.3**
MWZ	**Matawai**	**14.01**	**189**	P	**P**	**21 45 09.1**	**0.0**
CNGZ	**Carnagh Statio**	**14.07**	**187**	P	**P**	**21 45 11.2**	**+1.5**
RAGZ	**Rawiri**	**14.18**	**189**	P	**P**	**21 45 11.6**	**+0.6**
SNGZ	**Shannon Statio**	**14.48**	**189**	P	**P**	**21 45 16.0**	**+2.0**
MTHZ	**Maungataniwha**	**14.62**	**191**	P	**P**	**21 45 15.4**	**-0.2**
HIZ	**Hauiti**	**14.73**	**197**	P	**P**	**21 45 17.6**	**+1.0**
NMHZ	**Naumai**	**14.87**	**191**	P	**P**	**21 45 18.1**	**0.0**
BKZ	**Black Stump Fm**	**14.99**	**191**	P	**P**	**21 45 18.1**	**-1.3**
BHHZ	**Black Hill Sta**	**15.38**	**192**	P	**P**	**21 45 20.5**	**-3.1**
ASAR	**Alice Springs**	**42.18**	**261**	P	**P**	**21 49 16.9**	**-1.0**
	1.5nm,0.9s,baz=94,slow=7.7,SNR=11						
ASAR				LR	LR	22 06 17.4	
	comp=Z,68nm,21.0s,baz=57,slow=35						
WRA	**Warramunga Arr**	**42.61**	**267**	P	**P**	**21 49 19.9**	**-1.5**
	2.6nm,0.4s,baz=98,slow=8.3,SNR=64						
CMAR	**Chiang Mai Arr**	**89.95**	**290**	P	**P**	**21 54 16.5**	**+1.0**
	0.4nm,0.4s,baz=132,slow=2.6,SNR=3.7						
AKASG	**Malin Array Be**	**145.58**	**327**	PKP	**PKPdf**	**22 00 50.2**	**+0.1**
	0.6nm,0.3s,baz=46,slow=4.2,SNR=5.4						
BRTR	**Keskin Array B**	**148.12**	**307**	PKPbc	**PKPbc**	**22 00 58.3**	**-0.5**
	0.5nm,0.5s,baz=95,slow=2.4,SNR=3.3						

WEL 17 22:15:46.1,38.°5S±0.°9×17.°8E±.°,h24km±2km,ML3.5/16,
Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.01**	**45**	P	Pb	22 15 50.7	+0.4
CNGZ				S	Sb	22 15 55.8	+2.8
TKGZ	**Te Karaka**	**0.28**	**281**	P	Pb	22 15 52.8	+0.1
TKGZ				S	Sb	22 15 58.5	+1.3
TWGZ	**Tauwhareparae**	**0.36**	**332**	P	Pb	22 15 54.3	+0.3
TWGZ				S	Sn	22 16 01.8	-0.3
RIGZ	**Rimuhau**	**0.40**	**238**	P	Pb	22 15 55.4	+0.8
RIGZ				S	Sn	22 16 03.6	+0.4
PUZ	**Puketiti**	**0.42**	**7**	P	Pb	22 15 55.5	+0.4
PUZ				S	Sn	22 16 03.3	-0.4
PRGZ	**Paritu Road**	**0.49**	**210**	P	Pn	22 15 57.0	-0.7
MWZ	**Matawai**	**0.55**	**287**	P	Pb	22 15 57.0	-0.2
MWZ				S	Sb	22 16 05.6	+1.0
PKGZ	**Pakihiroa**	**0.61**	**351**	P	Pb	22 15 58.5	+0.3
PKGZ				S	Sn	22 16 08.6	+0.2
RAGZ	**Rawiri**	**0.61**	**270**	P	Pb	22 15 58.4	+0.2
RAGZ				S	Sn	22 16 08.2	-0.3
KNZ	**Kokohu**	**0.67**	**218**	P	Pb	22 15 59.1	0.0
RUGZ	**Raukumara Rang**	**0.67**	**322**	P	Pb	22 15 58.9	-0.3
RUGZ				S	Sn	22 16 09.7	-0.1
WMGZ	**Waiomatatini S**	**0.69**	**14**	P	Pn	22 16 00.1	-0.3
MHGZ	**Mahia Peninsul**	**0.70**	**199**	P	Pn	22 16 00.1	-0.4
SNGZ	**Shannon Statio**	**0.73**	**246**	P	Pb	22 16 00.4	+0.2
HAZ	**Te Kaha**	**0.81**	**336**	P	Pb	22 16 00.9	-0.5
URZ	**Urewera**	**0.88**	**285**	P	Pb	22 16 02.4	-0.4
MXZ	**Matakaoa Point**	**0.93**	**5**	P	Pb	22 16 03.6	0.0
WHHZ	**Waihua**	**0.95**	**232**	P	Pb	22 16 03.8	-0.1
RTZ	**Ruatahuna**	**0.96**	**262**	P	Pb	22 16 03.7	-0.5
RAHZ	**Arahi**	**0.96**	**244**	P	Pb	22 16 04.9	+0.7
MTHZ	**Maungataniwha**	**1.12**	**251**	P	Pn	22 16 06.0	-0.3
MTHZ				P	Pn	22 16 06.0	-0.3
WHRZ	**Whale Island**	**1.15**	**303**	P	Pb	22 16 07.3	-0.1
EDRZ	**Edgecumbe**	**1.21**	**288**	P	Pn	22 16 07.5	0.0
MARZ	**Manawahe**	**1.30**	**293**	P	Pb	22 16 10.8	+0.9
TARZ	**Mount Tarawera**	**1.35**	**280**	P	Pn	22 16 09.7	+0.2
MRHZ	**Matea Rd**	**1.43**	**256**	P	Pb	22 16 11.6	-0.5
OPRZ	**Ohinepanea**	**1.45**	**296**	P	Pn	22 16 10.2	-0.5
ALRZ	**Allen Road**	**1.45**	**267**	P	Pn	22 16 11.3	+0.4
HLRZ	**Highlands Stat**	**1.47**	**279**	P	Pn	22 16 11.4	+0.4
BKZ	**Black Stump Fm**	**1.49**	**243**	P	Pn	22 16 11.1	-0.4
HRRZ	**Handcock Road**	**1.50**	**273**	P	Pn	22 16 11.8	+0.2
HSRZ	**Hossack Road**	**1.54**	**276**	P	Pn	22 16 12.5	+0.4
KAHZ	**Kahuranaki**	**1.66**	**218**	P	Pn	22 16 12.3	-1.4
KWHZ	**Kaweka Forest**	**1.67**	**236**	P	Pn	22 16 13.7	-0.1
BHHZ	**Black Hill Sta**	**1.94**	**238**	P	Pn	22 16 17.4	-0.2
FWVZ	**Far West T-bar**	**2.20**	**249**	P	Pn	22 16 22.8	+1.5
TSZ	**Takapari Road**	**2.33**	**227**	P	Pn	22 16 21.0	-2.0

UCR 17 22:25:26.0±2.5,8.°32N×82.°81W,h13km±8km,MD3.9,
2C-3D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.48**	**14**	⇓*i*P	Pg	22 25 35.7	+0.1
BRU2				*i* S	Sb	22 25 44.2	+0.6
PTJ1	**Puerto Jimnez**	**0.53**	**294**	⇓*e*P	Pg	22 25 36.0	-0.5
PTJ1				*i* S	Sb	22 25 44.9	+0.1
EDDO	**Dominical**	**1.39**	**312**	*e*P	Pn	22 25 49.4	-1.7
LCR2	**La Lucha 2**	**1.84**	**320**	*e*P	Pn	22 25 56.0	-1.5
CVTR	**Volcan Turrial**	**1.93**	**331**	*e*P	Pn	22 25 58.4	-0.6
HDC	**Heredia**	**2.11**	**322**	⇓*e*P	Pn	22 26 01.8	+0.6
HDC				*i* S	Sb	22 26 29.9	-0.5
PNME	**Penonome**	**2.46**	**86**	*e*P	Pn	22 26 06.3	+0.4
PNME				*e*S	Sn	22 26 35.0	-0.9
AZU	**Azuero**	**2.57**	**102**	⇑*i*P	Pn	22 26 07.6	+0.3
AZU				*i* S	Sn	22 26 38.1	-0.3
ARE1	**Arenal 1**	**2.84**	**319**	*e*P	Pn	22 26 11.6	+0.5
JTS	**JuntasAbangare**	**2.88**	**313**	⇑*e*P	Pn	22 26 11.3	-0.4
JTS				*e*S	Sn	22 26 45.2	-1.1
ZANG	**Zanguenga, Cho**	**2.98**	**78**	*e*P	Pn	22 26 12.2	-0.8
ZANG				*e*S	Sn	22 26 45.8	-2.8
BCIP	**Isla Barro Col**	**3.06**	**74**	*e*P	Pn	22 26 14.2	+0.1
BCIP				*e*S	Sn	22 26 49.2	-1.3
FRIJ	**El Hiral**	**3.18**	**73**	*e*P	Pn	22 26 14.5	-1.2
CUI	**Cuipilapa**	**3.28**	**315**	*e*P	Pn	22 26 19.1	+1.9
CUI				*e*S	Sn	22 26 55.2	-1.0
UPA	**Univ. de Panam**	**3.31**	**78**	*e*P	Pn	22 26 17.0	-0.5

IDC 17 22:29:46.0±2.0,0.°98N×127.°30E,h0km,mb3.4/3,
mb1 3.7/4,mb1mx3.4/34,mbtmp3.5/4,ML3.3/1,Error
ellipse: s-maj=113.4km s-min=25.9km az=70.0,
Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.02**	**185**	P	Pn	22 34 10.8	+0.5
	0.1nm,0.3s,baz=32,slow=9.5,SNR=3.2						
WRA	**Warramunga Arr**	**21.91**	**162**	P	P	22 34 40.9	-0.1
	0.6nm,0.3s,baz=339,slow=10,SNR=17						
ASAR	**Alice Springs**	**25.32**	**166**	P	P	22 35 14.2	-0.5
	0.3nm,0.3s,baz=349,slow=12,SNR=6.2						
MKAR	**Makanchi Array**	**60.13**	**326**	P	P	22 39 55.4	-0.1
	0.3nm,0.8s,baz=115,slow=7.5,SNR=4.0						

IDC ***17*** *22:32:01.5±0.8,0.°26S×125.°70E,h0km,mb4.0/7, mb1 4.1/8,mb1mx3.9/33,mbtmp4.0/8,ML3.8/1,Error ellipse: s-maj=61.8km s-min=16.6km az=72.0*

ISCJB ***17*** *22:32:03.0±0.6,0.°08N±0.°06×126.°23E±0.°04,h44km, mb4.0/7,Error ellipse: s-maj=8.3km s-min=5.6km az=162.8*

DJA ***17*** *22:32:02.2±1.0,0.°N±3.°×12.°6E±.°,h22km±9km,M4.2/11, mb4.4/3,mB5.0/1,MLv4.2/11,Mw(mB)4.3/1*

ISC 17 22:32:06.3±0.7,0.°05S±0.°06×126.°29E±0.°05,h44km,n18,
σ2§68/21,mb3.9/7,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.35**	**53**	P	**Pn**	**22 32 25.5**	**-3.2**
TNTI				S	**Sn**	**22 32 41.6**	**-3.8**
SANI	**Sanana**	**2.01**	**189**	P	**Pn**	**22 32 34.6**	**-3.3**
SANI				S	**Sn**	**22 33 02.1**	**+0.2**
KMSI	**Cibinong**	**2.39**	**285**	P	**Pn**	**22 32 39.2**	**-3.8**
LUWI	**Luwuk**	**3.66**	**254**	P	**Pn**	**22 32 58.0**	**-2.4**
LUWI				S	**Sn**	**22 33 40.7**	**-1.6**
MRSI	**Marisa**	**4.38**	**277**	P	**Pn**	**22 33 08.1**	**-2.3**
APSI	**Ampana**	**4.72**	**259**	P	**Pn**	**22 33 13.1**	**-2.0**
APSI				S	**Sn**	**22 34 07.7**	**-0.9**
MPSI	**Mapaga**	**6.41**	**273**	P	**Pn**	**22 33 34.9**	**-3.3**
	11nm,0.7s,0.1nm						
PCI	**Palu**	**6.51**	**262**	P	**Pn**	**22 33 37.6**	**-2.1**
SPSI	**Sidrap Palu**	**7.59**	**239**	P	Pn	22 33 47.9	-6.6
FITZ	**Fitzroy Crossi**	**17.95**	**182**	P	**Pn**	**22 36 09.1**	**-3.7**
	0.3nm,0.3s,baz=32,slow=6.6,SNR=5.8						
WRA	**Warramunga Arr**	**21.29**	**159**	P	**P**	**22 36 49.6**	**+0.2**
	2.8nm,0.5s,baz=335,slow=11,SNR=19						
ASAR	**Alice Springs**	**24.62**	**163**	P	**P**	**22 37 23.7**	**+0.9**
	1.7nm,0.6s,baz=345,slow=8.9,SNR=10						
STKA	**Stephens Creek**	**34.81**	**157**	P	**P**	**22 38 55.1**	**+2.0**
	2.6nm,0.6s,baz=291,slow=7.6,SNR=4.0						
SONM	**Songino Array**	**50.73**	**343**	P	**P**	**22 41 03.8**	**+1.9**
	0.5nm,0.8s,baz=160,slow=8.3,SNR=4.8						
PETK	**Petropavlovsk-**	**59.07**	**21**	P	**P**	**22 42 05.5**	**+3.5**
	8.4nm,1.0s,baz=222,slow=2.0,SNR=3.8						
MKAR	**Makanchi Array**	**60.42**	**327**	P	**P**	**22 42 10.2**	**-1.3**
	0.5nm,0.5s,baz=123,slow=8.5,SNR=8.4						
ZALV	**Zalesovo Beam**	**63.75**	**334**	P	**P**	**22 42 36.5**	**+2.9**
	0.7nm,0.6s,baz=120,slow=8.8,SNR=2.2						
TORD	**Torodi Ar. Bea**	**123.59**	**286**	PKP	**PKPdf**	**22 51 00.7**	**+0.6**
	0.3nm,0.7s,baz=128,slow=0.6,SNR=2.3						

BJI ***17*** *23:08:54.8,1.°14N×126.°62E,h30km,mb4.7/49,mB5.1/30, Ms4.7/8,Ms7 4.5/9*

IDC ***17*** *23:08:56.0±0.5,1.°66N×126.°38E,h0km,mb4.4/22, mb1 4.5/24,mb1mx4.4/41,mbtmp4.4/24,ML4.0/2,MS3.4/14, Ms1 3.5/14,ms1mx3.2/39,Error ellipse: s-maj=21.0km s-min=11.0km az=72.0*

ISCJB ***17*** *23:09:00.8±0.2,1.°73N±0.°03×126.°61E±0.°04,h47km, mb4.8/73,MS3.5/15,Error ellipse: s-maj=5.4km s-min=3.8km az=164.4*

NEIC ***17*** *23:09:01.0±1.7,1.°72N×126.°51E,h32km±12km,mb4.8/32, Error ellipse: s-maj=6.1km s-min=3.5km az=65.0*

DJA ***17*** *23:09:01.2±1.0,2.°N±3.°×12.°7E±.°,h13km±8km,M4.6/13, mb4.7/6,mB4.9/3,MLv4.5/13,Mw(mB)4.2/3*

ISC 17 23:09:02.6±0.3,1.74N±0.°04×126.°63E±0.°05,h47km,n139,
σ1§40/140,mb4.8/79,MS3.4/15,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.21**	**142**	*e*Pn	**Pn**	**23 09 23.0**	**-0.1**
TNTI	**Ternate**	**1.21**	**142**	P	**Pn**	**23 09 23.1**	**-0.1**
SGSI	**Sangihe**	**2.23**	**330**	P	**Pn**	**23 09 37.8**	**+0.7**
KMSI	**Cibinong**	**2.89**	**246**	P	**Pn**	**23 09 46.7**	**+0.6**
SANI	**Sanana**	**3.81**	**190**	P	**Pn**	**23 09 58.6**	**-0.3**
LUWI	**Luwuk**	**4.74**	**234**	*e*Pn	**Pn**	**23 10 13.2**	**+1.5**
LUWI	**Luwuk**	**4.74**	**234**	P	**Pn**	**23 10 13.5**	**+1.9**
LUWI				S	**Sn**	**23 11 08.4**	**+3.0**
MRSI	**Marisa**	**4.85**	**255**	P	**Pn**	**23 10 14.7**	**+1.6**
SIJI	**Sorong**	**5.31**	**119**	Pn	**Pn**	**23 10 19.2**	**-0.2**
	2.1nm,0.3s,baz=90,slow=20,SNR=4.2						
SIJI				LR	LR	23 12 53.3	
	comp=Z,634nm,21.6s,baz=298,slow=43						
APSI	**Ampana**	**5.63**	**242**	P	**Pn**	**23 10 24.6**	**+0.8**
	119nm,0.5s,2µm0.6nm						
MPSI	**Mapaga**	**6.87**	**258**	P	**Pn**	**23 10 43.6**	**+2.7**
	32nm,0.8s,509nm0.1nm						
KDI	**Kendari**	**6.93**	**215**	P	**Pn**	**23 10 40.2**	**-1.5**
PCI	**Palu**	**7.28**	**249**	P	**Pn**	**23 10 47.1**	**+0.6**
SAUI	**Saumlaki**	**10.72**	**154**	*e*Pn	**Pn**	**23 11 32.6**	**-1.1**
KKM	**Kota Kinabalu**	**11.23**	**293**	*e*Pn	**Pn**	**23 11 42.2**	**+1.5**
SBUM	**Sibu**	**14.41**	**273**	*e*P	**P**	**23 12 28.6**	**-1.2**
FITZ	**Fitzroy Crossi**	**19.73**	**183**	P	**P**	**23 13 26.9**	**-1.6**
	0.6nm,0.3s,baz=16,slow=12,SNR=13						
FITZ	**Fitzroy Crossi**	**19.73**	**183**	*e*P	**P**	**23 13 27.7**	**-0.8**
	78nm,1.8s						
LEM	**Lembang**	**20.79**	**246**	LR	LR	23 23 02.1	
	comp=Z,61nm,20.1s,baz=156,slow=41						
GUMO	**Guam**	**21.55**	**56**	LR	LR	23 20 57.0	
	comp=Z,92nm,21.3s,baz=199,slow=33						
YULB	**Yu-li**	**22.14**	**347**	*e*P	**P**	**23 13 51.7**	**-2.7**
	204nm,1.9s						
TPUB	**Ta-pu**	**22.21**	**345**	*e*P	**P**	**23 13 54.7**	**-0.6**
	265nm,1.9s						
SSLB	**Suanglung**	**22.60**	**346**	*e*P	**P**	**23 13 59.1**	**-0.4**
	190nm,1.9s						
COEN	**Coen**	**22.63**	**134**	*e*P	**P**	**23 13 59.8**	**-0.1**
	50nm,1.5s						
WRAB	**Tennant Creek**	**22.83**	**161**	*e*P	**P**	**23 14 00.9**	**-1.0**
	41nm,0.8s						
WRA	**Warramunga Arr**	**22.84**	**161**	P	**P**	**23 14 00.8**	**-1.2**
	37nm,0.7s,baz=339,slow=11,SNR=124						
WRA				PcP	**PcP**	**23 17 52.1**	**+0.1**
	1.3nm,0.7s,baz=325,slow=2.0,SNR=4.5						
WRA				S	**S**	**23 18 07.3**	**-0.8**
	1.9nm,0.8s,baz=332,slow=19,SNR=4.1						
WB2	**Warramunga Arr**	**22.84**	**161**	*e*P	**P**	**23 14 00.8**	**-1.2**
WC3	**Warramunga Arr**	**22.86**	**161**	*e*P	**P**	**23 14 01.1**	**-1.1**
	53nm,0.6s						
YHNB	**Yeheng**	**23.36**	**348**	*e*P	**P**	**23 14 06.8**	**-0.3**
	174nm,1.6s						
MBWA	**Marble Bar**	**23.73**	**196**	*e*P	**P**	**23 14 09.8**	**-0.8**
	21nm,1.1s						
XMIS	**Christmas Isla**	**24.15**	**239**	*e*P	**P**	**23 14 12.7**	**-1.9**
	47nm,1.3s						
JOW	**Kunigami**	**25.00**	**3**	LR	LR	23 23 57.5	
	comp=Z,63nm,20.9s,baz=344,slow=36						
AS31	**Alice Springs**	**26.22**	**165**	*e*P	**P**	**23 14 33.9**	**+0.5**
	7.6nm,1.0s						
ASAR	**Alice Springs**	**26.23**	**165**	P	**P**	**23 14 32.2**	**-1.1**
	6.2nm,0.4s,baz=349,slow=13,SNR=29						
ASAR				PcP	**PcP**	**23 17 59.2**	**-0.2**
	1.0nm,0.4s,baz=348,slow=1.9,SNR=4.7						
ASAR				S	**S**	**23 19 10.0**	**+7.4**
	1.6nm,0.8s,baz=349,slow=19,SNR=5.3						
AS01	**Alice Springs**	**26.23**	**165**	*e*P	**P**	**23 14 33.9**	**+0.4**
GIRL	**Giralia**	**27.08**	**206**	*e*P	**P**	**23 14 40.3**	**-0.7**
	519nm,1.6s						
PSI	**Prapat**	**27.70**	**273**	P	**P**	**23 14 45.2**	**-1.7**
	5.6nm,0.5s,baz=180,slow=1.5,SNR=4.1						
PSI				LR	LR	23 26 11.5	
	comp=Z,75nm,18.8s,baz=275,slow=38						
PSI	**Prapat**	**27.70**	**273**	*e*P	**P**	**23 14 44.9**	**-2.0**
	25nm,1.2s						
CHAI	**Chaiyaphum**	**28.07**	**301**	P	**P**	**23 14 51.6**	**+1.6**
	4.7nm,0.8s						
CTA	**Charters Tower**	**29.00**	**139**	P	**P**	**23 14 59.5**	**+1.3**
	3.1nm,0.6s,baz=274,slow=13,SNR=2.6						
CTAO	**Charters Tower**	**29.00**	**139**	*e*P	**P**	**23 14 58.2**	**0.0**
	6.0nm,0.9s						
CBIJ	**Chichi jima**	**29.30**	**29**	*e*P	**P**	**23 15 00.9**	**+0.2**
	280nm,1.0s						
WHN	**Wuhan**	**30.93**	**339**	P	**P**	**23 15 16.4**	**+1.3**
NJ2	**Nanjing**	**31.03**	**347**	*e*P	**P**	**23 15 16.3**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
GYA	**Guiyang**	**31.18**	**324**	*e*P	**P**	**23 15 19.0**	**+1.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**31.83**	**303**	P	**P**	**23 15 22.1**	**-1.2**
	1.0nm,0.3s,baz=118,slow=6.9,SNR=9.2						
CMAR				LR	LR	23 28 14.7	
	comp=Z,55nm,20.4s,baz=116,slow=37						
CMMT	**Chiang Mai**	**31.99**	**304**	P	**P**	**23 15 26.4**	**+1.7**
	5.5nm,1.2s						
CHTO	**Chiang Mai**	**32.00**	**304**	*e*P	**P**	**23 15 23.9**	**-0.8**
	5.4nm,1.1s						
CHTO	**Chiang Mai**	**32.00**	**304**	P	**P**	**23 15 26.5**	**+1.8**
	22nm,1.1s						
FORT	**Forrest**	**32.36**	**178**	*e*P	**P**	**23 15 26.8**	**-1.0**
	54nm,1.0s						
ENH	**Enshi**	**32.71**	**332**	*e*P	**P**	**23 15 30.4**	**-0.4**
KMI	**Kunming**	**32.73**	**317**	P	**P**	**23 15 31.8**	**+0.4**
KMI				pmax	pmax		
	comp=Z,30nm,0.5s						
KMI				pmax	pmax		
	comp=Z,210nm,4.9s						
HNR	**Honiara**	**35.00**	**109**	LR	LR	23 30 26.6	
	comp=Z,78nm,21.0s,baz=324,slow=37						
KSAR	**Wonju Array Be**	**35.55**	**2**	P	**P**	**23 15 56.2**	**+0.9**
KSRS	**Korea Array**	**35.56**	**2**	P	**P**	**23 15 56.2**	**+0.8**
	1.9nm,0.6s,baz=183,slow=10.0,SNR=5.9						
KSRS				LR	LR	23 32 18.3	
	comp=Z,25nm,18.3s,baz=185,slow=39						
XAN	**Xi'an**	**36.15**	**335**	P	**P**	**23 16 00.3**	**-0.3**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,130nm,4.3s						
CD2	**Chengdu**	**36.20**	**326**	*e*P	**P**	**23 16 01.0**	**-0.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MJAR	**Matsushiro Arr**	**36.25**	**16**	P	**P**	**23 16 01.0**	**-0.4**
	2.3nm,0.6s,baz=187,slow=11,SNR=6.5						
STKA	**Stephens Creek**	**36.32**	**158**	P	**P**	**23 16 02.1**	**+0.1**
	2.9nm,0.4s,baz=344,slow=11,SNR=6.7						
STKA				LR	LR	23 32 46.1	
	comp=Z,60nm,18.3s,baz=23,slow=39						
STKA	**Stephens Creek**	**36.32**	**158**	*e*P	**P**	**23 16 02.2**	**+0.2**
	3.4nm,1.3s						
BJT	**Baijiatuan**	**39.27**	**347**	*e*P	**P**	**23 16 26.8**	**0.0**
BJT				*e*pP	**P**	**23 16 26.9**	**+0.1**
ARMA	**Armidale**	**39.88**	**145**	*e*P	**P**	**23 16 33.1**	**+0.9**
	14nm,1.3s						
LZH	**Lanzhou**	**40.17**	**331**	*e*P	**P**	**23 16 37.0**	**+2.4**
LZH				pP	pP	23 16 46.8	+0.2
LZH				sP	sP	23 16 51.3	-0.6
LZH				PP	**PnPn**	**23 18 16.6**	**+5.0**
LZH				S	**S**	**23 22 32.3**	**-6.0**
LZH				pmax	pmax		
	comp=Z,49nm,1.0s						
LZH				pmax	pmax		
	comp=Z,320nm,4.5s						
LZH				LR	LR		
	comp=N,460nm,13.6s						
LZH				LR	LR		
	comp=E,550nm,14.4s						
LZH				LR	LR		
	comp=Z,590nm,15.9s						
SHL	**Shillong**	**41.00**	**308**	*e*P	**P**	**23 16 40.7**	**-0.9**
	16nm,0.8s						
HHC	**Hu-ho-hao-te**	**41.25**	**343**	*e*P	**P**	**23 16 45.8**	**+2.5**
HHC				pmax	pmax		
	comp=Z,13nm,0.7s		

815nm,1.6s
KK31 Karatay Array 64.62 318 *e*P **P 23 19 35.1 -0.4**
KKAR Karatay Array 64.62 318 *e*P **P 23 19 35.1 -0.4**
CASY Casey 68.84 187 *e*P **P 23 20 02.7 +0.8**
41nm,1.3s
BRVK Borovoye 69.00 327 *e*P **P 23 20 03.2 0.0**
4.9nm,0.8s
TIXI Tiksi 69.82 1 *e*P **P 23 20 08.1 +0.3**
3.6nm,0.3s
GEYT Alibeck 72.06 309 P **P 23 20 22.4 +0.2**
1.5nm,0.6s,baz=160,slow=9.1,SNR=3.6
ABKAR Akbulak array 73.62 321 *e*P **P 23 20 30.9 -0.3**
ARU Arti 76.56 328 *e*P **P 23 20 47.1 -0.7**
14nm,0.9s
RAYN Ar Rayn 81.17 293 *e*P **P 23 21 13.1 -0.9**
4.7nm,0.8s
VNDA Vanda 81.48 173 P **P 23 21 14.1 -0.3**
1.3nm,0.4s,baz=314,slow=7.1,SNR=22
VNDA Vanda 81.48 173 *e*P **P 23 21 15.1 +0.6**
3.4nm,0.9s
IM3 Indian Mountai 84.19 24 *e*P **P 23 21 29.8 +1.1**
KBZ Khabaz 84.27 314 P **P 23 21 29.2 -0.4**
1.6nm,0.7s,baz=106,slow=12,SNR=7.0
KIV Kislovodsk 84.43 314 *e*P **P 23 21 29.8 -0.7**
37nm,1.7s
BRLK Bradley Lake 84.72 30 *e*P **P 23 21 32.3 +0.7**
79nm,1.5s
SUA Susitna One 84.95 29 *e*P **P 23 21 33.5 +0.7**
68nm,2.0s
RC01 Rabbit Creek A 85.40 29 *e*P **P 23 21 35.0 +0.1**
28nm,1.4s
ILAR Eielson Array 86.94 25 P **P 23 21 42.9 +0.5**
0.4nm,0.7s,baz=247,slow=5.9,SNR=2.5
KLMR Klimovskoe 87.08 331 *e*P **P 23 21 41.6 -1.5**
KLMR AMP 23 21 47.9
comp=Z,13nm,1.1s
DOT Dot Lake 88.15 27 *e*P **P 23 21 48.8 +0.5**
comp=Z,40nm,1.3s
BRTR Keskin Array B 91.20 310 P **P 23 22 01.6 -1.6**
comp=Z,1.2nm,0.8s,baz=76,slow=5.0,SNR=3.5
ARCES ARCESS Array B 92.27 340 P **P 23 22 07.1 -0.3**
comp=Z,9.7nm,1.1s,baz=28,slow=5.5,SNR=3.7
ARCES ARCESS Array B 92.27 340 *e*P **P 23 22 06.9 -0.5**
SPA0 Spitsbergen Ar 92.40 349 *e*P **P 23 22 07.1 -0.7**
FINES FINESS Array B 93.53 332 P **P 23 22 12.9 -0.3**
comp=Z,1.3nm,0.6s,baz=62,slow=4.5,SNR=6.1
BUR04 Bucovina Ar. S 96.41 318 *e*P **P 23 22 27.0 +0.1**
BUR08 Bucovina Ar. S 96.42 318 *e*P **P 23 22 27.0 0.0**
TXAR Lajitas Array 122.88 53 PKP **PKiKP 23 27 55.5 +0.8**
comp=Z,0.3nm,0.8s,baz=21,slow=1.3,SNR=2.9
TORD Torodi Ar. Bea 123.42 287 PKP **PKPdf 23 27 55.4 -0.3**
comp=Z,0.6nm,0.8s,baz=72,slow=1.6,SNR=4.5
ROC1 El Roble 144.78 154 *e*PKPdf **PKPdf 23 28 35.9 +0.5**
LCO Las Campanas 148.24 150 *e*PKPbc **PKiKP 23 28 45.7 -0.7**
GO02 Mina Guanaco 151.94 147 *e*PKPbc **PKiKP 23 28 55.3 +1.2**

TAP 17 23:18:06.3,24.45N×121.97E,h13km,ML2.5,1C-3D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.17**	**57**	⇓*i*P	Pb	23 18 10.8	-0.5
	baz=49						
EOS1				*e*S	Sb	23 18 14.5	-0.2
	baz=49						
TWC	**Suao**	**0.19**	**325**	⇑*i*P	Pg	23 18 10.7	+0.1
	baz=327						
TWC				*e*S	Sg	23 18 13.3	-0.2
	baz=327						
NANB	**Nanao**	**0.20**	**263**	⇓P	Pg	23 18 10.9	+0.1
	baz=269						
NANB				*e*S	Sg	23 18 13.8	0.0
	baz=269						
ENA	**Nanau**	**0.21**	**263**	⇓*i*P	Pg	23 18 11.0	+0.1
	baz=269						
ENA				*e*S	Sg	23 18 13.9	-0.1
	baz=269						
ILA	**Ilan**	**0.37**	**327**	*e*P	Pb	23 18 14.9	+0.2
	baz=327						
ILA				*e*S	Sb	23 18 20.1	-0.3
	baz=327						
TWE	**Neicheng**	**0.38**	**314**	P	Pg	23 18 14.4	+0.4
	baz=318						
TWE				*e*S	Sg	23 18 19.4	+0.3
	baz=318						
ENTT	**Nioudou**	**0.41**	**297**	*i* P	Pg	23 18 14.8	+0.4
	baz=296						
ENTT				*e*S	Sg	23 18 20.2	+0.2
	baz=296						
NTC	**Toucheng**	**0.42**	**343**	*e*P	Pb	23 18 15.4	-0.2
	baz=351						
SLBB	**Yuanshan**	**0.43**	**315**	*e*P	Pb	23 18 15.5	-0.2
	baz=317						
SLBB				*e*S	Sb	23 18 22.0	0.0
	baz=317						
NACB	**Ninganchiao**	**0.44**	**231**	P	Pg	23 18 14.9	-0.1
	baz=231						
NACB				*e*S	Sg	23 18 21.1	+0.2
	baz=231						
TWD	**Chiawan**	**0.50**	**223**	P	Pg	23 18 16.2	0.0
	baz=228						
TWD				*e*S	Sg	23 18 23.3	+0.4
	baz=228						
NWLT	**Wulai**	**0.53**	**307**	*e*P	Pb	23 18 17.4	-0.1
	baz=299						
NWLT				*e*S	Sb	23 18 24.9	-0.2
	baz=299						
TIPB	**Shuangxi**	**0.53**	**346**	*i* P	Pb	23 18 17.4	-0.1
	baz=351						
TIPB				*e*S	Sb	23 18 25.0	-0.1
	baz=351						
NNSB	**Datong**	**0.53**	**267**	P	Pg	23 18 17.0	+0.2
	baz=267						
NNSB				*e*S	Sg	23 18 24.1	+0.1
	baz=267						
NNS	**Nan Shan**	**0.54**	**269**	*e*P	Pg	23 18 17.0	+0.1
	baz=268						
NNS				*e*S	Sg	23 18 24.2	0.0
	baz=268						
TWB1	**Santiao Chiao**	**0.55**	**2**	*e*P	Pb	23 18 18.1	+0.3
	baz=352						
YHNB	**Yeheng**	**0.58**	**292**	P	Pb	23 18 18.3	-0.1
	baz=297						
YHNB				*e*S	Sg	23 18 25.4	0.0
	baz=297						
YHNB	**Yeheng**	**0.58**	**292**	*e*Sn	Sg	23 18 25.4	0.0
NSK	**Sanguang**	**0.60**	**292**	*e*P	Pb	23 18 18.5	-0.1
	baz=297						
NSK				*e*S	Sg	23 18 26.0	+0.1
	baz=297						
WFSB	**Wu-fen Shan**	**0.64**	**345**	*e*P	Pb	23 18 20.0	+0.7
	baz=338						
WFSB				*e*S	Sb	23 18 28.5	+0.4
	baz=338						
TATO	**Taipei**	**0.68**	**320**	*e*P	Pb	23 18 20.6	+0.6
	baz=313						
WHF	**Hehuan Shan**	**0.71**	**245**	*e*P	Pg	23 18 20.2	0.0
	baz=255						
WHF				*e*S	Sb	23 18 30.4	-0.3
	baz=255						
TDCB	**Techi**	**0.77**	**255**	*e*P	Pg	23 18 20.3	-0.9
	baz=249						
YM01	**YM01**	**0.78**	**332**	*e*P	Pn	23 18 23.8	+0.8
	baz=341						
YM11	**YM11**	**0.80**	**333**	*e*P	Pn	23 18 23.1	-0.2
	baz=332						
YM05	**YM05**	**0.80**	**333**	*e*P	Pn	23 18 23.1	-0.2
	baz=332						
TWS1	**Kuangyinshan**	**0.82**	**322**	*e*P	Pn	23 18 23.9	+0.4
	baz=316						
CHGB	**Renai**	**0.82**	**242**	*e*P	Pb	23 18 22.7	+0.1
	baz=251						
CHGB				*e*S	Sb	23 18 33.7	0.0
	baz=251						
LIOB	**Emei**	**0.89**	**283**	*e*P	Pn	23 18 24.3	-0.2
	baz=282						
SSLB	**Suanglung**	**1.14**	**235**	*e*P	Pn	23 18 28.0	0.0
	baz=236						

IDC ***17*** *23:19:39.4±1.2,2.94S×129.63E,h0km,mb3.9/4, mb1 4.1/7,mb1mx3.8/46,mbtmp3.9/7,ML3.8/3,MS2.8/1, Ms1 2.8/1,ms1mx2.5/32,Error ellipse: s-maj=43.7km s-min=20.8km az=83.0*
ISCJB ***17*** *23:19:41.6±0.6,2.92S±0.05×129.56E±0.07,h28km, mb3.6/4,MS2.8/1,Error ellipse: s-maj=10.8km s-min=6.1km az=25.2*
DJA ***17*** *23:19:43.4±1.4,3.3S×13.0E±°,h29km±12km,M4.1/6, MLv4.1/6*
ISC 17 23:19:42.5±0.8,3.03S±0.05×129.58E±0.07,h28km,n12, σ2s37/16,mb3.4/3,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.52**	**168**	P	Pb	**23 20 10.9**	**+1.0**
BNDI				S	Sb	**23 20 32.0**	**+3.2**
SIJI	**Sorong**	**2.73**	**38**	Pn	Pn	**23 20 24.1**	**-0.4**
	28nm,0.3s,baz=248,slow=23,SNR=191						
SIJI				Sn	Sn	**23 20 54.5**	**-2.1**
	25nm,0.3s,baz=48,slow=20,SNR=14						
SWI	**Sorong**	**2.73**	**38**	P	Pn	**23 20 24.2**	**-0.2**
SWI				S	Sn	**23 20 56.0**	**-0.5**
SANI	**Sanana**	**3.72**	**285**	P	Pn	**23 20 37.7**	**-0.4**
RKPI	**Ransiki, Papua**	**4.83**	**72**	P	Pn	**23 20 54.3**	**+0.9**
FITZ	**Fitzroy Crossi**	**15.46**	**194**	P	Pn	**23 23 21.7**	**-1.3**
	0.1nm,0.3s,baz=34,slow=15,SNR=3.0						
WRA	**Warramunga Arr**	**17.44**	**165**	P	Pn	**23 23 43.7**	**-0.1**
	0.5nm,0.3s,baz=354,slow=12,SNR=21						
WRA				S	Sn	**23 26 50.8**	**-6.5**
	0.1nm,0.3s,baz=336,slow=23,SNR=3.0						
ASAR	**Alice Springs**	**20.94**	**169**	P	P	**23 24 25.0**	**+1.8**
	6.7nm,0.7s,baz=346,slow=9.5,SNR=26						
ASAR				S	S	**23 28 12.8**	**-2.5**
	0.5nm,0.8s,baz=345,slow=18,SNR=3.0						
KSRS	**Korea Array**	**40.31**	**358**	LR	LR	23 45 48.7	
	comp=Z,12nm,18.8s,baz=85,slow=39						
SONM	**Songino Array**	**54.57**	**341**	P	P	**23 29 08.7**	**+0.3**
	0.1nm,0.5s,baz=152,slow=6.5,SNR=2.0						
MKAR	**Makanchi Array**	**64.71**	**326**	P	P	**23 30 18.9**	**+0.8**
	0.2nm,0.6s,baz=127,slow=8.7,SNR=4.3						
KURBB	**Kurchatov Arra**	**68.94**	**328**	P	P	**23 30 46.3**	**+1.4**
	0.5nm,0.2s,baz=124,slow=5.5,SNR=3.4						

ISCJB ***17*** *23:28:54.4±0.4,37.88N±0.03×72.85E±0.06,h127km, mb3.5/1,Error ellipse: s-maj=7.2km s-min=4.6km az=163.1*
IDC ***17*** *23:28:54.1±4.8,37.75N×73.04E,h120km±32km,mb3.3/3, mb1 3.5/8,mb1mx3.1/58,mbtmp3.9/8,MS2.9/1,Ms1 2.9/1, ms1mx2.4/25,Error ellipse: s-maj=68.9km s-min=26.5km az=145.0*
NNC ***17*** *23:29:00.5±3.0,38.25N×72.63E,h120km±29km,mb3.1, mpv4.0,Error ellipse: s-maj=24.9km s-min=23.4km az=5.0*
ISC 17 23:28:55.4±0.8,37.91N±0.07×72.81E±0.06,h127km,n33, σ1s48/48,8C-4D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.17**	**14**	⇑P	Pn	**23 29 33.0**	**+1.5**
	127nm,0.2s						
SFK				⇑S	Pn	**23 29 33.0**	**+1.5**
	127nm,0.2s						
SFK				⇑S	Sn	**23 29 58.0**	**-1.2**
	101nm,0.3s						
SFK				⇑S	Sn	**23 29 58.0**	**-1.2**
	101nm,0.3s						
AML	**Almayashu**	**4.27**	**9**	P	Pn	**23 29 59.6**	**+0.6**
	SNR=173						
UCH	**Uchtor**	**4.50**	**16**	P	Pn	**23 30 02.5**	**+0.3**
	SNR=25						
KZA	**Kyzart**	**4.56**	**24**	P	Pn	**23 30 02.9**	**-0.1**
	SNR=64						
EKS2	**Erkin-Say**	**4.80**	**9**	P	Pn	**23 30 06.9**	**+1.0**
	SNR=24						
AAK	**Ala-Archa**	**4.89**	**15**	P	Pn	**23 30 08.3**	**+1.1**
	8.5nm,0.3s,baz=145,slow=5.6,SNR=126						
AAK				S	Sn	**23 30 59.6**	**-3.3**
	1.6nm,0.3s,baz=321,slow=23,SNR=6.6						
AAK	**Ala-Archa**	**4.89**	**15**	P	Pn	**23 30 08.3**	**+1.1**
	SNR=23						
AAK	**Ala-Archa**	**4.89**	**15**	P	Pn	**23 30 08.2**	**+1.1**
	7.0nm,0.3s						
AAK				P	Pn	**23 30 08.2**	**+1.1**
	7.0nm,0.3s						
AAK				S	Sn	**23 31 01.4**	**-1.5**
	8.6nm,0.5s						
AAK				S	Sn	**23 31 01.4**	**-1.5**
	8.6nm,0.5s						
ULHL	**Ulahol**	**5.07**	**30**	P	Pn	**23 30 09.3**	**-0.2**
	SNR=16						
CHMS	**Chumysh**	**5.29**	**16**	P	Pn	**23 30 12.9**	**+0.6**
	SNR=12						
TKM2	**Tokmak 2**	**5.44**	**22**	P	Pn	**23 30 14.6**	**+0.2**
	SNR=7.8						
TKM2	**Tokmak 2**	**5.44**	**22**	⇑P	Pn	**23 30 14.1**	**-0.4**
	4.1nm,0.7s						
TKM2				⇑P	Pn	**23 30 14.1**	**-0.4**
	4.1nm,0.7s						
TKM2				⇓S	Sn	**23 31 17.1**	**+1.0**
	3.2nm,0.6s						
TKM2				⇓S	Sn	**23 31 17.1**	**+1.0**
	3.2nm,0.6s						
KK31	**Karatay Array**	**5.47**	**342**	P	Pn	**23 30 16.1**	**+1.3**
	6.3nm,0.3s,baz=156,slow=13,SNR=191						
KK31				P	Pn	**23 30 16.1**	**+1.3**
	6.3nm,0.3s,baz=156,slow=13,SNR=191						
KK31				⇑S	Sn	**23 31 12.7**	**-3.9**
	31nm,0.4s,baz=152,slow=22,SNR=29						
KK31				⇑S	Sn	**23 31 12.7**	**-3.9**
	31nm,0.4s,baz=152,slow=22,SNR=29						
USP	**Ospenovka**	**5.50**	**13**	P	Pn	**23 30 15.6**	**+0.4**
	SNR=10						
MKAR	**Makanchi Array**	**11.30**	**35**	P	Pn	**23 31 32.4**	**-0.7**
	0.1nm,0.3s,baz=223,slow=13,SNR=11						
GEYT	**Alibeck**	**11.61**	**275**	P	Pn	**23 31 38.0**	**+0.8**
	2.0nm,0.3s,baz=114,slow=10,SNR=32						
GEYT				S	Sn	**23 33 42.5**	**-2.5**
	0.6nm,0.3s,baz=90,slow=24,SNR=4.9						
PYUN	**Piuthan**	**12.98**	**136**	*e*P	Pn	**23 31 54.1**	**-1.3**
	11nm,0.4s						
DANN	**Dangsing**	**13.22**	**133**	*e*P	Pn	**23 31 57.2**	**-1.4**
	19nm,0.4s						
KURBB	**Kurchatov Arra**	**13.35**	**16**	P	Pn	**23 31 58.5**	**-1.2**
	baz=207,slow=12,SNR=2.5						
KOLN	**Koldanda**	**13.58**	**135**	*e*P	Pn	**23 32 01.4**	**-1.7**
	7.0nm,0.4s						
KKN	**Kakani**	**14.54**	**130**	*e*P	Pn	**23 32 14.3**	**-1.0**
DMN	**Daman**	**14.57**	**131**	*e*P	Pn	**23 32 15.3**	**-0.4**
AB31	**Akbulak array**	**14.65**	**325**	P	Pn	**23 32 16.8**	**+0.4**
	0.9nm,0.6s,baz=131,slow=13,SNR=14						
AB31				P	Pn	**23 32 16.8**	**+0.4**
	0.9nm,0.6s,baz=131,slow=13,SNR=14						
PKIN	**Phulchoki**	**14.77**	**131**	*e*P	Pn	**23 32 17.5**	**-0.7**
	2.8nm,0.2s						
GUN	**Gumba**	**14.82**	**128**	*e*P	Pn	**23 32 17.4**	**-1.6**
	9.9nm,0.5s						
JIRN	**Jiri**	**15.19**	**128**	*e*P	Pn	**23 32 23.4**	**-0.3**
RAMN	**Ramite**	**15.95**	**129**	*e*P	Pn	**23 32 31.8**	**-1.2**
	6.9nm,0.4s						
AKTO	**Aktyubinsk**	**16.37**	**325**	⇓P	P	**23 32 40.0**	**+1.8**
	0.7nm,0.4s						
AKTO				⇓P	P	**23 32 40.0**	**+1.8**
	0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**18.04**	**23**	P	P	**23 32 56.1**	**-0.4**
	0.5nm,0.3s,baz=215,slow=12,SNR=12						
WSAR	**Wadi Sarin**	**19.01**	**224**	LR	LR	23 41 04.1	
	comp=Z,38nm,20.1s,baz=82,slow=38						
FINES	**FINESS Array B**	**37.14**	**325**	P	P	**23 35 55.2**	**+1.7**
	2.3nm,1.0s,baz=113,slow=9.6,SNR=3.0						
NOA	**NORSAR Array B**	**44.14**	**322**	P	P	**23 36 51.6**	**+0.7**
	0.7nm,0.8s,baz=104,slow=5.9,SNR=2.4						
TORD	**Torodi Ar. Bea**	**67.19**	**269**	P	P	**23 39 36.8**	**+0.7**
	0.2nm,0.8s,baz=44,slow=6.5,SNR=5.2						

IDC 17 23:40:50.7±1.2,4.90N×126.36E,h0km,mb3.4/4, mb1 3.7/4,mb1mx3.4/35,mbtmp3.4/4,Error ellipse: s-maj=66.5km s-min=24.0km az=79.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.86**	**182**	P	P	23 45 54.7	-1.1
	3.6nm,0.8s,baz=1.9,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**25.90**	**163**	P	P	23 46 26.2	+1.6
	0.3nm,0.8s,baz=329,slow=11,SNR=4.6						
MKAR	**Makanchi Array**	**56.39**	**325**	P	P	23 50 35.2	+1.3
	0.1nm,0.4s,baz=121,slow=7.9,SNR=8.1						
ILAR	**Eielson Array**	**84.21**	**25**	P	P	23 53 22.0	-1.8
	0.3nm,1.0s,baz=270,slow=5.4,SNR=2.7						

IDC 17 23:42:56.7±1.3,0.33S×125.49E,h0km,mb3.4/4, mb1 3.7/5,mb1mx3.5/31,mbtmp3.5/5,ML3.5/1,Error ellipse: s-maj=105.8km s-min=20.3km az=70.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.66**	**180**	P	P	23 47 05.8	+0.5
	0.1nm,0.3s,baz=358,slow=9.3,SNR=2.5						
WRA	**Warramunga Arr**	**21.34**	**157**	P	P	23 47 44.5	-1.1
	0.9nm,0.4s,baz=335,slow=11,SNR=15						
ASAR	**Alice Springs**	**24.60**	**161**	P	P	23 48 19.3	+0.5
	0.3nm,0.3s,baz=347,slow=8.9,SNR=4.1						
SONM	**Songino Array**	**50.76**	**343**	P	P	23 51 59.8	+1.1
	0.3nm,0.6s,baz=153,slow=7.8,SNR=2.9						
MKAR	**Makanchi Array**	**60.21**	**327**	P	P	23 53 05.6	-1.1
	0.3nm,0.5s,baz=124,slow=8.2,SNR=9.2						

ISCJB ***18*** *00:10:04.3±0.5,37.06S±0.10×17.2W±0.1,h10km, mb4.1/14,MS4.0/12,Error ellipse: s-maj=14.1km s-min=12.6km az=151.6*
IDC ***18*** *00:10:04.4±0.7,37.04S×17.18W,h0km,mb4.1/11, mb1 4.2/11,mb1mx4.0/24,mbtmp4.1/11,MS4.0/12, Ms1 3.9/12,ms1mx3.8/18,Error ellipse: s-maj=23.0km s-min=19.1km az=153.0*
NEIC ***18*** *00:10:05.9±0.3,37.02S×17.21W,h10km,mb4.6/3,Error ellipse: s-maj=11.8km s-min=9.9km az=161.0*
ISC 18 00:10:05.8±0.6,37.1S±0.1×17.2W±0.1,h10km,n42, σ0s86/23,mb4.2/14,MS4.0/12,1C,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H09W1	**TRISTAN DA CUN**	**3.87**	**92**	T	T	00 15 26.5	
	SNR=110						
H09N1	**TRISTAN DA CUN**	**3.89**	**92**	T	T	00 15 23.1	
	SNR=29						
H10S2	**ASCENSION HYDR**	**28.06**	**5**	T	T	00 45 29.5	
	baz=185,slow=75,SNR=62						
H10S3	**ASCENSION HYDR**	**28.06**	**5**	T	T	00 45 26.9	
	baz=185,slow=75,SNR=41						
H10S1	**ASCENSION HYDR**	**28.08**	**5**	T	T	00 45 26.3	
	baz=185,slow=75,SNR=44						
H10N1	**ASCENSION HYDR**	**29.18**	**5**	T	T	00 46 46.2	
	baz=191,slow=80,SNR=3.8						
H10N3	**ASCENSION HYDR**	**29.18**	**5**	T	T	00 46 49.2	
	baz=191,slow=80,SNR=31						
H10N2	**ASCENSION HYDR**	**29.19**	**5**	T	T	00 46 49.8	
	baz=191,slow=80,SNR=11						
SUR	**Sutherland**	**31.43**	**93**	P	P	**00 16 26.9**	**-0.6**
	7.8nm,0.9s						
BDFB	**Brasilia**	**34.66**	**300**	LR	LR	00 28 32.1	
	comp=Z,310nm,20.1s,baz=79,slow=32						
SNAA	**Sanae**	**35.48**	**172**	P	P	**00 17 02.5**	**+0.4**
	4.7nm,1.2s,baz=307,slow=12,SNR=3.7						
CPUP	**Villa Florida**	**35.57**	**276**	LR	LR	00 29 27.6	
	comp=Z,212nm,18.7s,baz=131,slow=33						
BOSA	**Boshof**	**36.39**	**89**	P	P	**00 17 10.7**	**+0.2**
	3.6nm,0.9s,baz=201,slow=10,SNR=3.1						
BOSA				LR	LR	00 29 42.9	
	comp=Z,213nm,18.0s,baz=231,slow=32						
LBTB	**Lobatse**	**38.27**	**84**	P	P	**00 17 27.4**	**+0.8**
	2.6nm,1.0s,baz=231,slow=13,SNR=2.7						
PLCA	**Paso Flores**	**41.18**	**248**	P	P	**00 17 51.0**	**+0.4**
	2.7nm,0.8s,baz=91,slow=12,SNR=3.9						
PLCA				LR	LR	00 33 45.4	
	comp=Z,108nm,19.5s,baz=128,slow=34						
MATP	**Matopo**	**42.91**	**80**	P	P	**00 18 05.5**	**+0.5**
	5.6nm,0.8s,baz=232,slow=9.3,SNR=14						
SIV	**San Ignacio**	**44.05**	**286**	P	P	**00 18 14.9**	**+0.8**
	1.2nm,0.7s,baz=143,slow=9.5,SNR=8.1						
SYO	**Syowa Base**	**44.14**	**154**	⇑*e*P	P	**00 18 13.0**	**-1.1**
DBIC	**Dimbokro**	**44.99**	**17**	P	P	**00 18 21.3**	**-0.1**
	3.8nm,1.0s,baz=188,slow=4.5,SNR=5.3						
DBIC				LR	LR	00 32 30.2	
	comp=Z,94nm,20.2s,baz=184,slow=30						
LSZ	**Lusaka**	**45.61**	**74**	*e*P	P	**00 18 27.6**	**+1.1**
	2.9nm,0.9s						
LPAZ	**La Paz**	**49.37**	**281**	LR	LR	00 39 41.2	
	comp=Z,104nm,19.9s,baz=122,slow=36						
MAW	**Mawson**	**52.62**	**152**	LR	LR	00 36 59.8	
	comp=Z,77nm,20.8s,baz=218,slow=31						
TORD	**Torodi Ar. Bea**	**53.00**	**23**	P	P	**00 19 22.9**	**+0.1**
	0.9nm,0.8s,baz=202,slow=4.9,SNR=6.0						
TORD				LR	LR	00 37 18.8	
	comp=Z,176nm,20.5s,baz=280,slow=31						
QSPA	**South Pole Qui**	**53.20**	**180**	*e*P	P	**00 19 24.7**	**+0.6**
KMBO	**Kilima Mbogo**	**61.51**	**68**	LR	LR	00 44 55.1	
	comp=Z,120nm,18.2s,baz=272,slow=34						
VNDA	**Vanda**	**65.70**	**180**	P	P	**00 20 50.4**	**+0.5**
	2.0nm,1.1s,baz=180,slow=6.5,SNR=3.7						
ROSC	**El Rosal**	**67.53**	**295**	LR	LR	00 49 51.1	
	comp=Z,151nm,18.2s,baz=202,slow=35						
SDV	**Santo Domingo**	**67.75**	**301**	*e*P	P	**00 21 03.0**	**-1.1**
	5.7nm,1.0s						
KEST	**Kesra**	**76.49**	**22**	LR	LR	00 52 28.5	
	comp=Z,181nm,20.1s,baz=264,slow=33						
ESDC	**Sonseca Array**	**77.31**	**10**	P	P	**00 22 01.0**	**+0.7**
	1.3nm,0.8s,baz=165,slow=7.1,SNR=5.8						
BRTR	**Keskin Array B**	**89.54**	**37**	P	P	**00 23 04.2**	**+0.8**
	1.4nm,1.0s,baz=181,slow=5.8,SNR=5.5						
H01W2	**Cape Leeuwin H**	**95.30**	**142**	T	T	02 10 27.1	
	baz=218,slow=75,SNR=4.7						
H01W3	**Cape Leeuwin H**	**95.32**	**142**	T	T	02 10 23.9	
	baz=218,slow=75,SNR=4.8						
H01W1	**Cape Leeuwin H**	**95.32**	**142**	T	T	02 10 24.1	
	baz=218,slow=75,SNR=5.2						
KBZ	**Khabaz**	**97.12**	**39**	LR	LR	01 07 44.2	
	comp=Z,32nm,18.2s,baz=280,slow=36						
KURBB	**Kurchatov Arra**	**120.87**	**48**	PKP	**PKPdf**	**00 28 57.3**	**-0.4**
	0.5nm,0.7s,baz=241,slow=2.3,SNR=3.4						
KURK	**Kurchatov**	**120.96**	**48**	PKP	**PKPdf**	**00 28 57.3**	**-0.6**
MKAR	**Makanchi Array**	**121.76**	**53**	PKP	**PKPdf**	**00 28 59.4**	**-0.2**
	0.3nm,0.7s,baz=291,slow=1.2,SNR=3.4						
YKA	**Yellowknife Ar**	**125.41**	**326**	PKP	**PKPdf**	**00 29 04.6**	**-1.4**
	0.3nm,0.9s,baz=88,slow=1.8,SNR=3.8						
KSAR	**Wonju Array Be**	**152.28**	**78**	PKPbc	**PKPbc**	**00 30 00.2**	**-1.5**
KSRS	**Korea Array**	**152.31**	**78**	PKPbc	**PKPbc**	**00 30 00.2**	**-1.6**
	0.5nm,0.4s,baz=259,slow=2.2,SNR=2.9						
KLR	**Kul'dur**	**154.46**	**52**	PKPbc	**PKPbc**	**00 30 05.9**	**-0.2**
	0.8nm,0.6s,baz=325,slow=5.6,SNR=4.8						

MAN 18 00:20:09.3,9.64N×126.04E,h26km,mb4.2,ML3.1,MS2.8, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.56**	**284**	⇑*i*P	Pn	00 20 21.6	-0.1
SCPH				*i* S	Sn	00 20 31.1	+1.0
BUTP	**Butuan**	**0.79**	**212**	*e*P	Pb	00 20 24.0	-0.4
BUTP				*e*S	Sn	00 20 36.3	+0.6
BUKP	**Musuan**	**2.00**	**209**	*e*P	Pn	00 20 41.9	+0.3
BUKP				*e*S	Sn	00 21 06.9	+

IDC 18 00:28:10.8±6.1, 19°40S×174°70W, h179km±52km, mb3.7/5, mb1 3.9/5, mb1mx3.4/35, mbtmp4.2/5, Error ellipse: s-maj=35.4km s-min=15.1km az=105.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.10**	**199**	P	P	00 32 31.3	+0.7
	3.9nm,0.4s,baz=280,slow=6.0,SNR=6.4						
URZ				S	S	00 36 06.8	+0.3
	6.8nm,1.0s,baz=26,slow=14,SNR=1.9						
CTA	**Charters Tower**	**36.71**	**262**	P	P	00 35 01.2	+0.3
	4.6nm,0.5s,baz=93,slow=12,SNR=10						
ASAR	**Alice Springs**	**47.80**	**255**	P	P	00 36 30.5	0.0
	2.2nm,0.5s,baz=90,slow=8.2,SNR=18						
WRA	**Warramunga Arr**	**47.84**	**260**	P	P	00 36 30.0	-0.9
	1.0nm,0.3s,baz=97,slow=7.7,SNR=16						
ILAR	**Eielson Array**	**86.59**	**12**	P	P	00 40 31.8	-1.5
	0.3nm,0.6s,baz=226,slow=6.4,SNR=7.1						
BRTR	**Keskin Array B**	**148.31**	**316**	PKPbc	PKPbc	00 47 37.0	+0.8
	0.7nm,0.8s,baz=105,slow=3.3,SNR=4.6						
GERES	**GERESS Array B**	**149.85**	**349**	PKPbc	PKiKP	00 47 40.3	-0.3
	0.4nm,0.5s,baz=29,slow=3.0,SNR=4.0						

IDC 18 00:33:24.0±4.4, 17°61S×178°75W, h613km±51km, mb3.1/10, mb1 3.4/10, mb1mx3.2/34, mbtmp4.1/10, Error ellipse: s-maj=70.1km s-min=20.3km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.17**	**260**	P	P	00 39 12.3	+0.3
	1.4nm,0.4s,baz=92,slow=9.9,SNR=3.9						
STKA	**Stephens Creek**	**38.49**	**241**	P	P	00 39 55.4	-0.1
	4.1nm,0.8s,baz=100,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**44.36**	**259**	P	P	00 40 41.7	-0.3
	1.0nm,0.5s,baz=96,slow=7.3,SNR=39						
WRA				PcP	PcP	00 42 11.4	-0.7
	0.4nm,0.9s,baz=87,slow=3.4,SNR=2.6						
ASAR	**Alice Springs**	**44.56**	**254**	P	P	00 40 43.4	0.0
	5.3nm,0.5s,baz=85,slow=8.6,SNR=42						
ASAR				PcP	PcP	00 42 12.3	-0.5
	0.2nm,0.5s,baz=77,slow=4.0,SNR=3.4						
NVAR	**Mina Array Bea**	**79.44**	**44**	P	P	00 44 28.5	+0.1
	0.9nm,0.7s,baz=230,slow=8.6,SNR=7.0						
ILAR	**Eielson Array**	**85.67**	**13**	P	P	00 44 58.3	-0.4
	0.5nm,0.4s,baz=221,slow=4.9,SNR=4.1						
TXAR	**Lajitas Array**	**86.11**	**58**	P	P	00 45 02.1	+0.4
	1.2nm,0.8s,baz=216,slow=4.5,SNR=11						
PDAR	**Pinedale Array**	**87.36**	**44**	P	P	00 45 07.3	-0.2
	0.5nm,0.5s,baz=224,slow=2.5,SNR=4.8						
INK	**Inuvik**	**91.69**	**15**	P	P	00 45 26.5	-0.1
	0.7nm,0.6s,baz=243,slow=3.7,SNR=3.8						
YKA	**Yellowknife Ar**	**94.20**	**25**	P	P	00 45 37.3	-0.9
	0.1nm,0.5s,baz=234,slow=3.8,SNR=3.8						
MKAR	**Makanchi Array**	**108.69**	**314**	PKiKP	PKiKP	00 50 43.6	-0.9
	0.1nm,0.4s,baz=179,slow=2.4,SNR=3.9						
BRTR	**Keskin Array B**	**144.34**	**315**	PKP	PKPab	00 51 52.2	-0.3
	0.4nm,0.4s,baz=79,slow=3.6,SNR=4.9						
GERES	**GERESS Array B**	**147.24**	**345**	PKPbc	PKPbc	00 51 60.0	+0.2
	0.8nm,0.5s,baz=13,slow=4.4,SNR=9.4						

NIED ***18*** *00:46:00, 38°.00N×144°.30E, h5km, Mw3.8 Best double couple: M₀5.00000×10¹⁴ NP1:φ₀s12.00000°, δ27.00000°, λ-90.00000°. NP2:φ₀s192.00000°, δ63.00000°, λ-90.00000°.*

IDC ***18*** *00:46:52.7±0.9, 37°.93N×144°.39E, h0km, mb3.7/10, mb1 3.9/12, mb1mx3.7/31, mbtmp3.7/12, ML3.6/2, MS2.7/1, Ms1 2.7/1, ms1mx2.4/43, Error ellipse: s-maj=24.1km s-min=19.1km az=164.0*

ISCJB ***18*** *00:46:56.0±0.6, 38°.06N±0°.04×144°.34E±0°.04, h33km, mb3.7/10, Error ellipse: s-maj=6.0km s-min=4.7km az=159.0*

JMA ***18*** *00:46:55.8±0.2, 38°.05N×144°.34E, h47km, M3.8*

ISC 18 00:46:58.2±0.8, 38°12N±0°05×144°35E±0°07, h35km, n30, σ2s09/49, mb3.7/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobu**	**2.28**	**276**	P	**Pn**	**00 47 32.1**	**-1.3**
JIKH				S	**Sn**	**00 47 58.5**	**-1.8**
OFUJ	**Ofunato**	**2.31**	**295**	P	**Pn**	**00 47 32.9**	**-0.9**
OFUJ				S	**Sn**	**00 48 00.5**	**-0.5**
JKMT	**Kesennumamotoy**	**2.36**	**288**	P	**Pn**	**00 47 33.4**	**-1.1**
JKMT				S	**Sn**	**00 48 01.2**	**-1.1**
JIO	**Ouri**	**2.39**	**279**	P	**Pn**	**00 47 33.7**	**-1.1**
JIO				S	**Sn**	**00 48 01.5**	**-1.3**
JMK	**Ichinoseki**	**2.59**	**290**	P	**Pn**	**00 47 37.2**	**-0.5**
JMK				S	**Sn**	**00 48 07.6**	**-0.3**
JOM	**Ohasama**	**2.75**	**300**	P	**Pn**	**00 47 39.2**	**-0.6**
JOM				S	**Sn**	**00 48 11.9**	**+0.1**
JANG	**Nango**	**3.15**	**317**	P	**Pn**	**00 47 44.7**	**-0.6**
JANG				eS	**Sn**	**00 48 21.1**	**-0.6**
JYK	**Kaneyama**	**3.23**	**286**	P	**Pn**	**00 47 46.6**	**+0.1**
JYK				eS	**Sn**	**00 48 24.6**	**+0.9**
JFT	**Otama**	**3.24**	**261**	P	**Pn**	**00 47 45.7**	**-0.8**
JFT				S	**Sn**	**00 48 23.3**	**-0.5**
BSO1	**Boso 1**	**4.40**	**219**	P	**Pn**	**00 47 58.8**	**-3.2**
BSO1				eS	**Sn**	**00 48 48.4**	**-3.4**
JKB	**Kayabe**	**4.55**	**327**	P	**Pn**	**00 48 05.6**	**+1.1**
JCH	**Churui**	**4.55**	**351**	P	**Pn**	**00 48 03.6**	**-1.0**
JCH				S	**Sn**	**00 48 52.4**	**-3.9**
JRY	**Ryogami san**	**4.84**	**246**	P	**Pn**	**00 48 07.0**	**-1.6**
JRY				S	**Sn**	**00 48 59.1**	**-4.3**
JOD2	**Odawara 2**	**5.10**	**238**	P	**Pn**	**00 48 10.7**	**-1.5**
JOD2				eS	**Sn**	**00 49 06.0**	**-3.8**
MJAR	**Matsushiro Arr**	**5.14**	**254**	Pn	**Pn**	**00 48 11.5**	**-1.2**
	0.3nm,0.3s,baz=78,slow=15,SNR=11						
MJAR				Sn	**Sn**	**00 49 11.2**	**+0.3**
	0.2nm,0.3s,baz=88,slow=25,SNR=4.3						
MJAR				LR	LR	00 50 09.0	
	comp=Z,80nm,21.8s,baz=60,slow=38						
MAT	**Matsushiro**	**5.14**	**254**	P	**Pn**	**00 48 13.0**	**+0.2**
MAT				S	**Sn**	**00 49 13.4**	**+2.5**
NEM2	**Nemuro 2**	**5.35**	**11**	P	**Pn**	**00 48 11.8**	**-3.7**
NEM2				eS	**Sn**	**00 49 08.8**	**-7.0**
JTKR	**Abashiri--Toko**	**5.86**	**357**	P	**Pn**	**00 48 20.7**	**-1.8**
JTKR				eS	**Sn**	**00 49 24.8**	**-3.5**
JHR	**Hokuryu**	**5.96**	**341**	P	**Pn**	**00 48 24.7**	**+0.8**
JHR				eS	**Sn**	**00 49 33.6**	**+2.7**
ASAJ	**Asahikawa**	**6.14**	**348**	Pn	**Pn**	**00 48 25.9**	**-0.4**
	2.6nm,0.3s,baz=214,slow=13,SNR=12						
ASAJ				Sn	**Sn**	**00 49 33.3**	**-2.0**
	0.6nm,0.3s,baz=234,slow=17,SNR=1.8						
SONM	**Songino Array**	**29.16**	**302**	P	**P**	**00 52 57.4**	**+1.2**
	0.4nm,0.3s,baz=91,slow=10,SNR=9.7						
ZALV	**Zalesovo Beam**	**42.93**	**312**	P	**P**	**00 54 53.5**	**+0.2**
	0.4nm,0.4s,baz=113,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**45.53**	**302**	P	**P**	**00 55 15.2**	**+0.9**
	0.9nm,0.8s,baz=67,slow=9.9,SNR=9.1						
WRA	**Warramunga Arr**	**58.51**	**191**	P	**P**	**00 56 48.9**	**-2.2**
	0.6nm,0.5s,baz=11,slow=7.1,SNR=10						
YKA	**Yellowknife Ar**	**61.69**	**31**	P	**P**	**00 57 12.5**	**+0.2**
	0.2nm,0.5s,baz=302,slow=5.8,SNR=4.4						
NVAR	**Mina Array Bea**	**72.46**	**55**	P	**P**	**00 58 22.4**	**+1.0**
	0.7nm,0.7s,baz=286,slow=7.0,SNR=6.1						
NOA	**NORSAR Array B**	**74.07**	**338**	P	**P**	**00 58 31.0**	**+0.7**
	0.6nm,0.8s,baz=50,slow=5.4,SNR=2.9						
AKASG	**Malin Array Be**	**74.85**	**323**	P	**P**	**00 58 35.7**	**+0.8**
	0.4nm,0.4s,baz=39,slow=5.3,SNR=3.3						
PDAR	**Pinedale Array**	**75.23**	**47**	P	**P**	**00 58 38.4**	**+0.8**
	0.3nm,0.7s,baz=326,slow=1.3,SNR=3.3						
ULM	**Lac du Bonnet**	**77.30**	**35**	P	**P**	**00 58 50.4**	**+1.5**
	1.7nm,0.8s,baz=218,slow=16,SNR=3.1						

ISCJB ***18*** *00:55:39.6±0.3, 46°.25N±0°.03×144°.59E±0°.06, h350km±2km, mb3.6/20, Error ellipse: s-maj=6.5km s-min=4.9km az=174.3*

MOS ***18*** *00:55:39.5±0.8, 46°.30N×144°.60E, h349km, mb4.0/8, Error ellipse: s-maj=12.3km s-min=7.7km az=89.7*

SKHL ***18*** *00:55:39.5±0.5, 46°.27N×144°.71E, h350km±6km, msh4.5/4*

JMA ***18*** *00:55:40.1±0.3, 46°.03N×144°.63E, h362km, M3.9*

IDC ***18*** *00:55:40.5±0.7, 46°.32N×144°.57E, h340km±7km, mb3.4/18, mb1 3.6/24, mb1mx3.5/40, mbtmp4.1/24, Error ellipse: s-maj=12.1km s-min=9.4km az=151.0*

ISC 18 00:55:40.2±0.5, 46°15N±0°04×144°61E±0°05, h346km±5km, n92, σ1s59/120, mb3.8/25, 6C-5D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**1.51**	**303**	⇑*i*P	**Pn**	**00 56 28.0**	**+0.1**
YSS				⇑*i*P		00 56 28.6	
YSS				AMB	AMB	00 56 29.0	
	590nm,0.7s						
YSS				*i* S	**S**	**00 57 06.0**	**-0.1**
YSS				A	A	00 57 06.8	
	120nm,0.7s						
YSS				A	A	00 57 06.8	
	160nm,0.7s						
YSS				A	A	00 57 07.3	
	300nm,3.0s						
YSS	**Yuzh-Sakhalins**	**1.51**	**303**	*a* iPN	**Pn**	**00 56 28.6**	**+0.7**
YSS				*i* S	**S**	**00 57 05.8**	**-0.3**
YSS				pmax	pmax		
	comp=Z,590nm,0.7s						
YSS				smax	smax		
	comp=E,160nm,0.7s						
JSE	**Soyaes**	**1.85**	**231**	P	**Pn**	**00 56 31.1**	**+1.0**
JSE				eS	**S**	**00 57 10.9**	**+0.8**
JWK2	**Keihoku**	**2.07**	**247**	P	**Pn**	**00 56 33.0**	**+1.4**
JWK2				eS	**S**	**00 57 14.2**	**+1.4**
JTKR	**Abashiri--Toko**	**2.23**	**193**	P	**Pn**	**00 56 34.0**	**+1.1**
JTKR				eS	**S**	**00 57 16.5**	**+1.4**
JRA	**Rausu**	**2.24**	**170**	P	**Pn**	**00 56 34.5**	**+1.6**
YUK	**Yuzh-Kuril'sk**	**2.29**	**157**	*e*P	**Pn**	**00 56 34.2**	**+0.9**
YUK				AMB	AMB	00 56 39.7	
	comp=E,90nm,0.3s						
YUK				eS	**S**	**00 57 17.3**	**+1.4**
YUK				A	A	00 57 18.8	
	comp=E,700nm,2.0s						
YUK				A	A	00 57 18.8	
	comp=E,1μm,2.0s						
YUK				A	A	00 57 25.1	
	comp=E,230nm,0.4s						
YUK				A	A	00 57 25.1	
	comp=E,50nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.29**	**157**	*e*PN	**Pn**	**00 56 34.2**	**+0.9**
YUK				eS	**S**	**00 57 17.3**	**+1.4**
YUK				pmax	pmax		
	comp=Z,90nm,0.3s						
YUK				smax	smax		
	comp=E,53nm,0.4s						
YUK				smax	smax		
	comp=N,234nm,0.3s						
GRPR	**Tuman**	**2.31**	**159**	*e*P	**Pn**	**00 56 34.7**	**+1.2**
GRPR				AMB	AMB	00 56 40.9	
	comp=N,150nm,0.3s						
GRPR				eS	**S**	**00 57 18.0**	**+1.8**
GRPR				A	A	00 57 25.1	
	comp=N,140nm,0.4s						
GRPR				A	A	00 57 25.1	
	comp=N,180nm,0.4s						
GRPR	**Tuman**	**2.31**	**159**	*e*PN	**Pn**	**00 56 34.7**	**+1.2**
GRPR				eS	**S**	**00 57 18.0**	**+1.8**
GRPR				pmax	pmax		
	comp=Z,148nm,0.3s						
GRPR				smax	smax		
	comp=E,177nm,0.4s						
GRPR				smax	smax		
	comp=N,137nm,0.3s						
KUR	**Kuril'sk**	**2.46**	**111**	*e*P	**Pn**	**00 56 35.1**	**+0.5**
KUR				AMB	AMB	00 56 35.9	
	comp=N,280nm,0.5s						
KUR				eS	**S**	**00 57 18.4**	**+0.2**
KUR				A	A	00 57 28.0	
	comp=N,1μm,4.0s						
KUR				A	A	00 57 28.0	
	comp=N,900nm,4.0s						
KUR	**Kuril'sk**	**2.46**	**111**	*d* iPN	**Pn**	**00 56 35.5**	**+0.9**
KUR				S	**S**	**00 57 19.7**	**+1.5**
KUR				pmax	pmax		
	comp=Z,134nm,0.5s						
KUR				pmax	pmax		
	comp=E,26nm,0.3s						
KUR				pmax	pmax		
	comp=N,26nm,0.2s						
JKA	**Kamikawa-asahi**	**2.48**	**216**	*e*P	**Pn**	**00 56 36.2**	**+1.4**
ASAJ	**Asahikawa**	**2.48**	**216**	P	**Pn**	**00 56 36.2**	**+1.4**
	comp=N,16nm,0.3s,baz=299,slow=2.8,SNR=115						
ASAJ				S	**S**	**00 57 19.9**	**+1.3**
	baz=60,slow=20,SNR=2.6						
JKK2	**Kamakawa 2**	**2.63**	**211**	P	**Pn**	**00 56 37.1**	**+1.0**
JKK2				eS	**S**	**00 57 22.1**	**+1.2**
SHO	**Shikotan**	**2.77**	**144**	⇑*i*P	**Pn**	**00 56 36.2**	**-1.0**
SHO				AMB	AMB	00 56 36.9	
	comp=N,60nm,0.4s						
SHO				AMB	AMB	00 56 36.9	
	comp=N,70nm,0.4s						
SHO				AMB	AMB	00 56 36.9	
	comp=N,230nm,0.4s						
SHO				*i* S	**S**	**00 57 19.8**	**-3.2**
SHO				A	A	00 57 21.9	
	comp=N,370nm,0.3s						
SHO				A	A	00 57 21.9	
	comp=N,650nm,0.3s						
SHO	**Shikotan**	**2.77**	**144**	*d* iPN	**Pn**	**00 56 35.9**	**-1.3**
SHO				*i* S	**S**	**00 57 19.3**	**-3.7**
SHO				pmax	pmax		
	comp=N,60nm,0.4s						
SHO				pmax	pmax		
	comp=Z,234nm,0.4s						
SHO				pmax	pmax		
	comp=E,68nm,0.3s						
SHO				smax	smax		
	comp=N,365nm,0.3s						
SHO				smax	smax		
	comp=E,649nm,0.3s						
NEM2	**Nemuro 2**	**2.90**	**163**	P	**Pn**	**00 56 37.3**	**-1.1**
NEM2				eS	**S**	**00 57 21.9**	**-3.2**
JAR	**Ashorobuto**	**2.91**	**192**	P	**Pn**	**00 56 39.3**	**+0.8**
JAK	**Akkeshi**	**3.15**	**179**	P	**Pn**	**00 56 40.0**	**-0.7**
JAK				eS	**S**	**00 57 26.3**	**-3.0**
JHR	**Hokuryu**	**3.16**	**221**	P	**Pn**	**00 56 41.9**	**+1.2**
JFR	**Furan**	**3.31**	**206**	P	**Pn**	**00 56 43.6**	**+1.4**
UGL	**Uglegorsk**	**3.40**	**331**	*e*PN	**Pn**	**00 56 42.5**	**-0.3**
UGL				eS	**S**	**00 57 31.7**	**-1.5**
UGL				pmax	pmax		
	comp=Z,203nm,0.6s						
UGL				smax	smax		
	comp=E,133nm,0.9s						
JCH	**Churui**	**3.64**	**195**	P	**Pn**	**00 56 44.7**	**-0.7**
JCH				eS	**S**	**00 57 34.5**	**-3.4**
JEW	**Eniwo**	**4.00**	**215**	eS	**S**	**00 57 43.9**	**-0.6**
JNBK	**Urakawa-nobuka**	**4.09**	**200**	P	**Pn**	**00 56 49.2**	**-0.7**
ERM	**Erimo**	**4.26**	**195**	*i* P	**Pn**	**00 56 53.1**	**+1.4**
ERM	**Erimo**	**4.26**	**195**	*i* PN	**Pn**	**00 56 53.1**	**+1.4**
TYV	**Tymovskoe**	**4.89**	**345**	*e*P	**Pn**	**00 56 57.1**	**-1.2**
TYV				AMB	AMB	00 56 57.7	
	comp=E,170nm,0.6s						
TYV				eS	**S**	**00 57 57.9**	**-3.5**
TYV				A	A	00 57 59.3	
	comp=E,40nm,0.6s						
TYV				A	A	00 57 59.3	
	comp=E,230nm,0.6s						
TYV				A	A	00 58 08.1	
	comp=E,900nm,4.0s						
TYV				A	A	00 58 08.1	
	comp=E,700nm,4.0s						
TYV	**Tymovskoe**	**4.89**	**345**	*e*PN	**Pn**	**00 56 57.1**	**-1.2**
TYV				eS	**S**	**00 57 57.9**	**-3.5**
TYV				pmax	pmax		
	comp=Z,22nm,0.7s						
TYV				smax	smax		
	comp=N,40nm,1.1s						
JKB	**Kayabe**	**4.98**	**212**	P	**Pn**	**00 56 59.1**	**-0.3**
JKB				eS	**S**	**00 57 59.6**	**-3.8**
JOT	**Ohata**	**5.42**	**210**	P	**Pn**	**00 57 03.8**	**-0.5**
JOT				eS	**S**	**00 58 07.0**	**-5.3**
JOSM	**Okushiri--Mats**	**5.49**	**224**	P	**Pn**	**00 57 06.0**	**+0.9**
JANG	**Nango**	**6.20**	**202**	P	**Pn**	**00 57 12.2**	**-1.0**
JANG				eS	**S**	**00 58 22.7**	**-5.9**
JOM	**Ohasama**	**7.10**	**201**	eS	**S**	**00 58 43.4**	**-4.4**
GRNR	**Gornyy**	**7.14**	**313**	‖*e*P	**Pn**	**00 57 22.8**	**-1.2**
GRNR				AMB	AMB	00 57 23.5	
	comp=N,20nm,0.7s						
NKL	**Nikolayevsk**	**7.46**	**341**	‖*e*P	**Pn**	**00 57 25.9**	**-1.7**
NKL				AMB	AMB	00 57 27.1	
	comp=N,20nm,0.7s						
USRK	**Ussuriysk Ar.**	**9.12**	**262**	P	**Pn**	**00 57 48.2**	**+0.6**
	comp=N,2.3nm,0.3s,baz=69,slow=13,SNR=40						
KLR	**Kul'dur**	**9.20**	**294**	P	**Pn**	**00 57 48.0**	**-0.6**
	comp=N,0.3nm,0.3s,baz=106,slow=12,SNR=15						
KLR	**Kul'dur**	**9.20**	**294**	*i* P	**Pn**	**00 57 47.9**	**-0.6**
KLR	**Kul'dur**	**9.20**	**294**	*i* PN	**Pn**	**00 57 47.9**	**-0.6**
EKMR	**Ekimchan**	**10.25**	**317**	*e*P	**Pn**	**00 58 01.0**	**0.0**
EKMR				AMB	AMB	00 58 03.2	
	comp=N,20nm,0.6s						
MJA0	**Matsu Arr-Jizo**	**10.72**	**209**	*e*PN	**P**	**00 58 09.3**	**+1.4**
MAJO	**Matsushiro**	**10.73**	**209**	*e*P	**P**	**00 58 09.6**	**+1.6**
MAJO	**Matsushiro**	**10.73**	**209**	*i* PN	**P**	**00 58 09.6**	**+1.6**
MAT	**Matsushiro**	**10.73**	**209**	P	**P**	**00 58 08.5**	**+0.5**
MJAR	**Matsushiro Arr**	**10.73**	**209**	P	**P**	**00 58 08.1**	**+0.1**
	comp=N,0.3nm,0.3s,baz=15,slow=10,SNR=12						
PETK	**Petropavlovsk-**	**10.97**	**46**	P	**P**	**00 58 10.0**	**-0.4**
	comp=N,0.5nm,0.3s,baz=212,slow=11,SNR=6.9						
BMKR	**Bomnak**	**13.18**	**316**	⇑*i*P	**Pn**	**00 58 36.0**	**+0.2**
BMKR				AMB	AMB	00 58 37.0	
	comp=N,30nm,0.7s						
ZEA	**Zeya**	**13.49**	**311**	*e*P	**P**	**00 58 38.6**	**+0.4**
ZEA				AMB	AMB	00 58 39.5	
	comp=N,20nm,0.5s						
KROS	**Kirovskiy**	**13.96**	**313**	*e*P	**P**	**00 58 42.2**	**-1.3**
KROS				AMB	AMB	00 58 46.7	
	comp=N,10.0nm,0.4s						
KSRS	**Korea Array**	**15.15**	**241**	P	**Pn**	**00 58 58.9**	**0.0**
	comp=N,0.8nm,0.3s,baz=49,slow=10,SNR=19						
SONM	**Songino Array**	**25.95**	**288**	P	**P**	**01 00 41.9**	**-0.3**
	comp=N,4.5nm,0.8s,baz=82,slow=8.2,SNR=19						
SONM				ScP	**ScP**	**01 07 06.5**	**+0.3**
	comp=N,0.6nm,0.6s,baz=114,slow=3.5,SNR=5.4						
ZAK	**Zakamensk**	**27.57**	**294**	*e*P	**P**	**01 00 53.6**	**-3.0**
DGZ	**Jazzator, Alta**	**37.69**	**297**	*i* P	**P**	**01 02 23.3**	**-0.2**
ZALV	**Zalesovo Beam**	**38.13**	**304**	P	**P**	**01 02 27.5**	**+0.6**
	comp=N,0.5nm,0.4s,baz=93,slow=8.8,SNR=3.5						
ILAR	**Eielson Array**	**40.66**	**38**	P	**P**	**01 02 46.5**	**-1.0**
	comp=N,1.1nm,0.8s,baz=273,slow=7.7,SNR=11						
MKAR	**Makanchi Array**	**41.91**	**294**	P	**P**	**01 02 57.3**	**-0.6**
	comp=N,2.6nm,0.7s,baz=75,slow=8.3,SNR=31						
MKAR				ScP	**ScP**	**01 08 02.6**	**0.0**
	comp=N,0.3nm,0.8s,baz=82,slow=5.0,SNR=3.0						
KURK	**Kurchatov**	**42.72**	**301**	*i* P	**P**	**01 03 03.1**	**-1.1**
KURK	**Kurchatov**	**42.72**	**301**	*i* P	**P**	**01 03 03.1**	**-1.1**
KURK				pmax	pmax		
	comp=Z,16nm,2.7s						
INK	**Inuvik**	**45.27**	**31**	P	**P**	**01 03 22.4**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=268,slow=7.3,SNR=6.3						
CMAR	**Chiang Mai Arr**	**46.58**	**249**	P	**P**	**01 03 36.0**	**+1.3**
	comp=Z,0.8nm,0.4s,baz=25,slow=6.9,SNR=4.5						
CMAR	**Chiang Mai Arr**	**46.58**	**249**	*i* P	**P**	**01 03 36.4**	**+1.6**
CMAR	**Chiang Mai Arr**	**46.58**	**249**	*i* P	**P**	**01 03 36.4**	**+1.6**
BRVK	**Borovoye**	**46.65**	**307**	*i* P	**P**	**01 03 34.1**	**-0.7**
BRVK	**Borovoye**	**46.65**	**307**	*i* P	**P**	**01 03 34.1**	**-0.7**
AAK	**Ala-Archa**	**48.73**	**293**	*i* P	**P**	**01 03 50.6**	**-0.4**
AAK	**Ala-Archa**	**48.73**	**293**	*i* P	**P**	**01 03 50.6**	**-0.4**
JIRN	**Jiri**	**49.09**	**269**	*e*P	**P**	**01 03 54.8**	**+0.6**
	comp=Z,18nm,0.6s						
GUN	**Gumba**	**49.15**	**270**	*e*P	**P**	**01 03 54.8**	**+0.2**
RAMN	**Ramite**	**49.24**	**268**	*e*P	**P**	**01 03 55.5**	**+0.3**
	comp=Z,9.4nm,0.5s						
DANN	**Dangsing**	**50.35**	**271**	*e*P	**P**	**01 04 04.3**	**+0.8**
	comp=Z,14nm,0.6s						
KOLN	**Koldanda**	**50.82**	**271**	*e*P	**P**	**01 04 07.3**	**+0.4**
	comp=Z,10nm,0.8s						
PYUN	**Piuthan**	**51.04**	**272**	*e*P	**P**	**01 04 08.9**	**+0.4**
	comp=Z,18nm,0.9s						
ARU	**Arti**	**51.37**	**315**	*i* P	**P**	**01 04 09.4**	**-0.8**
ARU	**Arti**	**51.37**	**315**	*d* iP	**P**	**01 04 09.3**	**-0.9**
ARU						01 05 15.6	
ARU						01 06 09.6	
ARU				SS	**SS**	**01 14 41.4**	**-0.9**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.1s						
YKA	**Yellowknife Ar**	**54.82**	**34**	P	**P**	**01 04 34.2**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=304,slow=7.2,SNR=15						
YKA				PcP	**PcP**	**01 05 32.9**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=307,slow=3.6,SNR=6.9						
ARCES	**ARCESS Array B**	**56.36**	**338**	P	**P**	**01 04 45.2**	**-0.6**
	comp=Z,3.6nm,0.9s,baz=39,slow=5.8,SNR=3.3						
GEYT	**Ailbeck**	**61.73**	**296**	P	**P**	**01 05 23.1**	**+0.3**
	comp=Z,4.1nm,0.7s,baz=60,slow=3.6,SNR=8.2						
FINES	**FINESS Array B**	**61.91**	**331**	P	**P**	**01 05 22.1**	**-1.5**
	comp=Z,1.6nm,0.5s,baz=42,slow=8.8,SNR=11						
FFC	**Flin Flon**	**64.83**	**36**	*i* P	**P**	**01 05 43.3**	**+0.6**
FFC	**Flin Flon**	**64.83**	**36**	*i* P	**P**	**01 05 43.3**	**+0.6**
WRA	**Warramunga Arr**	**66.43**	**191**	P	**P**	**01 05 54.3**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=6.1,slow=6.6,SNR=15						
NOA	**NORSAR Array B**	**66.70**	**337**	P	**P**	**01 05 53.9**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=33,slow=6.4,SNR=3.3						
KBZ	**Khabaz**	**66.87**	**309**	P	**P**	**01 05 56.4**	**+0.7**
	comp=Z,4.4nm,0.8s,baz=62,slow=4.4,SNR=9.1						
NVAR	**Mina Array Bea**	**67.82**	**57**	P	**P**	**01 06 03.3**	**+1.3**
	comp=Z,1.6nm,0.7s,baz=290,slow=6.2,SNR=13						
PDAR	**Pinedale Array**	**69.72**	**49**	P	**P**	**01 06 14.0**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=296,slow=1.3,SNR=27						
ASAR	**Alice Springs**	**70.16**	**190**	P	**P**	**01 06 18.3**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=14,slow=5.8,SNR=3.7						
VYHS	**Vyhne**	**74.55**	**326**	*e*P	**P**	**01 06 42.2**	**+0.6**
VYHS	**Vyhne**	**74.55**	**326**	*e*P	**P**	**01 06 42.2**	**+0.6**
BRTR	**Kesk

KHMZ				*e*Sg	**Sg**	**01 13 49.4**	**+0.9**
KRSH	**Karshahi**	**2.15**	**23**	*e*Pn	**Pb**	**01 13 22.2**	**0.0**
KRSH				IAMB	IAmb	01 13 27.1	
	comp=Z,0.0nm,0.5s						
ISAD	**Sadrabad**	**2.17**	**91**	*e*Pn	**Pb**	**01 13 22.6**	**+0.1**
ISAD				IAMB	IAmb	01 13 30.0	
	comp=Z,2µm,0.7s						
IKAZ	**Kazeroun**	**2.28**	**164**	*e*Pn	**Pn**	**01 13 21.3**	**+0.7**
IKAZ				IAMB	IAmb	01 14 02.5	
	comp=Z,4µm,0.5s						
GHVR	**GHOM**	**2.50**	**3**	*e*Pn	**Pb**	**01 13 27.7**	**-0.3**
GHVR	**GHOM**	**2.50**	**3**	*e*Pn	**Pb**	**01 13 27.7**	**-0.3**
ASAO	**Ashtian**	**2.72**	**340**	*e*Pn	**Pb**	**01 13 30.0**	**-2.0**
ASAO				*e*Sg	**Sg**	**01 14 11.2**	**-0.1**
IKMR	**Kamar-syah**	**2.78**	**304**	*e*Pn	**Pn**	**01 13 28.3**	**+1.1**
IKMR				IAMB	IAmb	01 14 28.8	
	comp=Z,0.0nm,0.8s						
YZKH	**Yazd**	**2.96**	**81**	*e*Pn	**Pb**	**01 13 35.4**	**-0.5**
YZKH	**Yazd**	**2.96**	**81**	*e*Pn	**Pb**	**01 13 35.4**	**-0.5**
HSAM	**Samen**	**3.08**	**317**	*e*Pn	**Pn**	**01 13 34.0**	**+2.4**
HSAM				IAMB	IAmb	01 14 37.6	
	comp=Z,0.0nm,1.0s						
HAGD	**Aghdareh**	**3.29**	**330**	*e*Pn	**Pn**	**01 13 36.0**	**+1.6**
HAGD				IAMB	IAmb	01 14 41.3	
	comp=N,0.0nm,1.0s						
BRTR	**Keskin Array B**	**16.14**	**303**	P	**P**	**01 16 33.5**	**+0.7**
	comp=N,0.1nm,0.3s,baz=116,slow=13,SNR=10						
VRI	**Vrincioaia**	**23.39**	**313**	*i*P	P	01 17 59.8	+8.4
MLR	**Muntele Rosu**	**23.71**	**312**	*i*P	**P**	**01 17 56.3**	**+1.7**
VOIR		**24.26**	**311**	*i*P	**P**	**01 18 00.3**	**+0.6**
DOPR	**Dopca**	**24.27**	**313**	*i*P	**P**	**01 18 01.5**	**+1.8**
BIZ	**Bicaz**	**24.29**	**315**	*i*P	**P**	**01 18 00.6**	**+0.8**
ARR	**Arges**	**24.50**	**311**	*i*P	**P**	**01 18 02.0**	**+0.1**
VTS	**Vitosha**	**24.51**	**304**	*i*P	**P**	**01 18 03.4**	**+1.3**
AKASG	**Malin Array Be**	**24.75**	**325**	P	**P**	**01 18 04.7**	**+0.7**
	comp=N,0.3nm,0.4s,baz=125,slow=8.3,SNR=6.4						
KIEV	**Kiev**	**24.75**	**325**	*i*P	**P**	**01 18 03.2**	**-0.8**
BURAR	**Bucovina Array**	**25.14**	**316**	*i*P	**P**	**01 18 08.9**	**+1.2**
MDVR	**Moldovita**	**26.21**	**308**	*i*P	**P**	**01 18 16.7**	**-0.7**
DRGR		**26.30**	**312**	*i*P	**P**	**01 18 15.8**	**-2.4**
MKAR	**Makanchi Array**	**28.04**	**49**	P	**P**	**01 18 37.0**	**+3.3**
	comp=N,0.3nm,0.6s,baz=241,slow=10,SNR=3.7						
ZALV	**Zalesovo Beam**	**32.53**	**38**	P	**P**	**01 19 14.9**	**+1.7**
	comp=N,0.3nm,0.3s,baz=260,slow=8.2,SNR=3.2						
NOA	**NORSAR Array B**	**38.95**	**330**	P	**P**	**01 20 07.3**	**-1.0**
	comp=N,0.5nm,0.6s,baz=125,slow=7.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**48.90**	**259**	P	**P**	**01 21 25.8**	**-2.9**
	comp=N,0.6nm,0.6s,baz=56,slow=8.5,SNR=7.8						

*ISCJB **18** 01:42:07.1±0.4,51.03N±0.03×130.48W±0.05,h12km, mb3.6/4,MS3.1/1,Error ellipse: s-maj=5.3km s-min=2.6km az=144.8*
*NEIC **18** 01:42:07.0±0.0,50.86N×130.71W,h10km,mb3.9/2, MW4.3(OTT),After OTT.*
*PGC **18** 01:42:07.5±3.1,50.86N×130.71W,h10km,MLSn3.5/30, Mw4.3,229km Wsw of Bella Bella, Bc Vancouver Island, Canada Region*
*IDC **18** 01:42:08.7±1.5,51.01N×130.35W,h0km,mb3.4/3, mb1 3.9/11,mb1mx3.6/52,mbtmp3.6/11,ML3.5/7,MS3.2/4, Ms1 3.2/4,ms1mx2.8/28,Error ellipse: s-maj=21.2km s-min=11.0km az=76.0*

ISC 18 01:42:08.2±0.8,50.93N±0.05×130.61W±0.06,h12km, n142,σ1§67/150,mb3.6/4,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HG3B	**Hotspring**	**1.73**	**343**	Pn	**Pn**	**01 42 35.6**	**-2.4**
HG3B				Sn	**Sn**	**01 42 56.0**	**-4.0**
BNB	**Barry Inlet**	**1.79**	**337**	Pn	**Pn**	**01 42 36.1**	**-2.9**
BNB				Sn	**Sn**	**01 42 59.4**	**-2.3**
BBB	**Bella Bella**	**2.00**	**50**	Pn	**Pn**	**01 42 40.6**	**-1.1**
	32nm,0.3s,baz=226,slow=7.6,SNR=124						
BBB				Sn	**Sn**	**01 43 03.5**	**-3.2**
	223nm,0.3s,baz=90,slow=19,SNR=26						
BBB	**Bella Bella**	**2.00**	**50**	*e*Pn	**Pn**	**01 42 40.8**	**-0.9**
BBB				*e*Sn	**Sn**	**01 43 04.6**	**-2.1**
BBB	**Bella Bella**	**2.00**	**50**	Pn	**Pn**	**01 42 40.4**	**-1.3**
BBB				Sn	**Sn**	**01 43 04.2**	**-2.5**
PHC	**Port Hardy**	**2.03**	**95**	Pn	**Pn**	**01 42 40.6**	**-1.5**
PHC				Sn	**Sn**	**01 43 04.7**	**-2.7**
PACB	**Port Alice, BC**	**2.04**	**103**	Pn	**Pn**	**01 42 40.5**	**-1.8**
PACB				Sn	**Sn**	**01 43 04.1**	**-3.7**
MOBC	**Moresby Island**	**2.37**	**340**	Pn	**Pn**	**01 42 44.6**	**-2.3**
MOBC				Sn	**Sn**	**01 43 13.1**	**-2.8**
TLCB	**Telegraph Cove**	**2.43**	**98**	Pn	**Pn**	**01 42 46.7**	**-0.9**
TLCB				Sn	**Sn**	**01 43 14.9**	**-2.4**
EDB	**Eliza Dome**	**2.47**	**114**	Pn	**Pn**	**01 42 46.0**	**-2.2**
EDB				Sn	**Sn**	**01 43 13.8**	**-4.5**
DIB	**Dawson Inlet,**	**2.55**	**334**	*e*Pn	**Pn**	**01 42 47.0**	**-2.2**
DIB	**Dawson Inlet,**	**2.55**	**334**	Pn	**Pn**	**01 42 46.9**	**-2.4**
BNAB	**Bonilla**	**2.57**	**360**	Pn	**Pn**	**01 42 47.2**	**-2.3**
WOSB	**Woss**	**2.69**	**105**	Pn	**Pn**	**01 42 50.2**	**-1.1**
BCBC	**Bella Coola**	**2.80**	**57**	Pn	**Pn**	**01 42 51.8**	**-0.9**
BCBC				Sn	**Sn**	**01 43 24.9**	**-1.5**
NCRB	**Newcastle Ridg**	**2.95**	**99**	Pn	**Pn**	**01 42 53.7**	**-1.2**
ETB	**Estevan Point**	**3.05**	**119**	Pn	**Pn**	**01 42 54.7**	**-1.4**
GDR	**Gold River**	**3.15**	**110**	Pn	**Pn**	**01 42 56.1**	**-1.4**
NDB	**Naden**	**3.35**	**336**	Pn	**Pn**	**01 42 58.9**	**-1.4**
RUBB	**Prince Rupert**	**3.41**	**4**	Pn	**Pn**	**01 42 59.9**	**-1.2**
CBB	**Campbell River**	**3.47**	**103**	Pn	**Pn**	**01 43 01.2**	**-0.7**
CBB				Sn	**Sn**	**01 43 40.7**	**-2.2**
TOFB	**Tofino**	**3.52**	**119**	Sn	**Sn**	**01 43 39.6**	**-4.4**
BTB	**Buttle Lake**	**3.58**	**112**	Pn	**Pn**	**01 43 02.6**	**-1.0**
B928	**Bamfield**	**4.12**	**119**	Pn	**Pn**	**01 43 09.7**	**-1.1**
TXB	**Texada**	**4.15**	**105**	Pn	**Pn**	**01 43 10.5**	**-0.7**
MCB	**Mount Grey**	**4.28**	**115**	Pn	**Pn**	**01 43 12.0**	**-1.2**
GHNB	**Nanoose**	**4.41**	**109**	Pn	**Pn**	**01 43 15.2**	**+0.3**
SHB	**Sechelt**	**4.52**	**105**	Pn	**Pn**	**01 43 16.1**	**-0.4**
SHB				Sn	**Sn**	**01 44 08.0**	**-1.0**
YOUB	**Youbou, Lake C**	**4.58**	**114**	Pn	**Pn**	**01 43 16.3**	**-0.9**
NLLB	**Nanaimo Lost L**	**4.59**	**109**	Pn	**Pn**	**01 43 17.4**	**0.0**
PFB	**Port Renfrew**	**4.64**	**118**	Pn	**Pn**	**01 43 17.2**	**-1.0**
B926	**Mesachie Lake**	**4.69**	**114**	Pn	**Pn**	**01 43 18.3**	**-0.5**
WPB	**Watts Point**	**4.91**	**102**	Pn	**Pn**	**01 43 21.6**	**-0.1**
BIB	**Bowen Island**	**4.94**	**105**	Pn	**Pn**	**01 43 21.8**	**-0.3**
LZB	**Mount Lazard**	**4.97**	**115**	Pn	**Pn**	**01 43 22.0**	**-0.6**
OBC	**Olympics--Boni**	**5.15**	**122**	Pn	**Pn**	**01 43 25.7**	**+0.6**
B009	**North Saanich**	**5.17**	**113**	Pn	**Pn**	**01 43 24.9**	**-0.4**
B010	**North Saanich**	**5.17**	**113**	Pn	**Pn**	**01 43 24.7**	**-0.6**
PGC	**Sidney**	**5.17**	**113**	*e*Pn	**Pn**	**01 43 25.0**	**-0.3**
PGC	**Sidney**	**5.17**	**113**	Pn	**Pn**	**01 43 25.3**	**0.0**
B011	**North Saanich**	**5.17**	**113**	Pn	**Pn**	**01 43 25.7**	**+0.5**
B011				Sn	**Sn**	**01 44 21.8**	**-3.0**
FSB	**Fort Saint Jam**	**5.22**	**45**	Pn	**Pn**	**01 43 26.5**	**+0.5**
FSB				Sn	**Sn**	**01 44 25.5**	**-0.5**
SNB	**Saturna Island**	**5.27**	**111**	Pn	**Pn**	**01 43 28.2**	**+1.4**
MCW	**Mount Constitu**	**5.52**	**111**	Pn	**Pn**	**01 43 30.9**	**+0.8**
A04D	**Lummi Island**	**5.57**	**110**	P	**Pn**	**01 43 32.2**	**+1.4**
	baz=296						
NLWA	**Neilton Lookou**	**5.67**	**126**	*e*Pn	**Pn**	**01 43 32.8**	**+0.7**
NLWA				*e*Sn	**Sn**	**01 44 34.2**	**-2.9**
BLN	**Blyn Mountain**	**5.78**	**117**	Pn	**Pn**	**01 43 34.0**	**+0.3**
VDB	**Vedder Mountai**	**5.81**	**106**	Pn	**Pn**	**01 43 34.3**	**+0.2**
HDW	**Hoodsport**	**5.94**	**121**	Pn	**Pn**	**01 43 36.8**	**+0.9**
D03D	**Eldon**	**5.98**	**122**	P	**Pn**	**01 43 37.8**	**+1.3**
	baz=307						
MBW	**Mount Baker**	**6.03**	**108**	Pn	**Pn**	**01 43 38.2**	**+0.9**
HOPB	**Hope**	**6.11**	**101**	Pn	**Pn**	**01 43 38.0**	**-0.1**
B05A	**Bryant**	**6.14**	**112**	P	**Pn**	**01 43 40.1**	**+1.4**
	baz=298						
JCW	**Jim Creek**	**6.28**	**113**	Pn	**Pn**	**01 43 41.8**	**+1.2**
B06A	**Marblemount**	**6.39**	**109**	*e*Pn	**Pn**	**01 43 42.2**	**+0.2**
B06A	**Marblemount**	**6.39**	**109**	Pn	**Pn**	**01 43 42.8**	**+0.8**
GPW	**Glacier Peak**	**6.78**	**111**	Pn	**Pn**	**01 43 49.0**	**+1.4**
D05A	**Enumclaw**	**6.79**	**120**	*e*Pn	**Pn**	**01 43 47.6**	**+0.1**
D05A	**Enumclaw**	**6.79**	**120**	Pn	**Pn**	**01 43 49.9**	**+2.4**
E04D	**Cinebar**	**6.89**	**126**	P	**Pn**	**01 43 51.4**	**+2.5**
	baz=312						
FMW	**Mount Fremont**	**7.12**	**121**	Pn	**Pn**	**01 43 53.5**	**+1.2**
LON	**Longmire**	**7.16**	**122**	*e*Pn	**Pn**	**01 43 52.9**	**+0.3**
LON	**Longmire**	**7.16**	**122**	Pn	**Pn**	**01 43 54.6**	**+2.0**
BMBC	**Bull Mountain**	**7.20**	**41**	Pn	**Pn**	**01 43 54.3**	**+1.1**
BMBC				Sn	**Sn**	**01 45 13.0**	**-1.9**
LTY	**Liberty**	**7.49**	**116**	*e*Pn	**Pn**	**01 43 57.2**	**0.0**
LTY				*e*Sn	**Sn**	**01 45 19.6**	**-2.5**
LTY	**Liberty**	**7.49**	**116**	Pn	**Pn**	**01 43 58.2**	**+1.0**
DLBC	**Dease Lake**	**7.53**	**2**	Pn	**Pn**	**01 43 58.0**	**+0.2**
	0.4nm,0.3s,baz=196,slow=14,SNR=5.6						
DLBC				Lg	Lg	01 46 03.4	
	0.2nm,0.3s,baz=170,slow=8.0,SNR=2.8						
DLBC	**Dease Lake**	**7.53**	**2**	*e*Pn	**Pn**	**01 43 59.0**	**+1.3**
DLBC	**Dease Lake**	**7.53**	**2**	Pn	**Pn**	**01 43 59.4**	**+1.6**
B08A	**Colville Reser**	**7.76**	**105**	*e*Pn	**Pn**	**01 44 00.8**	**-0.1**
E07A	**Sunnyside**	**8.35**	**117**	*e*Pn	**Pn**	**01 44 08.4**	**-0.5**
H04A	**Detroit Lake**	**8.44**	**135**	*e*Pn	**Pn**	**01 44 07.6**	**-2.5**
D08A	**Wollman Farm,**	**8.61**	**112**	*e*Pn	**Pn**	**01 44 11.8**	**-0.7**
HAWA	**Hanford**	**8.62**	**117**	*e*Pn	**Pn**	**01 44 12.5**	**-0.2**
C09A	**Chrisman Ranch**	**8.64**	**106**	*e*Pn	**Pn**	**01 44 12.8**	**-0.1**
NEW	**Newport**	**9.16**	**102**	Pn	**Pn**	**01 44 19.0**	**-1.0**
	0.3nm,0.3s,baz=308,slow=12,SNR=4.0						
NEW				Lg	Lg	01 46 49.6	
	0.1nm,0.3s,baz=279,slow=19,SNR=2.8						
NEW				LR	LR	01 47 57.6	
	comp=Z,204nm,18.4s,baz=286,slow=39						
E09A	**Wood Farm, Sta**	**9.35**	**113**	*e*Pn	**Pn**	**01 44 22.5**	**-0.1**
I07A	**Izee**	**10.16**	**128**	*e*Pn	**Pn**	**01 44 33.4**	**-0.5**
F10A	**Beach Ranch, E**	**10.18**	**114**	*e*Pn	**Pn**	**01 44 34.0**	**0.0**
YBH	**Yreka Blue Hor**	**10.69**	**146**	Pn	**Pn**	**01 44 45.0**	**+3.9**
	baz=18,slow=20,SNR=1.9						
BMO	**Blue Mountains**	**10.80**	**119**	*e*Pn	**Pn**	**01 44 43.1**	**+0.5**
MSO	**Missoula**	**11.71**	**104**	*e*Pn	**Pn**	**01 44 55.8**	**+0.7**
MSO	**Missoula**	**11.71**	**104**	P	**Pn**	**01 44 57.0**	**+1.9**
	baz=296						
KCPM	**Cahto Peak**	**12.28**	**154**	*e*Pn	**Pn**	**01 45 01.4**	**-1.4**
HLID	**Hailey**	**13.23**	**118**	*e*Pn	**Pn**	**01 45 17.4**	**+1.6**
HLID	**Hailey**	**13.23**	**118**	P	**Pn**	**01 45 18.7**	**+2.9**
	baz=309						
MCMT	**McKenzie Canyo**	**13.38**	**110**	*e*Pn	**Pn**	**01 45 19.2**	**+1.3**
EGMT	**Eagleton**	**13.86**	**94**	*e*Pn	**Pn**	**01 45 25.0**	**+0.6**
EGMT	**Eagleton**	**13.86**	**94**	P	**Pn**	**01 45 27.4**	**+3.1**
	baz=290						
YKA	**Yellowknife Ar**	**14.49**	**31**	Pn	**Pn**	**01 45 31.2**	**-1.5**
	0.3nm,0.3s,baz=224,slow=12,SNR=35						
YKB5	**Yellowknife Ar**	**14.49**	**31**	*e*Pn	**Pn**	**01 45 31.7**	**-1.0**
ELK	**Elko**	**14.75**	**128**	Pn	**P**	**01 45 40.9**	**-1.9**
	0.1nm,0.3s,baz=246,slow=18,SNR=3.4						
ELK				LR	LR	01 51 45.5	
	comp=Z,86nm,18.5s,baz=324,slow=39						
RYN	**Ryan**	**14.97**	**141**	*e*Pn	**Pn**	**01 45 41.3**	**+1.7**
IMW	**Indian Meadow**	**15.04**	**110**	*e*Pn	**Pn**	**01 45 41.3**	**+0.7**
FLWY	**Flagg Ranch**	**15.07**	**109**	*e*Pn	**Pn**	**01 45 43.1**	**+2.1**
FXWY	**Fox Creek**	**15.13**	**111**	*e*Pn	**Pn**	**01 45 43.2**	**+1.4**
NV01	**Mina Array Sit**	**15.23**	**140**	*e*Pn	**Pn**	**01 45 42.8**	**-0.4**
NVAR	**Mina Array Bea**	**15.23**	**140**	Pn	**P**	**01 45 47.7**	**-0.4**
	0.0nm,0.3s,baz=319,slow=9.5,SNR=4.1						
MOOW	**Moose Ponds**	**15.24**	**110**	*e*Pn	**Pn**	**01 45 43.5**	**+0.3**
TPAW	**Teton Pass**	**15.26**	**112**	*e*Pn	**Pn**	**01 45 43.4**	**+1.7**
HVU	**Hansel Valley**	**15.31**	**120**	*e*Pn	**Pn**	**01 45 45.0**	**+0.9**
RLMT	**Red Lodge**	**15.39**	**104**	*e*Pn	**Pn**	**01 45 46.5**	**+1.2**
LOHW	**Long Hollow**	**15.40**	**111**	*e*Pn	**Pn**	**01 45 45.3**	**0.0**
REDW	**Red Top Meadow**	**15.40**	**112**	*e*Pn	**Pn**	**01 45 46.4**	**+1.0**
OMMB	**Old Mammoth Mi**	**15.67**	**144**	*e*Pn	**Pn**	**01 45 49.2**	**+0.3**
BGU	**Big Grassy Mou**	**15.76**	**123**	*e*Pn	**Pn**	**01 45 50.5**	**+0.5**
ILAR	**Eielson Array**	**16.27**	**335**	Pn	**P**	**01 46 01.2**	**+1.9**
	0.0nm,0.3s,baz=145,slow=11,SNR=14						
ILB	**Eielson Array**	**16.27**	**335**	*e*Pn	**P**	**01 46 02.2**	**+2.9**
DUG	**Dugway, Tooele**	**16.40**	**124**	*e*Pn	**Pn**	**01 45 58.7**	**+0.5**
BW06	**Boulder Array**	**16.51**	**111**	*e*Pn	**P**	**01 46 01.2**	**-1.1**
BW06	**Boulder Array**	**16.51**	**111**	P	**P**	**01 46 03.3**	**+0.9**
	baz=307						
PD31	**Pinedale Array**	**16.51**	**111**	*e*Pn	**P**	**01 46 01.6**	**-0.7**
PDAR	**Pinedale Array**	**16.51**	**111**	Pn	**P**	**01 46 03.0**	**+0.6**
	0.1nm,0.3s,baz=305,slow=10,SNR=23						
PDAR				LR	LR	01 51 59.0	
	comp=Z,48nm,20.5s,baz=304,slow=36						
PDAR	**Pinedale Array**	**16.51**	**111**	*e*Pn	**P**	**01 46 01.4**	**-0.9**
NLU	**North Lily Min**	**16.97**	**123**	*e*Pn	**Pn**	**01 46 06.0**	**+0.5**
MLY	**Manley**	**17.58**	**331**	*e*Pn	**Pn**	**01 46 12.5**	**-0.2**
K22A	**Casper**	**18.39**	**107**	*e*P	**Pn**	**01 46 24.0**	**+1.0**
K22A	**Casper**	**18.39**	**107**	P	**Pn**	**01 46 25.1**	**+2.0**
	baz=305						
SRU	**San Rafael Swe**	**18.41**	**122**	*e*P	**Pn**	**01 46 26.2**	**+3.0**
LCMT	**Little Creek M**	**18.64**	**132**	*e*P	**Pn**	**01 46 28.6**	**+2.6**
O20A	**White River Ci**	**18.95**	**116**	P	**Pn**	**01 46 32.4**	**+2.5**
	baz=312						
RSSD	**Black Hills**	**19.13**	**100**	*e*P	**Pn**	**01 46 32.2**	**+0.2**
	2.4nm,0.9s						
IM3	**Indian Mountai**	**19.15**	**331**	*e*P	**Pn**	**01 46 33.7**	**+1.8**
PV14	**Lion Creek, Pa**	**19.75**	**121**	*e*P	**Pn**	**01 46 40.9**	**+1.5**
N23A	**Red Feather La**	**19.79**	**111**	*e*P	**Pn**	**01 46 43.5**	**+3.5**
PHWY	**Pilot Hill**	**19.83**	**109**	*e*P	**Pn**	**01 46 40.9**	**+0.4**
WUAZ	**Wupatki**	**20.73**	**131**	*e*P	Pn	01 46 50.0	-1.0
WUAZ	**Wupatki**	**20.73**	**131**	P	Pn	01 46 51.5	+0.6
	baz=324						
MVCO	**Mesa Verde**	**20.88**	**123**	*e*P	Pn	01 46 52.6	-0.2
S22A	**4UR Ranch, Cre**	**21.40**	**119**	*e*P	**P**	**01 46 57.9**	**+2.0**
S22A	**4UR Ranch, Cre**	**21.40**	**119**	P	**P**	**01 46 58.8**	**+2.9**
	baz=316						
ULM	**Lac du Bonnet**	**21.95**	**78**	P	**P**	**01 47 00.8**	**-0.6**
	1.6nm,0.5s,baz=282,slow=13,SNR=5.1						
OGNE	**Ogallala**	**22.11**	**106**	*e*P	**P**	**01 47 04.3**	**+1.0**
	16nm,1.1s						
ANMO	**Albuquerque**	**23.67**	**123**	P	**P**	**01 47 19.7**	**0.0**
	1.0nm,0.8s,baz=326,slow=7.3,SNR=3.1						
RES	**Resolute Bay**	**27.99**	**19**	LR	LR	01 58 49.7	
	comp=Z,54nm,20.9s,baz=228,slow=36						
TXAR	**Lajitas Array**	**29.55**	**127**	P	**P**	**01 48 13.3**	**+0.7**
	0.2nm,0.6s,baz=331,slow=9.2,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**57.64**	**262**	T	T	02 54 18.7	
	baz=41,slow=76,SNR=268						
H11N3	**WAKE ISLAND Hy**	**57.65**	**262**	T	T	02 54 18.7	
	baz=41,slow=76,SNR=299						
H11N1	**WAKE ISLAND Hy**	**57.66**	**262**	T	T	02 54 19.8	
	baz=41,slow=76,SNR=210						
H11S1	**WAKE ISLAND Hy**	**58.68**	**261**	T	T	02 55 33.8	
	baz=41,slow=76,SNR=45						
H11S2	**WAKE ISLAND Hy**	**58.69**	**261**	T	T	02 55 36.8	
	baz=41,slow=76,SNR=29						
H11S3	**WAKE ISLAND Hy**	**58.70**	**261**	T	T	02 55 35.6	
	baz=41,slow=76,SNR=26						

*SKHL **18** 01:52:57.3±0.5,43.05N×146.82E,h45km±4km,mb4.4/5*
*JMA **18** 01:52:57.5±0.1,43.03N×146.77E,h58km±2km,M3.4*

ISC 18 01:52:57.2±2.8,43.07N±0.08×146.84E±0.09,h32km±20km, n18,σ0§69/28,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.80**	**359**	*i*P	**Pn**	**01 53 12.0**	**-0.2**
SHO				AMB	AMB	01 53 15.0	
	60nm,0.3s						
SHO				AMB	AMB	01 53 15.0	
	40nm,0.3s						
SHO				AMB	AMB	01 53 15.0	
	120nm,0.3s						
SHO				*i* S	**Sb**	**01 53 23.0**	**-0.3**
SHO				A	A	01 53 24.0	
	3µm,0.3s						
SHO				A	A	01 53 24.0	
	830nm,0.3s						
NEM2	**Nemuro 2**	**0.86**	**291**	P	**Pn**	**01 53 13.3**	**+0.4**
NEM2				*e*S	**Sn**	**01 53 25.0**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**1.20**	**324**	*e*P	**Pn**	**01 53 18.0**	**+0.3**
YUK				AMB	AMB	01 53 19.0	
	310nm,0.4s						
YUK				*i* S	**Sn**	**01 53 33.0**	**+0.1**
YUK				A	A	01 53 35.0	
	1µm,0.4s						
YUK				A	A	01 53 35.0	
	1µm,0.4s						
GRPR	**Tuman**	**1.21**	**320**	*i* P	**Pn**	**01 53 17.0**	**-0.8**
GRPR				AMB	AMB	01 53 18.0	
	100nm,0.3s						
GRPR				AMB	AMB	01 53 18.0	
	130nm,0.3s						
GRPR				AMB	AMB	01 53 18.0	
	380nm,0.3s						
GRPR				*e*S	**Sn**	**01 53 32.0**	**-1.1**
GRPR				A	A	01 53 34.0	
	570nm,0.3s						
GRPR				A	A	01 53 34.0	
	1µm,0.3s						
JKHN	**Kushirohamanak**	**1.23**	**271**	P	**Pn**	**01 53 18.3**	**+0.2**
JKHN				*e*S	**Sn**	**01 53 33.4**	**-0.2**
JRA	**Rausu**	**1.52**	**305**	P	**Pn**	**01 53 22.7**	**+0.6**
JAK	**Akkeshi**	**1.57**	**268**	P	**Pn**	**01 53 22.8**	**0.0**
JAK				*e*S	**Sn**	**01 53 41.4**	**-0.6**
JNK	**Nakash**	**1.63**	**289**	P	**Pn**	**01 53 23.5**	**-0.1**
JNK				*e*S	**Sn**	**01 53 42.7**	**-0.8**
JOB	**Onbets**	**2.21**	**267**	*e*S	**Sn**	**01 53 57.4**	**-0.4**
JAR	**Ashorobuto**	**2.26**	**277**	P	**Pn**	**01 53 33.0**	**+0.8**
JAR				*e*S	**Sn**	**01 53 59.3**	**+0.3**
KUR	**Kuril'sk**	**2.29**	**18**	*e*P	**Pn**	**01 53 33.0**	**+0.3**
KUR				AMB	AMB	01 53 38.0	
	30nm,0.2s						
KUR				*e*S	**Sn**	**01 54 00.0**	**+0.3**
KUR				A	A	01 54 04.0	
	80nm,0.2s						
KUR				A	A	01 54 04.0	
	170nm,0.2s						
JTKR	**Abashiri--Toko**	**2.32**	**294**	P	**Pn**	**01 53 34.2**	**+1.2**
JCH	**Churui**	**2.60**	**261**	*e*S	**Sn**	**01 54 05.8**	**-1.5**
JMP	**Maruseppu**	**2.70**	**292**	P	**Pn**	**01 53 39.6**	**+1.3**
JEM	**Erimo**	**2.92**	**250**	*e*S	**Sn**	**01 54 14.9**	**-0.3**
JFR	**Furan**	**3.11**	**273**	*e*S	**Sn**	**01 54 20.0**	**0.0**
JNBK	**Urakawa-nobuka**	**3.12**	**257**	*e*S	**Sn**	**01 54 19.4**	**-0.7**
YSS	**Yuzh-Sakhalins**	**4.85**	**325**	*e*P	**Pn**	**01 54 08.3**	**+0.5**
YSS				AMB	AMB	01 54 09.3	
	10.0nm,0.4s						
YSS				*e*S	**Sn**	**01 55 02.5**	**-0.3**
YSS				A	A	01 55 08.8	
	160nm,0.4s						
YSS				A	A	01 55 08.8	
	40nm,0.4s						

SJA 18 02:27:16.5±0.9,33.17S×69.64W,h30km±4km,ML1.9, MW3.9,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARCO	**CERRO ARCO**	**0.68**	**61**	*i* P	Pn	02 27 30.5	+0.2
ARCO				IAML		02 27 39.7	
	comp=Z,87nm,0.3s						
ARCO				*i* S	Sn	02 27 40.9	+0.9
AAGR	**Agrelo**	**0.69**	**83**	*i* P	Pn	02 27 31.0	+0.7
AAGR				*i* S	Sn	02 27 41.5	+1.5
ASAL	**Salagasta**	**0.89**	**50**	*i* P	Pb	02 27 33.8	+0.3
ASAL				*i* S	Sb	02 27 47.5	+2.3
AUSP	**Uspallata**	**0.97**	**13**	*i* P	Pb	02 27 35.7	+0.7
AUSP				*i* S	Sb	02 27 51.0	+3.5
RTLS	**Leoncito**	**1.40**	**12**	*i* P	Pb	02 27 43.1	+0.9
RTLS				*i* S	Sb	02 28 01.8	+1.9
RTLS				IAML		02 28 04.4	
	comp=Z,8.5nm,0.4s						

GUC 18 02:28:48.4±0.5,34.84S×71.94W,h52km±4km,ML3.7, 2C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO05	**Huala**	**0.17**	**176**	*i*P	Pn	02 28 56.7	-0.1
GO05				*e*S	Sn	02 29 02.6	-0.2
GO05				IAML		02 29 03.7	
	comp=E,7µm,0.1s						
LMEL	**Las Melosas**	**1.75**	**56**	*i*P	Pn	02 29 16.8	+0.3
LMEL				*i* S	Sn	02 29 38.0	+0.3
LMEL				IAML		02 29 41.7	
	comp=N,2µm,0.1s						
CCHI	**Chillan**

0.1nm,0.5s,baz=338,slow=1.0,SNR=2.6

NIED ***18*** *03:01:00,40˙.20N×143˙.80E,h11km,Mw4.7 Best double couple: M₀1.39000×10¹⁶ NP1:φ₀162.00000°,δ36.00000°, λ40.00000°. NP2:φ₀37.00000°,δ67.00000°,λ119.00000°.*
IDC ***18*** *03:01:57.7±0.6,40˙.21N×143˙.78E,h0km,mb4.0/21, mb1 4.2/24,mb1mx4.1/35,mbtmp4.0/24,ML3.4/3,MS3.9/17, Ms1 3.9/17,ms1mx3.7/40,Error ellipse: s-maj=16.4km s-min=14.5km az=133.0*
ISCJB ***18*** *03:01:58.8±0.9,40˙.26N±0˙.03×143˙.84E±0˙.05,h19km±6km, mb4.3/50,MS4.2/22,Error ellipse: s-maj=6.8km s-min=3.3km az=27.0*
JMA ***18*** *03:01:59.7±0.2,40˙.24N×143˙.79E,h28km,M4.6*
MOS ***18*** *03:02:01.0±1.1,40˙.30N×143˙.82E,h36km,mb4.5/24,Error ellipse: s-maj=8.8km s-min=5.4km az=96.6*
BJI ***18*** *03:02:01.5,40˙.40N×143˙.41E,h21km,mb4.6/49,mB5.0/37, Ms4.6/43,Ms7 4.4/41*
NEIC ***18*** *03:02:03.1±1.9,40˙.25N×143˙.72E,h35km±12km,mb4.5/11, Error ellipse: s-maj=8.7km s-min=5.7km az=117.0*
ISC 18 03:02:01.6±0.8,40˙.26N±0˙.04×143˙.87E±0˙.05,h25km±4km, n177,σ1s90/183,mb4.4/53,MS4.3/22,17C-4D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKEN	**Kujiedanarisaw**	**1.66**	**269**	P	**Pn**	**03 02 26.9**	**-2.0**
MIYJ	**Miyakonagasawa**	**1.72**	**247**	P	**Pn**	**03 02 27.8**	**-2.0**
JANG	**Nango**	**1.80**	**274**	P	**Pn**	**03 02 29.1**	**-1.9**
ERM	**Erimo**	**1.83**	**343**	*e*Pn	**Pn**	**03 02 30.7**	**-0.7**
ERM				*e*Sn	**Sn**	**03 02 50.8**	**-2.9**
ERM	**Erimo**	**1.83**	**343**	*e*P	**Pn**	**03 02 30.7**	**-0.7**
ERM				*e*		03 02 50.8	
JKZ	**Kuzumaki**	**1.97**	**263**	P	**Pn**	**03 02 31.5**	**-1.8**
JKZ				S	**Sn**	**03 02 55.1**	**-2.1**
OFUJ	**Ofunato**	**2.07**	**236**	P	**Pn**	**03 02 32.7**	**-1.9**
JOM	**Ohasama**	**2.13**	**249**	P	**Pn**	**03 02 34.2**	**-1.4**
JNBK	**Urakawa-nobuka**	**2.19**	**338**	P	**Pn**	**03 02 35.6**	**-0.7**
JNBK				S	**Sn**	**03 03 00.7**	**-1.8**
JTM	**Tenmabayashi**	**2.20**	**285**	P	**Pn**	**03 02 35.3**	**-1.1**
JKMT	**Kesennumamotoy**	**2.35**	**233**	P	**Pn**	**03 02 36.4**	**-2.1**
JCH	**Churui**	**2.38**	**351**	P	**Pn**	**03 02 38.2**	**-0.8**
JCH				S	**Sn**	**03 03 07.3**	**0.0**
JOT	**Ohata**	**2.42**	**299**	P	**Pn**	**03 02 38.3**	**-1.1**
JMK	**Ichinoseki**	**2.43**	**238**	P	**Pn**	**03 02 37.9**	**-1.7**
JAH	**Hinai**	**2.48**	**269**	P	**Pn**	**03 02 39.6**	**-0.7**
JKB	**Kayabe**	**2.69**	**308**	P	**Pn**	**03 02 43.6**	**+0.4**
JAK	**Akkeshi**	**2.80**	**13**	P	**Pn**	**03 02 43.5**	**-1.2**
JAK				*e*S	**Sn**	**03 03 16.2**	**-1.5**
JYK	**Kaneyama**	**3.03**	**245**	P	**Pn**	**03 02 47.0**	**-0.8**
JAR	**Ashorobuto**	**3.03**	**359**	P	**Pn**	**03 02 46.5**	**-1.4**
JAR				S	**Sn**	**03 03 21.7**	**-1.7**
JFR	**Furan**	**3.05**	**342**	P	**Pn**	**03 02 48.6**	**+0.4**
JFR				*e*S	**Sn**	**03 03 23.6**	**-0.3**
JEW	**Eniwo**	**3.15**	**326**	P	**Pn**	**03 02 50.2**	**+0.6**
NEM2	**Nemuro 2**	**3.40**	**24**	P	**Pn**	**03 02 51.5**	**-1.5**
NEM2				S	**Sn**	**03 03 28.4**	**-4.1**
ASAJ	**Asahikawa**	**3.97**	**347**	Pn	**Pn**	**03 03 00.5**	**-0.3**
	3.4nm,0.3s,baz=177,slow=15,SNR=15						
ASAJ				Sn	**Sn**	**03 03 47.9**	**+1.4**
	5.7nm,0.3s,baz=196,slow=12,SNR=4.3						
GRPR	**Tuman**	**3.99**	**20**	*e*P	**Pn**	**03 02 59.6**	**-1.4**
GRPR				*e*S	**Sn**	**03 03 43.1**	**-3.8**
GRPR				pmax	pmax		
	comp=Z,244nm,0.3s						
GRPR				pmax	pmax		
	comp=N,70nm,0.4s						
GRPR				pmax	pmax		
	comp=E,78nm,0.4s						
GRPR				smax	smax		
	comp=N,1μm,0.4s						
GRPR				smax	smax		
	comp=E,470nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.05**	**21**	*e*P	**Pn**	**03 03 00.5**	**-1.4**
YUK				*i* S	**Sn**	**03 03 44.6**	**-3.9**
YUK				pmax	pmax		
	comp=Z,289nm,0.4s						
YUK				pmax	pmax		
	comp=N,82nm,0.2s						
YUK				pmax	pmax		
	comp=E,146nm,0.2s						
YUK				smax	smax		
	comp=E,628nm,0.3s						
YUK				smax	smax		
	comp=N,210nm,0.4s						
YUK				MLR	MLR		
	comp=N,1μm,13.0s						
YUK				MLR	MLR		
	comp=Z,959nm,13.0s						
YUK				MLR	MLR		
	comp=E,1μm,11.0s						
SHO	**Shikotan**	**4.23**	**30**	*d i*P	**Pn**	**03 03 02.3**	**-2.0**
SHO				*i* S	**Sn**	**03 03 47.7**	**-5.1**
SHO				pmax	pmax		
	comp=N,40nm,0.3s						
SHO				pmax	pmax		
	comp=E,52nm,0.3s						
SHO				pmax	pmax		
	comp=Z,95nm,0.3s						
SHO				smax	smax		
	comp=N,516nm,0.3s						
SHO				smax	smax		
	comp=E,422nm,0.3s						
SHO				MLR	MLR		
	comp=Z,987nm,11.0s						
SHO				MLR	MLR		
	comp=E,2μm,12.0s						
SHO				MLR	MLR		
	comp=N,2μm,14.0s						
KUR	**Kuril'sk**	**5.77**	**29**	*e*P	**Pn**	**03 03 24.5**	**-1.0**
KUR				*e*S	**Sn**	**03 04 27.6**	**-3.3**
KUR				pmax	pmax		
	comp=Z,152nm,0.4s						
KUR				pmax	pmax		
	comp=E,48nm,0.3s						
KUR				pmax	pmax		
	comp=N,31nm,0.4s						
KUR				smax	smax		
	comp=N,163nm,0.3s						
KUR				smax	smax		
	comp=E,264nm,0.4s						
KUR				MLR	MLR		
	comp=N,2μm,16.0s						
KUR				MLR	MLR		
	comp=E,552nm,16.0s						
KUR				MLR	MLR		
	comp=Z,1μm,16.0s						
MJAR	**Matsushiro Arr**	**5.79**	**232**	Pn	**Pn**	**03 03 25.3**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=44,slow=11,SNR=32						
MJAR				LR	LR	03 05 37.5	
	comp=Z,297nm,22.0s,baz=110,slow=39						
MJB9	**Matsu-Tunnel**	**5.79**	**232**	*e*Pn	**Pn**	**03 03 24.7**	**-1.2**
MAJO	**Matsushiro**	**5.79**	**232**	*e*Pn	**Pn**	**03 03 24.9**	**-1.0**
MAJO	**Matsushiro**	**5.79**	**232**	*e*P	**Pn**	**03 03 24.9**	**-1.0**
MAT	**Matsushiro**	**5.79**	**232**	P	**Pn**	**03 03 25.4**	**-0.5**
MAT				*e*S	**Sn**	**03 04 30.6**	**-0.9**
YSS	**Yuzh-Sakhalins**	**6.74**	**353**	*e*P	**Pn**	**03 03 39.4**	**+0.6**
YSS				*e*S	**Sn**	**03 04 53.2**	**-1.5**
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
TEY	**Ternei**	**7.17**	**314**	⇑*e*P	Pn	03 03 37.2	-7.5
TEY				pmax	pmax		
	comp=N,20nm,1.0s						
TEY				pmax	pmax		
	comp=Z,20nm,1.2s						
TEY				MLR	MLR		
	comp=Z,100nm,14.0s						
INU	**Inuyama**	**7.31**	**230**	*e*Pn	**Pn**	**03 03 45.3**	**-1.4**
USA0B	**Ussuriysk Arra**	**9.65**	**298**	*e*Pn	Pn	03 04 12.6	-6.1
USRK	**Ussuriysk Ar.**	**9.65**	**298**	Pn	**Pn**	**03 04 20.4**	**+1.6**
	comp=Z,1.0nm,0.3s,baz=99,slow=14,SNR=30						
TYV	**Tymovskoe**	**10.64**	**356**	*e*P	**Pn**	**03 04 31.2**	**-1.0**
TYV				*e*S	**Sn**	**03 06 33.6**	**+3.2**
TYV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TYV				pmax	pmax		
	comp=Z,500nm,5.0s						
TYV				smax	smax		
	comp=N,7.0nm,1.8s						
TYV				MLR	MLR		
	comp=Z,2μm,14.0s						
TYV				MLR	MLR		
	comp=N,2μm,12.0s						
MDJ	**Mudanjiang**	**11.41**	**297**	P	**Pn**	**03 04 44.4**	**+1.6**
MDJ				pmax	pmax		
	comp=N,25nm,0.8s						
MDJ				pmax	pmax		
	comp=N,560nm,7.2s						
MDJ				LR	LR		
	comp=N,1μm,15.0s						
MDJ				LR	LR		
	comp=N,2μm,13.4s						
MDJ				LR	LR		
	comp=N,3μm,13.8s						
MDJ	**Mudanjiang**	**11.41**	**297**	*e*Pn	**Pn**	**03 04 38.2**	**-4.6**
KLR	**Kul'dur**	**12.42**	**320**	Pn	**Pn**	**03 04 56.8**	**+0.2**
	comp=N,0.1nm,0.3s,baz=127,slow=13,SNR=11						
KLR				LR	LR	03 10 24.2	
	comp=N,810nm,18.2s,baz=127,slow=41						
KLR	**Kul'dur**	**12.42**	**320**	*i* P	**Pn**	**03 04 56.1**	**-0.5**
JNU	**Nakatsue**	**12.62**	**240**	LR	LR	03 10 14.3	
	comp=N,2μm,18.4s,baz=46,slow=40						
KSRS	**Korea Array**	**12.74**	**262**	Pn	**Pn**	**03 05 02.6**	**+1.5**
	comp=N,0.3nm,0.3s,baz=74,slow=14,SNR=5.6						
KSRS				LR	LR	03 10 00.5	
	comp=N,537nm,19.1s,baz=72,slow=38						
KSAR	**Wonju Array Be**	**12.78**	**262**	Pn	**Pn**	**03 05 02.6**	**+1.1**
KSAR	**Wonju Array Be**	**12.78**	**262**	P	**Pn**	**03 05 02.6**	**+1.1**
NKL	**Nikolayevsk**	**13.08**	**351**	*e*P	**Pn**	**03 05 06.0**	**+0.5**
NKL				*e*		03 07 38.0	
PETK	**Petropavlovsk-**	**15.94**	**32**	LR	LR	03 11 38.4	
	comp=N,386nm,19.2s,baz=213,slow=36						
ZEA	**Zeya**	**17.55**	**326**	*e*P	**Pn**	**03 06 00.5**	**-3.8**
ZEA				pmax	pmax		
	comp=N,50nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,79nm,1.6s						
ZEA				pmax	pmax		
	comp=Z,200nm,4.0s						
ZEA				MLR	MLR		
	comp=N,600nm,14.0s						
ZEA				MLR	MLR		
	comp=E,1μm,14.0s						
ZEA				MLR	MLR		
	comp=Z,2μm,14.0s						
HIA	**Hailar**	**19.29**	**306**	*e*P	**P**	**03 06 21.2**	**-3.1**
	comp=Z,6.8nm,0.4s						
HIA	**Hailar**	**19.29**	**306**	*e*P	**P**	**03 06 21.3**	**-3.1**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.4s						
MA2	**Magadan**	**19.82**	**10**	LR	LR	03 15 02.4	
	comp=Z,443nm,18.4s,baz=136,slow=40						
NJ2	**Nanjing**	**21.75**	**256**	*e*P	**P**	**03 06 50.4**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
NJ2				LR	LR		
	comp=Z,950nm,16.3s						
NJ2				LR	LR		
	comp=Z,1μm,14.1s						
NJ2				LR	LR		
	comp=Z,1μm,15.2s						
SEY	**Seymchan**	**23.27**	**10**	P	**P**	**03 07 07.0**	**+0.1**
	comp=Z,8.4nm,0.9s,baz=182,slow=7.0,SNR=11						
SEY	**Seymchan**	**23.27**	**10**	P	**P**	**03 07 07.0**	**+0.1**
SEY				pmax	pmax		
	comp=Z,8.0nm,0.9s						
YAK	**Yakutsk**	**23.44**	**343**	*e*P	**P**	**03 07 06.3**	**-2.2**
YAK				*e**PP	**sP**	**03 07 17.2**	**-0.4**
YAK				*e*S	**S**	**03 11 13.3**	**-6.8**
YAK				*e**SS	**sS**	**03 11 31.2**	**+0.1**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,98nm,3.2s						
YAK				pmax	pmax		
	comp=N,133nm,3.7s						
YAK				smax	smax		
	comp=N,140nm,3.6s						
YAK				smax	smax		
	comp=E,150nm,3.5s						
YAK				MLR	MLR		
	comp=Z,425nm,15.0s						
YAK				MLR	MLR		
	comp=N,469nm,16.0s						
HHC	**Hu-ho-hao-te**	**24.48**	**282**	*e*P	**P**	**03 07 16.9**	**-1.8**
HHC				pP	pP	03 07 21.9	-3.4
HHC				sP	sP	03 07 23.9	-4.2
HHC				S	**S**	**03 11 29.6**	**-7.9**
HHC				pmax	pmax		
	comp=N,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=N,140nm,5.2s						
HHC				LR	LR		
	comp=N,380nm,7.6s						
HHC				LR	LR		
	comp=N,360nm,10.0s						
HHC				LR	LR		
	comp=N,560nm,12.3s						
WHN	**Wuhan**	**25.84**	**257**	⇓P	**P**	**03 07 30.4**	**-0.5**
WHN				S	S	03 11 46.3	-13
WHN				LR	LR		
	comp=N,4μm,16.2s						
WHN				LR	LR		
	comp=N,2μm,11.7s						
WHN				LR	LR		
	comp=N,2μm,15.8s						
ULN	**Ulaanbaatar**	**27.32**	**298**	*e*P	**P**	**03 07 43.3**	**-1.0**
	comp=N,6.0nm,0.9s						
ULN	**Ulaanbaatar**	**27.32**	**298**	*e*P	**P**	**03 07 43.3**	**-1.0**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SONA1	**Songino Array**	**27.76**	**298**	*e*P	**P**	**03 07 47.2**	**-1.0**
SONM	**Songino Array**	**27.76**	**298**	P	**P**	**03 07 48.0**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=100,slow=8.6,SNR=17						
SONM				LR	LR	03 18 59.9	
	comp=Z,152nm,18.9s,baz=117,slow=37						
XAN	**Xi'an**	**28.41**	**269**	P	P	03 08 03.6	+10
XAN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,190nm,4.9s						
H11N2	**WAKE ISLAND Hy**	**28.42**	**129**	T	T	03 37 38.8	
	baz=322,slow=75,SNR=9.8						
H11N1	**WAKE ISLAND Hy**	**28.43**	**129**	T	T	03 37 37.7	
	baz=322,slow=75,SNR=6.1						
H11N3	**WAKE ISLAND Hy**	**28.44**	**129**	T	T	03 37 41.7	
	baz=322,slow=75,SNR=9.3						
H11S1	**WAKE ISLAND Hy**	**29.26**	**131**	T	T	03 38 44.4	
	baz=324						
H11S3	**WAKE ISLAND Hy**	**29.27**	**131**	T	T	03 38 39.0	
	baz=324						
H11S2	**WAKE ISLAND Hy**	**29.28**	**131**	T	T	03 38 38.3	
	baz=324						
ENH	**Enshi**	**29.63**	**261**	*e*P	**P**	**03 08 04.2**	**-0.7**
ZAK	**Zakamensk**	**29.94**	**303**	*e*P	**P**	**03 08 06.0**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
BILL	**Bilibino**	**30.39**	**16**	*e*P	**P**	**03 08 12.7**	**+1.5**
	comp=Z,12nm,1.2s						
BILL	**Bilibino**	**30.39**	**16**	*e*P	**P**	**03 08 12.7**	**+1.5**
BILL				pmax	pmax		
	comp=Z,12nm,1.2s						
LZH	**Lanzhou**	**31.55**	**275**	*e*P	**P**	**03 08 24.3**	**+2.3**
LZH				pP	sP	03 08 30.9	-0.5
LZH				sP	pwP	03 08 34.8	+2.4
LZH				pmax	pmax		
	comp=Z,27nm,1.0s						
LZH				pmax	pmax		
	comp=Z,140nm,4.5s						
LZH				LR	LR		
	comp=Z,590nm,14.6s						
LZH				LR	LR		
	comp=Z,730nm,14.1s						
LZH				LR	LR		
	comp=Z,810nm,15.2s						
TIXI	**Tiksi**	**32.36**	**351**	*ce*P	**P**	**03 08 28.1**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.3s						
GTA	**Gaotai**	**33.58**	**283**	⇑P	**P**	**03 08 40.0**	**+0.3**
GTA				pP	pP	03 08 45.6	-0.8
GTA				sP	sP	03 08 49.0	-0.1
GTA				pmax	pmax		
	comp=Z,14nm,1.4s						
GTA				pmax	pmax		
	comp=Z,120nm,5.4s						
GTA				LR	LR		
	comp=Z,310nm,15.2s						
GTA				LR	LR		
	comp=Z,560nm,14.3s						
GTA				LR	LR		
	comp=Z,760nm,14.9s						
CD2	**Chengdu**	**33.69**	**267**	*e*P	**P**	**03 08 39.5**	**-1.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
QIZ	**Qiongzhong**	**36.04**	**244**	P	**P**	**03 09 01.9**	**+1.0**
QIZ				S	**S**	**03 14 37.0**	**-1.5**
QIZ				LR	LR		
	comp=Z,480nm,4.2s						
QIZ				LR	LR		
	comp=Z,320nm,2.8s						
QIZ				LR	LR		
	comp=Z,400nm,7.5s						
KMI	**Kunming**	**37.41**	**259**	P	**P**	**03 09 14.0**	**+1.2**
KMI				pmax	pmax		
	comp=Z,12nm,0.5s						
KMI				pmax	pmax		
	comp=Z,140nm,4.0s						
DGZ	**Jazzator, Alta**	**40.16**	**303**	*c i*P	**P**	**03 09 36.4**	**+0.9**
DGZ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WMQ	**Urumqi**	**41.19**	**294**	P	**P**	**03 09 44.8**	**+0.8**
WMQ				pP	pP	03 09 51.8	+1.0
WMQ				sP	pwP	03 09 55.8	+1.3
WMQ				pmax	pmax		
	comp=Z,14nm,2.1s						
WMQ				pmax	pmax		
	comp=Z,310nm,5.9s						
WMQ				LR	LR		
	comp=Z,380nm,18.5s						
WMQ				LR	LR		
	comp=Z,300nm,18.5s						
WMQ				LR	LR		
	comp=Z,440nm,18.5s						
ZAA0	**Zalesovo Array**	**41.25**	**310**	*e*P	**P**	**03 09 43.6**	**-0.6**
	comp=Z,6.5nm,0.8s						
ZALV	**Zalesovo Beam**	**41.25**	**310**	P	**P**	**03 09 44.7**	**+0.4**
	comp=Z,3.6nm,0.5s,baz=89,slow=7.9,SNR=15						
ZALV				LR	LR	03 26 14.4	
	comp=Z,89nm,19.4s,baz=354,slow=35						
ZALV	**Zalesovo Beam**	**41.25**	**310**	*e*P	**P**	**03 09 43.6**	**-0.6**
ZALV	**Zalesovo Beam**	**41.25**	**310**	*e*P	**P**	**03 09 43.6**	**-0.6**
NVS	**Novosibirsk**	**42.08**	**311**	*e*P	**P**	**03 09 51.9**	**+0.8**
NVS				pmax	pmax		
	comp=Z,16nm,1.7s						
MK01	**Makanchi Array**	**44.11**	**300**	*e*P	**P**	**03 10 06.6**	**-1.0**
MK31	**Makanchi Array**	**44.11**	**300**	*e*P	**P**	**03 10 06.8**	**-0.9**
MK31	**Makanchi Array**	**44.11**	**300**	*e*P	**P**	**03 10 06.8**	**-0.9**
MKAR	**Makanchi Array**	**44.11**	**300**	P	**P**	**03 10 07.5**	**-0.1**
	comp=Z,5.4nm,1.0s,baz=84,slow=9.5,SNR=25						
MKAR				LR	LR	03 27 39.5	
	comp=Z,38nm,20.6s,baz=80,slow=35						
MKAR	**Makanchi Array**	**44.11**	**300**	*ce*P	**P**	**03 10 07.5**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**44.20**	**254**	P	**P**	**03 10 08.4**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=41,slow=7.2,SNR=3.1						
CMAR				LR	LR	03 28 51.2	
	comp=Z,106nm,18.2s,baz=62,slow=37						
MAKZ	**Makanchi**	**44.32**	**300**	*e*P	**P**	**03 10 08.9**	**-0.4**
	comp=Z,9.1nm,1.0s						
MAKZ	**Makanchi**	**44.32**	**300**	*e*P	**P**	**03 10 08.9**	**-0.4**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KURK	**Kurchatov**	**45.53**	**306**	*e*P	**P**	**03 10 18.2**	**-0.6**
KURK	**Kurchatov**	**45.53**	**306**	*ce*P	**P**	**03 10 18.6**	**-0.2**
KURK				pmax	pmax		
	comp=Z,45nm,2.5s						
KURBB	**Kurchatov Arra**	**45.60**	**306**	P	**P**	**03 10 19.4**	**0.0**
	comp=Z,9.0nm,0.5s,baz=78,slow=8.5,SNR=44						
ILAR	**Eielson Array**	**45.74**	**34**	P	**P**	**03 10 21.2**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=260,slow=5.9,SNR=10						
GUN	**Gumba**	**48.80**	**274**	*e*P	**P**	**03 10 44.9**	**-0.1**
	comp=Z,22nm,0.5s						
PMG	**Port Moresby**	**49.51**	**176**	*e*P	P	03 10 57.4	+7.4
DMN	**Daman**	**49.54**	**274**	*e*P	**P**	**03 10 49.6**	**-1.0**
BRVK	**Borovoye**	**49.93**	**311**	*e*P	**P**	**03 10 52.7**	**-0.2**
	comp=Z,5.8nm,0.6s						
BRVK	**Borovoye**	**49.93**	**311**	⇑*i*P	**P**	**03 10 53.5**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,14nm,1.9s						
DANN	**Dangsing**	**50.19**	**276**	*e*P	**P**	**03 10 55.8**	**+0.2**
	comp=Z,47nm,0.5s						
INK	**Inuvik**	**50.64**	**28**	P	**P**	**03 10 59.6**	**+1.6**
	comp=Z,0.9nm,0.6s,baz=278,slow=2.5,SNR=7.2						
INK	**Inuvik**	**50.64**	**28**	*e*P	**P**	**03 10 59.4**	**+1.4**
INK	**Inuvik**	**50.64**	**28**	*e*P	**P**	**03 10 59.4**	**+1.4**
AAK	**Ala-Archa**	**50.70**	**297**	*e*P	**P**	**03 10 57.3**	**-1.8**
	comp=Z,8.1nm,1.3s						
AAK	**Ala-Archa**	**50.70**	**297**	*ce*P	**P**	**03 10 58.1**	**-1.0**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KSH	**Kashi**	**50.90**	**293**	P	**P**	**03 11 05.3**	**+4.7**
KSH				sP	pwP	03 11 13.9	+2.2
KSH				PcP	**PcP**	**03 12 24.4**	**+7.5**
KSH				S	**S**	**03 18 13.3**	**-2.3**
KSH				ScS	**ScS**	**03 20 52.8**	**+3.1**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,310nm,4.6s						
KSH				LR	LR		
	comp=Z,94nm,6.9s						
KSH				LR	LR		
	comp=Z,75nm,4.4s						
KSH				LR	LR		
	comp=Z,370nm,9.7s						
PYUN	**Piuthan**	**50.90**	**276**	*e*P	**P**	**03 11 00.9**	**0.0**
	comp=Z,23nm,0.8s						
HNR	**Honiara**	**51.63**	**160**	LR	LR	03 30 05.9	
	comp=Z,58nm,20.4s,baz=344,slow=33						
ARSB	**Arslanbob**	**52.25**	**296**	*e*P	**P**	**03 11 11.6**	**+0.9**
	comp=Z,14nm,1.0s						
KK31	**Karatay Array**	**53.22**	**299**	*e*P	**P**	**03 11 16.9**	**-0.8**
KK31	**Karatay Array**	**53.22**	**299**	*e*P	**P**	**03 11 16.9**	**-0.8**
KKAR	**Karatay Array**	**53.22**	**299**	*e*P	**P**	**03 11 16.9**	**-0.8**
KKAR	**Karatay Array**	**53.22**	**299**	*e*P	**P**	**03 11 16.9**	**-0.8**
GAR	**Garm**	**55.09**	**294**	*e*P	**P**	**03 11 31.4**	**-0.1**
	comp=Z,16nm,1.2s						
GAR	**Garm**	**55.09**	**294**	*e*P	**P**	**03 11 31.4**	**-0.1**
GAR				pmax	pmax		
	comp=Z,16nm,1.2s						
ARU	**Arti**	**55.25**	**318**	*e*P	**P**	**03 11 32.0**	**-0.2**
ARU	**Arti**	**55.25**	**318**	*d i*P	**P**	**03 11 32.8**	**+0.6**
ARU						03 13 31.3	
ARU				S	**S**	**03 19 19.6**	**+5.6**
ARU				SS	**SS**	**03 23 00.7**	**+2.9**
ARU				pmax	pmax		
	comp=Z,29nm,3.2s						
ARU				MLR	MLR		
	comp=Z,796nm,15.0s						
NIL	**Nilore**	**55.47**	**287**	*e*P	**P**	**03 11 33.4**	**-0.8**
NIL	**Nilore**	**55.47**	**287**	*e*P	**P**	**03 11 33.4**	**-0.8**
ABKAR	**Akbulak array**	**57.36**	**309**	*e*P	**P**	**03 11 47.1**	**-0.3**
KBL	**Kabul**	**58.08**	**290**	*e*P	**P**	**03 11 52.0**	**-1.0**
	comp=Z,5.4nm,0.8s						
KBL	**Kabul**	**58.08**	**290**	*e*P	**P**	**03 11 52.0**	**-1.0**
KBL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
RES	**Resolute Bay**	**58.99**	**15**	*e*P	**P**	**03 12 01.7**	**+3.3**
	comp=Z,8.2nm,1.2s						
RES	**Resolute Bay**	**58.99**	**15**	*e*P	**P**	**03 12 01.7**	**+3.3**
RES				pmax	pmax		
	comp=Z,8.0nm,1.2s						
YKA	**Yellowknife Ar**	**60.05**	**32**	P	**P**	**03 12 06.6**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=294,slow=6.7,SNR=7.5						
WRA	**Warramunga Ar**	**60.55**	**190**	P	**P**	**03 12 08.5**	**-1.2**
	comp=Z,1.5nm,0.5s,baz=7.9,slow=6.9,SNR=32						
WRA	**Warramunga Arr**	**60.55**	**190**	P	**P**	**03 12 08.5**	**-1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GEYT	**Alibeck**	**63.97**	**299**	P	**P**	**03 12 32.4**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=14,slow=15,SNR=3.5						
GEYT				LR	LR	03 41 57.5	
	comp=Z,105nm,19.6s

FINES					MLR	MLR			
	comp=Z,156nm,20.2s								
ZEI	**Tsey**	**70.23**	**310**	*eP*	**P**		**03**	**13**	**11.7 -0.9**
ZEI					pmax	pmax			
	comp=Z,9.0nm,1.6s								
KIV	**Kislovodsk**	**70.24**	**311**	*eP*	**P**		**03**	**13**	**12.7 +0.3**
KIV	**Kislovodsk**	**70.24**	**311**	*eP*	**P**		**03**	**13**	**10.0 -2.5**
KIV					pmax	pmax			
	comp=Z,15nm,1.1s								
KBZ	**Khabaz**	**70.25**	**311**	P	**P**		**03**	**13**	**11.0 -1.4**
	comp=Z,3.0nm,0.9s,baz=78,slow=3.8,SNR=4.0								
KBZ	**Khabaz**	**70.25**	**311**	P	**P**		**03**	**13**	**11.0 -1.4**
KBZ					pmax	pmax			
	comp=Z,3.0nm,0.9s								
NVAR	**Mina Array Bea**	**71.54**	**55**	P	**P**		**03**	**13**	**22.1 +1.4**
	comp=Z,0.5nm,0.7s,baz=293,slow=5.8,SNR=5.3								
STKA	**Stephens Creek**	**71.81**	**182**	LR	LR		03	45	11.3
	comp=Z,58nm,20.3s,baz=23,slow=36								
NB2	**NORSAR Subarra**	**71.94**	**338**	P	P		03	13	36.4 +14
	comp=Z,0.6nm,0.6s,baz=36,slow=6.2								
NOA	**NORSAR Array B**	**71.94**	**338**	P	**P**		**03**	**13**	**22.0 -0.4**
	comp=Z,1.0nm,0.7s,baz=38,slow=5.8,SNR=4.6								
NOA					LR	LR	03	48	59.7
	comp=Z,108nm,19.3s,baz=20,slow=39								
NOA	**NORSAR Array B**	**71.94**	**338**	P	**P**		**03**	**13**	**22.0 -0.4**
NOA					pmax	pmax			
	comp=Z,1.0nm,0.7s								
NOA					MLR	MLR			
	comp=Z,108nm,19.3s								
AKASG	**Malin Array Be**	**72.91**	**323**	P	**P**		**03**	**13**	**28.2 -0.1**
	comp=Z,2.6nm,0.7s,baz=44,slow=6.1,SNR=14								
KIEV	**Kiev**	**72.92**	**323**	*eP*	**P**		**03**	**13**	**28.2 -0.1**
	comp=Z,3.1nm,0.5s								
KIEV	**Kiev**	**72.92**	**323**	*i* P	**P**		**03**	**13**	**27.8 -0.5**
KIEV					pmax	pmax			
	comp=Z,4.0nm,0.7s								
PDAR	**Pinedale Array**	**74.05**	**47**	P	**P**		**03**	**13**	**35.9 +0.4**
	comp=Z,0.4nm,0.5s,baz=294,slow=1.3,SNR=4.8								
BUR08	**Bucovina Ar. S**	**76.94**	**322**	*eP*	**P**		**03**	**13**	**52.3 +0.5**
BUR04	**Bucovina Ar. S**	**76.95**	**322**	*eP*	**P**		**03**	**13**	**51.9 +0.1**
BURAR	**Bucovina Array**	**76.95**	**322**	⇑*i*P	**P**		**03**	**13**	**52.8 +1.0**
BURAR	**Bucovina Array**	**76.95**	**322**	⇑P	**P**		**03**	**13**	**52.8 +1.0**
TRPA	**Tarpa**	**77.80**	**324**	⇑*i*P	**P**		**03**	**13**	**57.6 +1.2**
BRTR	**Keskin Array B**	**78.13**	**312**	P	**P**		**03**	**13**	**58.3 -0.3**
	comp=Z,0.5nm,0.8s,baz=57,slow=5.3,SNR=3.0								
BRTR					LR	LR	03	55	51.5
	comp=Z,83nm,18.4s,baz=12,slow=41								
MLR	**Muntele Rosu**	**78.14**	**321**	⇑*i*P	P		03	14	04.6 +6.0
MLR	**Muntele Rosu**	**78.14**	**321**	⇑P	P		03	14	04.6 +6.0
VOIR		**78.61**	**321**	⇑*i*P	**P**		**03**	**14**	**02.6 +1.5**
VOIR		**78.61**	**321**	⇑P	**P**		**03**	**14**	**02.6 +1.5**
DRGR		**78.72**	**323**	⇑*i*P	**P**		**03**	**14**	**03.0 +1.4**
DRGR		**78.72**	**323**	⇑P	**P**		**03**	**14**	**03.0 +1.4**
ARR	**Arges**	**78.87**	**321**	⇓*i*P	**P**		**03**	**14**	**04.9 +2.4**
VYHS	**Vyhne**	**79.14**	**326**	*eP*	P		03	14	08.8 +5.0
VYHS	**Vyhne**	**79.14**	**326**	*eP*	P		03	14	08.8 +5.0
CLL	**Collm**	**79.23**	**331**	*eP*	**P**		**03**	**14**	**02.0 -2.2**
CLL				*e*PP	**PP**		**03**	**17**	**06.0 +2.8**
CLL				LmV			03	52	00.0
	comp=Z,200nm,21.2s								
CLL	**Collm**	**79.23**	**331**	*eP*	**P**		**03**	**14**	**02.0 -2.2**
GOPC	**GO Pecny, Ondr**	**79.67**	**329**	AMS	AMS		03	53	20.0
	comp=Z,300nm,13.6s								
PRU	**Pruhonice**	**79.71**	**330**	AMS	AMS		03	53	30.0
	comp=Z,300nm,16.4s								
KHC	**Kasperske Hory**	**80.77**	**329**	*eP*	**P**		**03**	**14**	**16.5 +3.8**
KHC				*e*pP	**pwP**		**03**	**14**	**25.2 +1.3**
KHC				AMS	AMS		03	54	20.0
	comp=Z,400nm,22.8s								
KHC	**Kasperske Hory**	**80.77**	**329**	*eP*	**P**		**03**	**14**	**16.5 +3.8**
KHC				*e*			03	14	25.2
KHC				MLR	MLR				
	comp=Z,400nm,22.8s								
GERES	**GERESS Array B**	**80.96**	**329**	P	**P**		**03**	**14**	**14.0 +0.2**
	comp=Z,0.3nm,0.4s,baz=32,slow=5.8,SNR=3.8								
GERES				LR	LR		03	54	23.0
	comp=Z,198nm,19.5s,baz=24,slow=39								
GERES	**GERESS Array B**	**80.96**	**329**	P	**P**		**03**	**14**	**14.0 +0.2**
GERES				MLR	MLR				
	comp=Z,198nm,19.5s								
RAYN	**Ar Rayn**	**81.18**	**293**	*eP*	**P**		**03**	**14**	**14.7 -0.6**
	comp=Z,1.3nm,0.6s								
RAYN	**Ar Rayn**	**81.18**	**293**	*eP*	**P**		**03**	**14**	**14.7 -0.6**
RAYN				pmax	pmax				
	comp=Z,1.0nm,0.6s								
TXAR	**Lajitas Array**	**86.65**	**54**	P	**P**		**03**	**14**	**44.2 +1.0**
	comp=Z,0.4nm,0.7s,baz=278,slow=2.6,SNR=5.0								
TORD	**Torodi Ar. Bea**	**116.32**	**318**	PKP	**PKiKP**		**03**	**20**	**43.5 +0.2**
	comp=Z,0.2nm,0.6s,baz=35,slow=3.5,SNR=3.5								
SIV	**San Ignacio**	**147.52**	**49**	PKPbc	**PKPbc**		**03**	**21**	**42.7 -1.1**
	comp=Z,0.7nm,0.5s,baz=275,slow=2.5,SNR=3.5								

*ISK **18** 03:04:19.8, 40.°71N×30.°64E, h12km, ML2.2/7*
*ISCJB **18** 03:04:20.5±0.5, 40.°72N±0.°03×30.°62E±0.°03, h10km±4km, Error ellipse: s-maj=5.2km s-min=4.0km az=8.7*
*DDA **18** 03:04:20.0, 40.°71N×30.°63E, h7km±3km, ML2.5*
ISC 18 03:04:20.2±0.9, 40.69N±0.°04×30.63E±0.°02, h17km±7km, n18, σ0.27/27, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
SAHE	**Sakarya_HENDEK**	**0.23**	**46**	IAML_P				
	comp=Z,3μm,0.2s							
SAHE				*i* P		**Pg**	**03 04 25.7**	**+0.2**
SAHE				*i* S		**Sg**	**03 04 29.6**	**+0.4**
SAUV	**Serdivan-Sakar**	**0.24**	**282**	PG		**Pg**	**03 04 25.1**	**-0.5**
SAUV				SG		**Sg**	**03 04 29.1**	**-0.2**
SPNC	**Sapanca-Adapaz**	**0.25**	**269**	PG		**Pg**	**03 04 25.7**	**0.0**
SPNC				SG		**Sg**	**03 04 29.8**	**+0.3**
GULT	**Gulveren**	**0.27**	**199**	PG		**Pg**	**03 04 26.2**	**0.0**
GULT				SG		**Sb**	**03 04 30.9**	**-0.2**
BTAS	**Taskesti**	**0.30**	**113**	IAML_P				
	comp=Z,2μm,0.1s							
BTAS				*i* P		**Pb**	**03 04 27.1**	**-0.1**
BTAS				*i* S		**Sb**	**03 04 31.5**	**-0.5**
GEYV	**SAKARYA_Geyve**	**0.33**	**231**	IAML_P				
	comp=Z,2μm,0.1s							
GEYV				*i* P		**Pb**	**03 04 27.4**	**-0.2**
GEYV				*i* S		**Sb**	**03 04 32.6**	**-0.1**
MDUB	**Mudurnu**	**0.48**	**117**	PG		**Pg**	**03 04 29.8**	**-0.1**
KAND	**Kocaeli-Kandir**	**0.52**	**320**	IAML_P				
	comp=Z,138nm,0.1s							
KAND				*i* P		**Pb**	**03 04 31.0**	**+0.1**
KAND				*i* S		**Sg**	**03 04 37.1**	**-0.6**
BORA	**Eskisehir**	**0.82**	**190**	PG		**Pg**	**03 04 36.4**	**+0.2**
BORA	**Eskisehir**	**0.82**	**190**	*i* S		**Sn**	**03 04 49.1**	**+0.2**
SILT	**Sile**	**0.88**	**302**	PG		**Pb**	**03 04 37.1**	**+0.1**
YLV	**Yalova**	**0.97**	**263**	PG		**Pg**	**03 04 39.1**	**+0.1**
BCAM	**Yenicaga**	**1.09**	**83**	IAML_P				
	comp=Z,275nm,0.1s							
BCAM				*i* P		**Pb**	**03 04 40.8**	**+0.1**
BCAM				*i* S		**Sg**	**03 04 55.7**	**0.0**
KAVV	**Kandilli-Istan**	**1.25**	**288**	PN		**Pb**	**03 04 43.5**	**+0.2**
ISK	**Istanbul-Kandi**	**1.25**	**288**	PN		**Pn**	**03 04 43.2**	**+0.3**
KLYT	**Kilyos**	**1.33**	**296**	PN		**Pb**	**03 04 44.7**	**0.0**
CMDR	**Camlidere-ANKA**	**1.42**	**97**	IAML_P				
	comp=Z,247nm,0.2s							
CMDR				*i* P		**Pg**	**03 04 47.2**	**-0.3**
CMDR				*i* S		**Sg**	**03 05 05.8**	**-0.1**
BGKT	**Bogazkoy**	**1.49**	**290**	PN		**Pb**	**03 04 47.2**	**-0.2**

TAP 18 03:07:16.2, 24.°16N×121.°66E, h27km, ML2.0, 2D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
NACB	**Ninganchiao**	**0.06**	**279**	*eP*		Pb	03 07 21.2	+0.3
	46nm,1.0s							
NACB	**Ninganchiao**	**0.06**	**279**	⇓*i*P		Pb	03 07 21.2	+0.3
	baz=279							
NACB				*i* S		Sb	03 07 24.9	+0.8
	baz=279							
TWD	**Chiawan**	**0.10**	**215**	⇓*i*P		Pb	03 07 21.4	+0.3
	baz=211							
TWD				S		Sb	03 07 25.1	+0.7
	baz=211							
ENA	**Nanau**	**0.27**	**16**	*eP*		Pb	03 07 23.2	+0.2
	baz=17							
NANB	**Nanao**	**0.28**	**18**	*eP*		Pb	03 07 23.3	+0.2
	baz=17							
NANB				*e*S		Sb	03 07 28.7	+1.0
	baz=17							
WHF	**Hehuan Shan**	**0.36**	**267**	*i* P		Pb	03 07 24.8	+0.2
	baz=266							
WHF				S		Sb	03 07 31.1	+0.8
	baz=266							
NNSB	**Datong**	**0.36**	**316**	P		Pb	03 07 24.9	+0.5
	baz=316							
NNSB				*e*S		Sn	03 07 31.5	-0.7
	baz=316							
NNS	**Nan Shan**	**0.38**	**317**	*eP*		Pb	03 07 25.0	+0.3
	baz=317							
NNS				*e*S		Sb	03 07 31.4	+0.9
	baz=317							
ESL	**Shilin**	**0.41**	**211**	P		Pb	03 07 25.5	+0.5
	baz=209							
ESL				*e*S		Sb	03 07 30.7	-0.2
	baz=209							
CHGB	**Renai**	**0.46**	**257**	*eP*		Pb	03 07 26.3	+0.4
	baz=256							
CHGB				*e*S		Sn	03 07 33.6	-1.0
	baz=256							
TWC	**Suao**	**0.48**	**21**	*eP*		Pn	03 07 26.9	-0.4
	baz=22							
TWC				*e*S		Sn	03 07 34.0	-0.8
	baz=22							
ENTT	**Nioudou**	**0.48**	**350**	*eP*		Pb	03 07 26.8	+0.6
	baz=350							
YHNB	**Yeheng**	**0.57**	**333**	*i* P		Pb	03 07 28.1	+0.4
	baz=332							
YHNB				*e*S		Sb	03 07 36.2	+0.7
	baz=332							
EOS1	**EOS1**	**0.57**	**48**	*eP*		Pn	03 07 28.9	+0.3
	baz=48							
EOS1				*e*S		Sn	03 07 38.8	+1.6
	baz=48							
NSK	**Sanguang**	**0.58**	**332**	P		Pb	03 07 28.3	+0.4
	baz=332							
NSK				*e*S		Sn	03 07 37.0	-0.5
	baz=332							
SLBB	**Yuanshan**	**0.59**	**358**	*eP*		Pn	03 07 28.5	-0.4
	baz=357							
SLBB				*e*S		Sn	03 07 37.4	-0.2
	baz=357							
VWDT	**VWDT**	**0.62**	**229**	*eP*		Pb	03 07 28.8	+0.2
	baz=229							
YULB	**Yu-li**	**0.84**	**203**	*eP*		Pb	03 07 31.9	-0.3
	baz=203							

*GUC **18** 03:14:05.4±0.5, 38.°38S×74.°00W, h30km±9km, ML3.4*
*IDC **18** 03:14:15.0±4.0, 38.°07S×72.°46W, h58km±39km, mb3.1/3, mb1 3.4/4, mb1mx3.3/21, mbtmp3.3/4, ML3.5/1, MS2.3/2, Ms1 2.3/2, ms1mx2.2/10, Error ellipse: s-maj=66.7km s-min=34.7km az=66.0*
ISC 18 03:14:11.6±1.4, 38.09S±0.°07×73.°1W±0.°2, h33km, n10, σ1.9/94/11, mb3.3/3, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
TMU	**Temuco**	**0.77**	**147**	⇓*i*P		**Pn**	**03 14 25.5**	**-0.7**
TMU				*i* S		**Sb**	**03 14 40.9**	**+4.0**
TMU				IAML			03 14 44.8	
	comp=N,838nm,0.3s							
CCSP	**San Pedro de C**	**1.24**	**1**	*i* S		**Sn**	**03 14 48.2**	**-0.1**
CCSP				IAML			03 14 56.0	
	comp=N,836nm,0.3s							
CCHI	**Chillan**	**1.71**	**30**	⇓*i*P		**Pn**	**03 14 39.6**	**+0.6**
CCHI				IAML			03 15 31.0	
	comp=N,718nm,0.5s							
GO06	**Curarrehue**	**1.98**	**139**	⇑*i*P		**Pn**	**03 14 42.9**	**-0.1**
GO06				*i* S		**Sb**	**03 15 11.4**	**-0.1**
GO06				IAML			03 15 20.6	
	comp=E,149nm,0.5s							
PLCA	**Paso Flores**	**3.32**	**144**	P		**Pn**	**03 15 00.7**	**-0.6**
	comp=E,1.5nm,0.3s,baz=326,slow=10.0,SNR=12							
PLCA				LR		LR	03 15 45.4	
	comp=E,15nm,19.6s,baz=276,slow=30							
PLCA				Lg		Lg	03 15 53.9	
	comp=E,3.8nm,0.3s,baz=252,slow=22,SNR=5.5							
LPAZ	**La Paz**	**22.16**	**13**	P		**P**	**03 19 05.4**	**0.0**
	comp=E,0.9nm,0.8s,baz=198,slow=19,SNR=4.0							
SIV	**San Ignacio**	**24.45**	**29**	LR		LR	03 28 29.1	
	comp=E,30nm,21.5s,baz=120,slow=35							
TXAR	**Lajitas Array**	**72.90**	**332**	P		**P**	**03 25 39.5**	**+2.0**
	comp=E,0.3nm,0.8s,baz=156,slow=8.9,SNR=3.5							
TORD	**Torodi Ar. Bea**	**86.43**	**70**	P		**P**	**03 26 49.2**	**-1.9**
	comp=E,0.2nm,0.6s,baz=204,slow=4.1,SNR=2.4							
MKAR	**Makanchi Array**	**159.96**	**56**	PKPab		**PKPab**	**03 34 44.3**	**-2.3**
	comp=E,0.2nm,0.7s,baz=264,slow=4.2,SNR=2.8							

*IDC **18** 03:17:01.9±1.2, 3.°49S×144.°04E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.7/33, mbtmp3.8/6, ML3.9/1, MS3.1/2, Ms1 3.1/2, ms1mx2.8/28, Error ellipse: s-maj=43.9km s-min=22.7km az=106.0*
ISC 18 03:17:07.5±1.2, 3.°4S±0.°2×143.°7E±0.°3, h31km, n11, σ1.9/96/7, mb3.7/5, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
PMG	**Port Moresby**	**6.93**	**150**	LR		LR	03 21 49.7	
	comp=Z,105nm,20.7s,baz=357,slow=43							
CTA	**Charters Tower**	**16.82**	**172**	Pn		**P**	**03 21 05.5**	**+2.7**
	0.3nm,0.3s,baz=4.8,slow=12,SNR=4.9							
WRA	**Warramunga Arr**	**18.85**	**208**	P		**P**	**03 21 24.2**	**-0.8**
	0.4nm,0.3s,baz=31,slow=11,SNR=19							
ASAR	**Alice Springs**	**22.30**	**204**	P		**P**	**03 22 01.9**	**-0.7**
	1.1nm,0.5s,baz=32,slow=8.3,SNR=8.5							
FITZ	**Fitzroy Crossi**	**22.97**	**229**	P		**P**	**03 22 08.9**	**-0.7**
	4.2nm,0.7s,baz=42,slow=8.8,SNR=17							
FITZ				LR		LR	03 30 52.9	
	comp=Z,80nm,19.2s,baz=29,slow=36							
H11S3	**WAKE ISLAND Hy**	**31.37**	**45**	T		T	03 56 28.2	
	baz=228,slow=75							
H11S2	**WAKE ISLAND Hy**	**31.38**	**45**	T		T	03 56 27.8	
	baz=228,slow=75							
H11S1	**WAKE ISLAND Hy**	**31.39**	**45**	T		T	03 56 29.0	
	baz=228,slow=75							
MKAR	**Makanchi Array**	**73.37**	**321**	P		**P**	**03 28 38.2**	**+1.7**
	0.2nm,0.6s,baz=98,slow=7.6,SNR=2.9							
VNDA	**Vanda**	**74.75**	**176**	P		**P**	**03 28 42.5**	**-1.5**
	1.0nm,0.7s,baz=324,slow=7.5,SNR=3.6							
ILAR	**Eielson Array**	**84.38**	**24**	P		**P**	**03 29 35.4**	**-1.1**
	0.4nm,0.7s,baz=254,slow=5.3,SNR=5.7							

*NIED **18** 04:04:00, 37.°10N×140.°70E, h5km, Mw3.8 Best double couple: M0 5.74000×10^14 NP1:φs344.00000°, δ45.00000°, λ-127.00000°. NP2:φs211.00000°, δ55.00000°, λ-59.00000°.*
*ISCJB **18** 04:04:33.3±0.4, 37.°08N±0.°03×140.°72E±0.°04, h12km±2km, mb3.8/11, MS3.6/1, Error ellipse: s-maj=5.5km s-min=3.9km az=30.3*
*JMA **18** 04:04:33.8, 37.°09N×140.°67E, h8km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs351.00000°, δ53.00000°, λ-123.00000°. NP2: φs219.00000°, δ48.00000°, λ-54.00000°. Principal axes: T Plg3.0000°, Azm104.0000°; N Plg26.0000°, Azm13.0000°; P Plg64.0000°, Azm200.0000°;*
JMA Felt II J1.
*IDC **18** 04:04:39.0±2.5, 37.°04N×140.°50E, h46km±24km, mb3.6/11, mb1 3.9/12, mb1mx3.7/32, mbtmp3.8/12, ML3.2/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/27 Error ellipse: s-maj=21.7km s-min=16.1km az=113.0*
ISC 18 04:04:33.5±0.8, 37.°05N±0.°03×140.°57E±0.°03, h10km±5km, n33, σ1.9/16/36, mb3.7/11, 7C-2D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
JFFD	**Fukushimafurud**	**0.04**	**348**	⇑P		**Pg**	**04 04 36.0**	**+0.5**
JFFD				*e*S		**Sg**	**04 04 37.8**	**+0.9**
ONAJ	**Iwakimizuishiy**	**0.19**	**75**	⇑P		**Pg**	**04 04 36.3**	**-1.2**
ONAJ				S		**Sg**	**04 04 38.1**	**-2.2**
JFK	**Kawauchi**	**0.40**	**38**	⇑P		**Pg**	**04 04 40.2**	**-1.1**
JFK				S		**Sg**	**04 04 44.8**	**-1.8**
JHO	**Hitachi**	**0.44**	**180**	⇓P		**Pb**	**04 04 43.0**	**-0.4**
JHO				S		**Sb**	**04 04 49.6**	**-0.5**
JFT	**Otama**	**0.50**	**338**	⇑P		**Pb**	**04 04 43.9**	**-0.6**
JFT				S		**Sb**	**04 04 50.9**	**-0.9**
JSB	**Shiboa**	**0.53**	**261**	⇑P		**Pn**	**04 04 46.4**	**-0.8**
JSB				S		**Sn**	**04 04 55.0**	**-1.2**
JFY	**Yanaizu**	**0.78**	**297**	⇑P		**Pn**	**04 04 49.9**	**-0.7**
JFY				S		**Sn**	**04 05 00.8**	**-1.5**
JMM	**Marumori**	**0.83**	**12**	⇑P		**Pg**	**04 04 48.5**	**-1.0**
JMM				S		**Sg**	**04 04 59.0**	**-1.4**
JYT	**Yasato**	**0.88**	**200**	⇓P		**Pn**	**04 04 51.1**	**-0.8**
JYT				*e*S		**Sb**	**04 05 03.2**	**+0.6**
MJAR	**Matsushiro Arr**	**1.96**	**256**	P		**Pg**	**04 05 09.4**	**-1.8**
	3.7nm,0.3s,baz=78,slow=15,SNR=122							
MJAR				S		**Sg**	**04 05 36.1**	**-0.5**
	9.9nm,0.3s,baz=117,slow=17,SNR=15							
MJAR				LR		LR	04 06 02.1	
	comp=Z,190nm,18.8s,baz=75,slow=44							
MAT	**Matsushiro**	**1.96**	**256**	P		**Pg**	**04 05 09.7**	**-1.5**
MAT				S		**Sg**	**04 05 37.4**	**+0.7**
ASAJ	**Asahikawa**	**7.22**	**12**	P		**Pn**	**04 06 21.1**	**+2.0**
	0.4nm,0.3s,baz=228,slow=15,SNR=3.3							
ASAJ				S		**Sn**	**04 07 39.4**	**-1.8**
	0.5nm,0.3s,baz=177,slow=17,SNR=2.7							
ASAJ				LR		LR	04 09 29.5	
	comp=Z,162nm,18.8s,baz=348,slow=40							
JNU	**Nakatsue**	**8.86**	**247**	P		Pn	04 06 47.6	+6.0
	0.3nm,0.3s,baz=66,slow=10.0,SNR=2.5							
USRK	**Ussuriysk Ar.**	**9.67**	**320**	P		Pn	04 06 59.0	+6.4
	0.1nm,0.3s,baz=133,slow=14,SNR=9.2							
KSRS	**Korea Array**	**10.09**	**276**	P		Pn	04 07 06.8	+8.3
	0.1nm,0.3s,baz=93,slow=14,SNR=9.3							
KSRS				LR		LR	04 10 45.4	
	comp=Z,55nm,19.8s,baz=132,slow=36							
SONM	**Songino Array**	**27.22**	**304**	P		**P**	**04 10 18.6**	**+1.0**
	1.1nm,0.9s,baz=106,slow=8.0,SNR=6.3							
H11N2	**WAKE ISLAND Hy**	**28.74**	**120**	T		T	04 40 20.2	
	baz=313,slow=75,SNR=37							
H11N1	**WAKE ISLAND Hy**	**28.75**	**120**	T		T	04 40 20.6	
	baz=313,slow=75,SNR=31							
H11N3	**WAKE ISLAND Hy**	**28.76**	**120**	T		T	04 40 21.4	
	baz=313,slow=75,SNR=24							
H11S1	**WAKE ISLAND Hy**	**29.44**	**122**	T		T	04 41 12.3	
	baz=314,slow=75,SNR=55							
H11S3	**WAKE ISLAND Hy**	**29.44**	**122**	T		T	04 41 09.7	
	baz=314,slow=75,SNR=29							
H11S2	**WAKE ISLAND Hy**	**29.45**	**122**	T		T	04 41 14.6	
	baz=314,slow=75,SNR=36							
ZALV	**Zalesovo Beam**	**41.40**	**312**	P		**P**	**04 12 19.9**	**+0.1**
	0.4nm,0.3s,baz=76,slow=6.1,SNR=3.5							
MKAR	**Makanchi Array**	**43.54**	**302**	P		**P**	**04 12 38.1**	**+0.8**
	0.6nm,0.6s,baz=87,slow=10,SNR=9.1							
MKAR				LR		LR	04 30 29.0	
	comp=Z,70nm,19.8s,baz=28,slow=36							
ILAR	**Eielson Array**	**49.84**	**32**	P		**P**	**04 13 26.9**	**+0.5**
	1.2nm,0.7s,baz=267,slow=6.1,SNR=21							
WRA	**Warramunga Arr**	**56.99**	**187**	P		**P**	**04 14 19.3**	**-0.1**
	5.7nm,0.6s,baz=4.5,slow=7.4,SNR=75							
ASAR	**Alice Springs**	**60.72**	**187**	P		**P**	**04 14 45.5**	**+0.2**
	1.8nm,0.7s,baz=9.7,slow=7.0,SNR=13							
YKA	**Yellowknife Ar**	**64.13**	**30**	P		**P**	**04 15 08.8**	**+1.2**
	0.4nm,0.8s,baz=301,slow=6.8,SNR=5.2							
AKASG	**Malin Array Be**	**73.87**	**322**	P		**P**	**04 16 07.7**	**-0.7**
	0.2nm,0.3s,baz=45,slow=4.5,SNR=3.9							
NVAR	**Mina Array Bea**	**75.51**	**53**	P		**P**	**04 16 19.6**	**+1.1**
	0.8nm,0.7s,baz=294,slow=6.3,SNR=7.2							
PDAR	**Pinedale Array**	**78.13**	**45**	P		**P**	**04 16 33.4**	**+0.3**
	0.5nm,0.7s,baz=279,slow=1.9,SNR=6.2							
TXAR	**Lajitas Array**	**90.64**	**52**	P		**P**	**04 17 38.1**	**+1.5**
	0.5nm,0.8s,baz=292,slow=3.5,SNR=5.3							
LPAZ	**La Paz**	**147.26**	**59**	PKPbc		**PKPbc**	**04 24 18.6**	**+0.2**
	1.8nm,0.8s,baz=0.5,slow=4.3,SNR=5.9							

*ISCJB **18** 04:08:01.4±0.2, 0.°68N±0.°06×25.°31W±0.°03, h12km, mb4.7/106, MS4.1/22, Error ellipse: s-maj=8.3km s-min=4.8km az=168.6*
*IDC **18** 04:08:01.9±0.5, 0.°82N×25.°39W, h0km, mb4.3/25, mb1 4.4/25, mb1mx4.3/37, mbtmp4.3/25, MS4.1/22, Ms1 4.1/22, ms1mx4.0/23, Error ellipse: s-maj=15.6km s-min=12.0km az=157.0*
*NEIC **18** 04:08:02.9±0.2, 0.°72N×25.°40W, h10km, mb4.9/74, Error ellipse: s-maj=5.3km s-min=3.5km az=170.0*
*GCMT **18** 04:08:05.8±0.2, 0.°78N±0.°01×25.°32W±0.°01, h12km, MW5.0/106, Moment Tensor Solution. s40,c54; s106,c158; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.96±.08; Mθθ1.15±.09; Mφφ-0.19±.08; Mrθ0.91±.22; Mθφ-3.25±.06; Mφr-0.98±.24; Best double couple: M03.50000×10^16 NP1:φs174.00000°, δ84.00000°, λ15.00000°. NP2:φs83.00000°, δ75.00000°, λ174.00000°. Principal axes: T 4.1390, Plg15.0000°, Azm40.0000°; N -1.2780, Plg74.0000°, Azm195.0000°; P -2.8610, Plg6.0000°, Azm308.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 18 04:08:02.9±0.4, 0.°69N±0.°08×25.°34W±0.°06, h12km, n183, σ1.9/44/168, mb4.9/107, MS4.1/22, 8C-3D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
RCBR	**Riachuelo**	**12.37**	**238**	Pn		**Pn**	**04 10 56.8**	**-2.2**
	4.6nm,0.3s,baz=318,slow=0.1,SNR=23							
RCBR				Sn		S

	31nm,1.1s								
LPAZ	**La Paz**	**45.46**	**246**	P		**P**	**04 16 23.0**	**0.0**
	3.4nm,0.8s,baz=66,slow=5.9,SNR=14								
LPAZ				LR		LR	04 34 40.1		
	comp=Z,519nm,19.2s,baz=73,slow=35								
LPAZ	**La Paz**	**45.46**	**246**	*eP*		**P**	**04 16 22.2**	**-0.8**
	5.7nm,0.9s								
SDV	**Santo Domingo**	**45.82**	**282**	*eP*		**P**	**04 16 25.2**	**-0.2**
	7.4nm,0.9s								
TSUM	**Tsumeb**	**46.52**	**118**	P		**P**	**04 16 32.8**	**+2.0**
	4.0nm,0.9s,baz=291,slow=6.7,SNR=7.7								
TSUM	**Tsumeb**	**46.52**	**118**	*eP*		**P**	**04 16 32.0**	**+1.2**
	5.0nm,0.9s								
KEST	**Kesra**	**47.48**	**39**	LR		LR	04 36 45.6		
	comp=Z,1μm,21.9s,baz=190,slow=36								
LVC	**Limon Verde**	**48.32**	**239**	*eP*		**P**	**04 16 43.8**	**-1.3**
	1.9nm,0.3s								
SDDR	**Presa de Saban**	**48.56**	**295**	*eP*		**P**	**04 16 46.6**	**0.0**
	29nm,1.1s								
ROSC	**El Rosal**	**49.08**	**276**	P		**P**	**04 16 51.5**	**+0.4**
	6.5nm,0.7s,baz=33,slow=7.7,SNR=6.9								
ROSC				LR		LR	04 36 35.6		
	comp=Z,223nm,19.0s,baz=108,slow=35								
ROSC	**El Rosal**	**49.08**	**276**	*eP*		**P**	**04 16 51.4**	**+0.4**
	41nm,1.8s								
GO02	**Mina Guanaco**	**49.90**	**236**	*eP*		**P**	**04 16 57.6**	**+0.5**
	16nm,1.0s								
LCO	**Las Campanas**	**52.43**	**232**	*eP*		**P**	**04 17 15.0**	**-1.0**
	3.3nm,0.8s								
OTAV	**Otavalo**	**53.11**	**270**	*eP*		**P**	**04 17 20.9**	**-0.5**
	1.4nm,0.8s								
SUR	**Sutherland**	**54.57**	**132**	*eP*		**P**	**04 17 30.9**	**-0.6**
	13nm,0.8s								
LSZ	**Lusaka**	**55.22**	**109**	P		**P**	**04 17 37.8**	**+1.4**
	1.6nm,0.6s,baz=252,slow=3.9,SNR=3.5								
LSZ	**Lusaka**	**55.22**	**109**	*eP*		**P**	**04 17 36.9**	**+0.4**
	12nm,1.4s								
LBTB	**Lobatse**	**55.48**	**121**	P		**P**	**04 17 39.6**	**+1.4**
	4.5nm,1.0s,baz=279,slow=13,SNR=4.5								
FETA	**Feichten**	**55.83**	**29**	*i* P		**P**	**04 17 40.9**	**+0.5**
	4.4nm,0.7s								
SQTA	**Sankt Quirin**	**56.20**	**29**	*i* P		**P**	**04 17 43.6**	**+0.6**
	1.9nm,0.4s								
MOTA	**Moosalm**	**56.24**	**29**	*i* P		P	04 17 49.9	+6.6
	1.8nm,0.5s								
BOSA	**Boshof**	**56.47**	**125**	P		**P**	**04 17 46.1**	**+0.8**
	3.9nm,0.9s,baz=319,slow=5.7,SNR=4.5								
BOSA				LR		LR	04 37 32.6		
	comp=Z,174nm,20.6s,baz=242,slow=31								
ABTA	**Abfaltersbach**	**56.53**	**30**	*eP*		**P**	**04 17 45.2**	**-0.1**
	3.6nm,0.6s								
SOKA	**Soboth**	**57.78**	**32**	*i* P		**P**	**04 17 55.5**	**+1.4**
	3.4nm,0.8s								
PLCA	**Paso Flores**	**58.15**	**219**	LR		LR	04 43 40.9		
	comp=Z,181nm,18.4s,baz=78,slow=37								
GEA0	**GERESS Array S**	**58.53**	**29**	*eP*		**P**	**04 17 59.2**	**-0.2**
GERES	**GERESS Array B**	**58.54**	**29**	P		**P**	**04 17 59.7**	**+0.3**
	1.0nm,0.7s,baz=222,slow=5.4,SNR=8.2								
GERES				LR		LR	04 41 02.6		
	comp=Z,111nm,21.3s,baz=236,slow=34								
KHC	**Kasperske Hory**	**58.67**	**29**	*eP*		**P**	**04 18 00.7**	**+0.4**
KHC	**Kasperske Hory**	**58.67**	**29**	*eP*		**P**	**04 18 00.6**	**+0.3**
CLL	**Collm**	**59.90**	**27**	*eS*		**S**	**04 26 22.0**	**+1.6**
VTS	**Vitosha**	**60.21**	**40**	⇑*i*P		**P**	**04 18 10.1**	**-1.1**
VYHS	**Vyhne**	**60.93**	**32**	*eP*		**P**	**04 18 16.9**	**+1.1**
VYHS				*es*P		**pwP**	**04 18 23.3**	**-0.1**
MORC	**Moravsky Berou**	**61.05**	**30**	⇑*i*P		**P**	**04 18 17.2**	**+0.6**
PSZ	**Piszkesteto**	**61.16**	**33**	*eP*		**P**	**04 18 18.4**	**+1.0**
	9.3nm,1.0s								
PSZ	**Piszkesteto**	**61.16**	**33**	⇑*i*P		**P**	**04 18 18.5**	**+1.1**
GZR	**Gura Zlata**	**61.39**	**37**	⇓*i*P		**P**	**04 18 19.0**	**-0.1**
DRGR		**62.10**	**35**	⇑*i*P		**P**	**04 18 24.7**	**+0.9**
ARR	**Arges**	**62.50**	**37**	⇑*i*P		**P**	**04 18 26.9**	**+0.4**
KMBO	**Kilima Mbogo**	**62.62**	**92**	LR		LR	04 41 34.0		
	comp=Z,107nm,21.9s,baz=275,slow=32								
TRPA	**Tarpa**	**62.74**	**34**	⇓*i*P		**P**	**04 18 28.7**	**+0.8**
VOIR		**62.79**	**38**	⇑*i*P		**P**	**04 18 29.3**	**+0.8**
154A	**Montrose**	**62.84**	**307**	*eP*		**P**	**04 18 28.3**	**-0.6**
	370nm,2.0s								
MLR	**Muntele Rosu**	**63.36**	**38**	*eP*		**P**	**04 18 33.4**	**+1.0**
	13nm,1.2s								
SCHQ	**Schefferville**	**63.70**	**335**	P		**P**	**04 18 34.5**	**+0.3**
	4.7nm,0.8s,baz=157,slow=4.6,SNR=9.0								
SCHQ				LR		LR	04 42 21.8		
	comp=Z,137nm,20.5s,baz=78,slow=32								
PLOR	**Plostina**	**63.97**	**38**	⇓*i*P		**P**	**04 18 31.9**	**-4.3**
BURAR	**Bucovina Array**	**63.99**	**36**	⇑*i*P		**P**	**04 18 40.5**	**+4.1**
VRI	**Vrincioaia**	**64.03**	**38**	⇑*i*P		**P**	**04 18 37.5**	**+0.9**
BR131	**Keskin Array S**	**66.11**	**46**	*eP*		**P**	**04 18 50.5**	**+0.1**
BRTR	**Keskin Array B**	**66.11**	**46**	P		**P**	**04 18 50.3**	**-0.1**
	2.1nm,0.8s,baz=233,slow=5.5,SNR=14								
BRTR				LR		LR	04 49 00.3		
	comp=Z,159nm,20.7s,baz=257,slow=37								
NB2	**NORSAR Subarra**	**66.34**	**18**	P		**P**	**04 18 54.6**	**+3.3**
	comp=Z,1.0nm,0.7s,baz=219,slow=6.5								
NOA	**NORSAR Array B**	**66.34**	**18**	P		**P**	**04 18 52.8**	**+1.5**
	comp=Z,1.1nm,0.7s,baz=221,slow=6.3,SNR=6.4								
NOA				LR		LR	04 44 24.1		
	comp=Z,78nm,20.4s,baz=215,slow=33								
KIEV	**Kiev**	**67.79**	**34**	*eP*		**P**	**04 19 00.2**	**-0.4**
	comp=Z,14nm,1.1s								
AKASG	**Malin Array Be**	**67.80**	**34**	P		**P**	**04 19 01.0**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=238,slow=6.4,SNR=10								
AKBB	**Malin Array Si**	**67.80**	**34**	*eP*		**P**	**04 19 01.1**	**+0.4**
CCM	**Cathedral Cave**	**70.75**	**310**	*eP*		**P**	**04 19 18.1**	**-1.2**
	comp=Z,12nm,1.1s								
UALR	**University of**	**70.83**	**307**	*eP*		**P**	**04 19 18.9**	**-0.9**
	comp=Z,26nm,1.1s								
FINES	**FINESS Array B**	**71.94**	**23**	P		**P**	**04 19 26.8**	**+0.8**
	comp=Z,3.4nm,0.7s,baz=222,slow=2.6,SNR=7.9								
VNA1	**Neumayer--Stat**	**72.10**	**174**	P		**P**	**04 19 27.1**	**+0.4**
RAYN	**Ar Rayn**	**72.19**	**66**	*eP*		**P**	**04 19 28.9**	**+0.6**
	comp=Z,4.9nm,1.0s								
VNA2	**Neumayer--Watz**	**72.45**	**174**	P		**P**	**04 19 29.4**	**+0.5**
	baz=333,slow=6.5								
SNAA	**Sanae**	**73.68**	**173**	P		**P**	**04 19 38.9**	**+2.7**
SNAA	**Sanae**	**73.68**	**173**	P		**P**	**04 19 38.8**	**+2.6**
	comp=Z,3.7nm,0.8s,baz=358,slow=8.3,SNR=6.6								
ABPO	**Ambohimpanom**	**73.77**	**110**	*eP*		**P**	**04 19 36.5**	**-1.4**
	comp=Z,19nm,1.3s								
TUL1	**Leonard**	**73.82**	**307**	*eP*		**P**	**04 19 36.8**	**-0.9**
	comp=Z,25nm,1.3s								
KBZ	**Khabaz**	**73.92**	**44**	P		**P**	**04 19 38.5**	**+0.4**
	comp=Z,3.0nm,0.9s,baz=132,slow=20,SNR=4.0								
KBZ				LR		LR	04 54 03.1		
	comp=Z,99nm,21.4s,baz=259,slow=37								
WMOK	**Wichita Mounta**	**76.03**	**306**	*eP*		**P**	**04 19 49.2**	**-1.3**
	comp=Z,4.1nm,0.8s								
ECSD	**EROS Data Cent**	**76.06**	**315**	*eP*		**P**	**04 19 49.4**	**-1.1**
	comp=Z,15nm,1.3s								
JCT	**Junction City**	**76.27**	**301**	*eP*		**P**	**04 19 51.6**	**-0.4**
	comp=Z,12nm,0.9s								
ABTX	**Abilene, Hawle**	**76.42**	**303**	*eP*		**P**	**04 19 52.3**	**-0.5**
	comp=Z,28nm,1.3s								
AGMN	**Agassiz Nation**	**76.61**	**320**	*eP*		**P**	**04 19 53.2**	**-0.3**
	comp=Z,6.5nm,0.8s								
ULM	**Lac du Bonnet**	**77.11**	**322**	LR		LR	04 47 55.6		
	comp=Z,157nm,20.6s,baz=102,slow=31								
FCC	**Fort Churchill**	**78.52**	**330**	*eP*		**P**	**04 20 03.5**	**-0.4**
	comp=Z,14nm,1.1s								
MSTX	**Muleshoe**	**79.19**	**304**	*eP*		**P**	**04 20 08.2**	**-0.1**
	comp=Z,13nm,1.0s								
TX31	**Lajitas Ar. Si**	**79.48**	**300**	*eP*		**P**	**04 20 09.2**	**-0.8**
TXAR	**Lajitas Array**	**79.48**	**300**	P		**P**	**04 20 10.2**	**+0.1**
	comp=Z,3.0nm,0.9s,baz=120,slow=7.0,SNR=21								
OGNE	**Ogallala**	**79.50**	**311**	*eP*		**P**	**04 20 10.1**	**+0.2**
	comp=Z,27nm,1.1s								
KSCO	**Kaye Shedlock'**	**79.69**	**309**	*eP*		**P**	**04 20 11.3**	**+0.3**
	comp=Z,55nm,1.3s								
GDL2	**Guadalupe Moun**	**80.34**	**302**	*eP*		**P**	**04 20 15.1**	**+0.5**
MNTX	**Cornudas Mount**	**81.16**	**302**	*eP*		**P**	**04 20 18.2**	**-0.7**
	comp=Z,8.1nm,1.6s								
Q24A	**Divide**		**81.64**	**309**	*eP*	**P**	**04 20 22.0**	**+0.4**
	comp=Z,11nm,1.0s								
SDCO	**Great Sand Dun**		**81.79**	**308**	*eP*	**P**	**04 20 22.4**	**-0.1**
	comp=Z,9.8nm,1.1s								
ISCO	**Idaho Springs**		**82.08**	**310**	*eP*	**P**	**04 20 23.7**	**-0.3**
	comp=Z,10nm,1.5s								
DGMT	**Dagmar**		**82.09**	**319**	*eP*	**P**	**04 20 23.9**	**+0.4**
ANMO	**Albuquerque**		**82.32**	**305**	*eP*	**P**	**04 20 25.3**	**+0.1**
	comp=Z,11nm,1.4s								
N23A	**Red Feather La**		**82.44**	**311**	*eP*	**P**	**04 20 25.8**	**0.0**
	comp=Z,13nm,1.2s								
LAZ	**Ladron**		**82.84**	**304**	*eP*	**P**	**04 20 28.7**	**+0.8**
S22A	**4UR Ranch, Cre**		**82.84**	**308**	*eP*	**P**	**04 20 28.4**	**+0.4**
	comp=Z,28nm,2.0s								
SMCO	**Snowmass**		**83.07**	**309**	*eP*	**P**	**04 20 29.7**	**+0.4**

	comp=Z,24nm,1.7s								
RES	**Resolute Bay**	**84.01**	**346**	*eP*		**P**	**04 20 32.3**	**-0.5**
	comp=Z,4.6nm,1.0s								
GEYT	**Alibeck**	**84.42**	**52**	LR		LR	05 02 25.3		
	comp=Z,72nm,18.8s,baz=15,slow=39								
PV13	**Radium Mtn., P**	**84.44**	**308**	*eP*		**P**	**04 20 36.6**	**+0.5**
	comp=Z,12nm,1.2s								
PV03	**Paradox Valley**	**84.47**	**308**	*eP*		**P**	**04 20 36.2**	**0.0**
PV16	**Nyswonger Mesa**	**84.53**	**308**	*eP*		**P**	**04 20 36.8**	**+0.3**
	comp=Z,9.5nm,1.2s								
PV17	**East Wray Mesa**	**84.56**	**308**	*eP*		**P**	**04 20 37.0**	**+0.3**
	comp=Z,17nm,1.4s								
PV10	**Paradox Valley**	**84.63**	**308**	*eP*		**P**	**04 20 37.2**	**+0.1**
PV05	**Paradox Valley**	**84.66**	**308**	*eP*		**P**	**04 20 36.9**	**-0.3**
PV09	**Paradox Valley**	**84.71**	**308**	*eP*		**P**	**04 20 37.6**	**+0.1**
X18A	**Snowflake**	**85.16**	**304**	*eP*		**P**	**04 20 40.0**	**+0.3**
	comp=Z,11nm,1.1s								
RLMT	**Red Lodge**	**85.22**	**315**	*eP*		**P**	**04 20 39.6**	**-0.2**
	comp=Z,9.1nm,0.9s								
BW06	**Boulder Array**	**85.28**	**313**	*eP*		**P**	**04 20 40.5**	**+0.3**
	comp=Z,6.2nm,1.3s								
PD31	**Pinedale Array**	**85.28**	**313**	*eP*		**P**	**04 20 40.1**	**-0.2**
PDAR	**Pinedale Array**	**85.28**	**313**	P		**P**	**04 20 39.2**	**-1.0**
	comp=Z,2.3nm,1.0s,baz=60,slow=5.5,SNR=8.0								
PDAR				LR		LR	04 52 54.1		
	comp=Z,92nm,21.3s,baz=118,slow=32								
PDAR	**Pinedale Array**	**85.28**	**313**	*eP*		**P**	**04 20 39.0**	**-1.2**
SRU	**San Rafael Swe**	**85.82**	**309**	*eP*		**P**	**04 20 43.0**	**+0.1**
	comp=Z,13nm,1.5s								
ARU	**Arti**	**86.05**	**34**	*eP*		**P**	**04 20 43.2**	**-0.2**
LOHW	**Long Hollow**	**86.09**	**313**	*eP*		**P**	**04 20 44.3**	**+0.1**
	comp=Z,23nm,1.4s								
H17A	**Grant Village**	**86.11**	**314**	*eP*		**P**	**04 20 44.3**	**-0.1**
	comp=Z,13nm,1.5s								
FLWY	**Flagg Ranch**	**86.18**	**314**	*eP*		**P**	**04 20 44.8**	**+0.1**
	comp=Z,16nm,1.3s								
MOOW	**Moose Ponds**	**86.20**	**314**	*eP*		**P**	**04 20 44.2**	**-0.5**
	comp=Z,7.1nm,1.1s								
REDW	**Red Top Meadow**	**86.26**	**313**	*eP*		**P**	**04 20 45.3**	**+0.2**
	comp=Z,26nm,1.4s								
YFT	**Old Faithful**	**86.30**	**314**	*eP*		**P**	**04 20 45.4**	**+0.1**
	comp=Z,28nm,1.5s								
TPAW	**Teton Pass**	**86.34**	**313**	*eP*		**P**	**04 20 45.4**	**-0.1**
	comp=Z,17nm,1.3s								
IMW	**Indian Meadow**	**86.35**	**314**	*eP*		**P**	**04 20 45.3**	**-0.3**
	comp=Z,21nm,1.5s								
WUAZ	**Wupatki**	**86.37**	**305**	*eP*		**P**	**04 20 46.0**	**+0.3**
	comp=Z,5.8nm,1.0s								
X16A	**Lo Mia Camp, P**	**86.39**	**304**	*eP*		**P**	**04 20 45.9**	**0.0**
	comp=Z,5.2nm,1.2s								
AHID	**Auburn Hatcher**	**86.42**	**313**	*eP*		**P**	**04 20 45.6**	**-0.2**
	comp=Z,25nm,1.5s								
TCUT	**Toone Canyon**	**86.58**	**311**	*eP*		**P**	**04 20 46.6**	**-0.1**
	comp=Z,20nm,1.1s								
JLU	**Jordanelle**	**86.59**	**310**	*eP*		**P**	**04 20 47.2**	**+0.4**
	comp=Z,11nm,1.3s								
MPU	**Mule Canyon**	**86.72**	**310**	*eP*		**P**	**04 20 47.3**	**-0.1**
	comp=Z,15nm,1.7s								
QLMT	**Earthquake Lak**	**86.74**	**315**	*eP*		**P**	**04 20 48.2**	**+0.8**
NLU	**North Lily Min**	**87.05**	**310**	*eP*		**P**	**04 20 49.1**	**+0.1**
	comp=Z,10nm,1.3s								
MTPU	**Mount Pierson**	**87.09**	**308**	*eP*		**P**	**04 20 49.2**	**-0.2**
	comp=Z,17nm,1.2s								
HRY	**Holter Researc**	**87.09**	**317**	*eP*		**P**	**04 20 48.6**	**-0.3**
MSU	**Marysvale**	**87.09**	**308**	*eP*		**P**	**04 20 49.4**	**+0.2**
DUG	**Dugway, Tooele**	**87.62**	**310**	*eP*		**P**	**04 20 51.7**	**0.0**
	comp=Z,7.1nm,1.2s								
HVU	**Hansel Valley**	**87.63**	**312**	*eP*		**P**	**04 20 51.8**	**+0.1**
	comp=Z,5.8nm,1.1s								
Y14A	**Wickenburg**	**87.68**	**304**	*eP*		**P**	**04 20 52.0**	**0.0**
	comp=Z,7.7nm,1.4s								
SZCU	**Shurtz Canyon**	**87.79**	**307**	*eP*		**P**	**04 20 52.5**	**-0.2**
	comp=Z,10nm,1.2s								
BGU	**Big Grassy Mou**	**87.80**	**311**	*eP*		**P**	**04 20 52.9**	**+0.3**
	comp=Z,13nm,1.8s								
CCUT	**Cedar City**	**88.01**	**307**	*eP*		**P**	**04 20 54.2**	**+0.5**
	comp=Z,10nm,1.3s								
W13A	**Hualapai Mount**	**88.42**	**305**	*eP*		**P**	**04 20 55.8**	**+0.1**
	comp=Z,3.0nm,1.1s								
HLID	**Hailey**	**88.86**	**313**	*eP*		**P**	**04 20 57.2**	**-0.3**
	comp=Z,14nm,1.9s								
Y12C	**Blythe**	**88.94**	**304**	*eP*		**P**	**04 20 58.1**	**+0.2**
	comp=Z,6.9nm,1.0s								
YKA	**Yellowknife Ar**	**89.05**	**332**	P		**P**	**04 20 57.2**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=92,slow=5.0,SNR=16								
YKA				LR		LR	04 55 43.9		
	comp=Z,17nm,21.5s,baz=58,slow=32								
R11A	**Troy Canyon, C**	**89.77**	**308**	*eP*		**P**	**04 21 01.6**	**-0.3**
	comp=Z,4.4nm,1.4s								
MAW	**Mawson**	**89.94**	**157**	LR		LR	04 53 48.9		
	comp=Z,44nm,19.6s,baz=220,slow=30								
BMO	**Blue Mountains**	**90.92**	**315**	*eP*		**P**	**04 21 06.7**	**-0.3**
	comp=Z,12nm,1.4s								
NVAR	**Mina Array Bea**	**91.90**	**308**	P		**P**	**04 21 12.4**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=120,slow=3.8,SNR=4.2								
F07A	**Phinny Hill Vi**	**92.71**	**316**	*eP*		**P**	**04 21 14.8**	**-0.3**
	comp=Z,18nm,1.7s								
KSH	**Kashi**	**98.29**	**50**	P		**P**	**04 21 39.1**	**-1.8**
KSH				*p*P		*s*P	04 21 44.8	+0.2	
KSH				PP		**PP**	**04 25 44.5**	**+3.9**	
KSH				S		S	04 32 59.8	-9.3	
KSH				LR		LR			
	comp=Z,110nm,6.0s								
KSH				LR		LR			
	comp=Z,250nm,9.7s								
GTA	**Gaotai**	**116.01**	**45**	*e*PKP		**PKPdf**	**04 26 50.9**	**+4.4**	
LZH	**Lanzhou**	**120.32**	**47**	*e*PKP		**PKPdf**	**04 26 51.8**	**-3.1**	
CD2	**Chengdu**	**122.41**	**52**	PKP		**PKPdf**	**04 26 57.5**	**-1.4**	
HHC	**Hu-ho-hao-te**	**123.11**	**38**	*e*PKP		**PKPdf**	**04 26 55.0**	**-5.0**	
KMI	**Kunming**	**123.65**	**59**	PKP		**PKPdf**	**04 27 01.0**	**-0.7**	
GYA	**Guiyang**	**126.48**	**56**	*e*Pdif		**Pdif**	**04 23 46.8**	**+0.2**	
GYA				PKP		**PKPdf**	**04 27 06.3**	**-0.6**	
GYA				PP		**PP**	**04 29 05.3**	**+2.9**	
GYA				AMB		AMB			
	comp=Z,120nm,8.0s								
NJ2	**Nanjing**	**133.03**	**43**	*e*PKP		**PKPdf**	**04 27 18.1**	**-0.9**	
STKA	**Stephens Creek**	**146.61**	**160**	PKPbc		**PKiKP**	**04 27 47.6**	**-0.4**	
	comp=Z,4.0nm,0.8s,baz=202,slow=5.4,SNR=4.3								
ASAR	**Alice Springs**	**149.55**	**140**	PKPbc		**PKiKP**	**04 27 54.6**	**+0.3**	
	comp=Z,1.1nm,0.9s,baz=214,slow=2.1,SNR=12								
WRA	**Warramunga Arr**	**152.40**	**135**	PKPbc		**PKiKP**	**04 28 01.3**	**+1.1**	
	comp=Z,0.9nm,0.8s,baz=237,slow=2.4,SNR=3.7								

MAN 18 04:34:30.1,9.48N×125.93E,h20km, mb4.2, ML3.0, MS2.7, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.53**	**305**	⇑*i*P	Pb	04 34 40.6	-0.2
SCPH				*i* S	Sb	04 34 49.4	+1.4
BUTP	**Butuan**	**0.59**	**211**	*e*P	Pb	04 34 42.2	+0.4
BUTP				*e*S	Sn	04 34 54.1	+1.6
MSLP	**Maasin**	**1.24**	**302**	*e*P	Pn	04 34 50.8	-1.6
MSLP				*e*S	Sn	04 35 09.2	+0.7
CGP	**Cagayan de Oro**	**1.59**	**230**	⇓*e*P	Pn	04 34 56.7	-0.4
CGP				*e*S	Sn	04 35 17.0	-0.1
BUKP	**Musuan**	**1.81**	**209**	*e*P	Pn	04 35 00.1	0.0
BUKP				*e*S	Sn	04 35 23.6	+1.0
TBP	**Tagbilaran**	**2.05**	**276**	*e*P	Pn	04 35 04.1	+0.6

GUC 18 04:51:55.6±0.4, 30.23S×68.87W, h103km±3km, ML3.6
ISCJB 18 04:51:56.5±0.7, 30.18S±0.04×68.89W±0.04, h114km±7km, Error ellipse: s-maj=7.8km s-min=5.8km az=28.0
SJA 18 04:51:56.4±0.9, 30.13S×68.83W, h101km±4km, ML3.3, MW3.4

ISC 18 04:51:56.8±1.5, 30.17S±0.05×68.89W±0.04, h111km±9km, n26, σ0°65/33, 4C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACDV	**Cuesta del Vie**	**0.20**	**268**	*e*P	**Pn**	**04 52 12.6**	**+0.1**
ACDV				IAML		04 52 13.0	
	comp=Z,1μm,0.3s						
ACDV				*e*S	**Sn**	**04 52 23.4**	**-0.9**
ACCO	**Cerro Coronel**	**0.45**	**200**	*e*P	**Pn**	**04 52 13.9**	**0.0**
AROD	**Rodeo**	**0.51**	**270**	*e*P	**Pn**	**04 52 14.5**	**+0.3**
AROD				*e*S	**Sn**	**04 52 27.1**	**-0.1**
AGUA	**GUANDACOL**	**0.76**	**27**	*e*P	**Pn**	**04 52 16.7**	**+0.9**
AMOG	**MOGNA**	**0.84**	**156**	*e*P	**Pn**	**04 52 16.6**	**0.0**
AMOG				*e*S	**Sn**	**04 52 30.9**	**-0.6**
RTLL	**Cerro Villicun**	**1.21**	**163**	*e*P	**Pn**	**04 52 20.6**	**+0.2**
RTLL				IAML		04 52 39.2	
	comp=Z,262nm,0.3s						
RTLL	**Cerro Villicun**	**1.21**	**163**	*i* S	**Sn**	**04 52 37.7**	**-0.5**
SJA	**San Juan**	**1.39**	**168**	*e*P	**Pn**	**04 52 23.0**	**+0.6**
CFA	**Coronel Fontan**	**1.54**	**159**	*e*P	**Pn**	**04 52 24.6**	**+0.4**
GO04	**Tololo Observa**	**1.66**	**269**	⇑*i*P	**Pn**	**04 52 26.6**	**+0.8**
GO04				*i* S	**Sn**	**04 52 48.7**	**+0.9**
RTLS	**Leoncito**	**1.67**	**192**	*e*P	**Pn**	**04 52 27.1**	**+1.1**
RTLS				IAML		04 52 50.0	
	comp=Z,313nm,0.2s						
RTCV	**Cerro Valdivia**	**1.72**	**170**	*e*P	**Pn**	**04 52 27.3**	**+1.0**
LCO	**Las Campanas**	**1.96**	**306**	*e*P	**Pn**	**04 52 30.0**	**+0.5**
LCO	**Las Campanas**	**1.96**	**306**	⇑*i*P	**Pn**	**04 52 30.0**	**+0.5**
LCO				*i* S	**Sn**	**04 52 54.1**	**-0.3**
LCO				IAML		04 52 55.6	
	comp=E,367nm,0.3s						
LSCH	**La Serena**	**2.06**	**277**	⇓*i*P	**Pn**	**04 52 30.4**	**-0.2**
LSCH				*i* S	**Sn**	**04 52 55.5**	**-0.9**
LSCH				IAML		04 52 56.3	
	comp=N,423nm,0.3s						
CMCH	**Combarbala**	**2.08**	**241**	⇓*i*P	**Pn**	**04 52 31.0**	**+0.1**
CMCH				*i* S	**Sn**	**04 52 57.2**	**+0.2**
CMCH				IAML		04 52 59.9	
	comp=N,550nm,0.4s						
AUSP	**Uspallata**	**2.10**	**192**	*e*P	**Pn**	**04 52 32.4**	**+1.0**
ACAN	**Cantantal**	**2.56**	**146**	*e*P	**Pn**	**04 52 38.2**	**+1.2**
CYA	**Choya**	**3.19**	**58**	*e*P	**Pn**	**04 52 45.4**	**0.0**
CYA	**Choya**	**3.19**	**58**	⇑*i*P	**Pn**	**04 52 45.5**	**0.0**
CYA				IAML		04 53 22.5	
	comp=N,75nm,0.3s						
ROCH	**El Roble**	**3.33**	**212**	⇑*i*P	**Pn**	**04 52 46.9**	**-0.6**
ROCH				*i* S	**Sn**	**04 53 26.2**	**-0.3**
ROCH				IAML		04 53 28.8	
	comp=E,92nm,0.4s						
ROC1	**El Roble**	**3.34**	**212**	*e*P	**Pn**	**04 52 47.0**	**-0.6**
PEL	**Peldehue**	**3.34**	**207**	*e*P	**Pn**	**04 52 46.8**	**-0.6**
FCH	**Farellones**	**3.37**	**200**	IAML		04 53 38.3	
	comp=E,88nm,0.2s						
MRA	**San Martin**	**3.52**	**130**	*e*P	**Pn**	**04 52 50.2**	**+0.4**
MRA				IAML		04 53 31.5	
	comp=Z,34nm,0.5s						
TCA	**Tanti**	**3.87**	**109**	*e*P	**Pn**	**04 52 54.3**	**-0.2**

ISCJB 18 04:57:00.9±1.3, 11.88N±0.03×143.22E±0.03, h4km±8km, mb5.2/256, MS4.6/97, Error ellipse: s-maj=5.7km s-min=4.1km az=1.4
BJI 18 04:57:01.5, 11.85N×143.56E, h18km, mb4.9/57, mB5.2/42, Ms4.6/38, Ms7 4.4/42
*IDC 18 04:57:01.5±0.4, 11.81N×143.27E, h0km, mb4.9/33, mb1 5.0/34, mb1mx5.0/42, mbtmp4.9/34, ML4.9/1, MS4.2/29, Ms1 4.2/29, ms1mx4.1/43, Error ellipse: s-maj=14.8km s

NJ2 **Nanjing** 30.24 316 eP P 05 03 15.6 +1.4
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
CTAO **Charters Tower** 31.84 175 eP P 05 03 28.0 -0.3
CTAO Z,27nm,1.4s
CTAO LR LR
comp=Z,505nm,20.0s
CTAO **Charters Tower** 31.84 175 eP P 05 03 28.0 -0.3
CTAO pmax pmax
comp=Z,27nm,1.4s
CTAO MLR MLR
comp=Z,505nm,20.0s
ASAJ **Asahikawa** 32.19 359 eP P 05 03 31.1 -0.1
comp=Z,98nm,1.8s
WHN **Wuhan** 32.70 309 P P 05 03 34.3 -1.6
WHN S S 05 08 48.8 -1.6
WHN LR LR
comp=Z,1μm,15.4s
WRAB **Tennant Creek** 32.78 196 eP P 05 03 36.0 -0.7
comp=Z,24nm,1.0s
WRAB LR LR
comp=Z,1μm,19.0s
WRAB **Tennant Creek** 32.78 196 ceP P 05 03 35.6 -1.1
WRAB pmax pmax
comp=Z,38nm,1.7s
WB2 **Warramunga Arr** 32.79 196 eP P 05 03 35.2 -1.6
WRA **Warramunga Arr** 32.79 196 P P 05 03 36.2 -0.6
comp=Z,13nm,0.9s,baz=20,slow=9.8,SNR=42
WRA LR LR 05 17 35.0
comp=Z,1μm,18.1s,baz=35,slow=38
WRA **Warramunga Arr** 32.79 196 i P P 05 03 36.2 -0.6
WRA pmax pmax
comp=Z,14nm,0.9s
QIZ **Qiongzhong** 33.07 287 P P 05 03 40.5 +1.3
QIZ sP sP 05 03 49.5 -1.2
QIZ PP PP 05 04 53.1 -1.2
QIZ S S 05 08 57.6 +1.2
QIZ LR LR
comp=Z,370nm,18.6s
USA0B **Ussuriysk Arra** 33.72 345 eP P 05 03 44.5 -0.1
comp=Z,30nm,0.9s
USRK **Ussuriysk Ar.** 33.72 345 P P 05 03 44.9 +0.3
comp=Z,22nm,0.8s,baz=166,slow=9.0,SNR=38
USRK LR LR 05 16 19.9
comp=Z,362nm,19.6s,baz=154,slow=34
FITZ **Fitzroy Crossi** 34.50 211 LR LR 05 19 28.4
comp=Z,173nm,18.2s,baz=30,slow=39
YSS **Yuzh-Sakhalins** 35.02 359 eP P 05 03 55.0 -0.8
YSS e*SP pwP 05 04 07.8 -0.3
YSS e 05 05 18.6
YSS ePPP PPP 05 05 39.6
YSS eS S 05 09 22.3 -3.6
YSS eSSS SSS 05 12 11.6
YSS pmax pmax
comp=Z,300nm,3.0s
YSS MLR MLR
comp=Z,600nm,20.0s
YSS MLR MLR
comp=N,500nm,16.0s
YSS MLR MLR
comp=E,600nm,17.0s
ENH **Enshi** 36.37 306 eP P 05 04 07.7 0.0
comp=E,29nm,1.0s
AS01 **Alice Springs** 36.45 195 eP P 05 04 07.8 -0.6
AS31 **Alice Springs** 36.46 195 eP P 05 04 08.7 +0.2
comp=E,2.5nm,0.9s
ASAR **Alice Springs** 36.47 195 P P 05 04 06.6 -1.9
comp=E,4.4nm,1.0s,baz=20,slow=11,SNR=14
ASAR PP PP 05 05 33.1 +1.2
comp=E,1.9nm,0.8s,baz=14,slow=12,SNR=3.6
ASAR LR LR 05 19 39.9
comp=E,925nm,18.7s,baz=6.0,slow=37
BJT **Baijiatuau** 36.96 324 eP P 05 04 11.2 -1.3
comp=E,29nm,0.6s
BJT LR LR
comp=Z,919nm,19.0s
BJT **Baijiatuau** 36.96 324 eP P 05 04 11.2 -1.3
BJT pmax pmax
comp=Z,29nm,0.6s
BJT MLR MLR
comp=Z,919nm,19.0s
BJI **Beijing** 36.97 324 P P 05 04 12.5 -0.1
BJI pmax pmax
comp=Z,14nm,0.6s
BJI LR LR
comp=Z,520nm,13.9s
BJI LR LR
comp=Z,400nm,19.8s
BJI LR LR
comp=Z,450nm,19.5s
GYA **Guiyang** 37.46 298 P P 05 04 18.4 +1.3
GYA pP sP 05 04 26.0 -2.5
GYA PP PnPn 05 05 47.5 +3.7
GYA S S 05 10 05.3 +1.3
GYA sS sS 05 10 17.6 +0.2
GYA SS SnSn 05 12 38.5 -4.3
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=Z,460nm,18.6s
GYA LR LR
comp=Z,470nm,18.2s
GYA LR LR
comp=Z,420nm,18.7s
EIDS **Eidsvold** 37.72 169 eP P 05 04 18.5 -0.6
comp=Z,19nm,1.3s
XAN **Xi'an** 38.39 311 P P 05 04 24.3 -0.5
XAN pmax pmax
comp=Z,5.0nm,0.7s
XAN pmax pmax
comp=Z,120nm,4.3s
KLR **Kul'dur** 38.52 348 i P P 05 04 24.6 -1.0
TYV **Tymovskoe** 38.94 359 eP P 05 04 28.6 -0.4
TYV pmax pmax
comp=Z,11nm,1.0s
TYV pmax pmax
comp=Z,500nm,6.0s
HHC **Hu-ho-hao-te** 40.20 322 eP P 05 04 39.5 -0.4
HHC pP pP 05 04 46.9 -1.3
HHC sP sP 05 04 50.4 -0.8
HHC S S 05 10 44.0 -1.0
HHC sS sS 05 10 55.3 -3.3
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,150nm,5.9s
HHC LR LR
comp=Z,210nm,13.0s
HHC LR LR
comp=Z,310nm,13.0s
HHC LR LR
comp=Z,480nm,13.8s
CHAI **Chaiyaphum** 40.34 281 P P 05 04 43.0 +1.7
comp=Z,8.3nm,1.1s
DZM **Mont Dzumac** 40.58 146 P P 05 04 44.0 +0.8
comp=Z,28nm,0.8s,baz=12,slow=7.3,SNR=12
KMI **Kunming** 40.58 295 P P 05 04 44.8 +1.4
KMI pP pP 05 04 51.8 +0.3
KMI sP sP 05 04 54.4 -0.5
KMI pmax pmax
comp=Z,15nm,0.8s
KMI pmax pmax
comp=Z,160nm,5.7s
BTO **Baotou** 41.01 320 eP P 05 04 47.0 +0.4
CD2 **Chengdu** 41.21 304 eP P 05 04 47.5 -0.8
CD2 pmax pmax
comp=Z,10.0nm,0.5s
NKL **Nikolayevsk** 41.28 358 eP P 05 04 47.0 -1.4
NKL pmax pmax
comp=Z,43nm,1.3s
PBKT **Sadao Pong** 41.32 282 eP P 05 04 49.5 +0.2
comp=Z,28nm,1.4s
PBKT **Sadao Pong** 41.32 282 P P 05 04 51.9 +2.6
comp=Z,18nm,1.2s,comp=Z,1μm
UTTA **Uttaradit** 41.75 283 P P 05 04 55.5 +2.7
comp=Z,3.5nm,1.2s
HIA **Hailar** 42.15 337 eP P 05 04 55.5 -0.2
comp=Z,5.8nm,0.6s
HIA LR LR
comp=Z,509nm,20.0s
HIA **Hailar** 42.15 337 eP P 05 04 55.5 -0.2
HIA pmax pmax
comp=Z,6.0nm,0.6s
HIA MLR MLR
comp=Z,509nm,20.0s
ARMA **Armidale** 42.74 169 eP P 05 05 01.3 +0.6
comp=Z,17nm,1.1s
PETK **Petropavlovsk-** 42.75 13 P P 05 05 00.1 -0.4
comp=Z,4.3nm,0.8s,baz=189,slow=8.3,SNR=3.9
PETK PcP PcP 05 06 52.5 +0.9
comp=Z,6.9nm,0.9s,baz=189,slow=2.8,SNR=4.0
PETK LR LR 05 23 40.6
comp=Z,390nm,19.6s,baz=194,slow=37
PETK **Petropavlovsk-** 42.75 13 eP P 05 04 59.5 -1.0
PETK PcP PcP 05 06 52.5 +0.9
PETK **Petropavlovsk-** 42.75 13 eP P 05 04 59.5 -1.0
PETK 05 06 52.5
UTHA **Uthaitani** 42.79 280 P P 05 05 03.8 +2.5
comp=Z,6.0nm,1.1s
LZH **Lanzhou** 43.03 311 eP P 05 05 05.0 +1.8
LZH pP sP 05 05 12.3 -2.3
LZH sP pwP 05 05 15.5 -1.5
LZH S S 05 11 32.1 +5.0
LZH pmax pmax
comp=Z,35nm,1.0s
LZH pmax pmax
comp=Z,320nm,4.3s
LZH LR LR
comp=Z,570nm,11.4s
LZH LR LR
comp=Z,1μm,12.7s
LZH LR LR
comp=Z,840nm,12.4s
CM01 **Chiang Mai Arr** 43.29 284 eP P 05 05 05.6 +0.2
CMAR **Chiang Mai Arr** 43.31 284 P P 05 05 06.4 +0.8
comp=Z,8.4nm,1.0s,baz=85,slow=6.3,SNR=24
CMAR LR LR 05 21 36.9
comp=Z,149nm,20.7s,baz=100,slow=34
CHTO **Chiang Mai** 43.32 285 PFAKE
CHTO LR LR
comp=Z,174nm,19.0s
STKA **Stephens Creek** 43.48 182 P P 05 05 06.0 -0.6
comp=Z,4.6nm,0.9s,baz=9.5,slow=6.1,SNR=5.1
STKA LR LR 05 24 24.8
comp=Z,321nm,18.0s,baz=15,slow=38
ZEA **Zeya** 43.74 346 eP P 05 05 08.0 -0.5
ZEA pmax pmax
comp=N,35nm,1.0s
ZEA pmax pmax
comp=Z,44nm,1.0s
ZEA MLR MLR
comp=Z,700nm,14.0s
ZEA MLR MLR
comp=E,400nm,15.0s
ZEA MLR MLR
comp=N,400nm,16.0s
GSI **Gunungsitoli** 46.61 261 eP P 05 05 31.2 -0.6
comp=N,55nm,1.2s
ULN **Ulaanbaatar** 47.03 327 eP P 05 05 34.8 0.0
comp=N,23nm,1.4s
ULN LR LR
comp=Z,493nm,19.0s
ULN **Ulaanbaatar** 47.03 327 ceP P 05 05 35.3 +0.5
ULN pmax pmax
comp=Z,33nm,2.5s
GTA **Gaotai** 47.29 313 ⇑P P 05 05 37.0 0.0
GTA pP pP 05 05 43.6 -1.4
GTA sP sP 05 05 46.8 -1.6
GTA PcP PcP 05 07 09.3 +1.5
GTA ScS ScS 05 15 29.6 +0.5
GTA pmax pmax
comp=Z,17nm,1.1s
GTA pmax pmax
comp=Z,43nm,5.9s
GTA LR LR
comp=Z,230nm,20.0s
GTA LR LR
comp=Z,260nm,21.3s
GTA LR LR
comp=Z,370nm,21.6s
SONM **Songino Array** 47.36 327 P P 05 05 37.6 +0.2
comp=Z,5.9nm,0.6s,baz=145,slow=7.8,SNR=36
SONM PcP PcP 05 07 08.3 +0.4
comp=Z,3.8nm,0.8s,baz=150,slow=4.5,SNR=6.1
SONM LR LR 05 26 34.3
comp=Z,582nm,18.1s,baz=143,slow=38
SONA1 **Songino Array** 47.37 327 eP P 05 05 36.9 -0.5
SHL **Shillong** 50.36 293 eP P 05 06 00.9 +0.1
comp=Z,11nm,0.7s
SHL **Shillong** 50.36 293 eP P 05 06 00.9 +0.1
SHL pmax pmax
comp=Z,11nm,0.7s
SHL **Shillong** 50.36 293 eP P 05 05 58.0 -2.8
ZAK **Zakamensk** 50.52 328 eP P 05 06 01.7 +0.2
ZAK pmax pmax
comp=Z,23nm,1.1s
NWAO **Narrogin (SRO)** 51.02 208 LR LR 05 28 53.9
comp=Z,220nm,19.0s,baz=50,slow=38
YAK **Yakutsk** 51.10 352 eP P 05 06 05.4 -0.1
YAK e*PP pwP 05 06 16.8 -1.4
YAK e 05 07 22.0
YAK eS S 05 13 22.6 +1.6
YAK e 05 15 43.7
YAK pmax pmax
comp=Z,49nm,0.8s
YAK pmax pmax
comp=N,29nm,1.0s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,167nm,4.2s
YAK pmax pmax
comp=N,82nm,4.8s
YAK pmax pmax
comp=E,144nm,4.8s
YAK smax smax
comp=N,95nm,3.3s
YAK smax smax
comp=E,73nm,3.2s
YAK MLR MLR
comp=N,175nm,15.0s
LSA **Lhasa** 51.53 299 eP P 05 06 09.4 -0.5
comp=N,6.2nm,0.4s
LSA LR LR
comp=Z,190nm,20.0s
LSA **Lhasa** 51.53 299 eP P 05 06 09.4 -0.5
LSA pmax pmax
comp=Z,6.0nm,0.4s
LSA MLR MLR
comp=Z,190nm,20.0s
MOY **Mondy** 52.44 328 eP P 05 06 16.0 +0.1
MOY pmax pmax
comp=Z,22nm,1.4s
TAU **Tasmania Unive** 54.58 176 PFAKE 05 06 40.0 +8.5
TAU LR LR
comp=Z,2μm,19.0s
RAMN **Ramite** 55.21 295 eP P 05 06 36.9 +0.2
comp=Z,17nm,0.8s
RAO **Raoul Island** 55.34 138 PFAKE 05 06 50.0 +13
RAO LR LR
comp=Z,5μm,20.0s
JIRN **Jiri** 55.62 295 eP P 05 06 40.0 +0.1
comp=Z,26nm,0.6s
GUN **Gumba** 55.92 296 eP P 05 06 42.3 +0.3
comp=Z,47nm,0.8s
PKI **Pulchoki** 56.31 295 eP P 05 06 44.5 -0.2
PKIN **Phulchoki** 56.32 295 eP P 05 06 44.1 -0.6
comp=Z,15nm,0.7s
KKN **Kakani** 56.44 296 eP P 05 06 45.4 -0.1
comp=Z,23nm,0.8s
DMN **Daman** 56.58 295 eP P 05 06 46.6 0.0
comp=Z,52nm,1.1s
WMQ **Urumqi** 57.32 315 P P 05 06 52.3 +1.0
WMQ pP pP 05 06 58.3 -1.3
WMQ sP pwP 05 07 03.0 -2.2
WMQ PcS PcS 05 11 43.5 -2.8
WMQ S S 05 14 43.1 -2.6
WMQ ScS ScS 05 16 33.3 -5.3
WMQ pmax pmax
comp=Z,67nm,1.1s
WMQ pmax pmax
comp=Z,230nm,3.7s
WMQ LR LR
comp=Z,360nm,23.1s
WMQ LR LR
comp=Z,500nm,21.7s
WMQ LR LR
comp=Z,640nm,20.1s
WMQ **Urumqi** 57.32 315 eP P 05 06 51.6 +0.3
comp=Z,38nm,1.0s
WMQ pmax pmax
comp=Z,38nm,1.0s
DANN **Dangsing** 57.82 296 eP P 05 06 55.5 +0.1
comp=Z,42nm,0.7s
KOLN **Koldanda** 57.92 295 eP P 05 06 56.1 +0.1
comp=Z,53nm,1.0s
BILL **Bilibino** 58.14 10 eP P 05 06 57.1 +0.5
comp=Z,17nm,1.3s
BILL LR LR
comp=Z,562nm,19.0s
BILL **Bilibino** 58.14 10‖ eP P 05 06 56.1 -0.4
BILL e 05 07 48.8
BILL pmax pmax
comp=Z,13nm,1.3s
BILL MLR MLR
comp=Z,236nm,18.0s
PYUN **Piuthan** 58.48 296 eP P 05 06 59.8 -0.1
comp=Z,105nm,1.0s
DGZ **Jazzator, Alta** 59.28 321 c iP P 05 07 05.7 +0.7
DGZ pmax pmax
comp=Z,13nm,0.9s
TIXI **Tiksi** 60.44 355 ceP P 05 07 11.3 -1.1
TIXI pmax pmax
comp=Z,14nm,1.0s
MK01 **Makanchi Array** 61.75 317 eP P 05 07 22.1 +0.3
MK31 **Makanchi Array** 61.76 317 eP P 05 07 21.9 +0.1
MK31 **Makanchi Array** 61.76 317 eP P 05 07 21.9 +0.1
MKAR **Makanchi Array** 61.76 317 P P 05 07 22.2 +0.4
comp=Z,15nm,0.9s,baz=96,slow=7.4,SNR=88
MKAR PcP PcP 05 08 03.1 +0.2
comp=Z,2.8nm,0.7s,baz=101,slow=6.0,SNR=2.7
MKAR LR LR 05 35 39.3
comp=Z,130nm,18.1s,baz=86,slow=38
MKAR **Makanchi Array** 61.76 317 eP P 05 07 22.3 +0.4
comp=Z,75nm,0.9s
MKAR PcP PcP 05 08 03.0 +0.2
PALK **Pallekele** 61.87 272 i P P 05 07 27.4 +4.3
MAKZ **Makanchi** 61.97 317 eP P 05 07 23.5 +0.2
comp=Z,23nm,0.9s
MAKZ **Makanchi** 61.97 317 eP P 05 07 23.5 +0.2
MAKZ pmax pmax
comp=Z,23nm,0.9s
ZAA0 **Zalesovo Array** 62.22 325 eP P 05 07 24.1 -0.6
comp=Z,10nm,0.7s
ZALV **Zalesovo Beam** 62.22 325 P P 05 07 24.3 -0.4
comp=Z,11nm,0.7s,baz=109,slow=6.9,SNR=46
ZALV PcP PcP 05 08 03.6 -0.9
comp=Z,3.8nm,0.5s,baz=139,slow=3.6,SNR=5.4
ZALV LR LR 05 34 59.8
comp=Z,241nm,19.0s,baz=78,slow=37
ZALV **Zalesovo Beam** 62.22 325 eP P 05 07 23.9 -0.8
ZALV PcP PcP 05 08 03.6 -0.9
HYB **Hyderabad** 62.73 284 i P P 05 07 29.0 +0.2
ANM **Nome** 63.37 22 eP P 05 07 32.1 -0.1
comp=Z,18nm,1.0s
ANM **Nome** 63.37 22 eP P 05 07 32.1 -0.1
ANM pmax pmax
comp=Z,18nm,1.0s
NVS **Novosibirsk** 63.38 326 eP P 05 07 32.8 +0.4
NVS pmax pmax
comp=Z,30nm,1.1s
NVS pmax pmax
comp=N,7.0nm,1.3s
NVS pmax pmax
comp=E,17nm,1.2s
KURK **Kurchatov** 65.00 321 eP P 05 07 42.8 -0.4
KURK LR LR
comp=Z,554nm,20.0s
KURK **Kurchatov** 65.00 321 c iP P 05 07 43.1 0.0
KURK pmax pmax
comp=Z,57nm,0.8s
KSH **Kashi** 65.16 308 P P 05 07 46.5 +1.9
KSH pP sP 05 07 53.5 -2.8
KSH PP PP 05 10 15.6 +7.5
KSH S S 05 16 24.5 -1.3
KSH ScS SKSac 05 17 32.4 -5.3
KSH SS SS 05 20 42.4 +3.9
KSH pmax pmax
comp=Z,13nm,0.4s
KSH pmax pmax
comp=Z,300nm,5.9s
KSH LR LR
comp=Z,140nm,6.1s
KSH LR LR
comp=Z,380nm,6.2s
KSH LR LR
comp=Z,300nm,10.1s
NRN **Naryn** 65.33 310 eP P 05 07 45.5 -0.4
comp=Z,12nm,1.3s
NRN **Naryn** 65.33 310 eP P 05 07 45.5 -0.4
NRN pmax pmax
comp=Z,12nm,1.3s
RDOG **Red Dog Mine** 66.02 19 eP P 05 07 50.0 +0.5
comp=Z,40nm,0.8s
KDAK **Kodiak Island** 66.33 32 i P P 05 07 52.3 +0.7
AAK **Ala-Archa** 66.57 311 eP P 05 07 52.0 -1.7
comp=Z,6.3nm,1.1s
AAK LR LR
comp=Z,503nm,19.0s
AAK **Ala-Archa** 66.57 311 ceP P 05 07 53.5 -0.1
AAK pmax pmax
comp=Z,7.0nm,1.3s
RSO **Redoubt South** 67.02 29 eP P 05 07 55.4 -0.8
NIL **Nilore** 67.05 302 eP P 05 07 56.2 -0.5
comp=Z,23nm,0.8s
NIL LR LR
comp=Z,79nm,21.0s
NIL **Nilore** 67.05 302 eP P 05 07 56.2 -0.5
NIL pmax pmax
comp=Z,23nm,0.8s
NIL MLR MLR
comp=Z,79nm,21.0s
BRLK **Bradley Lake** 67.72 30 eP P 05 08 00.6 +0.2
comp=Z,146nm,1.8s
PPLA **Purkeypile** 68.01 26 eP P 05 08 02.5 +0.2
comp=Z,21nm,0.8s
CAST **Castle Rocks** 68.22 26 eP P 05 08 03.5 0.0
comp=Z,39nm,0.8s
SUA **Susitna One** 68.25 28 eP P 05 08 03.5 -0.3
comp=Z,34nm,1.0s
IM3 **Indian Mountai** 68.38 23 eP P 05 08 04.6 +0.1
SEW **Seward** 68.51 30 eP P 05 08 05.5 +0.2
comp=Z,67nm,1.3s
RC01 **Rabbit Creek A** 68.61 29 eP P 05 08 05.7 -0.3
comp=Z,64nm,1.1s
BPAW **Bear Paw Mtn.** 68.89 25 eP P 05 08 07.9 +0.2
comp=Z,37nm,0.8s
TRF **Thorofare Moun** 69.00 26 eP P 05 08 07.5 -1.0
comp=Z,28nm,0.8s
PMR **Palmer** 69.02 28 eP P 05 08 08.0 -0.5
comp=Z,35nm,0.8s
PMR **Palmer** 69.02 28 eP P 05 08 08.0 -0.5
PMR pmax pmax
comp=Z,35nm,0.8s
BTK **Batken** 69.16 308 eP P 05 08 10.1 +0.2
comp=Z,19nm,1.4s
BTK **Batken** 69.16 308 eP P 05 08 10.1 +0.2
BTK pmax pmax
comp=Z,19nm,1.4s
GHO **Glory Hole Cre** 69.16 28 eP P 05 08 08.8 -0.7
comp=Z,34nm,0.9s
MLY **Manley** 69.26 24 eP P 05 08 10.4 +0.4
comp=Z,39nm,0.7s
KNK **Knik Glacier** 69.29 29 eP P 05 08 10.7 +0.4
comp=Z,41nm,0.9s
SML **Sawmill** 69.45 28 eP P 05 08 11.0 -0.2
comp=Z,73nm,1.0s
SML **Sawmill** 69.45 28 eP P 05 08 11.0 -0.2
SML pmax pmax
comp=Z,73nm,1.0s
GAR **Garm** 69.52 307 eP P 05 08 12.0 -0.2
comp=Z,18nm,0.7s
KK31 **Karatay Array** 69.52 312 eP P 05 08 12.2 +0.2
KKAR **Karatay Array** 69.52 312 eP P 05 08 12.5 +0.5
RND **Reindeer** 69.61 26 eP P 05 08 11.8 -0.4
comp=Z,26nm,1.0s
RND **Reindeer** 69.61 26 eP P 05 08 11.8 -0.4
RND pmax pmax
comp=Z,26nm,1.0s
MCK **McKinley** 69.66 26 eP P 05 08 12.2 -0.2
comp=Z,46nm,1.2s
MCK **McKinley** 69.66 26 eP P 05 08 12.2 -0.2
MCK pmax pmax
comp=Z,46nm,1.2s
COLD **Coldfoot** 70.13 22 eP P 05 08 16.1 +0.9

comp=Z,34nm,1.2s
DHY Denali Highway 70.18 27 *e*P **P 05 08 15.9 +0.1**
comp=Z,18nm,0.8s
WRH Wood River Hil 70.20 25 *e*P **P 05 08 15.5 -0.2**
comp=Z,37nm,0.8s
MDM Murphy Dome 70.27 25 *e*P **P 05 08 15.9 -0.3**
comp=Z,35nm,0.7s
TCOL CIGO, UAF Yank 70.40 25 P **P 05 08 16.0 -0.9**
baz=256,SNR=8.1
COLA College 70.40 25 *e*P **P 05 08 16.9 -0.1**
comp=Z,25nm,0.8s
COLA LR LR
comp=Z,353nm,19.0s
COLA College 70.40 25‖ *i*P **P 05 08 16.0 -0.9**
COLA pmax pmax
comp=Z,32nm,1.1s
CHGR Chuyangaron 70.42 307 *e*P **P 05 08 18.0 +0.3**
comp=Z,22nm,0.7s
BRVK Borovoye 70.48 322 *e*P **P 05 08 17.4 -0.3**
comp=Z,40nm,0.9s
BRVK LR LR
comp=Z,265nm,19.0s
BRVK Borovoye 70.48 322 *c i*P **P 05 08 17.9 +0.3**
BRVK pmax pmax
comp=Z,41nm,0.9s
DIV Divide 70.50 29 *e*P **P 05 08 18.7 +1.0**
comp=Z,34nm,0.8s
KLU Klutina 70.50 29 *e*P **P 05 08 18.1 +0.4**
comp=Z,34nm,0.9s
KBL Kabul 70.54 303 *e*P **P 05 08 18.5 -0.1**
comp=Z,16nm,1.3s
POKR Poker Plat Res 70.64 25 P **P 05 08 17.5 -0.9**
baz=256,SNR=9.9
HDA Harding Lake 70.67 26 *e*P **P 05 08 17.6 -1.0**
comp=Z,29nm,0.8s
HDA Harding Lake 70.67 26 P **P 05 08 17.6 -1.0**
baz=257,SNR=18
IL1 Eielson Array 70.78 25 *e*P **P 05 08 17.8 -1.4**
ILAR Eielson Array 70.78 25 P **P 05 08 18.1 -1.2**
comp=Z,26nm,0.6s,baz=249,slow=6.0,SNR=556
ILAR LR LR 05 39 16.2
comp=Z,140nm,19.2s,baz=268,slow=36
ILB Eielson Array 70.78 25 *e*P **P 05 08 18.1 -1.1**
RAGM Ragged Mountai 70.89 30 *e*P **P 05 08 20.1 0.0**
comp=Z,96nm,1.4s
PAX Paxson 71.00 27 *e*P **P 05 08 21.1 +0.3**
comp=Z,26nm,0.8s
PAX Paxson 71.00 27 *e*P **P 05 08 21.1 +0.3**
PAX pmax pmax
comp=Z,26nm,0.8s
BMRM Bremner River 71.03 29 *e*P **P 05 08 21.7 +0.8**
comp=Z,69nm,1.2s
HARP HAARP 71.03 28 *e*P **P 05 08 21.2 +0.3**
comp=Z,72nm,0.8s
HMT Hamilton 71.09 30 *e*P **P 05 08 21.6 +0.3**
comp=Z,86nm,1.3s
RIDG Independ'e Rid 71.43 26 *e*P **P 05 08 23.3 0.0**
comp=Z,51nm,1.0s
DOT Dot Lake 71.75 27 *e*P **P 05 08 25.1 -0.1**
comp=Z,55nm,0.8s
SCRK Sand Creek 71.85 26 *e*P **P 05 08 25.9 0.0**
comp=Z,25nm,0.9s
FYU Fort Yukon 71.85 24 *e*P **P 05 08 26.1 +0.5**
comp=Z,176nm,1.3s
EGAK Eagle 73.19 26 *e*P **P 05 08 34.1 +0.4**
comp=Z,104nm,1.9s
DAWY Dawson 73.86 27 *e*P **P 05 08 38.8 +1.0**
comp=Z,44nm,0.9s
HYT Haines Junctio 74.46 30 *e*P **P 05 08 42.2 +0.9**
comp=Z,44nm,1.2s
EPYK Eagle Plains 75.20 24 *e*P **P 05 08 46.2 +0.8**
comp=Z,44nm,1.0s
EPYK Eagle Plains 75.20 24 P **P 05 08 46.1 +0.7**
baz=266,SNR=17
WHY Whitehorse 75.74 30 *e*P **P 05 08 49.5 +0.7**
comp=Z,36nm,1.3s
SVE Sverdlovsk 76.23 326‖ *e*P **P 05 08 51.7 +0.3**
SVE pmax pmax
comp=Z,43nm,1.1s
INK Inuvik 76.55 22 *e*P **P 05 08 53.0 0.0**
comp=Z,38nm,1.0s
INK Inuvik 76.55 22 *e*P **P 05 08 53.0 0.0**
INK pmax pmax
comp=Z,38nm,1.0s
ABKAR Akbulak array 76.87 318 *e*P **P 05 08 55.2 0.0**
ARU Arti 77.38 325 *e*P **P 05 08 57.8 -0.2**
comp=Z,31nm,0.8s
ARU Arti 77.38 325 *c i*P **P 05 08 57.8 -0.2**
ARU 05 11 50.6
ARU S **S 05 18 48.3 +2.1**
ARU SS **SS 05 23 43.2 -1.6**
ARU pmax pmax
comp=Z,36nm,0.9s
DLBC Dease Lake 78.25 32 P **P 05 09 04.2 +1.3**
comp=Z,14nm,0.9s,baz=296,slow=7.3,SNR=15
DLBC Dease Lake 78.25 32 *e*P **P 05 09 03.4 +0.6**
comp=Z,20nm,1.1s
GEYT Alibeck 79.13 307 P **P 05 09 09.2 +1.2**
comp=Z,14nm,0.9s,baz=96,slow=1.5,SNR=20
GEYT LR LR 05 48 55.2
comp=Z,283nm,18.6s,baz=70,slow=39
GYA0B ALIBECK ARRAY 79.13 307 *e*P **P 05 09 08.5 +0.4**
comp=Z,27nm,1.1s
BBB Bella Bella 79.86 39 P **P 05 09 12.4 +0.7**
comp=Z,65nm,1.2s,baz=217,slow=10,SNR=1.9
BBB Bella Bella 79.86 39 *e*P **P 05 09 13.0 +1.3**
comp=Z,192nm,1.5s
CASY Casey 81.57 193 PFAKE 05 09 30.0 +10
CASY LR LR
comp=Z,147nm,20.0s
BANOM Banah 82.33 295 *i* P **P 05 09 24.6 -0.9**
SNR=6.1
UOSS Minazif 82.57 294 *e*P **P 05 09 27.1 +0.4**
comp=Z,49nm,1.4s
UOSS Minazif 82.57 294 *i* P **P 05 09 26.3 -0.4**
SNR=7.8
HATD Hatta, Dubai 82.66 294 *i* P **P 05 09 27.6 +0.5**
SNR=9.1
ASHO Ashiyiah 82.75 294 *i* P **P 05 09 27.9 +0.2**
SNR=12
NAZ Nazwa, Dubai 83.05 294 *i* P **P 05 09 29.4 +0.2**
SNR=5.9
NLWA Neilton Lookou 83.26 43 *e*P **P 05 09 31.1 +1.3**
comp=Z,31nm,1.0s
PGC Sidney 83.32 42 *e*P **P 05 09 30.7 +0.7**
comp=Z,30nm,1.0s
PRGR Permogore 83.35 332 *e*P **P 05 09 27.8 -2.1**
PRGR pmax pmax
comp=Z,65nm,0.8s
ASUD Al Ashush, Dub 83.41 294 P **P 05 09 31.2 +0.2**
KEBM Edson Butte 83.73 48 *e*P **P 05 09 33.2 +0.8**
comp=Z,46nm,1.2s
D03D Eldon 83.75 43 P **P 05 09 34.1 +1.8**
baz=281
A04D Lummi Island 83.79 42 P **P 05 09 33.9 +1.5**
baz=281
I02D Swisshome 83.86 46 P **P 05 09 34.3 +1.4**
baz=280
J01E Myrtle Point 83.97 47 P **P 05 09 34.9 +1.4**
baz=280
D04E Lakebay 84.03 43 P **P 05 09 34.9 +1.2**
baz=281
G03D McMinnville, O 84.06 45 P **P 05 09 34.2 +0.2**
baz=281
K02D Willamette Mer 84.25 48 P **P 05 09 36.3 +1.2**
baz=281,SNR=7.9
B05A Bryant 84.27 42 P **P 05 09 36.2 +1.3**
baz=281
I03D Drain, OR 84.29 47 P **P 05 09 36.5 +1.4**
baz=281
E04D Cinebar 84.29 44 P **P 05 09 36.6 +1.6**
baz=281
L02E Cave Junction 84.39 48 P **P 05 09 37.1 +1.4**
baz=281,SNR=9.1
KHMM Horse Mountain 84.54 50 *e*P **P 05 09 38.0 +1.3**
comp=Z,27nm,0.9s
D05A Enumclaw 84.56 43 *e*P **P 05 09 37.2 +0.8**
comp=Z,82nm,1.8s
H04D Lebanon 84.56 46 P **P 05 09 37.9 +1.4**
baz=281
B06A Marblemount 84.62 42 *e*P **P 05 09 37.9 +1.2**
comp=Z,46nm,1.5s
KMRM Mail Ridge 84.68 50 *e*P **P 05 09 37.9 +0.6**
comp=Z,18nm,1.0s
LON Longmire 84.76 43 *e*P **P 05 09 38.3 +0.8**
comp=Z,9.9nm,1.2s
LON Longmire 84.76 43 *e*P **P 05 09 38.3 +0.8**
LON pmax pmax
comp=Z,10.0nm,1.2s
HUMO Hull Mountain 84.78 48 *e*P **P 05 09 38.5 +0.8**
comp=Z,13nm,0.8s
KCPM Cahto Peak 84.87 51 *e*P **P 05 09 39.2 +0.8**
comp=Z,27nm,0.9s
H04A Detroit Lake 84.92 46 *e*P **P 05 09 39.3 +0.9**
comp=Z,32nm,1.3s
I04A Tendick Farm, 84.94 46 P **P 05 09 39.5 +1.1**
baz=282,SNR=11
YKW3 Yellowknife Ar 85.07 27 *e*P **P 05 09 39.1 +0.5**
comp=Z,45nm,1.5s
M02C Callahan 85.09 49 P **P 05 09 41.2 +1.9**
baz=281,SNR=18
YKA Yellowknife Ar 85.09 27 P **P 05 09 39.1 +0.4**
comp=Z,6.8nm,0.7s,baz=287,slow=5.1,SNR=59
YKA LR LR 05 45 59.8
comp=Z,18nm,20.8s,baz=280,slow=34
YKB5 Yellowknife Ar 85.09 27 *e*P **P 05 09 38.5 -0.2**
YBH Yreka Blue Hor 85.13 49 P **P 05 09 41.1 +1.6**
comp=Z,12nm,0.7s,baz=283,slow=2.8,SNR=65
YBH Yreka Blue Hor 85.13 49 *e*P **P 05 09 40.6 +1.1**
comp=Z,16nm,0.8s
YBH Yreka Blue Hor 85.13 49 *e*P **P 05 09 40.6 +1.1**
YBH pmax pmax
comp=Z,16nm,0.8s
C06D Leavenworth 85.13 42 P **P 05 09 40.1 +0.8**
baz=282
F05D White Salmon 85.18 44 P **P 05 09 40.8 +1.2**
baz=282
J04D Umpqua Nationa 85.26 47 P **P 05 09 41.5 +1.2**
baz=282,SNR=12
N02D Trinity Center 85.28 49 P **P 05 09 42.1 +1.8**
baz=282,SNR=11
L04D Klamath Falls 85.33 48 P **P 05 09 41.8 +1.2**
baz=282,SNR=12
O02D Mt. Diablo Mer 85.38 50 P **P 05 09 42.8 +2.0**
baz=282,SNR=18
HOPS Hopland Field 85.40 51 *e*P **P 05 09 41.8 +1.0**
comp=Z,26nm,1.3s
G05D Wamic, OR 85.41 45 P **P 05 09 41.9 +1.1**
baz=282
LTY Liberty 85.42 43 *e*P **P 05 09 41.7 +0.8**
comp=Z,15nm,0.9s
WDC Whiskeytown Da 85.48 50 *e*P **P 05 09 41.7 +0.5**
comp=Z,8.3nm,0.9s
WDC Whiskeytown Da 85.48 50 *e*P **P 05 09 41.7 +0.5**
WDC pmax pmax
comp=Z,8.0nm,0.9s
SPA0 Spitsbergen Ar 85.55 350 *e*P **P 05 09 42.0 +1.1**
I05D Terrebonne, OR 85.58 46 P **P 05 09 42.8 +1.1**
baz=282
K04D Chiloquin, OR 85.64 48 P **P 05 09 43.4 +1.2**
baz=282,SNR=9.7
KBS Kingsbay 85.73 352 *e*P **P 05 09 42.3 +0.6**
comp=Z,46nm,0.9s
KBS Kingsbay 85.73 352 *ce*P **P 05 09 42.1 +0.4**
KBS pmax pmax
comp=Z,242nm,1.7s
M04C Macdoel 85.75 48 P **P 05 09 44.0 +1.3**
baz=282,SNR=21
J05D Fort Rock, OR 85.88 47 P **P 05 09 44.7 +1.4**
baz=282,SNR=18
G06A Carlson Farm, 85.88 45 *e*P **P 05 09 43.6 +0.5**
comp=Z,22nm,1.4s
PINE Pine Mountain 85.98 46 *e*P **P 05 09 44.8 +0.9**
comp=Z,45nm,1.1s
B08A Colville Reser 86.06 42 *e*P **P 05 09 44.8 +0.9**
comp=Z,37nm,0.9s
O03E Paynes Creek 86.09 50 P **P 05 09 45.1 +0.7**
baz=282,SNR=10
E07A Sunnyside 86.12 43 *e*P **P 05 09 45.0 +0.7**
comp=Z,21nm,0.9s
F07A Phinny Hill Vi 86.22 44 *e*P **P 05 09 46.5 +1.8**
comp=Z,12nm,0.8s
HAWA Hanford 86.37 43 *e*P **P 05 09 46.4 +0.9**
comp=Z,15nm,0.9s
KLMR Klimovskoe 86.41 332 *e*P **P 05 09 41.8 -3.5**
KLMR pmax pmax
comp=Z,19nm,1.1s
KLMR Klimovskoe 86.41 332 *e*P **P 05 09 41.9 -3.4**
KLMR AMP 05 09 49.0
comp=Z,19nm,1.1s
ORV Oroville 86.47 50 *e*P **P 05 09 46.6 +0.4**
comp=Z,18nm,1.3s
APA Apatity 86.58 339‖ *i*P P 05 09 34.2 -12
APA pmax pmax
comp=Z,7.0nm,0.9s
APA MLR MLR
comp=Z,2μm,25.0s
RES Resolute Bay 86.59 13 *e*P **P 05 09 45.5 -0.5**
comp=Z,32nm,0.9s
RES Resolute Bay 86.59 13 *e*P **P 05 09 45.5 -0.5**
RES pmax pmax
comp=Z,32nm,0.9s
D08A Wollman Farm, 86.63 43 *e*P **P 05 09 47.9 +1.2**
comp=Z,49nm,1.4s
E08A Dider Farm, El 86.67 43 *e*P **P 05 09 47.8 +0.9**
comp=Z,25nm,1.0s
MOD Modoc Plateau 86.85 48 *e*P **P 05 09 49.3 +1.2**
comp=Z,20nm,1.3s
C09A Chrisman Ranch 86.88 42 *e*P **P 05 09 49.1 +1.2**
comp=Z,92nm,1.8s
I07A Izee 86.92 46 *e*P **P 05 09 49.5 +1.1**
comp=Z,10nm,1.1s
AFDM Forest Hills D 87.01 51 *e*P **P 05 09 49.7 +0.9**
comp=Z,12nm,1.1s
G08A Pilot Rock 87.02 44 *e*P **P 05 09 49.7 +0.9**
comp=Z,14nm,1.1s
SAO San Andreas Ge 87.11 53 *e*P **P 05 09 50.0 +0.7**
comp=Z,16nm,1.3s
SAO San Andreas Ge 87.11 53 *e*P **P 05 09 50.1 +0.7**
SAO pmax pmax
comp=Z,16nm,1.3s
BEKR Beckworth 87.27 50 *e*P **P 05 09 51.2 +0.9**
comp=Z,20nm,0.9s
E09A Wood Farm, Sta 87.28 43 *e*P **P 05 09 50.8 +0.9**
comp=Z,33nm,1.0s
NEW Newport 87.51 41 P **P 05 09 52.0 +1.0**
comp=Z,24nm,1.0s,baz=286,slow=2.1,SNR=23
NEW Newport 87.51 41 *e*P **P 05 09 51.9 +0.8**
comp=Z,23nm,0.9s
NEW Newport 87.51 41 *e*P **P 05 09 51.9 +0.8**
NEW pmax pmax
comp=Z,23nm,0.9s
NEW Newport 87.51 41 P **P 05 09 52.1 +1.0**
baz=285
CMB Columbia Colle 87.66 52 *e*P **P 05 09 52.6 +0.7**
comp=Z,14nm,1.1s
CMB Columbia Colle 87.66 52 *e*P **P 05 09 52.7 +0.7**
CMB pmax pmax
comp=Z,14nm,1.1s
J08A Circle Bar Ran 87.82 46 *e*P **P 05 09 53.6 +0.8**
comp=Z,22nm,1.0s
VCNR Virginia City 87.93 50 *e*P **P 05 09 54.3 +0.8**
comp=Z,11nm,0.9s
WVOR Wild Horse Val 87.93 47 *e*P **P 05 09 53.8 +0.5**
comp=Z,20nm,1.0s
WVOR LR LR
comp=Z,260nm,19.0s
WVOR Wild Horse Val 87.93 47 *e*P **P 05 09 53.8 +0.5**
WVOR pmax pmax
comp=Z,20nm,1.0s
WVOR MLR MLR
comp=Z,260nm,19.0s
PNTR Pine Nut 88.02 51 *e*P **P 05 09 55.0 +1.1**
comp=Z,21nm,1.0s
F10A Beach Ranch, E 88.03 44 *e*P **P 05 09 54.2 +0.6**
comp=Z,12nm,1.0s
PAHR Pah Rah Range 88.03 50 *e*P **P 05 09 54.8 +0.9**
comp=Z,19nm,1.1s
VRH Novokhopyorsk 88.06 322 *e*P **P 05 09 51.7 -1.8**
VRH pmax pmax
comp=Z,70nm,0.9s
BMO Blue Mountains 88.26 45 *e*P **P 05 09 55.8 +1.0**
comp=Z,30nm,1.1s
BMO Blue Mountains 88.26 45 *e*P **P 05 09 55.8 +1.0**
BMO pmax pmax
comp=Z,30nm,1.1s
WAKR Walker 88.28 51 *e*P **P 05 09 56.1 +1.0**
comp=Z,14nm,1.1s
PAGB Antelope Grade 88.29 54 *e*P **P 05 09 55.7 +0.7**
comp=Z,43nm,1.2s
ARCES ARCESS Array B 88.31 342 P **P 05 09 54.4 0.0**
comp=Z,9.3nm,0.6s,baz=62,slow=6.4,SNR=29
ARCES LR LR 05 53 14.2
comp=Z,8.5nm,18.8s,baz=38,slow=38
YERR Yerington 88.31 51 *e*P **P 05 09 55.8 +0.5**
comp=Z,16nm,1.0s
SMMC Simmler 88.58 54 P **P 05 09 58.0 +1.5**
baz=284,SNR=6.3
OMMB Old Mammoth Mi 88.82 52 *e*P **P 05 09 58.8 +1.0**
comp=Z,9.9nm,1.1s
PKM Mcpherson Peak 88.83 55 P **P 05 09 59.3 +1.5**
baz=284,SNR=15
ZEI Tsey 88.90 313 *e*P **P 05 09 56.2 -1.8**
ZEI pmax pmax
comp=Z,16nm,1.0s
RYN Ryan 88.94 51 *e*P **P 05 09 59.1 +0.8**
comp=Z,16nm,0.9s
MLAC Mammoth, Mammo 88.95 52 P **P 05 09 59.8 +1.4**
baz=284
GNI Garni 88.97 311 *e*P **P 05 09 57.9 -0.4**
GNI LR LR
comp=Z,179nm,20.0s
GNI Garni 88.97 311 *e*P **P 05 09 57.9 -0.4**
GNI MLR MLR
comp=Z,179nm,20.0s
MOS Moscow 88.99 327 *e*P **P 05 09 55.1 -2.7**
MOS *e* 05 10 06.6
MOS pmax pmax
comp=Z,48nm,1.2s
SBC Santa Barbara 89.01 55 P **P 05 09 59.9 +1.5**
baz=284
KVN Kaiserville 89.16 50 *e*P **P 05 10 00.2 +1.0**
comp=Z,20nm,1.0s
NV01 Mina Array Sit 89.16 51 *e*P **P 05 10 00.1 +0.8**
NVAR Mina Array Bea 89.16 51 P **P 05 10 00.9 +1.6**
comp=Z,22nm,0.8s,baz=263,slow=5.9,SNR=116
VES Vestal, Richgr 89.18 54 P **P 05 09 59.9 +0.7**
baz=284,SNR=6.5
NV11 Mina Array Sit 89.27 51 *e*P **P 05 10 00.6 +0.9**
comp=Z,1.4nm,0.9s
LPSR Galich'ya Gora 89.29 324 *e*P **P 05 09 56.3 -3.0**
LPSR pmax pmax
comp=Z,50nm,1.1s
WALA Waterton Lakes 89.34 40 *e*P **P 05 10 00.8 +1.1**
comp=Z,17nm,1.2s
KBZ Khabaz 89.36 315 P **P 05 09 58.9 -0.9**
comp=Z,7.9nm,0.9s,baz=113,slow=5.8,SNR=6.0
KBZ LR LR 05 53 06.0
comp=Z,71nm,20.3s,baz=65,slow=38
KIV Kislovodsk 89.45 315 *e*P **P 05 09 59.7 -0.7**
comp=Z,9.6nm,0.5s
KIV LR LR
comp=Z,119nm,20.0s
KIV Kislovodsk 89.45 315 *e*P **P 05 09 58.5 -1.9**
KIV pmax pmax
comp=Z,16nm,1.0s
BMN Battle Mountai 89.46 49 *e*P **P 05 10 01.6 +1.1**
BMN Battle Mountai 89.46 49 *e*P **P 05 10 01.7 +1.1**
TIN Tinemaha, Big 89.56 52 P **P 05 10 02.5 +1.5**
baz=284,SNR=5.2
ARVC Arvin 89.56 54 P **P 05 10 02.2 +1.2**
baz=284
VSR Storozhevoye 89.59 322 *e*P **P 05 09 58.7 -2.0**
VSR pmax pmax
comp=Z,30nm,0.9s
NEY Neytrino 89.61 314 *i* P **P 05 10 00.7 -0.6**
NEY pmax pmax
comp=Z,2.0nm,0.9s
MFID Camas Ranch 89.67 46 *e*P **P 05 10 02.8 +1.3**
comp=Z,30nm,1.1s
ISA Isabella, Lake 89.71 54 *e*P **P 05 10 02.9 +1.2**
comp=Z,12nm,1.3s
ISA Isabella, Lake 89.71 54 *e*P **P 05 10 02.9 +1.2**
ISA pmax pmax
comp=Z,12nm,1.3s
ISA Isabella, Lake 89.71 54 P **P 05 10 02.4 +0.7**
baz=284,SNR=8.6
OBN Obninsk 89.77 327 PFAKE 05 10 10.0 +8.5
OBN LR LR
comp=Z,142nm,21.0s
OBN Obninsk 89.77 327‖ *e*P **P 05 10 00.8 -0.7**
OBN *e* 05 13 27.8
OBN *e*S **SKSac 05 20 25.2 -4.6**
OBN pmax pmax
comp=Z,29nm,0.7s
OBN MLR MLR
comp=Z,168nm,17.0s
TULEG Thule 89.78 7 *e*P **P 05 10 01.6 +0.4**
comp=Z,26nm,1.1s
CWC Cottonwood Cre 89.82 53 P **P 05 10 03.5 +1.1**
baz=285
MSO Missoula 89.98 42 *e*P **P 05 10 03.9 +1.0**
comp=Z,19nm,1.9s
GRAC Grapevine Rang 90.24 52 P **P 05 10 05.5 +1.4**
baz=285
DAC Darwin (Calif) 90.25 53 *e*P **P 05 10 05.2 +0.8**
comp=Z,14nm,1.1s
DAC Darwin (Calif) 90.25 53 *e*P **P 05 10 05.2 +0.8**
DAC pmax pmax
comp=Z,14nm,1.1s
EDW2 Edwards Air Fo 90.28 54 P **P 05 10 05.8 +1.3**
baz=285,SNR=11
CIS Catalina Islan 90.31 56 P **P 05 10 05.6 +1.0**
baz=284,SNR=5.8
LRMC Laurel Mtn Rad 90.38 54 P **P 05 10 06.2 +1.3**
baz=285
MPMC Manual Prospec 90.38 53 P **P 05 10 06.6 +1.5**
baz=285,SNR=29
MWC Mount Wilson 90.39 55 *e*P **P 05 10 05.5 +0.4**
comp=Z,28nm,1.4s
MWC Mount Wilson 90.39 55 *e*P **P 05 10 05.5 +0.4**
MWC pmax pmax
comp=Z,28nm,1.4s
SBA Scott Base 90.49 175 PFAKE 05 10 20.0 +16
SBA LR LR
comp=Z,506nm,19.0s
HLID Hailey 90.62 45 *e*P **P 05 10 06.4 +0.4**
comp=Z,10nm,1.0s
HLID LR LR
comp=Z,243nm,20.0s
HLID Hailey 90.62 45 P **P 05 10 07.2 +1.3**
baz=287,SNR=14
BFSC Mount Baldy Ra 90.71 55 P **P 05 10 07.4 +0.9**
baz=285
FURC Furnace Creek, 90.77 53 P **P 05 10 08.0 +1.5**
baz=285,SNR=18
ELK Elko 90.83 48 P **P 05 10 07.9 +0.8**
comp=Z,10nm,1.1s,baz=276,slow=4.0,SNR=23
ELK Elko 90.83 48 *e*P **P 05 10 07.6 +0.5**
comp=Z,16nm,1.1s
ELK Elko 90.83 48 *e*P **P 05 10 07.6 +0.5**
ELK pmax pmax
comp=Z,16nm,1.1s
RRX Edison Barstow 91.08 54 P **P 05 10 09.3 +1.2**
baz=285
TPNV Topopah Spring 91.11 52 *e*P **P 05 10 09.4 +1.0**
comp=Z,16nm,0.8s
TPNV Topopah Spring 91.11 52 *e*P **P 05 10 09.4 +1.0**
TPNV pmax pmax
comp=Z,16nm,0.8s
TPNV Topopah Spring 91.11 52 P **P 05 10 09.7 +1.3**
baz=286,SNR=18
GSC Goldstone, Bar 91.12 54 *e*P **P 05 10 09.7 +1.4**
comp=Z,20nm,1.0s
GSC Goldstone, Bar 91.12 54 *e*P **P 05 10 09.7 +1.4**
GSC pmax pmax
comp=Z,20nm,1.0s
GSC Goldstone, Bar 91.12 54 P **P 05 10 09.9 +1.6**
baz=285,SNR=23
R11A Troy Canyon, C 91.24 51 *e*P **P 05 10 09.8 +0.8**
comp=Z,7.1nm,1.2s
R11A Troy Canyon, C 91.24 51 P **P 05 10 10.5 +1.5**
baz=286,SNR=13
MURC Murrieta 91.25 55 P **P 05 10 09.5 +0.6**
baz=285
LRM Limekiln Ridge 91.27 43 *e*P **P 05 10 08.5 -0.5**
BBRC Big Bear Solar 91.30 55 P **P 05 10 10.2 +0.9**
baz=285
MCMT McKenzie Canyo 91.31 44 *e*P **P 05 10 09.8 +0.5**
DLMT Dillon 91.32 43 *e*P **P 05 10 09.6 +0.5**
comp=Z,16nm,1.4s
SHOC Shoshone, Teco 91.38 53 P **P 05 10 10.6 +1.2**
baz=286
HRY Holter Researc 91.39 42 *e*P **P 05 10 10.1 +0.7**
109C Camp Elliot, M 91.50 56 P **P 05 10 11.0 +1.0**
baz=285
CPE Camp Elliot 91.50 56 *e*P **P 05 10 11.0 +1.0**
comp=Z,33nm,1.4s
HEC Hector,Ludlow 91.61 54 P **P 05 10 11.8 +1.1**
baz=286,SNR=8.4
TUQ Turquoise Moun 91.78 53 P **P 05 10 12.6 +1.1**
baz=286,SNR=5.6
PFO Pinyon Flats O 91.84 55 P **P 05 10 12.4 +0.7**

comp=Z,6.5nm,1.1s,baz=275,slow=4.1,SNR=5.8
PFO Pinyon Flats O 91.84 55 *e*P **P 05 10 12.4 +0.7**
comp=Z,8.4nm,1.1s
PFO Pinyon Flats O 91.84 55 P **P 05 10 12.9 +1.2**
baz=286
XPFO Pion Flat 91.84 55 *e*P **P 05 10 12.2 +0.5**
comp=Z,8.9nm,1.1s
TPFO Pinon Flats 91.84 55 P **P 05 10 12.8 +1.0**
baz=286
BOZ Bozeman (W) 91.89 43 PFAKE 05 10 20.0 +8.2
BOZ LR LR
comp=Z,80nm,21.0s
BOZ Bozeman (W) 91.89 43 P **P 05 10 12.8 +1.1**
baz=289,SNR=6.1
MONP2 Monument Peak 92.06 56 P **P 05 10 14.0 +1.1**
baz=286,SNR=6.2
SHPR Sheep Range 92.08 52 *e*P **P 05 10 13.5 +0.6**
comp=Z,12nm,1.1s
BELC Belle Mtn. Jos 92.10 55 P **P 05 10 14.0 +1.0**
baz=286,SNR=8.3
FIA1 FINESS Array S 92.13 335 *e*P **P 05 10 11.4 -0.9**
FINES FINESS Array B 92.14 335 P **P 05 10 10.9 -1.4**
comp=Z,8.5nm,0.8s,baz=71,slow=7.1,SNR=18
FINES LR LR 05 54 12.1
comp=Z,117nm,18.8s,baz=68,slow=37
GMRC Granite Mounta 92.16 54 P **P 05 10 14.7 +1.5**
baz=286,SNR=14
QLMT Earthquake Lak 92.27 43 *e*P **P 05 10 13.9 +0.3**
EGMT Eagleton 92.28 40 PFAKE 05 10 30.0 +17
EGMT LR LR
comp=Z,279nm,19.0s
HVU Hansel Valley 92.30 47 *e*P **P 05 10 14.4 +0.7**
comp=Z,12nm,1.3s
HVU Hansel Valley 92.30 47 *e*P **P 05 10 14.5 +0.7**
HVU pmax pmax
comp=Z,12nm,1.3s
IKP In-Ko-Pah, Jac 92.38 56 P **P 05 10 15.4 +1.2**
baz=286
BGU Big Grassy Mou 92.38 47 *e*P **P 05 10 15.3 +1.1**
comp=Z,4.0nm,1.2s
RAYN Ar Rayn 92.42 294 *e*P **P 05 10 14.1 -0.5**
comp=Z,4.8nm,0.8s
RAYN LR LR
comp=Z,83nm,19.0s
RAYN Ar Rayn 92.42 294 *e*P **P 05 10 14.1 -0.5**
RAYN pmax pmax
comp=Z,5.0nm,0.8s
RAYN MLR MLR
comp=Z,83nm,19.0s
YHB Horse Butte 92.45 43 *e*P **P 05 10 14.6 +0.1**
comp=Z,16nm,0.9s
PSUT Pine Spring 92.49 50 *e*P **P 05 10 15.2 +0.4**
comp=Z,5.5nm,0.8s
LDFC Landfair 92.51 54 *e*P **P 05 10 15.6 +0.7**
comp=Z,34nm,1.1s
SWSC Sam W. Stewart 92.55 56 P **P 05 10 16.1 +1.2**
baz=286
BC3 Big Chuckawall 92.63 55 P **P 05 10 16.7 +1.3**
baz=286
YMR Madison River 92.64 43 *e*P **P 05 10 15.8 +0.5**
comp=Z,21nm,0.9s
SPUT South Promonto 92.68 47 *e*P **P 05 10 16.2 +0.6**
comp=Z,6.8nm,1.1s
IRM Iron Mountain 92.74 54 P **P 05 10 17.0 +1.2**
baz=286,SNR=13
DUG Dugway, Tooele 92.76 48 *e*P **P 05 10 16.4 +0.5**
DUG LR LR
comp=Z,137nm,20.0s
DUG Dugway, Tooele 92.76 48 *e*P **P 05 10 16.4 +0.5**
DUG pmax pmax
comp=Z,15nm,1.4s
DUG MLR MLR
comp=Z,137nm,20.0s
DUG Dugway, Tooele 92.76 48 P **P 05 10 17.1 +1.1**
baz=288,SNR=9.7
ANN Anapa 92.78 317 *e*P P 05 10 02.6 -13
ANN pmax pmax
comp=Z,209nm,1.2s
YFT Old Faithful 92.79 44 *e*P **P 05 10 16.2 +0.1**
comp=Z,20nm,1.1s
YNR Norris Junctio 92.81 43 *e*P **P 05 10 16.3 +0.1**
comp=Z,37nm,1.3s
IMW Indian Meadow 92.91 44 *e*P **P 05 10 17.1 +0.4**
comp=Z,7.5nm,0.8s
FXWY Fox Creek 92.93 44 *e*P **P 05 10 17.3 +0.6**
comp=Z,5.1nm,1.0s
H17A Grant Village 92.99 44 *e*P **P 05 10 18.6 +1.5**
comp=Z,12nm,1.0s
H17A Grant Village 92.99 44 P **P 05 10 19.8 +2.8**
baz=290,SNR=9.3
NEE2 Needles Airpor 92.99 54 P **P 05 10 18.2 +1.3**
baz=287
FLWY Flagg Ranch 93.01 44 *e*P **P 05 10 17.7 +0.6**
comp=Z,13nm,0.8s
TPAW Teton Pass 93.03 45 *e*P **P 05 10 18.5 +1.2**
comp=Z,14nm,1.5s
LKWY Lake 93.05 43 PFAKE 05 10 30.0 +13
LKWY LR LR
comp=Z,259nm,21.0s
MOOW Moose Ponds 93.09 44 *e*P **P 05 10 18.1 +0.6**
comp=Z,4.1nm,0.9s
REDW Red Top Meadow 93.14 45 *e*P **P 05 10 18.0 +0.3**
comp=Z,8.6nm,1.1s
CCUT Cedar City 93.15 51 *e*P **P 05 10 18.4 +0.5**
comp=Z,6.0nm,1.0s
AHID Auburn Hatcher 93.17 45 *e*P **P 05 10 18.6 +0.8**
comp=Z,54nm,2.0s
LOHW Long Hollow 93.23 44 *e*P **P 05 10 19.0 +0.9**
comp=Z,12nm,1.6s
GLA Glamis 93.30 55 P **P 05 10 19.8 +1.4**
baz=286
Y12C Blythe 93.35 55 *e*P **P 05 10 19.0 +0.4**
comp=Z,14nm,1.2s
Y12C Blythe 93.35 55 P **P 05 10 19.9 +1.4**
baz=287,SNR=6.3
NLU North Lily Min 93.38 48 *e*P **P 05 10 19.1 +0.2**
comp=Z,7.3nm,1.1s
CTU Camp Tracy 93.38 47 *e*P **P 05 10 19.2 +0.4**
comp=Z,6.0nm,1.0s
LCMT Little Creek M 93.40 51 *e*P **P 05 10 19.1 +0.1**
comp=Z,13nm,1.5s
W13A Hualapai Mount 93.47 53 *e*P **P 05 10 19.5 +0.1**
comp=Z,8.8nm,1.1s
PDMCI Parker Dam,Lak 93.50 54 P **P 05 10 20.7 +1.4**
baz=287,SNR=5.5
RLMT Red Lodge 93.61 43 *e*P **P 05 10 20.1 +0.3**
comp=Z,8.4nm,0.7s
RLMT Red Lodge 93.61 43 P **P 05 10 21.5 +1.6**
baz=291,SNR=11
JLU Jordanelle 93.62 47 *e*P **P 05 10 20.5 +0.5**
comp=Z,5.8nm,1.0s
MPU Maple Canyon 93.68 48 *e*P **P 05 10 20.8 +0.6**
comp=Z,5.0nm,1.2s
KNB Kanab 93.72 51 *e*P **P 05 10 20.5 0.0**
comp=Z,14nm,1.2s
KNB Kanab 93.72 51 *e*P **P 05 10 20.5 0.0**
KNB pmax pmax
comp=Z,15nm,1.2s
FFC Flin Flon 94.08 32 *e*P **P 05 10 21.5 +0.1**
comp=Z,11nm,0.9s
FFC Flin Flon 94.08 32 *e*P **P 05 10 21.5 +0.1**
FFC pmax pmax
comp=Z,11nm,0.9s
BW06 Boulder Array 94.24 45 PFAKE 05 10 30.0 +7.2
BW06 LR LR
comp=Z,182nm,20.0s
BW06 Boulder Array 94.24 45 P **P 05 10 24.2 +1.4**
baz=290
PDAR Pinedale Array 94.24 45 P **P 05 10 23.4 +0.7**
comp=Z,0.8nm,0.6s,baz=304,slow=0.3,SNR=6.9
PDAR PP **PP 05 14 08.5 -1.0**
comp=Z,0.9nm,0.9s,baz=272,slow=5.5,SNR=7.0
PDAR Pinedale Array 94.24 45 *e*P **P 05 10 23.0 +0.2**
PDAR PP **PP 05 14 08.5 -1.0**
U15A North Rim 94.31 52 *e*P **P 05 10 24.0 +0.7**
comp=Z,5.8nm,1.0s
Q16A Castle Valley 94.37 49 *e*P **P 05 10 23.5 +0.1**
comp=Z,8.2nm,1.2s
P17A Butcher Ranch, 94.50 48 *e*P **P 05 10 24.6 +0.6**
comp=Z,7.8nm,1.2s
Y14A Wickenburg 94.51 54 *e*P **P 05 10 24.6 +0.6**
comp=Z,10nm,1.1s
SRU San Rafael Swe 94.78 49 *e*P **P 05 10 25.5 +0.2**
comp=Z,9.7nm,1.4s
SRU San Rafael Swe 94.78 49 *e*P **P 05 10 25.5 +0.2**
SRU pmax pmax
comp=Z,10.0nm,1.4s

LAO LASA Array 95.01 40 *e*P **P 05 10 26.5 +0.5**
comp=Z,29nm,0.9s
LAO LASA Array 95.01 40 P **P 05 10 27.0 +1.0**
baz=293,SNR=5.1
214A Organ Pipe Nat 95.25 56 P **P 05 10 28.2 +0.9**
baz=287
WUAZ Wupatki 95.30 52 *e*P **P 05 10 28.2 +0.5**
comp=Z,6.3nm,1.0s
WUAZ Wupatki 95.30 52 P **P 05 10 29.1 +1.4**
baz=289
DGMT Dagmar 95.55 38 P **P 05 10 29.3 +0.9**
baz=295
X16A Lo Mia Camp, P 95.59 53 *e*P **P 05 10 29.8 +0.7**
comp=Z,3.9nm,1.2s
AKASG Malin Array Be 95.60 324 P **P 05 10 27.3 -1.2**
comp=Z,0.6nm,0.5s,baz=58,slow=5.4,SNR=6.3
AKASG LR LR 05 56 35.8
comp=Z,273nm,18.5s,baz=50,slow=37
KIEV Kiev 95.62 324 PFAKE
KIEV LR LR 05 10 40.0 +11
comp=Z,353nm,19.0s
FCC Fort Churchill 95.78 26 *e*P **P 05 10 29.0 -0.1**
comp=Z,9.5nm,0.9s
FCC Fort Churchill 95.78 26 *e*P **P 05 10 29.0 -0.1**
FCC pmax pmax
comp=Z,9.0nm,0.9s
PV23 Carpenter Ridg 96.12 49 *e*P **P 05 10 31.8 +0.3**
comp=Z,9.7nm,1.0s
PV14 Lion Creek, Pa 96.14 49 *e*P **P 05 10 31.7 +0.1**
comp=Z,24nm,1.6s
PV19 Morning Glory 96.19 49 *e*P **P 05 10 31.9 +0.2**
comp=Z,8.8nm,0.9s
PV20 West Nyswonger 96.19 49 *e*P **P 05 10 31.6 -0.1**
comp=Z,6.8nm,0.9s
PV17 East Wray Mesa 96.22 49 *e*P **P 05 10 32.8 +0.9**
comp=Z,7.2nm,1.1s
PV16 Nyswonger Mesa 96.24 49 *e*P **P 05 10 32.0 0.0**
comp=Z,17nm,1.6s
PV11 David Mesa, Pa 96.27 49 *e*P **P 05 10 32.0 -0.1**
comp=Z,33nm,1.7s
PV12 Saucer Basin, 96.32 49 *e*P **P 05 10 32.5 +0.2**
comp=Z,9.3nm,1.1s
K22A Casper 96.36 44 P **P 05 10 33.8 +1.4**
baz=292
TUC Tucson 96.78 55 *e*P **P 05 10 34.4 0.0**
comp=Z,1.7nm,0.7s
TUC LR LR
comp=Z,317nm,20.0s
TUC Tucson 96.78 55 *e*P **P 05 10 34.4 0.0**
TUC pmax pmax
comp=Z,2.0nm,0.7s
TUC MLR MLR
comp=Z,317nm,20.0s
TUC Tucson 96.78 55 P **P 05 10 35.5 +1.1**
baz=289
MVCO Mesa Verde 96.93 50 PFAKE 05 10 50.0 +15
MVCO LR LR
comp=Z,177nm,20.0s
MVCO Mesa Verde 96.93 50 P **P 05 10 35.7 +0.5**
baz=290
BRTR Keskin Array B 97.20 313 P **P 05 10 34.4 -1.8**
comp=Z,3.1nm,1.1s,baz=91,slow=3.4,SNR=9.0
BRTR LR LR 06 00 18.7
comp=Z,40nm,18.6s,baz=74,slow=39
N23A Red Feather La 97.43 46 P **P 05 10 36.7 -0.7**
baz=293
RSSD Black Hills 97.45 42 P **P 05 10 37.4 +0.1**
baz=294
S22A 4UR Ranch, Cre 97.98 49 P Pdif 05 10 40.6 +0.6
baz=292
ISCO Idaho Springs 98.09 47 PFAKE 05 10 50.0 +10
ISCO LR LR
comp=Z,207nm,21.0s
NB2 NORSAR Subarra 98.17 339 P **P 05 10 38.5 -1.4**
comp=Z,4.5nm,0.9s,baz=49,slow=4.4
NB2 NORSAR Subarra 98.17 339 P **P 05 10 38.5 -1.4**
baz=49,slow=4.4
NOA NORSAR Array B 98.17 339 P **P 05 10 38.6 -1.4**
comp=Z,1.8nm,0.8s,baz=48,slow=4.6,SNR=4.9
NOA LR LR 05 58 22.6
comp=Z,54nm,18.5s,baz=5.0,slow=38
SDCO Great Sand Dun 98.95 48 PFAKE
SDCO LR LR 05 11 00.0 +16
comp=Z,149nm,20.0s
SDCO Great Sand Dun 98.95 48 P Pdif 05 10 44.8 +0.4
baz=292
ANMO Albuquerque 99.28 51 P **Pdif 05 10 46.9 +1.1**
comp=Z,0.9nm,0.6s,baz=347,slow=4.8,SNR=3.3
ANMO Albuquerque 99.28 51 P **Pdif**
ANMO LR LR **05 10 46.9 +1.1**
comp=Z,222nm,19.0s
ANMO Albuquerque 99.28 51 P **Pdif 05 10 46.2 +0.5**
baz=292
BUR04 Bucovina Ar. S 99.37 323 *e*P **Pdif 05 10 44.5 -1.2**
ABPO Ambohimpanom 99.50 253 PFAKE 05 11 00.0 +13
ABPO LR LR
comp=Z,393nm,20.0s
ULM Lac du Bonnet 99.52 34 P **Pdif 05 10 46.6 +0.5**
comp=Z,4.4nm,1.0s,baz=306,slow=3.5,SNR=5.8
AGMN Agassiz Nation 100.54 36 PFAKE 05 11 00.0 +9.2
AGMN LR LR
comp=Z,178nm,19.0s
MNTX Cornudas Mount 101.30 54 *e*Pdif **Pdif 05 10 55.2 +0.6**
MNTX LR LR
comp=Z,258nm,20.0s
MNTX Cornudas Mount 101.30 54 P **Pdif 05 10 55.1 +0.5**
baz=292
QSPA South Pole Qui 101.67 180 PFAKE 05 11 10.0 +15
QSPA LR LR
comp=Z,324nm,19.0s
CBKS Cedar Bluff 102.64 46 PFAKE 05 11 10.0 +10
CBKS LR LR
comp=Z,296nm,20.0s
TXAR Lajitas Array 103.55 56 Pdiff **Pdif 05 11 05.1 +0.4**
comp=Z,0.6nm,1.0s,baz=265,slow=4.1,SNR=3.1
TXAR PP **PP 05 15 20.9 +0.2**
comp=Z,0.6nm,0.8s,baz=270,slow=6.3,SNR=5.2
TXAR Lajitas Array 103.55 56 P **Pdif 05 11 05.1 +0.4**
TXAR 05 15 20.9
TXAR pmax pmax
comp=Z,1.0nm,1.0s
TXAR pmax pmax
comp=Z,1.0nm,0.8s
CLL Collm 103.86 330 *e*SS SS 05 30 18.0 +11
CLL Lm MLR 06 02 00.0
comp=Z,400nm,18.2s
JCT Junction City 106.18 53 PFAKE 05 15 40.0 +12
JCT LR LR
comp=Z,149nm,19.0s
KVTX Kingsville 108.92 55 PFAKE 05 15 50.0 +17
KVTX LR LR
comp=Z,284nm,19.0s
NATX Nacogdoches 109.57 50 PFAKE 05 15 50.0 +16
NATX LR LR
comp=Z,313nm,19.0s
ACSO Alum Creek Sta 112.73 37 PFAKE 05 15 50.0 +10
ACSO LR LR
comp=Z,420nm,20.0s
PKME Peaks-Kenny Pk 115.97 25 PFAKE 05 16 00.0 +14
PKME LR LR
comp=Z,383nm,21.0s
LSZ Lusaka 117.09 259 PFAKE 05 16 00.0 +11
LSZ LR LR
comp=Z,456nm,19.0s
ESDC Sonseca Array 120.44 331 PP PP 05 17 22.1 +1.4
comp=Z,0.5nm,0.4s,baz=12,slow=8.0,SNR=6.1
PAYG Puerto Ayora 125.63 82 PFAKE 05 16 20.0 +14
PAYG LR LR
comp=Z,949nm,19.0s
JTS JuntasAbangare 127.19 67 PFAKE 05 16 20.0 +11
JTS LR LR
comp=Z,743nm,20.0s
TSUM Tsumeb 127.42 255 PFAKE 05 16 20.0 +11
TSUM LR LR
comp=Z,1μm,21.0s
MTDJ Mount Denham 129.79 54 PFAKE 05 16 30.0 +16
MTDJ LR LR
comp=Z,470nm,19.0s
BCIP Isla Barro Col 132.25 66 PFAKE 05 16 30.0 +11
BCIP LR LR
comp=Z,741nm,21.0s
SDDR Presa de Saban 134.13 49 PFAKE 05 16 30.0 +7.1
SDDR LR LR
comp=Z,235nm,21.0s
TOA0 Torodi Ar. Sit 134.61 302 *e*PKPdf **PKPdf 05 16 22.3 -0.2**
TORD Torodi Ar. Bea 134.61 302 PKP **PKiKP 05 16 23.2 -0.7**
comp=Z,1.0nm,0.9s,baz=50,slow=1.6,SNR=5.6

TORD PP **PP 05 18 54.5 -0.7**
comp=Z,1.3nm,0.9s,baz=21,slow=6.5,SNR=4.2
TORD SKPbc **SKPbc 05 19 51.5 +1.0**
comp=Z,1.4nm,1.1s,baz=72,slow=4.7,SNR=3.2
OTAV Otavalo 136.78 77 *e*PKPdf **PKPdf 05 16 27.6 +0.4**
OTAV LR LR
comp=Z,265nm,20.0s
OTAV Otavalo 136.78 77 *e*PKIKP **PKPdf 05 16 27.6 +0.4**
OTAV MLR MLR
comp=Z,265nm,20.0s
SJG San Juan 138.36 45 PFAKE 05 16 40.0 +8.5
SJG LR LR
comp=Z,357nm,20.0s
PLCA Paso Flores 138.56 140 PKP **PKPdf 05 16 30.1 +0.8**
comp=Z,1.5nm,1.0s,baz=243,slow=2.3,SNR=3.0
SDV Santo Domingo 140.42 60 *e*PKPdf **PKPdf 05 16 34.2 +0.7**
SDV LR LR
comp=Z,555nm,20.0s
NNA Nana 140.67 95 PFAKE 05 16 50.0 +14
NNA LR LR
comp=Z,120nm,21.0s
ANWB Willy Bob 141.58 41 PFAKE 05 16 50.0 +12
ANWB LR LR
comp=Z,479nm,20.0s
DBIC Dimbokro 143.45 299 PKhKP PKPpre 05 16 35.2
comp=Z,3.6nm,0.7s,baz=48,slow=6.3,SNR=5.7
DBIC PKP **PKPdf 05 16 39.0 +0.3**
comp=Z,4.2nm,0.6s,baz=67,slow=3.5,SNR=8.3
DBIC Dimbokro 143.45 299 *e*PKPdf **PKPdf 05 16 38.7 0.0**
KIC Kosan Boka 143.50 298 *e*PKP1 PKPbc 05 16 35.7 -0.4
comp=Z,36nm,1.2s
TIC Toumodi 143.60 299 *e*PKP1 PKPbc 05 16 36.1 -0.3
LIC Lamto 143.82 298 *e*PKP1 PKPbc 05 16 36.6 -0.4
comp=Z,36nm,0.9s
LCO Las Campanas 143.95 123 *e*PKPdf **PKPdf 05 16 40.1 +0.7**
LCO Las Campanas 143.95 123 *e*PKIKP **PKPdf 05 16 40.2 +0.7**
GO03 Copiap 144.83 121 *e*PKPdf **PKPdf 05 16 41.0 +0.2**
TRQA Tornquist 145.43 143 PFAKE 05 16 50.0 +4.6
TRQA LR LR
comp=Z,157nm,20.0s
GRGR Grenville 145.59 47 PFAKE 05 16 50.0 +3.6
GRGR LR LR
comp=Z,347nm,21.0s
GO02 Mina Guanaco 146.15 118 *e*PKPdf **PKPbc 05 16 44.1 -0.3**
PB01 IPOC Station P 147.23 111 *e*PKPbc **PKPab 05 16 48.7 -0.4**
PB11 IPOC Station P 147.30 108 *e*PKPbc **PKPbc 05 16 48.5 +0.8**
LVC Limon Verde 147.42 114 *e*PKPbc **PKPbc 05 16 49.2 +1.0**
MNMC Minye Minye 147.45 107 *e*PKPbc **PKPbc 05 16 48.5 +0.3**
LPAZ La Paz 149.14 102 PKPbc **PKiKP 05 16 54.6 +0.2**
comp=Z,3.7nm,0.7s,baz=332,slow=1.3,SNR=11
LPAZ La Paz 149.14 102 *e*PKPdf **PKPdf 05 16 48.2 -0.8**
LPAZ *e*PKPbc **PKiKP 05 16 54.3 -0.1**
CPUP Villa Florida 155.74 129 PKPab **PKPab 05 17 24.6 +0.5**
comp=Z,1.3nm,0.8s,baz=221,slow=5.3,SNR=4.2

*IDC **18** 05:04:16.9±0.9, 11°.82N×143°.39E, h0km, mb4.0/11, mb1 4.2/12, mb1mx4.0/39, mbtmp4.0/12, ML3.9/1, Error ellipse: s-maj=27.3km s-min=17.0km az=111.0*
*ISCJB **18** 05:04:19.5±0.4, 11°.77N±0°.07×143°.27E±0°.07, h25km, mb4.3/32, Error ellipse: s-maj=11.9km s-min=7.4km az=39.4*
*NEIC **18** 05:04:19.5±4.8, 11°.76N×143°.34E, h13km±29km, mb4.5/22, Error ellipse: s-maj=9.7km s-min=7.2km az=121.0*
ISC 18 05:04:21.6±0.8, 11°.8N±0°.1×143°.3E±0°.1, h25km, n48, σ1s06/50, mb4.4/32, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.33**	**40**	Pn	**Pn**	**05 04 57.5**	**-0.9**
	32nm,0.3s,baz=112,slow=3.7,SNR=6.6						
GUMO				Sn	**Sn**	**05 05 26.7**	**+0.4**
	31nm,0.3s,baz=73,slow=19,SNR=5.2						
GUMO	**Guam**	**2.33**	**40**	*e*Pn	**Pn**	**05 04 57.9**	**-0.4**
GUMO				*e*Sn	**Sn**	**05 05 26.7**	**+0.4**
JNU	**Nakatsue**	**24.08**	**334**	*e*P	**P**	**05 09 35.9**	**+0.7**
	14nm,1.1s						
MJAR	**Matsushiro Arr**	**25.05**	**350**	P	**P**	**05 09 40.9**	**-3.1**
	1.3nm,0.3s,baz=162,slow=10,SNR=4.2						
MAJO	**Matsushiro**	**25.05**	**350**	*e*P	**P**	**05 09 40.9**	**-3.1**
WB2	**Warramunga Arr**	**32.76**	**196**	*e*P	**P**	**05 10 52.3**	**-0.5**
	8.8nm,1.1s						
WR1	**Warramunga Arr**	**32.77**	**196**	*e*P	**P**	**05 10 51.8**	**-1.1**
	5.9nm,1.0s						
WRA	**Warramunga Arr**	**32.77**	**196**	P	**P**	**05 10 51.8**	**-1.1**
	2.1nm,0.7s,baz=20,slow=9.8,SNR=11						
USRK	**Ussuriysk Ar.**	**33.72**	**345**	P	**P**	**05 11 00.9**	**0.0**
	5.6nm,1.1s,baz=167,slow=12,SNR=4.3						
ASAR	**Alice Springs**	**36.44**	**195**	P	**P**	**05 11 24.1**	**-0.5**
	0.5nm,0.6s,baz=21,slow=12,SNR=5.3						
CMAR	**Chiang Mai Arr**	**43.26**	**284**	P	**P**	**05 12 22.6**	**+1.1**
	0.6nm,0.3s,baz=87,slow=8.1,SNR=4.4						
SONA	**Songino Array**	**47.34**	**327**	*e*P	**P**	**05 12 53.3**	**-0.2**
SONM	**Songino Array**	**47.34**	**327**	P	**P**	**05 12 53.3**	**-0.2**
	0.6nm,0.6s,baz=146,slow=7.1,SNR=3.8						
SONA1	**Songino Array**	**47.34**	**327**	*e*P	**P**	**05 12 54.7**	**+1.1**
MK01	**Makanchi Array**	**61.72**	**317**	*e*P	**P**	**05 14 38.4**	**+0.4**
MK31	**Makanchi Array**	**61.73**	**317**	*e*P	**P**	**05 14 38.8**	**+0.8**
MK32	**Makanchi Array**	**61.73**	**317**	*e*P	**P**	**05 14 36.6**	**-1.4**
MKAR	**Makanchi Array**	**61.73**	**317**	P	**P**	**05 14 36.6**	**-1.4**
	1.6nm,0.9s,baz=91,slow=9.7,SNR=8.6						
MKAR	**Makanchi Array**	**61.73**	**317**	*e*P	**P**	**05 14 38.9**	**+0.9**
	14nm,1.1s						
ZALV	**Zalesovo Beam**	**62.20**	**325**	P	**P**	**05 14 40.3**	**-0.6**
	0.9nm,0.5s,baz=114,slow=8.6,SNR=4.8						
ZAA1	**Zalesovo Array**	**62.20**	**325**	*e*P	**P**	**05 14 40.3**	**-0.6**
KURK	**Kurchatov**	**64.97**	**321**	*e*P	**P**	**05 14 59.1**	**-0.2**
	6.6nm,1.0s						
PPLA	**Purkeypile**	**68.05**	**26**	*e*P	**P**	**05 15 19.2**	**+0.3**
	11nm,1.2s						
IM3	**Indian Mountai**	**68.42**	**23**	*e*P	**P**	**05 15 21.1**	**0.0**
BPAW	**Bear Paw Mtn.**	**68.92**	**25**	*e*P	**P**	**05 15 24.3**	**0.0**
	3.3nm,0.8s						
TRF	**Thorofare Moun**	**69.03**	**26**	*e*P	**P**	**05 15 24.1**	**-1.1**
	2.3nm,0.9s						
MLY	**Manley**	**69.30**	**24**	*e*P	**P**	**05 15 26.6**	**0.0**
	4.5nm,1.0s						
GAR	**Garm**	**69.48**	**307**	*e*P	**P**	**05 15 28.4**	**+0.1**
	2.1nm,0.7s						
SML	**Sawmill**	**69.48**	**28**	*e*P	**P**	**05 15 28.4**	**+0.6**
	8.8nm,1.0s						
COLD	**Coldfoot**	**70.16**	**22**	*e*P	**P**	**05 15 32.6**	**+0.8**
	1.8nm,0.7s						
WRH	**Wood River Hil**	**70.24**	**25**	*e*P	**P**	**05 15 31.5**	**-0.8**
	8.4nm,1.2s						
MDM	**Murphy Dome**	**70.30**	**25**	*e*P	**P**	**05 15 34.1**	**+1.4**
	4.7nm,1.2s						
BRVK	**Borovoye**	**70.45**	**322**	*e*P	**P**	**05 15 34.2**	**+0.4**
	5.4nm,1.1s						
IL1	**Eielson Array**	**70.81**	**25**	*e*P	**P**	**05 15 34.1**	**-1.8**
ILAR	**Eielson Array**	**70.81**	**25**	P	**P**	**05 15 34.1**	**-1.7**
	2.4nm,0.6s,baz=250,slow=5.9,SNR=44						
ILB	**Eielson Array**	**70.81**	**25**	*e*P	**P**	**05 15 34.2**	**-1.7**
DOT	**Dot Lake**	**71.79**	**27**	*e*P	**P**	**05 15 42.1**	**+0.3**
	7.7nm,1.1s						
SCRK	**Sand Creek**	**71.89**	**26**	*e*P	**P**	**05 15 42.3**	**-0.2**
	1.6nm,0.8s						
DAWY	**Dawson**	**73.90**	**27**	*e*P	**P**	**05 15 54.9**	**+0.5**
	3.7nm,0.9s						
HYT	**Haines Junctio**	**74.50**	**30**	*e*P	**P**	**05 15 59.2**	**+1.2**
	5.2nm,1.2s						
INK	**Inuvik**	**76.58**	**22**	*e*P	**P**	**05 16 09.6**	**0.0**
	3.7nm,1.0s						
ABKAR	**Akbulak array**	**76.84**	**318**	*e*P	**P**	**05 16 11.3**	**-0.2**
GEYT	**Alibeck**	**79.09**	**307**	P	**P**	**05 16 23.9**	**-0.3**
	1.9nm,0.5s,baz=54,slow=3.7,SNR=2.9						
HUMO	**Hull Mountain**	**84.83**	**48**	*e*P	**P**	**05 16 56.0**	**+1.7**
	1.6nm,1.0s						
YKA	**Yellowknife Ar**	**85.13**	**27**	P	**P**	**05 16 55.0**	**-0.3**
	0.3nm,0.5s,baz=287,slow=5.1,SNR=8.3						
YKB5	**Yellowknife Ar**	**85.13**	**27**	*e*P	**P**	**05 16 55.5**	**+0.2**
B08A	**Colville Reser**	**86.10**	**42**	*e*P	**P**	**05 17 00.9**	**+0.3**
	2.2nm,1.1s						
RES	**Resolute Bay**	**86.62**	**13**	*e*P	**P**	**05 17 03.7**	**+1.2**

*SJA **18** 05:05:28.5±0.7, 35°.89S×71°.88W, h64km±18km, ML3.0, MW3.5*
*GUC **18** 05:05:30.8±0.5, 35°.93S×71°.86W, h44km±2km, ML3.5*
ISC 18 05:05:30.3±1.6, 35°.92S±0°.09×71°.9W±0°.1, h30km±21km, n19, σ0s59/26, 1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.70**	**195**	*e*P	**Pb**	**05 05 43.7**	**-0.3**

CCHI					*e*S	**Sb**	**05 05 54.0**	**+0.6**
CCHI					IAML		05 05 57.0	
	comp=E,2μm,0.2s							
GO05	**Huala**	**0.91**	**356**		*e*P	**Pn**	**05 05 47.0**	**-0.1**
GO05					*e*S	**Sn**	**05 06 00.0**	**+0.7**
CCSP	**San Pedro de C**	**1.37**	**227**		*i* S	**Sn**	**05 06 10.5**	**0.0**
CCSP					IAML		05 06 14.9	
	comp=N,1μm,0.5s							
LMEL	**Las Melosas**	**2.47**	**34**		*e*P	**Pn**	**05 06 09.4**	**+0.7**
LMEL					IAML		05 06 47.5	
	comp=N,337nm,0.1s							
CLCH	**Cerro Calan**	**2.74**	**24**		*e*P	**Pn**	**05 06 13.2**	**+0.8**
CLCH					*i* S	**Sn**	**05 06 44.9**	**+0.3**
CLCH					IAML		05 06 53.0	
	comp=E,275nm,0.3s							
FCH	**Farellones**	**2.89**	**27**		*e*P	**Pn**	**05 06 14.4**	**-0.2**
FCH					*i* S	**Sn**	**05 06 49.3**	**+0.8**
FCH					IAML		05 06 56.2	
	comp=N,236nm,0.2s							
PEL	**Peldehue**	**2.94**	**19**		*e*P	**Pn**	**05 06 15.0**	**0.0**
PEL					*i* S	**Sn**	**05 06 49.8**	**+0.5**
PEL					IAML		05 07 00.1	
	comp=N,200nm,0.5s							
ROC1	**El Roble**	**3.02**	**13**		*e*P	**Pn**	**05 06 15.7**	**-0.6**
ROC1					*e*S	**Sn**	**05 06 51.4**	**-0.3**
AUSP	**Uspallata**	**4.22**	**30**		*e*P	**Pn**	**05 06 33.1**	**+0.2**
AUSP					*e*S	**Sn**	**05 07 20.5**	**-0.8**
RTLS	**Leoncito**	**4.63**	**28**		*e*P	**Pn**	**05 06 38.9**	**+0.4**
RTLS					IAML		05 06 45.5	
	comp=Z,14nm,0.5s							
RTCV	**Cerro Valdivia**	**4.90**	**35**		*e*P	**Pn**	**05 06 41.1**	**-0.8**
CFA	**Coronel Fontan**	**5.25**	**36**		*e*P	**Pn**	**05 06 46.0**	**-0.9**
RTLL	**Cerro Villicun**	**5.38**	**33**		*e*P	**Pn**	**05 06 47.6**	**-1.0**
AMOG	**MOGNA**	**5.71**	**30**		*e*P	**Pn**	**05 06 52.6**	**-0.5**
ACCO	**Cerro Coronel**	**5.81**	**24**		*e*P	**Pn**	**05 06 54.3**	**-0.4**
AROD	**Rodeo**	**6.08**	**20**		*e*P	**Pn**	**05 06 58.6**	**+0.2**
MRA	**San Martin**	**6.17**	**57**		*e*P	**Pn**	**05 06 59.7**	**+0.2**
ACDV	**Cuesta del Vie**	**6.18**	**23**		*e*P	**Pn**	**05 06 59.5**	**-0.2**
ACDV					IAML		05 08 26.3	
	comp=Z,5.0nm,0.7s							
AGUA	**GUANDACOL**	**7.01**	**25**		*e*P	**Pn**	**05 07 10.4**	**-0.6**

MAN 18 05:11:00.2, 10.70N×123.41E, h75km, mb4.1, ML2.9, MS2.5, 3D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.66**	**125**	⇓*i*P	Pn	05 11 10.9	-4.2
LLP				*i* S	Sn	05 11 18.7	-7.5
GUIM	**Jordan**	**0.81**	**265**	*e*P	Pn	05 11 17.8	+1.1
GUIM				*e*S	Sn	05 11 31.5	+2.4
RCP	**Roxas**	**1.08**	**323**	⇓*e*P	Pn	05 11 23.4	+3.4
RCP				*e*S	Sn	05 11 41.2	+6.4
TBP	**Tagbilaran**	**1.09**	**156**	*e*P	Pn	05 11 20.9	+0.8
SNPH	**Sibulan**	**1.35**	**187**	⇓*i*P	Pn	05 11 24.9	+1.4
SNPH				*i* S	Sn	05 11 42.1	+1.0
MSLP	**Maasin**	**1.53**	**111**	*e*P	Pn	05 11 26.6	+0.9
MSLP				*e*S	Sn	05 11 46.8	+1.7

ISCJB ***18*** *05:16:09.6±0.3, 7.00S±0.02×130.61E±0.03, h78km, mb4.5/27, Error ellipse: s-maj=4.8km s-min=3.4km az=174.1*

IDC ***18*** *05:16:09.8±2.4, 6.89S×130.34E, h54km±22km, mb4.0/13, mb1 4.2/16, mb1mx4.1/34, mbtmp4.4/16, ML5.3/3, MS3.3/1, Ms1 3.3/1, ms1mx2.8/36, Error ellipse: s-maj=23.9km s-min=11.9km az=75.0*

BJI ***18*** *05:16:10.6, 7.52S×130.50E, h63km, mb4.8/23, mB5.2/13, Ms4.8/4*

NEIC ***18*** *05:16:13.2±0.7, 6.84S×130.44E, h86km±6km, mb4.8/14, Error ellipse: s-maj=7.4km s-min=5.9km az=54.0*

DJA ***18*** *05:16:13.5±0.2, 7.S±2.×13.1E±., h104km±6km, M5.2/17, mB5.5/7, mb5.1/17, MLv5.4/11, Mw(mB)5.0/7*

ISC 18 05:16:11.5±0.4, 6.95S±0.04×130.53E±0.04, h78km, n90, σ2s52/91, mb4.7/32, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.28**	**143**	*e*Pn	**Pn**	**05 16 38.0**	**+4.0**
SAUI				*e*Sn	**Sn**	**05 16 53.7**	**+2.7**
SAUI	**Saumlaki**	**1.28**	**143**	P	**Pn**	**05 16 37.9**	**+3.9**
BNDI	**Bandanaira**	**2.48**	**346**	P	**Pn**	**05 16 51.7**	**+1.8**
BNDI				S	**Sn**	**05 17 20.2**	**+0.9**
KMPI	**Kaimana, Papua**	**4.54**	**44**	P	**Pn**	**05 17 18.5**	**+0.6**
KMPI				S	**Sn**	**05 18 06.4**	**-3.1**
SIJI	**Sorong**	**6.08**	**7**	P	**Pn**	**05 17 37.9**	**-1.0**
	106nm,0.3s,baz=51,slow=8.9,SNR=75						
SIJI				S	**Sn**	**05 18 41.6**	**-5.6**
	40nm,0.3s,baz=150,slow=18,SNR=8.5						
SWI	**Sorong**	**6.09**	**7**	P	**Pn**	**05 17 37.9**	**-1.1**
SWI				S	**Sn**	**05 18 40.8**	**-6.4**
RKPI	**Ransiki, Papua**	**6.51**	**34**	P	**Pn**	**05 17 45.3**	**+0.5**
RKPI				S	**Sn**	**05 18 55.3**	**-2.4**
SANI	**Sanana**	**6.64**	**317**	P	**Pn**	**05 17 48.1**	**+1.5**
SANI				S	**Sn**	**05 19 01.8**	**+1.0**
SOEI	**Soe**	**6.79**	**245**	*e*Pn	**Pn**	**05 17 50.0**	**+1.3**
SOEI				*e*Sn	**Sn**	**05 19 03.1**	**-1.6**
SOEI	**Soe**	**6.79**	**245**	P	**Pn**	**05 17 50.1**	**+1.3**
SOEI				S	**Sn**	**05 19 03.0**	**-1.7**
BATI	**Baumata**	**7.52**	**244**	P	**Pn**	**05 17 59.9**	**+1.3**
	36nm,0.3s,baz=67,slow=4.8,SNR=17						
BATI				S	**Sn**	**05 19 19.5**	**-2.9**
	135nm,0.3s,baz=300,slow=24,SNR=13						
BATI	**Baumata**	**7.52**	**244**	P	**Pn**	**05 17 59.7**	**+1.1**
BAKI	**Biak**	**7.98**	**44**	P	**Pn**	**05 18 05.5**	**+0.7**
TNTI	**Ternate**	**8.29**	**338**	*e*Pn	**Pn**	**05 18 09.8**	**+0.8**
EDFI	**Ende, Flores**	**8.94**	**258**	P	**Pn**	**05 18 21.5**	**+3.5**
BKSI	**Bulukumba**	**10.47**	**278**	P	**Pn**	**05 18 41.7**	**+2.9**
	18nm,1.1s						
BNSI	**Bone**	**10.67**	**283**	P	**Pn**	**05 18 44.6**	**+3.0**
APSI	**Ampana**	**10.69**	**304**	P	**Pn**	**05 18 43.6**	**+1.7**
JAY	**Jayapura**	**11.06**	**67**	P	**Pn**	**05 18 47.7**	**+0.8**
	0.9nm,0.3s,baz=180,slow=8.1,SNR=3.6						
JAY				S	**Sn**	**05 20 43.4**	**-5.4**
	1.1nm,0.3s,baz=270,slow=20,SNR=2.5						
SPSI	**Sidrap Palu**	**11.11**	**285**	P	Pn	05 18 55.9	+8.3
MRSI	**Marisa**	**11.30**	**310**	P	**Pn**	**05 18 51.3**	**+1.1**
TTSI	**Tana Toraja**	**11.35**	**289**	P	Pn	05 19 09.5	+19
FITZ	**Fitzroy Crossi**	**12.06**	**203**	P	**Pn**	**05 18 57.3**	**-3.2**
	19nm,0.3s,baz=22,slow=11,SNR=356						
FITZ				S	Sn	05 21 01.6	-12
	15nm,0.3s,baz=83,slow=16,SNR=5.5						
FITZ	**Fitzroy Crossi**	**12.06**	**203**	*e*Pn	**Pn**	**05 18 57.4**	**-3.2**
FITZ				*e*Sn	Sn	05 21 02.4	-11
PLAI	**Plampang**	**12.77**	**261**	P	**Pn**	**05 19 10.8**	**+0.7**
WRAB	**Tennant Creek**	**13.43**	**164**	*e*Pn	**Pn**	**05 19 15.7**	**-3.3**
WRAB				*e*Sn	Sn	05 21 37.6	-9.0
WR1	**Warramunga Arr**	**13.44**	**164**	*e*Pn	**Pn**	**05 19 15.8**	**-3.3**
WR1				*e*Sn	Sn	05 21 36.3	-11
WRA	**Warramunga Arr**	**13.44**	**164**	P	**Pn**	**05 19 15.8**	**-3.3**
	5.6nm,0.3s,baz=339,slow=14,SNR=98						
WRA				S	Sn	05 21 36.3	-11
	26nm,0.3s,baz=342,slow=21,SNR=15						
WB2	**Warramunga Arr**	**13.44**	**164**	*e*Pn	Pn	05 19 14.2	-4.9
WB2				*e*Sn	Sn	05 21 36.0	-11
WC3	**Warramunga Arr**	**13.46**	**164**	*e*Pn	**Pn**	**05 19 16.1**	**-3.3**
WC3				*e*Sn	Sn	05 21 38.1	-9.3
COEN	**Coen**	**14.25**	**120**	*e*Pn	**Pn**	**05 19 27.4**	**-2.3**
COEN				*e*Sn	Sn	05 21 57.3	-9.2
DAV	**Davao City (W)**	**14.77**	**340**	*e*Pn	**P**	**05 19 44.6**	**+4.2**
PMG	**Port Moresby**	**16.64**	**100**	P	**P**	**05 20 02.0**	**+0.8**
	3.0nm,0.3s,baz=297,slow=15,SNR=5.1						
PMG				S	Sn	05 22 53.7	-11
	baz=180,slow=20,SNR=3.7						
PMG	**Port Moresby**	**16.64**	**100**	*e*Pn	**P**	**05 20 03.2**	**+2.0**
	36nm,1.1s						
PMG				*e*Sn	Sn	05 22 53.7	-11
AS31	**Alice Springs**	**16.94**	**169**	*e*Pn	**Pn**	**05 20 02.0**	**-1.7**
	12nm,0.4s						
AS31				*e*Sn	**Sn**	**05 23 05.7**	**-5.9**
ASAR	**Alice Springs**	**16.94**	**169**	P	**Pn**	**05 20 02.4**	**-1.4**
	3.8nm,0.3s,baz=352,slow=11,SNR=77						
ASAR				S	Sn	05 22 58.9	-13
	1.9nm,0.3s,baz=358,slow=21,SNR=4.6						
AS01	**Alice Springs**	**16.95**	**169**	*e*Pn	**Pn**	**05 20 02.5**	**-1.3**
AS01				*e*Sn	**Sn**	**05 23 04.1**	**-7.7**
MBWA	**Marble Bar**	**17.57**	**215**	*e*P	**P**	**05 20 10.0**	**-1.5**
	21nm,0.8s						
MBWA				*e*Sn	**Sn**	**05 23 21.0**	**-5.8**
CTA	**Charters Tower**	**20.09**	**132**	P	Pn	05 20 42.2	+0.7
	26nm,0.6s,baz=302,slow=12,SNR=38						
CTA				S	Sn	05 24 31.1	+3.7
	2.0nm,0.4s,baz=48,slow=19,SNR=4.0						
CTAO	**Charters Tower**	**20.09**	**132**	*e*P	Pn	05 20 41.8	+0.4
	30nm,0.8s						
CISI	**Cisompet, Garu**	**22.54**	**267**	*e*P	**P**	**05 21 07.0**	**+1.6**
	24nm,0.8s						
FORT	**Forrest**	**23.82**	**185**	*e*P	**P**	**05 21 19.4**	**+1.9**
	56nm,0.8s						
BBOO	**Buckleboo**	**26.25**	**169**	*e*P	**P**	**05 21 43.0**	**+3.5**
	12nm,1.1s						
STKA	**Stephens Creek**	**26.87**	**159**	P	**P**	**05 21 46.8**	**+1.7**
	3.5nm,0.6s,baz=337,slow=10.0,SNR=6.9						
STKA	**Stephens Creek**	**26.87**	**159**	*e*P	**P**	**05 21 46.7**	**+1.7**
	1.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**40.10**	**309**	P	**P**	**05 23 39.2**	**-0.6**
	2.0nm,0.7s,baz=140,slow=6.8,SNR=7.4						
NJ2	**Nanjing**	**40.35**	**345**	*e*P	P	05 23 48.1	+6.5
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
KMI	**Kunming**	**41.80**	**321**	P	P	05 24 00.8	+6.8
KMI				pmax	pmax		
	comp=Z,12nm,0.5s						
KMI				pmax	pmax		
	comp=Z,210nm,5.4s						
MJAR	**Matsushiro Arr**	**43.85**	**9**	P	**P**	**05 24 08.8**	**-1.4**
	1.3nm,0.3s,baz=202,slow=12,SNR=3.3						
MAJO	**Matsushiro**	**43.85**	**9**	*e*P	**P**	**05 24 08.8**	**-1.4**
KSRS	**Korea Array**	**44.23**	**357**	LR	LR	05 43 45.1	
	comp=Z,35nm,19.8s,baz=55,slow=38						
CD2	**Chengdu**	**45.54**	**327**	*e*P	P	05 24 29.0	+5.3
XAN	**Xi'an**	**45.61**	**335**	P	P	05 24 29.8	+5.6
XAN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,110nm,4.1s						
LZH	**Lanzhou**	**49.60**	**331**	*e*P	P	05 25 02.3	+7.0
LZH				pmax	pmax		
	comp=Z,27nm,1.0s						
HHC	**Hu-ho-hao-te**	**50.66**	**341**	*e*P	P	05 25 09.4	+6.3
HHC				pmax	pmax		
	comp=Z,14nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,5.4s						
USRK	**Ussuriysk Ar.**	**50.92**	**1**	P	**P**	**05 25 04.8**	**0.0**
	1.1nm,0.5s,baz=200,slow=6.8,SNR=5.3						
RPZ	**Rata Peaks**	**50.96**	**143**	P	**P**	**05 25 07.7**	**+2.5**
	18nm,0.8s,baz=84,slow=2.4,SNR=4.8						
RPZ	**Rata Peaks**	**50.96**	**143**	*e*P	**P**	**05 25 08.2**	**+2.9**
	24nm,0.9s						
THZ	**Tophouse**	**51.07**	**140**	*e*P	**P**	**05 25 09.6**	**+3.4**
	11nm,0.8s						
KHZ	**Kahutara**	**51.81**	**140**	*e*P	**P**	**05 25 13.5**	**+1.9**
	23nm,0.8s						
CRLZ	**Canterbury Las**	**51.84**	**142**	*e*P	**P**	**05 25 14.2**	**+2.5**
	21nm,0.9s						
BKZ	**Black Stump Fm**	**52.27**	**135**	*e*P	**P**	**05 25 16.6**	**+1.4**
	28nm,1.2s						
URZ	**Urewera**	**52.32**	**134**	*e*P	**P**	**05 25 17.8**	**+2.3**
	68nm,1.2s						
GTA	**Gaotai**	**54.18**	**331**	*e*P	P	05 25 36.4	+7.2
GTA				pP	sP	05 25 55.8	+0.8
GTA				sP	pwP	05 26 04.0	+9.3
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
RAMN	**Ramite**	**54.26**	**310**	*e*P	**P**	**05 25 30.0**	**-0.2**
	12nm,0.6s						
GUN	**Gumba**	**55.31**	**311**	*e*P	**P**	**05 25 37.1**	**-0.8**
	18nm,0.7s						
KOLN	**Koldanda**	**56.97**	**309**	*e*P	**P**	**05 25 48.6**	**-0.9**
	8.4nm,0.6s						
DANN	**Dangsing**	**57.14**	**310**	*e*P	**P**	**05 25 48.6**	**-2.2**
	6.5nm,0.7s						
PYUN	**Piuthan**	**57.60**	**309**	*e*P	**P**	**05 25 53.6**	**-0.4**
	10nm,0.7s						
SONA0	**Songino Array**	**58.56**	**341**	*e*P	**P**	**05 26 00.4**	**+0.3**
SONM	**Songino Array**	**58.56**	**341**	P	**P**	**05 26 00.4**	**+0.3**
	0.6nm,0.4s,baz=162,slow=7.0,SNR=5.5						
WMQ	**Urumqi**	**63.63**	**327**	P	**P**	**05 26 38.5**	**+4.0**
WMQ				pP	sP	05 27 02.3	+1.6
WMQ				pmax	pmax		
	comp=Z,20nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,540nm,6.3s						
WMQ				LR	LR		
	comp=N,110nm,18.7s						
WMQ				LR	LR		
	comp=E,76nm,17.9s						
PETK	**Petropavlovsk-**	**64.11**	**18**	P	**P**	**05 26 37.6**	**+0.2**
	5.6nm,0.6s,baz=157,slow=2.9,SNR=8.3						
PEA1	**Petropavlovsk-**	**64.12**	**18**	*e*P	**P**	**05 26 37.6**	**+0.2**
MK32	**Makanchi Array**	**68.47**	**327**	*e*P	**P**	**05 27 05.5**	**+0.1**
MKAR	**Makanchi Array**	**68.47**	**327**	P	**P**	**05 27 05.5**	**+0.1**
	1.5nm,0.4s,baz=115,slow=7.7,SNR=38						
ZALV	**Zalesovo Beam**	**71.77**	**334**	P	**P**	**05 27 26.8**	**+1.5**
	0.4nm,0.3s,baz=139,slow=5.3,SNR=2.5						
ZAA1	**Zalesovo Array**	**71.77**	**334**	*e*P	**P**	**05 27 26.9**	**+1.5**
VNDA	**Vanda**	**72.44**	**173**	P	**P**	**05 27 30.5**	**+1.4**
	1.0nm,0.5s,baz=327,slow=6.9,SNR=4.1						
VNDA	**Vanda**	**72.44**	**173**	*e*P	**P**	**05 27 30.8**	**+1.7**
	2.3nm,0.9s						
QSPA	**South Pole Qui**	**83.03**	**180**	P	**P**	**05 28 29.0**	**+0.7**
	1.1nm,0.5s,baz=13,slow=4.9,SNR=6.7						
ILAR	**Eielson Array**	**93.08**	**25**	P	**P**	**05 29 17.2**	**+0.8**
	0.3nm,0.8s,baz=251,slow=4.7,SNR=3.2						
PLCA	**Paso Flores**	**128.75**	**159**	PKP	**PKPdf**	**05 35 10.2**	**-0.3**
	1.5nm,0.9s,baz=255,slow=4.7,SNR=3.1						
PLCA	**Paso Flores**	**128.75**	**159**	*e*PKPdf	**PKPdf**	**05 35 09.9**	**-0.6**
TORD	**Torodi Ar. Sit**	**129.31**	**281**	*e*PKPdf	**PKPdf**	**05 35 12.6**	**+0.6**
TORD	**Torodi Ar. Bea**	**129.31**	**281**	PKP	**PKPdf**	**05 35 12.5**	**+0.4**
	0.5nm,0.6s,baz=82,slow=1.5,SNR=5.4						
TOA1	**Torodi Ar. Sit**	**129.31**	**281**	*e*PKPdf	**PKPdf**	**05 35 12.5**	**+0.4**
CPUP	**Villa Florida**	**146.06**	**167**	PKPbc	**PKPbc**	**05 35 43.6**	**+0.3**
	1.1nm,0.7s,baz=202,slow=6.9,SNR=4.3						
LPAZ	**La Paz**	**150.44**	**141**	PKPbc	**PKiKP**	**05 35 58.0**	**+1.2**
	1.0nm,0.4s,baz=34,slow=6.6,SNR=10.0						
LPAZ	**La Paz**	**150.44**	**141**	*e*PKPbc	**PKiKP**	**05 35 58.1**	**+1.4**

ISCJB ***18*** *05:20:18.9±0.5, 62.07S±0.08×162.0W±0.2, h10km, mb4.4/9, MS4.8/17, Error ellipse: s-maj=13.9km s-min=11.0km az=6.8*

IDC ***18*** *05:20:19.8±0.8, 62.05S×161.98W, h0km, mb4.2/6, mb1 4.4/7, mb1mx4.3/29, mbtmp4.2/7, ML3.7/1, MS4.7/18, Ms1 4.7/18, ms1mx4.7/24, Error ellipse: s-maj=33.3km s-min=21.5km az=19.0*

NEIC ***18*** *05:20:21.3±0.3, 62.11S×161.92W, h10km, mb4.5/6, Error ellipse: s-maj=11.9km s-min=10.2km az=213.0*

GCMT ***18*** *05:20:25.3±0.1, 62.51S±0.01×162.09W±0.02, h12km, MW5.3/116, Moment Tensor Solution. s67,c98; s116,c185; Duration: 1s1 Moment tensor: Scale 1017 Nm; Mrr=0.12±.02; Mθθ=1.00±.02; Mϕϕ=0.87±.01; Mrθ=0.18±.04; Mrϕ=0.13±.02; Mθϕ=0.39±.04; Best double couple: M=1.04300×1017 NP1:ϕs=129.00000°, δ=80.00000°, λ=-23.00000°. NP2:ϕs=223.00000°, δ=68.00000°, λ=-169.00000°. Principal axes: T 1.0260, Plg8.0000°, Azm178.0000°; N 0.0330, Plg65.0000°, Azm285.0000°; P -1.0600, Plg23.0000°, Azm84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 05:20:21.1±0.6, 62.1S±0.1×161.9W±0.1, h10km, n61, σ0s90/38, mb4.3/9, MS4.8/17, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**18.65**	**200**	*e*P	**Pn**	**05 24 38.7**	**-0.1**
	16nm,1.1s						
VNDA	**Vanda**	**19.30**	**203**	P	**Pn**	**05 24 47.1**	**+0.4**
	0.2nm,0.3s,baz=65,slow=17,SNR=14						
VNDA				LR	LR	05 30 10.1	
	comp=Z,5μm,21.1s,baz=58,slow=30						
VNDA	**Vanda**	**19.30**	**203**	*e*Pn	**Pn**	**05 24 47.3**	**+0.6**
	4.7nm,0.8s						
URZ	**Urewera**	**27.13**	**322**	LR	LR	05 34 24.6	
	comp=Z,1μm,21.3s,baz=170,slow=31						
QSPA	**South Pole Qui**	**28.03**	**180**	P	**P**	**05 26 11.6**	**-0.4**
	5.5nm,1.2s,baz=48,slow=5.6,SNR=5.3						
QSPA	**South Pole Qui**	**28.03**	**180**	*e*P	**P**	**05 26 12.2**	**+0.2**
	7.7nm,1.1s						
TBI	**Tubuai**	**39.64**	**18**	*e*S	**S**	**05 33 55.0**	**-0.7**
	353nm,27.2s						
TBI				*e*LQ	LQ	05 37 00.9	
	699nm,32.2s						
TBI				*e*LR	LR	05 38 40.6	
	comp=Z,3μm,28.0s,baz=189						
RAR	**Rarotonga**	**40.87**	**3**	LR	LR	05 40 22.4	
	comp=Z,782nm,19.0s,baz=129,slow=30						
RKT	**Rikitea**	**43.05**	**38**	*e*LQ	LQ	05 38 21.3	
	4μm,29.0s						
RKT				*e*LR	LR	05 40 15.9	
	comp=Z,836nm,26.8s						
RKT	**Rikitea**	**43.05**	**38**	*e*T	T	06 14 20.0	
	7.8nm,0.2s						
TVO	**Taravao**	**45.15**	**17**	*e*T	T	06 17 01.6	
	3.1nm,0.3s						
PAE	**Paea**	**45.22**	**17**	*e*T	T	06 17 07.3	
	4.1nm,0.3s						
PPT2	**Papeete2**	**45.29**	**17**	*e*S	**S**	**05 35 18.0**	**-1.1**
	380nm,25.8s						
PPT2				*e*LR	LR	05 41 16.5	
	comp=Z,3μm,25.2s						
PPT2	**Papeete2**	**45.29**	**17**	*e*T	T	06 17 12.7	
	9.5nm,0.3s						
PPT	**Papeete**	**45.31**	**17**	LR	LR	05 42 42.3	
	comp=Z,1μm,20.4s,baz=173,slow=30						
TIAR	**Tiarei**	**45.35**	**17**	*e*T	T	06 17 17.3	
	4.1nm,0.3s						
DZM	**Mont Dzumac**	**45.48**	**317**	*e*LR	LR	05 41 23.5	
	comp=Z,949nm,25.6s						
SNAA	**Sanae**	**45.73**	**171**	P	**P**	**05 28 40.3**	**-1.5**
SNAA	**Sanae**	**45.73**	**171**	*e*P	**P**	**05 28 40.1**	**-1.7**
	14nm,1.1s						
VNA2	**Neumayer--Watz**	**46.08**	**169**	P	**P**	**05 28 41.8**	**-2.6**
	baz=200,slow=7.4						
VNA1	**Neumayer--Stat**	**46.26**	**168**	P	**P**	**05 28 45.4**	**-0.4**
MAW	**Mawson**	**46.61**	**202**	LR	LR	05 46 29.9	
	comp=Z,1μm,20.4s,baz=148,slow=34						
STKA	**Stephens Creek**	**46.79**	**283**	LR	LR	05 46 08.6	
	comp=Z,710nm,18.0s,baz=144,slow=33						
VAH	**Vaihoa**	**47.88**	**19**	*e*T	T	06 20 26.3	
	52nm,0.3s						
CTA	**Charters Tower**	**54.94**	**295**	LR	LR	05 50 14.7	
	comp=Z,620nm,18.8s,baz=144,slow=33						
TAOE	**Nuku Hiva Isla**	**55.47**	**26**	*e*LR	LR	05 46 02.2	
	comp=Z,2μm,26.8s						
PLCA	**Paso Flores**	**55.59**	**113**	P	**P**	**05 29 56.8**	**+0.3**
	2.4nm,1.1s,baz=240,slow=5.1,SNR=3.0						
PLCA				LR	LR	05 47 57.4	
	comp=Z,952nm,20.9s,baz=236,slow=30						
H01W1	**Cape Leeuwin H**	**57.09**	**257**	T	T	06 32 08.9	
	baz=147,slow=74						
H01W2	**Cape Leeuwin H**	**57.10**	**257**	T	T	06 32 06.2	
	baz=147						
H01W3	**Cape Leeuwin H**	**57.11**	**257**	T	T	06 32 10.2	
	baz=147,slow=74						
AS01	**Alice Springs**	**57.30**	**281**	*e*P	**P**	**05 30 09.5**	**+0.6**
ASAR	**Alice Springs**	**57.32**	**281**	P	**P**	**05 30 08.3**	**-0.7**
	2.4nm,0.8s,baz=152,slow=7.1,SNR=6.1						
ASAR				LR	LR	05 50 57.5	
	comp=Z,1μm,21.6s,baz=151,slow=32						
HNR	**Honiara**	**59.42**	**315**	LR	LR	05 53 36.9	
	comp=Z,328nm,19.0s,baz=152,slow=34						
WR1	**Warramunga Arr**	**60.34**	**284**	*e*P	**P**	**05 30 29.1**	**-0.8**
	10nm,1.1s						
WRA	**Warramunga Arr**	**60.34**	**284**	P	**P**	**05 30 29.1**	**-0.8**
	2.0nm,0.9s,baz=157,slow=5.8,SNR=5.5						
WRA				LR	LR	05 54 13.8	
	comp=Z,947nm,18.2s,baz=155,slow=34						
PMG	**Port Moresby**	**64.16**	**302**	LR	LR	05 55 20.8	
	comp=Z,295nm,19.9s,baz=152,slow=33						
LCO	**Las Campanas**	**65.35**	**106**	*e*P	**P**	**05 31 03.8**	**+0.2**
	5.8nm,1.1s						
CPUP	**Villa Florida**	**73.56**	**115**	P	**P**	**05 31 53.8**	**-0.2**
	2.9nm,1.1s,baz=192,slow=3.8,SNR=4.2						
CPUP				LR	LR	05 59 35.2	
	comp=Z,645nm,20.3s,baz=204,slow=32						
LPAZ	**La Paz**	**77.51**	**101**	P	**P**	**05 32 18.6**	**+1.1**
	4.6nm,1.1s,baz=201,slow=14,SNR=9.4						
LPAZ				LR	LR	05 59 14.8	
	comp=Z,412nm,19.4s,baz=184,slow=30						
LPAZ	**La Paz**	**77.51**	**101**	*e*P	**P**	**05 32 18.1**	**+0.5**
LPAZ				*e*pP	**P**	**05 32 18.6**	**+1.1**
BDFB	**Brasilia**	**86.97**	**118**	LR	LR	06 08 45.0	
	comp=Z,1μm,19.6s,baz=208,slow=33						
DAV	**Davao City (W)**	**88.15**	**289**	LR	LR	06 10 18.8	
	comp=Z,153nm,21.3s,baz=198,slow=34						
BOSA	**Boshof**	**89.43**	**186**	LR	LR	06 09 41.4	
	comp=Z,1μm,19.9s,baz=176,slow=33						
ROSC	**El Rosal**	**93.10**	**86**	LR	LR	06 07 39.1	
	comp=Z,167nm,20.2s,baz=226,slow=30						
HRY	**Holter Researc**	**115.62**	**36**	*e*PKPdf	**PKiKP**	**05 39 03.3**	**+1.0**
ILAR	**Eielson Array**	**127.05**	**8**	PKP	**PKiKP**	**05 39 23.9**	**-0.2**
	1.0nm,1.1s,baz=254,slow=3.

comp=N,391nm,0.4s
LBWR IAML 05 21 08.4

comp=E,683nm,0.3s
LMK Market Rasen 0.93 37 *e*P **Pn 05 21 00.3 -0.1**
LMK *e*S **Sb 05 21 11.6 -0.4**
LMK Market Rasen 0.93 37 *e*P **Pn 05 21 00.3 -0.1**
LMK *e*S **Sb 05 21 11.6 -0.4**
LMK IAML 05 21 13.4

comp=E,619nm,0.3s
LMK IAML 05 21 13.5

comp=N,647nm,0.2s
LMK Market Rasen 0.93 37 *e*P **Pn 05 21 00.3 -0.1**
LMK *e*S **Sb 05 21 11.6 -0.4**
LMK IAML 05 21 13.4

comp=E,619nm,0.3s
LMK IAML 05 21 13.5

comp=N,647nm,0.2s
HLM1 Long Mynd 1.01 259 *e*P **Pb 05 21 02.5 +0.9**
HLM1 Long Mynd 1.01 259 *e*P **Pb 05 21 02.5 +0.9**
HLM1 Long Mynd 1.01 259 *e*P **Pb 05 21 02.5 +0.9**
STRD Stroud 1.10 211 ⇑*i*P **Pb 05 21 05.1 +2.0**
STRD Stroud 1.10 211 ⇑*i*P **Pb 05 21 05.1 +2.0**
WACR West Acre 1.14 89 *e*P **Pb 05 21 04.6 +0.7**
WACR *e*S **Sn 05 21 18.8 +0.4**
WACR IAML 05 21 20.5

comp=E,254nm,0.2s
WACR IAML 05 21 22.6

comp=N,235nm,0.1s
WACR West Acre 1.14 89 *e*P **Pb 05 21 04.6 +0.7**
WACR *e*S **Sn 05 21 18.8 +0.4**
WACR IAML 05 21 20.5

comp=E,254nm,0.2s
WACR IAML 05 21 22.6

comp=N,235nm,0.1s
FOEL Foel Wylfa 1.19 279 *e*P **Pb 05 21 05.9 +1.2**
FOEL Foel Wylfa 1.19 279 *e*P **Pb 05 21 05.9 +1.2**
FOEL Foel Wylfa 1.19 279 *e*P **Pb 05 21 05.9 +1.2**
SWN1 Swindon 1.26 196 ⇑*i*P **Pb 05 21 08.1 +2.3**
SWN1 Swindon 1.26 196 ⇑*i*P **Pb 05 21 08.1 +2.3**
SWN1 Swindon 1.26 196 ⇑*i*P **Pb 05 21 08.1 +2.3**
HPK Haverah Park 1.26 350 ⇓*i*P **Pn 05 21 05.1 0.0**
HPK Haverah Park 1.26 350 ⇓*i*P **Pn 05 21 05.1 0.0**
HPK Haverah Park 1.26 350 ⇓*i*P **Pn 05 21 05.1 0.0**
MCH1 Michaelchurch 1.29 237 ⇑*i*P **Pb 05 21 07.7 +1.3**
MCH1 Michaelchurch 1.29 237 ⇑*i*P **Pb 05 21 07.7 +1.3**
MCH1 Michaelchurch 1.29 237 ⇑*i*P **Pb 05 21 07.7 +1.3**
MONM Monmouth 1.30 228 ⇑*i*P **Pb 05 21 08.0 +1.5**
MONM Monmouth 1.30 228 ⇑*i*P **Pb 05 21 08.0 +1.5**
MONM Monmouth 1.30 228 ⇑*i*P **Pb 05 21 08.0 +1.5**
OLDB Oldbury-Upon-S 1.33 217 *e*P **Pb 05 21 08.5 +1.5**
OLDB Oldbury-Upon-S 1.33 217 *e*P **Pb 05 21 08.5 +1.5**
OLDB Oldbury-Upon-S 1.33 217 *e*P **Pb 05 21 08.5 +1.5**
GDLE Glaisdale, N Y 1.72 9 *e*P **Pn 05 21 11.7 +0.2**
GDLE Glaisdale, N Y 1.72 9 *e*P **Pn 05 21 11.7 +0.2**
WLF1 Llynfaes 1.98 288 *e*P **Pn 05 21 16.3 +1.4**
WLF1 Llynfaes 1.98 288 *e*P **Pn 05 21 16.3 +1.4**
WLF1 Llynfaes 1.98 288 *e*P **Pn 05 21 16.3 +1.4**
WPS Cemaes, Angles 2.07 290 *e*P **Pn 05 21 17.7 +1.5**
WPS Cemaes, Angles 2.07 290 *e*P **Pn 05 21 17.7 +1.5**
EDMD Edmundbyers 2.16 349 *e*P **Pn 05 21 17.1 -0.3**
EDMD Edmundbyers 2.16 349 *e*P **Pn 05 21 17.1 -0.3**
KESW Keswick, Cumbr 2.17 330 *e*P **Pn 05 21 17.9 +0.3**
KESW Keswick, Cumbr 2.17 330 *e*P **Pn 05 21 17.9 +0.3**
KESW Keswick, Cumbr 2.17 330 *e*P **Pn 05 21 17.9 +0.3**
HTL Hartland 2.65 230 *e*P **Pn 05 21 26.1 +2.0**
HTL Hartland 2.65 230 *e*P **Pn 05 21 26.1 +2.0**
HTL Hartland 2.65 230 *e*Pn **Pn 05 21 26.1 +2.0**
ESK Eskdalemuir 2.84 337 *e*Pn **Pn 05 21 26.9 +0.1**
ESK *e*Sn **Sn 05 21 59.2 -1.1**
DSB Dublin 3.14 282 *e*Pn **Pn 05 21 32.8 +1.9**
DSB *e*Sg **Sb 05 22 19.1 +3.4**
UCC Uccle 3.98 117 *e*Pn **Pn 05 21 45.7 +3.3**
FLN La Foliniere 3.99 173 *e*Pn **Pn 05 21 43.6 +1.0**
baz=357
FLN *e*Sn **Sn 05 22 27.2 -1.5**

comp=N,3.9nm,0.2s
SNF Seneffe 4.10 121 ⇑Pn **Pn 05 21 47.2 +3.1**
LDF La Druitiere 4.20 170 *e*Pn **Pn 05 21 46.2 +0.8**
LDF *e*Sn **Sn 05 22 31.7 -2.0**

comp=N,3.6nm,0.2s
BAIF Baives 4.34 126 *e*Pn **Pn 05 21 49.6 +2.3**
BAIF *e*Sn **Sn 05 22 35.2 -1.9**

comp=N,1.1nm,0.2s
BAIF *e*Sg Sb 05 23 00.7 +11

comp=N,4.4nm,0.3s
GRR Gorron 4.35 177 *e*Pn **Pn 05 21 49.5 +2.1**
GRR *e*Sn **Sn 05 22 35.8 -1.6**

comp=N,2.1nm,0.1s
SGMF Saint Gilles 4.55 191 *e*Pn **Pn 05 21 51.6 +1.4**
SGMF *e*Sn **Sn 05 22 40.7 -1.7**

comp=N,1.4nm,0.2s
ROSF Rostrenen 4.58 197 *e*Pn **Pn 05 21 51.7 +1.1**
ROSF *e*Sn **Sn 05 22 42.0 -1.0**

comp=N,6.6nm,0.3s
GIVF Givet 4.62 122 *e*Pn **Pn 05 21 53.4 +2.2**
GIVF *e*Sn **Sn 05 22 43.1 -1.0**

comp=N,2.7nm,0.2s
QUIF Quistinic 4.96 195 *e*Pn **Pn 05 21 57.1 +1.2**
QUIF *e*Sn **Sn 05 22 51.0 -1.6**

comp=N,1.6nm,0.2s
MEM Membach 4.99 112 ⇑Pn **Pn 05 21 58.9 +2.6**
MEM ⇓Sn **Sn 05 22 58.1 +4.9**

comp=N,8.7nm,0.0s
CLF Chambon-Foret 5.21 153 *e*Pn **Pn 05 22 01.0 +1.7**
WLF Walferdange 5.57 120 *e*Pn **Pn 05 22 06.4 +2.1**
MEZF Maizieres J'vi 5.83 134 *e*Pn **Pn 05 22 09.5 +1.7**
MEZF *e*Sn **Sn 05 23 12.1 -1.7**

comp=N,2.4nm,0.2s
HYF Humbligny 6.01 154 *e*Pn **Pn 05 22 11.8 +1.5**
HYF *e*Sn **Sn 05 23 15.1 -3.2**

comp=N,14nm,0.3s
SFTF Sexfontaines 6.05 136 *e*Pn **Pn 05 22 12.5 +1.7**
baz=322
SFTF *e*Sn **Sn 05 23 16.5 -2.8**

comp=N,2.9nm,0.2s
PAGF Fort de Pagny 6.09 130 *e*Pn **Pn 05 22 13.2 +1.8**
PAGF *e*Sn **Sn 05 23 18.1 -2.3**

comp=N,5.8nm,0.3s
MFF Saint Martin d 6.17 173 *e*Pn **Pn 05 22 13.4 +0.9**
MFF *e*Sn **Sn 05 23 18.1 -4.2**

comp=N,2.2nm,0.2s
LOR Lormes 6.38 147 *e*Pn **Pn 05 22 16.4 +1.0**
baz=332
LOR *e*Sn **Sn 05 23 23.3 -4.1**

comp=N,2.0nm,0.2s
SSF Saint Saulge 6.45 150 *e*Pn **Pn 05 22 17.1 +0.8**
SSF *e*Sn **Sn 05 23 24.5 -4.6**

comp=N,1.0nm,0.3s
AVF Avril sur Loir 6.64 152 *e*Pn **Pn 05 22 20.7 +1.7**
AVF *e*Sn **Sn 05 23 30.9 -3.0**

comp=N,1.0nm,0.2s
BGF Bois d'Agland 6.72 155 *e*Pn **Pn 05 22 20.9 +0.9**
BGF *e*Sn **Sn 05 23 33.7 -2.1**

comp=N,14nm,0.4s
HAU Haudompre 6.78 131 *e*Pn **Pn 05 22 22.0 +1.2**
HAU *e*Sn **Sn 05 23 33.5 -3.8**

comp=N,2.4nm,0.2s
TCF Toulx Ste Croi 6.82 159 *e*Pn **Pn 05 22 22.1 +0.6**
TCF *e*Sn **Sn 05 23 33.7 -4.7**

comp=N,0.8nm,0.2s
SMF Signal de Mont 6.92 149 *e*Pn **Pn 05 22 24.4 +1.6**
SMF *e*Sn **Sn 05 23 36.9 -3.9**

comp=N,1.1nm,0.2s
CDF Champ du Feu 6.94 125 *e*Pn **Pn 05 22 24.2 +1.1**
CDF *e*Sn **Sn 05 23 37.9 -3.4**

comp=N,0.9nm,0.2s
HINF Hinteralfeld 7.15 130 *e*Pn **Pn 05 22 27.4 +1.5**
HINF *e*Sn **Sn 05 23 42.6 -3.8**

comp=N,1.6nm,0.3s
RJF Les Rejaudoux 7.64 165 *e*Pn **Pn 05 22 33.3 +0.6**
RJF *e*Sn **Sn 05 23 52.5 -6.1**

comp=N,2.5nm,0.3s
CABF La Chapelle 7.75 139 *e*Pn **Pn 05 22 35.8 +1.5**
CABF *e*Sn **Sn 05 23 56.9 -4.4**

comp=N,1.0nm,0.3s
LFF La Frestale 7.90 170 *e*Pn **Pn 05 22 36.5 +0.3**
LFF *e*Sn **Sn 05 23 59.1 -5.7**

comp=N,0.9nm,0.2s
CAF Calviac 8.10 163 *e*Pn **Pn 05 22 39.5 +0.4**
CAF *e*Sn **Sn 05 24 05.6 -4.3**

comp=N,1.6nm,0.2s
SENIN Lac Senin/Sane 8.45 135 *e*Pn **Pn 05 22 46.6 +2.7**
SENIN *e*Sn **Sn 05 24 17.6 -1.0**
LASF Ste Croix 9.29 157 *e*Pn **Pn 05 22 55.6 +0.2**
LASF *e*Sn **Sn 05 24 33.5 -5.6**

comp=N,0.1nm,0.2s
MBDF Montbardon 9.59 143 *e*Pn **Pn 05 23 00.3 +0.7**
SJPF Ste Jean 9.61 180 *e*Pn **Pn 05 23 00.0 +0.2**
SJPF *e*Sn **Sn 05 24 40.8 -6.2**

comp=N,0.7nm,0.2s
MTLF Montolieu 9.67 165 *e*Pn **Pn 05 23 01.3 +0.8**
MTLF *e*Sn **Sn 05 24 43.1 -5.2**

comp=N,1.0nm,0.3s
EPF Esparros 9.76 173 *e*Pn **Pn 05 23 02.2 +0.5**
EPF *e*Sn **Sn 05 24 45.3 -5.2**

comp=N,0.3nm,0.2s
ETSF Etsaut 9.84 177 *e*Pn **Pn 05 23 03.2 +0.3**

DDA ***18*** *05:25:13.1,39.91N×42.22E,h46km,ML2.5*
ISK ***18*** *05:25:13.3,40.04N×42.42E,h5km,ML1.9/2*
ISC 18 05:25:12.0±2.0, 39.94N±0.06×42.46E±0.07, h3km±17km, n9,σ0.33/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOMI	**Horasan**	**0.44**	**284**	IAML_P			
	comp=Z,2μm,0.1s						
HOMI				*i* P	**Pb**	**05 25 22.5 0.0**	
KOPR	**Koprukoy-ERZUR**	**0.47**	**277**	PG	**Pb**	**05 25 23.1 +0.1**	
KOPR				SG	**Sb**	**05 25 30.3 0.0**	
AGRB	**Hanur-Agry**	**0.55**	**131**	PG	**Pn**	**05 25 26.6 -0.3**	
AGRB				SG	**Sn**	**05 25 36.9 +0.2**	
TUTA	**Tutak**	**0.60**	**153**	*i* P	**Pn**	**05 25 27.9 +0.2**	
DDEM	**Demirkent**	**1.09**	**331**	IAML_P			
	comp=Z,541nm,0.2s						
DDEM				*i* P	**Pg**	**05 25 32.4 -0.7**	
DDEM				*i* S	**Sb**	**05 25 48.1 -0.3**	
DAGI	**Agillar**	**1.21**	**340**	IAML_P			
	comp=Z,313nm,0.2s						
DAGI				*i* P	**Pn**	**05 25 35.9 -0.1**	
DAGI				*i* S	**Sb**	**05 25 51.8 +0.1**	
DBAD	**Bademkaya**	**1.23**	**332**	IAML_P			
	comp=Z,295nm,0.1s						
DBAD				*i* P	**Pb**	**05 25 35.9 0.0**	
DBAD				*i* S	**Sg**	**05 25 51.8 +0.4**	
DBOC	**Borcka**	**1.53**	**337**	IAML_P			
	comp=Z,300nm,0.3s						
DBOC				*i* P	**Pg**	**05 25 41.7 +0.4**	
BCA	**Borcka**	**1.63**	**337**	PN	**Pb**	**05 25 42.9 +0.1**	

ISCJB ***18*** *05:25:19.6±0.7,24.67N±0.05×123.07E±0.02,*
h132km±6km,Error ellipse: s-maj=7.9km s-min=3.2km
az=179.2
TAP ***18*** *05:25:19.3,24.69N×122.93E,h158km,ML3.1,D*
JMA ***18*** *05:25:20.4±0.2,24.92N×123.17E,h125km±4km,M2.8*
ISC 18 05:25:16.6±2.0, 24.72N±0.07×123.10E±0.03, h161km±13km, n42,σ1.39/71, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.26**	**197**	*e*P	**Pn**	**05 25 40.7 +2.3**	
	baz=161						
YOJ				*e*S	**Sn**	**05 25 55.8 +0.9**	
	baz=161						
YOJ	**Yonaguni jima**	**0.26**	**197**	P	**Pn**	**05 25 38.9 +0.6**	
JYNG	**Yonagunijimaku**	**0.30**	**208**	P	**Pn**	**05 25 39.2 +0.8**	
IRIF	**Iriomote-Funau**	**0.69**	**123**	P	**Pn**	**05 25 40.8 +0.6**	
IRIF				*e*S	**Sn**	**05 25 56.8 -1.4**	
EOS1	**EOS1**	**0.90**	**260**	P	**Pn**	**05 25 42.7 +1.2**	
	baz=259						
EOS1				*e*S	**Sn**	**05 26 00.3 -0.3**	
	baz=259						
HATJ	**Hateruma jima**	**0.92**	**135**	*e*S	**Sn**	**05 26 00.8 -0.3**	
JKRS	**Kuro-shima**	**0.96**	**120**	P	**Pn**	**05 25 43.5 +1.5**	
JKRS				S	**Sn**	**05 26 00.5 -1.0**	
JIJ	**Ishigaki jima**	**1.01**	**110**	P	**Pn**	**05 25 43.3 +0.8**	
JIJ				S	**Sn**	**05 26 00.1 -2.3**	
TWB1	**Santiao Chiao**	**1.05**	**286**	P	**Pn**	**05 25 44.2 +1.5**	
	baz=290						
TWB1				*e*S	**Sn**	**05 25 59.3 -3.6**	
	baz=290						
JISG	**Ishigakijimahi**	**1.11**	**96**	P	**Pn**	**05 25 43.9 +0.6**	
JISG				S	**Sn**	**05 26 01.8 -2.0**	
TWC	**Suao**	**1.14**	**265**	*e*S	**Sn**	**05 26 03.3 -0.9**	
	baz=265						
TIPB	**Shuangxi**	**1.18**	**283**	P	**Pn**	**05 25 45.2 +1.2**	
	baz=285						
TIPB				S	**Sn**	**05 26 04.3 -0.6**	
	baz=285						
NANB	**Nanao**	**1.26**	**257**	*e*P	**Pn**	**05 25 45.9 +1.3**	
	baz=256						
NANB				*e*S	**Sn**	**05 26 05.3 -0.8**	
	baz=256						
ENA	**Nanau**	**1.27**	**257**	*e*S	**Sn**	**05 26 05.1 -1.2**	
	baz=256						
ENTT	**Nioudou**	**1.39**	**267**	*e*P	**Pn**	**05 25 47.2 +1.3**	
	baz=267						
ENTT				*e*S	**Sn**	**05 26 07.3 -1.2**	
	baz=267						
TWA	**Mucha**	**1.40**	**281**	*e*P	**Pn**	**05 25 47.2 +1.2**	
	baz=283						
TWA				*e*S	**Sn**	**05 26 08.4 -0.2**	
	baz=283						
NWLT	**Wulai**	**1.45**	**273**	*e*S	**Sn**	**05 26 08.6 -0.9**	
	baz=273						
YM11	**YM11**	**1.45**	**288**	*e*S	**Sn**	**05 26 08.8 -0.8**	
	baz=291						
YM05	**YM05**	**1.46**	**288**	*e*P	**Pn**	**05 25 47.9 +1.3**	
	baz=291						
JTJ	**Tarama**	**1.46**	**93**	P	**Pn**	**05 25 47.8 +1.2**	
JTJ				S	**Sn**	**05 26 08.3 -1.3**	
NACB	**Ninganchiao**	**1.47**	**249**	*e*P	**Pn**	**05 25 48.2 +1.5**	
	baz=247						
NACB				*e*S	**Sn**	**05 26 08.8 -1.0**	
	baz=247						
YM04	**YM04**	**1.48**	**287**	*e*P	**Pn**	**05 25 48.1 +1.3**	
	baz=290						
YM04				*e*S	**Sn**	**05 26 09.2 -0.9**	
	baz=290						
TATO	**Taipei**	**1.48**	**280**	*e*P	**Pn**	**05 25 47.4 +0.7**	
	baz=282						
TATO				*e*S	**Sn**	**05 26 09.2 -0.8**	
	baz=282						
TWD	**Chiawan**	**1.51**	**246**	*e*P	**Pn**	**05 25 48.1 +1.1**	
	baz=243						
TWD				*e*S	**Sn**	**05 26 09.3 -1.1**	
	baz=243						
YHNB	**Yeheng**	**1.57**	**269**	*e*P	**Pn**	**05 25 48.7 +1.0**	
	baz=269						
YHNB				*e*S	**Sn**	**05 26 10.1 -1.5**	
	baz=269						
NSK	**Sanguang**	**1.58**	**269**	*e*P	**Pn**	**05 25 49.2 +1.3**	
	baz=269						
NSK				*e*S	**Sn**	**05 26 10.8 -1.1**	
	baz=269						
ENLB	**Shoufeng**	**1.58**	**240**	*e*P	**Pn**	**05 25 49.3 +1.5**	
	baz=237						
ENLB				*e*S	**Sn**	**05 26 11.0 -0.9**	
	baz=237						
NNSB	**Datong**	**1.59**	**260**	*e*P	**Pn**	**05 25 49.4 +1.4**	
	baz=259						
NNSB				*e*S	**Sn**	**05 26 10.5 -1.6**	
	baz=259						
NCU	**National Centr**	**1.75**	**279**	*e*S	**Sn**	**05 26 14.1 -1.0**	
	baz=280						
ESL	**Shilin**	**1.76**	**240**	*e*P	**Pn**	**05 25 50.8 +1.0**	
	baz=237						
ESL				*e*S	**Sn**	**05 26 14.2 -1.1**	
	baz=237						
WHF	**Hehuan Shan**	**1.76**	**252**	*e*P	**Pn**	**05 25 50.8 +0.6**	
	baz=250						
WHF				*e*S	**Sn**	**05 26 13.7 -2.3**	
	baz=250						
TWT	**Tachien**	**1.81**	**256**	*e*S	**Sn**	**05 26 15.2 -1.2**	
	baz=254						
CHGB	**Renai**	**1.87**	**250**	*e*P	**Pn**	**05 25 52.3 +1.1**	
	baz=248						
CHGB				*e*S	**Sn**	**05 26 16.1 -1.7**	
	baz=248						
JIRB	**Irabujima**	**1.89**	**86**	*e*S	**Sn**	**05 26 16.6 -1.1**	
LIOB	**Emei**	**1.89**	**268**	*e*P	**Pn**	**05 25 52.4 +1.2**	
	baz=268						
LIOB				*e*S	**Sn**	**05 26 16.0 -1.8**	
	baz=268						
HGSD	**Ruisui**	**1.95**	**232**	*e*P	**Pn**	**05 25 53.9 +2.0**	
	baz=229						
HGSD				*e*S	**Sn**	**05 26 17.8 -1.2**	
	baz=229						
JIKM	**Ikemajima**	**1.97**	**83**	*e*S	**Sn**	**05 26 18.5 -0.7**	
EHY	**Hungye**	**2.02**	**234**	*e*P	**Pn**	**05 25 54.2 +1.6**	
	baz=231						
EHY				*e*S	**Sn**	**05 26 19.5 -0.9**	
	baz=231						
VWDT	**VWDT**	**2.02**	**242**	*e*P	**Pn**	**05 25 53.9 +1.3**	
	baz=240						
VWDT				*e*S	**Sn**	**05 26 19.0 -1.4**	
	baz=240						
YULB	**Yu-li**	**2.11**	**232**	*e*P	**Pn**	**05 25 55.0 +1.4**	
	baz=229						
YULB				*e*S	**Sn**	**05 26 20.8 -1.4**	
	baz=229						
WDLH	**Douliu**	**2.55**	**247**	*e*S	**Sn**	**05 26 29.3 -2.2**	
	baz=245						
TPUB	**Ta-pu**	**2.66**	**239**	*e*P	**Pn**	**05 26 01.5 +1.3**	
	baz=236						
TPUB				*e*S	**Sn**	**05 26 31.7 -2.3**	
	baz=236						

ISCJB ***18*** *05:32:24.4±0.7,11.82S±0.07×166.42E±0.09,h100km,*
mb3.9/12,Error ellipse: s-maj=12.3km s-min=9.1km
az=157.2
IDC ***18*** *05:32:26.8±1.1,11.75S×166.48E,h108km±8km,mb3.7/12,*
mb1 3.9/13,mb1mx3.8/38,mbtmp4.0/13,MS3.5/2,
Ms1 3.5/2,ms1mx3.0/38,Error ellipse: s-maj=28.7km
s-min=15.2km az=138.0
ISC 18 05:32:26.1±0.7, 11.75S±0.08×166.5E±0.1, h100km, n15, σ2.01/19, mb3.7/12, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.85**	**289**	S	**Sn**	**05 35 19.1**	**-1.4**
	16nm,0.3s,baz=180,slow=14,SNR=1.8						
HNR				LR	LR	05 36 30.2	
	comp=Z,147nm,19.0s,baz=80,slow=36						
DZM	**Mont Dzumac**	**10.26**	**180**	P	**Pn**	**05 34 51.9**	**+1.5**
	2.6nm,0.3s,baz=329,slow=23,SNR=37						
DZM				S	**Sn**	**05 36 40.5**	**-3.2**
	0.5nm,0.3s,baz=156,slow=20,SNR=3.3						
CTA	**Charters Tower**	**21.15**	**244**	P	**P**	**05 37 03.8**	**+0.5**
	1.7nm,0.6s,baz=94,slow=15,SNR=3.0						
STKA	**Stephens Creek**	**30.46**	**225**	P	**P**	**05 38 29.5**	**+0.1**
	1.8nm,0.5s,baz=61,slow=15,SNR=4.1						
WRA	**Warramunga Arr**	**31.96**	**251**	P	**P**	**05 38 41.3**	**-1.5**
	0.9nm,0.6s,baz=82,slow=8.9,SNR=10						
WRA				pP	**pP**	**05 39 07.3**	**+4.1**
	0.5nm,0.7s,baz=84,slow=9.5,SNR=1.7						
ASAR	**Alice Springs**	**33.16**	**245**	P	**P**	**05 38 51.6**	**-1.7**
	0.7nm,0.6s,baz=69,slow=10.0,SNR=8.2						
ASAR				pP	**pP**	**05 39 17.9**	**+4.2**
	0.7nm,0.6s,baz=72,slow=10.0,SNR=3.2						
ASAR				PcP	**PcP**	**05 41 33.5**	**-0.7**
	1.0nm,1.0s,baz=65,slow=2.0,SNR=7.8						
FITZ	**Fitzroy Crossi**	**39.93**	**256**	P	**P**	**05 39 50.0**	**-0.8**
	3.9nm,0.9s,baz=72,slow=4.9,SNR=9.2						
KSRS	**Korea Array**	**60.88**	**325**	P	**P**	**05 42 27.7**	**-0.5**
	1.4nm,0.7s,baz=128,slow=7.3,SNR=6.0						
CMAR	**Chiang Mai Arr**	**73.08**	**293**	P	**P**	**05 43 46.8**	**+0.8**
	2.1nm,0.8s,baz=124,slow=4.9,SNR=14						
SONM	**Songino Array**	**79.68**	**324**	P	**P**	**05 44 23.2**	**+0.4**
	0.7nm,0.6s,baz=140,slow=6.4,SNR=4.7						
ILAR	**Eielson Array**	**83.94**	**18**	P	**P**	**05 44 43.7**	**-1.0**
	0.3nm,0.6s,baz=238,slow=5.0,SNR=8.4						
NVAR	**Mina Array Bea**	**85.91**	**50**	P	**P**	**05 44 56.9**	**+1.5**
	0.4nm,0.7s,baz=233,slow=7.5,SNR=3.0						
NVAR				pP	**pP**	**05 45 22.2**	**+0.9**
	0.1nm,0.3s,baz=285,slow=18,SNR=1.7						
MKAR	**Makanchi Array**	**94.55**	**317**	P	**P**	**05 45 35.2**	**-0.3**
	2.3nm,0.5s,baz=88,slow=5.9,SNR=30						
YKA	**Yellowknife Ar**	**95.25**	**27**	P	**P**	**05 45 36.1**	**-2.2**
	0.1nm,0.4s,baz=259,slow=4.7,SNR=3.9						
AAK	**Ala-Archa**	**99.32**	**312**	LR	LR	06 30 41.0	
	comp=Z,42nm,20.0s,baz=96,slow=35						

TAP 18 05:35:40.2,23.24N×121.67E,h20km,ML2.5,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHKT	**Chengkung**	**0.31**	**244**	*e*P	Pb	05 35 47.4	+0.3
	baz=243						
CHKT				*e*S	Sb	05 35 52.5	+0.8
	baz=243						
HGSD	**Ruisui**	**0.34**	**319**	*e*P	Pb	05 35 48.2	+0.5
	baz=318						
HGSD				*e*S	Sb	05 35 53.4	+0.7
	baz=318						
TWF1	**Yuli**	**0.36**	**289**	*e*P	Pb	05 35 48.6	+0.6
	baz=289						
TWF1				*e*S	Sb	05 35 54.0	+0.7
	baz=289						
YULB	**Yu-li**	**0.37**	**295**	*e*P	Pb	05 35 49.0	+0.7
	baz=294						
YULB				*e*S	Sb	05 35 55.0	+1.3
	baz=294						
EHY	**Hungye**	**0.42**	**310**	P	Pb	05 35 49.4	+0.5
	baz=310						
EHY				*e*S	Sn	05 35 56.7	-1.6
	baz=310						
ELDTW	**Lidau**	**0.60**	**266**	*e*P	Pb	05 35 51.8	-0.2
	baz=265						
ESL	**Shilin**	**0.61**	**340**	*e*P	Pg	05 35 52.9	+0.4
	baz=340						
ESL				*e*S	Sg	05 36 02.0	+1.2
	baz=340						
ENLB	**Shoufeng**	**0.67**	**355**	*e*P	Pg	05 35 53.8	+0.4
	baz=354						
ENLB				*e*S	Sg	05 36 03.3	+0.9
	baz=354						
TWGBT	**Beinan**	**0.68**	**233**	P	Pg	05 35 53.8	+0.1
	baz=232						
TWGBT				*e*S	Sb	05 36 02.1	-0.3
	baz=232						
TWG	**Pinlang**	**0.69**	**233**	P	Pg	05 35 53.9	+0.2
	baz=232						
TWG				*e*S	Sg	05 36 03.2	+0.3
	baz=232						
YUS	**Yu-Shan**	**0.70**	**291**	*e*P	Pg	05 35 54.4	+0.2
	baz=290						
YUS				*e*S	Sg	05 36 04.3	+0.5
	baz=290						
VWDT	**VWDT**	**0.71**	**317**	*e*P	Pg	05 35 54.5	+0.3
	baz=316						
VWDT				*e*S	Sg	05 36 04.3	+0.7
	baz=316						
HWA	**Hwalien**	**0.74**	**356**	*e*P	Pg	05 35 55.1	+0.4
	baz=356						
HWA				*e*S	Sn	05 36 06.2	-0.1
	baz=356						
ALS	**Alishan**	**0.84**	**289**	*e*P	Pg	05 35 56.7	+0.1
	baz=289						
ALS				*e*S	Sg	05 36 08.3	+0.5
	baz=289						
STYT	**Tauyuan**	**0.84**	**265**	*e*P	Pb	05 35 56.3	+0.2
	baz=264						
STYT				*e*S	Sg	05 36 08.1	+0.3
	baz=264						
TWD	**Chiawan**	**0.84**	**356**	*e*P	Pn	05 35 57.0	0.0
	baz=356						
TWD				*e*S	Sn	05 36 09.1	+0.3
	baz=356						
NACB	**Ninganchiao**	**0.94**	**356**	*e*P	Pb	05 35 57.4	-0.4
	baz=355						
NACB				*e*S	Sb	05 36 10.1	+0.3
	baz=355						
CHGB	**Renai**	**0.94**	**331**	P	Pn	05 35 58.2	-0.2
	baz=331						
CHGB				*e*S	Sb	05 36 10.1	+0.1
	baz=331						
SMLT	**Sun Moon Lake**	**0.95**	**313**	*e*P	Pn	05 35 58.4	-0.2
	baz=312						
SMLT				*e*S	Sn	05 36 11.8	0.0
	baz=312						
TPUB	**Ta-pu**	**0.96**	**274**	*e*P	Pn	05 35 58.6	+0.1
	baz=273						
TPUB				*e*S	Sn	05 36 11.9	+0.3
	baz=273						
WTP	**Ta-pu**	**0.97**	**271**	*e*P	Pg	05 35 59.2	+0.1
	baz=270						
WTP				*e*S	Sn	05 36 12.1	+0.1
	baz=270						
SLGT	**Liugui**	**0.97**	**256**	*e*P	Pn	05 35 58.7	0.0
	baz=255						
SLGT				*e*S	Sn	05 36 12.1	+0.2

	baz=255							
CHN5	**Tsauling**	**0.98**	**292**	*e*P		Pg	05 35 59.7	+0.4
	baz=291							
CHN5				*e*S		Sn	05 36 12.5	+0.3
	baz=291							
WHF	**Hehuan Shan**	**0.98**	**338**	*e*P		Pb	05 35 58.6	-0.1
	baz=338							
WHF				*e*S		Sb	05 36 11.8	+0.4
	baz=338							
CHN4	**Tsaushan**	**0.99**	**277**	*e*P		Pg	05 35 59.7	+0.1
	baz=276							
CHN4				*e*S		Sg	05 36 13.0	+0.3
	baz=276							
TYC	**Yuchr**	**1.00**	**312**	*e*P		Pn	05 35 59.2	+0.1
	baz=312							
TYC				*e*S		Sg	05 36 13.0	+0.2
	baz=312							
CHN1	**Nanshi**	**1.05**	**268**	*e*P		Pn	05 36 00.0	+0.2
	baz=267							
CHN1				*e*S		Sg	05 36 14.3	-0.1
	baz=267							
TWK	**Hsinying**	**1.08**	**272**	*e*P		Pn	05 36 00.7	+0.3
	baz=271							
TWK				*e*S		Sn	05 36 15.0	+0.1
	baz=271							
WNT	**Mingjian**	**1.11**	**306**	*e*S		Sg	05 36 15.8	-0.4
	baz=305							
TWT	**Tachien**	**1.11**	**336**	*e*P		Pb	05 36 01.0	+0.1
	baz=335							
TDCB	**Techi**	**1.12**	**335**	*e*P		Pb	05 36 01.1	+0.2
	baz=335							
WDLH	**Douliu**	**1.13**	**294**	*e*S		Sg	05 36 16.7	-0.3
	baz=293							
EAST	**Anshuo**	**1.14**	**222**	*e*P		Pn	05 36 00.8	-0.2
	baz=221							
MASBT	**Mashibuluo**	**1.14**	**237**	*e*P		Pb	05 36 01.4	+0.2
	baz=236							
MASBT				*e*S		Sn	05 36 16.5	+0.5
	baz=236							
CHY	**Chiayi**	**1.17**	**283**	*e*P		Pb	05 36 01.8	+0.1
	baz=282							
CHY				*e*S		Sn	05 36 17.1	+0.2
	baz=282							
NNSB	**Datong**	**1.22**	**348**	*e*S		Sb	05 36 18.6	+0.4
	baz=347							
NNS	**Nan Shan**	**1.23**	**347**	*e*P		Pb	05 36 02.7	-0.1
	baz=347							
NNS				*e*S		Sn	05 36 19.0	+0.5
	baz=347							
SCZT	**Fangliau**	**1.29**	**229**	*e*P		Pb	05 36 03.8	-0.1
	baz=228							
SCZT				*e*S		Sn	05 36 19.7	-0.1
	baz=228							
RLNB	**Erlin**	**1.37**	**299**	*e*S		Sb	05 36 22.2	+0.1
	baz=298							
EOS1	**EOS1**	**1.38**	**18**	*e*P		Pn	05 36 03.4	-0.8
	baz=17							
EOS1				*e*S		Sb	05 36 22.8	+0.5
	baz=17							
TWQ1	**Liyutan**	**1.38**	**324**	*e*P		Pb	05 36 05.5	+0.2
	baz=323							
TWQ1				*e*S		Sb	05 36 23.0	+0.5
	baz=323							
YHNB	**Yeheng**	**1.45**	**349**	*e*S		Sb	05 36 24.6	-0.1
	baz=349							

TAP 18 05:35:54.6, 24°53N × 121°82E, h5 km, ML2.2, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.08**	**22**	P	Pg	05 35 57.2	+0.8
	baz=28						
TWC				*e*S	Sg	05 35 58.8	+1.2
	baz=28						
NANB	**Nanao**	**0.12**	**210**	P	Pg	05 35 57.7	+0.7
	baz=209						
NANB				S	Sg	05 36 00.2	+1.6
	baz=209						
ENA	**Nanau**	**0.12**	**213**	P	Pg	05 35 57.9	+0.8
	baz=209						
ENA				*e*S	Sg	05 36 00.5	+1.7
	baz=209						
TWE	**Neicheng**	**0.23**	**324**	*e*P	Pg	05 35 60.0	+0.8
	baz=327						
TWE				*e*S	Sg	05 36 04.0	+1.8
	baz=327						
ILA	**Ilan**	**0.24**	**345**	*e*P	Pg	05 36 00.2	+0.9
	baz=347						
ILA				*e*S	Sg	05 36 04.8	+2.3
	baz=347						
ENTT	**Nioudou**	**0.25**	**295**	*e*P	Pg	05 36 00.3	+0.8
	baz=295						
ENTT				*e*S	Sb	05 36 04.9	-1.4
	baz=295						
EOS1	**EOS1**	**0.29**	**86**	*e*P	Pb	05 36 01.2	-0.9
	baz=86						
EOS1				*e*S	Sb	05 36 06.3	-0.9
	baz=86						
EGS		**0.33**	**19**	*e*P	Pb	05 36 02.3	-0.6
	baz=20						
EGS				*e*S	Sb	05 36 08.0	-0.6
	baz=20						
NWLT	**Wulai**	**0.38**	**311**	*e*P	Pb	05 36 02.9	-0.9
	baz=310						
NNSB	**Datong**	**0.41**	**255**	*e*P	Pg	05 36 02.9	+0.4
	baz=255						
NNSB				*e*S	Sb	05 36 10.7	-0.2
	baz=255						
NNSB	**Datong**	**0.41**	**255**	*e*P	Pg	05 36 02.4	0.0
	baz=347						
NACB	**Ninganchiao**	**0.41**	**209**	*e*P	Pb	05 36 03.7	-0.6
	baz=209						
NACB				*e*S	Sb	05 36 10.8	-0.1
	baz=209						
YHNB	**Yeheng**	**0.42**	**289**	*e*P	Pg	05 36 03.6	+0.8
	baz=288						
YHNB				*e*S	Sb	05 36 11.2	-0.1
	baz=288						
YHNB	**Yeheng**	**0.42**	**289**	*e*P	Pg	05 36 03.5	+0.8
	baz=349						
TIPB	**Shuangxi**	**0.44**	**1**	*e*P	Pb	05 36 04.5	-0.3
	baz=1.0						
TIPB				*e*S	Sb	05 36 11.8	+0.1
	baz=1.0						
NSK	**Sanguang**	**0.44**	**289**	*e*P	Pb	05 36 04.5	-0.3
	baz=289						
TWD	**Chiawan**	**0.49**	**204**	*e*P	Pb	05 36 05.5	-0.2
	baz=203						
WFSB	**Wu-fen Shan**	**0.54**	**357**	*e*S	Sb	05 36 15.3	+0.7
	baz=356						
YM01	**YM01**	**0.65**	**340**	*e*P	Pb	05 36 08.6	+0.1
	baz=340						
ENLB	**Shoufeng**	**0.66**	**197**	*e*P	Pb	05 36 08.0	-0.5
	baz=197						
YM11	**YM11**	**0.67**	**341**	*e*P	Pb	05 36 09.1	+0.3
	baz=340						
WGK	**Gukeng**	**1.42**	**234**	*e*P	Pn	05 36 21.0	-0.1
	baz=233						
WGK				*e*S	Sg	05 36 41.3	+1.1
	baz=233						
WLGB	**Puzi**	**1.74**	**233**	*e*P	Pn	05 36 26.0	+0.6
	baz=232						
WLGB				*e*S	Sb	05 36 48.6	-0.5
	baz=232						
CHN1	**Nanshi**	**1.79**	**222**	*e*P	Pn	05 36 26.8	+0.7
	baz=221						

*IDC **18** 05:43:08.9±0.8, 11°.77N × 143°.37E, h0 km, mb3.7/8, mb1 4.0/9, mb1mx3.8/41, mbtmp3.7/9, ML3.9/1, MS4.2/3, Ms1 4.2/3, ms1mx3.2/48, Error ellipse: s-maj=29.9km s-min=17.6km az=110.0*

*ISCJB **18** 05:43:12.4±0.7, 11°.8N±0°.1 × 143°.3E±0°.1, h35 km, mb3.8/8, MS4.3/3, Error ellipse: s-maj=23.5km s-min=9.7km az=37.8*

ISC 18 05:43:14.2±0.9, 11°.7N±0°.1 × 143°.4E±0°.2, h35 km, n11, σ 0 9 3 /10, mb3.7/8, MS4.5/3, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.36**	**39**	Pn	**Pn**	**05 43 50.1**	**-0.4**
	29nm,0.3s,baz=253,slow=5.2,SNR=6.9						
GUMO				Sn	**Sn**	**05 44 19.1**	**+0.8**
	63nm,0.3s,baz=229,slow=23,SNR=6.6						
WRA	**Warramunga Arr**	**32.71**	**196**	P	**P**	**05 49 43.5**	**0.0**
	1.8nm,0.6s,baz=20,slow=9.8,SNR=22						
ASAR	**Alice Springs**	**36.38**	**195**	P	**P**	**05 50 15.7**	**+0.3**
	0.5nm,0.7s,baz=23,slow=12,SNR=7.6						
STKA	**Stephens Creek**	**43.40**	**182**	LR	LR	06 08 36.5	
	comp=Z,76nm,20.5s,baz=25,slow=35						
SONM	**Songino Array**	**47.42**	**327**	P	**P**	**05 51 46.4**	**+1.0**
	0.2nm,0.5s,baz=135,slow=8.5,SNR=2.0						
MKAR	**Makanchi Array**	**61.80**	**317**	P	**P**	**05 53 29.1**	**-0.6**
	0.4nm,0.8s,baz=87,slow=7.4,SNR=4.0						
ZALV	**Zalesovo Beam**	**62.27**	**325**	P	**P**	**05 53 32.4**	**-0.2**
	0.3nm,0.3s,baz=114,slow=7.1,SNR=2.5						
KDAK	**Kodiak Island**	**66.41**	**32**	LR	LR	06 18 45.0	
	comp=Z,534nm,21.9s,baz=205,slow=32						
ILAR	**Eielson Array**	**70.86**	**25**	P	**P**	**05 54 25.6**	**-1.7**
	0.9nm,0.6s,baz=250,slow=6.0,SNR=25						
ILAR				LR	LR	06 28 48.9	
	comp=Z,248nm,18.0s,baz=212,slow=39						
YKA	**Yellowknife Ar**	**85.17**	**27**	P	**P**	**05 55 46.7**	**+0.1**
	0.2nm,0.5s,baz=285,slow=5.1,SNR=4.6						
NVAR	**Mina Array Bea**	**89.23**	**51**	P	**P**	**05 56 08.1**	**+1.0**
	1.0nm,0.7s,baz=269,slow=5.0,SNR=8.5						

*IDC **18** 05:46:24.9±2.3, 18°.51S × 175°.78W, h0 km, mb3.8/8, mb1 4.1/8, mb1mx4.0/31, mbtmp3.8/8, MS3.9/2, Ms1 3.9/2, ms1mx3.2/30, Error ellipse: s-maj=140.2km s-min=22.3km az=154.0*

*ISCJB **18** 05:46:26.5±0.7, 19°.2S±0°.3 × 175°.5W±0°.1, h35 km, mb4.2/13, MS4.0/1, Error ellipse: s-maj=38.7km s-min=10.6km az=164.1*

*NEIC **18** 05:46:28.6±0.7, 19°.12S × 175°.56W, h35 km, mb4.6/4, Error ellipse: s-maj=37.0km s-min=10.9km az=166.0*

ISC 18 05:46:28.3±0.9, 19°.1S±0°.3 × 175°.5W±0°.1, h35 km, n19, σ 1 9 25 /18, mb4.1/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.29**	**90**	*e*Pn	**Pn**	**05 47 43.4**	**-1.5**
DZM	**Mont Dzumac**	**17.14**	**257**	LR	LR	05 55 42.8	
	comp=Z,403nm,19.9s,baz=54,slow=33						
HNR	**Honiara**	**25.61**	**289**	*e*P	**P**	**05 51 52.1**	**-2.5**
	252nm,1.0s						
CTA	**Charters Tower**	**35.97**	**262**	P	**P**	**05 53 26.9**	**+0.9**
	6.1nm,0.9s,baz=98,slow=8.1,SNR=4.6						
WB2	**Warramunga Arr**	**47.10**	**260**	*e*P	**P**	**05 54 56.0**	**-1.3**
WRAB	**Tennant Creek**	**47.10**	**260**	*e*P	**P**	**05 54 55.6**	**-1.6**
	7.6nm,0.8s						
ASAR	**Alice Springs**	**47.11**	**255**	P	**P**	**05 54 57.9**	**+0.5**
	1.6nm,0.9s,baz=77,slow=8.0,SNR=3.8						
WR1	**Warramunga Arr**	**47.11**	**260**	*e*P	**P**	**05 54 57.9**	**+0.5**
	5.4nm,1.0s						
WRA	**Warramunga Arr**	**47.11**	**260**	P	**P**	**05 54 57.9**	**+0.5**
	2.4nm,1.2s,baz=98,slow=8.9,SNR=4.3						
WRA				LR	LR	06 13 46.3	
	comp=Z,150nm,18.2s,baz=305,slow=35						
PAGB	**Antelope Grade**	**75.58**	**44**	*e*P	**P**	**05 58 09.3**	**-0.4**
	6.3nm,1.1s						
GDXM	**Geysers**	**75.87**	**40**	*e*P	**P**	**05 58 11.6**	**+0.4**
	6.7nm,0.6s						
NVAR	**Mina Array Bea**	**78.43**	**42**	P	**P**	**05 58 26.4**	**+0.6**
	0.7nm,0.8s,baz=234,slow=8.4,SNR=4.7						
LTX	**Lajitas**	**84.35**	**56**	*e*P	**P**	**05 58 59.0**	**+1.7**
TXAR	**Lajitas Array**	**84.35**	**56**	P	**P**	**05 58 59.0**	**+1.7**
	0.6nm,0.9s,baz=226,slow=7.3,SNR=4.8						
PDAR	**Pinedale Array**	**86.37**	**42**	P	**P**	**05 59 07.6**	**+0.4**
	0.2nm,0.5s,baz=224,slow=2.5,SNR=2.6						
ILAR	**Eielson Array**	**86.47**	**12**	P	**P**	**05 59 05.8**	**-1.1**
	1.0nm,1.1s,baz=225,slow=6.5,SNR=3.4						
YKA	**Yellowknife Ar**	**94.30**	**24**	P	**P**	**05 59 44.4**	**+0.8**
	0.1nm,0.6s,baz=228,slow=4.6,SNR=2.1						
BR101	**Keskin Array S**	**147.56**	**316**	*e*PKPbc	**PKPbc**	**06 06 09.6**	**+0.3**
BRTR	**Keskin Array B**	**147.56**	**316**	PKPbc	**PKPbc**	**06 06 09.6**	**+0.3**
	0.6nm,0.9s,baz=69,slow=7.9,SNR=3.4						

*ISCJB **18** 05:48:16.1±1.3, 36°.52N±0°.09 × 141°.74E±0°.09, h26 km, mb3.7/2, Error ellipse: s-maj=14.0km s-min=9.0km az=155.8*

*JMA **18** 05:48:17.9±0.1, 36°.58N × 141°.60E, h37 km±3 km, M2.9*

*IDC **18** 05:48:19.5±1.8, 35°.75N × 141°.32E, h0 km, mb3.6/2, mb1 3.9/3, mb1mx3.3/39, mbtmp3.5/3, ML2.5/1, Error ellipse: s-maj=37.9km s-min=30.9km az=15.0*

ISC 18 05:48:17.5±1.7, 36°.50N±0°.09 × 141°.50E±0°.10, h26 km, n19, σ 1 8 11 /15, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.75**	**258**	*e*S	**Sn**	**05 48 44.7**	**+1.7**
JHO	**Hitachi**	**0.75**	**278**	P	**Pn**	**05 48 33.2**	**+0.7**
JHO				*e*S	**Sn**	**05 48 44.3**	**+1.2**
ONAJ	**Iwakimizuishiy**	**0.82**	**317**	P	**Pn**	**05 48 33.4**	**-0.1**
JFFD	**Fukushimafurud**	**0.95**	**308**	P	**Pb**	**05 48 35.5**	**+0.1**
JFK	**Kawauchi**	**0.99**	**330**	P	**Pn**	**05 48 35.4**	**-0.5**
JFT	**Otama**	**1.37**	**318**	P	**Pb**	**05 48 42.3**	**-0.3**
JMM	**Marumori**	**1.47**	**338**	P	**Pn**	**05 48 42.0**	**-0.4**
JAG	**Ashikaga**	**1.65**	**268**	P	**Pb**	**05 48 46.8**	**-0.4**
JFY	**Yanaizu**	**1.69**	**303**	P	**Pb**	**05 48 47.6**	**-0.4**
MJAR	**Matsushiro Arr**	**2.65**	**272**	Pn	**Pb**	**05 49 02.9**	**-1.3**
	0.9nm,0.3s,baz=104,slow=7.7,SNR=35						
MJAR				Sn	**Sb**	**05 49 36.3**	**-0.1**
	0.6nm,0.3s,baz=206,slow=32,SNR=6.1						
MAT	**Matsushiro**	**2.65**	**272**	P	**Pb**	**05 49 01.8**	**-2.5**
MAT				S	**Sb**	**05 49 35.6**	**-0.8**
H11N2	**WAKE ISLAND Hy**	**27.82**	**120**	T	T	06 23 00.1	
	baz=308,slow=74						
H11N1	**WAKE ISLAND Hy**	**27.83**	**120**	T	T	06 23 01.9	
	baz=308,slow=74						
H11N3	**WAKE ISLAND Hy**	**27.84**	**120**	T	T	06 23 01.1	
	baz=308						
H11S1	**WAKE ISLAND Hy**	**28.52**	**122**	T	T	06 23 57.2	
	baz=312						
H11S3	**WAKE ISLAND Hy**	**28.52**	**122**	T	T	06 23 58.1	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**28.54**	**122**	T	T	06 24 04.0	
	baz=312						
ILAR	**Eielson Array**	**49.91**	**32**	P	P	05 57 19.8	+11
	0.9nm,1.1s,baz=271,slow=6.2,SNR=2.8						
WRA	**Warramunga Arr**	**56.55**	**188**	P	**P**	**05 57 58.2**	**+0.5**
	0.7nm,1.1s,baz=5.8,slow=7.2,SNR=1.8						

*ISN **18** 05:57:25.9±0.3, 37°.24N × 42°.65E, h0 km, ML2.6*

*DDA **18** 05:57:26.4, 37°.37N × 42°.54E, h3 km±1 km, ML2.8*

*ISK **18** 05:57:26.5, 37°.40N × 42°.55E, h9 km, ML2.5/5*

ISC 18 05:57:26.5±1.2, 37°.35N±0°.04 × 42°.55E±0°.03, h2 km±11 km, n17, σ 0 9 72 /27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRT	**Sirnak**	**0.18**	**332**	PG	**Pg**	**05 57 29.9**	**0.0**
SIRT				SG	**Sg**	**05 57 32.3**	**0.0**
SIRN	**Sırnak**	**0.18**	**325**	*i* P	**Pg**	**05 57 30.3**	**+0.3**
SIRN				*i* S	**Sg**	**05 57 33.9**	**+1.5**
SRTM	**Siirt_Merkez**	**0.81**	**323**	*i* P	**Pg**	**05 57 42.1**	**0.0**
SRTM				*i* S	**Sb**	**05 57 54.8**	**-0.1**
CUKT	**Cukurca**	**0.85**	**96**	PG	**Pg**	**05 57 43.0**	**+0.2**
CUKT				SG	**Sb**	**05 57 55.8**	**-0.3**
CUKT	**Cukurca**	**0.85**	**96**	IAML_P			
	comp=Z,1μm,0.3s						
CUKT				*i* P	**Pb**	**05 57 43.3**	**-0.8**
CUKT				*i* S	**Sb**	**05 57 56.4**	**+0.3**
AKDM	**Akdamar-Van**	**1.04**	**19**	PG	**Pg**	**05 57 45.7**	**-0.7**
AKDM				SG	**Sb**	**05 57 59.9**	**-1.7**
GEVA	**Gevas**	**1.05**	**23**	IAML_P			
	comp=Z,616nm,0.2s						
GEVA				*i* P	**Pg**	**05 57 46.5**	**-0.1**
MSL	**Mosul**	**1.05**	**154**	*e*Pg	**Pg**	**05 57 46.0**	**-0.5**
	baz=336						
MSL				*e*Sg	**Sg**	**05 58 00.1**	**0.0**
BTMN	**Batman**	**1.15**	**299**	*i* P	**Pn**	**05 57 49.2**	**-0.5**
BTMN				*i* S	**Sn**	**05 58 05.9**	**-0.2**
GURO	**Guroymak-BITLI**	**1.27**	**342**	PN	**Pg**	**05 57 50.3**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.34**	**307**	PN	**Pg**	**05 57 51.4**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.34**	**307**	*i* P	**Pb**	**05 57 52.6**	**+0.3**
MARD	**Mardin**	**1.41**	**269**	IAML_P			
	comp=E,2μm,0.2s						
MARD				*i* P	**Pb**	**05 57 53.5**	**-0.1**
MARD				*i* S	**Sn**	**05 58 12.6**	**0.0**
YOVA	**Hakkari_Yksek**	**1.41**	**80**	IAML_P			
	comp=Z,799nm,0.2s						
YOVA				*i* P	**Pb**	**05 57 53.9**	**+0.3**
YOVA				*i* S	**Sn**	**05 58 14.5**	**+1.8**
DIYA	**Diyarbakir**	**2.01**	**287**	IAML_P			
	comp=Z,1μm,0.3s						
DIYA				*i* P	**Pn**	**05 58 02.3**	**+0.8**
TUTA	**Tutak**	**2.06**	**6**	IAML_P			
	comp=Z,229nm,0.2s						
TUTA				*i* P	**Pb**	**05 58 04.4**	**-0.5**
BGOL	**Bingol**	**2.21**	**319**	IAML_P			
	comp=Z,148nm,0.3s						
BGOL				*i* P	**Pn**	**05 58 04.4**	**+0.1**

IDC 18 05:59:37.0±48.0, 17°.33S × 176°.48W, h0 km, mb4.3/3, mb1 4.5/3, mb1mx3.7/36, mbtmp4.3/3, Error ellipse: s-maj=899.4km s-min=166.4km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.52**	**241**	P	P	06 07 18.2	+0.1
	0.9nm,0.4s,baz=90,slow=9.1,SNR=3.9						
WRA	**Warramunga Arr**	**46.55**	**259**	P	P	06 08 06.5	-0.5
	0.8nm,0.5s,baz=96,slow=7.1,SNR=21						
ASAR	**Alice Springs**	**46.72**	**254**	P	P	06 08 08.2	0.0
	9.5nm,0.5s,baz=86,slow=8.7,SNR=86						

*ISCJB **18** 06:24:12.5±0.5, 2°.37N±0°.09 × 89°.13E±0°.07, h10 km, mb4.3/18, Error ellipse: s-maj=15.6km s-min=7.4km az=33.1*

*IDC **18** 06:24:13.2±1.0, 2°.42N × 89°.20E, h0 km, mb4.1/12, mb1 4.3/14, mb1mx4.0/52, mbtmp4.1/14, ML3.9/2, Error ellipse: s-maj=35.1km s-min=18.7km az=40.0*

*NEIC **18** 06:24:14.4±0.5, 2°.37N × 89°.19E, h10 km, mb4.5/7, Error ellipse: s-maj=15.2km s-min=7.7km az=219.0*

ISC 18 06:24:14.1±0.8, 2°.3N±0°.1 × 89°.2E±0°.1, h10 km, n45, σ 0 9 95 /40, mb4.3/18, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**8.47**	**97**	*e*Pn	**Pn**	**06 26 17.9**	**+0.9**
PALK	**Pallekele**	**9.75**	**300**	Pn	**Pn**	**06 26 34.7**	**+0.1**
	0.5nm,0.3s,baz=115,slow=11,SNR=2.3						
PALK				Sn	**Sn**	**06 28 23.2**	**-1.0**
	3.5nm,0.3s,baz=296,slow=18,SNR=6.7						
PALK	**Pallekele**	**9.75**	**300**	*e*Pn	**Pn**	**06 26 35.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**18.67**	**30**	P	**Pn**	**06 28 33.6**	**+0.7**
	0.2nm,0.3s,baz=213,slow=13,SNR=4.8						
H08S3	**Diego Garcia H**	**19.36**	**239**	T	T	06 48 49.0	
	baz=61,slow=75,SNR=48						
H08S2	**Diego Garcia H**	**19.36**	**239**	T	T	06 48 42.1	
	baz=61,slow=75,SNR=25						
H08S1	**Diego Garcia H**	**19.38**	**239**	T	T	06 48 47.5	
	baz=61,slow=75,SNR=11						
H01W3	**Cape Leeuwin H**	**43.82**	**150**	T	T	07 18 20.7	
	baz=323						
H01W2	**Cape Leeuwin H**	**43.83**	**150**	T	T	07 18 25.4	
	baz=323						
H01W1	**Cape Leeuwin H**	**43.84**	**150**	T	T	07 18 20.9	
	baz=323						
MK01	**Makanchi Array**	**44.66**	**353**	*e*P	**P**	**06 32 28.0**	**+1.0**
MK31	**Makanchi Array**	**44.68**	**353**	*e*P	**P**	**06 32 27.7**	**+0.5**
MK32	**Makanchi Array**	**44.68**	**353**	*e*P	**P**	**06 32 27.1**	**-0.1**
MKAR	**Makanchi Array**	**44.68**	**353**	P	**P**	**06 32 27.1**	**-0.1**
	0.8nm,0.5s,baz=168,slow=9.3,SNR=12						
MKAR	**Makanchi Array**	**44.68**	**353**	*e*P	**P**	**06 32 27.7**	**+0.4**
	7.2nm,0.8s						
SONA0	**Songino Array**	**47.71**	**16**	*e*P	**P**	**06 32 50.9**	**-0.3**
SONM	**Songino Array**	**47.71**	**16**	P	**P**	**06 32 50.9**	**-0.3**
	3.7nm,0.6s,baz=195,slow=9.3,SNR=22						
SONA1	**Songino Array**	**47.72**	**16**	*e*P	**P**	**06 32 51.2**	**-0.1**
WR1	**Warramunga Arr**	**49.55**	**119**	*e*P	**P**	**06 33 06.6**	**+1.0**
	4.4nm,1.0s						
WRA	**Warramunga Arr**	**49.55**	**119**	P	**P**	**06 33 06.6**	**+1.0**
	1.6nm,0.6s,baz=296,slow=8.6,SNR=11						
WB2	**Warramunga Arr**	**49.56**	**119**	*e*P	**P**	**06 33 07.0**	**+1.3**
	2.1nm,0.8s						
ASAR	**Alice Springs**	**50.62**	**123**	P	**P**	**06 33 14.6**	**+0.8**
	0.5nm,0.5s,baz=298,slow=8.1,SNR=5.8						
ZAA0	**Zalesovo Array**	**51.57**	**357**	*e*P	**P**	**06 33 20.0**	**-0.3**
	1.7nm,0.4s						
ZALV	**Zalesovo Beam**	**51.57**	**357**	P	**P**	**06 33 19.9**	**-0.3**
	1.8nm,0.4s,baz=177,slow=8.0,SNR=8.0						
ZALV	**Zalesovo Beam**	**51.57**	**357**	*e*P	**P**	**06 33 20.0**	**-0.3**
ZAA1	**Zalesovo Array**	**51.57**	**357**	*e*P	**P**	**06 33 19.9**	**-0.4**
COEN	**Coen**	**55.93**	**108**	*e*P	**P**	**06 33 51.7**	**-1.3**
	14nm,1.1s						
KBZ	**Khabaz**	**58.08**	**322**	P	**P**	**06 34 08.9**	**+1.2**
	2.8nm,1.0s,baz=90,slow=2.0,SNR=3.9						
BR101	**Keskin Array S**	**62.48**	**314**	*e*P	**P**	**06 34 38.5**	**+0.3**
BR131	**Keskin Array S**	**62.48**	**314**	*e*P	**P**	**06 34 39.1**	**+0.9**
BRTR	**Keskin Array B**	**62.48**	**314**	P	**P**	**06 34 38.5**	**+0.3**
	0.9nm,0.6s,baz=125,slow=6.9,SNR=7.7						
MLR	**Muntele Rosu**	**69.78**	**318**	P	**P**	**06 35 26.1**	**+1.2**
	5.5nm,0.8s,baz=248,slow=3.9,SNR=9.4						
MLR	**Muntele Rosu**	**69.78**	**318**	*e*P	**P**	**06 35 26.3**	**+1.3**
	6.3nm,0.8s						
BUR04	**Bucovina Ar. S**	**70.93**	**320**	*e*P	**P**	**06 35 33.4**	**+1.5**
TIXI	**Tiksi**	**73.62**	**12**	*e*P	**P**	**06 35 44.6**	**-2.7**
	2.9nm,0.5s						
FIA0	**FINESS Array S**	**75.35**	**334**	*e*P	**P**	**06 35 57.7**	**+0.1**
FINES	**FINESS Array B**	**75.35**	**334**	P	**P**	**06 35 57.7**	**+0.1**
	1.2nm,0.8s,baz=107,slow=4.8,SNR=3.5						
GERES	**GERESS Array B**	**78.69**	**319**	P	**P**	**06 36 17.3**	**+0.5**
	0.7nm,0.6s,baz=92,slow=4.9,SNR=3.5						
ARA0	**ARCESS Array S**	**78.82**	**341**	*e*P	**P**	**06 36 16.7**	**-0.3**
ARCES	**ARCESS Array B**	**78.82**	**341**	P	**P**	**06 36 16.7**	**-0.3**
	6.4nm,1.0s,baz=93,slow=7.2,SNR=4.5						
MCQ	**Macquarie Isla**	**80.31**	**146**	*e*P	**P**	**06 36 24.4**	**-0.8**
	136nm,1.1s						
NB200	**NORSAR Array S**	**82.13**	**331**	*e*P	**P**	**06 36 36.0**	**+1.0**
NOA	**NORSAR Array B**	**82.13**	**331**	P	**P**	**06 36 36.0**	**+1.0**
	0.6nm,0.8s,baz=110,slow=5.2,SNR=2.4						
LTX	**Lajitas**	**146.20**	**20**	*e*PKPdf	**PKPdf**	**06 43 53.2**	**-1.5**
TXAR	**Lajitas Array**	**146.20**	**20**	PKPbc	**PKPdf**	**06 43 53.2**	**-1.5**
	0.4nm,0.6s,baz=305,slow=1.9,SNR=6.6						

*ISCJB **18** 06:33:10.1±0.8, 51°.46N±0°.03 × 16°.11E±

LANS	**Liptovska Anna**	**3.19**	**137**	*e*SG	**Sg**	**06 34 54.1**	**+0.9**
MODS	**Modra-Piesok**	**3.24**	**166**	*e*SG	**Sg**	**06 34 56.1**	**+1.5**
CONA	**Conrad Observa**	**3.60**	**183**	*e*Pn	**Pn**	**06 34 09.3**	**+1.6**
	comp=Z,0.9nm,0.3s						
CONA				Sg	**Sg**	**06 35 07.7**	**+1.3**
	comp=Z,6.7nm,0.4s						
MOA	**Molln**	**3.87**	**199**	*i* Pn	**Pn**	**06 34 12.0**	**+0.6**
	comp=Z,2.0nm,0.2s						
MOA				*i* Sg	**Sg**	**06 35 14.9**	**-0.1**
	comp=Z,5.0nm,0.4s						
ARSA	**Arzberg**	**4.30**	**186**	Sg	**Sg**	**06 35 29.1**	**+0.5**
	comp=Z,1.6nm,0.5s						

IDC ***18*** *06:58:00.9±2.7,60.°61S×23.°21W,h0km,mb3.9/3, mb1 3.9/3,mb1mx3.7/19,mbtmp3.9/3,Error ellipse: s-maj=90.3km s-min=36.2km az=11.0*

ISC 18 06:58:00.1±1.1,61.°3S±0.°1×23.°1W±0.°2,h10km,n15, σ3§53/11,mb3.9/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**11.16**	**154**	P	**Pn**	**07 00 43.8**	**+4.4**
VNA1				S	**Sn**	**07 02 42.2**	**-1.8**
VNA2	**Neumayer--Watz**	**11.56**	**154**	P	**Pn**	**07 00 48.4**	**+3.5**
	baz=314,slow=16						
VNA2	**Neumayer--Watz**	**11.56**	**154**	S	**Sn**	**07 02 48.4**	**-5.4**
SNAA	**Sanae**	**13.12**	**151**	P	**Pn**	**07 01 10.1**	**+3.8**
SNAA				S	**Sn**	**07 03 28.6**	**-3.5**
CPUP	**Villa Florida**	**41.84**	**311**	P	**P**	**07 05 48.0**	**-2.0**
	0.4nm,0.4s,baz=142,slow=6.0,SNR=3.9						
BOSA	**Boshof**	**45.63**	**67**	P	**P**	**07 06 20.6**	**-0.1**
	0.7nm,0.5s,baz=188,slow=4.6,SNR=3.1						
H10S2	**ASCENSION HYDR**	**52.58**	**11**	T	T	08 03 47.2	
	baz=185,slow=75,SNR=7.3						
H10S3	**ASCENSION HYDR**	**52.58**	**11**	T	T	08 03 47.5	
	baz=185,slow=75,SNR=7.1						
H10S1	**ASCENSION HYDR**	**52.60**	**11**	T	T	08 03 48.5	
	baz=185,slow=75,SNR=8.1						
H10N1	**ASCENSION HYDR**	**53.70**	**11**	T	T	08 05 17.6	
	baz=187						
H10N3	**ASCENSION HYDR**	**53.70**	**11**	T	T	08 05 10.9	
	baz=187						
H10N2	**ASCENSION HYDR**	**53.71**	**11**	T	T	08 05 11.3	
	baz=187						
TORD	**Torodi Ar. Bea**	**76.74**	**25**	P	**P**	**07 09 51.0**	**-0.3**
	1.2nm,0.6s,baz=202,slow=6.4,SNR=11						
YKA	**Yellowknife Ar**	**141.36**	**312**	PKP	**PKPdf**	**07 17 31.4**	**+2.0**
	0.2nm,0.7s,baz=121,slow=2.1,SNR=3.2						
SONM	**Songino Array**	**148.67**	**92**	PKPbc	**PKPab**	**07 17 48.7**	**-1.5**
	0.4nm,0.6s,baz=221,slow=5.7,SNR=3.2						

TAP 18 07:14:04.5,23.°17N×120.°97E,h6km,ML3.6,15C-4D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.04**	**66**	⇑*i*P	Pg	07 14 06.5	+0.4
	baz=72						
ELDTW				*i* S	Sg	07 14 07.6	+0.5
	baz=72						
YUS	**Yu-Shan**	**0.32**	**357**	⇑*i*P	Pg	07 14 11.2	+0.3
	baz=6.0						
YUS				*i* S	Sg	07 14 15.9	+0.7
	baz=6.0						
WTP	**Ta-pu**	**0.34**	**283**	⇑*i*P	Pb	07 14 12.1	-0.9
	baz=278						
WTP				*i* S	Sb	07 14 17.4	-1.2
	baz=278						
TPUB	**Ta-pu**	**0.34**	**292**	⇑P	Pb	07 14 12.2	-0.8
	baz=301						
TPUB				S	Sg	07 14 17.2	+1.5
	baz=301						
TWF1	**Yuli**	**0.35**	**59**	⇑*i*P	Pg	07 14 12.2	+0.9
	baz=59						
TWF1				*i* S	Sg	07 14 16.6	+0.7
	baz=59						
SLGT	**Liugui**	**0.35**	**240**	⇑P	Pg	07 14 11.8	+0.4
	baz=240						
SLGT				S	Sg	07 14 16.4	+0.4
	baz=240						
TWG	**Pinlang**	**0.36**	**165**	⇓*i*P	Pg	07 14 12.3	+0.7
	baz=156						
TWG				*i* S	Sg	07 14 17.0	+0.7
	baz=156						
TWGBT	**Beinan**	**0.36**	**164**	⇓P	Pg	07 14 12.3	+0.7
	baz=156						
TWGBT				S	Sg	07 14 17.0	+0.5
	baz=156						
CHKT	**Chengkung**	**0.37**	**101**	⇑P	Pb	07 14 13.8	+0.3
	baz=100						
CHKT				*e*S	Sb	07 14 20.8	+1.3
	baz=100						
ALS	**Alishan**	**0.37**	**335**	⇓*i*P	Pg	07 14 12.5	+0.7
	baz=337						
ALS				S	Sg	07 14 17.8	+1.0
	baz=337						
YULB	**Yu-li**	**0.37**	**53**	⇑P	Pg	07 14 12.3	+0.6
	baz=53						
YULB				S	Sg	07 14 16.7	0.0
	baz=53						
CHN4	**Tsaushan**	**0.39**	**297**	⇑*i*P	Pb	07 14 13.4	-0.5
	baz=305						
CHN4				S	Sb	07 14 19.4	-0.8
	baz=305						
CHN1	**Nanshi**	**0.41**	**272**	⇑*i*P	Pb	07 14 13.8	-0.4
	baz=266						
CHN1				S	Sb	07 14 20.2	-0.5
	baz=266						
TTN	**Taitung**	**0.45**	**159**	*e*P	Pb	07 14 14.7	-0.1
	baz=157						
TTN				*e*S	Sb	07 14 22.0	+0.3
	baz=157						
TWK	**Hsinying**	**0.46**	**282**	⇑*i*P	Pb	07 14 14.8	-0.3
	baz=283						
TWK				S	Sb	07 14 21.7	-0.4
	baz=283						
CHN5	**Tsauling**	**0.50**	**327**	⇓*i*P	Pb	07 14 15.4	-0.4
	baz=328						
CHN5				S	Sb	07 14 22.8	-0.6
	baz=328						
HGSD	**Ruisui**	**0.52**	**52**	⇑*e*P	Pb	07 14 15.9	-0.2
	baz=43						
HGSD				*e*S	Sb	07 14 24.1	+0.1
	baz=43						
SSD	**Sandimen**	**0.53**	**217**	⇑*i*P	Pg	07 14 14.5	-0.2
	baz=222						
SSD				*e*S	Sg	07 14 20.9	-0.7
	baz=222						
CHN3	**Shinhua**	**0.57**	**261**	⇑P	Pb	07 14 17.9	+1.0
	baz=262						
CHN3				*e*S	Sn	07 14 28.4	-0.5
	baz=262						
ECL	**Taimali**	**0.57**	**182**	*e*P	Pg	07 14 15.6	0.0
	baz=181						
ECL				*e*S	Sg	07 14 22.8	-0.2
	baz=181						
CHN2	**Minshiung**	**0.58**	**308**	*e*P	Pb	07 14 18.0	+0.9
	baz=309						
CHN2				*e*S	Sn	07 14 27.5	-1.6
	baz=309						
CHY	**Chiayi**	**0.60**	**303**	*e*P	Pb	07 14 17.6	+0.2
	baz=304						
CHY				*e*S	Sn	07 14 28.1	-1.6
	baz=304						
VWDT	**VWDT**	**0.60**	**15**	⇑P	Pg	07 14 16.1	-0.1
	baz=12						
VWDT				*e*S	Sb	07 14 26.2	+0.1
	baz=12						
SSLB	**Suanglung**	**0.61**	**358**	*e*P	Pg	07 14 16.4	0.0
	baz=353						
SSLB				*e*S	Sg	07 14 24.6	+0.2
	baz=353						
TWM1	**Shoushan**	**0.61**	**236**	*e*P	Pb	07 14 18.1	+0.4
	baz=225						
WGK	**Gukeng**	**0.64**	**324**	*e*P	Pn	07 14 19.1	-1.0
	baz=324						
MASBT	**Mashibuluo**	**0.64**	**209**	*e*P	Pg	07 14 16.5	-0.4
	baz=210						
MASBT				*e*S	Sg	07 14 25.0	-0.1
	baz=210						
WDLH	**Douliu**	**0.65**	**322**	*e*P	Pb	07 14 19.2	+0.8
	baz=322						
WJS	**Zhushan**	**0.69**	**341**	*e*P	Pn	07 14 20.0	-0.8
	baz=341						
WLGB	**Puzi**	**0.69**	**296**	*e*P	Pb	07 14 19.9	+0.9
	baz=297						
WLGB				*e*S	Sn	07 14 31.1	-0.8
	baz=297						
SMLT	**Sun Moon Lake**	**0.71**	**355**	*e*P	Pb	07 14 18.9	-0.6
	baz=2.0						
SCLT	**Jiali**	**0.72**	**270**	*e*P	Pn	07 14 21.1	-0.1
	baz=285						
TYC	**Yuchr**	**0.74**	**352**	*e*P	Pb	07 14 19.5	-0.3
	baz=357						
WNT	**Mingjian**	**0.75**	**339**	P	Pn	07 14 21.3	-0.4
	baz=339						
ESL	**Shilin**	**0.77**	**33**	*e*P	Pg	07 14 19.1	-0.1
	baz=40						
ESL				*e*S	Sg	07 14 29.1	-0.2
	baz=40						
EAST	**Anshuo**	**0.79**	**188**	*e*P	Pg	07 14 19.5	-0.3
	baz=180						
EAST				*e*S	Sg	07 14 30.1	+0.1
	baz=180						
TAW	**Tawu**	**0.81**	**185**	*e*P	Pg	07 14 19.8	-0.3
	baz=185						
WSF	**Szhu**	**0.83**	**304**	*e*P	Pb	07 14 21.9	+0.5
	baz=305						
WSF				*e*S	Sn	07 14 35.1	-0.3
	baz=305						
SCZT	**Fangliau**	**0.86**	**202**	*e*P	Pg	07 14 20.6	-0.4
	baz=194						
CHGB	**Renai**	**0.90**	**12**	*e*P	Pg	07 14 21.2	-0.7
	baz=11						
RLNB	**Erlin**	**0.91**	**322**	*e*P	Pn	07 14 23.4	-0.5
	baz=321						
ENLB	**Shoufeng**	**0.93**	**38**	*e*P	Pb	07 14 23.4	+0.4
	baz=33						
WTCT	**Ta-ch'eng**	**0.94**	**317**	*e*P	Pb	07 14 23.6	+0.4
	baz=317						
WCHH	**Zhanghua**	**0.98**	**337**	*e*P	Pn	07 14 25.8	+1.0
	baz=337						
WLCH	**Liuqiu**	**0.98**	**214**	*e*P	Pn	07 14 27.4	+2.6
	baz=215						
TWP	**Hsiaoliuchiu**	**1.00**	**215**	*e*P	Pn	07 14 27.0	+2.0
	baz=215						
WHF	**Hehuan Shan**	**1.01**	**15**	*e*P	Pg	07 14 23.3	-0.6
	baz=8.0						
TWD	**Chiawan**	**1.07**	**32**	*e*P	Pb	07 14 25.4	-0.1
	baz=24						
TWD				*e*S	Sg	07 14 38.5	-0.5
	baz=24						
TDCB	**Techi**	**1.09**	**9**	*e*P	Pn	07 14 26.7	+0.2
	baz=8.0						
NACB	**Ninganchiao**	**1.15**	**30**	*e*P	Pg	07 14 26.2	-0.4
	baz=47						
HEN	**Hengchun**	**1.18**	**191**	*e*P	Pn	07 14 28.3	+0.7
	baz=178						
TWQ1	**Liyutan**	**1.19**	**351**	*e*P	Pn	07 14 28.4	+0.7
	baz=350						
WDGT	**Dungji**	**1.21**	**274**	P	Pg	07 14 27.2	-0.5
	baz=276						
WDGT				*e*S	Sn	07 14 44.7	0.0
	baz=276						
TWK1	**Hengchun**	**1.23**	**187**	*e*P	Pn	07 14 29.7	+1.4
	baz=178						
TWKBT	**Hengchun**	**1.23**	**187**	*e*P	Pn	07 14 29.8	+1.5
	baz=178						
NSY	**Sanyi**	**1.25**	**351**	*e*P	Pn	07 14 29.7	+1.0
	baz=350						
NNSB	**Datong**	**1.31**	**17**	*e*P	Pn	07 14 28.5	-1.0
	baz=26						
NNSB				*e*S	Sn	07 14 47.8	+0.5
	baz=26						
NNS	**Nan Shan**	**1.31**	**16**	*e*P	Pg	07 14 29.9	+0.1
	baz=3.0						
PHUB	**P'eng-hu**	**1.33**	**285**	*e*P	Pn	07 14 29.1	-0.5
	baz=286						
PHUB				*e*S	Sb	07 14 47.2	0.0
	baz=286						
PNG	**Penghu**	**1.36**	**287**	P	Pn	07 14 29.8	-0.2
	baz=288						
PNG				*e*S	Sg	07 14 48.4	0.0
	baz=288						
VCHM	**Qimei**	**1.42**	**272**	*e*P	Pn	07 14 30.5	-0.4
	baz=273						
VCHM				*e*S	Sb	07 14 48.7	-1.1
	baz=273						
ENA	**Nanau**	**1.44**	**29**	*e*P	Pb	07 14 31.6	0.0
	baz=42						
NANB	**Nanao**	**1.44**	**29**	*e*P	Pb	07 14 31.8	+0.1
	baz=29						
NANB				*e*S	Sn	07 14 50.4	0.0
	baz=29						
NSTT	**Nanjuang**	**1.45**	**1**	*e*P	Pg	07 14 33.0	+0.6
	baz=342						
LIOB	**Emei**	**1.47**	**2**	*e*P	Pg	07 14 33.7	+1.0
	baz=343						
YHNB	**Yeheng**	**1.54**	**14**	*e*P	Pg	07 14 33.8	-0.3
NSK	**Sanguang**	**1.54**	**13**	*e*P	Pg	07 14 34.0	-0.1
	baz=12						
ENTT	**Nioudou**	**1.56**	**20**	*e*P	Pg	07 14 34.4	-0.1
	baz=20						
TWC	**Suao**	**1.64**	**29**	*e*P	Pb	07 14 35.1	-0.1
	baz=29						
TWC				*e*S	Sg	07 14 57.5	+0.2
	baz=29						
TWE	**Neicheng**	**1.67**	**22**	*e*P	Pb	07 14 36.0	+0.3
	baz=41						
EOS1	**EOS1**	**1.73**	**37**	*e*P	Pg	07 14 37.9	+0.1
	baz=55						
TATO	**Taipei**	**1.86**	**15**	*e*P	Pg	07 14 40.1	0.0
	baz=13						
TWA	**Mucha**	**1.89**	**17**	*e*P	Pg	07 14 41.1	+0.4
	baz=352						
TIPB	**Shuangxi**	**1.96**	**23**	*e*P	Pg	07 14 41.4	-0.6
	baz=39						
NWF	**Wu-fen Shan**	**2.03**	**21**	*e*P	Pb	07 14 42.2	+0.3
	baz=40						
WFSB	**Wu-fen Shan**	**2.03**	**21**	*e*P	Pg	07 14 43.2	-0.3
	baz=40						
YM04	**YM04**	**2.04**	**14**	*e*P	Pb	07 14 42.2	+0.2
	baz=352						
YM01	**YM01**	**2.04**	**15**	*e*P	Pb	07 14 42.2	+0.1
	baz=353						
TWB1	**Santiao Chiao**	**2.05**	**27**	*e*P	Pb	07 14 41.9	-0.3
	baz=41						
YM05	**YM05**	**2.06**	**15**	*e*P	Pg	07 14 43.5	-0.4
	baz=353						
YM11	**YM11**	**2.06**	**15**	*e*P	Pg	07 14 43.8	-0.2
	baz=352						
YM08	**YM08**	**2.08**	**16**	*e*P	Pg	07 14 44.2	-0.3
	baz=352						
VWUC	**VWUC**	**2.29**	**323**	*e*P	Pn	07 14 43.8	+1.0
	baz=320						
PTMZ	**Houxiangcun**	**2.52**	**318**	*e*P	Pn	07 14 46.8	+0.9
	baz=316						

JMA ***18*** *07:20:14.0±0.2,44.°12N×148.°17E,h0km,M3.7*
SKHL ***18*** *07:20:15.0±0.7,44.°51N×148.°31E,h30km±5km,mb4.2/4*

ISC 18 07:20:13.4±2.5,44.°42N±0.°09×148.°1E±0.°1,h10km,n11, σ1§62/18,3D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.83**	**348**	⇓*i*P	**Pg**	**07 20 29.0**	**-0.5**
KUR				AMB	AMB	07 20 30.0	
	70nm,0.3s						
KUR				AMB	AMB	07 20 30.0	
	140nm,0.3s						
KUR				*e*S	**Sg**	**07 20 40.0**	**-0.4**
KUR				A	A	07 20 41.0	
	760nm,0.2s						
KUR				A	A	07 20 41.0	
	560nm,0.2s						
SHO	**Shikotan**	**1.08**	**240**	⇓*i*P	**Pn**	**07 20 35.0**	**+0.4**
SHO				AMB	AMB	07 20 36.0	
	20nm,0.4s						
SHO				AMB	AMB	07 20 36.0	
	60nm,0.4s						
SHO				*i* S	**Sn**	**07 20 50.0**	**+0.4**
SHO				A	A	07 20 54.0	
	320nm,0.4s						
SHO				A	A	07 20 54.0	
	550nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.67**	**257**	⇓*e*P	**Pg**	**07 20 44.8**	**-0.6**
YUK				AMB	AMB	07 20 47.0	
	50nm,0.3s						
YUK				AMB	AMB	07 20 47.0	
	110nm,0.3s						
YUK				AMB	AMB	07 20 47.0	
	100nm,0.3s						
YUK				*e*S	**Sb**	**07 21 05.7**	**+0.5**
	240nm,0.3s						
YUK				A	A	07 21 09.0	
	380nm,0.3s						
GRPR	**Tuman**	**1.74**	**257**	*e*P	**Pb**	**07 20 45.0**	**-0.5**
GRPR				AMB	AMB	07 20 47.0	
	70nm,0.2s						
GRPR				*e*S	**Sb**	**07 21 07.0**	**-0.4**
GRPR				A	A	07 21 10.0	
	220nm,0.3s						
GRPR				A	A	07 21 10.0	
	180nm,0.3s						
NEM2	**Nemuro 2**	**2.02**	**239**	P	**Pb**	**07 20 48.4**	**-1.7**
NEM2				*e*S	**Sb**	**07 21 13.7**	**-1.5**
JKHN	**Kushirohamanak**	**2.53**	**239**	P	**Pn**	**07 20 56.0**	**+1.5**
JNK	**Nakash**	**2.59**	**252**	P	**Pb**	**07 20 57.8**	**-2.2**
JNK				*e*S	**Sb**	**07 21 29.5**	**-2.3**
JAK	**Akkeshi**	**2.86**	**241**	P	**Pn**	**07 21 00.6**	**+1.5**
JAK				*e*S	**Sn**	**07 21 34.9**	**+1.4**
JAR	**Ashorobuto**	**3.34**	**252**	P	**Pn**	**07 21 08.6**	**+2.9**
JCH	**Churui**	**3.90**	**244**	*e*S	**Sn**	**07 22 01.1**	**+1.9**
JKB	**Kayabe**	**5.77**	**246**	*e*S	**Sn**	**07 22 47.1**	**+1.9**

SOME ***18*** *07:28:02.5,49.°67N×83.°78E,h0km*
NNC ***18*** *07:28:10.6±2.4,49.°39N×83.°94E,h0km,mb2.9,mpv2.5, Error ellipse: s-maj=25.3km s-min=9.8km az=58.0, Suspected Mining explosion.*

ISC 18 07:28:09.2±1.9,49.°3N±0.°1×83.°2E±0.°1,h0km,n5,σ0§32/8, 7C-1D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**2.18**	**148**	*e*P	**Pn**	**07 28 47.0**	**+0.2**
	3.3nm,0.6s						
ZSN				*e*S	**Sg**	**07 29 19.0**	**-0.2**
	6.4nm,0.6s						
MK31	**Makanchi Array**	**2.60**	**194**	⇑Pn	**Pb**	**07 28 56.7**	**+0.1**
	1.3nm,0.7s,baz=20,slow=14,SNR=17						
MK31				⇑Lg	Lg	07 29 38.7	
	1.9nm,0.4s,baz=24,slow=29,SNR=15						
MAKZ	**Makanchi**	**2.64**	**198**	⇑Pn	**Pg**	**07 28 59.6**	**-0.1**
	0.9nm,0.4s						
MAKZ				⇓Lg	Lg	07 29 40.9	
	2.1nm,0.4s						
KURK	**Kurchatov**	**3.26**	**297**	⇑Pn	**Pb**	**07 29 07.6**	**-0.3**
	0.5nm,0.5s						
KURK				⇑Sn	**Sg**	**07 29 54.5**	**+0.5**
	1.7nm,0.5s						
KURBB	**Kurchatov Arra**	**3.28**	**295**	⇑Pn	**Pb**	**07 29 08.3**	**0.0**
	0.9nm,0.3s						
KURBB				⇑Sn	**Sg**	**07 29 54.3**	**-0.2**
	6.5nm,0.6s						

WEL 18 07:42:16.2±1.4,47.°5S±0.°8×16.°6E±0.°,h5km,ML3.8/9,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.34**	**23**	P	Pn	07 42 39.9	-1.7
PYZ				S	Sg	07 42 58.9	-0.3
APZ	**The Paps**	**1.51**	**68**	P	Pn	07 42 42.8	-1.2
APZ				S	Sn	07 43 03.3	-0.7
WHZ	**Wether Hill Ro**	**2.05**	**43**	P	Pn	07 42 51.0	-0.4
WHZ				S	Sb	07 43 18.5	-1.1
DCZ	**Deep Cove**	**2.12**	**24**	P	Pn	07 42 50.9	-1.3
SYZ	**Scrubby Hill**	**2.36**	**70**	P	Pn	07 42 55.3	-0.2
SYZ				S	Sn	07 43 25.6	+0.8
MLZ	**Mavora Lakes**	**2.54**	**37**	P	Pn	07 42 58.3	+0.3
MLZ				S	Sn	07 43 30.4	+1.1
TUZ	**Tuapeka**	**2.93**	**62**	P	Pn	07 43 03.5	+0.1
TUZ				S	Sn	07 43 39.9	+1.0
MSZ	**Milford Sound**	**3.06**	**28**	P	Pn	07 43 06.1	+0.9
EAZ	**Earnscleugh**	**3.19**	**48**	P	Pn	07 43 07.0	0.0
WKZ	**Wanaka**	**3.35**	**41**	P	Pn	07 43 10.2	+1.0
HHSZ	**Highcliff Hill**	**3.55**	**66**	P	Pn	07 43 12.6	+0.6
JCZ	**Jackson Bay**	**3.88**	**32**	P	Pn	07 43 18.5	+1.9
ODZ	**Otahua Downs**	**4.03**	**56**	P	Pn	07 43 16.8	-1.8
FOZ	**Fox Glacier**	**4.74**	**37**	P	Pn	07 43 30.0	+1.7

IDC 18 07:47:52.6±1.4,12.°32N×144.°09E,h0km,mb3.7/4, mb1 4.0/4,mb1mx3.5/44,mbtmp3.7/4,Error ellipse: s-maj=61.9km s-min=33.7km az=103.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.46**	**197**	P	P	07 54 33.6	0.0
	1.2nm,1.2s,baz=22,slow=6.6,SNR=1.8						
ILAR	**Eielson Array**	**70.04**	**25**	P	P	07 59 05.8	-0.3
	0.3nm,1.0s,baz=246,slow=6.3,SNR=1.7						
BVAR	**Borovoye Array**	**70.45**	**322**	P	P	07 59 09.5	+0.6
	baz=112,slow=6.3						
YKA	**Yellowknife Ar**	**84.33**	**27**	P	P	08 00 27.0	+0.7
	0.1nm,0.4s,baz=286,slow=5.1,SNR=4.1						
FINES	**FINESS Array B**	**91.99**	**335**	P	P	08 01 01.5	-1.6
	1.7nm,0.9s,baz=64,slow=6.5,SNR=4.1						

GUC 18 07:52:56.4±0.5,20.°67S×68.°91W,h100km±3km,ML3.5, 5C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.57**	**337**	⇓*i*P	Pn	07 53 13.8	+0.6
PB08				*i* S	Sn	07 53 26.7	+1.0
PB08				IAML		07 53 27.7	
	comp=E,2μm,0.2s						
PB01	**IPOC Station P**	**0.65**	**235**	⇑*i*P	Pn	07 53 13.7	+0.2
PB01				*i* S	Sn	07 53 26.8	+0.5
PB01				IAML		07 53 28.5	
	comp=E,3μm,0.2s						
PB02	**IPOC Station P**	**1.12**	**235**	⇑*i*P	Pn	07 53 18.6	+0.3
PB02				*i* S	Sn	07 53 35.7	+1.0
PB02				IAML		07 53 37.3	
	comp=E,1μm,0.4s						
PB11	**IPOC Station P**	**1.14**	**322**	⇑*i*P	Pn	07 53 18.9	+0.3
PB11				*i* S	Sn	07 53 36.0	+0.8
PB11				IAML		07 53 36.9	
	comp=E,1μm,0.2s						
PB09	**IPOC Station P**	**1.16**	**195**	*e*P	Pn	07 53 19.4	+0.6
PB09				*i* S	Sn	07 53 37.0	+1.3
PB07	**IPOC Station P**	**1.39**	**221**	⇑*i*P	Pn	07 53 21.8	+0.3
PB07				*i* S	Sn	07 53 41.0	+0.6
PB07				IAML		07 53 42.4	
	comp=E,832nm,0.5s						
PSGC	**Pisagua**	**1.56**	**313**	⇑*i*P	Pn	07 53 23.5	0.0
PSGC				*i* S	Sn	07 53 44.3	+0.3
PB03	**IPOC Station P**	**1.58**	**210**	*e*P	Pn	07 53 24.1	+0.3
PB03				*i* S	Sn	07 53 45.2	+0.7
PB03				IAML		07 53 52.7	
	comp=E,474nm,0.1s						
MNMC	**Minye Minye**	**1.66**	**337**	*e*P	Pn	07 53 25.8	+0.8
MNMC				*e*S	Sn	07 53 48.0	+1.4
PB04	**IPOC Station P**	**2.02**	**215**	*e*P	Pn	07 53 30.0	+0.6
PB04				*i* S	Sn	07 53 55.5	+1.0
PB04				IAML		07 54 06.8	
	comp=N,535nm,0.1s						
PB06	**IPOC Station P**	**2.12**	**197**	*e*P	Pn	07 53 31.0	+0.3
PB06				*e*S	Sn	07 53 57.5	+0.8
PB06				IAML		07 54 02.3	
	comp=E,345nm,0.1s						

ISCJB ***18*** *07:53:05.2±0.8,14.°7S±0.°1×71.°75W±0.°08,h10km,mb3.6/4, MS3.6/9,Error ellipse: s-maj=20.5km s-min=7.4km az=26.1*
IDC ***18*** *07:53:05.7±1.6,14.°60S×71.°82W,h0km,mb3.6/4, mb1 3.9/8,mb1mx3.7/33,mbtmp3.8/8,ML3.6/4,MS3.6/17, Ms1 3.6/17,ms1mx3.4/35,Error ellipse: s-maj=46.1km s-min=19.7km az=32.0*

ISC 18 07:53:06.9±0.9,14.°7S±0.°2×71.°8W±0.°1,h10km,n20, σ1§40/12,mb3.6/4,MS3.6/9,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.86**	**115**	Pn	**Pn**	**07 54 04.4**	**-2.5**
	0.6nm,0.3s,baz=192,slow=6.0,SNR=19						

LPAZ				LR	LR	07 56 12.1		
	comp=Z,614nm,20.3s,baz=304,slow=47							
NNA	**Nana**	**5.62**	**298**	Pn	**Pn**	**07 54 30.1**	**-0.5**	
	3.0nm,0.3s,baz=157,slow=5.5,SNR=11							
NNA				Sn	**Sn**	**07 55 37.4**	**+2.2**	
	1.2nm,0.3s,baz=223,slow=16,SNR=2.7							
NNA				LR	LR	07 56 53.9		
	comp=Z,341nm,20.2s,baz=136,slow=41							
LVC	**Limon Verde**	**8.33**	**161**	LR	LR	07 58 12.9		
	comp=Z,319nm,21.5s,baz=340,slow=36							
ATAH	**Atahualpa**	**9.93**	**318**	LR	LR	07 59 07.5		
	comp=Z,203nm,18.7s,baz=150,slow=37							
SIV	**San Ignacio**	**10.41**	**98**	Pn	**Pn**	**07 55 37.2**	**+0.8**	
	0.4nm,0.3s,baz=281,slow=14,SNR=11							
SIV				LR	LR	08 00 12.0		
	comp=Z,566nm,19.9s,baz=300,slow=41							
CPUP	**Villa Florida**	**17.79**	**133**	P	**P**	**07 57 15.7**	**+0.2**	
	0.1nm,0.3s,baz=358,slow=5.5,SNR=3.1							
CPUP				LR	LR	08 05 07.6		
	comp=Z,142nm,21.6s,baz=317,slow=40							
PTGA	**Pitinga**	**18.14**	**41**	P	**P**	**07 57 18.8**	**-0.6**	
	0.2nm,0.3s,baz=229,slow=14,SNR=4.8							
PTGA				LR	LR	08 04 43.0		
	comp=Z,85nm,18.1s,baz=224,slow=39							
ROSC	**El Rosal**	**19.57**	**352**	LR	LR	08 05 36.2		
	comp=Z,204nm,20.9s,baz=212,slow=38							
BDFB	**Brasilia**	**22.96**	**95**	LR	LR	08 07 44.4		
	comp=Z,198nm,18.5s,baz=250,slow=38							
SDV	**Santo Domingo**	**23.46**	**3**	P	**P**	**07 58 16.1**	**-0.8**	
	3.7nm,0.8s,baz=277,slow=8.6,SNR=4.2							
MDP	**Montagnes des**	**27.33**	**45**	LR	LR	08 09 14.3		
	comp=Z,70nm,20.2s,baz=222,slow=36							
JTS	**JuntasAbangare**	**28.05**	**332**	LR	LR	08 09 48.9		
	comp=Z,102nm,20.6s,baz=233,slow=36							
SJG	**San Juan**	**33.07**	**10**	LR	LR	08 13 42.1		
	comp=Z,39nm,20.4s,baz=206,slow=38							
TXAR	**Lajitas Array**	**53.52**	**325**	P	**P**	**08 02 27.7**	**-0.3**	
	0.7nm,0.9s,baz=156,slow=9.8,SNR=5.3							
PDAR	**Pinedale Array**	**66.88**	**331**	LR	LR	08 36 47.2		
	comp=Z,29nm,18.3s,baz=286,slow=39							
DBIC	**Dimbokro**	**69.66**	**77**	LR	LR	08 33 56.0		
	comp=Z,59nm,18.3s,baz=242,slow=35							
NEW	**Newport**	**74.52**	**330**	LR	LR	08 41 56.8		
	comp=Z,66nm,18.2s,baz=296,slow=39							
TORD	**Torodi Ar. Bea**	**77.81**	**73**	P	**P**	**08 05 06.3**	**+1.2**	
	0.5nm,0.9s,baz=261,slow=5.4,SNR=2.3							
TORD				LR	LR	08 37 46.9		
	comp=Z,58nm,19.5s,baz=335,slow=34							
YKA	**Yellowknife Ar**	**83.90**	**341**	P	**P**	**08 05 35.5**	**-1.1**	
	0.2nm,0.6s,baz=137,slow=5.5,SNR=6.2							
BOSA	**Boshof**	**89.09**	**119**	LR	LR	08 42 12.7		
	comp=Z,41nm,18.6s,baz=234,slow=33							

*IDC **18** 07:53:38.1±9.3,3˚.69S×129˚.23E,h68^{km}±83^{km},mb3.8/4, mb1 4.0/6,mb1mx3.5/38,mbtmp4.1/6,ML4.1/2,Error ellipse: s-maj=117.6km s-min=27.0km az=62.0*

*ISCJB **18** 07:53:39.2±0.5,3˚.69S±0˚.05×129˚.49E±0˚.10,h100^{km}, Error ellipse: s-maj=14.3km s-min=6.5km az=164.2*

*NEIC **18** 07:53:40.9±1.8,3˚.64S×129˚.61E,h98^{km}±18^{km},mb4.5/10, Error ellipse: s-maj=23.2km s-min=8.3km az=60.0*

ISC 18 07:53:41.1±0.7,3˚.75S±0˚.07×129˚.5E±0˚.1,h100^{km},n28, σ0^{s}97/31,Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**7.25**	**292**	*e*Pn	**Pn**	**07 55 25.0**	**+0.5**
FITZ	**Fitzroy Crossi**	**14.76**	**195**	P	**Pn**	**07 57 04.6**	**-0.3**
	0.6nm,0.3s,baz=24,slow=12,SNR=13						
FITZ				S	**Sn**	**07 59 46.4**	**-1.4**
	0.1nm,0.3s,baz=138,slow=12,SNR=2.5						
FITZ	**Fitzroy Crossi**	**14.76**	**195**	*e*P	**P**	**07 57 08.8**	**+0.6**
FITZ				S	**Sn**	**07 59 46.4**	**-1.4**
WRAB	**Tennant Creek**	**16.77**	**164**	*e*Pn	**P**	**07 57 31.4**	**+0.8**
	24nm,1.4s						
WRA	**Warramunga Arr**	**16.77**	**164**	P	**Pn**	**07 57 28.6**	**-1.4**
	0.8nm,0.3s,baz=343,slow=13,SNR=35						
WRA				S	Sn	08 00 23.2	-13
	0.1nm,0.3s,baz=346,slow=23,SNR=3.0						
WR1	**Warramunga Arr**	**16.77**	**164**	*e*Pn	**Pn**	**07 57 28.6**	**-1.4**
	42nm,1.6s						
WR1				*e*Sn	Sn	08 00 23.2	-13
WB2	**Warramunga Arr**	**16.77**	**164**	*e*Pn	**Pn**	**07 57 29.0**	**-1.1**
	8.7nm,1.0s						
COEN	**Coen**	**16.88**	**128**	*e*Pn	**P**	**07 57 33.0**	**+1.2**
	44nm,1.5s						
AS31	**Alice Springs**	**20.25**	**168**	*e*P	**P**	**07 58 10.2**	**+1.5**
	12nm,0.4s						
ASAR	**Alice Springs**	**20.25**	**168**	P	**P**	**07 58 09.8**	**+1.2**
	20nm,0.5s,baz=348,slow=11,SNR=266						
ASAR				S	**S**	**08 01 50.0**	**-0.6**
	0.9nm,0.8s,baz=347,slow=16,SNR=4.5						
AS01	**Alice Springs**	**20.26**	**168**	*e*P	**P**	**07 58 09.9**	**+1.1**
BBOO	**Buckleboo**	**29.55**	**169**	*e*P	**P**	**07 59 36.9**	**+0.4**
	198nm,2.0s						
TATO	**Taipei**	**29.60**	**345**	*e*P	**P**	**07 59 37.1**	**+0.2**
	402nm,1.6s						
STKA	**Stephens Creek**	**30.20**	**159**	P	**P**	**07 59 43.1**	**+0.9**
	1.9nm,0.6s,baz=315,slow=7.1,SNR=3.2						
STKA	**Stephens Creek**	**30.20**	**159**	*e*P	**P**	**07 59 43.6**	**+1.4**
	7.8nm,1.8s						
TOO	**Toolangi**	**36.71**	**159**	*e*P	**P**	**08 00 38.5**	**-0.2**
	68nm,1.6s						
MK01	**Makanchi Array**	**65.24**	**326**	*e*P	**P**	**08 04 11.5**	**-0.7**
MK31	**Makanchi Array**	**65.26**	**326**	*e*P	**P**	**08 04 11.6**	**-0.7**
MK32	**Makanchi Array**	**65.26**	**326**	*e*P	**P**	**08 04 11.3**	**-0.9**
MKAR	**Makanchi Array**	**65.26**	**326**	P	**P**	**08 04 11.3**	**-0.9**
	0.3nm,0.4s,baz=126,slow=7.0,SNR=5.0						
MKAR	**Makanchi Array**	**65.26**	**326**	*e*P	**P**	**08 04 11.6**	**-0.7**
	7.2nm,1.1s						
KURBB	**Kurchatov Arra**	**69.50**	**328**	P	**P**	**08 04 38.2**	**-0.7**
	0.8nm,0.7s,baz=131,slow=5.6,SNR=5.8						
KURK	**Kurchatov**	**69.51**	**328**	*e*P	**P**	**08 04 38.2**	**-0.7**
STCH	**Steam Cracks**	**77.49**	**69**	*e*P	**P**	**08 05 25.1**	**-1.4**
	164nm,0.7s						
QSPA	**South Pole Qui**	**86.21**	**180**	*e*P	**P**	**08 06 11.8**	**+0.5**
	27nm,2.0s						
HOM	**Homer**	**87.59**	**30**	*e*P	**P**	**08 06 17.9**	**0.0**
	309nm,1.0s						
CPUP	**Villa Florida**	**149.38**	**168**	PKPbc	**PKiKP**	**08 13 20.0**	**-0.4**
	0.5nm,0.5s,baz=224,slow=4.5,SNR=4.5						
CPUP	**Villa Florida**	**149.38**	**168**	*e*PKPbc	**PKiKP**	**08 13 20.9**	**+0.5**

*IDC **18** 07:58:03.0±3.1,3˚.09S×100˚.86E,h0^{km},mb3.5/7, mb1 3.6/7,mb1mx3.5/49,mbtmp3.5/7,Error ellipse: s-maj=146.5km s-min=20.1km az=52.0*

*ISCJB **18** 07:58:08.0±0.8,3˚.12S±0˚.06×100˚.90E±0˚.06,h46^{km}, mb3.6/7,Error ellipse: s-maj=10.8km s-min=6.7km az=137.8*

*DJA **18** 07:58:10.1±0.7,3˚.S±3˚×10˚1E±˚,h26^{km}±5^{km},M3.8/7, MLv3.8/7*

ISC 18 07:58:10.2±0.9,3˚.03S±0˚.07×101˚.02E±0˚.06,h46^{km},n20, σ0^{s}76/18,mb3.6/7,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRJI	**Kerinci**	**1.03**	**26**	P	**Pn**	**07 58 28.6**	**+0.2**
KRJI				S	**Sn**	**07 58 42.9**	**+1.2**
PPSI	**Pulau Pagai**	**1.04**	**285**	P	**Pn**	**07 58 29.5**	**+1.2**
MASI	**Maura Aman, Be**	**1.23**	**95**	P	**Pn**	**07 58 31.6**	**+0.6**
MASI				S	**Sn**	**07 58 47.0**	**+0.6**
SDSI	**Sungai Dareh**	**2.12**	**11**	P	**Pn**	**07 58 44.3**	**+1.1**
PDSI	**Padang**	**2.17**	**345**	P	**Pn**	**07 58 43.7**	**-0.2**
PDSI				S	**Sn**	**07 59 10.4**	**+0.7**
MNAI	**Manna**	**2.35**	**124**	P	**Pn**	**07 58 46.9**	**+0.6**
SISI	**Saibi**	**2.56**	**311**	P	**Pn**	**07 58 49.6**	**+0.4**
LHSI	**Lahat**	**2.63**	**108**	P	Pn	07 58 58.1	+8.0
MDSI	**Maura Dua**	**3.47**	**115**	P	Pn	07 59 08.6	+6.9
H08S2	**Diego Garcia H**	**28.76**	**260**	T	T	08 33 16.6	
	baz=83						
H08S3	**Diego Garcia H**	**28.77**	**260**	T	T	08 33 19.7	
	baz=83						
H08S1	**Diego Carcia H**	**28.78**	**260**	T	T	08 33 20.7	
	baz=83						
WRA	**Warramunga Arr**	**36.60**	**120**	P	**P**	**08 05 11.5**	**-0.8**
	0.5nm,0.4s,baz=304,slow=9.0,SNR=8.2						
ASAR	**Alice Springs**	**37.83**	**126**	P	**P**	**08 05 23.0**	**+0.3**
	0.3nm,0.5s,baz=299,slow=8.1,SNR=5.1						
SONM	**Songino Array**	**50.87**	**5**	P	**P**	**08 07 06.4**	**-0.1**
	0.3nm,0.6s,baz=183,slow=9.8,SNR=3.7						
MKAR	**Makanchi Array**	**52.29**	**344**	P	**P**	**08 07 16.9**	**-0.2**
	0.2nm,0.4s,baz=168,slow=9.8,SNR=4.2						
KURBB	**Kurchatov Arra**	**56.82**	**343**	P	**P**	**08 07 49.0**	**-0.8**
	0.3nm,0.5s,baz=154,slow=8.1,SNR=3.6						
ZALV	**Zalesovo Beam**	**58.36**	**349**	P	**P**	**08 07 59.7**	**-0.9**
	0.4nm,0.4s,baz=169,slow=10,SNR=3.5						
BVAR	**Borovoye Array**	**61.49**	**340**	P	**P**	**08 08 21.4**	**-0.7**
	0.4nm,0.5s,baz=167,slow=12,SNR=1.9						
TXAR	**Lajitas Array**	**144.87**	**39**	PKPbc	**PKPab**	**08 17 42.0**	**-0.2**
	0.3nm,0.7s,baz=262,slow=0.5,SNR=6.7						

IDC 18 08:09:33.5±3.0,54˚.15N×87˚.24E,h0^{km},mb1 2.9/2, mb1mx2.8/32,mbtmp2.9/2,ML2.1/2,Error ellipse: s-maj=25.0km s-min=15.3km az=69.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**263**	*i*		08 19 15.3	
	baz=80,slow=356,SNR=0.8						
ZALV	**Zalesovo Beam**	**1.44**	**263**	Pg	Pn	08 10 00.5	-0.4
	1.0nm,0.3s,baz=84,slow=16,SNR=19						
ZALV				Lg	Lg	08 10 18.8	
	1.3nm,0.3s,baz=79,slow=26,SNR=18						
KURBB	**Kurchatov Arra**	**6.39**	**240**	Pn	Pn	08 11 09.5	+0.7
	0.0nm,0.3s,baz=58,slow=14,SNR=5.6						
KURBB				Lg	Lg	08 12 56.8	
	0.0nm,0.3s,baz=59,slow=33,SNR=6.6						
MKAR	**Makanchi Array**	**8.01**	**205**	Pn	Pn	08 11 31.9	+0.8
	0.0nm,0.3s,baz=21,slow=12,SNR=3.3						
MKAR				Sn	Sn	08 13 02.2	-0.1
	0.1nm,0.3s,baz=28,slow=24,SNR=7.0						
MKAR				Lg	Lg	08 13 47.1	
	0.1nm,0.3s,baz=20,slow=31,SNR=2.8						
BVAR	**Borovoye Array**	**10.08**	**270**	Pn	Pn	08 12 03.8	+4.4
	0.1nm,0.3s,baz=60,slow=8.5,SNR=2.7						
BVAR				Sn	Sn	08 13 48.5	-4.7
	0.1nm,0.3s,baz=71,slow=26,SNR=4.8						

*ROM **18** 08:24:22.6±0.4,42˚.89N±0˚.02×6˚.39E±0˚.04,h10^{km}, ML2.4/4*

*ISCJB **18** 08:24:24.3±0.6,43˚.04N±0˚.03×6˚.44E±0˚.05,h14^{km}±4^{km}, Error ellipse: s-maj=6.4km s-min=4.3km az=40.9*

*STR **18** 08:24:25.4±0.3,43˚.N±2˚×˚±˚,h10^{km},M2.7/6,MLv2.7/6*

ISC 18 08:24:24.0±1.4,43.00N±0.04×6.45E±0.04,h13^{km}±10^{km}, n30,σ1^{s}01/42,Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASEAF	**Site Antares,**	**0.29**	**226**	Pg	**Pb**	**08 24 31.3**	**+0.4**
ASEAF				Sg	**Sb**	**08 24 36.6**	**+1.1**
ARTF	**Artigues**	**0.75**	**322**	Pg	**Pg**	**08 24 38.2**	**-0.4**
ARTF				Sg	**Sb**	**08 24 49.4**	**+0.2**
CALF	**Calern**	**0.83**	**24**	Pg	**Pg**	**08 24 40.2**	**0.0**
REVF	**Revere**	**1.00**	**42**	Pg	**Pb**	**08 24 44.2**	**+0.9**
REVF				Sg	**Sb**	**08 24 57.8**	**+1.4**
MVIF	**Mont Vial**	**1.04**	**30**	Pg	**Pg**	**08 24 44.1**	**+0.1**
MVIF				Sg	**Sg**	**08 24 57.8**	**+0.2**
BSTF	**la Bastide-des**	**1.06**	**327**	Pg	**Pg**	**08 24 42.8**	**-1.7**
ESCA	**l'Escarene**	**1.07**	**39**	Pg	**Pb**	**08 24 45.3**	**+0.8**
MLYF	**Mely**	**1.11**	**334**	Pg	**Pb**	**08 24 45.5**	**+0.4**
MLYF				Sg	**Sn**	**08 25 00.9**	**+0.4**
OGDI	**Digne**	**1.12**	**355**	Pg	**Pb**	**08 24 45.3**	**0.0**
OGDI				Sg	**Sb**	**08 25 00.4**	**+0.6**
NEGI	**Seborga**	**1.25**	**47**	P	**Pn**	**08 24 46.8**	**-0.4**
NEGI				S	**Sb**	**08 25 01.5**	**-2.0**
NEGI	**Seborga**	**1.25**	**47**	P	**Pn**	**08 24 46.9**	**-0.4**
NEGI				S	**Sn**	**08 25 05.4**	**+1.3**
NEGI				AML	AML		
	comp=E,104μm,1.6s						
NEGI				AML	AML		
	comp=N,104μm,1.5s						
NEGI				AML	AML		
	comp=N,104μm,1.5s						
NEGI				AML	AML		
	comp=E,104μm,1.6s						
ISO	**Isola**	**1.27**	**20**	Pn	**Pn**	**08 24 47.9**	**+0.4**
SAOF	**Saorge**	**1.28**	**39**	P	**Pn**	**08 24 48.1**	**+0.4**
SAOF				S	**Sn**	**08 25 06.1**	**+1.5**
IMI	**Imperia**	**1.39**	**49**	P	**Pn**	**08 24 48.9**	**-0.3**
IMI				S	**Sn**	**08 25 05.0**	**-2.6**
IMI	**Imperia**	**1.39**	**49**	P	**Pn**	**08 24 49.0**	**-0.3**
STV	**Sant Anna di V**	**1.40**	**27**	P	**Pn**	**08 24 50.1**	**+0.7**
STV				S	**Sn**	**08 25 06.7**	**-1.1**
STV	**Sant Anna di V**	**1.40**	**27**	P	**Pn**	**08 24 50.1**	**+0.7**
ENR	**Entracque**	**1.42**	**30**	P	**Pn**	**08 24 50.4**	**+0.8**
ENR	**Entracque**	**1.42**	**30**	P	**Pn**	**08 24 50.4**	**+0.8**
ENR				AML	AML		
	comp=E,83μm,0.4s						
ENR				AML	AML		
	comp=N,136μm,0.4s						
ENR				AML	AML		
	comp=N,136μm,0.4s						
ENR				AML	AML		
	comp=E,83μm,0.4s						
MGRO	**Montegrosso**	**1.44**	**43**	P	**Pn**	**08 24 50.2**	**+0.2**
MGRO				S	**Sn**	**08 25 06.5**	**-2.4**
OGAG	**Argentiere**	**1.46**	**3**	Pg	Pg	08 24 57.1	+5.0
SURF	**Saint Ours**	**1.51**	**10**	Pg	**Pb**	**08 24 52.3**	**+0.3**
PZZ	**Stroppo**	**1.59**	**18**	P	**Pn**	**08 24 52.9**	**+0.9**
PZZ				AML	AML		
	comp=E,81μm,1.2s						
PZZ				AML	AML		
	comp=N,90μm,0.4s						
PZZ				AML	AML		
	comp=E,81μm,1.2s						
PZZ				AML	AML		
	comp=N,90μm,0.4s						
GBOS	**Grotte di Boss**	**1.60**	**39**	P	**Pn**	**08 24 53.2**	**+1.1**
GBOS				S	**Sn**	**08 25 11.3**	**-1.5**
DOI	**San Damiano**	**1.61**	**21**	P	**Pn**	**08 24 53.4**	**+1.0**
DOI				AML	AML		
	comp=E,79μm,0.5s						
DOI				AML	AML		
	comp=N,78μm,1.3s						
DOI				AML	AML		
	comp=E,79μm,0.5s						
DOI				AML	AML		
	comp=N,78μm,1.3s						
RORO	**Rocca Rossa**	**1.62**	**46**	P	**Pn**	**08 24 52.2**	**-0.1**
RORO	**Rocca Rossa**	**1.62**	**46**	P	**Pn**	**08 24 52.5**	**+0.1**
PGF	**Pioggiola**	**1.93**	**103**	P	**Pn**	**08 24 56.9**	**+0.2**
SJAF	**Saint Jean de**	**2.67**	**260**	Pn	**Pn**	**08 25 06.5**	**-0.3**
FNEB	**Nbias**	**3.19**	**270**	Pn	**Pn**	**08 25 14.2**	**+0.3**

*DDA **18** 08:28:33.1,37˚.83N×33˚.25E,h7^{km}±3^{km},ML2.4*

*ISK **18** 08:28:33.8,37˚.91N×33˚.15E,h15^{km},ML2.6/4*

ISC 18 08:28:33.4±1.1,37.86N±0.03×33.20E±0.03,h9^{km}±11^{km}, n15,σ0^{s}81/23,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMER	**Konya-Meram**	**0.66**	**262**	*i* P	**Pb**	**08 28 47.0**	**-0.2**
KMER				*i* S	**Sn**	**08 28 59.0**	**-0.7**
KONT	**Konya--Tatoy**	**0.67**	**278**	PG	**Pg**	**08 28 46.5**	**+0.2**
KONT				SG	**Sg**	**08 28 55.9**	**+0.9**
KONT	**Konya--Tatoy**	**0.67**	**278**	IAML_P			
	comp=Z,514nm,0.2s						
KONT				*i* P	**Pb**	**08 28 47.2**	**-0.1**
KONT				*i* S	**Sb**	**08 28 56.0**	**-0.6**
LADK	**Ladik-KONYA**	**0.74**	**298**	PG	**Pg**	**08 28 47.2**	**-0.5**
LADK				SG	**Sg**	**08 28 57.3**	**-0.1**
CHBY	**Cihanbeyli**	**0.76**	**341**	PG	**Pg**	**08 28 47.9**	**-0.2**
CHBY				SG	**Sg**	**08 28 58.3**	**+0.3**
KERG	**Konya-Eregli**	**0.86**	**121**	IAML_P			
	comp=Z,164nm,0.1s						
KERG				*i* P	**Pg**	**08 28 48.8**	**-1.1**
KERG				*i* S	**Sg**	**08 29 00.9**	**-0.2**
KDHN	**Kadinhani**	**1.08**	**308**	*i* P	**Pg**	**08 28 53.3**	**-0.8**
KULU	**Kulu**	**1.19**	**353**	PN	**Pb**	**08 28 55.8**	**-0.4**
DOGA	**KONYA_Doganhis**	**1.23**	**282**	*i* P	**Pg**	**08 28 58.1**	**+1.0**
KKUL	**Konya-Kulu**	**1.33**	**351**	*i* P	**Pg**	**08 28 59.9**	**+1.0**
KKUL				*i* S	**Sn**	**08 29 18.1**	**+2.0**
GULE	**Gulek**	**1.38**	**114**	IAML_P			
	comp=Z,154nm,0.1s						
GULE				*i* P	**Pb**	**08 28 59.5**	**+0.1**
GULE				*i* S	**Sg**	**08 29 18.8**	**+1.1**
MERS	**Mersin**	**1.45**	**133**	PN	**Pn**	**08 29 00.1**	**+0.3**
KEBE	**Keben-Mersin**	**1.47**	**164**	PN	**Pg**	**08 29 01.6**	**+0.1**
BERE	**Bereket-Mersin**	**1.51**	**179**	PN	**Pb**	**08 29 01.8**	**+0.2**
AFSR	**Afar-Bala (An**	**1.59**	**356**	PN	**Pn**	**08 29 00.7**	**-1.1**

*IDC **18** 08:30:52.2±1.9,53˚.19N×161˚.87W,h0^{km},mb3.2/4, mb1 3.5/6,mb1mx3.3/51,mbtmp3.3/6,ML3.0/2,Error ellipse: s-maj=39.0km s-min=27.7km az=168.0*

*NEIC **18** 08:30:56.3±0.0,53˚.27N×161˚.90W,h32^{km},ML3.2(AEIC), After AEIC.*

ISC 18 08:30:52.3±3.6,53˚.22N±0˚.09×161˚.78W±0˚.05,h5^{km}±24^{km}, n23,σ1^{s}38/30,mb3.4/3,South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRIA	**Deer Island**	**1.77**	**351**	P	**Pn**	**08 31 24.2**	**+0.6**
FALS	**False Pass**	**1.90**	**330**	P	**Pn**	**08 31 25.9**	**+0.5**
FALS				S	**Sn**	**08 31 49.3**	**-0.5**
DT1	**Dutton Round H**	**1.91**	**351**	P	**Pn**	**08 31 26.6**	**+1.0**
DT1				S	**Sn**	**08 31 50.5**	**+0.5**
DOL	**Dolgoi Island**	**1.93**	**358**	P	**Pn**	**08 31 26.8**	**+1.0**
SSLN	**Shishaldin Nor**	**2.06**	**321**	P	**Pb**	**08 31 29.2**	**-1.1**
SSBA	**Shishaldin**	**2.08**	**319**	P	**Pn**	**08 31 28.8**	**+0.8**
SSBA				S	**Sn**	**08 31 53.9**	**-0.4**
WESE	**West Dahl East**	**2.08**	**308**	P	**Pn**	**08 31 28.9**	**+0.9**
PS4A	**Pavlof South-4**	**2.13**	**359**	P	**Pn**	**08 31 30.2**	**+1.7**
WESP	**Westdahl Peak**	**2.16**	**307**	P	**Pn**	**08 31 29.9**	**+0.9**
WESP				S	**Sn**	**08 31 55.6**	**-0.6**
WECS	**Westdahl Cape**	**2.21**	**308**	P	**Pn**	**08 31 30.4**	**+0.8**
SDPT	**Sand Point**	**2.27**	**19**	P	**Pn**	**08 31 31.7**	**+1.4**
SDPT				S	**Sn**	**08 31 59.4**	**+0.8**
AKSA	**Akutan Strait**	**2.51**	**293**	P	**Pn**	**08 31 34.1**	**+0.4**
AKSA				S	**Sn**	**08 32 02.6**	**-2.0**
AKLV	**Akutan Long Va**	**2.66**	**292**	P	**Pn**	**08 31 36.7**	**+0.8**
UNV	**Unalaska Valle**	**2.89**	**284**	P	**Pn**	**08 31 39.1**	**+0.1**
MSW	**Makushin Switc**	**3.07**	**285**	P	**Pn**	**08 31 41.9**	**+0.5**
MSW				S	**Sn**	**08 32 17.6**	**-0.8**
MCIR	**Makushin Cirqu**	**3.14**	**286**	P	**Pn**	**08 31 43.2**	**+0.8**
OKTU	**Okmok Mt. Tuli**	**3.76**	**275**	P	**Pn**	**08 31 51.4**	**+0.4**
KDAK	**Kodiak Island**	**6.94**	**45**	Pn	**Pn**	**08 32 34.4**	**0.0**
	0.6nm,0.3s,baz=209,slow=8.3,SNR=7.0						
KDAK				Sn	**Sn**	**08 33 48.4**	**-5.3**
	0.5nm,0.3s,baz=18,slow=19,SNR=4.4						
ILAR	**Eielson Array**	**13.84**	**27**	Pn	**Pn**	**08 34 08.6**	**-0.3**
	0.0nm,0.3s,baz=220,slow=13,SNR=2.6						
INK	**Inuvik**	**20.17**	**31**	P	Pn	08 35 29.1	0.0
	0.8nm,0.7s,baz=221,slow=13,SNR=5.2						
YKA	**Yellowknife Ar**	**26.17**	**51**	P	**P**	**08 36 27.2**	**-0.1**
	0.2nm,0.6s,baz=264,slow=8.3,SNR=6.2						
TXAR	**Lajitas Array**	**48.18**	**96**	P	**P**	**08 39 35.1**	**+1.5**
	0.2nm,0.6s,baz=310,slow=6.3,SNR=4.7						
SONM	**Songino Array**	**54.73**	**304**	P	**P**	**08 40 22.8**	**+0.4**
	0.2nm,0.5s,baz=64,slow=6.6,SNR=3.1						

*ISCJB **18** 08:39:34.8±0.4,24˚.84N±0˚.02×121˚.86E±0˚.02,h98^{km}±3^{km}, Error ellipse: s-maj=3.6km s-min=2.6km az=151.9*

*TAP **18** 08:39:35.3±0.1,24˚.78N×121˚.85E,h92^{km}±1^{km},M2.7*

ISC 18 08:39:34.7±1.4,24˚.86N±0˚.04×121˚.85E±0˚.03,h100^{km}±6^{km}, n86,σ0^{s}66/156,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NTC	**Toucheng**	**0.01**	**268**	*e*P	**Pn**	**08 39 49.0**	**+0.4**
	baz=34						
NTC				S	**Sn**	**08 39 59.1**	**+0.2**
	baz=34						
TIPB	**Shuangxi**	**0.12**	**351**	P	**Pn**	**08 39 48.9**	**+0.1**
	baz=6.0						
TIPB				*e*S	**Sn**	**08 39 58.0**	**-1.2**
	baz=6.0						
TWB1	**Santiao Chiao**	**0.20**	**40**	P	**Pn**	**08 39 49.2**	**+0.2**
	baz=48						
TWB1				S	**Sn**	**08 39 59.0**	**-0.6**
	baz=48						
TWE	**Neicheng**	**0.21**	**231**	P	**Pn**	**08 39 49.5**	**+0.5**
	baz=243						
TWE				S	**Sn**	**08 40 00.3**	**+0.7**
	baz=243						
NWF	**Wu-fen Shan**	**0.22**	**345**	*e*P	**Pn**	**08 39 49.1**	**0.0**
	baz=359						
NWF				*e*S	**Sn**	**08 40 00.1**	**+0.2**
	baz=359						
WFSB	**Wu-fen Shan**	**0.22**	**345**	P	**Pn**	**08 39 49.0**	**0.0**
	baz=359						
WFSB				*e*S	**Sn**	**08 39 59.1**	**-0.6**
	baz=359						
TWC	**Suao**	**0.24**	**179**	P	**Pn**	**08 39 49.5**	**+0.4**
	baz=162						
TWC				S	**Sn**	**08 40 00.3**	**+0.5**
	baz=162						
TWA	**Mucha**	**0.27**	**298**	P	**Pn**	**08 39 49.5**	**+0.3**
	baz=305						
TWA				*e*S	**Sn**	**08 40 00.4**	**+0.3**
	baz=305						
NWLT	**Wulai**	**0.32**	**256**	*e*P	**Pn**	**08 39 49.1**	**-0.4**
	baz=259						
NWLT			

NCU				S		Sn	08 40 04.1	+0.2
	baz=283							
NCUH	**Zhongli**	**0.61**	**281**	*eP*		**Pn**	08 39 51.3	-0.1
	baz=283							
NCUH				*eS*		**Sn**	08 40 03.8	-0.1
	baz=283							
NACB	**Ninganchiao**	**0.72**	**199**	*eP*		**Pn**	08 39 51.5	-0.8
	baz=202							
NACB				*eS*		**Sn**	08 40 04.6	-0.9
	baz=202							
LIOB	**Emei**	**0.78**	**255**	P		**Pn**	08 39 53.0	0.0
	baz=248							
LIOB				*eS*		**Sn**	08 40 06.3	-0.4
	baz=248							
SBCB	**Hsinchu**	**0.79**	**266**	*eP*		**Pn**	08 39 53.1	+0.2
	baz=266							
SBCB				*eS*		**Sn**	08 40 06.3	-0.3
	baz=266							
HSN	**Hsinchu**	**0.80**	**266**	P		**Pn**	08 39 52.8	-0.2
	baz=269							
HSN				*eS*		**Sn**	08 40 05.6	-1.2
	baz=269							
NSTT	**Nanjuang**	**0.80**	**254**	P		**Pn**	08 39 53.1	0.0
	baz=247							
NSTT				*eS*		**Sn**	08 40 06.5	-0.4
	baz=247							
TWD	**Chiawan**	**0.80**	**197**	P		**Pn**	08 39 52.9	-0.3
	baz=199							
TWD				*eS*		**Sn**	08 40 05.6	-1.4
	baz=199							
TWT	**Tachien**	**0.85**	**226**	P		**Pn**	08 39 54.8	+0.9
	baz=220							
TWT				S		**Sn**	08 40 08.5	+0.3
	baz=220							
TDCB	**Techi**	**0.87**	**226**	P		**Pn**	08 39 54.3	+0.3
	baz=233							
TDCB				*i* S		**Sn**	08 40 08.3	-0.1
	baz=233							
WHF	**Hehuan Shan**	**0.88**	**217**	P		**Pn**	08 39 54.7	+0.3
	baz=207							
WHF				S		**Sn**	08 40 08.7	-0.5
	baz=207							
HWA	**Hwalien**	**0.90**	**194**	*eS*		**Sn**	08 40 08.3	-0.4
	baz=197							
ENLB	**Shoufeng**	**0.97**	**193**	*eP*		**Pn**	08 39 54.8	-0.1
	baz=196							
ENLB				*eS*		**Sn**	08 40 10.3	+0.3
	baz=196							
CHGB	**Renai**	**1.00**	**218**	P		**Pn**	08 39 56.1	+0.7
	baz=214							
CHGB				*eS*		**Sn**	08 40 10.9	0.0
	baz=214							
NMLH	**Miaoli**	**1.01**	**252**	P		**Pn**	08 39 55.8	+0.5
	baz=252							
NMLH				S		**Sn**	08 40 10.8	0.0
	baz=252							
JYNG	**Yonagunijimaku**	**1.08**	**112**	P		**Pn**	08 39 55.9	-0.1
JYNG				*eS*		**Sn**	08 40 11.4	-0.6
NSY	**Sanyi**	**1.08**	**246**	P		**Pn**	08 39 56.6	+0.5
	baz=253							
NSY				S		**Sn**	08 40 12.1	0.0
	baz=253							
TWQ1	**Liyutan**	**1.10**	**243**	P		**Pn**	08 39 56.4	+0.1
	baz=249							
TWQ1				S		**Sn**	08 40 12.0	-0.5
	baz=249							
ESL	**Shilin**	**1.10**	**200**	*eP*		**Pn**	08 39 55.5	-0.8
	baz=190							
ESL				*eS*		**Sn**	08 40 10.7	-1.9
	baz=190							
PTSB	**Yuanli**	**1.11**	**249**	*eP*		**Pn**	08 39 56.8	+0.4
	baz=248							
PTSB				*eS*		**Sn**	08 40 12.9	0.0
	baz=248							
YOJ	**Yonaguni jima**	**1.13**	**110**	*eP*		**Pn**	08 39 56.6	0.0
	baz=109							
YOJ	**Yonaguni jima**	**1.13**	**110**	P		**Pn**	08 39 56.6	0.0
YOJ				*eS*		**Sn**	08 40 12.7	-0.4
VWDT	**VWDT**	**1.27**	**211**	*eP*		**Pn**	08 39 58.2	0.0
	baz=214							
VWDT				*eS*		**Sn**	08 40 16.5	+0.6
	baz=214							
TCU	**Taichung**	**1.28**	**237**	*eP*		**Pn**	08 39 58.8	+0.5
	baz=235							
TCU				S		**Sn**	08 40 16.4	+0.2
	baz=235							
SMLT	**Sun Moon Lake**	**1.30**	**222**	P		**Pn**	08 39 59.2	+0.5
	baz=226							
SMLT				S		**Sn**	08 40 17.1	+0.4
	baz=226							
SSLB	**Suanglung**	**1.34**	**218**	*eP*		**Pn**	08 39 59.3	+0.2
	baz=224							
SSLB				*eS*		**Sn**	08 40 17.5	0.0
	baz=224							
WCHH	**Zhanghua**	**1.41**	**237**	*eS*		**Sn**	08 40 18.4	-0.5
	baz=236							
HGSD	**Ruisui**	**1.41**	**196**	P		**Pn**	08 40 00.1	+0.2
	baz=197							
HGSD				S		**Sn**	08 40 18.7	-0.2
	baz=197							
EHY	**Hungye**	**1.43**	**200**	*eP*		**Pn**	08 39 59.5	-0.6
	baz=189							
EHY				*eS*		**Sn**	08 40 18.2	-1.1
	baz=189							
WNT	**Mingjian**	**1.44**	**228**	P		**Pn**	08 40 01.0	+0.8
	baz=225							
WNT				S		**Sn**	08 40 19.3	-0.3
	baz=225							
WJS	**Zhushan**	**1.45**	**225**	*eS*		**Sn**	08 40 20.4	+0.6
	baz=233							
YULB	**Yu-li**	**1.54**	**199**	*eP*		**Pn**	08 40 00.1	-1.4
	baz=191							
YULB				S		**Sn**	08 40 19.8	-2.0
	baz=191							
TWF1	**Yuli**	**1.58**	**199**	*eP*		**Pn**	08 40 01.9	-0.1
	baz=193							
TWF1				*eS*		**Sn**	08 40 21.3	-1.4
	baz=193							
YUS	**Yu-Shan**	**1.59**	**211**	*eP*		**Pn**	08 40 03.5	+0.9
	baz=218							
YUS				*eS*		**Sn**	08 40 25.5	+1.9
	baz=218							
ALS	**Alishan**	**1.64**	**216**	P		**Pn**	08 40 04.1	+1.0
	baz=220							
ALS				*eS*		**Sn**	08 40 24.8	+0.2
	baz=220							
CHN5	**Tsauling**	**1.65**	**221**	P		**Pn**	08 40 03.7	+0.8
	baz=218							
CHN5				*eS*		**Sn**	08 40 24.5	+0.2
	baz=218							
WGK	**Gukeng**	**1.65**	**225**	*eS*		**Sn**	08 40 24.0	-0.2
	baz=233							
RLNB	**Erlin**	**1.66**	**235**	*eS*		**Sn**	08 40 24.6	+0.1
	baz=233							
WDLH	**Douliu**	**1.67**	**226**	*eS*		**Sn**	08 40 24.9	+0.4
	baz=233							
IRIF	**Iriomote-Funau**	**1.79**	**106**	P		**Pn**	08 40 04.9	+0.3
IRIF				*eS*		**Sn**	08 40 26.7	-0.7
CHKT	**Chengkung**	**1.80**	**194**	*eS*		**Sn**	08 40 27.1	-0.5
	baz=180							
ELDTW	**Lidau**	**1.82**	**205**	P		**Pn**	08 40 06.0	+0.8
	baz=190							
ELDTW				*eS*		**Sn**	08 40 28.6	+0.3
	baz=190							
CHY	**Chiayi**	**1.87**	**224**	*eS*		**Sn**	08 40 29.9	+0.6
	baz=230							
TPUB	**Ta-pu**	**1.91**	**216**	*eP*		**Pn**	08 40 05.9	-0.2
	baz=211							
TPUB				*eS*		**Sn**	08 40 30.4	+0.4
	baz=211							
WSF	**Szhu**	**1.92**	**231**	*eS*		**Sn**	08 40 29.7	-0.5
	baz=222							
HATJ	**Hateruma jima**	**1.95**	**114**	S		**Sn**	08 40 30.9	-0.2
WTP	**Ta-pu**	**1.96**	**215**	*eP*		**Pn**	08 40 07.2	+0.4
	baz=212							
WTP				S		**Sn**	08 40 31.3	0.0
	baz=212							
TWK	**Hsinying**	**2.01**	**218**	*eP*		**Pn**	08 40 07.8	+0.2
	baz=214							
TWK				*eS*		**Sn**	08 40 31.9	-0.6
	baz=214							
JKRS	**Kuro-shima**	**2.06**	**107**	P		**Pn**	08 40 08.4	+0.3
JKRS				S		**Sn**	08 40 33.2	-0.4
TWG	**Pinlang**	**2.15**	**199**	*eP*		**Pn**	08 40 10.1	+0.9
	baz=184							
TWG				*eS*		**Sn**	08 40 34.6	-0.9
	baz=184							
TWGBT	**Beinan**	**2.15**	**199**	*eP*		**Pn**	08 40 09.0	-0.2
	baz=189							
JIJ	**Ishigaki jima**	**2.15**	**103**	P		**Pn**	08 40 09.2	0.0
JIJ				S		**Sn**	08 40 34.3	-1.3
MATB	**Ma-tsu**	**2.15**	**307**	*eP*		**Pn**	08 40 08.7	-0.5
	baz=306							
SLGT	**Liugui**	**2.15**	**211**	*eP*		**Pn**	08 40 10.7	+1.3
	baz=216							
SLGT				*eS*		**Sn**	08 40 36.3	+0.5
	baz=216							
VWUC	**VWUC**	**2.18**	**274**	*eP*		**Pn**	08 40 09.0	-0.6
	baz=274							
JISG	**Ishigakijimahi**	**2.26**	**96**	P		**Pn**	08 40 11.4	+0.8
JISG				*eS*		**Sn**	08 40 37.6	-0.5
PHUB	**P'eng-hu**	**2.47**	**238**	*eS*		**Sn**	08 40 40.9	-2.3
	baz=237							
MASBT	**Mashibuluo**	**2.49**	**207**	*eP*		**Pn**	08 40 14.7	+0.9
	baz=200							
MASBT				*eS*		**Sn**	08 40 44.3	+0.6
	baz=200							
JTJ	**Tarama**	**2.60**	**94**	P		**Pn**	08 40 16.4	+1.2
JTJ				S		**Sn**	08 40 46.7	+0.4

*NNC **18** 08:52:16.8±3.1, 53°.65N×87°.03E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=29.2km s-min=11.6km az=42.0, Suspected Mining explosion.*
IDC 18 08:52:18.5±2.3, 53°.62N×86°.89E, h0km, mb1 3.1/2, mb1mx2.9/51, mbtmp3.1/2, ML2.6/2, 5C-6D, Error ellipse: s-maj=22.2km s-min=12.5km az=76.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**286**	*i*				09 01 00.0	
	baz=103,slow=356,SNR=3.5								
ZAA0	**Zalesovo Array**	**1.27**	**286**	⇓P		Pg		08 52 41.3	-1.5
	6.3nm,0.8s								
ZAA0				⇓S		Sb		08 53 00.4	+0.3
	6.9nm,0.3s								
ZALV	**Zalesovo Beam**	**1.27**	**286**	Pg		Pg		08 52 41.9	-0.9
	1.3nm,0.3s,baz=105,slow=17,SNR=23								
ZALV				Lg		Lg		08 52 59.5	
	1.8nm,0.3s,baz=108,slow=31,SNR=7.0								
KURK	**Kurchatov**	**5.86**	**244**	⇑Pn		Pn		08 53 46.5	0.0
	1.3nm,0.9s								
KURK				⇑Lg		Lg		08 55 24.6	
	5.0nm,0.9s								
KURBB	**Kurchatov Arra**	**5.96**	**243**	Pn		Pn		08 53 48.7	+0.8
	0.1nm,0.3s,baz=61,slow=14,SNR=3.0								
KURBB				Lg		Lg		08 55 26.9	
	0.0nm,0.3s,baz=63,slow=32,SNR=3.4								
KURBB	**Kurchatov Arra**	**5.96**	**243**	⇓Pn		Pn		08 53 48.6	+0.7
	0.8nm,0.4s								
KURBB				⇑Lg		Lg		08 55 29.3	
	9.6nm,0.7s								
MK31	**Makanchi Array**	**7.45**	**205**	⇑Pn		Pn		08 54 09.0	+0.7
	0.9nm,0.8s,baz=26,slow=13,SNR=13								
MK31				⇓Lg		Lg		08 56 14.2	
	2.3nm,1.0s,baz=36,slow=25,SNR=4.1								
MKAR	**Makanchi Array**	**7.45**	**205**	Pn		Pn		08 54 09.5	+1.2
	0.2nm,0.3s,baz=28,slow=14,SNR=13								
MKAR				Sn		Sn		08 55 33.9	+0.5
	0.1nm,0.3s,baz=25,slow=20,SNR=3.6								
MKAR				Lg		Lg		08 56 14.6	
	0.1nm,0.3s,baz=23,slow=28,SNR=6.7								
MAKZ	**Makanchi**	**7.51**	**207**	⇓Pn		Pn		08 54 10.9	+1.6
	1.5nm,0.7s								
MAKZ				⇑Sn		Sn		08 55 33.7	-1.4
	0.8nm,0.7s								
MAKZ				⇓Lg		Lg		08 56 15.4	
	0.5nm,0.6s								

*MAN **18** 08:53:13.2, 17°.22N×121°.95E, h26km, mb4.8, ML3.6, MS3.6*
MAN INTENSITY III - ILAGAN TUMAUINI AND GAMU ISABELA; INTENSITY II - QUIRINO ISABELA.
*ISCJB **18** 08:53:14.3±0.9, 17°.23N±0°.05×121°.94E±0°.06, h34km±10km, mb3.8/10, MS2.8/2, Error ellipse: s-maj=11.1km s-min=8.2km az=32.0*
*IDC **18** 08:53:22.2±3.3, 17°.22N×122°.05E, h96km±33km, mb3.5/11, mb1 3.6/11, mb1mx3.4/50, mbtmp3.8/11, MS3.0/2, Ms1 3.1/2, ms1mx2.8/19, Error ellipse: s-maj=28.4km s-min=14.8km az=71.0*
ISC 18 08:53:14.4±1.5, 17°.22N±0°.06×122°.03E±0°.06, h22km±12km, n24, σ1s76/24, mb3.7/10, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.33**	**216**	*eP*		**Pb**		**08 53 21.4**	**-0.3**
CAUP				*eS*		**Sn**		**08 53 35.0**	**+5.0**
PALP	**Palanan**	**0.41**	**112**	*eP*		**Pn**		**08 53 24.3**	**-0.6**
PALP				*eS*		**Sn**		**08 53 33.2**	**+1.4**
BALP	**Baler**	**1.53**	**197**	*eP*		**Pn**		**08 53 38.7**	**-1.6**
BALP				*eS*		**Sn**		**08 53 57.6**	**-2.0**
PCPH	**Palayan**	**1.87**	**209**	*eP*		**Pn**		**08 53 44.0**	**-1.1**
PCPH				*eS*		**Sn**		**08 54 08.0**	**0.0**
POLP	**Polilio Island**	**2.47**	**182**	*eP*		**Pn**		**08 53 53.3**	**0.0**
POLP				*eS*		**Sn**		**08 54 19.7**	**-3.2**
TGY	**Tagaytay City**	**3.27**	**199**	P		**Pb**		**08 54 12.4**	**+0.6**
	161nm,0.3s,baz=302,slow=12,SNR=5.0								
GQP	**Guinayangan**	**3.31**	**173**	*eP*		**Pn**		**08 54 06.7**	**+1.8**
GQP				*eS*		**Sn**		**08 54 45.6**	**+1.9**
KSRS	**Korea Array**	**20.82**	**13**	P		**P**		**08 57 55.5**	**+1.1**
	2.9nm,0.5s,baz=197,slow=11,SNR=15								
KSRS				LR		LR		09 05 05.6	
	comp=Z,30nm,19.1s,baz=116,slow=34								
CMAR	**Chiang Mai Arr**	**22.01**	**277**	P		**P**		**08 58 07.8**	**+0.5**
	1.3nm,0.5s,baz=81,slow=10,SNR=6.3								
CMAR				LR		LR		09 06 13.5	
	comp=Z,45nm,19.9s,baz=55,slow=35								
SONM	**Songino Array**	**33.13**	**341**	P		**P**		**08 59 49.7**	**+0.8**
	2.5nm,0.8s,baz=157,slow=9.8,SNR=17								
WRA	**Warramunga Arr**	**38.85**	**161**	P		**P**		**09 00 38.6**	**+0.5**
	2.1nm,0.9s,baz=343,slow=9.7,SNR=6.3								
ASAR	**Alice Springs**	**42.25**	**164**	P		**P**		**09 01 05.5**	**-0.7**
	0.9nm,0.8s,baz=336,slow=5.6,SNR=3.7								
H11S3	**WAKE ISLAND Hy**	**42.45**	**81**	T		T		09 46 20.0	
	baz=276,slow=74,SNR=136								
H11S1	**WAKE ISLAND Hy**	**42.46**	**81**	T		T		09 46 23.1	
	baz=276,slow=74,SNR=58								
H11S2	**WAKE ISLAND Hy**	**42.46**	**81**	T		T		09 46 21.3	
	baz=276,slow=74,SNR=59								
H11N1	**WAKE ISLAND Hy**	**42.53**	**79**	T		T		09 46 10.2	
	baz=274,slow=75,SNR=17								
H11N2	**WAKE ISLAND Hy**	**42.54**	**79**	T		T		09 46 11.3	
	baz=274,slow=75,SNR=20								
H11N3	**WAKE ISLAND Hy**	**42.55**	**79**	T		T		09 46 12.3	
	baz=274,slow=75,SNR=11								
MKAR	**Makanchi Array**	**44.05**	**321**	P		**P**		**09 01 21.1**	**+0.5**
	0.7nm,0.6s,baz=113,slow=9.3,SNR=6.7								
ZALV	**Zalesovo Beam**	**46.59**	**331**	P		**P**		**09 01 41.0**	**+0.4**
	0.5nm,0.5s,baz=142,slow=7.3,SNR=2.3								
KURBB	**Kurchatov Arra**	**48.06**	**324**	P		**P**		**09 01 51.6**	**-0.4**
	1.7nm,0.2s,baz=123,slow=7.9,SNR=6.8								
TIXI	**Tiksi**	**54.58**	**3**	P		**P**		**09 02 39.4**	**-1.1**
	0.9nm,0.5s,baz=255,slow=16,SNR=5.8								
ILAR	**Eielson Array**	**75.05**	**26**	P		**P**		**09 04 51.9**	**-2.1**
	0.2nm,0.7s,baz=260,slow=4.5,SNR=3.4								
YKA	**Yellowknife Ar**	**89.06**	**23**	P		**P**		**09 06 08.3**	**+0.8**
	0.1nm,0.5s,baz=304,slow=4.3,SNR=3.7								

*ISCJB **18** 09:12:58.1±0.9, 67°.60N±0°.04×34°.0E±0°.1, h0km, Error ellipse: s-maj=8.2km s-min=5.9km az=157.1*
*KOLA **18** 09:12:59.9, 67°.66N×33°.95E, M1.7, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*HEL **18** 09:13:00.1±0.5, 67°.67N×33°.98E, h0km, ML2.2, Explosion*
*NAO **18** 09:13:01.2±1.3, 67°.65N×33°.79E, ML2.7*
ISC 18 09:12:57.7±1.4, 67°.67N±0°.05×34°.19E±0°.07, h0km, n24, σ2s32/43, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.46**	**263**	Pg		**Pg**		**09 13 06.6**	**+0.1**
APA0				Lg		Lg		09 13 11.6	
				Rg		Rg		09 13 13.4	
APA0	**Apatity Array**	**0.46**	**263**	Pg		**Pg**		**09 13 06.6**	**+0.1**
APA0				Sg		**Sg**		**09 13 11.6**	**-0.9**
APA0				Rg		Rg		09 13 13.4	
VRF	**Varrio**	**1.75**	**275**	*eP*		**Pn**		**09 13 29.7**	**+0.4**
VRF				*eS*		**Sn**		**09 13 50.5**	**-1.8**
VRF				MSG				09 13 54.9	
	comp=Z,24nm,0.2s								
KU6	**Riekki**	**2.37**	**228**	*eP*		**Pn**		**09 13 39.1**	**+1.3**
KU6				MSG				09 14 09.3	
	comp=Z,9.2nm,0.2s								
KU6				*eSG*		**Sb**		**09 14 12.2**	**+1.2**
MSF	**Maaselka**	**2.70**	**232**	*eP*		**Pb**		**09 13 45.1**	**-1.7**
SGF	**Sodankyl**	**2.95**	**269**	*eP*		**Pn**		**09 13 46.4**	**+0.6**
SGF				*eSG*		**Sb**		**09 14 27.2**	**-0.4**
KEV	**Kevo**	**3.35**	**312**	*e*		**Pn**		**09 13 53.6**	**+2.3**
KEV				*eP*		**Pn**		**09 13 53.6**	**+2.3**
KEV				*eS*		**Sn**		**09 14 33.7**	**+1.9**
KEV	**Kevo**	**3.35**	**312**	*eP*		**Pn**		**09 13 53.3**	**+2.0**
KEV				*eS*		**Sn**		**09 14 32.9**	**+1.2**
RNF	**Rovaniemi**	**3.36**	**255**	*eP*		**Pn**		**09 13 52.0**	**+0.6**
ARA0	**ARCESS Array S**	**3.69**	**304**	Pn		**Pn**		**09 13 57.3**	**+1.3**
	baz=123,slow=16								
ARA0				Sn		**Sn**		**09 14 39.8**	**-0.3**
	baz=122,slow=28								
ARA0				Lg		Lg		09 14 52.6	
	baz=116,slow=37								
ARA0	**ARCESS Array S**	**3.69**	**304**	Pn		**Pn**		**09 13 57.3**	**+1.3**
	baz=123,slow=16								
ARA0				Sn		**Sn**		**09 14 39.8**	**-0.3**
	baz=122,slow=28								
ARA0				Sg		**Sg**		**09 14 52.6**	**-3.6**
	baz=116,slow=37								
ARE0	**ARCESS Array S**	**3.69**	**304**	*eP*		**Pn**		**09 13 57.5**	**+1.5**
ARE0				*eS*		**Sn**		**09 14 41.1**	**+1.0**
ARE0				IAML				09 14 53.6	
	comp=Z,8.4nm,0.4s								
ARE0	**ARCESS Array S**	**3.69**	**304**	*eP*		**Pn**		**09 13 57.2**	**+1.3**
HEF	**Hetta**	**4.03**	**285**	*eP*		**Pn**		**09 14 02.0**	**+1.5**
HEF	**Hetta**	**4.03**	**285**	*eS*		**Sn**		**09 14 47.4**	**-0.9**
HEF				*eSG*		**Sb**		**09 15 01.4**	**+2.8**
HEF				MSG				09 15 05.8	
	comp=Z,5.6nm,0.2s								
TOF	**Tornio**	**4.21**	**252**	*eP*		**Pn**		**09 14 03.5**	**+0.5**
TOF				*ePG*		**Pb**		**09 14 14.2**	**+1.8**
KTK1	**Kautokeino**	**4.28**	**293**	*eP*		**Pn**		**09 14 05.4**	**+1.4**
KTK1				IAML				09 15 11.6	
	comp=Z,7.2nm,0.5s								
LANU	**Lannavaara**	**4.63**	**280**	*eSG*		**Sg**		**09 15 21.4**	**-4.9**
KIF	**Kilpisjarvi**	**5.14**	**291**	*eP*		**Pn**		**09 14 16.8**	**+1.1**
FIA0	**FINESS Array S**	**7.15**	**213**	Pn		**Pn**		**09 14 45.1**	**+1.7**
	baz=30,slow=14								
FIA0				Sn		**Sn**		**09 16 02.3**	**-3.0**
	baz=34,slow=22								
FIA0				Lg		Lg		09 16 36.2	
	baz=27,slow=28								
FIA0	**FINESS Array S**	**7.15**	**213**	Pn		**Pn**		**09 14 45.1**	**+1.7**
	baz=30,slow=14								
FIA0				Sn		**Sn**		**09 16 02.3**	**-3.0**
	baz=34,slow=22								
FIA0				Sg		**Sb**		**09 16 36.2**	**+7.8**
	baz=27,slow=28								
KLMR	**Klimovskoe**	**7.22**	**159**	*eP*		**Pn**		**09 14 45.2**	**+0.8**
KLMR				*eS*		**Sn**		**09 16 03.5**	**-3.4**
KLMR				*eS*		**Sn**		**09 16 03.5**	**-3.4**
KLMR				*eS*		**Sn**		**09 16 03.5**	**-3.4**
KLMR				AMP				09 16 04.0	
	comp=E,2.0nm,1.1s								
KLMR				AMP				09 19 13.4	
	comp=E,2.0nm,0.3s								
SPA0	**Spitsbergen Ar**	**11.69**	**342**	Pn		**Pn**		**09 15 45.6**	**+0.1**
	baz=175,slow=11								
SPA0	**Spitsbergen Ar**	**11.69**	**342**	P		**Pn**		**09 15 45.6**	**+0.1**
	baz=175,slow=11								

*UPP **18** 09:16:47.8±3.2, 64°.57N×30°.90E, h0km, ML1.7, Suspected explosion*
*KOLA **18** 09:16:49.3, 64°.70N×30°.88E, h0km*
*NAO **18** 09:16:51.2±1.4, 64°.83N×30°.03E, ML2.1*
*BER **18** 09:16:52.4±5.3, 64°.79N×30°.17E, h0km, ML1.6, Suspected explosion*
HEL 18 09:16:46.9±0.3, 64°.68N×30°.83E, h0km, ML2.1, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.41**	**344**			PG	Pn	09 17 12.4	-1.3
	baz=167								
KU6				MSG				09 17 29.1	
	comp=Z,12nm,0.2s								
KU6						SG	Sg	09 17 29.6	-2.4
MSF	**Maaselka**	**1.45**	**329**			PG	Pn	09 17 13.1	-1.2
	baz=146								
MSF						SG	Sg	09 17 32.1	-1.2
OUL	**Oulu**	**2.15**	**283**			PG	Pb	09 17 25.8	-0.7
OUL						SG	Sn	09 17 51.8	+0.7
OUF	**Merijarvi**	**2.66**	**266**			PG	Pb	09 17 34.4	-0.8
OUF				MSG				09 18 05.2	
	comp=Z,12nm,0.2s								
OUF						SG	Sb	09 18 07.8	-0.5
RNF	**Rovaniemi**	**2.78**	**316**			PB	Pn	09 17 34.9	+2.3
RNF						SB	Sb	09 18 09.9	-2.0
SUF	**Sumiainen**	**2.87**	**229**			PG	Pb	09 17 38.0	-0.9
SUF				MSG				09 18 11.4	
	comp=Z,6.8nm,0.2s								
SUF						SG	Sg	09 18 17.4	-1.5
APA0	**Apatity Array**	**3.06**	**16**			Pn	Pn	09 17 38.4	+1.9
	baz=186,slow=14								
APA0						Sn	Sb	09 18 17.9	-2.2
APA0						Lg	Lg	09 18 26.2	
APA0	**Apatity Array**	**3.06**	**16**			P	Pn	09 17 37.9	+1.4
APA0						S	Sn	09 18 14.4	+0.6
APA0	**Apatity Array**	**3.06**	**16**			Pn	Pn	09 17 38.4	+1.9
	baz=186,slow=14								
APA0						Sn	Sb	09 18 17.9	-2.2
APA0						Sg	Sg	09 18 26.2	+1.0
TOF	**Tornio**	**3.06**	**300**			PG	Pb	09 17 40.4	-1.8
	baz=112								
TOF				MSG				09 18 16.8	
	comp=Z,9.4nm,0.2s								
TOF						SB	Sb	09 18 18.4	-1.7
APA	**Apatity**	**3.08**	**19**			P	Pn	09 17 38.3	+1.6
APA						S	Sn	09 18 14.8	+0.6
VRF	**Varrio**	**3.12**	**351**			PB	Pn	09 17 39.6	+2.3
	baz=168								
VRF				MSG				09 18 18.6	
	comp=Z,3.8nm,0.2s								
SGF	**Sodankyl**	**3.28**	**330**			PG	Pb	09 17 44.1	-1.7
KAF	**Kangasniemi

ARA0					Lg	Lg	09 19 26.4		
	baz=153,slow=37								
ARA0	**ARCESS Array S**	**5.30**	**339**		Pn	Pn	09 18 07.2	+0.1	
	baz=153,slow=14								
ARA0					Sn	Sn	09 19 04.0	-4.8	
	baz=160,slow=28								
ARA0					Sg	Sb	09 19 26.4	+2.1	
	baz=153,slow=37								
ARE0	**ARCESS Array S**	**5.30**	**339**		IAML		09 19 20.3		
	comp=Z,0.4nm,1.0s								
KEV	**Kevo**	**5.31**	**345**	*e*P		Pn	09 18 07.5	+0.2	
KEV				*e*S		Sn	09 19 06.4	-2.6	
KLMR	**Klimovskoe**	**5.54**	**130**	*i* P		Pn	09 18 10.5	+0.1	
KLMR				*i* S		Sn	09 19 12.7	-2.0	
KLMR				*i* S		Sn	09 19 12.7	-2.0	
KLMR				*i* S		Sn	09 19 12.7	-2.0	
SALU	**Saltoluokta**	**5.70**	**304**		P	Pn	09 18 13.8	+1.0	
NRA0	**NORESS Array S**	**9.69**	**255**		Pn	Pn	09 19 08.4	+1.1	
NRA0	**NORESS Array S**	**9.69**	**255**		Pn	Pn	09 19 08.4	+1.1	

NNC 18 09:17:38.7±4.7, 36.98N×70.35E, h0km, mb3.8, mpv3.4, 7C-3D, Error ellipse: s-maj=37.9km s-min=32.5km az=144.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.91**	**38**	⇓Pn		Pn	09 18 40.9	+0.7
	4.7nm,0.3s							
SFK				⇓Sn		Sn	09 19 29.4	+2.4
	2.5nm,0.3s							
MNAS	**Manas**	**5.74**	**16**	⇑Pn		Pn	09 19 05.9	+0.5
	1.6nm,0.6s							
MNAS				⇑Sn		Sn	09 20 13.4	+1.3
	2.1nm,0.7s							
KK31	**Karatay Array**	**6.12**	**1**	⇑Pn		Pn	09 19 12.0	+1.6
	1.3nm,0.6s,baz=183,slow=13,SNR=9.2							
KK31				⇑Sn		Sn	09 20 23.3	+2.3
	1.3nm,0.6s,baz=187,slow=23,SNR=4.9							
AAK	**Ala-Archa**	**6.49**	**28**	⇑Pn		Pn	09 19 14.6	-1.0
	1.8nm,0.5s							
AAK				⇓Sn		Sn	09 20 29.8	-0.6
	1.5nm,0.6s							
TKM2	**Tokmak 2**	**7.17**	**33**	⇑Pn		Pn	09 19 22.5	-2.5
	2.1nm,0.4s							
TKM2				⇑Sn		Sn	09 20 45.6	-1.7
	0.8nm,0.8s							

IDC 18 09:26:41.5±2.7, 53.75N×87.07E, h0km, mb1 2.9/2, mb1mx2.8/44, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=27.0km s-min=15.7km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.35**	**279**	*i*			09 35 20.3	
	baz=99,slow=357,SNR=2.1							
ZALV	**Zalesovo Beam**	**1.35**	**279**	Pg		Pg	09 27 05.0	-2.2
	1.0nm,0.3s,baz=104,slow=15,SNR=7.4							
ZALV				Lg		Lg	09 27 24.9	
	2.0nm,0.3s,baz=98,slow=28,SNR=8.9							
KURBB	**Kurchatov Arra**	**6.12**	**243**	Pn		Pn	09 28 14.2	+1.2
	0.1nm,0.3s,baz=57,slow=14,SNR=3.7							
MKAR	**Makanchi Array**	**7.61**	**206**	Pn		Pn	09 28 34.9	+1.4
	0.1nm,0.3s,baz=25,slow=14,SNR=9.8							

BJI ***18*** *09:32:28.2, 11.42N×143.78E, h29km, mb4.7/47, mB5.1/34, Ms4.5/22, Ms7 4.3/25*

IDC ***18*** *09:32:29.4±0.5, 11.80N×143.34E, h0km, mb4.6/27, mb1 4.7/28, mb1mx4.6/39, mbtmp4.6/28, ML4.7/1, MS4.1/28, Ms1 4.1/28, ms1mx4.0/37, Error ellipse: s-maj=15.6km s-min=10.6km az=85.0*

NEIC ***18*** *09:32:31.1±0.1, 11.73N×143.24E, h10km, mb5.1/159, Error ellipse: s-maj=4.9km s-min=4.1km az=96.0*

ISCJB ***18*** *09:32:32.3±0.1, 11.80N±0.03×143.19E±0.03, h25km, mb4.9/212, MS4.1/35, Error ellipse: s-maj=4.1km s-min=3.5km az=149.3*

MOS ***18*** *09:32:32.9±1.1, 11.78N×143.17E, h33km, mb5.1/68, MS4.0/8, Error ellipse: s-maj=9.0km s-min=5.6km az=95.6*

DJA ***18*** *09:32:34.9±2.2, 12°N±6°×14°3E±°, h35km±23km, M4.9/6, mb4.7/6, mB5.1/1, MLv5.0/1, Mw(mB)4.4/1*

GCMT ***18*** *09:32:36.1±0.3, 11.61N±0.02×143.32E±0.04, h14km±1km, MW4.9/73, Moment Tensor Solution. s24,c26; s73,c111; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.76±.20; Mθθ -2.86±.14; Mφφ 1.10±.13; Mrθ 1.09±.26; Mθφ -0.41±.09; Mφr -0.23±.36; Best double couple: M0 2.61800×10^16 NP1: φs 100.00000°, δ60.00000°, λ111.00000°. NP2: φs 243.00000°, δ36.00000°, λ58.00000°. Principal axes: T 2.1030, Plg68.0000°, Azm53.0000°; N 1.0300, Plg18.0000°, Azm269.0000°; P -3.1330, Plg12.0000°, Azm175.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 09:32:33.3±0.3, 11.77N±0.04×143.38E±0.05, h25km, n433, σ1§32/437, mb5.0/219, MS4.1/35, 14C-2D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**2.32**	**39**	Pn		**Pn**	**09 33 09.8**	**-0.1**
	209nm,0.3s,baz=178,slow=8.5,SNR=46							
GUMO				Sn		**Sb**	**09 33 40.7**	**-1.9**
	372nm,0.3s,baz=172,slow=22,SNR=6.8							
GUMO				LR		LR	09 34 12.9	
	comp=Z,6μm,18.9s,baz=192,slow=44							
GUMO	**Guam**	**2.32**	**39**	*e*Pn		**Pn**	**09 33 10.0**	**+0.2**
GUMO				*e*Sn		**Sn**	**09 33 38.6**	**+1.0**
ANA2	**Anatahan**	**5.07**	**26**	*e*Pn		**Pn**	**09 33 48.1**	**+0.3**
ANA2				*e*Sn		**Sn**	**09 34 48.6**	**+2.9**
SARN	**Sarigan**	**5.42**	**25**	*e*Pn		**Pn**	**09 33 55.5**	**+2.9**
SARN				*e*Sn		**Sn**	**09 34 55.3**	**+1.0**
CBIJ	**Chichi jima**	**15.29**	**356**	*e*Pn		**Pn**	**09 36 07.6**	**+0.1**
	176nm,1.1s							
PATS	**Pohnpei**	**15.53**	**107**	*e*Pn		**Pn**	**09 36 09.4**	**-1.3**
	51nm,1.0s							
RABL	**Rabaul**	**18.11**	**151**	*e*Pn		**Pn**	**09 36 41.8**	**-1.5**
	73nm,1.1s							
JOW	**Kunigami**	**20.65**	**319**	P		**P**	**09 37 10.9**	**-0.3**
	15nm,0.3s,baz=101,slow=24,SNR=7.0							
JOW				LR		LR	09 45 02.3	
	comp=Z,424nm,19.1s,baz=136,slow=36							
JOW	**Kunigami**	**20.65**	**319**	*e*P		**P**	**09 37 11.8**	**+0.6**
	51nm,0.8s							
PMG	**Port Moresby**	**21.37**	**170**	P		**P**	**09 37 19.6**	**+0.6**
	32nm,1.1s,baz=341,slow=2.4,SNR=9.7							
PMG				LR		LR	09 45 38.2	
	comp=Z,498nm,18.2s,baz=329,slow=37							
PMG	**Port Moresby**	**21.37**	**170**	*e*P		**P**	**09 37 19.7**	**+0.6**
	35nm,1.0s							
PMG	**Port Moresby**	**21.37**	**170**	*ce*P		**P**	**09 37 18.7**	**-0.4**
PMG				pmax		pmax		
	comp=Z,186nm,1.2s							
JHJ	**Hachijo jima 2**	**21.50**	**352**	LR		LR	09 44 34.9	
	comp=Z,454nm,19.9s,baz=94,slow=34							
TGY	**Tagaytay City**	**22.00**	**278**	P		**P**	**09 37 24.6**	**-1.3**
	comp=Z,131nm,0.3s,baz=61,slow=19,SNR=1.9							
H11N1	**WAKE ISLAND Hy**	**23.95**	**68**	T		T	10 02 39.6	
	baz=255,slow=75,SNR=9.3							
H11N2	**WAKE ISLAND Hy**	**23.95**	**68**	T		T	10 02 39.9	
	baz=255,slow=75,SNR=7.9							
H11N3	**WAKE ISLAND Hy**	**23.96**	**68**	T		T	10 02 41.1	
	baz=255,slow=75,SNR=10.0							
YULB	**Yu-li**	**23.98**	**302**	*e*P		**P**	**09 37 44.4**	**-1.5**
	comp=Z,7.8nm,0.9s							
MRSI	**Marisa**	**24.06**	**244**	P		**P**	**09 37 48.7**	**+1.9**
LUWI	**Luwuk**	**24.11**	**239**	*e*P		**P**	**09 37 43.7**	**-3.5**
	comp=Z,101nm,0.9s							
JNU	**Nakatsue**	**24.14**	**334**	P		**P**	**09 37 46.6**	**-0.9**
	comp=Z,30nm,1.0s,baz=176,slow=4.9,SNR=9.8							
JNU				LR		LR	09 46 01.2	
	comp=Z,303nm,18.4s,baz=137,slow=34							
JNU	**Nakatsue**	**24.14**	**334**	*e*P		**P**	**09 37 47.4**	**-0.1**
	comp=Z,38nm,1.0s							
SSLB	**Suanglung**	**24.43**	**302**	*e*P		**P**	**09 37 49.4**	**-0.8**
	comp=Z,16nm,0.8s							
YHNB	**Yeheng**	**24.48**	**305**	*e*P		**P**	**09 37 50.8**	**+0.1**
	comp=Z,34nm,1.1s							
TPUB	**Ta-pu**	**24.50**	**301**	*e*P		**P**	**09 37 50.9**	**+0.1**
	comp=Z,19nm,0.9s							
MJAR	**Matsushiro Arr**	**25.10**	**350**	P		**P**	**09 37 54.4**	**-1.7**
	comp=Z,10nm,0.7s,baz=181,slow=9.8,SNR=19							
MJAR				LR		LR	09 46 57.4	
	comp=Z,584nm,19.5s,baz=170,slow=35							
MJAR	**Matsushiro Arr**	**25.10**	**350**	P		**P**	**09 37 54.4**	**-1.7**
MJAR				pmax		pmax		
	comp=Z,15nm,0.9s							
MJAR				MLR		MLR		
	comp=Z,584nm,19.5s							
MAJO	**Matsushiro**	**25.10**	**350**	*e*P		**P**	**09 37 54.8**	**-1.3**
	comp=Z,23nm,0.8s							
MAJO	**Matsushiro**	**25.10**	**350**	*i* P		**P**	**09 37 53.6**	**-2.5**
MAJO				pmax		pmax		
	comp=Z,75nm,1.9s							
MJB9	**Matsu-Tunnel**	**25.10**	**350**	*e*P		**P**	**09 37 54.8**	**-1.4**
	comp=Z,23nm,0.8s							
COEN	**Coen**	**25.56**	**180**	*e*P		**P**	**09 37 59.0**	**-1.4**
	comp=Z,24nm,1.1s							
KDI	**Kendari**	**25.89**	**234**	P		**P**	**09 38 03.2**	**-0.3**
MPSI	**Mapaga**	**25.93**	**246**	P		**P**	**09 38 05.3**	**+1.4**
TJN	**Taejon**	**28.44**	**332**	*ce*P		**P**	**09 38 27.0**	**+0.8**
KSRS	**Korea Array**	**29.09**	**334**	P		**P**	**09 38 31.1**	**-0.8**
	comp=Z,2.0nm,0.6s,baz=145,slow=9.3,SNR=8.2							
KSRS				LR		LR	09 49 33.8	
	comp=Z,165nm,19.5s,baz=152,slow=35							
BATI	**Baumata**	**29.34**	**223**	LR		LR	09 51 36.9	
	comp=Z,248nm,18.2s,baz=53,slow=39							
NJ2	**Nanjing**	**30.28**	**316**	*e*P		**P**	**09 38 43.6**	**+1.1**
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
NJ2				LR		LR		
	comp=Z,460nm,13.6s							
NJ2				LR		LR		
	comp=Z,500nm,10.8s							
NJ2				LR		LR		
	comp=Z,550nm,9.8s							
CTA	**Charters Tower**	**31.79**	**175**	P		**P**	**09 38 55.0**	**-0.9**
	comp=Z,3.0nm,0.8s,baz=338,slow=11,SNR=3.8							
WHN	**Wuhan**	**32.73**	**309**	P		**P**	**09 39 06.8**	**+2.6**
WRAB	**Tennant Creek**	**32.74**	**196**	*e*P		**P**	**09 39 03.9**	**-0.4**
	comp=Z,13nm,0.7s							
WRAB	**Tennant Creek**	**32.74**	**196**	*ce*P		**P**	**09 39 03.6**	**-0.6**
WRAB				pmax		pmax		
	comp=Z,10.0nm,0.7s							
WB2	**Warramunga Arr**	**32.74**	**196**	*e*P		**P**	**09 39 03.0**	**-1.4**
	comp=Z,16nm,0.8s							
WR1	**Warramunga Arr**	**32.75**	**196**	*e*P		**P**	**09 39 04.2**	**-0.2**
	comp=Z,17nm,0.8s							
WRA	**Warramunga Arr**	**32.75**	**196**	P		**P**	**09 39 04.2**	**-0.2**
	comp=Z,10nm,0.8s,baz=19,slow=9.8,SNR=27							
WRA				LR		LR	09 53 02.3	
	comp=Z,897nm,18.2s,baz=25,slow=38							
WC3	**Warramunga Arr**	**32.76**	**196**	*e*P		**P**	**09 39 05.0**	**+0.6**
	comp=Z,18nm,0.9s							
USA0B	**Ussuriysk Arra**	**33.77**	**345**	*e*P		**P**	**09 39 13.7**	**+0.6**
	comp=Z,13nm,0.9s							
USRK	**Ussuriysk Ar.**	**33.77**	**345**	P		**P**	**09 39 13.0**	**0.0**
	comp=Z,9.4nm,0.8s,baz=165,slow=9.2,SNR=19							
USRK				LR		LR	09 51 48.3	
	comp=Z,332nm,20.0s,baz=156,slow=34							
AS01	**Alice Springs**	**36.41**	**195**	*e*P		**P**	**09 39 35.6**	**-0.4**
AS31	**Alice Springs**	**36.42**	**195**	*e*P		**P**	**09 39 35.5**	**-0.6**
	comp=Z,1.4nm,0.6s							
ASAR	**Alice Springs**	**36.42**	**195**	P		**P**	**09 39 36.2**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=17,slow=10,SNR=18							
ASAR				LR		LR	09 55 07.3	
	comp=Z,689nm,18.7s,baz=22,slow=37							
BJT	**Baijiatuan**	**37.00**	**324**	*e*P		**P**	**09 39 41.6**	**+0.7**
	comp=Z,8.4nm,0.6s							
BJT	**Baijiatuan**	**37.00**	**324**	*e*P		**P**	**09 39 41.6**	**+0.7**
BJT				pmax		pmax		
	comp=Z,8.0nm,0.6s							
BJI	**Beijing**	**37.01**	**324**	P		**P**	**09 39 40.8**	**-0.2**
BJI				S		**S**	**09 45 22.3**	**-2.8**
BJI				pmax		pmax		
	comp=Z,9.0nm,0.7s							
BJI				LR		LR		
	comp=Z,420nm,18.3s							
BJI				LR		LR		
	comp=Z,210nm,18.0s							
BJI				LR		LR		
	comp=Z,310nm,20.1s							
GYA	**Guiyang**	**37.49**	**298**	*e*P		**P**	**09 39 45.4**	**0.0**
GYA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
EIDS	**Eidsvold**	**37.67**	**169**	*e*P		**P**	**09 39 46.1**	**-0.6**
	comp=Z,5.2nm,0.8s							
KLR	**Kul'dur**	**38.57**	**348**	*c* *i* P		**P**	**09 39 53.9**	**-0.1**
HHC	**Hu-ho-hao-te**	**40.24**	**322**	*e*P		**P**	**09 40 06.1**	**-2.2**
HHC				pP		pP	09 40 13.6	-1.0
HHC				sP		sP	09 40 16.9	-0.3
HHC				S		**S**	**09 46 11.5**	**-2.7**
HHC				pmax		pmax		
	comp=Z,20nm,0.9s							
HHC				pmax		pmax		
	comp=Z,81nm,5.4s							
HHC				LR		LR		
	comp=Z,240nm,14.7s							
HHC				LR		LR		
	comp=Z,280nm,13.8s							
HHC				LR		LR		
	comp=Z,250nm,14.7s							
DZM	**Mont Dzumac**	**40.53**	**146**	*e*P		**P**	**09 40 12.1**	**+1.3**
	comp=Z,45nm,0.8s							
DZM	**Mont Dzumac**	**40.53**	**146**	*e*LR		LR	09 51 18.5	
	comp=Z,569nm,30.6s							
DZM	**Mont Dzumac**	**40.53**	**146**	P		**P**	**09 40 11.9**	**+1.1**
	comp=Z,20nm,0.7s,baz=242,slow=8.2,SNR=12							
KMI	**Kunming**	**40.61**	**295**	P		**P**	**09 40 13.0**	**+1.3**
KMI				pmax		pmax		
	comp=Z,7.0nm,0.5s							
KMI				pmax		pmax		
	comp=Z,160nm,4.0s							
CD2	**Chengdu**	**41.24**	**304**	*e*P		**P**	**09 40 16.5**	**-0.1**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,140nm,5.0s							
PETK	**Petropavlovsk-**	**42.80**	**13**	P		**P**	**09 40 30.2**	**+1.3**
	comp=Z,4.2nm,1.0s,baz=176,slow=5.9,SNR=3.8							
PETK				LR		LR	09 54 54.2	
	comp=Z,376nm,21.6s,baz=200,slow=31							
PETK	**Petropavlovsk-**	**42.80**	**13**	P		**P**	**09 40 30.2**	**+1.3**
PETK				pmax		pmax		
	comp=Z,5.0nm,1.0s							
PEA1	**Petropavlovsk-**	**42.80**	**13**	*e*P		**P**	**09 40 30.2**	**+1.3**
LZH	**Lanzhou**	**43.06**	**311**	*e*P		**P**	**09 40 33.4**	**+1.9**
LZH				pP		pwP	09 40 44.0	+1.2
LZH				sP		sP	09 40 48.8	+8.2
LZH				pmax		pmax		
	comp=Z,30nm,1.1s							
LZH				pmax		pmax		
	comp=Z,130nm,4.3s							
LZH				LR		LR		
	comp=Z,520nm,14.6s							
LZH				LR		LR		
	comp=Z,560nm,12.5s							
LZH				LR		LR		
	comp=Z,600nm,14.6s							
CMAR	**Chiang Mai Arr**	**43.33**	**284**	P		**P**	**09 40 34.5**	**+0.8**
	comp=Z,2.6nm,0.7s,baz=86,slow=6.0,SNR=13							
CMAR				LR		LR	09 57 17.6	
	comp=Z,83nm,20.9s,baz=88,slow=34							
STKA	**Stephens Creek**	**43.43**	**182**	P		**P**	**09 40 34.7**	**+0.4**
	comp=Z,5.2nm,0.8s,baz=21,slow=1.0,SNR=5.3							
STKA				LR		LR	09 59 11.4	
	comp=Z,139nm,18.6s,baz=19,slow=37							
STKA	**Stephens Creek**	**43.43**	**182**	*e*P		**P**	**09 40 34.9**	**+0.7**
	comp=Z,1.4nm,0.9s							
ZEA	**Zeya**	**43.79**	**346**	*e*P		**P**	**09 40 36.2**	**-0.6**
ZEA				pmax		pmax		
	comp=Z,23nm,1.0s							
FORT	**Forrest**	**44.80**	**199**	*e*P		**P**	**09 40 45.4**	**+0.2**
	comp=Z,27nm,0.8s							
BBOO	**Buckleboo**	**44.88**	**189**	*e*P		**P**	**09 40 46.2**	**+0.4**
	comp=Z,27nm,1.1s							
ULN	**Ulaanbaatar**	**47.07**	**327**	*e*P		**P**	**09 41 00.9**	**-2.3**
	comp=Z,3.5nm,0.8s							
ULN	**Ulaanbaatar**	**47.07**	**327**	*ce*P		**P**	**09 41 03.1**	**-0.1**
ULN				pmax		pmax		
	comp=Z,13nm,1.7s							
GTA	**Gaotai**	**47.32**	**313**	⇓P		**P**	**09 41 05.8**	**+0.5**
GTA				pP		sP	09 41 14.3	0.0
GTA				sP		pwP	09 41 18.8	+2.1
GTA				PcP		**PcP**	**09 42 37.4**	**+1.4**
GTA				pmax		pmax		
	comp=Z,10.0nm,1.2s							
GTA				pmax		pmax		
	comp=Z,140nm,6.2s							
GTA				LR		LR		
	comp=Z,170nm,19.7s							
GTA				LR		LR		
	comp=Z,210nm,19.0s							
GTA				LR		LR		
	comp=Z,260nm,19.0s							
SONA0	**Songino Array**	**47.41**	**327**	*e*P		**P**	**09 41 06.0**	**+0.3**
SONA0				*e*PcP		**PcP**	**09 42 36.0**	**-0.1**
SONM	**Songino Array**	**47.41**	**327**	P		**P**	**09 41 06.0**	**+0.3**
	comp=Z,2.2nm,0.6s,baz=145,slow=7.1,SNR=11							
SONM				PcP		**PcP**	**09 42 36.0**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=148,slow=5.1,SNR=4.4							
SONM				LR		LR	10 02 03.0	
	comp=Z,363nm,18.0s,baz=133,slow=37							
SONA1	**Songino Array**	**47.41**	**327**	*e*P		**P**	**09 41 06.0**	**+0.2**
MA2	**Magadan**	**48.03**	**5**	P		**P**	**09 41 09.6**	**-0.6**
	comp=Z,7.0nm,0.8s,baz=178,slow=7.1,SNR=4.8							
MA2	**Magadan**	**48.03**	**5**	*e*P		**P**	**09 41 09.6**	**-0.6**
MA2				*es*P		**pP**	**09 41 10.5**	**-6.3**
MORW	**Morawa**	**48.43**	**213**	*e*P		**P**	**09 41 14.5**	**+0.7**
SHL	**Shillong**	**50.38**	**293**	*e*P		**P**	**09 41 28.0**	**-1.0**
ZAK	**Zakamensk**	**50.56**	**328**	*e*P		**P**	**09 41 30.0**	**+0.1**
ZAK				pmax		pmax		
	comp=Z,11nm,1.1s							
YAK	**Yakutsk**	**51.15**	**352**	*e*P		**P**	**09 41 33.7**	**-0.2**
YAK				*e*			09 42 48.6	
YAK				*e*			09 43 38.2	
YAK				*e*S		**S**	**09 48 52.3**	**+2.0**
YAK				*e**SS		sS	09 49 13.7	+13
YAK				*e*			09 51 13.5	
YAK				*e*SS		**SS**	**09 52 18.9**	**-6.8**
YAK				*e*SSS		SSS	09 53 54.6	
YAK				pmax		pmax		
	comp=Z,31nm,0.9s							
YAK				pmax		pmax		
	comp=N,18nm,1.0s							
YAK				pmax		pmax		
	comp=E,3.0nm,0.8s							
YAK				pmax		pmax		
	comp=Z,79nm,3.8s							
YAK				pmax		pmax		
	comp=N,118nm,3.2s							
YAK				pmax		pmax		
	comp=E,60nm,3.7s							
YAK				smax		smax		
	comp=N,170nm,5.3s							
YAK				smax		smax		
	comp=E,327nm,4.9s							
SEY	**Seymchan**	**51.49**	**5**	*i* P		**P**	**09 41 37.5**	**+1.1**
RAMN	**Ramite**	**55.23**	**295**	*e*P		**P**	**09 42 05.5**	**+0.6**
	comp=E,11nm,0.8s							
JIRN	**Jiri**	**55.65**	**295**	*e*P		**P**	**09 42 08.5**	**+0.4**
	comp=E,21nm,0.7s							
GUN	**Gumba**	**55.95**	**296**	*e*P		**P**	**09 42 10.6**	**+0.4**
	comp=E,44nm,0.8s							
PKIN	**Phulchoki**	**56.35**	**295**	*e*P		**P**	**09 42 13.4**	**+0.4**
	comp=E,7.6nm,0.6s							
DMN	**Daman**	**56.61**	**295**	*e*P		**P**	**09 42 14.8**	**0.0**
	comp=E,18nm,0.8s							
WMQ	**Urumqi**	**57.35**	**315**	P		**P**	**09 42 20.8**	**+1.2**
WMQ				pP		sP	09 42 28.3	-0.5
WMQ				sP		pwP	09 42 31.1	-0.1
WMQ				pmax		pmax		
	comp=E,37nm,1.1s							
WMQ				pmax		pmax		
	comp=E,290nm,4.5s							
WMQ				LR		LR		
	comp=E,350nm,22.7s							
WMQ				LR		LR		
	comp=E,360nm,20.7s							
WMQ				LR		LR		
	comp=E,420nm,18.5s							
DANN	**Dangsing**	**57.84**	**296**	*e*P		**P**	**09 42 23.8**	**+0.2**
	comp=E,26nm,0.7s							
KOLN	**Koldanda**	**57.95**	**295**	*e*P		**P**	**09 42 24.5**	**+0.3**
BILL	**Bilibino**	**58.19**	**10**	*e*P		**P**	**09 42 25.6**	**+0.7**
	comp=E,5.2nm,0.6s							
BILL	**Bilibino**	**58.19**	**10**	⇓*e*P		**P**	**09 42 24.7**	**-0.2**
BILL				*e*			09 43 15.4	
BILL				*e*			09 44 34.8	
BILL				pmax		pmax		
	comp=Z,10.0nm,1.3s							
PYUN	**Piuthan**	**58.51**	**296**	*e*P		**P**	**09 42 28.1**	**0.0**
	comp=Z,46nm,0.9s							
DGZ	**Jazzator, Alta**	**59.32**	**321**	*c* *i* P		**P**	**09 42 33.0**	**-0.3**
DGZ				pmax		pmax		
	comp=Z,5.0nm,1.0s							
BKZ	**Black Stump Fm**	**59.33**	**150**	*e*P		**P**	**09 42 34.0**	**+0.7**
TIXI	**Tiksi**	**60.49**	**355**	*e*P		**P**	**09 42 39.5**	**-1.3**
	comp=Z,8.0nm,0.9s							
TIXI	**Tiksi**	**60.49**	**355**	*ce*P		**P**	**09 42 40.1**	**-0.6**
TIXI				pmax		pmax		
	comp=Z,9.0nm,1.0s							
RPZ	**Rata Peaks**	**60.71**	**157**	*e*P		**P**	**09 42 42.1**	**-0.6**
	comp=Z,16nm,0.9s							
OXZ	**Oxford**	**60.76**	**156**	*e*P		**P**	**09 42 41.2**	**-1.7**
	comp=Z,18nm,0.7s							
MK01	**Makanchi Array**	**61.79**	**317**	*e*P		**P**	**09 42 50.4**	**+0.3**
MK31	**Makanchi Array**	**61.80**	**317**	*e*P		**P**	**09 42 50.1**	**-0.1**
MK31	**Makanchi Array**	**61.80**	**317**	*e*P		**P**	**09 42 50.1**	**-0.1**
MK32	**Makanchi Array**	**61.80**	**317**	*e*P		**P**	**09 42 50.5**	**+0.4**
MKAR	**Makanchi Array**	**61.80**	**317**	P		**P**	**09 42 50.5**	**+0.4**
	comp=Z,6.7nm,0.9s,baz=93,slow=8.5,SNR=45							
MKAR	**Makanchi Array**	**61.80**	**317**	*e*P		**P**	**09 42 50.1**	**-0.1**
	comp=Z,36nm,0.9s							
PALK	**Pallekele**	**61.88**	**272**	*i* P		**P**	**09 42 54.1**	**+2.9**
MAKZ	**Makanchi**	**62.01**	**317**	*e*P		**P**	**09 42 52.2**	**+0.6**
	comp=Z,11nm,0.9s							
MAKZ	**Makanchi**	**62.01**	**317**	P		**P**	**09 42 50.8**	**-0.8**
MAKZ				pmax		pmax		
	comp=Z,10.0nm,0.9s							
ZAA0	**Zalesovo Array**	**62.26**	**325**	*e*P		**P**	**09 42 53.0**	**-0.1**
	comp=Z,5.5nm,0.7s							
ZALV	**Zalesovo Beam**	**62.26**	**325**	P		**P**	**09 42 52.7**	**-0.3**
	comp=Z,5.0nm,0.6s,baz=109,slow=7.2,SNR=20							
ZALV				LR		LR	10 10 37.4	
	comp=Z,132nm,18.8s,baz=72,slow=37							
ZALV	**Zalesovo Beam**

SUA **Susitna One** 68.28 28 *e*P P 09 43 31.3 -0.8
comp=Z,21nm,1.1s
IM3 **Indian Mountai** 68.42 23 *e*P P 09 43 33.4 +0.7
SEW **Seward** 68.55 30 *e*P P 09 43 31.8 -1.8
comp=Z,37nm,1.1s
RC01 **Rabbit Creek A** 68.65 29 *e*P P 09 43 33.6 -0.6
comp=Z,41nm,1.1s
BPAW **Bear Paw Mtn.** 68.93 25 *e*P P 09 43 35.8 -0.2
comp=Z,29nm,0.9s
TRF **Thorofare Moun** 69.04 26 *e*P P 09 43 36.3 -0.6
comp=Z,24nm,1.0s
PMR **Palmer** 69.06 28 *e*P P 09 43 36.5 -0.3
comp=Z,24nm,0.9s
PMR **Palmer** 69.06 28 *e*P P
PMR pmax pmax
comp=Z,24nm,0.9s
BTK **Batken** 69.20 308 *e*P P 09 43 37.7 -0.5
comp=Z,3.7nm,0.5s
GHO **Glory Hole Cre** 69.20 28 *e*P P 09 43 37.6 -0.2
comp=Z,24nm,0.9s
MLY **Manley** 69.31 24 *e*P P 09 43 38.8 +0.5
comp=Z,26nm,0.8s
KNK **Knik Glacier** 69.33 29 *e*P P 09 43 38.9 +0.4
comp=Z,24nm,0.9s
SML **Sawmill** 69.48 28 *e*P P 09 43 39.1 -0.4
comp=Z,43nm,0.9s
SML **Sawmill** 69.48 28 *e*P P
SML pmax pmax
comp=Z,43nm,0.9s
GAR **Garm** 69.55 307 *e*P P 09 43 39.1 -1.4
comp=Z,11nm,0.6s
GAR **Garm** 69.55 307 *e*P P
GAR pmax pmax
comp=Z,11nm,0.6s
RND **Reindeer** 69.65 26 *e*P P 09 43 40.2 -0.3
comp=Z,20nm,1.0s
RND **Reindeer** 69.65 26 *e*P P
RND pmax pmax
comp=Z,20nm,1.0s
MCK **McKinley** 69.70 26 *e*P P 09 43 40.9 +0.2
comp=Z,23nm,1.1s
MCK **McKinley** 69.70 26 *e*P P
MCK pmax pmax
comp=Z,23nm,1.1s
SCM **Sheep Creek Mo** 69.96 28 *e*P P 09 43 42.9 +0.5
comp=Z,56nm,1.0s
SCM **Sheep Creek Mo** 69.96 28 *e*P P
SCM pmax pmax
comp=Z,56nm,1.0s
COLD **Coldfoot** 70.17 22 *e*P P 09 43 45.0 +1.5
comp=Z,12nm,0.8s
DHY **Denali Highway** 70.22 27 *e*P P 09 43 44.2 +0.1
comp=Z,13nm,1.0s
WRH **Wood River Hil** 70.24 25 *e*P P 09 43 43.9 -0.2
comp=Z,27nm,0.8s
MDM **Murphy Dome** 70.31 25 *e*P P 09 43 44.1 -0.4
comp=Z,24nm,0.7s
TCOL **CIGO, UAF Yank** 70.44 25 P P 09 43 44.6 -0.7
baz=256
COLA **College** 70.44 25 *e*P P 09 43 44.5 -0.7
comp=Z,12nm,0.6s
COLA **College** 70.44 25 *e*P P
COLA pmax pmax
comp=Z,12nm,0.6s
BVA0 **Borovoye Array** 70.45 322 *i*P P 09 43 45.4 -0.2
BVA0 pmax pmax
comp=Z,14nm,0.6s
CHGR **Chuyangaron** 70.45 307 *e*P P 09 43 45.0 -1.0
comp=Z,14nm,0.7s
BRVK **Borovoye** 70.52 322 *e*P P 09 43 45.7 -0.3
comp=Z,20nm,0.9s
BRVK **Borovoye** 70.52 322 *c i*P P 09 43 46.2 +0.2
BRVK pmax pmax
comp=Z,20nm,0.9s
DIV **Divide** 70.54 29 *e*P P 09 43 46.0 0.0
comp=Z,22nm,0.9s
KLU **Klutina** 70.54 29 *e*P P 09 43 46.8 +0.8
comp=Z,25nm,1.0s
POKR **Poker Plat Res** 70.68 25 P P 09 43 46.0 -0.7
baz=256
HDA **Harding Lake** 70.71 26 *e*P P 09 43 46.3 -0.6
comp=Z,19nm,0.8s
HDA **Harding Lake** 70.71 26 P P 09 43 46.1 -0.8
baz=257
ILAR **Eielson Array** 70.82 25 P P 09 43 46.4 -1.2
comp=Z,16nm,0.6s,baz=249,slow=6.1,SNR=294
ILAR LR LR 10 14 05.8
comp=Z,142nm,19.6s,baz=262,slow=35
ILB **Eielson Array** 70.82 25 *e*P P 09 43 46.8 -0.8
IL1 **Eielson Array** 70.82 25 *e*P P 09 43 46.7 -0.9
PAX **Paxson** 71.04 27 *e*P P 09 43 49.2 +0.1
comp=Z,16nm,0.9s
PAX **Paxson** 71.04 27 *e*P P
PAX pmax pmax
comp=Z,16nm,0.9s
HARP **HAARP** 71.07 28 *e*P P 09 43 49.9 +0.8
comp=Z,49nm,0.9s
RIDG **Independ'e Rid** 71.47 26 *e*P P 09 43 51.9 +0.2
comp=Z,32nm,1.1s
DOT **Dot Lake** 71.80 27 *e*P P 09 43 53.8 +0.3
comp=Z,36nm,0.8s
SCRK **Sand Creek** 71.89 26 *e*P P 09 43 54.5 +0.3
comp=Z,16nm,0.9s
BALM **Baldy** 72.17 29 *e*P P 09 43 56.4 +0.5
comp=Z,13nm,0.8s
BALM **Baldy** 72.17 29 *e*P P
BALM pmax pmax
comp=Z,13nm,0.8s
EGAK **Eagle** 73.23 26 *e*P P 09 44 02.5 +0.5
comp=Z,21nm,1.1s
DAWY **Dawson** 73.90 27 *e*P P 09 44 07.3 +1.2
comp=Z,26nm,0.9s
HYT **Haines Junctio** 74.50 30 *e*P P 09 44 11.2 +1.6
comp=Z,31nm,1.2s
EPYK **Eagle Plains** 75.24 24 *e*P P 09 44 14.7 +1.0
comp=Z,35nm,1.1s
WHY **Whitehorse** 75.78 30 *e*P P 09 44 18.6 +1.5
comp=Z,19nm,1.1s
SVE **Sverdlovsk** 76.27 326 *e*P P 09 44 19.6 -0.2
SVE pmax pmax
comp=Z,27nm,1.4s
INK **Inuvik** 76.59 22 *e*P P 09 44 21.7 +0.4
comp=Z,19nm,1.0s
INK **Inuvik** 76.59 22 *e*P P
INK pmax pmax
comp=Z,19nm,1.0s
AB31 **Akbulak array** 76.91 318 P P 09 44 23.3 -0.2
AB31 pmax pmax
comp=Z,10.0nm,0.7s
ABKAR **Akbulak array** 76.91 318 *e*P P 09 44 23.8 +0.3
ARU **Arti** 77.43 325 *e*P P 09 44 26.5 +0.3
comp=Z,16nm,0.7s
ARU **Arti** 77.43 325 *c i*P P 09 44 26.1 -0.2
ARU 09 47 17.1
ARU S S 09 54 16.7 +1.3
ARU SS SS 09 59 15.4 +1.4
ARU pmax pmax
comp=Z,19nm,0.8s
AKTO **Aktyubinsk** 78.08 319 LR LR 10 21 12.9
comp=Z,89nm,18.8s,baz=79,slow=38
AKTO **Aktyubinsk** 78.08 319 P P 09 44 27.3 -2.8
AKTO pmax pmax
comp=Z,6.0nm,0.7s
DLBC **Dease Lake** 78.29 32 P P 09 44 32.4 +1.3
comp=Z,8.3nm,0.9s,baz=294,slow=6.3,SNR=11
DLBC **Dease Lake** 78.29 32 *e*P P 09 44 32.8 +1.6
comp=Z,11nm,0.9s
TAOE **Nuku Hiva Isla** 78.73 102 *e*LR LR 10 09 07.2
comp=Z,134nm,23.0s
GEYT **Alibeck** 79.16 307 P P 09 44 36.8 +0.5
comp=Z,7.8nm,0.8s,baz=4.4,slow=1.9,SNR=11
GEYT LR LR 10 24 23.5
comp=Z,167nm,18.6s,baz=55,slow=39
MDH **Madha** 82.46 294 P P 09 44 53.3 -0.9
MSFE **Esma-Masafi** 82.57 294 *i*P P 09 44 54.8 0.0
SNR=6.2
UOSS **Minazif** 82.60 294 *e*P P 09 44 55.3 +0.4
comp=Z,11nm,0.8s
UOSS **Minazif** 82.60 294 *i*P P 09 44 54.1 -0.8
SNR=5.8
HATD **Hatta, Dubai** 82.68 294 *i*P P 09 44 55.7 +0.4
SNR=6.2
ASHO **Ashiyiah** 82.77 294 *i*P P 09 44 56.2 +0.4
SNR=7.4
NAZ **Nazwa, Dubai** 83.08 294 P P 09 44 57.8 +0.4
ALNE **Al Ain** 83.16 293 *i*P P 09 44 58.5 +0.7
SNR=12

NLWA **Neilton Lookou** 83.29 43 *e*P P 09 44 59.8 +1.7
comp=Z,18nm,1.1s
PRGR **Permogore** 83.40 332 *e*P P 09 44 57.0 -1.2
PRGR *e*SP pwP 09 45 11.0 -1.2
PRGR pmax pmax
comp=Z,31nm,0.6s
KEBM **Edson Butte** 83.76 48 *e*P P 09 45 01.4 +0.8
comp=Z,35nm,1.1s
D03D **Eldon** 83.79 43 P P 09 45 02.2 +1.6
baz=281,SNR=13
A04D **Lummi Island** 83.82 42 P P 09 45 02.2 +1.5
baz=281
I02D **Swisshome** 83.89 46 P P 09 45 02.3 +1.2
baz=280
J01E **Myrtle Point** 84.00 47 P P 09 45 03.1 +1.4
baz=280
D04E **Lakebay** 84.06 43 P P 09 45 03.2 +1.2
baz=281
G03D **McMinnville, O** 84.09 45 P P 09 45 03.5 +1.3
baz=281
K02D **Willamette Mer** 84.28 48 P P 09 45 04.6 +1.3
baz=281,SNR=5.3
B05A **Bryant** 84.31 42 P P 09 45 04.6 +1.4
baz=281,SNR=7.1
I03D **Drain, OR** 84.32 47 P P 09 45 04.6 +1.3
baz=281
E04D **Cinebar** 84.32 44 P P 09 45 04.5 +1.2
baz=281
L02E **Cave Junction** 84.42 48 P P 09 45 05.7 +1.7
baz=281
KHMM **Horse Mountain** 84.56 50 *e*P P 09 45 07.0 +2.1
comp=Z,20nm,0.8s
D05A **Enumclaw** 84.59 43 *e*P P 09 45 05.8 +1.1
comp=Z,10nm,0.8s
H04D **Lebanon** 84.59 46 P P 09 45 06.1 +1.4
baz=281
KMRM **Mail Ridge** 84.70 50 *e*P P 09 45 06.9 +1.4
comp=Z,11nm,0.9s
LON **Longmire** 84.79 43 *e*P P 09 45 06.9 +1.1
comp=Z,3.2nm,0.8s
LON **Longmire** 84.79 43 *e*P P
LON pmax pmax
comp=Z,3.0nm,0.8s
HUMO **Hull Mountain** 84.81 48 *e*P P 09 45 07.5 +1.6
comp=Z,10nm,0.8s
KCPM **Cahto Peak** 84.90 51 *e*P P 09 45 08.6 +2.1
comp=Z,11nm,0.9s
H04A **Detroit Lake** 84.95 46 *e*P P 09 45 07.6 +1.0
comp=Z,8.5nm,0.8s
I04A **Tendick Farm,** 84.97 46 P P 09 45 07.7 +1.0
baz=282,SNR=6.8
YKW3 **Yellowknife Ar** 85.11 27 *e*P P 09 45 06.2 -0.7
comp=Z,5.4nm,1.0s
M02C **Callahan** 85.12 49 P P 09 45 09.4 +1.9
baz=281,SNR=15
YKA **Yellowknife Ar** 85.13 27 P P 09 45 07.4 +0.4
comp=Z,2.7nm,0.5s,baz=287,slow=5.0,SNR=50
YKB5 **Yellowknife Ar** 85.13 27 *e*P P 09 45 07.6 +0.5
YBH **Yreka Blue Hor** 85.16 49 *e*P P 09 45 09.5 +1.7
comp=Z,12nm,0.8s
YBH **Yreka Blue Hor** 85.16 49 *e*P P
YBH pmax pmax
comp=Z,12nm,0.8s
C06D **Leavenworth** 85.16 42 P P 09 45 08.7 +1.1
baz=282
F05D **White Salmon** 85.21 44 P P 09 45 09.2 +1.4
baz=282
J04D **Umpqua Nationa** 85.29 47 P P 09 45 09.8 +1.2
baz=282,SNR=5.1
N02D **Trinity Center** 85.31 49 P P 09 45 10.1 +1.6
baz=282,SNR=9.8
L04D **Klamath Falls** 85.36 48 P P 09 45 10.2 +1.4
baz=282,SNR=7.2
O02D **Mt. Diablo Mer** 85.40 50 P P 09 45 11.0 +2.0
baz=282,SNR=12
G05D **Wamic, OR** 85.44 45 P P 09 45 10.3 +1.3
baz=282
LTY **Liberty** 85.45 43 *e*P P 09 45 10.1 +1.0
comp=Z,8.8nm,0.9s
WDC **Whiskeytown Da** 85.51 50 *e*P P 09 45 10.6 +1.2
comp=Z,7.0nm,0.9s
WDC **Whiskeytown Da** 85.51 50 *e*P P
WDC pmax pmax
comp=Z,7.0nm,0.9s
SPITS **Spitsbergen Ar** 85.59 350 LR LR 10 24 32.5
comp=Z,113nm,18.7s,baz=40,slow=36
I05D **Terrebonne, OR** 85.61 46 P P 09 45 11.1 +1.1
baz=282
K04D **Chiloquin, OR** 85.67 48 P P 09 45 11.6 +1.3
baz=282
KBS **Kingsbay** 85.78 352 *ce*P P 09 45 11.2 +1.2
KBS pmax pmax
comp=Z,182nm,1.7s
M04C **Macdoel** 85.78 48 P P 09 45 12.4 +1.4
baz=282,SNR=10
J05D **Fort Rock, OR** 85.91 47 P P 09 45 13.0 +1.5
baz=282,SNR=12
PINE **Pine Mountain** 86.01 46 *e*P P 09 45 12.3 +0.2
comp=Z,27nm,1.0s
B08A **Colville Reser** 86.09 42 *e*P P 09 45 13.4 +1.2
comp=Z,26nm,0.9s
O03E **Paynes Creek** 86.12 50 P P 09 45 13.5 +0.9
baz=282,SNR=8.3
HAWA **Hanford** 86.41 43 *e*P P 09 45 14.6 +0.8
comp=Z,10nm,0.8s
KLMR **Klimovskoe** 86.45 332 *e*P P 09 45 11.6 -2.0
KLMR pmax pmax
comp=Z,22nm,1.6s
KLMR **Klimovskoe** 86.45 332 *e*P P 09 45 11.7 -1.9
KLMR AMP 09 45 14.3
comp=Z,22nm,1.6s
APA **Apatity** 86.63 339 ⇑ *i*P P 09 45 18.2 +3.8
APA pmax pmax
comp=Z,7.0nm,1.0s
RES **Resolute Bay** 86.64 13 *e*P P 09 45 15.2 +0.9
comp=Z,16nm,0.8s
RES **Resolute Bay** 86.64 13 *e*P P 09 45 15.2 +0.9
RES pmax pmax
comp=Z,16nm,0.8s
D08A **Wollman Farm,** 86.66 43 *e*P P 09 45 15.1 +0.1
comp=Z,8.2nm,0.8s
MOD **Modoc Plateau** 86.88 48 *e*P P 09 45 17.1 +0.8
comp=Z,7.2nm,0.9s
C09A **Osman Ranch** 86.91 42 *e*P P 09 45 17.6 +1.4
comp=Z,20nm,1.1s
I07A **Izee** 86.95 46 *e*P P 09 45 17.0 +0.4
comp=Z,3.6nm,1.0s
AFDM **Forest Hills D** 87.03 51 *e*P P 09 45 18.1 +1.1
comp=Z,8.5nm,1.2s
SAO **San Andreas Ge** 87.14 53 *e*P P 09 45 16.9 -0.7
comp=Z,7.6nm,1.1s
SAO **San Andreas Ge** 87.14 53 *e*P P
SAO pmax pmax
comp=Z,8.0nm,1.1s
BEKR **Beckworth** 87.29 50 *e*P P 09 45 18.4 -0.1
comp=Z,15nm,0.9s
E09A **Wood Farm, Sta** 87.31 43 *e*P P 09 45 18.8 +0.7
comp=Z,18nm,1.0s
NEW **Newport** 87.54 41 *e*P P 09 45 20.1 +0.8
comp=Z,9.3nm,0.8s
NEW **Newport** 87.54 41 *e*P P
NEW pmax pmax
comp=Z,9.0nm,0.8s
NEW **Newport** 87.54 41 P P 09 45 20.3 +1.0
baz=285
CMB **Columbia Colle** 87.68 52 *e*P P 09 45 21.4 +1.2
comp=Z,10nm,1.1s
CMB **Columbia Colle** 87.68 52 *e*P P
CMB pmax pmax
comp=Z,10.0nm,1.1s
J08A **Circle Bar Ran** 87.85 46 *e*P P 09 45 22.4 +1.4
comp=Z,16nm,1.0s
VCNR **Virginia City** 87.96 50 *e*P P 09 45 23.1 +1.5
comp=Z,6.6nm,0.8s
WVOR **Wild Horse Val** 87.96 47 *e*P P 09 45 22.8 +1.3
comp=Z,14nm,0.9s
WVOR **Wild Horse Val** 87.96 47 *e*P P
WVOR pmax pmax
comp=Z,13nm,0.9s
PNTR **Pine Nut** 88.04 51 *e*P P 09 45 23.5 +1.4
comp=Z,13nm,0.9s
PAHR **Pah Rah Range** 88.06 50 *e*P P 09 45 23.6 +1.5
comp=Z,12nm,1.0s
VRH **Novokhopyorsk** 88.11 322 *e*P P 09 45 20.6 -1.2
VRH pmax pmax
comp=Z,30nm,0.8s
BMO **Blue Mountains** 88.29 45 *e*P P 09 45 24.1 +1.2
comp=Z,20nm,1.0s

BMO **Blue Mountains** 88.29 45 *e*P P 09 45 24.2 +1.2
BMO pmax pmax
comp=Z,20nm,1.0s
WAKR **Walker** 88.30 51 *e*P P 09 45 25.3 +2.0
comp=Z,5.5nm,0.9s
PAGB **Antelope Grade** 88.31 54 *e*P P 09 45 25.1 +1.9
comp=Z,13nm,1.0s
YERR **Yerington** 88.34 51 *e*P P 09 45 25.1 +1.6
comp=Z,13nm,1.1s
ARA0 **ARCESS Array S** 88.35 342 *e*P P 09 45 22.8 +0.1
ARCES **ARCESS Array B** 88.35 342 P P 09 45 22.8 +0.1
comp=Z,5.4nm,0.7s,baz=70,slow=6.4,SNR=17
ARCES LR LR 10 30 17.2
comp=Z,5.3nm,18.1s,baz=294,slow=39
SMMC **Simmler** 88.61 54 P P 09 45 26.4 +1.8
baz=283
OMMB **Old Mammoth Mi** 88.85 52 *e*P P 09 45 27.5 +1.4
comp=Z,7.1nm,1.0s
PKM **Mcpherson Peak** 88.85 55 P P 09 45 27.7 +1.7
baz=284
ZEI **Tsey** 88.94 313 *e*P P 09 45 24.2 -2.0
ZEI pmax pmax
comp=Z,5.0nm,0.8s
RYN **Ryan** 88.97 51 *e*P P 09 45 27.9 +1.5
comp=Z,11nm,0.9s
MLAC **Mammoth, Mammo** 88.97 52 P P 09 45 28.1 +1.5
baz=284,SNR=6.5
NCK **Nalchik** 88.97 314 *i*P P 09 45 24.7 -1.4
NCK pmax pmax
comp=Z,9.0nm,0.8s
GNI **Garni** 89.00 311 LR LR 10 30 29.2
comp=Z,73nm,18.4s,baz=73,slow=39
GNI **Garni** 89.00 311 *i*P P 09 45 26.7 +0.2
GNI pmax pmax
comp=Z,77nm,1.1s
SBC **Santa Barbara** 89.04 55 P P 09 45 28.2 +1.7
baz=284
KVN **Kaiserville** 89.18 50 *e*P P 09 45 29.1 +1.6
comp=Z,13nm,1.0s
KVN **Kaiserville** 89.18 50 *e*P P
KVN pmax pmax
comp=Z,13nm,1.0s
NV01 **Mina Array Sit** 89.18 51 *e*P P 09 45 28.2 +0.7
NVAR **Mina Array Bea** 89.18 51 P P 09 45 28.5 +1.0
comp=Z,14nm,0.7s,baz=262,slow=5.9,SNR=103
VES **Vestal, Richgr** 89.21 54 P P 09 45 28.4 +1.1
baz=284,SNR=6.4
NV11 **Mina Array Sit** 89.30 51 *e*P P 09 45 29.6 +1.6
comp=Z,0.9nm,0.9s
LPSR **Galich'ya Gora** 89.34 324 *e*P P 09 45 26.3 -1.3
LPSR pmax pmax
comp=Z,20nm,0.8s
KIV **Kislovodsk** 89.49 315 *e*P P 09 45 27.1 -1.5
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,71nm,20.0s
ARVC **Arvin** 89.58 54 P P 09 45 30.4 +1.3
baz=284
VSR **Storozhevoye** 89.64 322 *e*P P 09 45 27.1 -1.9
VSR pmax pmax
comp=Z,20nm,0.9s
BLG **Laguna Peak, P** 89.64 55 P P 09 45 30.5 +1.0
baz=284
NEY **Neytrino** 89.65 314 *i*P P 09 45 30.4 +0.9
NEY pmax pmax
comp=Z,1.0nm,0.9s
ISA **Isabella, Lake** 89.73 54 *e*P P 09 45 30.7 +0.7
comp=Z,21nm,1.0s
ISA **Isabella, Lake** 89.73 54 *e*P P 09 45 30.7 +0.7
ISA pmax pmax
comp=Z,4.0nm,1.0s
ISA **Isabella, Lake** 89.73 54 P P 09 45 30.9 +1.0
baz=284
VNDA **Vanda** 89.76 176 LR LR 10 23 50.5
comp=Z,42nm,20.3s,baz=337,slow=34
OBN **Obninsk** 89.82 327 ⇑ *i*P P 09 45 28.6 -1.1
OBN *e* 09 48 59.3
OBN *e*S S 09 56 00.9 -19
OBN pmax pmax
comp=Z,19nm,0.4s
CWC **Cottonwood Cre** 89.85 53 P P 09 45 31.9 +1.3
baz=285
DECC **Green Verdugo** 90.19 55 P P 09 45 33.1 +1.1
baz=284
GRAC **Grapevine Rang** 90.26 52 P P 09 45 33.7 +1.3
baz=285
DAC **Darwin (Calif)** 90.27 53 *e*P P 09 45 34.1 +1.5
comp=Z,21nm,1.0s
DAC **Darwin (Calif)** 90.27 53 *e*P P
DAC pmax pmax
comp=Z,7.0nm,1.0s
EDW2 **Edwards Air Fo** 90.31 54 P P 09 45 34.0 +1.4
baz=285,SNR=6.1
SCI2 **San Clemente I** 90.33 56 P P 09 45 33.8 +1.1
baz=284
CIS **Catalina Islan** 90.33 56 P P 09 45 33.7 +0.9
baz=284
FMP **Fort Macarthur** 90.36 56 P P 09 45 33.9 +1.1
baz=284
LRMC **Laurel Mtn Rad** 90.40 54 P P 09 45 34.7 +1.6
baz=285,SNR=13
MPMC **Manual Prospec** 90.41 53 P P 09 45 34.9 +1.6
baz=285,SNR=17
MWC **Mount Wilson** 90.42 55 *e*P P 09 45 34.3 +1.0
comp=Z,4.9nm,0.9s
MWC **Mount Wilson** 90.42 55 *e*P P
MWC pmax pmax
comp=Z,5.0nm,0.9s
HLID **Hailey** 90.65 45 *e*P P 09 45 35.5 +1.3
HLID **Hailey** 90.65 45 P P 09 45 35.5 +1.3
baz=287
BFSC **Mount Baldy Ra** 90.73 55 P P 09 45 35.7 +1.0
baz=285
FURC **Furnace Creek,** 90.79 53 P P 09 45 36.3 +1.6
baz=285,SNR=16
ELK **Elko** 90.86 48 *e*P P 09 45 36.8 +1.5
comp=Z,6.0nm,1.0s
ELK **Elko** 90.86 48 *e*P P
ELK pmax pmax
comp=Z,6.0nm,1.0s
RRX **Edison Barstow** 91.10 54 P P 09 45 37.7 +1.4
baz=285
TPNV **Topopah Spring** 91.14 52 *e*P P 09 45 38.1 +1.5
comp=Z,9.8nm,0.8s
TPNV **Topopah Spring** 91.14 52 *e*P P
TPNV pmax pmax
comp=Z,10.0nm,0.8s
TPNV **Topopah Spring** 91.14 52 P P 09 45 38.1 +1.5
baz=286,SNR=15
GSC **Goldstone, Bar** 91.14 54 *e*P P 09 45 38.2 +1.6
comp=Z,11nm,0.9s
GSC **Goldstone, Bar** 91.14 54 *e*P P
GSC pmax pmax
comp=Z,11nm,0.9s
GSC **Goldstone, Bar** 91.14 54 P P 09 45 38.2 +1.6
baz=285,SNR=12
R11A **Troy Canyon, C** 91.27 51 *e*P P 09 45 38.2 +1.0
comp=Z,3.7nm,1.1s
R11A **Troy Canyon, C** 91.27 51 P P 09 45 38.6 +1.4
baz=286,SNR=5.6
SHOC **Shoshone, Teco** 91.40 53 P P 09 45 38.9 +1.2
baz=286,SNR=6.3
HRY **Holter Researc** 91.43 42 *e*P P 09 45 38.8 +1.1
109C **Camp Elliot, M** 91.53 56 P P 09 45 39.3 +1.1
baz=285
CPE **Camp Elliot** 91.53 56 *e*P P 09 45 39.6 +1.3
comp=Z,7.8nm,1.0s
HEC **Hector,Ludlow** 91.64 54 P P 09 45 40.1 +1.3
baz=286,SNR=5.4
TUQ **Turquoise Moun** 91.80 53 P P 09 45 40.8 +1.2
baz=286
PFO **Pinyon Flats O** 91.86 55 *e*P P 09 45 41.3 +1.3
comp=Z,3.5nm,1.0s
PFO **Pinyon Flats O** 91.86 55 P P 09 45 40.9 +1.0
baz=285,SNR=5.6
XPFO **Pion Flat** 91.86 55 *e*P P 09 45 41.3 +1.3
comp=Z,3.7nm,1.0s
BOZ **Bozeman (W)** 91.92 43 P P 09 45 40.8 +0.8
baz=289
BAR **Barrett** 91.93 56 *e*P P 09 45 40.4 +0.2
comp=Z,3.2nm,0.9s
MONP2 **Monument Peak** 92.08 56 P P 09 45 42.2 +1.1
baz=285,SNR=6.5
SHPR **Sheep Range** 92.10 52 *e*P P 09 45 43.5 +2.4
comp=Z,5.3nm,1.0s
BELC **Belle Mtn. Jos** 92.13 55 P P 09 45 42.3 +1.1

baz=286,SNR=5.2
FIA1 FINESS Array S 92.18 335 eP P 09 45 39.6 -1.0
FIA0 FINESS Array S 92.18 335 eP P 09 45 39.6 -1.0
FIA0 FINESS Array S 92.18 335 eP P 09 45 39.6 -1.0
FINES FINESS Array B 92.18 335 P P 09 45 39.6 -1.0
comp=Z,5.4nm,0.8s,baz=64,slow=4.4,SNR=9.9
FINES LR LR 10 29 22.0
comp=Z,68nm,18.7s,baz=62,slow=37
GMRC Granite Mounta 92.18 54 P P 09 45 43.0 +1.6
baz=286,SNR=6.8
EGMT Eagleton 92.32 40 P P 09 45 42.3 +0.6
baz=290
HVU Hansel Valley 92.33 47 eP P 09 45 43.9 +1.9
comp=Z,4.9nm,1.1s
HVU Hansel Valley 92.33 47 eP P 09 45 43.9 +1.9
HVU pmax pmax
comp=Z,5.0nm,1.1s
IKP In-Ko-Pah, Jac 92.40 56 P P 09 45 43.4 +1.0
baz=286
YHB Horse Butte 92.48 43 eP P 09 45 44.9 +2.2
comp=Z,11nm,0.8s
PSUT Pine Spring 92.52 50 eP P 09 45 44.0 +1.0
comp=Z,4.5nm,0.9s
BC3 Big Chuckawall 92.66 55 P P 09 45 44.6 +1.0
baz=286
YMR Madison River 92.67 43 eP P 09 45 46.0 +2.4
comp=Z,14nm,0.8s
IRM Iron Mountain 92.77 54 P P 09 45 45.5 +1.5
baz=286,SNR=7.2
DUG Dugway, Tooele 92.79 48 eP P 09 45 45.0 +0.8
comp=Z,4.3nm,1.0s
DUG Dugway, Tooele 92.79 48 eP P 09 45 45.0 +0.8
DUG pmax pmax
comp=Z,4.0nm,1.0s
DUG Dugway, Tooele 92.79 48 P P 09 45 45.2 +1.0
baz=288
YFT Old Faithful 92.83 44 eP P 09 45 47.7 +3.4
comp=Z,11nm,0.9s
YNR Norris Junctio 92.84 43 eP P 09 45 47.6 +3.2
comp=Z,12nm,0.9s
IMW Indian Meadow 92.94 44 eP P 09 45 47.0 +2.1
comp=Z,5.0nm,0.8s
H17A Grant Village 93.02 44 eP P 09 45 48.3 +3.1
comp=Z,8.2nm,0.9s
H17A Grant Village 93.02 44 P P 09 45 48.1 +2.8
baz=290
FLWY Flagg Ranch 93.04 44 eP P 09 45 47.5 +2.2
comp=Z,9.3nm,0.8s
MOOW Moose Ponds 93.12 44 eP P 09 45 47.0 +1.3
comp=Z,2.6nm,0.8s
CCUT Cedar City 93.18 51 eP P 09 45 47.7 +1.6
comp=Z,3.0nm,1.0s
AHID Auburn Hatcher 93.20 45 eP P 09 45 46.4 +0.4
comp=Z,6.5nm,1.0s
SZCU Shurtz Canyon 93.37 51 eP P 09 45 49.0 +2.1
comp=Z,2.7nm,1.0s
Y12C Blythe 93.37 55 P P 09 45 48.1 +1.4
baz=287
LCMT Little Creek M 93.43 51 eP P 09 45 47.9 +0.8
comp=Z,4.0nm,1.1s
W13A Hualapai Mount 93.49 53 eP P 09 45 49.4 +1.8
comp=Z,4.1nm,0.8s
PDMCI Parker Dam,Lak 93.52 54 P P 09 45 48.8 +1.4
baz=287,SNR=5.9
RLMT Red Lodge 93.65 43 eP P 09 45 50.2 +2.1
comp=Z,8.7nm,0.7s
RLMT Red Lodge 93.65 43 P P 09 45 49.6 +1.5
baz=291
KNB Kanab 93.75 51 eP P 09 45 50.4 +1.7
comp=Z,5.3nm,1.0s
KNB Kanab 93.75 51 eP P 09 45 50.4 +1.7
KNB pmax pmax
comp=Z,5.0nm,1.0s
MSU Marysvale 93.78 50 eP P 09 45 50.9 +2.1
FFC Flin Flon 94.11 32 eP P 09 45 50.6 +0.8
comp=Z,13nm,1.0s
FFC Flin Flon 94.11 32 iP P 09 45 50.5 +0.8
PDAR Pinedale Array 94.27 45 P P 09 45 51.5 +0.5
comp=Z,0.6nm,0.7s,baz=280,slow=2.5,SNR=6.2
PDAR LR LR 10 31 24.2
comp=Z,28nm,18.4s,baz=317,slow=38
U15A North Rim 94.33 52 eP P 09 45 52.9 +1.4
comp=Z,2.6nm,0.9s
Y14A Wickenburg 94.53 54 eP P 09 45 53.9 +1.7
comp=Z,4.1nm,0.8s
LAO LASA Array 95.04 40 eP P 09 45 55.4 +1.2
comp=Z,23nm,0.9s
LAO LASA Array 95.04 40 P P 09 45 55.0 +0.8
baz=293
WUAZ Wupatki 95.33 52 eP P 09 45 58.0 +2.0
comp=Z,4.7nm,0.9s
WUAZ Wupatki 95.33 52 P P 09 45 57.5 +1.6
baz=288
X16A Lo Mia Camp, P 95.62 53 eP P 09 45 59.4 +2.1
comp=Z,3.3nm,1.1s
AKASG Malin Array Be 95.65 324 LR LR 10 32 13.8
comp=Z,156nm,19.0s,baz=30,slow=38
KIEV Kiev 95.66 324 iP P 09 45 58.7 +1.9
KIEV pmax pmax
comp=Z,2.0nm,1.0s
FCC Fort Churchill 95.82 26 eP P 09 45 57.6 +0.2
comp=Z,8.5nm,0.9s
FCC Fort Churchill 95.82 26 eP P 09 45 57.6 +0.2
FCC pmax pmax
comp=Z,8.0nm,0.9s
MAW Mawson 97.20 202 LR LR 10 28 09.5
comp=Z,142nm,18.1s,baz=68,slow=34
BR101 Keskin Array S 97.24 313 eP P 09 46 02.9 -1.6
BRTR Keskin Array B 97.24 313 P P 09 46 02.9 -1.6
comp=Z,0.9nm,0.7s,baz=97,slow=4.1,SNR=5.7
S22A 4UR Ranch, Cre 98.00 49 P Pdif 09 46 08.7 +0.5
baz=292
NB200 NORSAR Array S 98.21 339 eP P 09 46 06.1 -2.1
NOA NORSAR Array B 98.21 339 P P 09 46 06.1 -2.1
comp=Z,1.0nm,0.7s,baz=48,slow=5.4,SNR=3.4
NOA LR LR 10 32 50.6
comp=Z,37nm,19.8s,baz=40,slow=37
ANMO Albuquerque 99.30 51 iP Pdif 09 46 15.1 +1.2
ANMO pmax pmax
comp=Z,2.0nm,1.4s
ULM Lac du Bonnet 99.55 34 LR LR 10 28 00.7
comp=Z,47nm,21.1s,baz=292,slow=34
MNTX Cornudas Mount 101.32 54 P Pdif 09 46 23.6 +0.9
baz=292
F44A Big Bay de Noc 107.19 34 P PKiKP 09 50 58.7 +1.1
baz=309
J42A Columbus 107.25 37 P PKiKP 09 50 58.8 +1.1
baz=306
TOA1 Torodi Ar. Sit 134.64 302 ePKPdf PKPdf 09 51 49.8 -0.8
TORD Torodi Ar. Bea 134.64 302 PKP PKPdf 09 51 49.8 -0.8
comp=Z,0.6nm,0.9s,baz=77,slow=2.4,SNR=3.0
DBIC Dimbokro 143.48 299 PKP PKPbc 09 52 04.3 +0.3
comp=Z,2.8nm,0.7s,baz=25,slow=4.5,SNR=5.3
PB11 IPOC Station P 147.28 108 ePKPbc PKPab 09 52 17.2 -0.3
LVC Limon Verde 147.40 114 ePKPdf PKPdf 09 52 11.8 -1.9
LVC ePKPbc PKPbc 09 52 15.1 -1.2
LVC ePKPab PKPab 09 52 18.3 +0.1
LVC Limon Verde 147.40 114 ePKIKP PKPdf 09 52 11.9 -1.9
LVC e 09 52 15.1
LVC e 09 52 18.3
MNMC Minye Minye 147.43 107 ePKPdf PKPdf 09 52 12.1 -1.7
MNMC ePKPbc PKPab 09 52 17.4 -0.9
LPAZ La Paz 149.12 102 PKPbc PKPbc 09 52 19.5 -1.7
comp=Z,3.7nm,0.7s,baz=282,slow=2.7,SNR=15
LPAZ La Paz 149.12 102 ePKPdf PKPdf 09 52 14.9 -2.2
LPAZ ePKPbc PKPbc 09 52 19.1 -2.1
LPAZ epPKPdf PKiKP 09 52 22.9 +0.5
LPAZ La Paz 149.12 102 ePKIKP PKPdf 09 52 14.9 -2.2
LPAZ e 09 52 23.0

IDC 18 09:34:14.5±6.0, 43°68N×106°12E, h0km, mb1 2.7/2, mb1mx2.7/42, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=60.8km s-min=34.0km az=127.0, Mongolia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I34MN SONGINO INFRAS 4.13 3 i 09 59 28.6
baz=182,slow=340,SNR=1.0
SONM Songino Array 4.16 3 Pn Pn 09 35 18.7 -0.7
0.2nm,0.3s,baz=186,slow=14,SNR=5.3
SONM Pg Pb 09 35 31.0 +2.4
0.6nm,0.3s,baz=191,slow=17,SNR=9.3
SONM Lg Lg 09 36 26.6
1.4nm,0.3s,baz=186,slow=29,SNR=15
MKAR Makanchi Array 17.06 289 P Pn 09 38 14.8 +0.5
0.0nm,0.3s,baz=100,slow=14,SNR=2.4
I45RU USSURIYSK INFR 18.61 79 i 11 23 30.0
baz=272,slow=338,SNR=0.9

MAN 18 09:45:16.3, 11°27N×124°56E, h21km, mb4.2, ML3.0, MS2.7, 1D, Leyte

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
OCLP Ormoc 0.22 167 eP Pb 09 45 23.3 +1.0
OCLP eS Sb 09 45 30.5 +4.0
PLP Palo 0.43 104 ||eP Pn 09 45 26.5 -0.7
PLP eS Sb 09 45 32.2 +1.2
BESP Borongan 0.93 69 eP Pb 09 45 33.0 -0.7
BESP eS Sn 09 45 47.1 +0.4
MSLP Maasin 1.17 165 eP Pn 09 45 37.2 -0.2
MSLP eS Sn 09 45 54.5 +1.8

DDA 18 10:13:16.9, 39°66N×43°71E, h7km±3km, ML2.5
ISC 18 10:13:17.2±1.1, 39°65N±0°06×43°74E±0°06, h14km±9km, n7, σ0°34/11, Turkey

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DYDN Diyadin 0.11 201 IAML_P
comp=Z,22μm,0.1s
DYDN i P Pg 10 13 20.2 -0.3
DYDN i S Sg 10 13 23.2 +0.3
IGDI IGDIR 0.34 50 IAML_P
comp=Z,304nm,0.1s
IGDI i P Pg 10 13 24.6 +0.4
IGDI i S Sb 10 13 30.1 -0.5
TASB TASBURUN-IGDIR 0.51 49 ePG Pb 10 13 27.9 -0.1
CLDR Caldiran 0.52 165 ePG Pg 10 13 27.3 -0.2
CLDR eSG Sg 10 13 34.7 +0.2
CLDR Caldiran 0.52 165 IAML_P
comp=Z,1μm,0.1s
CLDR i P Pg 10 13 27.8 +0.3
TUTA Tutak 0.76 251 IAML_P
comp=Z,1μm,0.2s
TUTA i P Pb 10 13 32.4 +0.1
TUTA i S Sb 10 13 42.5 -0.1
GNI Garni 0.92 57 ePG Pg 10 13 34.9 -0.1

ISCJB 18 10:22:02.7±0.4, 29°36N±0°04×105°29E±0°05, h10km, mb3.9/17, MS3.1/3, Error ellipse: s-maj=7.4km s-min=5.7km az=140.1
IDC 18 10:22:03.1±0.7, 29°35N×105°31E, h0km, mb3.9/15, mb1 4.1/17, mb1mx3.9/48, mbtmp3.9/17, ML3.8/1, MS3.2/4, Ms1 3.3/4, ms1mx2.8/36, Error ellipse: s-maj=24.4km s-min=15.9km az=56.0
NEIC 18 10:22:04.0±1.3, 29°35N×105°27E, h5km±8km, mb4.6/5, ML4.2(BJI), Error ellipse: s-maj=6.7km s-min=5.6km az=51.0
BJI 18 10:22:05.9, 29°33N×105°22E, h16km, mb4.0/7, ML4.2/19
ISC 18 10:22:04.7±0.6, 29°30N±0°05×105°27E±0°06, h10km, n48, σ1°49/59, mb3.9/17, MS3.0/3, Sichuan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CD2 Chengdu 2.07 321 Pg Pb 10 22 42.3 -0.2
CD2 Sg Sg 10 23 10.0 -1.4
CD2 smax smax
comp=N,4μm,0.6s
CD2 smax smax
comp=E,4μm,0.7s
CD2 Chengdu 2.07 321 Pg Pb 10 22 42.3 -0.2
CD2 Sg Sg 10 23 10.0 -1.4
ENH Enshi 3.79 74 ePn Pn 10 23 02.7 -0.6
XAN Xi'an 5.66 32 Pn Pn 10 23 30.0 +1.1
XAN Pg Pg 10 23 49.5 -3.6
XAN Sn Sn 10 24 32.3 -1.6
XAN Sg Sb 10 24 59.9 +8.5
XAN smax smax
comp=N,520nm,1.2s
XAN smax smax
comp=E,400nm,1.2s
XAN Xi'an 5.66 32 ePn Pn 10 23 30.4 +1.5
LZH Lanzhou 6.87 350 Pg Pg 10 24 16.8 +0.4
LZH Sn Sb 10 25 26.4 -0.2
LZH Sg Sg 10 25 43.6 -1.8
LZH smax smax
comp=N,220nm,1.0s
LZH smax smax
comp=E,340nm,1.1s
LZH LR LR
comp=N,210nm,5.4s
LZH LR LR
comp=E,340nm,5.1s
LZH LR LR
comp=Z,340nm,6.5s
GTA Gaotai 11.04 337 eP Pn 10 24 46.3 +3.4
GTA pP 10 24 51.0
GTA sP 10 24 53.3
GTA pmax pmax
comp=Z,2.0nm,1.1s
CMAR Chiang Mai Arr 12.24 210 Pn Pn 10 25 01.4 +2.1
baz=21,slow=11,SNR=9.4
CMAR LR LR 10 30 12.9
comp=Z,88nm,19.0s,baz=33,slow=40
SONA0 Songino Array 18.53 2 eP P 10 26 20.9 -0.5
SONM Songino Array 18.53 2 P P 10 26 20.9 -0.5
comp=Z,0.3nm,0.3s,baz=189,slow=12,SNR=8.7
SONA1 Songino Array 18.54 2 eP P 10 26 19.6 -1.9
WMQ Urumqi 20.17 321 eP P 10 26 38.9 -0.5
KSAR Wonju Array Be 20.52 61 P P 10 26 42.5 -0.6
KSRS Korea Array 20.55 61 P P 10 26 42.5 -0.9
comp=Z,1.9nm,1.0s,baz=256,slow=10,SNR=4.3
KSRS LR LR 10 35 47.1
comp=Z,54nm,19.8s,baz=120,slow=40
JNU Nakatsue 22.21 74 LR LR 10 37 06.8
comp=Z,56nm,21.3s,baz=262,slow=41
MK01 Makanchi Array 24.99 321 eP P 10 27 28.9 +0.4
MK31 Makanchi Array 25.01 321 eP P 10 27 28.4 -0.4
MK32 Makanchi Array 25.01 321 eP P 10 27 28.6 -0.2
MK32 ePcP PcP 10 31 03.6 0.0
MKAR Makanchi Array 25.01 321 P P 10 27 28.6 -0.2
comp=Z,3.3nm,0.9s,baz=123,slow=9.6,SNR=20
MKAR PcP PcP 10 31 03.6 0.0
comp=Z,0.4nm,0.9s,baz=111,slow=3.2,SNR=4.5
MKAR Makanchi Array 25.01 321 eP P 10 27 27.4 -1.3
comp=Z,31nm,1.1s
MKAR PcP PcP 10 31 03.6 0.0
ZAA0 Zalesovo Array 28.78 335 eP P 10 28 02.8 +0.2
comp=Z,2.6nm,1.0s
ZALV Zalesovo Beam 28.78 335 P P 10 28 02.2 -0.3
comp=Z,1.1nm,0.5s,baz=126,slow=7.5,SNR=6.9
ZALV Zalesovo Beam 28.78 335 eP P 10 28 02.6 +0.1
ZAA1 Zalesovo Array 28.78 335 eP P 10 28 02.2 -0.4
KURBB Kurchatov Arra 29.29 324 P P 10 28 07.0 -0.1
comp=Z,1.4nm,0.7s,baz=130,slow=9.0,SNR=12
KURBB PcP PcP 10 31 13.8 +0.2
comp=Z,0.5nm,0.8s,baz=117,slow=2.4,SNR=3.3
KURK Kurchatov 29.29 324 eP P 10 28 07.0 -0.1
KURK ePcP PcP 10 31 13.8 +0.1
WR1 Warramunga Arr 56.42 147 eP P 10 31 46.1 -0.5
comp=Z,7.3nm,1.1s
WRA Warramunga Arr 56.42 147 P P 10 31 46.1 -0.5
comp=Z,0.4nm,0.4s,baz=338,slow=8.0,SNR=6.5
WB2 Warramunga Arr 56.42 147 eP P 10 31 46.8 +0.1
comp=Z,1.9nm,0.8s
BR101 Keskin Array S 58.52 301 eP P 10 32 01.0 -0.6
BRTR Keskin Array B 58.52 301 P P 10 32 01.0 -0.6
comp=Z,0.4nm,0.6s,baz=81,slow=7.6,SNR=4.7
BRTR LR LR 11 02 33.5
comp=Z,34nm,18.1s,baz=322,slow=42
BRTR Keskin Array B 58.52 301 P P 10 32 01.0 -0.6
ARA0 ARCESS Array S 59.31 336 eP P 10 32 06.3 -0.1
ARCES ARCESS Array B 59.31 336 P P 10 32 06.3 -0.1
comp=Z,1.5nm,0.6s,baz=71,slow=7.8,SNR=5.6
AKASG Malin Array Be 59.36 314 P P 10 32 06.8 -0.2
comp=Z,0.2nm,0.3s,baz=71,slow=6.2,SNR=5.5
ASAR Alice Springs 59.43 149 P P 10 32 08.0 +0.2
comp=Z,1.0nm,0.9s,baz=335,slow=6.5,SNR=11
FIA1 FINESS Array S 59.62 327 eP P 10 32 09.0 +0.4
FIA0 FINESS Array S 59.62 327 eP P 10 32 08.7 0.0
FINES FINESS Array B 59.62 327 P P 10 32 08.7 0.0
comp=Z,1.7nm,0.6s,baz=89,slow=5.1,SNR=8.9
NB200 NORSAR Array S 66.72 328 eP P 10 32 55.2 -0.6
NOA NORSAR Array B 66.72 328 P P 10 32 55.2 -0.6
comp=Z,0.4nm,0.7s,baz=74,slow=8.3,SNR=3.5
IM3 Indian Mountai 67.90 26 eP P 10 33 03.2 +0.1
GERES GERESS Array B 69.53 315 P P 10 33 13.3 -0.4
comp=Z,0.6nm,0.7s,baz=64,slow=6.2,SNR=4.7
ILAR Eielson Array 71.02 26 P P 10 33 22.1 -0.3
comp=Z,0.4nm,0.7s,baz=287,slow=4.6,SNR=5.4
KDAK Kodiak Island 71.78 33 P P 10 33 27.1 0.0
comp=Z,6.9nm,0.9s,baz=306,slow=5.8,SNR=6.8
KDAK Kodiak Island 71.78 33 eP P 10 33 27.3 +0.2
comp=Z,14nm,1.1s
YKA Yellowknife Ar 83.11 17 P P 10 34 30.1 -0.3
comp=Z,0.4nm,0.5s,baz=328,slow=5.1,SNR=14
YKB5 Yellowknife Ar 83.11 17 eP P 10 34 30.5 0.0

NEIC 18 10:22:27.8±0.0, 61°13N×150°28W, h39km, ML3.2(AEIC), After AEIC.
NEIC Felt [II] at Anchorage. Also felt at Elmendorf AFB and Girdwood.
IDC 18 10:22:27.1±2.4, 61°14N×151°01W, h74km±34km, mb3.2/3, mb1 3.4/7, mb1mx3.1/47, mbtmp3.3/7, ML3.1/4, Error ellipse: s-maj=77.7km s-min=12.4km az=111.0
ISC 18 10:22:25.9±1.0, 61°10N±0°02×150°27W±0°02, h31km±9km, n96, σ1°44/152, Southern Alaska

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RC01 Rabbit Creek A 0.26 93 ePn Pn 10 22 35.0 +1.4
RC01 eSn Sn 10 22 40.9 +2.3
SUA Susitna One 0.43 328 ePn Pn 10 22 36.5 +0.4
SUA eSn Sn 10 22 43.5 +0.6
NKA Nikishka 0.59 233 ePn Pn 10 22 40.7 +2.5
SLKM Skilak Lake 0.60 178 ePn Pn 10 22 39.0 +0.7
PMR Palmer 0.74 48 ePn Pn 10 22 40.1 -0.1
PMR eSn Sn 10 22 50.2 0.0
KNK Knik Glacier 0.93 70 ePn Pb 10 22 43.5 -0.1
KNK eSn Sb 10 22 56.6 +1.0
GHO Glory Hole Cre 0.93 43 ePn Pb 10 22 43.1 -0.5
GHO eSn Sb 10 22 55.9 +0.1
CKT Bend 0.94 277 ePn Pb 10 22 43.5 -0.3
SPCR Spurr Chakacha 0.94 277 P Pb 10 22 43.5 -0.3
SPCR S Sb 10 22 56.9 +0.9
PWL Port Wells 0.97 104 ePn Pb 10 22 44.3 0.0
PWL eSn Sb 10 22 58.3 +1.4
SEW Seward 1.08 158 ePn Pb 10 22 45.5 -0.5
SEW eSn Sb 10 23 01.1 +1.3
SPWE Spurr West 1.12 280 P Pb 10 22 46.4 -0.4
SML Sawmill 1.17 52 ePn Pb 10 22 46.7 -0.8
SML eSn Sb 10 23 02.9 +0.5
RDT Redoubt 1.17 244 P Pb 10 22 47.1 -0.6
SPNN North Nagishla 1.20 284 ePn Pb 10 22 47.6 -0.6
SPNN eSn Sb 10 23 04.3 +0.8
DFR Drift River 1.29 248 P Pb 10 22 48.7 -0.9
RDJH Redoubt Jeurge 1.34 249 P Pb 10 22 49.6 -1.0
RDJH S Sb 10 23 07.7 +0.2
RDN Redoubt North 1.36 245 ePn Pn 10 22 49.6 +0.8
BRLK Bradley Lake 1.38 193 ePn Pb 10 22 50.5 -0.6
BRLK eSn Sb 10 23 08.7 +0.4
RSO Redoubt South 1.38 243 ePn Pb 10 22 50.2 -1.0
RSO eSn Sb 10 23 08.3 -0.2
RDWB Redoubt West 1.40 245 P Pn 10 22 50.4 +0.9
RDWB S Sb 10 23 09.2 0.0
SCM Sheep Creek Mo 1.59 61 ePn Pn 10 22 52.7 +0.7
SCM eSn Sb 10 23 13.7 -0.8
HOM Homer 1.60 206 ePn Pb 10 22 54.0 -0.9
HOM eSn Sb 10 23 15.1 +0.5
ILIM Iliamna 1.68 233 ePn Pn 10 22 54.4 +1.3
IVE Iliamna Volcan 1.74 232 P Pb 10 22 55.9 -1.3
ILW Iliamna West 1.76 235 ePn Pb 10 22 56.0 -1.6
ILS Iliamna Low So 1.80 231 P Pb 10 22 56.8 -1.5
VMT TAPS TI Valdez 1.90 89 ePn Pn 10 22 56.9 +0.8
HUR Hurricane 1.91 9 ePn Pn 10 22 57.4 +1.1
PPLA Purkeypile 2.01 334 ePn Pn 10 22 59.2 +1.3
PPLA eSn Sn 10 23 23.2 +1.1
KLU Klutina 2.14 78 ePn Pn 10 23 00.0 +0.6
KLU eSn Sn 10 23 26.0 +1.1
DIV Divide 2.18 87 ePn Pn 10 23 00.6 +0.5
DIV eSn Sn 10 23 26.3 +0.2
AUE Augustine Isla 2.34 223 ePn Pn 10 23 04.1 +2.0
AUL Augustine Lava 2.34 224 P Pn 10 23 03.6 +1.4
AUJK Augustine Jueg 2.35 223 ePn Pn 10 23 04.8 +2.4
TRF Thorofare Moun 2.36 360 ePn Pn 10 23 04.7 +2.1
TRF eSn Sn 10 23 28.9 -1.6
AUW Augustine West 2.36 224 P Pn 10 23 04.8 +2.3
DHY Denali Highway 2.40 33 ePn Pn 10 23 05.0 +1.8
DHY eSn Sn 10 23 32.4 +0.7
RND Reindeer 2.41 15 ePn Pn 10 23 05.4 +2.3
RND eSn Sn 10 23 30.3 -1.3
CAST Castle Rocks 2.47 341 ePn Pn 10 23 05.5 +1.5
CAST eSn Sn 10 23 33.6 +0.4
PS11 TAPS Pump St11 2.49 65 ePn Pn 10 23 05.2 +0.9
PS12 TAPS Pump St12 2.50 79 ePn Pn 10 23 04.5 +0.1
SGAM Sherman Glacie 2.56 101 ePn Pn 10 23 04.6 -0.5
SVW2 Sparrevohn 2.58 272 ePn Pn 10 23 06.7 +1.2
SVW2 eSn Sn 10 23 36.1 +0.4
MID Middleton Isla 2.58 129 ePn Pn 10 23 07.9 +2.4
MID eSn Sn 10 23 34.9 -0.9
MCK McKinley 2.71 13 ePn Pn 10 23 09.9 +2.6
MCK eSn Sn 10 23 37.6 -1.4
BMRM Bremner River 2.76 90 ePn Pn 10 23 08.1 0.0
BMRM eSn Sn 10 23 40.9 +0.6
HARP HAARP 2.76 59 ePn Pn 10 23 08.9 +0.9
HARP eSn Sn 10 23 41.1 +0.8
RAGM Ragged Mountai 2.84 102 ePn Pn 10 23 08.6 -0.5
RAGM eSn Sn 10 23 42.6 +0.4
PAX Paxson 2.94 48 ePn Pn 10 23 12.2 +1.7
PAX eSn Sn 10 23 43.7 -1.0
CHUM Lake Minchumin 2.95 342 ePn Pn 10 23 12.0 +1.5
BPAW Bear Paw Mtn. 3.03 354 ePn Pn 10 23 13.1 +1.4
BPAW eSn Sn 10 23 43.5 -3.3
HMT Hamilton 3.05 102 ePn Pn 10 23 11.3 -0.7
HMT eSn Sn 10 23 46.9 -0.5
TT01 Tatalina 3.26 306 ePn Pn 10 23 15.6 +0.8
WRH Wood River Hil 3.53 16 ePn Pn 10 23 19.2 +0.8
WRH eSn Sn 10 23 59.3 +0.3
NEA Nenana 3.53 8 ePn Pn 10 23 19.8 +1.2
KDAK Kodiak Island 3.53 201 P Pn 10 23 18.6 +0.1
1.0nm,0.3s,baz=46,slow=12,SNR=24
KDAK S Sn 10 23 58.0 -1.2
5.9nm,0.3s,baz=130,slow=22,SNR=7.9
KDAK Kodiak Island 3.53 201 ePn Pn 10 23 18.8 +0.2
KDAK eSn Sn 10 24 01.2 +2.0
HDA Harding Lake 3.65 23 ePn Pn 10 23 20.6 +0.4
HDA eSn Sn 10 24 03.6 +1.4
RIDG Independ'e Rid 3.66 41 ePn Pn 10 23 22.1 +1.8
RIDG eSn Sn 10 24 03.8 +1.4
PS08 TAPS Pump Stn8 3.80 23 ePn Pn 10 23 23.9 +1.7
BALM Baldy 3.85 88 ePn Pn 10 23 23.2 +0.1
BALM eSn Sn 10 24 06.2 -1.1
DOT Dot Lake 3.86 46 ePn Pn 10 23 25.2 +2.1
DOT eSn Sn 10 24 08.2 +0.9
COLA College 3.94 15 ePn Pn 10 23 25.6 +1.4
COLA eSn Sn 10 24 09.0 -0.3
MLY Manley 3.95 357 ePn Pn 10 23 25.8 +1.5
MLY eSn Sn 10 24 05.7 -3.8
MDM Murphy Dome 3.98 13 ePn Pn 10 23 26.7 +1.9
MDM eSn Sn 10 24 10.9 +0.6
CAHL Cahill 3.99 222 P Pn 10 23 26.0 +1.1
IL1 Eielson Array 3.99 21 ePn Pn 10 23 27.1 +2.2
IL1 eSn Sn 10 24 09.6 -1.0
ILAR Eielson Array 3.99 21 P Pn 10 23 27.1 +2.2
1.2nm,0.3s,baz=200,slow=14,SNR=55
ILAR S Sn 10 24 08.8 -1.8
1.6nm,0.3s,baz=216,slow=20,SNR=7.4
ILB Eielson Array 3.99 21 ePn Pn 10 23 27.2 +2.3
ILB eSn Sn 10 24 09.0 -1.6
SCRK Sand Creek 4.10 43 ePn Pn 10 23 27.3 +0.9
SCRK eSn Sn 10 24 10.2 -3.1
OHAK Old Harbor 4.19 203 ePn Pn 10 23 27.3 -0.3
OHAK eSn Sn 10 24 16.9 +1.5
BCA3 Beaver Creek A 4.45 60 ePn Pn 10 23 31.7 +0.5
PRP Porcupine Dome 4.92 24 ePn Pn 10 23 39.5 +1.7
PRP eSn Sn 10 24 33.8 +0.2
PCA Pinnacle 5.04 97 ePn Pn 10 23 38.9 -0.5
PCA eSn Sn 10 24 30.3 -6.1
IM3 Indian Mountai 5.14 344 ePn Pn 10 23 41.6 +1.0
IM3 eSn Sn 10 24 37.8 -1.0
EGAK Eagle 5.56 44 ePn Pn 10 23 47.4 +1.1
YUK4 Talbot Arm 5.62 82 ePn Pn 10 23 48.7 +1.2
DAWY Dawson 5.84 55 ePn Pn 10 23 50.9 +0.7
FYU Fort Yukon 5.92 20 ePn Pn 10 23 53.3 +2.0
YUK7 Dusty Glacier 5.96 90 ePn Pn 10 23 53.0 +0.8

COLD	**Coldfoot**	**6.15**	**0**	*e*Pn		**Pn**	**10 23 56.8**	**+2.3**
COLD				*e*Sn		**Sn**	**10 25 02.0**	**-1.6**
HYT	**Haines Junctio**	**6.22**	**87**	*e*Pn		**Pn**	**10 23 56.4**	**+0.7**
HYT				*e*Sn		**Sn**	**10 25 03.5**	**-2.2**
CHGN	**Chignik**	**6.42**	**225**	*e*Pn		**Pn**	**10 23 58.6**	**+0.5**
BM3	**Burnt Mountain**	**6.80**	**19**	*e*Pn		**Pn**	**10 24 04.7**	**+1.2**
WHY	**Whitehorse**	**7.52**	**87**	*e*Pn		**Pn**	**10 24 13.4**	**0.0**
WHY				*e*Sn		**Sn**	**10 25 34.8**	**-2.8**
ANM	**Nome**	**7.73**	**303**	*e*Pn		**Pn**	**10 24 18.0**	**+1.9**
ANM				*e*Sn		**Sn**	**10 25 41.3**	**-1.1**
INK	**Inuvik**	**10.14**	**37**	P		**Pn**	**10 24 50.6**	**+1.5**
	0.1nm,0.3s,baz=214,slow=11,SNR=4.6							
INK				S		**Sn**	**10 26 45.0**	**+3.4**
	0.1nm,0.3s,baz=275,slow=14,SNR=4.4							
INK	**Inuvik**	**10.14**	**37**	*e*Pn		**Pn**	**10 24 50.0**	**+0.9**
INK				*e*Sn		**Sn**	**10 26 38.9**	**-2.6**
YKA	**Yellowknife Ar**	**16.78**	**70**	P		**P**	**10 26 19.9**	**-0.3**
	0.1nm,0.3s,baz=279,slow=9.8,SNR=13							
YKB5	**Yellowknife Ar**	**16.78**	**70**	*e*Pn		**P**	**10 26 19.9**	**-0.3**
NV01	**Mina Array Sit**	**30.15**	**124**	*e*P		**P**	**10 28 33.9**	**+0.9**
NVAR	**Mina Array Bea**	**30.15**	**124**	P		**P**	**10 28 33.9**	**+0.9**
	0.5nm,0.7s,baz=313,slow=8.5,SNR=3.9							
PFO	**Pinyon Flats O**	**35.07**	**126**	P		**P**	**10 29 15.7**	**-0.3**
	1.1nm,0.6s,baz=310,slow=15,SNR=3.6							
LTX	**Lajitas**	**44.16**	**114**	*e*P		**P**	**10 30 31.6**	**+0.1**
TXAR	**Lajitas Array**	**44.16**	**114**	P		**P**	**10 30 31.6**	**+0.1**
	0.1nm,0.6s,baz=307,slow=7.5,SNR=2.6							

ISCJB ***18*** *10:46:05.4±0.9, 43.°24N±0.°06×146.°60E±0.°07, h67km±6km, mb3.6/4, Error ellipse: s-maj=12.6km s-min=5.6km az=142.3*
SKHL ***18*** *10:46:05.7±0.7, 43.°21N×146.°62E, h74km±5km, mb4.1/4*
JMA ***18*** *10:46:05.8±0.2, 43.°16N×146.°58E, h62km±2km, M3.4*
MOS ***18*** *10:46:05.8±2.1, 43.°23N×146.°54E, h76km, mb4.0/5, Error ellipse: s-maj=21.1km s-min=12.4km az=92.4*

ISC 18 10:46:05.8±1.3, 43.°21N±0.°07×146.°63E±0.°06, h54km±9km, n37, σ1°02/51, mb3.7/4, 3C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.67**	**284**	P	**Pn**	**10 46 19.6**	**+0.3**
NEM2				*e*S	**Sn**	**10 46 29.7**	**+0.6**
SHO	**Shikotan**	**0.68**	**12**	⇓*i*P	**Pn**	**10 46 20.0**	**+0.5**
SHO				AMB	AMB	10 46 23.0	
	100nm,0.3s						
SHO				*i* S	**Sn**	**10 46 30.0**	**+0.6**
SHO				A	A	10 46 33.0	
	580nm,0.3s						
SHO				A	A	10 46 33.0	
	810nm,0.3s						
SHO	**Shikotan**	**0.68**	**12**	*d i*PN	**Pn**	**10 46 20.0**	**+0.5**
SHO				*i* S	**Sn**	**10 46 30.2**	**+0.8**
SHO				pmax	pmax		
	comp=E,45nm,0.2s						
SHO				pmax	pmax		
	comp=Z,104nm,0.2s						
SHO				pmax	pmax		
	comp=N,42nm,0.4s						
SHO				smax	smax		
	comp=N,422nm,0.2s						
SHO				smax	smax		
	comp=E,811nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.00**	**326**	⇓*i*P	**Pn**	**10 46 23.0**	**-0.6**
YUK				AMB	AMB	10 46 24.0	
	comp=E,20nm,0.3s						
YUK				AMB	AMB	10 46 24.0	
	comp=E,60nm,0.3s						
YUK				*e*S	**Sn**	**10 46 36.5**	**-0.2**
YUK				A	A	10 46 38.0	
	comp=E,570nm,0.3s						
YUK				A	A	10 46 38.0	
	comp=E,870nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.00**	**326**	⇓*i*PN	**Pn**	**10 46 23.7**	**+0.1**
YUK				*e*S	**Sn**	**10 46 37.0**	**+0.3**
YUK				pmax	pmax		
	comp=Z,590nm,0.3s						
YUK				pmax	pmax		
	comp=N,158nm,0.1s						
YUK				pmax	pmax		
	comp=E,239nm,0.1s						
YUK				smax	smax		
	comp=N,534nm,0.1s						
YUK				smax	smax		
	comp=E,830nm,0.3s						
GRPR	**Tuman**	**1.00**	**322**	⇓*i*P	**Pn**	**10 46 23.0**	**-0.7**
GRPR				AMB	AMB	10 46 24.0	
	comp=E,70nm,0.2s						
GRPR				*i* S	**Sn**	**10 46 36.0**	**-0.9**
GRPR				A	A	10 46 38.0	
	comp=E,2μm,0.3s						
GRPR				A	A	10 46 38.0	
	comp=E,710nm,0.3s						
GRPR	**Tuman**	**1.00**	**322**	⇓*i*PN	**Pn**	**10 46 23.7**	**0.0**
GRPR				*i* S	**Sn**	**10 46 36.7**	**-0.2**
GRPR				pmax	pmax		
	comp=Z,704nm,0.2s						
GRPR				smax	smax		
	comp=N,2μm,0.3s						
GRPR				smax	smax		
	comp=E,711nm,0.2s						
JKHN	**Kushirohamanak**	**1.08**	**264**	P	**Pn**	**10 46 25.2**	**+0.5**
JRA	**Rausu**	**1.32**	**304**	P	**Pn**	**10 46 28.4**	**+0.5**
JRA				*e*S	**Sn**	**10 46 45.3**	**+0.9**
JAK	**Akkeshi**	**1.43**	**262**	P	**Pn**	**10 46 29.3**	**-0.1**
JAK				*e*S	**Sn**	**10 46 46.6**	**-0.5**
JNK	**Nakash**	**1.44**	**286**	P	**Pn**	**10 46 29.4**	**-0.2**
JNK				*e*S	**Sn**	**10 46 46.8**	**-0.7**
JOB	**Onbets**	**2.07**	**263**	P	**Pn**	**10 46 38.2**	**+0.1**
JOB				*e*S	**Sn**	**10 47 02.2**	**-0.5**
JAR	**Ashorobuto**	**2.09**	**273**	P	**Pn**	**10 46 38.7**	**+0.3**
JAR				*e*S	**Sn**	**10 47 03.3**	**0.0**
JTKR	**Abashiri--Toko**	**2.12**	**292**	P	**Pn**	**10 46 39.8**	**+1.0**
KUR	**Kuril'sk**	**2.21**	**23**	*e*P	**Pn**	**10 46 40.0**	**-0.1**
KUR				AMB	AMB	10 46 43.0	
	comp=E,30nm,0.2s						
KUR				*e*S	**Sn**	**10 47 06.0**	**-0.2**
KUR				A	A	10 47 07.0	
	comp=E,170nm,0.2s						
KUR				A	A	10 47 07.0	
	comp=E,100nm,0.2s						
KUR	**Kuril'sk**	**2.21**	**23**	PN	Pn	10 46 46.0	+5.9
KUR				*e*S	**Sn**	**10 47 06.4**	**+0.2**
KUR				smax	smax		
	comp=N,92nm,0.2s						
KUR				smax	smax		
	comp=E,82nm,0.2s						
JCH	**Churui**	**2.47**	**257**	P	**Pn**	**10 46 43.2**	**-0.4**
JMP	**Maruseppu**	**2.51**	**290**	P	**Pn**	**10 46 45.3**	**+1.2**
ERM	**Erimo**	**2.83**	**246**	*i* P	**Pn**	**10 46 50.6**	**+2.1**
ERM	**Erimo**	**2.83**	**246**	*i* PN	**Pn**	**10 46 50.6**	**+2.1**
YSS	**Yuzh-Sakhalins**	**4.64**	**325**	⇑*e*P	**Pn**	**10 47 14.1**	**+0.8**
YSS	**Yuzh-Sakhalins**	**4.64**	**325**	*e*PN	**Pn**	**10 47 15.6**	**+2.3**
YSS				MLR	MLR		
	comp=Z,200nm,16.0s						
UGL	**Uglegorsk**	**6.67**	**333**	*e*P	**Pn**	**10 47 43.4**	**+2.3**
TEY	**Ternei**	**7.44**	**288**	*e*P	**Pn**	**10 47 54.0**	**+2.3**
SEY	**Seymchan**	**20.05**	**8**	*i* P	**P**	**10 50 31.7**	**-2.3**
BILL	**Bilibino**	**26.99**	**16**	⇑*e*P	**P**	**10 51 42.3**	**+0.3**
BILL	**Bilibino**	**26.99**	**16**	⇑*e*P	**P**	**10 51 42.3**	**+0.3**
BILL				*e*		10 52 23.7	
BILL				*e*S	**S**	**10 56 17.1**	**+1.8**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,103nm,14.0s						
ULN	**Ulaanbaatar**	**27.89**	**293**	*i* P	**P**	**10 51 50.2**	**-0.4**
ULN	**Ulaanbaatar**	**27.89**	**293**	*i* P	**P**	**10 51 50.2**	**-0.4**
ULN				pmax	pmax		
	comp=Z,4.0nm,2.3s						
COLA	**College**	**41.73**	**36**	*i* P	**P**	**10 53 48.9**	**-0.1**
COLA	**College**	**41.73**	**36**	*i* P	**P**	**10 53 48.9**	**-0.1**
COLA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MKAR	**Makanchi Array**	**44.50**	**298**	*i* P	**P**	**10 54 11.3**	**-0.4**
MKAR	**Makanchi Array**	**44.50**	**298**	*i* P	**P**	**10 54 11.3**	**-0.4**
BRVK	**Borovoye**	**49.60**	**310**	*i* P	**P**	**10 54 51.7**	**+0.4**
BRVK	**Borovoye**	**49.60**	**310**	*i* P	**P**	**10 54 51.7**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ARU	**Arti**	**54.48**	**317**	*i* P	**P**	**10 55 26.0**	**-1.5**
ARU	**Arti**	**54.48**	**317**	*i* P	**P**	**10 55 26.0**	**-1.5**

IDC ***18*** *10:55:19.9±3.8, 37.°91N×143.°81E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.5/41, mbtmp3.5/7, ML2.8/1, Error ellipse: s-maj=95.1km s-min=23.9km az=160.0*
ISCJB ***18*** *10:55:21.6±0.7, 37.°75N±0.°04×143.°81E±0.°05, h33km, mb3.5/6, Error ellipse: s-maj=6.7km s-min=5.7km az=135.0*
JMA ***18*** *10:55:22.1±0.2, 37.°82N×143.°76E, h43km, M3.7*

ISC 18 10:55:24.0±1.1, 37.°85N±0.°06×143.°80E±0.°08, h35km, n27, σ2°03/38, mb3.5/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.90**	**285**	P	**Pn**	**10 55 52.8**	**-1.1**
JIKH				S	**Sn**	**10 56 15.0**	**-1.6**
JIO	**Ouri**	**2.03**	**288**	P	**Pn**	**10 55 54.7**	**-0.9**
JIO				S	**Sn**	**10 56 18.8**	**-0.9**
JKMT	**Kesennumamotoy**	**2.07**	**298**	P	**Pn**	**10 55 55.3**	**-0.9**
JKMT				S	**Sn**	**10 56 20.1**	**-0.6**
OFUJ	**Ofunato**	**2.08**	**307**	P	**Pn**	**10 55 55.5**	**-0.8**
JMK	**Ichinoseki**	**2.31**	**299**	P	**Pn**	**10 55 58.9**	**-0.6**
JMK				S	**Sn**	**10 56 26.6**	**-0.1**
JOM	**Ohasama**	**2.55**	**310**	P	**Pn**	**10 56 02.7**	**-0.1**
JOM				S	**Sn**	**10 56 32.3**	**-0.3**
JFT	**Otama**	**2.77**	**264**	P	**Pn**	**10 56 05.2**	**-0.7**
JFT				S	**Sn**	**10 56 37.1**	**-1.0**
JYK	**Kaneyama**	**2.91**	**293**	P	**Pn**	**10 56 07.8**	**0.0**
JYK				S	**Sn**	**10 56 42.2**	**+0.7**
JANG	**Nango**	**3.08**	**325**	P	**Pn**	**10 56 09.7**	**-0.5**
BSO1	**Boso 1**	**3.92**	**216**	P	**Pn**	**10 56 17.9**	**-3.4**
BSO1				*e*S	**Sn**	**10 57 02.2**	**-3.6**
JOT	**Ohata**	**4.12**	**330**	P	**Pn**	**10 56 25.7**	**+1.3**
JRY	**Ryogami san**	**4.33**	**246**	P	**Pn**	**10 56 25.7**	**-1.7**
JRY				S	**Sn**	**10 57 13.1**	**-3.6**
JKB	**Kayabe**	**4.56**	**333**	P	**Pn**	**10 56 32.1**	**+1.6**
JOD2	**Odawara 2**	**4.59**	**237**	P	**Pn**	**10 56 30.2**	**-0.7**
JOD2				S	**Sn**	**10 57 18.2**	**-4.8**
MJAR	**Matsushiro Arr**	**4.65**	**255**	Pn	**Pn**	**10 56 31.6**	**-0.2**
	0.4nm,0.3s,baz=90,slow=14,SNR=20						
MJAR				Sn	**Sn**	**10 57 27.0**	**+2.4**
	0.1nm,0.3s,baz=16,slow=20,SNR=2.5						
MAT	**Matsushiro**	**4.65**	**255**	P	**Pn**	**10 56 31.6**	**-0.2**
MAT				*e*S	**Sn**	**10 57 25.6**	**+1.0**
JCH	**Churui**	**4.77**	**356**	P	**Pn**	**10 56 32.3**	**-1.1**
JCH				*e*S	**Sn**	**10 57 24.6**	**-2.8**
NEM2	**Nemuro 2**	**5.70**	**14**	P	**Pn**	**10 56 43.1**	**-3.1**
NEM2				*e*S	**Sn**	**10 57 44.3**	**-6.0**
H11N2	**WAKE ISLAND Hy**	**27.00**	**126**	T	T	11 29 09.4	
	baz=317,slow=74,SNR=6.6						
H11N1	**WAKE ISLAND Hy**	**27.01**	**126**	T	T	11 29 15.0	
	baz=317,slow=74,SNR=4.3						
H11N3	**WAKE ISLAND Hy**	**27.02**	**126**	T	T	11 29 06.9	
	baz=317,slow=74,SNR=6.4						
SONM	**Songino Array**	**28.93**	**302**	P	**P**	**11 01 21.0**	**+1.1**
	0.4nm,0.4s,baz=93,slow=7.9,SNR=3.3						
MKAR	**Makanchi Array**	**45.30**	**302**	P	**P**	**11 03 38.8**	**+0.5**
	0.3nm,0.7s,baz=90,slow=7.9,SNR=3.6						
KURBB	**Kurchatov Arra**	**47.00**	**308**	P	**P**	**11 03 52.3**	**+0.8**
	0.3nm,0.4s,baz=80,slow=8.0,SNR=4.1						
ILAR	**Eielson Array**	**47.78**	**33**	P	**P**	**11 03 58.1**	**+0.6**
	0.4nm,0.7s,baz=255,slow=6.5,SNR=5.4						
BVAR	**Borovoye Array**	**51.43**	**312**	P	**P**	**11 04 26.1**	**+0.7**
	0.4nm,0.5s,baz=94,slow=7.5,SNR=2.3						
YKA	**Yellowknife Ar**	**62.14**	**31**	P	**P**	**11 05 42.0**	**+0.8**
	0.2nm,0.7s,baz=302,slow=7.2,SNR=3.1						

IDC 18 11:00:58.2±7.4, 6.°37S×146.°96E, h75km±70km, mb3.4/2, mb1 3.6/4, mb1mx3.2/25, mbtmp3.7/4, ML3.0/2, Error ellipse: s-maj=65.3km s-min=51.5km az=117.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.03**	**176**	P	Pn	11 01 43.9	0.0
	20nm,0.3s,baz=12,slow=14,SNR=54						
PMG				S	Sn	11 02 19.9	+0.8
	34nm,0.3s,baz=97,slow=23,SNR=8.1						
WRA	**Warramunga Arr**	**18.23**	**221**	P	P	11 05 05.2	-0.4
	0.2nm,0.3s,baz=48,slow=12,SNR=11						
ASAR	**Alice Springs**	**21.29**	**215**	P	P	11 05 38.7	-0.1
	0.6nm,0.5s,baz=50,slow=9.0,SNR=14						
FITZ	**Fitzroy Crossi**	**23.84**	**239**	P	P	11 06 04.6	0.0
	3.9nm,0.9s,baz=54,slow=11,SNR=7.6						
TORD	**Torodi Ar. Bea**	**145.14**	**284**	PKPbc	PKPbc	11 20 27.0	-0.8
	0.5nm,0.6s,baz=94,slow=4.5,SNR=4.8						

PGC 18 11:09:12.2±0.0, 59.°23N×117.°14W, h5km, ML3.8/6, 194km southwest of Hay R., Nt Alberta, Canada, Alberta

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HILA	**High Level**	**0.68**	**175**	P	Pg	11 09 24.8	-0.4
HILA				S	Sg	11 09 33.4	-0.6
FSMA	**Fort Smith**	**2.81**	**72**	Pn	Pn	11 09 57.3	-0.4
FSMA				Sn	Sn	11 10 30.8	-1.1
RDEA	**Red Earth Cree**	**2.86**	**159**	Pn	Pn	11 09 58.2	-0.1
RDEA				Sg	Sb	11 10 39.0	+0.2
FNBB	**Fort Nelson**	**3.05**	**266**	Pn	Pn	11 10 01.1	+0.1
FNBB				Pg	Pb	11 10 08.2	+1.3
FNBB				Sg	Sb	11 10 45.8	+1.5
YKW1	**Yellowknife Ar**	**3.52**	**20**	Pn	Pn	11 10 05.9	-1.6
YKW1				Pg	Pb	11 10 15.9	+1.0
YKW1				Sn	Sn	11 10 46.4	-3.0
YKW1				Sg	Sb	11 11 00.2	+2.3
YKW3	**Yellowknife Ar**	**3.56**	**19**	Pn	Pn	11 10 06.6	-1.4
YKW3				Pg	Pb	11 10 17.0	+1.4
YKW3				Sn	Sn	11 10 48.3	-2.3
YKW3				Sg	Sb	11 11 02.4	+3.2
BMBC	**Bull Mountain**	**4.17**	**222**	Pg	Pb	11 10 26.9	+0.9
BMBC				Sn	Sn	11 11 02.9	-2.7
BMBC				Sg	Sb	11 11 17.5	+0.9
ATHA	**Athabasca**	**4.99**	**154**	Sg	Sb	11 11 44.5	+4.4
FSB	**Fort Saint Jam**	**6.18**	**223**	Sg	Sb	11 12 20.5	+6.1
DLBC	**Dease Lake**	**6.74**	**269**	Pn	Pn	11 10 50.0	-1.7
DLBC				Sg	Sg	11 12 41.2	-7.1
SLEB	**Sale Mountain**	**8.10**	**184**	Sg	Sg	11 13 22.7	-9.3
PRDA	**Priddis**	**8.54**	**168**	Sg	Sg	11 13 36.2	-10
FCC	**Fort Churchill**	**11.88**	**82**	Sn	Sn	11 14 04.4	-10
ULM	**Lac du Bonnet**	**15.16**	**117**	Sn	Sn	11 15 20.4	-14

MEX 18 11:16:21.2±0.7, 16.°17N×98.°29W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.27**	**35**	*i* P	Pg	11 16 25.3	-1.2
PNIG				*e*S	Sg	11 16 30.4	+0.3
VHO	**Vista Hermosa**	**1.74**	**59**	*e*P	Pn	11 16 49.1	-3.2
VHO				*i* S	Sn	11 17 10.2	-4.8
HUIG	**Huatulco**	**2.14**	**100**	*i* P	Pn	11 16 53.7	-3.8
HUIG				*i* S	Sn	11 17 19.9	-4.5

ISK ***18*** *11:20:25.7, 37.°34N×37.°12E, h9km, ML2.3/5*
ISCJB ***18*** *11:20:26.8±0.6, 37.°31N±0.°03×37.°11E±0.°04, h5km±6km, Error ellipse: s-maj=6.7km s-min=3.9km az=39.3*
DDA ***18*** *11:20:26.7, 37.°31N×37.°15E, h11km±3km, ML3.1*

ISC 18 11:20:26.3±1.0, 37.°34N±0.°04×37.°14E±0.°03, h8km±8km, n16, σ0°58/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.17**	**160**	PG	**Pg**	**11 20 30.0**	**+0.1**
GAZ				SG	**Sg**	**11 20 33.0**	**+0.6**
KMRS	**Kahramanmaras**	**0.25**	**312**	PG	**Pg**	**11 20 31.3**	**-0.1**
KMRS				SG	**Sg**	**11 20 34.9**	**0.0**
GZT	**Gaziantep**	**0.34**	**87**	IAML_P			
	comp=Z,4μm,0.1s						
GZT				*i* P	**Pb**	**11 20 33.9**	**-0.8**
KUZU	**Kuzuini**	**0.56**	**185**	IAML_P			
	comp=Z,3μm,0.1s						
KUZU				*i* P	**Pb**	**11 20 38.8**	**+0.4**
KUZU				*i* S	**Sb**	**11 20 46.4**	**-0.2**
ANDN	**Andirin**	**0.68**	**291**	IAML_P			
	comp=Z,1μm,0.1s						
ANDN				*i* P	**Pb**	**11 20 39.9**	**-0.6**
ANDN				*i* S	**Sb**	**11 20 50.7**	**+0.7**
ATAB	**Bozova**	**0.93**	**81**	IAML_P			
	comp=Z,5μm,0.2s						
ATAB				*i* P	**Pn**	**11 20 45.4**	**-0.3**
ATAB				*i* S	**Sn**	**11 20 58.9**	**-0.4**
ELBS	**KAHRAMANMARAS**	**0.99**	**360**	IAML_P			
	comp=Z,2μm,0.1s						
ELBS				*i* P	**Pn**	**11 20 47.0**	**+0.5**
ELBS				*i* S	**Sn**	**11 21 02.0**	**+1.2**
KOZT	**Kozan**	**1.05**	**278**	PG	**Pg**	**11 20 46.1**	**-0.5**
KOZT				SG	**Sb**	**11 21 01.0**	**+0.2**
SAIM	**ADANA**	**1.05**	**308**	IAML_P			
	comp=Z,736nm,0.1s						
SAIM				*i* P	**Pn**	**11 20 47.2**	**-0.3**
SAIM				*i* S	**Sn**	**11 21 03.0**	**+0.6**
AKCD	**Akcadag**	**1.14**	**33**	IAML_P			
	comp=Z,2μm,0.1s						
AKCD				*i* P	**Pn**	**11 20 49.1**	**+0.4**
AKCD				*i* S	**Sn**	**11 21 05.5**	**+0.8**
CEYT	**Ceyhan**	**1.16**	**254**	PN	**Pb**	**11 20 47.6**	**-0.9**
TAHT	**Tahtakopru-Hat**	**1.23**	**219**	PN	**Pb**	**11 20 49.4**	**-0.3**
DARE	**Darende-Malaty**	**1.26**	**12**	PN	**Pn**	**11 20 50.0**	**-0.4**
SURC	**SANLIURFA_SURC**	**1.26**	**111**	IAML_P			
	comp=Z,707nm,0.1s						
SURC				*i* P	**Pg**	**11 20 50.5**	**-0.1**
SURC				*i* S	**Sn**	**11 21 08.1**	**+0.6**
URFA	**Urfa**	**1.34**	**85**	PN	**Pb**	**11 20 51.5**	**-0.3**
SANL	**SANLIURFA_Merk**	**1.49**	**96**	IAML_P			
	comp=Z,2μm,0.1s						
SANL				*i* P	**Pg**	**11 20 54.8**	**0.0**
SANL				*i* S	**Sn**	**11 21 12.0**	**-0.9**

ISCJB ***18*** *11:36:16.8±0.3, 38.°60N±0.°04×12.°06E±0.°05, h12km, mb3.4/5, Error ellipse: s-maj=7.0km s-min=3.0km az=44.4*
ROM ***18*** *11:36:17.9±0.6, 38.°57N±0.°03×12.°16E±0.°04, h10km, ML3.1/1*
IDC ***18*** *11:36:17.2±1.6, 38.°35N×12.°40E, h0km, mb3.5/5, mb1 3.6/7, mb1mx3.4/52, mbtmp3.5/7, ML3.1/2, MS2.8/1, Ms1 2.8/1, ms1mx2.2/41, Error ellipse: s-maj=44.4km s-min=29.8km az=133.0*
LDG ***18*** *11:36:20.0±0.1, 38.°44N×12.°13E, h10km, Ml2.9/7, Error ellipse: s-maj=7.5km s-min=1.6km az=43.0*

ISC 18 11:36:18.2±0.7, 38.°52N±0.°05×12.°10E±0.°05, h12km, n29, σ2°04/40, mb3.5/5, Sicily

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTGR	**Montagna Grand**	**0.81**	**140**	P	**Pg**	**11 36 32.7**	**-1.3**
USI	**Ustica**	**0.86**	**77**	P	**Pg**	**11 36 33.9**	**-1.0**
USI				AML	AML		
	comp=E,42200μm,0.4s						
USI				AML	AML		
	comp=N,34850μm,0.3s						
MFNL	**Monte Finestre**	**0.97**	**138**	P	**Pn**	**11 36 37.5**	**-0.3**
CRJA	**Costa Raja**	**1.01**	**135**	P	**Pb**	**11 36 37.1**	**-0.6**
MPG	**Monte Pellegri**	**1.05**	**110**	P	**Pb**	**11 36 36.5**	**-1.8**
MPG				S	**Sb**	**11 36 51.1**	**-1.0**
MPG				AML	AML		
	comp=E,1465μm,0.5s						
MPG				AML	AML		
	comp=N,1298μm,1.4s						
MPG				AML	AML		
	comp=N,1298μm,1.4s						
MPG				AML	AML		
	comp=E,1465μm,0.5s						
MMGO	**Monte Magaggia**	**1.10**	**141**	P	**Pg**	**11 36 38.6**	**-0.8**
CORL	**Corleone**	**1.13**	**123**	P	**Pb**	**11 36 38.5**	**-1.3**
SOLUN	**Solunto**	**1.20**	**110**	P	**Pn**	**11 36 39.1**	**-1.8**
SOLUN				AML	AML		
	comp=E,680μm,1.1s						
SOLUN				AML	AML		
	comp=N,788μm,0.8s						
SOLUN				AML	AML		
	comp=E,680μm,1.1s						
SOLUN				AML	AML		
	comp=N,788μm,0.8s						
CLTB	**Caltabellotta**	**1.29**	**137**	P	**Pb**	**11 36 41.6**	**-0.8**
CLTB				AML	AML		
	comp=E,5645μm,0.5s						
CLTB				AML	AML		
	comp=N,13150μm,0.6s						
CLTB				AML	AML		
	comp=E,5645μm,0.5s						
CLTB				AML	AML		
	comp=N,13150μm,0.6s						
FAVR	**Favara**	**1.76**	**135**	P	**Pb**	**11 36 50.3**	**-0.1**
HLNI	**Lentini**	**2.48**	**117**	P	**Pn**	**11 36 58.4**	**-0.1**
HCRL	**Carlentini**	**2.62**	**117**	P	**Pn**	**11 37 00.4**	**0.0**
HCRL				S	**Sn**	**11 37 32.1**	**-0.1**
MEU	**Monte Lauro**	**2.65**	**121**	AML	AML		
	comp=E,592μm,0.4s						
MEU				AML	AML		
	comp=E,592μm,0.4s						
MEU				AML	AML		
	comp=N,574μm,0.3s						
MEU				AML	AML		
	comp=N,574μm,0.3s						
KEST	**Kesra**	**3.55**	**219**	Pn	**Pn**	**11 37 14.1**	**+0.9**
	comp=N,1.9nm,0.3s,baz=331,slow=17,SNR=9.2						
KEST				Sn	**Sn**	**11 37 55.2**	**0.0**
	comp=N,2.8nm,0.3s,baz=35,slow=18,SNR=6.3						
PGF	**Pioggiola**	**4.67**	**331**	*e*Pn	**Pn**	**11 37 29.9**	**+1.3**
PGF				*e*Sn	**Sn**	**11 38 22.2**	**-0.5**
SBF	**Sospel**	**6.39**	**328**	*e*Pn	**Pn**	**11 37 53.2**	**+0.9**
SBF				*e*Sn	**Sn**	**11 39 02.4**	**-2.8**
LMR	**La Mourre**	**6.41**	**320**	*e*Pn	**Pn**	**11 37 52.9**	**+0.5**
LMR				*e*Sn	**Sn**	**11 39 03.0**	**-2.4**
FRF	**La Foret Royal**	**6.51**	**322**	*e*Pn	**Pn**	**11 37 54.4**	**+0.6**
FRF				*e*Sn	**Sn**	**11 39 04.9**	**-3.0**
	comp=N,1.1nm,0.2s						
SMRF	**Simiane la Rot**	**7.34**	**320**	*e*Pn	**Pn**	**11 38 06.0**	**+0.7**
SMRF				*e*Sn	**Sn**	**11 39 25.3**	**-3.2**
	comp=N,2.8nm,0.4s						
MBDF	**Montbardon**	**7.38**	**329**	*e*Pn	**Pn**	**11 38 06.8**	**+1.0**
MBDF				*e*Sn	**Sn**	**11 39 26.2**	**-3.3**
	comp=N,0.2nm,0.1s						
ORIF	**Oris-en-Rattie**	**7.91**	**326**	*e*Pn	**Pn**	**11 38 13.0**	**-0.1**
ORIF				*

JYT				S	Sg	11 45 36.8	-0.7		
JHJ	**Hachijo jima 2**	**2.43**	**203**	Pn	**Pn**	**11 45 42.9**	**-0.9**		
	11nm,0.3s,baz=127,slow=20,SNR=3.7								
JHJ				Sn	**Sn**	**11 46 11.8**	**-1.8**		
	36nm,0.3s,baz=90,slow=20,SNR=4.4								
MJAR	**Matsushiro Arr**	**2.48**	**299**	Pn	**Pn**	**11 45 46.5**	**+1.8**		
	0.6nm,0.3s,baz=107,slow=14,SNR=23								
MJAR				Sn	**Sb**	**11 46 20.3**	**+0.9**		
	0.5nm,0.3s,baz=149,slow=14,SNR=6.4								
MAT	**Matsushiro**	**2.48**	**299**	P	**Pb**	**11 45 48.0**	**-0.8**		
MAT				eS	**Sn**	**11 46 12.9**	**-2.1**		
ASAJ	**Asahikawa**	**8.84**	**8**	Pn	**Pn**	**11 47 10.0**	**-1.8**		
	0.3nm,0.3s,baz=225,slow=14,SNR=4.3								
H11N2	**WAKE ISLAND Hy**	**27.70**	**117**	T	T	12 19 47.2			
	baz=310,slow=75,SNR=156								
H11N1	**WAKE ISLAND Hy**	**27.71**	**117**	T	T	12 19 47.2			
	baz=310,slow=75,SNR=176								
H11N3	**WAKE ISLAND Hy**	**27.72**	**117**	T	T	12 19 50.2			
	baz=310,slow=75,SNR=176								
H11S1	**WAKE ISLAND Hy**	**28.35**	**120**	T	T	12 20 39.5			
	baz=312,slow=76,SNR=602								
H11S3	**WAKE ISLAND Hy**	**28.35**	**120**	T	T	12 20 35.3			
	baz=312,slow=76,SNR=551								
H11S2	**WAKE ISLAND Hy**	**28.36**	**120**	T	T	12 20 36.5			
	baz=312,slow=76,SNR=417								
MKAR	**Makanchi Array**	**44.67**	**303**	P	**P**	**11 53 18.2**	**+1.2**		
	0.2nm,0.7s,baz=89,slow=9.4,SNR=3.5								
KURBB	**Kurchatov Arra**	**46.72**	**309**	P	**P**	**11 53 34.2**	**+1.1**		
	0.2nm,0.5s,baz=85,slow=8.2,SNR=3.2								
ILAR	**Eielson Array**	**51.12**	**32**	P	**P**	**11 54 06.9**	**+0.2**		
	0.2nm,0.7s,baz=262,slow=6.5,SNR=4.2								
WRA	**Warramunga Arr**	**55.36**	**188**	P	**P**	**11 54 38.0**	**-0.3**		
	0.4nm,0.6s,baz=1.7,slow=7.3,SNR=7.5								
ASAR	**Alice Springs**	**59.09**	**187**	P	**P**	**11 55 04.3**	**-0.3**		
	0.4nm,0.9s,baz=19,slow=11,SNR=5.2								

IDC 18 11:54:28.0±2.0, 2°28S×67°91E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.5/58, mbtmp3.8/5, MS3.2/5, Ms1 3.3/5, ms1mx2.9/42, Error ellipse: s-maj=58.3km s-min=30.6km az=66.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**5.06**	**143**	T	T	12 00 45.8	
	baz=325,slow=76,SNR=684						
H08N3	**Diego Garcia H**	**5.07**	**143**	T	T	12 00 46.7	
	baz=325,slow=76,SNR=1656						
H08N1	**Diego Garcia H**	**5.08**	**143**	T	T	12 00 51.1	
	baz=325,slow=76,SNR=1918						
PALK	**Pallekele**	**15.91**	**53**	LR	LR	12 02 55.0	
	comp=Z,125nm,19.5s,baz=296,slow=32						
KMBO	**Kilima Mbogo**	**30.66**	**272**	LR	LR	12 10 41.7	
	comp=Z,37nm,18.9s,baz=88,slow=32						
CMAR	**Chiang Mai Arr**	**36.85**	**55**	P	P	12 01 38.9	+0.6
	0.3nm,0.3s,baz=253,slow=9.2,SNR=2.9						
CMAR				LR	LR	12 15 22.3	
	comp=Z,26nm,19.4s,baz=266,slow=34						
BOSA	**Boshof**	**48.32**	**233**	LR	LR	12 19 59.1	
	comp=Z,42nm,19.6s,baz=80,slow=32						
BRTR	**Keskin Array B**	**52.29**	**327**	LR	LR	12 25 50.5	
	comp=Z,19nm,18.2s,baz=322,slow=36						
KURBB	**Kurchatov Arra**	**53.48**	**8**	P	P	12 03 49.2	-0.7
	0.3nm,0.4s,baz=200,slow=7.2,SNR=3.1						
SONM	**Songino Array**	**60.15**	**29**	P	P	12 04 37.5	-0.2
	0.7nm,0.8s,baz=216,slow=7.1,SNR=4.2						
WRA	**Warramunga Arr**	**67.09**	**111**	P	P	12 05 23.7	-0.2
	1.9nm,1.0s,baz=290,slow=5.8,SNR=7.4						
ASAR	**Alice Springs**	**67.14**	**115**	P	P	12 05 24.0	-0.2
	0.9nm,0.9s,baz=286,slow=5.7,SNR=6.4						
TXAR	**Lajitas Array**	**151.93**	**344**	PKPbc	PKiKP	12 14 26.4	+0.1
	0.5nm,0.9s,baz=58,slow=3.5,SNR=5.3						

MAN 18 12:24:01.8, 6°80N×125°58E, h26km, mb4.2, ML3.0, MS2.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.71**	**170**	*e*P	Pb	12 24 11.7	-3.8
DDMP				eS	Sb	12 24 21.3	-3.6
GSPH	**General Santos**	**0.95**	**222**	*i*P	Pn	12 24 10.2	-9.4
GSPH				*i* S	Sb	12 24 17.7	-14
SKMP	**Bagumbayan, Su**	**1.07**	**255**	*e*P	Pn	12 24 20.5	-0.7
SKMP				eS	Sb	12 24 35.6	+0.3
BUKP	**Musuan**	**1.19**	**334**	*e*P	Pb	12 24 35.0	+11
BUKP				eS	Sb	12 25 02.3	+24

IDC 18 12:25:41.0±0.6, 0°12N×97°55E, h0km, mb4.4/18, mb1 4.5/20, mb1mx4.2/56, mbtmp4.4/20, ML4.4/2, Error ellipse: s-maj=20.5km s-min=12.7km az=51.0
BJI 18 12:25:40.1, 0°32S×97°90E, h29km, mb4.6/38, mB5.1/27, Ms4.7/3, Ms7 4.4/2
KLM 18 12:25:42.5, 0°17N×97°29E, h25km, mb4.6
ISCJB 18 12:25:43.4±0.3, 0°22N±0°04×97°67E±0°04, h25km, mb4.6/37, Error ellipse: s-maj=7.3km s-min=3.6km az=141.6
DJA 18 12:25:44.3±0.6, 0°N±4°×9°8E±°, h25km±4km, M4.6/12, mb4.5/7, mB5.3/3, MLv4.7/12, Mw(mB)4.7/3
NEIC 18 12:25:46.3±0.5, 0°22N×97°68E, h35km, mb4.6/15, Error ellipse: s-maj=10.4km s-min=5.8km az=55.0

ISC 18 12:25:45.1±0.5, 0°22N±0°05×97°65E±0°06, h25km, n109, σ1ᵍ28/109, mb4.6/39, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**2.01**	**74**	P	**Pn**	**12 26 17.5**	**0.0**
SISI	**Saibi**	**2.11**	**137**	P	**Pn**	**12 26 19.3**	**+0.5**
SNSI	**Sinabang, Aceh**	**2.54**	**329**	P	**Pn**	**12 26 24.1**	**-0.7**
SNSI				S	**Sn**	**12 26 52.3**	**-2.7**
PSI	**Prapat**	**2.86**	**26**	Pn	**Pn**	**12 26 28.1**	**-1.1**
	14nm,0.3s,baz=180,slow=8.6,SNR=38						
PSI	**Prapat**	**2.86**	**26**	*e*Pn	**Pn**	**12 26 27.9**	**-1.4**
PSI				eSn	**Sn**	**12 26 58.7**	**-4.3**
PDSI	**Padang**	**3.03**	**112**	P	**Pn**	**12 26 31.1**	**-0.5**
KCSI	**Kotacane, Aceh**	**3.28**	**2**	P	**Pn**	**12 26 34.0**	**-1.0**
TSI	**Tuntungan**	**3.38**	**16**	P	**Pn**	**12 26 35.8**	**-0.6**
BKNI	**Bangkinang**	**3.39**	**88**	*e*Pn	**Pn**	**12 26 35.5**	**-1.0**
BKNI	**Bangkinang**	**3.39**	**88**	P	**Pn**	**12 26 34.3**	**-2.2**
SDSI	**Sungai Dareh**	**3.95**	**107**	P	Pb	12 27 04.2	+10
KRJI	**Kerinci**	**4.45**	**121**	P	**Pn**	**12 26 52.4**	**+1.2**
KRJI				S	**Sn**	**12 27 40.5**	**-1.8**
LHMI	**Lhok Sumawe**	**5.02**	**352**	*e*Pn	**Pn**	**12 26 58.5**	**-0.5**
LHMI				eSn	**Sn**	**12 27 54.6**	**-1.6**
IPM	**Ipoh**	**5.41**	**39**	*e*Pn	**Pn**	**12 27 05.2**	**+0.9**
IPM	**Ipoh**	**5.41**	**39**	P	**Pn**	**12 27 05.4**	**+1.2**
MASI	**Maura Aman, Be**	**5.68**	**126**	P	**Pn**	**12 27 07.3**	**-0.7**
MASI				S	**Sn**	**12 28 08.4**	**-4.0**
KULM	**Kulim**	**5.86**	**31**	*e*Pn	**Pn**	**12 27 09.2**	**-1.2**
KULM	**Kulim**	**5.86**	**31**	P	**Pn**	**12 27 10.8**	**+0.4**
KGM	**Kluang**	**5.94**	**73**	P	**Pn**	**12 27 12.5**	**+0.9**
MYKOM	**Kota Tinggi**	**6.39**	**76**	*e*Pn	Pn	12 27 12.5	-5.3
MYKOM	**Kota Tinggi**	**6.39**	**76**	P	**Pn**	**12 27 18.7**	**+1.0**
MNAI	**Manna**	**6.99**	**131**	*e*Pn	**Pn**	**12 27 26.7**	**+0.7**
MNAI				eSn	**Sn**	**12 28 42.4**	**-2.4**
KTGM	**Kuala Trenggan**	**7.46**	**47**	P	**Pn**	**12 27 33.6**	**+1.1**
CISI	**Cisompet, Garu**	**12.75**	**128**	*e*Pn	**Pn**	**12 28 43.4**	**-1.6**
SRAK	**Srakaew**	**14.37**	**17**	P	**P**	**12 29 17.3**	**+3.4**
SBUM	**Sibu**	**14.73**	**81**	*e*Pn	**Pn**	**12 29 10.7**	**-1.4**
UTHA	**Uthaitani**	**15.34**	**7**	P	**P**	**12 29 25.9**	**+1.3**
PBKT	**Sadao Pong**	**16.57**	**11**	*e*Pn	**Pn**	**12 29 33.9**	**-2.0**
	13nm,0.9s						
PBKT	**Sadao Pong**	**16.57**	**11**	P	**P**	**12 29 37.9**	**-0.4**
	15nm,0.7s,1μm						
SUKH	**Sukhothai**	**17.26**	**6**	P	**P**	**12 29 47.2**	**+1.3**
	5.2nm,0.7s						
CM01	**Chiang Mai Arr**	**18.13**	**4**	*e*Pn	**P**	**12 29 56.3**	**+0.8**
CM31	**Chiang Mai Arr**	**18.16**	**4**	*e*Pn	**P**	**12 29 56.0**	**0.0**
CMAR	**Chiang Mai Arr**	**18.16**	**4**	P	**Pn**	**12 29 55.4**	**-0.4**
	1.3nm,0.3s,baz=192,slow=12,SNR=27						
LAMP	**Lampang**	**18.29**	**6**	P	**Pn**	**12 29 59.7**	**+2.4**
	3.0nm,0.7s						
CHTO	**Chiang Mai**	**18.52**	**4**	P	**P**	**12 29 59.7**	**-0.1**
	48nm,0.9s						
CMMT	**Chiang Mai**	**18.52**	**4**	P	**P**	**12 29 59.6**	**-0.2**
	8.4nm,0.8s						
KKM	**Kota Kinabalu**	**19.41**	**72**	*e*P	**Pn**	**12 30 10.4**	**-0.6**
	39nm,1.1s						
KKM	**Kota Kinabalu**	**19.41**	**72**	P	**Pn**	**12 30 11.0**	**0.0**
SDKM	**Sandakan**	**20.24**	**74**	P	Pn	12 30 20.0	-0.9
KDM	**Kudat**	**20.26**	**70**	P	**P**	**12 30 19.6**	**+0.7**
MRSI	**Marisa**	**24.29**	**89**	P	**P**	**12 30 59.6**	**-1.2**

LUWI	**Luwuk**	**25.15**	**93**	*e*P	**P**	**12 31 08.8**	**+0.1**		
	51nm,0.6s								
KMI	**Kunming**	**25.24**	**11**	P	**P**	**12 31 12.3**	**+2.8**		
KMI				pmax	pmax				
	comp=Z,21nm,1.0s								
KMI				pmax	pmax				
	comp=Z,130nm,5.3s								
H08S2	**Diego Garcia H**	**26.27**	**252**	T	T	12 58 31.3			
	baz=73,slow=76,SNR=7124								
H08S3	**Diego Garcia H**	**26.28**	**252**	T	T	12 58 31.6			
	baz=73,slow=76,SNR=4430								
H08S1	**Diego Garcia H**	**26.29**	**252**	T	T	12 58 32.6			
	baz=73,slow=76,SNR=3982								
JIRN	**Jiri**	**29.41**	**339**	*e*P	**P**	**12 31 48.3**	**+1.1**		
	36nm,1.0s								
GUN	**Gumba**	**29.75**	**339**	*e*P	**P**	**12 31 51.2**	**+1.0**		
KOLN	**Koldanda**	**30.53**	**335**	*e*P	**P**	**12 31 57.8**	**+1.0**		
	13nm,0.7s								
CD2	**Chengdu**	**31.06**	**10**	*e*P	**P**	**12 32 02.0**	**+0.6**		
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CD2				pmax	pmax				
	comp=Z,140nm,4.8s								
PYUN	**Piuthan**	**31.07**	**334**	*e*P	**P**	**12 32 02.5**	**+0.8**		
FITZ	**Fitzroy Crossi**	**33.00**	**125**	P	**P**	**12 32 16.8**	**-1.7**		
	3.6nm,0.7s,baz=302,slow=8.1,SNR=5.1								
FITZ	**Fitzroy Crossi**	**33.00**	**125**	*e*P	**P**	**12 32 17.3**	**-1.2**		
	11nm,1.1s								
XAN	**Xi'an**	**35.26**	**16**	P	**P**	**12 32 37.3**	**-0.7**		
XAN				pP	pP	12 32 43.9	-1.5		
XAN				pmax	pmax				
	comp=Z,27nm,1.0s								
XAN				pmax	pmax				
	comp=Z,430nm,4.5s								
XAN	**Xi'an**	**35.26**	**16**	*e*P	**P**	**12 32 37.6**	**-0.4**		
	37nm,1.0s								
LZH	**Lanzhou**	**36.14**	**9**	*e*P	**P**	**12 32 48.0**	**+2.4**		
LZH				pP	sP	12 32 54.9	-1.3		
LZH				sP	pP	12 32 57.9	+4.8		
LZH				pmax	pmax				
	comp=Z,23nm,1.0s								
NJ2	**Nanjing**	**37.47**	**30**	*e*P	**P**	**12 32 56.3**	**-0.4**		
NJ2				pmax	pmax				
	comp=Z,17nm,0.5s								
H01W3	**Cape Leeuwin H**	**38.18**	**158**	T	T	13 13 40.3			
	baz=334,slow=76,SNR=19								
H01W2	**Cape Leeuwin H**	**38.19**	**158**	T	T	13 13 41.3			
	baz=334,slow=76,SNR=14								
H01W1	**Cape Leeuwin H**	**38.19**	**158**	T	T	13 13 41.4			
	baz=334,slow=76,SNR=14								
GTA	**Gaotai**	**39.05**	**3**	*e*P	**P**	**12 33 10.0**	**-0.2**		
GTA				pP	sP	12 33 19.6	-0.9		
GTA				sP	pP	12 33 23.5	+6.0		
GTA				pmax	pmax				
	comp=Z,3.0nm,1.3s								
GTA				pmax	pmax				
	comp=Z,97nm,5.2s								
WR1	**Warramunga Arr**	**41.14**	**121**	*e*P	**P**	**12 33 27.4**	**-0.3**		
	6.5nm,0.6s								
WRA	**Warramunga Arr**	**41.14**	**121**	P	**P**	**12 33 27.4**	**-0.3**		
	3.9nm,0.6s,baz=303,slow=8.9,SNR=66								
WRAB	**Tennant Creek**	**41.15**	**121**	*e*P	**P**	**12 33 27.4**	**-0.3**		
	8.2nm,0.6s								
WB2	**Warramunga Arr**	**41.15**	**121**	*e*P	**P**	**12 33 27.3**	**-0.5**		
	8.1nm,0.6s								
HHC	**Hu-ho-hao-te**	**42.37**	**16**	*e*P	**P**	**12 33 38.8**	**+1.3**		
HHC				pmax	pmax				
	comp=Z,16nm,0.8s								
HHC				pmax	pmax				
	comp=Z,90nm,5.2s								
ASAR	**Alice Springs**	**42.45**	**127**	P	**P**	**12 33 38.7**	**+0.3**		
	4.9nm,0.6s,baz=297,slow=8.1,SNR=72								
ASAR				PcP	**PcP**	**12 35 31.2**	**-0.1**		
	0.7nm,0.8s,baz=318,slow=2.5,SNR=3.4								
AS31	**Alice Springs**	**42.45**	**127**	*e*P	**P**	**12 33 38.5**	**0.0**		
	6.6nm,1.4s								
AS01	**Alice Springs**	**42.49**	**127**	*e*P	**P**	**12 33 39.0**	**+0.3**		
BJT	**Baijiatuan**	**43.06**	**21**	*e*P	**P**	**12 33 45.2**	**+2.2**		
	9.6nm,0.9s								
WMQ	**Urumqi**	**44.31**	**350**	*e*P	**P**	**12 33 55.0**	**+1.9**		
WMQ				pP	sP	12 34 02.8	-0.7		
WMQ				pmax	pmax				
	comp=Z,290nm,6.1s								
KS15	**Wonju Array Si**	**46.37**	**34**	*e*P	**P**	**12 34 09.7**	**+0.2**		
KS01	**Wonju Array Si**	**46.40**	**34**	*e*P	**P**	**12 34 10.0**	**+0.3**		
KSRS	**Korea Array**	**46.40**	**34**	P	**P**	**12 34 09.4**	**-0.2**		
	5.4nm,0.6s,baz=220,slow=9.0,SNR=21								
SONA0	**Songino Array**	**48.03**	**8**	*e*P	**P**	**12 34 23.1**	**+0.7**		
SONA0				ePcP	**PcP**	**12 35 51.0**	**+0.9**		
SONM	**Songino Array**	**48.03**	**8**	P	**P**	**12 34 23.1**	**+0.7**		
	5.7nm,0.6s,baz=190,slow=8.9,SNR=37								
SONM				PcP	**PcP**	**12 35 51.0**	**+0.9**		
	1.0nm,0.6s,baz=196,slow=2.9,SNR=2.6								
SONA1	**Songino Array**	**48.04**	**8**	*e*P	**P**	**12 34 23.1**	**+0.6**		
ULN	**Ulaanbaatar**	**48.15**	**8**	*e*P	**P**	**12 34 22.7**	**-0.7**		
	6.6nm,1.0s								
MK01	**Makanchi Array**	**48.27**	**346**	*e*P	**P**	**12 34 25.0**	**+0.9**		
MK31	**Makanchi Array**	**48.29**	**346**	*e*P	**P**	**12 34 25.3**	**+1.0**		
MK32	**Makanchi Array**	**48.29**	**346**	*e*P	**P**	**12 34 25.1**	**+0.7**		
MKAR	**Makanchi Array**	**48.29**	**346**	P	**P**	**12 34 25.1**	**+0.7**		
	5.6nm,0.6s,baz=158,slow=8.4,SNR=71								
MKAR	**Makanchi Array**	**48.29**	**346**	*e*P	**P**	**12 34 24.8**	**+0.5**		
	46nm,0.6s								
MAKZ	**Makanchi**	**48.38**	**346**	*e*P	**P**	**12 34 23.7**	**-1.3**		
	2.5nm,0.8s								
KK31	**Karatay Array**	**49.12**	**334**	*e*P	**P**	**12 34 28.5**	**-2.3**		
KKAR	**Karatay Array**	**49.12**	**334**	*e*P	**P**	**12 34 28.5**	**-2.3**		
CN2	**Changchun**	**49.97**	**26**	*e*P	**P**	**12 34 38.6**	**+1.4**		
CN2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
PMG	**Port Moresby**	**50.20**	**102**	P	**P**	**12 34 39.1**	**-0.3**		
	23nm,0.7s,baz=256,slow=4.2,SNR=9.9								
CTA	**Charters Tower**	**51.67**	**116**	P	**P**	**12 34 50.7**	**+0.3**		
	2.1nm,0.8s,baz=301,slow=12,SNR=2.7								
STKA	**Stephens Creek**	**52.37**	**132**	P	**P**	**12 34 56.8**	**+1.4**		
	2.0nm,0.8s,baz=311,slow=12,SNR=3.0								
KURK	**Kurchatov**	**52.84**	**345**	*e*P	**P**	**12 34 59.3**	**+0.7**		
	8.6nm,1.0s								
USRK	**Ussuriysk Ar.**	**53.37**	**30**	P	**P**	**12 35 02.9**	**+0.3**		
	8.9nm,0.9s,baz=232,slow=5.0,SNR=14								
ZAA0	**Zalesovo Array**	**54.59**	**351**	*e*P	**P**	**12 35 11.9**	**+0.6**		
	24nm,1.1s								
ZALV	**Zalesovo Beam**	**54.59**	**351**	P	**P**	**12 35 11.8**	**+0.6**		
	12nm,0.5s,baz=180,slow=6.3,SNR=72								
ZALV	**Zalesovo Beam**	**54.59**	**351**	*e*P	**P**	**12 35 11.9**	**+0.7**		
ZAA1	**Zalesovo Array**	**54.59**	**351**	*e*P	**P**	**12 35 11.8**	**+0.5**		
BR101	**Keskin Array B**	**70.10**	**313**	*e*P	**P**	**12 36 56.1**	**+0.4**		
BRTR	**Keskin Array B**	**70.10**	**312**	P	**P**	**12 36 56.1**	**+0.4**		
	0.9nm,1.0s,baz=83,slow=4.5,SNR=3.1								
TIXI	**Tiksi**	**74.06**	**10**	*e*P	**P**	**12 37 18.5**	**-0.1**		
	6.2nm,0.6s								
BOSA	**Boshof**	**74.69**	**240**	P	**P**	**12 37 21.4**	**-1.9**		
	5.6nm,0.7s,baz=131,slow=9.9,SNR=9.8								
AKASG	**Malin Array Be**	**76.30**	**323**	P	**P**	**12 37 31.7**	**-0.2**		
	0.2nm,0.3s,baz=94,slow=5.0,SNR=4.5								
MLR	**Muntele Rosu**	**77.08**	**317**	P	**P**	**12 37 36.1**	**-0.4**		
	1.4nm,0.5s,baz=151,slow=13,SNR=2.6								
FIA0	**FINESS Array S**	**81.07**	**333**	*e*P	**P**	**12 37 57.1**	**-0.8**		
FINES	**FINESS Array B**	**81.07**	**333**	P	**P**	**12 37 57.1**	**-0.8**		
	2.5nm,0.9s,baz=98,slow=5.8,SNR=3.5								
ARA0	**ARCESS Array S**	**83.60**	**340**	*e*P	**P**	**12 38 12.3**	**+1.3**		
ARCES	**ARCESS Array B**	**83.60**	**340**	P	**P**	**12 38 12.3**	**+1.3**		
	6.8nm,1.1s,baz=86,slow=5.0,SNR=5.6								
GERES	**GERESS Array B**	**85.84**	**319**	P	**P**	**12 38 23.1**	**+0.2**		
	0.1nm,0.2s,baz=87,slow=4.0,SNR=2.8								
PDAR	**Pinedale Array**	**130.71**	**26**	PKP	**PKPdf**	**12 44 54.4**	**-0.4**		
	0.2nm,0.7s,baz=241,slow=1.9,SNR=2.5								
CPUP	**Villa Florida**	**144.58**	**221**	PKP	**PKPdf**	**12 45 20.5**	**+0.1**		
	1.3nm,0.7s,baz=130,slow=5.7,SNR=4.5								

ISCJB 18 12:32:12.1±0.4, 6°89N±0°03×73°14W±0°04, h154km±3km, mb3.4/6, Error ellipse: s-maj=5.9km s-min=4.4km az=21.8
IDC 18 12:32:12.9±1.2, 6°80N×72°95W, h160km±13km, mb3.2/6, mb1 3.6/8, mb1mx3.3/35, mbtmp3.7/8, MS2.6/1, Ms1 2.6/1, ms1mx2.1/22, Error ellipse: s-maj=27.7km s-min=13.9km az=126.0
RSNC 18 12:32:14.0±0.9, 6°80N×73°14W, h146km±5km, ML3.7, Mw3.7

ISC 18 12:32:12.9±0.7, 6°87N±0°03×73°14W±0°04, h151km±5km, n34, σ1ᵍ55/56, mb3.4/6, 4C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.27**	**189**	*i* P	**Pn**	**12 32 33.7**	**-0.2**
BARC				*e*S	**Sn**	**12 32 48.5**	**-1.3**
BARC				*i*		12 32 50.1	
	comp=Z,2μm,0.2s						
BRRC	**Barranca, Sant**	**0.62**	**293**	*i* P	**Pn**	**12 32 35.6**	**+0.6**
BRRC				*e*S	**Sn**	**12 32 52.7**	**+0.8**
BRRC				*i*		12 32 56.6	
	comp=Z,900nm,0.1s						
PAMC	**Pamplona, Colo**	**0.64**	**43**	*i* P	**Pn**	**12 32 36.6**	**+0.8**
PAMC				*e*S	**Sn**	**12 32 53.5**	**+0.3**
PAMC				*i*		12 32 56.3	
	comp=Z,672nm,0.5s						
RUSC	**La Rusia**	**0.97**	**177**	*i* P	**Pn**	**12 32 37.6**	**-0.6**
RUSC				*e*S	**Sn**	**12 32 55.9**	**-1.5**
RUSC				*i*		12 32 57.6	
	comp=Z,378nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.35**	**256**	*i* P	**Pn**	**12 32 40.3**	**-0.7**
PTBC				*e*S	**Sn**	**12 33 01.4**	**-1.1**
OCAC	**Ocana**	**1.38**	**353**	*e*P	**Pn**	**12 32 41.9**	**+0.4**
OCAC				*e*S	**Sn**	**12 33 03.6**	**+0.2**
OCAC				*i*		12 33 09.2	
	comp=Z,658nm,0.3s						
TAMC	**Tame, Arauca**	**1.41**	**108**	*i* P	**Pn**	**12 32 42.0**	**+0.4**
TAMC				*e*S	**Sn**	**12 33 03.2**	**-0.4**
TAMC				*i*		12 33 04.3	
	comp=Z,384nm,0.5s						
ZARC	**Zaragoza, Cauc**	**1.82**	**290**	*e*P	**Pn**	**12 32 46.4**	**+0.3**
ZARC				*e*S	**Sn**	**12 33 12.2**	**+0.8**
ZARC				*i*		12 33 18.8	
	comp=Z,594nm,0.4s						
CTAB	**Cerro Tablazo,**	**2.12**	**210**	*e*P	**Pn**	**12 32 52.2**	**+2.1**
CTAB				*e*S	**Sn**	**12 33 22.2**	**+3.6**
CHIC	**Chingaza**	**2.30**	**195**	*e*P	**Pn**	**12 32 51.9**	**-0.2**
CHIC				*e*S	**Sn**	**12 33 20.7**	**-1.6**
CHIC				*i*		12 33 25.3	
	comp=Z,187nm,0.7s						
ROSC	**El Rosal**	**2.33**	**210**	P	**Pn**	**12 32 53.4**	**+0.9**
	comp=Z,22nm,0.3s,baz=300,slow=4.7,SNR=31						
ROSC				S	**Sn**	**12 33 21.2**	**-1.6**
	comp=Z,30nm,0.3s,baz=98,slow=16,SNR=8.9						
ROSC	**El Rosal**	**2.33**	**210**	*e*P	**Pn**	**12 32 52.9**	**+0.4**
ROSC				*e*S	**Sn**	**12 33 22.1**	**-0.8**
ROSC				*i*		12 33 31.4	
	comp=Z,335nm,0.5s						
HELC	**Santa Helena**	**2.47**	**254**	*e*P	**Pn**	**12 32 54.1**	**0.0**
HELC				*e*S	**Sn**	**12 33 26.2**	**+0.5**
HELC				*i*		12 33 33.0	
	comp=Z,349nm,0.5s						
HELC				*i*		12 33 33.5	
	comp=N,378nm,0.4s						
UREC	**San Jos de Ur**	**2.53**	**291**	*e*P	**Pn**	**12 32 54.1**	**-0.4**
UREC				*e*S	**Sn**	**12 33 25.8**	**-0.8**
VILC	**Villavicencio,**	**2.79**	**191**	*e*P	**Pn**	**12 32 57.2**	**-0.6**
VILC				*e*S	**Sn**	**12 33 31.1**	**-1.5**
VILC				*i*		12 33 35.6	
	comp=Z,226nm,0.3s						
RREF	**El Recreo**	**2.94**	**228**	*e*P	**Pn**	**12 33 00.6**	**+0.4**
RREF				*e*S	**Sn**	**12 33 36.2**	**-0.4**
RREF				*i*		12 33 42.1	
	comp=Z,222nm,0.6s						
SDV	**Santo Domingo**	**3.19**	**51**	P	**Pn**	**12 33 03.4**	**+0.4**
	comp=Z,12nm,0.3s,baz=229,slow=11,SNR=83						
SDV				S	**Sn**	**12 33 40.0**	**-1.8**
	comp=Z,43nm,0.3s,baz=254,slow=22,SNR=21						
SDV	**Santo Domingo**	**3.19**	**51**	*e*P	**Pn**	**12 33 03.3**	**+0.3**
SDV				*e*S	**Sn**	**12 33 39.7**	**-2.0**
ANIL	**Santa Ana**	**3.26**	**224**	*e*P	**Pn**	**12 33 05.2**	**+1.3**
ANIL				*e*S	**Sn**	**12 33 42.8**	**-0.6**
ANIL				*i*		12 33 51.0	
	comp=Z,140nm,0.3s						
SJCC	**San Jacinto,

UTTA	**Uttaradit**	**17.56**	**9**	P		**P**	**12 38 10.7**	**+2.9**
	2.8nm,0.9s							
CM01	**Chiang Mai Arr**	**18.05**	**4**	*e*Pn		**P**	**12 38 13.1**	**-0.1**
CM31	**Chiang Mai Arr**	**18.08**	**4**	*e*Pn		**Pn**	**12 38 12.1**	**-1.2**
CMAR	**Chiang Mai Arr**	**18.08**	**4**	P		**Pn**	**12 38 12.7**	**-0.7**
	0.8nm,0.3s,baz=193,slow=12,SNR=33							
LAMP	**Lampang**	**18.21**	**6**	P		**P**	**12 38 17.7**	**+2.8**
	2.8nm,0.8s							
CHTO	**Chiang Mai**	**18.43**	**4**	*e*P		**P**	**12 38 16.7**	**-0.7**
	9.6nm,0.8s							
CHTO	**Chiang Mai**	**18.43**	**4**	P		**Pn**	**12 38 17.8**	**+0.1**
	62nm,0.9s							
CMMT	**Chiang Mai**	**18.43**	**4**	P		**Pn**	**12 38 17.7**	**0.0**
	14nm,0.9s							
NONG	**Nongkai**	**18.45**	**17**	P		**Pn**	**12 38 17.6**	**-0.3**
	0.5nm,1.6s,130nm							
KKM	**Kota Kinabalu**	**19.39**	**73**	*e*P		**P**	**12 38 27.2**	**-0.9**
	16nm,0.8s							
KMI	**Kunming**	**25.16**	**11**	P		**P**	**12 39 28.8**	**+1.5**
KMI				pP		pP	12 39 36.0	+0.3
KMI				sP		sP	12 39 39.8	+0.6
KMI				pmax		pmax		
	comp=Z,34nm,1.1s							
KMI	**Kunming**	**25.16**	**11**	*e*P		**P**	**12 39 29.2**	**+1.9**
LUWI	**Luwuk**	**25.16**	**93**	*e*P		**P**	**12 39 26.9**	**-0.3**
	54nm,1.1s							
SHL	**Shillong**	**25.72**	**348**	*e*P		**P**	**12 39 32.4**	**0.0**
	43nm,0.9s							
H08S2	**Diego Garcia H**	**26.29**	**252**	T		T	13 07 00.0	
	baz=73,slow=76,SNR=2852							
H08S3	**Diego Garcia H**	**26.30**	**252**	T		T	13 07 00.3	
	baz=73,slow=76,SNR=2504							
H08S1	**Diego Carcia H**	**26.31**	**252**	T		T	13 07 01.4	
	baz=73,slow=76,SNR=2516							
LSA	**Lhasa**	**29.88**	**349**	*e*P		**P**	**12 40 10.2**	**+0.4**
	5.2nm,0.8s							
CD2	**Chengdu**	**30.98**	**10**	*e*P		**P**	**12 40 20.5**	**+1.4**
ENH	**Enshi**	**31.86**	**20**	*e*P		**P**	**12 40 26.5**	**-0.3**
	13nm,0.8s							
FITZ	**Fitzroy Crossi**	**33.05**	**125**	P		**P**	**12 40 36.4**	**-1.0**
	2.2nm,0.8s,baz=312,slow=12,SNR=3.5							
FITZ	**Fitzroy Crossi**	**33.05**	**125**	*e*P		**P**	**12 40 36.0**	**-1.4**
	4.5nm,0.8s							
XAN	**Xi'an**	**35.18**	**16**	P		**P**	**12 40 55.8**	**0.0**
XAN				pP		pP	12 41 02.0	-2.3
XAN				pmax		pmax		
	comp=Z,38nm,1.2s							
XAN				pmax		pmax		
	comp=Z,670nm,3.7s							
XAN	**Xi'an**	**35.18**	**16**	*e*P		**P**	**12 40 55.5**	**-0.2**
	38nm,1.0s							
LZH	**Lanzhou**	**36.06**	**9**	*e*P		**P**	**12 41 06.0**	**+2.6**
LZH				pP		sP	12 41 13.5	-1.8
LZH				sP		pP	12 41 16.4	+4.6
LZH				pmax		pmax		
	comp=Z,29nm,1.1s							
NJ2	**Nanjing**	**37.40**	**30**	*e*P		**P**	**12 41 14.6**	**0.0**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.5s							
H01W3	**Cape Leeuwin H**	**38.26**	**158**	T		T	13 21 52.9	
	baz=334,slow=76,SNR=3.0							
H01W2	**Cape Leeuwin H**	**38.27**	**158**	T		T	13 21 58.8	
	baz=334,slow=76,SNR=5.7							
H01W1	**Cape Leeuwin H**	**38.27**	**158**	T		T	13 21 58.0	
	baz=334,slow=76,SNR=3.0							
GTA	**Gaotai**	**38.97**	**3**	*e*P		**P**	**12 41 28.4**	**+0.5**
GTA				pP		sP	12 41 38.1	-1.8
GTA				sP		pP	12 41 42.0	+5.6
GTA				pmax		pmax		
	comp=Z,4.0nm,1.5s							
NIL	**Nilore**	**40.30**	**328**	*e*P		**P**	**12 41 38.4**	**-0.6**
	7.5nm,0.9s							
WR1	**Warramunga Arr**	**41.19**	**121**	*e*P		**P**	**12 41 45.5**	**-1.1**
	7.7nm,0.6s							
WRA	**Warramunga Arr**	**41.19**	**121**	P		**P**	**12 41 45.5**	**-1.1**
	3.6nm,0.5s,baz=304,slow=8.8,SNR=35							
WRAB	**Tennant Creek**	**41.20**	**121**	*e*P		**P**	**12 41 45.6**	**-1.0**
	2.4nm,0.6s							
WB2	**Warramunga Arr**	**41.20**	**121**	*e*P		**P**	**12 41 45.9**	**-0.7**
	9.7nm,1.0s							
HHC	**Hu-ho-hao-te**	**42.29**	**16**	*e*P		**P**	**12 41 56.1**	**+0.8**
HHC				pmax		pmax		
	comp=Z,14nm,0.8s							
HHC				pmax		pmax		
	comp=Z,130nm,5.5s							
ASAR	**Alice Springs**	**42.51**	**127**	P		**P**	**12 41 57.0**	**-0.3**
	5.8nm,0.8s,baz=296,slow=7.9,SNR=51							
ASAR				PcP		**PcP**	**12 43 48.5**	**-1.4**
	0.7nm,0.8s,baz=316,slow=2.6,SNR=4.2							
AS31	**Alice Springs**	**42.51**	**127**	*e*P		**P**	**12 41 56.9**	**-0.5**
	1.7nm,0.7s							
AS01	**Alice Springs**	**42.55**	**127**	*e*P		**P**	**12 41 56.8**	**-0.8**
BJT	**Baijiatuau**	**42.98**	**21**	*e*P		**P**	**12 42 01.6**	**+0.8**
	16nm,0.7s							
KSH	**Kashi**	**43.76**	**336**	P		**P**	**12 42 07.6**	**+0.3**
KSH				sP		sP	12 42 19.8	+0.5
KSH				PcP		**PcP**	**12 43 54.8**	**+1.0**
KSH				pmax		pmax		
	comp=Z,5.0nm,0.7s							
KSH				pmax		pmax		
	comp=Z,270nm,6.1s							
WMQ	**Urumqi**	**44.22**	**350**	P		**P**	**12 42 12.8**	**+1.9**
WMQ				sP		sP	12 42 23.1	+0.3
WMQ				pmax		pmax		
	comp=Z,21nm,1.3s							
WMQ				pmax		pmax		
	comp=Z,160nm,7.1s							
WMQ				LR		LR		
	comp=N,1μm,16.9s							
WMQ				LR		LR		
	comp=E,1μm,21.5s							
WMQ				LR		LR		
	comp=Z,970nm,24.5s							
JNU	**Nakatsue**	**45.19**	**40**	P		**P**	**12 42 18.9**	**+0.2**
	6.0nm,0.8s,baz=230,slow=7.9,SNR=4.3							
JNU	**Nakatsue**	**45.19**	**40**	*e*P		**P**	**12 42 18.0**	**-0.7**
	12nm,1.0s							
NRN	**Naryn**	**45.38**	**337**	*e*P		**P**	**12 42 22.2**	**+1.7**
	4.3nm,1.0s							
KDJ	**Kajisay**	**45.53**	**339**	*e*P		**P**	**12 42 20.0**	**-1.5**
	9.3nm,1.0s							
GAR	**Garm**	**45.92**	**330**	*e*P		**P**	**12 42 25.2**	**+0.7**
	6.9nm,1.0s							
CHGR	**Chuyangaron**	**46.25**	**329**	*e*P		**P**	**12 42 26.6**	**-0.6**
	10nm,0.8s							
KS15	**Wonju Array Si**	**46.30**	**34**	*e*P		**P**	**12 42 27.4**	**0.0**
KS01	**Wonju Array Si**	**46.33**	**34**	*e*P		**P**	**12 42 27.5**	**-0.1**
KSRS	**Korea Array**	**46.33**	**34**	P		**P**	**12 42 27.3**	**-0.3**
	8.4nm,0.9s,baz=221,slow=8.7,SNR=20							
BTK	**Batken**	**46.50**	**331**	*e*P		**P**	**12 42 30.1**	**+1.1**
	9.7nm,1.1s							
ARSB	**Arslanbob**	**46.53**	**334**	*e*P		**P**	**12 42 30.0**	**+0.7**
	10nm,0.9s							
AAK	**Ala-Archa**	**46.99**	**337**	P		**P**	**12 42 32.4**	**-0.5**
	0.7nm,0.6s,baz=153,slow=11,SNR=1.6							
SONA0	**Songino Array**	**47.95**	**8**	*e*P		**P**	**12 42 41.2**	**+1.0**
SONA0				*e*PcP		**PcP**	**12 44 09.2**	**+0.9**
SONM	**Songino Array**	**47.95**	**8**	P		**P**	**12 42 41.2**	**+1.0**
	9.2nm,0.8s,baz=191,slow=8.8,SNR=42							
SONM				PcP		**PcP**	**12 44 09.2**	**+0.9**
	1.1nm,0.6s,baz=202,slow=3.9,SNR=3.1							
SONA1	**Songino Array**	**47.96**	**8**	*e*P		**P**	**12 42 40.7**	**+0.4**
ULN	**Ulaanbaatar**	**48.07**	**9**	*e*P		**P**	**12 42 41.3**	**+0.1**
	8.8nm,1.0s							
MK01	**Makanchi Array**	**48.18**	**346**	*e*P		**P**	**12 42 42.1**	**+0.2**
MK31	**Makanchi Array**	**48.21**	**346**	*e*P		**P**	**12 42 42.6**	**+0.5**
MK32	**Makanchi Array**	**48.21**	**346**	*e*P		**P**	**12 42 43.1**	**+1.0**
MKAR	**Makanchi Array**	**48.21**	**346**	P		**P**	**12 42 43.1**	**+0.9**
	9.2nm,0.7s,baz=158,slow=7.9,SNR=76							
MKAR	**Makanchi Array**	**48.21**	**346**	*e*P		**P**	**12 42 42.7**	**+0.6**
	46nm,0.7s							
MAKZ	**Makanchi**	**48.30**	**346**	*e*P		**P**	**12 42 43.1**	**+0.3**
	6.0nm,0.8s							
KK31	**Karatay Array**	**49.05**	**334**	*e*P		**P**	**12 42 49.6**	**+1.0**
KKAR	**Karatay Array**	**49.05**	**334**	*e*P		**P**	**12 42 49.6**	**+1.0**
CN2	**Changchun**	**49.90**	**26**	*e*P		**P**	**12 42 55.6**	**+0.5**
PMG	**Port Moresby**	**50.23**	**102**	P		**P**	**12 42 58.0**	**-0.1**
	19nm,0.7s,baz=283,slow=6.2,SNR=12							
PMG	**Port Moresby**	**50.23**	**102**	*e*P		**P**	**12 42 57.4**	**-0.7**
	20nm,0.8s							
MAJO	**Matsushiro**	**52.05**	**42**	*e*P		**P**	**12 43 11.3**	**-0.2**
MJAR	**Matsushiro Arr**	**52.05**	**42**	P		**P**	**12 43 11.3**	**-0.2**
	2.7nm,0.9s,baz=248,slow=20,SNR=4.7							
GEYT	**Alibeck**	**52.18**	**320**	P		**P**	**12 43 10.8**	**-1.6**
	2.2nm,0.7s,baz=114,slow=18,SNR=2.4							
HIA	**Hailar**	**52.34**	**18**	*e*P		**P**	**12 43 13.8**	**+0.4**
	8.4nm,1.0s							
STKA	**Stephens Creek**	**52.44**	**132**	P		**P**	**12 43 15.6**	**+1.2**
	1.2nm,0.6s,baz=329,slow=12,SNR=2.1							
KURBB	**Kurchatov Arra**	**52.70**	**345**	P		**P**	**12 43 16.7**	**+0.7**
	5.0nm,0.7s,baz=166,slow=7.0,SNR=16							
KURBB				PcP		**PcP**	**12 44 26.9**	**+1.4**
	1.1nm,0.9s,baz=154,slow=5.1,SNR=3.2							
KURK	**Kurchatov**	**52.76**	**345**	*e*P		**P**	**12 43 16.7**	**+0.3**
KURK				*e*PcP		**PcP**	**12 44 26.9**	**+1.2**
USRK	**Ussuriysk Ar.**	**53.30**	**30**	P		**P**	**12 43 21.2**	**+0.6**
	7.5nm,0.8s,baz=220,slow=2.6,SNR=16							
ZAA0	**Zalesovo Array**	**54.50**	**351**	*e*P		**P**	**12 43 29.3**	**+0.2**
	19nm,0.9s							
ZALV	**Zalesovo Beam**	**54.50**	**351**	P		**P**	**12 43 29.9**	**+0.8**
	18nm,0.7s,baz=180,slow=6.1,SNR=68							
ZALV	**Zalesovo Beam**	**54.50**	**351**	*e*P		**P**	**12 43 29.3**	**+0.2**
ZAA1	**Zalesovo Array**	**54.51**	**351**	*e*P		**P**	**12 43 29.9**	**+0.8**
KLR	**Kul'dur**	**56.85**	**26**	P		**P**	**12 43 47.0**	**+0.9**
	3.5nm,0.5s,baz=234,slow=7.8,SNR=5.6							
BRVK	**Borovoye**	**57.30**	**341**	*e*P		**P**	**12 43 49.3**	**+0.2**
	4.7nm,0.9s							
ASAJ	**Asahikawa**	**59.11**	**36**	P		**P**	**12 44 01.5**	**-0.5**
	baz=266,slow=15							
BR101	**Keskin Array S**	**70.04**	**312**	*e*P		**P**	**12 45 13.1**	**-0.7**
BRTR	**Keskin Array B**	**70.04**	**312**	P		**P**	**12 45 13.1**	**-0.7**
	0.7nm,0.7s,baz=142,slow=11,SNR=4.1							
TIXI	**Tiksi**	**73.98**	**10**	P		**P**	**12 45 36.0**	**-0.5**
	5.3nm,0.6s,baz=244,slow=3.5							
AKASG	**Malik Array Be**	**76.23**	**322**	P		**P**	**12 45 48.4**	**-1.5**
	0.2nm,0.3s,baz=88,slow=4.7,SNR=5.5							
MLR	**Muntele Rosu**	**77.02**	**317**	P		**P**	**12 45 53.5**	**-1.1**
	1.7nm,0.8s,baz=147,slow=17,SNR=2.2							
BUR04	**Bucovina Ar. S**	**77.99**	**319**	*e*P		**P**	**12 46 00.8**	**+0.8**
BUR08	**Bucovina Ar. S**	**78.00**	**319**	*e*P		**P**	**12 46 00.6**	**+0.5**
ARA0	**ARCESS Array S**	**83.52**	**340**	*e*P		**P**	**12 46 28.6**	**-0.4**
ARCES	**ARCESS Array B**	**83.52**	**340**	P		**P**	**12 46 28.6**	**-0.4**
	3.6nm,0.8s,baz=60,slow=7.2,SNR=5.5							
GERES	**GERESS Array B**	**85.77**	**319**	P		**P**	**12 46 41.9**	**+1.0**
	0.7nm,0.8s,baz=54,slow=5.0,SNR=3.4							
HFS	**Hagfors**	**86.71**	**330**	P		**P**	**12 46 43.7**	**-1.5**
	6.2nm,1.1s,baz=109,slow=26,SNR=4.2							
NB200	**NORSAR Array S**	**88.00**	**331**	*e*P		**P**	**12 46 52.0**	**+0.6**
NOA	**NORSAR Array B**	**88.00**	**331**	P		**P**	**12 46 52.0**	**+0.6**
	0.7nm,0.8s,baz=48,slow=21,SNR=3.1							
LTX	**Lajitas**	**144.18**	**33**	*e*PKPdf		**PKPdf**	**12 53 37.2**	**-0.9**
TXAR	**Lajitas Array**	**144.18**	**33**	PKP		**PKPdf**	**12 53 37.2**	**-0.9**
	0.5nm,0.7s,baz=295,slow=1.3,SNR=6.1							

IDC ***18*** *12:39:51.3±0.9, 13°.45N×143°.43E, h0km, mb3.9/7, mb1 4.2/7, mb1mx3.9/46, mbtmp3.8/7, Error ellipse: s-maj=32.0km s-min=19.9km az=114.0*

ISCJB ***18*** *12:39:54.8±0.8, 13°.4N±0°.1×143°.5E±0°.1, h33km, mb3.8/7, Error ellipse: s-maj=20.4km s-min=14.8km az=141.1*

ISC 18 12:39:56.7±1.0, 13°.4N±0°.2×143°.6E±0°.1, h35km, n14, σ1§15/9, mb3.9/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.22**	**81**	Pn		**Pn**	**Pn**	**12 40 18.2**	**+1.0**
	1μm,0.3s,baz=194,slow=9.7,SNR=595								
GUMO				Sn		**Sn**	**Sn**	**12 40 30.8**	**-1.7**
	805nm,0.3s,baz=197,slow=19,SNR=41								
H11S3	**WAKE ISLAND Hy**	**22.73**	**74**	T		T	T	13 07 59.3	
	baz=258,slow=75,SNR=14								
H11S1	**WAKE ISLAND Hy**	**22.75**	**74**	T		T	T	13 08 04.2	
	baz=258,slow=75,SNR=11								
H11S2	**WAKE ISLAND Hy**	**22.75**	**74**	T		T	T	13 07 59.9	
	baz=258,slow=75,SNR=5.1								
H11N1	**WAKE ISLAND Hy**	**23.15**	**71**	T		T	T	13 08 38.7	
	baz=255,slow=75,SNR=38								
H11N2	**WAKE ISLAND Hy**	**23.16**	**71**	T		T	T	13 08 36.4	
	baz=255,slow=75,SNR=27								
H11N3	**WAKE ISLAND Hy**	**23.17**	**71**	T		T	T	13 08 40.1	
	baz=255,slow=75,SNR=38								
WRA	**Warramunga Arr**	**34.37**	**196**	P		**P**	**12 46 40.2**	**-0.3**
	2.1nm,0.9s,baz=17,slow=9.1,SNR=6.2								
KLR	**Kul'dur**	**37.05**	**347**	P		**P**	**12 47 02.2**	**-1.0**
	0.8nm,0.5s,baz=170,slow=17,SNR=4.4								
ASAR	**Alice Springs**	**38.04**	**195**	P		**P**	**12 47 11.4**	**-0.5**
	0.5nm,0.7s,baz=20,slow=12,SNR=11								
ILAR	**Eielson Array**	**69.26**	**25**	P		**P**	**12 50 59.8**	**-0.2**
	0.4nm,0.4s,baz=246,slow=5.4,SNR=7.2								
YKA	**Yellowknife Ar**	**83.58**	**27**	P		**P**	**12 52 22.0**	**+1.0**
	0.2nm,0.3s,baz=286,slow=5.1,SNR=6.5								
NVAR	**Mina Array Bea**	**87.98**	**51**	P		**P**	**12 52 45.0**	**+1.3**
	1.9nm,0.7s,baz=264,slow=6.0,SNR=14								
PDAR	**Pinedale Array**	**92.95**	**45**	P		**P**	**12 53 06.6**	**-0.2**
	0.4nm,0.7s,baz=228,slow=5.8,SNR=3.6								

BJI ***18*** *12:42:50.1,30°.95N×99°.40E, h15km, mb5.2/51, mB5.5/42, ML5.3/14, Ms5.5/86, Ms7 5.5/79*

NEIC ***18*** *12:42:50.8±0.0, 31°.26N×99°.55E, h23km, Moment Tensor Solution. s8 Moment tensor: Scale 10^17 Nm; Mrr-0.03; Mθθ 1.08; Mφφ -1.05; Mrθ 0.93; Mθφ 0.63; Mφr-0.34; Best double couple: M0 1.60000×10^17 NP1:ϕ1 119.00000°, δ89.00000°, λ38.00000°. NP2:ϕ2 8.00000°, δ52.00000°, λ178.00000°. Principal axes: T 1.6600, Plg26.0000°, Azm350.0000°; N -0.1700, Plg51.0000°, Azm120.0000°; P -1.4900, Plg24.0000°, Azm246.0000°;*

MOS ***18*** *12:42:50.8±0.9, 31°.04N×99°.51E, h20km, mb5.5/105, MS5.2/58 Error ellipse: s-maj=5.2km s-min=3.1km az=123.0*

ISCJB ***18*** *12:42:50.5±0.1, 31°.01N±0°.01×99°.51E±0°.02, h18km, mb5.3/247, MS5.3/179, Error ellipse: s-maj=2.3km s-min=1.8km az=42.7*

NEIC ***18*** *12:42:50.8±0.1, 31°.06N×99°.55E, h8km, mb5.4/162, MS5.4/113, MW5.4, MW5.4, ML5.3(BJI), Error ellipse: s-maj=2.5km s-min=2.0km az=224.0, Moment Tensor Solution. s20 Moment tensor: Scale 10^17 Nm; Mrr-0.26; Mθθ 1.60; Mφφ -1.33; Mrθ 0.40; Mθφ 0.34; Mφr 0.34; Best double couple: M0 1.60000×10^17 NP1:ϕ1 29.00000°, δ71.00000°, λ-2.00000°. NP2:ϕ2 219.00000°, δ89.00000°, λ-161.00000°. Principal axes: T 1.7300, Plg13.0000°, Azm352.0000°; N -0.2800, Plg70.0000°, Azm223.0000°; P -1.4500, Plg15.0000°, Azm86.0000°;*

GCMT ***18*** *12:42:51.8±0.1, 30°.95N±0°.01×99°.55E±0°.01, h21km, MW5.6/134, Moment Tensor Solution. s102,c164; s134,c270; Duration: 1§5 Moment tensor: Scale 10^17 Nm; Mrr-0.23±.04; Mθθ 2.50±.04; Mφφ -2.28±.04; Mrθ -0.22±.07; Mθφ 1.62±.03; Mφr 0.02±.07; Best double couple: M0 2.89500×10^17 NP1:ϕ1 298.00000°, δ89.00000°, λ4.00000°. NP2:ϕ2 208.00000°, δ86.00000°, λ179.00000°. Principal axes: T 3.0100, Plg4.0000°, Azm163.0000°; N -0.2350, Plg86.0000°, Azm315.0000°; P -2.7800, Plg2.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***18*** *12:42:52.3±1.8, 31°.05N×99°.62E, h18km±11km, mb4.9/44, mb1 4.9/47, mb1mx4.9/59, mbtmp5.0/47, ML4.7/3, MS5.1/30, Ms1 5.1/30, ms1mx5.1/36 Error ellipse: s-maj=9.3km s-min=7.6km az=35.0*

ISC 18 12:42:52.0±0.4, 30°.97N±0°.03×99°.47E±0°.02, h15km±2km, h15km: pP-P, n912, σ1§79/947, mb5.4/270, MS5.3/181, 84C-39D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**3.69**	**90**	↓*i*Pn		**Pn**	**Pn**	**12 43 50.8**	**+2.3**
CD2				Sn		**Sn**	**Sn**	**12 44 31.3**	**-0.4**
CD2				Sg		**Sg**	**Sg**	**12 44 51.3**	**+0.9**
CD2				smax		smax	smax		
	comp=N,11μm,1.2s								
CD2				smax		smax	smax		
	comp=E,16μm,1.4s								
CD2				LR		LR	LR		
	comp=Z,235μm,9.0s								
CD2	**Chengdu**	**3.69**	**90**	↓*i*Pn		**Pn**	**Pn**	**12 43 50.8**	**+2.3**
CD2				Sn		**Sn**	**Sn**	**12 44 31.8**	**+0.1**
CD2				Sg		**Sg**	**Sg**	**12 44 51.3**	**+0.9**
LZH	**Lanzhou**	**6.28**	**34**	Pn		**Pn**	**Pn**	**12 44 26.9**	**+2.7**
LZH				Sg		**Sg**	**Sg**	**12 46 15.8**	**+2.4**
LZH				smax		smax	smax		
	comp=N,7μm,1.4s								
LZH				smax		smax	smax		
	comp=E,2μm,1.3s								
LZH				LR		LR	LR		
	comp=N,29μm,6.0s								
LZH				LR		LR			
	comp=Z,29μm,6.8s								
KMI	**Kunming**	**6.50**	**153**	⇑Pn		**Pn**	**Pn**	**12 44 28.6**	**+1.2**
KMI				Sn		**Sn**	**Sn**	**12 45 45.5**	**+4.1**
KMI				smax		smax	smax		
	comp=N,910nm,1.7s								
KMI				smax		smax	smax		
	comp=E,750nm,1.8s								
KMI				LR		LR	LR		
	comp=N,48μm,10.1s								
KMI				LR		LR	LR		
	comp=Z,34μm,14.5s								
KMI	**Kunming**	**6.50**	**153**	*e*Pn		**Pn**	**Pn**	**12 44 28.6**	**+1.2**
KMI	**Kunming**	**6.50**	**153**	*e*P		**Pn**	**Pn**	**12 44 28.6**	**+1.2**
LSA	**Lhasa**	**7.30**	**262**	Pn		**Pn**	**Pn**	**12 44 40.8**	**+2.2**
LSA				LR		LR	LR		
	comp=N,22μm,8.7s								
LSA				LR		LR	LR		
	comp=Z,23μm,11.8s								
LSA	**Lhasa**	**7.30**	**262**	*e*Pn		**Pn**	**Pn**	**12 44 39.4**	**+0.8**
LSA	**Lhasa**	**7.30**	**262**	*i* P		**Pn**	**Pn**	**12 44 39.8**	**+1.2**
	SNR=92								
LSA	**Lhasa**	**7.30**	**262**	*e*P		**Pn**	**Pn**	**12 44 39.4**	**+0.8**
GYA	**Guiyang**	**7.75**	**124**	Pn		**Pn**	**Pn**	**12 44 45.4**	**+0.9**
GYA				Sn		**Sn**	**Sn**	**12 46 14.4**	**+2.3**
GYA				Sg		**Sg**	**Sg**	**12 47 00.1**	**-0.7**
GYA				smax		smax	smax		
	comp=N,800nm,1.2s								
GYA				smax		smax	smax		
	comp=E,800nm,1.3s								
GYA				LR		LR	LR		
	comp=E,76μm,10.5s								
GYA				LR		LR	LR		
	comp=Z,24μm,10.9s								
GTA	**Gaotai**	**8.43**	**2**	⇑P		**Pn**	**Pn**	**12 44 54.0**	**+0.3**
GTA				pP		Pb	Pb	12 44 58.6	-19
GTA				sP		Pg	Pg	12 45 01.3	-32
GTA				S		**Sn**	**Sn**	**12 46 29.4**	**+0.8**
GTA				pmax		pmax	pmax		
	comp=Z,510nm,6.2s								
GTA				LR		LR	LR		
	comp=N,23μm,14.3s								
GTA				LR		LR	LR		
	comp=Z,26μm,14.9s								
XAN	**Xi'an**	**8.55**	**67**	P		**Pn**	**Pn**	**12 44 55.0**	**-0.3**
XAN				pP		Pg	Pg	12 45 03.6	-32
XAN				pmax		pmax	pmax		
	comp=Z,920nm,8.0s								
XAN				LR		LR	LR		
	comp=E,24μm,11.4s								
XAN				LR		LR	LR		
	comp=Z,22μm,10.8s								
XAN	**Xi'an**	**8.55**	**67**	*e*Pn		**Pn**	**Pn**	**12 44 54.5**	**-0.8**
XAN	**Xi'an**	**8.55**	**67**	*e*P		**Pn**	**Pn**	**12 44 54.5**	**-0.8**
SHL	**Shillong**	**8.58**	**233**	*e*P		**Pn**	**Pn**	**12 44 55.2**	**-0.7**
SHL				*e*S		**Sn**	**Sn**	**12 46 26.5**	**-6.1**
ENH	**Enshi**	**8.66**	**92**	*e*Pn		**Pn**	**Pn**	**12 44 56.1**	**-0.7**
BRDH	**Bariadhala**	**10.81**	**222**	Pn		**Pn**	**Pn**	**12 45 27.0**	**+0.7**
	33nm,0.3s,baz=64,slow=12,SNR=7.3								
BRDH				Sn		**Sn**	**Sn**	**12 47 24.2**	**-2.9**
	33nm,0.3s,baz=68,slow=17,SNR=4.2								
BRDH				Lg		Lg	Lg	12 48 52.8	
	23nm,0.3s,baz=90,slow=19,SNR=1.6								
BRDH				LR		LR	LR	12 50 28.7	
	comp=Z,26μm,19.8s,baz=53,slow=42								
TAPN	**Taplejung**	**10.89**	**254**	*e*P		**Pn**	**Pn**	**12 45 27.7**	**0.0**
	23nm,0.2s								
ODAN	**Odare**	**11.35**	**252**	*e*P		**Pn**	**Pn**	**12 45 32.5**	**-1.3**
	1μm,0.8s								
RAMN	**Ramite**	**11.96**	**254**	*e*P		**Pn**	**Pn**	**12 45 41.2**	**-1.0**
	437nm,0.6s								
JIRN	**Jiri**	**12.05**	**257**	*e*P		**Pn**	**Pn**	**12 45 41.9**	**-1.6**
	342nm,0.4s								
CHTO	**Chiang Mai**	**12.11**	**182**	*e*Pn		**Pn**	**Pn**	**12 45 45.9**	**+1.7**
CHTO	**Chiang Mai**	**12.11**	**182**	*e*P		**Pn**	**Pn**	**12 45 45.9**	**+1.7**
CHTO	**Chiang Mai**	**12.11**	**182**	P		**Pn**	**Pn**	**12 45 45.8**	**+1.7**
	SNR=38								
CHTO	**Chiang Mai**	**12.11**	**182**	P		**Pn**	**Pn**	**12 45 46.3**	**+2.2**
	619nm,1.6s,9μm								
CMMT	**Chiang Mai**	**12.11**	**182**	P		**Pn**	**Pn**	**12 45 46.2**	**+2.0**
	136nm,1.5s,2μm								
GUN	**Gumba**	**12.23**	**259**	*e*P		**Pn**	**Pn**	**12 45 44.0**	**-2.0**
	444nm,0.5s								
LAMP	**Lampang**	**12.39**	**179**	P		**Pn**	**Pn**	**12 45 50.9**	**+2.9**
	36nm,1.2s,523nm								
CM31	**Chiang Mai Arr**	**12.47**	**182**	*e*Pn		**Pn**	**Pn**	**12 45 50.8**	**+1.8**
CM31	**Chiang Mai Arr**	**12.47**	**182**	P		**Pn

QIZ	**Qiongzhong**	**15.15**	**139**	*e*Pn		**Pn**	**12 46 26.7**	**+1.2**
	comp=E,91nm,1.2s								
CHAI	**Chaiyaphum**	**15.18**	**171**	P		**P**	**12 46 28.8**	**-2.1**
	comp=E,70nm,1.0s,comp=E,639nm								
TIA	**Tai'an**	**15.61**	**66**	P		**Pn**	**12 46 32.1**	**+0.6**
TIA				S		**S**	**12 49 32.5**	**-6.9**
TIA				pmax	pmax				
	comp=E,470nm,4.8s								
TIA				LR	LR				
	comp=E,2μm,5.7s								
TIA				LR	LR				
	comp=E,6μm,9.6s								
TIA				LR	LR				
	comp=E,5μm,11.4s								
WMQ	**Urumqi**	**15.86**	**327**	P		**Pn**	**12 46 32.6**	**-2.1**
WMQ				pP	P		12 46 40.0	+1.6
WMQ				PP		**sP**	**12 46 48.4**	**+2.1**
WMQ				S		**Sn**	**12 49 36.0**	**+5.8**
WMQ				SS		**S**	**12 49 48.8**	**+4.3**
WMQ				pmax	pmax				
	comp=E,190nm,1.3s								
WMQ				pmax	pmax				
	comp=E,79nm,3.7s								
WMQ				LR	LR				
	comp=E,28μm,11.9s								
WMQ				LR	LR				
	comp=E,27μm,19.9s								
WMQ				LR	LR				
	comp=E,23μm,26.9s								
WMQ	**Urumqi**	**15.86**	**327**	*e*Pn		**Pn**	**12 46 32.8**	**-1.9**
	comp=E,510nm,1.5s								
WMQ	**Urumqi**	**15.86**	**327**	*e*P		**Pn**	**12 46 32.8**	**-1.9**
WMQ				pmax	pmax				
	comp=Z,510nm,1.5s								
BJT	**Baijiatuau**	**16.30**	**52**	*e*Pn		**Pn**	**12 46 39.7**	**-0.7**
	comp=Z,172nm,1.6s								
BJT	**Baijiatuau**	**16.30**	**52**	*e*P		**Pn**	**12 46 39.7**	**-0.7**
BJT				pmax	pmax				
	comp=Z,172nm,1.6s								
BJI	**Beijing**	**16.32**	**52**	P		**Pn**	**12 46 41.4**	**+0.9**
BJI				S		**Sn**	**12 49 45.1**	**+3.8**
BJI				LR	LR				
	comp=Z,10μm,12.6s								
BJI				LR	LR				
	comp=Z,3μm,13.9s								
BJI				LR	LR				
	comp=Z,8μm,21.2s								
SRDT	**SRDT**	**16.55**	**181**	P		**Pn**	**12 46 44.2**	**+0.6**
	comp=Z,600nm,1.6s,comp=Z,10μm								
NJ2	**Nanjing**	**16.57**	**81**	*e*P		**Pn**	**12 46 42.3**	**-1.5**
NJ2				sP		**P**	**12 46 48.8**	**+2.5**
NJ2				S		**Sn**	**12 49 43.1**	**-4.4**
NJ2				pmax	pmax				
	comp=Z,65nm,1.7s								
NJ2				pmax	pmax				
	comp=Z,730nm,3.5s								
NJ2				LR	LR				
	comp=Z,10μm,11.2s								
NJ2				LR	LR				
	comp=Z,16μm,11.9s								
SRAK	**Srakaew**	**17.04**	**171**	P		**P**	**12 46 53.3**	**+1.7**
	comp=Z,456nm,1.4s,comp=Z,5μm								
SONA0	**Songino Array**	**17.66**	**16**	*e*Pn		**Pn**	**12 46 56.7**	**-0.8**
SONA0				*e*S		**S**	**12 50 24.8**	**+3.4**
SONM	**Songino Array**	**17.66**	**16**	P		**Pn**	**12 46 56.7**	**-0.8**
	comp=Z,1.4nm,0.3s,baz=197,slow=12,SNR=35								
SONM				S		**S**	**12 50 24.8**	**+3.4**
	comp=Z,0.1nm,0.3s,baz=224,slow=10,SNR=2.3								
SONM				Lg	Lg		12 52 01.8		
	comp=Z,0.1nm,0.3s,baz=208,slow=28,SNR=2.5								
SONA1	**Songino Array**	**17.67**	**16**	*e*P		**Pn**	**12 46 57.9**	**+0.2**
BLSP	**Bilaspur**	**17.82**	**245**	*ex*		**P**	**12 47 00.0**	**-0.2**
BLSP				*ex*		x	12 49 37.0		
ULN	**Ulaanbaatar**	**17.84**	**17**	*e*P		**Pn**	**12 46 59.9**	**+0.1**
	comp=Z,95nm,1.1s								
ULN	**Ulaanbaatar**	**17.84**	**17**	*ce*P		**Pn**	**12 46 59.1**	**-0.7**
ULN				pmax	pmax				
	comp=Z,150nm,2.5s								
ULN	**Ulaanbaatar**	**17.84**	**17**	P		**Pn**	**12 46 59.6**	**-0.2**
	SNR=50								
QZH	**Quanzhou**	**17.92**	**105**	*e*P		**Pn**	**12 47 00.3**	**-0.4**
QZH				S		**Sn**	**12 50 21.1**	**+0.8**
QZH				LR	LR				
	comp=Z,22μm,11.6s								
QZH				LR	LR				
	comp=Z,14μm,9.6s								
PHET	**Kaeng Krachan**	**17.98**	**179**	P		**P**	**12 47 03.1**	**+1.2**
	comp=Z,80nm,1.0s,comp=Z,744nm								
PATY	**Pattaya**	**18.01**	**176**	P		**P**	**12 47 06.6**	**+4.3**
	comp=Z,60nm,1.0s,comp=Z,2μm								
DDI	**Dehra Dun**	**18.44**	**273**	*e*P		**P**	**12 47 05.4**	**-1.6**
DDI				IAmb		IAmb	12 47 08.3		
	comp=Z,487nm,1.3s								
SSE	**Sheshan**	**18.61**	**84**	P		**Pn**	**12 47 09.6**	**+0.4**
SSE				S		**S**	**12 50 39.1**	**-1.6**
SSE				pmax	pmax				
	comp=Z,30nm,0.8s								
SSE				pmax	pmax				
	comp=Z,680nm,3.6s								
SSE				LR	LR				
	comp=Z,3μm,9.8s								
SSE				LR	LR				
	comp=Z,8μm,9.4s								
SSE	**Sheshan**	**18.61**	**84**	*e*P		**P**	**12 47 08.7**	**-0.2**
	comp=Z,94nm,0.8s								
SMLA	**Simla**	**19.11**	**276**	*e*P		**P**	**12 47 11.8**	**-2.5**
SMLA				IAmb		IAmb	12 47 15.5		
	comp=Z,248nm,0.8s								
NDI	**New Delhi**	**19.44**	**269**	*e*P		**P**	**12 47 17.0**	**-1.0**
ZAK	**Zakamensk**	**19.60**	**7**	*e*P		**Pn**	**12 47 20.4**	**-0.7**
ZAK				pmax	pmax				
	comp=Z,93nm,1.5s								
DHRM	**DHARAMSHALA**	**19.77**	**280**	*e*P		**P**	**12 47 21.0**	**-0.8**
DHRM				IAmb		IAmb	12 47 24.5		
	comp=Z,399nm,1.3s								
DL2	**Dalian**	**19.79**	**60**	P		**Pn**	**12 47 24.9**	**+1.7**
DL2				S		**Sn**	**12 51 08.1**	**+2.9**
DL2				pmax	pmax				
	comp=Z,150nm,1.7s								
DL2				pmax	pmax				
	comp=Z,1μm,6.5s								
DL2				LR	LR				
	comp=Z,9μm,13.5s								
DL2				LR	LR				
	comp=Z,9μm,13.5s								
ZSN	**Zaisan**	**19.91**	**330**	*de*P		**P**	**12 47 21.7**	**-1.3**
ZSN				*i* S		**Sn**	**12 51 08.7**	**+0.4**
ZSN				pmax	pmax				
	comp=Z,1μm,1.7s								
ZSN	**Zaisan**	**19.91**	**330**	⇓*e*P		**P**	**12 47 21.7**	**-1.3**
	comp=Z,1μm,1.7s								
ZSN				⇓*i* S		**Sn**	**12 51 08.7**	**+0.4**
	comp=Z,4μm,6.1s								
SHLS	**Shalkode**	**20.01**	**313**	*d* iP		**P**	**12 47 19.8**	**-4.5**
SHLS				*i* S		**S**	**12 51 01.5**	**-7.4**
SHLS				pmax	pmax				
	comp=Z,2μm,1.1s								
SHLS				MLR	MLR				
	comp=Z,3μm,11.0s								
SHLS	**Shalkode**	**20.01**	**313**	⇓*i*P		**P**	**12 47 19.8**	**-4.5**
	comp=Z,2μm,1.1s								
SHLS				⇑*i* S		**S**	**12 51 01.6**	**-7.4**
	comp=Z,3μm,4.0s								
SHLS				*e*LRM		MLR	12 55 49.1		
	comp=Z,3μm,10.7s								
PDGK	**Podgornoye**	**20.08**	**313**	P		**P**	**12 47 24.0**	**-1.1**
PBA	**Port Blair**	**20.20**	**199**	*e*P		P	12 47 26.4	+0.1
	comp=Z,458nm,1.0s								
PBA	**Port Blair**	**20.20**	**199**	*e*P		P	12 47 25.0	-1.3
UZB	**Uzynbulak**	**20.29**	**312**	*ce*P		**P**	**12 47 26.1**	**-1.1**
UZB				*i* S		**S**	**12 51 10.7**	**-3.7**
UZB				pmax	pmax				
	comp=Z,811nm,0.9s								
UZB				MLR	MLR				
	comp=Z,2μm,10.0s								
UZB	**Uzynbulak**	**20.29**	**312**	⇑*e*P		**P**	**12 47 26.2**	**-1.1**
	comp=Z,810nm,0.9s								
UZB				⇓*i* S		**S**	**12 51 10.7**	**-3.7**
	comp=Z,3μm,3.3s								
UZB				*e*LRM		MLR	12 56 44.5		
	comp=Z,2μm,10.4s								
TPUB	**Ta-pu**	**20.30**	**107**	*e*P		**P**	**12 47 27.5**	**+0.1**
	comp=Z,95nm,1.1s								
TATO	**Taipei**	**20.33**	**102**	*e*P		**P**	**12 47 27.4**	**-0.3**
	comp=Z,264nm,1.3s								
TATO				LR	LR				
	comp=Z,4μm,20.0s								
YHNB	**Yeheng**	**20.35**	**103**	*e*P		**P**	**12 47 27.6**	**-0.5**
	comp=Z,119nm,1.2s								
SSLB	**Suanglung**	**20.36**	**105**	*e*P		**P**	**12 47 26.7**	**-1.3**
	comp=Z,169nm,1.4s								
PRZ	**Przheval'sk**	**20.37**	**310**	*e*P		**P**	**12 47 27.6**	**-0.6**
	comp=Z,176nm,1.1s								
PRZ	**Przheval'sk**	**20.37**	**310**	*e*P		**P**	**12 47 27.6**	**-0.6**
PRZ				pmax	pmax				
	comp=Z,176nm,1.1s								
TARG	**Taragay, Kyrgy**	**20.43**	**308**	*e*P		**P**	**12 47 29.4**	**+0.3**
	comp=Z,159nm,1.0s								
HVS	**Khovu-Aksy**	**20.60**	**350**	*d* iP		**P**	**12 47 30.4**	**-0.1**
HVS				pmax	pmax				
	comp=Z,317nm,1.8s								
MK01	**Makanchi Array**	**20.61**	**325**	*e*P		**P**	**12 47 29.9**	**-0.7**
MK31	**Makanchi Array**	**20.63**	**325**	*e*P		**P**	**12 47 30.7**	**-0.1**
MK31	**Makanchi Array**	**20.63**	**325**	*e*P		**P**	**12 47 30.7**	**-0.1**
MK32	**Makanchi Array**	**20.63**	**325**	*e*P		**P**	**12 47 30.6**	**-0.2**
MK32				*e*S		**S**	**12 51 19.7**	**-1.2**
MK32				*e*PcP		**PcP**	**12 51 42.9**	**+1.9**
MK32				*e*ScP		**ScP**	**12 55 16.4**	**-0.6**
MKAR	**Makanchi Array**	**20.63**	**325**	P		**P**	**12 47 30.6**	**-0.2**
	comp=Z,49nm,0.6s,baz=126,slow=12,SNR=227								
MKAR				S		**S**	**12 51 19.7**	**-1.2**
	comp=Z,2.1nm,0.9s,baz=156,slow=14,SNR=1.6								
MKAR				PcP		**PcP**	**12 51 42.9**	**+1.9**
	comp=Z,1.3nm,0.6s,baz=132,slow=2.1,SNR=3.1								
MKAR				ScP		**ScP**	**12 55 16.4**	**-0.6**
	comp=Z,4.0nm,0.8s,baz=134,slow=5.2,SNR=6.2								
MKAR				LR	LR		12 56 28.9		
	comp=Z,11μm,21.7s,baz=134,slow=40								
MKAR	**Makanchi Array**	**20.63**	**325**	*e*P		**P**	**12 47 30.6**	**-0.2**
	comp=Z,613nm,0.8s								
MKAR	**Makanchi Array**	**20.63**	**325**	*i* P		**P**	**12 47 30.6**	**-0.2**
MKAR				pmax	pmax				
	comp=Z,50nm,0.6s								
SATY	**Saty**	**20.64**	**312**	*ce*P		**P**	**12 47 30.1**	**-0.9**
SATY				pmax	pmax				
	comp=Z,4μm,0.9s								
SATY	**Saty**	**20.64**	**312**	⇑*e*P		**P**	**12 47 30.1**	**-0.9**
	comp=Z,4μm,0.9s								
KPKS	**Kokpek**	**20.66**	**313**	*c* iP		**P**	**12 47 29.7**	**-1.5**
KPKS				*e*S		**S**	**12 51 19.4**	**-2.3**
KPKS				pmax	pmax				
	comp=Z,3μm,1.1s								
KPKS				MLR	MLR				
	comp=Z,3μm,11.0s								
KPKS	**Kokpek**	**20.66**	**313**	⇑*i*P		**P**	**12 47 29.8**	**-1.5**
	comp=Z,3μm,1.1s								
KPKS				⇑*e*S		**S**	**12 51 19.4**	**-2.3**
	comp=Z,2μm,3.8s								
KPKS				*e*LRM		MLR	12 56 24.3		
	comp=Z,3μm,11.5s								
MOY	**Mondy**	**20.71**	**3**	*e*P		**P**	**12 47 32.6**	**+0.9**
MOY				pmax	pmax				
	comp=Z,834nm,2.3s								
NACB	**Ninganchiao**	**20.73**	**104**	*e*P		**P**	**12 47 32.0**	**0.0**
	comp=Z,161nm,1.3s								
NGP	**Nagpur**	**20.76**	**247**	*e*P		**P**	**12 47 30.7**	**-1.7**
NGP				IAmb		IAmb	12 47 33.9		
	comp=Z,111nm,0.8s								
NGP				*ex*		x	12 51 23.5		
DGZ	**Jazzator, Alta**	**20.79**	**338**	*c* iP		**P**	**12 47 33.1**	**+0.4**
DGZ				pmax	pmax				
	comp=Z,14nm,0.6s								
MAKZ	**Makanchi**	**20.79**	**324**	*e*P		**P**	**12 47 32.2**	**-0.3**
	comp=Z,147nm,1.0s								
MAKZ	**Makanchi**	**20.79**	**324**	*e*P		**P**	**12 47 32.3**	**-0.3**
MAKZ				pmax	pmax				
	comp=Z,147nm,1.0s								
YULB	**Yu-li**	**20.81**	**106**	*e*P		**P**	**12 47 33.0**	**+0.1**
	comp=Z,120nm,1.3s								
TWG	**Pinlang**	**20.88**	**108**	*e*P		**P**	**12 47 33.5**	**-0.2**
	comp=Z,284nm,1.0s								
KSH	**Kashi**	**20.96**	**300**	P		Pn	12 47 35.9	-1.2
KSH				pP		pP	12 47 41.0	+1.0
KSH				sP		sP	12 47 42.8	+0.3
KSH				S		**S**	**12 51 22.9**	**-4.8**
KSH				PcP		**PcP**	**12 51 41.6**	**-0.3**
KSH				PcS		**PcS**	**12 55 13.8**	**-6.1**
KSH				pmax	pmax				
	comp=Z,18nm,0.7s								
KSH				pmax	pmax				
	comp=Z,340nm,2.9s								
KSH				LR	LR				
	comp=Z,11μm,18.2s								
KSH				LR	LR				
	comp=Z,6μm,12.2s								
KSH				LR	LR				
	comp=Z,4μm,16.3s								
KDJ	**Kajisay**	**21.02**	**308**	*e*P		**P**	**12 47 36.6**	**+1.3**
	comp=Z,391nm,1.3s								
KDJ				*e*S		**S**	**12 51 28.0**	**-1.1**
KDJ	**Kajisay**	**21.02**	**308**	*e*P		**P**	**12 47 36.6**	**+1.3**
KDJ				*e*S		**S**	**12 51 28.0**	**-1.1**
KDJ				pmax	pmax				
	comp=Z,391nm,1.3s								
BHPL	**Bhopal**	**21.06**	**254**	*e*P		**P**	**12 47 33.9**	**-1.8**
BHPL				IAmb		IAmb	12 47 37.6		
	comp=Z,271nm,0.8s								
IRK	**Irkutsk**	**21.55**	**8**	*e*P		**P**	**12 47 40.5**	**-0.1**
IRK				pmax	pmax				
	comp=Z,500nm,2.2s								
MDOK	**Medeo**	**21.56**	**311**	*c* iP		**P**	**12 47 39.8**	**-1.3**
MDOK				*e*S		**S**	**12 51 38.2**	**-1.5**
MDOK				pmax	pmax				
	comp=Z,3μm,1.7s								
MDOK				MLR	MLR				
	comp=Z,3μm,14.0s								
MDOK	**Medeo**	**21.56**	**311**	⇑*i*P		**P**	**12 47 39.8**	**-1.3**
	comp=Z,3μm,1.7s								
MDOK				*e*S		**S**	**12 51 38.2**	**-1.5**
	comp=Z,5μm,7.3s								
MDOK				*e*LRM		MLR	12 57 22.9		
	comp=Z,3μm,13.6s								
NRN	**Naryn**	**21.56**	**305**	*e*P		**P**	**12 47 41.6**	**+0.3**
	comp=Z,131nm,1.0s								
NRN	**Naryn**	**21.56**	**305**	*e*P		**P**	**12 47 41.6**	**+0.3**
NRN				pmax	pmax				
	comp=Z,131nm,1.0s								
TNSS	**Tian-Shan**	**21.57**	**310**	*d* iP		**P**	**12 47 41.2**	**-0.2**
TNSS				pmax	pmax				
	comp=Z,2μm,0.7s								
TNSS	**Tian-Shan**	**21.57**	**310**	⇓*i*P		**P**	**12 47 41.2**	**-0.2**
	comp=Z,2μm,0.7s								
TDK	**Taldyqorghan**	**21.64**	**316**	*d* iP		**P**	**12 47 40.4**	**-1.3**
TDK				*e*S		**S**	**12 51 40.5**	**-0.3**
TDK				pmax	pmax				
	comp=Z,8μm,1.4s								
TDK				MLR	MLR				
	comp=Z,8μm,12.0s								
TDK	**Taldyqorghan**	**21.64**	**316**	⇓*i*P		**P**	**12 47 40.5**	**-1.3**
	comp=Z,8μm,1.4s								
TDK				⇓*e*S		**S**	**12 51 40.6**	**-0.3**
	comp=Z,4μm,6.5s								
TDK				*e*LRM		MLR	12 57 18.9		
	comp=Z,8μm,12.1s								
AAA	**Alma-Ata**	**21.67**	**311**	*e*P		**P**	**12 47 42.2**	**+0.1**
AAA				*e*S		**S**	**12 51 41.8**	**+0.2**
AAA				pmax	pmax				
	comp=Z,2μm,1.3s								
AAA				MLR	MLR				
	comp=Z,2μm,13.0s								
AAA	**Alma-Ata**	**21.67**	**311**	*e*P		**P**	**12 47 42.2**	**+0.1**
	comp=Z,2μm,1.3s								
AAA				*e*S		**S**	**12 51 41.8**	**+0.2**
	comp=Z,6μm,7.0s								
AAA				*e*LRM		MLR	12 57 30.1		
	comp=Z,2μm,13.1s								
ULHL	**Ulahol**	**21.71**	**308**	P		**P**	**12 47 43.5**	**+0.8**
	SNR=52								
CHKK	**Chushkaly**	**21.92**	**312**	*d* iP		**P**	**12 47 43.5**	**-1.3**
CHKK				pmax	pmax				
	comp=Z,1μm,1.2s								
CHKK	**Chushkaly**	**21.92**	**312**	⇓*i*P		**P**	**12 47 43.5**	**-1.3**
	comp=Z,1μm,1.2s								
MTBS	**Maitube**	**21.95**	**310**	*de*P		**P**	**12 47 45.1**	**-0.1**
MTBS				pmax	pmax				
	comp=Z,1μm,1.1s								
MTBS	**Maitube**	**21.95**	**310**	⇓*e*P		**P**	**12 47 45.1**	**-0.1**
	comp=Z,1μm,1.1s								
SNY	**Shenyang**	**22.16**	**54**	⇑P		**P**	**12 47 47.4**	**+0.2**
SNY				S		**S**	**12 51 52.4**	**+1.6**
SNY				pmax	pmax				
	comp=Z,71nm,1.2s								
SNY				pmax	pmax				
	comp=Z,840nm,3.5s								
SNY				LR	LR				
	comp=Z,9μm,13.3s								
SNY				LR	LR				
	comp=Z,9μm,13.1s								
SNY				LR	LR				
	comp=Z,16μm,13.5s								
NIL	**Nilore**	**22.30**	**284**	*e*P		**P**	**12 47 47.4**	**-1.6**
	comp=Z,326nm,0.9s								
NIL				*e*S		**S**	**12 51 49.6**	**-4.2**
NIL				LR	LR				
	comp=Z,4μm,22.0s								
NIL	**Nilore**	**22.30**	**284**	*e*P		**P**	**12 47 47.4**	**-1.6**
NIL				*e*S		**S**	**12 51 49.7**	**-4.2**
NIL				pmax	pmax				
	comp=Z,327nm,0.9s								
NIL				MLR	MLR				
	comp=Z,4μm,22.0s								
KZA	**Kyzart**	**22.32**	**306**	P		**P**	**12 47 50.1**	**+0.6**
	SNR=89								
KUU	**Kurty**	**22.36**	**312**	*ce*P		**P**	**12 47 47.6**	**-1.8**
KUU				*e*S		**S**	**12 51 54.2**	**-0.5**
KUU				pmax	pmax				
	comp=Z,1μm,1.9s								
KUU				MLR	MLR				
	comp=Z,1μm,11.0s								
KUU	**Kurty**	**22.36**	**312**	⇑*e*P		**P**	**12 47 47.6**	**-1.8**
	comp=Z,1μm,1.9s								
KUU				⇓*e*S		**S**	**12 51 54.2**	**-0.5**
	comp=Z,2μm,4.1s								
KUU				*e*LRM		MLR	12 57 33.1		
	comp=Z,1μm,11.4s								
TKM2	**Tokmak 2**	**22.42**	**309**	P		**P**	**12 47 52.1**	**+1.8**
	SNR=58								
TKM2	**Tokmak 2**	**22.42**	**309**	P		**P**	**12 47 49.9**	**-0.4**
TKM2				pmax	pmax				
	comp=Z,101nm,1.0s								
KRAB	**Krabi**	**22.64**	**181**	P		**P**	**12 47 58.9**	**+6.4**
	comp=Z,486nm,0.8s,comp=Z,18μm								
KBK	**Karagaybulak**	**22.75**	**308**	P		**P**	**12 47 54.4**	**+0.6**
	SNR=130								
UCH	**Uchtor**	**22.89**	**306**	P		**P**	**12 47 55.9**	**+0.3**
	SNR=54								
SFK	**Sufi-Kurgan**	**22.92**	**300**	P		**P**	**12 47 54.2**	**-1.5**
SFK				pmax	pmax				
	comp=Z,150nm,1.2s								
PKDT	**Phuket**	**22.98**	**183**	P		**P**	**12 47 59.4**	**+3.2**
	comp=Z,65nm,1.2s,comp=Z,2μm								
CHMS	**Chumysh**	**23.02**	**308**	P		**P**	**12 47 56.7**	**+0.2**
	SNR=23								
TRTT	**Trang**	**23.02**	**179**	P		**P**	**12 47 58.7**	**+2.2**
	comp=Z,76nm,1.4s,comp=Z,2μm								
FRU1	**Bishkek**	**23.02**	**308**	*e*P		**P**	**12 47 56.9**	**+0.3**
	comp=Z,146nm,1.0s								
FRU1	**Bishkek**	**23.02**	**308**	*e*P		**P**	**12 47 56.9**	**+0.3**
FRU1				pmax	pmax				
	comp=Z,146nm,1.0s								
FRU	**Bishkek**	**23.04**	**308**	*e*P		P	12 48 04.0	+7.3
FRU				*e*			12 48 27.0		
FRU				*e*S		**S**	**12 52 10.0**	**+3.0**
FRU				smax	smax				
	comp=E,5μm,14.0s								
AAK	**Ala-Archa**	**23.05**	**307**	P		**P**	**12 47 57.5**	**+0.6**
	comp=E,83nm,0.9s,baz=119,slow=6.7,SNR=90								
AAK				S		**S**	**12 52 07.2**	**-0.2**
	comp=E,3.4nm,1.0s,baz=86,slow=18,SNR=1.6								
AAK				LR	LR		12 57 31.1		
	comp=E,8μm,19.5s,baz=100,slow=38								
AAK	**Ala-Archa**	**23.05**	**307**	P		**P**	**12 47 57.5**	**+0.6**
	SNR=82								
AAK	**Ala-Archa**	**23.05**	**307**	*e*P		**P**	**12 47 57.1**	**+0.2**
	comp=E,367nm,1.4s								
AAK				*e*S		**S**	**12 52 07.2**	**-0.2**
AAK				LR	LR				
	comp=Z,10μm,22.0s								
AAK	**Ala-Archa**	**23.05**	**307**	*i* P		**P**	**12 47 57.1**	**+0.2**
	SNR=200								
AAK	**Ala-Archa**	**23.05**	**307**	*e*P		**P**	**12 47 57.1**	**+0.2**
AAK				*e*S		**S**	**12 52 07.2**	**-0.2**
AAK				pmax	pmax				
	comp=Z,367nm,1.4s								
AAK				MLR	MLR				
	comp=Z,10μm,22.0s								
AAK	**Ala-Archa**	**23.05**	**307**	P		**P**	**12 47 57.0**	**0.0**
	SNR=135								
AAK				S		**S**	**12 52 08.1**	**+0.7**
USP	**Ospenovka**	**23.29**	**309**	P		**P**	**12 47 59.7**	**+0.4**
	SNR=171								
HYB	**Hyderabad**	**23.31**	**239**	*i* P		**P**	**12 47 59.0**	**-0.6**
	comp=Z,110nm,1.0s								
HYB				*e*S		**S**	**12 52 12.0**	**+0.2**
HYB	**Hyderabad**	**23.31**	**239**	*e*P		**P**	**12 47 57.8**	**-1.9**
HYB				IAmb		IAmb	12 48 01.0		
	comp=Z,40nm,0.6s								
AML	**Almayashu**	**23.42**	**306**	P		**P**	**12 48 02.0**	**+1.0**
	SNR=134								
CIT	**Chita**	**23.45**	**22**	*e*P		**P**	**12 48 00.2**	**-0.5**
CIT				*e*			12 48 24.4		
CIT				*e*			12 48 36.8		
CIT				*e*			12 51 47.4		
CIT				pmax	pmax				
	comp=Z,101nm,1.9s								
EKS2	**Erkin-Say**	**23.55**	**307**	P		**P**	**12 48 03.6**	**+1.7**
	SNR=166								
ARSB	**Arslanbob**	**23.67**	**303**	*e*P		**P**	**12 48 03.4**	**+0.3**
	comp=Z,63nm,0.9s								
SKLT	**Songkhla**	**23.70**	**177**	P		**P**	**12 48 05.2**	**+1.8**
	comp=Z,308nm,1.4s,comp=Z,4μm								
TJN	**Taejon**	**23.79**	**69**	*ce*P		**P**	**12 48 03.1**	**-1.0**
HIA	**Hailar**	**23.84**	**34**	*e*P		**P**	**12 48 03.8**	**-0.7**
	comp=Z,108nm,1.3s								
HIA	**Hailar**	**23.84**	**34**	*e*P		**P**	**12 48 03.8**	**-0.7**
HIA				pmax	pmax				
	comp=Z,108nm,1.3s								
SEM	**Semipalatinsk**	**24.15**	**329**	*de*P		**P**	**12 48 04.8**	**-2.8**
SEM				*e*S		**S**	**12 52 27.1**	**+2.0**
SEM				pmax	pmax				
	comp=Z,2μm,1.7s								
SEM				MLR	MLR				
	comp=Z,4μm,14.0s								
SEM	**Semipalatinsk**	**24.15**	**329**	⇓*e*P		**P**	**12 48 04.8**	**-2.8**
	comp=Z,2μm,1.7s								
SEM				*e*S		**S**	**12 52 27.2**	**+2.0**
	comp=Z,10μm,6.1s								
SEM				*e*LRM		MLR	12 57 56.6		
	comp=Z,4μm,13.7s								
CN2	**Changchun**	**24.18**	**51**	⇑P		**P**	**12 48 08.3**	**+0.6**
CN2				*e*sP		sP	12 48 15.3	-0.6
CN2				*

KURK eScP **ScP** **12 55 26.9 -1.7**
KURK LR LR
comp=Z,23μm,22.0s
KURK Kurchatov 25.10 328 P **P** **12 48 15.7 -0.2**
KURK S **S** **12 52 40.9 +0.9**
KURK pmax pmax
comp=Z,119nm,0.8s
KURK smax smax
comp=N,1.0nm,0.8s
KURK Kurchatov 25.10 328 P **P** **12 48 16.1 +0.1**
SNR=94
KURK P **P** **12 48 16.1 +0.1**
SNR=94
GAR Garm 25.11 297 *e*P **P** **12 48 16.1 -0.3**
comp=N,246nm,1.1s
GAR Garm 25.11 297 *e*P **P** **12 48 16.1 -0.3**
GAR pmax pmax
comp=Z,246nm,1.1s
MDRS Chennai 25.13 229 *e*P **P** **12 48 15.4 -1.1**
MDRS IAmb IAmb 12 48 21.4
comp=Z,102nm,0.8s
ZAA0 Zalesovo Array 25.28 340 *e*P **P** **12 48 17.0 -0.5**
comp=Z,229nm,1.0s
ZALV Zalesovo Beam 25.28 340 P **P** **12 48 17.3 -0.2**
comp=Z,77nm,0.7s,baz=151,slow=9.8,SNR=206
ZALV PcP **PcP** **12 51 50.3 -0.1**
comp=Z,1.5nm,0.5s,baz=169,slow=5.3,SNR=3.9
ZALV ScP **ScP** **12 55 30.2 +1.1**
comp=Z,1.4nm,0.8s,baz=143,slow=3.6,SNR=2.8
ZALV Zalesovo Beam 25.28 340 *e*P **P** **12 48 16.7 -0.9**
ZAA1 Zalesovo Array 25.28 340 *e*P **P** **12 48 17.4 -0.2**
ZAA1 *e*PcP **PcP** **12 51 50.3 -0.1**
ZAA1 *e*ScP **ScP** **12 55 30.2 +1.1**
DZA Taraz 25.32 306 *de*P **P** **12 48 18.5 +0.4**
DZA *i* S **S** **12 52 47.3 +3.5**
DZA pmax pmax
comp=Z,1μm,1.3s
DZA Taraz 25.32 306|| *e*P **P** **12 48 18.5 +0.4**
comp=Z,1μm,1.2s
DZA ⇑*i*S **S** **12 52 47.4 +3.5**
comp=Z,306nm,2.7s
JOW Kunigami 25.52 92 P **P** **12 48 18.0 -2.0**
comp=Z,38nm,0.6s,baz=283,slow=5.2,SNR=7.1
JOW LR LR 13 00 10.4
comp=Z,6μm,18.8s,baz=285,slow=41
JOW Kunigami 25.52 92 *e*P **P** **12 48 18.3 -1.8**
comp=Z,86nm,1.2s
KULM Kulim 25.57 177 *e*P **P** **12 48 21.1 +0.6**
comp=Z,107nm,1.0s
KULM Kulim 25.57 177 P **P** **12 48 22.2 +1.7**
LHMI Lhok Sumawe 25.72 186 *e*P **P** **12 48 23.1 +1.3**
comp=Z,156nm,0.9s
KTGM Kuala Trenggan 25.74 172 P **P** **12 48 26.5 +4.5**
KBL Kabul 25.79 286 *e*P **P** **12 48 22.5 -0.1**
comp=Z,154nm,1.0s
KBL Kabul 25.79 286 *e*P **P** **12 48 22.5 -0.1**
KBL pmax pmax
comp=Z,154nm,1.0s
CHGR Chuyangaron 25.96 295 *e*P **P** **12 48 24.1 0.0**
comp=Z,163nm,0.9s
KK31 Karatay Array 25.96 306 *e*P **P** **12 48 23.8 -0.2**
KK31 Karatay Array 25.96 306 *e*P **P** **12 48 23.8 -0.2**
KKAR Karatay Array 25.96 306 *e*P **P** **12 48 23.9 0.0**
KKAR Karatay Array 25.96 306 *e*P **P** **12 48 23.9 0.0**
IUG luzhnay 26.02 304 *ce*P **P** **12 48 23.7 -0.9**
IUG *e*S **S** **12 52 56.5 +1.5**
IUG pmax pmax
comp=Z,2μm,1.1s
IUG MLR MLR
comp=Z,2μm,11.0s
IUG luzhnay 26.02 304⇑ *e*P **P** **12 48 23.7 -0.9**
comp=Z,2μm,1.1s
IUG *e*S **S** **12 52 56.5 +1.5**
comp=Z,2μm,3.9s
IUG *e*LRM MLR 12 59 48.8
comp=Z,2μm,11.5s
POO Poona 26.29 248 *e*P **P** **12 48 24.6 -2.5**
POO IAmb IAmb 12 48 31.4
comp=Z,51nm,0.8s
IPM Ipoh 26.39 177 *e*P **P** **12 48 27.1 -0.9**
comp=Z,296nm,1.5s
IPM Ipoh 26.39 177 P **P** **12 48 28.7 +0.7**
NVS Novosibirsk 26.53 339 *e*P **P** **12 48 28.3 -0.5**
NVS *e*S **S** **12 52 59.9 -2.5**
NVS pmax pmax
comp=Z,292nm,2.0s
NVS pmax pmax
comp=N,218nm,2.1s
NVS pmax pmax
comp=E,91nm,1.4s
NVS smax smax
comp=N,31nm,2.1s
NVS smax smax
comp=E,60nm,2.0s
JNU Nakatsue 26.66 77 P **P** **12 48 29.1 -1.3**
comp=E,34nm,1.0s,baz=291,slow=6.6,SNR=10
JNU S S 12 53 16.4 +11
comp=E,8.6nm,1.1s,baz=248,slow=19,SNR=1.8
JNU Nakatsue 26.66 77 *e*P **P** **12 48 29.2 -1.1**
comp=E,124nm,1.3s
OTUK Ortayu 26.90 318 P **P** **12 48 31.5 -0.8**
OTUK pmax pmax
comp=Z,89nm,0.9s
MDJ Mudanjiang 27.25 52 P **P** **12 48 34.9 -0.6**
MDJ pP sP 12 48 44.3 +0.6
MDJ sP pP 12 48 48.4 +7.1
MDJ ScS ScS 12 59 20.9 -5.4
MDJ pmax pmax
comp=Z,14nm,1.7s
MDJ pmax pmax
comp=Z,210nm,3.5s
MDJ LR LR
comp=Z,7μm,17.2s
MDJ LR LR
comp=Z,10μm,15.5s
MDJ Mudanjiang 27.25 52 *e*P **P** **12 48 34.7 -0.8**
comp=Z,30nm,1.1s
MDJ LR LR
comp=Z,5μm,19.0s
TSI Tuntungan 27.34 182 P **P** **12 48 39.1 +2.6**
comp=Z,386nm,1.3s
KCSI Kotacane, Aceh 27.35 184 P **P** **12 48 36.6 0.0**
comp=Z,75nm,1.3s,comp=Z,697nm
BHJ Bhuj 27.57 261 *e*P **P** **12 48 38.2 -0.4**
BHJ IAmb IAmb 12 48 43.0
comp=Z,120nm,0.7s
TPTI 27.65 185 P **P** **12 48 39.2 0.0**
comp=Z,59nm,1.0s
FRIM Kepong 27.66 175 P **P** **12 48 41.4 +2.0**
MSHR Mys Shultsa 27.74 56 *i* P **P** **12 48 39.7 -0.2**
PSI Prapat 28.02 181 P **P** **12 48 44.9 +2.1**
comp=Z,20nm,0.8s,baz=360,slow=8.0,SNR=23
PSI S S 12 53 48.7 +22
comp=Z,2.2nm,0.4s,baz=0.0,slow=14,SNR=2.5
PSI LR LR 13 00 59.5
comp=Z,6μm,18.1s,baz=271,slow=38
PSI Prapat 28.02 181 *e*P **P** **12 48 44.8 +2.1**
comp=Z,251nm,1.6s
PSI Prapat 28.02 181 *e*P **P** **12 48 44.8 +2.1**
PSI pmax pmax
comp=Z,251nm,1.6s
GOA Goa 28.06 243 *e*P **P** **12 48 40.2 -2.8**
GOA IAmb IAmb 12 48 46.2
comp=Z,37nm,0.7s
VLA Vladivostok 28.40 56 *d*iP **P** **12 48 45.5 -0.2**
VLA pmax pmax
comp=Z,237nm,1.8s
SNSI Sinabang, Aceh 28.56 187 P **P** **12 48 48.0 +0.6**
comp=Z,375nm,1.3s,comp=Z,5μm
USA0B Ussuriysk Arra 28.75 53 *e*P **P** **12 48 48.3 -0.7**
comp=Z,23nm,1.1s
USRK Ussuriysk Ar. 28.76 53 P **P** **12 48 48.4 -0.5**
comp=Z,3.4nm,0.7s,baz=266,slow=7.5,SNR=10
USRK S **S** **12 53 45.0 +7.2**
comp=Z,1.2nm,0.8s,baz=252,slow=41,SNR=2.3
USRK LR LR 13 01 48.6
comp=Z,5μm,18.3s,baz=242,slow=40
KDM Kudat 28.93 142 P **P** **12 48 52.1 +1.4**
KGM Kluang 29.03 172 P **P** **12 48 53.7 +2.2**
MYKOM Kota Tinggi 29.32 171 *e*P **P** **12 48 55.0 +0.8**
comp=Z,117nm,1.4s
MYKOM Kota Tinggi 29.32 171 P **P** **12 48 54.0 -0.1**
KKM Kota Kinabalu 29.36 144 *e*P **P** **12 48 55.0 +0.4**
comp=Z,179nm,1.0s
KKM Kota Kinabalu 29.36 144 P **P** **12 48 55.7 +1.1**
PALK Pallekele 29.40 221 P **P** **12 48 57.6 +2.7**
comp=Z,11nm,0.8s,baz=113,slow=3.5,SNR=3.6
PALK S **S** **12 53 50.9 +2.5**
comp=Z,3.2nm,0.6s,baz=118,slow=10.0,SNR=2.4
PALK LR LR 13 01 50.6
comp=Z,6μm,21.6s,baz=116,slow=38
PALK Pallekele 29.40 221 *e*P **P** **12 48 55.9 +0.9**
comp=Z,60nm,1.4s
SDKM Sandakan 30.20 143 P **P** **12 49 05.0 +2.9**
ZEA Zeya 30.30 33 *e*P **P** **12 49 03.3 +0.7**
ZEA *e* 12 50 14.0
ZEA *e* 12 59 32.0
ZEA pmax pmax
comp=Z,28nm,1.2s
ZEA MLR MLR
comp=E,9μm,10.0s
ZEA MLR MLR
comp=Z,12μm,10.0s
KLR Kul'dur 30.38 44 P **P** **12 49 02.8 -0.5**
comp=Z,14nm,1.1s,baz=236,slow=9.9,SNR=16
KLR LR LR 13 01 21.9
comp=Z,6μm,18.8s,baz=246,slow=37
KLR Kul'dur 30.38 44 *i* P **P** **12 49 03.0 -0.3**
BVA0 Borovoye Array 30.51 325 *i* P **P** **12 49 04.2 -0.2**
BVA0 pmax pmax
comp=Z,57nm,1.4s
BKNI Bangkinang 30.51 177 P **P** **12 49 04.9 +0.2**
BRVK Borovoye 30.58 325 *e*P **P** **12 49 05.0 -0.1**
comp=Z,41nm,0.8s
BRVK LR LR
comp=Z,7μm,21.0s
BRVK Borovoye 30.58 325 *ce*P **P** **12 49 05.5 +0.5**
BRVK pmax pmax
comp=Z,101nm,1.7s
BRVK Borovoye 30.58 325 P **P** **12 49 05.3 +0.3**
SNR=22
BRVK P **P** **12 49 05.3 +0.3**
SNR=22
TRD Trivandrum 30.67 228 *e*P **P** **12 49 06.0 -0.1**
SBUM Sibu 30.82 155 *e*P **P** **12 49 08.2 +0.8**
comp=Z,73nm,1.3s
SBUM Sibu 30.82 155 P **P** **12 49 09.6 +2.1**
KSM Kuching 31.08 159 *e*P **P** **12 49 10.4 +0.7**
comp=Z,72nm,1.2s
KSM Kuching 31.08 159 P **P** **12 49 11.9 +2.1**
DSRI Dabo 31.65 170 P **P** **12 49 14.2 -0.6**
TSM Tawau 31.70 143 P **P** **12 49 17.8 +2.6**
PDSI Padang 31.72 178 P **P** **12 49 13.2 -2.2**
SISI Saibi 32.12 181 P **P** **12 49 21.5 +2.6**
comp=Z,285nm,1.5s,comp=Z,4μm
TEY Ternei 32.16 54|| *e*P **P** **12 49 16.0 -2.9**
TEY *e*S **S** **12 54 24.3 -6.7**
TEY pmax pmax
comp=E,30nm,1.7s
TEY pmax pmax
comp=N,30nm,1.3s
TEY pmax pmax
comp=Z,20nm,2.5s
TEY MLR MLR
comp=E,8μm,12.0s
TEY MLR MLR
comp=N,4μm,11.0s
TEY MLR MLR
comp=Z,7μm,12.0s
MJB9 Matsu-Tunnel 32.53 70 *e*P **P** **12 49 20.7 -1.7**
comp=Z,65nm,1.2s
MAJO Matsushiro 32.53 70 PFAKE 12 49 30.0 +7.6
MAJO LR LR
comp=Z,2μm,19.0s
MAJO Matsushiro 32.53 70 *i* P **P** **12 49 22.2 -0.2**
MAJO pmax pmax
comp=Z,83nm,1.3s
MAJO Matsushiro 32.53 70 *e*P **P** **12 49 21.0 -1.3**
MAT Matsushiro 32.53 70 P **P** **12 49 20.4 -2.0**
MAT S S 12 54 47.6 +10
MJAR Matsushiro Arr 32.53 70 P **P** **12 49 20.8 -1.6**
comp=Z,30nm,1.2s,baz=275,slow=9.4,SNR=18
MJAR PcP **PcP** **12 52 08.8 -0.2**
comp=Z,2.9nm,0.7s,baz=247,slow=1.7,SNR=4.3
MJAR Matsushiro Arr 32.53 70 P **P** **12 49 20.8 -1.6**
MJAR 12 52 08.8
MJAR pmax pmax
comp=Z,35nm,1.2s
STKI Sintang 32.78 157 P **P** **12 49 28.7 +4.0**
GRNR Gornyy 33.75 43 *e*P **P** **12 49 31.1 -1.8**
GRNR pmax pmax
comp=Z,30nm,1.1s
DAV Davao City (W) 34.09 129 LR LR 13 03 33.8
comp=Z,5μm,18.3s,baz=360,slow=36
DAV Davao City (W) 34.09 129 PFAKE 12 49 50.0 +14
DAV LR LR
comp=Z,2μm,20.0s
GEYT Alibeck 34.58 293 P **P** **12 49 41.8 +1.5**
comp=Z,60nm,0.9s,baz=110,slow=6.8,SNR=46
GEYT S **S** **12 55 12.9 +3.9**
comp=Z,0.9nm,0.4s,baz=48,slow=20,SNR=2.0
GYA0B ALIBECK ARRAY 34.58 293 *e*P **P** **12 49 40.5 +0.2**
comp=Z,75nm,1.0s
LHSI Lahat 34.82 173 P **P** **12 49 41.8 -0.6**
MTKI Muara Teweh, K 34.96 152 P **P** **12 49 47.0 +3.3**
MTKI pP **sP** **12 49 54.7 +2.8**
MNAI Manna 35.29 174 *e*P **P** **12 49 45.4 -1.1**
comp=Z,290nm,1.1s
MDSI Maura Dua 35.54 172 P **P** **12 49 48.8 +0.2**
MDSI pP **sP** **12 49 57.3 +0.2**
MPSI Mapaga 36.11 144 P **P** **12 49 53.2 -0.3**
ASAJ Asahikawa 36.22 56 P **P** **12 49 53.5 -0.7**
comp=Z,40nm,0.7s,baz=251,slow=5.9,SNR=23
ASAJ LR LR 13 05 42.8
comp=Z,4μm,18.6s,baz=286,slow=38
ASAJ Asahikawa 36.22 56 *e*P **P** **12 49 52.7 -1.5**
comp=Z,145nm,1.2s
AKTO Aktyubinsk 36.35 314 P **P** **12 49 55.6 +0.3**
AKTO pmax pmax
comp=Z,36nm,0.7s
ERM Erimo 36.46 60 *e*P **P** **12 49 54.8 -1.5**
comp=Z,46nm,0.8s
ERM LR LR
comp=Z,1μm,20.0s
ERM Erimo 36.46 60 *e*P **P** **12 49 54.8 -1.5**
ERM pmax pmax
comp=Z,46nm,0.8s
ERM MLR MLR
comp=Z,1μm,20.0s
YAK Yakutsk 36.72 23 *e*P **P** **12 49 58.0 -0.3**
YAK *e**PP **sP** **12 50 06.4 -0.2**
YAK *e*S **S** **12 55 39.3 -1.8**
YAK *e*SS **SnSn** **12 58 11.3 -0.6**
YAK pmax pmax
comp=Z,13nm,0.8s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK smax smax
comp=E,217nm,4.4s
YAK smax smax
comp=N,214nm,4.8s
YAK MLR MLR
comp=Z,4μm,10.0s
YAK MLR MLR
comp=N,4μm,13.0s
YAK MLR MLR
comp=E,3μm,11.0s
JLN Jalan Bani Buh 36.73 266 P **P** **12 50 03.0 +4.1**
SNR=7.2
JLN P **P** **12 50 03.0 +4.1**
SNR=7.2
YSS Yuzh-Sakhalins 36.74 52 *e*P **P** **12 49 58.1 -0.5**
comp=E,211nm,1.5s
YSS LR LR
comp=Z,2μm,19.0s
YSS Yuzh-Sakhalins 36.74 52|| *e*P **P** **12 49 58.7 +0.1**
YSS *e* 12 51 27.8
YSS pmax pmax
comp=Z,70nm,1.4s
YSS MLR MLR
comp=Z,5μm,14.0s
YSS MLR MLR
comp=E,6μm,13.0s
WSAR Wadi Sarin 37.00 268 P **P** **12 50 02.6 +1.5**
comp=E,10nm,0.6s,baz=110,slow=5.1,SNR=16
MRSI Marisa 37.07 141 P **P** **12 50 01.8 +0.1**
NKL Nikolayevsk 37.07 41 *e*P **P** **12 50 00.5 -0.8**
NKL *e* 12 58 18.0
NKL pmax pmax
comp=E,88nm,1.8s
NKL pmax pmax
comp=Z,110nm,1.8s
NKL MLR MLR
comp=N,3μm,14.0s
NKL MLR MLR
comp=E,8μm,14.0s
NKL MLR MLR
comp=Z,9μm,14.0s
PCI Palu 37.14 145 P **P** **12 50 00.7 -1.7**
SVE Sverdlovsk 37.29 325 *d*iP **P** **12 50 03.8 +0.6**
SVE *e*S **S** **12 55 52.1 +2.2**
SVE *e* 12 58 25.8
SVE pmax pmax
comp=Z,152nm,1.5s
SVE MLR MLR
comp=Z,6μm,21.0s
TYV Tymovskoe 37.53 45 *e*P **P** **12 50 05.6 +0.3**
TYV *e*S **S** **12 55 53.5 -0.2**
TYV pmax pmax
comp=Z,56nm,1.4s
TYV pmax pmax
comp=Z,300nm,7.3s
TYV smax smax
comp=E,800nm,5.5s
APSI Ampana 38.07 142 P **P** **12 50 08.5 -1.7**
KMSI Cibinong 38.13 138 P **P** **12 50 10.9 +0.2**
ARU Arti 38.15 324 *e*P **P** **12 50 10.0 -0.4**
comp=E,136nm,1.1s
ARU LR LR
comp=Z,4μm,20.0s
ARU Arti 38.15 324 *c* iP **P** **12 50 10.4 0.0**
ARU 12 51 38.1
ARU 12 52 22.6
ARU *e*S **S** **12 56 03.6 +0.7**
ARU SS **SnSn** **12 58 47.0 +0.5**
ARU pmax pmax
comp=Z,166nm,1.2s
ARU MLR MLR
comp=Z,7μm,19.0s
SHME Shamm 38.21 274 P **P** **12 50 12.2 +0.8**
MDH Madha 38.31 272 P **P** **12 50 12.5 +0.3**
BSY Bisya 38.41 268 P **P** **12 50 14.8 +1.7**
SNR=6.9
MHTO MHTO 38.42 265 P **P** **12 50 12.7 -0.4**
SNR=7.2
MHTO S **S** **12 56 07.2 -0.6**
UOSS Minazif 38.50 272 *e*P **P** **12 50 14.3 +0.4**
comp=Z,19nm,0.9s
UOSS Minazif 38.50 272 P **P** **12 50 14.4 +0.6**
YUK Yuzh-Kuril'sk 38.56 57 *d* iP **P** **12 50 13.7 -0.3**
ASHO Ashiyiah 38.71 272 *i* P **P** **12 50 16.2 +0.5**
SNR=22
ASHO Ashiyiah 38.71 272 P **P** **12 50 15.8 +0.2**
SNR=14
ASHO P **P** **12 50 15.8 +0.2**
SNR=14
LUWI Luwuk 38.78 141 *e*P **P** **12 50 16.4 +0.2**
comp=Z,263nm,1.3s
LUWI Luwuk 38.78 141 P **P** **12 50 16.8 +0.6**
TTSI Tana Toraja 38.99 147 P **P** **12 50 15.7 -2.2**
FAQ Al Faqa, Dubai 39.09 272 *i* P **P** **12 50 19.5 +0.7**
SNR=5.6
KPJI Karang Pucung 39.15 165 P **P** **12 50 17.5 -1.7**
ALNE Al Ain 39.19 271 *i* P **P** **12 50 19.8 +0.2**
SNR=13
SPSI Sidrap Palu 39.78 147 P **P** **12 50 24.0 -0.5**
NGJI Ngawi 39.81 161 P **P** **12 50 25.8 +1.1**
UGM Wanagama 40.09 163 *e*P **P** **12 50 28.2 +1.1**
comp=Z,256nm,1.5s
BNSI Bone 40.32 147 P **P** **12 50 27.8 -1.2**
KAPI Kappang 40.70 148 PFAKE 12 50 40.0 +7.9
KAPI LR LR
comp=Z,2μm,22.0s
BKSI Bulukumba 41.14 148 P **P** **12 50 34.8 -0.9**
SANI Sanana 41.42 138 P **P** **12 50 39.3 +1.2**
MZR Muzera 41.51 271 *i* P **P** **12 50 40.4 +1.6**
SNR=6.0
MZR Muzera 41.51 271 P **P** **12 50 40.7 +1.9**
SNR=6.2
JAGI Jajag, Banyuwa 41.67 158 *e*P **P** **12 50 40.8 +0.7**
comp=Z,142nm,1.6s
MAK Makhachkala 42.59 301 *e*P **P** **12 50 46.1 -1.3**
MAK *e* 12 52 25.4
MAK *e*S **S** **12 57 08.3 -1.2**
MAK *e*SS **SS** **13 00 17.9 -1.5**
MAK pmax pmax
comp=Z,213nm,1.1s
MAK MLR MLR
comp=Z,3μm,14.0s
COCO West Island 42.99 184 PFAKE 12 51 00.0 +9.3
COCO LR LR
comp=Z,3μm,20.0s
TIXI Tiksi 43.72 13 P **P** **12 50 54.5 -1.6**
comp=Z,5.1nm,0.7s,baz=224,slow=1.8,SNR=17
TIXI Tiksi 43.72 13 *e*P **P** **12 50 55.1 -1.1**
comp=Z,33nm,1.2s
TIXI LR LR
comp=Z,3μm,21.0s
TIXI Tiksi 43.72 13 *ce*P **P** **12 50 55.2 -0.9**
TIXI pmax pmax
comp=Z,26nm,1.7s
TIXI MLR MLR
comp=Z,2μm,16.0s
GROC Groznyy 43.83 302 *e*P **P** **12 50 53.4 -4.0**
GROC *e*S **S** **12 57 24.3 -3.5**
GROC pmax pmax
comp=Z,85nm,1.2s
MA2 Magadan 44.43 35 P **P** **12 51 01.1 -0.9**
comp=Z,16nm,0.7s,baz=218,slow=8.9,SNR=4.9
MA2 Magadan 44.43 35 *e*P **P** **12 51 00.5 -1.5**
comp=Z,72nm,1.5s
MA2 LR LR
comp=Z,2μm,20.0s
MA2 Magadan 44.43 35 *ce*P **P** **12 51 03.1 +1.1**
MA2 pmax pmax
comp=Z,19nm,1.0s
TBLG Delisi 44.70 300 *e*P **P** **12 51 05.7 +1.2**
comp=Z,22nm,0.8s
TBLG Delisi 44.70 300 *e*P **P** **12 51 05.7 +1.2**
TBLG pmax pmax
comp=Z,22nm,0.8s
GNI Garni 44.84 297 P **P** **12 51 08.8 +3.0**
comp=Z,25nm,0.8s,baz=138,slow=0.5,SNR=4.1
GNI Garni 44.84 297 *e*P **P** **12 51 06.1 +0.3**
comp=Z,59nm,0.9s
GNI LR LR
comp=Z,2μm,20.0s
GNI Garni 44.84 297 *i* P **P** **12 51 07.3 +1.5**
GNI pmax pmax
comp=Z,126nm,1.0s
EDFI Ende, Flores 44.88 148 P **P** **12 51 04.2 -1.9**
MMRI Maumere 45.03 147 *e*P **P** **12 51 07.0 -0.2**
comp=Z,125nm,1.1s
MMRI Maumere 45.03 147 P **P** **12 51 09.9 +2.7**
GUMO Guam 45.09 102 LR LR 13 09 25.9
comp=Z,771nm,20.9s,baz=310,slow=35
ZEI Tsey 45.24 301 *e*P **P** **12 51 08.0 -1.0**
ZEI pmax pmax
comp=Z,22nm,0.8s
NCK Nalchik 45.42 302 *i* P **P** **12 51 10.1 -0.1**
NCK pmax pmax
comp=Z,16nm,1.0s
GOF Gofitskoye 45.74 304 *e*P **P** **12 51 13.5 +0.9**
GOF pmax pmax
comp=Z,130nm,1.0s
KBZ Khabaz 45.91 303 P **P** **12 51 15.6 +1.6**
comp=Z,6.6nm,0.7s,baz=95,slow=7.0,SNR=8.8
KVAR Kislovodsk Arr 46.05 303 P **P** **12 51 16.9 +1.7**
comp=Z,26nm,0.9s,baz=97,slow=19,SNR=8.3
KIV Kislovodsk 46.05 303 *e*P **P** **12 51 15.7 +0.4**
comp=Z,118nm,1.0s
KIV LR LR
comp=Z,2μm,20.0s
KIV Kislovodsk 46.05 303 *e*P **P** **12 51 16.5 +1.3**
KIV *e* 12 53 05.0
KIV *e*S **S** **12 58 00.1 -0.1**
KIV pmax pmax
comp=Z,29nm,4.2s
KIV pmax pmax
comp=Z,130nm,1.1s
KIV MLR MLR
comp=Z,2μm,16.0s
NEY Neytrino 46.07 302 *i* P **P** **12 51 16.7 +1.2**
NEY pmax pmax
comp=Z,5.0nm,0.9s
DGAR Diego Garcia 46.11 219 PFAKE 12 51 30.0 +14

DGAR LR LR
comp=Z,1µm,22.0s
SEY Seymchan 46.19 30 *i* P **P** **12 51 16.2 +0.3**
PRGR Permogore 46.22 328 *e*P **P** **12 51 14.8 -1.3**
PRGR pmax pmax
comp=Z,69nm,0.9s
VRH Novokhopyorsk 46.65 313 *e*P **P** **12 51 19.2 -0.5**
VRH pmax pmax
comp=Z,60nm,0.7s
VRH MLR MLR
comp=Z,3µm,15.0s
SOEI Soe 46.97 146 *e*P **P** **12 51 23.6 +0.9**
comp=Z,79nm,1.0s
SOEI Soe 46.97 146 P **P** **12 51 23.5 +0.9**
SIRT Sirnak 46.99 294 *e*P **P** **12 51 23.9 +1.3**
comp=Z,151nm,0.9s
PEA0B Petropavlovsk- 47.06 44 *e*P **P** **12 51 22.2 -0.8**
comp=Z,95nm,1.2s
PEA1 Petropavlovsk- 47.06 44 *e*P **P** **12 51 22.0 -0.9**
PETK Petropavlovsk- 47.06 44 P **P** **12 51 22.0 -0.9**
comp=Z,9.5nm,0.8s,baz=217,slow=7.9,SNR=8.3
PETK LR LR 13 11 06.3
comp=Z,2µm,18.1s,baz=265,slow=36
PETK Petropavlovsk- 47.06 44 *e*P **P** **12 51 22.2 -0.8**
BATI Baumata 47.07 147 P **P** **12 51 22.2 -1.1**
comp=Z,52nm,0.6s,baz=284,slow=3.4,SNR=9.2
BATI LR LR 13 12 16.0
comp=Z,2µm,21.2s,baz=298,slow=38
BATI Baumata 47.07 147 P **P** **12 51 21.5 -1.8**
PET Petropavlovsk 47.63 45 PFAKE 12 51 40.0 +13
PET LR LR
comp=Z,3µm,20.0s
PET Petropavlovsk 47.63 45 *e*P **P** **12 51 26.7 -0.6**
PET *e*S **S** **12 58 19.2 -3.1**
PET MLR MLR
comp=Z,6µm,13.0s
PET MLR MLR
comp=Z,6µm,16.0s
RAYN Ar Rayn 48.16 275 *e*P **P** **12 51 31.3 -0.6**
comp=Z,68nm,1.6s
RAYN LR LR
comp=Z,2µm,21.0s
RAYN Ar Rayn 48.16 275 *i* P **P** **12 51 30.8 -1.1**
SNR=5.6
RAYN Ar Rayn 48.16 275 *e*P **P** **12 51 31.3 -0.6**
RAYN pmax pmax
comp=Z,68nm,1.6s
RAYN MLR MLR
comp=Z,2µm,21.0s
VORR Voronezh 48.24 314 P **P** **12 51 31.0 -1.1**
VORR pmax pmax
comp=Z,250nm,0.8s
VSR Storozhevoye 48.26 313 *i* P **P** **12 51 31.6 -0.6**
VSR pmax pmax
comp=Z,41nm,0.9s
LPSR Galich'ya Gora 48.44 315 *e*P **P** **12 51 33.1 -0.4**
LPSR pmax pmax
comp=Z,250nm,1.8s
KLMR Klimovskoe 48.92 326 *e*P **P** **12 51 36.4 -0.8**
KLMR *e* 12 53 30.7
KLMR pmax pmax
comp=Z,88nm,1.0s
KLMR Klimovskoe 48.92 326 *e*P **P** **12 51 36.4 -0.8**
KLMR AMP 12 51 37.8
comp=Z,88nm,1.0s
KLMR *e*PP **PP** **12 53 30.8 +0.5**
MOS Moscow 49.34 319 *e*P **P** **12 51 39.2 -1.2**
MOS *e* 12 51 43.3
MOS *e* 12 51 48.9
MOS *e* 12 53 34.2
MOS *e*S **S** **12 58 44.5 -1.8**
MOS pmax pmax
comp=Z,101nm,1.2s
MOS MLR MLR
comp=Z,4µm,18.0s
ANN Anapa 49.73 305 *e*P **P** **12 51 44.1 +0.5**
ANN *e*S **S** **12 58 55.7 +3.6**
ANN pmax pmax
comp=Z,120nm,1.0s
ANN MLR MLR
comp=Z,3µm,16.0s
OBN Obninsk 49.92 318 P **P** **12 51 44.8 0.0**
comp=Z,9.1nm,0.3s,baz=188,slow=7.1,SNR=4.8
OBN Obninsk 49.92 318 *e*P **P** **12 51 44.6 -0.2**
comp=Z,69nm,1.0s
OBN LR LR
comp=Z,1µm,21.0s
OBN Obninsk 49.92 318⇑ *e*P **P** **12 51 44.2 -0.6**
OBN *e* 12 53 00.3
OBN *e* 12 53 40.0
OBN *e*S **S** **12 59 01.9 +7.6**
OBN pmax pmax
comp=Z,38nm,1.2s
OBN MLR MLR
comp=Z,2µm,16.0s
SIM Simferopol' 52.05 305 *e*P **P** **12 52 02.9 +1.8**
SIM *e*S **S** **12 59 26.5 +2.2**
SIM pmax pmax
comp=Z,42µm,0.9s
SIM MLR MLR
comp=Z,2µm,16.0s
LVZ Lovozero 52.24 334 *e*P **P** **12 52 02.3 +0.1**
comp=Z,45nm,0.7s
LVZ LR LR
comp=Z,2µm,19.0s
LVZ Lovozero 52.24 334 *i* P **P** **12 52 01.9 -0.3**
LVZ pmax pmax
comp=Z,4.0nm,0.9s
ASF Jabal al Asfar 52.63 289 P **P** **12 52 06.5 +0.8**
comp=Z,24nm,0.9s,baz=44,slow=4.2,SNR=23
DAMY Dhamar 52.83 265 *e*P **P** **12 52 08.6 +1.0**
comp=Z,37nm,0.9s
ILGA Ilgaz 53.00 300 *e*P **P** **12 52 09.1 +0.7**
comp=Z,93nm,1.3s
BILL Bilibino 53.01 26 *e*P **P** **12 52 07.3 -0.5**
comp=Z,24nm,1.1s
BILL LR LR
comp=Z,3µm,22.0s
BILL Bilibino 53.01 26⇓ *e*P **P** **12 52 06.9 -0.9**
BILL *e* 12 53 15.5
BILL *e* 12 54 10.6
BILL *e*PPP PPP 12 55 12.5
BILL *i* S S 12 59 46.1 +9.4
BILL pmax pmax
comp=Z,42nm,1.7s
BILL MLR MLR
comp=Z,4µm,17.0s
BR101 Keskin Array S 53.33 299 *e*P **P** **12 52 11.5 +0.7**
BR131 Keskin Array S 53.33 299 *e*P **P** **12 52 11.6 +0.7**
BR131 Keskin Array S 53.33 299 P **P** **12 52 12.7 +1.8**
SNR=7.5
BRTR Keskin Array B 53.33 299 P **P** **12 52 11.5 +0.7**
comp=Z,14nm,1.0s,baz=102,slow=5.0,SNR=35
BRTR Keskin Array B 53.33 299*ce*P **P** **12 52 12.3 +1.5**
BRTR pmax pmax
comp=Z,15nm,1.0s
PUL Pulkovo 53.39 324 *i* P **P** **12 52 11.5 +0.8**
PUL pmax pmax
comp=Z,75nm,0.9s
MMAI Mount Meron Ar 53.61 290 P **P** **12 52 13.6 +0.8**
comp=Z,26nm,1.0s,baz=83,slow=7.1,SNR=17
WALJ Wala 53.70 288 P **P** **12 52 15.6 +2.2**
MMLI Mount Malkishu 53.76 289 P **P** **12 52 15.1 +1.2**
ANTO Ankara 53.94 299 *e*P **P** **12 52 16.0 +0.8**
comp=Z,49nm,1.0s
ANTO LR LR
comp=Z,1µm,20.0s
ANTO Ankara 53.94 299 *e*P **P** **12 52 16.0 +0.8**
ANTO pmax pmax
comp=Z,49nm,1.0s
ANTO MLR MLR
comp=Z,1µm,20.0s
ANTO Ankara 53.94 299 *e*P **P** **12 52 16.9 +1.7**
GHAJ Ghor Haditha 53.97 288 P **P** **12 52 15.9 +0.5**
LISJ El Lisan 54.06 288 P **P** **12 52 16.5 +0.5**
AKASG Malin Array Be 54.56 313 P **P** **12 52 18.8 -0.6**
comp=Z,27nm,0.6s,baz=73,slow=7.1,SNR=6.8
AKASG LR LR 13 17 18.1
comp=Z,2µm,21.4s,baz=105,slow=38
AKASG Malin Array Be 54.56 313*ce*P **P** **12 52 18.7 -0.7**
AKASG pmax pmax
comp=Z,27nm,0.6s
AKBB Malin Array Si 54.56 313 *e*P **P** **12 52 18.9 -0.5**
comp=Z,31nm,0.8s
KIEV Kiev 54.57 313 *e*P **P** **12 52 18.9 -0.5**
comp=Z,29nm,0.7s
KIEV LR LR
comp=Z,2µm,20.0s
KIEV Kiev 54.57 313⇑ *i*P **P** **12 52 19.0 -0.5**
KIEV Kiev 54.57 313 *i* P **P** **12 52 18.5 -1.0**
SNR=16
KIEV Kiev 54.57 313 ⇑P **P** **12 52 19.0 -0.5**
AK11 Malin Array Si 54.60 313 *e*P **P** **12 52 19.1 -0.7**
CSS Mathiatis 54.73 293 *e*P **P** **12 52 18.3 -2.6**
comp=Z,36nm,0.9s
HRFI Mount Harif 54.80 287 P **P** **12 52 21.3 -0.2**
FITZ Fitzroy Crossi 54.89 149 LR LR 13 17 41.8
comp=Z,1µm,20.9s,baz=332,slow=38
FITZ Fitzroy Crossi 54.89 149 *e*P **P** **12 52 22.6 +0.5**
comp=Z,46nm,1.4s
MICGM Minsk 54.96 317⇓ *e*P **P** **12 52 25.0 +2.8**
MICGM PM 12 52 26.0
comp=Z,0.2nm,2.0s
MICGM *e*LR LR 13 15 36.0
MICGM LRM MLR 13 17 30.0
comp=Z,3.6nm,14.0s
MNK Minsk 54.96 317⇓ *e*P **P** **12 52 25.0 +2.8**
EIL Elat 54.98 286 P **P** **12 52 23.1 +0.3**
comp=Z,42nm,0.9s,baz=11,slow=6.0,SNR=19
EIL Elat 54.98 286 P **P** **12 52 23.3 +0.5**
KEV Kevo 55.24 336 *e*P **P** **12 52 24.7 +0.7**
comp=Z,39nm,0.9s
KEV LR LR
comp=Z,2µm,19.0s
KEV Kevo 55.24 336 *e*P **P** **12 52 24.7 +0.7**
KEV pmax pmax
comp=Z,39nm,0.9s
KEV MLR MLR
comp=Z,2µm,19.0s
KEV Kevo 55.24 336 *e*P **P** **12 52 26.0 +1.9**
VSU Vasula 55.28 322*ce*P **P** **12 52 24.3 -0.1**
VSU pmax pmax
comp=Z,101nm,0.9s
VSU Vasula 55.28 322 *e*P **P** **12 52 23.8 -0.6**
VSU IAmb IAmb 12 52 28.1
comp=Z,154nm,0.9s
MBWA Marble Bar 55.36 157 *e*P **P** **12 52 25.9 +0.4**
comp=Z,60nm,1.1s
MBWA LR LR
comp=Z,1µm,22.0s
KIS Kishinev 55.38 308 *e*P **P** **12 52 30.0 +4.6**
comp=Z,200nm,2.0s
KIS *e*S **S** **13 00 12.0 +2.7**
KIS LRM MLR 13 15 34.0
comp=Z,2µm,19.0s
KIS Kishinev 55.38 308 *e*P **P** **12 52 30.0 +4.6**
KIS *e*S **S** **13 00 12.0 +2.7**
KIS pmax pmax
comp=Z,200nm,2.0s
KIS MLR MLR
comp=Z,2µm,22.0s
FIA1 FINESS Array S 55.45 326 *e*P **P** **12 52 25.5 -0.2**
FIA0 FINESS Array S 55.46 326 *e*P **P** **12 52 25.4 -0.3**
FIA0 FINESS Array S 55.46 326 *e*P **P** **12 52 25.4 -0.3**
FINES FINESS Array B 55.46 326 P **P** **12 52 25.4 -0.3**
comp=Z,21nm,0.7s,baz=92,slow=6.9,SNR=35
FINES LR LR 13 17 41.9
comp=Z,5µm,21.1s,baz=89,slow=38
IDID Didziasalis 55.53 319 *e*P **P** **12 52 26.6 +0.3**
IDID IAmb IAmb 12 52 31.1
comp=Z,12nm,0.7s
NACGM Naroch 55.55 318 *e* **P** **12 52 26.0 -0.5**
NACGM *e*LQ LQ 13 11 08.0
NACGM *e*LR LR 13 15 12.0
ATD Arta Tunnel 55.61 263 *e*P **P** **12 52 28.0 +0.4**
comp=Z,106nm,1.2s
TLCR 55.72 306⇓ *i*P **P** **12 52 29.4 +1.5**
TLCR 55.72 306 ⇓P **P** **12 52 29.4 +1.5**
ARA0 ARCESS Array S 55.75 336 *e*P **P** **12 52 27.4 -0.3**
ARCES ARCESS Array B 55.75 336 P **P** **12 52 27.4 -0.3**
comp=Z,24nm,0.9s,baz=84,slow=7.0,SNR=20
ARCES ARCESS Array B 55.75 336 *e*P **P** **12 52 26.6 -1.1**
ARE0 ARCESS Array S 55.75 336 *e*P **P** **12 52 27.8 0.0**
comp=Z,2.8nm,1.3s
ARE0 ARCESS Array S 55.75 336 *e*P **P** **12 52 27.0 -0.8**
IIGN Ignalina 55.82 319 *e*P **P** **12 52 29.0 +0.5**
IIGN IAmb IAmb 12 52 33.8
comp=Z,23nm,0.9s
ISAL Salakas 55.86 319 *e*P **P** **12 52 29.0 +0.3**
ISAL IAmb IAmb 12 52 33.5
comp=Z,20nm,0.8s
ISP Isparta 56.15 297 *e*P **P** **12 52 27.8 -3.4**
comp=Z,57nm,0.9s
ISP Isparta 56.15 297 *e*P **P** **12 52 27.8 -3.4**
ISP pmax pmax
comp=Z,57nm,0.9s
CFR Carcaliu 56.19 306⇑ *i*P **P** **12 52 31.8 +0.6**
CFR Carcaliu 56.19 306 ⇑P **P** **12 52 31.8 +0.6**
TLB Topalu 56.38 306⇑ *i*P **P** **12 52 32.4 -0.2**
TLB Topalu 56.38 306 ⇑P **P** **12 52 32.4 -0.2**
HARR Harsova 56.43 306⇑ *i*P **P** **12 52 33.7 +0.7**
HARR Harsova 56.43 306 ⇑P **P** **12 52 33.7 +0.7**
ICOR Ion Corvin 56.65 305⇑ *i*P **P** **12 52 35.9 +1.4**
VRI Vrincioaia 57.02 307⇑ *i*P **P** **12 52 37.6 +0.4**
VRI Vrincioaia 57.02 307 ⇑P **P** **12 52 37.6 +0.4**
PLOR Plostina 57.07 307⇑ *i*P **P** **12 52 39.1 +1.5**
PLOR Plostina 57.07 307 ⇑P **P** **12 52 39.1 +1.5**
PABE Paberze 57.08 319 *e*P **P** **12 52 36.7 -0.7**
PABE IAmb IAmb 12 52 42.4
comp=Z,63nm,0.8s
BIZ Bicaz 57.22 309⇑ *i*P **P** **12 52 39.3 +0.7**
MLR Muntele Rosu 57.63 307 *e*P **P** **12 52 41.9 +0.2**
comp=Z,88nm,1.3s
MLR Muntele Rosu 57.63 307⇑ *i*P **P** **12 52 42.9 +1.2**
MLR Muntele Rosu 57.63 307 ⇑P **P** **12 52 42.9 +1.2**
BURAR Bucovina Array 57.67 310⇑ *i*P **P** **12 52 42.3 +0.4**
BURAR Bucovina Array 57.67 310 ⇑P **P** **12 52 42.4 +0.5**
BUR04 Bucovina Ar. S 57.67 310 *e*P **P** **12 52 41.6 -0.3**
BUR08 Bucovina Ar. S 57.68 310 *e*P **P** **12 52 41.9 0.0**
SUW Suwalki 57.76 317 *e*P **P** **12 52 41.6 -0.5**
SUW Suwalki 57.76 317 *e*P **P** **12 52 42.2 0.0**
comp=Z,129nm,0.9s
SUW Suwalki 57.76 317 *e*P **P** **12 52 42.2 0.0**
SUW pmax pmax
comp=Z,129nm,0.9s
DOPR Dopca 57.91 308⇑ *i*P **P** **12 52 45.1 +1.6**
LVV L'vov 57.99 312 *e*P **P** **12 52 43.8 -0.2**
LVV MLR MLR
comp=Z,1µm,17.0s
TRO Tromso 58.06 336 *e*P **P** **12 52 43.7 -0.4**
PBUR Paburg 58.14 320 *e*P **P** **12 52 44.4 -0.5**
PBUR IAmb IAmb 12 52 49.2
comp=Z,58nm,0.5s
VOIR 58.26 307⇑ *i*P **P** **12 52 46.4 +0.4**
VOIR 58.26 307 ⇑P **P** **12 52 46.4 +0.4**
MTUR Matau 58.30 307⇑ *i*P **P** **12 52 47.1 +0.8**
MTUR Matau 58.30 307 ⇑P **P** **12 52 47.1 +0.8**
ARCR ARCALIA 58.36 309⇑ *i*P **P** **12 52 48.2 +1.6**
GOLR 58.46 306⇑ *i*P **P** **12 52 47.5 +0.2**
HUMR Humele 58.52 306⇑ *i*P **P** **12 52 47.9 +0.2**
ARR Arges 58.56 307⇑ *i*P **P** **12 52 49.0 +0.9**
KWP Kalwaria Pacla 58.87 312 *e*P **P** **12 52 50.7 +0.6**
KWP Kalwaria Pacla 58.87 312 *e*P **P** **12 52 50.5 +0.4**
comp=Z,2µm,1.4s
KWP Kalwaria Pacla 58.87 312 *e*P **P** **12 52 50.5 +0.4**
CJR Cluj-Napoca 58.95 309⇑ *i*P **P** **12 52 52.2 +1.5**
CJR Cluj-Napoca 58.95 309 ⇑P **P** **12 52 52.2 +1.5**
LOT Lotru 59.13 307⇑ *i*P **P** **12 52 52.9 +0.8**
TRPA Tarpa 59.32 311⇑ *i*P **P** **12 52 54.0 +0.8**
UZH Uzhgorod 59.36 311⇑ *i*P **P** **12 52 53.0 -0.5**
UZH *e* 12 52 57.9
UZH *i* 12 53 04.8
UZH *e* 12 53 43.6
UZH *e*PPP PPP 12 56 28.2
UZH *e*S **S** **13 00 57.4 -4.2**
UZH *e*SS **SS** **13 04 53.1 -2.9**
KBS Kingsbay 59.37 347 PFAKE 12 53 00.0 +6.9
KBS LR LR
comp=Z,4µm,20.0s
DRGR 59.52 309⇑ *i*P **P** **12 52 55.8 +1.1**
DRGR 59.52 309 ⇑P **P** **12 52 55.8 +1.1**
GZR Gura Zlata 59.82 308⇑ *i*P **P** **12 52 57.7 +0.9**
GZR Gura Zlata 59.82 308 ⇑P **P** **12 52 57.7 +0.9**
MOR8 Moi Rana 60.12 332 *e*P **P** **12 52 57.5 -0.9**
LOF Lofoten 60.16 334 *e*P **P** **12 52 59.8 +1.1**
VTS Vitosha 60.27 304 *e*P **P** **12 53 00.1 +0.1**
comp=Z,45nm,1.3s
VTS Vitosha 60.27 304⇑ *i*P **P** **12 53 00.2 +0.1**
VTS Vitosha 60.27 304 ⇑P **P** **12 53 00.2 +0.1**
SIRR Siria 60.35 309⇑ *i*P **P** **12 53 01.6 +1.2**
NIE Niedzica 60.45 312 *e*P **P** **12 53 01.9 +0.9**
NIE Niedzica 60.45 312 *e*P **P** **12 53 01.9 +0.9**
FURI Furi 60.47 262 *e*P **P** **12 53 02.7 +0.7**
comp=Z,58nm,0.9s
BZS Buzias 60.55 308⇑ *i*P **P** **12 53 02.3 +0.6**
BZS Buzias 60.55 308 ⇑P **P** **12 53 02.3 +0.6**
OJC Ojcow 60.57 313 *e*P **P** **12 53 01.7 -0.1**
OJC Ojcow 60.57 313 *e*P **P** **12 53 02.0 +0.2**
comp=Z,80nm,1.3s
OJC Ojcow 60.57 313 *e*P **P** **12 53 01.7 -0.1**
KONS Konsvik 60.59 333 *e*P **P** **12 53 00.8 -0.8**
WRAB Tennant Creek 60.70 142 *e*P **P** **12 53 03.0 0.0**
comp=Z,39nm,0.8s
WRAB LR LR
comp=Z,1µm,22.0s
WRAB Tennant Creek 60.70 142*ce*P **P** **12 53 03.2 +0.3**
WRAB pmax pmax
comp=Z,43nm,1.3s
WR1 Warramunga Arr 60.70 142 *e*P **P** **12 53 02.6 -0.4**
comp=Z,41nm,0.8s
WRA Warramunga Arr 60.70 142 P **P** **12 53 02.6 -0.4**
comp=Z,12nm,0.6s,baz=335,slow=7.0,SNR=48
WRA PKP2bc 13 22 30.5
comp=Z,1.1nm,0.9s,baz=154,slow=2.1,SNR=4.8
WRA Warramunga Arr 60.70 142*ce*P **P** **12 53 02.7 -0.3**
WRA pmax pmax
comp=Z,12nm,0.6s
WB2 Warramunga Arr 60.71 142 *e*P **P** **12 53 03.0 0.0**
MDVR Moldovita 60.71 307⇑ *i*P **P** **12 53 04.0 +1.1**
WC3 Warramunga Arr 60.73 142 *e*P **P** **12 53 03.3 +0.1**
comp=Z,38nm,0.8s
PMG Port Moresby 60.83 123 P **P** **12 53 02.2 -1.7**
comp=Z,14nm,0.7s,baz=1.3,slow=7.6,SNR=7.6
PMG Port Moresby 60.83 123 *e*P **P** **12 53 03.8 -0.2**
comp=Z,35nm,0.9s
PMG LR LR
comp=Z,736nm,21.0s
PMG Port Moresby 60.83 123*ce*P **P** **12 53 04.6 +0.6**
PMG pmax pmax
comp=Z,108nm,1.1s
LANS Liptovska Anna 61.04 312 *e*P P 12 53 13.2 +8.1
LANS Liptovska Anna 61.04 312 *es*P P 12 53 13.1 +8.0
PSZ Piszkesteto 61.09 311 *e*P **P** **12 53 05.8 +0.3**
comp=Z,14nm,0.9s
PSZ Piszkesteto 61.09 311⇑ *i*P **P** **12 53 06.5 +1.1**
PSZ Piszkesteto 61.09 311 *e*P P 12 53 19.1 +14
PSZ Piszkesteto 61.09 311 ⇑P **P** **12 53 06.5 +1.1**
WAKE Wake Island 61.14 84 PFAKE 12 53 20.0 +14
WAKE LR LR
comp=Z,4µm,19.0s
RABL Rabaul 61.18 115 *e*P **P** **12 53 06.3 -0.2**
comp=Z,96nm,1.0s
IDI Anoyia 61.23 296 *e*P **P** **12 53 05.7 -0.9**
comp=Z,62nm,1.0s
IDI Anoyia 61.23 296⇑ *i*P **P** **12 53 05.3 -1.3**
COEN Coen 61.31 130 *e*P **P** **12 53 06.7 -0.5**
comp=Z,56nm,1.4s
VYHS Vyhne 61.62 312 *e*P **P** **12 53 09.2 +0.3**
VYHS pmax pmax
comp=Z,22nm,1.5s
VYHS Vyhne 61.62 312 *e*P **P** **12 53 09.2 +0.3**
VYHS *e*PP **PP** **12 55 29.0 +4.7**
HFS Hagfors 61.64 325 P **P** **12 53 08.0 -0.9**
comp=Z,18nm,0.6s,baz=104,slow=6.3,SNR=23
OKC Ostrava-Krasne 61.70 313 *e*P **P** **12 53 12.6 +3.2**
OKC AMS AMS 13 21 10.0
comp=Z,2µm,22.0s
OKC Ostrava-Krasne 61.70 313 *e*P **P** **12 53 12.6 +3.2**
OKC MLR MLR
comp=Z,2µm,22.0s
MORW Morawa 61.76 164 *e*P **P** **12 53 11.2 +1.3**
comp=Z,64nm,1.3s
FRGS Fruska Gora 61.90 308 *e*P **P** **12 53 11.2 +0.3**
AGG Agios Georgios 61.96 301 *e*P **P** **12 53 12.0 +0.6**
comp=Z,35nm,1.0s
AGG Agios Georgios 61.96 301 *e*P **P** **12 53 12.0 +0.6**
AGG pmax pmax
comp=Z,35nm,1.0s
DIVS Divibare 62.09 307 *e*P **P** **12 53 12.6 +0.3**
comp=Z,71nm,1.5s
DIVS Divibare 62.09 307 *e*P **P** **12 53 12.7 +0.4**
MORC Moravsky Berou 62.09 313 *e*P **P** **12 53 12.1 -0.1**
comp=Z,24nm,0.8s
MORC Moravsky Berou 62.09 313⇓ *i*P **P** **12 53 12.9 +0.8**
MORC Moravsky Berou 62.09 313 ⇓P **P** **12 53 12.9 +0.8**
MORC Moravsky Berou 62.09 313 *e*P **P** **12 53 12.3 +0.2**
JAVC Velka Javorina 62.26 312 *e*P **P** **12 53 14.7 +1.4**
NC405 NORSAR Array S 62.36 327 *e*P **P** **12 53 13.1 -0.6**
MORH Mrgy, Hungar 62.38 309 *e*P **P** **12 53 14.0 0.0**
MORH Mrgy, Hungar 62.38 309 *e*P **P** **12 53 13.9 -0.2**
KRLC Kraliky 62.48 314 *e*P **P** **12 53 15.2 +0.4**
KRLC *e*pP **pP** **12 53 18.9 -2.1**
KRLC Kraliky 62.48 314 *e*P **P** **12 53 15.2 +0.4**
KRLC *e* 12 53 18.9
NC303 NORSAR Array S 62.49 327 *e*P **P** **12 53 14.0 -0.6**
NC602 NORSAR Array S 62.53 326 *e*P **P** **12 53 14.1 -0.7**
NC602 NORSAR Array S 62.53 326 *e*P **P** **12 53 15.5 +0.7**
BBLS Lazići 62.56 307 *e*P **P** **12 53 13.7 -1.7**
KSP Ksiaz 62.57 315 *e*P **P** **12 53 15.7 +0.4**
KSP Ksiaz 62.57 315 *e*P **P** **12 53 15.7 +0.4**
NB201 NORSAR Array S 62.57 327 *e*P **P** **12 53 15.1 0.0**
NB2 NORSAR Subarra 62.61 327 P **P** **12 53 14.2 -1.2**
comp=Z,22nm,0.9s,baz=74,slow=6.9
NB2 NORSAR Subarra 62.61 327 P **P** **12 53 14.2 -1.2**
baz=74,slow=6.9
NB200 NORSAR Array S 62.61 327 *e*P **P** **12 53 14.2 -1.2**
NOA NORSAR Array B 62.61 327 P **P** **12 53 14.2 -1.2**
comp=Z,16nm,0.8s,baz=75,slow=6.6,SNR=30
NOA LR LR 13 21 53.8
comp=Z,4µm,21.2s,baz=90,slow=37
MODS Modra-Piesok 62.65 312 *e*P **P** **12 53 17.1 +1.2**
MODS pmax pmax
comp=Z,39nm,1.5s
MODS Modra-Piesok 62.65 312 *e*P **P** **12 53 17.1 +1.2**
DPC Dobruska-Polom 62.69 314 *e*P **P** **12 53 16.9 +0.8**
DPC *e*pP **pP** **12 53 20.8 -1.6**
DPC AMS AMS 13 21 50.0
comp=Z,2µm,17.6s
DPC Dobruska-Polom 62.69 314 *e*P **P** **12 53 16.9 +0.8**
DPC *e* 12 53 20.8
DPC MLR MLR
comp=Z,2µm,17.6s
NC204 NORSAR Array S 62.76 327 *e*P **P** **12 53 15.7 -0.7**
NAO01 NORSAR Array S 62.81 327 *e*P **P** **12 53 16.3 -0.4**
VRAC Vranov 62.81 313⇑ *i*P **P** **12 53 17.6 +0.7**
VRAC Vranov 62.81 313 ⇑P **P** **12 53 17.6 +0.7**
VRAC Vranov 62.81 313 *e*P **P** **12 53 16.8 -0.1**
NBO00 NORSAR Array S 62.82 327 *e*P **P** **12 53 17.5 +0.7**
UPC Upice 62.83 315 *e*P **P** **12 53 18.0 +1.0**
UPC *e*pP **pP** **12 53 21.3 -2.0**
UPC AMS AMS 13 22 00.0
comp=Z,3µm,16.9s
UPC Upice 62.83 315 *e*P **P** **12 53 18.0 +1.0**
UPC *e* 12 53 21.3
UPC MLR MLR
comp=Z,3µm,16.9s
KRUC Moravsky 63.01 313 *e*P **P** **12 53 18.7 +0.5**
PDG Podgorica 63.11 305⇑ *i*P **P** **12 53 18.0 -1.0**
PDG Podgorica 63.11 305 *e*P **P** **12 53 17.7 -1.3**
TTG Podgorica 63.11 305 *e*P **P** **12 53 19.4 +0.4**
comp=Z,45nm,1.0s
TTG Podgorica 63.11 305 *e*P **P** **12 53 19.4 +0.4**
TTG pmax pmax
comp=Z,45nm,1.0s
OSL Oslo 63.14 326 *e*P **P** **12 53 21.2 +2.4**
DRME Dracevica, Mon 63.23 305 *e*P **P** **12 53 19.0 -0.8**
SOP Sopron 63.31 311 *e*P **P** **12 53 20.1 -0.2**
DOMB Dombas 63.34 328 *e*P **P** **12 53 22.6 +2.4**
BRY Bratogost 63.46 306 *e*P **P** **12 53 19.7 -1.8**
TREC Trest 63.51 313 AMS AMS 13 22 10.0
comp=Z,3µm,21.2s
AS31 Alice Springs 63.56 145 *e*P **P** **12 53 21.4 -0.8**
comp=Z,2.5nm,0.6s
ASAR Alice Springs 63.57 145 P **P** **12 53 21.4 -0.8**
comp=Z,4.4nm,0.5s,baz=328,slow=6.8,SNR=41
ASAR PKPPKP **P'P'df** **13 22 19.8 +6.9**
comp=Z,1.2nm,0.9s,baz=154,slow=3.0,SNR=5.5
ASAR PKP2bc 13 22 25.6
comp=Z,1.3nm,0.9s,baz=145,slow=2.9,SNR=5.9
ASAR LR LR 13 23 01.2
comp=Z,980nm,21.4s,baz=326,slow=38
AS01 Alice Springs 63.59 145 *e*P **P** **12 53 22.0 -0.3**
CONA Conrad Observa 63.69 312 *i* pP **P** **12 53 23.7 +0.9**

comp=Z,31nm,1.4s
PVCC Panska Ves 63.71 315 *e*P **P 12 53 23.9 +1.1**
PVCC AMS AMS 13 22 20.0
comp=Z,2µm,16.5s
PVCC Panska Ves 63.71 315 *e*P **P 12 53 23.9 +1.1**
PVCC MLR MLR
comp=Z,2µm,16.5s
GOPC GO Pecny, Ondr 63.76 314 *e*P **P 12 53 24.0 +0.8**
GOPC AMS AMS 13 22 20.0
comp=Z,2µm,17.7s
GOPC GO Pecny, Ondr 63.76 314 *e*P **P 12 53 24.0 +0.8**
GOPC MLR MLR
comp=Z,2µm,17.7s
KONO Kongsberg 63.76 326 *e*P **P 12 53 21.8 -1.2**
comp=Z,27nm,0.9s
KONO Kongsberg 63.76 326 *e*P **P 12 53 21.8 -1.2**
KONO pmax pmax
comp=Z,27nm,0.9s
KONO Kongsberg 63.76 326 *e*P **P 12 53 25.9 +2.9**
BLY Banja Luka 63.80 308 *e*P **P 12 53 26.6 +3.0**
PRU Pruhonice 63.89 314 *e*P **P 12 53 23.9 -0.1**
PRU *e*pP **pP 12 53 28.4 -1.9**
PRU AMS AMS 13 22 20.0
comp=Z,2µm,17.8s
PRU Pruhonice 63.89 314 *e*P **P 12 53 23.9 -0.1**
PRU *e* 12 53 28.4
PRU MLR MLR
comp=Z,2µm,17.8s
PRA Prague 63.93 314 AMS AMS 13 22 30.0
comp=Z,2µm,15.4s
BRG Berggiesshubel 63.98 315 *e*P **P 12 53 24.7 +0.1**
comp=Z,20nm,1.2s
BRG *i* 12 53 31.1
comp=Z,14nm,0.7s
BRG S **S 13 02 03.0 +2.9**
BRG SS **SS 13 06 12.0 +3.8**
comp=N,2µm,15.5s
comp=E,2µm,17.3s
comp=Z,2µm,19.5s
BRG Berggiesshubel 63.98 315 *e*P **P 12 53 24.7 +0.1**
BRG *i* 12 53 31.1
BRG S **S 13 02 03.0 +2.9**
BRG SS **SS 13 06 12.0 +3.8**
BRG pmax pmax
comp=Z,20nm,1.2s
BRG MLR MLR
comp=N,2µm,15.5s
BRG MLR MLR
comp=E,2µm,17.3s
BRG MLR MLR
comp=Z,2µm,19.5s
ARSA Arzberg 64.11 311 *i*pP **P 12 53 27.1 +1.5**
comp=Z,13nm,0.8s
CLL Collm 64.42 316 *e*P **P 12 53 27.3 -0.1**
comp=Z,28nm,1.1s
CLL Collm 64.42 316 *i*P **P 12 53 27.1 -0.3**
comp=Z,41nm,1.3s
CLL *e*S **S 13 02 07.0 +1.6**
comp=N,300nm,23.2s
CLL *e*S **S 13 02 07.0 +1.6**
comp=E,100nm,22.7s
CLL *e*S **S 13 02 07.0 +1.6**
comp=Z,200nm,19.5s
CLL *e*SS **SS 13 06 16.0 +1.1**
CLL LmV 13 23 00.0
comp=Z,2µm,19.4s
CLL Collm 64.42 316 *i*P **P 12 53 27.1 -0.3**
CLL *e*S **S 13 02 07.0 +1.6**
CLL pmax pmax
comp=Z,41nm,1.3s
CLL MLR MLR
comp=Z,2µm,19.4s
RDOG Red Dog Mine 64.43 24 *e*P **P 12 53 24.0 -3.3**
comp=Z,9.8nm,0.6s
PERS Pernice 64.58 311 *i*P **P 12 53 29.6 +0.9**
CRES Cresnjev 64.61 310 *e*P **P 12 53 26.6 -2.3**
SOKA Soboth 64.62 311 *i*pP **P 12 53 29.4 +0.4**
comp=Z,42nm,1.0s
ANM Nome 64.63 28 *e*P **P 12 53 28.1 -0.5**
comp=Z,13nm,1.2s
ANM Nome 64.63 28 *e*P **P 12 53 28.1 -0.5**
ANM pmax pmax
comp=Z,13nm,1.2s
MOA Molln 64.73 312 *i*pP **P 12 53 32.4 +2.7**
comp=Z,25nm,1.0s
KHC Kasperske Hory 64.75 314 *e*P **P 12 53 30.9 +1.2**
comp=Z,20nm,1.6s
KHC Kasperske Hory 64.75 314 *e*P **P 12 53 30.1 +0.3**
KHC *e*pP **pP 12 53 33.9 -2.1**
KHC *e*x x 12 53 39.0
KHC AMS AMS 13 22 50.0
comp=Z,3µm,22.5s
KHC Kasperske Hory 64.75 314 *e*P **P 12 53 30.1 +0.3**
KHC *e* 12 53 33.9
KHC *e* 12 53 39.0
KHC MLR MLR
comp=Z,3µm,22.5s
GEC2 GERESS Array S 64.77 313 *e*P **P 12 53 29.9 0.0**
comp=Z,31nm,1.1s
GEC2 GERESS Array S 64.77 313 *e*P **P 12 53 29.9 0.0**
GEC2 pmax pmax
comp=Z,31nm,1.1s
GERES GERESS Array B 64.77 313 P **P 12 53 30.1 +0.2**
comp=Z,5.5nm,0.6s,baz=69,slow=7.3,SNR=19
GERES LR LR 13 23 34.5
comp=Z,2µm,21.2s,baz=82,slow=38
GEA0 GERESS Array S 64.77 313 *e*P **P 12 53 29.7 -0.3**
BOJS Bojanci 64.86 309 *i*P **P 12 53 32.2 +1.8**
MUD Monsted U'grnd 64.95 322 *i*P **P 12 53 33.2 +2.4**
comp=Z,69nm,1.2s
MUD Monsted U'grnd 64.95 322 *e*P **P 12 53 33.2 +2.4**
MUD pmax pmax
comp=Z,69nm,1.2s
OBKA Obir 64.99 311 pP **P 12 53 32.3 +1.0**
comp=Z,20nm,1.1s
VISS Visnje 65.03 310 *i*P **P 12 53 31.8 +0.2**
NKC Novy Kostel 65.09 315 AMS AMS 13 23 20.0
comp=Z,2µm,16.2s
ODD1 Odda 65.11 326 *e*P **P 12 53 33.8 +1.9**
JAVS Javornik 65.51 310 *e*P **P 12 53 37.6 +2.8**
BER Bergen 65.56 327 *e*P **P 12 53 38.7 +4.0**
KBA Koelnbreinsper 65.58 312 *i*pP **P 12 53 36.6 +1.3**
comp=Z,48nm,1.1s
NWAO Narrogin (SRO) 65.74 164 *e*P **P 12 53 36.0 0.0**
comp=Z,60nm,1.2s
NWAO LR LR
comp=Z,2µm,21.0s
NWAO Narrogin (SRO) 65.74 164 *e*P **P 12 53 36.1 0.0**
NWAO pmax pmax
comp=Z,60nm,1.2s
NWAO MLR MLR
comp=Z,2µm,21.0s
TIP Timpagrande 65.99 302 ⇑ *i*P **P 12 53 36.7 -1.3**
GRA1 Grafenberg Arr 66.02 315 *e*P **P 12 53 38.8 +0.9**
comp=Z,37nm,1.0s
GRF Grafenberg Arr 66.02 315 *e*P **P 12 53 39.0 +1.1**
comp=Z,50nm,1.2s,baz=74,slow=5.8
GRF *e*L L 13 24 00.8
comp=Z,1µm,19.7s
GRF Grafenberg Arr 66.02 315 *e*P **P 12 53 38.8 +0.9**
GRF pmax pmax
comp=Z,37nm,1.0s
GRFO Grafenberg 66.02 315 *e*P **P 12 53 38.3 +0.4**
GRFO Grafenberg 66.02 315 *e*P **P 12 53 38.3 +0.4**
DAG Danmarks Havn 66.11 347 *i*P **P 12 53 37.8 -0.2**
comp=Z,4.4nm,0.7s
comp=Z,4µm,20.0s
DAG Danmarks Havn 66.11 347 *e*P **P 12 53 37.8 -0.2**
DAG pmax pmax
comp=Z,3.0nm,0.7s
DAG MLR MLR
comp=Z,4µm,20.0s
ABTA Abfaltersbach 66.23 311 *i*pP **P 12 53 39.9 +0.5**
comp=Z,12nm,0.7s
WTTA Wattenberg 66.61 312 *i*pP **P 12 53 44.4 +2.5**
comp=Z,27nm,1.2s
WATA Walderalm 66.62 312 *i*pP **P 12 53 44.2 +2.3**
comp=Z,16nm,0.5s
SQTA Sankt Quirin 66.89 312 *i*pP **P 12 53 43.6 -0.1**
comp=Z,23nm,0.6s
MOTA Moosalm 66.92 312 *i*pP **P 12 53 44.6 +0.7**
comp=Z,12nm,0.7s
KMBO Kilima Mbogo 67.03 254 P **P 12 53 45.0 -0.1**
comp=Z,50nm,0.8s,baz=45,slow=9.6,SNR=48
RETA Reute 67.08 313 *i*pP **P 12 53 48.5 +3.7**
comp=Z,52nm,1.4s
FORT Forrest 67.15 153 *e*P **P 12 53 46.0 +0.9**
comp=Z,37nm,0.8s
FETA Feichten 67.27 312 *i*P **P 12 53 45.3 -0.9**
comp=Z,61nm,1.1s
STU Stuttgart 67.59 314 *e*P **P 12 53 48.0 +0.1**
comp=Z,31nm,0.8s
STU Stuttgart 67.59 314 *e*P **P 12 53 48.0 +0.1**
STU pmax pmax
comp=Z,31nm,0.8s
DAVA Damuels 67.71 313 *i*pP **P 12 53 49.5 +0.6**
comp=Z,27nm,1.3s
FUORN Ofenpass-Fuorn 67.72 312 *e*P **P 12 53 49.3 +0.3**
comp=Z,36nm,1.1s
CTAO Charters Tower 67.79 132 *e*P **P 12 53 49.3 -0.2**
comp=Z,25nm,1.4s
CTAO LR LR
comp=Z,816nm,19.0s
CTAO Charters Tower 67.79 132 *e*P **P 12 53 49.3 -0.2**
CTAO pmax pmax
comp=Z,25nm,1.4s
CTAO MLR MLR
comp=Z,816nm,19.0s
BFO Black Forest 68.29 314 *e*P **P 12 53 52.6 +0.2**
comp=Z,57nm,1.4s
BFO LR LR
comp=Z,106nm,21.0s
BFO Black Forest 68.29 314 *ce*P **P 12 53 53.0 +0.6**
IM3 Indian Mountai 68.55 25 *e*P **P 12 53 52.7 -1.0**
VLC Villacollemand 68.57 309 *e*P **P 12 53 54.1 -0.1**
comp=Z,66nm,1.2s
MEM Membach 68.80 317 ⇓ P **P 12 53 56.0 +0.5**
ECH Echery 69.05 314 *e*P **P 12 53 57.2 +0.1**
comp=Z,23nm,1.1s
ECH Echery 69.05 314 *e*P **P 12 53 57.2 +0.1**
ECH pmax pmax
comp=Z,23nm,1.1s
WLF Walferdange 69.09 316 *e*P **P 12 53 57.5 +0.2**
comp=Z,256nm,0.9s
WLF Walferdange 69.09 316 *e*P **P 12 53 57.5 +0.2**
WLF pmax pmax
comp=Z,256nm,0.9s
WLF Walferdange 69.09 316 ⇓ P **P 12 53 57.9 +0.7**
comp=Z,54nm,1.5s
COLD Coldfoot 69.18 23 *e*P **P 12 53 57.0 -0.5**
comp=Z,28nm,1.7s
SENIN Lac Senin/Sane 69.70 312 *e*P **P 12 54 01.9 +0.5**
comp=Z,25nm,0.9s
DOU Dourbes 69.84 317 ⇓ P **P 12 54 05.7 +3.8**
SNF Seneffe 69.85 317 ⇑ P **P 12 54 01.8 -0.1**
MLY Manley 70.11 25 *e*P **P 12 54 02.9 -0.5**
comp=Z,26nm,1.1s
CAST Castle Rocks 70.43 27 *e*P **P 12 54 05.2 -0.2**
comp=Z,14nm,1.2s
HNR Honiara 70.47 114 PFAKE 12 54 20.0 +14
HNR LR LR
comp=Z,912nm,21.0s
BPAW Bear Paw Mtn. 70.50 26 *e*P **P 12 54 05.5 -0.2**
comp=Z,18nm,0.9s
ABPO Ambohimpanom 70.62 232 *e*P **P 12 54 08.0 +0.7**
comp=Z,12nm,0.9s
ABPO LR LR
comp=Z,619nm,20.0s
ABPO Ambohimpanom 70.62 232 *e*P **P 12 54 08.0 +0.7**
ABPO pmax pmax
comp=Z,12nm,0.9s
ABPO MLR MLR
comp=Z,619nm,20.0s
BNI Bardonecchia 70.64 311 *e*P **P 12 54 06.8 -0.3**
comp=Z,38nm,1.0s
BNI Bardonecchia 70.64 311 *e*P **P 12 54 06.8 -0.3**
BNI pmax pmax
comp=Z,38nm,1.0s
PPLA Purkeypile 70.65 27 *e*P **P 12 54 06.1 -0.8**
comp=Z,25nm,1.0s
MDM Murphy Dome 71.06 25 *e*P **P 12 54 08.7 -0.5**
comp=Z,56nm,1.2s
TRF Thorofare Moun 71.10 26 *e*P **P 12 54 09.7 +0.1**
comp=Z,6.9nm,0.9s
COLA College 71.24 25 *e*P **P 12 54 09.2 -0.9**
comp=Z,33nm,0.9s
COLA LR LR
comp=Z,2µm,20.0s
COLA College 71.24 25 *e*P **P 12 54 09.2 -0.9**
COLA pmax pmax
comp=Z,33nm,0.9s
COLA MLR MLR
comp=Z,2µm,20.0s
COLA College 71.24 25 *e*P **P 12 54 09.3 -0.9**
WRH Wood River Hil 71.37 25 *e*P **P 12 54 10.3 -0.7**
comp=Z,6.0nm,0.9s
MCK McKinley 71.47 26 *e*P **P 12 54 11.2 -0.4**
comp=Z,10.0nm,1.0s
MCK McKinley 71.47 26 *e*P **P 12 54 11.2 -0.4**
MCK pmax pmax
comp=Z,10.0nm,1.0s
IL1 Eielson Array 71.64 24 *e*P **P 12 54 10.9 -1.8**
ILAR Eielson Array 71.64 24 P **P 12 54 10.7 -1.9**
comp=Z,6.3nm,0.9s,baz=295,slow=5.4,SNR=42
ILAR LR LR 13 26 36.7
comp=Z,2µm,20.9s,baz=296,slow=37
ILB Eielson Array 71.64 24 *e*P **P 12 54 11.5 -1.1**
RSO Redoubt South 71.65 30 *e*P **P 12 54 12.4 -0.6**
RND Reindeer 71.67 26 *e*P **P 12 54 12.3 -0.6**
comp=Z,34nm,1.4s
RND Reindeer 71.67 26 *e*P **P 12 54 12.3 -0.6**
RND pmax pmax
comp=Z,34nm,1.4s
PRP Porcupine Dome 71.69 23 *e*P **P 12 54 12.4 -0.7**
comp=Z,17nm,0.9s
ESK Eskdalemuir 71.80 324 PFAKE 12 54 30.0 +16
ESK LR LR
comp=Z,2µm,20.0s
HDA Harding Lake 71.82 25 *e*P **P 12 54 12.6 -1.1**
comp=Z,24nm,1.4s
SSB Saint Sauveur 71.91 312 *e*P **P 12 54 14.7 +0.1**
comp=Z,21nm,1.0s
SSB Saint Sauveur 71.91 312 *e*P **P 12 54 14.7 +0.1**
SSB pmax pmax
comp=Z,21nm,1.0s
SUA Susitna One 71.97 28 *e*P **P 12 54 13.6 -1.2**
comp=Z,23nm,1.0s
CLF Chambon-Foret 72.11 316 *e*P **P 12 54 15.4 -0.3**
comp=Z,83nm,1.1s
MBAR Mbarara 72.17 258 *e*P **P 12 54 17.1 +0.3**
comp=Z,28nm,1.0s
MBAR LR LR
comp=Z,422nm,21.0s
BBOO Buckleboo 72.26 148 *e*P **P 12 54 16.4 -0.3**
comp=Z,35nm,1.3s
DHY Denali Highway 72.41 26 *e*P **P 12 54 16.6 -0.9**
comp=Z,8.0nm,0.8s
TULEG Thule 72.50 357 *e*P **P 12 54 17.0 -0.6**
comp=Z,42nm,1.2s
GHO Glory Hole Cre 72.54 28 *e*P **P 12 54 17.5 -0.6**
comp=Z,16nm,0.9s
PMR Palmer 72.55 28 *e*P **P 12 54 16.7 -1.4**
comp=Z,23nm,1.1s
PMR Palmer 72.55 28 *e*P **P 12 54 16.7 -1.4**
PMR pmax pmax
comp=Z,23nm,1.1s
RC01 Rabbit Creek A 72.58 28 *e*P **P 12 54 17.0 -1.3**
comp=Z,29nm,1.3s
SML Sawmill 72.75 27 *e*P **P 12 54 18.9 -0.5**
comp=Z,33nm,0.9s
KEST Kesra 72.77 302 P **P 12 54 20.4 +0.4**
comp=Z,5.1nm,0.5s,baz=359,slow=11,SNR=4.1
KEST LR LR 13 31 29.7
comp=Z,547nm,19.9s,baz=357,slow=40
KEST Kesra 72.77 302 *e*P **P 12 54 19.3 -0.7**
comp=Z,29nm,1.0s
SUMG Summit 72.77 348 *e*P **P 12 54 17.8 -1.9**
comp=Z,37nm,1.1s
SUMG Summit 72.77 348 *i*P **P 12 54 18.8 -1.0**
SUMG Summit 72.77 348 *e*P **P 12 54 17.8 -1.9**
SUMG pmax pmax
comp=Z,37nm,1.1s
BRLK Bradley Lake 72.81 30 *e*P **P 12 54 18.2 -1.6**
comp=Z,42nm,1.3s
KNK Knik Glacier 72.92 28 *e*P **P 12 54 19.5 -0.9**
comp=Z,19nm,0.9s
RIDG Independ'e Rid 72.96 25 *e*P **P 12 54 19.0 -1.6**
comp=Z,15nm,0.7s
KDAK Kodiak Island 73.11 32 PFAKE 12 54 30.0 +8.6
KDAK LR LR
comp=Z,1µm,22.0s
KDAK Kodiak Island 73.11 32 *i*P **P 12 54 20.4 -1.1**
SCRK Sand Creek 73.13 24 *e*P **P 12 54 20.4 -1.3**
comp=Z,21nm,0.9s
DOT Dot Lake 73.30 25 *e*P **P 12 54 21.6 -0.9**
comp=Z,10nm,1.0s
INK Inuvik 73.55 18 *e*P **P 12 54 23.0 -0.9**
comp=Z,34nm,1.3s
INK Inuvik 73.55 18 *e*P **P 12 54 23.0 -0.9**
INK pmax pmax
comp=Z,34nm,1.3s
KULLO Kullorsuaq 73.60 354 *i*P **P 12 54 23.3 -0.8**
comp=Z,41nm,1.0s
KULLO Kullorsuaq 73.60 354 *i*P **P 12 54 23.3 -0.8**
KULLO pmax pmax
comp=Z,41nm,1.0s
EGAK Eagle 73.61 23 *e*P **P 12 54 23.1 -1.3**
comp=Z,16nm,1.0s
EGAK LR LR
comp=Z,3µm,22.0s
KLU Klutina 73.88 27 *e*P **P 12 54 25.1 -1.0**
comp=Z,29nm,1.0s
EPYK Eagle Plains 73.98 20 *e*P **P 12 54 25.4 -1.1**
comp=Z,57nm,1.6s
STKA Stephens Creek 74.16 144 P **P 12 54 27.2 -0.7**
comp=Z,4.5nm,0.7s,baz=322,slow=7.0,SNR=6.5
STKA LR LR 13 29 58.4
comp=Z,964nm,21.3s,baz=306,slow=38
STKA Stephens Creek 74.16 144 *e*P **P 12 54 27.5 -0.5**
comp=Z,2.7nm,1.0s
STKA Stephens Creek 74.16 144 *e*P **P 12 54 27.5 -0.5**
STKA pmax pmax
comp=Z,3.0nm,1.0s
RES Resolute Bay 74.19 4 *e*P **P 12 54 27.1 -0.4**
comp=Z,23nm,1.1s
RES Resolute Bay 74.19 4 *e*P **P 12 54 27.1 -0.4**
RES pmax pmax
comp=Z,23nm,1.1s
DAWY Dawson 74.66 23 *e*P **P 12 54 29.6 -0.9**
comp=Z,15nm,1.1s
EIDS Eidsvold 74.67 133 *e*P **P 12 54 31.2 +0.1**
comp=Z,14nm,1.0s
BMRM Bremner River 74.70 27 *e*P **P 12 54 30.6 -0.3**
comp=Z,48nm,1.0s
SFJD Kangerlussuaq 79.73 349 *e*P **P 12 54 58.3 -0.5**
comp=Z,37nm,0.9s
SFJD LR LR
comp=Z,5µm,22.0s
SFJD Kangerlussuaq 79.73 349 *i*P **P 12 54 57.5 -1.4**
comp=Z,36nm,1.0s
comp=Z,4µm,24.0s
SFJD Kangerlussuaq 79.73 349 *i*P **P 12 54 57.5 -1.4**
SFJD pmax pmax
comp=Z,36nm,1.0s
SFJD MLR MLR
comp=Z,4µm,24.0s
ES19 SONSECA Array 80.06 310 *e*P **P 12 55 01.3 0.0**
ESDC Sonseca Array 80.12 310 P **P 12 55 02.8 +1.3**
comp=Z,5.1nm,0.8s,baz=49,slow=6.2,SNR=10.0
PAB San Pablo 80.44 310 PFAKE 12 55 10.0 +6.6
PAB LR LR
comp=Z,912nm,22.0s
MVO Moncorvo 81.28 313 *e*P **P 12 55 12.5 +4.7**
MVO Moncorvo 81.28 313 *e*LQ LQ 13 21 14.6
MVO *e*LR LR 13 23 57.8
comp=Z,738nm,18.0s
PGAV Gavieira, Arco 81.61 314 *e*LR LR 13 26 24.3
comp=Z,608nm,20.0s
TAM Tamanrasset 81.80 292 *e*P **P 12 55 11.3 +0.3**
comp=Z,8.0nm,0.9s
TAM Tamanrasset 81.80 292 *e*P **P 12 55 11.3 +0.3**
TAM pmax pmax
comp=Z,8.0nm,0.9s
MTE Manteigas 82.03 312 *e*P **P 12 55 15.9 +4.1**
comp=Z,44nm,1.2s
MTE Manteigas 82.03 312 *e*LR LR 13 24 02.4
comp=Z,812nm,18.0s
PVIS Viseu 82.08 313 *e*P **P 12 55 10.9 -1.1**
PCBR Castelo Branco 82.30 312 *e*P **P 12 55 11.8 -1.3**
LSZ Lusaka 82.42 247 *e*P **P 12 55 13.8 -0.3**
comp=Z,72nm,1.2s
LSZ LR LR
comp=Z,831nm,19.0s
LSZ Lusaka 82.42 247 *e*P **P 12 55 13.8 -0.3**
LSZ pmax pmax
comp=Z,72nm,1.2s
LSZ MLR MLR
comp=Z,831nm,19.0s
LSZ Lusaka 82.42 247 P **P 12 55 13.9 -0.2**
SNR=12
LSZ P **P 12 55 13.9 -0.2**
SNR=12
WRAK Wrangell Islan 82.49 26 PFAKE 12 55 30.0 +16
WRAK LR LR
comp=Z,2µm,19.0s
YKW3 Yellowknife Ar 82.86 15 *e*P **P 12 55 15.7 +0.1**
comp=Z,15nm,1.3s
YKA Yellowknife Ar 82.92 15 P **P 12 55 14.1 -1.8**
comp=Z,1.4nm,0.7s,baz=328,slow=4.8,SNR=25
YKA PKKPbc **PKKPbc 13 13 38.5 -0.7**
comp=Z,0.1nm,0.6s,baz=143,slow=2.3,SNR=3.9
YKA LR LR 13 35 21.5
comp=Z,137nm,19.9s,baz=318,slow=38
YKB5 Yellowknife Ar 82.92 15 *e*P **P 12 55 13.3 -2.5**
DZM Mont Dzumac 83.09 121 *e*P **P 12 55 21.2 +3.8**
comp=Z,49nm,1.3s
DZM Mont Dzumac 83.09 121 *e*LR LR 13 21 14.1
comp=Z,924nm,24.8s
PVAQ Vaqueiros 83.82 310 *e*LQ LQ 13 26 13.2
PVAQ *e*LR LR 13 29 46.4
comp=Z,978nm,22.0s
MESJ Messejana 83.91 311 *e*P **P 12 55 21.2 -0.2**
MESJ AMS AMS 13 33 14.9
comp=E,766nm,15.8s
MESJ Messejana 83.91 311 *e*P **P 12 55 21.2 -0.2**
PNCL Nicolau / Gran 83.95 311 *e*P **P 12 55 22.3 +0.6**
comp=E,53nm,1.6s
PMAFR Mafra 83.95 312 *e*P **P 12 55 21.5 -0.2**
PBDV Barranco-do-Ve 84.05 310 *e*P **P 12 55 21.5 -0.8**
comp=E,69nm,1.7s
TOA1 Torodi Ar. Sit 89.85 285 *e*P **P 12 55 49.5 -1.3**
TOA1 *e*PP **PP 12 59 24.2 +1.0**
TOA0 Torodi Ar. Sit 89.85 285 *e*P **P 12 55 50.5 -0.3**
TOA0 Torodi Ar. Sit 89.85 285 P **P 12 55 51.1 +0.3**
SNR=8.0
TORD Torodi Ar. Bea 89.85 285 P **P 12 55 49.5 -1.3**
comp=E,7.7nm,1.1s,baz=60,slow=3.9,SNR=26
TORD PP **PP 12 59 24.2 +1.0**
comp=E,2.8nm,1.0s,baz=69,slow=7.9,SNR=3.5
TORD LR LR 13 40 48.4
comp=E,765nm,18.9s,baz=10.0,slow=39
LBTB Lobatse 89.93 241 *e*P **P 12 55 50.5 -0.5**
comp=E,13nm,1.0s
LBTB Lobatse 89.93 241 *e*P **P 12 55 50.5 -0.5**
LBTB pmax pmax
comp=Z,13nm,1.0s
BOSA Boshof 92.21 238 P **P 12 56 00.9 -0.5**
comp=Z,1.7nm,0.7s,baz=153,slow=2.3,SNR=2.8
BOSA LR LR 13 36 00.2
comp=Z,669nm,20.5s,baz=64,slow=34
BOSA Boshof 92.21 238 P **P 12 56 01.0 -0.5**
BOSA pmax pmax
comp=Z,2.0nm,0.7s
BOSA MLR MLR
comp=Z,669nm,20.5s
BOSA Boshof 92.21 238 *e*P **P 12 56 05.1 +3.6**
FFC Flin Flon 92.67 12 *e*P **P 12 56 01.7 -1.5**
comp=Z,12nm,1.1s
FFC LR LR
comp=Z,2µm,20.0s
FFC Flin Flon 92.67 12 *e*P **P 12 56 01.7 -1.5**
FFC pmax pmax
comp=Z,12nm,1.1s
FFC MLR MLR
comp=Z,2µm,20.0s
NLWA Neilton Lookou 92.80 28 PFAKE 12 56 10.0 +6.1
NLWA LR LR
comp=Z,1µm,20.0s
TSUM Tsumeb 93.03 250 PFAKE 12 56 20.0 +15
TSUM LR LR
comp=Z,752nm,21.0s
SCHQ Schefferville 93.74 352 P **P 12 56 07.7 -0.3**
comp=Z,7.2nm,0.7s,baz=14,slow=2.3,SNR=8.4
SCHQ LR LR 13 42 49.5
comp=Z,1µm,20.0s,baz=360,slow=38
SCHQ Schefferville 93.74 352 *e*P **P 12 56 07.8 -0.3**
comp=Z,11nm,0.9s
NEW Newport 94.58 24 PFAKE 12 56 20.0 +7.9
NEW LR LR
comp=Z,2µm,21.0s

HAWA	**Hanford**	**95.30**	**26**	PFAKE		12 56 30.0	+15		
HAWA				LR	LR				
	comp=Z,1μm,21.0s								
EGMT	**Eagleton**	**97.11**	**19**	PFAKE		12 56 30.0	+6.2		
EGMT				LR	LR				
	comp=Z,2μm,19.0s								
CASY	**Casey**	**97.31**	**176**	PFAKE		12 56 40.0	+16		
CASY				LR	LR				
	comp=Z,121nm,19.0s								
SUR	**Sutherland**	**97.47**	**237**	PFAKE		12 56 40.0	+14		
SUR				LR	LR				
	comp=Z,3μm,21.0s								
ULM	**Lac du Bonnet**	**98.00**	**10**	LR	LR	13 46 50.1			
	comp=Z,777nm,18.5s,baz=329,slow=39								
DGMT	**Dagmar**	**98.13**	**16**	PFAKE		12 56 40.0	+12		
DGMT				LR	LR				
	comp=Z,2μm,22.0s								
BOZ	**Bozeman (W)**	**98.73**	**22**	PFAKE		12 56 40.0	+8.8		
BOZ				LR	LR				
	comp=Z,1μm,20.0s								
DBIC	**Dimbokro**	**98.74**	**283**	LR	LR	13 45 06.5			
	comp=Z,733nm,19.7s,baz=36,slow=38								
WVOR	**Wild Horse Val**	**98.98**	**28**	PFAKE		12 56 40.0	+7.7		
WVOR				LR	LR				
	comp=Z,2μm,22.0s								
LAO	**LASA Array**	**99.29**	**18**	PFAKE		12 56 40.0	+6.5		
LAO				LR	LR				
	comp=Z,1μm,19.0s								
HLID	**Hailey**	**99.60**	**24**	PFAKE		12 56 50.0	+15		
HLID				LR	LR				
	comp=Z,1μm,20.0s								
RLMT	**Red Lodge**	**99.88**	**20**	PFAKE		12 56 50.0	+14		
RLMT				LR	LR				
	comp=Z,1μm,20.0s								
SNZO	**South Karori**	**99.89**	**132**	PFAKE		12 56 50.0	+14		
SNZO				LR	LR				
	comp=Z,905nm,22.0s								
AGMN	**Agassiz Nation**	**99.90**	**10**	PFAKE		12 56 50.0	+14		
AGMN				LR	LR				
	comp=Z,2μm,20.0s								
LKWY	**Lake**	**100.04**	**21**	PFAKE		12 56 50.0	+13		
LKWY				LR	LR				
	comp=Z,3μm,21.0s								
EYMN	**Ely**	**100.83**	**7**	PFAKE		12 56 50.0	+10		
EYMN				LR	LR				
	comp=Z,2μm,21.0s								
AHID	**Auburn Hatcher**	**101.43**	**22**	PFAKE		12 56 50.0	+6.7		
AHID				LR	LR				
	comp=Z,2μm,22.0s								
BW06	**Boulder Array**	**101.93**	**21**	PFAKE		12 57 00.0	+14		
BW06				LR	LR				
	comp=Z,1μm,19.0s								
PDAR	**Pinedale Array**	**101.93**	**21**	PP	PKiKP	13 00 57.6	-11		
	comp=Z,0.5nm,1.0s,baz=335,slow=4.0,SNR=3.0								
COWI	**Conover**	**102.90**	**6**	PFAKE		12 57 00.0	+11		
COWI				LR	LR				
	comp=Z,1μm,20.0s								
DUG	**Dugway, Tooele**	**103.12**	**25**	PFAKE		12 57 00.0	+9.2		
DUG				LR	LR				
	comp=Z,855nm,21.0s								
PKME	**Peaks-Kenny Pk**	**103.44**	**352**	PFAKE		12 57 00.0	+8.1		
PKME				LR	LR				
	comp=Z,2μm,21.0s								
ECSD	**EROS Data Cent**	**104.21**	**12**	PFAKE		12 57 10.0	+15		
ECSD				LR	LR				
	comp=Z,2μm,20.0s								
GLMI	**Grayling**	**104.48**	**3**	PFAKE		12 57 10.0	+13		
GLMI				LR	LR				
	comp=Z,2μm,20.0s								
LONY	**Lake Ozonia**	**104.58**	**356**	PFAKE		12 57 10.0	+13		
LONY				LR	LR				
	comp=Z,1μm,20.0s								
OGNE	**Ogallala**	**105.73**	**17**	PFAKE		13 01 30.0	+15		
OGNE				LR	LR				
	comp=Z,1μm,19.0s								
ISCO	**Idaho Springs**	**105.83**	**20**	PFAKE		13 01 30.0	+14		
ISCO				LR	LR				
	comp=Z,1μm,22.0s								
JFWS	**Jewell Farm**	**105.94**	**7**	PFAKE		13 01 30.0	+15		
JFWS				LR	LR				
	comp=Z,2μm,21.0s								
SCIA	**State Center**	**106.55**	**10**	PFAKE		13 01 30.0	+14		
SCIA				LR	LR				
	comp=Z,1μm,20.0s								
AAM	**Ann Arbor**	**107.03**	**2**	PFAKE		13 01 30.0	+13		
AAM				LR	LR				
	comp=Z,2μm,20.0s								
BINY	**Binghamton**	**107.07**	**356**	PFAKE		13 01 30.0	+13		
BINY				LR	LR				
	comp=Z,2μm,22.0s								
MVCO	**Mesa Verde**	**107.30**	**23**	PFAKE		13 01 30.0	+12		
MVCO				LR	LR				
	comp=Z,802nm,22.0s								
PFO	**Pinyon Flats O**	**107.36**	**31**	PFAKE		13 01 30.0	+12		
PFO				LR	LR				
	comp=Z,863nm,20.0s								
SDCO	**Great Sand Dun**	**107.77**	**21**	PFAKE		13 01 30.0	+11		
SDCO				LR	LR				
	comp=Z,1μm,21.0s								
WUAZ	**Wupatki**	**107.79**	**26**	PFAKE		13 01 30.0	+11		
WUAZ				LR	LR				
	comp=Z,1μm,22.0s								
CBKS	**Cedar Bluff**	**108.30**	**16**	PFAKE		13 01 30.0	+10		
CBKS				LR	LR				
	comp=Z,1μm,19.0s								
HDIL	**Hopedale**	**108.37**	**7**	PFAKE		13 01 30.0	+10		
HDIL				LR	LR				
	comp=Z,2μm,19.0s								
KSU1	**Kansas State U**	**108.70**	**13**	PFAKE		13 01 30.0	+9.4		
KSU1				LR	LR				
	comp=Z,1μm,19.0s								
SACV	**Santiago Islan**	**108.76**	**301**	PFAKE		13 01 30.0	+8.7		
SACV				LR	LR				
	comp=Z,323nm,20.0s								
ACSO	**Alum Creek Sta**	**109.12**	**2**	PFAKE		13 01 30.0	+8.7		
ACSO				LR	LR				
	comp=Z,2μm,21.0s								
ANMO	**Albuquerque**	**110.04**	**22**	PFAKE		13 01 30.0	+6.5		
ANMO				LR	LR				
	comp=Z,817nm,19.0s								
TUC	**Tucson**	**110.85**	**27**	PFAKE		13 01 40.0	+15		
TUC				LR	LR				
	comp=Z,1μm,22.0s								
CBN	**Corbin Frederi**	**111.12**	**357**	PFAKE		13 01 40.0	+15		
CBN				LR	LR				
	comp=Z,2μm,19.0s								
BLA	**Blacksburg**	**112.17**	**360**	PFAKE		13 01 40.0	+13		
BLA				LR	LR				
	comp=Z,2μm,19.0s								
WMOK	**Wichita Mounta**	**112.42**	**16**	PFAKE		13 01 40.0	+12		
WMOK				LR	LR				
	comp=Z,1μm,21.0s								
MNTX	**Cornudas Mount**	**113.37**	**23**	PFAKE		13 01 40.0	+10		
MNTX				LR	LR				
	comp=Z,904nm,19.0s								
MIAR	**Mount Ida**	**113.68**	**12**	PFAKE		13 01 40.0	+10		
MIAR				LR	LR				
	comp=Z,2μm,19.0s								
CNNC	**Cliffs of the**	**114.09**	**358**	PFAKE		13 01 40.0	+9.1		
CNNC				LR	LR				
	comp=Z,2μm,20.0s								
ASCN	**Ascension**	**114.45**	**275**	PFAKE		13 01 40.0	+7.9		
ASCN				LR	LR				
	comp=Z,71μm,19.0s								
GOGA	**Godfrey**	**115.91**	**3**	PFAKE		13 01 50.0	+16		
GOGA				LR	LR				
	comp=Z,1μm,19.0s								
LTX	**Lajitas**	**116.11**	**22**	*e*PKPdf	**PKPdf**	**13 01 35.4**	**+0.3**		
LTX				*e*PKKPbc	**PKKPbc**	**13 12 06.8**	**+1.9**		
TXAR	**Lajitas Array**	**116.11**	**22**	PKP	**PKPdf**	**13 01 35.4**	**+0.3**		
TXAR	comp=Z,0.7nm,0.8s,baz=279,slow=2.4,SNR=6.3			PKKPbc	**PKKPbc**	**13 12 06.8**	**+1.9**		
	comp=Z,0.5nm,0.8s,baz=164,slow=6.5,SNR=6.2								
NATX	**Nacogdoches**	**116.19**	**13**	PFAKE		13 01 50.0	+15		
NATX				LR	LR				
	comp=Z,1μm,19.0s								
JCT	**Junction City**	**116.20**	**19**	*e*PKPdf	**PKiKP**	**13 01 35.0**	**-0.2**		
JCT				LR	LR				
	comp=Z,2μm,19.0s								
JCT	**Junction City**	**116.20**	**19**	*e*PKiKP	**PKiKP**	**13 01 35.0**	**-0.2**		
JCT				MLR	MLR				
	comp=Z,2μm,19.0s								
NHSC	**New Hope**	**116.27**	**360**	PFAKE		13 01 50.0	+15		
NHSC				LR	LR				
	comp=Z,3μm,21.0s								
PPT2	**Papeete2**	**116.54**	**95**	*e*LR	LR	13 36 55.7			
	comp=Z,1μm,31.0s								
BRAL	**Brewton**	**117.89**	**6**	PFAKE		13 01 50.0	+12		
BRAL				LR	LR				
	comp=Z,1μm,20.0s								
NVL	**N'lazarevskaya**	**118.12**	**202**	*e*PKIKP	**PKiKP**	**13 01 39.7**	**+2.3**		
NVL				pmax	pmax				
	comp=Z,3.0nm,0.5s								
TBI	**Tubuai**	**119.05**	**101**	*e*SS	SS	13 19 25.3	+4.0		
	comp=Z,405nm,31.5s								
TBI	**Tubuai**	**119.05**	**101**	*e*LR	LR	13 37 53.1			
	comp=Z,541nm,31.0s								
KVTX	**Kingsville**	**119.50**	**18**	PFAKE		13 01 50.0	+8.5		
KVTX				LR	LR				
	comp=Z,1μm,20.0s								
TAOE	**Nuku Hiva Isla**	**120.51**	**82**	*e*LR	LR	13 38 25.9			
	comp=Z,626nm,27.7s								
QSPA	**South Pole Qui**	**120.75**	**180**	*e*PKPdf	**PKiKP**	**13 01 42.7**	**0.0**		
QSPA				LR	LR				
	comp=Z,558nm,19.0s								
SNAA	**Sanae**	**122.93**	**202**	PKP	**PKPdf**	**13 01 45.2**	**-1.5**		
VNA2	**Neumayer--Watz**	**124.44**	**202**	PKP	**PKiKP**	**13 01 50.6**	**+0.7**		
VNA1	**Neumayer--Stat**	**124.75**	**203**	PKP	**PKiKP**	**13 01 51.2**	**+0.8**		
GRTK	**Grand Turk**	**127.04**	**349**	PFAKE		13 02 10.0	+13		
GRTK				LR	LR				
	comp=Z,989nm,22.0s								
ANWB	**Willy Bob**	**128.39**	**337**	PFAKE		13 02 10.0	+11		
ANWB				LR	LR				
	comp=Z,697nm,19.0s								
GTBY	**Guantanamo Bay**	**129.13**	**353**	PFAKE		13 02 10.0	+9.2		
GTBY				LR	LR				
	comp=Z,803nm,20.0s								
SJG	**San Juan**	**129.28**	**342**	PFAKE		13 02 10.0	+8.9		
SJG				LR	LR				
	comp=Z,595nm,21.0s								
SDDR	**Presa de Saban**	**129.55**	**349**	PFAKE		13 02 10.0	+8.2		
SDDR				LR	LR				
	comp=Z,1μm,22.0s								
MTDJ	**Mount Denham**	**131.00**	**356**	PFAKE		13 02 20.0	+15		
MTDJ				LR	LR				
	comp=Z,822nm,21.0s								
JTS	**JuntasAbangare**	**138.76**	**7**	PFAKE		13 02 30.0	+10		
JTS				LR	LR				
	comp=Z,919nm,21.0s								
SDV	**Santo Domingo**	**139.25**	**345**	PFAKE		13 02 30.0	+8.3		
SDV				LR	LR				
	comp=Z,584nm,21.0s								
BCIP	**Isla Barro Col**	**140.09**	**359**	PFAKE		13 02 30.0	+6.8		
BCIP				LR	LR				
	comp=Z,722nm,20.0s								
BARC	**Barichara**	**141.99**	**348**	*e*P	**PKPdf**	**13 02 20.6**	**-3.8**		
BARC	**Barichara**	**141.99**	**348**	*e*P	**PKPdf**	**13 02 20.6**	**-3.8**		
PTBC	**PUERTO BERRIO**	**142.25**	**350**	*e*P	**PKPdf**	**13 02 19.5**	**-5.2**		
PTBC	**PUERTO BERRIO**	**142.25**	**350**	*e*P	**PKPdf**	**13 02 19.5**	**-5.2**		
RUSC	**La Rusia**	**142.66**	**348**	*e*P	**PKPdf**	**13 02 20.7**	**-5.3**		
RUSC	**La Rusia**	**142.66**	**348**	*e*P	**PKPdf**	**13 02 20.7**	**-5.3**		
MCI9	**Montes Claros**	**143.78**	**285**	*e*P	**PKPdf**	**13 02 28.1**	**+0.9**		
ROSC	**El Rosal**	**143.90**	**349**	PKP	PKPbc	13 02 26.1	+0.4		
	comp=Z,28nm,0.7s,baz=90,slow=10,SNR=6.5								
ROSC	**El Rosal**	**143.90**	**349**	*e*P	PKPab	13 02 25.4	+0.3		
ROSC	**El Rosal**	**143.90**	**349**	*e*P	PKPab	13 02 25.4	+0.3		
CHIC	**Chingaza**	**144.01**	**348**	*e*P	**PKPab**	**13 02 25.1**	**-0.4**		
CHIC	**Chingaza**	**144.01**	**348**	*e*P	**PKPab**	**13 02 25.1**	**-0.4**		
PTGA	**Pitinga**	**144.16**	**323**	*e*PKPdf	**PKPab**	**13 02 25.2**	**-0.4**		
PTGA				LR	LR				
	comp=Z,14μm,19.0s								
TOLC	**Tolima**	**144.30**	**351**	*e*P	**PKPab**	**13 02 24.8**	**-1.8**		
TOLC	**Tolima**	**144.30**	**351**	*e*P	**PKPab**	**13 02 24.8**	**-1.8**		
ANIL	**Santa Ana**	**144.40**	**351**	*e*P	**PKPdf**	**13 02 28.4**	**-0.4**		
ANIL	**Santa Ana**	**144.40**	**351**	*e*P	**PKPdf**	**13 02 28.4**	**-0.4**		
VILC	**Villavicencio,**	**144.51**	**348**	*e*P	**PKPab**	**13 02 20.2**	**-6.8**		
VILC	**Villavicencio,**	**144.51**	**348**	*e*P	**PKPab**	**13 02 20.2**	**-6.8**		
PMSA	**Palmer Station**	**144.65**	**192**	PFAKE		13 02 40.0	+9.1		
PMSA				LR	LR				
	comp=Z,634nm,19.0s								
YOTC	**Yotoco, Valle**	**145.01**	**353**	*e*P	**PKPab**	**13 02 26.2**	**-2.7**		
YOTC	**Yotoco, Valle**	**145.01**	**353**	*e*P	**PKPab**	**13 02 26.2**	**-2.7**		
MARP	**Paez Belalcaza**	**146.09**	**352**	*e*P	**PKPdf**	**13 02 27.5**	**-4.2**		
MARP	**Paez Belalcaza**	**146.09**	**352**	*e*P	**PKPdf**	**13 02 27.5**	**-4.2**		
BDFB	**Brasilia**	**146.62**	**290**	PKPbc	**PKPbc**	**13 02 33.1**	**-0.7**		
	comp=Z,18nm,0.6s,baz=105,slow=3.5,SNR=16								
BDFB	**Brasilia**	**146.62**	**290**	*e*PKPdf	**PKPbc**	**13 02 33.0**	**-0.7**		
BDFB				*e*PKPdf	**PKPbc**	**13 02 33.1**	**-0.7**		
SOTA	**Rioblanco**	**146.87**	**353**	*e*P	**PKPbc**	**13 02 34.5**	**-0.6**		
SOTA	**Rioblanco**	**146.87**	**353**	*e*P	**PKPbc**	**13 02 34.5**	**-0.6**		
FLOC	**Florencia**	**147.30**	**351**	*e*P	**PKPdf**	**13 02 33.7**	**+0.3**		
FLOC	**Florencia**	**147.30**	**351**	*e*P	**PKPdf**	**13 02 33.7**	**+0.3**		
GCUF	**Volcan Galeras**	**147.84**	**354**	*e*P	**PKPbc**	**13 02 36.9**	**-0.8**		
GCUF	**Volcan Galeras**	**147.84**	**354**	*e*P	**PKPbc**	**13 02 36.9**	**-0.8**		
CMBC	**Cumbal**	**148.16**	**355**	*e*P	**PKiKP**	**13 02 40.6**	**+0.3**		
CMBC	**Cumbal**	**148.16**	**355**	*e*P	**PKiKP**	**13 02 40.6**	**+0.3**		
PAYG	**Puerto Ayora**	**148.48**	**19**	PFAKE		13 02 50.0	+7.9		
PAYG				LR	LR				
	comp=Z,528nm,19.0s								
OTAV	**Otavalo**	**148.90**	**356**	*e*PKPdf	**PKPdf**	**13 02 37.8**	**+1.2**		
OTAV				LR	LR				
	comp=Z,529nm,21.0s								
OTAV	**Otavalo**	**148.90**	**356**	*e*PKP2	**PKPdf**	**13 02 37.8**	**+1.2**		
OTAV				MLR	MLR				
	comp=Z,529nm,21.0s								
OTAV	**Otavalo**	**148.90**	**356**	*e*P	**PKPdf**	**13 02 38.2**	**+1.6**		
SALV	**Santo Antonio**	**152.81**	**298**	*e*P	**PKPdf**	**13 02 44.8**	**+3.0**		
EFI	**East Falkland**	**153.50**	**212**	PFAKE		13 02 50.0	+0.4		
EFI				LR	LR				
	comp=Z,585nm,21.0s								
CPUP	**Villa Florida**	**159.13**	**277**	PKP	**PKPdf**	**13 02 50.2**	**+0.2**		
	comp=Z,1.3nm,0.7s,baz=27,slow=2.3,SNR=2.7								
CPUP	**Villa Florida**	**159.13**	**277**	*e*PKPdf	**PKPdf**	**13 02 50.2**	**+0.2**		
CPUP				*e*PKPab	**PKPab**	**13 03 24.8**	**-2.1**		
NNA	**Nana**	**160.80**	**349**	PFAKE		13 03 00.0	+7.8		
NNA				LR	LR				
	comp=Z,232nm,21.0s								
LPAZ	**La Paz**	**161.51**	**319**	PKP	**PKPdf**	**13 02 53.2**	**-0.4**		
	comp=Z,4.7nm,0.9s,baz=22,slow=4.5,SNR=16								
LPAZ				PKPab	**PKPab**	**13 03 36.1**	**-1.9**		
	comp=Z,5.6nm,0.9s,baz=30,slow=7.0,SNR=5.9								
LPAZ	**La Paz**	**161.51**	**319**	*e*PKPdf	**PKPdf**	**13 02 51.9**	**-1.7**		
LPAZ				*e*pPKPdf	**PKPdf**	**13 02 52.6**	**-1.0**		
LPAZ				*e*PKPab	**PKPab**	**13 03 32.2**	**-5.8**		
LPAZ	**La Paz**	**161.51**	**319**	*e*PKIKP	**PKPdf**	**13 02 51.9**	**-1.7**		
LPAZ				*e*		13 02 52.6			
LPAZ	**La Paz**	**161.51**	**319**	*e*P	**PKPdf**	**13 02 55.0**	**+1.4**		
TRQA	**Tornquist**	**163.17**	**240**	PFAKE		13 03 00.0	+6.0		
TRQA				LR	LR				
	comp=Z,542nm,22.0s								
PB11	**IPOC Station P**	**165.14**	**316**	*e*PKPdf	**PKPdf**	**13 02 54.7**	**-1.8**		
PB11				*e*PKPab	**PKPab**	**13 03 49.6**	**-3.8**		
LVC	**Limon Verde**	**166.70**	**306**	PFAKE		13 03 10.0	+12		
LVC				LR	LR				
	comp=Z,685nm,22.0s								
LVC	**Limon Verde**	**166.70**	**306**	*e*P	**PKPdf**	**13 03 00.0**	**+2.1**		
PLCA	**Paso Flores**	**167.34**	**217**	PKP	**PKPdf**	**13 02 59.3**	**+1.8**		
	comp=Z,2.2nm,1.0s,baz=162,slow=6.4,SNR=2.6								
PLCA	**Paso Flores**	**167.34**	**217**	*e*PKPdf	**PKPdf**	**13 02 59.1**	**+1.6**		
PLCA				*e*PKPab	**PKPab**	**13 04 02.0**	**-0.4**		
PLCA	**Paso Flores**	**167.34**	**217**	*e*PKIKP	**PKPdf**	**13 02 59.1**	**+1.6**		
PLCA				*e*		13 04 02.1			
LCO	**Las Campanas**	**171.25**	**280**	PFAKE		13 03 10.0	+10		
LCO				LR	LR				
	comp=Z,600nm,19.0s								
LCO	**Las Campanas**	**171.25**	**280**	*e*P	**PKPdf**	**13 03 04.4**	**+3.9**		

PRU 18 12:50:11.3±0.0, 50.26N×19.04E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.04**	**315**	*e*Pg	Pg	12 50 14.5	+2.3
CHZP				*e*Sg	Sg	12 50 15.7	+3.0
OJC	**Ojcow**	**0.49**	**94**	*e*Pg	Pg	12 50 20.3	-0.4
OJC				*e*Sg	Sg	12 50 26.8	-0.2
MORC	**Moravsky Berou**	**1.08**	**244**	*e*PG	Pb	12 50 32.5	-0.4
MORC				*e*SG	Sg	12 50 46.5	+0.5
LANS	**Liptovska Anna**	**1.15**	**166**	*e*PG	Pg	12 50 32.3	-0.9
LANS				*e*SG	Sg	12 50 47.3	-0.7
NIE	**Niedzica**	**1.17**	**135**	*e*Pg	Pg	12 50 33.8	+0.1
NIE				*e*Sg	Sb	12 50 50.4	+0.2
KRLC	**Kraliky**	**1.46**	**264**	*e*PG	Pn	12 50 38.0	-1.0
KRLC				*e*SG	Sg	12 50 57.9	-0.4
	comp=Z,2.0nm,0.6s						
DPC	**Dobruska-Polom**	**1.75**	**274**	*e*PG	Pn	12 50 42.8	-0.1
DPC				*e*SG	Sg	12 51 07.5	+0.2
	comp=Z,8.2nm,0.7s						
VYHS	**Vyhne**	**1.77**	**184**	*e*PN	Pn	12 50 41.8	-1.4
VYHS				*e*SN	Sn	12 51 04.8	-1.7
VYHS				*e*LG	Lg	12 51 08.3	
KHC	**Kasperske Hory**	**3.72**	**254**	*e*SG	Sg	12 52 10.0	-0.8

IDC 18 12:56:00.7±11.0, 15.64S×175.12W, h204km±108km, mb3.6/9, mb1 3.8/9, mb1mx3.5/36, mbtmp4.1/9, Error ellipse: s-maj=80.8km s-min=21.7km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**42.48**	**240**	P	P	13 03 35.6	-0.4
	1.1nm,0.5s,baz=90,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**48.18**	**257**	P	P	13 04 20.6	-0.3
	2.5nm,0.4s,baz=94,slow=6.6,SNR=94						
WRA				PcP	PcP	13 05 44.5	-0.5
	0.6nm,0.6s,baz=95,slow=3.2,SNR=3.2						
ASAR	**Alice Springs**	**48.46**	**252**	P	P	13 04 23.1	0.0
	6.4nm,0.4s,baz=88,slow=7.7,SNR=238						
FITZ	**Fitzroy Crossi**	**56.54**	**258**	P	P	13 05 22.6	+0.3
	2.7nm,0.8s,baz=54,slow=19,SNR=3.2						
NVAR	**Mina Array Bea**	**75.62**	**43**	P	P	13 07 23.9	+0.3
	0.3nm,0.7s,baz=224,slow=7.6,SNR=3.3						
ILAR	**Eielson Array**	**83.01**	**12**	P	P	13 08 02.8	+0.2
	0.7nm,1.0s,baz=225,slow=5.2,SNR=6.5						
PDAR	**Pinedale Array**	**83.55**	**42**	P	P	13 08 05.6	-0.6
	0.4nm,0.6s,baz=210,slow=4.6,SNR=4.7						
CMAR	**Chiang Mai Arr**	**91.12**	**289**	P	P	13 08 42.6	-0.2
	0.5nm,0.3s,baz=74,slow=3.2,SNR=4.1						
SONM	**Songino Array**	**93.93**	**319**	P	P	13 08 54.5	-0.8
	0.3nm,0.6s,baz=116,slow=3.4,SNR=2.7						
BRTR	**Keskin Array B**	**145.28**	**319**	PKPbc	PKPdf	13 15 14.3	-0.2
	2.2nm,0.8s,baz=104,slow=1.7,SNR=8.8						

*ISCJB **18** 13:17:40.3±0.5, 30.97N±0.06×99.38E±0.07, h10km, mb3.9/12, Error ellipse: s-maj=10.1km s-min=5.7km az=136.8*

*IDC **18** 13:17:40.4±0.8, 30.83N×99.38E, h0km, mb3.8/12, mb1 3.9/13, mb1mx3.7/41, mbtmp3.8/13, ML3.0/1, Error ellipse: s-maj=26.3km s-min=16.1km az=42.0*

*BJI **18** 13:17:42.2, 30.96N×99.50E, h12km, mb3.9/2, ML3.8/5*

ISC 18 13:17:42.6±0.6, 30.96N±0.07×99.37E±0.06, h10km, n29, σ1s22/30, mb3.8/12, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**3.77**	**90**	Pg	**Pb**	**13 18 48.3**	**-0.9**
CD2				Sg	**Sb**	**13 19 33.9**	**-1.0**
CD2				smax	smax		
	comp=N,240nm,1.0s						
CD2				smax	smax		
	comp=E,250nm,1.0s						
LZH	**Lanzhou**	**6.33**	**35**	*e*Pg	**Pg**	**13 19 44.6**	**+0.8**
LZH				Sg	**Sg**	**13 21 07.5**	**+1.7**
LZH				smax	smax		
	comp=N,130nm,1.0s						
LZH				smax	smax		
	comp=E,74nm,1.0s						
LZH				LR	LR		
	comp=N,230nm,5.4s						
LZH				LR	LR		
	comp=E,280nm,6.0s						
LZH				LR	LR		
	comp=Z,350nm,5.7s						
GTA	**Gaotai**	**8.44**	**2**	P	**Pn**	**13 19 46.3**	**+1.3**
GTA				pP	Pb	13 19 53.4	-15
GTA				sP	Pg	13 19 56.3	-28
SHL	**Shillong**	**8.51**	**233**	*e*P	**Pn**	**13 19 47.0**	**+0.9**
XAN	**Xi'an**	**8.63**	**67**	P	Pg	13 20 20.4	-7.3
XAN				pP	Pn	13 20 29.4	+42
XAN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,330nm,4.2s						
ODAN	**Odare**	**11.26**	**252**	*e*P	**Pn**	**13 20 24.4**	**+0.5**
	comp=Z,30nm,0.6s						
RAMN	**Ramite**	**11.88**	**254**	*e*P	**Pn**	**13 20 33.4**	**+1.1**
	comp=Z,22nm,0.5s						
JIRN	**Jiri**	**11.97**	**257**	*e*P	**Pn**	**13 20 34.2**	**+0.6**
	comp=Z,10.0nm,0.3s						
GUN	**Gumba**	**12.15**	**259**	*e*P	**Pn**	**13 20 35.9**	**-0.2**
	comp=Z,9.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**12.45**	**182**	Pn	**Pn**	**13 20 42.1**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=354,slow=10,SNR=5.4						
PKIN	**Phulchoki**	**12.66**	**258**	*e*P	**Pn**	**13 20 42.2**	**-0.8**
	comp=Z,7.2nm,0.4s						
KKN	**Kakani**	**12.69**	**259**	*e*P	**Pn**	**13 20 43.5**	**+0.2**
	comp=Z,19nm,0.7s						
DMN	**Daman**	**12.89**	**259**	*e*P	**Pn**	**13 20 45.9**	**-0.3**
	comp=Z,18nm,0.6s						
KOLN	**Koldanda**	**14.12**	**261**	*e*P	**Pn**	**13 21 01.2**	**-1.6**
	comp=Z,13nm,0.7s						
WMQ	**Urumqi**	**15.82**	**327**	P	**Pn**	**13 21 22.5**	**-2.9**
SONM	**Songino Array**	**17.69**	**16**	P	**P**	**13 21 49.4**	**-0.6**
	comp=Z,0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.77**	**184**	P	Pn	13 34 14.7	+1.0
	1.0nm,0.3s,baz=342,slow=20,SNR=3.7						
PMG				S	Sn	13 34 57.1	+0.2
	0.3nm,0.3s,baz=0.0,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**19.11**	**221**	P	P	13 37 35.5	+0.5
	0.1nm,0.3s,baz=44,slow=11,SNR=8.0						
ASAR	**Alice Springs**	**22.18**	**215**	P	P	13 38 08.2	+0.1
	0.8nm,1.0s,baz=41,slow=10.0,SNR=8.2						
MKAR	**Makanchi Array**	**77.49**	**320**	P	P	13 45 05.2	-0.1
	0.7nm,1.0s,baz=101,slow=4.6,SNR=3.1						

IDC ***18*** *13:35:10.6±0.9,26˚.52N×92˚.77E,h0km,mb3.5/8, mb1 3.7/8,mb1mx3.5/39,mbtmp3.5/8,Error ellipse: s-maj=38.8km s-min=18.7km az=59.0*

ISCJB ***18*** *13:35:14.8±0.8,26˚.57N±0˚.09×92˚.8E±0˚.1,h43km,mb3.5/8, Error ellipse: s-maj=19.5km s-min=10.4km az=24.8*

ISC 18 13:35:17.0±1.0,26˚.6N±0˚.1×92˚.8E±0˚.2,h43km,n9, σ1§31/10,mb3.6/8,Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.29**	**219**	*e*PG	**Pn**	**13 35 40.5**	**+1.7**
SHL				*e*SG	**Sn**	**13 35 53.0**	**-2.0**
MKAR	**Makanchi Array**	**21.82**	**340**	P	**P**	**13 40 04.3**	**-1.3**
	2.0nm,0.6s,baz=149,slow=12,SNR=20						
SONM	**Songino Array**	**23.76**	**23**	P	**P**	**13 40 26.5**	**+1.0**
	0.3nm,0.7s,baz=232,slow=7.1,SNR=2.7						
ZALV	**Zalesovo Beam**	**27.97**	**350**	P	**P**	**13 41 02.4**	**-0.9**
	0.4nm,0.4s,baz=155,slow=7.8,SNR=2.5						
FINES	**FINESS Array B**	**55.91**	**328**	P	**P**	**13 44 50.1**	**-0.1**
	0.8nm,0.6s,baz=98,slow=8.8,SNR=4.6						
WRA	**Warramunga Arr**	**61.35**	**135**	P	**P**	**13 45 28.5**	**-0.2**
	0.6nm,1.0s,baz=323,slow=7.4,SNR=3.4						
GERES	**GERESS Array B**	**63.50**	**314**	P	**P**	**13 45 43.0**	**+0.1**
	0.3nm,0.5s,baz=66,slow=4.7,SNR=2.1						
ASAR	**Alice Springs**	**63.84**	**138**	P	**P**	**13 45 44.3**	**-1.0**
	0.2nm,0.5s,baz=327,slow=6.6,SNR=3.1						
TORD	**Torodi Ar. Bea**	**85.18**	**282**	P	**P**	**13 47 50.2**	**+0.8**
	0.3nm,0.5s,baz=52,slow=6.6,SNR=3.1						

IDC 18 13:40:55.9±2.8,16˚.60S×173˚.15W,h0km,mb3.7/6, mb1 4.1/6,mb1mx3.9/27,mbtmp3.7/6,Error ellipse: s-maj=165.3km s-min=23.0km az=149.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.81**	**258**	P	P	13 49 50.4	-0.6
	0.2nm,0.3s,baz=97,slow=6.7,SNR=12						
ASAR	**Alice Springs**	**49.98**	**253**	P	P	13 49 52.0	-0.2
	2.6nm,0.7s,baz=88,slow=8.0,SNR=28						
NVAR	**Mina Array Bea**	**75.06**	**42**	P	P	13 52 39.4	-0.5
	0.7nm,0.7s,baz=224,slow=8.4,SNR=5.9						
PDAR	**Pinedale Array**	**83.00**	**42**	P	P	13 53 23.7	+0.3
	0.9nm,0.7s,baz=206,slow=3.5,SNR=8.5						
ILAR	**Eielson Array**	**83.58**	**11**	P	P	13 53 25.0	-0.5
	0.3nm,0.6s,baz=204,slow=5.9,SNR=6.7						
YKA	**Yellowknife Ar**	**91.10**	**23**	P	P	13 54 02.0	0.0
	0.1nm,0.5s,baz=224,slow=5.2,SNR=3.1						
BRTR	**Keskin Array B**	**147.23**	**320**	PKPbc	PKPab	14 00 42.6	-0.8
	0.8nm,0.8s,baz=40,slow=2.5,SNR=4.9						

IDC ***18*** *14:02:57.7±3.2,8˚.58S×116˚.87E,h0km,mb3.2/4, mb1 3.4/4,mb1mx3.3/31,mbtmp3.3/4,Error ellipse: s-maj=176.3km s-min=23.8km az=54.0*

DJA ***18*** *14:02:58.5±1.6,8˚.S±5˚×11˚.7E±˚,h13km±14km,M3.7/7, MLv3.7/7*

ISCJB ***18*** *14:03:00.1±0.9,7˚.81S±0˚.08×117˚.45E±0˚.09,h33km, mb3.3/3,Error ellipse: s-maj=13.1km s-min=10.7km az=162.6*

ISC 18 14:03:02.4±1.2,7˚.89S±0˚.08×117˚.42E±0˚.07,h35km,n8, σ1§87/8,mb3.4/3,Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.00**	**159**	P	**Pn**	**14 03 18.6**	**-1.3**
PLAI				S	**Sn**	**14 03 33.5**	**+0.7**
SRBI	**Singaraja**	**2.20**	**265**	P	**Pn**	**14 03 34.6**	**-1.8**
BKSI	**Bulukumba**	**3.70**	**47**	P	**Pn**	**14 03 55.2**	**-1.9**
EDFI	**Ende, Flores**	**4.31**	**102**	P	**Pn**	**14 04 04.8**	**-0.8**
WRA	**Warramunga Arr**	**20.30**	**128**	P	**P**	**14 07 34.8**	**-0.6**
	0.8nm,0.9s,baz=302,slow=12,SNR=5.9						
ASAR	**Alice Springs**	**22.27**	**137**	P	**P**	**14 07 56.0**	**-0.6**
	0.4nm,0.5s,baz=311,slow=9.6,SNR=9.6						
SONM	**Songino Array**	**56.33**	**351**	P	P	14 12 45.1	+5.1
	0.3nm,0.7s,baz=153,slow=9.7,SNR=1.9						
MKAR	**Makanchi Array**	**62.77**	**334**	P	**P**	**14 13 26.9**	**+2.6**
	0.2nm,0.7s,baz=152,slow=6.4,SNR=3.0						

BJI ***18*** *14:05:49.4,53˚.90N×163˚.20W,h12km,mb4.9/46, mB5.2/30,Ms4.8/18,Ms7 4.5/19*

ISCJB ***18*** *14:05:52.9±0.2,53˚.70N±0˚.03×163˚.17W±0˚.03,h25km, mb4.7/75,MS4.0/18,Error ellipse: s-maj=4.8km s-min=2.4km az=165.8*

NEIC ***18*** *14:05:52.5±0.0,53˚.47N×163˚.11W,h28km,mb4.6/28, ML4.3(AEIC),After AEIC.*

IDC ***18*** *14:05:54.2±2.1,53˚.90N×163˚.31W,h20km±12km,mb4.4/30, mb1 4.5/33,mb1mx4.4/52,mbtmp4.4/33,ML4.1/3,MS3.9/17, Ms1 3.9/17,ms1mx3.7/39,Error ellipse: s-maj=14.9km s-min=8.7km az=171.0*

ISC 18 14:05:54.3±0.5,53˚.74N±0˚.06×163˚.06W±0˚.03,h25km, n261,σ1§56/281,mb4.8/94,MS3.9/19,18C-10D,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRPK	**Brown Peak**	**0.99**	**336**	P	**Pb**	**14 06 13.6**	**+0.8**
SSLS	**Shishaldin Sou**	**1.12**	**331**	P	**Pb**	**14 06 15.8**	**+0.7**
FALS	**False Pass**	**1.14**	**350**	*e*Pn	**Pb**	**14 06 16.1**	**+0.8**
FALS				*e*Sn	**Sn**	**14 06 26.4**	**-3.0**
WESE	**West Dahl East**	**1.16**	**310**	P	**Pb**	**14 06 15.1**	**-0.7**
SSLN	**Shishaldin Nor**	**1.21**	**333**	P	**Pb**	**14 06 17.2**	**+0.7**
SSBA	**Shishaldin**	**1.21**	**329**	P	**Pb**	**14 06 16.3**	**-0.3**
WEBT	**Westdahl Beart**	**1.31**	**311**	P	**Pb**	**14 06 17.9**	**-0.4**
DRIA	**Deer Island**	**1.32**	**20**	P	**Pb**	**14 06 18.1**	**-0.2**
DT1	**Dutton Round H**	**1.45**	**18**	P	**Pb**	**14 06 20.2**	**-0.3**
DOI	**Dolgoi Island**	**1.58**	**26**	P	**Pb**	**14 06 21.1**	**-0.7**
AKSA	**Akutan Strait**	**1.61**	**285**	P	**Pn**	**14 06 20.0**	**-1.1**
AKSA				S	**Sn**	**14 06 41.6**	**+0.5**
AKUT	**Akutan**	**1.65**	**285**	*e*Pn	**Pn**	**14 06 20.7**	**-1.0**
AKUT				*e*Sn	**Sn**	**14 06 42.3**	**+0.2**
PS4A	**Pavlof South-4**	**1.76**	**23**	P	**Pb**	**14 06 25.5**	**-0.4**
AKLV	**Akutan Long Va**	**1.77**	**285**	P	**Pn**	**14 06 22.1**	**-1.2**
AKMO	**Akutan Morgan**	**1.78**	**283**	P	**Pn**	**14 06 22.4**	**-1.1**
AKMO				S	**Sn**	**14 06 44.7**	**-0.6**
AKGG	**Akutan Green G**	**1.79**	**286**	P	**Pn**	**14 06 22.8**	**-0.8**
PVV	**Pavlof Volcano**	**1.80**	**24**	P	**Pb**	**14 06 26.1**	**-0.4**
AKRB	**Akutan Reef Bi**	**1.82**	**284**	P	**Pn**	**14 06 22.9**	**-1.2**
UNV	**Unalaska Valle**	**2.05**	**274**	*e*Pn	**Pn**	**14 06 25.2**	**-1.9**
MTBL	**Makushin Table**	**2.16**	**278**	P	**Pn**	**14 06 27.6**	**-1.1**
SDPT	**Sand Point**	**2.21**	**42**	*e*Pn	**Pb**	**14 06 31.3**	**-2.1**
MSW	**Makushin Switc**	**2.22**	**276**	P	**Pn**	**14 06 27.7**	**-1.7**
MGOD	**Makushin Gods**	**2.27**	**273**	P	**Pn**	**14 06 28.6**	**-1.5**
VNSS	**Veniaminof 8**	**3.25**	**38**	P	**Pn**	**14 06 46.6**	**+2.8**
VNFG	**Veniaminof 2**	**3.25**	**37**	P	**Pn**	**14 06 46.7**	**+2.9**
CHGN	**Chignik**	**3.71**	**44**	*e*Pn	**Pn**	**14 06 52.1**	**+2.2**
ANPB	**Aniakchak Plen**	**4.11**	**40**	P	**Pn**	**14 06 57.9**	**+2.4**
ANNE	**Aniakchak Nort**	**4.27**	**40**	P	**Pn**	**14 07 00.4**	**+2.7**
SPIA	**Saint Paul Isl**	**5.35**	**313**	P	**Pn**	**14 07 13.8**	**+1.4**
PLK1	**Peulik 1**	**5.46**	**39**	P	**Pn**	**14 07 16.4**	**+2.4**
CNTC	**Contact Creek**	**6.06**	**39**	P	**Pn**	**14 07 24.7**	**+2.3**
CAHL	**Cahill**	**6.14**	**42**	P	**Pn**	**14 07 25.3**	**+1.9**
ANCK	**Angle Creek**	**6.16**	**40**	P	**Pn**	**14 07 26.0**	**+2.3**
OHAK	**Old Harbor**	**6.56**	**54**	*e*Pn	**Pn**	**14 07 29.6**	**+0.6**
KOFP	**Korovin Flat P**	**6.82**	**262**	P	**Pn**	**14 07 32.3**	**-0.4**
ATKA	**Atka Island**	**6.90**	**262**	*e*Pn	**Pn**	**14 07 32.5**	**-1.2**
KDAK	**Kodiak Island**	**7.16**	**51**	Pn	**Pn**	**14 07 37.2**	**-0.1**
	3.7nm,0.3s,baz=228,slow=7.4,SNR=31						
KDAK				Sn	**Sn**	**14 08 54.4**	**-3.4**
	1.5nm,0.3s,baz=221,slow=19,SNR=3.9						
KDAK	**Kodiak Island**	**7.16**	**51**	*e*Pn	**Pn**	**14 07 37.7**	**+0.3**
KDAK				*e*Sn	**Sn**	**14 08 57.6**	**-0.2**
FONW	**Fourpeaked Sta**	**7.21**	**41**	P	**Pn**	**14 07 40.7**	**+2.7**
GSMY	**Great Sitkin M**	**8.04**	**263**	P	**Pn**	**14 07 49.7**	**+0.3**
GSTD	**Great Sitkin T**	**8.09**	**263**	P	**Pn**	**14 07 49.2**	**-1.0**
ETKA	**Kagalaska Isla**	**8.31**	**262**	P	**Pn**	**14 07 52.5**	**-0.6**
ADAG	**Mount Adagdak**	**8.39**	**263**	P	**Pn**	**14 07 53.5**	**-0.6**
ADK	**Adak**	**8.46**	**263**	*e*Pn	**Pn**	**14 07 53.6**	**-1.5**
RDWB	**Redoubt West**	**8.75**	**35**	P	**Pn**	**14 08 01.6**	**+2.4**
KIWB	**Kanaga Island**	**8.75**	**263**	*e*Pn	**Pn**	**14 07 58.0**	**-1.1**
KIKV	**Kanaga Island**	**8.75**	**263**	P	**Pn**	**14 07 57.9**	**-1.3**
RSO	**Redoubt South**	**8.76**	**36**	*e*Pn	**Pn**	**14 08 02.8**	**+3.4**
KIMD	**Kanaga Island**	**8.83**	**263**	P	**Pn**	**14 07 59.7**	**-0.4**
DFR	**Drift River**	**8.88**	**35**	P	**Pn**	**14 08 04.2**	**+3.3**
BRLK	**Bradley Lake**	**9.00**	**43**	*e*Pn	**Pn**	**14 08 02.8**	**+0.3**
TAPA	**Tanaga Point A**	**9.15**	**264**	P	**Pn**	**14 08 03.0**	**-1.6**
SPNN	**North Nagishla**	**9.45**	**32**	P	**Pn**	**14 08 12.2**	**+3.4**
SEW	**Seward**	**9.79**	**44**	*e*Pn	**Pn**	**14 08 14.3**	**+1.0**
SUA	**Susitna One**	**10.16**	**35**	*e*Pn	**Pn**	**14 08 19.8**	**+1.3**
RC01	**Rabbit Creek A**	**10.27**	**39**	*e*Pn	**Pn**	**14 08 20.4**	**+0.4**
PPLA	**Purkeypile**	**10.80**	**27**	*e*Pn	**Pn**	**14 08 31.5**	**+4.3**
PMR	**Palmer**	**10.82**	**38**	*e*Pn	**Pn**	**14 08 26.6**	**-0.8**
ANM	**Nome**	**10.93**	**355**	*e*Pn	**Pn**	**14 08 32.1**	**+3.3**
KNK	**Knik Glacier**	**10.96**	**40**	*e*Pn	**Pn**	**14 08 28.7**	**-0.6**
GHO	**Glory Hole Cre**	**11.01**	**37**	*e*Pn	**Pn**	**14 08 28.8**	**-1.4**
CAST	**Castle Rocks**	**11.25**	**26**	*e*Pn	**Pn**	**14 08 35.0**	**+1.7**
SML	**Sawmill**	**11.25**	**38**	*e*Pn	**Pn**	**14 08 32.6**	**-0.7**
SCM	**Sheep Creek Mo**	**11.64**	**40**	*e*Pn	**Pn**	**14 08 38.3**	**-0.5**
SCM				*e*Sn	**Sn**	**14 10 48.4**	**+0.6**
TRF	**Thorofare Moun**	**11.77**	**29**	*e*Pn	**Pn**	**14 08 41.5**	**+0.9**
DIV	**Divide**	**11.87**	**45**	*e*Pn	**Pn**	**14 08 41.9**	**+0.1**
RAGM	**Ragged Mountai**	**11.99**	**49**	*e*Pn	**Pn**	**14 08 43.5**	**0.0**
KLU	**Klutina**	**12.00**	**43**	*e*Pn	**Pn**	**14 08 43.6**	**0.0**
KLU				*e*Sn	**Sn**	**14 10 52.1**	**-4.4**
BPAW	**Bear Paw Mtn.**	**12.09**	**26**	*e*Pn	**Pn**	**14 08 45.6**	**+0.9**
HMT	**Hamilton**	**12.15**	**50**	*e*Pn	**Pn**	**14 08 45.9**	**+0.2**
RND	**Reindeer**	**12.17**	**32**	*e*Pn	**Pn**	**14 08 45.4**	**-0.4**
BMRM	**Bremner River**	**12.28**	**47**	*e*Pn	**Pn**	**14 08 46.9**	**-0.6**
MCK	**McKinley**	**12.38**	**30**	*e*Pn	**Pn**	**14 08 48.2**	**-0.6**
DHY	**Denali Highway**	**12.42**	**35**	*e*Pn	**Pn**	**14 08 48.0**	**-1.4**
HARP	**HAARP**	**12.81**	**40**	*e*Pn	**Pn**	**14 08 55.0**	**+0.4**
MLY	**Manley**	**12.91**	**24**	*e*Pn	**Pn**	**14 08 57.7**	**+1.7**
PAX	**Paxson**	**13.02**	**38**	*e*Pn	**Pn**	**14 08 56.7**	**-0.9**
IM3	**Indian Mountai**	**13.12**	**17**	*e*Pn	**Pn**	**14 09 01.5**	**+2.7**
WRH	**Wood River Hil**	**13.18**	**29**	*e*Pn	**Pn**	**14 08 57.6**	**-2.0**
HDA	**Harding Lake**	**13.48**	**31**	*e*Pn	**Pn**	**14 09 02.0**	**-1.6**
MDM	**Murphy Dome**	**13.51**	**28**	*e*Pn	**Pn**	**14 09 02.7**	**-1.4**
COLA	**College**	**13.55**	**29**	*e*Pn	**Pn**	**14 09 05.4**	**+0.8**
	21nm,1.0s						
RIDG	**Independ'e Rid**	**13.72**	**36**	*e*Pn	**Pn**	**14 09 05.9**	**-1.1**
IL1	**Eielson Array**	**13.75**	**30**	*e*Pn	**Pn**	**14 09 04.8**	**-2.6**
ILAR	**Eielson Array**	**13.75**	**30**	Pn	**Pn**	**14 09 04.7**	**-2.7**
	0.4nm,0.3s,baz=223,slow=13,SNR=25						
ILAR				Sn	**Sn**	**14 11 35.9**	**-3.3**
	0.1nm,0.3s,baz=220,slow=8.3,SNR=2.6						
ILAR				LR	LR	14 15 04.7	
	comp=Z,1μm,18.7s,baz=234,slow=40						
ILB	**Eielson Array**	**13.75**	**30**	*e*Pn	**Pn**	**14 09 04.6**	**-2.8**
DOT	**Dot Lake**	**13.94**	**37**	*e*Pn	**Pn**	**14 09 08.8**	**-1.2**
SCRK	**Sand Creek**	**14.16**	**36**	*e*Pn	**Pn**	**14 09 11.3**	**-1.8**
RDOG	**Red Dog Mine**	**14.37**	**0**	*e*P	**P**	**14 09 19.7**	**-2.9**
DAWY	**Dawson**	**15.90**	**40**	*e*Pn	**Pn**	**14 09 35.8**	**-0.4**
	35nm,0.6s						
DLBC	**Dease Lake**	**18.89**	**62**	P	**Pn**	**14 10 15.2**	**+1.8**
	0.3nm,0.3s,baz=268,slow=12,SNR=9.6						
DLBC				LR	LR	14 17 42.6	
	comp=Z,410nm,20.0s,baz=280,slow=37						
DLBC	**Dease Lake**	**18.89**	**62**	*e*P	**Pn**	**14 10 16.4**	**+3.0**
INK	**Inuvik**	**20.13**	**32**	P	**P**	**14 10 24.9**	**-1.1**
	11nm,0.7s,baz=232,slow=15,SNR=23						
INK				S	**S**	**14 14 10.3**	**-0.3**
	1.1nm,0.7s,baz=229,slow=19,SNR=2.6						
INK	**Inuvik**	**20.13**	**32**	*e*P	**P**	**14 10 24.8**	**-1.2**
	22nm,0.9s						
INK				S	**S**	**14 14 10.3**	**-0.3**
BILL	**Bilibino**	**20.36**	**327**	*e*P	**P**	**14 10 26.7**	**-1.8**
	25nm,1.2s						
BBB	**Bella Bella**	**20.98**	**80**	LR	LR	14 17 23.7	
	comp=Z,104nm,19.3s,baz=348,slow=33						
PETK	**Petropavlovsk-**	**23.20**	**284**	P	**P**	**14 10 57.0**	**-2.0**
	17nm,0.6s,baz=87,slow=12,SNR=39						
PETK				LR	LR	14 19 47.9	
	comp=Z,409nm,20.2s,baz=85,slow=36						
PETK	**Petropavlovsk-**	**23.20**	**284**	*e*P	**P**	**14 10 57.6**	**-1.3**
SEY	**Seymchan**	**24.64**	**310**	P	**P**	**14 11 10.8**	**-1.6**
	1.9nm,0.4s,baz=111,slow=4.7,SNR=8.1						
SEY				PcP	**PcP**	**14 14 48.4**	**-0.7**
	2.6nm,0.5s,baz=114,slow=2.3,SNR=7.6						
SEY				ScP	**ScP**	**14 18 27.8**	**+1.9**
	3.2nm,0.9s,baz=111,slow=5.7,SNR=4.5						
NLWA	**Neilton Lookou**	**25.43**	**88**	*e*P	**P**	**14 11 22.2**	**+2.4**
	13nm,0.9s						
MA2	**Magadan**	**25.60**	**302**	P	**P**	**14 11 20.1**	**-1.1**
	5.7nm,0.5s,baz=104,slow=12,SNR=5.5						
YKA	**Yellowknife Ar**	**26.44**	**51**	P	**P**	**14 11 30.1**	**+1.4**
	6.1nm,0.7s,baz=272,slow=8.0,SNR=99						
YKA				PcP	**PcP**	**14 14 53.7**	**+0.5**
	0.6nm,0.9s,baz=291,slow=2.4,SNR=2.6						
YKA				LR	LR	14 23 02.8	
	comp=Z,55nm,19.5s,baz=266,slow=39						
YKB5	**Yellowknife Ar**	**26.44**	**51**	*e*P	**P**	**14 11 28.9**	**+0.2**
H04A	**Detroit Lake**	**27.85**	**92**	*e*P	**P**	**14 11 44.2**	**+2.6**
	13nm,1.0s						
HAWA	**Hanford**	**28.51**	**87**	*e*P	**P**	**14 11 46.5**	**-0.9**
	11nm,0.9s						
NEW	**Newport**	**29.01**	**82**	P	**P**	**14 11 54.3**	**+2.4**
	1.7nm,0.4s,baz=270,slow=11,SNR=2.6						
NEW				LR	LR	14 21 29.2	
	comp=Z,135nm,19.2s,baz=286,slow=32						
YBH	**Yreka Blue Hor**	**29.27**	**98**	P	**P**	**14 11 56.3**	**+2.0**
	1.3nm,0.9s,baz=270,slow=6.0,SNR=6.5						
YBH				LR	LR	14 20 50.9	
	comp=Z,213nm,18.1s,baz=316,slow=30						
I07A	**Izee**	**29.78**	**91**	*e*P	**P**	**14 12 01.3**	**+2.5**
	8.8nm,0.9s						
MOD	**Modoc Plateau**	**30.59**	**95**	*e*P	**P**	**14 12 08.6**	**+2.6**
	7.7nm,1.0s						
WVOR	**Wild Horse Val**	**31.25**	**93**	*e*P	**P**	**14 12 13.8**	**+1.9**
	6.2nm,0.9s						
MFID	**Camas Ranch**	**32.34**	**89**	*e*P	**P**	**14 12 23.4**	**+2.0**
	11nm,0.9s						
HLID	**Hailey**	**33.10**	**88**	*e*P	**P**	**14 12 30.1**	**+2.0**
	5.3nm,0.8s						
RES	**Resolute Bay**	**33.46**	**27**	P	**P**	**14 12 31.1**	**+0.4**
	2.5nm,0.5s,baz=277,slow=9.9,SNR=18						
TIXI	**Tiksi**	**33.57**	**328**	P	**P**	**14 12 30.6**	**-1.0**
	4.8nm,0.5s,baz=102,slow=9.4,SNR=20						
TIXI				PcP	**PcP**	**14 15 10.2**	**-1.3**
	1.7nm,0.3s,baz=159,slow=3.7,SNR=4.1						
NVAR	**Mina Array Bea**	**33.98**	**98**	P	**P**	**14 12 37.9**	**+2.0**
	1.9nm,0.7s,baz=300,slow=9.6,SNR=12						
NVAR				ScP	**ScP**	**14 18 57.6**	**+1.2**
	0.5nm,0.7s,baz=275,slow=5.5,SNR=4.2						
ELK	**Elko**	**34.30**	**92**	*e*P	**P**	**14 12 40.2**	**+1.6**
	6.9nm,1.0s						
HVU	**Hansel Valley**	**35.13**	**89**	*e*P	**P**	**14 12 47.6**	**+1.9**
	7.2nm,0.8s						
BGU	**Big Grassy Mou**	**35.50**	**90**	*e*P	**P**	**14 12 51.2**	**+2.3**
	7.9nm,1.0s						
DUG	**Duway, Tooele**	**36.09**	**91**	*e*P	**P**	**14 12 56.1**	**+2.1**
	11nm,0.9s						
PDAR	**Pinedale Array**	**36.44**	**85**	P	**P**	**14 12 58.5**	**+1.4**
	0.6nm,0.5s,baz=270,slow=4.8,SNR=8.0						
PDAR				ScP	**ScP**	**14 19 06.6**	**+1.3**
	0.4nm,0.7s,baz=329,slow=1.6,SNR=3.1						
TMUT	**Trail Mountain**	**37.61**	**91**	*e*P	**P**	**14 13 09.0**	**+1.9**
	13nm,1.0s						
PV03	**Paradox Valley**	**39.69**	**90**	*e*P	**P**	**14 13 25.9**	**+1.4**
WUAZ	**Wupatki**	**40.03**	**96**	P	**P**	**14 13 23.8**	**-3.4**
	12nm,1.0s						
ULM	**Lac du Bonnet**	**40.12**	**67**	P	**P**	**14 13 28.7**	**+1.1**
	5.7nm,0.8s,baz=302,slow=7.1,SNR=10						
ULM				LR	LR	14 30 27.4	
	comp=Z,89nm,21.2s,baz=300,slow=37						
MVCO	**Mesa Verde**	**40.59**	**91**	P	**P**	**14 13 27.4**	**-4.6**
	5.2nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**41.03**	**226**	T	T	14 57 45.4	
	baz=26,slow=76,SNR=79						
H11N3	**WAKE ISLAND Hy**	**41.03**	**226**	T	T	14 57 37.0	
	baz=26,slow=76,SNR=71						
H11N1	**WAKE ISLAND Hy**	**41.05**	**226**	T	T	14 57 13.9	
	baz=26,slow=76,SNR=60						
AGMN	**Agassiz Nation**	**41.19**	**69**	*e*P	**P**	**14 13 35.9**	**-0.6**
	22nm,1.2s						
H11S1	**WAKE ISLAND Hy**	**42.20**	**225**	T	T	14 58 46.4	
	baz=26,slow=76,SNR=79						
H11S2	**WAKE ISLAND Hy**	**42.21**	**225**	T	T	14 58 47.0	
	baz=26,slow=76,SNR=49						
H11S3	**WAKE ISLAND Hy**	**42.22**	**225**	T	T	14 58 47.6	
	baz=26,slow=76,SNR=67						
USRK	**Ussuriysk Ar.**	**42.29**	**284**	P	**P**	**14 13 42.6**	**-2.8**
	1.3nm,0.6s,baz=54,slow=11,SNR=4.8						
USRK				LR	LR	14 32 38.8	
	comp=Z,142nm,18.6s,baz=41,slow=38						
MJAR	**Matsushiro Arr**	**43.52**	**271**	P	**P**	**14 13 54.4**	**-1.2**
	5.1nm,0.8s,baz=38,slow=5.8,SNR=11						
MJAR				LR	LR	14 32 59.2	
	comp=Z,114nm,20.5s,baz=25,slow=38						
MAJO	**Matsushiro**	**43.52**	**271**	*e*P	**P**	**14 13 54.4**	**-1.1**
	33nm,0.9s						
MNTX	**Cornudas Mount**	**46.26**	**94**	P	**P**	**14 14 18.9**	**+1.5**
	5.6nm,0.9s						
CN2	**Changchun**	**46.26**	**288**	*e*P	**P**	**14 14 15.6**	**-1.7**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
DAG	**Danmarks Havn**	**47.81**	**10**	*i* P	**P**	**14 14 29.5**	**+0.5**
	20nm,0.7s						
WMOK	**Wichita Mounta**	**48.04**	**86**	*e*P	**P**	**14 14 30.3**	**-1.0**
	5.5nm,0.9s						
SUMG	**Summit**	**48.29**	**19**	*i* P	**P**	**14 14 34.6**	**+1.4**
	71nm,0.9s						
KSRS	**Korea Array**	**48.98**	**280**	P	**P**	**14 14 38.1**	**-0.3**
	5.9nm,0.6s,baz=49,slow=7.5,SNR=23						
KSRS				LR	LR	14 34 54.9	
	comp=Z,94nm,20.8s,baz=28,slow=36						
TX31	**Lajitas Ar. Si**	**48.99**	**95**	*e*P	**P**	**14 14 39.8**	**+1.0**
TXAR	**Lajitas Array**	**48.99**	**95**	P	**P**	**14 14 39.8**	**+1.0**
	1.1nm,0.5s,baz=300,slow=5.8,SNR=30						
TXAR				ScP	**ScP**	**14 19 56.8**	**+1.2**
	0.1nm,0.4s,baz=255,slow=4.8,SNR=3.9						
KSAR	**Wonju Array Be**	**49.01**	**280**	P	**P**	**14 14 38.1**	**-0.6**
SFJD	**Kangerlussuaq**	**49.41**	**29**	⇑*i* P	**P**	**14 14 43.0**	**+1.6**
SCHQ	**Schefferville**	**51.77**	**47**	P	**P**	**14 14 59.7**	**+0.4**
	6.2nm,0.8s,baz=326,slow=7.1,SNR=9.4						
SCO	**Scoresbysund**	**52.97**	**15**	*i* P	**P**	**14 15 09.5**	**+1.5**
ULN	**Ulaanbaatar**	**53.45**	**303**	*e*P	**P**	**14 15 11.3**	**-0.8**
	10nm,0.7s						
SONA1	**Songino Array**	**53.79**	**303**	*e*P	**P**	**14 15 14.0**	**-0.6**
SONM	**Songino Array**	**53.80**	**303**	P	**P**	**14 15 14.0**	**-0.6**
	7.8nm,0.8s,baz=44,slow=6.8,SNR=44						
SONM				PcP	**PcP**	**14 16 20.3**	**+0.1**
	4.4nm,0.8s,baz=77,slow=2.7,SNR=6.7						
HHC	**Hu-ho-hao-te**	**55.91**	**294**	*e*P	**P**	**14 15 29.4**	**-0.6**
HHC				pP	pP	14 15 34.0	-3.2
HHC				sP	pwP	14 15 36.4	-2.9
HHC				S	**S**	**14 23 12.8**	**-3.3**
HHC				sS	pS	14 23 21.0	-4.3
HHC				pmax	pmax		
	comp=Z,17nm,1.0s						
HHC				pmax	pmax		
	comp=Z,97nm,5.3s						
HHC				LR	LR		
	comp=N,190nm,14.7s						
HHC				LR	LR		
	comp=E,230nm,15.6s						
HHC				LR	LR		

KSH					pmax	pmax		
	comp=Z,170nm,5.8s							
KSH					LR	LR		
	comp=Z,210nm,11.5s							
KSH					LR	LR		
	comp=Z,55nm,6.3s							
KSH					LR	LR		
	comp=Z,470nm,7.1s							
CLL	**Collm**	**75.27**	**3**	⇑ *i* P	**P**		**14 17 35.1**	**+0.5**
	comp=Z,10.0nm,0.8s							
CLL				*i* sP	**pwP**		**14 17 45.6**	**+0.8**
AKASG	**Malin Array Be**	**75.42**	**352**	P	**P**		**14 17 35.3**	**-0.2**
	comp=Z,6.5nm,0.4s,baz=10,slow=5.8,SNR=34							
AKASG					LR	LR	14 56 02.2	
	comp=Z,100nm,18.3s,baz=0.0,slow=40							
KIEV	**Kiev**	**75.43**	**352**	⇓ *i* P	**P**		**14 17 35.5**	**0.0**
MEM	**Membach**	**75.62**	**7**	⇑ P	**P**		**14 17 37.3**	**+0.7**
BRG	**Berggiesshubel**	**75.73**	**2**	*e*P	**P**		**14 17 37.8**	**+0.6**
	comp=Z,18nm,1.3s							
BRG				*e*			14 17 47.9	
	comp=Z,11nm,1.0s							
PVCC	**Panska Ves**	**76.09**	**2**	*e*P	**P**		**14 17 40.3**	**+1.0**
DPC	**Dobruska-Polom**	**76.28**	**0**	*e*P	**P**		**14 17 41.8**	**+1.3**
NKC	**Novy Kostel**	**76.33**	**3**	*e*P	**P**		**14 17 41.9**	**+1.2**
KRLC	**Kraliky**	**76.56**	**0**	*e*P	**P**		**14 17 43.1**	**+1.1**
WLF	**Walferdange**	**76.57**	**7**	⇑ P	**P**		**14 17 40.5**	**-1.5**
PRU	**Pruhonice**	**76.63**	**2**	*e*P	**P**		**14 17 43.4**	**+1.0**
GRF	**Grafenberg Arr**	**76.83**	**4**	*e*P	**P**		**14 17 44.7**	**+1.1**
	comp=Z,22nm,1.1s,baz=355,slow=5.0							
GRF				*e*pP	**PcP**		**14 17 55.2**	**+0.5**
	baz=355,slow=5.0							
MORC	**Moravsky Berou**	**76.86**	**360**	⇓ *i* P	**P**		**14 17 44.7**	**+1.0**
MORC	**Moravsky Berou**	**76.86**	**360**	*e*P	**P**		**14 17 44.4**	**+0.7**
VRAC	**Vranov**	**77.33**	**0**	⇓ *i* P	**P**		**14 17 47.7**	**+1.4**
VRAC	**Vranov**	**77.33**	**0**	*e*P	**P**		**14 17 47.3**	**+1.0**
LANS	**Liptovska Anna**	**77.46**	**358**	*e*P	**P**		**14 17 48.8**	**+1.7**
LANS				*es*P	**pwP**		**14 17 58.7**	**+1.4**
KHC	**Kasperske Hory**	**77.47**	**2**	*e*P	**P**		**14 17 48.6**	**+1.5**
KHC				*ep*P	**pP**		**14 17 53.5**	**-1.0**
KRUC	**Moravsky**	**77.57**	**0**	*e*P	**P**		**14 17 48.4**	**+0.7**
GERES	**GERESS Array B**	**77.75**	**2**	P	**P**		**14 17 49.1**	**+0.2**
	comp=Z,4.4nm,0.6s,baz=1.3,slow=4.7,SNR=33							
GEA0	**GERESS Array S**	**77.76**	**2**	*e*P	**P**		**14 17 49.5**	**+0.6**
JAVC	**Velka Javorina**	**77.78**	**360**	*e*P	**P**		**14 17 50.9**	**+2.0**
VYHS	**Vyhne**	**78.13**	**359**	*e*P	**P**		**14 17 51.6**	**+0.8**
MODS	**Modra-Piesok**	**78.26**	**360**	*e*P	**P**		**14 17 52.8**	**+1.2**
TRPA	**Tarpa**	**78.40**	**356**	⇑ *i* P	**P**		**14 17 53.4**	**+1.2**
PSZ	**Piszkesteto**	**78.69**	**358**	⇑ *i* P	**P**		**14 17 55.5**	**+1.5**
CONA	**Conrad Observa**	**78.70**	**1**	*i* P	**P**		**14 17 55.6**	**+1.5**
	comp=Z,12nm,0.8s,SNR=8.6							
BUR08	**Bucovina Ar. S**	**78.75**	**354**	*e*P	**P**		**14 17 55.0**	**+0.7**
BUR04	**Bucovina Ar. S**	**78.78**	**354**	*e*P	**P**		**14 17 55.0**	**+0.5**
BURAR	**Bucovina Array**	**78.78**	**354**	⇓ *i* P	**P**		**14 17 55.3**	**+0.8**
RETA	**Reutte**	**79.01**	**4**	*i* P	**P**		**14 17 56.7**	**+0.9**
	comp=Z,4.9nm,0.8s							
MOTA	**Moosalm**	**79.17**	**4**	*i* PcP	**P**		**14 17 58.7**	**+2.0**
	comp=Z,8.8nm,0.7s,SNR=5.3							
WATA	**Walderalm**	**79.20**	**4**	*i* P	**P**		**14 17 57.9**	**+1.0**
	comp=Z,7.8nm,0.5s							
WTTA	**Wattenberg**	**79.27**	**4**	*i* P	**P**		**14 17 58.7**	**+1.3**
	comp=Z,15nm,0.8s,SNR=4.7							
SQTA	**Sankt Quirin**	**79.30**	**4**	*i* P	**P**		**14 17 58.7**	**+1.3**
	comp=Z,21nm,0.7s,SNR=10							
GUN	**Gumba**	**79.30**	**303**	*e*P	**P**		**14 17 58.0**	**0.0**
	comp=Z,46nm,0.6s							
JIRN	**Jiri**	**79.35**	**302**	*e*P	**P**		**14 17 58.4**	**+0.1**
	comp=Z,114nm,0.5s							
ARCR	**ARCALIA**	**79.36**	**355**	⇓ *i* P	**P**		**14 17 58.9**	**+1.3**
ARSA	**Arzberg**	**79.38**	**1**	*i* P	**P**		**14 17 59.2**	**+1.5**
	comp=Z,10nm,0.8s,SNR=4.5							
BIZ	**Bicaz**	**79.40**	**354**	⇓ *i* P	**P**		**14 17 58.8**	**+1.0**
FETA	**Feichten**	**79.48**	**4**	*i* PcP	**P**		**14 17 59.8**	**+1.4**
	comp=Z,19nm,0.9s							
KBA	**Koelnbreinsper**	**79.51**	**2**	*i* PcP	**P**		**14 18 00.4**	**+1.7**
	comp=Z,17nm,0.7s							
KKN	**Kakani**	**79.70**	**303**	*e*P	**P**		**14 17 59.9**	**-0.1**
	comp=Z,24nm,0.6s							
DRGR		**79.73**	**356**	⇑ *i* P	**P**		**14 18 00.3**	**+0.6**
RAMN	**Ramite**	**79.73**	**302**	*e*P	**P**		**14 17 59.9**	**-0.3**
	comp=Z,67nm,0.8s							
CJR	**Cluj-Napoca**	**79.76**	**355**	⇑ *i* P	**P**		**14 18 00.4**	**+0.5**
PKIN	**Phulchoki**	**79.82**	**303**	*e*P	**P**		**14 17 59.8**	**-0.9**
	comp=Z,27nm,0.8s							
ABTA	**Abfaltersbach**	**79.82**	**3**	*i* PcP	**P**		**14 18 01.7**	**+1.5**
	comp=Z,11nm,0.9s,SNR=4.2							
DMN	**Daman**	**79.94**	**303**	*e*P	**P**		**14 18 01.2**	**-0.2**
	comp=Z,32nm,0.8s							
CMAR	**Chiang Mai Arr**	**79.94**	**287**	P	**P**		**14 17 59.9**	**-1.3**
	comp=Z,7.2nm,1.0s,baz=16,slow=5.5,SNR=31							
CMAR					LR	LR	14 57 40.2	
	comp=Z,55nm,18.2s,baz=33,slow=39							
SOKA	**Soboth**	**79.95**	**1**	*i* PcP	**P**		**14 18 02.3**	**+1.4**
	comp=Z,12nm,0.7s,SNR=8.1							
CM01	**Chiang Mai Arr**	**79.96**	**287**	*e*P	**P**		**14 18 00.5**	**-0.7**
MYKA	**Terra Mystica**	**79.97**	**2**	*i* P	**P**		**14 18 01.8**	**+0.8**
	comp=Z,9.6nm,1.0s							
DANN	**Dangsing**	**79.99**	**305**	*e*P	**P**		**14 18 01.8**	**+0.1**
	comp=Z,128nm,0.8s							
OBKA	**Obir**	**80.11**	**2**	*i* P	**P**		**14 18 02.8**	**+1.0**
	comp=Z,24nm,0.6s,SNR=15							
KIV	**Kislovodsk**	**80.22**	**341**	*e*P	**P**		**14 18 03.4**	**+1.0**
	comp=Z,15nm,0.7s							
SIRR	**Siria**	**80.29**	**357**	⇓ *i* P	**P**		**14 18 04.0**	**+1.3**
KBZ	**Khabaz**	**80.39**	**341**	P	**P**		**14 18 04.0**	**+0.8**
	comp=Z,7.8nm,0.9s,baz=318,slow=4.3,SNR=16							
KBZ					LR	LR	14 58 13.0	
	comp=Z,132nm,18.7s,baz=10,slow=39							
DOPR	**Dopca**	**80.41**	**354**	⇑ *i* P	**P**		**14 18 04.3**	**+1.0**
VRI	**Vrincioaia**	**80.42**	**353**	⇓ *i* P	P		14 18 16.2	+13
KOLN	**Koldanda**	**80.55**	**304**	*e*P	**P**		**14 18 04.3**	**-0.3**
	comp=Z,56nm,1.0s							
PYUN	**Piuthan**	**80.57**	**305**	*e*P	**P**		**14 18 04.5**	**-0.2**
MLR	**Muntele Rosu**	**80.85**	**354**	⇑ *i* P	**P**		**14 18 06.6**	**+0.8**
TLCR		**80.93**	**352**	⇑ *i* P	**P**		**14 18 06.6**	**+0.5**
BZS	**Buzias**	**80.94**	**357**	⇑ *i* P	**P**		**14 18 06.8**	**+0.7**
VOIR		**80.96**	**354**	⇑ *i* P	**P**		**14 18 06.2**	**-0.1**
CFR	**Carcaliu**	**81.00**	**352**	⇑ *i* P	**P**		**14 18 07.2**	**+0.8**
ARR	**Arges**	**81.05**	**355**	⇑ *i* P	**P**		**14 18 08.3**	**+1.5**
GZR	**Gura Zlata**	**81.12**	**356**	⇑ *i* P	**P**		**14 18 07.9**	**+0.7**
HERR	**Herculane**	**81.65**	**356**	⇓ *i* P	**P**		**14 18 10.6**	**+0.7**
MDVR	**Moldovita**	**81.77**	**357**	⇑ *i* P	**P**		**14 18 10.5**	**-0.1**
GEYT	**Alibeck**	**82.02**	**328**	P	**P**		**14 18 12.8**	**+0.8**
	comp=Z,11nm,0.9s,baz=328,slow=4.5,SNR=19							
GEYT					LR	LR	14 56 29.7	
	comp=Z,97nm,21.9s,baz=15,slow=37							
VTS	**Vitosha**	**83.89**	**355**	⇓ *i* P	**P**		**14 18 22.2**	**+0.4**
ESDC	**Sonseca Array**	**85.23**	**16**	P	**P**		**14 18 28.8**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=340,slow=4.6,SNR=4.8							
BRTR	**Keskin Array B**	**85.80**	**347**	P	**P**		**14 18 31.8**	**+0.3**
	comp=Z,7.7nm,0.9s,baz=35,slow=2.4,SNR=32							
HYB	**Hyderabad**	**91.74**	**303**	*i* P	**P**		**14 18 59.0**	**-0.8**

MEX 18 14:08:23.9±0.5, **16°53N**×**94°83W**, **h83**km±9km, **MD3.7, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.56**	**354**	*i* P	Pn	14 08 36.9	-1.6
CMIG				*i* S	Sn	14 08 47.9	-1.4
HUIG	**Huatulco**	**1.45**	**239**	*e*P	Pn	14 08 47.3	-1.3
HUIG				*i* S	Sn	14 09 06.0	-1.3
PCIG		**1.75**	**118**	*e*P	Pn	14 08 51.5	-1.1
PCIG				*e*S	Sn	14 09 12.7	-1.6
VHO	**Vista Hermosa**	**1.91**	**287**	*e*P	Pn	14 08 54.5	-0.4
VHO				*i* S	Sn	14 09 16.8	-1.5

*IDC **18** 14:13:34.8±2.3,6°.27S×131°.02E, h0km, mb3.5/1, mb1 4.4/4, mb1mx3.8/32, mbtmp4.2/4, ML4.5/3, Error ellipse: s-maj=58.8km s-min=32.4km az=76.0*
*ISCJB **18** 14:13:43.4±0.6,6°.62S±0°.04×130°.90E±0°.09, h100km, mb3.3/1, Error ellipse: s-maj=12.2km s-min=5.9km az=0.6*
*DJA **18** 14:13:45.8±0.3,6°.S±3°×13°.1E±°, h118km, M4.5/6, mB5.2/3, mb4.4/3, MLv4.6/6, Mw(mB)4.6/3*
ISC 18 14:13:45.3±0.9, **6°49S**±0°.05×**130°8E**±0°.1, **h100**km, **n9, σ2°06**/13, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.57**	**162**	P	**Pn**	**14 14 13.8**	**+1.4**
SAUI				S	**Sn**	**14 14 35.9**	**+2.9**
BNDI	**Bandanaira**	**2.15**	**335**	P	**Pn**	**14 14 21.0**	**+1.2**
BNDI				S	**Sn**	**14 14 47.8**	**+1.6**
FAKI	**Fak Fak**	**3.82**	**22**	P	**Pn**	**14 14 43.2**	**+1.0**
FAKI				S	**Sn**	**14 15 27.8**	**+1.6**
SWI	**Sorong**	**5.60**	**5**	P	**Pn**	**14 15 06.4**	**+0.1**
SWI				S	**Sn**	**14 16 06.4**	**-3.0**
SOEI	**Soe**	**7.24**	**243**	P	**Pn**	**14 15 29.6**	**+0.9**
BATI	**Baumata**	**7.97**	**242**	Pn	**Pn**	**14 15 37.4**	**-1.2**
	3.2nm,0.3s,baz=63,slow=2.3,SNR=5.5						
BATI				Sn	Sn	14 16 57.5	-10
	6.1nm,0.3s,baz=68,slow=16,SNR=3.6						
WRA	**Warramunga Arr**	**13.81**	**166**	Pn	**Pn**	**14 16 53.7**	**-3.2**
	2.9nm,0.3s,baz=346,slow=13,SNR=110						
WRA				Sn	Sn	14 19 17.0	-12
	3.2nm,0.3s,baz=340,slow=22,SNR=10						
ASAR	**Alice Springs**	**17.34**	**170**	P	**P**	**14 17 40.2**	**-0.8**
	1.8nm,0.3s,baz=341,slow=11,SNR=91						
ASAR				S	Sn	14 20 43.5	-11
	0.8nm,0.3s,baz=353,slow=26,SNR=8.8						
MKAR	**Makanchi Array**	**68.24**	**326**	P	**P**	**14 24 36.9**	**+1.6**
	0.4nm,0.8s,baz=124,slow=5.3,SNR=3.6						

*IDC **18** 14:18:23.1±1.2,22°.34S×175°.03W, h0km, mb4.0/9, mb1 4.3/10, mb1mx4.2/31, mbtmp4.0/10, ML3.8/1, MS3.9/6, Ms1 4.0/6, ms1mx3.6/26, Error ellipse: s-maj=55.6km s-min=22.0km az=149.0*
*ISCJB **18** 14:18:26.9±0.7,22°.3S±0°.2×175°.1W±0°.2, h33km, mb3.9/9, MS4.0/5, Error ellipse: s-maj=29.6km s-min=15.5km az=42.3*
ISC 18 14:18:28.3±0.8, **22°4S**±0°.2×**175°0W**±0°.2, **h33**km, **n18, σ0°70**/13, **mb3.9/9, MS4.0**/5, **Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.15**	**267**	*e*LR	LR	14 26 20.9	
	comp=Z,450nm,23.1s						
DZM	**Mont Dzumac**	**17.15**	**267**	LR	LR	14 27 30.2	
	comp=Z,247nm,18.6s,baz=98,slow=32						
URZ	**Urewera**	**17.23**	**201**	Pn	**Pn**	**14 22 26.9**	**+0.4**
	0.3nm,0.3s,baz=329,slow=12,SNR=2.9						
URZ				Sn	Sn	14 25 22.8	-14
	1.0nm,0.3s,baz=147,slow=22,SNR=7.6						
TBI	**Tubuai**	**23.59**	**97**	*e*LQ	LQ	14 27 52.2	
	814nm,25.8s						
TBI				*e*LR	LR	14 29 06.6	
	comp=Z,400nm,28.8s						
PAE	**Paea**	**24.36**	**84**	*e*T	T	14 48 58.4	
	5.1nm,0.3s						
PPT2	**Papeete2**	**24.39**	**83**	*e*T	T	14 49 01.0	
	5.6nm,0.4s						
HNR	**Honiara**	**27.21**	**294**	LR	LR	14 34 32.6	
	comp=Z,268nm,18.2s,baz=124,slow=36						
ASAR	**Alice Springs**	**46.80**	**258**	P	**P**	**14 26 54.5**	**-0.7**
	1.7nm,0.6s,baz=87,slow=7.6,SNR=13						
ASAR				PcP	**PcP**	**14 28 28.5**	**+0.4**
	0.3nm,0.6s,baz=113,slow=4.4,SNR=3.6						
ASAR				LR	LR	14 46 45.7	
	comp=Z,153nm,19.4s,baz=94,slow=36						
WRA	**Warramunga Arr**	**47.09**	**263**	P	**P**	**14 26 56.5**	**-0.9**
	1.0nm,0.5s,baz=92,slow=8.5,SNR=17						
WRA				LR	LR	14 46 22.3	
	comp=Z,160nm,19.1s,baz=110,slow=36						
NVAR	**Mina Array Bea**	**80.52**	**42**	P	**P**	**14 30 37.1**	**-0.3**
	0.5nm,0.7s,baz=221,slow=6.8,SNR=2.7						
USRK	**Ussuriysk Ar.**	**82.04**	**325**	P	**P**	**14 30 46.4**	**+1.3**
	0.9nm,0.7s,baz=134,slow=4.2,SNR=4.2						
USRK				LR	LR	15 04 21.0	
	comp=Z,109nm,18.0s,baz=49,slow=34						
TXAR	**Lajitas Array**	**85.76**	**56**	P	**P**	**14 31 04.5**	**-0.1**
	0.5nm,0.9s,baz=224,slow=2.5,SNR=3.5						
PDAR	**Pinedale Array**	**88.45**	**42**	P	**P**	**14 31 16.8**	**-0.6**
	0.2nm,0.3s,baz=242,slow=1.9,SNR=2.4						
ILAR	**Eielson Array**	**89.53**	**12**	P	**P**	**14 31 21.9**	**+0.2**
	0.5nm,0.8s,baz=211,slow=6.1,SNR=6.5						
CMAR	**Chiang Mai Arr**	**93.32**	**288**	P	**P**	**14 31 39.9**	**-0.5**
	0.6nm,0.3s,baz=123,slow=3.3,SNR=2.3						
CMAR				LR	LR	15 11 44.5	
	comp=Z,40nm,20.1s,baz=90,slow=34						
YKA	**Yellowknife Ar**	**97.05**	**24**	P	**P**	**14 31 56.0**	**-0.4**
	0.2nm,0.8s,baz=228,slow=4.1,SNR=5.2						
AKASG	**Malin Array Be**	**145.94**	**332**	PKPbc	**PKPdf**	**14 38 03.6**	**+0.1**
	0.8nm,0.3s,baz=36,slow=4.5,SNR=9.6						
BRTR	**Keskin Array B**	**150.11**	**312**	PKPbc	**PKPbc**	**14 38 16.9**	**+0.9**
	0.9nm,0.8s,baz=86,slow=4.6,SNR=4.1						

*ATH **18** 14:18:56.1,39°.46N×19°.10E, h10km±3km, ML3.0/3, Error ellipse: s-maj=4.7km s-min=2.0km az=74.0*
*THE **18** 14:18:58.2,39°.52N×19°.23E, h0km±2km, ML2.8/5, Error ellipse: s-maj=2.9km s-min=0.9km az=302.0*
ISC 18 14:18:57.2±1.8, **39°50N**±0°.05×**19°16E**±0°.06, **h4**km±11km, **n27, σ0°88**/38, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.54**	**66**	P	**Pg**	**14 19 07.2**	**-0.4**
KEK				S	**Sb**	**14 19 16.0**	**-1.3**
KEK				AML	AML	14 19 17.3	
	comp=E,3658μm,0.2s						
KEK				AML	AML	14 19 17.8	
	comp=N,2457μm,0.2s						
KEK	**Kerkira**	**0.54**	**66**	P	**Pg**	**14 19 07.3**	**-0.3**
KEK				S	**Sg**	**14 19 14.6**	**0.0**
SRN	**Sarande**	**0.75**	**59**	P	**Pg**	**14 19 11.0**	**-0.7**
SRN				S	**Sg**	**14 19 21.7**	**+0.3**
IGT	**Igoumenitsa**	**0.91**	**87**	P	**Pg**	**14 19 14.2**	**-0.4**
IGT				S	**Sg**	**14 19 26.8**	**+0.4**
IGT				AML	AML	14 19 29.3	
	comp=N,1055μm,0.2s						
IGT				AML	AML	14 19 33.5	
	comp=E,899μm,0.3s						
IGT	**Igoumenitsa**	**0.91**	**87**	P	**Pg**	**14 19 14.0**	**-0.6**
IGT				S	**Sg**	**14 19 26.9**	**+0.5**
JAN	**Janina**	**1.32**	**82**	P	**Pn**	**14 19 22.2**	**-0.2**
JAN				S	**Sn**	**14 19 40.8**	**+0.4**
JAN				AML	AML	14 19 43.1	
	comp=E,1862μm,0.3s						
JAN				AML	AML	14 19 43.3	
	comp=N,1906μm,0.3s						
JAN	**Janina**	**1.32**	**82**	P	**Pb**	**14 19 22.3**	**-0.2**
JAN				S	**Sn**	**14 19 40.4**	**0.0**
LKD2	**Lefkada island**	**1.36**	**121**	P	**Pb**	**14 19 22.9**	**-0.3**
LKD2				S	**Sn**	**14 19 41.6**	**+0.1**
LKD2	**Lefkada island**	**1.36**	**121**	P	**Pb**	**14 19 22.9**	**-0.3**
LKD2				S	**Sn**	**14 19 42.7**	**+1.2**
EVGI	**Lefkada island**	**1.46**	**126**	P	**Pb**	**14 19 24.6**	**-0.2**
PENT	**Pentalofos**	**1.68**	**65**	P	**Pg**	**14 19 29.2**	**-0.2**
NEST	**Nestorio**	**1.72**	**57**	P	**Pg**	**14 19 29.8**	**-0.3**
VLS	**Valsamata**	**1.73**	**139**	P	**Pn**	**14 19 27.6**	**-0.4**
KPRO	**Kipourio**	**1.76**	**74**	P	**Pn**	**14 19 28.9**	**+0.4**
PDO	**Prodromos**	**1.81**	**119**	P	**Pn**	**14 19 29.6**	**+0.5**
TIR	**Tirane**	**1.93**	**16**	*i* Pn	**Pn**	**14 19 30.2**	**-0.6**
PVO	**Paravola**	**2.04**	**115**	P	**Pn**	**14 19 32.9**	**+0.6**
OHR	**Ohrid**	**2.04**	**37**	*i* Pn	**Pb**	**14 19 34.3**	**-0.6**
KZN	**Kozani**	**2.17**	**67**	P	**Pn**	**14 19 34.4**	**+0.3**
BIA	**Bitola**	**2.25**	**47**	*i* Pn	**Pg**	**14 19 41.4**	**+1.1**
KRUS	**Krusevo**	**2.46**	**40**	*i* Pn	**Pn**	**14 19 39.2**	**+1.0**
AGG	**Agios Georgios**	**2.51**	**100**	P	**Pn**	**14 19 39.6**	**+0.8**
GUR	**Goura**	**2.94**	**121**	P	**Pn**	**14 19 45.6**	**+0.8**
VAY	**Valandovo**	**3.18**	**54**	*i* Pn	**Pn**	**14 19 48.3**	**+0.4**
STIP	**Stip**	**3.18**	**45**	*i* Pn	**Pn**	**14 19 50.8**	**+2.8**
STON	**Ston**	**3.55**	**342**	*e*Pn	**Pn**	**14 19 54.0**	**+1.0**
STON				Sn	**Sn**	**14 20 33.7**	**-1.6**
NVLJ	**Novalja**	**5.99**	**329**	*e*Pn	**Pn**	**14 20 28.2**	**+1.8**
NVLJ				Sn	**Sn**	**14 21 34.5**	**-1.0**

*DJA **18** 14:22:49.9±1.5,0°.S±9°×9°.7E±1°.4, h10km, M4.2/6, mb4.5/1, MLv4.0/6*
*IDC **18** 14:22:49.4±1.1,0°.55S×96°.65E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.7/39, mbtmp3.8/9, ML3.9/1, Error ellipse: s-maj=47.4km s-min=19.2km az=51.0*
*ISCJB **18** 14:22:53.4±0.7,0°.25S±0°.05×96°.79E±0°.06, h33km, mb3.8/8, Error ellipse: s-maj=9.5km s-min=6.2km az=137.6*
ISC 18 14:22:55.5±0.8, **0°22S**±0°.07×**96°78E**±0°.09, **h35**km, **n19, σ1°25**/22, **mb4.0/8, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.71**	**28**	P	**Pn**	**14 23 22.0**	**-0.9**
GSI				S	**Sn**	**14 23 43.3**	**-0.2**
SISI	**Saibi**	**2.56**	**116**	P	**Pn**	**14 23 33.5**	**-1.0**
SISI				S	**Sn**	**14 24 03.4**	**-1.0**
SNSI	**Sinabang, Aceh**	**2.65**	**350**	P	**Pn**	**14 23 33.8**	**-2.0**
MNSI	**Mandailing Nat**	**2.97**	**70**	P	**Pn**	**14 23 40.5**	**+0.3**
MNSI				S	**Sn**	**14 24 13.7**	**-1.0**
TPTI		**3.48**	**7**	P	**Pn**	**14 23 45.2**	**-2.0**
PDSI	**Padang**	**3.74**	**101**	P	**Pn**	**14 23 50.4**	**-0.5**
KCSI	**Kotacane, Aceh**	**3.84**	**15**	P	**Pn**	**14 23 51.2**	**-1.1**
KRJI	**Kerinci**	**5.03**	**112**	P	**Pn**	**14 24 09.1**	**+0.4**
MASI	**Maura Aman, Be**	**6.18**	**118**	P	**Pn**	**14 24 23.3**	**-1.1**
CMAR	**Chiang Mai Arr**	**18.68**	**6**	P	**Pn**	**14 27 12.1**	**+0.6**
	0.1nm,0.3s,baz=197,slow=11,SNR=13						
WRA	**Warramunga Arr**	**41.66**	**120**	P	**P**	**14 30 39.1**	**-1.9**
	0.5nm,1.0s,baz=302,slow=8.8,SNR=2.9						
ASAR	**Alice Springs**	**42.90**	**126**	P	**P**	**14 30 49.4**	**-1.7**
	0.2nm,0.5s,baz=297,slow=7.7,SNR=3.8						
MKAR	**Makanchi Array**	**48.51**	**347**	P	**P**	**14 31 36.8**	**+1.7**
	2.0nm,0.6s,baz=158,slow=8.1,SNR=24						
SONM	**Songino Array**	**48.59**	**9**	P	**P**	**14 31 37.1**	**+1.3**
	1.0nm,0.7s,baz=184,slow=9.2,SNR=6.6						
ZALV	**Zalesovo Beam**	**54.89**	**351**	P	**P**	**14 32 23.9**	**+1.4**
	4.0nm,0.6s,baz=184,slow=6.6,SNR=18						
BRTR	**Keskin Array B**	**69.76**	**313**	P	**P**	**14 34 02.4**	**-0.1**
	0.5nm,0.7s,baz=95,slow=6.1,SNR=1.2						
AKASG	**Malin Array Be**	**76.12**	**323**	P	**P**	**14 34 39.6**	**-0.3**
	0.6nm,0.3s,baz=100,slow=6.5,SNR=5.3						
FINES	**FINESS Array B**	**81.06**	**333**	P	**P**	**14 35 07.9**	**+1.1**
	1.0nm,0.6s,baz=116,slow=3.2,SNR=2.9						
TXAR	**Lajitas Array**	**145.08**	**32**	PKPbc	**PKPdf**	**14 42 30.5**	**+0.3**
	0.3nm,0.6s,baz=240,slow=1.1,SNR=4.4						

*IDC **18** 14:28:20.1±1.3, 14°.72S×72°.04W, h0km, mb3.7/3, mb1 4.0/8, mb1mx3.8/28, mbtmp3.9/8, ML3.6/5, MS3.5/1, Ms1 3.6/1, ms1mx3.0/29, Error ellipse: s-maj=31.0km s-min=19.4km az=48.0*
*ISCJB **18** 14:28:23.3±0.7, 14°.79S±0°.07×72°.10W±0°.07, h33km, mb3.7/3, Error ellipse: s-maj=12.6km s-min=6.1km az=41.0*
ISC 18 14:28:25.5±0.8, **14°72S**±0°.09×**72°01W**±0°.08, **h35**km, **n10, σ2°22**/13, **mb3.6/3, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.05**	**113**	Pn	**Pn**	**14 29 26.3**	**+0.7**
	1.0nm,0.3s,baz=291,slow=8.2,SNR=26						
LPAZ				Lg	Lg	14 30 26.6	
	baz=235,slow=19,SNR=1.6						
LPAZ				LR	LR	14 31 26.9	
	comp=Z,533nm,19.4s,baz=24,slow=46						
NNA	**Nana**	**5.43**	**299**	Pn	**Pn**	**14 29 47.2**	**+3.2**
	1.6nm,0.3s,baz=132,slow=12,SNR=8.3						
NNA				Sn	**Sn**	**14 30 45.9**	**+0.5**
	1.2nm,0.3s,baz=198,slow=3.2,SNR=2.4						
NNA				Lg	Lg	14 31 18.1	
	0.4nm,0.3s,baz=90,slow=19,SNR=1.9						
LVC	**Limon Verde**	**8.38**	**160**	Pn	**Pn**	**14 30 23.1**	**-1.8**
	1.3nm,0.3s,baz=327,slow=6.8,SNR=8.0						
LVC				Sn	**Sn**	**14 31 59.5**	**+1.0**
	0.3nm,0.3s,baz=195,slow=16,SNR=2.0						
ATAH	**Atahualpa**	**9.80**	**320**	Pn	**Pn**	**14 30 44.6**	**+0.2**
	0.6nm,0.3s,baz=153,slow=9.0,SNR=2.8						
SIV	**San Ignacio**	**10.63**	**98**	Pn	**Pn**	**14 30 53.4**	**-2.0**
	0.4nm,0.3s,baz=281,slow=12,SNR=18						
SIV				Sn	**Sn**	**14 32 58.1**	**+4.8**
	0.1nm,0.3s,baz=245,slow=19,SNR=2.4						
PTGA	**Pitinga**	**18.30**	**42**	P	**P**	**14 32 34.4**	**-2.2**
	0.4nm,0.3s,baz=216,slow=14,SNR=7.2						
PTGA				Lg	Lg	14 38 03.7	
	0.2nm,

0.9nm,0.7s,baz=11,slow=7.2,SNR=5.5
ASAR Alice Springs 62.12 190 P P 14 58 23.1 -0.2
0.2nm,0.8s,baz=7.2,slow=7.9,SNR=4.1

DDA ***18*** *14:52:22.8, 37.91N×37.93E, h7km±4km, ML2.7*
ISK ***18*** *14:52:23.2, 37.93N×37.89E, h9km, ML2.1/5*
ISC 18 14:52:23.1±1.1, 37.93N±0.03×37.92E±0.03, h9km±10km, n14, σ0s69/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKCD	**Akcadag**	**0.37**	**0**	*i* P	**Pg**	**14 52 30.7**	**+0.3**
GZT	**Gaziantep**	**0.64**	**207**	IAML_P			
	comp=Z,809nm,0.1s						
GZT				*i* P	**Pb**	**14 52 36.0**	**-0.5**
GZT				*i* S	**Sg**	**14 52 44.1**	**+0.3**
DARE	**Darende-Malaty**	**0.73**	**332**	PG	**Pg**	**14 52 37.6**	**+0.4**
DARE				SG	**Sb**	**14 52 47.6**	**-0.7**
ELBS	**KAHRAMANMARAS**	**0.74**	**303**	IAML_P			
	comp=Z,240nm,0.2s						
ELBS				*i* P	**Pg**	**14 52 37.2**	**-0.2**
URFA	**Urfa**	**0.86**	**124**	PG	**Pb**	**14 52 40.7**	**+0.3**
URFA				SG	**Sn**	**14 52 53.5**	**-0.9**
KMRS	**Kahramanmaras**	**0.91**	**243**	PG	**Pb**	**14 52 40.7**	**-0.5**
KMRS				SG	**Sb**	**14 52 53.6**	**+0.1**
GAZ	**Gaziantep**	**0.94**	**217**	PG	**Pb**	**14 52 41.2**	**-0.5**
SANL	**SANLIURFA_Merk**	**1.14**	**131**	*i* P	**Pn**	**14 52 46.0**	**+0.7**
SANL				*i* S	**Sb**	**14 52 59.8**	**-0.1**
SURC	**SANLIURFA_SURC**	**1.18**	**152**	IAML_P			
	comp=Z,286nm,0.1s						
SURC				*i* P	**Pg**	**14 52 45.6**	**-0.2**
SURC				*i* S	**Sn**	**14 53 02.6**	**+0.4**
ANDN	**Andirin**	**1.30**	**255**	IAML_P			
	comp=Z,194nm,0.1s						
ANDN				*i* P	**Pg**	**14 52 47.8**	**-0.2**
ANDN				*i* S	**Sn**	**14 53 07.3**	**+2.2**
KUZU	**Kuzuini**	**1.33**	**211**	IAML_P			
	comp=Z,1μm,0.2s						
KUZU				*i* P	**Pg**	**14 52 48.8**	**0.0**
KUZU				*i* S	**Sn**	**14 53 06.3**	**+0.3**
KEMA	**Kemaliye**	**1.41**	**18**	*i* P	**Pn**	**14 52 48.2**	**-1.0**
KEMA				*i* S	**Sg**	**14 53 08.7**	**+0.1**
CUKAN	**kangal_SIVAS**	**1.43**	**346**	*i* P	**Pg**	**14 52 51.3**	**+0.6**
CUKAN				*i* S	**Sg**	**14 53 09.3**	**+0.1**
PTK	**Pertek**	**1.50**	**50**	PN	**Pb**	**14 52 51.2**	**-0.2**

SJA ***18*** *15:12:43.3±1.0, 34.77S×72.55W, h58km±20km, MW3.6(GUC)*
ISCJB ***18*** *15:12:45.6±1.2, 34.71S±0.04×72.70W±0.1, h4km±8km, Error ellipse: s-maj=17.9km s-min=5.9km az=13.2*
GUC ***18*** *15:12:45.3±0.8, 34.70S×71.95W, h10km±4km, ML3.5*
ISC 18 15:12:45.0±1.7, 34.70S±0.05×72.0W±0.1, h5km±13km, n17, σ1s72/26, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO05	**Huala**	**0.32**	**170**	*i* P	**Pg**	**15 12 51.7**	**+0.4**
GO05				*e*S	**Sg**	**15 12 56.0**	**+0.5**
GO05				IAML		15 12 56.4	
	comp=E,17μm,0.3s						
LMEL	**Las Melosas**	**1.71**	**61**	*e*P	**Pn**	**15 13 15.3**	**-0.3**
LMEL				*i* S	**Sb**	**15 13 38.0**	**-0.9**
LMEL				IAML		15 13 40.9	
	comp=N,1μm,0.2s						
CLCH	**Cerro Calan**	**1.77**	**43↑**	*e*P	**Pn**	**15 13 16.7**	**+0.3**
CLCH				*i* S	**Sb**	**15 13 39.9**	**-0.7**
CLCH				IAML		15 13 46.6	
	comp=N,1μm,0.5s						
PEL	**Peldehue**	**1.89**	**35↓**	*e*P	**Pn**	**15 13 18.2**	**+0.1**
PEL				*e*S	**Sn**	**15 13 42.9**	**+0.5**
PEL				IAML		15 13 52.7	
	comp=N,530nm,0.5s						
ROC1	**El Roble**	**1.90**	**26**	*e*P	**Pn**	**15 13 19.0**	**+0.6**
ROC1				*e*S	**Sg**	**15 13 46.5**	**+0.4**
CCHI	**Chillan**	**1.90**	**182↑**	*i*P	**Pn**	**15 13 18.4**	**+0.2**
CCHI				*e*S	**Sb**	**15 13 43.8**	**-0.6**
ROCH	**El Roble**	**1.90**	**26↑**	*e*P	**Pn**	**15 13 18.3**	**-0.1**
ROCH				*i* S	**Sb**	**15 13 44.1**	**-0.5**
ROCH				IAML		15 13 50.9	
	comp=E,666nm,0.6s						
FCH	**Farellones**	**1.97**	**47**	*e*P	**Pn**	**15 13 19.9**	**+0.5**
FCH				*i* S	**Sb**	**15 13 46.1**	**-0.3**
FCH				IAML		15 13 48.8	
	comp=N,450nm,0.5s						
AUSP	**Uspallata**	**3.29**	**42**	*e*P	**Pb**	**15 13 41.5**	**-2.6**
AUSP				*e*S	**Sb**	**15 14 22.9**	**-1.7**
RTLS	**Leoncito**	**3.67**	**39**	*e*P	**Pn**	**15 13 46.1**	**+3.4**
RTCV	**Cerro Valdivia**	**4.04**	**47**	*e*P	**Pn**	**15 13 50.6**	**+2.9**
CFA	**Coronel Fontan**	**4.41**	**47**	*e*P	**Pn**	**15 13 54.9**	**+2.2**
ACAN	**Cantantal**	**4.69**	**60**	*e*P	**Pn**	**15 13 59.8**	**+3.2**
AMOG	**MOGNA**	**4.77**	**39**	*e*P	**Pn**	**15 13 59.6**	**+2.0**
ACCO	**Cerro Coronel**	**4.78**	**32**	*e*P	**Pn**	**15 13 59.9**	**+1.8**
AROD	**Rodeo**	**4.99**	**26**	*e*P	**Pn**	**15 14 03.6**	**+2.6**
AGUA	**GUANDACOL**	**5.98**	**31**	*e*P	**Pn**	**15 14 15.9**	**+1.5**

NNC 18 15:20:36.3±7.1, 36.46N×69.09E, h0km, mb3.7, mpv3.3, 8C-4D, Error ellipse: s-maj=59.5km s-min=49.5km az=136.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.96**	**43**	⇓Pn	Pn	15 21 53.1	+0.8
	1.3nm,0.3s						
SFK				⇑Sn	Sn	15 22 54.8	+4.3
	3.8nm,0.4s						
SFK				⇑Lg	Lg	15 23 14.1	
	4.5nm,0.6s						
MNAS	**Manas**	**6.57**	**23**	⇓Pn	Pn	15 22 13.0	-1.3
	0.8nm,0.3s						
MNAS				⇑Sn	Sn	15 23 28.8	-1.2
	1.7nm,0.7s						
MNAS				⇓Lg	Lg	15 24 04.4	
	2.3nm,0.9s						
KK31	**Karatay Array**	**6.72**	**9**	⇑Pn	Pn	15 22 15.1	-1.2
	0.4nm,0.3s,baz=180,slow=12,SNR=7.7						
KK31				⇑Sn	Sn	15 23 33.4	-0.2
	0.8nm,0.4s,baz=146,slow=16						
KK31				⇓Lg	Lg	15 24 10.2	
	1.1nm,0.5s,baz=179,slow=24						
AAK	**Ala-Archa**	**7.44**	**32**	⇑Pn	Pn	15 22 26.3	0.0
	1.4nm,0.4s						
AAK				Sn	Sn	15 23 54.1	+2.6
	2.0nm,0.7s						
TKM2	**Tokmak 2**	**8.17**	**36**	⇑Pn	Pn	15 22 35.3	-1.0
	1.6nm,0.6s						
TKM2				⇑Sn	Sn	15 24 10.3	+0.9
	0.8nm,0.7s						

ISCJB ***18*** *15:24:55.5±0.5, 1.59S±0.05×15.0W±0.1, h11km, mb4.2/18, MS4.4/24, Error ellipse: s-maj=15.0km s-min=5.9km az=14.5*
IDC ***18*** *15:24:56.9±0.8, 1.34S×15.03W, h0km, mb4.1/17, mb1 4.2/18, mb1mx4.0/63, mbtmp4.1/18, ML4.3/1, MS4.4/24, Ms1 4.4/24, ms1mx4.3/27, Error ellipse: s-maj=19.1km s-min=15.4km az=120.0*
NEIC ***18*** *15:24:58.1±0.6, 1.39S×15.09W, h10km, mb4.2/1, Error ellipse: s-maj=15.4km s-min=13.1km az=99.0*
GCMT ***18*** *15:24:59.1±0.1, 1.24S±0.01×15.48W±0.01, h16km, MW5.3/121, Moment Tensor Solution. s81,c124; s121,c202; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-0.09±.02; Mθθ 0.44±.01; Mϕϕ-0.35±.02; Mrθ 0.28±.04; Mϕϕ-0.84±.01; Mϕr 0.35±.05; Best double couple: Mo1.03200×10^17 NP1:ϕs260.00000°, δ75.00000°, λ-161.00000°. NP2:ϕs165.00000°, δ71.00000°, λ-16.00000°. Principal axes: T 0.9800, Plg3.0000°, Azm32.0000°; N 0.1040, Plg66.0000°, Azm295.0000°; P -1.0850, Plg24.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 18 15:24:58.5±0.6, 1.51S±0.08×15.0W±0.1, h11km, n53, σ1s78/37, mb4.3/18, MS4.5/25, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**6.29**	**176**	Pn	Pn	15 26 29.0	-2.1
H10N2				T	T	15 33 15.1	
	baz=356,slow=74,SNR=296						
H10N3	**ASCENSION HYDR**	**6.30**	**176**	Pn	Pn	15 26 29.2	-2.1
H10N3				T	T	15 33 07.6	
	baz=356,slow=74,SNR=236						
H10N1	**ASCENSION HYDR**	**6.31**	**176**	Pn	Pn	15 26 29.2	-2.1
H10N1				T	T	15 33 13.7	
	baz=356,slow=74,SNR=335						
H10S1	**ASCENSION HYDR**	**7.39**	**177**	Pn	Pn	15 26 42.7	-3.5
	baz=181,slow=16,SNR=8.3						
H10S1				T	T	15 34 46.2	
	baz=354,slow=74,SNR=120						
H10S3	**ASCENSION HYDR**	**7.40**	**178**	Pn	**Pn**	**15 26 45.0**	**-1.3**
	baz=181,slow=16,SNR=7.0						
H10S3				T	T	15 34 49.8	
	baz=354,slow=74,SNR=252						
H10S2	**ASCENSION HYDR**	**7.41**	**177**	Pn	**Pn**	**15 26 45.6**	**-0.9**
	baz=181,slow=16,SNR=7.2						
H10S2				T	T	15 34 39.1	
	baz=354,slow=74,SNR=232						
LIC	**Lamto**	**12.56**	**52**	*e*P	**Pn**	**15 27 58.2**	**+0.9**
	130nm,1.2s						
TIC	**Toumodi**	**12.82**	**51**	*e*P	**Pn**	**15 28 01.2**	**+0.2**
KIC	**Kosan Boka**	**12.87**	**52**	*e*P	**Pn**	**15 28 02.1**	**+0.5**
	170nm,1.2s						
DBIC	**Dimbokro**	**12.97**	**51**	Pn	**Pn**	**15 28 02.3**	**-0.6**
	1.5nm,0.3s,baz=226,slow=16,SNR=20						
DBIC				Sn	**Sn**	**15 30 22.2**	**-5.1**
	4.2nm,0.3s,baz=140,slow=18,SNR=6.1						
DBIC				LR	LR	15 32 12.1	
	comp=Z,3μm,19.1s,baz=210,slow=34						
TORD	**Torodi Ar. Bea**	**22.04**	**48**	P	**P**	**15 29 53.4**	**0.0**
	17nm,0.9s,baz=230,slow=10,SNR=55						
TORD				S	**S**	**15 33 56.2**	**-0.4**
	5.5nm,0.6s,baz=231,slow=24,SNR=8.0						
TORD				LR	LR	15 37 36.3	
	comp=Z,3μm,19.0s,baz=285,slow=35						
BDFB	**Brasilia**	**35.47**	**245**	LR	LR	15 45 37.6	
	comp=Z,239nm,18.0s,baz=277,slow=35						
TSUM	**Tsumeb**	**36.41**	**121**	P	**P**	**15 32 05.7**	**+2.1**
	5.5nm,0.9s,baz=260,slow=8.8,SNR=7.3						
TSUM	**Tsumeb**	**36.41**	**121**	*e*P	**P**	**15 32 06.6**	**+3.0**
ESDC	**Sonseca Array**	**42.21**	**13**	LR	LR	15 50 54.0	
	comp=Z,692nm,19.3s,baz=190,slow=37						
KEST	**Kesra**	**43.46**	**29**	LR	LR	15 51 37.3	
	comp=Z,1μm,20.1s,baz=172,slow=37						
LSZ	**Lusaka**	**44.72**	**110**	P	**P**	**15 33 14.4**	**+2.0**
	5.6nm,0.8s,baz=306,slow=3.4,SNR=8.5						
LSZ	**Lusaka**	**44.72**	**110**	*e*P	**P**	**15 33 13.9**	**+1.6**
	3.0nm,0.8s						
LBTB	**Lobatse**	**45.58**	**124**	P	**P**	**15 33 18.9**	**-0.2**
	6.6nm,1.0s,baz=308,slow=8.1,SNR=6.2						
BOSA	**Boshof**	**46.88**	**129**	P	**P**	**15 33 28.9**	**-0.4**
	8.5nm,0.9s,baz=274,slow=7.2,SNR=8.4						
BOSA				LR	LR	15 51 03.0	
	comp=Z,316nm,18.4s,baz=278,slow=33						
CPUP	**Villa Florida**	**47.58**	**235**	LR	LR	15 50 42.3	
	comp=Z,467nm,22.0s,baz=231,slow=32						
SIV	**San Ignacio**	**47.63**	**250**	P	**P**	**15 33 34.5**	**-0.7**
	0.3nm,0.5s,baz=126,slow=17,SNR=2.4						
KMBO	**Kilima Mbogo**	**52.22**	**90**	LR	LR	15 54 31.1	
	comp=Z,771nm,20.1s,baz=262,slow=34						
DAVOX	**Davos/Dischmat**	**52.82**	**21**	P	**P**	**15 34 12.5**	**-1.7**
	4.9nm,0.9s,baz=195,slow=12,SNR=4.0						
SQTA	**Sankt Quirin**	**53.68**	**22**	*e*P	**P**	**15 34 19.8**	**-0.7**
	1.3nm,0.3s						
GERES	**GERESS Array B**	**55.97**	**22**	P	**P**	**15 34 35.6**	**-1.4**
	0.9nm,0.7s,baz=190,slow=5.4,SNR=6.4						
GERES				LR	LR	16 00 34.7	
	comp=Z,214nm,18.2s,baz=240,slow=38						
KHC	**Kasperske Hory**	**56.15**	**22**	*e*P	**P**	**15 34 35.5**	**-2.8**
CLL	**Collm**	**57.74**	**20**	*e*S	**S**	**15 42 52.0**	**+3.8**
CLL				Lm	MLR	16 01 00.0	
	comp=N,400nm,18.9s						
CLL				Lm	MLR	16 01 00.0	
	comp=E,200nm,19.7s						
CLL				Lm	MLR	16 01 00.0	
	comp=Z,400nm,18.3s						
VYHS	**Vyhne**	**57.80**	**26**	*e*P	**P**	**15 34 50.1**	**+0.2**
VYHS				*e*PCP	**sP**	**15 34 58.2**	**+3.4**
ROSC	**El Rosal**	**59.62**	**276**	LR	LR	15 58 41.8	
	comp=Z,275nm,20.2s,baz=94,slow=34						
BRTR	**Keskin Array B**	**60.46**	**42**	P	**P**	**15 35 08.9**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=219,slow=2.3,SNR=9.3						
BRTR				LR	LR	16 03 23.2	
	comp=Z,133nm,19.7s,baz=212,slow=38						
PLCA	**Paso Flores**	**63.48**	**224**	LR	LR	15 58 25.5	
	comp=Z,353nm,21.6s,baz=88,slow=32						
AKASG	**Malin Array Be**	**64.18**	**30**	P	**P**	**15 35 32.2**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=229,slow=5.9,SNR=4.1						
AKASG				LR	LR	16 05 29.4	
	comp=Z,560nm,18.2s,baz=225,slow=38						
HFS	**Hagfors**	**65.40**	**15**	P	**P**	**15 35 39.8**	**-1.2**
	comp=Z,2.9nm,0.9s,baz=198,slow=9.1,SNR=3.2						
NB2	**NORSAR Subarra**	**65.56**	**14**	P	**P**	**15 35 42.6**	**+0.5**
	comp=Z,5.5nm,1.2s,baz=212,slow=6.5						
NOA	**NORAR Array B**	**65.56**	**14**	P	**P**	**15 35 40.0**	**-2.1**
	comp=Z,0.7nm,0.8s,baz=220,slow=8.6,SNR=3.0						
NOA				LR	LR	16 05 12.8	
	comp=Z,297nm,20.7s,baz=205,slow=37						
KBZ	**Khabaz**	**68.45**	**41**	P	**P**	**15 36 02.0**	**+1.3**
	comp=Z,1.9nm,0.9s,baz=236,slow=7.3,SNR=2.9						
KBZ				LR	LR	16 08 07.9	
	comp=Z,128nm,20.6s,baz=251,slow=38						
VNA2	**Neumayer--Watz**	**69.48**	**177**	P	**P**	**15 36 04.3**	**-2.4**
	baz=342,slow=8.7						
FINES	**FINESS Array B**	**70.17**	**20**	P	**P**	**15 36 10.4**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=209,slow=3.5,SNR=6.2						
FINES				LR	LR	16 09 32.9	
	comp=Z,275nm,18.2s,baz=230,slow=38						
SNAA	**Sanae**	**70.48**	**176**	P	**P**	**15 36 12.0**	**-0.9**
PMSA	**Palmer Station**	**72.28**	**200**	LR	LR	16 00 35.0	
	comp=Z,318nm,21.4s,baz=338,slow=30						
ARCES	**ARCESS Array B**	**75.94**	**14**	LR	LR	16 11 14.5	
	comp=Z,19nm,20.2s,baz=204,slow=37						
GEYT	**Ailbeck**	**77.65**	**51**	LR	LR	16 14 03.4	
	comp=Z,297nm,19.1s,baz=210,slow=38						
MAW	**Mawson**	**83.98**	**158**	LR	LR	16 08 22.4	
	comp=Z,124nm,18.3s,baz=291,slow=31						
ULM	**Lac du Bonnet**	**85.33**	**321**	LR	LR	16 09 00.2	
	comp=Z,192nm,21.5s,baz=103,slow=31						
BVAR	**Borovoye Array**	**88.40**	**37**	P	**P**	**15 37 50.3**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=332,slow=8.6,SNR=2.5						
TXAR	**Lajitas Array**	**89.59**	**299**	LR	LR	16 14 41.2	
	comp=Z,58nm,20.9s,baz=0.0,slow=33						
PDAR	**Pinedale Array**	**94.39**	**313**	LR	LR	16 14 20.2	
	comp=Z,195nm,21.4s,baz=90,slow=31						
YKA	**Yellowknife Ar**	**95.79**	**333**	P	**P**	**15 38 25.5**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=71,slow=4.6,SNR=3.0						
MKAR	**Makanchi Array**	**96.08**	**43**	P	**P**	**15 38 26.5**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=251,slow=4.4,SNR=2.7						
MKAR				LR	LR	16 26 22.4	
	comp=Z,170nm,20.7s,baz=299,slow=38						
ZALV	**Zalesovo Beam**	**96.99**	**36**	LR	LR	16 26 06.7	
	comp=Z,166nm,18.6s,baz=250,slow=38						
ASAR	**Alice Springs**	**140.73**	**132**	PKP	**PKPdf**	**15 44 28.6**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=234,slow=2.2,SNR=3.3						
WRA	**Warramunga Arr**	**143.12**	**127**	PKP	**PKPdf**	**15 44 33.2**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=233,slow=2.3,SNR=3.0						

NNC ***18*** *15:26:26.2±2.6, 37.41N×71.47E, h138km±40km, mb2.9, mpv3.6, Error ellipse: s-maj=24.0km s-min=20.3km az=61.0*
ISC 18 15:26:25.4±3.2, 37.4N±0.2×71.38E±0.10, h109km, n13, σ1s46/20, 6C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.12**	**31**	⇓P	**Pn**	**15 27 13.7**	**+0.5**
	16nm,0.3s						
SFK				⇑S	**Sn**	**15 27 51.3**	**+1.3**
	27nm,0.3s						
AML	**Almayashu**	**5.08**	**20**	P	**Pn**	**15 27 39.6**	**-0.1**
	SNR=3.4						
MNAS	**Manas**	**5.19**	**9**	⇓P	**Pn**	**15 27 41.6**	**+0.8**
	4.1nm,0.4s						
MNAS				⇓S	**Sn**	**15 28 39.7**	**+0.1**
	27nm,0.8s						
UCH	**Uchtor**	**5.42**	**25**	P	**Pn**	**15 27 44.0**	**-0.4**
	SNR=11						
KZA	**Kyzart**	**5.57**	**31**	P	**Pn**	**15 27 44.9**	**-1.4**
	SNR=6.1						
EKS2	**Erkin-Say**	**5.60**	**18**	P	**Pn**	**15 27 47.0**	**+0.6**
	SNR=5.3						
KK31	**Karatay Array**	**5.77**	**354**	⇓P	**Pn**	**15 27 50.1**	**+1.5**
	6.8nm,0.6s,baz=172,slow=12,SNR=70						
KK31				⇑S	**Sn**	**15 28 55.3**	**+1.8**
	4.0nm,0.3s,baz=170,slow=23,SNR=17						
AAK	**Ala-Archa**	**5.78**	**23**	P	**Pn**	**15 27 48.9**	**0.0**
	SNR=6.5						
AAK	**Ala-Archa**	**5.78**	**23**	⇑P	**Pn**	**15 27 48.5**	**-0.4**
	2.4nm,0.3s						
AAK				⇑S	**Sn**	**15 28 53.1**	**-0.9**
	14nm,0.8s						
CHMS	**Chumysh**	**6.19**	**24**	P	**Pn**	**15 27 53.8**	**-0.5**
	SNR=5.4						
TKM2	**Tokmak 2**	**6.42**	**29**	⇓P	**Pn**	**15 27 56.3**	**-1.2**
	1.3nm,0.7s						
TKM2				⇓S	**Sn**	**15 29 12.2**	**+2.6**
	2.8nm,0.9s						
AB31	**Akbulak array**	**14.49**	**329**	⇑P	**Pn**	**15 29 46.0**	**+0.9**
	0.3nm,0.4s,baz=133,slow=14,SNR=17						
AB31				⇓S	**Sn**	**15 32 21.8**	**-3.1**
	0.3nm,0.3s,baz=154,slow=22,SNR=4.5						
AKTO	**Aktyubinsk**	**16.20**	**328**	⇓P	**Pn**	**15 30 06.6**	**+0.1**
	3.1nm,1.2s						
AKTO				⇑S	**Sn**	**15 33 03.6**	**-2.4**
	0.6nm,0.5s						

ISCJB ***18*** *15:31:38.5±0.3, 15.89N±0.04×96.60W±0.02, h13km, mb4.7/67, Error ellipse: s-maj=5.1km s-min=3.2km az=7.8*
IDC ***18*** *15:31:38.1±0.6, 15.81N×96.79W, h0km, mb4.3/19, mb1 4.5/23, mb1mx4.4/46, mbtmp4.3/23, ML3.8/4, MS3.8/3, Ms1 3.8/3, ms1mx3.2/23, Error ellipse: s-maj=15.9km s-min=11.4km az=43.0*
MEX ***18*** *15:31:40.2±0.6, 15.61N×96.93W, h16km±7km, MD4.7*
BJI ***18*** *15:31:42.4, 15.90N×96.60W, h31km, Ms5.1/1, Ms7 4.7/1*
NEIC ***18*** *15:31:44.2±0.5, 15.92N×96.57W, h40km±4km, mb4.8/67, MD4.7(MEX), Error ellipse: s-maj=6.5km s-min=3.3km az=221.0*
NEIC Felt [III] at Puerto Escondido. Also felt at Oaxaca, Pochutla and Santo Domingo de Morelos.
ISC 18 15:31:39.2±0.4, 15.78N±0.05×96.87W±0.03, h13km, n460, σ1s35/477, mb4.8/68, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.73**	**91**	*i* P	**Pg**	**15 31 52.6**	**-0.9**
HUIG				*i* S	**Sg**	**15 32 02.7**	**-0.5**
HUIG	**Huatulco**	**0.73**	**91**	*i* P	**Pg**	**15 31 52.6**	**-0.9**
HUIG				*i* S	**Sg**	**15 32 02.7**	**-0.5**
VHO	**Vista Hermosa**	**1.29**	**6**	*e*P	**Pn**	**15 32 03.0**	**-0.1**
VHO				*i* S	**Sb**	**15 32 19.9**	**-0.1**
VHO	**Vista Hermosa**	**1.29**	**6**	*e*P	**Pn**	**15 32 03.0**	**-0.1**
VHO				*i* S	**Sb**	**15 32 19.9**	**-0.1**
PNIG	**Pinotepa**	**1.35**	**297**	*e*P	**Pn**	**15 32 01.1**	**-2.7**
PNIG				*i* S	**Sn**	**15 32 17.8**	**-3.9**
PNIG	**Pinotepa**	**1.35**	**297**	*e*P	**Pn**	**15 32 01.1**	**-2.7**
PNIG				*i* S	**Sn**	**15 32 17.8**	**-3.9**
CMIG	**Matias Romero**	**2.31**	**55**	Pn	**Pn**	**15 32 15.5**	**-1.4**
	23nm,0.3s,baz=241,slow=10,SNR=167						
CMIG				Lg	Lg	15 32 50.9	
	950nm,0.3s,baz=318,slow=15,SNR=21						
CMIG	**Matias Romero**	**2.31**	**55**	*e*P	**Pn**	**15 32 15.7**	**-1.3**
CMIG				*i* S	**Sn**	**15 32 45.1**	**-0.2**
CMIG				Lg	Lg	15 32 50.9	
CMIG	**Matias Romero**	**2.31**	**55**	*e*P	**Pn**	**15 32 15.7**	**-1.3**
CMIG				*i* S	**Sn**	**15 32 45.1**	**-0.2**
TPIG	**Tehuac#an**	**2.67**	**350**	*i* S	**Sn**	**15 32 54.2**	**-0.2**
TUIG	**Tuzandepetl**	**3.24**	**46**	*i* P	**Pn**	**15 32 30.1**	**+0.3**
TUIG				*e*S	**Sn**	**15 33 09.5**	**+1.2**
TUIG	**Tuzandepetl**	**3.24**	**46**	*i* P	**Pn**	**15 32 30.1**	**+0.3**
TUIG				*e*S	**Sn**	**15 33 09.5**	**+1.2**
CAIG	**El Cayaco**	**3.49**	**292**	*e*P	**Pn**	**15 32 31.2**	**-2.0**
CAIG				*i* S	**Sn**	**15 33 11.3**	**-3.3**
CAIG	**El Cayaco**	**3.49**	**292**	*e*P	**Pn**	**15 32 31.2**	**-2.0**
CAIG				*i* S	**Sn**	**15 33 11.3**	**-3.3**
PCIG		**3.52**	**91**	*e*P	**Pn**	**15 32 31.9**	**-1.7**
PCIG				*i* S	**Sn**	**15 33 13.7**	**-1.4**
PCIG		**3.52**	**91**	*e*P	**Pn**	**15 32 31.9**	**-1.7**
PCIG				*i* S	**Sn**	**15 33 13.7**	**-1.4**
PLIG	**Platanillo**	**3.62**	**316**	*e*P	**Pn**	**15 32 34.7**	**-0.3**
PLIG				*e*S	**Sn**	**15 33 16.0**	**-1.7**
PLIG	**Platanillo**	**3.62**	**316**	*e*P	**Pn**	**15 32 34.7**	**-0.3**
PLIG				*e*S	**Sn**	**15 33 16.0**	**-1.7**
LVIG	**Laguna Verde**	**3.94**	**6**	*e*Pn	**Pn**	**15 32 39.6**	**+0.2**
UNM	**Universidad Na**	**4.16**	**328**	*e*Pn	**Pb**	**15 32 51.3**	**-1.1**
CCIG	**Comitan**	**4.58**	**83**	*e*Pn	**Pn**	**15 32 48.5**	**+0.1**
MOIG	**Morelia**	**5.65**	**314**	*e*Pn	**Pn**	**15 33 07.7**	**+4.5**
APG	**El Apazote**	**6.23**	**96**	Pn	**Pn**	**15 33 11.1**	**0.0**
	1.7nm,0.3s,baz=312,slow=15,SNR=4.7						
APG				Sn	**Sn**	**15 34 18.6**	**-3.7**
	7.2nm,0.3s,baz=305,slow=13,SNR=4.5						
APG				Lg	Lg	15 34 43.3	
	10nm,0.3s,baz=36,slow=18,SNR=4.0						
ZAIG	**Zacatecas**	**8.79**	**323**	*e*Pn	**Pn**	**15 33 51.0**	**+4.7**
TEIG	**Tepich**	**9.29**	**60**	*e*Pn	**Pn**	**15 33 49.7**	**-3.3**
LNIG	**Linares**	**9.39**	**345**	*e*Pn	**Pn**	**15 33 57.2**	**+2.9**
833A	**Chaparral WMA,**	**12.70**	**350**	*e*Pn	**Pn**	**15 34 39.9**	**+1.3**
833A	**Chaparral WMA,**	**12.70**	**350**	P	**Pn**	**15 34 40.3**	**+0.7**
	baz=168						
JTS	**JuntasAbangare**	**12.83**	**114**

121A	Cookes Peak, D baz=146,SNR=7.4	19.40	331	P	Pn	15 36 07.9	+1.5
X43A	Marvell baz=197,SNR=6.5	19.42	15	P	P	15 36 05.0	-0.2
Y46A	Houston baz=203,SNR=21	19.42	20	P	P	15 36 05.4	+0.2
150A	Eclectic baz=212	19.43	29	P	P	15 36 04.6	-0.8
Z48A	Northport baz=207,SNR=5.2	19.44	24	P	P	15 36 05.2	-0.3
AMTX	Amarillo 28nm,0.8s	19.51	348	eP	P	15 36 06.4	+0.1
AMTX	Amarillo baz=165	19.51	348	P	P	15 36 07.4	+1.1
W39A	Magazine baz=188,SNR=10.0	19.53	8	P	P	15 36 07.3	+0.8
455A	Stateville baz=223	19.55	38	P	P	15 36 05.1	-1.7
X44A	Crenshaw baz=199	19.60	17	P	P	15 36 06.7	-0.5
151A	Opelika baz=214,SNR=6.7	19.69	30	P	P	15 36 07.5	-0.8
Z49A	Columbiana baz=210,SNR=6.7	19.70	27	P	P	15 36 07.8	-0.5
X45A	UM Field Stati baz=201,SNR=5.3	19.75	19	P	P	15 36 07.9	-0.9
W41B	Gary Mavity, V baz=192	19.75	11	P	P	15 36 08.7	-0.2
Y47A	UCPARC, Winfie baz=206,SNR=11	19.80	23	P	P	15 36 08.9	-0.5
OXF	Oxford 49nm,0.7s	19.82	18	eP	P	15 36 09.4	-0.2
OXF	Oxford baz=201,SNR=7.7	19.82	18	P	P	15 36 08.8	-0.9
Y48A	Jasper baz=208,SNR=5.2	20.06	24	P	P	15 36 11.6	-0.7
TUL1	Leonard 35nm,0.8s	20.07	3	eP	P	15 36 12.2	-0.2
TUL1	Leonard baz=182,SNR=7.0	20.07	3	P	P	15 36 13.4	+1.0
152A	Waverly Hall baz=216	20.11	31	P	P	15 36 11.6	-1.1
X46A	Booneville baz=203,SNR=11	20.13	20	P	P	15 36 12.5	-0.4
254A	Abbeville baz=220	20.29	35	P	P	15 36 13.1	-1.6
Y49A	Blount Mountai 28nm,0.6s	20.32	26	eP	P	15 36 14.7	-0.5
Y49A	Blount Mountai baz=210,SNR=8.3	20.32	26	P	P	15 36 14.2	-0.9
X47A	Russelville baz=205,SNR=8.7	20.34	22	P	P	15 36 14.6	-0.8
V41A	Mountainview baz=192,SNR=28	20.36	11	P	P	15 36 15.7	+0.1
Z51A	Franklin baz=213	20.42	29	P	P	15 36 14.8	-1.4
W45A	Hickory Valley baz=201	20.49	18	P	P	15 36 16.2	-0.7
V42A	Cord baz=194,SNR=30	20.54	13	P	P	15 36 17.7	+0.3
X48A	Hartselle baz=207,SNR=14	20.59	24	P	P	15 36 17.2	-0.7
Y50A	Piedmont baz=211	20.64	27	P	P	15 36 17.7	-0.9
Z52A	Williamson baz=215	20.68	31	P	P	15 36 17.8	-1.1
PLAL	Pickwick Lake 45nm,0.6s	20.69	21	eP	P	15 36 18.6	-0.5
V43A	Jonesboro baz=197	20.71	15	P	P	15 36 18.9	-0.3
W46A	Michie baz=203,SNR=5.7	20.72	20	P	P	15 36 18.9	-0.5
TUC	Tucson 19nm,1.0s	20.75	325	eP	Pn	15 36 22.7	+0.5
TUC	Tucson baz=138	20.75	325	P	Pn	15 36 22.4	+0.1
U40A	Yellville baz=190,SNR=37	20.80	9	P	P	15 36 20.6	+0.3
V44A	Blytheville baz=198	20.91	16	P	P	15 36 20.9	-0.6
X49A	Woodville baz=209	20.93	25	P	P	15 36 20.5	-1.1
ANMO	Albuquerque 8.6nm,0.7s,baz=144,slow=12,SNR=29	20.93	337	P	Pn	15 36 24.0	-0.5
ANMO	Albuquerque 17nm,1.0s	20.93	337	eP	Pn	15 36 24.1	-0.4
ANMO	Albuquerque baz=153	20.93	337	P	P	15 36 23.8	+1.8
U41A	Viola baz=193,SNR=24	20.95	11	P	P	15 36 22.0	+0.1
Y51A	Rockmart baz=213,SNR=6.0	20.95	28	P	P	15 36 20.7	-1.2
U42A	Revenden baz=194,SNR=23	21.09	13	P	P	15 36 23.0	-0.4
W47A	Westpoint baz=205,SNR=11	21.10	22	P	P	15 36 22.4	-1.1
V45A	Humboldt baz=201	21.10	18	P	P	15 36 22.3	-1.2
GTBY	Guantanamo Bay 56nm,1.1s	21.11	76	P	P	15 36 21.2	-2.6
X50B	Fort Payne baz=211	21.16	26	P	P	15 36 23.1	-1.1
Z53A	Monticello baz=217	21.17	32	P	P	15 36 22.7	-1.6
W48A	Pulaski baz=207,SNR=20	21.24	23	P	P	15 36 23.6	-1.4
155A	Kite baz=221	21.26	35	P	P	15 36 24.3	-1.0
U43A	Rector baz=197,SNR=6.9	21.30	14	P	P	15 36 25.5	-0.1
GOGA	Godfrey baz=217	21.33	32	P	P	15 36 24.4	-1.6
Y52A	Lilburn baz=215	21.39	30	P	P	15 36 25.4	-1.3
V46A	Holladay baz=203,SNR=25	21.42	20	P	P	15 36 25.6	-1.3
W49A	Belvidere baz=208,SNR=13	21.48	24	P	P	15 36 26.7	-0.9
Z54A	Sparta baz=219	21.52	34	P	P	15 36 26.6	-1.4
U44B	Burton Farm, H baz=199	21.54	17	P	P	15 36 27.2	-1.1
X51A	Calhoun baz=212	21.60	28	P	P	15 36 27.4	-1.5
U44A	Portageville baz=198	21.61	16	P	P	15 36 28.4	-0.6
Y53A	Monroe baz=216	21.62	31	P	P	15 36 27.7	-1.4
V47A	Nunnelly baz=204,SNR=31	21.64	21	P	P	15 36 27.9	-1.4
T41A	Mountain View baz=193,SNR=37	21.66	11	P	P	15 36 30.1	+0.6
214A	Organ Pipe Nat baz=134,SNR=5.8	21.67	321	P	P	15 36 31.4	+1.6
SWET	Sewanee 36nm,0.8s	21.70	25	eP	P	15 36 28.9	-1.0
U45A	Rockin P Farm, baz=201	21.72	18	P	P	15 36 29.3	-0.8
T42A	Van Buren 48nm,0.6s	21.78	13	eP	P	15 36 31.4	+0.6
T42A	Van Buren baz=194,SNR=30	21.78	13	P	P	15 36 30.3	-0.5
V48A	Smith Brothers 67nm,0.8s	21.81	22	eP	P	15 36 30.4	-0.8
V48A	Smith Brothers baz=206,SNR=24	21.81	22	P	P	15 36 30.2	-1.0
WVT	Waverly 51nm,0.6s	21.81	20	eP	P	15 36 30.2	-0.9
WVT	Waverly baz=203	21.81	20	P	P	15 36 30.1	-1.0
U46A	Springville baz=202	21.91	19	P	P	15 36 30.9	-1.3
W50A	Signal Mountai baz=210,SNR=6.1	21.94	26	P	P	15 36 31.3	-1.3
T43A	Greenville baz=196,SNR=31	22.01	14	P	P	15 36 32.4	-0.8
X52A	Dahlonega baz=214,SNR=7.0	22.08	30	P	P	15 36 32.6	-1.5
Y54A	Tignall baz=218	22.09	33	P	P	15 36 31.6	-2.5
W51A	Cleveland baz=212	22.14	27	P	P	15 36 33.7	-1.0
V49A	McMinnville baz=208,SNR=6.2	22.19	24	P	P	15 36 33.8	-1.4
S41A	Jilco Farms, baz=192,SNR=27	22.19	11	P	P	15 36 34.7	-0.5
U47A	Clarksville baz=204,SNR=7.7	22.28	21	P	P	15 36 34.7	-1.4
T25A	Trinidad 64nm,1.1s	22.30	344	eP	P	15 36 38.8	+2.1
T25A	Trinidad baz=160,SNR=22	22.30	344	P	P	15 36 37.2	+0.6
T45A	Paducah baz=200	22.38	18	P	P	15 36 36.4	-0.8
V50A	Pikeville baz=210	22.43	26	P	P	15 36 36.7	-1.1
W18A	Petrified Fore baz=145,SNR=7.7	22.45	331	P	P	15 36 40.3	+2.1
W52A	Murphy baz=214	22.46	29	P	P	15 36 37.0	-1.2
S43A	Fulton Ridge, baz=197	22.52	14	P	P	15 36 38.6	-0.2
S42A	Caledonia baz=195,SNR=17	22.55	13	P	P	15 36 38.5	-0.6
U48A	Cassie Pea, Po baz=206,SNR=17	22.60	22	P	P	15 36 38.0	-1.6
T46A	Princeton baz=202,SNR=16	22.63	19	P	P	15 36 39.3	-0.6
X16A	Lo Mia Camp, P 15nm,0.9s	22.72	327	eP	P	15 36 43.9	+2.8
CCM	Cathedral Cave baz=193	22.74	12	P	P	15 36 40.9	-0.2
T47A	Sharon Grove 49nm,1.2s	22.83	20	eP	P	15 36 41.0	-1.1
T47A	Sharon Grove baz=204	22.83	20	P	P	15 36 41.1	-1.0
S44A	Carbondale baz=198,SNR=12	22.84	16	P	P	15 36 41.4	-0.7
V51A	Loudon baz=212	22.86	27	P	P	15 36 40.2	-2.2
W53A	Cullowhee baz=215,SNR=6.5	22.89	30	P	P	15 36 41.6	-1.2
U49A	Red Boiling Sp baz=208,SNR=14	22.89	23	P	P	15 36 41.2	-1.4
R41A	Rosebud baz=193,SNR=32	22.95	11	P	P	15 36 43.2	-0.1
S45A	Carrier Mills baz=200,SNR=6.7	23.01	17	P	P	15 36 43.0	-0.9
R42A	Luebbering baz=194,SNR=9.3	23.04	12	P	P	15 36 43.6	-0.7
CBKS	Cedar Bluff 71nm,0.9s	23.08	354	eP	P	15 36 46.2	+1.5
CBKS	Cedar Bluff baz=172,SNR=14	23.08	354	P	P	15 36 45.1	+0.4
SDCO	Great Sand Dun 14nm,0.8s	23.17	342	eP	P	15 36 47.3	+1.4
SDCO	Great Sand Dun baz=158,SNR=24	23.17	342	P	P	15 36 46.4	+0.6
U50A	Jamestown baz=210,SNR=6.6	23.18	25	P	P	15 36 44.1	-1.5
T48A	Bowling Green baz=206,SNR=14	23.19	22	P	P	15 36 44.8	-0.9
R43A	Red Bud baz=196,SNR=9.5	23.23	14	P	P	15 36 46.1	-0.1
V52A	Sevierville baz=214	23.23	28	P	P	15 36 45.0	-1.2
KSU1	Kansas State U 44nm,1.0s	23.23	1	eP	P	15 36 46.7	+0.5
KSU1	Kansas State U baz=180,SNR=5.2	23.23	1	P	P	15 36 46.5	+0.3
S46A	Don Dixon Farm baz=202	23.27	19	P	P	15 36 45.6	-1.0
V53A	Saluda baz=215	23.46	30	P	P	15 36 46.8	-1.8
S47A	Hartford baz=204	23.46	20	P	P	15 36 47.3	-1.2
U51A	La Follette baz=212,SNR=5.2	23.49	27	P	P	15 36 46.7	-2.1
T49A	Edmonton baz=208,SNR=6.0	23.50	23	P	P	15 36 47.9	-0.9
WUAZ	Wupatki 24nm,0.9s	23.55	329	eP	P	15 36 52.3	+2.7
WUAZ	Wupatki baz=142,SNR=16	23.55	329	P	P	15 36 51.6	+2.1
S22A	4UR Ranch, Cre 14nm,1.0s	23.58	340	eP	P	15 36 51.9	+1.8
S22A	4UR Ranch, Cre baz=155,SNR=13	23.58	340	P	P	15 36 51.6	+1.5
Q41A	Truxton baz=193,SNR=30	23.61	11	P	P	15 36 49.5	-0.4
GLA	Glamis 22nm,0.8s	23.66	320	eP	P	15 36 52.7	+2.2
GLA	Glamis baz=132	23.66	320	P	P	15 36 51.7	+1.2
R45A	Skylar, Fairfi baz=200,SNR=8.4	23.67	17	P	P	15 36 50.1	-0.3
KSCO	Kaye Shedlock' baz=165	23.69	349	P	P	15 36 51.4	+0.6
T50A	Nancy baz=209,SNR=5.3	23.70	25	P	P	15 36 49.7	-1.1
MVCO	Mesa Verde 46nm,1.3s	23.70	336	eP	P	15 36 52.8	+1.7
MVCO	Mesa Verde baz=150,SNR=9.7	23.70	336	P	P	15 36 52.4	+1.3
Q42A	Golden Eagle baz=195,SNR=12	23.71	12	P	P	15 36 50.9	+0.1
KMSC	Kings Mountain baz=219	23.78	33	P	P	15 36 49.8	-1.8
U52A	Thorn Hill baz=213	23.79	28	P	P	15 36 50.3	-1.4
S48A	Wiedeman Farm, baz=206,SNR=12	23.80	22	P	P	15 36 50.6	-1.2
R46A	Gibon Southern baz=202	23.82	18	P	P	15 36 51.0	-0.9
TZTN	Tazewell baz=213	23.84	27	P	P	15 36 50.7	-1.4
Q43A	New Douglas baz=197	23.92	14	P	P	15 36 52.5	-0.3
T51A	Gray baz=211	24.02	26	P	P	15 36 52.8	-1.1
Q44A	Meyer Farm, Va 43nm,0.8s	24.05	15	eP	P	15 36 54.2	+0.1
Q44A	Meyer Farm, Va baz=198,SNR=6.5	24.05	15	P	P	15 36 53.8	-0.3
PDMCI	Parker Dam,Lak baz=135	24.12	323	P	P	15 36 56.3	+1.5
U53A	Fall Branch baz=215	24.13	29	P	P	15 36 53.5	-1.5
S49A	Springfield baz=208,SNR=20	24.19	23	P	P	15 36 54.2	-1.3
SWSC	Sam W. Stewart baz=130	24.21	318	P	P	15 36 57.0	+1.3
R47A	Wooly Knot Far baz=204,SNR=13	24.21	20	P	P	15 36 54.9	-0.7
Q24A	Divide baz=160,SNR=8.2	24.21	344	P	P	15 36 56.8	+0.8
IKP	In-Ko-Pah, Jac baz=129	24.22	317	P	P	15 36 57.4	+1.6
WCI	Wyandotte Cave 66nm,0.8s	24.23	21	eP	P	15 36 55.7	-0.1
WCI	Wyandotte Cave baz=205	24.23	21	P	P	15 36 54.8	-0.9
Q45A	Warren Harvey, baz=200,SNR=7.1	24.27	17	P	P	15 36 55.3	-0.8
P41A	Perry, Barry baz=193,SNR=9.4	24.34	11	P	P	15 36 56.0	-0.8
P42A	Winchester baz=195,SNR=11	24.39	12	P	P	15 36 56.8	-0.5
S50A	Richmond baz=210,SNR=14	24.44	24	P	P	15 36 57.0	-0.8
BC3	Big Chuckawall baz=132,SNR=9.2	24.46	320	P	P	15 36 59.7	+1.6
R48A	Northridge Ran baz=206,SNR=11	24.53	21	P	P	15 36 58.1	-0.5
PV01	Paradox Valley	24.54	337	eP	P	15 37 01.2	+2.2
T52A	Hallie baz=213	24.55	27	P	P	15 36 57.7	-1.1
MONP2	Monument Peak baz=129,SNR=13	24.57	317	P	P	15 37 01.0	+1.7
IRM	Iron Mountain baz=133,SNR=16	24.61	321	P	P	15 37 01.4	+2.0
Q46A	CEJHS Indians, baz=202	24.61	18	P	P	15 36 58.7	-0.6
P43A	Skaggs, Pawnee baz=196,SNR=5.1	24.62	14	P	P	15 36 59.2	-0.2
P44A	Sand Creek, Wi baz=199	24.68	15	P	P	15 36 59.0	-0.9
R49A	Shelbyville baz=207,SNR=9.0	24.68	22	P	P	15 36 59.2	-0.7
S51A	Beattyville baz=211	24.74	26	P	P	15 36 59.6	-0.8
O41A	Passleys Farm, baz=193,SNR=16	24.80	11	P	P	15 37 00.6	-0.3
Q47A	Bedord North L baz=204,SNR=7.5	24.82	20	P	P	15 37 00.6	-0.5
P45A	Graceland, Par	24.97	17	P	P	15 37 02.6	+0.1
R50A	Paris baz=209	24.99	24	P	P	15 37 01.7	-1.0
BELC	Belle Mtn. Jos baz=131,SNR=16	25.02	320	P	P	15 37 05.0	+1.8
O42A	Bath baz=195	25.04	12	P	P	15 37 03.2	+0.2
Q48A	North Vernon baz=205,SNR=13	25.05	21	P	P	15 37 03.1	-0.1
PFO	Pinyon Flats O 5.9nm,0.8s,baz=100,slow=8.2,SNR=5.7	25.06	319	P	P	15 37 05.2	+1.7
PFO	Pinyon Flats O baz=130	25.06	319	P	P	15 37 05.5	+1.9
ISCO	Idaho Springs 25nm,1.3s	25.12	344	eP	P	15 37 06.2	+2.0
ISCO	Idaho Springs baz=159,SNR=12	25.12	344	P	P	15 37 04.9	+0.7
P46A	Rosedale baz=202,SNR=11	25.21	18	P	P	15 37 04.4	-0.2
R51A	Hillsboro baz=211,SNR=8.1	25.30	25	P	P	15 37 05.1	-0.4
GMRC	Granite Mounta baz=133,SNR=7.8	25.35	322	P	P	15 37 07.8	+1.6
O44A	Mansfield baz=198	25.36	15	P	P	15 37 05.8	-0.3
P47A	Martinsville baz=204,SNR=7.8	25.38	19	P	P	15 37 06.0	-0.2
N41A	Harden Midland baz=193,SNR=11	25.38	11	P	P	15 37 05.8	-0.4
Q49A	Aurora baz=207,SNR=11	25.41	22	P	P	15 37 05.8	-0.7
N40A	Mertquake, Sal baz=191	25.43	9	P	P	15 37 06.2	-0.4
OGNE	Ogallala 80nm,1.2s	25.47	351	P	P	15 37 07.6	+0.5
OGNE	Ogallala baz=168,SNR=7.9	25.47	351	P	P	15 37 08.3	+1.2
HDIL	Hopedale baz=196	25.55	13	P	P	15 37 07.8	0.0
Q50A	Georgetown baz=209,SNR=5.6	25.61	24	P	P	15 37 07.5	-0.8
P48A	Milroy baz=206,SNR=13	25.63	21	P	P	15 37 07.7	-0.8
N42A	Yates City baz=195	25.65	12	P	P	15 37 08.1	-0.6
R52A	Catlettsburg baz=212,SNR=6.4	25.73	26	P	P	15 37 08.9	-0.5
HEC	Hector,Ludlow baz=132,SNR=6.1	25.78	321	P	P	15 37 11.8	+1.8
BLA	Blacksburg 33nm,0.8s	25.85	31	P	P	15 37 06.3	-4.2
BLA	Blacksburg baz=218	25.85	31	P	P	15 37 09.6	-1.0
M39A	Webster baz=190,SNR=7.9	25.93	8	P	P	15 37 10.8	-0.4
N43A	Stutzman Famil baz=196	25.94	13	P	P	15 37 11.1	-0.2
SFIN	Lafayette baz=201	25.94	17	P	P	15 37 10.6	-0.7
P49A	Miami Univ. Ec baz=207,SNR=15	25.95	22	P	P	15 37 10.4	-0.9
M40A	Post Highland baz=191,SNR=7.3	25.95	9	P	P	15 37 10.8	-0.6
TUQ	Turquoise Moun baz=134	25.95	322	P	P	15 37 12.8	+1.2
Q51A	Peebles baz=210,SNR=12	26.02	25	P	P	15 37 11.4	-0.6
R53A	Hurricane baz=214,SNR=8.6	26.03	27	P	P	15 37 11.3	-0.8
SCI2	San Clemente I baz=125	26.05	315	P	P	15 37 13.7	+1.4
N44A	Piper City baz=199	26.05	15	P	P	15 37 11.8	-0.5
M41A	Milan baz=193,SNR=6.0	26.09	11	P	P	15 37 12.1	-0.5
O47A	Sheridan baz=203,SNR=5.5	26.09	19	P	P	15 37 11.5	-1.1
CIS	Catalina Islan baz=126	26.20	316	P	P	15 37 15.7	+1.9
O20A	White River Ci 24nm,1.1s	26.21	340	eP	P	15 37 16.4	+2.4
O20A	White River Ci baz=154,SNR=8.6	26.21	340	P	P	15 37 15.6	+1.6
BFSC	Mount Baldy Ra baz=129	26.22	318	P	P	15 37 15.4	+1.3
SCIA	State Center 45nm,0.7s	26.23	6	eP	P	15 37 13.3	-0.5
SCIA	State Center baz=187,SNR=5.2	26.23	6	P	P	15 37 13.1	-0.8
N23A	Red Feather La baz=159	26.23	344	P	P	15 37 15.4	+1.1
N45A	Kentland baz=200	26.27	16	P	P	15 37 12.8	-1.4
SHPR	Sheep Range 18nm,1.1s	26.28	325	eP	P	15 37 17.0	+2.4
M42A	Sheffield baz=195	26.31	12	P	P	15 37 14.0	-0.7
P50A	Jamestown baz=209,SNR=10	26.35	23	P	P	15 37 13.9	-1.1
GSC	Goldene, Bar baz=132	26.39	321	P	P	15 37 16.8	+1.2
Q52A	Bidwell baz=212,SNR=12	26.41	26	P	P	15 37 14.6	-1.0
O48A	Farmland baz=206,SNR=13	26.44	20	P	P	15 37 14.6	-1.2
M43A	Waltham Townsh baz=197	26.46	13	P	P	15 37 15.2	-0.8
SDV	Santo Domingo 3.2nm,0.4s,baz=9.1,slow=3.8,SNR=6.2	26.51	102	P	P	15 37 17.9	+0.9
N46A	Monticello baz=202	26.52	17	P	P	15 37 15.5	-1.0
P51A	Williamsport baz=210	26.53	24	P	P	15 37 15.4	-1.2
L39A	Vinton baz=190	26.58	8	P	P	15 37 16.3	-0.8
L40A	Anamosa baz=192	26.64	9	P	P	15 37 17.2	-0.4
Q49A	Covington 137nm,0.6s	26.66	22	eP	P	15 37 17.5	-0.3
O49A	Covington baz=207,SNR=33	26.66	22	P	P	15 37 16.6	-1.2
L41A	Preston baz=193,SNR=8.3	26.77	11	P	P	15 37 18.2	-0.6
N47A	Urbana baz=204	26.82	19	P	P	15 37 17.6	-1.7
EDW2	Edwards Air Fo baz=129,SNR=5.3	26.85	319	P	P	15 37 20.9	+1.3
L42A	Oliver, Polo baz=195	26.86	12	P	P	15 37 18.7	-0.9
O50A	Cable baz=209,SNR=7.0	26.88	23	P	P	15 37 19.1	-0.7
N48A	Decatur baz=205	27.02	20	P	P	15 37 20.0	-1.1
P52A	Corning baz=212,SNR=6.8	27.03	26	P	P	15 37 20.1	-1.0
LRMC	Laurel Mtn Rad baz=131	27.04	320	P	P	15 37 23.1	+1.6
M46A	Old House Fiel baz=202	27.11	18	P	P	15 37 21.1	-0.7
K39A	Oelwein baz=190	27.17	8	P	P	15 37 22.0	-0.4
ACSO	Alum Creek Sta 40nm,1.0s	27.20	24	eP	P	15 37 20.4	-2.3
ACSO	Alum Creek Sta baz=210	27.20	24	P	P	15 37 21.9	-0.8
TPNV	Topopah Spring baz=135,SNR=10	27.21	324	P	P	15 37 24.9	+1.9
FURC	Furnace Creek, baz=133	27.22	323	P	P	15 37 24.3	+1.5
L43A	Garden Prairie baz=197	27.23	13	P	P	15 37 22.4	-0.5
P53A	Whipple 76nm,0.9s	27.23	27	eP	P	15 37 22.4	-0.5
P53A	Whipple baz=214,SNR=14	27.23	27	P	P	15 37 22.5	-0.5
K40A	Colesburg baz=192	27.27	9	P	P	15 37 23.2	-0.1
O51A	Pataskala baz=211	27.28	24	P	P	15 37 22.5	-0.8
M47A	Cromwell baz=204	27.28	19	P	P	15 37 22.5	-0.9
MPMC	Manual Prospec baz=132,SNR=8.2	27.31	322	P	P	15 37 25.4	+1.5
K41A	Shullsburg baz=193	27.32	11	P	P	15 37 23.1	-0.6
L44A	Lake County Fo baz=198	27.41	15	P	P	15 37 24.2	-0.3
DAC	Darwin (Calif) 8.0nm,1.2s	27.52	322	eP	P	15 37 28.1	+2.3

O52A	Adamsville	27.56	25	P		P	15 37 25.4	-0.6
	baz=212							
JFWS	Jewell Farm	27.63	11	P		P	15 37 25.8	-0.7
	baz=193							
ISA	Isabella, Lake	27.65	320	P		P	15 37 28.3	+1.5
	baz=130							
K42A	Prairie Point,	27.67	12	P		P	15 37 26.3	-0.6
	baz=195							
ECSD	EROS Data Cent	27.86	0	P		P	15 37 28.3	-0.3
	baz=180,SNR=6.9							
R11A	Troy Canyon, C	27.87	327	P		P	15 37 30.5	+1.5
	baz=138,SNR=9.9							
CWC	Cottonwood Cre	27.92	321	P		P	15 37 30.3	+0.9
	baz=131							
M49A	Liberty Center	27.93	21	P		P	15 37 28.6	-0.5
	baz=207							
O53A	New Philadelph	27.93	26	P		P	15 37 28.3	-0.9
	baz=213,SNR=7.9							
P55A	Reedsville	27.95	29	P		P	15 37 28.8	-0.6
	baz=216							
L47A	Sherwood	27.97	19	P		P	15 37 29.0	-0.5
	baz=204							
DUG	Dugway, Tooele	28.01	333	P		P	15 37 31.2	+1.1
	baz=145							
J40A	Soldiers Grove	28.02	10	P		P	15 37 29.2	-0.8
	baz=192							
K22A	Casper	28.03	345	P		P	15 37 30.3	0.0
	baz=159							
MCWV	Mont Chateau	28.06	29	P		P	15 37 30.3	0.0
	baz=216							
J41A	Loganville	28.11	11	P		P	15 37 29.9	-0.9
	baz=194							
L48A	N Adams	28.19	20	P		P	15 37 30.6	-0.9
	baz=206							
M50A	Fremont	28.19	22	P		P	15 37 30.0	-1.6
	baz=209							
O54A	Avella	28.24	27	P		P	15 37 31.4	-0.6
	baz=215,SNR=6.3							
J43A	Natural Harves	28.44	13	P		P	15 37 32.6	-1.1
	baz=197							
I40A	Norwalk	28.52	9	P		P	15 37 34.3	-0.1
	baz=192							
N53A	Lisbon	28.56	26	P		P	15 37 34.4	-0.4
	baz=213,SNR=13							
L50A	Kingsville	28.84	22	P		P	15 37 36.4	-0.9
	baz=208							
RSSD	Black Hills	28.90	349	P		P	15 37 38.3	+0.3
	baz=165							
I43A	Langenfeld Bro	28.98	13	P		P	15 37 37.7	-0.8
	baz=197							
BW06	Boulder Array	29.01	341	P		P	15 37 40.1	+1.0
	baz=154							
PDAR	Pinedale Array	29.01	341	P		P	15 37 40.2	+1.2
	3.1nm,0.8s,baz=130,slow=10.0,SNR=25							
PDAR				LR		LR	15 48 51.6	
	comp=Z,105nm,21.8s,baz=290,slow=36							
PDAR	Pinedale Array	29.01	341	*eP*		P	15 37 40.0	+0.9
N54A	Moraine State	29.05	27	P		P	15 37 38.6	-0.5
	baz=215,SNR=8.9							
H39A	Augusta	29.19	8	P		P	15 37 40.3	-0.1
	baz=190,SNR=6.0							
H40A	Chili	29.27	9	P		P	15 37 41.2	+0.1
	baz=192							
H41A	Junction City	29.39	11	P		P	15 37 41.3	-0.8
	baz=194							
NV01	Mina Array Sit	29.40	324	*eP*		P	15 37 44.9	+2.3
NVAR	Mina Array Bea	29.40	324	P		P	15 37 45.4	+2.7
	9.8nm,1.0s,baz=149,slow=9.1,SNR=42							
ELK	Elko	29.55	331	P		P	15 37 46.3	+2.5
	1.5nm,0.8s,baz=134,slow=6.7,SNR=7.9							
SPMN	Marine on St.	29.55	6	P		P	15 37 43.3	-0.3
	baz=187							
G38A	Ridgeland	29.60	7	P		P	15 37 43.1	-0.9
	baz=189							
M54A	Oil Creek Stat	29.64	27	P		P	15 37 44.0	-0.4
	baz=215,SNR=6.6							
G39A	Holcombe	29.80	8	P		P	15 37 45.9	+0.1
	baz=190							
G40A	Rib Lake	29.93	9	P		P	15 37 46.9	0.0
	baz=192							
REDW	Red Lodge Meadow	29.97	339	*eP*		P	15 37 49.4	+1.8
	22nm,1.0s							
ERPA	Erie	30.00	26	P		P	15 37 46.8	-0.8
	baz=214							
LOHW	Long Hollow	30.11	340	*eP*		P	15 37 50.4	+1.6
	19nm,0.9s							
F38A	Pierce - Schro	30.38	7	P		P	15 37 50.5	-0.4
	baz=189							
F39A	Loretta	30.45	8	P		P	15 37 50.9	-0.7
	baz=191							
E39A	Mellen	30.96	9	P		P	15 37 55.4	-0.6
	baz=191							
I51A	Listowel	31.02	23	P		P	15 37 55.3	-1.3
	baz=210							
E38A	The Farm, Brul	31.05	7	P		P	15 37 56.5	-0.3
	baz=189,SNR=5.9							
RLMT	Red Lodge	31.06	343	*eP*		P	15 37 58.1	+0.9
	26nm,0.8s							
RLMT	Red Lodge	31.06	343	P		P	15 37 58.3	+1.1
	baz=156,SNR=28							
K55A	Perry	31.32	27	P		P	15 37 58.4	-0.8
	baz=216,SNR=5.2							
HLID	Hailey	31.47	335	*eP*		P	15 38 01.2	+0.4
	5.4nm,0.8s							
HLID	Hailey	31.47	335	P		P	15 38 02.1	+1.4
	baz=146,SNR=12							
BEKR	Beckworth	31.55	324	*eP*		P	15 38 02.7	+1.2
	12nm,1.4s							
LAO	LASA Array	31.79	348	P		P	15 38 04.0	+0.6
	baz=162							
DLMT	Dillon	32.32	339	*eP*		P	15 38 10.6	+2.3
	32nm,0.8s							
AGMN	Agassiz Nation	32.44	1	*eP*		P	15 38 08.8	-0.1
	8.1nm,0.6s							
AGMN	Agassiz Nation	32.44	1	P		P	15 38 09.2	+0.3
	baz=181							
WVOR	Wild Horse Val	32.47	329	*eP*		P	15 38 11.3	+1.8
	14nm,1.3s							
SADO	Sadowa	32.55	24	P		P	15 38 08.9	-1.1
	14nm,1.0s,baz=274,slow=5.9,SNR=3.5							
O03E	Paynes Creek	32.66	323	P		P	15 38 12.6	+1.4
	baz=131							
I55A	Frankford	32.69	26	P		P	15 38 10.9	-0.3
	baz=215							
G53A	Haliburton	33.05	24	P		P	15 38 13.7	-0.7
	baz=213							
J08A	Circle Bar Ran	33.09	331	*eP*		P	15 38 16.8	+1.9
	31nm,1.6s							
DGMT	Dagmar	33.15	351	P		P	15 38 16.0	+0.7
	baz=166							
H55A	Tweed	33.17	26	P		P	15 38 14.6	-0.8
	baz=216,SNR=7.9							
F51A	Arnstein	33.25	22	P		P	15 38 15.6	-0.5
	baz=210							
HRY	Holter Researc	33.26	341	*eP*		P	15 38 18.0	+1.6
F52A	Sundridge	33.35	23	P		P	15 38 16.3	-0.7
	baz=211							
E50A	Wahnapitae	33.39	20	P		P	15 38 16.7	-0.6
	baz=209							
H56A	Elgin	33.60	27	P		P	15 38 18.1	-1.1
	baz=217							
M04C	Macdoel	33.68	325	P		P	15 38 21.1	+1.1
	baz=132							
D48A	Paudash Townsh	33.71	19	P		P	15 38 19.3	-0.8
	baz=206							
E51A	G1948 Merrick	33.91	22	P		P	15 38 21.0	-1.0
	baz=211							
G55A	Calabogie	33.93	26	P		P	15 38 20.9	-1.1
	baz=216							
M02C	Callahan	33.98	324	P		P	15 38 22.9	+0.3
	baz=131							
MSO	Missoula	34.06	339	P		P	15 38 24.3	+1.0
	baz=149,SNR=8.0							
L04D	Klamath Falls	34.23	325	P		P	15 38 26.0	+1.1
	baz=132							
D50A	G1974 Best Tow	34.34	21	P		P	15 38 25.2	-0.4
	baz=210							
LONY	Lake Ozonia	34.37	29	P		P	15 38 25.1	-0.9
	baz=220							
ULM	Lac du Bonnet	34.39	1	P		P	15 38 25.3	-0.7
	6.4nm,0.8s,baz=185,slow=9.4,SNR=10							
D51A	Lot 18 Range I	34.44	21	P		P	15 38 25.9	-0.5
	baz=210							
E53A	Dumoine, Ponti	34.47	24	P		P	15 38 26.2	-0.5
	baz=214							
F55A	Otter Lake	34.55	26	P		P	15 38 27.0	-0.4
	baz=216							
E54A	Lac Daplat, Po	34.70	24	P		P	15 38 28.1	-0.6
	baz=214,SNR=5.3							
J04D	Umpqua Nationa	34.82	327	P		P	15 38 31.4	+1.3
	baz=134							
D53A	Lac Vacive, Po	35.03	23	P		P	15 38 30.9	-0.7
	baz=213							
I05D	Terrebonne, OR	35.21	329	P		P	15 38 34.1	+0.9
	baz=136							
K02D	Willamette Mer	35.29	325	P		P	15 38 34.9	+0.9
	baz=131							
I04A	Tendick Farm,	35.37	327	P		P	15 38 35.6	+1.1
	baz=134							
D54A	Lac Fusel, La	35.49	24	P		P	15 38 34.6	-1.0
	baz=214							
J01E	Myrtle Point	35.75	325	P		P	15 38 39.3	+1.5
	baz=131							
G05D	Wamic, OR	35.85	330	P		P	15 38 40.8	+2.1
	baz=137							
F05D	White Salmon	36.40	331	P		P	15 38 44.9	+1.6
	baz=137							
NEW	Newport	36.42	337	P		P	15 38 44.5	+0.9
	9.8nm,1.1s,baz=136,slow=9.4,SNR=9.0							
NEW				LR		LR	15 54 52.3	
	comp=Z,196nm,19.6s,baz=314,slow=38							
NEW	Newport	36.42	337	*eP*		P	15 38 44.7	+1.1
	6.0nm,0.8s							
NEW	Newport	36.42	337	P		P	15 38 44.5	+0.9
	baz=145,SNR=6.1							
D04E	Lakebay	37.96	331	P		P	15 38 57.8	+1.2
	baz=136							
D03D	Eldon	38.37	331	P		P	15 39 00.8	+0.8
	baz=136,SNR=5.7							
FFC	Flin Flon	39.06	355	*eP*		P	15 39 05.8	0.0
	12nm,0.8s							
A04D	Lummi Island	39.07	333	P		P	15 39 06.8	+0.9
	baz=138,SNR=6.1							
PTGA	Pitinga	39.97	111	P		P	15 39 13.8	0.0
	1.6nm,0.6s,baz=328,slow=19,SNR=3.9							
LPAZ	La Paz	42.66	137	P		P	15 39 39.1	+2.6
	2.3nm,0.8s,baz=337,slow=7.5,SNR=7.8							
YKA	Yellowknife Ar	48.31	349	P		P	15 40 20.2	+0.2
	2.6nm,0.6s,baz=154,slow=7.3,SNR=9.6							
YKA				PcP		PcP	15 41 46.6	-0.1
	0.5nm,0.7s,baz=154,slow=3.2,SNR=4.6							
YKW3	Yellowknife Ar	48.37	349	*eP*		P	15 40 20.0	-0.5
	5.5nm,0.8s							
GO02	Mina Guanaco	48.61	146	*eP*		P	15 40 23.9	+0.7
	8.6nm,0.9s							
DLBC	Dease Lake	49.17	338	P		P	15 40 29.6	+2.7
	14nm,1.0s,baz=148,slow=6.0,SNR=8.6							
CPUP	Villa Florida	56.83	137	P		P	15 41 25.2	+1.6
	0.9nm,0.6s,baz=270,slow=2.1,SNR=2.9							
EGAK	Eagle	57.35	339	*eP*		P	15 41 27.3	+0.5
	6.1nm,0.8s							
INK	Inuvik	57.45	345	*eP*		P	15 41 27.8	+0.4
	22nm,1.4s							
DOT	Dot Lake	57.73	337	*eP*		P	15 41 31.3	+1.7
	7.1nm,1.0s							
SCRK	Sand Creek	57.89	338	*eP*		P	15 41 32.5	+1.7
	7.6nm,1.0s							
RIDG	Independ'e Rid	58.08	337	*eP*		P	15 41 33.7	+1.7
	18nm,1.2s							
RES	Resolute Bay	58.92	1	P		P	15 41 37.4	-0.2
	1.2nm,0.6s,baz=169,slow=13,SNR=3.9							
HDA	Harding Lake	59.22	337	*eP*		P	15 41 40.7	+0.8
	5.5nm,0.9s							
HDA	Harding Lake	59.22	337	P		P	15 41 40.1	+0.2
	baz=120							
IL1	Eielson Array	59.38	338	*eP*		P	15 41 40.9	-0.1
ILAR	Eielson Array	59.38	338	P		P	15 41 41.3	+0.3
	5.6nm,1.0s,baz=134,slow=4.8,SNR=42							
ILB	Eielson Array	59.38	338	*eP*		P	15 41 41.5	+0.5
RND	Reindeer	59.45	336	*eP*		P	15 41 43.1	+1.5
	9.1nm,1.0s							
POKR	Poker Plat Res	59.76	338	P		P	15 41 44.0	+0.4
	baz=120							
TCOL	CIGO, UAF Yank	59.79	337	P		P	15 41 44.2	+0.4
	baz=120							
TRF	Thorofare Moun	60.05	335	*eP*		P	15 41 46.9	+1.1
	12nm,0.9s							
CAST	Castle Rocks	60.76	335	*eP*		P	15 41 51.0	+0.5
	6.6nm,0.8s							
MLY	Manley	60.94	337	*eP*		P	15 41 52.8	+1.0
	9.6nm,1.0s							
PLCA	Paso Flores	61.31	157	P		P	15 41 54.1	-0.4
	2.4nm,0.9s,baz=1.5,slow=9.6,SNR=3.9							
BILL	Bilibino	78.04	338	*eP*		P	15 43 38.0	+0.7
	8.2nm,1.1s							
ESDC	Sonseca Array	82.29	51	P		P	15 44 00.7	-0.2
	1.0nm,0.6s,baz=286,slow=4.4,SNR=6.6							
ES19	SONSECA Array	82.33	51	*eP*		P	15 44 01.0	-0.1
NB2	NORSAR Subarra	84.80	28	P		P	15 44 13.8	+0.5
	comp=Z,0.9nm,1.0s,baz=301,slow=5.3							
NOA	NORSAR Array B	84.80	28	P		P	15 44 13.9	+0.5
	comp=Z,2.2nm,1.0s,baz=300,slow=5.1,SNR=4.1							
TIXI	Tiksi	87.51	347	*eP*		P	15 44 25.7	-0.7
	comp=Z,2.3nm,0.4s							
AKASG	Malin Array Be	98.75	31	LR		LR	16 33 23.8	
	comp=Z,46nm,18.0s,baz=255,slow=38							
HHC	Hu-ho-hao-te	117.78	336	*e*PKP		PKPdf	15 50 23.3	-2.6
WMQ	Urumqi	120.54	356	*e*PKP		PKPdf	15 50 31.5	+0.5
WMQ				LR		LR		
	comp=Z,340nm,35.1s							
WMQ				LR		LR		
	comp=Z,340nm,39.0s							
WMQ				LR		LR		
	comp=Z,240nm,25.7s							
NJ2	Nanjing	121.40	324	*e*PKP		PKiKP	15 50 33.8	+0.8
KSH	Kashi	124.59	7	PKP		PKiKP	15 50 40.5	+1.2
KSH				sPKP			15 50 51.6	
KSH				PP		PP	15 52 29.3	+5.2
KSH				PKS		PKSdf	15 54 18.8	+3.0
KSH				SKS		SKSdf	15 57 47.3	-3.7
KSH				SKKS		SKKSac	15 59 17.0	-7.2
STKA	Stephens Creek	124.78	242	PKP		PKiKP	15 50 41.5	+1.9
	comp=Z,1.7nm,0.7s,baz=45,slow=2.9,SNR=3.0							
LZH	Lanzhou	124.82	340	*e*PKP		PKiKP	15 50 40.8	+0.9
LZH				sPKP			15 50 56.3	
CD2	Chengdu	129.51	337	PKP		PKPdf	15 50 48.0	-0.6
WRA	Warramunga Arr	131.23	257	PKP		PKPdf	15 50 52.0	+0.1
	comp=Z,1.9nm,1.0s,baz=86,slow=2.3,SNR=7.6							
ASAR	Alice Springs	131.77	252	PKP		PKPdf	15 50 52.3	-0.7
	comp=Z,1.0nm,0.9s,baz=92,slow=2.3,SNR=5.8							
CMAR	Chiang Mai Arr	142.58	335	PKhKP		PKPpre	15 51 08.6	
	comp=Z,0.5nm,0.3s,baz=353,slow=3.6,SNR=3.6							
HYB	Hyderabad	146.71	8	*i* PKP		PKPbc	15 51 22.0	+0.2

ISCJB ***18*** *15:35:33.6±0.4, 59.97N±0.03×73.69W±0.07, h10km, mb3.5/6, Error ellipse: s-maj=5.2km s-min=4.2km az=16.9*
OTT ***18*** *15:35:36.1±0.1, 60.12N×73.60W, h2km, MN3.9/26, Boothia Ungava Seismic Zone. 188km southwest from Kangiqsujuaq, Qc*
IDC ***18*** *15:35:37.0±0.7, 60.14N×73.47W, h0km, mb3.6/6, mb1 3.9/11, mb1mx3.6/44, mbtmp3.7/11, ML3.2/5, Error ellipse: s-maj=11.0km s-min=7.2km az=110.0*
ISC 18 15:35:35.6±0.5, 59.98N±0.04×73.73W±0.06, h10km, n53, σ3s14/84, mb3.5/6, Northern Quebec

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNGQ	Kangiqsujuaq	1.83	28	PN	Pn	15 36 07.1	+0.1
KNGQ				SN	Sn	15 36 27.6	-2.7
KNGQ				Trac		15 36 29.8	
	comp=Z,1μm,0.3s						
KUQ	Kuujjuaa	3.33	122	PN	Pn	15 36 30.2	+2.7
KUQ				SN	Sn	15 37 09.7	+2.7
KUQ				Trac		15 37 27.5	
	comp=Z,200nm,0.2s						
KAJQ	Kangiqsualujju	4.20	104	PN	Pn	15 36 40.2	+0.7
KAJQ				SN	Sn	15 37 26.8	-1.6
KAJQ				LG	Lg	15 37 45.8	
KAJQ				Trac		15 37 47.0	
	comp=Z,64nm,0.2s						
FRB	Frobisher Bay	4.51	31	Pn	Pn	15 36 44.0	+0.3
	1.4nm,0.3s,baz=216,slow=12,SNR=15						
FRB				Pg	Pb	15 36 53.5	-1.1
	6.3nm,0.3s,baz=220,slow=17,SNR=34						
FRB				Sn	Sn	15 37 31.7	-4.5
	11nm,0.3s,baz=296,slow=20,SNR=5.5						
FRB				Lg	Lg	15 37 46.7	
	44nm,0.3s,baz=130,slow=21,SNR=25						
FRB	Frobisher Bay	4.51	31	PN	Pn	15 36 43.5	-0.3
FRB				SN	Sn	15 37 31.3	-4.8
FRB				Trac		15 37 48.9	
	comp=Z,117nm,0.3s						
FRB				LG	Lg	15 37 49.0	
SCHQ	Schefferville	6.36	141	Pn	Pn	15 37 11.0	+1.8
	3.5nm,0.3s,baz=321,slow=10,SNR=29						
SCHQ				Sn	Sn	15 38 21.6	-0.3
	5.0nm,0.3s,baz=42,slow=18,SNR=8.6						
SCHQ				Lg	Lg	15 38 53.4	
	42nm,0.3s,baz=210,slow=9.8,SNR=21						
SCHQ	Schefferville	6.36	141	PN	Pn	15 37 10.7	+1.5
SCHQ				SN	Sn	15 38 21.3	-0.6
SCHQ				Trac		15 38 56.5	
	comp=Z,174nm,0.5s						
SCHQ				LG	Lg	15 38 57.0	
NANL	Nain	7.22	113	PN	Pn	15 37 20.8	-0.3
NANL				SN	Sn	15 38 39.5	-3.5
NANL				LG	Lg	15 39 20.3	
NANL				Trac		15 39 30.3	
	comp=Z,7.4nm,0.1s						
WEMQ	Wemindji, Queb	7.33	201	PN	Pn	15 37 25.8	+3.4
WEMQ				SN	Sn	15 38 46.0	+0.5
WEMQ				Trac		15 39 33.9	
	comp=Z,64nm,0.3s						
WEMQ				LG	Lg	15 39 34.1	
WBHL	Wabush	8.04	149	PN	Pn	15 37 34.5	+2.2
WBHL				SN	Sn	15 39 02.9	-0.4
WBHL				LG	Lg	15 39 49.6	
WBHL				Trac		15 39 52.9	
	comp=Z,24nm,0.3s						
VIMO	Victor Mine	9.06	222	PN	Pn	15 37 49.8	+3.5
VIMO				SN	Sn	15 39 27.4	-0.9
VIMO				LG	Lg	15 40 24.9	
MKVL	Makkovik	9.22	116	PN	Pn	15 37 48.4	0.0
MNQ	Manicouagan	9.87	161	PN	Pn	15 37 59.4	+1.9
MNQ				SN	Sn	15 39 45.5	-2.7
MNQ				Trac		15 40 52.7	
	comp=Z,16nm,0.2s						
ILON	Igloolik, Nuna	10.04	343	PN	Pn	15 37 57.0	-2.5
ILON				SN	Sn	15 39 41.5	-10
ILON				LG	Lg	15 40 43.4	
ILON				Trac		15 40 46.5	
	comp=Z,53nm,0.5s						
CHGQ	Chibougamau	10.10	182	PN	Pn	15 38 03.7	+3.2
CHGQ				SN	Sn	15 39 49.9	-3.7
CHGQ				LG	Lg	15 40 58.5	
CHGQ				Trac		15 41 04.5	
	comp=Z,66nm,0.5s						
CHGQ	Chibougamau	10.10	182	P	Pn	15 38 03.4	+3.0
	baz=2.1						
CHGQ				S	Sn	15 39 47.3	-6.4
	baz=2.1						
FCC	Fort Churchill	10.45	272	PN	Pn	15 38 06.5	+1.2
FCC				SN	Sn	15 39 55.8	-6.5
FCC				Trac		15 41 04.7	
	comp=Z,42nm,1.0s						
FCC				LG	Lg	15 41 07.4	
MATQ	Matagami	10.48	194	PN	Pn	15 38 08.3	+2.6
MATQ				SN	Sn	15 39 58.8	-4.3
MATQ				LG	Lg	15 41 09.2	
MATQ				Trac		15 41 24.6	
	comp=Z,27nm,0.5s						
MATQ	Matagami	10.48	194	P	Pn	15 38 08.0	+2.3
	baz=11						
MATQ				S	Sn	15 39 58.7	-4.4
	baz=11						
MALO	McAlpine Lake	10.55	202	SN	Sn	15 39 59.8	-5.0
MALO				SN		15 40 01.1	
MALO				LG	Lg	15 41 10.2	
MALO				Trac		15 41 17.6	
	comp=Z,66nm,0.5s						
SMQ	Clarke City	10.56	155	PN	Pn	15 38 07.6	+0.7
SMQ				SN	Sn	15 40 01.2	-3.9
SMQ				Trac		15 41 19.7	
	comp=Z,45nm,0.5s						
CLRN	Clyde River	10.75	9	SN	Sn	15 39 57.9	-12
CLRN				SN		15 39 58.8	
CLRN				LG	Lg	15 41 02.3	
CLRN				Trac		15 41 08.9	
	comp=Z,41nm,0.5s						
DMCQ	Dolbeau-Mistas	11.08	174	PN	Pn	15 38 16.4	+2.5
DMCQ				SN	Sn	15 40 13.6	-4.0
DMCQ				LG	Lg	15 41 34.3	
LSQQ	Lebel-sur-Quev	11.10	191	PN	Pn	15 38 17.1	+2.9
LSQQ				SN	Sn	15 40 15.2	-3.1
LSQQ				LG	Lg	15 41 32.7	
LSQQ				Trac		15 41 39.8	
	comp=Z,2.3nm,0.0s						
LSQQ	Lebel-sur-Quev	11.10	191	S	Sn	15 40 12.1	-6.2
	baz=8.6						
ICQ	Pointe Anglais	11.11	158	PN	Pn	15 38 14.7	+0.4
ICQ				SN	Sn	15 40 13.4	-5.1
ICQ				Trac		15 41 29.9	
	comp=Z,43nm,0.5s						
CNQ	Baie Comeau	11.18	161	PN	Pn	15 38 16.2	+0.9
CNQ				SN	Sn	15 40 16.1	-4.1
CNQ				Trac		15 41 28.3	
	comp=Z,20nm,0.4s						
NATG	Natashquan Que	11.53	143	PN	Pn	15 38 20.1	+0.1
NATG				SN	Sn	15 40 21.6	-7.1
NATG				LG	Lg	15 41 36.8	
NATG				Trac		15 41 48.6	
	comp=Z,142nm,1.4s						
KAPO	Kapuskasing	11.69	209	PN	Pn	15 38 24.0	+1.7
KAPO				SN	Sn	15 40 29.7	-3.0
KAPO				Trac		15 41 44.1	
	comp=Z,67nm,0.8s						
KAPO				LG	Lg	15 41 47.6	
GSQ	Grosses Roches	11.73	158	PN	Pn	15 38 22.8	0.0
GSQ				SN	Sn	15 40 29.3	-4.4
GSQ				Trac		15 41 53.7	
	comp=Z,30nm,0.4s						
VLDQ	Val d'Or	12.09	192	PN	Pn	15 38 28.7	+1.1
VLDQ				SN	Sn	15 40 37.2	-5.1
VLDQ				LG	Lg	15 42 00.1	
VLDQ				Trac		15 42 13.8	
	comp=Z,72nm,1.2s						
DAQ	Lac Daran	12.12	172	PN	Pn	15 38 30.1	+1.9
DAQ				SN	Sn	15 40 39.3	-4.1
DAQ				Trac		15 42 09.2	
	comp=Z,14nm,0.4s						
A64	Saint Simeon	12.38	168	PN	Pn	15 38 32.6	+1.0
A64				SN	Sn	15 40 44.3	-5.2
A64				LG	Lg	15 42 08.4	
A64				Trac		15 42 24.1	
	comp=Z,1.9nm,0.0s						
A61	Sainte Mathild	12.49	169	PN	Pn	15 38 34.2	+1.0
A61				SN	Sn	15 40 47.4	-4.9
A61				Trac		15 42 11.3	
	comp=Z,55nm,0.7s						
A61				LG	Lg	15 42 12.0	
A21	Saint Andre	12.52	167	PN	Pn	15 38 34.7	+1.1
A21				SN	Sn	15 40 47.8	-5.2
A21				Trac		15 42 09.7	
	comp=Z,185nm,1.6s						
A21				LG	Lg	15 42 14.3	
LMQ	La Malbaie	12.61	169	PN	Pn	15 38 35.9	+1.1
LMQ				SN	Sn	15 40 50.4	-4.9
LMQ				Trac		15 42 19.1	
	comp=Z,26nm,0.5s						
LMQ				LG	Lg	15 42 21.4	
LATQ	La Tuque	12.63	177	P	Pn	15 38 35.5	+0.4
	baz=358						
A54	Misere	12.70	170	PN	Pn	15 38 36.8	+0.8
A54				SN	Sn	15 40 51.3	-6.

ULM					Lg	Lg	15 43 48.4												
	0.9nm,0.3s,baz=143,slow=22,SNR=3.9																		
RES	**Resolute Bay**		**16.68**	**340**	Pn	**Pn**	**15 39 24.9**	**-4.1**											
	0.3nm,0.3s,baz=332,slow=1.9,SNR=12																		
RES					Lg	Lg	15 44 04.5												
	0.4nm,0.3s,baz=133,slow=12,SNR=5.2																		
YKA	**Yellowknife Ar**		**19.59**	**295**	Pn	**P**	**15 40 02.9**	**-0.5**											
	0.2nm,0.3s,baz=76,slow=12,SNR=18																		
YKA					Sn	S	15 43 32.0	-12											
	0.1nm,0.3s,baz=76,slow=20,SNR=4.5																		
YKA					Lg	Lg	15 45 38.4												
	0.2nm,0.3s,baz=78,slow=29,SNR=10																		
PDAR	**Pinedale Array**		**27.75**	**248**	P	**P**	**15 41 29.2**	**+4.9**											
	0.5nm,0.4s,baz=29,slow=7.6,SNR=8.1																		
NVAR	**Mina Array Bea**		**35.28**	**253**	P	P	15 42 36.2	+5.7											
	0.2nm,0.5s,baz=32,slow=8.6,SNR=2.7																		
TXAR	**Lajitas Array**		**36.70**	**227**	P	**P**	**15 42 46.2**	**+3.7**											
	0.2nm,0.5s,baz=24,slow=6.9,SNR=2.9																		
ARCES	**ARCESS Array B**		**38.67**	**34**	P	**P**	**15 42 59.2**	**+0.5**											
	5.4nm,0.9s,baz=316,slow=5.0,SNR=3.8																		
FINES	**FINESS Array B**		**44.20**	**43**	P	**P**	**15 43 45.1**	**+1.0**											
	1.1nm,0.7s,baz=289,slow=8.7,SNR=2.9																		
MKAR	**Makanchi Array**		**71.80**	**17**	P	**P**	**15 46 59.5**	**+1.7**											
	0.1nm,0.5s,baz=348,slow=5.2,SNR=2.9																		

IDC 18 15:36:37.2±1.6, 35°.66N×88°.98E, h0km, mb3.3/2, mb1 3.4/5, mb1mx3.2/41, mbtmp3.2/5, ML3.1/2, MS3.0/1, Ms1 3.0/1, ms1mx2.6/22, Error ellipse: s-maj=61.3km s-min=23.2km az=63.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**12.20**	**338**	Pn	Pn	15 39 28.6	-3.6
	0.1nm,0.3s,baz=154,slow=14,SNR=5.4						
MKAR				LR	LR	15 44 40.3	
	comp=Z,75nm,20.2s,baz=141,slow=40						
SONM	**Songino Array**	**17.75**	**41**	P	P	15 40 46.4	-0.3
	0.1nm,0.3s,baz=220,slow=11,SNR=2.5						
CMAR	**Chiang Mai Arr**	**19.27**	**150**	P	Pn	15 41 05.3	+0.9
	baz=323,slow=10,SNR=3.2						
BVAR	**Borovoye Array**	**21.76**	**329**	P	P	15 41 31.2	+1.1
	0.6nm,0.5s,baz=139,slow=10.0,SNR=5.2						
WRA	**Warramunga Arr**	**70.03**	**135**	P	P	15 47 50.1	-0.8
	0.4nm,0.8s,baz=330,slow=6.6,SNR=3.0						

MAN 18 15:38:04.5, 11°.43N×124°.14E, h34km, mb4.4, ML3.2, MS2.9, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.59**	**130**	*e*P	Pb	15 38 17.5	+0.8
OCLP				*e*S	Sb	15 38 26.7	+1.7
PLP	**Palo**	**0.86**	**108⇓**	*e*P	Pn	15 38 20.6	+0.3
PLP				*e*S	Sn	15 38 26.3	-5.4
MSLP	**Maasin**	**1.47**	**151**	*e*P	Pn	15 38 29.3	+0.7
MSLP				*e*S	Sn	15 38 48.1	+1.4

IGQ 18 15:38:18.5±0.9, 2°S±11°×8°2W±°, h8km, MLv4.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COHC	**Cochancay**	**2.66**	**104**	P	Pn	15 39 01.2	-0.4
COHC				S	Sn	15 39 30.2	-3.9
IGUA	**Igualata**	**3.22**	**84**	P	Pn	15 39 09.5	-0.4
BMAS	**Trigal station**	**3.38**	**84**	P	Pn	15 39 11.1	-0.8
BMAS				S	Sn	15 39 43.9	-8.4
ARRY	**Arrayan**	**3.40**	**85**	P	Pn	15 39 11.6	-0.5
BPAT	**Tungurahua Vol**	**3.42**	**85**	P	Pn	15 39 11.9	-0.6
BPAT				S	Sn	15 39 46.8	-6.8
BULB	**Ulba Tungurahu**	**3.45**	**83**	P	Pn	15 39 12.3	-0.6
BULB				S	Sn	15 39 47.7	-6.5
PISA	**Pisayambo**	**3.54**	**77**	P	Pn	15 39 14.5	+0.3
BNAS	**Cotopaxi Volca**	**3.55**	**71**	P	Pn	15 39 14.6	+0.2
BMOR	**Cotopaxi Volca**	**3.55**	**72**	P	Pn	15 39 15.1	+0.6
BMOR				S	Sn	15 39 52.8	-4.2
BREF	**Cotopaxi Volca**	**3.59**	**71**	P	Pn	15 39 14.0	-1.0
BREF				S	Sn	15 39 57.0	-0.9
BVC2	**Cotopaxi Volca**	**3.62**	**71**	P	Pn	15 39 14.6	-0.8
BVC2				S	Sn	15 39 58.9	+0.2
BTAM	**Cotopaxi Volca**	**3.63**	**72**	P	Pn	15 39 15.2	-0.4
BTAM				S	Sn	15 39 59.8	+1.0
PITA	**Cotopaxi Volc**	**3.63**	**70**	P	Pn	15 39 15.9	+0.4
PINO	**Pino**	**3.63**	**63**	P	Pn	15 39 14.1	-1.5
YANA	**Yana**	**3.69**	**62**	P	Pn	15 39 14.6	-1.6
PAC1	**Pacto, Paraso**	**3.69**	**56**	P	Pn	15 39 13.5	-2.6
PAC1				S	Sn	15 39 58.3	-1.6
ANTI	**Antisana**	**3.93**	**70**	P	Pn	15 39 19.7	0.0
URCU	**Urcuqui**	**4.24**	**58**	P	Pn	15 39 20.3	-3.5
URCU				S	Sn	15 40 00.4	-13

PRE 18 15:53:55.2±2.0, 26°.46S×27°.34E, h2km, ML1.7, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WDLM	**Western Deep L**	**0.08**	**62**	*e*P	Pg	15 53 57.4	+0.5
WDLM				*e*S	Sg	15 53 58.2	+0.1
WDLM				AML	AML	15 53 58.9	
	comp=Z,1μm,0.2s						
KLOF	**Kloof**	**0.27**	**65**	*e*P	Pg	15 54 00.1	-0.3
KLOF				*e*S	Sg	15 54 03.6	-0.2
KLOF				AML	AML	15 54 17.6	
	comp=Z,61nm,0.2s						
PRYS	**Parys**	**0.46**	**178**	*e*P	Pg	15 54 05.0	+1.0
PRYS				*e*S	Sg	15 54 09.3	-0.7
PRYS				AML	AML	15 54 16.3	
	comp=Z,27nm,0.8s						
SWZ	**Schweizer**	**1.93**	**248**	*e*P	Pb	15 54 30.6	-0.6
SWZ				*e*S	Sn	15 54 53.8	-0.4
SWZ				AML	AML	15 55 12.3	
	comp=Z,5.5nm,0.3s						
LBTB	**Lobatse**	**2.13**	**312**	*e*P	Pb	15 54 33.4	-1.3
LBTB				*e*S	Sn	15 54 58.4	-0.7
LBTB				AML	AML	15 55 01.4	
	comp=N,27nm,0.3s						
BOSA	**Boshof**	**2.83**	**220**	*e*P	Pn	15 54 41.7	+0.2
BOSA				*e*S	Sn	15 55 17.6	+1.3
BOSA				AML	AML	15 55 23.4	
	comp=Z,2.6nm,0.4s						

PRE 18 15:55:56.9±1.5, 26°.40S×27°.30E, h2km, ML2.4, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WDLM	**Western Deep L**	**0.11**	**102**	*e*P	Pg	15 55 60.0	+0.9
WDLM				*e*S	Sg	15 56 00.9	+0.2
WDLM				AML	AML	15 56 01.1	
	comp=Z,2μm,0.1s						
WDLM	**Western Deep L**	**0.11**	**102**	*e*P	Pg	15 55 60.0	+0.9
WDLM				*e*S	Sg	15 56 00.9	+0.2
WDLM				AML	AML	15 56 01.1	
	comp=Z,2μm,0.1s						
KLOF	**Kloof**	**0.28**	**80**	*e*P	Pg	15 56 02.4	+0.1
KLOF				*e*S	Sg	15 56 06.3	+0.3
KLOF				AML	AML	15 56 06.9	
	comp=Z,926nm,0.3s						
KLOF	**Kloof**	**0.28**	**80**	*e*P	Pg	15 56 02.4	+0.1
KLOF				*e*S	Sg	15 56 06.3	+0.3
KLOF				AML	AML	15 56 06.9	
	comp=Z,926nm,0.3s						
PRYS	**Parys**	**0.53**	**174**	*e*P	Pg	15 56 07.9	+0.9
PRYS				*e*S	Sg	15 56 13.6	-0.3
PRYS				AML	AML	15 56 14.6	
	comp=Z,112nm,0.1s						
PRYS	**Parys**	**0.53**	**174**	*e*P	Pg	15 56 07.9	+0.9
PRYS				*e*S	Sg	15 56 13.6	-0.3
PRYS				AML	AML	15 56 14.6	
	comp=Z,112nm,0.1s						
ERPM	**east rand prop**	**0.85**	**86**	*e*P	Pg	15 56 13.5	+0.4
ERPM				*e*S	Sg	15 56 24.4	+0.2
ERPM				AML	AML	15 56 33.1	
	comp=Z,33nm,0.7s						
ERPM	**east rand prop**	**0.85**	**86**	*e*P	Pg	15 56 13.5	+0.4
ERPM				*e*S	Sg	15 56 24.4	+0.2
ERPM				AML	AML	15 56 33.1	
	comp=Z,33nm,0.7s						
SWZ	**Schweizer**	**1.93**	**246**	*e*P	Pn	15 56 31.5	+0.7
SWZ				*e*S	Sn	15 56 55.8	+0.1
SWZ				AML	AML	15 56 58.0	
	comp=Z,98nm,0.2s						
SWZ	**Schweizer**	**1.93**	**246**	*e*P	Pn	15 56 31.5	+0.7
SWZ				*e*S	Sn	15 56 55.8	+0.1
SWZ				AML	AML	15 56 58.0	
	comp=Z,98nm,0.2s						
LBTB	**Lobatse**	**2.07**	**312**	*e*P	Pn	15 56 33.7	+1.0
LBTB				*e*S	Sn	15 56 59.1	0.0
LBTB				AML	AML	15 57 04.0	
	comp=N,76nm,0.3s						
LBTB	**Lobatse**	**2.07**	**312**	*e*P	Pn	15 56 33.7	+1.0
LBTB				*e*S	Sn	15 56 59.1	0.0
LBTB				AML	AML	15 57 04.0	
	comp=N,76nm,0.3s						
BOSA	**Boshof**	**2.86**	**219**	*e*P	Pn	15 56 43.3	-0.3
BOSA				*e*S	Sn	15 57 19.5	+0.8
BOSA				AML	AML	15 57 25.9	
	comp=Z,8.9nm,0.5s						
BOSA	**Boshof**	**2.86**	**219**	*e*P	Pn	15 56 43.3	-0.3
BOSA				*e*S	Sn	15 57 19.5	+0.8
BOSA				AML	AML	15 57 25.9	
	comp=Z,8.9nm,0.5s						

*ISCJB **18** 16:00:23.6±0.2, 40°.60S±0°.02×174°.48E±0°.04, h116km±4km, mb4.1/6, Error ellipse: s-maj=5.5km s-min=2.6km az=23.6*
*WEL **18** 16:00:25.2, 41°.S±1°×17°.4E±°, h102km±3km*
*IDC **18** 16:00:26.4±0.6, 40°.33S×174°.44E, h89km±4km, mb3.9/6, mb1 4.1/8, mb1mx3.9/22, mbtmp4.2/8, MS3.5/3, Ms1 3.5/3, ms1mx3.0/33, Error ellipse: s-maj=15.7km s-min=9.5km az=141.0*

ISC 18 16:00:26.4±0.5, 40°.58S±0°.03×174°.40E±0°.04, h95km±4km, n170, σ1°92/185, mb4.2/8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.42**	**238**	P	**Pn**	**16 00 40.2**	**-0.9**
DUWZ				S	**Sn**	**16 00 50.5**	**-1.6**
TCW	**Tory Channel**	**0.63**	**188**	P	**Pn**	**16 00 43.3**	**+0.5**
TCW				S	**Sn**	**16 00 54.2**	**-0.7**
CAW	**Cannon Point**	**0.73**	**136**	P	**Pn**	**16 00 43.9**	**+0.3**
CAW				S	**Sn**	**16 00 56.7**	**+0.1**
OHWZ	**Ohakea**	**0.80**	**62**	P	**Pn**	**16 00 43.9**	**-0.4**
OHWZ				S	**Sn**	**16 00 57.0**	**-0.6**
WAZ	**Wanganui**	**0.94**	**29**	P	**Pn**	**16 00 45.3**	**-0.5**
WAZ				S	**Sn**	**16 00 59.0**	**-1.4**
NNZ	**Nelson**	**1.00**	**230**	P	**Pn**	**16 00 46.3**	**0.0**
MTW	**Mount Morrison**	**1.02**	**125**	P	**Pn**	**16 00 46.6**	**0.0**
MTW				S	**Sn**	**16 01 00.8**	**-1.0**
POWZ	**Post Office Ro**	**1.06**	**80**	P	**Pn**	**16 00 46.5**	**-0.7**
LREZ	**Lake Rotokare**	**1.12**	**0**	P	**Pn**	**16 00 47.0**	**-0.8**
PRWZ	**Pori Road**	**1.20**	**89**	P	**Pn**	**16 00 48.4**	**-0.4**
NMEZ	**Namu Road**	**1.23**	**341**	P	**Pn**	**16 00 47.9**	**-1.2**
PREZ	**Palmer Road**	**1.25**	**352**	P	**Pn**	**16 00 48.5**	**-0.9**
TSZ	**Takapari Road**	**1.31**	**67**	P	**Pn**	**16 00 49.0**	**-1.1**
KHEZ	**Kahui Hut**	**1.32**	**347**	P	**Pn**	**16 00 49.2**	**-1.1**
NBEZ	**Newall Road No**	**1.37**	**343**	P	**Pn**	**16 00 49.8**	**-1.0**
DVHZ	**Dannevirke**	**1.38**	**79**	P	**Pn**	**16 00 49.9**	**-1.0**
DREZ	**Durham Road**	**1.40**	**354**	P	**Pn**	**16 00 50.3**	**-0.8**
BFZ	**Birch Farm**	**1.41**	**95**	P	**Pn**	**16 00 50.4**	**-0.6**
PKE	**Pukeiti**	**1.42**	**347**	P	**Pn**	**16 00 50.3**	**-1.1**
QRZ	**Quartz Range**	**1.44**	**260**	P	**Pn**	**16 00 50.6**	**-1.0**
MTVZ	**Mangateitei**	**1.45**	**35**	P	**Pn**	**16 00 50.7**	**-1.2**
VRZ	**Vera Road**	**1.48**	**11**	P	**Pn**	**16 00 51.3**	**-0.8**
PKVZ	**Pokaka**	**1.48**	**30**	P	**Pn**	**16 00 51.0**	**-1.3**
MHEZ	**Mangahewa**	**1.50**	**358**	P	**Pn**	**16 00 51.8**	**-0.6**
TRVZ	**Turoa**	**1.56**	**35**	P	**Pn**	**16 00 52.1**	**-1.3**
MOVZ	**Moawhango**	**1.57**	**42**	P	**Pn**	**16 00 52.0**	**-1.3**
DRZ	**Dome Shelter**	**1.58**	**35**	P	**Pn**	**16 00 52.9**	**-0.9**
WHVZ	**Whangaehu Hut**	**1.59**	**36**	P	**Pn**	**16 00 52.7**	**-1.0**
ANWZ	**Angora Road**	**1.59**	**86**	P	**Pn**	**16 00 52.9**	**-0.6**
FWVZ	**Far West T-bar**	**1.60**	**34**	P	**Pn**	**16 00 52.4**	**-1.4**
THZ	**Tophouse**	**1.63**	**223**	P	**Pn**	**16 00 54.5**	**+0.5**
TUVZ	**Tukino**	**1.63**	**37**	P	**Pn**	**16 00 53.3**	**-0.9**
COVZ	**Chateau Observ**	**1.64**	**33**	P	**Pn**	**16 00 52.8**	**-1.4**
WPHZ	**Waipukurau**	**1.65**	**72**	P	**Pn**	**16 00 53.1**	**-1.1**
BHHZ	**Black Hill Sta**	**1.68**	**50**	P	**Pn**	**16 00 53.4**	**-1.4**
NGZ	**Ngauruhoe**	**1.68**	**34**	P	**Pn**	**16 00 53.5**	**-1.4**
TWVZ	**Taurewa**	**1.71**	**28**	P	**Pn**	**16 00 53.6**	**-1.6**
WTVZ	**West Tongariro**	**1.73**	**33**	P	**Pn**	**16 00 54.0**	**-1.4**
PRHZ	**Porangahau**	**1.74**	**80**	P	**Pn**	**16 00 54.4**	**-1.0**
KRVZ	**Karewarewa**	**1.77**	**33**	P	**Pn**	**16 00 54.4**	**-1.5**
KATZ	**Kakaramea**	**1.89**	**32**	P	**Pn**	**16 00 56.2**	**-1.3**
KWHZ	**Kaweka Forest**	**1.94**	**54**	P	**Pn**	**16 00 56.4**	**-1.7**
KHZ	**Kahutara**	**1.94**	**199**	P	**Pn**	**16 00 58.7**	**+0.7**
RITZ	**Rihia Road**	**1.96**	**36**	P	**Pn**	**16 00 57.1**	**-1.2**
PXZ	**Pawanui**	**1.97**	**75**	P	**Pn**	**16 00 56.8**	**-1.4**
RATZ	**Rangitukua**	**2.02**	**32**	P	**Pn**	**16 00 57.9**	**-1.1**
KAHZ	**Kahuranaki**	**2.06**	**68**	P	**Pn**	**16 00 58.1**	**-1.5**
HIZ	**Hauiti**	**2.10**	**10**	P	**Pn**	**16 00 59.0**	**-1.0**
MCHZ	**McNeill Hill**	**2.10**	**58**	P	**Pn**	**16 00 58.6**	**-1.4**
HATZ	**Hinemaiaia**	**2.14**	**38**	P	**Pn**	**16 00 58.5**	**-2.1**
WATZ	**Wairara**	**2.14**	**29**	P	**Pn**	**16 00 59.7**	**-0.9**
BKZ	**Black Stump Fm**	**2.15**	**49**	P	**Pn**	**16 00 58.8**	**-1.9**
CKNZ	**Cape Kidnapper**	**2.25**	**67**	P	**Pn**	**16 01 00.1**	**-1.5**
WHTZ	**Whakaora**	**2.26**	**33**	P	**Pn**	**16 01 01.2**	**-1.0**
DSZ	**Denniston Nort**	**2.27**	**238**	P	**Pn**	**16 01 02.0**	**-0.3**
MRHZ	**Matea Rd**	**2.34**	**42**	P	**Pn**	**16 01 00.9**	**-2.4**
KUTZ	**Kaahu Road**	**2.36**	**28**	P	**Pn**	**16 01 02.3**	**-1.3**
NMHZ	**Naumai**	**2.38**	**52**	P	**Pn**	**16 01 02.1**	**-1.7**
NMHZ				P	**Pn**	**16 01 02.1**	**-1.7**
ARHZ	**Aropaoanui**	**2.40**	**57**	P	**Pn**	**16 01 02.0**	**-1.9**
TLZ	**Tolley Road**	**2.42**	**22**	P	**Pn**	**16 01 02.7**	**-1.6**
WPRZ	**Whakapapatarin**	**2.47**	**34**	P	**Pn**	**16 01 03.2**	**-1.8**
ALRZ	**Allen Road**	**2.52**	**37**	P	**Pn**	**16 01 03.5**	**-2.1**
MTHZ	**Maungataniwha**	**2.56**	**48**	P	**Pn**	**16 01 03.8**	**-2.4**
PRRZ	**Plateau Road**	**2.59**	**37**	P	**Pn**	**16 01 04.5**	**-2.1**
PRRZ				P	**Pn**	**16 01 04.5**	**-2.1**
GRRZ	**Galatos Road**	**2.59**	**31**	P	**Pn**	**16 01 05.3**	**-1.3**
HRRZ	**Handcock Road**	**2.63**	**34**	P	**Pn**	**16 01 05.6**	**-1.5**
WHHZ	**Waihua**	**2.65**	**56**	P	**Pn**	**16 01 05.2**	**-2.1**
RAHZ	**Arahi**	**2.66**	**52**	P	**Pn**	**16 01 05.1**	**-2.3**
HSRZ	**Hossack Road**	**2.68**	**33**	P	**Pn**	**16 01 06.1**	**-1.7**
LTZ	**Lake Taylor**	**2.71**	**215**	P	**Pn**	**16 01 07.9**	**-0.2**
HLRZ	**Highlands Stat**	**2.78**	**34**	P	**Pn**	**16 01 07.8**	**-1.3**
RRRZ	**Republican Roa**	**2.78**	**37**	P	**Pn**	**16 01 06.8**	**-2.2**
UTU	**Utuhina**	**2.78**	**31**	P	**Pn**	**16 01 07.6**	**-1.4**
MUGZ	**Murupara**	**2.79**	**42**	P	**Pn**	**16 01 06.3**	**-2.9**
RTZ	**Ruatahuna**	**2.80**	**46**	P	**Pn**	**16 01 06.5**	**-2.9**
NGRZ	**Ngongotaha**	**2.84**	**30**	P	**Pn**	**16 01 08.5**	**-1.4**
TARZ	**Mount Tarawera**	**2.86**	**36**	P	**Pn**	**16 01 08.5**	**-1.7**
SNGZ	**Shannon Statio**	**2.90**	**53**	P	**Pn**	**16 01 08.0**	**-2.7**
AMCZ	**Amberley**	**2.90**	**206**	P	**Pn**	**16 01 10.2**	**-0.4**
OMRZ	**Omania**	**2.91**	**32**	P	**Pn**	**16 01 09.0**	**-1.8**
MKRZ	**Makatiti**	**2.92**	**34**	P	**Pn**	**16 01 09.6**	**-1.5**
KARZ	**Kaharoa**	**2.93**	**30**	P	**Pn**	**16 01 09.7**	**-1.4**
KNZ	**Kokohu**	**2.97**	**59**	P	**Pn**	**16 01 08.6**	**-2.9**
TOZ	**Tahuroa Road**	**2.97**	**17**	P	**Pn**	**16 01 10.2**	**-1.4**
KMRZ	**Kaimai**	**2.98**	**24**	P	**Pn**	**16 01 10.5**	**-1.3**
LIRZ	**Lichensteins R**	**3.00**	**32**	P	**Pn**	**16 01 10.5**	**-1.6**
MHGZ	**Mahia Peninsul**	**3.06**	**53**	P	**Pn**	**16 01 10.2**	**-2.6**
EDRZ	**Edgecumbe**	**3.07**	**37**	P	**Pn**	**16 01 10.4**	**-2.6**
INZ	**Inchbonnie**	**3.08**	**225**	P	**Pn**	**16 01 12.7**	**-0.3**
RAGZ	**Rawiri**	**3.13**	**49**	P	**Pn**	**16 01 10.8**	**-3.0**
URZ	**Urewera**	**3.13**	**43**	P	**Pn**	**16 01 10.4**	**-3.4**
	28nm,0.3s,baz=258,slow=3.8,SNR=507						
URZ				S	**Sn**	**16 01 45.8**	**-4.5**
	130nm,0.3s,baz=73,slow=18,SNR=22						
URZ	**Urewera**	**3.13**	**43**	P	**Pn**	**16 01 10.3**	**-3.4**
MARZ	**Manawahe**	**3.14**	**35**	P	**Pn**	**16 01 11.5**	**-2.4**
PRGZ	**Paritu Road**	**3.16**	**59**	P	**Pn**	**16 01 11.1**	**-3.0**
TGRZ	**Tauranga**	**3.20**	**28**	P	**Pn**	**16 01 13.3**	**-1.3**
RIGZ	**Rimuhau**	**3.21**	**55**	P	**Pn**	**16 01 12.0**	**-2.8**
OPRZ	**Ohinepanea**	**3.21**	**32**	P	**Pn**	**16 01 12.6**	**-2.2**
OXZ	**Oxford**	**3.26**	**212**	P	**Pn**	**16 01 14.0**	**-1.4**
OXZ	**Oxford**	**3.26**	**212**	P	**Sn**	**16 01 50.1**	**-3.2**
CRLZ	**Canterbury Las**	**3.27**	**203**	P	**Pn**	**16 01 14.2**	**-1.4**
CRLZ	**Canterbury Las**	**3.27**	**203**	P	**Sn**	**16 01 47.1**	**-6.4**
OKCZ	**Okains Bay**	**3.29**	**197**	P	**Pn**	**16 01 15.1**	**-0.8**
OKCZ	**Okains Bay**	**3.29**	**197**	P	**Sn**	**16 01 50.9**	**-3.2**
MWZ	**Matawai**	**3.31**	**48**	P	**Pn**	**16 01 12.7**	**-3.4**
MWZ				P	**Pn**	**16 01 12.7**	**-3.4**
MQZ	**McQueen's Vall**	**3.38**	**202**	P	**Pn**	**16 01 15.5**	**-1.6**
MQZ	**McQueen's Vall**	**3.38**	**202**	P	**Sn**	**16 01 50.9**	**-5.2**
TKGZ	**Te Karaka**	**3.42**	**52**	P	**Pn**	**16 01 14.4**	**-3.2**
AKCZ	**Akaroa Harbour**	**3.47**	**198**	P	**Pn**	**16 01 17.1**	**-1.2**
AKCZ	**Akaroa Harbour**	**3.47**	**198**	P	**Sn**	**16 01 54.2**	**-4.1**
KBAZ	**Karaka Road Bo**	**3.50**	**6**	P	**Pn**	**16 01 18.0**	**-0.7**
AWAZ	**Awhitu Peninsu**	**3.52**	**3**	P	**Pn**	**16 01 18.0**	**-1.0**
MYRZ	**Mayor Island**	**3.60**	**24**	P	**Pn**	**16 01 19.2**	**-0.9**
CNGZ	**Carnagh Statio**	**3.62**	**56**	P	**Pn**	**16 01 17.2**	**-3.0**
ETAZ	**East Tamaki Re**	**3.65**	**7**	P	**Pn**	**16 01 19.7**	**-1.0**
WTAZ	**Waiatarua**	**3.65**	**2**	P	**Pn**	**16 01 19.9**	**-0.8**
RUGZ	**Raukumara Rang**	**3.65**	**45**	P	**Pn**	**16 01 16.9**	**-3.9**
TWGZ	**Tauwhareparae**	**3.67**	**50**	P	**Pn**	**16 01 18.2**	**-2.9**
WVZ	**Waitaha Valley**	**3.70**	**226**	P	**Pn**	**16 01 20.5**	**-0.9**
EPAZ	**Eden Park BICE**	**3.71**	**4**	P	**Pn**	**16 01 20.7**	**-0.9**
HBAZ	**Herne Bay Bore**	**3.74**	**4**	P	**Pn**	**16 01 21.0**	**-0.9**
RVAZ	**Riverhead Bore**	**3.81**	**2**	P	**Pn**	**16 01 21.9**	**-1.0**
WIAZ	**Waiheke Island**	**3.83**	**9**	P	**Pn**	**16 01 22.0**	**-1.2**
MBAZ	**Motutapu North**	**3.83**	**6**	P	**Pn**	**16 01 22.1**	**-1.0**
HAZ	**Te Kaha**	**3.86**	**44**	P	**Pn**	**16 01 19.1**	**-4.4**
PUZ	**Puketiti**	**3.91**	**51**	P	**Pn**	**16 01 20.4**	**-3.8**
PKGZ	**Pakihiroa**	**3.93**	**48**	P	**Pn**	**16 01 21.0**	**-3.5**
KUZ	**Kuaotunu**	**3.97**	**16**	P	**Pn**	**16 01 23.2**	**-1.9**
ABAZ	**Army Bay**	**3.99**	**5**	P	**Pn**	**16 01 24.5**	**-0.8**
RPZ	**Rata Peaks**	**4.00**	**217**	P	**Pn**	**16 01 23.7**	**-1.7**
	7.4nm,0.3s,baz=216,slow=1.2,SNR=35						
RPZ				S	**Sn**	**16 02 07.1**	**-4.0**
	74nm,0.3s,baz=138,slow=23,SNR=18						
RPZ	**Rata Peaks**	**4.00**	**217**	P	**Pn**	**16 01 23.7**	**-1.7**
WMGZ	**Waiomatatini S**	**4.17**	**50**	P	**Pn**	**16 01 24.0**	**-3.8**
MXZ	**Matakaoa Point**	**4.29**	**47**	P	**Pn**	**16 01 25.7**	**-3.6**
GRZ	**Great Barrier**	**4.41**	**11**	P	**Pn**	**16 01 29.2**	**-1.8**
FOZ	**Fox Glacier**	**4.51**	**228**	P	**Pn**	**16 01 30.6**	**-1.7**
WCZ	**Waipu Caves**	**4.64**	**360**	P	**Pn**	**16 01 32.9**	**-1.1**
LBZ	**Lake Benmore**	**4.91**	**218**	P	**Pn**	**16 01 35.8**	**-2.0**
ODZ	**Otahua Downs**	**5.24**	**210**	P	**Pn**	**16 01 40.3**	**-1.9**
OUZ	**Omahuta**	**5.39**	**353**	P	**Pn**	**16 01 43.2**	**-1.1**
JCZ	**Jackson Bay**	**5.43**	**228**	P	**Pn**	**16 01 43.1**	**-1.8**
WKZ	**Wanaka**	**5.80**	**221**	P	**Pn**	**16 01 48.1**	**-1.8**
EAZ	**Earnscleugh**	**5.96**	**217**	P	**Pn**	**16 01 50.5**	**-1.5**
HHSZ	**Highcliff Hill**	**5.98**	**206**	P	**Pn**	**16 01 50.8**	**-1.5**
MSZ	**Milford Sound**	**6.28**	**227**	P	**Pn**	**16 01 54.5**	**-1.8**
TUZ	**Tuapeka**	**6.40**	**211**	P	**Pn**	**16 01 56.4**	**-1.5**
SYZ	**Scrubby Hill**	**7.07**	**211**	P	**Pn**	**16 02 06.2**	**-0.9**
WHZ	**Wether Hill Ro**	**7.09**	**219**	P	**Pn**	**16 02 05.1**	**-2.3**
DZM	**Mont Dzumac**	**19.65**	**338**	P	**P**	**16 04 47.3**	**-0.4**
	0.2nm,0.3s,baz=225,slow=17,SNR=3.3						
DZM				LR	LR	16 11 55.8	
	comp=Z,131nm,18.5s,baz=8.5,slow=36						
STKA	**Stephens Creek**	**27.72**	**278**	pP	pP	16 06 28.1	+1.0
	4.7nm,0.9s,baz=99,slow=11,SNR=4.8						
CTA	**Charters Tower**	**31.52**	**302**	pP	pP	16 07 01.3	+0.4

SHA1	**Shidzhatmaz**	**1.23**	**312**	*i* Pg		**Pn**	**16 21 22.2**	**-0.1**
SHA1				*i* Sg		**Sn**	**16 21 38.6**	**+0.1**
PYA1	**Pyatigorsk**	**1.28**	**333**	*i* Pg		**Pb**	**16 21 23.3**	**-0.2**
PYA1				*e*Sg		**Sn**	**16 21 40.0**	**+0.4**
TBLG	**Delisi**	**1.34**	**153**	P		**Pg**	**16 21 25.8**	**+0.1**
TBLG				S		**Sg**	**16 21 42.7**	**-0.5**
TBLG	**Delisi**	**1.34**	**153**	*e*Pg		**Pg**	**16 21 25.8**	**+0.1**
TBLG				*e*Sg		**Sg**	**16 21 42.7**	**-0.5**
BEYR	**Belyy Ugol+**	**1.35**	**324**	*e*Pg		**Pb**	**16 21 24.9**	**+0.3**
BEYR				*i* Sg		**Sg**	**16 21 43.1**	**-0.4**
KIV0	**Kislovodsk Arr**	**1.36**	**320**	*e*Pg		**Pb**	**16 21 24.7**	**-0.1**
KIV0				*e*Sg		**Sb**	**16 21 42.1**	**+0.2**
GROC	**Groznyy**	**1.41**	**78**	*e*Pg		**Pn**	**16 21 23.8**	**-0.7**
GROC				*e*Sg		**Sn**	**16 21 42.6**	**0.0**
BGD	**Bogdanovka**	**1.68**	**188**	P		**Pg**	**16 21 32.9**	**+0.8**
DOMR	**Dombai**	**1.72**	**283**	*e*Pg		**Pg**	**16 21 32.1**	**-0.7**
DOMR				*e*Sg		**Sg**	**16 21 54.1**	**-1.1**
BTLR	**Botlikh**	**1.72**	**98**	*e*Pg		**Pb**	**16 21 30.2**	**-0.7**
BTLR				*i* Sg		**Sb**	**16 21 51.7**	**-0.5**
ALER	**Alexandrovskoy**	**1.98**	**339**	*e*Pg		**Pg**	**16 21 36.7**	**-1.1**
ALER				*e*Sg		**Sb**	**16 22 01.2**	**+1.7**
LGD	**Lagodekhi**	**2.04**	**122**	P		**Pb**	**16 21 36.4**	**+0.1**
LGD				S		**Sg**	**16 22 04.1**	**-1.4**
LGD	**Lagodekhi**	**2.04**	**122**	*e*Pg		**Pb**	**16 21 36.4**	**+0.1**
LGD				*e*Sg		**Sg**	**16 22 04.1**	**-1.4**
NVNR	**Nevinnomyssk**	**2.20**	**321**	*e*Pn		**Pg**	**16 21 42.5**	**+0.4**
NVNR				*e*Sn		**Sg**	**16 22 09.5**	**-1.2**
GNBR	**Gunib**	**2.31**	**102**	*e*Pn		**Pn**	**16 21 36.9**	**-0.2**
GNBR				*e*Sn		**Sn**	**16 22 06.7**	**+1.6**

IDC 18 16:35:03.8±5.8, 3°53N×92°24E, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.2/52, mbtmp3.5/2, MS3.7/1, Ms1 3.7/1, ms1mx2.7/38, Error ellipse: s-maj=193.5km s-min=42.5km az=67.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H** baz=59,slow=75,SNR=12	**22.61**	**241**	T	T	17 00 13.5	
H08S3	**Diego Garcia H** baz=59,slow=75,SNR=18	**22.61**	**241**	T	T	17 00 07.5	
H08S1	**Diego Garcia H** baz=59,slow=75,SNR=10	**22.63**	**241**	T	T	17 00 10.8	
JOW	**Kunigami** comp=Z,86nm,18.1s,baz=270,slow=38	**41.52**	**52**	LR	LR	17 01 30.6	
H01W3	**Cape Leeuwin H** baz=324	**43.40**	**154**	T	T	17 29 43.2	
H01W2	**Cape Leeuwin H** baz=324	**43.41**	**154**	T	T	17 29 43.7	
H01W1	**Cape Leeuwin H** baz=324	**43.41**	**153**	T	T	17 29 38.2	
SONM	**Songino Array** 0.6nm,0.6s,baz=196,slow=8.1,SNR=5.1	**45.80**	**13**	P	P	16 43 27.5	+0.1
WRA	**Warramunga Arr** 0.6nm,1.0s,baz=300,slow=8.4,SNR=2.5	**47.47**	**121**	P	P	16 43 40.7	-0.1
TXAR	**Lajitas Array** 0.5nm,0.8s,baz=320,slow=2.4,SNR=3.5	**143.94**	**24**	PKP	PKPbc	16 54 41.0	+1.2

IDC 18 16:39:57.4±1.3, 5°52N×124°53E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/42, mbtmp3.4/3, Error ellipse: s-maj=46.3km s-min=22.3km az=81.0
ISCJB 18 16:40:01.8±0.9, 6°14N±0°05×126°98E±0°06, h35km, mb3.3/3, Error ellipse: s-maj=8.7km s-min=7.2km az=155.1
MAN 18 16:40:06.0, 6°35N×126°69E, h69km, mb4.5, ML3.4, MS3.2

ISC 18 16:40:03.6±1.7, 6°20N±0°07×126°91E±0°10, h35km, n13, σ1°52/21, mb3.4/3, 4C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.99**	**319**	*e*P	**Pn**	**16 40 22.3**	**+1.4**
MATI				*e*S	**Sn**	**16 40 35.4**	**+1.7**
DDMP	**Don Marcelino,**	**1.20**	**266**	*e*P	**Pn**	**16 40 25.5**	**+1.7**
DDMP				*e*S	**Sn**	**16 40 40.0**	**+1.2**
DAV	**Davao City (W)** 104nm,0.3s,baz=57,slow=2.8,SNR=6.4	**1.58**	**303**	Pn	**Pn**	**16 40 30.0**	**+0.9**
DAV				Sn	**Sn**	**16 40 50.6**	**+2.2**
	200nm,0.3s,baz=253,slow=21,SNR=24						
DMPH	**Davao City--Mi**	**1.65**	**302**	*e*P	**Pn**	**16 40 31.0**	**+1.0**
DMPH				*i* S	**Sn**	**16 40 51.0**	**+1.0**
GSPH	**General Santos**	**1.95**	**267**	*i* P	**Pn**	**16 40 34.2**	**-0.1**
GSPH				*i* S	**Sn**	**16 40 55.7**	**-2.0**
BIPH	**Bislig**	**2.05**	**345**	*e*P	**Pn**	**16 40 35.8**	**+0.2**
BIPH				*e*S	**Sn**	**16 40 59.5**	**-0.4**
SKMP	**Bagumbayan, Su**	**2.37**	**278**	*e*P	**Pn**	**16 40 39.9**	**-0.2**
SKMP				*e*S	**Sn**	**16 41 06.2**	**-1.7**
BUKP	**Musuan**	**2.48**	**312**	*e*P	**Pn**	**16 40 41.3**	**-0.3**
BUKP				*e*S	**Sn**	**16 41 07.8**	**-2.9**
BUTP	**Butuan**	**3.04**	**335**	*e*P	**Pn**	**16 40 50.2**	**+1.1**
BUTP				*e*S	**Sn**	**16 41 22.6**	**-1.6**
CGP	**Cagayan de Oro**	**3.14**	**316**	*e*P	**Pn**	**16 40 50.9**	**+0.4**
CGP				*e*S	**Sn**	**16 41 24.6**	**-2.2**
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=334,slow=11,SNR=4.8	**26.98**	**164**	P	**P**	**16 45 42.0**	**-0.3**
ASAR	**Alice Springs** 0.3nm,0.5s,baz=342,slow=7.2,SNR=12	**30.46**	**167**	P	P	16 46 11.8	-1.4
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=141,slow=7.4,SNR=2.9	**55.66**	**324**	P	P	16 49 29.6	-6.7

ISCJB 18 16:58:59.5±0.6, 12°85N±0°10×143°32E±0°09, h100km, mb3.7/10, Error ellipse: s-maj=15.2km s-min=10.0km az=144.5
IDC 18 16:59:00.4±1.8, 12°86N×143°33E, h94km±17km, mb3.3/9, mb1 3.6/9, mb1mx3.4/42, mbtmp3.7/9, Error ellipse: s-maj=21.0km s-min=13.6km az=97.0

ISC 18 16:59:01.0±0.7, 12°9N±0°1×143°4E±0°1, h100km, n17, σ0°74/12, mb3.7/10, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** 86nm,0.3s,baz=315,slow=1.8,SNR=45	**1.61**	**64**	P	**Pn**	**16 59 27.9**	**-0.8**
GUMO				S	**Sn**	**16 59 49.8**	**+0.2**
	190nm,0.3s,baz=163,slow=22,SNR=13						
H11S3	**WAKE ISLAND Hy** baz=259	**23.11**	**73**	T	T	17 27 06.5	
H11S1	**WAKE ISLAND Hy** baz=259	**23.12**	**73**	T	T	17 27 11.5	
H11S2	**WAKE ISLAND Hy** baz=259	**23.12**	**73**	T	T	17 27 09.5	
H11N1	**WAKE ISLAND Hy** baz=263	**23.55**	**70**	T	T	17 27 38.4	
H11N2	**WAKE ISLAND Hy** baz=263	**23.56**	**70**	T	T	17 27 45.4	
H11N3	**WAKE ISLAND Hy** baz=263	**23.57**	**70**	T	T	17 27 43.9	
WRA	**Warramunga Arr** 1.2nm,0.7s,baz=19,slow=9.6,SNR=13	**33.80**	**195**	P	**P**	**17 05 32.8**	**-0.9**
ASAR	**Alice Springs** 0.4nm,0.4s,baz=21,slow=12,SNR=25	**37.48**	**194**	P	**P**	**17 06 04.2**	**-1.0**
DZM	**Mont Dzumac** 8.2nm,0.5s,baz=280,slow=4.1,SNR=14	**41.45**	**147**	P	**P**	**17 06 38.8**	**+0.6**
CMAR	**Chiang Mai Arr** 0.4nm,0.5s,baz=76,slow=6.7,SNR=4.5	**43.07**	**283**	P	**P**	**17 06 51.4**	**-0.1**
STKA	**Stephens Creek** 2.3nm,0.8s,baz=250,slow=12,SNR=2.8	**44.53**	**182**	P	**P**	**17 07 03.6**	**+0.8**
SONM	**Songino Array** 0.2nm,0.5s,baz=126,slow=7.3,SNR=2.3	**46.50**	**326**	P	**P**	**17 07 19.1**	**+0.7**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=87,slow=6.9,SNR=3.7	**61.01**	**317**	P	**P**	**17 09 03.6**	**-0.5**
ILAR	**Eielson Array** 0.5nm,0.7s,baz=246,slow=5.7,SNR=11	**69.83**	**25**	P	**P**	**17 10 00.1**	**-0.5**
YKA	**Yellowknife Ar** 0.3nm,0.4s,baz=288,slow=5.4,SNR=3.1	**84.15**	**27**	P	**P**	**17 11 21.1**	**+0.3**
NVAR	**Mina Array Bea** 0.7nm,0.7s,baz=269,slow=6.4,SNR=5.6	**88.49**	**51**	P	**P**	**17 11 43.7**	**+0.8**

ATH 18 17:00:33.7, 39°76N×25°45E, h30km±2km, ML2.5/3, Error ellipse: s-maj=3.5km s-min=1.6km az=229.0
ISK 18 17:00:33.5, 39°78N×25°54E, h5km, ML2.7/11
ISCJB 18 17:00:34.1±0.4, 39°79N±0°02×25°53E±0°03, h8km±4km, Error ellipse: s-maj=4.2km s-min=3.5km az=33.2
DDA 18 17:00:34.8, 39°85N×25°62E, h6km±1km, ML2.6

ISC 18 17:00:33.8±1.1, 39°78N±0°02×25°54E±0°02, h10km±9km, n32, σ0°87/43, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.30**	**294**	P	**Pg**	**17 00 40.1**	**+0.3**
LIA				S	**Sb**	**17 00 45.4**	**-0.8**
LIA				AML	AML	17 00 49.6	
	comp=E,1899μm,0.5s						
LIA				AML	AML	17 00 54.2	
	comp=N,1966μm,0.6s						
BOZC	**Bozcaada**	**0.40**	**80**	PG	**Pg**	**17 00 42.1**	**+0.3**
BOZC				SG	**Sg**	**17 00 47.5**	**+0.4**
BOZC	**Bozcaada** comp=Z,1μm,0.1s	**0.40**	**80**	IAML_P			
BOZC				*i* P	**Pg**	**17 00 38.0**	**-3.8**
BOZC				*i* S	**Sg**	**17 00 48.0**	**+0.9**
EFSA	**Agios Efstrati**	**0.48**	**241**	P	**Pg**	**17 00 43.3**	**+0.1**
EFSA				S	**Sb**	**17 00 51.2**	**-0.4**
GADA	**Gvkgeada**	**0.50**	**34**	PG	**Pg**	**17 00 43.8**	**+0.2**
EZN	**Ezine**	**0.61**	**85**	PG	**Pg**	**17 00 45.4**	**-0.2**
EZN				SG	**Sb**	**17 00 54.5**	**-0.8**
SIGR	**SIGRI**	**0.62**	**156**	P	**Pg**	**17 00 45.2**	**-0.5**
SIGR				S	**Sb**	**17 00 54.7**	**-0.7**
SMTH	**Samothraki Isl**	**0.69**	**360**	P	**Pb**	**17 00 47.8**	**-0.3**
SMTH				S	**Sb**	**17 00 59.1**	**+1.4**
SMTH				AML	AML	17 01 00.6	
	comp=N,242μm,0.6s						
SMTH				AML	AML	17 01 00.7	
	comp=E,415μm,0.6s						
PRK	**Paraskevi**	**0.78**	**133**	P	**Pn**	**17 00 51.0**	**+0.1**
PRK				S	**Sn**	**17 01 02.7**	**0.0**
PRK				AML	AML	17 01 08.8	
	comp=E,1495μm,0.7s						
PRK				AML	AML	17 01 09.4	
	comp=N,1251μm,0.7s						
BAYC	**CANAKKALE_Bayr** comp=Z,1μm,0.1s	**0.78**	**92**	IAML_P			
BAYC				*i* P	**Pb**	**17 00 49.4**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.95**	**49**	PG	**Pg**	**17 00 52.1**	**0.0**
AYVA	**Ayvalik** comp=Z,526nm,0.2s	**1.01**	**117**	IAML_P			
AYVA				*i* P	**Pn**	**17 00 54.9**	**+0.8**
AYVA				*i* S	**Sn**	**17 01 08.1**	**-0.2**
ENEZ	**Enez**	**1.07**	**26**	PG	**Pb**	**17 00 54.4**	**-0.1**
LPK	**Lapseki**	**1.11**	**57**	PN	**Pb**	**17 00 55.2**	**0.0**
ERIK	**Erikli-Kesan**	**1.17**	**40**	PN	**Pb**	**17 00 56.2**	**+0.1**
ALN	**Alexandroupoli**	**1.19**	**19**	PN	**Pg**	**17 00 55.2**	**-1.4**
ALN	**Alexandroupoli**	**1.19**	**19**	P	**Pb**	**17 00 56.5**	**0.0**
ALN				S	**Sn**	**17 01 13.1**	**+0.4**
DKL	**Dikili**	**1.27**	**123**	PN	**Pg**	**17 00 58.3**	**0.0**
OUR	**Ouranopolis**	**1.32**	**296**	PN	**Pn**	**17 00 58.1**	**-0.2**
KESN	**Edirne-Kesan** comp=Z,50nm,0.2s	**1.37**	**39**	IAML_P			
KESN				*i* P	**Pn**	**17 00 59.2**	**-0.1**
RDO	**Rodhopi**	**1.37**	**0**	PN	**Pg**	**17 00 59.8**	**-0.3**
AOS	**Alonnisos**	**1.42**	**245**	PN	**Pb**	**17 01 00.4**	**0.0**
CHOS	**Chios island**	**1.45**	**164**	PN	**Pb**	**17 01 00.9**	**0.0**
KAVA	**Kavala**	**1.45**	**328**	P	**Pn**	**17 00 59.5**	**-0.7**
KAVA				S	**Sn**	**17 01 18.2**	**-1.0**
KRBG	**Karabiga-Canak**	**1.49**	**65**	PN	**Pb**	**17 01 01.3**	**-0.2**
URLA	**Izmir**	**1.64**	**149**	PN	**Pn**	**17 01 03.5**	**+0.7**
BALB	**Balikesir**	**1.81**	**94**	PN	**Pn**	**17 01 06.0**	**+0.9**
SBT4	**Kumbag-Tekirda**	**1.86**	**55**	PN	**Pn**	**17 01 06.7**	**+1.1**
KDZ	**Kurdzhali**	**1.88**	**357**	PN	**Pn**	**17 01 06.6**	**+0.6**
EDC	**Edincik**	**1.88**	**72**	PN	**Pn**	**17 01 06.8**	**+0.8**
KCTX	**Karacabey (Bur**	**2.22**	**76**	PN	**Pn**	**17 01 11.7**	**+0.9**
EDRB	**Edirne**	**2.26**	**24**	PN	**Pn**	**17 01 12.3**	**+1.0**

ISCJB 18 17:03:49.9±0.4, 15°73N±0°06×92°72W±0°05, h160km±3km, mb3.9/9, Error ellipse: s-maj=11.9km s-min=5.7km az=36.2
MEX 18 17:03:52.3±0.6, 15°69N×92°71W, h162km±7km, MD3.8
NEIC 18 17:03:52.3±0.0, 15°69N×92°71W, h162km, mb4.3/5, MD3.8(MEX), After MEX.
IDC 18 17:03:52.4±0.8, 15°91N×92°33W, h176km±6km, mb3.6/8, mb1 3.8/11, mb1mx3.5/40, mbtmp4.1/11, MS3.7/1, Ms1 3.7/1, ms1mx2.7/25, Error ellipse: s-maj=28.0km s-min=8.0km az=45.0

ISC 18 17:03:51.3±0.6, 15°69N±0°06×92°67W±0°05, h166km±4km, n41, σ2°43/51, mb3.9/9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.53**	**272**	*e*Sn	**Sn**	**17 04 30.3**	**-2.0**
PCIG		**0.53**	**272**	*i* P	**Pn**	**17 04 13.2**	**-1.3**
PCIG				*e*S	**Sn**	**17 04 30.3**	**-2.0**
CCIG	**Comitan**	**0.78**	**41**	*e*Pn	**Pn**	**17 04 15.4**	**-0.8**
CCIG				*e*Sn	**Sn**	**17 04 34.0**	**-1.4**
CCIG	**Comitan**	**0.78**	**41**	*i* P	**Pn**	**17 04 15.7**	**-0.6**
CCIG				*i* S	**Sn**	**17 04 33.8**	**-1.6**
THIG		**0.87**	**153**	*e*Pn	**Pn**	**17 04 16.5**	**-0.1**
THIG				*e*Sn	**Sn**	**17 04 33.9**	**-2.1**
THIG		**0.87**	**153**	*i* P	**Pn**	**17 04 16.5**	**-0.1**
THIG				*e*S	**Sn**	**17 04 33.9**	**-2.1**
APG	**El Apazote** 21nm,0.3s,baz=285,slow=8.0,SNR=87	**2.23**	**107**	P	**Pn**	**17 04 29.6**	**-0.6**
APG				S	**Sn**	**17 04 59.0**	**-1.4**
	194nm,0.3s,baz=101,slow=14,SNR=55						
CMIG	**Matias Romero** 28nm,0.3s,baz=142,slow=8.2,SNR=438	**2.54**	**304**	P	**Pn**	**17 04 31.8**	**-1.9**
CMIG				S	**Sn**	**17 05 02.1**	**-4.5**
	129nm,0.3s,baz=9.2,slow=20,SNR=50						
LVIG	**Laguna Verde**	**5.38**	**319**	*e*Pn	**Pn**	**17 05 06.5**	**-3.3**
LVIG				*e*Sn	**Sn**	**17 06 06.5**	**-4.9**
TGUH	**Tegucigalpa,Un**	**5.46**	**107**	*e*Pn	**Pn**	**17 05 11.1**	**+0.1**
MYIG	**Mrida**	**5.94**	**28**	*e*Pn	**Pn**	**17 05 16.6**	**-0.7**
TEIG	**Tepich**	**6.15**	**42**	*e*Pn	**Pn**	**17 05 17.5**	**-2.6**
BOAB	**BOADO BROADBANT**	**7.52**	**114**	*e*Pn	**Pn**	**17 05 36.6**	**-1.7**
ESPN	**Las Esperanzas**	**8.83**	**112**	*e*Pn	**Pn**	**17 05 56.5**	**+0.8**
JTS	**JuntasAbangare** 6.7nm,0.3s,baz=16,slow=20,SNR=11	**9.23**	**125**	P	**Pn**	**17 06 01.3**	**+0.3**
JTS				S	**Sn**	**17 07 36.6**	**-7.3**
	0.5nm,0.3s,baz=300,slow=20,SNR=2.5						
JTS	**JuntasAbangare**	**9.23**	**125**	*e*Pn	**Pn**	**17 06 01.1**	**0.0**
833A	**Chaparral WMA,**	**14.03**	**335**	*e*Pn	**P**	**17 07 08.8**	**+3.1**
HKT	**Hockley**	**14.49**	**349**	*e*Pn	**Pn**	**17 07 08.2**	**-0.3**
061Z	**Ochoppi**	**14.94**	**45**	*e*Pn	**P**	**17 07 17.0**	**+1.3**
435B	**Jarrell** 25nm,0.9s	**15.69**	**344**	*e*Pn	**P**	**17 07 29.2**	**+5.2**
JCT	**Junction City** 6.6nm,0.8s	**16.11**	**337**	*e*Pn	**P**	**17 07 34.6**	**+5.9**
TX31	**Lajitas Ar. Si**	**16.95**	**325**	*e*P	**Pn**	**17 07 40.2**	**+1.5**
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=150,slow=13,SNR=7.1	**16.95**	**325**	P	**Pn**	**17 07 39.9**	**+1.2**
GTBY	**Guantanamo Bay** 27nm,0.8s	**17.24**	**73**	*e*P	**Pn**	**17 07 42.8**	**+0.5**
TUL1	**Leonard** 6.4nm,0.6s	**20.34**	**353**	*e*P	**P**	**17 08 14.9**	**+0.3**
OTAV	**Otavalo** 11nm,1.3s	**20.80**	**136**	*e*P	Pn	17 08 24.1	-1.0
SDV	**Santo Domingo** 2.6nm,0.4s,baz=301,slow=18,SNR=3.5	**22.55**	**105**	P	**P**	**17 08 39.3**	**+1.4**
NV01	**Mina Array Sit**	**31.97**	**320**	*e*P	**P**	**17 10 03.2**	**+1.4**
NVAR	**Mina Array Bea** 1.1nm,0.6s,baz=130,slow=8.4,SNR=10.0	**31.97**	**320**	P	**P**	**17 10 04.1**	**+2.3**
NVAR				pP	**pP**	**17 10 39.1**	**+2.5**
	2.3nm,0.9s,baz=134,slow=8.7,SNR=7.2						
NVAR				sP	**sP**	**17 10 57.7**	**+1.9**
	1.5nm,0.8s,baz=137,slow=8.8,SNR=5.5						
YBH	**Yreka Blue Hor** comp=Z,112nm,19.4s,baz=335,slow=38	**36.65**	**321**	LR	LR	17 26 52.9	
LPAZ	**La Paz** 1.2nm,0.5s,baz=30,slow=2.6,SNR=4.2	**39.95**	**142**	P	**P**	**17 11 11.0**	**+0.6**
SCHQ	**Schefferville** 8.3nm,0.6s,baz=257,slow=8.0,SNR=5.4	**43.88**	**21**	P	**P**	**17 11 38.7**	**-2.4**
YKA	**Yellowknife Ar** 0.9nm,0.6s,baz=147,slow=7.6,SNR=19	**49.25**	**347**	P	**P**	**17 12 21.2**	**-1.4**
YKA				pP	**pP**	**17 13 00.4**	**+0.5**
	0.9nm,0.9s,baz=145,slow=7.8,SNR=4.5						
BDFB	**Brasilia** 2.3nm,0.4s,baz=95,slow=11,SNR=3.2	**53.97**	**123**	P	**P**	**17 12 56.6**	**-1.9**
CPUP	**Villa Florida** 3.1nm,0.7s,baz=316,slow=8.4,SNR=9.3	**54.08**	**140**	P	**P**	**17 12 57.5**	**-1.5**
HYT	**Haines Junctio**	**55.33**	**335**	*e*pP	pP	17 13 44.4	-1.4
PLCA	**Paso Flores** 1.4nm,1.0s,baz=25,slow=9.0,SNR=3.5	**59.77**	**161**	P	**P**	**17 13 41.0**	**+2.2**
ILAR	**Eielson Array** 0.2nm,0.8s,baz=108,slow=5.8,SNR=4.6	**61.05**	**337**	P	**P**	**17 13 46.6**	**-0.5**
ILAR				pP	**PcP**	**17 14 27.2**	**-1.4**
	0.2nm,0.8s,baz=123,slow=45,SNR=1.8						
FALS	**False Pass**	**66.24**	**323**	*e*PcP	**PcP**	**17 14 53.3**	**+3.3**
ASAR	**Alice Springs** 0.3nm,1.0s,baz=80,slow=2.3,SNR=3.3	**135.59**	**252**	PKP	**PKPdf**	**17 22 52.3**	**-0.3**
CMAR	**Chiang Mai Arr** 0.6nm,0.8s,baz=338,slow=4.1,SNR=5.1	**144.20**	**341**	PKP	**PKPab**	**17 23 06.0**	**-0.3**

ISK 18 17:14:57.8, 40°12N×41°01E, h9km, ML2.7/5
DDA 18 17:14:58.2, 40°13N×41°03E, h7km±2km, ML3.3

ISC 18 17:14:58.5±1.2, 40°13N±0°03×41°05E±0°03, h10km±11km, n20, σ0°95/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECAT	**Cat-ERZURUM**	**0.53**	**186**	*i* P	**Pb**	**17 15 08.8**	**-1.2**
ECAT				*i* S	**Sb**	**17 15 17.1**	**-0.6**
BAYB	**BAYBURT** comp=Z,4μm,0.2s	**0.62**	**282**	IAML_P			
BAYB				*i* P	**Pb**	**17 15 10.7**	**-0.9**
KOPR	**Koprukoy-ERZUR**	**0.64**	**102**	PG	**Pg**	**17 15 11.1**	**+0.2**
KOPR				SG	**Sb**	**17 15 20.8**	**-0.1**
BAYT	**Aydıntepe-Bayb**	**0.74**	**291**	PG	**Pb**	**17 15 12.7**	**-1.0**
BAYT				SG	**Sg**	**17 15 22.3**	**-0.3**
KARO	**Karliova-Bingo**	**0.82**	**180**	PG	**Pg**	**17 15 13.5**	**-0.8**
KARO				SG	**Sb**	**17 15 25.4**	**-0.8**
DDEM	**Demirkent**	**0.93**	**35**	*i* P	**Pb**	**17 15 16.6**	**-0.3**
DDEM				*i* S	**Sb**	**17 15 30.5**	**+1.1**
CHOM	**Cayeli-Rize**	**0.99**	**347**	PG	**Pg**	**17 15 17.2**	**-0.4**
DBAD	**Bademkaya** comp=Z,2μm,0.1s	**1.02**	**29**	IAML_P			
DBAD				*i* P	**Pb**	**17 15 18.2**	**-0.1**
DAGI	**Agillar**	**1.16**	**35**	*i* P	**Pn**	**17 15 20.8**	**-0.1**
BGOL	**Bingol**	**1.18**	**194**	*i* P	**Pn**	**17 15 21.2**	**+0.1**
BGOL				*i* S	**Sb**	**17 15 35.9**	**-0.4**
ARTV	**Artvin**	**1.25**	**32**	*i* P	**Pn**	**17 15 22.2**	**-0.1**
MACK	**Trabzon** comp=Z,7μm,0.2s	**1.27**	**310**	IAML_P			
MACK				*i* P	**Pg**	**17 15 22.2**	**-0.7**
MACK				*i* S	**Sn**	**17 15 40.5**	**+1.0**
DBOC	**Borcka** comp=Z,1μm,0.1s	**1.30**	**21**	IAML_P			
DBOC				*i* P	**Pg**	**17 15 23.2**	**-0.3**
KELT	**Kelkit**	**1.37**	**271**	*i* P	**Pg**	**17 15 24.0**	**-0.8**
KELT				*i* S	**Sn**	**17 15 42.4**	**+0.1**
BCA	**Borcka**	**1.39**	**18**	PN	**Pn**	**17 15 23.9**	**-0.1**
TNCL	**Tunceli-Merkez**	**1.54**	**229**	*i* P	**Pg**	**17 15 30.8**	**+2.7**
TNCL				*i* S	**Sg**	**17 15 50.5**	**+2.4**
TUTA	**Tutak** comp=Z,857nm,0.2s	**1.54**	**117**	IAML_P			
TUTA				*i* P	**Pg**	**17 15 28.1**	**-0.1**
PTK	**Pertek**	**1.78**	**227**	PN	**Pn**	**17 15 29.8**	**+0.3**
HANI	**Diyarbakir_Han**	**1.78**	**197**	*i* P	**Pg**	**17 15 32.1**	**-0.7**
ESPY	**Espiye-Giresun**	**1.93**	**295**	PN	**Pn**	**17 15 31.6**	**+0.1**

IDC 18 17:26:09.5±9.2, 34°34S×149°20E, h0km, mb1 3.3/3, mb1mx3.2/17, mbtmp3.1/3, ML2.9/3, Error ellipse: s-maj=194.5km s-min=54.0km az=6.0
ISCJB 18 17:26:13.3±0.6, 34°14S±0°05×148°84E±0°05, h10km, Error ellipse: s-maj=7.3km s-min=5.4km az=7.4
AUST 18 17:26:14.2±0.0, 34°20S×148°92E, h10km, Error ellipse: s-maj=0.9km s-min=0.1km az=302.0

ISC 18 17:26:13.9±1.0, 34°27S±0°06×148°86E±0°05, h10km, n8, σ0°69/12, New South Wales

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YNG	**Young** baz=0.4,SNR=60	**0.38**	**266**	P	**Pb**	**17 26 22.8**	**-0.1**
YNG				S	**Sb**	**17 26 29.0**	**+0.1**
	baz=0.4,SNR=23						
CAN	**Canberra** baz=1.1	**1.05**	**174**	P	**Pn**	**17 26 34.9**	**0.0**
CNB	**Canberra Magne** baz=1.2,SNR=71	**1.12**	**158**	P	**Pn**	**17 26 35.4**	**-0.4**
CNB				S	**Sn**	**17 26 52.0**	**+0.7**
	baz=1.2,SNR=10						
RIV	**Riverview** baz=1.9,SNR=8.0	**1.96**	**78**	P	**Pn**	**17 26 46.6**	**-0.6**
RIV				S	**Sn**	**17 27 12.5**	**+0.6**
	baz=1.9,SNR=5.8						
MGCD	**Mangrove Creek** baz=2.1,SNR=53	**2.15**	**61**	P	**Pn**	**17 26 50.1**	**+0.2**
STKA	**Stephens Creek** 0.1nm,0.3s,baz=107,slow=12,SNR=3.2	**6.55**	**289**	Pn	**Pn**	**17 27 51.4**	**+1.1**
STKA				Sn	**Sn**	**17 29 03.8**	**-1.3**
	0.3nm,0.3s,baz=23,slow=22,SNR=3.7						
STKA				Lg	Lg	17 29 46.7	
	0.2nm,0.3s,baz=19,slow=23,SNR=2.9						
ASAR	**Alice Springs** 0.0nm,0.3s,baz=136,slow=13,SNR=3.6	**16.80**	**305**	P	**Pn**	**17 30 09.2**	**-0.2**
WRA	**Warramunga Arr** 0.0nm,0.3s,baz=140,slow=11,SNR=5.1	**19.22**	**314**	P	**P**	**17 30 38.1**	**-0.1**

ATH 18 18:09:16.7, 37°55N×21°70E, h24km±1km, ML3.1/10, Error ellipse: s-maj=1.4km s-min=0.7km az=260.0
THE 18 18:09:17.8, 37°58N×21°72E, h14km, ML3.1/12, Error ellipse: s-maj=0.8km s-min=0.5km az=236.0
IDC 18 18:09:20.4±7.1, 37°27N×21°63E, h87km±44km, mb3.4/8, mb1 3.4/11, mb1mx3.2/37, mbtmp3.6/11, MS3.3/2, Ms1 3.3/2, ms1mx2.4/29, Error ellipse: s-maj=73.0km s-min=22.0km az=30.0

ISC 18 18:09:16.3±0.8, 37°54N±0°02×21°69E±0°03, h26km±5km, n75, σ1°06/99, mb3.6/8, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMT	**Artemida-Makis**	**0.02**	**126**

MES2					AML	AML	18 09 47.5	
	comp=E,3300μm,0.7s							
LAKA	**Lakka**	**0.73**	**18**	P	**Pb**	**18 09 31.0**	**+0.6**	
LAKA	**Lakka**	**0.73**	**18**	P	**Pb**	**18 09 30.5**	**+0.1**	
LAKA				S	**Sb**	**18 09 40.9**	**+0.8**	
ALIK	**Aliki, Aigiali**	**0.79**	**25**	P	**Pb**	**18 09 31.9**	**+0.5**	
TRIZ	**Trizonia**	**0.87**	**20**	P	**Pb**	**18 09 33.0**	**+0.2**	
TRIZ				S	**Sn**	**18 09 47.1**	**+2.2**	
TRIZ	**Trizonia**	**0.87**	**20**	P	**Pb**	**18 09 32.9**	**+0.1**	
TRIZ				S	**Sn**	**18 09 46.1**	**+1.3**	
EFP	**Efpalio**	**0.90**	**11**	P	**Pn**	**18 09 34.2**	**+1.0**	
EFP				S	**Sn**	**18 09 45.7**	**+0.3**	
EFP				AML	AML	18 09 51.4		
	comp=N,1406μm,0.2s							
EFP				AML	AML	18 09 54.1		
	comp=E,1320μm,0.4s							
EFP	**Efpalio**	**0.90**	**11**	P	**Pn**	**18 09 33.8**	**+0.5**	
EFP				S	**Sn**	**18 09 45.7**	**+0.3**	
SERG	**Sergoula**	**0.92**	**18**	P	**Pn**	**18 09 33.9**	**+0.4**	
SERG				S	**Sn**	**18 09 46.5**	**+0.6**	
SERG				AML	AML	18 09 50.3		
	comp=E,1870μm,0.2s							
SERG				AML	AML	18 09 51.1		
	comp=N,1988μm,0.2s							
SERG	**Sergoula**	**0.92**	**18**	P	**Pb**	**18 09 33.7**	**+0.2**	
KALE	**Kalithea**	**0.92**	**23**	P	**Pn**	**18 09 34.2**	**+0.6**	
KALE	**Kalithea**	**0.92**	**23**	P	**Pb**	**18 09 33.6**	**0.0**	
KALE				S	**Sn**	**18 09 46.5**	**+0.5**	
VLS	**Valsamata**	**1.07**	**306**	P	**Pb**	**18 09 37.4**	**+1.2**	
VLS				S	**Sn**	**18 09 53.2**	**+3.4**	
PVO	**Paravola**	**1.08**	**353**	P	**Pb**	**18 09 37.0**	**+0.7**	
PVO	**Paravola**	**1.08**	**353**	P	**Pb**	**18 09 37.0**	**+0.7**	
DSF	**Desfina**	**1.09**	**37**	P	**Pb**	**18 09 37.3**	**+0.8**	
DSF				S	**Sn**	**18 09 51.5**	**+1.2**	
DSF				AML	AML	18 10 00.1		
	comp=E,1240μm,0.4s							
DSF				AML	AML	18 10 00.3		
	comp=N,977μm,0.4s							
DSF	**Desfina**	**1.09**	**37**	P	**Pb**	**18 09 37.0**	**+0.5**	
LOUT	**Loutraki**	**1.11**	**66**	P	**Pb**	**18 09 38.0**	**+1.1**	
LOUT	**Loutraki**	**1.11**	**66**	P	**Pb**	**18 09 37.7**	**+0.9**	
LTK	**Loutraki**	**1.12**	**64**	P	**Pb**	**18 09 38.4**	**+1.4**	
LTK				S	**Sn**	**18 09 54.6**	**+3.6**	
LTK	**Loutraki**	**1.12**	**64**	P	**Pb**	**18 09 37.8**	**+0.8**	
PDO	**Prodromos**	**1.13**	**339**	P	**Pb**	**18 09 38.4**	**+1.3**	
PDO	**Prodromos**	**1.13**	**339**	P	**Pb**	**18 09 37.7**	**+0.6**	
KRND	**KRANIDI**	**1.17**	**97**	P	**Pb**	**18 09 39.1**	**+1.2**	
PROD	**Prodromos**	**1.20**	**53**	P	**Pb**	**18 09 39.9**	**+1.6**	
PROD	**Prodromos**	**1.20**	**53**	P	**Pb**	**18 09 38.3**	**0.0**	
DID	**Didima**	**1.23**	**91**	P	**Pb**	**18 09 40.1**	**+1.2**	
DID	**Didima**	**1.23**	**91**	P	**Pb**	**18 09 39.8**	**+0.9**	
VLI	**Veliai**	**1.29**	**129**	P	**Pb**	**18 09 41.5**	**+1.5**	
VLI				S	**Sb**	**18 09 58.1**	**+1.9**	
VLI	**Veliai**	**1.29**	**129**	P	**Pb**	**18 09 41.4**	**+1.5**	
VIL2	**Platees**	**1.42**	**61**	P	**Pb**	**18 09 43.2**	**+1.2**	
VILL	**Villia**	**1.43**	**64**	P	**Pb**	**18 09 42.1**	**-0.1**	
LKD2	**Lefkada island**	**1.48**	**327**	P	**Pb**	**18 09 43.9**	**+0.7**	
LKR	**Lokris**	**1.51**	**43**	P	**Pn**	**18 09 42.9**	**+1.2**	
ATAL	**Atalanti**	**1.56**	**42**	P	**Pb**	**18 09 44.7**	**+0.3**	
ATAL	**Atalanti**	**1.56**	**42**	P	**Pb**	**18 09 43.8**	**-0.6**	
VLY	**Voula,Athens**	**1.70**	**79**	P	**Pb**	**18 09 47.5**	**+0.7**	
VLY	**Voula,Athens**	**1.70**	**79**	P	**Pb**	**18 09 46.1**	**-0.7**	
ATHU	**Athens Univers**	**1.71**	**75**	P	**Pb**	**18 09 47.2**	**+0.1**	
SMIA	**Simia**	**1.79**	**41**	P	**Pb**	**18 09 48.0**	**-0.5**	
SMIA	**Simia**	**1.79**	**41**	P	**Pb**	**18 09 47.4**	**-1.0**	
DION	**Dionisos Attik**	**1.86**	**73**	P	**Pb**	**18 09 49.2**	**-0.3**	
EREA	**Eretria**	**1.98**	**63**	P	**Pb**	**18 09 50.9**	**-0.7**	
EREA	**Eretria**	**1.98**	**63**	P	**Pn**	**18 09 50.1**	**+2.0**	
MLR	**Muntele Rosu**	**8.56**	**21**	P	Pn	18 11 24.2	+5.6	
	comp=N,0.1nm,0.3s,baz=204,slow=20,SNR=2.4							
BRTR	**Keskin Array B**	**9.60**	**73**	P	Pn	18 11 38.4	+5.5	
	comp=N,0.1nm,0.3s,baz=246,slow=13,SNR=3.1							
AKASG	**Malin Array Be**	**14.21**	**20**	P	**P**	**18 12 40.6**	**-2.2**	
	comp=N,0.1nm,0.3s,baz=207,slow=12,SNR=2.8							
HFS	**Hagfors**	**23.18**	**350**	P	**P**	**18 14 20.2**	**-0.5**	
	comp=N,1.6nm,0.7s,baz=148,slow=12,SNR=5.0							
FINES	**FINESS Array B**	**24.08**	**5**	P	**P**	**18 14 29.6**	**+0.3**	
	comp=N,1.3nm,0.8s,baz=190,slow=9.7,SNR=4.9							
NOA	**NORSAR Array B**	**24.43**	**348**	P	**P**	**18 14 32.7**	**+0.1**	
	comp=N,0.5nm,0.9s,baz=151,slow=11,SNR=2.8							
EKA	**Eskdalemuir Ar**	**24.48**	**325**	P	**P**	**18 14 34.4**	**+1.3**	
	comp=N,0.9nm,0.5s,baz=123,slow=9.1,SNR=4.1							
ARCES	**ARCESS Array B**	**32.12**	**3**	P	**P**	**18 15 41.3**	**+0.2**	
	comp=N,2.7nm,0.8s,baz=195,slow=10,SNR=5.0							
KMBO	**Kilima Mbogo**	**41.09**	**156**	LR	LR	18 35 33.3		
	comp=N,33nm,18.5s,baz=90,slow=38							
MKAR	**Makanchi Array**	**44.37**	**58**	P	**P**	**18 17 28.1**	**-0.1**	
	comp=N,0.4nm,0.5s,baz=275,slow=7.0,SNR=9.3							
ZALV	**Zalesovo Beam**	**45.43**	**48**	P	**P**	**18 17 32.4**	**-0.3**	
	comp=N,1.2nm,0.4s,baz=273,slow=8.5,SNR=7.6							
ZALV				LR	LR	18 38 40.9		
	comp=N,45nm,20.8s,baz=70,slow=39							
CMAR	**Chiang Mai Arr**	**69.06**	**82**	P	**P**	**18 20 16.4**	**-3.8**	
	comp=N,0.4nm,0.3s,baz=307,slow=7.5,SNR=5.0							

IDC 18 18:34:03.5±2.1, 3.40N×128.14E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/32, mbtmp3.4/4, MS3.1/1, Ms1 3.1/1, ms1mx2.6/26, Error ellipse: s-maj=158.5km s-min=25.7km az=67.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.98**	**166**	P	P	18 39 19.9	-0.1
	0.4nm,0.3s,baz=346,slow=11,SNR=13						
ASAR	**Alice Springs**	**27.48**	**168**	P	P	18 39 52.0	+0.3
	0.3nm,0.5s,baz=352,slow=7.8,SNR=6.2						
STKA	**Stephens Creek**	**37.34**	**161**	P	P	18 41 17.7	-0.2
	0.7nm,0.4s,baz=327,slow=11,SNR=4.1						
PALK	**Pallekele**	**47.37**	**277**	LR	LR	19 05 34.8	
	comp=Z,19nm,18.1s,baz=291,slow=40						
MKAR	**Makanchi Array**	**58.63**	**325**	P	P	18 44 02.3	-0.2
	0.1nm,0.4s,baz=115,slow=7.8,SNR=4.1						

IDC 18 18:44:04.0±1.5, 31.01N×99.37E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.2/44, mbtmp3.4/5, ML2.7/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/26, Error ellipse: s-maj=78.7km s-min=23.8km az=60.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**17.64**	**16**	P	Pn	18 48 11.1	-0.1
	0.0nm,0.3s,baz=200,slow=12,SNR=2.1						
MKAR	**Makanchi Array**	**20.55**	**325**	P	P	18 48 43.8	-0.2
	0.7nm,0.6s,baz=132,slow=10,SNR=8.4						
KURBB	**Kurchatov Arra**	**25.00**	**328**	P	P	18 49 29.5	+0.2
	0.6nm,0.3s,baz=136,slow=10,SNR=3.0						
ZALV	**Zalesovo Beam**	**25.21**	**340**	P	P	18 49 31.1	0.0
	0.5nm,0.5s,baz=158,slow=7.8,SNR=2.6						
KLR	**Kul'dur**	**30.41**	**44**	LR	LR	19 03 43.6	
	comp=Z,96nm,18.6s,baz=67,slow=39						
WRA	**Warramunga Arr**	**60.79**	**142**	P	P	18 54 17.9	0.0
	0.4nm,0.8s,baz=332,slow=7.6,SNR=2.8						

*ISCJB **18** 18:47:01.7±1.1, 43.30N±0.07×147.02E±0.09, h50km±19km, Error ellipse: s-maj=15.1km s-min=7.1km az=140.2*
*SKHL **18** 18:47:01.5±0.6, 43.22N×147.04E, h43km±1km, mb3.7/4*
*JMA **18** 18:47:02.2±0.3, 43.24N×146.98E, h49km±4km, M3.1*
ISC 18 18:47:03.1±6.4, 43.31N±0.09×147.0E±0.1, h37km±8km, n14, σ0.975/22, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.57**	**346**	*i* P	**Pn**	**18 47 14.0**	**-0.9**
SHO				AMB	AMB	18 47 15.0	
	60nm,0.3s						
SHO				*i* S	**Sn**	**18 47 23.0**	**0.0**
SHO				A	A	18 47 25.0	
	653nm,0.3s						
SHO				A	A	18 47 25.0	
	954nm,0.3s						
NEM2	**Nemuro 2**	**0.94**	**274**	P	**Pn**	**18 47 18.9**	**-0.8**
NEM2				*e*S	**Sn**	**18 47 31.4**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**1.11**	**311**	*i* P	**Pn**	**18 47 21.0**	**-1.0**
YUK				AMB	AMB	18 47 23.0	
	112nm,0.3s						
YUK				AMB	AMB	18 47 23.0	
	26nm,0.3s						
YUK				*e*S	**Sn**	**18 47 36.0**	**-0.1**
YUK				A	A	18 47 36.0	
	563nm,0.3s						
YUK				A	A	18 47 36.0	
	318nm,0.3s						
GRPR	**Tuman**	**1.14**	**307**	*e*P	**Pn**	**18 47 21.0**	**-1.4**
GRPR				AMB	AMB	18 47 22.0	
	70nm,0.3s						
GRPR				AMB	AMB	18 47 22.0	
	79nm,0.3s						
GRPR				AMB	AMB	18 47 22.0	
	15nm,0.3s						
GRPR				*e*S	**Sn**	**18 47 36.0**	**-0.7**
GRPR				A	A	18 47 37.0	
	510nm,0.3s						
GRPR				A	A	18 47 37.0	
	287nm,0.3s						
JKHN	**Kushirohamanak**	**1.39**	**261**	P	**Pn**	**18 47 25.6**	**-0.2**
JRA	**Rausu**	**1.52**	**295**	P	**Pn**	**18 47 27.5**	**-0.1**
JRA				*e*S	**Sn**	**18 47 46.3**	**+0.2**
JNK	**Nakash**	**1.70**	**280**	P	**Pn**	**18 47 29.5**	**-0.7**
JAK	**Akkeshi**	**1.74**	**260**	P	**Pn**	**18 47 29.9**	**-0.7**
JAK				*e*S	**Sn**	**18 47 49.8**	**-1.7**
KUR	**Kuril'sk**	**2.01**	**17**	*e*P	**Pn**	**18 47 34.0**	**-0.4**
KUR				AMB	AMB	18 47 35.0	
	4.0nm,0.2s						
KUR				AMB	AMB	18 47 35.0	
	6.0nm,0.2s						
KUR				AMB	AMB	18 47 35.0	
	10.0nm,0.2s						
KUR				*e*S	**Sn**	**18 47 58.0**	**-0.3**
KUR				A	A	18 48 00.0	
	99nm,0.3s						
KUR				A	A	18 48 00.0	
	162nm,0.3s						
JTKR	**Abashiri--Toko**	**2.36**	**287**	P	**Pn**	**18 47 39.6**	**+0.4**
JOB	**Onbets**	**2.37**	**261**	P	**Pn**	**18 47 38.9**	**-0.5**
JAR	**Ashorobuto**	**2.38**	**271**	P	**Pn**	**18 47 39.5**	**0.0**
JAR				*e*S	**Sn**	**18 48 06.9**	**-0.5**
JCH	**Churui**	**2.78**	**257**	P	**Pn**	**18 47 45.1**	**+0.1**
JNBK	**Urakawa-nobuka**	**3.31**	**253**	P	**Pn**	**18 47 51.8**	**-0.5**

*IDC **18** 18:54:26.2±2.2, 41.16N×143.77E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.4/41, mbtmp3.6/6, ML2.0/2, Error ellipse: s-maj=54.3km s-min=29.0km az=79.0*
*JMA **18** 18:54:32.1±0.1, 41.11N×143.25E, h47km, M3.1*
ISC 18 18:54:29.4±1.8, 41.08N±0.05×143.42E±0.07, h15km±11km, n26, σ0.997/28, mb3.7/4, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.96**	**348**	P	**Pn**	**18 54 48.5**	**+0.2**
JEM				*e*S	**Sg**	**18 55 00.9**	**+0.4**
JTHR	**Tokachihiroo**	**1.22**	**356**	P	**Pg**	**18 54 52.8**	**-0.1**
JTHR				*e*S	**Sb**	**18 55 07.8**	**+0.2**
JNBK	**Urakawa-nobuka**	**1.30**	**338**	P	**Pb**	**18 54 53.6**	**0.0**
JCH	**Churui**	**1.54**	**358**	P	**Pb**	**18 54 57.0**	**-0.6**
JCH				*e*S	**Sn**	**18 55 15.9**	**-0.1**
JANG	**Nango**	**1.61**	**245**	P	**Pn**	**18 54 57.2**	**-0.1**
JTM	**Tenmabayashi**	**1.81**	**262**	P	**Pn**	**18 55 00.2**	**+0.3**
JTM				*e*S	**Sn**	**18 55 21.2**	**-1.4**
JOT	**Ohata**	**1.82**	**280**	P	**Pn**	**18 55 00.0**	**-0.1**
JOT				*e*S	**Sn**	**18 55 21.9**	**-0.9**
JOB	**Onbets**	**1.85**	**9**	P	**Pb**	**18 55 01.9**	**-1.0**
JOB				*e*S	**Sn**	**18 55 24.0**	**+0.3**
JBT2	**Biratori 2**	**1.87**	**335**	P	**Pn**	**18 55 01.8**	**+0.9**
JKB	**Kayabe**	**1.97**	**295**	P	**Pn**	**18 55 02.7**	**+0.5**
JAK	**Akkeshi**	**2.14**	**26**	P	**Pb**	**18 55 05.9**	**-1.9**
JAK				*e*S	**Sn**	**18 55 31.0**	**+0.2**
JAR	**Ashorobuto**	**2.23**	**7**	P	**Pn**	**18 55 06.6**	**+0.8**
JAR				*e*S	**Sn**	**18 55 32.2**	**-1.0**
JNB	**Noboribetsu**	**2.26**	**309**	P	**Pn**	**18 55 06.5**	**+0.3**
JOM	**Ohasama**	**2.28**	**226**	P	**Pn**	**18 55 07.6**	**+1.1**
MJAR	**Matsushiro Arr**	**6.09**	**224**	Pn	**Pn**	**18 56 01.1**	**+2.2**
	0.0nm,0.3s,baz=32,slow=13,SNR=3.8						
USRK	**Ussuriysk Ar.**	**8.98**	**294**	Pn	**Pn**	**18 56 40.2**	**+1.6**
	0.1nm,0.3s,baz=105,slow=17,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**29.20**	**130**	T	T	19 31 25.7	
	baz=323,slow=75						
H11N1	**WAKE ISLAND Hy**	**29.21**	**130**	T	T	19 31 27.1	
	baz=323						
H11N3	**WAKE ISLAND Hy**	**29.22**	**130**	T	T	19 31 25.6	
	baz=323,slow=75						
H11S1	**WAKE ISLAND Hy**	**30.06**	**132**	T	T	19 32 41.1	
	baz=324						
H11S3	**WAKE ISLAND Hy**	**30.06**	**132**	T	T	19 33 06.5	
	baz=324						
H11S2	**WAKE ISLAND Hy**	**30.07**	**132**	T	T	19 32 53.5	
	baz=324						
ZALV	**Zalesovo Beam**	**40.47**	**309**	P	**P**	**19 02 08.8**	**+1.6**
	1.2nm,0.5s,baz=84,slow=9.2,SNR=5.1						
MKAR	**Makanchi Array**	**43.42**	**299**	P	**P**	**19 02 30.9**	**-0.5**
	0.3nm,0.5s,baz=85,slow=9.3,SNR=7.3						
WRA	**Warramunga Arr**	**61.29**	**190**	P	**P**	**19 04 44.2**	**+0.1**
	0.3nm,0.6s,baz=6.3,slow=6.8,SNR=3.2						
FINES	**FINESS Array B**	**65.97**	**332**	P	**P**	**19 05 14.1**	**-0.5**
	2.2nm,1.0s,baz=54,slow=7.1,SNR=6.3						

*ISCJB **18** 18:55:07.0±0.3, 5.72S±0.08×110.03E±0.07, h550km, mb3.6/12, Error ellipse: s-maj=12.1km s-min=6.7km az=37.0*
*DJA **18** 18:55:07.6±1.1, 6.°S±22.°×11.°0E±.°, h552km±20km, M4.2/12, mb4.3/7, mB5.0/3, MLv4.2/2, Mw(mB)4.2/3*
*IDC **18** 18:55:10.2±2.3, 5.54S×110.20E, h565km±28km, mb3.1/12, mb1 3.2/13, mb1mx3.1/36, mbtmp4.1/13, Error ellipse: s-maj=32.2km s-min=9.9km az=59.0*
ISC 18 18:55:08.1±0.5, 5.38S±0.1×109.93E±0.09, h550km, n37, σ1.948/39, mb3.8/16, 2D, Java Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPJI	**Karang Pucung**	**1.85**	**212**	P	**P**	**18 56 15.7**	**-1.5**
NGJI	**Ngawi**	**2.20**	**136**	P	**P**	**18 56 17.1**	**-1.7**
CMJI	**Cimerak**	**2.49**	**216**	P	**P**	**18 56 18.8**	**-1.4**
CISI	**Cisompet, Garu**	**2.76**	**230**	P	**P**	**18 56 20.9**	**-0.9**
GRJI	**Gresik**	**2.78**	**114**	P	**P**	**18 56 21.5**	**-0.3**
PWJI	**Pagerwojo**	**2.92**	**141**	P	**P**	**18 56 21.1**	**-1.5**
SKJI	**Sukabumi**	**3.58**	**250**	P	**P**	**18 56 26.5**	**-0.4**
KMMI	**Kalianget**	**4.21**	**108**	P	**P**	**18 56 31.1**	**-0.5**
JAGI	**Jajag, Banyuwa**	**4.98**	**123**	P	**P**	**18 56 36.2**	**-1.6**
KASI	**Kota Agung**	**5.42**	**272**	P	**P**	**18 56 41.3**	**-0.2**
	148nm,0.5s,4μm0.7nm						
KASI				S	**S**	**18 57 52.5**	**-5.3**
	148nm,0.5s,4μm0.7nm						
SRBI	**Singaraja**	**5.73**	**114**	P	**P**	**18 56 44.1**	**-0.2**
	44nm,0.6s,635nm0.2nm						
MDSI	**Maura Dua**	**5.87**	**282**	P	**P**	**18 56 45.9**	**+0.3**
	10.0nm,0.4s						
LWLI	**Liwa**	**5.89**	**277**	P	**P**	**18 56 46.2**	**+0.2**
	56nm,0.6s,10μm0.4nm						
LHSI	**Lahat**	**6.67**	**286**	P	**P**	**18 56 55.6**	**+2.6**
MNAI	**Manna**	**7.09**	**281**	P	**P**	**18 56 56.7**	**-0.3**
	486nm,0.5s						
PSI	**Prapat**	**13.90**	**307**	P	**P**	**18 58 08.7**	**+2.2**
	0.8nm,0.3s,baz=179,slow=10,SNR=1.8						
BATI	**Baumata**	**14.29**	**109**	P	**P**	**18 58 07.4**	**-3.0**
	5.3nm,0.3s,baz=302,slow=3.1,SNR=11						
CMAR	**Chiang Mai Arr**	**26.39**	**336**	P	**P**	**19 00 02.5**	**+1.2**
	2.0nm,0.7s,baz=173,slow=8.2,SNR=14						
WRA	**Warramunga Arr**	**27.60**	**123**	P	**P**	**19 00 11.8**	**-0.1**
	0.9nm,0.3s,baz=291,slow=7.6,SNR=23						
WRA				PcP	**PcP**	**19 03 11.9**	**+0.4**
	0.3nm,0.5s,baz=316,slow=2.2,SNR=3.9						
ASAR	**Alice Springs**	**29.14**	**130**	P	**P**	**19 00 25.4**	**+0.1**
	0.6nm,0.3s,baz=306,slow=8.2,SNR=12						
ASAR				PcP	**PcP**	**19 03 16.6**	**+1.1**
	0.4nm,0.6s,baz=316,slow=2.2,SNR=4.5						
STKA	**Stephens Creek**	**39.38**	**135**	P	**P**	**19 01 51.8**	**+0.9**
	1.5nm,0.3s,baz=321,slow=8.4,SNR=9.6						
GUN	**Gumba**	**40.74**	**326**	*e*P	**P**	**19 02 02.7**	**+0.6**
	14nm,0.6s						
DMN	**Daman**	**40.94**	**325**	*e*P	**P**	**19 02 03.9**	**+0.3**
KOLN	**Koldanda**	**41.93**	**324**	*e*P	**P**	**19 02 11.6**	**+0.3**
	8.6nm,0.3s						
DANN	**Dangsing**	**42.27**	**325**	*e*P	**P**	**19 02 14.3**	**+0.2**
	12nm,0.6s						
PYUN	**Piuthan**	**42.53**	**324**	*e*P	**P**	**19 02 16.0**	**-0.1**
	5.3nm,0.5s						
SONM	**Songino Array**	**53.46**	**357**	P	**P**	**19 03 37.2**	**0.0**
	0.7nm,0.5s,baz=178,slow=7.5,SNR=7.6						
MKAR	**Makanchi Array**	**57.78**	**338**	P	**P**	**19 04 07.2**	**+0.2**
	2.9nm,0.3s,baz=152,slow=7.4,SNR=74						
KLR	**Kul'dur**	**57.98**	**17**	P	**P**	**19 04 07.0**	**-1.2**
	0.6nm,0.5s,baz=208,slow=4.5,SNR=5.6						
ZALV	**Zalesovo Beam**	**63.12**	**344**	P	**P**	**19 04 41.5**	**-0.5**
	1.5nm,0.4s,baz=156,slow=6.1,SNR=11						
VNDA	**Vanda**	**76.65**	**170**	P	**P**	**19 06 04.0**	**+1.9**
	1.2nm,0.8s,baz=282,slow=3.0,SNR=4.9						
SYO	**Syowa Base**	**77.66**	**200**	*e*P	**P**	**19 06 08.6**	**+0.9**
SYO	**Syowa Base**	**77.66**	**200**	*e*P	**P**	**19 06 09.8**	**+2.1**
TIXI	**Tiksi**	**78.26**	**6**	P	**P**	**19 06 09.7**	**-1.1**
	1.0nm,0.6s,baz=172,slow=3.0,SNR=4.9						
BRTR	**Keskin Array B**	**83.20**	**311**	P	**P**	**19 06 37.5**	**+0.2**
	1.0nm,0.9s,baz=109,slow=6.8,SNR=5.3						
AKASG	**Malin Array Be**	**88.56**	**321**	P	**P**	**19 07 02.2**	**-0.3**
	0.6nm,0.5s,baz=88,slow=4.8,SNR=4.2						
YKA	**Yellowknife Ar**	**114.68**	**21**	PKP	PKPdf	19 12 45.9	0.0
	0.1nm,0.5s,baz=325,slow=1.9,SNR=3.9						

*NNC **18** 18:57:39.0±3.1, 37.39N×71.59E, h158km±46km, mb2.7, mpv3.7, Error ellipse: s-maj=32.6km s-min=24.4km az=66.0*
ISC 18 18:57:37.2±3.3, 37.3N±0.2×71.5E±0.1, h109km, n12, σ1.945/18, 5C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.18**	**29**	⇓P	**Pn**	**18 58 27.2**	**+1.4**
	18nm,0.3s						
SFK				⇑S	**Sn**	**18 59 05.0**	**+1.9**
	16nm,0.3s						
AML	**Almayashu**	**5.16**	**19**	P	**Pn**	**18 58 52.7**	**+0.2**
	SNR=68						
MNAS	**Manas**	**5.29**	**8**	⇓P	**Pn**	**18 58 54.6**	**+0.7**
	6.0nm,0.4s						
MNAS				⇓S	**Sn**	**18 59 53.2**	**-0.5**
	11nm,0.6s						
UCH	**Uchtor**	**5.49**	**24**	P	**Pn**	**18 58 56.6**	**-0.4**
	SNR=9.7						
KZA	**Kyzart**	**5.63**	**30**	P	**Pn**	**18 58 57.6**	**-1.2**
	SNR=12						
EKS2	**Erkin-Say**	**5.68**	**17**	P	**Pn**	**18 59 00.0**	**+0.8**
	SNR=16						
AAK	**Ala-Archa**	**5.86**	**22**	P	**Pn**	**18 59 01.7**	**+0.1**
	SNR=8.4						
AAK	**Ala-Archa**	**5.86**	**22**	P	**Pn**	**18 59 00.9**	**-0.8**
	2.9nm,0.5s						
AAK				S	**Sn**	**19 00 05.5**	**-2.0**
	3.0nm,0.6s						
KK31	**Karatay Array**	**5.89**	**353**	⇑P	**Pn**	**18 59 03.7**	**+1.7**
	1.5nm,0.3s,baz=158,slow=10,SNR=92						
KK31				⇑S	**Sn**	**19 00 09.4**	**+1.3**
	14nm,0.6s,baz=168,slow=18,SNR=26						
TKM2	**Tokmak 2**	**6.48**	**28**	P	**Pn**	**18 59 09.7**	**-0.4**
	SNR=6.4						
TKM2	**Tokmak 2**	**6.48**	**28**	⇑P	**Pn**	**18 59 08.8**	**-1.3**
	2.5nm,0.6s						
TKM2				⇓S	**Sn**	**19 00 25.2**	**+2.5**
	0.9nm,0.6s						
AB31	**Akbulak array**	**14.62**	**329**	⇓P	**Pn**	**19 00 58.5**	**0.0**
	0.7nm,0.6s						
AB31				⇑S	**Sn**	**19 03 37.4**	**-2.4**
	0.3nm,0.5s,baz=150,slow=23,SNR=5.5						

MEX 18 19:15:33.6±0.6, 15.93N×98.34W, h5km, MD3.9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.51**	**24**	*i* P	Pg	19 15 42.5	-0.9
PNIG				*e*S	Sg	19 15 50.4	+0.3
VHO	**Vista Hermosa**	**1.92**	**53**	*i* P	Pn	19 16 03.3	-3.8
VHO				*i* S	Sn	19 16 27.9	-3.9

IDC 18 19:19:16.2±2.1, 7.49S×128.83E, h0km, mb3.4/1, mb1 3.6/3, mb1mx3.3/23, mbtmp3.4/3, ML3.4/2, MS2.9/1, Ms1 2.9/1, ms1mx2.7/10, Error ellipse: s-maj=105.8km s-min=29.0km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.48**	**157**	Pn	Pn	19 22 28.2	-0.8
	0.3nm,0.3s,baz=336,slow=14,SNR=16						
WRA				Sn	Sn	19 24 57.5	-2.2
	0.2nm,0.3s,baz=335,slow=25,SNR=5.7						
ASAR	**Alice Springs**	**16.81**	**164**	Pn	Pn	19 23 13.3	+0.1
	0.1nm,0.3s,baz=338,slow=8.6,SNR=9.7						
ASAR				Sn	Sn	19 26 23.4	+2.7
	0.0nm,0.3s,baz=356,slow=27,SNR=2.1						
ASAR				LR	LR	19 30 36.7	
	comp=Z,36nm,19.6s,baz=96,slow=40						
MKAR	**Makanchi Array**	**68.00**	**327**	P	P	19 30 17.5	+0.1
	0.2nm,0.9s,baz=145,slow=5.3,SNR=3.7						

IGQ 18 19:25:26.1±0.8, 2.°S±5.°×8.°1W±.°, h6km, MLv3.6, Off coast of Ecuador

| Code

0.3nm,0.3s,baz=180,slow=15,SNR=4.6
H11N2 WAKE ISLAND Hy 27.48 120 T T 20 01 39.0
baz=312
H11N1 WAKE ISLAND Hy 27.49 120 T T 20 01 34.2
baz=312
H11N3 WAKE ISLAND Hy 27.50 120 T T 20 01 35.9
baz=312
H11S1 WAKE ISLAND Hy 28.18 122 T T 20 02 21.4
baz=313,slow=74
H11S3 WAKE ISLAND Hy 28.18 122 T T 20 02 23.8
baz=313,slow=74
H11S2 WAKE ISLAND Hy 28.19 122 T T 20 02 24.7
baz=313
SONM Songino Array 28.48 305 P **P** **19 33 04.0 +0.1**
0.2nm,0.3s,baz=91,slow=9.8,SNR=3.0
MKAR Makanchi Array 44.80 303 P **P** **19 35 24.0 +1.5**
0.2nm,0.6s,baz=88,slow=9.2,SNR=2.7
WRA Warramunga Arr 56.38 188 P P 19 36 54.4 +4.3
0.5nm,0.8s,baz=4.9,slow=7.6,SNR=4.9

*IDC **18** 19:36:53.2±2.7, 13.°45N×92.°00W, h0km, mb3.6/5, mb1 3.9/8, mb1mx3.7/38, mbtmp3.6/8, ML3.4/3, MS2.7/1, Ms1 2.7/1, ms1mx2.4/36, Error ellipse: s-maj=56.1km s-min=35.5km az=4.0*
ISC 18 19:36:58.9±2.1, 13.°5N±0.°2×92.°1W±0.°1, h37km, n9, σ0986/11, mb3.7/5, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**2.14**	**46**	Pn	**Pn**	**19 37 31.3**	**-1.0**
	14nm,0.3s,baz=225,slow=7.6,SNR=90						
APG				Sn	**Sn**	**19 37 58.7**	**+1.0**
	15nm,0.3s,baz=359,slow=7.9,SNR=5.7						
APG				LR	LR	19 38 03.0	
	comp=Z,180nm,19.6s,baz=238,slow=32						
CMIG	**Matias Romero**	**4.48**	**323**	Pn	**Pn**	**19 38 03.3**	**-1.0**
	0.8nm,0.3s,baz=144,slow=19,SNR=9.2						
CMIG				Sn	Sn	19 39 04.3	+9.1
	1.4nm,0.3s,baz=151,slow=19,SNR=1.5						
TXAR	**Lajitas Array**	**19.07**	**327**	P	**P**	**19 41 18.5**	**+0.2**
	0.0nm,0.3s,baz=150,slow=11,SNR=6.2						
PDAR	**Pinedale Array**	**32.84**	**336**	P	**P**	**19 43 29.5**	**+0.2**
	0.9nm,1.1s,baz=134,slow=8.9,SNR=2.5						
NVAR	**Mina Array Bea**	**34.01**	**322**	P	**P**	**19 43 41.2**	**+1.6**
	0.7nm,0.7s,baz=134,slow=8.9,SNR=4.1						
YKA	**Yellowknife Ar**	**51.48**	**347**	P	**P**	**19 45 59.8**	**-0.7**
	1.2nm,0.6s,baz=147,slow=7.6,SNR=29						
YKA				PcP	**PcP**	**19 47 14.3**	**-0.1**
	0.2nm,0.8s,baz=147,slow=5.0,SNR=4.1						
INK	**Inuvik**	**60.88**	**344**	P	**P**	**19 47 07.5**	**+0.1**
	1.5nm,0.8s,baz=114,slow=8.2,SNR=4.4						
ILAR	**Eielson Array**	**63.26**	**337**	P	**P**	**19 47 23.7**	**+0.2**
	0.2nm,0.7s,baz=146,slow=6.4,SNR=3.2						
CMAR	**Chiang Mai Arr**	**146.43**	**341**	PKPbc	**PKPbc**	**19 56 36.9**	**-0.1**
	1.0nm,0.8s,baz=318,slow=2.5,SNR=6.8						

*IDC **18** 19:50:32.5±0.8, 3.°69S×141.°64E, h0km, mb4.0/8, mb1 4.1/10, mb1mx4.0/23, mbtmp4.0/10, ML3.5/2, MS2.9/2, Ms1 2.9/2, ms1mx2.7/32, Error ellipse: s-maj=31.2km s-min=17.1km az=66.0*
*ISCJB **18** 19:50:35.7±0.3, 3.°70S±0.°04×141.°69E±0.°05, h33km, mb4.5/25, MS3.0/1, Error ellipse: s-maj=6.9km s-min=5.0km az=8.5*
*NEIC **18** 19:50:38.5±1.1, 3.°72S×141.°66E, h43km±11km, mb4.7/22, Error ellipse: s-maj=8.4km s-min=7.6km az=120.0*
ISC 18 19:50:37.4±0.5, 3.°71S±0.°05×141.°69E±0.°06, h33km, n51, σ1931/55, mb4.6/25, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.85**	**136**	Pn	**Pn**	**19 52 29.7**	**+0.4**
	4.5nm,0.3s,baz=19,slow=2.0,SNR=17						
PMG				Sn	**Sn**	**19 53 55.5**	**-1.6**
	baz=268,slow=18,SNR=1.5						
PMG				LR	LR	19 55 20.5	
	comp=Z,73nm,20.3s,baz=320,slow=36						
PMG	**Port Moresby**	**7.85**	**136**	*e*Pn	**Pn**	**19 52 31.1**	**+1.7**
PMG				*e*Sn	**Sn**	**19 53 55.5**	**-1.6**
FAKI	**Fak Fak**	**9.46**	**274**	*e*Pn	**Pn**	**19 52 54.3**	**+2.8**
COEN	**Coen**	**10.29**	**172**	*e*Pn	**Pn**	**19 53 06.0**	**+3.1**
RABL	**Rabaul**	**10.46**	**93**	*e*Pn	**Pn**	**19 53 04.6**	**-0.6**
MTN	**Manton Dam**	**13.83**	**228**	*e*Pn	**Pn**	**19 53 50.1**	**-1.2**
CTAO	**Charters Tower**	**16.88**	**165**	*e*Pn	**P**	**19 54 32.5**	**-0.6**
	35nm,1.9s						
GUMO	**Guam**	**17.47**	**10**	*e*Pn	**Pn**	**19 54 38.6**	**-0.1**
	289nm,1.3s						
WRAB	**Tennant Creek**	**17.65**	**203**	*e*Pn	**Pn**	**19 54 40.9**	**0.0**
	33nm,1.5s						
WB2	**Warramunga Arr**	**17.66**	**203**	*e*Pn	**Pn**	**19 54 40.6**	**-0.4**
WR1	**Warramunga Arr**	**17.66**	**203**	*e*Pn	**Pn**	**19 54 38.8**	**-2.2**
	55nm,1.8s						
WR1				*e*Sn	**Sn**	**19 57 55.6**	**-1.3**
WRA	**Warramunga Arr**	**17.66**	**203**	P	**Pn**	**19 54 38.8**	**-2.2**
	0.6nm,0.3s,baz=23,slow=12,SNR=28						
WRA				S	**Sn**	**19 57 55.6**	**-1.3**
	0.2nm,0.3s,baz=18,slow=24,SNR=3.6						
WRA				Lg	Lg	20 00 05.8	
	0.1nm,0.3s,baz=30,slow=25,SNR=4.0						
SOEI	**Soe**	**18.31**	**250**	*e*P	**P**	**19 54 48.6**	**-0.5**
	83nm,1.4s						
PATS	**Pohnpei**	**19.62**	**58**	*e*P	**P**	**19 55 04.5**	**+1.1**
	739nm,2.0s						
MMRI	**Maumere**	**19.94**	**255**	*e*P	**P**	**19 55 06.1**	**-0.7**
	101nm,1.3s						
AS01	**Alice Springs**	**21.20**	**200**	*e*P	**P**	**19 55 20.5**	**0.0**
AS31	**Alice Springs**	**21.22**	**200**	*e*P	**P**	**19 55 21.3**	**+0.6**
	1.7nm,0.6s						
ASAR	**Alice Springs**	**21.22**	**200**	P	**P**	**19 55 20.6**	**-0.1**
	1.4nm,0.6s,baz=28,slow=10.0,SNR=38						
ASAR				S	**S**	**19 59 15.6**	**+0.6**
	3.3nm,1.2s,baz=10,slow=22,SNR=4.6						
FITZ	**Fitzroy Crossi**	**21.25**	**227**	*e*P	**P**	**19 55 21.7**	**+0.7**
	49nm,1.7s						
EIDS	**Eidsvold**	**23.36**	**158**	*e*P	**P**	**19 55 44.4**	**+1.3**
	36nm,1.8s						
MBWA	**Marble Bar**	**27.51**	**229**	*e*P	**P**	**19 56 22.7**	**+1.6**
	74nm,1.8s						
ARMA	**Armidale**	**28.18**	**162**	*e*P	**P**	**19 56 27.0**	**-0.1**
	121nm,1.8s						
KWAJ	**Kwajalein Atol**	**28.68**	**64**	*e*P	**P**	**19 56 31.3**	**-0.4**
	160nm,0.8s						
FORT	**Forrest**	**29.84**	**204**	*e*P	**P**	**19 56 41.5**	**-0.3**
	44nm,1.1s						
SBUM	**Sibu**	**30.08**	**281**	*e*P	**P**	**19 56 43.8**	**-0.3**
	35nm,1.9s						
DZM	**Mont Dzumac**	**30.16**	**129**	P	**P**	**19 56 46.2**	**+1.3**
	5.4nm,0.8s,baz=288,slow=20,SNR=3.0						
DZM	**Mont Dzumac**	**30.16**	**129**	*e*P	**P**	**19 56 44.3**	**-0.6**
	12nm,1.2s						
KSRS	**Korea Array**	**42.90**	**344**	LR	LR	20 14 48.1	
	comp=Z,18nm,20.6s,baz=40,slow=34						
OUZ	**Omahuta**	**43.08**	**141**	*e*P	**P**	**19 58 36.7**	**+2.3**
	46nm,1.6s						
GSI	**Gunungsitoli**	**44.37**	**276**	*e*P	**P**	**19 58 43.5**	**-1.6**
	38nm,1.6s						
ERM	**Erimo**	**45.52**	**2**	*e*P	**P**	**19 58 54.7**	**+0.9**
	234nm,2.0s						
CMAR	**Chiang Mai Arr**	**47.51**	**299**	P	**P**	**19 59 08.7**	**-1.2**
	0.3nm,0.7s,baz=120,slow=5.3,SNR=3.1						
SONA0	**Songino Array**	**59.91**	**333**	*e*P	**P**	**20 00 40.5**	**+0.2**
SONM	**Songino Array**	**59.91**	**333**	P	**P**	**20 00 40.5**	**+0.2**
	0.8nm,0.7s,baz=150,slow=6.2,SNR=7.1						
MK01	**Makanchi Array**	**72.38**	**322**	*e*P	**P**	**20 02 01.5**	**+1.2**
MK31	**Makanchi Array**	**72.40**	**322**	*e*P	**P**	**20 02 01.4**	**+1.0**
MK32	**Makanchi Array**	**72.40**	**322**	*e*P	**P**	**20 02 01.8**	**+1.4**
MKAR	**Makanchi Array**	**72.40**	**322**	P	**P**	**20 02 01.8**	**+1.4**
	1.6nm,0.7s,baz=106,slow=7.3,SNR=18						
MAKZ	**Makanchi**	**72.60**	**322**	*e*P	**P**	**20 02 02.5**	**+1.0**
	3.9nm,0.8s						
ZAA0	**Zalesovo Array**	**74.30**	**329**	*e*P	**P**	**20 02 09.7**	**-1.7**
	2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**74.30**	**329**	P	**P**	**20 02 11.6**	**+0.3**
	1.3nm,0.5s,baz=110,slow=6.3,SNR=6.4						
ZALV	**Zalesovo Beam**	**74.30**	**329**	*e*P	**P**	**20 02 11.0**	**-0.3**
ZAA1	**Zalesovo Array**	**74.30**	**329**	*e*P	**P**	**20 02 11.7**	**+0.2**
NIL	**Nilore**	**74.30**	**306**	*e*P	**P**	**20 02 09.1**	**-2.8**
	4.9nm,0.8s						
VNDA	**Vanda**	**74.55**	**176**	P	**P**	**20 02 12.2**	**-0.3**
	3.1nm,1.1s,baz=344,slow=9.4,SNR=2.7						
VNDA	**Vanda**	**74.55**	**176**	*e*P	**P**	**20 02 11.7**	**-0.7**
TIXI	**Tiksi**	**75.68**	**356**	*e*P	**P**	**20 02 20.6**	**+1.6**
	12nm,1.8s						
KURK	**Kurchatov**	**76.24**	**324**	*e*P	**P**	**20 02 23.7**	**+1.0**
	9.8nm,1.4s						
ARSB	**Arslanbob**	**76.66**	**314**	*e*P	**P**	**20 02 25.0**	**-0.5**
	12nm,1.4s						
ILAR	**Eielson Array**	**85.51**	**24**	P	**P**	**20 03 10.5**	**-1.4**
	1.5nm,0.7s,baz=261,slow=4.0,SNR=16						
ILB	**Eielson Array**	**85.51**	**24**	*e*P	**P**	**20 03 10.1**	**-1.8**

*ISCJB **18** 19:51:38.9±0.2, 12.°90S±0.°03×71.°17W±0.°04, h33km, mb4.4/37, MS3.7/9, Error ellipse: s-maj=6.4km s-min=3.6km az=147.2*
*NEIC **18** 19:51:42.1±0.6, 12.°96S×71.°25W, h47km±6km, mb4.5/34, Error ellipse: s-maj=8.9km s-min=5.0km az=59.0*
*IDC **18** 19:51:42.8±1.5, 12.°93S×71.°23W, h50km±16km, mb3.8/13, mb1 4.0/20, mb1mx4.0/34, mbtmp4.1/20, ML4.2/6, MS3.7/13, Ms1 3.7/13, ms1mx3.5/33, Error ellipse: s-maj=19.6km s-min=11.3km az=32.0*
ISC 18 19:51:41.3±0.4, 12.°84S±0.°05×71.°16W±0.°05, h35km, n109, σ1893/108, mb4.5/37, MS3.8/9, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.51**	**140**	P	**Pn**	**19 52 50.1**	**+2.5**
	2.8nm,0.3s,baz=327,slow=9.0,SNR=56						
LPAZ				S	**Sn**	**19 53 44.1**	**+4.9**
	12nm,0.3s,baz=298,slow=12,SNR=4.2						
LPAZ				Lg	Lg	19 53 58.6	
	26nm,0.3s,baz=218,slow=24,SNR=12						
LPAZ				LR	LR	19 54 42.6	
	comp=Z,656nm,19.7s,baz=354,slow=40						
LPAZ	**La Paz**	**4.51**	**140**	*e*Pn	**Pn**	**19 52 48.4**	**+0.8**
LPAZ				*e*Sn	**Sn**	**19 53 35.5**	**-3.6**
NNA	**Nana**	**5.62**	**278**	P	**Pn**	**19 53 02.8**	**+0.4**
	19nm,0.3s,baz=100,slow=7.9,SNR=21						
NNA				S	**Sn**	**19 54 06.9**	**+1.1**
	baz=357,slow=17,SNR=2.0						
NNA				Lg	Lg	19 54 27.3	
	8.1nm,0.3s,baz=248,slow=16,SNR=1.4						
MNMC	**Minye Minye**	**6.43**	**167**	*e*Pn	**Pn**	**19 53 15.3**	**+1.5**
PB11	**IPOC Station P**	**7.03**	**168**	*e*Pn	**Pn**	**19 53 22.4**	**+0.5**
PB01	**IPOC Station P**	**8.31**	**169**	*e*Pn	**Pn**	**19 53 37.6**	**-1.8**
ATAH	**Atahualpa**	**9.11**	**308**	P	**Pn**	**19 53 51.2**	**+0.5**
	2.2nm,0.3s,baz=116,slow=10.0,SNR=18						
ATAH				S	**Sn**	**19 55 30.9**	**-1.4**
	baz=84,slow=18,SNR=1.2						
ATAH				Lg	Lg	19 56 12.9	
	baz=147,slow=19,SNR=1.8						
PB04	**IPOC Station P**	**9.49**	**174**	*e*Pn	**Pn**	**19 53 53.0**	**-2.7**
LVC	**Limon Verde**	**9.95**	**168**	P	**Pn**	**19 54 01.8**	**-0.3**
	3.5nm,0.3s,baz=339,slow=8.4,SNR=20						
LVC				S	**Sn**	**19 55 55.8**	**+3.0**
	0.4nm,0.3s,baz=344,slow=23,SNR=1.1						
LVC				LR	LR	19 58 36.4	
	comp=Z,177nm,18.1s,baz=320,slow=42						
LVC	**Limon Verde**	**9.95**	**168**	*e*Pn	**Pn**	**19 54 01.4**	**-0.7**
LVC				*e*Sn	**Sn**	**19 55 55.8**	**+3.0**
SIV	**San Ignacio**	**10.26**	**109**	P	**Pn**	**19 54 06.3**	**+0.2**
	3.9nm,0.3s,baz=318,slow=11,SNR=39						
SIV				S	**Sn**	**19 56 00.5**	**+0.5**
	1.9nm,0.3s,baz=240,slow=20,SNR=5.0						
SIV				Lg	Lg	19 57 05.0	
	6.1nm,0.3s,baz=219,slow=21,SNR=5.8						
SIV				LR	LR	19 58 24.8	
	comp=Z,988nm,18.8s,baz=304,slow=39						
PB10	**IPOC Station P**	**10.63**	**177**	*e*Pn	**Pn**	**19 54 06.3**	**-4.8**
GO02	**Mina Guanaco**	**12.34**	**173**	*e*Pn	Pn	19 54 29.3	-5.6
PTLC	**Puerto Leguiza**	**13.42**	**344**	*e*P	Pn	19 54 44.6	-4.9
PTLC	**Puerto Leguiza**	**13.42**	**344**	*e*P	Pn	19 54 44.6	-4.9
OTAV	**Otavalo**	**14.87**	**330**	*e*Pn	**Pn**	**19 55 09.0**	**-0.6**
FLOC	**Florencia**	**15.01**	**342**	*e*P	**Pn**	**19 55 14.0**	**+3.0**
FLOC	**Florencia**	**15.01**	**342**	*e*P	**Pn**	**19 55 14.0**	**+3.0**
SOTA	**Rioblanco**	**15.83**	**340**	*e*P	**Pn**	**19 55 23.0**	**+0.8**
SOTA	**Rioblanco**	**15.83**	**340**	*e*P	**Pn**	**19 55 23.0**	**+0.8**
PCON	**Cinco Dias**	**15.95**	**341**	*e*P	**Pn**	**19 55 21.6**	**-2.1**
PCON	**Cinco Dias**	**15.95**	**341**	*e*P	**Pn**	**19 55 21.6**	**-2.1**
LCO	**Las Campanas**	**16.09**	**179**	*e*Pn	**Pn**	**19 55 23.2**	**-2.0**
	17nm,1.5s						
PTGA	**Pitinga**	**16.36**	**44**	P	**Pn**	**19 55 26.5**	**-2.0**
	1.2nm,0.3s,baz=230,slow=14,SNR=38						
PTGA				S	**Sn**	**19 58 24.5**	**-4.6**
	0.6nm,0.3s,baz=180,slow=9.9,SNR=4.3						
PTGA				Lg	Lg	20 00 24.7	
	0.5nm,0.3s,baz=317,slow=12,SNR=5.4						
PTGA	**Pitinga**	**16.36**	**44**	*e*Pn	**Pn**	**19 55 26.5**	**-2.0**
	23nm,0.8s						
PTGA				S	**Sn**	**19 58 24.5**	**-4.6**
PTGA				Lg	Lg	20 00 24.8	
VILC	**Villavicencio,**	**17.03**	**351**	*e*P	**P**	**19 55 38.9**	**+0.4**
VILC	**Villavicencio,**	**17.03**	**351**	*e*P	**P**	**19 55 38.9**	**+0.4**
GO04	**Tololo Observa**	**17.25**	**179**	*e*P	**P**	**19 55 39.3**	**-1.7**
	23nm,1.3s						
CHIC	**Chingaza**	**17.55**	**351**	*e*P	**P**	**19 55 49.8**	**+5.3**
CHIC	**Chingaza**	**17.55**	**351**	*e*P	**P**	**19 55 49.8**	**+5.3**
ROSC	**El Rosal**	**17.85**	**350**	P	**P**	**19 55 49.0**	**+1.2**
	0.7nm,0.3s,baz=180,slow=20,SNR=2.8						
ROSC				Lg	Lg	20 01 00.4	
	1.2nm,0.3s,baz=191,slow=19,SNR=2.8						
ROSC	**El Rosal**	**17.85**	**350**	*e*P	**P**	**19 55 48.8**	**+1.0**
	12nm,0.6s						
ROSC				Lg	Lg	20 01 00.4	
CPUP	**Villa Florida**	**18.68**	**138**	P	**Pn**	**19 55 56.6**	**-0.4**
	0.1nm,0.3s,baz=310,slow=13,SNR=5.1						
CPUP				LR	LR	20 04 16.6	
	comp=Z,348nm,19.3s,baz=310,slow=40						
CPUP	**Villa Florida**	**18.68**	**138**	*e*P	**P**	**19 55 54.0**	**-2.5**
	11nm,1.4s						
RUSC	**La Rusia**	**18.71**	**354**	*e*P	**Pn**	**19 56 01.9**	**+3.8**
RUSC	**La Rusia**	**18.71**	**354**	*e*P	**Pn**	**19 56 01.9**	**+3.8**
TAMC	**Tame, Arauca**	**19.16**	**358**	*e*P	**Pn**	**19 56 04.0**	**+1.0**
TAMC	**Tame, Arauca**	**19.16**	**358**	*e*P	**Pn**	**19 56 04.0**	**+1.0**
PTBC	**PUERTO BERRIO,**	**19.53**	**350**	*e*P	**P**	**19 56 04.1**	**-1.9**
PTBC	**PUERTO BERRIO,**	**19.53**	**350**	*e*P	**P**	**19 56 04.1**	**-1.9**
ROC1	**El Roble**	**20.04**	**180**	*e*P	**Pn**	**19 56 12.6**	**-1.0**
	10nm,0.7s						
PAMC	**Pamplona, Colo**	**20.11**	**356**	*e*P	Pn	19 56 15.3	+0.6
PAMC	**Pamplona, Colo**	**20.11**	**356**	*e*P	Pn	19 56 15.3	+0.6
SDV	**Santo Domingo**	**21.59**	**1**	P	**P**	**19 56 30.6**	**+2.1**
	13nm,0.7s,baz=185,slow=4.7,SNR=11						
SDV				Lg	Lg	20 03 07.4	
	9.9nm,0.8s,baz=35,slow=14,SNR=3.4						
SDV	**Santo Domingo**	**21.59**	**1**	*e*P	**P**	**19 56 30.5**	**+2.1**
	24nm,0.9s						
SDV	**Santo Domingo**	**21.59**	**1**	*e*P	**P**	**19 56 30.1**	**+1.7**
SDV	**Santo Domingo**	**21.59**	**1**	*e*P	**P**	**19 56 30.1**	**+1.7**
BDFB	**Brasilia**	**22.60**	**100**	P	**P**	**19 56 41.0**	**+1.8**
	3.5nm,0.6s,baz=279,slow=8.0,SNR=5.0						
BDFB				Lg	Lg	20 03 36.5	
	12nm,0.9s,baz=132,slow=26,SNR=3.3						
BDFB				LR	LR	20 06 43.1	
	comp=Z,166nm,20.0s,baz=268,slow=40						
BCIP	**Isla Barro Col**	**23.50**	**338**	*e*P	P	19 56 57.8	+10
	47nm,1.0s						
MDP	**Montagnes des**	**25.62**	**47**	P	**P**	**19 57 09.7**	**+2.1**
	12nm,0.9s,baz=200,slow=13,SNR=1.9						
MDP				LR	LR	20 06 36.7	
	comp=Z,110nm,20.1s,baz=230,slow=35						
GRGR	**Grenville**	**26.54**	**21**	*e*P	**P**	**19 57 19.9**	**+3.9**
	111nm,1.1s						
GO06	**Curarreshue**	**26.64**	**181**	*e*P	**P**	**19 57 16.1**	**-0.7**
	11nm,1.3s						
JTS	**JuntasAbangare**	**26.76**	**329**	LR	LR	20 07 57.6	
	comp=Z,106nm,19.5s,baz=193,slow=36						
PLCA	**Paso Flores**	**27.79**	**179**	P	**P**	**19 57 26.4**	**-0.6**
	3.4nm,0.8s,baz=12,slow=11,SNR=8.4						
PLCA	**Paso Flores**	**27.79**	**179**	*e*P	**P**	**19 57 26.5**	**-0.6**
	4.6nm,0.9s						
LTX	**Lajitas**	**52.37**	**324**	*e*P	**P**	**20 00 50.2**	**-0.1**
TXAR	**Lajitas Array**	**52.37**	**324**	P	**P**	**20 00 50.2**	**-0.1**
	0.4nm,0.6s,baz=146,slow=8.7,SNR=2.7						
CBKS	**Cedar Bluff**	**57.91**	**334**	*e*P	**P**	**20 01 31.3**	**+1.3**
	14nm,0.9s						
SDCO	**Great Sand Dun**	**59.75**	**329**	*e*P	**P**	**20 01 43.3**	**+0.1**
	5.9nm,1.2s						
Q24A	**Divide**	**60.52**	**330**	*e*P	**P**	**20 01 47.6**	**-0.8**
	14nm,1.4s						
X16A	**Lo Mia Camp, P**	**60.61**	**322**	*e*P	**P**	**20 01 48.2**	**-0.7**
	3.5nm,0.9s						
WUAZ	**Wupatki**	**61.33**	**323**	*e*P	**P**	**20 01 53.6**	**-0.2**
	3.3nm,0.6s						
CCUT	**Cedar City**	**63.89**	**324**	*e*P	**P**	**20 02 11.0**	**+0.1**
	2.8nm,1.1s						
PSUT	**Pine Spring**	**64.84**	**324**	*e*P	**P**	**20 02 15.2**	**-2.0**
	2.4nm,0.8s						
TCUT	**Toone Canyon**	**65.31**	**327**	*e*P	**P**	**20 02 20.0**	**-0.2**
	44nm,1.8s						
DUG	**Dugway, Tooele**	**65.41**	**326**	*e*P	**P**	**20 02 19.6**	**-1.0**
	8.0nm,1.4s						
MDND	**Maddock**	**65.52**	**339**	*e*P	**P**	**20 02 21.1**	**+0.1**
	31nm,0.8s						
PD31	**Pinedale Array**	**65.58**	**330**	*e*P	**P**	**20 02 22.2**	**+0.4**
PDAR	**Pinedale Array**	**65.58**	**330**	P	**P**	**20 02 22.1**	**+0.2**
	0.3nm,0.6s,baz=114,slow=7.2,SNR=4.4						
PDAR				LR	LR	20 35 07.4	
	comp=Z,57nm,18.4s,baz=324,slow=40						
HWUT	**Hardware Ranch**	**65.74**	**328**	*e*P	**P**	**20 02 20.6**	**-2.3**
	2.1nm,0.7s						
ULM	**Lac du Bonnet**	**66.46**	**343**	P	**P**	**20 02 26.5**	**-0.5**
	3.5nm,0.5s,baz=134,slow=4.7,SNR=9.3						
ULM				LR	LR	20 34 40.3	
	comp=Z,103nm,18.2s,baz=278,slow=39						
ULM	**Lac du Bonnet**	**66.46**	**343**	*e*P	**P**	**20 02 26.2**	**-0.8**
	7.4nm,0.9s						
HVU	**Hansel Valley**	**66.50**	**327**	*e*P	**P**	**20 02 26.4**	**-1.3**
	3.4nm,0.9s						
OMMB	**Old Mammoth Mi**	**67.32**	**320**	*e*P	**P**	**20 02 32.0**	**-1.2**
	3.9nm,1.2s						
NV01	**Mina Array Sit**	**67.40**	**321**	*e*P	**P**	**20 02 33.3**	**-0.3**
NVAR	**Mina Array Bea**	**67.40**	**321**	P	**P**	**20 02 33.7**	**+0.1**
	0.2nm,0.5s,baz=113,slow=7.0,SNR=2.7						
DBIC	**Dimbokro**	**68.66**	**78**	P	**P**	**20 02 41.8**	**+0.1**
	1.0nm,0.4s,baz=231,slow=3.5,SNR=5.5						
DBIC				LR	LR	20 30 03.4	
	comp=Z,67nm,20.5s,baz=248,slow=34						
DBIC	**Dimbokro**	**68.66**	**78**	*e*P	**P**	**20 02 41.2**	**-0.5**
	20nm,1.8s						
PAHR	**Pah Rah Range**	**68.86**	**322**	*e*P	**P**	**20 02 42.2**	**-0.4**
	4.3nm,1.0s						
MFID	**Camas Ranch**	**69.26**	**327**	*e*P	**P**	**20 02 44.9**	**-0.1**
	9.2nm,0.9s						
VNA2	**Neumayer--Watz**	**69.49**	**162**	P	**P**	**20 02 50.0**	**+4.2**
	baz=297,slow=5.6						
ORV	**Oroville**	**70.06**	**321**	*e*P	**P**	**20 02 48.1**	**-1.7**
	4.5nm,1.0s						
MOD	**Modoc Plateau**	**70.77**	**323**	*e*P	**P**	**20 02 54.2**	**-0.1**
	3.2nm,0.9s						
SNAA	**Sanae**	**71.12**	**162**	*e*P	**P**	**20 02 53.0**	**-2.9**
	8.0nm,0.9s						
I07A	**Izee**	**71.70**	**325**	*e*P	**P**	**20 02 58.2**	**-1.6**
	21nm,1.9s						
PINE	**Pine Mountain**	**72.32**	**325**	*e*P	**P**	**20 03 05.3**	**+1.6**
	10nm,1.4s						
TOA1	**Torodi Ar. Sit**	**76.69**	**73**	*e*P	**P**	**20 03 29.6**	**+0.2**
TOA0	**Torodi Ar. Sit**	**76.69**	**73**	*e*P	**P**	**20 03 28.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**76.69**	**73**	P	**P**	**20 03 29.6**	**+0.2**
	2.2nm,0.6s,baz=268,slow=5.0,SNR=22						
ESDC	**Sonseca Array**	**81.30**	**46**	P	**P**	**20 03 54.0**	**-0.3**
	0.4nm,0.6s,baz=272,slow=5.7,SNR=3.1						
YKA	**Yellowknife Ar**	**82.35**	**341**	P	**P**	**20 03 59.2**	**+0.1**
	1.5nm,0.7s,baz=136,slow=5.6,SNR=22						
YKB5	**Yellowknife Ar**	**82.35**	**341**	*e*P	**P**	**20 03 59.5**	**+0.3**
YKW3	**Yellowknife Ar**	**82.40**	**341**	*e*P	**P**	**20 04 00.3**	**+0.9**
	4.4nm,1.1s						
BOSA	**Boshof**		**89.46**	**119**	LR	LR	20 41 46.5
	comp=Z,69nm,18.7s,baz=292,slow=34						
ILAR	**Eielson Array**		**95.54**	**335**	P	**P**	**20 05 03.0**	**+0.7**
	0.1nm,0.8s,baz=120,slow=3.6,SNR=2.5						
ILB	**Eielson Array**		**95.54**	**335**	*e*P	**P**	**20 05 02.5**	**+0.1**
GERES	**GERESS Array B**		**96.20**	**41**	LR	LR	20 47 38.8
	comp=Z,34nm,18.3s,baz=330,slow=35						
NOA	**NORSAR Array B**		**97.47**	**29**	LR	LR	20 48 37.5
	comp=Z,17nm,18.1s,baz=290,slow=35						
ZAA1	**Zalesovo Array**		**134.80**	**20**	*e*PKPdf	**PKPdf**	**20 10 55.5**	**-0.7**
ZALV	**Zalesovo Beam**		**134.81**	**20**	PKP	**PKPdf**	**20 10 55.5**	**-0.7**
	0.6nm,0.6s,baz=132,slow=4.2,SNR=3.7						
ASAR	**Alice Springs**		**136.21**	**214**	PKP	**PKPdf**	**20 10 59.7**	**-0.3**
	0.3nm,0.7s,baz=151,slow=2.1,SNR=2.5						
WR1	**Warramunga Arr**		**138.88**	**218**	*e*PKPdf	**PKPdf**	**20 11 04.3**	**-0.6**
WRA	**Warramunga Arr**		**138.88**	**218**	PKP	**

BBB				Lg		Lg	20 19 42.7		
	1.4nm,0.3s,baz=192,slow=14,SNR=1.7								
BBB	**Bella Bella**	**5.14**	**126**	*e*Pn		Pn	20 18 15.9	-2.5	
BBB				*e*Sn		**Sn**	**20 19 12.8**	**-5.5**	
WHY	**Whitehorse**	**5.25**	**360**	*e*Pn		**Pn**	**20 18 20.5**	**+0.6**	
WHY				*e*Sn		**Sn**	**20 19 20.1**	**-0.9**	
HYT	**Haines Junctio**	**5.59**	**347**	*e*Pn		**Pn**	**20 18 26.8**	**+2.2**	
BALM	**Baldy**	**6.88**	**328**	*e*Pn		**Pn**	**20 18 44.0**	**+1.8**	
BALM				*e*Sn		**Sn**	**20 19 56.2**	**-4.9**	
HMT	**Hamilton**	**7.03**	**318**	*e*Pn		**Pn**	**20 18 43.7**	**-0.5**	
HMT				*e*Sn		**Sn**	**20 20 00.8**	**-3.9**	
RAGM	**Ragged Mountai**	**7.22**	**318**	*e*Pn		Pn	20 18 46.0	-0.9	
BMRM	**Bremner River**	**7.57**	**321**	*e*Pn		**Pn**	**20 18 51.8**	**0.0**	
KLU	**Klutina**	**8.40**	**321**	*e*Pn		**Pn**	**20 19 04.5**	**+1.4**	
SCM	**Sheep Creek Mo**	**9.13**	**320**	*e*Pn		**Pn**	**20 19 14.0**	**+0.8**	
KNK	**Knik Glacier**	**9.31**	**316**	*e*Pn		**Pn**	**20 19 16.8**	**+1.3**	
DOT	**Dot Lake**	**9.47**	**334**	*e*Pn		Pn	20 19 14.1	-3.6	
BRLK	**Bradley Lake**	**9.64**	**303**	*e*Pn		Pn	20 19 18.6	-1.4	
GHO	**Glory Hole Cre**	**9.70**	**317**	*e*Pn		**Pn**	**20 19 23.9**	**+3.0**	
SCRK	**Sand Creek**	**9.73**	**336**	*e*Pn		**Pn**	**20 19 22.7**	**+1.3**	
RIDG	**Independ'e Rid**	**9.74**	**333**	*e*Pn		**Pn**	**20 19 24.7**	**+3.2**	
EGAK	**Eagle**	**9.89**	**344**	*e*Pn		**Pn**	**20 19 24.7**	**+1.3**	
KDAK	**Kodiak Island**	**10.06**	**291**	Pn		Pn	20 19 22.5	-3.2	
	0.6nm,0.3s,baz=101,slow=14,SNR=6.8								
SUA	**Susitna One**	**10.28**	**313**	*e*Pn		Pn	20 19 27.0	-1.8	
RND	**Reindeer**	**10.70**	**324**	*e*Pn		**Pn**	**20 19 36.7**	**+2.2**	
ILAR	**Eielson Array**	**11.11**	**332**	Pn		**Pn**	**20 19 40.4**	**+0.3**	
	0.1nm,0.3s,baz=139,slow=8.4,SNR=8.2								
ILAR				Lg		Lg	20 23 01.5		
	0.0nm,0.3s,baz=135,slow=18,SNR=2.6								
YKA	**Yellowknife Ar**	**12.58**	**48**	Pn		**Pn**	**20 20 00.4**	**+0.3**	
	0.0nm,0.3s,baz=239,slow=12,SNR=3.5								
BOZ	**Bozeman (W)**	**17.66**	**114**	*e*Pn		**P**	**20 21 12.2**	**+3.6**	
BOZ				*e*Sn		S	20 24 42.8	+10	
RLMT	**Red Lodge**	**19.22**	**112**	*e*Sn		**S**	**20 25 08.8**	**+4.6**	
NVAR	**Mina Array Bea**	**20.32**	**140**	P		**P**	**20 21 36.3**	**-1.6**	
	0.1nm,0.4s,baz=334,slow=8.0,SNR=2.0								
PDAR	**Pinedale Array**	**20.70**	**117**	P		**P**	**20 21 41.6**	**-0.4**	
	0.2nm,0.5s,baz=321,slow=7.1,SNR=2.1								
H11N2	**WAKE ISLAND Hy**	**56.06**	**255**	T		T	21 27 32.9		
	baz=35,slow=76,SNR=141								
H11N3	**WAKE ISLAND Hy**	**56.07**	**255**	T		T	21 27 32.2		
	baz=35,slow=76,SNR=151								
H11N1	**WAKE ISLAND Hy**	**56.08**	**255**	T		T	21 27 33.3		
	baz=35,slow=76,SNR=109								
MKAR	**Makanchi Array**	**73.46**	**334**	P		**P**	**20 28 34.5**	**+0.5**	
	0.2nm,0.7s,baz=36,slow=5.4,SNR=2.9								

ISK ***18*** *20:19:35.7,38.04°N×28.05°E,9km,ML2.5/4*
ISCJB ***18*** *20:19:36.5±0.7,38.38°N±0.03°×28.07°E±0.05,h3km±7km, Error ellipse: s-maj=7.1km s-min=4.8km az=7.1*
DDA ***18*** *20:19:36.6,38.41°N×28.07°E,h7km±3km,ML2.8*

ISC 18 20:19:36.3±1.1,38°39N±0.03°×28°07E±0.05,h11km±10km, n11,σ0°67/17,Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
GOMA	**Golmarmara-Man**	**0.34**	**340**	PG		**Pg**	**20 19 42.9**			**-0.3**
GOMA				SG		**Sg**	**20 19 47.4**			**-0.3**
MANT	**Manisa**	**0.40**	**75**	IAML_P						
	comp=Z,2μm,0.1s									
AYDB	**Zeytinkoy-Aydi**	**0.46**	**198**	PG		**Pg**	**20 19 45.6**			**+0.2**
AYDB				SG		**Sg**	**20 19 52.2**			**+0.6**
KULA	**Kula-Manisa**	**0.48**	**75**	PG		**Pg**	**20 19 45.4**			**-0.4**
KULA				SG		**Sb**	**20 19 53.3**			**-0.7**
AKHS	**Akhisar**	**0.53**	**338**	*i* P		**Pb**	**20 19 47.8**			**+0.2**
AKHS				*i* S		**Sb**	**20 19 55.0**			**-0.4**
AYDN	**Tasoluk**	**0.74**	**192**	IAML_P						
	comp=Z,2μm,0.2s									
AYDN				*i* P		**Pn**	**20 19 52.5**			**-0.3**
DEMI	**Demirci**	**0.83**	**38**	IAML_P						
	comp=Z,2μm,0.2s									
DEMI				*i* P		**Pn**	**20 19 53.9**			**-0.1**
DEMI				*i* S		**Sb**	**20 20 03.5**			**-0.4**
STEP	**BALIKESIR_Sava**	**1.02**	**345**	*e*P		**Pn**	**20 19 56.8**			**+0.2**
STEP				*i* S		**Sn**	**20 20 10.2**			**-0.8**
MLSB	**Milas**	**1.11**	**192**	PN		**Pg**	**20 19 57.7**			**-0.1**
DURS	**Dursunbey**	**1.25**	**14**	*i* P		**Pg**	**20 20 01.7**			**+1.3**
DURS				*i* S		**Sn**	**20 20 17.9**			**+1.2**
BALB	**Balikesir**	**1.26**	**353**	PN		**Pg**	**20 20 00.1**			**-0.4**

IDC ***18*** *20:25:06.6±1.4,26.01°N×128.57°E,h0km,mb3.4/4, mb1 3.5/5,mb1mx3.3/32,mbtmp3.4/5,ML3.2/1,Error ellipse: s-maj=48.8km s-min=18.6km az=77.0*
ISCJB ***18*** *20:25:08.8±1.0,26°05N±0.04°×128°68E±0.05,h30km±7km, mb3.3/4,Error ellipse: s-maj=8.1km s-min=6.5km az=149.8*
JMA ***18*** *20:25:09.5±0.3,26.06°N×128.64E,h37km,M3.0*

ISC 18 20:25:07.9±1.7,26°04N±0.05°×128°63E±0.04,h14km±11km, n16,σ1°37/25,mb3.3/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
JNTH	**Nagotoyohara**	**0.72**	**311**	P		**Pn**	**20 25 22.9**			**-0.9**
JNTH				*e*S		**Sn**	**20 25 32.7**			**-2.0**
JJT3	**Tamagusuku3**	**0.77**	**278**	P		**Pn**	**20 25 24.3**			**-0.1**
JJT3				*e*S		**Sn**	**20 25 35.2**			**-0.5**
JOW	**Kunigami**	**0.85**	**338**	Pn		**Pn**	**20 25 25.2**			**-0.4**
	126nm,0.3s,baz=155,slow=14,SNR=342									
JOW				Sn		**Sg**	**20 25 35.6**			**0.0**
	245nm,0.3s,baz=110,slow=23,SNR=13									
JOW	**Kunigami**	**0.85**	**338**	P		**Pn**	**20 25 25.1**			**-0.5**
JOW				S		**Sn**	**20 25 36.7**			**-1.2**
JYRO	**Yoronjima**	**1.00**	**351**	P		**Pn**	**20 25 27.1**			**-0.4**
JYRO				*e*S		**Sg**	**20 25 40.4**			**+0.2**
JIH	**Iheya**	**1.16**	**329**	P		**Pg**	**20 25 29.9**			**-0.4**
JIH				*e*S		**Sn**	**20 25 44.3**			**-1.0**
JOKE	**Okinoerabujima**	**1.32**	**358**	P		**Pn**	**20 25 32.2**			**-0.3**
JOKE				S		**Sn**	**20 25 47.8**			**-1.6**
JAGN	**Aguni-jima**	**1.36**	**294**	P		**Pb**	**20 25 32.9**			**-0.3**
JKE	**Kume jima 2**	**1.68**	**280**	P		**Pn**	**20 25 36.7**			**-0.2**
JTK	**Tokunoshima**	**1.77**	**9**	P		**Pn**	**20 25 38.3**			**+0.2**
JTK				*e*S		**Sn**	**20 25 58.3**			**-2.1**
JMZ	**Minamidaito 2**	**2.34**	**95**	P		**Pn**	**20 25 45.7**			**-0.4**
JMZ				*e*S		**Sn**	**20 26 12.0**			**-2.7**
JNU	**Nakatsue**	**7.33**	**15**	Pn		**Pn**	**20 26 57.4**			**+2.8**
	0.4nm,0.3s,baz=180,slow=7.1,SNR=3.9									
SONM	**Songino Array**	**27.91**	**327**	P		**P**	**20 31 00.2**			**+2.5**
	0.4nm,0.7s,baz=138,slow=11,SNR=2.9									
MKAR	**Makanchi Array**	**41.93**	**312**	P		**P**	**20 32 58.1**			**0.0**
	0.3nm,0.6s,baz=97,slow=9.9,SNR=5.5									
WRA	**Warramunga Arr**	**46.04**	**173**	P		**P**	**20 33 30.7**			**-0.7**
	0.3nm,0.8s,baz=354,slow=8.4,SNR=1.3									
ASAR	**Alice Springs**	**49.67**	**174**	P		**P**	**20 34 01.1**			**+1.6**
	0.7nm,1.1s,baz=358,slow=7.2,SNR=2.4									

NEIC ***18*** *20:39:42.5±0.0,50.97°N×179.59E,h12km,mb4.3/35, ML3.6(AEIC),After AEIC.*
ISCJB ***18*** *20:39:43.2±0.4,50.98°N±0.05°×179.57°E±0.04,h48km, mb4.2/37,MS3.9/1,Error ellipse: s-maj=7.1km s-min=3.8km az=174.6*
IDC ***18*** *20:39:47.5±5.1,51.05°N×179.57E,h70km±45km,mb3.4/15, mb1 3.7/16,mb1mx3.5/43,mbtmp3.8/16,ML2.7/1,MS3.2/1, Ms1 3.2/1,ms1mx2.6/31,Error ellipse: s-maj=32.0km s-min=13.4km az=179.0*

ISC 18 20:39:45.5±0.6,51.03N±0.08°×179.56E±0.04,h48km,n96, σ1°67/101,mb4.2/39,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
AMKA	**Amchitka**	**0.39**	**335**	*e*Sg		**Sn**	**20 39 59.4**			**-3.0**
CESW	**Semis' Southwe**	**0.88**	**0**	P		**Pn**	**20 40 00.0**			**-1.4**
CERAA	**Semis' Rag'd T**	**0.89**	**5**	P		**Pn**	**20 40 00.1**			**-1.5**
CERB	**Semis' Cerberu**	**0.91**	**3**	P		**Pn**	**20 40 00.6**			**-1.3**
CERB				S		**Sn**	**20 40 15.4**			**+1.4**
CETU	**Semis' Tuman**	**0.94**	**357**	P		**Pn**	**20 40 01.2**			**-1.2**
CEAP	**Semis' Anvil P**	**0.98**	**1**	P		**Pn**	**20 40 01.7**			**-1.1**
LSSA	**Little Sitkin**	**1.13**	**325**	P		**Pn**	**20 40 04.3**			**-0.7**
LSNW	**Little Sitkin**	**1.15**	**326**	P		**Pn**	**20 40 04.3**			**-0.8**
TASE	**Tanaga Southea**	**1.71**	**61**	*e*Pn		**Pn**	**20 40 11.9**			**-0.9**
TASE				*e*Sn		**Sn**	**20 40 34.8**			**+1.3**
TAFP	**Tanaga Falls P**	**1.77**	**59**	*e*Pn		**Pn**	**20 40 12.9**			**-0.7**
TAFP				*e*Sn		**Sn**	**20 40 36.1**			**+1.2**
TAPA	**Tanaga Point A**	**1.82**	**63**	*e*Pn		**Pn**	**20 40 13.7**			**-0.7**
KIMD	**Kanaga Island**	**2.14**	**69**	P		**Pn**	**20 40 17.7**			**-0.9**
KIWB	**Kanaga Island**	**2.22**	**67**	*e*Pn		**Pn**	**20 40 19.2**			**-0.5**
ADK	**Adak**	**2.50**	**68**	*e*Pn		**Pn**	**20 40 22.3**			**-1.3**
ADK				*e*Sn		**Sn**	**20 40 52.5**			**-0.4**
GSSP	**Great Sitkin S**	**2.87**	**66**	P		**Pn**	**20 40 27.7**			**-0.9**
GSTD	**Great Sitkin T**	**2.87**	**67**	*e*Pn		**Pn**	**20 40 27.8**			**-1.0**
GSTR	**Great Sitkin T**	**2.94**	**67**	*e*Pn		**Pn**	**20 40 30.2**			**+0.6**
SMY	**Shemya**	**3.79**	**299**	*e*Pn		**Pn**	**20 40 41.2**			**-0.1**
ATKA	**Atka Island**	**4.07**	**71**	*e*Pn		**Pn**	**20 40 42.6**			**-2.5**
SPIA	**Saint Paul Isl**	**8.59**	**40**	*e*Pn		**Pn**	**20 41 48.8**			**+1.8**
UNV	**Unalaska Valle**	**8.97**	**66**	*e*Pn		**Pn**	**20 41 52.2**			**0.0**
PETK	**Petropavlovsk-**	**13.60**	**287**	P		**Pn**	**20 42 57.8**			**+2.3**
	0.2nm,0.3s,baz=100,slow=16,SNR=3.4									
PETK					LR	LR	20 48 44.3			
	comp=Z,96nm,19.7s,baz=91,slow=40									
OHAK	**Old Harbor**	**17.00**	**58**	*e*Pn		**Pn**	**20 43 34.8**			**-4.8**
	21nm,1.1s									
KDAK	**Kodiak Island**	**17.48**	**56**	P		**Pn**	**20 43 41.5**			**-3.9**
	0.8nm,0.3s,baz=268,slow=7.6,SNR=14									
KDAK	**Kodiak Island**	**17.48**	**56**	*e*Pn		**Pn**	**20 43 41.0**			**-4.4**
	32nm,1.4s									
RSO	**Redoubt South**	**18.09**	**48**	*e*Pn		**Pn**	**20 43 54.1**			**+1.0**
BILL	**Bilibino**	**18.27**	**344**	*e*Pn		**P**	**20 43 55.0**			**+0.2**
	36nm,1.9s									
BRLK	**Bradley Lake**	**18.78**	**51**	*e*P		**P**	**20 43 59.5**			**-0.9**
	59nm,1.8s									
RDOG	**Red Dog Mine**	**19.12**	**20**	*e*P		**P**	**20 44 04.7**			**+0.7**
	36nm,1.9s									
PPLA	**Purkeypile**	**19.26**	**41**	*e*P		**P**	**20 44 06.2**			**+0.5**
	26nm,1.7s									
SUA	**Susitna One**	**19.35**	**46**	*e*P		**P**	**20 44 05.8**			**-0.9**
	11nm,1.0s									
IM3	**Indian Mountai**	**20.22**	**32**	*e*P		**P**	**20 44 15.5**			**-0.6**
BPAW	**Bear Paw Mtn.**	**20.27**	**39**	*e*P		**P**	**20 44 16.3**			**-0.3**
	12nm,3s									
GHO	**Glory Hole Cre**	**20.27**	**46**	*e*P		**P**	**20 44 15.6**			**-1.1**
	53nm,1.7s									
TRF	**Thorofare Moun**	**20.27**	**41**	*e*P		**P**	**20 44 16.4**			**-0.4**
	19nm,1.2s									
KNK	**Knik Glacier**	**20.38**	**47**	*e*P		**P**	**20 44 17.2**			**-0.6**
	36nm,1.5s									
SML	**Sawmill**	**20.55**	**46**	*e*P		**P**	**20 44 19.8**			**+0.1**
	54nm,1.8s									
MLY	**Manley**	**20.79**	**36**	*e*P		**P**	**20 44 22.6**			**+0.4**
	16nm,1.6s									
RND	**Reindeer**	**20.85**	**41**	*e*P		**P**	**20 44 23.2**			**+0.2**
	17nm,1.7s									
MCK	**McKinley**	**20.94**	**41**	*e*P		**P**	**20 44 25.4**			**+1.5**
	10.0nm,1.1s									
MID	**Middleton Isla**	**20.98**	**53**	*e*P		**P**	**20 44 24.7**			**+0.5**
	1μm,1.9s									
SCM	**Sheep Creek Mo**	**21.01**	**46**	*e*P		**P**	**20 44 24.1**			**-0.7**
	68nm,1.8s									
DHY	**Denali Highway**	**21.36**	**43**	*e*P		**P**	**20 44 27.4**			**-1.2**
	31nm,1.8s									
DIV	**Divide**	**21.57**	**49**	*e*P		**P**	**20 44 30.0**			**-0.7**
	39nm,1.8s									
WRH	**Wood River Hil**	**21.57**	**39**	*e*P		**P**	**20 44 29.2**			**-1.4**
	9.9nm,1.5s									
KLU	**Klutina**	**21.58**	**48**	*e*P		**P**	**20 44 32.6**			**+1.8**
	32nm,1.6s									
BMRM	**Bremner River**	**22.09**	**49**	*e*P		**P**	**20 44 35.7**			**-0.6**
	27nm,1.5s									
HARP	**HAARP**	**22.15**	**46**	*e*P		**P**	**20 44 37.1**			**+0.3**
	54nm,1.4s									
IL1	**Eielson Array**	**22.17**	**39**	*e*P		**P**	**20 44 35.6**			**-1.4**
ILAR	**Eielson Array**	**22.17**	**39**	P		**P**	**20 44 36.9**			**0.0**
	0.3nm,0.6s,baz=233,slow=7.8,SNR=5.3									
ILAR					PcP	**PcP**	**20 48 31.8**			**-0.1**
	1.0nm,1.2s,baz=267,slow=2.1,SNR=3.8									
DOT	**Dot Lake**	**22.96**	**43**	*e*P		**P**	**20 44 43.5**			**-1.9**
	4.3nm,1.0s									
SCRK	**Sand Creek**	**23.09**	**42**	*e*P		**P**	**20 44 45.1**			**-1.7**
	3.9nm,1.0s									
KLR	**Kul'dur**	**30.28**	**286**	P		**P**	**20 45 51.8**			**+0.1**
	8.0nm,0.6s,baz=70,slow=7.7,SNR=45									
H11N2	**WAKE ISLAND Hy**	**32.79**	**202**	T		T	21 21 22.7			
	baz=15									
H11N3	**WAKE ISLAND Hy**	**32.80**	**202**	T		T	21 21 21.9			
	baz=15									
H11N1	**WAKE ISLAND Hy**	**32.81**	**202**	T		T	21 21 19.4			
	baz=15									
YKW3	**Yellowknife Ar**	**36.20**	**46**	*e*P		**P**	**20 46 41.5**			**-1.6**
	2.6nm,1.2s									
YKA	**Yellowknife Ar**	**36.22**	**46**	P		**P**	**20 46 42.1**			**-1.1**
	0.5nm,0.5s,baz=281,slow=8.1,SNR=7.0									
YKA					PcP	**PcP**	**20 49 06.8**			**-0.6**
	0.1nm,0.4s,baz=264,slow=2.9,SNR=2.7									
YKB5	**Yellowknife Ar**	**36.22**	**46**	*e*P		**P**	**20 46 41.9**			**-1.3**
PINE	**Pine Mountain**	**39.93**	**76**	*e*P		**P**	**20 47 14.8**			**-0.2**
	2.1nm,1.0s									
NVAR	**Mina Array Bea**	**44.62**	**81**	P		**P**	**20 47 53.5**			**+0.3**
	0.3nm,0.7s,baz=306,slow=7.7,SNR=2.6									
SONA1	**Songino Array**	**45.87**	**296**	*e*P		**P**	**20 48 03.0**			**+0.1**
SONM	**Songino Array**	**45.88**	**296**	P		**P**	**20 48 03.4**			**+0.4**
	0.5nm,0.6s,baz=69,slow=8.0,SNR=6.1									
R11A	**Troy Canyon, C**	**46.36**	**80**	*e*P		**P**	**20 48 08.5**			**+1.5**
	1.9nm,1.0s									
TPNV	**Topopah Spring**	**46.82**	**82**	*e*P		**P**	**20 48 10.6**			**+0.1**
	9.2nm,1.5s									
BW06	**Bender Array**	**47.40**	**71**	*e*P		**P**	**20 48 14.7**			**-0.3**
	24nm,1.8s									
PD31	**Pinedale Array**	**47.40**	**71**	*e*P		**P**	**20 48 14.7**			**-0.3**
PDAR	**Pinedale Array**	**47.40**	**71**	P		**P**	**20 48 14.8**			**-0.2**
	1.5nm,0.6s,baz=303,slow=3.7,SNR=20									
PDAR	**Pinedale Array**	**47.40**	**71**	*e*P		**P**	**20 48 15.0**			**-0.1**
W13A	**Hualapai Mount**	**49.47**	**82**	*e*P		**P**	**20 48 30.1**			**-0.9**
	8.3nm,1.9s									
W13A					*e*S	**S**	**20 55 40.3**			**+5.3**
PV13	**Radium Mtn., P**	**50.65**	**75**	*e*P		**P**	**20 48 39.9**			**-0.1**
	3.4nm,0.8s									
ZALV	**Zalesovo Beam**	**53.52**	**313**	P		**P**	**20 48 59.7**			**-1.0**
	0.5nm,0.4s,baz=52,slow=9.3,SNR=2.8									
ZALV					PcP	**PcP**	**20 50 06.6**			**-0.4**
	0.6nm,0.7s,baz=32,slow=5.6,SNR=2.7									
KURK	**Kurchatov**	**58.51**	**313**	*e*P		**P**	**20 49 36.1**			**-0.3**
	4.0nm,0.9s									
KURBB	**Kurchatov Arra**	**58.62**	**313**	P		**P**	**20 49 37.2**			**0.0**
	1.4nm,0.5s,baz=41,slow=6.6,SNR=22									
WMQ	**Urumqi**	**58.66**	**302**	*e*P		**P**	**20 49 41.8**			**+4.1**
WMQ					sP	pP	20 49 48.8			-2.3
WMQ					LR	LR				
	comp=N,120nm,23.1s									
WMQ					LR	LR				
	comp=E,120nm,17.7s									
WMQ					LR	LR				
	comp=Z,96nm,23.1s									
MK31	**Makanchi Array**	**59.44**	**308**	*e*P		**P**	**20 49 42.1**			**-0.8**
MKAR	**Makanchi Array**	**59.44**	**308**	P		**P**	**20 49 42.3**			**-0.7**
	comp=Z,5.5nm,1.1s,baz=48,slow=5.8,SNR=19									
MK01	**Makanchi Array**	**59.45**	**308**	*e*P		**P**	**20 49 41.7**			**-1.4**
MAKZ	**Makanchi**	**59.59**	**308**	*e*P		**P**	**20 49 43.4**			**-0.6**
	comp=Z,1.5nm,0.8s									
TXAR	**Lajitas Array**	**59.73**	**80**	P		**P**	**20 49 44.5**			**-0.8**
	comp=Z,0.3nm,0.5s,baz=305,slow=6.2,SNR=4.2									
BRVK	**Borovoye**	**60.51**	**319**	*e*P		**P**	**20 49 50.2**			**+0.1**
	comp=Z,7.8nm,1.2s									
AAK	**Ala-Archa**	**66.29**	**309**	P		**P**	**20 50 28.2**			**-0.5**
	comp=Z,1.3nm,0.7s,baz=120,slow=7.1,SNR=5.8									
AAK	**Ala-Archa**	**66.29**	**309**	*e*P		**P**	**20 50 27.7**			**-1.0**
	comp=Z,2.0nm,1.0s									
KSH	**Kashi**	**67.88**	**306**	P		P	20 50 44.3			+5.5
KSH					PP	PP	20 53 19.6			+11
KSH					S	**S**	**20 59 42.3**			**+8.7**
KSH					sS	pS	20 59 50.9			+0.7
KSH					pmax	pmax				
	comp=Z,7.0nm,0.6s									
KSH					pmax	pmax				
	comp=Z,270nm,7.8s									
KSH					LR	LR				
	comp=N,160nm,8.0s									
KSH					LR	LR				
	comp=E,180nm,6.3s									
KSH					LR	LR				
	comp=Z,260nm,6.5s									
NB2	**NORSAR Subarra**	**67.90**	**354**	P		**P**	**20 50 37.6**			**-0.8**
	comp=Z,1.5nm,0.8s,baz=8.4,slow=6.2									
NOA	**NORSAR Array B**	**67.90**	**354**	P		**P**	**20 50 37.3**			**-1.2**
	comp=Z,1.3nm,0.8s,baz=7.7,slow=6.2,SNR=4.4									
CMAR	**Chiang Mai Arr**	**70.02**	**275**	P		**P**	**20 50 51.3**			**-0.9**
	comp=Z,0.6nm,0.8s,baz=27,slow=6.2,SNR=4.1									
GUN	**Gumba**	**71.03**	**291**	*e*P		**P**	**20 50 59.6**			**+0.9**
	comp=Z,13nm,0.7s									
JIRN	**Jiri**	**71.03**	**291**	*e*P		**P**	**20 50 59.7**			**+1.0**
	comp=Z,14nm,0.8s									
RAMN	**Ramite**	**71.31**	**290**	*e*P		**P**	**20 51 01.0**			**+0.7**
	comp=Z,10.0nm,0.6s									
KKN	**Kakani**	**71.47**	**291**	*e*P		**P**	**20 51 02.0**			**+0.8**
PKIN	**Phulchoki**	**71.56**	**291**	*e*P		**P**	**20 51 01.8**			**0.0**
DMN	**Daman**	**71.71**	**291**	*e*P		**P**	**20 51 03.6**			**+0.9**
AKASG	**Malin Array Be**	**75.56**	**341**	P		**P**	**20 51 23.3**			**-1.2**
	comp=Z,0.4nm,0.4s,baz=19,slow=5.7,SNR=2.6									
WRA	**Warramunga Arr**	**81.05**	**223**	P		**P**	**20 51 54.0**			**-1.1**
	comp=Z,0.5nm,0.9s,baz=30,slow=6.0,SNR=3.2									
BRTR	**Keskin Array B**	**84.83**	**334**	P		**P**	**20 52 14.8**			**0.0**
	comp=Z,0.7nm,0.7s,baz=78,slow=0.5,SNR=4.9									

IDC ***18*** *20:53:54.1±41.0,39.47°N×48.16E,h0km,mb3.5/2, mb1 3.5/3,mb1mx3.2/31,mbtmp3.4/3,ML2.4/1,Error ellipse: s-maj=909.0km s-min=25.4km az=20.0*
ISCJB ***18*** *20:54:13.4±0.7,42.31°N±0.05°×49.14E±0.03,h15km±7km, mb3.2/2,Error ellipse: s-maj=8.9km s-min=4.1km az=173.6*
NORS ***18*** *20:54:15.2±0.0,42.40°N×48.75E,h7km,MPVA4.0*
DRS ***18*** *20:54:15.3±0.0,42.34°N×48.91E,h14km,ML3.2/3*
MOS ***18*** *20:54:15.6±0.0,42.28°N×48.84E,h21km,MPVA3.8*

ISC 18 20:54:14.8±0.8,42°24N±0.06°×48°94E±0.06°,h20km±6km, n58,σ2°40/97,12C-3D,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
DRN	**Derbent**	**0.50**	**245**	⇑*i*PG		**Pn**	**20 54 26.7**			**0.0**
DRN				*e*			20 54 35.5			
DRN				pmax		pmax				
	comp=Z,793nm,0.4s									
DRN				smax		smax				
	comp=N,2μm,0.5s									
DRN	**Derbent**	**0.50**	**245**	⇑*i*Pg		**Pn**	**20 54 26.7**			**0.0**
	comp=N,793nm,0.4s									
DRN				⇑*e*Sg		**Sn**	**20 54 35.5**			**+0.8**
	comp=N,2μm,0.5s									
KSMR	**Kasumkent**	**0.88**	**224**	*e*PG		**Pn**	**20 54 33.0**			**+1.0**
KSMR				*i* S		**Sn**	**20 54 47.0**			**+2.8**
KSMR				pmax		pmax				
	comp=Z,402nm,0.2s									
KSMR	**Kasumkent**	**0.88**	**224**	*e*Pg		**Pn**	**20 54 33.0**			**+1.0**
KSMR				*i* Sg		**Sn**	**20 54 47.0**			**+2.8**
URKR	**Urkarakh**	**0.97**	**266**	⇑*i*PG		**Pn**	**20 54 33.7**			**+0.3**
URKR				*e*			20 54 46.5			
URKR	**Urkarakh**	**0.97**	**266**	*e*Pg		**Pn**	**20 54 33.6**			**+0.3**
URKR				*e*Sg		**Sn**	**20 54 47.0**			**+0.4**
SGKR	**Sergokala**	**0.97**	**283**	*e*PG		**Pn**	**20 54 33.0**			**-0.3**
SGKR				*e*S		**Sn**	**20 54 46.5**			**0.0**
SGKR	**Sergokala**	**0.97**	**283**	*e*Pg		**Pn**	**20 54

comp=Z,11nm,3.2s
AAK Ala-Archa 18.85 80 *i* P **P 20 58 33.0 -0.6**
AAK pmax pmax
comp=Z,19nm,4.0s
KURK Kurchatov 22.01 57 *i* P **P 20 59 06.7 -0.8**
FINES FINESS Array B 23.63 332 P **P 20 59 28.1 +3.9**
comp=Z,0.5nm,0.4s,baz=142,slow=12,SNR=7.9
FINES FINESS Array B 23.63 332 P **P 20 59 28.1 +3.9**
MKAR Makanchi Array 24.10 68 P **P 20 59 26.4 -2.5**
comp=Z,0.3nm,0.5s,baz=261,slow=9.6,SNR=5.4
MKAR Makanchi Array 24.10 68 *i* P **P 20 59 27.1 -1.8**

IGQ 18 21:01:18.0±0.6,**1°S**±4°×**8°1W**±°,**h10**km,**MLv 4.6, Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORR	**Playas El Morr**	**1.52**	**141**	P	Pn	21 01 43.0	-2.3
MAG1	**Magdalena**	**2.05**	**48**	P	Pn	21 01 51.7	-1.0
IGUA	**Igualata**	**2.66**	**91**	P	Pn	21 02 00.3	-1.1
ILLI	**Illinizas Sur**	**2.67**	**74**	P	Pn	21 01 59.8	-1.8
PAST	**Pastocalle**	**2.76**	**74**	P	Pn	21 02 02.9	+0.2
BIL2	**Estacion Bilba**	**2.79**	**90**	P	Pn	21 02 03.7	+0.6
BBIL	**Ulba Tungurahu**	**2.81**	**90**	P	Pn	21 02 03.0	-0.4
BMAS	**Trigal station**	**2.81**	**91**	P	Pn	21 02 02.0	-1.5
BMAS				S	Sn	21 02 38.7	+1.0
JUI6	**Juive**	**2.83**	**89**	P	Pn	21 02 03.9	+0.3
ARRY	**Arrayan**	**2.84**	**91**	P	Pn	21 02 02.3	-1.5
RETU	**Refugio**	**2.85**	**90**	P	Pn	21 02 04.2	+0.2
PAT1	**Patacocha**	**2.85**	**91**	P	Pn	21 02 04.0	-0.2
BPAT	**Tungurahua Vol**	**2.86**	**91**	P	Pn	21 02 03.4	-0.8
BPAT				S	Sn	21 02 38.1	-0.8
RUN5	**Runtun**	**2.87**	**89**	P	Pn	21 02 04.2	+0.1
NINA	**Atacazo Ninahu**	**2.88**	**68**	P	Pn	21 02 04.5	0.0
BRUN	**Tungurahua Vol**	**2.88**	**89**	P	Pn	21 02 04.1	-0.3
BRUN				S	Sn	21 02 38.7	-0.6
BULB	**Ulba Tungurahu**	**2.88**	**90**	P	Pn	21 02 04.6	+0.2
BULB				S	Sn	21 02 40.1	+0.7
BNAS	**Cotopaxi Volca**	**2.92**	**75**	P	Pn	21 02 05.9	+0.9
BMOR	**Cotopaxi Volca**	**2.92**	**76**	P	Pn	21 02 04.6	-0.6
PIS1	**Pisayambo**	**2.93**	**82**	P	Pn	21 02 05.1	-0.1
PISA	**Pisayambo**	**2.94**	**82**	P	Pn	21 02 05.2	0.0
NAS2	**Nasa**	**2.94**	**74**	P	Pn	21 02 04.9	-0.4
BREF	**Cotopaxi Volca**	**2.96**	**75**	P	Pn	21 02 05.5	-0.2
PINO	**Pino**	**2.98**	**64**	P	Pn	21 02 04.5	-1.4
GGPC	**Guagua Pichinc**	**2.98**	**65**	P	Pn	21 02 05.4	-0.6
BVC2	**Cotopaxi Volca**	**2.99**	**75**	P	Pn	21 02 06.3	+0.2
PITA	**Cotopaxi Volc**	**3.00**	**73**	P	Pn	21 02 06.1	+0.1
BTAM	**Cotopaxi Volca**	**3.00**	**75**	P	Pn	21 02 06.3	+0.1
YANA	**Yana**	**3.03**	**64**	P	Pn	21 02 06.0	-0.6
PAC1	**Pacto, Paraso**	**3.03**	**56**	P	Pn	21 02 04.6	-1.7
PAC1				S	Sn	21 02 42.2	-0.5
COV1	**Cotopaxi Volc**	**3.05**	**75**	P	Pn	21 02 06.2	-0.8
ANTG	**Antisana-Guama**	**3.18**	**73**	P	Pn	21 02 09.1	+0.4
ANTM	**Antisana-La Mi**	**3.20**	**73**	P	Pn	21 02 10.0	+1.0
ANTI	**Antisana**	**3.29**	**72**	P	Pn	21 02 10.9	+0.7
OTAV	**Otavalo**	**3.30**	**59**	P	Pn	21 02 09.1	-1.2
CUSE	**Cuicocha Este**	**3.38**	**59**	P	Pn	21 02 10.5	-0.8
CUSW	**Cuicocha Oeste**	**3.41**	**60**	P	Pn	21 02 11.7	-0.1

*IDC **18** 21:20:30.6±21.0, 39°49N×144°57E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/30, mbtmp3.7/4, Error ellipse: s-maj=501.4km s-min=88.4km az=164.0*
*ISCJB **18** 21:20:48.5±1.0, 41°09N±0°07×143°3E±0°1, h46km±9km, Error ellipse: s-maj=17.0km s-min=5.5km az=37.0*
*JMA **18** 21:20:49.0±0.1, 41°10N×143°24E, h49km, M3.1*
ISC 18 21:20:49.2±1.7,**41°08N**±0°07×**143°33E**±0°08,**h36**km±2km, **n17**,σ1**°873**/22,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.94**	**352**	P	**Pn**	**21 21 05.6**	**-0.3**
JTHR	**Tokachihiroo**	**1.21**	**359**	P	**Pn**	**21 21 09.5**	**0.0**
JCH	**Churui**	**1.53**	**1**	P	**Pn**	**21 21 14.0**	**0.0**
JCH				*e*S	**Sn**	**21 21 32.8**	**+0.2**
JANG	**Nango**	**1.55**	**243**	P	**Pn**	**21 21 13.8**	**-0.4**
JANG				*e*S	**Sn**	**21 21 32.0**	**-1.1**
JTM	**Tenmabayashi**	**1.74**	**261**	P	**Pn**	**21 21 16.7**	**-0.1**
JTM				*e*S	**Sn**	**21 21 37.2**	**-0.5**
JOT	**Ohata**	**1.74**	**281**	P	**Pn**	**21 21 16.9**	**0.0**
JBT2	**Biratori 2**	**1.84**	**337**	P	**Pn**	**21 21 18.8**	**+0.6**
JKB	**Kayabe**	**1.90**	**296**	P	**Pn**	**21 21 19.2**	**+0.2**
JAK	**Akkeshi**	**2.17**	**28**	P	**Pn**	**21 21 22.7**	**0.0**
JAK				*e*S	**Sn**	**21 21 48.4**	**+0.1**
JAR	**Ashorobuto**	**2.24**	**8**	P	**Pn**	**21 21 23.5**	**-0.2**
JAR				*e*S	**Sn**	**21 21 49.6**	**-0.4**
JOM	**Ohasama**	**2.24**	**225**	P	**Pn**	**21 21 24.6**	**+0.9**
JEW	**Eniwo**	**2.24**	**322**	P	**Pn**	**21 21 25.3**	**+1.5**
JMK	**Ichinoseki**	**2.67**	**218**	P	**Pn**	**21 21 30.6**	**+0.9**
SONM	**Songino Array**	**27.02**	**297**	P	**P**	**21 26 28.3**	**+0.4**
	0.3nm,0.7s,baz=87,slow=9.2,SNR=2.8						
ZALV	**Zalesovo Beam**	**40.41**	**309**	P	**P**	**21 28 24.8**	**+1.3**
	0.9nm,0.6s,baz=97,slow=7.2,SNR=4.5						
MKAR	**Makanchi Array**	**43.35**	**299**	P	**P**	**21 28 47.5**	**-0.2**
	0.1nm,0.5s,baz=79,slow=7.8,SNR=4.3						
FINES	**FINESS Array B**	**65.93**	**332**	P	**P**	**21 31 29.8**	**-1.3**
	3.2nm,1.1s,baz=52,slow=9.0,SNR=4.8						

IDC 18 21:23:08.9±11.0,**14°18N**×**145°86E**,**h0**km,**mb3.4**/3, **mb1 3.6**/3,**mb1mx3.3**/31,**mbtmp3.4**/3,**MS3.6**/1,**Ms1 3.6**/1, **ms1mx3.0**/19,**Error ellipse: s-maj=298.0km s-min=54.8km az=178.0**,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**46.81**	**324**	P	P	21 31 40.5	-0.1
	0.2nm,0.6s,baz=130,slow=7.6,SNR=2.0						
PSI	**Prapat**	**47.67**	**261**	LR	LR	21 52 40.9	
	comp=Z,58nm,18.2s,baz=109,slow=37						
MKAR	**Makanchi Array**	**61.74**	**316**	P	P	21 33 29.2	-0.1
	0.4nm,0.4s,baz=89,slow=8.6,SNR=8.3						
ILAR	**Eielson Array**	**67.63**	**25**	P	P	21 34 07.3	0.0
	0.1nm,0.4s,baz=247,slow=6.4,SNR=4.2						

*IDC **18** 21:27:22.6±1.0, 6°77S×105°19E, h0km, mb3.9/11, mb1 4.1/12, mb1mx3.9/34, mbtmp4.0/12, ML4.5/1, MS3.6/6, Ms1 3.7/6, ms1mx3.2/31, Error ellipse: s-maj=40.5km s-min=14.4km az=47.0*
*DJA **18** 21:27:25.1±0.6, 7°S±8°×10°5E±°, h10km, M4.5/17, mb4.6/5, mB5.3/2, MLv4.5/17, Mw(mB)4.8/2*
*NEIC **18** 21:27:26.3±0.7, 6°97S×105°13E, h35km, mb4.1/1, Error ellipse: s-maj=20.3km s-min=8.7km az=51.0*
ISC 18 21:27:22.0±2.1,**7°08S**±0°07×**105°11E**±0°05,**h3**km±13km, **n52**,σ1**°963**/51,**mb4.2**/17,**MS3.7**/5,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**1.44**	**87**	P	**Pn**	**21 27 47.3**	**-1.7**
KASI	**Kota Agung**	**1.66**	**339**	P	**Pg**	**21 27 53.6**	**-0.2**
BLSI	**Bandar Lampung**	**1.70**	**5**	P	**Pb**	**21 27 53.5**	**-0.5**
TNG	**Tangerang**	**1.77**	**60**	P	**Pb**	**21 27 53.8**	**-1.4**
KLI	**Kotabumi**	**2.21**	**354**	P	**Pb**	**21 28 01.8**	**-0.9**
LWLI	**Liwa**	**2.29**	**333**	P	**Pb**	**21 28 04.2**	**+0.1**
CISI	**Cisompet, Garu**	**2.73**	**100**	*e*Pn	**Pn**	**21 28 06.2**	**-0.6**
CISI				*e*Sn	**Sn**	**21 28 37.9**	**-2.5**
CISI	**Cisompet, Garu**	**2.73**	**100**	P	**Pn**	**21 28 05.6**	**-1.2**
MDSI	**Maura Dua**	**2.73**	**340**	P	**Pb**	**21 28 09.4**	**-2.1**
JCJI	**Jatiwangi**	**3.19**	**80**	P	**Pn**	**21 28 13.3**	**+0.2**
CMJI	**Cimerak**	**3.39**	**102**	P	**Pn**	**21 28 15.5**	**-0.3**
XMIS	**Christmas Isla**	**3.43**	**171**	*e*Pn	**Pn**	**21 28 15.9**	**-0.4**
XMIS				*e*Sn	**Sn**	**21 28 55.2**	**-2.3**
MNAI	**Manna**	**3.44**	**321**	*e*Pn	**Pb**	**21 28 21.4**	**-2.3**
MNAI	**Manna**	**3.44**	**321**	P	**Pb**	**21 28 21.7**	**-2.0**
LHSI	**Lahat**	**3.59**	**334**	P	**Pn**	**21 28 21.3**	**+2.7**
KPJI	**Karang Pucung**	**3.80**	**94**	P	**Pn**	**21 28 22.4**	**+0.9**
MASI	**Maura Aman, Be**	**4.84**	**324**	P	**Pn**	**21 28 38.9**	**+3.1**
UGM	**Wanagama**	**5.43**	**99**	*e*Pn	**Pn**	**21 28 42.7**	**-1.3**
PCJI	**Pacitan**	**6.12**	**101**	P	**Pn**	**21 28 52.5**	**-0.9**
KRJI	**Kerinci**	**6.14**	**324**	P	**Pn**	**21 28 57.0**	**+3.2**
PWJI	**Pagerwojo**	**6.71**	**98**	P	**Pn**	**21 29 03.3**	**+1.9**
GSI	**Gunungsitoli**	**11.21**	**318**	*e*Pn	**Pn**	**21 30 03.2**	**-0.1**
PSI	**Prapat**	**11.59**	**328**	LR	LR	21 35 22.8	
	comp=Z,205nm,18.4s,baz=92,slow=42						
BATI	**Baumata**	**18.61**	**101**	P	**Pn**	**21 31 43.4**	**+2.5**
	1.4nm,0.3s,baz=264,slow=9.2,SNR=2.0						
CMAR	**Chiang Mai Arr**	**26.09**	**347**	P	**P**	**21 32 56.5**	**-0.6**
	0.3nm,0.4s,baz=173,slow=7.7,SNR=2.7						
CMAR				LR	LR	21 44 59.2	
	comp=Z,87nm,19.3s,baz=184,slow=41						
H01W3	**Cape Leeuwin H**	**28.90**	**165**	T	T	22 03 32.4	
	baz=344,slow=76,SNR=866						
H01W1	**Cape Leeuwin H**	**28.91**	**164**	T	T	22 03 35.8	
	baz=344,slow=76,SNR=772						
H01W2	**Cape Leeuwin H**	**28.91**	**165**	T	T	22 03 33.1	
	baz=344,slow=76,SNR=779						
WR1	**Warramunga Arr**	**31.10**	**117**	*e*P	**P**	**21 33 43.3**	**+1.4**
	3.4nm,0.9s						
WR1				*e*PcP	**PcP**	**21 36 37.9**	**+0.3**
WRA	**Warramunga Arr**	**31.10**	**117**	P	**P**	**21 33 43.3**	**+1.4**
	1.2nm,0.7s,baz=300,slow=10,SNR=12						
WRA				PcP	**PcP**	**21 36 37.9**	**+0.3**
	0.7nm,1.0s,baz=314,slow=1.9,SNR=2.7						
ASAR	**Alice Springs**	**32.19**	**124**	P	**P**	**21 33 53.9**	**+2.4**
	1.3nm,0.8s,baz=295,slow=7.6,SNR=8.2						
ASAR				PcP	**PcP**	**21 36 41.5**	**+0.9**
	1.1nm,1.2s,baz=291,slow=2.7,SNR=3.3						
H08S2	**Diego Garcia H**	**32.35**	**267**	T	T	22 08 01.3	
	baz=91,slow=76						
H08S3	**Diego Garcia H**	**32.35**	**267**	T	T	22 08 03.7	
	baz=91,slow=76						
H08S1	**Diego Garcia H**	**32.36**	**267**	T	T	22 08 04.4	
	baz=91,slow=76						
RAMN	**Ramite**	**38.28**	**333**	*e*P	**P**	**21 34 45.3**	**+1.1**
	3.7nm,0.3s						
JIRN	**Jiri**	**39.08**	**333**	*e*P	**P**	**21 34 52.6**	**+1.6**
	7.4nm,0.3s						
GUN	**Gumba**	**39.44**	**333**	*e*P	**P**	**21 34 54.8**	**+0.9**
	5.8nm,0.4s						
DANN	**Dangsing**	**40.80**	**331**	*e*P	**P**	**21 35 07.1**	**+1.8**
	10nm,0.4s						
PYUN	**Piuthan**	**40.98**	**330**	*e*P	**P**	**21 35 07.7**	**+1.1**
	12nm,0.5s						
PMG	**Port Moresby**	**41.66**	**96**	P	**P**	**21 35 12.6**	**+0.4**
	2.9nm,0.2s,baz=249,slow=8.6,SNR=2.1						
STKA	**Stephens Creek**	**42.00**	**131**	P	**P**	**21 35 16.6**	**+1.8**
	4.5nm,0.7s,baz=297,slow=7.0,SNR=6.2						
STKA				LR	LR	21 53 40.6	
	comp=Z,101nm,21.0s,baz=347,slow=37						
SONA0	**Songino Array**	**54.68**	**1**	*e*P	**P**	**21 36 51.2**	**-1.3**
SONA0				*e*PcP	**PcP**	**21 37 56.1**	**+0.8**
SONM	**Songino Array**	**54.68**	**1**	P	**P**	**21 36 51.2**	**-1.3**
	0.3nm,0.5s,baz=178,slow=6.8,SNR=3.9						
SONM				PcP	**PcP**	**21 37 56.1**	**+0.8**
	0.5nm,0.4s,baz=173,slow=3.8,SNR=7.5						
SONM				LR	LR	22 02 51.7	
	comp=Z,132nm,18.2s,baz=99,slow=39						
USRK	**Ussuriysk Ar.**	**56.52**	**23**	P	**P**	**21 37 03.9**	**-1.6**
	1.2nm,0.6s,baz=212,slow=4.7,SNR=7.9						
MK32	**Makanchi Array**	**57.34**	**342**	*e*P	**P**	**21 37 10.0**	**-1.5**
MKAR	**Makanchi Array**	**57.34**	**342**	P	**P**	**21 37 10.0**	**-1.5**
	0.4nm,0.4s,baz=157,slow=7.6,SNR=7.1						
GEYT	**Alibeck**	**62.58**	**319**	P	**P**	**21 37 47.5**	**-0.2**
	1.1nm,0.6s,baz=90,slow=5.8,SNR=2.7						
ZALV	**Zalesovo Beam**	**63.16**	**347**	P	**P**	**21 37 49.6**	**-1.4**
	0.5nm,0.4s,baz=168,slow=6.0,SNR=4.6						
ZALV				LR	LR	22 07 29.0	
	comp=Z,77nm,19.1s,baz=70,slow=38						
ZAA1	**Zalesovo Array**	**63.16**	**347**	*e*P	**P**	**21 37 49.6**	**-1.5**
BRTR	**Keskin Array B**	**80.48**	**312**	P	**P**	**21 39 36.9**	**+1.1**
	0.6nm,0.6s,baz=124,slow=5.8,SNR=3.7						
NOA	**NORSAR Array B**	**98.03**	**331**	LR	LR	22 29 47.3	
	comp=Z,15nm,19.6s,baz=350,slow=38						
TXAR	**Lajitas Array**	**145.01**	**47**	PKP	**PKiKP**	**21 47 02.1**	**-3.4**
	0.2nm,0.5s,baz=23,slow=1.7,SNR=4.4						

IDC 18 21:46:07.8±4.0,**6°52S**×**125°91E**,**h497**km±56km,**mb3.1**/3, **mb1 3.2**/6,**mb1mx2.9**/30,**mbtmp4.0**/6,**Error ellipse: s-maj=104.0km s-min=18.2km az=53.0**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.29**	**211**	P	P	21 47 28.9	+0.4
	14nm,0.3s,baz=330,slow=1.8,SNR=11						
BATI				S	S	21 48 34.1	0.0
	8.2nm,0.3s,baz=134,slow=23,SNR=9.7						
WRA	**Warramunga Arr**	**15.66**	**149**	P	P	21 49 25.4	+0.4
	0.5nm,0.3s,baz=327,slow=11,SNR=26						
ASAR	**Alice Springs**	**18.70**	**157**	P	P	21 49 54.7	-0.1
	0.6nm,0.3s,baz=332,slow=7.8,SNR=22						
STKA	**Stephens Creek**	**29.18**	**152**	P	P	21 51 28.1	-0.1
	1.7nm,0.6s,baz=322,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**65.65**	**329**	P	P	21 56 02.6	+0.3
	0.3nm,0.4s,baz=121,slow=7.6,SNR=8.8						
ZALV	**Zalesovo Beam**	**69.41**	**335**	P	P	21 56 24.8	-0.3
	0.7nm,0.4s,baz=150,slow=5.2,SNR=5.3						

*NIED **18** 22:01:00, 42°10N×142°80E, h47km, Mw3.7 Best double couple: M0 3.84000×10^14 NP1:φs 278.00000°, δ 43.00000°, λ 65.00000°. NP2:φs 130.00000°, δ 52.00000°, λ 111.00000°.*
JMA 18 22:01:34.3±0.1,**42°09N**×**142°77E**,**h47**km±1km,**M3.4, 4C-5D**,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.19**	**356**	↑↑P	Pn	22 01 42.0	-0.3
JNBK				*e*S	Sn	22 01 48.1	+0.2
JEM	**Erimo**	**0.30**	**104**	↑↑P	Pn	22 01 43.1	0.0
JEM				*e*S	Sn	22 01 49.7	+0.4
JSHD	**Hidakashinhida**	**0.39**	**325**	↑↑P	Pn	22 01 44.0	-0.1
JTHR	**Tokachihiroo**	**0.44**	**63**	↓↓P	Pn	22 01 44.6	-0.1
JTHR				*e*S	Sn	22 01 52.5	+0.5
JCH	**Churui**	**0.68**	**40**	↓↓P	Pn	22 01 47.7	0.0
JBT2	**Biratori 2**	**0.75**	**337**	↑↑P	Pn	22 01 48.5	-0.1
JFR	**Furan**	**1.08**	**353**	P	Pn	22 01 53.1	0.0
JOB	**Obbets**	**1.13**	**44**	↓↓P	Pn	22 01 54.8	+1.1
JEW	**Eniwo**	**1.23**	**308**	P	Pn	22 01 56.1	+1.0
JEW				*e*S	Sn	22 02 12.5	+1.9
JKB	**Kayabe**	**1.31**	**262**	↓↓P	Pn	22 01 55.5	-0.6
JKB				*e*S	Sn	22 02 11.8	-0.7
JNB	**Noboribetsu**	**1.34**	**287**	P	Pn	22 01 55.9	-0.7
JNB				*e*S	Sn	22 02 12.7	-0.5
JAR	**Ashorobuto**	**1.41**	**31**	↓↓P	Pn	22 01 57.7	+0.1

*NEIC **18** 22:19:02.6±0.0, 50°94N×179°57E, h7km, mb4.3/16, ML3.8(AEIC), After AEIC.*
*IDC **18** 22:19:12.2±5.2, 51°80N×179°69E, h75km±47km, mb3.3/10, mb1 3.7/12, mb1mx3.5/51, mbtmp3.7/12, ML3.7/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/29, Error ellipse: s-maj=32.0km s-min=15.5km az=179.0*
ISC 18 22:19:00.7±1.9,**50°86N**±0°08×**179°53E**±0°05,**h10**km±9km, **n82**,σ1**°522**/88,**mb4.2**/23,**Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.54**	**345**	P	**Pb**	**22 19 12.8**	**+0.6**
AMKA				S	**Sb**	**22 19 20.3**	**+0.3**
CESW	**Semis' Southwe**	**1.04**	**1**	P	**Pg**	**22 19 20.9**	**+0.2**
CERAA	**Semis' Rag'd T**	**1.05**	**5**	P	**Pg**	**22 19 21.1**	**+0.2**
CERB	**Semis' Cerberu**	**1.07**	**3**	P	**Pg**	**22 19 21.5**	**+0.1**
CERB				S	**Sn**	**22 19 36.7**	**-0.1**
CEAP	**Semis' Anvil P**	**1.14**	**2**	P	**Pg**	**22 19 22.7**	**+0.1**
LSPA	**Little Sitkin**	**1.25**	**332**	P	**Pg**	**22 19 25.0**	**+0.3**
LSPA				S	**Sn**	**22 19 42.6**	**+1.4**
LSSA	**Little Sitkin**	**1.26**	**330**	P	**Pg**	**22 19 24.9**	**-0.1**
LSNW	**Little Sitkin**	**1.28**	**331**	P	**Pb**	**22 19 25.1**	**+0.2**
GALAA	**Gareloi Lava P**	**1.40**	**49**	P	**Pn**	**22 19 26.8**	**+0.5**
GAEA	**Gareloi East**	**1.42**	**49**	P	**Pn**	**22 19 27.2**	**+0.5**
TASE	**Tanaga Southea**	**1.81**	**57**	P	**Pn**	**22 19 33.0**	**+0.9**
TASE				S	**Sn**	**22 19 55.9**	**+0.7**
TAFP	**Tanaga Falls P**	**1.87**	**55**	P	**Pn**	**22 19 33.8**	**+0.9**
TAFP				S	**Sn**	**22 19 57.4**	**+0.8**
TAPA	**Tanaga Point A**	**1.92**	**59**	P	**Pn**	**22 19 34.7**	**+1.1**
KIMD	**Kanaga Island**	**2.22**	**65**	P	**Pn**	**22 19 38.7**	**+1.1**
KIKV	**Kanaga Island**	**2.31**	**63**	P	**Pn**	**22 19 40.3**	**+1.5**
KIWB	**Kanaga Island**	**2.31**	**63**	*e*Pn	**Pn**	**22 19 40.3**	**+1.5**
KIRH	**Kanaga Island**	**2.36**	**63**	P	**Pn**	**22 19 40.6**	**+1.1**
ADK	**Adak**	**2.58**	**65**	*e*Pn	**Pn**	**22 19 43.8**	**+1.2**
ADK				*e*S	**Sn**	**22 20 12.8**	**-1.3**
GSTD	**Great Sitkin T**	**2.96**	**65**	P	**Pn**	**22 19 50.2**	**+2.3**
SMY	**Shemya**	**3.85**	**301**	P	**Pn**	**22 20 02.6**	**+2.6**
ATKA	**Atka Island**	**4.14**	**69**	*e*Pn	**Pn**	**22 20 05.9**	**+1.9**
SPIA	**Saint Paul Isl**	**8.73**	**40**	*e*Pn	**Pn**	**22 21 08.9**	**+2.0**
UNV	**Unalaska Valle**	**9.06**	**65**	*e*Pn	**Pn**	**22 21 13.1**	**+1.6**
PETK	**Petropavlovsk-**	**13.63**	**288**	P	**P**	**22 22 21.7**	**-1.3**
	0.3nm,0.3s,baz=89,slow=14,SNR=4.9						
PETK				LR	LR	22 27 23.7	
	comp=Z,63nm,21.5s,baz=93,slow=36						
KDAK	**Kodiak Island**	**17.59**	**56**	P	**Pn**	**22 23 03.0**	**-2.7**
	1.5nm,0.3s,baz=251,slow=9.2,SNR=13						
KDAK	**Kodiak Island**	**17.59**	**56**	*e*Pn	**Pn**	**22 23 03.6**	**-2.1**
RSO	**Redoubt South**	**18.21**	**48**	*e*P	**Pn**	**22 23 15.0**	**+1.3**
BILL	**Bilibino**	**18.42**	**344**	*e*P	**Pn**	**22 23 16.4**	**+0.5**
	6.0nm,1.0s						
BRLK	**Bradley Lake**	**18.90**	**50**	*e*P	**P**	**22 23 21.1**	**-0.2**
	34nm,1.4s						
PPLA	**Purkeypile**	**19.39**	**41**	*e*P	**P**	**22 23 27.6**	**+0.9**
	40nm,1.7s						
SUA	**Susitna One**	**19.47**	**46**	*e*P	**P**	**22 23 27.4**	**-0.2**
	16nm,1.0s						
CAST	**Castle Rocks**	**19.67**	**39**	*e*P	**P**	**22 23 30.3**	**+0.7**
	5.4nm,0.9s						
IM3	**Indian Mountai**	**20.37**	**32**	*e*P	**P**	**22 23 36.7**	**-0.5**
GHO	**Glory Hole Cre**	**20.40**	**46**	*e*P	**P**	**22 23 37.8**	**+0.2**
	28nm,1.4s						
BPAW	**Bear Paw Mtn.**	**20.41**	**38**	*e*P	**P**	**22 23 38.5**	**+0.8**
	14nm,1.4s						
TRF	**Thorofare Moun**	**20.41**	**40**	*e*P	**P**	**22 23 37.3**	**-0.6**
	19nm,1.2s						
MLY	**Manley**	**20.93**	**36**	*e*P	**P**	**22 23 44.5**	**+1.2**
	8.9nm,1.3s						
RND	**Reindeer**	**20.99**	**41**	*e*P	**P**	**22 23 44.7**	**+0.7**
	30nm,1.9s						
MDM	**Murphy Dome**	**21.86**	**38**	*e*P	**P**	**22 23 54.4**	**+1.1**
	7.2nm,1.0s						
IL1	**Eielson Array**	**22.31**	**39**	*e*P	**P**	**22 23 59.0**	**+1.0**
ILAR	**Eielson Array**	**22.31**	**39**	P	**P**	**22 23 55.8**	**-2.3**
	0.4nm,0.7s,baz=237,slow=8.1,SNR=5.8						
DOT	**Dot Lake**	**23.09**	**42**	*e*P	**P**	**22 24 07.7**	**+1.2**
	20nm,1.7s						
SCRK	**Sand Creek**	**23.22**	**42**	*e*P	**P**	**22 24 08.3**	**+0.5**
	21nm,2.0s						
JHJ	**Hachijo jima 2**	**33.94**	**254**	LR	LR	22 39 18.9	
	comp=Z,108nm,18.9s,baz=88,slow=35						
YKA	**Yellowknife Ar**	**36.35**	**46**	P	**P**	**22 26 03.1**	**-1.4**
	0.2nm,0.5s,baz=281,slow=7.7,SNR=8.6						
YKB5	**Yellowknife Ar**	**36.35**	**46**	*e*P	**P**	**22 26 02.5**	**-2.0**
MCMT	**McKenzie Canyo**	**44.34**	**70**	*e*P	**P**	**22 27 10.9**	**-0.3**
NVAR	**Mina Array Bea**	**44.67**	**81**	P	**P**	**22 27 16.2**	**+2.4**
	0.2nm,0.4s,baz=289,slow=8.5,SNR=2.6						
SONM	**Songino Array**	**45.93**	**296**	P	**P**	**22 27 23.0**	**-0.6**
	0.3nm,0.5s,baz=47,slow=8.7,SNR=4.4						
HHC	**Hu-ho-hao-te**	**46.81**	**285**	*e*P	**P**	**22 27 30.4**	**-0.2**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,220nm,5.6s						
PD31	**Pinedale Array**	**47.47**	**71**	*e*P	**P**	**22 27 35.1**	**-0.7**
PDAR	**Pinedale Array**	**47.47**	**71**	P	**P**	**22 27 36.0**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=304,slow=3.4,SNR=19						
PDAR	**Pinedale Array**	**47.47**	**71**	*e*P	**P**	**22 27 35.7**	**-0.1**
U15A	**North Rim**	**49.66**	**79**	*e*P	**P**	**22 27 53.0**	**+0.2**
	comp=Z,2.2nm,0.8s						
PV03	**Paradox Valley**	**50.63**	**75**	*e*P	**P**	**22 28 00.0**	**-0.1**
PV13	**Radium Mtn., P**	**50.71**	**75**	*e*P	**P**	**22 28 01.7**	**+1.0**
	comp=Z,3.5nm,0.7s						
SPA0	**Spitsbergen Ar**	**50.81**	**356**	*e*P	**P**	**22 27 59.5**	**-1.2**
ZALV	**Zalesovo Beam**	**53.62**	**313**	*e*P	**P**	**22 28 21.1**	**-0.7**
GTA	**Gaotai**	**54.77**	**291**	*e*P	**P**	**22 28 32.0**	**+1.4**
GTA				pP	pwP	22 28 39.0	+1.0
GTA				sP	sP	22 28 43.3	+10
GTA				pmax	pmax		
	comp=Z,2.0nm,1.4s						
KURK	**Kurchatov**	**58.61**	**313**	*e*P	**P**	**22 28 57.2**	**-0.

s-maj=179.7km s-min=23.4km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.70**	**164**	P	P	22 32 00.2	-1.0
	4.8nm,0.6s,baz=344,slow=11,SNR=38						
ASAR	**Alice Springs**	**28.17**	**168**	P	P	22 32 34.5	+2.0
	0.6nm,0.3s,baz=344,slow=9.6,SNR=8.1						
STKA	**Stephens Creek**	**38.09**	**160**	P	P	22 33 57.9	-0.9
	0.5nm,0.3s,baz=339,slow=8.6,SNR=2.5						
MKAR	**Makanchi Array**	**57.80**	**325**	P	P	22 36 31.4	-0.1
	0.3nm,0.4s,baz=118,slow=7.7,SNR=9.1						

IDC ***18*** *22:30:27.5±2.1, 31.°05S×177.°74W, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.9/34, mbtmp4.0/5, ML2.9/1, Error ellipse: s-maj=49.6km s-min=24.0km az=116.0*

ISCJB ***18*** *22:30:31.8±2.6, 31.°1S×177.°9W±0.°4, h35km, mb4.0/4, Error ellipse: s-maj=55.4km s-min=10.1km az=14.6*

ISC 18 22:30:32.7±2.0, 30.°9S±0.°1×177.°8W±0.°3, h35km, n8, σ1§82/10, mb4.1/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.68**	**357**	Pn	**Pn**	22 31 01.4	**+1.9**
	80nm,0.3s,baz=90,slow=20,SNR=3.6						
RAO				Sn	**Sn**	22 31 16.5	**-3.4**
	403nm,0.3s,baz=92,slow=20,SNR=11						
URZ	**Urewera**	**8.41**	**208**	Pn	**Pn**	22 32 31.5	**-0.5**
	0.2nm,0.3s,baz=46,slow=16,SNR=3.4						
URZ				Sn	**Sn**	22 34 04.1	**-1.6**
	1.4nm,0.3s,baz=222,slow=21,SNR=14						
CTA	**Charters Tower**	**34.03**	**280**	P	**P**	22 37 12.9	**-0.7**
	3.9nm,1.1s,baz=130,slow=7.9,SNR=3.4						
STKA	**Stephens Creek**	**34.50**	**258**	P	**P**	22 37 19.8	**+2.2**
	3.7nm,0.8s,baz=91,slow=9.2,SNR=6.5						
ASAR	**Alice Springs**	**43.23**	**267**	P	**P**	22 38 30.9	**+0.2**
	0.6nm,0.5s,baz=106,slow=6.9,SNR=5.8						
WRA	**Warramunga Arr**	**44.26**	**273**	P	**P**	22 38 39.3	**+0.2**
	0.6nm,0.3s,baz=110,slow=8.1,SNR=20						
MKAR	**Makanchi Array**	**118.22**	**310**	PKP	**PKiKP**	22 49 15.6	**-0.3**
	0.1nm,0.4s,baz=132,slow=2.1,SNR=3.1						
FINES	**FINESS Array B**	**145.69**	**340**	PKPbc	**PKPab**	22 50 07.0	**-0.5**
	1.5nm,0.5s,baz=69,slow=4.8,SNR=15						

MEX 18 22:34:40.6±0.7, 14.°97N×92.°28W, h97km±9km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.16**	**309**	*i* P	Pn	22 35 01.8	-0.9
PCIG				*i* S	Sn	22 35 17.5	-1.8
CCIG	**Comitan**	**1.31**	**6**	*i* P	Pn	22 35 02.6	-2.0
CCIG				*i* S	Sn	22 35 20.8	-1.9

ISCJB ***18*** *22:39:57.6±0.3, 24.°82S±0.°03×68.°65W±0.°05, h124km±5km, mb3.9/8, Error ellipse: s-maj=7.2km s-min=4.0km az=169.6*

SJA ***18*** *22:39:57.7±1.0, 24.°80S×68.°66W, h132km±27km, ML3.7, MW3.5*

IDC ***18*** *22:40:00.2±2.5, 24.°65S×68.°25W, h115km±18km, mb3.7/8, mb1 3.8/12, mb1mx3.7/26, mbtmp4.1/12, Error ellipse: s-maj=28.2km s-min=15.9km az=26.0*

GUC ***18*** *22:40:05.0±0.4, 24.°21S×68.°81W, h125km, ML3.9*

ISC 18 22:39:57.5±0.7, 24.°82S±0.°04×68.°51W±0.°05, h103km±7km, n71, σ2§22/87, mb4.0/8, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**1.73**	**276**	*e*P	**Pn**	22 40 28.3	**+1.2**
PB14				*e*S	**Sn**	22 40 50.5	**+1.0**
LVC	**Limon Verde**	**2.23**	**351**	P	**Pn**	22 40 35.4	**+1.9**
	77nm,0.3s,baz=169,slow=8.7,SNR=370						
LVC				S	**Sn**	22 41 02.6	**+1.5**
	129nm,0.3s,baz=193,slow=7.7,SNR=11						
LVC	**Limon Verde**	**2.23**	**351**	*e*P	**Pn**	22 40 35.4	**+1.9**
LVC				*e*S	**Sn**	22 41 02.5	**+1.5**
LVC				IAML		22 41 09.1	
	comp=Z,279nm,0.3s						
PB10	**IPOC Station P**	**2.27**	**304**	*e*P	**Pn**	22 40 35.0	**+1.2**
PB10	**IPOC Station P**	**2.27**	**304**	⇓*i*P	**Pn**	22 40 34.9	**+1.2**
PB10				*e*S	**Sn**	22 40 59.9	**-1.6**
PB10				IAML		22 41 12.8	
	comp=N,403nm,0.4s						
PB06	**IPOC Station P**	**2.32**	**335**	*e*P	**Pn**	22 40 36.0	**+1.5**
PB06	**IPOC Station P**	**2.32**	**335**	*e*P	**Pn**	22 40 35.7	**+1.2**
PB06				*i* S	**Sn**	22 41 03.5	**+0.7**
PB06				IAML		22 41 07.4	
	comp=E,932nm,0.4s						
PB05	**IPOC Station P**	**2.49**	**321**	*e*P	**Pn**	22 40 38.3	**+1.5**
PB05	**IPOC Station P**	**2.49**	**321**	*e*P	**Pn**	22 40 38.0	**+1.2**
PB05				*i* S	**Sn**	22 41 06.5	**-0.4**
PB05				IAML		22 41 18.1	
	comp=N,692nm,0.5s						
FSA	**Cafayete**	**2.63**	**120**	*e*P	**Pn**	22 40 42.5	**+4.0**
SLA	**San Lorenzo**	**2.74**	**89**	*e*P	**Pn**	22 40 44.7	**+4.7**
PB04	**IPOC Station P**	**2.89**	**328**	*e*P	**Pn**	22 40 42.8	**+0.7**
PB04	**IPOC Station P**	**2.89**	**328**	⇑*i*P	**Pn**	22 40 42.8	**+0.7**
PB04				*i* S	**Sn**	22 41 11.7	**-4.7**
PB04				IAML		22 41 23.6	
	comp=N,612nm,0.4s						
PB03	**IPOC Station P**	**2.98**	**337**	*e*P	**Pn**	22 40 44.5	**+1.2**
PB03	**IPOC Station P**	**2.98**	**337**	*e*P	**Pn**	22 40 44.2	**+0.9**
PB03				*i* S	**Sn**	22 41 13.9	**-4.6**
PB03				IAML		22 41 19.8	
	comp=N,850nm,0.3s						
PB09	**IPOC Station P**	**3.08**	**347**	*e*P	**Pn**	22 40 46.7	**+2.0**
PB09	**IPOC Station P**	**3.08**	**347**	*e*P	**Pn**	22 40 46.6	**+2.0**
PB09				*i* S	**Sn**	22 41 16.0	**-4.9**
PB09				IAML		22 41 30.7	
	comp=N,454nm,0.7s						
AZAP	**Zapla**	**3.19**	**80**	*e*P	**Pn**	22 40 49.5	**+3.3**
AZAP				IAML		22 40 50.4	
	comp=Z,79nm,0.6s						
HJA	**Humahuaca**	**3.26**	**61**	*e*P	**Pn**	22 40 51.5	**+4.3**
HJA				IAML		22 40 53.0	
	comp=Z,340nm,0.6s						
PB07	**IPOC Station P**	**3.33**	**337**	*e*P	**Pn**	22 40 48.6	**+0.6**
PB07	**IPOC Station P**	**3.33**	**337**	*e*P	**Pn**	22 40 48.5	**+0.6**
PB07				*e*S	**Sn**	22 41 21.6	**-5.2**
PB07				IAML		22 41 51.0	
	comp=E,558nm,0.3s						
YJA	**Yavi**	**3.81**	**47**	*e*P	**Pn**	22 40 58.8	**+4.2**
PB01	**IPOC Station P**	**3.86**	**346**	*e*P	**Pn**	22 40 55.3	**+0.3**
PB01				*e*S	**Sn**	22 41 38.1	**-1.5**
PB01				IAML		22 41 41.3	
	comp=N,407nm,0.3s						
ALOL	**LOMAS DE OLMED**	**4.25**	**77**	*e*P	**Pn**	22 41 03.5	**+3.3**
LCO	**Las Campanas**	**4.61**	**205**	*e*P	**Pn**	22 41 04.8	**-0.4**
AGUA	**GUANDACOL**	**4.65**	**180**	*e*P	**Pn**	22 41 07.9	**+2.3**
AGUA				*e*S	**Sn**	22 41 53.7	**-4.8**
AGUA	**GUANDACOL**	**4.65**	**180**	*e*P	**Pn**	22 41 07.9	**+2.3**
PB08	**IPOC Station P**	**4.69**	**353**	*e*P	**Pn**	22 41 06.8	**+0.3**
PB11	**IPOC Station P**	**5.14**	**348**	*e*P	**Pn**	22 41 11.2	**-1.1**
ACDV	**Cuesta del Vie**	**5.36**	**186**	*e*P	**Pn**	22 41 17.5	**+2.2**
ACDV				IAML		22 41 18.1	
	comp=Z,72nm,0.5s						
ACDV	**Cuesta del Vie**	**5.36**	**186**	*e*P	**Pn**	22 41 17.5	**+2.2**
AROD	**Rodeo**	**5.40**	**189**	*e*P	**Pn**	22 41 18.0	**+2.1**
AROD	**Rodeo**	**5.40**	**189**	*e*P	**Pn**	22 41 17.5	**+1.6**
PSGCX	**Pisagua**	**5.41**	**344**	*e*P	**Pn**	22 41 13.8	**-2.1**
MNMCX	**Minye Minye**	**5.75**	**350**	*e*P	**Pn**	22 41 20.0	**-0.7**
ACCO	**Cerro Coronel**	**5.77**	**185**	*e*P	**Pn**	22 41 22.8	**+1.8**
ACCO				*e*S	**Sn**	22 42 19.9	**-6.0**
ACCO	**Cerro Coronel**	**5.77**	**185**	*e*P	**Pn**	22 41 22.8	**+1.8**
APLL	**PUNTA DE LOS L**	**5.83**	**163**	*e*P	**Pn**	22 41 22.6	**+1.1**
APLL	**PUNTA DE LOS L**	**5.83**	**163**	*e*P	**Pn**	22 41 22.6	**+1.1**
AMOG	**MOGNA**	**6.10**	**180**	*e*P	**Pn**	22 41 25.8	**+0.6**
AMOG	**MOGNA**	**6.10**	**180**	*e*P	**Pn**	22 41 25.8	**+0.6**
PB12	**IPOC Station P**	**6.40**	**344**	*e*P	**Pn**	22 41 27.0	**-2.4**
RTLL	**Cerro Villicun**	**6.49**	**180**	*e*P	**Pn**	22 41 31.1	**+0.7**
RTLL				IAML		22 41 31.9	
	comp=Z,60nm,0.5s						
RTLL	**Cerro Villicun**	**6.49**	**180**	*e*P	**Pn**	22 41 31.1	**+0.7**
CFA	**Coronel Fontan**	**6.77**	**178**	*e*P	**Pn**	22 41 34.7	**+0.4**
CFA	**Coronel Fontan**	**6.77**	**178**	*e*P	**Pn**	22 41 34.6	**+0.3**
RTLS	**Leoncito**	**6.99**	**185**	*e*P	**Pn**	22 41 38.0	**+0.5**
RTLS				IAML		22 41 38.6	
	comp=Z,46nm,0.3s						
RTLS	**Leoncito**	**6.99**	**185**	*e*P	**Pn**	22 41 38.0	**+0.5**
RTCV	**Cerro Valdivia**	**7.02**	**180**	*e*P	**Pn**	22 41 38.3	**+0.6**
RTCV	**Cerro Valdivia**	**7.02**	**180**	*e*P	**Pn**	22 41 38.3	**+0.6**
AUSP	**Uspallata**	**7.42**	**186**	*e*P	**Pn**	22 41 43.5	**+0.1**
AUSP	**Uspallata**	**7.42**	**186**	*e*P	**Pn**	22 41 43.5	**+0.1**
ACAN	**Cantantal**	**7.52**	**171**	*e*P	**Pn**	22 41 44.9	**+0.5**
MRA	**San Martin**	**7.96**	**163**	*e*P	**Pn**	22 41 50.8	**+0.3**
MRA	**San Martin**	**7.96**	**163**	*e*P	**Pn**	22 41 51.3	**+0.7**
LPAZ	**La Paz**	**8.49**	**2**	P	**Pn**	22 41 58.6	**+0.3**
	comp=Z,3.4nm,0.3s,baz=138,slow=3.4,SNR=38						
LPAZ	**La Paz**	**8.49**	**2**	*e*P	**Pn**	22 41 58.8	**+0.5**
CPUP	**Villa Florida**	**10.21**	**101**	P	**Pn**	22 42 21.1	**+0.1**
	comp=Z,0.1nm,0.3s,baz=238,slow=13,SNR=2.0						
SIV	**San Ignacio**	**11.21**	**40**	P	**Pn**	22 42 32.1	**-2.6**
	comp=Z,5.2nm,0.3s,baz=240,slow=9.6,SNR=42						
SIV				S	**Sn**	22 44 31.2	**-6.9**
	comp=Z,0.2nm,0.3s,baz=143,slow=20,SNR=3.9						
BDFB	**Brasilia**	**21.27**	**68**	P	**P**	22 44 35.1	**-0.7**
	comp=Z,2.3nm,0.5s,baz=244,slow=9.8,SNR=5.1						
PTGA	**Pitinga**	**25.33**	**20**	P	**P**	22 45 15.3	**+0.4**
	comp=Z,2.1nm,0.3s,baz=193,slow=11,SNR=5.5						
TXAR	**Lajitas Array**	**63.56**	**326**	P	**P**	22 50 18.0	**+0.7**
	comp=Z,0.3nm,0.5s,baz=141,slow=11,SNR=4.5						
DBIC	**Dimbokro**	**69.37**	**72**	P	**P**	22 50 54.5	**0.0**
	comp=Z,1.2nm,0.5s,baz=242,slow=8.1,SNR=3.6						
PDAR	**Pinedale Array**	**77.16**	**330**	P	**P**	22 51 41.0	**+1.0**
	comp=Z,0.3nm,0.5s,baz=132,slow=7.7,SNR=5.7						
TORD	**Torodi Ar. Bea**	**78.15**	**69**	P	**P**	22 51 45.5	**-0.3**
	comp=Z,3.1nm,0.6s,baz=264,slow=5.3,SNR=37						
BOSA	**Boshof**	**81.58**	**118**	P	**P**	22 52 04.9	**+0.5**
	comp=Z,2.6nm,0.8s,baz=241,slow=2.7,SNR=3.7						
YKA	**Yellowknife Ar**	**94.42**	**340**	P	**P**	22 53 06.3	**+1.1**
	comp=Z,0.5nm,0.5s,baz=133,slow=4.6,SNR=9.6						
ASAR	**Alice Springs**	**127.13**	**206**	PKP	**PKiKP**	22 58 51.5	**+0.6**
	comp=Z,1.0nm,0.6s,baz=137,slow=1.8,SNR=10						
WRA	**Warramunga Arr**	**130.26**	**209**	PKP	**PKiKP**	22 58 57.8	**+0.6**
	comp=Z,0.6nm,0.4s,baz=153,slow=1.7,SNR=11						
ZALV	**Zalesovo Beam**	**144.75**	**27**	PKP	**PKPdf**	22 59 22.8	**+1.0**
	comp=Z,6.2nm,0.6s,baz=299,slow=4.4,SNR=30						
ZALV				pPKP	**pPKPdf**	22 59 52.5	**+0.7**
	comp=Z,2.1nm,0.8s,baz=308,slow=4.9,SNR=3.0						
MKAR	**Makanchi Array**	**148.03**	**39**	PKPbc	**PKiKP**	22 59 32.5	**-0.1**
	comp=Z,3.5nm,0.7s,baz=306,slow=3.0,SNR=35						
MKAR				pPKPbc	**pPKPbc**	23 00 02.6	**+2.2**
	comp=Z,1.2nm,0.7s,baz=309,slow=1.7,SNR=4.6						

UCR 18 22:40:34.4±1.1, 13.°53N×90.°47W, h33km±3km, MD3.3, ML3.7, 3C-4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.64**	**2**	⇑*i*P	Pn	22 40 46.8	-0.5
IXG				⇑*e*P	Pb	22 40 47.7	+0.2
PCG	**Pacaya**	**0.87**	**351**	*e*P	Pb	22 40 51.0	-0.3
PCG				*e*S	Sb	22 41 03.6	+0.8
CEVE	**Cerro Verde**	**0.88**	**70**	⇓*e*P	Pn	22 40 50.5	-0.1
CEVE				*e*S	Sb	22 41 03.5	+0.6
CEVE				IAML		22 41 05.0	
	comp=Z,14μm,0.2s						
SBLS	**San Blas**	**0.88**	**69**	⇓*e*P	Pn	22 40 50.5	-0.2
RTR	**El Retiro**	**0.88**	**65**	⇓*e*P	Pn	22 40 50.8	+0.1
RTR				*e*S	Sb	22 41 03.4	+0.4
FUG	**Fuego 3**	**0.98**	**339**	*e*P	Pn	22 40 52.0	-0.1
FUG				*e*S	Sn	22 41 05.1	+0.2
UNIC	**Santa Ana**	**1.00**	**62**	*i* P	Pn	22 40 52.2	+0.1
UNIC				*e*S	Sb	22 41 06.3	+0.1
UNIC				IAML		22 41 07.5	
	comp=Z,2μm,0.2s						
NBG	**Las Nubes**	**1.06**	**7**	*e*P	Pb	22 40 54.4	-0.1
BOQS	**Boqueron**	**1.18**	**80**	⇓*e*P	Pn	22 40 55.0	+0.2
BOQS				*e*S	Sb	22 41 11.6	+0.1
UEES	**San Salvador**	**1.21**	**80**	*e*P	Pn	22 40 55.5	+0.4
SNET	**Serv Nac Est T**	**1.22**	**82**	*e*P	Pn	22 40 55.1	-0.1
SNET				*e*S	Sn	22 41 11.4	+0.8
SNET				IAML		22 41 16.0	
	comp=Z,2μm,0.2s						
LFU	**La Fuente**	**1.34**	**80**	*e*P	Pn	22 40 57.1	+0.3
LFRS	**El Faro**	**1.38**	**86**	*e*P	Pn	22 40 57.6	+0.2
LBRS	**Las Brisas**	**1.41**	**81**	*e*P	Pn	22 40 57.7	-0.1
PAVA	**Las Pavas**	**1.50**	**83**	*e*P	Pn	22 40 59.2	0.0
MRL	**Marmol**	**1.71**	**26**	⇓*i*P	Pn	22 41 02.5	+0.5
TECA	**Tecapa**	**1.92**	**91**	*e*P	Pn	22 41 04.8	-0.1
CAHU	**Cacacuatique**	**2.21**	**83**	*e*P	Pn	22 41 08.7	-0.2

NORS 18 22:41:09.0±0.0, 41.°55N×49.°88E, h20km, MPVA3.7, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	**Derbent**	**1.26**	**293**	*e*Pg	Pg	22 41 33.5	+0.2
DRN				*e*Sg	Sg	22 41 51.6	+1.7
GNBR	**Gunib**	**2.33**	**292**	*e*Pn	Pn	22 41 47.0	+0.7
GNBR				*e*Sn	Sb	22 42 16.9	-1.9
DBC	**Dubki**	**2.70**	**304**	*e*Pn	Pb	22 41 54.5	-2.2
DBC				*e*Sn	Sb	22 42 28.4	-1.1
LGD	**Lagodekhi**	**2.74**	**277**	P	Pn	22 41 44.9	-6.9
LGD				S	Sn	22 42 13.6	-1.1
BTLR	**Botlikh**	**2.94**	**293**	*e*Pn	Pn	22 41 57.4	+2.7
BTLR				*e*Sn	Sb	22 42 33.1	-3.3

SJA 18 22:46:58.1±0.6, 29.°91S×68.°76W, h120km±5km, ML2.6, MW4.7, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACDV	**Cuesta del Vie**	**0.41**	**230**	*i* P	Pn	22 47 16.3	+0.6
ACDV				*i* S	Sn	22 47 30.0	+1.0
AGUA	**GUANDACOL**	**0.48**	**29**	*i* P	Pn	22 47 17.1	+1.0
AGUA				*i* S	Sn	22 47 30.2	+0.6
ACCO	**Cerro Coronel**	**0.73**	**201**	*i* P	Pn	22 47 19.1	+1.0
ACCO				*i* S	Sn	22 47 35.0	+1.9
ACCO				IAML		22 47 35.3	
	comp=Z,6μm,0.4s						
AMOG	**MOGNA**	**1.05**	**167**	*i* P	Pn	22 47 21.6	+0.9
AMOG				*i* S	Sn	22 47 38.7	+0.8
RTLS	**Leoncito**	**1.94**	**194**	IAML		22 47 41.5	
	comp=Z,8.3nm,0.1s						
APLL	**PUNTA DE LOS L**	**1.99**	**105**	*i* P	Pn	22 47 32.2	+0.7
APLL				IAML		22 47 56.1	
	comp=Z,2.1nm,0.3s						
APLL				*i* S	Sn	22 47 58.0	+1.0

IGQ 18 22:51:07.0±0.9, 2.°S±5.°×8.°1W±.°, h15km, MLv3.7, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COHC	**Cochancay**	**2.11**	**103**	P	Pn	22 51 42.0	+0.2
COHC				S	Sn	22 52 08.3	+0.6
BMAS	**Trigal station**	**2.86**	**81**	P	Pn	22 51 52.4	-0.1
BMAS				S	Sn	22 52 27.1	+0.1
ARRY	**Arrayan**	**2.89**	**81**	P	Pn	22 51 53.4	+0.5
ARRY				S	Sn	22 52 26.3	-1.3
POND	**Pondoa**	**2.91**	**79**	P	Pn	22 51 53.5	+0.4
BPAT	**Tungurahua Vol**	**2.91**	**81**	P	Pn	22 51 52.7	-0.6
BPAT				S	Sn	22 52 25.1	-3.1
BMOR	**Cotopaxi Volca**	**3.10**	**67**	P	Pn	22 51 55.1	-0.9
BMOR				S	Sn	22 52 28.7	-4.4
BNAS	**Cotopaxi Volca**	**3.11**	**65**	P	Pn	22 51 56.5	+0.5
NAS2	**Nasa**	**3.13**	**65**	P	Pn	22 51 56.9	+0.6
BREF	**Cotopaxi Volca**	**3.15**	**66**	P	Pn	22 51 57.2	+0.5
BVC2	**Cotopaxi Volca**	**3.18**	**66**	P	Pn	22 51 56.8	-0.2
BTAM	**Cotopaxi Volca**	**3.18**	**66**	P	Pn	22 51 56.9	-0.2
BTAM				S	Sb	22 52 39.2	-3.3
PINO	**Pino**	**3.25**	**56**	P	Pn	22 51 55.2	-2.8
YANA	**Yana**	**3.30**	**56**	P	Pn	22 51 56.0	-2.7
CUSE	**Cuicocha Este**	**3.69**	**52**	P	Pn	22 52 00.9	-3.0
CUSE				S	Sn	22 52 48.5	+1.2
URCU	**Urcuqui**	**3.88**	**52**	P	Pn	22 52 05.2	-1.4
URCU				S	Sn	22 52 53.2	+1.1

IDC 18 22:52:00.1±1.4, 5.°32N×125.°99E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/28, mbtmp3.5/5, MS3.6/2, Ms1 3.6/2, ms1mx3.0/20, Error ellipse: s-maj=145.2km s-min=21.7km az=69.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.41**	**162**	P	P	22 57 40.3	+1.6
	0.9nm,0.7s,baz=343,slow=10,SNR=4.7						
ASAR	**Alice Springs**	**29.83**	**165**	P	P	22 58 07.4	-1.8
	0.3nm,0.7s,baz=338,slow=7.8,SNR=2.5						
STKA	**Stephens Creek**	**39.87**	**159**	LR	LR	23 20 19.7	
	comp=Z,98nm,18.6s,baz=26,slow=43						
SONM	**Songino Array**	**45.56**	**342**	P	P	23 00 23.3	+1.3
	0.3nm,0.6s,baz=148,slow=8.5,SNR=2.0						
MKAR	**Makanchi Array**	**55.84**	**325**	P	P	23 01 39.2	-0.2
	0.5nm,0.7s,baz=116,slow=8.3,SNR=3.6						
ZALV	**Zalesovo Beam**	**58.84**	**333**	P	P	23 01 59.6	-0.9
	0.4nm,0.5s,baz=111,slow=6.3,SNR=2.6						
NOA	**NORSAR Array B**	**97.04**	**334**	LR	LR	23 55 06.5	
	comp=Z,16nm,18.6s,baz=330,slow=39						

ISCJB ***18*** *22:57:40.6±1.0, 38.°30N±0.°06×38.°23E±0.°06, h9km, Error ellipse: s-maj=8.6km s-min=6.7km az=29.8*

DDA ***18*** *22:57:41.5, 38.°39N×38.°19E, h7km±3km, ML2.8*

ISC 18 22:57:41.2±1.1, 38.°38N±0.°04×38.°24E±0.°05, h9km, n7, σ0§86/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.26**	**251**	IAML	P		
	comp=Z,8μm,0.1s						
AKCD				*i* P	**Pg**	22 57 46.9	**+0.4**
DARE	**Darende-Malaty**	**0.62**	**288**	PG	**Pg**	22 57 52.8	**-0.4**
DARE				SG	**Sb**	22 58 01.8	**-1.4**
KEMA	**Kemaliye**	**0.91**	**13**	*i* P	**Pg**	22 57 59.0	**+0.2**
KEMA				*i* S	**Sn**	22 58 12.7	**-0.9**
PTK	**Pertek**	**1.04**	**60**	*e*PG	**Pg**	22 58 01.3	**+0.1**
URFA	**Urfa**	**1.04**	**154**	*e*PG	**Pg**	22 58 00.7	**-0.6**
CUKAN	**kangal_SIVAS**	**1.11**	**328**	*i* P	**Pn**	22 58 04.3	**+1.2**
CUKAN				*i* S	**Sn**	22 58 18.2	**-0.4**
GZT	**Gaziantep**	**1.15**	**208**	IAML	P		
	comp=Z,454nm,0.1s						
GZT				*i* P	**Pn**	22 58 04.1	**+0.4**
GZT				*i* S	**Sn**	22 58 20.4	**+0.7**

ISK ***18*** *23:04:27.1, 39.°10N×42.°08E, h8km, ML2.3/5*

DDA ***18*** *23:04:28.1, 39.°12N×42.°10E, h7km±4km, ML2.5*

ISC 18 23:04:28.1±1.1, 39.°11N±0.°03×42.°10E±0.°03, h9km±12km, n14, σ0§71/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLAZ	**Malazgirt-MUS**	**0.35**	**85**	PG	**Pg**	23 04 35.0	**-0.1**
MLAZ				SG	**Sg**	23 04 40.5	**+0.8**
GURO	**Guroymak-BITLI**	**0.56**	**186**	PG	**Pg**	23 04 38.6	**-0.4**
GURO				SG	**Sg**	23 04 46.1	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.57**	**122**	*i* P	**Pb**	23 04 39.5	**-0.8**
ADCV				*i* S	**Sb**	23 04 48.5	**-0.2**
ADCV				IAML	P		
	comp=Z,587nm,0.1s						
TUTA	**Tutak**	**0.62**	**62**	*i* P	**Pg**	23 04 40.1	**-0.1**
TUTA				*i* S	**Sg**	23 04 49.1	**+0.7**
TUTA				IAML	P		
	comp=Z,3μm,0.2s						
BNGL	**BINGOL**	**0.76**	**258**	*i* P	**Pb**	23 04 42.6	**-1.0**
EATA	**Eleskirt**	**0.81**	**22**	*i* P	**Pb**	23 04 44.4	**-0.1**
EATA				*i* S	**Sb**	23 04 56.8	**+1.1**
EATA				IAML	P		
	comp=Z,408nm,0.2s						
AGRB	**Hanur-Agry**	**0.83**	**56**	PG	**Pg**	23 04 43.7	**-0.4**
AGRB				SG	**Sb**	23 04 56.0	**-0.1**
KOPR	**Koprukoy-ERZUR**	**0.90**	**348**	PG	**Pg**	23 04 44.9	**-0.6**
HOMI	**Horasan**	**0.94**	**351**	*i* P	**Pn**	23 04 47.7	**-0.1**
AKDM	**Akdamar-Van**	**1.04**	**138**	PG	**Pg**	23 04 47.3	**-0.8**
BGOL	**Bingol**	**1.12**	**264**	*i* P	**Pb**	23 04 49.1	**-0.6**
BGOL				*i* S	**Sb**	23 05 04.1	**-0.4**
BGOL				IAML	P		
	comp=Z,113nm,0.2s						
SRTM	**Siirt_Merkez**	**1.13**	**187**	*i* P	**Pn**	23 04 50.8	**+0.7**
BTMN	**Batman**	**1.38**	**208**	*i* P	**Pg**	23 04 55.9	**+1.3**
BTMN				*i* S	**Sg**	23 05 13.4	**+0.8**
BTMN				IAML	P		
	comp=Z,102nm,0.4s						
TASB	**TASBURUN-IGDIR**	**1.87**	**62**	PN	**Pn**	23 05 00.5	**+0.2**

OMAN 18 23:08:40.8±1.6, 15.°23N×58.°94E, h35km±32km, ml3.8/2, Error ellipse: s-maj=34.3km s-min=5.4km az=328.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMTO	**DMTO**	**4.56**	**303**	P	Pn	23 09 47.4	+0.1
	SNR

baz=69
EKS2 Erkin-Say 2.08 44⇑*iP* Pb 23 15 15.9 -0.7
baz=44
EKS2 ⇑*iS* **Sg 23 15 43.7 -1.0**
baz=44
KK31 Karatay Array 2.16 333 ⇓Pn **Pb 23 15 17.1 -0.8**
0.7nm,0.3s,baz=146,slow=15
KK31 ⇑Lg Lg 23 15 46.5
1.8nm,0.3s,baz=144,slow=26
UCH Uchtor 2.27 62⇑*iP* **Pb 23 15 18.8 -1.2**
baz=62
UCH ⇑*iS* **Sb 23 15 48.9 +0.1**
baz=62
AAK Ala-Archa 2.46 53 Pn **Pb 23 15 22.8 -0.5**
1.1nm,0.4s
AAK Lg Lg 23 15 56.6
3.5nm,0.5s
KBK Karagaybulak 2.75 57⇑*iP* **Pb 23 15 25.5 -2.7**
baz=57
KBK ⇑*iS* **Sb 23 16 00.1 -2.5**
baz=57
USP Ospenovka 2.88 43⇑*iP* **Pn 23 15 26.9 +1.8**
baz=43
USP ⇑*iS* **Sb 23 16 03.1 -2.9**
baz=43
SGDS Sogindy 3.08 41 Pg **Pb 23 15 32.5 -1.1**
1.9nm,0.5s
SGDS Lg Lg 23 16 08.4
3.0nm,0.6s
NRN Naryn 3.15 84⇑*iP* **Pn 23 15 30.8 +1.7**
baz=84
NRN ⇑*iS* **Sn 23 16 09.3 +1.7**
baz=84
TKM2 Tokmak 2 3.30 57 ⇑Pg **Pb 23 15 37.5 -0.1**
0.7nm,0.5s
TKM2 ⇓Lg Lg 23 16 20.5
1.7nm,0.6s
DGS Degeres 3.58 54 Pg **Pb 23 15 41.2 -1.1**
0.6nm,0.6s
DGS Lg Lg 23 16 23.7
3.6nm,0.9s
DGS Degeres 3.58 54 *eP* **Pb 23 15 41.1 -1.1**
0.9nm,0.6s
DGS *eS* **Sb 23 16 23.6 -2.6**
4.2nm,0.3s
KUU Kurty 4.29 49 Pg **Pb 23 15 54.8 +0.4**
0.4nm,0.5s
KUU Lg Lg 23 16 46.7
1.7nm,0.8s
KUU Kurty 4.29 49 *eP* **Pb 23 15 54.7 +0.4**
1.3nm,0.5s
KUU *eS* **Sb 23 16 46.7 0.0**
2.8nm,0.4s

*ISCJB **18** 23:14:46.7±0.7, 8°.32S±0°.07×124°.62E±0°.06, h20km, mb3.8/6, Error ellipse: s-maj=9.8km s-min=8.2km az=175.5*
*IDC **18** 23:14:46.4±0.9, 8°.15S×124°.66E, h0km, mb3.8/6, mb1 4.1/9, mb1mx3.9/34, mbtmp4.0/9, ML4.4/3, MS2.3/1, Ms1 2.3/1, ms1mx2.2/26, Error ellipse: s-maj=37.0km s-min=16.7km az=68.0*
*DJA **18** 23:15:01.9±1.3, 9°.3S±3°×12°.4E±°, h21km±16km, M4.3/6, mb5.3/1, mB6.1/1, MLv3.8/6, Mw(mB)5.8/1*
ISC 18 23:14:48.8±0.8, 8°.29S±0°.06×124°.49E±0°.06, h20km, n14, σ1℘84/18, mb3.9/6, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.47**	**188**	P	**Pb**	**23 15 19.5**	**+3.9**
BATI	**Baumata**	**2.07**	**203**	Pn	**Pb**	**23 15 25.4**	**-0.3**
BATI	242nm,0.3s,baz=35,slow=3.9,SNR=128			Sn	**Sn**	**23 15 45.2**	**-2.5**
BATI	166nm,0.3s,baz=182,slow=11,SNR=9.6			LR	LR	23 15 59.9	
BATI	comp=Z,69nm,21.2s,baz=84,slow=32 **Baumata**	**2.07**	**203**	P	**Pb**	**23 15 25.5**	**-0.3**
BATI				S	**Sn**	**23 15 45.6**	**-2.2**
MMRI	**Maumere**	**2.25**	**261**	P	**Pb**	**23 15 31.5**	**+2.7**
MMRI				S	**Sb**	**23 15 56.7**	**+0.4**
EDFI	**Ende, Flores**	**2.80**	**260**	P	**Pb**	**23 15 38.8**	**+0.5**
EDFI				S	**Sn**	**23 16 06.7**	**+0.7**
LUWI	**Luwuk**	**7.40**	**347**	P	**Pb**	**23 16 54.4**	**-2.2**
WRA	**Warramunga Arr**	**15.01**	**142**	Pn	**Pn**	**23 18 18.0**	**-1.9**
WRA	1.4nm,0.3s,baz=250,slow=9.9,SNR=44			Sn	Sn	23 20 52.4	-13
ASAR	1.7nm,0.3s,baz=314,slow=24,SNR=12 **Alice Springs**	**17.75**	**151**	P	**Pn**	**23 18 54.5**	**-0.5**
ASAR	1.1nm,0.3s,baz=324,slow=12,SNR=24			S	Sn	23 21 58.4	-14
CTA	0.7nm,0.3s,baz=233,slow=23,SNR=6.5 **Charters Tower**	**24.11**	**121**	P	**P**	**23 20 05.2**	**+1.8**
STKA	2.2nm,0.6s,baz=304,slow=14,SNR=3.6 **Stephens Creek**	**28.36**	**148**	P	**P**	**23 20 41.9**	**+0.2**
USRK	0.6nm,0.2s,baz=325,slow=12,SNR=2.0 **Ussuriysk Ar.**	**52.68**	**7**	P	**P**	**23 24 00.4**	**-1.4**
SONM	0.4nm,0.4s,baz=193,slow=4.5,SNR=1.9 **Songino Array**	**58.13**	**346**	P	**P**	**23 24 40.9**	**-0.3**
MKAR	0.3nm,0.5s,baz=150,slow=7.1,SNR=2.3 **Makanchi Array**	**66.44**	**330**	P	**P**	**23 25 38.2**	**+1.5**
ZALV	0.9nm,0.7s,baz=131,slow=8.5,SNR=11 **Zalesovo Beam**	**70.44**	**336**	P	**P**	**23 26 02.0**	**+0.5**
	0.4nm,0.4s,baz=122,slow=7.3,SNR=3.7						

*IDC **18** 23:17:52.6±1.4, 19°.58S×170°.08E, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.8/35, mbtmp3.9/8, ML3.2/2, MS3.6/5, Ms1 3.6/5, ms1mx3.2/25, Error ellipse: s-maj=37.6km s-min=26.8km az=139.0*
*ISCJB **18** 23:17:55.9±1.0, 19°.8S±0°.1×170°.0E±0°.1, h33km, mb3.8/6, MS3.7/4, Error ellipse: s-maj=20.8km s-min=14.3km az=141.9*
ISC 18 23:17:57.8±1.1, 19°.8S±0°.2×170°.0E±0°.1, h35km, n15, σ1℘60/13, mb3.8/6, MS3.7/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.04**	**235**	*eP*n	**Pn**	**23 18 57.9**	**+0.6**
DZM	18nm,0.3s			*e*Sn	**Sn**	**23 19 39.7**	**-3.7**
DZM	25nm,0.2s			*e*LR	LR	23 19 45.6	
DZM	comp=Z,1μm,25.6s **Mont Dzumac**	**4.04**	**235**	Pn	**Pn**	**23 18 57.8**	**+0.5**
DZM	1.6nm,0.3s,baz=78,slow=14,SNR=15			Sn	**Sn**	**23 19 43.1**	**-0.3**
DZM	9.3nm,0.3s,baz=159,slow=23,SNR=13			LR	LR	23 20 14.5	
URZ	comp=Z,237nm,20.2s,baz=88,slow=34 **Urewera**	**19.44**	**163**	P	**Pn**	**23 22 22.5**	**-0.1**
CTA	0.1nm,0.3s,baz=350,slow=12,SNR=2.2 **Charters Tower**	**22.32**	**265**	P	**P**	**23 22 53.3**	**+0.6**
PMG	1.9nm,0.8s,baz=89,slow=12 **Port Moresby**	**24.35**	**292**	LR	LR	23 31 40.0	
STKA	comp=Z,212nm,18.4s,baz=96,slow=34 **Stephens Creek**	**28.18**	**239**	P	**P**	**23 23 49.5**	**+2.3**
STKA	0.8nm,0.5s,baz=37,slow=10,SNR=2.6			LR	LR	23 34 21.6	
WRA	comp=Z,143nm,19.3s,baz=27,slow=35 **Warramunga Arr**	**33.50**	**264**	P	**P**	**23 24 33.5**	**-0.7**
ASAR	0.5nm,0.6s,baz=106,slow=8.9,SNR=2.9 **Alice Springs**	**33.70**	**257**	P	**P**	**23 24 36.5**	**+0.5**
ASAR	2.6nm,0.7s,baz=83,slow=9.4,SNR=7.2			LR	LR	23 38 03.5	
TBI	comp=Z,138nm,20.2s,baz=86,slow=36 **Tubuai**	**37.79**	**103**	*e*LR	LR	23 36 07.2	
PPT2	comp=Z,143nm,31.5s **Papeete2**	**38.30**	**94**	*e*LR	LR	23 36 07.0	
PPT	comp=Z,378nm,30.5s **Papeete**	**38.30**	**94**	LR	LR	23 39 06.6	
SONM	comp=Z,138nm,18.7s,baz=314,slow=33 **Songino Array**	**88.07**	**323**	P	**P**	**23 30 45.2**	**+0.5**
ILAR	0.7nm,0.8s,baz=134,slow=4.2,SNR=6.0 **Eielson Array**	**90.52**	**17**	P	**P**	**23 30 53.7**	**-2.0**
GERES	0.5nm,0.9s,baz=231,slow=4.3,SNR=3.2 **GERESS Array B**	**145.29**	**332**	PKPbc	**PKPdf**	**23 37 32.2**	**+0.2**
TORD	0.5nm,0.6s,baz=25,slow=2.6,SNR=6.9 **Torodi Ar. Bea**	**167.00**	**241**	PKPab	**PKPab**	**23 39 04.2**	**-0.4**
	0.9nm,1.1s,baz=160,slow=4.6,SNR=2.6						

*ISCJB **18** 23:26:09.9±1.0, 21°.5N±0°.2×143°.1E±0°.2, h311km, mb3.5/10, Error ellipse: s-maj=29.2km s-min=20.5km az=165.3*
*IDC **18** 23:26:09.4±4.8, 21°.53N×143°.13E, h291km±46km, mb3.2/11, mb1 3.4/12, mb1mx3.1/53, mbtmp3.9/12, Error ellipse: s-maj=26.0km s-min=17.8km az=82.0*
ISC 18 23:26:11.4±1.1, 21°.6N±0°.2×143°.1E±0°.2, h311km, n12, σ0℘95/14, mb3.4/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.52**	**345**	P	**P**	**23 29 31.0**	**-2.4**
KSRS	0.1nm,0.3s,baz=166,slow=11,SNR=2.6 **Korea Array**	**20.57**	**324**	P	**P**	**23 30 27.3**	**+0.1**
SONM	1.0nm,0.5s,baz=143,slow=10,SNR=4.2 **Songino Array**	**39.39**	**321**	P	**P**	**23 33 12.3**	**+0.5**
WRA	0.2nm,0.5s,baz=130,slow=7.3,SNR=3.4 **Warramunga Arr**	**42.14**	**192**	P	**P**	**23 33 33.6**	**-0.6**
ZALV	0.4nm,0.5s,baz=16,slow=9.6,SNR=4.8 **Zalesovo Beam**	**54.26**	**322**	P	**P**	**23 35 05.9**	**+0.1**
ZALV	0.5nm,0.4s,baz=112,slow=7.9,SNR=3.5			PcP	**PcP**	**23 36 04.5**	**-1.1**
MKAR	0.5nm,0.3s,baz=120,slow=3.8,SNR=2.8 **Makanchi Array**	**54.73**	**313**	P	**P**	**23 35 09.4**	**+0.1**
MKAR	0.2nm,0.3s,baz=87,slow=8.2,SNR=4.7			PcP	**PcP**	**23 36 08.0**	**+0.3**
KURBB	0.2nm,0.4s,baz=91,slow=5.8,SNR=1.4 **Kurchatov Arra**	**57.57**	**317**	P	**P**	**23 35 29.6**	**+0.5**
ILAR	1.1nm,0.4s,baz=92,slow=7.5,SNR=14 **Eielson Array**	**62.18**	**27**	P	**P**	**23 36 00.1**	**+0.1**
BVAR	0.3nm,0.6s,baz=251,slow=5.9,SNR=5.6 **Borovoye Array**	**62.72**	**320**	P	**P**	**23 36 04.6**	**+0.8**
YKA	2.2nm,0.4s,baz=100,slow=8.0,SNR=23 **Yellowknife Ar**	**76.60**	**28**	P	**P**	**23 37 28.6**	**+0.9**
ARCES	0.6nm,0.6s,baz=291,slow=5.4,SNR=9.3 **ARCESS Array B**	**79.02**	**341**	P	**P**	**23 37 41.1**	**+0.2**
FINES	5.8nm,1.0s,baz=57,slow=6.6,SNR=7.9 **FINESS Array B**	**83.26**	**334**	P	**P**	**23 38 02.7**	**-0.5**
	1.2nm,0.5s,baz=56,slow=4.9,SNR=9.7						

*IDC **18** 23:30:41.4±2.4, 43°.43N×105°.26W, h0km, mb3.8/1, mb1 3.5/2, mb1mx3.2/53, mbtmp3.4/2, ML3.8/1, Error ellipse: s-maj=59.8km s-min=16.3km az=161.0*
*NEIC **18** 23:30:42.5±1.6, 43°.46N×105°.18W, h0km, MN2.6, Error ellipse: s-maj=29.7km s-min=10.7km az=152.0, Suspected Mining explosion.*
NEIC 80 km [50 miles] NNE of Douglas.
*ISCJB **18** 23:30:43.1±0.8, 43°.84N±0°.07×105°.37W±0°.05, h0km, mb3.8/1, Error ellipse: s-maj=10.9km s-min=5.4km az=167.7*
ISC 18 23:30:40.4±1.0, 43°.80N±0°.06×105°.66W±0°.04, h0km, n9, σ2℘11/11, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.22**	**74**	*eP*g	**Pg**	**23 31 02.8**	**-0.9**
RSSD				*eS*	**Sg**	**23 31 17.1**	**-2.4**
RLMT	**Red Lodge**	**2.90**	**298**	*eP*n	**Pg**	**23 31 35.1**	**-0.9**
RLMT				*eS*	**Sg**	**23 32 12.4**	**-1.1**
LAO	**LASA Array**	**2.91**	**352**	*eP*n	**Pg**	**23 31 36.5**	**+0.2**
LAO				*eS*	**Sb**	**23 32 06.8**	**-2.7**
PDAR	**Pinedale Array**	**3.03**	**251**	Pn	**Pg**	**23 31 36.8**	**-1.7**
PDAR	1.3nm,0.3s,baz=80,slow=16,SNR=25			Lg	Lg	23 32 21.4	
BW06	2.6nm,0.3s,baz=78,slow=34,SNR=11 **Boulder Array**	**3.03**	**251**	*eP*n	**Pb**	**23 31 34.5**	**-0.8**
BW06				*eS*	**Sg**	**23 32 16.2**	**-1.5**
AHID	**Auburn Hatcher**	**4.10**	**257**	*eP*n	**Pn**	**23 31 46.9**	**+2.3**
I10CA	**LAC DU BONNET**	**9.18**	**42**	*i*		00 26 20.0	
ULM	baz=217,slow=329,SNR=1.3 **Lac du Bonnet**	**9.28**	**43**	Pg	Pn	23 33 31.4	+36
ULM	0.2nm,0.3s,baz=217,slow=16,SNR=5.8			Lg	Lg	23 35 28.1	
MKAR	0.1nm,0.3s,baz=135,slow=19,SNR=4.6 **Makanchi Array**	**89.51**	**355**	P	**P**	**23 43 42.4**	**+3.0**
	0.5nm,0.9s,baz=358,slow=4.9,SNR=4.2						

WEL 18 23:34:54.4, 39°S±1°×17°8E±°, h24km±2km, ML3.9/29, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.02**	**45**	P	Pb	23 34 58.9	+0.5
CNGZ				S	Sb	23 35 04.0	+2.8
TKGZ	**Te Karaka**	**0.27**	**283**	P	Pb	23 35 00.7	-0.2
TKGZ				S	Sb	23 35 06.3	+1.0
TWGZ	**Tauwhareparae**	**0.36**	**333**	P	Pb	23 35 02.5	+0.3
TWGZ				S	Sn	23 35 10.1	-0.5
RIGZ	**Rimuhau**	**0.39**	**238**	P	Pb	23 35 03.4	+0.6
RIGZ				S	Sn	23 35 11.4	+0.1
PUZ	**Puketiti**	**0.43**	**7**	P	Pb	23 35 03.8	+0.4
PRGZ	**Paritu Road**	**0.48**	**209**	P	Pb	23 35 05.0	+0.7
PRGZ				S	Sn	23 35 14.4	+0.8
MWZ	**Matawai**	**0.54**	**288**	P	Pb	23 35 04.9	-0.3
MWZ				S	Sn	23 35 14.0	-1.0
RAGZ	**Rawiri**	**0.60**	**270**	P	Pb	23 35 06.3	0.0
PKGZ	**Pakihiroa**	**0.62**	**352**	P	Pn	23 35 06.8	-0.9
PKGZ				P	Pb	23 35 06.8	+0.2
PKGZ				S	Sn	23 35 17.6	+0.8
KNZ	**Kokohu**	**0.66**	**217**	P	Pb	23 35 07.0	-0.1
RUGZ	**Raukumara Rang**	**0.67**	**323**	P	Pb	23 35 07.0	-0.4
RUGZ				S	Sb	23 35 17.3	+0.9
MHGZ	**Mahia Peninsul**	**0.69**	**198**	P	Pb	23 35 07.9	+0.2
WMGZ	**Waiomatatini S**	**0.70**	**15**	P	Pn	23 35 08.4	-0.4
SNGZ	**Shannon Statio**	**0.72**	**247**	P	Pb	23 35 08.3	0.0
HAZ	**Te Kaha**	**0.81**	**337**	P	Pb	23 35 09.2	-0.6
URZ	**Urewera**	**0.88**	**286**	P	Pb	23 35 10.4	-0.6
WHHZ	**Waihua**	**0.94**	**232**	P	Pn	23 35 12.1	0.0
MXZ	**Matakaoa Point**	**0.94**	**6**	P	Pb	23 35 11.9	-0.1
RTZ	**Ruatahuna**	**0.95**	**263**	P	Pn	23 35 11.7	-0.7
RTZ				P	Pb	23 35 11.5	-0.7
RAHZ	**Arahi**	**0.95**	**244**	P	Pn	23 35 12.8	+0.5
MTHZ	**Maungataniwha**	**1.11**	**251**	P	Pn	23 35 13.8	-0.6
MUGZ	**Murupara**	**1.11**	**271**	P	Pn	23 35 14.2	-0.2
WHRZ	**Whale Island**	**1.15**	**304**	P	Pn	23 35 15.2	+0.2
ARHZ	**Aropaoanui**	**1.20**	**230**	P	Pb	23 35 16.1	-0.3
EDRZ	**Edgecumbe**	**1.20**	**289**	P	Pn	23 35 15.5	-0.2
NMHZ	**Naumai**	**1.23**	**241**	P	Pb	23 35 18.6	+1.6
MARZ	**Manawahe**	**1.30**	**293**	P	Pn	23 35 17.4	+0.4
RRRZ	**Republican Roa**	**1.32**	**276**	P	Pn	23 35 17.7	+0.3
TARZ	**Mount Tarawera**	**1.35**	**281**	P	Pn	23 35 17.8	0.0
PRRZ	**Plateau Road**	**1.41**	**270**	P	Pn	23 35 18.7	+0.2
MRHZ	**Matea Rd**	**1.42**	**256**	P	Pn	23 35 19.5	+0.7
OPRZ	**Ohinepanea**	**1.44**	**297**	P	Pn	23 35 18.1	-0.9
ALRZ	**Allen Road**	**1.45**	**267**	P	Pn	23 35 19.4	+0.3
HLRZ	**Highlands Stat**	**1.46**	**279**	P	Pb	23 35 21.4	+0.5
BKZ	**Black Stump Fm**	**1.48**	**243**	P	Pn	23 35 19.1	-0.4
OMRZ	**Omania**	**1.48**	**285**	P	Pn	23 35 19.4	-0.1
MCHZ	**McNeill Hill**	**1.50**	**230**	P	Pn	23 35 19.2	-0.5
HRRZ	**Handcock Road**	**1.50**	**274**	P	Pn	23 35 19.8	+0.1
LIRZ	**Lichensteins R**	**1.50**	**289**	P	Pn	23 35 20.2	+0.3
HSRZ	**Hossack Road**	**1.54**	**276**	P	Pn	23 35 20.5	+0.2
HATZ	**Hinemaiaia**	**1.68**	**256**	P	Pn	23 35 22.9	+0.6
RITZ	**Rihia Road**	**1.88**	**255**	P	Pn	23 35 26.3	+1.2
BHHZ	**Black Hill Sta**	**1.93**	**239**	P	Pn	23 35 24.9	-0.8
MOVZ	**Moawhango**	**2.10**	**244**	P	Pn	23 35 29.0	+0.9
TUVZ	**Tukino**	**2.12**	**248**	P	Pn	23 35 30.2	+1.8
WTVZ	**West Tongariro**	**2.12**	**252**	P	Pb	23 35 33.7	+1.6
NGZ	**Ngauruhoe**	**2.13**	**251**	P	Pb	23 35 31.5	-0.8
TRVZ	**Turoa**	**2.21**	**248**	P	Pb	23 35 32.8	-1.0
HIZ	**Hauiti**	**2.61**	**269**	P	Pn	23 35 34.8	-0.3
KHEZ	**Kahui Hut**	**3.35**	**255**	P	Pn	23 35 46.2	+0.9

WEL 19 00:07:10.0, 39°S±1°×17°8E±°, h23km±3km, ML3.9/12, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.03**	**52**	P	Pb	00 07 14.4	+0.4
CNGZ				S	Sb	00 07 19.6	+2.9
TKGZ	**Te Karaka**	**0.27**	**284**	P	Pb	00 07 16.4	+0.1
TKGZ				S	Sb	00 07 21.9	+1.3
TWGZ	**Tauwhareparae**	**0.36**	**335**	P	Pb	00 07 18.2	+0.4
TWGZ				S	Sn	00 07 25.6	-0.5
RIGZ	**Rimuhau**	**0.38**	**238**	P	Pb	00 07 19.0	+0.8
PUZ	**Puketiti**	**0.43**	**8**	P	Pb	00 07 19.6	+0.5
PRGZ	**Paritu Road**	**0.48**	**209**	P	Pn	00 07 20.6	-0.8
PRGZ				S	Sn	00 07 29.9	+0.8
MWZ	**Matawai**	**0.54**	**288**	P	Pb	00 07 20.6	-0.1
RAGZ	**Rawiri**	**0.60**	**270**	P	Pb	00 07 22.0	+0.2
RAGZ				P	Pb	00 07 22.0	+0.2
RAGZ				S	Sn	00 07 31.7	-0.4
PKGZ	**Pakihiroa**	**0.62**	**353**	P	Pb	00 07 22.5	+0.3
PKGZ				S	Sn	00 07 32.5	0.0
KNZ	**Kokohu**	**0.65**	**217**	P	Pb	00 07 22.8	+0.1
RUGZ	**Raukumara Rang**	**0.67**	**324**	P	Pb	00 07 22.7	-0.3
RUGZ				S	Sb	00 07 32.6	+0.7
MHGZ	**Mahia Peninsul**	**0.68**	**198**	P	Pb	00 07 23.7	+0.5
WMGZ	**Waiomatatini S**	**0.71**	**15**	P	Pn	00 07 24.2	-0.3
SNGZ	**Shannon Statio**	**0.71**	**247**	P	Pb	00 07 24.0	+0.3
SNGZ				S	Sn	00 07 36.1	+1.2
HAZ	**Te Kaha**	**0.81**	**337**	P	Pb	00 07 24.8	-0.5
URZ	**Urewera**	**0.87**	**286**	P	Pb	00 07 26.1	-0.3
WHHZ	**Waihua**	**0.93**	**232**	P	Pn	00 07 27.8	+0.2
MXZ	**Matakaoa Point**	**0.94**	**6**	P	Pn	00 07 27.8	0.0
MXZ				S	Sn	00 07 42.4	+1.9
RTZ	**Ruatahuna**	**0.94**	**263**	P	Pn	00 07 27.2	-0.5
RAHZ	**Arahi**	**0.95**	**244**	P	Pn	00 07 28.3	+0.5
MTHZ	**Maungataniwha**	**1.10**	**251**	P	Pn	00 07 30.0	0.0
MUGZ	**Murupara**	**1.10**	**271**	P	Pb	00 07 30.3	-0.1
WHRZ	**Whale Island**	**1.15**	**304**	P	Pb	00 07 31.0	-0.1
ARHZ	**Aropaoanui**	**1.19**	**230**	P	Pb	00 07 32.9	+1.0
EDRZ	**Edgecumbe**	**1.20**	**289**	P	Pn	00 07 31.3	-0.1
EDRZ				P	Pb	00 07 31.4	-0.6
MARZ	**Manawahe**	**1.29**	**293**	P	Pn	00 07 32.9	+0.3
RRRZ	**Republican Roa**	**1.32**	**277**	P	Pn	00 07 33.4	+0.4
TARZ	**Mount Tarawera**	**1.34**	**281**	P	Pn	00 07 33.6	+0.3
PRRZ	**Plateau Road**	**1.40**	**270**	P	Pn	00 07 34.4	+0.4
MRHZ	**Matea Rd**	**1.42**	**256**	P	Pn	00 07 34.6	+0.2
OPRZ	**Ohinepanea**	**1.44**	**297**	P	Pn	00 07 33.9	-0.7
ALRZ	**Allen Road**	**1.44**	**267**	P	Pn	00 07 35.1	+0.5
HLRZ	**Highlands Stat**	**1.46**	**279**	P	Pn	00 07 35.4	+0.5
BKZ	**Black Stump Fm**	**1.47**	**243**	P	Pn	00 07 34.9	-0.2
OMRZ	**Omania**	**1.47**	**285**	P	Pn	00 07 35.3	+0.1
OMRZ				P	Pn	00 07 35.2	+0.1
MCHZ	**McNeill Hill**	**1.49**	**230**	P	Pn	00 07 35.0	-0.2
HRRZ	**Handcock Road**	**1.49**	**274**	P	Pb	00 07 37.1	+0.1
HSRZ	**Hossack Road**	**1.53**	**277**	P	Pn	00 07 36.3	+0.5
KAHZ	**Kahuranaki**	**1.64**	**218**	P	Pn	00 07 35.9	-1.4
HATZ	**Hinemaiaia**	**1.68**	**256**	P	Pn	00 07 38.6	+0.7
TGRZ	**Tauranga**	**1.70**	**296**	P	Pn	00 07 38.3	+0.1
RITZ	**Rihia Road**	**1.87**	**255**	P	Pn	00 07 41.8	+1.2
BHHZ	**Black Hill Sta**	**1.92**	**238**	P	Pn	00 07 40.7	-0.6
MOVZ	**Moawhango**	**2.09**	**244**	P	Pn	00 07 44.2	+0.5
TUVZ	**Tukino**	**2.11**	**248**	P	Pb	00 07 47.3	-0.4
TRVZ	**Turoa**	**2.20**	**248**	P	Pn	00 07 45.6	+0.3
TSZ	**Takapari Road**	**2.32**	**227**	P	Pn	00 07 44.6	-2.1
HIZ	**Hauiti**	**2.61**	**269**	P	Pn	00 07 51.1	+0.5
BFZ	**Birch Farm**	**2.64**	**214**	P	Pn	00 07 49.1	-2.0
KHEZ	**Kahui Hut**	**3.34**	**255**	P	Pn	00 08 02.5	+1.7

*NIED **19** 00:30:00, 24°.30N×122°.00E, h50km, Mw3.8 Best double couple: M0 5.71000×10^14 NP1:φ=15.00000°, δ=55.00000°, λ=14.00000°. NP2:φ=277.00000°, δ=78.00000°, λ=144.00000°.*
*ISCJB **19** 00:30:18.0±0.2, 24°.41N±0°.02×122°.02E±0°.01, h53km±3km, Error ellipse: s-maj=2.7km s-min=2.0km az=151.1*
*JMA **19** 00:30:17.2±0.1, 24°.35N×121°.95E, h60km±2km, M3.6*
*TAP **19** 00:30:17.9, 24°.41N×121°.97E, h48km, ML4.2, B*
ISC 19 00:30:18.7±1.2, 24°.40N±0°.02×122°.01E±0°.02, h44km±6km, n114, σ1℘09/186, 33C-15D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.18**	**37**	⇑P	**Pn**	**00 30 26.9**	**+0.6**
EOS1	baz=52			*e*S	**Sn**	**00 30 33.3**	**+1.8**
ENA	baz=52 **Nanau**	**0.24**	**276**	⇓*i*P	**Pn**	**00 30 26.5**	**-0.2**
ENA	baz=280			*i* S	**Sn**	**00 30 32.6**	**+0.2**
TWC	baz=280 **Suao**	**0.25**	**325**	⇓*i*P	**Pn**	**00 30 26.5**	**-0.3**
TWC	baz=331			S	**Sn**	**00 30 32.6**	**0.0**
ILA	baz=331 **Ilan**	**0.43**	**327**	⇓P	**Pn**	**00 30 28.8**	**0.0**
ILA	baz=333			*e*S	**Sn**	**00 30 38.5**	**+2.6**
NACB	baz=333 **Ninganchiao**	**0.44**	**239**	⇑P	**Pn**	**00 30 28.0**	**-0.8**
NACB	baz=229			S	**Sn**	**00 30 35.8**	**-0.2**
TWE	baz=229 **Neicheng**	**0.44**	**316**	⇓*i*P	**Pn**	**00 30 28.7**	**-0.2**
TWE	baz=318			S	**Sn**	**00 30 36.1**	**-0.1**
ENTT	baz=318 **Nioudou**	**0.47**	**301**	⇓*i*P	**Pn**	**00 30 28.9**	**-0.2**
ENTT	baz=297			S	**Sn**	**00 30 36.8**	**+0.1**
NTC	baz=297 **Toucheng**	**0.48**	**340**	⇓P	**Pn**	**00 30 29.3**	**0.0**
NTC	baz=349			S	**Sn**	**00 30 38.0**	**+1.1**
TWD	baz=349 **Chiawan**	**0.49**	**230**	⇑*i*P	**Pn**	**00 30 28.8**	**-0.7**
TWD	baz=225			S	**Sn**	**00 30 37.3**	**+0.1**
HWA	baz=225 **Hwalien**	**0.56**	**221**	*e*P	**Pn**	**00 30 29.8**	**-0.5**
NNSB	baz=208 **Datong**	**0.57**	**273**	⇑P	**Pn**	**00 30 30.0**	**-0.6**
NNSB	baz=272			S	**Sn**	**00 30 38.4**	**-0.7**
NNS	baz=272 **Nan Shan**	**0.58**	**274**	⇑*i*P	**Pn**	**00 30 30.1**	**-0.6**
NNS	baz=272			S	**Sn**	**00 30 38.7**	**-0.6**
NWLT	baz=272 **Wulai**	**0.59**	**309**	⇓*i*P	**Pn**	**00 30 30.6**	**-0.2**
NWLT	baz=303			S	**Sn**	**00 30 39.2**	**-0.3**
TIPB	baz=303 **Shuangxi**	**0.59**	**344**	⇑P	**Pn**	**00 30 30.9**	**+0.1**
TIPB	baz=348			S	**Sn**	**00 30 39.6**	**+0.1**
TWB1	baz=348 **Santiao Chiao**	**0.60**	**358**	⇑*i*P	**Pn**	**00 30 30.6**	**-0.4**
TWB1	baz=12			S	**Sn**	**00 30 39.2**	**-0.5**
ENLB	baz=12 **Shoufeng**	**0.62**	**217**	*e*P	**Pn**	**00 30 30.3**	**-0.9**
ENLB	baz=214			S	**Sn**	**00 30 40.4**	**+0.4**
YHNB	baz=214 **Yeheng**	**0.63**	**295**	⇓P	**Pn**	**00 30 31.1**	**-0.3**
YHNB	baz=294			S	**Sn**	**00 30 39.8**	**-0.7**
NSK	baz=294 **Sanguang**	**0.65**	**295**	⇓*i*P	**Pn**	**00 30 31.2**	**-0.4**
NSK	baz=294			S	**Sn**	**00 30 40.3**	**-0.7**
TWA	baz=294 **Mucha**	**0.69**	**326**	⇓*i*P	**Pn**	**00 30 32.4**	**+0.2**
TWA	baz=328			S	**Sn**	**00 30 42.5**	**+0.6**
NWF	baz=328

CHGB	**Renai** baz=236	**0.83**	**246**	⇑P	**Pn**	**00 30 33.9**	**-0.3**
CHGB				S	**Sn**	**00 30 44.9**	**-0.6**
YM01	**YM01** baz=332	**0.84**	**332**	*e*P	**Pn**	**00 30 34.6**	**+0.4**
YM01				*e*S	**Sn**	**00 30 46.5**	**+1.0**
JYNG	**Yonagunijimaku** baz=333	**0.86**	**86**	P	**Pn**	**00 30 34.4**	**+0.1**
JYNG				S	**Sn**	**00 30 46.1**	**+0.4**
YM11	**YM11** baz=334	**0.86**	**333**	⇑P	**Pn**	**00 30 34.1**	**-0.3**
YM05	**YM05** baz=333	**0.86**	**332**	⇑P	**Pn**	**00 30 34.2**	**-0.2**
YM05				S	**Sn**	**00 30 45.1**	**-0.8**
YM04	**YM04** baz=332	**0.86**	**330**	P	**Pn**	**00 30 34.2**	**-0.3**
YM04				*e*S	**Sn**	**00 30 45.6**	**-0.3**
YM08	**YM08** baz=335	**0.87**	**334**	⇑P	**Pn**	**00 30 34.1**	**-0.5**
YM08				S	**Sn**	**00 30 45.4**	**-0.7**
TWS1	**Kuangyinshan** baz=328	**0.88**	**323**	⇓*i*P	**Pn**	**00 30 34.6**	**0.0**
TWS1				S	**Sn**	**00 30 47.2**	**+0.9**
NTST	**Danshui** baz=327	**0.91**	**326**	*e*P	**Pn**	**00 30 35.1**	**0.0**
YOJ	**Yonaguni jima** baz=77	**0.92**	**86**	⇑P	**Pn**	**00 30 35.2**	**+0.1**
YOJ				S	**Sn**	**00 30 47.3**	**+0.1**
YOJ	**Yonaguni jima**	**0.92**	**86**	P	**Pn**	**00 30 35.2**	**+0.1**
YOJ	baz=77			*e*S	**Sn**	**00 30 47.3**	**+0.1**
LIOB	**Emei** baz=284	**0.94**	**285**	P	**Pn**	**00 30 35.6**	**+0.2**
LIOB				S	**Sn**	**00 30 48.6**	**+1.0**
NCU	**National Centr** baz=306	**0.94**	**307**	*e*P	**Pn**	**00 30 35.2**	**-0.2**
NCU				*e*S	**Sn**	**00 30 48.1**	**+0.4**
NCUH	**Zhongli** baz=307	**0.94**	**307**	*e*P	**Pn**	**00 30 35.3**	**-0.1**
NSTT	**Nanjuang** baz=282	**0.94**	**284**	⇑P	**Pn**	**00 30 35.7**	**+0.2**
NSTT				S	**Sn**	**00 30 48.1**	**+0.2**
TWY	**Chenhua** baz=338	**0.95**	**337**	*e*P	**Pn**	**00 30 35.0**	**-0.5**
TWY				*e*S	**Sn**	**00 30 49.1**	**+1.2**
SBCB	**Hsinchu** baz=304	**1.01**	**293**	*e*P	**Pn**	**00 30 37.0**	**+0.6**
SBCB				*e*S	**Sn**	**00 30 50.6**	**+1.2**
VWDT	**VWDT** baz=221	**1.02**	**231**	⇑P	**Pn**	**00 30 36.4**	**-0.1**
VWDT				S	**Sn**	**00 30 49.3**	**-0.4**
HSN	**Hsinchu** baz=294	**1.02**	**293**	*e*P	**Pn**	**00 30 36.6**	**0.0**
HGSD	**Ruisui** baz=222	**1.05**	**211**	⇑P	**Pn**	**00 30 36.0**	**-0.9**
HGSD				*e*S	**Sn**	**00 30 52.0**	**+1.6**
EHY	**Hungye** baz=213	**1.09**	**215**	⇑P	**Pn**	**00 30 36.1**	**-1.4**
NMLH	**Miaoli** baz=274	**1.12**	**277**	*e*P	**Pn**	**00 30 38.3**	**+0.4**
NMLH				*e*S	**Sn**	**00 30 53.4**	**+1.3**
TWQ1	**Liyutan** baz=265	**1.13**	**268**	*e*P	**Pn**	**00 30 38.3**	**+0.3**
TWQ1				*e*S	**Sn**	**00 30 54.0**	**+1.6**
SMLT	**Sun Moon Lake** baz=234	**1.14**	**243**	⇑P	**Pn**	**00 30 38.3**	**+0.1**
SMLT				*e*S	**Sn**	**00 30 55.0**	**+2.3**
NSY	**Sanyi** baz=268	**1.14**	**271**	*e*P	**Pn**	**00 30 38.3**	**+0.2**
NSY				*e*S	**Sn**	**00 30 54.4**	**+1.8**
SSLB	**Suanglung** baz=230	**1.14**	**238**	⇑P	**Pn**	**00 30 38.0**	**-0.3**
SSLB				*e*S	**Sn**	**00 30 53.3**	**+0.6**
TYC	**Yuchr** baz=236	**1.16**	**245**	⇑P	**Pn**	**00 30 38.6**	**+0.1**
TYC				*e*S	**Sn**	**00 30 55.2**	**+2.0**
PTSB	**Yuanli** baz=271	**1.19**	**272**	*e*P	**Pn**	**00 30 40.5**	**+1.6**
YULB	**Yu-li** baz=221	**1.20**	**213**	⇑P	**Pn**	**00 30 37.3**	**-1.7**
PCYT	**Pengchaiyu** baz=4.0	**1.23**	**3**	⇑P	**Pn**	**00 30 38.8**	**-0.6**
TWF1	**Yuli** baz=221	**1.23**	**212**	⇑*i*P	**Pn**	**00 30 38.0**	**-1.4**
TCU	**Taichung** baz=257	**1.24**	**259**	*e*P	**Pn**	**00 30 39.8**	**+0.3**
WJS	**Zhushan** baz=232	**1.30**	**244**	P	**Pn**	**00 30 41.7**	**+1.3**
WJS				S	**Sn**	**00 30 59.4**	**+2.7**
WNT	**Mingjian** baz=245	**1.32**	**247**	⇑P	**Pn**	**00 30 41.7**	**+1.1**
YUS	**Yu-Shan** baz=217	**1.32**	**227**	⇑*i*P	**Pn**	**00 30 41.1**	**-0.1**
YUS				S	**Sn**	**00 30 58.1**	**+0.2**
WCHH	**Zhanghua** baz=255	**1.36**	**257**	*e*P	**Pn**	**00 30 41.6**	**+0.4**
CHKT	**Chengkung** baz=193	**1.42**	**205**	*e*P	**Pn**	**00 30 40.3**	**-1.8**
CHN5	**Tsauling** baz=225	**1.46**	**237**	⇑*i*P	**Pn**	**00 30 43.5**	**+0.9**
CHN5				*e*S	**Sn**	**00 31 03.2**	**+2.7**
WGK	**Gukeng** baz=240	**1.50**	**242**	⇓*e*P	**Pn**	**00 30 44.8**	**+1.7**
WGK				*e*S	**Sn**	**00 31 04.2**	**+2.7**
ELDTW	**Lidau** baz=216	**1.51**	**217**	P	**Pn**	**00 30 42.2**	**-1.1**
ELDTW				*e*S	**Sn**	**00 31 00.5**	**-1.3**
WDLH	**Douliu** baz=254	**1.52**	**242**	*e*P	**Pn**	**00 30 44.4**	**+1.1**
IRIF	**Iriomote-Funau**	**1.57**	**92**	P	**Pn**	**00 30 43.8**	**-0.3**
IRIF				S	**Sn**	**00 31 02.8**	**-0.5**
RLNB	**Erlin** baz=261	**1.59**	**252**	*e*P	**Pn**	**00 30 44.5**	**+0.2**
RLNB				*e*S	**Sn**	**00 31 05.0**	**+1.4**
CHN2	**Minshiung** baz=237	**1.65**	**239**	*e*P	**Pn**	**00 30 46.4**	**+1.3**
CHN2				*e*S	**Sn**	**00 31 09.2**	**+4.1**
WTCT	**Ta-ch'eng** baz=260	**1.67**	**252**	*e*P	**Pn**	**00 30 45.3**	**-0.1**
WTCT				*e*S	**Sn**	**00 31 06.2**	**+0.7**
TPUB	**Ta-pu** baz=218	**1.67**	**229**	P	**Pn**	**00 30 46.3**	**+0.8**
TPUB				*e*S	**Sn**	**00 31 07.2**	**+1.4**
HATJ	**Hateruma jima**	**1.68**	**101**	P	**Pn**	**00 30 46.3**	**+0.8**
HATJ				*e*S	**Sn**	**00 31 07.2**	**+1.4**
STYT	**Tauyuan** baz=214	**1.68**	**223**	*e*P	**Pn**	**00 30 45.7**	**0.0**
STYT				*e*S	**Sn**	**00 31 07.8**	**+1.8**
CHY	**Chiayi** baz=237	**1.70**	**238**	*e*P	**Pn**	**00 30 47.0**	**+1.1**
CHY				*e*S	**Sn**	**00 31 09.5**	**+3.0**
WTP	**Ta-pu** baz=217	**1.72**	**228**	⇓P	**Pn**	**00 30 47.1**	**+1.0**
WTP				*e*S	**Sn**	**00 31 09.3**	**+2.4**
TWGBT	**Beinan** baz=199	**1.79**	**209**	*e*P	**Pn**	**00 30 45.3**	**-1.8**
TWGBT				*e*S	**Sn**	**00 31 07.4**	**-1.3**
TWK	**Hsinying** baz=229	**1.79**	**231**	⇑P	**Pn**	**00 30 48.0**	**+0.8**
TWK				*e*S	**Sn**	**00 31 10.4**	**+1.7**
TWG	**Pinlang** baz=199	**1.79**	**209**	*e*P	**Pn**	**00 30 45.3**	**-1.8**
TWG				*e*S	**Sn**	**00 31 06.4**	**-2.3**
WSF	**Szhu** baz=255	**1.80**	**245**	P	**Pn**	**00 30 47.8**	**+0.6**
WSF				S	**Sn**	**00 31 10.3**	**+1.4**
CHN1	**Nanshi** baz=227	**1.82**	**229**	*e*P	**Pn**	**00 30 48.2**	**+0.7**
JKRS	**Kuro-shima**	**1.83**	**95**	P	**Pn**	**00 30 47.7**	**0.0**
JKRS				S	**Sn**	**00 31 10.3**	**+0.6**
SLGT	**Liugui** baz=221	**1.88**	**222**	*e*P	**Pn**	**00 30 49.4**	**+1.1**
SLGT				*e*S	**Sn**	**00 31 13.3**	**+2.5**
JIJ	**Ishigaki jima**	**1.95**	**91**	P	**Pn**	**00 30 49.6**	**+0.3**
JIJ				S	**Sn**	**00 31 11.8**	**-0.7**
SCLT	**Jiali** baz=221	**2.06**	**234**	*e*P	**Pn**	**00 30 50.9**	**+0.1**
SSD	**Sandimen** baz=216	**2.08**	**218**	*e*P	**Pn**	**00 30 51.7**	**+0.7**
JISG	**Ishigakijimahi**	**2.11**	**84**	P	**Pn**	**00 30 51.2**	**-0.2**
JISG				S	**Sn**	**00 31 16.0**	**-0.4**
TWM1	**Shoushan** baz=222	**2.14**	**223**	*e*P	**Pn**	**00 30 54.2**	**+2.3**
MASBT	**Mashibuluo** baz=215	**2.18**	**216**	*e*P	**Pn**	**00 30 52.9**	**+0.4**
EAST	**Anshuo** baz=201	**2.27**	**208**	*e*P	**Pn**	**00 30 53.5**	**-0.3**
PTTC	**Pingtan** baz=296	**2.31**	**299**	*e*P	**Pn**	**00 30 52.9**	**-1.3**
LAY	**Lan-yu** baz=182	**2.39**	**190**	*e*P	**Pn**	**00 30 53.0**	**-2.4**
SCZT	**Fangliau** baz=212	**2.39**	**213**	*e*P	**Pn**	**00 30 55.8**	**+0.5**
PNG	**Penghu** baz=248	**2.39**	**250**	⇑P	**Pn**	**00 30 54.5**	**-0.9**
PHUB	**P'eng-hu** baz=246	**2.40**	**249**	⇑P	**Pn**	**00 30 54.5**	**-0.9**
PHUB				*e*S	**Sn**	**00 31 21.6**	**-1.9**
VWUC	**VWUC** baz=282	**2.40**	**285**	*e*P	**Pn**	**00 30 54.1**	**-1.3**
WDGT	**Dungji** baz=240	**2.43**	**243**	*e*P	**Pn**	**00 30 55.6**	**-0.3**
JTJ	**Tarama**	**2.47**	**84**	P	**Pn**	**00 30 57.0**	**+0.6**
JTJ				S	**Sn**	**00 31 24.9**	**-0.4**
MATB	**Ma-tsu** baz=311	**2.55**	**313**	*e*P	**Pn**	**00 30 56.3**	**-1.3**
VCHM	**Qimei** baz=242	**2.64**	**244**	P	**Pn**	**00 30 58.2**	**-0.6**
VCHM				*e*S	**Sn**	**00 31 28.0**	**-1.6**
TWKBT	**Hengchun** baz=196	**2.68**	**204**	*e*P	**Pn**	**00 30 59.1**	**-0.3**
TWK1	**Hengchun** baz=196	**2.69**	**205**	*e*P	**Pn**	**00 30 59.6**	**+0.2**
PTMZ	**Houxiangcun** baz=281	**2.70**	**284**	*e*P	**Pn**	**00 30 58.4**	**-1.1**
JIRB	**Irabujima**	**2.91**	**81**	S	**Sn**	**00 31 37.5**	**+1.2**
LYJJ	**Jianjiangzhen** baz=315	**2.95**	**317**	*e*P	**Pn**	**00 31 01.8**	**-1.2**
JIKM	**Ikemajima**	**2.99**	**79**	S	**Sn**	**00 31 39.6**	**+1.3**
XPSS	**Dashiqiu** baz=325	**3.00**	**327**	*e*P	**Pn**	**00 31 02.6**	**-1.1**
MHZQ	**Yeshan** baz=300	**3.18**	**303**	*e*P	**Pn**	**00 31 04.9**	**-1.3**
KNM	**Kinmen** baz=269	**3.26**	**271**	*e*P	**Pn**	**00 31 07.7**	**+0.4**
KNMB	**Chin-men Tao** baz=270	**3.30**	**272**	*e*P	**Pn**	**00 31 06.2**	**-1.6**
AXDP	**Jialang** baz=276	**3.71**	**279**	*e*P	**Pn**	**00 31 12.5**	**-0.9**
ZPLA	**Ao Xicun** baz=262	**3.92**	**264**	*e*P	**Pn**	**00 31 15.1**	**-1.2**
ZZJH	**Jiuhuzhen** baz=270	**3.99**	**272**	*e*P	**Pn**	**00 31 15.9**	**-1.4**

*ISCJB **19** 00:36:37.7±1.9,22.°0S±0.°1×176.°54W±0.°08,h117km±19km, mb4.3/19,Error ellipse: s-maj=19.1km s-min=8.8km az=151.9*

*NEIC **19** 00:36:39.4±1.1,21.°97S×176.°58W,h121km±10km,mb4.5/6, Error ellipse: s-maj=11.2km s-min=6.0km az=139.0*

*IDC **19** 00:36:41.2±2.5,21.°90S×176.°59W,h134km±21km, mb3.9/13,mb1 4.2/15,mb1mx4.0/31,mbtmp4.4/15,MS3.1/1, Ms1 3.1/1,ms1mx2.8/21,Error ellipse: s-maj=24.0km s-min=13.7km az=142.0*

ISC 19 00:36:39.9±1.5,22.°0S±0.°1×176.°30W±0.°09,h130km±13km, n87,σ1.°20/93,mb4.4/18,21C-8D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
NIUE	**Niue**	**6.65**	**65**	*e*Pn	**Pn**	**00 38 17.2**	**+2.0**
NIUE				*e*Sn	**Sn**	**00 39 24.8**	**-5.0**
RAR	**Rarotonga** 2.5nm,0.3s,baz=278,slow=15,SNR=2.7	**15.39**	**90**	P	**P**	**00 40 12.9**	**+1.0**
RAR				S	**Sn**	**00 42 59.3**	**-1.6**
DZM	**Mont Dzumac** 2.9nm,0.3s,baz=84,slow=19,SNR=3.5	**16.00**	**267**	P	**P**	**00 40 20.8**	**+2.1**
URZ	**Urewera** 0.6nm,0.3s,baz=78,slow=16,SNR=11	**17.14**	**198**	P	**Pn**	**00 40 31.5**	**0.0**
URZ	2.1nm,0.3s,baz=290,slow=3.2,SNR=9.7			S	Sn	00 43 29.0	-14
OXZ	**Oxford** 0.8nm,0.3s,baz=209,slow=19,SNR=7.2	**23.35**	**202**	*e*P	**P**	**00 41 34.4**	**-2.2**
RPZ	**Rata Peaks** 12nm,0.6s	**24.04**	**203**	P	**P**	**00 41 44.3**	**+1.5**
PPT	**Papeete** 6.9nm,0.6s,baz=352,slow=12,SNR=2.7	**25.52**	**85**	LR	LR	00 51 17.7	
STKA	**Stephens Creek** comp=Z,42nn,19.6s,baz=210,slow=34	**38.59**	**246**	P	**P**	**00 43 49.6**	**-0.7**
AS01	**Alice Springs** 11nm,0.6s,baz=92,slow=11,SNR=29	**45.69**	**258**	*e*P	**P**	**00 44 46.4**	**-1.7**
AS01				*e*PcP	**PcP**	**00 46 23.3**	**-0.7**
AS31	**Alice Springs** 4.7nm,0.7s	**45.73**	**258**	*e*P	**P**	**00 44 46.5**	**-1.9**
AS31				*e*PcP	**PcP**	**00 46 22.6**	**-1.5**
ASAR	**Alice Springs** 17nm,0.8s,baz=90,slow=8.1,SNR=122	**45.73**	**258**	P	**P**	**00 44 47.5**	**-0.9**
ASAR				PcP	**PcP**	**00 46 24.1**	**-0.1**
ASAR	1.8nm,0.7s,baz=106,slow=3.6,SNR=7.1			ScP	**ScP**	**00 50 03.8**	**-1.3**
WR1	**Warramunga Arr** 0.5nm,0.9s,baz=76,slow=3.9,SNR=4.3	**45.98**	**263**	*e*P	**P**	**00 44 49.1**	**-1.2**
WR1				*e*PcP	**PcP**	**00 46 24.8**	**-0.2**
WR1				*e*ScP	**ScP**	**00 50 04.6**	**-1.6**
WRA	**Warramunga Arr** 7.0nm,0.6s,baz=96,slow=7.6,SNR=94	**45.98**	**263**	P	**P**	**00 44 49.1**	**-1.3**
WRA				PcP	**PcP**	**00 46 24.8**	**-0.2**
WRA	1.7nm,0.8s,baz=94,slow=3.1,SNR=4.0			ScP	**ScP**	**00 50 04.6**	**-1.6**
MJAR	**Matsushiro Arr** 1.2nm,0.9s,baz=100,slow=4.4,SNR=5.0	**72.37**	**323**	P	**P**	**00 47 50.2**	**-1.5**
PETK	**Petropavlovsk-** 1.5nm,0.4s,baz=166,slow=5.6,SNR=4.1	**78.15**	**344**	P	**P**	**00 48 23.8**	**-0.6**
PEA1	**Petropavlovsk-** 4.6nm,0.8s,baz=151,slow=9.2,SNR=3.3	**78.16**	**344**	*e*P	**P**	**00 48 23.8**	**-0.6**
YBH	**Yreka Blue Hor** 0.9nm,0.7s,baz=68,slow=2.1,SNR=4.9	**80.50**	**38**	P	**P**	**00 48 39.4**	**+1.8**
NV01	**Mina Array Sit** 0.3nm,0.7s,baz=210,slow=5.2,SNR=2.2	**81.06**	**42**	*e*P	**P**	**00 48 42.7**	**+1.9**
NVAR	**Mina Array Bea**	**81.06**	**42**	P	**P**	**00 48 42.7**	**+1.9**
SUA	**Susitna One** 6.3nm,0.7s	**85.70**	**12**	*e*P	**P**	**00 49 04.6**	**+0.8**
LTX	**Lajitas**	**86.56**	**57**	*e*P	**P**	**00 49 10.7**	**+1.9**
TXAR	**Lajitas Array** 0.3nm,0.8s,baz=243,slow=5.0,SNR=3.6	**86.56**	**57**	P	**P**	**00 49 10.7**	**+1.9**
TRF	**Thorofare Moun** 6.8nm,0.6s	**87.61**	**11**	*e*P	**P**	**00 49 13.7**	**+0.6**
RND	**Reindeer** 6.3nm,0.8s	**87.84**	**12**	*e*P	**P**	**00 49 15.6**	**+1.5**
SEY	**Seymchan** 0.9nm,0.2s,baz=360,slow=23,SNR=4.4	**88.22**	**346**	P	**P**	**00 49 15.7**	**-0.1**
MLY	**Manley** 4.1nm,1.1s	**88.99**	**11**	*e*P	**P**	**00 49 19.8**	**+0.3**
IM3	**Indian Mountai**	**89.40**	**9**	*e*P	**P**	**00 49 22.0**	**+0.7**
ILAR	**Eielson Array** 0.8nm,0.5s,baz=228,slow=5.0,SNR=16	**89.45**	**12**	P	**P**	**00 49 21.5**	**-0.1**
ILB	**Eielson Array**	**89.45**	**12**	*e*P	**P**	**00 49 21.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**92.11**	**289**	P	**P**	**00 49 34.9**	**-0.1**
YKA	**Yellowknife Ar** 0.2nm,0.3s,baz=238,slow=4.6,SNR=5.6	**97.24**	**24**	P	Pdif	00 49 58.4	+1.0
ARA0	**ARCESS Array S**	**130.69**	**350**	*e*PKPdf	**PKPdf**	**00 55 34.8**	**0.0**
ARCES	**ARCESS Array B** 2.0nm,0.6s,baz=17,slow=1.2,SNR=7.7	**130.69**	**350**	PKP	**PKPdf**	**00 55 34.8**	**0.0**
FIA0	**FINESS Array S**	**137.67**	**344**	*e*PKPpre	PKPpre	00 55 37.0	
FIA0				*e*PKPdf	**PKPdf**	**00 55 48.3**	**+0.2**
FINES	**FINESS Array B** 2.9nm,1.0s,baz=38,slow=5.3,SNR=4.2	**137.67**	**344**	PKPdf	PKPpre	00 55 37.0	
FINES				PKP	**PKPdf**	**00 55 48.3**	**+0.2**
NB2	**NORSAR Subarra** 1.6nm,0.8s,baz=48,slow=2.1,SNR=6.3	**140.66**	**354**	PKP	PKPpre	00 55 46.4	
NB200	**NORSAR Array S**	**140.66**	**354**	*e*PKPpre	PKPpre	00 55 46.5	
NOA	**NORSAR Array B** comp=Z,0.8nm,0.6s,baz=16,slow=4.6,SNR=5.6	**140.66**	**354**	PKhKP	PKPpre	00 55 46.5	
SUW	**Suwalki**	**144.81**	**340**	*e*PKP	PKPbc	00 56 00.5	+0.1
AKASG	**Malin Array Be** comp=Z,2.7nm,0.4s,baz=42,slow=4.4,SNR=16	**145.11**	**331**	PKP	**PKPbc**	**00 56 00.4**	**-1.0**
AKBB	**Malin Array Si**	**145.11**	**331**	*e*PKPbc	**PKPbc**	**00 56 00.4**	**-1.0**
BEL	**Belsk**	**147.43**	**340**	*e*PKP	**PKiKP**	**00 56 09.5**	**-0.9**
LEOM	**Leova**	**148.52**	**327**	⇓*i*P	**PKPbc**	**00 56 11.7**	**+0.4**
BR101	**Keskin Array S**	**149.03**	**312**	*e*PKPbc	**PKPbc**	**00 56 12.4**	**-0.6**
BRTR	**Keskin Array B** comp=Z,4.5nm,0.7s,baz=134,slow=3.9,SNR=26	**149.03**	**312**	PKPbc	**PKPbc**	**00 56 12.4**	**-0.6**
TLCR		**149.07**	**324**	⇑*i*P	**PKPbc**	**00 56 13.2**	**+0.5**
OJC	**Ojcow**	**149.14**	**340**	*e*PKP	**PKiKP**	**00 56 13.5**	**-0.4**
BIZ	**Bicaz**	**149.25**	**329**	⇓*i*P	**PKiKP**	**00 56 13.9**	**-0.4**
CFR	**Carcaliu**	**149.44**	**325**	⇑*i*P	**PKPbc**	**00 56 13.9**	**+0.3**
KSP	**Ksiaz**	**149.59**	**344**	*e*PKP	**PKiKP**	**00 56 15.0**	**+0.2**
NIE	**Niedzica**	**149.66**	**338**	*e*PKP	**PKiKP**	**00 56 15.6**	**+0.4**
VRI	**Vrincioaia**	**149.70**	**327**	⇓*i*P	**PKPbc**	**00 56 14.0**	**-0.3**
CLL	**Collm**	**149.89**	**348**	*i* PKPdf	**PKPdf**	**00 56 11.7**	**+2.1**
CLL	comp=Z,13nm,1.0s			*i* PKPbc	**PKiKP**	**00 56 15.6**	**+0.2**
CLL	comp=Z,10.0nm,1.2s			*e*PKPab	**PKPab**	**00 56 20.0**	**-0.4**
TRPA	**Tarpa**	**149.90**	**334**	⇑*i*P	**PKiKP**	**00 56 15.5**	**0.0**
ARCR	**ARCALIA**	**149.94**	**331**	⇑*i*P	**PKiKP**	**00 56 15.8**	**+0.1**
DPC	**Dobruska-Polom**	**150.04**	**344**	⇑*e*PKP	**PKiKP**	**00 56 16.1**	**+0.2**
BRG	**Berggiesshubel** comp=Z,11nm,1.1s	**150.11**	**347**	*i* PKP	**PKiKP**	**00 56 16.6**	**+0.6**
KRLC	**Kraliky**	**150.17**	**343**	⇑*e*PKP	**PKiKP**	**00 56 16.8**	**+0.7**
LANS	**Liptovska Anna**	**150.17**	**339**	*e*PKP	**PKiKP**	**00 56 17.1**	**+0.9**
MORC	**Moravsky Berou**	**150.22**	**342**	⇑*i*P	**PKiKP**	**00 56 16.6**	**+0.3**
DOPR	**Dopca**	**150.29**	**329**	⇑*i*P	**PKiKP**	**00 56 17.0**	**+0.5**
PVCC	**Panska Ves**	**150.30**	**346**	⇑*e*PKP	**PKiKP**	**00 56 16.7**	**+0.4**
MLR	**Muntele Rosu**	**150.36**	**327**	⇑*i*P	**PKiKP**	**00 56 16.6**	**-0.2**
CJR	**Cluj-Napoca**	**150.56**	**332**	⇓*i*P	**PKiKP**	**00 56 17.3**	**+0.2**
SECR		**150.61**	**327**	⇑*i*P	**PKiKP**	**00 56 17.1**	**-0.1**
PRA	**Prague**	**150.76**	**346**	⇑*e*PKP	**PKiKP**	**00 56 18.9**	**+1.6**
PRU	**Pruhonice**	**150.81**	**346**	⇑*e*PKP	**PKiKP**	**00 56 18.9**	**+1.5**
GOPC	**GO Pecny, Ondr**	**150.82**	**345**	⇑*e*PKP	**PKiKP**	**00 56 19.0**	**+1.5**
VOIR		**150.84**	**328**	⇑*i*P	**PKiKP**	**00 56 17.7**	**0.0**
DRGR		**150.89**	**333**	⇑*i*P	**PKiKP**	**00 56 17.6**	**-0.2**
VRAC	**Vranov**	**150.91**	**343**	⇑*i*P	**PKPbc**	**00 56 14.4**	**-2.7**
VYHS	**Vyhne**	**150.95**	**339**	*e*PKP	**PKiKP**	**00 56 18.1**	**+0.3**
ARR	**Arges**	**151.09**	**329**	⇓*i*P	**PKiKP**	**00 56 19.6**	**+1.4**
MODS	**Modra-Piesok**	**151.55**	**341**	*e*PKP	**PKiKP**	**00 56 20.2**	**+1.2**
SIRR	**Siria**	**151.75**	**333**	⇑*i*P	**PKiKP**	**00 56 20.0**	**+0.5**
KHC	**Kasperske Hory**	**151.83**	**346**	⇑*e*PKP	**PKiKP**	**00 56 19.9**	**+0.3**
GZR	**Gura Zlata**	**151.94**	**331**	⇓*i*P	**PKPbc**	**00 56 17.6**	**-2.1**
GERES	**GERESS Array B** comp=Z,1.2nm,0.6s,baz=33,slow=2.1,SNR=12	**152.08**	**346**	PKPbc	**PKPbc**	**00 56 19.9**	**+0.1**
BZS	**Buzias**	**152.28**	**332**	⇑*i*P	**PKiKP**	**00 56 20.8**	**+0.2**
SRE	**Strehaia**	**152.29**	**329**	⇓*i*P	**PKiKP**	**00 56 21.7**	**+1.1**
CONA	**Conrad Observa** comp=Z,4.7nm,0.7s	**152.37**	**342**	*e*PKiKP	**PKiKP**	**00 56 21.6**	**+0.7**
HERR	**Herculane**	**152.50**	**330**	⇑*i*P	**PKiKP**	**00 56 21.5**	**+0.5**
MDVR	**Moldovita**	**152.89**	**331**	⇓*i*P	**PKiKP**	**00 56 22.6**	**+0.7**
ABTA	**Abfaltersbach** comp=Z,7.4nm,1.4s	**154.32**	**346**	*i* PKiKP	**PKiKP**	**00 56 25.2**	**+0.4**
FETA	**Feichten** comp=Z,5.2nm,1.3s	**154.42**	**349**	*i* PKiKP	**PKiKP**	**00 56 25.6**	**+0.4**
TORD	**Torodi Ar. Bea** comp=Z,1.0nm,1.1s,baz=198,slow=4.1,SNR=4.0	**170.97**	**167**	PKPab	**PKPab**	**00 57 53.2**	**+0.5**
TOA1	**Torodi Ar. Sit**	**170.97**	**167**	*e*PKPab	**PKPab**	**00 57 53.2**	**+0.5**

IDC 19 00:37:16.6±4.3,8.°25S×148.°70E,h0km,mb3.3/2, mb1 3.6/3,mb1mx3.3/31,mbtmp3.4/3,ML3.0/1,MS3.9/1, Ms1 3.9/1,ms1mx2.8/13,Error ellipse: s-maj=124.1km s-min=35.4km az=112.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=53,slow=11,SNR=2.8	**18.13**	**229**	P	Pn	00 41 29.0	-1.0
ASAR	**Alice Springs** 0.3nm,0.5s,baz=50,slow=9.5,SNR=5.0	**20.88**	**221**	P	P	00 42 00.1	-0.5
TGY	**Tagaytay City** comp=Z,175nm,20.8s,baz=116,slow=37	**35.39**	**309**	LR	LR	00 58 52.7	
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=121,slow=7.3,SNR=6.5	**80.30**	**320**	P	P	00 49 30.0	+0.5

SJA 19 00:49:45.5±0.6,31.°41S×69.°15W,h107km±8km,ML2.3, MW4.9,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
RTLS	**Leoncito**	**0.41**	**198**	*i* P	Pn	00 50 03.0	+1.1
RTLS				IAML		00 50 03.1	
RTLL	**Cerro Villicun** comp=Z,49nm,0.2s	**0.58**	**83**	*i* P	Pn	00 50 02.9	+0.3
RTLL				*i* S	Sn	00 50 16.9	+1.4
RTLL				IAML		00 50 17.0	
RTCV	**Cerro Valdivia** comp=Z,83nm,0.3s	**0.69**	**132**	*i* P	Pn	00 50 04.5	+1.0
RTCV				*i* S	Sn	00 50 17.9	+0.8
AMOG	**MOGNA**	**0.73**	**50**	*i* P	Pn	00 50 04.5	+0.6
AMOG				*i* S	Sn	00 50 18.6	+0.9
ACCO	**Cerro Coronel**	**0.82**	**5**	*i* P	Pn	00 50 06.3	+1.3
AUSP	**Uspallata**	**0.84**	**194**	*i* P	Pn	00 50 06.4	+1.2
AUSP				*i* S	Sn	00 50 21.6	+1.6

DJA 19 01:07:15.7±0.4,1.°S±3.°×11.°9E±,h10km,M3.7/4,MLv3.7/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
PCI	**Palu**	**0.55**	**43**	P	P	01 07 26.5	+0.1
PCI				S	Sg	01 07 34.4	+0.7
MPSI	**Mapaga**	**1.69**	**15**	P	Pn	01 07 45.9	+0.5
TTSI	**Tana Toraja**	**1.76**	**168**	P	Pn	01 07 46.3	0.0
TTSI				S	Sn	01 08 08.9	+0.1
APSI	**Ampana**	**2.22**	**80**	P	Pn	01 07 52.3	-0.4
APSI				S	Sn	01 08 21.8	+1.6
SPSI	**Sidrap Palu**	**2.66**	**173**	P	Pn	01 07 58.9	+0.3
MRSI	**Marisa**	**3.05**	**54**	P	Pn	01 08 04.1	+0.1
BNSI	**Bone**	**3.14**	**168**	P	Pn	01 08 04.9	-0.3

IDC 19 01:20:44.8±14.0,13.°57N×90.°35W,h0km,mb3.3/2, mb1 3.7/3,mb1mx3.4/22,mbtmp3.2/3,ML3.7/1,Error ellipse: s-maj=287.3km s-min=110.4km az=6.0,Near coast of Guatemala

| Code |

PB06				*i* S	Sn	01 41 11.8	-0.5	
PB06				IAML		01 41 13.2		
	comp=E,2µm,0.5s							
PB07	**IPOC Station P**	**1.19**	**281**	⇑*i* P	Pn	01 40 54.1	-0.1	
PB07				*i* S	Sn	01 41 12.5	-0.6	
PB07				IAML		01 41 13.5		
	comp=N,1µm,0.2s							
PB01	**IPOC Station P**	**1.21**	**319**	⇑*i* P	Pn	01 40 53.9	-0.4	
PB01				*i* S	Sn	01 41 12.8	-0.7	
PB01				IAML		01 41 14.1		
	comp=E,2µm,0.2s							
PB04	**IPOC Station P**	**1.45**	**255**	⇑*i* P	Pn	01 40 56.9	0.0	
PB04				*i* S	Sn	01 41 17.4	-0.7	
PB04				IAML		01 41 19.4		
	comp=E,911nm,0.2s							
PB05	**IPOC Station P**	**1.70**	**238**	⇑*i* P	Pn	01 40 59.7	0.0	
PB05				*i* S	Sn	01 41 22.2	-0.9	
PB05				IAML		01 41 27.0		
	comp=N,625nm,0.8s							
PB08	**IPOC Station P**	**1.88**	**345**	*e*P	Pn	01 41 02.6	+0.6	
PB08				*i* S	Sn	01 41 27.2	+0.1	
PB08				IAML		01 41 28.8		
	comp=E,457nm,0.6s							
PB10	**IPOC Station P**	**2.35**	**229**	*e*P	Pn	01 41 07.1	-0.4	
PB10				*i* S	Sn	01 41 34.5	-2.5	
PB11	**IPOC Station P**	**2.39**	**336**	⇓*i* P	Pn	01 41 07.5	-0.6	
PB11				*i* S	Sn	01 41 36.7	-1.4	
MNMC	**Minye Minye**	**2.96**	**342**	*e*P	Pn	01 41 15.2	-0.3	
MNMC				*e*S	Sn	01 41 51.2	0.0	
GO02	**Mina Guanaco**	**3.31**	**195**	⇓*i* P	Pn	01 41 19.8	-0.3	
GO02				*i* S	Sn	01 41 59.3	-0.1	

IDC ***19*** *01:50:53.2±1.7, 10.°99N×84.°50W, h0km, mb3.8/5, mb1 4.3/6, mb1mx3.8/43, mbtmp3.9/6, ML3.3/1, MS3.5/12, Ms1 3.5/12, ms1mx3.3/32, Error ellipse: s-maj=44.3km s-min=9.1km az=111.0*

UCR ***19*** *01:50:53.6±2.2, 9.°82N×85.°63W, h9km±7km, MD3.7, ML3.7, mb4.2(NEIC)*

NEIC ***19*** *01:50:57.4±1.0, 10.°04N×85.°44W, h35km, mb4.2/8, MD4.6(UCR), Error ellipse: s-maj=21.4km s-min=8.8km az=14.0*

NEIC Felt [IV] at Samara. Also felt at Alajuelita, Cobana, Jaco, Nosara, Rio Segundo, Sabanilla, San Felipe, San Jose, San Juan de Dios, San Pedro and Santiago.

ISC 19 01:50:56.3±1.4, 9.°93N±0.°05×85.°52W±0.°05, h32km±9km, n77, σ1°27/93, mb4.0/13, MS3.4/8, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
PLVR	**Palo Verde**	**0.45**	**22**	*e*P		**Pb**	**01 51 05.2**	**-0.9**
PLVR				*e*S		**Sn**	**01 51 13.9**	**+0.1**
JTS	**JuntasAbangare**	**0.66**	**57**	Pg		**Pn**	**01 51 08.9**	**-0.5**
	472nm,0.3s,baz=347,slow=7.6,SNR=1842							
JTS				Lg		Lg	01 51 20.7	
	1µm,0.3s,baz=305,slow=18,SNR=22							
JTS	**JuntasAbangare**	**0.66**	**57**	*e*Pn		**Pb**	**01 51 08.7**	**-0.8**
JTS				*e*Sn		**Sb**	**01 51 16.3**	**-2.2**
JTS	**JuntasAbangare**	**0.66**	**57**	*e*P		**Pb**	**01 51 08.3**	**-1.1**
NY14	**Universidad de**	**0.71**	**359**	*i* P		**Pb**	**01 51 10.0**	**-0.3**
COLC	**Colonia**	**0.79**	**23**	*i* P		**Pb**	**01 51 10.9**	**-0.8**
COLC				*i* S		**Sn**	**01 51 24.3**	**+2.2**
CUI	**Cuipilapa**	**0.80**	**26**	*i* P		**Pn**	**01 51 11.1**	**-0.3**
CUI				*e*S		**Sn**	**01 51 24.7**	**+2.4**
LIM1	**Limonal**	**0.81**	**19**	*i* P		**Pb**	**01 51 11.2**	**-0.7**
LIM1				*i* S		**Sn**	**01 51 24.0**	**+1.6**
GUAB	**Guayabo de Bag**	**0.82**	**20**	*i* P		**Pb**	**01 51 11.2**	**-1.0**
GUAB				*i* S		**Sn**	**01 51 24.6**	**+1.7**
GPS3	**Bodega del ICE**	**0.83**	**10**	*i* P		**Pn**	**01 51 11.7**	**-0.2**
GPS3				*i* S		**Sn**	**01 51 24.4**	**+1.3**
LAPC	**Finca la Perla**	**0.84**	**6**	*i* P		**Pn**	**01 51 11.2**	**-0.7**
LAPC				*i* S		**Sn**	**01 51 23.9**	**+0.7**
ACAL	**Aguas Claras**	**0.84**	**34**	*i* P		**Pb**	**01 51 11.8**	**-0.7**
HORNC	**Hornillas**	**0.85**	**23**	*i* P		**Pb**	**01 51 11.9**	**-0.7**
AMAS	**Alto Masis**	**0.85**	**37**	*i* P		**Pb**	**01 51 12.1**	**-0.6**
GPS1	**Guardaparques**	**0.85**	**11**	*i* P		**Pn**	**01 51 11.8**	**-0.5**
MESS	**Mesas**	**0.87**	**22**	*i* P		**Pn**	**01 51 12.0**	**-0.4**
MESS				*e*P		**Pb**	**01 51 12.1**	**-0.8**
MESS				*i* S		**Sn**	**01 51 25.8**	**+1.8**
BUEV	**Buena Vista**	**0.87**	**7**	*e*P		**Pn**	**01 51 11.8**	**-0.6**
BUEV				*e*S		**Sn**	**01 51 25.9**	**+1.8**
GB1A	**Borinquen Arri**	**0.89**	**8**	*e*P		**Pn**	**01 51 12.1**	**-0.7**
GB1A				*e*S		**Sn**	**01 51 26.6**	**+2.0**
CASO	**Castillo**	**0.92**	**57**	*i* P		**Pb**	**01 51 13.3**	**-0.4**
CASO				*i* S		**Sn**	**01 51 27.9**	**+2.5**
ARE1	**Arenal 1**	**0.95**	**56**	*e*P		**Pb**	**01 51 14.1**	**-0.1**
BUAI	**Buenos Aires**	**0.96**	**11**	*i* P		**Pn**	**01 51 13.3**	**-0.3**
CEDE	**Laguna Cedeo**	**0.97**	**55**	*e*P		**Pb**	**01 51 14.6**	**-0.1**
CEDE				*e*S		**Sb**	**01 51 30.7**	**+3.4**
FORC	**Fortuna**	**0.99**	**57**	*i* P		**Pb**	**01 51 14.6**	**-0.3**
SRA1	**San Ramn**	**1.03**	**81**	*e*P		**Pn**	**01 51 14.7**	**0.0**
HDC	**Heredia**	**1.38**	**87**	*e*Pn		**Pn**	**01 51 20.0**	**+0.5**
HDC				*e*Sn		**Sb**	**01 51 40.0**	**+1.0**
HDC	**Heredia**	**1.38**	**87**	*e*P		**Pn**	**01 51 20.2**	**+0.6**
SJS	**Escuela Geolog**	**1.44**	**90**	*e*P		**Pb**	**01 51 22.1**	**-0.5**
LCR2	**La Lucha 2**	**1.50**	**97**	*e*P		**Pn**	**01 51 21.2**	**-0.1**
CONN	**Concepcion**	**1.63**	**356**	*e*P		**Pn**	**01 51 22.9**	**+0.1**
CVTR	**Volcan Turrial**	**1.73**	**87**	*e*P		**Pn**	**01 51 25.9**	**+1.4**
EDDO	**Dominical**	**1.76**	**112**	*e*P		**Pn**	**01 51 23.4**	**-1.2**
ACON	**Acoyapa**	**2.05**	**9**	*e*P		**Pn**	**01 51 28.8**	**+0.2**
ACON				*e*S		**Sb**	**01 51 59.7**	**+1.7**
ACON				IAML			01 52 01.3	
	comp=N,654nm,1.1s							
MGAN	**Managua**	**2.32**	**342**	*e*P		**Pn**	**01 51 32.0**	**-0.2**
MGAN				*e*S		**Sb**	**01 52 07.2**	**+1.5**
DRK0	**Durika**	**2.34**	**106**	*e*P		**Pn**	**01 51 33.0**	**+0.4**
COPN	**Copaltepe**	**2.47**	**335**	*e*P		**Pn**	**01 51 36.6**	**+2.2**
BOAB	**BOACO BROADBAN**	**2.51**	**357**	*e*Pn		**Pn**	**01 51 34.8**	**-0.1**
BOAB	**BOACO BROADBAN**	**2.51**	**357**	*e*P		**Pn**	**01 51 34.2**	**-0.6**
ESPN	**Las Esperanzas**	**2.55**	**28**	*e*Pn		**Pn**	**01 51 35.0**	**-0.4**
ESPN				*e*Sg		**Sb**	**01 52 12.5**	**+0.2**
ESPN	**Las Esperanzas**	**2.55**	**28**	*e*P		**Pn**	**01 51 36.0**	**+0.6**
ESPN				*e*S		**Sb**	**01 52 11.8**	**-0.5**
MOMN	**Momotombo**	**2.66**	**338**	*e*P		**Pn**	**01 51 36.7**	**-0.3**
CNGN	**Cerro Negro**	**2.80**	**336**	*e*P		**Pn**	**01 51 40.1**	**+1.1**
MATN	**Matagalpa**	**3.01**	**352**	*e*P		**Pn**	**01 51 42.2**	**+0.4**
BRU2	**Volcan**	**3.01**	**112**	*e*P		**Pn**	**01 51 42.8**	**+0.9**
CRIN	**San Cristobal**	**3.14**	**332**	*e*P		**Pn**	**01 51 44.0**	**+0.5**
BCIP	**Isla Barro Col**	**5.65**	**97**	*e*Pn		**Pn**	**01 52 18.4**	**+0.3**
CMIG	**Matias Romero**	**11.56**	**309**	Pn		**Pn**	**01 53 41.3**	**+2.2**
	comp=N,0.2nm,0.3s,baz=63,slow=4.5,SNR=2.5							
CMIG				LR		LR	01 58 54.1	
	comp=N,270nm,21.3s,baz=134,slow=41							
ROSC	**El Rosal**	**12.20**	**114**	LR		LR	01 58 13.5	
	comp=N,107nm,18.3s,baz=311,slow=37							
SDV	**Santo Domingo**	**14.72**	**93**	LR		LR	02 01 13.7	
	comp=N,241nm,19.7s,baz=1.5,slow=45							
ATAH	**Atahualpa**	**18.38**	**157**	LR		LR	02 01 29.2	
	comp=N,353nm,18.2s,baz=334,slow=34							
SJG	**San Juan**	**20.46**	**64**	LR		LR	02 03 52.3	
	comp=N,89nm,18.0s,baz=270,slow=41							
LRAL	**Lakeview Retre**	**23.03**	**357**	*e*P		**P**	**01 55 58.9**	**+0.1**
	comp=N,9.9nm,0.6s							
NNA	**Nana**	**23.42**	**158**	LR		LR	02 04 22.2	
	comp=N,62nm,21.5s,baz=320,slow=34							
LTX	**Lajitas**	**25.71**	**321**	*e*P		**P**	**01 56 23.6**	**-0.3**
LTX				*e*PcP		**PcP**	**01 59 55.2**	**+1.4**
TX31	**Lajitas Ar. Si**	**25.71**	**321**	*e*P		**P**	**01 56 24.8**	**+0.8**
TXAR	**Lajitas Array**	**25.71**	**321**	P		**P**	**01 56 23.6**	**-0.3**
	comp=N,1.7nm,0.7s,baz=133,slow=10.0,SNR=18							
TXAR				PcP		**PcP**	**01 59 55.2**	**+1.3**
	comp=N,0.2nm,0.7s,baz=151,slow=4.1,SNR=3.8							
LPAZ	**La Paz**	**31.22**	**146**	LR		LR	02 10 47.9	
	comp=N,144nm,18.4s,baz=288,slow=38							
W13A	**Hualapai Mount**	**36.01**	**318**	*e*P		**P**	**01 57 56.8**	**+1.9**
	comp=N,1.5nm,0.7s							
PSUT	**Pine Spring**	**38.15**	**323**	*e*P		**P**	**01 58 14.3**	**+1.3**
	comp=N,1.8nm,0.7s							
PD31	**Pinedale Array**	**38.88**	**331**	*e*P		**P**	**01 58 16.9**	**-2.2**
PD31				*e*PcP		**PcP**	**02 00 30.1**	**+0.4**
PDAR	**Pinedale Array**	**38.88**	**331**	P		**P**	**01 58 16.9**	**-2.2**
	comp=N,0.3nm,0.5s,baz=122,slow=8.6,SNR=4.0							
PDAR				PcP		**PcP**	**02 00 30.1**	**+0.4**
	comp=N,0.4nm,0.7s,baz=131,slow=4.1,SNR=5.2							
NV11	**Mina Array Sit**	**40.74**	**320**	*e*P		**P**	**01 58 36.1**	**+1.5**
NV01	**Mina Array Sit**	**40.84**	**319**	*e*P		**P**	**01 58 36.6**	**+1.1**
NV01				*e*PcP		**PcP**	**02 00 37.1**	**+1.1**
NVAR	**Mina Array Bea**	**40.84**	**319**	P		**P**	**01 58 36.5**	**+1.1**
	comp=N,3.3nm,0.6s,baz=126,slow=7.2,SNR=32							
NVAR				PcP		**PcP**	**02 00 37.1**	**+1.1**
	comp=N,0.6nm,0.6s,baz=134,slow=3.9,SNR=4.3							
KVN	**Kaiserville**	**41.07**	**320**	*e*P		**P**	**01 58 38.4**	**+1.0**
	comp=N,1.9nm,0.7s							
WAKR	**Walker**	**41.61**	**319**	*e*P		**P**	**01 58 42.7**	**+1.0**
	comp=N,4.0nm,0.9s							
BOZ	**Bozeman (W)**	**42.00**	**332**	*e*P		**P**	**01 58 44.9**	**+0.1**
	comp=N,5.9nm,0.6s							
PNTR	**Pine Nut**	**42.05**	**319**	*e*P		**P**	**01 58 46.6**	**+1.3**
	comp=N,4.6nm,0.9s							
WVOR	**Wild Horse Val**	**43.44**	**324**	*e*P		**P**	**01 58 56.7**	**+0.1**
	comp=N,12nm,1.6s							
CPUP	**Villa Florida**	**45.27**	**143**	LR		LR	02 17 54.0	
	comp=N,39nm,18.4s,baz=332,slow=36							
PLCA	**Paso Flores**	**52.27**	**166**	LR		LR	02 19 20.8	
	comp=N,37nm,19.3s,baz=332,slow=32							
YKA	**Yellowknife Ar**	**56.53**	**344**	P		**P**	**02 00 32.1**	**-3.2**
	comp=N,0.7nm,0.6s,baz=143,slow=6.8,SNR=14							
YKA				PcP		**PcP**	**02 01 30.7**	**-1.0**
	comp=N,0.2nm,0.6s,baz=138,slow=4.5,SNR=3.9							
YKB5	**Yellowknife Ar**	**56.53**	**344**	*e*P		**P**	**02 00 32.1**	**-3.2**
YKB5				*e*PcP		**PcP**	**02 01 30.7**	**-1.0**
ILAR	**Eielson Array**	**69.08**	**336**	P		**P**	**02 01 57.2**	**-1.7**
	comp=N,0.8nm,0.6s,baz=124,slow=4.3,SNR=21							
ILB	**Eielson Array**	**69.08**	**336**	*e*P		**P**	**02 01 57.2**	**-1.7**
NOA	**NORSAR Array B**	**84.64**	**29**	LR		LR	02 36 08.4	
	comp=N,17nm,21.8s,baz=340,slow=33							
GERES	**GERESS Array B**	**88.60**	**41**	LR		LR	02 39 05.1	
	comp=N,15nm,21.2s,baz=328,slow=33							
AKASG	**Malin Array Be**	**97.47**	**36**	LR		LR	02 48 18.6	
	comp=N,22nm,18.4s,baz=280,slow=36							

ISCJB ***19*** *02:19:07.8±0.3, 55.°92N±0.°02×161.°45E±0.°06, h97km±2km, mb3.8/12, Error ellipse: s-maj=5.9km s-min=2.9km az=23.7*

MOS ***19*** *02:19:07.8±0.7, 55.°97N×161.°35E, h93km, mb4.1/8, Error ellipse: s-maj=12.3km s-min=4.4km az=76.6*

KRSC ***19*** *02:19:07.1±0.5, 55.°88N×161.°51E, h91km±6km, ML4.5*

IDC ***19*** *02:19:10.4±2.5, 55.°94N×161.°16E, h102km±27km, mb3.4/10, mb1 3.7/12, mb1mx3.4/36, mbtmp3.8/12, Error ellipse: s-maj=29.5km s-min=17.8km az=12.0*

ISC 19 02:19:08.5±0.7, 55.°89N±0.°03×161.°48E±0.°03, h87km±5km, n111, σ1°08/165, mb4.0/12, 4C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
ZLN	**Zelenaya**	**0.40**	**289**	*e*P		**Pn**	**02 19 22.8**	**+0.5**
ZLN				*e*S		**Sn**	**02 19 33.7**	**+1.1**
ZLN	**Zelenaya**	**0.40**	**289**	PN		**Pn**	**02 19 22.8**	**+0.5**
ZLN				S		**Sn**	**02 19 33.7**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**0.45**	**277**	*e*P		**Pn**	**02 19 22.8**	**+0.2**
BZGR				*e*S		**Sn**	**02 19 34.3**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**0.45**	**277**	PN		**Pn**	**02 19 22.8**	**+0.2**
BZGR				S		**Sn**	**02 19 34.3**	**+1.2**
CIRR	**Tsirk**	**0.47**	**300**	*e*P		**Pn**	**02 19 23.2**	**+0.3**
CIRR				*e*S		**Sn**	**02 19 34.4**	**+0.9**
CIRR	**Tsirk**	**0.47**	**300**	PN		**Pn**	**02 19 23.2**	**+0.3**
CIRR				S		**Sn**	**02 19 34.4**	**+0.9**
LGNR	**Loginova**	**0.49**	**294**	*e*P		**Pn**	**02 19 23.7**	**+0.5**
LGNR				*e*S		**Sn**	**02 19 35.1**	**+1.1**
LGNR	**Loginova**	**0.49**	**294**	PN		**Pn**	**02 19 23.7**	**+0.5**
LGNR				S		**Sn**	**02 19 35.1**	**+1.1**
BZMR	**Bezymyannaya**	**0.56**	**275**	*e*P		**Pn**	**02 19 23.9**	**+0.3**
BZMR				*e*S		**Sn**	**02 19 36.1**	**+1.3**
BZMR	**Bezymyannaya**	**0.56**	**275**	PN		**Pn**	**02 19 23.9**	**+0.3**
BZMR				S		**Sn**	**02 19 36.1**	**+1.3**
BZWR	**Bezymyannyi-We**	**0.56**	**278**	*e*P		**Pn**	**02 19 24.1**	**+0.5**
BZWR				*e*S		**Sn**	**02 19 36.0**	**+1.2**
BZWR	**Bezymyannyi-We**	**0.56**	**278**	PN		**Pn**	**02 19 24.1**	**+0.5**
BZWR				S		**Sn**	**02 19 36.0**	**+1.2**
KRSR	**Krestovskiy**	**0.61**	**303**	*i* P		**Pn**	**02 19 23.9**	**-0.1**
KRSR				*e*S		**Sn**	**02 19 35.5**	**0.0**
KRSR	**Krestovskiy**	**0.61**	**303**	PN		**Pn**	**02 19 23.9**	**-0.1**
KRSR				S		**Sn**	**02 19 35.5**	**0.0**
KLY	**Klyuchi**	**0.63**	**313**	*e*P		**Pn**	**02 19 23.3**	**-0.8**
KLY				*e*S		**Sn**	**02 19 34.5**	**-1.1**
KLY	**Klyuchi**	**0.63**	**313**	PN		**Pn**	**02 19 23.3**	**-0.8**
KLY				S		**Sn**	**02 19 34.5**	**-1.1**
KIRR	**Kirishev**	**0.64**	**276**	*e*P		**Pn**	**02 19 24.7**	**+0.3**
KIRR				*e*S		**Sn**	**02 19 37.1**	**+0.9**
KIRR	**Kirishev**	**0.64**	**276**	PN		**Pn**	**02 19 24.7**	**+0.3**
KIRR				S		**Sn**	**02 19 37.1**	**+0.9**
SMKR	**Semkarok**	**0.70**	**359**	*e*P		**Pn**	**02 19 24.9**	**+0.1**
SMKR				*e*S		**Sn**	**02 19 37.5**	**+0.6**
SMKR	**Semkarok**	**0.70**	**359**	PN		**Pn**	**02 19 24.9**	**+0.1**
SMKR				S		**Sn**	**02 19 37.5**	**+0.6**
BDR	**Baidarnaya**	**0.70**	**348**	*e*P		**Pn**	**02 19 25.1**	**+0.3**
BDR				*e*S		**Sn**	**02 19 37.3**	**+0.3**
BDR	**Baidarnaya**	**0.70**	**348**	PN		**Pn**	**02 19 25.1**	**+0.3**
BDR				S		**Sn**	**02 19 37.3**	**+0.3**
KPT	**Kopyto**	**0.71**	**277**	*i* P		**Pn**	**02 19 25.1**	**+0.1**
KPT				*e*S		**Sn**	**02 19 37.8**	**+0.6**
KPT	**Kopyto**	**0.71**	**277**	PN		**Pn**	**02 19 25.1**	**+0.1**
KPT				S		**Sn**	**02 19 37.8**	**+0.6**
KBG	**Krutoberegovo**	**0.78**	**61**	*e*P		**Pn**	**02 19 25.4**	**-0.1**
KBG				*e*S		**Sn**	**02 19 38.7**	**+0.5**
KBG	**Krutoberegovo**	**0.78**	**61**	PN		**Pn**	**02 19 25.4**	**-0.1**
KBG				S		**Sn**	**02 19 38.7**	**+0.5**
SRKR	**Sorokina**	**0.79**	**347**	*i* P		**Pn**	**02 19 26.0**	**+0.3**
SRKR				*e*S		**Sn**	**02 19 39.3**	**+0.7**
SRKR	**Sorokina**	**0.79**	**347**	PN		**Pn**	**02 19 26.0**	**+0.3**
SRKR				S		**Sn**	**02 19 39.3**	**+0.7**
KBTR	**Krutoberegovo**	**0.82**	**66**	*e*P		**Pn**	**02 19 25.9**	**0.0**
KBTR				*e*S		**Sn**	**02 19 39.1**	**+0.2**
KBTR	**Krutoberegovo**	**0.82**	**66**	PN		**Pn**	**02 19 25.9**	**0.0**
KBTR				S		**Sn**	**02 19 39.1**	**+0.2**
KOZ	**Kozyrevsk**	**0.92**	**281**	*i* P		**Pn**	**02 19 27.4**	**+0.3**
KOZ				*e*S		**Sn**	**02 19 42.2**	**+1.2**
KOZ	**Kozyrevsk**	**0.92**	**281**	PN		**Pn**	**02 19 27.4**	**+0.3**
KOZ				S		**Sn**	**02 19 42.2**	**+1.2**
TUMD	**Tumrok D**	**0.92**	**222**	*i* P		**Pn**	**02 19 27.1**	**0.0**
TUMD				*e*S		**Sn**	**02 19 41.1**	**+0.1**
TUMR	**Tumrok**	**0.97**	**232**	*i* P		**Pn**	**02 19 28.2**	**+0.4**
TUMR				*e*S		**Sn**	**02 19 42.8**	**+0.7**
TUMR	**Tumrok**	**0.97**	**232**	PN		**Pn**	**02 19 28.2**	**+0.4**
TUMR				S		**Sn**	**02 19 42.8**	**+0.7**
KZV	**Kizimen**	**1.03**	**222**	*e*P		**Pn**	**02 19 28.3**	**-0.2**
KZV				*e*S		**Sn**	**02 19 43.4**	**0.0**
KZV	**Kizimen**	**1.03**	**222**	PN		**Pn**	**02 19 28.3**	**-0.2**
KZV				S		**Sn**	**02 19 43.4**	**0.0**
SRDR	**Sredinnyy**	**1.08**	**294**	*i* P		**Pn**	**02 19 28.9**	**-0.1**
SRDR				*e*S		**Sn**	**02 19 44.4**	**+0.1**
SRDR	**Sredinnyy**	**1.08**	**294**	PN		**Pn**	**02 19 28.9**	**-0.1**
SRDR				S		**Sn**	**02 19 44.4**	**+0.1**
ESO	**Esso**	**1.57**	**273**	*e*P		**Pn**	**02 19 35.3**	**+0.3**
ESO				*e*S		**Sn**	**02 19 55.1**	**+0.1**
ESO	**Esso**	**1.57**	**273**	PN		**Pn**	**02 19 35.3**	**+0.3**
ESO				S		**Sn**	**02 19 55.1**	**+0.1**
KII	**Karymskiy**	**2.19**	**213**	*e*P		**Pn**	**02 19 43.8**	**+0.6**
KII				*e*S		**Sn**	**02 20 11.1**	**+1.4**
KII	**Karymskiy**	**2.19**	**213**	PN		**Pn**	**02 19 43.8**	**+0.6**
KII				S		**Sn**	**02 20 11.1**	**+1.4**
SPN	**Mys Shipunski**	**2.92**	**198**	*e*P		**Pn**	**02 19 52.3**	**-0.6**
SPN				*e*S		**Sn**	**02 20 25.6**	**-1.4**
SPN	**Mys Shipunski**	**2.92**	**198**	PN		**Pn**	**02 19 52.3**	**-0.6**
SPN				S		**Sn**	**02 20 25.6**	**-1.4**
NLC	**Nalytchevo**	**2.99**	**205**	*e*P		**Pn**	**02 19 54.3**	**+0.5**
NLC				*e*S		**Sn**	**02 20 29.2**	**+0.5**
NLC	**Nalytchevo**	**2.99**	**205**	PN		**Pn**	**02 19 54.3**	**+0.5**
NLC				S		**Sn**	**02 20 29.2**	**+0.5**
GNL	**Ganaly**	**3.00**	**224**	*e*P		**Pn**	**02 19 54.9**	**+0.8**
GNL	**Ganaly**	**3.00**	**224**	PN		**Pn**	**02 19 54.9**	**+0.8**
KRX	**Arik**	**3.02**	**214**	*e*P		**Pn**	**02 19 55.9**	**+1.5**
KRX	**Arik**	**3.02**	**214**	PN		**Pn**	**02 19 55.9**	**+1.5**
SMAR	**Somma**	**3.06**	**212**	*e*P		**Pn**	**02 19 56.4**	**+1.5**
SMAR				*e*S		**Sn**	**02 20 32.4**	**+1.8**
SMAR	**Somma**	**3.06**	**212**	PN		**Pn**	**02 19 56.4**	**+1.5**
SMAR				S		**Sn**	**02 20 32.4**	**+1.8**
AVH	**Avacha**	**3.07**	**212**	*e*P		**Pn**	**02 19 57.1**	**+2.1**
AVH	**Avacha**	**3.07**	**212**	PN		**Pn**	**02 19 57.1**	**+2.1**
KOK	**Koryaka**	**3.08**	**214**	*e*P		**Pn**	**02 19 56.9**	**+1.8**
KOK	**Koryaka**	**3.08**	**214**	PN		**Pn**	**02 19 56.9**	**+1.8**
UGLR	**Uglovaya**	**3.10**	**211**	*e*P		**Pn**	**02 19 56.9**	**+1.5**
UGLR	**Uglovaya**	**3.10**	**211**	PN		**Pn**	**02 19 56.9**	**+1.5**
DALK	**Dalny**	**3.27**	**210**	*e*P		**Pn**	**02 19 58.5**	**+0.9**
DALK				*e*S		**Sn**	**02 20 35.5**	**0.0**
DALK	**Dalny**	**3.27**	**210**	PN		**Pn**	**02 19 58.5**	**+0.9**
DALK				S		**Sn**	**02 20 35.5**	**0.0**
PET	**Petropavlovsk**	**3.31**	**211**	⇑*i* PN		**Pn**	**02 19 59.8**	**+1.7**
PET				*e*S		**Sn**	**02 20 38.9**	**+2.5**
PET				pmax	pmax			
	comp=Z,214nm,0.7s							
PET				smax	smax			
	comp=N,330nm,0.5s							
PET				smax	smax			
	comp=E,360nm,0.5s							
PALN	**Palana**	**3.31**	**346**	*e*P		**Pn**	**02 19 59.2**	**+1.1**
PALN	**Palana**	**3.31**	**346**	PN		**Pn**	**02 19 59.2**	**+1.1**
OSSR	**Ossora**	**3.48**	**13**	*e*P		**Pn**	**02 20 00.3**	**0.0**
OSSR	**Ossora**	**3.48**	**13**	PN		**Pn**	**02 20 00.3**	**0.0**
PETK	**Petropavlovsk-**	**3.55**	**220**	P		**Pn**	**02 20 02.1**	**+0.8**
	comp=E,19nm,0.3s,baz=59,slow=16,SNR=111							
RUS	**Russkaya**	**3.87**	**208**	*e*P		**Pn**	**02 20 06.7**	**+0.9**
RUS				*e*S		**Sn**	**02 20 51.1**	**+1.0**
RUS	**Russkaya**	**3.87**	**208**	PN		**Pn**	**02 20 06.7**	**+0.9**
RUS				S		**Sn**	**02 20 51.1**	**+1.0**
GRL	**Gorelyy**	**3.89**	**212**	*e*P		**Pn**	**02 20 08.4**	**+2.3**
GRL	**Gorelyy**	**3.89**	**212**	PN		**Pn**	**02 20 08.4**	**+2.3**
APC	**Apacha**	**3.90**	**222**	*e*P		**Pn**	**02 20 07.3**	**+1.3**
APC	**Apacha**	**3.90**	**222**	PN		**Pn**	**02 20 07.3**	**+1.3**
MTVR	**Mutnovka**	**3.92**	**211**	*e*P		**Pn**	**02 20 08.2**	**+1.7**
MTVR				*e*S		**Sn**	**02 20 52.9**	**+1.4**
MTVR	**Mutnovka**	**3.92**	**211**	PN		**Pn**	**02 20 08.2**	**+1.7**
MTVR				S		**Sn**	**02 20 52.9**	**+1.4**
KDTR	**Khodutka, Kamc**	**4.55**	**208**	*e*P		**Pn**	**02 20 15.1**	**+0.1**
KDTR	**Khodutka, Kamc**	**4.55**	**208**	PN		**Pn**	**02 20 15.1**	**+0.1**
TILK	**Tilichiki**	**5.20**	**26**	*e*P		**Pn**	**02 20 24.9**	**+1.3**
TILK				*e*S		**Sn**	**02 21 23.4**	**+1.3**
TILK	**Tilichiki**	**5.20**	**26**	PN		**Pn**	**02 20 24.9**	**+1.3**
TILK				S		**Sn**	**02 21 23.4**	**+1.3**
PAU	**Pauzhetka**	**5.22**	**214**	*e*P		**Pn**	**02 20 25.8**	**+1.7**
PAU	**Pauzhetka**	**5.22**	**214**	PN		**Pn**	**02 20 25.8**	**+1.7**
SKR	**Severo-Kuril's**	**6.12**	**214**	*e*P		**Pn**	**02 20 37.5**	**+1.2**
SKR	**Severo-Kuril's**	**6.12**	**214**	PN		**Pn**	**02 20 37.5**	**+1.2**
MA2	**Magadan**	**6.82**	**307**	P		**Pn**	**02 20 45.7**	**-0.2**
	comp=E,1.3nm,0.3s,baz=88,slow=7.2,SNR=7.0							
KMSK	**Kamenskaya**	**7.03**	**18**	*e*P		**Pn**	**02 20 50.4**	**+1.8**
KMSK	**Kamenskaya**	**7.03**	**18**	PN		**Pn**	**02 20 50.4**

*IDC **19** 03:08:03.1±1.2,32.°56S×178.°79W,h0km,mb4.0/4, mb1 4.2/5,mb1mx3.9/29,mbtmp3.9/5,ML3.8/1,MS3.7/3, Ms1 3.7/3,ms1mx3.1/30,Error ellipse: s-maj=40.5km s-min=29.4km az=159.0*

*ISCJB **19** 03:08:07.2±1.0,32.°7S±0.°1×178.°9W±0.°2,h35km,mb4.1/7, MS3.7/3,Error ellipse: s-maj=21.3km s-min=14.2km az=32.7*

*NEIC **19** 03:08:12.4±2.4,32.°84S×178.°89W,h70km±19km,mb4.1/3, Error ellipse: s-maj=23.3km s-min=15.8km az=225.0*

ISC 19 03:08:09.5±1.0,32.°8S±0.°1×178.°7W±0.°1,h35km,n24, σ2.°09/19,mb3.9/7,MS3.4/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.42**	**211**	Pn		**Pn**		**03 09 41.0**	**-0.5**
	2.0nm,0.3s,baz=265,slow=4.8,SNR=19								
OUZ	**Omahuta**	**6.82**	**247**	*e*Pn		**Pn**		**03 09 48.9**	**+1.8**
BKZ	**Black Stump Fm**	**7.44**	**210**	*e*Pn		**Pn**		**03 09 57.0**	**+1.4**
DZM	**Mont Dzumac**	**16.94**	**305**	*e*Pn		**Pn**		**03 12 05.2**	**+1.3**
	14nm,0.9s								
RAR	**Rarotonga**	**20.41**	**60**	LR		LR		03 18 24.8	
	comp=Z,151nm,20.1s,baz=306,slow=31								
STKA	**Stephens Creek**	**33.41**	**261**	LR		LR		03 25 51.2	
	comp=Z,86nm,21.6s,baz=27,slow=32								
CTA	**Charters Tower**	**33.66**	**283**	P		**P**		**03 14 46.5**	**-0.7**
	1.1nm,0.3s,baz=113,slow=11,SNR=5.4								
AS31	**Alice Springs**	**42.43**	**270**	*e*P		**P**		**03 15 59.0**	**-2.0**
	2.6nm,1.4s								
ASAR	**Alice Springs**	**42.43**	**270**	P		**P**		**03 15 59.0**	**-2.0**
	0.5nm,0.3s,baz=106,slow=7.2,SNR=9.8								
WRAB	**Tennant Creek**	**43.63**	**275**	*e*P		**P**		**03 16 08.6**	**-2.2**
	2.5nm,0.5s								
WR1	**Warramunga Arr**	**43.63**	**275**	*e*P		**P**		**03 16 08.2**	**-2.6**
	62nm,1.9s								
WRA	**Warramunga Arr**	**43.63**	**275**	P		**P**		**03 16 08.2**	**-2.6**
	1.1nm,0.5s,baz=114,slow=7.6,SNR=10								
JNU	**Nakatsue**	**80.95**	**319**	LR		LR		03 49 35.6	
	comp=Z,120nm,21.3s,baz=114,slow=31								
NV01	**Mina Array Sit**	**90.41**	**43**	*e*P		**P**		**03 21 06.8**	**-0.7**
NVAR	**Mina Array Bea**	**90.41**	**43**	P		**P**		**03 21 06.8**	**-0.7**
	0.3nm,0.6s,baz=220,slow=6.7,SNR=3.6								
ARA0	**ARCESS Array S**	**140.79**	**347**	*e*PKPpre		PKPpre		03 27 27.3	
ARCES	**ARCESS Array B**	**140.79**	**347**	PKhKP		PKPpre		03 27 27.3	
	3.9nm,0.9s,baz=36,slow=1.7,SNR=5.3								
FIA0	**FINESS Array S**	**147.16**	**338**	*e*PKPdf		**PKPdf**		**03 27 45.4**	**-0.4**
FINES	**FINESS Array B**	**147.16**	**338**	PKPbc		**PKPdf**		**03 27 45.4**	**-0.4**
	2.4nm,0.5s,baz=50,slow=3.2,SNR=17								
NB2	**NORSAR Subarra**	**151.01**	**350**	PKP		**PKPdf**		**03 27 55.6**	**+3.4**
	comp=Z,0.8nm,0.7s,baz=17,slow=4.3								
NB200	**NORSAR Array S**	**151.01**	**350**	*e*PKPbc		**PKPdf**		**03 27 55.5**	**+3.4**
NOA	**NORSAR Array B**	**151.01**	**350**	PKPbc		**PKPdf**		**03 27 55.5**	**+3.4**
	comp=Z,0.7nm,0.7s,baz=14,slow=4.1,SNR=3.6								
TORD	**Torodi Ar. Bea**	**160.43**	**181**	PKPab		**PKPab**		**03 28 47.3**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=183,slow=4.1,SNR=3.9								
TOA1	**Torodi Ar. Sit**	**160.44**	**181**	*e*PKPab		**PKPab**		**03 28 47.3**	**+0.4**

*ISCJB **19** 03:11:55.6±0.6,37.°33N±0.°04×37.°11E±0.°06,h7km±9km, Error ellipse: s-maj=10.0km s-min=5.5km az=142.8*

*ISK **19** 03:11:55.0,37.°34N×37.°13E,h6km,ML1.8/5*

*DDA **19** 03:11:56.2,37.°30N×37.°21E,h7km±1km,ML2.5*

ISC 19 03:11:55.6±1.0,37.°33N±0.°04×37.°13E±0.°04,h9km±9km, n11,σ0.°37/16,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.17**	**159**	PG		**Pg**		**03 11 59.2**	**0.0**
GAZ				SG		**Sg**		**03 12 01.9**	**+0.2**
KMRS	**Kahramanmaras**	**0.26**	**313**	PG		**Pg**		**03 12 00.7**	**-0.1**
KMRS				SG		**Sg**		**03 12 04.0**	**-0.3**
GZT	**Gaziantep**	**0.34**	**86**	IAML_P					
	comp=Z,1μm,0.1s								
GZT				*i* P		**Pg**		**03 12 02.5**	**0.0**
KUZU	**Kuzuini**	**0.56**	**185**	*i* P		**Pb**		**03 12 07.6**	**0.0**
ATAB	**Bozova**	**0.94**	**81**	IAML_P					
	comp=Z,2μm,0.2s								
ATAB				*i* P		**Pb**		**03 12 14.1**	**+0.1**
ATAB				*i* S		**Sb**		**03 12 26.0**	**-0.6**
KOZT	**Kozan**	**1.05**	**279**	PG		**Pg**		**03 12 15.6**	**-0.2**
AKCD	**Akcadag**	**1.15**	**33**	IAML_P					
	comp=Z,323nm,0.1s								
AKCD				*i* P		**Pn**		**03 12 19.0**	**+0.9**
AKCD				*i* S		**Sb**		**03 12 33.2**	**+0.3**
TAHT	**Tahtakopru-Hat**	**1.22**	**219**	PN		**Pg**		**03 12 19.1**	**+0.1**
SURC	**SANLIURFA_SURC**	**1.26**	**110**	IAML_P					
	comp=Z,120nm,0.1s								
SURC				*i* P		**Pn**		**03 12 19.6**	**0.0**
SURC				*i* S		**Sn**		**03 12 36.5**	**-0.2**
DARE	**Darende-Malaty**	**1.27**	**12**	PN		**Pn**		**03 12 19.7**	**0.0**
URFA	**Urfa**	**1.35**	**85**	PN		**Pg**		**03 12 21.1**	**-0.4**

WEL 19 03:37:55.7,40.°S±1.°×17.°5E±.°,h18km±3km,ML4.4/54, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OHWZ	**Ohakea**	**0.32**	**94**	P		P	Pb	03 38 03.1	+0.3
OHWZ				S		S	Sb	03 38 08.6	+0.9
WAZ	**Wanganui**	**0.44**	**9**	P		P	Pb	03 38 05.2	+0.4
WAZ				S		S	Sb	03 38 12.0	+1.0
OGWZ	**Otaki Gorge**	**0.66**	**162**	P		P	Pg	03 38 08.7	-0.1
OGWZ				S		S	Sb	03 38 17.3	-0.2
KIW	**Kapiti Island**	**0.68**	**179**	P		P	Pb	03 38 08.5	-0.3
KIW				S		S	Sb	03 38 17.3	-0.5
POWZ	**Post Office Ro**	**0.70**	**107**	P		P	Pg	03 38 09.4	0.0
POWZ				S		S	Sg	03 38 18.9	+0.2
MRZ	**Mangatainoka R**	**0.70**	**133**	P		P	Pg	03 38 09.6	0.0
MRZ				S		S	Sg	03 38 19.3	+0.3
LREZ	**Lake Rotokare**	**0.82**	**332**	P		P	Pb	03 38 12.4	+0.1
TSZ	**Takapari Road**	**0.83**	**81**	P		P	Pb	03 38 11.4	0.0
HOWZ	**Holdsworth Sta**	**0.85**	**147**	P		P	Pg	03 38 12.2	-0.1
HOWZ				S		S	Sg	03 38 23.6	-0.1
PRWZ	**Pori Road**	**0.90**	**115**	P		P	Pn	03 38 13.4	0.0
PRWZ				S		S	Sn	03 38 25.8	-0.1
MTVZ	**Mangateitei**	**0.91**	**29**	P		P	Pb	03 38 12.4	-0.6
CAW	**Cannon Point**	**0.93**	**172**	P		P	Pb	03 38 13.3	+0.1
TIWZ	**Tintock**	**0.96**	**128**	P		P	Pg	03 38 14.2	0.0
PKVZ	**Pokaka**	**0.96**	**21**	P		P	Pb	03 38 13.1	-0.7
DUWZ	**D'Urville Isla**	**0.97**	**230**	P		P	Pb	03 38 13.3	-0.6
DVHZ	**Dannevirke**	**0.98**	**97**	P		P	Pg	03 38 14.6	-0.1
PREZ	**Palmer Road**	**1.02**	**326**	P		P	Pg	03 38 15.7	+0.3
TRVZ	**Turoa**	**1.02**	**30**	P		P	Pb	03 38 14.1	-0.8
MOVZ	**Moawhango**	**1.02**	**41**	P		P	Pb	03 38 13.6	-1.2
DRZ	**Dome Shelter**	**1.04**	**30**	P		P	Pb	03 38 14.8	-0.5
WHVZ	**Whangaehu Hut**	**1.05**	**31**	P		P	Pb	03 38 14.6	-0.7
FWVZ	**Far West T-bar**	**1.05**	**29**	P		P	Pb	03 38 14.7	-0.8
VRZ	**Vera Road**	**1.06**	**354**	P		P	Pn	03 38 15.7	+0.1
MTW	**Mount Morrison**	**1.07**	**155**	P		P	Pn	03 38 15.8	+0.1
TUVZ	**Tukino**	**1.09**	**33**	P		P	Pb	03 38 15.3	-0.6
NMEZ	**Namu Road**	**1.10**	**314**	P		P	Pg	03 38 16.9	-0.1
COVZ	**Chateau Observ**	**1.10**	**27**	P		P	Pb	03 38 15.3	-0.9
KHEZ	**Kahui Hut**	**1.12**	**322**	P		P	Pg	03 38 17.3	-0.1
TCW	**Tory Channel**	**1.13**	**205**	P		P	Pn	03 38 15.8	-0.7
DREZ	**Durham Road**	**1.13**	**331**	P		P	Pg	03 38 17.5	0.0
BHHZ	**Black Hill Sta**	**1.14**	**53**	P		P	Pn	03 38 15.4	-1.2
BFZ	**Birch Farm**	**1.14**	**116**	P		P	Pn	03 38 16.6	-0.1
NGZ	**Ngauruhoe**	**1.15**	**29**	P		P	Pn	03 38 16.0	-0.8
TWVZ	**Taurewa**	**1.19**	**21**	P		P	Pn	03 38 16.4	-1.0
WPHZ	**Waipukurau**	**1.19**	**85**	P		P	Pg	03 38 18.3	-0.3
TMWZ	**Te Maipa**	**1.19**	**141**	P		P	Pn	03 38 17.4	0.0
MHEZ	**Mangahewa**	**1.19**	**338**	P		P	Pg	03 38 18.7	0.0
WTVZ	**West Tongariro**	**1.20**	**27**	P		P	Pn	03 38 16.6	-0.9
NBEZ	**Newall Road No**	**1.21**	**319**	P		P	Pg	03 38 18.6	-0.5
PKE	**Pukeiti**	**1.21**	**324**	P		P	Pg	03 38 19.2	0.0
BHW	**Baring Head**	**1.22**	**181**	P		P	Pn	03 38 17.8	0.0
CPWZ	**Castlepoint**	**1.23**	**126**	P		P	Pb	03 38 18.5	+0.2
KRVZ	**Karewarewa**	**1.23**	**28**	P		P	Pn	03 38 17.3	-0.7
ANWZ	**Angora Road**	**1.24**	**103**	P		P	Pb	03 38 18.5	+0.1
MSWZ	**Moikau Station**	**1.26**	**168**	P		P	Pn	03 38 18.5	+0.2
PAWZ	**Paruwai Farm**	**1.26**	**162**	P		P	Pn	03 38 18.3	0.0
PRHZ	**Porangahau**	**1.33**	**94**	P		P	Pb	03 38 20.5	+0.4
TRWZ	**Traveller**	**1.35**	**154**	P		P	Pb	03 38 20.2	-0.2
KATZ	**Kakaramea**	**1.36**	**27**	P		P	Pn	03 38 19.6	-0.2
KWHZ	**Kaweka Forest**	**1.40**	**58**	P		P	Pb	03 38 21.0	-0.3
PLWZ	**Palliser**	**1.41**	**169**	P		P	Pn	03 38 20.4	0.0
RITZ	**Rihia Road**	**1.42**	**32**	P		P	Pn	03 38 20.8	+0.3
TUWZ	**Tuamarina**	**1.44**	**210**	P		P	Pn	03 38 21.0	+0.2
RATZ	**Rangitukua**	**1.48**	**27**	P		P	Pb	03 38 22.0	-0.6
PXZ	**Pawanui**	**1.52**	**85**	P		P	Pn	03 38 22.1	+0.3
NNZ	**Nelson**	**1.55**	**228**	P		P	Pn	03 38 22.4	+0.2
KAHZ	**Kahuranaki**	**1.57**	**76**	P		P	Pn	03 38 23.2	+0.6
MCHZ	**McNeill Hill**	**1.57**	**62**	P		P	Pb	03 38 24.0	-0.2
HATZ	**Hinemaiaia**	**1.59**	**36**	P		P	Pn	03 38 22.9	+0.1
BKZ	**Black Stump Fm**	**1.60**	**51**	P		P	Pn	03 38 23.3	+0.3
WATZ	**Wairara**	**1.61**	**24**	P		P	Pn	03 38 23.1	-0.1
CMWZ	**Cape Campbell**	**1.65**	**198**	P		P	Pb	03 38 25.2	-0.3
HIZ	**Hauiti**	**1.67**	**359**	P		P	Pn	03 38 24.0	+0.1
BSWZ	**Blackbirch Sta**	**1.71**	**207**	P		P	Pb	03 38 25.6	-1.0
WHTZ	**Whakaora**	**1.73**	**29**	P		P	Pb	03 38 27.7	+0.9
CKHZ	**Cape Kidnapper**	**1.76**	**73**	P		P	Pb	03 38 26.5	-0.8
MRHZ	**Matea Rd**	**1.79**	**42**	P		P	Pn	03 38 26.0	+0.4
NMHZ	**Naumai**	**1.83**	**54**	P		P	Pn	03 38 27.6	-1.0
KUTZ	**Kaahu Road**	**1.84**	**23**	P		P	Pb	03 38 28.1	-0.7
ARHZ	**Aropaoanui**	**1.86**	**61**	P		P	Pb	03 38 29.5	+0.4
QRZ	**Quartz Range**	**1.92**	**250**	P		P	Pn	03 38 27.6	+0.3
TLZ	**Tolley Road**	**1.92**	**15**	P		P	Pn	03 38 26.9	-0.5
WPRZ	**Whakapapatarin**	**1.93**	**31**	P		P	Pn	03 38 28.2	+0.7
ALRZ	**Allen Road**	**1.97**	**35**	P		P	Pn	03 38 28.5	+0.4
MTHZ	**Maungataniwha**	**2.01**	**49**	P		P	Pn	03 38 29.3	+0.6
PRRZ	**Plateau Road**	**2.04**	**35**	P		P	Pn	03 38 29.4	+0.3
GRRZ	**Galatos Road**	**2.06**	**28**	P		P	Pn	03 38 30.8	+1.4
HRRZ	**Handcock Road**	**2.09**	**31**	P		P	Pn	03 38 30.6	+0.9
RAHZ	**Arahi**	**2.11**	**54**	P		P	Pb	03 38 34.3	+0.9
WHHZ	**Waihua**	**2.12**	**59**	P		P	Pb	03 38 33.5	+0.1
HSRZ	**Hossack Road**	**2.14**	**30**	P		P	Pn	03 38 31.7	+1.2
THZ	**Tophouse**	**2.18**	**223**	P		P	Pn	03 38 31.7	+0.6
RRRZ	**Republican Roa**	**2.23**	**35**	P		P	Pn	03 38 32.0	+0.3
HLRZ	**Highlands Stat**	**2.24**	**31**	P		P	Pb	03 38 33.9	-1.7
MUGZ	**Murupara**	**2.24**	**41**	P		P	Pb	03 38 35.7	+0.2
UTU	**Utuhina**	**2.25**	**27**	P		P	Pb	03 38 35.5	-0.2
RTZ	**Ruatahuna**	**2.25**	**46**	P		P	Pb	03 38 34.0	-1.8
TARZ	**Mount Tarawera**	**2.31**	**33**	P		P	Pn	03 38 33.6	+0.7
SNGZ	**Shannon Statio**	**2.35**	**54**	P		P	Pn	03 38 36.9	-0.6
OMRZ	**Omania**	**2.37**	**29**	P		P	Pn	03 38 36.3	-1.5
KNZ	**Kokohu**	**2.44**	**62**	P		P	Pn	03 38 35.6	+1.1
KHZ	**Kahutara**	**2.45**	**204**	P		P	Pn	03 38 34.9	+0.3
TOZ	**Tahuroa Road**	**2.50**	**11**	P		P	Pn	03 38 34.7	-0.6
EDRZ	**Edgecumbe**	**2.52**	**35**	P		P	Pn	03 38 37.7	+2.0
MHGZ	**Mahia Peninsul**	**2.54**	**67**	P		P	Pn	03 38 35.7	-0.2
URZ	**Urewera**	**2.58**	**42**	P		P	Pn	03 38 36.3	-0.2
RAGZ	**Rawiri**	**2.58**	**50**	P		P	Pb	03 38 40.0	-1.4
PRGZ	**Paritu Road**	**2.63**	**62**	P		P	Pn	03 38 36.5	-0.7
PRGZ				P		P	Pb	03 38 38.2	-4.0
RIGZ	**Rimuhau**	**2.67**	**57**	P		P	Pn	03 38 37.6	-0.1
OPRZ	**Ohinepanea**	**2.67**	**29**	P		P	Pn	03 38 39.6	+1.9
TGRZ	**Tauranga**	**2.67**	**24**	P		P	Pb	03 38 40.4	-2.5
MWZ	**Matawai**	**2.75**	**49**	P		P	Pn	03 38 39.2	+0.3
DSZ	**Denniston Nort**	**2.81**	**235**	P		P	Pn	03 38 40.9	+1.2
WHRZ	**Whale Island**	**2.83**	**35**	P		P	Pn	03 38 42.2	+2.3
TKGZ	**Te Karaka**	**2.88**	**54**	P		P	Pn	03 38 39.9	-0.7
AWAZ	**Awhitu Peninsu**	**3.12**	**356**	P		P	Pn	03 38 44.6	+0.7
ETAZ	**East Tamaki Re**	**3.23**	**0**	P		P	Pn	03 38 46.0	+0.6
LTZ	**Lake Taylor**	**3.26**	**216**	P		P	Pn	03 38 45.8	0.0
WIAZ	**Waiheke Island**	**3.39**	**3**	P		P	Pn	03 38 47.9	+0.3
AMCZ	**Amberley**	**3.43**	**209**	P		P	Pn	03 38 47.7	-0.5
KUZ	**Kuaotunu**	**3.50**	**11**	P		P	Pn	03 38 52.2	+3.2
KUZ				P		P	Pn	03 38 52.2	+3.2
INZ	**Inchbonnie**	**3.63**	**225**	P		P	Pn	03 38 51.0	+0.1
OKCZ	**Okains Bay**	**3.79**	**201**	P		P	Pn	03 38 51.6	-1.5
OXZ	**Oxford**	**3.80**	**213**	P		P	Pn	03 38 51.7	-1.4
AKCZ	**Akaroa Harbour**	**3.97**	**201**	P		P	Pn	03 38 53.7	-1.8
WVZ	**Waitaha Valley**	**4.25**	**226**	P		P	Pn	03 39 00.9	+1.5
WCZ	**Waipu Caves**	**4.26**	**354**	P		P	Pn	03 39 00.4	+0.8
FOZ	**Fox Glacier**	**5.06**	**227**	P		P	Pn	03 39 10.1	-0.4
LBZ	**Lake Benmore**	**5.46**	**218**	P		P	Pn	03 39 16.2	+0.1
ODZ	**Otahua Downs**	**5.78**	**211**	P		P	Pn	03 39 18.6	-1.8
JCZ	**Jackson Bay**	**5.98**	**227**	P		P	Pn	03 39 23.2	0.0
TUZ	**Tuapeka**	**6.93**	**212**	P		P	Pn	03 39 35.6	-0.7
CTZ	**Chatham Island**	**7.25**	**122**	P		P	Pn	03 39 38.9	-1.6

*SJA **19** 03:50:46.2±0.9,30.°99S×71.°56W,h59km±14km,ML3.8, MW3.5*

*GUC **19** 03:50:47.4±0.6,30.°98S×71.°17W,h66km±3km,ML3.9*

ISC 19 03:50:45.9±2.3,31.°03S±0.°03×71.°51W±0.°07,h16km±15km, n24,σ0.°95/32,2C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.46**	**108**	⇓*i* P		**Pn**		**03 50 58.8**	**+0.9**
CMCH				*i* S		**Sn**		**03 51 06.7**	**+1.0**
CMCH				IAML				03 51 07.2	
	comp=E,28μm,0.2s								
GO04	**Tololo Observa**	**1.05**	**36**	*e*P		**Pb**		**03 51 06.1**	**+0.3**
GO04				*e*S		**Sg**		**03 51 20.7**	**+0.5**
GO04	**Tololo Observa**	**1.05**	**36**	⇓*i*P		**Pb**		**03 51 05.8**	**-0.1**
GO04				*i* S		**Sb**		**03 51 19.5**	**0.0**
GO04				IAML				03 51 21.1	
	comp=N,14μm,0.4s								
LSCH	**La Serena**	**1.14**	**12**	⇑*i*P		**Pn**		**03 51 07.6**	**+0.4**
LSCH				*i* S		**Sb**		**03 51 22.2**	**+0.4**
AROD	**Rodeo**	**1.96**	**64**	*e*P		**Pb**		**03 51 20.4**	**-0.9**
AROD				*e*S		**Sb**		**03 51 44.5**	**-1.1**
ROCH	**El Roble**	**1.98**	**168**	⇑*i*P		**Pn**		**03 51 19.6**	**+0.6**
ROCH				*i* S		**Sn**		**03 51 43.9**	**+0.3**
ROCH				IAML				03 51 44.3	
	comp=N,574nm,0.4s								
ROC1	**El Roble**	**1.98**	**168**	*e*P		**Pn**		**03 51 19.7**	**+0.6**
RTLS	**Leoncito**	**2.04**	**113**	*e*P		**Pb**		**03 51 21.6**	**-1.2**
RTLS				*e*S		**Sb**		**03 51 47.2**	**-0.8**
RTLS				IAML				03 51 47.7	
	comp=Z,538nm,0.3s								
LCO	**Las Campanas**	**2.13**	**19**	*e*P		**Pn**		**03 51 21.3**	**+0.2**
LCO				*e*S		**Sn**		**03 51 46.9**	**-0.4**
LCO	**Las Campanas**	**2.13**	**19**	⇓*i*P		**Pn**		**03 51 21.2**	**+0.2**
LCO				*i* S		**Sn**		**03 51 46.4**	**-1.0**
LCO				IAML				03 51 48.8	
	comp=N,1μm,0.3s								
AUSP	**Uspallata**	**2.17**	**124**	*e*P		**Pb**		**03 51 23.5**	**-1.4**
PEL	**Peldehue**	**2.22**	**162**	*e*P		**Pn**		**03 51 23.2**	**+1.1**
PEL	**Peldehue**	**2.22**	**162**	*e*P		**Pn**		**03 51 23.0**	**+0.9**
PEL				IAML				03 51 58.2	
	comp=N,505nm,0.3s								
ACDV	**Cuesta del Vie**	**2.23**	**68**	*e*P		**Pn**		**03 51 23.9**	**+1.5**
CLCH	**Cerro Calan**	**2.50**	**161**	*e*P		**Pn**		**03 51 26.9**	**+1.0**
CLCH				IAML				03 52 09.8	
	comp=E,1μm,0.7s								
FCH	**Farellones**	**2.51**	**156**	*e*P		**Pn**		**03 51 27.3**	**+0.9**
FCH				IAML				03 52 11.7	
	comp=E,254nm,0.2s								
SJA	**San Juan**	**2.57**	**102**	*e*P		**Pn**		**03 51 28.5**	**+1.6**
SJA				IAML				03 52 02.8	
	comp=Z,192nm,0.2s								
AMOG	**MOGNA**	**2.59**	**89**	*e*P		**Pn**		**03 51 28.8**	**+1.5**
RTLL	**Cerro Villicun**	**2.62**	**97**	*e*P		**Pn**		**03 51 28.7**	**+1.1**
RTCV	**Cerro Valdivia**	**2.67**	**109**	*e*P		**Pn**		**03 51 29.9**	**+1.6**
LMEL	**Las Melosas**	**3.02**	**159**	IAML				03 52 26.7	
	comp=N,270nm,0.2s								
ACLC	**CERRO LA CRUZ**	**4.26**	**69**	*e*P		**Pn**		**03 51 50.9**	**+0.7**
APLL	**PUNTA DE LOS L**	**4.34**	**83**	*e*P		**Pn**		**03 51 51.2**	**0.0**
APLL				IAML				03 52 39.5	
	comp=Z,75nm,0.6s								
MRA	**San Martin**	**5.13**	**107**	*e*P		**Pn**		**03 52 02.0**	**-0.1**
MRA				IAML				03 53 02.0	
	comp=Z,57nm,0.5s								

IDC 19 04:42:51.8±7.8,21.°08S×179.°14W,h592km±82km, mb3.0/4,mb1 3.3/4,mb1mx2.9/33,mbtmp3.9/4,Error ellipse: s-maj=160.1km s-min=35.2km az=152.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.35**	**257**	P		P		04 50 03.3	0.0
	1.2nm,0.5s,baz=94,slow=8.1,SNR=11								
WRA	**Warramunga Arr**	**43.47**	**263**	P		P		04 50 03.9	-0.3
	0.5nm,0.3s,baz=96,slow=7.5,SNR=22								
NVAR	**Mina Array Bea**	**82.18**	**44**	P		P		04 54 12.3	+0.3
	0.5nm,0.6s,baz=227,slow=6.8,SNR=4.5								
ILAR	**Eielson Array**	**89.12**	**13**	P		P		04 54 44.0	-0.5
	0.4nm,0.4s,baz=217,slow=5.3,SNR=9.3								
ARCES	**ARCESS Array B**	**129.29**	**349**	PKP		PKPdf		05 00 53.2	+0.2
	2.6nm,0.8s,baz=26,slow=1.9,SNR=7.7								
AKASG	**Malin Array Be**	**142.99**	**330**	PKP		PKPdf		05 01 16.4	-2.4
	0.7nm,0.5s,baz=43,slow=4.4,SNR=12								
BRTR	**Keskin Array B**	**146.43**	**311**	PKPbc		PKPbc		05 01 27.8	+0.1
	0.8nm,0.7s,baz=144,slow=4.3,SNR=4.4								
GERES	**GERESS Array B**	**150.45**	**343**	PKPbc		PKPbc		05 01 37.5	+0.1
	0.4nm,0.4s,baz=36,slow=3.4,SNR=6.1								

*SJA **19** 04:53:14.0±0.4,23.°55S×66.°76W,h230km±2km,ML3.3, MW3.2*

*ISCJB **19** 04:53:15.6±0.4,23.°59S±0.°04×66.°87W±0.°04,h211km±4km, mb3.3/4,Error ellipse: s-maj=7.0km s-min=5.3km az=35.7*

*IDC **19** 04:53:15.5±1.1,23.°54S×66.°64W,h193km±10km,mb3.2/4, mb1 3.5/9,mb1mx3.4/21,mbtmp3.8/9,MS2.1/1,Ms1 2.1/1, ms1mx1.9/7,Error ellipse: s-maj=21.1km s-min=14.4km az=25.0*

*GUC **19** 04:53:16.9±0.6,23.°59S×67.°09W,h236km±12km,ML4.4*

ISC 19 04:53:16.0±0.8,23.°57S±0.°05×66.°81W±0.°05,h208km±7km, n40,σ1.°04/58,mb3.4/4,11C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.66**	**134**	*e*P		**Pn**		**04 53 52.6**	**+0.6**
SLA				IAML				04 53 53.4	
	comp=Z,708nm,0.5s								
SLA				*e*S		**S**		**04 54 20.5**	**+0.7**
YJA	**Yavi**	**1.83**	**41**	*e*P		**Pn**		**04 53 54.3**	**+0.3**
YJA				IAML				04 53 55.2	
	comp=Z,70nm,0.6s								
YJA				*e*S		**S**		**04 54 24.0**	**+0.9**
LVC	**Limon Verde**	**2.15**	**296**	P		**Pn**		**04 53 57.6**	**+0.5**
	comp=Z,146nm,0.3s,baz=122,slow=6.9,SNR=922								
LVC				LR		LR		04 54 24.5	
	comp=Z,36nm,19.0s,baz=47,slow=30								
LVC				S		**S**		**04 54 29.0**	**+0.4**
	comp=Z,46nm,0.3s,baz=230,slow=23,SNR=15								
LVC	**Limon Verde**	**2.15**	**296**	*e*P		**Pn**		**04 53 57.6**	**+0.5**
LVC				*e*S		**S**		**04 54 29.8**	**+1.2**
PB15	**IPOC Station P**	**2.47**	**278**	*e*P		**Pn**		**04 54 00.7**	**+0.4**
PB15				*e*S		**S**		**04 54 35.1**	**+0.8**
PB15	**IPOC Station P**	**2.47**	**278**	⇑*i*P		**Pn**		**04 54 00.8**	**+0.5**
PB15				*i* S		**S**		**04 54 34.0**	**-0.3**
PB15				IAML				04 54 37.0	
	comp=N,2μm,0.3s								
FSA	**Cafayete**	**2.64**	**164**	*e*P		**Pn**		**04 54 02.1**	**0.0**
FSA				IAML				04 54 06.0	
	comp=Z,19nm,0.4s								
PB06	**IPOC Station P**	**2.68**	**288**	*e*P		**Pn**		**04 54 03.0**	**+0.4**

MASBT eS Sn 04 59 27.6 +0.5
baz=317
WLCH Liuqiu 1.21 302 P Pn 04 59 12.1 +1.6
baz=300
WLCH eS Sn 04 59 28.2 +1.0
baz=300
TWP Hsiaoliuchiu 1.22 302 *i* P Pn 04 59 12.1 +1.6
baz=300
TWP eS Sn 04 59 27.7 +0.2
baz=300
SSD Sandimen 1.30 323 P Pn 04 59 11.9 +0.4
baz=321
SSD S Sn 04 59 29.3 0.0
baz=321
KAU Kaohsiung 1.39 308 *e*P Pn 04 59 13.7 +1.1
baz=307
KAU eS Sn 04 59 31.4 +0.3
baz=307
CHKT Chengkung 1.39 356 *e*P Pn 04 59 12.6 0.0
baz=354
CHKT S Sn 04 59 31.5 +0.3
baz=354
TWM1 Shoushan 1.48 319 P Pn 04 59 15.4 +1.6
baz=317
TWM1 S Sn 04 59 34.0 +0.7
baz=317
SLGT Liugui 1.50 329 *e*P Pn 04 59 14.5 +0.5
baz=327
SLGT eS Sn 04 59 34.1 +0.6
baz=327
ELDTW Lidau 1.54 344 P Pn 04 59 14.4 -0.2
baz=342
ELDTW eS Sn 04 59 33.7 -1.0
baz=342
STYT Tauyuan 1.60 335 P Pn 04 59 15.5 +0.2
baz=334
STYT eS Sn 04 59 35.9 0.0
baz=334
TWF1 Yuli 1.65 354 *e*P Pn 04 59 17.1 +1.2
baz=353
TWF1 S Sn 04 59 36.4 -0.5
baz=353
YULB Yu-li 1.69 354 *e*P Pn 04 59 16.6 +0.2
baz=353
YULB eS Sn 04 59 36.1 -1.8
baz=353
CHN1 Nanshi 1.71 329 *e*P Pn 04 59 16.6 -0.2
baz=328
CHN1 eS Sn 04 59 38.5 -0.1
baz=328
WTP Ta-pu 1.73 332 *e*P Pn 04 59 17.0 +0.1
baz=331
WTP eS Sn 04 59 39.4 +0.4
baz=331
TPUB Ta-pu 1.77 334 *e*P Pn 04 59 17.5 0.0
baz=332
TPUB eS Sn 04 59 39.6 -0.2
baz=332
HGSD Ruisui 1.78 358 *e*P Pn 04 59 17.9 +0.4
baz=357
HGSD eS Sn 04 59 39.4 -0.5
baz=357
EHY Hungye 1.80 355 *e*P Pn 04 59 17.7 -0.1
baz=354
EHY eS Sn 04 59 40.0 -0.4
baz=354
TWK Hsinying 1.80 330 P Pn 04 59 18.6 +0.6
baz=328
TWK S Sn 04 59 40.2 -0.4
baz=328
CHN4 Tsaushan 1.83 333 P Pn 04 59 18.6 +0.3
baz=332
CHN4 S Sn 04 59 42.0 +0.8
baz=332
YUS Yu-Shan 1.84 345 *e*P Pn 04 59 19.6 +0.8
baz=343
YUS eS Sn 04 59 41.8 -0.3
baz=343
SCLT Jiali 1.89 321 *e*P Pn 04 59 19.8 +0.9
baz=319
SCLT eS Sn 04 59 42.6 +0.2
baz=319
CHN8 Yiju 2.01 324 *e*P Pn 04 59 22.0 +1.5
baz=323
CHN8 eS Sn 04 59 45.9 +0.6
baz=323
CHN5 Tsauling 2.02 339 P Pn 04 59 21.4 +0.6
baz=337
CHN5 S Sn 04 59 46.5 +0.8
baz=337
CHY Chiayi 2.03 331 *e*P Pn 04 59 21.8 +1.0
baz=330
CHY eS Sn 04 59 45.5 -0.4
baz=330
CHN2 Minshiung 2.04 333 *e*P Pn 04 59 22.0 +1.1
baz=332
CHN2 eS Sn 04 59 47.0 +0.9
baz=332
VWDT VWDT 2.06 351 *e*P Pn 04 59 22.5 +1.2
baz=350
VWDT eS Sn 04 59 47.1 +0.6
baz=350
WLGB Puzi 2.07 328 eS Sn 04 59 47.4 +0.6
baz=327
ESL Shilin 2.10 359 *e*P Pn 04 59 23.3 +1.6
baz=358
ESL eS Sn 04 59 47.0 -0.4
baz=358
WGK Gukeng 2.15 337 eS Sn 04 59 48.9 +0.4
baz=336
WDLH Douliu 2.16 336 *e*P Pn 04 59 22.7 +0.2
baz=335
WDLH eS Sn 04 59 48.3 -0.5
baz=335
ENLB Shoufeng 2.19 3 eS Sn 04 59 50.9 +1.4
baz=2.0
WJS Zhushan 2.22 342 eS Sn 04 59 51.3 +1.1
baz=340
SMLT Sun Moon Lake 2.23 346 *e*P Pn 04 59 24.6 +1.1
baz=345
SMLT eS Sn 04 59 53.2 +2.6
baz=345
WSF Szhu 2.25 329 *e*P Pn 04 59 25.0 +1.3
baz=328
WSF eS Sn 04 59 50.6 -0.2
baz=328
TYC Yuchr 2.26 345 *e*P Pn 04 59 24.9 +1.0
baz=344
TYC eS Sn 04 59 52.2 +1.0
baz=344
WNT Mingjian 2.28 341 eS Sn 04 59 52.4 +0.7
baz=340
WDGT Dungji 2.29 313 P Pn 04 59 23.9 -0.2
baz=311
WDGT eS Sn 04 59 49.4 -2.4
baz=311
CHGB Renai 2.36 353 *e*P Pn 04 59 26.8 +1.4
baz=352
CHGB eS Sn 04 59 54.0 +0.1
baz=352
TWD Chiawan 2.36 3 *e*P Pn 04 59 26.0 +0.8
baz=2.0
TWD eS Sn 04 59 54.0 +0.3
baz=2.0
RLNB Erlin 2.41 335 eS Sn 04 59 54.8 +0.1
baz=333
VCHM Qimei 2.42 309 *e*P Pn 04 59 25.7 -0.2
baz=307
WHF Hehuan Shan 2.43 355 *e*P Pn 04 59 27.7 +1.2
baz=354
WHF eS Sn 04 59 56.1 +0.2
baz=354
NACB Ninganchiao 2.46 2 *e*P Pn 04 59 27.0 +0.6
baz=1.0
NACB eS Sn 04 59 55.8 0.0
baz=1.0
WCHH Zhanghua 2.51 340 eS Sn 04 59 57.1 +0.1
baz=339
PHUB P'eng-hu 2.52 316 *e*P Pn 04 59 26.8 -0.5
baz=314
PHUB eS Sn 04 59 55.0 -2.3
baz=314
TWT Tachien 2.55 354 *e*P Pn 04 59 29.4 +1.6
baz=352
TWT eS Sn 04 59 60.0 +1.7
baz=352
TDCB Techi 2.55 353 *e*P Pn 04 59 29.6 +1.8
baz=352

PNG Penghu 2.57 316 P Pn 04 59 27.7 -0.2
baz=315
PNG eS Sn 04 59 56.6 -1.9
baz=315
TWQ1 Liyutan 2.71 346 *e*P Pn 04 59 30.9 +1.1
baz=345
NNSB Datong 2.71 358 *e*P Pn 04 59 31.4 +1.4
baz=357
NNSB eS Sn 05 00 01.8 -0.2
baz=357
ENA Nanau 2.72 5 *e*P Pn 04 59 30.7 +0.8
baz=4.0
NNS Nan Shan 2.72 358 *e*P Pn 04 59 32.6 +2.6
baz=357
NNS eS Sn 05 00 04.7 +2.4
baz=357
EOS1 EOS1 2.89 12 *e*P Pn 04 59 33.5 +1.3
baz=11
EOS1 eS Sn 05 00 05.6 -0.5
baz=11
TWC Suao 2.91 7 *e*P Pn 04 59 33.5 +1.1
baz=6.0
YHNB Yeheng 2.95 358 *e*P Pn 04 59 34.8 +1.7
baz=357
YHNB eS Sn 05 00 09.3 +1.5
baz=357
JYNG Yonagunijimaku 3.04 26 P Pn 04 59 35.3 +1.0
JYNG eS Sn 05 00 09.6 -0.3
YOJ Yonaguni jima 3.08 27 *e*P Pn 04 59 35.5 +0.7
baz=26
YOJ Yonaguni jima 3.08 27 P Pn 04 59 35.6 +0.8
YOJ eS Sn 05 00 11.5 +0.7
HATJ Hateruma jima 3.17 42 P Pn 04 59 36.0 0.0
HATJ S Sn 05 00 12.4 -0.5
IRIF Iriomote-Funau 3.33 38 P Pn 04 59 38.7 +0.5
JKRS Kuro-shima 3.43 42 P Pn 04 59 39.9 +0.4
JIJ Ishigaki jima 3.60 42 P Pn 04 59 41.7 -0.1
JIJ S Sn 05 00 22.6 -0.8
VWUC VWUC 3.77 331 *e*P Pn 04 59 43.7 -0.3
baz=329
VWUC eS Sn 05 00 25.1 -2.1
baz=329
JISG Ishigakijimahi 3.87 42 P Pn 04 59 45.3 -0.1
JISG eS Sn 05 00 29.0 -0.8
KNM Kinmen 3.89 314 *e*P Pn 04 59 46.7 +1.0
baz=311
KNM eS Sn 05 00 30.8 +0.4
baz=311
KNMB Chin-men Tao 3.96 315 *e*P Pn 04 59 46.3 -0.2
baz=313
KNMB eS Sn 05 00 29.7 -2.2
baz=313
PTMZ Houxiangcun 3.96 327 *e*P Pn 04 59 46.5 -0.1
baz=326
PTMZ eS Sn 05 00 29.7 -2.4
baz=326
PTTC Pingtan 4.09 338 *e*P Pn 04 59 48.7 +0.3
baz=337
PTTC eS Sn 05 00 32.5 -2.6
baz=337
ZPLA Ao Xicun 4.09 303 *e*P Pn 04 59 48.5 +0.1
baz=302
JTJ Tarama 4.16 45 P Pn 04 59 49.2 -0.1
ZZJH Jiuhuzhen 4.49 309 *e*P Pn 04 59 54.1 +0.3
baz=307
AXDP Jialang 4.53 315 *e*P Pn 04 59 54.5 +0.2
baz=314
VDOS Pratas Island 4.55 258 *e*P Pn 04 59 55.8 +1.3
baz=257
MATB Ma-tsu 4.64 343 *e*P Pn 04 59 55.2 -0.7
baz=342
MHZQ Yeshan 4.92 333 *e*P Pn 04 59 60.0 +0.4
baz=332
LYJJ Jianjiangzhen 5.07 342 *e*P Pn 05 00 01.5 -0.2
baz=341
LYJJ eS Sn 05 00 56.3 -2.6
baz=341

NNC 19 05:07:37.3±2.3, 54°.13N×86°.29E, h0km, mb3.9, mpv3.3, 5C-2D, Error ellipse: s-maj=16.5km s-min=11.6km az=65.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**0.89**	**258**	⇓P	Pg	05 07 54.1	-0.2
	4.3nm,0.5s,baz=78,slow=16						
ZAA0				⇑S	Sb	05 08 07.2	-0.8
	21nm,1.0s						
KURK	**Kurchatov**	**5.81**	**237**	⇓Pn	Pn	05 09 06.0	+1.4
	2.6nm,0.8s						
KURK				⇑Lg	Lg	05 10 42.1	
	9.2nm,1.1s						
KURBB	**Kurchatov Arra**	**5.91**	**237**	⇑Pn	Pn	05 09 07.3	+1.3
	6.0nm,0.6s						
KURBB				⇑Lg	Lg	05 10 46.6	
	19nm,1.4s						
MK31	**Makanchi Array**	**7.78**	**201**	⇑Pn	Pn	05 09 32.1	+0.4
	1.4nm,0.6s,baz=29,slow=13,SNR=16						

IDC 19 05:09:41.2±10.0, 6°.66S×155°.07E, h116km±69km, mb3.6/5, mb1 3.9/6, mb1mx3.6/29, mbtmp4.1/6, Error ellipse: s-maj=91.5km s-min=28.2km az=95.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.29**	**250**	P	Pn	05 11 39.4	+0.7
	5.5nm,0.3s,baz=23,slow=7.4,SNR=8.2						
WRA	**Warramunga Arr**	**24.07**	**235**	P	P	05 14 45.9	-0.1
	8.4nm,0.6s,baz=56,slow=9.6,SNR=53						
WRA				PcP	PcP	05 18 25.7	+1.1
	0.6nm,0.5s,baz=56,slow=2.4,SNR=5.7						
ASAR	**Alice Springs**	**26.45**	**228**	P	P	05 15 06.8	-0.7
	1.9nm,0.6s,baz=56,slow=9.1,SNR=16						
H11S3	**WAKE ISLAND Hy**	**27.50**	**24**	T	T	05 43 47.6	
	baz=203,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy**	**27.50**	**24**	T	T	05 43 45.4	
	baz=203,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**27.51**	**24**	T	T	05 43 34.7	
	baz=203,slow=75,SNR=8.6						
CMAR	**Chiang Mai Arr**	**60.70**	**295**	P	P	05 19 41.3	+0.5
	2.9nm,0.6s,baz=120,slow=5.1,SNR=14						
SONM	**Songino Array**	**69.09**	**327**	P	P	05 20 34.5	-0.3
	0.3nm,0.5s,baz=122,slow=4.3,SNR=2.8						
MKAR	**Makanchi Array**	**83.20**	**319**	P	P	05 21 54.0	-0.5
	0.2nm,0.5s,baz=107,slow=4.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**153.00**	**286**	PKPbc	PKPbc	05 29 25.7	-0.4
	0.6nm,0.6s,baz=110,slow=3.5,SNR=8.5						

*IDC **19** 05:12:16.6±0.8, 30°.10S×176°.12W, h0km, mb4.2/7, mb1 4.4/8, mb1mx4.2/28, mbtmp4.2/8, ML4.0/1, MS3.6/6, Ms1 3.6/6, ms1mx3.3/38, Error ellipse: s-maj=29.3km s-min=19.0km az=177.0*

*ISCJB **19** 05:12:19.8±0.7, 30°.24S±0°.05×176°.16W±0°.08, h33km, mb4.3/11, MS3.7/5, Error ellipse: s-maj=10.3km s-min=6.9km az=6.9*

*NEIC **19** 05:12:22.0±1.4, 30°.06S×176°.18W, h36km±11km, mb4.4/7, Error ellipse: s-maj=12.6km s-min=9.7km az=63.0*

ISC 19 05:12:21.8±0.6, 30°.14S±0°.07×176°.14W±0°.08, h35km, n55, σ1s00/53, mb4.3/11, MS3.6/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.78**	**299**	Pn	Pn	05 12 49.2	-0.8
	167nm,0.3s,baz=40,slow=20,SNR=14						
RAO				Sn	Sn	05 13 11.6	+0.1
	1µm,0.3s,baz=61,slow=22,SNR=22						
RAO	**Raoul Island**	**1.78**	**299**	*e*Pn	Pn	05 12 49.5	-0.5
RAO				*e*Sn	Sn	05 13 12.3	+0.8
URZ	**Urewera**	**9.84**	**213**	Pn	Pn	05 14 39.8	-0.9
	1.4nm,0.3s,baz=300,slow=2.9,SNR=7.7						
URZ	**Urewera**	**9.84**	**213**	*e*Pn	Pn	05 14 42.6	+1.9
URZ				*e*Sn	Sn	05 16 30.8	+1.0
OUZ	**Omahuta**	**10.02**	**237**	*e*Pn	Pn	05 14 49.2	+6.0
BKZ	**Black Stump Fm**	**10.85**	**212**	*e*Pn	Pn	05 14 53.2	-1.4
BKZ				*e*Sn	Sn	05 16 55.5	+0.6
THZ	**Tophouse**	**14.59**	**214**	*e*Pn	Pn	05 15 46.1	+0.4
THZ				*e*Sn	Sn	05 18 17.0	-9.1
KHZ	**Kahutara**	**14.80**	**211**	*e*Pn	Pn	05 15 44.5	-3.9
KHZ				*e*Sn	Sn	05 18 19.3	-12
OXZ	**Oxford**	**16.20**	**212**	*e*Pn	P	05 16 09.0	-0.4
	15nm,0.7s						
OXZ				*e*Sn	Sn	05 18 51.3	-14
DZM	**Mont Dzumac**	**17.57**	**293**	LR	LR	05 22 31.7	
	comp=Z,168nm,18.1s,baz=191,slow=35						
DZM	**Mont Dzumac**	**17.57**	**293**	*e*Pn	P	05 16 23.7	-1.2
	12nm,0.9s						
CTA	**Charters Tower**	**35.35**	**278**	P	P	05 19 15.6	+1.5
	4.4nm,0.7s,baz=89,slow=12,SNR=4.6						
CTAO	**Charters Tower**	**35.35**	**278**	*e*P	P	05 19 15.7	+1.6
	7.1nm,0.9s						
STKA	**Stephens Creek**	**36.10**	**256**	P	P	05 19 21.0	+0.6
	2.7nm,0.8s,baz=88,slow=11,SNR=3.4						
BBOO	**Buckleboo**	**40.59**	**254**	*e*P	P	05 19 58.2	0.0
	12nm,1.0s						
AS01	**Alice Springs**	**44.69**	**266**	*e*P	P	05 20 31.4	-0.2
AS31	**Alice Springs**	**44.73**	**266**	*e*P	P	05 20 31.5	-0.4
	1.2nm,0.6s						
ASAR	**Alice Springs**	**44.73**	**266**	P	P	05 20 31.4	-0.5
	2.8nm,0.8s,baz=108,slow=7.6,SNR=24						
WB2	**Warramunga Arr**	**45.69**	**271**	*e*P	P	05 20 38.2	-1.4
	4.7nm,0.9s						
WR1	**Warramunga Arr**	**45.70**	**271**	*e*P	P	05 20 38.0	-1.6
	9.5nm,1.0s						
WRA	**Warramunga Arr**	**45.70**	**271**	P	P	05 20 38.0	-1.7
	3.5nm,0.8s,baz=110,slow=8.0,SNR=12						
WRA				LR	LR	05 38 46.3	
	comp=Z,57nm,18.2s,baz=65,slow=35						
RPN	**Rapa Nui**	**57.95**	**105**	LR	LR	05 42 28.9	
	comp=Z,29nm,19.6s,baz=292,slow=31						
JOW	**Kunigami**	**77.69**	**311**	LR	LR	05 54 28.0	
	comp=Z,44nm,19.2s,baz=252,slow=33						
ASAJ	**Asahikawa**	**82.97**	**331**	LR	LR	05 58 33.4	
	comp=Z,65nm,18.9s,baz=174,slow=34						
NVAR	**Mina Array Bea**	**86.96**	**42**	P	P	05 25 03.4	-0.1
	1.0nm,0.8s,baz=220,slow=8.0,SNR=6.9						
PSI	**Papat**	**87.01**	**275**	LR		06 03 52.8	
	comp=Z,24nm,18.7s,baz=46,slow=36						
USRK	**Ussuriysk Ar.**	**87.84**	**326**	P	P	05 25 08.6	+1.3
	2.3nm,0.8s,baz=139,slow=4.3,SNR=4.9						
LTX	**Lajitas**	**90.90**	**56**	*e*P	P	05 25 22.3	+0.2
TXAR	**Lajitas Array**	**90.90**	**56**	P	P	05 25 22.3	+0.2
	0.5nm,0.9s,baz=240,slow=3.0,SNR=3.9						
MK01	**Makanchi Array**	**118.83**	**310**	*e*PKPdf	**PKPdf**	05 31 05.7	-0.5
MK31	**Makanchi Array**	**118.84**	**310**	*e*PKPdf	**PKPdf**	05 31 05.4	-0.8
MK32	**Makanchi Array**	**118.84**	**310**	*e*PKPdf	**PKPdf**	05 31 05.7	-0.4
MKAR	**Makanchi Array**	**118.84**	**310**	PKP	**PKPdf**	05 31 05.7	-0.4
	1.4nm,0.8s,baz=219,slow=1.3,SNR=12						
ZALV	**Zalesovo Beam**	**118.91**	**318**	PKP	**PKPdf**	05 31 05.3	-0.7
	0.6nm,0.5s,baz=241,slow=1.5,SNR=4.5						
ZAA1	**Zalesovo Array**	**118.91**	**318**	*e*PKPdf	**PKPdf**	05 31 05.3	-0.7
MAKZ	**Makanchi**	**119.05**	**310**	*e*PKPdf	**PKPdf**	05 31 06.2	-0.4
KURK	**Kurchatov**	**122.03**	**314**	*e*PKPdf	**PKPdf**	05 31 12.0	-0.1
FIA1	**FINESS Array S**	**145.43**	**341**	*e*PKPbc	**PKPab**	05 31 55.0	-0.6
FIA0	**FINESS Array S**	**145.43**	**341**	*e*PKPbc	**PKPab**	05 31 54.8	-0.7
FINES	**FINESS Array B**	**145.43**	**341**	PKPbc	**PKPab**	05 31 54.8	-0.7
	14nm,0.9s,baz=60,slow=3.6,SNR=53						
KBZ	**Khabaz**	**146.29**	**305**	PKPbc	**PKPab**	05 31 59.7	+0.4
	3.6nm,1.0s,baz=63,slow=6.8,SNR=7.6						
NC303	**NORSAR Array S**	**148.51**	**353**	*e*PKPbc	**PKPbc**	05 32 03.9	-0.2
NB2	**NORSAR Subarra**	**148.71**	**353**	PKP	**PKPbc**	05 32 04.3	-0.4
	comp=Z,1.6nm,0.8s,baz=6.0,slow=2.7						
NB200	**NORSAR Array S**	**148.71**	**353**	*e*PKPbc	**PKPbc**	05 32 04.0	-0.7
NOA	**NORSAR Array B**	**148.71**	**353**	PKPbc	**PKPbc**	05 32 04.0	-0.7
	comp=Z,2.2nm,0.8s,baz=14,slow=4.3,SNR=7.0						
AKASG	**Malin Array Be**	**152.05**	**324**	PKPbc	**PKPbc**	05 32 12.9	0.0
	comp=Z,10nm,0.8s,baz=47,slow=2.8,SNR=27						
AKBB	**Malin Array Si**	**152.05**	**324**	*e*PKPbc	**PKPbc**	05 32 13.1	+0.2
KIEV	**Kiev**	**152.06**	**324**	*e*PKPbc	**PKPbc**	05 32 13.2	+0.2
AK11	**Malin Array Si**	**152.09**	**324**	*e*PKPbc	**PKPbc**	05 32 13.1	+0.1
BR101	**Keskin Array S**	**153.88**	**300**	*e*PKPbc	**PKPbc**	05 32 17.9	+0.3
BRTR	**Keskin Array B**	**153.88**	**300**	PKPbc	**PKPbc**	05 32 17.9	+0.3
	comp=Z,1.2nm,0.9s,baz=132,slow=1.8,SNR=5.9						
BUR04	**Bucovina Ar. S**	**156.03**	**323**	*e*PKPab	**PKPab**	05 32 40.1	+0.5
TOA0	**Torodi Ar. Sit**	**162.97**	**173**	*e*PKPab	**PKPab**	05 33 11.6	+1.3
TORD	**Torodi Ar. Bea**	**162.97**	**173**	PKPab	**PKPab**	05 33 11.1	+0.8
	comp=Z,4.2nm,0.9s,baz=250,slow=2.1,SNR=17						
TOA1	**Torodi Ar. Sit**	**162.98**	**173**	*e*PKPab	**PKPab**	05 33 11.1	+0.8

*ARE **19** 05:14:05.0±0.0, 13°.39S×76°.17W, h60km*

NEIC 19 05:14:05.1±2.8, 13°.63S×76°.83W, h35km, ML4.3(ARE), **Error ellipse: s-maj=62.0km s-min=12.4km az=65.0, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.64**	**360**	*e*Pn	Pn	05 14 31.4	0.0
NNA				*e*Sn	Sn	05 14 50.0	-1.3
LPAZ	**La Paz**	**8.81**	**109**	*e*Pn	Pn	05 16 10.7	+0.1
MNMC	**Minye Minye**	**8.83**	**129**	*e*Pn	Pn	05 16 11.1	+0.4
MNMC				*e*Sn	Sn	05 17 48.6	-0.5
PB11	**IPOC Station P**	**9.18**	**133**	*e*Pn	Pn	05 16 14.0	-1.3
PB11				*e*Sn	Sn	05 17 51.7	-5.8
PB01	**IPOC Station P**	**10.17**	**137**	*e*Pn	Pn	05 16 29.5	+0.7
PB01				*e*Sn	Sn	05 18 16.3	-5.3

*ISCJB **19** 05:26:42.9±0.5, 3°.39S±0°.04×79°.29W±0°.06, h91km±7km, mb3.3/3, Error ellipse: s-maj=10.5km s-min=6.3km az=3.3*

*IGQ **19** 05:26:43.5±0.7, 3°.5S×79°.9W, h4km, MLv4.0*

*IDC **19** 05:26:46.5±4.9, 3°.70S×79°.53W, h124km±60km, mb3.1/3, mb1 3.4/6, mb1mx3.2/30, mbtmp3.6/6, Error ellipse: s-maj=128.6km s-min=38.7km az=60.0*

ISC 19 05:26:43.8±0.9, 3°.39S±0°.05×79°.18W±0°.07, h85km±9km, n33, σ1s63/44, mb3.4/3, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COHC	**Cochancay**	**0.92**	**355**	P	**Pn**	05 27 01.5	-0.7
COHC				S	Sn	05 27 14.6	-1.3
MILO	**Milagro-Astudi**	**1.16**	**341**	P	**Pn**	05 27 05.8	+0.7
MILO				S	Sn	05 27 23.6	+2.6
AMIL	**Milagro (Trans**	**1.31**	**342**	P	**Pn**	05 27 05.9	-1.0
AMIL				S	Sn	05 27 23.3	-1.0
MORR	**Playas El Morr**	**1.38**	**303**	P	**Pn**	05 27 09.7	+2.0
AGUAY	**Guayaquil**	**1.53**	**330**	P	**Pn**	05 27 08.9	-0.8
AGUAY				S	Sn	05 27 27.7	-1.7
BMAS	**Trigal station**	**2.00**	**20**	P	**Pn**	05 27 14.5	-1.7
BMAS				S	Sn	05 27 40.4	-0.3
ARRY	**Arrayan**	**2.00**	**21**	P	**Pn**	05 27 14.3	-1.9
PAT1	**Patacocha**	**2.01**	**22**	P	**Pn**	05 27 16.0	-0.5
BPAT	**Tungurahua Vol**	**2.02**	**22**	P	**Pn**	05 27 15.0	-1.5
BPAT				S	Sn	05 27 42.9	+1.6
BBIL	**Ulba Tungurahu**	**2.04**	**20**	P	**Pn**	05 27 16.2	-0.6
BBIL				S	Sn	05 27 44.2	+2.3
RETU	**Refugio**	**2.06**	**21**	P	**Pn**	05 27 18.1	+1.0
JUI6	**Juive**	**2.08**	**20**	P	**Pn**	05 27 16.6	-0.5
POND	**Pondoa**	**2.08**	**20**	P	**Pn**	05 27 17.3	0.0
BULB	**Ulba Tungurahu**	**2.08**	**22**	P	**Pn**	05 27 16.7	-0.7
BULB				S	Sn	05 27 42.8	-0.1
BRUN	**Tungurahua Vol**	**2.10**	**21**	P	**Pn**	05 27 17.3	-0.2
BRUN				S	Sn	05 27 42.0	-1.1
RUN5	**Runtun**	**2.10**	**21**	P	**Pn**	05 27 17.3	-0.1
PUYO	**Puyo, Santa Ro**	**2.21**	**32**	P	**Pn**	05 27 17.1	-1.6
PISA	**Pisayambo**	**2.45**	**19**	P	**Pn**	05 27 22.1	-0.2
BMOR	**Cotopaxi Volca**	**2.74**	**15**	P	**Pn**	05 27 27.0	+0.9
BNAS	**Cotopaxi Volca**	**2.79**	**15**	P	**Pn**	05 27 29.9	+3.0
BREF	**Cotopaxi Volca**	**2.80**	**15**	P	**Pn**	05 27 29.9	+2.8
BTAM	**Cotopaxi Volca**	**2.81**	**16**	P	**Pn**	05 27 29.1	+2.0
BVC2	**Cotopaxi Volca**	**2.82**	**16**	P	**Pn**	05 27 29.3	+2.0
PITA	**Cotopaxi Volc**	**2.91**	**15**	P	**Pn**	05 27 31.2	+2.8
ANTI	**Antisana**	**3.09**	**19**	P	**Pn**	05 27 30.9	-0.1
MAG1	**Magdalena**	**3.35**	**350**	P	**Pn**	05 27 32.6	-1.4
ATAH	**Atahualpa**	**3.80**	**168**	P	**Pn**	05 27 42.8	+2.3
	3.4nm,0.3s,baz=356,slow=6.7,SNR=18						
ATAH				S	Sn	05 28 22.6	-1.7
	3.8nm,0.3s,baz=2.8,slow=5.1,SNR=5.7						
URCU	**Urcuqui**	**3.91**	**14**	P	**Pn**	05 27 45.1	+3.1
NNA	**Nana**	**8.85**	**165**	P	**Pn**	05 28 50.4	+1.4
	1.8nm,0.3s,baz=321,slow=12,SNR=5.1						
NNA				S	Sn	05 30 24.9	-2.3
	4.3nm,0.3s,baz=206,slow=16,SNR=7.2						
LPAZ	**La Paz**	**16.80**	**140**	P	**P**	05 30 36.8	+1.4
	0.1nm,0.3s,baz=330,slow=8.1,SNR=5.0						
PDAR	**Pinedale Array**	**53.52**	**332**	P	**P**	05 35 56.0	-0.1
	0.2nm,0.6s,baz=137,slow=9.4,SNR=2.7						
YKA	**Yellowknife Ar**	**70.99**	**343**	P	**P**	05 37 50.6	-1.4
	0.4nm,0.6s,baz=141,slow=6.2,SNR=7.6						
ILAR	**Eielson Array**	**83.73**	**336**	P	**P**	05 39 02.4	-0.7
	0.3nm,0.8s,baz=97,slow=2.2,SNR=3.5						

*BJI **19** 06:00:02.7, 4°.78S×152°.60E, h15km, mb4.7/38, mB5.2/27,*

Ms4.6/11,Ms7 4.4/11
*ISCJB **19** 06:00:04.2±0.2,4.60S±0.03×152.21E±0.04,h10km, mb4.8/78,MS4.0/17,Error ellipse: s-maj=5.7km s-min=3.7km az=10.5*
*IDC **19** 06:00:08.3±3.6,4.55S×152.25E,h29km±25km, mb4.4/20, mb1 4.6/22,mb1mx4.5/35,mbtmp4.6/22,ML3.7/2,MS3.9/18, Ms1 3.9/18,ms1mx3.8/27,Error ellipse: s-maj=16.9km s-min=11.2km az=95.0*
*NEIC **19** 06:00:08.0±1.1,4.55S×152.19E,h26km±7km,mb4.9/58, Error ellipse: s-maj=6.5km s-min=4.2km az=100.0*
*DJA **19** 06:00:09.4±0.7,5°S±4'×15°2E±',h46km±8km,M5.4/12, mb5.2/12,mB5.6/3,MLv5.6/1,Mw(mB)5.1/3*
*GCMT **19** 06:00:10.0±0.3,4.60S±0.02×152.21E±0.02,h12km, MW5.0/82,Moment Tensor Solution. s24,c29; s82,c111; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.38±.14; Mθθ2.87±.10; Mϕϕ-3.25±.11; Mrθ0.28±.33; Mrϕ-0.46±.11; Mθϕ1.33±.36; Best double couple: Mo3.32200×10^16 NP1:ϕs230.00000°,δ80.00000°,λ-164.00000°. NP2: ϕs138.00000°,δ74.00000°,λ-10.00000°. Principal axes: T 2.9180, Plg4.0000°, Azm3.0000°; N 0.8080, Plg71.0000°, Azm260.0000°; P -3.7260, Plg18.0000°, Azm95.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 06:00:05.9±0.4,4.59S±0.04×152.34E±0.06,h10km,n164,
σ1s65/163,mb4.9/77,MS4.0/18,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.43**	**336**	*e*Pg	**Pg**	**06 00 15.2**	**+0.8**
RABL				*e*Sg	**Sb**	**06 00 21.4**	**-0.8**
MANU	**Manus Island**	**5.57**	**297**	*e*Pn	**Pn**	**06 01 31.7**	**+2.8**
PMG	**Port Moresby**	**7.02**	**227**	Pn	**Pn**	**06 01 50.1**	**+1.1**
	28nm,0.3s,baz=33,slow=7.7,SNR=57						
PMG				Sn	**Sn**	**06 03 10.7**	**+1.8**
	41nm,0.3s,baz=20,slow=23,SNR=15						
PMG				LR	LR	06 03 48.8	
	comp=Z,426nm,19.8s,baz=42,slow=32						
PMG	**Port Moresby**	**7.02**	**227**	*e*Pn	**Pn**	**06 01 49.9**	**+1.0**
PMG				*e*Sn	**Sn**	**06 03 08.4**	**-0.5**
HNR	**Honiara**	**8.95**	**123**	LR	LR	06 06 13.8	
	comp=Z,1μm,18.1s,baz=314,slow=40						
GENI	**Genyem**	**12.31**	**279**	P	Pn	06 03 14.5	+13
PATS	**Pohnpei**	**12.82**	**28**	P	**Pn**	**06 03 09.1**	**+0.7**
	baz=13						
PATS	**Pohnpei**	**12.82**	**28**	*e*Pn	**Pn**	**06 03 09.0**	**+0.6**
PATS				*e*Sn	**Sn**	**06 05 25.7**	**-5.6**
COEN	**Coen**	**12.97**	**224**	*e*Pn	**Pn**	**06 03 11.8**	**+1.3**
MTSU	**Mount Surprise**	**15.58**	**210**	P	**Pn**	**06 03 46.6**	**+0.7**
	baz=16,SNR=28						
CTA	**Charters Tower**	**16.51**	**201**	Pn	**Pn**	**06 03 57.9**	**+0.2**
	0.6nm,0.3s,baz=33,slow=14,SNR=11						
CTA				LR	LR	06 09 22.5	
	comp=Z,534nm,19.5s,baz=8.5,slow=34						
CTAO	**Charters Tower**	**16.51**	**201**	*e*Pn	**Pn**	**06 03 57.5**	**-0.3**
	42nm,1.1s						
GUMO	**Guam**	**19.52**	**338**	LR	LR	06 11 17.9	
	comp=Z,163nm,20.5s,baz=120,slow=34						
FAKI	**Fak Fak**	**20.11**	**274**	*e*P	**P**	**06 04 40.8**	**+0.6**
	136nm,1.2s						
FAKI	**Fak Fak**	**20.11**	**274**	P	**P**	**06 04 39.8**	**-0.4**
QIS	**Mount Isa**	**20.13**	**217**	P	**P**	**06 04 40.4**	**0.0**
	baz=20,SNR=22						
EIDS	**Eidsvold**	**20.70**	**183**	P	**P**	**06 04 46.8**	**+0.4**
	baz=21,SNR=15						
EIDS	**Eidsvold**	**20.70**	**183**	*e*P	**P**	**06 04 46.8**	**+0.4**
	53nm,1.0s						
KDU	**Kakadu**	**21.21**	**246**	P	**P**	**06 04 50.5**	**-1.5**
	baz=21,SNR=9.9						
SWI	**Sorong**	**21.37**	**279**	P	**P**	**06 04 55.0**	**+1.2**
RMQ	**Roma**	**22.04**	**189**	P	**P**	**06 05 01.3**	**+0.3**
	baz=22,SNR=10						
DZM	**Mont Dzumac**	**22.11**	**143**	*e*P	**P**	**06 05 03.6**	**+1.8**
	121nm,1.1s						
DZM				*e*LR	LR	06 10 25.0	
	comp=Z,1μm,24.2s						
DZM	**Mont Dzumac**	**22.11**	**143**	P	**P**	**06 05 03.4**	**+1.6**
	24nm,0.5s,baz=284,slow=7.7,SNR=42						
DZM				LR	LR	06 12 17.4	
	comp=Z,857nm,20.6s,baz=349,slow=33						
DZM	**Mont Dzumac**	**22.11**	**143**	*e*P	**P**	**06 05 03.6**	**+1.8**
	64nm,1.1s						
QLP	**Quilpie**	**23.20**	**199**	P	**P**	**06 05 12.8**	**-0.3**
	baz=23,SNR=44						
WRAB	**Tennant Creek**	**23.23**	**227**	*e*P	**P**	**06 05 11.6**	**-1.9**
	66nm,0.8s						
WB2	**Warramunga Arr**	**23.23**	**227**	P	**P**	**06 05 11.5**	**-2.0**
	baz=23						
WB2	**Warramunga Arr**	**23.23**	**227**	*e*P	**P**	**06 05 11.6**	**-2.0**
	62nm,0.8s						
WR1	**Warramunga Arr**	**23.24**	**227**	*e*P	**P**	**06 05 11.6**	**-2.1**
	88nm,0.8s						
WR1				*e*S	**S**	**06 09 24.7**	**-1.3**
WRA	**Warramunga Arr**	**23.24**	**227**	P	**P**	**06 05 11.6**	**-2.1**
	48nm,0.8s,baz=53,slow=9.7,SNR=151						
WRA				S	**S**	**06 09 24.7**	**-1.3**
	4.4nm,1.0s,baz=57,slow=19,SNR=3.1						
WRA				LR	LR	06 14 39.4	
	comp=Z,344nm,19.9s,baz=55,slow=38						
KNRA	**Kununurra**	**25.66**	**243**	P	**P**	**06 05 35.6**	**-0.5**
	baz=26,SNR=8.8						
ARMA	**Armidale**	**25.70**	**181**	P	**P**	**06 05 36.5**	**-0.1**
	baz=26,SNR=4.3						
ARMA	**Armidale**	**25.70**	**181**	*e*P	**P**	**06 05 36.9**	**+0.3**
	16nm,0.9s						
AS01	**Alice Springs**	**25.97**	**221**	*e*P	**P**	**06 05 38.1**	**-0.9**
AS31	**Alice Springs**	**26.00**	**221**	*e*P	**P**	**06 05 38.5**	**-0.8**
	18nm,0.4s						
ASAR	**Alice Springs**	**26.00**	**221**	P	**P**	**06 05 37.5**	**-1.7**
	30nm,0.4s,baz=56,slow=8.6,SNR=100						
ASAR				LR	LR	06 16 10.4	
	comp=Z,348nm,18.3s,baz=52,slow=37						
CMSA	**Cobar Meteorol**	**27.53**	**192**	P	**P**	**06 05 52.1**	**-0.8**
	baz=28,SNR=9.7						
SOEI	**Soe**	**28.31**	**258**	*e*P	**P**	**06 05 56.3**	**-3.9**
	27nm,1.1s						
STKA	**Stephens Creek**	**28.96**	**199**	P	**P**	**06 06 04.1**	**-1.6**
	3.7nm,0.3s,baz=25,slow=9.8,SNR=20						
STKA				LR	LR	06 17 15.1	
	comp=Z,440nm,19.8s,baz=18,slow=36						
STKA	**Stephens Creek**	**28.96**	**199**	P	**P**	**06 06 04.5**	**-1.2**
	baz=29,SNR=14						
STKA	**Stephens Creek**	**28.96**	**199**	*e*P	**P**	**06 06 04.3**	**-1.4**
	1.8nm,0.8s						
BATI	**Baumata**	**28.97**	**257**	LR	LR	06 19 17.7	
	comp=Z,283nm,18.1s,baz=12,slow=40						
DAV	**Davao City (W)**	**29.11**	**293**	LR	LR	06 17 40.5	
	comp=Z,270nm,18.5s,baz=99,slow=36						
FITZ	**Fitzroy Crossi**	**29.36**	**241**	P	**P**	**06 06 07.1**	**-2.3**
	baz=29,SNR=28						
FITZ	**Fitzroy Crossi**	**29.36**	**241**	*e*P	**P**	**06 06 07.2**	**-2.3**
	28nm,1.1s						
WRKA	**Warakurna**	**30.77**	**226**	P	**P**	**06 06 19.4**	**-2.5**
	baz=31,SNR=47						
HTT	**Hallett**	**31.30**	**202**	P	**P**	**06 06 25.1**	**-1.4**
	baz=32,SNR=10						
BBOO	**Buckleboo**	**31.93**	**207**	P	**P**	**06 06 30.3**	**-1.7**
	baz=32,SNR=32						
BBOO	**Buckleboo**	**31.93**	**207**	*e*P	**P**	**06 06 30.3**	**-1.7**
	68nm,1.5s						
MPSI	**Mapaga**	**32.77**	**278**	P	**P**	**06 06 37.9**	**-1.7**
ARPS	**Mount Arapiles**	**33.45**	**195**	P	**P**	**06 06 44.5**	**-0.6**
	baz=34,SNR=13						
FORT	**Forrest**	**34.66**	**218**	P	**P**	**06 06 53.7**	**-2.1**
	baz=35,SNR=39						
FORT	**Forrest**	**34.66**	**218**	*e*P	**P**	**06 06 53.8**	**-2.1**
	56nm,0.6s						
MBWA	**Marble Bar**	**35.68**	**240**	*e*P	**P**	**06 07 02.4**	**-2.3**
	23nm,1.1s						
OUZ	**Omahuta**	**36.27**	**150**	*e*P	**P**	**06 07 11.9**	**+2.4**
	24nm,0.8s						
TAU	**Tasmania Unive**	**38.42**	**186**	*e*P	**P**	**06 07 28.3**	**+0.6**
	110nm,1.5s						
JOW	**Kunigami**	**38.95**	**325**	P	**P**	**06 07 33.7**	**+1.3**
	36nm,0.8s,baz=128,slow=14,SNR=6.5						
JOW	**Kunigami**	**38.95**	**325**	*e*P	**P**	**06 07 33.7**	**+1.3**
	49nm,1.0s						
MEEK	**Meekatharra**	**38.97**	**232**	P	**P**	**06 07 30.2**	**-2.4**
	baz=39,SNR=40						
URZ	**Urewera**	**40.40**	**149**	P	**P**	**06 07 45.6**	**+1.3**
	10.0nm,0.6s,baz=283,slow=2.4,SNR=7.4						
URZ	**Urewera**	**40.40**	**149**	*e*P	**P**	**06 07 45.8**	**+1.5**
	48nm,1.3s						
BKZ	**Black Stump Fm**	**40.79**	**151**	*e*P	**P**	**06 07 49.2**	**+1.6**
	17nm,0.9s						
GIRL	**Giralia**	**40.97**	**240**	*e*P	**P**	**06 07 48.1**	**-1.2**
	193nm,1.4s						
THZ	**Tophouse**	**41.33**	**157**	*e*P	**P**	**06 07 52.2**	**+0.2**
	33nm,1.0s						
BFZ	**Birch Farm**	**41.87**	**152**	*e*P	**P**	**06 07 59.1**	**+2.7**
	66nm,1.1s						
LTZ	**Lake Taylor**	**41.95**	**158**	*e*P	**P**	**06 07 58.7**	**+1.6**
	117nm,1.5s						
KLBR	**Kellerberrin**	**42.12**	**226**	P	**P**	**06 07 55.9**	**-2.7**
	baz=42,SNR=11						
MORW	**Morawa**	**42.12**	**231**	P	**P**	**06 07 56.2**	**-2.5**
	baz=42,SNR=7.3						
MORW	**Morawa**	**42.12**	**231**	*e*P	**P**	**06 07 56.1**	**-2.5**
	22nm,0.8s						
KHZ	**Kahutara**	**42.13**	**156**	*e*P	**P**	**06 07 58.1**	**-0.3**
	38nm,1.2s						
RPZ	**Rata Peaks**	**42.33**	**160**	P	**P**	**06 08 01.2**	**+1.2**
	17nm,0.6s,baz=309,slow=6.9,SNR=5.4						
RPZ	**Rata Peaks**	**42.33**	**160**	*e*P	**P**	**06 08 01.6**	**+1.6**
	28nm,0.9s						
OXZ	**Oxford**	**42.34**	**159**	*e*P	**P**	**06 08 00.5**	**+0.4**
	64nm,1.3s						
BLDU	**Ballidu**	**42.37**	**228**	P	**P**	**06 07 58.1**	**-2.6**
	baz=42,SNR=15						
LBZ	**Lake Benmore**	**42.63**	**161**	*e*P	**P**	**06 08 03.0**	**+0.4**
	23nm,1.0s						
JNU	**Nakatsue**	**42.66**	**333**	P	**P**	**06 08 04.1**	**+1.1**
	35nm,1.0s,baz=140,slow=6.3,SNR=7.4						
JNU	**Nakatsue**	**42.66**	**333**	*e*P	**P**	**06 08 00.7**	**-2.3**
	45nm,1.0s						
WKZ	**Wanaka**	**42.66**	**162**	*e*P	**P**	**06 08 03.6**	**+0.7**
	46nm,1.3s						
MQZ	**McQueen's Vall**	**42.89**	**158**	*e*P	**P**	**06 08 06.1**	**+1.5**
	88nm,1.4s						
MLZ	**Mavora Lakes**	**42.90**	**164**	*e*P	**P**	**06 08 05.1**	**+0.4**
	32nm,1.0s						
MJAR	**Matsushiro Arr**	**43.00**	**343**	LR	LR	06 23 46.8	
	comp=Z,131nm,21.6s,baz=160,slow=33						
WHZ	**Wether Hill Ro**	**43.33**	**164**	*e*P	**P**	**06 08 08.3**	**+0.2**
	34nm,1.3s						
MUN	**Mundaring**	**43.44**	**227**	P	**P**	**06 08 07.0**	**-2.3**
	baz=44,SNR=3.8						
KSRS	**Korea Array**	**47.60**	**334**	P	**P**	**06 08 42.0**	**-0.2**
	4.0nm,0.9s,baz=147,slow=8.6,SNR=13						
KS15	**Wonju Array Si**	**47.61**	**334**	*e*P	**P**	**06 08 42.0**	**-0.2**
KSAR	**Wonju Array Be**	**47.61**	**334**	P	**P**	**06 08 42.0**	**-0.2**
KS01	**Wonju Array Si**	**47.64**	**334**	*e*P	**P**	**06 08 41.9**	**-0.5**
NJ2	**Nanjing**	**48.39**	**321**	*e*P	**P**	**06 08 48.3**	**0.0**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
USRK	**Ussuriysk Ar.**	**51.90**	**341**	P	**P**	**06 09 15.0**	**+0.3**
	4.8nm,0.8s,baz=152,slow=8.4,SNR=5.7						
GYA	**Guiyang**	**53.90**	**307**	P	**P**	**06 09 31.3**	**+1.3**
GYA				pP	sP	06 09 38.4	+3.9
GYA				PP	**PP**	**06 11 34.8**	**+3.4**
GYA				S	**S**	**06 17 04.0**	**-1.7**
GYA				sS	sS	06 17 15.5	+4.4
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.2s						
NANT	**Nan**	**55.90**	**296**	P	P	06 09 55.5	+11
NANT	**Nan**	**55.90**	**296**	P	P	06 09 55.5	+11
KMI	**Kunming**	**56.49**	**304**	P	**P**	**06 09 50.3**	**+1.4**
KMI				pmax	pmax		
	comp=Z,15nm,0.5s						
CMAR	**Chiang Mai Arr**	**57.37**	**295**	P	**P**	**06 09 55.6**	**+0.7**
	1.4nm,0.4s,baz=110,slow=5.7,SNR=7.3						
CMAR				LR	LR	06 34 42.8	
	comp=Z,55nm,18.6s,baz=185,slow=36						
CMMT	**Chiang Mai**	**57.48**	**296**	P	P	06 10 06.8	+11
CHTO	**Chiang Mai**	**57.48**	**296**	P	P	06 10 06.8	+11
CHTO	**Chiang Mai**	**57.48**	**296**	P	P	06 10 06.8	+11
PETK	**Petropavlovsk-**	**57.66**	**4**	LR	LR	06 30 55.5	
	comp=Z,123nm,20.1s,baz=169,slow=32						
PPT	**Papeete**	**58.23**	**108**	LR	LR	06 32 13.1	
	comp=Z,80nm,20.3s,baz=206,slow=33						
CD2	**Chengdu**	**58.25**	**311**	*e*P	**P**	**06 10 00.0**	**-1.0**
HHC	**Hu-ho-hao-te**	**58.61**	**325**	*e*P	**P**	**06 10 04.1**	**+0.7**
HHC				S	**S**	**06 18 12.0**	**+4.2**
HHC				pmax	pmax		
	comp=Z,20nm,0.8s						
HHC				pmax	pmax		
	comp=Z,150nm,5.1s						
HHC				LR	LR		
	comp=N,160nm,13.0s						
HHC				LR	LR		
	comp=E,120nm,10.4s						
HHC				LR	LR		
	comp=Z,220nm,10.4s						
TBI	**Tubuai**	**59.06**	**114**	*e*LQ	LQ	06 25 05.3	
	721nm,30.8s						
TBI				*e*LR	LR	06 27 46.4	
	comp=Z,282nm,33.5s						
LZH	**Lanzhou**	**60.76**	**316**	*e*P	**P**	**06 10 21.1**	**+2.7**
LZH				pP	sP	06 10 27.3	+4.4
LZH				sP	pP	06 10 31.4	+10
LZH				pmax	pmax		
	comp=Z,27nm,1.1s						
GTA	**Gaotai**	**65.19**	**317**	*e*P	**P**	**06 10 48.5**	**+0.7**
GTA				pP	sP	06 10 53.8	+1.5
GTA				sP	pP	06 10 57.3	+6.2
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,95nm,6.3s						
GTA				LR	LR		
	comp=N,190nm,20.6s						
GTA				LR	LR		
	comp=E,200nm,20.6s						
GTA				LR	LR		
	comp=Z,170nm,18.4s						
SONA0	**Songino Array**	**65.90**	**328**	*e*P	**P**	**06 10 52.2**	**0.0**
SONM	**Songino Array**	**65.90**	**328**	P	**P**	**06 10 52.2**	**0.0**
	1.1nm,0.7s,baz=128,slow=4.3,SNR=7.1						
SONM				LR	LR	06 36 57.7	
	comp=Z,88nm,21.5s,baz=13,slow=34						
SONA1	**Songino Array**	**65.91**	**328**	*e*P	**P**	**06 10 52.5**	**+0.3**
VNDA	**Vanda**	**73.06**	**178**	P	**P**	**06 11 35.4**	**-0.3**
	4.4nm,1.1s,baz=354,slow=9.7,SNR=3.9						
VNDA				LR	LR	06 42 58.1	
	comp=Z,73nm,18.0s,baz=355,slow=35						
VNDA	**Vanda**	**73.06**	**178**	*e*P	**P**	**06 11 35.5**	**-0.3**
	21nm,1.4s						
WMQ	**Urumqi**	**75.28**	**317**	P	**P**	**06 11 49.8**	**+0.4**
WMQ				pP	sP	06 11 56.4	+2.4
WMQ				PcP	**PcP**	**06 12 05.9**	**+3.1**
WMQ				pmax	pmax		
	comp=Z,15nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,190nm,4.9s						
WMQ				LR	LR		
	comp=N,120nm,28.7s						
WMQ				LR	LR		
	comp=E,88nm,21.1s						
WMQ				LR	LR		
	comp=Z,110nm,22.9s						
ANM	**Nome**	**75.71**	**17**	*e*P	**P**	**06 11 52.5**	**+1.1**
	3.4nm,0.9s						
PPLA	**Purkeypile**	**79.16**	**23**	*e*P	**P**	**06 12 10.9**	**0.0**
	6.7nm,1.4s						
MK01	**Makanchi Array**	**79.85**	**319**	*e*P	**P**	**06 12 14.2**	**-0.7**
MK31	**Makanchi Array**	**79.86**	**319**	*e*P	**P**	**06 12 14.6**	**-0.4**
MK32	**Makanchi Array**	**79.86**	**319**	*e*P	**P**	**06 12 13.9**	**-1.0**
MKAR	**Makanchi Array**	**79.86**	**319**	P	**P**	**06 12 13.9**	**-1.0**
	3.8nm,0.8s,baz=112,slow=5.4,SNR=27						
MAKZ	**Makanchi**	**80.07**	**319**	*e*P	**P**	**06 12 15.7**	**-0.4**
	5.8nm,0.8s						
SML	**Sawmill**	**80.12**	**24**	*e*P	**P**	**06 12 16.1**	**+0.1**
	5.6nm,0.8s						
IM3	**Indian Mountai**	**80.34**	**20**	*e*P	**P**	**06 12 17.0**	**-0.1**
ZALV	**Zalesovo Beam**	**80.72**	**326**	P	**P**	**06 12 17.4**	**-2.0**
	2.2nm,0.7s,baz=114,slow=6.3,SNR=5.4						
ZALV				LR	LR	06 48 43.8	
	comp=Z,50nm,21.8s,baz=68,slow=36						
ZAA1	**Zalesovo Array**	**80.72**	**326**	*e*P	**P**	**06 12 17.4**	**-2.0**
MCK	**McKinley**	**80.84**	**23**	*e*P	**P**	**06 12 19.0**	**-0.9**
	12nm,1.2s						
MLY	**Manley**	**80.85**	**21**	*e*P	**P**	**06 12 19.6**	**-0.3**
	5.8nm,1.0s						
IL1	**Eielson Array**	**82.14**	**22**	*e*P	**P**	**06 12 24.9**	**-1.8**
ILAR	**Eielson Array**	**82.14**	**22**	P	**P**	**06 12 24.6**	**-2.1**
	1.0nm,0.6s,baz=246,slow=5.2,SNR=18						
ILB	**Eielson Array**	**82.14**	**22**	*e*P	**P**	**06 12 24.5**	**-2.1**
KSH	**Kashi**	**82.45**	**311**	P	**P**	**06 12 29.3**	**+0.3**
KSH				pP	sP	06 12 35.1	+1.5
KSH				PP	**PP**	**06 15 38.3**	**+0.1**
KSH				S	**S**	**06 22 40.6**	**-5.3**
KSH				sS	SKKSac	06 22 55.8	+1.7
KSH				SS	**SS**	**06 28 12.0**	**+5.0**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,110nm,5.1s						
KSH				LR	LR		
	comp=N,100nm,4.9s						
KSH				LR	LR		
	comp=E,170nm,8.3s						
KSH				LR	LR		
	comp=Z,100nm,10.7s						
DOT	**Dot Lake**	**82.72**	**24**	*e*P	**P**	**06 12 29.1**	**-0.7**
	7.9nm,1.0s						
KURK	**Kurchatov**	**83.32**	**322**	*e*P	**P**	**06 12 32.3**	**-0.8**
	5.5nm,0.9s						
KURBB	**Kurchatov Arra**	**83.35**	**322**	P	**P**	**06 12 31.7**	**-1.5**
	2.4nm,0.8s,baz=115,slow=4.3,SNR=13						
FYU	**Fort Yukon**	**83.59**	**21**	*e*P	**P**	**06 12 31.6**	**-2.5**
	17nm,1.2s						
AAK	**Ala-Archa**	**84.19**	**314**	P	**P**	**06 12 37.7**	**-0.3**
	3.2nm,0.8s,baz=176,slow=2.3,SNR=8.6						
AAK	**Ala-Archa**	**84.19**	**314**	*e*P	**P**	**06 12 38.0**	**0.0**
	5.2nm,1.0s						
HYT	**Haines Junctio**	**84.46**	**28**	*e*P	**P**	**06 12 38.8**	**0.0**
	7.9nm,1.1s						
DAWY	**Dawson**	**84.78**	**24**	*e*P	**P**	**06 12 40.7**	**+0.3**
	2.8nm,1.0s						
ARSB	**Arslanbob**	**85.04**	**312**	*e*P	**P**	**06 12 41.9**	**-0.4**
	18nm,1.1s						
QSPA	**South Pole Qui**	**85.37**	**180**	*e*P	**P**	**06 12 42.8**	**-0.6**
	12nm,1.1s						
MAW	**Mawson**	**85.59**	**203**	LR	LR	06 48 50.5	
	comp=Z,75nm,19.4s,baz=82,slow=34						
WHY	**Whitehorse**	**85.63**	**28**	*e*P	**P**	**06 12 45.0**	**+0.3**
	8.6nm,1.5s						
EPYK	**Eagle Plains**	**86.65**	**22**	*e*P	**P**	**06 12 49.2**	**-0.3**
	9.3nm,1.1s						
INK	**Inuvik**	**88.42**	**21**	*e*P	**P**	**06 12 57.7**	**-0.2**
	9.5nm,1.4s						
BVAR	**Borovoye Array**	**88.80**	**323**	P	**P**	**06 12 57.8**	**-2.3**
	3.0nm,0.7s,baz=102,slow=6.2,SNR=20						
HUMO	**Hull Mountain**	**89.18**	**47**	*e*P	**P**	**06 13 02.2**	**0.0**
	2.6nm,1.0s						
YBH	**Yreka Blue Hor**	**89.26**	**48**	*e*P	**P**	**06 13 02.6**	**0.0**
	2.3nm,0.9s						
PINE	**Pine Mountain**	**90.77**	**46**	*e*P	**P**	**06 13 09.7**	**-0.2**
	4.9nm,0.9s						
MOD	**Modoc Plateau**	**91.06**	**48**	*e*P	**P**	**06 13 11.4**	**+0.2**
	4.8nm,1.0s						
I07A	**Izee**	**91.83**	**46**	*e*P	**P**	**06 13 14.3**	**-0.4**
	8.6nm,1.5s						
NV01	**Mina Array Sit**	**92.32**	**52**	*e*P	**P**	**06 13 16.7**	**-0.4**
NVAR	**Mina Array Bea**	**92.32**	**52**	P	**P**	**06 13 16.6**	**-0.5**
	0.9nm,0.8s,baz=249,slow=6.8,SNR=7.2						
J08A	**Circle Bar Ran**	**92.52**	**47**	*e*P	**P**	**06 13 17.2**	**-0.6**
	3.0nm,0.8s						
E09A	**Wood Farm, Sta**	**92.96**	**44**	*e*P	**P**	**06 13 19.9**	**+0.3**
	4.9nm,1.1s						
YKA	**Yellowknife Ar**	**95.45**	**28**	P	**P**	**06 13 29.4**	**-1.3**
	0.7nm,0.7s,baz=270,slow=4.7,SNR=11						
YKB5	**Yellowknife Ar**	**95.45**	**28**	*e*P	**P**	**06 13 29.8**	**-0.9**
PD31	**Pinedale Array**	**99.05**	**48**	*e*P	**Pdif**	**06 13 47.2**	**-0.5**
PDAR	**Pinedale Array**	**99.05**	**48**	P	**Pdif**	**06 13 46.2**	**-1.5**
	0.7nm,0.7s,baz=246,slow=2.6,SNR=6.9						
PDAR	**Pinedale Array**	**99.05**	**48**	*e*P	**Pdif**	**06 13 46.7**	**-1.0**
GERES	**GERESS Array B**	**123.63**	**328**	PKP	**PKPdf**	**06 19 02.2**	**-2.0**
	0.4nm,0.6s,baz=40,slow=2.3,SNR=4.2						
SDV	**Santo Domingo**	**137.13**	**82**	PKP	**PKPdf**	**06 19 30.6**	**-0.2**
	6.0nm,0.7s,baz=251,slow=1.9,SNR=9.1						
SVB	**Belmont**	**145.75**	**73**	*e*PKPdf	**PKPdf**	**06 19 46.1**	**+0.1**
PTGA	**Pitinga**	**147.29**	**98**	*e*PKPbc	**PKPdf**	**06 19 50.9**	**+2.3**
TOA0	**Torodi Ar. Sit**	**149.80**	**288**	*e*PKPdf	**PKPdf**	**06 19 53.3**	**+0.7**
TOA0				*e*PKPdf	**pPKPdf**	**06 19 54.8**	**-1.4**
TORD	**Torodi Ar. Bea**	**149.80**	**288**	PKPbc	**PKPdf**	**06 19 54.4**	**+1.7**
	4.5nm,0.5s,baz=54,slow=3.0,SNR=45						
TOA1	**Torodi Ar. Sit**	**149.81**	**288**	*e*PKPdf	**PKPdf**	**06 19 54.4**	**+1.7**
BDFB	**Brasilia**	**151.54**	**135**	PKPbc	**PKPdf**	**06 20 00.9**	**+5.4**
	7.4nm,0.6s,baz=332,slow=1.7,SNR=14						

*NEIC **19** 06:20:01.4±2.1,14.03N×91.61W,h35km,mb4.1/4, MD4.0(MEX),Error ellipse: s-maj=25.4km s-min=12.1km az=5.0*
*MEX **19** 06:20:03.5±0.7,14.05N×91.68W,h27km±16km,MD4.0*
*IDC **19** 06:20:04.4±3.2,14.34N×91.43W,h81km±19km,mb3.2/2, mb1 3.5/4,mb1mx3.2/33,mbtmp3.4/4,MS2.6/1,Ms1 2.6/1, ms1mx2.3/16,Error ellipse: s-maj=46.0km s-min=12.7km az=15.0*

ISC 19 06:19:59.8±1.6,13.9N±0.1×91.59W±0.06,h48km±9km,n20,
σ1s62/30,mb3.5/3,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.18**	**327**	*e*Sn	**Sn**	**06 20 33.5**	**-1.4**
THIG		**1.18**	**327**	*e*P	**Pn**	**06 20 19.9**	**-0.1**
THIG				*i* S	**Sn**	**06 20 32.7**	**-2.2**
APG	**El Apazote**	**1.54**	**45**	P	**Pn**	**06 20 25.1**	**+0.1**
	34nm,0.3s,baz=234,slow=7.6,SNR=60						
APG				S	**Sn**	**06 20 41

RTLS				*e*S	**Sn**	06 46 56.5	**-0.1**
RTLS				IAML		06 46 57.3	
	comp=Z,175nm,0.4s						
GO04	**Tololo Observa**	**1.18**	**336**	*e*P	**Pn**	**06 46 41.6**	**+0.1**
GO04				*e*S	**Sn**	**06 47 00.2**	**+0.2**
GO04	**Tololo Observa**	**1.18**	**336** ⇑	*i*P	**Pn**	**06 46 41.8**	**+0.3**
GO04				*i* S	**Sn**	**06 46 59.9**	**-0.1**
GO04				IAML		06 47 02.4	
	comp=E,620nm,0.4s						
AUSP	**Uspallata**	**1.21**	**143**	*e*P	**Pn**	**06 46 42.0**	**+0.2**
RTLL	**Cerro Villicun**	**1.51**	**93**	*e*P	**Pn**	**06 46 44.8**	**-0.2**
RTLL				*e*S	**Sn**	**06 47 05.5**	**-0.7**
RTLL				IAML		06 47 07.5	
	comp=E,117nm,0.5s						
AMOG	**MOGNA**	**1.53**	**79**	*e*P	**Pn**	**06 46 45.0**	**-0.2**
AMOG				*e*S	**Sn**	**06 47 06.2**	**-0.4**
RTCV	**Cerro Valdivia**	**1.57**	**113**	*e*P	**Pn**	**06 46 45.3**	**-0.3**
RTCV				*e*S	**Sn**	**06 47 06.3**	**-1.1**
LSCH	**La Serena**	**1.59**	**327**	*e*P	**Pn**	**06 46 45.9**	**+0.1**
LSCH				*i* S	**Sn**	**06 47 06.9**	**-0.8**
CFA	**Coronel Fontan**	**1.75**	**102**	*e*P	**Pn**	**06 46 47.6**	**0.0**
ROCH	**El Roble**	**1.83**	**201** ⇓	*i*P	**Pn**	**06 46 48.5**	**-0.4**
ROCH				*i* S	**Sn**	**06 47 13.0**	**-0.3**
ROCH				IAML		06 47 14.1	
	comp=E,145nm,0.2s						
ROC1	**El Roble**	**1.84**	**201**	*e*P	**Pn**	**06 46 49.2**	**+0.3**
ROC1				*e*S	**Sn**	**06 47 12.2**	**-1.2**
PEL	**Peldehue**	**1.92**	**191**	*e*S	**Sn**	**06 47 14.2**	**-0.7**
PEL				IAML		06 47 17.1	
	comp=N,116nm,0.2s						
FCH	**Farellones**	**2.07**	**181** ⇑	*i*P	**Pn**	**06 46 53.1**	**+1.3**
FCH				*e*S	**Sn**	**06 47 20.4**	**+1.9**
FCH				IAML		06 47 23.0	
	comp=E,168nm,0.2s						
CLCH	**Cerro Calan**	**2.15**	**187**	*e*P	**Pn**	**06 46 53.6**	**+1.0**
CLCH				*e*S	**Sn**	**06 47 20.9**	**+0.9**
CLCH				IAML		06 47 21.9	
	comp=N,112nm,0.3s						
LCO	**Las Campanas**	**2.27**	**350**	*e*P	**Pn**	**06 46 54.7**	**+0.4**
LCO	**Las Campanas**	**2.27**	**350** ⇑	*i*P	**Pn**	**06 46 54.8**	**+0.4**
LCO				*e*S	**Sn**	**06 47 22.8**	**-0.1**
AGUA	**GUANDACOL**	**2.32**	**41**	*e*P	**Pn**	**06 46 56.5**	**+1.6**
LMEL	**Las Melosas**	**2.59**	**179**	*i* S	**Sn**	**06 47 31.5**	**+1.5**
LMEL				IAML		06 47 35.4	
	comp=N,116nm,0.2s						
APLL	**PUNTA DE LOS L**	**3.31**	**76**	IAML	**Pn**	**06 47 07.6**	**+0.1**
	comp=Z,7.0nm,0.2s						
APLL				*e*P	**Pn**	**06 47 07.6**	**+0.1**
ACLC	**CERRO LA CRUZ**	**3.38**	**58**	*e*P	**Pn**	**06 47 08.5**	**-0.1**
GO05	**Huala**	**4.01**	**200**	*e*P	**Pn**	**06 47 14.9**	**-1.9**
MRA	**San Martin**	**4.02**	**108**	*e*P	**Pn**	**06 47 17.0**	**0.0**
MRA				IAML		06 48 00.8	
	comp=Z,12nm,0.5s						

NIED ***19*** *07:02:00,38.70N×142.20E,h35km,Mw3.8 Best double couple: M₀4.96000×10¹⁴ NP1:φ₀123.00000°,δ59.00000°, λ35.00000°. NP2:φ₀13.00000°,δ61.00000°,λ143.00000°.*
JMA ***19*** *07:02:38.5±0.1,38.66N×142.16E,h40km±1km,M3.9*
JMA Felt I J1.
IDC ***19*** *07:02:41.4±11.0,39.27N×141.12E,h0km,mb3.6/2, mb1 3.6/3,mb1mx3.3/32,mbtmp3.5/3,ML2.4/1,Error ellipse: s-maj=225.9km s-min=41.8km az=98.0*

ISC 19 07:02:37.3±2.1,38.68N±0.05×142.08E±0.10,h18km±6km, n20,σ1§16/23,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKMT	**Kesennumamotoy**	**0.49**	**286**	P	**Pn**	**07 02 50.0**	**+0.6**
JKMT				S	**Sn**	**07 02 58.0**	**+0.5**
OFUJ	**Ofunato**	**0.52**	**322**	P	**Pn**	**07 02 50.2**	**+0.4**
OFUJ				S	**Sn**	**07 02 58.2**	**+0.1**
JIKH	**Ishinomakikobu**	**0.61**	**233**	P	**Pn**	**07 02 51.1**	**+0.1**
JIKH				*e*S	**Sn**	**07 02 59.7**	**-0.6**
JIO	**Ouri**	**0.62**	**249**	P	**Pn**	**07 02 51.4**	**+0.3**
JIO				S	**Sn**	**07 03 00.4**	**-0.1**
JMK	**Ichinoseki**	**0.73**	**292**	P	**Pn**	**07 02 53.4**	**+0.7**
JMK				S	**Sn**	**07 03 04.0**	**+0.7**
JOM	**Ohasama**	**1.00**	**323**	P	**Pg**	**07 02 57.3**	**+0.5**
JOM				*e*S	**Sn**	**07 03 10.8**	**+0.6**
JOU	**Okura**	**1.15**	**255**	P	**Pg**	**07 02 59.4**	**-0.3**
JOU				*e*S	**Sg**	**07 03 14.6**	**-0.2**
JTH	**Tanohata**	**1.27**	**352**	P	**Pb**	**07 03 00.7**	**0.0**
JTH				*e*S	**Sn**	**07 03 16.7**	**-0.1**
JMM	**Marumori**	**1.30**	**232**	P	**Pn**	**07 03 00.5**	**0.0**
JRG	**Rokugo**	**1.34**	**303**	P	**Pg**	**07 03 02.4**	**-0.7**
MJAR	**Matsushiro Arr**	**3.74**	**236**	Pn	**Pn**	**07 03 38.1**	**+3.9**
	0.3nm,0.3s,baz=40,slow=11,SNR=12						
MAT	**Matsushiro**	**3.74**	**236**	P	**Pn**	**07 03 36.2**	**+2.0**
MAT				S	**Sb**	**07 04 27.3**	**-0.6**
H11N2	**WAKE ISLAND Hy**	**28.58**	**124**	T	T	07 38 53.4	
	baz=316,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**28.59**	**124**	T	T	07 38 56.3	
	baz=316,slow=75,SNR=35						
H11N3	**WAKE ISLAND Hy**	**28.60**	**124**	T	T	07 38 53.3	
	baz=316,slow=75,SNR=31						
H11S1	**WAKE ISLAND Hy**	**29.36**	**126**	T	T	07 39 47.0	
	baz=318,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**29.36**	**126**	T	T	07 39 47.1	
	baz=318,slow=76,SNR=25						
H11S2	**WAKE ISLAND Hy**	**29.37**	**126**	T	T	07 39 49.4	
	baz=318,slow=76,SNR=20						
ZALV	**Zalesovo Beam**	**41.22**	**311**	P	**P**	**07 10 19.9**	**-0.9**
	0.6nm,0.4s,baz=88,slow=7.6,SNR=3.2						
MKAR	**Makanchi Array**	**43.71**	**301**	P	**P**	**07 10 40.1**	**-1.2**
	0.5nm,0.7s,baz=90,slow=8.2,SNR=5.0						

NEIC ***19*** *07:12:35.4±0.0,55.40N×134.90W,h20km,ML3.5(AEIC), ML3.7(OTT),After AEIC.*
PGC ***19*** *07:12:36.1±9.7,55.30N×134.89W,h10km,ML3.7/11, 196km Sse of Sitka, Ak Southeastern Alaska*

ISC 19 07:12:35.0±1.9,55.33N±0.05×134.95W±0.06, h11km±12km,n59,σ1§65/77,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRAG	**Craig**	**1.05**	**82**	P	**Pg**	**07 12 53.9**	**-1.3**
CRAG				S	**Sg**	**07 13 07.4**	**-1.5**
SIT	**Sitka**	**1.74**	**353**	P	**Pn**	**07 13 02.8**	**-2.3**
SIT				S	**Sn**	**07 13 23.6**	**-3.7**
NDB	**Naden**	**1.81**	**139**	P	**Pn**	**07 13 06.0**	**-0.1**
NDB	**Naden**	**1.81**	**139**	Pn	**Pn**	**07 13 06.4**	**+0.3**
WRAK	**Wrangell Islan**	**1.83**	**52**	P	**Pn**	**07 13 06.7**	**-1.1**
WRAK				S	**Sn**	**07 13 26.7**	**-2.7**
DIB	**Dawson Inlet,**	**2.58**	**145**	*e*Pn	**Pn**	**07 13 16.2**	**-0.5**
DIB				*e*Sn	**Sn**	**07 13 50.4**	**+2.4**
DIB	**Dawson Inlet,**	**2.58**	**145**	Pn	**Pn**	**07 13 16.3**	**-0.3**
DIB				Sn	**Sn**	**07 13 47.1**	**-0.9**
MOBC	**Moresby Island**	**2.81**	**140**	Pn	**Pn**	**07 13 19.6**	**-0.2**
MOBC				Sn	**Sn**	**07 13 53.1**	**-0.6**
RUBB	**Prince Rupert**	**2.90**	**108**	Pn	**Pn**	**07 13 20.3**	**-0.7**
HG1B	**Mitchell Dam**	**2.92**	**144**	Pn	**Pn**	**07 13 21.6**	**+0.3**
HG1B				Sn	**Sn**	**07 13 56.5**	**+0.2**
JIS	**Juneau Island**	**2.97**	**6**	P	**Pn**	**07 13 20.9**	**-1.1**
BNB	**Barry Inlet**	**3.35**	**144**	P	**Pn**	**07 13 27.6**	**+0.3**
BNB	**Barry Inlet**	**3.35**	**144**	Pn	**Pn**	**07 13 27.5**	**+0.3**
HG3B	**Hotspring**	**3.45**	**142**	Pn	**Pn**	**07 13 28.6**	**0.0**
HG4B	**Hotspring**	**3.77**	**142**	Pn	**Pn**	**07 13 33.6**	**+0.6**
DLBC	**Dease Lake**	**4.12**	**39**	P	**Pn**	**07 13 37.5**	**-0.4**
DLBC	**Dease Lake**	**4.12**	**39**	Pn	**Pn**	**07 13 37.8**	**-0.2**
SKAG	**Skagway**	**4.14**	**357**	*e*Pn	**Pn**	**07 13 39.1**	**+1.0**
DHAK	**Deception Hill**	**4.17**	**336**	P	**Pn**	**07 13 38.1**	**-0.4**
PLBC	**Pleasant Camp**	**4.21**	**350**	Pn	**Pn**	**07 13 39.4**	**+0.4**
PLBC				Sn	**Sn**	**07 14 28.0**	**-0.1**
PNL	**Peninsula**	**4.96**	**333**	Pn	**Pn**	**07 13 50.2**	**+0.8**
BBB	**Bella Bella**	**5.14**	**125**	*e*Pn	**Pn**	**07 13 52.7**	**+1.0**
BBB				*e*Sn	**Sn**	**07 14 50.1**	**-0.9**
BBB	**Bella Bella**	**5.14**	**125**	Pn	**Pn**	**07 13 52.4**	**+0.7**
BBB				Sn	**Sn**	**07 14 48.3**	**-2.7**
WHY	**Whitehorse**	**5.34**	**0**	*e*Pn	**Pn**	**07 13 54.9**	**+0.2**
WHY	**Whitehorse**	**5.34**	**0**	Pn	**Pn**	**07 13 54.8**	**0.0**
YUK7	**Dusty Glacier**	**5.48**	**343**	Pn	**Pn**	**07 13 58.2**	**+1.5**
YUK7				Sn	**Sn**	**07 14 59.5**	**-0.4**
PCA	**Pinnacle**	**5.56**	**331**	*e*Pn	**Pn**	**07 13 59.3**	**+1.7**
PCA				*e*Sn	**Sn**	**07 15 01.1**	**-0.3**
HYT	**Haines Junctio**	**5.67**	**347**	*e*Pn	**Pn**	**07 14 01.3**	**+2.1**
HYT	**Haines Junctio**	**5.67**	**347**	Pn	**Pn**	**07 14 01.3**	**+2.1**
HYT				Sn	**Sn**	**07 15 03.5**	**-0.9**
YUK6	**Outpost Mounta**	**5.91**	**344**	Pn	Pn	07 13 52.0	-11
YUK5	**Granite Creek**	**6.02**	**346**	Pn	**Pn**	**07 14 05.3**	**+1.3**
FSB	**Fort Saint Jam**	**6.19**	**94**	Pn	**Pn**	**07 14 07.6**	**+1.3**
YUK4	**Talbot Arm**	**6.34**	**344**	Pn	**Pn**	**07 14 10.3**	**+1.9**
PHC	**Port Hardy**	**6.48**	**133**	Sn	**Sn**	**07 15 20.5**	**-3.6**
PACB	**Port Alice, BC**	**6.66**	**134**	Sn	**Sn**	**07 15 24.7**	**-3.9**
BALM	**Baldy**	**6.92**	**329**	*e*Pn	**Pn**	**07 14 17.9**	**+1.5**
BALM	**Baldy**	**6.92**	**329**	Pn	**Pn**	**07 14 17.7**	**+1.3**
BALM				Sn	**Sn**	**07 15 32.4**	**-2.8**
HMT	**Hamilton**	**7.06**	**319**	*e*Pn	**Pn**	**07 14 17.4**	**-0.8**
HMT				*e*Sn	**Sn**	**07 15 35.0**	**-3.3**
YUK3	**Moose Creek**	**7.07**	**338**	Pn	**Pn**	**07 14 19.6**	**+1.1**
YUK3				Sn	Sn	07 15 25.6	-13
YUK2	**White River**	**7.17**	**337**	Pn	**Pn**	**07 14 21.9**	**+2.2**
RAGM	**Ragged Mountai**	**7.25**	**318**	*e*Pn	**Pn**	**07 14 20.5**	**-0.3**
RAGM				*e*Sn	**Sn**	**07 15 40.7**	**-2.2**
WOSB	**Woss**	**7.26**	**132**	Pn	**Pn**	**07 14 21.7**	**+0.8**
FNBB	**Fort Nelson**	**7.42**	**56**	Pn	**Pn**	**07 14 25.1**	**+2.1**
BMRM	**Bremner River**	**7.61**	**322**	*e*Pn	**Pn**	**07 14 26.3**	**+0.6**
BMRM				*e*Sn	**Sn**	**07 15 50.8**	**-1.1**
BTB	**Buttle Lake**	**8.23**	**132**	Pn	**Pn**	**07 14 37.1**	**+2.8**
KLU	**Klutina**	**8.44**	**322**	*e*Pn	**Pn**	**07 14 37.1**	**+0.1**
KLU				*e*Sn	**Sn**	**07 16 11.5**	**-0.7**
DAWY	**Dawson**	**9.04**	**347**	*e*Pn	**Pn**	**07 14 46.9**	**+1.5**
DAWY	**Dawson**	**9.04**	**347**	Pn	**Pn**	**07 14 46.8**	**+1.5**
DAWY				Sn	**Sn**	**07 16 25.3**	**-1.8**
SEW	**Seward**	**9.10**	**308**	*e*Pn	**Pn**	**07 14 45.6**	**-0.5**
SCM	**Sheep Creek Mo**	**9.17**	**320**	*e*Pn	**Pn**	**07 14 48.9**	**+1.8**
KNK	**Knik Glacier**	**9.34**	**316**	*e*Pn	**Pn**	**07 14 50.8**	**+1.4**
BRLK	**Bradley Lake**	**9.64**	**304**	*e*Pn	**Pn**	**07 14 52.9**	**-0.6**
EGAK	**Eagle**	**9.96**	**344**	*e*Pn	**Pn**	**07 14 59.4**	**+1.5**
KDAK	**Kodiak Island**	**10.03**	**291**	*e*Pn	**Pn**	**07 14 59.1**	**+0.3**
IL1	**Eielson Array**	**11.16**	**333**	*e*Pn	**Pn**	**07 15 17.0**	**+2.7**
ILB	**Eielson Array**	**11.16**	**333**	*e*Pn	**Pn**	**07 15 16.6**	**+2.3**
TRF	**Thorofare Moun**	**11.25**	**322**	*e*Pn	**Pn**	**07 15 19.6**	**+3.9**
YKB5	**Yellowknife Ar**	**12.69**	**47**	*e*Pn	**Pn**	**07 15 37.0**	**+1.9**
KEBM	**Edson Butte**	**14.26**	**147**	*e*Pn	**Pn**	**07 15 57.1**	**+0.4**

NNC ***19*** *07:40:35.8±2.9,53.52N×87.64E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=23.7km s-min=12.5km az=66.0, Suspected Mining explosion.*

ASRS 19 07:40:31.1,53.63N×87.91E,M2.9,12C-6D,Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.86**	**281**	⇑Pn	Pg	07 41 06.6	-0.1
	34nm,0.6s						
ZAA0				⇓Sn	Sg	07 41 31.2	+0.3
	239nm,0.9s						
KURK	**Kurchatov**	**6.42**	**247**	⇑Pn	Pn	07 42 09.7	+2.9
	5.7nm,0.6s						
KURK				⇑Sn	Sn	07 43 20.5	-0.2
	7.3nm,0.6s						
KURK				⇑Lg	Lg	07 43 54.5	
	34nm,0.8s						
KURBB	**Kurchatov Arra**	**6.52**	**246**	⇑Pn	Pn	07 42 11.0	+2.9
	11nm,0.5s,baz=64,slow=14						
KURBB				⇓Sn	Sn	07 43 23.2	+0.1
	26nm,0.5s						
KURBB				⇓Lg	Lg	07 43 54.2	
	44nm,0.7s						
MK31	**Makanchi Array**	**7.74**	**210**	⇑Pn	Pn	07 42 28.2	+3.3
	0.5nm,0.3s,baz=28,slow=13,SNR=34						
MK31				Pg	Pb	07 42 35.3	-11
	1.3nm,0.6s,baz=29,slow=13,SNR=4.6						
MK31				⇓Sn	Sn	07 43 53.2	+0.1
	1.5nm,0.5s						
MK31				⇓Lg	Lg	07 44 34.7	
	21nm,1.0s						
MAKZ	**Makanchi**	**7.82**	**211**	⇓Pn	Pn	07 42 29.4	+3.3
	1.6nm,0.7s						
MAKZ				⇑Sn	Sn	07 43 57.2	+2.0
	3.3nm,0.7s						
MAKZ				⇑Lg	Lg	07 44 30.6	
	18nm,1.4s						
BVA0	**Borovoye Array**	**10.50**	**274**	⇑Pn	Pn	07 43 06.1	+3.3
	1.1nm,0.5s,baz=74,slow=15,SNR=20						
BVA0				Pg		07 43 16.3	
	6.8nm,1.6s,baz=86,slow=15,SNR=5.1						
BVA0				⇑Lg	Lg	07 44 58.4	
	6.4nm,0.8s,baz=75,slow=26						
BRVK	**Borovoye**	**10.56**	**274**	⇑Pn	Pn	07 43 05.1	+1.6
	4.7nm,1.5s						
BRVK				⇑Lg	Lg	07 44 59.0	
	9.9nm,1.1s						

OTT 19 07:45:26.0±0.3,60.11N×73.65W,h1km,MN3.5/5, Boothia Ungava Seismic Zone. 189km southwest from Kangiqsujuaq, Qc,Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNGQ	**Kangiqsujuaq**	**1.70**	**29**	PN	Pn	07 45 57.0	+0.4
KNGQ				SN	Sn	07 46 17.9	-1.1
KNGQ				Trac		07 46 19.7	
	comp=Z,177nm,0.1s						
KUQ	**Kuujjuaa**	**3.37**	**124**	PN	Pn	07 46 19.8	+0.2
KUQ				SN	Sn	07 46 58.6	-1.4
KUQ				Trac		07 47 14.2	
	comp=Z,76nm,0.3s						
KAJQ	**Kangiqsualujju**	**4.19**	**106**	PN	Pn	07 46 30.1	-0.9
KAJQ				SN	Sn	07 47 17.4	-3.1
KAJQ				LG	Lg	07 47 36.7	
KAJQ				Trac		07 47 39.1	
	comp=Z,20nm,0.2s						
FRB	**Frobisher Bay**	**4.37**	**31**	PN	Pn	07 46 33.9	+0.5
FRB				SN	Sn	07 47 23.0	-1.9
FRB				LG	Lg	07 47 39.8	
FRB				Trac		07 47 40.5	
	comp=Z,35nm,0.3s						
SCHQ	**Schefferville**	**6.44**	**142**	PN	Pn	07 47 01.1	-0.8
SCHQ				SN	Sn	07 48 10.8	-5.2
SCHQ				SN	Sb	07 48 11.8	-24
SCHQ				LG	Lg	07 48 44.9	
SCHQ				Trac		07 48 46.4	
	comp=Z,39nm,0.5s						
SCHQ				LG	Lg	07 48 46.5	
NANL	**Nain**	**7.24**	**114**	PN	Pn	07 47 10.7	-2.1
VIMO	**Victor Mine**	**9.19**	**222**	PN	Pn	07 47 40.2	+0.7
VIMO				SN	Sn	07 49 16.1	-7.3
ILON	**Igloolik, Nuna**	**9.92**	**343**	PN	Pn	07 47 47.2	-2.2
ILON				SN	Sn	07 49 31.8	-9.4
ILON				Trac		07 50 33.9	
	comp=Z,24nm,0.8s						
ILON				LG	Lg	07 50 35.6	
MNQ	**Manicouagan**	**9.99**	**162**	PN	Pn	07 47 50.2	-0.3

IDC ***19*** *07:51:08.3±3.5,5.40S×147.12E,h202km±40km,mb3.3/2, mb1 3.7/5,mb1mx3.3/32,mbtmp4.1/5,Error ellipse: s-maj=70.8km s-min=27.2km az=111.0*

ISC 19 07:51:08.3±1.6,5.5S±0.1×147.0E±0.2,h195km,n6, σ1§26/9,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.92**	**177**	P	**Pn**	**07 52 09.7**	**+0.8**
	13nm,0.3s,baz=325,slow=9.3,SNR=24						
PMG				S	**Sn**	**07 52 55.0**	**-1.6**
	12nm,0.3s,baz=207,slow=21,SNR=13						
CTA	**Charters Tower**	**14.55**	**183**	P	**P**	**07 54 27.0**	**+0.4**
	0.3nm,0.3s,baz=18,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**18.91**	**219**	P	**P**	**07 55 15.7**	**+1.3**
	1.3nm,0.3s,baz=44,slow=11,SNR=33						
WRA				S	**S**	**07 58 38.2**	**-0.7**
	0.2nm,0.3s,baz=38,slow=20,SNR=6.0						
ASAR	**Alice Springs**	**22.03**	**213**	P	**P**	**07 55 48.4**	**+1.0**
	6.3nm,0.7s,baz=48,slow=8.4,SNR=57						
ASAR				S	**S**	**07 59 35.8**	**-0.5**
	0.8nm,0.9s,baz=26,slow=14,SNR=3.3						
MKAR	**Makanchi Array**	**77.06**	**320**	P	**P**	**08 02 39.8**	**-0.1**
	0.2nm,0.6s,baz=99,slow=5.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**144.91**	**285**	PKPbc	**PKPbc**	**08 10 21.2**	**-1.6**
	0.7nm,1.0s,baz=59,slow=3.9,SNR=3.3						

IDC ***19*** *07:51:59.5±1.8,1.65S×119.32E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.6/34,mbtmp3.7/4,Error ellipse: s-maj=188.1km s-min=22.2km az=61.0*
ISCJB ***19*** *07:52:00.1±0.5,1.39S±0.05×119.46E±0.05,h10km, mb3.7/4,Error ellipse: s-maj=7.3km s-min=7.0km az=156.8*
DJA ***19*** *07:52:03.7±0.4,1°S±3°×11°E±°,h51km±47km,M4.3/4, MLv4.3/4*

ISC 19 07:52:01.4±1.0,1.39S±0.05×119.45E±0.05,h10km,n18, σ0§82/17,mb3.7/4,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCI	**Palu**	**0.62**	**39**	P	Pg	07 52 11.0	-2.5
TTSI	**Tana Toraja**	**1.68**	**167**	P	**Pn**	**07 52 31.1**	**+0.2**
MPSI	**Mapaga**	**1.78**	**15**	P	**Pn**	**07 52 31.6**	**-0.6**
SGKI	**Sangatta, Kali**	**2.03**	**295**	P	**Pn**	**07 52 35.3**	**-0.4**
APSI	**Ampana**	**2.25**	**78**	P	**Pn**	**07 52 38.5**	**-0.2**
SMKI	**Samarinda**	**2.43**	**293**	P	**Pn**	**07 52 40.5**	**-0.7**
BKB	**Balikpapan**	**2.56**	**273**	P	**Pn**	**07 52 42.9**	**0.0**
SPSI	**Sidrap Palu**	**2.57**	**173**	P	**Pn**	**07 52 43.3**	**+0.2**
BNSI	**Bone**	**3.06**	**168**	P	**Pn**	**07 52 49.8**	**0.0**
MRSI	**Marisa**	**3.11**	**53**	P	**Pn**	**07 52 50.4**	**-0.1**
LUWI	**Luwuk**	**3.34**	**84**	P	**Pn**	**07 52 53.7**	**0.0**
KBKI	**Kotabaru**	**3.79**	**240**	P	**Pn**	**07 52 59.5**	**-0.3**
BKSI	**Bulukumba**	**3.96**	**170**	P	**Pn**	**07 53 01.9**	**-0.3**
KDI	**Kendari**	**4.06**	**129**	P	**Pn**	**07 53 03.2**	**-0.5**
WRA	**Warramunga Arr**	**23.49**	**143**	P	**P**	**07 57 10.9**	**-0.7**
	3.5nm,0.8s,baz=320,slow=11,SNR=9.5						
ASAR	**Alice Springs**	**26.20**	**149**	P	**P**	**07 57 34.2**	**-2.3**
	0.6nm,0.7s,baz=325,slow=7.9,SNR=2.9						
SONM	**Songino Array**	**50.34**	**349**	P	**P**	**08 00 59.5**	**+1.0**
	0.8nm,0.8s,baz=164,slow=7.9,SNR=3.8						
MKAR	**Makanchi Array**	**58.00**	**331**	P	**P**	**08 01 55.5**	**+1.0**
	0.8nm,0.9s,baz=126,slow=8.2,SNR=4.7						

ISCJB ***19*** *08:11:06.7±1.1,7.22N±0.05×77.21W±0.06,h10km,Error ellipse: s-maj=10.4km s-min=4.6km az=41.5*
RSNC ***19*** *08:11:07.7±0.8,7.21N×77.32W,h86km±10km,ML3.4, Mw3.6*

ISC 19 08:11:06.3±1.6,7.24N±0.07×77.29W±0.09,h10km,n15, σ1§66/26,Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOLC	**Bahia Solano**	**1.01**	**187**	*e*P	**Pg**	**08 11 25.8**	**-0.1**
SOLC				*e*Pg	**Pb**	**08 11 26.6**	**+0.7**
SOLC				*e*Sg	**Sn**	**08 11 41.2**	**+0.3**
SOLC				*i*		08 11 43.6	
	comp=N,2μm,0.4s						
UREC	**San Jos de Ur**	**1.81**	**74**	*e*P	**Pn**	**08 11 36.8**	**-0.9**
UREC				*e*S	**Sn**	**08 12 00.7**	**-0.1**
UREC				*i*		08 12 02.2	
	comp=N,1μm,0.3s						
HELC	**Santa Helena**	**2.04**	**121**	*e*P	**Pn**	**08 11 40.6**	**-0.4**
HELC				*e*S	**Sn**	**08 12 05.7**	**-1.0**
HELC				*i*		08 12 12.4	
	comp=N,84nm,0.6s						
ZARC	**Zaragoza, Cauc**	**2.43**	**84**	*e*P	**Pn**	**08 11 45.8**	**-0.3**
ZARC				*e*S	**Sn**	**08 12 14.3**	**-1.5**
ZARC				*i*		08 12 18.9	
	comp=N,227nm,0.5s						
PLMC	**San Jos del P**	**2.53**	**157**	*e*P	**Pn**	**08 11 45.4**	**-2.0**
PLMC				*e*S	**Sn**	**08 12 16.3**	**-2.1**
PTBC	**PUERTO BERRIO,**	**2.90**	**104**	*e*P	**Pn**	**08 11 52.5**	**-0.1**
PTBC				*e*S	**Sn**	**08 12 26.0**	**-1.5**
PTBC				*i*		08 12 38.7	
	comp=N,88nm,0.6s						
TOLC	**Tolima**	**3.29**	**143**	*e*P	**Pn**	**08 11 59.1**	**+1.0**
SJCC	**San Jacinto, C**	**3.36**	**38**	*e*P	**Pn**	**08 11 58.7**	**-0.3**
YOTC	**Yotoco, Valle**	**3.37**	**164**	*e*P	**Pn**	**08 11 57.4**	**-1.8**
YOTC				*e*S	**Sn**	**08 12 35.9**	**-3.4**
YOTC				*i*		08 12 41.1	
	comp=N,11nm,0.2s						
BRRC	**Barranca, Sant**	**3.55**	**92**	*e*P	**Pn**	**08 12 02.7**	**+1.2**
BRRC				*e*S	**Sn**	**08 12 43.9**	**+0.3**
OCAC	**Ocana**	**4.06**	**76**	*e*Pg	**Pn**	**08 12 08.8**	**+0.2**
OCAC				*e*Sg	**Sn**	**08 12 55.2**	**-1.1**
OCAC				*i*		08 12 58.1	
	comp=Z,62nm,0.6s						
CHIC	**Chingaza**	**4.39**	**126**	*e*P	**Pn**	**08 12 17.1**	**+3.7**
RUSC	**La Rusia**	**4.39**	**108**	*e*P	**Pn**	**08 12 15.1**	**+1.6**
PAMC	**Pamplona, Colo**	**4.55**	**88**	*e*P	**Pn**	**08 12 17.1**	**+1.4**
PAMC				*e*S	**Sn**	**08 13 08.5**	**-0.5**
SOTA	**Rioblanco**	**5.12**	**172**	*e*P	**Pn**	**08 12 26.8**	**+3.3**

NEIC ***19*** *08:12:44.7±0.4,11.86N×143.28E,h10km,mb4.4/21,Error ellipse: s-maj=12.4km s-min=9.6km az=122.0*
*

IL1	**Eielson Array**	**70.81**	**25**	*eP*	**P**	**08 23 59.5**	**-1.9**
HARP	**HAARP**	**71.07**	**28**	*eP*	**P**	**08 24 03.5**	**+0.5**
	12nm,1.1s						
DOT	**Dot Lake**	**71.79**	**27**	*eP*	**P**	**08 24 06.2**	**-1.1**
	6.9nm,1.0s						
DAWY	**Dawson**	**73.89**	**27**	*eP*	**P**	**08 24 20.1**	**+0.2**
	3.8nm,1.0s						
HYT	**Haines Junctio**	**74.49**	**30**	*eP*	**P**	**08 24 24.5**	**+1.0**
	5.5nm,1.2s						
ARU	**Arti**	**77.31**	**325**	*eP*	**P**	**08 24 39.3**	**-0.2**
	2.8nm,0.7s						
DLBC	**Dease Lake**	**78.29**	**32**	*eP*	**P**	**08 24 45.9**	**+0.9**
	1.4nm,1.0s						
YKA	**Yellowknife Ar**	**85.12**	**27**	P	**P**	**08 25 20.3**	**-0.5**
	0.4nm,0.5s,baz=287,slow=5.0,SNR=10.0						
YKB5	**Yellowknife Ar**	**85.12**	**27**	*eP*	**P**	**08 25 20.5**	**-0.4**
YBH	**Yreka Blue Hor**	**85.19**	**49**	*eP*	**P**	**08 25 23.1**	**+1.3**
	0.3nm,0.6s						
B08A	**Colville Reser**	**86.11**	**42**	*eP*	**P**	**08 25 26.5**	**+0.3**
	2.4nm,0.9s						
ARA0	**ARCESS Array S**	**88.26**	**342**	*eP*	**P**	**08 25 35.9**	**-0.2**
ARCES	**ARCESS Array B**	**88.26**	**342**	P	**P**	**08 25 35.9**	**-0.2**
	3.5nm,0.9s,baz=87,slow=8.6,SNR=4.7						
NVAR	**Mina Array Bea**	**89.23**	**51**	P	**P**	**08 25 41.8**	**+0.2**
	1.6nm,0.7s,baz=264,slow=5.9,SNR=15						
FIA0	**FINESS Array S**	**92.08**	**335**	*eP*	**P**	**08 25 52.3**	**-1.7**
FINES	**FINESS Array B**	**92.08**	**335**	P	**P**	**08 25 52.3**	**-1.7**
	2.3nm,1.0s,baz=90,slow=1.9,SNR=3.9						

ISCJB ***19*** *08:15:07.9±0.3, 43.°63S±0.°03×172.°53E±0.°04, h24km±3km, mb4.6/3, MS3.5/2, Error ellipse: s-maj=5.7km s-min=3.2km az=141.5*

WEL ***19*** *08:15:08.0, 43.°6S±0.°4×172.°4E±0.°6, h10km, ML4.8/13*

IDC ***19*** *08:15:08.6±1.3, 43.°53S×172.°39E, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.9/20, mbtmp4.1/2, MS3.6/3, Ms1 3.5/3, ms1mx3.2/24, Error ellipse: s-maj=54.3km s-min=13.2km az=166.0*

NEIC ***19*** *08:15:08.1±0.0, 43.°60S×172.°46E, h12km, MW4.2, ML4.6(WEL), Moment Tensor Solution. s23 Moment tensor: Scale 10¹⁵Nm; Mrr-0.38; Mθθ 0.89; Mϕϕ -0.50; Mrθ-1.01; Mθϕ-2.11; Mϕr-0.44; Best double couple: Mo2.50000×10¹⁵ NP1:ϕs349.00000°, δ64.00000°, λ-10.00000°. NP2:ϕs83.00000°, δ81.00000°, λ-153.00000°. Principal axes: T 2.5200, Plg12.0000°, Azm213.0000°; N -0.0500, Plg62.0000°, Azm101.0000°; P -2.4700, Plg25.0000°, Azm309.0000°; After WEL.*

NEIC Felt [IV] at Christchurch. Also felt at Dunsandel.

ISC 19 08:15:08.8±0.8, 43.°61S±0.°03×172.°46E±0.°02, h14km±5km, n121, σ1°37/142, mb4.0/3, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.13**	**73**	*eP*g	**Pg**	**08 15 12.3**	**0.0**
CRLZ				*eS*g	**Sg**	**08 15 14.2**	**-0.4**
CRLZ	**Canterbury Las**	**0.13**	**73**	P	**Pg**	**08 15 12.4**	**0.0**
CRLZ				S	**Sg**	**08 15 14.5**	**-0.2**
MQZ	**McQueen's Vall**	**0.17**	**123**	*eP*g	**Pg**	**08 15 13.2**	**+0.3**
MQZ				*eS*g	**Sg**	**08 15 16.0**	**+0.3**
MQZ	**McQueen's Vall**	**0.17**	**123**	P	**Pg**	**08 15 13.2**	**+0.3**
EYCZ	**Eyrewell**	**0.20**	**339**	P	**Pg**	**08 15 13.1**	**-0.3**
RACZ	**Rakaia**	**0.26**	**243**	P	**Pb**	**08 15 14.7**	**-0.5**
OXZ	**Oxford**	**0.42**	**313**	*eP*g	**Pg**	**08 15 16.6**	**-0.6**
OXZ				*eS*g	**Sg**	**08 15 22.2**	**-0.6**
OXZ	**Oxford**	**0.42**	**313**	P	**Pg**	**08 15 16.7**	**-0.4**
AKCZ	**Akaroa Harbour**	**0.42**	**128**	P	**Pb**	**08 15 17.9**	**-0.1**
OKCZ	**Okains Bay**	**0.45**	**104**	P	**Pb**	**08 15 18.6**	**+0.1**
AMCZ	**Amberley**	**0.46**	**18**	P	**Pb**	**08 15 18.6**	**0.0**
LTZ	**Lake Taylor**	**0.84**	**351**	*eP*n	**Pn**	**08 15 25.1**	**-0.1**
LTZ				*eS*n	**Sb**	**08 15 36.2**	**-0.1**
LTZ	**Lake Taylor**	**0.84**	**351**	P	**Pb**	**08 15 25.1**	**-0.1**
LTZ				P	**Pb**	**08 15 25.1**	**-0.1**
RPZ	**Rata Peaks**	**1.02**	**264**	Pg	**Pg**	**08 15 27.9**	**-0.6**
	791nm,0.3s,baz=158,slow=3.2,SNR=569						
RPZ				Lg	Lg	08 15 41.5	
	2μm,0.3s,baz=0.3,slow=6.9,SNR=53						
RPZ	**Rata Peaks**	**1.02**	**264**	*eP*g	**Pg**	**08 15 28.0**	**-0.6**
RPZ				*eS*n	**Sn**	**08 15 42.1**	**-0.7**
RPZ	**Rata Peaks**	**1.02**	**264**	P	**Pg**	**08 15 27.9**	**-0.6**
INZ	**Inchbonnie**	**1.16**	**320**	P	**Pg**	**08 15 30.7**	**-0.3**
WVZ	**Waitaha Valley**	**1.36**	**293**	P	**Pg**	**08 15 34.2**	**-0.8**
KHZ	**Kahutara**	**1.44**	**34**	*eP*n	**Pn**	**08 15 33.4**	**-0.9**
KHZ	**Kahutara**	**1.44**	**34**	P	**Pn**	**08 15 33.4**	**-0.9**
LBZ	**Lake Benmore**	**1.81**	**244**	*eP*n	**Pn**	**08 15 39.5**	**-0.1**
LBZ				*eP*g	**Pg**	**08 15 42.6**	**-1.0**
LBZ				*eS*n	**Sg**	**08 16 07.5**	**+0.4**
LBZ	**Lake Benmore**	**1.81**	**244**	P	**Pn**	**08 15 39.1**	**-0.4**
THZ	**Tophouse**	**1.88**	**10**	*eP*n	**Pn**	**08 15 39.6**	**-0.9**
THZ	**Tophouse**	**1.88**	**10**	P	**Pn**	**08 15 39.6**	**-0.9**
FOZ	**Fox Glacier**	**1.92**	**271**	*eP*n	**Pn**	**08 15 41.7**	**+0.8**
FOZ	**Fox Glacier**	**1.92**	**271**	P	**Pb**	**08 15 42.0**	**-1.5**
DSZ	**Denniston Nort**	**1.93**	**345**	P	**Pn**	**08 15 40.6**	**-0.5**
ODZ	**Otahua Downs**	**1.93**	**222**	*eP*n	**Pn**	**08 15 40.6**	**-0.6**
ODZ				*eP*g	**Pg**	**08 15 45.4**	**-0.5**
ODZ				*eS*n	**Sg**	**08 16 10.7**	**-0.3**
ODZ	**Otahua Downs**	**1.93**	**222**	P	**Pn**	**08 15 40.6**	**-0.6**
BSWZ	**Blackbirch Sta**	**2.17**	**29**	P	**Pn**	**08 15 43.8**	**-0.6**
CMWZ	**Cape Campbell**	**2.27**	**35**	P	**Pn**	**08 15 46.3**	**+0.5**
TUWZ	**Tuamarina**	**2.44**	**27**	P	**Pn**	**08 15 47.9**	**-0.2**
NNZ	**Nelson**	**2.49**	**16**	P	**Pn**	**08 15 48.7**	**-0.1**
NNZ				P	**Pn**	**08 15 48.7**	**-0.1**
HHSZ	**Highcliff Hill**	**2.63**	**210**	P	**Pn**	**08 15 49.8**	**-0.9**
JCZ	**Jackson Bay**	**2.69**	**259**	P	**Pn**	**08 15 51.8**	**0.0**
TCW	**Tory Channel**	**2.75**	**30**	P	**Pn**	**08 15 51.4**	**-1.1**
WKZ	**Wanaka**	**2.75**	**243**	*eP*n	**Pn**	**08 15 51.4**	**-1.1**
WKZ				*eP*g	**Pg**	**08 16 00.7**	**-0.9**
WKZ	**Wanaka**	**2.75**	**243**	P	**Pn**	**08 15 51.7**	**-0.8**
EAZ	**Earnscleugh**	**2.77**	**233**	P	**Pn**	**08 15 52.2**	**-0.6**
QRZ	**Quartz Range**	**2.79**	**1**	P	**Pn**	**08 15 52.0**	**-0.9**
BHW	**Baring Head**	**2.84**	**40**	P	**Pn**	**08 15 51.9**	**-1.7**
SNZO	**South Karori**	**2.84**	**37**	*eP*n	**Pn**	**08 15 51.9**	**-1.7**
PLWZ	**Palliser**	**2.91**	**46**	P	**Pn**	**08 15 52.9**	**-1.7**
DUWZ	**D'Urville Isla**	**3.01**	**22**	P	**Pn**	**08 15 58.4**	**+2.3**
MSWZ	**Moikau Station**	**3.01**	**44**	P	**Pn**	**08 15 54.4**	**-1.7**
TUZ	**Tuapeka**	**3.09**	**220**	P	**Pn**	**08 15 56.3**	**-0.7**
PAWZ	**Paruwai Farm**	**3.13**	**46**	P	**Pn**	**08 15 56.0**	**-1.7**
CAW	**Cannon Point**	**3.16**	**39**	P	**Pn**	**08 15 56.4**	**-1.8**
TRW	**Traveller**	**3.26**	**48**	P	**Pn**	**08 15 57.7**	**-1.7**
KW	**Kapiti Island**	**3.30**	**34**	P	**Pn**	**08 15 59.0**	**-0.9**
MTW	**Mount Morrison**	**3.33**	**44**	P	**Pn**	**08 15 58.5**	**-1.9**
MSZ	**Milford Sound**	**3.43**	**250**	P	**Pn**	**08 16 01.0**	**-0.7**
OGWZ	**Otaki Gorge**	**3.44**	**37**	P	**Pn**	**08 16 00.4**	**-1.5**
HOWZ	**Holdsworth Sta**	**3.54**	**41**	P	**Pn**	**08 16 02.2**	**-1.1**
MLZ	**Mavora Lakes**	**3.56**	**239**	*eP*n	**Pn**	**08 16 02.5**	**-1.2**
MLZ				*eP*g	**Pg**	**08 16 14.6**	**-2.5**
MLZ				*eS*g	**Sg**	**08 17 06.8**	**+3.6**
MLZ	**Mavora Lakes**	**3.56**	**239**	P	**Pn**	**08 16 02.6**	**-1.0**
TMWZ	**Te Maipa**	**3.57**	**47**	P	**Pn**	**08 16 04.0**	**+0.3**
SYZ	**Scrubby Hill**	**3.75**	**218**	P	**Pn**	**08 16 05.6**	**-0.5**
MRZ	**Mangatainoka R**	**3.75**	**39**	P	**Pn**	**08 16 04.5**	**-1.7**
WHZ	**Wether Hill Ro**	**3.94**	**233**	*eP*n	**Pn**	**08 16 07.0**	**-1.8**
WHZ				*eP*g	**Pg**	**08 16 21.8**	**-2.5**
WHZ	**Wether Hill Ro**	**3.94**	**233**	P	**Pn**	**08 16 07.0**	**-1.8**
WHZ				P	Pb	08 16 07.1	-11
PRWZ	**Pori Road**	**4.02**	**42**	P	**Pn**	**08 16 08.4**	**-1.5**
BFZ	**Birch Farm**	**4.06**	**45**	*eP*n	**Pn**	**08 16 08.4**	**-2.1**
BFZ	**Birch Farm**	**4.06**	**45**	P	**Pn**	**08 16 08.7**	**-1.8**
DCZ	**Deep Cove**	**4.22**	**242**	*eP*n	**Pn**	**08 16 11.8**	**-0.7**
DCZ				*eP*g	**Pg**	**08 16 26.8**	**-2.8**
DCZ	**Deep Cove**	**4.22**	**242**	P	**Pn**	**08 16 11.6**	**-1.0**
DCZ				P	**Pn**	**08 16 11.6**	**-1.0**
WAZ	**Wanganui**	**4.29**	**27**	P	**Pn**	**08 16 12.5**	**-1.1**
DVHZ	**Dannevirke**	**4.32**	**41**	P	**Pn**	**08 16 12.1**	**-1.9**
NMEZ	**Namu Road**	**4.33**	**15**	P	**Pn**	**08 16 14.9**	**+0.8**
ANWZ	**Angora Road**	**4.35**	**45**	P	**Pn**	**08 16 12.7**	**-1.6**
TSZ	**Takapari Road**	**4.41**	**38**	P	**Pn**	**08 16 13.1**	**-2.2**
PREZ	**Palmer Road**	**4.45**	**17**	P	**Pn**	**08 16 16.9**	**+1.0**
NBEZ	**Newall Road No**	**4.47**	**14**	P	**Pn**	**08 16 16.5**	**+0.5**
KHEZ	**Kahui Hut**	**4.47**	**16**	P	**Pn**	**08 16 16.7**	**+0.6**
APZ	**The Paps**	**4.51**	**223**	P	**Pn**	**08 16 15.4**	**-1.2**
APZ				P	**Pn**	**08 16 16.3**	**-0.3**
PKE	**Pukeiti**	**4.56**	**15**	P	**Pn**	**08 16 17.8**	**+0.4**
PRHZ	**Porangahau**	**4.57**	**44**	P	**Pn**	**08 16 16.2**	**-1.3**
DREZ	**Durham Road**	**4.61**	**17**	P	**Pn**	**08 16 18.4**	**+0.4**
WPHZ	**Waipukurau**	**4.63**	**41**	P	**Pn**	**08 16 19.4**	**+1.1**
MTVZ	**Mangateitei**	**4.79**	**29**	P	**Pn**	**08 16 22.2**	**+1.6**
VRZ	**Vera Road**	**4.81**	**22**	P	**Pn**	**08 16 21.0**	**+0.3**
PYZ	**Puysegur Point**	**4.83**	**236**	*eP*n	**Pn**	**08 16 20.5**	**-0.6**
PYZ				*eP*g	**Pg**	**08 16 37.3**	**-4.0**
PKVZ	**Pokaka**	**4.83**	**28**	P	**Pn**	**08 16 22.4**	**+1.2**
PXZ	**Pawanui**	**4.86**	**44**	P	**Pn**	**08 16 19.8**	**-1.6**
MOVZ	**Moawhango**	**4.88**	**32**	P	**Pn**	**08 16 22.1**	**+0.4**
TRVZ	**Turoa**	**4.90**	**29**	P	**Pn**	**08 16 22.5**	**+0.4**
WHVZ	**Whangaehu Hut**	**4.92**	**30**	P	**Pn**	**08 16 24.0**	**+1.4**
BHHZ	**Black Hill Sta**	**4.93**	**35**	P	**Pn**	**08 16 22.1**	**-0.3**
FWVZ	**Far West T-bar**	**4.94**	**29**	P	**Pn**	**08 16 23.3**	**+0.6**
COVZ	**Chateau Observ**	**4.98**	**29**	P	**Pn**	**08 16 24.1**	**+0.9**
NGZ	**Ngauruhoe**	**5.02**	**29**	P	**Pn**	**08 16 23.3**	**-0.6**
KAHZ	**Kahuranaki**	**5.05**	**42**	P	**Pn**	**08 16 22.7**	**-1.4**
WTVZ	**West Tongariro**	**5.07**	**29**	P	**Pn**	**08 16 25.2**	**+0.7**
MCHZ	**McNeill Hill**	**5.24**	**39**	P	**Pn**	**08 16 26.5**	**-0.2**
BKZ	**Black Stump Fm**	**5.38**	**36**	*eP*n	**Pn**	**08 16 26.4**	**-2.2**
BKZ				*eP*g	**Pg**	**08 16 51.5**	**-0.3**
BKZ	**Black Stump Fm**	**5.38**	**36**	P	**Pn**	**08 16 26.9**	**-1.7**
HIZ	**Hauiti**	**5.41**	**20**	*eP*n	**Pn**	**08 16 27.9**	**-1.1**
HIZ	**Hauiti**	**5.41**	**20**	P	**Pn**	**08 16 28.2**	**-0.7**
ARHZ	**Aropaoanui**	**5.52**	**40**	P	**Pn**	**08 16 29.3**	**-1.3**
NMHZ	**Naumai**	**5.57**	**37**	P	**Pn**	**08 16 31.0**	**-0.3**
URZ	**Urewera**	**6.40**	**35**	Pn	**Pn**	**08 16 39.9**	**-2.7**
	3.0nm,0.3s,baz=235,slow=4.7,SNR=13						
URZ				Sn	**Sn**	**08 17 50.1**	**-5.3**
	11nm,0.3s,baz=354,slow=22,SNR=6.7						
URZ				LR	LR	08 19 52.0	
	comp=Z,527nm,18.7s,baz=248,slow=45						
MXZ	**Matakaoa Point**	**7.50**	**38**	*eP*n	**Pn**	**08 16 56.8**	**-0.9**
OUZ	**Omahuta**	**8.43**	**6**	*eP*n	**Pn**	**08 17 11.2**	**+0.8**
STKA	**Stephens Creek**	**26.91**	**285**	LR	LR	08 30 18.0	
	comp=Z,59nm,18.3s,baz=26,slow=34						
ASAR	**Alice Springs**	**37.33**	**290**	P	**P**	**08 22 22.0**	**+1.3**
	1.6nm,0.5s,baz=130,slow=7.5,SNR=22						
WR1	**Warramunga Arr**	**39.59**	**294**	*eP*	**P**	**08 22 39.9**	**+0.2**
WRA	**Warramunga Arr**	**39.59**	**294**	P	**P**	**08 22 39.9**	**+0.2**
	2.1nm,0.6s,baz=136,slow=7.6,SNR=23						
PMG	**Port Moresby**	**40.57**	**320**	LR	LR	08 39 38.3	
	comp=Z,112nm,18.0s,baz=152,slow=36						
KMI	**Kunming**	**93.55**	**302**	P	**P**	**08 28 27.0**	**+2.5**
KMI				pmax	pmax		
	comp=Z,13nm,0.5s						
HHC	**Hu-ho-hao-te**	**100.36**	**318**	*eP*	**Pdif**	**08 28 56.5**	**+1.8**
KSH	**Kashi**	**119.94**	**298**	PKP	**PKPdf**	**08 33 56.9**	**-1.6**
KSH				sPKP		08 34 12.3	
KSH				PP	**PP**	**08 35 21.6**	**-1.7**
KSH				AMB	AMB		
	comp=Z,140nm,6.6s						
MK32	**Makanchi Array**	**120.06**	**307**	*e*PKPdf	**PKiKP**	**08 34 01.9**	**+3.4**
MKAR	**Makanchi Array**	**120.06**	**307**	PKP	**PKiKP**	**08 34 01.9**	**+3.4**
	comp=Z,0.2nm,0.7s,baz=153,slow=0.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**148.62**	**197**	PKPbc	**PKPbc**	**08 34 56.1**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=96,slow=1.5,SNR=4.5						
TOA1	**Torodi Ar. Sit**	**148.62**	**197**	*e*PKPbc	**PKPbc**	**08 34 56.1**	**+0.4**
ARA0	**ARCESS Array S**	**149.04**	**338**	*e*PKPbc	**PKPab**	**08 34 57.8**	**-1.6**
ARCES	**ARCESS Array B**	**149.04**	**338**	PKPbc	**PKPab**	**08 34 57.8**	**-1.6**
	comp=Z,5.2nm,0.9s,baz=57,slow=4.5,SNR=5.1						
BR101	**Keskin Array S**	**149.22**	**277**	*e*PKPbc	**PKiKP**	**08 34 58.8**	**+1.0**
BRTR	**Keskin Array B**	**149.22**	**277**	PKPbc	**PKiKP**	**08 34 58.8**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=64,slow=3.4,SNR=3.8						
FIA0	**FINESS Array S**	**153.31**	**324**	*e*PKPbc	**PKiKP**	**08 35 06.4**	**+1.1**
FINES	**FINESS Array B**	**153.31**	**324**	PKPbc	**PKiKP**	**08 35 06.4**	**+1.1**
	comp=Z,2.4nm,0.9s,baz=127,slow=3.7,SNR=2.8						

NEIC ***19*** *08:29:19.5±0.0, 19.°72N×65.°49W, h33km, MD3.4(RSPR), After RSPR.*

RSPR 19 08:29:19.5, 19.°72N×65.°49W, h33km±13km, MD3.4/10, 14C-12D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CUPR	**Culebra, Puert**	**1.42**	**172**	↓*i*P	Pn	08 29 41.4	-1.5
CUPR	**Culebra, Puert**	**1.42**	**172**	*e*S	Sn	08 29 58.6	-1.8
CUPR	**Culebra, Puert**	**1.42**	**172**	↓*i*P	Pn	08 29 41.4	-1.5
CUPR				*e*S	Sn	08 29 58.6	-1.8
STVI	**Saint Thomas**	**1.45**	**159**	↓*e*P	Pn	08 29 41.8	-1.6
STVI	**Saint Thomas**	**1.45**	**159**	*e*S	Sn	08 29 59.7	-1.6
STVI	**Saint Thomas**	**1.45**	**159**	↓*e*P	Pn	08 29 41.8	-1.6
STVI				*e*S	Sn	08 29 59.7	-1.6
ABVI	**Anegada Island**	**1.47**	**132**	↓*e*P	Pn	08 29 42.6	-1.1
ABVI				*e*S	Sn	08 30 00.2	-1.6
ABV	**Anegada**	**1.47**	**132**	↓*e*P	Pn	08 29 42.6	-1.1
ABV	**Anegada**	**1.47**	**132**	*e*S	Sn	08 30 00.2	-1.7
TBVI	**Tortola**	**1.54**	**147**	↓*e*P	Pn	08 29 43.3	-1.3
TBVI				*e*S	Sn	08 30 02.2	-1.2
TBVI	**Tortola**	**1.54**	**147**	↓*e*P	Pn	08 29 43.3	-1.3
TBVI				*e*S	Sn	08 30 02.2	-1.2
EMPR	**Esperanza - Ma**	**1.57**	**219**	↑*e*P	Pn	08 29 43.9	-1.2
EMPR	**Esperanza - Ma**	**1.57**	**219**	*e*S	Sn	08 30 02.7	-1.6
EMPR	**Esperanza - Ma**	**1.57**	**219**	↑*e*P	Pn	08 29 43.9	-1.2
EMPR				*e*S	Sn	08 30 02.7	-1.6
HUMP	**Col San Antoni**	**1.60**	**192**	↓*i*P	Pn	08 29 44.1	-1.4
HUMP	**Col San Antoni**	**1.60**	**192**	*e*S	Sn	08 30 03.4	-1.7
HUMP	**Col San Antoni**	**1.60**	**192**	↓*i*P	Pn	08 29 44.1	-1.4
HUMP				*e*S	Sn	08 30 03.4	-1.7
MTP	**Monte Pirata**	**1.61**	**182**	↑*e*P	Pn	08 29 44.2	-1.4
MTP	**Monte Pirata**	**1.61**	**182**	*e*S	Sn	08 30 04.0	-1.3
MTP	**Monte Pirata**	**1.61**	**182**	↑*e*P	Pn	08 29 44.2	-1.4
MTP				*e*S	Sn	08 30 04.0	-1.3
SJG	**San Juan**	**1.71**	**201**	↑*e*P	Pn	08 29 45.5	-1.5
SJG	**San Juan**	**1.71**	**201**	*e*S	Sn	08 30 06.4	-1.4
SJG	**San Juan**	**1.71**	**201**	↑*e*P	Pn	08 29 45.5	-1.5
SJG				*e*S	Sn	08 30 06.4	-1.4
CELP	**Cerrillos**	**1.93**	**212**	↑*e*P	Pn	08 29 48.6	-1.4
CELP				*e*S	Sn	08 30 12.0	-1.1
CELP	**Cerrillos**	**1.93**	**212**	↑*e*P	Pn	08 29 48.6	-1.4
CELP				*e*S	Sn	08 30 12.0	-1.1
OBIP	**Obispado Ponce**	**1.97**	**213**	↑*e*P	Pn	08 29 49.5	-1.1
OBIP				*e*S	Sn	08 30 12.5	-1.7
OBIP	**Obispado Ponce**	**1.97**	**213**	↑*e*P	Pn	08 29 49.5	-1.1
OBIP				*e*S	Sn	08 30 12.5	-1.7
CDVI	**St. Croix**	**2.07**	**160**	↑*e*P	Pn	08 29 51.0	-1.0
CDVI	**St. Croix**	**2.07**	**160**	*e*S	Sn	08 30 15.7	-0.9
CDVI	**St. Croix**	**2.07**	**160**	↑*e*P	Pn	08 29 51.0	-1.0
CDVI				*e*S	Sn	08 30 15.7	-0.9
GBPR	**Guanica, Bosqu**	**2.17**	**217**	↑*e*P	Pn	08 29 52.6	-0.7
GBPR	**Guanica, Bosqu**	**2.17**	**217**	*e*S	Sn	08 30 17.6	-1.5
GBPR	**Guanica, Bosqu**	**2.17**	**217**	↑*e*P	Pn	08 29 52.6	-0.7
GBPR				*e*S	Sn	08 30 17.6	-1.5
CRPR	**Cabo Rojo, PR**	**2.29**	**222**	↓*i*P	Pn	08 29 54.0	-0.9
CRPR	**Cabo Rojo, PR**	**2.29**	**222**	*e*S	Sn	08 30 20.6	-1.4
CRPR	**Cabo Rojo, PR**	**2.29**	**222**	↓*i*P	Pn	08 29 54.0	-0.9
CRPR				*e*S	Sn	08 30 20.6	-1.4
SDDR	**Presa de Saban**	**5.52**	**263**	*e*Pn	Pn	08 30 40.7	+1.3
SDDR				*e*Sn	Sn	08 31 43.3	+1.5

MDD 19 08:37:36.8±1.1, 29.°57N×15.°75W, h56km±37km, mb3.6/3, Error ellipse: s-maj=15.2km s-min=4.0km az=4.0, PRXIMO TT-model: canary, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EBAJ	**Bajamar**	**1.15**	**207**	P	Pn	08 37 55.8	-0.9
	2.2nm,0.2s,SNR=8.5						
EBAJ				S	Sn	08 38 09.0	-2.4
	0.1nm,0.1s,SNR=7.9						
EOSO	**Osorio**	**1.50**	**173**	P	Pn	08 38 01.1	-0.4
	0.7nm,0.1s,SNR=6.6						
EOSO				S	Sn	08 38 18.0	-2.0
	4.3nm,0.1s,SNR=7.2						
CFTV	**Fuerteventura**	**1.86**	**128**	S	Sn	08 38 25.4	-3.4
	0.7nm,0.2s,SNR=7.9						
EGOM	**La Gomera**	**1.90**	**223**	S	Sn	08 38 26.1	-3.5
	8.4nm,0.1s,SNR=7.9						
EHIG	**Higuera**	**2.06**	**241**	P	Pn	08 38 07.5	-1.7
	4.6nm,0.1s,SNR=4.0						
EHIG				S	Sn	08 38 31.2	-2.6
	3.7nm,0.1s,SNR=7.9						
TBT	**Taburiente**	**2.09**	**245**	P	Pn	08 38 07.0	-2.4
	2.1nm,0.1s,SNR=4.0						
TBT				S	Sn	08 38 28.2	-6.1
	20nm,0.2s,SNR=7.9						

NNC 19 08:55:11.3±6.9, 54.°28N×86.°16E, h0km, mb3.6, mpv2.9, 3C-1D, Error ellipse: s-maj=176.3km s-min=34.9km az=162.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**0.86**	**248**	↑P	Pg	08 55 27.4	-0.4
	1.0nm,0.2s,baz=63,slow=17						
ZAA0				↑S	Sg	08 55 39.9	+1.1
	4.6nm,0.2s						
KURK	**Kurchatov**	**5.83**	**235**	↓Pn	Pn	08 56 42.5	+3.6
	6.3nm,1.9s						
KURBB	**Kurchatov Arra**	**5.93**	**235**	↑Pn	Pn	08 56 42.2	+1.9
	1.8nm,0.7s,baz=59,slow=15						
MK31	**Makanchi Array**	**7.89**	**200**	Pn	Pn	08 57 09.1	+1.8
	0.5nm,0.5s,baz=28,slow=14,SNR=22						

IDC 19 09:04:33.2±2.3, 2.°03N×125.°10E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/37, mbtmp3.4/3, Error ellipse: s-maj=279.5km s-min=24.1km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.65**	**158**	P	P	09 09 46.7	+0.2
	0.9nm,0.3s,baz=336,slow=9.9,SNR=24						
ASAR	**Alice Springs**	**26.95**	**162**	P	P	09 10 15.8	-0.8
	0.2nm,0.5s,baz=337,slow=8.0,SNR=3.4						
MKAR	**Makanchi Array**	**58.04**	**327**	P	P	09 14 28.5	+0.4
	0.1nm,0.4s,baz=126,slow=9.8,SNR=3.9						

IDC 19 09:16:06.4±2.6, 0.°93N×92.°09E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/32, mbtmp3.7/6, ML4.5/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/40, Error ellipse: s-maj=91.2km s-min=22.2km az=62.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.67**	**21**	P	Pn	09 20 26.9	+0.5
	0.7nm,0.3s,baz=207,slow=11,SNR=4.5						
BRDH	**Bariadhala**	**21.62**	**359**	LR	LR	09 31 35.4	
	comp=Z,36nm,19.4s,baz=54,slow=43						
WRA	**Warramunga Arr**	**46.31**	**119**	P	P	09 24 34.2	-0.2
	0.7nm,0.7s,baz=298,slow=8.5,SNR=7.9						
MKAR	**Makanchi Array**	**46.47**	**351**	P	P	09 24 35.2	-0.1
	0.8nm,0.7s,baz=174,slow=9.3,SNR=9.4						
ASAR	**Alice Springs**	**47.41**	**124**	P	P	09 24 42.9	-0.2
	0.3nm,0.4s,baz=300,slow=7.9,SNR=8.1						
SONM	**Songino Array**	**48.34**	**13**	P	P	09 24 49.3	-0.6
	0.4nm,0.5s,baz=202,slow=7.3,SNR=3.0						
ZALV	**Zalesovo Beam**	**53.18**	**355**	P	P	09 25 25.8	-0.4
	0.7nm,0.3s,baz=179,slow=6.9,SNR=5.1						
TXAR	**Lajitas Array**	**146

GRGR	Grenville	2.71 202	*e*Pn		Pn	09 18 54.4	+0.1
NEV	Hard Times	3.09 323	*e*P		Pn	09 19 01.2	+1.9
NEV	Hard Times	3.09 323⇑	*e*P		Pn	09 19 01.2	+1.9
ANWB	Willy Bob	3.19 340	*e*Pn		Pn	09 19 00.7	0.0
ANWB			*e*S		Sn	09 19 38.1	+0.5
ANWB	Willy Bob	3.19 340	*e*P		Pn	09 19 01.0	+0.4
ANWB			*e*S		Sn	09 19 38.1	+0.5
TOSP	Speyside	3.35 178	*e*P		Pn	09 19 03.3	+0.4
TOSP			*e*S		Sn	09 19 42.4	+0.8
TOSP	Speyside	3.35 178	*e*P		Pn	09 19 03.3	+0.4
TOSP			*e*S		Sn	09 19 42.4	+0.8
TPR	Prospect	3.46 182	*e*P		Pn	09 19 05.5	+1.1
TPR			*e*S		Sn	09 19 45.2	+0.9
TPR	Prospect	3.46 182	*e*P		Pn	09 19 05.5	+1.1
TPR			*e*S		Sn	09 19 45.2	+0.9
BOT	Bacolet	3.48 181	*e*P		Pn	09 19 05.9	+1.3
BOT			*e*S		Sn	09 19 45.6	+0.8
BOT	Bacolet	3.48 181	*e*P		Pn	09 19 05.9	+1.3
BOT			*e*S		Sn	09 19 45.6	+0.8
SEUS	St. Eustatius	3.61 322	*e*Pn		Pn	09 19 08.5	+2.1
SEUS	St. Eustatius	3.61 322	*e*P		Pn	09 19 08.7	+2.3
SABA	Saba	3.87 320	*e*Pn		Pn	09 19 11.7	+1.8
SABA	Saba	3.87 320	*e*P		Pn	09 19 11.6	+1.8
TRN	Trinidad (W)	4.06 191	*e*P		Pn	09 19 14.2	+1.6
TRN	Trinidad (W)	4.06 191	*e*P		Pn	09 19 14.2	+1.6
SMRT	St. Maarten	4.10 325	*e*Pn		Pn	09 19 14.5	+1.3
TBH	Brigand Hill	4.18 186	*e*P		Pn	09 19 15.6	+1.4
TBH	Brigand Hill	4.18 186	*e*P		Pn	09 19 15.6	+1.4
TPP	Pointe-a-Pierr	4.40 191	*e*P		Pn	09 19 17.9	+0.7
TPP	Pointe-a-Pierr	4.40 191	*e*P		Pn	09 19 17.9	+0.7
STVI	Saint Thomas	5.54 312	*e*Pn		Pn	09 19 30.9	-1.8
CUBR	Culebra, Puert	5.75 310	*e*Pn		Pn	09 19 35.8	+0.3
MTP	Monte Pirata	5.83 306	*e*Pn		Pn	09 19 37.6	+0.9
PCRV	Puerto La Cruz	5.94 222	P		Pn	09 19 39.0	+0.8
	1.1nm,0.3s,baz=32,slow=3.4,SNR=8.2						
HUMP	Col San Antoni	6.09 305	*e*Pn		Pn	09 19 41.6	+1.4
CBYP	Canovanas	6.17 306	*e*Pn		Pn	09 19 43.0	+1.7
SJG	San Juan	6.31 304	P		Pn	09 19 44.6	+1.4
	3.4nm,0.3s,baz=113,slow=9.2,SNR=12						
SJG	San Juan	6.31 304	*e*Pn		Pn	09 19 45.2	+2.0
ICMP	Isla Caja de M	6.51 300	*e*Pn		Pn	09 19 43.0	-2.9
CRPR	Cabo Rojo, PR	7.05 299	*e*Pn		Pn	09 19 54.6	+1.2
MPR	Mayaguez	7.17 300	*e*Pn		Pn	09 19 56.6	+1.6
MDP	Montagnes des	12.33 140	P		Pn	09 20 59.1	-6.3
	1.0nm,0.3s,baz=333,slow=17,SNR=15						
OCAC	Ocana	13.98 244	*e*P		P	09 21 32.9	0.0
OCAC	Ocana	13.98 244	*e*P		P	09 21 32.9	0.0
BARC	Barichara	14.71 238	*e*P		Pn	09 21 37.2	+0.1
BARC	Barichara	14.71 238	*e*P		Pn	09 21 37.2	+0.1
RUSC	La Rusia	15.03 236	*e*P		P	09 21 50.3	+5.3
RUSC	La Rusia	15.03 236	*e*P		P	09 21 50.3	+5.3
PTGA	Pitinga	15.31 177	P		Pn	09 21 40.9	-3.6
	6.3nm,0.3s,baz=360,slow=21,SNR=22						
ZARC	Zaragoza, Cauc	15.67 244	*e*P		P	09 21 53.0	+1.4
ZARC	Zaragoza, Cauc	15.67 244	*e*P		P	09 21 53.0	+1.4
UREC	San Jos de Ur	16.15 246	*e*P		Pn	09 21 56.8	+1.8
UREC	San Jos de Ur	16.15 246	*e*P		Pn	09 21 56.8	+1.8
CHIC	Chingaza	16.31 234	*e*P		Pn	09 21 58.9	+1.5
CHIC	Chingaza	16.31 234	*e*P		Pn	09 21 58.9	+1.5
VILC	Villavicencio,	16.60 232	*e*P		P	09 22 12.2	+10
VILC	Villavicencio,	16.60 232	*e*P		P	09 22 12.2	+10
ANIL	Santa Ana	17.72 237	*e*P		Pn	09 22 13.9	-0.8
ANIL	Santa Ana	17.72 237	*e*P		Pn	09 22 13.9	-0.8
YOTC	Yotoco, Valle	18.77 237	*e*P		P	09 22 24.2	-1.8
YOTC	Yotoco, Valle	18.77 237	*e*P		P	09 22 24.2	-1.8
CPUP	Villa Florida	40.88 175	LR		LR	09 46 31.2	
	comp=Z,37nm,18.0s,baz=299,slow=42						
TXAR	Lajitas Array	42.24 298	P		P	09 25 58.0	-0.5
	0.3nm,0.5s,baz=102,slow=6.6,SNR=5.9						
TXAR			PcP		PcP	09 27 52.5	+1.3
	0.2nm,0.5s,baz=120,slow=6.8,SNR=5.0						
PDAR	Pinedale Array	50.32 314	P		P	09 27 01.4	-0.4
	0.7nm,0.4s,baz=110,slow=8.5,SNR=10						
H10N3	ASCENSION HYDR	50.91 113	T		T	10 22 25.8	
	baz=296,slow=75,SNR=89						
H10N2	ASCENSION HYDR	50.92 113	T		T	10 22 26.4	
	baz=296,slow=75,SNR=81						
H10N1	ASCENSION HYDR	50.94 113	T		T	10 22 27.4	
	baz=296,slow=75,SNR=100						
H10S3	ASCENSION HYDR	51.26 114	T		T	10 22 43.6	
	baz=297,slow=75						
H10S1	ASCENSION HYDR	51.27 114	T		T	10 22 55.4	
	baz=297,slow=75,SNR=44						
H10S2	ASCENSION HYDR	51.28 114	T		T	10 22 44.9	
	baz=297,slow=75,SNR=52						
ELK	Elko	53.88 310	P		P	09 27 28.5	+0.2
	0.8nm,0.6s,baz=67,slow=7.0,SNR=4.2						
NVAR	Mina Array Bea	55.79 307	P		P	09 27 42.2	+0.1
	0.9nm,0.7s,baz=101,slow=6.6,SNR=8.0						
PLCA	Paso Flores	55.88 189	P		P	09 27 42.2	-0.2
	0.8nm,0.4s,baz=13,slow=7.4,SNR=7.3						
NEW	Newport	57.03 318	P		P	09 27 50.3	-0.2
	2.0nm,0.6s,baz=112,slow=7.1,SNR=8.5						
YBH	Yreka Blue Hor	59.60 310	P		P	09 28 07.0	-1.6
	0.6nm,0.5s,baz=90,slow=4.0,SNR=6.8						
YKA	Yellowknife Ar	60.85 335	P		P	09 28 16.1	-0.5
	0.7nm,0.5s,baz=107,slow=7.5,SNR=10						
ILAR	Eielson Array	75.26 334	P		P	09 29 46.5	-0.4
	0.2nm,0.4s,baz=82,slow=4.6,SNR=7.2						

DDA ***19*** *09:24:38.4,39˚.71N×29˚.54E,h7km±2km,ML2.7*
ISK ***19*** *09:24:39.1,39˚.66N×29˚.43E,h5km,ML2.3/7,Suspected Mining explosion.*
ISCJB ***19*** *09:24:40.4±0.5,39˚.68N±0˚.03×29˚.46E±0˚.04,h0km,Error ellipse: s-maj=5.1km s-min=3.9km az=25.5*

ISC 19 09:24:40.4±1.1,39˚.66N±0˚.03×29˚.45E±0˚.03,h0km,n13, σ0s50/19,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GDZ	Gediz	0.57	178	*i* P		Pg	09 24 50.8	-0.7
GDZ				*i* S		Sb	09 25 01.4	-0.8
CAVI	Cavuskoy	0.62	29	PG		Pg	09 24 52.7	+0.5
SHAP	Saphane-Kutahy	0.66	196	PG		Pg	09 24 53.2	+0.1
DURS	Dursunbey	0.76	266	IAML_P				
	comp=Z,1μm,0.1s							
DURS				*i* P		Pg	09 24 55.4	+0.4
DURS				*i* S		Sb	09 25 06.5	-1.0
BORA	Eskisehir	0.80	74	PG		Pg	09 24 55.7	-0.1
BORA				SG		Sb	09 25 09.1	+0.4
MDNY	Mudanya-Bursa	0.83	328	PG		Pg	09 24 56.1	-0.2
DEMI	Demirci	0.84	223	IAML_P				
	comp=Z,815nm,0.1s							
DEMI				*e*P		Pg	09 24 56.9	+0.3
YLV	Yalova	0.91	356	PG		Pg	09 24 57.4	-0.4
YLV				SG		Sb	09 25 11.8	+0.1
KCTX	Karacabey (Bur	1.03	306	PG		Pg	09 25 00.1	-0.2
SBT5	Esenkoy-Cinarc	1.06	336	PG		Pg	09 25 00.4	-0.4
GULT	Gulveren	1.12	46	PN		Pg	09 25 01.5	-0.4
MANT	Manisa	1.36	211	*e*P		Pg	09 25 06.8	+0.3
MANT				*i* S		Sg	09 25 24.4	+0.2
STEP	BALIKESIR_Sava	1.37	259	IAML_P				
	comp=Z,285nm,0.1s							
STEP				*e*P		Pg	09 25 06.5	-0.2
STEP				*i* S		Sn	09 25 26.5	+0.7

ISCJB ***19*** *09:27:21.8±0.4,6˚.11S±0˚.04×147˚.53E±0˚.10,h35km, mb4.7/36,MS3.9/16,Error ellipse: s-maj=13.9km s-min=5.7km az=7.4*
IDC ***19*** *09:27:24.1±0.6,6˚.17S×147˚.37E,h38km±4km,mb4.2/16, mb1 4.4/19,mb1mx4.2/41,mbtmp4.4/19,ML4.4/2,MS3.9/19, Ms1 3.9/19,ms1mx3.8/28,Error ellipse: s-maj=20.9km s-min=9.8km az=93.0*
NEIC ***19*** *09:27:25.4±1.2,6˚.14S×147˚.51E,h52km±10km,mb4.6/11, Error ellipse: s-maj=11.7km s-min=7.2km az=93.0*
DJA ***19*** *09:27:36.9±1.5,7˚.5S×14˚.8E±1˚.1,h77km±10km,M4.7/18, mb5.1/18,mB6.1/1,MLv4.6/1,Mw(mB)5.7/1*
BJI ***19*** *09:27:37.0,7˚.67S×147˚.31E,h99km,mb4.7/17,mB5.0/9*

ISC 19 09:27:23.9±0.5,6˚.10S±0˚.06×147˚.5E±0˚.1,h35km, h36km:pP-P,n73,σ1s54/63,mb4.7/35,MS3.9/16,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	Port Moresby	3.31	186	Pn		Pn	09 28 13.6	+0.4
	45nm,0.3s,baz=36,slow=5.5,SNR=53							
PMG				Sn		Sn	09 28 54.0	+2.7
	80nm,0.3s,baz=317,slow=22,SNR=7.5							
PMG				LR		LR	09 29 51.2	
	comp=Z,3μm,19.8s,baz=46,slow=46							
PMG	Port Moresby	3.31	186	*e*Pn		Pn	09 28 14.1	+0.9
PMG				Sn		Sn	09 28 54.0	+2.7
COEN	Coen	8.91	208	*e*Pn		Pn	09 29 31.5	+1.3
COEN				*e*Sn		Sn	09 31 08.4	-1.0
HNR	Honiara	12.74	106	LR		LR	09 35 00.1	
	comp=Z,262nm,18.1s,baz=282,slow=35							
CTA	Charters Tower	13.96	185	Pn		Pn	09 30 39.9	+0.5
	0.7nm,0.3s,baz=356,slow=15,SNR=10							
CTAO	Charters Tower	13.96	185	*e*Pn		Pn	09 30 39.8	+0.5
WRAB	Tennant Creek	18.79	222	*e*P		Pn	09 31 40.1	-1.0
	36nm,0.8s							
WC3	Warramunga Arr	18.79	222	*e*P		Pn	09 31 40.0	-1.1
	31nm,0.8s							
WB2	Warramunga Arr	18.80	222	*e*P		Pn	09 31 39.9	-1.3
WRA	Warramunga Arr	18.80	222	P		Pn	09 31 40.1	-1.2
	1.4nm,0.3s,baz=46,slow=11,SNR=48							
WRA				PcP		PcP	09 36 05.5	-1.7
	0.2nm,0.3s,baz=32,slow=1.7,SNR=4.7							
WRA				LR		LR	09 39 41.2	
	comp=Z,506nm,20.7s,baz=45,slow=40							
EIDS	Eidsvold	19.46	170	*e*P		P	09 31 47.6	-0.2
	24nm,0.8s							
AS01	Alice Springs	21.81	215	*e*P		P	09 32 12.1	-1.1
AS31	Alice Springs	21.84	215	*e*P		P	09 32 12.3	-1.2
	12nm,0.8s							
ASAR	Alice Springs	21.84	215	P		P	09 32 12.6	-0.9
	16nm,0.6s,baz=53,slow=9.0,SNR=70							
ASAR				S		S	09 36 10.3	-2.8
	3.5nm,0.8s,baz=33,slow=20,SNR=3.3							
ASAR				ScP		ScP	09 39 47.8	+0.3
	4.0nm,1.0s,baz=49,slow=2.4,SNR=6.2							
ASAR				LR		LR	09 41 22.8	
	comp=Z,605nm,19.1s,baz=32,slow=39							
SOEI	Soe	23.32	260	*e*P		P	09 32 35.2	+5.9
	401nm,2.0s							
DZM	Mont Dzumac	24.21	133	P		P	09 32 37.9	+0.3
	12nm,0.9s,baz=297,slow=16,SNR=5.6							
DZM	Mont Dzumac	24.21	133	*e*P		P	09 32 41.5	+3.9
	24nm,1.1s							
FITZ	Fitzroy Crossi	24.46	239	*e*P		P	09 32 41.5	+1.7
	71nm,0.9s							
ARMA	Armidale	24.50	171	*e*P		P	09 32 39.7	-0.4
	24nm,0.7s							
MMRI	Maumere	25.20	263	*e*P		P	09 32 50.9	+4.3
	147nm,1.1s							
EDFI	Ende, Flores	25.75	263	P		P	09 33 03.6	+12
	36nm,0.9s							
STKA	Stephens Creek	26.24	191	P		P	09 32 54.6	-1.1
	16nm,0.7s,baz=342,slow=11,SNR=17							
STKA				LR		LR	09 43 52.0	
	comp=Z,356nm,18.6s,baz=18,slow=38							
STKA	Stephens Creek	26.24	191	*e*P		P	09 32 54.7	-1.1
	14nm,1.4s							
APSI	Ampana	26.33	280	P		P	09 33 04.3	+7.5
BBOO	Buckleboo	28.64	200	*e*P		P	09 33 16.4	-0.9
	25nm,0.9s							
CAN	Canberra	29.11	178	*e*P		P	09 33 20.8	-0.8
	21nm,1.2s							
FORT	Forrest	30.61	214	*e*P		P	09 33 34.0	-0.8
	28nm,0.8s							
MBWA	Marble Bar	30.80	238	*e*P		P	09 33 37.2	+0.6
	132nm,1.8s							
H11S3	WAKE ISLAND Hy	30.89	37	T		T	10 06 20.1	
	baz=220,slow=75,SNR=7.4							
H11S2	WAKE ISLAND Hy	30.90	37	T		T	10 06 19.8	
	baz=220,slow=75,SNR=7.1							
H11S1	WAKE ISLAND Hy	30.91	37	T		T	10 06 23.0	
	baz=220,slow=75,SNR=9.2							
TOO	Toolangi	31.38	183	*e*P		P	09 33 41.3	-0.2
	20nm,1.4s							
H11N1	WAKE ISLAND Hy	31.96	36	T		T	10 07 40.1	
	baz=219							
H11N3	WAKE ISLAND Hy	31.97	36	T		T	10 07 57.6	
	baz=219							
H11N2	WAKE ISLAND Hy	31.97	36	T		T	10 07 58.0	
	baz=219							
JOW	Kunigami	37.68	331	LR		LR	09 47 05.4	
	comp=Z,166nm,21.4s,baz=170,slow=31							
NWAO	Narrogin (SRO)	38.81	223	*e*P		P	09 34 46.1	+0.6
CISI	Cisompet, Garu	39.45	266	P		P	09 35 02.0	+11
	102nm,1.1s							
JNU	Nakatsue	42.09	339	P		P	09 35 12.7	0.0
	12nm,0.9s,baz=149,slow=1.6,SNR=5.1							
JNU				LR		LR	09 50 10.2	
	comp=Z,102nm,19.2s,baz=143,slow=32							
MDSI	Maura Dua	43.19	270	P		P	09 35 33.9	+12
	29nm,1.2s							
MJAR	Matsushiro Arr	43.31	349	P		P	09 35 22.5	0.0
	10nm,0.9s,baz=173,slow=8.4,SNR=16							
MJAR				LR		LR	09 53 24.5	
	comp=Z,89nm,18.2s,baz=165,slow=36							
KSRS	Korea Array	47.03	339	P		P	09 35 52.3	+0.3
	2.8nm,0.8s,baz=152,slow=8.6,SNR=13							
KSRS				LR		LR	09 54 31.2	
	comp=Z,134nm,21.8s,baz=144,slow=35							
KSAR	Wonju Array Be	47.04	339	P		P	09 35 52.3	+0.3
MNSI	Mandailing Nat	48.35	276	P		P	09 36 14.2	+12
	32nm,1.1s							
GSI	Gunungsitoli	50.41	277	P		P	09 36 29.3	+11
	63nm,0.8s							
KCSI	Kotacane, Aceh	50.59	280	P		P	09 36 30.6	+11
	32nm,0.9s							
TPTI		51.13	279	P		P	09 36 36.9	+13
	21nm,1.1s							
USRK	Ussuriysk Ar.	51.99	346	P		P	09 36 30.7	+0.9
	2.3nm,0.7s,baz=166,slow=6.4,SNR=8.3							
USRK				LR		LR	09 56 43.0	
	comp=Z,69nm,19.6s,baz=136,slow=34							
KMI	Kunming	53.47	307	P		P	09 36 55.5	+14
KMI				pmax		pmax		
	comp=Z,18nm,1.2s							
CMAR	Chiang Mai Arr	53.76	298	LR		LR	10 02 25.9	
	comp=Z,36nm,19.0s,baz=118,slow=39							
CD2	Chengdu	55.72	314	*e*P		P	09 37 11.0	+14
PETK	Petropavlovsk-	59.61	7	P		P	09 37 25.8	+1.6
	9.3nm,0.8s,baz=201,slow=12,SNR=3.9							
PETK				LR		LR	09 59 41.3	
	comp=Z,131nm,20.9s,baz=201,slow=32							
GTA	Gaotai	63.15	320	*e*P		P	09 37 51.6	+3.0
GTA				pP		sP	09 38 04.6	+0.9
GTA				sP		pP	09 38 10.4	+11
GTA				pmax		pmax		
	comp=Z,4.0nm,1.0s							
SONM	Songino Array	64.75	331	P		P	09 37 59.2	+0.3
	comp=Z,3.1nm,0.8s,baz=151,slow=6.9,SNR=16							
SONM				pP		pP	09 38 11.5	+2.0
	comp=Z,2.8nm,0.8s,baz=145,slow=7.3,SNR=5.7							
SONM				LR		LR	10 05 21.9	
	comp=Z,117nm,21.6s,baz=12,slow=35							
VNDA	Vanda	71.78	177	P		P	09 38 42.1	-0.2
	comp=Z,2.7nm,0.7s,baz=337,slow=7.6,SNR=9.9							
VNDA				LR		LR	10 08 45.2	
	comp=Z,67nm,18.4s,baz=355,slow=35							
MKAR	Makanchi Array	77.91	320	P		P	09 39 17.6	-0.7
	comp=Z,1.4nm,0.7s,baz=108,slow=6.5,SNR=10.0							
ZALV	Zalesovo Beam	79.38	328	P		P	09 39 24.1	-2.0
	comp=Z,2.8nm,0.5s,baz=112,slow=5.5,SNR=14							
ZALV				pP		pP	09 39 36.7	-0.7
	comp=Z,2.2nm,0.6s,baz=111,slow=4.9,SNR=4.7							
ZALV				LR		LR	10 12 09.2	
	comp=Z,52nm,21.7s,baz=68,slow=34							
KDAK	Kodiak Island	79.74	28	LR		LR	10 10 54.3	
	comp=Z,116nm,20.0s,baz=193,slow=33							
KURK	Kurchatov	81.60	323	P		P	09 39 36.7	-1.5
KURK				pP		pP	09 39 50.4	+1.0
KURBB	Kurchatov Arra	81.62	323	P		P	09 39 36.7	-1.6
	comp=Z,1.5nm,0.9s,baz=116,slow=4.3,SNR=7.7							
KURBB				pP		pP	09 39 50.4	+0.9
	comp=Z,1.1nm,0.8s,baz=114,slow=3.4,SNR=4.7							
AAK	Ala-Archa	81.78	315	P		P	09 39 39.4	-0.2
	comp=Z,0.9nm,0.4s,baz=124,slow=11,SNR=6.2							
MAW	Mawson	82.36	200	LR		LR	10 14 41.2	
	comp=Z,105nm,20.6s,baz=78,slow=34							
ILAR	Eielson Array	85.37	23	P		P	09 39 55.0	-2.3
	comp=Z,1.0nm,0.8s,baz=251,slow=4.9,SNR=15							
ILAR				LR		LR	10 12 45.5	
	comp=Z,84nm,21.7s,baz=162,slow=32							
BVAR	Borovoye Array	87.16	324	P		P	09 40 04.2	-2.1
	comp=Z,1.3nm,0.7s,baz=101,slow=6.2,SNR=6.6							
GEYT	Alibeck	93.24	308	LR		LR	10 24 26.0	
	comp=Z,32nm,21.0s,baz=20,slow=37							
YKA	Yellowknife Ar	99.02	28	P		Pdif	09 41 01.3	+0.5
	comp=Z,0.3nm,0.9s,baz=268,slow=5.0,SNR=3.8							
YKA				PKKPbc		PKKPbc	09 57 25.5	-4.0
	comp=Z,0.2nm,0.8s,baz=84,slow=3.0,SNR=4.1							
PLCA	Paso Flores	121.75	147	PKP		PKPdf	09 46 14.3	-0.4
	comp=Z,1.2nm,0.6s,baz=270,slow=2.2,SNR=6.7							
GERES	GERESS Array B	122.28	326	PKP		PKPdf	09 46 14.1	-1.4
	comp=Z,0.5nm,0.5s,baz=180,slow=1.3,SNR=5.2							
LPAZ	La Paz	138.29	123	PKP		PKPdf	09 46 47.5	+0.2
	comp=Z,9.1nm,1.2s,baz=287,slow=0.8,SNR=11							
CPUP	Villa Florida	139.75	144	PKP		PKPdf	09 46 49.3	+0.3
	comp=Z,4.7nm,1.1s,baz=307,slow=1.7,SNR=5.7							
TORD	Torodi Ar. Bea	145.62	284	PKPbc		PKPdf	09 46 58.8	-0.8
	comp=Z,15nm,1.1s,baz=57,slow=2.4,SNR=38							
TORD				pPKPbc		pPKPdf	09 47 10.6	-1.3
	comp=Z,22nm,0.9s,baz=46,slow=3.5,SNR=22							
DBIC	Dimbokro	152.55	273	PKPbc		PKPbc	09 47 17.7	-0.1
	comp=Z,2.8nm,0.8s,baz=78,slow=4.1,SNR=5.0							
BDFB	Brasilia	153.48	145	PKPbc		PKPbc	09 47 19.0	-0.9
	comp=Z,12nm,0.8s,baz=200,slow=3.1,SNR=3.1							
BDFB				pPKPbc		PKPab	09 47 31.1	-0.9
	comp=Z,14nm,0.8s,baz=126,slow=1.3,SNR=8.4							

NIED ***19*** *09:27:00,27˚.80N×127˚.90E,h68km,Mw3.7 Best double couple: M0 3.49000×10^14 NP1:φs59.00000°,δ73.00000°, λ-179.00000°. NP2:φs329.00000°,δ89.00000°, λ-17.00000°.*

JMA 19 09:27:39.1±0.1,27˚.83N×127˚.94E,h100km±3km,M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JOKE	Okinoerabujima	0.73	130	P		Pn	09 27 57.0	+0.2
JOKE				S		Sn	09 28 10.6	+0.5
JIH	Iheya	0.79	178	P		Pn	09 27 57.8	+0.4
JIH				S		Sn	09 28 11.4	+0.3
JTK	Tokunoshima	0.90	93	P		Pn	09 27 58.5	+0.1
JTK				S		Sn	09 28 13.1	+0.1
JYRO	Yoronjima	0.92	150	P		Pn	09 27 58.8	+0.1
JYRO				S		Sn	09 28 13.5	+0.1
JOW	Kunigami	1.04	163	P		Pn	09 28 00.2	+0.2
JOW				S		Sn	09 28 15.6	0.0
JAMN	Amaminishikomi	1.17	69	P		Pn	09 28 01.5	+0.1
JAMN				S		Sn	09 28 17.7	-0.5
JNTH	Nagotoyohara	1.31	177	P		Pn	09 28 03.6	+0.5
JNTH				S		Sn	09 28 21.0	-0.1
JAGN	Aguni-jima	1.38	207	P		Pn	09 28 04.0	+0.1
JAGN				S		Sn	09 28 22.9	+0.2
JAM	Amami Oshima	1.58	68	P		Pn	09 28 06.5	+0.2
JAM				S		Sn	09 28 27.9	+0.9
JJT3	Tamagusuku3	1.69	185	P		Pn	09 28 08.3	+0.6
JJT3				S		Sn	09 28 30.4	+1.0
JTAJ	Takarajima	1.72	40	P		Pn	09 28 08.8	+0.7
JTAJ				*e*S		Sn	09 28 30.7	+0.5
JKE	Kume jima 2	1.82	215	P		Pn	09 28 09.3	0.0
JKE				*e*S		Sn	09 28 31.8	-0.6
JZK	Kikaishima	1.86	74	P		Pn	09 28 10.9	+1.0
JZK				S		Sn	09 28 35.0	+1.7

MEX 19 09:28:45.8±0.6,13˚.95N×91˚.77W,h8km±248km,MD3.8, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
THIG		1.07	333	*e*P		Pg	09 29 03.8	-2.5
THIG				*i* S		Sg	09 29 16.3	-3.9
PCIG		2.24	321	*e*P		Pn	09 29 20.4	-2.8
PCIG				*e*S		Sn	09 29 46.0	-5.0
CCIG	Comitan	2.34	351	*i* P		Pn	09 29 21.0	-3.9
CCIG				*i* S		Sn	09 29 49.9	-4.0

KRSC 19 09:33:44.0±1.1,52˚.03N×160˚.06E,h17km±16km,ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RUS	Russkaya	1.03	294	*e*P		Pb	09 34 02.5	-0.9
RUS				*e*S		Sb	09 34 16.1	-0.5
SPN	Mys Shipunski	1.07	359	*e*P		Pb	09 34 03.4	-0.6
SPN				*e*S		Sb	09 34 17.8	+0.1
NLC	Nalytchevo	1.22	339	*e*P		Pn	09 34 06.1	-0.2
MTVR	Mutnovka	1.24	292	*e*P		Pn	09 34 06.1	-0.6
MTVR				*e*S		Sb	09 34 22.4	-0.3
KDTR	Khodutka, Kamc	1.25	260	*e*P		Pn	09 34 06.7	+0.1
KDTR				*e*S		Sn	09 34 23.5	+0.5
DALK	Dalny	1.28	322	*e*P		Pn	09 34 06.7	-0.4
DALK				*e*S		Sb	09 34 23.3	-0.5
PET	Petropavlovsk	1.31	320	*e*P		Pn	09 34 07.1	-0.4
GRL	Gorelyy	1.33	294	*e*P		Pb	09 34 08.7	+

BTKR eSg 09 39 31.9
ARNR Ardon 2.13 148 ePN 09 39 05.1
ARNR eS 09 39 32.8
ARNR Ardon 2.13 148 ePg 09 39 05.0
ARNR eSg 09 39 32.8
KORR Kora 2.14 153 ePN 09 39 04.6
KORR eS 09 39 33.7
KORR Kora 2.14 153 ePg 09 39 04.6
KORR eSg 09 39 33.7
DIGR Digorskoe uzhe 2.19 164 ePN 09 39 05.6
DIGR eS 09 39 32.8
DIGR Digorskoe uzhe 2.19 164 ePg 09 39 05.6
DIGR eSg 09 39 32.8
ZEI Tsey 2.37 159 ePN 09 39 08.9
ZEI eS 09 39 37.6
ZEI Tsey 2.37 159 ePn 09 39 08.9
ZEI eSn 09 39 37.6
LACR Lac 2.44 152 ePN 09 39 08.8
LACR eS 09 39 40.4
LACR Lac 2.44 152 ePn 09 39 08.8
LACR eSn 09 39 40.4
VSR Storozhevoye 6.66 340 *i* P 09 40 27.9
VSR pmax
comp=Z,4.0nm,1.1s
BRVK Borovoye 19.68 56 *i* P 09 43 13.3
BRVK pmax
comp=Z,2.0nm,1.8s
ULN Ulaanbaatar 43.26 62 *i* P 09 46 42.7
ULN pmax
comp=Z,1.0nm,1.1s

*ISCJB **19** 09:50:29.8±0.4,24°.39N±0'.01×122°.04E±0'.01,h14km±3km, Error ellipse: s-maj=2.5km s-min=2.2km az=157.6*
*JMA **19** 09:50:29.7±0.1,24°.32N×121°.97E,h28km,M3.0*
*TAP **19** 09:50:30.0,24°.40N×121°.96E,h20km,ML3.3,B*
ISC 19 09:50:28.4±0.9,24°.39N±0'.02×122°.07E±0'.02,h14km±7km**, n84,σ1s15/126,5C-13D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.17**	**18**	⇑P	Pg	09 50 35.7	+3.3
	baz=42						
EOS1				S	**Sg**	**09 50 40.1**	**+4.9**
	baz=42						
TWC	**Suao**	**0.30**	**318**	⇓*i*P	**Pb**	**09 50 35.6**	**0.0**
	baz=341						
TWC				S	**Sb**	**09 50 38.8**	**-1.6**
	baz=341						
ENA	**Nanau**	**0.30**	**278**	⇓*i*P	**Pb**	**09 50 35.1**	**-0.5**
	baz=284						
ENA				S	**Sg**	**09 50 38.5**	**-0.4**
	baz=284						
EGS		**0.47**	**345**	*e*P	**Pb**	**09 50 38.3**	**-0.3**
	baz=359						
ILA	**Ilan**	**0.48**	**322**	P	**Pb**	**09 50 39.0**	**+0.3**
	baz=330						
ILA				S	**Sb**	**09 50 45.2**	**-0.4**
	baz=330						
NACB	**Ninganchiao**	**0.48**	**244**	⇓P	**Pb**	**09 50 37.9**	**-0.8**
	baz=240						
NACB				S	**Sg**	**09 50 44.2**	**-0.2**
	baz=240						
TWE	**Neicheng**	**0.49**	**312**	P	**Pb**	**09 50 39.0**	**0.0**
	baz=322						
NTC	**Toucheng**	**0.52**	**335**	*e*P	**Pb**	**09 50 40.0**	**+0.8**
	baz=352						
ENTT	**Nioudou**	**0.52**	**299**	⇓*i*P	**Pb**	**09 50 39.1**	**-0.3**
	baz=305						
ENTT				S	**Sb**	**09 50 45.8**	**-1.1**
	baz=305						
TWD	**Chiawan**	**0.53**	**235**	⇑P	**Pb**	**09 50 39.1**	**-0.4**
	baz=229						
TWD				*e*S	**Sb**	**09 50 47.6**	**+0.6**
	baz=229						
HWA	**Hwalien**	**0.59**	**226**	*e*P	**Pn**	**09 50 42.2**	**-0.2**
	baz=216						
TIPB	**Shuangxi**	**0.62**	**339**	⇑P	**Pn**	**09 50 41.9**	**-1.0**
	baz=349						
TIPB				S	**Sb**	**09 50 49.5**	**-0.3**
	baz=349						
TWB1	**Santiao Chiao**	**0.62**	**353**	*e*P	**Pn**	**09 50 42.1**	**-0.8**
	baz=357						
TWB1				*e*S	**Sb**	**09 50 50.0**	**+0.2**
	baz=357						
NNSB	**Datong**	**0.63**	**274**	⇓P	**Pb**	**09 50 40.6**	**-0.6**
	baz=280						
NNSB				S	**Sg**	**09 50 47.6**	**-1.4**
	baz=280						
NNS	**Nan Shan**	**0.64**	**275**	⇓P	**Pb**	**09 50 40.8**	**-0.6**
	baz=281						
NNS				S	**Sg**	**09 50 47.6**	**-1.7**
	baz=281						
ENLB	**Shoufeng**	**0.64**	**222**	⇓*e*P	**Pn**	**09 50 43.1**	**-0.1**
	baz=211						
ENLB				*e*S	**Sn**	**09 50 53.8**	**+0.6**
	baz=211						
NWLT	**Wulai**	**0.65**	**307**	*e*P	**Pb**	**09 50 41.6**	**+0.1**
	baz=312						
YHNB	**Yeheng**	**0.69**	**294**	⇓P	**Pb**	**09 50 42.1**	**-0.2**
	baz=300						
YHNB				S	**Sg**	**09 50 50.1**	**-1.0**
	baz=300						
NSK	**Sanguang**	**0.71**	**294**	⇓P	**Pb**	**09 50 42.4**	**-0.2**
	baz=298						
NSK				S	**Sg**	**09 50 50.1**	**-1.5**
	baz=298						
NWF	**Wu-fen Shan**	**0.73**	**339**	P	**Pn**	**09 50 44.0**	**-0.4**
	baz=339						
NWF				*e*S	**Sb**	**09 50 53.1**	**+0.2**
	baz=339						
WFSB	**Wu-fen Shan**	**0.73**	**339**	*e*P	**Pn**	**09 50 44.1**	**-0.3**
	baz=339						
WFSB				*e*S	**Sb**	**09 50 52.6**	**-0.3**
	baz=339						
TWA	**Mucha**	**0.74**	**323**	*e*P	**Pn**	**09 50 44.2**	**-0.3**
	baz=320						
TWA				*e*S	**Sb**	**09 50 52.6**	**-0.5**
	baz=320						
WHF	**Hehuan Shan**	**0.77**	**252**	⇓P	**Pb**	**09 50 43.4**	**-0.5**
	baz=255						
TATO	**Taipei**	**0.79**	**318**	*e*P	**Pn**	**09 50 44.7**	**-0.4**
	baz=316						
TATO				*e*S	**Sb**	**09 50 53.9**	**-0.7**
	baz=316						
JYNG	**Yonagunijimaku**	**0.80**	**85**	P	**Pn**	**09 50 46.2**	**+0.9**
JYNG				S	**Sn**	**09 50 58.4**	**+1.3**
ESL	**Shilin**	**0.81**	**226**	*e*P	**Pb**	**09 50 44.5**	**+0.2**
	baz=218						
TDCB	**Techi**	**0.84**	**261**	*e*P	**Pb**	**09 50 44.8**	**-0.2**
	baz=260						
TDCB				*e*S	**Sg**	**09 50 55.5**	**-0.3**
	baz=260						
YOJ	**Yonaguni jima**	**0.86**	**85**	⇑P	**Pn**	**09 50 47.2**	**+1.0**
	baz=78						
YOJ				*e*S	**Sn**	**09 50 59.8**	**+1.2**
	baz=78						
YOJ	**Yonaguni jima**	**0.86**	**85**	P	**Pn**	**09 50 47.2**	**+1.0**
YOJ				S	**Sn**	**09 50 59.8**	**+1.2**
WLTB	**Daxi**	**0.88**	**302**	*e*P	**Pn**	**09 50 46.6**	**+0.3**
	baz=305						
CHGB	**Renai**	**0.88**	**249**	⇓P	**Pb**	**09 50 45.5**	**-0.1**
	baz=251						
CHGB				*e*S	**Sg**	**09 50 56.8**	**-0.2**
	baz=251						
YM01	**YM01**	**0.88**	**329**	*e*P	**Pn**	**09 50 47.8**	**+1.3**
	baz=335						
YM11	**YM11**	**0.90**	**330**	*e*P	**Pn**	**09 50 46.1**	**-0.7**
	baz=335						
YM05	**YM05**	**0.90**	**330**	*e*P	**Pn**	**09 50 47.1**	**+0.3**
	baz=336						
YM05				S	**Sb**	**09 50 58.4**	**+0.6**
	baz=336						
TWS1	**Kuangyinshan**	**0.93**	**320**	*e*P	**Pn**	**09 50 47.6**	**+0.6**
	baz=319						
TWS1				*e*S	**Sn**	**09 50 59.8**	**-0.4**
	baz=319						
NTST	**Danshui**	**0.96**	**324**	*e*P	**Pn**	**09 50 49.3**	**+1.8**
	baz=329						
TWY	**Chenhua**	**0.98**	**334**	*e*P	**Pn**	**09 50 48.5**	**+0.7**
	baz=340						
NCUH	**Zhongli**	**0.99**	**306**	*e*P	**Pn**	**09 50 49.4**	**+1.4**
	baz=309						
LIOB	**Emei**	**0.99**	**285**	*e*P	**Pn**	**09 50 48.1**	**+0.1**
	baz=292						
NSTT	**Nanjuang**	**1.00**	**284**	*e*P	**Pb**	**09 50 47.8**	**+0.2**
	baz=286						
VWDT	**VWDT**	**1.06**	**234**	P	**Pb**	**09 50 48.6**	**+0.1**
	baz=229						
VWDT				*e*S	**Sn**	**09 51 03.9**	**+0.6**
	baz=229						
SBCB	**Hsinchu**	**1.07**	**293**	*e*P	**Pn**	**09 50 50.0**	**+1.1**
	baz=294						
HGSD	**Ruisui**	**1.07**	**214**	P	**Pn**	**09 50 49.1**	**+0.1**
	baz=205						
HGSD				*e*S	**Sn**	**09 51 05.5**	**+1.9**
	baz=205						
EHY	**Hungye**	**1.11**	**218**	*e*P	**Pg**	**09 50 48.5**	**-1.3**
	baz=212						
NMLH	**Miaoli**	**1.17**	**278**	*e*P	**Pn**	**09 50 51.3**	**+0.9**
	baz=279						
SMLT	**Sun Moon Lake**	**1.18**	**245**	⇓P	**Pn**	**09 50 51.1**	**+0.5**
	baz=236						
SMLT				S	**Sb**	**09 51 06.8**	**+0.9**
	baz=236						
SSLB	**Suanglung**	**1.18**	**240**	⇑P	**Pb**	**09 50 50.7**	**0.0**
	baz=238						
SSLB				*e*S	**Sb**	**09 51 06.4**	**+0.6**
	baz=238						
TWQ1	**Liyutan**	**1.18**	**268**	*e*P	**Pn**	**09 50 52.0**	**+1.4**
	baz=268						
TWQ1				*e*S	**Sn**	**09 51 07.5**	**+1.0**
	baz=268						
NSY	**Sanyi**	**1.19**	**272**	*e*P	**Pn**	**09 50 52.5**	**+1.7**
	baz=278						
NSY				*e*S	**Sn**	**09 51 09.1**	**+2.3**
	baz=278						
TYC	**Yuchr**	**1.21**	**247**	⇓P	**Pn**	**09 50 51.5**	**+0.6**
	baz=235						
YULB	**Yu-li**	**1.22**	**216**	*e*P	**Pg**	**09 50 50.1**	**-1.8**
	baz=210						
TWF1	**Yuli**	**1.25**	**215**	*e*P	**Pg**	**09 50 50.3**	**-2.1**
	baz=223						
TCU	**Taichung**	**1.29**	**260**	*e*P	**Pn**	**09 50 53.6**	**+1.5**
	baz=259						
WJS	**Zhushan**	**1.35**	**246**	*e*P	**Pb**	**09 50 54.8**	**+1.3**
	baz=244						
WJS				*e*S	**Sn**	**09 51 14.7**	**+4.1**
	baz=244						
YUS	**Yu-Shan**	**1.36**	**229**	*e*P	**Pb**	**09 50 53.9**	**0.0**
	baz=206						
YUS				*e*S	**Sn**	**09 51 12.6**	**+1.1**
	baz=206						
WNT	**Mingjian**	**1.36**	**248**	*e*P	**Pb**	**09 50 54.8**	**+1.1**
	baz=247						
CHN5	**Tsauling**	**1.50**	**239**	*e*P	**Pg**	**09 50 56.5**	**-0.7**
	baz=236						
CHN5				*e*S	**Sn**	**09 51 17.7**	**+3.4**
	baz=236						
IRIF	**Iriomote-Funau**	**1.52**	**92**	P	**Pg**	**09 50 56.5**	**-1.1**
IRIF				S	**Sn**	**09 51 16.3**	**+1.6**
ELDTW	**Lidau**	**1.53**	**219**	*e*P	**Pn**	**09 50 55.6**	**+0.1**
	baz=201						
HATJ	**Hateruma jima**	**1.62**	**101**	P	**Pg**	**09 50 59.6**	**+0.1**
HATJ				*e*S	**Sg**	**09 51 19.2**	**-1.4**
RLNB	**Erlin**	**1.64**	**253**	*e*P	**Pg**	**09 50 58.7**	**-1.2**
	baz=254						
RLNB				*e*S	**Sg**	**09 51 21.7**	**+0.6**
	baz=254						
TPUB	**Ta-pu**	**1.70**	**231**	*e*P	**Pb**	**09 50 59.8**	**+0.2**
	baz=228						
CHY	**Chiayi**	**1.75**	**240**	*e*P	**Pg**	**09 51 00.9**	**-1.0**
	baz=225						
WTP	**Ta-pu**	**1.75**	**230**	*e*P	**Pb**	**09 51 00.6**	**+0.2**
	baz=227						
WTP				*e*S	**Sg**	**09 51 24.9**	**+0.1**
	baz=227						
JKRS	**Kuro-shima**	**1.78**	**94**	P	**Pg**	**09 51 00.8**	**-1.7**
JKRS				S	**Sb**	**09 51 23.3**	**+0.4**
TWGBT	**Beinan**	**1.81**	**210**	*e*P	**Pn**	**09 50 59.0**	**-0.2**
	baz=192						
TWG	**Pinlang**	**1.81**	**211**	*e*P	**Pn**	**09 50 58.5**	**-0.6**
	baz=192						
TWK	**Hsinying**	**1.83**	**233**	*e*P	**Pb**	**09 51 01.5**	**-0.2**
	baz=230						
CHN1	**Nanshi**	**1.85**	**230**	*e*P	**Pb**	**09 51 02.0**	**0.0**
	baz=227						
JIJ	**Ishigaki jima**	**1.89**	**90**	P	**Pb**	**09 51 01.9**	**-0.8**
JIJ				S	**Sn**	**09 51 24.6**	**+0.6**
SLGT	**Liugui**	**1.90**	**224**	*e*P	**Pb**	**09 51 03.1**	**+0.1**
	baz=221						
JISG	**Ishigakijimahi**	**2.05**	**84**	P	**Pb**	**09 51 03.9**	**-1.6**
JISG				S	**Sn**	**09 51 29.5**	**+1.5**
SSD	**Sandimen**	**2.10**	**219**	*e*P	**Pb**	**09 51 05.7**	**-0.6**
	baz=216						
MASBT	**Mashibuluo**	**2.20**	**217**	*e*P	**Pn**	**09 51 06.0**	**+1.4**
	baz=213						
EAST	**Anshuo**	**2.29**	**210**	*e*P	**Pn**	**09 51 07.6**	**+1.8**
	baz=194						
SCZT	**Fangliau**	**2.41**	**214**	*e*P	**Pb**	**09 51 09.7**	**-1.8**
	baz=196						
JTJ	**Tarama**	**2.41**	**83**	P	**Pb**	**09 51 09.7**	**-1.9**
JTJ				*e*S	**Sn**	**09 51 38.7**	**+1.9**
PNG	**Penghu**	**2.44**	**251**	*e*P	**Pn**	**09 51 08.1**	**+0.2**
	baz=250						
PHUB	**P'eng-hu**	**2.44**	**250**	*e*P	**Pn**	**09 51 07.8**	**-0.2**
	baz=251						
PHUB				*e*S	**Sn**	**09 51 37.8**	**+0.2**
	baz=251						
WDGT	**Dungji**	**2.47**	**244**	*e*P	**Pn**	**09 51 09.3**	**+1.0**
	baz=243						
VCHM	**Qimei**	**2.69**	**245**	*e*P	**Pn**	**09 51 12.4**	**+1.2**
	baz=244						
PTMZ	**Houxiangcun**	**2.76**	**284**	*e*P	**Pn**	**09 51 12.3**	**0.0**
	baz=286						
KNMB	**Chin-men Tao**	**3.36**	**272**	*e*P	**Pn**	**09 51 20.2**	**-0.3**
	baz=273						
AXDP	**Jialang**	**3.77**	**279**	*e*P	**Pn**	**09 51 26.3**	**+0.2**
	baz=280						

*ISCJB **19** 09:59:50.9±0.6, 13°.08N±0'.08×143°.95E±0'.09,h138km, mb3.8/16,Error ellipse: s-maj=12.9km s-min=11.3km az=28.5*
*IDC **19** 09:59:52.3±0.7, 13°.12N×144°.08E,h138km±7km,mb3.6/15, mb1 3.8/15,mb1mx3.6/41,mbtmp4.0/15,Error ellipse: s-maj=21.1km s-min=11.9km az=88.0*
ISC 19 09:59:52.3±0.7,13°.1N±0'.1×144°.0E±0'.1,h138km**,n23,σ0s70/19,mb3.8/16,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.94**	**59**	P	**Pn**	**10 00 15.9**	**+0.6**
	108nm,0.3s,baz=239,slow=5.9,SNR=99						
GUMO				S	**Sn**	**10 00 32.7**	**-0.2**
	692nm,0.3s,baz=6.8,slow=23,SNR=106						
H11S3	**WAKE ISLAND Hy 22.43**	**73**		T	T	10 27 36.9	
	baz=260,slow=75,SNR=5.7						
H11S1	**WAKE ISLAND Hy 22.45**	**73**		T	T	10 27 38.1	
	baz=260,slow=75,SNR=7.7						
H11S2	**WAKE ISLAND Hy 22.45**	**73**		T	T	10 27 37.8	
	baz=260,slow=75,SNR=5.0						
H11N1	**WAKE ISLAND Hy 22.87**	**70**		T	T	10 28 10.7	
	baz=256,slow=75,SNR=8.3						
H11N2	**WAKE ISLAND Hy 22.88**	**70**		T	T	10 28 10.5	
	baz=256,slow=75,SNR=2.7						
H11N3	**WAKE ISLAND Hy 22.89**	**70**		T	T	10 28 11.2	
	baz=256,slow=75,SNR=5.9						
JNU	**Nakatsue**	**23.27**	**331**	P	**P**	**10 04 48.1**	**+0.4**
	4.1nm,0.8s,baz=162,slow=6.4,SNR=5.2						
MJAR	**Matsushiro Arr**	**23.92**	**348**	P	**P**	**10 04 52.8**	**-0.7**
	4.1nm,0.6s,baz=170,slow=8.6,SNR=17						
KSRS	**Korea Array**	**28.20**	**332**	P	**P**	**10 05 32.3**	**+0.4**
	1.2nm,0.5s,baz=137,slow=9.1,SNR=8.3						
WRA	**Warramunga Arr**	**34.20**	**196**	P	**P**	**10 06 24.8**	**+0.1**
	4.8nm,0.8s,baz=18,slow=9.4,SNR=29						
KLR	**Kul'dur**	**37.43**	**347**	P	**P**	**10 06 52.0**	**0.0**
	0.7nm,0.4s,baz=154,slow=4.5,SNR=4.8						
ASAR	**Alice Springs**	**37.86**	**195**	P	**P**	**10 06 56.0**	**0.0**
	1.1nm,0.8s,baz=22,slow=12,SNR=18						
STKA	**Stephens Creek**	**44.78**	**183**	P	**P**	**10 07 52.1**	**-0.2**
	0.9nm,0.4s,baz=359,slow=8.7,SNR=4.1						
SONM	**Songino Array**	**46.67**	**326**	P	**P**	**10 08 07.8**	**+0.7**
	0.6nm,0.6s,baz=139,slow=9.6,SNR=3.0						
MKAR	**Makanchi Array**	**61.28**	**316**	P	**P**	**10 09 53.8**	**+0.7**
	0.9nm,0.6s,baz=92,slow=8.5,SNR=11						
ZALV	**Zalesovo Beam**	**61.55**	**325**	P	**P**	**10 09 54.6**	**0.0**
	0.6nm,0.5s,baz=114,slow=7.3,SNR=3.2						
ZALV				PcP	**PcP**	**10 10 34.1**	**-1.0**
	0.8nm,0.4s,baz=132,slow=4.6,SNR=4.0						
KURBB	**Kurchatov Arra**	**64.48**	**320**	P	**P**	**10 10 13.9**	**-0.2**
	2.9nm,0.5s,baz=104,slow=6.7,SNR=17						
ILAR	**Eielson Array**	**69.35**	**25**	P	**P**	**10 10 43.2**	**-1.4**
	0.3nm,0.5s,baz=251,slow=5.7,SNR=11						
YKA	**Yellowknife Ar**	**83.66**	**27**	P	**P**	**10 12 05.5**	**+0.4**
	0.6nm,0.5s,baz=286,slow=5.0,SNR=15						
NVAR	**Mina Array Bea**	**87.85**	**51**	P	**P**	**10 12 27.9**	**+1.2**
	4.4nm,0.7s,baz=263,slow=5.8,SNR=31						
FINES	**FINESS Array B**	**91.26**	**335**	P	**P**	**10 12 40.9**	**-0.9**
	2.1nm,1.0s,baz=72,slow=4.5,SNR=3.9						
PDAR	**Pinedale Array**	**92.88**	**45**	P	**P**	**10 12 50.2**	**+0.2**
	0.2nm,0.4s,baz=259,slow=1.8,SNR=5.8						

*GEN **19** 10:04:34.3,46°.39N×7°.64E,h6km±2km,MI1.3*
ZUR 19 10:04:34.9,46°.35N×7°.67E,h4km±1km**,MLh1.2/10,9C-7D, Error ellipse: s-maj=3.6km s-min=1.0km az=290.0, Switzerland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBD2	**Leukerbad 2**	**0.03**	**318**	⇓Pg	**Pg**	**10 04 36.3**	**+0.2**
LKBD	**Leukerbad**	**0.05**	**317**	⇓Pg	**Pg**	**10 04 36.5**	**+0.2**
LKBD				Sg	**Sg**	**10 04 37.3**	**+0.2**
LKBD	**Leukerbad**	**0.05**	**317**	⇓Pg	**Sg**	**10 04 37.7**	**+0.5**
LAUCH	**Lauchernalp**	**0.09**	**48**	Pg	**Pg**	**10 04 37.2**	**+0.2**
LAUCH	**Lauchernalp**	**0.09**	**48**	⇑Pg	**Pg**	**10 04 38.4**	**+1.4**
SIEB	**Ecole de Borzu**	**0.11**	**239**	⇑Pg	**Pg**	**10 04 37.5**	**+0.2**
VANNI	**Vissoie, Val d**	**0.15**	**200**	⇑Pg	**Pg**	**10 04 38.3**	**+0.3**
VANNI	**Vissoie, Val d**	**0.15**	**200**	⇑Pg	**Pg**	**10 04 39.5**	**+1.5**
EMBD	**Embd, Matterta**	**0.18**	**141**	⇓Pg	**Pg**	**10 04 38.7**	**+0.3**
EMBD	**Embd, Matterta**	**0.18**	**141**	⇓Pg	**Pg**	**10 04 39.9**	**+1.5**
SENIN	**Lac Senin/Sane**	**0.26**	**272**	Pg	**Pg**	**10 04 40.1**	**+0.1**
SENIN	**Lac Senin/Sane**	**0.26**	**272**	Pg	**Pb**	**10 04 41.3**	**-1.0**
SIMPL	**Simplonpass**	**0.27**	**115**	Pg	**Pg**	**10 04 40.5**	**+0.3**
SIMPL	**Simplonpass**	**0.27**	**115**	⇑Pg	**Pb**	**10 04 41.7**	**-0.7**
FIESA	**Fiescheralp**	**0.31**	**75**	⇑Pg	**Pg**	**10 04 41.3**	**+0.2**
FIESA	**Fiescheralp**	**0.31**	**75**	⇑Pg	**Pb**	**10 04 42.5**	**-0.8**
DIX	**Grande Dixence**	**0.33**	**214**	⇑Pg	**Pg**	**10 04 41.4**	**+0.1**
DIX	**Grande Dixence**	**0.33**	**214**	⇑Pg	**Pb**	**10 04 42.6**	**-0.9**
MMK	**Mattmark**	**0.36**	**146**	⇓Pg	**Pg**	**10 04 42.1**	**+0.1**
GRYON	**Gryon**	**0.40**	**255**	Pg	**Pg**	**10 04 42.9**	**+0.1**
GRYON	**Gryon**	**0.40**	**255**	⇓Pg	**Pb**	**10 04 44.1**	**-0.6**
FUSIO	**Fusio**	**0.69**	**81**	Pg	**Pg**	**10 04 48.2**	**0.0**
TRAV	**Traversella**	**0.84**	**176**	P	**Pg**	**10 04 50.8**	**-0.3**
TRAV				S	**Sg**	**10 05 01.8**	**-0.2**
LSD	**Lago del Serru**	**0.97**	**203**	P	**Pg**	**10 04 53.0**	**-0.5**
LSD				S	**Sg**	**10 05 05.8**	**-0.3**

IDC 19 10:07:48.8±10.0,1°.74N×128°.02E,h152km±95km**,mb3.5/4, mb1 3.6/4,mb1mx3.2/34,mbtmp3.9/4,MS3.2/1,Ms1 3.2/1, ms1mx2.6/28,Error ellipse: s-maj=134.9km s-min=21.2km az=64.0,Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**5.83**	**335**	LR	LR	**10 11 32.2**	
	comp=Z,197nm,19.1s,baz=314,slow=38						
WRA	**Warramunga Arr**	**22.42**	**164**	P	P	**10 12 33.7**	**-1.4**
	0.9nm,0.4s,baz=344,slow=10,SNR=16						
ASAR	**Alice Springs**	**25.90**	**168**	P	P	**10 13 07.5**	**+0.7**
	0.2nm,0.4s,baz=347,slow=10,SNR=7.7						
ASAR				PcP	PcP	**10 16 31.6**	**-0.3**
	0.3nm,0.5s,baz=352,slow=2.3,SNR=7.4						
STKA	**Stephens Creek**	**35.83**	**160**	P	P	**10 14 34.0**	**+0.2**
	2.4nm,0.4s,baz=341,slow=8.2,SNR=11						
MKAR	**Makanchi Array**	**59.91**	**325**	P	P	**10 17 38.7**	**-0.1**
	0.8nm,0.3s,baz=114,slow=8.1,SNR=23						

*BJI **19** 10:33:39.0,2°.27S×67°.52E,h10km,mb4.5/7,mB4.9/6*
*ISCJB **19** 10:33:44.5±0.3,1°.94S±0°.05×68°.21E±0°.05,h15km, mb4.5/44,MS3.6/13,Error ellipse: s-maj=8.2km s-min=5.5km az=143.5*
*IDC **19** 10:33:44.5±0.6,1°.93S×68°.20E,h0km,mb4.2/22, mb1 4.3/22,mb1mx4.2/51,mbtmp4.2/22,MS3.6/14, Ms1 3.6/14,ms1mx3.4/49,Error ellipse: s-maj=18.3km s-min=14.4km az=34.0*
*NEIC **19** 10:33:45.5±0.2,1°.99S×68°.18E,h10km,mb4.6/17,Error ellipse: s-maj=5.7km s-min=4.7km az=214.0*
ISC 19 10:33:46.4±0.4,1°.96S±0°.08×68°.19E±0°.07,h15km**,n116, σ0s65/110,mb4.5/44,MS3.7/13,Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**5.16**	**147**	Pn	**Pn**	**10 35 03.5**	**+0.7**
H08N2				T	T	10 40 14.9	
	baz=327,slow=75,SNR=2221						
H08N3	**Diego Garcia H**	**5.17**	**147**	Pn	**Pn**	**10 35 03.7**	**+0.7**
H08N3				T	T	10 40 16.0	
	baz=327,slow=75,SNR=2265						
H08N1	**Diego Garcia H**	**5.18**	**147**	Pn	**Pn**	**10 35 03.8**	**+0.7**
H08N1				T	T	10 40 16.6	
	baz=327,slow=75,SNR=2539						
DGAR	**Diego Garcia**	**6.88**	**142**	*e*Pn	**Pn**	**10 35 26.5**	**-0.3**
H08S3	**Diego Garcia H**	**7.07**	**143**	T	T	10 42 42.4	
	baz=322,slow=18,SNR=20						
H08S1	**Diego Garcia H**	**7.08**	**143**	T	T	10 42 42.5	
	baz=322,slow=18,SNR=28						
H08S2	**Diego Garcia H**	**7.09**	**143**	T	T	10 42 43.7	
	baz=322,slow=18,SNR=16						
MNCI	**Minicoy**	**11.27**	**25**	*e*Pn	**Pn**	**10 36 26.2**	**-0.9**
PALK	**Pallekele**	**15.49**	**54**	LR	LR	10 42 02.8	
	comp=Z,407nm,19.8s,baz=296,slow=32						
RER	**Riviere de l'E**	**22.61**	**212**	*e*P	**P**	**10 38 45.2**	**-1.7**
	125nm,1.3s						
OPO	**Ambohidratompo**	**26.39**	**230**	LR	LR	10 47 44.0	
	comp=Z,266nm,18.4s,baz=12,slow=32						
WSAR	**Wadi Sarin**	**26.73**	**340**	LR	LR	10 47 40.7	
	comp=Z,46nm,18.6s,baz=178,slow=31						
ATD	**Arta Tunnel**	**28.54**	**299**	LR	LR	10 48 38.4	
	comp=Z,30nm,19.8s,baz=45,slow=31						
UOSS	**Minazif**	**29.17**	**337**	*e*P	**P**	**10 39 47.4**	**+0.1**
	6.0nm,0.9s						
GSI	**Gununguesitoli**	**29.56**	**84**	*e*P	**P**	**10 39 50.2**	**-0.7**
	20nm,1.2s						
COCO	**West Island**	**30.15**	**111**	*e*P	**P**	**10 39 55.8**	**-0.3**
	362nm,1.6s						
KMBO	**Kilima Mbogo**	**30.94**	**271**	LR	LR	10 50 32.9	
	comp=Z,88nm,19.7s,baz=94,slow=33						
PSI	**Prapat**	**31.08**	**81**	*e*P	**P**	**10 40 04.5**	**-0.1**
	6.5nm,1.1s						
FURI	**Furi**	**31.33**	**291**	*e*P	**P**	**10 40 05.8**	**-1.2**
	16nm,0.5s						
BKNI	**Bangkinang**	**32.92**	**86**	*e*P	**P**	**10 40 19.6**	**-1.0**
	68nm,0.5s						
RAYN	**Ar Rayn**	**33.61**	**320**	*e*P	**P**	**10 40 26.7**	**+0.2**
	2.8nm,0.9s						
MNAI	**Manna**	**34.79**	**95**	*e*P	**P**	**10 40 36.9**	**0.0**
	368nm,1.2s						
CM31

XAN					pmax	pmax		
	comp=Z,12nm,3.8s							
XAN	**Xi'an**	**52.41**	**43**	*e*P	**P**	**P**	**10 42 58.6**	**0.0**
	9.7nm,0.8s							
KURBB	**Kurchatov Arra**	**53.13**	**8**	P	**P**	**P**	**10 43 03.5**	**+0.1**
	5.0nm,1.1s,baz=202,slow=7.9,SNR=17							
KURBB				PcP	**PcP**	**PcP**	**10 44 12.1**	**+0.5**
	1.2nm,0.7s,baz=208,slow=3.5,SNR=7.8							
KURK	**Kurchatov**	**53.23**	**8**	*e*P	**P**	**P**	**10 43 04.2**	**0.0**
KURK				*e*PcP	**PcP**	**PcP**	**10 44 12.1**	**+0.1**
H01W3	**Cape Leeuwin H**	**53.79**	**133**	T	T	T	11 41 11.3	
	baz=290							
H01W2	**Cape Leeuwin H**	**53.80**	**133**	T	T	T	11 41 11.9	
	baz=290,slow=74,SNR=3.4							
H01W1	**Cape Leeuwin H**	**53.81**	**133**	T	T	T	11 41 12.7	
	baz=290,slow=74,SNR=2.8							
BVAR	**Borovoye Array**	**54.82**	**2**	P	**P**	**P**	**10 43 16.1**	**+0.3**
	2.4nm,0.8s,baz=181,slow=8.6,SNR=13							
BRVK	**Borovoye**	**54.85**	**2**	*e*P	**P**	**P**	**10 43 16.3**	**+0.3**
	6.6nm,1.0s							
BATI	**Baumata**	**55.69**	**101**	LR	LR	LR	11 08 18.2	
	comp=Z,55nm,18.3s,baz=323,slow=37							
ZAA0	**Zalesovo Array**	**57.41**	**12**	*e*P	**P**	**P**	**10 43 33.8**	**-0.5**
	14nm,1.5s							
ZALV	**Zalesovo Beam**	**57.41**	**12**	P	**P**	**P**	**10 43 33.8**	**-0.4**
	1.8nm,0.6s,baz=220,slow=6.7,SNR=9.5							
ZALV	**Zalesovo Beam**	**57.41**	**12**	*e*P	**P**	**P**	**10 43 33.6**	**-0.6**
ZAA1	**Zalesovo Array**	**57.41**	**12**	*e*P	**P**	**P**	**10 43 33.8**	**-0.5**
DAV	**Davao City (W)**	**57.96**	**80**	LR	LR	LR	11 12 33.1	
	comp=Z,93nm,18.3s,baz=152,slow=40							
ARU	**Arti**	**58.73**	**354**	*e*P	**P**	**P**	**10 43 42.9**	**-0.6**
	17nm,1.4s							
SONA0	**Songino Array**	**59.73**	**29**	*e*P	**P**	**P**	**10 43 51.7**	**+0.9**
SONM	**Songino Array**	**59.73**	**29**	P	**P**	**P**	**10 43 51.7**	**+0.9**
	3.3nm,0.7s,baz=223,slow=7.0,SNR=16							
SONM				LR	LR	LR	11 09 17.9	
	comp=Z,106nm,21.8s,baz=2.0,slow=36							
SONA1	**Songino Array**	**59.75**	**29**	*e*P	**P**	**P**	**10 43 51.4**	**+0.5**
AKASG	**Malin Array Be**	**62.10**	**333**	P	**P**	**P**	**10 44 05.9**	**-0.8**
	3.9nm,1.0s,baz=129,slow=5.6,SNR=7.2							
AKBB	**Malin Array Si**	**62.10**	**333**	*e*P	**P**	**P**	**10 44 05.8**	**-0.8**
	7.7nm,1.3s							
DIVS	**Divibare**	**62.85**	**323**	*e*P	**P**	**P**	**10 44 12.2**	**+0.3**
	17nm,1.4s							
MAW	**Mawson**	**65.62**	**182**	LR	LR	LR	11 06 49.1	
	comp=Z,97nm,21.0s,baz=160,slow=30							
VYHS	**Vyhne**	**65.94**	**326**	*e*P	**P**	**P**	**10 44 31.1**	**-0.9**
WR1	**Warramunga Arr**	**66.94**	**111**	*e*P	**P**	**P**	**10 44 39.8**	**+0.9**
	22nm,1.5s							
WRA	**Warramunga Arr**	**66.94**	**111**	P	**P**	**P**	**10 44 39.8**	**+0.8**
	4.4nm,0.8s,baz=287,slow=5.9,SNR=21							
WB2	**Warramunga Arr**	**66.95**	**111**	*e*P	**P**	**P**	**10 44 39.2**	**+0.2**
ASAR	**Alice Springs**	**67.01**	**115**	P	**P**	**P**	**10 44 39.6**	**+0.2**
	2.6nm,0.7s,baz=285,slow=6.3,SNR=27							
AS31	**Alice Springs**	**67.01**	**115**	*e*P	**P**	**P**	**10 44 38.8**	**-0.6**
	1.0nm,0.8s							
AS01	**Alice Springs**	**67.06**	**115**	*e*P	**P**	**P**	**10 44 39.9**	**+0.2**
KS15	**Wonju Array Si**	**67.61**	**48**	*e*P	**P**	**P**	**10 44 42.1**	**-0.7**
KSAR	**Wonju Array Be**	**67.61**	**48**	P	**P**	**P**	**10 44 43.0**	**+0.2**
TOA0	**Torodi Ar. Sit**	**67.63**	**285**	*e*P	**P**	**P**	**10 44 42.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**67.63**	**285**	P	**P**	**P**	**10 44 44.0**	**+0.6**
	1.5nm,0.9s,baz=106,slow=5.6,SNR=6.5							
TORD				LR	LR	LR	11 14 29.3	
	comp=Z,83nm,19.7s,baz=325,slow=36							
TOA1	**Torodi Ar. Sit**	**67.64**	**285**	*e*P	**P**	**P**	**10 44 44.0**	**+0.6**
KSRS	**Korea Array**	**67.65**	**48**	P	**P**	**P**	**10 44 43.0**	**0.0**
	1.0nm,0.7s,baz=244,slow=7.5,SNR=3.6							
CLL	**Collm**	**70.63**	**327**	*e*P	**P**	**P**	**10 45 00.6**	**-0.7**
	15nm,1.3s							
CLL	**Collm**	**70.63**	**327**	*i* P	**P**	**P**	**10 45 01.4**	**+0.1**
	comp=Z,16nm,1.4s							
SENIN	**Lac Senin/Sane**	**71.81**	**320**	*e*P	**P**	**P**	**10 45 08.2**	**-0.7**
	comp=Z,7.1nm,0.8s							
USRK	**Ussuriysk Ar.**	**72.92**	**42**	P	**P**	**P**	**10 45 15.3**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=246,slow=8.7,SNR=6.2							
DBIC	**Dimbokro**	**73.41**	**278**	P	**P**	**P**	**10 45 19.9**	**+1.1**
	comp=Z,2.3nm,0.6s,baz=110,slow=7.3,SNR=3.9							
DBIC				LR	LR	LR	11 18 29.6	
	comp=Z,37nm,18.4s,baz=324,slow=37							
DBIC	**Dimbokro**	**73.41**	**278**	*e*P	**P**	**P**	**10 45 18.6**	**-0.1**
	comp=Z,14nm,1.4s							
KLR	**Kul'dur**	**74.57**	**38**	P	**P**	**P**	**10 45 24.4**	**-0.5**
	comp=Z,3.6nm,0.7s,baz=249,slow=7.5,SNR=14							
STKA	**Stephens Creek**	**74.88**	**122**	P	**P**	**P**	**10 45 27.7**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=264,slow=9.7,SNR=4.2							
STKA	**Stephens Creek**	**74.88**	**122**	*e*P	**P**	**P**	**10 45 26.9**	**-0.1**
MAJO	**Matsushiro**	**75.23**	**52**	*e*P	**P**	**P**	**10 45 29.7**	**+0.8**
MJAR	**Matsushiro Arr**	**75.23**	**52**	P	**P**	**P**	**10 45 29.7**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=245,slow=5.0,SNR=4.4							
NB200	**NORSAR Array S**	**76.39**	**335**	*e*P	**P**	**P**	**10 45 34.9**	**-0.2**
NOA	**NORSAR Array B**	**76.39**	**335**	P	**P**	**P**	**10 45 34.9**	**-0.2**
	comp=Z,2.7nm,1.1s,baz=112,slow=6.1,SNR=3.3							
ESDC	**Sonseca Array**	**77.60**	**311**	P	**P**	**P**	**10 45 43.3**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=89,slow=4.8,SNR=7.0							
YKA	**Yellowknife Ar**	**119.58**	**1**	PKP	**PKPdf**		**10 52 34.6**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=357,slow=2.2,SNR=5.7							
YKB5	**Yellowknife Ar**	**119.58**	**1**	*e*PKPdf	**PKPdf**		**10 52 33.8**	**-1.6**
PD31	**Pinedale Array**	**139.32**	**357**	*e*PKPdf	**PKPdf**		**10 53 13.8**	**0.0**
PDAR	**Pinedale Array**	**139.32**	**357**	PKP	**PKPdf**		**10 53 13.8**	**0.0**
	comp=Z,0.5nm,0.8s,baz=80,slow=2.5,SNR=4.7							
PV13	**Radium Mtn., P**	**143.87**	**356**	*e*PKPdf	PKPbc		10 53 20.3	+0.6
MTPU	**Mount Pierson**	**144.09**	**1**	*e*PKPdf	**PKPdf**		**10 53 22.2**	**-0.4**
S22A	**4UR Ranch, Cre**	**144.10**	**353**	*e*PKPdf	PKPbc		10 53 21.1	+0.7
SZCU	**Shurtz Canyon**	**144.52**	**2**	*e*PKPdf	**PKPdf**		**10 53 22.6**	**-0.5**
CCUT	**Cedar City**	**144.56**	**2**	*e*PKPdf	**PKPdf**		**10 53 23.0**	**-0.3**
PKCU	**Pink Cliffs**	**144.69**	**1**	*e*PKPdf	**PKPdf**		**10 53 23.8**	**+0.1**
LCMT	**Little Creek M**	**145.10**	**2**	*e*PKPbc	**PKPdf**		**10 53 24.4**	**+0.4**
WMOK	**Wichita Mounta**	**145.21**	**341**	*e*PKPbc	**PKPdf**		**10 53 24.4**	**+0.2**
SHPR	**Sheep Range**	**145.49**	**5**	*e*PKPdf	**PKPab**		**10 53 26.1**	**+1.1**
U15A	**North Rim**	**145.70**	**1**	*e*PKPdf	**PKPab**		**10 53 26.6**	**+0.7**
GSC	**Goldstone, Bar**	**146.50**	**7**	*e*PKPbc	**PKPab**		**10 53 29.2**	**+0.5**
WUAZ	**Wupatki**	**146.61**	**359**	*e*PKPbc	**PKPab**		**10 53 29.1**	**-0.1**
ANMO	**Albuquerque**	**146.81**	**352**	*e*PKPbc	**PKPab**		**10 53 29.8**	**-0.2**
MSTX	**Muleshoe**	**147.06**	**346**	*e*PKPbc	**PKPbc**		**10 53 29.2**	**-0.3**
X16A	**Lo Mia Camp, P**	**147.71**	**359**	*e*PKPdf	**PKPdf**		**10 53 28.2**	**-0.4**
X16A				*e*PKPbc	**PKPbc**		**10 53 32.3**	**+0.9**
Y14A	**Wickenburg**	**148.17**	**2**	*e*PKPbc	**PKPbc**		**10 53 33.5**	**+1.0**
PFO	**Pinyon Flats O**	**148.22**	**7**	*e*PKPdf	**PKPdf**		**10 53 28.2**	**-1.2**
PFO				*e*PKPbc	**PKiKP**		**10 53 33.8**	**-0.6**
XPFO	**Pion Flat**	**148.22**	**7**	*e*PKPdf	**PKPdf**		**10 53 28.2**	**-1.2**
XPFO				*e*PKPbc	**PKiKP**		**10 53 33.8**	**-0.6**
HKT	**Hockley**	**148.30**	**333**	*e*PKPbc	**PKPbc**		**10 53 33.4**	**+0.7**
TUC	**Tucson**	**149.80**	**358**	*e*PKPdf	**PKPdf**		**10 53 30.9**	**-1.0**
TUC				*e*PKPbc	**sPKPdf**		**10 53 38.5**	**-0.5**
MNTX	**Cornudas Mount**	**149.81**	**349**	*e*PKPdf	**PKPdf**		**10 53 31.4**	**-0.6**
MNTX				*e*PKPbc	**sPKPdf**		**10 53 38.5**	**-0.3**
LTX	**Lajitas**	**151.70**	**345**	*e*PKPbc	**PKPbc**		**10 53 41.7**	**+0.4**
TX31	**Lajitas Ar. Si**	**151.70**	**345**	*e*PKPdf	**PKPdf**		**10 53 34.3**	**-0.7**
TX31				*e*PKPbc	**PKPbc**		**10 53 41.4**	**+0.1**
TX31				*e*PKPbc	**PKiKP**		**10 53 41.6**	**-0.1**
TXAR	**Lajitas Array**	**151.70**	**345**	PKPbc	**PKPbc**		**10 53 41.7**	**+0.4**
	comp=Z,2.9nm,1.0s,baz=148,slow=1.4,SNR=14							

IDC 19 10:37:31.1±2.0, 3°49'S×127°32'E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/37, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=134.0km s-min=27.7km az=66.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.73**	**158**	P	Pn	10 41 38.9	-0.7
	0.2nm,0.3s,baz=336,slow=11,SNR=15						
ASAR	**Alice Springs**	**21.04**	**163**	P	P	10 42 16.0	-0.8
	0.5nm,0.4s,baz=344,slow=12,SNR=9.1						
MKAR	**Makanchi Array**	**63.85**	**327**	P	P	10 48 06.2	+0.6
	0.2nm,0.4s,baz=113,slow=8.7,SNR=4.5						

IDC 19 10:50:56.7±2.3, 6°01'S×130°36'E, h0km, mb3.7/1, mb1 4.1/3, mb1mx3.6/26, mbtmp3.9/3, ML4.1/2, Error ellipse: s-maj=139.9km s-min=30.5km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.38**	**165**	P	Pn	10 54 21.6	-0.2
	0.9nm,0.3s,baz=348,slow=14,SNR=27						
WRA				Sn	Sn	10 56 47.9	-14
	1.9nm,0.3s,baz=335,slow=25,SNR=12						
ASAR	**Alice Springs**	**17.89**	**169**	P	Pn	10 55 07.3	+0.1
	0.6nm,0.3s,baz=345,slow=9.8,SNR=30						
MKAR	**Makanchi Array**	**67.60**	**326**	P	P	11 01 55.3	0.0
	0.4nm,0.5s,baz=119,slow=8.1,SNR=9.2						

*JMA **19** 10:55:38.2±0.4, 22°.12N×122°.89E, h45km, M3.3*
*TAP **19** 10:55:39.4, 22°.04N×122°.78E, h43km±1km, ML3.3, D*
ISC 19 10:55:33.4±3.1, 22°.17N±0°.05×122°.90E±0°.04, h1km±22km, n59, σ0s82/96, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**1.26**	**264**	*i* P	**Pb**	**10 55 58.7**	**+0.8**
	baz=280						
LAY				*e*S	**Sb**	10 56 13.2	-1.5
	baz=280						
CHKT	**Chengkung**	**1.69**	**303**	*i* P	**Pb**	**10 56 05.9**	**+0.5**
	baz=309						
CHKT				*i* S	**Sn**	10 56 25.2	-1.2
	baz=309						
TWGBT	**Beinan**	**1.80**	**291**	*e*P	**Pb**	**10 56 07.7**	**+0.5**
	baz=303						
TWGBT				*e*S	**Sn**	10 56 28.7	-0.5
	baz=303						
TWG	**Pinlang**	**1.81**	**291**	*e*P	**Pb**	**10 56 08.2**	**+0.9**
	baz=303						
TWG				*e*S	**Sn**	10 56 29.5	+0.2
	baz=303						
ECL	**Taimali**	**1.85**	**284**	*e*P	**Pb**	**10 56 08.6**	**+0.5**
	baz=280						
ECL				*e*S	**Sn**	10 56 29.2	-1.2
	baz=280						
TAW	**Tawu**	**1.87**	**276**	*e*P	**Pb**	**10 56 09.4**	**+1.1**
	baz=280						
TAW				*e*S	**Sn**	10 56 29.4	-1.3
	baz=280						
TSEB	**Hengchuen, Pin**	**1.88**	**262**	*e*S	**Sb**	**10 56 32.5**	**0.0**
	baz=265						
TWF1	**Yuli**	**1.89**	**309**	*e*P	**Pb**	**10 56 09.1**	**+0.4**
	baz=314						
TWF1				*e*S	**Sn**	10 56 31.6	+0.3
	baz=314						
HGSD	**Ruisui**	**1.89**	**314**	*e*P	**Pb**	**10 56 08.8**	**0.0**
	baz=319						
HGSD				*e*S	**Sn**	10 56 30.9	-0.4
	baz=319						
EAST	**Anshuo**	**1.91**	**277**	*e*P	**Pb**	**10 56 08.9**	**-0.2**
	baz=281						
EAST				*e*S	**Sn**	10 56 30.4	-1.5
	baz=281						
YULB	**Yu-li**	**1.92**	**310**	*e*P	**Pb**	**10 56 09.6**	**+0.5**
	baz=315						
YULB				*e*S	**Sb**	10 56 33.6	0.0
	baz=315						
TWKBT	**Hengchun**	**1.95**	**264**	*e*P	**Pb**	**10 56 10.1**	**+0.4**
	baz=278						
TWKBT				*e*S	**Sn**	10 56 32.8	0.0
	baz=278						
TWK1	**Hengchun**	**1.96**	**264**	*e*S	**Sn**	**10 56 33.0**	**0.0**
	baz=278						
EHY	**Hungye**	**1.97**	**313**	*e*P	**Pb**	**10 56 10.4**	**+0.4**
	baz=318						
EHY				*e*S	**Sb**	10 56 34.6	-0.6
	baz=318						
HEN	**Hengchun**	**2.01**	**266**	*e*S	**Sn**	**10 56 33.9**	**-0.4**
	baz=269						
ELDTW	**Lidau**	**2.01**	**301**	*e*P	**Pb**	**10 56 10.5**	**-0.4**
	baz=311						
ELDTW				*e*S	**Sn**	10 56 33.9	-0.6
	baz=311						
HATJ	**Hateruma jima**	**2.05**	**24**	P	**Pb**	**10 56 12.3**	**+0.8**
HATJ				*e*S	**Sn**	10 56 36.6	+1.3
ESL	**Shilin**	**2.12**	**321**	*e*P	**Pb**	**10 56 12.8**	**+0.1**
	baz=335						
ESL				*e*S	**Sb**	10 56 38.9	-0.7
	baz=335						
SCZT	**Fangliau**	**2.12**	**276**	*e*P	**Pb**	**10 56 13.3**	**+0.7**
	baz=279						
MASBT	**Mashibuluo**	**2.15**	**282**	*e*P	**Pb**	**10 56 13.5**	**+0.5**
	baz=286						
SSD	**Sandimen**	**2.18**	**286**	*e*P	**Pb**	**10 56 13.9**	**+0.3**
	baz=296						
STYT	**Tauyuan**	**2.21**	**297**	*e*P	**Pb**	**10 56 14.4**	**+0.1**
	baz=301						
STYT				*e*S	**Sn**	10 56 40.8	+1.4
	baz=301						
YUS	**Yu-Shan**	**2.23**	**306**	*e*P	**Pb**	**10 56 14.9**	**+0.2**
	baz=311						
YUS				*e*S	**Sn**	10 56 38.7	-1.6
	baz=311						
SLGT	**Liugui**	**2.24**	**292**	*e*S	**Sb**	**10 56 41.7**	**-1.2**
	baz=299						
TWD	**Chiawan**	**2.25**	**328**	*e*P	**Pb**	**10 56 15.0**	**+0.2**
	baz=332						
VWDT	**VWDT**	**2.26**	**315**	*e*P	**Pb**	**10 56 15.5**	**+0.5**
	baz=327						
VWDT				*e*S	**Sn**	10 56 40.1	-0.4
	baz=327						
JYNG	**Yonagunijimaku**	**2.27**	**1**	P	**Pb**	**10 56 16.2**	**+1.0**
JYNG				*e*S	**Sb**	10 56 42.9	-0.9
YOJ	**Yonaguni jima**	**2.28**	**3**	*e*S	**Sb**	**10 56 44.5**	**+0.3**
	baz=5.0						
YOJ	**Yonaguni jima**	**2.28**	**3**	P	**Pb**	**10 56 14.8**	**-0.6**
YOJ				S	**Sb**	10 56 43.4	-0.7
IRIF	**Iriomote-Funau**	**2.29**	**19**	P	**Pb**	**10 56 15.6**	**+0.2**
IRIF				S	**Sn**	10 56 42.5	+1.5
JKRS	**Kuro-shima**	**2.30**	**26**	P	**Pb**	**10 56 15.9**	**+0.3**
JKRS				*e*S	**Sn**	10 56 42.5	+1.2
NACB	**Ninganchiao**	**2.33**	**329**	*e*P	**Pb**	**10 56 16.0**	**-0.2**
	baz=333						
NACB				*e*S	**Sn**	10 56 42.5	-0.4
	baz=333						
ALS	**Alishan**	**2.35**	**305**	*e*P	**Pb**	**10 56 17.4**	**+0.7**
	baz=316						
WTP	**Ta-pu**	**2.37**	**297**	*e*P	**Pb**	**10 56 17.7**	**+0.9**
	baz=310						
WTP				*e*S	**Sb**	10 56 46.6	0.0
	baz=310						
TPUB	**Ta-pu**	**2.38**	**299**	*e*P	**Pb**	**10 56 17.9**	**+0.8**
	baz=311						
TPUB				*e*S	**Sb**	10 56 46.3	-0.6
	baz=311						
SSLB	**Suanglung**	**2.41**	**312**	*e*P	**Pb**	**10 56 17.4**	**-0.2**
	baz=316						
SSLB				*e*S	**Sn**	10 56 45.6	+1.4
	baz=316						
CHN1	**Nanshi**	**2.41**	**295**	*e*P	**Pb**	**10 56 18.8**	**+1.2**
	baz=287						
CHN1				*e*S	**Sb**	10 56 48.7	+0.8
	baz=287						
CHN4	**Tsaushan**	**2.43**	**299**	*e*P	**Pb**	**10 56 19.0**	**+1.0**
	baz=311						
CHN4				S	**Sb**	10 56 49.3	+0.8
	baz=311						
CHGB	**Renai**	**2.46**	**320**	*e*P	**Pb**	**10 56 18.6**	**0.0**
	baz=332						
CHGB				*e*S	**Sn**	10 56 47.3	+1.6
	baz=332						
JIJ	**Ishigaki jima**	**2.46**	**27**	P	**Pb**	**10 56 17.7**	**-0.8**
JIJ				*e*S	**Sn**	10 56 45.8	+0.4
WHF	**Hehuan Shan**	**2.48**	**323**	*e*P	**Pb**	**10 56 18.6**	**-0.3**
	baz=327						
WHF				*e*S	**Sn**	10 56 45.9	-0.4
	baz=327						
TWK	**Hsinying**	**2.48**	**297**	*e*P	**Pb**	**10 56 19.9**	**+1.0**
	baz=288						
TWK				*e*S	**Sb**	10 56 50.5	+0.6
	baz=288						
CHN5	**Tsauling**	**2.49**	**305**	*e*P	**Pb**	**10 56 19.7**	**+0.6**
	baz=316						
SMLT	**Sun Moon Lake**	**2.51**	**313**	*e*P	**Pb**	**10 56 19.3**	**0.0**
	baz=317						
TYC	**Yuchr**	**2.55**	**313**	*e*P	**Pb**	**10 56 20.6**	**+0.5**
	baz=323						
TYC				*e*S	**Sb**	10 56 51.0	-1.0
	baz=323						
WJS	**Zhushan**	**2.59**	**310**	*e*P	**Pb**	**10 56 21.7**	**+1.0**
	baz=321						
WJS				*e*S	**Sb**	10 56 53.8	+0.8
	baz=321						
TWC	**Suao**	**2.61**	**338**	*e*P	**Pb**	**10 56 20.9**	**-0.1**
	baz=342						
NNSB	**Datong**	**2.65**	**328**	*e*P	**Pb**	**10 56 20.9**	**-0.8**
	baz=340						
NNSB				*e*S	**Sb**	10 56 53.0	-1.7
	baz=340						
WNT	**Mingjian**	**2.66**	**310**	*e*P	**Pb**	**10 56 22.4**	**+0.6**
	baz=314						
NNS	**Nan Shan**	**2.66**	**328**	*e*P	**Pb**	**10 56 21.4**	**-0.5**
	baz=341						
JISG	**Ishigakijimahi**	**2.73**	**28**	P	**Pb**	**10 56 21.5**	**-1.5**
JISG				S	**Sn**	10 56 52.1	0.0
YHNB	**Yeheng**	**2.85**	**331**	*e*P	**Pb**	**10 56 24.4**	**-0.8**
	baz=334						
YHNB				*e*S	**Sn**	10 56 57.4	+2.2
	baz=334						
NWLT	**Wulai**	**2.90**	**334**	*e*P	**Pb**	**10 56 25.2**	**-0.7**
	baz=337						
TWQ1	**Liyutan**	**2.92**	**318**	*e*P	**Pb**	**10 56 27.3**	**+1.0**
	baz=330						
TIPB	**Shuangxi**	**2.96**	**341**	*e*P	**Pb**	**10 56 26.5**	**-0.5**
	baz=353						
JTJ	**Tarama**	**2.96**	**34**	S	**Sn**	**10 56 58.3**	**+0.5**
NSTT	**Nanjuang**	**3.01**	**325**	*e*P	**Pb**	**10 56 28.1**	**+0.4**
	baz=336						
LIOB	**Emei**	**3.01**	**325**	*e*P	**Pb**	**10 56 27.8**	**-0.1**
	baz=337						
JIRB	**Irabujima**	**3.37**	**38**	*e*S	**Sn**	**10 57 07.7**	**-0.1**

*NIED **19** 11:15:00, 46°.60N×153°.30E, h5km, Mw4.5 Best double couple: M0 6.39000×10^15 NP1:φs218.00000°, δ37.00000°, λ173.00000°. NP2:φs314.00000°, δ86.00000°, λ53.00000°.*
*JMA **19** 11:15:07.0±0.9, 46°.61N×153°.27E, h30km, M5.3*
*ISCJB **19** 11:15:07.3±0.1, 46°.58N±0°.03×153°.03E±0°.02, h40km, mb4.5/147, MS3.8/14, Error ellipse: s-maj=4.4km s-min=1.7km az=156.5*
*MOS **19** 11:15:08.4±1.0, 46°.62N×153°.00E, h52km, mb4.7/44, Error ellipse: s-maj=7.6km s-min=5.2km az=63.7*
*NEIC **19** 11:15:08.5±0.1, 46°.66N×152°.95E, h35km, mb4.6/113, Error ellipse: s-maj=4.1km s-min=1.8km az=154.0*
*SKHL **19** 11:15:08.5±0.3, 46°.45N×153°.26E, h57km±5km, mb5.2/15, Ms4.8/6, msh5.5/5*
*BJI **19** 11:15:08.4, 46°.78N×153°.16E, h59km, mb4.6/43, mB5.0/29, Ms4.2/17, Ms7 4.1/17*
*IDC **19** 11:15:12.7±2.4, 46°.79N×152°.82E, h66km±21km, mb4.1/24, mb1 4.3/28, mb1mx4.0/64, mbtmp4.4/28, MS3.7/14, Ms1 3.7/14, ms1mx3.4/41, Error ellipse: s-maj=16.3km s-min=9.5km az=149.0*
ISC 19 11:15:08.6±0.4, 46.53N±0°.05×153°.11E±0°.05, h40km, n498, σ1s37/513, mb4.7/156, MS3.8/14, 14C-9D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.88**	**252**	*i* P	**Pn**	**11 16 07.0**	**+1.3**
KUR				AMB	AMB	11 16 10.0	
	250nm,0.3s						
KUR				AMB	AMB	11 16 10.0	
	130nm,0.3s						
KUR				AMB	AMB	11 16 10.0	
	600nm,0.3s						
KUR				*i* S	**Sn**	**11 16 50.8**	**+0.7**
KUR				A	A	11 16 58.0	
	4μm,3.0s						
KUR				A	A	11 17 04.0	
	2μm,0.7s						
KUR				A	A	11 17 04.0	
	4μm,0.7s						
KUR				AMS	AMS	11 17 24.5	
	5μm,17.0s						
KUR				AMS	AMS	11 17 24.5	
	4μm,17.0s						
KUR				AMS	AMS	11 17 24.5	
	2μm,17.0s						
KUR	**Kuril'sk**	**3.88**	**252**	*de*PN	**Pn**	**11 16 07.5**	**+1.8**
KUR				*i* S	**Sn**	**11 16 51.4**	**+1.3**
KUR				pmax	pmax		
	comp=Z,603nm,0.3s						
KUR				pmax	pmax		
	comp=N,310nm,0.4s						
KUR				pmax	pmax		
	comp=E,219nm,0.3s						
KUR				smax	smax		
	comp=N,3μm,3.2s						
KUR				smax	smax		
	comp=E,2μm,0.8s						
KUR				smax	smax		
	comp=N,720nm,0.4s						
SKR	**Severo-Kuril's**	**4.61**	**25**	*i*P	**Pn**	**11 16 16.0**	**+0.4**
SKR				AMB	AMB	11 16 18.0	
	comp=N,1μm,0.5s						
SKR				*i* S	**Sn**	**11 17 06.5**	**-1.4**
SKR				A	A	11 17 08.5	
	comp=N,2μm,4.0s						
SKR				A	A	11 17 08.5	
	comp=N,4μm,4.0s						
SKR				A	A	11 17 28.0	
	comp=N,1μm,0.5s						
SKR				A	A	11 17 28.0	
	comp=N,680nm,0.5s						
SKR	**Severo-Kuril's**	**4.61**	**25**	*e*PN	**Pn**	**11 16 16.1**	**+0.4**
SKR				*e*S	**Sn**	**11 17 05.8**	**-2.1**
SKR				pmax	pmax		
	comp=Z,1μm,0.5s						
SKR				smax	smax		
	comp=E,684nm,0.5s						
SKR				smax	smax		
	comp=N,1μm,0.6s						
SHO	**Shikotan**	**5.17**	**241**	*i*P	**Pn**	**11 16 23.8**	**+0.4**
SHO				AMB	AMB	11 16 27.0	
	comp=N,280nm,0.5s						
SHO				*i* S	**Sn**	**11 17 20.5**	**-1.3**
SHO				A	A	11 17 26.5	
	comp=N,1μm,4.

comp=E,60nm,0.4s
GRPR AMB AMB 11 16 39.0
comp=E,280nm,0.4s
GRPR AMB AMB 11 16 39.0
comp=E,460nm,0.4s
GRPR eS Sn 11 17 37.0 +0.5
GRPR A A 11 17 57.0
comp=E,290nm,0.6s
GRPR A A 11 17 57.0
comp=E,810nm,0.6s
GRPR AMS AMS 11 19 18.0
comp=E,800nm,11.0s
GRPR AMS AMS 11 19 18.0
comp=E,6µm,11.0s
GRPR AMS AMS 11 19 18.0
comp=E,3µm,11.0s
GRPR Tuman 5.77 247 ePN **Pn 11 16 33.3 +1.7**
GRPR eS **Sn 11 17 37.6 +1.1**
GRPR pmax pmax
comp=E,281nm,0.4s
GRPR pmax pmax
comp=Z,461nm,0.4s
GRPR pmax pmax
comp=N,61nm,0.3s
GRPR smax smax
comp=N,294nm,0.5s
GRPR smax smax
comp=E,807nm,0.6s
GRPR MLR MLR
comp=Z,3µm,11.0s
GRPR MLR MLR
comp=E,7µm,15.0s
GRPR MLR MLR
comp=N,787nm,7.0s
NEM2 Nemuro 2 6.11 241 P **Pn 11 16 36.2 -0.1**
NEM2 eS **Sn 11 17 42.3 -2.6**
JRA Rausu 6.21 248 P **Pn 11 16 40.2 +2.6**
JNK Nakash 6.63 247 P **Pn 11 16 45.4 +1.9**
JAK Akkeshi 6.95 242 P **Pn 11 16 48.0 +0.2**
JAK eS **Sn 11 18 02.3 -3.3**
JTKR Abashiri--Toko 6.98 252 P **Pn 11 16 50.5 +2.3**
YSS Yuzh-Sakhalins 7.13 277 ePn **Pn 11 16 48.7 -1.6**
YSS Yuzh-Sakhalins 7.13 277⇑ *iP* **Pn 11 16 52.8 +2.5**
YSS AMB AMB 11 16 53.6
comp=N,20nm,0.7s
YSS eS **Sn 11 18 11.0 +1.1**
YSS A A 11 18 13.0
comp=N,50nm,0.7s
YSS A A 11 18 13.0
comp=N,30nm,0.7s
YSS AMS AMS 11 19 18.0
comp=N,500nm,17.0s
YSS AMS AMS 11 19 18.0
comp=N,800nm,17.0s
YSS Yuzh-Sakhalins 7.13 277⇓ ePN **Pn 11 16 52.6 +2.3**
YSS eS **Sn 11 18 11.0 +1.1**
YSS pmax pmax
comp=Z,20nm,0.7s
YSS smax smax
comp=N,50nm,0.7s
YSS smax smax
comp=E,30nm,0.7s
YSS MLR MLR
comp=Z,800nm,19.0s
YSS MLR MLR
comp=N,500nm,17.0s
YSS MLR MLR
comp=E,800nm,16.0s
PEA0B Petropavlovsk- 7.22 23 ePn **Pn 11 16 49.9 -1.7**
PETK Petropavlovsk- 7.22 23 P **Pn 11 16 51.8 +0.3**
comp=E,6.1nm,0.3s,baz=179,slow=12,SNR=63
PETK Petropavlovsk- 7.22 23 ePn **Pn 11 16 49.7 -1.9**
PEA1 Petropavlovsk- 7.23 23 ePn **Pn 11 16 51.8 +0.2**
JMP Maruseppu 7.33 253 P **Pn 11 16 55.9 +2.9**
JAR Ashorobuto 7.38 247 P **Pn 11 16 55.4 +1.7**
JAR eS **Sn 11 18 17.1 +1.1**
PET Petropavlovsk 7.42 27 ePn **Pn 11 16 52.7 -1.5**
PET eSn **Sn 11 18 12.0 -5.1**
PET Petropavlovsk 7.42 27⇓ *iP* **Pn 11 16 54.1 -0.1**
PET AMB AMB 11 16 56.2
comp=E,40nm,0.5s
PET *i* S **Sn 11 18 13.3 -3.8**
PET A A 11 18 19.7
comp=E,110nm,0.5s
PET A A 11 18 19.7
comp=E,130nm,0.5s
PET A A 11 18 20.3
comp=E,3µm,4.0s
PET A A 11 18 20.3
comp=E,3µm,4.0s
PET Petropavlovsk 7.42 27 ePN **Pn 11 16 54.4 +0.1**
PET MLR MLR
comp=Z,300nm,17.0s
JSE Soyaes 7.53 262 P Pn 11 17 00.7 +4.9
JOB Onbets 7.54 245 P **Pn 11 16 56.4 +0.6**
JOB eS **Sn 11 18 17.4 -2.5**
HRK Horoka 7.71 250 eP **Pn 11 17 00.7 +2.4**
JKK2 Kamakawa 2 7.79 254 P **Pn 11 17 02.2 +2.9**
JKA Kamikawa-asahi 7.79 256 eP **Pn 11 17 02.9 +3.5**
ASAJ Asahikawa 7.79 256 P **Pn 11 17 02.9 +3.5**
comp=Z,7.2nm,0.3s,baz=81,slow=17,SNR=95
ASAJ LR LR 11 19 52.7
comp=Z,481nm,18.8s,baz=351,slow=36
ASAJ Asahikawa 7.79 256 ePn **Pn 11 16 59.0 -0.4**
ASAJ Asahikawa 7.79 256 P **Pn 11 17 03.1 +3.7**
UGL Uglegorsk 7.86 293⇓ *iP* **Pn 11 17 03.3 +3.0**
UGL AMB AMB 11 17 05.8
comp=Z,150nm,0.7s
UGL eS **Sn 11 18 28.7 +0.8**
UGL A A 11 18 30.6
comp=Z,70nm,0.6s
UGL AMS AMS 11 19 43.0
comp=Z,6µm,19.0s
UGL AMS AMS 11 19 43.0
comp=Z,3µm,19.0s
UGL Uglegorsk 7.86 293 ePN **Pn 11 17 02.9 +2.6**
UGL *e* 11 18 35.3
UGL pmax pmax
comp=Z,143nm,0.8s
JWK2 Keihoku 7.91 265 P Pn 11 17 06.3 +5.3
JCH Churui 7.98 244 P **Pn 11 17 02.8 +0.8**
JCH eS **Sn 11 18 28.2 -2.8**
TYV Tymovskoe 8.16 306⇓ *iP* **Pn 11 17 05.8 +1.4**
TYV AMB AMB 11 17 07.8
comp=Z,20nm,0.6s
TYV *i* S **Sn 11 18 35.5 +0.3**
TYV A A 11 18 36.0
comp=Z,20nm,0.8s
TYV A A 11 18 36.0
comp=Z,10.0nm,0.8s
TYV AMS AMS 11 19 54.9
comp=Z,2µm,17.0s
TYV AMS AMS 11 19 54.9
comp=Z,1µm,17.0s
TYV Tymovskoe 8.16 306 ePN **Pn 11 17 05.8 +1.4**
TYV eS **Sn 11 18 38.3 +3.1**
TYV pmax pmax
comp=Z,12nm,0.6s
TYV smax smax
comp=N,9.0nm,0.8s
JFR Furan 8.20 250 P **Pn 11 17 06.9 +2.0**
MYR Moyori 8.21 242 eP **Pn 11 17 05.3 +0.2**
JAB Ashibetsu 8.29 253 P **Pn 11 17 09.5 +3.4**
ERM Erimo 8.45 241 ePn **Pn 11 17 08.1 -0.2**
ERM Erimo 8.45 241 *i* PN **Pn 11 17 09.3 +1.0**
JEM Erimo 8.45 241 P **Pn 11 17 08.9 +0.6**
JBT2 Biratori 2 8.53 248 P **Pn 11 17 10.5 +1.0**
JNBK Urakawa-nobuka 8.54 244 P **Pn 11 17 09.5 -0.2**
JNBK eS **Sn 11 18 41.4 -3.3**
JNB Noboribetsu 9.53 249 P **Pn 11 17 23.5 +0.3**
JNB eS **Sn 11 19 05.5 -3.5**
OKH Okha 9.60 321⇑ *eP* **Pn 11 17 28.7 +4.7**
OKH AMB AMB 11 17 33.3
comp=N,120nm,0.6s
JKB Kayabe 9.83 246 P **Pn 11 17 26.3 -1.0**
JKB eS **Sn 11 19 10.7 -5.6**
JSH Shimam 10.10 252 P **Pn 11 17 32.5 +1.6**
JYM2 Yakumo 2 10.14 249 P **Pn 11 17 31.9 +0.4**
NKL Nikolayevsk 10.40 314 *eP* **Pn 11 17 36.2 +1.2**
NKL AMB AMB 11 17 38.0
comp=N,10.0nm,0.7s
NKL Nikolayevsk 10.40 314 ePN **Pn 11 17 36.2 +1.2**
JANG Nango 10.43 238 P **Pn 11 17 33.2 -2.3**
JANG eS Sn 11 19 22.1 -8.9
JTM Tenmabayashi 10.44 241 P **Pn 11 17 34.3 -1.3**
JTM eS **Sn 11 19 22.7 -8.5**
JTH Tanohata 10.52 235 eS Sn 11 19 24.0 -9.1
JOSM Okushiri--Mats 10.73 250 P **Pn 11 17 39.9 +0.3**
JRG Rokugo 11.58 236 P **Pn 11 17 49.9 -1.4**
JRG eS **Sn 11 19 52.9 -6.3**
TEY Ternei 11.63 269⇑ *eP* **Pn 11 17 54.9 +3.1**
TEY AMB AMB 11 18 02.3
comp=N,40nm,0.7s
TEY Ternei 11.63 269⇑ ePN Pn 11 17 57.6 +5.8
TEY pmax pmax
comp=Z,20nm,1.1s
GRNR Gornyy 11.82 297 *eP* **Pn 11 17 56.0 +1.5**
GRNR AMB AMB 11 17 58.0
comp=Z,20nm,1.0s
JIO Ouri 11.84 231 P **Pn 11 17 52.9 -1.9**
MA2 Magadan 13.14 355 P **Pn 11 18 12.5 0.0**
comp=Z,5.0nm,0.3s,baz=169,slow=11,SNR=34
MA2 LR LR 11 23 10.3
comp=Z,203nm,18.7s,baz=228,slow=37
MA2 Magadan 13.14 355 *ePn* **Pn 11 18 10.6 -1.9**
EKMR Ekimchan 14.54 304 *eP* **Pn 11 18 33.0 +1.4**
EKMR AMB AMB 11 18 41.0
comp=Z,10.0nm,0.7s
KLR Kulʹdur 14.58 288 LR LR 11 24 09.0
comp=Z,320nm,19.9s,baz=97,slow=38
KLR Kulʹdur 14.58 288 *i* P **Pn 11 18 34.0 +2.0**
KLR Kulʹdur 14.58 288 *i* P **Pn 11 18 34.0 +2.0**
MAJO Matsushiro 14.95 233 *ePn* **Pn 11 18 35.8 -1.2**
MAJO Matsushiro 14.95 233 *eP* **Pn 11 18 35.8 -1.2**
MAJO Matsushiro 14.95 233 *eP* **Pn 11 18 35.8 -1.2**
MAT Matsushiro 14.95 233 P **Pn 11 18 35.1 -1.9**
MAT eS **Sn 11 21 21.4 +0.1**
MJAR Matsushiro Arr 14.95 233 P **Pn 11 18 35.5 -1.5**
comp=Z,0.2nm,0.3s,baz=25,slow=13,SNR=18
USRK Ussuriysk Ar. 15.03 269 P **Pn 11 18 38.5 +0.5**
comp=Z,1.3nm,0.3s,baz=78,slow=13,SNR=24
USRK LR LR 11 23 56.6
comp=Z,368nm,22.0s,baz=64,slow=35
USA0B Ussuriysk Arra 15.03 269 *ePn* **Pn 11 18 35.8 -2.2**
SEY Seymchan 16.45 359 *eP* **P 11 18 57.6 -0.8**
SEY Seymchan 16.45 359 *i* P **P 11 18 57.6 -0.8**
INU Inuyama 16.48 233 *ePn* **Pn 11 18 55.9 -0.8**
comp=Z,25nm,0.9s
MDJ Mudanjiang 16.57 272 *ePn* **Pn 11 18 56.0 -1.8**
comp=Z,14nm,0.9s
BMKR Bomnak 17.37 307 *eP* **P 11 19 09.3 +0.6**
BMKR AMB AMB 11 19 12.7
comp=Z,20nm,0.7s
ZEA Zeya 18.01 303 *eP* **P 11 19 17.6 +1.9**
ZEA Zeya 18.01 303 *eP* **P 11 19 17.6 +1.9**
KROS Kirovskiy 18.34 305 *eP* **P 11 19 19.2 -0.2**
KROS AMB AMB 11 19 20.2
comp=Z,10.0nm,0.5s
CN2 Changchun 19.66 272 *eP* **P 11 19 33.8 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,280nm,15.0s
CN2 LR LR
comp=Z,380nm,15.0s
CN2 LR LR
comp=Z,410nm,17.0s
YAK Yakutsk 20.51 328 *eP* Pn 11 19 52.8 +7.5
YAK *e**PP sP 11 20 15.5 +18
YAK *eS* **S 11 23 28.9 -1.0**
YAK pmax pmax
comp=Z,13nm,0.8s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK smax smax
comp=E,62nm,1.3s
KSRS Korea Array 20.73 253 P Pn 11 19 47.0 -1.1
comp=E,8.8nm,0.8s,baz=56,slow=11,SNR=26
KSRS Korea Array 20.73 253 P Pn 11 19 47.0 -1.1
KSRS pmax pmax
comp=Z,10.0nm,0.9s
KS01 Wonju Array Si 20.74 253 *eP* **P 11 19 45.1 -0.5**
KS15 Wonju Array Si 20.76 253 *eP* **P 11 19 44.9 -1.1**
KSAR Wonju Array Be 20.76 253 P **P 11 19 47.0 +1.1**
KSAR Wonju Array Be 20.76 253 *eP* **P 11 19 47.0 +1.1**
KSAR Wonju Array Be 20.76 253 P **P 11 19 47.0 +1.1**
JNU Nakatsue 21.61 240 P **P 11 19 56.3 +1.2**
comp=Z,27nm,0.9s,baz=342,slow=0.5,SNR=13
JNU Nakatsue 21.61 240 *eP* **P 11 19 54.7 -0.4**
comp=Z,23nm,0.8s
TJN Taejon 21.71 251 *ceP* **P 11 19 57.2 +1.1**
BILL Bilibino 22.61 13 *eP* **P 11 20 04.2 -1.3**
comp=Z,8.0nm,1.2s
BILL Bilibino 22.61 13 *i* P **P 11 20 04.5 -0.9**
BILL Bilibino 22.61 13 *i* P **P 11 20 04.5 -0.9**
BILL pmax pmax
comp=Z,3.0nm,0.9s
GAMB Gambell 26.00 36 *eP* **P 11 20 36.5 -0.7**
comp=Z,31nm,1.6s
TIXI Tiksi 27.68 344 *i* P **P 11 20 52.4 +0.1**
TIXI Tiksi 27.68 344 *i* P **P 11 20 52.4 +0.1**
TIXI pmax pmax
comp=Z,1.0nm,1.1s
ANM Nome 28.87 36 *eP* **P 11 21 02.9 -0.1**
comp=Z,6.0nm,0.7s
ANM Nome 28.87 36 *eP* **P 11 21 02.9 -0.1**
ANM pmax pmax
comp=Z,6.0nm,0.7s
H11N2 WAKE ISLAND Hy 29.02 152 T T 11 52 44.3
baz=338,slow=74,SNR=1794
H11N1 WAKE ISLAND Hy 29.04 152 T T 11 53 12.9
baz=338,slow=74,SNR=1273
H11N3 WAKE ISLAND Hy 29.04 152 T T 11 52 40.2
baz=338,SNR=899
NJ2 Nanjing 29.93 253 *eP* **P 11 21 13.3 +0.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
H11S1 WAKE ISLAND Hy 30.11 154 T T 11 54 06.2
baz=341,slow=74,SNR=1435
H11S3 WAKE ISLAND Hy 30.12 154 T T 11 53 58.0
baz=341,slow=74,SNR=1216
H11S2 WAKE ISLAND Hy 30.13 154 T T 11 54 37.5
baz=341,SNR=1135
HHC Hu-ho-hao-te 30.31 274 *eP* **P 11 21 17.1 +1.0**
HHC S **S 11 26 12.4 -1.0**
HHC SS **SnSn 11 27 50.8 +0.8**
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,90nm,3.5s
HHC LR LR
comp=Z,170nm,13.0s
HHC LR LR
comp=Z,220nm,13.8s
HHC LR LR
comp=Z,200nm,11.2s
ULN Ulaanbaatar 30.97 290 *eP* **P 11 21 21.5 -0.4**
comp=Z,6.1nm,1.0s
ULN Ulaanbaatar 30.97 290⇑ *eP* **P 11 21 22.3 +0.3**
ULN Ulaanbaatar 30.97 290 *ceP* **P 11 21 22.3 +0.3**
ULN pmax pmax
comp=Z,6.0nm,0.8s
RDOG Red Dog Mine 31.01 30 *eP* **P 11 21 22.2 +0.3**
comp=Z,8.8nm,0.6s
SONA1 Songino Array 31.40 290 *eP* **P 11 21 25.1 -0.6**
SONA0 Songino Array 31.41 290 *eP* **P 11 21 26.5 +0.8**
SONM Songino Array 31.41 290 P **P 11 21 26.5 +0.8**
comp=Z,0.9nm,0.6s,baz=48,slow=8.7,SNR=3.0
SONM LR LR 11 34 53.0
comp=Z,177nm,19.2s,baz=30,slow=38
IM3 Indian Mountai 33.95 36 *eP* **P 11 21 47.8 +0.2**
KDAK Kodiak Island 34.24 51 P **P 11 21 50.7 +0.5**
comp=Z,17nm,0.8s,baz=243,slow=23,SNR=20
KDAK Kodiak Island 34.24 51 *eP* **P 11 21 50.9 +0.7**
comp=Z,48nm,1.3s
KDAK Kodiak Island 34.24 51 *eP* **P 11 21 50.9 +0.7**
KDAK Kodiak Island 34.24 51 *eP* **P 11 21 50.9 +0.7**
KDAK pmax pmax
comp=Z,48nm,1.3s
PPLA Purkeypile 34.33 42 *eP* **P 11 21 51.1 -0.1**
comp=Z,24nm,1.3s
TPUB Ta-pu 34.91 240 *eP* **P 11 21 56.6 +0.2**
comp=Z,73nm,1.4s
MLY Manley 35.09 38 *eP* **P 11 21 57.6 0.0**
comp=Z,7.0nm,0.9s
TRF Thorofare Moun 35.21 41 *eP* **P 11 21 58.9 +0.1**
comp=Z,9.4nm,1.0s
XAN Xi'an 35.50 265 P **P 11 22 01.6 +0.2**
XAN pmax pmax
comp=Z,9.0nm,0.6s
XAN pmax pmax
comp=Z,190nm,4.2s
XAN Xi'an 35.50 265 *eP* **P 11 22 01.2 -0.2**
comp=Z,7.7nm,0.8s
XAN Xi'an 35.50 265 *eP* **P 11 22 01.2 -0.2**
XAN pmax pmax
comp=Z,8.0nm,0.8s
COLD Coldfoot 35.52 34 *eP* **P 11 22 01.2 +0.1**
comp=Z,4.3nm,0.6s
MCK McKinley 35.82 40 *eP* **P 11 22 03.8 0.0**
comp=Z,12nm,1.1s
MCK McKinley 35.82 40 *eP* **P 11 22 03.8 0.0**
MCK McKinley 35.82 40 *eP* **P 11 22 03.8 0.0**
MCK pmax pmax
comp=Z,12nm,1.1s
RND Reindeer 35.85 41 *eP* **P 11 22 03.8 -0.4**
comp=Z,11nm,1.0s
RND Reindeer 35.85 41 *eP* **P 11 22 03.8 -0.4**
RND pmax pmax
comp=Z,11nm,1.0s
KNK Knik Glacier 36.09 44 *eP* **P 11 22 06.3 +0.2**
comp=Z,13nm,1.0s
SML Sawmill 36.13 43 *eP* **P 11 22 07.1 +0.6**
comp=Z,19nm,0.7s
SML Sawmill 36.13 43 *eP* **P 11 22 07.1 +0.6**
SML Sawmill 36.13 43 *eP* **P 11 22 07.1 +0.6**
SML pmax pmax
comp=Z,19nm,0.7s
MDM Murphy Dome 36.15 38 *eP* **P 11 22 07.1 +0.5**
comp=Z,12nm,1.1s
TCOL CIGO, UAF Yank 36.31 38 P **P 11 22 08.7 +0.9**
baz=269
COLA College 36.31 38 *eP* **P 11 22 08.9 +1.0**
comp=Z,18nm,0.8s
COLA College 36.31 38⇑ *iP* **P 11 22 08.6 +0.7**
COLA College 36.31 38 *c iP* **P 11 22 08.6 +0.7**
COLA pmax pmax
comp=Z,14nm,1.0s
POKR Poker Plat Res 36.49 38 P **P 11 22 10.7 +1.1**
baz=269
DHY Denali Highway 36.53 41 *eP* **P 11 22 10.7 +0.7**
comp=Z,28nm,1.6s
SCM Sheep Creek Mo 36.61 43 *eP* **P 11 22 11.9 +1.3**
comp=Z,21nm,1.1s
HDA Harding Lake 36.70 39 *eP* **P 11 22 11.5 +0.3**
comp=Z,7.1nm,0.6s
HDA Harding Lake 36.70 39 P **P 11 22 12.1 +0.8**
baz=270
IL1 Eielson Array 36.72 38 *eP* **P 11 22 11.7 +0.3**
ILAR Eielson Array 36.72 38 P **P 11 22 11.8 +0.4**
comp=Z,3.0nm,0.9s,baz=254,slow=7.0,SNR=20
ILAR LR LR 11 39 01.7
comp=Z,154nm,19.9s,baz=160,slow=39
ILB Eielson Array 36.72 38 *eP* **P 11 22 11.9 +0.4**
FYU Fort Yukon 37.43 35 *eP* **P 11 22 18.7 +1.3**
comp=Z,33nm,1.3s
HARP HAARP 37.59 42 *eP* **P 11 22 20.3 +1.5**
comp=Z,32nm,1.4s
LZH Lanzhou 37.89 272 *eP* **P 11 22 23.6 +1.7**
LZH pP sP 11 22 37.4 +0.8
LZH sP pwP 11 22 43.9 +7.9
LZH pmax pmax
comp=Z,27nm,1.3s
GTA Gaotai 39.00 279 P **P 11 22 32.9 +1.7**
GTA pP pP 11 22 43.3 +1.8
GTA sP sP 11 22 47.6 +1.7
GTA pmax pmax
comp=Z,4.0nm,1.6s
EGAK Eagle 39.17 38 *eP* **P 11 22 32.5 +0.4**
comp=Z,15nm,1.0s
DAWY Dawson 40.01 39 *eP* **P 11 22 40.3 +1.1**
comp=Z,3.6nm,1.0s
EPYK Eagle Plains 40.85 35 *eP* **P 11 22 47.1 +1.0**
comp=Z,20nm,1.1s
EPYK Eagle Plains 40.85 35 P **P 11 22 46.7 +0.7**
baz=277
HYT Haines Junctio 41.43 44 *eP* **P 11 22 52.3 +1.3**
comp=Z,6.3nm,0.8s
INK Inuvik 41.84 32 P **P 11 22 55.3 +1.3**
comp=Z,8.7nm,0.6s,baz=295,slow=7.1,SNR=46
INK Inuvik 41.84 32 *eP* **P 11 22 55.0 +1.0**
comp=Z,16nm,1.1s
INK Inuvik 41.84 32 *eP* **P 11 22 55.0 +1.0**
INK Inuvik 41.84 32 *eP* **P 11 22 55.0 +1.0**
INK pmax pmax
comp=Z,16nm,1.1s
WHY Whitehorse 42.72 44 *eP* **P 11 23 02.7 +1.2**
comp=Z,14nm,1.4s
ZALV Zalesovo Beam 42.74 306 LR LR 11 41 41.1
comp=Z,88nm,19.5s,baz=72,slow=37
JIS Juneau Island 43.63 47 *eP* **P 11 23 09.6 +1.0**
comp=Z,54nm,1.6s
WMQ Urumqi 45.01 291 *eP* **P 11 23 20.9 +0.9**
WMQ pP pP 11 23 31.3 +0.8
WMQ LR LR
comp=Z,160nm,21.3s
WMQ LR LR
comp=Z,160nm,21.3s
WMQ LR LR
comp=Z,160nm,18.3s
KMI Kunming 45.20 260 P **P 11 23 24.1 +2.2**
KMI pmax pmax
comp=Z,15nm,1.2s
DLBC Dease Lake 45.75 46 P **P 11 23 28.3 +2.6**
comp=Z,4.3nm,0.7s,baz=291,slow=7.5,SNR=11
DLBC Dease Lake 45.75 46 *eP* **P 11 23 26.9 +1.2**
comp=Z,7.8nm,1.0s
MK31 Makanchi Array 47.04 298 *eP* **P 11 23 34.1 -1.8**
MK31 Makanchi Array 47.04 298 *eP* **P 11 23 34.1 -1.8**
MK32 Makanchi Array 47.04 298 *eP* **P 11 23 34.3 -1.6**
MKAR Makanchi Array 47.04 298 P **P 11 23 34.3 -1.6**
comp=Z,1.7nm,0.9s,baz=67,slow=7.6,SNR=12
MKAR LR LR 11 44 28.0
comp=Z,123nm,18.4s,baz=48,slow=38
MKAR Makanchi Array 47.04 298 *i* P **P 11 23 34.5 -1.4**
MKAR Makanchi Array 47.04 298 *i* P **P 11 23 34.5 -1.4**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MK01 Makanchi Array 47.05 298 *eP* **P 11 23 34.0 -2.0**
KURK Kurchatov 47.48 304 *eP* **P 11 23 38.0 -1.2**
KURK Kurchatov 47.48 304 P **P 11 23 38.0 -1.2**
KURK pmax pmax
comp=Z,1.0nm,0.6s
KURBB Kurchatov Arra 47.58 304 P **P 11 23 38.0 -1.9**
comp=Z,0.8nm,0.6s,baz=68,slow=8.6,SNR=5.3
NONG Nongkai 49.80 252 P **P 11 23 59.6 +2.2**
comp=Z,0.5nm,1.0s
LSA Lhasa 50.28 273 *eP* **P 11 24 01.2 -0.4**
comp=Z,8.5nm,0.6s
LSA Lhasa 50.28 273 *eP* **P 11 24 01.2 -0.4**
LSA Lhasa 50.28 273 *eP* **P 11 24 01.2 -0.4**
LSA pmax pmax
comp=Z,9.0nm,0.6s
BVAR Borovoye Array 51.00 310 LR LR 11 49 38.0
comp=Z,67nm,18.5s,baz=37,slow=41
YKW3 Yellowknife Ar 51.07 37 *eP* **P 11 24 07.2 +0.8**
comp=Z,6.6nm,0.8s
YKA Yellowknife Ar 51.10 37 P **P 11 24 07.6 +0.9**
comp=Z,5.6nm,0.7s,baz=295,slow=7.1,SNR=66
YKA PcP **PcP 11 25 22.3 +0.4**
comp=Z,0.7nm,0.7s,baz=290,slow=4.4,SNR=3.8
YKB5 Yellowknife Ar 51.10 37 *eP* **P 11 24 06.7 0.0**
CMMT Chiang Mai 52.06 257 P **P 11 24 16.0 +1.5**
comp=Z,12nm,0.8s
CHTO Chiang Mai 52.07 257 *eP* **P 11 24 14.4 -0.1**
comp=Z,8.5nm,0.9s
CHTO Chiang Mai 52.07 257 *eP* **P 11 24 14.4 -0.1**
CHTO pmax pmax
comp=Z,8.0nm,0.9s
CHTO Chiang Mai 52.07 257 P **P 11 24 16.1 +1.6**
comp=Z,55nm,0.8s
CM31 Chiang Mai Arr 52.32 257 *eP* **P 11 24 17.1 +0.8**
CMAR Chiang Mai Arr 52.32 257 P **P 11 24 18.1 +1.8**
comp=Z,3.7nm,0.8s,baz=36,slow=7.4,SNR=20
CMAR LR LR 11 46 04.8
comp=Z,54nm,21.0s,baz=54,slow=36
CM01 Chiang Mai Arr 52.33 256 *eP* **P 11 24 16.8 +0.4**
SHL Shillong 52.36 269 *eP* **P 11 24 16.2 -0.6**
comp=Z,16nm,0.4s
SHL Shillong 52.36 269 *eP* **P 11 24 16.2 -0.6**
SHL pmax pmax
comp=Z,16nm,0.4s
SRAK Srakaew 53.48 250 P **P 11 24 26.2 +1.3**
AAK Ala-Archa 53.93 296 LR LR 11 49 30.4

comp=Z,88nm,18.4s,baz=32,slow=38
AAK Ala-Archa 53.93 296 *i* P **P** **11 24 27.6 -0.6**
AAK Ala-Archa 53.93 296 *i* P **P** **11 24 27.6 -0.6**
AAK pmax pmax
comp=Z,1.0nm,1.0s
CHBT CHBT 54.23 249 P P 11 24 20.6 -10
D03D Eldon 54.37 56 P **P** **11 24 32.9 +1.8**
baz=303
B05A Bryant 54.54 55 P **P** **11 24 33.4 +1.1**
baz=303
KSH Kashi 54.73 293 P **P** **11 24 37.4 +3.4**
KSH pP sP 11 24 54.8 +5.7
KSH PcP **PcP** **11 25 40.9 +4.7**
KSH S **S** **11 32 10.5 -1.1**
KSH sS sS 11 32 42.0 +12
KSH ScS **ScS** **11 34 16.8 -3.1**
KSH pmax pmax
comp=Z,5.0nm,0.5s
KSH pmax pmax
comp=Z,220nm,4.2s
KSH LR LR
comp=Z,200nm,7.9s
KSH LR LR
comp=Z,140nm,7.3s
KSH LR LR
comp=Z,420nm,6.2s
JIRN Jiri 54.96 275 *e*P **P** **11 24 36.9 +0.8**
comp=Z,23nm,0.6s
GUN Gumba 55.02 275 *e*P **P** **11 24 36.9 +0.4**
comp=Z,12nm,0.5s
RAMN Ramite 55.13 274 *e*P **P** **11 24 37.7 +0.6**
comp=Z,28nm,0.7s
E04D Cinebar 55.20 57 P **P** **11 24 38.9 +1.8**
baz=304
C06D Leavenworth 55.41 55 P **P** **11 24 39.6 +1.0**
baz=304
KKN Kakani 55.51 275 *e*P **P** **11 24 40.9 +1.1**
comp=Z,15nm,0.6s
PKIN Phulchoki 55.56 275 *e*P **P** **11 24 40.4 +0.1**
comp=Z,7.8nm,0.5s
DMN Daman 55.74 275 *e*P **P** **11 24 42.5 +0.9**
comp=Z,23nm,0.7s
I02D Swisshome 55.81 60 P **P** **11 24 43.6 +2.1**
baz=304
LTY Liberty 55.90 55 *e*P **P** **11 24 42.8 +0.6**
comp=Z,2.7nm,0.6s
B08A Colville Reser 56.04 53 *e*P **P** **11 24 43.7 +0.6**
comp=Z,6.1nm,0.9s
DANN Dangsing 56.20 277 *e*P **P** **11 24 45.7 +0.8**
comp=Z,24nm,0.6s
H04D Lebanon 56.23 59 P **P** **11 24 46.2 +1.7**
baz=305
J01E Myrtle Point 56.29 61 P **P** **11 24 47.2 +2.3**
baz=305
I03D Drain, OR 56.33 60 P **P** **11 24 47.4 +2.1**
baz=305
H04A Detroit Lake 56.47 58 *e*P **P** **11 24 46.8 +0.5**
comp=Z,14nm,1.0s
G05D Wamic, OR 56.66 57 P **P** **11 24 49.3 +1.7**
baz=305
KOLN Koldanda 56.67 277 *e*P **P** **11 24 48.9 +0.8**
comp=Z,19nm,0.8s
K02D Willamette Mer 56.71 61 P **P** **11 24 49.9 +1.8**
baz=305
E07A Sunnyside 56.75 55 *e*P **P** **11 24 48.6 +0.3**
comp=Z,6.6nm,0.8s
I04A Tendick Farm, 56.84 59 P **P** **11 24 50.8 +1.9**
baz=305
DAG Danmarks Havn 56.87 358 *i* P **P** **11 24 46.3 -2.2**
DAG Danmarks Havn 56.87 358 *i* P **P** **11 24 46.3 -2.2**
PYUN Piuthan 56.88 277 *e*P **P** **11 24 50.2 +0.6**
comp=Z,27nm,1.0s
C09A Chrisman Ranch 56.94 54 *e*P **P** **11 24 50.2 +0.7**
comp=Z,7.1nm,0.9s
HAWA Hanford 57.03 55 *e*P **P** **11 24 50.8 +0.6**
comp=Z,20nm,1.6s
L02E Cave Junction 57.06 62 P **P** **11 24 52.7 +2.2**
baz=306
I05D Terrebonne, OR 57.16 58 P **P** **11 24 52.7 +1.5**
baz=305
NEW Newport 57.31 53 P **P** **11 24 53.3 +1.1**
comp=Z,3.1nm,0.9s,baz=329,slow=7.4,SNR=6.9
NEW Newport 57.31 53 *e*P **P** **11 24 52.1 -0.1**
comp=Z,7.1nm,1.1s
NEW Newport 57.31 53 P **P** **11 24 52.9 +0.7**
baz=305
J04D Umpqua Nationa 57.34 60 P **P** **11 24 55.0 +2.3**
baz=306
PINE Pine Mountain 57.71 59 *e*P **P** **11 24 55.9 +0.6**
comp=Z,10.0nm,0.9s
E09A Wood Farm, Sta 57.75 55 *e*P **P** **11 24 55.5 +0.3**
comp=Z,8.9nm,1.0s
L04D Klamath Falls 57.81 61 P **P** **11 24 57.9 +2.0**
baz=306
J05D Fort Rock, OR 57.83 59 P **P** **11 24 58.3 +2.3**
baz=306
YBH Yreka Blue Hor 57.85 62 P **P** **11 24 58.5 +2.3**
comp=Z,2.1nm,0.8s,baz=354,slow=6.1,SNR=9.0
YBH Yreka Blue Hor 57.85 62 *e*P **P** **11 24 56.9 +0.8**
comp=Z,3.0nm,1.3s
YBH Yreka Blue Hor 57.85 62 *e*P **P** **11 24 56.9 +0.8**
YBH Yreka Blue Hor 57.85 62 *e*P **P** **11 24 56.9 +0.8**
YBH pmax pmax
comp=Z,3.0nm,1.3s
M02C Callahan 57.96 62 P **P** **11 24 59.1 +2.2**
baz=306
G08A Pilot Rock 57.99 56 *e*P **P** **11 24 57.6 +0.5**
comp=Z,3.7nm,0.9s
N02D Trinity Center 58.30 62 P **P** **11 25 01.4 +2.1**
baz=306
M04C Macdoel 58.35 61 P **P** **11 25 01.6 +2.0**
baz=306
WDC Whiskeytown Da 58.63 63 *e*P **P** **11 25 02.4 +0.9**
comp=Z,3.2nm,0.9s
WDC Whiskeytown Da 58.63 63 *e*P **P** **11 25 02.4 +0.9**
WDC pmax pmax
comp=Z,3.0nm,0.9s
O02D Mt. Diablo Mer 58.72 63 P **P** **11 25 04.0 +1.8**
baz=307
BMO Blue Mountains 59.20 56 *e*P **P** **11 25 06.3 +0.8**
comp=Z,3.6nm,0.8s
BMO Blue Mountains 59.20 56 *e*P **P** **11 25 06.3 +0.8**
BMO pmax pmax
comp=Z,4.0nm,0.8s
MOD Modoc Plateau 59.20 60 *e*P **P** **11 25 06.5 +0.9**
comp=Z,5.2nm,0.8s
O03E Paynes Creek 59.25 62 P **P** **11 25 07.4 +1.4**
baz=307
J08A Circle Bar Ran 59.41 58 *e*P **P** **11 25 08.0 +1.0**
comp=Z,4.1nm,0.7s
KRAB Krabi 59.65 248 P P 11 24 58.7 -10
WVOR Wild Horse Val 59.87 59 *e*P **P** **11 25 11.0 +0.8**
comp=Z,7.0nm,0.9s
ORV Oroville 59.88 63 *e*P **P** **11 25 11.0 +0.8**
comp=Z,2.2nm,0.7s
ORV Oroville 59.88 63 *e*P **P** **11 25 11.0 +0.8**
ORV pmax pmax
comp=Z,2.0nm,0.7s
MSO Missoula 59.90 52 *e*P **P** **11 25 10.8 +0.5**
comp=Z,8.0nm,0.9s
MSO Missoula 59.90 52 P **P** **11 25 11.5 +1.2**
baz=307,SNR=9.8
BEKR Beckworth 60.39 62 *e*P **P** **11 25 14.2 +0.4**
comp=Z,4.0nm,0.9s
FFC Flin Flon 60.91 40 *i* P **P** **11 25 18.1 +1.2**
FFC Flin Flon 60.91 40 *i* P **P** **11 25 18.1 +1.2**
SUMG Summit 60.92 4 *e*P **P** **11 25 15.8 -1.4**
comp=Z,12nm,1.1s
SUMG Summit 60.92 4 *i* P **P** **11 25 17.1 -0.1**
SUMG Summit 60.92 4 *e*P **P** **11 25 15.8 -1.4**
SUMG pmax pmax
comp=Z,12nm,1.1s
PAHR Pah Rah Range 61.09 62 *e*P **P** **11 25 19.7 +1.1**
comp=Z,3.6nm,0.9s
HRY Holter Researc 61.12 52 *e*P **P** **11 25 19.2 +0.6**
VCNR Virginia City 61.18 62 *e*P **P** **11 25 20.1 +0.8**
comp=Z,4.1nm,0.9s
PNTR Pine Nut 61.33 62 *e*P **P** **11 25 21.7 +1.4**
comp=Z,6.1nm,0.9s
EGMT Eagleton 61.40 49 *e*P **P** **11 25 21.3 +0.8**
comp=Z,16nm,1.1s
EGMT Eagleton 61.40 49 P **P** **11 25 21.6 +1.1**
baz=309,SNR=5.8
FCC Fort Churchill 61.45 33 *e*P **P** **11 25 20.1 -0.3**
comp=Z,9.7nm,0.8s
FCC Fort Churchill 61.45 33 *e*P **P** **11 25 20.1 -0.3**
FCC Fort Churchill 61.45 33 *e*P **P** **11 25 20.1 -0.3**
FCC pmax pmax
comp=Z,10.0nm,0.8s
CMB Columbia Colle 61.50 64 *e*P **P** **11 25 22.3 +1.0**
comp=Z,2.5nm,0.8s
CMB Columbia Colle 61.50 64 *e*P **P** **11 25 22.3 +1.0**
CMB pmax pmax
comp=Z,3.0nm,0.8s
YERR Yerington 61.62 62 *e*P **P** **11 25 22.8 +0.6**
comp=Z,4.5nm,0.8s
HLID Hailey 61.63 56 *e*P **P** **11 25 22.7 +0.5**
comp=Z,4.1nm,1.1s
HLID Hailey 61.63 56 P **P** **11 25 23.9 +1.7**
baz=309
BOZ Bozeman (W) 61.92 52 *e*P **P** **11 25 24.3 +0.2**
comp=Z,6.1nm,0.6s
BOZ Bozeman (W) 61.92 52 *e*P **P** **11 25 24.3 +0.2**
BOZ Bozeman (W) 61.92 52 *e*P **P** **11 25 24.3 +0.2**
BOZ pmax pmax
comp=Z,6.0nm,0.6s
BOZ Bozeman (W) 61.92 52 P **P** **11 25 25.6 +1.5**
baz=309,SNR=10
KVN Kaiserville 62.27 62 *e*P **P** **11 25 27.5 +0.9**
comp=Z,3.7nm,0.7s
KVN Kaiserville 62.27 62 *e*P **P** **11 25 27.5 +0.9**
KVN pmax pmax
comp=Z,4.0nm,0.7s
NV01 Mina Array Sit 62.54 62 *e*P **P** **11 25 28.4 0.0**
NVAR Mina Array Bea 62.54 62 P **P** **11 25 30.2 +1.8**
comp=Z,4.4nm,0.8s,baz=293,slow=7.2,SNR=26
ELK Elko 62.92 59 *e*P **P** **11 25 31.4 +0.4**
comp=Z,2.0nm,0.8s
ELK Elko 62.92 59 *e*P **P** **11 25 31.4 +0.4**
ELK pmax pmax
comp=Z,2.0nm,0.8s
PAGB Antelope Grade 63.03 66 *e*P **P** **11 25 32.7 +1.2**
comp=Z,6.8nm,1.0s
H17A Grant Village 63.26 53 P **P** **11 25 36.2 +3.0**
baz=310
IMW Indian Meadow 63.38 54 *e*P **P** **11 25 34.6 +0.5**
comp=Z,3.8nm,1.0s
FXWY Fox Creek 63.49 54 *e*P **P** **11 25 35.1 +0.3**
comp=Z,2.0nm,0.8s
RLMT Red Lodge 63.51 52 *e*P **P** **11 25 35.2 +0.5**
comp=Z,7.7nm,1.1s
RLMT Red Lodge 63.51 52 P **P** **11 25 36.0 +1.2**
baz=310
MOOW Moose Ponds 63.58 54 *e*P **P** **11 25 35.9 +0.6**
comp=Z,3.0nm,0.8s
TPAW Teton Pass 63.63 54 *e*P **P** **11 25 36.0 +0.3**
comp=Z,7.4nm,0.8s
VES Vestal, Richgr 63.69 65 P **P** **11 25 36.6 +0.8**
baz=310
HVU Hansel Valley 63.70 56 *e*P **P** **11 25 36.5 +0.5**
comp=Z,3.2nm,0.9s
HVU Hansel Valley 63.70 56 *e*P **P** **11 25 36.5 +0.5**
HVU pmax pmax
comp=Z,3.0nm,0.9s
LOHW Long Hollow 63.75 54 *e*P **P** **11 25 36.9 +0.5**
comp=Z,11nm,1.5s
PKM Mcpherson Peak 63.84 66 P **P** **11 25 38.9 +1.9**
baz=310
CWC Cottonwood Cre 63.94 64 P **P** **11 25 38.8 +1.2**
baz=310
DGMT Dagmar 63.96 46 P **P** **11 25 38.2 +0.8**
baz=312
LAO LASA Array 64.10 49 *e*P **P** **11 25 39.0 +0.6**
comp=Z,12nm,1.0s
LAO LASA Array 64.10 49 P **P** **11 25 40.0 +1.6**
baz=311
SPUT South Promonto 64.19 57 *e*P **P** **11 25 39.8 +0.6**
comp=Z,5.0nm,1.0s
ISA Isabella, Lake 64.19 65 P **P** **11 25 39.9 +0.7**
baz=310
R11A Troy Canyon, C 64.24 61 *e*P **P** **11 25 39.8 +0.1**
comp=Z,3.2nm,0.8s
R11A Troy Canyon, C 64.24 61 P **P** **11 25 41.0 +1.4**
baz=310,SNR=7.5
FIA0 FINESS Array S 64.24 335 *e*P **P** **11 25 37.7 -1.3**
FIA0 FINESS Array S 64.24 335 *e*P **P** **11 25 37.7 -1.3**
FINES FINESS Array B 64.24 335 P **P** **11 25 37.7 -1.3**
comp=Z,1.5nm,0.4s,baz=39,slow=7.0,SNR=24
ARVC Arvin 64.31 65 P **P** **11 25 41.0 +1.1**
baz=310
MPMC Manual Prospec 64.55 64 P **P** **11 25 43.1 +1.5**
baz=310,SNR=9.2
FURC Furnace Creek, 64.67 63 P **P** **11 25 43.7 +1.6**
baz=310,SNR=14
DUG Dugway, Tooele 64.69 58 *e*P **P** **11 25 43.2 +0.7**
comp=Z,4.7nm,0.9s
DUG Dugway, Tooele 64.69 58 *e*P **P** **11 25 44.3 +1.8**
DUG Dugway, Tooele 64.69 58 P **P** **11 25 44.1 +1.6**
baz=311,SNR=6.6
OSI Osito Audit: C 64.70 66 *e*P **P** **11 25 43.0 +0.4**
comp=Z,10nm,0.7s
OSI Osito Audit: C 64.70 66 P **P** **11 25 44.0 +1.4**
baz=311
TPNV Topopah Spring 64.73 62 *e*P **P** **11 25 42.6 -0.3**
comp=Z,6.7nm,1.1s
TPNV Topopah Spring 64.73 62 *e*P **P** **11 25 42.6 -0.3**
TPNV pmax pmax
comp=Z,7.0nm,1.1s
TPNV Topopah Spring 64.73 62 P **P** **11 25 44.3 +1.5**
baz=310,SNR=8.4
LRMC Laurel Mtn Rad 64.80 64 P **P** **11 25 44.5 +1.3**
baz=311
BW06 Boulder Array 64.88 54 *e*P **P** **11 25 44.0 +0.2**
comp=Z,4.1nm,0.8s
BW06 Boulder Array 64.88 54 P **P** **11 25 44.9 +1.1**
baz=311,SNR=5.7
PD31 Pinedale Array 64.88 54 *e*P **P** **11 25 44.0 +0.2**
PDAR Pinedale Array 64.88 54 P **P** **11 25 44.9 +1.1**
comp=Z,2.9nm,0.8s,baz=271,slow=2.0,SNR=30
PDAR Pinedale Array 64.88 54 *e*P **P** **11 25 44.0 +0.2**
EDW2 Edwards Air Fo 64.99 65 P **P** **11 25 46.0 +1.6**
baz=311,SNR=9.5
NLU North Lily Min 65.28 57 *e*P **P** **11 25 46.6 +0.1**
comp=Z,5.0nm,0.9s
SHOC Shoshone, Teco 65.40 63 P **P** **11 25 49.0 +2.0**
baz=311
GSC Goldstone, Bar 65.46 64 *e*P **P** **11 25 47.9 +0.4**
comp=Z,3.3nm,0.8s
GSC Goldstone, Bar 65.46 64 *e*P **P** **11 25 47.9 +0.4**
GSC pmax pmax
comp=Z,3.0nm,0.8s
GSC Goldstone, Bar 65.46 64 P **P** **11 25 48.9 +1.4**
baz=311,SNR=5.9
OBN Obninsk 65.49 326 *i* *e*P **P** **11 25 47.6 +0.4**
OBN Obninsk 65.49 326 *i* *e*P **P** **11 25 47.6 +0.4**
OBN *e* 11 26 17.9
OBN *e* 11 28 08.2
OBN *e*S **S** **11 34 27.4 -1.4**
OBN pmax pmax
comp=Z,5.0nm,0.7s
OBN MLR MLR
comp=Z,124nm,18.0s
MPU Maple Canyon 65.50 57 *e*P **P** **11 25 48.4 +0.6**
comp=Z,3.7nm,0.8s
BFSC Mount Baldy Ra 65.62 65 P **P** **11 25 49.9 +1.3**
baz=311
SHPR Sheep Range 65.69 62 *e*P **P** **11 25 49.9 +0.9**
comp=Z,7.0nm,1.4s
SCI2 San Clemente I 65.88 67 P **P** **11 25 52.0 +1.9**
baz=311
TUQ Turquoise Moun 65.92 63 P **P** **11 25 51.7 +1.2**
baz=311
HEC Hector,Ludlow 66.06 64 P **P** **11 25 52.8 +1.5**
baz=311,SNR=9.9
CCUT Cedar City 66.09 60 *e*P **P** **11 25 52.2 +0.4**
comp=Z,3.3nm,0.9s
TMUT Trail Mountain 66.22 58 *e*P **P** **11 25 53.0 +0.4**
comp=Z,3.2nm,0.8s
SZCU Shurtz Canyon 66.23 60 *e*P **P** **11 25 53.0 +0.5**
comp=Z,3.0nm,0.8s
MURC Murrieta 66.33 66 P **P** **11 25 54.2 +1.2**
baz=311,SNR=5.3
P17A Butcher Ranch, 66.37 57 *e*P **P** **11 25 54.0 +0.6**
comp=Z,4.7nm,1.0s
MTPU Mount Pierson 66.47 59 *e*P **P** **11 25 54.8 +0.5**
comp=Z,3.6nm,0.8s
GMRC Granite Mounta 66.51 64 P **P** **11 25 55.7 +1.4**
baz=312
LCMT Little Creek M 66.52 61 *e*P **P** **11 25 55.0 +0.7**
comp=Z,6.3nm,0.8s
K22A Casper 66.63 52 P **P** **11 25 56.1 +1.2**
baz=313
ULM Lac du Bonnet 66.69 41 P **P** **11 25 55.4 +0.3**
comp=Z,4.9nm,0.7s,baz=315,slow=6.9,SNR=11
SRU San Rafael Swe 66.74 57 *e*P **P** **11 25 56.3 +0.5**
comp=Z,7.9nm,0.8s
SRU San Rafael Swe 66.74 57 *e*P **P** **11 25 56.3 +0.5**
SRU pmax pmax
comp=Z,8.0nm,0.8s
KNB Kanab 66.77 60 *e*P **P** **11 25 56.6 +0.6**
comp=Z,5.9nm,0.9s
KNB Kanab 66.77 60 *e*P **P** **11 25 56.6 +0.6**
KNB pmax pmax
comp=Z,6.0nm,0.9s
109C Camp Elliot, M 66.85 66 P **P** **11 25 57.9 +1.6**
baz=312
RSSD Black Hills 66.97 50 *e*P **P** **11 25 57.7 +0.6**
RSSD Black Hills 66.97 50 *e*P **P** **11 25 57.7 +0.6**
RSSD Black Hills 66.97 50 P **P** **11 25 57.8 +0.6**
baz=313
IRM Iron Mountain 67.24 64 P **P** **11 26 00.2 +1.4**
baz=312,SNR=5.7
BAR Barrett 67.26 66 *e*P **P** **11 25 59.2 +0.2**
comp=Z,3.8nm,0.9s
O20A White River Ci 67.36 55 P **P** **11 26 00.6 +0.9**
baz=313
U15A North Rim 67.48 60 *e*P **P** **11 26 01.0 +0.4**
comp=Z,3.8nm,0.9s
IKP In-Ko-Pah, Jac 67.64 66 P **P** **11 26 02.7 +1.3**
baz=312
PDMCI Parker Dam,Lak 67.76 63 P **P** **11 26 03.2 +1.1**
baz=312
Y12C Blythe 67.89 64 P **P** **11 26 03.8 +0.9**
baz=312
AGMN Agassiz Nation 68.09 42 P **P** **11 26 03.9 0.0**
baz=316
PV14 Lion Creek, Pa 68.10 57 *e*P **P** **11 26 04.2 -0.3**
comp=Z,5.5nm,0.9s
N23A Red Feather La 68.14 53 P **P** **11 26 06.1 +1.4**
baz=313
PV19 Morning Glory 68.17 57 *e*P **P** **11 26 04.9 0.0**
comp=Z,15nm,1.4s
PV17 East Wray Mesa 68.20 57 *e*P **P** **11 26 05.4 +0.3**
comp=Z,10nm,0.8s
PV16 Nyswonger Mesa 68.21 57 *e*P **P** **11 26 05.4 +0.3**
comp=Z,14nm,1.3s
NC303 NORSAR Array S 68.24 341 *e*P **P** **11 26 03.4 -1.2**
PV11 David Mesa, Pa 68.24 57 *e*P **P** **11 26 05.5 +0.2**
comp=Z,21nm,1.4s
NC405 NORSAR Array S 68.26 341 *e*P **P** **11 26 03.4 -1.4**
PV12 Saucer Basin, 68.27 57 *e*P **P** **11 26 05.8 +0.3**
comp=Z,16nm,1.5s
WB2 Warramunga Arr 68.30 199 *e*P **P** **11 26 06.3 +0.8**
WR1 Warramunga Arr 68.30 199 *e*P **P** **11 26 06.4 +0.9**
comp=Z,13nm,1.2s
WRA Warramunga Arr 68.30 199 P **P** **11 26 06.4 +0.9**
comp=Z,2.3nm,0.9s,baz=17,slow=6.9,SNR=10
PV13 Radium Mtn., P 68.36 57 *e*P **P** **11 26 06.4 +0.3**
comp=Z,6.4nm,0.7s
NB2 NORSAR Subarra 68.44 341 P **P** **11 26 04.7 -1.2**
comp=Z,1.8nm,0.6s,baz=27,slow=6.5
NB200 NORSAR Array S 68.44 341 *e*P **P** **11 26 05.0 -0.9**
NOA NORSAR Array B 68.44 341 P **P** **11 26 05.0 -0.9**
comp=Z,2.4nm,0.6s,baz=26,slow=6.2,SNR=18
NOA LR LR 11 58 20.3
comp=Z,20nm,18.1s,baz=340,slow=38
WUAZ Wupatki 68.64 61 *e*P **P** **11 26 08.3 +0.6**
comp=Z,3.7nm,0.9s
WUAZ Wupatki 68.64 61 P **P** **11 26 09.1 +1.4**
baz=313
HFS Hagfors 68.66 340 P **P** **11 26 06.2 -1.0**
comp=Z,6.4nm,0.6s,baz=57,slow=5.5,SNR=24
Y14A Wickenburg 68.71 63 *e*P **P** **11 26 08.3 +0.2**
comp=Z,3.8nm,0.9s
SMCO Snowmass 68.73 55 *e*P **P** **11 26 08.6 0.0**
comp=Z,4.1nm,0.8s
ISCO Idaho Springs 69.07 54 P **P** **11 26 11.8 +1.2**
baz=314
MVCO Mesa Verde 69.19 58 *e*P **P** **11 26 11.1 -0.2**
comp=Z,4.8nm,0.9s
MVCO Mesa Verde 69.19 58 P **P** **11 26 12.4 +1.1**
baz=313
X16A Lo Mia Camp, P 69.34 62 *e*P **P** **11 26 13.0 +0.8**
comp=Z,4.7nm,0.9s
S22A 4UR Ranch, Cre 69.80 56 *e*P **P** **11 26 15.2 +0.2**
comp=Z,5.7nm,1.3s
S22A 4UR Ranch, Cre 69.80 56 P **P** **11 26 16.1 +1.0**
baz=314
214A Organ Pipe Nat 70.17 64 P **P** **11 26 18.5 +1.4**
baz=313
OGNE Ogallala 70.23 51 P **P** **11 26 17.8 +0.4**
baz=315
SDCO Great Sand Dun 70.55 56 P **P** **11 26 20.7 +1.0**
baz=314
KIV Kislovodsk 70.95 314 *e*P **P** **11 26 20.1 -1.7**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,46nm,18.0s
KBZ Khabaz 71.01 314 LR LR 12 00 10.7
comp=Z,51nm,19.0s,baz=11,slow=38
ECSD EROS Data Cent 71.04 46 *e*P **P** **11 26 21.5 -0.7**
comp=Z,3.8nm,0.8s
ECSD EROS Data Cent 71.04 46 P **P** **11 26 22.4 +0.2**
baz=317
TUC Tucson 71.18 63 P **P** **11 26 24.4 +1.1**
baz=314
E38A The Farm, Brul 71.32 41 P **P** **11 26 23.6 -0.2**
baz=319
T25A Trinidad 71.60 55 P **P** **11 26 26.8 +0.8**
baz=315
F38A Pierce - Schro 71.66 42 P **P** **11 26 26.0 +0.1**
baz=319
AKASG Malin Array Be 71.73 326 P **P** **11 26 24.8 -1.4**
comp=Z,1.8nm,0.5s,baz=33,slow=6.1,SNR=11
AKASG Malin Array Be 71.73 326 *i* P **P** **11 26 25.0 -1.2**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 71.73 326 *e*P **P** **11 26 25.0 -1.2**
comp=Z,11nm,1.4s
AKBB Malin Array Si 71.73 326 *e*P **P** **11 26 25.0 -1.2**
AKBB pmax pmax
comp=Z,11nm,1.4s
KIEV Kiev 71.74 326 *i* P **P** **11 26 24.4 -1.8**
KIEV pmax pmax
comp=Z,4.0nm,1.7s
SPMN Marine on St. 71.78 43 P **P** **11 26 26.6 0.0**
baz=319
E39A Mellen 71.94 41 P **P** **11 26 27.5 -0.1**
baz=320
ANMO Albuquerque 71.95 58 *ce*P **P** **11 26 29.0 +0.9**
ANMO pmax pmax
comp=Z,6.0nm,2.5s
ANMO Albuquerque 71.95 58 P **P** **11 26 29.3 +1.2**
baz=315
AS01 Alice Springs 71.99 198 *e*P **P** **11 26 28.9 +0.9**
AS31 Alice Springs 72.00 198 *e*P **P** **11 26 29.1 +1.1**
comp=Z,1.0nm,0.6s
ASAR Alice Springs 72.00 198 P **P** **11 26 30.2 +2.1**
comp=Z,2.3nm,0.7s,baz=11,slow=5.3,SNR=35
F39A Loretta 72.13 41 P **P** **11 26 28.7 0.0**
baz=320
SCHQ Schefferville 73.51 23 LR LR 12 04 56.4
comp=Z,29nm,18.1s,baz=306,slow=41
J39A Decorah 73.72 43 P **P** **11 26 37.6 -0.6**
baz=320
G43A Wallace 74.09 40 P **P** **11 26 40.0 -0.2**
baz=322
L39A Vinton 74.50 44 P **P** **11 26 42.7 0.0**
baz=320
AMTX Amarillo 74.75 55 *e*P **P** **11 26 45.2 +0.7**
comp=Z,7.7nm,0.9s
AMTX Amarillo 74.75 55 P **P** **11 26 45.4 +0.9**
baz=317
MSTX Muleshoe 74.79 57 P **P** **11 26 45.3 +0.6**
baz=316
MNTX Cornudas Mount 74.88 60 P **P** **11 26 45.7 +0.6**
baz=316
M39A Webster 74.91 45 P **P** **11 26 45.1 0.0**
baz=320
J42A Columbus 74.94 42 P **P** **11 26 44.8 -0.5**
baz=321
F46A Macinaw City C 74.95 38 P **P** **11 26 45.0 -0.3**
baz=323
L41A Preston 75.26 44 P **P** **11 26 46.7 -0.4**
baz=320
M40A Post Highland 75.28 45 P **P** **11 26 47.3 +0.1**
baz=320
H45A Beulah 75.31 39 P **P** **11 26 47.1 -0.2**
baz=322
N40A Mertquake, Sal 75.64 45 P **P** **11 26 49.4 0.0**
baz=320

H46A	**Fife Lake**	**75.74**	**39**	P		**P**	**11 26 49.9**	**+0.1**
	baz=323							
BUR08	**Bucovina Ar. S**	**75.75**	**327**	*e*P		**P**	**11 26 49.2**	**-0.7**
GLMI	**Grayling**	**75.77**	**38**	P		**P**	**11 26 49.9**	**-0.1**
	baz=323							
BUR04	**Bucovina Ar. S**	**75.77**	**327**	*e*P		**P**	**11 26 48.7**	**-1.4**
WMOK	**Wichita Mounta**	**76.49**	**54**	P		**P**	**11 26 54.8**	**+0.5**
	baz=318							
LANS	**Liptovska Anna**	**76.54**	**331**	*e*P		**P**	**11 26 54.6**	**+0.2**
LANS	**Liptovska Anna**	**76.54**	**331**	*e*P		**P**	**11 26 54.6**	**+0.2**
Q41A	**Passleys Farm,**	**76.58**	**45**	P		**P**	**11 26 55.0**	**+0.3**
	baz=321							
CLL	**Collm**	**76.67**	**336**	*i* P		**P**	**11 26 54.2**	**-0.7**
	comp=Z,6.0nm,1.0s							
CLL	**Collm**	**76.67**	**336**	*i* P		**P**	**11 26 54.2**	**-0.7**
CLL	**Collm**	**76.67**	**336**	*i* P		**P**	**11 26 54.2**	**-0.7**
CLL					pmax	pmax		
	comp=Z,6.0nm,1.0s							
P41A	**Barry, Barry**	**76.83**	**46**	P		**P**	**11 26 56.1**	**0.0**
	baz=321							
P42A	**Winchester**	**77.25**	**45**	P		**P**	**11 26 58.5**	**+0.1**
	baz=321							
Q41A	**Truxton**	**77.30**	**46**	P		**P**	**11 26 59.0**	**+0.3**
	baz=321							
VYHS	**Vyhne**	**77.32**	**331**	*e*P		**P**	**11 26 58.8**	**+0.1**
VYHS					pmax	pmax		
	comp=Z,2.0nm,1.4s							
VYHS	**Vyhne**	**77.32**	**331**	*e*P		**P**	**11 26 58.8**	**+0.1**
TX31	**Lajitas Ar. Si**	**77.60**	**60**	*e*P		**P**	**11 27 00.9**	**+0.2**
LTX	**Lajitas**	**77.60**	**60**	*e*P		**P**	**11 27 01.9**	**+1.1**
LTX	**Lajitas**	**77.60**	**60**	*e*P		**P**	**11 27 01.9**	**+1.1**
TXAR	**Lajitas Array**	**77.60**	**60**	P		**P**	**11 27 01.9**	**+1.1**
	comp=Z,3.0nm,0.5s,baz=301,slow=4.8,SNR=83							
P44A	**Sand Creek, Wi**	**78.18**	**44**	P		**P**	**11 27 04.2**	**+0.6**
	baz=322							
S42A	**Caledonia**	**78.43**	**47**	P		**P**	**11 27 05.1**	**0.0**
	baz=321							
KHC	**Kasperske Hory**	**78.44**	**334**	*e*P		**P**	**11 27 04.7**	**-0.2**
KHC	**Kasperske Hory**	**78.44**	**334**	*e*P		**P**	**11 27 04.7**	**-0.2**
KHC	**Kasperske Hory**	**78.44**	**334**	*e*P		**P**	**11 27 04.7**	**-0.2**
U40A	**Yellville**	**78.47**	**49**	P		**P**	**11 27 05.1**	**-0.2**
	baz=322							
GERES	**GERESS Array B**	**78.65**	**334**			**P**	**11 27 05.6**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=19,slow=5.7,SNR=3.7							
Q47A	**Bedord North L**	**79.64**	**43**	P		**P**	**11 27 11.9**	**+0.2**
	baz=323							
W41B	**Gary Mavity, V**	**79.69**	**49**	P		**P**	**11 27 11.9**	**0.0**
	baz=321							
R47A	**Wooly Knot Far**	**80.10**	**44**	P		**P**	**11 27 14.3**	**+0.2**
	baz=323							
T46A	**Princeton**	**80.44**	**45**	P		**P**	**11 27 16.3**	**+0.3**
	baz=322							
N53A	**Lisbon**	**80.65**	**38**	P		**P**	**11 27 16.9**	**-0.1**
	baz=326							
O52A	**Adamsville**	**80.78**	**39**	P		**P**	**11 27 17.6**	**-0.2**
	baz=325							
S48A	**Wiedeman Farm,**	**80.84**	**44**	P		**P**	**11 27 18.1**	**0.0**
	baz=323							
N54A	**Moraine State**	**80.88**	**38**	P		**P**	**11 27 18.3**	**-0.1**
	baz=326							
N55A	**Marion Center**	**81.45**	**37**	P		**P**	**11 27 21.1**	**-0.3**
	baz=327							
V47A	**Nunnelly**	**81.58**	**46**	P		**P**	**11 27 21.8**	**-0.3**
	baz=323							
OXF	**Oxford**	**81.67**	**48**	P		**P**	**11 27 22.7**	**+0.1**
	baz=322							
U49A	**Red Boiling Sp**	**81.88**	**44**	P		**P**	**11 27 23.7**	**0.0**
	baz=324							
T50A	**Nancy**	**81.92**	**43**	P		**P**	**11 27 24.0**	**+0.1**
	baz=324							
V48A	**Smith Brothers**	**81.99**	**45**	P		**P**	**11 27 24.4**	**+0.1**
	baz=323							
P55A	**Reedsville**	**82.16**	**39**	P		**P**	**11 27 25.4**	**+0.3**
	baz=326							
U50A	**Jamestown**	**82.41**	**44**	P		**P**	**11 27 26.6**	**+0.1**
	baz=324							
W48A	**Pulaski**	**82.42**	**46**	P		**P**	**11 27 26.6**	**0.0**
	baz=323							
HRV	**Adam Dziewonsk**	**82.88**	**32**	P		**P**	**11 27 28.3**	**-0.4**
	baz=331							
Z51A	**Franklin**	**84.75**	**46**	P		**P**	**11 27 38.2**	**-0.3**
	baz=324							
Y54A	**Tignall**	**85.51**	**44**	P		**P**	**11 27 42.6**	**+0.3**
	baz=325							
PLCA	**Paso Flores**	**148.19**	**96**	PKPbc		**PKiKP**	**11 34 51.5**	**0.0**
	comp=Z,5.2nm,0.8s,baz=253,slow=1.7,SNR=12							
PLCA	**Paso Flores**	**148.19**	**96**	*e*PKPdf		**PKPdf**	**11 34 47.9**	**+1.5**
CPUP	**Villa Florida**	**148.58**	**61**	PKPbc		**PKiKP**	**11 34 51.8**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=336,slow=7.1,SNR=3.3							
CPUP	**Villa Florida**	**148.58**	**61**	*e*PKPdf		**PKPdf**	**11 34 48.0**	**+0.6**

IGQ 19 11:19:01.9±0.7, 1°S±6°×8°1W±°, *h*6km, MLv 4.2, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**2.19**	**50**	P	Pn	11 19 38.6	-0.4
MAG1				S	Sn	11 20 06.7	+0.3
BMAS	**Trigal station**	**2.97**	**90**	P	Pn	11 19 48.5	-1.5
ARRY	**Arrayan**	**3.00**	**90**	P	Pn	11 19 48.0	-2.3
POND	**Pondoa**	**3.00**	**89**	P	Pn	11 19 49.0	-1.4
POND				S	Sn	11 20 28.5	+1.6
RETU	**Refugio**	**3.01**	**89**	P	Pn	11 19 50.2	-0.4
PAT1	**Patacocha**	**3.02**	**90**	P	Pn	11 19 50.7	+0.1
BPAT	**Tungurahua Vol**	**3.02**	**90**	P	Pn	11 19 50.5	-0.2
BPAT				S	Sn	11 20 25.1	-2.4
BRUN	**Tungurahua Vol**	**3.04**	**89**	P	Pn	11 19 50.1	-0.8
BRUN				S	Sn	11 20 27.3	-0.5
BULB	**Ulba Tungurahu**	**3.04**	**89**	P	Pn	11 19 49.9	-1.1
BULB				S	Sn	11 20 29.3	+1.3
BNAS	**Cotopaxi Volca**	**3.08**	**75**	P	Pn	11 19 51.4	-0.2
BMOR	**Cotopaxi Volca**	**3.09**	**76**	P	Pn	11 19 51.6	-0.1
BMOR				S	Sn	11 20 28.2	-1.1
PISA	**Pisayambo**	**3.10**	**82**	P	Pn	11 19 51.4	-0.4
NAS2	**Nasa**	**3.10**	**74**	P	Pn	11 19 52.0	+0.2
BREF	**Cotopaxi Volca**	**3.12**	**75**	P	Pn	11 19 52.1	-0.1
GGPC	**Guagua Pichinc**	**3.14**	**66**	P	Pn	11 19 51.3	-1.2
BVC2	**Cotopaxi Volca**	**3.15**	**75**	P	Pn	11 19 50.7	-1.9
PITA	**Cotopaxi Volc**	**3.16**	**73**	P	Pn	11 19 53.3	+0.7
BTAM	**Cotopaxi Volca**	**3.16**	**75**	P	Pn	11 19 52.8	0.0
PAC1	**Pacto, Paraso**	**3.18**	**57**	P	Pn	11 19 51.5	-1.2
YANA	**Yana**	**3.19**	**65**	P	Pn	11 19 52.5	-0.5
ANTG	**Antisana-Guama**	**3.35**	**73**	P	Pn	11 19 55.6	+0.4
ANTM	**Antisana-La Mi**	**3.37**	**74**	P	Pn	11 19 56.8	+1.2
CUIC	**Cuicocha-Domo**	**3.57**	**60**	P	Pn	11 19 57.5	-0.7
ARDO	**Archidona, Ten**	**3.69**	**82**	P	Pn	11 19 59.5	0.0
IMBA	**Imbabura, San**	**3.70**	**62**	P	Pn	11 20 00.8	+0.8
URCU	**Urcuqui**	**3.73**	**59**	P	Pn	11 20 01.0	+0.6
LITE1	**Lita**	**3.84**	**54**	P	Pn	11 20 00.8	-0.9
YAHU	**Yahuarcocha**	**3.85**	**61**	P	Pn	11 20 02.8	+0.6

*DJA **19** 11:33:10.9±0.6, 3°S±7°×14°0E±°, h176km±8km, M4.9/2, mb4.5/2, MLv5.2/1*
*IDC **19** 11:33:14.4±0.8, 3°.96S×140°.21E, h0km, mb4.0/7, mb1 4.2/9, mb1mx3.9/37, mbtmp4.1/9, ML3.1/2, MS3.4/7, Ms1 3.4/7, ms1mx3.1/31, Error ellipse: s-maj=29.3km s-min=19.7km az=75.0*
*NEIC **19** 11:33:18.8±1.0, 4°.17S×140°.26E, h41km±12km, mb4.2/7, Error ellipse: s-maj=9.9km s-min=8.0km az=110.0*
ISC 19 11:33:14.0±0.8, 3°.82S±0°.08×139°.83E±0°.08, h35km, n41, σ2s45/26, mb4.0/7, MS3.4/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.26**	**16**	P	Pn	11 33 36.6	+1.4
GENI				S	Sn	11 33 57.6	+6.7
JAY	**Jayapura**	**1.56**	**34**	P	**Pn**	**11 33 38.5**	**-0.8**
JAY				S	Sn	11 34 01.7	+3.3
SRPI	**Serui, Papua**	**4.07**	**298**	P	**Pn**	**11 34 11.9**	**-1.9**
BAKI	**Biak**	**4.54**	**305**	P	**Pn**	**11 34 17.1**	**-3.2**
MMPI	**Merauke**	**4.65**	**173**	P	Pn	11 34 27.1	+5.3
PKPI	**Ransiki, Papua**	**6.09**	**292**	P	**Pn**	**11 34 38.9**	**-2.7**
KMPI	**Kaimana, Papua**	**6.11**	**271**	P	**Pn**	**11 34 42.0**	**+0.1**
FAKI	**Fak Fak**	**7.62**	**277**	*e*Pn	Pn	11 35 14.7	+12
MANU	**Manus Island**	**7.73**	**77**	*e*Pn	**Pn**	**11 35 03.8**	**-0.4**
PMG	**Port Moresby**	**9.15**	**128**	Pn	**Pn**	**11 35 22.5**	**-1.2**
	1.7nm,0.3s,baz=15,slow=3.5,SNR=8.0						
PMG				LR	LR	11 39 47.3	
	comp=Z,343nm,18.6s,baz=339,slow=45						
PMG	**Port Moresby**	**9.15**	**128**	*e*Pn	**Pn**	**11 35 21.0**	**-2.6**
COEN	**Coen**	**10.60**	**162**	*e*Pn	**Pn**	**11 35 42.3**	**-1.2**
WRAB	**Tennant Creek**	**16.89**	**198**	*e*Pn	**P**	**11 37 09.6**	**+0.1**
	14nm,0.6s						
WB2	**Warramunga Arr**	**16.89**	**198**	*e*Pn	**P**	**11 37 09.0**	**-0.6**
	16nm,0.6s						
WB2				*e*Sn	**Sn**	**11 40 14.2**	**-0.4**
WR1	**Warramunga Arr**	**16.90**	**198**	*e*Pn	**P**	**11 37 09.7**	**+0.1**
	18nm,0.6s						
WR1				*e*Sn	**Sn**	**11 40 09.2**	**-5.5**
WRA	**Warramunga Arr**	**16.90**	**198**	Pn	**P**	**11 37 09.7**	**+0.1**
	0.9nm,0.3s,baz=24,slow=12,SNR=28						
WRA				Sn	**Sn**	**11 40 09.2**	**-5.5**
	0.4nm,0.3s,baz=20,slow=24,SNR=4.3						
CTA	**Charters Tower**	**17.34**	**159**	P	**P**	**11 37 16.3**	**+1.7**
	0.3nm,0.3s,baz=350,slow=10.0,SNR=8.5						
GUMO	**Guam**	**18.00**	**16**	LR	LR	11 42 56.0	
	comp=Z,141nm,20.5s,baz=180,slow=32						
MRSI	**Marisa**	**18.38**	**283**	P	Pn	11 37 43.8	+18
FITZ	**Fitzroy Crossi**	**19.86**	**223**	P	Pn	11 37 50.1	+6.2
	5.5nm,0.6s,baz=56,slow=11,SNR=14						
FITZ				S	**S**	**11 41 23.4**	**-0.6**
	11nm,0.8s,baz=162,slow=8.0,SNR=4.6						
FITZ				LR	LR	11 45 27.1	
	comp=Z,62nm,19.9s,baz=44,slow=37						
FITZ	**Fitzroy Crossi**	**19.86**	**223**	*e*P	**Pn**	**11 37 47.3**	**+3.3**
	7.1nm,0.8s						
FITZ				*e*S	**Sn**	**11 41 25.6**	**-0.8**
AS01	**Alice Springs**	**20.53**	**196**	*e*P	Pn	11 37 51.6	-0.2
AS31	**Alice Springs**	**20.54**	**196**	*e*P	Pn	11 37 52.0	0.0
	9.9nm,0.7s						
AS31				*e*S	**S**	**11 41 39.4**	**+1.7**
ASAR	**Alice Springs**	**20.55**	**196**	P	Pn	11 37 54.1	+2.1
	28nm,0.7s,baz=30,slow=9.4,SNR=266						
ASAR				S	Sn	11 41 42.2	-0.7
	4.5nm,0.8s,baz=16,slow=27,SNR=5.3						
EIDS	**Eidsvold**	**24.00**	**154**	*e*P	**P**	**11 38 25.0**	**-0.5**
	4.7nm,0.9s						
MBWA	**Marble Bar**	**26.05**	**227**	*e*P	**P**	**11 38 49.2**	**+4.9**
	7.7nm,1.0s						
JNU	**Nakatsue**	**37.70**	**348**	LR	LR	11 55 49.6	
	comp=Z,47nm,18.1s,baz=110,slow=36						
KSRS	**Korea Array**	**42.53**	**346**	LR	LR	11 58 34.2	
	comp=Z,26nm,19.2s,baz=170,slow=36						
CM31	**Chiang Mai Arr**	**45.96**	**300**	*e*P	P	11 41 41.7	+7.7
CMAR	**Chiang Mai Arr**	**45.96**	**300**	P	P	11 41 42.5	+8.5
	0.8nm,0.7s,baz=99,slow=5.6,SNR=3.3						
KLR	**Kul'dur**	**53.30**	**353**	P	P	11 42 38.0	+8.6
	1.4nm,0.6s,baz=172,slow=3.5,SNR=7.2						
SONM	**Songino Array**	**59.19**	**334**	LR	LR	12 08 26.7	
	comp=Z,56nm,21.6s,baz=28,slow=36						
PALK	**Pallekele**	**60.02**	**281**	LR	LR	12 11 51.4	
	comp=Z,32nm,18.2s,baz=114,slow=38						
MK01	**Makanchi Array**	**71.33**	**322**	*e*P	P	11 44 36.6	+6.4
MK32	**Makanchi Array**	**71.34**	**322**	*e*P	P	11 44 36.6	+6.3
MKAR	**Makanchi Array**	**71.34**	**322**	P	P	11 44 36.6	+6.3
	0.4nm,0.7s,baz=128,slow=8.2,SNR=4.5						
BVAR	**Borovoye Array**	**80.86**	**325**	P	P	11 45 32.7	+8.4
	0.8nm,0.7s,baz=96,slow=7.8,SNR=5.0						
ILAR	**Eielson Array**	**86.38**	**24**	P	P	11 45 58.0	+5.6
	0.5nm,0.5s,baz=264,slow=4.5,SNR=12						
DBIC	**Dimbokro**	**144.73**	**276**	PKPbc	**PKiKP**	**11 52 53.6**	**+1.6**
	5.4nm,0.7s,baz=65,slow=2.8,SNR=8.2						
CPUP	**Villa Florida**	**145.73**	**152**	PKPbc	**PKiKP**	**11 52 53.3**	**-0.4**
	3.9nm,0.9s,baz=206,slow=4.4,SNR=6.1						
LPAZ	**La Paz**	**145.89**	**127**	PKPbc	**PKiKP**	**11 52 55.7**	**+0.6**
	8.1nm,0.9s,baz=275,slow=1.4,SNR=18						

SJA 19 11:37:09.3±0.7, 31°.62S×69°.37W, h106km±3km, ML3.6, MW3.4, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.19**	**161**	*e*P	Pn	11 37 25.8	+1.1
RTLS				*e*S	Sn	11 37 37.6	+1.5
RTLS				IAML		11 37 37.9	
	comp=Z,5μm,0.2s						
AUSP	**Uspallata**	**0.60**	**181**	*e*P	Pn	11 37 28.3	+1.4
AUSP				*e*S	Sn	11 37 41.6	+1.5
RTCV	**Cerro Valdivia**	**0.75**	**109**	*e*P	Pn	11 37 29.1	+1.2
RTCV				*e*S	Sn	11 37 42.6	+0.9
RTLL	**Cerro Villicun**	**0.82**	**70**	*e*P	Pn	11 37 29.2	+0.7
RTLL				*e*S	Sn	11 37 43.8	+0.9
RTLL				IAML		11 37 44.4	
	comp=E,1μm,0.5s						
CFA	**Coronel Fontan**	**0.97**	**89**	*e*P	Pn	11 37 30.8	+0.9
CFA				*e*S	Sn	11 37 46.5	+1.0
AMOG	**MOGNA**	**1.01**	**48**	*e*P	Pn	11 37 31.3	+0.8
AMOG				*e*S	Sn	11 37 47.5	+1.2
ACCO	**Cerro Coronel**	**1.06**	**14**	*e*P	Pn	11 37 32.3	+1.1
ACCO				*e*S	Sn	11 37 49.7	+1.9
ARDD	**Rodeo**	**1.45**	**356**	*e*P	Pn	11 37 37.3	+1.6
ACDV	**Cuesta del Vie**	**1.46**	**9**	*e*P	Pn	11 37 36.8	+1.2
ACDV				*e*S	Sn	11 37 57.1	+1.6
GO04	**Tololo Observa**	**1.89**	**319**	*e*P	Pn	11 37 41.6	+0.6
ROC1	**El Roble**	**1.94**	**225**	*e*P	Pn	11 37 42.8	+1.1
ACAN	**Cantantal**	**1.97**	**110**	*e*P	Pn	11 37 43.0	+1.2
AGUA	**GUANDACOL**	**2.26**	**20**	*e*P	Pn	11 37 47.2	+1.6
APLL	**PUNTA DE LOS L**	**2.73**	**64**	*e*P	Pn	11 37 52.6	+0.9
APLL				IAML		11 38 26.8	
	comp=Z,65nm,0.3s						
MRA	**San Martin**	**3.20**	**105**	IAML	P	11 37 58.8	+0.8
	comp=Z,89nm,0.3s						
MRA				*e*P	P	11 37 58.8	+0.8

*ISCJB **19** 11:50:18.1±0.5, 13°.73N±0°.04×120°.61E±0°.07, h154km±4km, mb3.5/8, Error ellipse: s-maj=10.8km s-min=6.7km az=172.8*
*IDC **19** 11:50:19.1±0.6, 13°.77N×120°.93E, h151km±4km, mb3.4/8, mb1 3.5/8, mb1mx3.3/33, mbtmp3.8/8, Error ellipse: s-maj=35.0km s-min=14.6km az=63.0*
*MAN **19** 11:50:20.8, 13°.82N×120°.52E, h7km, mb4.4, ML3.2, MS3.0*
ISC 19 11:50:19.3±0.8, 13°.74N±0°.05×120°.63E±0°.07, h151km±7km, n18, σ1s06/26, mb3.6/8, 2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.47**	**39**	P	**Pn**	**11 50 41.2**	**+0.5**
	282nm,0.3s,baz=154,slow=2.0,SNR=20						
TGY				S	**Sn**	**11 50 57.2**	**+0.2**
	187nm,0.3s,baz=312,slow=21,SNR=16						
BOAC	**Boac**	**1.21**	**103**	*e*P	**Pn**	**11 50 45.3**	**-0.7**
BOAC				*e*S	**Sn**	**11 51 06.4**	**0.0**
SJMP	**San Jose**	**1.35**	**159**	*e*P	**Pn**	**11 50 47.6**	**+0.1**
SJMP				*e*S	**Sn**	**11 51 08.2**	**-0.9**
POLP	**Polilio Island**	**1.60**	**52**	*e*P	**Pn**	**11 50 50.1**	**+0.1**
POLP				*e*S	**Sn**	**11 51 14.2**	**+0.6**
GQP	**Guinayangan**	**1.77**	**84**	*e*P	**Pn**	**11 50 52.4**	**+0.6**
GQP				*e*S	**Sn**	**11 51 17.2**	**+0.3**
BUSP	**Coron**	**1.78**	**194**	*e*P	**Pn**	**11 50 52.5**	**+0.5**
BUSP				*e*S	**Sn**	**11 51 16.1**	**-1.0**
PCPH	**Palayan**	**1.87**	**14**	*e*P	**Pn**	**11 50 52.2**	**-0.8**
OTRP	**Odiongan**	**1.92**	**135**	*e*P	**Pn**	**11 50 52.7**	**-0.9**
OTRP				*e*S	**Sn**	**11 51 19.3**	**-0.7**
SCZP	**Santa Cruz**	**2.14**	**341**	*e*P	**Pn**	**11 50 55.3**	**-0.8**
SCZP				*e*S	**Sn**	**11 51 22.4**	**-2.2**
CAUP	**Cauayan**	**3.39**	**20**	*e*P	**Pn**	**11 51 11.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**21.35**	**286**	P	**P**	**11 54 57.6**	**+2.8**
	3.1nm,0.8s,baz=92,slow=7.7,SNR=18						
SONM	**Songino Array**	**36.00**	**344**	P	**P**	**11 57 06.3**	**+0.5**
	0.7nm,0.6s,baz=164,slow=9.8,SNR=6.3						
WRA	**Warramunga Arr**	**36.09**	**158**	P	**P**	**11 57 05.4**	**-1.3**
	0.4nm,0.6s,baz=331,slow=10.0,SNR=5.8						
ASAR	**Alice Springs**	**39.38**	**161**	P	**P**	**11 57 33.5**	**-0.7**
	0.3nm,0.5s,baz=334,slow=6.7,SNR=8.1						
MKAR	**Makanchi Array**	**45.96**	**324**	P	**P**	**11 58 28.5**	**+1.4**
	1.8nm,0.8s,baz=131,slow=9.0,SNR=19						
ZALV	**Zalesovo Beam**	**48.99**	**333**	P	**P**	**11 58 50.6**	**+0.3**
	1.7nm,0.5s,baz=129,slow=6.7,SNR=8.0						
NOA	**NORSAR Array B**	**87.20**	**333**	P	**P**	**12 02 47.4**	**-0.9**
	0.6nm,0.8s,baz=62,slow=9.3,SNR=3.0						
YKA	**Yellowknife Ar**	**92.77**	**22**	P	**P**	**12 03 13.8**	**-0.4**
	0.2nm,0.5s,baz=303,slow=4.5,SNR=4.7						

*KRNET **19** 12:05:40.7±0.1, 41°.18N×71°.86E, h12km, mb2.4*
*NNC **19** 12:05:43.9±1.4, 41°.20N×71°.98E, h7km±8km, mb3.2, mpv2.8, Error ellipse: s-maj=10.3km s-min=4.8km az=72.0*
*SOME **19** 12:05:44.9, 41°.18N×71°.85E, h25km*
ISC 19 12:05:41.2±1.1, 41°.22N±0°.03×71°.88E±0°.02, h16km±13km, n29, σ1s28/52, 21C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.58**	**6**	⇑*i*P	**Pb**	**12 05 52.6**	**-0.5**
	baz=8.0						
ARK				⇑*i*S	**Sb**	**12 06 01.2**	**+0.1**
	baz=8.0						
ARSB	**Arslanbob**	**0.83**	**82**	⇑*i*P	**Pg**	**12 05 57.3**	**-0.2**
	baz=80						
ARSB				⇑*i*S	**Sb**	**12 06 09.2**	**+0.8**
	baz=80						
MNAS	**Manas**	**1.35**	**20**	⇓Pg	**Pg**	**12 06 09.3**	**+2.1**
	1.8nm,0.4s						
MNAS				⇓S	**Sg**	**12 06 27.1**	**+2.2**
	9.7nm,0.5s						
MNAS	**Manas**	**1.35**	**20**	P	**Pg**	**12 06 09.7**	**+2.5**
	2.1nm,0.2s						
MNAS				S	**Sg**	**12 06 27.8**	**+2.9**
	4.5nm,0.2s						
MNAS	**Manas**	**1.35**	**20**	⇑*i*P	**Pg**	**12 06 07.2**	**-0.1**
	baz=20						
MNAS				⇑*i*S	**Sg**	**12 06 26.6**	**+1.7**
	baz=20						
BTK	**Batken**	**1.42**	**215**	⇓*i*P	**Pn**	**12 06 06.8**	**+0.5**
	baz=16						
BTK				⇓*i*S	**Sb**	**12 06 26.0**	**+0.9**
	baz=16						
AML	**Almayashu**	**1.63**	**56**	⇓*i*P	**Pg**	**12 06 12.4**	**-0.3**
	baz=55						
AML				⇓*i*S	**Sg**	**12 06 35.3**	**+1.3**
	baz=55						
IUG	**Iuzhnay**	**1.67**	**304**	P	**Pg**	**12 06 13.1**	**-0.2**
	16nm,0.3s						
IUG				S	**Sg**	**12 06 33.6**	**-1.5**
	65nm,0.3s						
IUG	**Iuzhnay**	**1.67**	**304**	⇓*e*P	**Pg**	**12 06 13.2**	**-0.2**
	16nm,0.3s						
IUG				*e*S	**Sg**	**12 06 33.6**	**-1.5**
	65nm,0.3s						
SFK	**Sufi-Kurgan**	**1.72**	**134**	⇓Pg	**Pb**	**12 06 13.2**	**+0.6**
	0.4nm,0.1s						
SFK				⇑S	**Sb**	**12 06 35.4**	**+1.3**
	9.4nm,0.4s						
SFK	**Sufi-Kurgan**	**1.72**	**134**	Pg	**Pg**	**12 06 15.3**	**+0.9**
	3.2nm,0.1s						
SFK				Lg	Lg	12 06 37.3	
	16nm,0.1s						
SFK	**Sufi-Kurgan**	**1.72**	**134**	⇑*i*P	**Pb**	**12 06 12.9**	**+0.3**
	baz=32						
SFK				⇑*i*S	**Sb**	**12 06 36.1**	**+2.0**
	baz=32						
MRKS	**Merke**	**1.82**	**33**	S	**Sg**	**12 06 40.7**	**+0.7**
	20nm,0.3s						
MRKS	**Merke**	**1.82**	**33**	⇓*e*P	**Pg**	**12 06 17.1**	**+0.8**
	6.0nm,0.4s						
MRKS				*e*S	**Sg**	**12 06 40.7**	**+0.7**
	20nm,0.3s						
ARLS	**Aral**	**1.94**	**70**	⇑*i*P	**Pg**	**12 06 17.9**	**-0.6**
	baz=69						
ARLS				⇑*i*S	**Sg**	**12 06 44.5**	**+0.8**
	baz=69						
EKS2	**Erkin-Say**	**2.02**	**44**	⇑*e*P	**Pg**	**12 06 18.9**	**-1.1**
	baz=43						
EKS2				⇑*i*S	**Sg**	**12 06 46.6**	**+0.4**
	baz=43						
KK31	**Karatay Array**	**2.14**	**332**	Pn	**Pb**	**12 06 20.2**	**+0.6**
	1.0nm,0.3s,baz=142,slow=15,SNR=13						
KK31				⇑Sn	**Sg**	**12 06 48.8**	**-1.3**
	3.0nm,0.3s,baz=142,slow=26						
UCH	**Uchtor**	**2.21**	**62**	⇑*i*P	**Pb**	**12 06 21.7**	**+0.6**
	baz=61						
UCH				⇑*i*S	**Sg**	**12 06 51.5**	**-0.9**
	baz=61						
AAK	**Ala-Archa**	**2.41**	**53**	⇑Pg	**Pg**	**12 06 27.3**	**-0.1**
	1.1nm,0.3s						
AAK				⇑S	**Sg**	**12 06 58.2**	**-0.5**
	16nm,0.8s						
AAK	**Ala-Archa**	**2.41**	**53**	⇓*i*P	**Pb**	**12 06 24.4**	**+0.1**
	baz=53						
AAK				⇓*i*S	**Sb**	**12 06 56.1**	**+2.3**
	baz=53						
KZA	**Kyzart**	**2.66**	**70**	⇑*i*P	**Pb**	**12 06 27.7**	**-1.1**
	baz=69						
KZA				⇑*i*S	**Sb**	**12 07 02.0**	**+0.6**
	baz=69						
SGDS	**Sogindy**	**3.02**	**41**	Pg	**Pg**	**12 06 38.9**	**-0.2**
	1.1nm,0.3s						
SGDS				Lg	Lg	12 07 17.7	
	4.4nm,0.3s						
DGS	**Degeres**	**3.52**	**54**	Pg	**Pg**	**12 06 48.4**	**-0.4**
	1.4nm,0.3s						
DGS				Lg	Lg

URZ	**Urewera**	**9.40**	**210**	Pn	**Pn**	**12 31 47.6**	**-1.1**
	0.5nm,0.3s,baz=128,slow=19,SNR=5.4						
URZ				Sn	**Sn**	**12 33 33.4**	**-0.3**
	1.6nm,0.3s,baz=117,slow=18,SNR=9.1						
CTA	**Charters Tower**	**34.69**	**278**	P	**P**	**12 36 25.3**	**+2.4**
	2.9nm,0.8s,baz=90,slow=12,SNR=3.7						
ASAR	**Alice Springs**	**44.04**	**266**	P	**P**	**12 37 41.6**	**+0.6**
	0.6nm,0.8s,baz=94,slow=7.6,SNR=4.4						
WRA	**Warramunga Arr**	**45.02**	**271**	P	**P**	**12 37 49.2**	**+0.4**
	0.6nm,0.6s,baz=110,slow=8.0,SNR=6.1						
FINES	**FINES Array B**	**145.30**	**341**	PKPbc	**PKPbc**	**12 49 09.4**	**-0.2**
	2.1nm,0.6s,baz=48,slow=3.6,SNR=16						

NIED ***19*** *13:19:00,36˚.70N×141˚.20E,h8km,Mw3.8 Best double couple: M₀5.24000×10¹⁴ NP1:φ=209.00000°,δ=39.00000°, λ=-85.00000°. NP2:φ=22.00000°,δ=51.00000°,λ=-94.00000°.*

ISCJB ***19*** *13:19:53.7±1.4,36˚.70N±0˚.03×141˚.36E±0˚.04,h10km±8km, mb3.7/16,Error ellipse: s-maj=6.0km s-min=5.3km az=135.9*

IDC ***19*** *13:19:54.0±0.7,36˚.72N×141˚.18E,h0km,mb3.8/16, mb1 4.0/20,mb1mx3.8/50,mbtmp3.8/20,ML2.9/4,MS2.5/2, Ms1 2.5/2,ms1mx2.4/34,Error ellipse: s-maj=18.4km s-min=16.8km az=6.0*

JMA ***19*** *13:19:56.0±0.1,36˚.71N×141˚.24E,h34km±1km,M4.1*

JMA Felt II J1.

ISC 19 13:19:56.0±1.6,36˚.72N±0˚.04×141˚.25E±0˚.06,h14km±9km, n39,σ=89/44,mb3.7/16,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.53**	**317**	P	**Pg**	**13 20 06.6**	**+0.2**
ONAJ				S	**Sg**	**13 20 14.3**	**+0.8**
JHO	**Hitachi**	**0.55**	**259**	P	**Pg**	**13 20 06.9**	**0.0**
JHO				S	**Sg**	**13 20 14.8**	**+0.5**
JHYU	**Hitachinakayam**	**0.65**	**235**	P	**Pb**	**13 20 08.5**	**-0.6**
JHYU				S	**Sb**	**13 20 17.8**	**-0.2**
JFFD	**Fukushimafurud**	**0.66**	**304**	P	**Pb**	**13 20 08.6**	**-0.8**
JFFD				S	**Sb**	**13 20 18.2**	**-0.3**
JFK	**Kawauchi**	**0.71**	**336**	P	**Pb**	**13 20 09.5**	**-0.8**
JFK				S	**Sb**	**13 20 19.2**	**-0.7**
JYT	**Yasato**	**0.98**	**240**	P	**Pb**	**13 20 13.2**	**-1.5**
JYT				S	**Sb**	**13 20 26.1**	**-1.4**
JFT	**Otama**	**1.08**	**318**	P	**Pb**	**13 20 15.9**	**-0.6**
JFT				S	**Sb**	**13 20 30.9**	**+0.4**
JSB	**Shiboa**	**1.09**	**284**	P	**Pb**	**13 20 16.4**	**-0.3**
JSB				S	**Sb**	**13 20 31.7**	**+0.9**
JMM	**Marumori**	**1.20**	**343**	P	**Pn**	**13 20 17.0**	**-1.4**
JFY	**Yanaizu**	**1.41**	**300**	P	**Pn**	**13 20 21.0**	**-0.3**
JFY				S	**Sn**	**13 20 39.6**	**-0.1**
MJAR	**Matsushiro Arr**	**2.45**	**267**	Pn	**Pn**	**13 20 35.5**	**0.0**
	1.9nm,0.3s,baz=88,slow=14,SNR=140						
MJAR				Lg	Lg	13 21 05.4	
	3.1nm,0.3s,baz=83,slow=15,SNR=12						
MJAR				LR	LR	13 21 13.8	
	comp=Z,76nm,20.5s,baz=100,slow=34						
MAT	**Matsushiro**	**2.45**	**267**	P	**Pn**	**13 20 36.0**	**+0.4**
MAT				S	**Sb**	**13 21 08.6**	**-1.3**
JHJ	**Hachijo jima 2**	**3.79**	**199**	Sn	**Sn**	**13 21 39.3**	**+1.1**
	14nm,0.3s,baz=73,slow=19,SNR=3.0						
ASAJ	**Asahikawa**	**7.46**	**8**	Pn	**Pn**	**13 21 42.7**	**-1.7**
	0.6nm,0.3s,baz=230,slow=8.1,SNR=7.4						
USRK	**Ussuriysk Ar.**	**10.27**	**320**	Pn	**Pn**	**13 22 23.7**	**+0.8**
	0.1nm,0.3s,baz=134,slow=14,SNR=5.0						
KSRS	**Korea Array**	**10.67**	**278**	Pn	**Pn**	**13 22 29.9**	**+1.6**
	0.1nm,0.3s,baz=90,slow=14,SNR=6.6						
KSRS				LR	LR	13 26 13.7	
	comp=Z,33nm,18.7s,baz=60,slow=36						
SONM	**Songino Array**	**27.85**	**305**	P	**P**	**13 25 44.1**	**-1.0**
	1.3nm,0.8s,baz=108,slow=8.7,SNR=8.3						
H11N2	**WAKE ISLAND Hy**	**28.11**	**120**	T	T	13 55 11.6	
	baz=313,slow=75,SNR=193						
H11N1	**WAKE ISLAND Hy**	**28.11**	**120**	T	T	13 55 11.1	
	baz=313,slow=75,SNR=155						
H11N3	**WAKE ISLAND Hy**	**28.12**	**120**	T	T	13 55 12.2	
	baz=313,slow=75,SNR=130						
H11S1	**WAKE ISLAND Hy**	**28.80**	**122**	T	T	13 56 03.4	
	baz=314,slow=76,SNR=197						
H11S3	**WAKE ISLAND Hy**	**28.80**	**122**	T	T	13 56 03.9	
	baz=314,slow=76,SNR=159						
H11S2	**WAKE ISLAND Hy**	**28.82**	**122**	T	T	13 56 02.8	
	baz=314,slow=76,SNR=110						
ZALV	**Zalesovo Beam**	**42.03**	**313**	P	**P**	**13 27 46.8**	**0.0**
	1.6nm,0.6s,baz=103,slow=7.2,SNR=8.6						
ZALV				PcP	**PcP**	**13 29 39.7**	**-1.9**
	0.3nm,0.3s,baz=84,slow=4.5,SNR=2.6						
MKAR	**Makanchi Array**	**44.17**	**302**	P	**P**	**13 28 04.2**	**-0.1**
	1.2nm,0.6s,baz=88,slow=10,SNR=20						
ILAR	**Eielson Array**	**49.83**	**32**	P	**P**	**13 28 48.5**	**+0.4**
	0.4nm,0.9s,baz=263,slow=6.9,SNR=4.7						
WRA	**Warramunga Arr**	**56.73**	**188**	P	**P**	**13 29 39.1**	**-0.3**
	0.7nm,0.5s,baz=5.2,slow=7.5,SNR=13						
ASAR	**Alice Springs**	**60.46**	**188**	P	**P**	**13 30 05.4**	**+0.1**
	0.6nm,0.8s,baz=7.8,slow=7.5,SNR=5.0						
YKA	**Yellowknife Ar**	**64.15**	**30**	P	**P**	**13 30 30.3**	**+0.7**
	0.2nm,0.7s,baz=303,slow=6.9,SNR=3.7						
FINES	**FINESS Array B**	**69.03**	**332**	P	**P**	**13 31 00.6**	**-0.2**
	2.5nm,0.9s,baz=339,slow=11,SNR=3.2						
KBZ	**Khabaz**	**71.01**	**31**	P	**P**	**13 31 13.3**	**+0.1**
	2.4nm,0.9s,baz=73,slow=8.7,SNR=4.8						
NOA	**NORSAR Array B**	**74.43**	**337**	P	**P**	**13 31 34.3**	**+1.0**
	0.8nm,1.0s,baz=56,slow=8.0,SNR=2.7						
AKASG	**Malin Array Be**	**74.47**	**322**	P	**P**	**13 31 32.2**	**-1.4**
	1.2nm,0.4s,baz=45,slow=6.0,SNR=6.5						
NVAR	**Mina Array Bea**	**75.29**	**53**	P	**P**	**13 31 40.0**	**+1.0**
	0.3nm,0.7s,baz=251,slow=5.6,SNR=3.3						
PDAR	**Pinedale Array**	**77.98**	**45**	P	**P**	**13 31 54.7**	**+0.6**
	0.5nm,0.8s,baz=291,slow=5.9,SNR=3.9						
BRTR	**Keskin Array B**	**78.96**	**311**	P	**P**	**13 32 00.1**	**+0.7**
	0.4nm,0.7s,baz=144,slow=5.8,SNR=3.6						
GERES	**GERESS Array B**	**82.91**	**328**	P	**P**	**13 32 20.0**	**-0.3**
	0.2nm,0.3s,baz=42,slow=7.9,SNR=3.2						
TXAR	**Lajitas Array**	**90.42**	**52**	P	**P**	**13 32 58.8**	**+1.4**
	0.5nm,1.0s,baz=282,slow=4.5,SNR=3.3						
LPAZ	**La Paz**	**146.97**	**60**	PKPbc	**PKPbc**	**13 39 39.3**	**-0.1**
	0.8nm,0.7s,baz=0.0,slow=3.0,SNR=3.1						

IDC 19 13:23:00.6±3.4,5˚.06S×151˚.42E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.4/28,mbtmp3.7/3,Error ellipse: s-maj=122.2km s-min=47.1km az=121.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.04**	**224**	Sn	Sn	13 25 35.4	-5.8
	0.4nm,0.3s,baz=22,slow=16,SNR=2.1						
WRA	**Warramunga Arr**	**22.25**	**227**	P	P	13 27 59.1	-0.2
	0.7nm,0.5s,baz=52,slow=9.8,SNR=8.3						
ASAR	**Alice Springs**	**25.04**	**221**	P	P	13 28 27.1	+0.4
	0.8nm,0.7s,baz=56,slow=8.7,SNR=8.2						
FITZ	**Fitzroy Crossi**	**28.33**	**241**	P	P	13 28 56.2	-0.2
	1.6nm,0.5s,baz=72,slow=9.6,SNR=5.9						
TORD	**Torodi Ar. Bea**	**149.07**	**287**	PKPbc	PKPbc	13 42 51.4	-0.6
	0.2nm,0.4s,baz=63,slow=3.0,SNR=3.4						

IDC 19 13:30:04.2±4.4,6˚.49S×125˚.89E,h499km±59km,mb2.6/2, mb1 2.9/6,mb1mx2.7/27,mbtmp3.7/6,Error ellipse: s-maj=109.2km s-min=20.1km az=53.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**4.30**	**211**	P	P	13 31 25.5	+0.4
	6.1nm,0.3s,baz=61,slow=2.1,SNR=6.2						
BATI				S	S	13 32 31.2	+0.3
	baz=69,slow=14,SNR=1.8						
FITZ	**Fitzroy Crossi**	**11.54**	**181**	P	P	13 32 36.2	-1.7
	0.1nm,0.3s,baz=352,slow=15,SNR=2.2						
WRA	**Warramunga Arr**	**15.69**	**149**	P	P	13 33 23.6	+1.9
	0.4nm,0.3s,baz=335,slow=10,SNR=30						
ASAR	**Alice Springs**	**18.74**	**157**	P	P	13 33 50.8	-0.8
	0.3nm,0.3s,baz=332,slow=8.7,SNR=13						
STKA	**Stephens Creek**	**29.21**	**152**	P	P	13 35 25.4	+0.5
	0.8nm,0.5s,baz=327,slow=8.2,SNR=3.2						
MKAR	**Makanchi Array**	**65.62**	**329**	P	P	13 39 58.4	0.0
	0.1nm,0.5s,baz=116,slow=7.3,SNR=2.9						

MOS ***19*** *13:48:00.9±1.0,11˚.28N×125˚.30E,h45km,mb5.6/95, MS4.2/26,Error ellipse: s-maj=7.8km s-min=3.7km az=115.0*

BJI ***19*** *13:48:01.5,11˚.01N×125˚.55E,h74km,mb5.3/83,mB5.2/56, Ms4.6/69,Ms7 4.4/64*

NEIC ***19*** *13:48:02.5±0.1,11˚.25N×125˚.39E,h43km,mb5.4/131, MW5.3,Error ellipse: s-maj=4.3km s-min=2.9km az=81.0, Moment Tensor Solution. s6 Moment tensor: Scale 10¹⁶ Nm; Mrr9.08; Mθθ-2.59; Mϕϕ-6.49; Mrθ1.66; Mθϕ4.84; Mϕr2.52; Best double couple: M₀9.90000×10¹⁶ NP1: φ=130.00000°,δ=44.00000°,λ=66.00000°. NP2: φ=342.00000°,δ=51.00000°,λ=112.00000°. Principal axes: T 9.9800, Plg73.0000°, Azm315.0000°; N -0.1500, Plg17.0000°, Azm148.0000°; P -9.8300, Plg4.0000°, Azm57.0000°;*

NEIC Felt [V PIVS] at Balangkayan, Borongan, Hernani, Llorente and Mercedes; [IV PIVS] at Basey and Taft; [III PIVS] at Catbalogan and San Policarpio; [II PIVS] at Catarman. Also felt [IV PIVS] at Palo and Tacloban; [III PIVS] at Abuyog, Tanauan and Tolosa; [II PIVS] at Saint Bernard, Leyte. Felt [I PIVS] at Iloilo, Panay and at Surigao, Mindanao.

GCMT ***19*** *13:48:03.5±0.2,11˚.31N±0˚.01×125˚.62E±0˚.01,h55km, MW5.2/99,Moment Tensor Solution. s99,c137; s93,c157; Duration: 1¹⁰ Moment tensor: Scale 10¹⁷Nm; Mrr0.74±.02; Mθθ0.07±.01; Mϕϕ-0.81±.01; Mrθ0.13±.01; Mθϕ0.04±.01; Mϕr0.13±.01; Best double couple: M₀0.80100×10¹⁷ NP1:φ=8.00000°,δ=50.00000°, λ=104.00000°. NP2:φ=166.00000°,δ=42.00000°,λ=73.00000°. Principal axes: T 0.7770, Plg78.0000°, Azm337.0000°; N 0.0470, Plg11.0000°, Azm179.0000°; P -0.8240, Plg4.0000°, Azm88.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISCJB ***19*** *13:48:04.9±0.3,11˚.35N±0˚.01×125˚.41E±0˚.02,h77km±2km, mb5.3/254 Error ellipse: s-maj=3.4km s-min=2.3km az=163.3*

MAN ***19*** *13:48:04.1,11˚.40N×125˚.45E,h52km,mb6.0,ML5.0, MS5.5*

MAN INTENSITY V - BORONGAN LLORENTE HERNANI BALANGKAYAN & MERCEDES EASTERN SAMAR; INTENSITY IV - TACLOBAN CITY; PALO LEYTE; BASEY SAMAR; TAFT EASTERN SAMAR; INTENSITY III - ABUYOG AND TANAUAN LEYTE; TOLOSA LEYTE; CATBALOGAN SAMAR; SAN POLICARPO EASTERN SAMAR; INTENSITY II - ST BERNARD SOUTHERN LEYTE; CATARMAN NORTHERN SAMAR; INTENSITY I - SURIGAO CITY; ILOILO CITY.

IDC ***19*** *13:48:05.6±1.3,11˚.25N×125˚.39E,h73km±11km,mb5.0/31, mb1 5.1/34,mb1mx5.0/39,mbtmp5.3/34,MS4.2/27, Ms1 4.2/27,ms1mx4.2/29,Error ellipse: s-maj=13.4km s-min=8.1km az=80.0*

KLM ***19*** *13:48:09.6,11˚.35N×125˚.80E,h106km,mb5.4*

DJA ***19*** *13:48:12.5±0.4,11˚.71N±2˚×12˚.5E±˚,h104km±4km,M5.1/67, mB5.4/34,mb5.2/67,MLv6.1/2,Mw(mB)4.9/34*

ISC 19 13:48:05.3±0.3,11˚.32N±0˚.02×125˚.47E±0˚.03,h71km±2km, h71km:pP-P,n1027,σ=935/1113,mb5.4/276,77C-29D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.28**	**354**	*e*P	**Pn**	**13 48 13.9**	**-2.6**
BESP				eS	**Sn**	**13 48 20.9**	**-3.7**
PLP	**Palo**	**0.51**	**253**	⇓*i*P	**Pn**	**13 48 15.4**	**-2.8**
PLP				*i* S	**Sn**	**13 48 23.2**	**-4.5**
OCLP	**Ormoc**	**0.89**	**253**	*e*P	**Pn**	**13 48 21.5**	**-0.9**
OCLP				eS	**Sn**	**13 48 34.7**	**-0.4**
MSLP	**Maasin**	**1.32**	**207**	*e*P	**Pn**	**13 48 28.0**	**+0.1**
MSLP				eS	**Sn**	**13 48 46.8**	**+1.9**
CNP	**Catarman**	**1.43**	**326**	*e*P	**Pn**	**13 48 28.2**	**-1.1**
SCPH	**Surigao**	**1.52**	**179**	⇑*i*P	**Pn**	**13 48 29.8**	**-0.8**
SCPH				*i* S	**Sn**	**13 48 49.4**	**-0.3**
LLP	**Lapu-Lapu**	**1.78**	**236**	⇓*i*P	**Pn**	**13 48 33.2**	**-0.8**
LLP				eS	**Sn**	**13 48 58.0**	**+2.2**
TBP	**Tagbilaran**	**2.26**	**225**	*e*P	**Pn**	**13 48 40.4**	**-0.1**
TBP				*i* S	**Sn**	**13 49 11.8**	**+4.4**
BUTP	**Butuan**	**2.34**	**176**	*e*P	**Pn**	**13 48 42.5**	**+1.0**
BUTP				eS	**Sn**	**13 49 08.8**	**-0.5**
RCP	**Roxas**	**2.68**	**275**	⇓*e*P	**Pn**	**13 48 46.6**	**+0.4**
RCP				eS	**Sn**	**13 49 19.9**	**+2.3**
GUIM	**Jordan**	**2.91**	**257**	*e*P	**Pn**	**13 48 49.2**	**-0.1**
GUIM				eS	**Sn**	**13 49 25.5**	**+2.3**
CGP	**Cagayan de Oro**	**2.94**	**195**	⇓*e*P	**Pn**	**13 48 50.7**	**+1.0**
CGP				eS	**Sn**	**13 49 30.6**	**+0.6**
SNPH	**Sibulan**	**2.95**	**228**	⇑*e*P	**Pn**	**13 48 50.1**	**+0.2**
SNPH				*i* S	Sn	13 49 36.4	+12
KALP	**Kalibo**	**3.09**	**277**	⇓*e*P	**Pn**	**13 48 50.7**	**-1.0**
BIPH	**Bislig**	**3.23**	**164**	⇓*i*P	**Pn**	**13 48 55.9**	**+2.2**
BIPH				*i* S	**Sn**	**13 49 33.6**	**+2.5**
DCPH	**Dipolog City**	**3.42**	**218**	⇑*e*P	**Pn**	**13 48 57.3**	**+1.0**
DCPH				eS	**Sn**	**13 49 33.9**	**-1.8**
BUKP	**Musuan**	**3.44**	**187**	*e*P	**Pn**	**13 48 57.5**	**+0.9**
JAP	**San Jose, Anti**	**3.50**	**261**	⇓*e*P	**Pn**	**13 48 59.3**	**+1.9**
OTRP	**Odiongan**	**3.53**	**287**	*e*P	**Pn**	**13 48 57.5**	**-0.2**
GQP	**Guinayangan**	**3.92**	**311**	⇑*e*P	**Pn**	**13 49 02.6**	**-0.3**
GQP				eS	**Sn**	**13 49 49.6**	**+1.8**
PAGZ	**Pagadian**	**4.01**	**211**	*e*P	**Pn**	**13 49 04.5**	**+0.2**
PAGZ				eS	**Sn**	**13 49 52.0**	**+1.8**
BOAC	**Boac**	**4.13**	**301**	*e*P	**Pn**	**13 49 05.8**	**-0.2**
BOAC				eS	**Sn**	**13 49 52.0**	**-1.0**
DMPH	**Davao City--Mi**	**4.21**	**179**	⇑*e*P	Pn	13 49 12.0	+5.0
DMPH				eS	Sn	13 50 05.0	+10
DAV	**Davao City (W)**	**4.22**	**179**	P	**Pn**	**13 49 06.5**	**-0.6**
	53nm,0.3s,baz=315,slow=4.3,SNR=3.4						
DAV				LR	LR	13 51 17.7	
	comp=Z,7μm,20.9s,baz=9.5,slow=46						
DAV	**Davao City (W)**	**4.22**	**179**	*e*Pn	**Pn**	**13 49 09.8**	**+2.6**
DAV	**Davao City (W)**	**4.22**	**179**	*e*P	Pn	13 49 02.3	-4.9
CTBH	**Cotabato--PC H**	**4.25**	**197**	⇑*e*P	**Pn**	**13 49 08.6**	**+1.1**
CTBH				*i* S	**Sn**	**13 49 58.7**	**+2.9**
CUYO	**Cuyo Island**	**4.39**	**264**	*e*P	**Pn**	**13 49 09.8**	**+0.2**
CUYO				eS	**Sn**	**13 50 02.5**	**+3.0**
SJMP	**San Jose**	**4.41**	**285**	*e*P	**Pn**	**13 49 10.6**	**+0.9**
MATI	**Mati**	**4.41**	**170**	*e*P	**Pn**	**13 49 12.0**	**+2.2**
IPIL	**Ipil**	**4.52**	**219**	*e*P	**Pn**	**13 49 12.2**	**+0.9**
POLP	**Polilio Island**	**4.83**	**315**	*e*P	**Pn**	**13 49 15.3**	**-0.2**
SKMP	**Bagumbayan, Su**	**4.85**	**191**	*e*P	**Pn**	**13 49 18.4**	**+2.6**
BUSP	**Coron**	**5.21**	**278**	*e*P	**Pn**	**13 49 21.0**	**+0.3**
TGY	**Tagaytay City**	**5.22**	**303**	P	**Pn**	**13 49 21.2**	**+0.4**
	55nm,0.3s,baz=70,slow=4.6,SNR=8.7						
TGY				LR	LR	13 51 36.7	
	comp=Z,5μm,21.1s,baz=85,slow=41						
GSPH	**General Santos**	**5.22**	**186**	⇑*i*P	**Pn**	**13 49 23.5**	**+2.5**
BALP	**Baler**	**5.80**	**320**	*e*P	**Pn**	**13 49 29.1**	**+0.3**
PCPH	**Palayan**	**5.99**	**315**	⇓*e*P	**Pn**	**13 49 30.2**	**-1.2**
PALP	**Palanan**	**6.43**	**333**	*e*P	**Pn**	**13 49 36.3**	**-1.1**
CAUP	**Cauayan**	**6.62**	**328**	*e*P	**Pn**	**13 49 39.6**	**-0.3**
APYP	**Conner**	**7.69**	**328**	*e*P	**Pn**	**13 49 53.4**	**-1.1**
KDM	**Kudat**	**9.58**	**244**	P	Pn	13 50 27.5	+7.0
TNTI	**Ternate**	**10.64**	**170**	*e*Pn	**Pn**	**13 50 37.0**	**+2.1**
TNTI	**Ternate**	**10.64**	**170**	P	Pn	13 50 44.1	+9.1
KMSI	**Cibinong**	**10.77**	**188**	P	Pn	13 50 42.5	+5.7
MRSI	**Marisa**	**11.32**	**198**	P	Pn	13 50 49.2	+4.9
TWG	**Pinlang**	**12.19**	**340**	*e*Pn	**Pn**	**13 50 56.0**	**0.0**
MPSI	**Mapaga**	**12.23**	**207**	P	**Pn**	**13 50 59.2**	**+2.5**
LUWI	**Luwuk**	**12.57**	**192**	*e*Pn	**Pn**	**13 51 04.5**	**+3.2**
LUWI	**Luwuk**	**12.57**	**192**	P	**P**	**13 51 07.4**	**-2.8**
YULB	**Yu-li**	**12.65**	**342**	*e*Pn	**Pn**	**13 51 01.4**	**-0.9**
APSI	**Ampana**	**12.73**	**198**	P	**P**	**13 51 08.2**	**-3.7**
	116nm,1.5s,1μm						
TPUB	**Ta-pu**	**12.78**	**339**	*e*Pn	**Pn**	**13 51 03.8**	**-0.3**
SSLB	**Suanglung**	**13.13**	**341**	*e*Pn	**Pn**	**13 51 09.7**	**+1.0**
YOJ	**Yonaguni jima**	**13.28**	**350**	*e*Pn	**Pn**	**13 51 10.6**	**-0.2**
YOJ	**Yonaguni jima**	**13.28**	**350**	*e*P	**Pn**	**13 51 10.6**	**-0.2**
SANI	**Sanana**	**13.29**	**178**	P	**P**	**13 51 16.6**	**-1.6**
NACB	**Ninganchiao**	**13.31**	**344**	*e*Pn	**Pn**	**13 51 10.9**	**-0.2**
PCI	**Palu**	**13.37**	**205**	P	**Pn**	**13 51 15.5**	**+3.4**
	148nm,1.1s,2μm						
YHNB	**Yeheng**	**13.84**	**344**	*e*Pn	**Pn**	**13 51 19.2**	**+0.9**
TATO	**Taipei**	**14.10**	**345**	*e*Pn	**Pn**	**13 51 23.1**	**+1.5**
SMKI	**Samarinda**	**14.28**	**216**	P	**P**	**13 51 27.2**	**-2.0**
NLAI	**Namlea**	**14.55**	**174**	P	**P**	**13 51 35.1**	**+2.9**
	80nm,0.8s						
BTM	**Bintulu**	**14.69**	**238**	P	**P**	**13 51 33.6**	**-0.2**
QZH	**Quanzhou**	**15.04**	**335**	P	**Pn**	**13 51 34.8**	**+1.0**
QZH				pP	**pP**	**13 51 45.9**	**-6.1**
QZH				S	**Sn**	**13 54 20.6**	**+1.1**
QZH				pmax	pmax		
	comp=Z,580nm,3.5s						
QZH				LR	LR		
	comp=N,750nm,21.7s						
QZH				LR	LR		
	comp=E,520nm,18.8s						
QZH				LR	LR		
	comp=Z,1μm,23.9s						
TTSI	**Tana Toraja**	**15.34**	**202**	P	**P**	**13 51 41.4**	**+0.5**
RKPI	**Ransiki, Papua**	**15.41**	**145**	P	**P**	**13 51 48.2**	**+6.5**
KDI	**Kendari**	**15.44**	**191**	P	**P**	**13 51 43.2**	**+1.1**
	28nm,0.9s,1μm						
JOW	**Kunigami**	**15.66**	**9**	P	**P**	**13 51 44.5**	**+0.1**
	4.2nm,0.3s,baz=155,slow=21,SNR=31						
JOW	**Kunigami**	**15.66**	**9**	*e*Pn	**P**	**13 51 44.6**	**+0.1**
	175nm,1.2s						
FAKI	**Fak Fak**	**15.67**	**154**	*e*Pn	**P**	**13 51 43.8**	**-0.9**
	110nm,1.0s						
FAKI	**Fak Fak**	**15.67**	**154**	P	**P**	**13 51 50.8**	**+6.1**
SBUM	**Sibu**	**15.82**	**237**	P	**P**	**13 51 47.7**	**+1.4**
SPSI	**Sidrap Palu**	**16.21**	**201**	P	**P**	**13 51 52.5**	**+1.9**
GZH	**Guangzhou**	**16.45**	**317**	P	**P**	**13 51 54.3**	**+1.0**
GZH				S	**S**	**13 54 58.8**	**-3.1**
GZH				LR	LR		
	comp=N,2μm,19.6s						
GZH				LR	LR		
	comp=E,2μm,19.0s						
BNSI	**Bone**	**16.50**	**199**	P	**P**	**13 51 57.0**	**+3.1**
	166nm,1.2s,3μm						
QIZ	**Qiongzhong**	**16.91**	**299**	P	**P**	**13 51 58.0**	**-0.4**
QIZ				sP	**sP**	**13 52 22.1**	**+0.3**
QIZ				S	**Sn**	**13 55 06.0**	**+1.1**
QIZ				pmax	pmax		
	comp=Z,470nm,5.1s						
QIZ				LR	LR		
	comp=N,660nm,12.6s						
QIZ				LR	LR		
	comp=E,1μm,17.8s						
QIZ				LR	LR		
	comp=Z,2μm,18.6s						
KBKI	**Kotabaru**	**17.22**	**213**	P	**P**	**13 52 03.1**	**+1.3**
BKSI	**Bulukumba**	**17.36**	**198**	P	**P**	**13 52 05.0**	**+1.6**
	31nm,0.8s,444nm						
STKI	**Sintang**	**17.84**	**232**	P	**Pn**	**13 52 10.7**	**+1.8**
KSM	**Kuching**	**17.95**	**238**	P	**Pn**	**13 52 12.6**	**+2.4**
SAUI	**Saumlaki**	**20.03**	**163**	*e*P	Pn	13 52 35.6	+0.6
	275nm,0.7s						
SSE	**Sheshan**	**20.08**	**349**	P	Pn	13 52 34.4	-1.0
SSE				S	**S**	**13 56 13.3**	**-1.5**
SSE				pmax	pmax		
	comp=Z,76nm,1.1s						
SSE				LR	LR		
	comp=N,270nm,19.7s						
SSE				LR	LR		
	comp=E,170nm,18.8s						
SSE	**Sheshan**	**20.08**	**349**	*e*P	**P**	**13 52 33.8**	**+0.7**
	301nm,0.9s						
SSE				LR	LR		
	comp=Z,613nm,21.0s						
MMRI	**Maumere**	**20.08**	**189**	*e*P	**P**	**13 52 33.4**	**+0.3**
	comp=Z,322nm,1.2s						
MMRI	**Maumere**	**20.08**	**189**	P	Pn	13 52 38.7	+3.1
GENI	**Genyem**	**20.12**	**133**	P	Pn	13 52 43.4	+7.4
EDFI	**Ende, Flores**	**20.29**	**191**	P	Pn	13 52 40.2	+2.1
JAY	**Jayapura**	**20.45**	**131**	P	Pn	13 52 45.0	+5.0
SOEI	**Soe**	**20.97**	**183**	*e*P	**P**	**13 52 42.8**	**-0.1**
	comp=Z,86nm,0.8s						
SOEI	**Soe**	**20.97**	**183**	P	Pn	13 52 48.8	+2.7
PLAI	**Plampang**	**21.43**	**201**	P	**P**	**13 52 50.5**	**+2.9**
BATI	**Baumata**	**21.46**	**185**	P	**P**	**13 52 47.6**	**-0.4**
	comp=Z,115nm,0.5s,baz=357,slow=1.4,SNR=25						
BATI	**Baumata**	**21.46**	**185**	P	**P**	**13 52 50.6**	**+2.6**
NJ2	**Nanjing**	**21.52**	**345**	*e*P	**P**	**13 52 49.3**	**+0.8**
NJ2				sP	**sP**	**13 53 13.0**	**+0.7**
NJ2				S	**S**	**13 56 46.0**	**+2.7**
NJ2				sS	**sS**	**13 57 06.6**	**-1.0**
NJ2				pmax	pmax		
	comp=Z,110nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,920nm,3.7s						
NJ2				LR	LR		
	comp=Z,630nm,22.8s						
NJ2				LR	LR		
	comp=Z,450nm,22.8s						
NJ2				LR	LR		
	comp=Z,1μm,24.0s						
KMMI	**Kalianget**	**21.54**	**213**	P	**P**	**13 52 51.4**	**+2.6**
SKNT	**Sakolnakorn**	**21.57**	**288**	P	**P**	**13 52 49.5**	**+0.2**
	comp=Z,36nm,1.0s						
WHN	**Wuhan**	**21.74**	**333**	⇑P	**P**	**13 52 52.0**	**+1.1**
WHN				S	**S**	**13 56 45.8**	**-1.8**

	comp=Z,48nm,0.9s								
KMI					pmax	pmax			
	comp=Z,150nm,3.1s								
KMI					LR	LR			
	comp=Z,570nm,20.6s								
KMI					LR	LR			
	comp=Z,590nm,18.9s								
KMI					LR	LR			
	comp=Z,840nm,20.6s								
TRTT	**Trang**	**25.65**	**265**		P	**P**	**13 53 32.8**	**+4.2**	
	comp=Z,19nm,1.3s								
UTHA	**Uthaitani**	**25.65**	**282**		P	**P**	**13 53 28.8**	**+0.2**	
	comp=Z,14nm,0.9s,comp=Z,106nm								
CISI	**Cisompet, Garu**	**25.69**	**224**	*e*	P	**P**	**13 53 29.2**	**+0.1**	
	comp=Z,371nm,1.6s								
RGRI	**Rengat**	**25.75**	**245**		P	**P**	**13 53 30.7**	**+1.2**	
SUKH	**Sukhothai**	**25.75**	**287**		P	**P**	**13 53 30.1**	**+0.6**	
	comp=Z,29nm,0.9s								
TIA	**Tai'an**	**25.91**	**344**		P	**P**	**13 53 31.0**	**+0.2**	
TIA					S	**S**	**13 58 01.5**	**+5.7**	
TIA					pmax	pmax			
	comp=Z,57nm,1.0s								
TIA					LR	LR			
	comp=Z,150nm,22.8s								
TIA					LR	LR			
	comp=Z,180nm,21.4s								
TIA					LR	LR			
	comp=Z,230nm,21.4s								
LAMP	**Lampang**	**25.95**	**289**		P	**P**	**13 53 31.7**	**+0.4**	
	comp=Z,26nm,1.0s,comp=Z,198nm								
KS15	**Wonju Array Si**	**26.10**	**4**	*e*	P	**P**	**13 53 33.2**	**+0.7**	
KSAR	**Wonju Array Be**	**26.10**	**4**		P	**P**	**13 53 33.4**	**+0.9**	
KSAR					PcP	**PcP**	**13 56 57.1**	**-1.3**	
KSAR					ScP	**ScP**	**14 00 32.6**	**+0.5**	
KSAR	**Wonju Array Be**	**26.10**	**4**		P	**P**	**13 53 33.4**	**+0.9**	
KSAR							13 56 57.2		
KSRS	**Korea Array**	**26.12**	**4**		P	**P**	**13 53 33.4**	**+0.8**	
	comp=Z,45nm,1.0s,baz=184,slow=9.8,SNR=93								
KSRS					PcP	**PcP**	**13 56 57.1**	**-1.3**	
	comp=Z,2.9nm,1.0s,baz=204,slow=2.3,SNR=6.3								
KSRS					ScP	**ScP**	**14 00 32.6**	**+0.5**	
	comp=Z,1.4nm,0.9s,baz=186,slow=3.1,SNR=5.4								
KSRS					LR	LR	14 03 05.1		
	comp=Z,396nm,21.9s,baz=186,slow=34								
KSRS	**Korea Array**	**26.12**	**4**		P	**P**	**13 53 33.4**	**+0.8**	
KSRS							13 56 57.2		
KSRS					pmax	pmax			
	comp=Z,44nm,1.0s								
KSRS					pmax	pmax			
	comp=Z,3.0nm,1.0s								
KSRS					pmax	pmax			
	comp=N,1.0nm,0.9s								
KSRS					MLR	MLR			
	comp=Z,397nm,21.9s								
INU	**Inuyama**	**26.12**	**22**	*e*	P	**P**	**13 53 32.9**	**+0.2**	
	comp=Z,39nm,0.8s								
KS01	**Wonju Array Si**	**26.14**	**4**	*e*	P	**P**	**13 53 32.8**	**0.0**	
UMPA	**Umpang Tak**	**26.29**	**284**		P	**P**	**13 53 34.9**	**+0.5**	
	comp=Z,17nm,0.9s,comp=Z,1µm								
LHSI	**Lahat**	**26.52**	**237**		P	**P**	**13 53 37.9**	**+1.5**	
CM01	**Chiang Mai Arr**	**26.56**	**289**	*e*	P	**P**	**13 53 37.5**	**+0.7**	
CM01				*e*	PcP	**PcP**	**13 57 00.6**	**+0.7**	
CM31	**Chiang Mai Arr**	**26.58**	**289**	*e*	P	**P**	**13 53 36.8**	**-0.2**	
CM31				*e*	PcP	**PcP**	**13 57 01.1**	**+1.1**	
CM31	**Chiang Mai Arr**	**26.58**	**289**		P	**P**	**13 53 37.2**	**+0.2**	
	SNR=31								
CMAR	**Chiang Mai Arr**	**26.58**	**289**		P	**P**	**13 53 37.5**	**+0.5**	
	comp=Z,55nm,1.0s,baz=101,slow=7.3,SNR=213								
CMAR					PcP	**PcP**	**13 57 00.2**	**+0.3**	
	comp=Z,8.9nm,0.8s,baz=46,slow=0.8,SNR=19								
CMAR					ScP	**ScP**	**14 00 33.6**	**-0.3**	
	comp=Z,2.5nm,0.9s,baz=76,slow=2.4,SNR=4.6								
CMAR					LR	LR	14 04 59.2		
	comp=Z,262nm,19.4s,baz=106,slow=38								
BKNI	**Bangkinang**	**26.61**	**247**	*e*	P	**P**	**13 53 37.8**	**+0.4**	
	comp=Z,42nm,0.8s								
CMMT	**Chiang Mai**	**26.65**	**289**		P	**P**	**13 53 37.3**	**-0.3**	
	comp=Z,49nm,1.1s,comp=Z,459nm								
CHTO	**Chiang Mai**	**26.65**	**289**	*e*	P	**P**	**13 53 37.4**	**-0.3**	
	comp=Z,45nm,0.9s								
CHTO				*e*	PcP	**PcP**	**13 57 00.9**	**+0.8**	
CHTO					LR	LR			
	comp=Z,341nm,22.0s								
CHTO	**Chiang Mai**	**26.65**	**289**	*e*	P	**P**	**13 53 37.4**	**-0.3**	
CHTO				*e*			13 57 00.9		
CHTO					pmax	pmax			
	comp=Z,45nm,0.9s								
CHTO					MLR	MLR			
	comp=Z,341nm,22.0s								
CHTO	**Chiang Mai**	**26.65**	**289**		P	**P**	**13 53 37.3**	**-0.4**	
	SNR=9.5								
CHTO	**Chiang Mai**	**26.65**	**289**		P	**P**	**13 53 37.3**	**-0.4**	
	comp=Z,223nm,1.1s,comp=Z,2µm								
CHTO	**Chiang Mai**	**26.65**	**289**	*e*	P	**P**	**13 53 37.2**	**-0.4**	
LWLI	**Liwa**	**26.78**	**234**		P	**P**	**13 53 39.4**	**+0.4**	
XAN	**Xi'an**	**27.21**	**329**		P	**P**	**13 53 42.4**	**-0.1**	
XAN					pP	pP	13 53 55.6	-3.8	
XAN					S	**S**	**13 58 13.3**	**-3.2**	
XAN					pmax	pmax			
	comp=Z,71nm,0.9s								
XAN					pmax	pmax			
	comp=Z,320nm,6.2s								
XAN					LR	LR			
	comp=Z,510nm,18.4s								
XAN					LR	LR			
	comp=Z,420nm,14.1s								
XAN					LR	LR			
	comp=Z,540nm,23.0s								
KRJI	**Kerinci**	**27.34**	**242**		P	**P**	**13 53 44.5**	**+0.5**	
MAJO	**Matsushiro**	**27.62**	**23**	*e*	P	**P**	**13 53 43.2**	**-3.0**	
	comp=Z,21nm,0.9s								
MAJO				*e*	PcP	**PcP**	**13 57 03.6**	**+1.4**	
MAJO					LR	LR			
	comp=Z,1µm,22.0s								
MAJO	**Matsushiro**	**27.62**	**23**	*i*	P	**P**	**13 53 45.1**	**-1.1**	
MAJO					pmax	pmax			
	comp=Z,21nm,1.0s								
MAJO	**Matsushiro**	**27.62**	**23**	*e*	P	**P**	**13 53 45.6**	**-0.6**	
MAT	**Matsushiro**	**27.62**	**23**		P	**P**	**13 53 45.1**	**-1.1**	
MAT				*e*	S	**S**	**13 58 21.0**	**-1.9**	
MJAR	**Matsushiro Arr**	**27.62**	**23**		P	**P**	**13 53 45.5**	**-0.7**	
	comp=Z,17nm,0.9s,baz=201,slow=9.6,SNR=39								
MJAR					PcP	**PcP**	**13 57 02.9**	**+0.8**	
	comp=Z,6.5nm,0.8s,baz=195,slow=2.8,SNR=10.0								
MJAR					LR	LR	14 02 54.9		
	comp=Z,698nm,21.6s,baz=210,slow=32								
MJAR	**Matsushiro Arr**	**27.62**	**23**		P	**P**	**13 53 45.5**	**-0.7**	
MJAR							13 57 02.9		
MJAR					pmax	pmax			
	comp=Z,18nm,0.9s								
MJAR					pmax	pmax			
	comp=Z,7.0nm,0.8s								
MJB9	**Matsu-Tunnel**	**27.62**	**23**	*e*	P	**P**	**13 53 43.2**	**-3.0**	
	comp=Z,22nm,0.9s								
MJB9				*e*	PcP	**PcP**	**13 57 03.5**	**+1.3**	
PSI	**Prapat**	**27.64**	**254**		P	**P**	**13 53 47.1**	**+0.4**	
	comp=Z,27nm,0.8s,baz=6.1,slow=0.5,SNR=15								
PSI					PcP	**PcP**	**13 57 02.3**	**-0.4**	
	comp=Z,7.7nm,0.6s,baz=359,slow=5.9,SNR=5.4								
PSI	**Prapat**	**27.64**	**254**	*e*	P	**P**	**13 53 46.0**	**-0.7**	
	comp=Z,32nm,0.8s								
PSI				*e*	PcP	**PcP**	**13 57 02.5**	**-0.2**	
DL2	**Dalian**	**27.69**	**354**		P	**P**	**13 53 47.8**	**+1.1**	
DL2					pP	**pP**	**13 54 02.0**	**-1.4**	
DL2					S	**S**	**13 58 22.3**	**-1.5**	
DL2					pmax	pmax			
	comp=Z,89nm,0.9s								
DL2					pmax	pmax			
	comp=Z,150nm,3.9s								
DL2					LR	LR			
	comp=Z,490nm,16.9s								
DL2					LR	LR			
	comp=Z,450nm,20.4s								
MNSI	**Mandailing Nat**	**27.75**	**250**		P	**P**	**13 53 49.2**	**+1.7**	
	comp=Z,36nm,0.6s								
TSI	**Tuntungan**	**27.77**	**256**		P	**P**	**13 53 47.9**	**+0.2**	
CD2	**Chengdu**	**28.01**	**317**		P	**P**	**13 53 50.3**	**+0.5**	
CD2					pP	pP	13 54 07.6	+1.0	
CD2					sP	sP	13 54 16.6	+1.6	
CD2					S	**S**	**13 58 29.9**	**+0.7**	
CD2					sS	sS	13 59 00.6	+2.4	
CD2					pmax	pmax			
	comp=Z,200nm,0.5s								
CD2					pmax	pmax			
	comp=Z,360nm,5.5s								
CD2					LR	LR			
	comp=Z,2µm,16.7s								
CD2					LR	LR			
	comp=Z,2µm,16.2s								
CD2					LR	LR			
	comp=Z,2µm,19.6s								
KCSI	**Kotacane, Aceh**	**28.52**	**256**		P	**P**	**13 53 54.3**	**-0.1**	
	comp=Z,117nm,0.8s,comp=Z,902nm								
TIY	**Taiyuan**	**28.77**	**338**	*e*	P	**P**	**13 53 57.4**	**+1.0**	
TIY					pmax	pmax			
	comp=Z,56nm,0.9s								
SISI	**Saibi**	**29.08**	**246**		P	**P**	**13 54 00.5**	**+1.2**	
FITZ	**Fitzroy Crossi**	**29.23**	**180**		P	**P**	**13 53 59.6**	**-0.9**	
	comp=Z,26nm,0.8s,baz=2.7,slow=6.1,SNR=50								
FITZ	**Fitzroy Crossi**	**29.23**	**180**	*e*	P	**P**	**13 53 59.6**	**-0.9**	
	comp=Z,39nm,1.0s								
FITZ				*e*	PcP	**PcP**	**13 57 06.0**	**-0.3**	
GSI	**Gunungsitoli**	**29.42**	**252**	*e*	P	**P**	**13 54 02.2**	**-0.2**	
	comp=Z,37nm,0.6s								
GSI				*e*	PcP	**PcP**	**13 57 07.5**	**+0.5**	
GSI	**Gunungsitoli**	**29.42**	**252**		P	**P**	**13 54 02.8**	**+0.4**	
	comp=Z,53nm,0.7s								
BJT	**Baijiatuau**	**29.75**	**346**	*e*	P	**P**	**13 54 04.9**	**-0.1**	
	comp=Z,124nm,1.2s								
BJT					LR	LR			
	comp=Z,616nm,21.0s								
BJT	**Baijiatuau**	**29.75**	**346**	*e*	P	**P**	**13 54 04.9**	**-0.1**	
BJT					pmax	pmax			
	comp=Z,124nm,1.2s								
BJT					MLR	MLR			
	comp=Z,616nm,21.0s								
BJI	**Beijing**	**29.77**	**346**		P	**P**	**13 54 05.8**	**+0.7**	
BJI					S	**S**	**13 59 00.1**	**+3.6**	
BJI					pmax	pmax			
	comp=Z,61nm,1.1s								
BJI					LR	LR			
	comp=Z,280nm,20.6s								
BJI					LR	LR			
	comp=Z,380nm,11.4s								
BJI					LR	LR			
	comp=Z,310nm,24.1s								
PMG	**Port Moresby**	**29.82**	**133**		P	**P**	**13 54 05.5**	**-0.3**	
	comp=Z,7.5nm,0.7s,baz=343,slow=8.5,SNR=4.2								
PMG	**Port Moresby**	**29.82**	**133**		P	**P**	**13 54 05.5**	**-0.3**	
PMG					LR	LR			
	comp=Z,441nm,20.0s								
SNSI	**Sinabang, Aceh**	**30.23**	**255**		P	**P**	**13 54 11.2**	**+1.7**	
SNY	**Shenyang**	**30.44**	**357**	⇑	P	**P**	**13 54 12.3**	**+1.3**	
SNY					pmax	pmax			
	comp=Z,170nm,0.9s								
COEN	**Coen**	**30.64**	**145**	*e*	P	**P**	**13 54 12.1**	**-1.0**	
	comp=Z,35nm,0.9s								
RABL	**Rabaul**	**30.70**	**119**	*e*	P	**P**	**13 54 13.4**	**-0.4**	
	comp=Z,36nm,0.6s								
CMBY	**CAMPBELL BAY**	**31.42**	**265**	*e*	P	**P**	**13 54 18.9**	**-1.2**	
LZH	**Lanzhou**	**31.48**	**325**	*e*	P	**P**	**13 54 22.3**	**+1.8**	
LZH					pP	pP	13 54 40.4	+2.9	
LZH					sP	sP	13 54 49.3	+3.5	
LZH					PP	**PnPn**	**13 55 27.6**	**+1.5**	
LZH				*e*	S	**S**	**13 59 28.8**	**+5.1**	
LZH					pmax	pmax			
	comp=Z,130nm,1.1s								
LZH					pmax	pmax			
	comp=Z,380nm,4.3s								
LZH					LR	LR			
	comp=Z,3µm,14.9s								
LZH					LR	LR			
	comp=Z,3µm,15.0s								
LZH					LR	LR			
	comp=Z,4µm,17.4s								
MSHR	**Mys Shultsa**	**31.54**	**8**	*i*	P	**P**	**13 54 21.4**	**+0.7**	
HHC	**Hu-ho-hao-te**	**31.87**	**340**	*e*	P	**P**	**13 54 24.9**	**+1.1**	
HHC					pP	pP	13 54 42.5	+1.7	
HHC					sP	sP	13 54 53.3	+4.1	
HHC					S	**S**	**13 59 28.8**	**-0.8**	
HHC					sS	sS	13 59 59.0	+0.3	
HHC					ScS	**ScS**	**14 04 44.1**	**-4.9**	
HHC					pmax	pmax			
	comp=Z,60nm,1.0s								
HHC					pmax	pmax			
	comp=Z,190nm,4.2s								
HHC					LR	LR			
	comp=Z,310nm,12.1s								
HHC					LR	LR			
	comp=Z,200nm,11.2s								
HHC					LR	LR			
	comp=Z,180nm,10.4s								
VLA	**Vladivostok**	**32.17**	**9**	*i*	P	**P**	**13 54 27.3**	**+1.0**	
VLA					pmax	pmax			
	comp=Z,43nm,1.0s								
BTO	**Baotou**	**32.20**	**338**	*e*	P	**P**	**13 54 28.4**	**+1.7**	
WRAB	**Tennant Creek**	**32.26**	**164**	*e*	P	**P**	**13 54 25.8**	**-1.5**	
	comp=Z,27nm,0.8s								
WRAB				*e*	PcP	**PcP**	**13 57 14.6**	**+0.3**	
WRAB					LR	LR			
	comp=Z,454nm,21.0s								
WRAB	**Tennant Creek**	**32.26**	**164**	*i*	P	**P**	**13 54 23.1**	**-4.2**	
WRAB					pmax	pmax			
	comp=Z,19nm,1.0s								
WRA	**Warramunga Arr**	**32.27**	**164**		P	**P**	**13 54 25.6**	**-1.7**	
	comp=Z,14nm,0.7s,baz=344,slow=9.6,SNR=78								
WRA					PcP	**PcP**	**13 57 14.1**	**-0.3**	
	comp=Z,32nm,0.7s,baz=342,slow=3.3,SNR=32								
WRA					S	**S**	**13 59 27.9**	**-8.0**	
	comp=Z,2.1nm,0.8s,baz=346,slow=16,SNR=3.0								
WRA					ScP	**ScP**	**14 00 50.7**	**-1.3**	
	comp=Z,5.7nm,0.8s,baz=340,slow=3.7,SNR=9.0								
WRA					LR	LR	14 10 42.3		
	comp=Z,170nm,18.4s,baz=20,slow=42								
WRA	**Warramunga Arr**	**32.27**	**164**	*i*	P	**P**	**13 54 25.7**	**-1.7**	
WRA					pmax	pmax			
	comp=Z,23nm,0.9s								
CN2	**Changchun**	**32.37**	**360**	*e*	P	**P**	**13 54 28.6**	**+0.6**	
CN2				*e*	sP	sP	13 54 55.3	+2.1	
CN2					PcP	**PcP**	**13 57 14.4**	**+0.2**	
CN2				*e*	S	**S**	**13 59 36.6**	**-0.4**	
CN2					pmax	pmax			
	comp=Z,20nm,0.9s								
CN2					pmax	pmax			
	comp=Z,200nm,5.0s								
CN2					LR	LR			
	comp=Z,300nm,18.0s								
CN2					LR	LR			
	comp=Z,300nm,18.0s								
CN2					LR	LR			
	comp=Z,300nm,20.0s								
MBWA	**Marble Bar**	**32.76**	**190**		PFAKE		13 54 40.0	+8.3	
MBWA					LR	LR			
	comp=Z,347nm,19.0s								
MBWA	**Marble Bar**	**32.76**	**190**	*e*	P	**P**	**13 54 31.2**	**-0.4**	
USA0B	**Ussuriysk Arra**	**33.24**	**9**	*e*	P	**P**	**13 54 36.1**	**+0.5**	
	comp=Z,71nm,0.9s								
USRK	**Ussuriysk Ar.**	**33.24**	**9**		P	**P**	**13 54 36.9**	**+1.2**	
	comp=Z,56nm,0.8s,baz=192,slow=7.7,SNR=100								
USRK					PcP	**PcP**	**13 57 16.8**	**+0.1**	
	comp=Z,2.6nm,0.6s,baz=194,slow=1.8,SNR=4.3								
USRK					LR	LR	14 06 35.7		
	comp=Z,379nm,21.5s,baz=178,slow=33								
MDJ	**Mudanjiang**	**33.37**	**5**		P	**P**	**13 54 38.1**	**+1.4**	
MDJ					pP	pP	13 54 55.8	+2.2	
MDJ					sP	sP	13 55 04.6	+2.8	
MDJ					PcP	**PcP**	**13 57 16.8**	**-0.2**	
MDJ					S	**S**	**13 59 55.5**	**+2.9**	
MDJ					sS	sS	14 00 26.5	+4.7	
MDJ					SS	**SnSn**	**14 02 05.3**	**+4.9**	
MDJ					pmax	pmax			
	comp=Z,66nm,1.3s								
MDJ					LR	LR			
	comp=Z,450nm,26.3s								
MDJ					LR	LR			
	comp=Z,330nm,30.3s								
MDJ					LR	LR			
	comp=Z,640nm,25.5s								
MDJ	**Mudanjiang**	**33.37**	**5**	*e*	P	**P**	**13 54 37.0**	**+0.3**	
	comp=Z,116nm,1.4s								
MDJ					LR	LR			
	comp=Z,492nm,22.0s								
ERM	**Erimo**	**34.27**	**24**		PFAKE		13 55 00.0	+15	
ERM					LR	LR			
	comp=Z,419nm,20.0s								
SHL	**Shillong**	**34.75**	**299**	*e*	P	**P**	**13 54 49.0**	**-0.2**	
	comp=Z,211nm,0.8s								
SHL	**Shillong**	**34.75**	**299**	*e*	P	**P**	**13 54 49.0**	**-0.2**	
SHL					pmax	pmax			
	comp=Z,211nm,0.8s								
SHL	**Shillong**	**34.75**	**299**	*e*	P	**P**	**13 54 48.7**	**-0.5**	
TEY	**Ternei**	**34.93**	**14**	‖ *e*	P	**P**	**13 54 50.9**	**+0.7**	
TEY					pmax	pmax			
	comp=E,30nm,1.1s								
TEY					pmax	pmax			
	comp=N,40nm,1.0s								
TEY					pmax	pmax			
	comp=Z,40nm,0.9s								
GIRL	**Giralia**	**35.50**	**198**	*e*	P	**P**	**13 54 54.2**	**-1.1**	
	comp=Z,184nm,1.2s								
AS31	**Alice Springs**	**35.73**	**167**	*e*	P	**P**	**13 54 56.8**	**-0.6**	
	comp=Z,16nm,0.5s								
AS31				*e*	PcP	**PcP**	**13 57 23.8**	**-0.4**	
ASAR	**Alice Springs**	**35.73**	**167**		P	**P**	**13 54 56.9**	**-0.6**	
	comp=Z,35nm,0.5s,baz=351,slow=8.0,SNR=162								
ASAR					PcP	**PcP**	**13 57 24.2**	**0.0**	
	comp=Z,23nm,0.7s,baz=346,slow=2.3,SNR=19								
ASAR					S	**S**	**14 00 25.2**	**-4.3**	
	comp=Z,2.7nm,0.7s,baz=353,slow=22,SNR=5.1								
ASAR					ScP	**ScP**	**14 01 03.1**	**-1.1**	
	comp=Z,5.3nm,0.9s,baz=342,slow=3.5,SNR=7.0								
ASAR					LR	LR	14 10 57.6		
	comp=Z,316nm,21.8s,baz=358,slow=38								
AS01	**Alice Springs**	**35.74**	**167**	*e*	P	**P**	**13 54 57.0**	**-0.5**	
AS01				*e*	PcP	**PcP**	**13 57 24.4**	**+0.1**	
ASAJ	**Asahikawa**	**35.87**	**21**	*e*	P	**P**	**13 54 58.7**	**+0.4**	
	comp=Z,42nm,0.8s								
GTA	**Gaotai**	**36.08**	**325**	⇑	P	**P**	**13 55 01.3**	**+0.9**	
GTA					pP	pP	13 55 18.8	+1.2	
GTA					sP	sP	13 55 27.8	+1.9	
GTA					PcP	**PcP**	**13 57 25.8**	**+0.6**	
GTA					S	**S**	**14 00 35.9**	**+1.2**	
GTA					ScP	**ScP**	**14 01 06.3**	**+0.8**	
GTA					PcS	**PcS**	**14 01 11.8**	**-1.1**	
GTA					ScS	**ScS**	**14 05 06.3**	**-5.0**	
GTA					pmax	pmax			
	comp=Z,81nm,1.0s								
GTA					pmax	pmax			
	comp=Z,190nm,6.0s								
GTA					LR	LR			
	comp=Z,300nm,18.1s								
GTA					LR	LR			
	comp=Z,310nm,17.1s								
GTA					LR	LR			
	comp=Z,820nm,18.1s								
LSA	**Lhasa**	**36.78**	**305**		P	**P**	**13 55 07.8**	**+0.9**	
LSA					pmax	pmax			
	comp=Z,49nm,0.8s								
LSA	**Lhasa**	**36.78**	**305**	*e*	P	**P**	**13 55 07.2**	**+0.3**	
	comp=Z,37nm,0.7s								
LSA				*e*	PcP	**PcP**	**13 57 28.3**	**+0.4**	
LSA					LR	LR			
	comp=Z,416nm,19.0s								
LSA	**Lhasa**	**36.78**	**305**	*i*	P	**P**	**13 55 07.7**	**+0.8**	
	SNR=34								
LSA	**Lhasa**	**36.78**	**305**	*e*	P	**P**	**13 55 07.2**	**+0.3**	
LSA				*e*			13 57 28.3		
LSA					pmax	pmax			
	comp=Z,37nm,0.7s								
LSA					MLR	MLR			
	comp=Z,416nm,19.0s								
CTAO	**Charters Tower**	**37.32**	**147**	*e*	P	**P**	**13 55 10.7**	**-0.2**	
	comp=Z,37nm,1.1s								
CTAO					LR	LR			
	comp=Z,900nm,19.0s								
CTAO	**Charters Tower**	**37.32**	**147**	*e*	P	**P**	**13 55 10.7**	**-0.2**	
CTAO					pmax	pmax			
	comp=Z,37nm,1.1s								
CTAO					MLR	MLR			
	comp=Z,900nm,19.0s								
HIA	**Hailar**	**38.13**	**354**	*e*	P	**P**	**13 55 18.0**	**+0.5**	
	comp=Z,46nm,1.0s								
HIA					LR	LR			
	comp=Z,335nm,19.0s								
HIA	**Hailar**	**38.13**	**354**	*e*	P	**P**	**13 55 18.0**	**+0.5**	
HIA					pmax	pmax			
	comp=Z,46nm,1.0s								
HIA					MLR	MLR			
	comp=Z,335nm,19.0s								
KLR	**Kul'dur**	**38.16**	**7**	*c i*	P	**P**	**13 55 18.4**	**+0.8**	
YSS	**Yuzh-Sakhalins**	**38.41**	**19**	*e*	P	**P**	**13 55 20.8**	**+1.0**	
	comp=Z,48nm,1.0s								
YSS	**Yuzh-Sakhalins**	**38.41**	**19**	*e*	P	**P**	**13 55 20.8**	**+1.0**	
YSS					pmax	pmax			
	comp=Z,48nm,1.0s								
ODAN	**Odare**	**38.98**	**299**	*e*	P	**P**	**13 55 25.7**	**+0.5**	
	comp=Z,744nm,0.7s								
ULN	**Ulaanbaatar**	**39.58**	**340**	*e*	P	**P**	**13 55 31.4**	**+1.6**	
	comp=Z,153nm,0.9s								
ULN				*e*	PcP	**PcP**	**13 57 35.3**	**-0.5**	
ULN					LR	LR			
	comp=Z,244nm,19.0s								
ULN	**Ulaanbaatar**	**39.58**	**340**	*c e*	P	**P**	**13 55 30.9**	**+1.1**	
ULN					pmax	pmax			
	comp=Z,187nm,1.0s								
ULN	**Ulaanbaatar**	**39.58**	**340**		P	**P**	**13 55 31.2**	**+1.4**	
	SNR=49								
BOK	**Bokaro**	**39.59**	**294**	*e*	P	**P**	**13 55 30.4**	**+0.4**	
BOK					IAmb	IAmb	13 55 31.9		
	comp=Z,72nm,0.9s								
RAMN	**Ramite**	**39.69**	**299**	*e*	P	**P**	**13 55 31.6**	**+0.5**	
	comp=Z,498nm,0.9s								
SONM	**Songino Array**	**39.77**	**340**		P	**P**	**13 55 32.5**	**+1.2**	
	comp=Z,58nm,0.6s,baz=156,slow=9.6,SNR=331								
SONM					PcP	**PcP**	**13 57 36.2**	**-0.2**	
	comp=Z,5.5nm,0.8s,baz=153,slow=3.9,SNR=4.5								
SONM					ScP	**ScP**	**14 01 18.9**	**-0.3**	
	comp=Z,1.1nm,0.8s,baz=158,slow=3.8,SNR=4.4								
SONM					LR	LR	14 14 23.0		
	comp=Z,252nm,18.2s,baz=170,slow=40								
SONM	**Songino Array**	**39.77**	**340**		P	**P**	**13 55 32.5**	**+1.2**	
SONM							13 57 36.2		
SONM					pmax	pmax			
	comp=Z,57nm,0.6s								
SONM					pmax	pmax			
	comp=Z,6.0nm,0.8s								
SONM					pmax	pmax			
	comp=N,1.0nm,0.8s								
SONM					MLR	MLR			
	comp=Z,252nm,18.2s								
SONA1	**Songino Array**	**39.78**	**340**	*e*	P	**P**	**13 55 32.7**	**+1.3**	
SONA1				*e*	PcP	**PcP**	**13 57 36.4**	**0.0**	
HNR	**Honiara**	**40.00**	**120**		PFAKE		13 55 50.0	+16	
HNR					LR	LR			
	comp=Z,452nm,20.0s								
JIRN	**Jiri**	**40.23**	**300**	*e*	P	**P**	**13 55 36.1**	**+0.4**	
	comp=Z,933nm,0.6s								
GRNR	**Gornyy**	**40.

KOLN **Koldanda** 42.48 299 eP P 13 55 53.9 0.0
comp=Z,436nm,0.8s
DANN **Dangsing** 42.48 300 eP P 13 55 54.0 -0.1
comp=Z,829nm,0.8s
ZAK **Zakamensk** 43.01 339 eP P 13 55 57.7 -0.1
ZAK pmax pmax
comp=Z,34nm,1.0s
PYUN **Piuthan** 43.08 299 eP P 13 55 59.0 +0.2
comp=Z,860nm,0.9s
NKL **Nikolayevsk** 43.47 13 eP P 13 56 02.5 +1.2
NKL pmax pmax
comp=N,16nm,0.9s
NKL pmax pmax
comp=Z,69nm,0.9s
EIDS **Eidsvold** 44.19 146 eP P 13 56 07.8 +0.4
comp=Z,14nm,0.9s
MDRS **Chennai** 44.20 277 eP P 13 56 07.2 -0.5
MDRS IAmb IAmb 13 56 08.6
comp=Z,11nm,0.9s
IRK **Irkutsk** 44.27 341 eP P 13 56 05.8 -2.0
IRK pmax pmax
comp=Z,90nm,1.8s
NWAO **Narrogin (SRO)** 44.69 190 eP P 13 56 10.7 -0.6
comp=Z,30nm,0.9s
NWAO LR LR
comp=Z,457nm,22.0s
NWAO **Narrogin (SRO)** 44.69 190 eP P 13 56 10.7 -0.6
NWAO pmax pmax
comp=Z,30nm,0.9s
NWAO MLR MLR
comp=Z,457nm,22.0s
JBP **Jabalpur** 44.84 291 eP P 13 56 13.3 +0.6
JBP ex x 14 06 37.7
MOY **Mondy** 44.89 339 eP P 13 56 13.9 +1.1
MOY pmax pmax
comp=Z,115nm,1.5s
BBOO **Buckleboo** 45.03 167 eP P 13 56 14.0 0.0
comp=Z,72nm,0.7s
KNGR **Kungurtug, Tuv** 45.39 335 i P P 13 56 16.6 -0.2
STKA **Stephens Creek** 45.64 161 P P 13 56 19.1 +0.3
comp=Z,117nm,0.6s,baz=337,slow=8.1,SNR=322
STKA S S 14 02 53.0 -3.5
comp=Z,3.6nm,0.9s,baz=22,slow=19,SNR=3.1
STKA LR LR 14 17 53.6
comp=Z,150nm,19.9s,baz=346,slow=39
STKA **Stephens Creek** 45.64 161 eP P 13 56 19.5 +0.6
comp=Z,25nm,0.6s
STKA S S 14 02 53.0 -3.5
STKA **Stephens Creek** 45.64 161 eP P 13 56 19.5 +0.6
STKA S S 14 02 53.0 -3.5
STKA pmax pmax
comp=Z,25nm,0.6s
HYB **Hyderabad** 45.76 283 i P P 13 56 20.0 -0.2
HYB **Hyderabad** 45.76 283 eP P 13 56 21.0 +0.9
WMQ **Urumqi** 45.92 322 ⇑ iP P 13 56 21.6 +0.6
WMQ pP pP 13 56 36.1 -2.7
WMQ sP sP 13 56 47.4 +0.4
WMQ PcP PcP 13 57 57.1 +0.1
WMQ pmax pmax
comp=Z,64nm,0.9s
WMQ pmax pmax
comp=Z,570nm,3.6s
WMQ LR LR
comp=Z,1μm,33.7s
WMQ LR LR
comp=Z,620nm,24.1s
WMQ LR LR
comp=Z,740nm,25.7s
WMQ **Urumqi** 45.92 322 eP P 13 56 22.4 +1.4
WMQ **Urumqi** 45.92 322 eP P 13 56 22.4 +1.4
BHPL **Bhopal** 47.19 291 eP P 13 56 30.5 -0.8
BHPL IAmb IAmb 13 56 31.6
BOD **Bodaibo** 47.23 352 eP P 13 56 31.9 +1.0
BOD pmax pmax
comp=Z,82nm,1.4s
DDI **Dehra Dun** 47.79 301 eP P 13 56 35.7 -0.1
TRD **Trivandrum** 47.83 271 eP P 13 56 35.8 -0.5
NDI **New Delhi** 48.17 298 eP P 13 56 37.8 -1.0
ARMA **Armidale** 48.53 149 eP P 13 56 42.5 +1.0
comp=Z,27nm,0.8s
SMLA **Simla** 48.72 302 eP P 13 56 42.8 -0.1
PEA0B **Petropavlovsk-** 49.02 25 eP P 13 56 46.2 +1.3
comp=Z,110nm,1.4s
PEA0B ePcP PcP 13 58 08.7 +0.9
PETK **Petropavlovsk-** 49.02 25 P P 13 56 46.8 +1.9
comp=Z,24nm,0.8s,baz=201,slow=4.8,SNR=19
PETK PcP PcP 13 58 08.4 +0.6
comp=Z,19nm,0.9s,baz=210,slow=4.0,SNR=7.8
PETK LR LR 14 15 28.3
comp=Z,342nm,21.8s,baz=213,slow=33
PETK **Petropavlovsk-** 49.02 25 eP P 13 56 47.0 +2.1
PETK ePcP PcP 13 58 08.1 +0.3
PETK **Petropavlovsk-** 49.02 25 eP P 13 56 47.0 +2.1
PETK e 13 58 08.1
PET **Petropavlovsk** 49.37 26 eP P 13 56 49.0 +1.6
comp=Z,73nm,1.2s
PET **Petropavlovsk** 49.37 26 eP P 13 56 49.0 +1.6
PET pmax pmax
comp=Z,73nm,1.2s
DGZ **Jazzator, Alta** 49.47 328 c iP P 13 56 49.7 +1.2
DGZ pmax pmax
comp=Z,20nm,1.0s
ZSN **Zaisan** 49.56 325 d iP P 13 56 48.8 -0.3
ZSN pmax pmax
comp=Z,32nm,0.7s
ZSN **Zaisan** 49.56 325 ⇓ iP P 13 56 48.9 -0.3
comp=Z,32nm,0.7s
DHRM **DHARAMSHALA** 49.69 303 eP P 13 56 50.0 -0.7
POO **Poona** 50.26 285 eP P 13 56 52.2 -2.7
MK01 **Makanchi Array** 50.71 323 eP P 13 56 58.8 +1.0
MK01 ePcP PcP 13 58 13.9 -0.2
YAK **Yakutsk** 50.72 3 c iP P 13 56 58.3 +0.7
YAK e*PP pP 13 57 14.1 -1.4
YAK e 13 58 13.2
YAK e 13 59 02.1
YAK eS S 14 04 10.9 +3.5
YAK e 14 06 38.2
YAK pmax pmax
comp=Z,244nm,0.9s
YAK pmax pmax
comp=N,113nm,1.1s
YAK pmax pmax
comp=E,19nm,0.9s
YAK pmax pmax
comp=Z,53nm,2.2s
YAK smax smax
comp=N,36nm,1.8s
YAK smax smax
comp=E,39nm,2.3s
MK31 **Makanchi Array** 50.72 323 eP P 13 56 58.7 +0.8
MK31 **Makanchi Array** 50.72 323 eP P 13 56 58.7 +0.8
MKAR **Makanchi Array** 50.72 323 P P 13 56 58.9 +1.0
comp=E,41nm,0.6s,baz=119,slow=8.4,SNR=540
MKAR PcP PcP 13 58 13.9 -0.3
comp=E,20nm,0.9s,baz=115,slow=5.5,SNR=6.3
MKAR ScP ScP 14 02 03.3 -1.0
comp=E,2.0nm,0.9s,baz=90,slow=7.2,SNR=5.3
MKAR LR LR 14 20 09.3
comp=E,196nm,19.8s,baz=111,slow=38
MKAR P4KPbc 14 34 27.4
comp=E,0.2nm,0.6s,baz=104,slow=6.2,SNR=3.5
MKAR **Makanchi Array** 50.72 323 P P 13 56 58.9 +1.0
MKAR 13 58 13.9
MKAR pmax pmax
comp=Z,42nm,0.6s
MKAR pmax pmax
comp=Z,20nm,0.9s
MKAR pmax pmax
comp=N,2.0nm,0.9s
MKAR MLR MLR
comp=Z,196nm,19.8s
SHLS **Shalkode** 50.85 317 ce P P 13 56 56.0 -3.1
SHLS pmax pmax
comp=Z,18nm,1.4s
SHLS MLR MLR
comp=Z,251nm,19.0s
SHLS **Shalkode** 50.85 317 ⇑ eP P 13 56 56.0 -3.1
comp=Z,18nm,1.4s
SHLS eLRM MLR 14 19 19.3
comp=Z,251nm,18.8s
PDGK **Podgornoye** 50.90 317 P P 13 56 59.2 -0.3
PDGK pmax pmax
comp=Z,32nm,1.0s
MAKZ **Makanchi** 50.92 322 eP P 13 57 00.2 +0.8
comp=Z,43nm,0.6s
MAKZ ePcP PcP 13 58 14.8 -0.1
MAKZ **Makanchi** 50.92 322 eP P 13 57 00.2 +0.8
MAKZ e 13 58 14.8
MAKZ pmax pmax
comp=Z,43nm,0.6s
UZB **Uzynbulak** 51.14 317 de P P 13 56 59.2 -2.0
UZB pmax pmax
comp=Z,14nm,1.8s
UZB **Uzynbulak** 51.14 317 ⇓ eP P 13 56 59.2 -2.0
comp=Z,14nm,1.8s
PRZ **Przheval'sk** 51.29 316 eP P 13 57 04.4 +1.9
comp=Z,42nm,1.0s
PRZ **Przheval'sk** 51.29 316 eP P 13 57 04.4 +1.9
PRZ pmax pmax
comp=Z,42nm,1.0s
CAN **Canberra** 51.45 155 eP P 13 57 04.9 +1.4
comp=Z,44nm,0.8s
CAN **Canberra** 51.45 155 eP P 13 57 04.9 +1.4
CAN pmax pmax
comp=Z,44nm,0.8s
KPKS **Kokpek** 51.49 317 c iP P 13 57 02.3 -1.5
KPKS pmax pmax
comp=Z,14nm,0.5s
KPKS **Kokpek** 51.49 317 ⇑ iP P 13 57 02.4 -1.5
comp=Z,14nm,0.5s
MA2 **Magadan** 51.75 16 eP P 13 57 06.2 +0.9
comp=Z,32nm,1.0s
MA2 ePcP PcP 13 58 19.0 +1.3
MA2 LR LR
comp=Z,379nm,20.0s
MA2 **Magadan** 51.75 16 ce P P 13 57 06.3 +0.9
MA2 pmax pmax
comp=Z,53nm,2.5s
KSH **Kashi** 51.95 312 P P 13 57 08.3 +0.9
KSH pP pP 13 57 29.1 +3.6
KSH sP sP 13 57 37.4 +3.9
KSH PcP PcP 13 58 19.4 +0.3
KSH PcS PcS 14 02 16.6 -0.8
KSH S S 14 04 21.8 -3.7
KSH ScS ScS 14 06 46.3 -4.9
KSH pmax pmax
comp=Z,35nm,1.0s
KSH pmax pmax
comp=Z,450nm,5.9s
KSH LR LR
comp=Z,460nm,6.2s
KSH LR LR
comp=Z,520nm,6.0s
KSH LR LR
comp=Z,620nm,12.6s
KDJ **Kajisay** 51.99 315 eP P 13 57 08.2 +0.5
comp=Z,15nm,0.8s
KDJ **Kajisay** 51.99 315 eP P 13 57 08.2 +0.5
KDJ pmax pmax
comp=Z,15nm,0.8s
DZM **Mont Dzumac** 52.12 130 eP P 13 57 10.0 +1.3
comp=Z,98nm,0.8s
DZM epP sP 13 57 31.8 -2.9
comp=Z,59nm,1.1s
DZM eS S 14 04 27.0 -1.0
comp=Z,218nm,28.5s
DZM eLR LR 14 12 19.5
comp=Z,579nm,28.4s
DZM **Mont Dzumac** 52.12 130 eP P 13 57 10.4 +1.7
comp=Z,54nm,0.6s
TOO **Toolangi** 52.13 160 eP P 13 57 10.0 +1.5
comp=Z,65nm,0.8s
TOO **Toolangi** 52.13 160 eP P 13 57 10.0 +1.5
TOO pmax pmax
comp=Z,65nm,0.8s
TDK **Taldyqorghan** 52.31 319 de P P 13 57 09.1 -0.7
TDK pmax pmax
comp=Z,330nm,1.4s
TDK MLR MLR
comp=Z,541nm,18.0s
TDK **Taldyqorghan** 52.31 319 ⇓ eP P 13 57 09.2 -0.7
comp=Z,330nm,1.4s
TDK eLRM MLR 14 20 24.2
comp=Z,541nm,17.8s
MDOK **Medeo** 52.47 316 ce P P 13 57 09.8 -1.4
MDOK pmax pmax
comp=Z,57nm,1.6s
MDOK MLR MLR
comp=Z,122nm,18.0s
MDOK **Medeo** 52.47 316 ⇑ eP P 13 57 09.8 -1.4
comp=Z,57nm,1.6s
MDOK eLRM MLR 14 21 30.6
comp=Z,122nm,18.5s
TNSS **Tian-Shan** 52.49 316 ce P P 13 57 11.1 -0.6
TNSS pmax pmax
comp=Z,124nm,1.6s
TNSS **Tian-Shan** 52.49 316 ⇑ eP P 13 57 11.1 -0.6
comp=Z,124nm,1.6s
NIL **Nilore** 52.50 304 eP P 13 57 11.7 +0.3
comp=Z,247nm,0.8s
NIL LR LR
comp=Z,184nm,20.0s
NIL **Nilore** 52.50 304 eP P 13 57 11.7 +0.3
NIL pmax pmax
comp=Z,247nm,0.8s
NIL MLR MLR
comp=Z,184nm,20.0s
NRN **Naryn** 52.57 314 eP P 13 57 12.2 0.0
comp=Z,15nm,0.6s
NRN **Naryn** 52.57 314 eP P 13 57 12.2 0.0
NRN pmax pmax
comp=Z,15nm,0.6s
ULHL **Ulahol** 52.69 315 P P 13 57 13.5 +0.6
SNR=14
CHKK **Chushkaly** 52.78 317 c iP P 13 57 11.8 -1.5
CHKK pmax pmax
comp=Z,28nm,1.5s
CHKK **Chushkaly** 52.78 317 ⇑ iP P 13 57 11.8 -1.5
comp=Z,28nm,1.5s
KUU **Kurty** 53.23 317 d iP P 13 57 14.5 -2.1
KUU pmax pmax
comp=Z,321nm,0.9s
KUU **Kurty** 53.23 317 ⇓ iP P 13 57 14.5 -2.1
comp=Z,321nm,0.9s
KZA **Kyzart** 53.32 314 P P 13 57 18.8 +1.0
SNR=7.4
ZAA0 **Zalesovo Array** 53.34 331 eP P 13 57 17.3 +0.2
comp=Z,55nm,0.8s
ZALV **Zalesovo Beam** 53.34 331 P P 13 57 17.5 +0.3
comp=Z,48nm,0.7s,baz=118,slow=6.7,SNR=172
ZALV PcP PcP 13 58 22.4 -1.4
comp=Z,8.4nm,0.7s,baz=140,slow=4.7,SNR=2.5
ZALV LR LR 14 21 45.7
comp=Z,224nm,18.8s,baz=70,slow=38
ZALV **Zalesovo Beam** 53.34 331 eP P 13 57 17.4 +0.3
ZALV ePcP PcP 13 58 22.9 -0.9
TKM2 **Tokmak 2** 53.37 316 P P 13 57 18.4 +0.5
SNR=20
TKM2 **Tokmak 2** 53.37 316 P P 13 57 17.7 -0.2
TKM2 pmax pmax
comp=Z,19nm,1.0s
SEM **Semipalatinsk** 53.71 326 de P P 13 57 17.8 -2.4
SEM pmax pmax
comp=Z,22nm,1.6s
SEM **Semipalatinsk** 53.71 326 ⇓ eP P 13 57 17.8 -2.4
comp=Z,22nm,1.6s
KBK **Karagaybulak** 53.73 315 P P 13 57 21.4 +0.9
SNR=20
UCH **Uchtor** 53.88 314 P P 13 57 23.1 +1.2
SNR=45
SFK **Sufi-Kurgan** 53.92 312 P P 13 57 21.6 -0.4
SFK pmax pmax
comp=Z,45nm,1.3s
CHMS **Chumysh** 53.98 315 P P 13 57 22.1 -0.1
SNR=13
FRU **Bishkek** 54.02 315 eP P 13 57 22.0 -0.4
AAK **Ala-Archa** 54.03 315 P P 13 57 23.3 +0.6
SNR=6.5
AAK **Ala-Archa** 54.03 315 eP P 13 57 22.7 0.0
comp=Z,7.4nm,0.8s
AAK LR LR
comp=Z,300nm,19.0s
AAK **Ala-Archa** 54.03 315 i P P 13 57 22.7 0.0
SNR=11
AAK **Ala-Archa** 54.03 315 P P 13 57 23.5 +0.8
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK **Ala-Archa** 54.03 315 P P 13 57 22.6 0.0
SNR=7.7
USP **Ospenovka** 54.24 316 P P 13 57 24.4 +0.4
SNR=22
BHJ **Bhuj** 54.31 290 eP P 13 57 25.1 +0.3
BHJ IAmb IAmb 13 57 26.9
comp=Z,200nm,1.9s
AML **Almayashu** 54.43 314 P P 13 57 26.8 +1.0
SNR=43
EKS2 **Erkin-Say** 54.54 315 P P 13 57 27.1 +0.8
SNR=17
NVS **Novosibirsk** 54.61 332 ⇑ iP P 13 57 26.7 +0.3
NVS eS S 14 05 02.9 +2.1
NVS pmax pmax
comp=Z,76nm,0.9s
NVS pmax pmax
comp=N,32nm,0.9s
NVS pmax pmax
comp=E,32nm,0.8s
NVS smax smax
comp=E,15nm,1.8s
ARSB **Arslanbob** 54.68 313 eP P 13 57 27.5 0.0
comp=E,32nm,1.1s
ARSB ePcP PcP 13 58 29.6 +0.1
KURK **Kurchatov** 54.77 325 eP P 13 57 27.6 0.0
comp=E,165nm,0.9s
KURK LR LR
comp=Z,546nm,22.0s
KURK **Kurchatov** 54.77 325 ce P P 13 57 28.0 +0.4
KURK pmax pmax
comp=Z,259nm,1.3s
KURK **Kurchatov** 54.77 325 P P 13 57 28.2 +0.6
SNR=54
SEY **Seymchan** 55.01 15 ce P P 13 57 30.1 +1.0
BTLS **Baital** 55.17 318 d iP P 13 57 28.5 -2.2
BTLS pmax pmax
comp=Z,65nm,1.2s
BTLS **Baital** 55.17 318 ⇓ iP P 13 57 28.6 -2.2
comp=Z,65nm,1.2s
MNAS **Manas** 55.38 314 P P 13 57 32.7 +0.3
MNAS pmax pmax
comp=Z,41nm,0.8s
BTK **Batken** 55.91 311 eP P 13 57 35.9 -0.3
comp=Z,35nm,0.8s
BTK **Batken** 55.91 311 eP P 13 57 35.9 -0.3
BTK pmax pmax
comp=Z,35nm,0.8s
KBL **Kabul** 56.10 304 eP P 13 57 37.7 -0.1
comp=Z,129nm,0.6s
KBL **Kabul** 56.10 304 eP P 13 57 37.7 -0.1
KBL pmax pmax
comp=Z,129nm,0.6s
KK31 **Karatay Array** 56.96 314 eP P 13 57 43.4 -0.1
KK31 **Karatay Array** 56.96 314 i P P 13 57 43.7 +0.2
KK31 pmax pmax
comp=Z,23nm,0.8s
IUG **luzhnay** 57.04 313 de P P 13 57 42.2 -2.0
IUG pmax pmax
comp=Z,28nm,1.7s
IUG MLR MLR
comp=Z,82nm,11.0s
IUG **luzhnay** 57.04 313 ⇓ eP P 13 57 42.2 -2.0
comp=Z,28nm,1.7s
IUG eLRM MLR 14 23 31.2
comp=Z,82nm,11.4s
OTUK **Ortayu** 57.43 321 P P 13 57 46.6 -0.1
OTUK pmax pmax
comp=Z,40nm,1.1s
BRZS **Berezniki** 57.87 323 c iP P 13 57 48.5 -1.3
BRZS pmax pmax
comp=Z,26nm,1.5s
BRZS **Berezniki** 57.87 323 ⇑ iP P 13 57 48.5 -1.3
comp=Z,26nm,1.5s
TIXI **Tiksi** 60.33 1 LR LR 14 24 30.5
comp=Z,266nm,21.2s,baz=192,slow=36
TIXI **Tiksi** 60.33 1 eP P 13 58 06.8 +0.5
comp=Z,91nm,1.0s
TIXI **Tiksi** 60.33 1 ce P P 13 58 06.3 0.0
TIXI pmax pmax
comp=Z,102nm,1.0s
BVA0 **Borovoye Array** 60.36 325 i P P 13 58 07.0 +0.1
BVA0 pmax pmax
comp=Z,37nm,1.0s
BRVK **Borovoye** 60.43 325 eP P 13 58 07.8 +0.4
comp=Z,67nm,0.8s
BRVK LR LR
comp=Z,192nm,21.0s
BRVK **Borovoye** 60.43 325 c iP P 13 58 07.3 -0.1
BRVK pmax pmax
comp=Z,65nm,0.9s
BRVK **Borovoye** 60.43 325 P P 13 58 07.6 +0.2
SNR=19
BILL **Bilibino** 62.62 16 eP P 13 58 22.5 +0.7
comp=Z,31nm,0.7s
BILL LR LR
comp=Z,332nm,20.0s
BILL **Bilibino** 62.62 16 ce P P 13 58 22.7 +0.9
BILL pmax pmax
comp=Z,82nm,1.7s
ATKA **Atka Island** 63.10 37 eP P 13 58 25.4 +0.2
comp=Z,92nm,0.8s
OUZ **Omahuta** 64.91 138 eP P 13 58 38.7 +1.4
comp=Z,48nm,1.3s
MHTO **MHTO** 65.16 288 P P 13 58 37.3 -2.1
GEYT **Alibeck** 65.29 307 P P 13 58 40.5 +0.5
comp=Z,70nm,0.8s,baz=116,slow=3.4,SNR=124
GEYT LR LR 14 31 59.3
comp=Z,262nm,19.9s,baz=50,slow=40
GYA0B **ALIBECK ARRAY** 65.29 307 eP P 13 58 40.1 +0.1
comp=Z,71nm,0.8s
AB31 **Akbulak array** 65.58 319 i P P 13 58 41.5 -0.1
AB31 pmax pmax
comp=Z,48nm,0.9s
UOSS **Minazif** 66.61 292 eP P 13 58 47.4 -1.2
comp=Z,11nm,0.6s
UOSS **Minazif** 66.61 292 P P 13 58 46.8 -1.9
UOSS **Minazif** 66.61 292 P P 13 58 47.1 -1.5
MSFE **Esma-Masafi** 66.64 293 P P 13 58 49.2 +0.3
HATD **Hatta, Dubai** 66.68 292 i P P 13 58 48.4 -0.7
SNR=8.1
ASHO **Ashiyiah** 66.75 292 i P P 13 58 48.4 -1.2
SNR=11
SVE **Sverdlovsk** 66.91 327 d iP P 13 58 50.0 0.0
SVE pmax pmax
comp=Z,89nm,1.1s
AKTO **Aktyubinsk** 67.02 320 P P 13 58 50.6 -0.2
AKTO pmax pmax
comp=Z,60nm,1.1s
ALNE **Al Ain** 67.06 291 i P P 13 58 50.6 -1.0
SNR=12
UMQ **Umm Al-Quwin** 67.08 293 P P 13 58 51.5 -0.1
FAQ **Al Faqa, Dubai** 67.17 292 P P 13 58 51.3 -0.9
ASUD **Al Ashush, Dub** 67.42 292 P P 13 58 53.2 -0.6
ARU **Arti** 67.92 327 PFAKE 13 59 10.0 +14
ARU LR LR
comp=Z,147nm,19.0s
ARU **Arti** 67.92 327 c iP P 13 58 55.9 -0.5
ARU *PP pP 13 59 14.6 -0.6
ARU 14 01 22.2
ARU S S 14 07 48.9 -0.7
ARU SS SS 14 12 09.0 -3.4
ARU pmax pmax
comp=Z,122nm,1.4s
VRZ **Vera Road** 67.97 141 P P 13 58 59.3 +2.4
UNV **Unalaska Valle** 68.01 36 eP P 13 58 57.8 +0.9
comp=Z,58nm,1.0s
GAMB **Gambell** 68.06 25 eP P 13 58 58.1 +1.1
comp=Z,38nm,1.3s
THZ **Tophouse** 68.47 144 eP P 13 59 00.3 +0.2
comp=Z,36nm,0.7s
LBZ **Lake Benmore** 68.67 147 eP P 13 59 02.0 +0.9
comp=Z,102nm,1.4s
RPZ **Rata Peaks** 68.69 146 LR LR 14 25 48.9
comp=Z,418nm,21.9s,baz=284,slow=33
RPZ **Rata Peaks** 68.69 146 eP P 13 59 02.1 +0.9
comp=Z,50nm,0.6s
MOVZ **Moawhango** 68.76 140 P P 13 59 03.4 +1.5
MRHZ **Matea Rd** 68.85 139 P P 13 59 03.4 +1.0
URZ **Urewera** 68.97 139 P P 13 59 03.7 +0.6
OXZ **Oxford** 68.97 145 eP P 13 59 03.4 +0.3
comp=Z,111nm,1.6s
BHHZ **Black Hill Sta** 69.00 140 P P 13 59 04.6 +1.2
RTZ **Ruatahuna** 69.08 139 P P 13 59 04.7 +0.8
BKZ **Black Stump Fm** 69.09 140 eP P 13 59 04.7 +0.8
comp=Z,62nm,0.6s
BKZ **Black Stump Fm** 69.09 140 P P 13 59 04.8 +0.9
HAZ **Te Kaha** 69.12 138 P P 13 59 05.1 +1.0
RUGZ **Raukumara Rang** 69.17 138 P P 13 59 06.1 +1.6
SNZO **South Karori** 69.25 142 eP P 13 59 04.5 -0.3
TSZ **Takapari Road** 69.27 141 P P 13 59 05.9 +0.9
MWZ **Matawai** 69.28 138 P P 13 59 05.9 +0.8

RAHZ Arahi 69.32 139 P P 13 59 07.3 +2.0
MCHZ McNeill Hill 69.38 140 P P 13 59 07.3 +1.7
PKGZ Pakihiroa 69.39 138 P P 13 59 07.2 +1.4
SNGZ Shannon Statio 69.41 139 P P 13 59 07.1 +1.2
TWGZ Tauwhareparae 69.48 138 P P 13 59 09.1 +2.7
PUZ Puketiti 69.61 138 P P 13 59 09.3 +2.2
RIGZ Rimuhau 69.64 139 P P 13 59 08.4 +1.1
PXZ Pawanui 69.82 140 P P 13 59 10.1 +1.8
ANM Nome 70.94 25 eP P 13 59 16.6 +1.8
comp=Z,24nm,0.8s
ANM Nome 70.94 25 eP P 13 59 16.6 +1.8
ANM pmax pmax
comp=Z,24nm,0.8s
RDOG Red Dog Mine 72.73 22 eP P 13 59 27.3 +1.8
comp=Z,41nm,1.1s
MRIV Mauritius Mete 73.86 245 eP P 13 59 33.2 +0.2
comp=Z,120nm,1.2s
GNBR Gunib 73.99 311 i P P 13 59 33.9 +0.4
GNBR pmax pmax
comp=Z,142nm,0.9s
GROC Groznyy 74.84 312 eP P 13 59 37.5 -0.8
GROC e 13 59 51.0
GROC e*PP pP 13 59 59.3 +1.9
GROC e 14 02 26.5
GROC e*SS sS 14 09 44.3 +2.1
GROC pmax pmax
comp=Z,114nm,1.0s
PRGR Permogore 75.29 331 eP P 13 59 39.3 -1.2
PRGR pmax pmax
comp=Z,106nm,0.8s
TBLG Delisi 75.67 310 eP P 13 59 43.5 +0.4
comp=Z,76nm,0.7s
TBLG Delisi 75.67 310 eP P 13 59 43.5 +0.4
TBLG pmax pmax
comp=Z,76nm,0.7s
RER Riviere de l'E 75.68 245 eP P 13 59 44.1 +0.5
comp=Z,144nm,1.1s
GNI Garni 75.74 309 eP P 13 59 43.9 +0.2
GNI Garni 75.74 309 PFAKE 14 00 00.0 +16
GNI LR LR
comp=Z,349nm,21.0s
GNI Garni 75.74 309 ceP P 13 59 44.0 +0.2
GNI pmax pmax
comp=Z,323nm,1.3s
IM3 Indian Mountai 75.98 25 eP P 13 59 45.8 +1.4
RSO Redoubt South 76.18 30 eP P 13 59 47.7 +1.8
KDAK Kodiak Island 76.22 33 i P P 13 59 47.0 +1.2
ZEI Tsey 76.24 311 eP P 13 59 44.4 -2.2
ZEI pmax pmax
comp=Z,70nm,0.7s
CLDR Caldiran 76.43 308 eP P 13 59 47.2 -0.6
NCK Nalchik 76.43 312 i P P 13 59 46.4 -1.0
NCK pmax pmax
comp=Z,48nm,0.8s
RAYN Ar Rayn 76.45 292 eP P 13 59 48.0 0.0
comp=Z,18nm,0.8s
RAYN LR LR
comp=Z,171nm,19.0s
RAYN Ar Rayn 76.45 292 i P P 13 59 46.2 -1.8
SNR=15
RAYN Ar Rayn 76.45 292 eP P 13 59 48.0 0.0
RAYN pmax pmax
comp=Z,18nm,0.8s
RAYN MLR MLR
comp=Z,171nm,19.0s
PPLA Purkeypile 76.52 28 eP P 13 59 49.3 +1.6
comp=Z,49nm,1.5s
CAST Castle Rocks 76.58 27 eP P 13 59 49.3 +1.4
comp=Z,48nm,0.9s
GOF Gofitskoye 76.75 314⇑ iP P 13 59 49.0 -0.2
GOF pmax pmax
comp=Z,50nm,1.0s
CUKT Cukurca 76.80 306 eP P 13 59 48.5 -1.3
ERCV ERCIS-VAN 76.89 308 eP P 13 59 44.8 -5.5
KBZ Khabaz 76.93 312 P P 13 59 50.1 -0.1
comp=Z,46nm,0.9s,baz=105,slow=3.2,SNR=70
KBZ LR LR 14 37 33.3
comp=Z,230nm,21.2s,baz=76,slow=39
KIV Kislovodsk 77.07 313 eP P 13 59 50.9 -0.3
comp=Z,112nm,0.8s
KIV LR LR
comp=Z,180nm,20.0s
KIV Kislovodsk 77.07 313⇑ iP P 13 59 50.3 -0.8
KIV Kislovodsk 77.07 313 i P P 13 59 50.7 -0.4
SNR=7.1
KIV Kislovodsk 77.07 313 eP P 13 59 50.8 -0.3
KIV pmax pmax
comp=Z,159nm,1.1s
KIV MLR MLR
comp=Z,134nm,18.0s
KIV Kislovodsk 77.07 313 P P 13 59 50.6 -0.5
SNR=16
BPAW Bear Paw Mtn. 77.08 27 eP P 13 59 52.1 +1.5
comp=Z,80nm,0.9s
NEY Neytrino 77.08 312 i P P 13 59 50.6 -0.7
NEY pmax pmax
comp=Z,7.0nm,1.0s
AGRB Hanur-Agry 77.12 308 eP P 13 59 52.2 +0.6
SUA Susitna One 77.17 29 eP P 13 59 52.1 +0.7
comp=Z,47nm,0.8s
MLY Manley 77.20 26 eP P 13 59 53.0 +1.6
comp=Z,47nm,0.8s
AKDM Akdamar-Van 77.22 307 eP P 13 59 52.2 0.0
VRH Novokhopyorsk 77.36 320 eP P 13 59 51.2 -1.3
VRH pmax pmax
comp=Z,180nm,0.8s
TRF Thorofare Moun 77.39 27 eP P 13 59 53.7 +1.1
comp=Z,37nm,0.9s
COLD Coldfoot 77.45 23 eP P 13 59 54.7 +2.0
comp=Z,15nm,0.9s
RC01 Rabbit Creek A 77.66 30 eP P 13 59 54.7 +0.7
comp=Z,16nm,0.8s
SIRT Sirnak 77.71 306 eP P 13 59 52.9 -2.0
SEW Seward 77.83 31 eP P 13 59 55.8 +1.0
comp=Z,44nm,1.0s
GURO Guroymak-BITLI 77.94 307 eP P 13 59 57.2 +1.0
PMR Palmer 77.94 29 eP P 13 59 55.6 +0.1
comp=Z,38nm,0.8s
PMR Palmer 77.94 29 eP P 13 59 55.6 +0.1
PMR pmax pmax
comp=Z,38nm,0.8s
KOPR Koprukoy-ERZUR 77.96 309 eP P 13 59 49.1 -7.2
MCK McKinley 77.99 27 eP P 13 59 56.4 +0.7
comp=Z,83nm,0.8s
RND Reindeer 78.03 27 eP P 13 59 56.4 +0.3
comp=Z,72nm,1.2s
RND Reindeer 78.03 27 eP P 13 59 56.4 +0.3
RND pmax pmax
comp=Z,72nm,1.2s
KLMR Klimovskoe 78.23 330 eP P 13 59 55.7 -1.3
KLMR e 14 02 52.0
KLMR pmax pmax
comp=Z,84nm,0.6s
KLMR Klimovskoe 78.23 330 eP P 13 59 55.8 -1.3
KLMR AMP 13 59 57.6
comp=Z,84nm,0.7s
KLMR ePP PP 14 02 52.1 -2.3
MDM Murphy Dome 78.27 26 eP P 13 59 58.4 +1.1
comp=Z,33nm,1.0s
KNK Knik Glacier 78.27 29 eP P 13 59 58.2 +0.9
comp=Z,49nm,0.8s
WRH Wood River Hil 78.34 26 eP P 13 59 58.6 +1.0
comp=Z,54nm,1.4s
TCOL CIGO, UAF Yank 78.42 26 P P 13 59 58.4 +0.3
baz=272,SNR=5.3
COLA College 78.43 26 eP P 13 59 58.8 +0.8
comp=Z,28nm,1.1s
COLA College 78.43 26 d iP P 13 59 58.9 +0.8
COLA pmax pmax
comp=Z,23nm,1.0s
COLA College 78.43 26 eP P 13 59 58.8 +0.8
POKR Poker Plat Res 78.60 26 P P 14 00 00.4 +1.4
baz=272,SNR=20
DHY Denali Highway 78.71 28 eP P 14 00 00.4 +0.5
comp=Z,18nm,0.8s
SCM Sheep Creek Mo 78.79 29 eP P 14 00 01.5 +1.2
comp=Z,84nm,0.9s
HDA Harding Lake 78.84 26 eP P 14 00 00.3 -0.1
comp=Z,25nm,0.7s
HDA Harding Lake 78.84 26 P P 14 00 00.1 -0.3
baz=273,SNR=17
IL1 Eielson Array 78.85 26 eP P 13 59 59.7 -0.7
ILAR Eielson Array 78.85 26 P P 14 00 00.1 -0.3
comp=Z,10nm,0.8s,baz=239,slow=4.4,SNR=106
ILAR PKKPbc PKKPbc 14 18 51.1 -5.0
comp=Z,0.7nm,0.6s,baz=120,slow=2.9,SNR=10
ILAR LR LR 14 33 24.3
comp=Z,99nm,21.9s,baz=173,slow=34
ILAR Eielson Array 78.85 26 P P 14 00 00.1 -0.3
ILAR pmax pmax
comp=Z,11nm,0.7s
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILB Eielson Array 78.85 26 eP P 13 59 59.9 -0.6
VORR Voronezh 78.91 321 P P 14 00 01.0 0.0
VORR pmax pmax
comp=Z,300nm,0.8s
GLI Glacier Island 78.96 30 eP P 14 00 02.4 +1.3
comp=Z,46nm,0.8s
VSR Storozhevoye 78.97 320 c iP P 14 00 00.0 -1.3
VSR pmax pmax
comp=Z,131nm,0.9s
LPSR Galich'ya Gora 79.01 322 eP P 14 00 00.7 -0.8
LPSR pmax pmax
comp=Z,220nm,0.8s
KLU Klutina 79.48 29 eP P 14 00 05.4 +1.3
comp=Z,19nm,0.8s
MOS Moscow 79.53 325 eP P 14 00 02.8 -1.5
MOS e 14 00 15.3
MOS e 14 03 03.1
MOS pmax pmax
comp=Z,178nm,0.8s
DIV Divide 79.58 30 eP P 14 00 06.0 +1.3
comp=Z,50nm,0.8s
PAX Paxson 79.58 28 eP P 14 00 05.8 +1.2
comp=Z,24nm,0.9s
PAX Paxson 79.58 28 eP P 14 00 05.8 +1.2
PAX pmax pmax
comp=Z,24nm,0.9s
HARP HAARP 79.77 28 eP P 14 00 07.4 +1.8
comp=Z,46nm,1.0s
RIDG Independ'e Rid 79.81 27 eP P 14 00 06.6 +0.8
comp=Z,91nm,1.0s
LVZ Lovozero 79.91 337 ceP P 14 00 06.1 -0.1
LVZ pmax pmax
comp=Z,9.0nm,1.0s
PTK Pertek 79.96 308 eP P 14 00 05.9 -1.4
DOT Dot Lake 80.16 27 eP P 14 00 08.5 +0.9
comp=Z,30nm,1.0s
SCRK Sand Creek 80.16 27 eP P 14 00 08.9 +1.2
comp=Z,16nm,0.8s
BMRM Bremner River 80.17 30 eP P 14 00 09.3 +1.6
comp=Z,26nm,1.0s
OBN Obninsk 80.19 324⇓ eP P 14 00 07.4 -0.5
OBN e 14 03 12.4
OBN pmax pmax
comp=Z,177nm,1.7s
OBN MLR MLR
comp=Z,265nm,20.0s
APA Apatity 80.42 337⇓ iP P 14 00 08.7 -0.2
APA pmax pmax
comp=Z,60nm,0.9s
APA MLR MLR
comp=Z,2μm,24.0s
ANN Anapa 80.75 314 eP P 14 00 09.6 -1.5
ANN eS S 14 10 10.3 -3.1
ANN pmax pmax
comp=Z,126nm,0.9s
EGAK Eagle 81.29 26 eP P 14 00 14.5 +0.9
DAWY Dawson 82.16 26 eP P 14 00 19.8 +1.5
comp=Z,36nm,1.0s
KEV Kevo 82.38 340 eP P 14 00 19.4 +0.1
OPO Ambohidratompo 82.69 249 P P 14 00 21.9 -0.1
comp=Z,50nm,0.8s,baz=67,slow=3.8,SNR=60
ABPO Ambohimpanom 82.77 249 eP P 14 00 22.1 -0.3
comp=Z,53nm,0.8s
ABPO LR LR
comp=Z,82nm,19.0s
ABPO Ambohimpanom 82.77 249 eP P 14 00 22.1 -0.3
ABPO pmax pmax
comp=Z,53nm,0.8s
ABPO MLR MLR
comp=Z,82nm,19.0s
EPYK Eagle Plains 82.84 24 eP P 14 00 22.6 +0.9
comp=Z,35nm,1.0s
EPYK Eagle Plains 82.84 24 P P 14 00 22.6 +0.9
baz=282,SNR=17
SPA0 Spitsbergen Ar 82.84 349 eP P 14 00 22.3 +0.8
SPA0 Spitsbergen Ar 82.84 349 eP P 14 00 21.8 +0.3
PUL Pulkovo 82.90 329 ceP P 14 00 22.0 -0.1
PUL pmax pmax
comp=Z,112nm,0.8s
ARCES ARCESS Array B 82.94 340 P P 14 00 22.5 +0.3
comp=Z,27nm,0.5s,baz=80,slow=6.0,SNR=127
ARCES LR LR 14 42 20.2
comp=Z,6.4nm,19.1s,baz=39,slow=39
ARCES ARCESS Array B 82.94 340 eP P 14 00 22.2 +0.1
ARE0 ARCESS Array S 82.94 340 eP P 14 00 22.9 +0.7
comp=Z,5.2nm,1.2s
ARE0 ARCESS Array S 82.94 340 eP P 14 00 22.7 +0.5
SIM Simferopol' 83.06 314 eP P 14 00 22.5 -0.8
SIM pmax pmax
comp=Z,37nm,1.1s
HAMF Hammerfest 83.28 341 eP P 14 00 24.0 +0.1
KBS Kingsbay 83.36 350 eP P 14 00 24.8 +0.6
comp=Z,46nm,0.8s
KBS Kingsbay 83.36 350 eP P 14 00 24.8 +0.6
KBS pmax pmax
comp=Z,46nm,0.8s
KBS Kingsbay 83.36 350 eP P 14 00 24.4 +0.3
INK Inuvik 83.61 22 eP P 14 00 26.5 +0.9
comp=Z,55nm,1.3s
INK Inuvik 83.61 22 eP P 14 00 26.5 +0.9
INK pmax pmax
comp=Z,55nm,1.3s
HYT Haines Junctio 83.62 29 eP P 14 00 28.1 +2.1
comp=Z,38nm,1.0s
KTK1 Kautokeino 83.86 339 eP P 14 00 26.7 -0.2
HEF Hetta 83.87 339 eP P 14 00 26.9 -0.1
BR131 Keskin Array S 84.26 309 eP P 14 00 28.4 -1.4
BR131 Keskin Array S 84.26 309 P P 14 00 28.5 -1.2
BRTR Keskin Array B 84.26 309 P P 14 00 28.7 -1.0
comp=Z,8.1nm,0.7s,baz=113,slow=4.1,SNR=53
BRTR PP PP 14 03 53.6 +8.7
comp=Z,2.6nm,0.8s,baz=110,slow=8.7,SNR=6.7
BRTR LR LR 14 43 07.7
comp=Z,82nm,21.5s,baz=54,slow=39
FIA1 FINESS Array S 84.60 332 eP P 14 00 30.3 -0.4
FINES FINESS Array B 84.60 332 P P 14 00 30.8 0.0
comp=Z,24nm,0.4s,baz=78,slow=4.9,SNR=371
FINES PKKPbc PKKPbc 14 18 41.0 -1.9
comp=Z,1.8nm,0.6s,baz=212,slow=1.8,SNR=5.8
FINES LR LR 14 41 15.1
comp=Z,177nm,19.2s,baz=60,slow=38
HRFI Mount Harif 84.80 299 P P 14 00 23.8 -8.7
ANTO Ankara 84.88 309 eP P 14 00 32.1 -0.7
WHY Whitehorse 84.91 29 eP P 14 00 34.5 +2.0
comp=Z,71nm,0.9s
VSU Vasula 84.98 329 ceP P 14 00 31.8 -0.9
VSU pmax pmax
comp=Z,299nm,1.3s
VSU Vasula 84.98 329 eP P 14 00 31.7 -0.9
VSU IAmb IAmb 14 00 32.9
comp=Z,155nm,0.8s
SKAG Skagway 84.98 30 eP P 14 00 35.0 +2.3
comp=Z,60nm,1.0s
TRO Tromso 85.13 340 eP P 14 00 32.5 -0.8
MICGM Minsk 85.25 325 e P 14 00 34.0 -0.1
MNK Minsk 85.25 325 eP P 14 00 34.0 -0.1
AKASG Malin Array Be 85.26 321 P P 14 00 33.4 -0.9
comp=Z,50nm,0.6s,baz=67,slow=4.6,SNR=115
AKASG LR LR 14 42 45.1
comp=Z,116nm,20.6s,baz=80,slow=38
AKASG Malin Array Be 85.26 321 P P 14 00 33.4 -0.9
AKASG pmax pmax
comp=Z,56nm,0.7s
AKASG MLR MLR
comp=Z,117nm,20.6s
AKBB Malin Array Si 85.26 321 eP P 14 00 33.3 -1.0
comp=Z,133nm,1.2s
KIEV Kiev 85.27 321 eP P 14 00 33.1 -1.3
comp=Z,130nm,1.2s
KIEV Kiev 85.27 321⇑ iP P 14 00 33.4 -0.9
KIEV Kiev 85.27 321 i P P 14 00 33.4 -0.9
SNR=43
KIEV Kiev 85.27 321 c iP P 14 00 33.3 -1.0
KIEV pmax pmax
comp=Z,81nm,1.0s
AK11 Malin Array Si 85.30 321 eP P 14 00 33.8 -0.6
CSS Mathiatis 85.35 305 eP P 14 00 35.1 0.0
comp=Z,102nm,0.7s
IDID Didziasalis 85.71 325 eP P 14 00 35.9 -0.5
IDID IAmb IAmb 14 00 37.0
comp=Z,12nm,0.5s
NACGM Naroch 85.78 325 e P 14 00 34.0 -2.8
IZAR Zarasai 85.88 326 eP P 14 00 36.1 -1.1
IZAR IAmb IAmb 14 00 38.3
comp=Z,12nm,0.6s
IIGN Ignalina 85.98 326 eP P 14 00 37.2 -0.5
IIGN IAmb IAmb 14 00 38.4
comp=Z,7.7nm,0.5s
ISAL Salakas 85.98 326 eP P 14 00 37.2 -0.6
ISAL IAmb IAmb 14 00 38.3
comp=Z,8.7nm,0.5s
TLCR 86.71 315⇑ iP P 14 00 40.8 -0.7
STEI Steigen 87.00 339 eP P 14 00 41.1 -1.4
TIRR Tirgusor 87.15 315⇑ iP P 14 00 42.6 -1.1
CFR Carcaliu 87.18 315⇓ iP P 14 00 42.9 -0.9
TLB Topalu 87.38 315⇑ iP P 14 00 44.3 -0.5
SLIT Slitere, Latvi 87.48 328 eP P 14 00 43.1 -1.8
SLIT IAmb IAmb 14 00 45.0
comp=Z,95nm,0.7s
PETR Petresti 87.67 316⇑ iP P 14 00 46.2 0.0
PRAR RASCA 87.94 318⇑ iP P 14 00 47.2 -0.3
VRI Vrincioaia 87.98 316⇑ iP P 14 00 47.3 -0.4
MOR8 Moi Rana 87.98 338 eP P 14 00 44.6 -2.7
PGOR Pogoanele 88.03 315⇑ iP P 14 00 48.2 +0.3
SUW Suwalki 88.04 325 eP P 14 00 46.6 -1.2
SUW Suwalki 88.04 325 eP P 14 00 46.6 -1.2
RASA Rasa 88.08 315⇑ iP P 14 00 47.1 -1.1
LEHL Lehliu 88.25 315⇑ iP P 14 00 48.7 -0.3
KMBO Kilima Mbogo 88.47 269 P P 14 00 50.4 -0.5
comp=Z,6.1nm,0.8s,baz=45,slow=6.9,SNR=9.7
KMBO LR LR 14 35 59.2
comp=Z,165nm,21.8s,baz=96,slow=32
BUR04 Bucovina Ar. S 88.54 318 eP P 14 00 50.4 0.0
BUR08 Bucovina Ar. S 88.55 318 eP P 14 00 50.5 0.0
SULR 88.59 315⇑ iP P 14 00 50.4 -0.2
MLR Muntele Rosu 88.60 316 eP P 14 00 50.3 -0.5
comp=Z,50nm,1.6s
MLR Muntele Rosu 88.60 316⇑ iP P 14 00 50.1 -0.7
MLR Muntele Rosu 88.60 316 eP P 14 00 50.3 -0.5
MLR pmax pmax
comp=Z,50nm,1.6s
PPT Papeete 88.64 108 LR LR 14 34 24.7
comp=Z,117nm,20.4s,baz=244,slow=31
PPT2 Papeete2 88.64 108 eLR LR 14 29 01.3
comp=Z,485nm,34.0s
LVV L'vov 88.71 321 eP P 14 00 50.1 -0.9
VOIR 89.22 316⇑ iP P 14 00 54.2 +0.5
HUMR Humele 89.51 315⇑ iP P 14 00 53.7 -1.2
ARR Arges 89.53 316⇑ iP P 14 00 54.2 -0.9
KWP Kalwaria Pacla 89.58 321 eP P 14 00 55.0 -0.2
KWP Kalwaria Pacla 89.58 321 eP P 14 00 55.0 -0.2
DAG Danmarks Havn 89.62 352⇑ iP P 14 00 54.0 -0.7
comp=Z,17nm,0.8s
DAG Danmarks Havn 89.62 352⇑ iP P 14 00 54.0 -0.7
DAG pmax pmax
comp=Z,13nm,0.8s
NSS Namsos 89.62 337 eP P 14 00 53.1 -1.9
CJR Cluj-Napoca 89.85 318⇑ iP P 14 00 56.8 +0.3
TBI Tubuai 89.96 114 eLR LR 14 29 53.8
comp=Z,358nm,26.2s
LOT Lotru 90.09 316⇑ iP P 14 00 57.1 -0.6
TRPA Tarpa 90.13 319⇑ iP P 14 00 57.1 -0.6
UZH Uzhgorod 90.14 320⇓ iP P 14 00 58.0 +0.3
UZH e 14 01 06.4
UZH e 14 01 17.9
MAW Mawson 90.41 200 P P 14 00 56.3 -2.1
comp=Z,6.8nm,0.8s,baz=32,slow=9.5,SNR=3.1
MAW LR LR 14 38 44.7
comp=Z,52nm,18.2s,baz=62,slow=34
DRGR 90.41 318⇑ iP P 14 00 58.7 -0.5
DEV Deva 90.55 317⇑ iP P 14 00 59.4 -0.3
RES Resolute Bay 90.61 10 eP P 14 01 00.1 +0.8
comp=Z,13nm,0.8s
RES Resolute Bay 90.61 10 eP P 14 01 00.2 +0.8
RES pmax pmax
comp=Z,13nm,0.8s
GZR Gura Zlata 90.77 317⇑ iP P 14 01 00.1 -0.8
VNDA Vanda 91.06 173 P P 14 01 01.6 +0.3
comp=Z,14nm,0.9s,baz=309,slow=6.4,SNR=11
VNDA LR LR 14 43 55.6
comp=Z,110nm,18.9s,baz=340,slow=37
VNDA Vanda 91.06 173 eP P 14 01 01.9 +0.7
comp=Z,20nm,1.0s
VNDA Vanda 91.06 173 eP P 14 01 02.0 +0.7
VNDA pmax pmax
comp=Z,20nm,1.0s
NIE Niedzica 91.14 321 eP P 14 01 02.3 -0.2
NIE Niedzica 91.14 321 eP P 14 01 02.3 -0.2
HERR Herculane 91.17 316⇑ iP P 14 01 01.8 -0.8
OJC Ojcow 91.19 322 eP P 14 01 02.5 -0.1
OJC Ojcow 91.19 322 eP P 14 01 02.1 -0.5
comp=Z,24nm,0.9s
OJC Ojcow 91.19 322 eP P 14 01 02.5 -0.1
NC405 NORSAR Array S 91.23 334 eP P 14 01 01.6 -0.9
VTS Vitosha 91.28 314 eP P 14 01 02.0 -1.4
VTS Vitosha 91.28 314⇑ iP P 14 01 02.3 -1.1
VTS Vitosha 91.28 314 eP P 14 01 02.0 -1.4
NC303 NORSAR Array S 91.33 334 eP P 14 01 02.0 -1.0
NB2 NORSAR Subarra 91.48 334 P P 14 01 02.4 -1.4
comp=Z,11nm,1.0s,baz=63,slow=5.3
NB2 NORSAR Subarra 91.48 334 P P 14 01 02.4 -1.4
baz=63,slow=5.3
NOA NORSAR Array B 91.48 334 P P 14 01 02.3 -1.5
comp=Z,5.3nm,0.7s,baz=64,slow=4.6,SNR=36
NOA PP PP 14 04 36.6 -5.4
comp=Z,1.5nm,0.9s,baz=64,slow=7.9,SNR=3.7
NOA PKKPbc PKKPdf 14 18 22.8 +0.5
comp=Z,1.3nm,0.7s,baz=72,slow=2.8,SNR=5.8
NOA LR LR 14 45 03.1
comp=Z,204nm,21.1s,baz=55,slow=37
BZS Buzias 91.49 317⇑ iP P 14 01 03.0 -1.1
NC204 NORSAR Array S 91.57 334 eP P 14 01 03.2 -1.0
MDVR Moldovita 91.67 316⇑ iP P 14 01 04.2 -0.8
NAO01 NORSAR Array S 91.71 334 eP P 14 01 03.5 -1.2
PSZ Piszkesteto 91.89 320⇑ iP P 14 01 05.2 -0.8
MOL Molde 92.29 336 eP P 14 01 06.9 -0.4
OKC Ostrava-Krasne 92.32 322 eP P 14 01 08.6 +0.8
OKC Ostrava-Krasne 92.32 322 eP P 14 01 08.6 +0.8
VYHS Vyhne 92.36 320 eP P 14 01 07.7 -0.4
VYHS pmax pmax
comp=Z,7.0nm,1.3s
VYHS Vyhne 92.36 320 eP P 14 01 07.7 -0.4
VYHS e 14 01 11.8
MORC Moravsky Berou 92.71 322 eP P 14 01 09.6 -0.1
comp=Z,5.7nm,0.9s
MORC Moravsky Berou 92.71 322⇑ iP P 14 01 09.3 -0.4
MORC Moravsky Berou 92.71 322 eP P 14 01 09.6 -0.1
MORC pmax pmax
comp=Z,6.0nm,0.9s
MORC Moravsky Berou 92.71 322 eP P 14 01 09.4 -0.3
JAVC Velka Javorina 92.96 321 eP P 14 01 11.9 +1.0
DIVS Divibare 93.06 316 eP P 14 01 10.2 -1.3
comp=Z,12nm,0.9s
KRLC Kraliky 93.06 322 eP P 14 01 11.9 +0.6
KRLC Kraliky 93.06 322 eP P 14 01 11.9 +0.6
KSP Ksiaz 93.07 323 eP P 14 01 11.0 -0.3
KSP Ksiaz 93.07 323 eP P 14 01 11.0 -0.3
YKW3 Yellowknife Ar 93.08 24 eP P 14 01 11.5 +0.5
comp=Z,31nm,1.2s
YKA Yellowknife Ar 93.12 24 P P 14 01 12.0 +0.7
comp=Z,13nm,0.9s,baz=299,slow=4.6,SNR=143
YKA PP PP 14 04 56.6 +1.9
comp=Z,0.4nm,0.8s,baz=307,slow=7.4,SNR=4.1
YKA PKKPbc PKKPdf 14 18 17.2 -2.1
comp=Z,0.5nm,0.5s,baz=128,slow=3.0,SNR=13
YKA LR LR 14 45 26.1
comp=Z,7.3nm,21.6s,baz=216,slow=37
YKB5 Yellowknife Ar 93.12 24 eP P 14 01 11.6 +0.3
DPC Dobruska-Polom 93.23 323 eP P 14 01 12.3 +0.2
DPC Dobruska-Polom 93.23 323 eP P 14 01 12.3 +0.2
MORH Mrgy, Hungar 93.26 318 eP P 14 01 09.0 -3.2
MODS Modra-Piesok 93.38 321 eP P 14 01 12.1 -0.7
MODS Modra-Piesok 93.38 321 eP P 14 01 12.1 -0.7
VRAC Vranov 93.46 322 iP P 14 01 13.3 +0.2
VRAC Vranov 93.46 322 eP P 14 01 11.1 -1.0
KRUC Moravsky 93.67 321 eP P 14 01 13.9 -0.2
PDG Podgorica 94.11 315⇑ iP P 14 01 14.9 -1.3
TREC Trest 94.13 322 eP P 14 01 15.9 -0.3
TREC Trest 94.13 322 eP P 14 01 15.9 -0.3
KULLO Kullorsuaq 94.26 1 i P P 14 01 15.7 -0.5
comp=Z,43nm,1.0s
KULLO Kullorsuaq 94.26 1 i P P 14 01 15.7 -0.5

KULLO pmax pmax
comp=Z,43nm,1.0s
GOPC GO Pecny, Ondr 94.31 323 *e*P **P 14 01 17.4 +0.3**
GOPC GO Pecny, Ondr 94.31 323 *e*P **P 14 01 17.4 +0.3**
CONA Conrad Observa 94.42 321 *e*PcP **P 14 01 17.8 +0.1**
comp=Z,12nm,1.4s
BRG Berggiesshubel 94.43 324 *e*P **P 14 01 17.1 -0.5**
comp=Z,8.6nm,1.1s
BRG Berggiesshubel 94.43 324 *e*P **P 14 01 17.0 -0.5**
BRG pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 94.79 324 *i* P **P 14 01 17.8 -1.4**
comp=Z,7.0nm,1.1s
CLL L L 14 48 00.0
comp=Z,200nm,20.9s
CLL Collm 94.79 324 *i* P **P 14 01 17.8 -1.4**
CLL pmax pmax
comp=Z,7.0nm,1.1s
ARSA Arzberg 94.89 320 *e*PcP **P 14 01 19.3 -0.4**
comp=Z,9.4nm,0.8s,SNR=5.1
NLWA Neilton Lookou 95.28 40 PFAKE 14 01 30.0 +8.4
NLWA LR LR
comp=Z,668nm,20.0s
KHC Kasperske Hory 95.35 322 *e*P **P 14 01 21.7 -0.1**
KHC *ex* x 14 01 49.3
KHC Kasperske Hory 95.35 322 *e*P **P 14 01 21.7 -0.1**
GEC2 GERESS Array S 95.39 322 *e*P **P 14 01 21.7 -0.5**
comp=Z,11nm,0.9s
GEC2 GERESS Array S 95.39 322 *e*P **P 14 01 21.7 -0.4**
GEC2 pmax pmax
comp=Z,11nm,0.9s
GERES GERESS Array B 95.39 322 P **P 14 01 21.6 -0.5**
comp=Z,6.2nm,0.8s,baz=64,slow=4.6,SNR=47
GERES PKKPbc **PKKPdf 14 18 11.9 -3.4**
comp=Z,0.8nm,1.0s,baz=151,slow=3.0,SNR=3.9
GERES LR LR 14 48 28.1
comp=Z,147nm,18.4s,baz=88,slow=38
GEA0 GERESS Array S 95.39 322 *e*P **P 14 01 21.4 -0.7**
SCO Scoresbysund 95.40 350 *i* P **P 14 01 18.0 -3.5**
comp=Z,17nm,1.0s
SCO Scoresbysund 95.40 350 *i* P **P 14 01 18.0 -3.5**
SCO pmax pmax
comp=Z,17nm,1.0s
SOKA Soboth 95.42 320 *e*PcP **P 14 01 21.8 -0.4**
comp=Z,11nm,0.8s
MOA Molin 95.44 321 *e*PcP **P 14 01 22.4 +0.2**
comp=Z,28nm,0.8s,SNR=8.8
A04D Lummi Island 95.47 38 P **P 14 01 23.4 +1.1**
baz=294
SUMG Summit 95.62 355 *i* P **P 14 01 23.5 +0.4**
comp=Z,48nm,1.1s
D03D Eldon 95.71 39 P **P 14 01 24.7 +1.2**
baz=294
OBKA Obir 95.79 320 *e*P **P 14 01 23.3 -0.7**
comp=Z,13nm,0.8s
TAOE Nuku Hiva Isla 95.96 98 *e*LR LR 14 32 36.7
comp=Z,480nm,30.0s
B05A Bryant 96.03 38 P **P 14 01 26.6 +1.7**
baz=294
D04E Lakebay 96.05 40 P **P 14 01 26.2 +1.2**
baz=294
CRNS Crni Vrh 96.14 319 *i* P **P 14 01 24.6 -0.9**
KBA Koelnbreinsper 96.32 320 *e*P **P 14 01 25.5 -1.0**
comp=Z,9.9nm,0.7s
CADS Cadrg 96.42 320 *i* P **P 14 01 25.3 -1.5**
G03D McMinnville, O 96.52 42 P **P 14 01 28.4 +1.2**
baz=293
I02D Swisshome 96.56 43 P **P 14 01 28.1 +0.7**
baz=293
J01E Myrtle Point 96.87 44 P **P 14 01 29.5 +0.7**
baz=292
ABTA Abfaltersbach 96.98 320 *e*P **P 14 01 28.1 -1.2**
comp=Z,15nm,0.8s,SNR=5.4
I03D Drain, OR 97.06 43 P Pdif 14 01 30.4 +0.7
baz=293
H04D Lebanon 97.14 42 P Pdif 14 01 31.2 +1.1
baz=294
K02D Willamette Mer 97.23 44 P Pdif 14 01 31.3 +0.6
baz=293
WTTA Wattenberg 97.31 321 *i* PcP **P 14 01 30.4 -0.5**
comp=Z,19nm,0.8s,SNR=5.1
WATA Walderalm 97.31 321 *i* PcP **P 14 01 30.7 -0.2**
comp=Z,9.3nm,0.8s,SNR=6.5
SQTA Sankt Quirin 97.59 321 *i* PcP **P 14 01 31.6 -0.5**
comp=Z,20nm,0.8s,SNR=6.8
MOTA Moosalm 97.60 321 *i* PcP **P 14 01 32.2 0.0**
comp=Z,10nm,0.7s,SNR=7.6
I04A Tendick Farm, 97.64 43 P Pdif 14 01 33.1 +0.7
baz=294
B08A Colville Reser 97.66 38 *e*P Pdif 14 01 33.3 +1.0
comp=Z,25nm,1.6s
FETA Feichten 97.97 321 *e*PcP **P 14 01 33.6 -0.3**
comp=Z,14nm,0.9s
J04D Umpqua Nationa 98.06 43 P Pdif 14 01 35.4 +0.9
baz=294
I05D Terrebonne, OR 98.13 42 P Pdif 14 01 35.3 +0.7
baz=294
M02C Callahan 98.29 45 P Pdif 14 01 36.2 +0.8
baz=293
L04D Klamath Falls 98.34 44 P Pdif 14 01 36.3 +0.6
baz=294
FUORN Ofenpass-Fuorn 98.43 321 *e*P **P 14 01 35.7 -0.4**
comp=Z,24nm,0.8s
N02D Trinity Center 98.55 45 P Pdif 14 01 37.3 +0.7
baz=293
PINE Pine Mountain 98.61 42 *e*P Pdif 14 01 38.1 +1.1
comp=Z,23nm,1.5s
J05D Fort Rock, OR 98.63 43 P Pdif 14 01 37.8 +0.8
baz=294
O02D Mt. Diablo Mer 98.81 46 P Pdif 14 01 38.4 +0.6
baz=293
M04C Macdoel 98.83 44 P Pdif 14 01 38.5 +0.7
baz=294
NEW Newport 99.01 37 P **Pdif 14 01 39.1 +0.7**
baz=298
O03E Paynes Creek 99.45 46 P **Pdif 14 01 40.9 +0.3**
baz=294
LSZ Lusaka 99.85 256 P **Pdif 14 01 40.8 -2.0**
comp=Z,1.3nm,0.3s,baz=102,slow=9.3,SNR=3.0
LSZ Lusaka 99.85 256 P **Pdif 14 01 40.8 -2.0**
LSZ LR LR
comp=Z,225nm,20.0s
MATP Matopo 100.33 251 P **Pdif 14 01 43.0 -1.8**
comp=Z,8.2nm,0.9s,baz=85,slow=2.9,SNR=14
SFJD Kangerlussuaq 101.85 358 *e*P **Pdif 14 01 51.6 +1.1**
NVAR Mina Array Bea 102.69 46 P **Pdif 14 01 55.3 0.0**
comp=Z,1.2nm,0.7s,baz=260,slow=5.4,SNR=9.7
NVAR PP **PP 14 06 12.4 +3.3**
comp=Z,0.8nm,0.8s,baz=229,slow=3.9,SNR=3.8
NVAR PKKPbc **PKKPbc 14 17 51.4 -3.7**
comp=Z,0.8nm,0.8s,baz=137,slow=4.2,SNR=5.0
HLID Hailey 102.94 40 P **Pdif 14 01 57.5 +1.3**
baz=300
PKM Mcpherson Peak 103.07 50 P **Pdif 14 01 58.1 +1.1**
baz=294
LBTB Lobatse 103.57 247 Pdiff **Pdif 14 01 57.6 -1.6**
comp=Z,2.4nm,0.9s,baz=12,slow=9.5,SNR=4.2
KEST Kesra 103.77 311 PP **PP 14 06 20.4 +3.4**
comp=Z,4.7nm,0.9s,baz=287,slow=4.9,SNR=4.0
GMRC Granite Mounta 106.20 49 P **PKiKP 14 06 23.8 +1.5**
baz=297
BW06 Boulder Array 106.38 39 P **PKiKP 14 06 23.7 +1.2**
baz=303
PDAR Pinedale Array 106.38 39 PP PP 14 06 24.4 -12
comp=Z,0.4nm,0.7s,baz=287,slow=2.5,SNR=3.6
MONP2 Monument Peak 106.46 51 P **PKiKP 14 06 24.1 +1.2**
baz=296
IKP In-Ko-Pah, Jac 106.81 51 P **PKiKP 14 06 24.8 +1.4**
baz=296
O20A White River Ci 108.65 41 P **PKiKP 14 06 27.6 +0.8**
baz=304
WUAZ Wupatki 108.96 46 P **PKiKP 14 06 28.7 +1.3**
baz=300
AGMN Agassiz Nation 110.28 28 P **PKiKP 14 06 30.5 +1.1**
baz=316
TSUM Tsumeb 110.39 254 PFAKE 14 06 40.0 +10
TSUM LR LR
comp=Z,186nm,19.0s
SDCO Great Sand Dun 111.76 42 P **PKiKP 14 06 33.9 +1.0**
baz=305
ANMO Albuquerque 112.69 45 P **PKiKP 14 06 35.5 +0.9**
baz=303
T25A Trinidad 112.82 42 P **PKiKP 14 06 35.7 +0.9**
baz=306
121A Cookes Peak, D 113.04 47 P **PKiKP 14 06 36.5 +1.3**
baz=302
E39A Mellen 114.11 26 P PKPdf 14 06 37.1 +0.4
baz=321
F39A Loretta 114.31 27 P **PKiKP 14 06 37.1 0.0**
baz=320
F40A Park Falls 114.66 27 P **PKiKP 14 06 37.6 -0.1**
baz=321
H39A Augusta 115.09 28 P **PKiKP 14 06 38.5 -0.1**
baz=320
MNTX Cornudas Mount 115.20 47 *e*PKPdf **PKPdf 14 06 40.3 +1.1**
MNTX LR LR
comp=Z,425nm,20.0s
MNTX Cornudas Mount 115.20 47 P **PKPdf 14 06 39.5 +0.3**
baz=303,SNR=6.1
G42A Mountain 115.92 26 P **PKPdf 14 06 40.7 +0.5**
baz=323
KSU1 Kansas State U 116.36 36 P **PKPdf 14 06 41.2 -0.1**
baz=313
K40A Colesburg 116.66 29 P **PKPdf 14 06 41.7 0.0**
baz=319
L39A Vinton 116.67 30 P **PKPdf 14 06 41.3 -0.4**
baz=318
D49A Beulah Townshi 116.95 20 P **PKiKP 14 06 42.4 +0.2**
baz=330
M39A Webster 117.06 31 P **PKiKP 14 06 42.8 +0.3**
baz=318
K41A Shullsburg 117.13 29 P **PKiKP 14 06 42.6 0.0**
baz=320
G46A Petoskey 117.33 24 P **PKPdf 14 06 42.8 0.0**
baz=326
L41A Preston 117.44 30 P **PKPdf 14 06 42.6 -0.6**
baz=320
D50A G1974 Best Tow 117.55 19 P **PKPdf 14 06 42.9 -0.4**
baz=332
TX31 Lajitas Ar. Si 117.73 48 *e*PKPdf **PKiKP 14 06 45.0 +0.7**
TXAR Lajitas Array 117.73 48 PKP **PKiKP 14 06 45.3 +1.0**
comp=Z,3.8nm,0.6s,baz=232,slow=0.6,SNR=58
TXAR PKKPbc **PKKPbc 14 17 06.0 -0.1**
comp=Z,0.8nm,1.0s,baz=103,slow=5.6,SNR=4.7
H46A Fife Lake 117.84 24 P **PKPdf 14 06 43.8 -0.1**
baz=326
E50A Wahnapitae 117.90 20 P **PKPdf 14 06 43.8 -0.2**
baz=331
WMOK Wichita Mounta 117.90 41 *e*PKPdf **PKiKP 14 06 44.9 +0.5**
WMOK LR LR
comp=Z,273nm,20.0s
WMOK Wichita Mounta 117.90 41 *e*PKIKP **PKiKP 14 06 44.9 +0.5**
WMOK MLR MLR
comp=Z,273nm,20.0s
WMOK Wichita Mounta 117.90 41 P **PKiKP 14 06 44.4 +0.1**
baz=309
ABTX Abilene, Hawle 118.65 43 P **PKPdf 14 06 45.8 -0.1**
baz=308
M43A Waltham Townsh 118.67 29 P **PKPdf 14 06 45.3 -0.2**
baz=321
O41A Passleys Farm, 118.73 31 P **PKPdf 14 06 45.5 -0.2**
baz=319
P41A Barry, Barry 118.96 32 P **PKPdf 14 06 45.9 -0.3**
baz=318
TUL1 Leonard 118.99 38 P **PKiKP 14 06 46.5 +0.1**
baz=312
J47A Sunmer 119.07 25 P **PKPdf 14 06 46.0 -0.3**
baz=326
M44A Midewin, Midew 119.14 28 P **PKPdf 14 06 46.5 0.0**
baz=322
TOA0 Torodi Ar. Sit 119.15 292 *e*PKPdf **PKPdf 14 06 45.0 -2.2**
TOA0 *e*PKPdf **PKiKP 14 06 46.0 -1.2**
TORD Torodi Ar. Bea 119.15 292 PKP **PKPdf 14 06 45.1 -2.0**
comp=Z,3.2nm,0.6s,baz=75,slow=2.2,SNR=24
TORD PP **PP 14 08 02.2 -5.7**
comp=Z,3.1nm,1.0s,baz=67,slow=5.4,SNR=4.9
TORD PKKPbc **PKKPbc 14 17 00.0 -0.4**
comp=Z,1.5nm,0.8s,baz=301,slow=4.0,SNR=8.0
P42A Winchester 119.40 31 P **PKPdf 14 06 46.9 -0.1**
baz=319
Q41A Truxton 119.41 32 P **PKPdf 14 06 47.0 -0.1**
baz=318
K47A Vermountville 119.46 25 P **PKPdf 14 06 46.9 -0.1**
baz=325
K48A Perry 119.72 25 P **PKPdf 14 06 47.5 -0.1**
baz=326
P43A Skaggs, Pawnee 119.77 31 P **PKPdf 14 06 47.8 0.0**
baz=320
Q42A Golden Eagle 119.81 32 P **PKPdf 14 06 47.7 -0.1**
baz=318
R41A Rosebud 119.81 33 P **PKPdf 14 06 47.8 -0.1**
baz=318
JCT Junction City 119.83 45 *e*PKPdf **PKiKP 14 06 48.9 +0.6**
JCT Junction City 119.83 45 *e*PKIKP **PKiKP 14 06 48.9 +0.6**
JCT Junction City 119.83 45 P **PKiKP 14 06 48.5 +0.3**
baz=307
CCM Cathedral Cave 120.06 33 P **PKPdf 14 06 48.3 -0.1**
baz=318
S41A Jillco Farms, 120.14 34 P **PKPdf 14 06 48.4 -0.1**
baz=317,SNR=9.1
R42A Luebbering 120.14 33 P **PKPdf 14 06 48.2 -0.3**
baz=318
Q43A New Douglas 120.21 31 P **PKPdf 14 06 48.4 -0.2**
baz=319
L48A N Adams 120.30 26 P **PKPdf 14 06 48.7 0.0**
baz=326
U40A Yellville 120.40 35 P **PKPdf 14 06 48.8 -0.2**
baz=315,SNR=14
WHTX Lake Whitney, 120.50 42 P **PKiKP 14 06 49.9 +0.4**
baz=309
S42A Caledonia 120.52 33 P **PKPdf 14 06 49.2 -0.1**
baz=318,SNR=8.7
T41A Mountain View 120.52 34 P **PKPdf 14 06 49.1 -0.2**
baz=317,SNR=5.3
W39A Magazine 120.67 37 P **PKPdf 14 06 49.5 -0.1**
baz=314
P45A Graceland, Par 120.73 30 P **PKPdf 14 06 49.4 -0.2**
baz=322
T42A Van Buren 120.90 34 P **PKPdf 14 06 49.8 -0.1**
baz=317,SNR=8.2
O47A Sheridan 120.91 28 P **PKPdf 14 06 49.4 -0.5**
baz=323
P46A Rosedale 120.92 29 P **PKiKP 14 06 50.1 0.0**
baz=322
U41A Viola 120.94 35 P **PKPdf 14 06 50.0 -0.1**
baz=316,SNR=6.4
Q45A Warren Harvey, 121.02 30 P **PKiKP 14 06 50.3 0.0**
baz=321
V41A Mountainview 121.20 35 P **PKPdf 14 06 49.9 -0.7**
baz=316
N49A Columbus Grove 121.24 26 P **PKPdf 14 06 50.2 -0.4**
baz=326
MIAR Mount Ida 121.25 37 *e*PKPdf **PKiKP 14 06 51.5 +0.6**
MIAR Mount Ida 121.25 37 *e*PKIKP **PKiKP 14 06 51.5 +0.6**
MIAR Mount Ida 121.25 37 P **PKiKP 14 06 50.9 0.0**
baz=314,SNR=5.7
T43A Greenville 121.30 33 P **PKPdf 14 06 50.3 -0.4**
baz=318,SNR=6.0
U42A Revenden 121.31 34 P **PKPdf 14 06 50.8 0.0**
baz=317,SNR=6.9
M50A Fremont 121.32 25 P **PKiKP 14 06 50.8 0.0**
baz=327
O48A Farmland 121.36 27 P **PKPdf 14 06 50.7 -0.1**
baz=324
S44A Carbondale 121.38 32 P **PKPdf 14 06 50.8 -0.1**
baz=319
R45A Skylar, Fairfi 121.42 31 P **PKiKP 14 06 51.2 +0.1**
baz=320
P47A Martinsville 121.47 29 P **PKPdf 14 06 50.9 -0.2**
baz=323
W41B Gary Mavity, V 121.59 36 P **PKPdf 14 06 51.0 -0.3**
baz=315
V42A Cord 121.62 35 P **PKPdf 14 06 51.2 -0.2**
baz=316
J55A Hilton 121.66 20 P **PKPdf 14 06 51.1 -0.2**
baz=333
S45A Carrier Mills 121.74 31 P **PKPdf 14 06 51.3 -0.2**
baz=320
U43A Rector 121.76 34 P **PKPdf 14 06 51.4 -0.3**
baz=318
O49A Covington 121.78 27 P **PKPdf 14 06 51.3 -0.3**
baz=325
N50A Nevada 121.81 25 P **PKPdf 14 06 51.5 -0.2**
baz=327
Q47A Bedord North L 121.83 29 P **PKPdf 14 06 51.7 0.0**
baz=323
R46A Gibon Southern 121.87 30 P **PKPdf 14 06 51.8 0.0**
baz=321
P48A Milroy 121.88 28 P **PKPdf 14 06 51.5 -0.3**
baz=324
N51A Ashland 122.01 25 P **PKPdf 14 06 52.0 0.0**
baz=328
WLAR White Oak Lake 122.12 38 *e*PKPdf **PKiKP 14 06 53.7 +1.1**
O50A Cable 122.12 26 P **PKPdf 14 06 52.2 -0.1**
baz=326
Q48A North Vernon 122.16 29 P **PKPdf 14 06 52.3 0.0**
baz=323
R47A Wooly Knot Far 122.29 30 P **PKPdf 14 06 52.6 0.0**
baz=322
ACSO Alum Creek Sta 122.33 26 P **PKPdf 14 06 52.4 -0.3**
baz=327
WCI Wyandotte Cave 122.45 29 *e*PKPdf **PKiKP 14 06 53.2 +0.1**
WCI Wyandotte Cave 122.45 29 *e*PKIKP **PKiKP 14 06 53.2 +0.1**
WCI Wyandotte Cave 122.45 29 P **PKPdf 14 06 52.7 -0.2**
baz=322
R48A Northridge Ran 122.52 29 P **PKiKP 14 06 53.3 0.0**
baz=323
O51A Pataskala 122.56 25 P **PKPdf 14 06 53.4 +0.1**
baz=327
M54A Oil Creek Stat 122.56 22 P **PKPdf 14 06 52.9 -0.2**
baz=330
T46A Princeton 122.58 31 P **PKiKP 14 06 53.7 +0.3**
baz=320
Z41A Richland Creek 122.60 38 P **PKPdf 14 06 53.4 0.0**
baz=314
S47A Hartford 122.67 30 P **PKiKP 14 06 53.6 0.0**
baz=322
N53A Lisbon 122.72 24 P **PKPdf 14 06 53.4 0.0**
baz=329
O52A Adamsville 122.90 25 P **PKiKP 14 06 54.0 0.0**
baz=328
N54A Moraine State 122.91 23 P **PKPdf 14 06 53.7 -0.1**
baz=330
R49A Shelbyville 122.94 29 P **PKPdf 14 06 53.8 -0.1**
baz=324
U46A Springville 122.96 32 P **PKPdf 14 06 53.9 0.0**
baz=320
S48A Wiedeman Farm, 123.02 30 P **PKPdf 14 06 54.0 0.0**
baz=322
O53A New Philadelph 123.04 24 P **PKPdf 14 06 54.0 -0.1**
baz=328
Q51A Peebles 123.17 27 P **PKPdf 14 06 54.4 0.0**
baz=326
P52A Corning 123.19 25 P **PKPdf 14 06 54.4 +0.1**
baz=327
BINY Binghamton 123.22 19 P **PKPdf 14 06 54.3 -0.1**
baz=335
Y43A Makayla and Ka 123.25 36 P **PKPdf 14 06 54.5 0.0**
baz=316
X44A Crenshaw 123.27 35 P **PKPdf 14 06 54.7 +0.1**
baz=317
T48A Bowling Green 123.28 30 P **PKPdf 14 06 54.6 0.0**
baz=322
S49A Springfield 123.29 29 P **PKPdf 14 06 54.3 -0.2**
baz=323
LNIG Linares 123.29 50 *e*PKPdf **PKiKP 14 06 55.3 +0.1**
WVT Waverly 123.31 32 *e*PKPdf **PKiKP 14 06 55.0 +0.1**
WVT Waverly 123.31 32 *e*PKIKP **PKiKP 14 06 55.0 +0.1**
WVT Waverly 123.31 32 P **PKPdf 14 06 54.5 -0.2**
baz=320
W45A Hickory Valley 123.32 34 P **PKPdf 14 06 54.8 +0.1**
baz=318
R50A Paris 123.34 28 P **PKPdf 14 06 54.5 -0.2**
baz=324
U47A Clarksville 123.35 31 P **PKPdf 14 06 54.8 +0.1**
baz=321
V46A Holladay 123.41 33 P **PKPdf 14 06 54.5 -0.3**
baz=320
O54A Avella 123.43 24 P **PKPdf 14 06 54.8 0.0**
baz=329
N55A Marion Center 123.44 22 P **PKPdf 14 06 54.7 -0.2**
baz=331
P53A Whipple 123.62 25 P **PKPdf 14 06 54.8 -0.4**
baz=328
OXF Oxford 123.67 35 P **PKPdf 14 06 55.3 -0.1**
baz=318
U48A Cassie Pea, Po 123.68 31 P **PKPdf 14 06 55.4 0.0**
baz=322
Q52A Bidwell 123.69 26 P **PKPdf 14 06 55.1 -0.2**
baz=327
V47A Nunnelly 123.70 32 P **PKiKP 14 06 55.7 0.0**
baz=320
T49A Edmonton 123.71 30 P **PKPdf 14 06 55.5 +0.1**
baz=323
X45A UM Field Stati 123.75 35 P **PKPdf 14 06 55.4 -0.1**
baz=318
W46A Michie 123.78 33 P **PKPdf 14 06 55.4 -0.2**
baz=319
S50A Richmond 123.79 28 P **PKPdf 14 06 55.4 -0.2**
baz=324
O55A Ligonier 123.82 23 P **PKiKP 14 06 55.8 -0.1**
baz=330
SSPA Standing Stone 123.97 21 P **PKiKP 14 06 56.0 0.0**
baz=332
O56A Blue Knob Stat 124.05 22 P **PKPdf 14 06 56.1 +0.1**
baz=331
U49A Red Boiling Sp 124.06 30 P **PKPdf 14 06 55.8 -0.3**
baz=322
Y45A Yeager Farm, C 124.07 35 P **PKPdf 14 06 56.0 -0.1**
baz=317
MCWV Mont Chateau 124.09 23 P **PKPdf 14 06 56.0 -0.1**
baz=330
W47A Westpoint 124.11 33 P **PKPdf 14 06 55.8 -0.4**
baz=320
T50A Nancy 124.11 29 P **PKPdf 14 06 56.0 -0.1**
baz=323
V48A Smith Brothers 124.13 32 P **PKPdf 14 06 55.9 -0.4**
baz=321
S51A Beattyville 124.19 28 *e*PKPdf **PKiKP 14 06 56.6 0.0**
S51A Beattyville 124.19 28 P **PKPdf 14 06 56.2 -0.1**
baz=325
P55A Reedsville 124.23 24 P **PKPdf 14 06 56.3 -0.1**
baz=330
Z45A Winona 124.35 36 P **PKPdf 14 06 56.5 -0.2**
baz=317
R53A Hurricane 124.35 26 P **PKPdf 14 06 56.7 +0.1**
baz=327
S52A Salyersville 124.40 27 P **PKPdf 14 06 56.6 -0.1**
baz=326
N59A State Game Lan 124.44 19 P **PKiKP 14 06 56.9 -0.1**
baz=335
Y46A Houston 124.45 35 P **PKPdf 14 06 56.8 -0.1**
baz=318
X47A Russelville 124.52 33 P **PKPdf 14 06 56.5 -0.5**
baz=319
W48A Pulaski 124.54 32 P **PKPdf 14 06 57.0 0.0**
baz=320
Q55A Buckhannon 124.57 24 P **PKPdf 14 06 57.2 +0.1**
baz=329
T51A Gray 124.58 29 P **PKPdf 14 06 56.9 -0.2**
baz=324
V49A McMinnville 124.58 31 P **PKPdf 14 06 56.9 -0.2**
baz=322
U50A Jamestown 124.59 30 P **PKPdf 14 06 57.2 0.0**
baz=323
244A Avery, Jackson 124.72 38 P **PKiKP 14 06 57.6 -0.1**
baz=315
R54A Victor 124.89 25 P **PKPdf 14 06 57.6 0.0**
baz=328
W49A Belvidere 124.90 32 P **PKPdf 14 06 57.6 -0.2**
baz=321
Z46A Louisville 124.91 35 P **PKPdf 14 06 57.8 0.0**
baz=318
PAL Palisades 124.95 18 P **PKiKP 14 06 57.9 -0.1**
baz=327
Y47A UCPARC, Winfie 124.99 34 P **PKPdf 14 06 57.6 -0.3**
baz=319
X48A Hartselle 125.01 33 P **PKPdf 14 06 57.6 -0.3**
baz=320
V50A Pikeville 125.06 30 P **PKPdf 14 06 57.7 -0.3**
baz=323
MVL Millersville 125.07 20 *e*PKPdf **PKiKP 14 06 58.7 +0.4**
TZTN Tazewell 125.11 29 P **PKPdf 14 06 57.9 -0.3**
baz=325
245A Little AP, Sta 125.20 37 P **PKPdf 14 06 58.3 -0.1**
baz=316
146A Union 125.25 36 P **PKPdf 14 06 58.0 -0.5**
baz=317
U52A Thorn Hill 125.31 28 P **PKPdf 14 06 58.3 -0.2**
baz=325
V51A Loudon 125.32 30 P **PKPdf 14 06 58.6 0.0**
baz=324
W50A Signal Mountai 125.32 31 P **PKPdf 14 06 58.4 -0.2**
baz=322
X49A Woodville 125.34 32 P **PKPdf 14 06 58.6 0.0**
baz=321
Y48A Jasper 125.35 33 P **PKPdf 14 06 58.4 -0.3**
baz=320
Z47A Carrollton 125.39 35 P **PKPdf 14 06 58.8 0.0**
baz=318
Z48A Northport 125.55 34 P **PKPdf 14 06 58.8 -0.2**
baz=319
W51A Cleveland 125.63 31 P **PKPdf 14 06 59.2 +0.1**
baz=323

V52A	**Sevierville**	**125.65**	**29**	*e*PKPdf	**PKiKP**	**14 07 00.1**	**+0.5**
V52A	**Sevierville**	**125.65**	**29**	P	**PKPdf**	**14 06 59.1**	**-0.1**
	baz=324						
U53A	**Fall Branch**	**125.70**	**28**	P	**PKPdf**	**14 06 59.4**	**0.0**
	baz=326						
X50B	**Fort Payne**	**125.73**	**32**	P	**PKPdf**	**14 06 59.2**	**-0.2**
	baz=322						
Y49A	**Blount Mountai**	**125.80**	**33**	P	**PKPdf**	**14 06 59.4**	**-0.1**
	baz=320						
247A	**Quitman**	**125.93**	**36**	P	**PKiKP**	**14 07 00.1**	**-0.1**
	baz=317						
W52A	**Murphy**	**126.10**	**30**	P	**PKiKP**	**14 07 00.3**	**-0.2**
	baz=324						
LRAL	**Lakeview Retre**	**126.11**	**34**	P	**PKPdf**	**14 07 00.3**	**+0.2**
	baz=320						
V53A	**Saluda**	**126.16**	**29**	P	**PKiKP**	**14 07 00.6**	**-0.1**
	baz=325						
Z49A	**Columbiana**	**126.24**	**33**	P	**PKPdf**	**14 07 00.4**	**+0.1**
	baz=320						
W53A	**Cullowhee**	**126.40**	**29**	P	**PKiKP**	**14 07 01.1**	**-0.1**
	baz=324						
X52A	**Dahlonega**	**126.50**	**30**	P	**PKiKP**	**14 07 01.2**	**-0.2**
	baz=323						
149A	**Jones**	**126.55**	**34**	P	**PKiKP**	**14 07 01.3**	**-0.1**
	baz=320						
249A	**Camden**	**126.84**	**35**	P	**PKiKP**	**14 07 02.1**	**+0.1**
	baz=319						
X53A	**Estanollee**	**126.88**	**30**	P	**PKiKP**	**14 07 01.8**	**-0.2**
	baz=324						
150A	**Eclectic**	**126.97**	**33**	P	**PKPdf**	**14 07 01.9**	**+0.2**
	baz=320						
Y52A	**Lilburn**	**127.01**	**31**	P	**PKPdf**	**14 07 02.1**	**+0.2**
	baz=323						
349A	**Repton**	**127.26**	**35**	P	**PKiKP**	**14 07 03.4**	**+0.5**
	baz=318						
KMSC	**Kings Mountain**	**127.28**	**28**	P	**PKiKP**	**14 07 02.9**	**0.0**
	baz=326						
250A	**Grady**	**127.31**	**34**	P	**PKiKP**	**14 07 02.7**	**-0.2**
	baz=320						
151A	**Opelika**	**127.40**	**33**	P	**PKiKP**	**14 07 03.1**	**0.0**
	baz=321						
KIC	**Kosan Boka**	**127.44**	**287**	*e*PKIKP	**PKPdf**	**14 07 02.3**	**-0.8**
	comp=Z,74nm,1.1s						
DBIC	**Dimbokro**	**127.44**	**287**	PKP	**PKPdf**	**14 07 02.2**	**-0.9**
	comp=Z,111nm,0.9s,baz=58,slow=3.5,SNR=9.8						
DBIC	**Dimbokro**	**127.44**	**287**	*e*PKPdf	**PKPdf**	**14 07 02.8**	**-0.3**
DBIC	**Dimbokro**	**127.44**	**287**	*e*PKIKP	**PKPdf**	**14 07 02.8**	**-0.3**
DBIC	**Dimbokro**	**127.44**	**287**	*e*P	**PKPdf**	**14 07 02.8**	**-0.3**
TIC	**Toumodi**	**127.61**	**288**	*e*PKIKP	**PKPdf**	**14 07 02.5**	**-1.0**
152A	**Waverly Hall**	**127.61**	**32**	P	**PKiKP**	**14 07 03.4**	**-0.2**
	baz=322						
GOGA	**Godfrey**	**127.67**	**31**	P	**PKiKP**	**14 07 03.5**	**-0.1**
	baz=323						
251A	**Midway**	**127.69**	**33**	P	**PKiKP**	**14 07 03.6**	**-0.1**
	baz=321						
Y54A	**Tignall**	**127.69**	**30**	P	**PKiKP**	**14 07 03.6**	**-0.1**
	baz=324						
Z53A	**Monticello**	**127.72**	**31**	P	**PKiKP**	**14 07 03.6**	**-0.1**
	baz=323						
LIC	**Lamto**	**127.75**	**287**	*e*PKIKP	**PKPdf**	**14 07 02.6**	**-1.1**
	comp=Z,75nm,1.2s						
Z54A	**Sparta**	**128.12**	**30**	P	**PKiKP**	**14 07 04.4**	**-0.2**
	baz=324						
252A	**Lumpkin**	**128.13**	**33**	P	**PKiKP**	**14 07 04.4**	**-0.2**
	baz=321						
352A	**Blakely**	**128.42**	**33**	P	**PKiKP**	**14 07 04.9**	**-0.3**
	baz=321						
353A	**Camilla**	**128.91**	**33**	P	**PKiKP**	**14 07 06.3**	**+0.1**
	baz=322						
SDDR	**Presa de Saban**	**145.66**	**29**	*e*PKPdf	**PKPab**	**14 07 37.8**	**+0.5**
SDDR				LR	LR		
	comp=Z,234nm,20.0s						
PLCA	**Paso Flores**	**147.47**	**157**	PKPbc	**PKPbc**	**14 07 42.5**	**+0.8**
	comp=Z,71nm,0.8s,baz=261,slow=2.7,SNR=132						
PLCA	**Paso Flores**	**147.47**	**157**	*e*P	**PKPdf**	**14 07 40.3**	**+1.3**
EMPR	**Esperanza - Ma**	**148.12**	**22**	*e*PKPbc	**PKPbc**	**14 07 44.2**	**+0.4**
CRPR	**Cabo Rojo, PR**	**148.33**	**23**	*e*PKPbc	**PKPbc**	**14 07 44.8**	**+0.4**
OBIP	**Obispado Ponce**	**148.49**	**22**	*e*PKPbc	**PKPbc**	**14 07 45.6**	**+0.8**
SJG	**San Juan**	**148.59**	**22**	*e*PKPbc	**PKPbc**	**14 07 45.1**	**0.0**
SJG	**San Juan**	**148.59**	**22**	*e*PKP2	**PKPbc**	**14 07 45.1**	**0.0**
ICMP	**Isla Caja de M**	**148.66**	**22**	*e*PKPbc	**PKPbc**	**14 07 45.6**	**+0.3**
HUMP	**Col San Antoni**	**148.67**	**21**	*e*PKPbc	**PKPbc**	**14 07 44.8**	**-0.5**
STVI	**Saint Thomas**	**148.78**	**19**	*e*PKPbc	**PKPbc**	**14 07 45.7**	**+0.2**
MTP	**Monte Pirata**	**148.81**	**21**	*e*PKPbc	**PKiKP**	**14 07 46.4**	**-0.7**
GO05	**Huala**	**151.60**	**149**	*e*PKPbc	**PKiKP**	**14 07 52.5**	**+0.1**
ZARC	**Zaragoza, Cauc**	**152.46**	**48**	*e*P	**PKPdf**	**14 07 48.8**	**+1.2**
ZARC	**Zaragoza, Cauc**	**152.46**	**48**	*e*P	**PKPdf**	**14 07 48.8**	**+1.2**
OCAC	**Ocana**	**153.04**	**45**	*e*P	**PKPdf**	**14 07 52.0**	**+3.4**
OCAC	**Ocana**	**153.04**	**45**	*e*P	**PKPdf**	**14 07 52.0**	**+3.4**
PTBC	**PUERTO BERRIO**	**153.39**	**49**	*e*P	**PKPdf**	**14 07 49.1**	**+0.1**
PTBC	**PUERTO BERRIO**	**153.39**	**49**	*e*P	**PKPdf**	**14 07 49.1**	**+0.1**
OTAV	**Otavalo**	**153.60**	**66**	*e*PKPdf	**PKPdf**	**14 07 50.7**	**+0.9**
OTAV				LR	LR		
	comp=Z,188nm,22.0s						
OTAV	**Otavalo**	**153.60**	**66**	*e*PKIKP	**PKPdf**	**14 07 50.7**	**+0.9**
OTAV				MLR	MLR		
	comp=Z,188nm,22.0s						
OTAV	**Otavalo**	**153.60**	**66**	*e*P	**PKPdf**	**14 07 50.7**	**+0.9**
ROC1	**El Roble**	**153.66**	**147**	*e*P	**PKPdf**	**14 07 49.1**	**0.0**
PEL	**Peldehue**	**153.70**	**148**	*e*PKPbc	**PKiKP**	**14 07 57.1**	**+0.3**
PEL	**Peldehue**	**153.70**	**148**	*e*P	**PKPdf**	**14 07 49.6**	**+0.7**
SDV	**Santo Domingo**	**154.32**	**39**	*e*PKPdf	**PKPdf**	**14 07 51.2**	**+0.7**
SDV				LR	LR		
	comp=Z,131nm,20.0s						
SDV	**Santo Domingo**	**154.32**	**39**	*e*P	**PKPdf**	**14 07 51.0**	**+0.5**
SDV	**Santo Domingo**	**154.32**	**39**	*e*P	**PKPdf**	**14 07 51.0**	**+0.5**
SDV	**Santo Domingo**	**154.32**	**39**	*e*P	**PKPdf**	**14 07 51.3**	**+0.8**
RUSC	**La Rusia**	**154.84**	**48**	*e*P	**PKPdf**	**14 07 51.0**	**-0.6**
RUSC	**La Rusia**	**154.84**	**48**	*e*P	**PKPdf**	**14 07 51.0**	**-0.6**
AUSP	**Uspallata**	**155.09**	**149**	*e*P	**PKPdf**	**14 07 48.6**	**-2.6**
AUSP				*e*S	**PKPab**	**14 08 17.8**	**+2.0**
CHIC	**Chingaza**	**155.18**	**51**	*e*P	**PKPdf**	**14 07 52.6**	**+0.6**
CHIC	**Chingaza**	**155.18**	**51**	*e*P	**PKPdf**	**14 07 52.6**	**+0.6**
RTLS	**Leoncito**	**155.48**	**148**	*e*P	**PKPdf**	**14 07 52.0**	**+0.2**
RTLS				*e*S	**PKPab**	**14 08 16.6**	**-1.0**
RTLS				IAML		14 08 19.2	
	comp=Z,9.5nm,0.6s						
RTCV	**Cerro Valdivia**	**155.81**	**150**	*e*P	**PKPdf**	**14 07 51.4**	**-0.4**
RTCV				*e*S	**PKPab**	**14 08 17.5**	**-1.1**
GO04	**Tololo Observa**	**155.90**	**144**	*e*PKPdf	**PKPdf**	**14 07 52.6**	**+0.3**
GO04	**Tololo Observa**	**155.90**	**144**	*e*P	**PKPdf**	**14 07 48.5**	**-3.7**
CFA	**Coronel Fontan**	**156.16**	**150‖**	*e*P	**PKPdf**	**14 07 53.6**	**+1.3**
ACCO	**Cerro Coronel**	**156.56**	**147**	*e*P	**PKPdf**	**14 07 51.7**	**-1.5**
ACCO				*e*S	**PKPab**	**14 08 22.7**	**+0.5**
LCO	**Las Campanas**	**156.81**	**142**	*e*P	**PKPdf**	**14 07 58.1**	**+4.6**
LCO	**Las Campanas**	**156.81**	**142**	*e*P	**PKPdf**	**14 07 53.9**	**+0.4**
ACDV	**Cuesta del Vie**	**156.85**	**146**	*e*P	**PKPdf**	**14 07 52.6**	**-0.8**
PLTB	**Pedras Altas**	**159.63**	**182**	*e*P	**PKPdf**	**14 07 57.2**	**+0.7**
GO02	**Mina Guanaco**	**160.17**	**136**	*e*PKPab	**PKPab**	**14 08 40.7**	**+2.6**
CPSB	**Cacapava Do Su**	**160.98**	**183**	*e*P	**PKPdf**	**14 07 58.5**	**+0.4**
CNLB	**Canela**	**161.77**	**190**	*e*P	**PKPdf**	**14 08 01.7**	**+2.7**
LVC	**Limon Verde**	**162.26**	**131**	PFAKE		14 08 10.0	+10
LVC				LR	LR		
	comp=Z,128nm,19.0s						
LVC	**Limon Verde**	**162.26**	**131**	*e*P	**PKPdf**	**14 08 01.7**	**+1.7**
PB11	**IPOC Station P**	**163.19**	**122**	*e*PKPab	**PKPab**	**14 08 53.8**	**+2.6**
MNMC	**Minye Minye**	**163.53**	**120**	*e*PKPdf	**PKPdf**	**14 08 02.7**	**+1.5**
ITAB	**Concordia**	**164.00**	**188**	*e*P	**PKPdf**	**14 08 01.3**	**+0.2**
DUB01	**Friburgo-RJ**	**164.20**	**226**	*e*P	**PKPdf**	**14 08 01.6**	**+0.1**
RIB01	**Linhares ES**	**164.23**	**238**	*e*P	**PKPdf**	**14 08 01.7**	**+0.2**
CPUP	**Villa Florida**	**164.83**	**170**	PKP	**PKPdf**	**14 08 01.4**	**-0.5**
	comp=Z,7.6nm,0.9s,baz=2.4,slow=0.7,SNR=17						
CPUP				PKPab	**PKPab**	**14 08 57.9**	**0.0**
	comp=Z,14nm,1.0s,baz=174,slow=3.7,SNR=14						
CPUP	**Villa Florida**	**164.83**	**170**	*e*PKPdf	**PKPdf**	**14 08 02.3**	**+0.4**
CPUP				*e*PKPab	**PKPab**	**14 08 58.4**	**+0.5**
CPUP	**Villa Florida**	**164.83**	**170**	*e*PKIKP	**PKPdf**	**14 08 02.3**	**+0.4**
CPUP				*e*		14 08 58.4	
CPUP	**Villa Florida**	**164.83**	**170**	*e*P	**PKPdf**	**14 08 02.5**	**+0.6**
TUO1	**Guaruva-PR**	**165.12**	**200**	*e*P	**PKPdf**	**14 08 04.7**	**+2.4**
SJMB	**Sao Joao De Ma**	**165.17**	**239**	*e*P	**PKPdf**	**14 08 02.6**	**+0.3**
LPAZ	**La Paz**	**165.90**	**112**	PKP	**PKPdf**	**14 08 04.8**	**+1.0**
	comp=Z,12nm,0.9s,baz=353,slow=2.3,SNR=33						
LPAZ				PKPab	**PKPab**	**14 09 05.2**	**+1.4**
	comp=Z,6.0nm,0.8s,baz=233,slow=3.4,SNR=6.8						
LPAZ	**La Paz**	**165.90**	**112**	*e*P	**PKPdf**	**14 08 05.5**	**+1.7**
PTGB	**Pitanga**	**166.47**	**190**	*e*P	**PKPdf**	**14 08 03.7**	**+0.3**
BSCB	**Bom Sucesso**	**166.57**	**223**	*e*P	**PKPdf**	**14 08 03.8**	**+0.3**
FRTB	**Fartura**	**167.14**	**201**	*e*P	**PKPdf**	**14 08 05.5**	**+1.6**
PTGA	**Pitinga**	**168.18**	**28**	*e*P	**PKPdf**	**14 08 05.0**	**+0.2**
MCI8	**Montes Claros**	**168.42**	**242**	*e*P	**PKPdf**	**14 08 07.9**	**+3.0**
ITRB	**Iturama**	**170.74**	**205**	*e*P	**PKPdf**	**14 08 06.1**	**-0.1**
BDFB	**Brasilia**	**172.34**	**235**	PKPab	**PKPab**	**14 09 29.9**	**-1.8**
	comp=Z,1.0nm,0.4s,baz=116,slow=11,SNR=3.2						

JMA 19 13:50:16.4±0.2, 23°.86N×124°.81E, h49km, M1.7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTJ	**Tarama**	**0.78**	**353**	P	Pn	13 50 31.3	+0.1
JTJ				*e*S	Sn	13 50 42.9	+0.9
JIJ	**Ishigaki jima**	**0.79**	**310**	P	Pn	13 50 31.5	+0.2
JIJ				*e*S	Sn	13 50 42.0	-0.1
JKRS	**Kuro-shima**	**0.82**	**297**	P	Pn	13 50 32.1	+0.4
JKRS				S	Sn	13 50 43.3	+0.4
JISG	**Ishigakijimahi**	**0.85**	**328**	P	Pn	13 50 32.3	+0.1
JISG				*e*S	Sn	13 50 44.2	+0.5
HATJ	**Hateruma jima**	**0.94**	**282**	P	Pn	13 50 33.4	+0.1
HATJ				*e*S	Sn	13 50 46.1	+0.4
JIRB	**Irabujima**	**1.02**	**19**	P	Pn	13 50 34.4	0.0
JIRB				*e*S	Sn	13 50 48.0	+0.4
JOGS	**Gusukube**	**1.05**	**31**	*e*S	Sn	13 50 49.8	+1.5
IRIF	**Iriomote-Funau**	**1.09**	**296**	P	Pn	13 50 36.0	+0.6
IRIF				*e*S	Sn	13 50 49.8	+0.4

MAN 19 13:54:10.8, 11°.32N×125°.46E, h26km, mb4.3, ML3.1, MS2.9, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.28**	**357**	*e*P	Pn	13 54 19.6	+0.3
BESP				*e*S	Sn	13 54 25.9	+1.2
PLP	**Palo**	**0.49**	**252**	*i*P	Pb	13 54 21.1	+0.1
PLP				*i* S	Sn	13 54 29.2	-0.7
OCLP	**Ormoc**	**0.87**	**252**	*e*P	Pb	13 54 27.3	0.0
MSLP	**Maasin**	**1.32**	**206**	*e*P	Pn	13 54 33.8	+0.3
MSLP				*e*S	Sb	13 54 51.5	+0.2
CNP	**Catarman**	**1.41**	**327**	*e*P	Pn	13 54 34.6	-0.3
CNP				*e*S	Sb	13 54 53.7	-0.5

IGQ 19 14:25:31.3±0.7, 2°S±4°×8°1W±°, h6km, MLv4.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MILO	**Milagro-Astudi**	**1.69**	**108**	P	Pn	14 25 59.1	-2.2
MILO				S	Sn	14 26 22.5	-0.8
COHC	**Cochancay**	**2.03**	**110**	P	Pn	14 26 05.4	-0.7
MAG1	**Magdalena**	**2.17**	**40**	P	Pn	14 26 05.6	-2.5
IGUA	**Igualata**	**2.54**	**84**	P	Pn	14 26 14.2	+0.7
BMAS	**Trigal station**	**2.69**	**85**	P	Pn	14 26 15.7	+0.1
ARRY	**Arrayan**	**2.72**	**85**	P	Pn	14 26 15.5	-0.4
RETU	**Refugio**	**2.73**	**84**	P	Pn	14 26 16.6	+0.3
PAST	**Pastocalle**	**2.73**	**67**	P	Pn	14 26 16.3	+0.1
BPAT	**Tungurahua Vol**	**2.74**	**85**	P	Pn	14 26 15.9	-0.4
BPAT				S	Sn	14 26 48.8	-1.2
BRUN	**Tungurahua Vol**	**2.77**	**83**	P	Pn	14 26 16.8	+0.2
BULB	**Ulba Tungurahu**	**2.77**	**83**	P	Pn	14 26 16.2	-0.4
BULB				S	Sn	14 26 48.7	-1.9
PISA	**Pisayambo**	**2.86**	**76**	P	Pn	14 26 18.5	+0.5
BNAS	**Cotopaxi Volca**	**2.89**	**68**	P	Pn	14 26 18.7	+0.3
BREF	**Cotopaxi Volca**	**2.93**	**68**	P	Pn	14 26 19.2	+0.2
BREF				S	Sn	14 26 54.3	-0.5
BVC2	**Cotopaxi Volca**	**2.96**	**68**	P	Pn	14 26 19.0	-0.4
BVC2				S	Sn	14 26 57.1	+1.6
BTAM	**Cotopaxi Volca**	**2.96**	**69**	P	Pn	14 26 20.0	+0.5
PITA	**Cotopaxi Volc**	**2.98**	**66**	P	Pn	14 26 20.1	+0.6
GGPC	**Guagua Pichinc**	**3.00**	**59**	P	Pn	14 26 18.7	-1.3
PINO	**Pino**	**3.01**	**58**	P	Pn	14 26 18.0	-2.1
PINO				S	Sn	14 26 58.0	+1.2
YANA	**Yana**	**3.06**	**58**	P	Pn	14 26 18.3	-2.4
ANTI	**Antisana**	**3.27**	**67**	P	Pn	14 26 24.8	+1.1
OTAV	**Otavalo**	**3.36**	**54**	P	Pn	14 26 22.3	-2.5
CUIC	**Cuicocha-Domo**	**3.47**	**54**	P	Pn	14 26 25.0	-1.2
CUIC				S	Sn	14 27 07.3	-0.6
URCU	**Urcuqui**	**3.63**	**53**	P	Pn	14 26 28.0	-0.5

*SJA **19** 14:48:56.6±0.4, 36°.95S×71°.20W, h200km±6km, ML3.8, MW3.2*
*GUC **19** 14:48:57.1±0.7, 37°.01S×71°.16W, h184km±9km, ML3.3*
*ISCJB **19** 14:48:58.1±0.6, 36°.98S±0°.04×70°.81W±0°.09, h148km, Error ellipse: s-maj=10.3km s-min=5.5km az=10.1*

ISC 19 14:48:59.2±1.4, 36°.96S±0°.06×70°.88W±0°.09, h148km, n24, σ1s05/32, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCHI	**Chillan**	**1.02**	**290**	*i* S	**Sn**	**14 49 44.0**	**+1.2**
GO05	**Huala**	**2.12**	**336**	*e*P	**Pn**	**14 49 36.1**	**+0.4**
GO05				*e*S	**Sn**	**14 50 04.8**	**+1.1**
GO05	**Huala**	**2.12**	**336**	*e*P	**Pn**	**14 49 35.8**	**+0.1**
GO05				*i* S	**Sn**	**14 50 04.5**	**+0.7**
GO05				IAML		14 50 07.8	
	comp=E,203nm,0.8s						
GO06	**Curarrehue**	**2.66**	**190**	*e*P	**Pn**	**14 49 41.5**	**-0.7**
GO06				*i* S	**Sn**	**14 50 14.7**	**-0.8**
GO06				IAML		14 50 17.4	
	comp=E,52nm,0.8s						
LMEL	**Las Melosas**	**3.16**	**10**	*e*P	**Pn**	**14 49 49.6**	**+1.0**
LMEL				*i* S	**Sn**	**14 50 29.6**	**+2.7**
FCH	**Farellones**	**3.66**	**8**	*e*P	**Pn**	**14 49 55.5**	**+0.3**
FCH				*i* S	**Sn**	**14 50 38.5**	**-0.2**
PEL	**Peldehue**	**3.81**	**3**	*e*P	**Pn**	**14 49 56.7**	**-0.3**
PEL				*e*S	**Sn**	**14 50 42.0**	**+0.1**
PEL	**Peldehue**	**3.81**	**3**	*e*P	**Pn**	**14 49 56.6**	**-0.3**
PEL				*i* S	**Sn**	**14 50 40.8**	**-1.0**
ROC1	**El Roble**	**3.98**	**358**	*e*P	**Pn**	**14 49 59.1**	**-0.3**
ROC1				*e*S	**Sn**	**14 50 44.9**	**-1.2**
AUSP	**Uspallata**	**4.88**	**15**	*e*P	**Pn**	**14 50 11.8**	**+0.5**
RTLS	**Leoncito**	**5.31**	**15**	*e*P	**Pn**	**14 50 17.3**	**+0.3**
RTLS				IAML		14 51 26.1	
	comp=Z,65nm,0.2s						
RTCV	**Cerro Valdivia**	**5.44**	**22**	*e*P	**Pn**	**14 50 18.5**	**0.0**
ACAN	**Cantantal**	**5.58**	**34**	*e*P	**Pn**	**14 50 20.9**	**+0.6**
CFA	**Coronel Fontan**	**5.77**	**23**	*e*P	**Pn**	**14 50 22.7**	**-0.2**
RTLL	**Cerro Villicun**	**5.96**	**20**	*e*P	**Pn**	**14 50 25.0**	**-0.4**
RTLL				IAML		14 51 33.9	
	comp=E,67nm,0.6s						
MRA	**San Martin**	**6.22**	**45**	*e*P	**Pn**	**14 50 29.7**	**+0.9**
MRA				IAML		14 50 31.6	
	comp=Z,3.6nm,0.4s						
AMOG	**MOGNA**	**6.33**	**19**	*e*P	**Pn**	**14 50 30.0**	**-0.3**
ACCO	**Cerro Coronel**	**6.54**	**14**	*e*P	**Pn**	**14 50 32.9**	**-0.5**
GO04	**Tololo Observa**	**6.77**	**1**	*e*P	**Pn**	**14 50 34.9**	**-1.6**
AROD	**Rodeo**	**6.88**	**10**	*e*P	**Pn**	**14 50 37.2**	**-0.7**
APLL	**PUNTA DE LOS L**	**7.49**	**30**	*e*P	**Pn**	**14 50 44.9**	**-0.9**
APLL				IAML		14 50 46.3	
	comp=Z,18nm,0.3s						
AGUA	**GUANDACOL**	**7.72**	**16**	*e*P	**Pn**	**14 50 47.4**	**-1.5**
LCO	**Las Campanas**	**7.93**	**1**	*e*P	**Pn**	**14 50 50.0**	**-1.9**
ACLC	**CERRO LA CRUZ**	**8.21**	**25**	*e*P	**Pn**	**14 50 53.4**	**-2.1**

MEX 19 14:56:48.1±0.4, 14°.07N×92°.58W, h62km±29km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.89**	**20**	*i* P	Pn	14 57 02.9	-1.9
THIG				*i* S	Sn	14 57 15.3	-1.8
PCIG		**1.73**	**339**	*i* P	Pn	14 57 13.9	-2.1
PCIG				*i* S	Sn	14 57 35.8	-1.4
CCIG	**Comitan**	**2.24**	**11**	*i* P	Pn	14 57 21.7	-1.4
CCIG				*i* S	Sn	14 57 47.7	-2.0

*ISCJB **19** 14:56:51.1±0.6, 34°.45N±0°.05×119°.81E±0°.07, h10km, mb3.6/5, Error ellipse: s-maj=8.3km s-min=6.1km az=28.3*
*IDC **19** 14:56:53.5±2.4, 34°.75N×119°.81E, h0km, mb3.6/5, mb1 3.6/8, mb1mx3.5/46, mbtmp3.6/8, ML3.6/2, MS2.5/1, Ms1 2.5/1, ms1mx2.3/36, Error ellipse: s-maj=61.8km s-min=19.8km az=1.0*
*BJI **19** 14:56:54.2, 34°.38N×119°.76E, h15km, mb3.8/5, ML3.9/18*

ISC 19 14:56:53.6±0.7, 34°.44N±0°.04×119°.81E±0°.06, h10km, n17, σ1s84/22, mb3.7/5, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NJ2	**Nanjing**	**2.51**	**199**	*e*Pn	**Pn**	**14 57 32.1**	**-2.3**
NJ2				Pg	**Pb**	**14 57 37.4**	**-1.4**
NJ2				Sg	**Sb**	**14 58 09.3**	**-0.4**
NJ2				smax	smax		
	comp=N,820nm,0.2s						
NJ2				smax	smax		
	comp=E,690nm,0.3s						
TIA	**Tai'an**	**2.82**	**310**	Pn	**Pn**	**14 57 39.3**	**+0.5**
TIA				Pg	**Pb**	**14 57 41.4**	**-2.7**
TIA				Sn	**Sn**	**14 58 16.4**	**+3.5**
TIA				Sg	**Sg**	**14 58 22.6**	**-1.7**
TIA				smax	smax		
	comp=N,340nm,0.9s						
TIA				smax	smax		
	comp=E,410nm,0.4s						
DL2	**Dalian**	**4.69**	**18**	Pg	**Pg**	**14 58 22.8**	**-0.7**
DL2				Sn	**Sn**	**14 59 00.1**	**+1.1**
DL2				Sg	**Sg**	**14 59 26.0**	**+1.7**
DL2				smax	smax		
	comp=N,260nm,0.6s						
DL2				smax	smax		
	comp=E,340nm,0.6s						
WHN	**Wuhan**	**6.03**	**231**	Pg	**Pb**	**14 58 40.0**	**+1.2**
WHN				smax	smax		
	comp=N,370nm,0.7s						
WHN				smax	smax		
	comp=E,410nm,0.4s						
KSRS	**Korea Array**	**7.23**	**63**	Pn	**Pn**	**14 58 39.1**	**-0.3**
	0.9nm,0.3s,baz=246,slow=13,SNR=38						
KSRS				Lg	Lg	15 00 37.5	
	0.7nm,0.3s,baz=248,slow=31,SNR=4.2						
XAN	**Xi'an**	**9.03**	**271**	P	**Pn**	**14 59 04.3**	**+0.3**
XAN				S	Sn	15 00 56.9	+11
XAN				smax	smax		
	comp=N,24nm,0.8s						
XAN				smax	smax		
	comp=E,21nm,0.7s						
JNU	**Nakatsue**	**9.30**	**95**	Pn	**Pn**	**14 59 09.2**	**+1.4**
	0.5nm,0.3s,baz=247,slow=7.7,SNR=4.2						
JNU				Lg	Lg	15 01 43.0	
	0.3nm,0.3s,baz=356,slow=19,SNR=2.7						
JNU				LR	LR	15 03 25.2	
	comp=Z,27nm,18.4s,baz=131,slow=42						
USRK	**Ussuriysk Ar.**	**13.55**	**40**	Lg	Lg	15 03 59.7	
	0.2nm,0.3s,baz=166,slow=20,SNR=2.6						
GTA	**Gaotai**	**16.74**	**293**	*e*P	**P**	**15 00 54.5**	**+4.0**
GTA				pP	sP	15 01 00.6	+5.9
GTA				sP	pP	15 01 03.6	+10
SONM	**Songino Array**	**16.74**	**327**	Pn	**Pn**	**15 00 45.7**	**-2.6**
	baz=140,slow=7.5,SNR=2.3						
KLR	**Kul'dur**	**17.22**	**27**	Lg	Lg	15 05 55.9	
	0.1nm,0.3s,baz=150,slow=17,SNR=2.0						
WMQ	**Urumqi**	**26.48**	**300**	*e*P	**P**	**15 02 31.9**	**+0.9**
MKAR	**Makanchi Array**	**30.75**	**305**	P	**P**	**15 03 10.1**	**+1.1**
	0.2nm,0.4s,baz=65,slow=11,SNR=4.5						
ZALV	**Zalesovo Beam**	**31.32**	**319**	P	**P**	**15 03 13.2**	**-0.7**
	0.5nm,0.5s,baz=105,slow=10,SNR=3.0						
FINES	**FINESS Array B**	**62.11**	**327**	P	**P**	**15 07 13.3**	**-1.0**
	1.5nm,0.9s,baz=91,slow=11,SNR=3.1						
BRTR	**Keskin Array B**	**66.37**	**303**	P	**P**	**15 07 42.9**	**0.0**
	0.5nm,0.7s,baz=70,slow=3.8,SNR=3.1						
YKA	**Yellowknife Ar**	**74.02**	**23**	P	**P**	**15 08 29.2**	**0.0**
	0.2nm,0.7s,baz=320,slow=5.4,SNR=4.2						

IDC 19 14:59:13.2±2.2, 7°.54S×128°.29E, h0km, mb3.1/1, mb1 3.8/5, mb1mx3.5/39, mbtmp3.6/5, ML3.6/4, Error ellipse: s-maj=51.9km s-min=29.7km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.28**	**240**	Pn	Pn	15 00 34.8	+1.3
	2.5nm,0.3s,baz=94,slow=12,SNR=3.4						
BATI				Sn	Sn	15 01 26.8	-8.3
	3.9nm,0

TREC	**Trest**	**148.96**	**345**	*e*PKP		**PKiKP**	**15 22 53.3**	**+0.3**
KHC	**Kasperske Hory**	**149.55**	**347**	*e*PKP		**PKiKP**	**15 22 55.0**	**+0.8**
KHC				*ex*		x	15 23 00.0	
GERES	**GERESS Array B**	**149.80**	**347**	PKPbc		**PKiKP**	**15 22 55.1**	**+0.3**
	comp=Z,4.2nm,0.8s,baz=40,slow=2.3,SNR=26							
CONA	**Conrad Observa**	**150.12**	**343**	*i* PKiKP		**PKiKP**	**15 22 56.3**	**+0.8**
	comp=Z,5.3nm,0.6s							
MOA	**Molln**	**150.60**	**345**	*e*PKiKP		**PKiKP**	**15 22 57.0**	**+0.6**
	comp=Z,3.0nm,0.6s,SNR=4.3							
SOKA	**Soboth**	**151.49**	**343**	*i* PKPbc		**PKiKP**	**15 22 58.5**	**+0.2**
	comp=Z,6.7nm,1.1s							
KBA	**Koelnbreinsper**	**151.54**	**346**	*i* PKPbc		**PKiKP**	**15 22 58.6**	**0.0**
	comp=Z,7.2nm,0.9s,SNR=5.6							
WATA	**Walderalm**	**151.67**	**348**	*i* PKiKP		**PKiKP**	**15 22 59.4**	**+0.6**
	comp=Z,4.3nm,0.5s							
WTTA	**Wattenberg**	**151.73**	**348**	*i* PKiKP		**PKiKP**	**15 22 60.0**	**+1.0**
	comp=Z,4.8nm,0.5s							
SQTA	**Sankt Quirin**	**151.85**	**349**	*i* PKiKP		**PKiKP**	**15 22 59.8**	**+0.7**
	comp=Z,4.5nm,0.6s							
MYKA	**Terra Mystica**	**151.90**	**345**	*i* PKPbc		**PKiKP**	**15 22 59.3**	**+0.1**
	comp=Z,3.3nm,0.5s							
ABTA	**Abfaltersbach**	**152.04**	**347**	*i* PKPbc		**PKiKP**	**15 22 59.7**	**+0.2**
	comp=Z,9.0nm,0.7s,SNR=7.7							
FETA	**Feichten**	**152.13**	**349**	*i* PKiKP		**PKiKP**	**15 23 00.5**	**+0.7**
	comp=Z,4.0nm,0.9s							
DAVOX	**Davos/Dischmat**	**152.50**	**350**	PKPbc		**PKiKP**	**15 23 01.5**	**+0.9**
	comp=Z,4.5nm,0.6s,baz=332,slow=23,SNR=8.5							

IDC ***19*** *15:10:42.0±1.1, 13°.70N×92°.39W, h0km, mb3.9/9, mb1 4.1/13, mb1mx3.9/48, mbtmp3.9/13, ML3.8/4, MS3.8/1, Ms1 3.8/1, ms1mx2.8/23, Error ellipse: s-maj=35.0km s-min=15.7km az=41.0*

ISCJB ***19*** *15:10:44.9±1.8, 13°.85N±0°.07×92°.38W±0°.05, h25km±12km, mb3.9/9, MS3.8/1, Error ellipse: s-maj=13.3km s-min=4.6km az=31.5*

UCR ***19*** *15:10:45.0±1.0, 13°.60N×92°.35W, h20km, MD3.8, ML3.5*

MEX ***19*** *15:10:48.1±0.6, 13°.84N×92°.41W, h21km±292km, MD4.1*

NEIC ***19*** *15:10:48.1±0.0, 13°.83N×92°.40W, h20km, MD4.1(MEX), After MEX.*

ISC 19 15:10:44.6±3.8, **13°.87N**±0°.08×**92°.34W**±0°.07, **h13**km±23km, **n50**, **σ1s29/57**, **mb3.9/9**, **Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
THIG		**1.03**	**4**	*i* P		**Pn**	**15 11 05.1**	**+0.4**
THIG				*e*S		**Sb**	**15 11 17.1**	**-0.6**
THIG		**1.03**	**4**	*i* P		**Pn**	**15 11 05.1**	**+0.4**
THIG				*e*S		**Sb**	**15 11 17.1**	**-0.6**
FUG	**Fuego 3**	**1.56**	**68**	*e*P		**Pn**	**15 11 12.8**	**+0.6**
IXG	**Ixpaco**	**1.85**	**80**	*e*P		**Pn**	**15 11 16.6**	**+0.4**
IXG				*e*S		**Sn**	**15 11 38.7**	**-0.8**
PCIG		**2.01**	**335**	*i* P		**Pn**	**15 11 18.2**	**0.0**
PCIG				*e*S		**Sn**	**15 11 42.0**	**-1.3**
PCIG		**2.01**	**335**	*i* P		**Pn**	**15 11 18.2**	**0.0**
PCIG				*e*S		**Sn**	**15 11 42.0**	**-1.3**
NBG	**Las Nubes**	**2.06**	**70**	*e*P		**Pb**	**15 11 21.3**	**-0.6**
APG	**El Apazote**	**2.13**	**58**	Pn		**Pb**	**15 11 21.8**	**-1.4**
	30nm,0.3s,baz=239,slow=7.3,SNR=202							
APG				Lg		Lg	15 11 47.9	
	39nm,0.3s,baz=0.3,slow=11,SNR=5.9							
RTR	**El Retiro**	**2.61**	**89**	*e*P		**Pn**	**15 11 27.0**	**+0.3**
CEVE	**Cerro Verde**	**2.63**	**91**	*e*P		**Pn**	**15 11 27.5**	**+0.4**
CEVE				*e*S		**Sn**	**15 12 00.5**	**+1.5**
CEVE				IAML			15 12 13.8	
	comp=Z,1μm,0.5s							
SBLS	**San Blas**	**2.64**	**90**	*e*P		**Pn**	**15 11 27.0**	**-0.1**
SNJE	**San Jose**	**2.65**	**90**	*e*P		**Pn**	**15 11 27.5**	**+0.2**
SNJE				*e*S		**Sn**	**15 12 00.8**	**+1.4**
PACA	**Pacayal**	**3.92**	**95**	*e*P		**Pn**	**15 11 45.1**	**+0.5**
CMIG	**Matias Romero**	**4.03**	**323**	Pn		**Pn**	**15 11 46.8**	**+0.8**
	comp=Z,5.4nm,0.3s,baz=140,slow=10,SNR=19							
CMIG				Sn		**Sn**	**15 12 32.1**	**-1.1**
	comp=Z,9.8nm,0.3s,baz=114,slow=11,SNR=6.8							
CMIG				Lg		Lg	15 12 43.4	
	comp=Z,17nm,0.3s,baz=350,slow=7.6,SNR=4.6							
JTS	**JuntasAbangare**	**8.05**	**115**	Pn		**Pn**	**15 12 41.1**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=353,slow=18,SNR=2.0							
JTS				Lg		Lg	15 14 45.1	
	comp=Z,0.6nm,0.3s,baz=235,slow=14,SNR=2.7							
H06E1	**SOCORRO T-PHAS**	**18.49**	**288**	T		T	15 33 56.3	
	SNR=27							
H06S1	**SOCORRO T**	**18.51**	**288**	T		T	15 33 59.1	
	SNR=4.1							
TXAR	**Lajitas Array**	**18.63**	**328**	Pn		**Pn**	**15 15 05.0**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=148,slow=10,SNR=18							
150A	**Eclectic**	**19.52**	**16**	P		**Pn**	**15 15 13.5**	**+0.5**
	baz=199							
Z47A	**Carrollton**	**19.63**	**11**	P		**Pn**	**15 15 14.1**	**-0.2**
	baz=192							
152A	**Waverly Hall**	**19.96**	**19**	P		**Pn**	**15 15 20.9**	**+2.6**
	baz=202							
MNTX	**Cornudas Mount**	**21.40**	**328**	P		**P**	**15 15 33.8**	**+1.7**
	baz=143							
WMOK	**Wichita Mounta**	**21.58**	**345**	P		**P**	**15 15 34.9**	**+0.8**
	baz=163							
SDV	**Santo Domingo**	**21.84**	**101**	P		**P**	**15 15 38.2**	**+1.0**
	comp=Z,1.9nm,0.4s,baz=342,slow=19,SNR=3.2							
MSTX	**Muleshoe**	**22.14**	**336**	P		**P**	**15 15 41.2**	**+1.1**
	baz=152							
AMTX	**Amarillo**	**22.56**	**340**	P		**P**	**15 15 45.2**	**+0.6**
	baz=156							
TKL	**Tuckaleechee C**	**23.02**	**18**	P		**P**	**15 15 49.8**	**+0.4**
	comp=Z,3.2nm,0.7s,baz=165,slow=13,SNR=3.0							
U49A	**Red Boiling Sp**	**23.30**	**13**	P		**P**	**15 15 50.6**	**-1.6**
	baz=196							
S41A	**Jillco Farms,**	**23.63**	**1**	P		**P**	**15 15 54.0**	**-1.4**
	baz=182							
ANMO	**Albuquerque**	**24.55**	**331**	P		**P**	**15 16 05.2**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=141,slow=10,SNR=8.0							
R45A	**Skylar, Fairfi**	**24.59**	**8**	P		**P**	**15 16 04.1**	**-0.3**
	baz=190							
S49A	**Springfield**	**24.63**	**13**	P		**P**	**15 16 03.6**	**-1.2**
	baz=197							
WCI	**Wyandotte Cave**	**24.85**	**11**	P		**P**	**15 16 05.1**	**-1.6**
	baz=194							
Q45A	**Warren Harvey,**	**25.20**	**8**	P		**P**	**15 16 09.3**	**-0.6**
	baz=190							
Q47A	**Bedord North L**	**25.51**	**11**	P		**P**	**15 16 15.1**	**+2.4**
	baz=194							
T25A	**Trinidad**	**25.56**	**337**	P		**P**	**15 16 15.9**	**+2.5**
	baz=152							
P42A	**Winchester**	**25.67**	**4**	P		**P**	**15 16 14.3**	**+0.1**
	baz=185							
CBKS	**Cedar Bluff**	**25.69**	**347**	P		**P**	**15 16 15.7**	**+1.2**
	baz=163							
SDCO	**Great Sand Dun**	**26.51**	**336**	P		**P**	**15 16 24.2**	**+2.0**
	baz=151							
S22A	**4UR Ranch, Cre**	**27.05**	**334**	P		**P**	**15 16 29.5**	**+2.5**
	baz=148							
PDAR	**Pinedale Array**	**32.40**	**336**	P		**P**	**15 17 15.2**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=141,slow=9.6,SNR=4.1							
PDAR				PcP		**PcP**	**15 20 03.4**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=145,slow=4.9,SNR=2.7							
HLID	**Hailey**	**35.13**	**332**	P		**P**	**15 17 40.2**	**+2.1**
	baz=141							
PTGA	**Pitinga**	**35.19**	**112**	P		**P**	**15 17 36.1**	**-2.7**
	comp=Z,1.1nm,0.4s,baz=294,slow=12,SNR=4.2							
NEW	**Newport**	**39.97**	**334**	P		**P**	**15 18 19.0**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=135,slow=7.1,SNR=4.3							
SIV	**San Ignacio**	**42.84**	**133**	P		**P**	**15 18 41.3**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=302,slow=15,SNR=2.8							
SCHQ	**Schefferville**	**45.46**	**20**	LR		LR	15 39 51.8	
	comp=Z,110nm,18.3s,baz=290,slow=38							
YKA	**Yellowknife Ar**	**51.08**	**347**	P		**P**	**15 19 46.2**	**-0.2**
	comp=Z,4.4nm,0.7s,baz=150,slow=7.4,SNR=70							
YKA				PcP		**PcP**	**15 21 01.5**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=148,slow=3.7,SNR=11							
ILAR	**Eielson Array**	**62.83**	**337**	P		**P**	**15 21 10.0**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=129,slow=4.6,SNR=16							
WRA	**Warramunga Arr**	**135.05**	**256**	PKP		**PKPdf**	**15 30 02.8**	**-1.8**
	comp=Z,0.5nm,0.9s,baz=82,slow=2.4,SNR=4.7							
CMAR	**Chiang Mai Arr**	**146.00**	**341**	PKPbc		**PKPbc**	**15 30 25.2**	**+0.2**
	comp=Z,4.5nm,0.7s,baz=336,slow=3.5,SNR=33							

IDC ***19*** *15:12:03.9±1.2, 0°.45S×124°.79E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.3/37, mbtmp3.3/4, Error ellipse: s-maj=145.7km s-min=21.7km az=67.0*

DJA ***19*** *15:12:09.4±0.2, 0°.5S±2°×12°.5E±°, h10km, M3.9/13, mb4.0/3, mB4.7/1, MLv3.8/13, Mw(mB)3.9/1*

ISCJB ***19*** *15:12:10.4±0.5, 0°.19S±0°.07×125°.32E±0°.04, h52km, mb3.3/4, Error ellipse: s-maj=9.5km s-min=6.2km az=7.0*

ISC 19 15:12:11.0±0.8, **0°.21S**±0°.06×**125°.32E**±0°.05, **h52**km, **n14, σ1s77/17, mb3.2/4, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KMSI	**Cibinong**	**1.54**	**300**	P		**Pn**	**15 12 36.1**	**-0.1**
KMSI				S		**Sn**	**15 12 57.9**	**+2.8**
SANI	**Sanana**	**1.95**	**160**	P		**Pn**	**15 12 42.1**	**+0.3**
SANI				S		**Sn**	**15 13 08.4**	**+3.3**
TNTI	**Ternate**	**2.27**	**65**	P		**Pn**	**15 12 46.3**	**+0.2**
TNTI				S		**Sn**	**15 13 15.2**	**+2.3**
LUWI	**Luwuk**	**2.67**	**252**	P		**Pn**	**15 12 52.6**	**+0.9**
MRSI	**Marisa**	**3.44**	**281**	P		**Pn**	**15 13 02.9**	**+0.7**
APSI	**Ampana**	**3.73**	**259**	P		**Pn**	**15 13 07.8**	**+1.6**
MPSI	**Mapaga**	**5.44**	**276**	P		**Pn**	**15 13 31.0**	**+1.3**
PCI	**Palu**	**5.52**	**263**	P		**Pn**	**15 13 32.0**	**+1.2**
	20nm,0.9s,629nm0.1nm							
SWI	**Sorong**	**5.98**	**96**	P		**Pn**	**15 13 37.9**	**+0.9**
SRBI	**Singaraja**	**12.75**	**232**	P		**P**	**15 15 16.5**	**-2.9**
WRA	**Warramunga Arr**	**21.51**	**156**	P		**P**	**15 16 54.0**	**-1.8**
	0.4nm,0.6s,baz=333,slow=11,SNR=5.0							
ASAR	**Alice Springs**	**24.77**	**161**	P		**P**	**15 17 27.6**	**-0.5**
	0.4nm,0.7s,baz=331,slow=10,SNR=4.0							
SONM	**Songino Array**	**50.60**	**344**	P		**P**	**15 21 04.9**	**0.0**
	0.3nm,0.7s,baz=160,slow=4.0,SNR=2.2							
MKAR	**Makanchi Array**	**60.02**	**327**	P		**P**	**15 22 12.2**	**-0.3**
	0.4nm,0.5s,baz=127,slow=8.0,SNR=6.5							

IDC ***19*** *15:19:03.8±3.0, 39°.57N×25°.49E, h0km, mb3.2/2, mb1 3.5/6, mb1mx3.2/39, mbtmp3.4/6, ML3.7/4, MS3.0/1, Ms1 3.0/1, ms1mx2.1/26, Error ellipse: s-maj=42.2km s-min=17.8km az=53.0*

ISK ***19*** *15:19:03.9, 39°.72N×25°.38E, h5km, ML3.9/26*

ATH ***19*** *15:19:04.8, 39°.74N×25°.43E, h29km, ML3.6/10, Error ellipse: s-maj=1.1km s-min=0.6km az=79.0*

DDA ***19*** *15:19:04.5, 39°.70N×25°.44E, h25km±1km, ML3.8*

THE ***19*** *15:19:05.5, 39°.73N×25°.45E, h5km±1km, ML3.5/5, Error ellipse: s-maj=1.1km s-min=0.5km az=73.0*

ISCJB ***19*** *15:19:05.1±0.4, 39°.72N±0°.01×25°.42E±0°.02, h10km±3km, mb3.2/2, Error ellipse: s-maj=2.3km s-min=2.1km az=5.0*

ISC 19 15:19:05.3±1.0, **39°.72N**±0°.02×**25°.42E**±0°.02, **h9**km±8km, **n175**, **σ0s92/205**, **11C-6D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
LIA	**Limnos Island**	**0.25**	**315**	P		**Pb**	**15 19 11.1**	**-0.9**
LIA				S		**Sb**	**15 19 15.4**	**-1.2**
LIA				AML	AML		15 19 15.7	
	comp=E,38747μm,0.3s							
LIA				AML	AML		15 19 15.7	
	comp=N,50854μm,0.3s							
LIA	**Limnos Island**	**0.25**	**315**	P		**Pb**	**15 19 11.1**	**-0.9**
LIA				S		**Sg**	**15 19 14.6**	**+0.8**
EFSA	**Agios Efstrati**	**0.38**	**242**	P		**Pb**	**15 19 14.8**	**+0.6**
EFSA				S		**Sb**	**15 19 20.5**	**+0.5**
EFSA				AML	AML		15 19 20.9	
	comp=N,30168μm,0.3s							
EFSA				AML	AML		15 19 21.7	
	comp=E,35971μm,0.2s							
BOZC	**Bozcaada**	**0.51**	**76**	PG		**Pg**	**15 19 14.7**	**-0.3**
BOZC				SG		**Sg**	**15 19 22.3**	**+0.6**
BOZC	**Bozcaada**	**0.51**	**76**	IAML_P				
	comp=Z,67μm,0.2s							
BOZC				*i* P		**Pg**	**15 19 15.3**	**+0.2**
GADA	**Gvkgeada**	**0.60**	**38**	PG		**Pg**	**15 19 16.7**	**-0.1**
GADA				SG		**Sg**	**15 19 25.2**	**+0.5**
GADA	**Gvkgeada**	**0.60**	**38**	P		**Pg**	**15 19 16.6**	**-0.2**
GADA				S		**Sg**	**15 19 24.7**	**0.0**
SIGR	**SIGRI**	**0.61**	**146**	PG		**Pg**	**15 19 16.8**	**-0.3**
SIGR				SG		**Sb**	**15 19 25.7**	**-1.1**
SIGR	**SIGRI**	**0.61**	**146**	P		**Pg**	**15 19 16.7**	**-0.3**
SIGR				S		**Sg**	**15 19 25.4**	**+0.4**
SIGR				AML	AML		15 19 26.1	
	comp=E,8272μm,0.2s							
SIGR				AML	AML		15 19 26.2	
	comp=N,15313μm,0.5s							
SIGR	**SIGRI**	**0.61**	**146**	P		**Pg**	**15 19 16.7**	**-0.3**
EZN	**Ezine**	**0.71**	**81**	PG		**Pg**	**15 19 18.3**	**-0.7**
EZN	**Ezine**	**0.71**	**81**	P		**Pg**	**15 19 18.2**	**-0.7**
EZN				S		**Sg**	**15 19 27.9**	**-0.2**
SMTH	**Samothraki Isl**	**0.76**	**7**	P		**Pg**	**15 19 19.9**	**0.0**
SMTH				S		**Sg**	**15 19 29.5**	**-0.1**
SMTH				AML	AML		15 19 32.5	
	comp=N,4423μm,0.4s							
SMTH				AML	AML		15 19 32.9	
	comp=E,5284μm,0.4s							
SMTH	**Samothraki Isl**	**0.76**	**7**	P		**Pb**	**15 19 20.1**	**-0.5**
PRK	**Paraskevi**	**0.81**	**125**	P		**Pb**	**15 19 21.5**	**-0.1**
PRK				S		**Sb**	**15 19 33.2**	**+0.6**
PRK				AML	AML		15 19 36.2	
	comp=E,9981μm,0.5s							
PRK				AML	AML		15 19 36.2	
	comp=N,11685μm,0.3s							
PRK	**Paraskevi**	**0.81**	**125**	P		**Pb**	**15 19 21.4**	**-0.2**
PRK				S		**Sb**	**15 19 32.9**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**0.87**	**88**	*i* P		**Pg**	**15 19 21.6**	**-0.5**
BAYC				*i* S		**Sb**	**15 19 34.1**	**-0.3**
THAS	**Thassos island**	**1.03**	**329**	P		**Pb**	**15 19 25.1**	**-0.2**
THAS				S		**Sg**	**15 19 38.4**	**-0.2**
THAS				AML	AML		15 19 40.0	
	comp=N,9403μm,0.3s							
THAS				AML	AML		15 19 41.0	
	comp=E,6219μm,0.4s							
THAS	**Thassos island**	**1.03**	**329**	P		**Pg**	**15 19 25.0**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.06**	**50**	PG		**Pg**	**15 19 24.7**	**-0.9**
AYVA	**Ayvalik**	**1.07**	**112**	*i* P		**Pg**	**15 19 25.5**	**-0.2**
SKY	**Skiros Island**	**1.08**	**219**	P		**Pg**	**15 19 25.8**	**-0.1**
SKY				S		**Sb**	**15 19 40.5**	**+0.3**
SKY				AML	AML		15 19 42.9	
	comp=E,10021μm,0.2s							
SKY				AML	AML		15 19 43.3	
	comp=N,8224μm,0.2s							
SKY	**Skiros Island**	**1.08**	**219**	P		**Pg**	**15 19 25.8**	**-0.1**
ENEZ	**Enez**	**1.16**	**29**	PN		**Pg**	**15 19 26.9**	**-0.7**
PSRA	**Psara**	**1.18**	**174**	P		**Pn**	**15 19 28.0**	**0.0**
PSRA				S		**Sn**	**15 19 43.9**	**-0.3**
LPK	**Lapseki**	**1.22**	**57**	PN		**Pn**	**15 19 27.9**	**-0.6**
OUR	**Ouranopolis**	**1.26**	**300**	PN		**Pn**	**15 19 27.9**	**-1.2**
OUR	**Ouranopolis**	**1.26**	**300**	P		**Pn**	**15 19 28.6**	**-0.5**
OUR				S		**Sn**	**15 19 47.2**	**+1.0**
ERIK	**Erikli-Kesan**	**1.27**	**41**	PN		**Pn**	**15 19 28.5**	**-0.7**
ALN	**Alexandroupoli**	**1.27**	**22**	PN		**Pn**	**15 19 28.5**	**-0.7**
ALN	**Alexandroupoli**	**1.27**	**22**	P		**Pn**	**15 19 28.2**	**-1.1**
ALN				S		**Sb**	**15 19 45.3**	**-0.6**
ALN				AML	AML		15 19 46.5	
	comp=E,2644μm,0.3s							
ALN				AML	AML		15 19 51.6	
	comp=N,1668μm,0.6s							
ALN	**Alexandroupoli**	**1.27**	**22**	P		**Pn**	**15 19 28.1**	**-1.1**
ALN				S		**Sn**	**15 19 46.2**	**-0.3**
AOS	**Alonnisos**	**1.31**	**246**	PN		**Pn**	**15 19 28.9**	**-0.9**
AOS	**Alonnisos**	**1.31**	**246**	P		**Pn**	**15 19 29.4**	**-0.4**
AOS				S		**Sb**	**15 19 47.1**	**+0.1**
AOS				AML	AML		15 19 50.3	
	comp=N,3276μm,0.5s							
AOS				AML	AML		15 19 52.0	
	comp=E,2728μm,0.5s							
AOS	**Alonnisos**	**1.31**	**246**	P		**Pn**	**15 19 29.5**	**-0.3**
AOS				S		**Sn**	**15 19 49.2**	**+1.8**
DKL	**Dikili**	**1.32**	**119**	PN		**Pn**	**15 19 29.6**	**-0.3**
ALNA	**Alonissos**	**1.33**	**245**	P		**Pn**	**15 19 29.6**	**-0.4**
PAIG	**Paliouri**	**1.35**	**279**	P		**Pn**	**15 19 29.6**	**-0.7**
PAIG				S		**Sn**	**15 19 48.5**	**0.0**
PAIG	**Paliouri**	**1.35**	**279**	P		**Pn**	**15 19 29.7**	**-0.7**
CHOS	**Chios island**	**1.42**	**159**	PN		**Pn**	**15 19 30.8**	**-0.6**
CHOS	**Chios island**	**1.42**	**159**	P		**Pn**	**15 19 30.6**	**-0.8**
CHOS				S		**Sb**	**15 19 49.3**	**-0.9**
CHOS				AML	AML		15 19 52.7	
	comp=N,3099μm,0.5s							
CHOS				AML	AML		15 19 53.5	
	comp=E,4676μm,0.3s							
CHOS	**Chios island**	**1.42**	**159**	P		**Pn**	**15 19 30.7**	**-0.6**
CHOS				S		**Sg**	**15 19 50.9**	**0.0**
RDO	**Rodhopi**	**1.43**	**4**	PN		**Pn**	**15 19 30.6**	**-0.8**
RDO	**Rodhopi**	**1.43**	**4**	P		**Pn**	**15 19 30.9**	**-0.5**
RDO	**Rodhopi**	**1.43**	**4**	P		**Pn**	**15 19 31.0**	**-0.5**
KVLA	**Kavala**	**1.45**	**327**	P		**Pn**	**15 19 31.4**	**-0.3**
KVLA				S		**Sn**	**15 19 49.2**	**-1.7**
KAVA	**Kavala**	**1.45**	**332**	P		**Pn**	**15 19 31.3**	**-0.5**
KAVA	**Kavala**	**1.45**	**332**	P		**Pn**	**15 19 31.2**	**-0.5**
KAVA				S		**Sg**	**15 19 52.5**	**+0.6**
KRBG	**Karabiga-Canak**	**1.59**	**64**	PN		**Pn**	**15 19 34.0**	**+0.3**
SKIA	**Skiathos**	**1.61**	**251**	P		**Pn**	**15 19 33.0**	**-0.9**
SKIA	**Skiathos**	**1.61**	**251**	P		**Pb**	**15 19 34.6**	**-0.6**
URLA	**Izmir**	**1.64**	**146**	PN		**Pn**	**15 19 33.8**	**-0.5**
URLA	**Izmir**	**1.64**	**146**	IAML_P				
	comp=Z,5μm,0.2s							
URLA				*i* P		**Pn**	**15 19 34.2**	**-0.2**
PLG	**Polygyros**	**1.65**	**294**	P		**Pn**	**15 19 34.3**	**-0.2**
PLG	**Polygyros**	**1.65**	**294**	P		**Pn**	**15 19 34.3**	**-0.2**
PLG				S		**Sg**	**15 19 57.8**	**-0.5**
EREA	**Eretria**	**1.74**	**222**	P		**Pn**	**15 19 35.1**	**-0.6**
EREA	**Eretria**	**1.74**	**222**	P		**Pn**	**15 19 35.0**	**-0.7**
MRKA	**Markates**	**1.75**	**235**	P		**Pn**	**15 19 35.0**	**-0.6**
MRKA	**Markates**	**1.75**	**235**	P		**Pn**	**15 19 36.0**	**+0.2**
XOR	**Xorichti**	**1.76**	**259**	P		**Pn**	**15 19 34.9**	**-1.1**
STEP	**BALIKESIR_Sava**	**1.81**	**100**	IAML_P				
	comp=Z,6μm,0.2s							
STEP				*i* P		**Pb**	**15 19 37.9**	**-0.7**
BLCB	**Balcova**	**1.84**	**136**	PN		**Pn**	**15 19 36.8**	**-0.2**
MRMT	**Marmara Adasi**	**1.89**	**61**	PN		**Pn**	**15 19 38.2**	**+0.4**
BALB	**Balikesir**	**1.90**	**92**	PN		**Pn**	**15 19 38.3**	**+0.4**
SMIA	**Simia**	**1.91**	**245**	P		**Pn**	**15 19 38.3**	**+0.2**
SMIA	**Simia**	**1.91**	**245**	P		**Pn**	**15 19 38.2**	**+0.2**
SOH	**Sokhos**	**1.92**	**306**	P		**Pn**	**15 19 38.2**	**-0.1**
SOH				S		**Sn**	**15 20 02.1**	**-0.6**
SOH	**Sokhos**	**1.92**	**306**	P		**Pn**	**15 19 38.2**	**-0.1**
KDZ	**Kurdzhali**	**1.93**	**360**	PN		**Pn**	**15 19 37.8**	**-0.5**
KDZ	**Kurdzhali**	**1.93**	**360**	*i* P		**Pg**	**15 19 41.6**	**-0.6**
FYTO	**Fytoko, Volos**	**1.94**	**262**	P		**Pn**	**15 19 38.2**	**-0.3**
SBT4	**Kumbag-Tekirda**	**1.96**	**55**	PN		**Pn**	**15 19 38.9**	**+0.3**
SRS	**Serrai**	**1.97**	**316**	P		**Pn**	**15 19 38.9**	**-0.1**
SRS				S		**Sn**	**15 20 03.2**	**-0.7**
SRS	**Serrai**	**1.97**	**316**	P		**Pn**	**15 19 38.8**	**-0.1**
EDC	**Edincik**	**1.98**	**71**	PN		**Pn**	**15 19 39.1**	**+0.1**
HORT	**Hortiatis**	**1.98**	**297**	PN		**Pn**	**15 19 38.6**	**-0.5**
HORT	**Hortiatis**	**1.98**	**297**	P		**Pn**	**15 19 38.9**	**-0.1**
HORT	**Hortiatis**	**1.98**	**297**	P		**Pn**	**15 19 39.0**	**-0.1**
DION	**Dionisos Attik**	**2.01**	**216**	P		**Pn**	**15 19 38.5**	**-0.9**
NVR	**Nevrokopi**	**2.01**	**324**	P		**Pn**	**15 19 39.5**	**0.0**
NVR				S		**Sn**	**15 20 03.4**	**-1.5**
NVR	**Nevrokopi**	**2.01**	**324**	P		**Pn**	**15 19 39.3**	**-0.2**
GMLD	**Gumuldur**	**2.02**	**144**	PN		**Pn**	**15 19 39.2**	**-0.3**
DGB	**zmir**	**2.02**	**145**	*i* P		**Pn**	**15 19 40.6**	**+1.1**
DGB				*i* S		**Sg**	**15 20 09.9**	**-0.3**
RZN	**Rozhen**	**2.04**	**345**	*i* P		**Pn**	**15 19 40.2**	**+0.2**
TKR	**Tekirdag**	**2.06**	**51**	PN		**Pn**	**15 19 40.2**	**+0.1**
PTL	**Penteli**	**2.06**	**216**	P		**Pn**	**15 19 39.1**	**-1.0**
ATAL	**Atalanti**	**2.12**	**242**	P		**Pn**	**15 19 40.8**	**-0.2**
ATAL	**Atalanti**	**2.12**	**242**	P		**Pn**	**15 19 40.9**	**-0.1**
GOMA	**Golmarmara-Man**	**2.19**	**117**	PN		**Pn**	**15 19 42.1**	**+0.2**
VIL2	**Platees**	**2.25**	**229**	P		**Pn**	**15 19 42.3**	**-0.5**
VLY	**Voula,Athens**	**2.25**	**215**	P		**Pn**	**15 19 41.8**	**-1.0**
VLY	**Voula,Athens**	**2.25**	**215**	P		**Pn**	**15 19 42.6**	**-0.2**
CRLT	**Corlu**	**2.26**	**51**	PN		**Pn**	**15 19 43.1**	**+0.2**
MMB	**Musomiste**	**2.27**	**326**	*i* P		**Pb**	**15 19 46.0**	**-0.4**
LIT	**Litokhoron**	**2.28**	**281**	P		**Pn**	**15 19 43.4**	**+0.2**
SMG	**Samos**

IDC 19 15:32:35.1±3.4, 4°03'S×127°94'E, h254km±30km, mb3.1/4, mb1 3.3/6, mb1mx3.0/31, mbtmp3.8/6, Error ellipse: s-maj=72.6km s-min=14.8km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**14.16**	**189**	P	Pn	15 35 43.6	-1.5
	0.1nm,0.3s,baz=10,slow=12,SNR=4.0						
WRA	**Warramunga Arr**	**17.00**	**159**	P	P	15 36 15.4	-1.3
	0.4nm,0.3s,baz=339,slow=11,SNR=9.6						
WRA				S	S	15 39 22.7	+1.8
	0.0nm,0.3s,baz=335,slow=18,SNR=3.2						
ASAR	**Alice Springs**	**20.35**	**164**	P	P	15 36 52.6	-0.1
	2.1nm,0.3s,baz=346,slow=12,SNR=87						
ASAR				S	S	15 40 21.9	-4.0
	0.4nm,0.8s,baz=353,slow=23,SNR=3.2						
ASAR				PcP	PcP	15 40 54.8	+0.4
	0.4nm,1.0s,baz=357,slow=2.4,SNR=2.4						
ASAR				ScP	ScP	15 44 05.5	-1.1
	0.5nm,1.0s,baz=346,slow=1.9,SNR=3.1						
STKA	**Stephens Creek**	**30.52**	**157**	P	P	15 38 26.2	+1.3
	0.5nm,0.4s,baz=338,slow=7.7,SNR=3.7						
CMAR	**Chiang Mai Arr**	**36.28**	**309**	P	P	15 39 14.7	-0.1
	0.4nm,0.8s,baz=144,slow=7.8,SNR=4.1						
MKAR	**Makanchi Array**	**64.64**	**327**	P	P	15 42 45.9	+0.1
	0.4nm,0.5s,baz=120,slow=9.2,SNR=7.1						
TXAR	**Lajitas Array**	**125.10**	**57**	PKP	PKPdf	15 51 04.3	-1.8
	0.3nm,0.7s,baz=29,slow=2.9,SNR=3.5						

*DDA **19** 16:12:20.2, 36°.28N×37°.74E, h6km±3km, ML2.7*

ISC 19 16:12:18.9±2.4, 36°.2N±0°.1×37°.75E±0°.06, h13km±13km, n7, σ1§11/12, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUZU	**Kuzuini**	**0.82**	**319**	*i* P	**Pg**	**16 12 34.8**	**-0.1**
KUZU				*i* S	**Sg**	**16 12 46.0**	**+0.4**
SURC	**SANLIURFA_SURC**	**1.00**	**44**	*i* P	**Pg**	**16 12 38.1**	**-0.2**
GAZ	**Gaziantep**	**1.10**	**337**	*e*PG	**Pb**	**16 12 39.1**	**-0.8**
GAZ				*e*SG	**Sg**	**16 12 54.6**	**0.0**
GZT	**Gaziantep**	**1.21**	**353**	IAML_P			
	comp=Z,597nm,0.1s						
GZT				*i* P	**Pb**	**16 12 40.7**	**-1.1**
GZT				*i* S	**Sb**	**16 12 56.7**	**-0.7**
TAHT	**Tahtakopru-Hat**	**1.28**	**280**	*e*PG	**Pn**	**16 12 42.0**	**-0.5**
TAHT				*e*SG	**Sb**	**16 12 58.4**	**-0.9**
URFA	**Urfa**	**1.55**	**34**	*e*PG	**Pn**	**16 12 46.9**	**+0.6**
URFA				*e*SG	**Sn**	**16 13 06.9**	**+0.6**
ANDN	**Andirin**	**1.81**	**322**	IAML_P			
	comp=Z,150nm,0.1s						
ANDN				*i* P	**Pb**	**16 12 54.4**	**+2.4**

*ISCJB **19** 16:13:25.9±0.7, 60°.39S±0°.09×26°.5W±0°.2, h10km, mb4.0/6, MS3.1/1, Error ellipse: s-maj=17.3km s-min=10.1km az=140.7*

*IDC **19** 16:13:26.5±1.0, 60°.23S×26°.51W, h0km, mb4.0/5, mb1 4.2/7, mb1mx4.0/26, mbtmp4.1/7, ML4.3/2, MS3.2/2, Ms1 3.2/2, ms1mx2.9/21, Error ellipse: s-maj=30.6km s-min=25.2km az=55.0*

*NEIC **19** 16:13:27.8±0.6, 60°.30S×26°.48W, h10km, mb4.1/1, Error ellipse: s-maj=16.2km s-min=13.4km az=224.0*

ISC 19 16:13:27.7±0.7, 60°.3S±0°.1×26°.5W±0°.1, h10km, n17, σ1§02/15, mb4.0/6, 2C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**12.78**	**152**	P	**Pn**	**16 16 28.5**	**-0.7**
VNA1				S	Sn	16 18 35.8	-15
VNA3	**Neumayer Olymp**	**12.91**	**155**	P	**Pn**	**16 16 30.5**	**-0.5**
VNA3				S	Sn	16 18 39.3	-15
VNA2	**Neumayer--Watz**	**13.18**	**152**	P	**Pn**	**16 16 34.2**	**-0.5**
	baz=311,slow=15						
VNA2				S	Sn	16 18 50.1	-11
	baz=305,slow=20						
SNAA	**Sanae**	**14.78**	**150**	P	**Pn**	**16 16 56.4**	**-0.1**
SNAA				S	Sn	16 19 24.1	-16
SNAA	**Sanae**	**14.78**	**150**	Pn	**Pn**	**16 16 55.1**	**-1.4**
	1.2nm,0.3s,baz=299,slow=14,SNR=21						
SNAA				Sn	Sn	16 19 27.5	-13
	0.1nm,0.3s,baz=16,slow=19,SNR=4.0						
SNAA				LR	LR	16 21 57.8	
	comp=Z,71nm,18.5s,baz=303,slow=34						
PMSA	**Palmer Station**	**17.68**	**239**	P	**P**	**16 17 33.8**	**-0.9**
	1.3nm,0.3s,baz=59,slow=3.7,SNR=2.8						
SYO	**Syowa Base**	**28.16**	**136**	*e*P	P	16 19 08.0	-12
SYO	**Syowa Base**	**28.16**	**136**	*e*P	P	16 19 11.2	-8.4
QSPA	**South Pole Qui**	**29.94**	**180**	P	**P**	**16 19 37.9**	**+2.2**
	1.7nm,0.9s,baz=302,slow=3.9,SNR=3.6						
PLCA	**Paso Flores**	**33.31**	**286**	P	**P**	**16 20 04.9**	**-0.5**
	0.9nm,0.6s,baz=126,slow=11,SNR=3.7						
PLCA				LR	LR	16 33 53.2	
	comp=Z,38nm,18.7s,baz=261,slow=37						
CPUP	**Villa Florida**	**39.97**	**314**	P	**P**	**16 21 03.4**	**+1.3**
	1.1nm,0.5s,baz=98,slow=2.7,SNR=4.0						
SUR	**Sutherland**	**41.60**	**70**	P	**P**	**16 21 16.0**	**+0.2**
	3.1nm,0.7s						
LPAZ	**La Paz**	**53.18**	**307**	P	**P**	**16 22 46.4**	**-0.2**
	1.2nm,0.5s,baz=175,slow=3.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**76.61**	**28**	P	**P**	**16 25 18.3**	**0.0**
	0.9nm,0.4s,baz=196,slow=6.4,SNR=8.6						
YKA	**Yellowknife Ar**	**139.49**	**314**	PKP	**PKPdf**	**16 32 52.9**	**-0.8**
	0.2nm,0.5s,baz=127,slow=2.1,SNR=5.1						
SONM	**Songino Array**	**150.37**	**93**	PKPbc	**PKiKP**	**16 33 18.7**	**-0.3**
	0.5nm,0.6s,baz=222,slow=1.9,SNR=3.6						
ILAR	**Eielson Array**	**153.05**	**305**	PKPbc	**PKiKP**	**16 33 22.9**	**-1.0**
	0.4nm,0.7s,baz=123,slow=3.3,SNR=4.9						

*ISCJB **19** 16:38:12.3±0.4, 51°.07N±0°.08×98°.22E±0°.06, h6km, mb3.6/11, MS3.0/1, Error ellipse: s-maj=11.7km s-min=5.1km az=1.1*

*MOS **19** 16:38:12.4±1.1, 51°.07N×98°.21E, h9km, mb4.0/8, Error ellipse: s-maj=11.9km s-min=9.2km az=8.6*

*IDC **19** 16:38:12.8±0.7, 51°.22N×98°.45E, h0km, mb3.7/11, mb1 3.7/16, mb1mx3.6/50, mbtmp3.6/16, ML2.8/4, MS3.0/4, Ms1 3.0/4, ms1mx2.7/51, Error ellipse: s-maj=22.6km s-min=11.3km az=15.0*

ISC 19 16:38:13.9±0.6, 51°.17N±0°.07×98°.31E±0°.05, h6km, n35, σ1§29/34, mb3.7/11, 2C, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORL	**Orlik**	**1.66**	**34**	*i*PN	**Pb**	**16 38 44.8**	**-0.1**
ORL				*e*		16 39 07.6	
ORL				pmax	pmax		
	comp=Z,165nm,0.3s						
ORL				smax	smax		
	comp=E,1μm,1.1s						
MOY	**Mondy**	**1.75**	**72**	*i*PN	**Pb**	**16 38 46.0**	**-0.5**
MOY				*e*		16 39 10.1	
MOY				pmax	pmax		
	comp=Z,292nm,0.5s						
MOY				smax	smax		
	comp=N,2μm,0.8s						
KZLR	**Kyzyl**	**2.47**	**284**	*e*PN	**Pn**	**16 38 55.8**	**+1.1**
ZAK	**Zakamensk**	**3.25**	**102**	*e*PN	**Pn**	**16 39 05.6**	**+0.1**
ZAK				*e*		16 39 10.6	
ZAK				*e*		16 39 52.8	
ZAK				pmax	pmax		
	comp=Z,136nm,0.5s						
ZAK				smax	smax		
	comp=N,734nm,0.7s						
IRK	**Irkutsk**	**3.86**	**72**	*e*PN	**Pn**	**16 39 14.2**	**+0.4**
IRK				*e*		16 39 23.8	
IRK				*e*		16 40 13.7	
IRK				pmax	pmax		
	comp=Z,57nm,0.1s						
IRK				smax	smax		
	comp=Z,1μm,0.6s						
CERR	**Cheremushki**	**4.58**	**294**	*e*PN	**Pb**	**16 39 35.0**	**+0.4**
OGRR	**Ongureny**	**6.20**	**63**	*e*PN	**Pn**	**16 39 49.6**	**+3.7**
OGRR				*e*		16 40 08.5	
OGRR				pmax	pmax		
	comp=Z,33nm,1.5s						
SONM	**Songino Array**	**6.24**	**119**	Pn	**Pn**	**16 39 46.5**	**-0.1**
	baz=298,slow=14,SNR=5.5						
SONM				Pg	**Pb**	**16 40 02.7**	**-0.2**
	comp=Z,9.6nm,0.3s,baz=300,slow=18,SNR=115						
SONM				Lg	Lg	16 41 28.6	
	comp=Z,12nm,0.3s,baz=300,slow=27,SNR=14						
SONM				LR	LR	16 42 22.7	
	comp=Z,111nm,20.1s,baz=303,slow=40						
TASR	**Tashtagol**	**6.64**	**288**	*e*P*	Pb	16 40 14.6	+5.0
TASR				*e*		16 41 36.3	
DGZ	**Jazzator, Alta**	**7.10**	**262**	*i* PN	**Pn**	**16 39 58.1**	**-0.3**
ELT	**Eltsovka**	**7.70**	**290**	*e*P	**Pn**	**16 40 02.8**	**-3.7**
ZALV	**Zalesovo Beam**	**8.68**	**294**	Pn	**Pn**	**16 40 21.4**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=98,slow=11,SNR=3.5						
ZALV				Lg	Lg	16 42 40.0	
	comp=Z,1.3nm,0.3s,baz=104,slow=24,SNR=6.0						
ZALV				LR	LR	16 43 40.3	
	comp=Z,78nm,21.5s,baz=55,slow=38						
NVS	**Novosibirsk**	**9.80**	**298**	*e*P	**Pn**	**16 40 35.0**	**-0.2**
NVS				*e*		16 42 22.2	
MKAR	**Makanchi Array**	**11.39**	**254**	Pn	**Pn**	**16 40 59.1**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=85,slow=9.7,SNR=3.2						
MKAR				Lg	Lg	16 44 14.4	
	comp=Z,0.2nm,0.3s,baz=57,slow=29,SNR=4.1						
MKAR				LR	LR	16 45 24.1	
	comp=Z,87nm,20.4s,baz=20,slow=38						
KURK	**Kurchatov**	**12.43**	**276**	P	**Pn**	**16 41 12.4**	**+1.3**
KURBB	**Kurchatov Arra**	**12.50**	**275**	Pn	**Pn**	**16 41 12.4**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=85,slow=14,SNR=4.3						
KURBB				Lg	Lg	16 44 45.2	
	comp=Z,0.1nm,0.3s,baz=78,slow=32,SNR=8.7						
BVAR	**Borovoye Array**	**17.21**	**287**	Pn	**Pn**	**16 42 13.2**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=73,slow=12,SNR=7.0						
BRVK	**Borovoye**	**17.27**	**287**	*i* P	**Pn**	**16 42 14.0**	**-1.5**
AAK	**Ala-Archa**	**18.31**	**252**	*i* P	**Pn**	**16 42 28.4**	**-0.1**
AAK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KLR	**Kul'dur**	**21.39**	**82**	P	**P**	**16 43 02.2**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=287,slow=10,SNR=3.8						
TIXI	**Tiksi**	**24.68**	**23**	P	**P**	**16 43 34.2**	**-0.9**
	comp=Z,2.8nm,0.8s,baz=234,slow=3.6,SNR=8.9						
TIXI	**Tiksi**	**24.68**	**23**	*i* P	**P**	**16 43 34.2**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KSRS	**Korea Array**	**25.04**	**112**	P	**P**	**16 43 38.0**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=313,slow=7.1,SNR=4.2						
AKTO	**Aktyubinsk**	**25.26**	**284**	P	**P**	**16 43 39.9**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=88,slow=11,SNR=9.8						
OBN	**Obninsk**	**36.18**	**301**	LR	LR	17 01 06.5	
	comp=Z,24nm,18.8s,baz=170,slow=38						
FINES	**FINESS Array B**	**39.31**	**314**	P	**P**	**16 45 43.6**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=89,slow=7.7,SNR=11						
AKASG	**Malin Array Be**	**42.05**	**298**	P	**P**	**16 46 05.6**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=56,slow=8.6,SNR=2.6						
BRTR	**Keskin Array B**	**45.39**	**282**	P	**P**	**16 46 32.5**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=79,slow=6.4,SNR=3.9						
NB2	**NORSAR Subarra**	**46.03**	**318**	P	**P**	**16 46 37.7**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=58,slow=7.9						
NOA	**NORSAR Array B**	**46.03**	**318**	P	**P**	**16 46 37.7**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=60,slow=7.8,SNR=5.7						
NOA	**NORSAR Array B**	**46.03**	**318**	*e*P	**P**	**16 46 38.0**	**+0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VYHS	**Vyhne**	**48.95**	**300**	*e*P	**P**	**16 47 01.7**	**+1.0**
WRA	**Warramunga Arr**	**77.55**	**145**	P	**P**	**16 50 08.7**	**-1.8**
	comp=Z,0.6nm,0.9s,baz=344,slow=6.3,SNR=3.3						
ASAR	**Alice Springs**	**80.84**	**147**	P	**P**	**16 50 29.7**	**+1.3**
	comp=Z,0.6nm,0.9s,baz=356,slow=5.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**83.97**	**283**	P	**P**	**16 50 44.5**	**-0.6**
	comp=Z,0.9nm,0.9s,baz=19,slow=4.3,SNR=3.0						

*BJI **19** 16:48:08.7, 52°.86N×159°.19E, h83km, mb4.4/24, mB4.7/17, Ms4.5/6, Ms7 4.2/4*

*MOS **19** 16:48:09.3±1.1, 52°.39N×158°.89E, h68km, mb4.5/27, Error ellipse: s-maj=9.6km s-min=4.1km az=84.1*

MOS Felt (II) at Petropavlovsk-Kamchatskiy.

*KRSC **19** 16:48:09.2±0.8, 52°.40N×159°.08E, h56km±9km, ML4.9, FELT [IV] at Viluchinsk, MGeoES-I, Petropavlovsk, river Karimshina (stationary KF GS), Institute; [II-III] at lighthouse Krugliy.*

*ISCJB **19** 16:48:10.1±0.3, 52°.44N±0°.03×158°.91E±0°.05, h76km±2km, mb4.4/68, Error ellipse: s-maj=6.2km s-min=3.0km az=39.8*

*NEIC **19** 16:48:12.4±0.5, 52°.60N×158°.78E, h79km±4km, mb4.6/20, Error ellipse: s-maj=6.4km s-min=3.6km az=144.0*

*IDC **19** 16:48:13.2±0.9, 52°.60N×158°.76E, h87km±6km, mb4.0/25, mb1 4.2/29, mb1mx4.1/50, mbtmp4.3/29, MS3.4/11, Ms1 3.4/11, ms1mx3.2/40, Error ellipse: s-maj=14.3km s-min=9.6km az=136.0*

ISC 19 16:48:10.0±0.7, 52°.43N±0°.03×159°.01E±0°.04, h61km±5km, n237, σ1§66/262, mb4.5/74, 8C-8D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.30**	**271**	*e*P	**Pn**	**16 48 20.6**	**+0.4**
RUS				*e*S	**Sn**	**16 48 28.2**	**+0.6**
RUS	**Russkaya**	**0.30**	**271**	PN	**Pn**	**16 48 20.6**	**+0.4**
RUS				S	**Sn**	**16 48 28.2**	**+0.6**
MTVR	**Mutnovka**	**0.51**	**276**	*e*P	**Pn**	**16 48 23.2**	**+0.9**
MTVR	**Mutnovka**	**0.51**	**276**	PN	**Pn**	**16 48 23.2**	**+0.9**
DALK	**Dalny**	**0.62**	**346**	*e*P	**Pn**	**16 48 23.6**	**+0.3**
DALK				*e*S	**Sn**	**16 48 33.0**	**-0.1**
DALK	**Dalny**	**0.62**	**346**	PN	**Pn**	**16 48 23.6**	**+0.3**
DALK				S	**Sn**	**16 48 33.0**	**-0.1**
PET	**Petropavlovsk**	**0.63**	**340**	*e*Pn	**Pn**	**16 48 23.8**	**+0.3**
PET	**Petropavlovsk**	**0.63**	**340**	*e*P	**Pn**	**16 48 23.8**	**+0.3**
PET				*e*S	**Sn**	**16 48 33.6**	**+0.3**
PET	**Petropavlovsk**	**0.63**	**340**	*i*PN	**Pn**	**16 48 23.8**	**+0.3**
PET				*e*S	**Sn**	**16 48 33.3**	**0.0**
PET				pmax	pmax		
	comp=Z,3μm,0.3s						
PET				smax	smax		
	comp=E,19μm,0.7s						
PET				smax	smax		
	comp=N,28μm,0.6s						
NLC	**Nalytchevo**	**0.77**	**15**	*e*P	**Pn**	**16 48 24.5**	**-0.6**
NLC				*e*S	**Sn**	**16 48 35.0**	**-1.2**
NLC	**Nalytchevo**	**0.77**	**15**	PN	**Pn**	**16 48 24.5**	**-0.6**
NLC				S	**Sn**	**16 48 35.0**	**-1.2**
UGLR	**Uglovaya**	**0.79**	**352**	*e*P	**Pn**	**16 48 26.1**	**+0.6**
UGLR				*e*S	**Sn**	**16 48 37.8**	**+0.9**
UGLR	**Uglovaya**	**0.79**	**352**	PN	**Pn**	**16 48 26.1**	**+0.6**
UGLR				S	**Sn**	**16 48 37.8**	**+0.9**
SMAR	**Somma**	**0.84**	**352**	*e*P	**Pn**	**16 48 26.5**	**+0.2**
SMAR				*e*S	**Sn**	**16 48 39.4**	**+1.1**
SMAR	**Somma**	**0.84**	**352**	PN	**Pn**	**16 48 26.5**	**+0.2**
SMAR				S	**Sn**	**16 48 39.4**	**+1.1**
KDTR	**Khodutka, Kamc**	**0.85**	**223**	*e*P	Pn	16 48 26.6	+0.6
KDTR				*e*S	**Sn**	**16 48 38.6**	**+0.7**
KDTR	**Khodutka, Kamc**	**0.85**	**223**	PN	Pn	16 48 26.6	+0.6
KDTR				S	**Sn**	**16 48 38.6**	**+0.7**
AVH	**Avacha**	**0.85**	**349**	*e*P	**Pn**	**16 48 27.1**	**+0.9**
AVH	**Avacha**	**0.85**	**349**	PN	**Pn**	**16 48 27.1**	**+0.9**
KOK	**Koryaka**	**0.89**	**346**	*i* P	**Pn**	**16 48 27.8**	**+1.0**
KOK				*e*S	**Sn**	**16 48 39.8**	**+0.6**
KOK	**Koryaka**	**0.89**	**346**	PN	**Pn**	**16 48 27.8**	**+1.0**
KOK				S	**Sn**	**16 48 39.8**	**+0.6**
SPN	**Mys Shipunski**	**0.91**	**42**	*i* P	**Pn**	**16 48 27.3**	**+0.4**
SPN				*e*S	**Sn**	**16 48 40.1**	**+0.7**
SPN	**Mys Shipunski**	**0.91**	**42**	PN	**Pn**	**16 48 27.3**	**+0.4**
SPN				S	**Sn**	**16 48 40.1**	**+0.7**
KRX	**Arik**	**0.96**	**347**	*e*P	**Pn**	**16 48 28.4**	**+0.8**
KRX				*e*S	**Sn**	**16 48 41.3**	**+0.6**
KRX	**Arik**	**0.96**	**347**	PN	**Pn**	**16 48 28.4**	**+0.8**
KRX				S	**Sn**	**16 48 41.3**	**+0.6**
PEA0B	**Petropavlovsk-**	**1.05**	**311**	*e*Pn	**Pn**	**16 48 29.9**	**+1.3**
PETK	**Petropavlovsk-**	**1.05**	**311**	P	**Pn**	**16 48 29.9**	**+1.2**
	comp=N,478nm,0.3s,baz=110,slow=18,SNR=8166						
PETK				S	**Sn**	**16 48 45.0**	**+2.5**
	comp=N,594nm,0.3s,baz=85,slow=38,SNR=42						
APC	**Apacha**	**1.23**	**295**	*e*P	**Pn**	**16 48 32.9**	**+1.9**
APC				*e*S	**Sn**	**16 48 49.6**	**+2.8**
APC	**Apacha**	**1.23**	**295**	PN	**Pn**	**16 48 32.9**	**+1.9**
APC				S	**Sn**	**16 48 49.6**	**+2.8**
GNL	**Ganaly**	**1.42**	**334**	*e*P	**Pn**	**16 48 35.1**	**+1.4**
GNL	**Ganaly**	**1.42**	**334**	PN	**Pn**	**16 48 35.1**	**+1.4**
KII	**Karymskiy**	**1.63**	**9**	*e*P	**Pn**	**16 48 38.1**	**+1.6**
KII				*e*S	**Sn**	**16 48 59.7**	**+3.2**
KII	**Karymskiy**	**1.63**	**9**	PN	**Pn**	**16 48 38.1**	**+1.6**
KII				S	**Sn**	**16 48 59.7**	**+3.2**
PAU	**Pauzhetka**	**1.67**	**236**	*e*P	**Pn**	**16 48 38.5**	**+1.6**
PAU				*e*S	**Sn**	**16 48 59.3**	**+2.1**
PAU	**Pauzhetka**	**1.67**	**236**	PN	**Pn**	**16 48 38.5**	**+1.6**
PAU				S	**Sn**	**16 48 59.3**	**+2.1**
SKR	**Severo-Kuril's**	**2.51**	**227**	*e*PN	**Pn**	**16 48 49.4**	**+1.0**
SKR				*e*S	**Sn**	**16 49 18.3**	**+0.5**
SKR	**Severo-Kuril's**	**2.51**	**227**	*e*PN	**Pn**	**16 48 49.9**	**+1.5**
SKR				*e*S	**Sn**	**16 49 17.9**	**+0.1**
SKR				smax	smax		
	comp=N,2μm,0.6s						
SKR				smax	smax		
	comp=E,1μm,0.7s						
KZV	**Kizimen**	**2.79**	**15**	*e*P	**Pn**	**16 48 54.8**	**+2.4**
KZV	**Kizimen**	**2.79**	**15**	PN	**Pn**	**16 48 54.8**	**+2.4**
TUMD	**Tumrok D**	**2.90**	**16**	*e*P	**Pn**	**16 48 55.7**	**+2.0**
TUMD				*e*S	**Sn**	**16 49 30.8**	**+3.5**
TUMR	**Tumrok**	**2.94**	**13**	*e*P	**Pn**	**16 48 57.4**	**+3.1**
TUMR	**Tumrok**	**2.94**	**13**	PN	**Pn**	**16 48 55.7**	**+1.4**
TUMR				S	**Sn**	**16 49 30.8**	**+2.4**
KOZ	**Kozyrevsk**	**3.67**	**8**	*e*P	**Pn**	**16 49 07.4**	**+3.2**
KOZ	**Kozyrevsk**	**3.67**	**8**	PN	**Pn**	**16 49 07.4**	**+3.2**
LGNR	**Loginova**	**3.79**	**14**	*e*P	**Pn**	**16 49 10.5**	**+4.4**
LGNR	**Loginova**	**3.79**	**14**	PN	**Pn**	**16 49 10.5**	**+4.4**
CIRR	**Tsirk**	**3.83**	**15**	*e*P	**Pn**	**16 49 09.2**	**+2.7**
CIRR	**Tsirk**	**3.83**	**15**	PN	**Pn**	**16 49 09.2**	**+2.7**
KRSR	**Krestovskiy**	**3.90**	**13**	*e*P	**Pn**	**16 49 10.2**	**+2.7**
KRSR	**Krestovskiy**	**3.90**	**13**	PN	**Pn**	**16 49 10.2**	**+2.7**
KLY	**Klyuchi**	**4.01**	**13**	*e*P	**Pn**	**16 49 12.8**	**+4.0**
KLY				*e*S	**Sn**	**16 49 59.6**	**+5.2**
KLY	**Klyuchi**	**4.01**	**13**	PN	**Pn**	**16 49 12.8**	**+4.0**
KLY				S	**Sn**	**16 49 59.6**	**+5.2**
BDR	**Baidarnaya**	**4.34**	**16**	*e*P	**Pn**	**16 49 16.7**	**+3.3**
BDR	**Baidarnaya**	**4.34**	**16**	PN	**Pn**	**16 49 16.7**	**+3.3**
KBTR	**Krutoberegovo**	**4.39**	**29**	*e*P	**Pn**	**16 49 15.6**	**+1.5**
KBTR	**Krutoberegovo**	**4.39**	**29**	PN	**Pn**	**16 49 15.6**	**+1.5**
KBG	**Krutoberegovo**	**4.40**	**28**	*e*P	**Pn**	**16 49 16.6**	**+2.5**
KBG	**Krutoberegovo**	**4.40**	**28**	PN	**Pn**	**16 49 16.6**	**+2.5**
SMKR	**Semkarok**	**4.40**	**18**	*e*P	**Pn**	**16 49 17.2**	**+3.0**
SMKR	**Semkarok**	**4.40**	**18**	PN	**Pn**	**16 49 17.2**	**+3.0**
SRKR	**Sorokina**	**4.42**	**16**	*e*P	**Pn**	**16 49 18.8**	**+4.4**
SRKR	**Sorokina**	**4.42**	**16**	PN	**Pn**	**16 49 18.8**	**+4.4**
MA2	**Magadan**	**8.52**	**330**	P	**Pn**	**16 50 09.7**	**-0.7**
	comp=E,0.5nm,0.3s,baz=65,slow=14,SNR=4.4						
MA2				LR	LR	16 53 33.5	
	comp=E,214nm,21.0s,baz=130,slow=39						
MA2	**Magadan**	**8.52**	**330**	*i* PN	**Pn**	**16 50 09.6**	**-0.8**
SEY	**Seymchan**	**11.10**	**344**	P	**Pn**	**16 50 49.1**	**+3.4**
	comp=E,0.1nm,0.3s,baz=135,slow=14,SNR=4.8						
NKL	**Nikolayevsk**	**11.12**	**281**	*e*PN	**Pn**	**16 50 47.6**	**+1.6**
UGL	**Uglegorsk**	**11.24**	**259**	*e*PN	Pn	16 50 54.3	+6.6
UGL				pmax	pmax		
	comp=Z,42nm,0.8s						
SHO	**Shikotan**	**11.80**	**228**	*e*PN	**Pn**	**16 50 59.2**	**+3.9**
SHO				*i* S	**Sn**	**16 53 09.7**	**+4.6**
SHO				pmax	pmax		
	comp=E,16nm,0.7s						
SHO				pmax	pmax		
	comp=Z,16nm,0.7s						
SHO				pmax	pmax		
	comp=N,4.0nm,0.3s						
ASAJ	**Asahikawa**	**13.71**	**239**	P	**Pn**	**16 51 23.7**	**+2.5**
	comp=N,1.3nm,0.3s,baz=71,slow=16,SNR=16						
ASAJ				LR	LR	16 56 33.6	
	comp=N,85nm,20.4s,baz=4.0,slow=37						
ASAJ	**Asahikawa**	**13.71**	**239**	*e*Pn	**Pn**	**16 51 23.0**	**+1.7**
GRNR	**Gornyy**	**14.13**	**272**	*e*P	Pn	16 51 20.5	-6.3
ERM	**Erimo**	**14.95**	**232**	*e*Pn	**Pn**	**16 51 35.0**	**-2.5**
ERM	**Erimo**	**14.95**	**232**	*e*P	**Pn**	**16 51 35.0**	**-2.5**
BILL	**Bilibino**	**16.05**	**10**	*e*Pn	**P**	**16 51 52.8**	**-1.0**
	comp=N,4.7nm,0.9s						
BILL	**Bilibino**	**16.05**	**10**	*i* P	**P**	**16 51 52.4**	**-1.4**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KLR	**Kul'dur**	**17.47**	**270**	P	**P**	**16 52 11.1**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=97,slow=8.6,SNR=5.8						
KLR	**Kul'dur**	**17.47**	**270**	*i* P	**Pn**	**16 52 09.2**	**0.0**
YAK	**Yakutsk**	**18.39**	**313**	*e*P	**P**	**16 52 17.5**	**-2.1**
YAK				*e*S	**Sn**	**16 55 43.5**	**-1.3**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
YAK				smax	smax		
	comp=N,47nm,2.4s						
ZEA	**Zeya**	**19.04**	**287**	*e*P	**P**	**16 52 27.2**	**+0.4**
USRK	**Ussuriysk Ar.**	**19.68**	**256**	P	**P**	**16 52 33.7**	**-0.1**
	comp=N,0.1nm,0.3s,baz=60,slow=11,SNR=4.6						
USRK				LR	LR	17 01 42.6

LZH	**Lanzhou**	**41.67**	**269**	*e*P		**P**	**16 55 55.8**	**+3.3**
LZH				pP		pP	16 56 14.0	+6.0
LZH				sP		sP	16 56 22.8	+7.7
LZH				pmax		pmax		
	comp=Z,28nm,1.2s							
GTA	**Gaotai**	**42.02**	**276**	*e*P		**P**	**16 55 54.4**	**-0.9**
ZALV	**Zalesovo Beam**	**42.58**	**303**	PcP		**PcP**	**16 57 49.0**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=91,slow=2.3,SNR=4.8							
DGZ	**Jazzator, Alta**	**43.37**	**296**	*i* P		**P**	**16 56 04.6**	**-1.5**
DGZ				pmax		pmax		
	comp=Z,1.0nm,0.8s							
YKA	**Yellowknife Ar**	**44.10**	**42**	P		**P**	**16 56 11.6**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=299,slow=7.9,SNR=17							
YKA				PcP		**PcP**	**16 57 56.1**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=310,slow=3.2,SNR=3.7							
RES	**Resolute Bay**	**44.19**	**21**	*e*P		**P**	**16 56 12.3**	**+0.2**
	comp=Z,6.6nm,0.7s							
RES	**Resolute Bay**	**44.19**	**21**	*e*P		**P**	**16 56 12.3**	**+0.2**
RES				pmax		pmax		
	comp=Z,7.0nm,0.7s							
CD2	**Chengdu**	**45.24**	**264**	*e*P		**P**	**16 56 19.6**	**-1.5**
WMQ	**Urumqi**	**46.57**	**289**	*e*P		**P**	**16 56 31.3**	**-0.1**
WMQ				sP		sP	16 57 02.3	+8.1
WMQ				LR		LR		
	comp=Z,180nm,20.7s							
WMQ				LR		LR		
	comp=Z,100nm,18.7s							
KURK	**Kurchatov**	**47.52**	**302**	*e*P		**P**	**16 56 36.2**	**-2.4**
	comp=Z,3.1nm,0.9s							
KURK	**Kurchatov**	**47.52**	**302**	*i* P		**P**	**16 56 36.6**	**-2.1**
KURK				pmax		pmax		
	comp=Z,2.0nm,1.1s							
MK31	**Makanchi Array**	**47.85**	**296**	*e*P		**P**	**16 56 39.3**	**-2.0**
MK31	**Makanchi Array**	**47.85**	**296**	*e*P		**P**	**16 56 39.3**	**-2.0**
MKAR	**Makanchi Array**	**47.85**	**296**	P		**P**	**16 56 39.1**	**-2.2**
	comp=Z,1.2nm,0.6s,baz=57,slow=7.0,SNR=16							
MKAR				LR		LR	17 18 29.6	
	comp=Z,54nm,19.2s,baz=31,slow=38							
MK01	**Makanchi Array**	**47.85**	**296**	*e*P		**P**	**16 56 39.2**	**-2.1**
KMI	**Kunming**	**50.05**	**260**	P		**P**	**16 56 59.0**	**+0.3**
KMI				pmax		pmax		
	comp=Z,10.0nm,0.7s							
BRVK	**Borovoye**	**50.31**	**308**	*i* P		**P**	**16 56 57.3**	**-2.7**
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.9s							
DAG	**Danmarks Havn**	**51.06**	**359**	*i* P		**P**	**16 57 04.2**	**-1.1**
	comp=Z,4.1nm,0.9s							
DAG	**Danmarks Havn**	**51.06**	**359**	*i* P		**P**	**16 57 04.2**	**-1.1**
DAG				pmax		pmax		
	comp=Z,3.0nm,0.9s							
ARU	**Arti**	**53.44**	**317**	P		P	16 57 09.3	-14
ARU				*PP		pP	16 57 23.3	-16
BEKR	**Beckworth**	**54.45**	**69**	*e*P		**P**	**16 57 32.3**	**+1.3**
	comp=Z,6.5nm,1.0s							
HRY	**Holter Researc**	**54.56**	**58**	*e*P		**P**	**16 57 32.1**	**+0.4**
SUMG	**Summit**	**54.70**	**6**	*e*P		**P**	**16 57 30.9**	**-1.6**
	comp=Z,13nm,1.0s							
SUMG	**Summit**	**54.70**	**6**	*i* P		**P**	**16 57 31.9**	**-0.7**
	comp=Z,40nm,1.1s							
SUMG	**Summit**	**54.70**	**6**	*e*P		**P**	**16 57 31.0**	**-1.6**
SUMG				pmax		pmax		
	comp=Z,13nm,1.0s							
WAKR	**Walker**	**55.89**	**70**	*e*P		**P**	**16 57 42.8**	**+1.3**
	comp=Z,3.3nm,0.9s							
KVN	**Kaiserville**	**56.28**	**68**	*e*P		**P**	**16 57 45.0**	**+0.8**
	comp=Z,5.4nm,1.2s							
KVN	**Kaiserville**	**56.28**	**68**	*e*P		**P**	**16 57 45.0**	**+0.8**
KVN				pmax		pmax		
	comp=Z,5.0nm,1.2s							
NV01	**Mina Array Sit**	**56.59**	**69**	*e*P		**P**	**16 57 48.1**	**+1.7**
NVAR	**Mina Array Bea**	**56.59**	**69**	P		**P**	**16 57 48.1**	**+1.6**
	comp=Z,2.4nm,0.8s,baz=296,slow=7.7,SNR=11							
KLMR	**Klimovskoe**	**57.19**	**330**	*e*P		**P**	**16 57 48.6**	**-1.4**
KLMR				pmax		pmax		
	comp=Z,11nm,1.3s							
KLMR	**Klimovskoe**	**57.19**	**330**	*e*P		**P**	**16 57 48.6**	**-1.4**
KLMR				AMP			16 57 50.8	
	comp=Z,11nm,1.2s							
LOHW	**Long Hollow**	**57.29**	**60**	*e*P		**P**	**16 57 51.5**	**+0.2**
	comp=Z,4.7nm,1.1s							
CMAR	**Chiang Mai Arr**	**57.40**	**258**	P		**P**	**16 57 52.4**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=27,slow=7.2,SNR=9.9							
JIRN	**Jiri**	**58.30**	**275**	*e*P		**P**	**16 57 57.4**	**-1.4**
BW06	**Boulder Array**	**58.42**	**60**	*e*P		**P**	**16 58 00.7**	**+1.4**
	comp=Z,6.3nm,0.9s							
PD31	**Pinedale Array**	**58.42**	**60**	*e*P		**P**	**16 58 00.8**	**+1.5**
PDAR	**Pinedale Array**	**58.42**	**60**	P		**P**	**16 58 00.6**	**+1.3**
	comp=Z,4.6nm,0.8s,baz=311,slow=2.8,SNR=39							
RAMN	**Ramite**	**58.56**	**274**	*e*P		**P**	**16 57 59.2**	**-1.3**
	comp=Z,10nm,0.5s							
KKN	**Kakani**	**58.76**	**276**	*e*P		**P**	**16 58 00.6**	**-1.2**
	comp=Z,5.7nm,0.3s							
PKIN	**Phulchoki**	**58.84**	**276**	*e*P		**P**	**16 58 01.8**	**-0.6**
	comp=Z,3.6nm,0.6s							
DMN	**Daman**	**58.99**	**276**	*e*P		**P**	**16 58 02.5**	**-1.0**
	comp=Z,3.9nm,0.4s							
DANN	**Dangsing**	**59.28**	**277**	*e*P		**P**	**16 58 04.8**	**-0.7**
	comp=Z,5.2nm,0.5s							
KOLN	**Koldanda**	**59.79**	**277**	*e*P		**P**	**16 58 07.6**	**-1.3**
	comp=Z,2.9nm,0.4s							
PYUN	**Piuthan**	**59.92**	**278**	*e*P		**P**	**16 58 09.5**	**-0.3**
RSSD	**Black Hills**	**60.32**	**55**	*e*P		**P**	**16 58 11.9**	**-0.5**
	comp=Z,12nm,0.8s							
RSSD	**Black Hills**	**60.32**	**55**	*e*P		**P**	**16 58 11.9**	**-0.5**
RSSD				pmax		pmax		
	comp=Z,12nm,0.8s							
FINES	**FINESS Array B**	**60.46**	**336**	P		**P**	**16 58 11.8**	**-0.9**
	comp=Z,2.5nm,0.8s,baz=78,slow=3.4,SNR=8.8							
FINES	**FINESS Array B**	**60.46**	**336**	P		**P**	**16 58 11.8**	**-0.9**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.5s							
PV17	**East Wray Mesa**	**61.92**	**63**	*e*P		**P**	**16 58 24.8**	**+1.6**
	comp=Z,9.6nm,0.9s							
NC204	**NORSAR Array S**	**63.85**	**344**	*e*P		**P**	**16 58 35.0**	**-0.4**
NB201	**NORSAR Array S**	**63.97**	**343**	*e*P		**P**	**16 58 35.5**	**-0.7**
NB2	**NORSAR Subarra**	**63.99**	**343**	P		**P**	**16 58 35.2**	**-1.2**
	comp=Z,3.2nm,0.7s,baz=21,slow=6.5							
NOA	**NORSAR Array B**	**63.99**	**343**	P		**P**	**16 58 35.6**	**-0.8**
	comp=Z,5.3nm,0.8s,baz=21,slow=6.6,SNR=29							
HFS	**Hagfors**	**64.38**	**342**	LR		LR	17 30 34.2	
	comp=Z,26nm,18.1s,baz=62,slow=40							
AKASG	**Malin Array Be**	**68.84**	**328**	P		**P**	**16 59 05.5**	**-1.9**
	comp=Z,2.3nm,0.5s,baz=30,slow=6.1,SNR=16							
KIEV	**Kiev**	**68.85**	**328**	*i* P		**P**	**16 59 06.1**	**-1.4**
BATI	**Baumata**	**69.36**	**217**	P		**P**	**16 59 10.4**	**-0.6**
	comp=Z,22nm,0.3s,baz=271,slow=3.0,SNR=5.3							
WMOK	**Wichita Mounta**	**70.01**	**59**	*e*P		**P**	**16 59 15.5**	**+0.5**
	comp=Z,6.4nm,1.0s							
WMOK	**Wichita Mounta**	**70.01**	**59**	*e*P		**P**	**16 59 15.5**	**+0.5**
WMOK				pmax		pmax		
	comp=Z,6.0nm,1.0s							
TX31	**Lajitas Ar. Si**	**71.51**	**66**	*e*P		**P**	**16 59 25.3**	**+1.1**
TXAR	**Lajitas Array**	**71.51**	**66**	P		**P**	**16 59 25.3**	**+1.0**
	comp=Z,5.3nm,0.8s,baz=299,slow=4.5,SNR=53							
CLL	**Collm**	**72.73**	**338**	*e*P		**P**	**16 59 30.0**	**-1.1**
	comp=Z,8.0nm,1.0s							
CLL	**Collm**	**72.73**	**338**	*e*P		**P**	**16 59 30.0**	**-1.1**
CLL				pmax		pmax		
	comp=Z,8.0nm,1.0s							
UPC	**Upice**	**72.77**	**336**	*e*P		P	16 59 37.0	+5.7
UZH	**Uzhgorod**	**72.79**	**332**	*e*P		P	16 59 40.7	+9.3
UZH				*e*			16 59 45.7	
BUR08	**Bucovina Ar. S**	**72.79**	**329**	*e*P		**P**	**16 59 31.0**	**-0.6**
BUR04	**Bucovina Ar. S**	**72.81**	**329**	*e*P		**P**	**16 59 31.1**	**-0.6**
BURAR	**Bucovina Array**	**72.81**	**329**	*i* P		**P**	**16 59 31.3**	**-0.4**
DPC	**Dobruska-Polom**	**72.84**	**336**	*e*P		**P**	**16 59 31.7**	**-0.1**
DPC				*ex*		x	16 59 48.2	
DPC	**Dobruska-Polom**	**72.84**	**336**	*e*P		**P**	**16 59 31.7**	**-0.1**
DPC							16 59 48.2	
MORC	**Moravsky Berou**	**73.05**	**335**	*i* P		**P**	**16 59 33.0**	**-0.1**
LANS	**Liptovska Anna**	**73.12**	**334**	*e*P		**P**	**16 59 34.0**	**+0.6**
LANS	**Liptovska Anna**	**73.12**	**334**	*e*P		**P**	**16 59 34.0**	**+0.6**
TRPA	**Tarpa**	**73.17**	**331**	*i* P		**P**	**16 59 33.4**	**-0.3**
GOPC	**GO Pecny, Ondr**	**73.62**	**337**	*e*P		**P**	**16 59 36.1**	**-0.2**
GOPC	**GO Pecny, Ondr**	**73.62**	**337**	*e*P		**P**	**16 59 36.1**	**-0.2**
VRAC	**Vranov**	**73.73**	**335**	P		**P**	**16 59 36.1**	**-1.0**
	comp=Z,2.7nm,0.7s,baz=40,slow=3.1,SNR=4.9							
VRAC				LR		LR	17 36 02.3	
	comp=Z,40nm,20.2s,baz=360,slow=39							
VRAC	**Vranov**	**73.73**	**335**	*i* P		**P**	**16 59 36.0**	**-1.0**
VYHS	**Vyhne**	**73.89**	**334**	*e*P		**P**	**16 59 37.9**	**0.0**
VYHS	**Vyhne**	**73.89**	**334**	*e*P		**P**	**16 59 37.9**	**0.0**
CFR	**Carcaliu**	**74.01**	**326**	*i* P		**P**	**16 59 37.0**	**-1.6**
PSZ	**Piszkesteto**	**74.12**	**333**	*i* P		**P**	**16 59 39.9**	**+0.5**
MLR	**Muntele Rosu**	**74.46**	**328**	P		**P**	**16 59 40.6**	**-0.8**
	comp=Z,3.0nm,0.6s,baz=233,slow=2.3,SNR=4.1							
MLR				LR		LR	17 34 32.3	
	comp=Z,41nm,18.2s,baz=16,slow=37							
MLR	**Muntele Rosu**	**74.46**	**328**	*i* P		**P**	**16 59 40.8**	**-0.7**
KHC	**Kasperske Hory**	**74.63**	**337**	*e*P		**P**	**16 59 42.5**	**+0.2**
KHC	**Kasperske Hory**	**74.63**	**337**	*e*P		**P**	**16 59 42.5**	**+0.2**
BEBN	**Eben Emael**	**74.71**	**343**	*i* P		**P**	**16 59 40.8**	**-1.8**
VOIR		**74.80**	**328**	*i* P		**P**	**16 59 42.8**	**-0.6**
MEM	**Membach**	**74.83**	**343**	*i* P		**P**	**16 59 43.3**	**0.0**
	comp=Z,36nm,0.9s							
GERES	**GERESS Array B**	**74.87**	**337**	P		**P**	**16 59 43.5**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=25,slow=5.4,SNR=13							
GERES				LR		LR	17 36 11.2	
	comp=Z,35nm,19.0s,baz=342,slow=39							
GEA0	**GERESS Array S**	**74.88**	**337**	*e*P		**P**	**16 59 43.2**	**-0.6**
CONA	**Conrad Observa**	**75.19**	**335**	*e*P		**P**	**16 59 46.3**	**+0.7**
	comp=Z,6.5nm,1.2s							
WB2	**Warramunga Arr**	**75.20**	**204**	*e*P		**P**	**16 59 45.9**	**+0.2**
WRA	**Warramunga Arr**	**75.20**	**204**	P		**P**	**16 59 46.4**	**+0.7**
	comp=Z,9.9nm,0.8s,baz=25,slow=6.4,SNR=15							
GZR	**Gura Zlata**	**75.56**	**330**	*i* P		**P**	**16 59 46.6**	**-1.1**
DOU	**Dourbes**	**75.57**	**343**	*i* P		**P**	**16 59 47.2**	**-0.4**
MOA	**Molln**	**75.66**	**336**	*e*P		**P**	**16 59 49.5**	**+1.3**
	comp=Z,5.4nm,1.1s							
BZS	**Buzias**	**75.71**	**331**	*i* P		**P**	**16 59 48.1**	**-0.4**
ARSA	**Arzberg**	**75.91**	**335**	*i* P		**P**	**16 59 50.2**	**+0.6**
	comp=Z,5.9nm,1.2s							
FITZ	**Fitzroy Crossi**	**75.98**	**213**	P		**P**	**16 59 51.1**	**+0.9**
	comp=Z,4.9nm,0.9s,baz=76,slow=8.3,SNR=5.0							
SOKA	**Soboth**	**76.56**	**335**	*e*P		**P**	**16 59 53.8**	**+0.4**
	comp=Z,5.7nm,1.1s							
KBA	**Koelnbreinsper**	**76.61**	**337**	*e*P		**P**	**16 59 54.8**	**+1.0**
	comp=Z,19nm,0.8s,SNR=19							
BRTR	**Keskin Array B**	**76.71**	**320**	P		**P**	**16 59 54.0**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=30,slow=3.7,SNR=4.5							
BRTR	**Keskin Array B**	**76.71**	**320**	P		**P**	**16 59 54.0**	**-0.5**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
WATA	**Walderalm**	**76.78**	**338**	*i* P		**P**	**16 59 55.2**	**+0.5**
	comp=Z,3.8nm,0.7s							
MOTA	**Moosalm**	**76.89**	**338**	*i* P		**P**	**16 59 56.5**	**+1.2**
	comp=Z,5.0nm,0.8s							
ECH	**Echery**	**76.90**	**341**	*e*P		**P**	**16 59 55.1**	**-0.1**
	comp=Z,12nm,1.0s							
ECH	**Echery**	**76.90**	**341**	*e*P		**P**	**16 59 55.1**	**-0.1**
ECH				pmax		pmax		
	comp=Z,12nm,1.0s							
SQTA	**Sankt Quirin**	**76.98**	**338**	*i* P		**P**	**16 59 56.5**	**+0.7**
	comp=Z,12nm,0.8s							
ABTA	**Abfaltersbach**	**77.12**	**337**	*e*P		**P**	**16 59 56.7**	**+0.1**
	comp=Z,8.3nm,0.8s,SNR=6.2							
PALK	**Pallekele**	**77.14**	**265**	P		**P**	**16 59 55.7**	**-1.4**
	comp=Z,6.5nm,0.7s,baz=295,slow=5.4,SNR=4.3							
PALK	**Pallekele**	**77.14**	**265**	P		**P**	**16 59 55.7**	**-1.4**
PALK				pmax		pmax		
	comp=Z,10.0nm,0.9s							
DAVA	**Damuels**	**77.21**	**339**	*i* P		**P**	**16 59 57.3**	**+0.2**
	comp=Z,12nm,1.1s							
FETA	**Feichten**	**77.28**	**338**	*i* P		**P**	**16 59 58.2**	**+0.7**
	comp=Z,8.1nm,0.9s							
VTS	**Vitosha**	**77.94**	**328**	*i* P		**P**	**17 00 00.2**	**-1.1**
AS01	**Alice Springs**	**78.87**	**203**	*e*P		**P**	**17 00 07.5**	**+1.2**
ASAR	**Alice Springs**	**78.88**	**203**	P		**P**	**17 00 07.7**	**+1.3**
	comp=Z,3.7nm,0.7s,baz=15,slow=5.2,SNR=64							
ES19	**SONSECA Array**	**87.05**	**347**	*e*P		**P**	**17 00 48.4**	**-0.2**
ESDC	**Sonseca Array**	**87.08**	**347**	P		**P**	**17 00 48.3**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=2.8,slow=4.8,SNR=7.5							
KEST	**Kesra**	**88.30**	**336**	P		**P**	**17 00 54.7**	**0.0**
	comp=Z,4.6nm,1.0s,baz=328,slow=11,SNR=3.5							
DBIC	**Dimbokro**	**119.54**	**342**	PKP		**PKPdf**	**17 06 52.9**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=352,slow=4.8,SNR=3.7							
PLCA	**Paso Flores**	**144.66**	**91**	PKP		**PKPab**	**17 07 38.1**	**+0.3**
	comp=Z,3.5nm,0.7s,baz=299,slow=4.4,SNR=12							

*IDC **19** 16:51:32.3±1.3,31°.63N×45°.92E, h0km, mb3.9/12, mb1 4.0/16,mb1mx3.8/49, mbtmp3.9/16, ML3.0/4, MS3.4/4, Ms1 3.4/4, ms1mx2.9/35, Error ellipse: s-maj=29.0km s-min=15.5km az=171.0*

*ISN **19** 16:51:32.1±0.8, 31°.82N×45°.97E, h18km±4km, ML4.3*

*ISCJB **19** 16:51:33.8±0.2, 31°.72N±0°.03×46°.09E±0°.02, h10km, mb3.8/12, MS4.1/1, Error ellipse: s-maj=4.0km s-min=2.3km az=176.5*

*TEH **19** 16:51:33.2, 31°.66N×46°.06E, h10km, ML3.9*

*GII **19** 16:51:36.3±0.0, 31°.78N×46°.08E, h2km*

ISC 19 16:51:35.2±0.6, **31°.77N**±0°.05×**46°.06E**±0°.05, **h10**km, **n99,**
σ1=**98**/95, **mb3.9**/12, **13C-3D**, **Iraq**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NSR	**Nassriya**	**0.76**	**175**	*e*Pg		**Pg**	**16 51 48.0**	**-1.9**
NSR				*e*Sg		**Sg**	**16 51 58.5**	**-1.3**
BHD	**Baghdad**	**2.06**	**317**	*e*Pg		**Pn**	**16 52 08.3**	**-1.6**
BHD				*e*Sg		**Sn**	**16 52 34.0**	**-1.8**
IKFM	**Kafar-mosalman**	**2.31**	**40**	*e*Pn		**Pn**	**16 52 14.8**	**+1.5**
IKFM				IAMB		IAmb	16 53 04.9	
	comp=Z,0.0nm,0.8s							
IGHG	**Ghaleghazi**	**2.59**	**9**	*e*Pn		**Pn**	**16 52 18.8**	**+1.4**
IGHG				IAMB		IAmb	16 53 11.7	
	comp=Z,18μm,0.9s							
IKMR	**Kamar-syah**	**2.62**	**48**	*e*Pn		**Pn**	**16 52 19.1**	**+1.5**
IKMR				IAMB		IAmb	16 53 25.7	
	comp=Z,0.0nm,0.8s							
IKOM	**Komasi**	**2.69**	**26**	*e*Pn		**Pn**	**16 52 20.2**	**+1.5**
IKOM				IAMB		IAmb	16 53 41.9	
	comp=Z,0.0nm,2.0s							
IVIS	**Veis**	**2.83**	**13**	*e*Pn		**Pn**	**16 52 21.7**	**+1.1**
IVIS				IAMB		IAmb	16 53 28.3	
	comp=Z,6μm,0.8s							
HSAM	**Samen**	**3.24**	**41**	*e*Pn		**Pn**	**16 52 27.3**	**+0.9**
HSAM				IAMB		IAmb	16 53 49.8	
	comp=Z,0.0nm,2.5s							
IKRK	**Kirkuk**	**3.90**	**339**	*e*Pn		Pn	16 52 32.5	-2.7
IKRK				*e*Sn		**Sn**	**16 53 16.0**	**-5.0**
HSRG	**Sareghieh**	**3.93**	**28**	*e*Pn		**Pn**	**16 52 37.4**	**+1.5**
HSRG				IAMB		IAmb	16 54 18.8	
	comp=Z,0.0nm,1.0s							
HAGD	**Aghdareh**	**3.99**	**39**	*e*Pn		**Pn**	**16 52 38.1**	**+1.4**
HAGD				IAMB		IAmb	16 53 27.0	
	comp=N,0.0nm,0.4s							
ZNGN	**Zangian**	**4.09**	**84**	*e*Pn		**Pn**	**16 52 38.6**	**+0.5**
IPIR	**Pirpir**	**4.19**	**76**	*e*Pn		**Pn**	**16 52 41.1**	**+1.6**
IPIR				IAMB		IAmb	16 52 44.5	
	comp=Z,2μm,0.3s							
ROKH	**ROKH**	**4.26**	**81**	*e*Pn		**Pn**	**16 52 41.1**	**+0.7**
ROKH				IAMB		IAmb	16 54 25.9	
	comp=Z,0.0nm,1.3s							
HKZM	**Kohzaman**	**4.31**	**33**	*e*Pn		**Pn**	**16 52 42.3**	**+1.2**
HKZM				IAMB		IAmb	16 54 28.6	
	comp=Z,0.0nm,1.6s							
KLNJ	**Kolanjah**	**4.79**	**98**	*e*Pn		Pn	16 52 46.1	-1.7
IRAZ	**Razeghan**	**4.85**	**41**	*e*Pn		**Pn**	**16 52 49.7**	**+1.2**
IRAZ				IAMB		IAmb	16 54 45.2	
	comp=Z,2μm,1.9s							
IKLH	**Kolahrood**	**4.91**	**70**	*e*Pn		**Pn**	**16 52 51.0**	**+1.7**
IKLH				IAMB		IAmb	16 52 54.4	
	comp=Z,3μm,0.3s							
RTB	**Rutbah**	**5.03**	**286**	*e*Pn		**Pn**	**16 52 48.0**	**-2.8**
RTB				*e*Sn		**Sn**	**16 53 43.0**	**-6.0**
IGAR	**Gharneh**	**5.11**	**81**	*e*Pn		**Pn**	**16 52 53.5**	**+1.4**
IGAR				IAMB		IAmb	16 53 54.0	
	comp=Z,1μm,0.2s							
MSL	**Mosul**	**5.23**	**333**	*e*Pn		Pn	16 52 51.0	-2.5
MSL				*e*Sn		Sn	16 53 48.0	-5.8
IRAM	**Ramesheh**	**5.38**	**88**	*e*Pn		**Pn**	**16 52 56.2**	**+0.4**
IRAM				IAMB		IAmb	16 54 00.5	
	comp=Z,530nm,0.3s							
IZEF	**Zefreh**	**5.42**	**76**	*e*Pn		**Pn**	**16 52 56.9**	**+0.5**
IZEF				IAMB		IAmb	16 53 00.1	
	comp=Z,704nm,0.4s							
IMHD	**Mahdasht**	**5.47**	**43**	*e*Pn		**Pn**	**16 52 57.3**	**+0.3**
IMHD				IAMB		IAmb	16 54 15.6	
	comp=Z,250nm,0.4s							
KRSH	**Karshahi**	**5.56**	**65**	*e*Pn		**Pn**	**16 52 58.8**	**+0.6**
KRSH				IAMB		IAmb	16 54 05.5	
	comp=N,0.0nm,0.6s							
IHSB	**Hasanabad**	**5.68**	**49**	*e*Pn		**Pn**	**16 53 02.3**	**+2.5**
IHSB				IAMB		IAmb	16 55 25.3	
	comp=Z,0.0nm,1.7s							
ISFB	**Sefidab**	**5.79**	**62**	*e*Pn		**Pn**	**16 53 01.7**	**+0.4**
ISFB				IAMB		IAmb	16 54 10.6	
	comp=Z,429nm,0.6s							
CUKT	**Cukurca**	**5.83**	**340**	*e*P		**Pn**	**16 53 00.9**	**-0.9**
ISRB	**Sarab**	**6.18**	**12**	IAMB		IAmb	16 53 34.7	
	comp=Z,500nm,0.9s							
ISRB				*e*Pn		**Pn**	**16 53 07.4**	**+0.6**
IDMV	**Damavand**	**6.26**	**51**	*e*Pn		**Pn**	**16 53 08.1**	**+0.2**
IDMV				IAMB		IAmb	16 54 33.4	
	comp=Z,379nm,0.7s							
SIRT	**Sirnak**	**6.45**	**333**	*e*P		**Pn**	**16 53 10.2**	**-0.2**
ISAD	**Sadrabad**	**6.49**	**87**	*e*Pn		**Pn**	**16 53 10.9**	**-0.1**
ISAD				IAMB		IAmb	16 54 33.4	
	comp=Z,460nm,0.6s							
ISRV	**Sarvestan**	**6.53**	**110**	*e*Pn		**Pn**	**16 53 11.7**	**+0.1**
ISRV				IAMB		IAmb	16 55 54.0	
	comp=Z,901nm,1.1s							
ANAR	**Anarak**	**6.63**	**76**	*e*Pn		**Pn**	**16 53 13.2**	**+0.3**
IFIR	**Firoozkooh**	**6.78**	**53**	*e*Pn		**Pn**	**16 53 16.1**	**+1.0**
IFIR				IAMB		IAmb	16 53 23.1	
	comp=Z,116nm,0.2s							
ILAS	**Lasjerd**	**6.79**	**56**	*e*Pn		**Pn**	**16 53 15.9**	**+0.8**
ILAS				IAMB		IAmb	16 54 55.5	
	comp=N,252nm,0.4s							
IPRN	**Peran**	**6.86**	**48**	*e*Pn		**Pn**	**16 53 16.7**	**+0.7**
IPRN				IAMB		IAmb	16 53 48.5	
	comp=Z,298nm,0.7s							
AKDM	**Akdamar-Van**	**7.01**	**340**	*e*P		**Pn**	**16 53 18.8**	**+0.6**
IALA	**Alasht**	**7.07**	**51**	*e*Pn		**Pn**	**16 53 19.5**	**+0.5**
IALA				IAMB		IAmb	16 55 47.0	
	comp=Z,213nm,0.7s							
ICHK	**Chekchek**	**7.10**	**84**	*e*Pn		**Pn**	**16 53 19.6**	**+0.2**
ICHK				IAMB		IAmb	16 54 45.8	
	comp=Z,414nm,0.7s							
VANB	**Van**	**7.15**	**343**	*e*Pn		**Pn**	**16 53 22.7**	**+2.7**
IMEH	**Mehriz**	**7.30**	**91**	*e*Pn		**Pn**	**16 53 22.4**	**+0.2**
IMEH				IAMB		IAmb	16 54 47.8	
	comp=Z,205nm,0.6s							
IANJ	**Anjilo**	**7.51**	**58**	*e*Pn		Pn	16 53 23.3	-1.8
IANJ				IAMB		IAmb	16 53 27.1	
	comp=Z,138nm,0.7s							
AGRB	**Hanur-Agry**	**8.18**	**343**	*e*P		Pn	16 53 30.4	-3.8
URFA	**Urfa**	**8.22**	**315**	*e*P		**Pn**	**16 53 34.8**	**+0.1**
PTK	**Pertek**	**8.95**	**324**	*e*P		**Pn**	**16 53 43.1**	**-1.7**
MMLI	**Mount Malkishu**	**9.05**	**277**	Sn		**Sn**	**16 55 32.0**	**+3.9**
DSI	**Dead Sea**	**9.11**	**272**	Sn		**Sn**	**16 55 32.8**	**+3.4**
MZDA	**Masada**	**9.14**	**270**	Sn		**Sn**	**16 55 34.1**	**+3.9**
BLGI	**Bet Lehem HaGe**	**9.26**	**279**	Sn		**Sn**	**16 55 37.0**	**+4.0**
HNTI	**Hanita**	**9.30**	**281**	Sn		**Sn**	**16 55 37.3**	**+3.3**
SLTI	**Sal'it**	**9.37**	**276**	Sn		**Sn**	**16 55 39.7**	**+3.8**
ZFRI	**Zfri**	**9.41**	**265**	Sn		**Sn**	**16 55 40.9**	**+4.3**
OFRI	**'Ofer**	**9.43**	**278**	Sn		**Sn**	**16 55 40.7**	**+3.4**
PRN	**Paran**	**9.59**	**264**	Sn		**Sn**	**16 55 45.9**	**+4.6**
HRFI	**Mount Harif**	**9.63**	**263**	Sn		**Sn**	**16 55 45.9**	**+3.7**
EIL	**Elat**	**9.79**	**261**	Pn		**Pn**	**16 53 54.5**	**-1.6**
	comp=Z,0.2nm,0

3.6nm,1.0s,baz=190,slow=6.1,SNR=1.9
ATD Arta Tunnel 28.49 298 LR LR 17 13 19.0
comp=Z,138nm,20.9s,baz=119,slow=31
KMBO Kilima Mbogo 30.93 271 LR LR 17 15 51.6
comp=Z,341nm,19.8s,baz=95,slow=34
PSI Prapat 31.08 81 LR LR 17 15 20.4
comp=Z,436nm,19.9s,baz=266,slow=33
UMPA Umpang Tak 35.23 58 P **P 17 05 24.5 +3.8**
4.4nm,1.1s
NIL Nilore 35.66 7 *eP* **P 17 05 22.9 -1.2**
33nm,1.4s
CM01 Chiang Mai Arr 36.38 55 *eP* **P 17 05 30.4 -0.1**
CM31 Chiang Mai Arr 36.39 55 *eP* **P 17 05 30.2 -0.4**
CMAR Chiang Mai Arr 36.39 55 P **P 17 05 32.0 +1.4**
2.9nm,0.9s,baz=245,slow=11,SNR=29
CMAR LR LR 17 18 56.3
comp=Z,223nm,21.2s,baz=258,slow=34
CHTO Chiang Mai 36.57 54 *eP* **P 17 05 32.6 +0.5**
14nm,1.1s
CHTO Chiang Mai 36.57 54 P **P 17 05 33.3 +1.2**
60nm,1.9s
CHBT CHBT 36.88 66 P **P 17 05 39.1 +4.3**
32nm,0.8s
PBKT Sadao Pong 37.20 59 *eP* **P 17 05 38.8 +1.4**
14nm,1.2s
PBKT Sadao Pong 37.20 59 P **P 17 05 39.3 +1.9**
14nm,1.9s
UTTA Uttaradit 37.38 57 P **P 17 05 42.7 +3.7**
2.3nm,0.9s
CHAI Chaiyaphum 37.79 61 P **P 17 05 44.1 +1.6**
5.3nm,1.1s
LSA Lhasa 38.31 33 *eP* **P 17 05 48.8 +1.5**
26nm,1.4s
NONG Nongkai 39.72 59 P **P 17 05 59.6 +0.9**
0.3nm,1.2s,193nm
GEYT Alibeck 40.69 348 P **P 17 06 07.3 +0.9**
6.1nm,0.6s,baz=170,slow=9.0,SNR=14
GYA0B ALIBECK ARRAY 40.69 348 *eP* **P 17 06 04.5 -1.9**
15nm,1.2s
LSZ Lusaka 41.63 249 P **P 17 06 14.6 -0.1**
1.7nm,0.3s,baz=56,slow=7.8,SNR=3.9
BTK Batken 41.80 3 *eP* **P 17 06 17.3 +1.7**
39nm,1.2s
KMI Kunming 42.91 49 P **P 17 06 27.3 +2.2**
KMI pmax pmax
comp=Z,16nm,0.5s
AAK Ala-Archa 44.67 7 P **P 17 06 39.2 +0.3**
7.2nm,1.2s,baz=183,slow=8.7,SNR=16
AAK Ala-Archa 44.67 7 *eP* **P 17 06 38.2 -0.8**
44nm,1.7s
GYA Guiyang 46.61 50 *eP* **P 17 06 54.8 +0.3**
GYA pmax pmax
comp=Z,10.0nm,0.8s
CD2 Chengdu 46.99 43 *eP* **P 17 06 58.0 +0.7**
WMQ Urumqi 48.74 19 P **P 17 07 11.9 +1.2**
WMQ pP sP 17 07 15.8 -0.2
WMQ sP pwP 17 07 22.6 +4.4
WMQ pmax pmax
comp=Z,23nm,1.9s
WMQ pmax pmax
comp=Z,210nm,3.8s
WMQ LR LR
comp=N,380nm,21.3s
WMQ LR LR
comp=E,200nm,20.1s
WMQ LR LR
comp=Z,340nm,26.3s
BOSA Boshof 48.78 233 P **P 17 07 11.5 +0.1**
2.2nm,0.7s,baz=86,slow=10.0,SNR=4.6
BOSA LR LR 17 26 14.4
comp=Z,259nm,18.2s,baz=36,slow=34
MAKZ Makanchi 49.98 12 *eP* **P 17 07 19.5 -0.5**
7.2nm,1.1s
MK01 Makanchi Array 50.01 13 *eP* **P 17 07 19.5 -0.8**
MKAR Makanchi Array 50.03 13 P **P 17 07 20.1 -0.4**
2.2nm,0.9s,baz=185,slow=6.8,SNR=16
MKAR PcP **PcP 17 08 40.1 -0.1**
1.8nm,0.9s,baz=207,slow=4.1,SNR=5.4
GTA Gaotai 50.30 32 *eP* **P 17 07 22.8 0.0**
GTA pP pwP 17 07 30.4 -0.1
GTA sP sP 17 07 33.8 +5.7
GTA PcP **PcP 17 08 41.3 -0.2**
GTA pmax pmax
comp=Z,6.0nm,1.7s
GTA pmax pmax
comp=Z,95nm,5.2s
GTA LR LR
comp=N,230nm,19.7s
GTA LR LR
comp=E,180nm,17.5s
GTA LR LR
comp=Z,360nm,18.7s
LZH Lanzhou 50.30 38 *eP* **P 17 07 26.1 +3.2**
LZH pP pwP 17 07 29.5 -0.6
LZH sP sP 17 07 32.6 +4.2
LZH pmax pmax
comp=Z,25nm,1.0s
ENH Enshi 50.71 48 *eP* **P 17 07 24.7 -1.2**
22nm,1.2s
KBZ Khabaz 50.75 336 P **P 17 07 26.9 +1.1**
13nm,1.0s,baz=179,slow=6.0,SNR=18
BRTR Keskin Array B 52.10 326 P **P 17 07 36.8 +0.5**
2.4nm,1.0s,baz=135,slow=12,SNR=9.2
XAN Xi'an 52.36 43 P **P 17 07 37.8 -0.4**
XAN pP pwP 17 07 46.0 +0.6
XAN pmax pmax
comp=Z,33nm,1.3s
XAN pmax pmax
comp=Z,150nm,3.6s
H01W3 Cape Leeuwin H 53.86 133 T T 18 05 49.0
baz=298,slow=75,SNR=7.1
H01W2 Cape Leeuwin H 53.86 133 T T 18 05 47.3
baz=298,slow=75,SNR=7.0
H01W1 Cape Leeuwin H 53.88 133 T T 18 05 56.7
baz=298,slow=75,SNR=7.9
ZAA0 Zalesovo Array 57.33 12 *eP* **P 17 08 13.4 -0.3**
34nm,1.6s
ZALV Zalesovo Beam 57.33 12 P **P 17 08 13.1 -0.7**
3.8nm,0.8s,baz=224,slow=7.7,SNR=17
ZALV Zalesovo Beam 57.33 12 *eP* **P 17 08 12.9 -0.8**
HHC Hu-ho-hao-te 58.00 38 *eP* **P 17 08 19.1 +0.2**
HHC S **S 17 16 16.4 -2.7**
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,84nm,3.8s
HHC LR LR
comp=N,140nm,12.1s
HHC LR LR
comp=E,210nm,10.4s
HHC LR LR
comp=Z,81nm,10.4s
NJ2 Nanjing 58.62 50 *eP* **P 17 08 22.8 -0.4**
NJ2 pmax pmax
comp=Z,14nm,0.5s
SONM Songino Array 59.66 29 P **P 17 08 31.0 +0.6**
6.9nm,0.9s,baz=222,slow=7.2,SNR=41
SONA1 Songino Array 59.68 29 *eP* **P 17 08 31.8 +1.3**
AKASG Malin Array Be 62.02 333 P **P 17 08 45.4 -0.8**
4.6nm,1.0s,baz=130,slow=5.7,SNR=17
MAW Mawson 65.71 182 LR LR 17 32 26.1
comp=Z,110nm,19.1s,baz=27,slow=31
WRA Warramunga Arr 66.97 111 P **P 17 09 18.8 -0.4**
7.2nm,0.9s,baz=284,slow=6.1,SNR=25
WRAB Tennant Creek 66.98 111 *eP* **P 17 09 19.3 +0.1**
30nm,1.3s
WB2 Warramunga Arr 66.99 111 *eP* **P 17 09 19.3 0.0**
70nm,1.7s
ASAR Alice Springs 67.06 115 P **P 17 09 19.1 -0.6**
4.4nm,0.9s,baz=284,slow=6.2,SNR=27
ASAR LR LR 17 37 27.2
comp=Z,73nm,18.8s,baz=287,slow=35
AS31 Alice Springs 67.06 115 *eP* **P 17 09 19.8 0.0**
1.6nm,0.8s
ARSA Arzberg 67.10 324 *i* P **P 17 09 19.1 -0.3**
7.6nm,1.3s
SOKA Soboth 67.10 323 *eP* **P 17 09 19.4 -0.2**
11nm,1.4s
AS01 Alice Springs 67.10 115 *eP* **P 17 09 19.1 -0.9**
CONA Conrad Observa 67.25 325 *i* P **P 17 09 19.8 -0.7**
9.0nm,1.1s
KSAR Wonju Array Be 67.56 48 P **P 17 09 21.8 -0.8**
KSRS Korea Array 67.60 48 P **P 17 09 21.8 -0.9**
2.0nm,0.9s,baz=244,slow=6.7,SNR=8.6
TORD Torodi Ar. Bea 67.60 285 P **P 17 09 22.6 -0.6**
3.9nm,1.1s,baz=111,slow=6.7,SNR=12
TORD LR LR 17 39 18.7
comp=Z,172nm,18.0s,baz=335,slow=36
MOA Molln 68.13 324 *eP* **P 17 09 24.1 -1.9**
CN2 Changchun 68.35 41 *eP* **P 17 09 26.8 -0.6**
CN2 pmax pmax
comp=Z,20nm,1.2s
ABTA Abfaltersbach 68.66 322 *eP* **P 17 09 28.9 -0.4**
11nm,1.2s
GERES GERESS Array B 68.95 325 P **P 17 09 31.8 +0.7**
0.2nm,0.5s,baz=183,slow=1.8,SNR=3.5
KHC Kasperske Hory 69.16 325 *eP* **P 17 09 30.8 -1.6**
WATA Walderalm 69.49 323 *eP* **P 17 09 33.2 -1.4**
4.0nm,0.8s
SQTA Sankt Quirin 69.67 322 *eP* **P 17 09 34.6 -1.0**
16nm,1.3s
MOTA Moosalm 69.78 323 *eP* **P 17 09 35.8 -0.6**
6.8nm,1.0s
FETA Feichten 69.87 322 *eP* **P 17 09 35.0 -2.0**
15nm,1.9s
DAVA Damuels 70.51 322 *eP* **P 17 09 40.2 -0.7**
31nm,1.8s
FINES FINESS Array B 70.87 340 P **P 17 09 41.9 -0.6**
2.8nm,0.9s,baz=138,slow=6.5,SNR=4.3
USRK Ussuriysk Ar. 72.86 42 P **P 17 09 54.6 -0.3**
0.8nm,0.6s,baz=267,slow=7.6,SNR=4.3
DBIC Dimbokro 73.39 277 P **P 17 10 00.0 +1.4**
1.8nm,0.7s,baz=60,slow=13,SNR=3.6
STKA Stephens Creek 74.34 122 P **P 17 10 05.9 -1.5**
3.6nm,0.8s,baz=303,slow=7.6,SNR=4.0
MJAR Matsushiro Arr 75.19 52 P **P 17 10 08.4 -0.3**
3.4nm,0.8s,baz=262,slow=8.3,SNR=7.8
MJAR LR LR 17 45 08.0
comp=Z,85nm,18.5s,baz=210,slow=37
NB2 NORSAR Subarra 76.31 335 P **P 17 10 13.8 -0.8**
comp=Z,30nm,1.7s,baz=109,slow=6.5
NB2 NORSAR Subarra 76.31 335 P **P 17 10 13.8 -0.8**
baz=109,slow=6.5
NOA NORSAR Array B 76.31 335 P **P 17 10 13.8 -0.8**
comp=Z,3.3nm,1.0s,baz=111,slow=6.0,SNR=4.3
ESDC Sonseca Array 77.54 311 P **P 17 10 21.9 -0.1**
comp=Z,1.7nm,0.7s,baz=90,slow=4.8,SNR=6.3
YKA Yellowknife Ar 119.49 1 PKP **PKPdf 17 17 14.3 -1.0**
comp=Z,0.4nm,0.8s,baz=16,slow=2.8,SNR=6.4
NVAR Mina Array Bea 143.14 9 PKP **PKPdf 17 17 59.9 -0.9**
comp=Z,0.3nm,0.4s,baz=204,slow=3.3,SNR=3.5
TXAR Lajitas Array 151.61 345 PKP **PKPdf 17 18 15.8 +0.9**
comp=Z,1.1nm,1.0s,baz=48,slow=1.9,SNR=4.4
TXAR PKPbc **PKiKP 17 18 21.5 -0.1**
comp=Z,5.9nm,1.1s,baz=48,slow=1.9,SNR=22

*ISCJB **19** 17:00:34.5±0.4, 1.°94S±0.°07×68.°16E±0.°05, h10km, mb4.6/63, Error ellipse: s-maj=10.0km s-min=7.2km az=17.2*
*IDC **19** 17:00:35.2±0.7, 1.°91S×68.°21E, h0km, mb4.3/20, mb1 4.4/20, mb1mx4.2/47, mbtmp4.3/20, MS3.6/2, Ms1 3.6/2, ms1mx3.1/29, Error ellipse: s-maj=20.2km s-min=15.6km az=6.0*
*NEIC **19** 17:00:36.3±0.3, 1.°98S×68.°16E, h10km, mb4.9/40, Error ellipse: s-maj=7.4km s-min=5.6km az=201.0*
ISC 19 17:00:38.5±1.7, 2.°0S±0.°1×68.°21E±0.°09, h23km±11km, n130, σ0°82/136, mb4.7/63, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**5.13**	**147**	T	T	17 07 05.1	
	baz=327,slow=75,SNR=83						
H08N3	**Diego Garcia H**	**5.15**	**147**	T	T	17 07 06.1	
	baz=327,slow=75,SNR=70						
H08N1	**Diego Garcia H**	**5.16**	**147**	T	T	17 07 06.9	
	baz=327,slow=75,SNR=88						
H08S3	**Diego Garcia H**	**7.04**	**143**	T	T	17 09 43.3	
	baz=299,slow=80,SNR=14						
H08S1	**Diego Garcia H**	**7.05**	**143**	T	T	17 09 40.3	
	baz=299,slow=80,SNR=18						
H08S2	**Diego Garcia H**	**7.06**	**143**	T	T	17 09 43.8	
	baz=299,slow=80,SNR=11						
GSI	**Gunungsitoli**	**29.54**	**84**	*eP*	**P**	**17 06 40.9**	**-0.8**
	50nm,1.9s						
SHL	**Shillong**	**35.71**	**38**	*eP*	**P**	**17 07 36.6**	**+0.8**
	7.8nm,0.8s						
NIL	**Nilore**	**35.76**	**7**	*eP*	**P**	**17 07 37.2**	**+1.3**
	13nm,1.3s						
KBL	**Kabul**	**36.34**	**1**	*eP*	**P**	**17 07 42.8**	**+1.8**
	15nm,1.4s						
CMAR	**Chiang Mai Arr**	**36.43**	**55**	P	**P**	**17 07 43.0**	**+1.2**
	2.3nm,0.9s,baz=245,slow=10,SNR=9.6						
CMAR				PcP	**PcP**	**17 10 06.3**	**+0.4**
	0.6nm,1.1s,baz=245,slow=4.1,SNR=4.8						
CMAR	**Chiang Mai Arr**	**36.43**	**55**	P	**P**	**17 07 43.0**	**+1.2**
CMAR				PcP	**PcP**	**17 10 06.3**	**+0.4**
CHTO	**Chiang Mai**	**36.61**	**54**	*eP*	**P**	**17 07 43.6**	**+0.2**
	6.6nm,1.0s						
PBKT	**Sadao Pong**	**37.23**	**59**	*eP*	**P**	**17 07 49.5**	**+0.9**
	7.3nm,1.1s						
LSA	**Lhasa**	**38.39**	**33**	*eP*	**P**	**17 07 59.9**	**+1.1**
	9.9nm,1.1s						
GEYT	**Alibeck**	**40.80**	**348**	P	**P**	**17 08 18.1**	**-0.1**
	5.2nm,1.0s,baz=155,slow=7.4,SNR=6.7						
GEYT	**Alibeck**	**40.80**	**348**	P	**P**	**17 08 18.1**	**-0.1**
GYA0B	**ALIBECK ARRAY**	**40.80**	**348**	*eP*	**P**	**17 08 17.3**	**-0.9**
	8.7nm,1.0s						
LSZ	**Lusaka**	**41.61**	**249**	P	**P**	**17 08 25.8**	**+0.4**
	4.2nm,0.8s,baz=47,slow=7.1,SNR=5.1						
LSZ				PcP	**PcP**	**17 10 23.1**	**+0.7**
	0.9nm,0.5s,baz=113,slow=10,SNR=4.3						
LSZ	**Lusaka**	**41.61**	**249**	*eP*	**P**	**17 08 24.8**	**-0.6**
LSZ				*eP*cP	**PcP**	**17 10 23.1**	**+0.7**
BTK	**Batken**	**41.91**	**3**	*eP*	**P**	**17 08 28.3**	**+1.0**
	14nm,1.0s						
NRN	**Naryn**	**43.79**	**8**	*eP*	**P**	**17 08 43.2**	**+0.3**
	4.2nm,1.2s						
KDJ	**Kajisay**	**44.65**	**9**	*eP*	**P**	**17 08 50.3**	**+0.6**
	6.1nm,0.9s						
AAK	**Ala-Archa**	**44.77**	**7**	P	**P**	**17 08 50.2**	**-0.4**
	1.1nm,0.8s,baz=201,slow=7.7,SNR=4.1						
AAK	**Ala-Archa**	**44.77**	**7**	*eP*	**P**	**17 08 50.2**	**-0.4**
FRU1	**Bishkek**	**44.96**	**7**	*eP*	**P**	**17 08 52.6**	**+0.6**
	12nm,1.1s						
MAKZ	**Makanchi**	**50.07**	**12**	*eP*	**P**	**17 09 31.4**	**-0.2**
	6.3nm,1.3s						
MK01	**Makanchi Array**	**50.11**	**13**	*eP*	**P**	**17 09 31.1**	**-0.8**
MK01				*e*PcP	**PcP**	**17 10 51.0**	**-0.2**
MK31	**Makanchi Array**	**50.13**	**13**	*eP*	**P**	**17 09 31.1**	**-0.9**
MK32	**Makanchi Array**	**50.13**	**13**	*eP*	**P**	**17 09 31.9**	**-0.2**
MK32				*e*PcP	**PcP**	**17 10 51.2**	**-0.2**
MKAR	**Makanchi Array**	**50.13**	**13**	P	**P**	**17 09 31.9**	**-0.2**
	1.4nm,0.8s,baz=184,slow=7.3,SNR=6.4						
MKAR				PcP	**PcP**	**17 10 51.2**	**-0.2**
	1.3nm,0.9s,baz=213,slow=4.2,SNR=4.2						
MKAR				LR	LR	17 30 04.7	
	comp=Z,87nm,18.4s,baz=14,slow=35						
MKAR	**Makanchi Array**	**50.13**	**13**	P	**P**	**17 09 31.9**	**-0.2**
MKAR				PcP	**PcP**	**17 10 51.2**	**-0.2**
KBZ	**Khabaz**	**50.85**	**336**	P	**P**	**17 09 38.6**	**+1.1**
	9.7nm,1.0s,baz=153,slow=5.5,SNR=8.5						
KBZ	**Khabaz**	**50.85**	**336**	*eP*	**P**	**17 09 38.6**	**+1.1**
BR101	**Keskin Array S**	**52.21**	**326**	*eP*	**P**	**17 09 48.0**	**+0.1**
BR131	**Keskin Array S**	**52.21**	**326**	*eP*	**P**	**17 09 46.7**	**-1.2**
BRTR	**Keskin Array B**	**52.21**	**326**	P	**P**	**17 09 48.0**	**+0.1**
	1.6nm,0.9s,baz=144,slow=11,SNR=6.6						
BRTR				LR	LR	17 30 10.6	
	comp=Z,44nm,20.5s,baz=59,slow=34						
BRTR	**Keskin Array B**	**52.21**	**326**	P	**P**	**17 09 48.0**	**+0.1**
XAN	**Xi'an**	**52.42**	**43**	*eP*	**P**	**17 09 48.2**	**-1.2**
	20nm,1.0s						
KURK	**Kurchatov**	**53.25**	**8**	*eP*	**P**	**17 09 54.7**	**-0.5**
	13nm,1.4s						
BRVK	**Borovoye**	**54.87**	**2**	*eP*	**P**	**17 10 06.7**	**-0.3**
	8.0nm,1.1s						
ZAA0	**Zalesovo Array**	**57.42**	**12**	*eP*	**P**	**17 10 24.2**	**-1.1**
	16nm,1.8s						
ZALV	**Zalesovo Beam**	**57.42**	**12**	P	**P**	**17 10 24.8**	**-0.5**
	2.9nm,0.9s,baz=216,slow=7.3,SNR=6.0						
ZALV	**Zalesovo Beam**	**57.42**	**12**	*eP*	**P**	**17 10 24.3**	**-1.0**
ZAA1	**Zalesovo Array**	**57.43**	**12**	*eP*	**P**	**17 10 24.8**	**-0.5**
AGG	**Agios Georgios**	**58.64**	**319**	*eP*	**P**	**17 10 32.6**	**-1.5**
	54nm,1.6s						
ARU	**Arti**	**58.75**	**354**	*eP*	**P**	**17 10 34.0**	**-0.5**
	9.7nm,1.0s						
LIT	**Litokhoron**	**59.12**	**320**	*eP*	**P**	**17 10 36.7**	**-0.8**
	22nm,1.3s						
SONA0	**Songino Array**	**59.74**	**29**	*eP*	**P**	**17 10 42.8**	**+1.1**
SONM	**Songino Array**	**59.74**	**29**	P	**P**	**17 10 42.8**	**+1.1**
	5.0nm,0.9s,baz=220,slow=7.3,SNR=10						
SONM	**Songino Array**	**59.74**	**29**	P	**P**	**17 10 42.8**	**+1.1**
SONA1	**Songino Array**	**59.76**	**29**	*eP*	**P**	**17 10 42.1**	**+0.2**
BUR04	**Bucovina Ar. S**	**62.02**	**329**	*eP*	**P**	**17 10 57.0**	**-0.2**
BUR08	**Bucovina Ar. S**	**62.04**	**329**	*eP*	**P**	**17 10 56.3**	**-1.0**
AKASG	**Malin Array Be**	**62.13**	**333**	P	**P**	**17 10 56.6**	**-1.0**
	3.1nm,1.0s,baz=132,slow=5.5,SNR=6.6						
AKASG	**Malin Array Be**	**62.13**	**333**	P	**P**	**17 10 56.6**	**-1.0**
AKBB	**Malin Array Si**	**62.13**	**333**	*eP*	**P**	**17 10 56.3**	**-1.4**
	28nm,1.8s						
KIEV	**Kiev**	**62.13**	**333**	*eP*	**P**	**17 10 56.3**	**-1.4**
	26nm,1.8s						
AK11	**Malin Array Si**	**62.14**	**333**	*eP*	**P**	**17 10 55.7**	**-2.0**
OBN	**Obninsk**	**62.56**	**340**	*eP*	**P**	**17 10 59.5**	**-1.0**
	15nm,0.4s						
DIVS	**Divibare**	**62.87**	**323**	*eP*	**P**	**17 11 02.6**	**-0.4**
	11nm,1.2s						
WR1	**Warramunga Arr**	**66.91**	**111**	*eP*	**P**	**17 11 30.4**	**+0.7**
	28nm,1.2s						
WRA	**Warramunga Arr**	**66.91**	**111**	P	**P**	**17 11 30.4**	**+0.7**
	5.7nm,0.9s,baz=283,slow=6.2,SNR=10.0						
WRA	**Warramunga Arr**	**66.91**	**111**	P	**P**	**17 11 30.4**	**+0.7**
WRAB	**Tennant Creek**	**66.92**	**111**	*eP*	**P**	**17 11 29.8**	**+0.1**
	14nm,0.6s						
WB2	**Warramunga Arr**	**66.92**	**111**	*eP*	**P**	**17 11 30.1**	**+0.4**
ASAR	**Alice Springs**	**66.99**	**115**	P	**P**	**17 11 30.8**	**+0.6**
	4.0nm,0.9s,baz=283,slow=6.2,SNR=9.8						
ASAR	**Alice Springs**	**66.99**	**115**	P	**P**	**17 11 30.8**	**+0.6**
AS31	**Alice Springs**	**66.99**	**115**	*eP*	**P**	**17 11 29.8**	**-0.3**
	5.2nm,0.4s						
AS01	**Alice Springs**	**67.03**	**115**	*eP*	**P**	**17 11 30.7**	**+0.3**
SUW	**Suwalki**	**67.10**	**333**	*eP*	**P**	**17 11 29.2**	**-0.9**
	26nm,1.0s						
CONA	**Conrad Observa**	**67.34**	**325**	*eP*	**P**	**17 11 31.2**	**-0.7**
	9.0nm,1.5s						
MORC	**Moravsky Berou**	**67.39**	**327**	*eP*	**P**	**17 11 30.9**	**-1.2**
	13nm,1.4s						
HIA	**Hailar**	**67.59**	**34**	*eP*	**P**	**17 11 33.1**	**-0.3**
	13nm,1.3s						
KS15	**Wonju Array Si**	**67.61**	**48**	*eP*	**P**	**17 11 33.0**	**-0.7**
KSAR	**Wonju Array Be**	**67.61**	**48**	P	**P**	**17 11 33.6**	**-0.1**
KS01	**Wonju Array Si**	**67.63**	**48**	*eP*	**P**	**17 11 33.8**	**-0.1**
KSRS	**Korea Array**	**67.65**	**48**	P	**P**	**17 11 33.6**	**-0.2**
	2.1nm,1.0s,baz=242,slow=7.2,SNR=7.5						
TOA0	**Torodi Ar. Sit**	**67.65**	**285**	*eP*	**P**	**17 11 34.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**67.65**	**285**	P	**P**	**17 11 34.8**	**+0.4**
	3.5nm,1.1s,baz=109,slow=6.0,SNR=7.7						
TORD	**Torodi Ar. Bea**	**67.65**	**285**	P	**P**	**17 11 34.8**	**+0.4**
TOA1	**Torodi Ar. Sit**	**67.66**	**285**	*eP*	**P**	**17 11 34.8**	**+0.3**
MOA	**Molln**	**68.23**	**324**	*eP*	**P**	**17 11 36.5**	**-0.9**
	9.1nm,1.8s						
ABTA	**Abfaltersbach**	**68.75**	**322**	*eP*	**P**	**17 11 40.2**	**-0.6**
	8.6nm,1.2s						
FUORN	**Ofenpass-Fuorn**	**70.08**	**322**	*eP*	**P**	**17 11 48.5**	**-0.7**
	22nm,1.4s						
DAVA	**Damuels**	**70.61**	**322**	*eP*	**P**	**17 11 51.9**	**-0.4**
	11nm,0.8s						
CLL	**Collm**	**70.66**	**327**	*eP*	**P**	**17 11 52.2**	**-0.1**
	12nm,1.2s						
FIA0	**FINESS Array S**	**70.97**	**340**	*eP*	**P**	**17 11 52.1**	**-1.8**
FIA1	**FINESS Array S**	**70.97**	**340**	*eP*	**P**	**17 11 53.9**	**-0.1**
FINES	**FINESS Array B**	**70.97**	**340**	P	**P**	**17 11 52.1**	**-1.8**
	2.3nm,1.0s,baz=142,slow=9.5,SNR=4.0						
FINES	**FINESS Array B**	**70.97**	**340**	P	**P**	**17 11 52.1**	**-1.8**
MDJ	**Mudanjiang**	**71.47**	**41**	*eP*	**P**	**17 11 58.3**	**+0.9**
	14nm,1.1s						
STU	**Stuttgart**	**71.66**	**323**	*eP*	**P**	**17 11 57.7**	**-0.8**
	14nm,1.1s						
SENIN	**Lac Senin/Sane**	**71.84**	**320**	*eP*	**P**	**17 11 59.2**	**-0.7**
	40nm,1.7s						
ECH	**Echery**	**72.66**	**322**	*eP*	**P**	**17 12 03.3**	**-1.2**
	52nm,1.9s						
USRK	**Ussuriysk Ar.**	**72.92**	**42**	P	**P**	**17 12 05.9**	**-0.2**
	1.6nm,0.8s,baz=227,slow=5.7,SNR=3.1						
USRK	**Ussuriysk Ar.**	**72.92**	**42**	P	**P**	**17 12 05.9**	**-0.2**
DBIC	**Dimbokro**	**73.43**	**278**	P	**P**	**17 12 10.3**	**+0.6**
	5.9nm,0.9s,baz=81,slow=7.9,SNR=4.4						
DBIC	**Dimbokro**	**73.43**	**278**	*eP*	**P**	**17 12 10.2**	**+0.5**
	9.1nm,1.0s						
MAJO	**Matsushiro**	**75.23**	**52**	*eP*	**P**	**17 12 18.4**	**-1.3**
MJAR	**Matsushiro Arr**	**75.23**	**52**	P	**P**	**17 12 18.4**	**-1.3**
	2.0nm,0.9s,baz=0.0,slow=2.7,SNR=4.3						
MJAR	**Matsushiro Arr**	**75.23**	**52**	P	**P**	**17 12 18.4**	**-1.3**
NB200	**NORSAR Array S**	**76.41**	**335**	*eP*	**P**	**17 12 25.9**	**-0.1**
NOA	**NORSAR Array B**	**76.41**	**335**	P	**P**	**17 12 25.9**	**-0.1**
	1.8nm,0.9s,baz=112,slow=6.1,SNR=3.8						
NOA	**NORSAR Array B**	**76.41**	**335**	P	**P**	**17 12 25.9**	**-0.1**
ES19	**SONSECA Array**	**77.58**	**311**	*eP*	**P**	**17 12 33.0**	**-0.1**
ESDC	**Sonseca Array**	**77.62**	**311**	P	**P**	**17 12 34.0**	**+0.6**
	2.4nm,0.7s,baz=87,slow=5.4,SNR=9.4						
ESDC	**Sonseca Array**	**77.62**	**311**	*eP*	**P**	**17 12 34.0**	**+0.6**
DSB	**Dublin**	**82.40**	**324**	*eP*	**P**	**17 12 59.9**	**+1.1**
	227nm,2.0s						
TIXI	**Tiksi**	**82.96**	**16**	*eP*	**P**	**17 13 00.5**	**-0.8**
	15nm,1.3s						
QSPA	**South Pole Qui**	**88.02**	**180**	*eP*	**P**	**17 13 27.3**	**+0.5**
	10nm,1.5s						
YKA	**Yellowknife Ar**	**119.60**	**2**	PKhKP	PKPpre	17 19 22.7	
	0.3nm,0.7s,baz=332,slow=2.1,SNR=3.7						
YKA				PKP	**PKPdf**	**17 19 25.8**	**-0.4**
	0.4nm,0.8s,baz=350,slow=2.0,SNR=5.2						
YKA				PP	**PP**	**17 20 49.5**	**+1.6**
	0.2nm,0.8s,baz=353,slow=7.1,SNR=7.3						
YKA	**Yellowknife Ar**	**119.60**	**2**	PKPpre	PKPpre	17 19 22.8	
YKA				PKP	**PKPdf**	**17 19 25.8**	**-0.4**
YKA				PP		**17 20 49.1**	**+1.6**
N54A	**Moraine State**	**131.74**	**328**	*e*PKPdf	**PKPdf**	**17 19 50.5**	**+0.3**
PD31	**Pinedale Array**	**139.34**	**357**	*e*PKPdf	**PKPdf**	**17 20 03.4**	**-1.2**
PDAR	**Pinedale Array**	**139.34**	**357**	PKP	**PKPdf**	**17 20 03.8**	**-0.8**
	0.4nm,0.7s,baz=71,slow=5.8,SNR=3.2						
PDAR	**Pinedale Array**	**139.34**	**357**	PKP	**PKPdf**	**17 20 03.8**	**-0.8**
NV01	**Mina Array Sit**	**143.24**	**9**	*e*PKPdf	**PKPdf**	**17 20 10.4**	**-1.3**
NVAR	**Mina Array Bea**	**143.24**	**9**	PKP	**PKPdf**	**17 20 11.3**	**-0.4**
	0.5nm,0.7s,baz=264,slow=0.9,SNR=2.6						
NVAR	**Mina Array Bea**	**143.24**	**9**	PKP	**PKPdf**	**17 20 11.3**	**-0.4**
MTPU	**Mount Pierson**	**144.11**	**1**	*e*PKPdf	**PKPdf**	**17 20 12.6**	**-0.8**
SZCU	**Shurtz Canyon**	**144.54**	**2**	*e*PKPdf	**PKPdf**	**17 20 13.7**	**-0.3**
PKCU	**Pink Cliffs**	**144.71**	**1**	*e*PKPdf	**PKPdf**	**17 20 14.3**	**-0.1**
WMOK	**Wichita Mounta**	**145.23**	**341**	*e*PKPbc	**PKPab**	**17 20 14.9**	**+0.2**
U15A	**North Rim**	**145.72**	**1**	*e*PKPdf	**PKPab**	**17 20 17.1**	**+0.3**
MNTX	**Cornudas Mount**	**149.83**	**349**	*e*PKPbc	**PKiKP**	**17 20 29.5**	**+1.0**
LTX	**Lajitas**	**151.72**	**345**	*e*PKPbc	**PKiKP**	**17 20 33.0**	**+0.5**
TX31	**Lajitas Ar. Si**	**151.72**	**345**	*e*PKPdf	**PKPdf**	**17 20 25.4**	**-0.5**
TX31				*e*PKPbc	**PKPbc**	**17 20 32.0**	**-0.1**
TX31				*e*PKPbc	**pPKPdf**	**17 20 32.4**	**-0.3**
TXAR	**Lajitas Array**	**151.72**	**345**	PKPbc	**PKiKP**	**17 20 33.0**	**+0.5**
	2.7nm,0.9s,baz=126,slow=0.9,SNR=9.6						
TXAR	**Lajitas Array**	**151.72**	**345**	PKPbc	**PKiKP**	**17 20 33.0**	**+0.5**

*ISCJB **19** 17:08:28.8±0.3, 7.°81S±0.°05×120.°49E±0.°05, h300km, mb4.0/6, Error ellipse: s-maj=8.7km s-min=4.7km az=139.8*
*DJ

0.2nm,0.3s,baz=52,slow=18,SNR=2.1
WRA Warramunga Arr 17.99 133 P **P** 17 12 20.1 +0.8
1.7nm,0.3s,baz=308,slow=12,SNR=128
WRA S **S** 17 15 26.6 -3.4
0.1nm,0.3s,baz=297,slow=22,SNR=5.0
WRA ScP **ScP** 17 19 41.6 -4.3
baz=323,slow=2.3,SNR=2.6
ASAR Alice Springs 20.30 142 P **P** 17 12 44.3 +0.6
8.7nm,0.6s,baz=314,slow=8.9,SNR=184
ASAR S **S** 17 16 10.0 -3.1
0.9nm,0.8s,baz=307,slow=14,SNR=4.8
ASAR ScP **ScP** 17 19 47.3 -3.8
0.8nm,0.6s,baz=320,slow=2.0,SNR=7.7
NWAO Narrogin (SRO) 25.15 187 P **P** 17 13 28.7 +0.6
5.3nm,0.8s,baz=51,slow=10,SNR=2.9
STKA Stephens Creek 30.93 143 P **P** 17 14 20.5 +1.3
8.6nm,0.4s,baz=323,slow=8.6,SNR=42
CMAR Chiang Mai Arr 33.71 321 P **P** 17 14 44.6 +1.2
0.7nm,0.6s,baz=149,slow=6.6,SNR=8.0
RAMN Ramite 47.73 318 *eP* **P** 17 16 37.5 +0.1
10nm,0.5s
JIRN Jiri 48.47 318 *eP* **P** 17 16 42.5 -0.6
11nm,0.5s
GUN Gumba 48.84 318 *eP* **P** 17 16 45.6 -0.3
7.4nm,0.7s
PKIN Phulchoki 48.94 317 *eP* **P** 17 16 45.5 -1.1
3.2nm,0.4s
DMN Daman 49.16 317 *eP* **P** 17 16 47.7 -0.5
4.6nm,0.5s
KOLN Koldanda 50.28 316 *eP* **P** 17 16 55.8 -0.8
5.4nm,0.5s
DANN Dangsing 50.54 317 *eP* **P** 17 16 58.0 -0.6
21nm,0.5s
PYUN Piuthan 50.91 316 *eP* **P** 17 17 00.8 -0.5
8.6nm,0.5s
SONM Songino Array 56.83 349 P **P** 17 17 43.0 -0.4
1.4nm,0.6s,baz=167,slow=8.2,SNR=9.5
MKAR Makanchi Array 64.14 332 P **P** 17 18 31.9 -0.5
1.5nm,0.5s,baz=138,slow=7.4,SNR=26
ZALV Zalesovo Beam 68.52 338 P **P** 17 18 58.4 -1.4
1.6nm,0.3s,baz=143,slow=3.6,SNR=12

IDC 19 17:18:10.2±2.3, 2°31N×127°13E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/34, mbtmp3.3/3, Error ellipse: s-maj=192.6km s-min=25.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.22**	**163**	P		P	17 23 19.6	+0.5
	0.4nm,0.4s,baz=342,slow=11,SNR=12							
ASAR	**Alice Springs**	**26.65**	**166**	P		P	17 23 50.5	-0.4
	0.6nm,0.8s,baz=347,slow=11,SNR=5.1							
MKAR	**Makanchi Array**	**58.95**	**326**	P		P	17 28 11.3	-0.1
	0.1nm,0.3s,baz=118,slow=7.3,SNR=5.2							

*ISCJB **19** 17:40:05.3±0.6, 1.°94S±0.°09×68.°06E±0.°08, h15km, mb4.3/30, MS3.6/8, Error ellipse: s-maj=14.3km s-min=9.8km az=28.1*
*IDC **19** 17:40:05.4±1.0, 1.°93S×68.°11E, h0km, mb3.9/12, mb1 4.1/12, mb1mx3.9/37, mbtmp3.9/12, MS3.6/9, Ms1 3.6/9, ms1mx3.3/37, Error ellipse: s-maj=30.4km s-min=19.6km az=39.0*
*NEIC **19** 17:40:06.9±0.4, 1.°90S×68.°10E, h10km, mb4.5/18, Error ellipse: s-maj=10.0km s-min=7.9km az=25.0*
ISC 19 17:40:07.7±0.9, 1.°9S±0.°2×68.°1E±0.°1, h15km, n67, σ0991/58, mb4.4/30, MS3.5/8, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.31**	**147**	T		T	17 46 41.0	
	baz=327,slow=75,SNR=2926							
H08N3	**Diego Garcia H**	**5.32**	**147**	T		T	17 46 41.9	
	baz=327,slow=75,SNR=2329							
H08N1	**Diego Garcia H**	**5.33**	**147**	T		T	17 46 42.7	
	baz=327,slow=75,SNR=2775							
H08S3	**Diego Garcia H**	**7.22**	**143**	T		T	17 49 11.5	
	baz=306,slow=76,SNR=16							
H08S1	**Diego Garcia H**	**7.22**	**143**	T		T	17 49 11.7	
	baz=306,slow=76,SNR=35							
H08S2	**Diego Garcia H**	**7.24**	**143**	T		T	17 49 12.7	
	baz=306,slow=76,SNR=22							
PALK	**Pallekele**	**15.53**	**54**	LR		LR	17 48 33.3	
	comp=Z,234nm,18.2s,baz=296,slow=33							
PALK	**Pallekele**	**15.53**	**54**	*e*Pn		**Pn**	**17 43 44.5**	**-1.8**
	25nm,1.3s							
OPO	**Ambohidratompo**	**26.36**	**230**	LR		LR	17 54 13.4	
	comp=Z,174nm,18.2s,baz=18,slow=32							
KMBO	**Kilima Mbogo**	**30.82**	**271**	LR		LR	17 57 42.1	
	comp=Z,109nm,20.1s,baz=81,slow=34							
NIL	**Nilore**	**35.66**	**7**	*e*P		**P**	**17 47 07.2**	**+1.9**
	30nm,1.6s							
SHL	**Shillong**	**35.70**	**39**	*e*P		**P**	**17 47 06.4**	**+0.4**
	7.7nm,1.0s							
KBL	**Kabul**	**36.22**	**1**	*e*P		**P**	**17 47 11.8**	**+1.4**
	12nm,1.4s							
CM01	**Chiang Mai Arr**	**36.46**	**55**	*e*P		**P**	**17 47 12.6**	**+0.2**
CM31	**Chiang Mai Arr**	**36.47**	**55**	*e*P		**P**	**17 47 12.7**	**+0.2**
CMAR	**Chiang Mai Arr**	**36.47**	**55**	P		**P**	**17 47 13.3**	**+0.8**
	0.9nm,0.8s,baz=244,slow=9.7,SNR=9.6							
CMAR				LR		LR	18 00 36.7	
	comp=Z,52nm,19.3s,baz=218,slow=34							
CHTO	**Chiang Mai**	**36.65**	**54**	*e*P		**P**	**17 47 14.4**	**+0.3**
	29nm,1.9s							
PBKT	**Sadao Pong**	**37.28**	**59**	*e*P		**P**	**17 47 19.9**	**+0.6**
	11nm,1.4s							
LSA	**Lhasa**	**38.36**	**33**	*e*P		**P**	**17 47 29.9**	**+1.1**
	22nm,1.8s							
GEYT	**Alibeck**	**40.65**	**348**	P		**P**	**17 47 46.2**	**-1.2**
	7.9nm,0.7s,baz=193,slow=12,SNR=3.7							
GYA0B	**ALIBECK ARRAY**	**40.65**	**348**	*e*P		**P**	**17 47 45.9**	**-1.5**
	2.9nm,0.6s							
BTK	**Batken**	**41.79**	**3**	*e*P		**P**	**17 47 58.3**	**+1.5**
	6.9nm,0.9s							
NRN	**Naryn**	**43.69**	**9**	*e*P		**P**	**17 48 13.5**	**+1.0**
	10nm,1.8s							
KDJ	**Kajisay**	**44.56**	**10**	*e*P		**P**	**17 48 20.3**	**+1.1**
	12nm,1.4s							
SIRT	**Sirnak**	**45.81**	**331**	*e*P		**P**	**17 48 27.6**	**-1.6**
	41nm,0.8s							
BOSA	**Boshof**	**48.70**	**233**	LR		LR	18 07 04.2	
	comp=Z,37nm,18.3s,baz=40,slow=33							
MAKZ	**Makanchi**	**49.99**	**12**	*e*P		**P**	**17 49 00.5**	**-0.8**
	4.2nm,1.3s							
MK01	**Makanchi Array**	**50.02**	**13**	*e*P		**P**	**17 49 01.0**	**-0.6**
MK31	**Makanchi Array**	**50.04**	**13**	*e*P		**P**	**17 49 00.8**	**-1.0**
MK32	**Makanchi Array**	**50.04**	**13**	*e*P		**P**	**17 49 01.6**	**-0.1**
MK32					*e*PcP	**PcP**	**17 50 22.3**	**+0.8**
MKAR	**Makanchi Array**	**50.04**	**13**	P		**P**	**17 49 01.6**	**-0.1**
	0.8nm,0.8s,baz=194,slow=7.4,SNR=7.8							
MKAR					PcP	**PcP**	**17 50 22.3**	**+0.8**
	0.6nm,0.9s,baz=224,slow=5.2,SNR=3.3							
KBZ	**Khabaz**	**50.69**	**337**	P		**P**	**17 49 08.4**	**+1.8**
	1.1nm,0.5s,baz=108,slow=8.9,SNR=4.6							
BR131	**Keskin Array S**	**52.03**	**326**	*e*P		**P**	**17 49 16.9**	**-0.1**
XAN	**Xi'an**	**52.42**	**43**	P		**P**	**17 49 19.3**	**-0.6**
XAN				pP		pwP	17 49 28.5	+0.3
XAN				pmax		pmax		
	comp=Z,12nm,1.7s							
XAN				pmax		pmax		
	comp=Z,180nm,5.0s							
BRVK	**Borovoye**	**54.75**	**2**	*e*P		**P**	**17 49 36.7**	**+0.2**
	comp=Z,111nm,1.6s							
ZALV	**Zalesovo Beam**	**57.34**	**12**	P		**P**	**17 49 54.6**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=218,slow=9.3,SNR=7.0							
ZAA1	**Zalesovo Array**	**57.34**	**12**	*e*P		**P**	**17 49 54.6**	**-0.4**
FITZ	**Fitzroy Crossi**	**58.68**	**110**	LR		LR	18 14 43.7	
	comp=Z,27nm,18.0s,baz=34,slow=35							
SONA0	**Songino Array**	**59.70**	**29**	*e*P		**P**	**17 50 12.9**	**+1.1**
SONM	**Songino Array**	**59.70**	**29**	P		**P**	**17 50 12.9**	**+1.1**
	comp=Z,2.3nm,0.8s,baz=215,slow=6.8,SNR=14							
SONM				LR		LR	18 15 48.8	
	comp=Z,122nm,19.6s,baz=342,slow=36							
AKASG	**Malin Array Be**	**61.96**	**333**	P		**P**	**17 50 27.0**	**0.0**
	comp=Z,0.4nm,0.6s,baz=137,slow=5.5,SNR=4.3							
AKBB	**Malin Array Si**	**61.96**	**333**	*e*P		**P**	**17 50 26.4**	**-0.5**
	comp=Z,28nm,1.9s							
KLMR	**Klimovskoe**	**66.32**	**345**	*e*P		**P**	**17 50 52.6**	**-2.8**
KLMR				AMP			17 51 05.9	
	comp=Z,13nm,1.4s							
WRA	**Warramunga Arr**	**67.08**	**111**	P		**P**	**17 51 00.7**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=288,slow=6.0,SNR=12							
WR1	**Warramunga Arr**	**67.08**	**111**	*e*P		**P**	**17 51 00.7**	**-0.4**
	comp=Z,37nm,1.7s							
ASAR	**Alice Springs**	**67.16**	**115**	P		**P**	**17 51 01.1**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=288,slow=6.5,SNR=16							
AS31	**Alice Springs**	**67.16**	**115**	*e*P		**P**	**17 51 00.9**	**-0.7**
	comp=Z,3.4nm,1.5s							
AS01	**Alice Springs**	**67.20**	**115**	*e*P		**P**	**17 51 00.7**	**-1.1**
TORD	**Torodi Ar. Bea**	**67.50**	**285**	P		**P**	**17 51 04.2**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=134,slow=8.5,SNR=4.1							
TORD				LR		LR	18 21 01.3	
	comp=Z,55nm,18.2s,baz=290,slow=36							
TOA1	**Torodi Ar. Sit**	**67.50**	**285**	*e*P		**P**	**17 51 04.2**	**+0.4**
KS15	**Wonju Array Si**	**67.63**	**48**	*e*P		**P**	**17 51 03.7**	**-0.6**
KSAR	**Wonju Array Be**	**67.63**	**48**	P		**P**	**17 51 04.2**	**-0.1**
KSRS	**Korea Array**	**67.67**	**48**	P		**P**	**17 51 04.2**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=243,slow=5.3,SNR=4.1							
KSRS				LR		LR	18 21 55.3	
	comp=Z,23nm,20.1s,baz=190,slow=37							
CLL	**Collm**	**70.48**	**327**	*e*P		**P**	**17 51 22.0**	**+0.4**
MAJO	**Matsushiro**	**75.26**	**52**	*e*P		**P**	**17 51 50.9**	**+0.5**
MJAR	**Matsushiro Arr**	**75.26**	**52**	P		**P**	**17 51 50.8**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=242,slow=4.5,SNR=3.2							
TIXI	**Tiksi**	**82.88**	**16**	*e*P		**P**	**17 52 31.2**	**-0.1**
	comp=Z,4.9nm,0.9s							
MTPU	**Mount Pierson**	**143.99**	**0**	*e*PKPdf		**PKPdf**	**17 59 42.9**	**-0.8**
PKCU	**Pink Cliffs**	**144.59**	**1**	*e*PKPdf		**PKPdf**	**17 59 44.8**	**+0.1**
LCMT	**Little Creek M**	**145.00**	**2**	*e*PKPbc		**PKPab**	**17 59 44.4**	**0.0**
WMOK	**Wichita Mounta**	**145.07**	**341**	*e*PKPbc		**PKPdf**	**17 59 45.3**	**+0.1**
DAC	**Darwin (Calif)**	**145.36**	**8**	*e*PKPbc		**PKPdf**	**17 59 46.5**	**+0.6**
SHPR	**Sheep Range**	**145.40**	**5**	*e*PKPdf		**PKPdf**	**17 59 47.1**	**+1.2**
MNTX	**Cornudas Mount**	**149.69**	**349**	*e*PKPbc		**PKiKP**	**17 59 58.6**	**0.0**
TX31	**Lajitas Ar. Si**	**151.57**	**345**	*e*PKPbc		**PKiKP**	**18 00 02.9**	**+0.2**
LTX	**Lajitas**	**151.57**	**345**	*e*PKPbc		**PKiKP**	**18 00 03.1**	**+0.4**
TXAR	**Lajitas Array**	**151.57**	**345**	PKPbc		**PKiKP**	**18 00 03.1**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=338,slow=1.2,SNR=8.3							

*MDD **19** 17:53:30.6±0.3, 37.°44N×8.°72W, h11km, mbLg3.7/18, Error ellipse: s-maj=3.2km s-min=2.1km az=95.0, PRXIMO*
*SFS **19** 17:53:30.0, 37.°44N×8.°71W, h10km, ML3.5, ALFEZUR (PORTUGAL)*
*LDG **19** 17:53:30.6±0.1, 37.°41N×8.°75W, h10km, Ml3.5/6, Error ellipse: s-maj=2.4km s-min=1.9km az=55.0*
*INMG **19** 17:53:31.3±1.8, 37.°35N×8.°74W, h21km±2km, MD3.1, ML3.6, Error ellipse: s-maj=3.8km s-min=1.7km az=73.0*
*IGIL **19** 17:53:31.8, 37.°35N×8.°73W, h19km, ML3.8*
ISC 19 17:53:29.7±1.0, 37°34N±0.°03×8°75W±0.°03, h25km±6km, n98, σ265/186, 9C-3D, Portugal

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**0.08**	**114**	*e*P		**Pb**	**17 53 35.1**	**+0.8**
MORF				*e*S		**Sb**	**17 53 37.7**	**+0.4**
MORF				AML		AML	17 53 38.2	
	comp=N,20μm,0.2s							
MORF	**Marmelete**	**0.08**	**114**	⇑*i*Pg		**Pb**	**17 53 35.1**	**+0.8**
MORF				*e*Sg		**Sb**	**17 53 38.0**	**+0.7**
MORF				A		A	17 53 39.0	
	comp=N,10μm,0.1s							
MORF	**Marmelete**	**0.08**	**114**	Pg		**Pb**	**17 53 35.1**	**+0.8**
MORF				Lg		Lg	17 53 38.0	
	comp=N,10μm,0.1s							
PTEO	**Sao Teotonio**	**0.20**	**5**	*e*Pg		**Pn**	**17 53 36.3**	**-0.9**
PTEO				*e*Sg		**Sb**	**17 53 40.0**	**+0.7**
PTEO				A		A	17 53 40.6	
	comp=N,5μm,0.2s							
PTEO	**Sao Teotonio**	**0.20**	**5**	Pg		**Pn**	**17 53 36.3**	**-0.9**
PTEO				Lg		Lg	17 53 40.0	
	comp=N,3μm,0.2s							
PFVI	**Vila Bisbo**	**0.22**	**197**	⇑*i*Pg		**Pb**	**17 53 36.5**	**+1.0**
PFVI				*e*Sg		**Sb**	**17 53 40.3**	**+0.8**
PFVI				A		A	17 53 40.6	
	comp=N,6μm,0.2s							
PFVI	**Vila Bisbo**	**0.22**	**197**	⇑Pg		**Pb**	**17 53 36.5**	**+1.0**
	comp=N,1μm,0.1s,SNR=18							
PFVI				Lg		Lg	17 53 40.2	
	comp=N,10μm,0.2s,SNR=6.5							
MESJ	**Messejana**	**0.65**	**40**	*e*P		**Pn**	**17 53 43.3**	**0.0**
MESJ				*e*S		**Sn**	**17 53 51.7**	**-1.1**
MESJ				AML		AML	17 53 52.4	
	comp=N,6μm,0.2s							
MESJ	**Messejana**	**0.65**	**40**	⇑*i*Pg		**Pn**	**17 53 43.4**	**0.0**
MESJ				*e*Sg		**Sn**	**17 53 51.8**	**-1.1**
MESJ				A		A	17 53 52.7	
	comp=N,3μm,0.2s							
MESJ	**Messejana**	**0.65**	**40**	Pg		**Pn**	**17 53 43.4**	**0.0**
MESJ				Lg		Lg	17 53 51.8	
	comp=N,3μm,0.2s							
PBDV	**Barranco-do-Ve**	**0.66**	**98**	*e*Pg		**Pn**	**17 53 43.2**	**-0.2**
PBDV				*e*Sg		**Sn**	**17 53 52.6**	**-0.4**
PBDV				A		A	17 53 54.6	
	comp=N,2μm,0.2s							
PBDV	**Barranco-do-Ve**	**0.66**	**98**	Pg		**Pn**	**17 53 43.2**	**-0.2**
PBDV				Lg		Lg	17 53 52.6	
	comp=N,2μm,0.2s							
PNCL	**Nicolau / Gran**	**0.79**	**13**	*e*P		**Pn**	**17 53 45.0**	**-0.2**
PNCL				*e*S		**Sn**	**17 53 55.6**	**-0.6**
PNCL				A		A	17 53 56.4	
	comp=N,3μm,0.5s							
PNCL	**Nicolau / Gran**	**0.79**	**13**	Pg		**Pn**	**17 53 45.0**	**-0.2**
PNCL				Lg		Lg	17 53 55.6	
	comp=N,3μm,0.5s							
PVAQ	**Vaqueiros**	**0.82**	**85**	⇑*i*P		**Pn**	**17 53 45.9**	**+0.2**
PVAQ				*e*S		**Sn**	**17 53 57.0**	**-0.1**
PVAQ				A		A	17 53 58.6	
	comp=N,3μm,0.2s							
PVAQ	**Vaqueiros**	**0.82**	**85**	Pg		**Pn**	**17 53 45.9**	**+0.2**
PVAQ				Lg		Lg	17 53 57.0	
	comp=N,3μm,0.2s							
PBEJ	**Beja**	**0.98**	**45**	⇑*i*P		**Pb**	**17 53 48.5**	**+0.5**
PBEJ				*e*S		**Sn**	**17 54 00.7**	**-0.2**
PBEJ				A		A	17 54 03.1	
	comp=N,778nm,0.2s							
PBEJ	**Beja**	**0.98**	**45**	Pg		**Pb**	**17 53 48.5**	**+0.5**
PBEJ				Lg		Lg	17 54 00.7	
	comp=N,389nm,0.2s							
EGRO	**El Granado**	**1.02**	**79**	Pg		**Pb**	**17 53 48.4**	**-0.4**
	comp=N,60nm,0.1s,SNR=18							
EGRO				Lg		Lg	17 54 02.6	
	comp=N,2μm,0.2s							
LIS	**Lisbon**	**1.41**	**347**	*e*S		**Sn**	**17 54 11.6**	**+0.1**
LIS				AML		AML	17 54 18.1	
	comp=E,685nm,0.5s							
LIS	**Lisbon**	**1.41**	**347**	*e*P		**Pn**	**17 53 53.4**	**-0.4**
LIS				*e*S		**Sn**	**17 54 11.9**	**+0.4**
LIS				A		A	17 54 23.8	
	comp=E,498nm,0.3s							
LIS	**Lisbon**	**1.41**	**347**	Pg		**Pn**	**17 53 53.4**	**-0.4**
LIS				Lg		Lg	17 54 11.9	
	comp=E,498nm,0.3s							
PMST	**Lisbon--Monsan**	**1.44**	**346**	*e*P		**Pn**	**17 53 54.6**	**+0.5**
PMST				*e*S		**Sn**	**17 54 12.1**	**-0.1**
PMST				A		A	17 54 22.6	
	comp=E,340nm,0.7s							
INMG	**Instituto de M**	**1.46**	**348**	*e*P		**Pb**	**17 53 55.3**	**-0.9**
INMG	**Instituto de M**	**1.46**	**348**	Pg		**Pb**	**17 53 55.3**	**-0.9**
PBAR	**Barrancos**	**1.59**	**58**	*e*P		**Pn**	**17 53 56.1**	**-0.1**
PBAR				*e*S		**Sn**	**17 54 15.1**	**-0.9**
PBAR				A		A	17 54 22.3	
	comp=E,296nm,0.5s							
PBAR	**Barrancos**	**1.59**	**58**	Pg		**Pn**	**17 53 56.1**	**-0.1**
PBAR				Lg		Lg	17 54 15.1	
	comp=E,296nm,0.5s							
PMAFR	**Mafra**	**1.67**	**345**	*e*Pn		**Pn**	**17 53 57.7**	**+0.4**
PMAFR	**Mafra**	**1.67**	**345**	*e*Pg		**Pb**	**17 54 02.9**	**+3.2**
PMAFR				*e*Sn		**Sn**	**17 54 16.2**	**-1.7**
PMAFR				*e*Sg		**Sb**	**17 54 22.6**	**+2.4**
PMAFR				A		A	17 54 30.0	
	comp=E,357nm,0.3s							
PMAFR	**Mafra**	**1.67**	**345**	⇓Pn		**Pn**	**17 53 57.7**	**+0.4**
	comp=E,35nm,0.1s,SNR=18							
PMAFR				Sn		**Sn**	**17 54 16.4**	**-1.5**
	comp=E,109nm,0.2s,SNR=7.4							
PMAFR				Lg		Lg	17 54 20.7	
	comp=E,984nm,0.5s,SNR=8.7							
EMIN	**Mina Concepcio**	**1.70**	**75**	⇑Pn		**Pn**	**17 53 57.5**	**-0.3**
	comp=E,3.5nm,0.1s,SNR=18							
EMIN				Pg		**Pb**	**17 54 00.5**	**+0.2**
	comp=E,16nm,0.1s,SNR=7.9							
EMIN				Sn		**Sn**	**17 54 18.1**	**-0.7**
	comp=E,30nm,0.1s,SNR=7.1							
EMIN				Lg		Lg	17 54 22.0	
	comp=E,231nm,0.1s							
PMTG	**Montargil**	**1.77**	**13**	*e*Pn		**Pn**	**17 53 58.6**	**-0.2**
PMTG				*e*Sn		**Sn**	**17 54 18.4**	**-2.1**
PMTG				*e*Sg		**Sb**	**17 54 24.5**	**+1.2**
PMTG				A		A	17 54 27.6	
	comp=E,424nm,0.1s							
PMTG	**Montargil**	**1.77**	**13**	Pn		**Pn**	**17 53 58.6**	**-0.2**
PMTG				Sn		**Sn**	**17 54 18.4**	**-2.1**
PMTG				Lg		Lg	17 54 24.5	
	comp=E,424nm,0.1s							
PESTR	**Estremoz**	**1.78**	**31**	*e*Pn		**Pn**	**17 53 58.3**	**-0.5**
PESTR	**Estremoz**	**1.78**	**31**	*e*Pg		**Pb**	**17 54 04.2**	**+2.6**
PESTR				*e*Sn		**Sn**	**17 54 19.3**	**-1.3**
PESTR				*e*Sg		**Sb**	**17 54 24.7**	**+1.3**
EBAD	**Badajoz**	**1.97**	**44**	Pn		**Pn**	**17 54 00.9**	**-0.6**
	comp=E,10.0nm,0.1s,SNR=19							
EBAD				Pg		**Pb**	**17 54 07.3**	**+2.6**
	comp=E,54nm,0.1s,SNR=55							
EBAD				Sn		**Sn**	**17 54 23.5**	**-1.8**
	comp=E,113nm,0.2s,SNR=7.9							
EBAD				Lg		Lg	17 54 30.1	
	comp=E,779nm,0.2s,SNR=6.0							
PTOM	**Tomar**	**2.29**	**7**	⇓*e*Pn		**Pn**	**17 54 06.1**	**+0.2**
PTOM				*e*Sn		**Sn**	**17 54 32.9**	**-0.3**
PTOM				*e*Sg		**Sb**	**17 54 41.3**	**+3.2**
PTOM				A		A	17 54 42.6	
	comp=E,417nm,0.4s							
PTOM	**Tomar**	**2.29**	**7**	Pn		**Pn**	**17 54 06.1**	**+0.2**
PTOM				Sn		**Sn**	**17 54 32.9**	**-0.3**
PTOM				Lg		Lg	17 54 41.3	
	comp=E,208nm,0.4s							
ESPR	**Espera**	**2.36**	**101**	⇑Pn		**Pn**	**17 54 07.8**	**+1.0**
	comp=E,24nm,0.1s,SNR=18							
ESPR				Sn		**Sn**	**17 54 35.8**	**+0.9**
	comp=E,114nm,0.2s,SNR=6.0							
ESPR				Lg		Lg	17 54 45.2	
	comp=E,419nm,0.3s,SNR=6.9							
PCBR	**Castelo Branco**	**2.69**	**21**	*e*Pn		**Pn**	**17 54 11.3**	**0.0**
PCBR				*e*Sn		**Sn**	**17 54 42.0**	**-1.1**
PCBR				*e*Sg		**Sb**	**17 54 52.1**	**+2.5**
PCBR				A		A	17 54 56.6	
	comp=E,173nm,0.5s							
PCBR	**Castelo Branco**	**2.69**	**21**	Pn		**Pn**	**17 54 11.3**	**0.0**
PCBR				Sn		**Sn**	**17 54 42.0**	**-1.1**
PCBR				Lg		Lg	17 54 52.1	
	comp=E,87nm,0.5s							
PCAS	**Casmilo, Conde**	**2.71**	**4**	*e*Pn		**Pn**	**17 54 11.9**	**+0.2**
PCAS				*e*Sn		**Sn**	**17 54 42.7**	**-1.1**
PCAS				*e*Sg		**Sb**	**17 54 54.1**	**+3.7**
PCAS				A		A	17 55 00.5	
	comp=E,122nm,0.4s							
PCAS	**Casmilo, Conde**	**2.71**	**4**	Pn		**Pn**	**17 54 11.9**	**+0.2**
PCAS				Sn		**Sn**	**17 54 42.7**	**-1.1**
PCAS				Lg		Lg	17 54 54.1	
	comp=E,122nm,0.4s							
ECAB	**El Cabril**	**2.74**	**73**	⇓Pn		**Pn**	**17 54 12.3**	**+0.2**
	comp=E,6.1nm,0.1s,SNR=18							
ECAB				Sn		**Sn**	**17 54 43.3**	**-1.1**
	comp=E,38nm,0.2s,SNR=8.6							
ECAB				Lg		Lg	17 54 54.1	
	comp=E,172nm,0.2s,SNR=10							
EJIF	**Jimena Fronter**	**2.77**	**108**	Pn		**Pn**	**17 54 13.6**	**+1.1**
	comp=E,4.3nm,0.1s,SNR=7.9							
EJIF				Sn		**Sn**	**17 54 42.5**	**-2.7**
	comp=E,4.3nm,0.2s,SNR=7.9							
COI	**Coimbra**	**2.88**	**5**	Sn		**Sn**	**17 54 46.4**	**-1.3**
COI				Lg		Lg	17 55 00.7	
	comp=E,78nm,0.3s							
MTE	**Manteigas**	**3.20**	**17**	*e*Pn		**Pn**	**17 54 18.2**	**-0.2**
MTE				*e*Sn		**Sn**	**17 54 53.2**	**-2.5**
MTE				*e*Sg		**Sb**	**17 55 09.4**	**+5.1**
MTE				A		A	17 55 15.0	
	comp=E,160nm,0.4s							
MTE	**Manteigas**	**3.20**	**17**	Pn		**Pn**	**17 54 18.2**	**-0.2**
MTE				Sn		**Sn**	**17 54 53.2**	**-2.5**
MTE				Lg		Lg	17 55 09.4	
	comp=E,80nm,0.4s							
EMIJ	**Mijas**	**3.28**	**102**	Pn		**Pn**	**17 54 20.1**	**+0.6**
	comp=E,2.8nm,0.2s,SNR=21							
EMIJ				Sn		**Sn**	**17 54 58.0**	**+0.3**
	comp=E,10nm,0.2s,SNR=32							
EADA	**Adamuz**	**3.41**	**75**	Pn		**Pn**	**17 54 21.3**	**0.0**
	comp=E,6.3nm,0.1s,SNR=43							
EADA				Sn		**Sn**	**17 54 58.9**	**-2.0**
	comp=E,20nm,0.1s,SNR=10.0							
EADA				Lg		Lg	17 55 16.6	
	comp=E,115nm,0.3s,SNR=7.1							
EPLA	**Plasencia**	**3.43**	**37**	Pn		**Pn**	**17 54 21.1**	**-0.4**
	comp=E,1.7nm,0.1s,SNR=20							
EPLA				Sn		**Sn**	**17 54 58.1**	**-3.3**
	comp=E,54nm,0.1s,SNR=13							
EPLA				Lg		Lg	17 55 15.8	
	comp=E,57nm,0.2s,SNR=6.3							
PVIS	**Viseu**	**3.44**	**11**	*e*Pn		**Pn**	**17 54 21.5**	**-0.2**
PVIS				*e*Sn		**Sn**	**17 54 59.4**	**-2.2**
PVIS				*e*Sg		**Sb**	**17 55 16.9**	**+5.8**
PVIS				A		A	17 55 24.3	
	comp=E,92nm,0.3s							

comp=E,33nm,0.4s,SNR=7.9
GORA Gorafe 4.54 87 Sn **Sn** 17 55 27.6 -1.4
comp=E,16nm,0.1s,SNR=7.9
GORA Lg Lg 17 55 53.4
comp=E,98nm,0.3s,SNR=7.9
ELOB Lobios 4.55 6 Pn **Pn** 17 54 36.9 -0.1
comp=E,7.6nm,0.1s,SNR=30
ELOB Sn **Sn** 17 55 24.9 -4.3
comp=E,32nm,0.2s,SNR=16
EBER Berja 4.70 94 Pn **Pn** 17 54 40.5 +1.3
comp=E,1.7nm,0.2s,SNR=7.6
EBER Sn **Sn** 17 55 32.1 -0.9
comp=E,2.5nm,0.2s,SNR=7.9
EBER Lg Lg 17 56 01.3
comp=E,24nm,0.5s,SNR=5.0
PBRG Braganca 4.72 19 *e*Pn **Pn** 17 54 39.1 -0.2
PBRG *e*Sn **Sn** 17 55 29.7 -3.6
PBRG *e*Sg **Sb** 17 55 56.0 +7.9
PBRG A A 17 56 09.0
comp=E,36nm,0.6s
PBRG Braganca 4.72 19 Pn **Pn** 17 54 39.1 -0.2
PBRG Sn **Sn** 17 55 29.7 -3.6
PBRG Lg Lg 17 55 56.0
comp=E,18nm,0.6s
EZAM Zamans 4.80 0 Pn **Pn** 17 54 40.5 +0.1
comp=E,0.4nm,0.1s,SNR=7.9
EZAM Sn **Sn** 17 55 31.3 -3.9
comp=E,5.3nm,0.1s,SNR=7.9
ECAL Calabor 4.85 18 Pn **Pn** 17 54 41.0 -0.1
comp=E,1.2nm,0.1s,SNR=6.0
ECAL Sn **Sn** 17 55 32.3 -4.2
comp=E,9.1nm,0.3s,SNR=7.9
ECAL Lg Lg 17 56 03.1
comp=E,219nm,0.5s,SNR=5.0
GUD Guadarrama 4.87 46 Pn **Pn** 17 54 41.0 -0.4
comp=E,0.2nm,0.1s,SNR=9.5
GUD Sn **Sn** 17 55 34.5 -2.5
comp=E,26nm,0.3s,SNR=9.0
GUD Lg Lg 17 56 03.1
comp=E,112nm,0.6s,SNR=6.3
UCM Universidad Co 5.22 54 *i* P **Pn** 17 54 46.3 +0.2
UCM *e*S **Sn** 17 55 42.2 -3.3
ENIJ Nijar 5.24 92 Pn **Pn** 17 54 47.1 +0.7
comp=E,1.9nm,0.2s,SNR=7.9
ENIJ Sn **Sn** 17 55 42.9 -3.1
comp=E,2.7nm,0.2s,SNR=7.9
EAGO Agolada(Pontev 5.48 5 Pn **Pn** 17 54 49.5 -0.2
comp=E,5.2nm,0.1s,SNR=7.9
EAGO Sn **Sn** 17 55 46.9 -5.0
comp=E,12nm,0.2s,SNR=7.9
EMAZ Mazaricos 5.61 358 Pn **Pn** 17 54 51.2 -0.2
comp=E,10.0nm,0.1s,SNR=7.9
EMAZ Sn **Sn** 17 55 49.7 -5.3
comp=E,7.5nm,0.2s,SNR=7.9
ETOB Tobarra 5.83 75 Pn **Pn** 17 54 53.8 -0.8
comp=E,5.0nm,0.2s,SNR=28
ETOB Sn **Sn** 17 55 57.3 -3.4
comp=E,1.9nm,0.1s,SNR=7.9
ETOB Lg Lg 17 56 33.5
comp=E,33nm,0.5s,SNR=7.9
EMUR La Murta 5.98 83 Pn **Pn** 17 54 55.9 -0.7
comp=E,4.2nm,0.2s,SNR=11
EMUR Sn **Sn** 17 56 00.6 -3.8
comp=E,0.0nm,0.0s,SNR=7.9
EMUR Lg Lg 17 56 38.5
comp=E,44nm,0.9s,SNR=5.0
EPON Pontenova 6.10 11 Pn **Pn** 17 54 57.8 -0.5
comp=E,0.5nm,0.1s,SNR=4.0
EPON Sn **Sn** 17 56 01.8 -5.5
comp=E,0.7nm,0.1s,SNR=7.9
EMOS Mosqueruela 7.13 62 Pn **Pn** 17 55 13.7 +1.2
comp=E,0.6nm,0.2s,SNR=9.0
EMOS Sn **Sn** 17 56 27.9 -4.9
comp=E,0.4nm,0.2s,SNR=7.9
ESAC San Caprasio 7.75 53 Sn **Sn** 17 56 42.8 -5.0
comp=E,0.4nm,0.1s,SNR=4.0
ERTA Horta de San J 7.92 60 Pn **Pn** 17 55 23.2 -0.1
comp=E,0.5nm,0.1s,SNR=7.9
ERTA Sn **Sn** 17 56 46.4 -5.8
comp=E,0.3nm,0.2s,SNR=7.9
ERTA Lg Lg 17 57 40.0
comp=E,5.7nm,0.4s,SNR=7.9
IELO Elcoad 7.96 44 Pn **Pn** 17 55 23.3 -0.4
comp=E,0.9nm,0.1s,SNR=7.9
IELO Sn **Sn** 17 56 46.6 -6.4
comp=E,2.6nm,0.2s,SNR=7.9
EALK Alkurruntz 8.07 41 Pn **Pn** 17 55 25.5 +0.2
comp=E,1.5nm,0.2s,SNR=9.2
EALK Sn **Sn** 17 56 49.9 -5.8
comp=E,0.5nm,0.1s,SNR=7.9
SJPF Ste Jean 8.14 43 *e*Pn **Pn** 17 55 26.1 -0.2
SJPF *e*Sn **Sn** 17 56 52.0 -5.5
comp=E,1.2nm,0.2s
ETSF Etsaut 8.37 46 *e*Pn **Pn** 17 55 29.0 -0.5
ETSF *e*Sn **Sn** 17 56 57.8 -5.5
comp=E,2.7nm,0.2s
ATE Arette 8.41 45 Pn **Pn** 17 55 29.3 -0.7
comp=E,0.3nm,0.1s,SNR=7.9
ATE Sn **Sn** 17 56 58.1 -6.1
comp=E,0.1nm,0.1s,SNR=7.9
ECHI Chisagues Biel 8.68 49 Sn **Sn** 17 57 03.5 -7.4
comp=E,0.6nm,0.1s,SNR=7.9
EPF Esparros 8.98 48 *e*Pn **Pn** 17 55 36.9 -0.9
EPF *e*Sn **Sn** 17 57 12.1 -6.0
comp=E,3.5nm,0.2s
CSOR Sort 9.11 53 Pn **Pn** 17 55 39.6 0.0
comp=E,1.7nm,0.2s,SNR=7.8
LFF La Frestale 10.43 40 *e*Pn **Pn** 17 55 56.5 -1.0
LFF *e*Sn **Sn** 17 57 46.6 -6.9
comp=E,2.9nm,0.3s
RJF Les Rejaudoux 11.08 41 *e*Pn **Pn** 17 56 03.8 -2.6
RJF *e*Sn **Sn** 17 58 02.0 -7.4
comp=E,0.8nm,0.2s
CAF Calviac 11.12 44 *e*Pn **Pn** 17 56 04.5 -2.6
CAF *e*Sn **Sn** 17 58 03.1 -7.5
comp=E,0.9nm,0.2s

*IDC **19** 17:57:15.4±2.3, 13°.64N×91°.91W, h0km, mb3.4/4, mb1 3.7/6, mb1mx3.5/33, mbtmp3.3/6, ML3.5/2, Error ellipse: s-maj=38.9km s-min=17.0km az=157.0*
*MEX **19** 17:57:20.0±0.3, 14°.27N×91°.83W, h124km±10km, MD4.0*
ISC 19 17:57:25.1±1.5, **14°.3N**±0°.1×**91°.83W**±0°.08, **h35**km, **n12**, σ2**92**/15, **mb3.5**/4, **Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.71**	**324**	*i* P	**Pn**	**17 57 39.2**	**+0.5**
THIG				*i* S	**Sn**	**17 57 53.4**	**+4.9**
APG	**El Apazote**	**1.48**	**63**	Pn	**Pn**	**17 57 50.7**	**+1.2**
	19nm,0.3s,baz=224,slow=20,SNR=52						
APG				Lg	Lg	17 58 17.4	
	39nm,0.3s,baz=251,slow=19,SNR=13						
PCIG		**1.92**	**316**	*e*P	**Pn**	**17 57 52.2**	**-3.1**
PCIG				*e*S	**Sn**	**17 58 16.6**	**-1.5**
CCIG	**Comitan**	**1.96**	**351**	*i* P	**Pn**	**17 57 53.5**	**-2.6**
CCIG				*i* S	**Sn**	**17 58 18.0**	**-1.6**
CMIG	**Matias Romero**	**4.02**	**313**	Pn	**Pn**	**17 58 23.2**	**-1.0**
	1.4nm,0.3s,baz=140,slow=9.3,SNR=13						
CMIG				Sn	**Sn**	**17 59 16.4**	**+6.2**
	3.3nm,0.3s,baz=103,slow=18,SNR=4.3						
CMIG				Lg	Lg	17 59 34.0	
	6.5nm,0.3s,baz=36,slow=21,SNR=8.0						
JTS	**JuntasAbangare**	**7.83**	**120**	Lg	Lg	18 01 12.5	
	0.3nm,0.3s,baz=238,slow=18,SNR=3.4						
TXAR	**Lajitas Array**	**18.52**	**326**	P	**Pn**	**18 01 40.7**	**+1.7**
	0.0nm,0.3s,baz=135,slow=9.5,SNR=2.9						
ANMO	**Albuquerque**	**24.40**	**330**	P	**P**	**18 02 41.5**	**+1.0**
	0.7nm,0.5s,baz=160,slow=11,SNR=3.6						
NVAR	**Mina Array Bea**	**33.52**	**321**	P	**P**	**18 04 03.0**	**+1.3**
	0.3nm,0.5s,baz=137,slow=5.9,SNR=6.4						
YKA	**Yellowknife Ar**	**50.75**	**347**	P	**P**	**18 06 19.7**	**-1.6**
	0.2nm,0.5s,baz=151,slow=7.2,SNR=5.2						
ILAR	**Eielson Array**	**62.60**	**337**	P	**P**	**18 07 44.8**	**-0.8**
	0.5nm,1.0s,baz=123,slow=6.6,SNR=3.4						
CMAR	**Chiang Mai Arr**	**145.73**	**342**	PKPbc	**PKPdf**	**18 16 58.4**	**-2.6**
	0.8nm,0.9s,baz=336,slow=3.9,SNR=5.4						

SVSA 19 18:06:29.3±1.1, **38°.22N**×**26°.64W**, **h0**km±4km, **MD3.5, ML3.2, 1C, Error ellipse: s-maj=7.1km s-min=1.5km az=34.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADH	**Angra Heroismo**	**0.64**	**313**	*e*P	Pg	18 06 40.4	-1.2
ADH				*e*S	Sg	18 06 49.3	-0.6
ADH				A	A	18 06 51.5	
	1μm,0.7s						
PSET	**Sete Cidades**	**0.82**	**118**	*e*P	Pg	18 06 43.0	-2.1
PSET				*e*S	Sg	18 06 53.7	-2.1
PSET				A	A	18 06 58.1	
	782nm,0.4s						
PDA	**Ponta Delgada**	**0.90**	**121**	*e*P	Pg	18 06 44.3	-2.3
PDA				*e*S	Sg	18 06 55.8	-2.5
PDA				A	A	18 07 01.0	
	308nm,0.3s						
GRON	**Grota Negra**	**0.98**	**117**	*e*P	Pg	18 06 46.7	-1.4
GRON				*e*S	Sg	18 07 00.0	-0.8
GRON				A	A	18 07 03.0	
	65nm,0.7s						
CMLA	**Cha da Macela**	**0.99**	**117**	*i* P	Pg	18 06 45.5	-2.8
CMLA				*e*S	Sg	18 06 57.9	-3.2
CMLA				A	A	18 07 04.8	
	691nm,0.4s						
PCALD	**Caldeiras da R**	**1.00**	**114**	*e*P	Pg	18 06 45.5	-3.0
PCALD				*e*S	Sg	18 06 57.7	-3.8
PCALD				A	A	18 06 59.6	
	519nm,0.4s						
PMAN	**Manadas**	**1.21**	**290**	*e*P	Pg	18 06 48.4	-4.1
PMAN				*e*S	Sg	18 07 02.6	-5.7
PMAN				A	A	18 07 08.2	
	110nm,0.4s						
BART	**Pico Bartolome**	**1.24**	**110**	*e*P	Pg	18 06 48.4	-4.7
BART				*e*S	Sg	18 07 03.8	-5.4
BART				A	A	18 07 09.1	
	119nm,0.4s						
PGRA	**Graciosa**	**1.33**	**308**	*e*P	Pg	18 06 50.1	-4.7
PGRA				*e*S	Sg	18 07 05.6	-6.4
PGRA				A	A	18 07 13.1	
	89nm,0.4s						
ROSA	**Rosais**	**1.35**	**292**	*e*P	Pg	18 06 50.6	-4.7
ROSA				*e*S	Sg	18 07 06.4	-6.4
ROSA				A	A	18 07 08.6	
	93nm,0.2s						
PICO	**Pico**	**1.43**	**282**	*e*P	Pn	18 06 51.9	-4.7
PICO				*e*S	Sg	18 07 08.3	-7.1
PICO				A	A	18 07 10.5	
	102nm,0.2s						
PCAN	**Candelaria**	**1.47**	**280**	*e*P	Pn	18 06 52.6	-4.5
PCAN				*e*S	Sg	18 07 09.9	-6.7
PCAN				A	A	18 07 15.1	
	56nm,0.3s						
PCED	**Cedros**	**1.67**	**285**	*e*S	Sn	18 07 13.9	-8.0
PSMA	**Santa Maria**	**1.71**	**135**	*e*P	Pn	18 06 56.1	-4.2
PSMA				*e*S	Sn	18 07 15.2	-7.7
PSMA				A	A	18 07 18.1	
	46nm,0.4s						
PSMN	**Pico do Norte,**	**1.74**	**134**	*e*P	Pn	18 06 55.8	-4.9
PSMN				*e*S	Sn	18 07 15.4	-8.2
PSMN				A	A	18 07 20.1	
	38nm,0.6s						

WEL 19 18:09:10.8, 44°S±4°×**17°2E**±°, **h5**km, **ML3.6**/18, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RACZ	**Rakaia**	**0.25**	**131**	P	Pb	18 09 17.5	-0.3
RACZ				S	Sb	18 09 21.6	-1.0
OXZ	**Oxford**	**0.27**	**27**	P	Pb	18 09 17.6	-0.5
OXZ				S	Sb	18 09 22.2	-0.8
EYCZ	**Eyrewell**	**0.38**	**68**	P	Pb	18 09 20.3	+0.3
CRLZ	**Canterbury Las**	**0.54**	**91**	P	Pb	18 09 23.2	+0.4
MQZ	**McQueen's Vall**	**0.58**	**104**	P	Pb	18 09 23.5	0.0
RPZ	**Rata Peaks**	**0.62**	**255**	P	Pg	18 09 23.3	+0.7
AMCZ	**Amberley**	**0.69**	**56**	P	Pn	18 09 26.5	-0.7
AKCZ	**Akaroa Harbour**	**0.81**	**113**	P	Pb	18 09 27.9	+0.5
LTZ	**Lake Taylor**	**0.83**	**20**	P	Pn	18 09 28.7	-0.6
OKCZ	**Okains Bay**	**0.87**	**101**	P	Pn	18 09 29.4	-0.4
INZ	**Inchbonnie**	**0.90**	**339**	P	Pb	18 09 29.3	+0.5
WVZ	**Waitaha Valley**	**0.96**	**300**	P	Pb	18 09 30.2	+0.2
LBZ	**Lake Benmore**	**1.47**	**235**	P	Pn	18 09 37.5	-0.5
FOZ	**Fox Glacier**	**1.50**	**270**	P	Pb	18 09 39.3	+0.2
KHZ	**Kahutara**	**1.67**	**47**	P	Pn	18 09 40.6	-0.1
ODZ	**Otahua Downs**	**1.72**	**210**	P	Pn	18 09 40.4	-1.1
DSZ	**Denniston Nort**	**1.82**	**358**	P	Pn	18 09 43.6	+0.8
THZ	**Tophouse**	**1.95**	**23**	P	Pn	18 09 44.7	0.0
JCZ	**Jackson Bay**	**2.29**	**256**	P	Pn	18 09 50.0	+0.5
BSWZ	**Blackbirch Sta**	**2.36**	**39**	P	Pn	18 09 50.7	+0.4
WKZ	**Wanaka**	**2.41**	**237**	P	Pn	18 09 51.5	+0.5
EAZ	**Earnscleugh**	**2.48**	**227**	P	Pn	18 09 51.3	-0.6
NNZ	**Nelson**	**2.60**	**26**	P	Pn	18 09 54.0	+0.6
TUWZ	**Tuamarina**	**2.62**	**36**	P	Pn	18 09 54.4	+0.6
QRZ	**Quartz Range**	**2.78**	**10**	P	Pn	18 09 56.1	+0.1
TUZ	**Tuapeka**	**2.88**	**213**	P	Pn	18 09 56.6	-0.7
DUWZ	**D'Urville Isla**	**3.15**	**30**	P	Pn	18 10 02.4	+1.3
CAW	**Cannon Point**	**3.41**	**45**	P	Pn	18 10 03.9	-0.7
SYZ	**Scrubby Hill**	**3.55**	**212**	P	Pn	18 10 06.1	-0.4
MRZ	**Mangatainoka R**	**4.00**	**45**	P	Pn	18 10 11.7	-1.1
APZ	**The Paps**	**4.27**	**219**	P	Pn	18 10 15.8	-0.7
BFZ	**Birch Farm**	**4.34**	**50**	P	Pn	18 10 16.7	-0.8

*ISN **19** 18:16:22.7±0.6, 31°.34N×45°.61E, h2km±5km, ML3.4*
*ISCJB **19** 18:16:25.5±0.6, 31°.54N±0°.04×45°.78E±0°.05, h10km, mb3.6/8, MS3.6/2, Error ellipse: s-maj=7.8km s-min=4.2km az=139.5*
*TEH **19** 18:16:28.3, 31°.72N×46°.04E, h10km, ML3.4*
*IDC **19** 18:16:28.1±3.2, 31°.83N×45°.82E, h0km, mb3.5/7, mb1 3.6/7, mb1mx3.4/35, mbtmp3.5/7, MS3.6/2, Ms1 3.6/2, ms1mx2.6/44, Error ellipse: s-maj=70.5km s-min=24.9km az=3.0*
ISC 19 18:16:27.5±0.9, **31°.61N**±0°.07×**45°.85E**±0°.06, **h10**km, **n33,** σ1**15**/33, **mb3.5**/8, **Iraq**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NSR	**Nassriya**	**0.65**	**157**	*e*Pg	Pg	18 16 37.0	-3.0
NSR				*e*Sg	**Sg**	**18 16 46.0**	**-2.5**
BHD	**Baghdad**	**2.07**	**324**	*e*Pn	**Pn**	**18 17 01.0**	**-1.3**
BHD				*e*Sn	**Sn**	**18 17 28.0**	**-0.2**
IKFM	**Kafar-mosalman**	**2.55**	**41**	*e*Pn	**Pb**	**18 17 10.0**	**-3.4**
IKFM				IAMB	IAmb	18 17 52.8	
	comp=Z,0.0nm,0.6s						
IGHG	**Ghaleghazi**	**2.78**	**12**	*e*Pn	**Pn**	**18 17 13.4**	**+1.0**
IGHG				IAMB	IAmb	18 18 10.1	
	comp=Z,2μm,0.7s						
IKMR	**Kamar-syah**	**2.87**	**48**	*e*Pn	**Pn**	**18 17 12.9**	**-0.4**
IKMR				IAMB	IAmb	18 18 20.1	
	comp=Z,0.0nm,1.0s						
IKOM	**Komasi**	**2.92**	**28**	*e*Pn	**Pn**	**18 17 13.8**	**-0.4**
IKOM				IAMB	IAmb	18 17 26.9	
	comp=Z,0.0nm,0.4s						
IVIS	**Veis**	**3.03**	**16**	*e*Pn	**Pn**	**18 17 16.1**	**+0.4**
IVIS				IAMB	IAmb	18 18 08.8	
	comp=Z,950nm,0.6s						
ILIN	**Lien**	**3.43**	**16**	*e*Pn	**Pn**	**18 17 21.7**	**+0.4**
ILIN				IAMB	IAmb	18 17 23.3	
	comp=Z,595nm,0.2s						
HSAM	**Samen**	**3.48**	**41**	*e*Pn	**Pn**	**18 17 21.9**	**-0.1**
HSAM				IAMB	IAmb	18 18 50.9	
	comp=Z,0.0nm,1.6s						
IKRK	**Kirkuk**	**3.99**	**342**	*e*Pn	**Pn**	**18 17 29.0**	**+0.3**
IKRK				*e*Sn	**Sn**	**18 18 16.0**	**+0.5**
HSRG	**Sareghieh**	**4.16**	**29**	*e*Pn	**Pn**	**18 17 32.1**	**+0.8**
HSRG				IAMB	IAmb	18 17 37.3	
	comp=N,0.0nm,0.3s						
ZNGN	**Zangian**	**4.29**	**82**	*e*Pn	**Pn**	**18 17 35.1**	**+1.9**
ROKH	**ROKH**	**4.47**	**79**	*e*Pn	**Pn**	**18 17 36.0**	**+0.4**
HKZM	**Kohzaman**	**4.55**	**33**	*e*Pn	**Pn**	**18 17 37.7**	**+1.1**
HKZM				IAMB	IAmb	18 18 33.3	
	comp=N,0.0nm,0.8s						
RTB	**Rutbah**	**4.90**	**288**	*e*Pn	Pn	18 17 38.0	-3.3
RTB				*e*Sn	Sn	18 18 30.5	-7.6
KLNJ	**Kolanjah**	**4.95**	**95**	*e*Pn	**Pn**	**18 17 43.4**	**+1.1**
KLNJ				IAMB	IAmb	18 18 41.4	
	comp=Z,0.0nm,0.8s						
IRAZ	**Razeghan**	**5.10**	**41**	*e*Pn	**Pn**	**18 17 44.4**	**+0.2**
IRAZ				IAMB	IAmb	18 17 51.2	
	comp=Z,265nm,0.4s						
IKLH	**Kolahrood**	**5.14**	**69**	*e*Pn	**Pn**	**18 17 44.8**	**0.0**
IKLH				IAMB	IAmb	18 17 48.9	
	comp=Z,672nm,0.3s						
MSL	**Mosul**	**5.29**	**335**	*e*Pn	**Pn**	**18 17 47.0**	**+0.4**
MSL				*e*Sn	**Sn**	**18 18 46.5**	**-1.2**
IRAM	**Ramesheh**	**5.57**	**86**	*e*Pn	**Pn**	**18 17 50.5**	**-0.2**
IRAM				IAMB	IAmb	18 18 57.9	
	comp=Z,81nm,0.3s						
IZEF	**Zefreh**	**5.64**	**75**	*e*Pn	**Pn**	**18 17 52.2**	**+0.5**
IZEF				IAMB	IAmb	18 17 54.4	
	comp=Z,227nm,0.4s						
KRSH	**Karshahi**	**5.80**	**64**	*e*Pn	**Pn**	**18 17 53.6**	**-0.1**
KRSH				IAMB	IAmb	18 19 00.1	
	comp=Z,0.0nm,0.4s						
ISAD	**Sadrabad**	**6.68**	**85**	IAMB	IAmb	18 18 11.6	
	comp=Z,84nm,0.4s						
ISAD				*e*Pn	**Pn**	**18 18 05.9**	**-0.1**
AKASG	**Malin Array Be**	**22.72**	**332**	P	**P**	**18 21 29.2**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=139,slow=9.8,SNR=8.8						
AAK	**Ala-Archa**	**25.24**	**56**	LR	LR	18 33 21.1	
	comp=Z,28nm,20.7s,baz=8.0,slow=40						
VAE	**Valguarnera**	**26.47**	**291**	P	**P**	**18 22 06.1**	**+1.2**
	comp=Z,10.0nm,0.5s,baz=62,slow=7.3,SNR=3.7						
BVAR	**Borovoye Array**	**27.81**	**33**	P	**P**	**18 22 16.2**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=216,slow=7.1,SNR=3.1						
MKAR	**Makanchi Array**	**31.73**	**51**	P	**P**	**18 22 51.8**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=245,slow=7.4,SNR=4.8						
FINES	**FINESS Array B**	**32.52**	**342**	P	**P**	**18 22 58.7**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=145,slow=10,SNR=3.7						
HFS	**Hagfors**	**35.60**	**333**	P	**P**	**18 23 25.8**	**+0.8**
	comp=Z,1.6nm,0.4s,baz=128,slow=9.6,SNR=14						
SONM	**Songino Array**	**48.08**	**52**	P	**P**	**18 25 09.9**	**+2.5**
	comp=Z,0.2nm,0.6s,baz=269,slow=7.2,SNR=3.2						
YKA	**Yellowknife Ar**	**84.92**	**351**	P	**P**	**18 29 03.0**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=20,slow=5.4,SNR=4.5						
GUMO	**Guam**	**90.48**	**74**	LR	LR	19 13 05.4	
	comp=Z,193nm,21.8s,baz=62,slow=38						

*ISCJB **19** 18:26:26.9±0.5, 38°.11N±0°.03×20°.75E±0°.03, h15km±4km, mb3.7/4, MS3.7/2, Error ellipse: s-maj=6.2km s-min=3.2km az=32.2*
*ATH **19** 18:26:26.8, 38°.15N×20°.82E, h15km±1km, ML3.3/5, Error ellipse: s-maj=1.6km s-min=0.8km az=233.0*
*THE **19** 18:26:27.4, 38°.14N×20°.85E, h0km±2km, ML3.2/6, Error ellipse: s-maj=2.7km s-min=0.8km az=205.0*
*IDC **19** 18:26:31.4±16.0, 38°.99N×21°.52E, h0km, mb3.7/4, mb1 3.7/4, mb1mx3.3/43, mbtmp3.8/4, MS3.7/2, Ms1 3.7/2, ms1mx2.7/43, Error ellipse: s-maj=315.0km s-min=43.6km az=40.0*
ISC 19 18:26:26.8±1.0, **38°.15N**±0°.03×**20°.81E**±0°.02, **h18**km±4km, **n74,** σ0**°75**/90, **mb3.8**/4, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.18**	**278**	P	**Pb**	**18 26 31.1**	**-0.1**
VLS				S	**Sg**	**18 26 34.6**	**0.0**
VLS				AML	AML	18 26 35.1	
	comp=N,67217μm,0.1s						
VLS				AML	AML	18 26 35.2	
	comp=E,51751μm,0.1s						
VLS	**Valsamata**	**0.18**	**278**	P	**Pb**	**18 26 31.3**	**+0.1**
VLS				S	**Sg**	**18 26 34.9**	**+0.3**
VTN	**Vitineika**	**0.38**	**128**	P	**Pb**	**18 26 35.1**	**+0.1**
VTN				S	**Sb**	**18 26 41.6**	**+1.1**
VTN	**Vitineika**	**0.38**	**128**	P	**Pb**	**18 26 35.0**	**+0.1**
EVGI	**Lefkada island**	**0.48**	**345**	P	**Pg**	**18 26 36.6**	**0.0**
EVGI				S	**Sg**	**18 26 43.3**	**+0.1**
EVGI	**Lefkada island**	**0.48**	**345**	P	**Pg**	**18 26 36.4**	**-0.2**
EVGI				S	**Sb**	**18 26 44.3**	**+0.7**
RLS	**Riolos of Patr**	**0.52**	**100**	P	**Pg**	**18 26 37.1**	**-0.2**
RLS				S	**Sb**	**18 26 45.0**	**+0.3**
RLS				AML	AML	18 26 46.3	
	comp=E,5349μm,0.2s						
RLS				AML	AML	18 26 46.4	
	comp=N,5033μm,0.1s						
RLS	**Riolos of Patr**	**0.52**	**100**	P	**Pg**	**18 26 37.0**	**-0.2**
PDO	**Prodromos**	**0.53**	**33**	P	**Pg**	**18 26 37.4**	**-0.1**
PDO				S	**Sb**	**18 26 45.3**	**+0.3**
PDO				AML	AML	18 26 46.6	
	comp=E,11608μm,0.2s						
PDO				AML	AML	18 26 48.6	
	comp=N,8875μm,0.4s						
PDO	**Prodromos**	**0.53**	**33**	P	**Pg**	**18 26 37.4**	**-0.1**
PDO				S	**Sb**	**18 26 46.1**	**+1.2**
LKD2	**Lefkada island**	**0.65**	**349**	P	**Pb**	**18 26 38.9**	**-0.7**
LKD2				S	**Sg**	**18 26 49.2**	**+0.9**
LKD2				AML	AML	18 26 50.3	
	comp=N,2079μm,0.2s						
LKD2				AML	AML	18 26 50.3	
	comp=E,3834μm,0.2s						
LKD2	**Lefkada island**	**0.65**	**349**	P	**Pb**	**18 26 39.3**	**-0.3**
TSLK	**Tsoukalades, L**	**0.68**	**350**	P	**Pb**	**18 26 39.9**	**-0.2**
PVO	**Paravola**	**0.73**	**50**	P	**Pb**	**18 26 41.2**	**+0.2**
PVO	**Paravola**	**0.73**	**50**	P	**Pb**	**18 26 41.1**	**+0.2**
DRO	**Drossia**	**0.74**	**105**	P	**Pb**	**18 26 41.1**	**+0.1**
DRO				AML	AML	18 26 55.8	
	comp=N,5948μm,0.2s						
DRO				AML	AML	18 26 56.5	
	comp=E,7200μm,0.3s						
DRO	**Drossia**	**0.74**	**105**	P	**Pb**	**18 26 41.0**	**-0.1**
DRO				S	**Sb**	**18 26 51.1**	**+0.3**
UPR	**University Cam**	**0.78**	**80**	P	**Pg**	**18 26 42.4**	**+0.4**
UPR				S	**Sn**	**18 26 54.5**	**+0.4**
UPR	**University Cam**	**0.78**	**80**	P	**Pb**	**18 26 42.0**	**+0.2**
EFP	**Efpalio**	**0.90**	**72**	P	**Pb**	**18 26 43.8**	**-0.2**
EFP	**Efpalio**	**0.90**	**72**	P	**Pb**	**18 26 43.6**	**-0.3**
EFP				S	**Sg**	**18 26 57.0**	**+0.7**
LAKA	**Lakka**	**0.92**	**84**	P	**Pb**	**18 26 44.1**	**-0.1**
LAKA	**Lakka**	**0.92**	**84**	P	**Pb**	**18 26 44.0**	**-0.3**
LAKA				S	**Sn**	**18 26 58.3**	**+0.6**
AMT	**Artemida-Makis**	**0.94**	**131**	P	**Pb**	**18 26 44.9**	**+0.3**
AMT	**Artemida-Makis**	**0.94**	**131**	P	**Pg**	**18 26 45.1**	**0.0**
SERG	**Sergoula**	**1.01**	**75**	P	**Pb**	**18 26 45.5**	**-0.3**
SERG	**Sergoula**	**1.01**	**75**	P	**Pb**	**18 26 45.4**	**-0.4**
TRIZ	**Trizonia**	**1.01**	**77**	P	**Pb**	**18 26 45.6**	**-0.2**
TRIZ	**Trizonia**	**1.01**	**77**	P	**Pb**	**18 26 45.4**	**-0.4**
ALIK	**Aliki, Aigiali**	**1.03**	**84**	P	**Pb**	**18 26 46.1**	**+0.1**
ALIK				S	**Sn**	**18 27 00.3**	**+0.1**
KLV	**Kalavryta, Ach**	**1.06**	**95**	P	**Pb**	**18 26 46.6**	**-0.1**
KLV	**Kalavryta, Ach**	**1.06**	**95**	P	**Pb**	**18 26 46.5**	**-0.1**
KALE	**Kalithea**	**1.07**	**77**	P	**Pb**	**18 26 46.3**	**-0.5**
KALE	**Kalithea**	**1.07**	**77**	P	**Pb**	**18 26 46.4**	**-0.5**
EVR	**Evrytania**	**1.09**	**45**	P	**Pb**	**18 26 47.0**	**-0.2**
EVR	**Evrytania**	**1.09**	**45**	P	**Pb**	**18 26 47.0**	**-0.2**
GUR	**Goura**	**1.23**	**100**	P	**Pn**	**18 26 48.9**	**-0.2**
GUR	**Goura**	**1.23**	**100**	P	**Pn**	**18 26 49.0**	**-0.2**
ITM	**Ithomi**	**1.31**	**137**	P	**Pb**	**18

ZALV	**Zalesovo Beam**	**45.54**	**48**	P		**P**	**18 34 45.0**	**-0.1**	
	comp=E,1.1nm,0.4s,baz=279,slow=8.4,SNR=4.9								
SIV	**San Ignacio**	**93.52**	**253**	LR		LR	19 24 02.1		
	comp=E,137nm,20.1s,baz=326,slow=37								

IDC ***19*** *18:31:39.7±2.3, 12°.79N×89°.03W, h0km, mb3.7/4, mb1 4.0/6, mb1mx3.7/33, mbtmp3.7/6, ML3.3/2, MS3.4/2, Ms1 3.4/2, ms1mx2.7/34, Error ellipse: s-maj=64.2km s-min=24.9km az=34.0*

ISCJB ***19*** *18:31:48.7±0.8, 13°.09N±0°.08×89°.53W±0°.05, h63km±8km, mb3.8/3, Error ellipse: s-maj=14.9km s-min=4.9km az=23.8*

UCR ***19*** *18:31:48.8±1.3, 13°.05N×89°.53W, h34km±10km, MD3.7, ML3.9*

ISC 19 18:31:50.2±1.7, **13°.1N**±0°.1×**89°.46W**±0°.07, **h56**km±13km, **n34,** σ1°**38**/48, **mb3.8**/3, **1C-2D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SNET	**Serv Nac Est T**	**0.60**	**22**	*e*P		**Pn**	**18 32 02.1**	**-0.9**
LFRS	**El Faro**	**0.63**	**38**	*e*P		**Pn**	**18 32 03.1**	**-0.3**
UESS	**San Salvador**	**0.63**	**24**	*e*P		**Pn**	**18 32 03.1**	**-0.3**
BOQS	**Boqueron**	**0.63**	**16**↑	*e*P		**Pn**	**18 32 03.3**	**-0.3**
BOQS				*e*S		**Sn**	**18 32 14.2**	**+0.9**
UEES	**San Salvador**	**0.63**	**19**	*e*P		**Pn**	**18 32 02.7**	**-0.8**
UEES				*e*S		**Sn**	**18 32 13.9**	**+0.7**
OPAM	**San Salvador**	**0.64**	**23**	*e*P		**Pn**	**18 32 02.9**	**-0.7**
OPAM				*e*S		**Sn**	**18 32 14.0**	**+0.7**
OPAM				IAML			18 32 18.0	
	comp=Z,5μm,0.2s							
UDBS	**Soyapango**	**0.66**	**26**	*e*P		**Pn**	**18 32 03.1**	**-0.7**
UESV	**Ojushtada**	**0.70**	**69**	*e*P		**Pn**	**18 32 05.7**	**+1.5**
LFU	**La Fuente**	**0.70**	**29**	*e*P		**Pn**	**18 32 04.5**	**+0.1**
LFU				*e*S		**Sn**	**18 32 15.7**	**+1.0**
CEVE	**Cerro Verde**	**0.71**	**347**↓	*i*P		**Pn**	**18 32 04.0**	**-0.7**
CEVE				*e*S		**Sn**	**18 32 15.6**	**+0.4**
CEVE				IAML			18 32 19.1	
	comp=Z,15μm,0.3s							
SBLS	**San Blas**	**0.72**	**347**↓	*e*P		**Pn**	**18 32 04.1**	**-0.7**
LBRS	**Las Brisas**	**0.73**	**34**	*e*P		**Pn**	**18 32 04.5**	**-0.2**
SNJE	**San Jose**	**0.75**	**349**	*e*P		**Pn**	**18 32 04.2**	**-0.9**
SNJE				*e*S		**Sn**	**18 32 16.0**	**+0.1**
PAVA	**Las Pavas**	**0.77**	**41**	*e*P		**Pn**	**18 32 05.3**	**0.0**
PAVA				*e*S		**Sn**	**18 32 17.7**	**+1.4**
PAVA				IAML			18 32 20.3	
	comp=Z,6μm,0.4s							
SNVI	**San Vicente**	**0.77**	**51**	*e*P		**Pn**	**18 32 04.9**	**-0.4**
RTR	**El Retiro**	**0.79**	**347**	*e*P		**Pn**	**18 32 04.9**	**-0.6**
UNIC	**Santa Ana**	**0.86**	**354**	*e*P		**Pn**	**18 32 05.8**	**-0.6**
UNIC				*e*S		**Sn**	**18 32 17.9**	**-0.4**
TECA	**Tecapa**	**1.00**	**69**	*e*P		**Pn**	**18 32 07.8**	**-0.5**
PACA	**Pacayal**	**1.16**	**73**	*e*P		**Pn**	**18 32 10.1**	**-0.2**
PACA				*e*S		**Sn**	**18 32 26.5**	**+1.2**
LCY	**Lacayo**	**1.17**	**75**	*e*P		**Pn**	**18 32 10.3**	**-0.1**
LCY				*e*S		**Sn**	**18 32 27.0**	**+1.4**
IXG	**Ixpaco**	**1.42**	**317**	*e*P		**Pn**	**18 32 12.8**	**-1.1**
LCND	**La Caada**	**1.54**	**83**	*e*P		**Pn**	**18 32 15.1**	**-0.2**
LCND				*e*S		**Sn**	**18 32 35.7**	**+1.4**
CNCH	**Conchagua**	**1.59**	**84**	*e*P		**Pn**	**18 32 15.6**	**-0.6**
CNCH				*e*P			18 32 16.6	
CNCH				*e*S		**Sn**	**18 32 37.3**	**+1.6**
NBG	**Las Nubes**	**1.69**	**329**	*e*P		**Pn**	**18 32 15.4**	**-2.2**
FUG	**Fuego 3**	**1.88**	**314**	*e*P		**Pn**	**18 32 19.4**	**-0.8**
FUG				*e*S		**Sn**	**18 32 45.7**	**+2.9**
APG	**El Apazote**	**2.10**	**333**	Pn		**Pn**	**18 32 23.6**	**+0.3**
	comp=Z,7.4nm,0.3s,baz=145,slow=8.6,SNR=19							
APG				Sn		**Sn**	**18 32 52.2**	**+3.8**
	comp=Z,20nm,0.3s,baz=3.3,slow=19,SNR=7.3							
APG				LR		LR	18 33 35.4	
	comp=Z,202nm,21.6s,baz=104,slow=44							
JTS	**JuntasAbangare**	**5.24**	**122**	Pg		**Pn**	**18 33 06.4**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=4.9,slow=23,SNR=11							
JTS				Sn		**Sn**	**18 33 59.9**	**-5.3**
	comp=Z,1.3nm,0.3s,baz=3.5,slow=19,SNR=2.1							
JTS				Lg		Lg	18 34 22.4	
	comp=Z,1.4nm,0.3s,baz=286,slow=11,SNR=5.7							
CMIG	**Matias Romero**	**6.55**	**308**	Pn		**Pn**	**18 33 24.6**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=95,slow=9.8,SNR=6.2							
CMIG				Sn		**Sn**	**18 34 36.9**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=144,slow=19,SNR=2.4							
TXAR	**Lajitas Array**	**20.83**	**323**	P		Pn	18 36 30.2	-0.2
	comp=Z,0.6nm,0.5s,baz=142,slow=11,SNR=10							
NVAR	**Mina Array Bea**	**35.91**	**320**	P		**P**	**18 38 46.3**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=135,slow=9.0,SNR=5.3							
ULM	**Lac du Bonnet**	**37.39**	**353**	LR		LR	18 55 54.1	
	comp=Z,168nm,18.8s,baz=276,slow=38							
SCHQ	**Schefferville**	**45.22**	**18**	P		**P**	**18 40 00.3**	**-1.5**
	comp=Z,1.6nm,0.5s,baz=219,slow=13,SNR=2.3							
YKA	**Yellowknife Ar**	**52.46**	**346**	P		**P**	**18 40 56.5**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=144,slow=7.5,SNR=15							
CMAR	**Chiang Mai Arr**	**147.54**	**345**	PKPbc		**PKPdf**	**18 51 27.1**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=332,slow=3.1,SNR=4.0							

IDC 19 18:32:33.2±6.6, **8°.69S**×**118°.66E**, **h120**km±63km, **mb3.1**/2, **mb1 3.3**/5, **mb1mx3.1**/33, **mbtmp3.7**/5, **Error ellipse: s-maj=107.6km s-min=29.0km az=60.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**5.16**	**107**	P		Pn	18 33 48.8	+0.4
	1.6nm,0.3s,baz=50,slow=17,SNR=3.1							
BATI				S		Sn	18 34 43.0	-3.9
	1.6nm,0.3s,baz=324,slow=17,SNR=2.1							
FITZ	**Fitzroy Crossi**	**11.55**	**145**	P		Pn	18 35 13.7	-0.9
	0.1nm,0.3s,baz=337,slow=13,SNR=4.1							
FITZ				S		Sn	18 37 13.2	-8.6
	0.1nm,0.3s,baz=180,slow=18,SNR=6.5							
WRA	**Warramunga Ar**	**18.84**	**128**	P		P	18 36 43.6	-0.4
	0.1nm,0.3s,baz=306,slow=11,SNR=6.2							
WRA				S		S	18 40 05.3	-6.8
	0.0nm,0.3s,baz=288,slow=22,SNR=2.9							
ASAR	**Alice Springs**	**20.85**	**137**	P		P	18 37 06.2	+0.5
	0.7nm,0.4s,baz=317,slow=9.1,SNR=30							
MKAR	**Makanchi Array**	**64.03**	**333**	P		P	18 42 54.1	0.0
	0.1nm,0.2s,baz=150,slow=6.0,SNR=2.8							

AZER ***19*** *18:33:26.9±0.6, 38°.19N×48°.10E, h2km, ml3.2/23, Error ellipse: s-maj=1.6km s-min=0.8km az=339.0*

NSSP ***19*** *18:33:27.9, 38°.17N×47°.97E, h10km, Ms3.2*

TEH ***19*** *18:33:28.3, 38°.18N×47°.97E, h10km, ML3.2*

ISCJB ***19*** *18:33:30.5±0.3, 38°.12N±0°.02×48°.16E±0°.03, h10km, Error ellipse: s-maj=4.0km s-min=2.8km az=153.8*

ISC 19 18:33:29.8±0.8, **38°.13N**±0°.03×**48°.02E**±0°.03, **h10**km, **n42,** σ1°**77**/63, **23C-19D, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ISRB	**Sarab**	**0.41**	**222**	*e*Pg		**Pg**	**18 33 36.6**	**-1.4**
ISRB				IAMB		IAmb	18 33 36.7	
	comp=Z,67μm,0.1s							
LRK	**Lerik**	**0.57**	**26**	↑P		**Pg**	**18 33 39.3**	**-1.6**
	SNR=371							
LRK				↑S		**Sg**	**18 33 47.8**	**-0.7**
ASTR	**Astara**	**0.74**	**55**	↑P		**Pg**	**18 33 42.6**	**-1.5**
	SNR=147							
ASTR				↓S		**Sg**	**18 33 53.0**	**-0.8**
IHRS	**Heris**	**0.79**	**284**	*e*Pg		**Pg**	**18 33 43.1**	**-1.9**
IHRS				IAMB		IAmb	18 33 55.8	
	comp=Z,28μm,0.3s							
LKRN	**Lenkeran, Azer**	**0.83**	**46**	↑P		**Pg**	**18 33 44.1**	**-1.7**
	SNR=24							
LKRN				↓S		**Sb**	**18 33 56.3**	**-1.2**
IBST	**Bostanabad**	**0.99**	**244**	*e*Pg		**Pg**	**18 33 45.9**	**-2.9**
IBST				IAMB		IAmb	18 33 46.3	
	comp=Z,18μm,0.1s							
GLBA	**Clilabad**	**1.15**	**15**	↑P		**Pb**	**18 33 50.8**	**-0.9**
	SNR=24							
GLBA				↓S		**Sn**	**18 34 08.1**	**+0.5**
ITBZ	**Tabriz**	**1.48**	**274**	*e*Pg		**Pn**	**18 33 56.4**	**-0.2**
ITBZ				*e*Sg		**Sn**	**18 34 17.2**	**+1.1**
ORD	**Ordubad**	**1.77**	**297**	↑P		**Pn**	**18 34 00.9**	**+0.3**
ORD				↓S		**Sn**	**18 34 24.4**	**+1.2**
ZRD	**Zardab**	**2.16**	**353**	↓P		**Pn**	**18 34 06.9**	**+1.1**
ZRD				↓S		**Sb**	**18 34 36.8**	**+1.0**
BRDA	**Brd**	**2.23**	**343**	↑P		**Pn**	**18 34 08.0**	**+1.3**
	SNR=5.0							
BRDA				↓S		**Sg**	**18 34 40.2**	**-1.0**
NAX	**Nakhchivan**	**2.23**	**299**	↓P		**Pb**	**18 34 09.7**	**-0.5**
	SNR=6.1							
NAX				↑S		**Sb**	**18 34 39.8**	**+1.8**
KDMR	**Kurdemir**	**2.24**	**3**	↓P		**Pn**	**18 34 08.0**	**+1.0**
	SNR=5.5							
KDMR				↓S		**Sb**	**18 34 38.7**	**+0.5**
SBZ	**Shahbuz**	**2.30**	**304**	↑P		**Pb**	**18 34 10.7**	**-0.8**
SBZ				↓S		**Sb**	**18 34 41.5**	**+1.4**
IML	**Ismayilli**	**2.66**	**3**	↑P		**Pn**	**18 34 13.8**	**+1.0**
	SNR=9.0							
IML				↑S		**Sb**	**18 34 48.0**	**-2.2**
PQL	**Pirkuli**	**2.69**	**9**	↑P		**Pn**	**18 34 15.0**	**+1.8**
	SNR=5.9							
PQL				↓S		**Sb**	**18 34 51.7**	**+0.5**
QBL	**Gabala**	**2.81**	**357**	↑P		**Pn**	**18 34 15.5**	**+0.6**
	SNR=6.2							
QBL				↑S		**Sn**	**18 34 51.6**	**+2.7**
ATGJ	**Altiaghaj**	**2.82**	**14**	↓P		**Pn**	**18 34 16.1**	**+1.1**
GANJ	**Ganja**	**2.83**	**333**	P		**Pn**	**18 34 16.6**	**+1.5**
	SNR=7.9							
GANJ				↑S		**Sb**	**18 34 53.6**	**-1.6**
HKZM	**Kohzaman**	**2.84**	**165**	*e*Pn		**Pn**	**18 34 16.9**	**+1.5**
HKZM				IAMB		IAmb	18 35 00.3	
	comp=N,0.0nm,0.5s							
HSRG	**Sareghieh**	**2.89**	**176**	*e*Pn		**Pn**	**18 34 17.1**	**+0.9**
HSRG				IAMB		IAmb	18 35 06.8	
	comp=N,0.0nm,1.0s							
HYR	**Heyderabad**	**2.93**	**304**	↑P		**Pb**	**18 34 20.0**	**-2.2**
HYR				↑S		**Sb**	**18 34 57.1**	**-1.0**
SIZA	**Siyzn**	**3.02**	**13**	↑P		**Pn**	**18 34 20.2**	**+2.5**
XNQ	**Khinaliq**	**3.04**	**2**	↓P		**Pn**	**18 34 18.3**	**+0.3**
GDB	**GEDABAY**	**3.12**	**327**	↑P		**Pn**	**18 34 22.5**	**+3.3**
GDB				↑S		**Sb**	**18 35 01.3**	**-2.4**
IRAZ	**Razeghan**	**3.13**	**150**	*e*Pn		**Pn**	**18 34 20.2**	**+0.9**
IRAZ				IAMB		IAmb	18 35 08.8	
	comp=Z,934nm,0.7s							
SEKA	**Sheki**	**3.14**	**349**	↓P		**Pn**	**18 34 19.6**	**+0.3**
SEKA				↑S		**Sn**	**18 35 00.1**	**+3.2**
IMHD	**Mahdasht**	**3.24**	**138**	*e*Pn		**Pn**	**18 34 21.8**	**+1.1**
IMHD				IAMB		IAmb	18 35 14.8	
	comp=Z,368nm,0.3s							
GNI	**Garni**	**3.25**	**309**	*i* P		**Pb**	**18 34 28.3**	**+0.7**
GNI				↑*i*S		**Sb**	**18 35 11.5**	**+4.3**
QSAR	**Qusar**	**3.38**	**3**	↑P		**Pn**	**18 34 24.0**	**+1.3**
QZX	**Qazax, Azerbai**	**3.56**	**326**	↓P		**Pn**	**18 34 27.6**	**+2.4**
	SNR=6.3							
QZX				↓S		**Sb**	**18 35 13.0**	**-3.3**
ZKTA	**Zakatala**	**3.66**	**343**	↓P		**Pn**	**18 34 28.3**	**+1.8**
	SNR=4.1							
ZKTA				↓S		**Sn**	**18 35 13.1**	**+3.4**
IVIS	**Veis**	**3.72**	**195**	IAMB		IAmb	18 34 43.2	
	comp=Z,115nm,0.4s							
IPRN	**Peran**	**3.93**	**117**	*e*Pn		**Pn**	**18 34 30.8**	**+0.5**
IPRN				IAMB		IAmb	18 35 21.1	
	comp=Z,1μm,0.2s							
LGD	**Lagodekhi**	**3.94**	**340**	P		**Pn**	**18 34 32.1**	**+1.8**
LGD				S		**Sn**	**18 35 17.6**	**+1.0**
IKOM	**Komasi**	**3.97**	**186**	*e*Pn		**Pn**	**18 34 33.3**	**+2.4**
IALA	**Alasht**	**4.34**	**117**	*e*Pn		**Pn**	**18 34 36.6**	**+0.5**
IALA				IAMB		IAmb	18 34 38.4	
	comp=Z,415nm,0.1s							
IFIR	**Firoozkooh**	**4.54**	**122**	*e*Pn		**Pn**	**18 34 40.8**	**+2.0**
IFIR				IAMB		IAmb	18 34 44.6	
	comp=Z,115nm,0.2s							
ISHM	**Shahmirzad**	**4.82**	**117**	*e*Pn		**Pn**	**18 34 43.7**	**+1.1**
ISHM				IAMB		IAmb	18 34 46.7	
	comp=Z,288nm,0.4s							
ISFB	**Sefidab**	**5.09**	**137**	*e*Pn		**Pn**	**18 34 47.5**	**+1.4**
ISFB				IAMB		IAmb	18 35 08.0	
	comp=Z,99nm,0.5s							
KRSH	**Karshahi**	**5.33**	**140**	*e*Pn		**Pn**	**18 34 51.3**	**+1.8**
KRSH				IAMB		IAmb	18 36 35.5	
	comp=Z,0.0nm,0.7s							
IKLH	**Kolahrood**	**5.61**	**148**	*e*Pn		**Pn**	**18 34 56.0**	**+2.5**
IKLH				IAMB		IAmb	18 34 57.2	
	comp=Z,92nm,0.4s							

DDA ***19*** *18:59:47.6, 37°.76N×26°.98E, h7km±1km, ML2.5*

ISCJB ***19*** *18:59:48.4±0.8, 37°.79N±0°.04×26°.99E±0°.07, h13km, Error ellipse: s-maj=8.2km s-min=4.8km az=152.2*

ISK ***19*** *18:59:48.5, 37°.80N×27°.01E, h5km±1km, ML2.4/2*

ISC 19 18:59:48.7±1.0, **37°.78N**±0°.04×**27°.00E**±0°.06, **h13**km, **n8,** σ0°**29**/12, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DGB	**zmir**	**0.28**	**342**	IAML_P				
	comp=Z,1μm,0.1s							
DGB				*i* P		**Pg**	**18 59 54.9**	**+0.4**
DGB				*i* S		**Sg**	**18 59 58.8**	**+0.3**
BLCB	**Balcova**	**0.60**	**3**	PG		**Pg**	**18 59 59.9**	**-0.6**
BLCB				SG		**Sg**	**19 00 08.8**	**+0.3**
URLA	**Izmir**	**0.66**	**331**	PG		**Pb**	**19 00 01.9**	**-0.2**
AYDN	**Tasoluk**	**0.71**	**100**	IAML_P				
	comp=Z,763nm,0.1s							
AYDN				*i* P		**Pb**	**19 00 02.9**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.73**	**77**	PG		**Pg**	**19 00 02.9**	**+0.1**
AYDB				SG		**Sb**	**19 00 13.4**	**+0.2**
BODT	**Bodrum**	**0.76**	**161**	PG		**Pg**	**19 00 03.5**	**0.0**
BDRM	**Kayabasi**	**0.80**	**153**	IAML_P				
	comp=Z,670nm,0.2s							
BDRM				*i* P		**Pb**	**19 00 04.5**	**0.0**
BDRM				*i* S		**Sg**	**19 00 14.6**	**-0.1**
CHOS	**Chios island**	**0.96**	**309**	PG		**Pn**	**19 00 07.8**	**-0.1**

ISCJB ***19*** *19:03:23.7±0.4, 37°.00S±0°.07×96°.02W±0°.07, h10km, mb4.6/74, MS3.9/14, Error ellipse: s-maj=11.1km s-min=6.4km az=39.7*

IDC ***19*** *19:03:24.2±0.8, 37°.00S×96°.11W, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.1/43, mbtmp4.1/9, MS3.9/14, Ms1 3.9/14, ms1mx3.7/28, Error ellipse: s-maj=25.3km s-min=23.1km az=57.0*

NEIC ***19*** *19:03:25.2±0.2, 37°.03S×96°.06W, h10km, mb4.7/75, Error ellipse: s-maj=7.4km s-min=4.0km az=211.0*

ISC 19 19:03:25.3±0.6, **37°.02S**±0°.09×**96°.1W**±0°.1, **h10**km, **n112,** σ0°**65**/102, **mb4.7**/74, **MS3.9**/14, **Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GO06	**Curarrehue**	**19.47**	**105**	*e*P		**P**	**19 07 52.5**	**+0.1**
	8.2nm,1.0s							
GO05	**Huala**	**19.64**	**91**	*e*P		**P**	**19 07 53.6**	**-0.4**
	21nm,0.4s							
PLCA	**Paso Flores**	**20.20**	**108**	P		Pn	19 08 01.6	-0.6
	2.3nm,0.9s,baz=270,slow=10,SNR=4.5							
PLCA				LR		LR	19 13 48.9	
	comp=Z,165nm,18.9s,baz=301,slow=31							
PLCA	**Paso Flores**	**20.20**	**108**	*e*P		**P**	**19 08 00.2**	**0.0**
	19nm,1.3s							
ROC1	**El Roble**	**20.91**	**86**	*e*P		**P**	**19 08 08.1**	**-0.1**
	12nm,1.1s							
PEL	**Peldehue**	**21.12**	**87**	*e*P		**P**	**19 08 11.0**	**+0.7**
	29nm,1.4s							
GO09	**Cerro Castillo**	**22.08**	**138**	*e*P		**P**	**19 08 20.8**	**+0.5**
	83nm,1.6s							
GO04	**Tololo Observa**	**22.11**	**79**	*e*P		**P**	**19 08 20.0**	**-1.1**
	23nm,1.1s							
LCO	**Las Campanas**	**22.69**	**77**	*e*P		**P**	**19 08 27.4**	**0.0**
	19nm,1.2s							
GO02	**Mina Guanaco**	**25.50**	**70**	*e*P		**P**	**19 08 53.9**	**-0.3**
	21nm,1.1s							
LVC	**Limon Verde**	**27.49**	**66**	P		**P**	**19 09 12.9**	**+0.7**
	2.1nm,0.6s,baz=250,slow=10.0,SNR=3.3							
LVC				LR		LR	19 17 18.7	
	comp=Z,261nm,18.6s,baz=219,slow=30							
LVC	**Limon Verde**	**27.49**	**66**	*e*P		**P**	**19 09 11.6**	**-0.7**
	7.2nm,0.9s							
PB01	**IPOC Station P**	**28.05**	**63**	*e*P		**P**	**19 09 16.3**	**-0.7**
	14nm,1.5s							
MNMC	**Minye Minye**	**29.24**	**60**	*e*P		**P**	**19 09 27.0**	**-0.8**
	21nm,1.5s							
NNA	**Nana**	**30.33**	**40**	LR		LR	19 18 32.5	
	comp=Z,354nm,21.2s,baz=275,slow=30							
LPAZ	**La Paz**	**32.22**	**58**	P		**P**	**19 09 54.5**	**+0.1**
	7.7nm,1.2s,baz=202,slow=7.3,SNR=7.1							
LPAZ				LR		LR	19 18 56.3	
	comp=Z,37nm,20.0s,baz=226,slow=29							
LPAZ	**La Paz**	**32.22**	**58**	*e*P		**P**	**19 09 54.3**	**-0.1**
	13nm,1.3s							
ATAH	**Atahualpa**	**33.83**	**33**	LR		LR	19 20 30.4	
	comp=Z,322nm,21.2s,baz=220,slow=30							
CPUP	**Villa Florida**	**34.45**	**83**	LR		LR	19 22 28.8	
	comp=Z,99nm,18.9s,baz=224,slow=33							
PAYG	**Puerto Ayora**	**36.56**	**10**	*e*P		**P**	**19 10 31.8**	**+0.4**
	26nm,1.0s							
SIV	**San Ignacio**	**37.38**	**65**	P		**P**	**19 10 38.0**	**-0.5**
	0.3nm,0.3s,baz=224,slow=8.4,SNR=3.8							
OTAV	**Otavalo**	**40.51**	**28**	*e*P		**P**	**19 11 05.0**	**-0.1**
	10nm,1.4s							
ROSC	**El Rosal**	**46.34**	**31**	LR		LR	19 28 48.3	
	comp=Z,123nm,18.5s,baz=249,slow=33							
BDFB	**Brasilia**	**47.48**	**77**	LR		LR	19 30 47.3	
	comp=Z,156nm,19.8s,baz=225,slow=35							
JTS	**JuntasAbangare**	**48.21**	**15**	LR		LR	19 27 14.2	
	comp=Z,218nm,21.9s,baz=183,slow=30							
BOAB	**BOACO BROADBAN**	**50.17**	**13**	*e*P		**P**	**19 12 20.8**	**-0.3**
	22nm,1.0s							
ESPN	**Las Esperanzas**	**50.19**	**15**	*e*P		**P**	**19 12 21.8**	**+0.5**
	24nm,0.7s							
SDV	**Santo Domingo**	**51.53**	**33**	LR		LR	19 32 16.3	
	comp=Z,90nm,18.9s,baz=296,slow=34							
QSPA	**South Pole Qui**	**53.20**	**180**	P		**P**	**19 12 44.5**	**+1.1**
	4.5nm,1.0s,baz=124,slow=4.5,SNR=8.2							
QSPA				PcP		**PcP**	**19 13 50.4**	**-0.9**
	2.6nm,0.8s,baz=176,slow=2.7,SNR=4.0							
QSPA	**South Pole Qui**	**53.20**	**180**	*e*P		**P**	**19 12 43.7**	**+0.2**
	9.1nm,1.2s							
VNA3	**Neumayer Olymp**	**54.31**	**157**	P		**P**	**19 12 52.1**	**+0.8**
VNA1	**Neumayer--Stat**	**54.88**	**156**	P		**P**	**19 12 55.5**	**+0.1**
VNA2	**Neumayer--Watz**	**55.10**	**156**	P		**P**	**19 12 57.1**	**+0.1**
SNAA	**Sanae**	**56.33**	**158**	P		**P**	**19 13 05.4**	**-0.6**
SNAA	**Sanae**	**56.33**	**158**	*e*P		**P**	**19 13 05.8**	**-0.2**
	8.4nm,1.2s							
VNDA	**Vanda**	**56.72**	**195**	LR		LR	19 31 27.0	
	comp=Z,94nm,21.7s,baz=240,slow=30							
HPIG		**64.25**	**351**	*e*P		**P**	**19 14 00.1**	**-0.6**
	6.8nm,0.8s							
URZ	**Urewera**	**66.12**	**239**	LR		LR	19 35 28.6	
	comp=Z,148nm,21.1s,baz=120,slow=29							
TX31	**Lajitas Ar. Si**	**66.39**	**353**	*e*P		**P**	**19 14 14.8**	**+0.3**
HKT	**Hockley**	**66.62**	**0**	*e*P		**P**	**19 14 16.2**	**+0.5**
	11nm,1.3s							
JCT	**Junction City**	**67.24**	**357**	*e*P		**P**	**19 14 19.4**	**-0.4**
	14nm,1.1s							
RPZ	**Rata Peaks**	**67.42**	**232**	LR		LR	19 35 14.2	
	comp=Z,168nm,20.8s,baz=142,slow=28							
435B	**Jarrell**	**67.46**	**359**	*e*P		**P**	**19 14 21.0**	**-0.1**
	28nm,1.5s							
NATX	**Nacogdoches**	**68.44**	**1**	*e*P		**P**	**19 14 27.7**	**+0.5**
	20nm,0.6s							
WHTX	**Lake Whitney,**	**68.67**	**359**	*e*P		**P**	**19 14 28.1**	**-0.5**
	13nm,0.8s							
MNTX	**Cornudas Mount**	**68.91**	**352**	*e*P		**P**	**19 14 29.1**	**-1.2**
	6.2nm,1.4s							
ABTX	**Abilene, Hawle**	**69.36**	**357**	*e*P		**P**	**19 14 32.3**	**-0.7**
	7.1nm,0.8s							
TUC	**Tucson**	**70.33**	**347**	*e*P		**P**	**19 14 39.2**	**+0.1**
	7.2nm,1.0s							
MSTX	**Muleshoe**	**70.90**	**354**	*e*P		**P**	**19 14 42.2**	**-0.3**
	16nm,0.8s							
AMTX	**Amarillo**	**71.73**	**355**	*e*P		**P**	**19 14 47.2**	**-0.2**
	18nm,0.9s							
BAR	**Barrett**	**71.96**	**342**	*e*P		**P**	**19 14 48.8**	**0.0**
	6.3nm,1.1s							
ANMO	**Albuquerque**	**72.25**	**351**	P		**P**	**19 14 50.9**	**+0.2**
	1.5nm,0.8s,baz=171,slow=10,SNR=6.0							
ANMO	**Albuquerque**	**72.25**	**351**	*e*P		**P**	**19 14 50.7**	**0.0**
	3.7nm,1.1s							
X18A	**Snowflake**	**72.34**	**348**	*e*P		**P**	**19 14 51.6**	**+0.2**
	12nm,1.4s							
Y12C	**Blythe**	**72.48**	**344**	*e*P		**P**	**19 14 52.5**	**+0.6**
	6.5nm,0.8s							
X16A	**Lo Mia Camp, P**	**72.50**	**347**	*e*P		**P**	**19 14 52.0**	**-0.3**
	4.1nm,1.0s							
W13A	**Hualapai Mount**	**73.64**	**345**	*e*P		**P**	**19 14 59.0**	**0.0**
	4.7nm,1.0s							
T25A	**Trinidad**	**74.19**	**353**	*e*P		**P**	**19 15 01.9**	**-0.3**
	20nm,1.4s							
GSC	**Goldstone, Bar**	**74.49**	**343**	*e*P		**P**	**19 15 04.2

CM01					*e*PKPab	**PKPab**	**19 23 52.5**	**-0.1**
SONA1	**Songino Array**	**160.26**	**310**		*e*PKPab	**PKPab**	**19 24 05.0**	**-0.3**
LZH	**Lanzhou**	**163.95**	**273**		*e*PKP	**PKPdf**	**19 23 27.0**	**-1.9**
LZH					pPKP	sPKPdf	19 23 35.0	+1.5
LZH					sPKP		19 23 38.9	
MK32	**Makanchi Array**	**170.16**	**7**		*e*PKPab	**PKPab**	**19 24 50.5**	**+1.9**
MKAR	**Makanchi Array**	**170.16**	**7**		PKPab	**PKPab**	**19 24 50.5**	**+1.9**
	0.6nm,1.0s,baz=2.9,slow=2.9,SNR=2.8							
WMQ	**Urumqi**	**172.62**	**338**		*e*PKP	**PKPdf**	**19 23 35.0**	**+0.7**

VAO ***19*** *19:20:38.2±0.6,23.˙43S×69.˙22W,h32km,mb4.5*
ISCJB ***19*** *19:20:41.5±0.2,23.˙65S±0.˙02×69.˙25W±0.˙04,h99km±4km, mb4.1/9,Error ellipse: s-maj=6.0km s-min=3.9km az=8.2*
GUC ***19*** *19:20:42.7±0.7,23.˙56S×69.˙27W,h103km±7km,ML4.4*
SJA ***19*** *19:20:42.1±0.8,23.˙66S×69.˙24W,h74km±8km,ML3.4, MW3.3*
IDC ***19*** *19:20:42.9±0.7,23.˙59S×69.˙19W,h93km±4km,mb3.8/7, mb1 3.9/10,mb1mx3.7/35,mbtmp4.0/10,Error ellipse: s-maj=20.0km s-min=12.6km az=92.0*
NEIC ***19*** *19:20:43.0±0.0,23.˙48S×69.˙36W,h102km,mb4.4/6, ML4.3(GUC),After GUC.*

ISC 19 19:20:42.4±0.5,23.˙62S±0.˙03×69.˙23W±0.˙04,h92km±4km, n103,σ1§32/127,mb4.3/9,2C-7D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**0.96**	**341**		*e*P	**Pn**	**19 21 02.5**	**+0.5**
PB06					*e*S	**Sn**	**19 21 16.8**	**0.0**
PB06	**IPOC Station P**	**0.96**	**341**	⇓	*i*P	**Pn**	**19 21 02.6**	**+0.6**
PB06					*e*S	**Sn**	**19 21 16.9**	**+0.2**
PB06				IAML			19 21 18.0	
	comp=E,22μm,0.2s							
LVC	**Limon Verde**	**1.05**	**16**	P		**Pn**	**19 21 03.5**	**+0.3**
	comp=E,756nm,0.3s,baz=176,slow=9.3,SNR=8909							
LVC				S		**Sn**	**19 21 18.7**	**0.0**
	comp=E,2μm,0.3s,baz=288,slow=20,SNR=110							
LVC	**Limon Verde**	**1.05**	**16**	*e*Pn		**Pn**	**19 21 03.2**	**0.0**
LVC				*e*Sn		**Sn**	**19 21 18.5**	**-0.2**
LVC	**Limon Verde**	**1.05**	**16**	*e*P		**Pn**	**19 21 03.8**	**+0.6**
LVC				*e*S		**Sn**	**19 21 18.9**	**+0.2**
PB05	**IPOC Station P**	**1.18**	**310**	*e*P		**Pn**	**19 21 05.0**	**+0.5**
PB05				*e*S		**Sn**	**19 21 21.2**	**+0.2**
PB05	**IPOC Station P**	**1.18**	**310**	⇓	*i*P	**Pn**	**19 21 04.9**	**+0.5**
PB05				*i*S		**Sn**	**19 21 20.6**	**-0.4**
PB05				IAML			19 21 23.3	
	comp=E,9μm,0.3s							
PB10	**IPOC Station P**	**1.22**	**275**	*e*Pn		**Pn**	**19 21 05.1**	**+0.3**
PB10				*e*Sn		**Sn**	**19 21 22.4**	**+0.6**
PB10	**IPOC Station P**	**1.22**	**275**	*e*P		**Pn**	**19 21 05.8**	**+1.0**
PB10				*e*S		**Sn**	**19 21 21.7**	**-0.1**
PB10	**IPOC Station P**	**1.22**	**275**	⇑ *e*P		**Pn**	**19 21 05.5**	**+0.6**
PB10				*e*S		**Sn**	**19 21 22.3**	**+0.5**
PB10				IAML			19 21 24.1	
	comp=E,3μm,0.4s							
PB04	**IPOC Station P**	**1.54**	**326**	*e*Pn		**Pn**	**19 21 08.3**	**-0.6**
PB04				*e*Sn		**Sn**	**19 21 27.6**	**-1.4**
PB04	**IPOC Station P**	**1.54**	**326**	*e*P		**Pn**	**19 21 09.1**	**+0.2**
PB04				*e*S		**Sn**	**19 21 29.8**	**+0.8**
PB04	**IPOC Station P**	**1.54**	**326**	*i*P		**Pn**	**19 21 08.7**	**-0.2**
PB04				*i*S		**Sn**	**19 21 28.2**	**-0.8**
PB04				IAML			19 21 31.4	
	comp=N,7μm,0.5s							
GO02	**Mina Guanaco**	**1.57**	**192**	*e*Pn		**Pn**	**19 21 10.5**	**+1.0**
GO02				*e*Sn		**Sn**	**19 21 31.8**	**+1.8**
GO02	**Mina Guanaco**	**1.57**	**192**	⇓	*i*P	**Pn**	**19 21 11.3**	**+1.8**
GO02				*e*S		**Sn**	**19 21 32.9**	**+3.0**
GO02				IAML			19 21 34.7	
	comp=E,5μm,0.2s							
PB03	**IPOC Station P**	**1.64**	**343**	*e*P		**Pn**	**19 21 10.7**	**+0.5**
PB03	**IPOC Station P**	**1.64**	**343**	⇓	*i*P	**Pn**	**19 21 10.1**	**-0.1**
PB03				*i*S		**Sn**	**19 21 30.8**	**-0.5**
PB03				IAML			19 21 32.9	
	comp=E,6μm,0.2s							
PB09	**IPOC Station P**	**1.81**	**360**	⇓	*i*P	**Pn**	**19 21 13.5**	**+1.0**
PB09				*i*S		**Sn**	**19 21 36.5**	**+1.2**
PB09				IAML			19 21 41.6	
	comp=E,3μm,0.3s							
PB07	**IPOC Station P**	**1.98**	**342**	*e*P		**Pn**	**19 21 14.7**	**0.0**
PB07				*e*S		**Sn**	**19 21 40.8**	**+1.6**
PB07	**IPOC Station P**	**1.98**	**342**	⇓	*i*P	**Pn**	**19 21 14.6**	**0.0**
PB07				*e*S		**Sn**	**19 21 38.8**	**-0.4**
PB07				IAML			19 21 40.1	
	comp=E,5μm,0.4s							
PB01	**IPOC Station P**	**2.58**	**355**	*e*Pn		**Pn**	**19 21 21.3**	**-1.2**
PB01				*e*Sn		**Sn**	**19 21 47.9**	**-5.2**
PB01	**IPOC Station P**	**2.58**	**355**	⇓	*i*P	**Pn**	**19 21 22.3**	**-0.2**
PB01				*i*S		**Sn**	**19 21 52.5**	**-0.6**
PB01				IAML			19 21 56.0	
	comp=E,2μm,0.3s							
YJA	**Yavi**	**3.71**	**68**	*e*P		**Pn**	**19 21 40.7**	**+2.7**
YJA				IAML			19 21 42.8	
	comp=Z,29nm,0.9s							
AZAP	**Zapla**	**3.85**	**100**	*e*P		**Pn**	**19 21 42.8**	**+3.0**
AZAP				IAML			19 21 43.6	
	comp=Z,132nm,0.5s							
PB11	**IPOC Station P**	**3.86**	**354**	*e*Pn		**Pn**	**19 21 38.2**	**-1.5**
PB11	**IPOC Station P**	**3.86**	**354**	⇓ *e*P		**Pn**	**19 21 42.0**	**+2.3**
GO03	**Copiap**	**4.06**	**193**	*e*Pn		**Pn**	**19 21 42.3**	**-0.1**
GO03	**Copiap**	**4.06**	**193**	*e*P		**Pn**	**19 21 42.9**	**+0.5**
MNMC	**Minye Minye**	**4.48**	**356**	*e*Pn		**Pn**	**19 21 47.2**	**-1.1**
ALOL	**LOMAS DE OLMED**	**4.81**	**93**	*e*P		**Pn**	**19 21 53.9**	**+1.4**
LCO	**Las Campanas**	**5.53**	**194**	*e*Pn		**Pn**	**19 22 01.2**	**-1.3**
LCO				*e*Sn		**Sn**	**19 23 02.9**	**-2.0**
LCO	**Las Campanas**	**5.53**	**194**	*e*P		**Pn**	**19 22 01.7**	**-1.3**
ACLC	**CERRO LA CRUZ**	**6.13**	**161**	*e*P		**Pn**	**19 22 11.7**	**+1.1**
AROD	**Rodeo**	**6.53**	**182**	*e*P		**Pn**	**19 22 17.0**	**+0.9**
GO04	**Tololo Observa**	**6.68**	**192**	*e*Pn		**Pn**	**19 22 16.1**	**-2.0**
GO04				*e*Sn		**Sn**	**19 23 31.8**	**-1.0**
ACCO	**Cerro Coronel**	**6.94**	**179**	*e*P		**Pn**	**19 22 22.4**	**+0.6**
AMOG	**MOGNA**	**7.32**	**175**	*e*P		**Pn**	**19 22 26.4**	**-0.3**
LPAZ	**La Paz**	**7.37**	**8**	P		**Pn**	**19 22 28.6**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=147,slow=2.5,SNR=12							
LPAZ	**La Paz**	**7.37**	**8**	*e*Pn		**Pn**	**19 22 27.2**	**-0.7**
ROC1	**El Roble**	**9.45**	**189**	*e*Pn		**Pn**	**19 22 53.3**	**-2.7**
ROC1				*e*Sn		**Sn**	**19 24 36.7**	**-3.8**
PEL	**Peldehue**	**9.58**	**187**	*e*Pn		**Pn**	**19 22 54.0**	**-3.4**
SIV	**San Ignacio**	**10.79**	**47**	P		**Pn**	**19 23 10.4**	**-3.6**
	comp=Z,3.9nm,0.3s,baz=254,slow=11,SNR=60							
SIV				S		Sn	19 25 01.9	-11
	comp=Z,1.2nm,0.3s,baz=151,slow=19,SNR=4.8							
CPUP	**Villa Florida**	**11.12**	**106**	P		**Pn**	**19 23 19.9**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=273,slow=14,SNR=3.2							
CPUP	**Villa Florida**	**11.12**	**106**	*e*Pn		**Pn**	**19 23 17.0**	**-1.5**
CPUP	**Villa Florida**	**11.12**	**106**	*e*P		**Pn**	**19 23 15.2**	**-3.3**
SALV	**Santo Antonio**	**14.87**	**61**	*e*P		**Pn**	**19 24 06.3**	**-1.5**
TRCB	**Terra Rica**	**15.28**	**90**	*e*P		**Pn**	**19 24 12.0**	**-1.2**
CPSB	**Cacapava Do Su**	**15.60**	**119**	*e*P		**Pn**	**19 24 17.6**	**+0.5**
PTGB	**Pitanga**	**15.70**	**97**	*e*P		**Pn**	**19 24 17.1**	**-1.4**
ITAB	**Concordia**	**15.86**	**107**	*e*P		**Pn**	**19 24 19.9**	**-0.4**
C2SB	**Chapadao do Su**	**16.02**	**76**	*e*P		**Pn**	**19 24 22.2**	**-0.3**
GO06	**Curarrehue**	**16.03**	**186**	*e*Pn		**Pn**	**19 24 21.5**	**-1.0**
	comp=Z,14nm,0.8s							
PLCA	**Paso Flores**	**17.10**	**183**	P		**P**	**19 24 37.5**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=28,slow=13,SNR=19							
PLCA	**Paso Flores**	**17.10**	**183**	*e*Pn		**P**	**19 24 35.9**	**-0.1**
	comp=Z,5.5nm,0.7s							
PLCA	**Paso Flores**	**17.10**	**183**	*e*P		**P**	**19 24 37.6**	**+1.7**
CNLB	**Canela**	**17.39**	**113**	*e*P		**P**	**19 24 38.5**	**-0.8**
ITRB	**Iturama**	**17.96**	**81**	*e*P		**P**	**19 24 45.5**	**-0.1**
FRTB	**Fartura**	**18.04**	**93**	*e*P		**P**	**19 24 46.7**	**+0.2**
TIJ01	**Guaruva-PR**	**18.49**	**99**	*e*P		**Pn**	**19 24 52.6**	**0.0**
TER01	**Tubaro-SC**	**18.70**	**109**	*e*P		**P**	**19 24 54.1**	**+0.5**
BB19B	**Bebedouro**	**19.31**	**86**	*e*P		**P**	**19 25 00.6**	**+0.2**
GO07	**Milladeo Hill,**	**19.79**	**190**	*e*P		**P**	**19 25 06.4**	**+1.2**
	comp=Z,79nm,0.8s							
RCLB	**Rio Claro- Sao**	**20.00**	**91**	*e*P		**P**	**19 25 09.1**	**+1.2**
IPMB	**Ipameri, GO**	**20.42**	**78**	*e*P		**P**	**19 25 12.3**	**-0.1**
BDFB	**Brasilia**	**21.48**	**72**	P		**P**	**19 25 23.0**	**-0.8**
	comp=Z,11nm,0.4s,baz=243,slow=11,SNR=23							
BDFB	**Brasilia**	**21.48**	**72**	*e*P		**P**	**19 25 22.6**	**-1.2**
	comp=Z,16nm,0.5s							
PMNB	**Patos De Minas**	**21.85**	**81**	*e*P		**P**	**19 25 27.2**	**-0.5**
BSCB	**Bom Sucesso**	**22.77**	**88**	*e*P		**P**	**19 25 36.8**	**-0.5**
VAS01	**Vassouras-RJ**	**23.77**	**92**	*e*P		**P**	**19 25 48.0**	**+1.3**
PTGA	**Pitinga**	**24.46**	**23**	P		**P**	**19 25 52.8**	**-0.1**
	comp=Z,3.2nm,0.3s,baz=196,slow=16,SNR=14							
PTGA	**Pitinga**	**24.46**	**23**	*e*P		**P**	**19 25 51.9**	**-1.0**
	comp=Z,13nm,1.3s							
PTGA	**Pitinga**	**24.46**	**23**	*e*P		**P**	**19 25 52.6**	**-0.3**
MCI6	**Montes Claros**	**24.70**	**79**	*e*P		**P**	**19 25 55.6**	**+0.4**
MCI8	**Montes Claros**	**24.72**	**78**	*e*P		**P**	**19 25 54.4**	**-0.9**
MCI9	**Montes Claros**	**24.73**	**79**	*e*P		**P**	**19 25 55.9**	**+0.5**
ALF01	**Guarapari-ES**	**26.55**	**89**	*e*P		**P**	**19 26 13.4**	**+1.6**
SJMB	**Sao Joao De Ma**	**26.58**	**85**	*e*P		**P**	**19 26 13.9**	**+1.8**
BSFB	**Barra de Sao F**	**26.86**	**85**	*e*P		**P**	**19 26 15.6**	**+1.0**
RIB01	**Linhares ES**	**27.15**	**86**	*e*P		**P**	**19 26 18.2**	**+1.0**
VNA3	**Neumayer Olymp**	**58.17**	**161**	P		**P**	**19 30 27.7**	**+1.3**
VNA1	**Neumayer--Stat**	**58.40**	**160**	P		**P**	**19 30 28.4**	**+0.5**
VNA2	**Neumayer--Watz**	**58.76**	**160**	P		**P**	**19 30 31.8**	**+1.4**
	baz=291,slow=8.1							
SNAA	**Sanae**	**60.38**	**161**	P		**P**	**19 30 42.9**	**+1.2**
SNAA	**Sanae**	**60.38**	**161**	*e*P		**P**	**19 30 41.8**	**+0.2**
	comp=Z,4.6nm,0.7s							
LTX	**Lajitas**	**62.20**	**326**	*e*P		**P**	**19 30 55.5**	**+1.0**
TXAR	**Lajitas Array**	**62.20**	**326**	P		**P**	**19 30 55.5**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=148,slow=5.3,SNR=2.8							
QSPA	**South Pole Qui**	**66.58**	**180**	*e*P		**P**	**19 31 22.2**	**-0.4**
	comp=Z,6.1nm,0.6s							
ANMO	**Albuquerque**	**68.11**	**328**	P		**P**	**19 31 32.1**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=102,slow=6.9,SNR=3.6							
DBIC	**Dimbokro**	**69.63**	**73**	*e*P		**P**	**19 31 44.5**	**+2.1**
ULM	**Lac du Bonnet**	**77.24**	**343**	P		**P**	**19 32 26.2**	**0.0**
	comp=Z,1.3nm,0.4s,baz=174,slow=10,SNR=3.6							
ULM				pP		**pP**	**19 32 50.9**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=196,slow=8.2,SNR=2.7							
TORD	**Torodi Ar. Bea**	**78.34**	**70**	P		**P**	**19 32 33.5**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=256,slow=5.1,SNR=17							
TORD				pP		**pP**	**19 32 58.5**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=276,slow=6.5,SNR=6.7							
TORD				sP		**sP**	**19 33 08.2**	**+0.1**
	comp=Z,2.8nm,0.6s,baz=259,slow=4.9,SNR=5.6							
YKA	**Yellowknife Ar**	**93.08**	**341**	P		**P**	**19 33 45.8**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=139,slow=4.3,SNR=11							
YKA				pP		**pP**	**19 34 11.1**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=138,slow=4.3,SNR=13							
H11S2	**WAKE ISLAND Hyl**	**27.82**	**276**	T		T	22 00 01.2	
	baz=104,slow=74,SNR=18							
H11S1	**WAKE ISLAND Hyl**	**27.83**	**276**	T		T	21 59 54.5	
	baz=104,slow=74,SNR=14							
H11S3	**WAKE ISLAND Hyl**	**27.84**	**276**	T		T	22 00 01.8	
	baz=104,slow=74,SNR=11							
ASAR	**Alice Springs**	**127.91**	**207**	PKP		**PKiKP**	**19 39 38.4**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=128,slow=1.6,SNR=7.8							
H11N3	**WAKE ISLAND Hyl**	**27.96**	**277**	T		T	22 00 06.6	
	baz=104,slow=74,SNR=7.3							
H11N2	**WAKE ISLAND Hyl**	**27.98**	**277**	T		T	22 00 09.4	
	baz=104,slow=74,SNR=7.5							
H11N1	**WAKE ISLAND Hyl**	**27.98**	**277**	T		T	22 00 11.7	
	baz=104,slow=74,SNR=3.5							
WRA	**Warramunga Arr**	**130.98**	**210**	PKP		**PKiKP**	**19 39 44.9**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=154,slow=1.6,SNR=8.3							
ZALV	**Zalesovo Beam**	**143.98**	**26**	PKP		**PKPdf**	**19 40 06.2**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=254,slow=5.5,SNR=4.2							
ZALV				pPKP		**pPKPdf**	**19 40 31.2**	**-1.9**
	comp=Z,1.2nm,0.7s,baz=258,slow=2.6,SNR=3.5							
KSH	**Kashi**	**146.62**	**53**	PKP		**PKPdf**	**19 40 12.5**	**+0.5**
MKAR	**Makanchi Array**	**147.50**	**38**	PKPbc		**PKPdf**	**19 40 14.1**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=346,slow=2.5,SNR=8.0							
MKAR				pPKPbc		**pPKPdf**	**19 40 39.0**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=281,slow=1.9,SNR=6.3							

ATH ***19*** *19:26:40.9,39.˙69N×25.˙60E,h30km,ML3.5/7,Error ellipse: s-maj=1.0km s-min=0.6km az=64.0*
DDA ***19*** *19:26:40.8,39.˙64N×25.˙68E,h21km±1km,ML4.2*
NEIC ***19*** *19:26:40.7±0.0,39.˙66N×25.˙56E,h4km,ML3.5(THE), ML4.0(ISK),ML4.2(DDA),After ISK.*
ISK ***19*** *19:26:40.1,39.˙65N×25.˙56E,h5km,ML3.9/33*
THE ***19*** *19:26:41.6,39.˙72N×25.˙63E,h6km±1km,ML3.5/4,Error ellipse: s-maj=1.4km s-min=0.6km az=59.0*
ISCJB ***19*** *19:26:41.1±0.4,39.˙70N±0.˙01×25.˙56E±0.˙02,h8km±3km, Error ellipse: s-maj=2.2km s-min=2.0km az=28.0*

ISC 19 19:26:41.4±0.9,39.˙69N±0.˙02×25.˙60E±0.˙01,h12km±8km, n176,σ1§09/210,12C-18D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.38**	**304**		P	**Pg**	**19 26 49.4**	**+0.3**
LIA					S	**Sg**	**19 26 55.0**	**+0.8**
LIA				AML	AML		19 27 00.4	
	comp=N,26521μm,0.7s							
LIA				AML	AML		19 27 03.5	
	comp=E,29086μm,0.5s							
LIA	**Limnos Island**	**0.38**	**304**	P		**Pg**	**19 26 49.3**	**+0.3**
LIA				S		**Sg**	**19 26 55.1**	**+1.0**
BOZC	**Bozcaada**	**0.39**	**66**	PG		**Pb**	**19 26 49.7**	**-0.4**
BOZC				SG		**Sb**	**19 26 55.2**	**-0.9**
BOZC	**Bozcaada**	**0.39**	**66**	IAML_P				
	comp=Z,59μm,0.1s							
BOZC				*i*P		**Pg**	**19 26 48.8**	**-0.3**
GPNR	**Gulpinar-Canak**	**0.47**	**119**	PG		**Pg**	**19 26 50.4**	**-0.3**
EFSA	**Agios Efstrati**	**0.49**	**253**	P		**Pb**	**19 26 52.2**	**+0.3**
EFSA				S		**Sb**	**19 26 59.6**	**+0.5**
EFSA				AML	AML		19 27 06.8	
	comp=E,17032μm,0.5s							
EFSA				AML	AML		19 27 13.3	
	comp=N,13492μm,0.7s							
SIGR	**SIGRI**	**0.51**	**157**	PG		**Pg**	**19 26 50.7**	**-0.7**
SIGR				SG		**Sb**	**19 26 58.8**	**-0.9**
SIGR	**SIGRI**	**0.51**	**157**	P		**Pb**	**19 26 51.1**	**-1.2**
SIGR				S		**Sb**	**19 26 59.3**	**-0.4**
SIGR				AML	AML		19 27 04.5	
	comp=E,8729μm,0.6s							
SIGR				AML	AML		19 27 04.6	
	comp=N,13894μm,0.8s							
SIGR	**SIGRI**	**0.51**	**157**	P		**Pb**	**19 26 51.3**	**-1.0**
GADA	**Gvkgeada**	**0.56**	**25**	PG		**Pb**	**19 26 52.9**	**-0.1**
GADA	**Gvkgeada**	**0.56**	**25**	*e*Pg		**Pb**	**19 26 53.0**	**-0.1**
GADA	**Gvkgeada**	**0.56**	**25**	P		**Pg**	**19 26 51.7**	**-0.5**
GADA				S		**Sg**	**19 26 58.1**	**-1.5**
EZN	**Ezine**	**0.58**	**76**	PG		**Pg**	**19 26 52.5**	**-0.2**
EZN	**Ezine**	**0.58**	**76**	*e*Pg		**Pb**	**19 26 53.2**	**-0.2**
EZN	**Ezine**	**0.58**	**76**	P		**Pg**	**19 26 51.9**	**-0.8**
EZN				S		**Sg**	**19 27 00.1**	**-0.3**
PRK	**Paraskevi**	**0.68**	**130**	P		**Pb**	**19 26 55.5**	**+0.2**
PRK				S		**Sb**	**19 27 04.9**	**+0.3**
PRK				AML	AML		19 27 10.7	
	comp=E,13006μm,0.6s							
PRK				AML	AML		19 27 11.8	
	comp=N,10311μm,0.5s							
PRK	**Paraskevi**	**0.68**	**130**	P		**Pb**	**19 26 55.4**	**+0.2**
PRK				S		**Sb**	**19 27 04.9**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**0.74**	**85**	IAML_P				
	comp=Z,53μm,0.1s							
BAYC				⇓ *i*P		**Pb**	**19 26 55.6**	**-0.5**
BAYC				*i*S		**Sg**	**19 27 05.2**	**-0.1**
SMTH	**Samothraki Isl**	**0.79**	**356**	P		**Pg**	**19 26 56.3**	**-0.4**
SMTH				S		**Sg**	**19 27 07.4**	**+0.5**
SMTH				AML	AML		19 27 16.1	
	comp=N,3534μm,0.3s							
SMTH				AML	AML		19 27 16.5	
	comp=E,3310μm,0.4s							
SMTH	**Samothraki Isl**	**0.79**	**356**	P		**Pg**	**19 26 56.2**	**-0.4**
AYVA	**Ayvalik**	**0.93**	**114**	IAML_P				
	comp=Z,3μm,0.1s							
AYVA				⇓ *i*P		**Pb**	**19 26 59.5**	**+0.1**
AYVA				*i*S		**Sb**	**19 27 12.3**	**+0.7**
GELI	**Tayfur-Gelibol**	**0.98**	**43**	PG		**Pn**	**19 27 01.1**	**+0.2**
LPK	**Lapseki**	**1.13**	**52**	PN		**Pn**	**19 27 03.6**	**+0.6**
ENEZ	**Enez**	**1.13**	**22**	PN		**Pn**	**19 27 03.7**	**+0.7**
THAS	**Thassos island**	**1.14**	**324**	P		**Pg**	**19 27 02.8**	**-0.5**
THAS				S		**Sg**	**19 27 17.9**	**-0.2**
THAS				AML	AML		19 27 18.9	
	comp=E,3729μm,1.0s							
THAS				AML	AML		19 27 19.7	
	comp=N,4940μm,0.5s							
THAS	**Thassos island**	**1.14**	**324**	P		**Pg**	**19 27 02.8**	**-0.5**
PSRA	**Psara**	**1.14**	**181**	P		**Pn**	**19 27 03.6**	**+0.5**
PSRA				S		**Sn**	**19 27 18.4**	**-0.3**
SKY	**Skiros Island**	**1.14**	**225**	P		**Pb**	**19 27 02.7**	**-0.4**
SKY	**Skiros Island**	**1.14**	**225**	P		**Pn**	**19 27 03.3**	**+0.1**
DKL	**Dikili**	**1.19**	**121**	PN		**Pn**	**19 27 03.9**	**+0.2**
ERIK	**Erikli-Kesan**	**1.21**	**35**	PN		**Pn**	**19 27 05.3**	**+1.2**
ALN	**Alexandroupoli**	**1.26**	**16**	PN		**Pg**	**19 27 05.6**	**0.0**
ALN	**Alexandroupoli**	**1.26**	**16**	*e*Pg		**Pn**	**19 27 04.2**	**-0.6**
ALN				*e*Sn		**Sg**	**19 27 19.4**	**-2.5**
ALN	**Alexandroupoli**	**1.26**	**16**	P		**Pn**	**19 27 04.2**	**-0.6**
ALN				S		**Sg**	**19 27 21.2**	**-0.8**
ALN	**Alexandroupoli**	**1.26**	**16**	P		**Pn**	**19 27 04.1**	**-0.6**
FOCM	**Foa**	**1.31**	**137**	PN		**Pg**	**19 27 06.4**	**-0.2**
KRBN	**Karaburun**	**1.32**	**145**	PN		**Pg**	**19 27 06.6**	**-0.1**
CHOS	**Chios island**	**1.34**	**164**	PN		**Pg**	**19 27 06.4**	**-0.8**
CHOS				SN		**Sn**	**19 27 25.8**	**+2.0**
CHOS	**Chios island**	**1.34**	**164**	P		**Pn**	**19 27 05.6**	**-0.4**
CHOS	**Chios island**	**1.34**	**164**	P		**Pn**	**19 27 05.6**	**-0.4**
CHOS				S		**Sn**	**19 27 26.2**	**+2.4**
OUR	**Ouranopolis**	**1.40**	**298**	PN		**Pb**	**19 27 07.5**	**+0.1**
OUR	**Ouranopolis**	**1.40**	**298**	P		**Pn**	**19 27 06.7**	**0.0**
OUR				S		**Sg**	**19 27 27.1**	**+0.7**
AOS	**Alonnisos**	**1.42**	**249**	PN		**Pb**	**19 27 07.6**	**-0.2**
AOS	**Alonnisos**	**1.42**	**249**	P		**Pn**	**19 27 06.9**	**-0.1**
AOS	**Alonnisos**	**1.42**	**249**	P		**Pn**	**19 27 07.0**	**-0.1**
AOS				S		**Sg**	**19 27 28.3**	**+1.1**
ALNA	**Alonissos**	**1.44**	**249**	P		**Pb**	**19 27 08.1**	**-0.1**
RDO	**Rodhopi**	**1.46**	**358**	PN		**Pb**	**19 27 08.8**	**+0.4**
RDO	**Rodhopi**	**1.46**	**358**	P		**Pn**	**19 27 07.4**	**-0.2**
RDO	**Rodhopi**	**1.46**	**358**	P		**Pn**	**19 27 08.3**	**-0.2**
KRBG	**Karabiga-Canak**	**1.49**	**61**	PN		**Pg**	**19 27 09.6**	**-0.3**
PAIG	**Paliouri**	**1.50**	**280**	P		**Pn**	**19 27 07.7**	**-0.3**
PAIG	**Paliouri**	**1.50**	**280**	P		**Pn**	**19 27 07.5**	**-0.5**
URLA	**Izmir**	**1.54**	**149**	PN		**Pg**	**19 27 09.8**	**-1.0**
URLA	**Izmir**	**1.54**	**149**	⇑ *i*P		**Pn**	**19 27 08.6**	**0.0**
URLA				*i*S		**Sb**	**19 27 28.9**	**-0.2**
KAVA	**Kavala**	**1.55**	**328**	P		**Pn**	**19 27 08.5**	**-0.3**
KAVA				S		**Sn**	**19 27 27.7**	**-1.1**
KAVA				AML	AML		19 27 28.3	
	comp=E,1657μm,0.3s							
KAVA				AML	AML		19 27 28.3	
	comp=N,1736μm,0.3s							
KAVA	**Kavala**	**1.55**	**328**	P		**Pn**	**19 27 08.5**	**-0.3**
KAVA				S		**Sn**	**19 27 28.9**	**+0.1**
KVLA	**Kavala**	**1.56**	**324**	P		**Pn**	**19 27 08.4**	**-0.4**
KVLA				S		**Sn**	**19 27 27.9**	**-1.0**
BALY	**Balya**	**1.56**	**87**	⇓ *i*P		**Pn**	**19 27 09.3**	**+0.3**
BALY				*i*S		**Sb**	**19 27 30.1**	**+0.1**
SART	**Tekirdag**	**1.57**	**50**	*i*P		**Pb**	**19 27 10.2**	**-0.3**
SART				*i*S		**Sg**	**19 27 32.6**	**+0.5**
KNL	**Balıkesir**	**1.59**	**68**	⇓ *i*P		**Pn**	**19 27 10.1**	**+0.7**
KNL				*i*S		**Sg**	**19 27 32.9**	**+0.2**
GONE	**Gonen-Balikesi**	**1.65**	**77**	PN		**Pb**	**19 27 11.3**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.67**	**100**	⇓ *i*P		**Pb**

*ISCJB **19** 20:00:25.2±0.4,0.°19N±0.°05×122.°25E±0.°06, h250km, mb3.9/11, Error ellipse: s-maj=8.8km s-min=6.4km az=8.2*
*DJA **19** 20:00:27.7±0.4,0.°S±4.°×12.°2E±.°, h261km±4km, M4.1/14, mb4.0/4, mB4.6/1, MLv4.1/14, Mw(mB)3.8/1*
*IDC **19** 20:00:27.2±1.3,0.05S×122.°21E, h280km±12km, mb3.5/11, mb1 3.7/14, mb1mx3.5/32, mbtmp4.3/14, Error ellipse: s-maj=21.5km s-min=8.4km az=71.0*

ISC 19 20:00:24.8±0.5,0.°01S±0.°06×122.°16E±0.°06, h250km, n33, σ3°17/45, mb3.8/15, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.54**	**336**	P	**Pn**	**20 01 02.1**	**+4.3**
MRSI				S	**S**	**20 01 29.7**	**+5.9**
APSI	**Ampana**	**1.03**	**210**	P	**Pn**	**20 01 04.1**	**+4.1**
LUWI	**Luwuk**	**1.19**	**149**	P	**Pn**	**20 01 05.4**	**+4.4**
LUWI				S	**S**	**20 01 34.0**	**+4.6**
KMSI	**Cibinong**	**1.91**	**72**	P	**Pn**	**20 01 11.2**	**+4.7**
KMSI				S	**S**	**20 01 44.8**	**+5.5**
MPSI	**Mapaga**	**2.29**	**279**	P	**Pn**	**20 01 13.8**	**+3.8**
PCI	**Palu**	**2.49**	**249**	P	**Pn**	**20 01 15.7**	**+3.8**
TTSI	**Tana Toraja**	**3.81**	**218**	P	**Pn**	**20 01 29.1**	**+2.7**
TTSI				S	**S**	**20 02 18.9**	**+3.5**
KDI	**Kendari**	**3.94**	**173**	P	**Pn**	**20 01 31.0**	**+3.0**
SANI	**Sanana**	**4.33**	**118**	P	**Pn**	**20 01 34.6**	**+2.1**
SPSI	**Sidrap Palu**	**4.59**	**211**	P	**Pn**	**20 01 39.1**	**+3.4**
BNSI	**Bone**	**4.82**	**205**	P	**Pn**	**20 01 41.2**	**+2.8**
SMKI	**Samarinda**	**4.97**	**265**	P	**Pn**	**20 01 44.2**	**+3.9**
KBKI	**Kotabaru**	**6.82**	**241**	P	**Pn**	**20 02 06.4**	**+3.1**
DAV	**Davao City (W)**	**7.82**	**26**	P	**Pn**	**20 02 16.9**	**+1.0**
	85nm,0.3s,baz=279,slow=13,SNR=3.9						
BATI	**Baumata**	**10.23**	**172**	P	**Pn**	**20 02 48.8**	**+2.4**
	16nm,0.3s,baz=8.5,slow=3.6,SNR=16						
FITZ	**Fitzroy Crossi**	**18.29**	**169**	P	**P**	**20 04 19.9**	**-0.7**
	0.6nm,0.3s,baz=13,slow=5.3,SNR=16						
WRA	**Warramunga Arr**	**23.12**	**150**	P	**P**	**20 05 08.0**	**-1.1**
	14nm,0.7s,baz=330,slow=11,SNR=141						
WRA				PcP	**PcP**	**20 08 49.0**	**-1.1**
	0.3nm,0.5s,baz=321,slow=2.1,SNR=2.9						
WRA				ScP	**ScP**	**20 11 59.7**	**-4.5**
	1.3nm,0.6s,baz=323,slow=2.7,SNR=9.9						
ASAR	**Alice Springs**	**26.13**	**155**	P	**P**	**20 05 35.7**	**-0.6**
	6.2nm,0.6s,baz=344,slow=14,SNR=170						
ASAR				PcP	**PcP**	**20 08 55.8**	**-1.0**
	1.3nm,0.3s,baz=347,slow=2.1,SNR=16						
ASAR				ScP	**ScP**	**20 12 07.5**	**-5.2**
	1.5nm,0.5s,baz=339,slow=2.6,SNR=19						
PMG	**Port Moresby**	**26.58**	**111**	P	**P**	**20 05 40.4**	**+0.1**
	6.2nm,0.6s,baz=315,slow=5.7,SNR=3.8						
CMAR	**Chiang Mai Arr**	**29.28**	**310**	P	**P**	**20 06 05.3**	**+1.0**
	0.4nm,0.6s,baz=140,slow=7.1,SNR=6.0						
CMAR				ScP	**ScP**	**20 12 18.0**	**-4.4**
	0.5nm,0.6s,baz=142,slow=2.2,SNR=5.1						
STKA	**Stephens Creek**	**36.64**	**152**	P	**P**	**20 07 07.0**	**-0.7**
	11nm,0.5s,baz=328,slow=9.2,SNR=37						
STKA				ScP	**ScP**	**20 12 43.4**	**-4.4**
	1.8nm,0.6s,baz=301,slow=6.1,SNR=6.1						
KSRS	**Korea Array**	**37.66**	**8**	P	**P**	**20 07 15.8**	**-0.3**
	0.9nm,0.8s,baz=183,slow=9.2,SNR=4.7						
MJAR	**Matsushiro Arr**	**39.30**	**21**	P	**P**	**20 07 29.4**	**-0.4**
	1.4nm,0.6s,baz=198,slow=9.2,SNR=8.4						
RAMN	**Ramite**	**43.45**	**311**	*e*P	**P**	**20 08 05.0**	**+1.2**
	5.1nm,0.5s						
JIRN	**Jiri**	**44.13**	**312**	*e*P	**P**	**20 08 10.5**	**+1.1**
	4.7nm,0.4s						
GUN	**Gumba**	**44.50**	**312**	*e*P	**P**	**20 08 13.3**	**+1.0**
	3.4nm,0.4s						
PKIN	**Phulchoki**	**44.68**	**311**	*e*P	**P**	**20 08 15.4**	**+1.7**
USRK	**Ussuriysk Ar.**	**44.88**	**10**	P	**P**	**20 08 14.5**	**-0.1**
	1.8nm,0.4s,baz=191,slow=6.4,SNR=16						
DANN	**Dangsing**	**46.32**	**311**	*e*P	**P**	**20 08 27.1**	**+0.6**
	7.1nm,0.4s						
SONM	**Songino Array**	**49.59**	**346**	P	**P**	**20 08 51.1**	**+0.1**
	1.0nm,0.6s,baz=167,slow=8.5,SNR=11						
MKAR	**Makanchi Array**	**58.19**	**329**	P	**P**	**20 09 53.2**	**+0.4**
	0.7nm,0.5s,baz=122,slow=9.0,SNR=17						
MKAR				PcP	**PcP**	**20 10 39.8**	**-1.6**
	0.4nm,0.5s,baz=120,slow=5.7,SNR=3.8						
MKAR				ScP	**ScP**	**20 14 11.7**	**-5.8**
	0.4nm,0.7s,baz=123,slow=4.5,SNR=4.8						
ZALV	**Zalesovo Beam**	**61.98**	**336**	P	**P**	**20 10 17.2**	**-1.1**
	0.6nm,0.6s,baz=104,slow=4.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**119.60**	**285**	PKP	**PKPdf**	**20 18 43.3**	**-2.6**
	0.4nm,0.8s,baz=128,slow=2.4,SNR=2.7						

*IDC **19** 20:03:52.5±1.5,39.°24S×73.°27W, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.7/27, mbtmp3.7/6, ML4.1/2, MS3.0/4, Ms1 2.9/4, ms1mx2.8/21, Error ellipse: s-maj=38.7km s-min=17.3km az=50.0*
*ISCJB **19** 20:03:53.4±1.8, 39.°06S±0.°03×73.°26W±0.°06, h7km±12km, mb3.6/4, MS2.9/1, Error ellipse: s-maj=8.2km s-min=5.1km az=170.2*
*GUC **19** 20:03:56.8±0.6, 39.°06S×73.°12W, h12km±2km, ML4.1*
*NEIC **19** 20:03:56.0±0.0, 39.°06S×73.°12W, h12km, mb4.0/4, ML4.1(GUC), After GUC.*
NEIC Felt [V] at Tolten; [IV] at Cholchol, Nueva Imperial, Puerto Saavedra and Teodoro Schmidt; [III] at Carahue and Mariquina; [II] at Valdivia.
*SJA **19** 20:03:57.0±0.9, 38.°98S×72.°94W, h11km, ML3.6, MW4.1*

ISC 19 20:03:53.6±1.8, 39.°03S±0.°03×73.°15W±0.°07, h2km±12km, n37, σ1°31/40, mb3.7/4, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TMU	**Temuco**	**0.52**	**55**	*e*P	**Pn**	**20 04 07.2**	**-0.8**
TMU				*i* S	**Sb**	**20 04 14.6**	**+1.2**
TMU				IAML		20 04 16.6	
	comp=E,12μm,0.4s						
GO06	**Curarrehue**	**1.41**	**114**	*e*Pn	**Pg**	**20 04 20.8**	**+0.1**
GO06				*e*Sn	**Sg**	**20 04 39.2**	**+0.2**
GO06	**Curarrehue**	**1.41**	**114**	*e*P	**Pg**	**20 04 20.8**	**+0.1**
GO06				*e*S	**Sg**	**20 04 39.6**	**+0.6**
GO06	**Curarrehue**	**1.41**	**114**	*e*P	**Pb**	**20 04 20.4**	**-0.3**
GO06				*i* S	**Sg**	**20 04 38.6**	**-0.4**
CANA	**Caviahue**	**2.00**	**56**	*e*P	**Pg**	**20 04 31.3**	**-0.5**
CANA				IAML		20 05 10.8	
	comp=Z,347nm,0.5s						
CCSP	**San Pedro de C**	**2.18**	**1**	*e*P	**Pb**	**20 04 33.5**	**-0.2**
CCSP				*i* S	**Sb**	**20 05 01.1**	**-0.2**
CCHI	**Chillan**	**2.57**	**20**	*e*P	**Pb**	**20 04 39.1**	**-1.2**
CCHI	**Chillan**	**2.57**	**20**	*e*P	**Pb**	**20 04 38.8**	**-1.5**
CCHI				*i* S	**Sb**	**20 05 10.4**	**-1.9**
CCHI				IAML		20 05 38.2	
	comp=N,1μm,0.7s						
PLCA	**Paso Flores**	**2.62**	**131**	Pn	**Pn**	**20 04 36.9**	**-0.2**
	comp=N,12nm,0.3s,baz=327,slow=11,SNR=150						
PLCA				LR	LR	20 05 07.2	
	comp=N,70nm,18.1s,baz=326,slow=29						
PLCA				Lg	Lg	20 05 14.4	
	comp=N,16nm,0.3s,baz=304,slow=18.5,SNR=3.0						
PLCA	**Paso Flores**	**2.62**	**131**	*e*Pn	**Pn**	**20 04 38.7**	**+1.7**
PLCA	**Paso Flores**	**2.62**	**131**	*e*P	**Pb**	**20 04 40.6**	**-0.8**
PLCA				IAML		20 05 20.5	
	comp=Z,405nm,0.5s						
PLCA	**Paso Flores**	**2.62**	**131**	*e*P	**Pn**	**20 04 38.9**	**+1.9**
PLCA				*i* S	**Sb**	**20 05 11.3**	**-2.8**
GO07	**Milladeo Hill,**	**4.10**	**185**	*e*Pn	**Pn**	**20 04 59.3**	**+2.1**
GO07	**Milladeo Hill,**	**4.10**	**185**	*e*P	**Pb**	**20 05 03.9**	**-2.5**
GO07	**Milladeo Hill,**	**4.10**	**185**	*e*P	**Pn**	**20 04 59.1**	**+1.8**
GO07				*i* S	**Sn**	**20 05 46.4**	**+0.6**
GO05	**Huala**	**4.13**	**14**	*e*Pn	**Pn**	**20 04 58.7**	**+1.0**
PEL	**Peldehue**	**6.20**	**19**	*e*Pn	**Pn**	**20 05 26.6**	**+0.4**
ROC1	**El Roble**	**6.28**	**17**	*e*Pn	**Pn**	**20 05 27.9**	**+0.3**
ROC1				*e*Sn	**Sn**	**20 06 38.0**	**-1.9**
GO04	**Tololo Observa**	**9.04**	**13**	*e*Pn	**Pn**	**20 06 05.9**	**+0.5**
LCO	**Las Campanas**	**10.20**	**12**	*e*Pn	**Pn**	**20 06 21.0**	**-0.2**
GO09	**Cerro Castillo**	**12.25**	**178**	*e*Pn	**Pn**	**20 06 50.8**	**+1.7**
GO02	**Mina Guanaco**	**14.15**	**13**	*e*Pn	**Pn**	**20 07 15.9**	**+0.6**
EFI	**East Falkland**	**16.46**	**145**	*e*Pn	**Pn**	**20 07 46.1**	**+0.7**
	comp=Z,97nm,1.5s						
LVC	**Limon Verde**	**16.76**	**14**	Pn	**P**	**20 07 53.3**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=159,slow=17,SNR=2.4						
LVC				LR	LR	20 15 13.4	
	comp=Z,68nm,18.8s,baz=196,slow=40						
LVC	**Limon Verde**	**16.76**	**14**	*e*Pn	**Pn**	**20 07 50.5**	**+0.6**
	comp=Z,4.1nm,0.8s						
CPUP	**Villa Florida**	**18.34**	**51**	LR	LR	20 15 49.2	
	comp=Z,82nm,21.5s,baz=216,slow=39						
MNMC	**Minye Minye**	**20.07**	**10**	*e*P	Pn	20 08 30.0	-0.3
	comp=Z,11nm,0.9s						
LPAZ	**La Paz**	**23.08**	**12**	P	**P**	**20 09 04.1**	**+2.9**
	comp=Z,1.2nm,0.7s,baz=180,slow=2.0,SNR=3.5						
LPAZ	**La Paz**	**23.08**	**12**	*e*P	**P**	**20 09 01.8**	**+0.6**
	comp=Z,3.9nm,1.1s						
SIV	**San Ignacio**	**25.28**	**28**	P	**P**	**20 09 21.7**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=212,slow=13,SNR=7.7						
NNA	**Nana**	**27.13**	**352**	LR	LR	20 19 13.9	
	comp=Z,33nm,18.3s,baz=190,slow=34						
TXAR	**Lajitas Array**	**73.73**	**332**	P	**P**	**20 15 29.5**	**+0.4**
	comp=Z,0.4nm,0.9s,baz=152,slow=10,SNR=3.5						
TORD	**Torodi Ar. Bea**	**86.75**	**70**	P	**P**	**20 16 38.6**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=235,slow=4.9,SNR=3.4						
WRA	**Warramunga Arr**	**115.94**	**209**	PKP	**PKPdf**	**20 22 37.0**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=179,slow=4.7,SNR=4.6						
H11S2	**WAKE ISLAND Hyl**	**24.68**	**266**	T	T	22 39 41.7	
	baz=126,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hyl**	**24.69**	**266**	T	T	22 39 45.7	
	baz=126,slow=75,SNR=21						
H11S3	**WAKE ISLAND Hyl**	**24.69**	**266**	T	T	22 39 43.4	
	baz=126,slow=75,SNR=22						

DJA 19 20:11:48.1±0.8, 1.°N±9.°×12.°1E±.°, h10km, M3.6/7, MLv3.6/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**1.16**	**219**	P	Pb	20 12 09.8	-0.4
MPSI				S	Sn	20 12 27.5	+1.2
MRSI	**Marisa**	**1.51**	**120**	P	Pn	20 12 15.0	-0.3
MRSI				S	Sb	20 12 35.6	0.0
PCI	**Palu**	**2.27**	**200**	P	Pn	20 12 25.7	-0.1
APSI	**Ampana**	**2.37**	**155**	P	Pn	20 12 27.1	+0.1
LUWI	**Luwuk**	**3.12**	**137**	P	Pn	20 12 37.3	-0.1
KMSI	**Cibinong**	**3.42**	**101**	P	Pn	20 12 41.0	-0.4
SGKI	**Sangatta, Kali**	**3.50**	**240**	P	Pn	20 12 42.7	+0.1

WEL 19 20:25:39.7, 39.°S±1.°×17.°8E±.°, h26km±2km, ML3.6/34, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGZ	**Carnagh Statio**	**0.04**	**38**	P	Pb	20 25 44.5	+0.4
CNGZ				S	Sb	20 25 49.6	+2.4
TKGZ	**Te Karaka**	**0.27**	**287**	P	Pb	20 25 46.2	-0.1
TKGZ				S	Sb	20 25 51.9	+1.1
TWGZ	**Tauwhareparae**	**0.37**	**336**	P	Pb	20 25 48.1	+0.2
RIGZ	**Rimuhau**	**0.37**	**240**	P	Pb	20 25 48.6	+0.7
RIGZ				S	Sn	20 25 56.2	+0.3
PUZ	**Puketiti**	**0.45**	**8**	P	Pn	20 25 49.4	+0.3
PRGZ	**Paritu Road**	**0.47**	**209**	P	Pn	20 25 50.4	-0.3
PRGZ				S	Sn	20 25 59.9	+1.7
MWZ	**Matawai**	**0.54**	**290**	P	Pb	20 25 50.4	-0.3
MWZ				S	Sb	20 25 58.6	+0.6
RAGZ	**Rawiri**	**0.60**	**272**	P	Pb	20 25 51.7	+0.1
RAGZ				S	Sn	20 26 01.2	-0.2
PKGZ	**Pakihiroa**	**0.63**	**353**	P	Pb	20 25 52.4	+0.2
PKGZ				S	Sn	20 26 02.6	+0.3
KNZ	**Kokohu**	**0.64**	**218**	P	Pb	20 25 52.3	+0.1
MHGZ	**Mahia Peninsul**	**0.67**	**198**	P	Pn	20 25 53.3	-0.1
RUGZ	**Raukumara Rang**	**0.68**	**324**	P	Pb	20 25 52.5	-0.5
RUGZ				S	Sb	20 26 02.3	+0.3
SNGZ	**Shannon Statio**	**0.70**	**248**	P	Pb	20 25 53.5	+0.1
WMGZ	**Waiomatatini S**	**0.72**	**15**	P	Pn	20 25 54.1	-0.1
WMGZ				S	Sn	20 26 06.0	+1.6
HAZ	**Te Kaha**	**0.82**	**338**	P	Pb	20 25 54.7	-0.6
URZ	**Urewera**	**0.87**	**287**	P	Pb	20 25 55.8	-0.5
WHHZ	**Waihua**	**0.92**	**232**	P	Pn	20 25 56.6	-0.4
RAHZ	**Arahi**	**0.94**	**245**	P	Pn	20 25 56.8	-0.4
RTZ	**Ruatahuna**	**0.94**	**264**	P	Pn	20 25 56.8	-0.5
MXZ	**Matakaoa Point**	**0.96**	**6**	P	Pb	20 25 57.6	0.0
MTHZ	**Maungataniwha**	**1.10**	**252**	P	Pn	20 25 58.9	-0.5
MUGZ	**Murupara**	**1.10**	**272**	P	Pn	20 25 59.5	0.0
WHRZ	**Whale Island**	**1.15**	**305**	P	Pn	20 26 00.4	+0.3
ARHZ	**Aropaoanui**	**1.18**	**231**	P	Pn	20 26 00.4	-0.1
EDRZ	**Edgecumbe**	**1.20**	**290**	P	Pn	20 26 00.9	0.0
NMHZ	**Naumai**	**1.22**	**241**	P	Pn	20 26 00.7	-0.4
MARZ	**Manawahe**	**1.29**	**294**	P	Pn	20 26 01.9	-0.2
RRRZ	**Republican Roa**	**1.31**	**277**	P	Pn	20 26 02.9	+0.5
TARZ	**Mount Tarawera**	**1.34**	**282**	P	Pn	20 26 03.1	+0.3
PRRZ	**Plateau Road**	**1.40**	**270**	P	Pn	20 26 03.8	+0.3
MRHZ	**Matea Rd**	**1.41**	**256**	P	Pn	20 26 03.5	-0.2
CKHZ	**Cape Kidnapper**	**1.42**	**216**	P	Pn	20 26 02.9	-0.9
ALRZ	**Allen Road**	**1.44**	**268**	P	Pn	20 26 04.3	+0.3
OPRZ	**Ohinepanea**	**1.44**	**297**	P	Pn	20 26 03.3	-0.8
HLRZ	**Highlands Stat**	**1.46**	**280**	P	Pn	20 26 04.7	+0.4
BKZ	**Black Stump Fm**	**1.46**	**243**	P	Pn	20 26 04.4	-0.1
OMRZ	**Omania**	**1.48**	**286**	P	Pn	20 26 04.7	+0.1
OMRZ				P	Pn	20 26 04.7	+0.1
MCHZ	**McNeill Hill**	**1.48**	**231**	P	Pn	20 26 04.2	-0.4
HRRZ	**Handcock Road**	**1.49**	**274**	P	Pn	20 26 05.1	+0.3
LIRZ	**Lichensteins R**	**1.50**	**289**	P	Pn	20 26 04.7	-0.2
HSRZ	**Hossack Road**	**1.53**	**277**	P	Pn	20 26 05.8	+0.5
WPRZ	**Whakapapataran**	**1.58**	**269**	P	Pn	20 26 06.9	+0.9
UTU	**Utuhina**	**1.59**	**282**	P	Pn	20 26 06.6	+0.3
KAHZ	**Kahuranaki**	**1.63**	**218**	P	Pn	20 26 05.6	-1.1
GRRZ	**Galatos Road**	**1.63**	**275**	P	Pn	20 26 07.2	+0.5
KWHZ	**Kaweka Forest**	**1.64**	**236**	P	Pn	20 26 06.6	-0.3
HATZ	**Hinemaiaia**	**1.67**	**256**	P	Pn	20 26 08.3	+1.0
TGAZ	**Tauranga**	**1.70**	**297**	P	Pn	20 26 07.5	-0.2
PXZ	**Pawanui**	**1.82**	**214**	P	Pn	20 26 08.7	-0.6
BHHZ	**Black Hill Sta**	**1.91**	**239**	P	Pn	20 26 10.1	-0.5
TLZ	**Tolley Road**	**2.08**	**274**	P	Pn	20 26 12.8	-0.1
MOVZ	**Moawhango**	**2.09**	**244**	P	Pn	20 26 12.6	-0.4
TUVZ	**Tukino**	**2.10**	**248**	P	Pn	20 26 14.3	+1.0
NGZ	**Ngauruhoe**	**2.11**	**251**	P	Pn	20 26 13.6	+0.1
PRHZ	**Porangahau**	**2.12**	**214**	P	Pn	20 26 12.1	-1.3
TSZ	**Takapari Road**	**2.31**	**227**	P	Pn	20 26 14.0	-2.0
ANWZ	**Angora Road**	**2.34**	**214**	P	Pn	20 26 15.3	-1.2
DVHZ	**Dannevirke**	**2.36**	**221**	P	Pn	20 26 14.7	-2.1
HIZ	**Hauiti**	**2.60**	**269**	P	Pn	20 26 20.1	+0.1
BFZ	**Birch Farm**	**2.62**	**214**	P	Pn	20 26 17.7	-2.7
PRWZ	**Pori Road**	**2.65**	**219**	P	Pn	20 26 18.8	-2.0
TIWZ	**Tintock**	**2.87**	**217**	P	Pn	20 26 22.6	-1.2
MRZ	**Mangatainoka R**	**2.93**	**222**	P	Pn	20 26 22.0	-2.7
TMWZ	**Te Maipa**	**3.13**	**213**	P	Pn	20 26 24.7	-2.6
GRZ	**Great Barrier**	**3.13**	**315**	P	Pn	20 26 26.5	-0.8
HOWZ	**Holdsworth Sta**	**3.14**	**220**	P	Pn	20 26 25.6	-1.9
OGWZ	**Otaki Gorge**	**3.26**	**224**	P	Pn	20 26 26.3	-2.9
KHEZ	**Kahui Hut**	**3.34**	**255**	P	Pn	20 26 31.5	+1.2
PKE	**Pukeiti**	**3.34**	**257**	P	Pn	20 26 31.0	+0.8
MTW	**Mount Morrison**	**3.34**	**217**	P	Pn	20 26 27.3	-3.0
CAW	**Cannon Point**	**3.52**	**222**	P	Pn	20 26 29.1	-3.7
PAWZ	**Paruwai Farm**	**3.56**	**216**	P	Pn	20 26 30.2	-3.0
WCZ	**Waipu Caves**	**4.00**	**309**	P	Pn	20 26 39.0	-0.2
CTZ	**Chatham Island**	**6.53**	**145**	P	Pn	20 27 13.0	-1.0

IDC 19 20:28:26.8±6.6, 1.°83S×141.°51E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=252.3km s-min=28.5km az=89.0, Ninigo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.31**	**201**	P	P	20 32 52.8	-0.9
	0.3nm,0.3s,baz=23,slow=12,SNR=20						
ASAR	**Alice Springs**	**22.92**	**198**	P	P	20 33 33.3	+0.7
	1.6nm,0.7s,baz=29,slow=9.7,SNR=28						
MKAR	**Makanchi Array**	**70.83**	**321**	P	P	20 39 45.5	0.0
	0.2nm,0.6s,baz=121,slow=5.6,SNR=2.7						

*NORS **19** 20:46:48.9±0.0, 42.°53N×48.°43E, h9km, MPVA3.5*
*DRS **19** 20:46:48.2±0.0, 42.°52N×48.°34E, h8km*
*MOS **19** 20:46:48.9±0.0, 42.°53N×48.°43E, h9km, MPVA3.5*

ISC 19 20:46:49.4±3.3, 42.°6N±0.°1×48.°5E±0.°2, h15km±14km, n5, σ1°39/10, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRN	**Derbent**	**0.53**	**191**	*i* Pg	**Pb**	**20 47 00.4**	**+0.1**
DRN				*e*Sg	**Sb**	**20 47 08.9**	**+1.2**
GNBR	**Gunib**	**1.12**	**262**	*e*Pg	**Pn**	**20 47 11.3**	**+0.7**
GNBR				*e*Sg	**Sn**	**20 47 27.4**	**+1.6**
BTLR	**Botlikh**	**1.66**	**275**	*e*Pg	**Pb**	**20 47 19.7**	**0.0**
BTLR				*e*Sg	**Sg**	**20 47 42.8**	**-0.1**
DVE	**Vedeno**	**1.77**	**284**	*e*Pg	**Pg**	**20 47 23.0**	**-0.4**
DVE				*e*Sg	**Sg**	**20 47 47.5**	**+1.1**
LGD	**Lagodekhi**	**1.80**	**247**	P	**Pn**	**20 47 18.4**	**-1.5**
LGD				S	**Sn**	**20 47 40.6**	**-1.9**

TAP 19 21:06:01.4, 23.°18N×121.°02E, h6km, ML1.1, 1C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELDTW	**Lidau**	**0.01**	**9**	*i* P	Pg	21 06 03.0	+0.3
	baz=62						
ELDTW				*i* S	Sg	21 06 03.8	+0.2
	baz=62						
STYT	**Tauyuan**	**0.24**	**265**	*e*P	Pg	21 06 06.6	+0.4
	baz=266						
STYT				*e*S	Sg	21 06 09.8	+0.5
	baz=266						
TWF1	**Yuli**	**0.31**	**57**	*e*P	Pg	21 06 08.1	+0.6
	baz=57						
TWF1				*e*S	Sg	21 06 11.9	+0.4
	baz=57						
YUS	**Yu-Shan**	**0.31**	**349**	*e*P	Pg	21 06 08.1	+0.4
	baz=351						
YUS				*e*S	Sg	21 06 12.3	+0.4
	baz=351						
YULB	**Yu-li**	**0.33**	**51**	*e*P	Pg	21 06 08.2	+0.3
	baz=51						
YULB				*e*S	Sg	21 06 12.3	0.0
	baz=51						
TWG	**Pinlang**	**0.36**	**172**	*e*P	Pb	21 06 09.7	-0.6
	baz=163						
TWG				*e*S	Sg	21 06 14.4	+1.1
	baz=163						
TWG	**Pinlang**	**0.36**	**172**	P	Pb	21 06 09.6	-0.7
	baz=51						
TWG				*e*S	Sg	21 06 14.4	+1.1
	baz=51						
TWGBT	**Beinan**	**0.37**	**171**	*e*P	Pb	21 06 09.7	-0.7
	baz=163						
TWGBT				*e*S	Sg	21 06 14.4	+1.0
	baz=163						
TWGBT	**Beinan**	**0.37**	**171**	P	Pb	21 06 09.7	-0.7
	baz=51						
TWGBT				*e*S	Sg	21 06 14.1	+0.7
	baz=51						
TPUB	**Ta-pu**	**0.37**	**288**	P	Pb	21 06 09.8	-0.7
	baz=297						
TPUB				*e*S	Sb	21 06 15.2	-1.4
	baz=297						
WTP	**Ta-pu**	**0.38**	**280**	P	Pb	21 06 09.7	-0.9
	baz=276						
WTP				*e*S	Sb	21 06 15.3	-1.4
	baz=276						
SLGT	**Liugui**	**0.39**	**241**	*e*P	Pg	21 06 09.6	+0.6
	baz=242						
SLGT				*e*S	Sg	21 06 14.8	+0.7
	baz=242						
CHN4	**Tsaushan**	**0.42**	**293**	*e*P	Pb	21 06 10.8	-0.6
	baz=294						
CHN1	**Nanshi**	**0.45**	**270**	*e*P	Pb	21 06 11.6	-0.2
	baz=270						
HGSD	**Ruisui**	**0.48**	**51**	*e*P	Pb	21 06 12.1	-0.3
	baz=42						

TAP 19 21:06:04.0, 22.°65N×120.°85E, h7km±1km, ML1.1, 1C, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECL	**Taimali**	**0.11**	**118**	*i* P	Pg	21 06 07.0	+0.6
	baz=117						
ECL				*i* S	Sg	21 06 08.7	+0.7
	baz=117						
EAST	**Anshuo**	**0.26**	**180**	*i* P	Pg	21 06 09.6	+0.4
	baz=170						
EAST				S	Sg	21 06 14.0	+1.3
	baz=170						
TAW	**Tawu**	**0.29**	**172**	*e*P	Pb	21 06 10.7	-0.8
	baz=171						
TAW				*e*S	Sb	21 06 15.2	-1.4
	baz=171						

IDC 19 21:15:04.6±8.8, 7.°45S×129.°03E, h171km±94km, mb3.0/1, mb1 3.4/4, mb1mx3.0/25, mbtmp3.8/4, Error ellipse: s-maj=89.4km s-min=25.8km az=37.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.97**	**242**	P	Pn	21 16 32.1

AFDM				*e*Sn		**Sn**	**21 16 21.1**	**-0.5**
VES	**Vestal, Richgr** baz=20	**2.47**	**201**	Sb		**Sg**	**21 16 28.8**	**-1.4**
BEKR	**Beckworth**	**2.50**	**314**	*e*Pn		**Pn**	**21 15 52.6**	**+0.4**
BEKR				*e*Sn		**Sn**	**21 16 21.9**	**-1.1**
ISA	**Isabella, Lake**	**2.52**	**189**	*e*Pn		**Pn**	**21 15 53.6**	**+1.3**
ISA				*e*Sn		**Sn**	**21 16 21.8**	**-1.4**
ISA	**Isabella, Lake** baz=8.0	**2.52**	**189**	Pb		**Pb**	**21 15 57.2**	**+0.7**
SHPR	**Sheep Range**	**2.81**	**125**	*e*Pn		**Pn**	**21 15 56.8**	**+0.5**
SHPR				*e*Sn		**Sn**	**21 16 30.4**	**0.0**
GSC	**Goldstone, Bar**	**3.01**	**161**	*e*Pn		**Pn**	**21 15 59.2**	**+0.2**
ORV	**Oroville**	**3.06**	**298**	*e*Pn		**Pn**	**21 16 00.3**	**+0.6**
ORV				*e*Sn		**Sn**	**21 16 35.1**	**-1.4**
SAO	**San Andreas Ge**	**3.07**	**244**	*e*Pn		**Pn**	**21 15 59.7**	**-0.1**
SAO				*e*Pg		**Pg**	**21 16 09.6**	**-0.1**
SAO				*e*Sg		**Sg**	**21 16 48.6**	**-0.9**
ELK	**Elko**	**3.36**	**39**	*e*Pn		**Pn**	**21 16 04.2**	**+0.2**
ELK				*e*Sn		**Sn**	**21 16 43.9**	**-0.3**
HEC	**Hector,Ludlow** baz=338	**3.58**	**157**	P		**Pn**	**21 16 07.2**	**+0.3**
O03E	**Paynes Creek** baz=125	**3.64**	**307**	P		**Pn**	**21 16 08.8**	**+1.1**
CCUT	**Cedar City**	**3.73**	**98**	*e*Pn		**Pn**	**21 16 09.9**	**+0.9**
CCUT				*e*Sn		**Sn**	**21 16 53.1**	**-0.2**
WDC	**Whiskeytown Da**	**4.26**	**306**	*e*Pn		**Pn**	**21 16 15.9**	**-0.3**
WDC				*e*Sn		**Sn**	**21 17 05.2**	**-1.0**
KNB	**Kanab**	**4.27**	**104**	*e*Pn		**Pn**	**21 16 17.2**	**+0.7**
WVOR	**Wild Horse Val**	**4.30**	**354**	*e*Pn		**Pn**	**21 16 17.8**	**+1.0**
WVOR				*e*Pg		**Pg**	**21 16 31.9**	**-1.4**
W13A	**Hualapai Mount**	**4.51**	**131**	*e*Pn		**Pn**	**21 16 20.7**	**+0.9**
W13A				*e*Pg		**Pg**	**21 16 34.8**	**-2.5**
W13A				*e*Sn		**Sn**	**21 17 11.4**	**-1.2**
DUG	**Dugway, Tooele**	**4.52**	**62**	*e*Pn		**Pn**	**21 16 20.5**	**+0.6**
DUG				*e*Pg		**Pg**	**21 16 36.1**	**-1.4**
PKCU	**Pink Cliffs**	**4.57**	**97**	*e*Pn		**Pn**	**21 16 21.8**	**+1.1**
PKCU				*e*Sn		**Sn**	**21 17 13.3**	**-0.9**
MTPU	**Mount Pierson**	**4.59**	**90**	*e*Pn		**Pn**	**21 16 21.4**	**+0.2**
MSU	**Marysvale**	**4.60**	**84**	*e*Pn		**Pn**	**21 16 23.2**	**+2.2**
PFO	**Pinyon Flats O**	**4.71**	**164**	*e*Pn		**Pn**	**21 16 21.7**	**-0.8**
PFO				*e*Pg		**Pb**	**21 16 36.6**	**+2.8**
XPFO	**Pion Flat**	**4.71**	**164**	*e*Pn		**Pn**	**21 16 21.7**	**-0.8**
BGU	**Big Grassy Mou**	**4.74**	**53**	*e*Pn		**Pn**	**21 16 23.5**	**+0.7**
U15A	**North Rim**	**4.87**	**109**	*e*Pn		**Pn**	**21 16 26.6**	**+1.7**
NLU	**North Lily Min**	**4.95**	**67**	*e*Pn		**Pn**	**21 16 26.5**	**+0.6**
J08A	**Circle Bar Ran**	**5.21**	**356**	*e*Pn		**Pn**	**21 16 30.4**	**+1.1**
Y12C	**Blythe**	**5.23**	**146**	*e*Pn		**Pn**	**21 16 30.2**	**+0.7**
MPU	**Maple Canyon**	**5.29**	**68**	*e*Pn		**Pn**	**21 16 32.4**	**+1.8**
SPUT	**South Promonto**	**5.32**	**52**	*e*Pn		**Pn**	**21 16 31.4**	**+0.6**
SPUT				*e*Lg		Lg	21 18 00.6	
HVU	**Hansel Valley**	**5.41**	**46**	*e*Pn		**Pn**	**21 16 32.3**	**+0.2**
Q16A	**Castle Valley**	**5.41**	**80**	*e*Pn		**Pn**	**21 16 33.9**	**+1.6**
Q16A				*e*Pg		**Pg**	**21 16 51.6**	**-3.0**
TMUT	**Trail Mountain**	**5.44**	**76**	*e*Pn		**Pn**	**21 16 32.2**	**-0.5**
MFID	**Camas Ranch**	**5.51**	**17**	*e*Pn		**Pn**	**21 16 33.8**	**+0.4**
GLA	**Glamis**	**5.72**	**152**	*e*Pn		**Pn**	**21 16 34.9**	**-1.4**
P17A	**Butcher Ranch,**	**5.83**	**75**	*e*Pg		**Pb**	**21 16 57.2**	**+4.3**
HUMO	**Hull Mountain** 8.0nm,0.6s	**5.83**	**321**	*e*Pn		**Pn**	**21 16 37.4**	**-0.3**
Y14A	**Wickenburg**	**5.84**	**135**	*e*Pn		**Pn**	**21 16 37.9**	**-0.1**
TCUT	**Toone Canyon**	**5.89**	**58**	*e*Pn		**Pn**	**21 16 38.8**	**0.0**
WUAZ	**Wupatki**	**5.94**	**114**	*e*Pn		**Pn**	**21 16 40.2**	**+0.8**
HLID	**Hailey**	**6.05**	**26**	*e*Pn		**Pn**	**21 16 39.4**	**-1.5**
PINE	**Pine Mountain**	**6.05**	**339**	*e*Pn		**Pn**	**21 16 40.8**	**-0.2**
X16A	**Lo Mia Camp, P**	**6.48**	**123**	*e*Pn		**Pn**	**21 16 45.9**	**-1.0**
PV09	**Paradox Valley**	**6.99**	**84**	*e*Pn		**Pn**	**21 16 53.3**	**-0.6**
PV14	**Lion Creek, Pa**	**7.07**	**85**	*e*Pn		**Pn**	**21 16 53.7**	**-1.4**
PV23	**Carpenter Ridg**	**7.08**	**85**	*e*Pn		**Pn**	**21 16 55.4**	**+0.2**
PV21	**Cone Mtn., Par**	**7.11**	**84**	*e*Pn		**Pn**	**21 16 54.7**	**-0.8**
PV17	**East Wray Mesa**	**7.12**	**86**	*e*Pn		**Pn**	**21 16 55.2**	**-0.5**
MVCO	**Mesa Verde** 8.9nm,0.9s	**7.60**	**94**	*e*Pn		**Pn**	**21 17 02.0**	**-0.2**

IDC ***19*** *21:36:37.1±2.3, 1°.82N×98°.70E, h0km, mb4.2/3, mb1 4.2/4, mb1mx3.5/48, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=56.9km s-min=15.9km az=79.0*

ISCJB ***19*** *21:36:56.6±0.9, 2°.10N±0°.09×99°.46E±0°.07, h150km, Error ellipse: s-maj=13.2km s-min=8.0km az=30.8*

DJA ***19*** *21:36:59.7±0.5, 2°.N±3°×9°.E±°, h141km±6km, M3.3/12, MLv3.3/12*

ISC 19 21:36:55.3±1.0, **2°.28N**±0°.09×**99°.43E**±0°.08, **h150**km, **n14,** σ1§**48**/13, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**1.48**	**174**	P	**Pn**	**21 37 25.3**	**+0.7**
TSI	**Tuntungan**	**1.49**	**325**	P	Pn	21 37 31.3	+6.5
TSI				S	Sn	21 37 55.7	+8.4
KCSI	**Kotacane, Aceh**	**2.06**	**307**	P	Pn	21 37 36.7	+5.5
GSI	**Gunungsitoli**	**2.08**	**242**	P	**Pn**	**21 37 32.8**	**+1.4**
GSI				S	**Sn**	**21 37 58.8**	**-0.4**
BKNI	**Bangkinang**	**2.52**	**140**	P	**Pn**	**21 37 38.3**	**+1.6**
PPI	**Padang Panjang**	**2.88**	**160**	P	**Pn**	**21 37 41.3**	**+0.1**
SNSI	**Sinabang, Aceh**	**3.10**	**273**	P	Pn	21 37 47.3	+3.4
PDSI	**Padang**	**3.33**	**162**	P	**Pn**	**21 37 47.4**	**+0.5**
PDSI				S	**Sn**	**21 38 25.0**	**-2.0**
SISI	**Saibi**	**3.59**	**185**	P	**Pn**	**21 37 49.6**	**-0.7**
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=191,slow=14,SNR=4.2	**16.09**	**358**	Pn	**Pn**	**21 40 30.1**	**-3.1**
FITZ	**Fitzroy Crossi** 7.4nm,1.1s,baz=315,slow=7.1,SNR=4.1	**32.81**	**129**	P	**P**	**21 43 15.8**	**+1.1**
WRA	**Warramunga Arr** 3.4nm,0.4s,baz=302,slow=9.1,SNR=41	**40.76**	**124**	P	**P**	**21 44 22.7**	**+0.8**
ASAR	**Alice Springs** 0.3nm,0.3s,baz=299,slow=7.4,SNR=11	**42.31**	**130**	P	**P**	**21 44 35.0**	**+0.4**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=148,slow=8.4,SNR=2.9	**46.79**	**344**	P	**P**	**21 45 10.3**	**+0.6**

MEX 19 21:41:12.2±0.4, **15°.13N**×**93°.76W, h16**km±54km, **MD3.7, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.77**	**42**	*e*P	Pb	21 41 24.5	-2.8
PCIG				*e*S	Sg	21 41 34.2	-3.3
THIG		**1.46**	**98**	*i* P	Pn	21 41 34.2	-3.6
THIG				*i* S	Sn	21 41 50.9	-5.8
CCIG	**Comitan**	**1.94**	**53**	*i* P	Pn	21 41 40.6	-4.1
CCIG				*i* S	Sn	21 42 04.3	-4.5

MEX 19 21:46:23.6±0.3, **15°.89N**×**96°.29W, h37**km±4km, **MD4.1, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.21**	**125**	*i* P	Pn	21 46 29.3	-3.5
HUIG				*i* S	Sn	21 46 33.8	-7.9
OXBJ	**Oaxaca**	**1.25**	**340**	*e*P	Pn	21 46 43.0	-1.6
OXBJ				*e*S	Sn	21 46 57.8	-2.6
VHO	**Vista Hermosa**	**1.25**	**340**	*e*P	Pn	21 46 43.1	-1.7
VHO				*i* S	Sn	21 46 58.3	-2.2
CMIG	**Matias Romero**	**1.80**	**48**	*e*P	Pn	21 46 50.9	-1.2
CMIG				*e*S	Sn	21 47 11.9	-1.8
PNIG	**Pinotepa**	**1.84**	**286**	*e*P	Pn	21 46 51.4	-1.3
PNIG				*i* S	Sn	21 47 12.5	-2.2

IDC 19 21:48:44.5±13.0, **20°.75S**×**178°.85W, h475**km±120km, **mb3.1/4, mb1 3.4/4, mb1mx3.0/23, mbtmp3.9/4, Error ellipse: s-maj=193.5km s-min=51.4km az=143.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 1.3nm,0.8s,baz=95,slow=7.9,SNR=13	**43.69**	**257**	P	P	21 56 06.5	-0.1
WRA	**Warramunga Arr** 0.7nm,0.5s,baz=95,slow=7.8,SNR=23	**43.78**	**262**	P	P	21 56 07.0	-0.4
ILAR	**Eielson Array** 0.8nm,1.1s,baz=218,slow=5.3,SNR=3.8	**88.73**	**13**	P	P	22 00 46.7	+0.5
CMAR	**Chiang Mai Arr** 0.7nm,0.6s,baz=116,slow=2.1,SNR=4.2	**89.45**	**290**	P	P	22 00 52.2	+1.6
AKASG	**Malin Array Be** 0.4nm,0.3s,baz=44,slow=4.6,SNR=8.7	**142.84**	**330**	PKhKP	PKPpre	22 07 19.8	
MMAI	**Mount Meron Ar** 0.9nm,0.6s,baz=74,slow=6.2,SNR=3.4	**147.24**	**299**	PKPbc	PKPbc	22 07 33.6	-0.8
GERES	**GERESS Array B** 0.3nm,0.6s,baz=30,slow=2.7,SNR=2.6	**150.21**	**343**	PKPbc	PKPbc	22 07 40.0	-1.3

TIR ***19*** *21:49:15.2, 41°.01N×21°.18E, h1km, Md3.9/7*

PRU ***19*** *21:49:16.8±0.0, 40°.80N×21°.11E, h1km*

ATH ***19*** *21:49:16.7, 41°.00N×21°.12E, h20km±1km, ML3.8/6, Error ellipse: s-maj=2.3km s-min=1.1km az=139.0*

SKO ***19*** *21:49:16.1, 40°.96N×21°.07E, h15km, ML3.8*

PDG ***19*** *21:49:17.4±0.5, 40°.98N×21°.15E, h12km±1km, MD4.0/9, ML3.9/10, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*

THE ***19*** *21:49:17.4, 40°.99N×21°.10E, h2km±1km, ML3.8/8, Error ellipse: s-maj=1.5km s-min=0.5km az=327.0*

SOF ***19*** *21:49:17.8, 40°.94N×21°.11E, h15km, MD3.4*

ISCJB ***19*** *21:49:17.9±0.2, 41°.01N±0°.01×21°.06E±0°.02, h24km±2km, mb3.9/12, Error ellipse: s-maj=2.2km s-min=1.7km az=141.8*

LDG ***19*** *21:49:18.1±0.1, 40°.93N×21°.15E, h10km, Error ellipse: s-maj=2.6km s-min=1.9km az=41.0*

BEO ***19*** *21:49:18.8±0.6, 41°.04N×21°.07E, h11km±3km, ML3.5/12*

IDC ***19*** *21:49:20.2±1.4, 40°.94N×21°.13E, h38km±12km, mb3.7/14, mb1 3.8/24, mb1mx3.7/47, mbtmp3.8/24, ML3.6/9, MS3.0/2, Ms1 3.0/2, ms1mx2.4/46, Error ellipse: s-maj=12.2km s-min=10.6km az=168.0*

ISC 19 21:49:17.7±0.7, **40°.99N**±0°.01×**21°.11E**±0°.01, **h18**km±3km, **n306,** σ1§**90**/400, **mb4.0**/12, **40C-28D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIA	**Bitola**	**0.17**	**79**	P	**Pg**	**21 49 22.1**	**-0.1**
BIA				S	**Sg**	**21 49 25.0**	**-0.2**
BIA	**Bitola**	**0.17**	**79**	*i* Pg	**Pg**	**21 49 21.6**	**-0.6**
BIA				*i* Sg	**Sb**	**21 49 25.6**	**+1.1**
BIA	**Bitola**	**0.17**	**79**	*i* Pg	**Pg**	**21 49 21.6**	**-0.6**
BIA				*e*Sg	**Sb**	**21 49 25.7**	**+1.3**
OHR	**Ohrid**	**0.27**	**297**	*i* Pg	**Pg**	**21 49 22.4**	**-1.3**
OHR				*i* Sg	**Sg**	**21 49 27.3**	**-0.4**
OHR				*e*Lg	Lg	21 49 27.4	
	comp=N,31μm,0.6s						
OHR				*e*Lg	Lg	21 49 27.8	
	comp=E,24μm,0.4s						
OHR	**Ohrid**	**0.27**	**297**	*i* Pg	**Pg**	**21 49 22.6**	**-1.1**
OHR				*e*Sg	**Sg**	**21 49 27.4**	**-0.4**
KRUS	**Krusevo**	**0.39**	**15**	*i* Pg	**Pg**	**21 49 25.1**	**-0.8**
KRUS				*i* Sg	**Sb**	**21 49 31.9**	**0.0**
KRUS	**Krusevo**	**0.39**	**15**	*i* Pg	**Pg**	**21 49 25.1**	**-0.8**
KRUS				*e*Sg	**Sb**	**21 49 32.0**	**0.0**
KRUS				*e*Sg	**Sb**	**21 49 32.1**	**0.0**
NEST	**Nestorio**	**0.58**	**185**	P	**Pg**	**21 49 27.9**	**-1.2**
NEST				S	**Sg**	**21 49 37.1**	**+0.2**
NEST				AML	AML	21 49 38.8	
	comp=E,25252μm,0.3s						
NEST				AML	AML	21 49 39.1	
	comp=N,18738μm,0.4s						
NEST	**Nestorio**	**0.58**	**185**	P	**Pg**	**21 49 28.0**	**-1.2**
NEST				S	**Sg**	**21 49 36.7**	**-0.2**
PENT	**Pentalofos**	**0.79**	**178**	P	**Pb**	**21 49 32.1**	**-0.9**
PENT				S	**Sb**	**21 49 43.7**	**+0.3**
PENT	**Pentalofos**	**0.79**	**178**	P	**Pb**	**21 49 32.1**	**-0.9**
KZN	**Kozani**	**0.85**	**143**	P	**Pb**	**21 49 32.8**	**-1.1**
KZN				S	**Sg**	**21 49 45.4**	**-0.1**
KZN				AML	AML	21 49 47.9	
	comp=N,27895μm,0.3s						
KZN				AML	AML	21 49 51.7	
	comp=E,14126μm,0.6s						
KZN	**Kozani**	**0.85**	**143**	P	**Pb**	**21 49 33.0**	**-0.9**
KZN				S	**Sg**	**21 49 45.4**	**-0.1**
PHP	**Peshkopia**	**0.86**	**324**	P	**Pb**	**21 49 32.8**	**-1.3**
PHP	**Peshkopia**	**0.86**	**324**	*i* PG	**Pb**	**21 49 32.8**	**-1.3**
PHP				*i* SG	**Sn**	**21 49 46.8**	**-0.3**
GRG	**Griva**	**0.98**	**91**	P	**Pb**	**21 49 34.1**	**-2.0**
GRG				S	**Sb**	**21 49 49.1**	**+0.4**
GRG	**Griva**	**0.98**	**91**	P	**Pb**	**21 49 35.7**	**-0.4**
GRG				S	**Sb**	**21 49 49.1**	**+0.4**
GRG				AML	AML	21 49 53.9	
	comp=N,12338μm,0.9s						
GRG				AML	AML	21 49 54.8	
	comp=E,10458μm,0.6s						
GRG	**Griva**	**0.98**	**91**	P	**Pb**	**21 49 35.6**	**-0.5**
GRG				S	**Sn**	**21 49 50.3**	**+0.3**
GRG	**Griva**	**0.98**	**91**	*i* Sg	**Sn**	**21 49 51.3**	**+1.4**
GRG	**Griva**	**0.98**	**91**	*i* Pg	**Pb**	**21 49 35.6**	**-0.5**
GRG				*e*Sg	**Sn**	**21 49 51.4**	**+1.4**
TIR	**Tirane**	**1.01**	**291**	||*i* P	**Pb**	**21 49 36.0**	**-0.6**
TIR				S	**Sg**	**21 49 50.3**	**-0.1**
TIR	**Tirane**	**1.01**	**291**	P	**Pb**	**21 49 35.9**	**-0.6**
TIR				S	**Sn**	**21 49 50.7**	**+0.1**
TIR	**Tirane**	**1.01**	**291**	||*i* Pg	**Pb**	**21 49 35.9**	**-0.6**
TIR	**Tirane**	**1.01**	**291**	||*i* Pg	**Pb**	**21 49 36.0**	**-0.6**
TIR	**Tirane**	**1.01**	**291**	*i* PG	**Pb**	**21 49 36.2**	**-0.3**
TIR				*i* SG	**Sn**	**21 49 52.4**	**+1.8**
SKO	**Skopje**	**1.01**	**14**	*e*Pg	**Pb**	**21 49 36.7**	**0.0**
SKO				*e*Sg	**Sg**	**21 49 50.5**	**-0.2**
SKO	**Skopje**	**1.01**	**14**	P	**Pg**	**21 49 37.3**	**0.0**
SKO				S	**Sn**	**21 49 51.4**	**+0.6**
SKO	**Skopje**	**1.01**	**14**	||*i* Pg	**Pb**	**21 49 36.5**	**-0.2**
SKO				*i* Sg	**Sn**	**21 49 53.1**	**+2.3**
SKO	**Skopje**	**1.01**	**14**	*i* Pg	**Pb**	**21 49 36.5**	**-0.2**
SKO				*e*Sg	**Sn**	**21 49 53.4**	**+1.6**
KPRO	**Kipourio**	**1.05**	**169**	P	**Pb**	**21 49 36.6**	**-0.8**
KPRO				S	**Sn**	**21 49 53.1**	**+1.3**
STIP	**Stip**	**1.07**	**49**	||*i* Pg	**Pg**	**21 49 40.8**	**+2.4**
STIP				*i* Sg	**Sn**	**21 50 00.8**	**+8.5**
STIP	**Stip**	**1.07**	**49**	||*i* Pg	**Pg**	**21 49 40.9**	**+2.4**
STIP				*i* Sg	**Sn**	**21 49 59.2**	**+6.9**
TPE	**Tepelena**	**1.09**	**231**	P	**Pb**	**21 49 37.1**	**-0.8**
TPE	**Tepelena**	**1.09**	**231**	*i* PN	**Pb**	**21 49 36.9**	**-1.1**
TPE				*i* SN	**Sg**	**21 49 56.6**	**+3.7**
VAY	**Valandovo**	**1.15**	**73**	*e*Pg	**Pn**	**21 49 38.7**	**-0.2**
VAY				*e*Sg	**Sg**	**21 49 56.5**	**+1.5**
VAY	**Valandovo**	**1.15**	**73**	P	**Pn**	**21 49 38.9**	**0.0**
VAY	**Valandovo**	**1.15**	**73**	||*i* Pg	**Pn**	**21 49 38.9**	**0.0**
VAY				*i* Sg	**Sg**	**21 49 56.3**	**+1.3**
VAY				*e*Lg	Lg	21 49 58.3	
	comp=N,2μm,0.8s						
VAY				*e*Lg	Lg	21 50 03.1	
	comp=E,2μm,0.7s						
VAY	**Valandovo**	**1.15**	**73**	||*i* Pg	**Pn**	**21 49 38.9**	**0.0**
VAY				*e*Sg	**Sg**	**21 49 56.3**	**+1.3**
VLO	**Vlora**	**1.33**	**248**	P	**Pb**	**21 49 42.7**	**+0.6**
VLO	**Vlora**	**1.33**	**248**	*i* PN	**Pg**	**21 49 43.5**	**+0.1**
VLO				*i* SN	**Sg**	**21 50 04.6**	**+3.8**
JAN	**Janina**	**1.35**	**189**	P	**Pn**	**21 49 41.9**	**+0.3**
JAN				S	**Sg**	**21 50 02.1**	**+0.9**
JAN				AML	AML	21 50 07.1	
	comp=N,6978μm,0.4s						
JAN				AML	AML	21 50 09.9	
	comp=E,5763μm,0.5s						
JAN	**Janina**	**1.35**	**189**	P	**Pn**	**21 49 42.1**	**+0.5**
JAN				S	**Sg**	**21 50 02.1**	**+0.9**
KNT	**Kendrikon**	**1.36**	**82**	P	**Pn**	**21 49 41.4**	**-0.4**
KNT	**Kendrikon**	**1.36**	**82**	P	**Pb**	**21 49 42.7**	**0.0**
KNT	**Kendrikon**	**1.36**	**82**	P	**Pb**	**21 49 42.7**	**0.0**
KNT	**Kendrikon**	**1.36**	**82**	||*i* Pg	**Pb**	**21 49 42.7**	**0.0**
KNT				*i* Sg	**Sg**	**21 50 02.7**	**+0.9**
LIT	**Litokhoron**	**1.38**	**130**	P	**Pb**	**21 49 42.8**	**-0.1**
LIT				S	**Sg**	**21 50 01.7**	**-0.5**
LIT				AML	AML	21 50 07.9	
	comp=E,7362μm,0.6s						
LIT				AML	AML	21 50 10.6	
	comp=N,7744μm,0.7s						
LIT	**Litokhoron**	**1.38**	**130**	P	**Pb**	**21 49 42.8**	**-0.1**
LIT				S	**Sg**	**21 50 02.3**	**+0.1**
LIT	**Litokhoron**	**1.38**	**130**	*i* Pg	**Pn**	**21 49 42.5**	**+0.5**
PUK	**Puka**	**1.39**	**319**	*i* PN	**Pn**	**21 49 42.7**	**+0.4**
PUK				*i* SN	**Sg**	**21 50 04.9**	**+2.1**
SRN	**Sarande**	**1.40**	**218**	P	**Pb**	**21 49 43.4**	**+0.3**
SRN	**Sarande**	**1.40**	**218**	*i* Pn	**Pb**	**21 49 43.4**	**+0.3**
SRN				*i* SN	**Sg**	**21 50 05.0**	**+2.2**
THE	**Thessaloniki**	**1.45**	**104**	P	**Pn**	**21 49 43.4**	**+0.4**
THE				S	**Sg**	**21 50 04.3**	**-0.3**
THE				AML	AML	21 50 08.9	
	comp=N,2535μm,0.7s						
THE				AML	AML	21 50 11.3	
	comp=E,1125μm,0.4s						
THE	**Thessaloniki**	**1.45**	**104**	P	**Pn**	**21 49 43.3**	**+0.3**
THE	**Thessaloniki**	**1.45**	**104**	||*i* Pg	**Pn**	**21 49 43.4**	**+0.4**
THE	**Thessaloniki**	**1.45**	**104**	*i* PN	**Pn**	**21 49 42.7**	**-0.3**
THE				*i* SN	**Sg**	**21 50 04.3**	**-0.3**
HORT	**Hortiatis**	**1.56**	**104**	P	**Pn**	**21 49 44.8**	**+0.2**
HORT	**Hortiatis**	**1.56**	**104**	P	**Pn**	**21 49 45.0**	**+0.4**
HORT				S	**Sg**	**21 50 07.4**	**-0.7**
HORT	**Hortiatis**	**1.56**	**104**	P	**Pn**	**21 49 44.8**	**+0.2**
HORT				S	**Sb**	**21 50 06.7**	**+1.2**
IGT	**Igoumenitsa**	**1.57**	**202**	P	**Pb**	**21 49 46.3**	**0.0**
IGT				S	**Sb**	**21 50 07.2**	**+1.4**
IGT	**Igoumenitsa**	**1.57**	**202**	P	**Pb**	**21 49 46.2**	**0.0**
IGT				S	**Sg**	**21 50 08.2**	**-0.2**
THL	**Klokotos Trika**	**1.58**	**154**	P	**Pn**	**21 49 45.4**	**+0.6**
THL				S	**Sb**	**21 50 07.5**	**+1.5**
THL	**Klokotos Trika**	**1.58**	**154**	P	**Pn**	**21 49 45.6**	**+0.8**
KEK	**Kerkira**	**1.62**	**219**	P	**Pn**	**21 49 47.3**	**+0.2**
KEK	**Kerkira**	**1.62**	**219**	P	**Pb**	**21 49 47.0**	**-0.1**
LRSO	**Larissa Observ**	**1.64**	**143**	P	**Pn**	**21 49 46.9**	**-0.5**
LRSO	**Larissa Observ**	**1.64**	**143**	P	**Pb**	**21 49 46.9**	**-0.5**
ULC	**Ulcinj**	**1.71**	**305**	||*i* Pn	**Pn**	**21 49 48.5**	**0.0**
ULC				*e*Sn		**Sg**	**21 50 13.0**	**+0.3**
ULC	**Ulcinj**	**1.71**	**305**	*i* Pg		**Pb**	**21 49 48.5**	**0.0**
SOH	**Sokhos**	**1.71**	**95**	P		**Pn**	**21 49 48.0**	**-0.6**
SOH	**Sokhos**	**1.71**	**95**	P		**Pn**	**21 49 47.4**	**+0.8**
SOH	**Sokhos**	**1.71**	**95**	*i* Pg		**Pb**	**21 49 47.8**	**-0.7**
SOH				*i* Sg		**Sg**	**21 50 14.2**	**+1.4**
KKB	**Krupnik**	**1.72**	**59**	||*i* Pg	**Pb**	**21 49 48.3**	**-0.5**
KKB	**Krupnik**	**1.72**	**59**	||*i* Pg	**Pb**	**21 49 48.3**	**-0.5**
KKB	**Krupnik**	**1.72**	**59**	*i* P		**Pb**	**21 49 48.4**	**-0.5**
PVY	**Plav**	**1.82**	**332**	||*i* Pn	**Pb**	**21 49 50.1**	**-0.4**
PVY				*e*Sn		**Sg**	**21 50 15.6**	**-0.8**
DRME	**Dracevica, Mon**	**1.88**	**310**	*e*Pn		**Pg**	**21 49 53.8**	**+0.1**
DRME	**Dracevica, Mon**	**1.88**	**310**	*e*Pn		**Pb**	**21 49 51.3**	**-0.1**
PLG	**Polygyros**	**1.88**	**108**	P		**Pn**	**21 49 49.8**	**+0.9**
PLG	**Polygyros**	**1.88**	**108**	P		**Pn**	**21 49 49.5**	**+0.6**
SRS	**Serrai**	**1.88**	**85**	P		**Pn**	**21 49 49.6**	**+0.7**
SRS	**Serrai**	**1.88**	**85**	P		**Pn**	**21 49 49.5**	**+0.6**
SRS	**Serrai**	**1.88**	**85**	||*i* Pn	**Pn**	**21 49 49.7**	**+0.7**
BARS	**Barje**	**1.90**	**16**	*e*Pn		**Pb**	**21 49 50.9**	**-0.9**
BARS				*e*Sn		**Sn**	**21 50 13.7**	**+1.0**
BARS	**Barje**	**1.90**	**16**	*i* Pn		**Pb**	**21 49 51.2**	**-0.6**
BARS	**Barje**	**1.90**	**16**	*e*Pn		**Pb**	**21 49 51.2**	**-0.6**
PDG	**Podgorica**	**2.00**	**317**	*e*Pn		**Pn**	**21 49 52.1**	**+1.6**
PDG				*e*Sg		**Sb**	**21 50 20.0**	**+1.9**
PDG	**Podgorica**	**2.00**	**317**	||*i* P	**Pb**	**21 49 53.3**	**-0.2**
PDG	**Podgorica**	**2.00**	**317**	||*i* Pn	**Pb**	**21 49 53.6**	**+0.1**
TTG	**Podgorica**	**2.00**	**317**	||*i* Pn	**Pb**	**21 49 53.1**	**-0.4**
TTG				*e*Sn		**Sb**	**21 50 19.7**	**+1.6**
MMB	**Musomiste**	**2.06**	**72**	*i* P		**Pn**	**21 49 52.8**	**+1.4**
BEY	**Berane**	**2.09**	**335**	||*i* Pn	**Pb**	**21 49 54.2**	**-0.9**
IVA	**Berane**	**2.09**	**335**	||*i* Pn	**Pb**	**21 49 53.9**	**-1.2**
IVA				*e*Sn		**Sb**	**21 50 21.9**	**+1.2**
NVR	**Nevrokopi**	**2.11**	**79**	P		**Pn**	**21 49 53.1**	**+1.0**
NVR	**Nevrokopi**	**2.11**	**79**	P		**Pn**	**21 49 52.9**	**+0.8**
FYTO	**Fytoko, Volos**	**2.11**	**138**	P		**Pn**	**21 49 52.7**	**+0.6**
BUM	**Brajici-Budva**	**2.12**	**309**	||*i* Pn	**Pn**	**21 49 54.8**	**+0.7**
BUM				*e*Sn		**Sb**	**21 50 22.7**	**+1.2**
EVR	**Evrytania**	**2.14**	**165**	P		**Pn**	**21 49 53.9**	**+1.4**
EVR	**Evrytania**	**2.14**	**165**	P		**Pn**	**21 49 54.2**	**+1.6**
AGG	**Agios Georgios**	**2.18**	**154**	P		**Pn**	**21 49 53.4**	**+0.4**
AGG	**Agios Georgios**	**2.18**	**154**	P		**Pn**	**21 49 54

GZR	Gura Zlata	4.57	15	⇑	*i*	P	Pn	21 50 27.8 +1.9
CHOS	Chios island	4.62	123		*e*	P	Pn	21 50 28.2 +1.6
BZS	Buzias	4.64	4		*e*	Pn	Pn	21 50 27.1 +0.3
BZS					*e*	Sn	Sn	21 51 19.4 -0.8
BZS	Buzias	4.64	4	⇑	*i*	P	Pn	21 50 27.2 +0.4
BLY	Banja Luka	4.74	324		*e*	Pn	Pn	21 50 30.8 +2.6
BLY	Banja Luka	4.74	324	⇓	*i*	P	Pn	21 50 30.4 +2.3
BLY	Banja Luka	4.74	324		*e*	Pn	Pn	21 50 30.5 +2.3
KRBG	Karabiga-Canak	4.74	95		*e*	P	Pn	21 50 29.1 +0.9
SGRR	Singureni	4.83	46	⇓	*i*	P	Pn	21 50 31.5 +2.1
LOT	Lotru	4.86	23	⇑	*i*	P	Pn	21 50 31.4 +1.4
URLA	Izmir	4.98	120		*e*	P	Pn	21 50 32.9 +1.3
DEV	Deva	5.06	14	⇓	*i*	P	Pn	21 50 35.2 +2.6
ARR	Arges	5.08	29	⇓	*i*	P	Pn	21 50 34.8 +1.9
MTUR	Matau	5.13	33	⇑	*i*	P	Pn	21 50 35.9 +2.3
APE	Apeiranthos	5.21	137	⇑	*i*	P	Pn	21 50 37.1 +2.3
SULR		5.28	44	⇑	*i*	P	Pn	21 50 37.9 +2.3
VOIR		5.30	32	⇑	*i*	P	Pn	21 50 38.3 +2.4
CTYL	Yalikoy Yolu	5.43	83		*e*	P	Pn	21 50 39.9 +2.2
MORH	Mrgy, Hungar	5.52	342		*e*	Pn	Pn	21 50 39.8 +0.9
MORH	Mrgy, Hungar	5.52	342		*e*	Pn	Pn	21 50 39.1 +0.2
MORH						Sn	Sn	21 51 41.1 -0.9
CTKS	Kestanelik-??a	5.59	85		*e*	P	Pn	21 50 40.9 +1.0
MLR	Muntele Rosu	5.72	37		Pn		Pn	21 50 44.3 +2.6
	comp=E,2.8nm,0.3s,baz=275,slow=4.9,SNR=22							
MLR					Sn		Sn	21 51 46.8 -0.2
	comp=E,0.8nm,0.3s,baz=230,slow=11,SNR=3.3							
MLR					Lg		Lg	21 52 28.2
	baz=230,slow=22,SNR=3.0							
MLR	Muntele Rosu	5.72	37	⇓	*i*	P	Pn	21 50 44.5 +2.7
ISR	Istrita	5.73	42	⇑	*i*	P	Pn	21 50 43.6 +1.7
NVLJ	Novalja	5.82	310		*i*	Pn	Pn	21 50 44.6 +1.6
AMRR	Amara	5.84	50	⇓	*i*	P	Pn	21 50 44.4 +1.2
ICOR	Ion Corvin	5.85	55	⇓	*i*	P	Pn	21 50 44.6 +1.2
DOPR	Dopca	5.87	31	⇑	*i*	P	Pn	21 50 46.0 +2.3
DRGR		5.92	11		*e*	Pn	Pn	21 50 46.4 +2.0
DRGR		5.92	11	⇑	*i*	P	Pn	21 50 46.5 +2.0
AQU	L'Aquila	5.93	286		*e*	Pn	Pn	21 50 45.7 +1.1
OZUR		6.13	32	⇑	*i*	P	Pn	21 50 49.1 +1.7
OZLJ	Ozalj	6.19	320		*i*	Pn	Pn	21 50 50.1 +2.0
BOJS	Bojanci	6.22	318		*i*	Pn	Pn	21 50 50.0 +1.5
HARR	Harsova	6.23	51	⇓	*i*	P	Pn	21 50 51.2 +2.6
TLB	Topalu	6.24	53	⇓	*i*	P	Pn	21 50 51.1 +2.3
VAE	Valguarnera	6.27	238		Pn		Pn	21 50 50.8 +1.5
	baz=5.7,slow=10,SNR=1.6							
VAE					Sn		Sn	21 52 02.0 +1.5
	comp=E,1.0nm,0.3s,baz=45,slow=7.1,SNR=2.8							
PLOR	Plostina	6.31	38	⇑	*i*	P	Pn	21 50 52.8 +2.9
KULA	Kula-Manisa	6.32	111		*e*	P	Pn	21 50 52.3 +2.3
CRES	Cresnjev	6.35	321		*i*	Pn	Pn	21 50 52.1 +1.8
CRES	Cresnjev	6.35	321		*e*	Pn	Pn	21 50 51.3 +1.0
TIH	Tihany	6.35	340		*e*	Pn	Pn	21 50 51.1 +0.8
TIH						Sn	Sn	21 52 04.1 +1.8
VRI	Vrincioaia	6.36	38	⇑	*i*	P	Pn	21 50 53.5 +3.0
TIRR	Tirgusor	6.40	55	⇓	*i*	P	Pn	21 50 52.8 +1.8
IDI	Anoyia	6.42	151	⇑	*i*	P	Pn	21 50 54.7 +3.3
CFR	Carcaliu	6.63	49	⇓	*i*	P	Pn	21 50 56.6 +2.5
CEY	Cerknica	6.80	316		*e*	Pn	Pn	21 50 58.0 +1.5
BIZ	Bicaz	6.95	30	⇑	*i*	P	Pn	21 51 01.3 +2.7
LJU	Ljubljana	6.96	319		*e*	Pn	Pn	21 51 00.0 +1.3
PSZ	Piszkesteto	6.98	353	⇑	*i*	P	Pn	21 51 00.4 +1.3
GIRR	Girov	7.12	31	⇑	*i*	P	Pn	21 51 02.9 +2.0
SOKA	Soboth	7.18	324		*i*	Pn	Pn	21 51 03.6 +1.7
	comp=E,7.8nm,0.4s,SNR=18							
BURAR	Bucovina Array	7.25	23	⇓	*i*	P	Pn	21 51 05.6 +2.9
OBKA	Obir	7.28	321		*i*	Pn	Pn	21 51 05.0 +1.8
	comp=E,4.0nm,0.3s							
OBKA					*e*	Sn	Sn	21 52 28.9 +3.6
	comp=E,5.9nm,0.4s							
ARSA	Arzberg	7.44	329		*e*	Pn	Pn	21 51 08.0 +2.8
	comp=E,4.1nm,0.3s							
VYHS	Vyhne	7.68	349		*e*	PN	Pn	21 51 10.0 +1.5
VYHS					*e*	SN	Sn	21 52 31.3 -3.7
MODS	Modra-Piesok	7.87	341		*e*	PN	Pn	21 51 13.7 +2.5
MODS					*e*	SN	Sn	21 52 40.5 +0.7
CONA	Conrad Observa	7.89	333		*i*	Pn	Pn	21 51 14.4 +3.0
	comp=E,0.6nm,0.3s							
SMOL	Smolenice	7.96	342		*e*	PN	Pn	21 51 15.2 +2.7
LANS	Liptovska Anna	8.24	352		*e*	PN	Pn	21 51 19.4 +3.1
LANS					*e*	SN	Sn	21 52 53.9 +4.9
KBA	Koelnbreinsper	8.26	320		*e*	Pn	Pn	21 51 18.1 +1.3
	comp=E,3.7nm,0.3s							
MOA	Molln	8.42	327		*e*	Pn	Pn	21 51 21.8 +2.9
	comp=E,3.1nm,0.4s							
MOA					*e*	Sn	Sn	21 52 57.8 +4.4
	comp=E,4.2nm,0.5s							
ABTA	Abfaltersbach	8.46	316		*i*	Pn	Pn	21 51 20.6 +1.2
	comp=E,2.4nm,0.2s,SNR=8.9							
ABTA					*e*	Sn	Sn	21 52 56.1 +1.6
	comp=E,6.6nm,0.4s							
VRAC	Vranov	8.91	341		Pn		Pn	21 51 27.8 +2.4
	comp=E,0.2nm,0.3s,baz=138,slow=15,SNR=3.3							
VRAC					Sn		Sn	21 52 59.5 -5.7
	comp=E,0.2nm,0.3s,baz=270,slow=20,SNR=2.8							
WTTA	Wattenberg	9.26	316		*i*	Pn	Pn	21 51 32.6 +2.3
	comp=E,3.5nm,0.2s							
WTTA					*e*	Sn	Sn	21 53 13.9 -0.1
	comp=E,3.7nm,0.4s							
WATA	Walderalm	9.33	316		*i*	Pn	Pn	21 51 33.4 +2.0
	comp=E,6.6nm,0.3s,SNR=11							
WATA					*e*	Sn	Sn	21 53 16.5 +0.6
	comp=E,5.3nm,0.6s							
GERES	GERESS Array B	9.45	329		Pn		Pn	21 51 35.3 +2.4
	comp=E,0.5nm,0.3s,baz=152,slow=14,SNR=16							
SQTA	Sankt Quirin	9.46	314		*i*	Pn	Pn	21 51 35.2 +2.1
	comp=E,5.7nm,0.3s,SNR=8.8							
SQTA					*e*	Sn	Sn	21 53 19.0 +0.1
	comp=E,5.8nm,0.4s							
MOTA	Moosalm	9.59	315		*i*	Pn	Pn	21 51 37.7 +2.8
	comp=E,7.0nm,0.5s,SNR=15							
MOTA					Sn		Sn	21 53 23.5 +1.3
	comp=E,6.9nm,0.8s							
FETA	Feichten	9.60	312		*i*	Pn	Pn	21 51 37.0 +2.0
	comp=E,3.2nm,0.4s							
FETA					*e*	Sn	Sn	21 53 24.0 +1.5
	comp=E,4.8nm,0.6s							
BRTR	Keskin Array B	9.65	93		Pn		Pn	21 51 37.1 +1.4
	comp=E,0.2nm,0.3s,baz=266,slow=11,SNR=8.5							
KHC	Kasperske Hory	9.72	329		*e*	PN	Pn	21 51 39.1 +2.5
KHC					*ex*		x	21 51 56.0
KHC					*e*	SN	Sn	21 53 25.0 -0.3
RETA	Reutte	9.86	315		*i*	Pn	Pn	21 51 40.4 +1.9
	comp=E,0.5nm,0.2s							
RETA					*i*	Sn	Sn	21 53 29.6 +0.9
	comp=E,2.4nm,0.3s							
DAVOX	Davos/Dischmat	9.96	309		Pn		Pn	21 51 41.4 +1.5
	comp=E,1.5nm,0.3s,baz=118,slow=17,SNR=16							
DAVOX					Sn		Sn	21 53 31.7 +0.4
	comp=E,0.7nm,0.3s,baz=342,slow=20,SNR=3.6							
DAVOX					LR		LR	21 56 04.8
	comp=E,88nm,21.4s,baz=97,slow=40							
DAVA	Damuels	10.23	312		*e*	Pn	Pn	21 51 45.5 +1.9
	comp=E,1.9nm,0.3s							
KEST	Kesra	10.62	244		Pn		Pn	21 51 48.1 -0.8
	comp=E,0.1nm,0.3s,baz=63,slow=11,SNR=1.9							
MBDF	Montbardon	11.17	294		*e*	Pn	Pn	21 51 55.8 -0.7
AKASG	Malin Array Be	11.23	27		Pn		Pn	21 51 58.5 +1.3
	comp=E,0.3nm,0.3s,baz=212,slow=12,SNR=2.7							
LPG	La Plagne	11.40	298		*e*	Pn	Pn	21 52 01.0 +1.2
LPG					*e*	Sn	Sn	21 53 58.6 -8.1
LPL	La Plagne	11.42	298		*e*	Pn	Pn	21 52 01.3 +1.3
LPL					*e*	Sn	Sn	21 53 59.8 -7.3
ORIF	Oris-en-Rattie	11.83	294		*e*	Pn	Pn	21 52 06.0 +0.5
CABF	La Chapelle	12.22	302		*e*	Pn	Pn	21 52 10.5 -0.3
CABF					*e*	Sn	Sn	21 54 22.0 -4.5
HINF	Hinteralfeld	12.26	309		*e*	Pn	Pn	21 52 11.1 -0.2
HINF					*e*	Sn	Sn	21 54 20.3 -7.1
CDF	Champ du Feu	12.31	312		*e*	Pn	Pn	21 52 11.4 -0.7
HAU	Haudompre	12.65	309		*e*	Pn	Pn	21 52 15.8 -0.8
HAU					*e*	Sn	Sn	21 54 30.4 -6.5
SFTF	Sexfontaines	13.52	308		*e*	Pn	Pn	21 52 29.5 +1.0
SMF	Signal de Mont	13.68	300		*e*	Pn	Pn	21 52 29.5 -1.2
SMF					*e*	Sn	Sn	21 54 53.9 -8.2
LOR	Lormes	13.88	303		*e*	Pn	Pn	21 52 32.6 -0.8
LOR					*e*	Sn	Sn	21 54 57.7 -9.2
MMAI	Mount Meron Ar	13.91	120		Pn		Pn	21 52 35.0 +1.1
	comp=E,0.1nm,0.3s,baz=300,slow=12,SNR=2.1							
MMAI					LR		LR	21 58 56.7
	comp=E,61nm,18.6s,baz=200,slow=42							
SSF	Saint Saulge	14.03	301		*e*	Pn	Pn	21 52 34.8 -0.7
SSF					*e*	Sn	Sn	21 55 02.9 -7.8
AVF	Avril sur Loir	14.05	300		*e*	Pn	Pn	21 52 35.1 -0.5
AVF					*e*	Sn	Sn	21 55 02.8 -8.2
TCF	Toulx Ste Croi	14.66	297		*e*	Pn	Pn	21 52 43.5 -0.6
KBZ	Khabaz	16.33	73		Pn		P	21 53 12.4 +3.7
	comp=E,0.1nm,0.3s,baz=279,slow=6.3,SNR=5.2							
ESDC	Sonseca Array	19.15	274		P		Pn	21 53 45.9 +5.0
	comp=E,0.5nm,0.3s,baz=69,slow=9.6,SNR=11							
HFS	Hagfors	19.71	349		P		P	21 53 45.4 -0.5
	comp=E,0.4nm,0.3s,baz=167,slow=13,SNR=13							
FINES	FINESS Array B	20.70	7		P		P	21 53 56.7 +0.1
	comp=E,1.4nm,0.5s,baz=174,slow=11,SNR=16							
FINES					PcP		PcP	21 58 04.3 -1.5
	comp=E,1.9nm,1.0s,baz=122,slow=2.5,SNR=4.0							
NB2	NORSAR Subarra	20.97	346		P		P	21 54 00.1 +0.5
	comp=E,1.8nm,0.5s,baz=158,slow=11							
NOA	NORSAR Array B	20.97	346		P		P	21 53 59.6 0.0
	comp=E,1.3nm,0.7s,baz=174,slow=16,SNR=13							
EKA	Eskdalemuir Ar	21.48	320		P		P	21 54 04.4 -0.7
	comp=E,3.6nm,0.7s,baz=119,slow=10,SNR=7.8							
TORD	Torodi Ar, Bea	32.52	217		P		P	21 55 47.8 +0.2
	comp=E,2.0nm,0.8s,baz=18,slow=11,SNR=14							
SPITS	Spitsbergen Ar	37.35	358		P		P	21 56 30.3 +1.7
	comp=E,12nm,0.9s,baz=218,slow=9.0,SNR=3.7							
DBIC	Dimbokro	41.28	221		P		P	21 57 01.8 -0.3
	comp=E,2.2nm,0.6s,baz=3.4,slow=9.5,SNR=5.9							
MKAR	Makanchi Array	43.49	61		P		P	21 57 19.6 -0.2
	comp=E,0.1nm,0.3s,baz=280,slow=4.5,SNR=5.6							
ZALV	Zalesovo Beam	43.51	50		P		P	21 57 21.1 +1.3
	comp=E,1.8nm,0.6s,baz=273,slow=8.5,SNR=4.1							
CMAR	Chiang Mai Arr	69.08	83		P		P	22 00 21.3 -1.4
	comp=E,0.4nm,0.6s,baz=311,slow=5.4,SNR=4.3							
YKA	Yellowknife Ar	70.91	340		P		P	22 00 33.2 0.0
	comp=E,0.6nm,0.5s,baz=35,slow=5.5,SNR=14							
ULM	Lac du Bonnet	73.71	323		P		P	22 00 50.2 0.0
	comp=E,1.3nm,0.5s,baz=47,slow=3.5,SNR=4.1							
ILAR	Eielson Array	74.16	355		P		P	22 00 53.8 +1.2
	comp=E,0.5nm,0.6s,baz=4.9,slow=4.5,SNR=8.8							
PDAR	Pinedale Array	85.48	326		P		P	22 01 54.3 -0.3
	comp=E,0.2nm,0.5s,baz=54,slow=7.5,SNR=3.8							
TXAR	Lajitas Array	93.36	314		P		P	22 02 31.9 0.0
	comp=E,0.6nm,0.8s,baz=71,slow=4.2,SNR=6.1							
WRA	Warramunga Arr	120.16	91		PKP		PKPdf	22 08 05.8 -1.9
	comp=E,0.7nm,1.1s,baz=329,slow=2.0,SNR=2.5							
ASAR	Alice Springs	121.99	95		PKP		PKPdf	22 08 09.2 -1.9
	comp=E,0.3nm,0.6s,baz=318,slow=1.2,SNR=2.9							

NNC 19 22:09:45.9±5.9, 38.48N×69.11E, h0km, mb3.9, mpv3.7, 3C-5D, Error ellipse: s-maj=50.9km s-min=33.7km az=15.0, Tajikistan

Code	Station Name	Δ°	AZ°		Phase	ID		Time	Res
					Op		ISC	h m s	ISC
SFK	Sufi-Kurgan	3.74	64	⇑	P		Pn	22 10 43.7	-1.3
	9.3nm,0.6s								
SFK				⇓	S		Sn	22 11 31.5	+1.6
	47nm,0.9s								
SFK	Sufi-Kurgan	3.74	64		Pg		Pn	22 10 48.1	+3.1
	6.9nm,0.3s								
SFK					Lg		Lg	22 11 32.4	
	20nm,0.4s								
MNAS	Manas	4.76	32	⇓	P		Pn	22 11 00.2	+1.2
	2.7nm,0.3s								
MNAS				⇓	S		Sn	22 11 55.0	-0.1
	7.5nm,0.5s								
MNAS	Manas	4.76	32		Pg		Pn	22 11 01.2	+2.1
	3.9nm,0.3s								
MRKS	Merke	5.29	35		Pg		Pn	22 11 08.6	+2.4
	5.7nm,0.4s								
MRKS					Lg		Lg	22 12 08.1	
	6.7nm,0.3s								
AAK	Ala-Archa	5.83	43	⇑	P		Pn	22 11 15.4	+1.6
	2.6nm,0.4s								
AAK				⇓	S		Sn	22 12 19.3	-2.2
	4.8nm,0.7s								
AB31	Akbulak array	12.63	331	⇑	P		Pn	22 12 52.7	+6.0
	0.3nm,0.4s,baz=150,slow=13								
AB31				⇓	S		Sn	22 15 10.1	+2.2
	0.9nm,0.6s,baz=148,slow=25								

ISCJB 19 22:20:57.9±0.8, 24.52N±0.04×94.49E±0.08, h85km±8km, mb3.5/8, Error ellipse: s-maj=11.8km s-min=5.5km az=16.3
NDI 19 22:20:58.9±2.3, 24.56N×94.35E, h18km±14km, ML3.3
IDC 19 22:21:01.6±2.1, 23.90N×94.52E, h140km±22km, mb3.3/8, mb1 3.4/10, mb1mx3.1/42, mbtmp3.6/10, Error ellipse: s-maj=25.1km s-min=12.8km az=52.0

ISC 19 22:20:59.3±1.2, 24.53N±0.05×94.46E±0.08, h73km±12km, n18, σ1§19/23, mb3.6/8, Myanmar-India border region

Code	Station Name	Δ°	AZ°		Phase	ID		Time	Res
					Op		ISC	h m s	ISC
KOHI	KOHIMA	1.23	345		*e*P		Pn	22 21 21.2	+0.2
KOHI					*e*S		Sn	22 21 38.1	+0.9
KOHI					IAML			22 21 42.6	
	comp=E,347nm,0.4s								
KOHI					IAML			22 21 42.7	
	comp=N,466nm,0.3s								
MOKO	MOKOCHONG	1.79	2		*e*P		Pn	22 21 27.9	-0.4
MOKO					*e*S		Sn	22 21 51.3	+1.1
MOKO					IAML			22 21 58.5	
	comp=E,397nm,0.2s								
MOKO					IAML			22 21 59.7	
	comp=N,347nm,0.2s								
AZL	Aizawl	1.79	244		*e*P		Pn	22 21 28.4	0.0
AZL					*e*S		Sn	22 21 52.1	+1.6
SAIH	SAIHA	2.44	214		*e*P		Pn	22 21 37.4	+0.3
SAIH					*e*S		Sn	22 22 06.1	+0.2
SAIH					IAML			22 22 09.6	
	comp=N,101nm,0.3s								
SAIH					IAML			22 22 10.3	
	comp=E,178nm,0.2s								
SHL	Shillong	2.55	294		*e*P		Pn	22 21 38.8	+0.2
SHL					*e*S		Sn	22 22 07.5	-1.2
TEZP	TEZPUR	2.56	325		*e*P		Pn	22 21 38.0	-0.5
TEZP					*e*S		Sn	22 22 07.2	-1.5
TEZP					IAML			22 22 09.4	
	comp=E,748nm,0.1s								
TEZP					IAML			22 22 09.8	
	comp=N,507nm,0.1s								
ZIRO	ZIRO	3.03	350		*e*P		Pn	22 21 45.5	+0.4
ZIRO					*e*S		Sn	22 22 19.3	-1.2
BRDH	Bariadhala	3.17	235		P		Pn	22 21 46.2	-0.6
	comp=N,26nm,0.3s,baz=129,slow=14,SNR=1.9								
BRDH					S		Sn	22 22 23.7	+0.1
	comp=N,20nm,0.3s,baz=98,slow=23,SNR=6.4								
GTK	Tadong	5.96	299		*e*P		Pn	22 22 25.3	+0.2
CMAR	Chiang Mai Arr	7.34	144		P		Pn	22 22 41.0	-3.0
	comp=N,0.2nm,0.3s,baz=322,slow=14,SNR=4.9								
MKAR	Makanchi Array	24.26	339		P		P	22 26 10.1	+0.7
	comp=N,0.6nm,0.5s,baz=152,slow=8.9,SNR=16								
AAK	Ala-Archa	24.45	323		P		P	22 26 10.4	-1.0
	comp=N,0.6nm,0.5s,baz=155,slow=8.1,SNR=2.5								
SONM	Songino Array	25.11	19		P		P	22 26 19.6	+2.2
	comp=N,0.2nm,0.4s,baz=218,slow=11,SNR=3.0								
FINES	FINESS Array B	58.44	328		P		P	22 30 47.1	-0.1
	comp=N,1.8nm,0.8s,baz=81,slow=8.6,SNR=4.8								
WRA	Warramunga Arr	58.83	135		P		P	22 30 40.9	-10
	comp=N,1.4nm,1.1s,baz=303,slow=9.3,SNR=2.9								
ASAR	Alice Springs	61.31	138		P		P	22 30 58.9	-8.5
	comp=N,0.4nm,0.8s,baz=321,slow=8.4,SNR=3.7								
GERES	GERESS Array B	66.01	314		P		P	22 31 37.8	-0.4
	comp=N,0.2nm,0.3s,baz=60,slow=4.7,SNR=2.7								
STKA	Stephens Creek	71.93	139		P		P	22 32 07.6	-7.4
	comp=N,0.6nm,0.3s,baz=333,slow=11,SNR=4.1								

IDC 19 22:22:22.3±4.0, 2.26N×95.78E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.7/37, mbtmp4.0/9, ML3.4/2, MS2.6/2, Ms1 2.7/2, ms1mx2.6/39, Error ellipse: s-maj=84.2km s-min=33.1km az=14.0
ISCJB 19 22:22:26.6±0.6, 2.49N±0.06×95.85E±0.04, h25km, mb4.1/12, Error ellipse: s-maj=8.9km s-min=5.5km az=25.3
NEIC 19 22:22:32.1±1.2, 2.49N×96.02E, h62km±10km, mb4.1/4, Error ellipse: s-maj=15.2km s-min=7.7km az=62.0

ISC 19 22:22:27.5±0.9, 2.38N±0.09×95.88E±0.08, h25km, n44, σ1§08/41, mb4.2/20, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GSI	Gunungsitoli	2.01	122	*e*Pn		Pb	22 23 02.8	-0.5
GSI				*e*Sn		Sb	22 23 26.4	-1.5
LHMI	Lhok Sumawe	3.02	21	*e*Pn		Pn	22 23 14.9	+1.1
LHMI				*e*Sn		Sn	22 23 46.6	-2.6
PSI	Prapat	3.07	82		Pn		Pn	22 23 15.1	+0.5
	0.5nm,0.3s,baz=359,slow=5.3,SNR=7.3								
PSI					LR		LR	22 24 17.1	
	comp=E,61nm,18.8s,baz=269,slow=36								
PSI	Prapat	3.07	82		*e*Pn		Pn	22 23 16.9	+2.3
PSI					*e*Sn		Sn	22 23 51.3	+0.7
IPM	Ipoh	5.54	68		*e*Pn		Pn	22 23 49.8	+1.3
KULM	Kulim	5.57	59		*e*Pn		Pn	22 23 49.9	+1.0
KULM					*e*Sn		Sn	22 24 53.9	+1.8
PALK	Pallekele	15.88	288		Sn		Sn	22 28 50.4	-15
	0.3nm,0.3s,baz=119,slow=1.1,SNR=3.7								
CMAR	Chiang Mai Arr	16.26	10		Pn		Pn	22 26 14.8	+0.5
	0.2nm,0.3s,baz=198,slow=12,SNR=6.5								
CMAR					LR		LR	22 32 04.6	
	comp=Z,30nm,18.4s,baz=185,slow=36								
JAGI	Jajag, Banyuwa	21.17	121		*e*P		P	22 27 11.4	+0.2
	27nm,0.9s								
H08S2	Diego Garcia H	25.37	247		T		T	22 54 11.9	
	baz=67,slow=76,SNR=54								
H08S3	Diego Garcia H	25.37	247		T		T	22 54 09.5	
	baz=67,slow=76,SNR=62								
H08S1	Diego Carcia H	25.39	247		T		T	22 54 12.2	
	baz=67,slow=76,SNR=38								
RAMN	Ramite	26.00	341		*e*P		P	22 27 59.9	+1.1
	20nm,0.6s								
JIRN	Jiri	26.79	341		*e*P		P	22 28 06.8	+0.7
	35nm,0.8s								
PKIN	Phulchoki	26.99	339		*e*P		P	22 28 07.3	-0.5
	5.3nm,0.8s								
DMN	Daman	27.12	339		*e*P		P	22 28 10.2	+1.2
	11nm,1.0s								
GUN	Gumba	27.13	340		*e*P		P	22 28 09.3	+0.2
	16nm,0.8s								
KKN	Kakani	27.22	339		*e*P		P	22 28 09.9	+0.1
	13nm,0.9s								
LSA	Lhasa	27.54	351		*e*P		P	22 28 12.7	-0.2
	4.1nm,0.8s								
DANN	Dangsing	28.30	337		*e*P		P	22 28 20.8	+1.3
	9.7nm,0.5s								
PYUN	Piuthan	28.38	336		*e*P		P	22 28 22.4	+2.2
	11nm,1.0s								
H01W3	Cape Leeuwin H	40.84	157		T		T	23 13 48.7	
	baz=332,slow=76,SNR=19								
H01W2	Cape Leeuwin H	40.85	157		T		T	23 13 52.5	
	baz=332,slow=76,SNR=23								
H01W1	Cape Leeuwin H	40.85	157		T		T	23 13 49.8	
	baz=332,slow=76,SNR=18								
BTK	Batken	43.85	332		*e*P		P	22 30 34.1	+2.2
	4.1nm,1.0s								
KS15	Wonju Array Si	45.62	36		*e*P		P	22 30 45.5	-0.5
KSAR	Wonju Array Be	45.62	36		P		P	22 30 45.5	-0.5
KSRS	Korea Array	45.66	36		P		P	22 30 45.5	-0.7
	0.5nm,0.6s,baz=227,slow=9.0,SNR=4.4								
MK01	Makanchi Array	45.77	347		*e*P		P	22 30 47.1	+0.1
MK31	Makanchi Array	45.79	347		*e*P		P	22 30 47.3	+0.1
MK32	Makanchi Array	45.79	347		*e*P		P	22 30 46.6	-0.5
MKAR	Makanchi Array	45.79	347		P		P	22 30 46.6	-0.5
	1.5nm,0.6s,baz=165,slow=8.1,SNR=23								
MAKZ	Makanchi	45.88	347		*e*P		P	22 30 48.0	+0.1
	1.7nm,0.6s								
SONA0	Songino Array	46.18	10		*e*P		P	22 30 49.7	-0.7
SONM	Songino Array	46.18	10		P		P	22 30 49.7	-0.7
	1.2nm,0.7s,baz=188,slow=9.4,SNR=12								
KURBB	Kurchatov Arra	50.26	346		P		P	22 31 22.0	+0.4
	1.3nm,0.6s,baz=161,slow=7.1,SNR=5.4								
KURK	Kurchatov	50.32	346

GUT				Sg	Sg	22 33 43.0	-0.3	
GUT				SmS		22 33 44.1		
STU	**Stuttgart**	**0.96**	**71**	PmP		22 33 30.6		
STU				Sg	Sg	**22 33 43.1**	**-0.3**	
SULZ	**Cheisacher**	**0.97**	**168**	Pn	Pg	**22 33 30.7**	**-0.2**	
SULZ	**Cheisacher**	**0.97**	**168**	P	Pg	**22 33 30.6**	**-0.2**	
SULZ				Pg	Pb	**22 33 30.9**	**+0.5**	
SULZ				PmP		22 33 31.1		
SULZ				Sg	Sg	**22 33 44.1**	**+0.5**	
BUCH	**Bad Urach**	**1.03**	**91**	Pg	Pg	**22 33 31.5**	**-0.5**	
BUCH				PmP		22 33 32.0		
BUCH				Sg	Sb	**22 33 45.5**	**+0.8**	
HAU	**Haudompre**	**1.08**	**245**	*e*Pn	Pb	**22 33 31.9**	**-0.5**	
HAU	**Haudompre**	**1.08**	**245**	*e*Pg	Pb	**22 33 32.8**	**+0.4**	
HAU				*e*Sg	Sg	**22 33 47.0**	**-0.3**	
	22nm,0.2s							
SISB	**Singen-Schiene**	**1.10**	**135**	Pg	Pb	**22 33 33.4**	**+0.7**	
SISB				Sg	Sb	**22 33 48.1**	**+1.3**	
IMS	**Imsbach**	**1.12**	**3**	⇑Pg	Pb	**22 33 33.7**	**+0.6**	
IMS				Sg	Sb	**22 33 48.9**	**+1.6**	
BALST	**Balsthal**	**1.14**	**184**	Pn	Pb	**22 33 32.8**	**-0.6**	
BALST	**Balsthal**	**1.14**	**184**	P	Pb	**22 33 32.8**	**-0.6**	
BALST				Pg	Pg	**22 33 34.1**	**0.0**	
BALST				S	Sb	**22 33 47.6**	**-0.3**	
BALST				Sg	Sg	**22 33 49.4**	**+0.4**	
BOURR	**Bourrignon**	**1.15**	**200**	Pn	Pb	**22 33 33.3**	**-0.2**	
BOURR	**Bourrignon**	**1.15**	**200**	P	Pb	**22 33 33.2**	**-0.2**	
BOURR				Sg	Sb	**22 33 49.3**	**+1.2**	
DUP	**Duppenweiler**	**1.16**	**325**	Pg	Pb	**22 33 34.6**	**+1.0**	
DUP				Sg	Sb	**22 33 49.5**	**+1.2**	
SWS	**Schriesheim-Wi**	**1.17**	**30**	Sg	Sn	**22 33 50.1**	**+0.9**	
THEF	**They Montfort**	**1.24**	**259**	Pg	Pn	**22 33 35.3**	**+0.6**	
THEF				Sg	Sb	**22 33 51.7**	**+0.9**	
THEF	**They Montfort**	**1.24**	**259**	Pg	Pn	**22 33 35.9**	**+1.2**	
WILA	**Wila**	**1.29**	**145**	Pg	Pb	**22 33 36.9**	**+0.9**	
WILA				Sg	Sb	**22 33 53.7**	**+1.4**	
LOMF	**Lomont**	**1.30**	**211**	Pg	Pn	**22 33 36.9**	**+1.3**	
LOMF	**Lomont**	**1.30**	**211**	Pg	Pn	**22 33 36.8**	**+1.3**	
LOMF				Sg	Sg	**22 33 54.9**	**+0.7**	
RUP	**Ruppelstein**	**1.32**	**338**	Pg	Pb	**22 33 37.4**	**+0.8**	
PAGF	**Fort de Pagny**	**1.39**	**274**	*e*Pg	Pb	**22 33 38.5**	**+0.9**	
	baz=89							
PAGF				*e*Sg	Sn	**22 33 56.5**	**+1.8**	
	14nm,0.2s,baz=101							
RIVT	**Riveris**	**1.42**	**331**	Pg	Pb	**22 33 38.7**	**+0.7**	
RIVT				Sg	Sn	**22 33 56.8**	**+1.5**	
ABH	**Alteburg**	**1.42**	**353**	Pg	Pb	**22 33 38.8**	**+0.7**	
ABH	**Alteburg**	**1.42**	**353**	Pg	Pb	**22 33 38.8**	**+0.7**	
SIND	**Sindeldorf**	**1.47**	**53**	Pg	Pb	**22 33 39.4**	**+0.4**	
SIND				Sg	Sg	**22 33 58.9**	**-0.7**	
HDH	**Heidenheim-Cha**	**1.60**	**85**	Pg	Pb	**22 33 42.1**	**+1.0**	
HDH				S	Sn	**22 33 57.5**	**-2.3**	
HDH				Sg	Sb	**22 34 02.3**	**+1.3**	
WLF	**Walferdange**	**1.62**	**318**	Sg	Sb	**22 34 03.2**	**+1.7**	
LIENZ	**Kamor/St.Gall**	**1.63**	**136**	Pg	Pg	**22 33 44.0**	**+0.5**	
LIENZ				Sg	Sg	**22 34 05.4**	**+0.6**	
UBR	**Ueberruh**	**1.73**	**116**	Pg	Pg	**22 33 45.4**	**+0.1**	
UBR				Sg	Sg	**22 34 08.1**	**+0.2**	
PLONS	**Plons/SG**	**1.77**	**143**	*e*Pg	Pg	**22 33 46.7**	**+0.6**	
PLONS				*e*Sg	Sg	**22 34 08.8**	**-0.4**	
TNS	**Taunus Mts**	**1.80**	**13**	*e*Sg	Sg	**22 34 09.3**	**-0.8**	
DAVA	**Damuels**	**1.83**	**130**	*i* Sg	Sg	**22 34 10.4**	**-0.6**	
	2.3nm,0.2s							
MEZF	**Maizieres J'vi**	**1.84**	**272**	*e*Pg	Pb	**22 33 46.2**	**+1.0**	
	baz=89							
MEZF				*e*Sg	Sb	**22 34 10.7**	**+2.8**	
	3.1nm,0.2s							
SFTF	**Sexfontaines**	**1.87**	**263**	*e*Pg	Pb	**22 33 47.1**	**+1.3**	
	baz=89							
SFTF				*e*Sn	Sn	**22 34 05.3**	**-1.2**	
SFTF				*e*Sg	Sb	**22 34 11.7**	**+2.8**	
	6.2nm,0.2s							
AHRW	**Bad Neuenahr-A**	**2.12**	**347**	*e*Sg	Sg	**22 34 19.3**	**-1.1**	
CABF	**La Chapelle**	**2.20**	**213**	*e*Pn	Pn	**22 33 47.4**	**-0.5**	
CABF	**La Chapelle**	**2.20**	**213**	*e*Pg	Pg	**22 33 54.2**	**-0.1**	
CABF				*e*Sg	Sb	**22 34 21.7**	**+3.3**	
	3.3nm,0.2s							
RETA	**Reutte**	**2.21**	**115**	*i* Pg	Pg	**22 33 54.2**	**-0.4**	
	0.3nm,0.1s							
RETA				*e*Sg	Sg	**22 34 22.8**	**-0.4**	
	3.2nm,0.2s							
FETA	**Feichten**	**2.45**	**125**	*i* Pg	Pg	**22 33 58.4**	**-0.6**	
	0.8nm,0.4s							
FETA				*e*Sg	Sg	**22 34 30.6**	**-0.1**	
	0.5nm,0.2s							
MOTA	**Moosalm**	**2.48**	**116**	*e*Pg	Pg	**22 33 59.7**	**-0.1**	
	0.7nm,0.1s							
MOTA				*e*Sg	Sg	**22 34 31.8**	**-0.2**	
	2.5nm,0.1s							
GRC1	**Grafenberg Arr**	**2.51**	**77**	Pg	Pb	**22 33 58.2**	**+1.5**	
GIVF	**Givet**	**2.55**	**311**	*e*Pn	Pn	**22 33 51.8**	**-0.8**	
GIVF	**Givet**	**2.55**	**311**	*e*Pg	Pg	**22 34 00.0**	**-0.9**	
GIVF				*e*Sn	Sn	**22 34 23.4**	**+0.2**	
	2.6nm,0.2s							
GIVF				*e*Sg	Sg	**22 34 33.2**	**-0.7**	
	2.3nm,0.2s							
GRF	**Grafenberg Arr**	**2.55**	**60**	*e*Pg	Pg	**22 33 59.9**	**-1.1**	
GRF				*e*Sg	Sb	**22 34 31.3**	**+2.8**	
SQTA	**Sankt Quirin**	**2.61**	**117**	*e*Pg	Pg	**22 34 01.8**	**-0.3**	
	0.4nm,0.1s							
SQTA				*e*Sg	Sg	**22 34 35.1**	**-0.8**	
	3.0nm,0.2s							
BAIF	**Baives**	**2.84**	**305**	*e*Pn	Pn	**22 33 55.9**	**-0.8**	
BAIF				*e*Sg	Sb	**22 34 41.0**	**+4.1**	
	1.0nm,0.2s							
LOR	**Lormes**	**2.92**	**247**	*e*Pn	Pn	**22 33 57.1**	**-0.7**	
	baz=70							
LOR	**Lormes**	**2.92**	**247**	*e*Pg	Pg	**22 34 07.2**	**-0.9**	
	baz=74							
LOR				*e*Sg	Sg	**22 34 44.6**	**-1.3**	
	3.2nm,0.2s,baz=72							
LPL	**La Plagne**	**3.05**	**194**	*e*Pg	Pb	**22 34 08.3**	**+2.3**	
LPL				*e*Sg	Sg	**22 34 48.3**	**-1.7**	
LPG	**La Plagne**	**3.06**	**194**	*e*Pg	Pg	**22 34 09.7**	**-1.1**	
LPG				*e*Sg	Sg	**22 34 49.0**	**-1.5**	
SSF	**Saint Saulge**	**3.23**	**246**	*e*Pn	Pn	**22 34 01.0**	**-1.0**	
SSF	**Saint Saulge**	**3.23**	**246**	*e*Pg	Pg	**22 34 13.0**	**-0.9**	
SSF				*e*Sn	Sn	**22 34 37.6**	**-2.4**	
SSF				*e*Sg	Sg	**22 34 53.9**	**-1.9**	
SMF	**Signal de Mont**	**3.25**	**237**	*e*Pn	Pn	**22 34 01.2**	**-1.1**	
SMF	**Signal de Mont**	**3.25**	**237**	*e*Pg	Pg	**22 34 13.0**	**-1.4**	
SMF				*e*Sg	Sg	**22 34 54.1**	**-2.4**	
	2.8nm,0.2s							
MOX	**Moxa**	**3.29**	**47**	*e*Sg	Sg	**22 34 56.2**	**-1.7**	
WET	**Wettzell**	**3.42**	**77**	*e*Pg	Pg	**22 34 15.7**	**-1.7**	
WET				*e*Sg	Sg	**22 34 59.5**	**-2.2**	
AVF	**Avril sur Loir**	**3.45**	**242**	*e*Pn	Pn	**22 34 04.3**	**-0.8**	
AVF	**Avril sur Loir**	**3.45**	**242**	*e*Pg	Pg	**22 34 16.5**	**+3.7**	
AVF				*e*Sg	Sg	**22 35 00.5**	**-2.1**	
NKC	**Novy Kostel**	**3.50**	**58**	*e*SG	Sg	**22 35 01.7**	**-2.9**	
ORIF	**Oris-en-Rattie**	**3.80**	**201**	*e*Sg	Sg	**22 35 10.7**	**-3.3**	
KHC	**Kasperske Hory**	**3.87**	**78**	*e*PG	Pb	**22 34 23.1**	**+3.3**	
KHC				*e*SN	Sn	**22 34 54.4**	**-1.4**	
KHC				*e*SG	Sg	**22 35 14.1**	**-2.1**	
BGF	**Bois d'Agland**	**3.87**	**242**	*e*Pn	Pn	**22 34 10.4**	**-0.4**	
BGF	**Bois d'Agland**	**3.87**	**242**	*e*Pg	Pg	**22 34 24.3**	**-1.9**	
BGF				*e*Sn	Sn	**22 34 53.4**	**-2.5**	
BGF				*e*Sg	Sg	**22 35 13.3**	**-3.1**	
	2.5nm,0.3s							
GEC2	**GERESS Array S**	**3.92**	**82**	*e*Pg	Pg	**22 34 26.0**	**-1.2**	
GEC2				*e*Sg	Sg	**22 35 16.2**	**-1.7**	
VIVF	**Saint-Julien-l**	**4.21**	**212**	*e*Sg	Sg	**22 35 24.6**	**-2.7**	
TCF	**Toulx Ste Croi**	**4.39**	**242**	*e*Pn	Pn	**22 34 17.4**	**-0.5**	
TCF	**Toulx Ste Croi**	**4.39**	**242**	*e*Pg	Pg	**22 34 33.9**	**-2.2**	
TCF				*e*Sn	Sn	**22 35 06.7**	**-2.0**	
TCF				*e*Sg	Sg	**22 35 29.8**	**-3.1**	
	0.8nm,0.2s							

WEL 19 22:51:40.0±1.4, 34°S±24″×17°9W±4′5, h33km, ML4.1/13, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.87**	**207**	P	Pn	22 52 37.1	0.0
WMGZ	**Waiomatatini S**	**4.05**	**204**	P	Pn	22 52 41.2	+1.5
PKGZ	**Pakihiroa**	**4.24**	**207**	P	Pn	22 52 41.8	-0.4
PKGZ				S	Sn	22 53 30.4	-0.2
HAZ	**Te Kaha**	**4.24**	**211**	P	Pn	22 52 43.0	+0.7
HAZ				S	Sn	22 53 32.3	+1.7
PUZ	**Puketiti**	**4.34**	**204**	P	Pn	22 52 43.2	-0.4
PUZ				S	Sn	22 53 34.7	+1.7
RUGZ	**Raukumara Rang**	**4.46**	**210**	P	Pn	22 52 45.8	+0.3
TWGZ	**Tauwhareparae**	**4.53**	**206**	P	Pn	22 52 45.9	-0.3
CNGZ	**Carnagh Statio**	**4.73**	**203**	P	Pn	22 52 48.7	-0.2
TKGZ	**Te Karaka**	**4.81**	**206**	P	Pn	22 52 51.0	+0.9
MWZ	**Matawai**	**4.84**	**209**	P	Pn	22 52 50.0	-0.5
URZ	**Urewera**	**4.96**	**213**	P	Pn	22 52 52.6	+0.5
RAGZ	**Rawiri**	**5.02**	**209**	P	Pn	22 52 53.1	0.0
RIGZ	**Rimuhau**	**5.08**	**205**	P	Pn	22 52 54.4	+0.6
RIGZ				S	Sn	22 53 50.6	-0.7
PRGZ	**Paritu Road**	**5.23**	**203**	P	Pn	22 52 56.0	+0.2
SNGZ	**Shannon Statio**	**5.30**	**208**	P	Pn	22 52 56.7	-0.1
RTZ	**Ruatahuna**	**5.31**	**212**	P	Pn	22 52 55.0	-2.0
KNZ	**Kokohu**	**5.39**	**204**	P	Pn	22 52 57.5	-0.5

WEL 19 22:58:26.7, 39°S±1°×17°8E±°, h25km±3km, ML3.7/30, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.04**	**29**	P	Pb	22 58 31.3	+0.4
CNGZ				S	Sb	22 58 36.7	+2.9
TKGZ	**Te Karaka**	**0.27**	**287**	P	Pb	22 58 33.2	-0.1
TKGZ				S	Sb	22 58 38.7	+0.9
RIGZ	**Rimuhau**	**0.38**	**241**	P	Pb	22 58 35.7	+0.8
RIGZ				S	Sn	22 58 43.4	+0.3
TWGZ	**Tauwhareparae**	**0.38**	**335**	P	Pb	22 58 35.1	+0.2
PUZ	**Puketiti**	**0.45**	**8**	P	Pb	22 58 36.4	+0.3
PUZ				S	Sn	22 58 44.5	-0.4
PRGZ	**Paritu Road**	**0.46**	**210**	P	Pn	22 58 37.4	-0.4
PRGZ				S	Sn	22 58 47.1	+1.8
MWZ	**Matawai**	**0.55**	**290**	P	Pb	22 58 37.4	-0.2
MWZ				S	Sn	22 58 46.5	-0.8
RAGZ	**Rawiri**	**0.60**	**272**	P	Pb	22 58 38.8	+0.2
RAGZ				S	Sn	22 58 48.4	-0.3
PKGZ	**Pakihiroa**	**0.64**	**353**	P	Pb	22 58 39.4	+0.2
PKGZ				S	Sn	22 58 49.6	0.0
KNZ	**Kokohu**	**0.64**	**218**	P	Pb	22 58 39.5	+0.3
MHGZ	**Mahia Peninsul**	**0.67**	**199**	P	Pn	22 58 40.4	-0.1
RUGZ	**Raukumara Rang**	**0.68**	**324**	P	Pb	22 58 39.5	-0.5
SNGZ	**Shannon Statio**	**0.71**	**248**	P	Pn	22 58 40.6	+0.2
WMGZ	**Waiomatatini S**	**0.72**	**15**	P	Pn	22 58 41.0	-0.3
HAZ	**Te Kaha**	**0.83**	**338**	P	Pb	22 58 41.7	-0.6
URZ	**Urewera**	**0.88**	**287**	P	Pb	22 58 42.8	-0.4
WHHZ	**Waihua**	**0.93**	**233**	P	Pb	22 58 43.7	-0.4
RAHZ	**Arahi**	**0.94**	**245**	P	Pb	22 58 43.9	-0.4
RTZ	**Ruatahuna**	**0.95**	**264**	P	Pb	22 58 44.0	-0.5
MXZ	**Matakaoa Point**	**0.96**	**6**	P	Pb	22 58 44.7	0.0
MTHZ	**Maungataniwha**	**1.10**	**252**	P	Pn	22 58 46.0	-0.5
MUGZ	**Murupara**	**1.11**	**272**	P	Pn	22 58 46.6	0.0
WHRZ	**Whale Island**	**1.16**	**305**	P	Pn	22 58 47.5	+0.2
ARHZ	**Aropaoanui**	**1.19**	**231**	P	Pn	22 58 47.8	+0.1
EDRZ	**Edgecumbe**	**1.21**	**290**	P	Pn	22 58 48.0	0.0
NMHZ	**Naumai**	**1.22**	**241**	P	Pn	22 58 48.4	+0.3
RRRZ	**Republican Roa**	**1.32**	**277**	P	Pn	22 58 50.0	+0.4
TARZ	**Mount Tarawera**	**1.35**	**282**	P	Pn	22 58 50.2	+0.2
PRRZ	**Plateau Road**	**1.40**	**270**	P	Pn	22 58 51.1	+0.4
MRHZ	**Matea Rd**	**1.42**	**257**	P	Pn	22 58 51.1	+0.3
CKHZ	**Cape Kidnapper**	**1.42**	**217**	P	Pn	22 58 50.0	-0.9
ALRZ	**Allen Road**	**1.44**	**268**	P	Pn	22 58 51.7	+0.5
OPRZ	**Ohinepanea**	**1.45**	**297**	P	Pn	22 58 50.5	-0.8
HLRZ	**Highlands Stat**	**1.46**	**280**	P	Pn	22 58 51.8	+0.3
BKZ	**Black Stump Fm**	**1.47**	**243**	P	Pn	22 58 51.5	-0.1
MCHZ	**McNeill Hill**	**1.48**	**231**	P	Pn	22 58 51.2	-0.5
OMRZ	**Omania**	**1.48**	**286**	P	Pn	22 58 51.5	-0.2
LIRZ	**Lichensteins R**	**1.51**	**290**	P	Pn	22 58 51.7	-0.3
HSRZ	**Hossack Road**	**1.54**	**277**	P	Pn	22 58 53.0	+0.5
KAHZ	**Kahuranaki**	**1.63**	**218**	P	Pn	22 58 52.8	-1.0
GRRZ	**Galatos Road**	**1.64**	**275**	P	Pn	22 58 54.4	+0.5
KWHZ	**Kaweka Forest**	**1.64**	**236**	P	Pn	22 58 53.5	-0.5
HATZ	**Hinemaiaia**	**1.68**	**257**	P	Pn	22 58 55.4	+0.9
TGRZ	**Tauranga**	**1.71**	**297**	P	Pn	22 58 54.6	-0.2
RITZ	**Rihia Road**	**1.87**	**255**	P	Pn	22 58 58.6	+1.5
BHHZ	**Black Hill Sta**	**1.91**	**239**	P	Pn	22 58 57.1	-0.7
MYRZ	**Mayor Island**	**1.97**	**308**	P	Pn	22 58 57.9	-0.6
WPHZ	**Waipukurau**	**2.05**	**221**	P	Pn	22 58 58.7	-0.9
MOVZ	**Moawhango**	**2.09**	**244**	P	Pn	22 59 00.1	-0.1
TUVZ	**Tukino**	**2.11**	**249**	P	Pn	22 59 01.5	+1.0
WTVZ	**West Tongariro**	**2.11**	**253**	P	Pn	22 59 00.9	+0.4
PRHZ	**Porangahau**	**2.12**	**214**	P	Pn	22 58 59.7	-0.8
NGZ	**Ngauruhoe**	**2.12**	**251**	P	Pn	22 59 01.3	+0.7
TOZ	**Tahuroa Road**	**2.25**	**290**	P	Pn	22 59 01.7	-0.7
TSZ	**Takapari Road**	**2.31**	**228**	P	Pn	22 59 01.2	-2.0
DVHZ	**Dannevirke**	**2.36**	**221**	P	Pn	22 59 02.4	-1.5
HIZ	**Hauiti**	**2.61**	**269**	P	Pn	22 59 08.0	+0.8
HIZ				P	Pn	22 59 08.0	+0.7
BFZ	**Birch Farm**	**2.62**	**214**	P	Pn	22 59 05.1	-2.3
KUZ	**Kuaotunu**	**2.64**	**311**	P	Pn	22 59 06.8	-0.8
KUZ				P	Pb	22 59 07.1	-6.1
PRWZ	**Pori Road**	**2.65**	**219**	P	Pn	22 59 06.3	-1.6
TIWZ	**Tintock**	**2.87**	**217**	P	Pn	22 59 09.7	-1.1
MRZ	**Mangatainoka R**	**2.93**	**222**	P	Pn	22 59 10.2	-1.6
TMWZ	**Te Maipa**	**3.13**	**214**	P	Pn	22 59 11.9	-2.5
HOWZ	**Holdsworth Sta**	**3.14**	**220**	P	Pn	22 59 12.7	-1.8
OGWZ	**Otaki Gorge**	**3.26**	**224**	P	Pn	22 59 13.5	-2.3
KHEZ	**Kahui Hut**	**3.34**	**255**	P	Pn	22 59 18.5	+1.1
PKE	**Pukeiti**	**3.34**	**257**	P	Pn	22 59 19.0	+1.6
MTW	**Mount Morrison**	**3.34**	**217**	P	Pn	22 59 14.5	-2.9
KIW	**Kapiti Island**	**3.44**	**226**	P	Pn	22 59 15.9	-2.8
PAWZ	**Paruwai Farm**	**3.56**	**216**	P	Pn	22 59 17.3	-3.0
PLWZ	**Palliser**	**3.78**	**215**	P	Pn	22 59 20.9	-2.6
WCZ	**Waipu Caves**	**4.00**	**309**	P	Pn	22 59 26.3	-0.1
CTZ	**Chatham Island**	**6.52**	**145**	P	Pn	23 00 00.9	-0.1

IDC 19 22:58:44.2±7.1, 17°37S×178°76W, h568km±77km, mb3.2/4, mb1 3.5/4, mb1mx2.9/49, mbtmp4.2/4, Error ellipse: s-maj=93.4km s-min=36.5km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.60**	**240**	P	P	23 05 19.5	0.0
	1.6nm,0.4s,baz=82,slow=12,SNR=6.9						
WRA	**Warramunga Arr**	**44.41**	**259**	P	P	23 06 05.1	-0.4
	0.9nm,0.5s,baz=90,slow=6.9,SNR=26						
WRA				PcP	PcP	23 07 36.5	-0.3
	0.6nm,0.9s,baz=89,slow=3.5,SNR=3.4						
ASAR	**Alice Springs**	**44.62**	**254**	P	P	23 06 07.0	-0.1
	9.1nm,0.6s,baz=88,slow=8.2,SNR=123						
ASAR				PcP	PcP	23 07 36.9	-0.6
	0.3nm,0.4s,baz=123,slow=3.3,SNR=4.0						
TXAR	**Lajitas Array**	**85.99**	**58**	P	P	23 10 25.2	-0.2
	0.5nm,0.8s,baz=207,slow=5.8,SNR=5.4						
BRTR	**Keskin Array B**	**144.16**	**315**	PKP	PKPdf	23 17 16.2	-0.1
	1.0nm,0.9s,baz=173,slow=2.3,SNR=4.0						
GERES	**GERESS Array B**	**147.00**	**345**	PKPbc	PKPbc	23 17 23.2	-0.6
	0.2nm,0.4s,baz=349,slow=3.0,SNR=2.8						

*TEH **19** 23:11:25.2, 31°.71N×46°.00E, h10km, ML3.1*
*ISN **19** 23:11:26.8±2.3, 31°.93N×45°.80E, h15km, ml3.0*
ISC 19 23:11:24.0±2.4, 31°.6N±0°.2×45°.7E±0°.1, h10km, n11, σ0°.79/12, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHD	**Baghdad**	**2.06**	**327**	*e*Pg	**Pn**	**23 11 58.0**	**-0.6**
	baz=138						
BHD				*e*Sg	**Sn**	**23 12 25.0**	**+0.7**
IKFM	**Kafar-mosalman**	**2.66**	**42**	IAMB	IAmb	23 12 55.2	
	comp=Z,0.0nm,0.3s						
IKFM				*e*Pn	**Pn**	**23 12 07.1**	**+0.2**
IGHG	**Ghaleghazi**	**2.86**	**14**	*e*Pn	**Pn**	**23 12 10.4**	**+0.5**
IGHG				IAMB	IAmb	23 12 12.5	
	comp=Z,655nm,0.1s						
IKOM	**Komasi**	**3.02**	**29**	*e*Pn	**Pn**	**23 12 12.6**	**+0.6**
IVIS	**Veis**	**3.11**	**17**	*e*Pn	**Pn**	**23 12 12.7**	**-0.6**
IVIS				IAMB	IAmb	23 12 24.9	
	comp=Z,252nm,0.3s						
HAGD	**Aghdareh**	**4.34**	**40**	*e*Pn	**Pn**	**23 12 29.9**	**-0.4**
HAGD				IAMB	IAmb	23 13 18.4	
	comp=N,0.0nm,0.2s						
KLNJ	**Kolanjah**	**5.05**	**95**	*e*Pn	**Pn**	**23 12 41.1**	**+0.9**
IKLH	**Kolahrood**	**5.25**	**69**	*e*Pn	**Pn**	**23 12 42.7**	**-0.2**
IKLH				IAMB	IAmb	23 12 45.6	
	comp=Z,312nm,0.2s						
IRAM	**Rameshesh**	**5.68**	**86**	*e*Pn	**Pn**	**23 12 48.0**	**-0.7**
IRAM				IAMB	IAmb	23 12 51.7	
	comp=Z,59nm,0.2s						
IZEF	**Zefreh**	**5.76**	**75**	*e*Pn	**Pn**	**23 12 49.4**	**-0.4**
IZEF				IAMB	IAmb	23 12 51.7	
	comp=Z,89nm,0.3s						
KRSH	**Karshahi**	**5.92**	**64**	*e*Pn	**Pn**	**23 12 50.4**	**-1.5**
KRSH				IAMB	IAmb	23 13 58.8	
	comp=N,0.0nm,0.5s						

WEL 19 23:21:20.8, 39°S±2°×17°8E±°, h24km±3km, ML3.9/34, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.05**	**17**	P	Pb	23 21 25.5	+0.5
CNGZ				S	Sb	23 21 31.1	+3.2
TKGZ	**Te Karaka**	**0.28**	**290**	P	Pb	23 21 27.4	-0.1
TKGZ				S	Sb	23 21 32.9	+0.9
RIGZ	**Rimuhau**	**0.37**	**243**	P	Pn	23 21 29.9	-0.8
TWGZ	**Tauwhareparae**	**0.39**	**336**	P	Pb	23 21 29.3	+0.1
TWGZ				S	Sn	23 21 37.0	-0.7
PRGZ	**Paritu Road**	**0.45**	**212**	P	Pn	23 21 31.6	-0.2
PRGZ				S	Sn	23 21 41.3	+2.1
PUZ	**Puketiti**	**0.47**	**7**	P	Pb	23 21 30.7	+0.2
MWZ	**Matawai**	**0.56**	**291**	P	Pb	23 21 31.6	-0.3
MWZ				S	Sb	23 21 40.3	+0.7
RAGZ	**Rawiri**	**0.61**	**274**	P	Pb	23 21 33.0	+0.2
KNZ	**Kokohu**	**0.63**	**219**	P	Pn	23 21 33.7	-0.4
PKGZ	**Pakihiroa**	**0.65**	**352**	P	Pb	23 21 33.6	0.0
PKGZ				S	Sn	23 21 44.4	+0.3
MHGZ	**Mahia Peninsul**	**0.65**	**199**	P	Pn	23 21 34.7	+0.1
RUGZ	**Raukumara Rang**	**0.70**	**325**	P	Pb	23 21 33.8	-0.6
RUGZ				S	Sb	23 21 44.1	+0.5
SNGZ	**Shannon Statio**	**0.71**	**249**	P	Pb	23 21 34.8	+0.3
SNGZ				S	Sn	23 21 46.9	+1.4
WMGZ	**Waiomatatini S**	**0.74**	**14**	P	Pb	23 21 35.3	+0.3
WMGZ				S	Sn	23 21 47.0	+0.9
HAZ	**Te Kaha**	**0.84**	**338**	P	Pb	23 21 35.9	-0.8
URZ	**Urewera**	**0.89**	**288**	P	Pb	23 21 37.1	-0.5
WHHZ	**Waihua**	**0.92**	**234**	P	Pb	23 21 37.9	-0.2
RAHZ	**Arahi**	**0.94**	**246**	P	Pb	23 21 38.2	-0.3
RTZ	**Ruatahuna**	**0.95**	**265**	P	Pb	23 21 38.2	-0.4
MXZ	**Matakaoa Point**	**0.98**	**6**	P	Pn	23 21 38.7	-0.2
MTHZ	**Maungataniwha**	**1.10**	**253**	P	Pn	23 21 40.3	-0.4
MUGZ	**Murupara**	**1.11**	**273**	P	Pn	23 21 40.8	0.0
WHRZ	**Whale Island**	**1.17**	**305**	P	Pn	23 21 41.9	+0.3
ARHZ	**Aropaoanui**	**1.18**	**232**	P	Pn	23 21 41.8	0.0
NMHZ	**Naumai**	**1.22**	**242**	P	Pn	23 21 42.1	-0.2
EDRZ	**Edgecumbe**	**1.22**	**290**	P	Pn	23 21 42.3	0.0
MARZ	**Manawahe**	**1.31**	**294**	P	Pn	23 21 43.4	-0.2
RRRZ	**Republican Roa**	**1.33**	**278**	P	Pn	23 21 44.1	+0.3
TARZ	**Mount Tarawera**	**1.35**	**282**	P	Pn	23 21 44.5	+0.2
PRRZ	**Plateau Road**	**1.41**	**271**	P	Pn	23 21 45.4	+0.5
MKRZ	**Makatiti**	**1.41**	**286**	P	Pb	23 21 46.0	-0.4
CKHZ	**Cape Kidnapper**	**1.42**	**217**	P	Pn	23 21 44.3	-0.7
MRHZ	**Matea Rd**	**1.42**	**257**	P	Pn	23 21 44.8	-0.3
ALRZ	**Allen Road**	**1.45**	**268**	P	Pn	23 21 45.4	0.0
OPRZ	**Ohinepanea**	**1.46**	**298**	P	Pn	23 21 44.7	-0.9

SHLS				*e*S	Sn	23 23 47.9	-7.9
	6.4nm,0.3s							
PDGK	**Podgornoye**	**1.96**	**76**	⇑P	Pg	23 23 36.9	+1.3
	2.3nm,1.0s							
PDGK				⇑S	Sn	23 23 57.4	+0.4
	1.8nm,0.4s							

SOME 19 23:23:09.6, 42°.32N × 80°.98E, h5km, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.22**	**338**	*e*P	Pg	23 23 32.9	-0.1
	0.9nm,0.1s						
KTMS				*e*S	Sb	23 23 49.6	+0.2
	1.7nm,0.4s						
UZB	**Uzynbulak**	**1.67**	**301**	*e*P	Pg	23 23 41.4	-0.2
	1.5nm,0.3s						
UZB				*e*S	Sg	23 24 03.9	+0.8
	2.4nm,0.2s						
SATY	**Saty**	**2.04**	**292**	*e*P	Pb	23 23 47.6	+0.4
	2.5nm,0.3s						
SATY				*e*S	Sg	23 24 15.1	0.0
	5.5nm,0.2s						
DJR	**Jarkent**	**2.19**	**337**	*e*P	Pg	23 23 51.0	-0.6
	0.2nm,0.1s						
DJR				*e*S	Sg	23 24 20.8	+0.7
	1.3nm,0.3s						
KURS	**Kuram**	**2.38**	**300**	*e*P	Pb	23 23 52.8	-0.1
	0.7nm,0.3s						
KURS				*e*S	Sb	23 24 23.8	+1.3
	1.2nm,0.6s						
MNBS	**Baschi**	**2.58**	**314**	*e*P	Pb	23 23 56.2	-0.2
	0.7nm,0.2s						
MNBS				*e*S	Sb	23 24 30.1	+1.5
	4.3nm,0.4s						
TNSS	**Tian-Shan**	**3.06**	**285**	*e*P	Pb	23 24 04.8	0.0
	0.6nm,0.1s						
TNSS				*e*S	Sb	23 24 44.5	+1.9
	1.1nm,0.3s						
KAPS	**Kapalarasan**	**3.19**	**339**	*e*P	Pb	23 24 07.6	+0.8
	0.4nm,0.3s						
KAPS				*e*S	Sg	23 24 49.2	-2.9
	1.2nm,0.3s						

*ISCJB **19** 23:36:30.3±1.4, 10°.6S±0°.2 × 162°.4E±0°.2, h39km, mb3.6/4, Error ellipse: s-maj=30.9km s-min=11.6km az=42.3*
*IDC **19** 23:36:34.1±3.5, 10°.65S × 162°.29E, h59km±25km, mb3.4/4, mb1 3.6/6, mb1mx3.4/32, mbtmp3.8/6, ML3.7/2, Error ellipse: s-maj=37.3km s-min=19.7km az=55.0*
ISC 19 23:36:32.1±1.5, 10°.5S±0°.2 × 162°.4E±0°.2, h39km, n6, σ1§63/7, mb3.6/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.66**	**294**	P	**Pn**	**23 37 12.2**	**-0.2**
	50nm,0.3s,baz=125,slow=14,SNR=10						
HNR				S	**Sn**	**23 37 45.4**	**+2.0**
	98nm,0.3s,baz=79,slow=20,SNR=6.1						
DZM	**Mont Dzumac**	**12.13**	**162**	P	**Pn**	**23 39 23.8**	**+1.3**
	0.1nm,0.3s,baz=356,slow=19,SNR=10						
WRA	**Warramunga Arr**	**28.63**	**248**	P	**P**	**23 42 24.1**	**-1.2**
	0.8nm,0.7s,baz=80,slow=9.3,SNR=6.6						
ASAR	**Alice Springs**	**30.16**	**241**	P	**P**	**23 42 37.0**	**-1.7**
	0.6nm,0.5s,baz=62,slow=10.0,SNR=13						
SONM	**Songino Array**	**76.32**	**325**	P	**P**	**23 48 17.6**	**+0.4**
	0.4nm,0.7s,baz=130,slow=5.8,SNR=2.8						
MKAR	**Makanchi Array**	**90.90**	**317**	P	**P**	**23 49 31.2**	**-0.6**
	0.4nm,0.9s,baz=122,slow=5.2,SNR=2.9						

*SJA **19** 23:41:52.2±0.9, 22°.43S × 68°.79W, h132km±5km, ML3.1, MW3.1*
*ISCJB **19** 23:41:53.7±0.5, 22°.48S±0°.04 × 68°.73W±0°.05, h119km±5km, mb3.7/3, Error ellipse: s-maj=7.9km s-min=6.2km az=7.1*
*IDC **19** 23:41:53.1±0.7, 22°.59S × 68°.51W, h100km±7km, mb3.5/4, mb1 3.5/6, mb1mx3.4/33, mbtmp3.7/6, Error ellipse: s-maj=31.0km s-min=21.3km az=11.0*
*GUC **19** 23:41:54.4±0.7, 22°.47S × 68°.67W, h112km±4km, ML3.8*
ISC 19 23:41:54.3±0.8, 22°.45S±0°.04 × 68°.68W±0°.05, h112km±5km, n34, σ1§56/51, mb3.9/3, 7C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.26**	**234**	P	**Pn**	**23 42 09.6**	**-1.0**
	663nm,0.3s,baz=60,slow=2.9,SNR=7253						
LVC				S	**Sn**	**23 42 21.5**	**-1.4**
	1µm,0.3s,baz=300,slow=20,SNR=218						
LVC	**Limon Verde**	**0.26**	**234**	*e*P	**Pn**	**23 42 10.6**	**-0.1**
LVC				*e*S	**Sn**	**23 42 23.1**	**+0.2**
LVC	**Limon Verde**	**0.26**	**234**	⇓*i*P	**Pn**	**23 42 10.5**	**-0.1**
LVC				*i* S	**Sn**	**23 42 21.9**	**-1.0**
PB09	**IPOC Station P**	**0.84**	**321**	*e*P	**Pn**	**23 42 14.6**	**+0.3**
PB09				*e*S	**Sn**	**23 42 30.4**	**+1.2**
PB09	**IPOC Station P**	**0.84**	**321**	⇑*i*P	**Pn**	**23 42 14.3**	**0.0**
PB09				*i* S	**Sn**	**23 42 29.2**	**-0.1**
PB09				IAML		23 42 31.8	
	comp=N,3µm,0.4s						
PB06	**IPOC Station P**	**0.86**	**253**	*e*P	**Pn**	**23 42 14.2**	**-0.3**
PB06				*e*S	**Sn**	**23 42 31.0**	**+1.3**
PB06	**IPOC Station P**	**0.86**	**253**	⇑*i*P	**Pn**	**23 42 14.4**	**0.0**
PB06				*e*S	**Sn**	**23 42 29.1**	**-0.5**
PB06				IAML		23 42 35.8	
	comp=N,3µm,0.3s						
PB03	**IPOC Station P**	**1.07**	**292**	*e*P	**Pn**	**23 42 16.1**	**-0.5**
PB03				*e*S	**Sn**	**23 42 33.1**	**-0.3**
PB03	**IPOC Station P**	**1.07**	**292**	⇑*i*P	**Pn**	**23 42 16.8**	**+0.2**
PB03				*e*S	**Sn**	**23 42 33.2**	**-0.1**
PB03				IAML		23 42 34.7	
	comp=E,4µm,0.2s						
PB07	**IPOC Station P**	**1.33**	**303**	⇑*i*P	**Pn**	**23 42 20.0**	**+0.5**
PB07				*i* S	**Sn**	**23 42 38.6**	**+0.1**
PB07				IAML		23 42 39.4	
	comp=N,4µm,0.3s						
PB04	**IPOC Station P**	**1.36**	**275**	⇑*i*P	**Pn**	**23 42 20.1**	**+0.3**
PB04				*e*S	**Sn**	**23 42 39.6**	**+0.4**
PB04				IAML		23 42 42.0	
	comp=N,2µm,0.2s						
PB05	**IPOC Station P**	**1.46**	**254**	*e*P	**Pn**	**23 42 20.6**	**-0.3**
PB05				*e*S	**Sn**	**23 42 40.6**	**-0.4**
PB05	**IPOC Station P**	**1.46**	**254**	⇑*i*P	**Pn**	**23 42 20.8**	**0.0**
PB05				*i* S	**Sn**	**23 42 41.1**	**+0.1**
PB05				IAML		23 42 53.8	
	comp=N,800nm,0.1s						
PB01	**IPOC Station P**	**1.59**	**332**	⇑*i*P	**Pn**	**23 42 22.6**	**+0.2**
PB01				*i* S	**Sn**	**23 42 44.0**	**+0.3**
PB01				IAML		23 42 47.2	
	comp=E,2µm,0.2s						
PB10	**IPOC Station P**	**2.02**	**238**	*e*P	**Pn**	**23 42 26.7**	**-0.9**
PB10				*e*S	**Sn**	**23 42 52.0**	**-1.2**
PB10	**IPOC Station P**	**2.02**	**238**	*e*P	**Pn**	**23 42 27.6**	**0.0**
PB08	**IPOC Station P**	**2.34**	**349**	*e*P	**Pn**	**23 42 33.1**	**+1.0**
PB14	**IPOC Station P**	**2.68**	**216**	*e*P	**Pn**	**23 42 35.7**	**-0.7**
PB14				*e*S	**Sn**	**23 43 07.5**	**-1.3**
GO02	**Mina Guanaco**	**2.82**	**197**	*e*P	**Pn**	**23 42 38.3**	**+0.1**
PB11	**IPOC Station P**	**2.83**	**341**	*e*P	**Pn**	**23 42 38.0**	**-0.3**
YJA	**Yavi**	**2.95**	**85**	*e*P	**Pn**	**23 42 41.7**	**+1.7**
YJA				IAML		23 42 43.3	
	comp=Z,17nm,0.5s						
HJA	**Humahuaca**	**3.11**	**105**	*e*P	**Pn**	**23 42 43.8**	**+1.6**
HJA				IAML		23 42 45.8	
	comp=Z,82nm,0.5s						
PSGCX	**Pisagua**	**3.15**	**334**	*e*P	**Pn**	**23 42 41.0**	**-1.4**
PSGCX				*e*S	**Sn**	**23 43 11.3**	**-8.2**
MNMCX	**Minye Minye**	**3.42**	**345**	*e*P	**Pn**	**23 42 45.0**	**-1.2**
AZAP	**Zapla**	**3.76**	**119**	*e*P	**Pn**	**23 42 51.6**	**+1.0**
AZAP				IAML		23 42 52.1	
	comp=Z,25nm,0.5s						
LPAZ	**La Paz**	**6.16**	**5**	P	**Pn**	**23 43 25.8**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=184,slow=8.3,SNR=5.4						
LPAZ				S	Sn	23 44 22.4	-10
	comp=Z,0.3nm,0.3s,baz=166,slow=14,SNR=5.4						
CPUP	**Villa Florida**	**11.04**	**113**	P	**Pn**	**23 44 26.2**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=298,slow=9.7,SNR=3.4						
BDFB	**Brasilia**	**20.67**	**74**	P	**P**	**23 46 23.1**	**-2.4**
	comp=Z,3.6nm,0.6s,baz=255,slow=14,SNR=6.8						
TXAR	**Lajitas Array**	**61.53**	**325**	P	**P**	**23 52 00.7**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=130,slow=12,SNR=2.4						
TORD	**Torodi Ar. Bea**	**77.48**	**70**	P	**P**	**23 53 37.4**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=252,slow=4.7,SNR=22						
YKA	**Yellowknife Ar**	**92.15**	**341**	P	**P**	**23 54 51.9**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=132,slow=4.5,SNR=7.4						

ASAR	**Alice Springs**	**129.17**	**207**	PKP	**PKPdf**	**00 00 50.0**	**0.0**
	comp=Z,0.4nm,0.9s,baz=158,slow=2.5,SNR=3.1							
WRA	**Warramunga Arr**	**132.24**	**210**	PKP	**PKPdf**	**00 00 57.0**	**+1.1**
	comp=Z,0.6nm,0.9s,baz=157,slow=1.7,SNR=4.2							
MKAR	**Makanchi Array**	**146.27**	**37**	PKPbc	**PKPdf**	**00 01 21.4**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=305,slow=2.3,SNR=2.6							

IDC 19 23:56:49.9±5.0, 17°.83S × 172°.03W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/26, mbtmp3.6/3, Error ellipse: s-maj=329.8km s-min=29.1km az=150.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.61**	**259**	P	P	00 05 50.1	-0.9
	0.2nm,0.5s,baz=98,slow=5.9,SNR=7.5						
ASAR	**Alice Springs**	**50.65**	**254**	P	P	00 05 52.4	+1.0
	1.0nm,0.7s,baz=90,slow=8.3,SNR=11						
NVAR	**Mina Array Bea**	**75.27**	**41**	P	P	00 08 35.6	+0.5
	0.2nm,0.6s,baz=231,slow=8.0,SNR=3.2						
BRTR	**Keskin Array B**	**148.85**	**320**	PKPbc	PKPbc	00 16 38.5	-1.5
	0.6nm,0.8s,baz=39,slow=5.8,SNR=3.3						

*ISCJB **20** 00:10:35.9±0.5, 42°.45N±0°.02 × 41°.10E±0°.04, h10km, Error ellipse: s-maj=4.2km s-min=3.1km az=151.1*
*DDA **20** 00:10:37.7, 42°.23N × 40°.99E, h7km±1km, ML2.5*
*MOS **20** 00:10:39.3±0.0, 42°.50N × 41°.05E, h9km, MPVA3.3*
ISC 20 00:10:37.1±0.9, 42°.34N±0°.03 × 40°.96E±0°.04, h10km, n17, σ1§20/33, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOMR	**Dombai**	**1.07**	**27**	*i* Pg	**Pg**	**00 10 56.7**	**-1.0**
DOMR				*e*Sg	**Sg**	**00 11 09.7**	**-1.9**
DBOC	**Borcka**	**1.13**	**152**	*i* P	**Pb**	**00 10 58.5**	**-0.3**
ARXR	**Arkhyz**	**1.24**	**11**	*i* Pg	**Pb**	**00 10 59.4**	**-1.4**
ARXR				*i* Sg	**Sb**	**00 11 15.0**	**-1.8**
ARTV	**Artvin**	**1.37**	**148**	IAML_P			
	comp=Z,624nm,0.1s						
ARTV				*i* P	**Pn**	**00 11 01.9**	**-0.5**
ARTV				*i* S	**Sb**	**00 11 20.5**	**0.0**
DBAD	**Bademkaya**	**1.43**	**157**	IAML_P			
	comp=Z,309nm,0.1s						
DBAD				*i* P	**Pn**	**00 11 03.7**	**+0.4**
DBAD				*i* S	**Sn**	**00 11 21.9**	**-0.4**
RPOR	**Krasnaya Polya**	**1.45**	**340**	*e*Pg	**Pn**	**00 11 04.5**	**+1.1**
RPOR				*i* Sg	**Sn**	**00 11 22.8**	**+0.3**
DAGI	**Agillar**	**1.45**	**150**	IAML_P			
	comp=Z,164nm,0.1s						
DAGI				*i* P	**Pn**	**00 11 03.3**	**-0.3**
DAGI				*i* S	**Sn**	**00 11 22.8**	**+0.1**
SOC	**Sochi**	**1.54**	**324**	*e*Pg	**Pn**	**00 11 06.1**	**+1.4**
SOC				*e*Sg	**Sb**	**00 11 26.4**	**+1.1**
NEY	**Neytrino**	**1.58**	**55**	*e*Pg	**Pn**	**00 11 04.3**	**-1.1**
NEY				*e*Sg	**Sn**	**00 11 24.0**	**-2.0**
SHA1	**Shidzhatmaz**	**1.87**	**41**	*e*Pg	**Pn**	**00 11 10.8**	**+1.4**
SHA1				*e*Sg	**Sn**	**00 11 33.0**	**-0.2**
LZRR	**Lazarevskoye**	**1.97**	**325**	*e*Pg	**Pb**	**00 11 13.0**	**0.0**
LZRR				*i* Sg	**Sb**	**00 11 38.8**	**+1.2**
DIGR	**Digorskoe uzhe**	**2.01**	**73**	*e*Pg	**Pb**	**00 11 14.3**	**+0.3**
DIGR				*e*Sg	**Sb**	**00 11 38.7**	**-0.5**
KIV0	**Kislovodsk Arr**	**2.05**	**38**	*i* Pg	**Pn**	**00 11 12.7**	**+0.9**
KIV0				*e*Sg	**Sn**	**00 11 38.0**	**+0.4**
ZEI	**Tsey**	**2.22**	**77**	*e*Pg	**Pn**	**00 11 16.8**	**+2.6**
ZEI				*e*Sg	**Sn**	**00 11 43.1**	**+1.3**
LSNR	**Lesken**	**2.31**	**65**	*e*Pg	**Pn**	**00 11 16.3**	**+1.0**
LSNR				*e*Sg	**Sn**	**00 11 43.9**	**+0.1**
LACR	**Lac**	**2.51**	**78**	*i* Pn	**Pb**	**00 11 24.0**	**+1.6**
LACR				*e*Sn	**Sb**	**00 11 55.6**	**+2.2**
ALER	**Alexandrovskoy**	**2.81**	**30**	*e*Pn	**Pb**	**00 11 28.1**	**+0.7**
ALER				*e*Sn	**Sb**	**00 12 01.6**	**-0.1**

*IDC **20** 00:18:25.5±1.4, 34°.63N × 25°.64E, h0km, mb3.6/6, mb1 3.6/10, mb1mx3.4/50, mbtmp3.5/10, ML3.4/4, MS3.1/2, Ms1 3.1/2, ms1mx2.5/42, Error ellipse: s-maj=34.4km s-min=22.0km az=152.0*
*ISCJB **20** 00:18:26.1±0.8, 34°.80N±0°.04 × 25°.39E±0°.03, h3km±4km, mb3.4/6, MS3.2/1, Error ellipse: s-maj=7.0km s-min=3.6km az=172.5*
*THE **20** 00:18:26.9, 34°.87N × 25°.40E, h0km±1km, ML3.2/5, Error ellipse: s-maj=1.8km s-min=0.8km az=167.0*
*ATH **20** 00:18:27.4, 34°.90N × 25°.36E, h18km±1km, ML3.2/8, Error ellipse: s-maj=2.2km s-min=1.0km az=346.0*
ISC 20 00:18:25.7±1.5, 34°.80N±0°.05 × 25°.36E±0°.02, h1km±9km, n59, σ1§08/72, mb3.6/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.37**	**15**	P	**Pg**	**00 18 33.7**	**+0.8**
LAST				S	**Sg**	**00 18 38.2**	**+0.4**
LAST				AML	AML	00 18 39.4	
	comp=E,7220µm,0.4s						
LAST				AML	AML	00 18 42.5	
	comp=N,5760µm,0.4s						
LAST	**Lasithi**	**0.37**	**15**	P	**Pg**	**00 18 33.7**	**+0.8**
LAST				S	**Sg**	**00 18 38.9**	**+1.1**
SIVA	**Sivas**	**0.50**	**296**	P	**Pb**	**00 18 37.2**	**-0.2**
SIVA				S	**Sg**	**00 18 43.3**	**+1.4**
SIVA				AML	AML	00 18 47.4	
	comp=N,9594µm,0.5s						
SIVA				AML	AML	00 18 47.5	
	comp=E,14274µm,0.4s						
SIVA	**Sivas**	**0.50**	**296**	P	**Pb**	**00 18 37.0**	**-0.4**
NPS	**Neapolis**	**0.51**	**24**	P	**Pg**	**00 18 36.0**	**+0.6**
NPS				S	**Sg**	**00 18 42.1**	**+0.1**
NPS				AML	AML	00 18 44.0	
	comp=N,6575µm,0.2s						
NPS				AML	AML	00 18 44.0	
	comp=E,6182µm,0.2s						
NPS	**Neapolis**	**0.51**	**24**	P	**Pg**	**00 18 35.8**	**+0.4**
NPS				S	**Sg**	**00 18 43.0**	**+1.0**
KSTL	**Kastelli Herak**	**0.56**	**335**	P	**Pg**	**00 18 34.5**	**-1.9**
KSTL				S	**Sg**	**00 18 39.0**	**-4.7**
IACM	**Heraklion**	**0.56**	**335**	P	**Pg**	**00 18 37.5**	**+1.1**
IACM				S	**Sg**	**00 18 43.0**	**-0.7**
IACM	**Heraklion**	**0.56**	**335**	P	**Pg**	**00 18 37.7**	**+1.3**
TMBK	**Timbaki Herakl**	**0.56**	**299**	P	**Pb**	**00 18 38.3**	**0.0**
IDI	**Anoyia**	**0.62**	**322**	P	**Pg**	**00 18 38.4**	**+0.7**
STIA	**Sitia Lasithi**	**0.72**	**56**	P	**Pg**	**00 18 40.3**	**+0.8**
ZKR	**Zakros**	**0.77**	**66**	P	**Pg**	**00 18 40.8**	**+0.3**
ZKR				S	**Sb**	**00 18 51.7**	**-1.2**
ZKR				AML	AML	00 18 53.6	
	comp=N,4898µm,0.3s						
ZKR				AML	AML	00 18 55.3	
	comp=E,7720µm,0.5s						
ZKR	**Zakros**	**0.77**	**66**	P	**Pg**	**00 18 40.8**	**+0.3**
ZKR				S	**Sg**	**00 18 51.6**	**+1.1**
PRNS	**Prines Rethymn**	**0.90**	**309**	P	**Pb**	**00 18 44.2**	**0.0**
GVD	**Gavdhos**	**1.05**	**273**	P	**Pn**	**00 18 47.2**	**-0.3**
GVD				S	**Sn**	**00 19 02.8**	**-0.1**
GVD				AML	AML	00 19 06.6	
	comp=N,2613µm,0.8s						
GVD				AML	AML	00 19 09.1	
	comp=E,3360µm,0.5s						
GVD	**Gavdhos**	**1.05**	**273**	P	**Pn**	**00 18 47.3**	**-0.3**
GVD				S	**Sn**	**00 19 04.3**	**+1.5**
VAM	**Vamos**	**1.13**	**303**	P	**Pg**	**00 18 47.6**	**+0.2**
VAM				S	**Sb**	**00 19 05.3**	**+0.1**
VAM				AML	AML	00 19 14.1	
	comp=E,1568µm,0.5s						
VAM				AML	AML	00 19 16.6	
	comp=N,1796µm,0.5s						
VAM	**Vamos**	**1.13**	**303**	P	**Pg**	**00 18 47.3**	**-0.1**
CHAN	**Chania**	**1.30**	**304**	P	**Pn**	**00 18 50.7**	**-0.3**
IMMV	**Iera Moni Meta**	**1.31**	**301**	P	**Pn**	**00 18 50.6**	**-0.5**
IMMV	**Iera Moni Meta**	**1.31**	**301**	P	**Pb**	**00 18 51.3**	**+0.2**
IMMV				S	**Sn**	**00 19 09.8**	**+0.5**
THR6	**Thira Island,**	**1.55**	**1**	P	**Pb**	**00 18 54.8**	**-0.5**
THR6	**Thira Island,**	**1.55**	**1**	P	**Pn**	**00 18 54.0**	**-0.5**
SANT	**Santorini**	**1.57**	**3**	P	**Pn**	**00 18 54.3**	**-0.5**
ANAF	**Anafi Island**	**1.59**	**12**	P	**Pb**	**00 18 56.1**	**+0.2**
ANAF				S	**Sb**	**00 19 16.6**	**+0.1**
ANAF				AML	AML	00 19 19.2	
	comp=E,3095µm,0.3s						
ANAF				AML	AML	00 19 21.1	
	comp=N,3326µm,0.4s						
THR3	**Thira Island,**	**1.61**	**1**	P	**Pn**	**00 18 55.5**	**+0.3**
THR3	**Thira Island,**	**1.61**	**1**	P	**Pn**	**00 18 55.5**	**+0.3**
THR8	**Santorini-Mono**	**1.61**	**3**	P	**Pn**	**00 18 55.3**	**0.0**

SAP2K	**Karterados**	**1.61**	**2**	P	**Pn**	**00 18 55.6**	**+0.3**
THR2	**Thira island,**	**1.65**	**2**	P	**Pn**	**00 18 55.8**	**0.0**
THR2	**Thira island,**	**1.65**	**2**	P	**Pn**	**00 18 55.0**	**-0.8**
KARP	**Karpathos**	**1.65**	**63**	P	**Pb**	**00 18 57.4**	**+0.4**
KARP				S	**Sg**	**00 19 19.3**	**+0.4**
KARP				AML	AML	00 19 27.4	
	comp=E,860µm,0.5s						
KARP				AML	AML	00 19 28.7	
	comp=N,807µm,0.4s						
KARP	**Karpathos**	**1.65**	**63**	P	**Pn**	**00 18 55.4**	**-0.5**
IOSP	**Ios island**	**1.92**	**358**	P	**Pn**	**00 18 59.1**	**-0.5**
IOSP				S	**Sn**	**00 19 24.4**	**0.0**
ANKY	**Antikythira Is**	**1.99**	**303**	P	**Pb**	**00 19 02.0**	**-0.7**
AMGA	**Amorgos Island**	**2.07**	**12**	P	**Pn**	**00 19 02.0**	**+0.3**
MHLA	**Plaka, Milos I**	**2.09**	**339**	P	**Pn**	**00 19 02.9**	**+1.0**
APE	**Apeiranthos**	**2.27**	**3**	P	**Pn**	**00 19 04.8**	**+0.4**
KYTH	**Kithira**	**2.39**	**308**	P	**Pb**	**00 19 07.9**	**-1.7**
ARG	**Arkhangelos**	**2.66**	**57**	P	**Pb**	**00 19 11.8**	**-2.4**
VLI	**Veliai**	**2.75**	**315**	P	**Pn**	**00 19 11.7**	**+0.8**
DID	**Didima**	**3.20**	**328**	P	**Pn**	**00 19 18.8**	**+1.6**
VLY	**Voula,Athens**	**3.30**	**338**	P	**Pn**	**00 19 19.9**	**+1.3**
PTL	**Penteli**	**3.46**	**340**	P	**Pn**	**00 19 21.4**	**+0.6**
DION	**Dionisos Attik**	**3.47**	**341**	P	**Pn**	**00 19 22.2**	**+1.3**
LTK	**Loutraki**	**3.75**	**330**	P	**Pn**	**00 19 26.5**	**+1.8**
BRTR	**Keskin Array B**	**8.23**	**51**	Pn	**Pn**	**00 20 27.6**	**+1.3**
	comp=N,0.1nm,0.3s,baz=268,slow=10,SNR=3.5							
VAE	**Valguarnera**	**9.25**	**290**	Pn	Pn	00 20 45.5	+5.2
	comp=N,0.6nm,0.3s,baz=147,slow=11,SNR=2.8							
MLR	**Muntele Rosu**	**10.69**	**2**	LR	LR	00 26 07.0		
	comp=N,59nm,18.7s,baz=4.0,slow=42							
AKASG	**Malin Array Be**	**16.14**	**9**	Pn	**P**	**00 22 15.4**	**-1.7**
	comp=N,0.8nm,0.3s,baz=202,slow=11,SNR=4.9							
GERES	**GERESS Array B**	**16.48**	**332**	Pn	**P**	**00 22 20.6**	**-0.3**
	comp=N,0.1nm,0.3s,baz=163,slow=14,SNR=2.8							
FINES	**FINESS Array B**	**26.67**	**1**	P	**P**	**00 24 05.6**	**-0.2**
	comp=N,1.2nm,0.9s,baz=192,slow=13,SNR=2.8							
TORD	**Torodi Ar. Bea**	**30.39**	**231**	P	**P**	**00 24 39.6**	**+0.1**
	comp=N,0.2nm,0.4s,baz=32,slow=8.6,SNR=4.5							
BVAR	**Borovoye Array**	**36.48**	**46**	LR	LR	00 43 17.8		
	comp=N,35nm,18.2s,baz=22,slow=41							
MKAR	**Makanchi Array**	**43.84**	**56**	P	**P**	**00 26 32.7**	**-0.7**
	comp=N,0.3nm,0.3s,baz=272,slow=7.4,SNR=6.9							
ZALV	**Zalesovo Beam**	**45.13**	**46**	P	**P**	**00 26 42.4**	**-1.1**
	comp=N,0.4nm,0.5s,baz=268,slow=9.8,SNR=2.8							
SONM	**Songino Array**	**59.59**	**51**	P	**P**	**00 28 30.3**	**-0.8**
	comp=N,0.3nm,0.5s,baz=284,slow=7.8,SNR=3.8							
YKA	**Yellowknife Ar**	**77.84**	**342**	P	**P**	**00 30 27.3**	**+2.8**
	comp=N,0.1nm,0.4s,baz=18,slow=4.1,SNR=3.7							

MEX 20 00:19:19.5±0.6, 14°.12N × 91°.54W, h67km±20km, MD3.9, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.05**	**318**	*e*P	Pn	00 19 37.2	-1.3
THIG				*e*S	Sn	00 19 51.1	-1.5
CCIG	**Comitan**	**2.22**	**345**	*i* P	Pn	00 19 53.4	-0.9
CCIG				*i* S	Sn	00 20 19.5	-1.3
PCIG		**2.26**	**314**	*i* P	Pn	00 19 53.4	-1.2
PCIG				*i* S	Sn	00 20 19.1	-2.3

WEL 20 00:20:54.5, 39°.S ±1°.× 17°.8E±°., h31km±2km, ML3.7/32, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.08**	**328**	P	Pb	00 20 59.7	-0.1
CNGZ				S	Sb	00 21 05.1	+1.6
TKGZ	**Te Karaka**	**0.34**	**289**	P	Pb	00 21 01.6	-1.0
TKGZ				S	Sb	00 21 07.2	-0.9
RIGZ	**Rimuhau**	**0.42**	**248**	P	Pb	00 21 04.1	+0.3
RIGZ				S	Sn	00 21 11.9	+0.7
TWGZ	**Tauwhareparae**	**0.43**	**329**	P	Pb	00 21 03.6	-0.3
TWGZ				S	Sn	00 21 11.2	-0.2
PRGZ	**Paritu Road**	**0.47**	**218**	P	Pn	00 21 05.7	+0.6
PRGZ				S	Sn	00 21 15.2	+2.7
PUZ	**Puketiti**	**0.48**	**360**	P	Pn	00 21 04.9	-0.3
PUZ				S	Sn	00 21 12.8	+0.3
MWZ	**Matawai**	**0.61**	**290**	P	Pb	00 21 05.9	-1.0
KNZ	**Kokohu**	**0.66**	**244**	P	Pn	00 21 07.8	+0.2
MHGZ	**Mahia Peninsul**	**0.66**	**205**	P	Pn	00 21 08.8	+1.1
RAGZ	**Rawiri**	**0.67**	**274**	P	Pb	00 21 07.2	-0.5
RAGZ				S	Sb	00 21 17.0	+0.2
PKGZ	**Pakihiroa**	**0.68**	**348**	P	Pb	00 21 07.9	0.0
PKGZ				S	Sn	00 21 18.1	+0.7
WMGZ	**Waiomatatini S**	**0.74**	**9**	P	Pb	00 21 09.6	+0.7
RUGZ	**Raukumara Rang**	**0.74**	**322**	P	Pn	00 21 08.0	-0.9
RUGZ

0.2nm,0.3s,baz=356,slow=13,SNR=9.4
WRA Sn Sn 00 38 46.2 -7.9
0.6nm,0.3s,baz=359,slow=23,SNR=9.1
ASAR Alice Springs 16.92 175 Pn Pn 00 37 13.9 +0.4
0.1nm,0.3s,baz=356,slow=14,SNR=7.5
ASAR Sn Sn 00 40 13.3 -9.0
0.1nm,0.3s,baz=189,slow=28,SNR=4.1
KLR Kul'dur 55.73 360 LR LR 01 05 55.5
comp=Z,34nm,19.8s,baz=95,slow=35
SONM Songino Array 58.90 340 P P 00 43 16.2 +0.1
0.4nm,1.0s,baz=151,slow=3.3,SNR=2.8
MKAR Makanchi Array 69.20 326 P P 00 44 23.7 -0.1
0.4nm,0.4s,baz=123,slow=6.9,SNR=14

IDC ***20*** *00:38:14.4±1.3, 7.°36S×155.°71E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.8/34, mbtmp3.8/10, ML2.4/1, Error ellipse: s-maj=43.2km s-min=21.1km az=130.0*
ISCJB ***20*** *00:38:17.6±0.9, 7.°4S±0.°2×155.°6E±0.°1, h29km, mb3.6/9, Error ellipse: s-maj=25.0km s-min=11.2km az=150.3*
ISC 20 00:38:18.8±1.1, 7.°4S±0.°2×155.°7E±0.°1, h29km, n11, σ0s71/12, mb3.6/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.72**	**256**	Pn	**Pn**	**00 40 23.6**	**+0.6**
	2.3nm,0.3s,baz=65,slow=17,SNR=3.6						
PMG				Sn	**Sn**	**00 42 00.7**	**+0.3**
	3.0nm,0.3s,baz=103,slow=1.7,SNR=4.0						
WRA	**Warramunga Arr**	**24.20**	**237**	P	**P**	**00 43 33.4**	**+0.3**
	1.2nm,0.6s,baz=58,slow=9.3,SNR=5.9						
ASAR	**Alice Springs**	**26.46**	**230**	P	**P**	**00 43 54.2**	**+0.5**
	0.3nm,0.7s,baz=56,slow=10,SNR=2.6						
STKA	**Stephens Creek**	**27.68**	**207**	P	**P**	**00 44 04.2**	**-0.3**
	0.4nm,0.3s,baz=343,slow=11,SNR=2.1						
FITZ	**Fitzroy Crossi**	**31.16**	**247**	P	**P**	**00 44 34.8**	**-0.8**
	6.1nm,1.1s,baz=96,slow=9.2,SNR=3.4						
CMAR	**Chiang Mai Arr**	**61.63**	**295**	P	**P**	**00 48 34.3**	**-0.1**
	0.8nm,0.3s,baz=126,slow=5.7,SNR=3.2						
SONM	**Songino Array**	**70.09**	**327**	P	**P**	**00 49 28.2**	**-0.2**
	0.3nm,0.7s,baz=126,slow=6.2,SNR=3.7						
ILAR	**Eielson Array**	**83.49**	**21**	P	**P**	**00 50 43.4**	**-0.1**
	0.3nm,0.8s,baz=246,slow=6.0,SNR=5.4						
MKAR	**Makanchi Array**	**84.21**	**319**	P	**P**	**00 50 47.2**	**-0.5**
	0.2nm,0.5s,baz=101,slow=7.3,SNR=6.5						
YKA	**Yellowknife Ar**	**96.36**	**28**	P	**P**	**00 51 46.0**	**+1.4**
	0.1nm,0.4s,baz=267,slow=3.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**153.85**	**285**	PKPbc	**PKPbc**	**00 58 15.6**	**-0.9**
	0.4nm,1.1s,baz=90,slow=3.0,SNR=2.4						

ISCJB ***20*** *00:45:57.3±0.1, 39.°82S±0.°02×174.°35E±0.°03, h127km±1km, mb4.8/30, Error ellipse: s-maj=3.9km s-min=2.5km az=27.1*
WEL ***20*** *00:45:57.2, 40.°S±1.°×17.°4E±.°, h134km±2km*
BJI ***20*** *00:45:57.9, 39.°57S×174.°32E, h122km, mb5.1/12, mB5.4/4*
NEIC ***20*** *00:45:57.1±0.0, 39.°81S×174.°34E, h138km, mb4.8/15, ML5.2(WEL), After WEL.*
NEIC Felt at Midhirst, New Plymouth and Wanganui.
IDC ***20*** *00:45:58.1±0.4, 39.°67S×174.°45E, h125km±4km, mb4.1/10, mb1 4.2/12, mb1mx4.1/27, mbtmp4.5/12, MS3.5/4, Ms1 3.5/4, ms1mx3.1/22, Error ellipse: s-maj=13.1km s-min=8.5km az=159.0*
ISC 20 00:45:58.4±0.4, 39.°87S±0.°03×174.°36E±0.°03, h127km±2km, h127km:pP-P, n251, σ1965/308, mb4.8/29, 1C-1D, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LREZ	**Lake Rotokare**	**0.41**	**4**	P	**Pn**	**00 46 16.3**	**-0.4**
LREZ				S	**Sn**	**00 46 29.7**	**-0.7**
WAZ	**Wanganui**	**0.49**	**77**	P	**Pn**	**00 46 17.5**	**+0.4**
WAZ				S	**Sn**	**00 46 32.2**	**+1.0**
PREZ	**Palmer Road**	**0.55**	**343**	P	**Pn**	**00 46 16.7**	**-0.8**
PREZ				S	**Sn**	**00 46 30.6**	**-1.2**
NMEZ	**Namu Road**	**0.59**	**320**	P	**Pn**	**00 46 17.0**	**-0.6**
NMEZ				S	**Sn**	**00 46 31.0**	**-1.1**
KHEZ	**Kahui Hut**	**0.63**	**335**	P	**Pn**	**00 46 17.2**	**-0.9**
KHEZ				S	**Sn**	**00 46 31.3**	**-1.6**
DREZ	**Durham Road**	**0.69**	**350**	P	**Pn**	**00 46 17.5**	**-0.8**
DREZ				S	**Sn**	**00 46 31.8**	**-1.7**
NBEZ	**Newall Road No**	**0.71**	**327**	P	**Pn**	**00 46 17.8**	**-0.7**
NBEZ				S	**Sn**	**00 46 32.6**	**-1.1**
PKE	**Pukeiti**	**0.73**	**336**	P	**Pn**	**00 46 17.8**	**-1.0**
MHEZ	**Mangahewa**	**0.79**	**358**	P	**Pn**	**00 46 18.5**	**-0.7**
VRZ	**Vera Road**	**0.80**	**23**	P	**Pn**	**00 46 18.3**	**-1.0**
OHWZ	**Ohakea**	**0.81**	**115**	P	**Pn**	**00 46 20.3**	**+0.0**
PKVZ	**Pokaka**	**0.95**	**53**	P	**Pn**	**00 46 20.0**	**-0.6**
MTVZ	**Mangateitei**	**0.98**	**61**	P	**Pn**	**00 46 20.4**	**-0.6**
DUWZ	**D'Urville Isla**	**0.99**	**200**	P	**Pn**	**00 46 21.7**	**+0.7**
TRVZ	**Turoa**	**1.08**	**59**	P	**Pn**	**00 46 21.3**	**-0.7**
KIW	**Kapiti Island**	**1.08**	**157**	P	**Pn**	**00 46 22.5**	**+0.7**
DRZ	**Dome Shelter**	**1.10**	**58**	P	**Pn**	**00 46 21.7**	**-0.6**
FWVZ	**Far West T-bar**	**1.10**	**57**	P	**Pn**	**00 46 21.5**	**-0.8**
WHVZ	**Whangaehu Hut**	**1.11**	**59**	P	**Pn**	**00 46 21.7**	**-0.7**
COVZ	**Chateau Observ**	**1.13**	**54**	P	**Pn**	**00 46 21.6**	**-0.8**
OGWZ	**Otaki Gorge**	**1.13**	**147**	P	**Pn**	**00 46 23.1**	**+0.8**
TWVZ	**Taurewa**	**1.15**	**47**	P	**Pn**	**00 46 21.6**	**-1.0**
TUVZ	**Tukino**	**1.16**	**60**	P	**Pn**	**00 46 22.4**	**-0.4**
MOVZ	**Moawhango**	**1.17**	**67**	P	**Pn**	**00 46 22.0**	**-0.8**
NGZ	**Ngauruhoe**	**1.18**	**55**	P	**Pn**	**00 46 22.2**	**-0.8**
POWZ	**Post Office Ro**	**1.20**	**116**	P	**Pn**	**00 46 23.5**	**+0.5**
WTVZ	**West Tongariro**	**1.21**	**52**	P	**Pn**	**00 46 22.4**	**-0.8**
MRZ	**Mangatainoka R**	**1.22**	**131**	P	**Pn**	**00 46 23.9**	**+0.6**
TSZ	**Takapari Road**	**1.24**	**99**	P	**Pn**	**00 46 23.4**	**-0.1**
KRVZ	**Karewarewa**	**1.25**	**53**	P	**Pn**	**00 46 22.9**	**-0.8**
TCW	**Tory Channel**	**1.34**	**183**	P	**Pn**	**00 46 25.4**	**+0.9**
CAW	**Cannon Point**	**1.35**	**157**	P	**Pn**	**00 46 25.6**	**+1.0**
HOWZ	**Holdsworth Sta**	**1.36**	**140**	P	**Pn**	**00 46 25.3**	**+0.6**
KATZ	**Kakaramea**	**1.36**	**50**	P	**Pn**	**00 46 24.3**	**-0.6**
BHHZ	**Black Hill Sta**	**1.36**	**75**	P	**Pn**	**00 46 23.7**	**-1.1**
HIZ	**Hauiti**	**1.40**	**16**	*e*Pn	**Pn**	**00 46 23.9**	**-1.3**
HIZ				*e*Sn	**Sn**	**00 46 43.4**	**-2.1**
HIZ	**Hauiti**	**1.40**	**16**	P	**Pn**	**00 46 23.8**	**-1.4**
PRWZ	**Pori Road**	**1.41**	**120**	P	**Pn**	**00 46 26.0**	**+0.8**
DVHZ	**Dannevirke**	**1.45**	**108**	P	**Pn**	**00 46 25.7**	**0.0**
RITZ	**Rihia Road**	**1.46**	**53**	P	**Pn**	**00 46 25.5**	**-0.3**
SNZO	**South Karori**	**1.47**	**170**	*e*Pn	**Pn**	**00 46 26.7**	**+0.9**
SNZO				*e*Sn	**Sn**	**00 46 46.1**	**-0.7**
TIWZ	**Tintock**	**1.48**	**128**	P	**Pn**	**00 46 26.8**	**+0.8**
RATZ	**Rangitukua**	**1.48**	**48**	P	**Pn**	**00 46 25.6**	**-0.5**
NNZ	**Nelson**	**1.54**	**209**	P	**Pn**	**00 46 27.3**	**+0.6**
MTW	**Mount Morrison**	**1.56**	**146**	P	**Pn**	**00 46 27.5**	**+0.6**
WATZ	**Wairara**	**1.57**	**43**	P	**Pn**	**00 46 26.5**	**-0.6**
BHW	**Baring Head**	**1.59**	**166**	P	**Pn**	**00 46 28.0**	**+0.7**
TUWZ	**Tuamarina**	**1.59**	**191**	P	**Pn**	**00 46 27.7**	**+0.4**
WPHZ	**Waipukurau**	**1.61**	**98**	P	**Pn**	**00 46 27.7**	**+0.2**
KWHZ	**Kaweka Forest**	**1.65**	**75**	P	**Pn**	**00 46 27.7**	**-0.4**
BFZ	**Birch Farm**	**1.66**	**120**	*e*Pn	**Pn**	**00 46 28.4**	**+0.3**
BFZ	**Birch Farm**	**1.66**	**120**	P	**Pn**	**00 46 28.3**	**+0.3**
HATZ	**Hinemaiaia**	**1.66**	**55**	P	**Pn**	**00 46 27.1**	**-1.0**
MSWZ	**Moikau Station**	**1.69**	**157**	P	**Pn**	**00 46 29.2**	**+0.7**
QRZ	**Quartz Range**	**1.70**	**235**	P	**Pn**	**00 46 28.3**	**-0.3**
TMWZ	**Te Maipa**	**1.70**	**137**	P	**Pn**	**00 46 29.3**	**+0.7**
PAWZ	**Paruwai Farm**	**1.72**	**152**	P	**Pn**	**00 46 29.5**	**+0.7**
WHTZ	**Whakaora**	**1.72**	**46**	P	**Pn**	**00 46 28.8**	**-1.1**
ANWZ	**Angora Road**	**1.73**	**111**	P	**Pn**	**00 46 29.5**	**+0.7**
CPWZ	**Castlepoint**	**1.75**	**127**	P	**Pn**	**00 46 30.4**	**+1.3**
KUTZ	**Kaahu Road**	**1.78**	**40**	P	**Pn**	**00 46 29.2**	**-0.4**
TLZ	**Tolley Road**	**1.79**	**31**	P	**Pn**	**00 46 28.6**	**-1.1**
BKZ	**Black Stump Fm**	**1.79**	**68**	*e*Pn	**Pn**	**00 46 28.7**	**-1.0**
BKZ	**Black Stump Fm**	**1.79**	**68**	P	**Pn**	**00 46 28.6**	**-1.0**
PRHZ	**Porangahau**	**1.79**	**104**	P	**Pn**	**00 46 29.8**	**+0.2**
PLWZ	**Palliser**	**1.83**	**159**	P	**Pn**	**00 46 30.7**	**+0.5**
TRWZ	**Traveller**	**1.83**	**147**	P	**Pn**	**00 46 30.7**	**+0.5**
MCHZ	**McNeill Hill**	**1.85**	**78**	P	**Pn**	**00 46 30.2**	**-0.2**
BSWZ	**Blackbirch Sta**	**1.88**	**191**	P	**Pn**	**00 46 31.7**	**+0.9**
CMWZ	**Cape Campbell**	**1.89**	**183**	P	**Pn**	**00 46 32.1**	**+1.4**
MRHZ	**Matea Rd**	**1.90**	**58**	P	**Pn**	**00 46 29.7**	**-1.3**
PXZ	**Pawanui**	**1.93**	**96**	P	**Pn**	**00 46 31.4**	**+0.1**
KAHZ	**Kahuranaki**	**1.94**	**89**	P	**Pn**	**00 46 31.0**	**-0.5**
WPRZ	**Whakapapatarin**	**1.94**	**47**	P	**Pn**	**00 46 30.7**	**-0.7**
ALRZ	**Allen Road**	**2.02**	**50**	P	**Pn**	**00 46 31.3**	**-1.1**
GRRZ	**Galatos Road**	**2.04**	**42**	P	**Pn**	**00 46 32.4**	**-0.2**
NMHZ	**Naumai**	**2.04**	**69**	P	**Pn**	**00 46 32.4**	**-0.3**
PRRZ	**Plateau Road**	**2.09**	**50**	P	**Pn**	**00 46 32.1**	**-1.1**
HRRZ	**Handcock Road**	**2.10**	**46**	P	**Pn**	**00 46 32.9**	**-0.6**
CKHZ	**Cape Kidnapper**	**2.10**	**85**	P	**Pn**	**00 46 32.9**	**-0.5**
ARHZ	**Aropaoanui**	**2.12**	**74**	P	**Pn**	**00 46 33.2**	**-0.5**
HSRZ	**Hossack Road**	**2.13**	**44**	P	**Pn**	**00 46 33.4**	**-0.4**
MTHZ	**Maungataniwha**	**2.17**	**63**	P	**Pn**	**00 46 33.1**	**-1.2**
THZ	**Tophouse**	**2.19**	**210**	*e*Pn	**Pn**	**00 46 34.9**	**+0.3**
THZ				*e*Sn	**Sn**	**00 47 03.6**	**+1.2**
THZ	**Tophouse**	**2.19**	**210**	P	**Pn**	**00 46 34.9**	**+0.3**
UTU	**Utuhina**	**2.21**	**41**	P	**Pn**	**00 46 34.7**	**-0.1**
HLRZ	**Highlands Stat**	**2.23**	**45**	P	**Pn**	**00 46 34.8**	**-0.3**
NGRZ	**Ngongotaha**	**2.26**	**40**	P	**Pn**	**00 46 35.2**	**-0.3**
RRRZ	**Republican Roa**	**2.26**	**48**	P	**Pn**	**00 46 34.5**	**-1.0**
TOZ	**Tahuroa Road**	**2.31**	**23**	P	**Pn**	**00 46 34.4**	**-1.7**
RAHZ	**Arahi**	**2.31**	**67**	P	**Pn**	**00 46 35.1**	**-1.0**
MUGZ	**Murupara**	**2.33**	**54**	P	**Pn**	**00 46 34.6**	**-1.7**
TARZ	**Mount Tarawera**	**2.33**	**46**	P	**Pn**	**00 46 35.7**	**-0.7**
OMRZ	**Omania**	**2.35**	**42**	P	**Pn**	**00 46 36.0**	**-0.7**
KARZ	**Kaharoa**	**2.35**	**39**	P	**Pn**	**00 46 36.3**	**-0.4**
WHHZ	**Waihua**	**2.36**	**71**	P	**Pn**	**00 46 35.7**	**-0.9**
MKRZ	**Makatiti**	**2.38**	**44**	P	**Pn**	**00 46 36.6**	**-0.4**
MKRZ				P	**Pn**	**00 46 36.6**	**-0.4**
RTZ	**Ruatahuna**	**2.39**	**59**	P	**Pn**	**00 46 35.3**	**-1.8**
LIRZ	**Lichensteins R**	**2.44**	**41**	P	**Pn**	**00 46 37.1**	**-0.6**
SNGZ	**Shannon Statio**	**2.55**	**66**	P	**Pn**	**00 46 38.0**	**-1.1**
EDRZ	**Edgecumbe**	**2.55**	**47**	P	**Pn**	**00 46 37.9**	**-1.3**
TGRZ	**Tauranga**	**2.60**	**35**	P	**Pn**	**00 46 39.0**	**-0.7**
MARZ	**Manawahe**	**2.60**	**45**	P	**Pn**	**00 46 39.0**	**-0.8**
KHZ	**Kahutara**	**2.62**	**193**	*e*Pn	**Pn**	**00 46 40.5**	**+0.5**
KHZ				*e*Sn	**Sn**	**00 47 12.4**	**+0.4**
KHZ	**Kahutara**	**2.62**	**193**	P	**Pn**	**00 46 40.5**	**+0.5**
OPRZ	**Ohinepanea**	**2.65**	**41**	P	**Pn**	**00 46 39.5**	**-0.8**
URZ	**Urewera**	**2.67**	**54**	P	**Pn**	**00 46 38.5**	**-2.2**
	342nm,0.3s,baz=248,slow=8.1,SNR=1693						
URZ				S	**Sn**	**00 47 09.1**	**-4.1**
	452nm,0.3s,baz=33,slow=16,SNR=17						
URZ				LR	LR	00 47 37.0	
	comp=Z,838nm,20.2s,baz=214,slow=39						
URZ	**Urewera**	**2.67**	**54**	*e*Pn	**Pn**	**00 46 38.4**	**-2.2**
URZ				*e*Sn	**Sn**	**00 47 08.0**	**-5.2**
URZ				*e*Sn	Sn	00 47 09.1	-4.0
URZ	**Urewera**	**2.67**	**54**	P	**Pn**	**00 46 38.5**	**-2.2**
KNZ	**Kokohu**	**2.70**	**73**	P	**Pn**	**00 46 39.3**	**-1.6**
DSZ	**Denniston Nort**	**2.70**	**225**	P	**Pn**	**00 46 40.9**	**-0.2**
RAGZ	**Rawiri**	**2.74**	**61**	P	**Pn**	**00 46 39.9**	**-1.7**
KBAZ	**Karaka Road Bo**	**2.80**	**9**	P	**Pn**	**00 46 41.7**	**-0.5**
AWAZ	**Awhitu Peninsu**	**2.81**	**5**	P	**Pn**	**00 46 41.3**	**-1.1**
MKAZ	**Moumakai**	**2.83**	**13**	P	**Pn**	**00 46 41.5**	**-1.2**
MHGZ	**Mahia Peninsul**	**2.83**	**77**	P	**Pn**	**00 46 41.4**	**-1.3**
WHRZ	**Whale Island**	**2.86**	**46**	P	**Pn**	**00 46 42.6**	**-0.6**
RIGZ	**Rimuhau**	**2.88**	**67**	P	**Pn**	**00 46 41.6**	**-1.8**
PRGZ	**Paritu Road**	**2.89**	**72**	P	**Pn**	**00 46 41.9**	**-1.5**
MWZ	**Matawai**	**2.90**	**59**	P	**Pn**	**00 46 41.6**	**-2.0**
WTAZ	**Waiatarua**	**2.93**	**3**	P	**Pn**	**00 46 43.6**	**-0.4**
ETAZ	**East Tamaki Re**	**2.94**	**9**	P	**Pn**	**00 46 43.2**	**-0.9**
MYRZ	**Mayor Island**	**2.97**	**30**	P	**Pn**	**00 46 43.0**	**-1.5**
EPAZ	**Eden Park BICE**	**3.00**	**6**	P	**Pn**	**00 46 44.6**	**-0.3**
HBAZ	**Herne Bay Bore**	**3.02**	**6**	P	**Pn**	**00 46 45.0**	**-0.1**
TKGZ	**Te Karaka**	**3.06**	**63**	P	**Pn**	**00 46 44.0**	**-1.6**
MBAZ	**Motutapu North**	**3.12**	**8**	P	**Pn**	**00 46 46.0**	**-0.4**
WIAZ	**Waiheke Island**	**3.13**	**11**	P	**Pn**	**00 46 45.8**	**-0.8**
RUGZ	**Raukumara Rang**	**3.21**	**55**	P	**Pn**	**00 46 45.0**	**-2.7**
ABAZ	**Army Bay**	**3.28**	**7**	P	**Pn**	**00 46 47.8**	**-0.8**
TWGZ	**Tauwhareparae**	**3.28**	**60**	P	**Pn**	**00 46 46.8**	**-1.8**
CNGZ	**Carnagh Statio**	**3.29**	**66**	P	**Pn**	**00 46 47.0**	**-1.7**
KUZ	**Kuaotunu**	**3.29**	**19**	P	**Pn**	**00 46 47.1**	**-1.6**
LTZ	**Lake Taylor**	**3.31**	**208**	*e*Pn	**Pn**	**00 46 48.2**	**-0.8**
LTZ				*e*Sn	**Sn**	**00 47 24.1**	**-4.0**
LTZ	**Lake Taylor**	**3.31**	**208**	P	**Pn**	**00 46 48.3**	**-0.7**
HAZ	**Te Kaha**	**3.40**	**53**	P	**Pn**	**00 46 47.1**	**-3.0**
PKGZ	**Pakihiroa**	**3.51**	**57**	P	**Pn**	**00 46 49.4**	**-2.2**
PUZ	**Puketiti**	**3.52**	**61**	P	**Pn**	**00 46 49.2**	**-2.6**
AMCZ	**Amberley**	**3.55**	**201**	P	**Pn**	**00 46 51.1**	**-0.9**
AMCZ	**Amberley**	**3.55**	**201**	P	**Sn**	**00 47 31.0**	**-2.6**
INZ	**Inchbonnie**	**3.60**	**217**	P	**Pn**	**00 46 52.1**	**-0.6**
GRZ	**Great Barrier**	**3.71**	**14**	P	**Pn**	**00 46 53.1**	**-1.1**
WMGZ	**Waiomatatini S**	**3.77**	**58**	P	**Pn**	**00 46 52.3**	**-2.7**
MXZ	**Matakaoa Point**	**3.85**	**55**	*e*Pn	**Pn**	**00 46 53.8**	**-2.2**
MXZ	**Matakaoa Point**	**3.85**	**55**	P	**Pn**	**00 46 53.5**	**-2.5**
OXZ	**Oxford**	**3.87**	**206**	*e*Pn	**Pn**	**00 46 54.3**	**-2.0**
OXZ				*e*Sn	**Sn**	**00 47 38.1**	**-3.1**
OXZ	**Oxford**	**3.87**	**206**	P	**Pn**	**00 46 54.4**	**-2.0**
OXZ	**Oxford**	**3.87**	**206**	P	**Sn**	**00 47 37.0**	**-4.3**
WCZ	**Waipu Caves**	**3.92**	**360**	P	**Pn**	**00 46 55.9**	**-1.2**
CRLZ	**Canterbury Las**	**3.93**	**199**	*e*Pn	**Pn**	**00 46 55.1**	**-1.9**
CRLZ				*e*Sn	Sn	00 47 33.3	-9.2
CRLZ	**Canterbury Las**	**3.93**	**199**	P	**Pn**	**00 46 55.1**	**-1.9**
CRLZ	**Canterbury Las**	**3.93**	**199**	P	Sn	00 47 33.6	-8.9
OKCZ	**Okains Bay**	**3.98**	**194**	P	**Pn**	**00 46 56.5**	**-1.2**
OKCZ	**Okains Bay**	**3.98**	**194**	P	**Sn**	**00 47 38.3**	**-5.5**
MQZ	**McQueen's Vall**	**4.04**	**198**	*e*Pn	**Pn**	**00 46 56.3**	**-2.2**
MQZ				*e*Sn	**Sn**	**00 47 38.2**	**-7.1**
MQZ	**McQueen's Vall**	**4.04**	**198**	P	**Sn**	**00 47 39.2**	**-6.1**
AKCZ	**Akaroa Harbour**	**4.15**	**195**	P	**Pn**	**00 46 58.4**	**-1.6**
AKCZ	**Akaroa Harbour**	**4.15**	**195**	P	**Sn**	**00 47 40.5**	**-7.4**
WVZ	**Waitaha Valley**	**4.21**	**219**	P	**Pn**	**00 46 59.6**	**-1.1**
RPZ	**Rata Peaks**	**4.57**	**212**	P	**Pn**	**00 47 05.0**	**-0.6**
	32nm,0.3s,baz=7.9,slow=0.7,SNR=49						
RPZ				S	**Sn**	**00 47 53.7**	**-4.2**
	349nm,0.3s,baz=284,slow=23,SNR=38						
RPZ				LR	LR	00 49 15.4	
	comp=Z,517nm,21.6s,baz=344,slow=41						
RPZ	**Rata Peaks**	**4.57**	**212**	*e*Pn	**Pn**	**00 47 05.0**	**-0.6**
RPZ				*e*Sn	Sn	00 47 48.0	-10
RPZ				*e*Sn	Sn	00 47 53.8	-4.2
RPZ	**Rata Peaks**	**4.57**	**212**	P	**Pn**	**00 47 04.2**	**-1.4**
OUZ	**Omahuta**	**4.68**	**352**	*e*Pn	**Pn**	**00 47 06.7**	**-0.4**
OUZ	**Omahuta**	**4.68**	**352**	P	**Pn**	**00 47 06.6**	**-0.4**
FOZ	**Fox Glacier**	**5.00**	**221**	*e*Pn	**Pn**	**00 47 09.8**	**-1.6**
FOZ				*e*Sn	**Sn**	**00 48 04.5**	**-3.6**
LBZ	**Lake Benmore**	**5.48**	**213**	*e*Pn	**Pn**	**00 47 17.2**	**-0.6**
LBZ				*e*Sn	Sn	00 48 10.0	-10
ODZ	**Otahua Downs**	**5.86**	**207**	*e*Pn	**Pn**	**00 47 20.8**	**-2.1**
ODZ				*e*Sn	Sn	00 48 17.6	-11
WKZ	**Wanaka**	**6.34**	**217**	*e*Pn	**Pn**	**00 47 27.4**	**-2.0**
MLZ	**Mavora Lakes**	**7.17**	**218**	*e*Pn	**Pn**	**00 47 38.5**	**-2.1**
WHZ	**Wether Hill Ro**	**7.64**	**216**	*e*Pn	**Pn**	**00 47 46.9**	**0.0**
DCZ	**Deep Cove**	**7.71**	**221**	*e*Pn	**Pn**	**00 47 48.0**	**+0.1**
DZM	**Mont Dzumac**	**18.98**	**337**	P	**P**	**00 50 08.6**	**-1.4**
	0.2nm,0.3s,baz=164,slow=12,SNR=3.9						
DZM	**Mont Dzumac**	**18.98**	**337**	*e*P	**P**	**00 50 08.6**	**-1.4**
	15nm,1.0s						
MSVF	**Nonsavu**	**22.29**	**9**	*e*P	**P**	**00 50 44.3**	**-1.1**
	34nm,0.7s						
TOO	**Toolangi**	**22.60**	**267**	*e*P	**P**	**00 50 50.6**	**+2.2**
	70nm,1.4s						
STKA	**Stephens Creek**	**27.61**	**276**	P	**P**	**00 51 35.3**	**+1.5**
	5.8nm,0.9s,baz=131,slow=13,SNR=8.2						
STKA				LR	LR	01 01 07.2	
	comp=Z,67nm,20.7s,baz=29,slow=33						
STKA	**Stephens Creek**	**27.61**	**276**	*e*P	**P**	**00 51 36.2**	**+2.4**
	1.6nm,1.1s						
BBOO	**Buckleboo**	**31.47**	**271**	*e*P	**P**	**00 52 07.5**	**-0.4**
	17nm,0.8s						
AS01	**Alice Springs**	**37.61**	**283**	*e*P	**P**	**00 53 01.1**	**+0.2**
AS31	**Alice Springs**	**37.65**	**283**	*e*P	**P**	**00 53 01.9**	**+0.7**
	4.4nm,0.9s						
AS31				*e*pP	**pP**	**00 53 30.6**	**+1.3**
ASAR	**Alice Springs**	**37.65**	**283**	P	**P**	**00 53 01.8**	**+0.5**
	7.1nm,0.6s,baz=126,slow=7.9,SNR=63						
ASAR				pP	**pP**	**00 53 30.6**	**+1.3**
	4.6nm,1.0s,baz=134,slow=7.4,SNR=3.2						
ASAR				S	**S**	**00 58 39.4**	**-2.4**
	0.8nm,0.7s,baz=134,slow=16,SNR=5.7						
VNDA	**Vanda**	**38.13**	**184**	P	**P**	**00 53 07.5**	**+3.0**
	3.4nm,0.9s,baz=351,slow=5.0,SNR=5.1						
PPT	**Papeete**	**38.27**	**65**	P	**P**	**00 53 08.0**	**+1.5**
	37nm,0.7s,baz=192,slow=14,SNR=3.6						
FORT	**Forrest**	**38.49**	**269**	*e*P	**P**	**00 53 08.5**	**+0.4**
	34nm,0.6s						
WR1	**Warramunga Arr**	**39.56**	**288**	*e*P	**P**	**00 53 17.4**	**+0.2**
	29nm,1.4s						
WR1				*e*pP	**pP**	**00 53 46.5**	**+1.1**
WR1				*e*ScP	**ScP**	**00 58 56.2**	**-2.7**
WRA	**Warramunga Arr**	**39.56**	**288**	P	**P**	**00 53 17.4**	**+0.2**
	3.6nm,0.6s,baz=126,slow=8.3,SNR=49						
WRA				pP	**pP**	**00 53 46.5**	**+1.1**
	5.6nm,0.6s,baz=127,slow=7.8,SNR=8.2						
WRA				ScP	**ScP**	**00 58 56.3**	**-2.7**
	0.6nm,0.9s,baz=108,slow=3.6,SNR=2.7						
CASY	**Casey**	**43.84**	**212**	*e*P	**P**	**00 53 50.9**	**-0.6**
	13nm,0.8s						
NWAO	**Narrogin (SRO)**	**45.83**	**260**	P	**P**	**00 54 07.5**	**-0.2**
	9.4nm,0.9s,baz=355,slow=11,SNR=5.3						
FITZ	**Fitzroy Crossi**	**47.15**	**283**	*e*P	**P**	**00 54 19.1**	**+1.0**
	17nm,0.7s						
QSPA	**South Pole Qui**	**50.26**	**180**	*e*P	**P**	**00 54 42.6**	**+1.2**
	59nm,0.9s						
QSPA				*e*pP	**pP**	**00 55 11.7**	**+0.8**
SYO	**Syowa Base**	**66.41**	**196**	*e*P	**P**	**00 56 32.4**	**-0.8**
SYO	**Syowa Base**	**66.41**	**196**	*e*PcP	**PcP**	**00 57 02.2**	**+0.3**
SNAA	**Sanae**	**68.75**	**181**	P	**P**	**00 56 49.4**	**+1.3**
SNAA	**Sanae**	**68.75**	**181**	P	**P**	**00 56 49.3**	**+1.3**
	23nm,0.9s,baz=200,slow=5.2,SNR=40						
SNAA	**Sanae**	**68.75**	**181**	*e*P	**P**	**00 56 49.1**	**+1.1**
	51nm,1.2s						
SNAA				*e*pP	**pP**	**00 57 17.8**	**-1.3**
VNA3	**Neumayer Olymp**	**69.16**	**179**	P	**P**	**00 56 52.0**	**+1.5**
VNA2	**Neumayer--Watz**	**69.51**	**179**	P	**P**	**00 56 54.4**	**+1.7**
	baz=203,slow=5.4						
VNA1	**Neumayer--Stat**	**69.78**	**179**	P	**P**	**00 56 56.0**	**+1.8**
PLCA	**Paso Flores**	**80.39**	**136**	P	**P**	**00 57 58.0**	**+2.2**
	1.2nm,0.8s,baz=268,slow=5.1,SNR=3.2						
PLCA				pP	**pP**	**00 58 29.4**	**+1.7**
	3.0nm,0.9s,baz=220,slow=7.8,SNR=3.4						
PLCA	**Paso Flores**	**80.39**	**136**	*e*P	**P**	**00 57 55.0**	**-0.8**
	3.9nm,1.2s						
PLCA				*e*pP	**pP**	**00 58 27.1**	**-0.7**
PSI	**Prapat**	**80.66**	**282**	*e*P	**P**	**00 57 56.6**	**-1.0**
	13nm,0.9s						
GSI	**Gunungsitoli**	**80.71**	**280**	*e*P	**P**	**00 57 59.2**	**+1.4**
	71nm,0.8s						
MJAR	**Matsushiro Arr**	**82

Error ellipse: s-maj=3.4km s-min=2.7km az=44.0
*THE **20** 01:08:05.0, 40°.97N×21°.03E, h8km±1km, ML2.4/2, Error ellipse: s-maj=1.8km s-min=0.8km az=233.0*
*TIR **20** 01:08:05.0, 40°.93N×20°.94E, h2km, Md2.8/4*
*ATH **20** 01:08:06.1, 40°.92N×21°.19E, h22km±1km, ML2.2/5, Error ellipse: s-maj=3.3km s-min=1.2km az=137.0*

ISC 20 01:08:05.6±0.9, **40°.95N**±0°.02×**21°.08E**±0°.02, **h11**km±7km, **n59**, σ1§12/85, **4C, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIA	**Bitola**	**0.20**	**70**	P	**Pg**	**01 08 10.2**	**+0.3**
BIA				S	**Sg**	**01 08 13.6**	**+0.8**
BIA	**Bitola**	**0.20**	**70**	*i* Pg	**Pg**	**01 08 09.5**	**-0.4**
BIA				*i* Sg	**Sg**	**01 08 13.7**	**+0.8**
OHR	**Ohrid**	**0.26**	**307**	*i* Pg	**Pg**	**01 08 10.7**	**-0.3**
OHR				*i* Sg	**Sg**	**01 08 15.2**	**+0.5**
OHR				*e*Lg	Lg	01 08 15.3	
	comp=N,1μm,0.6s						
OHR				*e*Lg	Lg	01 08 15.7	
	comp=E,874nm,0.5s						
KRUS	**Krusevo**	**0.44**	**17**⇑	*i* Pg	**Pg**	**01 08 13.5**	**-0.7**
KRUS				*i* Sg	**Sg**	**01 08 20.1**	**0.0**
NEST	**Nestorio**	**0.54**	**182**	P	**Pg**	**01 08 16.0**	**-0.1**
NEST				S	**Sb**	**01 08 24.8**	**-0.1**
NEST				AML	AML	01 08 27.6	
	comp=E,698μm,0.5s						
NEST				AML	AML	01 08 27.9	
	comp=N,554μm,0.2s						
NEST	**Nestorio**	**0.54**	**182**	P	**Pg**	**01 08 15.9**	**-0.2**
PENT	**Pentalofos**	**0.76**	**176**	P	**Pg**	**01 08 20.3**	**0.0**
PENT				S	**Sb**	**01 08 31.0**	**-0.2**
PENT				AML	AML	01 08 36.3	
	comp=E,395μm,0.4s						
PENT				AML	AML	01 08 37.6	
	comp=N,330μm,0.3s						
KZN	**Kozani**	**0.83**	**140**	P	**Pg**	**01 08 21.0**	**-0.7**
KZN				S	**Sg**	**01 08 31.3**	**-1.3**
KZN				AML	AML	01 08 37.8	
	comp=N,830μm,0.3s						
KZN				AML	AML	01 08 38.0	
	comp=E,615μm,0.3s						
KZN	**Kozani**	**0.83**	**140**	P	**Pg**	**01 08 21.0**	**-0.7**
KZN				S	**Sb**	**01 08 34.0**	**+0.7**
PHP	**Peshkopia**	**0.88**	**327**	P	**Pg**	**01 08 20.7**	**-1.8**
PHP				S	**Sg**	**01 08 33.1**	**-0.8**
PHP	**Peshkopia**	**0.88**	**327**	*i* PG	**Pg**	**01 08 22.4**	**-0.1**
PHP				*i* PG	**Sg**	**01 08 35.6**	**+1.7**
TIR	**Tirane**	**1.00**	**294**	*e*Pg	**Pg**	**01 08 24.0**	**-0.7**
TIR				*e*Sg	**Sg**	**01 08 37.7**	**-0.1**
TIR	**Tirane**	**1.00**	**294**	*i* Pg	**Pg**	**01 08 24.2**	**-0.6**
TIR	**Tirane**	**1.00**	**294**	*i* PG	**Pg**	**01 08 24.1**	**-0.7**
TIR				*i* SG	**Sb**	**01 08 37.9**	**-0.1**
GRG	**Griva**	**1.00**	**89**	P	**Pg**	**01 08 23.7**	**-1.2**
GRG	**Griva**	**1.00**	**89**	P	**Pg**	**01 08 23.9**	**-1.0**
GRG				S	**Sn**	**01 08 39.2**	**-0.6**
GRG	**Griva**	**1.00**	**89**⇑	*i* Pg	**Pg**	**01 08 23.8**	**-1.2**
GRG				*i* Sg	**Sn**	**01 08 39.5**	**-0.3**
SKO	**Skopje**	**1.06**	**15**	*e*Pg	**Pg**	**01 08 24.8**	**-1.1**
SKO				*e*Sg	**Sg**	**01 08 39.4**	**-0.3**
SKO	**Skopje**	**1.06**	**15**	P	**Pg**	**01 08 24.7**	**-1.1**
SKO	**Skopje**	**1.06**	**15**	*i* Pg	**Pg**	**01 08 24.8**	**-1.1**
SKO				*i* Sg	**Sn**	**01 08 40.9**	**-0.2**
STIP	**Stip**	**1.12**	**48**⇑	*i* Pg	**Pn**	**01 08 29.0**	**+1.8**
STIP				*i* Sg	**Sn**	**01 08 46.8**	**+4.2**
STIP				*i* Sg	**Sg**	**01 08 47.3**	**+5.7**
VAY	**Valandovo**	**1.19**	**71**	*e*Pg	**Pb**	**01 08 27.0**	**-1.1**
VAY				*e*Sg	**Sb**	**01 08 43.6**	**+0.1**
VAY	**Valandovo**	**1.19**	**71**	P	**Pb**	**01 08 27.1**	**-1.1**
VAY	**Valandovo**	**1.19**	**71**	*i* Pg	**Pb**	**01 08 27.1**	**-1.0**
VAY				*i* Sg	**Sn**	**01 08 44.6**	**+0.3**
VAY				*e*Lg	Lg	01 08 46.4	
	comp=N,42nm,0.6s						
VAY				*e*Lg	Lg	01 08 49.6	
	comp=E,58nm,0.7s						
SRN	**Sarande**	**1.35**	**218**	*i* PN	**Pg**	**01 08 33.1**	**+1.6**
SRN				*i* SN	**Sg**	**01 08 49.0**	**0.0**
LIT	**Litokhoron**	**1.37**	**128**	P	**Pn**	**01 08 30.9**	**+0.2**
LIT				S	**Sb**	**01 08 48.2**	**-0.6**
LIT				AML	AML	01 08 57.5	
	comp=E,260μm,0.6s						
LIT				AML	AML	01 08 58.8	
	comp=N,218μm,0.4s						
LIT	**Litokhoron**	**1.37**	**128**	*i* Pg	**Pn**	**01 08 30.9**	**+0.2**
KNT	**Kendrikon**	**1.39**	**81**	P	**Pn**	**01 08 30.8**	**-0.2**
KNT				S	**Sb**	**01 08 49.8**	**+0.3**
KNT				AML	AML	01 08 55.2	
	comp=E,103μm,0.3s						
KNT				AML	AML	01 08 58.3	
	comp=N,112μm,0.7s						
KNT	**Kendrikon**	**1.39**	**81**	P	**Pn**	**01 08 30.8**	**-0.2**
KNT				S	**Sg**	**01 08 50.4**	**0.0**
KNT	**Kendrikon**	**1.39**	**81**⇑	*i* Pg	**Pn**	**01 08 30.7**	**-0.2**
PUK	**Puka**	**1.41**	**321**	*i* PN	**Pg**	**01 08 33.3**	**+0.7**
PUK				*i* SN	**Sg**	**01 08 53.5**	**+2.6**
THE	**Thessaloniki**	**1.47**	**102**	P	**Pn**	**01 08 31.8**	**-0.2**
THE	**Thessaloniki**	**1.47**	**102**	*i* Pg	**Pn**	**01 08 31.8**	**-0.2**
IGT	**Igoumenitsa**	**1.53**	**202**	P	**Pg**	**01 08 34.7**	**-0.2**
THL	**Klokotos Trika**	**1.56**	**152**	P	**Pn**	**01 08 33.3**	**+0.1**
HORT	**Hortiatis**	**1.58**	**102**	P	**Pn**	**01 08 33.4**	**-0.2**
SOH	**Sokhos**	**1.73**	**94**	P	**Pn**	**01 08 35.9**	**+0.2**
SOH	**Sokhos**	**1.73**	**94**	*i* Pg	**Pn**	**01 08 36.3**	**+0.6**
KKB	**Krupnik**	**1.76**	**58**	*i* Pg	**Pn**	**01 08 36.4**	**+0.4**
KKB	**Krupnik**	**1.76**	**58**	*i* P	**Pn**	**01 08 36.5**	**+0.4**
BARS	**Barje**	**1.94**	**16**	*e*Pn	**Pn**	**01 08 38.7**	**+0.1**
BARS	**Barje**	**1.94**	**16**	*i* Pn	**Pn**	**01 08 38.9**	**+0.3**
PDG	**Podgorica**	**2.01**	**318**	*e*Pn	**Pb**	**01 08 40.9**	**-1.3**
PDG				*e*Sn	**Sb**	**01 09 06.1**	**-1.1**
MMB	**Musomiste**	**2.10**	**71**	*i* Pn	**Pn**	**01 08 41.4**	**+0.7**
MMB	**Musomiste**	**2.10**	**71**	P	**Pn**	**01 08 41.7**	**+1.0**
BEY	**Berane**	**2.11**	**336**	*i* Pn	**Pn**	**01 08 42.4**	**+1.4**
NVR	**Nevrokopi**	**2.14**	**78**	P	**Pn**	**01 08 42.0**	**+0.7**
AGG	**Agios Georgios**	**2.15**	**153**	P	**Pn**	**01 08 42.1**	**+0.6**
SELS	**Selova**	**2.27**	**1**	*e*Pn	**Pn**	**01 08 42.5**	**-0.5**
VTS	**Vitosha**	**2.29**	**44**	*e*Pn	**Pn**	**01 08 44.3**	**+0.9**
VTS	**Vitosha**	**2.29**	**44**	*i* Pn	**Pn**	**01 08 44.4**	**+0.9**
VTS	**Vitosha**	**2.29**	**44**	*i* P	**Pn**	**01 08 44.2**	**+0.9**
ZAPS	**Zavoj**	**2.59**	**26**	*e*Pn	**Pn**	**01 08 47.5**	**0.0**
TREB	**Trebinje**	**2.69**	**312**	*e*Pn	**Pn**	**01 08 49.7**	**+0.8**
IVAS	**Ivanjica**	**2.71**	**346**	*e*Pn	**Pn**	**01 08 48.8**	**-0.4**
BOVS	**Bovan**	**2.72**	**10**	*e*Pn	**Pn**	**01 08 48.7**	**-0.5**
RZN	**Rozhen**	**2.84**	**74**	*i* P	**Pn**	**01 08 51.8**	**+0.8**
GRUS	**Gruza**	**2.95**	**355**	*e*Pn	**Pn**	**01 08 52.5**	**+0.2**
DIVS	**Divibare**	**3.25**	**346**	*e*Pn	**Pn**	**01 08 55.9**	**-0.6**

*ISK **20** 01:13:29.9, 39°.67N×25°.56E, h5km, ML3.5/41*
*DDA **20** 01:13:31.5, 39°.64N×25°.64E, h22km±1km, ML3.3*
*ISCJB **20** 01:13:31.7±0.4, 39°.68N±0°.01×25°.58E±0°.02, h9km±3km, Error ellipse: s-maj=2.5km s-min=2.2km az=34.5*
*ATH **20** 01:13:31.7, 39°.68N×25°.58E, h30km±1km, ML3.1/9, Error ellipse: s-maj=1.5km s-min=1.0km az=77.0*
*THE **20** 01:13:32.1, 39°.69N×25°.59E, h7km±1km, ML3.4/4, Error ellipse: s-maj=1.4km s-min=0.5km az=59.0*
*SOF **20** 01:13:34.2, 39°.55N×25°.19E, h15km*

ISC 20 01:13:32.2±0.9, **39°.68N**±0°.02×**25°.58E**±0°.02, **h11**km±8km, **n135**, σ1§11/160, **11C-8D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.38**	**306**	P	**Pg**	**01 13 40.0**	**+0.2**
LIA				S	**Sg**	**01 13 46.0**	**+1.2**
LIA				AML	AML	01 13 51.1	
	comp=N,7424μm,0.3s						
LIA				AML	AML	01 13 54.1	
	comp=E,5708μm,0.4s						
LIA	**Limnos Island**	**0.38**	**306**	P	**Pg**	**01 13 39.9**	**+0.2**
LIA				S	**Sg**	**01 13 45.4**	**+0.6**
BOZC	**Bozcaada**	**0.40**	**65**	PG	**Pg**	**01 13 39.2**	**-0.9**
BOZC	**Bozcaada**	**0.40**	**65**	*i* P	**Pg**	**01 13 39.8**	**-0.3**
GPNR	**Gulpinar-Canak**	**0.48**	**117**	PG	**Pg**	**01 13 40.6**	**-1.0**
GPNR				SG	**Sg**	**01 13 48.4**	**+0.5**
EFSA	**Agios Efstrati**	**0.48**	**254**	P	**Pg**	**01 13 42.7**	**+1.1**
EFSA				S	**Sb**	**01 13 50.3**	**+0.6**
EFSA				AML	AML	01 13 52.2	
	comp=E,10462μm,0.6s						
EFSA				AML	AML	01 13 52.3	
	comp=N,7414μm,0.4s						
SIGR	**SIGRI**	**0.51**	**155**	PG	**Pg**	**01 13 41.0**	**-1.1**
SIGR	**SIGRI**	**0.51**	**155**	P	**Pg**	**01 13 41.9**	**-0.3**
SIGR				S	**Sg**	**01 13 49.9**	**+1.1**
SIGR				AML	AML	01 13 50.4	
	comp=E,12424μm,0.3s						
SIGR				AML	AML	01 13 50.5	
	comp=N,19151μm,0.4s						
SIGR	**SIGRI**	**0.51**	**155**	P	**Pg**	**01 13 41.8**	**-0.3**
SIGR				S	**Sg**	**01 13 49.6**	**+0.7**
GADA	**Gvkgeada**	**0.57**	**25**	PG	**Pg**	**01 13 42.4**	**-0.9**
GADA	**Gvkgeada**	**0.57**	**25**	P	**Pg**	**01 13 42.8**	**-0.5**
GADA				S	**Sg**	**01 13 50.8**	**0.0**
EZN	**Ezine**	**0.59**	**75**	PG	**Pg**	**01 13 42.6**	**-1.1**
EZN	**Ezine**	**0.59**	**75**	P	**Pg**	**01 13 42.7**	**-1.0**
EZN				S	**Sg**	**01 13 51.0**	**-0.5**
PRK	**Paraskevi**	**0.68**	**129**	P	**Pb**	**01 13 46.2**	**0.0**
PRK				S	**Sb**	**01 13 56.0**	**+0.4**
PRK				AML	AML	01 13 59.3	
	comp=N,10537μm,0.5s						
PRK				AML	AML	01 14 01.3	
	comp=E,7990μm,0.6s						
PRK	**Paraskevi**	**0.68**	**129**	P	**Pb**	**01 13 46.1**	**0.0**
PRK				S	**Sb**	**01 13 55.8**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**0.75**	**85**	*i* P	**Pb**	**01 13 46.2**	**-0.9**
BAYC				*i* S	**Sb**	**01 13 56.8**	**-0.6**
SMTH	**Samothraki Isl**	**0.80**	**357**	P	**Pb**	**01 13 47.1**	**-1.0**
SMTH				S	**Sg**	**01 13 58.7**	**+0.7**
SMTH				AML	AML	01 14 00.4	
	comp=N,1427μm,0.4s						
SMTH				AML	AML	01 14 01.6	
	comp=E,1225μm,0.3s						
SMTH	**Samothraki Isl**	**0.80**	**357**	P	**Pb**	**01 13 47.1**	**-1.0**
SMTH				S	**Sg**	**01 13 58.3**	**+0.3**
AYVA	**Ayvalik**	**0.93**	**113**	*i* P	**Pb**	**01 13 50.3**	**-0.1**
AYVA				*i* S	**Sn**	**01 14 04.8**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.99**	**43**	PG	**Pb**	**01 13 50.4**	**-1.0**
SKY	**Skiros Island**	**1.13**	**226**	P	**Pn**	**01 13 53.2**	**-0.7**
SKY				S	**Sb**	**01 14 07.5**	**-0.9**
SKY				AML	AML	01 14 11.2	
	comp=N,1932μm,0.4s						
SKY				AML	AML	01 14 12.3	
	comp=E,1936μm,0.2s						
SKY	**Skiros Island**	**1.13**	**226**	P	**Pn**	**01 13 52.9**	**-1.0**
PSRA	**Psara**	**1.13**	**181**	P	**Pb**	**01 13 54.0**	**+0.3**
PSRA				S	**Sb**	**01 14 08.2**	**-0.2**
LPK	**Lapseki**	**1.14**	**52**	PN	**Pb**	**01 13 53.2**	**-0.7**
THAS	**Thassos island**	**1.14**	**325**	P	**Pn**	**01 13 53.4**	**-0.7**
THAS				S	**Sn**	**01 14 08.6**	**-1.1**
THAS				AML	AML	01 14 09.8	
	comp=N,1770μm,0.4s						
THAS				AML	AML	01 14 10.8	
	comp=E,1863μm,0.3s						
THAS	**Thassos island**	**1.14**	**325**	P	**Pn**	**01 13 53.4**	**-0.7**
THAS				S	**Sn**	**01 14 08.6**	**-1.1**
ENEZ	**Enez**	**1.15**	**22**	PN	**Pb**	**01 13 53.2**	**-0.8**
DKL	**Dikili**	**1.19**	**120**	PN	**Pn**	**01 13 53.9**	**-0.8**
ERIK	**Erikli-Kesan**	**1.22**	**35**	PN	**Pb**	**01 13 54.6**	**-0.7**
ALN	**Alexandroupoli**	**1.27**	**16**	PN	**Pb**	**01 13 55.4**	**-0.7**
ALN	**Alexandroupoli**	**1.27**	**16**	P	**Pn**	**01 13 55.1**	**-0.8**
ALN				S	**Sg**	**01 14 12.2**	**-0.9**
ALN				AML	AML	01 14 18.4	
	comp=E,906μm,0.8s						
ALN				AML	AML	01 14 21.8	
	comp=N,632μm,1.0s						
ALN	**Alexandroupoli**	**1.27**	**16**	P	**Pb**	**01 13 55.5**	**-0.7**
FOCM	**Foa**	**1.31**	**137**	PN	**Pn**	**01 13 56.2**	**-0.2**
KRBN	**Karaburun**	**1.32**	**145**	PN	**Pn**	**01 13 56.3**	**-0.2**
CHOS	**Chios island**	**1.34**	**164**	PN	**Pn**	**01 13 56.5**	**-0.4**
CHOS	**Chios island**	**1.34**	**164**	P	**Pn**	**01 13 56.3**	**-0.6**
CHOS	**Chios island**	**1.34**	**164**	P	**Pn**	**01 13 56.3**	**-0.6**
CHOS				S	**Sg**	**01 14 16.1**	**+0.8**
OUR	**Ouranopolis**	**1.40**	**299**	PN	**Pn**	**01 13 57.2**	**-0.4**
OUR	**Ouranopolis**	**1.40**	**299**	P	**Pn**	**01 13 57.0**	**-0.6**
OUR				S	**Sn**	**01 14 15.4**	**-0.5**
AOS	**Alonnisos**	**1.41**	**250**	PN	**Pn**	**01 13 57.4**	**-0.4**
AOS	**Alonnisos**	**1.41**	**250**	P	**Pn**	**01 13 57.4**	**-0.4**
AOS	**Alonnisos**	**1.41**	**250**	P	**Pn**	**01 13 57.4**	**-0.4**
ALNA	**Alonissos**	**1.43**	**249**	P	**Pn**	**01 13 57.3**	**-0.7**
RDO	**Rodhopi**	**1.47**	**359**	PN	**Pn**	**01 13 58.5**	**-0.1**
RDO	**Rodhopi**	**1.47**	**359**	P	**Pn**	**01 13 58.1**	**-0.4**
RDO	**Rodhopi**	**1.47**	**359**	P	**Pn**	**01 13 58.2**	**-0.4**
PAIG	**Paliouri**	**1.49**	**280**	P	**Pn**	**01 13 58.3**	**-0.5**
PAIG				S	**Sn**	**01 14 18.0**	**-0.2**
PAIG				AML	AML	01 14 25.3	
	comp=E,325μm,0.3s						
PAIG				AML	AML	01 14 26.0	
	comp=N,473μm,0.8s						
PAIG	**Paliouri**	**1.49**	**280**	P	**Pn**	**01 13 58.4**	**-0.5**
KRBG	**Karabiga-Canak**	**1.50**	**61**	PN	**Pb**	**01 13 59.1**	**-0.9**
URLA	**Izmir**	**1.53**	**149**	PN	**Pn**	**01 13 58.9**	**-0.6**
URLA	**Izmir**	**1.53**	**149**	IAML_P			
	comp=Z,3μm,0.2s						
URLA				*i* P	**Pn**	**01 13 59.8**	**+0.3**
URLA				*i* S	**Sb**	**01 14 19.9**	**-0.1**
KAVA	**Kavala**	**1.55**	**329**	P	**Pn**	**01 13 59.5**	**-0.2**
KAVA	**Kavala**	**1.55**	**329**	P	**Pn**	**01 13 59.1**	**-0.6**
KVLA	**Kavala**	**1.56**	**324**	P	**Pn**	**01 13 59.2**	**-0.6**
GONE	**Gonen-Balikesi**	**1.66**	**76**	PN	**Pn**	**01 14 01.3**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.68**	**100**	IAML_P			
	comp=Z,3μm,0.2s						
STEP				*i* P	**Pb**	**01 14 02.4**	**-0.7**
STEP				*i* S	**Sb**	**01 14 24.2**	**0.0**
SKIA	**Skiathos**	**1.72**	**253**	P	**Pn**	**01 14 01.6**	**-0.4**
SKIA	**Skiathos**	**1.72**	**253**	P	**Pn**	**01 14 01.1**	**-0.9**
BLCB	**Balcova**	**1.72**	**138**	PN	**Pn**	**01 14 01.8**	**-0.2**
BALB	**Balikesir**	**1.77**	**90**	PN	**Pn**	**01 14 02.8**	**0.0**
PLG	**Polygyros**	**1.78**	**294**	P	**Pn**	**01 14 02.6**	**-0.4**
EREA	**Eretria**	**1.80**	**226**	P	**Pn**	**01 14 02.2**	**-0.9**
EREA	**Eretria**	**1.80**	**226**	P	**Pn**	**01 14 02.1**	**-1.0**
NEO	**Neokhori**	**1.86**	**259**	P	**Pn**	**01 14 03.7**	**-0.3**
EDC	**Edincik**	**1.88**	**64**	PN	**Pn**	**01 14 04.3**	**+0.1**
XOR	**Xorichti**	**1.88**	**261**	P	**Pn**	**01 14 04.0**	**-0.2**
SBT4	**Kumbag-Tekirda**	**1.89**	**52**	PN	**Pn**	**01 14 04.5**	**+0.3**
AKHS	**Akhisar**	**1.91**	**114**	IAML_P			
	comp=Z,2μm,0.1s						
AKHS				*i* P	**Pn**	**01 14 05.4**	**+0.8**
AKHS				*i* S	**Sg**	**01 14 34.3**	**+0.9**
DGB	**zmir**	**1.91**	**148**	IAML_P			
	comp=Z,784nm,0.2s						
DGB				*i* P	**Pn**	**01 14 04.8**	**+0.2**
KDZ	**Kurdzhali**	**1.98**	**356**	PN	**Pn**	**01 14 05.5**	**-0.1**
KDZ	**Kurdzhali**	**1.98**	**356**	*i* P	**Pg**	**01 14 09.2**	**-0.9**
SMIA	**Simia**	**2.01**	**247**	P	**Pn**	**01 14 06.0**	**0.0**
DION	**Dionisos Attik**	**2.05**	**219**	P	**Pn**	**01 14 05.7**	**-0.9**
SOH	**Sokhos**	**2.06**	**305**	P	**Pn**	**01 14 06.4**	**-0.3**
FYTO	**Fytoko, Volos**	**2.06**	**263**	P	**Pn**	**01 14 06.4**	**-0.3**
FYTO	**Fytoko, Volos**	**2.06**	**263**	P	**Pn**	**01 14 06.8**	**+0.1**
SRS	**Serrai**	**2.09**	**314**	P	**Pn**	**01 14 07.1**	**-0.1**
HORT	**Hortiatis**	**2.12**	**297**	PN	**Pn**	**01 14 07.4**	**-0.2**
HORT	**Hortiatis**	**2.12**	**297**	P	**Pn**	**01 14 07.7**	**+0.1**
RZN	**Rozhen**	**2.12**	**342**	*i* P	**Pn**	**01 14 07.9**	**+0.2**
NVR	**Nevrokopi**	**2.13**	**322**	P	**Pn**	**01 14 07.7**	**0.0**
CRLT	**Corlu**	**2.19**	**48**	PN	**Pn**	**01 14 08.9**	**+0.3**
SMG	**Samos**	**2.19**	**153**	P	**Pn**	**01 14 08.1**	**-0.4**
SMG	**Samos**	**2.19**	**153**	P	**Pn**	**01 14 08.2**	**-0.4**
ATHU	**Athens Univers**	**2.21**	**220**	P	**Pn**	**01 14 07.8**	**-1.0**
KCTX	**Karacabey (Bur**	**2.21**	**74**	PN	**Pn**	**01 14 08.9**	**+0.1**
ATAL	**Atalanti**	**2.22**	**245**	P	**Pn**	**01 14 08.9**	**0.0**
DURS	**Dursunbey**	**2.23**	**91**	IAML_P			
	comp=Z,1μm,0.3s						
DURS				*i* P	**Pn**	**01 14 09.6**	**+0.4**
DURS				*i* S	**Sb**	**01 14 38.2**	**-2.1**
LKR	**Lokris**	**2.25**	**244**	P	**Pn**	**01 14 09.2**	**-0.2**
VIL2	**Platees**	**2.32**	**232**	P	**Pn**	**01 14 09.4**	**-1.0**
EDRB	**Edirne**	**2.34**	**22**	PN	**Pn**	**01 14 11.0**	**+0.4**
DST	**Dursunbey**	**2.34**	**91**	PN	**Pn**	**01 14 11.1**	**+0.4**
DIM	**Dimitrovgrad**	**2.37**	**359**	*i* P	**Pg**	**01 14 16.8**	**-0.9**
MMB	**Musomiste**	**2.38**	**324**	*i* P	**Pn**	**01 14 12.5**	**+1.4**
LIT	**Litokhoron**	**2.42**	**281**	P	**Pn**	**01 14 11.3**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**2.50**	**133**	PN	**Pn**	**01 14 12.9**	**+0.1**
PLD	**Plovdiv**	**2.52**	**345**	PN	**Pn**	**01 14 13.4**	**+0.4**
PLD	**Plovdiv**	**2.52**	**345**	*i* P	**Pb**	**01 14 15.8**	**-1.6**
KNT	**Kendrikon**	**2.53**	**307**	P	**Pn**	**01 14 13.9**	**+0.7**
SLVT	**Silivri**	**2.54**	**51**	PN	**Pn**	**01 14 14.0**	**+0.7**
MDNY	**Mudanya-Bursa**	**2.63**	**74**	PN	**Pn**	**01 14 15.1**	**+0.6**
KULA	**Kula-Manisa**	**2.66**	**115**	PN	**Pn**	**01 14 15.5**	**+0.4**
SBT5	**Esenkoy-Cinarc**	**2.70**	**68**	PN	**Pn**	**01 14 16.2**	**+0.7**
CTKS	**Kestanelik-??a**	**2.72**	**54**	PN	**Pn**	**01 14 16.5**	**+0.7**
CTYL	**Yalikoy Yolu**	**2.73**	**48**	PN	**Pn**	**01 14 16.6**	**+0.6**
VAY	**Valandovo**	**2.83**	**307**	*i* Pn	**Pb**	**01 14 21.1**	**-1.6**
BGKT	**Bogazkoy**	**2.86**	**57**	PN	**Pn**	**01 14 18.4**	**+0.7**
KKB	**Krupnik**	**2.90**	**320**	*i* P	**Pn**	**01 14 20.3**	**+2.0**
KAVV	**Kandilli-Istan**	**3.00**	**61**	PN	**Pn**	**01 14 20.3**	**+0.7**
ISK	**Istanbul-Kandi**	**3.00**	**61**	PN	**Pn**	**01 14 20.4**	**+0.8**
YLV	**Yalova**	**3.04**	**72**	PN	**Pn**	**01 14 21.1**	**+0.9**
KLYT	**Kilyos**	**3.07**	**58**	PN	**Pn**	**01 14 21.5**	**+0.9**
STIP	**Stip**	**3.28**	**309**	*i* Pn	**Pn**	**01 14 22.7**	**-0.7**
VTS	**Vitosha**	**3.42**	**329**⇓	*i* P	**Pn**	**01 14 28.4**	**+2.8**
VTS	**Vitosha**	**3.42**	**329**	S	**Sn**	**01 15 06.3**	**+0.1**
KRUS	**Krusevo**	**3.71**	**299**	*i* Pn	**Pn**	**01 14 31.2**	**+1.7**
TIRR	**Tirgusor**	**5.22**	**23**⇑	*i* P	**Pn**	**01 14 53.3**	**+3.1**
TLB	**Topalu**	**5.24**	**20**⇓	*i* P	**Pn**	**01 14 52.8**	**+2.5**
TLB	**Topalu**	**5.24**	**20**	S	**Sn**	**01 15 53.5**	**+2.8**
ARR	**Arges**	**5.73**	**353**⇑	*i* P	**Pn**	**01 14 57.6**	**+0.4**
VOIR		**5.77**	**356**⇑	*i* P	**Pn**	**01 14 58.3**	**+0.5**
MLR	**Muntele Rosu**	**5.82**	**3**⇓	*i* P	**Pn**	**01 15 02.2**	**+3.7**
MDVR	**Moldovita**	**5.86**	**332**⇓	*i* P	**Pn**	**01 15 01.4**	**+2.5**
LOT	**Lotru**	**5.92**	**348**⇑	*i* P	**Pn**	**01 15 01.9**	**+2.0**
GZR	**Gura Zlata**	**6.08**	**341**⇑	*i* P	**Pn**	**01 15 02.0**	**0.0**
PLOR	**Plostina**	**6.22**	**7**⇓	*i* P	**Pn**	**01 15 07.8**	**+3.9**
VRI	**Vrincioaia**	**6.25**	**7**⇑	*i* P	**Pn**	**01 15 07.8**	**+3.6**
DOPR	**Dopca**	**6.29**	**359**⇑	*i* P	**Pn**	**01 15 06.6**	**+1.7**
OZUR		**6.42**	**1**⇓	*i* P	**Pn**	**01 15 10.2**	**+3.6**
DEV	**Deva**	**6.51**	**343**⇑	*i* P	**Pn**	**01 15 10.0**	**+2.2**
BZS	**Buzias**	**6.62**	**335**⇑	*i* P	**Pn**	**01 15 10.2**	**+0.9**
CJR	**Cluj-Napoca**	**7.18**	**349**⇓	*i* P	**Pn**	**01 15 19.3**	**+2.2**
BIZ	**Bicaz**	**7.27**	**3**⇑	*i* P	**Pn**	**01 15 21.6**	**+3.3**
DRGR		**7.42**	**345**⇑	*i* P	**Pn**	**01 15 21.7**	**+1.4**
BURAR	**Bucovina Array**	**7.94**	**358**⇓	*i* P	Pn	01 15 31.9	+4.3

IDC 20 01:42:06.3±2.0, **2.73N**×**126.60E**, **h0**km, **mb3.6**/4, **mb1 3.8**/4, **mb1mx3.5**/30, **mbtmp3.6**/4, **Error ellipse: s-maj=189.1km s-min=23.9km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.78**	**162**	P	P	01 47 20.7	-0.1
	1.3nm,0.7s,baz=341,slow=10,SNR=22						
ASAR	**Alice Springs**	**27.18**	**165**	P	P	01 47 51.4	-0.4
	0.2nm,0.3s,baz=345,slow=6.7,SNR=5.4						
STKA	**Stephens Creek**	**37.25**	**159**	P	P	01 49 20.1	+0.3
	0.7nm,0.4s,baz=349,slow=16,SNR=2.8						
MKAR	**Makanchi Array**	**58.30**	**326**	P	P	01 52 02.9	-0.1
	0.3nm,0.6s,baz=123,slow=7.0,SNR=6.6						

*SKO **20** 01:59:55.7, 42°.71N×23°.70E, h0km*
*SOF **20** 01:59:55.5, 42°.67N×23°.69E, h10km*
*BEO **20** 01:59:56.4±0.7, 42°.67N×23°.59E, h12km±3km, ML2.3/8*
*THE **20** 01:59:57.8, 42°.58N×23°.54E, h0km±2km, ML2.5/6, Error ellipse: s-maj=2.8km s-min=1.0km az=7.0*

ISC 20 01:59:55.3±0.9, **42°.68N**±0°.02×**23°.65E**±0°.02, **h16**km±7km, **n71**, σ1§00/89, **16C-6D, Bulgaria**

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

	3.2nm,0.3s								
SFK					⇓Lg		Lg	02 15 25.6	
	67nm,0.7s								
SFK	**Sufi-Kurgan**	**2.10**	**70**		Pg		**Pn**	**02 15 01.7**	**+1.2**
	5.0nm,0.2s								
SFK					Lg		Lg	02 15 25.1	
	28nm,0.2s								
SFK	**Sufi-Kurgan**	**2.10**	**70**	⇑	*iP*		**Pn**	**02 15 00.3**	**-0.2**
	baz=69								
SFK				⇑	*iS*		**Sn**	**02 15 27.2**	**-0.1**
	baz=69								
ARSB	**Arslanbob**	**2.55**	**37**	⇑	*iP*		**Pn**	**02 15 07.6**	**+1.0**
	baz=35								
ARSB				⇑	*iS*		**Sn**	**02 15 38.0**	**-0.1**
	baz=35								
ARK	**Arkit**	**2.61**	**17**	⇑	*iP*		**Pn**	**02 15 08.8**	**+1.5**
	baz=15								
ARK				⇑	*iS*		**Sn**	**02 15 39.9**	**+0.4**
	baz=15								
IUG	**Iuzhnay**	**2.92**	**347**		Pg		**Pg**	**02 15 19.8**	**-0.4**
	22nm,0.3s								
IUG					Lg		Lg	02 15 56.1	
	115nm,0.2s								
IUG	**Iuzhnay**	**2.92**	**347**		*eP*		**Pg**	**02 15 19.8**	**-0.4**
	4.6nm,0.2s								
IUG					*eS*		**Sg**	**02 15 58.4**	**+0.4**
	115nm,0.3s								
MNAS	**Manas**	**3.39**	**20**	⇓	Pn		**Pn**	**02 15 18.4**	**+0.3**
MNAS				⇓	Pg		**Pb**	**02 15 24.0**	**-1.0**
	2.9nm,0.4s								
MNAS				⇓	Lg		Lg	02 16 05.4	
	6.6nm,0.4s								
MNAS	**Manas**	**3.39**	**20**		Pg		**Pb**	**02 15 25.4**	**+0.4**
	3.0nm,0.3s								
MNAS					Lg		Lg	02 16 05.9	
	6.9nm,0.4s								
MNAS	**Manas**	**3.39**	**20**	⇑	*iP*		**Pn**	**02 15 20.0**	**+1.9**
	baz=18								
MNAS				⇑	*iS*		**Sn**	**02 15 59.4**	**+0.5**
	baz=18								
AML	**Almayashu**	**3.51**	**36**	⇑	*iP*		**Pn**	**02 15 20.8**	**+0.7**
	baz=34								
AML				⇑	*iS*		**Sn**	**02 16 01.4**	**-0.9**
	baz=34								
ARLS	**Aral**	**3.63**	**44**	⇑	*iP*		**Pn**	**02 15 22.0**	**+0.6**
	baz=43								
ARLS				⇑	*iS*		**Sn**	**02 16 03.9**	**-0.8**
	baz=43								
KK02	**Karatay Array**	**3.80**	**355**	⇑	Pn		**Pn**	**02 15 23.7**	**0.0**
	2.5nm,0.6s,baz=173,slow=13								
KK02				⇑	Lg		Lg	02 16 21.9	
	20nm,0.5s,baz=172,slow=28								
MRKS	**Merke**	**3.84**	**26**		Pg		**Pb**	**02 15 32.8**	**0.0**
	5.1nm,0.5s								
MRKS					Lg		Lg	02 16 18.8	
	9.3nm,0.5s								
AAK	**Ala-Archa**	**4.28**	**38**	⇑	Pn		**Pn**	**02 15 28.9**	**-1.5**
	2.0nm,0.7s								
AAK				⇑	Pg		**Pb**	**02 15 38.7**	**-1.5**
	4.2nm,0.7s								
AAK				⇑	Lg		Lg	02 16 31.7	
	4.1nm,0.4s								
TKM2	**Tokmak 2**	**5.04**	**43**	⇑	Pg		**Pb**	**02 15 54.8**	**+1.6**
	1.5nm,0.6s								
TKM2				⇓	Lg		Lg	02 16 56.7	
	3.4nm,0.6s								
KST	**Kastek**	**5.32**	**44**		Pg		**Pb**	**02 15 59.4**	**+1.5**
	2.5nm,0.3s								
KST					Lg		Lg	02 17 04.3	
	1.9nm,0.5s								

MEX 20 02:15:23.3±0.4, 14°56N×92°82W, h44km±17km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.64**	**57**	*iP*	Pn	02 15 34.8	-1.2
THIG				*iS*	Sn	02 15 43.4	-1.8
PCIG		**1.20**	**341**	*eP*	Pn	02 15 42.3	-1.4
PCIG				*iS*	Sn	02 15 56.4	-2.4
CCIG	**Comitan**	**1.83**	**21**	*eP*	Pn	02 15 51.4	-1.2
CCIG				*iS*	Sn	02 16 13.2	-1.4

*ISCJB **20** 02:21:18.9±0.5,20°68S±0°05×178°38W±0°09, h600km, mb4.0/16, Error ellipse: s-maj=11.5km s-min=6.3km az=175.9*
*IDC **20** 02:21:19.9±0.8,20°51S×178°45W, h593km±8km, mb3.6/16, mb1 3.8/17, mb1mx3.7/32, mbtmp4.6/17, Error ellipse: s-maj=17.9km s-min=9.6km az=154.0*
*WEL **20** 02:21:22.7±1.6,21°S±15°×17°7W±4°3, h641km±18km*
ISC 20 02:21:19.7±0.5, 20°75S±0°07×178°34W±0°09, h600km, n73, σ1°946/85, mb3.9/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**8.49**	**178**	P	P	02 23 19.9	-3.6
GLKZ				S	**S**	**02 25 02.7**	**-2.4**
DZM	**Mont Dzumac**	**14.24**	**262**	P	**P**	**02 24 19.3**	**-1.7**
	2.9nm,0.3s,baz=125,slow=12,SNR=29						
OUZ	**Omahuta**	**16.07**	**205**	P	**P**	**02 24 39.7**	**+2.2**
GRZ	**Great Barrier**	**16.37**	**198**	P	**P**	**02 24 42.4**	**+2.2**
WCZ	**Waipu Caves**	**16.44**	**201**	P	**P**	**02 24 43.6**	**+2.7**
KUZ	**Kuaotunu**	**16.76**	**197**	P	**P**	**02 24 45.7**	**+1.9**
WIAZ	**Waiheke Island**	**16.97**	**198**	P	**P**	**02 24 48.4**	**+2.7**
MXZ	**Matakaoa Point**	**17.01**	**189**	P	**P**	**02 24 47.4**	**+1.3**
MBAZ	**Motutapu North**	**17.02**	**199**	P	**P**	**02 24 48.9**	**+2.8**
ETAZ	**East Tamaki Re**	**17.18**	**199**	P	**P**	**02 24 49.7**	**+2.0**
MKAZ	**Moumakai**	**17.26**	**198**	P	**P**	**02 24 50.2**	**+1.9**
WTAZ	**Waiatarua**	**17.27**	**199**	P	**P**	**02 24 51.2**	**+2.7**
HAZ	**Te Kaha**	**17.28**	**190**	P	**P**	**02 24 48.2**	**-0.4**
KBAZ	**Karaka Road Bo**	**17.33**	**198**	P	**P**	**02 24 51.8**	**+2.8**
PKGZ	**Pakihiroa**	**17.36**	**190**	P	**P**	**02 24 48.8**	**-0.5**
RUGZ	**Raukumara Rang**	**17.50**	**191**	P	**P**	**02 24 51.2**	**+0.5**
PUZ	**Puketiti**	**17.52**	**189**	P	**P**	**02 24 51.8**	**+1.1**
OPRZ	**Ohinepanea**	**17.61**	**193**	P	**P**	**02 24 52.6**	**+1.1**
TWGZ	**Tauwhareparae**	**17.66**	**190**	P	**P**	**02 24 53.6**	**+1.5**
TOZ	**Tahuroa Road**	**17.75**	**196**	P	**P**	**02 24 54.8**	**+2.0**
MWZ	**Matawai**	**17.89**	**191**	P	**P**	**02 24 52.7**	**-1.4**
MWZ				S	**S**	**02 27 46.6**	**-1.7**
URZ	**Urewera**	**17.89**	**192**	P	**P**	**02 24 52.2**	**-1.9**
	4.1nm,0.3s,baz=31,slow=5.9,SNR=25						
URZ				S	**S**	**02 27 45.1**	**-3.2**
	1.2nm,0.3s,baz=179,slow=21,SNR=10						
URZ	**Urewera**	**17.89**	**192**	P	**P**	**02 24 52.0**	**-2.1**
URZ				S	**S**	**02 27 44.3**	**-3.9**
CNGZ	**Carnagh Statio**	**17.93**	**189**	P	**P**	**02 24 54.3**	**-0.1**
RIGZ	**Rimuhau**	**18.21**	**190**	P	**P**	**02 24 55.9**	**-1.2**
RTZ	**Ruatahuna**	**18.26**	**192**	P	**P**	**02 24 57.0**	**-0.6**
TLZ	**Tolley Road**	**18.31**	**195**	P	**P**	**02 25 00.9**	**+3.0**
SNGZ	**Shannon Statio**	**18.36**	**191**	P	**P**	**02 24 58.1**	**-0.3**
RAHZ	**Arahi**	**18.53**	**191**	P	**P**	**02 24 59.9**	**-0.1**
BKZ	**Black Stump Fm**	**18.89**	**192**	P	**P**	**02 25 01.5**	**-1.7**
BHHZ	**Black Hill Sta**	**19.29**	**193**	P	**P**	**02 25 06.1**	**-0.7**
TSZ	**Takapari Road**	**19.86**	**193**	P	**P**	**02 25 11.6**	**-0.4**
CTA	**Charters Tower**	**33.15**	**265**	P	**P**	**02 27 07.9**	**-0.4**
	8.5nm,0.5s,baz=96,slow=10,SNR=14						
PMG	**Port Moresby**	**35.09**	**284**	P	**P**	**02 27 23.9**	**-0.6**
	34nm,0.6s,baz=177,slow=1.7,SNR=7.6						
STKA	**Stephens Creek**	**37.40**	**244**	P	**P**	**02 27 44.2**	**+1.0**
	4.7nm,0.5s,baz=93,slow=11,SNR=21						
STKA				PcP	**PcP**	**02 29 46.6**	**+0.9**
	1.3nm,0.4s,baz=91,slow=4.2,SNR=3.2						
ASAR	**Alice Springs**	**44.16**	**257**	P	**P**	**02 28 37.0**	**+0.2**
	21nm,0.6s,baz=92,slow=7.5,SNR=200						
ASAR				PcP	**PcP**	**02 30 09.0**	**+0.7**
	2.6nm,0.6s,baz=98,slow=3.8,SNR=7.2						
ASAR				ScP	**ScP**	**02 33 06.8**	**+3.0**
	0.4nm,0.7s,baz=107,slow=5.0,SNR=3.6						
ASAR				S	**S**	**02 34 28.3**	**+0.7**
	2.4nm,0.8s,baz=91,slow=16,SNR=13						
WRA	**Warramunga Arr**	**44.25**	**262**	P	**P**	**02 28 37.1**	**-0.5**
	6.6nm,0.4s,baz=98,slow=7.9,SNR=179						
WRA				PcP	**PcP**	**02 30 09.1**	**+0.5**
	1.1nm,0.5s,baz=97,slow=3.2,SNR=3.2						
WRA				S	**S**	**02 34 27.6**	**-1.5**
	0.5nm,0.8s,baz=100,slow=17,SNR=3.2						
VNDA	**Vanda**	**57.64**	**185**	P	**P**	**02 30 15.8**	**+2.5**
	3.1nm,1.0s,baz=358,slow=4.7,SNR=3.4						
MJAR	**Matsushiro Arr**	**70.22**	**324**	P	**P**	**02 31 32.5**	**-1.0**
	1.9nm,0.5s,baz=168,slow=5.9,SNR=8.0						
PETK	**Petropavlovsk-**	**76.43**	**345**	P	**P**	**02 32 07.1**	**-1.2**
	3.7nm,0.9s,baz=165,slow=12,SNR=3.0						
KSRS	**Korea Array**	**76.86**	**319**	P	**P**	**02 32 11.5**	**+0.4**
	1.3nm,0.6s,baz=148,slow=7.0,SNR=6.2						
USRK	**Ussuriysk Ar.**	**78.99**	**326**	P	**P**	**02 32 22.8**	**+0.4**
	2.8nm,0.8s,baz=112,slow=3.2,SNR=6.7						
MAW	**Mawson**	**81.23**	**200**	P	**P**	**02 32 36.6**	**+3.0**
	13nm,1.1s,baz=96,slow=10,SNR=2.8						
NVAR	**Mina Array Bea**	**81.42**	**43**	P	**P**	**02 32 35.9**	**+0.4**
	1.0nm,0.7s,baz=225,slow=8.7,SNR=8.3						
NVAR				pP	**pP**	**02 34 41.3**	**+0.3**
	0.4nm,0.7s,baz=232,slow=8.6,SNR=3.8						
TXAR	**Lajitas Array**	**87.45**	**57**	P	**P**	**02 33 05.5**	**+0.7**
	1.3nm,0.8s,baz=217,slow=5.8,SNR=15						
TXAR				pP	**pP**	**02 35 12.7**	**-0.3**
	1.3nm,1.1s,baz=208,slow=7.0,SNR=5.5						
ILAR	**Eielson Array**	**88.62**	**13**	P	**P**	**02 33 08.2**	**-1.1**
	1.3nm,0.9s,baz=216,slow=4.9,SNR=8.6						
ILAR				pP	**pP**	**02 35 18.3**	**+0.4**
	1.2nm,1.1s,baz=262,slow=6.0,SNR=3.8						
PDAR	**Pinedale Array**	**89.36**	**43**	P	**P**	**02 33 13.7**	**+0.1**
	1.2nm,0.6s,baz=220,slow=3.6,SNR=13						
CMAR	**Chiang Mai Arr**	**89.90**	**290**	P	**P**	**02 33 17.8**	**+1.5**
	1.5nm,0.4s,baz=110,slow=2.8,SNR=18						
MKAR	**Makanchi Array**	**111.14**	**313**	PKiKP	**PKiKP**	**02 38 45.4**	**-0.7**
	0.4nm,0.5s,baz=64,slow=2.1,SNR=7.6						
BVAR	**Borovoye Array**	**119.06**	**320**	PKP	**PKPdf**	**02 39 00.3**	**-0.7**
	1.5nm,0.4s,baz=82,slow=3.1,SNR=11						
AKTO	**Aktyubinsk**	**127.04**	**318**	PKP	**PKiKP**	**02 39 16.7**	**-0.2**
	0.8nm,0.7s,baz=24,slow=3.3,SNR=7.3						
ARCES	**ARCESS Array B**	**129.10**	**349**	PKP	**PKPdf**	**02 39 19.6**	**-0.1**
	5.3nm,1.0s,baz=357,slow=2.4,SNR=6.2						
FINES	**FINESS Array B**	**135.92**	**343**	PKP	**PKiKP**	**02 39 33.6**	**-0.9**
	0.7nm,0.5s,baz=343,slow=2.6,SNR=7.4						
NOA	**NORSAR Array B**	**139.19**	**353**	PKP	**PKiKP**	**02 39 40.6**	**-0.7**
	0.6nm,1.0s,baz=19,slow=4.0,SNR=2.8						
HFS	**Hagfors**	**139.73**	**351**	PKhKP	PKPpre	02 39 32.1	
	1.0nm,0.4s,baz=60,slow=4.1,SNR=14						
AKASG	**Malin Array Be**	**143.07**	**331**	PKhKP	PKPpre	02 39 42.2	
	6.4nm,0.5s,baz=43,slow=4.3,SNR=25						
ASF	**Jabal al Asfar**	**146.61**	**297**	PKPbc	**PKPbc**	**02 39 55.1**	**-0.4**
	2.8nm,0.9s,baz=64,slow=3.5,SNR=5.1						
BRTR	**Keskin Array B**	**146.77**	**312**	PKPbc	**PKPbc**	**02 39 55.5**	**-0.3**
	2.3nm,0.6s,baz=145,slow=5.7,SNR=19						
CLL	**Collm**	**148.23**	**346**	*i* PKPbc	**PKPbc**	**02 39 58.8**	**-0.1**
	comp=Z,16nm,1.0s						
CLL				*i* PKPab	**PKPab**	**02 40 03.5**	**-0.8**
	comp=Z,3.0nm,0.9s						
DPC	**Dobruska-Polom**	**148.26**	**342**	*e*PKP	**PKPbc**	**02 39 58.9**	**-0.2**
BRG	**Berggiesshubel**	**148.42**	**345**	*i* PKP	**PKPbc**	**02 39 59.5**	**+0.1**
	comp=Z,7.8nm,1.1s						
EIL	**Elat**	**148.69**	**293**	PKPbc	**PKiKP**	**02 40 01.4**	**-0.3**
	comp=Z,5.7nm,0.9s,baz=91,slow=5.0,SNR=4.2						
PRU	**Pruhonice**	**149.08**	**344**	*e*PKP	**PKPbc**	**02 40 01.1**	**0.0**
GOPC	**GO Pecny, Ondr**	**149.08**	**343**	*e*PKP	**PKPbc**	**02 40 01.1**	**0.0**
VRAC	**Vranov**	**149.11**	**341**	PKPbc	**PKiKP**	**02 40 01.7**	**-0.4**
	comp=Z,3.3nm,0.9s,baz=355,slow=13,SNR=3.5						
GERES	**GERESS Array B**	**150.35**	**344**	PKPbc	**PKPbc**	**02 40 04.0**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=40,slow=2.3,SNR=16						
CONA	**Conrad Observa**	**150.56**	**340**	*i* PKPbc	**PKiKP**	**02 40 05.1**	**-0.1**
	comp=Z,3.1nm,0.7s						
WATA	**Walderalm**	**152.28**	**345**	*i* PKPbc	**PKPbc**	**02 40 08.3**	**-0.4**
	comp=Z,1.3nm,0.4s						
MOTA	**Moosalm**	**152.38**	**346**	*i* PKPbc	**PKiKP**	**02 40 09.4**	**+0.3**
	comp=Z,0.6nm,0.3s						
SQTA	**Sankt Quirin**	**152.47**	**346**	*i* PKPbc	**PKiKP**	**02 40 08.9**	**-0.3**
	comp=Z,1.5nm,0.5s						
ABTA	**Abfaltersbach**	**152.59**	**344**	*i* PKPbc	**PKPbc**	**02 40 08.7**	**-0.6**
	comp=Z,3.0nm,0.6s						
DAVOX	**Davos/Dischmat**	**153.18**	**347**	PKPbc	**PKiKP**	**02 40 10.7**	**0.0**
	comp=Z,2.6nm,0.6s,baz=206,slow=2.1,SNR=8.0						
TORD	**Torodi Ar. Bea**	**172.44**	**180**	PKP	**PKPdf**	**02 40 20.1**	**-1.4**
	comp=Z,1.6nm,1.0s,baz=186,slow=2.0,SNR=5.9						
TORD				PKPab	**PKPab**	**02 41 51.1**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=173,slow=2.3,SNR=5.7						

*IDC **20** 02:31:19.0±1.1,26°03N×128°42E, h0km, mb3.7/10, mb1 3.8/10, mb1mx3.7/30, mbtmp3.7/10, MS3.5/3, Ms1 3.5/3, ms1mx2.9/30, Error ellipse: s-maj=58.1km s-min=22.0km az=68.0*
*JMA **20** 02:31:22.3±0.3,26°05N×128°56E, h41km±4km, M3.2*
ISC 20 02:31:19.9±1.7, 26°05N±0°05×128°61E±0°04, h11km±10km, n22, σ1°904/30, mb3.6/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.70**	**312**	P	**Pn**	**02 31 35.1**	**-0.7**
JNTH				S	**Sb**	**02 31 44.7**	**+0.8**
JJT3	**Tamagusuku3**	**0.74**	**277**	P	**Pn**	**02 31 36.0**	**-0.4**
JJT3				*eS*	**Sn**	**02 31 46.3**	**-1.5**
JOW	**Kunigami**	**0.83**	**339**	P	**Pn**	**02 31 37.7**	**0.0**
JOW				*eS*	**Sn**	**02 31 49.0**	**-1.0**
JYRO	**Yoronjima**	**0.98**	**352**	P	**Pn**	**02 31 39.9**	**+0.2**
JYRO				*eS*	**Sn**	**02 31 52.8**	**-0.8**
JIH	**Iheya**	**1.14**	**330**	P	**Pg**	**02 31 42.3**	**+0.5**
JIH				*eS*	**Sg**	**02 31 56.7**	**+0.1**
JOKE	**Okinoerabujima**	**1.31**	**359**	P	**Pg**	**02 31 44.8**	**-0.3**
JOKE				*eS*	**Sb**	**02 32 00.6**	**-0.8**
JAGN	**Aguni-jima**	**1.34**	**294**	P	**Pb**	**02 31 44.8**	**-0.2**
JAGN				*eS*	**Sb**	**02 32 01.2**	**-1.0**
JKE	**Kume jima 2**	**1.66**	**280**	P	**Pn**	**02 31 48.4**	**-0.6**
JKE				*eS*	**Sn**	**02 32 08.3**	**-2.0**
JTK	**Tokunoshima**	**1.76**	**10**	P	**Pb**	**02 31 51.4**	**-0.8**
JTK				*eS*	**Sn**	**02 32 11.8**	**-1.0**
JMZ	**Minamidaito 2**	**2.37**	**95**	P	**Pn**	**02 31 58.4**	**-0.3**
JMZ				*eS*	**Sn**	**02 32 25.4**	**-2.4**
KSRS	**Korea Array**	**11.38**	**357**	LR	LR	02 38 38.9	
	comp=Z,50nm,19.4s,baz=140,slow=39						
SONM	**Songino Array**	**27.89**	**327**	P	**P**	**02 37 11.8**	**+1.8**
	0.7nm,0.6s,baz=139,slow=12,SNR=5.8						
MKAR	**Makanchi Array**	**41.91**	**312**	P	**P**	**02 39 09.4**	**-1.0**
	0.5nm,0.6s,baz=99,slow=9.9,SNR=6.9						
ZALV	**Zalesovo Beam**	**42.59**	**323**	P	**P**	**02 39 15.4**	**-0.5**
	0.4nm,0.5s,baz=100,slow=7.9,SNR=2.1						
WRA	**Warramunga Arr**	**46.05**	**172**	P	**P**	**02 39 44.1**	**+0.1**
	0.6nm,0.8s,baz=352,slow=8.4,SNR=2.1						
ASAR	**Alice Springs**	**49.69**	**174**	P	**P**	**02 40 13.4**	**+1.3**
	0.4nm,0.7s,baz=354,slow=7.5,SNR=2.8						
BVAR	**Borovoye Array**	**50.63**	**318**	LR	LR	03 03 42.2	
	comp=Z,73nm,18.2s,baz=42,slow=38						
FINES	**FINESS Array B**	**73.19**	**331**	P	**P**	**02 42 50.1**	**-0.4**
	1.3nm,0.8s,baz=55,slow=5.3,SNR=3.7						
FINES				LR	LR	03 20 01.5	
	comp=Z,63nm,19.2s,baz=12,slow=40						
AKASG	**Malin Array Be**	**75.89**	**320**	P	**P**	**02 43 06.6**	**+0.1**
	0.8nm,0.5s,baz=60,slow=6.3,SNR=3.2						
BRTR	**Keskin Array B**	**77.41**	**308**	P	**P**	**02 43 16.2**	**+0.7**
	1.3nm,1.0s,baz=46,slow=4.2,SNR=3.7						
YKA	**Yellowknife Ar**	**78.55**	**25**	P	**P**	**02 43 22.5**	**+1.4**
	0.1nm,0.6s,baz=302,slow=5.8,SNR=1.9						
NOA	**NORSAR Array B**	**79.62**	**334**	P	**P**	**02 43 27.4**	**+0.2**
	0.3nm,0.6s,baz=56,slow=5.6,SNR=2.0						

SKO 20 02:37:49.8, 40°99N×21°08E, h6km, M0.4, ML0.9, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIA	**Bitola**	**0.19**	**81**	*i* Pg	Pg	02 37 53.5	0.0
BIA				*i* Sg	Sg	02 37 57.0	+1.0
OHR	**Ohrid**	**0.24**	**300**	*i* Pg	Pg	02 37 54.1	-0.5
OHR				*i* Sg	Sg	02 37 58.7	+0.8
OHR				*eLg*	Lg	02 37 58.9	
	comp=E,32nm,0.5s						
OHR				*eLg*	Lg	02 37 59.0	
	comp=N,14nm,0.5s						
KRUS	**Krusevo**	**0.40**	**19**	*i* Pg	Pg	02 37 56.8	-0.7
KRUS				*i* Sg	Sg	02 38 03.4	+0.6
KRUS				*eLg*	Lg	02 38 03.6	
	comp=E,4.3nm,0.3s						
KRUS				*eLg*	Lg	02 38 03.6	
	comp=N,3.2nm,0.2s						

SKO 20 02:38:30.0, 40°99N×21°08E, h6km, M0.5, ML1.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIA	**Bitola**	**0.19**	**81**	*i* Pg	Pg	02 38 33.9	+0.1
BIA				*i* Sg	Sg	02 38 37.3	+1.0
OHR	**Ohrid**	**0.24**	**300**	*i* Pg	Pg	02 38 34.2	-0.6
OHR				*i* Sg	Sg	02 38 39.0	+0.9
OHR				*eLg*	Lg	02 38 39.3	
	comp=E,28nm,0.5s						
OHR				*eLg*	Lg	02 38 39.9	
	comp=N,20nm,0.4s						
KRUS	**Krusevo**	**0.40**	**19**	*i* Pg	Pg	02 38 37.1	-0.7
KRUS				*i* Sg	Sg	02 38 43.7	+0.7
KRUS				*eLg*	Lg	02 38 43.9	
	comp=E,6.0nm,0.3s						
KRUS				*eLg*	Lg	02 38 44.4	
	comp=N,6.7nm,0.2s						

MEX 20 02:45:32.8±0.4, 14°61N×93°22W, h60km±19km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.97**	**72**	*i* P	Pn	02 45 49.3	-1.2
THIG				*eS*	Sn	02 46 01.8	-1.8
PCIG		**1.09**	**0**	*eP*	Pn	02 45 50.4	-1.7
PCIG				*iS*	Sn	02 46 04.9	-1.5
CCIG	**Comitan**	**1.97**	**32**	*iP*	Pn	02 46 03.3	-0.7
CCIG				*iS*	Sn	02 46 26.1	-1.7

*ISK **20** 02:45:41.5, 39°14N×40°75E, h5km, ML2.5/9*
*ISCJB **20** 02:45:42.8±0.6, 39°18N±0°03×40°79E±0°04, h3km±6km, Error ellipse: s-maj=4.7km s-min=4.3km az=148.7*
*DDA **20** 02:45:42.0, 39°15N×40°76E, h2km±1km, ML2.8*
ISC 20 02:45:43.0±1.2, 39°16N±0°03×40°78E±0°03, h5km±10km, n22, σ0°86/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGOL	**Bingol**	**0.19**	**206**	IAML_P			
	comp=Z,7μm,0.1s						
BGOL				*i* P	**Pg**	**02 45 46.3**	**-0.4**
KARO	**Karliova-Bingo**	**0.26**	**54**	PG	**Pg**	**02 45 47.7**	**-0.4**
KARO				SG	**Sg**	**02 45 52.3**	**+0.7**
ENGL	**BINGOL**	**0.35**	**125**	*i* P	**Pg**	**02 45 49.9**	**0.0**
BNGL				*i* S	**Sb**	**02 45 56.6**	**-1.3**
ECAT	**Cat-ERZURUM**	**0.47**	**19**	*i* P	**Pg**	**02 45 52.6**	**+0.4**
HANI	**Diyarbakir_Han**	**0.80**	**202**	IAML_P			
	comp=Z,1μm,0.3s						
HANI				*i* P	**Pg**	**02 45 57.9**	**-0.4**
HANI				*i* S	**Sb**	**02 46 10.1**	**-0.4**
TNCL	**Tunceli-Merkez**	**0.96**	**268**	IAML_P			
	comp=Z,465nm,0.2s						
TNCL				*i* P	**Pn**	**02 46 03.7**	**+0.4**
TNCL				*i* S	**Sn**	**02 46 17.7**	**+0.3**
EUZM	**Uzumlu**	**1.00**	**304**	IAML_P			
	comp=Z,2μm,0.1s						
EUZM				*i* P	**Pg**	**02 46 01.6**	**-0.7**
EUZM				*i* S	**Sb**	**02 46 16.8**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.06**	**162**	PG	**Pg**	**02 46 02.0**	**-1.2**
SVAN				SG	**Sg**	**02 46 16.9**	**0.0**
SVAN	**Silvan-Diyarba**	**1.06**	**162**	IAML_P			
	comp=Z,1μm,0.2s						
SVAN				*i* P	**Pg**	**02 46 03.3**	**+0.1**
SVAN				*i* S	**Sb**	**02 46 17.9**	**0.0**
PTK	**Pertek**	**1.11**	**257**	PN	**Pg**	**02 46 02.7**	**-1.6**
KOPR	**Koprukoy-ERZUR**	**1.18**	**45**	PN	**Pg**	**02 46 04.9**	**-0.7**
BTMN	**Batman**	**1.32**	**163**	IAML_P			
	comp=Z,274nm,0.2s						
BTMN				*i* P	**Pn**	**02 46 08.0**	**-0.2**
BTMN				*i* S	**Sn**	**02 46 27.5**	**+1.2**
BAYT	**Aydıntepe-Bayb**	**1.33**	**339**	PN	**Pn**	**02 46 07.5**	**-0.9**
DIYA	**Diyarbakir**	**1.33**	**203**	IAML_P			
	comp=Z,3μm,0.3s						
DIYA				*i* P	**Pn**	**02 46 08.1**	**-0.3**
DIYA				*i* S	**Sn**	**02 46 27.9**	**+1.4**
MLAZ	**Malazgirt-MUS**	**1.38**	**90**	PN	**Pn**	**02 46 08.2**	**-0.9**
SRTM	**Siirt_Merkez**	**1.47**	**142**	IAML_P			
	comp=Z,780nm,0.3s						
SRTM				*i* P	**Pg**	**02 46 11.1**	**-0.1**
SRTM				*i* S	**Sg**	**02 46 32.0**	**+1.8**
AGRB	**Hanur-Agry**	**1.77**	**76**	PN	**Pn**	**02 46 13.9**	**-0.5**
KEMA	**Kemaliye**	**1.78**	**274**	IAML_P			
	comp=Z,321nm,0.1s						
KEMA				*i* P	**Pn**	**02 46 15.1**	**+0.5**
KEMA				*i* S	**Sg**	**02 46 41.4**	**+1.2**
AKDM	**Akdamar-Van**	**1.91**	**115**	PN	**Pn**	**02 46 15.7**	**-0.7**
SIRT	**Sirnak**	**2.11**	**141**	PN	**Pn**	**02 46 18.3**	**-0.7**
URFA	**Urfa**	**2.30**	**223**	PN	**Pn**	**02 46 20.8**	**-0.9**
DARE	**Darende-Malaty**	**2.64**	**258**	PN	**Pn**	**02 46 25.6**	**-0.7**

*IDC **

KVAR	**Kislovodsk Arr**	**2.05**	**39**	Pn		**Pn**	**02 52 15.8**	**+0.9**
	baz=258,slow=18,SNR=126								
BAYT	**Aydıntepe-Bayb**	**2.07**	**196**	PN		**Pn**	**02 52 14.9**	**-0.3**
BEYR	**Belyy Ugol+**	**2.15**	**40**	*e*Pg		**Pn**	**02 52 17.9**	**+1.7**
BEYR				*i* Sg		**Sn**	**02 52 43.8**	**+0.9**
BAYB	**BAYBURT**	**2.17**	**193**	IAML_P				
	comp=Z,1μm,0.3s								
BAYB				*i* P		**Pb**	**02 52 18.9**	**-0.9**
ESPY	**Espiye-Giresun**	**2.19**	**229**	PN		**Pn**	**02 52 16.9**	**+0.1**
ZEI	**Tsey**	**2.25**	**79**	*e*PN		**Pn**	**02 52 17.7**	**0.0**
ZEI				*e*S		**Sn**	**02 52 46.0**	**+0.4**
ZEI	**Tsey**	**2.25**	**79**	*e*Pg		**Pn**	**02 52 17.4**	**-0.3**
ZEI				*e*Sg		**Sn**	**02 52 45.4**	**-0.3**
NCK	**Nalchik**	**2.27**	**60**	*e*PN		**Pn**	**02 52 18.6**	**+0.8**
NCK				pmax	pmax				
	comp=Z,183nm,0.4s								
NCK	**Nalchik**	**2.27**	**60**	*e*Pg		**Pb**	**02 52 19.9**	**-1.4**
NCK				*e*Sg		**Sb**	**02 52 48.2**	**-1.2**
BGD	**Bogdanovka**	**2.30**	**118**	P		**Pn**	**02 52 19.6**	**+1.2**
BGD				S		**Sn**	**02 52 47.4**	**+0.5**
PYA1	**Pyatigorsk**	**2.32**	**43**	*i* Pg		**Pn**	**02 52 20.0**	**+1.5**
PYA1				*e*Sg		**Sn**	**02 52 49.0**	**+1.8**
KBTC	**Kuba-Taba**	**2.33**	**51**	*e*PN		**Pb**	**02 52 20.8**	**-1.5**
KBTC				*e*S		**Sb**	**02 52 50.6**	**-0.6**
KBTC	**Kuba-Taba**	**2.33**	**51**	*e*Pg		**Pn**	**02 52 20.5**	**+1.9**
KBTC				*e*Sg		**Sb**	**02 52 50.6**	**-0.6**
LSNR	**Lesken**	**2.33**	**66**	*e*PN		**Pb**	**02 52 20.8**	**-1.5**
LSNR				*e*S		**Sn**	**02 52 48.5**	**+1.1**
LSNR	**Lesken**	**2.33**	**66**	*e*Pg		**Pn**	**02 52 20.2**	**+1.6**
LSNR				*e*Sg		**Sb**	**02 52 49.7**	**-1.5**
NVNR	**Nevinnomyssk**	**2.36**	**19**	*e*Pn		**Pb**	**02 52 21.5**	**-1.4**
NVNR				*e*Sn		**Sb**	**02 52 52.0**	**-0.1**
KORR	**Kora**	**2.43**	**72**	*e*PN		**Pb**	**02 52 22.2**	**-1.9**
KORR				*e*S		**Sn**	**02 52 50.9**	**+0.9**
KORR	**Kora**	**2.43**	**72**	*e*Pn		**Pn**	**02 52 21.9**	**+1.8**
KORR				*e*Sn		**Sb**	**02 52 52.3**	**-1.9**
HOMI	**Horasan**	**2.45**	**162**	*i* P		**Pb**	**02 52 22.9**	**-1.7**
KOPR	**Koprukoy-ERZUR**	**2.49**	**163**	PN		**Pn**	**02 52 21.1**	**+0.1**
STDR	**Stavd-Durt**	**2.52**	**66**	*e*Pn		**Pb**	**02 52 24.1**	**-1.6**
STDR				*e*Sn		**Sn**	**02 52 54.0**	**+1.9**
LACR	**Lac**	**2.54**	**79**	*e*PN		**Pn**	**02 52 22.7**	**+1.0**
LACR				*e*S		**Sn**	**02 52 54.2**	**+1.4**
LACR	**Lac**	**2.54**	**79**	*e*Pn		**Pn**	**02 52 22.5**	**+0.8**
LACR				*e*Sn		**Sn**	**02 52 53.5**	**+0.7**
KELT	**Kelkit**	**2.55**	**210**	IAML_P				
	comp=Z,1μm,0.2s								
KELT				*i* P		**Pn**	**02 52 23.1**	**+1.2**
KELT				*i* S		**Sb**	**02 52 55.9**	**-1.9**
ARNR	**Ardon**	**2.61**	**71**	*e*Pn		**Pb**	**02 52 26.1**	**-1.0**
ARNR				*e*Sn		**Sb**	**02 52 57.8**	**-1.5**
EAK	**Akyaka**	**2.64**	**129**	IAML_P				
	comp=Z,939nm,0.4s								
EAK				*i* P		**Pn**	**02 52 23.3**	**+0.2**
EAK				*i* S		**Sb**	**02 53 00.2**	**-0.1**
ECAT	**Cat-ERZURUM**	**2.77**	**179**	*i* P		**Pb**	**02 52 27.2**	**-2.8**
EATA	**Eleskirt**	**2.79**	**154**	IAML_P				
	comp=Z,184nm,0.1s								
EATA				*i* P		**Pn**	**02 52 26.8**	**+1.6**
ALER	**Alexandrovskoy**	**2.79**	**31**	*i* Pn		**Pn**	**02 52 24.7**	**-0.3**
ALER				*e*Sn		**Sn**	**02 52 57.9**	**-0.9**
BTKR	**Batakoyurt**	**2.85**	**68**	*e*Pn		**Pb**	**02 52 29.6**	**-1.6**
BTKR				*e*Sn		**Sn**	**02 53 03.0**	**+2.7**
VLKR	**Vladikavkaz**	**2.86**	**75**	*e*Pn		**Pb**	**02 52 32.1**	**+0.7**
VLKR				*e*Sn		**Sb**	**02 53 06.9**	**+0.4**
VOZR	**Vozrozhdenie**	**2.92**	**319**	*e*PN		**Pn**	**02 52 29.5**	**+2.8**
VOZR	**Vozrozhdenie**	**2.92**	**319**	*e*Pn		**Pn**	**02 52 29.7**	**+3.0**
VOZR				*e*Sn		**Sb**	**02 53 05.8**	**-2.4**
TBLG	**Delisi**	**2.93**	**102**	PN		**Pn**	**02 52 27.4**	**+0.5**
TBLG	**Delisi**	**2.93**	**102**	P		**Pn**	**02 52 26.8**	**-0.1**
TBLG				S		**Sn**	**02 53 01.6**	**-0.5**
TBLG	**Delisi**	**2.93**	**102**	*e*PN		**Pn**	**02 52 26.8**	**-0.1**
TBLG				*e*S		**Sn**	**02 53 01.6**	**-0.5**
TBLG	**Delisi**	**2.93**	**102**	*e*Pn		**Pn**	**02 52 26.8**	**-0.1**
TBLG				*e*Sn		**Sn**	**02 53 01.6**	**-0.5**
GOF	**Gofitskoye**	**3.09**	**29**	*e*PN		**Pb**	**02 52 34.0**	**-1.3**
GOF				*e*S		**Sb**	**02 53 15.4**	**+2.3**
GOF				pmax	pmax				
	comp=Z,90nm,0.7s								
GOF				smax	smax				
	comp=N,580nm,0.8s								
GOF				smax	smax				
	comp=E,330nm,0.8s								
TUTA	**Tutak**	**3.31**	**153**	IAML_P					
	comp=Z,1μm,0.1s								
TUTA				*i* P		**Pn**	**02 52 34.3**	**+2.0**
RSDY	**Resadiye-TOKAT**	**3.34**	**235**	PN		**Pn**	**02 52 33.6**	**+1.0**
ERBR	**Yeremizino-Bor**	**3.35**	**355**	*e*Pn		**Pn**	**02 52 34.3**	**+1.6**
ERBR				*e*Sn		**Sn**	**02 53 14.9**	**+2.5**
TASB	**TASBURUN-IGDIR**	**3.47**	**132**	PN		**Pn**	**02 52 35.5**	**+1.1**
ANN	**Anapa**	**3.50**	**315**	*e*PN		**Pn**	**02 52 37.8**	**+3.2**
ANN				*e*			02 53 20.3		
ANN				*e*			02 53 34.1		
ANN				pmax	pmax				
	comp=Z,38nm,0.6s								
ANN				smax	smax				
	comp=E,67nm,0.3s								
ANN				smax	smax				
	comp=N,144nm,0.4s								
ANN				smax	smax				
	comp=N,148nm,0.3s								
ANN				smax	smax				
	comp=Z,54nm,0.3s								
ANN				smax	smax				
	comp=E,258nm,0.3s								
ANN	**Anapa**	**3.50**	**315**	*e*Pn		**Pn**	**02 52 37.3**	**+2.7**
ANN				*e*Sn		**Sn**	**02 53 18.0**	**+2.0**
QZX	**Qazax, Azerbai**	**3.59**	**110**	⇓P		**Pb**	**02 52 39.9**	**-4.0**
	SNR=8.3								
QZX				⇓S		**Sb**	**02 53 27.3**	**-0.3**
GNI	**Garni**	**3.65**	**126**	PN		**Pn**	**02 52 38.2**	**+1.3**
GNI	**Garni**	**3.65**	**126**	Pn		**Pb**	**02 52 42.5**	**-2.5**
	comp=E,4.2nm,0.3s,baz=320,slow=7.3,SNR=24								
GNI				Sn		**Sb**	**02 53 28.1**	**-1.3**
	comp=E,2.7nm,0.3s,baz=199,slow=23,SNR=2.9								
GNI				LR		LR	02 54 00.0		
	comp=E,50nm,18.0s,baz=290,slow=37								
GNI	**Garni**	**3.65**	**126**	*i* PN		**Pn**	**02 52 39.5**	**+2.6**
GROC	**Groznyy**	**3.69**	**75**	*e*PN		**Pn**	**02 52 36.9**	**-0.4**
GROC				*e*S		**Sn**	**02 53 20.1**	**-0.8**
GROC				pmax	pmax				
	comp=Z,11nm,0.3s								
GROC				smax	smax				
	comp=N,64nm,0.5s								
GROC				smax	smax				
	comp=N,67nm,0.6s								
GROC	**Groznyy**	**3.69**	**75**	*e*Pn		**Pg**	**02 52 48.3**	**-2.6**
GROC				*e*Sn		**Sb**	**02 53 31.4**	**+1.1**
SVSK	**Karacayir**	**3.84**	**231**	PN		**Pn**	**02 52 40.5**	**+1.1**
TOKT	**Tokat**	**3.87**	**239**	PN		**Pn**	**02 52 41.0**	**+1.1**
DVE	**Vedeno**	**3.89**	**80**	*i* PN		**Pn**	**02 52 42.9**	**+2.7**
BTLR	**Botlikh**	**3.94**	**84**	*i* PN		**Pn**	**02 52 42.6**	**+1.8**
BTLR	**Botlikh**	**3.94**	**84**	*e*Pn		**Pn**	**02 52 41.8**	**+1.0**
BTLR				*e*Sn		**Sn**	**02 53 28.7**	**+1.6**
HYR	**Heyderabad**	**4.00**	**130**	⇑P		**Pn**	**02 52 44.2**	**+2.6**
GDB	**GEDABAY**	**4.00**	**113**	⇓P		**Pb**	**02 52 48.1**	**-2.7**
	SNR=5.3								
GDB				⇓S		**Sb**	**02 53 37.1**	**-2.2**
LGD	**Lagodekhi**	**4.01**	**96**	P		**Pb**	**02 52 49.9**	**-1.1**
LGD				S		**Sb**	**02 53 37.5**	**-2.0**
LGD	**Lagodekhi**	**4.01**	**96**	*e*PN		**Pb**	**02 52 49.8**	**-1.1**
LGD				*e*S		**Sb**	**02 53 37.5**	**-2.0**
LGD	**Lagodekhi**	**4.01**	**96**	*e*Pn		**Pb**	**02 52 49.9**	**-1.1**
LGD				*e*Sn		**Sb**	**02 53 37.7**	**-1.8**
SNOP	**Sinop**	**4.25**	**267**	PN		**Pn**	**02 52 46.2**	**+1.2**
DIKM	**Dikmen**	**4.27**	**262**	PN		**Pn**	**02 52 46.9**	**+1.6**
ZKTA	**Zakatala**	**4.32**	**98**	⇓P		**Pb**	**02 52 56.3**	**0.0**
	SNR=6.4								
ZKTA				⇑S		**Sb**	**02 53 48.6**	**0.0**
GANJ	**Ganja**	**4.42**	**111**	⇓P		**Pb**	**02 52 54.6**	**-3.4**
	SNR=4.4								
GANJ				⇑S		**Sb**	**02 53 49.7**	**-1.6**
GNBR	**Gunib**	**4.49**	**88**	*i* PN		**Pn**	**02 52 50.9**	**+2.5**
GNBR	**Gunib**	**4.49**	**88**	*e*Pn		**Pb**	**02 52 55.2**	**-4.0**
GNBR				*e*Sn		**Sb**	**02 53 47.0**	**-6.3**
SBZ	**Shahbuz**	**4.61**	**129**	⇑P		**Pn**	**02 52 53.2**	**+3.0**
FEO	**Feodosiya**	**4.79**	**305**	⇓*i* PN		**Pn**	**02 52 54.2**	**+1.8**
FEO				*e*S		**Sn**	**02 53 49.2**	**+1.2**
FEO	**Feodosiya**	**4.79**	**305**	*e*Pn		**Pn**	**02 52 54.2**	**+1.8**
FEO				*e*Sn		**Sn**	**02 53 49.2**	**+1.2**
SEKA	**Sheki**	**4.85**	**102**	⇓P		**Pb**	**02 53 03.7**	**-1.6**
	SNR=4.2								
SEKA				⇓S		**Sb**	**02 54 05.9**	**+2.2**
MAK	**Makhachkala**	**4.90**	**81**	*i* PN		**Pn**	**02 52 51.9**	**-2.0**
SUDU	**Sudak**	**4.97**	**302**	⇓*i* PN		**Pn**	**02 52 55.5**	**+0.7**
SUDU				*e*S		**Sn**	**02 53 52.2**	**-0.1**
SUDU	**Sudak**	**4.97**	**302**	*e*Pn		**Pn**	**02 52 55.5**	**+0.7**
SUDU				*e*Sn		**Sn**	**02 53 56.5**	**+4.2**
BZK	**Bozkurt**	**5.15**	**268**	PN		**Pn**	**02 52 59.1**	**+1.8**
ORD	**Ordubad**	**5.18**	**130**	⇑P		**Pn**	**02 52 60.0**	**+2.0**
ALU	**Alushta**	**5.26**	**298**	⇑*i* PN		**Pn**	**02 52 57.3**	**-1.5**
ALU				*e*S		**Sn**	**02 53 56.8**	**-2.7**
ALU	**Alushta**	**5.26**	**298**	*i* Pn		**Pn**	**02 52 57.3**	**-1.5**
ALU				*e*Sn		**Sn**	**02 53 56.8**	**-2.7**
YAL	**Yalta**	**5.35**	**295**	*e*PN		**Pn**	**02 53 01.3**	**+1.2**
YAL				*e*S		**Sn**	**02 54 01.1**	**-0.6**
YAL	**Yalta**	**5.35**	**295**	*e*Pn		**Pn**	**02 53 01.3**	**+1.2**
YAL				*e*Sn		**Sn**	**02 54 01.1**	**-0.6**
SIM	**Simferopol'**	**5.55**	**300**	*e*P		**Pn**	**02 53 05.6**	**+2.7**
SIM				*e*S		**Sn**	**02 54 09.5**	**+2.7**
SIM				pmax	pmax				
	comp=Z,14nm,1.0s								
SIM	**Simferopol'**	**5.55**	**300**	*e*Pn		**Pn**	**02 53 04.3**	**+1.4**
SIM				*e*Sn		**Sn**	**02 54 06.0**	**-0.8**
SEV	**Sevastopol'**	**5.70**	**295**	⇓*e*P		**Pn**	**02 53 04.6**	**-0.2**
SEV				*e*S		**Sn**	**02 54 09.3**	**-0.9**
SEV	**Sevastopol'**	**5.70**	**295**	*e*Pn		**Pn**	**02 53 04.6**	**-0.2**
SEV				*e*Sn		**Sn**	**02 54 09.3**	**-0.9**
BRTR	**Keskin Array B**	**6.10**	**247**	Pn		**Pn**	**02 53 12.6**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=39,slow=11,SNR=26								
BRTR				Sn		**Sn**	**02 54 22.5**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=57,slow=14,SNR=4.1								
VSR	**Storozhevoye**	**8.92**	**353**	*i* P		**Pn**	**02 53 46.6**	**-2.5**
MANR	**Mangalia**	**9.13**	**283**	⇓*i* P		**Pn**	**02 53 50.5**	**-1.4**
MANR	**Mangalia**	**9.13**	**283**	S		**Sn**	**02 55 28.3**	**-6.4**
TLCR		**9.19**	**292**	⇑*i* P		**Pn**	**02 53 51.8**	**-0.9**
TLCR		**9.19**	**292**	S		**Sn**	**02 55 29.3**	**-6.8**
TIRR	**Tirgusor**	**9.33**	**287**	⇓*i* P		**Pn**	**02 53 52.7**	**-2.0**
TIRR	**Tirgusor**	**9.33**	**287**	S		**Sn**	**02 55 31.5**	**-8.1**
TIRR	**Tirgusor**	**9.33**	**287**	P		**Pn**	**02 53 52.7**	**-2.0**
TLB	**Topalu**	**9.61**	**288**	⇑*i* P		**Pn**	**02 53 56.9**	**-1.6**
CFR	**Carcaliu**	**9.65**	**291**	⇓*i* P		**Pn**	**02 53 57.3**	**-1.8**
CFR	**Carcaliu**	**9.65**	**291**	P		**Pn**	**02 53 57.3**	**-1.8**
HARR	**Harsova**	**9.70**	**288**	⇓*i* P		**Pn**	**02 53 58.5**	**-1.3**
HARR	**Harsova**	**9.70**	**288**	P		**Pn**	**02 53 58.5**	**-1.3**
MMAI	**Mount Meron Ar**	**10.31**	**207**	Sn		**Sn**	**02 56 11.0**	**+7.0**
	comp=Z,0.9nm,0.3s,baz=24,slow=28,SNR=3.2								
LPSR	**Galich'ya Gora**	**10.31**	**353**	*e*P		**Pn**	**02 54 11.2**	**+3.0**
LPSR				pmax	pmax				
	comp=Z,20nm,0.8s								
ODBI	**Odobesti**	**10.52**	**293**	⇑*i* P		**Pn**	**02 54 09.8**	**-1.3**
ASF	**Jabal al Asfar**	**10.68**	**199**	Sn		Sn	02 56 21.5	+8.6	
	comp=Z,0.3nm,0.3s,baz=130,slow=2.3,SNR=2.9								
VRI	**Vrincioaia**	**10.77**	**294**	⇓*i* P		**Pn**	**02 54 14.3**	**-0.2**
VRI	**Vrincioaia**	**10.77**	**294**	P		**Pn**	**02 54 14.3**	**-0.2**
PLOR	**Plostina**	**10.82**	**294**	⇓*i* P		**Pn**	**02 54 15.3**	**+0.1**
PLOR	**Plostina**	**10.82**	**294**	P		**Pn**	**02 54 15.3**	**+0.1**
MLR	**Muntele Rosu**	**11.23**	**291**	Pn		**Pn**	**02 54 21.4**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=104,slow=4,SNR=9.0								
MLR				Sn		**Sn**	**02 56 23.3**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=156,slow=12,SNR=2.5								
MLR	**Muntele Rosu**	**11.23**	**291**	⇓*i* P		**Pn**	**02 54 20.3**	**-0.6**
BIZ	**Bicaz**	**11.48**	**298**	⇑*i* P		**Pn**	**02 54 23.9**	**-0.3**
AKASG	**Malin Array Be**	**11.56**	**320**	Pn		**Pn**	**02 54 21.5**	**-3.7**
	comp=Z,1.5nm,0.3s,baz=123,slow=14,SNR=3.8								
AKASG				Sn		Sn	02 56 24.4	-10	
	comp=Z,1.0nm,0.3s,baz=130,slow=24,SNR=4.6								
KIEV	**Kiev**	**11.57**	**320**	*i* P		**Pn**	**02 54 27.7**	**+2.4**
VOIR		**11.84**	**290**	⇑*i* P		**Pn**	**02 54 28.5**	**-0.7**
VOIR		**11.84**	**290**	P		**Pn**	**02 54 28.5**	**-0.7**
ARR	**Arges**	**12.12**	**290**	⇑*i* P		**Pn**	**02 54 32.2**	**-0.8**
BURAR	**Bucovina Array**	**12.27**	**301**	⇓*i* P		**Pn**	**02 54 34.5**	**-0.6**
BURAR	**Bucovina Array**	**12.27**	**301**	P		**Pn**	**02 54 34.4**	**-0.6**
OBN	**Obninsk**	**13.06**	**349**	*i* P		**Pn**	**02 54 48.0**	**+2.4**
OBN				pmax	pmax				
	comp=Z,2.0nm,0.9s								
DRGR		**13.69**	**295**	⇓*i* P		**Pn**	**02 54 53.5**	**-0.9**
DRGR		**13.69**	**295**	P		**Pn**	**02 54 53.5**	**-0.9**
GEYT	**Alibeck**	**13.89**	**103**	Pn		**Pn**	**02 55 00.0**	**+2.9**
	comp=Z,0.2nm,0.3s,baz=283,slow=13,SNR=2.8								
AKTO	**Aktyubinsk**	**14.27**	**50**	Pn		**Pn**	**02 54 58.3**	**-4.0**
	comp=Z,0.1nm,0.3s,baz=232,slow=12,SNR=2.5								
VRAC	**Vranov**	**18.25**	**301**	P		**Pn**	**02 55 53.8**	**+0.2**
	baz=107,slow=17,SNR=1.4								
KLMR	**Klimovskoe**	**18.52**	**358**	*e*P		**Pn**	**02 56 01.7**	**+5.0**
KLMR				pmax	pmax				
	comp=Z,13nm,1.4s								
KLMR	**Klimovskoe**	**18.52**	**358**	*e*Pn		**Pn**	**02 56 01.7**	**+5.0**
KLMR				AMP			02 56 17.8		
	comp=Z,13nm,1.4s								
GERES	**GERESS Array B**	**20.03**	**298**	P		**P**	**02 56 13.0**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=118,slow=11,SNR=6.8								
FINES	**FINESS Array B**	**21.07**	**340**	P		**P**	**02 56 23.9**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=150,slow=13,SNR=6.8								
BRVK	**Borovoye**	**22.31**	**51**	*i* P		**P**	**02 56 36.9**	**-0.8**
BRVK				pmax	pmax				
	comp=Z,3.0nm,0.9s								
BVAR	**Borovoye Array**	**22.36**	**51**	P		**P**	**02 56 39.2**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=287,slow=6.0,SNR=7.7								
DAVOX	**Davos/Dischmat**	**22.45**	**292**	P		**P**	**02 56 38.8**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=56,slow=18,SNR=2.3								
HFS	**Hagfors**	**24.33**	**326**	P		**P**	**02 56 58.0**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=112,slow=11,SNR=5.6								
HFS				LR		LR	03 08 06.5		
	comp=Z,107nm,18.7s,baz=64,slow=41								
KEST	**Kesra**	**25.29**	**265**	P		**P**	**02 57 07.7**	**+0.8**
	comp=Z,3.4nm,0.7s,baz=42,slow=6.6,SNR=4.0								
NB2	**NORSAR Subarra**	**25.85**	**326**	P		**P**	**02 57 13.6**	**+1.9**
	comp=Z,4.4nm,1.0s,baz=127,slow=10								
NOA	**NORSAR Array B**	**25.85**	**326**	P		**P**	**02 57 12.7**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=127,slow=9.6,SNR=3.3								
KURBB	**Kurchatov Arra**	**26.94**	**59**	P		**P**	**02 57 21.0**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=272,slow=9.3,SNR=8.2								
KURK	**Kurchatov**	**27.00**	**59**	*i* P		**P**	**02 57 23.1**	**+1.0**
KURK				pmax	pmax				
	comp=Z,3.0nm,1.0s								
MKAR	**Makanchi Array**	**29.55**	**67**	P		**P**	**02 57 47.9**	**+2.9**
	comp=Z,0.1nm,0.5s,baz=273,slow=10,SNR=2.2								
ZALV	**Zalesovo Beam**	**31.00**	**53**	P		**P**	**02 57 58.9**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=271,slow=7.1,SNR=2.5								
TORD	**Tordi Ar. Bea**	**44.68**	**241**	P		**P**	**02 59 53.9**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=47,slow=8.5,SNR=5.2								
YKA	**Yellowknife Ar**	**73.64**	**348**	P		**P**	**03 03 13.3**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=356,slow=5.7,SNR=3.1								

*ISCJB **20** 02:52:32.0±0.5,39.60N±0.02×25.69E±0.04,h10km±4km, Error ellipse: s-maj=5.1km s-min=3.9km az=154.2*
*DDA **20** 02:52:31.0,39.68N×25.62E,h8km±5km,ML2.9*
*ATH **20** 02:52:31.8,39.63N×25.71E,h22km±6km,ML1.9/4, Error ellipse: s-maj=6.4km s-min=0.9km az=229.0*
*ISK **20** 02:52:31.4,39.60N×25.67E,h8km,ML2.2/14*
ISC 20 02:52:31.8±1.1,39.62N±0.02×25.68E±0.03,h11km±10km, n25,σ0.44/34,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.36**	**53**	PG	**Pg**	**02 52 39.3**	**+0.3**
BOZC				SG	**Sb**	**02 52 45.1**	**-0.7**
SIGR	**SIGRI**	**0.43**	**162**	PG	**Pg**	**02 52 40.0**	**-0.3**
SIGR				SG	**Sg**	**02 52 46.3**	**+0.3**
SIGR	**SIGRI**	**0.43**	**162**	P	**Pg**	**02 52 40.7**	**+0.4**
SIGR				S	**Sb**	**02 52 47.3**	**-0.6**
SIGR				AML	AML	02 52 47.9	
	comp=E,633μm,0.3s						
SIGR				AML	AML	02 52 48.0	
	comp=N,991μm,0.4s						
LIA	**Limnos Island**	**0.47**	**306**	P	**Pb**	**02 52 41.5**	**-0.5**
LIA				S	**Sb**	**02 52 48.8**	**-0.2**
LIA				AML	AML	02 52 58.2	
	comp=E,236μm,0.4s						
LIA				AML	AML	02 52 58.7	
	comp=N,160μm,0.4s						
EZN	**Ezine**	**0.54**	**68**	PG	**Pb**	**02 52 42.6**	**-0.6**
EZN				SG	**Sb**	**02 52 50.3**	**-0.6**
EFSA	**Agios Efstrati**	**0.54**	**261**	P	**Pb**	**02 52 43.5**	**+0.3**
GADA	**Gvkgeada**	**0.59**	**16**	PG	**Pb**	**02 52 43.8**	**-0.3**
PRK	**Paraskevi**	**0.59**	**129**	P	**Pg**	**02 52 43.3**	**0.0**
PRK				S	**Sg**	**02 52 51.5**	**+0.4**
PRK				AML	AML	02 52 54.5	
	comp=E,441μm,0.5s						
PRK				AML	AML	02 52 55.5	
	comp=N,351μm,0.5s						
BAYC	**CANAKKALE_Bayr**	**0.68**	**80**	IAML_P			
	comp=Z,1μm,0.1s						
BAYC				*i* P	**Pb**	**02 52 45.4**	**-0.2**
AYVA	**Ayvalik**	**0.84**	**112**	IAML_P			
	comp=Z,303nm,0.1s						
AYVA				*i* P	**Pn**	**02 52 49.7**	**+0.2**
SMTH	**Samothraki Isl**	**0.85**	**352**	P	**Pb**	**02 52 48.4**	**-0.2**
SMTH				S	**Sb**	**02 53 00.3**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.98**	**38**	PG	**Pn**	**02 52 51.2**	**-0.3**
DKL	**Dikili**	**1.10**	**120**	PN	**Pg**	**02 52 52.7**	**-0.2**
LPK	**Lapseki**	**1.12**	**48**	PN	**Pn**	**02 52 53.5**	**+0.2**
ENEZ	**Enez**	**1.17**	**18**	PN	**Pn**	**02 52 54.7**	**+0.7**
ERIK	**Erikli-Kesan**	**1.23**	**31**	PN	**Pg**	**02 52 55.5**	**+0.2**
THAS	**Thassos island**	**1.23**	**323**	P	**Pg**	**02 52 55.0**	**-0.3**
THAS				S	**Sn**	**02 53 11.9**	**+0.5**
THAS				AML	AML	02 53 17.2	
	comp=E,67μm,0.5s						
THAS				AML	AML	02 53 21.5	
	comp=N,64μm,0.7s						
CHOS	**Chios island**	**1.27**	**167**	PN	**Pn**	**02 52 55.3**	**-0.2**
CHOS	**Chios island**	**1.27**	**167**	P	**Pb**	**02 52 55.6**	**-0.1**
ALN	**Alexandroupoli**	**1.30**	**12**	PN	**Pg**	**02 52 56.5**	**-0.3**
ALN	**Alexandroupoli**	**1.30**	**12**	P	**Pg**	**02 52 56.3**	**-0.4**
ALN				S	**Sn**	**02 53 14.3**	**+1.1**
URLA	**Izmir**	**1.45**	**150**	PN	**Pn**	**02 52 57.9**	**0.0**
KRBG	**Karabiga-Canak**	**1.46**	**58**	PN	**Pb**	**02 52 58.8**	**-0.1**
OUR	**Ouranopolis**	**1.49**	**299**	PN	**Pb**	**02 52 58.7**	**-0.7**
RDO	**Rodhopi**	**1.52**	**356**	PN	**Pb**	**02 52 59.7**	**-0.3**

IDC 20 03:02:00.6±11.0,7.34N×103.88W,h0km,mb3.5/4, mb1 4.0/4,mb1mx3.7/27,mbtmp3.5/4,MS3.3/2,Ms1 3.3/2, ms1mx2.8/20,Error ellipse: s-maj=358.7km s-min=101.9km az=115.0,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**13.07**	**41**	LR	LR	03 08 52.9	
	comp=Z,133nm,18.3s,baz=272,slow=32						
APG	**El Apazote**	**15.19**	**59**	LR	LR	03 10 04.7	
	comp=Z,92nm,20.1s,baz=92,slow=32						
TXAR	**Lajitas Array**	**21.88**	**0**	P	P	03 06 54.5	-0.7
	1.2nm,0.9s,baz=178,slow=9.9,SNR=11						
PDAR	**Pinedale Array**	**35.63**	**353**	P	P	03 09 01.2	+0.8
	1.2nm,1.0s,baz=167,slow=8.3,SNR=7.6						
YKA	**Yellowknife Ar**	**55.60**	**354**	P	P	03 11 38.2	+0.4
	0.3nm,0.6s,baz=164,slow=7.5,SNR=5.7						
ILAR	**Eielson Array**	**64.81**	**341**	P	P	03 12 40.2	-0.8
	0.6nm,0.9s,baz=154,slow=4.4,SNR=5.5						

**ID

1.4nm,0.7s,baz=196,slow=9.0,SNR=11
ASAR Alice Springs 48.81 124 P P 04 09 04.4 +1.9
0.3nm,0.8s,baz=300,slow=7.4,SNR=2.7
ZALV Zalesovo Beam 52.58 356 P P 04 09 29.3 -1.0
0.7nm,0.3s,baz=166,slow=6.3,SNR=4.2
BRTR Keskin Array B 64.24 314 P P 04 10 51.3 -0.9
0.3nm,0.7s,baz=124,slow=6.4,SNR=3.1
GERES GERESS Array B 80.40 319 P P 04 12 28.9 +0.3
0.3nm,0.7s,baz=105,slow=7.2,SNR=2.8
TXAR Lajitas Array 146.46 23 PKPbc PKPab 04 20 00.1 +0.3
0.1nm,0.4s,baz=356,slow=1.3,SNR=2.5

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*NORS **20** 04:11:10.5±0.0, 42.°49N×41.°22E, h10km, MPVA3.4*
*DDA **20** 04:11:10.7, 42.°24N×41.°02E, h7km±3km, ML2.9*
*MOS **20** 04:11:11.2±0.0, 42.°47N×40.°98E, h5km, MPVA3.2*
ISC 20 04:11:09.0±1.4, 42.°37N±0.°02×41.°08E±0.°03, h3km±11km, n19, σ0s55/39, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DOMR	**Dombai**	**1.00**	**23**	*e*Pg	**Pg**	**04 11 28.5**	**+0.3**
DOMR				*e*Sg	**Sb**	**04 11 42.4**	**-0.3**
DBOC	**Borcka**	**1.12**	**157**	IAML_P			
	comp=Z,1μm,0.1s						
DBOC				*i* P	**Pg**	**04 11 31.0**	**+0.6**
DBOC				*i* S	**Sn**	**04 11 46.9**	**-0.6**
ARXR	**Arkhyz**	**1.20**	**7**	*e*Pg	**Pg**	**04 11 31.9**	**-0.1**
ARXR				*e*Sg	**Sg**	**04 11 48.2**	**+0.8**
ARTV	**Artvin**	**1.35**	**152**	IAML_P			
	comp=Z,1μm,0.1s						
ARTV				*i* P	**Pg**	**04 11 35.1**	**+0.3**
ARTV				*i* S	**Sb**	**04 11 52.9**	**+0.2**
DBAD	**Bademkaya**	**1.43**	**161**	IAML_P			
	comp=Z,830nm,0.2s						
DBAD				*i* P	**Pn**	**04 11 35.8**	**-0.2**
DBAD				*i* S	**Sn**	**04 11 55.5**	**+0.1**
DAGI	**Agillar**	**1.44**	**154**	IAML_P			
	comp=Z,161nm,0.1s						
DAGI				*i* P	**Pn**	**04 11 36.4**	**+0.3**
DAGI				*i* S	**Sb**	**04 11 55.2**	**0.0**
RPOR	**Krasnaya Polya**	**1.45**	**336**	*e*Pg	**Pn**	**04 11 36.0**	**-0.3**
RPOR				*e*Sg	**Sb**	**04 11 55.3**	**-0.3**
NEY	**Neytrino**	**1.49**	**53**	*e*Pg	**Pn**	**04 11 36.8**	**0.0**
NEY				*e*Sg	**Sb**	**04 11 56.3**	**-0.5**
DDEM	**Demirkent**	**1.56**	**161**	IAML_P			
	comp=Z,967nm,0.1s						
DDEM				*i* P	**Pg**	**04 11 39.3**	**+0.3**
SOC	**Sochi**	**1.57**	**321**	*e*Pg	**Pn**	**04 11 37.5**	**-0.3**
SOC				*e*Sg	**Sn**	**04 11 58.0**	**-0.6**
SHA1	**Shidzhatmaz**	**1.79**	**40**	*e*Pg	**Pb**	**04 11 42.8**	**+0.3**
SHA1				*e*Sg	**Sn**	**04 12 05.1**	**+0.8**
DIGR	**Digorskoe uzhe**	**1.92**	**73**	*e*Pg	**Pg**	**04 11 45.7**	**0.0**
DIGR				*e*Sg	**Sb**	**04 12 08.9**	**-0.2**
KIV0	**Kislovodsk Arr**	**1.97**	**36**	*i* Pg	**Pb**	**04 11 44.9**	**-0.8**
KIV0				*e*Sg	**Sb**	**04 12 11.1**	**+0.5**
LZRR	**Lazarevskoye**	**2.00**	**322**	*e*Pg	**Pb**	**04 11 45.7**	**-0.2**
LZRR				*i* Sg	**Sb**	**04 12 11.8**	**+0.6**
BEYR	**Belyy Ugol+**	**2.07**	**37**	*i* Pg	**Pn**	**04 11 46.0**	**+1.3**
BEYR				*i* Sg	**Sb**	**04 12 14.1**	**+0.7**
ZEI	**Tsey**	**2.12**	**78**	*e*Pg	**Pb**	**04 11 48.0**	**-0.2**
ZEI				*e*Pg	**Pg**	**04 11 50.0**	**+0.4**
ZEI				*e*Sg	**Sb**	**04 12 15.2**	**+0.1**
ZEI				*e*Sg	**Sg**	**04 12 15.8**	**-1.3**
LSNR	**Lesken**	**2.21**	**65**	*e*Pg	**Pg**	**04 11 51.2**	**-0.2**
LSNR				*e*Sg	**Sg**	**04 12 19.9**	**-0.1**
PYA1	**Pyatigorsk**	**2.24**	**40**	*e*Pg	**Pb**	**04 11 50.6**	**+0.5**
PYA1				*e*Sg	**Sg**	**04 12 20.1**	**-0.8**
LACR	**Lac**	**2.42**	**78**	*e*Pn	**Pb**	**04 11 52.9**	**-0.3**
LACR				*e*Sn	**Sb**	**04 12 22.7**	**-0.7**

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*ISK **20** 04:30:53.9, 42.°33N×40.°99E, h17km, ML2.8/4*
*NORS **20** 04:30:55.5±0.0, 42.°51N×41.°21E, h10km, MPVA3.5*
*MOS **20** 04:30:55.6±0.0, 42.°50N×41.°10E, h10km, MPVA3.5*
*DDA **20** 04:30:55.1, 42.°31N×41.°36E, h7km±4km, ML3.0*
ISC 20 04:30:52.9±1.1, 42.°36N±0.°02×40.°97E±0.°03, h12km±10km, n21, σ0s66/38, Black Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATM	**Batumi**	**0.93**	**144**	PG	**Pn**	**04 31 11.7**	**-0.1**
BATM				SG	**Sn**	**04 31 24.6**	**-0.5**
BCA	**Borcka**	**1.04**	**152**	PG	**Pn**	**04 31 13.6**	**+0.3**
BCA				SG	**Sn**	**04 31 28.1**	**+0.3**
DOMR	**Dombai**	**1.04**	**27**	*i* Pg	**Pn**	**04 31 13.7**	**+0.2**
DOMR				*i* Sg	**Sg**	**04 31 26.4**	**-0.3**
ARXR	**Arkhyz**	**1.22**	**10**	*e*Pg	**Pn**	**04 31 16.2**	**+0.2**
ARXR				*i* Sg	**Sb**	**04 31 31.8**	**0.0**
CHOM	**Cayeli-Rize**	**1.28**	**187**	PN	**Pb**	**04 31 17.1**	**+0.2**
ARTV	**Artvin**	**1.38**	**148**	IAML_P			
	comp=Z,1μm,0.1s						
ARTV				*i* P	**Pg**	**04 31 19.5**	**+0.1**
ARTV				*i* S	**Sg**	**04 31 37.3**	**0.0**
RPOR	**Krasnaya Polya**	**1.43**	**339**	*i* Pg	**Pg**	**04 31 20.7**	**+0.2**
RPOR				*e*Sg	**Sg**	**04 31 39.2**	**+0.2**
DBAD	**Bademkaya**	**1.45**	**158**	IAML_P			
	comp=Z,782nm,0.1s						
DBAD				*i* P	**Pg**	**04 31 20.9**	**+0.2**
DAGI	**Agillar**	**1.47**	**151**	IAML_P			
	comp=Z,292nm,0.1s						
DAGI				*i* P	**Pg**	**04 31 21.0**	**-0.1**
DAGI				*i* S	**Sg**	**04 31 39.7**	**-0.4**
SOC	**Sochi**	**1.53**	**323**	*e*Pg	**Pg**	**04 31 22.3**	**0.0**
SOC				*i* Sg	**Sg**	**04 31 43.2**	**+1.1**
NEY	**Neytrino**	**1.56**	**55**	*i* Pg	**Pb**	**04 31 21.5**	**-0.4**
NEY				*e*Sg	**Sn**	**04 31 40.9**	**-0.1**
DDEM	**Demirkent**	**1.58**	**158**	IAML_P			
	comp=Z,562nm,0.1s						
DDEM				*i* P	**Pg**	**04 31 23.2**	**-0.1**
DDEM				*i* S	**Sg**	**04 31 43.0**	**-0.8**
SHA1	**Shidzhatmaz**	**1.85**	**41**	*i* Pg	**Pb**	**04 31 27.4**	**+0.6**
SHA1				*i* Sg	**Sb**	**04 31 49.8**	**-0.1**
LZRR	**Lazarevskoye**	**1.96**	**324**	*e*Pg	**Pb**	**04 31 29.3**	**+0.9**
LZRR				*e*Sg	**Sg**	**04 31 55.6**	**-0.2**
DIGR	**Digorskoe uzhe**	**2.00**	**74**	*i* Pg	**Pb**	**04 31 29.9**	**+0.5**
DIGR				*e*Sg	**Sb**	**04 31 54.1**	**-0.2**
KIV0	**Kislovodsk Arr**	**2.03**	**38**	*e*Pg	**Pb**	**04 31 29.7**	**-0.1**
KIV0				*e*Sg	**Sb**	**04 31 55.1**	**0.0**
BAYT	**Aydıntepe-Bayb**	**2.06**	**198**	PN	**Pn**	**04 31 28.4**	**+0.8**
ZEI	**Tsey**	**2.21**	**78**	*e*Pg	**Pn**	**04 31 30.3**	**+0.7**
ZEI				*e*Sg	**Sb**	**04 31 59.7**	**-0.5**
ESPY	**Espiye-Giresun**	**2.22**	**230**	PN	**Pn**	**04 31 30.8**	**+1.2**
NCK	**Nalchik**	**2.23**	**59**	*e*Pg	**Pb**	**04 31 32.7**	**-0.5**
NCK				*e*Sg	**Sb**	**04 32 01.0**	**+0.2**
VOZR	**Vozrozhdenie**	**2.96**	**318**	*e*Pn	**Pb**	**04 31 43.8**	**-1.9**
VOZR				*e*Sn	**Sb**	**04 32 20.0**	**-1.9**

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*SOME **20** 04:31:39.6, 42.°05N×75.°98E, h10km*
*KRNET **20** 04:31:39.5±0.1, 42.°06N×75.°98E, h15km, mb2.6*
*NNC **20** 04:31:39.9±0.5, 42.°10N×75.°96E, h0km, mb2.8, mpv2.8, Error ellipse: s-maj=3.0km s-min=1.6km az=170.0*
*KNET **20** 04:31:40.1±0.2, 42.°11N×75.°94E, h2km±7km, ml1.6, Error ellipse: s-maj=1.6km s-min=1.0km az=129.0*
ISC 20 04:31:39.8±0.9, 42.°08N±0.°02×75.°98E±0.°02, h14km±7km, n72, σ0s68/126, 32C-27D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**0.26**	**49**	⇑P	**Pg**	**04 31 45.2**	**-0.2**
	25nm,0.1s,SNR=197						
ULHL				⇑S	**Sg**	**04 31 49.0**	**-0.1**
	123nm,0.1s						
ULHL	**Ulahol**	**0.26**	**49**	⇓*i*P	**Pg**	**04 31 45.2**	**-0.2**
	baz=46						
ULHL				⇓*i*S	**Sg**	**04 31 49.1**	**-0.1**
	baz=46						
BOOM	**Boomskoye usch**	**0.41**	**356**	⇑*e*P	**Pg**	**04 31 47.9**	**-0.2**
	baz=56						
BOOM				⇑*i*S	**Sg**	**04 31 53.9**	**+0.1**
	baz=56						
KZA	**Kyzart**	**0.55**	**270**	⇓P	**Pg**	**04 31 50.3**	**-0.4**
	4.0nm,0.1s,SNR=15						
KZA				⇓S	**Sg**	**04 31 57.9**	**-0.2**
	18nm,0.2s						
KZA	**Kyzart**	**0.55**	**270**	⇑*i*P	**Pg**	**04 31 50.3**	**-0.4**
	baz=72						
KZA				⇑*i*S	**Sg**	**04 31 57.8**	**-0.2**
	baz=72						
NRN	**Naryn**	**0.64**	**179**	⇑*i*P	**Pg**	**04 31 52.0**	**-0.4**
	baz=81						
NRN				⇑*i*S	**Sg**	**04 32 00.3**	**-0.7**
TKM2	**Tokmak 2**	**0.89**	**341**	⇓P	**Pg**	**04 31 56.8**	**-0.3**
	4.9nm,0.1s,SNR=6.3						
TKM2				⇑S	**Sb**	**04 32 09.4**	**+0.3**
	11nm,0.1s						
TKM2	**Tokmak 2**	**0.89**	**341**	⇑P	**Pg**	**04 31 56.4**	**-0.7**
	1.9nm,0.2s						
TKM2				⇓S	**Sb**	**04 32 08.8**	**-0.2**
	3.5nm,0.3s						
TKM2	**Tokmak 2**	**0.89**	**341**	⇓*i*P	**Pg**	**04 31 56.7**	**-0.4**
	baz=42						
TKM2				⇓*i*S	**Sb**	**04 32 08.9**	**-0.2**
	baz=42						
KDJ	**Kajisay**	**0.89**	**86**	⇓*i*P	**Pg**	**04 31 56.5**	**-0.6**
	baz=85						
KDJ				⇓*i*S	**Sg**	**04 32 08.3**	**-0.5**
	baz=85						
KBK	**Karagaybulak**	**0.96**	**307**	⇓P	**Pg**	**04 31 58.2**	**-0.2**
	7.9nm,0.1s						
KST	**Kastek**	**0.97**	**359**	P	**Pb**	**04 31 58.4**	**0.0**
	7.5nm,0.2s						
KST				S	**Sb**	**04 32 11.8**	**+0.7**
	9.0nm,0.3s						
KST	**Kastek**	**0.97**	**359**	⇑*i*P	**Pb**	**04 31 58.4**	**0.0**
	baz=59						
KST				⇓*i*S	**Sb**	**04 32 11.8**	**+0.7**
	baz=59						
KST	**Kastek**	**0.97**	**359**	⇑*i*P	**Pb**	**04 31 58.4**	**0.0**
	7.5nm,0.2s						
KST				⇓*i*S	**Sb**	**04 32 11.8**	**+0.7**
	9.0nm,0.2s						
IZV	**Izvestkoviy**	**1.06**	**26**	P	**Pb**	**04 32 00.2**	**0.0**
	4.6nm,0.2s						
IZV				S	**Sb**	**04 32 14.8**	**+0.8**
	11nm,0.3s						
IZV	**Izvestkoviy**	**1.06**	**26**	*e*P	**Pb**	**04 32 00.2**	**0.0**
	baz=25						
IZV				*e*S	**Sb**	**04 32 14.8**	**+0.8**
	baz=25						
IZV	**Izvestkoviy**	**1.06**	**26**	*e*P	**Pb**	**04 32 00.2**	**0.0**
	4.6nm,0.2s						
IZV				*e*S	**Sb**	**04 32 14.8**	**+0.8**
	11nm,0.3s						
MTBS	**Maitube**	**1.10**	**17**	P	**Pb**	**04 32 00.8**	**+0.1**
	3.8nm,0.2s						
MTBS				S	**Sn**	**04 32 15.8**	**-0.2**
	14nm,0.2s						
MTBS	**Maitube**	**1.10**	**17**	*e*P	**Pb**	**04 32 00.8**	**+0.1**
	baz=17						
MTBS				*e*S	**Sn**	**04 32 15.8**	**-0.2**
	baz=17						
MTBS	**Maitube**	**1.10**	**17**	*e*P	**Pb**	**04 32 00.8**	**+0.1**
	3.8nm,0.2s						
MTBS				*e*S	**Sn**	**04 32 15.8**	**-0.2**
	14nm,0.2s						
UCH	**Uchtor**	**1.10**	**278**	⇑*i*P	**Pg**	**04 32 00.6**	**-0.5**
	baz=79						
UCH				⇑*i*S	**Sg**	**04 32 15.4**	**-0.2**
	baz=79						
DGS	**Degeres**	**1.18**	**352**	P	**Pb**	**04 32 02.0**	**0.0**
	4.7nm,0.1s						
DGS				S	**Sn**	**04 32 18.0**	**+0.1**
	11nm,0.1s						
DGS	**Degeres**	**1.18**	**352**	*e*P	**Pb**	**04 32 02.0**	**0.0**
	baz=53						
DGS				*e*S	**Sn**	**04 32 18.0**	**+0.1**
	baz=53						
DGS	**Degeres**	**1.18**	**352**	*e*P	**Pb**	**04 32 02.0**	**0.0**
	4.7nm,0.1s						
DGS				*e*S	**Sn**	**04 32 18.0**	**+0.1**
	11nm,0.1s						
TNSS	**Tian-Shan**	**1.20**	**36**	P	**Pg**	**04 32 02.5**	**-0.4**
	5.8nm,0.4s						
TNSS				S	**Sn**	**04 32 18.8**	**0.0**
	11nm,0.3s						
TNSS	**Tian-Shan**	**1.20**	**36**	⇓*i*P	**Pg**	**04 32 02.5**	**-0.4**
	baz=36						
TNSS				⇑*i*S	**Sn**	**04 32 18.8**	**0.0**
	baz=36						
TNSS	**Tian-Shan**	**1.20**	**36**	⇓*i*P	**Pg**	**04 32 02.5**	**-0.4**
	5.8nm,0.4s						
TNSS				⇑*i*S	**Sn**	**04 32 18.8**	**0.0**
	11nm,0.3s						
AAK	**Ala-Archa**	**1.24**	**297**	⇑P	**Pn**	**04 32 02.8**	**-0.1**
	7.2nm,0.2s,SNR=11						
AAK	**Ala-Archa**	**1.24**	**297**	⇓P	**Pn**	**04 32 02.8**	**-0.1**
	1.2nm,0.2s						
AAK				⇑S	**Sb**	**04 32 18.8**	**-0.1**
	3.0nm,0.3s						
AAK	**Ala-Archa**	**1.24**	**297**	⇓*i*P	**Pn**	**04 32 02.8**	**-0.1**
	baz=98						
AAK				⇓*i*S	**Sb**	**04 32 19.2**	**+0.2**
	baz=98						
ARLS	**Aral**	**1.26**	**261**	⇑*i*P	**Pn**	**04 32 03.1**	**0.0**
	baz=62						
ARLS				⇑*i*S	**Sb**	**04 32 19.9**	**+0.4**
	baz=62						
CHMS	**Chumysh**	**1.29**	**316**	⇑P	**Pb**	**04 32 04.2**	**+0.3**
	1.6nm,0.1s						
CHMS	**Chumysh**	**1.29**	**316**	⇓*i*P	**Pb**	**04 32 04.0**	**0.0**
	baz=16						
CHMS				⇓*i*S	**Sg**	**04 32 20.8**	**-0.8**
	baz=16						
MDOK	**Medeo**	**1.34**	**36**	⇑P	**Pb**	**04 32 04.9**	**+0.1**
	5.2nm,1.0s						
MDOK				S	**Sg**	**04 32 22.8**	**-0.2**
	3.0nm,0.5s						
MDOK	**Medeo**	**1.34**	**36**	Pg	**Pn**	**04 32 04.7**	**+0.4**
	1.9nm,0.2s						
MDOK				Lg	Lg	04 32 22.7	
	3.3nm,0.3s						
MDOK	**Medeo**	**1.34**	**36**	*e*P	**Pn**	**04 32 04.7**	**+0.4**
	baz=35						
MDOK				*e*S	**Sg**	**04 32 22.6**	**-0.4**
	baz=35						
MDOK	**Medeo**	**1.34**	**36**	*e*P	**Pn**	**04 32 04.7**	**+0.4**
	2.5nm,0.3s						
MDOK				*e*S	**Sg**	**04 32 22.6**	**-0.4**
	3.3nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.40**	**104**	⇓*i*P	**Pn**	**04 32 05.4**	**0.0**
	baz=3.0						
TARG				⇓*i*S	**Sb**	**04 32 24.6**	**+0.6**
	baz=3.0						
KOTS	**Kotyrbulak**	**1.43**	**35**	P	**Pg**	**04 32 06.7**	**-0.5**
	2.7nm,0.5s						
KOTS				S	**Sg**	**04 32 26.0**	**+0.2**
	30nm,0.4s						
KOTS	**Kotyrbulak**	**1.43**	**35**	*e*P	**Pg**	**04 32 06.7**	**-0.5**
	baz=35						
KOTS				*e*S	**Sg**	**04 32 26.0**	**+0.2**
	baz=35						
KOTS	**Kotyrbulak**	**1.43**	**35**	*e*P	**Pg**	**04 32 06.7**	**-0.5**
	2.7nm,0.5s						
KOTS				*e*S	**Sg**	**04 32 26.0**	**+0.2**
	30nm,0.4s						
USP	**Ospenovka**	**1.62**	**318**	⇑P	**Pb**	**04 32 09.9**	**+0.4**
	2.8nm,0.2s,SNR=7.3						
USP	**Ospenovka**	**1.62**	**318**	⇓*i*P	**Pb**	**04 32 09.6**	**+0.2**
	baz=18						
USP				⇓*i*S	**Sg**	**04 32 30.9**	**-0.9**
	baz=18						
SGDS	**Sogindy**	**1.70**	**325**	P	**Pb**	**04 32 11.3**	**+0.5**
	4.8nm,0.1s						
SGDS				S	**Sg**	**04 32 34.1**	**-0.3**
	5.7nm,0.2s						
AML	**Almayashu**	**1.70**	**273**	⇑*i*P	**Pb**	**04 32 11.1**	**-0.1**
	baz=73						
AML				⇑*i*S	**Sg**	**04 32 34.0**	**-0.7**
	baz=73						
KTBS	**Karatobe**	**1.71**	**17**	P	**Pb**	**04 32 11.7**	**+0.6**
	3.1nm,0.2s						
KTBS				S	**Sg**	**04 32 34.5**	**-0.4**
	12nm,0.2s						
KTBS	**Karatobe**	**1.71**	**17**	*e*P	**Pb**	**04 32 11.7**	**+0.6**
	baz=12						
KTBS				*e*S	**Sg**	**04 32 34.6**	**-0.4**
	baz=12						
KTBS	**Karatobe**	**1.71**	**17**	*e*P	**Pb**	**04 32 11.7**	**+0.6**
	3.1nm,0.2s						
KTBS				*e*S	**Sg**	**04 32 34.5**	**-0.4**
	12nm,0.2s						
EKS2	**Erkin-Say**	**1.74**	**290**	⇑*i*P	**Pb**	**04 32 11.6**	**+0.1**
	baz=91						
EKS2				⇑*i*S	**Sg**	**04 32 34.8**	**-0.9**
	baz=91						
CHKK	**Chushkaly**	**1.92**	**22**	Pg	**Pb**	**04 32 15.4**	**+0.8**
	1.6nm,0.1s						
CHKK				Lg	Lg	04 32 41.3	
	24nm,0.3s						
CHKK	**Chushkaly**	**1.92**	**22**	*e*P	**Pb**	**04 32 15.4**	**+0.8**
	baz=22						
CHKK				*e*S	**Sg**	**04 32 41.3**	**-0.3**
	baz=22						
CHKK	**Chushkaly**	**1.92**	**22**	*e*P	**Pb**	**04 32 15.4**	**+0.8**
	1.6nm,0.1s						
CHKK				*e*S	**Sg**	**04 32 41.3**	**-0.3**
	24nm,0.3s						
SATY	**Saty**	**2.04**	**60**	Pg	**Pb**	**04 32 17.4**	**+0.6**
	2.3nm,0.2s						
SATY				Lg	Lg	04 32 44.6	
	13nm,0.2s						
SATY	**Saty**	**2.04**	**60**	*e*P	**Pb**	**04 32 17.4**	**+0.6**
	2.3nm,0.2s						
SATY				⇓*i*S	**Sg**	**04 32 44.6**	**-0.8**
	13nm,0.2s						
KURS	**Kuram**	**2.14**	**48**	Pg	**Pb**	**04 32 19.3**	**+0.9**
	1.5nm,0.2s						
KURS				Lg	Lg	04 32 47.9	
	5.1nm,0.7s						
KURS	**Kuram**	**2.14**	**48**	*e*P	**Pb**	**04 32 19.3**	**+0.9**
	baz=48						
KURS				*e*S	**Sg**	**04 32 47.9**	**-0.7**
	baz=48						
KURS	**Kuram**	**2.14**	**48**	*e*P	**Pb**	**04 32 19.3**	**+0.9**
	1.5nm,0.2s						
KURS				*e*S	**Sg**	**04 32 47.9**	**-0.7**
	5.1nm,0.7s						
MRKS	**Merke**	**2.15**	**289**	Pg	**Pb**	**04 32 19.7**	**+1.2**
	2.3nm,0.2s						
MRKS				Lg	Lg	04 32 48.6	
	4.2nm,0.2s						
MRKS	**Merke**	**2.15**	**289**	⇑*i*P	**Pb**	**04 32 19.7**	**+1.2**
	baz=89						
MRKS				⇑*e*S	**Sg**	**04 32 48.5**	**-0.3**
	baz=89						
MRKS	**Merke**	**2.15**	**289**	⇑*i*P	**Pb**	**04 32 19.7**	**+1.2**
	2.3nm,0.2s						
MRKS				*e*S	**Sg**	**04 32 48.6**	**-0.3**
	4.2nm,0.2s						
UZB	**Uzynbulak**	**2.48**	**63**	Pg	**Pb**	**04 32 25.1**	**+0.8**
	0.7nm,0.3s						
UZB				Lg	Lg	04 32 57.6	
	3.7nm,0.3s						
UZB	**Uzynbulak**	**2.48**	**63**	*e*P	**Pb**	**04 32 25.1**	**+0.8**
	baz=63						
UZB				*e*S	**Sg**	**04 32 57.6**	**-2.0**
	baz=63						
UZB	**Uzynbulak**	**2.48**	**63**	*e*P	**Pb**	**04 32 25.1**	**+0.8**
	0.7nm,0.3s						
UZB				*e*S	**Sg**	**04 32 57.6**	**-2.0**
	3.7nm,0.3s						
ARXS	**Arharly**	**2.53**	**32**	Pg	**Pb**	**04 32 26.2**	**+1.2**
	2.2nm,0.3s						
ARXS				Lg	Lg	04 32 59.5	
	11nm,0.2s						
ARXS	**Arharly**	**2.53**	**32**	*e*P	**Pb**	**04 32 26.2**	**+1.2**
	2.2nm,0.3s						
ARXS				*e*S	**Sg**	**04 32 59.5**	**-1.4**
	11nm,0.2s						
MNAS	**Manas**	**2.61**	**280**	⇑Pg	**Pg**	**04 32 28.9**	**-1.0**
	1.7nm,1.0s						
MNAS				⇓Lg	Lg	04 33 03.0	
	2.4nm,0.8s						
MNAS	**Manas**	**2.61**	**280**	Pg	**Pb**	**04 32 28.3**	**+1.8**
	0.3nm,0.6s						
MNAS				Lg	Lg	04 33 03.5	
	0.9nm,0.4s						
MNBS	**Baschi**	**2.67**	**41**	Pg	**Pb**	**04 32 28.3**	**+0.8**
	1.2nm,0.2s						
MNBS				Lg	Lg	04 33 03.4	
	6.6nm,0.2s						
MNBS	**Baschi**	**2.67**	**41**	*e*P	**Pb**	**04 32 28.3**	**+0.8**
	baz=43						
MNBS				*e*S	**Sg**	**04 33 03.5**	**-2.2**
	baz=43						
MNBS	**Baschi**	**2.67**	**41**	*e*P	**Pb**	**04 32 28.2**	**+0.8**
	1.2nm,0.2s						
MNBS				*e*S	**Sg**	**04 33 03.4**	**-2.2**
	6.6nm,0.2s						
SFK	**Sufi-Kurgan**	**2.79**	**223**	⇓Lg	Lg	04 33 08.4	
	2.3nm,0.7s						
PDGK	**Podgornoye**	**2.87**	**63**	⇑Lg	Lg	04 33 08.4	
	1.6nm,0.5s						

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*IDC **20** 04:48:10.1±5.2, 6.°24S×130.°22E, h102km±53km, mb3.6/9, mb1 3.6/13, mb1mx3.5/33, mbtmp3.9/13, Error ellipse: s-maj=39.8km s-min=18.5km az=42.0*
ISC 20 04:48:13.4±0.8, 6.°61S±0.°06×130.°2E±0.°1, h146km, n19, σ2s32/23, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**7.36**	**240**	P	**Pn**	**04 49 59.8**	**+1.4**
	5.4nm,0.3s,baz=58,slow=9.5,SNR=2.0						
BATI				S	**Sn**	**04 51 21.7**	**+1.1**
	9.8nm,0.3s,baz=198,slow=20,SNR=3.4						
FITZ	**Fitzroy Crossi**	**12.24**	**201**	P	**Pn**	**04 51 05.0**	**+2.0**
	0.3nm,0.3s,baz=17,slow=9.6,SNR=15						
FITZ				S	**Sn**	**04 53 12.6**	**-5.7**
	0.8nm,0.3s,baz=156,slow=18,SNR=4.1						
WRA	**Warramunga Arr**	**13.86**	**163**	P	**Pn**	**04 51 25.2**	**+1.3**
	0.8nm,0.3s,baz=349,slow=13,SNR=23						
WRA				S	**Sn**	**04 53 52.9**	**-4.5**
	1.9nm,0.3s,baz=343,slow=22,SNR=13						
ASAR	**Alice Springs**	**17.34**	**168**	P	**Pn**	**04 52 10.5**	**+3.8**
	0.3nm,0.3s,baz=350,slow=11,SNR=12						
ASAR				S	**S**	**04 55 18.5**	**-0.6**
	0.3nm,0.3s,baz=356,slow=24,SNR=6.5						
CTA	**Charters Tower**	**20.58**	**132**	P	**P**	**04 52 43.7**	**+2.7**
	4.4nm,0.8s,baz=317,slow=9.4,SNR=4.0						
STKA	**Stephens Creek**	**27.31**	**158**	P	**P**	**04 53 47.8**	**+3.2**
	2.4nm,1.0s,baz=347,slow=14,SNR=1.4						
KSRS	**Korea Array**	**43.88**	**357**	P	**P**	**04 56 02.4**	**-3.0**
	0.3nm,0.3s,baz=166,slow=8.5,SNR=2.5						
RAMN	**Ramite**	**53.77**	**310**	*e*P	**P**	**04 57 21.5**	**+0.1**
	24nm,0.5s						
JIRN	**Jiri**	**54.45**	**311**	*e*P	**P**	**04 57 26.2**	**-0.3**
	6.7nm,0.3s						
GUN	**Gumba**	**54.82**	**311**	*e*P	**P**	**04 57 28.8**	**-0.3**
	12nm,0.5s						
KOLN	**Koldanda**	**56.48**	**309**	*e*P	**P**	**04 57 40.0**	**-0.8**
	6.1nm,0

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,428nm,19.5s,baz=355,slow=37						
MANU	Manus Island	9.25	302	ePn	Pn	05 35 16.2	+0.6
COEN	Coen	13.66	239	ePn	Pn	05 36 16.6	+0.6
CTA	Charters Tower	15.60	213	P	Pn	05 36 43.1	+1.3
	0.2nm,0.3s,baz=42,slow=14,SNR=2.1						
FAKI	Fak Fak	23.22	279	eP	P	05 38 07.9	-0.5
	78nm,1.4s						
SAUI	Saumlaki	23.70	266	eP	P	05 38 12.2	-0.8
	312nm,0.9s						
WRAB	Tennant Creek	23.94	236	eP	P	05 38 15.0	-0.2
	85nm,1.9s						
WB2	Warramunga Arr	23.94	236	eP	P	05 38 14.3	-0.9
WR1	Warramunga Arr	23.95	236	eP	P	05 38 14.8	-0.5
	17nm,1.1s						
WRA	Warramunga Arr	23.95	236	P	P	05 38 14.8	-0.6
	9.3nm,0.7s,baz=58,slow=9.7,SNR=54						
WRA				LR	LR	05 47 05.9	
	comp=Z,144nm,20.3s,baz=75,slow=35						
MTN	Manton Dam	24.38	254	eP	P	05 38 17.6	-1.6
	74nm,1.3s						
AS01	Alice Springs	26.25	229	eP	P	05 38 36.0	-0.3
AS31	Alice Springs	26.28	229	eP	P	05 38 35.9	-0.7
	2.1nm,0.6s						
ASAR	Alice Springs	26.29	229	P	P	05 38 36.3	-0.3
	5.6nm,0.6s,baz=60,slow=8.7,SNR=74						
STKA	Stephens Creek	27.77	205	P	P	05 38 50.0	+0.3
	2.6nm,0.5s,baz=31,slow=12,SNR=6.6						
STKA				LR	LR	05 49 20.7	
	comp=Z,148nm,21.7s,baz=26,slow=35						
STKA	Stephens Creek	27.77	205	eP	P	05 38 49.7	-0.1
	1.2nm,1.0s						
FITZ	Fitzroy Crossi	30.81	246	LR	LR	05 50 57.3	
	comp=Z,117nm,21.2s,baz=70,slow=35						
FITZ	Fitzroy Crossi	30.81	246	eP	P	05 39 16.1	-0.8
	41nm,1.5s						
BATI	Baumata	31.32	262	LR	LR	05 54 22.1	
	comp=Z,90nm,18.5s,baz=360,slow=41						
RAO	Raoul Island	33.61	134	eP	P	05 39 41.3	0.0
	2μm,0.5s						
KSRS	Korea Array	51.08	332	P	P	05 42 05.1	+2.0
	0.6nm,0.7s,baz=139,slow=7.6,SNR=3.5						
KS15	Wonju Array Si	51.08	332	eP	P	05 42 04.5	+1.3
KSAR	Wonju Array Be	51.08	332	P	P	05 42 05.1	+1.9
PETK	Petropavlovsk-	59.96	2	P	P	05 43 08.3	+1.6
	5.1nm,0.9s,baz=193,slow=5.9,SNR=3.5						
PEA1	Petropavlovsk-	59.97	2	eP	P	05 43 08.3	+1.6
CM01	Chiang Mai Arr	60.96	295	eP	P	05 43 14.4	+0.2
CM31	Chiang Mai Arr	60.98	296	eP	P	05 43 13.2	-1.2
CMAR	Chiang Mai Arr	60.98	296	P	P	05 43 14.4	0.0
	0.9nm,0.3s,baz=117,slow=4.9,SNR=8.8						
SONA0	Songino Array	69.48	327	eP	P	05 44 08.3	-0.8
SONM	Songino Array	69.48	327	P	P	05 44 08.3	-0.8
	0.4nm,0.7s,baz=129,slow=4.9,SNR=3.4						
ILAR	Eielson Array	83.35	21	P	P	05 45 25.9	-1.2
	0.7nm,0.8s,baz=241,slow=5.5,SNR=6.9						
ILB	Eielson Array	83.35	21	eP	P	05 45 25.8	-1.3
MK32	Makanchi Array	83.57	319	eP	P	05 45 26.8	-1.9
MKAR	Makanchi Array	83.57	319	P	P	05 45 26.8	-1.9
	0.5nm,0.7s,baz=100,slow=5.5,SNR=5.9						
NV01	Mina Array Sit	91.60	52	eP	P	05 46 07.2	-0.7
NVAR	Mina Array Bea	91.60	52	P	P	05 46 08.3	+0.4
	0.7nm,0.8s,baz=253,slow=6.8,SNR=5.1						
YKA	Yellowknife Ar	96.29	28	P	P	05 46 28.1	-0.5
	0.7nm,0.8s,baz=268,slow=4.7,SNR=11						
YKB5	Yellowknife Ar	96.29	28	eP	P	05 46 28.7	+0.1
GERES	GERESS Array B	127.20	329	PKP	PKiKP	05 52 05.5	+0.1
	0.4nm,0.7s,baz=126,slow=1.3,SNR=3.5						
BDFB	Brasilia	147.81	135	PKPbc	PKPbc	05 52 47.0	+0.7
	1.9nm,0.7s,baz=78,slow=2.5,SNR=3.8						
TORD	Torodi Ar. Bea	153.23	285	PKPbc	PKPbc	05 52 59.0	-0.3
	0.4nm,0.6s,baz=347,slow=2.4,SNR=6.0						
TOA1	Torodi Ar. Sit	153.23	285	ePKPbc	PKPbc	05 52 59.0	-0.3

IDC 20 05:43:53.2±3.0, 5°.59S×106°.89E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/35, mbtmp3.8/5, Error ellipse: s-maj=175.3km s-min=23.4km az=51.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.14	126	P	P	05 48 52.1	+1.4
	4.5nm,1.0s,baz=294,slow=9.9,SNR=5.6						
WRA	Warramunga Arr	30.26	121	P	P	05 50 06.4	+0.2
	0.5nm,0.3s,baz=303,slow=8.9,SNR=17						
ASAR	Alice Springs	31.61	127	P	P	05 50 18.2	+0.1
	0.8nm,0.4s,baz=299,slow=7.9,SNR=26						
STKA	Stephens Creek	41.67	133	P	P	05 51 42.3	-1.5
	1.6nm,0.5s,baz=302,slow=11,SNR=7.4						
MKAR	Makanchi Array	56.53	340	P	P	05 53 37.5	+0.1
	0.1nm,0.5s,baz=139,slow=9.0,SNR=2.6						

MAN 20 05:48:58.0, 5°.91N×124°.46E, h2km, mb4.7, ML3.6, MS3.6, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSPH	General Santos	0.52	70	⇓iP	Pn	05 49 12.6	0.0
GSPH				iS	Sn	05 49 20.8	-1.2
SKMP	Bagumbayan, Su	0.61	8	eP	Pg	05 49 09.6	-0.1
DDMP	Don Marcelino,	1.26	81	eP	Pg	05 49 19.2	-3.0
DDMP				eS	Sg	05 49 35.4	-3.2
DMPH	Davao City--Mi	1.56	42	eP	Pn	05 49 26.9	+0.1
DMPH				eS	Sn	05 49 47.8	+0.1
BUKP	Musuan	2.04	17	eP	Pn	05 49 31.4	-2.1
BUKP				eS	Sn	05 49 55.5	-4.1
PAGZ	Pagadian	2.20	331	eP	Pn	05 49 35.8	+0.2

IDC 20 05:53:40.6±2.0, 19°.95S×71°.28W, h0km, mb3.6/1, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, ML3.3/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/18, Error ellipse: s-maj=59.6km s-min=29.1km az=64.0
ISCJB 20 05:53:44.5±1.3, 19°.68S±0°.05×70°.64W±0°.07, h22km±11km, mb3.6/1, MS2.7/1, Error ellipse: s-maj=11.8km s-min=7.6km az=150.0
GUC 20 05:53:45.4±0.8, 19°.71S×70°.57W, h38km±6km, ML3.3
ISC 20 05:53:42.1±3.1, 19°.66S±0°.05×70°.65W±0°.09, h4km±18km, n15, σ0s.89/22, 2C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSGC	Pisagua	0.50	83	eP	Pb	05 53 54.6	+1.0
PSGC				iS	Sb	05 54 01.0	-0.3
PB11	IPOC Station P	0.94	96	⇓iP	Pb	05 54 01.4	+0.3
PB11				iS	Sg	05 54 12.8	+0.3
PB11				IAML		05 54 14.1	
	comp=N,2μm,0.5s						
PB12	IPOC Station P	1.08	16	⇓iP	Pn	05 54 05.0	+0.7
PB12				iS	Sb	05 54 19.5	+1.4
PB12				IAML		05 54 21.4	
	comp=E,754nm,0.3s						
MNMC	Minye Minye	1.13	62	eP	Pb	05 54 05.1	+0.7
MNMC				iS	Sb	05 54 19.8	+0.3
MNMC				IAML		05 54 23.4	
	comp=E,3μm,0.3s						
PB08	IPOC Station P	1.49	109	⇓iP	Pn	05 54 09.9	-0.1
PB08				iS	Sg	05 54 28.9	-1.1
PB08				IAML		05 54 31.9	
	comp=N,381nm,0.2s						
PB01	IPOC Station P	1.76	142	⇑iP	Pn	05 54 13.7	+0.3
PB01				iS	Sn	05 54 35.1	-1.3
PB01				IAML		05 54 38.4	
	comp=N,370nm,0.3s						
PB02	IPOC Station P	1.80	157	⇑iP	Pn	05 54 14.2	+0.2
PB02				IAML		05 54 38.4	
	comp=E,909nm,0.4s						
PB07	IPOC Station P	2.18	161	⇓iP	Pn	05 54 19.5	+0.1
PB07				IAML		05 54 53.4	
	comp=E,349nm,0.8s						
PB09	IPOC Station P	2.50	148	eP	Pn	05 54 24.9	+1.1
PB09				iS	Sn	05 54 54.8	-0.1
PB09				IAML		05 55 03.3	
	comp=E,238nm,0.4s						
PB03	IPOC Station P	2.52	161	eP	Pn	05 54 24.2	+0.1
PB03				IAML		05 55 02.5	
	comp=E,185nm,0.4s						
LVC	Limon Verde	3.35	151	Pn	Pn	05 54 36.9	+1.2
	comp=E,3.2nm,0.3s,baz=338,slow=12,SNR=30						
LVC				Sn	Sn	05 55 16.8	+0.6
	comp=E,6.5nm,0.3s,baz=56,slow=21,SNR=9.9						
LPAZ	La Paz	4.12	36	Pn	Pb	05 54 53.9	-1.8
	comp=E,0.9nm,0.3s,baz=219,slow=8.9,SNR=20						
PTGA	Pitinga	21.53	30	LR	LR	06 07 38.7	
	comp=E,32nm,20.1s,baz=322,slow=38						
YKA	Yellowknife Ar	88.92	341	P	P	06 06 37.1	-0.3
	comp=E,0.2nm,0.7s,baz=134,slow=5.7,SNR=4.8						
MKAR	Makanchi Array	145.05	33	PKPbc	PKPbc	06 13 19.8	-0.5
	comp=E,0.1nm,0.3s,baz=309,slow=4.2,SNR=5.1						

IDC 20 05:53:46.0±1.9, 3°.46S×99°.72E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.6/35, mbtmp3.7/9, ML3.1/1, MS2.7/1, Ms1 2.9/1, ms1mx2.5/32, Error ellipse: s-maj=82.4km s-min=17.0km az=59.0
ISCJB 20 05:53:49.9±1.6, 3°.2S±0°.2×100°.0E±0°.4, h33km, mb3.7/8, MS2.5/1, Error ellipse: s-maj=65.8km s-min=12.7km az=150.4
ISC 20 05:53:51.9±1.8, 3°.2S±0°.3×100°.0E±0°.5, h35km, n16, σ1s.02/10, mb3.8/8, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	6.10	350	Pn	Pn	05 55 18.1	-1.6
	0.5nm,0.3s,baz=180,slow=17,SNR=2.7						
CMAR	Chiang Mai Arr	21.59	357	P	P	05 58 39.4	+0.5
	1.3nm,0.6s,baz=182,slow=11,SNR=6.9						
CMAR				LR	LR	06 06 39.8	
	comp=Z,19nm,18.9s,baz=136,slow=36						
H08S2	Diego Garcia H	27.69	260	T	T	06 28 40.6	
	baz=81,slow=76,SNR=37						
H08S3	Diego Garcia H	27.70	260	T	T	06 29 01.2	
	baz=81,slow=76,SNR=91						
H08S1	Diego Carcia H	27.71	260	T	T	06 28 39.9	
	baz=81,slow=76,SNR=13						
H01W3	Cape Leeuwin H	34.12	159	T	T	06 36 51.2	
	baz=335						
H01W2	Cape Leeuwin H	34.13	159	T	T	06 36 42.4	
	baz=335,SNR=5.3						
H01W1	Cape Leeuwin H	34.13	159	T	T	06 36 56.1	
	baz=335						
WRA	Warramunga Arr	37.40	119	P	P	06 01 01.5	-0.4
	0.7nm,0.8s,baz=305,slow=9.5,SNR=4.5						
ASAR	Alice Springs	38.56	125	P	P	06 01 11.2	-0.4
	0.4nm,0.8s,baz=298,slow=8.0,SNR=3.9						
STKA	Stephens Creek	48.35	131	P	P	06 02 30.0	-0.5
	0.9nm,0.5s,baz=315,slow=16,SNR=2.8						
SONM	Songino Array	51.18	6	P	P	06 02 53.3	+1.6
	0.9nm,0.6s,baz=193,slow=9.5,SNR=9.3						
MKAR	Makanchi Array	52.21	345	P	P	06 02 59.3	-0.1
	0.8nm,0.7s,baz=146,slow=8.8,SNR=8.2						
ZALV	Zalesovo Beam	58.38	350	P	P	06 03 43.6	0.0
	0.9nm,0.4s,baz=182,slow=6.3,SNR=8.0						
FINES	FINESS Array B	85.19	332	P	P	06 06 24.6	+0.1
	0.2nm,0.3s,baz=97,slow=6.5,SNR=4.8						
TXAR	Lajitas Array	145.69	38	PKPbc	PKPab	06 13 29.4	+1.1
	0.5nm,0.7s,baz=297,slow=0.5,SNR=8.0						

NNC 20 06:04:46.9±2.8, 36°.80N×71°.07E, h174km±53km, mb2.8, mpv3.7, 8C-3D, Error ellipse: s-maj=37.9km s-min=20.6km az=62.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.73	30	⇑P	Pn	06 05 44.0	-0.7
	3.1nm,0.3s						
SFK				⇑S	Sn	06 06 30.8	+1.0
	3.6nm,0.2s						
MNAS	Manas	5.79	11	⇓P	Pn	06 06 11.3	+0.1
	5.2nm,0.7s						
MNAS				⇑S	Sn	06 07 17.0	-0.3
	6.3nm,0.7s						
KK02	Karatay Array	6.31	356	⇑P	Pn	06 06 18.3	+0.5
	5.4nm,0.5s						
KK02				⇑S	Sn	06 07 30.2	+0.7
	2.1nm,0.5s						
AAK	Ala-Archa	6.40	23	⇓P	Pn	06 06 19.2	0.0
	3.7nm,0.4s						
AAK				⇓S	Sn	06 07 32.3	+0.4
	2.7nm,0.5s						
TKM2	Tokmak 2	7.03	28	⇑P	Pn	06 06 27.2	-0.4
	5.7nm,0.8s						
AB31	Akbulak array	14.85	330	⇑P	P	06 08 11.0	+1.4
	0.4nm,0.3s,baz=137,slow=13,SNR=32						
AB31				⇑S	Sn	06 10 51.8	-1.8
	0.4nm,0.6s,baz=154,slow=23,SNR=2.7						

IDC 20 06:09:54.6±1.6, 26°.09N×128°.55E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.5/33, mbtmp3.6/8, MS2.8/2, Ms1 2.8/2, ms1mx2.5/32, Error ellipse: s-maj=91.8km s-min=14.4km az=73.0
ISCJB 20 06:09:56.1±1.0, 26°.01N±0°.04×128°.64E±0°.05, h25km±7km, mb3.5/8, Error ellipse: s-maj=7.8km s-min=7.0km az=0.8
JMA 20 06:09:58.4±0.3, 26°.08N×128°.51E, h40km±4km, M3.1
ISC 20 06:09:56.2±1.5, 26°.03N±0°.05×128°.62E±0°.05, h15km±9km, n21, σ0s.90/27, mb3.6/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.73	312	P	Pg	06 10 10.4	+0.1
JNTH				S	Sg	06 10 19.4	-0.6
JJT3	Tamagusuku3	0.76	279	P	Pb	06 10 11.4	+0.3
JJT3				eS	Sg	06 10 20.6	-0.5
JOW	Kunigami	0.86	339	Pn	Pg	06 10 13.2	+0.3
	191nm,0.3s,baz=152,slow=18,SNR=242						
JOW				Sn	Sn	06 10 25.4	-0.7
	268nm,0.3s,baz=131,slow=19,SNR=18						
JOW	Kunigami	0.86	339	P	Pg	06 10 13.1	+0.3
JOW				eS	Sb	06 10 23.8	-0.4
JYRO	Yoronjima	1.00	351	P	Pb	06 10 15.3	0.0
JYRO				eS	Sb	06 10 28.3	0.0
JIH	Iheya	1.16	330	P	Pn	06 10 17.7	-0.2
JOKE	Okinoerabujima	1.33	358	P	Pn	06 10 20.3	+0.1
JOKE				eS	Sn	06 10 36.3	-1.4
JAGN	Aguni-jima	1.36	295	P	Pn	06 10 20.1	-0.5
JKE	Kume jima 2	1.68	281	P	Pn	06 10 23.8	-1.2
JTK	Tokunoshima	1.78	9	P	Pn	06 10 26.7	+0.3
JTK				eS	Sn	06 10 47.7	-1.0
JMZ	Minamidaito 2	2.35	95	P	Pn	06 10 34.0	-0.3
JMZ				eS	Sn	06 11 00.1	-2.8
KSRS	Korea Array	11.41	357	LR	LR	06 17 14.9	
	comp=Z,40nm,19.9s,baz=110,slow=39						
USRK	Ussuriysk Ar.	18.34	8	LR	LR	06 20 47.0	
	comp=Z,42nm,21.7s,baz=44,slow=36						
SONM	Songino Array	27.91	327	P	P	06 15 47.2	+1.4
	0.4nm,0.5s,baz=141,slow=9.4,SNR=5.4						
MKAR	Makanchi Array	41.93	312	P	P	06 17 45.9	-0.3
	0.3nm,0.6s,baz=100,slow=10.0,SNR=4.9						
KURBB	Kurchatov Arra	45.24	317	P	P	06 18 12.5	-0.3
	0.4nm,0.5s,baz=105,slow=9.2,SNR=3.7						
WRA	Warramunga Arr	46.03	173	P	P	06 18 20.4	+1.0
	0.6nm,0.7s,baz=352,slow=8.4,SNR=3.8						
ASAR	Alice Springs	49.66	174	P	P	06 18 48.6	+1.1
	0.2nm,0.5s,baz=11,slow=10,SNR=3.2						
BVAR	Borovoye Array	50.66	318	P	P	06 18 54.8	0.0
	0.4nm,0.5s,baz=230,slow=37,SNR=3.5						
FINES	FINESS Array B	73.21	331	P	P	06 21 26.4	+0.2
	2.8nm,1.1s,baz=97,slow=6.0,SNR=4.4						
AKASG	Malin Array Be	75.91	320	P	P	06 21 42.3	+0.1
	0.5nm,0.5s,baz=69,slow=6.4,SNR=2.6						

AZER 20 06:11:38.2±2.3, 38°.82N×43°.16E, h24km±46km, ml3.2/7, Error ellipse: s-maj=36.0km s-min=7.7km az=65.0
NSSP 20 06:11:38.1, 38°.87N×43°.63E, h10km, Ms3.4
DDA 20 06:11:39.4, 38°.82N×43°.66E, h16km±1km, ML3.5
ISK 20 06:11:39.4, 38°.81N×43°.66E, h9km, ML3.4/14
ISC 20 06:11:40.4±0.9, 38°.83N±0°.02×43°.64E±0°.02, h16km±8km, n56, σ1s.14/74, 5C-13D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERCV	ERCIS-VAN	0.30	309	PG	Pg	06 11 46.4	-0.5
ERCV				SG	Sg	06 11 51.6	+0.2
VANB	Van	0.30	220	PG	Pg	06 11 46.9	0.0
VANB				SG	Sb	06 11 52.8	+0.4
TVAN	Van	0.35	211	IAML_P			
	comp=Z,101μm,0.3s						
TVAN				iP	Pg	06 11 47.7	0.0
CLDR	Caldiran	0.38	35	PG	Pg	06 11 47.2	-1.1
CLDR				SG	Sg	06 11 53.4	-0.3
CLDR	Caldiran	0.38	35	IAML_P			
	comp=Z,79μm,0.1s						
CLDR				iP	Pg	06 11 47.4	-0.9
CLDR				iS	Sb	06 11 54.1	-0.6
GEVA	Gevas	0.69	222	iP	Pg	06 11 53.4	-0.5
DYDN	Diyadin	0.71	3	iP	Pg	06 11 54.0	-0.5
DYDN				iS	Sg	06 12 02.7	-1.3
ADCV	BITLIS_Adilcev	0.71	269	iP	Pb	06 11 54.6	-0.1
AKDM	Akdamar-Van	0.72	226	PG	Pg	06 11 53.4	-1.1
BASK	Baskale_VAN	0.83	160	IAML_P			
	comp=Z,12μm,0.2s						
BASK				iP	Pg	06 11 56.4	-0.2
TUTA	Tutak	0.86	312	IAML_P			
	comp=Z,19μm,0.2s						
TUTA				iP	Pb	06 11 56.4	-0.8
MLAZ	Malazgirt-MUS	0.91	290	PG	Pb	06 11 57.6	-0.3
IGDI	IGDIR	1.09	18	iP	Pg	06 12 01.6	0.0
IGDI				iS	Sg	06 12 16.6	+0.8
TASB	TASBURUN-IGDIR	1.24	22	PN	Pb	06 12 03.5	-0.1
GURO	Guroymak-BITLI	1.29	258	PN	Pn	06 12 03.1	-0.8
HYR	Heyderabad	1.29	46	⇑P	Pg	06 12 05.3	0.0
HYR				⇓S	Sg	06 12 25.4	+3.2
YOVA	Hakkari_Yksek	1.34	157	IAML_P			
	comp=Z,3μm,0.3s						
YOVA				iP	Pb	06 12 05.2	-0.2
YOVA				iS	Sg	06 12 23.1	-0.7
EATA	Eleskirt	1.36	320	IAML_P			
	comp=Z,4μm,0.3s						
EATA				iP	Pg	06 12 06.4	-0.3
EATA				iS	Sg	06 12 24.6	+0.1
NAX	Nakhchivan	1.49	76	⇑P	Pg	06 12 08.0	-1.0
NAX				⇓S	Sg	06 12 30.4	+2.0
GNI	Garni	1.57	33	PN	Pb	06 12 08.8	-0.4
GNI	Garni	1.57	33	⇓iP	Pb	06 12 09.1	-0.2
GNI				⇑iS	Sg	06 12 30.6	-0.4
CUKT	Cukurca	1.58	181	PN	Pb	06 12 08.2	-1.2
CUKT	Cukurca	1.58	181	IAML_P			
	comp=Z,4μm,0.4s						
CUKT				iP	Pb	06 12 08.5	-0.9
CUKT				iS	Sg	06 12 33.9	+2.5
SRTM	Siirt_Merkez	1.59	239	IAML_P			
	comp=Z,5μm,0.4s						
SRTM				iP	Pb	06 12 09.8	+0.3
SBZ	Shahbuz	1.59	69	⇓P	Pb	06 12 09.6	+0.1
SBZ				⇓S	Sg	06 12 34.5	+2.7
DIGO	Kars	1.60	353	IAML_P			
	comp=Z,4μm,0.2s						
DIGO				iP	Pg	06 12 10.9	-0.2
SIRT	Sirnak	1.63	216	PN	Pb	06 12 09.0	-1.2
SIRN	Sırnak	1.65	216	IAML_P			
	comp=Z,3μm,0.4s						
SIRN				iP	Pg	06 12 10.9	-1.1
KOPR	Koprukoy-ERZUR	1.81	311	PN	Pn	06 12 11.8	+0.7
HOMI	Horasan	1.81	313	IAML_P			
	comp=Z,3μm,0.5s						
HOMI				iP	Pg	06 12 14.3	-0.9
ORD	Ordubad	1.84	86	⇓P	Pb	06 12 13.6	-0.2
ORD				⇓S	Sg	06 12 40.9	+1.2
EAK	Akyaka	1.85	359	iP	Pg	06 12 16.1	0.0
BNGL	BINGOL	1.95	274	iP	Pb	06 12 15.9	+0.2
SVAN	Silvan-Diyarba	2.03	251	PN	Pn	06 12 14.8	+0.7
SVAN	Silvan-Diyarba	2.03	251	IAML_P			
	comp=Z,2μm,0.4s						
SVAN				iP	Pb	06 12 16.1	-0.9
KARO	Karliova-Bingo	2.07	284	PN	Pn	06 12 15.7	+0.9
BTMN	Batman	2.08	244	IAML_P			
	comp=Z,1μm,0.4s						
BTMN				iP	Pb	06 12 18.7	+0.8
GRS	Goris	2.20	71	⇓iP	Pn	06 12 15.0	-1.5
GRS				⇓iS	Sb	06 12 48.0	+1.0
ECAT	Cat-ERZURUM	2.21	291	iP	Pb	06 12 20.8	+0.6
BGOL	Bingol	2.32	275	iP	Pb	06 12 22.5	+0.5
BGD	Bogdanovka	2.43	359	P	Pg	06 12 27.0	-0.1
GDB	GEDABAY	2.50	40	⇑P	Pn	06 12 21.2	+0.6
GDB				⇓S	Sb	06 12 54.7	-0.9
HANI	Diyarbakir_Han	2.57	262	iP	Pb	06 12 23.8	-2.4
QZX	Qazax, Azerbai	2.59	30	⇓P	Pn	06 12 21.6	-0.2
QZX				⇓S	Sb	06 12 55.4	-2.8
DAGI	Agillar	2.61	330	iP	Pb	06 12 28.4	+1.5
DBAD	Bademkaya	2.65	326	iP	Pb	06 12 28.4	+0.8
ARTV	Artvin	2.69	331	iP	Pb	06 12 28.1	-0.4
GANJ	Ganja	2.75	48	⇑P	Pn	06 12 25.0	+1.0
GANJ				⇓S	Sb	06 13 01.5	-1.3
DBOC	Borcka	2.93	330	iP	Pb	06 12 34.0	+1.6
BAYB	BAYBURT	2.98	300	iP	Pg	06 12 35.6	-1.9
BCA	Borcka	3.04	330	PN	Pn	06 12 29.4	+1.5
EUZM	Uzumlu	3.18	287	iP	Pb	06 12 37.0	+0.3
TNCL	Tunceli-Merkez	3.21	276	iP	Pg	06 12 41.0	-0.9
PTK	Pertek	3.32	272	PN	Pn	06 12 33.3	+1.4
LGD	Lagodekhi	3.60	33	P	Pg	06 12 48.0	-1.4
URFA	Urfa	4.04	251	PN	Pn	06 12 43.7	+1.9

DJA 20 06:25:06.9±0.4, 1°S±3°×12°0E±°, h10km, M3.5/6, MLv3.5/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCI	Palu	0.59	342	P	Pg	06 25 18.4	0.0
TTSI	Tana Toraja	1.58	187	P	Pn	06 25 33.1	-1.9
APSI	Ampana	1.72	71	P	Pn	06 25 35.7	-1.2
MPSI	Mapaga	1.80	356	P	Pn	06 25 37.1	-0.9
SPSI	Sidrap Palu	2.49	186	P	Pn	06 25 47.6	+0.1
BNSI	Bone	2.91	178	P	Pn	06 25 55.0	+1.7

PRE 20 06:39:27.1±1.7, 22°.05S×33°.25E, h5km, ML2.8
ISC 20 06:39:26.2±3.3, 21°.74S±0°.08×33°.0E±0°.2, h15km, n10, σ1s.75/18, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSNA	Messina	2.86	257	eP	Pb	06 40 16.8	-0.3
MSNA				eS	Sb	06 40 52.4	+0.5
MSNA				AML	AML	06 41 11.3	
	comp=Z,160nm,0.7s						
BLWY	Bulawayo	4.43	290	iP	Pn	06 40 32.0	-1.1
BLWY	Bulawayo	4.43	290	iP	Pn	06 40 32.0	-1.1
MATP	Matopo	4.44	286	iP	Pn	06 40 32.5	-0.5
MATP				iS	Sn	06 41 25.9	+1.4
MATP	Matopo	4.44	286	iP	Pn	06 40 32.5	-0.5
MATP				iS	Sn	06 41 25.9	+1.4
PRYS	Parys	7.31	224	eP	Pn	06 41 14.3	+1.7
PRYS				eS	Sn	06 42 32.7	-2.8
PRYS				AML	AML	06 42 56.2	
	comp=Z,5.9nm,0.5s						
LBTB	Lobatse	7.58	243	eP	Pn	06 41 18.6	+2.4
LBTB				eS	Sn	06 42 41.3	-0.6
LBTB				AML	AML	06 43 04.6	
	comp=Z,9.7nm,0.6s						
BOSA	Boshof	9.82	224	iP	Pn	06 41 47.5	+0.4
BOSA				iS	Sn	06 43 36.0	-1.2
BOSA	Boshof	9.82	224	eP	Pn	06 41 50.0	+3.0
BOSA				eS	Sn	06 43 34.1	-3.1
BOSA				AML	AML	06 44 26.7	
	comp=Z,3.7nm,0.5s						
BOSA	Boshof	9.82	224	iP	Pn	06 41 47.5	+0.4
BOSA				iS	Sn	06 43 36.0	-1.2

IGQ 20 06:56:25.3±0.4, 2°S±2°×8°1W±°, h10km, MLv3.6, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ALIBE	La Libertad	0.25	9	P	Pb	06 56 31.3	-0.7
ALIBE				S	Sg	06 56 35.2	+1.2
SALI	Salinas	0.33	341	P	Pg	06 56 32.2	+0.4
SALI				S	Sb	06 56 37.5	-1.1
MORR	Playas El Morr	0.56	105	P	Pb	06 56 38.2	+0.9
MORR				S	Sn	06 56 47.7	-1.1
AGUAY	Guayaquil	1.03	65	P	Pg	06 56 42.7	-2.5
AGUAY				S	Sg	06 56 56.7	-1.8
MILO	Milagro-Astudi	1.34	81	P	Pn	06 56 48.0	-2.2
MILO				S	Sb	06 57 04.8	-3.1
COHC	Cochancay	1.63	89	P	Pn	06 56 52.4	-1.6
COHC				S	Sn	06 57 11.2	-3.9
MCRA	Macar, Loja	2.08	154	P	Pn	06 57 00.8	+0.4
MCRA				S	Sn	06 57 25.7	-0.7
BMAS	Trigal station	2.60	68	P	Pn	06 57 07.5	-0.3
BPAT	Tungurahua Vol	2.64	68	P	Pn	06 57 10.4	+2.0
BULB	Ulba Tungurahu	2.69	67	P	Pn	06 57 09.2	+0.2
BULB				S	Sn	06 57 40.4	-1.5
BRUN	Tungurahua Vol	2.69	67	P	Pn	06 57 09.5	+0.5
BRUN				S	Sn	06 57 39.8	-2.1
BNAS	Cotopaxi Volca	3.01	53	P	Pn	06 57 13.8	+0.2
BREF	Cotopaxi Volca	3.04	53	P	Pn	06 57 15.8	+1.6

BVC2	**Cotopaxi Volca**	**3.07**	**54**	P	Pn	06 57 14.6	+0.2
BVC2				S	Sn	06 57 52.7	+1.1
BTAM	**Cotopaxi Volca**	**3.08**	**54**	P	Pn	06 57 14.9	+0.5
BTAM				S	Sn	06 57 53.8	+2.2
PITA	**Cotopaxi Volc**	**3.12**	**52**	P	Pn	06 57 15.2	+0.2
ANTG	**Antisana-Guama**	**3.29**	**53**	P	Pn	06 57 17.9	+0.5
ANTM	**Antisana-La Mi**	**3.30**	**54**	P	Pn	06 57 17.8	+0.2
YANA	**Yana**	**3.31**	**44**	P	Pn	06 57 16.0	-1.6
ANTS	**Antisana-Sarah**	**3.36**	**54**	P	Pn	06 57 18.9	+0.4
ANTS				S	Sn	06 57 59.8	+1.0
ARDO	**Archidona, Ten**	**3.42**	**64**	P	Pb	06 57 25.5	-0.6
ARDO				S	Sn	06 58 00.7	+1.1
PAC1	**Pacto, Paraso**	**3.45**	**37**	P	Pn	06 57 16.8	-2.5
PAC1				S	Sn	06 57 56.2	-4.1
PULU	**Pululahua**	**3.45**	**44**	P	Pn	06 57 19.0	-0.6
OTAV	**Otavalo**	**3.65**	**42**	P	Pn	06 57 20.3	-1.9
CUSE	**Cuicocha Este**	**3.73**	**42**	P	Pn	06 57 23.4	0.0
CUSE				S	Sn	06 58 07.2	-0.5
CUSW	**Cuicocha Oeste**	**3.75**	**43**	P	Pn	06 57 23.4	-0.2
CUIC	**Cuicocha-Domo**	**3.75**	**42**	P	Pn	06 57 22.6	-1.1
CUIC				S	Sn	06 58 09.4	+1.2
IMBA	**Imbabura, San**	**3.85**	**44**	P	Pn	06 57 25.7	+0.7
URCU	**Urcuqui**	**3.92**	**42**	P	Pn	06 57 26.6	+0.5

*IGQ **20** 07:02:54.0±0.6, 1°S±2″×8°1W±″, h3km, MLv4.9*
*IDC **20** 07:02:54.3±0.9, 1°32S×80°95W, h0km, mb3.8/7, mb1 4.0/13, mb1mx3.9/40, mbtmp3.9/13, ML4.1/4, MS3.4/10, Ms1 3.4/10, ms1mx3.2/30, Error ellipse: s-maj=25.4km s-min=16.0km az=63.0*
*NEIC **20** 07:02:59.5±0.8, 1°37S×80°89W, h38km±8km, mb4.4/8, ML4.9(IGQ), Error ellipse: s-maj=8.4km s-min=6.3km az=74.0*
NEIC Felt lightly at Portoviejo.
ISC 20 07:02:57.2±1.3, 1°41S±0°03×80°97W±0°05, h23km±10km, n114, σ1℗94/132, mb4.3/15, MS3.4/5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SALI	**Salinas**	**0.77**	**181**	P	**Pb**	**07 03 10.7**	**-1.2**
SALI				S	**Sb**	**07 03 21.5**	**-0.5**
ALIBE	**La Libertad**	**0.83**	**171**	P	**Pb**	**07 03 11.8**	**-1.2**
ALIBE				S	**Sn**	**07 03 24.7**	**-0.5**
MORR	**Playas El Morr**	**1.38**	**153**	P	**Pn**	**07 03 20.6**	**-0.4**
MORR				S	**Sb**	**07 03 39.4**	**0.0**
MILO	**Milagro-Astudi**	**1.66**	**121**	P	**Pn**	**07 03 22.2**	**-2.7**
MILO				S	**Sb**	**07 03 47.5**	**0.0**
MAG1	**Magdalena**	**1.79**	**42**	P	**Pn**	**07 03 27.7**	**+0.9**
COHC	**Cochancay**	**2.01**	**121**	P	**Pn**	**07 03 28.6**	**-1.1**
COHC				S	**Sn**	**07 03 53.6**	**-0.7**
ILLI	**Illinizas Sur**	**2.35**	**73**	P	**Pn**	**07 03 35.0**	**+0.2**
ILLI				S	Sb	07 04 18.6	+11
BIL2	**Estacion Bilba**	**2.47**	**91**	P	**Pn**	**07 03 38.5**	**+2.2**
BBIL	**Ulba Tungurahu**	**2.48**	**91**	P	**Pn**	**07 03 38.2**	**+1.6**
BBIL				S	**Sb**	**07 04 19.1**	**+7.5**
JUI6	**Juive**	**2.50**	**90**	P	**Pn**	**07 03 38.4**	**+1.5**
ARRY	**Arrayan**	**2.52**	**92**	P	**Pn**	**07 03 38.0**	**+0.9**
RETU	**Refugio**	**2.52**	**91**	P	**Pn**	**07 03 39.2**	**+1.8**
BPAT	**Tungurahua Vol**	**2.54**	**92**	P	**Pn**	**07 03 39.0**	**+1.5**
BPAT				S	**Sb**	**07 04 13.0**	**-0.3**
RUN5	**Runtun**	**2.55**	**90**	P	**Pn**	**07 03 39.3**	**+1.8**
BRUN	**Tungurahua Vol**	**2.56**	**90**	P	**Pn**	**07 03 38.6**	**+0.9**
BRUN				S	**Sb**	**07 04 16.9**	**+3.0**
BULB	**Ulba Tungurahu**	**2.56**	**91**	P	**Pn**	**07 03 38.9**	**+1.2**
BULB				S	**Sb**	**07 04 14.5**	**+0.5**
BNAS	**Cotopaxi Volca**	**2.60**	**74**	P	**Pn**	**07 03 39.9**	**+1.6**
BNAS				S	**Sb**	**07 04 17.9**	**+2.8**
BMOR	**Cotopaxi Volca**	**2.60**	**75**	P	**Pn**	**07 03 39.8**	**+1.4**
BMOR				S	**Sb**	**07 04 14.7**	**-0.5**
PISA	**Pisayambo**	**2.61**	**82**	P	**Pn**	**07 03 40.3**	**+1.8**
BREF	**Cotopaxi Volca**	**2.64**	**74**	P	**Pn**	**07 03 41.2**	**+2.3**
BREF				S	**Sb**	**07 04 18.1**	**+1.8**
BVC2	**Cotopaxi Volca**	**2.67**	**74**	P	**Pn**	**07 03 40.4**	**+1.1**
BVC2				S	**Sb**	**07 04 24.3**	**+7.2**
GGPC	**Guagua Pichinc**	**2.67**	**63**	P	**Pn**	**07 03 39.8**	**+0.4**
BTAM	**Cotopaxi Volca**	**2.68**	**74**	P	**Pn**	**07 03 40.2**	**+0.7**
PAC1	**Pacto, Paraso**	**2.74**	**53**	P	**Pn**	**07 03 40.1**	**+0.1**
PAC1				S	**Sb**	**07 04 18.6**	**-0.4**
PULU	**Pululahua**	**2.85**	**60**	P	**Pn**	**07 03 42.5**	**+0.8**
ANTM	**Antisana-La Mi**	**2.88**	**72**	P	**Pn**	**07 03 45.3**	**+3.1**
ANTM				S	**Sb**	**07 04 23.6**	**+0.3**
OTAV	**Otavalo**	**3.01**	**57**	*e*Pn	**Pn**	**07 03 44.5**	**+0.7**
OTAV				*e*Sn	**Sn**	**07 04 21.5**	**+2.0**
OTAV	**Otavalo**	**3.01**	**57**	*e*P	**Pn**	**07 03 44.5**	**+0.7**
OTAV	**Otavalo**	**3.01**	**57**	*e*P	**Pn**	**07 03 44.5**	**+0.7**
MCRA	**Macar, Loja**	**3.11**	**161**	P	**Pn**	**07 03 44.6**	**-0.4**
MCRA				S	**Sn**	**07 04 21.8**	**+0.4**
CUSW	**Cuicocha Oeste**	**3.12**	**57**	P	**Pn**	**07 03 47.6**	**+2.3**
CUSW				S	**Sb**	**07 04 28.4**	**-1.5**
CUIC	**Cuicocha-Domo**	**3.12**	**57**	P	**Pn**	**07 03 47.3**	**+1.9**
CUIC				S	**Sb**	**07 04 27.5**	**-2.4**
CMBC	**Cumbal**	**3.92**	**53**	*e*P	**Pn**	**07 03 59.7**	**+3.3**
CMBC	**Cumbal**	**3.92**	**53**	*e*P	**Pn**	**07 03 59.7**	**+3.3**
TUMC	**Tumaco**	**3.92**	**35**	*e*P	Pb	07 04 01.6	-4.1
TUMC	**Tumaco**	**3.92**	**35**	*e*P	Pb	07 04 01.6	-4.1
GCUF	**Volcan Galeras**	**4.47**	**54**	*e*P	**Pn**	**07 04 08.3**	**+4.2**
GCUF	**Volcan Galeras**	**4.47**	**54**	*e*P	**Pn**	**07 04 08.3**	**+4.2**
CPAS2	**Pasto**	**4.55**	**55**	*e*P	**Pb**	**07 04 12.7**	**-3.8**
CPAS2	**Pasto**	**4.55**	**55**	*e*P	**Pb**	**07 04 12.7**	**-3.8**
CRUC	**La Cruz**	**4.99**	**54**	*e*P	**Pn**	**07 04 13.3**	**+2.2**
CRUC	**La Cruz**	**4.99**	**54**	*e*P	**Pn**	**07 04 13.3**	**+2.2**
SOTA	**Rioblanco**	**5.61**	**51**	*e*P	**Pn**	**07 04 21.2**	**+1.5**
SOTA	**Rioblanco**	**5.61**	**51**	*e*P	**Pn**	**07 04 21.2**	**+1.5**
POPC	**Popayan, Colom**	**5.82**	**48**	*e*P	**Pn**	**07 04 22.5**	**+0.1**
POPC	**Popayan, Colom**	**5.82**	**48**	*e*P	**Pn**	**07 04 22.5**	**+0.1**
PCON	**Cinco Dias**	**5.89**	**51**	*e*P	**Pn**	**07 04 25.5**	**+1.8**
PCON	**Cinco Dias**	**5.89**	**51**	*e*P	**Pn**	**07 04 25.5**	**+1.8**
FLOC	**Florencia**	**6.09**	**61**	*e*P	**Pn**	**07 04 26.6**	**+0.6**
FLOC	**Florencia**	**6.09**	**61**	*e*P	**Pn**	**07 04 26.6**	**+0.6**
ATAH	**Atahualpa**	**6.24**	**156**	Pn	**Pn**	**07 04 30.0**	**+1.7**
	1.6nm,0.3s,baz=6.2,slow=8.4,SNR=11						
ATAH				Sn	**Sn**	**07 05 41.7**	**+2.5**
	3.7nm,0.3s,baz=165,slow=12,SNR=3.4						
ATAH				LR	LR	07 07 26.9	
	comp=Z,425nm,18.6s,baz=333,slow=43						
PTLC	**Puerto Leguiza**	**6.37**	**76**	*e*P	**Pn**	**07 04 30.3**	**+0.5**
PTLC	**Puerto Leguiza**	**6.37**	**76**	*e*P	**Pn**	**07 04 30.3**	**+0.5**
MALC	**Bahia Malaga**	**6.50**	**34**	*e*P	Pn	07 04 36.7	+5.2
MALC	**Bahia Malaga**	**6.50**	**34**	*e*P	Pn	07 04 36.7	+5.2
BETC	**Betania**	**6.86**	**54**	*e*P	**Pn**	**07 04 39.3**	**+2.7**
BETC	**Betania**	**6.86**	**54**	*e*P	**Pn**	**07 04 39.3**	**+2.7**
YOTC	**Yotoco, Valle**	**7.08**	**41**	*e*P	**Pn**	**07 04 38.0**	**-1.5**
YOTC	**Yotoco, Valle**	**7.08**	**41**	*e*P	**Pn**	**07 04 38.0**	**-1.5**
PLMC	**San Jos del P**	**7.83**	**37**	*e*P	**Pn**	**07 04 49.7**	**-0.2**
PLMC	**San Jos del P**	**7.83**	**37**	*e*P	**Pn**	**07 04 49.7**	**-0.2**
ANIL	**Santa Ana**	**8.08**	**43**	*e*P	**Pn**	**07 04 57.8**	**+4.2**
ANIL	**Santa Ana**	**8.08**	**43**	*e*P	**Pn**	**07 04 57.8**	**+4.2**
ROSC	**El Rosal**	**9.10**	**47**	Pn	**Pn**	**07 05 07.5**	**0.0**
	0.4nm,0.3s,baz=119,slow=19,SNR=2.3						
ROSC	**El Rosal**	**9.10**	**47**	*e*P	**Pn**	**07 05 09.4**	**+1.8**
ROSC	**El Rosal**	**9.10**	**47**	*e*P	**Pn**	**07 05 09.4**	**+1.8**
VILC	**Villavicencio,**	**9.11**	**53**	*e*P	**Pn**	**07 05 09.6**	**+2.1**
VILC	**Villavicencio,**	**9.11**	**53**	*e*P	**Pn**	**07 05 09.6**	**+2.1**
PAYG	**Puerto Ayora**	**9.34**	**274**	*e*Pn	**Pn**	**07 05 13.3**	**+2.8**
CHIC	**Chingaza**	**9.40**	**50**	*e*P	**Pn**	**07 05 12.7**	**+1.0**
CHIC	**Chingaza**	**9.40**	**50**	*e*P	**Pn**	**07 05 12.7**	**+1.0**
PTBC	**PUERTO BERRIO,**	**10.23**	**39**	*e*P	**Pn**	**07 05 21.2**	**-1.6**
PTBC	**PUERTO BERRIO,**	**10.23**	**39**	*e*P	**Pn**	**07 05 21.2**	**-1.6**
RUSC	**La Rusia**	**10.71**	**47**	*e*P	**Pn**	**07 05 30.2**	**+0.5**
RUSC	**La Rusia**	**10.71**	**47**	*e*P	**Pn**	**07 05 30.2**	**+0.5**
ZARC	**Zaragoza, Cauc**	**10.74**	**35**	*e*P	**Pn**	**07 05 33.1**	**+3.3**
ZARC	**Zaragoza, Cauc**	**10.74**	**35**	*e*P	**Pn**	**07 05 33.1**	**+3.3**
NNA	**Nana**	**11.28**	**159**	Pn	**Pn**	**07 05 36.9**	**-0.2**
	3.3nm,0.3s,baz=337,slow=9.1,SNR=7.4						
NNA				Sn	**Sn**	**07 07 39.0**	**-3.6**
	2.4nm,0.3s,baz=239,slow=20,SNR=13						
NNA				LR	LR	07 10 51.3	
	comp=Z,25nm,18.5s,baz=299,slow=42						
NNA	**Nana**	**11.28**	**159**	*e*Pn	**Pn**	**07 05 37.9**	**+0.7**
NNA				*e*Sn	**Sn**	**07 07 39.0**	**-3.6**
NNA				*e*Sn	Sn	07 07 40.3	-2.4
JTS	**JuntasAbangare**	**12.28**	**341**	*e*Pn	**Pn**	**07 05 51.1**	**+0.2**
SDV	**Santo Domingo**	**14.52**	**45**	Pn	**Pn**	**07 06 21.5**	**-0.1**
	0.2nm,0.3s,baz=163,slow=20,SNR=2.2						
SDV				LR	LR	07 13 12.3	
	comp=Z,58nm,19.8s,baz=269,slow=43						
SDV	**Santo Domingo**	**14.52**	**45**	*e*Pn	**Pn**	**07 06 21.6**	**-0.1**
SDV				*e*sP	**Pn**	**07 06 22.0**	**+0.4**
SDV	**Santo Domingo**	**14.52**	**45**	*e*P	**P**	**07 06 29.0**	**+0.9**
SDV	**Santo Domingo**	**14.52**	**45**	*e*P	**P**	**07 06 29.0**	**+0.9**
APG	**El Apazote**	**18.82**	**330**	LR	LR	07 12 57.4	
	comp=Z,63nm,18.3s,baz=292,slow=32						
LPAZ	**La Paz**	**19.46**	**140**	P	**Pn**	**07 07 24.9**	**+0.6**
	0.2nm,0.3s,baz=326,slow=14,SNR=8.7						
LPAZ				LR	LR	07 16 56.2	
	comp=Z,93nm,18.3s,baz=50,slow=43						
LPAZ	**La Paz**	**19.46**	**140**	*e*P	**P**	**07 07 21.7**	**-1.5**
	4.9nm,1.0s						
PCRV	**Puerto La Cruz**	**19.92**	**54**	P	**P**	**07 07 28.6**	**+0.9**
	1.0nm,0.3s,baz=272,slow=3.8,SNR=6.4						
PTGA	**Pitinga**	**21.01**	**88**	P	**P**	**07 07 40.3**	**+0.8**
	2.0nm,0.3s,baz=274,slow=11,SNR=8.1						
PTGA				LR	LR	07 16 24.6	
	comp=Z,120nm,18.1s,baz=274,slow=39						
JAKH	**Jacmel**	**21.22**	**23**	*e*P	**P**	**07 07 41.0**	**-0.6**
	267nm,0.5s						
PB11	**IPOC Station P**	**21.34**	**149**	*e*P	**P**	**07 07 43.9**	**+0.8**
	13nm,0.9s						
SJG	**San Juan**	**24.27**	**36**	LR	LR	07 20 15.2	
	comp=Z,40nm,18.2s,baz=251,slow=43						
HUMP	**Col San Antoni**	**24.48**	**37**	*e*P	**P**	**07 08 13.8**	**-1.0**
	44nm,1.6s						
MTP	**Monte Pirata**	**24.62**	**37**	*e*P	**P**	**07 08 15.0**	**-1.1**
	30nm,1.4s						
MDP	**Montagnes des**	**29.03**	**77**	LR	LR	07 20 45.9	
	comp=Z,247nm,18.7s,baz=236,slow=37						
453A	**Whigham**	**32.24**	**355**	*e*P	**P**	**07 09 24.1**	**+0.1**
	133nm,1.5s						
ROC1	**El Roble**	**32.76**	**164**	*e*P	**P**	**07 09 29.1**	**+0.2**
	4.7nm,0.9s						
BDFB	**Brasilia**	**35.44**	**115**	P	**P**	**07 09 52.0**	**-0.3**
	2.4nm,0.8s,baz=261,slow=8.2,SNR=4.8						
BDFB				LR	LR	07 25 25.2	
	comp=Z,58nm,19.4s,baz=187,slow=38						
LTX	**Lajitas**	**37.49**	**326**	*e*P	**P**	**07 10 09.4**	**-0.1**
LTX				*e*PcP	**PcP**	**07 12 28.1**	**+0.3**
TXAR	**Lajitas Array**	**37.49**	**326**	P	**P**	**07 10 09.4**	**-0.1**
	0.2nm,0.8s,baz=134,slow=10,SNR=2.9						
TXAR				PcP	**PcP**	**07 12 28.1**	**+0.3**
	0.2nm,0.6s,baz=126,slow=5.8,SNR=3.3						
PLCA	**Paso Flores**	**40.27**	**168**	P	**P**	**07 10 34.4**	**+1.8**
	1.2nm,0.8s,baz=330,slow=8.1,SNR=3.6						
PLCA				LR	LR	07 25 08.5	
	comp=Z,321nm,19.6s,baz=259,slow=33						
PLCA	**Paso Flores**	**40.27**	**168**	*e*P	**P**	**07 10 32.5**	**-0.1**
	3.1nm,1.1s						
RYN	**Ryan**	**52.73**	**323**	*e*P	**P**	**07 12 09.5**	**-1.0**
	5.5nm,0.6s						
KVN	**Kaiserville**	**52.75**	**324**	*e*P	**P**	**07 12 11.3**	**+0.6**
	4.7nm,1.2s						
ULM	**Lac du Bonnet**	**53.03**	**348**	P	**P**	**07 12 12.4**	**+0.1**
	2.6nm,0.6s,baz=151,slow=6.8,SNR=9.4						
YKA	**Yellowknife Ar**	**68.61**	**344**	P	**P**	**07 13 58.0**	**-0.1**
	0.2nm,0.6s,baz=141,slow=6.6,SNR=4.1						
YKA	**Yellowknife Ar**	**68.61**	**344**	P	**P**	**07 13 58.0**	**-0.1**
YKB5	**Yellowknife Ar**	**68.61**	**344**	*e*P	**P**	**07 13 58.6**	**+0.4**
TOA1	**Torodi Ar. Sit**	**83.18**	**77**	*e*P	**P**	**07 15 21.1**	**-1.2**
TORD	**Torodi Ar. Bea**	**83.18**	**77**	P	**P**	**07 15 21.1**	**-1.2**
	0.6nm,0.9s,baz=290,slow=5.5,SNR=2.7						
AS31	**Alice Springs**	**137.92**	**231**	*e*PKPdf	**PKPdf**	**07 22 19.8**	**-1.2**
ASAR	**Alice Springs**	**137.92**	**231**	PKP	**PKiKP**	**07 22 23.4**	**+0.5**
	0.5nm,0.9s,baz=106,slow=3.4,SNR=3.0						
WR1	**Warramunga Arr**	**139.39**	**237**	*e*PKPdf	**PKiKP**	**07 22 25.8**	**-0.2**
WRA	**Warramunga Arr**	**139.39**	**237**	PKP	**PKiKP**	**07 22 25.8**	**-0.2**
	0.5nm,0.9s,baz=112,slow=2.1,SNR=2.7						

*NNC **20** 07:16:26.7±3.2, 52°38N×95°89E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=27.1km s-min=19.9km az=49.0*
*MOS **20** 07:16:29.8±1.9, 51°76N×96°05E, h10km, mb4.1/3, Error ellipse: s-maj=15.3km s-min=10.7km az=2.8*
*ASRS **20** 07:16:29.7±1.5, 51°81N×96°01E, h15km, Ms3.5/2*
*IDC **20** 07:16:29.1±1.4, 51°55N×96°23E, h0km, mb4.0/3, mb1 3.6/7, mb1mx3.3/37, mbtmp3.6/7, ML2.7/4, Error ellipse: s-maj=28.3km s-min=15.8km az=172.0*
ISC 20 07:16:30.7±0.8, 51°75N±0°07×95°92E±0°04, h10km, n34, σ2℗93/34, mb3.9/3, 6C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TDJR	**Todzha**	**0.66**	**10**	*i*PG	**Pb**	**07 16 42.5**	**-1.8**
TDJR				*e*S	**Sb**	**07 16 52.1**	**-1.4**
KZLR	**Kyzyl**	**0.92**	**268**	*e*PG	**Pg**	**07 16 47.3**	**-1.0**
KZLR	**Kyzyl**	**0.92**	**268**	*e*PG	**Pg**	**07 16 47.7**	**-0.6**
KZLR				*e*S	**Sg**	**07 17 00.5**	**+0.3**
ORL	**Orlik**	**2.52**	**70**	*e*PN	**Pb**	**07 17 13.8**	**-2.3**
ORL				*e*		07 17 45.6	
ORL				pmax	pmax		
	comp=Z,56nm,0.3s						
ORL				smax	smax		
	comp=N,226nm,1.3s						
CERR	**Cheremushki**	**2.98**	**294**	*e*Pg	**Pb**	**07 17 20.5**	**-3.3**
CERR				*e*Sg	**Sg**	**07 18 04.5**	**-1.8**
CERR	**Cheremushki**	**2.98**	**294**	*e*PN	**Pb**	**07 17 20.5**	**-3.3**
CERR				*e*		07 18 04.5	
MOY	**Mondy**	**3.15**	**90**	*e*PN	**Pb**	**07 17 23.5**	**-3.4**
MOY				*e*		07 18 05.9	
MOY				pmax	pmax		
	comp=Z,50nm,0.6s						
MOY				smax	smax		
	comp=N,177nm,0.9s						
MINR	**Mina**	**3.32**	**343**	*e*Pg	**Pb**	**07 17 29.0**	**-0.6**
ARS	**Arshan**	**4.04**	**85**	*e*PN	**Pb**	**07 17 40.7**	**-1.1**
ARS				*e*		07 18 31.9	
ARS				pmax	pmax		
	comp=Z,45nm,1.0s						
ARS				smax	smax		
	comp=E,511nm,0.9s						
ZAK	**Zakamensk**	**4.84**	**104**	*e*PN	**Pb**	**07 17 53.7**	**-1.8**
ZAK				*e*		07 18 58.4	
ZAK				pmax	pmax		
	comp=Z,18nm,0.8s						
ZAK				smax	smax		
	comp=N,75nm,0.6s						
TASR	**Tashtagol**	**5.04**	**285**	*e*Pg	**Pb**	**07 18 02.3**	**+3.4**
TASR				*e*Sg	**Sg**	**07 19 07.1**	**-5.3**
TASR	**Tashtagol**	**5.04**	**285**	*e*PN	**Pb**	**07 18 02.3**	**+3.4**
TASR				*e*		07 19 07.1	
ARTR	**Artybash**	**5.37**	**274**	*e*Pg	**Pg**	**07 18 10.4**	**-3.0**
ARTR	**Artybash**	**5.37**	**274**	*e*PN	**Pg**	**07 18 10.4**	**-3.0**
ELT	**Eltsovka**	**6.10**	**288**	*e*Sg	**Sb**	**07 19 37.4**	**+7.4**
UKR	**Ust'-Kan**	**7.03**	**268**	*e*Pg	Pg	07 18 40.5	-4.7
UKR				*e*Sg	**Sg**	**07 20 12.0**	**-4.2**
UKR	**Ust'-Kan**	**7.03**	**268**	*e*P*	Pg	07 18 40.5	-4.7
ZAA0	**Zalesovo Array**	**7.08**	**292**	⇑Pg	**Pb**	**07 18 31.4**	**-2.1**
	comp=N,1.8nm,0.5s						
ZAA0				⇑Lg	Lg	07 20 04.4	
	comp=N,22nm,0.8s						
ZALV	**Zalesovo Beam**	**7.08**	**292**	Pn	**Pn**	**07 18 17.9**	**+3.8**
	comp=N,0.3nm,0.3s,baz=100,slow=12,SNR=5.3						
ZALV				Lg	Lg	07 20 10.7	
	comp=N,1.5nm,0.3s,baz=108,slow=25,SNR=7.3						
ZALV	**Zalesovo Beam**	**7.08**	**292**	PN	**Pn**	**07 18 18.0**	**+3.8**
OGRR	**Ongureny**	**7.34**	**70**	*e*P	**Pn**	**07 18 19.2**	**+1.3**
OGRR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SONM	**Songino Array**	**7.83**	**116**	Pg	**Pb**	**07 18 46.6**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=305,slow=15,SNR=9.4						
SONM				Lg	Lg	07 20 30.4	
	comp=Z,0.6nm,0.3s,baz=306,slow=30,SNR=5.9						
NVS	**Novosibirsk**	**8.21**	**297**	*e*Pg	**Pg**	**07 19 03.4**	**-4.2**
NVS				*e*Sg	Sg	07 20 44.1	-10
MK31	**Makanchi Array**	**10.19**	**246**	⇑Pn	**Pn**	**07 18 57.1**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=47,slow=16,SNR=4.9						
MK31				⇓Pg		07 19 38.8	
	comp=Z,3.7nm,1.1s						
MK31				⇑Lg	Lg	07 21 58.2	
	comp=Z,16nm,0.9s						
MKAR	**Makanchi Array**	**10.19**	**246**	Pn	**Pn**	**07 18 57.9**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=57,slow=16,SNR=5.7						
MKAR				Lg	Lg	07 21 54.6	
	comp=Z,0.3nm,0.3s,baz=51,slow=31,SNR=6.1						
MAKZ	**Makanchi**	**10.36**	**247**	⇓Lg	Lg	07 22 02.1	
	comp=Z,7.7nm,0.9s						
KURK	**Kurchatov**	**10.90**	**271**	⇓Lg	Lg	07 22 12.6	
	comp=Z,12nm,0.9s						
KURK	**Kurchatov**	**10.90**	**271**	P	**Pn**	**07 19 09.5**	**+2.9**
KURBB	**Kurchatov Arra**	**10.98**	**271**	Pn	**Pn**	**07 19 09.5**	**+1.9**
	comp=Z,0.0nm,0.3s,baz=77,slow=14,SNR=4.7						
KURBB				Lg	Lg	07 22 20.9	
	comp=Z,0.0nm,0.3s,baz=79,slow=32,SNR=4.6						
KURBB	**Kurchatov Arra**	**10.98**	**271**	⇑Lg	Lg	07 22 14.4	
	comp=Z,27nm,1.1s						
BVAR	**Borovoye Array**	**15.62**	**285**	Pn	**Pn**	**07 20 12.1**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=78,slow=14,SNR=4.4						
AKTO	**Aktyubinsk**	**23.67**	**282**	P	**P**	**07 21 43.4**	**+1.3**
	comp=Z,1.7nm,0.5s,baz=58,slow=17,SNR=5.6						
TIXI	**Tiksi**	**24.74**	**24**	P	**P**	**07 21 52.3**	**+0.5**
	comp=Z,6.4nm,0.9s,baz=240,slow=6.3,SNR=9.1						
BRTR	**Keskin Array B**	**43.81**	**280**	P	**P**	**07 24 38.4**	**+1.7**
	comp=Z,1.0nm,0.9s,baz=76,slow=6.1,SNR=3.0						

*ISCJB **20** 07:43:55.5±1.1, 9°02N±0°04×126°48E±0°07, h10km, mb3.4/3, Error ellipse: s-maj=10.5km s-min=5.3km az=170.1*
*IDC **20** 07:43:55.1±1.4, 7°44N×123°17E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/39, mbtmp3.6/4, ML3.9/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/26, Error ellipse: s-maj=48.6km s-min=25.1km az=53.0*
*MAN **20** 07:43:58.0, 9°03N×126°29E, h13km, mb4.4, ML3.3, MS3.1*
ISC 20 07:43:57.3±1.2, 9°01N±0°04×126°30E±0°08, h10km, n14, σ1℗90/20, mb3.5/3, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.67**	**267**	*e*P	**Pb**	**07 44 11.9**	**+0.7**
BUTP				*e*S	**Sn**	**07 44 23.6**	**+0.1**
BIPH	**Bislig**	**0.82**	**176**	⇓*i*P	**Pg**	**07 44 12.1**	**-1.0**
BIPH				*i* S	**Sg**	**07 44 21.1**	**-2.7**
SCPH	**Surigao**	**1.11**	**314**	*e*P	**Pb**	**07 44 18.9**	**+0.2**
SCPH				*e*S	**Sn**	**07 44 38.3**	**+3.9**
BUKP	**Musuan**	**1.66**	**228**	*e*P	**Pn**	**07 44 26.1**	**-0.5**
BUKP				*e*S	**Sn**	**07 44 48.6**	**+0.6**
CGP	**Cagayan de Oro**	**1.68**	**251**	*e*P	**Pn**	**07 44 26.1**	**-0.8**
CGP				*e*S	**Sn**	**07 44 46.6**	**-1.8**
MSLP	**Maasin**	**1.81**	**308**	*e*P	**Pn**	**07 44 28.4**	**-0.2**
MSLP				*e*S	**Sn**	**07 44 50.0**	**-1.6**
DAV	**Davao City (W)**	**2.05**	**200**	Pn	**Pb**	**07 44 36.5**	**+1.8**
	28nm,0.3s,baz=307,slow=5.1,SNR=3.2						
DAV				LR	LR	07 45 38.8	
	comp=Z,237nm,18.2s,baz=350,slow=43						
DMPH	**Davao City--Mi**	**2.06**	**202**	*e*P	**Pn**	**07 44 33.4**	**+1.3**
DMPH				*e*S	**Sn**	**07 45 00.4**	**+2.5**
TBP	**Tagbilaran**	**2.50**	**286**	*e*P	**Pn**	**07 44 39.2**	**+1.1**
TBP				*i* S	**Sb**	**07 45 12.4**	**-0.9**
BESP	**Borongan**	**2.72**	**342**	*e*P	**Pn**	**07 44 41.4**	**+0.3**
BESP				*e*S	**Sn**	**07 45 11.7**	**-2.3**
RCP	**Roxas**	**4.32**	**306**	⇓*e*P	**Pn**	**07 45 06.6**	**+3.4**
WRA	**Warramunga Arr**	**29.83**	**165**	P	P	07 49 59.4	-5.5
	0.1nm,0.3s,baz=339,slow=8.3,SNR=4.9						
ASAR	**Alice Springs**	**33.31**	**167**	P	P	07 50 29.1	-6.4
	0.2nm,0.3s,baz=348,slow=7.3,SNR=8.3						
MKAR

WMQ				pmax	pmax		
	comp=Z,18nm,0.9s						
WMQ				LR	LR		
	comp=N,50nm,14.5s						
WMQ				LR	LR		
	comp=E,81nm,21.9s						
WMQ				LR	LR		
	comp=Z,80nm,20.7s						
KSH	**Kashi**	**67.84**	**317**	P	**P**	**08 09 24.3**	**0.0**
KSH				pP	pP	08 10 00.5	+0.9
KSH				PP	**PP**	**08 11 57.6**	**+1.7**
KSH				S	**S**	**08 18 02.4**	**-8.7**
KSH				pmax	pmax		
	comp=Z,13nm,0.6s						
KSH				LR	LR		
	comp=N,150nm,7.3s						
KSH				LR	LR		
	comp=E,110nm,4.5s						
KSH				LR	LR		
	comp=Z,210nm,7.2s						
MK01	**Makanchi Array**	**67.99**	**327**	*e*P	**P**	**08 09 25.1**	**+0.2**
MK31	**Makanchi Array**	**68.01**	**327**	*e*P	**P**	**08 09 25.4**	**+0.3**
MKAR	**Makanchi Array**	**68.01**	**327**	P	**P**	**08 09 25.6**	**+0.5**
	11nm,0.6s,baz=122,slow=8.0,SNR=119						
MAKZ	**Makanchi**	**68.19**	**327**	*e*P	**P**	**08 09 26.4**	**+0.2**
	8.8nm,0.6s						
TKM2	**Tokmak 2**	**69.79**	**320**	P	**P**	**08 09 37.2**	**+0.8**
	SNR=9.6						
UCH	**Uchtor**	**70.14**	**319**	P	**P**	**08 09 40.0**	**+1.1**
	SNR=6.4						
AAK	**Ala-Archa**	**70.35**	**320**	P	**P**	**08 09 41.2**	**+1.4**
	SNR=5.7						
AAK	**Ala-Archa**	**70.35**	**320**	*e*P	**P**	**08 09 40.2**	**+0.5**
	6.3nm,0.8s						
AML	**Almayashu**	**70.62**	**319**	P	**P**	**08 09 42.8**	**+1.1**
	SNR=9.9						
USP	**Ospenovka**	**70.66**	**320**	P	**P**	**08 09 42.2**	**+0.8**
	SNR=12						
EKS2	**Erkin-Say**	**70.83**	**319**	P	**P**	**08 09 43.6**	**+1.1**
	SNR=13						
ZALV	**Zalesovo Beam**	**71.35**	**334**	P	**P**	**08 09 44.9**	**-0.4**
	2.0nm,0.7s,baz=118,slow=5.0,SNR=8.0						
ZALV	**Zalesovo Beam**	**71.35**	**334**	*e*P	**P**	**08 09 44.6**	**-0.7**
KURBB	**Kurchatov Arra**	**72.29**	**328**	P	**P**	**08 09 50.6**	**-0.3**
	2.2nm,0.6s,baz=128,slow=5.1,SNR=13						
KURK	**Kurchatov**	**72.30**	**329**	*e*P	**P**	**08 09 50.6**	**-0.4**
BVAR	**Borovoye Array**	**77.85**	**328**	P	**P**	**08 10 22.4**	**-0.4**
	1.4nm,0.7s,baz=127,slow=9.4,SNR=8.3						
TIXI	**Tiksi**	**78.20**	**360**	P	**P**	**08 10 23.9**	**-0.4**
	0.6nm,0.3s,baz=264,slow=6.1,SNR=3.9						
AKTO	**Aktyubinsk**	**83.88**	**322**	P	**P**	**08 10 55.9**	**+1.0**
	0.7nm,0.4s,baz=118,slow=17,SNR=3.2						

IDC ***20*** *08:12:16.2±1.1, 16°98N×98°23W, h0km, mb4.2/12, mb1 4.3/17, mb1mx4.1/38, mbtmp4.1/17, ML3.7/5, MS3.6/11, Ms1 3.6/11, ms1mx3.4/24, Error ellipse: s-maj=26.6km s-min=13.3km az=35.0*

MEX ***20*** *08:12:18.1±0.5, 16°.52N×98°.48W, h16km±21km, MD4.4*

NEIC ***20*** *08:12:18.1±0.0, 16°.52N×98°.47W, h20km, mb4.5/139, MD4.4(MEX), After MEX.*

NEIC Felt at Acatzingo, Cacahuatepec and Mexico.

ISC 20 08:12:16.6±0.6, 16°56N±0.04×98°48W±0.04, h23km±3km, n486, σ1°60/504, mb4.4/113, MS3.6/9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.38**	**116**	*i* P	**Pb**	**08 12 24.2**	**-0.4**
PNIG				*i* S	**Sb**	**08 12 29.4**	**-0.7**
PNIG	**Pinotepa**	**0.38**	**116**	*i* P	**Pb**	**08 12 24.2**	**-0.4**
PNIG				*i* S	**Sb**	**08 12 29.4**	**-0.7**
ACP2	**Acapulco**	**1.39**	**283**	*e*P	**Pn**	**08 12 39.3**	**-1.2**
ACP2				*i* S	**Sn**	**08 12 55.3**	**-2.8**
MEIG	**Mezcala**	**1.74**	**321**	*e*P	**Pn**	**08 12 45.0**	**-0.5**
MEIG	**Mezcala**	**1.74**	**321**	*e*P	**Pn**	**08 12 45.3**	**-0.3**
MEIG				*e*S	**Sn**	**08 13 05.6**	**-1.5**
VHO	**Vista Hermosa**	**1.75**	**73**	*e*P	**Pn**	**08 12 45.0**	**-0.7**
VHO	**Vista Hermosa**	**1.75**	**73**	*e*P	**Pn**	**08 12 45.0**	**-0.7**
VHO				*i* S	**Sn**	**08 13 05.4**	**-1.9**
CAIG	**El Cayaco**	**1.78**	**286**	*e*P	**Pn**	**08 12 44.6**	**-1.3**
CAIG	**El Cayaco**	**1.78**	**286**	*e*P	**Pn**	**08 12 44.6**	**-1.3**
CAIG				*i* S	**Sn**	**08 13 05.4**	**-2.5**
PLIG	**Platanillo**	**2.07**	**332**	*e*P	**Pn**	**08 12 49.1**	**-0.9**
PLIG	**Platanillo**	**2.07**	**332**	*e*P	**Pn**	**08 12 49.1**	**-0.9**
PLIG				*i* S	**Sn**	**08 13 14.0**	**-1.1**
TPIG	**Tehuac#an**	**2.14**	**30**	*e*P	**Pn**	**08 12 51.0**	**0.0**
TPIG	**Tehuac#an**	**2.14**	**30**	*e*P	**Pn**	**08 12 51.0**	**0.0**
TPIG				*i* S	**Sn**	**08 13 15.9**	**-1.0**
YAIG	**Yautepec**	**2.36**	**346**	*e*P	**Pn**	**08 12 54.0**	**0.0**
YAIG	**Yautepec**	**2.36**	**346**	*e*P	**Pn**	**08 12 54.0**	**0.0**
YAIG				*i* S	**Sn**	**08 13 21.5**	**-0.9**
HUIG	**Huatulco**	**2.41**	**109**	*e*P	**Pn**	**08 12 53.4**	**-1.2**
HUIG	**Huatulco**	**2.41**	**109**	*e*P	**Pn**	**08 12 53.4**	**-1.2**
HUIG				*i* S	**Sn**	**08 13 20.9**	**-2.5**
ARIG	**Puente Sto Nin**	**2.47**	**314**	*e*P	**Pn**	**08 12 55.6**	**+0.1**
ARIG	**Puente Sto Nin**	**2.47**	**314**	*e*P	**Pn**	**08 12 55.6**	**+0.1**
ARIG				*i* S	**Sn**	**08 13 23.8**	**-1.2**
MAVM	**Malinalco, Edo**	**2.57**	**338**	*e*P	**Pn**	**08 12 57.7**	**+0.7**
MAVM	**Malinalco, Edo**	**2.57**	**338**	*e*P	**Pn**	**08 12 57.7**	**+0.7**
AMVM	**AMECAMECA**	**2.58**	**354**	*e*P	**Pn**	**08 12 57.1**	**-0.1**
AMVM				*i* S	**Sn**	**08 13 26.9**	**-1.1**
UNM	**Universidad Na**	**2.83**	**347**	*e*Pn	**Pb**	**08 13 04.5**	**-2.2**
TOVM	**TOLUCA**	**2.94**	**337**	*e*P	**Pn**	**08 13 02.2**	**0.0**
TOVM				*i* S	**Sn**	**08 13 36.7**	**-0.3**
ZIIG	**Zihuatanejo**	**3.04**	**290**	*e*P	**Pn**	**08 13 02.6**	**-0.7**
ZIIG	**Zihuatanejo**	**3.04**	**290**	*e*P	**Pn**	**08 13 02.6**	**-0.7**
ZIIG				*i* S	**Sn**	**08 13 37.7**	**-1.2**
CMIG	**Matias Romero**	**3.48**	**81**	Pn	**Pn**	**08 13 08.3**	**-1.1**
	22nm,0.3s,baz=256,slow=9.8,SNR=338						
CMIG				Pg	**Pb**	**08 13 16.7**	**-0.9**
	22nm,0.3s,baz=266,slow=16,SNR=22						
CMIG				Sn	**Sn**	**08 13 46.9**	**-3.0**
	45nm,0.3s,baz=312,slow=9.7,SNR=5.9						
CMIG				Lg	Lg	08 14 02.8	
	165nm,0.3s,baz=29,slow=21,SNR=13						
CMIG	**Matias Romero**	**3.48**	**81**	*e*P	**Pn**	**08 13 08.2**	**-1.1**
CMIG				*i* S	**Sn**	**08 13 49.7**	**-0.3**
LVIG	**Laguna Verde**	**3.71**	**32**	*e*Pn	**Pn**	**08 13 09.4**	**-3.0**
MOIG	**Morelia**	**4.03**	**321**	*e*Pn	**Pn**	**08 13 19.5**	**+2.3**
CCIG	**Comitan**	**6.09**	**92**	*e*Pn	**Pn**	**08 13 46.4**	**+0.9**
ZAIG	**Zacatecas**	**7.28**	**329**	*e*Pn	**Pn**	**08 14 03.4**	**+1.6**
APG	**El Apazote**	**7.87**	**100**	Pn	**Pn**	**08 14 10.1**	**+0.2**
	1.4nm,0.3s,baz=299,slow=17,SNR=5.3						
APG				Sn	**Sn**	**08 15 37.0**	**-1.4**
	3.0nm,0.3s,baz=346,slow=15,SNR=4.3						
APG				Lg	Lg	08 16 30.8	
	2.0nm,0.3s,baz=340,slow=21,SNR=3.6						
LNIG	**Linares**	**8.35**	**354**	*e*Pn	**Pn**	**08 14 14.5**	**-1.7**
MYIG	**Mrida**	**9.36**	**61**	*e*Pn	**Pn**	**08 14 29.9**	**-0.2**
TEIG	**Tepich**	**10.35**	**68**	*e*Pn	**Pn**	**08 14 40.8**	**-2.8**
TEIG				*e*Sn	**Sn**	**08 16 44.9**	**+5.9**
HKT	**Hockley**	**13.55**	**10**	*e*Pn	**P**	**08 15 37.0**	**+0.8**
	113nm,1.4s						
TXAR	**Lajitas Array**	**13.58**	**340**	Pn	**Pn**	**08 15 29.1**	**+1.2**
	0.0nm,0.3s,baz=154,slow=15,SNR=6.3						
TXAR				LR	LR	08 21 17.9	
	comp=Z,467nm,20.3s,baz=0.0,slow=41						
TX31	**Lajitas Ar. Si**	**13.58**	**340**	*e*Pn	**Pn**	**08 15 28.2**	**+0.2**
JCT	**Junction City**	**13.91**	**355**	*e*Pn	**Pn**	**08 15 31.3**	**-1.1**
JCT	**Junction City**	**13.91**	**355**	P	**Pn**	**08 15 32.2**	**-0.2**
	baz=175						
435B	**Jarrell**	**14.18**	**3**	*e*Pn	**Pn**	**08 15 34.9**	**-1.2**
435B	**Jarrell**	**14.18**	**3**	P	**Pn**	**08 15 35.1**	**-1.0**
	baz=183						
JTS	**JuntasAbangare**	**14.55**	**114**	Pn	**Pn**	**08 15 43.3**	**+2.0**
	1.0nm,0.3s,baz=319,slow=19,SNR=5.5						
JTS				LR	LR	08 20 00.2	
	comp=Z,72nm,20.9s,baz=350,slow=32						
WHTX	**Lake Whitney,**	**15.39**	**3**	*e*Pn	**Pn**	**08 15 51.7**	**-0.7**
	86nm,1.1s						
WHTX	**Lake Whitney,**	**15.39**	**3**	P	**Pn**	**08 15 51.5**	**-0.9**
	baz=184,SNR=7.9						
HDC	**Heredia**	**15.42**	**113**	*e*Pn	**P**	**08 15 55.3**	**-2.0**
	54nm,1.3s						
NATX	**Nacogdoches**	**15.53**	**12**	*e*Pn	**Pn**	**08 15 52.6**	**-1.5**
	53nm,1.0s						
NATX	**Nacogdoches**	**15.53**	**12**	P	**Pn**	**08 15 52.4**	**-1.7**
	baz=194,SNR=6.7						
ABTX	**Abilene, Hawle**	**16.03**	**356**	*e*Pn	**Pn**	**08 15 59.1**	**-1.6**
	43nm,0.9s						
ABTX	**Abilene, Hawle**	**16.03**	**356**	P	**Pn**	**08 15 59.6**	**-1.0**
	baz=176,SNR=15						
MNTX	**Cornudas Mount**	**16.33**	**339**	*e*Pn	**Pn**	**08 16 05.0**	**+0.5**
	7.7nm,1.0s						
MNTX	**Cornudas Mount**	**16.33**	**339**	P	**Pn**	**08 16 05.1**	**+0.7**
	baz=156,SNR=5.9						
GDL2	**Guadalupe Moun**	**16.46**	**342**	*e*Pn	**Pn**	**08 16 06.8**	**+0.5**
WBCY	**West Bay, Gran**	**16.49**	**78**	*e*Pn	**Pn**	**08 16 04.1**	**-2.5**
	287nm,1.4s						
346A	**Big Creek Wild**	**16.89**	**27**	*e*Pn	**Pn**	**08 16 08.9**	**-2.6**
	22nm,0.7s						
HSIG		**16.89**	**319**	*e*Pn	**P**	**08 16 13.6**	**+0.1**
	7.4nm,0.8s						
244A	**Avery, Jackson**	**16.96**	**23**	P	**Pn**	**08 16 10.7**	**-1.7**
	baz=206						
Z41A	**Richland Creek**	**17.40**	**16**	*e*Pn	**Pn**	**08 16 16.6**	**-1.3**
	242nm,1.6s						
Z41A	**Richland Creek**	**17.40**	**16**	P	**Pn**	**08 16 16.2**	**-1.6**
	baz=198						
449A	**Pace**	**17.48**	**34**	P	**Pn**	**08 16 16.6**	**-2.3**
	baz=218						
348A	**Jackson**	**17.65**	**31**	*e*Pn	**Pn**	**08 16 19.2**	**-1.8**
	26nm,0.8s						
348A	**Jackson**	**17.65**	**31**	P	**Pn**	**08 16 18.6**	**-2.3**
	baz=215						
145A	**Houston Renfro**	**17.75**	**24**	P	**Pn**	**08 16 19.4**	**-2.9**
	baz=208						
MSTX	**Muleshoe**	**17.76**	**348**	*e*Pn	**Pn**	**08 16 21.9**	**-0.6**
	21nm,1.0s						
MSTX	**Muleshoe**	**17.76**	**348**	P	**Pn**	**08 16 21.5**	**-1.0**
	baz=166,SNR=5.8						
247A	**Quitman**	**17.84**	**28**	P	**Pn**	**08 16 21.1**	**-2.2**
	baz=212						
BRAL	**Brewton**	**17.89**	**34**	P	**Pn**	**08 16 21.2**	**-2.8**
	baz=218						
349A	**Repton**	**17.96**	**33**	P	**Pn**	**08 16 22.1**	**-2.7**
	baz=217						
121A	**Cookes Peak, D**	**18.00**	**334**	P	**P**	**08 16 26.0**	**+0.2**
	baz=150						
WMOK	**Wichita Mounta**	**18.11**	**359**	*e*Pn	**Pn**	**08 16 25.2**	**-1.4**
	7.1nm,0.8s						
WMOK	**Wichita Mounta**	**18.11**	**359**	P	**Pn**	**08 16 25.4**	**-1.3**
	baz=179,SNR=5.5						
146A	**Union**	**18.14**	**26**	*e*Pn	**Pn**	**08 16 24.8**	**-2.2**
	50nm,1.1s						
146A	**Union**	**18.14**	**26**	P	**Pn**	**08 16 24.7**	**-2.2**
	baz=210						
X37A	**Clayton**	**18.17**	**8**	*e*Pn	**Pn**	**08 16 25.4**	**-2.0**
	55nm,1.0s						
Y42A	**Garnett, Star**	**18.23**	**18**	P	**Pn**	**08 16 25.8**	**-2.3**
	baz=201						
248A	**Dixon Mills**	**18.28**	**30**	P	**P**	**08 16 26.4**	**-2.4**
	baz=214						
CCAR	**Cane Creek**	**18.31**	**18**	*e*Pn	**P**	**08 16 27.9**	**-1.1**
	34nm,0.8s						
MIAR	**Mount Ida**	**18.44**	**13**	*e*Pn	**P**	**08 16 28.7**	**-1.9**
	36nm,0.9s						
MIAR	**Mount Ida**	**18.44**	**13**	P	**P**	**08 16 29.1**	**-1.5**
	baz=195						
350A	**Dozier**	**18.47**	**35**	P	**P**	**08 16 28.5**	**-2.3**
	baz=219						
AMTX	**Amarillo**	**18.47**	**352**	*e*Pn	**P**	**08 16 30.6**	**-0.4**
	12nm,0.8s						
AMTX	**Amarillo**	**18.47**	**352**	P	**P**	**08 16 30.6**	**-0.4**
	baz=170						
249A	**Camden**	**18.49**	**32**	P	**P**	**08 16 28.9**	**-2.2**
	baz=216						
147A	**Livingston**	**18.52**	**28**	*e*Pn	Pn	08 16 38.9	+7.3
	122nm,1.6s						
147A	**Livingston**	**18.52**	**28**	P	**P**	**08 16 29.6**	**-1.8**
	baz=212						
Z45A	**Winona**	**18.52**	**24**	*e*Pn	**P**	**08 16 30.0**	**-1.4**
	28nm,0.9s						
Z45A	**Winona**	**18.52**	**24**	P	**P**	**08 16 29.6**	**-1.8**
	baz=207						
X40A	**Basin Creek Fa**	**18.56**	**15**	*e*P	**P**	**08 16 31.1**	**-0.7**
	12nm,0.8s						
X40A	**Basin Creek Fa**	**18.56**	**15**	P	**P**	**08 16 30.6**	**-1.2**
	baz=197						
X41A	**Kaden, Bauxite**	**18.65**	**16**	P	**P**	**08 16 31.1**	**-1.7**
	baz=198,SNR=12						
058A	**Arcadia**	**18.66**	**53**	P	**P**	**08 16 30.2**	**-2.7**
	baz=239						
351A	**Pinckard**	**18.77**	**36**	P	**P**	**08 16 32.1**	**-2.0**
	baz=221						
148A	**Greensboro**	**18.82**	**30**	P	**P**	**08 16 33.1**	**-1.5**
	baz=214						
Y44A	**Strider, Charl**	**18.86**	**22**	P	**P**	**08 16 33.6**	**-1.5**
	baz=205						
250A	**Grady**	**18.94**	**34**	P	**P**	**08 16 33.8**	**-2.2**
	baz=218						
UALR	**University of**	**18.96**	**16**	*e*P	**P**	**08 16 34.9**	**-1.3**
	44nm,1.0s						
857A	**Zephyrhills**	**18.99**	**49**	P	**P**	**08 16 33.9**	**-2.6**
	baz=235						
BNM	**Barren Site**	**18.99**	**339**	*e*P	**Pn**	**08 16 37.8**	**+0.2**
BNM				*e*pP	**sP**	**08 16 45.2**	**-0.9**
Y45A	**Yeager Farm, C**	**19.02**	**23**	P	**P**	**08 16 35.2**	**-1.7**
	baz=207						
W39A	**Magazine**	**19.03**	**12**	*e*P	**Pn**	**08 16 37.9**	**+0.1**
	36nm,0.9s						
W39A	**Magazine**	**19.03**	**12**	P	**P**	**08 16 35.6**	**-1.4**
	baz=194						
Z47A	**Carrollton**	**19.05**	**28**	P	**P**	**08 16 35.2**	**-2.0**
	baz=212						
LENM	**Lemitar**	**19.12**	**338**	*e*P	**Pn**	**08 16 39.6**	**+0.4**
X43A	**Marvell**	**19.14**	**19**	*e*P	**P**	**08 16 37.2**	**-1.0**
	35nm,0.8s						
X43A	**Marvell**	**19.14**	**19**	P	**P**	**08 16 36.7**	**-1.5**
	baz=203						
149A	**Jones**	**19.16**	**31**	P	**P**	**08 16 36.6**	**-1.8**
	baz=216,SNR=6.4						
TUC	**Tucson**	**19.25**	**327**	*e*P	**Pn**	**08 16 41.2**	**+0.7**
	6.0nm,0.9s						
TUC	**Tucson**	**19.25**	**327**	P	**Pn**	**08 16 41.5**	**+1.0**
	baz=142						
Y46A	**Houston**	**19.30**	**25**	P	**P**	**08 16 38.8**	**-1.1**
	baz=209						
352A	**Blakely**	**19.31**	**37**	*e*P	**P**	**08 16 40.1**	**+0.1**
	46nm,1.3s						
352A	**Blakely**	**19.31**	**37**	P	**P**	**08 16 38.1**	**-2.0**
	baz=223						
W41B	**Gary Mavity, V**	**19.36**	**16**	*e*P	**P**	**08 16 39.0**	**-1.6**
	19nm,1.0s						
W41B	**Gary Mavity, V**	**19.36**	**16**	P	**P**	**08 16 39.5**	**-1.1**
	baz=198						
X44A	**Crenshaw**	**19.37**	**21**	P	**P**	**08 16 39.7**	**-0.9**
	baz=205						
LAZ	**Ladron**	**19.39**	**338**	*e*P	**P**	**08 16 40.1**	**-1.1**
LRAL	**Lakeview Retre**	**19.41**	**30**	*e*P	**P**	**08 16 39.4**	**-1.8**
	19nm,1.3s						
LRAL	**Lakeview Retre**	**19.41**	**30**	P	**P**	**08 16 39.5**	**-1.6**
	baz=215,SNR=5.9						
TUL1	**Leonard**	**19.42**	**7**	*e*P	**P**	**08 16 40.0**	**-1.2**
	81nm,1.1s						
TUL1	**Leonard**	**19.42**	**7**	P	**P**	**08 16 40.3**	**-1.0**
	baz=188						
Z48A	**Northport**	**19.43**	**28**	P	**P**	**08 16 40.6**	**-0.8**
	baz=213,SNR=8.6						
WHAR	**Wooly Hollow**	**19.46**	**15**	*e*P	**P**	**08 16 40.9**	**-0.8**
	16nm,0.9s						
251A	**Midway**	**19.49**	**35**	P	**P**	**08 16 40.4**	**-1.6**
	baz=220						
150A	**Eclectic**	**19.56**	**33**	P	**P**	**08 16 41.1**	**-1.7**
	baz=218,SNR=7.5						
X45A	**UM Field Stati**	**19.57**	**23**	P	**P**	**08 16 41.9**	**-1.0**
	baz=207						
353A	**Camilla**	**19.63**	**39**	P	**P**	**08 16 42.1**	**-1.5**
	baz=224						
OXF	**Oxford**	**19.64**	**23**	*e*P	**P**	**08 16 41.5**	**-2.2**
	24nm,1.0s						
OXF	**Oxford**	**19.64**	**23**	P	**P**	**08 16 42.5**	**-1.2**
	baz=206						
ANMO	**Albuquerque**	**19.66**	**340**	P	**Pn**	**08 16 45.4**	**-0.1**
	0.1nm,0.3s,baz=144,slow=10,SNR=8.7						
ANMO	**Albuquerque**	**19.66**	**340**	*e*P	**Pn**	**08 16 44.9**	**-0.7**
	5.3nm,0.8s						
ANMO	**Albuquerque**	**19.66**	**340**	P	**Pn**	**08 16 44.9**	**-0.7**
	baz=157						
Y47A	**UCPARC, Winfie**	**19.74**	**27**	P	**P**	**08 16 43.4**	**-1.4**
	baz=211						
U32A	**Winter Ranch,**	**19.75**	**359**	*e*P	**P**	**08 16 44.6**	**-0.2**
	50nm,0.9s						
Z49A	**Columbiana**	**19.77**	**31**	P	**P**	**08 16 43.7**	**-1.4**
	baz=216,SNR=8.6						
060A	**Indiantown**	**19.77**	**55**	*e*P	**P**	**08 16 44.0**	**-1.1**
	472nm,1.5s						
252A	**Lumpkin**	**19.80**	**37**	P	**P**	**08 16 43.7**	**-1.7**
	baz=222						
151A	**Opelika**	**19.86**	**34**	P	**P**	**08 16 45.1**	**-1.0**
	baz=220,SNR=14						
556A	**Lake Butler**	**19.89**	**45**	P	**P**	**08 16 44.7**	**-1.8**
	baz=231						
V41A	**Mountainview**	**19.96**	**15**	P	**P**	**08 16 46.7**	**-0.4**
	baz=198						
X46A	**Booneville**	**20.00**	**24**	P	**P**	**08 16 47.0**	**-0.6**
	baz=209,SNR=7.3						
Y48A	**Jasper**	**20.05**	**28**	P	**P**	**08 16 47.2**	**-1.0**
	baz=213						
HHAR	**Hobbs**	**20.05**	**11**	*e*P	**P**	**08 16 48.5**	**+0.3**
	26nm,0.9s						
TIGA	**Tifton**	**20.08**	**40**	P	**P**	**08 16 47.2**	**-1.3**
	baz=226						
214A	**Organ Pipe Nat**	**20.11**	**322**	P	Pn	08 16 51.4	+0.7
	baz=136						
HBAR	**Harrisburg**	**20.16**	**19**	*e*P	**P**	**08 16 48.8**	**-0.5**
	78nm,1.3s						
V42A	**Cord**	**20.18**	**17**	P	**P**	**08 16 48.4**	**-1.2**
	baz=200						
X47A	**Russelville**	**20.26**	**26**	P	**P**	**08 16 48.5**	**-2.0**
	baz=210						
W45A	**Hickory Valley**	**20.30**	**22**	P	**P**	**08 16 49.5**	**-1.4**
	baz=206						
152A	**Waverly Hall**	**20.31**	**35**	*e*P	**P**	**08 16 49.4**	**-1.5**
	14nm,0.7s						
152A	**Waverly Hall**	**20.31**	**35**	P	**P**	**08 16 49.5**	**-1.5**
	baz=221,SNR=6.1						
U40A	**Yellville**	**20.34**	**13**	P	**P**	**08 16 49.9**	**-1.4**
	baz=196,SNR=8.7						
Y49A	**Blount Mountai**	**20.36**	**30**	*e*P	**P**	**08 16 50.5**	**-1.1**
	16nm,0.8s						
Y49A	**Blount Mountai**	**20.36**	**30**	P	**P**	**08 16 50.3**	**-1.3**
	baz=215						
557A	**Orange Park**	**20.36**	**46**	P	**P**	**08 16 49.2**	**-2.4**
	baz=232						
U41A	**Viola**	**20.55**	**15**	P	**P**	**08 16 52.3**	**-1.3**
	baz=198						
Z51A	**Franklin**	**20.55**	**33**	P	**P**	**08 16 51.7**	**-2.0**
	baz=219						
X48A	**Hartselle**	**20.56**	**28**	*e*P	**P**	**08 16 52.3**	**-1.4**
	18nm,1.0s						
X48A	**Hartselle**	**20.56**	**28**	P	**P**	**08 16 51.9**	**-1.8**
	baz=213						
254A	**Abbeville**	**20.61**	**39**	P	**P**	**08 16 52.5**	**-1.8**
	baz=225						
X18A	**Snowflake**	**20.64**	**332**	*e*P	Pn	08 16 56.6	-0.6
	10nm,0.9s						
Y50A	**Piedmont**	**20.72**	**31**	P	**P**	**08 16 53.7**	**-1.8**
	baz=216,SNR=6.7						
U42A	**Revenden**	**20.74**	**17**	P	**P**	**08 16 54.2**	**-1.3**
	baz=200						
153A	**Fort Valley**	**20.79**	**37**	P	**P**	**08 16 54.8**	**-1.4**
	baz=223						
Z52A	**Williamson**	**20.86**	**35**	P	**P**	**08 16 55.7**	**-1.3**
	baz=221,SNR=5.9						
X49A	**Woodville**	**20.94**	**29**	P	**P**	**08 16 56.4**	**-1.4**
	baz=214						
W47A	**Westpoint**	**21.00**	**26**	P	**P**	**08 16 56.6**	**-1.9**
	baz=210						
Y51A	**Rockmart**	**21.07**	**32**	P	**P**	**08 16 57.5**	**-1.7**
	baz=218,SNR=11						
255A	**Hazlehurst**	**21.10**	**41**	P	**P**	**08 16 58.3**	**-1.2**
	baz=227						
T25A	**Trinidad**	**21.16**	**347**	*e*P	**P**	**08 17 02.0**	**+1.6**
	31nm,1.1s						
T25A	**Trinidad**	**21.16**	**347**	P	**P**	**08 17 00.4**	**0.0**
	baz=164,SNR=8.5						
W48A	**Pulaski**	**21.19**	**27**	P	**P**	**08 16 58.7**	**-1.7**
	baz=212						
154A	**Montrose**	**21.19**	**38**	*e*P	**P**	**08 16 59.5**	**-1.1**
	45nm,0.8s						
154A	**Montrose**	**21.19**	**38**	P	**P**	**08 16 58.7**	**-1.8**
	baz=224						
X50B	**Fort Payne**	**21.22**	**30**	P	**P**	**08 16 58.5**	**-2.3**
	baz=216,SNR=5.6						
X16A	**Lo Mia Camp, P**	**21.25**	**329**	*e*P	**P**	**08 17 03.5**	**+2.2**
	13nm,0.8s						
T41A	**Mountain View**	**21.25**	**15**	P	**P**	**08 16 59.5**	**-1.7**
	baz=198						
V46A	**Holladay**	**21.27**	**24**	P	**P**	**08 16 59.2**	**-2.2**
	baz=208,SNR=5.5						
Z53A	**Monticello**	**21.40**	**36**	P	**P**	**08 17 00.7**	**-2.1**
	baz=222,SNR=11						
T42A	**Van Buren**	**21.41**	**16**	*e*P	**P**	**08 17 01.9**	**-1.0**
	25nm,0.8s						
T42A	**Van Buren**	**21.41**	**16**	P	**P**	**08 17 01.8**	**-1.0**
	baz=200						
W49A	**Belvidere**	**21.47**	**28**	P	**P**	**08 17 01.7**	**-1.8**
	baz=214,SNR=6.0						
U45A	**Rockin P Farm,**	**21.52**	**22**	P	**P**	**08 17 03.1**	**-0.9**
	baz=206						
V47A	**Nunnelly**	**21.53**	**25**	P	**P**	**08 17 02.0**	**-2.1**
	baz=210,SNR=6.5						
GOGA	**Godfrey**	**21.56**	**36**	*e*P	**P**	**08 17 03.1**	**-1.3**
	35nm,0.7s						
GOGA	**Godfrey**	**21.56**	**36**	P	**P**	**08 17 02.6**	**-1.9**
	baz=222,SNR=12						
Y52A	**Lilburn**	**21.57**	**34**	*e*P	**P**	**08 17 03.4**	**-1.2**
	49nm,0.7s						
Y52A	**Lilburn**	**21.57**	**34**	P	**P**	**08 17 02.6**	**-2.0**
	baz=220,SNR=23						
155A	**Kite**	**21.58**	**39**	P

S22A 4UR Ranch, Cre 22.35 342 eP P 08 17 14.9 +1.6
4.7nm,0.9s
S22A 4UR Ranch, Cre 22.35 342 P P 08 17 14.3 +1.0
baz=159,SNR=8.8
Y12C Blythe 22.40 323 P P 08 17 15.6 +2.2
baz=136
MVCO Mesa Verde 22.40 339 eP P 08 17 15.2 +1.4
14nm,0.9s
MVCO Mesa Verde 22.40 339 P P 08 17 14.3 +0.6
baz=154,SNR=9.5
T46A Princeton 22.45 23 P P 08 17 12.9 -1.1
baz=207
V50A Pikevile 22.46 30 P P 08 17 12.4 -1.8
baz=215,SNR=7.7
X53A Estanollee 22.46 34 P P 08 17 12.4 -1.7
baz=221,SNR=15
KSU1 Kansas State U 22.52 4 eP P 08 17 20.5 +5.8
23nm,0.9s
KSU1 Kansas State U 22.52 4 P P 08 17 14.5 -0.2
baz=185
U48A Cassie Pea, Po 22.52 26 P P 08 17 13.3 -1.5
baz=211,SNR=5.8
R41A Rosebud 22.54 15 P P 08 17 13.5 -1.4
baz=198
CPCT Cooper Cave 22.56 31 eP P 08 17 14.3 -1.0
26nm,0.8s
PDMCI Parker Dam,Lak 22.58 324 P P 08 17 17.3 +1.8
baz=138
W52A Murphy 22.58 32 eP P 08 17 13.9 -1.6
49nm,0.8s
W52A Murphy 22.58 32 P P 08 17 13.9 -1.6
baz=219,SNR=21
IKP In-Ko-Pah, Jac 22.61 318 P P 08 17 18.2 +2.4
baz=131
SWSC Sam W. Stewart 22.61 319 P P 08 17 18.1 +2.4
baz=132
KSCO Kaye Shedlock' 22.66 352 eP P 08 17 16.6 +0.3
17nm,0.8s
KSCO Kaye Shedlock' 22.66 352 P P 08 17 16.0 -0.4
baz=170
R42A Luebbering 22.67 16 P P 08 17 15.1 -1.3
baz=199
S45A Carrier Mills 22.78 21 P P 08 17 16.0 -1.4
baz=205
HODGE Hodges 22.84 37 eP P 08 17 16.6 -1.6
U49A Red Boiling Sp 22.85 27 P P 08 17 16.7 -1.5
baz=213,SNR=6.9
BC3 Big Chuckawall 22.88 321 P P 08 17 20.6 +1.9
baz=134
R43A Red Bud 22.90 17 P P 08 17 17.3 -1.5
baz=201
V51A Loudon 22.93 31 eP P 08 17 17.5 -1.6
23nm,0.9s
V51A Loudon 22.93 31 P P 08 17 17.2 -1.9
baz=217,SNR=6.9
MONP2 Monument Peak 22.96 318 P P 08 17 21.5 +1.8
baz=131
BG3 Lake Jocassee 23.03 34 eP P 08 17 19.5 -0.6
19nm,0.8s
W13A Hualapai Mount 23.04 326 eP P 08 17 21.9 +1.5
5.8nm,0.6s
W53A Cullowhee 23.04 34 P P 08 17 18.9 -1.4
baz=220,SNR=9.6
IRM Iron Mountain 23.05 323 P P 08 17 22.0 +1.6
baz=136,SNR=7.2
Q24A Divide 23.07 347 eP P 08 17 22.6 +1.7
8.1nm,1.1s
Q24A Divide 23.07 347 P P 08 17 21.2 +0.3
baz=164
T48A Bowling Green 23.09 25 P P 08 17 18.8 -2.0
baz=211
TKL Tuckaleechee C 23.10 32 P P 08 17 19.2 -1.7
14nm,0.8s,baz=196,slow=12,SNR=14
R44A Waltonville 23.13 19 P P 08 17 20.1 -1.0
baz=203
U50A Jamestown 23.19 29 P P 08 17 20.1 -1.7
baz=215
Q41A Truxton 23.20 14 P P 08 17 20.3 -1.5
baz=198
PV01 Paradox Valley 23.25 340 eP P 08 17 24.0 +1.3
U15A North Rim 23.28 331 eP P 08 17 24.8 +1.8
10nm,1.0s
S47A Hartford 23.32 24 P P 08 17 21.9 -1.1
baz=209
Q42A Golden Eagle 23.33 16 P P 08 17 22.3 -0.8
baz=199
NHSC New Hope 23.33 42 eP P 08 17 23.6 +0.4
99nm,1.0s
NHSC New Hope 23.33 42 P P 08 17 21.3 -1.8
baz=229,SNR=9.3
V52A Sevierville 23.34 32 eP P 08 17 22.8 -0.4
27nm,1.2s
V52A Sevierville 23.34 32 P P 08 17 22.3 -0.9
baz=218,SNR=5.3
USIN University of 23.35 22 eP P 08 17 23.9 +0.5
41nm,1.1s
PV13 Radium Mtn., P 23.36 339 eP P 08 17 25.1 +1.4
7.1nm,0.8s
PV02 Paradox Valley 23.38 339 eP P 08 17 25.4 +1.6
8.7nm,0.9s
R45A Skylar, Fairfi 23.43 21 P P 08 17 23.2 -0.9
baz=205
BELC Belle Mtn. Jos 23.44 321 P P 08 17 25.9 +1.4
baz=134
T49A Edmonton 23.45 27 P P 08 17 22.7 -1.6
baz=212
PV03 Paradox Valley 23.46 339 eP P 08 17 25.9 +1.3
PV03 epP sP 08 17 35.5 +1.3
JSC Jenkinsville 23.46 38 eP P 08 17 23.4 -1.0
23nm,0.9s
PFO Pinyon Flats O 23.46 320 P P 08 17 27.6 +2.9
1.8nm,0.8s,baz=110,slow=7.8,SNR=3.9
PFO Pinyon Flats O 23.46 320 eP P 08 17 26.7 +2.1
PV12 Saucer Basin, 23.50 339 eP P 08 17 27.0 +2.0
25nm,1.4s
PV11 David Mesa, Pa 23.50 339 eP P 08 17 26.8 +1.7
5.8nm,0.8s
PAULI Pauline 23.52 36 eP P 08 17 24.4 -0.7
16nm,0.9s
U51A La Follette 23.55 30 P P 08 17 23.9 -1.5
baz=217
Q43A New Douglas 23.59 17 P P 08 17 24.1 -1.5
baz=201
V53A Saluda 23.61 33 eP P 08 17 25.8 -0.1
17nm,0.9s
V53A Saluda 23.61 33 P P 08 17 24.0 -1.9
baz=220,SNR=8.9
PV14 Lion Creek, Pa 23.62 339 eP P 08 17 27.7 +1.4
6.5nm,1.2s
R46A Gibon Southern 23.63 22 P P 08 17 24.3 -1.7
baz=207
T50A Nancy 23.69 28 P P 08 17 24.7 -2.0
baz=214,SNR=5.7
S48A Wiedeman Farm, 23.70 25 P P 08 17 25.0 -1.8
baz=211
SMCO Snowmass 23.73 343 eP P 08 17 29.6 +2.1
12nm,1.2s
Q44A Meyer Farm, Va 23.75 19 eP P 08 17 32.8 +5.6
42nm,0.8s
Q44A Meyer Farm, Va 23.75 19 P P 08 17 26.1 -1.2
baz=203
PV21 Cone Mtn., Par 23.78 339 eP P 08 17 28.9 +1.2
18nm,1.4s
GMRC Granite Mounta 23.79 323 P P 08 17 29.5 +1.7
baz=136,SNR=5.5
U52A Thorn Hill 23.88 31 P P 08 17 27.3 -1.2
baz=218,SNR=6.1
TZTN Tazewell 23.91 31 eP P 08 17 28.8 0.0
17nm,1.1s
TZTN Tazewell 23.91 31 P P 08 17 28.2 -0.6
baz=217
MURC Murrieta 23.92 319 P P 08 17 30.9 +2.0
baz=131
P41A Barry, Barry 23.92 14 P P 08 17 28.0 -0.8
baz=198
ISCO Idaho Springs 23.98 346 eP P 08 17 30.8 +1.1
17nm,1.2s
ISCO Idaho Springs 23.98 346 P P 08 17 29.7 0.0
baz=163,SNR=9.6
KNB Kanab 24.01 331 eP P 08 17 32.8 +2.9
12nm,1.0s
P42A Winchester 24.02 16 eP P 08 17 28.9 -0.8
25nm,1.0s
P42A Winchester 24.02 16 P P 08 17 28.8 -0.9
baz=199
KMSC Kings Mountain 24.03 36 eP P 08 17 29.2 -0.7
24nm,0.9s
KMSC Kings Mountain 24.03 36 P P 08 17 28.3 -1.6
baz=224,SNR=8.8
T51A Gray 24.06 30 P P 08 17 28.9 -1.2
baz=216
R47A Wooly Knot Far 24.07 24 P P 08 17 29.4 -0.8
baz=209,SNR=9.5
WCI Wyandotte Cave 24.10 24 eP P 08 17 30.0 -0.5
35nm,1.1s
WCI Wyandotte Cave 24.10 24 P P 08 17 29.0 -1.5
baz=210
PKCU Pink Cliffs 24.12 332 eP P 08 17 34.1 +3.0
17nm,1.1s
S49A Springfield 24.13 26 P P 08 17 29.4 -1.3
baz=212
LCMT Little Creek M 24.20 330 eP P 08 17 34.5 +2.8
4.4nm,1.1s
U53A Fall Branch 24.26 33 P P 08 17 30.5 -1.6
baz=220
P43A Skaggs, Pawnee 24.29 17 P P 08 17 31.1 -1.1
baz=201
O41A Passleys Farm, 24.38 14 P P 08 17 31.8 -1.3
baz=198
P44A Sand Creek, Wi 24.39 19 P P 08 17 32.1 -1.1
baz=203
TUQ Turquoise Moun 24.41 324 P P 08 17 35.3 +1.8
baz=136
R48A Northridge Ran 24.41 25 P P 08 17 32.2 -1.2
baz=210
S50A Richmond 24.43 28 P P 08 17 31.7 -1.8
baz=214,SNR=6.9
OGNE Ogallala 24.50 353 eP P 08 17 35.1 +0.9
OGNE epP sP 08 17 44.2 +0.3
OGNE Ogallala 24.50 353 P P 08 17 34.5 +0.3
baz=172
MTPU Mount Pierson 24.57 333 eP P 08 17 37.4 +2.2
25nm,0.8s
CIS Catalina Islan 24.58 317 P P 08 17 37.2 +2.3
baz=128
SZCU Shurtz Canyon 24.60 331 eP P 08 17 38.9 +3.5
5.0nm,1.0s
R49A Shelbyville 24.61 26 P P 08 17 33.7 -1.5
baz=212
BFSC Mount Baldy Ra 24.62 319 P P 08 17 37.6 +2.1
baz=131,SNR=5.7
T52A Hallie 24.63 31 P P 08 17 34.4 -1.0
baz=218
O42A Bath 24.66 16 P P 08 17 35.1 -0.5
baz=200
Q47A Bedord North L 24.67 23 P P 08 17 34.4 -1.2
baz=208
CCUT Cedar City 24.69 331 eP P 08 17 38.6 +2.4
4.8nm,1.1s
P45A Graceland, Par 24.73 20 P P 08 17 35.0 -1.2
baz=205
S51A Beattyville 24.77 29 eP P 08 17 36.0 -0.6
17nm,0.8s
S51A Beattyville 24.77 29 P P 08 17 35.2 -1.4
baz=216
SHPR Sheep Range 24.77 327 eP P 08 17 39.2 +2.3
4.6nm,1.1s
SRU San Rafael Swe 24.82 337 eP P 08 17 38.8 +1.5
11nm,1.0s
GSC Goldstone, Bar 24.82 322 eP P 08 17 39.4 +2.2
8.2nm,1.4s
GSC epP sP 08 17 49.3 +2.3
GSC Goldstone, Bar 24.82 322 P P 08 17 38.7 +1.5
baz=134
Q16A Castle Valley 24.89 336 eP P 08 17 39.4 +1.4
10.0nm,0.8s
Q48A North Vernon 24.93 24 P P 08 17 36.6 -1.4
baz=210
MSU Marysvale 24.96 334 eP P 08 17 41.1 +2.5
R50A Paris 24.96 27 P P 08 17 36.8 -1.6
baz=214
N40A Mertquake, Sal 24.96 12 P P 08 17 37.5 -0.8
baz=196
O20A White River Ci 24.98 342 eP P 08 17 40.5 +1.8
10nm,1.0s
O20A White River Ci 24.98 342 P P 08 17 39.7 +0.9
baz=157,SNR=5.7
S52A Salyersville 25.04 30 P P 08 17 38.1 -0.9
baz=217,SNR=6.7
N23A Red Feather La 25.10 347 eP P 08 17 40.6 +0.8
8.2nm,0.9s
N23A Red Feather La 25.10 347 P P 08 17 39.5 -0.3
baz=163
HDIL Hopedale 25.20 17 P P 08 17 39.6 -0.9
baz=201
P47A Martinsville 25.21 23 P P 08 17 39.4 -1.2
baz=208
P17A Butcher Ranch, 25.21 337 eP P 08 17 42.7 +1.8
7.7nm,1.0s
TMUT Trail Mountain 25.24 336 eP P 08 17 43.0 +1.8
14nm,1.3s
EDW2 Edwards Air Fo 25.25 320 P P 08 17 42.8 +1.7
baz=132
N42A Yates City 25.27 15 P P 08 17 40.1 -0.9
baz=199
R51A Hillsboro 25.31 28 P P 08 17 40.2 -1.2
baz=215,SNR=9.4
Q49A Aurora 25.33 25 P P 08 17 40.5 -1.1
baz=212
O45A Potomac 25.39 19 P P 08 17 41.6 -0.6
baz=204
M39A Webster 25.42 11 P P 08 17 42.1 -0.4
baz=194
LRMC Laurel Mtn Rad 25.46 321 P P 08 17 44.8 +1.7
baz=133
P48A Milroy 25.50 24 P P 08 17 41.9 -1.3
baz=210
Q50A Georgetown 25.58 27 P P 08 17 42.7 -1.3
baz=214,SNR=7.2
N43A Stutzman Famil 25.59 16 P P 08 17 42.9 -1.1
baz=201
SCIA State Center 25.66 9 P P 08 17 44.3 -0.4
baz=192
FURC Furnace Creek, 25.68 324 P P 08 17 46.4 +1.6
baz=136
TPNV Topopah Spring 25.69 326 eP P 08 17 49.5 +4.3
8.0nm,0.9s
TPNV Topopah Spring 25.69 326 P P 08 17 46.7 +1.5
baz=138,SNR=6.0
PSUT Pine Spring 25.71 331 eP P 08 17 49.0 +3.5
4.9nm,0.9s
MPMC Manual Prospec 25.75 323 P P 08 17 47.1 +1.4
baz=134
N44A Piper City 25.76 18 P P 08 17 45.0 -0.5
baz=203
R52A Catlettsburg 25.77 30 P P 08 17 44.9 -0.7
baz=217
P49A Miami Univ. Ec 25.85 25 P P 08 17 45.1 -1.3
baz=211,SNR=10
ARVC Arvin 25.93 319 P P 08 17 48.7 +1.5
baz=130
Q51A Peebles 26.01 28 eP P 08 17 47.1 -0.7
39nm,0.8s
Q51A Peebles 26.01 28 P P 08 17 46.8 -1.0
baz=215,SNR=7.6
MPU Maple Canyon 26.02 337 eP P 08 17 49.8 +1.6
3.8nm,0.9s
BLA Blacksburg 26.04 34 P P 08 17 47.0 -1.2
baz=222
ISA Isabella, Lake 26.07 321 P P 08 17 50.3 +1.8
baz=132
L39A Vinton 26.08 11 P P 08 17 47.0 -1.5
baz=194
R53A Hurricane 26.10 31 P P 08 17 47.6 -1.1
baz=218,SNR=8.3
M43A Waltham Townsh 26.12 16 P P 08 17 47.0 -1.7
baz=201
NLU North Lily Min 26.14 336 eP P 08 17 51.1 +1.8
7.7nm,1.0s
CNNC Cliffs of the 26.16 41 eP P 08 17 48.4 -0.8
41nm,0.9s
CNNC Cliffs of the 26.16 41 P P 08 17 47.5 -1.7
baz=230,SNR=7.0
P50A Jamestown 26.29 26 P P 08 17 48.8 -1.6
baz=213
O48A Farmland 26.30 23 P P 08 17 48.8 -1.6
baz=210,SNR=6.6
CWC Cottonwood Cre 26.36 322 P P 08 17 52.6 +1.4
baz=134
R11A Troy Canyon, C 26.40 329 P P 08 17 52.9 +1.3
baz=141
Q52A Bidwell 26.45 29 P P 08 17 50.6 -1.2
baz=217,SNR=7.6
R54A Victor 26.46 32 P P 08 17 50.8 -1.2
baz=220
P51A Williamsport 26.51 27 eP P 08 17 51.6 -0.8
37nm,0.9s
P51A Williamsport 26.51 27 P P 08 17 50.9 -1.5
baz=215,SNR=7.5
VES Vestal, Richgr 26.56 320 P P 08 17 55.2 +2.4
baz=131
O49A Covington 26.56 25 eP P 08 17 52.2 -0.6
29nm,0.9s
O49A Covington 26.56 25 P P 08 17 51.4 -1.4
baz=211
DUG Dugway, Tooele 26.64 335 eP P 08 17 55.7 +2.0
4.2nm,0.8s
DUG Dugway, Tooele 26.64 335 P P 08 17 55.1 +1.4
baz=148,SNR=5.3
N47A Urbana 26.64 22 P P 08 17 51.9 -1.6
baz=208
K39A Oelwein 26.66 11 P P 08 17 53.0 -0.7
baz=194
SMMC Simmler 26.79 318 P P 08 17 56.5 +1.5
baz=129
O50A Cable 26.82 26 P P 08 17 53.8 -1.3
baz=213
N48A Decatur 26.87 23 P P 08 17 54.6 -0.9
baz=209
K22A Casper 26.90 347 eP P 08 17 57.0 +0.9
11nm,0.9s
K22A Casper 26.90 347 P P 08 17 56.6 +0.5
baz=163,SNR=6.5
TCUT Toone Canyon 26.90 338 eP P 08 17 58.0 +1.9
8.0nm,0.9s
P52A Corning 27.05 29 P P 08 17 55.9 -1.3
baz=216
ECSD EROS Data Cent 27.13 3 P P 08 17 58.0 +0.1
baz=184
ACSO Alum Creek Sta 27.16 27 eP P 08 17 57.3 -0.9
53nm,1.3s
ACSO eS S 08 22 36.4 +0.9
ACSO Alum Creek Sta 27.16 27 P P 08 17 56.8 -1.4
baz=214,SNR=5.0
O51A Pataskala 27.25 27 P P 08 17 57.5 -1.5
baz=215
J39A Decorah 27.31 11 P P 08 17 58.8 -0.7
baz=194
BGU Big Grassy Mou 27.35 336 eP P 08 18 02.0 +1.9
8.4nm,1.5s
SPUT South Promonto 27.45 337 eP P 08 18 03.0 +1.9
3.7nm,1.0s
O52A Adamsville 27.57 28 P P 08 18 00.8 -1.1
baz=216
L47A Sherwood 27.78 22 P P 08 18 02.3 -1.5
baz=208
BW06 Boulder Array 27.79 342 eP P 08 18 05.0 +0.9
27nm,1.6s
BW06 Boulder Array 27.79 342 P P 08 18 04.6 +0.5
baz=157,SNR=7.5
PD31 Pinedale Array 27.79 342 eP P 08 18 05.0 +0.9
PDAR Pinedale Array 27.79 342 P P 08 18 04.9 +0.9
2.7nm,0.8s,baz=134,slow=8.5,SNR=22
PDAR LR LR 08 30 03.0
comp=Z,257nm,19.6s,baz=232,slow=39
PDAR Pinedale Array 27.79 342 eP P 08 18 04.3 +0.3
I39A Houston 27.84 11 P P 08 18 03.4 -0.9
baz=194
NV01 Mina Array Sit 27.88 325 eP P 08 18 07.0 +2.1
NVAR Mina Array Bea 27.88 325 P P 08 18 07.4 +2.5
4.0nm,0.9s,baz=150,slow=10,SNR=10.0
HVU Hansel Valley 27.98 337 eP P 08 18 07.4 +1.7
5.5nm,0.9s
ELK Elko 28.13 332 P P 08 18 07.9 +0.7
1.0nm,0.6s,baz=166,slow=8.7,SNR=4.8
SDV Santo Domingo 28.19 102 P P 08 18 09.4 +1.5
3.9nm,0.7s,baz=287,slow=5.1,SNR=7.8
SDV Santo Domingo 28.19 102 eP P 08 18 09.6 +1.7
SDV epP sP 08 18 19.0 +1.4
REDW Red Top Meadow 28.72 341 eP P 08 18 13.7 +1.3
17nm,1.5s
SNOW Snow King Moun 28.78 341 eP P 08 18 14.6 +1.6
21nm,1.5s
J46A Howard City 28.85 20 P P 08 18 12.3 -1.0
baz=206
TPAW Teton Pass 28.86 341 eP P 08 18 16.7 +3.0
10nm,1.3s
LOHW Long Hollow 28.87 342 eP P 08 18 15.1 +1.4
4.9nm,0.9s
SPMN Marine on St. 28.97 8 P P 08 18 13.0 -1.3
baz=191
FXWY Fox Creek 29.02 341 eP P 08 18 16.3 +1.2
3.3nm,0.9s
MOOW Moose Ponds 29.04 342 eP P 08 18 15.8 +0.6
3.8nm,0.8s
IMW Indian Meadow 29.23 341 eP P 08 18 17.4 +0.5
3.8nm,1.0s
RUBR Rubicon Trail 29.35 324 eP P 08 18 21.0 +3.0
8.2nm,1.0s
F37A Hinrichs Farm, 29.49 8 P P 08 18 18.1 -0.8
baz=191
G41A Antigo 29.61 13 P P 08 18 18.6 -1.5
baz=198
RLMT Red Lodge 29.89 345 eP P 08 18 23.7 +1.0
10nm,1.1s
RLMT Red Lodge 29.89 345 P P 08 18 22.9 +0.2
baz=159,SNR=7.9
SSPA Standing Stone 29.89 32 eP P 08 18 23.5 +0.9
18nm,0.7s
BEKR Beckworth 30.03 325 eP P 08 18 26.4 +2.4
3.2nm,0.9s
F40A Park Falls 30.09 12 P P 08 18 23.0 -1.3
baz=196
HLID Hailey 30.13 337 P P 08 18 24.9 +0.1
baz=148
MCMT McKenzie Canyo 30.67 340 eP P 08 18 32.2 +2.5
LAO LASA Array 30.73 350 P P 08 18 29.5 -0.4
baz=165
BOZ Bozeman (W) 30.98 342 P P 08 18 33.2 +0.9
baz=155
WVOR Wild Horse Val 31.03 330 eP P 08 18 34.4 +1.6
9.3nm,1.3s
DLMT Dillon 31.06 341 eP P 08 18 35.1 +2.0
6.2nm,0.9s
MDND Maddock 31.22 359 P P 08 18 33.5 -0.6
baz=178
J08A Circle Bar Ran 31.67 332 eP P 08 18 39.9 +1.5
8.9nm,0.8s
DGMT Dagmar 32.17 353 eP P 08 18 43.3 +0.7
16nm,1.2s
DGMT Dagmar 32.17 353 P P 08 18 41.6 -1.0
baz=170
I07A Izee 32.70 331 eP P 08 18 48.5 +1.2
5.2nm,1.0s
F10A Beach Ranch, E 33.24 336 eP P 08 18 53.2 +1.1
5.0nm,0.9s
G08A Pilot Rock 33.40 333 eP P 08 18 54.6 +1.1
3.8nm,0.8s
ULM Lac du Bonnet 33.67 3 P P 08 18 54.1 -1.5
2.1nm,0.8s,baz=64,slow=6.3,SNR=3.5
G05D Wamic, OR 34.42 331 P P 08 19 02.8 +0.5
baz=139
H04A Detroit Lake 34.42 330 eP P 08 19 03.6 +1.3
14nm,1.1s
HAWA Hanford 34.52 334 eP P 08 19 07.6 +4.5
2.2nm,0.8s
H04D Lebanon 34.58 329 P P 08 19 03.9 +0.4
baz=136
F05D White Salmon 34.97 332 P P 08 19 07.4 +0.4
baz=139
G03D McMinnville, O 35.33 329 P P 08 19 11.3 +1.2
baz=136
NNA Nana 35.53 142 LR LR 08 30 48.5
comp=Z,57nm,20.8s,baz=323,slow=31
LON Longmire 35.79 332 eP P 08 19 15.4 +1.3
4.2nm,0.9s
B08A Colville Reser 36.02 336 eP P 08 19 16.6 +0.5
8.1nm,1.6s
D05A Enumclaw 36.20 333 eP P 08 19 19.2 +1.8
15nm,0.9s
D03D Eldon 36.95 332 P P 08 19 24.6 +0.7
baz=138,SNR=5.9
PKME Peaks-Kenny Pk 37.64 34 P P 08 19 27.9 -1.9
baz=230
FFC Flin Flon 38.19 357 eP P 08 19 34.2 0.0
8.4nm,0.8s
FFC epP pP 08 19 40.6 -0.6
LPAZ La Paz 44.28 136 LR LR 08 36 56.5
comp=Z,52nm,21.4s,baz=294,slow=33
SCHQ Schefferville 45.30 25 P P 08 20 31.2 -1.3
4.4nm,0.9s,baz=212,slow=4.6,SNR=8.1
SCHQ LR LR 08 42 30.1
comp=Z,78nm,19.5s,baz=306,slow=40
YKA Yellowknife Ar 47.26 350 P P 08 20 47.1 -0.6

1.9nm,0.7s,baz=158,slow=7.2,SNR=28
YKB5 Yellowknife Ar 47.26 350 *e*P **P 08 20 46.7 -1.1**
INK Inuvik 56.30 345 *e*P **P 08 21 55.5 +0.4**
INK *e*pP **sP 08 22 04.7 -0.4**
IL1 Eielson Array 58.08 338 *e*P **P 08 22 08.1 +0.4**
ILAR Eielson Array 58.08 338 P **P 08 22 07.5 -0.2**
2.2nm,1.0s,baz=134,slow=5.1,SNR=14
ILAR LR LR 08 48 30.2
comp=Z,99nm,19.0s,baz=148,slow=38
POKR Poker Flat Res 58.46 338 P **P 08 22 10.5 0.0**
baz=122
PLCA Paso Flores 62.62 156 P P 08 22 45.1 +5.9
1.8nm,0.9s,baz=13,slow=8.9,SNR=5.4
PLCA LR LR 08 44 07.1
comp=Z,31nm,18.8s,baz=282,slow=30
NOA NORSAR Array B 84.83 27 LR LR 09 02 50.2
comp=Z,11nm,20.1s,baz=280,slow=36
PETK Petropavlovsk- 84.96 324 P **P 08 24 51.2 +1.2**
2.0nm,0.9s,baz=94,slow=7.0,SNR=3.2
GERES GERESS Array B 91.52 38 LR LR 09 07 25.0
comp=Z,45nm,19.3s,baz=294,slow=36
TORD Torodi Ar. Bea 95.80 75 LR LR 09 06 10.2
comp=Z,25nm,20.1s,baz=300,slow=34
LZH Lanzhou 123.54 338 *e*PKP **PKPdf 08 31 15.8 +3.0**
LZH sPKP 08 31 31.0
KSH Kashi 123.98 5 PKP **PKPdf 08 31 17.5 +4.0**
KSH sPKP 08 31 30.1
KSH PP **PP 08 33 01.8 +6.0**
KSH AMB AMB
comp=Z,490nm,5.8s

KRSC 20 08:26:58.6±1.0, 50°28N×157°08E, h30km±13km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.74**	**304**	*e*P	Pn	08 27 12.8	-0.1
SKR				*e*S	Sn	08 27 22.9	-0.2
PAU	**Pauzhetka**	**1.20**	**352**	*e*P	Pb	08 27 20.7	0.0
PAU				*e*S	Sb	08 27 36.6	+0.7
KDTR	**Khodutka, Kamc**	**1.66**	**22**	*e*P	Pb	08 27 27.1	-1.3
KDTR				*e*S	Sb	08 27 47.5	-1.4
MTVR	**Mutnovka**	**2.31**	**17**	*e*P	Pn	08 27 37.0	+2.3
MTVR				*e*S	Sb	08 28 05.6	-2.3
RUS	**Russkaya**	**2.34**	**22**	*e*P	Pn	08 27 36.7	+1.8
RUS				*e*S	Sn	08 28 05.1	+2.6
PET	**Petropavlovsk**	**2.92**	**19**	*e*P	Pn	08 27 45.9	+3.0
DALK	**Dalny**	**2.95**	**20**	*e*P	Pn	08 27 45.8	+2.6
DALK				*e*S	Sn	08 28 21.4	+3.9
UGLR	**Uglovaya**	**3.13**	**20**	*e*P	Pb	08 27 50.3	-3.2
AVH	**Avacha**	**3.16**	**18**	*e*P	Pn	08 27 50.0	+3.7
KOK	**Koryaka**	**3.17**	**17**	*e*P	Pn	08 27 50.2	+3.8
SMAR	**Somma**	**3.17**	**19**	*e*P	Pb	08 27 50.7	-3.7
KRX	**Arik**	**3.23**	**17**	*e*P	Pb	08 27 51.7	-3.7
GNL	**Ganaly**	**3.46**	**8**	*e*P	Pn	08 27 54.0	+3.5

*IDC **20** 08:28:09.4±1.5, 76°.01N×6°.59E, h0km, mb3.1/3,mb1 3.5/5, mb1mx3.2/38, mbtmp3.3/5, ML3.0/2, Error ellipse: s-maj=61.2km s-min=15.6km az=48.0*
*ISCJB **20** 08:28:10.1±0.7, 76°.21N±0°.05×7°.8E±0°.2, h10km, mb3.1/3, Error ellipse: s-maj=8.5km s-min=7.1km az=11.0*
*BER **20** 08:28:17.6±1.6, 76°.26N×8°.63E, h12km±26km, ML2.5, Confirmed Earthquake*
*IEPN **20** 08:28:18.0, 76°.43N×7°.82E, h15km, station ZFI2 has station magnitude of 3.24*

ISC 20 08:28:11.9±0.9, 76°.39N±0°.07×8°.18E±0°.06, h10km, n15, σ1s46/21, mb3.2/3, 2C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	**1.81**	**66**	*e*P	**Pg**	**08 28 45.9**	**-0.7**
HSPB				*e*S	**Sn**	**08 29 06.6**	**+0.6**
SPA0	**Spitsbergen Ar**	**2.55**	**41**	⇑*i*P	**Pb**	**08 28 58.1**	**+0.3**
SPA0				*i* S	**Sb**	**08 29 28.3**	**-0.8**
SPA0	**Spitsbergen Ar**	**2.55**	**41**	*e*P	**Pb**	**08 28 58.1**	**+0.3**
SPA0				*e*S	**Sb**	**08 29 28.3**	**-0.8**
SPA0				IAML		08 29 32.0	
comp=Z,46nm,0.5s							
KBS	**Kingsbay**	**2.68**	**16**	⇑*i*P	**Pb**	**08 28 59.9**	**+0.1**
KBS				*e*S	**Sb**	**08 29 31.5**	**-1.2**
KBS	**Kingsbay**	**2.68**	**16**	*e*P	**Pb**	**08 28 59.4**	**-0.4**
KBS				*e*S	**Sb**	**08 29 30.6**	**-2.1**
KBS				IAML		08 29 34.5	
comp=Z,37nm,0.3s							
BJO	**Bjornoya**	**3.36**	**119**	*e*P	**Pn**	**08 29 04.9**	**+0.6**
HOPEN	**Hopen**	**3.96**	**80**	*e*P	**Pn**	**08 29 15.0**	**+2.5**
HOPEN				*e*S	**Sn**	**08 29 57.6**	**-1.2**
HOPEN				IAML		08 30 00.6	
comp=Z,23nm,0.2s							
DAG	**Danmarks Havn**	**6.23**	**287**	*i* P	**Pn**	**08 29 44.0**	**+0.4**
DAG				*i*		08 29 46.0	
TRO	**Tromso**	**7.46**	**150**	*e*P	**Pn**	**08 30 01.1**	**+0.5**
ARCES	**ARCESS Array B**	**8.51**	**135**	Pn	**Pn**	**08 30 12.9**	**-2.0**
comp=Z,0.6nm,0.3s,baz=322,slow=10.0,SNR=16							
ARCES				Sn	Sn	08 31 38.1	-13
comp=Z,0.6nm,0.3s,baz=344,slow=22,SNR=6.4							
ZFI2	**Zemlya Franca-**	**8.77**	**42**	*e*P	Pn	08 30 22.6	+4.1
comp=Z,2μm,1.0s							
ZFI2				*e*S	**Sn**	**08 31 56.5**	**-0.7**
FINES	**FINESS Array B**	**16.19**	**148**	Pn	**Pn**	**08 31 55.9**	**-3.2**
comp=Z,0.1nm,0.3s,baz=355,slow=9.8,SNR=3.0							
YKA	**Yellowknife Ar**	**36.78**	**319**	P	**P**	**08 35 18.3**	**-0.7**
comp=Z,0.1nm,0.5s,baz=14,slow=8.4,SNR=2.6							
ILAR	**Eielson Array**	**38.21**	**343**	P	**P**	**08 35 32.0**	**+0.9**
comp=Z,0.4nm,0.9s,baz=358,slow=5.7,SNR=3.5							
MKAR	**Makanchi Array**	**41.37**	**91**	P	**P**	**08 35 59.8**	**+2.2**
comp=Z,0.4nm,0.8s,baz=341,slow=3.5,SNR=2.6							

MAN 20 08:35:44.9, 6°.92N×126°.38E, h60km, mb4.3, ML3.1, MS2.9, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.13**	**284**	*e*P	Pn	08 35 54.2	+0.1
MATI				*e*S	Sn	08 36 00.1	-0.5
DMPH	**Davao City--Mi**	**0.88**	**281**	*i* P	Pn	08 36 04.3	+2.9
DMPH				*i* S	Sn	08 36 16.5	+2.9
DDMP	**Don Marcelino,**	**1.05**	**220**	*e*P	Pn	08 36 01.4	-2.2
DDMP				*e*S	Sn	08 36 12.1	-5.3
BUKP	**Musuan**	**1.62**	**306**	*e*P	Pn	08 36 12.2	+0.9
BUKP				*e*S	Sn	08 36 32.5	+1.3

IDC 20 08:36:32.1±3.8, 13°.28S×167°.15E, h236km±38km, mb3.3/9, mb1 3.4/10, mb1mx3.3/38, mbtmp3.8/10, MS3.2/1, Ms1 3.2/1, ms1mx2.7/12, Error ellipse: s-maj=31.1km s-min=19.3km az=134.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.77**	**184**	P	Pn	08 38 36.0	+0.8
0.3nm,0.3s,baz=299,slow=16,SNR=9.3							
STKA	**Stephens Creek**	**29.86**	**227**	P	P	08 42 18.6	+0.9
0.5nm,0.4s,baz=43,slow=9.2,SNR=4.8							
STKA				PcP	PcP	08 45 15.4	+0.7
1.6nm,0.7s,baz=80,slow=3.1,SNR=4.2							
WRA	**Warramunga Arr**	**32.09**	**254**	P	P	08 42 36.4	-1.1
0.3nm,0.7s,baz=84,slow=9.1,SNR=4.0							
ASAR	**Alice Springs**	**33.10**	**247**	P	P	08 42 45.5	-0.8
0.3nm,0.3s,baz=77,slow=9.9,SNR=11							
ASAR				PcP	PcP	08 45 23.9	+0.1
0.2nm,0.5s,baz=44,slow=1.9,SNR=4.6							
MJAR	**Matsushiro Arr**	**56.58**	**332**	P	P	08 45 49.9	-0.5
0.6nm,0.5s,baz=175,slow=8.2,SNR=4.3							
JNU	**Nakatsue**	**57.69**	**324**	LR	LR	09 07 07.7	
comp=Z,20nm,19.2s,baz=184,slow=32							
PETK	**Petropavlovsk-**	**66.62**	**354**	P	P	08 46 58.0	+0.9
2.0nm,0.9s,baz=157,slow=7.7,SNR=3.2							
SONM	**Songino Array**	**81.27**	**324**	P	P	08 48 22.8	+0.7
0.3nm,0.5s,baz=134,slow=6.3,SNR=4.2							
ILAR	**Eielson Array**	**85.19**	**18**	P	P	08 48 41.2	-0.3
0.9nm,0.5s,baz=241,slow=4.8,SNR=28							
NVAR	**Mina Array Bea**	**86.42**	**49**	P	P	08 48 46.6	-1.9
0.2nm,0.4s,baz=260,slow=8.7,SNR=7.0							
MKAR	**Makanchi Array**	**96.08**	**317**	P	P	08 49 33.4	+0.5
0.5nm,0.5s,baz=88,slow=5.8,SNR=4.8							
ARCES	**ARCESS Array B**	**118.83**	**346**	PKP	PKPdf	08 54 51.5	-0.2
5.5nm,1.0s,baz=18,slow=2.2,SNR=7.5							

*ISCJB **20** 08:43:17.7±0.6, 31°.82N±0°.03×116°.77W±0°.06, h17km±3km,*

2013 JAN

Error ellipse: s-maj=9.1km s-min=3.2km az=153.5
*NEIC **20** 08:43:18.7±0.0, 31°.84N×116°.73W, h15km, MD2.8(ECX), ML2.9(PAS), After PAS.*
NEIC Felt at Ensenada.
*MEX **20** 08:43:19.6±0.4, 31°.89N×116°.81W, h7km±3km, MD3.5*
*ECX **20** 08:43:19.0±0.6, 31°.83N×116°.73W, h10km, MD2.6, ML2.8, Fault plane solution: NP1,ϕs206.57000°, δ75.52000°, λ-26.57000°.*

ISC 20 08:43:17.5±0.9, 31°.84N±0°.03×116°.75W±0°.05, h17km±4km, n32, σ0s76/54, 6C-6D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCX	**Cicese**	**0.08**	**67**	⇑*i*P	**Pg**	**08 43 21.5**	**+0.7**
CCX				*e*S	**Sg**	**08 43 23.2**	**+0.1**
PBX	**Punta Banda**	**0.10**	**168**	⇓*i*P	**Pb**	**08 43 21.1**	**0.0**
PBX				*e*S	**Sg**	**08 43 23.0**	**-0.3**
PBX	**Punta Banda**	**0.10**	**168**	⇓*i*P	**Pb**	**08 43 21.1**	**0.0**
PBX				*e*S	**Sg**	**08 43 23.0**	**-0.3**
ECNX	**Esteban Cantu**	**0.22**	**144**	⇓*e*P	**Pg**	**08 43 22.9**	**+0.2**
ECNX				⇑*i*P	**Pg**	**08 43 21.5**	**-1.3**
ECNX				*e*S	**Sg**	**08 43 23.2**	**-3.1**
ECNX				*e*S	**Sb**	**08 43 26.7**	**-0.3**
CBX	**Cerro Bola**	**0.48**	**9**	*e*Pg	**Pb**	**08 43 27.6**	**0.0**
CBX				*e*Sg	**Sb**	**08 43 34.3**	**-0.2**
CBX	**Cerro Bola**	**0.48**	**9**	*e*P	**Pb**	**08 43 27.6**	**0.0**
CBX				*e*S	**Sb**	**08 43 34.3**	**-0.2**
CBX	**Cerro Bola**	**0.48**	**9**	⇓*e*P	**Pb**	**08 43 28.0**	**+0.4**
CBX				*e*S	**Sb**	**08 43 34.5**	**+0.1**
CBX				IAML		08 43 35.9	
comp=E,1μm,0.3s							
CBX				*e*		08 43 35.9	
ZAX	**El Zacaton**	**0.52**	**128**	⇑*e*P	**Pg**	**08 43 27.9**	**-0.1**
ZAX				*e*S	**Sg**	**08 43 34.9**	**0.0**
ZAX				IAML		08 43 36.0	
comp=N,586nm,0.2s							
ZAX				⇑*e*		08 43 36.0	
TJIG	**Tijuana**	**0.60**	**6**	*i* P	**Pb**	**08 43 29.8**	**+0.2**
TJIG				*i* S	**Sb**	**08 43 37.6**	**-0.2**
TJIG	**Tijuana**	**0.60**	**6**	*e*P	**Pb**	**08 43 29.4**	**-0.2**
BAR	**Barrett**	**0.84**	**4**	*e*Pg	**Pg**	**08 43 33.8**	**-0.1**
BAR				*e*Sg	**Sg**	**08 43 44.8**	**-0.3**
BAR	**Barrett**	**0.84**	**4**	⇓*e*P	**Pg**	**08 43 33.8**	**-0.1**
SDRC	**San Diego Road**	**0.91**	**350**	*e*P	**Pg**	**08 43 34.9**	**-0.3**
RMX	**La Rumorosa**	**0.95**	**37**	*e*P	**Pg**	**08 43 35.7**	**-0.4**
RMX				*e*S	**Sb**	**08 43 47.9**	**-0.1**
RMX				IAML		08 43 48.6	
comp=E,309nm,0.1s							
RMX				⇓*e*		08 43 48.6	
IKP	**In-Ko-Pah, Jac**	**0.97**	**341**	*e*P	**Pg**	**08 43 36.1**	**-0.4**
EML	**El Monte Cty P**	**1.05**	**356**	*e*P	**Pb**	**08 43 37.1**	**-0.2**
MONP2	**Monument Peak**	**1.09**	**15**	*e*P	**Pn**	**08 43 38.1**	**-0.1**
CPE	**Camp Elliot**	**1.09**	**344**	*e*Pg	**Pn**	**08 43 38.0**	**-0.1**
CPE				*e*Sg	**Sg**	**08 43 52.1**	**-0.8**
SPIG	**San Pedro Mart**	**1.35**	**125**	*e*Pn	**Pb**	**08 43 42.7**	**+0.1**
SPIG				*e*Sn	**Sb**	**08 43 59.7**	**-0.1**
SPIG	**San Pedro Mart**	**1.35**	**125**	*e*P	**Pb**	**08 43 42.7**	**+0.1**
SPIG				*e*S	**Sb**	**08 43 59.7**	**-0.1**
SPIG	**San Pedro Mart**	**1.35**	**125**	*e*P	**Pb**	**08 43 42.1**	**-0.4**
SPIG				*e*S	**Sb**	**08 43 60.0**	**+0.2**
SPX	**San Pedro Mart**	**1.35**	**125**	⇑*e*P	**Pb**	**08 43 42.5**	**-0.1**
SPX				*e*S	**Sb**	**08 43 60.0**	**+0.2**
SPX				IAML		08 44 02.0	
comp=N,114nm,0.1s							
SPX				*e*		08 44 02.0	
ECBX	**El Chinero**	**1.49**	**104**	*e*P	**Pb**	**08 43 44.4**	**-0.4**
ECBX				*e*S	**Sb**	**08 44 03.9**	**+0.4**
XPFO	**Pion Flat**	**1.79**	**8**	*e*Pn	**Pb**	**08 43 49.2**	**-0.7**
PFO	**Pinyon Flats O**	**1.79**	**8**	*e*Pn	**Pb**	**08 43 49.2**	**-0.7**
PFO				*e*Sn	**Sn**	**08 44 10.7**	**+0.5**
GLA	**Glamis**	**2.03**	**53**	*e*Pn	**Pn**	**08 43 52.1**	**+1.1**
MWC	**Mount Wilson**	**2.62**	**336**	*e*Pn	**Pn**	**08 44 00.6**	**+1.3**
MWC				*e*Sn	**Sn**	**08 44 31.7**	**+0.9**
Y12C	**Blythe**	**2.67**	**44**	*e*Pn	**Pn**	**08 44 00.7**	**+0.9**
113A	**Mohawk Valley,**	**2.69**	**69**	*e*Pn	**Pn**	**08 44 01.2**	**+1.2**
GSC	**Goldstone, Bar**	**3.46**	**359**	*e*Pn	**Pn**	**08 44 11.7**	**+1.1**
SHPR	**Sheep Range**	**4.84**	**15**	*e*Pn	**Pn**	**08 44 30.3**	**+0.6**
SHPR				*e*Sg	**Sg**	**08 45 50.7**	**-2.2**
HSIG		**5.74**	**118**	*e*Pn	**Pn**	**08 44 42.8**	**+0.8**

*IDC **20** 08:45:57.7±1.9, 36°.66N×68°.31E, h0km, mb3.5/7, mb1 3.7/13, mb1mx3.5/49, mbtmp3.6/13, ML3.4/6, MS2.4/1, Ms1 2.4/1, ms1mx2.1/34, Error ellipse: s-maj=38.6km s-min=14.1km az=148.0*
*ISCJB **20** 08:46:03.2±0.9, 37°.50N±0°.09×67°.77E±0°.06, h10km, mb3.3/6, Error ellipse: s-maj=13.7km s-min=5.7km az=165.2*
*NNC **20** 08:46:03.3±1.7, 37°.31N×67°.64E, h13km±7km, mb4.0, mpv3.8, Error ellipse: s-maj=14.7km s-min=9.7km az=173.0*

ISC 20 08:46:05.4±1.2, 37°.4N±0°.1×67°.76E±0°.06, h10km, n27, σ1s99/32, mb3.4/6, 13C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**5.19**	**58**	⇑Pn	**Pn**	**08 47 23.7**	**+0.4**
3.0nm,0.5s							
SFK				⇑Pg	**Pb**	**08 47 39.7**	**+3.3**
11nm,0.7s							
SFK				⇓Sn	**Sn**	**08 48 25.5**	**+2.1**
15nm,0.5s							
SFK				⇑Lg	Lg	08 48 53.2	
44nm,1.1s							
KK02	**Karatay Array**	**6.07**	**19**	⇑Pn	**Pn**	**08 47 35.2**	**0.0**
1.9nm,0.6s							
KK02				⇑Pg	Pb	08 47 56.8	+5.5
9.4nm,0.8s							
KK02				⇓Lg	Lg	08 49 19.2	
14nm,0.6s							
MNAS	**Manas**	**6.25**	**34**	⇑Pn	**Pn**	**08 47 37.3**	**-0.5**
3.9nm,0.8s							
MNAS				⇓Pg	Pb	08 48 00.1	+5.7
8.0nm,0.9s							
MNAS				⇓Sn	**Sn**	**08 48 52.0**	**+2.6**
5.9nm,0.5s							
MNAS				⇑Lg	Lg	08 49 25.9	
22nm,0.7s							
AML	**Almayashu**	**6.57**	**42**	P	**Pn**	**08 47 41.1**	**-1.3**
SNR=12							
EKS2	**Erkin-Say**	**6.99**	**39**	P	**Pn**	**08 47 47.7**	**-0.3**
SNR=9.4							
UCH	**Uchtor**	**7.09**	**45**	P	**Pn**	**08 47 48.5**	**-1.1**
SNR=16							
AAK	**Ala-Archa**	**7.35**	**43**	Pn	**Pn**	**08 47 50.5**	**-2.4**
0.9nm,0.3s,baz=178,slow=7.6,SNR=11							
AAK				Sn	**Sn**	**08 49 19.0**	**+2.6**
0.6nm,0.3s,baz=180,slow=3.3,SNR=3.6							
AAK				Lg	Lg	08 50 02.1	
0.4nm,0.3s,baz=127,slow=20,SNR=2.5							
AAK				LR	LR	08 50 24.5	
comp=Z,27nm,20.3s,baz=294,slow=35							
AAK	**Ala-Archa**	**7.35**	**43**	⇑Pn	**Pn**	**08 47 52.1**	**-0.8**
5.7nm,1.0s							
AAK				⇑Sn	**Sn**	**08 49 17.8**	**+1.4**
10nm,0.9s							
AAK				⇑Lg	Lg	08 50 02.5	
23nm,1.1s							
KZA	**Kyzart**	**7.42**	**49**	P	**Pn**	**08 47 53.3**	**-0.8**
SNR=29							
KBK	**Karagaybulak**	**7.61**	**44**	P	**Pn**	**08 47 56.1**	**-0.4**
SNR=15							
GEYT	**Alibeck**	**7.67**	**277**	Pn	**Pn**	**08 47 57.1**	**0.0**
1.9nm,0.3s,baz=97,slow=13,SNR=10							
GEYT				Sn	**Sn**	**08 49 28.1**	**+3.9**
0.9nm,0.3s,baz=106,slow=21,SNR=3.4							
CHMS	**Chumysh**	**7.74**	**42**	P	**Pn**	**08 47 57.0**	**-1.1**
SNR=5.5							
TKM2	**Tokmak 2**	**8.15**	**45**	P	**Pn**	**08 48 02.3**	**-1.5**
SNR=16							
TKM2	**Tokmak 2**	**8.15**	**45**	⇓Pn	**Pn**	**08 48 02.0**	**-1.9**
7.6nm,0.7s							
TKM2				⇑Sn	**Sn**	**08 49 36.0**	**0.0**
6.0nm,0.6s							
TKM2				⇓Lg	Lg	08 50 26.5	
11nm,1.1s							
AB31	**Akbulak array**	**13.14**	**337**	Pn	**Pn**	**08 49 10.4**	**-1.5**
0.5nm,0.3s,baz=159,slow=12,SNR=37							
AB31				⇑Sn	**Sn**	**08 51 36.4**	**-1.7**
0.9nm,0.6s							
MK31	**Makanchi Array**	**14.28**	**44**	⇑Pn	Pn	08 49 24.7	-2.9
0.7nm,0.6s,baz=244,slow=13,SNR=8.6							
MKAR	**Makanchi Array**	**14.28**	**44**	Pn	Pn	08 49 22.3	-5.3
0.0nm,0.3s,baz=234,slow=12,SNR=8.0							
AKTO	**Aktyubinsk**	**14.79**	**335**	Pn	**Pn**	**08 49 37.8**	**+3.4**
0.3nm,0.3s,baz=142,slow=12,SNR=2.5							
KURBB	**Kurchatov Arra**	**15.30**	**27**	Pn	**Pn**	**08 49 36.9**	**-4.4**
0.0nm,0.3s,baz=216,slow=11,SNR=5.1							
BVAR	**Borovoye Array**	**15.73**	**6**	Pn	**Pn**	**08 49 45.4**	**-1.6**
0.7nm,0.3s,baz=175,slow=12,SNR=7.5							
ZALV	**Zalesovo Beam**	**20.30**	**30**	P	**P**	**08 50 38.1**	**-3.1**
2.1nm,0.7s,baz=231,slow=11,SNR=9.5							
BRTR	**Keskin Array B**	**26.69**	**286**	P	**P**	**08 51 44.4**	**-0.4**
0.4nm,0.7s,baz=111,slow=7.2,SNR=2.5							
FINES	**FINESS Array B**	**35.30**	**326**	P	**P**	**08 53 00.3**	**+0.1**
0.6nm,0.6s,baz=140,slow=11,SNR=2.8							
NOA	**NORSAR Array B**	**42.10**	**323**	P	**P**	**08 53 56.5**	**-0.9**
0.1nm,0.4s,baz=99,slow=7.9,SNR=2.1							
TORD	**Torodi Ar. Bea**	**63.17**	**266**	P	P	08 56 30.4	-3.4
0.3nm,0.4s,baz=50,slow=6.5,SNR=5.5							
ILAR	**Eielson Array**	**74.59**	**15**	P	**P**	**08 57 43.0**	**-1.2**
0.3nm,0.9s,baz=327,slow=4.8,SNR=3.3							
YKA	**Yellowknife Ar**	**80.43**	**1**	P	**P**	**08 58 15.7**	**-1.1**
0.3nm,0.7s,baz=351,slow=5.5,SNR=8.0							

*SJA **20** 09:33:59.5±0.7, 23°.30S×69°.03W, h108km±4km, ML3.0, MW4.5*
*ISCJB **20** 09:34:00.8±0.8, 23°.29S±0°.04×69°.03W±0°.06, h106km±8km, Error ellipse: s-maj=9.4km s-min=6.0km az=179.2*
*GUC **20** 09:34:01.2±0.6, 23°.30S×68°.99W, h100km±2km, ML3.3*

ISC 20 09:34:01.9±1.5, 23°.29S±0°.04×69°.02W±0°.05, h95km±9km, n24, σ0s54/40, 10C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB15	**IPOC Station P**	**0.42**	**281**	*i* P	**Pn**	**09 34 16.2**	**-0.6**
PB15				*i* S	**Sn**	**09 34 29.6**	**+1.6**
PB15	**IPOC Station P**	**0.42**	**281**	⇑*i*P	**Pn**	**09 34 16.6**	**-0.3**
PB15				*i* S	**Sn**	**09 34 28.1**	**+0.1**
LVC	**Limon Verde**	**0.68**	**9**	*i* P	**Pn**	**09 34 18.3**	**-0.8**
LVC				*i* S	**Sn**	**09 34 33.0**	**+1.1**
LVC	**Limon Verde**	**0.68**	**9**	⇑*i*P	**Pn**	**09 34 18.3**	**-0.8**
LVC				*i* S	**Sn**	**09 34 31.4**	**-0.5**
PB06	**IPOC Station P**	**0.77**	**319**	*i* P	**Pn**	**09 34 19.3**	**-0.4**
PB06				*i* S	**Sn**	**09 34 34.0**	**+1.0**
PB06	**IPOC Station P**	**0.77**	**319**	⇑*i*P	**Pn**	**09 34 19.6**	**-0.1**
PB06				*e*S	**Sn**	**09 34 32.8**	**-0.2**
PB06				IAML		09 34 34.4	
comp=E,3μm,0.1s							
PB05	**IPOC Station P**	**1.17**	**292**	*i* P	**Pn**	**09 34 23.5**	**-0.5**
PB05	**IPOC Station P**	**1.17**	**292**	⇑*i*P	**Pn**	**09 34 23.8**	**-0.2**
PB05				*i* S	**Sn**	**09 34 41.1**	**+0.4**
PB05				IAML		09 34 46.4	
comp=N,416nm,0.3s							
PB03	**IPOC Station P**	**1.41**	**331**	*i* P	**Pn**	**09 34 26.6**	**-0.4**
PB03				*i* S	**Sn**	**09 34 46.2**	**+0.4**
PB03	**IPOC Station P**	**1.41**	**331**	⇑*i*P	**Pn**	**09 34 26.9**	**0.0**
PB03				*i* S	**Sn**	**09 34 45.7**	**-0.1**
PB03				IAML		09 34 47.7	
comp=N,774nm,0.5s							
PB04	**IPOC Station P**	**1.41**	**312**	*i* P	**Pn**	**09 34 26.5**	**-0.4**
PB04	**IPOC Station P**	**1.41**	**312**	⇑*i*P	**Pn**	**09 34 26.8**	**-0.1**
PB04				*i* S	**Sn**	**09 34 46.0**	**+0.2**
PB04				IAML		09 34 49.2	
comp=N,686nm,0.4s							
PB10	**IPOC Station P**	**1.42**	**261**	*i* P	**Pn**	**09 34 25.9**	**-1.1**
PB10	**IPOC Station P**	**1.42**	**261**	⇑*i*P	**Pn**	**09 34 26.9**	**0.0**
PB10				*i* S	**Sn**	**09 34 46.0**	**+0.1**
PB10				IAML		09 34 52.4	
comp=E,291nm,0.2s							
PB09	**IPOC Station P**	**1.50**	**352**	*e*P	**Pn**	**09 34 28.4**	**+0.3**
PB09				*i* S	**Sn**	**09 34 48.0**	**+0.2**
PB09				IAML		09 34 55.3	
comp=E,366nm,0.3s							
PB07	**IPOC Station P**	**1.75**	**333**	*i* P	**Pn**	**09 34 30.9**	**-0.3**
PB07	**IPOC Station P**	**1.75**	**333**	⇑*i*P	**Pn**	**09 34 31.2**	**0.0**
PB07				*e*S	**Sn**	**09 34 53.8**	**+0.4**
PB07				IAML		09 34 57.3	
comp=E,391nm,0.2s							
GO02	**Mina Guanaco**	**1.94**	**195**	⇑*i*P	**Pn**	**09 34 33.5**	**-0.3**
GO02				*i* S	**Sn**	**09 34 58.5**	**+0.5**
PB02	**IPOC Station P**	**2.12**	**337**	*e*P	**Pn**	**09 34 35.9**	**-0.1**
PB02				*e*S	**Sn**	**09 35 01.9**	**0.0**
PB02				IAML		09 35 07.8	
comp=E,435nm,0.4s							
PB01	**IPOC Station P**	**2.27**	**349**	⇑*i*P	**Pn**	**09 34 37.9**	**-0.2**
PB01				*e*S	**Sn**	**09 35 05.8**	**+0.2**
PB01				IAML		09 35 11.4	
comp=E,223nm,0.2s							
PB08	**IPOC Station P**	**3.13**	**358**	*e*P	**Pn**	**09 34 49.5**	**-0.2**
HJA	**Humahuaca**	**3.33**	**89**	*i* P	**Pn**	**09 34 52.0**	**-0.2**
HJA				IAML		09 34 53.7	
comp=Z,43nm,0.4s							
AZAP	**Zapla**	**3.74**	**105**	*i* P	**Pn**	**09 34 57.6**	**-0.2**
AZAP				IAML		09 35 00.3	
comp=Z,18nm,0.3s							
MNMC	**Minye Minye**	**4.17**	**353**	*e*P	**Pn**	**09 35 03.4**	**-0.3**

**DJA 20 09:

ASHO				S		**Sn**	**09 45 46.2**	**+2.4**
ASHO	**Ashiyiah**	**7.27**	**282**	P		**Pn**	**09 44 24.5**	**+2.0**
	SNR=12							
MSFE	**Esma-Masafi**	**7.31**	**287**	P		**Pn**	**09 44 26.5**	**+3.4**
BANOM	**Banah**	**7.34**	**291**	*i* P		**Pn**	**09 44 23.7**	**+0.2**
	SNR=12							
BANOM	**Banah**	**7.34**	**291**	P		**Pn**	**09 44 23.7**	**+0.2**
	SNR=12							
BANOM				S		**Sn**	**09 45 42.3**	**-3.3**
	SNR=6.4							
ASUD	**Al Ashush, Dub**	**7.92**	**280**	*i* P		**Pn**	**09 44 34.5**	**+3.1**
	SNR=6.8							
ASUD	**Al Ashush, Dub**	**7.92**	**280**	P		**Pn**	**09 44 34.7**	**+3.3**
	SNR=6.8							
ASUD				S		**Sn**	**09 46 01.4**	**+1.7**

*IDC **20** 09:55:40.8±1.4, 0°.06S×97°.29E, h0^{km}, mb3.7/8, mb1 3.8/10, mb1mx3.7/30, mbtmp3.7/10, ML3.8/2, MS2.9/1, Ms1 3.1/1, ms1mx2.5/32, Error ellipse: s-maj=37.2km s-min=18.4km az=67.0*

*ISCJB **20** 09:55:41.6±0.5, 0°.05S±0°.04×97°.21E±0°.05, h22^{km}, mb4.0/12, Error ellipse: s-maj=8.0km s-min=4.4km az=151.1*

*DJA **20** 09:55:41.2±0.5, 0°.3S×9°.7E±°, h10^{km}, M4.4/12, mb4.6/3, mB4.9/1, MLv4.3/12, Mw(mB)4.2/1*

*NEIC **20** 09:55:46.0±0.5, 0°.00N×97°.32E, h35^{km}, mb4.0/6, Error ellipse: s-maj=11.8km s-min=6.5km az=63.0*

ISC 20 09:55:43.8±0.8, **0°.02S**±0°.05×**97°.20E**±0°.08, **h22**^{km}, **n51, σ19/24/50, mb4.0**/12, **Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.37**	**16**	*e*Pn	**Pn**	**09 56 06.7**	**-1.0**
GSI	**Gunungsitoli**	**1.37**	**16**	P	**Pn**	**09 56 06.7**	**-1.0**
GSI				S	**Sb**	**09 56 24.9**	**-1.0**
SISI	**Saibi**	**2.29**	**124**	P	**Pn**	**09 56 19.1**	**-1.2**
SISI				S	**Sn**	**09 56 44.7**	**-3.1**
MNSI	**Mandailing Nat**	**2.51**	**71**	P	**Pn**	**09 56 23.0**	**-0.4**
MNSI				S	**Sn**	**09 56 53.1**	**-0.3**
SNSI	**Sinabang, Aceh**	**2.57**	**340**	P	**Pn**	**09 56 22.4**	**-1.7**
SNSI				S	**Sn**	**09 56 51.7**	**-3.0**
PSI	**Prapat**	**3.29**	**32**	Pn	**Pn**	**09 56 32.8**	**-1.4**
	8.4nm,0.3s,baz=360,slow=18,SNR=16						
PSI				Sn	**Sn**	**09 57 11.0**	**-1.7**
	3.8nm,0.3s,baz=360,slow=17,SNR=5.7						
PSI	**Prapat**	**3.29**	**32**	*e*Pn	**Pn**	**09 56 32.3**	**-1.9**
PSI				Sn	**Sn**	**09 57 11.0**	**-1.7**
PDSI	**Padang**	**3.38**	**105**	P	**Pn**	**09 56 34.7**	**-0.6**
KCSI	**Kotacane, Aceh**	**3.57**	**9**	P	**Pn**	**09 56 36.9**	**-1.0**
KRJI	**Kerinci**	**4.73**	**116**	P	**Pn**	**09 56 53.3**	**-0.7**
IPM	**Ipoh**	**5.88**	**40**	*e*Pn	**Pn**	**09 57 10.0**	**+0.2**
KULM	**Kulim**	**6.30**	**33**	*e*Pn	**Pn**	**09 57 14.9**	**-0.6**
MYKOM	**Kota Tinggi**	**6.89**	**75**	*e*Pn	**Pn**	**09 57 23.8**	**+0.3**
MNAI	**Manna**	**7.19**	**127**	*e*Pn	**Pn**	**09 57 26.4**	**-1.2**
LHSI	**Lahat**	**7.36**	**121**	P	**Pn**	**09 57 29.7**	**-0.4**
MDSI	**Maura Dua**	**8.26**	**123**	P	**Pn**	**09 57 42.3**	**-0.1**
SRAK	**Srakaew**	**14.74**	**19**	P	**P**	**09 59 20.1**	**+3.0**
SBUM	**Sibu**	**15.21**	**81**	*e*Pn	**P**	**09 59 22.3**	**0.0**
	3.6nm,0.8s						
CM31	**Chiang Mai Arr**	**18.44**	**5**	*e*P	**Pn**	**09 59 57.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**18.44**	**5**	P	**Pn**	**09 59 57.5**	**-0.7**
	0.2nm,0.3s,baz=200,slow=10,SNR=4.2						
CMAR				LR	LR	10 08 27.6	
	comp=Z,34nm,19.6s,baz=174,slow=42						
KKM	**Kota Kinabalu**	**19.91**	**72**	*e*P	**Pn**	**10 00 14.8**	**-1.2**
	25nm,1.1s						
KDI	**Kendari**	**25.70**	**99**	P	P	10 01 04.9	-7.8
H08S2	**Diego Garcia H**	**25.77**	**252**	T	T	10 28 10.1	
	baz=79,slow=74						
H08S3	**Diego Garcia H**	**25.77**	**252**	T	T	10 28 33.9	
	baz=79						
H08S1	**Diego Carcia H**	**25.79**	**252**	T	T	10 28 06.8	
	baz=79,slow=74						
DAV	**Davao City (W)**	**29.17**	**75**	P	**P**	**10 01 42.4**	**-1.5**
	122nm,0.5s,baz=180,slow=3.0,SNR=3.1						
LSA	**Lhasa**	**30.11**	**349**	*e*P	**P**	**10 01 53.1**	**+0.6**
	3.3nm,1.0s						
H01W3	**Cape Leeuwin H**	**38.12**	**157**	T	T	10 43 21.5	
	baz=334,slow=76,SNR=8.7						
H01W2	**Cape Leeuwin H**	**38.14**	**157**	T	T	10 43 15.7	
	baz=334,slow=76,SNR=10.0						
H01W1	**Cape Leeuwin H**	**38.14**	**157**	T	T	10 43 28.9	
	baz=334,slow=76,SNR=8.9						
WRA	**Warramunga Arr**	**41.40**	**121**	P	**P**	**10 03 28.3**	**-0.7**
	0.5nm,0.7s,baz=304,slow=8.9,SNR=5.0						
WR1	**Warramunga Arr**	**41.40**	**121**	*e*P	**P**	**10 03 28.3**	**-0.6**
	3.3nm,0.8s						
WRAB	**Tennant Creek**	**41.41**	**121**	*e*P	**P**	**10 03 28.6**	**-0.4**
	5.8nm,1.1s						
WB2	**Warramunga Arr**	**41.41**	**121**	*e*P	**P**	**10 03 27.8**	**-1.2**
ASAR	**Alice Springs**	**42.67**	**126**	P	**P**	**10 03 38.5**	**-0.7**
	0.3nm,0.6s,baz=299,slow=8.6,SNR=4.3						
KSAR	**Wonju Array Be**	**46.82**	**34**	P	**P**	**10 04 13.9**	**+1.8**
KSRS	**Korea Array**	**46.85**	**34**	P	**P**	**10 04 13.9**	**+1.6**
	1.0nm,0.6s,baz=230,slow=7.8,SNR=6.3						
SONA0	**Songino Array**	**48.33**	**8**	*e*P	**P**	**10 04 24.8**	**+1.0**
SONM	**Songino Array**	**48.33**	**8**	P	**P**	**10 04 24.8**	**+1.0**
	0.4nm,0.9s,baz=169,slow=2.9,SNR=2.5						
MK01	**Makanchi Array**	**48.40**	**346**	*e*P	**P**	**10 04 24.1**	**-0.1**
MK31	**Makanchi Array**	**48.42**	**346**	*e*P	**P**	**10 04 24.6**	**+0.3**
MK32	**Makanchi Array**	**48.42**	**346**	*e*P	**P**	**10 04 24.6**	**+0.3**
MKAR	**Makanchi Array**	**48.42**	**346**	P	**P**	**10 04 24.6**	**+0.3**
	1.1nm,0.5s,baz=162,slow=9.1,SNR=13						
STKA	**Stephens Creek**	**52.55**	**131**	P	**P**	**10 04 55.7**	**-0.2**
	0.9nm,0.5s,baz=331,slow=13,SNR=3.0						
STKA	**Stephens Creek**	**52.55**	**131**	*e*P	**P**	**10 04 56.3**	**+0.5**
	0.3nm,0.9s						
USRK	**Ussuriysk Ar.**	**53.81**	**31**	P	**P**	**10 05 05.5**	**+0.6**
	1.2nm,0.7s,baz=318,slow=1.9,SNR=3.9						
ZALV	**Zalesovo Beam**	**54.76**	**351**	P	**P**	**10 05 11.6**	**0.0**
	1.5nm,0.6s,baz=185,slow=7.0,SNR=6.1						
ZALV	**Zalesovo Beam**	**54.76**	**351**	*e*P	**P**	**10 05 11.4**	**-0.2**
ZAA1	**Zalesovo Array**	**54.76**	**351**	*e*P	**P**	**10 05 11.6**	**-0.1**
LTX	**Lajitas**	**144.70**	**33**	*e*PKPdf	**PKPdf**	**10 15 21.4**	**+1.6**
TXAR	**Lajitas Array**	**144.70**	**33**	PKP	**PKPdf**	**10 15 21.4**	**+1.6**
	0.2nm,0.7s,baz=304,slow=1.6,SNR=2.8						

*ISK **20** 10:06:02.8, 38°.85N×40°.09E, h5^{km}, ML2.4/3*

*ISCJB **20** 10:06:04.8±0.7, 38°.83N±0°.03×40°.10E±0°.03, h6^{km}±6^{km}, Error ellipse: s-maj=6.3km s-min=3.8km az=28.8*

*DDA **20** 10:06:04.1, 38°.84N×40°.13E, h7^{km}±3^{km}, ML2.6*

ISC 20 10:06:03.9±1.2, **38°.86N**±0°.03×**40°.12E**±0°.03, **h9**^{km}±11^{km}, **n15, σ9/72/24, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BGOL	**Bingol**	**0.45**	**73**	IAML_P			
	comp=Z,1μm,0.1s						
BGOL				*i* P	**Pb**	**10 06 13.7**	**-0.4**
HANI	**Diyarbakir_Han**	**0.50**	**153**	IAML_P			
	comp=Z,841nm,0.1s						
HANI				*i* P	**Pb**	**10 06 14.3**	**-0.6**
HANI				*i* S	**Sg**	**10 06 20.4**	**+0.3**
TNCL	**Tunceli-Merkez**	**0.51**	**300**	*i* P	**Pn**	**10 06 17.5**	**-0.1**
TNCL				*i* S	**Sb**	**10 06 23.7**	**+0.8**
PTK	**Pertek**	**0.56**	**274**	PG	**Pg**	**10 06 14.6**	**-0.3**
PTK				SG	**Sb**	**10 06 23.2**	**-1.2**
BNGL	**BINGOL**	**0.81**	**83**	*i* P	**Pg**	**10 06 19.4**	**-0.1**
BNGL				*i* S	**Sn**	**10 06 33.5**	**-0.6**
KARO	**Karliova-Bingo**	**0.85**	**58**	PG	**Pb**	**10 06 20.9**	**-0.2**
EUZM	**Uzumlu**	**0.91**	**339**	IAML_P			
	comp=Z,1μm,0.2s						
EUZM				*i* P	**Pn**	**10 06 22.6**	**-0.3**
EUZM				*i* S	**Sn**	**10 06 36.4**	**+0.1**
DIYA	**Diyarbakir**	**0.93**	**180**	IAML_P			
	comp=Z,3μm,0.2s						
DIYA				*i* P	**Pn**	**10 06 23.0**	**-0.3**
DIYA				*i* S	**Sb**	**10 06 35.1**	**+0.3**
ECAT	**Cat-ERZURUM**	**1.00**	**42**	*i* P	**Pn**	**10 06 24.1**	**-0.3**
BTMN	**Batman**	**1.33**	**136**	IAML_P			
	comp=Z,396nm,0.4s						
BTMN				*i* P	**Pg**	**10 06 29.8**	**+0.5**
BTMN				*i* S	**Sn**	**10 06 47.8**	**+1.3**
KEMA	**Kemaliye**	**1.33**	**288**	*i* P	**Pg**	**10 06 30.0**	**+0.6**
KEMA				*i* S	**Sb**	**10 06 45.5**	**-0.8**
KELT	**Kelkit**	**1.45**	**333**	IAML_P			
	comp=Z,190nm,0.4s						
KELT				*i* P	**Pg**	**10 06 31.9**	**+0.2**
SRTM	**Siirt_Merkez**	**1.66**	**121**	*i* P	**Pb**	**10 06 34.5**	**-0.3**
SRTM				*i* S	**Sg**	**10 06 57.5**	**+0.1**
URFA	**Urfa**	**1.75**	**216**	PN	**Pb**	**10 06 35.2**	**-1.0**
SVSK	**Karacayir**	**2.64**	**295**	PN	**Pn**	**10 06 48.3**	**+1.7**

*ISCJB **20** 10:08:51.4±0.7, 14°.15N±0°.08×145°.5E±0°.1, h100^{km}, mb3.6/13, Error ellipse: s-maj=18.6km s-min=10.1km az=24.9*

*IDC **20** 10:08:51.7±1.2, 14°.12N×145°.56E, h92^{km}±12^{km}, mb3.5/14, mb1 3.7/14, mb1mx3.5/38, mbtmp3.8/14, Error ellipse: s-maj=28.2km s-min=18.5km az=85.0*

ISC 20 10:08:52.5±0.8, **14°.1N**±0°.1×**145°.5E**±0°.2, **h100**^{km}, **n19, σ0/91/17, mb3.6**/13, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.82**	**232**	P	**Pn**	**10 09 11.3**	**+0.2**
	375nm,0.3s,baz=11,slow=23,SNR=46						
GUMO				S	**Sn**	**10 09 24.3**	**-0.8**
	451nm,0.3s,baz=124,slow=23,SNR=56						
JOW	**Kunigami**	**20.51**	**311**	P	**P**	**10 13 23.0**	**+0.2**
	12nm,0.8s,baz=233,slow=10,SNR=3.8						
H11S3	**WAKE ISLAND Hy**	**20.76**	**75**	T	T	10 35 00.1	
	baz=263,slow=74,SNR=14						
H11S1	**WAKE ISLAND Hy**	**20.77**	**75**	T	T	10 35 00.4	
	baz=263,slow=74,SNR=9.6						
H11S2	**WAKE ISLAND Hy**	**20.78**	**75**	T	T	10 35 07.2	
	baz=263,slow=74,SNR=5.0						
MJAR	**Matsushiro Arr**	**23.29**	**345**	P	**P**	**10 13 50.6**	**-1.0**
	1.6nm,0.8s,baz=171,slow=10,SNR=3.9						
KSRS	**Korea Array**	**28.05**	**329**	P	**P**	**10 14 35.0**	**+0.6**
	0.5nm,0.5s,baz=158,slow=8.7,SNR=4.2						
USRK	**Ussuriysk Ar.**	**32.16**	**342**	P	**P**	**10 15 11.2**	**+0.6**
	1.3nm,0.8s,baz=143,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**35.58**	**198**	P	**P**	**10 15 39.1**	**-1.4**
	0.5nm,0.8s,baz=21,slow=9.5,SNR=3.4						
ASAR	**Alice Springs**	**39.22**	**197**	P	**P**	**10 16 13.1**	**+1.8**
	0.2nm,0.6s,baz=30,slow=9.8,SNR=3.4						
SONM	**Songino Array**	**46.70**	**324**	P	**P**	**10 17 11.6**	**+0.2**
	0.4nm,0.8s,baz=122,slow=5.2,SNR=3.0						
MKAR	**Makanchi Array**	**61.58**	**316**	P	**P**	**10 18 59.8**	**+0.4**
	0.2nm,0.3s,baz=90,slow=8.3,SNR=5.7						
ILAR	**Eielson Array**	**67.83**	**25**	P	**P**	**10 19 39.1**	**-0.6**
	0.6nm,0.4s,baz=252,slow=5.8,SNR=14						
YKA	**Yellowknife Ar**	**82.11**	**28**	P	**P**	**10 21 02.3**	**+0.5**
	0.6nm,0.5s,baz=286,slow=5.2,SNR=12						
NVAR	**Mina Array Bea**	**86.10**	**52**	P	**P**	**10 21 22.6**	**-0.3**
	0.3nm,0.6s,baz=270,slow=5.4,SNR=2.9						
ARCES	**ARCESS Array B**	**86.80**	**342**	P	**P**	**10 21 24.8**	**-0.6**
	5.8nm,1.0s,baz=74,slow=6.9,SNR=4.2						
FINES	**FINESS Array B**	**90.98**	**335**	P	**P**	**10 21 43.7**	**-1.4**
	1.0nm,0.5s,baz=65,slow=6.4,SNR=12						
PDAR	**Pinedale Array**	**91.15**	**45**	P	**P**	**10 21 47.2**	**+0.5**
	0.2nm,0.5s,baz=350,slow=2.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**135.11**	**305**	PKP	**PKPdf**	**10 28 02.0**	**+0.8**
	0.2nm,0.7s,baz=18,slow=2.7,SNR=1.9						

IDC 20 10:39:46.4±2.1, **6°.17S×154°.34E, h0**^{km}, **mb3.6**/4, **mb1 3.9**/4, **mb1mx3.5**/27, **mbtmp3.6**/4, **Error ellipse: s-maj=162.4km s-min=25.1km az=131.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.77**	**233**	P	P	10 45 01.4	+0.5
	0.9nm,0.6s,baz=57,slow=9.6,SNR=8.4						
ASAR	**Alice Springs**	**26.25**	**226**	P	P	10 45 22.6	-1.0
	0.3nm,0.5s,baz=59,slow=8.7,SNR=9.2						
ILAR	**Eielson Array**	**82.85**	**22**	P	P	10 52 11.9	-0.6
	0.8nm,1.0s,baz=245,slow=5.4,SNR=3.2						
YKA	**Yellowknife Ar**	**95.92**	**28**	P	P	10 53 15.3	+0.4
	0.1nm,0.4s,baz=268,slow=4.3,SNR=5.3						
TORD	**Torodi Ar. Bea**	**152.18**	**286**	PKPbc	PKPbc	10 59 45.7	+0.5
	0.3nm,0.7s,baz=58,slow=2.4,SNR=2.4						

*BJI **20** 10:48:45.0, 64°.73N×146°.60E, h10^{km}, mb5.3/63, mB5.6/68, Ms6.1/92, Ms7 6.1/79*

*IDC **20** 10:48:45.5±0.3, 64°.80N×146°.62E, h0^{km}, mb5.0/42, mb1 5.1/47, mb1mx5.1/51, mbtmp5.0/47, ML5.1/3, MS5.2/39, Ms1 5.2/39, ms1mx5.2/45, Error ellipse: s-maj=9.3km s-min=8.1km az=46.0*

*MOS **20** 10:48:45.7±0.9, 64°.83N×146°.54E, h12^{km}, mb5.7/161, MS5.5/92, Error ellipse: s-maj=7.9km s-min=3.7km az=93.0 Broadband fault plane solution: P waves. $M_0$9.30000×10^{17} NP1:ϕ_s43.00000°, δ74.00000°, λ163.00000°. NP2:ϕ_s137.00000°, δ74.00000°, λ.17.00000°. Principal axes: T Plg23.0000°, Azm360.0000°; N Plg67.0000°, Azm180.0000°; P Plg0.0000°, Azm90.0000°;*

MOS Fault plane solution: P-wave C63, D28 . Felt (III) at Susuman, Seimchan, Talaya, (II) at Magadan.

*ISCJB **20** 10:48:45.6±0.6, 64°.92N±0°.01×146°.64E±0°.02, h12^{km}±3^{km}, mb5.5/604, MS5.5/565 Error ellipse: s-maj=2.4km s-min=1.6km az=158.1*

*NERS **20** 10:48:46.3±0.0, 64°.84N×146°.56E, h16^{km}, Felt I=III-IV MSK at Susuman(243km)*

*NEIC **20** 10:48:47.5±0.1, 64°.84N×146°.50E, h12^{km}, mb5.7/298, MS5.5/295, MW5.5, Error ellipse: s-maj=2.5km s-min=1.7km az=165.0, Moment Tensor Solution. s78 Moment tensor: Scale 10^{17}Nm; M_r0.90; M_θ1.54; $M_{\phi\phi}$-2.44; $M_{r\theta}$0.97; $M_{\theta\phi}$0.45; $M_{\phi r}$-0.16; Best double couple: M_o2.40000×10^{17} NP1:ϕ_s33.00000°, δ62.00000°, λ157.00000°. NP2:ϕ_s135.00000°, δ70.00000°, λ30.00000°. Principal axes: T 2.2600, Plg35.0000°, Azm356.0000°; N 0.2500, Plg54.0000°, Azm166.0000°; P -2.5100, Plg5.0000°, Azm263.0000°;*

*YARS **20** 10:48:47.3±0.2, 64°.89N±0°.01×146°.56E±0°.02*

*GCMT **20** 10:48:49.5±0.1, 64°.81N±0°.01×146°.64E±0°.01, h23^{km}, MW5.6/141, Moment Tensor Solution. s113,c201; s141,c364; Duration: 1^{s}6 Moment tensor: Scale 10^{17} Nm; M_r1.31±.04; $M_{\theta\theta}$2.18±.03; $M_{\phi\phi}$-3.49±.04; $M_{r\theta}$1.42±.07; $M_{\theta\phi}$1.11±.03; $M_{\phi r}$-0.96±.06; Best double couple: M_o3.61700×10^{17} NP1:ϕ_s131.00000°, δ76.00000°, λ36.00000°. NP2:ϕ_s31.00000°, δ55.00000°, λ163.00000°. Principal axes: T 3.2470, Plg35.0000°, Azm356.0000°; N 0.7400, Plg52.0000°, Azm149.0000°; P -3.9870, Plg13.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 20 10:48:47.3±0.4, **64°.81N**±0°.02×**146°.55E**±0°.02, **h10**^{km}±2^{km}, **h11**^{km}:**pP-P, n1968, σ1/53**/1969, **mb5.7**/640, **MS5.5**/569, **60C-54D, Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATKR	**Artyk**	**0.89**	**225**	*e*P	**Pb**	**10 49 04.7**	**0.0**
ATKR				Pmax		10 49 04.7	
	comp=E,3μm,0.4s						
ATKR				Pmax		10 49 04.7	
	comp=Z,9μm,0.4s						
ATKR				*e*S	**Sb**	**10 49 16.5**	**0.0**
ATKR				Smax		10 49 16.5	
	comp=N,54μm,0.3s						
MOMR	**Moma**	**2.16**	**322**	*e*P	**Pn**	**10 49 23.2**	**0.0**
MOMR				*e*P	**Pb**	**10 49 25.1**	**-1.3**
MOMR				Pmax		10 49 25.1	
	comp=E,3μm,0.8s						
MOMR				Pmax		10 49 25.1	
	comp=Z,1μm,0.8s						
MOMR				*e*S	**Sn**	**10 49 48.8**	**-1.2**
MOMR				*e*S	**Sb**	**10 49 52.2**	**-1.0**
MOMR				Smax		10 49 52.2	
	comp=N,4μm,0.9s						
SUUS	**Susuman**	**2.17**	**160**	⇑*i*P	**Pn**	**10 49 23.2**	**-0.1**
SUUS				Pmax		10 49 24.5	
	comp=N,340nm,0.3s						
SUUS				Pmax		10 49 24.5	
	comp=N,70nm,0.3s						
SUUS				Pmax		10 49 24.5	
	comp=N,400nm,0.3s						
SUUS				*e*Pg	**Pb**	**10 49 26.7**	**+0.2**
SUUS				Pmax		10 49 27.1	
	comp=N,1μm,0.3s						
SUUS				*e*Sg	**Sb**	**10 49 54.9**	**+1.6**
SUUS				Sgmax		10 49 58.4	
	comp=N,440nm,0.4s						
SUUS				Sgmax		10 49 58.4	
	comp=N,40μm,0.6s						
SUUS	**Susuman**	**2.17**	**160**	⇑*i*P	**Pn**	**10 49 23.2**	**-0.1**
SUUS				*e*		10 49 54.9	
SUUS				pmax	pmax		
	comp=Z,1μm,0.3s						
SUUS				smax	smax		
	comp=N,44μm,0.4s						
SUUS	**Susuman**	**2.17**	**160**	*i* P	**Pn**	**10 49 23.2**	**-0.1**
SUUS				*e*P	**Pb**	**10 49 26.7**	**+0.2**
SUUS				Pmax		10 49 26.7	
	comp=Z,1μm,0.3s						
SUUS				*e*S	**Sb**	**10 49 54.9**	**+1.6**
SUUS				Smax		10 49 54.9	
	comp=N,10μm,0.6s						
SEY	**Seymchan**	**3.20**	**124**	Pn	**Pn**	**10 49 36.4**	**-1.0**
	comp=N,64nm,0.3s,baz=311,slow=12,SNR=410						
SEY				Lg	Lg	10 50 26.4	
	comp=N,3μm,0.3s,baz=17,slow=22,SNR=17						
SEY				LR	LR	10 51 07.1	
	comp=N,39μm,20.0s,baz=308,slow=45						
SEY	**Seymchan**	**3.20**	**124**	*e*P	**Pn**	**10 49 37.3**	**-0.1**
SEY				Pmax		10 49 38.3	
	comp=N,90nm,0.4s						
SEY				Pmax		10 49 38.3	
	comp=N,60nm,0.3s						
SEY				Pmax		10 49 38.3	
	comp=N,60nm,0.3s						
SEY				*e*Pg	**Pb**	**10 49 45.2**	**+1.2**
SEY				Pgmax		10 49 47.0	
	comp=N,2μm,0.4s						
SEY				Pgmax		10 49 47.0	
	comp=N,2μm,0.4s						
SEY				Pgmax		10 49 47.0	
	comp=N,2μm,0.3s						
SEY				*e*Sg	**Sb**	**10 50 26.2**	**+3.3**
SEY				Sgmax		10 50 30.5	
	comp=N,31μm,0.4s						
SEY				Sgmax		10 50 30.5	
	comp=N,10μm,0.4s						
SEY	**Seymchan**	**3.20**	**124**	*e*P	**Pn**	**10 49 37.3**	**-0.1**
SEY				pmax	pmax		
	comp=Z,2μm,0.4s						
SEY	**Seymchan**	**3.20**	**124**	*e*P	**Pn**	**10 49 37.3**	**-0.1**
SEY				*i* P	Pb	10 49 37.5	-6.5
SEY				*e*P	**Pb**	**10 49 45.2**	**+1.2**
SEY				Pmax		10 49 45.2	
	comp=Z,2μm,0.4s						
SEY				*e*P		10 49 46.4	
SEY				Pmax		10 49 46.4	
	comp=Z,4μm,0.5s						
SEY				*e*S	**Sb**	**10 50 26.2**	**+3.3**
SEY				Smax		10 50 26.2	
	comp=N,700nm,0.4s						
SEY				*e*S	**Sg**	**10 50 28.7**	**-1.1**
SEY				Smax		10 50 28.7	
	comp=N,2μm,0.7s						
SEY				Smax		10 50 28.7	
	comp=E,9μm,0.7s						
OCHR	**Omchak**	**3.22**	**169**	⇓*i*P	**Pn**	**10 49 37.5**	**-0.3**
OCHR				Pmax		10 49 38.8	
	comp=E,560nm,0.0s						
OCHR				*e*Pg	**Pb**	**10 49 46.4**	**+2.0**
OCHR				Pgmax		10 49 48.5	
	comp=E,1μm,0.6s						
OCHR				Pgmax		10 49 48.5	
	comp=E,4μm,0.5s						
OCHR				Pgmax		10 49 48.5	
	comp=E,790nm,0.4s						
OCHR				*e*Sg	**Sg**	**10 50 28.7**	**-1.7**
OCHR				Sgmax		10 50 34.4	
	comp=E,29μm,0.7s						
OCHR				Sgmax		10 50 34.4	
	comp=E,1μm,0.3s						
SNGR	**Sinegor'e**	**3.26**	**146**	*e*P	**Pn**	**10 49 38.1**	**-0.2**
SNGR				Pmax		10 49 39.1	
	comp=E,10.0nm,0.3s						
SNGR				*e*Pg	**Pb**	**10 49 46.2**	**+1.1**
SNGR				Pgmax		10 49 47.8	
	comp=E,380nm,0.2s						
SNGR				Pgmax		10 49 47.8	
	comp=E,2μm,0.3s						
SNGR				Pgmax		10 49 47.8	
	comp=E,2μm,0.3s						
SNGR				*e*Sg	**Sg**	**10 50 30.8**	**-0.9**
SNGR				Sgmax		10 50 36.2	
	comp=E,45μm,0.4s						
SNGR				Sgmax		10 50 36.2	
	comp=E,32μm,0.5s						
SNGR	**Sinegor'e**	**3.26**	**146**	*e*P	**Pn**	**10 49 38.1**	**-0.2**
SNGR				pmax	pmax		
	comp=Z,2μm,0.3s						
SNGR	**Sinegor'e**	**3.26**	**146**	*e*P	**Pb**	**10 49 46.2**	**+1.1**
SNGR				Pmax		10 49 46.2	
	comp=Z,2μm,0.3s						
SNGR				*e*S	**Sg**	**10 50 30.8**	**-0.9**
SNGR				Smax		10 50 30.8	
	comp=N,4μm,0.4s						
SNGR				Smax		10 50 30.8	
	comp=E,5μm,0.4s						
YBGR	**Belaya Gora**	**3.74**	**358**	*e*P	**Pn**	**10 49 45.3**	**+0.4**
YBGR				*e*P	**Pb**	**10 49 54.0**	**+0.8**
YBGR				Pmax		10 49 54.0	
	comp=E,1μm,1.2s						
YBGR				Pmax		10 49 54.0	
	comp=Z,3μm,1.2s						
YBGR				*e*S	**Sn**	**10 50 26.5**	**-2.3**
YBGR				*e*S	**Sb**	**10 50 40.8**	**+2.3**
YBGR				Smax		10 50 40.8	
	comp=N,6μm,1.3s						
YBGR				Smax		10 50 40.8	
	comp=E,2μm,1.3s						
TLAR	**Talaya**	**4.56**	**142**	⇓*e*P	**Pn**	**10 49 55.9**	**-0.3**
TLAR				Pmax		10 49 56.8	
	comp=E,50nm,0.3s						
TLAR				*e*Pg	**Pb**	**10 50 10.4**	**+3.2**
TLAR				Pgmax		10 50 13.3	
	comp=E,2μm,0.6s						
TLAR				Pgmax		10 50 13.3	
	comp=E,2μm,0.6s						

MGD eS Sg 10 51 30.8 -2.0
MGD Smax 10 51 30.8
comp=N,1μm,0.7s
MGD Smax 10 51 30.8
comp=E,6μm,0.7s
BTGS Batagay 5.59 306 eP Pn **10 50 10.7 +0.4**
BTGS eP Pb **10 50 26.9 +2.1**
BTGS Pmax 10 50 26.9
comp=Z,2μm,1.1s
BTGS eS Sn **10 51 11.9 -2.6**
BTGS eS Sb **10 51 38.6 +6.8**
BTGS Smax 10 51 38.6
comp=N,3μm,1.3s
BTGS Smax 10 51 38.6
comp=E,640nm,1.3s
MA2 Magadan 5.61 158 Pn Pn **10 50 10.5 -0.1**
comp=E,21nm,0.3s,baz=314,slow=22,SNR=102
MA2 Sn Sn **10 51 15.9 +0.8**
comp=E,205nm,0.3s,baz=9.1,slow=21,SNR=7.2
MA2 Lg Lg 10 51 44.7
comp=E,634nm,0.3s,baz=43,slow=17,SNR=13
MA2 LR LR 10 52 43.9
comp=E,28μm,19.3s,baz=360,slow=43
MA2 Magadan 5.61 158 ePn Pn **10 50 10.5 -0.1**
MA2 ePg Pg **10 50 31.1 -3.6**
MA2 eSn Sn **10 51 15.9 +0.8**
MA2 eLg Lg 10 51 43.7
MA2 Magadan 5.61 158 eP Pn **10 50 10.5 -0.1**
MA2 Pmax 10 50 14.5
comp=E,80nm,0.6s
MA2 Pmax 10 50 14.5
comp=E,90nm,0.9s
MA2 eS Sn **10 51 15.2 +0.1**
MA2 Smax 10 51 15.2
comp=E,20nm,0.3s
MA2 eSg Sg **10 51 43.2 -4.1**
MA2 Sgmax 10 51 52.2
comp=E,14μm,0.9s
MA2 Sgmax 10 51 52.2
comp=E,6μm,0.8s
MA2 Magadan 5.61 158 *c*eP Pn **10 50 10.7 0.0**
MA2 pmax pmax
comp=Z,367nm,1.7s
MA2 Magadan 5.61 158 eS Sn **10 51 15.2 +0.1**
MA2 eS Sg **10 51 43.2 -4.1**
MA2 Smax 10 51 43.2
comp=N,1μm,0.9s
MA2 Smax 10 51 43.2
comp=E,4μm,0.9s
OHTR Okhotsk 5.68 197 eS Sg **10 51 44.7 -4.7**
OHTR Smax 10 51 44.7
comp=N,2μm,0.6s
OHTR Smax 10 51 44.7
comp=E,10μm,0.6s
OKHR Okhotsk 5.69 197 eP Pn 10 50 06.2 -5.4
OKHR eSg Sg **10 51 44.7 -5.0**
OKHR Sgmax 10 51 49.0
comp=E,16μm,0.6s
OKHR Sgmax 10 51 49.0
comp=E,30μm,0.6s
USMR Ust'-Maya 7.07 237 eP Pn **10 50 32.5 +1.9**
USMR eP Pb 10 50 56.3 +6.3
USMR Pmax 10 50 56.3
comp=Z,1μm,0.8s
USMR eS Sn **10 51 49.9 -1.1**
USMR eS Sg **10 52 27.5 -6.5**
USMR Smax 10 52 27.5
comp=N,6μm,0.8s
YAK Yakutsk 8.06 257 eP Pn **10 50 43.7 -0.4**
YAK *e* 10 52 12.0
YAK pmax pmax
comp=Z,353nm,0.6s
YAK pmax pmax
comp=N,90nm,0.6s
YAK pmax pmax
comp=E,181nm,0.7s
YAK smax smax
comp=N,416nm,0.6s
YAK smax smax
comp=E,550nm,0.6s
YAK smax smax
comp=N,6μm,0.9s
YAK smax smax
comp=E,3μm,0.7s
YAK Yakutsk 8.06 257 eP Pn **10 50 45.3 +1.2**
YAK eP Pb 10 51 12.7 +6.0
YAK Pmax 10 51 12.7
comp=Z,10μm,0.7s
YAK eS Sn **10 52 12.9 -2.2**
YAK eS Sg **10 52 57.0 -8.5**
YAK Smax 10 52 57.0
comp=N,173nm,0.6s
BILL Bilibino 8.52 59 ePn Pn **10 50 52.1 +1.7**
BILL eSn Sn **10 52 22.5 -3.9**
BILL Bilibino 8.52 59 eP Pn **10 50 52.4 +1.9**
BILL eS Sn **10 52 22.7 -3.8**
BILL eSg Sg **10 53 15.8 -4.5**
BILL Bilibino 8.52 59⇑ eP Pn **10 50 52.6 +2.1**
BILL pmax pmax
comp=Z,503nm,1.3s
TIXI Tiksi 9.46 324 Pn Pn **10 51 04.3 +1.1**
comp=Z,70nm,0.3s,baz=132,slow=16,SNR=1334
TIXI Sn Sn 10 53 01.2 +12
comp=Z,31nm,0.3s,baz=181,slow=20,SNR=6.5
TIXI Lg Lg 10 53 47.3
comp=Z,55nm,0.3s,baz=40,slow=22,SNR=8.5
TIXI LR LR 10 55 17.2
comp=Z,19μm,19.8s,baz=130,slow=41
TIXI Tiksi 9.46 324 ePn Pn **10 51 04.6 +1.3**
TIXI eSn Sn 10 53 02.7 +13
TIXI eLg Lg 10 53 47.4
TIXI *e* 10 55 17.2
TIXI Tiksi 9.46 324 *c i*P Pn **10 51 04.2 +1.0**
TIXI pmax pmax
comp=Z,537nm,1.0s
CGD Chagda 9.67 238 eP Pn **10 51 07.2 +1.0**
CGD eP 10 51 42.4
CGD Pmax 10 51 42.4
comp=Z,152nm,0.9s
CGD eS Sn 10 53 47.5 +53
CGD Smax 10 53 47.5
comp=N,2μm,1.1s
OKH Okha 11.45 191⇓ *i*P Pn **10 51 29.1 -1.4**
OKH *i* S Sn **10 53 32.0 -6.2**
OKH pmax pmax
comp=Z,800nm,12.8s
OKH MLR MLR
comp=Z,18μm,12.0s
ALDR Aldan 11.76 248 eP Pn **10 51 36.9 +2.1**
ALDR eS 10 54 51.6
ALDR Smax 10 54 51.6
comp=N,3μm,1.1s
NKL Nikolayevsk 12.08 197 eP Pn **10 51 40.0 +0.9**
NKL pmax pmax
comp=N,450nm,1.5s
NKL pmax pmax
comp=E,150nm,1.5s
NKL pmax pmax
comp=Z,780nm,1.5s
NKL pmax pmax
comp=Z,2μm,10.0s
NKL MLR MLR
comp=N,49μm,16.0s
NKL MLR MLR
comp=E,41μm,16.0s
NKL MLR MLR
comp=Z,67μm,16.0s
OLMR Olekminsk 12.76 262 eS 10 55 21.7
OLMR Smax 10 55 21.7
comp=N,5μm,1.2s
PEA1 Petropavlovsk- 13.04 149 ePn Pn **10 51 53.0 +0.8**
PEA0B Petropavlovsk- 13.04 149 ePn Pn **10 51 53.0 +0.7**
PETK Petropavlovsk- 13.04 149 Pn Pn **10 51 53.0 +0.7**
comp=N,1.5nm,0.3s,baz=334,slow=11,SNR=32
PETK LR LR 10 57 21.5
comp=N,21μm,18.0s,baz=335,slow=40
PETK Petropavlovsk- 13.04 149 ePn Pn **10 51 53.5 +1.2**
PET Petropavlovsk 13.34 147 ePn Pn **10 52 00.3 +4.0**
PET Petropavlovsk 13.34 147 *d i*P Pn **10 52 00.9 +4.6**
PET eS Sn **10 54 31.4 +7.0**
PET pmax pmax
comp=Z,900nm,6.8s
PET pmax pmax
comp=Z,2μm,4.5s
PET pmax pmax
comp=Z,224nm,1.1s
PET MLR MLR
comp=Z,37μm,12.0s
PET MLR MLR
comp=Z,34μm,13.0s
TYV Tymovskoe 14.14 190 eP Pn **10 52 08.6 +1.3**
TYV eS Sn **10 54 40.2 -3.8**
TYV pmax pmax
comp=Z,1μm,3.8s
TYV pmax pmax
comp=Z,72nm,1.2s
TYV smax smax
comp=E,20nm,1.4s
TYV MLR MLR
comp=N,31μm,11.0s
TYV MLR MLR
comp=Z,30μm,11.0s
TNDR Tynda 14.51 238 eP Pn **10 52 14.9 +2.5**
TNDR eS Sn **10 54 48.1 -5.0**
YKLR Yuktali 14.61 247 eP Pn **10 52 16.3 +2.5**
YKLR eS S 10 56 19.8 +65
YKLR Smax 10 56 19.8
comp=N,4μm,1.3s
ZEA Zeya 14.77 230 eP Pn **10 52 14.6 -1.3**
ZEA eS Sn **10 55 08.0 +8.7**
ZEA pmax pmax
comp=N,430nm,1.4s
ZEA pmax pmax
comp=E,510nm,1.8s
ZEA pmax pmax
comp=Z,1μm,1.8s
ZEA pmax pmax
comp=Z,2μm,4.0s
ZEA pmax pmax
comp=N,2μm,5.0s
ZEA pmax pmax
comp=E,2μm,5.0s
ZEA smax smax
comp=E,2μm,6.0s
ZEA smax smax
comp=N,1μm,5.0s
ZEA MLR MLR
comp=Z,88μm,7.0s
ZEA MLR MLR
comp=E,44μm,9.0s
YCRN Chernyshevskiy 14.98 279 eP Pn **10 52 20.8 +2.1**
YCRN eS S 10 56 29.5 +67
YCRN Smax 10 56 29.5
comp=N,3μm,1.9s
SKR Severo-Kuril's 15.03 156 eP P **10 52 22.6 -2.2**
SKR pmax pmax
comp=Z,291nm,1.0s
SKR MLR MLR
comp=Z,25μm,13.0s
SKR MLR MLR
comp=Z,24μm,13.0s
GRNR Gornyy 15.05 205 eP Pn **10 52 19.0 -0.7**
GRNR *e* 10 55 13.8
GRNR pmax pmax
comp=N,110nm,1.2s
GRNR pmax pmax
comp=Z,100nm,1.2s
GRNR smax smax
comp=N,3μm,2.0s
KHN Khani 15.13 251 eS S 10 56 33.1 +68
KHN Smax 10 56 33.1
comp=N,2μm,1.2s
UGL Uglegorsk 15.96 191 eP Pn **10 52 32.1 +0.6**
UGL eS Sn **10 55 33.9 +5.7**
UGL pmax pmax
comp=Z,72nm,1.1s
UGL pmax pmax
comp=Z,2μm,6.0s
UGL pmax pmax
comp=E,900nm,5.1s
UGL smax smax
comp=N,3μm,7.0s
UGL smax smax
comp=E,3μm,4.3s
UGL smax smax
comp=E,60nm,2.5s
UGL MLR MLR
comp=Z,39μm,12.0s
UGL MLR MLR
comp=N,45μm,13.0s
BOD Bodaibo 16.95 261 eP Pn **10 52 40.4 -3.8**
KLR Kul'dur 17.50 214 P P **10 52 52.3 +0.1**
comp=N,0.8nm,0.3s,baz=12,slow=8.0,SNR=29
KLR Lg Lg 10 57 59.0
comp=N,1.4nm,0.3s,baz=268,slow=21,SNR=24
KLR LR LR 10 59 45.8
comp=N,32μm,18.4s,baz=26,slow=38
KLR Kul'dur 17.50 214 *d i*P P **10 52 52.0 -0.2**
GAMB Gambell 17.91 74 ePn Pn **10 52 56.1 +0.2**
comp=N,262nm,1.1s
YSS Yuzh-Sakhalins 18.02 188 ePn Pn **10 52 57.5 0.0**
comp=N,579nm,2.0s
YSS Yuzh-Sakhalins 18.02 188⇓ eP P **10 53 00.5 +2.6**
YSS eS Sn **10 56 20.3 +2.0**
YSS pmax pmax
comp=Z,80nm,1.7s
YSS pmax pmax
comp=N,80nm,1.8s
YSS pmax pmax
comp=E,60nm,1.2s
YSS pmax pmax
comp=Z,700nm,2.2s
YSS MLR MLR
comp=Z,16μm,14.0s
YSS MLR MLR
comp=N,13μm,15.0s
KUR Kuril'sk 19.64 177 *d i*P Pn **10 53 20.1 +3.1**
KUR S Sn **10 56 59.7 +2.5**
KUR pmax pmax
comp=Z,9μm,3.8s
KUR pmax pmax
comp=N,7μm,3.5s
KUR pmax pmax
comp=E,1μm,3.1s
KUR pmax pmax
comp=E,195nm,1.4s
KUR pmax pmax
comp=Z,842nm,1.4s
KUR pmax pmax
comp=N,453nm,3.3s
KUR MLR MLR
comp=Z,7μm,13.0s
KUR MLR MLR
comp=N,12μm,15.0s
RDOG Red Dog Mine 19.99 58 eP P **10 53 19.8 +0.4**
comp=N,610nm,1.5s
ANM Nome 20.17 69 eP P **10 53 22.2 +0.9**
comp=N,166nm,1.1s
ANM LR LR
comp=Z,2μm,21.0s
ANM Nome 20.17 69 eP Pn 10 53 22.6 -0.6
ANM pmax pmax
comp=Z,170nm,1.1s
TEY Ternei 20.58 200⇓ eP Pn 10 53 30.2 +2.1
TEY eS S **10 57 10.1 -5.6**
TEY pmax pmax
comp=E,20nm,1.4s
TEY pmax pmax
comp=Z,70nm,1.5s
TEY pmax pmax
comp=N,50nm,0.8s
TEY MLR MLR
comp=E,12μm,19.0s
TEY MLR MLR
comp=N,24μm,14.0s
TEY MLR MLR
comp=Z,40μm,15.0s
YUK Yuzh-Kuril'sk 20.83 181 *c i*P Pn 10 53 34.1 +3.1
YUK *i* S Sn 10 57 26.0 +0.1
YUK pmax pmax
comp=Z,204nm,0.9s
YUK pmax pmax
comp=N,92nm,0.7s
YUK pmax pmax
comp=E,114nm,0.5s
YUK pmax pmax
comp=Z,1μm,1.9s
YUK smax smax
comp=N,1μm,2.3s
YUK smax smax
comp=E,1μm,2.9s
ASAJ Asahikawa 20.86 188 P Pn 10 53 30.2 -1.2
comp=E,132nm,0.8s,baz=22,slow=8.8,SNR=73
ASAJ LR LR 11 01 54.3
comp=E,13μm,21.5s,baz=22,slow=38
ASAJ Asahikawa 20.86 188 eP P **10 53 27.6 -1.3**
comp=E,280nm,0.9s
SHO Shikotan 20.99 179 P P **10 53 31.0 +0.7**
SHO pmax pmax
comp=Z,74nm,0.5s
SHO pmax pmax
comp=N,21nm,0.6s
SHO pmax pmax
comp=E,11nm,0.7s
HIA Hailar 21.08 235 eP P **10 53 31.9 +0.6**
comp=E,224nm,1.0s
HIA LR LR
comp=Z,4μm,19.0s
HIA Hailar 21.08 235 eP P **10 53 31.9 +0.6**
HIA pmax pmax
comp=Z,224nm,1.0s
HIA MLR MLR
comp=Z,4μm,19.0s
CIT Chita 21.19 249 eP P **10 53 33.8 +1.2**
CIT *e* 10 54 03.1
CIT *e* 10 57 14.8
CIT *e* 10 57 42.2
CIT pmax pmax
comp=Z,450nm,2.2s
SPIA Saint Paul Isl 21.89 90 eP P **10 53 38.8 -1.1**
USA0B Ussuriysk Arra 22.21 209 eP P **10 53 43.3 -0.2**
comp=Z,344nm,1.5s
USA0B LR LR
comp=Z,15μm,20.0s
USRK Ussuriysk Ar. 22.21 209 P P **10 53 43.7 +0.2**
comp=Z,25nm,0.8s,baz=19,slow=11,SNR=24
USRK Lg Lg 11 00 31.6
comp=Z,26nm,1.1s,baz=356,slow=25,SNR=10
USRK LR LR 11 02 26.0
comp=Z,8μm,20.2s,baz=15,slow=37
MDJ Mudanjiang 22.34 213 P P **10 53 44.9 0.0**
MDJ sP sP 10 53 53.8 +4.1
MDJ S S **10 57 51.3 +1.2**
MDJ SS SnSn **10 58 18.3 +0.8**
MDJ pmax pmax
comp=Z,92nm,0.9s
MDJ pmax pmax
comp=Z,3μm,4.5s
MDJ LR LR
comp=Z,49μm,10.6s
MDJ LR LR
comp=Z,51μm,7.6s
MDJ Mudanjiang 22.34 213 eP P **10 53 45.2 +0.3**
comp=Z,301nm,1.0s
MDJ LR LR
comp=Z,31μm,18.0s
KIWB Kanaga Island 22.65 108 eP P **10 53 48.4 +0.3**
ADK Adak 22.82 107 eP P **10 53 50.1 +0.2**
comp=Z,696nm,1.3s
ADK Adak 22.82 107 eP P **10 53 50.1 +0.2**
ADK pmax pmax
comp=Z,700nm,1.3s
ERM Erimo 22.92 187 eP P **10 53 49.0 -2.0**
comp=Z,126nm,0.9s
ERM LR LR
comp=Z,6μm,18.0s
ERM Erimo 22.92 187 *c*eP P **10 53 48.6 -2.4**
ERM pmax pmax
comp=Z,168nm,1.3s
ERM MLR MLR
comp=Z,7μm,16.0s
VLA Vladivostok 23.27 208 *d i*P P **10 53 51.5 -3.0**
VLA pmax pmax
comp=Z,359nm,1.8s
VLA MLR MLR
comp=Z,11μm,15.0s
ATKA Atka Island 23.61 103 eP P **10 53 58.5 +0.7**
comp=Z,425nm,1.2s
MSHR Mys Shultsa 23.93 209 *d i*P P **10 53 59.6 -1.5**
IM3 Indian Mountai 24.07 60 eP P **10 54 02.3 +0.1**
CN2 Changchun 24.15 220⇓ P P **10 54 02.5 -0.7**
CN2 eSP sP 10 54 10.0 +1.8
CN2 eS S **10 58 17.5 -3.2**
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,67μm,11.0s
CN2 LR LR
comp=Z,22μm,13.0s
COLD Coldfoot 24.84 56 eP P **10 54 09.6 +0.4**
comp=Z,107nm,0.8s
COLD LR LR
comp=Z,9μm,19.0s
IRK Irkutsk 24.85 260 eP P **10 54 10.2 +0.8**
IRK pmax pmax
comp=Z,346nm,1.8s
MLY Manley 25.62 61 eP P **10 54 16.8 +0.4**
comp=Z,276nm,1.3s
UNV Unalaska Valle 25.69 93 eP P **10 54 16.5 -0.5**
comp=Z,567nm,1.5s
SVW2 Sparrevohn 25.77 71 PFAKE 10 54 30.0 +12
SVW2 LR LR
comp=Z,4μm,20.0s
AKUT Akutan 25.80 92 eP P **10 54 18.2 +0.3**
comp=Z,733nm,1.4s
CAST Castle Rocks 25.91 65 eP P **10 54 19.0 0.0**
comp=Z,64nm,1.0s
BPAW Bear Paw Mtn. 25.99 63 eP P **10 54 23.3 +3.6**
comp=Z,438nm,1.8s
PPLA Purkeypile 26.14 66 eP P **10 54 21.7 +0.5**
comp=Z,141nm,1.1s
PPLA LR LR
comp=Z,6μm,18.0s
SNY Shenyang 26.50 221⇓ P P **10 54 24.3 -0.1**
SNY S S **10 59 00.5 +2.4**
SNY pmax pmax
comp=Z,89nm,1.8s
SNY pmax pmax
comp=Z,2μm,4.4s
SNY LR LR
comp=Z,41μm,12.0s
SNY LR LR
comp=Z,14μm,10.2s
SNY LR LR
comp=Z,50μm,12.2s
TRF Thorofare Moun 26.59 64 eP P **10 54 24.9 -0.4**
comp=Z,144nm,1.1s
MDM Murphy Dome 26.59 60 eP P **10 54 25.5 +0.4**
comp=Z,148nm,1.0s
ZAK Zakamensk 26.65 258 eP P **10 54 26.9 +1.1**
ZAK *e* 11 00 27.4
ZAK pmax pmax
comp=Z,64nm,1.2s
MOY Mondy 26.66 262 eP P **10 54 28.1 +2.2**
MOY pmax pmax
comp=Z,212nm,1.5s
TCOL CIGO, UAF Yank 26.77 60 P P **10 54 25.6 -1.1**
baz=300
COLA College 26.77 60 eP P **10 54 27.9 +1.2**
comp=Z,180nm,0.9s
COLA College 26.77 60⇓ *i*P P **10 54 27.2 +0.5**
COLA pmax pmax
comp=Z,89nm,1.2s
COLA MLR MLR
comp=Z,4μm,14.0s
POKR Poker Plat Res 26.81 59 P P **10 54 26.6 -0.4**
baz=300
FYU Fort Yukon 26.89 55 eP P **10 54 29.6 +1.9**
comp=Z,307nm,1.0s
FYU LR LR
comp=Z,4μm,18.0s
WRH Wood River Hil 26.89 61 eP P **10 54 26.8 -0.9**
comp=Z,79nm,0.9s
MCK McKinley 26.96 62 eP P **10 54 29.0 +0.6**
comp=Z,394nm,1.6s
MCK LR LR
comp=Z,7μm,18.0s
MCK McKinley 26.96 62 eP P **10 54 29.0 +0.6**
MCK pmax pmax
comp=Z,394nm,1.6s
MCK MLR MLR
comp=Z,7μm,18.0s
ULN Ulaanbaatar 27.06 250 eP P **10 54 31.6 +2.0**
comp=Z,80nm,1.2s
ULN LR LR
comp=Z,15μm,18.0s
ULN Ulaanbaatar 27.06 250⇑ *i*P P **10 54 31.9 +2.3**
ULN pmax pmax
comp=Z,31nm,1.3s

ULN MLR MLR
comp=Z,13µm,17.0s
ULN Ulaanbaatar 27.06 250 P **P** **10 54 31.0 +1.3**
SNR=28
RND Reindeer 27.16 63 *e*P **P** **10 54 31.4 +1.1**
RND LR LR
comp=Z,51nm,0.9s
RND pmax pmax
comp=Z,8µm,18.0s
RND Reindeer 27.16 63 *e*P **P** **10 54 31.7 +1.4**
RND pmax pmax
comp=Z,51nm,0.9s
IL1 Eielson Array 27.18 59 *e*P **P** **10 54 31.7 +1.3**
ILAR Eielson Array 27.18 59 P **P** **10 54 30.5 +0.1**
comp=Z,22nm,0.9s,baz=299,slow=7.3,SNR=82
ILAR LR LR 11 05 18.9
comp=Z,3µm,21.3s,baz=42,slow=37
ILAR Eielson Array 27.18 59 P **P** **10 54 30.5 +0.1**
ILAR pmax pmax
comp=Z,23nm,0.9s
ILAR MLR MLR
comp=Z,3µm,21.3s
ILB Eielson Array 27.18 59 *e*P **P** **10 54 30.7 +0.3**
RSO Redoubt South 27.27 71 *e*P **P** **10 54 35.9 +4.5**
PRP Porcupine Dome 27.30 57 *e*P **P** **10 54 32.6 +1.0**
comp=Z,97nm,1.1s
SONA1 Songino Array 27.34 251 *e*P **P** **10 54 33.6 +1.5**
HDA Harding Lake 27.35 60 *e*P **P** **10 54 32.5 +0.6**
comp=Z,80nm,0.9s
HDA Harding Lake 27.35 60 P **P** **10 54 30.4 -1.5**
baz=301
SONA0 Songino Array 27.35 251 *e*P **P** **10 54 33.8 +1.6**
SONA0 *e*PcP **PcP** **10 57 50.6 -0.4**
SONA0 *e* 11 03 13.6
SONM Songino Array 27.35 251 P **P** **10 54 33.8 +1.6**
comp=Z,12nm,0.8s,baz=36,slow=8.6,SNR=74
SONM PcP **PcP** **10 57 50.6 -0.4**
comp=Z,5.0nm,0.8s,baz=340,slow=1.4,SNR=3.7
SONM Lg Lg 11 03 13.6
comp=Z,197nm,1.3s,baz=38,slow=26,SNR=10
SONM LR LR 11 06 14.5
comp=Z,9µm,21.5s,baz=42,slow=38
SUA Susitna One 27.50 68 *e*P **P** **10 54 33.5 +0.1**
comp=Z,98nm,1.2s
DHY Denali Highway 27.90 63 *e*P **P** **10 54 36.7 -0.4**
comp=Z,66nm,1.0s
DHY LR LR
comp=Z,7µm,18.0s
GHO Glory Hole Cre 28.04 66 *e*P **P** **10 54 37.6 -0.6**
comp=Z,99nm,0.8s
GHO LR LR
comp=Z,3µm,20.0s
PMR Palmer 28.06 66 *e*P **P** **10 54 38.0 -0.3**
comp=Z,35nm,0.9s
PMR LR LR
comp=Z,3µm,19.0s
PMR Palmer 28.06 66 *e*P **P** **10 54 38.4 +0.2**
PMR pmax pmax
comp=Z,35nm,0.9s
RC01 Rabbit Creek A 28.11 68 *e*P **P** **10 54 39.8 +1.1**
comp=Z,149nm,1.8s
SML Sawmill 28.25 66 *e*P **P** **10 54 40.1 +0.2**
comp=Z,115nm,1.0s
SML LR LR
comp=Z,3µm,18.0s
SML Sawmill 28.25 66 *e*P **P** **10 54 40.2 +0.2**
SML pmax pmax
comp=Z,120nm,1.0s
KNK Knik Glacier 28.43 66 *e*P **P** **10 54 41.5 -0.1**
comp=Z,98nm,0.8s
KNK LR LR
comp=Z,2µm,19.0s
RIDG Independ'e Rid 28.49 60 PFAKE 10 54 50.0 +7.9
RIDG LR LR
comp=Z,3µm,20.0s
SCM Sheep Creek Mo 28.62 65 *e*P **P** **10 54 42.9 -0.5**
comp=Z,126nm,1.2s
SCM LR LR
comp=Z,3µm,18.0s
SCM Sheep Creek Mo 28.62 65 *e*P **P** **10 54 43.0 -0.4**
SCM pmax pmax
comp=Z,130nm,1.2s
PAX Paxson 28.68 62 *e*P **P** **10 54 44.4 +0.5**
comp=Z,56nm,1.2s
PAX Paxson 28.68 62 *e*P **P** **10 54 47.5 +3.6**
PAX pmax pmax
comp=Z,56nm,1.1s
MJB9 Matsu-Tunnel 28.74 194 *e*P **P** **10 54 44.0 -0.6**
comp=Z,57nm,0.9s
MJB9 LR LR
comp=Z,6µm,18.0s
MAJO Matsushiro 28.74 194 *e*P **P** **10 54 43.8 -0.8**
comp=Z,56nm,0.9s
MAJO Matsushiro 28.74 194⇑ *i*P **P** **10 54 44.2 -0.4**
MAJO pmax pmax
comp=Z,34nm,1.1s
MAJO MLR MLR
comp=Z,5µm,17.0s
MAT Matsushiro 28.74 194 P **P** **10 54 43.2 -1.4**
MAT S **S** **10 59 28.2 -5.4**
MJAR Matsushiro Arr 28.75 194 P **P** **10 54 43.9 -0.7**
comp=Z,43nm,1.0s,baz=352,slow=7.9,SNR=43
MJAR LR LR 11 06 49.2
comp=Z,6µm,18.3s,baz=20,slow=38
MJAR Matsushiro Arr 28.75 194 P **P** **10 54 43.9 -0.7**
MJAR pmax pmax
comp=Z,43nm,1.0s
MJAR MLR MLR
comp=Z,6µm,18.3s
SEW Seward 28.81 69 *e*P **P** **10 54 45.0 +0.1**
comp=Z,80nm,1.0s
SEW LR LR
comp=Z,6µm,18.0s
DOT Dot Lake 28.83 60 *e*P **P** **10 54 44.5 -0.6**
comp=Z,35nm,0.8s
KDAK Kodiak Island 28.98 75 P **P** **10 54 46.3 -0.1**
comp=Z,15nm,0.8s,baz=356,slow=4.8,SNR=7.3
KDAK LR LR 11 05 56.4
comp=Z,2µm,20.5s,baz=35,slow=36
KDAK Kodiak Island 28.98 75 *i* P **P** **10 54 47.1 +0.7**
OHAK Old Harbor 29.05 76 *e*P **P** **10 54 47.8 +0.8**
comp=Z,75nm,1.0s
HARP HAARP 29.12 63 *e*P **P** **10 54 48.2 +0.5**
comp=Z,78nm,1.0s
EGAK Eagle 29.26 57 *e*P **P** **10 54 49.2 +0.3**
comp=Z,54nm,0.9s
EGAK LR LR
comp=Z,8µm,18.0s
GLI Glacier Island 29.28 66 *e*P **P** **10 54 49.4 +0.3**
comp=Z,48nm,0.9s
GLI LR LR
comp=Z,2µm,19.0s
KLU Klutina 29.37 65 *e*P **P** **10 54 50.3 +0.3**
comp=Z,38nm,0.9s
KLU LR LR
comp=Z,3µm,20.0s
KSRS Korea Array 29.54 211 P **P** **10 54 51.6 +0.1**
comp=Z,3.1nm,0.7s,baz=13,slow=8.5,SNR=12
KSRS PcP **PcP** **10 57 55.3 -1.0**
comp=Z,4.2nm,0.9s,baz=323,slow=3.5,SNR=3.5
KSRS Lg Lg 11 04 24.3
comp=Z,1.1nm,0.9s,baz=14,slow=24,SNR=4.4
KSRS LR LR 11 08 11.5
comp=Z,3µm,19.1s,baz=30,slow=39
KSAR Wonju Array Be 29.56 211 P **P** **10 54 51.6 -0.1**
KSAR PcP **PcP** **10 57 55.3 -1.1**
KSAR Lg Lg 11 04 24.4
KSAR Wonju Array Be 29.56 211 P **P** **10 54 51.7 -0.1**
KSAR 10 57 55.3
DIV Divide 29.64 65 *e*P **P** **10 54 51.4 -1.0**
comp=Z,107nm,1.5s
DIV LR LR
comp=Z,4µm,18.0s
DL2 Dalian 29.76 221⇓ P **P** **10 54 53.6 +0.1**
DL2 S **S** **10 59 48.3 -1.2**
DL2 pmax pmax
comp=Z,48nm,1.3s
DL2 pmax pmax
comp=Z,640nm,3.7s
DL2 LR LR
comp=Z,24µm,15.6s
DL2 LR LR
comp=Z,38µm,14.6s
DL2 LR LR
comp=Z,22µm,11.4s
INK Inuvik 29.90 47 P **P** **10 54 55.1 +0.5**
comp=Z,36nm,0.7s,baz=314,slow=12,SNR=89
INK LR LR 11 08 48.0
comp=Z,4µm,19.1s,baz=286,slow=40
INK Inuvik 29.90 47 *e*P **P** **10 54 54.9 +0.4**
comp=Z,256nm,1.5s
INK Inuvik 29.90 47 *e*P **P** **10 54 55.3 +0.8**
INK pmax pmax
comp=Z,260nm,1.5s
EPYK Eagle Plains 29.92 52 *e*P **P** **10 54 55.0 +0.2**
comp=Z,396nm,1.7s
EPYK LR LR
comp=Z,4µm,19.0s
EPYK Eagle Plains 29.92 52 P **P** **10 54 54.8 +0.1**
baz=304
INU Inuyama 30.05 196 *e*P **P** **10 54 55.7 -0.4**
comp=Z,45nm,1.2s
INU LR LR
comp=Z,4µm,19.0s
BMRM Bremner River 30.19 65 *e*P **P** **10 54 56.2 -1.1**
comp=Z,103nm,0.9s
BMRM LR LR
comp=Z,5µm,20.0s
DAWY Dawson 30.30 57 *e*P **P** **10 54 57.5 -0.6**
comp=Z,24nm,1.0s
DAWY LR LR
comp=Z,9µm,18.0s
BJI Beijing 30.39 230⇑ *i*P **P** **10 55 00.4 +1.3**
BJI S **S** **10 59 59.9 +0.6**
BJI pmax pmax
comp=Z,560nm,4.8s
BJI LR LR
comp=Z,7µm,10.2s
BJI LR LR
comp=Z,8µm,12.7s
BJT Baijiatuau 30.42 230 *e*P **P** **10 55 00.1 +0.8**
comp=Z,121nm,1.2s
BJT LR LR
comp=Z,12µm,18.0s
BJT Baijiatuau 30.42 230 *e*P **P** **10 55 00.1 +0.8**
BJT pmax pmax
comp=Z,121nm,1.2s
BJT MLR MLR
comp=Z,12µm,18.0s
MID Middleton Isla 30.47 68 PFAKE 10 55 10.0 +10
MID LR LR
comp=Z,12µm,20.0s
RAGM Ragged Mountai 30.52 66 PFAKE 10 55 10.0 +10
RAGM LR LR
comp=Z,4µm,18.0s
TJN Taejon 30.70 211 *ce*P **P** **10 55 01.7 -0.1**
HMT Hamilton 30.72 66 PFAKE 10 55 10.0 +8.2
HMT LR LR
comp=Z,7µm,22.0s
BALM Baldy 31.02 63 *e*P **P** **10 55 05.5 +0.9**
comp=Z,133nm,1.6s
BALM LR LR
comp=Z,6µm,19.0s
BALM Baldy 31.02 63 *e*P **P** **10 55 05.5 +0.9**
BALM pmax pmax
comp=Z,133nm,1.6s
BALM MLR MLR
comp=Z,6µm,19.0s
HHC Hu-ho-hao-te 31.26 237 *e*P **P** **10 55 08.8 +1.9**
HHC S **S** **11 00 13.6 +0.4**
HHC sS sS 11 00 21.4 +2.0
HHC pmax pmax
comp=Z,25nm,1.3s
HHC LR LR
comp=Z,6µm,7.8s
HHC LR LR
comp=Z,6µm,9.9s
HHC LR LR
comp=Z,6µm,8.6s
ZAA1 Zalesovo Array 31.92 280 *e*P **P** **10 55 12.7 +0.3**
ZAA1 *e*PcP **PcP** **10 58 02.1 -0.3**
ZAA0 Zalesovo Array 31.92 280 *e*P **P** **10 55 12.6 +0.1**
comp=Z,24nm,0.8s
ZAA0 *e*PcP **PcP** **10 58 03.3 +0.9**
ZAA0 LR LR
comp=Z,5µm,19.0s
ZALV Zalesovo Beam 31.92 280 P **P** **10 55 12.7 +0.3**
comp=Z,4.9nm,0.8s,baz=48,slow=7.9,SNR=18
ZALV PcP **PcP** **10 58 02.1 -0.3**
comp=Z,17nm,0.9s,baz=53,slow=2.3,SNR=6.7
ZALV LR LR 11 08 38.4
comp=Z,4µm,19.1s,baz=26,slow=37
ZALV Zalesovo Beam 31.92 280 *e*P **P** **10 55 12.7 +0.3**
ZALV *e*PcP **PcP** **10 58 03.5 +1.1**
NVS Novosibirsk 31.96 282⇑ *i*P **P** **10 55 14.4 +1.6**
NVS *i* 10 56 31.8
NVS *i* 11 02 20.3
NVS *i* 11 05 44.6
NVS pmax pmax
comp=Z,70nm,1.5s
NVS pmax pmax
comp=N,57nm,1.8s
NVS pmax pmax
comp=E,53nm,1.6s
JHJ Hachijo jima 2 31.99 191 LR LR 11 08 20.5
comp=E,5µm,18.8s,baz=30,slow=37
BTO Baotou 32.03 239 *e*P **P** **10 55 13.1 -0.6**
BTO S **S** **11 00 19.5 -5.7**
PCA Pinnacle 32.41 63 PFAKE 10 55 30.0 +13
PCA LR LR
comp=Z,3µm,20.0s
HYT Haines Junctio 32.98 61 *e*P **P** **10 55 21.9 0.0**
comp=Z,31nm,0.8s
HYT LR LR
comp=Z,2µm,19.0s
JNU Nakatsue 33.15 204 LR LR 11 08 36.4
comp=Z,6µm,21.2s,baz=22,slow=36
JNU Nakatsue 33.15 204 *e*P **P** **10 55 23.5 +0.1**
comp=Z,21nm,0.8s
TIA Tai'an 33.59 226 P **P** **10 55 22.8 -4.4**
TIA S **S** **11 00 48.3 -1.0**
TIA pmax pmax
comp=Z,160nm,8.3s
TIA LR LR
comp=Z,7µm,16.2s
TIA LR LR
comp=Z,6µm,13.2s
TIA LR LR
comp=Z,8µm,13.7s
TIY Taiyuan 33.75 233 *e*P P 10 55 34.8 +6.1
TIY PP **PP** **10 56 44.4 -0.5**
TIY S **S** **11 00 50.4 -1.5**
TIY pmax pmax
comp=Z,21nm,0.6s
TIY pmax pmax
comp=Z,480nm,5.2s
TIY LR LR
comp=N,23µm,9.7s
TIY LR LR
comp=E,20µm,11.1s
TIY LR LR
comp=Z,37µm,9.7s
DGZ Jazzator, Alta 33.90 272 *i* P **P** **10 55 32.5 +2.5**
DGZ pmax pmax
comp=Z,26nm,1.0s
DGZ MLR MLR
comp=Z,4µm,11.0s
KBS Kingsbay 34.04 346 *e*P **P** **10 55 32.1 +1.4**
comp=Z,408nm,1.8s
KBS LR LR
comp=Z,5µm,18.0s
KBS Kingsbay 34.04 346 *ce*P **P** **10 55 31.6 +0.9**
KBS pmax pmax
comp=Z,1µm,2.5s
KBS MLR MLR
comp=Z,17µm,17.0s
WHY Whitehorse 34.07 60 *e*P **P** **10 55 30.7 -0.6**
comp=Z,87nm,1.5s
WHY LR LR
comp=Z,4µm,21.0s
SPA0 Spitsbergen Ar 34.16 344 *e*P **P** **10 55 32.5 +0.6**
SPA0 *e*PcP **PcP** **10 58 09.6 +1.3**
SPITS Spitsbergen Ar 34.16 344 LR LR 11 09 32.6
comp=Z,5µm,18.8s,baz=45,slow=36
SKAG Skagway 34.71 61 *e*P **P** **10 55 36.3 -0.3**
comp=Z,180nm,1.4s
SKAG LR LR
comp=Z,3µm,18.0s
RES Resolute Bay 35.22 24 *e*P **P** **10 55 41.2 +0.3**
comp=Z,179nm,0.8s
RES LR LR
comp=Z,4µm,20.0s
RES Resolute Bay 35.22 24 *e*P **P** **10 55 41.2 +0.3**
RES pmax pmax
comp=Z,179nm,0.8s
RES MLR MLR
comp=Z,4µm,20.0s
BESE Bessie Mountai 35.49 62 PFAKE 10 56 00.0 +16
BESE LR LR
comp=Z,4µm,20.0s
JIS Juneau Island 35.88 62 *e*P **P** **10 55 48.4 +1.7**
comp=Z,35nm,1.1s
JIS LR LR
comp=Z,3µm,18.0s
SEM Semipalatinsk 36.43 279 *e*P **P** **10 55 52.0 +0.2**
SEM *i* S **S** **11 01 31.1 -2.0**
SEM pmax pmax
comp=Z,295nm,1.7s
SEM smax smax
comp=E,3µm,5.2s
SEM MLR MLR
comp=Z,6µm,14.0s
SEM Semipalatinsk 36.43 279 *e*P **P** **10 55 52.0 +0.2**
comp=Z,295nm,1.7s
SEM ⇓ *i*S **S** **11 01 31.2 -2.0**
comp=Z,3µm,5.2s
SEM *e*LRM MLR 11 11 49.7
comp=Z,6µm,14.5s
ZSN Zaisan 36.72 272 *i* P **P** **10 55 54.2 +0.1**
ZSN pmax pmax
comp=Z,217nm,1.3s
ZSN Zaisan 36.72 272 *i* P **P** **10 55 54.3 +0.1**
comp=Z,217nm,1.3s
KURK Kurchatov 36.88 281 *e*P **P** **10 55 56.2 +0.8**
comp=Z,108nm,1.0s
KURK LR LR
comp=Z,13µm,19.0s
KURK Kurchatov 36.88 281 *d i*P **P** **10 55 56.2 +0.8**
KURK pmax pmax
comp=Z,78nm,1.7s
KURK MLR MLR
comp=Z,9µm,14.0s
KURK Kurchatov 36.88 281 P **P** **10 55 55.4 0.0**
SNR=43
NJ2 Nanjing 36.96 221 *e*P **P** **10 55 56.6 +0.4**
NJ2 S **S** **11 01 41.9 +0.8**
NJ2 sS **sS** **11 01 48.1 +0.8**
NJ2 pmax pmax
comp=Z,13nm,0.8s
NJ2 pmax pmax
comp=Z,670nm,4.7s
NJ2 LR LR
comp=Z,13µm,11.9s
NJ2 LR LR
comp=Z,20µm,11.4s
NJ2 LR LR
comp=Z,10µm,17.3s
GTA Gaotai 36.99 250 P **P** **10 55 57.6 +0.9**
GTA pP sP 10 56 02.5 +0.7
GTA sP pP 10 56 05.6 +5.3
GTA PP **PnPn** **10 57 22.5 +1.6**
GTA S **S** **11 01 43.0 +1.2**
GTA sS sS 11 01 52.6 +4.8
GTA pmax pmax
comp=Z,18nm,1.0s
GTA pmax pmax
comp=Z,310nm,5.5s
GTA LR LR
comp=Z,12µm,12.7s
GTA LR LR
comp=Z,20µm,14.0s
TULEG Thule 37.16 13 *e*P **P** **10 55 57.2 -0.3**
comp=Z,204nm,1.3s
TULEG LR LR
comp=Z,8µm,19.0s
SSE Sheshan 37.23 217 PFAKE 10 56 10.0 +11
SSE LR LR
comp=Z,13µm,18.0s
DLBC Dease Lake 37.39 59 *e*P **P** **10 56 02.0 +2.2**
comp=Z,77nm,1.0s
DLBC LR LR
comp=Z,4µm,20.0s
CBIJ Chichi jima 37.83 186 *e*P **P** **10 56 03.8 +0.2**
comp=Z,145nm,0.8s
WRAK Wrangell Islan 37.98 63 *e*P **P** **10 56 06.2 +1.5**
comp=Z,46nm,1.0s
XAN Xi'an 38.28 235 P **P** **10 56 08.5 +1.1**
XAN S **S** **11 01 57.0 -4.2**
XAN pmax pmax
comp=Z,32nm,0.6s
XAN pmax pmax
comp=Z,670nm,7.8s
XAN LR LR
comp=Z,26µm,14.1s
XAN LR LR
comp=Z,21µm,10.4s
XAN LR LR
comp=Z,22µm,17.2s
XAN Xi'an 38.28 235 *e*P **P** **10 56 08.6 +1.1**
comp=Z,263nm,1.2s
XAN LR LR
comp=Z,83µm,18.0s
XAN Xi'an 38.28 235 *e*P **P** **10 56 08.6 +1.1**
XAN pmax pmax
comp=Z,260nm,1.2s
LZH Lanzhou 38.31 242 *e*P **P** **10 56 10.1 +2.3**
LZH pP sP 10 56 13.3 +0.4
LZH sP pP 10 56 14.8 +3.3
LZH PP **PnPn** **10 57 42.0 +5.1**
LZH *e*S **S** **11 02 02.0 +0.2**
LZH sS ScP 11 02 09.3 +0.4
LZH pmax pmax
comp=Z,120nm,1.0s
LZH pmax pmax
comp=Z,1µm,5.4s
LZH LR LR
comp=Z,28µm,9.8s
LZH LR LR
comp=Z,40µm,11.9s
MK31 Makanchi Array 38.34 274 *e*P **P** **10 56 08.1 +0.3**
MK31 Makanchi Array 38.34 274 *e*P **P** **10 56 08.0 +0.2**
MK32 Makanchi Array 38.34 274 *e*P **P** **10 56 07.7 -0.2**
MKAR Makanchi Array 38.34 274 P **P** **10 56 07.7 -0.2**
comp=Z,4.2nm,0.6s,baz=46,slow=7.1,SNR=31
MKAR LR LR 11 11 29.0
comp=Z,1µm,19.3s,baz=28,slow=36
DAG Danmarks Havn 38.35 355⇑ *i*P **P** **10 56 06.8 -0.7**
comp=Z,39nm,0.9s
DAG Danmarks Havn 38.35 355⇑ *i*P **P** **10 56 06.8 -0.7**
DAG pmax pmax
comp=Z,33nm,0.9s
MK01 Makanchi Array 38.35 274 *e*P **P** **10 56 08.1 +0.2**
CRAG Craig 38.38 65 *e*P **P** **10 56 11.2 +3.3**
comp=Z,78nm,1.1s
WMQ Urumqi 38.39 266 P **P** **10 56 10.1 +1.8**
WMQ pP sP 10 56 14.1 +0.6
WMQ PP **PnPn** **10 57 40.9 +3.2**
WMQ PcP **PcP** **10 58 24.8 +3.3**
WMQ S **S** **11 02 04.8 +2.0**
WMQ SS **SnSn** **11 04 42.3 -5.7**
WMQ ScS **ScS** **11 06 17.3 -1.7**
WMQ pmax pmax
comp=Z,120nm,1.5s
WMQ pmax pmax
comp=Z,2µm,4.3s
WMQ LR LR
comp=Z,21µm,11.3s
WMQ LR LR
comp=Z,12µm,11.9s
WMQ LR LR
comp=Z,5µm,14.7s
WMQ Urumqi 38.39 266 PFAKE 10 56 20.0 +12
WMQ LR LR
comp=Z,4µm,19.0s
MAKZ Makanchi 38.46 274 *e*P **P** **10 56 09.1 +0.3**
comp=Z,72nm,1.0s
MAKZ *e*PcP **PcP** **10 58 22.0 +0.3**
MAKZ LR LR
comp=Z,1µm,22.0s
MAKZ Makanchi 38.46 274 *e*P **P** **10 56 09.1 +0.3**
MAKZ *e* 10 58 22.0
MAKZ pmax pmax
comp=Z,72nm,1.0s
MAKZ MLR MLR
comp=Z,1µm,22.0s
BVA0 Borovoye Array 38.55 290 *i* P **P** **10 56 10.2 +0.7**
BVA0 pmax pmax
comp=Z,69nm,1.1s
BVAR Borovoye Array 38.55 290 LR LR 11 14 07.7
comp=Z,4µm,19.2s,baz=44,slow=40
BRVK Borovoye 38.56 290 *e*P **P** **10 56 10.4 +0.8**

BRVK LR LR
comp=Z,1μm,20.0s
BRVK Borovoye 38.56 290 *c iP* **P 10 56 09.9 +0.3**
BRVK pmax pmax
comp=Z,86nm,1.1s
BRVK MLR MLR
comp=Z,6μm,16.0s
BRVK Borovoye 38.56 290 P **P 10 56 09.5 -0.1**
SNR=35
LVZ Lovozero 39.09 326 *e*P **P 10 56 13.9 0.0**
comp=Z,156nm,1.4s
LVZ Lovozero 39.09 326 *i* P **P 10 56 13.7 -0.2**
LVZ MLR MLR
comp=Z,11μm,17.0s
HAMF Hammerfest 39.23 334 *e*P **P 10 56 15.2 +0.3**
KEV Kevo 39.30 331 *e*P **P 10 56 16.5 +0.9**
comp=Z,314nm,2.0s
KEV LR LR
comp=Z,7μm,22.0s
KEV Kevo 39.30 331 *e*P **P 10 56 16.5 +0.9**
KEV pmax pmax
comp=Z,314nm,2.0s
KEV MLR MLR
comp=Z,7μm,22.0s
SVE Sverdlovsk 39.49 300 *de*P **P 10 56 18.1 +0.8**
SVE *e* 10 57 54.0
SVE *e*S **S 11 02 18.8 -0.1**
SVE *e* 11 05 07.9
SVE pmax pmax
comp=Z,156nm,1.0s
SVE MLR MLR
comp=Z,7μm,15.0s
YKW3 Yellowknife Ar 39.60 46 *e*P **P 10 56 18.6 +0.5**
comp=Z,82nm,0.9s
YKW3 LR LR
comp=Z,5μm,19.0s
APA Apatity 39.64 326 ⇓*i*P **P 10 56 17.4 -1.0**
APA *i* S S 11 02 11.0 -10
APA *i* SS **SS 11 05 12.0 -3.5**
APA pmax pmax
comp=Z,17nm,1.0s
YKA Yellowknife Ar 39.65 46 P **P 10 56 18.5 0.0**
comp=Z,59nm,0.8s,baz=316,slow=8.4,SNR=668
YKB5 Yellowknife Ar 39.65 46 *e*P **P 10 56 18.4 -0.2**
WHN Wuhan 39.70 226 ⇑P **P 10 56 19.8 +0.5**
WHN S **S 11 02 18.8 -3.7**
WHN LR LR
comp=Z,15μm,10.9s
WHN LR LR
comp=Z,16μm,10.5s
WHN LR LR
comp=Z,32μm,13.0s
JOW Kunigami 39.75 206 LR LR 11 14 35.9
comp=Z,6μm,18.1s,baz=36,slow=39
ARA0 ARCESS Array S 39.78 332 *e*P **P 10 56 19.6 0.0**
ARA0 *e*PcP **PcP 10 58 25.6 +0.2**
ARCES ARCESS Array B 39.78 332 P **P 10 56 19.6 0.0**
comp=Z,17nm,0.8s,baz=33,slow=7.6,SNR=26
ARCES PcP **PcP 10 58 25.6 +0.2**
comp=Z,14nm,0.7s,baz=35,slow=3.4,SNR=4.6
ARCES LR LR 11 17 07.2
comp=Z,384nm,19.9s,baz=26,slow=43
ARCES ARCESS Array B 39.78 332 *e*P **P 10 56 20.6 +0.9**
ARCES *e*PcP **PcP 10 58 25.8 +0.4**
ARCES ARCESS Array B 39.78 332 *e*P **P 10 56 20.6 +0.9**
ARCES *e* 10 58 25.8
ARE0 ARCESS Array S 39.78 332 *e*P **P 10 56 20.2 +0.6**
comp=Z,4.7nm,1.4s
ARE0 LR LR
comp=Z,400nm,20.0s
ARE0 ARCESS Array S 39.78 332 *e*P **P 10 56 20.7 +1.1**
KULLO Kullorsuaq 39.99 10 *i* P **P 10 56 22.3 +1.0**
KULLO Kullorsuaq 39.99 10 *i* P **P 10 56 22.3 +1.0**
DIB Dawson Inlet, 40.32 67 *e*P **P 10 56 25.5 +1.3**
comp=Z,37nm,0.8s
ARU Arti 40.55 301 *e*P **P 10 56 26.6 +0.5**
comp=Z,198nm,1.0s
ARU *e*PcP **PcP 10 58 29.4 +1.4**
ARU LR LR
comp=Z,6μm,18.0s
ARU Arti 40.55 301 *c iP* **P 10 56 26.0 -0.1**
ARU 10 58 01.1
ARU 10 58 26.5
ARU S **S 11 02 38.1 +3.3**
ARU SS **SS 11 05 31.0 -2.9**
ARU 11 06 28.0
ARU pmax pmax
comp=Z,73nm,0.8s
ARU MLR MLR
comp=Z,7μm,16.0s
KTK1 Kautokeino 40.67 332 *e*P **P 10 56 27.6 +0.6**
PRGR Permogore 40.94 314 *e*P **P 10 56 28.2 -1.0**
PRGR pmax pmax
comp=Z,59nm,0.8s
TRO Tromso 40.96 335 *e*P **P 10 56 29.7 +0.4**
OTUK Ortayu 41.41 283 P **P 10 56 33.5 +0.2**
OTUK pmax pmax
comp=Z,84nm,1.5s
TDK Taldyqorghan 41.41 275 *e*P **P 10 56 34.4 +1.0**
TDK *i* S **S 11 02 48.8 +0.9**
TDK smax smax
comp=E,2μm,4.7s
TDK MLR MLR
comp=Z,17μm,12.0s
TDK Taldyqorghan 41.41 275 *e*P **P 10 56 34.4 +1.0**
comp=Z,1μm,1.0s
TDK ⇑*i*S **S 11 02 48.9 +1.0**
comp=Z,2μm,4.7s
TDK *e*LRM MLR 11 14 13.9
comp=Z,17μm,12.4s
ENH Enshi 41.52 232 *e*P **P 10 56 35.1 +0.7**
comp=Z,47nm,0.9s
ENH LR LR
comp=Z,6μm,20.0s
PDGK Podgornoye 42.30 273 P **P 10 56 42.1 +1.3**
PDGK pmax pmax
comp=Z,43nm,1.1s
SHLS Shalkode 42.45 273 *e*P **P 10 56 40.5 -1.5**
SHLS *i* S **S 11 03 01.5 -2.0**
SHLS pmax pmax
comp=Z,919nm,1.3s
SHLS smax smax
comp=E,1μm,5.1s
SHLS MLR MLR
comp=Z,4μm,13.0s
SHLS Shalkode 42.45 273 *e*P **P 10 56 40.5 -1.5**
comp=Z,918nm,1.3s
SHLS ⇓*i*S **S 11 03 01.5 -2.0**
comp=Z,1μm,5.1s
SHLS *e*LRM MLR 11 14 39.0
comp=Z,4μm,12.8s
KPKS Kokpek 42.53 274 *e*P **P 10 56 42.8 +0.2**
KPKS *i* S **S 11 03 05.7 +1.1**
KPKS pmax pmax
comp=Z,401nm,1.1s
KPKS smax smax
comp=E,1μm,6.3s
KPKS MLR MLR
comp=Z,6μm,13.0s
KPKS Kokpek 42.53 274 *e*P **P 10 56 42.9 +0.2**
comp=Z,401nm,1.1s
KPKS ⇓*i*S **S 11 03 05.8 +1.1**
comp=Z,1μm,6.3s
KPKS *e*LRM MLR 11 15 06.7
comp=Z,6μm,12.6s
UZB Uzynbulak 42.64 273 *de*P **P 10 56 44.0 +0.4**
UZB *i* S **S 11 03 07.1 +0.7**
UZB pmax pmax
comp=Z,277nm,1.4s
UZB smax smax
comp=E,847nm,6.2s
UZB MLR MLR
comp=Z,5μm,10.0s
UZB Uzynbulak 42.64 273 ⇓*e*P **P 10 56 44.1 +0.4**
comp=Z,277nm,1.4s
UZB ⇓*i*S **S 11 03 07.2 +0.7**
comp=Z,846nm,6.2s
UZB *e*LRM MLR 11 14 44.9
comp=Z,5μm,10.4s
BBB Bella Bella 42.81 65 *e*P **P 10 56 47.0 +2.4**
comp=Z,72nm,1.2s
BBB LR LR
comp=Z,4μm,19.0s
SUMG Summit 42.83 2 *e*P **P 10 56 45.3 +0.3**
comp=Z,79nm,0.8s

SUMG LR LR
comp=Z,7μm,22.0s
SUMG Summit 42.83 2 ⇑*i*P **P 10 56 45.6 +0.6**
comp=Z,179nm,0.7s
SUMG Summit 42.83 2 *e*P **P 10 56 44.7 -0.3**
SUMG pmax pmax
comp=Z,79nm,0.8s
CHKK Chushkaly 42.94 276 ⇓*e*P **P 10 56 45.7 -0.1**
CHKK pmax pmax
comp=Z,145nm,0.9s
CHKK Chushkaly 42.94 276 ⇓*e*P **P 10 56 45.8 -0.1**
comp=Z,146nm,0.9s
CD2 Chengdu 42.96 239 ⇑P **P 10 56 47.1 +1.0**
CD2 pP pP 10 56 50.8 +1.0
CD2 PP **PP 10 58 26.8 +1.1**
CD2 PcS **PcS 11 02 30.1 +1.2**
CD2 S **S 11 03 12.3 +1.3**
CD2 sS sS 11 03 18.8 +1.8
CD2 pmax pmax
comp=Z,70nm,0.6s
CD2 pmax pmax
comp=Z,790nm,4.9s
CD2 LR LR
comp=Z,24μm,11.3s
CD2 LR LR
comp=Z,35μm,10.8s
SATY Saty 42.98 274 *e*P **P 10 56 46.7 +0.4**
SATY *i* S **S 11 03 12.9 +1.7**
SATY pmax pmax
comp=Z,847nm,1.3s
SATY smax smax
comp=E,1μm,5.2s
SATY MLR MLR
comp=Z,8μm,12.0s
SATY Saty 42.98 274 *e*P **P 10 56 46.8 +0.4**
comp=Z,847nm,1.3s
SATY ⇓*i*S **S 11 03 13.0 +1.7**
comp=Z,1μm,5.2s
SATY *e*LRM MLR 11 15 04.6
comp=Z,8μm,12.1s
TATO Taipei 43.00 214 PFAKE 10 57 00.0 +14
TATO LR LR
comp=Z,7μm,18.0s
STEI Steigen 43.11 335 *e*P **P 10 56 47.1 +0.2**
YOJ Yonaguni jima 43.14 212 PFAKE 10 57 00.0 +12
YOJ LR LR
comp=Z,4μm,21.0s
LOF Lofoten 43.23 336 *e*P **P 10 56 47.1 -0.7**
BTLS Baital 43.23 279 *e*P **P 10 56 48.4 +0.3**
BTLS *i* S **S 11 03 15.3 +0.6**
BTLS pmax pmax
comp=Z,237nm,1.1s
BTLS smax smax
comp=E,555nm,5.0s
BTLS MLR MLR
comp=Z,7μm,18.0s
BTLS Baital 43.23 279 *e*P **P 10 56 48.5 +0.3**
comp=Z,237nm,1.1s
BTLS ⇓*i*S **S 11 03 15.3 +0.6**
comp=Z,555nm,5.0s
BTLS *e*LRM MLR 11 16 01.2
comp=Z,7μm,17.8s
YHNB Yeheng 43.33 214 PFAKE 10 57 00.0 +11
YHNB LR LR
comp=Z,8μm,21.0s
KLMR Klimovskoe 43.39 317 *e*P **P 10 56 48.1 -1.1**
KLMR *e* 10 58 34.6
KLMR pmax pmax
comp=Z,141nm,1.4s
KLMR Klimovskoe 43.39 317 *e*P **P 10 56 48.1 -1.1**
KLMR AMP 10 56 58.0
comp=Z,141nm,1.4s
KLMR *e*PcP **PcP 10 58 34.7 -2.6**
MDOK Medeo 43.47 275 *e*P **P 10 56 50.5 +0.2**
MDOK pmax pmax
comp=Z,457nm,1.0s
MDOK MLR MLR
comp=Z,5μm,14.0s
MDOK Medeo 43.47 275 *e*P **P 10 56 50.6 +0.2**
comp=Z,457nm,1.0s
MDOK *e*LRM MLR 11 15 19.8
comp=Z,5μm,13.6s
AAA Alma-Ata 43.49 275 *e*P **P 10 56 51.0 +0.6**
AAA pmax pmax
comp=Z,198nm,1.0s
AAA MLR MLR
comp=Z,2μm,12.0s
AAA Alma-Ata 43.49 275 *e*P **P 10 56 51.0 +0.6**
comp=Z,198nm,1.0s
AAA *e*LRM MLR 11 15 26.0
comp=Z,2μm,12.5s
NACB Ninganchiao 43.75 214 PFAKE 10 57 00.0 +7.5
NACB LR LR
comp=Z,10μm,18.0s
QZH Quanzhou 43.77 218 ⇓*i*P **P 10 56 56.0 +3.4**
QZH S **S 11 03 21.3 -1.5**
QZH pmax pmax
comp=Z,510nm,3.8s
QZH LR LR
comp=Z,19μm,14.9s
QZH LR LR
comp=Z,34μm,16.4s
QZH LR LR
comp=Z,17μm,13.0s
SSLB Suanglung 44.27 215 PFAKE 10 57 10.0 +13
SSLB LR LR
comp=Z,9μm,20.0s
TKM2 Tokmak 2 44.29 276 P **P 10 56 58.3 +1.4**
SNR=8.8
TKM2 Tokmak 2 44.29 276 *i* P **P 10 56 57.9 +1.0**
TKM2 pmax pmax
comp=Z,59nm,2.2s
TARG Taragay, Kyrgy 44.32 273 *e*P **P 10 57 00.7 +3.2**
comp=Z,34nm,1.0s
TARG LR LR
comp=Z,2μm,18.0s
USP Ospenovka 44.47 277 P **P 10 56 59.8 +1.6**
SNR=22
ULHL Ulahol 44.56 275 P **P 10 57 01.4 +2.3**
SNR=7.5
YULB Yu-li 44.57 214 PFAKE 10 57 10.0 +11
YULB LR LR
comp=Z,5μm,19.0s
CHMS Chumysh 44.59 277 P **P 10 57 02.1 +3.0**
SNR=12
SCO Scoresbysund 44.74 355 *e*P **P 10 57 00.1 +0.2**
comp=Z,43nm,0.9s
SCO Scoresbysund 44.74 355 *i* P **P 10 57 00.0 +0.1**
comp=Z,42nm,0.9s
SCO Scoresbysund 44.74 355 *e*P **P 10 57 00.1 +0.2**
SCO pmax pmax
comp=Z,43nm,0.9s
KONS Konsvik 44.77 336 *e*P **P 10 56 59.3 -0.8**
FRU Bishkek 44.78 277 *e*P **P 10 57 02.0 +1.4**
FRU *i* 10 57 07.0
FRU *i* 10 58 37.0
FRU *i*S **S 11 03 40.0 +2.7**
FRU *e* 11 06 53.0
KBK Karagaybulak 44.78 276 P **P 10 57 02.5 +1.7**
SNR=6.7
TPUB Ta-pu 44.82 215 PFAKE 10 57 10.0 +8.9
TPUB LR LR
comp=Z,8μm,18.0s
MOR8 Moi Rana 44.82 335 *e*P **P 10 56 59.0 -1.7**
AAK Ala-Archa 44.99 277 LR LR 11 17 26.6
comp=Z,7μm,18.8s,baz=20,slow=38
AAK Ala-Archa 44.99 277 P **P 10 57 04.3 +1.8**
SNR=12
AAK Ala-Archa 44.99 277 *e*P **P 10 57 03.5 +1.1**
comp=Z,76nm,0.8s
AAK Ala-Archa 44.99 277 *i* P **P 10 57 02.9 +0.4**
SNR=29
AAK Ala-Archa 44.99 277 *e*P **P 10 57 03.6 +1.1**
AAK pmax pmax
comp=Z,77nm,0.8s
AAK Ala-Archa 44.99 277 P **P 10 57 02.3 -0.2**
SNR=43
KZA Kyzart 45.13 276 P **P 10 57 05.2 +1.3**
SNR=14
TWG Pinlang 45.17 214 PFAKE 10 57 20.0 +16
TWG LR LR
comp=Z,24μm,21.0s
EKS2 Erkin-Say 45.27 277 P **P 10 57 07.8 +3.1**
SNR=16
UCH Uchtor 45.32 276 P **P 10 57 08.4 +2.9**
SNR=8.3

AKTO Aktyubinsk 45.43 296 P **P 10 57 05.8 +0.2**
AKTO pmax pmax
comp=Z,72nm,1.5s
AB31 Akbulak array 45.62 294 *i* P **P 10 57 07.1 -0.1**
AB31 pmax pmax
comp=Z,19nm,0.7s
ILULI Ilulissat 45.68 9 *i* P **P 10 57 07.2 -0.2**
comp=Z,45nm,0.9s
ILULI **Ilulissat 45.68 9** *i* P **P 10 57 07.2 -0.2**
pmax pmax
comp=Z,45nm,0.9s
AML Almayashu 45.74 277 P **P 10 57 10.7 +1.9**
SNR=8.1
MNAS Manas 45.96 278 *i* P **P 10 57 12.5 +2.4**
MNAS pmax pmax
comp=Z,62nm,0.8s
GYA Guiyang 45.98 233 ⇑*i*P **P 10 57 11.0 +0.6**
GYA PP **PP 10 59 00.3 +2.2**
GYA ScP **ScP 11 02 41.8 +2.2**
GYA S **S 11 03 49.6 -5.6**
GYA SS **ScS 11 07 12.0 +5.9**
GYA pmax pmax
comp=Z,60nm,1.0s
GYA pmax pmax
comp=Z,470nm,5.3s
GYA LR LR
comp=Z,10μm,11.5s
GYA LR LR
comp=Z,6μm,13.0s
GYA LR LR
comp=Z,14μm,13.3s
FIA1 FINESS Array S 46.50 325 *e*P **P 10 57 13.5 -0.5**
comp=Z,47nm,0.8s
FIA1 *e*PcP **PcP 10 58 47.7 -0.4**
FIA0 FINESS Array S 46.50 325 *e*P **P 10 57 13.6 -0.3**
FIA0 *e*PcP **PcP 10 58 47.5 -0.6**
FIA0 FINESS Array S 46.50 325 *e*P **P 10 57 13.6 -0.3**
FIA0 *e* 10 58 47.5
FINES FINESS Array B 46.50 325 P **P 10 57 13.6 -0.3**
comp=Z,29nm,0.6s,baz=31,slow=9.1,SNR=115
FINES PcP **PcP 10 58 47.5 -0.6**
comp=Z,8.0nm,0.6s,baz=53,slow=5.6,SNR=2.7
FINES LR LR 11 19 43.7
comp=Z,5μm,18.7s,baz=33,slow=40
NSS Namsos 46.76 335 *e*P **P 10 57 15.2 -0.7**
JBG Jabagly 46.84 280 *e*P **P 10 57 17.4 +0.4**
JBG pmax pmax
comp=Z,263nm,1.9s
PUL Pulkovo 46.86 322 ⇓*i*P **P 10 57 16.7 0.0**
PUL pmax pmax
comp=Z,113nm,0.6s
PUL MLR MLR
comp=Z,6μm,16.0s
KSH Kashi 46.93 273 P P 10 57 24.1 +6.3
KSH PcP **PcP 10 58 56.0 +5.8**
KSH PP PP 10 59 16.9 +9.0
KSH PcS **PcS 11 02 47.3 +2.1**
KSH S **S 11 04 17.3 +8.7**
KSH sS sS 11 04 23.4 +8.5
KSH SS **SS 11 07 39.8 +5.0**
KSH pmax pmax
comp=Z,130nm,1.9s
KSH pmax pmax
comp=Z,1μm,5.1s
KSH LR LR
comp=Z,2μm,9.9s
KSH LR LR
comp=Z,1μm,13.3s
KSH LR LR
comp=Z,6μm,14.0s
GZH Guangzhou 46.99 224 P **P 10 57 13.8 -4.4**
GZH S **S 11 04 01.0 -8.4**
GZH ScS **ScS 11 07 06.6 -5.8**
GZH LR LR
comp=Z,6μm,18.2s
GZH LR LR
comp=Z,17μm,18.0s
IUG luzhnay 47.28 280 *e*P **P 10 57 20.7 +0.3**
IUG pmax pmax
comp=Z,581nm,1.5s
IUG luzhnay 47.28 280 *e*P **P 10 57 20.8 +0.3**
comp=Z,581nm,1.4s
PGC Sidney 47.43 64 *e*P **P 10 57 23.0 +1.6**
comp=Z,261nm,1.8s
SFK Sufi-Kurgan 47.57 276 *i* P **P 10 57 25.4 +2.5**
SFK pmax pmax
comp=Z,28nm,0.9s
A04D Lummi Island 47.66 64 P **P 10 57 24.0 +0.9**
baz=325,SNR=8.7
SFJD Kangerlussuaq 47.90 9 *e*P **P 10 57 24.3 -0.4**
comp=Z,87nm,1.1s
SFJD Kangerlussuaq 47.90 9 ⇑*i*P **P 10 57 24.4 -0.4**
SFJD Kangerlussuaq 47.90 9 ⇑*i*P **P 10 57 24.4 -0.4**
MOS Moscow 48.17 314 *e*P **P 10 57 25.3 -1.7**
MOS *e* 10 58 52.3
MOS *e* 10 59 19.0
MOS *e*S **S 11 04 26.1 +0.6**
MOS pmax pmax
comp=Z,57nm,0.7s
MOS MLR MLR
comp=Z,4μm,15.0s
TBLU Trondheim 48.24 335 *e*P **P 10 57 26.1 -1.3**
B05A Bryant 48.26 64 P **P 10 57 28.4 +0.6**
baz=325,SNR=55
B06A Marblemount 48.29 63 *e*P **P 10 57 29.0 +1.0**
comp=Z,74nm,1.0s
B06A LR LR
comp=Z,3μm,20.0s
NLWA Neilton Lookou 48.29 66 *e*P **P 10 57 28.8 +0.6**
comp=Z,220nm,1.9s
D03D Eldon 48.48 65 P **P 10 57 30.8 +1.3**
baz=325,SNR=23
FCC Fort Churchill 48.54 37 *e*P **P 10 57 29.5 -0.3**
comp=Z,170nm,1.3s
FCC LR LR
comp=Z,5μm,18.0s
FCC Fort Churchill 48.54 37 *e*P **P 10 57 29.5 -0.3**
FCC pmax pmax
comp=Z,170nm,1.3s
FCC MLR MLR
comp=Z,5μm,18.0s
KMI Kunming 48.58 237 P **P 10 57 31.3 +0.5**
KMI pP sP 10 57 35.8 -0.2
KMI sP pP 10 57 37.6 +3.0
KMI PP **PP 10 59 24.8 +1.3**
KMI S **S 11 04 30.8 -1.6**
KMI sS sS 11 04 39.0 +0.5
KMI SS **SS 11 07 58.8 -3.4**
KMI pmax pmax
comp=Z,32nm,1.3s
KMI pmax pmax
comp=Z,280nm,4.4s
KMI LR LR
comp=Z,12μm,18.5s
KMI LR LR
comp=Z,16μm,21.1s
KMI LR LR
comp=Z,12μm,11.9s
KMI Kunming 48.58 237 *e*P **P 10 57 35.5 +4.7**
comp=Z,22nm,0.9s
KMI LR LR
comp=Z,50μm,20.0s
KMI Kunming 48.58 237 *e*P **P 10 57 35.5 +4.7**
KMI pmax pmax
comp=Z,22nm,1.0s
D04E Lakebay 48.90 65 P **P 10 57 33.4 +0.8**
baz=326,SNR=5.4
VSU Vasula 48.92 323 *c iP* **P 10 57 32.8 0.0**
VSU pmax pmax
comp=Z,145nm,0.7s
VSU MLR MLR
comp=Z,523nm,18.0s
VSU Vasula 48.92 323 *e*P **P 10 57 32.2 -0.5**
VSU IAmb IAmb 10 57 33.6
comp=Z,157nm,0.7s
LSA Lhasa 48.93 252 P **P 10 57 36.3 +2.5**
LSA S S 11 04 28.3 -9.5
LSA pmax pmax
comp=Z,21nm,1.4s
LSA LR LR
comp=Z,2μm,12.5s
LSA LR LR
comp=Z,2μm,11.9s
LSA LR LR
comp=Z,7μm,14.3s
LSA Lhasa 48.93 252 *e*P **P 10 57 34.3 +0.5**

comp=Z,26nm,0.8s
LSA LR LR
comp=Z,7μm,19.0s
LSA Lhasa 48.93 252 *i* P **P 10 57 34.2 +0.4**
SNR=7.3
LSA Lhasa 48.93 252 *e*P **P 10 57 34.3 +0.5**
LSA pmax pmax
comp=Z,26nm,0.8s
LSA MLR MLR
comp=Z,7μm,19.0s
C06D Leavenworth 49.00 63 P **P 10 57 33.9 +0.3**
baz=326,SNR=14
OBN Obninsk 49.02 314 P **P 10 57 33.2 -0.3**
comp=Z,8.8nm,0.6s,baz=39,slow=6.5,SNR=5.5
OBN Obninsk 49.02 314 *e*P **P 10 57 33.2 -0.3**
comp=Z,270nm,1.7s
OBN LR LR
comp=Z,5μm,19.0s
OBN Obninsk 49.02 314 *c i*P **P 10 57 33.3 -0.3**
OBN *e* 10 57 39.8
OBN *i* 10 59 32.0
OBN *e*S **S 11 04 35.3 -2.2**
OBN pmax pmax
comp=Z,250nm,2.5s
OBN MLR MLR
comp=Z,4μm,16.0s
LKP Lekhapani 49.17 246 *e*P **P 10 57 34.5 -0.4**
D05A Enumclaw 49.19 64 *e*P **P 10 57 36.4 +1.4**
comp=Z,477nm,1.5s
B08A Colville Reser 49.23 61 *e*P **P 10 57 35.9 +0.5**
comp=Z,121nm,1.2s
E04D Cinebar 49.49 65 P **P 10 57 38.0 +0.7**
baz=326,SNR=16
LON Longmire 49.62 64 *e*P **P 10 57 39.3 +0.9**
comp=Z,106nm,1.4s
LON Longmire 49.62 64 *e*P **P 10 57 39.3 +0.9**
LON pmax pmax
comp=Z,110nm,1.4s
LTY Liberty 49.64 63 *e*P **P 10 57 38.9 +0.4**
comp=Z,72nm,1.1s
LTY LR LR
comp=Z,3μm,21.0s
F04D Rainier, OR 49.71 66 P **P 10 57 39.2 +0.3**
baz=326
ZIRO ZIRO 49.78 248 *e*P **P 10 57 39.1 -0.8**
FFC Flin Flon 49.81 45 *e*P **P 10 57 39.2 -0.4**
comp=Z,135nm,1.3s
FFC Flin Flon 49.81 45 *i*P **P 10 57 39.9 +0.3**
ANGG Ammassalik, Gr 49.83 2 *e*P **P 10 57 39.3 -0.3**
comp=Z,439nm,2.0s
NC303 NORSAR Array S 49.90 334 *e*P **P 10 57 39.8 -0.5**
NC405 NORSAR Array S 49.94 333 *e*P **P 10 57 39.9 -0.6**
NC204 NORSAR Array S 49.97 334 *e*P **P 10 57 40.0 -0.8**
NB201 NORSAR Array S 50.08 333 *e*P **P 10 57 40.6 -1.0**
C09A Chrisman Ranch 50.09 61 *e*P **P 10 57 42.7 +0.8**
comp=Z,165nm,1.6s
C09A LR LR
comp=Z,2μm,21.0s
NB2 NORSAR Subarra 50.10 334 P **P 10 57 40.7 -1.1**
comp=Z,34nm,0.8s,baz=23,slow=7.9
NB2 NORSAR Subarra 50.10 334 P **P 10 57 40.7 -1.1**
baz=23,slow=7.9
NB200 NORSAR Array S 50.10 334 *e*P **P 10 57 40.8 -1.1**
NOA NORSAR Array B 50.10 334 P **P 10 57 40.8 -1.1**
comp=Z,15nm,0.6s,baz=24,slow=7.6,SNR=103
NOA LR LR 11 23 37.9
comp=Z,4μm,18.2s,baz=25,slow=42
NEW Newport 50.14 60 *e*P **P 10 57 42.6 +0.4**
comp=Z,57nm,1.0s
NEW Newport 50.14 60 *e*P **P 10 57 42.6 +0.4**
NEW pmax pmax
comp=Z,57nm,1.0s
NEW Newport 50.14 60 P **P 10 57 42.2 -0.1**
baz=326,SNR=46
NBO00 NORSAR Array S 50.19 334 *e*P **P 10 57 41.4 -1.1**
JORH JORHAT 50.32 247 *e*P **P 10 57 42.5 -1.3**
NC602 NORSAR Array S 50.32 333 *e*P **P 10 57 42.2 -1.2**
G03D McMinnville, O 50.33 67 P **P 10 57 43.5 -0.2**
baz=326
NAO01 NORSAR Array S 50.34 334 *e*P **P 10 57 42.8 -0.8**
LPSR Galich'ya Gora 50.42 311 *e*P **P 10 57 43.1 -1.1**
LPSR pmax pmax
comp=Z,70nm,0.8s
LPSR MLR MLR
comp=Z,2μm,11.0s
HFS Hagfors 50.45 332 PcP **PcP 10 59 02.2 -0.2**
comp=Z,11nm,0.6s,baz=72,slow=4.7,SNR=3.7
D08A Wollman Farm, 50.47 62 *e*P **P 10 57 44.9 +0.1**
comp=Z,236nm,1.8s
F05D White Salmon 50.48 65 P **P 10 57 45.6 +0.8**
baz=326,SNR=11
E07A Sunnyside 50.53 63 *e*P **P 10 57 46.5 +1.2**
MOKO MOKOCHONG 50.59 246 *e*P **P 10 57 45.8 -0.3**
VRH Novokhopyorsk 50.68 308 *e*P **P 10 57 44.8 -1.4**
VRH pmax pmax
comp=Z,70nm,0.7s
VRH MLR MLR
comp=Z,6μm,17.0s
SLIT Slitere, Latvi 50.78 325 *e*P **P 10 57 45.8 -1.1**
SLIT IAmb IAmb 10 57 47.2
comp=Z,315nm,0.8s
HAWA Hanford 50.79 63 *e*P **P 10 57 48.0 +0.9**
comp=Z,162nm,1.6s
COR Corvallis 50.84 67 *e*P **P 10 57 49.6 +2.1**
comp=Z,73nm,1.0s
COR Corvallis 50.84 67 *e*P **P 10 57 49.4 +1.9**
COR pmax pmax
comp=Z,73nm,1.0s
E08A Dider Farm, El 50.89 63 *e*P **P 10 57 48.9 +1.1**
comp=Z,156nm,1.4s
TEZP TEZPUR 51.01 248 *e*P **P 10 57 49.6 +0.7**
I02D Swisshome 51.02 68 P **P 10 57 48.9 0.0**
baz=327
F07A Phinny Hill Vi 51.06 64 *e*P **P 10 57 50.7 +1.6**
comp=Z,88nm,0.9s
G05D Wamic, OR 51.07 65 P **P 10 57 49.2 -0.1**
baz=327,SNR=23
H04D Lebanon 51.11 67 P **P 10 57 50.1 +0.6**
baz=327,SNR=18
VORR Voronezh 51.12 310 P **P 10 57 48.0 -1.5**
VORR pmax pmax
comp=Z,250nm,1.2s
H04A Detroit Lake 51.19 66 *e*P **P 10 57 51.4 +1.2**
comp=Z,269nm,1.9s
E09A Wood Farm, Sta 51.22 62 *e*P **P 10 57 51.0 +0.7**
comp=Z,205nm,1.4s
KOHI KOHIMA 51.29 246 *e*P **P 10 57 50.1 -1.2**
G06A Carlson Farm, 51.34 65 *e*P **P 10 57 52.3 +1.0**
comp=Z,244nm,1.9s
IZAR Zarasai 51.44 321 *e*P **P 10 57 51.9 +0.1**
IZAR IAmb IAmb 10 57 52.5
comp=Z,16nm,0.6s
VSR Storozhevoye 51.52 310 *c i*P **P 10 57 51.4 -1.1**
VSR pmax pmax
comp=Z,124nm,0.9s
VSR MLR MLR
comp=Z,4μm,16.0s
I03D Drain, OR 51.56 68 P **P 10 57 53.2 +0.3**
baz=327
ISAL Salakas 51.62 321 *e*P **P 10 57 52.9 -0.3**
ISAL IAmb IAmb 10 57 54.8
comp=Z,43nm,1.1s
IDID Didziasalis 51.69 321 *e*P **P 10 57 53.2 -0.5**
IDID IAmb IAmb 10 57 55.2
comp=Z,24nm,0.8s
KONO Kongsberg 51.70 334 *e*P **P 10 57 53.3 -0.4**
comp=Z,235nm,1.9s
KONO LR LR
comp=Z,4μm,18.0s
KONO Kongsberg 51.70 334 ⇓ *i*P **P 10 57 53.1 -0.6**
KONO pmax pmax
comp=Z,36nm,1.0s
KONO MLR MLR
comp=Z,4μm,19.0s
J01E Myrtle Point 51.78 69 P **P 10 57 55.4 +0.9**
baz=327
IIGN Ignalina 51.80 321 *e*P **P 10 57 54.2 -0.4**
IIGN IAmb IAmb 10 57 55.3
comp=Z,30nm,0.5s
I05D Terrebonne, OR 51.81 66 P **P 10 57 55.4 +0.5**
baz=327,SNR=11
GUWA GUWAHATI 51.83 249 *e*P **P 10 57 55.4 +0.3**
GUWA IAmb IAmb 10 57 57.3
comp=Z,29nm,0.5s
I04A Tendick Farm, 51.85 67 P **P 10 57 55.3 +0.1**
baz=327,SNR=19

QIZ Qiongzhong 51.87 226 P **P 10 57 56.6 +1.1**
QIZ S **S 11 05 23.3 +5.5**
QIZ LR LR
comp=Z,5μm,15.2s
QIZ LR LR
comp=Z,13μm,15.2s
QIZ LR LR
comp=Z,10μm,14.7s
QIZ Qiongzhong 51.87 226 PFAKE 10 58 10.0 +15
QIZ LR LR
comp=Z,6μm,19.0s
G08A Pilot Rock 51.94 63 *e*P **P 10 57 56.4 +0.5**
comp=Z,101nm,1.4s
F10A Beach Ranch, E 52.02 62 *e*P **P 10 57 56.8 +0.4**
comp=Z,73nm,1.0s
NACGM Naroch 52.04 321 *e*P **P 10 57 55.0 -1.3**
NACGM *e*LQ LQ 11 13 36.0
NACGM *e*LR LR 11 20 29.0
NACGM LRM MLR 11 22 52.0
comp=Z,14nm,15.0s
GTK Tadong 52.08 253 *e*P **P 10 57 58.8 +1.7**
GTK IAmb IAmb 10 58 09.5
comp=Z,46nm,0.4s
MICGM Minsk 52.09 320 ⇓ *i*P **P 10 57 56.0 -0.7**
MICGM PM 10 57 58.0
comp=Z,0.4nm,1.2s
MICGM PM 10 57 58.0
comp=E,0.5nm,0.8s
MICGM *e*LQ LQ 11 16 04.0
MICGM LQM 11 18 40.0
comp=E,9.1nm,20.0s
MICGM *e*LR LR 11 19 20.0
MICGM LRM MLR 11 23 03.0
comp=Z,13nm,14.0s
MICGM LRM MLR 11 23 05.0
comp=N,5.3nm,12.0s
MNK Minsk 52.09 320 ⇓ *i*P **P 10 57 56.0 -0.7**
IMP Imphal 52.15 246 *e*P **P 10 57 58.2 +0.5**
PABE Paberze 52.25 323 *e*P **P 10 57 57.3 -0.6**
PABE IAmb IAmb 10 57 59.1
comp=Z,114nm,0.7s
K02D Willamette Mer 52.28 69 P **P 10 57 58.7 +0.3**
baz=327
PBUR Paburg 52.31 324 *e*P **P 10 57 57.5 -0.8**
PBUR IAmb IAmb 10 57 59.4
comp=Z,76nm,0.9s
SHL Shillong 52.31 249 *e*P **P 10 57 59.5 +0.6**
comp=Z,81nm,1.3s
SHL LR LR
comp=Z,4μm,18.0s
SHL Shillong 52.31 249 *e*P **P 10 57 59.5 +0.6**
SHL pmax pmax
comp=Z,81nm,1.3s
SHL Shillong 52.31 249 *e*P **P 10 57 57.0 -1.9**
SHL *i*S **S 11 05 24.0 -0.1**
TAPN Taplejung 52.41 254 *e*P **P 10 58 00.7 +0.8**
comp=Z,143nm,0.9s
PINE Pine Mountain 52.43 66 *e*P **P 10 58 00.8 +1.1**
comp=Z,371nm,1.9s
J04D Umpqua Nationa 52.43 67 P **P 10 58 00.2 +0.5**
baz=328,SNR=23
MSO Missoula 52.51 59 *e*P **P 10 58 00.4 +0.2**
comp=Z,255nm,1.6s
MSO LR LR
comp=Z,4μm,19.0s
MSO Missoula 52.51 59 P **P 10 58 00.0 -0.1**
baz=328,SNR=38
HUMO Hull Mountain 52.63 68 *e*P **P 10 58 02.5 +1.5**
comp=Z,64nm,1.6s
GUN Gumba 52.68 256 *e*P **P 10 58 03.0 +1.2**
comp=Z,420nm,1.0s
J05D Fort Rock, OR 52.74 66 P **P 10 58 02.6 +0.7**
baz=328,SNR=38
I07A Izee 52.74 65 *e*P **P 10 58 02.8 +0.9**
comp=Z,42nm,1.1s
L02E Cave Junction 52.75 69 P **P 10 58 02.4 +0.6**
baz=328,SNR=7.5
JIRN Jiri 52.77 256 *e*P **P 10 58 03.7 +1.1**
comp=Z,181nm,0.9s
BMO Blue Mountains 52.93 62 *e*P **P 10 58 03.7 +0.4**
comp=Z,120nm,1.3s
BMO Blue Mountains 52.93 62 *e*P **P 10 58 03.7 +0.4**
BMO pmax pmax
comp=Z,120nm,1.3s
DHRM DHARAMSHALA 52.95 268 *e*P **P 10 58 04.5 +0.8**
DHRM IAmb IAmb 10 58 15.2
ODAN Odare 52.98 254 *e*P **P 10 58 04.9 +0.9**
comp=Z,287nm,1.1s
EGMT Eagleton 52.99 55 *e*P **P 10 58 03.8 +0.2**
comp=Z,30nm,0.8s
EGMT LR LR
comp=Z,2μm,20.0s
EGMT Eagleton 52.99 55 P **P 10 58 03.4 -0.2**
baz=329,SNR=21
KKN Kakani 53.03 257 *e*P **P 10 58 05.5 +1.2**
comp=Z,162nm,0.6s
NIL Nilore 53.05 271 *e*P **P 10 58 05.5 +1.3**
comp=Z,119nm,0.9s
NIL LR LR
comp=Z,3μm,21.0s
NIL Nilore 53.05 271 *e*P **P 10 58 05.5 +1.3**
NIL pmax pmax
comp=Z,119nm,0.9s
NIL MLR MLR
comp=Z,3μm,21.0s
K04D Chiloquin, OR 53.09 67 P **P 10 58 04.3 -0.2**
baz=328
KRMB Red Mountain 53.17 70 *e*P **P 10 58 06.0 +0.9**
comp=Z,101nm,1.9s
PKIN Phuchoki 53.17 256 *e*P **P 10 58 06.1 +0.7**
comp=Z,65nm,0.8s
DANN Dangsing 53.17 258 *e*P **P 10 58 06.5 +1.0**
comp=Z,131nm,0.6s
L04D Klamath Falls 53.22 68 P **P 10 58 05.6 +0.2**
baz=328,SNR=17
RAMN Ramite 53.22 255 *e*P **P 10 58 06.4 +0.6**
comp=Z,336nm,1.4s
DMN Daman 53.26 257 *e*P **P 10 58 07.4 +1.3**
comp=Z,114nm,0.8s
HRY Holter Researc 53.38 57 *e*P **P 10 58 07.7 +1.2**
YBH Yreka Blue Hor 53.47 69 *e*P **P 10 58 06.8 -0.4**
comp=Z,88nm,1.8s
YBH Yreka Blue Hor 53.47 69 *e*P **P 10 58 08.3 +1.1**
YBH pmax pmax
comp=Z,88nm,1.7s
SMLA Simla 53.55 266 *e*P **P 10 58 10.0 +2.2**
AZL Aizawl 53.63 247 *e*P **P 10 58 09.9 +1.3**
M02C Callahan 53.70 69 P **P 10 58 09.1 +0.2**
baz=328
PYUN Puthan 53.72 259 *e*P **P 10 58 10.2 +0.9**
comp=Z,144nm,0.9s
KOLN Koldanda 53.75 258 *e*P **P 10 58 10.6 +1.0**
comp=Z,204nm,0.9s
J08A Circle Bar Ran 53.75 64 *e*P **P 10 58 09.3 0.0**
comp=Z,33nm,0.9s
M04C Macdoel 53.77 68 P **P 10 58 10.1 +0.6**
baz=328,SNR=16
SUW Suwalki 53.79 322 *e*P **P 10 58 08.2 -1.1**
SUW Suwalki 53.79 322 *e*P **P 10 58 08.2 -1.1**
comp=Z,94nm,0.9s
SUW LR LR
comp=Z,8μm,18.0s
SUW Suwalki 53.79 322 *e*P **P 10 58 08.2 -1.1**
SUW pmax pmax
comp=Z,94nm,0.9s
SUW MLR MLR
comp=Z,8μm,18.0s
IVI Ivigtut 53.81 9 *e*P **P 10 58 08.5 -0.8**
comp=Z,80nm,1.0s
DDI Dehra Dun 53.87 265 *e*P **P 10 58 11.5 +1.3**
LRM Limekiln Ridge 53.91 58 *e*P **P 10 58 11.5 +0.9**
KLNR Kaliningrad 54.02 325 *i*P **P 10 58 10.4 -0.5**
KLNR pmax pmax
comp=Z,240nm,1.8s
KLNR MLR MLR
comp=Z,4μm,15.0s
NRS Narsarsuaq 54.02 7 *e*P **P 10 58 10.6 -0.3**
comp=Z,87nm,1.2s
NRS Narsarsuaq 54.02 7 *e*P **P 10 58 10.6 -0.3**
NRS pmax pmax
comp=Z,87nm,1.2s
KBL Kabul 54.09 276 *e*P **P 10 58 11.7 -0.2**
comp=Z,32nm,0.8s
KBL LR LR
comp=Z,3μm,19.0s
KBL Kabul 54.09 276 *e*P **P 10 58 11.8 -0.2**
KBL pmax pmax
comp=Z,32nm,0.9s
N02D Trinity Center 54.11 69 P **P 10 58 12.8 +0.9**
baz=328,SNR=17
DLMT Dillon 54.25 59 *e*P **P 10 58 13.6 +0.6**
comp=Z,117nm,1.1s
DLMT LR LR
comp=Z,5μm,18.0s
MOD Modoc Plateau 54.28 67 *e*P **P 10 58 13.9 +0.6**
comp=Z,44nm,1.2s
KMRM Mail Ridge 54.35 70 *e*P **P 10 58 15.7 +2.0**
comp=Z,171nm,2.0s
BOZ Bozeman (W) 54.40 58 *e*P **P 10 58 14.4 +0.3**
comp=Z,343nm,2.0s
BOZ LR LR
comp=Z,4μm,18.0s
BOZ Bozeman (W) 54.40 58 *e*P **P 10 58 14.4 +0.3**
BOZ pmax pmax
comp=Z,343nm,2.0s
BOZ MLR MLR
comp=Z,4μm,18.0s
BOZ Bozeman (W) 54.40 58 P **P 10 58 14.5 +0.3**
baz=329,SNR=30
WVOR Wild Horse Val 54.48 65 *e*P **P 10 58 14.9 +0.3**
comp=Z,329nm,1.9s
WVOR Wild Horse Val 54.48 65 *e*P **P 10 58 15.3 +0.7**
WVOR pmax pmax
comp=Z,330nm,1.9s
DGMT Dagmar 54.50 51 *e*P **P 10 58 14.8 +0.2**
comp=Z,588nm,1.7s
DGMT LR LR
comp=Z,4μm,18.0s
DGMT Dagmar 54.50 51 P **P 10 58 14.8 +0.2**
baz=330,SNR=31
WDC Whiskeytown Da 54.51 69 *e*P **P 10 58 14.9 +0.1**
comp=Z,30nm,1.0s
WDC Whiskeytown Da 54.51 69 *e*P **P 10 58 15.6 +0.8**
WDC pmax pmax
comp=Z,30nm,1.0s
MCMT McKenzie Canyo 54.62 59 *e*P **P 10 58 16.3 +0.5**
SAIH SAIHA 54.63 246 *e*P **P 10 58 16.8 +0.8**
MFID Camas Ranch 54.72 62 *e*P **P 10 58 16.4 0.0**
comp=Z,232nm,1.8s
MFID LR LR
comp=Z,1μm,18.0s
O02D Mt. Diablo Mer 54.76 70 P **P 10 58 17.4 +0.8**
baz=329,SNR=15
MUD Monsted U'grnd 54.77 333 *i*P **P 10 58 16.3 0.0**
MUD Monsted U'grnd 54.77 333 *i*P **P 10 58 16.3 0.0**
BSD Bornholm Skovb 54.80 328 *i*P **P 10 58 16.1 -0.5**
comp=Z,38nm,0.9s
comp=Z,5μm,19.0s
BSD Bornholm Skovb 54.80 328 *i*P **P 10 58 16.1 -0.5**
BSD pmax pmax
comp=Z,38nm,0.9s
BSD MLR MLR
comp=Z,5μm,19.0s
PAYA Payao 54.90 237 P **P 10 58 16.0 -1.8**
comp=Z,440nm,0.6s
GCMT Greycliff 54.94 56 *e*P **P 10 58 19.2 +1.2**
NONG Nongkai 54.95 233 P P 10 58 23.0 +4.9
comp=Z,0.4nm,1.3s
O03E Paynes Creek 55.05 69 P **P 10 58 18.6 -0.2**
baz=329,SNR=28
AKASG Malin Array Be 55.07 316 P **P 10 58 17.4 -1.1**
comp=Z,34nm,0.7s,baz=29,slow=7.9,SNR=63
AKASG LR LR 11 23 11.9
comp=Z,3μm,18.6s,baz=15,slow=38
AKASG Malin Array Be 55.07 316 P **P 10 58 17.5 -1.1**
AKASG pmax pmax
comp=Z,56nm,0.8s
AKASG MLR MLR
comp=Z,3μm,18.6s
AKBB Malin Array Si 55.07 316 *e*P **P 10 58 17.6 -1.0**
comp=Z,43nm,0.9s
AKBB Malin Array Si 55.07 316 *e*P **P 10 58 17.5 -1.1**
AKBB pmax pmax
comp=Z,43nm,0.9s
KIEV Kiev 55.08 316 *e*P **P 10 58 17.5 -1.1**
comp=Z,42nm,0.9s
KIEV LR LR
comp=Z,3μm,20.0s
KIEV Kiev 55.08 316 ⇓ *i*P **P 10 58 18.2 -0.5**
KIEV Kiev 55.08 316 *i*P **P 10 58 17.6 -1.1**
SNR=27
KIEV Kiev 55.08 316 *i*P **P 10 58 17.6 -1.1**
KIEV pmax pmax
comp=Z,46nm,0.9s
KIEV MLR MLR
comp=Z,3μm,17.0s
AK11 Malin Array Si 55.10 316 *e*P **P 10 58 17.2 -1.6**
HLID Hailey 55.12 61 *e*P **P 10 58 20.2 +0.8**
comp=Z,246nm,1.8s
HLID LR LR
comp=Z,3μm,18.0s
HLID Hailey 55.12 61 P **P 10 58 19.4 +0.1**
baz=329,SNR=96
QLMT Earthquake Lak 55.13 58 *e*P **P 10 58 20.4 +0.9**
YHB Horse Butte 55.29 58 *e*P **P 10 58 20.7 +0.1**
comp=Z,223nm,1.6s
YHB LR LR
comp=Z,3μm,20.0s
LAO LASA Array 55.37 53 *e*P **P 10 58 22.0 +1.1**
comp=Z,100nm,1.0s
LAO LR LR
comp=Z,4μm,19.0s
LAO LASA Array 55.37 53 P **P 10 58 21.5 +0.6**
baz=330,SNR=22
YMR Madison River 55.44 58 *e*P **P 10 58 22.4 +0.7**
comp=Z,366nm,1.7s
YMR LR LR
comp=Z,3μm,18.0s
GOF Gofitskoye 55.48 303 *e*P **P 10 58 22.3 +0.6**
GOF pmax pmax
comp=Z,90nm,0.9s
YNR Norris Junctio 55.51 58 *e*P **P 10 58 23.6 +1.5**
comp=Z,75nm,1.2s
YNR LR LR
comp=Z,3μm,20.0s
ULM Lac du Bonnet 55.54 44 P **P 10 58 20.9 -1.1**
comp=Z,13nm,0.7s,baz=332,slow=7.0,SNR=22
ULM LR LR 11 25 28.3
comp=Z,2μm,18.1s,baz=334,slow=40
ULM Lac du Bonnet 55.54 44 *e*P **P 10 58 20.9 -1.1**
comp=Z,82nm,1.6s
ULM Lac du Bonnet 55.54 44 *e*P **P 10 58 21.1 -0.9**
ULM pmax pmax
comp=Z,83nm,1.6s
MAK Makhachkala 55.64 299 *e*P **P 10 58 25.3 +2.4**
MAK *e*S **S 11 06 13.0 +4.6**
MAK pmax pmax
comp=Z,119nm,0.6s
MAK MLR MLR
comp=Z,18μm,16.0s
HOPS Hopland Field 55.65 71 *e*P **P 10 58 24.3 +1.3**
comp=Z,68nm,1.5s
NDI New Delhi 55.65 265 *e*P **P 10 58 24.0 +0.9**
RLMT Red Lodge 55.66 56 *e*P **P 10 58 24.0 +0.8**
comp=Z,289nm,1.2s
RLMT LR LR
comp=Z,3μm,19.0s
RLMT Red Lodge 55.66 56 P **P 10 58 24.2 +1.0**
baz=330,SNR=86
YFT Old Faithful 55.68 58 *e*P **P 10 58 23.8 +0.3**
comp=Z,70nm,0.9s
YFT LR LR
comp=Z,8μm,18.0s
SKNT Sakolnakorn 55.68 232 P **P 10 58 24.2 +0.8**
comp=Z,26nm,1.3s,comp=Z,604nm
LKWY Lake 55.73 57 *e*P **P 10 58 25.1 +1.3**
comp=Z,91nm,1.1s
LKWY LR LR
comp=Z,7μm,19.0s
CHTO Chiang Mai 55.74 238 *e*P **P 10 58 23.7 -0.1**
comp=Z,90nm,1.3s
CHTO LR LR
comp=Z,7μm,20.0s
CHTO Chiang Mai 55.74 238 *e*P **P 10 58 23.9 +0.1**
CHTO pmax pmax
comp=Z,90nm,1.2s
CHTO Chiang Mai 55.74 238 P **P 10 58 23.5 -0.3**
SNR=25
CHTO Chiang Mai 55.74 238 P **P 10 58 24.1 +0.3**
comp=Z,287nm,1.3s,comp=Z,3μm
CMMT Chiang Mai 55.74 238 P **P 10 58 24.1 +0.3**
comp=Z,64nm,1.3s,comp=Z,783nm
GEYT Alibeck 55.77 287 P **P 10 58 25.1 +1.1**
comp=Z,7.0nm,0.6s,baz=343,slow=4.6,SNR=12

GEYT LR LR 11 23 48.9
comp=Z,3µm,19.6s,baz=10.0,slow=38
GYA0B ALIBECK ARRAY 55.77 287 *eP* **P 10 58 24.9 +0.9**
comp=Z,28nm,0.8s
GYA0B LR LR
comp=Z,3µm,20.0s
ORV Oroville 55.80 69 *eP* **P 10 58 24.2 +0.2**
comp=Z,92nm,1.8s
ORV Oroville 55.80 69 *eP* **P 10 58 24.3 +0.2**
ORV pmax pmax
comp=Z,92nm,1.8s
H17A Grant Village 55.82 58 *eP* **P 10 58 26.6 +2.1**
comp=Z,199nm,1.4s
H17A LR LR
comp=Z,6µm,21.0s
H17A Grant Village 55.82 58 P **P 10 58 25.6 +1.1**
baz=330,SNR=75
YPP Pitchstone Pla 55.84 58 *eP* **P 10 58 26.7 +2.0**
comp=Z,215nm,1.6s
YPP LR LR
comp=Z,4µm,20.0s
GDXM Geysers 55.92 71 *eP* **P 10 58 26.6 +1.5**
comp=Z,127nm,1.6s
GKP Gorka Klasztor 55.96 326 *eP* **P 10 58 25.4 +0.4**
GKP Gorka Klasztor 55.96 326 *eP* **P 10 58 25.4 +0.4**
BEKR Beckworth 55.99 68 *eP* **P 10 58 25.9 +0.3**
comp=Z,103nm,1.8s
FLWY Flagg Ranch 56.04 58 *eP* **P 10 58 26.6 +0.5**
comp=Z,114nm,0.9s
CM31 Chiang Mai Arr 56.06 238 *eP* **P 10 58 26.1 -0.1**
CM31 Chiang Mai Arr 56.06 238 P **P 10 58 26.4 +0.2**
SNR=13
CMAR Chiang Mai Arr 56.06 238 P **P 10 58 26.0 -0.2**
comp=Z,3.9nm,0.6s,baz=11,slow=8.0,SNR=18
CMAR LR LR 11 24 34.4
comp=Z,7µm,19.9s,baz=34,slow=38
GROC Groznyy 56.07 300 *eP* **P 10 58 22.9 -3.1**
GROC *e* 10 59 23.1
GROC *eS* **S 11 06 08.8 -5.4**
GROC pmax pmax
comp=Z,62nm,1.2s
CM01 Chiang Mai Arr 56.09 238 *eP* **P 10 58 26.0 -0.4**
IMW Indian Meadow 56.12 58 *eP* **P 10 58 27.6 +1.0**
comp=Z,187nm,1.4s
KAC Achnashellach 56.15 342 *eP* **P 10 58 25.9 -0.4**
UTTA Uttaradit 56.15 236 P **P 10 58 27.4 +0.7**
comp=Z,37nm,1.1s,comp=Z,290nm
FXWY Fox Creek 56.31 58 *eP* **P 10 58 28.2 +0.3**
comp=Z,174nm,1.6s
BOK Bokaro 56.31 254 *eP* **P 10 58 28.7 +0.8**
MOOW Moose Ponds 56.32 58 *eP* **P 10 58 28.9 +0.9**
comp=Z,90nm,1.2s
DRUM Mains of Drumt 56.33 340 *eP* **P 10 58 27.1 -0.4**
KPL Plockton 56.35 342 *eP* **P 10 58 26.9 -0.8**
KPL IAmb IAmb 10 58 28.6
comp=Z,38nm,0.9s
BEL Belsk 56.38 323 *eP* **P 10 58 28.0 0.0**
BEL Belsk 56.38 323 *eP* **P 10 58 28.0 0.0**
TPAW Teton Pass 56.46 58 *eP* **P 10 58 30.2 +1.1**
comp=Z,545nm,1.9s
LOHW Long Hollow 56.48 58 *eP* **P 10 58 29.8 +0.6**
comp=Z,248nm,1.4s
LOHW LR LR
comp=Z,2µm,20.0s
PAHR Pah Rah Range 56.51 67 *eP* **P 10 58 29.7 +0.4**
comp=Z,178nm,1.8s
MDND Maddock 56.53 48 *eP* **P 10 58 29.4 +0.2**
comp=Z,501nm,1.4s
MDND LR LR
comp=Z,2µm,20.0s
MDND Maddock 56.53 48 P **P 10 58 29.2 0.0**
baz=332,SNR=7.4
AFDM Forest Hills D 56.53 69 *eP* **P 10 58 29.7 +0.4**
comp=Z,76nm,1.7s
KVAR Kislovodsk Arr 56.55 303 P **P 10 58 30.6 +1.1**
comp=Z,12nm,0.7s,baz=274,slow=19,SNR=15
KIV Kislovodsk 56.56 303 *eP* **P 10 58 30.0 +0.5**
comp=Z,100nm,1.0s
KIV LR LR
comp=Z,4µm,20.0s
KIV Kislovodsk 56.56 303 ⇓*iP* **P 10 58 30.0 +0.5**
KIV Kislovodsk 56.56 303 *iP* **P 10 58 29.6 +0.1**
SNR=16
KIV Kislovodsk 56.56 303 *eP* **P 10 58 30.5 +1.0**
KIV *e* 11 00 36.8
KIV *eS* **S 11 06 23.3 +2.5**
KIV *eSS* **SS 11 10 12.3 +4.9**
KIV pmax pmax
comp=Z,61nm,1.1s
KIV pmax pmax
comp=Z,105nm,3.4s
KIV MLR MLR
comp=Z,3µm,17.0s
KIV Kislovodsk 56.56 303 P **P 10 58 29.6 +0.1**
SNR=18
SNOW Snow King Moun 56.56 58 *eP* **P 10 58 30.6 +0.8**
comp=Z,130nm,1.1s
REDW Red Top Meadow 56.61 58 *eP* **P 10 58 30.4 +0.3**
comp=Z,531nm,1.7s
REDW LR LR
comp=Z,4µm,18.0s
NCK Nalchik 56.63 302 ⇓*eP* **P 10 58 31.2 +1.2**
NCK pmax pmax
comp=Z,18nm,0.9s
NCK MLR MLR
comp=Z,3µm,15.0s
KBZ Khabaz 56.68 303 P **P 10 58 31.1 +0.9**
comp=Z,26nm,0.8s,baz=47,slow=8.8,SNR=40
SUKH Sukhothai 56.72 237 P **P 10 58 32.3 +1.5**
comp=Z,26nm,1.1s
BMN Battle Mountai 56.74 65 PFAKE 10 58 40.0 +9.1
BMN LR LR
comp=Z,2µm,19.0s
VCNR Virginia City 56.76 68 *eP* **P 10 58 31.9 +0.7**
comp=Z,33nm,1.0s
RUBR Rubicon Trail 56.77 68 *eP* **P 10 58 31.8 +0.5**
comp=Z,59nm,1.0s
BSEG Bad Segeberg 56.90 331 *eP* **P 10 58 32.2 +0.6**
comp=Z,201nm,2.0s,baz=20,slow=6.9
PNTR Pine Nut 56.96 68 *eP* **P 10 58 33.2 +0.6**
comp=Z,60nm,1.0s
AHID Auburn Hatcher 57.04 59 *eP* **P 10 58 33.6 +0.5**
comp=Z,278nm,1.7s
AHID LR LR
comp=Z,4µm,18.0s
PBKT Sadao Pong 57.09 235 *eP* **P 10 58 33.8 +0.4**
comp=Z,51nm,1.1s
PBKT LR LR
comp=Z,4µm,19.0s
PBKT Sadao Pong 57.09 235 P **P 10 58 34.0 +0.6**
comp=Z,42nm,0.8s
ZEI Tsey 57.13 301 *eP* **P 10 58 33.6 -0.1**
ZEI *eS* **S 11 06 37.0 +8.4**
ZEI pmax pmax
comp=Z,43nm,1.0s
ZEI MLR MLR
comp=Z,3µm,13.0s
NEY Neytrino 57.16 302 *diP* **P 10 58 36.0 +2.1**
NEY pmax pmax
comp=Z,23nm,1.9s
NEY MLR MLR
comp=Z,2µm,17.0s
YERR Yerington 57.19 68 *eP* **P 10 58 34.8 +0.6**
comp=Z,303nm,1.8s
ELK Elko 57.23 63 *eP* **P 10 58 35.2 +0.7**
comp=Z,142nm,1.6s
ELK Elko 57.23 63 *eP* **P 10 58 35.3 +0.7**
ELK pmax pmax
comp=Z,142nm,1.6s
HVU Hansel Valley 57.27 61 *eP* **P 10 58 35.5 +0.8**
comp=Z,238nm,1.5s
HVU Hansel Valley 57.27 61 *eP* **P 10 58 35.5 +0.8**
HVU pmax pmax
comp=Z,238nm,1.5s
AGMN Agassiz Nation 57.28 45 PFAKE 10 58 50.0 +16
AGMN LR LR
comp=Z,3µm,20.0s
LVV L'vov 57.34 320 *eP* **P 10 58 34.0 -0.9**
LVV *eS* **S 11 06 28.0 -2.8**
LVV MLR MLR
comp=Z,5µm,14.0s
CHAI Chaiyaphum 57.35 233 P **P 10 58 35.8 +0.5**
comp=Z,17nm,1.1s,comp=Z,162nm
LAWE Loch Awe, Argy 57.37 342 *eP* **P 10 58 34.1 -0.8**
LAWE IAmb IAmb 10 58 35.2
comp=Z,46nm,0.9s
RUE Ruedersdorf 57.50 328 *eP* **P 10 58 36.2 +0.3**
comp=Z,322nm,2.2s,baz=20,slow=6.9
RUE Ruedersdorf 57.50 328 *eP* **P 10 58 35.3 -0.6**
RUE IAmb IAmb 10 58 37.3
comp=Z,43nm,1.0s
WAKR Walker 57.53 68 *eP* **P 10 58 37.4 +0.8**
comp=Z,444nm,2.0s
CMB Columbia Colle 57.55 69 *eP* **P 10 58 37.1 +0.5**
comp=Z,50nm,1.4s
CMB Columbia Colle 57.55 69 *eP* **P 10 58 37.5 +0.9**
CMB pmax pmax
comp=Z,50nm,1.4s
KVN Kaiserville 57.58 67 *eP* **P 10 58 36.9 -0.1**
comp=Z,221nm,1.5s
KVN Kaiserville 57.58 67 *eP* **P 10 58 38.0 +1.0**
KVN pmax pmax
comp=Z,220nm,1.5s
BW06 Boulder Array 57.60 58 *eP* **P 10 58 37.1 0.0**
comp=Z,84nm,1.0s
BW06 LR LR
comp=Z,2µm,21.0s
BW06 Boulder Array 57.60 58 P **P 10 58 37.2 +0.1**
baz=331,SNR=106
PD31 Pinedale Array 57.60 58 *eP* **P 10 58 37.0 -0.1**
PDAR Pinedale Array 57.60 58 P **P 10 58 37.3 +0.2**
comp=Z,18nm,0.7s,baz=17,slow=3.0,SNR=162
PDAR LR LR 11 23 25.7
comp=Z,2µm,20.0s,baz=350,slow=36
PDAR Pinedale Array 57.60 58 *eP* **P 10 58 36.7 -0.4**
ANN Anapa 57.66 307 *eP* **P 10 58 35.9 -1.3**
ANN *eS* **S 11 06 39.5 +4.4**
ANN pmax pmax
comp=Z,144nm,1.2s
ANN MLR MLR
comp=Z,5µm,15.0s
PGBU Glenifferbraes 57.68 341 *eP* **P 10 58 36.2 -0.9**
TBLG Delisi 57.74 300 *eP* **P 10 58 38.5 +0.7**
comp=Z,53nm,1.0s
TBLG Delisi 57.74 300 *eP* **P 10 58 39.6 +1.8**
TBLG pmax pmax
comp=Z,53nm,1.0s
RYN Ryan 57.78 67 *eP* **P 10 58 38.2 -0.1**
comp=Z,33nm,0.9s
SPUT South Promonto 57.80 61 *eP* **P 10 58 39.1 +0.7**
comp=Z,226nm,1.8s
SPUT LR LR
comp=Z,3µm,19.0s
KWP Kalwaria Pacla 57.88 320 *eP* **P 10 58 38.8 +0.1**
KWP Kalwaria Pacla 57.88 320 *eP* **P 10 58 38.6 0.0**
comp=Z,945nm,0.8s
KWP LR LR
comp=Z,38µm,18.0s
KWP Kalwaria Pacla 57.88 320 *eP* **P 10 58 38.8 +0.1**
BGU Big Grassy Mou 57.91 62 *eP* **P 10 58 39.8 +0.5**
comp=Z,86nm,1.6s
BGU LR LR
comp=Z,3µm,20.0s
SOC Sochi 57.94 305 *eP* **P 10 58 36.8 -2.3**
SOC *e* 11 00 44.7
SOC *eS* **S 11 06 33.9 -4.9**
SOC *eSS* **SS 11 10 33.4 +4.5**
SOC *eSSS* SSS 11 12 55.4
SOC pmax pmax
comp=Z,141nm,1.5s
SOC MLR MLR
comp=Z,4µm,16.0s
SCHQ Schefferville 57.96 22 P **P 10 58 38.5 -0.7**
comp=Z,48nm,0.7s,baz=332,slow=3.6,SNR=66
SCHQ LR LR 11 25 39.3
comp=Z,4µm,18.3s,baz=344,slow=38
SCHQ Schefferville 57.96 22 *eP* **P 10 58 38.1 -1.1**
comp=Z,97nm,1.0s
ESK Eskdalemuir 57.98 340 *eP* **P 10 58 38.1 -1.2**
ESK Eskdalemuir 57.98 340 *iP* **P 10 58 40.4 +1.2**
NV01 Mina Array Sit 58.04 67 *eP* **P 10 58 41.1 +0.9**
NVAR Mina Array Bea 58.04 67 P **P 10 58 41.2 +1.0**
comp=Z,36nm,0.7s,baz=314,slow=5.7,SNR=69
OJC Ojcow 58.12 323 *eP* **P 10 58 40.0 -0.4**
OJC Ojcow 58.12 323 *eP* **P 10 58 40.0 -0.4**
comp=Z,102nm,1.0s
OJC Ojcow 58.12 323 *eP* **P 10 58 40.0 -0.4**
UMPA Umpang Tak 58.17 237 P **P 10 58 44.3 +3.2**
comp=Z,22nm,1.2s,comp=Z,1µm
BHH Howats Hill 58.19 340 *eP* **P 10 58 40.6 -0.2**
RETH Rethem/Aller, 58.22 331 *eP* **P 10 58 41.4 +0.5**
comp=Z,243nm,1.9s,baz=20,slow=6.9
SAO San Andreas Ge 58.22 71 *eP* **P 10 58 42.3 +1.0**
comp=Z,32nm,0.9s
SAO San Andreas Ge 58.22 71 *eP* **P 10 58 42.3 +1.0**
SAO pmax pmax
comp=Z,32nm,0.9s
EDMD Edmundbyers 58.26 339 *eP* **P 10 58 41.0 -0.3**
EDMD IAmb IAmb 10 58 41.7
comp=Z,69nm,1.0s
NRDL Niedersach Rie 58.29 330 *eP* **P 10 58 41.8 +0.4**
comp=Z,140nm,1.9s,baz=20,slow=6.9
TCUT Toone Canyon 58.35 60 *eP* **P 10 58 43.2 +0.8**
comp=Z,187nm,1.0s
TCUT LR LR
comp=Z,6µm,20.0s
RSSD Black Hills 58.36 53 *eP* **P 10 58 42.2 -0.1**
comp=Z,299nm,1.8s
RSSD LR LR
comp=Z,3µm,20.0s
RSSD Black Hills 58.36 53 *eP* **P 10 58 42.6 +0.2**
RSSD pmax pmax
comp=Z,300nm,1.8s
RSSD Black Hills 58.36 53 P **P 10 58 42.5 +0.2**
baz=332
MDPB Devils Postpil 58.42 68 *eP* **P 10 58 43.6 +0.7**
comp=Z,83nm,1.1s
KSP Ksiaz 58.42 325 *eP* **P 10 58 41.7 -0.7**
KSP Ksiaz 58.42 325 *eP* **P 10 58 41.7 -0.7**
KIS Kishinev 58.49 315 *eP* **P 10 58 41.0 -2.0**
comp=Z,420nm,2.0s
KIS Kishinev 58.49 315 *ePP* PP 11 00 56.0 +4.1
KIS *eSS* SS 11 13 44.0
KIS *eLQ* LQ 11 18 59.0
KIS LRM MLR 11 27 14.0
comp=Z,5µm,14.0s
KIS Kishinev 58.49 315 *eP* **P 10 58 41.0 -2.0**
KIS *e* 11 00 56.0
KIS pmax pmax
comp=Z,420nm,2.0s
KIS MLR MLR
comp=Z,5µm,14.0s
KIS MLR MLR
comp=N,5µm,13.0s
ASSE Asse, Remlinge 58.51 330 *eP* **P 10 58 43.4 +0.4**
comp=N,211nm,2.0s,baz=20,slow=6.9
MLAC Mammoth, Mammo 58.52 68 P **P 10 58 45.2 +1.6**
baz=330,SNR=35
UTHA Uthaitani 58.56 236 P **P 10 58 45.1 +1.3**
comp=N,23nm,1.4s,comp=N,207nm
CTU Camp Tracy 58.60 61 *eP* **P 10 58 44.5 +0.4**
comp=N,213nm,2.0s
CTU LR LR
comp=Z,3µm,20.0s
CLGH Cloghs, Cushen 58.61 342 *eP* **P 10 58 42.0 -1.6**
CLGH IAmb IAmb 10 58 44.6
comp=Z,77nm,1.1s
GAL1 Galloway 58.63 341 *eP* **P 10 58 42.2 -1.6**
GAL1 IAmb IAmb 10 58 44.4
comp=Z,18nm,0.8s
DUG Dugway, Tooele 58.63 62 *eP* **P 10 58 45.0 +0.7**
comp=Z,402nm,2.0s
DUG LR LR
comp=Z,3µm,22.0s
DUG Dugway, Tooele 58.63 62 *eP* **P 10 58 44.8 +0.6**
DUG pmax pmax
comp=Z,400nm,2.0s
DUG Dugway, Tooele 58.63 62 P **P 10 58 44.9 +0.7**
baz=331,SNR=82
SIM Simferopol' 58.64 310 *eP* P 10 58 54.8 +11
SIM *ePPP* PPP 11 02 17.5
SIM *eS* **S 11 06 54.0 +6.1**
SIM pmax pmax
comp=Z,35nm,0.8s
SIM MLR MLR
comp=E,3µm,14.7s
NIE Niedzica 58.72 322 *eP* **P 10 58 44.5 -0.1**
NIE Niedzica 58.72 322 *eP* **P 10 58 44.5 -0.1**
CLL Collm 58.77 328 *eP* **P 10 58 43.8 -1.0**
comp=E,64nm,0.9s
CLL LR LR
comp=Z,5µm,21.0s
CLL Collm 58.77 328 *eP* **P 10 58 44.6 -0.2**
comp=Z,73nm,0.9s,baz=20,slow=6.9
CLL Collm 58.77 328 ⇑*iP* **P 10 58 43.8 -1.0**
comp=Z,73nm,0.9s
CLL *ePlp* 10 58 45.0
comp=Z,200nm,21.2s
CLL *epP* **sP 10 58 50.0 0.0**
CLL *i* 10 58 55.7
comp=Z,79nm,0.9s
CLL *ePP* **PP 11 00 57.0 +2.8**
CLL *ePPP* PPP 11 02 15.0
CLL *eS* **S 11 06 48.0 -1.4**
CLL *ePS* **PnS 11 07 05.0 +4.4**
CLL *eSS* **SS 11 10 48.0 +6.5**
CLL LmV 11 25 00.0
comp=Z,5µm,21.5s
CLL Collm 58.77 328 ⇑*iP* **P 10 58 43.8 -1.0**
CLL *eS* **S 11 06 48.0 -1.4**
CLL pmax pmax
comp=Z,73nm,0.9s
CLL MLR MLR
comp=Z,5µm,21.5s
K22A Casper 58.78 56 *eP* **P 10 58 44.8 -0.5**
comp=Z,160nm,1.4s
K22A LR LR
comp=Z,3µm,18.0s
K22A Casper 58.78 56 P **P 10 58 44.8 -0.5**
baz=332,SNR=23
JLU Jordanelle 58.79 61 *eP* **P 10 58 45.8 +0.4**
comp=Z,294nm,1.7s
JLU LR LR
comp=Z,4µm,20.0s
IDGL Inch Island, C 58.80 343 *iP* **P 10 58 44.7 -0.3**
UPC Upice 58.80 325 *eP* **P 10 58 44.9 -0.2**
UPC AMS AMS 11 27 00.0
comp=Z,5µm,17.3s
UPC Upice 58.80 325 *eP* **P 10 58 44.9 -0.2**
UPC MLR MLR
comp=Z,5µm,17.3s
CLZ Clausthal 58.85 330 *eP* **P 10 58 46.1 +0.6**
comp=Z,215nm,1.9s,baz=20,slow=6.9
DPC Dobruska-Polom 58.87 325 *eP* **P 10 58 45.3 -0.4**
DPC *ex* x 10 58 53.3
DPC AMS AMS 11 28 20.0
comp=Z,5µm,16.2s
DPC Dobruska-Polom 58.87 325 *eP* **P 10 58 45.3 -0.4**
DPC *e* 10 58 53.3
DPC MLR MLR
comp=Z,5µm,16.2s
EYMN Ely 58.88 42 *eP* **P 10 58 45.2 -0.5**
comp=Z,184nm,1.8s
EYMN LR LR
comp=Z,4µm,20.0s
EYMN Ely 58.88 42 P **P 10 58 43.6 -2.1**
baz=335
OKC Ostrava-Krasne 58.89 324 *eP* **P 10 58 45.8 +0.1**
OKC AMS AMS 11 28 30.0
comp=Z,4µm,16.6s
OKC Ostrava-Krasne 58.89 324 *eP* **P 10 58 45.8 +0.1**
OKC MLR MLR
comp=Z,4µm,16.6s
UZH Uzhgorod 58.90 320 *eP* **P 10 58 44.8 -1.0**
UZH *e* 10 58 47.5
UZH *eS* **S 11 06 49.0 -2.2**
UZH smax smax
comp=N,400nm,16.0s
UZH smax smax
comp=E,400nm,16.0s
UZH smax smax
comp=Z,400nm,16.0s
BRG Berggiesshubel 58.95 327 *eP* **P 10 58 45.2 -0.9**
comp=Z,23nm,1.0s
BRG *i* 10 58 52.4
comp=Z,49nm,1.6s
BRG S **S 11 06 50.0 -1.8**
comp=N,4µm,18.9s
comp=E,5µm,16.0s
comp=Z,4µm,19.8s
BRG Berggiesshubel 58.95 327 *eP* **P 10 58 46.1 -0.1**
comp=Z,188nm,2.5s,baz=20,slow=6.9
BRG *epP* **sP 10 58 52.6 +1.3**
BRG Berggiesshubel 58.95 327 *eP* **P 10 58 45.2 -0.9**
BRG *i* 10 58 52.3
BRG S **S 11 06 50.0 -1.8**
BRG pmax pmax
comp=Z,23nm,1.0s
BRG MLR MLR
comp=N,4µm,18.9s
BRG MLR MLR
comp=E,5µm,16.0s
BRG MLR MLR
comp=Z,4µm,19.8s
IBBN Ibbenburen 58.95 332 *eP* **P 10 58 46.4 +0.3**
comp=Z,151nm,2.0s,baz=20,slow=6.9
IBBN *epP* **sP 10 58 52.9 +1.6**
BUR08 Bucovina Ar. S 58.98 318 *eP* **P 10 58 46.0 -0.6**
BUR04 Bucovina Ar. S 59.00 318 *eP* **P 10 58 46.0 -0.6**
BURAR Bucovina Array 59.00 318 ⇑*iP* **P 10 58 46.0 -0.7**
KRLC Kraliky 59.01 325 *eP* **P 10 58 46.4 -0.2**
KRLC *epP* **sP 10 58 54.3 +2.5**
KRLC Kraliky 59.01 325 *eP* **P 10 58 46.4 -0.2**
KRLC *e* 10 58 54.3
FBE Freiberg 59.05 327 *eP* **P 10 58 47.0 +0.3**
comp=Z,208nm,2.2s,baz=20,slow=6.9
SRAK Srakaew 59.09 232 P **P 10 58 48.9 +1.4**
comp=Z,72nm,1.3s
MORC Moravsky Berou 59.10 324 *eP* **P 10 58 47.0 -0.3**
comp=Z,36nm,0.8s
MORC LR LR
comp=Z,7µm,18.0s
MORC Moravsky Berou 59.10 324 ⇓*iP* **P 10 58 47.0 -0.3**
MORC Moravsky Berou 59.10 324 *eP* **P 10 58 47.0 -0.3**
MORC pmax pmax
comp=Z,36nm,0.8s
MORC Moravsky Berou 59.10 324 *eP* **P 10 58 46.9 -0.3**
GNI Garni 59.11 299 P **P 10 58 49.5 +1.9**
comp=Z,10nm,1.0s,baz=118,slow=7.2,SNR=5.9
GNI Garni 59.11 299 *eP* **P 10 58 47.6 0.0**
comp=Z,82nm,1.1s
GNI LR LR
comp=Z,4µm,21.0s
GNI Garni 59.11 299 *iP* **P 10 58 48.6 +0.9**
SNR=5.5
NLU North Lily Min 59.12 61 *eP* **P 10 58 48.5 +0.8**
comp=Z,68nm,1.0s
NLU LR LR
comp=Z,3µm,19.0s
PVCC Panska Ves 59.13 326 *eP* **P 10 58 47.4 0.0**
PVCC AMS AMS 11 27 50.0
comp=Z,4µm,12.9s
PVCC Panska Ves 59.13 326 *eP* **P 10 58 47.4 0.0**
PVCC MLR MLR
comp=Z,4µm,12.9s
NEUB Neuenburg 59.14 329 *eP* **P 10 58 47.2 -0.2**
comp=Z,32nm,0.9s,baz=20,slow=6.9
R11A Troy Canyon, C 59.17 65 *eP* **P 10 58 48.6 +0.6**
comp=Z,252nm,2.0s
R11A LR LR
comp=Z,2µm,20.0s
R11A Troy Canyon, C 59.17 65 P **P 10 58 48.6 +0.6**
baz=331,SNR=39
LANS Liptovska Anna 59.18 322 *eP* **P 10 58 48.3 +0.5**
LANS Liptovska Anna 59.18 322 *eP* **P 10 58 48.3 +0.5**
GTTG Gvttingen 59.22 330 *eP* **P 10 58 48.4 +0.5**
comp=Z,314nm,2.2s,baz=20,slow=6.9
MPU Maple Canyon 59.23 61 *eP* **P 10 58 49.3 +0.8**
comp=Z,67nm,1.0s
TIN Tinemaha, Big 59.26 68 P **P 10 58 49.8 +1.2**
baz=330,SNR=10.0
TRPA Tarpa 59.29 320 ⇑*iP* **P 10 58 48.4 -0.1**
TRPA Tarpa 59.29 320 ⇑*eP* **P 10 58 48.0 -0.4**
BIZ Bicaz 59.36 317 ⇑*iP* **P 10 58 48.5 -0.5**
RWWY Rawlins 59.39 57 *eP* **P 10 58 49.6 0.0**
comp=Z,396nm,2.0s
RWWY LR LR
comp=Z,2µm,19.0s
BMR Baia Mare 59.44 319 ⇑*iP* **P 10 58 50.2 +0.6**
WTSB Winterswijk 59.47 332 *eP* **P 10 58 50.0 +0.3**
comp=Z,59nm,0.8s
DAV Davao City (W) 59.53 204 PFAKE 10 59 00.0 +9.5
DAV LR LR
comp=Z,3µm,19.0s
PRA Prague 59.59 326 AMS AMS 11 27 50.0
comp=Z,7µm,14.9s
PAGB Antelope Grade 59.60 70 *eP* **P 10 58 51.5 +0.7**
comp=Z,56nm,1.0s
LBWR Ladybower, Pea 59.61 339 *eP* **P 10 58 50.1 -0.5**

LBWR IAmb IAmb 10 58 51.1
comp=Z,66nm,0.9s
PRU Pruhonice 59.64 326 eP P 10 58 49.5 -1.4
PRU AMS AMS 11 27 50.0
comp=Z,7μm,14.7s
PRU Pruhonice 59.64 326 eP P 10 58 49.5 -1.4
PRU MLR MLR
comp=Z,7μm,14.7s
GOPC GO Pecny, Ondr 59.65 326 eP P 10 58 50.9 -0.1
GOPC AMS AMS 11 27 50.0
comp=Z,7μm,15.0s
GOPC GO Pecny, Ondr 59.65 326 eP P 10 58 50.9 -0.1
GOPC MLR MLR
comp=Z,7μm,15.0s
GRAC Grapevine Rang 59.65 67 P P 10 58 51.9 +0.7
baz=331
PSUT Pine Spring 59.68 64 eP P 10 58 52.4 +0.8
comp=Z,68nm,1.0s
PSUT LR LR
comp=Z,2μm,21.0s
MOX Moxa 59.70 329 eP P 10 58 51.6 +0.3
comp=Z,248nm,2.1s,baz=20,slow=6.9
MOX eL L 11 26 05.4
comp=Z,5μm,20.3s
TANN Tannenbergstha 59.72 328 eP P 10 58 52.0 +0.4
comp=Z,440nm,2.1s,baz=20,slow=6.9
TANN epP **sP 10 58 58.3 +1.6**
PLN Plauen 59.73 328 eP P 10 58 51.8 +0.3
comp=Z,364nm,2.3s,baz=20,slow=6.9
ARCR ARCALIA 59.73 318⇑ iP P 10 58 52.3 +0.7
SUSD Miller 59.76 49 P P 10 58 51.1 -0.8
baz=333,SNR=25
VRAC Vranov 59.77 325 P P 10 58 51.6 -0.2
comp=Z,20nm,0.7s,baz=29,slow=6.7,SNR=34
VRAC Vranov 59.77 325⇑ iP P 10 58 51.9 +0.1
VRAC Vranov 59.77 325 eP P 10 58 51.7 -0.2
SRDT SRDT 59.79 236 P P 10 58 53.7 +1.4
comp=Z,65nm,1.4s,comp=Z,4μm
GUNZ Gunzen 59.80 328 eP P 10 58 52.5 +0.5
comp=Z,440nm,2.4s,baz=20,slow=6.9
GUNZ epP **sP 10 58 58.9 +1.7**
CWC Cottonwood Cre 59.85 68 P P 10 58 53.5 +0.8
baz=331
WERN Wernitzgruen 59.86 328 eP P 10 58 53.0 +0.5
comp=Z,317nm,2.2s,baz=20,slow=6.9
WERN epP **sP 10 58 59.5 +1.8**
BUG Bochum--Univer 59.87 332 eP P 10 58 52.6 +0.2
comp=Z,309nm,2.0s,baz=20,slow=6.9
BUG epP **sP 10 58 59.2 +1.6**
UBBA Unterbreizbach 59.89 330 eP P 10 58 52.8 +0.4
comp=Z,67nm,1.6s,baz=20,slow=6.9
NKC Novy Kostel 59.90 328 eP P 10 58 52.6 -0.1
NKC AMS AMS 11 25 40.0
comp=Z,6μm,18.2s
NKC Novy Kostel 59.90 328 eP P 10 58 52.6 -0.1
NKC MLR MLR
comp=Z,6μm,18.2s
JAVC Velka Javorina 59.91 324 eP P 10 58 53.6 +0.7
VYHS Vyhne 59.95 323 eP P 10 58 52.7 -0.4
VYHS pmax pmax
comp=Z,150nm,2.2s
VYHS Vyhne 59.95 323 eP P 10 58 52.7 -0.4
VYHS eL L 11 26 38.0
VES Vestal, Richgr 59.97 69 P P 10 58 52.9 -0.4
baz=331,SNR=15
KOLL Kolacno 59.99 323 eP P 10 58 53.6 +0.3
KOLL Kolacno 59.99 323 eP P 10 58 53.6 +0.3
TMUT Trail Mountain 60.02 61 eP P 10 58 54.9 +0.9
comp=Z,57nm,1.0s
TMUT LR LR
comp=Z,2μm,21.0s
P17A Butcher Ranch, 60.04 61 eP P 10 58 54.6 +0.6
comp=Z,83nm,1.1s
P17A LR LR
comp=Z,3μm,18.0s
KRUC Moravsky 60.05 325 eP P 10 58 53.6 -0.1
TREC Trest 60.05 325 eP P 10 58 53.9 +0.1
TREC AMS AMS 11 27 50.0
comp=Z,6μm,17.2s
TREC Trest 60.05 325 eP P 10 58 53.9 +0.1
TREC MLR MLR
comp=Z,6μm,17.2s
SMMC Simmler 60.06 70 P P 10 58 54.9 +0.8
baz=331,SNR=15
E38A The Farm, Brul 60.08 42 eP P 10 58 53.0 -1.0
comp=Z,48nm,0.9s
E38A LR LR
comp=Z,4μm,18.0s
PETR Petresti 60.12 315⇑ iP P 10 58 55.1 +0.9
TLCR 60.12 314⇓ iP P 10 58 54.3 +0.1
TPNV Topopah Spring 60.13 66 eP P 10 58 55.0 +0.4
comp=Z,223nm,1.7s
TPNV LR LR
comp=Z,3μm,20.0s
TPNV Topopah Spring 60.13 66 eP P 10 58 55.3 +0.6
TPNV pmax pmax
comp=Z,220nm,1.7s
TPNV Topopah Spring 60.13 66 P P 10 58 55.2 +0.6
baz=331,SNR=29
ODBI Odobesti 60.14 315⇓ iP P 10 58 54.9 +0.6
VRI Vrincioaia 60.14 316⇑ iP P 10 58 54.4 0.0
LTVH Ltavrtes, Hu 60.15 320⇑ eP P 10 58 54.0 -0.4
TCRU Three Creeks R 60.15 62 eP P 10 58 56.0 +1.1
comp=Z,55nm,1.1s
TCRU LR LR
comp=Z,2μm,21.0s
PLOR Plostina 60.18 316⇓ iP P 10 58 54.6 -0.1
CWF Charnwood Fore 60.18 338 eP P 10 58 53.9 -0.7
DAC Darwin (Calif) 60.19 68 eP P 10 58 55.8 +0.7
comp=Z,175nm,1.8s
DAC Darwin (Calif) 60.19 68 eP P 10 58 55.8 +0.7
DAC pmax pmax
comp=Z,175nm,1.8s
PSZ Piszkesteto 60.20 322 eP P 10 58 54.9 0.0
comp=Z,62nm,1.0s
PSZ LR LR
comp=Z,3μm,20.0s
PSZ Piszkesteto 60.20 322⇑ eP P 10 58 54.1 -0.8
PSZ Piszkesteto 60.20 322 eP P 10 58 54.9 0.0
PSZ pmax pmax
comp=Z,62nm,1.0s
PSZ MLR MLR
comp=Z,3μm,20.0s
MANZ Manzenberg 60.21 328 eP P 10 58 55.1 +0.3
comp=Z,1μm,2.2s,baz=20,slow=6.9
OZUR 60.21 316⇑ iP P 10 58 55.8 +0.8
CJR Cluj-Napoca 60.29 318⇑ iP P 10 58 56.0 +0.5
SMOL Smolenice 60.30 324 eP P 10 58 56.2 +0.8
SMOL Smolenice 60.30 324 eP P 10 58 56.2 +0.8
FURC Furnace Creek, 60.31 67 P P 10 58 56.6 +1.0
baz=331,SNR=37
CFR Carcaliu 60.34 314⇓ iP P 10 58 55.6 -0.1
MSU Marysvale 60.34 62 eP P 10 58 56.4 +0.2
MSU Marysvale 60.34 62 eP P 10 58 56.4 +0.2
BHPL Bhopal 60.34 262 eP P 10 58 56.1 0.0
PHWY Pilot Hill 60.35 56 eP P 10 58 56.5 +0.3
comp=Z,65nm,1.4s
PHWY LR LR
comp=Z,2μm,18.0s
Q16A Castle Valley 60.36 61 eP P 10 58 57.0 +0.8
comp=Z,281nm,1.5s
Q16A LR LR
comp=Z,3μm,20.0s
ISA Isabella, Lake 60.37 69 eP P 10 58 56.5 +0.3
comp=Z,17nm,1.0s
ISA Isabella, Lake 60.37 69 eP P 10 58 56.5 +0.3
ISA pmax pmax
comp=Z,17nm,1.0s
ISA Isabella, Lake 60.37 69 P P 10 58 56.1 -0.1
baz=331,SNR=14
O20A White River Ci 60.38 58 eP P 10 58 57.3 +0.9
comp=Z,257nm,1.5s
O20A LR LR
comp=Z,2μm,20.0s
O20A White River Ci 60.38 58 P P 10 58 56.8 +0.5
baz=332,SNR=21
MPMC Manual Prospec 60.42 68 P P 10 58 57.6 +0.9
baz=331,SNR=74
SRU San Rafael Swe 60.44 61 eP P 10 58 57.4 +0.6
comp=Z,71nm,0.7s
SRU LR LR
comp=Z,3μm,20.0s
SRU San Rafael Swe 60.44 61 eP P 10 58 57.4 +0.6
SRU pmax pmax
comp=Z,71nm,0.7s
LLW Llanuwychllyn 60.44 340 eP P 10 58 55.2 -1.1

DOPR Dopca 60.45 317⇓ iP P 10 58 57.0 +0.5
MODS Modra-Piesok 60.46 324 eP P 10 58 57.6 +1.0
MODS pmax pmax
comp=Z,225nm,2.1s
MODS Modra-Piesok 60.46 324 eP P 10 58 57.6 +1.0
MODS eL L 11 24 18.9
DRGR 60.47 319⇓ iP P 10 58 56.6 -0.1
PKM Mcpherson Peak 60.51 70 P P 10 58 58.2 +0.9
baz=331,SNR=30
D41A Chassel 60.51 40 PFAKE 10 59 10.0 +13
D41A LR LR
comp=Z,5μm,20.0s
D41A Chassel 60.51 40 P P 10 58 56.4 -0.5
baz=336
PATY Pattaya 60.51 233 P P 10 59 03.7 +6.5
N23A Red Feather La 60.54 56 eP P 10 58 57.1 -0.4
comp=Z,126nm,1.4s
N23A LR LR
comp=Z,3μm,19.0s
N23A Red Feather La 60.54 56 P P 10 58 57.4 -0.1
baz=332,SNR=29
F37A Hinrichs Farm, 60.57 44 P P 10 58 55.8 -1.5
baz=335,SNR=7.9
E39A Mellen 60.57 42 P P 10 58 55.7 -1.7
baz=336
F38A Pierce - Schro 60.57 43 P P 10 58 56.1 -1.2
baz=335,SNR=8.2
HLM1 Long Mynd 60.64 339 eP P 10 58 56.5 -1.2
HLM1 IAmb IAmb 10 58 58.2
comp=Z,30nm,0.9s
IGLA Glengowla, Co 60.65 344 eP P 10 58 56.9 -0.8
KHC Kasperske Hory 60.67 327 eP P 10 58 57.9 -0.1
comp=Z,28nm,1.4s
KHC LR LR
comp=Z,2μm,21.0s
KHC Kasperske Hory 60.67 327 eP P 10 58 57.4 -0.6
KHC epP **sP 10 59 03.5 +0.4**
KHC AMS AMS 11 28 30.0
comp=Z,5μm,13.7s
KHC Kasperske Hory 60.67 327 eP P 10 58 57.7 -0.3
KHC pmax pmax
comp=Z,28nm,1.4s
GRA1 Grafenberg Arr 60.68 328 eP P 10 58 57.7 -0.4
comp=Z,210nm,1.7s
GRA1 LR LR
comp=Z,5μm,20.0s
GRF Grafenberg Arr 60.68 328 eP P 10 58 58.7 +0.7
comp=Z,223nm,2.0s,baz=20,slow=6.9
GRF eL L 11 26 35.4
comp=Z,5μm,20.5s
GRF Grafenberg Arr 60.68 328 eP P 10 58 57.7 -0.4
GRF pmax pmax
comp=Z,210nm,1.7s
GRFO Grafenberg 60.68 328 eP P 10 58 58.4 +0.4
comp=Z,164nm,1.6s
GRFO LR LR
comp=Z,5μm,20.0s
GRFO Grafenberg 60.68 328 eP P 10 58 58.4 +0.4
GRFO pmax pmax
comp=Z,164nm,1.6s
GRFO MLR MLR
comp=Z,5μm,20.0s
ARVC Arvin 60.69 70 P P 10 58 58.5 +0.1
baz=331
MLR Muntele Rosu 60.72 316 P P 10 58 58.9 +0.4
comp=Z,42nm,0.6s,baz=331,slow=2.5,SNR=87
MLR Muntele Rosu 60.72 316 eP P 10 58 58.5 0.0
comp=Z,60nm,0.8s
MLR LR LR
comp=Z,4μm,18.0s
MLR Muntele Rosu 60.72 316⇑ iP P 10 58 59.1 +0.6
SRO Srobarova 60.72 323 eP P 10 58 58.8 +0.5
SRO Srobarova 60.72 323 eP P 10 58 58.8 +0.5
CCUT Cedar City 60.73 64 eP P 10 58 59.5 +0.7
comp=Z,131nm,1.8s
MTPU Mount Pierson 60.75 63 eP P 10 59 00.2 +1.1
comp=Z,305nm,1.9s
MTPU LR LR
comp=Z,2μm,20.0s
AHRW Bad Neuenahr-A 60.77 332 eP P 10 58 59.1 +0.5
comp=Z,221nm,2.2s,baz=20,slow=6.9
HGN Heimansgroeve 60.78 333 eP P 10 58 55.7 -3.0
comp=Z,228nm,2.0s
TNS Taunus Mts 60.78 331 eP P 10 58 59.2 +0.4
comp=Z,183nm,2.3s,baz=20,slow=6.9
SZCU Shurtz Canyon 60.79 64 eP P 10 58 59.6 +0.4
comp=Z,229nm,2.0s
BEBN Eben Emael 60.80 333 P P 10 58 58.3 -0.5
WET Wettzell 60.82 327 eP P 10 58 59.7 +0.7
comp=Z,155nm,2.1s,baz=20,slow=6.9
BUD Budapest 60.83 322⇑ eP P 10 58 58.1 -1.0
HARR Harsova 60.84 314⇓ iP P 10 58 59.7 +0.5
LRMC Laurel Mtn Rad 60.84 68 P P 10 59 00.0 +0.5
baz=331,SNR=26
ISR Istrita 60.87 315⇓ iP P 10 59 00.4 +0.9
F39A Loretta 60.89 42 P P 10 58 57.1 -2.5
baz=336
TLB Topalu 60.90 314⇑ iP P 10 58 59.9 +0.3
TIRR Tirgusor 60.90 314 eP P 10 58 59.6 +0.1
comp=Z,27nm,0.9s
TIRR ePcP **PcP 10 59 42.2 -0.8**
TIRR LR LR
comp=Z,5μm,18.0s
TIRR Tirgusor 60.90 314⇑ iP P 10 59 00.2 +0.6
TIRR Tirgusor 60.90 314 eP P 10 58 59.7 +0.1
TIRR pmax pmax
comp=Z,27nm,0.9s
GEC2 GERESS Array S 60.90 326 eP P 10 58 59.2 -0.5
comp=Z,35nm,1.0s
GEC2 LR LR
comp=Z,6μm,22.0s
GEC2 GERESS Array S 60.90 326 eP P 10 58 60.0 +0.3
comp=Z,236nm,2.3s,baz=20,slow=6.9
GEC2 epP **sP 10 59 06.4 +1.5**
GEC2 GERESS Array S 60.90 326 eP P 10 58 59.2 -0.5
GEC2 pmax pmax
comp=Z,35nm,1.0s
GERES GERESS Array B 60.90 326 P P 10 58 59.4 -0.3
comp=Z,12nm,0.7s,baz=29,slow=6.1,SNR=78
GERES LR LR 11 27 47.7
comp=Z,5μm,21.6s,baz=27,slow=38
GEA0 GERESS Array S 60.91 326 eP P 10 58 58.1 -1.7
MEM Membach 60.92 332 P P 10 58 58.9 -0.7
comp=Z,9.6nm,0.0s
MEM pP **pP 10 59 03.4 0.0**
MEM sP **sP 10 59 05.0 +0.2**
SBC Santa Barbara 60.93 71 P P 10 59 00.3 +0.4
baz=331
SHPR Sheep Range 60.94 66 eP P 10 59 01.2 +1.0
comp=Z,219nm,2.0s
PHET Kaeng Krachan 60.95 235 P P 10 59 02.6 +2.4
comp=Z,18nm,1.4s,comp=Z,188nm
SPMN Marine on St. 60.97 44 eP P 10 58 59.7 -0.4
comp=Z,54nm,1.0s
SPMN LR LR
comp=Z,2μm,21.0s
SPMN Marine on St. 60.97 44 P P 10 58 59.2 -0.8
baz=335,SNR=7.0
BLCH La Chartreuse 60.97 333 P P 10 58 59.5 -0.5
comp=Z,9.6nm,0.0s
BSTI Sart Tilman 61.03 333 P P 10 58 59.4 -1.0
BSTI x x 10 59 00.2
BSTI sP **pP 10 59 04.6 +0.5**
VOIR 61.03 317⇑ iP P 10 59 00.9 +0.3
SHOC Shoshone, Teco 61.04 67 P P 10 59 01.4 +0.8
baz=331,SNR=25
UCC Uccle 61.06 334 eP P 10 59 00.7 +0.2
comp=Z,34nm,1.1s
UCC LR LR
comp=Z,5μm,20.0s
UCC Uccle 61.06 334 eP P 10 59 00.7 +0.2
UCC pmax pmax
comp=Z,34nm,1.1s
UCC MLR MLR
comp=Z,5μm,20.0s
UCC Uccle 61.06 334 ⇓P P 10 59 00.2 -0.3
F40A Park Falls 61.12 42 P P 10 58 58.7 -2.4
baz=336
ECSD EROS Data Cent 61.14 48 eP P 10 59 00.2 -1.1
comp=Z,278nm,1.8s
ECSD LR LR
comp=Z,4μm,18.0s
ECSD EROS Data Cent 61.14 48 P P 10 59 00.4 -0.9
baz=334,SNR=15
MFTR Murfatlar 61.15 314⇓ iP P 10 59 01.3 0.0
OSI Osito Audit: C 61.18 70 eP P 10 59 02.9 +1.2
comp=Z,48nm,0.9s
OSI Osito Audit: C 61.18 70 P P 10 59 02.3 +0.6
baz=331,SNR=12
ARR Arges 61.21 317⇓ iP P 10 59 02.8 +1.0
MTUR Matau 61.22 317⇑ iP P 10 59 02.8 +1.0
PKCU Pink Cliffs 61.22 63 eP P 10 59 03.7 +1.4
comp=Z,66nm,1.0s
PKCU LR LR
comp=Z,2μm,19.0s
COWI Conover 61.23 41 PFAKE 10 59 10.0 +8.2
COWI LR LR
comp=Z,5μm,19.0s
CONA Conrad Observa 61.23 324 i pP P 10 59 02.0 +0.1
comp=Z,65nm,1.9s,SNR=14
DEV Deva 61.24 318⇑ iP P 10 59 02.7 +0.8
EDW2 Edwards Air Fo 61.24 69 P P 10 59 02.8 +0.6
baz=331,SNR=62
LCMT Little Creek M 61.24 64 eP P 10 59 02.9 +0.7
comp=Z,37nm,0.9s
E42A Champion 61.27 40 P P 10 59 00.8 -1.3
baz=337
SOP Sopron 61.29 324 eP P 10 59 03.0 +0.9
G38A Ridgeland 61.30 43 P P 10 59 00.5 -1.8
baz=336
BGES Gesves 61.31 333 P P 10 59 01.1 -1.1
comp=Z,5.0nm,0.0s
BGES pP **pP 10 59 04.3 -1.7**
BGES sP **sP 10 59 06.6 -0.9**
SNF Seneffe 61.35 334 ⇓P P 10 59 02.4 -0.1
GSC Goldstone, Bar 61.35 68 eP P 10 59 03.6 +0.8
comp=Z,110nm,1.5s
GSC Goldstone, Bar 61.35 68 eP P 10 59 03.7 +0.8
GSC pmax pmax
comp=Z,110nm,1.5s
GSC Goldstone, Bar 61.35 68 P P 10 59 03.5 +0.6
baz=331,SNR=20
SULR 61.36 315⇑ iP P 10 59 03.2 +0.5
G39A Holcombe 61.39 43 P P 10 59 01.5 -1.4
baz=336
LOT Lotru 61.39 318⇓ iP P 10 59 02.7 -0.4
ICOR Ion Corvin 61.40 314⇑ iP P 10 59 03.8 +0.9
KNB Kanab 61.40 64 eP P 10 59 03.7 +0.4
comp=Z,56nm,1.0s
KNB LR LR
comp=Z,1μm,20.0s
KNB Kanab 61.40 64 eP P 10 59 03.7 +0.4
KNB pmax pmax
comp=Z,56nm,1.0s
KNB MLR MLR
comp=Z,1μm,20.0s
SWN1 Swindon 61.45 338 eP P 10 59 03.0 -0.2
BLG Laguna Peak, P 61.49 70 P P 10 59 02.0 -1.7
baz=331
PV09 Paradox Valley 61.49 60 eP P 10 59 04.7 +0.6
BNGL BINGOL 61.49 301 i P P 10 59 10.1 +6.2
PV21 Cone Mtn., Par 61.49 60 eP P 10 59 04.3 +0.3
comp=Z,373nm,1.6s
PV21 LR LR
comp=Z,3μm,22.0s
E43A Lone Tree Farm 61.57 39 PFAKE 10 59 20.0 +16
E43A LR LR
comp=Z,4μm,20.0s
E43A Lone Tree Farm 61.57 39 P P 10 59 02.3 -1.8
baz=337
F41A Three Lakes 61.57 41 PFAKE 10 59 20.0 +16
F41A LR LR
comp=Z,5μm,20.0s
F41A Three Lakes 61.57 41 P P 10 59 02.6 -1.6
baz=336
PV23 Carpenter Ridg 61.58 60 eP P 10 59 05.0 +0.4
comp=Z,509nm,1.8s
TUQ Turquoise Moun 61.58 67 P P 10 59 05.2 +0.7
baz=331,SNR=9.2
H38A Maiden Rock 61.62 44 P P 10 59 03.3 -1.2
baz=336,SNR=5.5
ISCO Idaho Springs 61.62 56 eP P 10 59 05.2 +0.2
comp=Z,139nm,1.4s
ISCO LR LR
comp=Z,3μm,19.0s
ISCO Idaho Springs 61.62 56 eP P 10 59 05.2 +0.2
ISCO pmax pmax
comp=Z,139nm,1.4s
ISCO MLR MLR
comp=Z,3μm,19.0s
ISCO Idaho Springs 61.62 56 P P 10 59 05.5 +0.6
baz=333,SNR=44
E44A Grand Marais A 61.63 38 PFAKE 10 59 20.0 +15
E44A LR LR
comp=Z,3μm,21.0s
E44A Grand Marais A 61.63 38 P P 10 59 02.7 -1.8
baz=337
PV10 Paradox Valley 61.63 60 eP P 10 59 06.1 +1.1
PV14 Lion Creek, Pa 61.64 60 eP P 10 59 05.4 +0.4
comp=Z,99nm,1.0s
RRX Edison Barstow 61.64 68 P P 10 59 04.6 -0.2
baz=331
DECC Green Verdugo 61.65 70 P P 10 59 04.9 +0.1
baz=331,SNR=14
PV04 Paradox Valley 61.67 60 PFAKE 10 59 20.0 +15
PV04 LR LR
comp=Z,4μm,18.0s
TIH Tihany 61.67 323⇑ eP P 10 59 04.1 -0.7
DOU Dourbes 61.68 333 P P 10 59 04.5 -0.2
SMCO Snowmass 61.68 58 eP P 10 59 05.9 +0.5
comp=Z,209nm,1.3s
SMCO LR LR
comp=Z,3μm,19.0s
G40A Rib Lake 61.69 42 eP P 10 59 04.1 -0.8
comp=Z,64nm,1.0s
G40A LR LR
comp=Z,5μm,20.0s
G40A Rib Lake 61.69 42 P P 10 59 03.3 -1.7
baz=336,SNR=5.5
PV20 West Nyswonger 61.69 60 eP P 10 59 05.9 +0.6
comp=Z,556nm,2.0s
PV20 LR LR
comp=Z,3μm,18.0s
MOA Molln 61.70 326 i P P 10 59 04.7 -0.3
comp=Z,26nm,0.8s,SNR=9.3
PV19 Morning Glory 61.71 60 eP P 10 59 05.7 +0.2
comp=Z,114nm,1.1s
PV19 LR LR
comp=Z,3μm,20.0s
GZR Gura Zlata 61.73 318⇓ iP P 10 59 05.3 0.0
PV16 Nyswonger Mesa 61.74 60 eP P 10 59 06.1 +0.5
comp=Z,93nm,1.0s
PV17 East Wray Mesa 61.75 60 eP P 10 59 06.2 +0.5
comp=Z,132nm,1.1s
PV11 David Mesa, Pa 61.76 60 eP P 10 59 05.5 -0.3
comp=Z,236nm,1.4s
PV11 LR LR
comp=Z,4μm,18.0s
PV12 Saucer Basin, 61.77 60 eP P 10 59 05.8 -0.1
comp=Z,297nm,1.6s
PASC Pasadena Art C 61.78 70 eP P 10 59 05.7 -0.1
comp=Z,32nm,1.0s
WLF Walferdange 61.79 332 ⇓P P 10 59 05.3 -0.2
MWC Mount Wilson 61.79 69 eP P 10 59 05.2 -0.8
comp=Z,120nm,1.5s
MWC LR LR
comp=Z,2μm,20.0s
MWC Mount Wilson 61.79 69 eP P 10 59 06.4 +0.4
MWC pmax pmax
comp=Z,120nm,1.5s
PV03 Paradox Valley 61.81 60 eP P 10 59 06.2 +0.1
F42A Maple Grove Fa 61.82 40 P P 10 59 05.0 -0.8
baz=337
BZS Buzias 61.85 319⇑ iP P 10 59 05.7 -0.3
OGNE Ogallala 61.86 53 eP P 10 59 06.5 +0.3
comp=Z,300nm,1.4s
OGNE LR LR
comp=Z,2μm,18.0s
OGNE Ogallala 61.86 53 P P 10 59 05.9 -0.3
baz=333,SNR=19
SGRR Singureni 61.86 315⇑ iP P 10 59 06.6 +0.6
D46A Sault St. Mari 61.87 37 P P 10 59 03.4 -2.8
baz=338
PV05 Paradox Valley 61.87 60 eP P 10 59 06.9 +0.3
CUZAR Zara_SIVAS 61.88 304 i P P 10 59 12.7 +6.2
PV02 Paradox Valley 61.89 60 eP P 10 59 07.1 +0.4
comp=Z,53nm,0.9s
PV13 Radium Mtn., P 61.91 60 eP P 10 59 06.1 -0.7
comp=Z,89nm,1.2s
PV13 LR LR
comp=Z,4μm,18.0s
H39A Augusta 61.91 43 P P 10 59 04.6 -1.9
baz=336

BFSC **Mount Baldy Ra** 61.94 69 P P 10 59 07.4 +0.5
baz=331,SNR=58
HEC **Hector,Ludlow** 61.95 68 P P 10 59 07.6 +0.7
baz=331,SNR=18
ARSA **Arzberg** 61.95 324 *i* pP P 10 59 06.9 +0.2
comp=Z,24nm,0.9s,SNR=10
D47A **Chapleau** 61.96 36 P P 10 59 05.1 -1.6
baz=338
STU **Stuttgart** 62.00 329 *e*P P 10 59 07.0 0.0
comp=Z,57nm,1.3s
STU LR LR
comp=Z,3µm,20.0s
STU **Stuttgart** 62.00 329 *e*P P 10 59 07.2 +0.2
comp=Z,170nm,2.0s,baz=20,slow=6.9
STU *e*pP sP 10 59 13.6 +1.5
STU **Stuttgart** 62.00 329 *e*P P 10 59 07.0 0.0
STU pmax pmax
comp=Z,57nm,1.3s
STU MLR MLR
comp=Z,3µm,20.0s
F43A **Flat Rock, Esc** 62.02 40 P P 10 59 05.6 -1.5
baz=337
PV01 **Paradox Valley** 62.02 60 *e*P P 10 59 08.1 +0.5
G41A **Antigo** 62.03 41 P P 10 59 05.6 -1.7
baz=336
F44A **Big Bay de Noc** 62.09 39 P P 10 59 07.1 -0.6
baz=337
FUR **Furstenfeldbru** 62.10 328 *e*P P 10 59 08.1 +0.4
comp=Z,49nm,1.0s,baz=20,slow=6.9
FUR *e*pP sP 10 59 14.4 +1.5
MORH **Mrgy, Hungar** 62.11 322⇑ *e*P P 10 59 07.0 -0.7
U15A **North Rim** 62.12 64 *e*P P 10 59 08.5 +0.2
comp=Z,75nm,1.2s
FMP **Fort Macarthur** 62.14 70 P P 10 59 07.3 -0.8
baz=331
D48A **Paudash Townsh** 62.17 35 P P 10 59 07.1 -1.0
baz=339
VAL **Valentia** 62.20 344 *i* P P 10 59 08.0 -0.2
BBRC **Big Bear Solar** 62.21 68 P P 10 59 09.2 +0.3
baz=331
LDFC **Landfair** 62.21 67 *e*P P 10 59 09.7 +0.9
comp=Z,88nm,1.0s
LDFC LR LR
comp=Z,2µm,20.0s
G42A **Mountain** 62.21 41 PFAKE 10 59 20.0 +12
G42A LR LR
comp=Z,5µm,20.0s
G42A **Mountain** 62.21 41 P P 10 59 06.7 -1.8
baz=337
H40A **Chili** 62.22 43 P P 10 59 07.3 -1.2
baz=336
ILGA **Ilgaz** 62.24 308 *e*P P 10 59 10.4 +1.4
comp=Z,84nm,1.0s
ILGA LR LR
comp=Z,2µm,20.0s
GMRC **Granite Mounta** 62.25 67 P P 10 59 09.7 +0.7
baz=332,SNR=35
SRE **Strehaia** 62.27 318⇑ *i* P P 10 59 08.7 -0.2
E46A **Sault Ste Mari** 62.29 37 P P 10 59 07.5 -1.4
baz=338
SIRT **Sirnak** 62.30 299 *e*P P 10 59 10.5 +1.3
comp=Z,230nm,0.9s
SIRT LR LR
comp=Z,11µm,20.0s
HERR **Herculane** 62.30 318⇓ *i* P P 10 59 08.6 -0.4
VLDQ **Val d'Or** 62.32 32 *e*P P 10 59 07.4 -1.7
comp=Z,27nm,0.9s
VLDQ LR LR
comp=Z,6µm,21.0s
PRD **Provadia** 62.35 314 *e*P P 10 59 09.6 +0.2
CIS **Catalina Islan** 62.37 70 P P 10 59 09.9 +0.3
baz=331,SNR=17
G43A **Wallace** 62.41 40 PFAKE 10 59 20.0 +10
G43A LR LR
comp=Z,4µm,21.0s
H41A **Junction City** 62.44 42 PFAKE 10 59 20.0 +10
H41A LR LR
comp=Z,5µm,20.0s
H41A **Junction City** 62.44 42 P P 10 59 06.6 -3.4
baz=336
E47A **Iron Bridge** 62.47 37 P P 10 59 07.6 -2.5
baz=338
KKM **Kota Kinabalu** 62.49 214 *e*P P 10 59 11.0 +0.2
comp=Z,138nm,1.1s
KKM LR LR
comp=Z,3µm,22.0s
KKM **Kota Kinabalu** 62.49 214 P P 10 59 12.5 +1.8
CUKAN **kangal_SIVAS** 62.50 304 *i* P P 10 59 11.4 +0.8
Q24A **Divide** 62.53 57 *e*P P 10 59 11.6 +0.5
comp=Z,172nm,1.6s
Q24A LR LR
comp=Z,2µm,20.0s
Q24A **Divide** 62.53 57 P P 10 59 11.3 +0.2
baz=333,SNR=8.8
MDVR **Moldovita** 62.59 319⇑ *i* P P 10 59 11.4 +0.4
I39A **Houston** 62.59 44 *e*P P 10 59 09.9 -1.2
comp=Z,42nm,0.7s
I39A LR LR
comp=Z,3µm,18.0s
I39A **Houston** 62.59 44 P P 10 59 09.3 -1.8
baz=336,SNR=9.5
BFO **Black Forest** 62.60 330 *e*P P 10 59 10.6 -0.4
comp=Z,146nm,2.0s
BFO LR LR
comp=Z,3µm,20.0s
BFO **Black Forest** 62.60 330 *e*P P 10 59 11.0 0.0
comp=Z,103nm,1.9s,baz=20,slow=6.9
BFO *e*pP sP 10 59 17.4 +1.2
BFO **Black Forest** 62.60 330 *i* P P 10 59 11.0 0.0
SOKA **Soboth** 62.60 325 *i* pP P 10 59 11.6 +0.5
comp=Z,15nm,0.8s
PERS **Pernice** 62.62 324 *i* P P 10 59 11.1 -0.1
KBA **Koelnbreinsper** 62.64 326 *i* pP P 10 59 11.9 +0.3
comp=Z,96nm,1.9s,SNR=16
SDKM **Sandakan** 62.65 213 P P 10 59 13.6 +1.9
D50A **G1974 Best Tow** 62.65 34 P P 10 59 10.3 -1.0
baz=340
W13A **Hualapai Mount** 62.67 66 *e*P P 10 59 12.4 +0.5
comp=Z,70nm,1.5s
W13A LR LR
comp=Z,2µm,21.0s
NEE2 **Needles Airpor** 62.68 66 P P 10 59 11.7 0.0
baz=332
MURC **Murrieta** 62.68 69 P P 10 59 12.0 +0.2
baz=332,SNR=20
SCI2 **San Clemente I** 62.68 70 P P 10 59 09.9 -1.9
baz=332
PUNG **Punghina** 62.70 318⇓ *i* P P 10 59 11.3 -0.4
F46A **Macinaw City C** 62.72 38 P P 10 59 10.5 -1.3
baz=338
E48A **Lockeyer** 62.73 36 P P 10 59 10.3 -1.6
baz=339
SZH **Strazhica** 62.74 315 *e*P P 10 59 10.9 -1.1
BGNE **Belgrade** 62.74 50 *e*P P 10 59 12.1 0.0
comp=Z,118nm,1.0s
BGNE LR LR
comp=Z,7µm,18.0s
BGNE **Belgrade** 62.74 50 P P 10 59 10.9 -1.1
baz=334,SNR=6.4
FRGS **Fruska Gora** 62.77 320 *e*P P 10 59 11.4 -0.8
BELC **Belle Mtn. Jos** 62.81 68 P P 10 59 13.0 +0.2
baz=332,SNR=13
WATA **Walderalm** 62.82 327 *i* P P 10 59 12.2 -0.5
comp=Z,22nm,0.8s,SNR=16
I40A **Norwalk** 62.83 43 P P 10 59 11.0 -1.6
baz=336,SNR=7.6
UBR **Ueberruh** 62.83 328 *e*P P 10 59 12.8 +0.2
comp=Z,96nm,1.9s,baz=20,slow=6.9
H42A **Shiocton** 62.86 41 PFAKE 10 59 20.0 +7.2
H42A LR LR
comp=Z,5µm,21.0s
H42A **Shiocton** 62.86 41 P P 10 59 10.7 -2.1
baz=337
RETA **Reute** 62.86 328 *i* P P 10 59 12.8 -0.1
comp=Z,10nm,1.0s
MVCO **Mesa Verde** 62.86 60 *e*P P 10 59 13.9 +0.7
comp=Z,152nm,1.8s
MVCO LR LR
comp=Z,2µm,18.0s
MVCO **Mesa Verde** 62.86 60 P P 10 59 13.4 +0.2
baz=332,SNR=19
WTTA **Wattenberg** 62.87 327 *i* pP P 10 59 13.1 0.0
comp=Z,28nm,0.9s,SNR=10
OBKA **Obir** 62.88 325 *i* pP P 10 59 13.3 +0.3
comp=Z,82nm,0.8s,SNR=15
I41A **Arkdale** 62.89 42 PFAKE 10 59 30.0 +17
I41A LR LR
comp=Z,4µm,20.0s
I41A **Arkdale** 62.89 42 P P 10 59 11.1 -1.9
baz=336
MOTA **Moosalm** 62.92 328 *i* pP P 10 59 13.7 +0.4
comp=Z,13nm,0.9s,SNR=5.3
ECH **Echery** 62.96 331 *e*P P 10 59 13.0 -0.4
comp=Z,57nm,1.2s
ECH LR LR
comp=Z,4µm,19.0s
ECH **Echery** 62.96 331 *e*P P 10 59 13.0 -0.4
ECH pmax pmax
comp=Z,57nm,1.2s
ECH MLR MLR
comp=Z,4µm,19.0s
PFO **Pinyon Flats O** 62.96 68 *e*P P 10 59 13.8 +0.1
comp=Z,23nm,0.9s
PFO **Pinyon Flats O** 62.96 68 *e*P P 10 59 14.0 +0.2
PFO pmax pmax
comp=Z,23nm,1.0s
PFO **Pinyon Flats O** 62.96 68 P P 10 59 13.9 +0.1
baz=332,SNR=18
PVL **Pavlikeni** 62.97 315 *e*P P 10 59 12.9 -0.6
XPFO **Pion Flat** 62.97 68 *e*P P 10 59 13.3 -0.5
comp=Z,23nm,0.9s
MYKA **Terra Mystica** 62.99 325 *i* pP P 10 59 14.0 +0.3
comp=Z,26nm,0.9s,SNR=6.2
S22A **4UR Ranch, Cre** 63.00 58 *e*P P 10 59 14.8 +0.6
comp=Z,209nm,1.6s
S22A LR LR
comp=Z,2µm,21.0s
S22A **4UR Ranch, Cre** 63.00 58 P P 10 59 14.8 +0.6
baz=333,SNR=41
IRM **Iron Mountain** 63.01 67 P P 10 59 14.7 +0.7
baz=332,SNR=50
SQTA **Sankt Quirin** 63.01 327 *i* P P 10 59 13.8 -0.1
comp=Z,38nm,1.2s,SNR=9.6
J39A **Derh** 63.01 44 P P 10 59 12.2 -1.6
baz=336
H43A **Windswept, Lux** 63.11 41 PFAKE 10 59 20.0 +5.6
H43A LR LR
comp=Z,4µm,21.0s
G46A **Petoskey** 63.12 38 P P 10 59 12.8 -1.6
baz=338
E50A **Wahnapitae** 63.13 35 P P 10 59 12.7 -1.9
baz=340
ABTA **Abfaltersbach** 63.15 326 *i* pP P 10 59 15.1 +0.3
comp=Z,0.5nm,0.3s,SNR=8.0
G45A **Suttons Bay** 63.16 39 P P 10 59 12.6 -2.2
baz=338
D52A **ZEK Kipawa Sen** 63.17 33 P P 10 59 13.4 -1.4
baz=340
F48A **Evansville** 63.22 36 P P 10 59 13.4 -1.8
baz=339
D53A **Lac Vacive, Po** 63.23 32 P P 10 59 13.6 -1.7
baz=341
J40A **Soldiers Grove** 63.24 43 P P 10 59 13.7 -1.6
baz=336
DAVA **Damuels** 63.25 328 *e*pP P 10 59 15.6 0.0
comp=Z,11nm,0.9s
JMB **Yambol** 63.27 314 *e*P P 10 59 14.8 -0.7
PDMCI **Parker Dam,Lak** 63.27 66 P P 10 59 15.9 +0.2
baz=332,SNR=16
WUAZ **Wupatki** 63.27 63 *e*P P 10 59 16.3 +0.4
comp=Z,37nm,1.0s
WUAZ LR LR
comp=Z,2µm,20.0s
WUAZ **Wupatki** 63.27 63 P P 10 59 16.3 +0.4
baz=332,SNR=23
CRES **Cresnjev** 63.29 324 *e*P P 10 59 14.6 -1.1
CDAG **Cicekdag** 63.30 307 *i* P P 10 59 15.3 -0.6
FETA **Feichten** 63.31 328 *i* P P 10 59 15.5 -0.4
comp=Z,20nm,1.2s
I42A **Draeger Farm,** 63.32 42 *e*P P 10 59 14.7 -1.1
comp=Z,47nm,0.9s
I42A LR LR
comp=Z,6µm,21.0s
I42A **Draeger Farm,** 63.32 42 P P 10 59 14.4 -1.4
baz=337
BC3 **Big Chuckawall** 63.33 68 P P 10 59 16.7 +0.5
baz=332,SNR=9.3
E51A **G1948 Merrick** 63.33 34 P P 10 59 14.4 -1.5
baz=340
109C **Camp Elliot, M** 63.34 69 P P 10 59 16.4 +0.3
baz=332,SNR=8.9
CPE **Camp Elliot** 63.34 69 *e*P P 10 59 17.0 +0.9
comp=Z,41nm,1.1s
KSCO **Kaye Shedlock'** 63.38 55 *e*P P 10 59 16.6 +0.1
comp=Z,224nm,1.4s
KSCO LR LR
comp=Z,2µm,19.0s
KSCO **Kaye Shedlock'** 63.38 55 P P 10 59 16.3 -0.2
baz=334,SNR=9.8
D54A **Lac Fusel, La** 63.40 32 P P 10 59 14.8 -1.6
baz=341
TEKS **Tekeris** 63.41 320 *e*P P 10 59 16.4 0.0
H45A **Beulah** 63.44 39 P P 10 59 14.4 -2.2
baz=338
BR101 **Keskin Array S** 63.46 307 *e*P P 10 59 17.1 +0.1
BR131 **Keskin Array S** 63.46 307 *e*P P 10 59 18.0 +1.0
BR131 **Keskin Array S** 63.46 307 P P 10 59 16.7 -0.3
SNR=12
BRTR **Keskin Array B** 63.46 307 P P 10 59 17.1 +0.1
comp=Z,8.2nm,0.8s,baz=47,slow=4.0,SNR=41
BRTR LR LR 11 29 25.4
comp=Z,2µm,18.2s,baz=19,slow=38
VISS **Visnje** 63.47 324 *i* P P 10 59 16.4 -0.4
J41A **Loganville** 63.48 43 P P 10 59 15.4 -1.6
baz=337,SNR=5.3
SDCO **Great Sand Dun** 63.48 57 *e*P P 10 59 17.1 -0.3
comp=Z,232nm,1.6s
SDCO LR LR
comp=Z,2µm,18.0s
SDCO **Great Sand Dun** 63.48 57 P P 10 59 17.6 +0.2
baz=333,SNR=33
G47A **Hillman** 63.51 38 P P 10 59 15.1 -2.0
baz=338
K39A **Oelwein** 63.53 45 P P 10 59 14.7 -2.5
baz=336,SNR=11
I43A **Langenfeld Bro** 63.54 41 P P 10 59 15.8 -1.5
baz=337
JAVS **Javornik** 63.58 325 *e*P P 10 59 16.6 -1.1
Y12C **Blythe** 63.61 67 *e*P P 10 59 18.8 +0.9
comp=Z,52nm,0.9s
Y12C **Blhe** 63.61 67 P P 10 59 18.4 +0.6
baz=332,SNR=28
MONP2 **Monument Peak** 63.61 69 P P 10 59 18.6 +0.4
baz=332,SNR=14
ANTO **Ankara** 63.62 308 *e*P P 10 59 19.1 +1.2
comp=Z,77nm,1.3s
ANTO LR LR
comp=Z,2µm,19.0s
ANTO **Ankara** 63.62 308 *e*P P 10 59 19.9 +1.9
ANTO pmax pmax
comp=Z,77nm,1.3s
ANTO **Ankara** 63.62 308 P P 10 59 18.4 +0.5
SNR=9.2
CEY **Cerknica** 63.63 325 *e*P P 10 59 15.7 -2.2
GLMI **Grayling** 63.64 38 PFAKE 10 59 30.0 +12
GLMI LR LR
comp=Z,5µm,18.0s
GLMI **Grayling** 63.64 38 P P 10 59 16.2 -1.8
baz=338
BHJ **Bhuj** 63.64 269 *e*P P 10 59 17.4 -0.8
BOJS **Bojanci** 63.64 324 *i* P P 10 59 17.5 -0.5
BR231 **Keskin MP Arra** 63.65 308 *e*P P 10 59 19.6 +1.4
BAR **Barrett** 63.70 69 *e*P P 10 59 19.2 +0.7
comp=Z,31nm,0.9s
BAR LR LR
comp=Z,1µm,20.0s
DIVS **Divibare** 63.70 320 *e*P P 10 59 17.9 -0.5
comp=Z,19nm,1.0s
DIVS LR LR
comp=Z,2µm,21.0s
DIVS **Divibare** 63.70 320 *e*P P 10 59 17.1 -1.3
DAVOX **Davos/Dischmat** 63.73 328 P P 10 59 18.9 +0.2
comp=Z,18nm,0.6s,baz=17,slow=5.6,SNR=32
H46A **Fife Lake** 63.74 39 P P 10 59 16.9 -1.8
baz=338
K40A **Colesburg** 63.76 44 P P 10 59 16.8 -1.9
baz=336
E52A **Mattawa** 63.76 33 P P 10 59 17.2 -1.5
baz=340
J42A **Columbus** 63.78 42 P P 10 59 17.3 -1.6
baz=337
FUORN **Ofenpass-Fuorn** 63.79 328 *e*P P 10 59 19.8 +0.5
comp=Z,91nm,1.5s
FUORN LR LR
comp=Z,4µm,22.0s
F51A **Arnstein** 63.80 34 P P 10 59 17.4 -1.5
baz=340
SWSC **Sam W. Stewart** 63.81 68 P P 10 59 19.4 +0.2
baz=332,SNR=14
TRI **Trieste** 63.82 325 PFAKE 10 59 30.0 +11
TRI LR LR
comp=Z,3µm,19.0s
JFWS **Jewell Farm** 63.83 43 *e*P P 10 59 18.1 -1.1
comp=Z,65nm,1.1s
JFWS LR LR
comp=Z,4µm,19.0s
JFWS **Jewell Farm** 63.83 43 *e*P P 10 59 18.1 -1.1
JFWS pmax pmax
comp=Z,65nm,1.1s
JFWS **Jewell Farm** 63.83 43 P P 10 59 17.4 -1.8
baz=337
BLY **Banja Luka** 63.85 322 PFAKE 10 59 30.0 +11
BLY LR LR
comp=Z,4µm,19.0s
BLY **Banja Luka** 63.85 322 *e*P P 10 59 18.1 -1.2
SCIA **State Center** 63.86 46 *e*P P 10 59 18.5 -0.9
SCIA LR LR
comp=Z,2µm,22.0s
SCIA **State Center** 63.86 46 P P 10 59 17.8 -1.6
baz=336
E53A **Dumoine, Ponti** 63.90 33 P P 10 59 18.1 -1.6
baz=341
J43A **Natural Harves** 63.93 42 P P 10 59 17.6 -2.3
baz=337
IKP **In-Ko-Pah, Jac** 63.95 69 P P 10 59 20.6 +0.3
baz=332,SNR=20
H47A **Mio** 63.95 38 P P 10 59 18.4 -1.7
baz=338
E54A **Lac Daplat, Po** 63.96 32 P P 10 59 18.3 -1.8
baz=341
HAPS **Han Pijesak,Bl** 63.99 321 *e*P P 10 59 19.1 -1.3
L39A **Vinton** 64.03 45 P P 10 59 18.6 -1.9
baz=336
Y14A **Wickenburg** 64.04 65 *e*P P 10 59 21.4 +0.6
comp=Z,97nm,1.6s
Y14A LR LR
comp=Z,2µm,20.0s
F52A **Sundridge** 64.06 34 P P 10 59 19.6 -1.1
baz=340
BBLS **Lazići** 64.07 320 *e*P P 10 59 20.5 -0.4
H48A **Harrisville** 64.09 37 P P 10 59 19.3 -1.6
baz=339
K41A **Shullsburg** 64.09 43 P P 10 59 19.4 -1.6
baz=337
GLA **Glamis** 64.10 67 *e*P P 10 59 22.1 +0.9
comp=Z,205nm,1.8s
GLA **Glamis** 64.10 67 *e*P P 10 59 22.9 +1.7
GLA pmax pmax
comp=Z,200nm,1.8s
GLA **Glamis** 64.10 67 P P 10 59 21.6 +0.3
baz=332
CLF **Chambon-Foret** 64.11 334 *e*P P 10 59 21.0 0.0
comp=Z,67nm,1.0s
CLF LR LR
comp=Z,5µm,19.0s
TUE **Stuetta** 64.14 329 *e*P P 10 59 22.1 +0.6
comp=Z,58nm,1.3s
TUE LR LR
comp=Z,4µm,20.0s
VTS **Vitosha** 64.17 317 *e*P P 10 59 20.4 -1.2
comp=Z,20nm,0.8s
VTS LR LR
comp=Z,4µm,18.0s
VTS **Vitosha** 64.17 317 P P 10 59 20.9 -0.7
VTS **Vitosha** 64.17 317 *e*P P 10 59 20.4 -1.2
VTS pmax pmax
comp=Z,20nm,0.8s
VTS MLR MLR
comp=Z,4µm,18.0s
K42A **Prairie Point,** 64.22 43 P P 10 59 19.8 -1.9
baz=337
X16A **Lo Mia Camp, P** 64.22 64 *e*P P 10 59 22.8 +0.6
comp=Z,172nm,1.8s
X16A LR LR
comp=Z,2µm,20.0s
I46A **Reed City** 64.23 39 P P 10 59 19.6 -2.3
baz=338
W18A **Petrified Fore** 64.25 62 *e*P P 10 59 22.7 +0.4
comp=Z,130nm,1.8s
W18A LR LR
comp=Z,2µm,21.0s
W18A **Petrified Fore** 64.25 62 P P 10 59 22.7 +0.4
baz=333,SNR=12
L40A **Anamosa** 64.32 44 *e*P P 10 59 21.4 -1.0
comp=Z,75nm,1.1s
L40A LR LR
comp=Z,2µm,19.0s
L40A **Anamosa** 64.32 44 P P 10 59 20.7 -1.7
baz=336
I47A **Gladwin** 64.41 38 P P 10 59 21.5 -1.5
baz=338
T25A **Trinidad** 64.42 57 *e*P P 10 59 23.1 -0.3
comp=Z,154nm,1.6s
T25A LR LR
comp=Z,2µm,19.0s
T25A **Trinidad** 64.42 57 P P 10 59 23.0 -0.5
baz=334,SNR=17
J45A **Montague** 64.45 40 P P 10 59 21.1 -2.2
baz=338
I48A **Sherman Twp** 64.47 38 P P 10 59 22.3 -1.1
baz=339
L41A **Preston** 64.52 44 P P 10 59 22.1 -1.7
baz=337,SNR=5.2
CBKS **Cedar Bluff** 64.55 52 *e*P P 10 59 23.6 -0.5
comp=Z,119nm,1.4s
CBKS LR LR
comp=Z,3µm,20.0s
CBKS **Cedar Bluff** 64.55 52 *e*P P 10 59 23.9 -0.2
CBKS pmax pmax
comp=Z,120nm,1.4s
CBKS **Cedar Bluff** 64.55 52 P P 10 59 23.0 -1.0
baz=334
M39A **Webster** 64.57 45 P P 10 59 22.2 -1.9
baz=336,SNR=9.4
K43A **Burlington** 64.58 42 PFAKE 10 59 40.0 +16
K43A LR LR
comp=Z,5µm,20.0s
K43A **Burlington** 64.58 42 P P 10 59 22.0 -2.2
baz=337
PBA **Port Blair** 64.60 241 PFAKE 10 59 40.0 +15
PBA LR LR
comp=Z,5µm,18.0s
PBA **Port Blair** 64.60 241 *e*P P 10 59 24.8 +0.3
X18A **Snowflake** 64.69 63 *e*P P 10 59 25.8 +0.5
comp=Z,195nm,1.8s
X18A LR LR
comp=Z,2µm,21.0s
SENIN **Lac Senin/Sane** 64.69 330 *e*P P 10 59 24.6 -0.4
comp=Z,27nm,1.2s
SENIN LR LR
comp=Z,3µm,20.0s
F55A **Otter Lake** 64.72 32 P P 10 59 23.5 -1.5
baz=341
J46A **Howard City** 64.73 40 P P 10 59 23.2 -1.9
baz=338
TRQ **Mont Tremblant** 64.75 30 *e*P P 10 59 23.7 -1.6
113A **Mohawk Valley,** 64.77 67 *e*P P 10 59 26.4 +0.9
comp=Z,90nm,1.7s
113A LR LR
comp=Z,2µm,20.0s
RDO **Rodhopi** 64.79 314 P P 10 59 25.7 +0.2
UPM **Unac-Piva** 64.82 320 *e*P P 10 59 26.0 0.0
M40A **Post Highland** 64.83 45 P P 10 59 23.6 -2.2
baz=336,SNR=5.6
L42A **Oliver, Polo** 64.83 43 PFAKE 10 59 40.0 +14
L42A LR LR
comp=Z,4µm,20.0s
L42A **Oliver, Polo** 64.83 43 P P 10 59 23.9 -1.9
baz=337
ALN **Alexandroupoli** 64.86 314 *e*P P 10 59 26.2 +0.2
comp=Z,21nm,1.0s
ALN LR LR
comp=Z,2µm,21.0s
ALN **Alexandroupoli** 64.86 314 *e*P P 10 59 26.6 +0.6
ALN pmax pmax
comp=Z,21nm,1.0s
G53A **Haliburton** 64.86 34 P P 10 59 24.5 -1.4
baz=340
KKB **Krupnik** 64.87 317 *e*P P 10 59 26.4 +0.3
I49A **Point Hope** 64.93 37 P P 10 59 24.3 -2.1
baz=339

MMB	**Musomiste**		**64.93**	**316**	*eP*		**P**	**10 59 25.6**	**-0.9**
L43A	**Garden Prairie**		**64.94**	**42**	P		**P**	**10 59 24.2**	**-2.3**
	baz=337								
H52A	**Wyevale**		**65.01**	**35**	P		**P**	**10 59 25.3**	**-1.6**
	baz=340								
HYB	**Hyderabad**		**65.04**	**258**	*i* P		**P**	**10 59 27.0**	**-0.5**
HYB					*e*S		**S**	**11 08 10.0**	**+0.5**
HYB	**Hyderabad**		**65.04**	**258**	*eP*		**P**	**10 59 27.4**	**-0.1**
SADO	**Sadowa**		**65.07**	**34**	PFAKE			10 59 40.0	+13
SADO					LR	LR			
	comp=Z,4µm,18.0s								
NVR	**Nevrokopi**		**65.11**	**316**	P		**P**	**10 59 27.6**	**-0.1**
NVR	**Nevrokopi**		**65.11**	**316**	P		**P**	**10 59 27.6**	**-0.1**
M41A	**Milan**		**65.15**	**44**	P		**P**	**10 59 26.2**	**-1.7**
	baz=337								
L44A	**Lake County Fo**		**65.18**	**42**	P		**P**	**10 59 26.6**	**-1.5**
	baz=338								
G55A	**Calabogie**		**65.18**	**32**	P		**P**	**10 59 26.5**	**-1.5**
	baz=341								
BRY	**Bratogost**		**65.20**	**320**	*eP*		**P**	**10 59 26.2**	**-2.2**
SKO	**Skopje**		**65.25**	**318**	*i* P		**P**	**10 59 27.6**	**-0.9**
J48A	**Bridge Port**		**65.28**	**38**	P		**P**	**10 59 28.1**	**-0.6**
	baz=339								
N40A	**Mertquake, Sal**		**65.29**	**45**	P		**P**	**10 59 26.7**	**-2.1**
	baz=336,SNR=7.4								
STIP	**Stip**		**65.29**	**317**	*i* P		**P**	**10 59 26.9**	**-1.9**
PLVO	**Plevna**		**65.31**	**33**	*eP*		**P**	**10 59 27.8**	**-1.0**
	comp=Z,274nm,1.7s								
PLVO					LR	LR			
	comp=Z,4µm,20.0s								
K46A	**Dorr**		**65.31**	**40**	P		**P**	**10 59 26.8**	**-2.0**
	baz=338								
M42A	**Sheffield**		**65.31**	**44**	P		**P**	**10 59 26.6**	**-2.3**
	baz=337								
KSU1	**Kansas State U**		**65.33**	**50**	*eP*		**P**	**10 59 27.8**	**-1.3**
	comp=Z,55nm,0.9s								
KSU1					LR	LR			
	comp=Z,6µm,18.0s								
KSU1	**Kansas State U**		**65.33**	**50**	P		**P**	**10 59 27.2**	**-1.8**
	baz=335,SNR=9.3								
BATG	**Bathurst New B**		**65.39**	**24**	*eP*		**P**	**10 59 29.8**	**+0.5**
	comp=Z,110nm,1.8s								
BATG					LR	LR			
	comp=Z,6µm,20.0s								
TNTI	**Ternate**		**65.41**	**201**	PFAKE			10 59 40.0	+10
TNTI					LR	LR			
	comp=Z,800nm,22.0s								
TNTI	**Ternate**		**65.41**	**201**	P		**P**	**10 59 33.2**	**+3.5**
SRS	**Serrai**		**65.41**	**316**	P		**P**	**10 59 29.5**	**-0.1**
TTG	**Podgorica**		**65.44**	**320**	PFAKE			10 59 40.0	+10
TTG					LR	LR			
	comp=Z,3µm,20.0s								
I52A	**Shelburne**		**65.48**	**35**	P		**P**	**10 59 28.6**	**-1.4**
	baz=340								
I51A	**Listowel**		**65.52**	**36**	P		**P**	**10 59 28.7**	**-1.5**
	baz=340								
VAY	**Valandovo**		**65.52**	**317**	*i* P		**P**	**10 59 30.1**	**-0.2**
K47A	**Vermontville**		**65.53**	**39**	P		**P**	**10 59 28.3**	**-2.0**
	baz=338								
M43A	**Waltham Townsh**		**65.56**	**43**	P		**P**	**10 59 29.3**	**-1.2**
	baz=337								
KNT	**Kendrikon**		**65.57**	**316**	P		**P**	**10 59 30.6**	**0.0**
KNT	**Kendrikon**		**65.57**	**316**	P		**P**	**10 59 30.6**	**0.0**
KNT	**Kendrikon**		**65.57**	**316**	P		**P**	**10 59 30.6**	**0.0**
ANMO	**Albuquerque**		**65.63**	**60**	*eP*		**P**	**10 59 31.2**	**-0.1**
	comp=Z,121nm,1.8s								
ANMO					LR	LR			
	comp=Z,2µm,22.0s								
ANMO	**Albuquerque**		**65.63**	**60**	*eP*		**P**	**10 59 31.5**	**+0.2**
ANMO					pmax	pmax			
	comp=Z,120nm,1.8s								
ANMO	**Albuquerque**		**65.63**	**60**	P		**P**	**10 59 31.0**	**-0.4**
	baz=333								
K48A	**Perry**		**65.65**	**39**	P		**P**	**10 59 29.0**	**-2.0**
	baz=339								
TRTT	**Trang**		**65.65**	**233**	P		**P**	**10 59 36.1**	**+4.7**
	comp=Z,19nm,1.4s								
N41A	**Harden Midland**		**65.67**	**45**	*eP*		**P**	**10 59 30.1**	**-1.2**
	comp=Z,174nm,1.4s								
N41A					LR	LR			
	comp=Z,3µm,19.0s								
N41A	**Harden Midland**		**65.67**	**45**	P		**P**	**10 59 29.5**	**-1.8**
	baz=337								
DRME	**Dracevica, Mon**		**65.69**	**320**	*eP*		**P**	**10 59 31.1**	**-0.3**
H55A	**Tweed**		**65.74**	**33**	P		**P**	**10 59 30.5**	**-1.2**
	baz=341								
N42A	**Yates City**		**65.81**	**44**	P		**P**	**10 59 30.7**	**-1.4**
	baz=337								
K49A	**Clarkson**		**65.84**	**38**	P		**P**	**10 59 30.6**	**-1.7**
	baz=339								
I53A	**Kortright Cn E**		**65.85**	**35**	P		**P**	**10 59 30.9**	**-1.5**
	baz=340								
LAZ	**Ladron**		**65.86**	**60**	*eP*		**P**	**10 59 33.3**	**+0.5**
KRUS	**Krusevo**		**65.86**	**318**	*i* P		**P**	**10 59 32.4**	**-0.2**
214A	**Organ Pipe Nat**		**65.86**	**66**	P		**P**	**10 59 33.0**	**+0.3**
	baz=333,SNR=10								
M44A	**Midewin, Midew**		**65.87**	**42**	PFAKE			10 59 40.0	+7.5
M44A					LR	LR			
	comp=Z,4µm,19.0s								
M44A	**Midewin, Midew**		**65.87**	**42**	P		**P**	**10 59 31.0**	**-1.6**
	baz=338								
GRG	**Griva**		**65.91**	**317**	P		**P**	**10 59 33.0**	**+0.2**
H56A	**Elgin**		**65.91**	**32**	P		**P**	**10 59 31.5**	**-1.3**
	baz=342								
I55A	**Frankford**		**65.94**	**33**	P		**P**	**10 59 31.6**	**-1.3**
	baz=341								
N43A	**Stutzman Famil**		**65.96**	**43**	P		**P**	**10 59 31.5**	**-1.6**
	baz=337								
POO	**Poona**		**66.03**	**262**	*eP*		**P**	**10 59 33.1**	**-0.8**
BNI	**Bardonecchia**		**66.07**	**330**	PFAKE			10 59 50.0	+16
BNI					LR	LR			
	comp=Z,4µm,20.0s								
VLC	**Villacollemand**		**66.09**	**327**	PFAKE			10 59 50.0	+16
VLC					LR	LR			
	comp=Z,4µm,21.0s								
M45A	**Boilermakers S**		**66.10**	**42**	P		**P**	**10 59 32.2**	**-1.8**
	baz=338								
MOQ	**Mont Orford**		**66.10**	**29**	*eP*		**P**	**10 59 33.1**	**-0.9**
L47A	**Sherwood**		**66.13**	**40**	P		**P**	**10 59 32.0**	**-2.2**
	baz=339,SNR=6.0								
LPM	**Los Pinos Moun**		**66.13**	**60**	*eP*		**P**	**10 59 35.2**	**+0.7**
LENM	**Lemitar**		**66.13**	**60**	*eP*		**P**	**10 59 34.6**	**0.0**
BIA	**Bitola**		**66.16**	**317**	*i* P		**P**	**10 59 32.6**	**-1.9**
J52A	**Paris**		**66.18**	**36**	P		**P**	**10 59 33.1**	**-1.4**
	baz=340								
O41A	**Passleys Farm,**		**66.21**	**45**	P		**P**	**10 59 32.6**	**-2.1**
	baz=337,SNR=12								
ISP	**Isparta**		**66.22**	**309**	*eP*		**P**	**10 59 34.9**	**0.0**
	comp=Z,27nm,0.9s								
ISP					LR	LR			
	comp=Z,2µm,21.0s								
ISP	**Isparta**		**66.22**	**309**	⇑*i* P		**P**	**10 59 34.7**	**-0.3**
ISP	**Isparta**		**66.22**	**309**	*eP*		**P**	**10 59 35.0**	**0.0**
ISP					pmax	pmax			
	comp=Z,27nm,0.9s								
OHR	**Ohrid**		**66.23**	**318**	*i* P		P	10 59 46.5	+12
Y22D	**IRIS PASSCAL I**		**66.23**	**60**	PFAKE			10 59 50.0	+15
Y22D					LR	LR			
	comp=Z,2µm,18.0s								
Y22D	**IRIS PASSCAL I**		**66.23**	**60**	P		**P**	**10 59 35.6**	**+0.4**
	baz=334								
AAM	**Ann Arbor**		**66.24**	**39**	PFAKE			10 59 50.0	+15
AAM					LR	LR			
	comp=Z,4µm,19.0s								
AAM	**Ann Arbor**		**66.24**	**39**	P		**P**	**10 59 33.0**	**-1.9**
	baz=339								
MANT	**Manisa**		**66.26**	**311**	*eP*		**P**	**10 59 35.4**	**0.0**
	comp=Z,624nm,1.9s								
MANT					LR	LR			
	comp=Z,6µm,19.0s								
LONY	**Lake Ozonia**		**66.26**	**31**	*eP*		**P**	**10 59 34.6**	**-0.4**
	comp=Z,177nm,1.7s								
LONY					LR	LR			
	comp=Z,4µm,21.0s								
LONY	**Lake Ozonia**		**66.26**	**31**	P		**P**	**10 59 33.5**	**-1.6**
	baz=342								
BNM	**Barren Site**		**66.27**	**60**	*eP*		**P**	**10 59 35.9**	**+0.4**
FRNY	**Flat Rock**		**66.28**	**30**	*eP*		**P**	**10 59 34.0**	**-1.1**
	comp=Z,114nm,1.6s								
FRNY					LR	LR			
	comp=Z,2µm,20.0s								
HDIL	**Hopedale**		**66.28**	**44**	*eP*		**P**	**10 59 33.6**	**-1.5**
	comp=Z,72nm,1.0s								
HDIL					LR	LR			
	comp=Z,4µm,20.0s								
HDIL	**Hopedale**		**66.28**	**44**	P		**P**	**10 59 33.1**	**-2.0**
	baz=337,SNR=5.1								
TIR	**Tirane**		**66.28**	**319**	*eP*		**P**	**10 59 35.2**	**+0.1**
	comp=Z,447nm,2.0s								
TIR					LR	LR			
	comp=Z,4µm,21.0s								
TIR	**Tirane**		**66.28**	**319**	*eP*		**P**	**10 59 35.2**	**+0.1**
TIR					pmax	pmax			
	comp=Z,447nm,2.0s								
TIR					MLR	MLR			
	comp=Z,4µm,21.0s								
BAKI	**Biak**		**66.29**	**191**	P		**P**	**10 59 35.4**	**-0.1**
SSB	**Saint Sauveur**		**66.30**	**332**	PFAKE			10 59 50.0	+15
SSB					LR	LR			
	comp=Z,3µm,20.0s								
M46A	**Old House Fiel**		**66.33**	**41**	PFAKE			10 59 50.0	+14
M46A					LR	LR			
	comp=Z,4µm,20.0s								
M46A	**Old House Fiel**		**66.33**	**41**	P		**P**	**10 59 33.5**	**-2.0**
	baz=338								
TUC	**Tucson**		**66.34**	**64**	*eP*		**P**	**10 59 36.1**	**+0.3**
	comp=Z,19nm,1.1s								
TUC	**Tucson**		**66.34**	**64**	*eP*		**P**	**10 59 36.1**	**+0.3**
TUC					pmax	pmax			
	comp=Z,19nm,1.1s								
TUC	**Tucson**		**66.34**	**64**	P		**P**	**10 59 36.2**	**+0.4**
	baz=333								
L48A	**N Adams**		**66.36**	**39**	P		**P**	**10 59 33.9**	**-1.8**
	baz=339								
O42A	**Bath**		**66.37**	**44**	P		**P**	**10 59 33.7**	**-2.1**
	baz=337								
L49A	**Milan**		**66.39**	**39**	P		**P**	**10 59 34.5**	**-1.4**
	baz=339								
N44A	**Piper City**		**66.39**	**43**	P		**P**	**10 59 34.4**	**-1.4**
	baz=338								
K51A	**Iona Station**		**66.41**	**37**	P		**P**	**10 59 34.2**	**-1.7**
	baz=340								
SWI	**Sorong**		**66.47**	**197**	P		**P**	**10 59 40.8**	**+4.2**
O43A	**Sugar Creek Fa**		**66.52**	**44**	P		**P**	**10 59 34.8**	**-1.9**
	baz=337								
N45A	**Kentland**		**66.52**	**42**	P		**P**	**10 59 34.9**	**-1.8**
	baz=338								
K52A	**Tillsonburg**		**66.56**	**36**	P		**P**	**10 59 35.4**	**-1.5**
	baz=340								
P41A	**Barry, Barry**		**66.56**	**45**	P		**P**	**10 59 35.2**	**-1.8**
	baz=337,SNR=17								
M47A	**Cromwell**		**66.58**	**40**	P		**P**	**10 59 35.2**	**-1.9**
	baz=338								
LIT	**Litokhoron**		**66.67**	**316**	*eP*		**P**	**10 59 37.5**	**-0.3**
	comp=Z,47nm,1.4s								
LIT					LR	LR			
	comp=Z,2µm,21.0s								
LIT	**Litokhoron**		**66.67**	**316**	*eP*		**P**	**10 59 37.9**	**+0.2**
LIT					pmax	pmax			
	comp=Z,47nm,1.4s								
N46A	**Monticello**		**66.70**	**41**	P		**P**	**10 59 35.5**	**-2.3**
	baz=338								
L50A	**Kingsville**		**66.71**	**38**	P		**P**	**10 59 36.7**	**-1.1**
	baz=339								
M48A	**Edgerton**		**66.72**	**40**	PFAKE			10 59 50.0	+12
M48A					LR	LR			
	comp=Z,3µm,20.0s								
M48A	**Edgerton**		**66.72**	**40**	P		**P**	**10 59 36.4**	**-1.6**
	baz=339								
PKME	**Peaks-Kenny Pk**		**66.74**	**27**	*eP*		**P**	**10 59 38.0**	**0.0**
	comp=Z,36nm,0.8s								
PKME					LR	LR			
	comp=Z,4µm,20.0s								
PKME	**Peaks-Kenny Pk**		**66.74**	**27**	P		**P**	**10 59 36.8**	**-1.2**
	baz=344								
J55A	**Hilton**		**66.81**	**34**	P		**P**	**10 59 36.7**	**-1.8**
	baz=341								
P42A	**Winchester**		**66.86**	**45**	*eP*		**P**	**10 59 37.6**	**-1.2**
	comp=Z,63nm,0.8s								
P42A					LR	LR			
	comp=Z,3µm,19.0s								
P42A	**Winchester**		**66.86**	**45**	P		**P**	**10 59 37.0**	**-1.9**
	baz=337,SNR=12								
O44A	**Mansfield**		**66.89**	**43**	P		**P**	**10 59 36.9**	**-2.2**
	baz=338								
SHME	**Shamm**		**66.92**	**282**	P		**P**	**10 59 38.9**	**-0.7**
M49A	**Liberty Center**		**66.93**	**39**	P		**P**	**10 59 37.3**	**-2.0**
	baz=339								
VT1	**Waterbury**		**66.93**	**30**	*eP*		**P**	**10 59 39.1**	**-0.2**
	comp=Z,94nm,1.6s								
SBUM	**Sibu**		**66.96**	**218**	*eP*		**P**	**10 59 41.3**	**+1.5**
	comp=Z,39nm,1.2s								
SBUM					LR	LR			
	comp=Z,1µm,19.0s								
SBUM	**Sibu**		**66.96**	**218**	P		**P**	**10 59 41.4**	**+1.7**
NCB	**Newcomb**		**66.96**	**31**	*eP*		**P**	**10 59 39.0**	**-0.5**
	comp=Z,121nm,1.6s								
NCB					LR	LR			
	comp=Z,3µm,21.0s								
LMN	**Caledonia Moun**		**66.98**	**23**	*eP*		**P**	**10 59 38.9**	**-0.7**
	comp=Z,59nm,0.8s								
LMN					LR	LR			
	comp=Z,4µm,18.0s								
U32A	**Winter Ranch,**		**66.99**	**53**	*eP*		**P**	**10 59 39.3**	**-0.5**
	comp=Z,43nm,1.0s								
U32A					LR	LR			
	comp=Z,2µm,20.0s								
N47A	**Urbana**		**67.01**	**41**	P		**P**	**10 59 38.1**	**-1.7**
	baz=339								
O45A	**Potomac**		**67.02**	**42**	P		**P**	**10 59 38.5**	**-1.3**
	baz=338								
P43A	**Skaggs, Pawnee**		**67.05**	**44**	P		**P**	**10 59 38.0**	**-2.1**
	baz=337,SNR=5.6								
AQU	**L'Aquila**		**67.06**	**324**	*eP*		**P**	**10 59 41.3**	**+1.1**
	comp=Z,81nm,1.0s								
AQU					LR	LR			
	comp=Z,5µm,20.0s								
AQU	**L'Aquila**		**67.06**	**324**	*eP*		**P**	**10 59 41.5**	**+1.3**
AQU					pmax	pmax			
	comp=Z,81nm,1.0s								
AQU	**L'Aquila**		**67.06**	**324**	*eP*		**P**	**10 59 41.1**	**+0.9**
SFIN	**Lafayette**		**67.08**	**42**	PFAKE			10 59 50.0	+10
SFIN					LR	LR			
	comp=Z,4µm,20.0s								
SFIN	**Lafayette**		**67.08**	**42**	P		**P**	**10 59 38.8**	**-1.4**
	baz=338								
Q41A	**Truxton**		**67.17**	**46**	P		**P**	**10 59 39.3**	**-1.6**
	baz=337,SNR=7.5								
LBNH	**Lisbon**		**67.19**	**29**	*eP*		**P**	**10 59 40.7**	**-0.3**
	comp=Z,191nm,1.8s								
LBNH					LR	LR			
	comp=Z,5µm,19.0s								
LBNH	**Lisbon**		**67.19**	**29**	*eP*		**P**	**10 59 40.9**	**-0.1**
LBNH					pmax	pmax			
	comp=Z,190nm,1.7s								
LBNH	**Lisbon**		**67.19**	**29**	P		**P**	**10 59 39.9**	**-1.1**
	baz=343,SNR=5.3								
N48A	**Decatur**		**67.21**	**40**	P		**P**	**10 59 39.0**	**-2.1**
	baz=339								
M50A	**Fremont**		**67.24**	**38**	PFAKE			10 59 50.0	+8.7
M50A					LR	LR			
	comp=Z,3µm,18.0s								
M50A	**Fremont**		**67.24**	**38**	P		**P**	**10 59 40.3**	**-1.0**
	baz=339								
K55A	**Perry**		**67.26**	**34**	P		**P**	**10 59 39.9**	**-1.5**
	baz=341								
121A	**Cookes Peak, D**		**67.28**	**62**	P		**P**	**10 59 42.0**	**+0.1**
	baz=334,SNR=17								
MMNY	**Mt. Morris Dam**		**67.29**	**34**	PFAKE			10 59 50.0	+8.4
MMNY					LR	LR			
	comp=Z,3µm,20.0s								
GGN	**Saint George**		**67.34**	**25**	*eP*		**P**	**10 59 41.5**	**-0.3**
	comp=Z,82nm,0.8s								
GGN					LR	LR			
	comp=Z,5µm,19.0s								
WVL	**Waterville**		**67.34**	**27**	*eP*		**P**	**10 59 41.6**	**-0.3**
	comp=Z,47nm,0.9s								
ERPA	**Erie**		**67.36**	**36**	*eP*		**P**	**10 59 41.7**	**-0.3**
	comp=Z,91nm,0.8s								
ERPA					LR	LR			
	comp=Z,3µm,22.0s								
ERPA	**Erie**		**67.36**	**36**	P		**P**	**10 59 40.2**	**-1.8**
	baz=340								
N49A	**Columbus Grove**		**67.39**	**39**	*eP*		**P**	**10 59 40.8**	**-1.4**
	comp=Z,77nm,1.2s								
N49A					LR	LR			
	comp=Z,3µm,19.0s								
N49A	**Columbus Grove**		**67.39**	**39**	P		**P**	**10 59 39.9**	**-2.3**
	baz=339								
AMTX	**Amarillo**		**67.41**	**56**	*eP*		**P**	**10 59 42.1**	**-0.5**
	comp=Z,132nm,1.3s								
AMTX					LR	LR			
	comp=Z,2µm,21.0s								
AMTX	**Amarillo**		**67.41**	**56**	P		**P**	**10 59 41.6**	**-1.0**
	baz=335								
Q42A	**Golden Eagle**		**67.42**	**45**	P		**P**	**10 59 41.0**	**-1.5**
	baz=337,SNR=9.7								
O47A	**Sheridan**		**67.47**	**41**	P		**P**	**10 59 40.5**	**-2.2**
	baz=338								
P44A	**Sand Creek, Wi**		**67.48**	**43**	P		**P**	**10 59 40.9**	**-1.9**
	baz=338,SNR=5.1								
M51A	**Elyria**		**67.54**	**38**	P		**P**	**10 59 41.0**	**-2.1**
	baz=340								
ACCN	**Adirondack Com**		**67.64**	**31**	*eP*		**P**	**10 59 43.3**	**-0.5**
	comp=Z,179nm,1.7s								
ACCN					LR	LR			
	comp=Z,3µm,22.0s								
Q43A	**New Douglas**		**67.64**	**45**	P		**P**	**10 59 42.2**	**-1.6**
	baz=338								
P45A	**Graceland, Par**		**67.68**	**43**	*eP*		**P**	**10 59 43.1**	**-0.9**
	comp=Z,32nm,0.8s								
P45A					LR	LR			
	comp=Z,5µm,20.0s								
P45A	**Graceland, Par**		**67.68**	**43**	P		**P**	**10 59 42.4**	**-1.6**
	baz=338								
KULM	**Kulim**		**67.71**	**231**	*eP*		**P**	**10 59 44.0**	**-0.6**
	comp=Z,68nm,1.2s								
KULM					LR	LR			
	comp=Z,5µm,19.0s								
KULM	**Kulim**		**67.71**	**231**	P		**P**	**10 59 44.2**	**-0.4**
AGG	**Agios Georgios**		**67.71**	**316**	*eP*		**P**	**10 59 43.1**	**-1.2**
	comp=Z,45nm,1.2s								
AGG	**Agios Georgios**		**67.71**	**316**	*eP*		**P**	**10 59 43.1**	**-1.2**
AGG					pmax	pmax			
	comp=Z,45nm,1.2s								
R41A	**Rosebud**		**67.72**	**46**	P		**P**	**10 59 42.4**	**-1.9**
	baz=337,SNR=9.1								
O48A	**Farmland**		**67.74**	**40**	P		**P**	**10 59 42.4**	**-2.0**
	baz=339								
P46A	**Rosedale**		**67.75**	**42**	P		**P**	**10 59 41.6**	**-3.0**
	baz=338								
ALLY	**Alegheny Colle**		**67.76**	**36**	*eP*		**P**	**10 59 44.5**	**-0.1**
	comp=Z,365nm,1.5s								
ALLY					LR	LR			
	comp=Z,4µm,18.0s								
SLM	**Saint Louis**		**67.76**	**45**	*eP*		**P**	**10 59 43.7**	**-0.9**
	comp=Z,39nm,0.8s								
SLM					LR	LR			
	comp=Z,2µm,18.0s								
SLM	**Saint Louis**		**67.76**	**45**	*eP*		**P**	**10 59 43.7**	**-0.9**
SLM					pmax	pmax			
	comp=Z,39nm,0.8s								
SLM					MLR	MLR			
	comp=Z,2µm,18.0s								
MATE	**Matera**		**67.80**	**321**	⇑*i* P		**P**	**10 59 44.6**	**-0.2**
N50A	**Nevada**		**67.81**	**39**	P		**P**	**10 59 43.1**	**-1.8**
	baz=340								
MSTX	**Muleshoe**		**67.84**	**57**	*eP*		**P**	**10 59 44.5**	**-0.9**
	comp=Z,173nm,1.2s								
MSTX					LR	LR			
	comp=Z,2µm,20.0s								
MSTX	**Muleshoe**		**67.84**	**57**	P		**P**	**10 59 44.3**	**-1.1**
	baz=334,SNR=20								
CSS	**Mathiatis**		**67.85**	**305**	*eP*		**P**	**10 59 45.3**	**0.0**
	comp=Z,160nm,1.9s								
CSS					LR	LR			
	comp=Z,3µm,21.0s								
UOSS	**Minazif**		**67.87**	**281**	*eP*		**P**	**10 59 45.2**	**-0.3**
	comp=Z,37nm,1.1s								
UOSS					LR	LR			
	comp=Z,2µm,22.0s								
UOSS	**Minazif**		**67.87**	**281**	*i* P		**P**	**10 59 44.6**	**-0.9**
	SNR=7.6								
UOSS	**Minazif**		**67.87**	**281**	P		**P**	**10 59 43.0**	**-2.5**
	SNR=5.7								
N51A	**Ashland**		**67.87**	**38**	*eP*		**P**	**10 59 44.4**	**-0.9**
	comp=Z,80nm,0.9s								
N51A					LR	LR			
	comp=Z,4µm,18.0s								
N51A	**Ashland**		**67.87**	**38**	P		**P**	**10 59 43.6**	**-1.7**
	baz=340								
Q44A	**Meyer Farm, Va**		**67.88**	**44**	*eP*		**P**	**10 59 44.8**	**-0.5**
	comp=Z,75nm,1.2s								
Q44A					LR	LR			
	comp=Z,4µm,18.0s								
Q44A	**Meyer Farm, Va**		**67.88**	**44**	P		**P**	**10 59 43.3**	**-2.1**
	baz=338								
R42A	**Luebbering**		**67.92**	**46**	P		**P**	**10 59 43.6**	**-2.0**
	baz=337,SNR=6.2								
GBN	**Guysborough**		**67.94**	**21**	PFAKE			11 00 00.0	+14
GBN					LR	LR			
	comp=Z,4µm,18.0s								
LUWI	**Luwuk**		**67.96**	**206**	*eP*		**P**	**10 59 45.9**	**-0.2**
	comp=Z,136nm,1.1s								
LUWI					LR	LR			
	comp=Z,2µm,21.0s								
LUWI	**Luwuk**		**67.96**	**206**	P		**P**	**10 59 46.3**	**+0.2**
CCM	**Cathedral Cave**		**67.99**	**46**	*eP*		**P**	**10 59 44.4**	**-1.6**
	comp=Z,41nm,0.9s								
CCM					LR	LR			
	comp=Z,3µm,20.0s								
CCM	**Cathedral Cave**		**67.99**	**46**	*eP*		**P**	**10 59 44.4**	**-1.6**
CCM					pmax	pmax			
	comp=Z,41nm,0.9s								
CCM					MLR	MLR			
	comp=Z,3µm,20.0s								
CCM	**Cathedral Cave**		**67.99**	**46**	P		**P**	**10 59 44.8**	**-1.3**
	baz=337								
HATD	**Hatta, Dubai**		**68.00**	**281**	*i* P		**P**	**10 59 46.0**	**-0.4**
	SNR=8.9								
HATD	**Hatta, Dubai**		**68.00**	**281**	P		**P**	**10 59 46.4**	**0.0**
	SNR=11								
M54A	**Oil Creek Stat**		**68.02**	**36**	*eP*		**P**	**10 59 45.8**	**-0.5**
	comp=Z,252nm,1.6s								
M54A					LR	LR			
	comp=Z,3µm,18.0s								
M54A	**Oil Creek Stat**		**68.02**	**36**	P		**P**	**10 59 44.5**	**-1.7**
	baz=341								
O49A	**Covington**		**68.03**	**40**	*eP*		**P**	**10 59 45.2**	**-1.1**
	comp=Z,76nm,1.0s								
O49A					LR	LR			
	comp=Z,4µm,19.0s								
O49A	**Covington**		**68.03**	**40**	P		**P**	**10 59 44.1**	**-2.2**
	baz=339								
NAZ	**Nazwa, Dubai**		**68.06**	**282**	*i* P		**P**	**10 59 45.6**	**-1.1**
	S

WSAR	Wadi Sarin	68.36	279	P		P		10 59 48.8	+0.3	
	comp=Z,6.9nm,0.7s,baz=67,slow=5.4,SNR=4.9									
WSAR	Wadi Sarin	68.36	279	P		P		10 59 49.8	+1.2	
BLO	Bloomington	68.36	42	eP		P		10 59 47.1	-1.2	
	comp=Z,36nm,1.1s									
BLO				LR		LR				
	comp=Z,5µm,21.0s									
BLO	Bloomington	68.36	42	eP		P		10 59 47.3	-1.1	
BLO				pmax		pmax				
	comp=Z,36nm,1.1s									
N53A	Lisbon	68.38	37	P		P		10 59 46.7	-1.8	
	baz=340									
FAKI	Fak Fak	68.38	195	PFAKE				11 00 00.0	+11	
FAKI				LR		LR				
	comp=Z,2µm,20.0s									
FAKI	Fak Fak	68.38	195	P		P		10 59 49.1	+0.4	
S42A	Caledonia	68.39	46	P		P		10 59 46.4	-2.2	
	baz=337,SNR=7.2									
SANI	Sanana	68.39	202	P		P		10 59 50.6	+1.9	
KSM	Kuching	68.40	219	eP		P		10 59 49.0	+0.1	
	comp=Z,60nm,1.0s									
KSM				LR		LR				
	comp=Z,2µm,19.0s									
KSM	Kuching	68.40	219	P		P		10 59 50.0	+1.1	
P48A	Milroy	68.40	41	P		P		10 59 46.4	-2.3	
	baz=339,SNR=6.3									
PCI	Palu	68.41	209	P		P		10 59 48.6	-0.3	
CMBY	CAMPBELL BAY	68.44	238	eP		P		10 59 49.1	-0.1	
SOHO	SOHO	68.45	281	P		P		10 59 49.4	+0.3	
	SNR=11									
N54A	Moraine State	68.45	36	eP		P		10 59 47.9	-1.0	
	comp=Z,67nm,0.9s									
N54A				LR		LR				
	comp=Z,4µm,19.0s									
N54A	Moraine State	68.45	36	P		P		10 59 47.4	-1.5	
	baz=341									
R44A	Waltonville	68.47	44	P		P		10 59 47.2	-1.9	
	baz=338,SNR=14									
TUL1	Leonard	68.50	51	eP		P		10 59 48.9	-0.4	
	comp=Z,73nm,1.4s									
TUL1				LR		LR				
	comp=Z,6µm,18.0s									
TUL1	Leonard	68.50	51	P		P		10 59 47.4	-1.9	
	baz=336,SNR=6.2									
ASUD	Al Ashush, Dub	68.52	282	P		P		10 59 49.8	+0.2	
SGKI	Sangatta, Kali	68.52	211	P		P		10 59 49.4	-0.2	
P49A	Miami Univ. Ec	68.53	40	P		P		10 59 47.4	-2.1	
	baz=339									
O51A	Pataskala	68.53	39	P		P		10 59 47.3	-2.1	
	baz=340,SNR=6.2									
WMOK	Wichita Mounta	68.55	54	eP		P		10 59 48.8	-0.9	
	comp=Z,96nm,1.6s									
WMOK				LR		LR				
	comp=Z,3µm,18.0s									
WMOK	Wichita Mounta	68.55	54	eP		P		10 59 48.8	-0.9	
WMOK				pmax		pmax				
	comp=Z,96nm,1.6s									
WMOK	Wichita Mounta	68.55	54	P		P		10 59 48.9	-0.9	
	baz=335,SNR=27									
Q47A	Bedord North L	68.61	42	P		P		10 59 48.0	-1.9	
	baz=339,SNR=9.9									
R45A	Skylar, Fairfi	68.66	44	P		P		10 59 48.2	-2.0	
	baz=338									
P50A	Jamestown	68.72	40	P		P		10 59 48.6	-2.0	
	baz=339									
GOA	Goa	68.75	261	eP		P		10 59 49.8	-1.2	
T41A	Mountain View	68.76	47	P		P		10 59 48.9	-2.0	
	baz=337,SNR=17									
HHAR	Hobbs	68.76	49	eP		P		10 59 49.3	-1.7	
	comp=Z,43nm,1.3s									
HHAR				LR		LR				
	comp=Z,4µm,20.0s									
O52A	Adamsville	68.77	38	eP		P		10 59 49.5	-1.5	
	comp=Z,103nm,1.0s									
O52A				LR		LR				
	comp=Z,3µm,18.0s									
O52A	Adamsville	68.77	38	P		P		10 59 48.9	-2.1	
	baz=340,SNR=7.2									
S43A	Fulton Ridge,	68.79	45	P		P		10 59 49.0	-2.1	
	baz=338,SNR=11									
O53A	New Philadelph	68.81	37	P		P		10 59 49.2	-1.9	
	baz=340,SNR=11									
Q48A	North Vernon	68.81	41	P		P		10 59 49.2	-2.0	
	baz=339									
GDL2	Guadalupe Moun	68.86	59	eP		P		10 59 52.0	+0.2	
N55A	Marion Center	68.87	36	P		P		10 59 49.7	-1.9	
	baz=341,SNR=7.0									
MMAI	Mount Meron Ar	68.88	303	P		P		10 59 52.1	+0.3	
	comp=Z,7.3nm,0.6s,baz=45,slow=8.3,SNR=9.2									
KSPA	Keystone Colle	68.91	33	eP		P		10 59 51.5	-0.2	
	comp=Z,198nm,1.8s									
KSPA				LR		LR				
	comp=Z,3µm,22.0s									
SIUC	Southern Illin	68.92	45	eP		P		10 59 50.7	-1.1	
	comp=Z,68nm,0.8s									
SIUC				LR		LR				
	comp=Z,2µm,18.0s									
S44A	Carbondale	68.93	45	P		P		10 59 50.2	-1.7	
	baz=338,SNR=6.1									
MNTX	Cornudas Mount	68.93	60	eP		P		10 59 52.1	+0.1	
	comp=Z,208nm,1.9s									
MNTX				LR		LR				
	comp=Z,3µm,18.0s									
MNTX	Cornudas Mount	68.93	60	P		P		10 59 51.9	-0.1	
	baz=334,SNR=39									
HRV	Adam Dziewonsk	68.93	29	PFAKE				11 00 00.0	+8.1	
HRV				LR		LR				
	comp=Z,4µm,18.0s									
HRV	Adam Dziewonsk	68.93	29	P		P		10 59 50.9	-0.9	
	baz=344									
RABL	Rabaul	68.95	174	PFAKE				11 00 00.0	+7.7	
RABL				LR		LR				
	comp=Z,2µm,21.0s									
R46A	Gibon Southern	68.97	43	P		P		10 59 50.5	-1.6	
	baz=338									
Q49A	Aurora	68.98	41	P		P		10 59 50.7	-1.5	
	baz=339									
T42A	Van Buren	68.98	46	eP		P		10 59 50.9	-1.4	
	comp=Z,61nm,1.4s									
T42A				LR		LR				
	comp=Z,3µm,19.0s									
T42A	Van Buren	68.98	46	P		P		10 59 50.3	-2.0	
	baz=337,SNR=7.6									
JLN	Jalan Bani Buh	68.99	277	P		P		10 59 52.8	+0.4	
	SNR=11									
LHMI	Lhok Sumawe	69.02	234	PFAKE				11 00 00.0	+7.3	
LHMI				LR		LR				
	comp=Z,4µm,18.0s									
LHMI	Lhok Sumawe	69.02	234	P		P		10 59 57.5	+4.8	
P51A	Williamsport	69.03	39	eP		P		10 59 51.3	-1.3	
	comp=Z,66nm,1.1s									
P51A				LR		LR				
	comp=Z,3µm,19.0s									
P51A	Williamsport	69.03	39	P		P		10 59 50.7	-1.9	
	baz=340									
U40A	Yellville	69.04	48	P		P		10 59 50.4	-2.3	
	baz=337,SNR=20									
O54A	Avella	69.08	37	P		P		10 59 51.1	-1.8	
	baz=341,SNR=10									
ASF	Jabal al Asfar	69.09	301	P		P		10 59 53.8	+0.7	
	comp=Z,5.6nm,0.8s,baz=247,slow=0.4,SNR=8.7									
ASF	Jabal al Asfar	69.09	301	P		P		10 59 54.0	+0.8	
	comp=Z,29nm,1.0s									
WES	Weston	69.10	29	eP		P		10 59 52.8	-0.1	
	comp=Z,305nm,1.8s									
WES	Weston	69.10	29	eP		P		10 59 52.8	-0.1	
WES				pmax		pmax				
	comp=Z,300nm,1.8s									
P52A	Corning	69.14	38	P		P		10 59 51.1	-2.1	
	baz=340									
S45A	Carrier Mills	69.14	44	P		P		10 59 51.7	-1.6	
	baz=338,SNR=12									
USIN	University of	69.15	43	eP		P		10 59 52.6	-0.7	
	comp=Z,61nm,1.1s									
USIN				LR		LR				
	comp=Z,4µm,21.0s									
TIP	Timpagrande	69.16	320	eP		P		10 59 53.6	+0.2	
	comp=Z,177nm,1.3s									
TIP				LR		LR				
	comp=Z,3µm,19.0s									
TIP	Timpagrande	69.16	320	⇑iP		P		10 59 53.4	0.0	
TIP	Timpagrande	69.16	320	P		P		10 59 52.8	-0.6	
R47A	Wooly Knot Far	69.17	42	P		P		10 59 51.5	-1.9	
	baz=339,SNR=5.2									
T43A	Greenville	69.18	46	P		P		10 59 51.0	-2.5	
	baz=338,SNR=8.0									
SANT	Santorini	69.19	312	PFAKE				11 00 10.0	+16	
SANT				LR		LR				
	comp=Z,3µm,22.0s									
HSIG		69.20	66	eP		P		10 59 54.5	+0.7	
	comp=Z,162nm,1.9s									
R48A	Northridge Ran	69.26	42	P		P		10 59 52.2	-1.8	
	baz=339									
SSPA	Standing Stone	69.28	35	eP		P		10 59 52.4	-1.7	
	comp=Z,149nm,1.6s									
SSPA				LR		LR				
	comp=Z,2µm,19.0s									
SSPA	Standing Stone	69.28	35	P		P		10 59 52.4	-1.7	
	baz=341									
WCI	Wyandotte Cave	69.30	42	eP		P		10 59 53.0	-1.3	
	comp=Z,42nn,0.9s									
WCI				LR		LR				
	comp=Z,5µm,19.0s									
WCI	Wyandotte Cave	69.30	42	eP		P		10 59 53.0	-1.3	
WCI				pmax		pmax				
	comp=Z,42nn,0.9s									
WCI				MLR		MLR				
	comp=Z,5µm,19.0s									
WCI	Wyandotte Cave	69.30	42	P		P		10 59 52.4	-1.8	
	baz=339									
FRIM	Kepong	69.32	229	P		P		10 59 54.8	+0.2	
O55A	Ligonier	69.33	36	P		P		10 59 52.6	-1.8	
	baz=341									
JMDO	Jabal Madar	69.35	279	P		P		10 59 54.4	-0.4	
U41A	Viola	69.35	47	P		P		10 59 52.4	-2.2	
	baz=337,SNR=5.8									
Q50A	Georgetown	69.38	40	P		P		10 59 52.9	-1.9	
	baz=339									
Q51A	Peebles	69.38	40	eP		P		10 59 53.4	-1.4	
	comp=Z,56nm,0.9s									
Q51A				LR		LR				
	comp=Z,3µm,19.0s									
Q51A	Peebles	69.38	40	P		P		10 59 52.6	-2.2	
	baz=340,SNR=6.4									
T44A	Benton	69.39	45	P		P		10 59 53.0	-1.8	
	baz=338,SNR=5.3									
S46A	Don Dixon Farm	69.39	43	P		P		10 59 53.1	-1.7	
	baz=338,SNR=6.0									
BSY	Bisya	69.40	280	P		P		10 59 56.0	+0.9	
KARP	Karpathos	69.40	311	eP		P		10 59 53.9	-1.1	
	comp=Z,67nm,0.7s									
KARP				LR		LR				
	comp=Z,2µm,20.0s									
O56A	Blue Knob Stat	69.46	35	eP		P		10 59 53.7	-1.5	
	comp=Z,209nm,1.6s									
O56A				LR		LR				
	comp=Z,4µm,18.0s									
O56A	Blue Knob Stat	69.46	35	P		P		10 59 53.2	-2.1	
	baz=341,SNR=7.1									
P53A	Whipple	69.47	38	eP		P		10 59 54.1	-1.2	
	comp=Z,78nm,1.1s									
P53A				LR		LR				
	comp=Z,4µm,18.0s									
P53A	Whipple	69.47	38	P		P		10 59 53.8	-1.5	
	baz=340									
N59A	State Game Lan	69.52	33	eP		P		10 59 54.5	-1.0	
	comp=Z,281nm,1.8s									
N59A				LR		LR				
	comp=Z,3µm,20.0s									
N59A	State Game Lan	69.52	33	P		P		10 59 54.1	-1.5	
	baz=342									
ITM	Ithomi	69.53	315	eP		P		10 59 55.2	-0.5	
	comp=Z,68nm,1.1s									
ITM				LR		LR				
	comp=Z,3µm,19.0s									
U42A	Revenden	69.56	47	P		P		10 59 54.0	-1.9	
	baz=337,SNR=8.7									
R49A	Shelbyville	69.56	41	P		P		10 59 53.9	-2.0	
	baz=339									
ODNJ	Ogdensburg	69.63	32	eP		P		10 59 55.8	-0.4	
	comp=Z,43nm,1.3s									
ODNJ				LR		LR				
	comp=Z,3µm,20.0s									
MCWV	Mont Chateau	69.71	37	eP		P		10 59 56.2	-0.6	
	comp=Z,78nm,1.8s									
MCWV				LR		LR				
	comp=Z,2µm,19.0s									
MCWV	Mont Chateau	69.71	37	P		P		10 59 55.3	-1.4	
	baz=341									
S47A	Hartford	69.72	43	P		P		10 59 55.1	-1.8	
	baz=339,SNR=7.7									
PARMO	Parma	69.73	45	eP		P		10 59 55.8	-1.1	
	comp=Z,131nm,0.9s									
PARMO				LR		LR				
	comp=Z,2µm,18.0s									
T45A	Paducah	69.73	44	PFAKE				11 00 10.0	+13	
T45A				LR		LR				
	comp=Z,3µm,20.0s									
T45A	Paducah	69.73	44	P		P		10 59 55.0	-1.9	
	baz=338									
Q52A	Bidwell	69.73	39	P		P		10 59 54.6	-2.3	
	baz=340									
YLE	Yale	69.78	31	PFAKE				11 00 10.0	+13	
YLE				LR		LR				
	comp=Z,3µm,21.0s									
V41A	Mountainview	69.79	48	P		P		10 59 54.9	-2.4	
	baz=337,SNR=14									
U43A	Rector	69.80	46	P		P		10 59 55.3	-2.0	
	baz=338,SNR=13									
W39A	Magazine	69.81	49	eP		P		10 59 56.5	-0.9	
	comp=Z,18nm,0.9s									
W39A				LR		LR				
	comp=Z,3µm,20.0s									
W39A	Magazine	69.81	49	P		P		10 59 55.8	-1.6	
	baz=337									
R50A	Paris	69.81	41	P		P		10 59 55.3	-2.1	
	baz=339									
X37A	Clayton	69.84	51	PFAKE				11 00 10.0	+12	
X37A				LR		LR				
	comp=Z,7µm,18.0s									
PAL	Palisades	69.86	32	eP		P		10 59 57.1	-0.5	
	comp=Z,62nn,1.0s									
PAL				LR		LR				
	comp=Z,4µm,21.0s									
PAL	Palisades	69.86	32	eP		P		10 59 57.6	0.0	
PAL				pmax		pmax				
	comp=Z,63nm,1.0s									
PAL	Palisades	69.86	32	P		P		10 59 55.7	-1.9	
	baz=343									
P55A	Reedsville	69.86	37	P		P		10 59 56.2	-1.5	
	baz=341,SNR=7.8									
U44A	Portageville	69.89	46	P		P		10 59 56.2	-1.7	
	baz=338									
S48A	Wiedeman Farm,	69.90	42	P		P		10 59 56.6	-1.3	
	baz=339,SNR=7.2									
LUPA	Lehigh Univers	69.91	33	eP		P		10 59 57.5	-0.5	
	comp=Z,13nn,1.5s									
LUPA				LR		LR				
	comp=Z,300nm,22.0s									
KGM	Kluang	69.93	227	P		P		10 59 59.0	+0.7	
T46A	Princeton	69.94	44	P		P		10 59 56.9	-1.2	
	baz=338,SNR=8.2									
PAGS	Pennsylvania G	69.95	34	eP		P		10 59 57.0	-1.2	
	comp=Z,44nn,0.9s									
PAGS				LR		LR				
	comp=Z,5µm,21.0s									
PVMO	Portageville	69.97	46	PFAKE				11 00 10.0	+12	
PVMO				LR		LR				
	comp=Z,3µm,18.0s									
MYKOM	Kota Tinggi	69.98	226	eP		P		10 59 59.5	+0.8	
	comp=Z,109nm,1.2s									
MYKOM				LR		LR				
	comp=Z,3µm,18.0s									
R51A	Hillsboro	70.00	40	P		P		10 59 56.9	-1.6	
	baz=340,SNR=16									
S49A	Springfield	70.00	42	P		P		10 59 57.1	-1.5	
	baz=339,SNR=10									
V42A	Cord	70.01	47	P		P		10 59 56.8	-1.9	
	baz=337									
BRNJ	Basking Ridge	70.02	32	PFAKE				11 00 10.0	+11	
BRNJ				LR		LR				
	comp=Z,3µm,20.0s									
M65A	Busby, Falmout	70.03	29	P		P		10 59 56.8	-1.9	
	baz=344									
CPNY	Central Park	70.05	32	PFAKE				11 00 10.0	+11	
CPNY				LR		LR				
	comp=Z,4µm,20.0s									
U44B	Burton Farm, H	70.15	45	P		P		10 59 58.4	-1.1	
	baz=338									
ABTX	Abilene, Hawle	70.17	55	eP		P		10 59 58.9	-0.8	
	comp=Z,154nm,1.2s									
ABTX				LR		LR				
	comp=Z,2µm,21.0s									
ABTX	Abilene, Hawle	70.17	55	P		P		10 59 58.8	-1.0	
	baz=336,SNR=54									
WHAR	Wooly Hollow	70.20	48	eP		P		10 59 57.7	-2.1	
	comp=Z,83nm,1.2s									
WHAR				LR		LR				
	comp=Z,1µm,21.0s									
R52A	Catlettsburg	70.22	39	P		P		10 59 58.2	-1.7	
	baz=340									
T47A	Sharon Grove	70.22	43	eP		P		10 59 58.2	-1.7	
	comp=Z,44nm,0.8s									
T47A				LR		LR				
	comp=Z,3µm,19.0s									
T47A	Sharon Grove	70.22	43	P		P		10 59 58.3	-1.6	
	baz=339,SNR=6.9									
GLAT	Glass	70.23	45	PFAKE				11 00 10.0	+10	
GLAT				LR		LR				
	comp=Z,3µm,18.0s									
MVL	Millersville	70.25	34	eP		P		10 59 59.0	-1.1	
	comp=Z,14nm,0.7s									
MVL				LR		LR				
	comp=Z,3µm,18.0s									
CEL	Celeste	70.25	321	PFAKE				11 00 10.0	+10	
CEL				LR		LR				
	comp=Z,3µm,18.0s									
Q55A	Buckhannon	70.28	37	P		P		10 59 58.9	-1.4	
	baz=341,SNR=9.2									
GNAR	Gosnell	70.29	46	PFAKE				11 00 10.0	+10	
GNAR				LR		LR				
	comp=Z,3µm,18.0s									
T48A	Bowling Green	70.31	43	P		P		10 59 59.1	-1.4	
	baz=339,SNR=8.1									
U45A	Rockin P Farm,	70.32	45	P		P		10 59 59.1	-1.5	
	baz=338									
W41B	Gary Mavity, V	70.32	48	eP		P		10 59 59.2	-1.3	
	comp=Z,82nm,1.0s									
W41B				LR		LR				
	comp=Z,2µm,19.0s									
W41B	Gary Mavity, V	70.32	48	P		P		10 59 58.8	-1.8	
	baz=337,SNR=20									
S50A	Richmond	70.35	41	P		P		10 59 59.2	-1.6	
	baz=339,SNR=10									
IDI	Anoyia	70.36	312	eP		P		10 59 58.5	-2.4	
	comp=Z,42nn,1.1s									
IDI				LR		LR				
	comp=Z,2µm,22.0s									
R53A	Hurricane	70.41	39	P		P		10 59 59.4	-1.6	
	baz=340,SNR=11									
V44A	Blytheville	70.46	46	P		P		10 59 59.8	-1.5	
	baz=338									
W42A	Bald Knob	70.46	47	P		P		10 59 59.9	-1.5	
	baz=338									
HBAR	Harrisburg	70.47	47	PFAKE				11 00 10.0	+8.5	
HBAR				LR		LR				
	comp=Z,2µm,22.0s									
MIAR	Mount Ida	70.47	49	eP		P		11 00 00.8	-0.7	
	comp=Z,12nn,0.8s									
MIAR				LR		LR				
	comp=Z,4µm,18.0s									
MIAR	Mount Ida	70.47	49	eP		P		11 00 01.0	-0.5	
MIAR				pmax		pmax				
	comp=Z,12nn,0.8s									
MIAR	Mount Ida	70.47	49	P		P		11 00 00.1	-1.4	
	baz=337									
U46A	Springville	70.49	44	P		P		11 00 00.5	-1.0	
	baz=338,SNR=13									
TTSI	Tana Toraja	70.49	208	P		P		11 00 04.8	+3.1	
HALT	Halls	70.55	45	PFAKE				11 00 10.0	+8.1	
HALT				LR		LR				
	comp=Z,2µm,20.0s									
T49A	Edmonton	70.57	42	eP		P		11 00 01.1	-0.9	
	comp=Z,51nm,0.8s									
T49A				LR		LR				
	comp=Z,4µm,19.0s									
T49A	Edmonton	70.57	42	P		P		11 00 00.7	-1.3	
	baz=339,SNR=23									
S51A	Beattyville	70.61	40	eP		P		11 00 01.2	-1.2	
	comp=Z,120nm,1.9s									
S51A				LR		LR				
	comp=Z,4µm,20.0s									
S51A	Beattyville	70.61	40	P		P		11 00 00.8	-1.6	
	baz=340,SNR=5.7									
PSI	Prapat	70.61	231	eP		P		11 00 01.4	-1.3	
	comp=Z,75nm,0.9s									
PSI				LR		LR				
	comp=Z,6µm,18.0s									
PSI	Prapat	70.61	231	eP		P		11 00 01.4	-1.3	
PSI				pmax		pmax				
	comp=Z,75nm,0.9s									
PSI				MLR		MLR				
	comp=Z,6µm,18.0s									
MHTO	MHTO	70.63	278	P		P		11 00 02.7	+0.1	
	SNR=14									
UALR	University of	70.66	48	eP		P		11 00 01.9	-0.7	
	comp=Z,22nn,0.9s									
U47A	Clarksville	70.67	44	P		P		11 00 01.4	-1.3	
	baz=339,SNR=14									
SDMD	Soldier's Deli	70.69	34	eP		P		11 00 01.9	-0.9	
	comp=Z,56nn,1.7s									
SDMD				LR		LR				
	comp=Z,2µm,20.0s									
S52A	Salyersville	70.72	40	P		P		11 00 01.4	-1.5	
	baz=340									
MZR	Muzera	70.73	283	P		P		11 00 03.0	-0.3	
MZR	Muzera	70.73	283	P		P		11 00 03.3	+0.1	
	SNR=8.1									
X40A	Basin Creek Fa	70.77	49	eP		P		11 00 02.5	-0.7	
	comp=Z,29nn,1.0s									
X40A				LR		LR				
	comp=Z,3µm,19.0s									
X40A	Basin Creek Fa	70.77	49	P		P		11 00 01.7	-1.6	
	baz=337,SNR=7.2									
TPTI		70.78	233	P		P		11 00 04.5	+1.0	
WVT	Waverly	70.80	44	eP		P		11 00 02.3	-1.1	
	comp=Z,60nn,0.9s									
WVT				LR		LR				
	comp=Z,5µm,19.0s									
WVT	Waverly	70.80	44	eP		P		11 00 02.4	-1.1	
WVT				pmax		pmax				
	comp=Z,60nn,0.9s									
WVT	Waverly	70.80	44	P		P		11 00 02.5	-1.0	
	baz=338									
R54A	Victor	70.81	38	P		P		11 00 01.8	-1.7	
	baz=341,SNR=10.0									
V45A	Humboldt	70.82	45	P		P		11 00 02.1	-1.5	
	baz=338									
U48A	Cassie Pea, Po	70.83	43	P		P		11 00 02.1	-1.5	
	baz=339,SNR=9.5									
KDI	Kendari	70.84	205	P		P		11 00 04.1	+0.3	
T50A	Nancy	70.84	41	P		P		11 00 02.2	-1.6	
	baz=339,SNR=12									
X41A	Kaden, Bauxite	70.86	49	P		P		11 00 02.1	-1.7	
	baz=337									
W43A	Forest City	70.89	47	P		P		11 00 02.8	-1.2	
	baz=338									
V46A	Holladay	71.02	45	P		P		11 00 03.4	-1.4	
	baz=338,SNR=21									
U49A	Red Boiling Sp	71.05	42	P		P		11 00 03.7	-1.2	
	baz=339,SNR=20									
X42A	Stuttgart	71.09	48	P		P		11 00 03.4	-1.8	
	baz=338									
MET	Memphis--Engin	71.10	46	PFAKE				11 00 20.0	+15	
MET				LR		LR				
	comp=Z,2µm,19.0s									
W44A	Shelby Farms P	71.12	46	P		P		11 00 04.2	-1.2	
	baz=338									
T51A	Gray	71.15	41	P		P		11 00 03.8	-1.7	
	baz=340,SNR=8.2									
V47A	Nunnelly	71.17	44	P		P		11 00 04.3	-1.5	
	baz=339,SNR=21

WHTX Lake Whitney, 71.51 54 eP P 11 00 07.4 -0.4
comp=Z,41nm,0.9s
WHTX LR LR
comp=Z,3μm,18.0s
WHTX Lake Whitney, 71.51 54 P P 11 00 06.7 -1.1
baz=336,SNR=7.6
W46A Michie 71.56 45 P P 11 00 06.7 -1.4
baz=338
X44A Crenshaw 71.61 47 P P 11 00 06.7 -1.6
baz=338
CLTB Caltabellotta 71.61 322 PFAKE 11 00 20.0 +12
CLTB LR LR
comp=Z,5μm,20.0s
CCAR Cane Creek 71.63 48 eP P 11 00 08.9 +0.4
comp=Z,140nm,1.7s
CCAR LR LR
comp=Z,2μm,18.0s
TZTN Tazewell 71.65 41 eP P 11 00 07.8 -0.9
comp=Z,22nm,0.9s
TZTN Tazewell 71.65 41 P P 11 00 07.1 -1.6
baz=340,SNR=6.3
U51A La Follette 71.67 41 P P 11 00 07.3 -1.5
baz=340
W47A Westpoint 71.69 44 P P 11 00 07.4 -1.5
baz=339,SNR=13
LTX Lajitas 71.69 60 eP P 11 00 09.6 +0.4
TX31 Lajitas Ar. Si 71.69 60 eP P 11 00 08.8 -0.4
TXAR Lajitas Array 71.69 60 P P 11 00 09.6 +0.4
comp=Z,5.4nm,0.8s,baz=284,slow=3.6,SNR=55
Y42A Garnett, Star 71.70 48 P P 11 00 08.0 -0.9
baz=338
CBN Corbin Frederi 71.71 35 eP P 11 00 08.1 -0.8
comp=Z,48nm,0.9s
CBN LR LR
comp=Z,3μm,18.0s
CBN Corbin Frederi 71.71 35 P P 11 00 07.1 -1.8
baz=342
V49A McMinnville 71.71 43 P P 11 00 07.4 -1.6
baz=339,SNR=10
PGAV Gavieira, Arco 71.74 340 eP P 11 00 08.7 -0.5
PGAV Gavieira, Arco 71.74 340 eLR LR 11 31 14.0
comp=Z,1μm,18.0s
DQM DQM 71.75 278 P P 11 00 07.8 -1.6
BNSI Bone 71.75 208 P P 11 00 10.3 +1.0
PLAL Pickwick Lake 71.79 45 eP P 11 00 08.9 -0.6
comp=Z,79nm,1.3s
PLAL LR LR
comp=Z,4μm,19.0s
R58B Mineral 71.81 36 eP P 11 00 08.4 -1.2
comp=Z,31nm,1.2s
R58B LR LR
comp=Z,4μm,18.0s
R58B Mineral 71.81 36 P P 11 00 07.9 -1.6
baz=342
OXF Oxford 71.82 46 eP P 11 00 08.9 -0.8
comp=Z,101nm,1.1s
OXF LR LR
comp=Z,3μm,20.0s
OXF Oxford 71.82 46 eP P 11 00 08.9 -0.8
OXF pmax pmax
comp=Z,101nm,1.1s
OXF MLR MLR
comp=Z,3μm,20.0s
OXF Oxford 71.82 46 P P 11 00 07.7 -2.0
baz=338,SNR=5.8
U52A Thorn Hill 71.84 41 P P 11 00 08.3 -1.5
baz=340
SNSI Sinabang, Aceh 71.86 234 P P 11 00 11.8 +1.7
BLA Blacksburg 71.87 38 eP P 11 00 09.2 -0.8
comp=Z,53nm,1.1s
BLA LR LR
comp=Z,4μm,18.0s
BLA Blacksburg 71.87 38 eP P 11 00 09.2 -0.8
BLA pmax pmax
comp=Z,53nm,1.1s
BLA Blacksburg 71.87 38 P P 11 00 08.0 -2.0
baz=341
Y43A Makayla and Ka 71.90 48 P P 11 00 08.5 -1.6
baz=338
Z41A Richland Creek 71.91 49 eP P 11 00 10.1 -0.1
comp=Z,22nm,0.9s
Z41A LR LR
comp=Z,3μm,19.0s
Z41A Richland Creek 71.91 49 P P 11 00 09.6 -0.6
baz=337
X45A UM Field Stati 71.91 46 P P 11 00 08.3 -1.8
baz=338
W48A Pulaski 71.99 44 P P 11 00 09.1 -1.6
baz=339,SNR=13
V50A Pikevile 72.03 42 P P 11 00 09.5 -1.4
baz=340,SNR=15
X46A Booneville 72.03 45 P P 11 00 09.2 -1.8
baz=338,SNR=5.5
EIL Elat 72.06 302 P P 11 00 10.6 -0.5
comp=Z,5.2nm,0.5s,baz=338,slow=3.6,SNR=12
JCT Junction City 72.06 56 eP P 11 00 10.6 -0.7
comp=Z,121nm,0.8s
JCT LR LR
comp=Z,2μm,20.0s
JCT Junction City 72.06 56 eP P 11 00 10.7 -0.5
JCT pmax pmax
comp=Z,120nm,0.9s
JCT Junction City 72.06 56 P P 11 00 10.6 -0.7
baz=336,SNR=36
Y44A Strider, Charl 72.08 47 P P 11 00 09.7 -1.5
baz=336
U53A Fall Branch 72.09 40 P P 11 00 09.5 -1.8
baz=340,SNR=6.7
V51A Loudon 72.12 42 eP P 11 00 10.4 -1.0
comp=Z,45nm,0.9s
V51A LR LR
comp=Z,3μm,20.0s
V51A Loudon 72.12 42 P P 11 00 10.1 -1.3
baz=340,SNR=12
W49A Belvidere 72.20 43 P P 11 00 10.1 -1.8
baz=339,SNR=18
SWET Sewanee 72.21 43 eP P 11 00 10.2 -1.8
comp=Z,70nm,0.8s
SWET LR LR
comp=Z,5μm,19.0s
BKNI Bangkinang 72.24 229 PFAKE 11 00 20.0 +7.6
BKNI LR LR
comp=Z,5μm,20.0s
BKNI Bangkinang 72.24 229 P P 11 00 14.9 +2.5
POLO Lamas de Olo 72.25 340 eP P 11 00 12.1 -0.2
comp=Z,32nm,1.8s
X47A Russelville 72.29 45 P P 11 00 10.4 -2.1
baz=339,SNR=11
V52A Sevierville 72.30 41 eP P 11 00 11.6 -0.9
comp=Z,85nm,1.4s
V52A LR LR
comp=Z,4μm,18.0s
V52A Sevierville 72.30 41 P P 11 00 10.7 -1.8
baz=340,SNR=8.9
PVRL Vila Real 72.34 340 eP P 11 00 12.8 +0.1
MVO Moncorvo 72.34 339 eP P 11 00 12.3 -0.5
MVO Moncorvo 72.34 339 eLR LR 11 28 36.7
comp=Z,2μm,20.0s
Y45A Yeager Farm, C 72.38 46 P P 11 00 11.4 -1.6
baz=338,SNR=15
CPCT Cooper Cave 72.40 42 eP P 11 00 11.7 -1.4
comp=Z,81nm,1.2s
CPCT LR LR
comp=Z,3μm,19.0s
W50A Signal Mountai 72.41 43 eP P 11 00 12.1 -1.2
comp=Z,33nm,0.8s
W50A LR LR
comp=Z,5μm,19.0s
W50A Signal Mountai 72.41 43 P P 11 00 11.7 -1.5
baz=339,SNR=10
KAPI Kappang 72.42 208 PFAKE 11 00 30.0 +17
KAPI LR LR
comp=Z,700nm,19.0s
Z43A Armstrong Fami 72.45 48 P P 11 00 12.2 -1.3
baz=338
GSI Gunungsitoli 72.47 232 eP P 11 00 13.3 -0.4
comp=Z,68nm,1.0s
GSI LR LR
comp=Z,4μm,19.0s
GSI Gunungsitoli 72.47 232 P P 11 00 16.3 +2.6
435B Jarrell 72.56 54 eP P 11 00 14.2 +0.1
comp=Z,52nm,1.0s
435B LR LR
comp=Z,3μm,20.0s
435B Jarrell 72.56 54 P P 11 00 13.8 -0.3
baz=336,SNR=5.6
Y46A Houston 72.58 46 P P 11 00 12.3 -1.9
baz=338,SNR=9.3

X48A Hartselle 72.59 44 eP P 11 00 12.9 -1.4
comp=Z,25nm,0.8s
X48A LR LR
comp=Z,4μm,18.0s
X48A Hartselle 72.59 44 P P 11 00 12.6 -1.7
baz=339,SNR=8.7
W51A Cleveland 72.60 42 P P 11 00 12.8 -1.6
baz=340,SNR=10
BKSI Bulukumba 72.65 208 P P 11 00 16.5 +1.8
NATX Nacogdoches 72.67 51 eP P 11 00 14.3 -0.5
comp=Z,53nm,0.9s
NATX LR LR
comp=Z,4μm,19.0s
NATX Nacogdoches 72.67 51 P P 11 00 13.9 -0.9
baz=337,SNR=8.0
V53A Saluda 72.67 40 eP P 11 00 14.0 -0.8
comp=Z,72nm,1.6s
V53A LR LR
comp=Z,4μm,18.0s
V53A Saluda 72.67 40 P P 11 00 14.1 -0.8
baz=340
X49A Woodville 72.75 44 P P 11 00 13.7 -1.5
baz=339,SNR=12
Z45A Winona 72.79 47 eP P 11 00 14.6 -0.9
comp=Z,36nm,1.0s
Z45A LR LR
comp=Z,2μm,18.0s
Z45A Winona 72.79 47 P P 11 00 14.3 -1.2
baz=338
Y47A UCPARC, Winfie 72.86 45 P P 11 00 14.2 -1.7
baz=339,SNR=8.2
WDD Wied Dalam 72.90 321 eP P 11 00 16.7 +0.6
comp=Z,340nm,1.3s
WDD LR LR
comp=Z,2μm,19.0s
W52A Murphy 72.90 41 eP P 11 00 14.9 -1.2
comp=Z,53nm,0.9s
W52A LR LR
comp=Z,2μm,21.0s
W52A Murphy 72.90 41 P P 11 00 15.0 -1.2
baz=340,SNR=23
PVIS Viseu 72.91 340 eP P 11 00 15.4 -0.8
X50B Fort Payne 73.00 43 P P 11 00 15.1 -1.6
baz=339,SNR=24
W53A Cullowhee 73.05 41 P P 11 00 15.8 -1.3
baz=340,SNR=6.0
Y48A Jasper 73.06 44 P P 11 00 14.7 -2.4
baz=339,SNR=11
HPIG 73.11 63 eP P 11 00 18.4 +0.7
comp=Z,100nm,1.8s
HPIG LR LR
comp=Z,2μm,18.0s
X51A Calhoun 73.13 42 eP P 11 00 16.4 -1.1
comp=Z,56nm,0.9s
X51A LR LR
comp=Z,5μm,21.0s
X51A Calhoun 73.13 42 P P 11 00 16.1 -1.4
baz=340,SNR=14
MTE Manteigas 73.17 340 eP P 11 00 17.7 0.0
comp=Z,84nm,1.6s
MTE Manteigas 73.17 340 eLR LR 11 32 19.8
comp=Z,2μm,18.0s
Z46A Louisville 73.19 46 P P 11 00 16.1 -1.7
baz=338
144A Alexander Plac 73.25 48 P P 11 00 17.4 -0.8
baz=338
ES19 SONSECA Array 73.27 337 eP P 11 00 17.7 -0.6
BG3 Lake Jocassee 73.28 41 eP P 11 00 17.9 -0.5
comp=Z,97nm,1.6s
PALK Pallekele 73.30 251 eP P 11 00 19.1 +0.3
comp=Z,112nm,1.3s
PALK LR LR
comp=Z,2μm,18.0s
PALK Pallekele 73.30 251 i P P 11 00 19.0 +0.2
SNR=13
PALK Pallekele 73.30 251 eP P 11 00 19.1 +0.3
PALK pmax pmax
comp=Z,113nm,1.3s
PALK MLR MLR
comp=Z,2μm,18.0s
ESDC Sonseca Array 73.31 337 P P 11 00 18.2 -0.3
comp=Z,6.7nm,0.7s,baz=3.3,slow=6.0,SNR=33
ESDC LR LR 11 38 02.3
comp=Z,2μm,19.2s,baz=40,slow=40
ESLA Sonseca Array 73.31 337 eP P 11 00 17.1 -1.4
comp=Z,116nm,1.9s
Y49A Blount Mountai 73.34 44 eP P 11 00 17.4 -1.4
comp=Z,187nm,2.0s
Y49A LR LR
comp=Z,4μm,19.0s
Y49A Blount Mountai 73.34 44 P P 11 00 16.8 -1.9
baz=339,SNR=9.5
X52A Dahlonega 73.37 42 P P 11 00 17.5 -1.4
baz=340,SNR=7.9
145A Houston Renfro 73.43 47 P P 11 00 18.1 -1.2
baz=338,SNR=6.0
Z48A Northport 73.44 45 P P 11 00 17.2 -2.1
baz=339
Z47A Carrollton 73.45 45 P P 11 00 17.4 -2.0
baz=339,SNR=9.1
PAB San Pablo 73.50 337 eP P 11 00 19.8 +0.1
comp=Z,69nm,1.6s
PAB San Pablo 73.50 337 eP P 11 00 19.8 +0.1
PAB pmax pmax
comp=Z,69nm,1.6s
Y50A Piedmont 73.50 43 P P 11 00 17.9 -1.8
baz=339,SNR=16
RAYN Ar Rayn 73.54 290 eP P 11 00 19.6 -0.4
comp=Z,23nm,0.9s
RAYN LR LR
comp=Z,2μm,18.0s
RAYN Ar Rayn 73.54 290 i P P 11 00 19.3 -0.8
SNR=23
RAYN Ar Rayn 73.54 290 eP P 11 00 19.8 -0.3
RAYN pmax pmax
comp=Z,23nm,0.9s
KMSC Kings Mountain 73.58 39 eP P 11 00 19.4 -0.7
comp=Z,190nm,1.8s
KMSC LR LR
comp=Z,3μm,20.0s
KMSC Kings Mountain 73.58 39 P P 11 00 18.3 -1.8
baz=341,SNR=10
PDSI Padang 73.59 229 P P 11 00 22.5 +2.1
VBMS Vicksburg 73.60 48 PFAKE 11 00 30.0 +10
VBMS LR LR
comp=Z,2μm,21.0s
VBMS Vicksburg 73.60 48 P P 11 00 19.6 -0.7
baz=338
X53A Estanollee 73.63 41 P P 11 00 19.1 -1.4
baz=340,SNR=13
PCAS Casmilo, Conde 73.65 340 eP P 11 00 19.9 -0.6
comp=Z,125nm,1.8s
146A Union 73.67 47 eP P 11 00 20.1 -0.5
comp=Z,30nm,0.8s
146A LR LR
comp=Z,3μm,19.0s
146A Union 73.67 47 P P 11 00 19.7 -0.9
baz=338
Y51A Rockmart 73.69 43 P P 11 00 19.1 -1.7
baz=340,SNR=18
244A Avery, Jackson 73.71 48 P P 11 00 19.9 -1.0
baz=338,SNR=7.2
PCBR Castelo Branco 73.71 339 eP P 11 00 20.7 -0.1
comp=Z,57nm,2.0s
PAULI Pauline 73.75 40 eP P 11 00 20.2 -0.9
comp=Z,117nm,1.7s
PAULI LR LR
comp=Z,3μm,19.0s
147A Livingston 73.88 46 eP P 11 00 21.2 -0.7
comp=Z,123nm,1.6s
147A LR LR
comp=Z,3μm,20.0s
147A Livingston 73.88 46 P P 11 00 20.2 -1.7
baz=339
Z49A Columbiana 73.92 44 P P 11 00 20.2 -1.9
baz=339,SNR=6.6
LRAL Lakeview Retre 73.93 45 eP P 11 00 20.2 -2.0
comp=Z,17nm,0.7s
LRAL LR LR
comp=Z,4μm,18.0s
LRAL Lakeview Retre 73.93 45 P P 11 00 19.9 -2.3
baz=339,SNR=9.0
HKT Hockley 73.93 53 eP P 11 00 22.6 +0.5
comp=Z,56nm,1.5s
HKT LR LR
comp=Z,4μm,18.0s
245A Little AP, Sta 73.97 47 P P 11 00 21.3 -1.1
baz=338,SNR=5.8

PMG Port Moresby 74.01 179 eP P 11 00 21.8 -0.9
comp=Z,42nm,1.3s
PMG LR LR
comp=Z,700nm,20.0s
PMG Port Moresby 74.01 179 eP P 11 00 21.8 -0.9
PMG pmax pmax
comp=Z,42nm,1.3s
PMG MLR MLR
comp=Z,700nm,20.0s
Y52A Lilburn 74.02 42 eP P 11 00 21.8 -0.9
comp=Z,258nm,1.9s
Y52A LR LR
comp=Z,4μm,19.0s
Y52A Lilburn 74.02 42 P P 11 00 21.5 -1.2
baz=340,SNR=12
148A Greensboro 74.12 45 P P 11 00 20.8 -2.5
baz=339
Y53A Monroe 74.16 42 P P 11 00 22.3 -1.2
baz=340,SNR=16
833A Chaparral WMA, 74.17 57 PFAKE 11 00 40.0 +16
833A LR LR
comp=Z,153μm,22.0s
833A Chaparral WMA, 74.17 57 P P 11 00 22.2 -1.5
baz=336
HODGE Hodges 74.18 40 eP P 11 00 23.0 -0.6
comp=Z,124nm,1.8s
HODGE LR LR
comp=Z,5μm,18.0s
Z51A Franklin 74.21 43 P P 11 00 21.2 -2.6
baz=340
246A Jackson Lee, B 74.22 47 P P 11 00 23.0 -0.9
baz=339
KEST Kesra 74.34 325 P P 11 00 24.8 +0.1
comp=Z,11nm,0.7s,baz=317,slow=11,SNR=7.0
KEST LR LR 11 37 23.7
comp=Z,3μm,18.1s,baz=324,slow=39
KEST Kesra 74.34 325 eP P 11 00 24.9 +0.3
comp=Z,34nm,1.1s
247A Quitman 74.35 46 P P 11 00 23.2 -1.5
baz=339
KRJI Kerinci 74.39 227 P P 11 00 27.1 +2.0
CNNC Cliffs of the 74.39 37 eP P 11 00 24.5 -0.3
comp=Z,51nm,0.9s
CNNC LR LR
comp=Z,3μm,19.0s
CNNC Cliffs of the 74.39 37 P P 11 00 23.4 -1.4
baz=342
149A Jones 74.40 45 P P 11 00 22.8 -2.1
baz=339,SNR=17
JSC Jenkinsville 74.41 40 eP P 11 00 24.4 -0.5
comp=Z,76nm,1.5s
JSC LR LR
comp=Z,3μm,20.0s
JSC Jenkinsville 74.41 40 eP P 11 00 24.5 -0.5
JSC pmax pmax
comp=Z,76nm,1.4s
Y54A Tignall 74.41 41 P P 11 00 23.4 -1.5
baz=340,SNR=10.0
SISI Saibi 74.43 230 P P 11 00 27.2 +2.0
Z52A Williamson 74.55 43 P P 11 00 24.5 -1.3
baz=340,SNR=7.0
PMTG Montargil 74.58 340 eP P 11 00 25.2 -0.7
comp=Z,90nm,2.0s
248A Dixon Mills 74.58 46 P P 11 00 24.8 -1.1
baz=339
GOGA Godfrey 74.61 42 eP P 11 00 25.2 -0.9
comp=Z,200nm,1.9s
GOGA LR LR
comp=Z,3μm,21.0s
GOGA Godfrey 74.61 42 eP P 11 00 25.6 -0.5
GOGA pmax pmax
comp=Z,200nm,1.9s
GOGA Godfrey 74.61 42 P P 11 00 24.9 -1.3
baz=340,SNR=6.9
150A Eclectic 74.62 44 P P 11 00 24.5 -1.7
baz=340,SNR=15
PESTR Estremoz 74.68 339 eP P 11 00 25.0 -1.5
comp=Z,58nm,1.7s
PESTR Estremoz 74.68 339 PFAKE 11 00 40.0 +14
PESTR LR LR
comp=Z,1μm,18.0s
346A Big Creek Wild 74.70 47 eP P 11 00 26.6 0.0
comp=Z,122nm,1.4s
346A LR LR
comp=Z,2μm,19.0s
346A Big Creek Wild 74.70 47 P P 11 00 25.7 -1.0
baz=339
Z53A Monticello 74.70 42 P P 11 00 25.2 -1.5
baz=340,SNR=15
HNR Honiara 74.72 166 PFAKE 11 00 40.0 +13
HNR LR LR
comp=Z,2μm,18.0s
249A Camden 74.88 45 P P 11 00 26.2 -1.5
baz=339,SNR=6.9
151A Opelika 74.90 44 P P 11 00 26.0 -1.8
baz=340
152A Waverly Hall 74.94 43 eP P 11 00 26.8 -1.3
comp=Z,55nm,1.5s
152A LR LR
comp=Z,6μm,18.0s
152A Waverly Hall 74.94 43 P P 11 00 26.6 -1.5
baz=340,SNR=5.2
Z54A Sparta 74.95 41 P P 11 00 26.6 -1.6
baz=340,SNR=14
250A Grady 75.13 44 eP P 11 00 27.9 -1.2
comp=Z,213nm,1.8s
250A LR LR
comp=Z,4μm,18.0s
250A Grady 75.13 44 P P 11 00 27.4 -1.8
baz=340,SNR=6.5
348A Jackson 75.16 46 eP P 11 00 28.9 -0.5
comp=Z,50nm,1.0s
348A LR LR
comp=Z,3μm,20.0s
348A Jackson 75.16 46 P P 11 00 28.0 -1.3
baz=339
Z55A Blythe 75.16 41 P P 11 00 27.5 -1.8
baz=341
153A Fort Valley 75.22 42 P P 11 00 28.2 -1.5
baz=340,SNR=6.0
251A Midway 75.28 44 P P 11 00 28.1 -2.0
baz=340,SNR=27
544A White Castle 75.34 49 P P 11 00 27.4 -3.0
baz=338
LHSI Lahat 75.39 225 P P 11 00 33.4 +2.6
KVTX Kingsville 75.41 56 eP P 11 00 32.5 +1.7
comp=Z,152nm,1.4s
349A Repton 75.44 45 P P 11 00 29.4 -1.5
baz=339
154A Montrose 75.46 42 eP P 11 00 30.0 -1.0
comp=Z,102nm,0.9s
154A LR LR
comp=Z,4μm,18.0s
154A Montrose 75.46 42 P P 11 00 29.6 -1.4
baz=340,SNR=11
MMRI Maumere 75.48 205 PFAKE 11 00 40.0 +8.8
MMRI LR LR
comp=Z,700nm,21.0s
252A Lumpkin 75.57 43 P P 11 00 29.9 -1.8
baz=340
448A Bay Minette 75.62 46 P P 11 00 31.0 -1.0
baz=339
350A Dozier 75.63 45 P P 11 00 30.4 -1.7
baz=340
155A Kite 75.63 41 P P 11 00 30.8 -1.3
baz=341
BRAL Brewton 75.65 45 eP P 11 00 32.1 -0.1
comp=Z,132nm,1.3s
BRAL LR LR
comp=Z,3μm,18.0s
BRAL Brewton 75.65 45 P P 11 00 31.2 -1.0
baz=339
253A Americus 75.69 43 eP P 11 00 31.5 -0.9
comp=Z,161nm,1.4s
253A LR LR
comp=Z,6μm,19.0s
253A Americus 75.69 43 P P 11 00 30.8 -1.6
baz=340
EDFI Ende, Flores 75.69 205 P P 11 00 33.5 +0.9
MESJ Messejana 75.78 340 eP P 11 00 34.0 +1.1
MESJ AMS AMS 11 40 11.1
comp=Z,2μm,17.7s
MESJ Messejana 75.78 340 eP P 11 00 33.9 +1.1
NHSC New Hope 75.81 39 eP P 11 00 33.1 +0.1
comp=Z,313nm,1.4s
NHSC LR LR
comp=Z,4μm,19.0s
NHSC New Hope 75.81 39 P P 11 00 31.9 -1.1

baz=341
MDSI Maura Dua 75.82 224 P P 11 00 34.6 +1.4
156A Sylvania 75.88 40 P P 11 00 32.3 -1.1
baz=341
GRJI Gresik 75.89 215 P P 11 00 37.4 +3.8
CSU Charleston Sou 75.95 39 eP P 11 00 34.7 +0.9
449A Pace 75.98 46 P P 11 00 33.5 -0.5
baz=339
351A Pinckard 75.99 44 P P 11 00 31.6 -2.5
baz=340
352A Blakely 76.00 44 PFAKE 11 00 50.0 +16
352A LR LR
comp=Z,4μm,19.0s
352A Blakely 76.00 44 P P 11 00 32.3 -1.9
baz=340
254A Abbeville 76.03 42 P P 11 00 32.5 -1.9
baz=340
MNAI Manna 76.07 225 PFAKE 11 00 50.0 +15
MNAI LR LR
comp=Z,3μm,20.0s
PVAQ Vaqueiros 76.13 339 eP **P 11 00 34.9 +0.1**
comp=Z,116nm,1.9s
PVAQ Vaqueiros 76.13 339 eLR LR 11 31 43.1
comp=Z,2μm,16.0s
450A Crestview 76.13 45 P P 11 00 32.9 -2.0
baz=340
SOEI Soe 76.22 203 PFAKE 11 00 50.0 +14
SOEI LR LR
comp=Z,2μm,22.0s
255A Hazlehurst 76.29 41 eP **P 11 00 34.3 -1.5**
comp=Z,476nm,1.8s
255A LR LR
comp=Z,4μm,19.0s
255A Hazlehurst 76.29 41 P P 11 00 34.0 -1.8
baz=341,SNR=10
PBDV Barranco-do-Ve 76.32 339 eP **P 11 00 36.3 +0.3**
353A Camilla 76.33 43 P P 11 00 33.5 -2.5
baz=340
MORF Marmelete 76.37 340 eP **P 11 00 36.0 -0.2**
256A Glennville 76.40 41 P P 11 00 34.3 -2.1
baz=341
TIGA Tifton 76.42 42 eP **P 11 00 36.1 -0.4**
comp=Z,355nm,1.7s
TIGA LR LR
comp=Z,6μm,18.0s
TIGA Tifton 76.42 42 P P 11 00 35.5 -1.1
baz=340,SNR=7.8
452A Marianna 76.51 44 P P 11 00 35.6 -1.4
baz=340
451A Vernon 76.56 45 PFAKE 11 00 50.0 +13
451A LR LR
comp=Z,4μm,20.0s
451A Vernon 76.56 45 P P 11 00 36.3 -1.1
baz=340
257A Skidaway Islan 76.64 40 PFAKE 11 00 50.0 +12
257A LR LR
comp=Z,3μm,20.0s
257A Skidaway Islan 76.64 40 P P 11 00 36.4 -1.4
baz=341
355A Pearson 76.73 42 P P 11 00 36.8 -1.4
baz=341
453A Whigham 76.76 43 eP **P 11 00 38.9 +0.4**
comp=Z,167nm,1.4s
453A LR LR
comp=Z,6μm,19.0s
453A Whigham 76.76 43 P P 11 00 36.9 -1.5
baz=340
SFS San Fernando 76.81 338 PFAKE 11 00 50.0 +11
SFS LR LR
comp=Z,2μm,18.0s
356A Blackshear 76.95 41 P P 11 00 38.2 -1.3
baz=341
JAGI Jajag, Banyuwa 76.99 213 PFAKE 11 00 50.0 +10
JAGI LR LR
comp=Z,1μm,22.0s
357A Townsend 77.04 41 P P 11 00 38.3 -1.8
baz=341
454A Quitman 77.09 43 P P 11 00 39.0 -1.3
baz=340
552A Lynn Haven 77.15 44 P P 11 00 39.4 -1.3
baz=340
455A Stateville 77.24 42 P P 11 00 39.3 -1.9
baz=341
LNIG Linares 77.26 58 eP **P 11 00 39.9 -1.5**
comp=Z,67nm,1.9s
LNIG LR LR
comp=Z,2μm,18.0s
553A Crawfordville 77.35 44 P P 11 00 40.6 -1.2
baz=340
456A Hilliard 77.54 41 PFAKE 11 00 50.0 +7.1
456A LR LR
comp=Z,4μm,19.0s
456A Hilliard 77.54 41 P P 11 00 41.7 -1.2
baz=341
CISI Cisompet, Garu 77.71 219 PFAKE 11 01 00.0 +16
CISI LR LR
comp=Z,2μm,20.0s
457A Yulee 77.77 41 P P 11 00 42.7 -1.4
baz=341
555A McAlpin 77.84 42 PFAKE 11 01 00.0 +15
555A LR LR
comp=Z,4μm,18.0s
555A McAlpin 77.84 42 P P 11 00 43.7 -0.9
baz=341
ZAIG Zacatecas 78.05 62 eP **P 11 00 46.2 0.0**
comp=Z,35nm,1.1s
ZAIG LR LR
comp=Z,2μm,20.0s
556A Lake Butler 78.12 42 P P 11 00 45.8 -0.3
baz=341
557A Orange Park 78.30 41 P P 11 00 46.1 -1.0
baz=341
COEN Coen 78.58 183 PFAKE 11 01 00.0 +11
COEN LR LR
comp=Z,800nm,21.0s
657A Interlachen 78.66 42 P P 11 00 48.6 -0.5
baz=341
656A Willston 78.67 42 eP **P 11 00 49.0 -0.2**
comp=Z,234nm,1.5s
656A LR LR
comp=Z,5μm,18.0s
656A Willston 78.67 42 P P 11 00 49.1 -0.1
baz=341
658A Bunnell 78.99 41 PFAKE 11 01 00.0 +9.1
658A LR LR
comp=Z,4μm,18.0s
658A Bunnell 78.99 41 P P 11 00 50.2 -0.7
baz=341
757A Oxford 79.21 42 P P 11 00 51.0 -1.2
baz=341
857A Zephyrhills 79.80 42 P P 11 00 54.6 -0.7
baz=341
BBSR BB Station 80.09 26 eP **P 11 00 56.3 -0.6**
comp=Z,89nm,0.8s
BBSR LR LR
comp=Z,2μm,20.0s
858A St. Cloud 80.10 42 P P 11 00 56.2 -0.7
baz=341
DWPF Disney Wildern 80.17 42 PFAKE 11 01 10.0 +13
DWPF LR LR
comp=Z,3μm,18.0s
DWPF Disney Wildern 80.17 42 P P 11 00 56.8 -0.6
baz=341
957A Wimauma 80.36 43 PFAKE 11 01 10.0 +12
957A LR LR
comp=Z,3μm,18.0s
859A Kempfer Cattle 80.38 41 P P 11 00 57.8 -0.6
baz=342
958A Wauchula 80.58 42 P P 11 00 59.1 -0.5
baz=341
JRQG Juriquilla Cam 80.73 61 eP **P 11 01 01.3 +0.6**
comp=Z,236nm,1.2s
JRQG LR LR
comp=Z,3μm,19.0s
959A Okeechobee 80.89 41 P P 11 01 00.7 -0.5
baz=342
058A Arcadia 81.06 42 P P 11 01 01.4 -0.7
baz=341
059A Moore Haven 81.34 42 PFAKE 11 01 10.0 +6.4
059A LR LR
comp=Z,3μm,19.0s
059A Moore Haven 81.34 42 P P 11 01 03.5 -0.1
baz=342
MOIG Morelia 81.38 62 PFAKE 11 01 20.0 +16
MOIG LR LR
comp=Z,3μm,22.0s
060A Indiantown 81.49 41 PFAKE 11 01 20.0 +16
060A LR LR
comp=Z,3μm,18.0s
060A Indiantown 81.49 41 P P 11 01 04.1 -0.4
baz=342
DAMY Dhamar 82.03 287 PFAKE 11 01 20.0 +12
DAMY LR LR
comp=Z,2μm,20.0s
060Z West Palm Beac 82.03 42 P P 11 01 06.8 -0.4
baz=342
061Z Ochoppi 82.44 42 PFAKE 11 01 20.0 +11
061Z LR LR
comp=Z,3μm,18.0s
061Z Ochoppi 82.44 42 P P 11 01 09.1 -0.3
baz=342
UNM Universidad Na 82.46 60 PFAKE 11 01 20.0 +10
UNM LR LR
comp=Z,2μm,22.0s
LVIG Laguna Verde 83.11 58 PFAKE 11 01 20.0 +7.1
LVIG LR LR
comp=Z,800nm,20.0s
062Z Marathon 83.48 43 P P 11 01 14.3 -0.5
baz=342
FITZ Fitzroy Crossi 84.20 200 eP **P 11 01 17.6 -0.7**
comp=Z,33nm,1.0s
MYIG Mrida 84.29 51 PFAKE 11 01 30.0 +11
MYIG LR LR
comp=Z,3μm,21.0s
CTAO Charters Tower 84.63 180 PFAKE 11 01 30.0 +10
CTAO LR LR
comp=Z,1μm,19.0s
WB0 Warramunga Arr 84.83 191 PFAKE 11 01 30.0 +8.5
WB0 LR LR
comp=Z,600nm,20.0s
WB9 Warramunga Arr 84.86 191 PFAKE 11 01 30.0 +8.3
WB9 LR LR
comp=Z,1μm,19.0s
WB8 Warramunga Arr 84.88 191 PFAKE 11 01 30.0 +8.2
WB8 LR LR
comp=Z,600nm,20.0s
WC1 Warramunga Arr 84.99 192 PFAKE 11 01 30.0 +7.7
WC1 LR LR
comp=Z,600nm,22.0s
WRAB Tennant Creek 85.00 192 eP **P 11 01 20.7 -1.7**
comp=Z,62nm,1.0s
WRAB LR LR
comp=Z,800nm,21.0s
WRAB Tennant Creek 85.00 192 eP **P 11 01 20.9 -1.5**
WRAB pmax pmax
comp=Z,62nm,1.0s
WB2 Warramunga Arr 85.01 192 eP **P 11 01 21.1 -1.4**
comp=Z,57nm,1.0s
WB2 LR LR
comp=Z,800nm,20.0s
WR1 Warramunga Arr 85.01 192 eP **P 11 01 20.6 -1.8**
comp=Z,53nm,0.9s
WR1 ePKKPbc **PKKPbc 11 19 28.1 +0.4**
WRA Warramunga Arr 85.01 192 P **P 11 01 20.6 -1.8**
comp=Z,5.9nm,0.7s,baz=4.0,slow=5.6,SNR=40
WRA PKKPbc **PKKPbc 11 19 28.1 +0.4**
comp=Z,0.3nm,0.5s,baz=204,slow=1.9,SNR=6.2
WRA LR LR 11 39 24.0
comp=Z,565nm,21.3s,baz=10.0,slow=36
WC4 Warramunga Arr 85.03 192 PFAKE 11 01 30.0 +7.5
WC4 LR LR
comp=Z,2μm,22.0s
ATD Arta Tunnel 85.41 287 P **P 11 01 25.0 +0.3**
comp=Z,11nm,0.8s,baz=324,slow=6.5,SNR=3.9
ATD Arta Tunnel 85.41 287 P **P 11 01 25.0 +0.3**
ATD LR LR
comp=Z,1μm,21.0s
TEIG Tepich 85.46 50 PFAKE 11 01 40.0 +15
TEIG LR LR
comp=Z,2μm,20.0s
DZM Mont Dzumac 87.96 162 eP **P 11 01 38.2 +1.3**
comp=Z,101nm,1.3s
DZM Mont Dzumac 87.96 162 eS **S 11 12 16.6 -3.3**
comp=Z,294nm,26.4s
DZM eSS **SS 11 18 00.5 -7.8**
comp=Z,396nm,26.7s
DZM Mont Dzumac 87.96 162 eLR LR 11 29 19.1
comp=Z,2μm,21.9s
DZM Mont Dzumac 87.96 162 eP **P 11 01 38.0 +1.1**
comp=Z,49nm,1.2s
MBWA Marble Bar 88.16 205 eP **P 11 01 37.5 -0.3**
comp=Z,153nm,1.6s
AS01 Alice Springs 88.73 192 eP **P 11 01 38.5 -2.0**
AS31 Alice Springs 88.73 192 eP **P 11 01 40.8 +0.3**
comp=Z,4.1nm,0.8s
ASAR Alice Springs 88.74 192 P **P 11 01 38.7 -1.8**
comp=Z,1.7nm,0.7s,baz=10.0,slow=5.8,SNR=19
ASAR LR LR 11 41 59.6
comp=Z,597nm,21.3s,baz=352,slow=36
GRTK Grand Turk 89.19 35 PFAKE 11 01 50.0 +7.1
GRTK LR LR
comp=Z,2μm,20.0s
FURI Furi 89.48 290 PFAKE 11 02 00.0 +15
FURI LR LR
comp=Z,2μm,20.0s
GTBY Guantanamo Bay 89.69 39 PFAKE 11 02 00.0 +15
GTBY LR LR
comp=Z,2μm,20.0s
EIDS Eidsvold 89.95 176 PFAKE 11 02 00.0 +14
EIDS LR LR
comp=Z,900nm,21.0s
MTDJ Mount Denham 90.64 41 PFAKE 11 02 00.0 +10
MTDJ LR LR
comp=Z,3μm,18.0s
TAOE Nuku Hiva Isla 90.96 109 eLQ LQ 11 27 08.3
comp=Z,2μm,34.4s
TAOE eLR LR 11 31 01.0
comp=Z,826nm,21.3s,baz=337
TGUH Tegucigalpa,Un 91.55 52 PFAKE 11 02 10.0 +16
TGUH LR LR
comp=Z,900nm,19.0s
SDDR Presa de Saban 91.58 36 eP **P 11 01 55.3 +1.2**
comp=Z,38nm,1.1s
SDDR LR LR
comp=Z,2μm,21.0s
SDD Santo Domingo 92.42 34 PFAKE 11 02 10.0 +12
SDD LR LR
comp=Z,1μm,22.0s
MPR Mayaguez 93.31 32 PFAKE 11 02 10.0 +8.0
MPR LR LR
comp=Z,1μm,20.0s
ABVI Anegada Island 93.41 29 PFAKE 11 02 10.0 +7.5
ABVI LR LR
comp=Z,2μm,22.0s
CRPR Cabo Rojo, PR 93.51 32 PFAKE 11 02 10.0 +7.0
CRPR LR LR
comp=Z,2μm,19.0s
CBYP Canovanas 93.53 31 PFAKE 11 02 10.0 +6.8
CBYP LR LR
comp=Z,1μm,20.0s
OBIP Obispado Ponce 93.59 31 PFAKE 11 02 10.0 +6.7
OBIP LR LR
comp=Z,2μm,19.0s
CUPR Culebra, Puert 93.62 30 PFAKE 11 02 10.0 +6.5
CUPR LR LR
comp=Z,2μm,22.0s
SJG San Juan 93.62 31 PFAKE 11 02 10.0 +6.5
SJG LR LR
comp=Z,1μm,20.0s
STVI Saint Thomas 93.65 30 PFAKE 11 02 10.0 +6.4
STVI LR LR
comp=Z,2μm,22.0s
HUMP Col San Antoni 93.66 31 PFAKE 11 02 10.0 +6.3
HUMP LR LR
comp=Z,2μm,22.0s
MTP Monte Pirata 93.77 30 eP **P 11 02 03.4 -0.8**
comp=Z,66nm,1.3s
MTP LR LR
comp=Z,1μm,20.0s
ESPN Las Esperanzas 94.27 49 PFAKE 11 02 20.0 +14
ESPN LR LR
comp=Z,1μm,22.0s
SMRT St. Maarten 94.33 28 PFAKE 11 02 20.0 +13
SMRT LR LR
comp=Z,2μm,22.0s
SABA Saba 94.72 28 PFAKE 11 02 20.0 +11
SABA LR LR
comp=Z,2μm,20.0s
SEUS St. Eustatius 94.89 28 PFAKE 11 02 20.0 +11
SEUS LR LR
comp=Z,2μm,20.0s
ANWB Willy Bob 94.96 27 PFAKE 11 02 20.0 +10
ANWB LR LR
comp=Z,1μm,22.0s
PPT Papeete 95.24 121 LR LR 11 40 14.1
comp=Z,390nm,19.9s,baz=344,slow=32
PPT2 Papeete2 95.26 121 eLR LR 11 32 57.4
comp=Z,1μm,24.2s
JTS JuntasAbangare 95.84 51 PFAKE 11 02 20.0 +6.3
JTS LR LR
comp=Z,1μm,20.0s
FORT Forrest 96.37 196 eP **P 11 02 17.8 +2.2**
comp=Z,27nm,0.7s
HDC Heredia 96.39 50 PFAKE 11 02 30.0 +14
HDC LR LR
comp=Z,1μm,19.0s
STKA Stephens Creek 96.45 184 P **P 11 02 13.9 -2.0**
comp=Z,1.1nm,0.8s,baz=342,slow=13,SNR=2.7
STKA LR LR 11 47 47.2
comp=Z,415nm,19.8s,baz=355,slow=37
STKA Stephens Creek 96.45 184 eP **P 11 02 16.1 +0.2**
comp=Z,7.7nm,1.9s
STKA Stephens Creek 96.45 184 eP **P 11 02 16.1 +0.2**
STKA pmax pmax
comp=Z,8.0nm,1.9s
KOWA Kowa 97.83 331 PFAKE 11 02 30.0 +7.2
KOWA LR LR
comp=Z,1μm,22.0s
TOA1 Torodi Ar. Sit 97.85 326 eP **P 11 02 21.9 -1.0**
TOA1 ePP **PP 11 06 13.1 -7.3**
TOA0 Torodi Ar. Sit 97.85 326 eP **P 11 02 21.8 -1.0**
comp=Z,28nm,1.8s
TORD Torodi Ar. Bea 97.85 326 P **P 11 02 21.9 -1.0**
comp=Z,2.9nm,0.8s,baz=15,slow=6.0,SNR=8.9
TORD PP **PP 11 06 13.1 -7.3**
comp=Z,2.9nm,0.9s,baz=15,slow=6.0,SNR=3.9
TORD LR LR 11 51 33.4
comp=Z,865nm,18.0s,baz=345,slow=38
FDF Fort de France 97.94 27 PFAKE 11 02 30.0 +6.7
FDF LR LR
comp=Z,800nm,20.0s
BCIP Isla Barro Col 98.53 46 PFAKE 11 02 40.0 +14
BCIP LR LR
comp=Z,1μm,19.0s
GRGR Grenville 100.37 28 PFAKE 11 02 50.0 +16
GRGR LR LR
comp=Z,900nm,19.0s
TBI Tubuai 100.58 123 eLR LR 11 35 29.0
comp=Z,834nm,29.2s,baz=328
MBAR Mbarara 101.29 293 PFAKE 11 02 50.0 +12
MBAR LR LR
comp=Z,1μm,20.0s
SDV Santo Domingo 101.43 38 PFAKE 11 02 50.0 +11
SDV LR LR
comp=Z,2μm,22.0s
TOO Toolangi 102.05 181 PFAKE 11 02 50.0 +9.1
TOO LR LR
comp=Z,1μm,21.0s
RKT Rikitea 105.91 110 eLR LR 11 37 47.9
comp=Z,483nm,24.0s,baz=328
OTAV Otavalo 107.39 48 PFAKE 11 07 30.0 +16
OTAV LR LR
comp=Z,1μm,21.0s
OXZ Oxford 109.64 161 PFAKE 11 07 30.0 +13
OXZ LR LR
comp=Z,2μm,20.0s
PTGA Pitinga 113.22 29 PFAKE 11 07 40.0 +15
PTGA LR LR
comp=Z,900nm,20.0s
LSZ Lusaka 115.65 290 PFAKE 11 07 40.0 +11
LSZ LR LR
comp=Z,1μm,19.0s
RCBR Riachuelo 121.10 3 PFAKE 11 07 50.0 +10
RCBR LR LR
comp=Z,1μm,19.0s
TSUM Tsumeb 123.36 298 PFAKE 11 08 00.0 +16
TSUM LR LR
comp=Z,1μm,20.0s
LBTB Lobatse 125.44 287 ePKPdf **PKiKP 11 07 48.4 +0.1**
LPAZ La Paz 126.15 43 PKP **PKPdf 11 07 49.0 -1.2**
comp=Z,1.2nm,0.7s,baz=92,slow=3.0,SNR=4.6
LPAZ PP **PP 11 09 38.3 -5.7**
comp=Z,2.4nm,0.9s,baz=254,slow=4.3,SNR=3.0
LPAZ La Paz 126.15 43 ePKPdf **PKPdf 11 07 49.9 -0.3**
LPAZ ePP **PP 11 09 38.3 -5.7**
LPAZ La Paz 126.15 43 PKIKP **PKPdf 11 07 49.0 -1.2**
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
MNMC Minye Minye 128.40 45 PFAKE 11 08 10.0 +15
MNMC LR LR
comp=Z,900nm,20.0s
BOSA Boshof 128.76 286 PKhKP PKPpre 11 07 40.5
comp=Z,1.5nm,0.9s,baz=91,slow=3.3,SNR=3.0
BOSA PKP **PKPdf 11 07 52.6 -1.6**
comp=Z,1.6nm,0.6s,baz=122,slow=5.5,SNR=5.8
BOSA Boshof 128.76 286 ePKPpre PKPpre 11 07 40.5
BOSA ePKPdf **PKPdf 11 07 52.6 -1.6**
BOSA ePKPdf **PKiKP 11 07 54.8 -0.1**
PB11 IPOC Station P 128.97 46 ePKPdf **PKiKP 11 07 55.4 -0.2**
PB11 LR LR
comp=Z,1μm,21.0s
BDFB Brasilia 129.88 18 PKP **PKPdf 11 07 55.2 -1.5**
comp=Z,4.6nm,0.9s,baz=176,slow=3.6,SNR=7.5
LVC Limon Verde 131.88 46 PFAKE 11 08 10.0 +8.3
LVC LR LR
comp=Z,700nm,20.0s
PB10 IPOC Station P 132.21 48 PFAKE 11 08 10.0 +8.2
PB10 LR LR
comp=Z,800nm,22.0s
SUR Sutherland 133.88 288 ePKPdf **PKiKP 11 08 05.4 +0.2**
GO02 Mina Guanaco 134.05 48 PFAKE 11 08 20.0 +14
GO02 LR LR
comp=Z,800nm,22.0s
SPB Sao Paulo 137.78 19 PFAKE 11 08 20.0 +6.9
SPB LR LR
comp=Z,900nm,20.0s
CPUP Villa Florida 138.58 33 PKhKP PKPpre 11 08 07.9
comp=Z,2.0nm,0.7s,baz=347,slow=4.5,SNR=5.7
CPUP PKP **PKPdf 11 08 11.6 -0.9**
comp=Z,3.1nm,0.8s,baz=360,slow=2.5,SNR=5.5
CPUP Villa Florida 138.58 33 ePKPpre PKPpre 11 08 02.8
CPUP ePKPpre PKPpre 11 08 08.0
CPUP PKP **PKPdf 11 08 11.6 -0.9**
ROC1 El Roble 140.78 54 ePKPpre PKPpre 11 08 10.4
GO05 Huala 142.29 57 PFAKE 11 08 30.0 +7.9
GO05 LR LR
comp=Z,700nm,21.0s
VNDA Vanda 142.41 175 PKP **PKPdf 11 08 16.8 -1.1**
comp=Z,7.5nm,1.3s,baz=355,slow=5.2,SNR=4.4
VNDA Vanda 142.41 175 ePKPdf **PKPdf 11 08 16.5 -1.4**
VNDA Vanda 142.41 175 ePKIKP **PKPdf 11 08 16.5 -1.4**
MAW Mawson 144.76 221 PKP **PKPab 11 08 20.9 -0.3**
comp=Z,22nm,0.7s,baz=75,slow=3.0,SNR=6.6
MAW Mawson 144.76 221 ePKPdf **PKPab 11 08 21.0 -0.2**
GO06 Curarrehue 146.52 60 ePKPdf **PKPdf 11 08 27.0 +0.7**
GO06 LR LR
comp=Z,900nm,20.0s
PLCA Paso Flores 147.87 60 ePKPbc **PKPbc 11 08 31.0 -0.5**
comp=Z,9.1nm,0.8s,baz=357,slow=3.8,SNR=14
PLCA Paso Flores 147.87 60 ePKP2 **PKPbc 11 08 31.2 -0.3**
PLCA Paso Flores 147.87 60 ePKP2 **PKPbc 11 08 31.2 -0.3**
QSPA South Pole Qui 154.59 180 ePKPbc **PKPbc 11 08 44.5 -1.9**

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*IDC **20** 11:52:38.6±0.8, 32°.84N×76°.47E, h0^{km}, mb3.5/10, mb1 3.8/13, mb1mx3.6/45, mbtmp3.6/13, ML3.3/3, Error ellipse: s-maj=26.1km s-min=16.6km az=55.0*
*ISCJB **20** 11:52:39.5±0.8, 32°.91N±0°.10×76°.5E±0°.2, h15^{km}, mb3.5/10, Error ellipse: s-maj=19.9km s-min=12.6km az=156.9*

ISC 20 11:52:41.1±1.0, 32°.9N±0°.1×76°.5E±0°.2, h15^{km}, n13, σ0^{s}.99/13, mb3.5/10, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**9.89**	**351**	Pn	**Pn**	**11 55 04.1**	**+1.3**
	0.5nm,0.3s,baz=137,slow=11,SNR=7.3						
MKAR	**Makanchi Array**	**14.59**	**16**	Pn	**Pn**	**11 56 06.7**	**-0.3**
	0.2nm,0.3s,baz=193,slow=12,SNR=8.0						
MKAR				Sn	Sn	11 58 37.7	-11
	0.1nm,0.3s,baz=200,slow=25,SNR=4.4						
KURBB	**Kurchatov Arra**	**17.80**	**4**	P	**Pn**	**11 56 46.2**	**-2.1**
	0.0nm,0.3s,baz=190,slow=11,SNR=5.2						
ZALV	**Zalesovo Beam**	**21.89**	**13**	P	**P**	**11 57 32.6**	**-0.8**
	0.5nm,0.4s,baz=214,slow=10.0,SNR=4.0						
CMAR	**Chiang Mai Arr**	**24.71**	**120**	P	**P**	**11 58 03.0**	**+1.1**
	1.9nm,0.8s,baz=306,slow=9.3,SNR=13						
SONM	**Songino Array**	**27.02**	**48**	P	**P**	**11 58 23.1**	**+0.4**

0.3nm,0.5s,baz=249,slow=7.6,SNR=2.9
ARCES ARCESS Array B 46.23 338 P **P** **12 01 05.2 -0.1**
3.8nm,1.0s,baz=106,slow=9.5,SNR=2.9
HFS Hagfors 48.71 324 P **P** **12 01 24.6 0.0**
0.7nm,0.6s,baz=82,slow=16,SNR=4.3
NOA NORSAR Array B 49.99 325 P **P** **12 01 35.0 +0.5**
0.5nm,0.7s,baz=78,slow=12,SNR=2.7
TORD Torodi Ar. Bea 70.33 273 P **P** **12 03 53.8 -0.8**
0.2nm,0.5s,baz=80,slow=5.2,SNR=3.1
WRA Warramunga Arr 76.19 125 P **P** **12 04 28.8 -0.2**
0.8nm,1.0s,baz=322,slow=6.2,SNR=7.8
ASAR Alice Springs 78.44 128 P **P** **12 04 41.0 -0.6**
0.3nm,0.7s,baz=314,slow=4.3,SNR=3.8
YKA Yellowknife Ar 84.55 5 P **P** **12 05 14.1 +0.7**
0.1nm,0.5s,baz=340,slow=5.7,SNR=2.6

*ISCJB **20** 11:58:34.0±0.2, 36.°57N±0.°02×26.°88E±0.°02, h140km±2km, mb4.0/23, Error ellipse: s-maj=4.0km s-min=2.6km az=166.1*
*NEIC **20** 11:58:34.6±0.0, 36.°62N×26.°87E, h130km, mb4.1/16, ML3.8(ATH), ML4.0(THE), After ATH.*
*ATH **20** 11:58:34.6, 36.°62N×26.°87E, h130km±3km, ML3.8/6, Error ellipse: s-maj=3.5km s-min=1.4km az=29.0*
*IDC **20** 11:58:34.1±1.7, 36.°53N×26.°86E, h134km±17km, mb3.6/12, mb1 3.6/20, mb1mx3.4/50, mbtmp3.9/20, MS3.7/1, Ms1 3.7/1, ms1mx2.7/42, Error ellipse: s-maj=14.7km s-min=12.0km az=42.0*
*ISK **20** 11:58:35.9, 36.°58N×26.°83E, h96km±7km, ML3.5/16*
*DDA **20** 11:58:36.1, 36.°60N×27.°04E, h28km±4km, ML3.9*
*THE **20** 11:58:37.4, 36.°61N×26.°88E, h124km±6km, ML4.0/4, Error ellipse: s-maj=6.6km s-min=1.0km az=150.0*

ISC 20 11:58:34.4±0.6, 36.°60N±0.°03×26.°88E±0.°03, h131km±5km, n209, σ1§42/240, mb4.0/23, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NISR	**Nisiros**	**0.20**	**85**	P	**Pn**	**11 58 53.0**	**+0.7**
DAT	**Datca**	**0.58**	**76**	*i* P	**Pn**	**11 58 55.1**	**+0.9**
DAT				*i* S	**Sn**	**11 59 08.1**	**-1.0**
BODT	**Bodrum**	**0.58**	**37**	*e*Pn	**Pn**	**11 58 54.7**	**+0.6**
BODT	**Bodrum**	**0.58**	**37**	P	**Pn**	**11 58 54.7**	**+0.6**
BDRM	**Kayabasi**	**0.65**	**44**	*i* P	**Pn**	**11 58 55.6**	**+1.0**
BDRM				*i* S	**Sn**	**11 59 09.3**	**-0.6**
AMGA	**Amorgos Island**	**0.83**	**287**	P	**Pn**	**11 58 56.7**	**+0.8**
AMGA				S	**Sn**	**11 59 12.3**	**+0.2**
AMGA				AML	AML	11 59 12.9	
	comp=N,2919μm,0.6s						
AMGA				AML	AML	11 59 13.5	
	comp=E,3903μm,0.9s						
ANAF	**Anafi Island**	**0.92**	**255**	P	**Pn**	**11 58 58.0**	**+1.3**
ANAF				S	**Sn**	**11 59 13.9**	**+0.3**
ANAF				AML	AML	11 59 14.4	
	comp=N,9486μm,0.4s						
ANAF				AML	AML	11 59 14.7	
	comp=E,4488μm,0.5s						
KARP	**Karpathos**	**1.07**	**168**	PG	**Pn**	**11 58 58.2**	**0.0**
KARP	**Karpathos**	**1.07**	**168**	*e*Pn	**Pn**	**11 58 59.0**	**+0.8**
KARP				*e*Sn	**Sn**	**11 59 18.1**	**+2.0**
KARP	**Karpathos**	**1.07**	**168**	P	**Pn**	**11 58 59.1**	**+0.9**
KARP	**Karpathos**	**1.07**	**168**	P	**Pn**	**11 58 59.1**	**+0.9**
ARG	**Arkhangelos**	**1.07**	**110**	PN	**Pn**	**11 58 58.7**	**+0.6**
ARG	**Arkhangelos**	**1.07**	**110**	*e*Pn	**Pn**	**11 58 59.3**	**+1.2**
ARG	**Arkhangelos**	**1.07**	**110**	P	**Pn**	**11 58 59.4**	**+1.3**
ARG				S	**Sn**	**11 59 17.4**	**+1.4**
ARG				AML	AML	11 59 18.1	
	comp=E,8785μm,0.4s						
ARG				AML	AML	11 59 20.1	
	comp=N,5026μm,0.3s						
ARG	**Arkhangelos**	**1.07**	**110**	P	**Pn**	**11 58 59.3**	**+1.2**
SMG	**Samos**	**1.11**	**358**	P	**Pn**	**11 58 58.9**	**+0.4**
THR8	**Santorini-Mono**	**1.14**	**261**	P	**Pn**	**11 58 59.8**	**+1.0**
SANT	**Santorini**	**1.17**	**259**	PN	**Pn**	**11 58 59.4**	**+0.3**
SANT	**Santorini**	**1.17**	**259**	*e*Pn	**Pn**	**11 58 59.9**	**+0.8**
SANT				*e*Sn	**Sn**	**11 59 18.8**	**+1.1**
SANT	**Santorini**	**1.17**	**259**	P	**Pn**	**11 59 00.1**	**+1.0**
SANT	**Santorini**	**1.17**	**259**	P	**Pn**	**11 59 00.1**	**+1.0**
SAP2K	**Karterados**	**1.17**	**261**	P	**Pn**	**11 59 00.3**	**+1.2**
THR2	**Thira island,**	**1.17**	**263**	*e*Pn	**Pn**	**11 59 00.3**	**+1.2**
THR2	**Thira island,**	**1.17**	**263**	P	**Pn**	**11 59 00.1**	**+1.0**
THR2	**Thira island,**	**1.17**	**263**	P	**Pn**	**11 59 00.3**	**+1.2**
APE	**Apeiranthos**	**1.18**	**294**	PN	**Pn**	**11 58 59.6**	**+0.4**
APE	**Apeiranthos**	**1.18**	**294**	P	**Pn**	**11 59 00.1**	**+0.9**
THR7	**Fira-Santorini**	**1.18**	**262**	P	**Pn**	**11 59 00.4**	**+1.2**
THR3	**Thira Island,**	**1.21**	**262**	*e*Pn	**Pn**	**11 59 00.3**	**+0.9**
THR3	**Thira Island,**	**1.21**	**262**	P	**Pn**	**11 59 00.4**	**+0.9**
THR3	**Thira Island,**	**1.21**	**262**	P	**Pn**	**11 59 00.3**	**+0.9**
THR6	**Thira Island,**	**1.22**	**259**	*e*Pn	**Pn**	**11 59 00.8**	**+1.3**
THR6	**Thira Island,**	**1.22**	**259**	P	**Pn**	**11 59 00.7**	**+1.3**
THR6	**Thira Island,**	**1.22**	**259**	P	**Pn**	**11 59 00.8**	**+1.3**
THR5	**Thira Island,**	**1.25**	**262**	P	**Pn**	**11 59 01.0**	**+1.2**
THR5	**Thira Island,**	**1.25**	**262**	P	**Pn**	**11 59 01.3**	**+1.5**
IOSP	**Ios island**	**1.28**	**276**	P	**Pn**	**11 59 00.1**	**-0.1**
IOSP				AML	AML	11 59 19.6	
	comp=N,2485μm,0.7s						
IOSP				S	**Sn**	**11 59 19.6**	**-0.2**
IOSP				AML	AML	11 59 20.1	
	comp=E,2253μm,0.6s						
AYDN	**Tasoluk**	**1.33**	**37**	*i* P	**Pn**	**11 59 02.4**	**+1.7**
AYDN				*i* S	**Sn**	**11 59 20.1**	**-0.7**
TURN	**Turunc**	**1.41**	**78**	PN	**Pn**	**11 58 58.5**	**-3.1**
TURN	**Turunc**	**1.41**	**78**	*i* P	**Pn**	**11 58 59.9**	**-1.6**
DALY	**Dalyan (Mula)**	**1.44**	**81**	PN	**Pn**	**11 59 02.9**	**+1.0**
DALY	**Dalyan (Mula)**	**1.44**	**81**	*i* P	**Pn**	**11 59 04.5**	**+2.6**
DALY				*i* S	**Sn**	**11 59 23.3**	**+0.5**
STIA	**Sitia Lasithi**	**1.53**	**205**	P	**Pn**	**11 59 04.3**	**+1.4**
STIA				S	**Sn**	**11 59 25.5**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**1.57**	**31**	PN	**Pn**	**11 59 04.2**	**+0.7**
ZKR	**Zakros**	**1.57**	**200**	PN	**Pn**	**11 59 02.9**	**-0.5**
ZKR	**Zakros**	**1.57**	**200**	*e*Sn	**Sn**	**11 59 27.3**	**+1.8**
ZKR	**Zakros**	**1.57**	**200**	P	**Pn**	**11 59 04.9**	**+1.4**
ZKR				AML	AML	11 59 29.4	
	comp=E,9468μm,0.3s						
ZKR				AML	AML	11 59 29.4	
	comp=N,4501μm,0.3s						
ZKR	**Zakros**	**1.57**	**200**	P	**Pn**	**11 59 05.5**	**+2.1**
ZKR				S	**Sn**	**11 59 27.3**	**+1.8**
TNSA	**Tinos**	**1.67**	**305**	P	**Pn**	**11 59 06.1**	**+1.7**
NPS	**Neapolis**	**1.68**	**218**	P	**Pn**	**11 59 05.6**	**+0.9**
NPS				S	**Sn**	**11 59 27.3**	**-0.4**
NPS	**Neapolis**	**1.68**	**218**	P	**Pn**	**11 59 05.5**	**+0.9**
NPS				AML	AML	11 59 28.4	
	comp=N,3895μm,0.3s						
NPS				AML	AML	11 59 30.2	
	comp=E,4364μm,0.2s						
NPS	**Neapolis**	**1.68**	**218**	P	**Pn**	**11 59 05.6**	**+0.9**
NPS				S	**Sn**	**11 59 27.3**	**-0.4**
FETY	**Fethiye**	**1.77**	**88**	PN	**Pn**	**11 59 06.9**	**+1.2**
FETY	**Fethiye**	**1.77**	**88**	*e*Pn	**Pn**	**11 59 06.6**	**+0.9**
FETY	**Fethiye**	**1.77**	**88**	P	**Pn**	**11 59 06.6**	**+0.9**
FETY				S	**Sn**	**11 59 29.5**	**-0.2**
FETY	**Fethiye**	**1.77**	**88**	IAML_P			
	comp=Z,15μm,0.2s						
FETY				*i* P	**Pn**	**11 59 07.3**	**+1.6**
FETY				*i* S	**Sn**	**11 59 28.2**	**-1.5**
URLA	**Izmir**	**1.78**	**353**	PN	**Pn**	**11 59 06.7**	**+0.9**
BLCB	**Balcova**	**1.79**	**4**	PN	**Pn**	**11 59 05.7**	**-0.2**
LAST	**Lasithi**	**1.83**	**219**	*e*Sn	**Sn**	**11 59 30.9**	**0.0**
LAST	**Lasithi**	**1.83**	**219**	P	**Pn**	**11 59 07.2**	**+0.7**
LAST	**Lasithi**	**1.83**	**219**	P	**Pn**	**11 59 07.5**	**+1.0**
LAST				S	**Sn**	**11 59 30.9**	**0.0**
TAVA	**DENIZLI_Tavas**	**1.84**	**61**	IAML_P			
	comp=Z,11μm,0.2s						
TAVA				*i* P	**Pn**	**11 59 08.2**	**+1.6**
TAVA				*i* S	**Sn**	**11 59 29.0**	**-2.3**
CHOS	**Chios island**	**1.90**	**340**	P	**Pn**	**11 59 08.1**	**+0.7**
IACM	**Heraklion**	**1.95**	**229**	P	**Pn**	**11 59 09.3**	**+1.5**
IACM	**Heraklion**	**1.95**	**229**	P	**Pn**	**11 59 09.3**	**+1.5**
IACM				S	**Sn**	**11 59 32.6**	**-0.8**
KSTL	**Kastelli Herak**	**1.95**	**229**	P	**Pn**	**11 59 08.6**	**+0.7**
KSTL				S	**Sn**	**11 59 31.7**	**-1.7**
MHLA	**Plaka, Milos I**	**1.98**	**275**	P	**Pn**	**11 59 09.4**	**+1.2**
SERI	**Serifos**	**2.00**	**287**	P	**Pn**	**11 59 09.2**	**+0.7**
DENT	**Denizli**	**2.07**	**55**	PN	**Pn**	**11 59 10.8**	**+1.4**
IDI	**Anoyia**	**2.08**	**232**	PN	**Pn**	**11 59 09.9**	**+0.4**
IDI				SN	**Sn**	**11 59 33.3**	**-2.9**
IDI	**Anoyia**	**2.08**	**232**	*e*Pn	**Pn**	**11 59 09.9**	**+0.4**
IDI	**Anoyia**	**2.08**	**232**	P	**Pn**	**11 59 09.5**	**+0.1**
KSL	**Kastellorizon**	**2.23**	**101**	*e*Pn	**Pn**	**11 59 12.3**	**+1.1**
KSL	**Kastellorizon**	**2.23**	**101**	P	**Pn**	**11 59 12.4**	**+1.1**
KSL	**Kastellorizon**	**2.23**	**101**	P	**Pn**	**11 59 12.3**	**+1.1**
KSL				S	**Sn**	**11 59 39.0**	**-0.4**
AKAS	**Kas**	**2.23**	**99**	PN	**Pn**	**11 59 12.8**	**+1.4**
AKAS	**Kas**	**2.23**	**99**	IAML_P			
	comp=Z,6μm,0.1s						
AKAS				*i* P	**Pn**	**11 59 12.8**	**+1.4**
AKAS				*i* S	**Sn**	**11 59 36.5**	**-3.2**
GOLH	**Golhisar**	**2.24**	**73**	*i* P	Pn	11 59 21.4	+10
GOLH				*i* S	**Sn**	**11 59 45.5**	**+5.5**
TMBK	**Timbaki Herakl**	**2.29**	**229**	P	**Pn**	**11 59 13.2**	**+1.2**
SIVA	**Sivas**	**2.30**	**227**	P	**Pn**	**11 59 13.7**	**+1.5**
SIVA				S	**Sn**	**11 59 42.7**	**+1.6**
SIVA	**Sivas**	**2.30**	**227**	P	**Pn**	**11 59 13.7**	**+1.5**
SIVA	**Sivas**	**2.30**	**227**	P	**Pn**	**11 59 13.7**	**+1.5**
SIVA				S	**Sn**	**11 59 42.7**	**+1.6**
MANT	**Manisa**	**2.31**	**35**	*e*Pn	**Pn**	**11 59 13.1**	**+0.6**
MANT	**Manisa**	**2.31**	**35**	IAML_P			
	comp=Z,4μm,0.5s						
MANT				*i* P	**Pn**	**11 59 13.3**	**+0.8**
KULA	**Kula-Manisa**	**2.38**	**36**	PN	**Pn**	**11 59 13.9**	**+0.7**
AKHS	**Akhisar**	**2.40**	**18**	*i* P	**Pn**	**11 59 14.0**	**+0.7**
ELL	**Elmali**	**2.44**	**86**	PN	**Pn**	**11 59 15.4**	**+1.4**
VAM	**Vamos**	**2.48**	**242**	P	**Pn**	**11 59 15.2**	**+0.9**
VAM	**Vamos**	**2.48**	**242**	P	**Pn**	**11 59 15.0**	**+0.6**
VAM	**Vamos**	**2.48**	**242**	P	**Pn**	**11 59 15.2**	**+0.9**
CHAN	**Chania**	**2.54**	**246**	P	**Pn**	**11 59 16.3**	**+1.2**
CHAN				S	**Sn**	**11 59 46.1**	**-0.3**
IMMV	**Iera Moni Meta**	**2.61**	**245**	PN	**Pn**	**11 59 16.7**	**+0.7**
IMMV	**Iera Moni Meta**	**2.61**	**245**	P	**Pn**	**11 59 16.8**	**+0.7**
IMMV	**Iera Moni Meta**	**2.61**	**245**	P	**Pn**	**11 59 17.2**	**+1.2**
KHAL	**Karahalli**	**2.73**	**49**	IAML_P			
	comp=Z,2μm,0.4s						
KHAL				*i* P	**Pn**	**11 59 18.9**	**+1.2**
VLY	**Voula,Athens**	**2.76**	**298**	P	**Pn**	**11 59 19.3**	**+1.3**
BRDR	**BURDUR-Merkez**	**2.77**	**66**	IAML_P			
	comp=Z,8μm,0.2s						
BRDR				*i* P	**Pn**	**11 59 19.6**	**+1.4**
DION	**Dionisos Attik**	**2.77**	**303**	P	**Pn**	**11 59 19.2**	**+1.0**
KORT	**Korkueli**	**2.81**	**81**	IAML_P			
	comp=Z,6μm,0.3s						
KORT				*i* P	**Pn**	**11 59 21.0**	**+2.2**
DEMI	**Demirci**	**2.84**	**30**	IAML_P			
	comp=Z,1μm,0.4s						
DEMI				*i* P	**Pn**	**11 59 20.4**	**+1.3**
STEP	**BALIKESIR_Sava**	**2.85**	**13**	IAML_P			
	comp=Z,2μm,0.6s						
STEP				*i* P	**Pn**	**11 59 19.9**	**+0.7**
GVD	**Gavdhos**	**2.87**	**233**	PN	**Pn**	**11 59 20.2**	**+0.8**
GVD	**Gavdhos**	**2.87**	**233**	*e*Pn	**Pn**	**11 59 21.1**	**+1.7**
GVD	**Gavdhos**	**2.87**	**233**	P	**Pn**	**11 59 21.0**	**+1.6**
GVD	**Gavdhos**	**2.87**	**233**	P	**Pn**	**11 59 21.1**	**+1.7**
GVD				S	**Sn**	**11 59 54.0**	**0.0**
KERA	**Keramoti**	**2.96**	**247**	P	**Pn**	**11 59 22.0**	**+1.5**
ANKY	**Antikythira Is**	**2.98**	**257**	P	**Pn**	**11 59 21.2**	**+0.4**
ANKY	**Antikythira Is**	**2.98**	**257**	P	**Pn**	**11 59 21.5**	**+0.7**
DID	**Didima**	**3.05**	**288**	P	**Pn**	**11 59 22.7**	**+1.0**
DID	**Didima**	**3.05**	**288**	P	**Pn**	**11 59 22.7**	**+1.0**
KZIL	**AFYON_Kizioren**	**3.08**	**56**	IAML_P			
	comp=Z,2μm,0.3s						
KZIL				*i* P	**Pn**	**11 59 23.3**	**+1.1**
KRND	**KRANIDI**	**3.09**	**286**	P	**Pn**	**11 59 23.1**	**+0.9**
MNVA	**Monemvasia**	**3.09**	**273**	P	**Pn**	**11 59 23.5**	**+1.3**
KYTH	**Kithira**	**3.11**	**265**	P	**Pn**	**11 59 23.4**	**+0.9**
ISP	**Isparta**	**3.16**	**66**	*e*Pn	**Pn**	**11 59 23.9**	**+0.7**
ISP	**Isparta**	**3.16**	**66**	P	**Pn**	**11 59 23.9**	**+0.7**
ISP	**Isparta**	**3.16**	**66**	P	**Pn**	**11 59 23.9**	**+0.7**
VLI	**Veliai**	**3.17**	**273**	*e*Pn	**Pn**	**11 59 24.1**	**+0.8**
VLI	**Veliai**	**3.17**	**273**	P	**Pn**	**11 59 23.8**	**+0.5**
VLI	**Veliai**	**3.17**	**273**	P	**Pn**	**11 59 24.1**	**+0.8**
GDZ	**Gediz**	**3.23**	**39**	IAML_P			
	comp=Z,3μm,0.3s						
GDZ				*i* P	**Pn**	**11 59 25.9**	**+1.7**
DURS	**Dursunbey**	**3.25**	**22**	*i* P	**Pn**	**11 59 25.4**	**+1.0**
VIL2	**Platees**	**3.30**	**300**	P	**Pn**	**11 59 25.8**	**+0.9**
BAGO	**Egridir - ISPA**	**3.41**	**65**	*i* P	**Pn**	**11 59 28.1**	**+1.6**
VLX	**Vlachokerasia**	**3.69**	**283**	P	**Pn**	**11 59 31.7**	**+1.6**
TRIP	**Tripoli**	**3.80**	**286**	P	**Pn**	**11 59 33.1**	**+1.5**
DSF	**Desfina**	**3.91**	**299**	P	**Pn**	**11 59 34.4**	**+1.4**
ITM	**Ithomi**	**4.01**	**280**	*e*Pn	**Pn**	**11 59 36.0**	**+1.7**
ITM	**Ithomi**	**4.01**	**280**	P	**Pn**	**11 59 35.9**	**+1.5**
ITM	**Ithomi**	**4.01**	**280**	P	**Pn**	**11 59 35.7**	**+1.3**
KLV	**Kalavryta, Ach**	**4.04**	**292**	P	**Pn**	**11 59 35.7**	**+1.0**
DOGA	**KONYA_Doganhis**	**4.10**	**67**	IAML_P			
	comp=Z,1μm,0.2s						
DOGA				*i* P	**Pn**	**11 59 38.1**	**+2.4**
PYL	**PYLOS**	**4.14**	**276**	*e*Pn	**Pn**	**11 59 36.3**	**+0.3**
PYL	**PYLOS**	**4.14**	**276**	P	**Pn**	**11 59 36.3**	**+0.3**
KALE	**Kalithea**	**4.17**	**297**	P	**Pn**	**11 59 38.3**	**+1.8**
LAKA	**Lakka**	**4.23**	**294**	P	**Pn**	**11 59 38.1**	**+0.8**
BORA	**Eskisehir**	**4.32**	**40**	*i* P	**Pn**	**11 59 40.3**	**+1.8**
AGG	**Agios Georgios**	**4.34**	**305**	*e*Pn	**Pn**	**11 59 41.9**	**+3.2**
KDHN	**Kadinhani**	**4.58**	**64**	*i* P	**Pn**	**11 59 43.3**	**+1.2**
CSS	**Mathiatis**	**5.49**	**105**	*e*Pn	**Pn**	**11 59 53.2**	**-0.9**
BR231	**Keskin MP Arra**	**5.66**	**53**	*e*Pn	**Pn**	**11 59 56.8**	**+0.3**
ANTO	**Ankara**	**5.69**	**53**	*e*Pn	**Pn**	**11 59 59.0**	**+2.2**
BR131	**Keskin Array S**	**6.17**	**58**	*e*Pn	**Pn**	**12 00 05.3**	**+1.9**
BRTR	**Keskin Array B**	**6.17**	**58**	P	**Pn**	**12 00 05.2**	**+1.8**
	comp=Z,1.2nm,0.3s,baz=228,slow=14,SNR=45						
BRTR				S	**Sn**	**12 01 15.4**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=218,slow=23,SNR=3.3						
ILGA	**Ilgaz**	**6.95**	**48**	*e*Pn	**Pn**	**12 00 16.3**	**+2.4**
MMAI	**Mount Meron Ar**	**7.87**	**115**	P	**Pn**	**12 00 25.3**	**-0.9**
	comp=Z,10nm,0.3s,baz=304,slow=11,SNR=15						
MMAI				S	**Sn**	**12 01 49.0**	**-4.7**
	comp=Z,14nm,0.3s,baz=304,slow=26,SNR=12						
TIP	**Timpagrande**	**8.41**	**291**	*e*Pn	**Pn**	**12 00 31.9**	**-1.5**
ASF	**Jabal al Asfar**	**9.38**	**115**	P	**Pn**	**12 00 47.2**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=304,slow=3.6,SNR=4.3						
ASF				S	**Sn**	**12 02 31.4**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=5.2,slow=20,SNR=4.1						
EIL	**Elat**	**9.67**	**133**	P	**Pn**	**12 00 49.9**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=312,slow=2.8,SNR=8.3						
EIL				S	**Sn**	**12 02 31.8**	**-5.4**
	comp=Z,5.2nm,0.3s,baz=13,slow=17,SNR=9.9						
VAE	**Valguarnera**	**10.01**	**279**	S	**Sn**	**12 02 38.4**	**-6.9**
	comp=Z,1.9nm,0.3s,baz=350,slow=6.1,SNR=3.0						
WDD	**Wied Dalam**	**10.01**	**269**	*e*Pn	**Pn**	**12 00 55.1**	**+0.2**
BUR04	**Bucovina Ar. S**	**11.08**	**354**	*e*Pn	**Pn**	**12 01 11.9**	**+2.7**
SIRT	**Sirnak**	**12.47**	**81**	*e*Pn	**Pn**	**12 01 28.5**	**+1.1**
KWP	**Kalwaria Pacla**	**13.38**	**348**	*e*Pn	**Pn**	**12 01 39.7**	**+0.7**
TRI	**Trieste**	**13.42**	**317**	*e*P	**P**	**12 01 44.6**	**+0.3**
KVAR	**Kislovodsk Arr**	**14.12**	**54**	LR	LR	12 09 24.6	
	comp=Z,301nm,19.2s,baz=208,slow=46						
AK11	**Malin Array Si**	**14.17**	**6**	*e*P	**P**	**12 01 52.3**	**-0.3**
KIEV	**Kiev**	**14.19**	**6**	*e*P	**P**	**12 01 52.7**	**-0.1**
AKASG	**Malin Array Be**	**14.20**	**6**	P	**P**	**12 01 51.4**	**-1.5**
	comp=Z,1.1nm,0.3s,baz=198,slow=12,SNR=6.9						
AKBB	**Malin Array Si**	**14.20**	**6**	*e*P	**P**	**12 01 52.6**	**-0.3**
OJC	**Ojcow**	**14.55**	**342**	*e*P	**P**	**12 01 59.0**	**+2.2**
VRAC	**Vranov**	**14.75**	**333**	P	**Pn**	**12 01 57.2**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=129,slow=9.8,SNR=3.5						
MORC	**Moravsky Berou**	**14.81**	**336**	*e*P	**P**	**12 02 00.1**	**+0.3**
GERES	**GERESS Array B**	**15.58**	**326**	P	**Pn**	**12 02 07.5**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=134,slow=9.5,SNR=5.4						
KHC	**Kasperske Hory**	**15.84**	**326**	*e*Pn	**P**	**12 02 11.8**	**+0.7**
	comp=Z,0.6nm,1.0s						
FUORN	**Ofenpass-Fuorn**	**15.93**	**314**	*e*Pn	**P**	**12 02 14.7**	**+2.3**
	comp=Z,3.4nm,1.0s						
DAVOX	**Davos/Dischmat**	**16.24**	**314**	P	**P**	**12 02 16.7**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=338,slow=19,SNR=2.0						
BNI	**Bardonecchia**	**17.43**	**305**	*e*P	**Pn**	**12 02 31.0**	**+1.4**
SENIN	**Lac Senin/Sane**	**17.58**	**310**	*e*P	**P**	**12 02 30.7**	**+0.1**
	comp=Z,7.4nm,1.1s						
SUW	**Suwalki**	**17.61**	**353**	*e*P	**Pn**	**12 02 32.2**	**+0.8**
	comp=Z,20nm,1.0s						
BFO	**Black Forest**	**17.97**	**317**	*e*P	**Pn**	**12 02 37.1**	**+1.2**
	comp=Z,4.4nm,1.1s						
BSD	**Bornholm Skovb**	**20.25**	**340**	*i* P	**P**	**12 02 57.9**	**-1.3**
CLF	**Chambon-Foret**	**21.39**	**310**	*e*P	**P**	**12 03 14.6**	**+3.0**
	comp=Z,10nm,1.0s						
FINES	**FINESS Array B**	**24.88**	**359**	P	**P**	**12 03 43.6**	**-1.0**
	comp=Z,1.9nm,0.6s,baz=160,slow=9.7,SNR=8.8						
FINES				PcP	**PcP**	**12 07 16.2**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=209,slow=1.4,SNR=3.7						
FIA1	**FINESS Array S**	**24.88**	**359**	*e*P	**P**	**12 03 44.4**	**-0.2**
	comp=Z,4.3nm,0.9s						
HFS	**Hagfors**	**25.03**	**344**	P	**P**	**12 03 45.6**	**-0.5**
	comp=Z,2.3nm,0.4s,baz=150,slow=12,SNR=27						
NC602	**NORSAR Array S**	**26.06**	**343**	*e*P	**P**	**12 03 54.6**	**-0.8**
NAO01	**NORSAR Array S**	**26.31**	**342**	*e*P	**P**	**12 03 56.6**	**-1.0**
NC405	**NORSAR Array S**	**26.35**	**343**	*e*P	**P**	**12 04 01.0**	**+3.0**
NB201	**NORSAR Array S**	**26.39**	**343**	*e*P	**P**	**12 03 57.0**	**-1.4**
NB2	**NORSAR Subarra**	**26.41**	**343**	P	**P**	**12 03 56.9**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=151,slow=10						
NOA	**NORSAR Array B**	**26.41**	**343**	P	**P**	**12 03 57.1**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=145,slow=9.8,SNR=4.7						
NBO00	**NORSAR Array S**	**26.50**	**342**	*e*P	**P**	**12 03 58.4**	**-0.9**
NC303	**NORSAR Array S**	**26.53**	**343**	*e*P	**P**	**12 03 58.1**	**-1.5**
NC204	**NORSAR Array S**	**26.72**	**343**	*e*P	**P**	**12 04 01.0**	**-0.3**
EKA	**Eskdalemuir Ar**	**27.72**	**322**	P	**P**	**12 04 09.6**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=116,slow=10.0,SNR=4.0						
ARU	**Arti**	**29.07**	**37**	*e*P	**P**	**12 04 22.5**	**+0.3**
	comp=Z,1.6nm,0.7s						
TOA0	**Torodi Ar. Sit**	**32.48**	**231**	*e*P	**P**	**12 04 53.4**	**+0.8**
	comp=Z,0.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**32.48**	**231**	P	**P**	**12 04 52.7**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=33,slow=8.7,SNR=11						
ARCES	**ARCESS Array B**	**33.01**	**359**	P	**P**	**12 04 56.3**	**-0.3**
	comp=Z,8.4nm,1.1s,baz=177,slow=8.5,SNR=11						
KURBB	**Kurchatov Arra**	**39.14**	**52**	P	**P**	**12 05 48.9**	**-0.1**
	comp=Z,1.9nm,0.3s,baz=273,slow=8.8,SNR=7.4						
KURK	**Kurchatov**	**39.20**	**52**	*e*P	**P**	**12 05 49.8**	**+0.4**
	comp=Z,2.4nm,0.6s						
MAKZ	**Makanchi**	**41.61**	**58**	*e*P	**P**	**12 06 10.0**	**+0.5**
	comp=Z,1.9nm,1.1s						
MK31	**Makanchi Array**	**41.83**	**58**	*e*P	**P**	**12 06 11.8**	**+0.5**
MKAR	**Makanchi Array**	**41.83**	**58**	P	**P**	**12 06 11.7**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=268,slow=8.7,SNR=36						
MKAR				PcP	**PcP**	**12 08 04.2**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=290,slow=4.2,SNR=2.5						
MK01	**Makanchi Array**	**41.84**	**58**	*e*P	**P**	**12 06 11.7**	**+0.4**
SCO	**Scoresbysund**	**42.51**	**338**	*e*P	**P**	**12 06 16.2**	**-0.2**
	comp=Z,7.1nm,1.0s						
ZAA0	**Zalesovo Array**	**43.01**	**47**	*e*P	**P**	**12 06 20.4**	**-0.2**
	comp=Z,3.1nm,0.6s						
ZALV	**Zalesovo Beam**	**43.01**	**47**	P	**P**	**12 06 20.3**	**-0.3**
	comp=Z,3.3nm,0.4s,baz=272,slow=9.5,SNR=16						
POO	**Poona**	**44.88**	**101**	*ex*	P	12 06 42.0	+5.9
SONM	**Songino Array**	**57.50**	**52**	P	**P**	**12 08 10.2**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=282,slow=6.8,SNR=5.8						
SONA1	**Songino Array**	**57.50**	**52**	*e*P	**P**	**12 08 10.6**	**+0.6**
SCHQ	**Schefferville**	**63.00**	**320**	P	**P**	**12 08 45.8**	**-1

comp=N,6.7nm,0.8s,baz=346,slow=12,SNR=3.2
TEIG Tepich 54.70 338 *e*P **P 12 10 27.1 +1.1**
comp=N,19nm,1.2s
QSPA South Pole Qui 58.53 180 *e*P **P 12 10 53.4 +0.6**
comp=N,3.2nm,0.8s
JCT Junction City 68.22 332 *e*P **P 12 11 57.3 +0.5**
comp=N,3.4nm,0.7s
TXAR Lajitas Array 68.87 328 P **P 12 12 02.4 +1.4**
comp=N,0.5nm,0.6s,baz=155,slow=9.2,SNR=9.2
TX31 Lajitas Ar. Si 68.87 328 *e*P **P 12 12 02.1 +1.2**
WVT Waverly 69.65 344 *e*P **P 12 12 06.0 +0.6**
comp=N,4.7nm,0.6s
W39A Magazine 70.37 339 *e*P **P 12 12 10.8 +0.9**
comp=N,3.9nm,0.8s
MNTX Cornudas Mount 71.65 328 *e*P **P 12 12 18.1 +0.3**
comp=N,0.3nm,0.8s
CCM Cathedral Cave 72.32 342 *e*P **P 12 12 22.0 +0.4**
comp=N,3.0nm,0.7s
DBIC Dimbokro 72.37 70 P **P 12 12 22.4 0.0**
comp=N,1.1nm,0.4s,baz=217,slow=10,SNR=3.4
DBIC Dimbokro 72.37 70 *e*P **P 12 12 22.8 +0.3**
comp=N,14nm,1.5s
MSTX Muleshoe 72.48 331 *e*P **P 12 12 23.9 +1.1**
comp=N,3.8nm,0.8s
T25A Trinidad 75.89 332 *e*P **P 12 12 43.5 +0.8**
comp=N,2.3nm,0.8s
SDCO Great Sand Dun 76.85 331 *e*P **P 12 12 49.4 +1.2**
comp=N,1.4nm,0.9s
ECSD EROS Data Cent 79.08 340 *e*P **P 12 13 00.7 +0.7**
comp=N,6.1nm,1.2s
RWWY Rawlins 80.90 332 *e*P **P 12 13 07.9 -2.2**
comp=N,6.0nm,0.8s
TOA0 Torodi Ar. Sit 81.37 69 *e*P **P 12 13 13.3 +0.4**
comp=N,1.9nm,0.8s
TORD Torodi Ar. Bea 81.37 69 P **P 12 13 11.9 -1.0**
comp=N,0.9nm,0.7s,baz=282,slow=6.4,SNR=6.5
PDAR Pinedale Array 82.75 331 P **P 12 13 20.6 +0.9**
comp=N,0.4nm,0.7s,baz=134,slow=5.2,SNR=3.5
NVAR Mina Array Bea 83.29 323 P **P 12 13 24.2 +1.5**
comp=N,0.4nm,0.7s,baz=160,slow=5.6,SNR=3.3
RLMT Red Lodge 84.60 333 *e*P **P 12 13 26.9 -2.2**
comp=N,3.5nm,1.4s
J08A Circle Bar Ran 87.14 327 *e*P **P 12 13 40.4 -1.2**
comp=N,2.5nm,0.6s
I07A Izee 88.17 326 *e*P **P 12 13 45.5 -1.0**
comp=N,0.3nm,0.7s
FCC Fort Churchill 92.44 347 *e*P **P 12 14 06.4 +0.6**
comp=N,1.4nm,1.1s
WB2 Warramunga Arr 123.80 207 *e*PKPdf **PKPdf 12 19 53.2 -0.5**
WRA Warramunga Arr 123.81 207 PKP **PKPdf 12 19 52.9 -0.7**
comp=N,0.2nm,0.3s,baz=153,slow=2.0,SNR=22
WRA pPKP **pPKPdf 12 20 24.5 +0.4**
comp=N,0.2nm,0.5s,baz=156,slow=1.9,SNR=1.9
WRAB Tennant Creek 123.81 207 *e*PKPdf **PKPdf 12 19 53.5 -0.1**
AAK Ala-Archa 149.48 59 PKPbc **PKPbc 12 20 45.7 +1.2**
comp=N,0.7nm,0.4s,baz=194,slow=4.2,SNR=3.1
AAK pPKPbc **pPKPbc 12 21 15.6 +0.9**
comp=N,0.7nm,0.6s,baz=240,slow=8.1,SNR=2.2
AAK Ala-Archa 149.48 59 *e*PKPbc **PKPbc 12 20 46.0 +1.5**
AAK *e*PKPab **PKPab 12 20 50.8 +1.1**
ZALV Zalesovo Beam 151.13 32 PKPbc **PKPbc 12 20 48.7 +0.9**
comp=N,3.7nm,0.6s,baz=297,slow=3.5,SNR=24
ZALV pPKPbc **pPKPbc 12 21 18.6 +0.5**
comp=N,0.7nm,0.4s,baz=293,slow=3.5,SNR=2.7
MKAR Makanchi Array 153.62 47 PKPbc **PKPbc 12 20 53.9 +0.2**
comp=N,0.3nm,0.7s,baz=306,slow=1.9,SNR=4.3
MKAR PKPab **PKPab 12 21 07.4 +0.7**
comp=N,0.6nm,0.6s,baz=289,slow=4.7,SNR=8.8
MKAR pPKPbc **pPKPbc 12 21 24.4 +0.4**
comp=N,0.3nm,0.7s,baz=342,slow=1.6,SNR=2.8
MKAR pPKPab **pPKPab 12 21 36.6 +0.5**
comp=N,0.2nm,0.5s,baz=283,slow=4.7,SNR=2.5
MK01 Makanchi Array 153.63 47 *e*PKPbc **PKPbc 12 20 53.9 +0.2**
MK01 *e*PKPab **PKPab 12 21 07.6 +0.8**

MEX 20 12:17:46.2±0.4, 16°.37N×98°.27W, h12km±2km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.14**	**80**	*i* P		Pg	12 17 48.8	-0.7
PNIG				*i* S		Sg	12 17 51.6	-0.4
VHO	**Vista Hermosa**	**1.63**	**64**	*e*P		Pn	12 18 11.4	-3.5
VHO				*i* S		Sn	12 18 31.6	-4.3
CAIG	**El Cayaco**	**2.03**	**290**	*i* P		Pn	12 18 16.9	-3.4
CAIG				*i* S		Sn	12 18 41.3	-4.3

*IDC **20** 12:19:06.7±0.9, 31°.95N×141°.82E, h0km, mb3.5/7, mb1 3.7/9, mb1mx3.5/45, mbtmp3.5/9, ML2.9/2, MS3.7/2, Ms1 3.7/2, ms1mx2.9/34, Error ellipse: s-maj=28.5km s-min=19.6km az=75.0*
*ISCJB **20** 12:19:10.4±0.9, 32°.21N±0°.06×141°.84E±0°.08, h29km, mb3.5/7, MS3.7/2, Error ellipse: s-maj=11.0km s-min=7.9km az=140.5*
*JMA **20** 12:19:10.0±0.2, 32°.29N×141°.68E, h4km, M3.7*
ISC 20 12:19:11.3±0.9, 32°.09N±0°.08×141°.76E±0°.09, h29km, n20, σ1s09/23, mb3.6/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.73**	**283**	P		**Pn**	**12 19 39.6**	**+0.1**
JHCJ	**Hachijojimakas**	**1.93**	**301**	P		**Pn**	**12 19 41.6**	**-0.5**
JHJ2	**Mitsune**	**1.93**	**302**	P		**Pn**	**12 19 42.0**	**-0.2**
JHJ	**Hachijo jima 2**	**1.96**	**302**	Pn		**Pn**	**12 19 41.9**	**-0.8**
	24nm,0.3s,baz=83,slow=22,SNR=6.2							
JHJ				Sn		**Sn**	**12 20 06.4**	**+0.2**
	24nm,0.3s,baz=61,slow=19,SNR=1.7							
JOD2	**Odawara 2**	**3.87**	**326**	*e*S		**Sn**	**12 20 52.9**	**-0.5**
JHU	**Hanno**	**4.28**	**332**	P		**Pn**	**12 20 14.8**	**+0.3**
JHU				*e*S		**Sn**	**12 21 02.6**	**-0.9**
JRY	**Ryogami san**	**4.58**	**330**	P		**Pn**	**12 20 19.6**	**+1.0**
JRY				*e*S		**Sn**	**12 21 11.0**	**+0.1**
JHO	**Hitachi**	**4.61**	**348**	P		**Pn**	**12 20 18.5**	**-0.6**
JAG	**Ashikaga**	**4.73**	**337**	P		**Pn**	**12 20 21.0**	**+0.4**
MJAR	**Matsushiro Arr**	**5.32**	**327**	Pn		**Pn**	**12 20 29.5**	**+0.6**
	0.1nm,0.3s,baz=154,slow=11,SNR=10.0							
MJAR				Sn		**Sn**	**12 21 26.2**	**-3.0**
	baz=127,slow=20,SNR=1.7							
JFT	**Otama**	**5.54**	**348**	P		**Pn**	**12 20 31.8**	**0.0**
JFT				*e*S		**Sn**	**12 21 33.0**	**-1.5**
SONM	**Songino Array**	**31.01**	**311**	P		**P**	**12 25 28.3**	**+1.8**
	0.1nm,0.3s,baz=111,slow=7.9,SNR=1.9							
MKAR	**Makanchi Array**	**47.13**	**306**	P		**P**	**12 27 41.1**	**+0.3**
	0.4nm,0.5s,baz=89,slow=9.3,SNR=8.3							
WRA	**Warramunga Arr**	**52.23**	**189**	P		**P**	**12 28 18.1**	**-1.7**
	1.1nm,0.5s,baz=5.4,slow=7.6,SNR=19							
AAK	**Ala-Archa**	**53.21**	**302**	LR		LR	12 53 07.0	
	comp=Z,58nm,20.2s,baz=345,slow=38							
ILAR	**Eielson Array**	**53.56**	**30**	P		**P**	**12 28 29.1**	**-0.1**
	0.5nm,1.0s,baz=270,slow=5.4,SNR=1.7							
ASAR	**Alice Springs**	**55.95**	**189**	P		**P**	**12 28 45.9**	**-1.0**
	0.4nm,0.5s,baz=16,slow=14,SNR=9.6							
AKTO	**Aktyubinsk**	**62.25**	**314**	LR		LR	12 58 46.7	
	comp=Z,59nm,18.0s,baz=349,slow=38							
YKA	**Yellowknife Ar**	**67.95**	**29**	P		**P**	**12 30 07.1**	**0.0**
	0.1nm,0.5s,baz=300,slow=6.1,SNR=1.8							
TXAR	**Lajitas Array**	**92.89**	**53**	P		**P**	**12 32 23.0**	**+1.0**
	0.2nm,0.7s,baz=296,slow=2.7,SNR=2.4							

*HLW **20** 12:19:58.7, 29°.93N×36°.65E, h10km±16km, Md3.1, MI3.3*
*ISCJB **20** 12:20:01.2±1.3, 29°.87N±0°.07×36°.3E±0°.1, h5km, Error ellipse: s-maj=14.7km s-min=6.5km az=32.3*
*JSO **20** 12:20:04.6±1.0, 30°.1N×137°.6E±°, h10km, M3.2/11, Mjma3.0/11, ML3.3/4, MLv3.2/11*
ISC 20 12:20:01.1±1.7, 29°.88N±0°.07×36°.28E±0°.09, h5km, n15, σ0s98/17, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HSNJ	**Maan**	**0.64**	**306**	P		**Pg**	**12 20 13.4**	**0.0**
JDRJ	**Daraweish**	**1.00**	**328**	P		**Pg**	**12 20 19.3**	**-1.0**
AQBJ	**Aqaba**	**1.08**	**262**	P		**Pg**	**12 20 21.9**	**0.0**
HRFI	**Mount Harif**	**1.09**	**278**	P		**Pg**	**12 20 21.9**	**-0.2**
EIL	**Elat**	**1.18**	**260**	P		**Pg**	**12 20 22.1**	**-1.6**
SWQJ	**Swaqa**	**1.37**	**352**	P		**Pg**	**12 20 28.8**	**+1.4**
HBST	**Basata**	**1.50**	**244**	P		**Pn**	**12 20 29.2**	**+0.4**
	baz=248							
HBST				S		**Sg**	**12 20 51.4**	**+1.9**
	baz=248							
LISJ	**El Lisan**	**1.52**	**333**	P		**Pb**	**12 20 29.0**	**-0.8**
GHAJ	**Ghor Haditha**	**1.54**	**337**	P		**Pn**	**12 20 29.2**	**-0.1**
NUB		**1.66**	**240**	P		**Pn**	**12 20 32.0**	**+1.0**
	baz=243							
WALJ	**Wala**	**1.72**	**346**	P		**Pb**	**12 20 32.3**	**-1.0**
HNKL	**Nakhl**	**2.00**	**272**	P		**Pn**	**12 20 36.0**	**+0.3**
	baz=271							
HNKL				AMP			12 21 00.0	
	baz=271							
HNKL				S		**Sb**	**12 21 03.6**	**+0.3**
	baz=271							
ASF	**Jabal al Asfar**	**2.34**	**13**	P		**Pb**	**12 20 43.1**	**-0.8**
HKAT	**Jabal Katrina**	**2.42**	**236**	P		**Pn**	**12 20 41.9**	**+0.4**
	baz=240							
SH2	**Sharm el Sheik**	**2.77**	**225**	P		**Pn**	**12 20 45.8**	**-0.5**
	baz=229							

IDC 20 12:27:59.1±1.5, 1°.94N×31°.56W, h0km, mb3.5/4, mb1 4.0/5, mb1mx3.6/36, mbtmp3.7/5, ML4.0/1, Error ellipse: s-maj=49.9km s-min=32.7km az=162.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**8.85**	**209**	Pn		Pn	12 30 08.4	-0.1
	1.6nm,0.3s,baz=40,slow=0.4,SNR=1.2							
RCBR				Sn		Sn	12 31 41.5	-7.6
	4.2nm,0.3s,baz=18,slow=0.1,SNR=2.4							
H10N3	**ASCENSION HYDR**	**19.60**	**120**	T		T	12 52 39.0	
	baz=299,slow=75,SNR=97							
H10N2	**ASCENSION HYDR**	**19.60**	**120**	T		T	12 52 38.9	
	baz=299,slow=75,SNR=103							
H10N1	**ASCENSION HYDR**	**19.62**	**120**	T		T	12 52 46.0	
	baz=299,slow=75,SNR=11							
H10S3	**ASCENSION HYDR**	**20.02**	**123**	T		T	12 53 11.0	
	baz=302,slow=75,SNR=79							
H10S1	**ASCENSION HYDR**	**20.02**	**123**	T		T	12 53 06.8	
	baz=302,slow=75,SNR=101							
H10S2	**ASCENSION HYDR**	**20.04**	**123**	T		T	12 53 08.6	
	baz=302,slow=75,SNR=77							
TORD	**Torodi Ar. Bea**	**34.74**	**70**	P		P	12 34 51.3	-0.1
	1.3nm,0.9s,baz=258,slow=8.9,SNR=5.8							
TXAR	**Lajitas Array**	**73.47**	**300**	P		P	12 39 34.2	+0.1
	0.3nm,0.9s,baz=101,slow=4.7,SNR=3.5							
YKA	**Yellowknife Ar**	**85.06**	**332**	P		P	12 40 36.5	0.0
	0.4nm,1.1s,baz=102,slow=3.6,SNR=2.0							
NVAR	**Mina Array Bea**	**86.25**	**308**	P		P	12 40 43.3	-0.1
	0.1nm,0.3s,baz=90,slow=7.2,SNR=2.5							

IDC 20 12:31:19.4±2.4, 2°.39N×127°.13E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/30, mbtmp3.3/3, Error ellipse: s-maj=187.6km s-min=27.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.29**	**163**	P		P	12 36 27.7	-1.3
	0.5nm,0.4s,baz=342,slow=11,SNR=17							
ASAR	**Alice Springs**	**26.72**	**166**	P		P	12 37 02.2	+1.5
	0.5nm,0.9s,baz=342,slow=10,SNR=6.6							
MKAR	**Makanchi Array**	**58.88**	**326**	P		P	12 41 19.8	-0.4
	0.1nm,0.5s,baz=115,slow=6.5,SNR=2.1							

*ISCJB **20** 13:11:10.4±0.8, 31°.71S±0°.06×179°.5W±0°.2, h450km, mb3.2/2, Error ellipse: s-maj=19.2km s-min=8.0km az=6.6*
*WEL **20** 13:11:13.1±0.9, 32°.5S×17°.9W±1°.5, h405km±12km*
*IDC **20** 13:11:18.0±4.3, 32°.33S×179°.84E, h491km±44km, mb2.7/2, mb1 2.9/2, mb1mx2.7/28, mbtmp3.6/2, Error ellipse: s-maj=58.2km s-min=30.8km az=30.0*
ISC 20 13:11:09.6±1.0, 31°.69S±0°.09×179°.3W±0°.1, h450km, n46, σ1s88/54, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.70**	**27**	P		**P**	**13 12 16.0**	**+1.4**
GLKZ				S		**S**	**13 13 04.0**	**-3.3**
MXZ	**Matakaoa Point**	**6.18**	**198**	P		**P**	**13 12 48.0**	**+2.4**
MXZ				S		**S**	**13 14 03.2**	**-1.0**
GRZ	**Great Barrier**	**6.29**	**222**	P		**P**	**13 12 48.5**	**+1.7**
WMGZ	**Waiomatatini S**	**6.40**	**196**	P		**P**	**13 12 50.4**	**+2.5**
WMGZ				S		**S**	**13 14 08.5**	**+0.2**
KUZ	**Kuaotunu**	**6.51**	**218**	P		**P**	**13 12 51.4**	**+2.3**
HAZ	**Te Kaha**	**6.51**	**201**	P		**P**	**13 12 50.1**	**+1.1**
HAZ				S		**S**	**13 14 08.9**	**-1.6**
PKGZ	**Pakihiroa**	**6.55**	**198**	P		**P**	**13 12 50.8**	**+1.2**
PKGZ				S		**S**	**13 14 08.9**	**-2.4**
PUZ	**Puketiti**	**6.67**	**197**	P		**P**	**13 12 53.9**	**+3.0**
PUZ				S		**S**	**13 14 12.0**	**-1.7**
RUGZ	**Raukumara Rang**	**6.73**	**201**	P		**P**	**13 12 53.1**	**+1.6**
WCZ	**Waipu Caves**	**6.77**	**229**	P		**P**	**13 12 53.1**	**+1.3**
TWGZ	**Tauhareparae**	**6.84**	**198**	P		**P**	**13 12 54.4**	**+1.8**
WIAZ	**Waiheke Island**	**6.86**	**221**	P		**P**	**13 12 55.1**	**+2.3**
WHRZ	**Whale Island**	**6.87**	**205**	P		**P**	**13 12 56.9**	**+4.0**
OUZ	**Omahuta**	**6.89**	**237**	P		**P**	**13 12 53.5**	**+0.4**
OPRZ	**Ohinepanea**	**7.02**	**208**	P		**P**	**13 12 56.2**	**+1.8**
MKAZ	**Moumakai**	**7.07**	**219**	P		**P**	**13 12 57.5**	**+2.6**
CNGZ	**Carnagh Station**	**7.08**	**196**	P		**P**	**13 12 57.6**	**+2.6**
MARZ	**Manawahe**	**7.09**	**207**	P		**P**	**13 12 58.4**	**+3.2**
MWZ	**Matawai**	**7.12**	**200**	P		**P**	**13 12 56.2**	**+0.7**
TKGZ	**Te Karaka**	**7.12**	**198**	P		**P**	**13 12 57.0**	**+1.5**
TKGZ				S		**S**	**13 14 21.1**	**-1.3**
URZ	**Urewera**	**7.18**	**203**	P		**P**	**13 12 56.0**	**-0.1**
	28nm,0.3s,baz=48,slow=4.0,SNR=98							
URZ				S		**S**	**13 14 19.7**	**-3.7**
	12nm,0.3s,baz=222,slow=22,SNR=10							
URZ	**Urewera**	**7.18**	**203**	P		**P**	**13 12 56.1**	**0.0**
RAGZ	**Rawiri**	**7.30**	**201**	P		**P**	**13 13 00.4**	**+2.9**
TOZ	**Tahuroa Road**	**7.38**	**214**	P		**P**	**13 13 01.3**	**+3.0**
RIGZ	**Rimuhau**	**7.40**	**198**	P		**P**	**13 12 59.4**	**+0.9**
MUGZ	**Murupara**	**7.49**	**204**	P		**P**	**13 12 59.9**	**+0.4**
RTZ	**Ruatahuna**	**7.55**	**203**	P		**P**	**13 13 02.3**	**+2.2**
SNGZ	**Shannon Statio**	**7.59**	**200**	P		**P**	**13 13 03.3**	**+2.8**
BKZ	**Black Stump Fm**	**8.21**	**203**	P		**P**	**13 13 06.8**	**-0.4**
HIZ	**Hauiti**	**8.31**	**213**	P		**P**	**13 13 09.8**	**+1.5**
NGZ	**Ngauruhoe**	**8.54**	**208**	P		**P**	**13 13 11.4**	**+0.5**
BHHZ	**Black Hill Sta**	**8.64**	**205**	P		**P**	**13 13 11.2**	**-0.8**
PKVZ	**Pokaka**	**8.74**	**208**	P		**P**	**13 13 13.2**	**+0.2**
MTVZ	**Mangateitei**	**8.78**	**207**	P		**P**	**13 13 14.5**	**+1.2**
VRZ	**Vera Road**	**8.86**	**211**	P		**P**	**13 13 15.9**	**+1.7**
PXZ	**Pawanui**	**8.88**	**199**	P		**P**	**13 13 14.6**	**+0.2**
TSZ	**Takapari Road**	**9.19**	**203**	P		**P**	**13 13 16.7**	**-1.1**
DVHZ	**Dannevirke**	**9.34**	**202**	P		**P**	**13 13 20.8**	**+1.4**
ANWZ	**Angora Road**	**9.39**	**200**	P		**P**	**13 13 20.8**	**+0.8**
PRWZ	**Pori Road**	**9.63**	**202**	P		**P**	**13 13 24.0**	**+1.4**
MRZ	**Mangatainoka R**	**9.86**	**203**	P		**P**	**13 13 24.6**	**-0.4**
HOWZ	**Holdsworth Sta**	**10.09**	**203**	P		**P**	**13 13 27.2**	**-0.4**
ASAR	**Alice Springs**	**41.93**	**269**	P		**P**	**13 18 19.6**	**-0.1**
	0.4nm,0.8s,baz=107,slow=7.4,SNR=7.0							
WRA	**Warramunga Arr**	**43.04**	**274**	P		**P**	**13 18 28.1**	**-0.3**
	0.6nm,0.3s,baz=111,slow=8.1,SNR=42							
FINES	**FINESS Array B**	**145.94**	**338**	PKPbc		**PKiKP**	**13 30 02.0**	**+2.1**
	1.3nm,0.4s,baz=42,slow=4.5,SNR=18							
TORD	**Torodi Ar. Bea**	**161.52**	**183**	PKPab		**PKPab**	**13 31 05.9**	**0.0**
	0.9nm,1.1s,baz=149,slow=3.0,SNR=3.6							

*ISCJB **20** 13:18:59.3±1.1, 7°.3S±0°.1×144°.17E±0°.09, h10km, mb3.4/3, MS3.2/2, Error ellipse: s-maj=20.2km s-min=9.9km az=24.1*
*IDC **20** 13:18:59.3±1.6, 7°.22S×144°.25E, h0km, mb3.5/3, mb1 3.7/6, mb1mx3.6/27, mbtmp3.6/6, ML3.6/2, MS3.4/2, Ms1 3.3/2, ms1mx2.9/21, Error ellipse: s-maj=34.8km s-min=25.4km az=45.0*
ISC 20 13:19:01.0±1.2, 7°.3S±0°.2×144°.2E±0°.1, h10km, n8, σ0s37/7, mb3.4/3, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.61**	**126**	Pn		**Pn**	**13 19 56.8**	**-0.3**
	2.0nm,0.3s,baz=290,slow=10,SNR=7.8							
PMG				Sn		**Sn**	**13 20 40.1**	**+0.3**
	3.0nm,0.3s,baz=257,slow=21,SNR=5.9							
WRA	**Warramunga Arr**	**15.80**	**216**	Pn		**Pn**	**13 22 43.5**	**-0.2**
	0.2nm,0.3s,baz=35,slow=12,SNR=2.2							
ASAR	**Alice Springs**	**19.05**	**210**	P		**Pn**	**13 23 24.7**	**+0.4**
	0.2nm,0.3s,baz=39,slow=8.8,SNR=30							
FITZ	**Fitzroy Crossi**	**21.02**	**238**	P		**P**	**13 23 44.9**	**-0.2**
	1.5nm,0.5s,baz=68,slow=11,SNR=6.2							
DAV	**Davao City (W)**	**23.41**	**307**	LR		LR	13 35 24.8	
	comp=Z,55nm,18.1s,baz=314,slow=42							
STKA	**Stephens Creek**	**24.58**	**185**	LR		LR	13 34 55.9	
	comp=Z,113nm,18.7s,baz=41,slow=39							
CMAR	**Chiang Mai Arr**	**51.45**	**300**	P		**P**	**13 28 07.2**	**+0.3**
	0.3nm,0.6s,baz=121,slow=6.7,SNR=4.1							
MKAR	**Makanchi Array**	**76.74**	**321**	P		**P**	**13 30 52.5**	**-0.2**
	0.2nm,0.7s,baz=87,slow=5.9,SNR=2.2							

STR 20 13:20:44.2±0.4, 48°.N±2°×°±°, h0km, MLv0.9/5, France

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OPP	**Oppenau**	**0.24**	**83**	Pg		Pg	13 20 48.6	-0.1
OPP				Sg		Sg	13 20 51.9	+0.1
ECH	**Echery**	**0.52**	**241**	Pg		Pg	13 20 53.9	-0.2
ECH				Sg		Sg	13 21 01.0	+0.3
KIZ	**Kirchzarten**	**0.52**	**173**	Pg		Pg	13 20 54.9	+0.9

*ISCJB **20** 13:27:00.6±0.5, 37°.0N±0°.1×32°.78W±0°.08, h13km, mb3.9/20, MS3.7/15, Error ellipse: s-maj=14.7km s-min=8.9km az=11.3*
*IDC **20** 13:27:00.8±0.7, 37°.10N×32°.70W, h0km, mb3.8/16, mb1 4.0/16, mb1mx3.8/45, mbtmp3.8/16, MS3.7/15, Ms1 3.7/15, ms1mx3.4/37, Error ellipse: s-maj=22.2km s-min=16.0km az=4.0*
*NEIC **20** 13:27:01.8±0.3, 37°.01N×32°.74W, h10km, mb4.6/6, Error ellipse: s-maj=9.6km s-min=6.2km az=9.0*
ISC 20 13:27:02.5±0.6, 37°.0N±0°.1×32°.7W±0°.1, h13km, n45, σ0s72/39, mb3.9/20, MS3.7/15, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**22.66**	**75**	P		**P**	**13 32 03.2**	**-0.4**
	0.2nm,0.3s,baz=286,slow=11,SNR=4.5							
MDT	**Midelt**	**23.40**	**92**	LR		LR	13 39 34.2	
	comp=Z,124nm,19.7s,baz=352,slow=32							
BORG	**Borgarnes**	**28.56**	**10**	LR		LR	13 41 01.4	
	comp=Z,124nm,18.6s,baz=175,slow=30							
SCHQ	**Schefferville**	**29.25**	**318**	LR		LR	13 43 30.5	
	comp=Z,384nm,21.2s,baz=102,slow=34							
NB2	**NORSAR Subarra**	**36.45**	**35**	P		**P**	**13 34 07.5**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=250,slow=9.3							
NB200	**NORSAR Array S**	**36.45**	**35**	*e*P		**P**	**13 34 05.5**	**-1.3**
NOA	**NORSAR Array B**	**36.45**	**35**	P		**P**	**13 34 05.5**	**-1.3**
	comp=Z,3.5nm,1.0s,baz=249,slow=8.8,SNR=6.4							
NOA				LR		LR	13 46 41.3	
	comp=Z,26nm,18.7s,baz=265,slow=32							
VAE	**Valguarnera**	**37.21**	**75**	LR		LR	13 48 29.1	
	comp=Z,80nm,18.9s,baz=177,slow=35							
TOA1	**Torodi Ar. Sit**	**38.87**	**119**	*e*P		**P**	**13 34 27.8**	**+0.1**
TOA0	**Torodi Ar. Sit**	**38.87**	**119**	*e*P		**P**	**13 34 27.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**38.87**	**119**	P		**P**	**13 34 27.8**	**0.0**
	comp=Z,1.8nm,1.0s,baz=294,slow=5.3,SNR=6.8							
TORD				LR		LR	13 49 32.9	
	comp=Z,110nm,18.2s,baz=315,slow=35							
DBIC	**Dimbokro**	**39.48**	**133**	P		**P**	**13 34 33.1**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=266,slow=5.4,SNR=3.7							
DBIC				LR		LR	13 49 03.8	
	comp=Z,172nm,19.8s,baz=302,slow=34							
DBIC	**Dimbokro**	**39.48**	**133**	*e*P		**P**	**13 34 33.1**	**+0.3**
	comp=Z,33nm,1.9s							
FIA0	**FINESS Array S**	**43.52**	**37**	*e*P		**P**	**13 35 06.5**	**+1.1**
FINES	**FINESS Array B**	**43.52**	**37**	P		**P**	**13 35 06.5**	**+1.1**
	comp=Z,3.2nm,1.0s,baz=243,slow=4.5,SNR=4.4							
AKASG	**Malin Array Be**	**45.40**	**52**	P		**P**	**13 35 19.6**	**-1.0**
	comp=Z,4.2nm,1.0s,baz=275,slow=7.6,SNR=8.6							
ULM	**Lac du Bonnet**	**46.22**	**308**	LR		LR	13 54 30.2	
	comp=Z,205nm,18.6s,baz=58,slow=36							
BR101	**Keskin Array S**	**51.01**	**65**	*e*P		**P**	**13 36 04.7**	**+0.4**
BRTR	**Keskin Array B**	**51.01**	**65**	P		**P**	**13 36 04.7**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=316,slow=4.0,SNR=3.0							
YKA	**Yellowknife Ar**	**54.29**	**326**	P		**P**	**13 36 28.1**	**+0.1**
	comp=Z,1.2nm,1.0s,baz=73,slow=7.0,SNR=8.9							
YKA				PcP		**PcP**	**13 37 32.0**	**0.0**
	comp=Z,0.2nm,0.7s,baz=77,slow=4.2,SNR=3.6							
YKA				LR		LR	13 56 56.9	
	comp=Z,13nm,20.0s,baz=171,slow=33							
YKB5	**Yellowknife Ar**	**54.29**	**326**	*e*P		**P**	**13 36 29.2**	**+1.2**
BDFB	**Brasilia**	**54.35**	**198**	LR		LR	13 57 51.7	
	comp=Z,43nm,18.1s,baz=298,slow=34							
PD31	**Pinedale Array**	**57.32**	**302**	*e*P		**P**	**13 36 49.3**	**-1.1**
PDAR	**Pinedale Array**	**57.32**	**302**	P		**P**	**13 36 50.0**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=54,slow=7.5,SNR=3.8							
PDAR				LR		LR	14 00 04.1	
	comp=Z,116nm,21.8s,baz=80,slow=35							
YMR	**Madison River**	**57.55**	**304**	*e*P		**P**	**13 36 51.1**	**-0.9**
	comp=Z,6.6nm,1.1s							
LTX	**Lajitas**	**58.64**	**285**	*e*P		**P**	**13 36 59.0**	**-0.6**
TXAR	**Lajitas Array**	**58.64**	**285**	P		**P**	**13 36 59.0**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=76,slow=6.8,SNR=10							
TXAR				LR		LR	14 00 21.3

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.04**	**123**	*e*Pn	**Pn**	**13 48 43.6**	**+1.9**
MSVF	**Nonsavu**	**8.12**	**263**	*e*Pn	Pb	13 49 50.9	-10
RAO	**Raoul Island**	**12.97**	**197**	*e*Pn	**Pn**	**13 50 42.7**	**-1.5**
GLKZ	**Green Lake**	**12.98**	**197**	P	**Pn**	**13 50 46.4**	**+2.1**
GLKZ				S	**Sn**	**13 53 04.7**	**-4.1**
RAR	**Rarotonga**	**13.67**	**111**	Pn	**Pn**	**13 50 54.2**	**+0.4**
	2.9nm,0.3s,baz=278,slow=8.8,SNR=3.7						
RAR	**Rarotonga**	**13.67**	**111**	*e*Pn	**Pn**	**13 50 53.1**	**-0.7**
KNTN	**Kanton**	**14.13**	**7**	*e*Pn	Pn	13 50 53.9	-6.2
DZM	**Mont Dzumac**	**19.60**	**252**	P	**P**	**13 52 08.5**	**+0.1**
	0.3nm,0.3s,baz=230,slow=11,SNR=3.3						
DZM				LR	LR	13 59 17.6	
	comp=Z,33nm,18.7s,baz=53,slow=36						
DZM	**Mont Dzumac**	**19.60**	**252**	*e*P	**Pn**	**13 52 10.2**	**+0.4**
	11nm,0.9s						
OUZ	**Omahuta**	**21.60**	**210**	P	**P**	**13 52 33.4**	**+3.5**
GRZ	**Great Barrier**	**21.64**	**205**	P	**P**	**13 52 35.4**	**+5.0**
MXZ	**Matakaoa Point**	**21.83**	**198**	P	**P**	**13 52 36.6**	**+4.3**
WCZ	**Waipu Caves**	**21.85**	**207**	P	**P**	**13 52 35.4**	**+2.8**
KUZ	**Kuaotunu**	**21.97**	**204**	P	**P**	**13 52 38.3**	**+4.4**
WMGZ	**Waiomatatini S**	**22.04**	**197**	P	**P**	**13 52 37.9**	**+3.3**
HAZ	**Te Kaha**	**22.17**	**199**	P	**P**	**13 52 39.1**	**+3.1**
PKGZ	**Pakihiroa**	**22.20**	**198**	P	**P**	**13 52 40.9**	**+4.5**
WIAZ	**Waiheke Island**	**22.24**	**205**	P	**P**	**13 52 40.3**	**+3.5**
MBAZ	**Motutapu North**	**22.32**	**205**	P	**P**	**13 52 42.8**	**+5.2**
PUZ	**Puketiti**	**22.32**	**197**	P	**P**	**13 52 41.6**	**+3.9**
RUGZ	**Raukumara Rang**	**22.39**	**199**	P	**P**	**13 52 42.3**	**+3.8**
ETAZ	**East Tamaki Re**	**22.46**	**205**	P	**P**	**13 52 41.6**	**+2.4**
TWGZ	**Tauwhareparae**	**22.50**	**198**	P	**P**	**13 52 43.2**	**+3.6**
TWGZ				S	**S**	**13 56 40.5**	**-6.0**
MKAZ	**Moumakai**	**22.50**	**204**	P	**P**	**13 52 42.8**	**+3.2**
WTAZ	**Waiatarua**	**22.59**	**206**	P	**P**	**13 52 44.2**	**+3.6**
KBAZ	**Karaka Road Bo**	**22.60**	**205**	P	**P**	**13 52 43.9**	**+3.3**
OPRZ	**Ohinepanea**	**22.65**	**201**	P	**P**	**13 52 46.1**	**+5.0**
CNGZ	**Carnagh Statio**	**22.72**	**197**	P	**P**	**13 52 46.8**	**+4.9**
MARZ	**Manawahe**	**22.73**	**200**	P	**P**	**13 52 47.0**	**+4.9**
MWZ	**Matawai**	**22.78**	**198**	P	**P**	**13 52 44.8**	**+2.3**
TKGZ	**Te Karaka**	**22.78**	**198**	P	**P**	**13 52 45.5**	**+3.0**
EDRZ	**Edgecumbe**	**22.82**	**200**	P	**P**	**13 52 48.0**	**+4.9**
URZ	**Urewera**	**22.84**	**199**	P	**P**	**13 52 43.8**	**+0.7**
	28nm,0.5s,baz=309,slow=3.5,SNR=58						
URZ				S	**S**	**13 56 47.9**	**-4.7**
	3.9nm,0.8s,baz=41,slow=20,SNR=4.6						
URZ	**Urewera**	**22.84**	**199**	*e*P	**P**	**13 52 44.0**	**+0.9**
	32nm,0.6s						
URZ				S	**S**	**13 56 47.9**	**-4.7**
URZ	**Urewera**	**22.84**	**199**	P	**P**	**13 52 44.3**	**+1.1**
TOZ	**Tahuroa Road**	**22.92**	**203**	P	**P**	**13 52 47.9**	**+3.9**
OMRZ	**Omania**	**22.95**	**201**	P	**P**	**13 52 49.2**	**+4.9**
RAGZ	**Rawiri**	**22.96**	**199**	P	**P**	**13 52 49.3**	**+4.8**
RIGZ	**Rimuhau**	**23.05**	**198**	P	**P**	**13 52 49.1**	**+3.7**
RIGZ				S	**S**	**13 56 51.2**	**-5.2**
RRRZ	**Republican Roa**	**23.11**	**200**	P	**P**	**13 52 50.8**	**+4.9**
MUGZ	**Murupara**	**23.15**	**200**	P	**P**	**13 52 49.3**	**+3.0**
RTZ	**Ruatahuna**	**23.21**	**199**	P	**P**	**13 52 50.5**	**+3.5**
SNGZ	**Shannon Statio**	**23.25**	**198**	P	**P**	**13 52 50.3**	**+2.9**
KNZ	**Kokohu**	**23.37**	**198**	P	**P**	**13 52 51.4**	**+2.9**
MHGZ	**Mahia Peninsul**	**23.43**	**197**	P	**P**	**13 52 52.6**	**+3.5**
TLZ	**Tolley Road**	**23.44**	**202**	P	**P**	**13 52 53.4**	**+4.1**
RAHZ	**Arahi**	**23.45**	**199**	P	**P**	**13 52 51.8**	**+2.4**
BKZ	**Black Stump Fm**	**23.86**	**200**	*e*P	**P**	**13 52 54.8**	**+1.3**
	56nm,1.7s						
DUWZ	**D'Urville Isla**	**26.20**	**202**	P	**P**	**13 53 19.5**	**+4.8**
SNZO	**South Karori**	**26.39**	**200**	*e*P	**P**	**13 53 17.8**	**+1.5**
TCW	**Tory Channel**	**26.44**	**201**	P	**P**	**13 53 20.8**	**+4.0**
QRZ	**Quartz Range**	**26.75**	**204**	P	**P**	**13 53 23.2**	**+3.5**
TUWZ	**Tuamarina**	**26.75**	**201**	P	**P**	**13 53 23.5**	**+3.9**
NNZ	**Nelson**	**26.78**	**199**	P	**P**	**13 53 28.8**	**+3.1**
BSWZ	**Blackbirch Sta**	**27.03**	**201**	P	P	13 53 29.3	+7.1
THZ	**Tophouse**	**27.41**	**202**	P	**P**	**13 53 27.2**	**+1.5**
KHZ	**Kahutara**	**27.76**	**201**	P	**P**	**13 53 32.9**	**+4.2**
DSZ	**Denniston Nort**	**27.81**	**204**	P	**P**	**13 53 31.8**	**+2.6**
LTZ	**Lake Taylor**	**28.53**	**202**	*e*P	**P**	**13 53 38.3**	**+2.6**
	41nm,0.6s						
LTZ	**Lake Taylor**	**28.53**	**202**	P	**P**	**13 53 39.0**	**+3.4**
AMCZ	**Amberley**	**28.74**	**201**	P	P	13 53 45.5	+8.0
INZ	**Inchbonnie**	**28.79**	**203**	P	**P**	**13 53 40.0**	**+2.1**
OKCZ	**Okains Bay**	**29.09**	**200**	P	P	13 53 48.7	+8.2
OXZ	**Oxford**	**29.09**	**202**	*e*P	**P**	**13 53 43.4**	**+2.8**
	25nm,0.6s						
OXZ	**Oxford**	**29.09**	**202**	P	**P**	**13 53 44.5**	**+3.9**
MOZ	**McQueen's Vall**	**29.21**	**201**	P	P	13 53 48.5	+6.9
WVZ	**Waitaha Valley**	**29.36**	**204**	P	P	13 53 47.7	+4.8
RPZ	**Rata Peaks**	**29.79**	**203**	P	**P**	**13 53 49.2**	**+2.5**
	7.9nm,0.5s,baz=33,slow=5.4,SNR=4.6						
CTA	**Charters Tower**	**38.24**	**259**	P	**P**	**13 54 59.9**	**-0.5**
	2.7nm,0.7s,baz=94,slow=14,SNR=2.7						
H11S2	**WAKE ISLAND Hy**	**40.19**	**330**	T	T	14 37 55.5	
	baz=145,slow=74						
H11S3	**WAKE ISLAND Hy**	**40.20**	**330**	T	T	14 38 03.3	
	baz=145						
H11S1	**WAKE ISLAND Hy**	**40.20**	**330**	T	T	14 37 56.9	
	baz=145,slow=74						
H11N3	**WAKE ISLAND Hy**	**41.15**	**331**	T	T	14 38 59.7	
	baz=146,slow=75,SNR=5.2						
H11N1	**WAKE ISLAND Hy**	**41.16**	**331**	T	T	14 39 02.5	
	baz=146,slow=75,SNR=23						
H11N2	**WAKE ISLAND Hy**	**41.17**	**331**	T	T	14 39 04.0	
	baz=146,slow=75,SNR=6.1						
STKA	**Stephens Creek**	**43.23**	**241**	P	**P**	**13 55 40.6**	**-0.9**
	5.8nm,0.6s,baz=79,slow=8.9,SNR=21						
STKA				LR	LR	14 10 29.1	
	comp=Z,58nm,20.1s,baz=27,slow=32						
STKA	**Stephens Creek**	**43.23**	**241**	*e*P	**P**	**13 55 42.1**	**+0.7**
	3.3nm,1.1s						
WRA	**Warramunga Arr**	**49.43**	**258**	P	**P**	**13 56 29.4**	**-1.0**
	0.9nm,0.3s,baz=96,slow=7.2,SNR=19						
AS01	**Alice Springs**	**49.54**	**253**	*e*P	**P**	**13 56 30.3**	**-0.9**
AS31	**Alice Springs**	**49.58**	**253**	*e*P	**P**	**13 56 30.6**	**-0.9**
	8.9nm,0.6s						
ASAR	**Alice Springs**	**49.58**	**253**	P	**P**	**13 56 31.2**	**-0.3**
	29nm,0.6s,baz=88,slow=8.4,SNR=323						
FITZ	**Fitzroy Crossi**	**57.83**	**259**	P	**P**	**13 57 31.8**	**-0.2**
	3.8nm,1.0s,baz=90,slow=5.1,SNR=3.0						
ISA	**Isabella, Lake**	**73.77**	**44**	*e*P	**P**	**13 59 13.5**	**-1.1**
	4.4nm,1.0s						
AFDM	**Forest Hills D**	**74.12**	**40**	*e*P	**P**	**13 59 15.6**	**-0.9**
	2.7nm,1.0s						
GSC	**Goldstone, Bar**	**74.69**	**45**	*e*P	**P**	**13 59 19.5**	**-0.4**
	3.7nm,1.1s						
WAKR	**Walker**	**74.81**	**41**	*e*P	**P**	**13 59 20.8**	**0.0**
	2.9nm,0.9s						
YBH	**Yreka Blue Hor**	**74.83**	**37**	*e*P	**P**	**13 59 20.8**	**+0.2**
	8.8nm,1.3s						
BEKR	**Beckworth**	**75.06**	**40**	*e*P	**P**	**13 59 22.2**	**+0.1**
	5.2nm,1.1s						
PNTR	**Pine Nut**	**75.06**	**41**	*e*P	**P**	**13 59 22.2**	**0.0**
	5.0nm,1.0s						
VCNR	**Virginia City**	**75.15**	**40**	*e*P	**P**	**13 59 22.9**	**+0.3**
	3.8nm,0.9s						
YERR	**Yerington**	**75.22**	**41**	*e*P	**P**	**13 59 23.1**	**0.0**
	3.1nm,0.8s						
NVAR	**Mina Array Bea**	**75.48**	**42**	P	**P**	**13 59 25.2**	**+0.6**
	5.3nm,0.9s,baz=231,slow=11,SNR=5.6						
MOD	**Modoc Plateau**	**76.34**	**38**	*e*P	**P**	**13 59 29.1**	**-0.2**
	6.8nm,1.1s						
SHPR	**Sheep Range**	**76.47**	**45**	*e*P	**P**	**13 59 30.5**	**+0.3**
	3.0nm,0.9s						
Y14A	**Wickenburg**	**76.60**	**48**	*e*P	**P**	**13 59 30.7**	**-0.2**
	3.8nm,0.8s						
H04A	**Detroit Lake**	**77.01**	**35**	*e*P	**P**	**13 59 32.5**	**-0.5**
	8.8nm,1.4s						
PINE	**Pine Mountain**	**77.14**	**36**	*e*P	**P**	**13 59 33.7**	**-0.1**
	8.7nm,1.0s						
R11A	**Troy Canyon, C**	**77.20**	**43**	*e*P	**P**	**13 59 34.1**	**-0.2**
	9.3nm,1.9s						
WVOR	**Wild Horse Val**	**77.64**	**38**	*e*P	**P**	**13 59 36.6**	**0.0**
	4.1nm,1.0s						
X16A	**Lo Mia Camp, P**	**77.96**	**48**	*e*P	**P**	**13 59 39.1**	**+0.4**
	3.1nm,0.8s						
LCMT	**Little Creek M**	**78.04**	**45**	*e*P	**P**	**13 59 39.1**	**+0.1**
	2.7nm,0.9s						
I07A	**Izee**	**78.14**	**37**	*e*P	**P**	**13 59 39.5**	**+0.2**
	2.7nm,0.8s						
CCUT	**Cedar City**	**78.24**	**45**	*e*P	**P**	**13 59 40.6**	**+0.4**
	6.0nm,1.1s						
J08A	**Circle Bar Ran**	**78.29**	**38**	*e*P	**P**	**13 59 39.6**	**-0.6**
	6.6nm,1.1s						
KNB	**Kanab**	**78.33**	**45**	*e*P	**P**	**13 59 40.7**	**+0.1**
	7.4nm,1.3s						
U15A	**North Rim**	**78.39**	**46**	*e*P	**P**	**13 59 41.2**	**+0.1**
	4.9nm,1.1s						
PSUT	**Pine Spring**	**78.44**	**44**	*e*P	**P**	**13 59 41.0**	**-0.2**
	4.9nm,0.7s						
SZCU	**Shurtz Canyon**	**78.45**	**45**	*e*P	**P**	**13 59 41.1**	**-0.2**
	3.0nm,0.9s						
D05A	**Enumclaw**	**78.73**	**33**	*e*P	**P**	**13 59 41.6**	**-0.8**
	11nm,0.9s						
ELK	**Elko**	**78.75**	**41**	*e*P	**P**	**13 59 42.7**	**-0.3**
	3.8nm,0.9s						
PKCU	**Pink Cliffs**	**78.90**	**45**	*e*P	**P**	**13 59 45.0**	**+1.1**
	15nm,1.3s						
G08A	**Pilot Rock**	**79.18**	**36**	*e*P	**P**	**13 59 44.7**	**-0.4**
	5.5nm,0.9s						
MTPU	**Mount Pierson**	**79.29**	**45**	*e*P	**P**	**13 59 46.7**	**+0.5**
	5.6nm,1.0s						
MSU	**Marysvale**	**79.54**	**44**	*e*P	**P**	**13 59 48.0**	**+0.7**
E08A	**Dider Farm, El**	**79.86**	**35**	*e*P	**P**	**13 59 48.5**	**0.0**
	7.5nm,1.4s						
MFID	**Camas Ranch**	**79.89**	**39**	*e*P	**P**	**13 59 48.6**	**-0.3**
	4.3nm,0.9s						
DUG	**Dugway, Tooele**	**80.00**	**43**	*e*P	**P**	**13 59 49.0**	**-0.7**
	5.6nm,1.2s						
D08A	**Wollman Farm,**	**80.28**	**34**	*e*P	**P**	**13 59 50.7**	**-0.2**
	6.7nm,0.9s						
E09A	**Wood Farm, Sta**	**80.37**	**35**	*e*P	**P**	**13 59 51.0**	**-0.3**
	28nm,2.0s						
Q16A	**Castle Valley**	**80.42**	**44**	*e*P	**P**	**13 59 52.4**	**+0.3**
	4.1nm,0.9s						
F10A	**Beach Ranch, E**	**80.56**	**36**	*e*P	**P**	**13 59 51.8**	**-0.7**
	8.3nm,0.9s						
TMUT	**Trail Mountain**	**80.59**	**44**	*e*P	**P**	**13 59 53.7**	**+0.6**
	6.7nm,0.8s						
HLID	**Hailey**	**80.83**	**39**	*e*P	**P**	**13 59 53.9**	**-0.1**
	5.5nm,0.9s						
B08A	**Colville Reser**	**80.86**	**33**	*e*P	**P**	**13 59 53.2**	**-0.8**
	3.4nm,0.8s						
HVU	**Hansel Valley**	**80.87**	**41**	*e*P	**P**	**13 59 53.4**	**-0.9**
	7.2nm,1.2s						
NJ2	**Nanjing**	**80.98**	**307**	*e*P	**P**	**13 59 53.8**	**-1.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
C09A	**Chrisman Ranch**	**81.08**	**34**	*e*P	**P**	**13 59 54.8**	**-0.3**
	4.5nm,0.7s						
MNTX	**Cornudas Mount**	**81.18**	**53**	*e*P	**P**	**13 59 56.0**	**-0.1**
	2.5nm,0.8s						
TCUT	**Toone Canyon**	**81.40**	**42**	*e*P	**P**	**13 59 57.2**	**-0.1**
	9.7nm,0.9s						
TX31	**Lajitas Ar. Si**	**81.51**	**56**	*e*P	**P**	**13 59 58.0**	**0.0**
TXAR	**Lajitas Array**	**81.51**	**56**	P	**P**	**13 59 58.4**	**+0.4**
	1.1nm,1.0s,baz=224,slow=5.2,SNR=9.1						
PV09	**Paradox Valley**	**81.60**	**46**	*e*P	**P**	**13 59 58.4**	**-0.1**
PV13	**Radium Mtn., P**	**81.65**	**46**	*e*P	**P**	**13 59 58.5**	**-0.1**
	6.6nm,1.2s						
PV03	**Paradox Valley**	**81.67**	**46**	*e*P	**P**	**13 59 57.6**	**-1.2**
PV11	**David Mesa, Pa**	**81.68**	**46**	*e*P	**P**	**13 59 58.0**	**-0.8**
	14nm,1.3s						
PV12	**Saucer Basin,**	**81.73**	**46**	*e*P	**P**	**13 59 58.6**	**-0.5**
	18nm,1.4s						
ANMO	**Albuquerque**	**81.82**	**50**	*e*P	**P**	**13 59 59.1**	**-0.5**
	2.0nm,0.8s						
MCMT	**McKenzie Canyo**	**82.46**	**39**	*e*P	**P**	**14 00 02.4**	**-0.4**
S22A	**4UR Ranch, Cre**	**82.84**	**47**	*e*P	**P**	**14 00 05.2**	**+0.2**
	8.9nm,0.8s						
DLMT	**Dillon**	**82.90**	**38**	*e*P	**P**	**14 00 05.0**	**+0.1**
	4.6nm,0.8s						
REDW	**Red Top Meadow**	**82.91**	**41**	*e*P	**P**	**14 00 05.0**	**-0.2**
	7.4nm,1.2s						
TPAW	**Teton Pass**	**82.91**	**41**	*e*P	**P**	**14 00 05.1**	**-0.1**
	5.4nm,0.8s						
FXWY	**Fox Creek**	**82.94**	**40**	*e*P	**P**	**14 00 05.2**	**-0.1**
	3.3nm,1.0s						
IMW	**Indian Meadow**	**83.13**	**40**	*e*P	**P**	**14 00 06.1**	**-0.3**
	5.1nm,0.8s						
LOHW	**Long Hollow**	**83.19**	**41**	*e*P	**P**	**14 00 06.3**	**-0.3**
	4.3nm,1.2s						
QLMT	**Earthquake Lak**	**83.32**	**39**	*e*P	**P**	**14 00 07.4**	**+0.2**
FLWY	**Flagg Ranch**	**83.38**	**40**	*e*P	**P**	**14 00 07.6**	**+0.1**
	8.2nm,0.9s						
SMCO	**Snowmass**	**83.40**	**46**	*e*P	**P**	**14 00 07.6**	**-0.4**
	4.1nm,0.9s						
YHB	**Horse Butte**	**83.42**	**39**	*e*P	**P**	**14 00 08.3**	**+0.5**
	11nm,0.9s						
BW06	**Boulder Array**	**83.42**	**42**	*e*P	**P**	**14 00 07.3**	**-0.5**
	4.1nm,0.7s						
PD31	**Pinedale Array**	**83.42**	**42**	*e*P	**P**	**14 00 07.1**	**-0.7**
PDAR	**Pinedale Array**	**83.42**	**42**	P	**P**	**14 00 07.5**	**-0.4**
	5.1nm,0.8s,baz=210,slow=3.6,SNR=40						
PDAR	**Pinedale Array**	**83.42**	**42**	*e*P	**P**	**14 00 07.0**	**-0.8**
YMR	**Madison River**	**83.51**	**40**	*e*P	**P**	**14 00 08.8**	**+0.5**
	6.1nm,0.8s						
H17A	**Grant Village**	**83.61**	**40**	*e*P	**P**	**14 00 09.8**	**+1.1**
	4.7nm,0.8s						
IL1	**Eielson Array**	**83.91**	**11**	*e*P	**P**	**14 00 08.8**	**-0.7**
ILAR	**Eielson Array**	**83.91**	**11**	P	**P**	**14 00 08.7**	**-0.8**
	1.2nm,0.5s,baz=223,slow=5.9,SNR=26						
ILB	**Eielson Array**	**83.91**	**11**	*e*P	**P**	**14 00 08.6**	**-0.8**
HRY	**Holter Researc**	**84.07**	**38**	*e*P	**P**	**14 00 10.4**	**-0.5**
AMTX	**Amarillo**	**85.33**	**52**	*e*P	**P**	**14 00 16.8**	**-0.7**
	7.1nm,0.8s						
ABTX	**Abilene, Hawle**	**85.99**	**54**	*e*P	**P**	**14 00 20.2**	**-0.6**
	14nm,0.8s						
HHC	**Hu-ho-hao-te**	**89.96**	**313**	*e*P	**P**	**14 00 40.0**	**+0.3**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,150nm,7.9s						
YKA	**Yellowknife Ar**	**91.48**	**23**	P	**P**	**14 00 45.5**	**-0.6**
	0.4nm,0.8s,baz=241,slow=4.9,SNR=6.5						
KMI	**Kunming**	**91.58**	**296**	P	**P**	**14 00 50.3**	**+2.6**
KMI				pmax	pmax		
	comp=Z,17nm,0.5s						
CMAR	**Chiang Mai Arr**	**92.99**	**288**	LR	LR	14 37 54.5	
	comp=Z,8.9nm,21.5s,baz=265,slow=32						
LZH	**Lanzhou**	**94.02**	**306**	*e*P	**P**	**14 00 58.9**	**+0.2**
LZH				pP	sP	14 01 03.1	+0.5
LZH				sP	pP	14 01 05.4	+3.8
LZH				pmax	pmax		
	comp=Z,28nm,1.0s						
SPMN	**Marine on St.**	**95.44**	**44**	*e*P	**P**	**14 01 04.3**	**-0.4**
	72nm,0.3s						
SONM	**Songino Array**	**95.88**	**318**	P	**P**	**14 01 05.8**	**-1.0**
	0.2nm,0.3s,baz=108,slow=4.7,SNR=3.0						
GTA	**Gaotai**	**98.03**	**309**	*e*P	Pdif	14 01 17.9	+1.1
GTA				pP	sP	14 01 21.8	+1.1
GTA				sP	pP	14 01 23.5	+3.8
GTA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FCC	**Fort Churchill**	**98.89**	**31**	*e*P	Pdif	14 01 20.0	+0.1
	16nm,1.7s						
MKAR	**Makakchi Array**	**111.79**	**314**	PKiKP	**PKiKP**	**14 06 13.8**	**-1.3**
	0.3nm,0.5s,baz=235,slow=1.3,SNR=5.4						
KSH	**Kashi**	**116.27**	**306**	PKP	**PKiKP**	**14 06 27.4**	**+3.4**
KSH				PP	PP	14 07 40.3	+10
KSH				PKS	**PKSdf**	**14 10 04.3**	**+3.5**
ARCES	**ARCESS Array B**	**126.05**	**352**	PKP	**PKPdf**	**14 06 41.5**	**-0.2**
	1.9nm,0.7s,baz=39,slow=0.6,SNR=5.0						
FINES	**FINESS Array B**	**133.36**	**347**	PKP	**PKPdf**	**14 06 55.6**	**-0.2**
	2.1nm,0.9s,baz=354,slow=2.8,SNR=3.7						
CLL	**Collm**	**145.26**	**353**	*i* PKPdf	**PKPbc**	**14 07 17.1**	**-0.3**
	comp=Z,6.0nm,1.0s						
CLL				L	L	14 56 00.0	
	comp=Z,100nm,20.9s						
BRG	**Berggiesshubel**	**145.57**	**352**	*e*PKP	**PKPab**	**14 07 18.6**	**-0.1**
	comp=Z,7.0nm,1.1s						
UPC	**Upice**	**145.59**	**349**	*e*PKP	**PKPab**	**14 07 19.0**	**+0.2**
BUR08	**Bucovina Ar. S**	**145.68**	**337**	*e*PKPdf	**PKPab**	**14 07 19.5**	**+0.2**
DPC	**Dobruska-Polom**	**145.69**	**349**	*e*PKP	**PKPab**	**14 07 19.5**	**+0.3**
DPC				*ex*	x	14 07 42.5	
BUR04	**Bucovina Ar. S**	**145.69**	**337**	*e*PKPdf	**PKPab**	**14 07 19.4**	**0.0**
BURAR	**Bucovina Array**	**145.70**	**337**	⇓*i*P	**PKPab**	**14 07 20.0**	**+0.6**
PVCC	**Panska Ves**	**145.81**	**351**	*e*PKP	**PKPab**	**14 07 19.6**	**0.0**
BIZ	**Bicaz**	**145.92**	**336**	⇑*i*P	**PKPab**	**14 07 20.0**	**-0.1**
MORC	**Moravsky Berou**	**145.99**	**347**	⇑*i*P	**PKPab**	**14 07 20.4**	**+0.1**
LANS	**Liptovska Anna**	**146.13**	**345**	*e*PKP	**PKPab**	**14 07 21.6**	**+0.7**
TRPA	**Tarpa**	**146.17**	**341**	⇓*i*P	**PKPab**	**14 07 20.6**	**-0.4**
PRU	**Pruhonice**	**146.34**	**351**	*e*PKP	**PKPab**	**14 07 21.1**	**-0.5**
MEM	**Membach**	**146.35**	**1**	⇑PKP	**PKPdf**	**14 07 18.0**	**-1.6**
DOU	**Dourbes**	**146.83**	**2**	⇑PKP	**PKPdf**	**14 07 20.1**	**-0.3**
VYHS	**Vyhne**	**146.90**	**345**	*e*PKP	**PKPbc**	**14 07 22.5**	**0.0**
VYHS				*e*		14 07 24.5	
VYHS				*e*		14 07 36.5	
DOPR	**Dopca**	**147.00**	**336**	⇑*i*P	**PKPbc**	**14 07 23.2**	**+0.3**
MLR	**Muntele Rosu**	**147.16**	**334**	⇑*i*P	**PKPbc**	**14 07 23.7**	**+0.2**
BRTR	**Keskin Array B**	**147.23**	**319**	PKPbc	**PKPbc**	**14 07 23.9**	**0.0**
	comp=Z,1.1nm,0.9s,baz=104,slow=1.8,SNR=4.3						
DRGR		**147.29**	**339**	⇑*i*P	**PKPbc**	**14 07 23.9**	**+0.2**
KHC	**Kasperske Hory**	**147.32**	**351**	*e*PKPbc	**PKPbc**	**14 07 23.0**	**-0.7**
KHC	**Kasperske Hory**	**147.32**	**351**	*e*PKP	**PKPbc**	**14 07 24.1**	**+0.4**
VOIR		**147.57**	**335**	⇑*i*P	**PKPbc**	**14 07 25.2**	**+0.6**
GERES	**GERESS Array B**	**147.58**	**351**	PKPbc	**PKPbc**	**14 07 24.1**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=23,slow=4.4,SNR=6.3						
ARR	**Arges**	**147.79**	**336**	⇑*i*P	**PKiKP**	**14 07 26.2**	**-0.9**
CONA	**Conrad Observa**	**148.10**	**348**	*i* P	**PKPbc**	**14 07 26.5**	**+0.6**
	comp=Z,1.2nm,0.4s						
GZR	**Gura Zlata**	**148.47**	**338**	⇓*i*P	**PKPbc**	**14 07 27.1**	**+0.1**
BZS	**Buzias**	**148.69**	**339**	⇑*i*P	**PKPbc**	**14 07 26.7**	**-0.7**
KBA	**Koelnbreinsper**	**149.36**	**351**	*i* PKiKP	**PKPbc**	**14 07 29.4**	**+0.1**
	comp=Z,1.1nm,0.5s						
DAVA	**Damuels**	**149.55**	**355**	*i* PKiKP	**PKPbc**	**14 07 29.5**	**-0.2**
	comp=Z,15nm,1.2s						
FETA	**Feichten**	**149.74**	**354**	*i* pPKPdf	**PKPdf**	**14 07 28.2**	**+2.6**
	comp=Z,2.0nm,0.6s						
ABTA	**Abfaltersbach**	**149.80**	**352**	*i* PKPbc	**PKPbc**	**14 07 29.9**	**-0.4**
	comp=Z,3.4nm,0.7s						
FUORN	**Ofenpass-Fuorn**	**150.18**	**355**	*e*PKPbc	**PKPbc**	**14 07 31.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**174.05**	**128**	PKPab	**PKPab**	**14 09 20.7**	**-1.1**
	comp=Z,0.8nm,0.9s,baz=295,slow=6.1,SNR=4.1						

ISK ***20*** *13:52:49.9,37.92N×37.94E,h2km,ML2.2/9*
DDA ***20*** *13:52:50.6,37.91N×38.00E,h7km±2km,ML2.9*

ISC 20 13:52:50.6±1.3,37.91N±0.02×37.97E±0.03,h3km±12km, n20,σ0°61/30,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.38**	**354**	IAML_P			
	comp=Z,6μm,0.1s						
AKCD				*i* P	**Pb**	**13 52 59.5**	**-0.7**
ATAB	**Bozova**	**0.51**	**150**	IAML_P			
	comp=Z,5μm,0.1s						
ATAB				*i* P	**Pg**	**13 53 00.7**	**+0.3**
GZT	**Gaziantep**	**0.64**	**210**	IAML_P			
	comp=Z,2μm,0.1s						
GZT				*i* P	**Pb**	**13 53 03.8**	**-0.8**
DARE	**Darende-Malaty**	**0.76**	**330**	PG	**Pg**	**13 53 05.4**	**+0.2**
DARE				SG	**Sb**	**13 53 16.2**	**-1.2**
ELBS	**KAHRAMANMARAS**	**0.78**	**302**	IAML_P			
	comp=Z,84nm,0.1s						
ELBS				*i* P	**Pb**	**13 53 06.1**	**-0.8**
ELBS				*i* S	**Sg**	**13 53 15.9**	**+0.3**
URFA	**Urfa**	**0.82**	**125**	PG	**Pb**	**13 53 06.9**	**-0.7**
URFA				SG	**Sb**	**13 53 19.8**	**+0.7**
KMRS	**Kahramanmaras**	**0.94**	**245**	PG	**Pg**	**13 53 08.5**	**-0.1**
KMRS				SG	**Sb**	**13 53 22.0**	**-0.5**
GAZ	**Gaziantep**	**0.95**	**219**	PG	**Pg**	**13 53 08.8**	**-0.1**
SANL	**SANLIURFA_Merk**	**1.10**	**132**	IAML_P		

CBX	**Cerro Bola**	**2.56**	**65**	*e*Pn	**Pn**	**14 12 25.3**	**-0.8**
CBX				*e*Sn	**Sn**	**14 12 54.0**	**-3.3**
CBX	**Cerro Bola**	**2.56**	**65**	*e*P	**Pn**	**14 12 25.3**	**-0.8**
CBX				*e*S	**Sn**	**14 12 54.0**	**-3.3**
TJIG	**Tijuana**	**2.60**	**63**	*e*P	**Pn**	**14 12 25.9**	**-0.6**
	baz=240,slow=16						
TJIG				*e*S	**Sn**	**14 12 55.7**	**-2.5**
FMP	**Fort Macarthur**	**2.60**	**21**	S	**Sn**	**14 12 55.7**	**-2.5**
	baz=201						
BAR	**Barrett**	**2.71**	**58**	*e*Pn	**Pn**	**14 12 27.4**	**-0.7**
BAR				*e*Sn	**Sn**	**14 12 59.1**	**-2.0**
BLG	**Laguna Peak, P**	**2.84**	**6**	S	**Sn**	**14 13 01.5**	**-2.5**
	baz=185						
MURC	**Murrieta**	**2.98**	**38**	S	**Sn**	**14 13 06.4**	**-1.1**
	baz=219						
MONP2	**Monument Peak**	**3.00**	**57**	P	**Pn**	**14 12 32.3**	**0.0**
	baz=238,SNR=68						
MONP2				S	**Sn**	**14 13 06.8**	**-1.6**
	baz=238						
PASC	**Pasadena Art C**	**3.06**	**19**	*e*Pn	**Pn**	**14 12 32.9**	**0.0**
PASC				*e*Sn	**Sn**	**14 13 05.3**	**-4.3**
DECC	**Green Verdugo**	**3.10**	**17**	S	**Sn**	**14 13 08.1**	**-2.5**
	baz=197						
IKP	**In-Ko-Pah, Jac**	**3.12**	**63**	P	**Pn**	**14 12 34.0**	**+0.2**
	baz=244,SNR=70						
IKP				S	**Sn**	**14 13 10.3**	**-0.9**
	baz=244						
MWC	**Mount Wilson**	**3.15**	**21**	*e*Pn	**Pn**	**14 12 34.2**	**-0.1**
SBC	**Santa Barbara**	**3.17**	**355**	S	**Sn**	**14 13 10.5**	**-1.6**
	baz=175						
BFSC	**Mount Baldy Ra**	**3.30**	**26**	P	**Pn**	**14 12 36.4**	**+0.1**
	baz=206						
OSI	**Osito Audit: C**	**3.38**	**10**	*e*Pn	**Pn**	**14 12 38.3**	**+1.1**
OSI	**Osito Audit: C**	**3.38**	**10**	P	**Pn**	**14 12 37.4**	**+0.2**
	baz=190						
OSI				S	**Sn**	**14 13 15.2**	**-2.3**
	baz=190						
SPIG	**San Pedro Mart**	**3.39**	**93**	*e*P	**Pn**	**14 12 36.6**	**-1.0**
SPIG				*e*S	**Sn**	**14 13 15.0**	**-3.1**
SPX	**San Pedro Mart**	**3.39**	**93**	*e*Pn	**Pn**	**14 12 36.6**	**-1.1**
SPX				*e*Sn	**Sn**	**14 13 14.3**	**-3.8**
SPX	**San Pedro Mart**	**3.39**	**93**	*e*P	**Pn**	**14 12 36.6**	**-1.1**
SPX				*e*S	**Sn**	**14 13 14.3**	**-3.8**
PFO	**Pinyon Flats O**	**3.41**	**46**	Pn	**Pn**	**14 12 39.0**	**+1.2**
	2.4nm,0.3s,baz=225,slow=13,SNR=51						
PFO				Sn	**Sn**	**14 13 18.6**	**+0.2**
	4.2nm,0.3s,baz=138,slow=22,SNR=19						
PFO	**Pinyon Flats O**	**3.41**	**46**	*e*Pn	**Pn**	**14 12 38.7**	**+0.9**
PFO				*e*Sn	**Sn**	**14 13 17.8**	**-0.6**
PFO	**Pinyon Flats O**	**3.41**	**46**	P	**Pn**	**14 12 38.6**	**+0.8**
	baz=227,SNR=13						
PFO				S	**Sn**	**14 13 17.6**	**-0.7**
	baz=227						
XPFO	**Pion Flat**	**3.41**	**46**	*e*Pn	**Pn**	**14 12 38.7**	**+0.9**
SWSC	**Sam W. Stewart**	**3.49**	**61**	P	**Pn**	**14 12 39.0**	**+0.3**
	baz=242,SNR=21						
SWSC				S	**Sn**	**14 13 20.0**	**0.0**
	baz=242						
PKM	**Mcpherson Peak**	**3.62**	**355**	P	**Pn**	**14 12 40.2**	**-0.5**
	baz=174						
PKM				S	**Sn**	**14 13 20.2**	**-3.3**
	baz=174						
EDW2	**Edwards Air Fo**	**3.79**	**18**	P	**Pn**	**14 12 43.9**	**+1.1**
	baz=198,SNR=11						
EDW2				S	**Sn**	**14 13 25.6**	**-1.8**
	baz=198						
ARVC	**Arvin**	**3.87**	**7**	S	**Sn**	**14 13 27.1**	**-2.4**
	baz=187						
SMMC	**Simmler**	**4.05**	**353**	S	**Sn**	**14 13 31.5**	**-2.6**
	baz=173						
BC3	**Big Chuckawall**	**4.10**	**54**	P	**Pn**	**14 12 47.6**	**+0.4**
	baz=235						
GLA	**Glamis**	**4.27**	**64**	*e*Pn	**Pn**	**14 12 49.6**	**+0.1**
GLA	**Glamis**	**4.27**	**64**	P	**Pn**	**14 12 49.9**	**+0.4**
	baz=246,SNR=12						
GLA				S	**Sn**	**14 13 38.7**	**-0.8**
	baz=246						
LRMC	**Laurel Mtn Rad**	**4.43**	**19**	P	**Pn**	**14 12 53.0**	**+1.2**
	baz=199,SNR=7.0						
LRMC				S	**Sn**	**14 13 40.9**	**-2.7**
	baz=199						
ISA	**Isabella, Lake**	**4.44**	**10**	*e*Pn	**Pn**	**14 12 53.0**	**+1.1**
ISA	**Isabella, Lake**	**4.44**	**10**	P	**Pn**	**14 12 53.2**	**+1.3**
	baz=190						
ISA				S	**Sn**	**14 13 41.4**	**-2.3**
	baz=190						
PAGB	**Antelope Grade**	**4.50**	**351**	*e*Pn	**Pn**	**14 12 52.5**	**-0.1**
VES	**Vestal, Richgr**	**4.56**	**3**	S	**Sn**	**14 13 43.9**	**-2.6**
	baz=183						
GSC	**Goldstone, Bar**	**4.57**	**28**	*e*Pn	**Pn**	**14 12 54.9**	**+1.3**
GSC	**Goldstone, Bar**	**4.57**	**28**	S	**Sn**	**14 13 45.2**	**-1.6**
	baz=209						
IRM	**Iron Mountain**	**4.60**	**50**	P	**Pn**	**14 12 55.1**	**+1.1**
	baz=232						
IRM				S	**Sn**	**14 13 46.7**	**-0.8**
	baz=232						
GMRC	**Granite Mounta**	**4.71**	**41**	P	**Pn**	**14 12 57.0**	**+1.4**
	baz=222						
GMRC				S	**Sn**	**14 13 49.5**	**-0.8**
	baz=222						
Y12C	**Blythe**	**4.81**	**58**	*e*Pn	**Pn**	**14 12 57.7**	**+0.8**
113A	**Mohawk Valley,**	**5.02**	**71**	*e*Pn	**Pn**	**14 12 59.4**	**-0.4**
MPMC	**Manual Prospec**	**5.03**	**18**	P	**Pn**	**14 13 01.5**	**+1.4**
	baz=199						
214A	**Organ Pipe Nat**	**5.67**	**81**	P	**Pn**	**14 13 08.3**	**-0.5**
	baz=264						
214A				S	**Sn**	**14 14 13.4**	**-0.6**
	baz=264						
SAO	**San Andreas Ge**	**5.73**	**343**	*e*Pn	Pn	14 13 08.0	-1.5
W13A	**Hualapai Mount**	**6.00**	**49**	*e*Pn	**Pn**	**14 13 13.8**	**+0.4**
Y14A	**Wickenburg**	**6.02**	**62**	*e*Pn	**Pn**	**14 13 13.2**	**-0.4**
TPNV	**Topopah Spring**	**6.23**	**24**	*e*Pn	**Pn**	**14 13 18.9**	**+2.3**
TPNV	**Topopah Spring**	**6.23**	**24**	P	**Pn**	**14 13 18.8**	**+2.2**
	baz=205						
TPNV				S	**Sn**	**14 14 26.8**	**-1.2**
	baz=205						
SHPR	**Sheep Range**	**6.30**	**33**	*e*Pn	**Pn**	**14 13 19.7**	**+2.2**
MDPB	**Devils Postpil**	**6.34**	**2**	*e*Pn	**Pn**	**14 13 18.1**	**-0.1**
CMB	**Columbia Colle**	**6.79**	**353**	*e*Pn	**Pn**	**14 13 25.1**	**+1.0**
NVAR	**Mina Array Bea**	**7.19**	**7**	Pn	Pn	14 13 34.9	+5.1
	0.1nm,0.3s,baz=200,slow=13,SNR=3.0						
WAKR	**Walker**	**7.21**	**360**	*e*Pn	**Pn**	**14 13 31.7**	**+1.7**
RYN	**Ryan**	**7.37**	**5**	*e*Pn	**Pn**	**14 13 33.3**	**+1.2**
X16A	**Lo Mia Camp, P**	**7.40**	**63**	*e*Pn	**Pn**	**14 13 32.3**	**-0.3**
LCMT	**Little Creek M**	**7.67**	**40**	*e*Pn	**Pn**	**14 13 37.7**	**+1.4**
YERR	**Yerington**	**7.69**	**1**	*e*Pn	**Pn**	**14 13 38.0**	**+1.4**
R11A	**Troy Canyon, C**	**7.72**	**23**	*e*Pn	**Pn**	**14 13 38.1**	**+1.0**
AFDM	**Forest Hills D**	**7.76**	**351**	*e*Pn	**Pn**	**14 13 38.6**	**+1.2**
U15A	**North Rim**	**7.84**	**47**	*e*Pn	**Pn**	**14 13 41.2**	**+2.5**
HOPS	**Hopland Field**	**8.26**	**340**	*e*Pn	**Pn**	**14 13 46.2**	**+1.9**
ORV	**Oroville**	**8.43**	**349**	*e*Pn	**Pn**	**14 13 47.8**	**+1.2**
PSUT	**Pine Spring**	**8.55**	**31**	*e*Pn	**Pn**	**14 13 48.9**	**+0.4**
BEKR	**Beckworth**	**8.60**	**355**	*e*Pn	**Pn**	**14 13 50.5**	**+1.3**
KCPM	**Cahto Peak**	**9.05**	**339**	*e*Pn	**Pn**	**14 13 56.6**	**+1.3**
KMRM	**Mail Ridge**	**9.58**	**340**	*e*Pn	**Pn**	**14 14 03.9**	**+1.5**
WDC	**Whiskeytown Da**	**9.62**	**346**	*e*Pn	**Pn**	**14 14 04.3**	**+1.4**
121A	**Cookes Peak, D**	**9.96**	**80**	P	**Pn**	**14 14 09.4**	**+1.6**
	baz=266						
ELK	**Elko**	**10.03**	**19**	Pn	**Pn**	**14 14 09.7**	**+1.0**
	0.1nm,0.3s,baz=167,slow=15,SNR=4.1						
KHMM	**Horse Mountain**	**10.19**	**341**	*e*Pn	**Pn**	**14 14 14.1**	**+3.3**
TMUT	**Trail Mountain**	**10.43**	**38**	*e*Pn	**Pn**	**14 14 15.6**	**+1.2**
MOD	**Modoc Plateau**	**10.63**	**356**	*e*Pn	**Pn**	**14 14 18.7**	**+1.8**
SLBS	**Sierra La Lagu**	**11.30**	**130**	*e*Pn	**Pn**	**14 14 26.1**	**0.0**
LTX	**Lajitas**	**13.74**	**94**	*e*Pn	**Pn**	**14 15 01.6**	**+2.2**
TXAR	**Lajitas Array**	**13.74**	**94**	Pn	**Pn**	**14 15 01.6**	**+2.2**
	0.1nm,0.3s,baz=273,slow=13,SNR=14						
YKA	**Yellowknife Ar**	**31.38**	**4**	P	**P**	**14 18 05.4**	**+0.3**
	0.2nm,0.6s,baz=193,slow=8.3,SNR=3.0						
ILAR	**Eielson Array**	**37.59**	**341**	P	**P**	**14 18 58.6**	**-0.2**
	0.4nm,0.7s,baz=150,slow=8.9,SNR=5.2						
H11N3	**WAKE ISLAND Hy**	**66.42**	**279**	T	T	15 35 32.6	
	baz=64,slow=75,SNR=8.9						
H11N2	**WAKE ISLAND Hy**	**66.43**	**279**	T	T	15 35 35.9	
	baz=64,slow=75,SNR=7.5						
H11N1	**WAKE ISLAND Hy**	**66.44**	**279**	T	T	15 35 35.1	
	baz=64,slow=75,SNR=8.9						
H11S1	**WAKE ISLAND Hy**	**67.14**	**278**	T	T	15 36 04.7	
	baz=61						
H11S2	**WAKE ISLAND Hy**	**67.14**	**278**	T	T	15 35 56.6	
	baz=61						
H11S3	**WAKE ISLAND Hy**	**67.16**	**278**	T	T	15 36 12.7	
	baz=61						

MAN 20 14:25:34.0,10°.23N×123°.32E,h1km,mb4.3,ML3.1,MS2.8, 1C-1D,Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.64**	**83**	*e*P	Pg	14 25 46.0	-0.4
LLP				*e*S	Sb	14 25 56.6	-0.8
TBP	**Tagbilaran**	**0.76**	**135**	*e*P	Pg	14 25 48.6	+0.1
GUIM	**Jordan**	**0.82**	**298**	*e*P	Pg	14 25 48.7	-1.1
GUIM				*e*S	Sg	14 26 00.5	+0.1
SNPH	**Sibulan**	**0.89**	**185**	*i* P	Pg	14 25 50.9	-0.2
SNPH				*i* S	Sg	14 26 03.4	+0.7
RCP	**Roxas**	**1.43**	**337**	*e*P	Pg	14 26 01.5	-0.1
RCP				*e*S	Sn	14 26 21.3	+0.6
MSLP	**Maasin**	**1.52**	**94**	*e*P	Pn	14 26 01.8	-0.5
MSLP				*e*S	Sg	14 26 24.4	+1.6

*IDC **20** 14:41:25.8±0.9, 1°.53S×126°.76E, h0km, mb4.0/7, mb1 4.1/9, mb1mx3.9/37, mbtmpg4.0/9, ML3.9/2, Error ellipse: s-maj=52.6km s-min=15.9km az=79.0*
*ISCJB **20** 14:41:27.9±0.4, 1°.62S±0°.05×126°.65E±0°.05, h29km, mb3.9/8, Error ellipse: s-maj=7.4km s-min=6.5km az=12.1*
*DJA **20** 14:41:30.3±0.2, 2°.5S×6°×12°.7E±°, h25km±10km, M4.2/7, mb4.3/1, MLv4.1/7*
*NEIC **20** 14:41:33.2±0.8, 1°.64S×126°.75E, h62km±10km, mb4.2/4, Error ellipse: s-maj=12.0km s-min=6.5km az=79.0*
ISC 20 14:41:29.9±0.6, 1°.59S±0°.05×126°.54E±0°.07, h29km, n31, σ1s18/32, mb4.2/12, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**0.71**	**230**	P	**Pn**	**14 41 43.1**	**-1.0**
SANI				S	**Sb**	**14 41 52.9**	**-0.4**
TNTI	**Ternate**	**2.48**	**20**	*e*Pn	**Pb**	**14 42 11.8**	**-2.1**
TNTI	**Ternate**	**2.48**	**20**	P	**Pb**	**14 42 12.7**	**-1.2**
TNTI				S	**Sb**	**14 42 44.9**	**+0.8**
LUWI	**Luwuk**	**3.80**	**278**	*e*Pn	Pn	14 42 33.0	+6.5
FAKI	**Fak Fak**	**5.86**	**103**	*e*Pn	**Pn**	**14 42 54.4**	**-0.5**
FAKI	**Fak Fak**	**5.86**	**103**	P	**Pn**	**14 42 54.7**	**-0.2**
	40nm,1.3s						
TTSI	**Tana Toraja**	**6.87**	**258**	P	**Pn**	**14 43 09.1**	**+0.4**
SOEI	**Soe**	**8.42**	**195**	*e*Pn	**Pn**	**14 43 31.2**	**+1.0**
FITZ	**Fitzroy Crossi**	**16.43**	**183**	Pn	**P**	**14 45 20.4**	**-0.6**
	0.2nm,0.3s,baz=10.0,slow=7.1,SNR=4.4						
FITZ	**Fitzroy Crossi**	**16.43**	**183**	*e*P	**P**	**14 45 21.1**	**+0.1**
	36nm,1.8s						
WRAB	**Tennant Creek**	**19.77**	**158**	*e*P	**P**	**14 45 56.8**	**-1.1**
	20nm,1.4s						
WR1	**Warramunga Arr**	**19.78**	**158**	*e*P	**P**	**14 45 57.1**	**-0.8**
	33nm,1.8s						
WRA	**Warramunga Arr**	**19.78**	**158**	P	**P**	**14 45 57.1**	**-0.8**
	0.6nm,0.3s,baz=340,slow=12,SNR=50						
WB2	**Warramunga Arr**	**19.78**	**158**	*e*P	**P**	**14 45 57.0**	**-0.9**
AS31	**Alice Springs**	**23.08**	**163**	*e*P	**P**	**14 46 32.6**	**-0.8**
	1.7nm,0.8s						
ASAR	**Alice Springs**	**23.08**	**163**	P	**P**	**14 46 32.6**	**-0.8**
	5.0nm,0.7s,baz=345,slow=11,SNR=50						
AS01	**Alice Springs**	**23.09**	**162**	*e*P	**P**	**14 46 32.5**	**-1.1**
STKA	**Stephens Creek**	**33.31**	**156**	P	**P**	**14 48 05.2**	**-0.1**
	0.5nm,0.4s,baz=335,slow=8.6,SNR=6.4						
MAJO	**Matsushiro**	**39.46**	**15**	*e*P	**P**	**14 48 56.8**	**-0.9**
MJAR	**Matsushiro Arr**	**39.46**	**15**	P	**P**	**14 48 56.8**	**-0.9**
	0.8nm,0.8s,baz=204,slow=9.7,SNR=4.0						
USRK	**Ussuriysk Ar.**	**45.84**	**5**	P	**P**	**14 49 48.6**	**-0.8**
	1.3nm,0.6s,baz=179,slow=7.7,SNR=6.4						
RAMN	**Ramite**	**47.80**	**309**	*e*P	**P**	**14 50 06.9**	**+1.6**
	4.2nm,0.5s						
KOLN	**Koldanda**	**50.52**	**309**	*e*P	**P**	**14 50 28.0**	**+1.9**
	9.1nm,0.6s						
DANN	**Dangsing**	**50.67**	**309**	*e*P	**P**	**14 50 29.3**	**+1.9**
	9.8nm,0.6s						
PYUN	**Piuthan**	**51.16**	**309**	*e*P	**P**	**14 50 33.0**	**+2.1**
	9.7nm,0.5s						
SONA0	**Songino Array**	**52.27**	**343**	*e*P	**P**	**14 50 37.4**	**-1.3**
SONM	**Songino Array**	**52.27**	**343**	P	**P**	**14 50 37.4**	**-1.3**
	0.8nm,0.7s,baz=158,slow=8.4,SNR=4.1						
PETK	**Petropavlovsk-**	**60.41**	**21**	P	**P**	**14 51 37.2**	**+0.6**
	4.5nm,1.0s,baz=188,slow=6.6,SNR=4.6						
PEA1	**Petropavlovsk-**	**60.42**	**21**	*e*P	**P**	**14 51 37.2**	**+0.6**
MK32	**Makanchi Array**	**61.83**	**327**	*e*P	**P**	**14 51 48.0**	**+1.6**
MKAR	**Makanchi Array**	**61.83**	**327**	P	**P**	**14 51 48.0**	**+1.6**
	1.1nm,0.5s,baz=119,slow=7.9,SNR=22						

*ISCJB **20** 14:41:27.7±0.5, 50°.15N±0°.09×28°.86W±0°.09, h10km, mb3.8/15, MS3.5/21, Error ellipse: s-maj=13.4km s-min=7.9km az=9.1*
*IDC **20** 14:41:28.2±0.7, 50°.14N×28°.87W, h0km, mb3.7/14, mb1 3.9/15, mb1mx3.7/44, mbtmpg3.7/15, ML3.8/1, MS3.6/21, Ms1 3.6/21, ms1mx3.4/42, Error ellipse: s-maj=23.1km s-min=15.2km az=17.0*
*NEIC **20** 14:41:29.4±0.3, 50°.14N×28°.87W, h10km, mb4.5/2, Error ellipse: s-maj=9.2km s-min=5.4km az=8.0*
ISC 20 14:41:29.7±0.6, 50°.2N±0°.1×28°.86W±0°.08, h10km, n46, σ0s92/32, mb3.7/15, MS3.6/21, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSB	**Dublin**	**14.26**	**69**	*e*Pn	**Pn**	**14 44 51.4**	**-0.1**
NRS	**Narsarsuaq**	**14.39**	**326**	*e*Pn	**Pn**	**14 44 52.2**	**-0.9**
EKA	**Eskdalemuir Ar**	**16.34**	**62**	Pn	**Pn**	**14 45 18.0**	**-1.0**
	baz=254,slow=13,SNR=3.4						
ESDC	**Sonseca Array**	**20.42**	**111**	P	**P**	**14 46 06.9**	**0.0**
	1.8nm,0.9s,baz=307,slow=12,SNR=4.9						
ESDC				LR	LR	14 52 36.8	
	comp=Z,141nm,19.6s,baz=85,slow=33						
JMIC	**Jan Mayen**	**22.91**	**17**	LR	LR	14 53 36.8	
	comp=Z,92nm,19.9s,baz=250,slow=32						
SCHQ	**Schefferville**	**23.38**	**296**	LR	LR	14 54 05.2	
	comp=Z,104nm,21.1s,baz=350,slow=32						
NOA	**NORSAR Array B**	**24.70**	**49**	LR	LR	14 55 41.2	
	comp=Z,94nm,18.9s,baz=270,slow=34						
FRB	**Frobisher Bay**	**25.04**	**318**	P	**P**	**14 46 54.0**	**+0.4**
	1.8nm,1.0s,baz=34,slow=11,SNR=2.5						
FRB				LR	LR	14 54 36.1	
	comp=Z,97nm,18.9s,baz=8.5,slow=31						
DAVOX	**Davos/Dischmat**	**25.71**	**83**	LR	LR	14 56 48.1	
	comp=Z,186nm,18.5s,baz=359,slow=36						
HFS	**Hagfors**	**25.83**	**51**	LR	LR	14 56 25.2	
	comp=Z,144nm,18.2s,baz=252,slow=35						
GERES	**GERESS Array B**	**27.40**	**76**	P	**P**	**14 47 16.8**	**+1.6**
	0.3nm,0.6s,baz=284,slow=4.0,SNR=4.5						
GERES				LR	LR	14 58 00.9	
	comp=Z,107nm,18.4s,baz=290,slow=36						
VRAC	**Vranov**	**29.04**	**74**	LR	LR	14 59 02.8	
	comp=Z,171nm,18.3s,baz=305,slow=36						
FIA0	**FINESS Array S**	**31.88**	**48**	*e*P	**P**	**14 47 54.3**	**-0.3**
FINES	**FINESS Array B**	**31.88**	**48**	P	**P**	**14 47 54.3**	**-0.3**
	1.2nm,0.6s,baz=262,slow=6.3,SNR=5.0						
FINES				LR	LR	14 59 44.1	
	comp=Z,140nm,19.5s,baz=265,slow=34						
BINY	**Binghamton**	**33.11**	**275**	*e*P	**P**	**14 48 06.5**	**+0.9**
	33nm,0.8s						
BUR04	**Bucovina Ar. S**	**34.99**	**73**	*e*P	**P**	**14 48 22.5**	**+0.5**
AKASG	**Malin Array Be**	**36.17**	**66**	LR	LR	15 04 04.7	
	comp=Z,82nm,19.1s,baz=295,slow=38						
BR101	**Keskin Array S**	**44.23**	**79**	*e*P	**P**	**14 49 38.6**	**-0.5**
BR101				*e*PP	**PcP**	**14 51 25.8**	**+2.3**
BRTR	**Keskin Array B**	**44.23**	**79**	P	**P**	**14 49 38.6**	**-0.5**
	0.9nm,0.8s,baz=308,slow=6.1,SNR=4.6						
BRTR				PcP	**PcP**	**14 51 25.8**	**+2.3**
	0.5nm,0.7s,baz=337,slow=3.3,SNR=2.9						
BRTR				LR	LR	15 09 21.2	
	comp=Z,36nm,18.6s,baz=277,slow=38						
TOA1	**Torodi Ar. Sit**	**44.55**	**135**	*e*P	**P**	**14 49 40.8**	**-0.9**
TORD	**Torodi Ar. Bea**	**44.56**	**135**	P	**P**	**14 49 40.8**	**-1.0**
	1.9nm,1.1s,baz=234,slow=1.3,SNR=6.8						
TORD				LR	LR	15 06 41.6	
	comp=Z,75nm,19.6s,baz=335,slow=34						
YKA	**Yellowknife Ar**	**45.54**	**320**	P	**P**	**14 49 49.8**	**+0.8**
	0.3nm,0.8s,baz=61,slow=8.6,SNR=3.6						
YKA				PcP	**PcP**	**14 51 27.9**	**+0.5**
	0.4nm,0.8s,baz=61,slow=4.0,SNR=5.2						
DBIC	**Dimbokro**	**47.79**	**147**	LR	LR	15 07 29.9	
	comp=Z,72nm,21.1s,baz=329,slow=33						
PD31	**Pinedale Array**	**53.51**	**295**	*e*P	**P**	**14 50 49.6**	**-0.9**
PDAR	**Pinedale Array**	**53.51**	**295**	P	**P**	**14 50 49.0**	**-1.4**
	0.4nm,0.7s,baz=64,slow=6.8,SNR=3.8						
PDAR				LR	LR	15 12 00.1	
	comp=Z,77nm,18.1s,baz=255,slow=34						
MSTX	**Muleshoe**	**54.97**	**283**	*e*P	**P**	**14 51 00.4**	**-0.6**
	9.0nm,1.1s						
ILAR	**Eielson Array**	**55.78**	**333**	P	**P**	**14 51 06.6**	**+0.4**
	0.4nm,0.8s,baz=51,slow=4.7,SNR=4.0						
LTX	**Lajitas**	**58.64**	**279**	*e*P	**P**	**14 51 26.9**	**-0.1**
TXAR	**Lajitas Array**	**58.64**	**279**	P	**P**	**14 51 26.9**	**-0.1**
	0.2nm,0.6s,baz=46,slow=5.2,SNR=3.3						
TXAR				LR	LR	15 15 46.7	
	comp=Z,59nm,18.2s,baz=0.0,slow=35						
ROSC	**El Rosal**	**59.09**	**236**	LR	LR	15 14 18.4	
	comp=Z,26nm,21.9s,baz=102,slow=33						
H10N2	**ASCENSION HYDR**	**59.10**	**163**	T	T	15 55 01.3	
	baz=350,slow=75,SNR=6.5						
H10N3	**ASCENSION HYDR**	**59.11**	**163**	T	T	15 55 01.1	
	baz=350,slow=75,SNR=6.4						
H10N1	**ASCENSION HYDR**	**59.12**	**163**	T	T	15 55 05.7	
	baz=350,slow=75,SNR=7.2						
H10S1	**ASCENSION HYDR**	**60.16**	**164**	T	T	15 56 24.1	
	baz=350,slow=75,SNR=6.8						
H10S3	**ASCENSION HYDR**	**60.16**	**164**	T	T	15 56 24.8	
	baz=350,slow=75,SNR=5.4						
H10S2	**ASCENSION HYDR**	**60.17**	**164**	T	T	15 56 25.1	
	baz=350,slow=75,SNR=7.0						
MK32	**Makanchi Array**	**66.61**	**44**	*e*P	**P**	**14 52 19.7**	**-0.3**
MKAR	**Makanchi Array**	**66.61**	**44**	P	**P**	**14 52 19.7**	**-0.3**
	1.1nm,0.8s,baz=345,slow=5.1,SNR=6.1						
MKAR				LR	LR	15 20 45.8	
	comp=Z,37nm,21.0s,baz=347,slow=35						
LPAZ	**La Paz**	**74.66**	**219**	P	**P**	**14 53 10.6**	**+0.6**
	1.7nm,1.1s,baz=8.1,slow=7.1,SNR=4.4						
LPAZ	**La Paz**	**74.66**	**219**	*e*P	**P**	**14 53 09.2**	**-0.7**
	5.2nm,1.4s						
SONA0	**Songino Array**	**75.03**	**29**	*e*P	**P**	**14 53 11.7**	**+0.4**
SONM	**Songino Array**	**75.03**	**29**	P	**P**	**14 53 11.7**	**+0.4**
	0.3nm,0.4s,baz=321,slow=3.7,SNR=2.8						
KMBO	**Kilima Mbogo**	**75.79**	**109**	LR	LR	15 27 46.7	
	comp=Z,27nm,18.1s,baz=82,slow=37						
BOSA	**Boshof**	**91.92**	**135**	P	**P**	**14 54 38.1**	**0.0**
	1.6nm,0.9s,baz=315,slow=11,SNR=2.6						
BOSA				LR	LR	15 37 39.9	
	comp=Z,28nm,18.1s,baz=198,slow=37						
CMAR	**Chiang Mai Arr**	**97.65**	**49**	LR	LR	15 40 09.2	
	comp=Z,28nm,19.1s,baz=54,slow=36						
ASAR	**Alice Springs**	**150.32**	**33**	PKPbc	**PKPbc**	**15 01 20.2**	**-0.9**
	0.8nm,0.9s,baz=349,slow=2.8,SNR=4.7						

*ISCJB **20** 14:46:27.8±0.4, 40°.55N±0°.02×25°.65E±0°.03, h8km±3km, Error ellipse: s-maj=3.7km s-min=3.5km az=23.4*
*ATH **20** 14:46:27.9, 40°.53N×25°.65E, h10km±2km, ML1.6/3, Error ellipse: s-maj=3.0km s-min=0.9km az=265.0*
*ISK **20** 14:46:27.3, 40°.56N×25°.63E, h9km, ML2.3/15*
*DDA **20** 14:46:30.7, 40°.45N×26°.17E, h3km±1km, ML2.7*
*SOF **20** 14:46:32.4, 40°.59N×25°.06E, h10km*
ISC 20 14:46:27.9±0.9, 40°.55N±0°.02×25°.65E±0°.02, h10km±8km, n35, σ0s89/46, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMTH	**Samothraki Isl**	**0.12**	**231**	P	**Pg**	**14 46 30.8**	**0.0**
SMTH				S	**Sg**	**14 46 32.6**	**-0.3**
SMTH				AML	AML	14 46 32.8	
	comp=N,3733μm,0.2s						
SMTH				AML	AML	14 46 32.8	
	comp=E,2677μm,0.1s						
GADA	**Gvkgeada**	**0.40**	**152**	PG	**Pg**	**14 46 36.0**	**+0.2**
GADA				SG	**Sg**	**14 46 42.4**	**+1.3**
ENEZ	**Enez**	**0.43**	**63**	PG	**Pg**	**14 46 37.1**	**-0.4**
ENEZ				SG	**Sb**	**14 46 42.9**	**-1.1**
ALN	**Alexandroupoli**	**0.46**	**40**	PG	**Pg**	**14 46 37.3**	**+0.4**
ALN				SG	**Sb**	**14 46 43.7**	**-1.3**
ALN	**Alexandroupoli**	**0.46**	**40**	P	**Pg**	**14 46 37.3**	**+0.4**
ALN				S	**Sb**	**14 46 43.9**	**-1.1**
ALN				AML	AML	14 46 49.2	
	comp=E,114μm,0.3s						
ALN				AML

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.89**	**37**	*e*Pn	**Pn**	**15 36 22.2**	**+0.8**
PYZ	**Puysegur Point**	**0.89**	**37**	P	**Pn**	**15 36 22.6**	**+1.2**
PYZ				S	**Sn**	**15 36 35.3**	**+0.8**
APZ	**The Paps**	**1.42**	**89**	P	**Pn**	**15 36 29.1**	**+0.4**
APZ				S	**Sb**	**15 36 46.7**	**-0.9**
DCZ	**Deep Cove**	**1.66**	**32**	*e*Pn	**Pn**	**15 36 32.6**	**+0.7**
DCZ				*e*Sn	**Sn**	**15 36 51.7**	**-1.7**
DCZ	**Deep Cove**	**1.66**	**32**	P	**Pn**	**15 36 32.9**	**+1.0**
WHZ	**Wether Hill Ro**	**1.72**	**55**	*e*Pn	**Pn**	**15 36 34.1**	**+1.3**
WHZ				*e*Sn	**Sb**	**15 36 56.6**	**+0.5**
WHZ	**Wether Hill Ro**	**1.72**	**55**	P	**Pn**	**15 36 34.3**	**+1.5**
WHZ				S	**Sb**	**15 36 56.7**	**+0.5**
MLZ	**Mavora Lakes**	**2.16**	**46**	*e*Pn	**Pn**	**15 36 40.6**	**+1.8**
MLZ	**Mavora Lakes**	**2.16**	**46**	P	**Pb**	**15 36 41.4**	**-0.5**
SYZ	**Scrubby Hill**	**2.25**	**82**	P	**Pn**	**15 36 41.6**	**+1.6**
SYZ				S	**Sn**	**15 37 08.9**	**+1.1**
MSZ	**Milford Sound**	**2.62**	**33**	P	**Pb**	**15 36 48.2**	**-1.6**
TUZ	**Tuapeka**	**2.73**	**71**	P	**Pn**	**15 36 48.0**	**+1.3**
TUZ				S	**Sn**	**15 37 20.4**	**+0.5**
EAZ	**Earnscleugh**	**2.88**	**56**	P	**Pn**	**15 36 50.3**	**+1.5**
WKZ	**Wanaka**	**2.99**	**48**	*e*Pn	**Pn**	**15 36 53.1**	**+2.8**
WKZ	**Wanaka**	**2.99**	**48**	P	**Pn**	**15 36 53.0**	**+2.8**
ODZ	**Otahua Downs**	**3.78**	**63**	*e*Pn	**Pn**	**15 37 00.6**	**-0.4**
LBZ	**Lake Benmore**	**3.90**	**52**	*e*Pn	**Pn**	**15 37 03.0**	**+0.2**
FOZ	**Fox Glacier**	**4.34**	**41**	*e*Pn	**Pn**	**15 37 10.8**	**+2.1**
RPZ	**Rata Peaks** 1.7nm,0.3s,baz=255,slow=3.0,SNR=15	**4.81**	**51**	Pn	**Pn**	**15 37 14.4**	**-0.9**
RPZ	11nm,0.3s,baz=43,slow=18,SNR=9.2			Sn	**Sn**	**15 38 09.2**	**-2.1**
OXZ	**Oxford**	**5.61**	**53**	*e*Pn	**Pn**	**15 37 26.8**	**+0.6**
MQZ	**McQueen's Vall**	**5.72**	**59**	*e*Pn	**Pn**	**15 37 27.2**	**-0.4**
CRLZ	**Canterbury Las**	**5.78**	**57**	*e*Pn	**Pn**	**15 37 28.4**	**-0.1**
LTZ	**Lake Taylor**	**6.10**	**50**	*e*Pn	**Pn**	**15 37 34.1**	**+1.1**
KHZ	**Kahutara**	**7.04**	**53**	*e*Pn	**Pn**	**15 37 46.6**	**+0.8**
THZ	**Tophouse**	**7.16**	**47**	*e*Pn	**Pn**	**15 37 48.4**	**+0.8**
SNZO	**South Karori**	**8.43**	**52**	*e*Pn	**Pn**	**15 38 06.7**	**+1.8**
HIZ	**Hauiti**	**10.64**	**41**	*e*Pn	**Pn**	**15 38 35.9**	**+0.7**
BKZ	**Black Stump Fm**	**10.92**	**49**	*e*Pn	**Pn**	**15 38 41.3**	**+2.2**
URZ	**Urewera**	**11.92**	**48**	*e*Pn	**Pn**	**15 38 53.5**	**+0.7**
TAU	**Tasmania Unive**	**13.76**	**280**	*e*Pn	Pn	15 39 15.2	-2.7
CAN	**Canberra** 29nm,1.5s	**17.16**	**306**	*e*Pn	**Pn**	**15 40 02.9**	**+0.1**
TOO	**Toolangi** 39nm,1.8s	**17.72**	**294**	*e*Pn	**Pn**	**15 40 10.4**	**+0.8**
STKA	**Stephens Creek** 1.3nm,0.7s,baz=170,slow=11,SNR=3.2	**23.91**	**300**	P	**P**	**15 41 18.0**	**+1.3**
STKA	comp=Z,97nm,19.1s,baz=184,slow=34			LR	LR	15 49 22.4	
AS01	**Alice Springs**	**34.52**	**301**	*e*P	**P**	**15 42 50.1**	**-1.2**
AS31	**Alice Springs** 1.5nm,0.9s	**34.54**	**301**	*e*P	**P**	**15 42 50.4**	**-1.1**
ASAR	**Alice Springs** 2.5nm,0.7s,baz=132,slow=7.9,SNR=55	**34.54**	**301**	P	**P**	**15 42 50.5**	**-1.1**
ASAR	comp=Z,43nm,20.6s,baz=100,slow=34			LR	LR	15 55 46.0	
WR1	**Warramunga Arr** 27nm,1.5s	**37.21**	**305**	*e*P	**P**	**15 43 12.8**	**-1.6**
WRA	**Warramunga Arr** 1.9nm,0.8s,baz=137,slow=8.0,SNR=13	**37.21**	**305**	P	**P**	**15 43 12.8**	**-1.6**
H01W1	**Cape Leeuwin H** baz=123,slow=75,SNR=81	**40.24**	**268**	T	T	16 26 09.0	
H01W2	**Cape Leeuwin H** baz=123,slow=75,SNR=66	**40.25**	**268**	T	T	16 26 08.0	
H01W3	**Cape Leeuwin H** baz=123,slow=75,SNR=54	**40.26**	**268**	T	T	16 26 10.9	
H08S2	**Diego Garcia H** baz=129	**86.81**	**262**	T	T	17 24 35.5	
H08S1	**Diego Garcia H** baz=129,SNR=4.8	**86.83**	**262**	T	T	17 24 28.4	
H08S3	**Diego Garcia H** baz=129	**86.83**	**262**	T	T	17 24 30.6	
CMAR	**Chiang Mai Arr** comp=Z,8.7nm,18.3s,baz=10.0,slow=37	**88.53**	**299**	LR	LR	16 31 12.3	
MK32	**Makanchi Array**	**118.45**	**309**	*e*PKPdf	**PKPdf**	**15 54 50.2**	**+0.2**
MKAR	**Makanchi Array** 0.3nm,0.9s,baz=122,slow=1.9,SNR=2.1	**118.45**	**309**	PKP	**PKPdf**	**15 54 50.2**	**+0.2**
TORD	**Torodi Ar. Bea** 0.4nm,0.8s,baz=177,slow=2.9,SNR=2.5	**143.85**	**207**	PKP	PKPbc	15 55 39.2	+3.0
TOA1	**Torodi Ar. Sit**	**143.85**	**207**	*e*PKPdf	PKPbc	15 55 39.2	+2.9
BR101	**Keskin Array S**	**144.99**	**276**	*e*PKPdf	PKPbc	15 55 38.3	-1.1
BRTR	**Keskin Array B** 0.7nm,0.8s,baz=151,slow=3.3,SNR=4.2	**144.99**	**276**	PKP	PKPbc	15 55 38.3	-1.1

*IDC **20** 16:26:50.6±1.9, 22.2°29S×170.3°2E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/22, mbtmp3.8/6, ML3.8/1, Error ellipse: s-maj=90.9km s-min=26.8km az=159.0*
*NEIC **20** 16:26:52.1±0.8, 22.1°3S×170.2°5E, h10km, mb4.1/4, Error ellipse: s-maj=21.4km s-min=12.3km az=164.0*
*ISCJB **20** 16:26:54.2±0.9, 22.1°1S±0.2°×170.2°0E±0.0°8, h35km, mb3.9/7, Error ellipse: s-maj=23.7km s-min=10.8km az=171.4*

ISC 20 16:26:56.6±1.2, 22°1S±0.2°×170°2E±0.1, h35km, n15, σ1°13/17, mb3.7/7, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.08**	**287**	*e*Pn	**Pn**	**16 27 28.6**	**-0.4**
PINNC	**Pines Island,**	**2.57**	**258**	*e*Pn	**Pn**	**16 27 34.7**	**-1.1**
DZM	**Mont Dzumac** 7.2nm,0.3s,baz=122,slow=10,SNR=1003	**3.46**	**270**	Pn	**Pn**	**16 27 47.9**	**-0.1**
DZM	3.0nm,0.3s,baz=115,slow=20,SNR=7.5			Sn	**Sn**	**16 28 28.4**	**+0.7**
DZM	**Mont Dzumac**	**3.46**	**270**	*e*Pn	**Pn**	**16 27 47.6**	**-0.4**
DZM				Sn	**Sn**	**16 28 28.4**	**+0.7**
HNR	**Honiara** 44nm,0.9s	**15.97**	**320**	*e*Pn	**Pn**	**16 30 37.6**	**-1.1**
STKA	**Stephens Creek** 1.0nm,0.6s,baz=95,slow=12,SNR=3.6	**27.19**	**243**	P	**P**	**16 32 37.3**	**+0.3**
STKA	**Stephens Creek** 2.2nm,1.4s	**27.19**	**243**	*e*P	**P**	**16 32 37.4**	**+0.3**
AS31	**Alice Springs** 1.0nm,1.0s	**33.39**	**260**	*e*P	**P**	**16 33 30.4**	**-1.7**
ASAR	**Alice Springs** 0.8nm,0.8s,baz=81,slow=8.9,SNR=9.6	**33.40**	**260**	P	**P**	**16 33 31.6**	**-0.4**
WR1	**Warramunga Arr** 35nm,1.7s	**33.47**	**267**	*e*P	**P**	**16 33 31.6**	**-1.0**
WRA	**Warramunga Arr** 0.7nm,0.8s,baz=97,slow=8.4,SNR=7.8	**33.47**	**267**	P	**P**	**16 33 31.6**	**-1.0**
CMAR	**Chiang Mai Arr** 0.4nm,0.4s,baz=147,slow=4.4,SNR=4.9	**80.47**	**294**	P	**P**	**16 39 07.4**	**+2.1**
NV01	**Mina Array Sit**	**90.04**	**48**	*e*P	**P**	**16 39 52.0**	**-1.1**
NVAR	**Mina Array Bea** 0.3nm,0.6s,baz=225,slow=5.0,SNR=2.5	**90.04**	**48**	P	**P**	**16 39 52.4**	**-0.6**
GERES	**GERESS Array B** 0.1nm,0.3s,baz=25,slow=2.6,SNR=2.8	**147.40**	**331**	PKPbc	**PKPdf**	**16 46 36.1**	**+1.9**

*IDC **20** 16:33:34.8±3.0, 8.4°48S×111.4°2E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/35, mbtmp3.6/4, Error ellipse: s-maj=146.6km s-min=21.9km az=52.0*
*ISCJB **20** 16:33:43.6±0.7, 8.6°7S±0.0°8×111.3°9E±0.0°5, h84km, mb3.5/4, Error ellipse: s-maj=11.4km s-min=6.4km az=20.4*
*DJA **20** 16:33:45.1±0.5, 9.0°S±4.4°×111.1°E±.0°, h39km±7km, M4.0/13, MLv4.0/13*

ISC 20 16:33:44.3±1.1, 8.6°8S±0.0°10×111.3°9E±0.0°5, h84km, n19, σ1°15/20, mb3.4/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**0.52**	**337**	P	**Pn**	**16 33 57.0**	**-1.6**
PCJI				S	**Sn**	**16 34 07.2**	**-2.0**
PWJI	**Pagerwojo**	**0.77**	**33**	P	**Pn**	**16 33 59.7**	**-1.4**
PWJI				S	**Sn**	**16 34 12.1**	**-1.4**
WOJI	**Wonogiri, Jawa**	**0.95**	**331**	P	**Pn**	**16 34 02.9**	**-0.2**
WOJI				S	**Sn**	**16 34 16.0**	**-1.0**
UGM	**Wanagama**	**1.14**	**312**	P	**Pn**	**16 34 05.5**	**+0.1**
UGM				S	**Sn**	**16 34 21.6**	**+0.5**
NGJI	**Ngawi**	**1.30**	**3**	P	**Pn**	**16 34 08.9**	**+1.6**
SMRI	**Semarang**	**1.87**	**330**	P	**Pn**	**16 34 15.8**	**+1.2**
GRJI	**Gresik**	**2.06**	**32**	P	**Pn**	**16 34 18.7**	**+1.6**
GMJI	**Gumukmas**	**2.08**	**79**	P	**Pn**	**16 34 18.1**	**+0.8**
JAGI	**Jajag, Banyuwa**	**2.74**	**86**	P	**Pn**	**16 34 26.6**	**+0.3**
KPJI	**Karang Pucung**	**2.77**	**299**	P	**Pn**	**16 34 27.9**	**+1.2**
CMJI	**Cimerak**	**3.04**	**287**	P	**Pn**	**16 34 30.4**	**+0.1**
CISI	**Cisompet, Garu**	**3.71**	**287**	P	**Pn**	**16 34 39.9**	**+0.5**
WRA	**Warramunga Arr** 0.7nm,0.7s,baz=296,slow=10,SNR=3.7	**24.86**	**119**	P	**P**	**16 39 00.5**	**+1.2**
ASAR	**Alice Springs**	**26.20**	**127**	P	**P**	**16 39 11.8**	**+0.4**
	0.6nm,0.5s,baz=306,slow=8.8,SNR=14						
H08S2	**Diego Garcia H** baz=94,slow=76,SNR=7.7	**38.50**	**269**	T	T	17 22 10.3	
H08S3	**Diego Garcia H** baz=94,slow=76,SNR=6.7	**38.51**	**269**	T	T	17 22 07.3	
H08S1	**Diego Garcia H** baz=94,slow=76,SNR=6.7	**38.52**	**269**	T	T	17 22 07.2	
SONM	**Songino Array** 0.2nm,0.5s,baz=173,slow=7.4,SNR=2.4	**56.43**	**356**	P	**P**	**16 43 17.4**	**0.0**
MKAR	**Makanchi Array** 0.6nm,0.5s,baz=158,slow=6.8,SNR=13	**61.01**	**338**	P	**P**	**16 43 48.5**	**-0.5**

MAN 20 16:37:32.8, 13.7°4N×122.9°4E, h7km, mb3.9, ML2.6, MS2.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**0.51**	**289**	*e*P	Pg	16 37 43.0	+0.4
GQP				*e*S	Sb	16 37 51.0	-0.6
BOAC	**Boac**	**1.10**	**256**	*e*P	Pg	16 37 53.7	-0.3
BOAC				*e*S	Sn	16 38 10.0	-0.1
PVCP	**Virac**	**1.19**	**97**	*e*P	Pg	16 37 54.7	-1.0
PVCP				*e*S	Sg	16 38 08.9	-2.3
POLP	**Polilio Island**	**1.38**	**316**	*e*P	Pn	16 37 58.2	-0.4
POLP				*e*S	Sn	16 38 17.2	+0.1

*ISK **20** 16:41:37.5, 38.0°2N×43.0°3E, h7km, ML3.0/7*
*DDA **20** 16:41:38.7, 38.1°0N×43.0°0E, h7km±2km, ML3.0*

ISC 20 16:41:38.4±1.1, 38.0°4N±0.0°3×43.0°3E±0.0°3, h12km±10km, n22, σ1°9°3/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas** comp=Z,44μm,0.3s	**0.27**	**4**	IAML_P			
GEVA				*i* P	**Pg**	**16 41 44.0**	**-0.1**
AKDM	**Akdamar-Van**	**0.29**	**352**	PG	**Pg**	**16 41 44.1**	**-0.3**
AKDM				SG	**Sb**	**16 41 48.9**	**-1.6**
TVAN	**Van** comp=Z,2μm,0.1s	**0.57**	**31**	IAML_P			
TVAN				*i* P	**Pg**	**16 41 49.6**	**+0.1**
VANB	**Van**	**0.62**	**27**	PG	**Pg**	**16 41 49.0**	**-1.5**
VANB				SG	**Sg**	**16 41 57.5**	**-1.2**
SIRT	**Sirnak**	**0.72**	**221**	PG	**Pg**	**16 41 51.5**	**-0.8**
SIRN	**Sirnak** comp=Z,3μm,0.1s	**0.73**	**222**	IAML_P			
SIRN				*i* P	**Pb**	**16 41 53.0**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.80**	**342**	*i* P	**Pb**	**16 41 54.4**	**-0.1**
ADCV				*i* S	**Sb**	**16 42 06.2**	**+0.9**
SRTM	**Siirt_Merkez** comp=Z,8μm,0.3s	**0.88**	**267**	IAML_P			
SRTM				*i* P	**Pb**	**16 41 55.8**	**+0.1**
SRTM				*i* S	**Sn**	**16 42 08.8**	**-0.7**
CUKT	**Cukurca**	**0.92**	**150**	PG	**Pg**	**16 41 55.2**	**-0.9**
GURO	**Guroymak-BITLI**	**0.94**	**303**	PG	**Pg**	**16 41 55.1**	**-1.4**
YOVA	**Hakkari_Yksek** comp=Z,862nm,0.2s	**1.09**	**114**	IAML_P			
YOVA				*i* P	**Pn**	**16 42 01.0**	**+1.2**
MLAZ	**Malazgirt-MUS**	**1.16**	**341**	PN	**Pn**	**16 42 00.5**	**-0.1**
CLDR	**Caldiran**	**1.30**	**32**	PN	**Pb**	**16 42 02.9**	**0.0**
CLDR	**Caldiran**	**1.30**	**32**	*i* P	**Pg**	**16 42 03.8**	**+0.4**
BTMN	**Batman**	**1.40**	**264**	*i* P	**Pg**	**16 42 04.8**	**-0.6**
BTMN				*i* S	**Sg**	**16 42 25.2**	**+1.6**
SVAN	**Silvan-Diyarba**	**1.45**	**275**	PN	**Pn**	**16 42 04.8**	**+0.3**
AGRB	**Hanur-Agry**	**1.53**	**359**	PN	**Pn**	**16 42 06.2**	**+0.4**
BNGL	**BINGOL**	**1.73**	**302**	*i* P	**Pg**	**16 42 11.3**	**-0.4**
BNGL				*i* S	**Sg**	**16 42 36.6**	**+2.4**
HANI	**Diyarbakir_Han**	**2.11**	**281**	*i* P	**Pb**	**16 42 15.1**	**-1.5**
HANI				*i* S	**Sb**	**16 42 43.2**	**+0.4**
DIYA	**Diyarbakir**	**2.30**	**268**	*i* P	**Pn**	**16 42 16.3**	**0.0**
PTK	**Pertek**	**2.98**	**288**	PN	**Pn**	**16 42 26.6**	**+0.9**
URFA	**Urfa**	**3.39**	**261**	PN	**Pn**	**16 42 32.5**	**+1.2**

*ISCJB **20** 16:42:40.1±2.1, 23.2°4S±0.1°1×179.9°W±0.3, h532km, mb3.8/5, Error ellipse: s-maj=42.0km s-min=15.8km az=162.2*
*IDC **20** 16:42:40.2±10.0, 23.4°6S×179.9°7W, h512km±102km, mb3.3/5, mb1 3.4/6, mb1mx3.1/27, mbtmp4.2/6, Error ellipse: s-maj=82.0km s-min=25.5km az=42.0*

ISC 20 16:42:41.4±1.6, 23.6°6S±0.1°×180.0°W±0.3, h532km, n9, σ1°18/10, mb4.0/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 0.6nm,0.3s,baz=322,slow=19,SNR=3.9	**14.87**	**189**	P	**P**	**16 45 49.6**	**0.0**
URZ	0.4nm,0.3s,baz=56,slow=18,SNR=2.6			S	**S**	**16 48 24.0**	**-0.8**
STKA	**Stephens Creek** 1.7nm,0.4s,baz=86,slow=9.7,SNR=9.3	**34.89**	**248**	P	**P**	**16 48 49.3**	**+0.8**
ASAR	**Alice Springs** 3.4nm,0.5s,baz=93,slow=7.4,SNR=127	**42.14**	**260**	P	**P**	**16 49 47.1**	**-0.2**
WRA	**Warramunga Arr** 4.9nm,0.6s,baz=92,slow=8.4,SNR=355	**42.48**	**266**	P	**P**	**16 49 49.3**	**-0.7**
QSPA	**South Pole Qui** 0.8nm,0.6s,baz=47,slow=1.0,SNR=7.1	**66.53**	**180**	P	**P**	**16 52 39.1**	**+0.8**
CMAR	**Chiang Mai Arr** 0.4nm,0.9s,baz=144,slow=3.4,SNR=4.0	**89.45**	**290**	P	**P**	**16 54 42.0**	**-0.1**
AKASG	**Malin Array Be** 0.6nm,0.4s,baz=46,slow=4.0,SNR=3.7	**144.71**	**328**	PKP	**PKPdf**	**17 01 15.5**	**-1.8**
BRTR	**Keskin Array B** 0.5nm,0.6s,baz=85,slow=3.3,SNR=3.6	**147.40**	**308**	PKPbc	**PKPbc**	**17 01 27.6**	**+1.8**
MMAI	**Mount Meron Ar** 1.3nm,0.5s,baz=99,slow=4.7,SNR=5.8	**147.60**	**295**	PKPbc	**PKPbc**	**17 01 25.8**	**-0.6**

*IDC **20** 16:55:03.6±2.1, 32.3°6S×178.2°4W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/26, mbtmp3.9/3, ML3.4/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/26, Error ellipse: s-maj=63.1km s-min=37.4km az=139.0*
*NEIC **20** 16:55:05.0±1.1, 32.5°0S×178.3°1W, h10km, mb4.7/4, Error ellipse: s-maj=25.7km s-min=10.5km az=102.0*
*ISCJB **20** 16:55:06.1±2.4, 32.6°0S±0.0°8×178.3°4W±0.3, h33km, mb4.0/4, MS3.5/2, Error ellipse: s-maj=42.2km s-min=11.5km az=2.7*

ISC 20 16:55:08.7±1.7, 32.6°6S±0.1°×178.4°4W±0.3, h33km, n20, σ1°8/20, mb3.9/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 0.7nm,0.3s,baz=18,slow=20,SNR=4.2	**6.79**	**212**	Pn	**Pn**	**16 56 46.7**	**+0.7**
URZ	3.8nm,0.3s,baz=175,slow=23,SNR=12			Sn	**Sn**	**16 58 03.4**	**+1.2**
URZ	**Urewera**	**6.79**	**212**	*e*Pn	**Pn**	**16 56 45.8**	**-0.3**
BKZ	**Black Stump Fm**	**7.81**	**211**	*e*Pn	**Pn**	**16 56 59.8**	**-0.3**
BFZ	**Birch Farm**	**9.20**	**207**	*e*Pn	**Pn**	**16 57 18.4**	**-0.7**
THZ	**Tophouse**	**11.53**	**215**	*e*Pn	**Pn**	**16 57 51.6**	**+0.5**
MQZ	**McQueen's Vall**	**13.19**	**210**	*e*Pn	**Pn**	**16 58 11.6**	**-1.9**
RPZ	**Rata Peaks**	**13.90**	**214**	*e*Pn	**Pn**	**16 58 20.6**	**-2.8**
FOZ	**Fox Glacier**	**14.37**	**217**	*e*Pn	**Pn**	**16 58 29.9**	**+0.2**
WKZ	**Wanaka** 174nm,1.8s	**15.71**	**215**	*e*Pn	**Pn**	**16 58 47.4**	**-0.1**
WHZ	**Wether Hill Ro** 175nm,1.9s	**17.00**	**214**	*e*Pn	**P**	**16 59 05.5**	**0.0**
DCZ	**Deep Cove** 64nm,1.5s	**17.09**	**217**	*e*Pn	**Pn**	**16 59 05.4**	**+0.5**
LHI	**Lord Howe Isla** 139nm,1.3s	**19.17**	**267**	*e*P	**P**	**16 59 28.8**	**-0.7**
AS31	**Alice Springs** 2.4nm,1.4s	**42.74**	**269**	*e*P	**P**	**17 03 01.2**	**-1.8**
ASAR	**Alice Springs** 0.9nm,0.6s,baz=105,slow=7.3,SNR=18	**42.74**	**269**	P	**P**	**17 03 03.8**	**+0.7**
ASAR	comp=Z,53nm,19.2s,baz=74,slow=34			LR	LR	17 19 05.2	
WR1	**Warramunga Arr** 22nm,1.5s	**43.92**	**275**	*e*P	**P**	**17 03 13.0**	**+0.4**
WRA	**Warramunga Arr** 1.6nm,0.6s,baz=115,slow=7.9,SNR=40	**43.92**	**275**	P	**P**	**17 03 13.0**	**+0.4**
KSRS	**Korea Array** comp=Z,20nm,21.2s,baz=150,slow=33	**85.79**	**320**	LR	LR	17 42 03.7	
FIA0	**FINESS Array S**	**147.04**	**339**	*e*PKPdf	**PKPdf**	**17 14 45.9**	**+0.7**
FINES	**FINESS Array B** 1.9nm,0.8s,baz=43,slow=2.7,SNR=5.8	**147.04**	**339**	PKPbc	**PKPdf**	**17 14 45.9**	**+0.7**
HFS	**Hagfors** 1.6nm,0.9s,baz=94,slow=4.3,SNR=3.4	**151.28**	**347**	PKPbc	**PKPbc**	**17 14 58.1**	**+0.1**

*IDC **20** 17:05:53.5±1.1, 35.2°52N×22.3°87E, h0km, mb3.7/10, mb1 3.7/14, mb1mx3.6/37, mbtmp3.6/14, ML3.3/3, MS3.0/2, Ms1 3.0/2, ms1mx2.4/42, Error ellipse: s-maj=23.3km s-min=20.7km az=179.0*
*ISCJB **20** 17:05:57.6±0.6, 35.2°4N±0.0°4×22.6°4E±0.0°6, h68km±5km, mb3.5/10, Error ellipse: s-maj=9.3km s-min=4.7km az=148.8*
*ATH **20** 17:05:58.9, 35.3°8N×22.7°6E, h30km±1km, ML3.4/11, Error ellipse: s-maj=2.8km s-min=1.2km az=63.0*
*THE **20** 17:05:59.8, 35.3°7N×22.7°6E, h15km±1km, ML3.4/5, Error ellipse: s-maj=2.1km s-min=0.9km az=49.0*
*HLW **20** 17:05:59.8, 35.3°5N×23.5°7E, h9km±38km, Ml4.0*

ISC 20 17:05:57.7±1.2, 35.2°5N±0.0°5×22.6°7E±0.0°6, h43km±12km, n63, σ1°9°3/74, mb3.7/10, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KERA	**Keramoti**	**0.74**	**80**	P	**Pn**	**17 06 12.4**	**+0.7**
KERA				S	**Sn**	**17 06 21.8**	**-0.1**
KERA				AML	AML	17 06 28.2	
	comp=E,8709μm,0.6s						
KERA				AML	AML	17 06 30.8	
	comp=N,6588μm,0.4s						
ANKY	**Antikythira Is**	**0.81**	**40**	P	**Pn**	**17 06 12.6**	**0.0**
ANKY				S	**Sn**	**17 06 21.2**	**-2.3**
ANKY				AML	AML	17 06 24.3	
	comp=N,5169μm,0.6s						
ANKY				AML	AML	17 06 28.8	
	comp=E,6334μm,0.4s						
ANKY	**Antikythira Is**	**0.81**	**40**	P	**Pn**	**17 06 12.6**	**0.0**
ANKY				S	**Sn**	**17 06 21.5**	**-2.0**
KTHR	**Kythira**	**1.05**	**15**	P	**Pn**	**17 06 16.3**	**+0.3**
KYTH	**Kithira**	**1.06**	**17**	P	**Pn**	**17 06 16.9**	**+0.8**
KYTH				S	**Sn**	**17 06 30.0**	**+0.2**
KYTH				AML	AML	17 06 32.9	
	comp=N,4890μm,0.5s						
KYTH				AML	AML	17 06 33.0	
	comp=E,6503μm,0.5s						
KYTH	**Kithira**	**1.06**	**17**	P	**Pn**	**17 06 17.5**	**+1.3**
KYTH				S	**Sn**	**17 06 30.7**	**+0.9**
IMMV	**Iera Moni Meta**	**1.10**	**78**	P	**Pn**	**17 06 18.5**	**+1.9**
IMMV				S	**Sn**	**17 06 32.3**	**+1.7**
IMMV				AML	AML	17 06 38.2	
	comp=E,7032μm,0.5s						
IMMV				AML	AML	17 06 39.2	
	comp=N,6625μm,0.6s						
IMMV	**Iera Moni Meta**	**1.10**	**78**	P	**Pn**	**17 06 18.5**	**+1.9**
IMMV				S	**Sn**	**17 06 32.1**	**+1.5**
CHAN	**Chania**	**1.16**	**76**	P	**Pn**	**17 06 19.5**	**+2.1**
GVD	**Gavdhos**	**1.23**	**109**	P	**Pn**	**17 06 20.9**	**+2.5**
GVD				AML	AML	17 06 56.4	
	comp=E,3857μm,0.5s						
GVD				AML	AML	17 06 58.4	
	comp=N,2780μm,0.5s						
GVD	**Gavdhos**	**1.23**	**109**	P	**Pn**	**17 06 21.0**	**+2.5**
GVD				S	**Sn**	**17 06 37.6**	**+3.7**
VAM	**Vamos**	**1.27**	**82**	P	**Pn**	**17 06 20.9**	**+2.0**
VAM				S	**Sn**	**17 06 36.9**	**+2.2**
VAM				AML	AML	17 06 46.1	
	comp=E,2718μm,0.5s						
VAM				AML	AML	17 06 51.7	
	comp=N,3317μm,0.5s						
VAM	**Vamos**	**1.27**	**82**	P	**Pn**	**17 06 21.1**	**+2.2**
VLI	**Veliai**	**1.49**	**8**	P	**Pn**	**17 06 23.7**	**+1.8**
VLI				S	**Sn**	**17 06 42.1**	**+1.9**
VLI				AML	AML	17 06 48.4	
	comp=E,3861μm,0.9s						
VLI				AML	AML	17 06 49.3	
	comp=N,2741μm,0.8s						
VLI	**Veliai**	**1.49**	**8**	P	**Pn**	**17 06 23.3**	**+1.4**
VLI				S	**Sn**	**17 06 41.2**	**+1.1**
SIVA	**Sivas**	**1.77**	**97**	P	**Pn**	**17 06 28.4**	**+2.6**
SIVA				AML	AML	17 07 07.0	
	comp=N,2226μm,0.6s						
SIVA				AML	AML	17 07 16.2	
	comp=E,2686μm,0.7s						
SIVA	**Sivas**	**1.77**	**97**	P	**Pn**	**17 06 28.8**	**+3.0**
PYL	**PYLOS**	**1.81**	**336**	P	**Pn**	**17 06 28.3**	**+2.0**
PYL	**PYLOS**	**1.81**	**336**	P	**Pn**	**17 06 27.3**	**+1.0**
IDI	**Anoyia**	**1.82**	**88**	P	**Pn**	**17 06 27.7**	**+1.1**
MHLO	**Agia Marina, M**	**2.02**	**44**	P	**Pn**	**17 06 30.8**	**+1.6**
MHLO				AML	AML	17 07 08.3	
	comp=E,3565μm,0.7s						
MHLO				AML	AML	17 07 09.0	
	comp=N,3981μm,0.6s						
MHLO	**Agia Marina, M**	**2.02**	**44**	P	**Pn**	**17 06 31.1**	**+1.9**
ITM	**Ithomi**	**2.02**	**343**	P	**Pn**	**17 06 31.3**	**+2.1**
ITM	**Ithomi**	**2.02**	**343**	P	**Pn**	**17 06 30.8**	**+1.5**
MHLA	**Plaka, Milos I**	**2.07**	**43**	P	**Pn**	**17 06 31.4**	**+1.5**
KRND	**KRANIDI**	**2.17**	**10**	P	**Pn**	**17 06 32.8**	**+1.5**
DID	**Didima**	**2.30**	**11**	P	**Pn**	**17 06 34.0**	**+0.8**
DID				AML	AML	17 07 15.6	
	comp=E,488μm,0.9s						
DID				AML	AML	17 07 20.7	
	comp=N,576μm,0.6s						
DID	**Didima**	**2.30**	**11**	P	**Pn**	**17 06 34.3**	**+1.1**
LAST	**Lasithi**	**2.31**	**91**	P	**Pn**	**17 06 35.9**	**+2.6**
LAST				AML	AML	17 07 19.4	
	comp=N,456μm,0.5s						
LAST				AML	AML	17 07 25.8	

KSRS	**Korea Array**	**79.84**	**51**	P		**P**	**17 18 02.2**	**+0.6**
	comp=E,0.4nm,0.5s,baz=302,slow=4.6,SNR=3.2							
KSRS				LR		LR	18 00 29.5	
	comp=E,10.0nm,19.1s,baz=140,slow=41							

MEX 20 17:06:03.3±0.4, 14°80N×93°20W, h54km±21km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**0.90**	**359**	*e*P		Pn	17 06 18.3	-1.6
PCIG				*e*S		Sn	17 06 30.3	-1.7
THIG		**0.91**	**83**	*e*P		Pn	17 06 19.1	-0.8
THIG				*i* S		Sn	17 06 29.7	-2.5
CCIG	**Comitan**	**1.80**	**35**	*i* P		Pn	17 06 30.3	-1.8
CCIG				*i* S		Sn	17 06 52.0	-1.9

*IDC **20** 17:11:31.4±0.6, 7°.51S×158°.18E, h0km, mb4.2/17, mb1 4.4/18, mb1mx4.3/27, mbtmp4.2/18, ML4.8/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/22, Error ellipse: s-maj=20.5km s-min=15.9km az=94.0*

*ISCJB **20** 17:11:36.7±0.3, 7°.49S±0°.06×158°.13E±0°.07, h46km, mb4.1/19, MS3.6/1, Error ellipse: s-maj=12.2km s-min=6.9km az=142.5*

*NEIC **20** 17:11:36.8±0.4, 7°.47S×158°.13E, h35km, mb4.2/2, Error ellipse: s-maj=12.6km s-min=9.1km az=71.0*

ISC 20 17:11:38.0±0.5, 7°.49S±0°.08×158°.2E±0°.1, h46km, n42, σ0s95/37, mb4.3/28, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**2.60**	**138**	Pn		**Pn**	**17 12 16.6**	**-1.0**
	185nm,0.3s,baz=262,slow=4.7,SNR=103							
HNR				Sn		**Sn**	**17 12 49.0**	**+1.0**
	252nm,0.3s,baz=288,slow=20,SNR=5.6							
HNR				LR		LR	17 13 26.5	
	comp=Z,766nm,19.2s,baz=309,slow=44							
HNR	**Honiara**	**2.60**	**138**	*i* P		**Pn**	**17 12 17.0**	**-0.6**
HNR				*i* S		**Sn**	**17 12 50.0**	**+2.0**
PMG	**Port Moresby**	**11.07**	**259**	Pn		Pn	17 14 04.3	-10
DZM	**Mont Dzumac**	**16.54**	**152**	Pn		**P**	**17 15 29.0**	**+0.1**
	0.7nm,0.3s,baz=356,slow=18,SNR=9.7							
CTA	**Charters Tower**	**17.05**	**222**	P		**P**	**17 15 36.2**	**+1.7**
	0.2nm,0.3s,baz=50,slow=15,SNR=3.0							
WRAB	**Tennant Creek**	**26.20**	**239**	*e*P		**P**	**17 17 07.9**	**-0.8**
	1.7nm,0.6s							
WRA	**Warramunga Arr**	**26.22**	**239**	P		**P**	**17 17 08.2**	**-0.7**
	4.6nm,0.8s,baz=64,slow=9.6,SNR=29							
H11S3	**WAKE ISLAND Hy**	**27.15**	**18**	T		T	17 45 34.2	
	baz=198,slow=76,SNR=3817							
H11S2	**WAKE ISLAND Hy**	**27.15**	**18**	T		T	17 45 34.3	
	baz=198,slow=76,SNR=5280							
H11S1	**WAKE ISLAND Hy**	**27.17**	**18**	T		T	17 45 38.7	
	baz=198,slow=76,SNR=2728							
ASAR	**Alice Springs**	**28.30**	**233**	P		**P**	**17 17 26.0**	**-1.6**
	0.9nm,0.6s,baz=63,slow=9.2,SNR=17							
H11N1	**WAKE ISLAND Hy**	**28.36**	**17**	T		T	17 46 59.2	
	baz=198,slow=76,SNR=900							
H11N3	**WAKE ISLAND Hy**	**28.37**	**18**	T		T	17 47 06.1	
	baz=198,slow=76,SNR=690							
H11N2	**WAKE ISLAND Hy**	**28.38**	**17**	T		T	17 47 00.6	
	baz=198,slow=76,SNR=482							
STKA	**Stephens Creek**	**28.77**	**210**	P		**P**	**17 17 31.9**	**+0.3**
	1.0nm,0.5s,baz=25,slow=15,SNR=4.6							
RPZ	**Rata Peaks**	**37.80**	**165**	P		**P**	**17 18 48.4**	**-1.6**
	9.9nm,0.7s,baz=307,slow=20,SNR=4.9							
MJAR	**Matsushiro Arr**	**47.64**	**338**	P		**P**	**17 20 09.6**	**-0.2**
	1.5nm,0.6s,baz=142,slow=7.2,SNR=8.2							
KSRS	**Korea Array**	**52.90**	**330**	P		**P**	**17 20 49.0**	**-0.6**
	1.6nm,0.6s,baz=142,slow=7.2,SNR=8.2							
KSAR	**Wonju Array Be**	**52.91**	**330**	P		**P**	**17 20 49.0**	**-0.7**
ENH	**Enshi**	**59.92**	**311**	P		**P**	**17 21 39.7**	**0.0**
	4.4nm,0.8s							
PETK	**Petropavlovsk-**	**60.37**	**360**	P		**P**	**17 21 43.1**	**+0.8**
	1.6nm,0.8s,baz=159,slow=7.9,SNR=5.3							
PETK				LR		LR	17 46 12.7	
	comp=Z,46nm,19.4s,baz=135,slow=34							
CMAR	**Chiang Mai Arr**	**63.86**	**295**	P		**P**	**17 22 07.3**	**+1.0**
	1.7nm,0.8s,baz=122,slow=5.3,SNR=18							
SONM	**Songino Array**	**71.48**	**326**	P		**P**	**17 22 54.9**	**+0.8**
	1.8nm,0.7s,baz=143,slow=5.5,SNR=14							
RAMN	**Ramite**	**77.22**	**300**	*e*P		**P**	**17 23 28.9**	**+0.9**
	3.9nm,0.5s							
JIRN	**Jiri**	**77.75**	**300**	*e*P		**P**	**17 23 32.1**	**+0.9**
	8.4nm,0.5s							
GUN	**Gumba**	**78.09**	**300**	*e*P		**P**	**17 23 33.0**	**0.0**
	7.6nm,0.6s							
PKIN	**Phulchoki**	**78.41**	**300**	*e*P		**P**	**17 23 35.1**	**+0.4**
	6.4nm,0.9s							
KKN	**Kakani**	**78.57**	**300**	*e*P		**P**	**17 23 36.4**	**+0.9**
	4.3nm,0.5s							
DMN	**Daman**	**78.67**	**300**	*e*P		**P**	**17 23 36.9**	**+0.8**
	8.2nm,0.8s							
KOLN	**Koldanda**	**80.00**	**300**	*e*P		**P**	**17 23 44.0**	**+0.7**
	6.4nm,0.7s							
DANN	**Dangsing**	**80.01**	**300**	*e*P		**P**	**17 23 43.9**	**+0.5**
	6.8nm,0.6s							
PYUN	**Piuthan**	**80.61**	**300**	*e*P		**P**	**17 23 47.7**	**+1.1**
	6.9nm,0.9s							
COLA	**College**	**82.42**	**20**	P		**P**	**17 23 53.7**	**-1.3**
ILAR	**Eielson Array**	**82.69**	**21**	P		**P**	**17 23 55.2**	**-1.3**
	2.8nm,0.9s,baz=252,slow=4.5,SNR=20							
MKAR	**Makanchi Array**	**85.87**	**318**	P		**P**	**17 24 13.5**	**+0.5**
	3.7nm,0.8s,baz=100,slow=5.6,SNR=31							
ZALV	**Zalesovo Beam**	**86.37**	**325**	P		**P**	**17 24 14.6**	**-0.7**
	0.6nm,0.5s,baz=126,slow=5.2,SNR=3.7							
NVAR	**Mina Array Bea**	**89.55**	**51**	P		**P**	**17 24 32.1**	**+0.9**
	0.3nm,0.6s,baz=230,slow=5.6,SNR=3.5							
AAK	**Ala-Archa**	**90.40**	**313**	P		**P**	**17 24 35.4**	**+0.5**
	0.9nm,0.5s,baz=78,slow=6.8,SNR=5.3							
BVAR	**Borovoye Array**	**94.60**	**323**	P		**P**	**17 24 52.8**	**-1.1**
	0.7nm,0.7s,baz=65,slow=5.1,SNR=3.6							
YKA	**Yellowknife Ar**	**95.30**	**28**	P		**P**	**17 24 57.0**	**+0.2**
	1.2nm,0.7s,baz=258,slow=4.7,SNR=22							
PDAR	**Pinedale Array**	**96.68**	**48**	P		**P**	**17 25 04.0**	**+0.1**
	0.2nm,0.6s,baz=270,slow=1.8,SNR=2.9							
TORD	**Torodi Ar. Bea**	**156.21**	**286**	PKPbc		PKPbc	17 31 37.5	
	0.5nm,0.7s,baz=112,slow=2.1,SNR=3.0							
TORD				PKPab		**PKPab**	**17 31 55.8**	**-0.8**
	0.8nm,0.7s,baz=56,slow=4.8,SNR=5.2							

*ISN **20** 17:12:27.8±1.2, 31°.70N×46°.16E, h5km±22km, ML4.1*

*ISCJB **20** 17:12:30.6±0.2, 31°.59N±0°.03×46°.02E±0°.02, h10km, mb4.0/20, MS3.3/7, Error ellipse: s-maj=3.8km s-min=2.2km az=2.1*

*IDC **20** 17:12:30.4±1.1, 31°.65N×46°.00E, h0km, mb3.9/15, mb1 4.0/18, mb1mx3.9/40, mbtmp3.9/18, ML2.9/3, MS3.3/9, Ms1 3.3/9, ms1mx3.0/32, Error ellipse: s-maj=27.4km s-min=15.3km az=7.0*

*TEH **20** 17:12:31.4, 31°.62N×45°.97E, h10km, ML4.1*

*NEIC **20** 17:12:32.6±0.5, 31°.62N×46°.05E, h10km, mb4.2/10, MN4.1(TEH), Error ellipse: s-maj=10.3km s-min=6.9km az=193.0*

NEIC Felt at Qal'at as Sakir.

*GII **20** 17:12:35.9±0.0, 31°.64N×45°.99E, h10km*

ISC 20 17:12:32.4±0.5, 31°.65N±0°.04×46°.05E±0°.04, h10km, n114, σ1s91/113, mb4.0/20, MS3.2/8, 7C-5D, Iraq

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NSR	**Nassriya**	**0.64**	**173**	*e*Pg		**Pg**	**17 12 41.0**	**-3.8**
NSR				*e*Sg		**Sg**	**17 12 49.2**	**-4.0**
BHD	**Baghdad**	**2.15**	**319**	*e*Pn		**Pn**	**17 13 05.6**	**-2.6**
BHD				*e*Sn		**Sn**	**17 13 32.0**	**-2.9**
IKFM	**Kafar-mosalman**	**2.41**	**39**	*e*Pn		**Pn**	**17 13 13.1**	**+1.2**
IKFM					IAMB	IAmb	17 14 03.5	
	comp=Z,0.0nm,1.3s							
IGHG	**Ghaleghazi**	**2.71**	**9**	*e*Pn		**Pn**	**17 13 17.0**	**+0.8**
IGHG					IAMB	IAmb	17 14 10.1	
	comp=Z,17μm,1.0s							
IKMR	**Kamar-syah**	**2.71**	**46**	*e*Pn		**Pn**	**17 13 17.6**	**+1.6**
IKMR					IAMB	IAmb	17 14 24.4	
	comp=Z,0.0nm,0.9s							
IKOM	**Komasi**	**2.80**	**26**	*e*Pn		**Pn**	**17 13 18.3**	**+0.8**
IKOM					IAMB	IAmb	17 14 40.6	
	comp=Z,0.0nm,2.0s							
IVIS	**Veis**	**2.95**	**13**	*e*Pn		**Pn**	**17 13 19.8**	**+0.4**
IVIS					IAMB	IAmb	17 14 12.5	
	comp=Z,4μm,0.5s							
HSAM	**Samen**	**3.34**	**39**	*e*Pn		**Pn**	**17 13 25.8**	**+0.9**
IKRK	**Kirkuk**	**4.00**	**340**	*e*Pn		**Pn**	**17 13 30.8**	**-3.0**
IKRK				*e*Sn		**Sn**	**17 14 16.2**	**-4.7**
HSRG	**Sareghieh**	**4.04**	**27**	*e*Pn		**Pn**	**17 13 36.4**	**+1.8**
HSRG					IAMB	IAmb	17 13 38.8	
	comp=Z,0.0nm,0.2s							
HAGD	**Aghdareh**	**4.09**	**38**	*e*Pn		**Pn**	**17 13 36.3**	**+1.1**
ZNGN	**Zangian**	**4.12**	**82**	*e*Pn		**Pn**	**17 13 37.5**	**+1.9**
ROKH	**ROKH**	**4.29**	**79**	*e*Pn		**Pn**	**17 13 39.8**	**+1.8**
ROKH					IAMB	IAmb	17 15 15.7	
	comp=Z,0.0nm,1.5s							
HKZM	**Kohzaman**	**4.42**	**32**	*e*Pn		**Pn**	**17 13 40.8**	**+1.0**
IRAZ	**Razeghan**	**4.96**	**40**	*e*Pn		**Pn**	**17 13 48.3**	**+1.2**
IRAZ					IAMB	IAmb	17 15 00.9	
	comp=Z,1μm,0.4s							
IKLH	**Kolahrood**	**4.96**	**69**	*e*Pn		**Pn**	**17 13 49.8**	**+2.6**
IKLH					IAMB	IAmb	17 14 48.6	
	comp=N,3μm,0.2s							
RTB	**Rutbah**	**5.05**	**287**	*e*Pn		**Pn**	**17 13 46.5**	**-1.7**
RTB				*e*Sn		**Sn**	**17 14 42.9**	**-3.7**
IGAR	**Gharneh**	**5.15**	**80**	*e*Pn		**Pn**	**17 13 51.1**	**+1.4**
IGAR					IAMB	IAmb	17 14 54.1	
	comp=Z,2μm,0.5s							
MSL	**Mosul**	**5.33**	**334**	*e*Pn		**Pn**	**17 13 50.0**	**-2.0**
MSL				*e*Sn		**Sn**	**17 14 46.8**	**-6.7**
IRAM	**Ramesheh**	**5.40**	**87**	*e*Pn		**Pn**	**17 13 54.7**	**+1.5**
IRAM					IAMB	IAmb	17 15 51.4	
	comp=Z,986nm,0.6s							
IZEF	**Zefreh**	**5.46**	**75**	*e*Pn		**Pn**	**17 13 55.5**	**+1.4**
IZEF					IAMB	IAmb	17 13 58.7	
	comp=Z,868nm,0.2s							
IMHD	**Mahdasht**	**5.57**	**42**	*e*Pn		**Pn**	**17 13 56.1**	**+0.6**
IMHD					IAMB	IAmb	17 13 59.7	
	comp=Z,406nm,0.2s							
KRSH	**Karshahi**	**5.62**	**64**	*e*Pn		**Pn**	**17 13 57.4**	**+1.1**
KRSH					IAMB	IAmb	17 15 04.2	
	comp=Z,0.0nm,0.4s							
ISFB	**Sefidab**	**5.86**	**61**	*e*Pn		**Pn**	**17 14 00.6**	**+1.2**
ISFB					IAMB	IAmb	17 15 53.9	
	comp=Z,700nm,1.2s							
CUKT	**Cukurca**	**5.94**	**341**	P		**Pn**	**17 14 00.9**	**+0.4**
SIRT	**Sirnak**	**6.55**	**334**	*e*P		**Pn**	**17 14 09.4**	**+0.5**
ANAR	**Anarak**	**6.67**	**75**	*e*Pn		**Pn**	**17 14 11.6**	**+0.9**
IFIR	**Firoozkooh**	**6.87**	**53**	*e*Pn		**Pn**	**17 14 14.3**	**+0.9**
IFIR					IAMB	IAmb	17 15 33.1	
	comp=E,369nm,0.6s							
AKDM	**Akdamar-Van**	**7.12**	**340**	*e*P		**Pn**	**17 14 16.5**	**-0.3**
ICHK	**Chekchek**	**7.13**	**83**	*e*Pn		**Pn**	**17 14 16.8**	**-0.2**
ICHK					IAMB	IAmb	17 15 41.6	
	comp=Z,768nm,0.6s							
IMEH	**Mehriz**	**7.32**	**90**	*e*Pn		**Pn**	**17 14 21.0**	**+1.4**
ISHM	**Shahmirzad**	**7.32**	**54**	*e*Pn		**Pn**	**17 14 21.3**	**+1.6**
ISHM					IAMB	IAmb	17 16 11.4	
	comp=Z,371nm,0.4s							
RAYN	**Ar Rayn**	**8.11**	**184**	*e*Pn		**Pn**	**17 14 30.4**	**+0.1**
RAYN	**Ar Rayn**	**8.11**	**184**	P		**Pn**	**17 14 30.2**	**-0.1**
RAYN	**Ar Rayn**	**8.11**	**184**	*e*Pn		**Pn**	**17 14 30.4**	**+0.1**
URFA	**Urfa**	**8.30**	**316**	*e*P		**Pn**	**17 14 33.5**	**+0.6**
KSDI	**Kefar Szold**	**8.91**	**283**	Sn		**Sn**	**17 16 24.4**	**+2.6**
GHAJ	**Ghor Haditha**	**8.96**	**271**	Sn		**Sn**	**17 16 25.4**	**+2.6**
HMDT	**Nahal Hemdat**	**8.96**	**277**	Sn		**Sn**	**17 16 25.4**	**+2.5**
PTK	**Portek**	**9.04**	**325**	*e*P		**Pn**	**17 14 42.3**	**-0.9**
MMLI	**Mount Malkishu**	**9.05**	**278**	Sn		**Sn**	**17 16 28.1**	**+2.9**
DSI	**Dead Sea**	**9.10**	**272**	Sn		**Sn**	**17 16 28.7**	**+2.4**
MZDA	**Masada**	**9.13**	**271**	Sn		**Sn**	**17 16 29.6**	**+2.6**
BLGI	**Bet Lehem HaGe**	**9.26**	**280**	Sn		**Sn**	**17 16 33.3**	**+3.0**
SLTI	**Sal'it**	**9.37**	**277**	Sn		**Sn**	**17 16 35.6**	**+2.6**
ZFRI	**Zfri**	**9.38**	**266**	Sn		**Sn**	**17 16 35.9**	**+2.7**
NGRK	**Negar Kerman**	**9.42**	**99**	*e*Pn		**Pn**	**17 14 49.8**	**+1.3**
AMAZ	**Amatzia**	**9.50**	**272**	Sn		**Sn**	**17 16 38.7**	**+2.6**
PRNI	**Paran**	**9.56**	**265**	Sn		**Sn**	**17 16 40.8**	**+3.0**
HRFI	**Mount Harif**	**9.60**	**263**	Sn		**Sn**	**17 16 41.2**	**+2.5**
EIL	**Elat**	**9.76**	**261**	Pn		**Pn**	**17 14 53.6**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=72,slow=6.4,SNR=5.6							
EIL				Lg		Lg	17 17 36.4	
	comp=Z,0.3nm,0.3s,baz=94,slow=19,SNR=3.6							
EIL				LR		LR	17 19 27.8	
	comp=Z,96nm,19.9s,baz=74,slow=43							
EIL	**Elat**	**9.76**	**261**	Sn		**Sn**	**17 16 45.7**	**+3.2**
BANOM	**Banah**	**10.65**	**120**	*i* P		**Pn**	**17 15 05.7**	**+0.6**
	SNR=14							
ASUD	**Al Ashush, Dub**	**10.77**	**128**	*i* P		**Pn**	**17 15 08.2**	**+1.5**
	SNR=12							
FAQ	**Al Faqa, Dubai**	**10.87**	**127**	P		**Pn**	**17 15 09.9**	**+1.9**
UOSS	**Minazif**	**11.16**	**124**	*e*Pn		**Pn**	**17 15 13.1**	**+0.9**
UOSS	**Minazif**	**11.16**	**124**	*i* P		**Pn**	**17 15 11.5**	**-0.6**
	SNR=9.0							
UOSS	**Minazif**	**11.16**	**124**	*e*Pn		**Pn**	**17 15 13.0**	**+0.9**
HATD	**Hatta, Dubai**	**11.19**	**125**	*i* P		**Pn**	**17 15 12.9**	**+0.5**
	SNR=8.5							
ASHO	**Ashiyiah**	**11.23**	**126**	*i* P		**Pn**	**17 15 13.2**	**+0.2**
	SNR=16							
GEYT	**Alibeck**	**11.73**	**54**	Pn		**Pn**	**17 15 20.4**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=250,slow=12,SNR=7.8							
GEYT				LR		LR	17 20 45.0	
	comp=Z,180nm,19.1s,baz=240,slow=42							
BRTR	**Keskin Array B**	**12.90**	**312**	Pn		**Pn**	**17 15 38.3**	**+2.4**
	comp=Z,0.0nm,0.3s,baz=139,slow=13,SNR=9.3							
ALN	**Alexandroupoli**	**18.55**	**305**	*e*P		**Pn**	**17 16 51.1**	**+1.7**
	comp=Z,19nm,1.5s							
TIRR	**Tirgusor**	**18.83**	**318**	*e*P		**Pn**	**17 16 54.2**	**+1.5**
	comp=Z,7.3nm,1.0s							
TIRR	**Tirgusor**	**18.83**	**318**	⇑*i*P		**Pn**	**17 16 53.7**	**+1.0**
TLB	**Topalu**	**19.12**	**318**	⇑*i*P		**Pn**	**17 16 57.6**	**+1.4**
VRI	**Vrincioaia**	**20.63**	**319**	⇑*i*P		Pn	17 17 13.2	-1.0
ITM	**Ithomi**	**20.63**	**292**	*e*P		Pn	17 17 13.0	-1.2
	comp=Z,36nm,1.1s							
AGG	**Agios Georgios**	**20.66**	**297**	*e*P		**P**	**17 17 11.5**	**-0.9**
	comp=Z,18nm,1.2s							
AKTO	**Aktyubinsk**	**20.78**	**22**	LR		LR	17 27 15.9	
	comp=Z,96nm,20.4s,baz=193,slow=43							
LIT	**Litokhoron**	**20.83**	**300**	*e*P		Pn	17 17 14.4	-2.1
	comp=Z,20nm,0.9s							
MLR	**Muntele Rosu**	**20.85**	**317**	P		**P**	**17 17 13.5**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=135,slow=1.4,SNR=2.2							
MLR	**Muntele Rosu**	**20.85**	**317**	*e*P		Pn	17 17 17.4	+0.4
	comp=Z,5.8nm,0.9s							
MLR	**Muntele Rosu**	**20.85**	**317**	⇑*i*P		Pn	17 17 15.1	-1.8
VTS	**Vitosha**	**21.17**	**307**	*e*P		**P**	**17 17 17.1**	**-0.8**
	comp=Z,5.8nm,1.3s							
OZUR		**21.29**	**318**	⇓*i*P		**P**	**17 17 19.2**	**+0.1**
VOIR		**21.35**	**316**	⇑*i*P		**P**	**17 17 20.3**	**+0.6**
DOPR	**Dopca**	**21.44**	**318**	⇓*i*P		**P**	**17 17 21.0**	**+0.3**
BIZ	**Bicaz**	**21.62**	**321**	⇑*i*P		**P**	**17 17 22.7**	**+0.1**
LOT	**Lotru**	**22.12**	**315**	⇓*i*P		**P**	**17 17 27.5**	**-0.6**
KK31	**Karatay Array**	**22.47**	**53**	*e*P		**P**	**17 17 33.6**	**+1.8**
BURAR	**Bucovina Array**	**22.51**	**321**	⇑*i*P		**P**	**17 17 31.6**	**-0.6**
BUR04	**Bucovina Ar. S**	**22.52**	**321**	*e*P		**P**	**17 17 32.0**	**-0.3**
BUR08	**Bucovina Ar. S**	**22.54**	**321**	*e*P		**P**	**17 17 33.8**	**+1.3**
GZR	**Gura Zlata**	**22.70**	**314**	⇓*i*P		**P**	**17 17 31.8**	**-2.4**
AKASG	**Main Array Be**	**22.77**	**332**	P		**P**	**17 17 32.0**	**-2.7**
	comp=Z,5.2nm,0.8s,baz=137,slow=10,SNR=11							
AKBB	**Malin Array Si**	**22.77**	**332**	*e*P		**P**	**17 17 35.4**	**+0.6**
	comp=Z,7.9nm,0.9s							
KIEV	**Kiev**	**22.77**	**332**	*e*P		**P**	**17 17 35.2**	**+0.5**
	comp=Z,7.7nm,0.9s							
KIEV	**Kiev**	**22.77**	**332**	⇓*i*P		**P**	**17 17 33.1**	**-1.7**
AK11	**Malin Array Si**	**22.77**	**331**	*e*P		**P**	**17 17 33.7**	**-1.1**
AAK	**Ala-Archa**	**25.08**	**56**	LR		LR	17 29 44.5	
	comp=Z,102nm,18.9s,baz=266,slow=41							
KSH	**Kashi**	**25.49**	**64**	P		**P**	**17 18 01.3**	**+0.3**
KSH				sP		sP	17 18 05.3	0.0
KSH				PcP		**PcP**	**17 21 37.0**	**+4.4**
KSH				S		**S**	**17 22 24.8**	**-3.5**
KSH	**Kashi**	**25.49**	**64**	ScS		ScS	17 29 01.8	+0.8
KSH				pmax		pmax		
	comp=Z,6.0nm,0.7s							
KSH				pmax		pmax		
	comp=Z,330nm,6.7s							
KSH				LR		LR		
	comp=N,170nm,8.1s							
KSH				LR		LR		
	comp=E,390nm,5.7s							
KSH				LR		LR		
	comp=Z,600nm,6.4s							
BVAR	**Borovoye Array**	**27.69**	**32**	LR		LR	17 31 42.9	
	comp=Z,58nm,19.8s,baz=238,slow=42							
MK01	**Makanchi Array**	**31.57**	**51**	*e*P		**P**	**17 18 55.7**	**+0.7**
MK31	**Makanchi Array**	**31.57**	**51**	*e*P		**P**	**17 18 55.7**	**+0.6**
MKAR	**Makanchi Array**	**31.57**	**51**	P		**P**	**17 18 55.4**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=245,slow=7.1,SNR=14							
MKAR				LR		LR	17 33 43.5	
	comp=Z,56nm,19.1s,baz=270,slow=40							
FINES	**FINESS Array B**	**32.53**	**342**	P		**P**	**17 19 01.4**	**-1.8**
	comp=Z,0.9nm,0.4s,baz=150,slow=8.9,SNR=9.6							
WMQ	**Urumqi**	**34.76**	**58**	*e*P		**P**	**17 19 25.9**	**+3.0**
WMQ					LR	LR		
	comp=N,110nm,15.9s							
WMQ					LR	LR		
	comp=E,76nm,23.9s							
WMQ					LR	LR		
	comp=Z,71nm,26.9s							
ZAA0	**Zalesovo Array**	**35.49**	**40**	*e*P		**P**	**17 19 29.6**	**+0.6**
	comp=Z,2.8nm,0.9s							
ZALV	**Zalesovo Beam**	**35.49**	**40**	P		**P**	**17 19 28.4**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=259,slow=9.1,SNR=8.9							
ZALV					LR	LR	17 35 39.0	
	comp=Z,34nm,19.9s,baz=248,slow=39							
ZALV	**Zalesovo Beam**	**35.49**	**40**	*e*P		**P**	**17 19 29.3**	**+0.3**
HFS	**Hagfors**	**35.65**	**333**	P		**P**	**17 19 29.4**	**-0.8**
	comp=Z,4.4nm,0.4s,baz=138,slow=9.8,SNR=26							
NOA	**NORSAR Array B**	**37.17**	**333**	P		**P**	**17 19 44.1**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=127,slow=8.4,SNR=2.8							
NOA					LR	LR	17 36 47.2	
	comp=Z,35nm,18.7s,baz=0.0,slow=39							
ARCES	**ARCESS Array B**	**39.68**	**349**	P		**P**	**17 20 03.3**	**-1.0**
	comp=Z,2.5nm,0.8s,baz=168,slow=9.9,SNR=4.4							
EKA	**Eskdalemuir Ar**	**41.68**	**319**	P		**P**	**17 20 21.4**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=99,slow=7.4,SNR=3.4							
GTA	**Gaotai**	**43.89**	**64**	*e*P		**P**	**17 20 42.6**	**+3.3**
GTA				pP		sP	17 20 45.8	+2.1
GTA				sP		pP	17 20 48.8	+6.4
GTA				pmax		pmax		
	comp=Z,4.0nm,1.2s							
TORD	**Torodi Ar. Bea**	**44.60**	**256**	P		**P**	**17 20 43.8**	**-1.2**
	comp=Z,1.5nm,1.0s,baz=43,slow=8.5,SNR=7.0							
TORD					LR	LR	17 40 12.7	
	comp=Z,76nm,18.9s,baz=335,slow=37							
SONM	**Songino Array**	**47.92**	**52**	P		**P**	**17 21 12.5**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=281,slow=7.8,SNR=6.2							
SONM				PcP		**PcP**	**17 22 39.4**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=276,slow=4.4,SNR=2.7							
CMAR	**Chiang Mai Arr**	**49.26**	**92**	P		**P**	**17 21 20.0**	**-1.5**
	comp=Z,1.1nm,1.1s,baz=292,slow=8.1,SNR=6.3							
KSAR	**Wonju Array Be**	**65.64**	**60**	P		**P**	**17 23 16.3**	**-0.6**
KSRS	**Korea Array**	**65.66**	**60**	P		**P**	**17 23 16.3**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=284,slow=7.7,SNR=5.8							
ILAR	**Eielson Array**	**83.37**	**6**	P		**P**	**17 24 59.6**	**+0.2**
	comp=Z,0.3nm,0.9s,baz=343,slow=2.8,SNR=4.8							
YKA	**Yellowknife Ar**	**84.90**	**351**	P		**P**	**17 25 05.7**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=18,slow=5.8,SNR=9.8							

*SCEDC **20** 17:13:53.2, 32°.16N×115°.27W, h0km*

*ISCJB **20** 17:13:54.0±0.3, 32°.26N±0°.02×115°.26W±0°.03, h23km±3km, Error ellipse: s-maj=3.9km s-min=3.4km az=172.1*

*ANF **20** 17:13:54.0±0.5, 32°.28N×115°.28W, h24km±3km, ML3.0/10, Error ellipse: s-maj=5.1km s-min=2.5km az=2.3*

*ECX **20** 17:13:55.0±0.6, 32°.23N×115°.28W, h3km, MD3.1, ML3.3*

*MEX **20** 17:13:55.4±0.4, 32°.34N×115°.09W, h21km±5km, MD3.8*

ISC 20 17:13:53.6±1.0, 32°.25N±0°.02×115°.26W±0°.03, h19km±2km, n38, σ0s51/58, 3C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res

ROCH					IAML			17 57 11.9	
	comp=E,1µm,0.5s								
CMCH	**Combarbala**	**1.34**	**41**	*e*P		**Pn**		**17 56 57.2**	**-0.5**
CMCH				*e*S		**Sn**		**17 57 12.7**	**-3.0**
CMCH					IAML			17 57 18.6	
	comp=N,1µm,0.8s								
PEL	**Peldehue**	**1.48**	**130**	*i* P		**Pb**		**17 57 00.2**	**-0.2**
PEL				*i* S		**Sg**		**17 57 20.5**	**+0.2**
PEL	**Peldehue**	**1.48**	**130**⇑	*i*P		**Pn**		**17 56 60.0**	**+0.4**
PEL				*e*S		**Sn**		**17 57 17.4**	**-1.7**
PEL					IAML			17 57 21.9	
	comp=N,605nm,0.3s								
CLCH	**Cerro Calan**	**1.74**	**134**	*e*P		**Pb**		**17 57 04.2**	**-0.6**
CLCH				*i* S		**Sn**		**17 57 25.2**	**-0.3**
CLCH					IAML			17 57 36.1	
	comp=E,528nm,0.6s								
FCH	**Farellones**	**1.85**	**128**	*i* P		**Pn**		**17 57 05.8**	**+0.9**
FCH				*i* S		**Sn**		**17 57 28.7**	**0.0**
FCH					IAML			17 57 32.6	
	comp=E,286nm,0.2s								
AUSP	**Uspallata**	**2.23**	**92**	*i* P		**Pb**		**17 57 13.3**	**-0.1**
LMEL	**Las Melosas**	**2.25**	**138**	*e*P		**Pb**		**17 57 12.5**	**-1.2**
LMEL				*e*S		**Sn**		**17 57 39.5**	**+1.1**
LMEL					IAML			17 57 47.3	
	comp=N,320nm,0.2s								
GO04	**Tololo Observa**	**2.27**	**28**⇑	*i*P		**Pn**		**17 57 12.7**	**+2.0**
GO04				*e*S		**Sn**		**17 57 40.1**	**+1.2**
GO04					IAML			17 57 46.1	
	comp=E,814nm,0.4s								
RTLS	**Leoncito**	**2.35**	**81**	*i* P		**Pb**		**17 57 15.0**	**-0.5**
RTLS				*i* S		**Sb**		**17 57 46.5**	**+1.8**
RTLS					IAML			17 57 49.1	
	comp=Z,102nm,0.5s								
AROD	**Rodeo**	**2.97**	**48**	*i* P		**Pb**		**17 57 24.8**	**-1.3**

IDC 20 18:11:57.1±1.9,2°**32S**×68°**48E**,**h0**km,**mb3.4**/5,**mb1 3.7**/6,
mb1mx3.4/31,**mbtmp3.6**/6,**ML4.1**/1,**MS3.1**/3,**Ms1 3.2**/3,
ms1mx2.8/30,**Error ellipse: s-maj=61.0km**
s-min=28.0km az=66.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**4.71**	**148**	T	T	18 18 00.2	
	baz=330,slow=75,SNR=131						
H08N3	**Diego Garcia H**	**4.72**	**148**	T	T	18 17 56.9	
	baz=330,slow=75,SNR=105						
H08N1	**Diego Carcia H**	**4.73**	**148**	T	T	18 18 04.6	
	baz=330,slow=75,SNR=88						
PALK	**Pallekele**	**15.48**	**52**	Pn	Pn	18 15 35.2	-1.8
	0.8nm,0.3s,baz=296,slow=6.7,SNR=7.3						
WSAR	**Wadi Sarin**	**27.15**	**340**	LR	LR	18 26 56.6	
	comp=Z,29nm,18.8s,baz=180,slow=33						
CMAR	**Chiang Mai Arr**	**36.41**	**54**	LR	LR	18 32 39.3	
	comp=Z,20nm,20.7s,baz=81,slow=34						
MKAR	**Makanchi Array**	**50.40**	**12**	P	P	18 20 55.8	-0.5
	0.3nm,0.8s,baz=193,slow=5.9,SNR=3.6						
ZALV	**Zalesovo Beam**	**57.70**	**11**	P	P	18 21 48.8	-0.6
	0.4nm,0.4s,baz=193,slow=8.3,SNR=2.9						
SONM	**Songino Array**	**59.91**	**29**	P	P	18 22 06.3	+1.2
	0.4nm,0.8s,baz=226,slow=5.6,SNR=3.5						
WRA	**Warramunga Arr**	**66.55**	**111**	P	P	18 22 49.2	-0.4
	0.4nm,0.9s,baz=285,slow=5.5,SNR=3.3						
ASAR	**Alice Springs**	**66.61**	**115**	P	P	18 22 50.3	+0.4
	0.5nm,1.0s,baz=283,slow=5.9,SNR=3.7						
GERES	**GERESS Array B**	**69.48**	**325**	LR	LR	18 53 50.6	
	comp=Z,24nm,18.1s,baz=301,slow=36						
TXAR	**Lajitas Array**	**152.11**	**345**	PKPbc	PKPbc	18 31 55.1	-0.4
	0.1nm,0.4s,baz=48,slow=2.9,SNR=2.8						

NEIC ***20*** *18:26:31.6±0.6,51°.15N×5°.90E,h10km,ML2.7(UCC), ML2.9(LEDBW),Error ellipse: s-maj=7.3km s-min=5.1km az=160.0*

NEIC Felt at Montfort, Roermond and Sint Joost. Also felt at Maaseik, Belgium and at Waldfeucht, Germany.

BNS ***20*** *18:26:32.9±1.0,51°.15N×6°.00E,h10km±6km,ML2.9*

BNS Felt IV EMS.

STR ***20*** *18:26:32.6±0.9,51°N±8°×±°,h15km,M3.6/5,mb3.8/5, MLv3.5/3*

LDG ***20*** *18:26:32.8±0.1,51°.10N×5°.97E,h8km,Md3.5/9,Ml3.4/48, Error ellipse: s-maj=1.8km s-min=1.1km az=166.0*

UCC ***20*** *18:26:32.5±0.0,51°.14N×5°.96E,h14km*

BGR ***20*** *18:26:33.3±0.3,51°.13N×6°.16E,h10km,ML3.3/18,Error ellipse: s-maj=4.4km s-min=3.3km az=93.0*

PRU ***20*** *18:26:33.5±0.0,51°.24N×6°.31E,h1km*

UPP ***20*** *18:26:35.5±3.4,51°.41N×6°.47E,h0km,ML2.0,Suspected explosion*

ISC 20 18:26:30.9±0.9,**51°.14N**±0°.01×**5°.92E**±0°.01,**h18**km±2km,
n181,σ**2°14**/313,**32C-2D,The Netherlands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RWB	**Wassenberg**	**0.15**	**104**⇑	*i*Pg	**Pg**	**18 26 35.8**	**+0.7**
RWB				*e*Sg	**Sg**	**18 26 38.3**	**+0.3**
	3µm,0.4s						
RODG	**Roetgen-Dahlhe**	**0.16**	**87**⇑	*i*Pg	**Pg**	**18 26 35.9**	**+0.6**
RODG				*e*Sg	**Sg**	**18 26 38.4**	**+0.1**
	6µm,0.3s						
HKB	**Herkenbosch**	**0.16**	**71**	P	**Pg**	**18 26 35.8**	**+0.5**
HKB				S	**Sg**	**18 26 38.6**	**+0.3**
HKB	**Herkenbosch**	**0.16**	**71**	⇑P	**Pg**	**18 26 35.9**	**+0.5**
HKB				S	**Sg**	**18 26 38.7**	**+0.3**
BD09	**Hochneukirch**	**0.34**	**97**⇑	*e*Pg	**Pb**	**18 26 39.1**	**+0.6**
HGN	**Heimansgroeve**	**0.37**	**179**	*e*Pg	**Pg**	**18 26 39.9**	**+1.1**
HGN				*e*Sg	**Sg**	**18 26 45.0**	**+1.0**
HGN	**Heimansgroeve**	**0.37**	**179**	*e*Pg	**Pg**	**18 26 39.8**	**+1.1**
	baz=12						
HGN				*e*Sg	**Sg**	**18 26 45.0**	**+1.0**
BEBN	**Eben Emael**	**0.38**	**205**	⇑P	**Pg**	**18 26 40.0**	**+1.3**
BEBN				S	**Sg**	**18 26 45.7**	**+1.6**
	comp=N,195nm,0.3s						
JUE	**Julich**	**0.38**	**127**⇑	*e*Pg	**Pb**	**18 26 39.9**	**+0.7**
OPLO	**Oploo**	**0.46**	**351**	*e*Pg	**Pb**	**18 26 41.4**	**+0.9**
OPLO				*e*Sg	**Sb**	**18 26 48.2**	**+1.4**
OPLO	**Oploo**	**0.46**	**351**	*e*Pg	**Pb**	**18 26 41.3**	**+0.9**
	baz=160						
OPLO				*e*Sg	**Sb**	**18 26 48.0**	**+1.1**
BD01	**Bergheim Laure**	**0.48**	**111**⇑	*e*Pg	**Pb**	**18 26 41.9**	**+1.1**
GSH	**Grosshau**	**0.49**	**144**	*e*Pg	**Pb**	**18 26 42.0**	**+0.9**
GSH				*e*Sg	**Sg**	**18 26 48.3**	**+0.7**
	comp=N,515nm,0.2s						
BD07	**Roetschberg**	**0.51**	**112**	*e*Pg	**Pb**	**18 26 42.3**	**+1.0**
DREG	**Dreilaegerbach**	**0.51**	**158**⇑	*e*Pg	**Pg**	**18 26 42.2**	**+1.0**
DREG				*e*Sg	**Sb**	**18 26 49.4**	**+1.0**
	comp=N,236nm,0.2s						
BA05	**Sindorf**	**0.52**	**115**	*e*Pg	**Pb**	**18 26 42.9**	**+1.5**
MEM	**Membach**	**0.53**	**174**	P	**Pg**	**18 26 42.7**	**+1.2**
MEM				S	**Sg**	**18 26 49.8**	**+1.1**
MEM	**Membach**	**0.53**	**174**	⇑P	**Pg**	**18 26 42.7**	**+1.2**
MEM				S	**Sg**	**18 26 49.8**	**+1.1**
	comp=E,271nm,0.2s						
BMOL	**Mol**	**0.53**	**279**	⇑P	**Pg**	**18 26 43.3**	**+1.8**
BMOL				S	**Sb**	**18 26 50.7**	**+1.8**
	comp=N,298nm,0.2s						
BLCH	**La Chartreuse**	**0.54**	**203**	⇑P	**Pg**	**18 26 43.0**	**+1.3**
BLCH				S	**Sb**	**18 26 50.6**	**+1.5**
	comp=E,228nm,0.2s						
BDSL	**Dessel**	**0.55**	**279**	P	**Pn**	**18 26 43.8**	**+0.1**
BDSL				S	**Sn**	**18 26 52.1**	**-0.3**
KLL	**Kalltalsperre**	**0.55**	**153**	*e*Pg	**Pb**	**18 26 42.9**	**+1.0**
KLL				*e*Sg	**Sb**	**18 26 50.5**	**+1.1**
	comp=E,334nm,0.1s						
PLH	**Pulheim**	**0.58**	**103**⇑	*i*Pg	**Pg**	**18 26 43.1**	**+0.6**
PLH				*e*Sg	**Sb**	**18 26 50.1**	**-0.1**
BSTI	**Sart Tilman**	**0.60**	**202**	⇑P	**Pg**	**18 26 44.1**	**+1.3**
LAUG	**Laupendahl**	**0.68**	**71**⇑	*e*Pg	**Pb**	**18 26 44.2**	**+0.2**
LAUG				*e*Sg	**Sb**	**18 26 52.8**	**-0.2**
	comp=E,529nm,0.2s						
OLFT	**Oleftalsperre**	**0.72**	**154**	*e*Pg	**Pb**	**18 26 45.8**	**+1.0**
OLFT				*e*Sg	**Sb**	**18 26 55.1**	**+0.9**
BHOU	**Houvegnez**	**0.79**	**176**	P	**Pg**	**18 26 47.6**	**+1.3**
BHOU				S	**Sg**	**18 26 57.9**	**+1.2**
	comp=N,45nm,0.1s						
STB	**Steinbach**	**0.80**	**133**⇑	*e*Pg	**Pg**	**18 26 47.5**	**+1.1**
STB				*e*Sg	**Sb**	**18 26 57.6**	**+1.0**
	comp=N,392nm,0.2s						
BNS	**Bensberg**	**0.81**	**102**⇑	*e*Pg	**Pg**	**18 26 47.5**	**+0.8**
BNS				*e*Sg	**Sb**	**18 26 57.5**	**+0.6**
	comp=N,1µm,0.8s						
TDN	**Todenfeld**	**0.86**	**131**	*e*Pg	**Pg**	**18 26 48.6**	**+1.0**
TDN				*e*Sg	**Sb**	**18 26 58.9**	**+0.6**
	comp=N,381nm,0.2s						
BUG	**Bochum--Univer**	**0.90**	**70**	Pg	**Pb**	**18 26 48.5**	**+0.6**
BUG				S	**Sb**	**18 26 59.8**	**+0.3**
BUG	**Bochum--Univer**	**0.90**	**70**	*e*Pg	**Pb**	**18 26 48.5**	**+0.6**
BUG				*e*Sg	**Sb**	**18 26 59.8**	**+0.3**
HOBG	**Hohbusch**	**0.90**	**99**⇑	*e*Pg	**Pg**	**18 26 49.1**	**+0.6**
WBS	**Wahnbachtalspe**	**0.92**	**111**	*e*Pg	**Pb**	**18 26 48.8**	**+0.6**
WBS				*e*Sg	**Sb**	**18 27 00.6**	**+0.5**
	comp=N,425nm,0.3s						
BGES	**Gesves**	**0.92**	**216**	P	**Pg**	**18 26 50.3**	**+1.4**
BGES				S	**Sg**	**18 27 02.3**	**+1.3**
ENTS	**Ennepetalsperr**	**0.94**	**83**	*e*Pg	**Pb**	**18 26 49.4**	**+0.8**
ENTS				*e*Sg	**Sb**	**18 27 00.9**	**+0.2**
	comp=N,287nm,0.1s						
AHRW	**Bad Neuenahr-A**	**0.94**	**129**	*e*Pg	**Pn**	**18 26 50.0**	**+0.8**
AHRW				*e*Sg	**Sg**	**18 27 02.6**	**+0.9**
HILG	**Hillesheim**	**0.97**	**150**⇓	*e*Pg	**Pn**	**18 26 50.6**	**+1.0**
WTSB	**Winterswijk**	**0.99**	**33**	*e*Pg	**Pn**	**18 26 50.2**	**+0.3**
WTSB				*e*Sg	**Sg**	**18 27 03.2**	**-0.1**
WTSB	**Winterswijk**	**0.99**	**33**	*e*Pg	**Pn**	**18 26 50.4**	**+0.5**
	baz=210						
WTSB				*e*Sg	**Sg**	**18 27 03.0**	**-0.3**
BCES	**Court-Saint-Et**	**1.01**	**239**	P	**Pn**	**18 26 51.2**	**+1.2**
LOH	**Wallersheim-Lo**	**1.03**	**158**	*e*Pn	**Pg**	**18 26 51.9**	**+1.0**
LOH				*e*Sg	**Sb**	**18 27 04.7**	**+1.3**
	comp=N,394nm,0.1s						
LKLB	**Kalborn**	**1.04**	**173**	⇑P	**Pg**	**18 26 52.1**	**+0.9**
LKLB				S	**Sn**	**18 27 05.6**	**+0.9**
	comp=E,298nm,0.3s						
UCC	**Uccle**	**1.05**	**252**	P	**Pn**	**18 26 51.9**	**+1.3**
UCC				S	**Sg**	**18 27 06.3**	**+1.4**
UCC	**Uccle**	**1.05**	**252**	⇑P	**Pn**	**18 26 52.0**	**+1.3**
UCC				S	**Sg**	**18 27 06.3**	**+1.4**
BMRD	**Maredsous**	**1.11**	**222**	⇑P	**Pb**	**18 26 53.1**	**+1.6**
BMRD				S	**Sg**	**18 27 08.8**	**+1.7**
	comp=E,118nm,0.2s						
BHE	**Schloss Buerre**	**1.12**	**134**	*e*Sg	**Sb**	**18 27 06.4**	**+0.6**
	comp=E,192nm,0.2s						
BRQR	**Ronquire**	**1.20**	**244**	⇑P	**Pb**	**18 26 54.3**	**+1.3**
LVIA	**Vianden**	**1.22**	**172**	⇑P	**Pg**	**18 26 55.0**	**+0.6**
LVIA				S	**Sn**	**18 27 10.5**	**+1.6**
SNF	**Seneffe**	**1.22**	**239**	P	**Pb**	**18 26 54.6**	**+1.3**
SNF	**Seneffe**	**1.22**	**239**	⇑P	**Pb**	**18 26 54.7**	**+1.3**
GIVF	**Givet**	**1.25**	**215**	*e*Pn	**Pb**	**18 26 54.9**	**+1.0**
GIVF				*e*Sg	**Sg**	**18 27 12.7**	**+1.3**
	comp=E,302nm,0.2s						
BSKQ	**Steenkerk**	**1.27**	**248**	⇑P	**Pb**	**18 26 55.1**	**+1.0**
BSKQ				S	**Sb**	**18 27 11.9**	**+1.8**
	comp=N,137nm,0.1s						
BIW	**Bindweide**	**1.28**	**108**	⇑P	**Pn**	**18 26 54.7**	**+0.9**
BIW				S	**Sn**	**18 27 11.7**	**+1.2**
BIW	**Bindweide**	**1.28**	**108**	⇑P	**Pn**	**18 26 54.7**	**+0.9**
BIW				⇑Pg	**Pb**	**18 26 55.2**	**+0.9**
BIW				S	**Sn**	**18 27 11.7**	**+1.2**
BIW				SmS		18 27 14.1	
BGG	**Burgeitz**	**1.29**	**135**⇓	*e*Pg	**Pn**	**18 26 54.7**	**+0.7**
BGG				*e*Sg	**Sb**	**18 27 12.1**	**+1.2**
	comp=N,378nm,0.1s						
FSH	**Hochheid**	**1.30**	**144**	P	**Pb**	**18 26 55.5**	**+0.7**
FSH	**Hochheid**	**1.30**	**144**	P	**Pb**	**18 26 55.5**	**+0.7**
FSH				S	**Sg**	**18 27 13.2**	**+0.1**
SORT	**Sorpetalsperre**	**1.30**	**80**	*e*Pn	**Pn**	**18 26 54.9**	**+0.7**
SORT				*e*Sg	**Sn**	**18 27 10.8**	**-0.2**
	comp=N,410nm,0.3s						
DOU	**Dourbes**	**1.34**	**220**	⇑P	**Pb**	**18 26 56.4**	**+0.9**
DOU				S	**Sb**	**18 27 14.4**	**+2.1**
	comp=N,73nm,0.2s						
KOE	**Koeppel**	**1.35**	**121**	*e*Pg	**Pb**	**18 26 56.8**	**+1.2**
BBOU	**Bougnies**	**1.46**	**240**	⇑P	**Pb**	**18 26 58.8**	**+1.3**
WLF	**Walferdange**	**1.48**	**174**	P	**Pb**	**18 26 58.8**	**+1.0**
WLF				S	**Sb**	**18 27 18.3**	**+2.0**
WLF	**Walferdange**	**1.48**	**174**	⇑P	**Pb**	**18 26 58.9**	**+1.0**
WLF				S	**Sb**	**18 27 18.3**	**+2.0**
	comp=N,114nm,0.2s						
VBG4	**Venebrugge (Br**	**1.48**	**18**	*e*Pg	**Pg**	**18 27 00.4**	**+0.9**
VBG4				*e*Sg	**Sg**	**18 27 19.6**	**+0.8**
RIVT	**Riveris**	**1.53**	**159**	P	**Pn**	**18 26 58.5**	**+1.3**
FACH	**Fachingen**	**1.53**	**120**	⇑P	**Pn**	**18 26 58.2**	**+0.9**
FACH				Pg	**Pb**	**18 26 59.4**	**+0.7**
FACH				S	**Sn**	**18 27 17.6**	**+1.0**
BAIF	**Baives**	**1.54**	**226**	*e*Pn	**Pn**	**18 26 59.0**	**+1.7**
BAIF				*e*Sg	**Sb**	**18 27 20.6**	**+2.7**
	comp=N,51nm,0.2s						
RUP	**Ruppelstein**	**1.61**	**153**	P	**Pn**	**18 26 59.2**	**+0.8**
RUP				Pg	**Pg**	**18 27 02.1**	**+0.2**
ABH	**Alteburg**	**1.63**	**140**	Pn	**Pn**	**18 26 59.8**	**+1.1**
ABH				Sn	**Sb**	**18 27 22.1**	**+1.5**
ABH	**Alteburg**	**1.63**	**140**	⇑P	**Pn**	**18 26 59.8**	**+1.1**
IBBN	**Ibbenburen**	**1.64**	**43**	*e*Pn	**Pb**	**18 27 01.6**	**+1.2**
IBBN				*e*Sg	**Sb**	**18 27 22.2**	**+1.5**
GWBC	**Aumenau**	**1.67**	**116**	P	**Pb**	**18 27 01.2**	**+0.2**
WIT	**Witteveen**	**1.74**	**15**	*e*Sg	**Sg**	**18 27 28.3**	**+1.3**
DUP	**Duppenweiler**	**1.81**	**162**	Pg	**Pg**	**18 27 07.4**	**+1.6**
TNS	**Taunus Mts**	**1.85**	**119**	*e*Pn	**Pn**	**18 27 02.9**	**+1.2**
TNS				*e*Sg	**Sb**	**18 27 28.6**	**+1.7**
IMS	**Imsbach**	**2.00**	**140**	P	**Pn**	**18 27 04.2**	**+0.5**
IMS				Pg	**Pg**	**18 27 09.8**	**+0.5**
WBB	**Darmstadt**	**2.18**	**125**	P	**Pg**	**18 27 12.0**	**-0.6**
PEB	**Petersbachel**	**2.37**	**150**	P	**Pn**	**18 27 10.1**	**+1.2**
WBA	**Furth**	**2.37**	**128**	P	**Pg**	**18 27 16.3**	**-0.1**
TOD	**Tromm**	**2.40**	**129**	P	**Pn**	**18 27 11.0**	**+1.8**
GTTG	**Gvttingen**	**2.57**	**79**	*e*Pn	**Pn**	**18 27 13.1**	**+1.6**
GTTG				*e*Sg	**Sb**	**18 27 50.1**	**+2.6**
PAGF	**Fort de Pagny**	**2.59**	**183**	*e*Pn	**Pn**	**18 27 12.7**	**+0.9**
PAGF	**Fort de Pagny**	**2.59**	**183**	*e*Pg	**Pg**	**18 27 19.8**	**-0.7**
	baz=359						
PAGF				*e*Sn	**Sn**	**18 27 41.8**	**-1.0**
PAGF				*e*Sg	**Sg**	**18 27 52.5**	**-1.6**
	comp=N,121nm,0.4s						
UBBA	**Unterbreizbach**	**2.60**	**95**	*e*Pn	**Pn**	**18 27 13.5**	**+1.7**
UBBA				*e*Sg	**Sb**	**18 27 50.2**	**+1.9**
RETH	**Rethem/Aller,**	**2.66**	**52**	*e*Pn	**Pn**	**18 27 13.3**	**+0.5**
MEZF	**Maizieres J'vi**	**2.70**	**192**	*e*Pn	**Pn**	**18 27 15.9**	**+2.6**
	baz=15						
MEZF	**Maizieres J'vi**	**2.70**	**192**	*e*Pg	**Pb**	**18 27 21.6**	**+3.0**
	baz=5.4						
MEZF				*e*Sn	**Sn**	**18 27 44.5**	**-1.0**
MEZF				*e*Sg	**Sg**	**18 27 56.3**	**-1.3**
	comp=N,48nm,0.2s						
HROE	**Hohe Rhon--Fla**	**2.75**	**101**	*e*Pn	**Pn**	**18 27 15.7**	**+1.6**
HROE				*e*Sg	**Sb**	**18 27 55.1**	**+2.3**
CDF	**Champ du Feu**	**2.87**	**162**	*e*Pn	**Pn**	**18 27 16.3**	**+0.6**
CDF	**Champ du Feu**	**2.87**	**162**	*e*Pg	**Pg**	**18 27 25.6**	**-0.2**
CDF				*e*Sn	**Sn**	**18 27 47.8**	**-1.9**
	comp=N,12nm,0.3s						
CDF				*e*Sg	**Sb**	**18 28 00.4**	**+4.2**
	comp=N,11nm,0.2s						
CLZ	**Clausthal**	**2.87**	**74**	*e*Pn	**Pn**	**18 27 15.9**	**+0.2**
CLZ				*e*Pg	**Pb**	**18 27 24.1**	**+2.6**
CLZ				*e*Sg	**Sb**	**18 27 58.5**	**+2.3**
THEF	**They Montfort**	**2.91**	**179**	Pg	**Pg**	**18 27 25.8**	**-0.9**
THEF				S	**Sg**	**18 28 05.5**	**+1.1**
SIND	**Sindeldorf**	**2.96**	**126**	P	**Pn**	**18 27 18.1**	**+1.1**
SIND				S	**Sn**	**18 27 51.2**	**-0.8**
SFTF	**Sexfontaines**	**2.99**	**191**	*e*Pn	**Pn**	**18 27 19.1**	**+1.7**
SFTF	**Sexfontaines**	**2.99**	**191**	*e*Pg	**Pg**	**18 27 27.5**	**-0.7**
	baz=5.5						
SFTF				*e*Sg	**Sg**	**18 28 05.1**	**-1.9**
	comp=N,59nm,0.2s						
OPP	**Oppenau**	**3.02**	**150**	Pn	**Pn**	**18 27 19.2**	**+1.4**
OPP	**Oppenau**	**3.02**	**150**	S	**Sn**	**18 27 52.4**	**-1.1**
ECH	**Echery**	**3.03**	**164**	Pg	**Pg**	**18 27 27.9**	**-1.1**
ECH				Sg	**Sb**	**18 28 04.8**	**+3.9**
ECH	**Echery**	**3.03**	**164**	Pn	**Pn**	**18 27 19.7**	**+1.8**
ECH				Sn	**Sb**	**18 27 59.3**	**-1.7**
ECH	**Echery**	**3.03**	**164**	*e*Pg	**Pg**	**18 27 27.3**	**-1.1**
ECH				*e*Sg	**Sb**	**18 28 04.9**	**+3.9**
LBG	**Lerchenberg**	**3.09**	**142**	P	**Pn**	**18 27 20.4**	**+1.7**
CHRS	**Christianenhau**	**3.10**	**79**	*e*Pn	**Pn**	**18 27 19.0**	**+0.1**
POSS	**Possen**	**3.11**	**84**	*e*Pn	**Pn**	**18 27 20.1**	**+1.1**
POSS				*e*Sg	**Sb**	**18 28 06.2**	**+3.0**
HAU	**Haudompre**	**3.15**	**175**	*e*Pn	**Pn**	**18 27 20.4**	**+0.9**
HAU	**Haudompre**	**3.15**	**175**	*e*Pg	**Pb**	**18 27 29.8**	**+3.5**
HAU				*e*Sn	**Sn**	**18 27 55.7**	**-0.9**
HAU				*e*Sg	**Sg**	**18 28 09.6**	**-2.3**
	comp=N,40nm,0.2s						
BFO	**Black Forest**	**3.21**	**150**	*e*Pn	**Pn**	**18 27 22.2**	**+1.8**
BFO				*e*Sn	**Sn**	**18 27 58.6**	**+0.4**
BFO				*e*Sg	**Sb**	**18 28 11.1**	**+4.9**
BFO	**Black Forest**	**3.21**	**150**	*e*Pn	**Pn**	**18 27 22.2**	**+1.8**
BFO				*e*Sn	**Sn**	**18 27 57.3**	**-0.9**
HINF	**Hinteralfeld**	**3.38**	**169**	*e*Pn	**Pn**	**18 27 23.5**	**+0.8**
HINF	**Hinteralfeld**	**3.38**	**169**	*e*Pg	**Pg**	**18 27 34.6**	**-1.0**
HINF				*e*Sn	**Sn**	**18 28 00.2**	**-2.1**
HINF				*e*Sg	**Sg**	**18 28 16.5**	**-2.9**
	comp=N,14nm,0.2s						
KIZ	**Kirchzarten**	**3.44**	**157**	Pn	**Pn**	**18 27 25.7**	**+2.1**
WIMM	**Wimmelburg**	**3.52**	**82**	*e*Pn	**Pn**	**18 27 25.6**	**+1.0**
WIMM				*e*Sg	**Sb**	**18 28 18.1**	**+3.1**
FELD	**Feldberg im Sc**	**3.53**	**157**	P	**Pn**	**18 27 27.1**	**+2.2**
MOX	**Moxa**	**3.64**	**96**	*e*Pn	**Pn**	**18 27 27.9**	**+1.6**
MOX				*e*Sg	**Sb**	**18 28 23.0**	**+4.7**
NEUB	**Neuenburg**	**3.68**	**87**	*e*Pn	**Pn**	**18 27 28.8**	**+1.9**
NEUB				*e*Sg	**Sb**	**18 28 24.0**	**+4.4**
GUT	**Gutenstein**	**3.71**	**145**	P	**Pn**	**18 27 29.0**	**+1.8**
SLE	**Schleitheim**	**3.77**	**153**	P	**Pn**	**18 27 29.6**	**+1.5**
CLF	**Chambon-Foret**	**3.92**	**219**	*e*Pn	**Pn**	**18 27 31.9**	**+1.8**
CLF				*e*Pg	**Pg**	**18 27 45.8**	**-0.1**
LOR	**Lormes**	**4.10**	**200**	*e*Pn	**Pn**	**18 27 33.5**	**+0.9**
	baz=21						
LOR	**Lormes**	**4.10**	**200**	*e*Pg	**Pg**	**18 27 48.1**	**-1.3**
	baz=26						
LOR				*e*Sn	**Sn**	**18 28 18.6**	**-1.5**
LOR				*e*Sg	**Sg**	**18 28 39.7**	**-2.8**
	comp=N,52nm,0.5s						
LOR	**Lormes**	**4.10**	**200**	Pn	**Pn**	**18 27 33.9**	**+1.3**
MANZ	**Manzenberg**	**4.11**	**104**	*e*Pn	**Pn**	**18 27 34.1**	**+1.4**
NKC	**Novy Kostel**	**4.25**	**100**	*e*PN	**Pn**	**18 27 35.3**	**+0.7**
NKC				*e*SG	**Sb**	**18 28 41.1**	**+5.3**
	comp=N,11nm,0.4s						
SSF	**Saint Saulge**	**4.38**	**202**	*e*Pn	**Pn**	**18 27 37.5**	**+1.1**
SSF	**Saint Saulge**	**4.38**	**202**	*e*Pg	**Pg**	**18 27 54.0**	**-0.7**
SSF				*e*Sn	**Sn**	**18 28 25.0**	**-1.9**
SSF				*e*Sg	**Sg**	**18 28 48.4**	**-3.0**
	comp=N,18nm,0.3s						
HYF	**Humbligny**	**4.43**	**210**	*e*Pn	**Pn**	**18 27 38.7**	**+1.6**
HYF	**Humbligny**	**4.43**	**210**	*e*Pg	**Pg**	**18 27 53.9**	**-1.8**
HYF				*e*Sn	**Sn**	**18 28 26.1**	**-2.1**
	comp=N,21nm,0.2s						
HYF				*e*Sg	**Sg**	**18 28 49.2**	**-3.9**
	comp=N,127nm,0.3s						
CLL	**Collm**	**4.45**	**85**	*e*Pn	**Pn**	**18 27 39.7**	**+2.3**
CLL	**Collm**	**4.45**	**85**	*i* Pn	**Pn**	**18 27 39.4**	**+2.0**
CLL				*i* Pg	**Pg**	**18 27 55.0**	**-1.1**
CLL				*i* Sg	**Sg**	**18 28 48.2**	**-5.5**
	comp=Z,11nm,0.6s						
CABF	**La Chapelle**	**4.53**	**179**	*e*Pn	**Pn**	**18 27 39.6**	**+1.0**
CABF				*e*Sg	**Sg**	**18 28 52.0**	**-4.3**
	comp=Z,17nm,0.4s						
LDF	**La Druitiere**	**4.67**	**239**	*e*Pn	**Pn**	**18 27 41.9**	**+1.5**
LDF	**La Druitiere**	**4.67**	**239**	*e*Pg	**Pg**	**18 27 59.2**	**-1.0**
LDF				*e*Sn	**Sn**	**18 28 31.9**	**-2.1**
	comp=Z,11nm,0.3s						
LDF				*e*Sg	**Sg**	**18 28 58.8**	**-1.8**
	comp=Z,5.3nm,0.2s						
AVF	**Avril sur Loir**	**4.67**	**202**	*e*Pn	**Pn**	**18 27 41.6**	**+1.2**
AVF				*e*Sn	**Sn**	**18 28 32.0**	**-2.0**
	comp=Z,3.3nm,0.3s						
AVF				*e*Sg	**Sg**	**18 28 57.6**	**-3.1**
	comp=Z,4.9nm,0.2s						

LFF				*e*Sn	**Sn**	**18 29 29.8**	**-4.3**
	comp=Z,3.3nm,0.2s							
LFF				*e*Sg	**Sg**	**18 30 14.2**	**-4.6**
	comp=Z,8.5nm,0.4s							
CCA1	**Carnmenellis**	**7.15**	**267**	Pn	**Pn**	**18 28 14.6**	**+0.1**
CONA	**Conrad Observa**	**7.22**	**113**	Sg	**Sg**	**18 30 23.7**	**+1.3**
	comp=Z,2.3nm,0.5s							
MORC	**Moravsky Berou**	**7.54**	**96**	*e*Pn	**Pn**	**18 28 23.5**	**+3.7**
BORU	**Boraas**	**7.63**	**29**	P	**Pn**	**18 28 19.8**	**-1.2**
BORU				S	Sn	18 29 39.8	-7.2
TJOU	**Tjoern**	**7.66**	**23**	P	**Pn**	**18 28 20.6**	**-0.8**
STRU	**Stroemstad**	**8.47**	**19**	S	**Sn**	**18 30 00.8**	**-6.5**

*KRNET **20** 18:27:57.0±0.1, 40.°94N×80.°33E, mb3.4*
*SOME **20** 18:28:00.7, 41.°03N×80.°22E, h5km*
*NNC **20** 18:28:02.6±1.5, 41.°16N×80.°22E, h9km±7km, mb3.7, mpv3.5, Error ellipse: s-maj=10.6km s-min=6.8km az=133.0*

ISC 20 18:27:56.4±2.2, 40.°8N±0.°1×80.°49E±0.°07, h1km±17km, n49, σ0°94/77, 22C-21D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**2.21**	**295**	⇑*i*P	**Pn**	**18 28 34.8**	**+0.1**
	baz=93						
TARG				⇑*i*S	**Sn**	**18 29 03.3**	**+0.4**
	baz=93						
PRZ	**Przheval'sk**	**2.27**	**317**	⇓*i*P	**Pn**	**18 28 36.4**	**+1.1**
	baz=18						
PRZ				⇓*i*S	**Sn**	**18 29 03.7**	**-0.3**
	baz=18						
SHLS	**Shalkode**	**2.44**	**342**	Pg	**Pb**	**18 28 40.2**	**-1.0**
	112nm,0.2s						
SHLS				Lg	Lg	18 29 08.9	
	340nm,0.5s						
SHLS	**Shalkode**	**2.44**	**342**	*e*P	**Pb**	**18 28 40.2**	**-1.0**
	112nm,0.2s						
SHLS				*e*S	**Sn**	**18 29 08.9**	**+0.8**
	340nm,0.5s						
UZB	**Uzynbulak**	**2.55**	**335**	Pg	**Pb**	**18 28 42.3**	**-0.8**
	25nm,0.4s						
UZB				Lg	Lg	18 29 12.7	
	52nm,0.5s						
UZB	**Uzynbulak**	**2.55**	**335**	*e*P	**Pb**	**18 28 42.4**	**-0.8**
	25nm,0.4s						
UZB				*e*S	**Sb**	**18 29 12.7**	**-2.4**
	52nm,0.5s						
PDGK	**Podgornoye**	**2.59**	**344**	Pg	**Pb**	**18 28 43.0**	**-0.8**
	14nm,0.3s						
PDGK				Lg	Lg	18 29 13.8	
	37nm,0.4s						
PDGK	**Podgornoye**	**2.59**	**344**	⇑Pn	**Pn**	**18 28 40.5**	**+0.8**
	1.8nm,0.3s						
PDGK				⇓Pg	**Pb**	**18 28 43.0**	**-0.8**
	13nm,0.4s						
PDGK				⇓Lg	Lg	18 29 12.9	
	56nm,0.4s						
PDGK	**Podgornoye**	**2.59**	**344**	⇓*i*P	**Pn**	**18 28 40.7**	**+1.0**
	baz=46						
PDGK				⇓*i*S	**Sn**	**18 29 13.0**	**+1.0**
	baz=46						
KTMS	**Ketmen**	**2.60**	**358**	Pg	**Pb**	**18 28 44.6**	**+0.6**
	20nm,0.1s						
KTMS				Lg	Lg	18 29 16.7	
	123nm,0.3s						
KTMS	**Ketmen**	**2.60**	**358**	*e*P	**Pb**	**18 28 44.6**	**+0.6**
	20nm,0.1s						
KTMS				*e*S	**Sb**	**18 29 16.7**	**+0.1**
	123nm,0.3s						
SATY	**Saty**	**2.71**	**326**	Pg	**Pb**	**18 28 45.9**	**+0.1**
	22nm,0.3s						
SATY				Lg	Lg	18 29 18.9	
	104nm,0.3s						
SATY	**Saty**	**2.71**	**326**	*e*P	**Pb**	**18 28 45.9**	**+0.1**
	22nm,0.3s						
SATY				*e*S	**Sb**	**18 29 18.9**	**-0.7**
	104nm,0.3s						
KDJ	**Kajisay**	**2.80**	**298**	⇑*e*P	**Pn**	**18 28 43.2**	**+0.6**
	baz=98						
KDJ				⇑*i*S	**Sn**	**18 29 17.0**	**-0.1**
	baz=98						
KURS	**Kuram**	**3.16**	**328**	Pg	**Pb**	**18 28 53.4**	**0.0**
	22nm,0.5s						
KURS				Lg	Lg	18 29 31.8	
	9.8nm,0.3s						
KURS	**Kuram**	**3.16**	**328**	⇑*i*P	**Pb**	**18 28 53.4**	**0.0**
	22nm,0.5s						
KURS				*e*S	**Sb**	**18 29 31.8**	**-0.6**
	9.8nm,0.3s						
TNSS	**Tian-Shan**	**3.44**	**311**	Pg	**Pb**	**18 28 58.0**	**-0.4**
	15nm,0.2s						
TNSS				Lg	Lg	18 29 40.0	
	26nm,0.4s						
TNSS	**Tian-Shan**	**3.44**	**311**	*e*P	**Pb**	**18 28 58.0**	**-0.4**
	15nm,0.2s						
TNSS				*e*S	**Sb**	**18 29 40.0**	**-0.7**
	26nm,0.4s						
MDOK	**Medeo**	**3.46**	**313**	⇓Pn	**Pn**	**18 28 52.6**	**+1.0**
	2.2nm,0.5s						
MDOK				⇓Pg	**Pb**	**18 28 57.6**	**-1.0**
	6.5nm,0.5s						
MDOK				⇑Lg	Lg	18 29 40.4	
	23nm,0.5s						
MDOK	**Medeo**	**3.46**	**313**	Pg	**Pb**	**18 28 58.3**	**-0.3**
	12nm,0.3s						
MDOK				Lg	Lg	18 29 40.7	
	31nm,0.5s						
MDOK	**Medeo**	**3.46**	**313**	⇑*i*P	**Pb**	**18 28 58.3**	**-0.3**
	12nm,0.3s						
MDOK				*e*S	**Sb**	**18 29 40.7**	**-0.5**
	31nm,0.5s						
KOTS	**Kotyrbulak**	**3.47**	**315**	Pg	**Pb**	**18 28 58.5**	**-0.3**
	8.4nm,0.2s						
KOTS				Lg	Lg	18 29 40.7	
	32nm,0.6s						
KOTS	**Kotyrbulak**	**3.47**	**315**	*e*P	**Pb**	**18 28 58.5**	**-0.3**
	8.4nm,0.2s						
KOTS				*e*S	**Sb**	**18 29 40.8**	**-0.8**
	32nm,0.6s						
ULHL	**Ulahol**	**3.48**	**295**	⇓*i*P	**Pn**	**18 28 52.7**	**+0.7**
	baz=94						
ULHL				⇓*i*S	**Sn**	**18 29 33.6**	**-0.4**
	baz=94						
DJR	**Jarkent**	**3.53**	**352**	*e*P	**Pb**	**18 29 00.6**	**+0.9**
	1.5nm,0.3s						
DJR				*e*S	**Sb**	**18 29 44.4**	**+1.3**
	7.5nm,0.4s						
KNDC	**Almaty**	**3.54**	**313**	⇑Pg	**Pb**	**18 28 59.7**	**-0.2**
	4.1nm,0.3s						
KNDC				⇓Lg	Lg	18 29 41.7	
	24nm,0.6s						
MNBS	**Baschi**	**3.59**	**335**	Pg	**Pb**	**18 29 00.5**	**-0.2**
	13nm,0.3s						
MNBS				Lg	Lg	18 29 44.2	
	57nm,0.3s						
MNBS	**Baschi**	**3.59**	**335**	*e*P	**Pb**	**18 29 00.5**	**-0.2**
	13nm,0.3s						
MNBS				*e*S	**Sb**	**18 29 44.2**	**-0.6**
	57nm,0.3s						
BOOM	**Boomskoye usch**	**3.79**	**297**	⇑*i*P	**Pn**	**18 28 56.5**	**+0.4**
	baz=97						
BOOM				⇑*i*S	**Sn**	**18 29 40.5**	**-0.9**
	baz=97						
MTBS	**Maitube**	**3.79**	**308**	Pg	**Pb**	**18 29 05.0**	**+0.8**
	4.9nm,0.2s						
MTBS				Lg	Lg	18 29 52.1	
	14nm,0.3s						
MTBS	**Maitube**	**3.79**	**308**	*e*P	**Pb**	**18 29 05.0**	**+0.8**
	4.9nm,0.2s						
MTBS				*e*S	**Sb**	**18 29 52.1**	**+1.3**
	14nm,0.3s						
ARXS	**Arharly**	**3.90**	**331**	Pg	**Pb**	**18 29 07.3**	**+1.2**
	11nm,0.5s						
ARXS				Lg	Lg	18 29 55.9	
	16nm,0.6s						
ARXS	**Arharly**	**3.90**	**331**	*e*P	**Pb**	**18 29 07.3**	**+1.2**
	11nm,0.5s						
ARXS				*e*S	**Sb**	**18 29 55.9**	**+2.0**
	16nm,0.6s						
CHKK	**Chushkaly**	**3.98**	**320**	Pg	**Pb**	**18 29 07.9**	**+0.6**
	9.8nm,0.2s						
CHKK				Lg	Lg	18 29 56.8	
	28nm,0.3s						
CHKK	**Chushkaly**	**3.98**	**320**	⇓*i*P	**Pb**	**18 29 07.9**	**+0.6**
	9.8nm,0.2s						
CHKK				*e*S	**Sb**	**18 29 56.9**	**+0.9**
	28nm,0.3s						
KTBS	**Karatobe**	**4.03**	**317**	Pg	**Pb**	**18 29 08.1**	**-0.1**
	4.7nm,0.2s						
KTBS				Lg	Lg	18 29 57.3	
	11nm,0.3s						
KTBS	**Karatobe**	**4.03**	**317**	*e*P	**Pb**	**18 29 08.1**	**-0.1**
	4.7nm,0.2s						
KTBS				*e*S	**Sb**	**18 29 57.3**	**-0.1**
	11nm,0.3s						
KST	**Kastek**	**4.03**	**305**	*e*P	**Pb**	**18 29 07.3**	**-1.1**
	9.4nm,0.5s						
KST				*e*S	**Sb**	**18 29 55.2**	**-2.4**
	48nm,0.7s						
KZA	**Kyzart**	**4.13**	**289**	⇑*i*P	**Pn**	**18 29 01.7**	**+0.7**
	baz=88						
KZA				⇑*i*S	**Sn**	**18 29 49.0**	**-1.2**
	baz=88						
TKM2	**Tokmak 2**	**4.20**	**301**	⇓Pn	**Pn**	**18 29 03.0**	**+1.1**
	2.6nm,0.6s						
TKM2				⇓Pg	**Pb**	**18 29 13.0**	**+1.7**
	4.3nm,0.6s						
TKM2				⇑Lg	Lg	18 30 06.1	
	10.0nm,0.5s						
TKM2	**Tokmak 2**	**4.20**	**301**	⇓*i*P	**Pn**	**18 29 02.5**	**+0.6**
	baz=1.0						
TKM2				⇓*i*S	**Sn**	**18 29 51.0**	**-0.7**
	baz=1.0						
KUU	**Kurty**	**4.33**	**316**	*e*P	**Pb**	**18 29 14.4**	**+1.0**
	3.0nm,0.4s						
KUU				*e*S	**Sb**	**18 30 08.0**	**+1.8**
	19nm,0.8s						
KBK	**Karagaybulak**	**4.53**	**295**	⇑*i*P	**Pn**	**18 29 06.9**	**+0.6**
	baz=95						
KBK				⇑*i*S	**Sn**	**18 29 58.8**	**-0.9**
	baz=95						
AAK	**Ala-Archa**	**4.83**	**294**	⇓Pg	**Pb**	**18 29 23.4**	**+1.4**
	1.9nm,0.5s						
AAK				⇓Lg	Lg	18 30 24.4	
	6.7nm,0.6s						
SFK	**Sufi-Kurgan**	**5.40**	**263**	⇑Pg	**Pg**	**18 29 39.2**	**-0.7**
	0.7nm,0.4s						
SFK				⇑Lg	Lg	18 30 51.0	
	5.1nm,1.0s						
MAKZ	**Makanchi**	**6.06**	**10**	⇓Pn	**Pn**	**18 29 27.5**	**+0.3**
	0.6nm,0.5s						
MAKZ				⇑Sn	**Sn**	**18 30 35.8**	**-1.4**
	1.8nm,0.6s						
MAKZ				⇓Lg	Lg	18 31 06.1	
	1.7nm,0.6s						
MK31	**Makanchi Array**	**6.09**	**12**	Pn	**Pn**	**18 29 27.9**	**+0.3**
	0.2nm,0.3s,baz=216,slow=5.5,SNR=19						
MK31				⇑Sn	**Sn**	**18 30 36.0**	**-1.9**
	0.4nm,0.2s,baz=196,slow=22,SNR=8.3						
MK31				⇑Lg	Lg	18 31 07.4	
	4.0nm,0.7s,baz=183,slow=26,SNR=6.0						
MNAS	**Manas**	**6.20**	**288**	⇑Pg	Pg	18 29 52.1	-3.2
	1.7nm,0.7s						
MNAS				⇓Lg	Lg	18 31 10.1	
	4.1nm,1.1s						
KK31	**Karatay Array**	**7.77**	**290**	Pg	Pb	18 30 17.6	+5.7
	baz=92,slow=16						
KK31				Lg	Lg	18 31 57.2	
	baz=95,slow=26						

*NIED **20** 18:33:00, 38.°30N×141.°80E, h47km, Mw3.7 Best double couple: M0 3.88000×10^14 NP1:φ=230.00000°, δ=41.00000°, λ=-107.00000°. NP2:φ=72.00000°, δ=51.00000°, λ=-76.00000°.*
*ISCJB **20** 18:33:54.3±0.7, 38.°27N±0.°03×141.°85E±0.°07, h53km±5km, mb3.4/7, Error ellipse: s-maj=9.2km s-min=4.8km az=19.6*
*JMA **20** 18:33:55.5±0.1, 38.°29N×141.°77E, h49km±1km, M3.8*
JMA Felt II J1.
*IDC **20** 18:33:56.0±2.4, 38.°25N×141.°85E, h54km±23km, mb3.2/7, mb1 3.5/11, mb1mx3.3/43, mbtmp3.5/11, ML3.1/4, Error ellipse: s-maj=25.6km s-min=16.9km az=92.0*

ISC 20 18:33:54.8±1.0, 38.°26N±0.°04×141.°90E±0.°07, h42km±9km, n33, σ1°97/45, mb3.4/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.34**	**278**	P	**Pn**	**18 34 04.1**	**+0.4**
JIKH				S	**Sn**	**18 34 10.0**	**+0.1**
JIO	**Ouri**	**0.47**	**294**	P	**Pn**	**18 34 05.4**	**+0.1**
JIO				S	**Sn**	**18 34 12.1**	**-0.5**
JKMT	**Kesennumamotoy**	**0.64**	**329**	P	**Pn**	**18 34 07.7**	**+0.2**
JKMT				S	**Sn**	**18 34 16.1**	**-0.4**
OFUJ	**Ofunato**	**0.83**	**348**	P	**Pn**	**18 34 10.4**	**+0.3**
OFUJ				S	**Sn**	**18 34 20.8**	**-0.5**
OSFU	**Osakifurukawao**	**0.85**	**294**	P	**Pn**	**18 34 10.3**	**0.0**
JOFO				S	**Sn**	**18 34 21.3**	**-0.2**
JMK	**Ichinoseki**	**0.87**	**322**	P	**Pn**	**18 34 10.7**	**+0.1**
JMK				S	**Sn**	**18 34 21.3**	**-0.8**
JMM	**Marumori**	**0.96**	**246**	P	**Pn**	**18 34 11.2**	**-0.6**
JMM				S	**Sn**	**18 34 22.7**	**-1.6**
JOU	**Okura**	**0.98**	**276**	P	**Pn**	**18 34 11.9**	**-0.2**
JOU				S	**Sn**	**18 34 23.8**	**-1.0**
JFK	**Kawauchi**	**1.21**	**222**	P	**Pn**	**18 34 15.1**	**-0.2**
JFK				S	**Sn**	**18 34 29.8**	**-0.7**
JOM	**Ohasama**	**1.30**	**339**	P	**Pn**	**18 34 16.9**	**+0.5**
JOM				*e*S	**Sn**	**18 34 32.8**	**+0.2**
JYK	**Kaneyama**	**1.37**	**299**	P	**Pn**	**18 34 17.3**	**-0.2**
JYK				*e*S	**Sn**	**18 34 33.9**	**-0.5**
JFT	**Otama**	**1.44**	**239**	P	**Pn**	**18 34 18.7**	**+0.2**
JFT				S	**Sn**	**18 34 35.6**	**-0.6**
JYS	**Shirataka**	**1.45**	**269**	P	**Pn**	**18 34 18.4**	**-0.1**
JYS				S	**Sn**	**18 34 35.9**	**-0.3**
JRG	**Rokugo**	**1.50**	**319**	P	**Pn**	**18 34 19.5**	**+0.2**
JYA	**Atsumi**	**1.75**	**281**	P	**Pn**	**18 34 22.7**	**+0.1**
JYA				*e*S	**Sn**	**18 34 42.7**	**-1.0**
MJAR	**Matsushiro Arr**	**3.40**	**241**	P	**Pn**	**18 34 46.7**	**+1.3**
	0.3nm,0.3s,baz=56,slow=9.0,SNR=22						
MJAR				S	**Sn**	**18 35 26.1**	**+1.6**
	0.3nm,0.3s,baz=45,slow=26,SNR=4.7						
MAT	**Matsushiro**	**3.41**	**241**	P	**Pn**	**18 34 46.7**	**+1.3**
MAT				*e*S	**Sn**	**18 35 29.5**	**+4.9**
JHJ	**Hachijo jima 2**	**5.42**	**199**	P	**Pn**	**18 35 14.1**	**+1.1**
	7.4nm,0.3s,baz=72,slow=20,SNR=4.6						
JHJ				S	**Sn**	**18 36 11.9**	**-2.2**
	11nm,0.3s,baz=72,slow=20,SNR=2.7						
ASAJ	**Asahikawa**	**5.87**	**5**	P	**Pn**	**18 35 19.4**	**+0.2**
	1.1nm,0.3s,baz=201,slow=12,SNR=18						
USRK	**Ussuriysk Ar.**	**9.53**	**312**	P	**Pn**	**18 36 10.0**	**+0.6**
	0.4nm,0.3s,baz=123,slow=14,SNR=6.3						
SONM	**Songino Array**	**27.44**	**302**	P	**P**	**18 39 36.0**	**-0.8**
	0.2nm,0.4s,baz=95,slow=11,SNR=2.7						
H11N2	**WAKE ISLAND Hy 28.47**	**123**		T	T	19 10 06.6	
	baz=316,slow=75,SNR=202						
H11N1	**WAKE ISLAND Hy 28.48**	**123**		T	T	19 10 05.3	
	baz=316,slow=75,SNR=309						
H11N3	**WAKE ISLAND Hy 28.49**	**123**		T	T	19 10 05.5	
	baz=316,slow=75,SNR=157						
H11S1	**WAKE ISLAND Hy 29.23**	**125**		T	T	19 10 58.8	
	baz=318,slow=76,SNR=114						
H11S3	**WAKE ISLAND Hy 29.23**	**125**		T	T	19 11 03.9	
	baz=318,slow=76,SNR=108						
H11S2	**WAKE ISLAND Hy 29.25**	**125**		T	T	19 11 05.4	
	baz=318,slow=76,SNR=91						
ZALV	**Zalesovo Beam**	**41.38**	**311**	P	**P**	**18 41 36.7**	**+0.1**
	0.3nm,0.4s,baz=79,slow=7.5,SNR=2.6						
MKAR	**Makanchi Array**	**43.80**	**301**	P	**P**	**18 41 56.0**	**-0.4**
	0.2nm,0.4s,baz=83,slow=11,SNR=4.7						
ILAR	**Eielson Array**	**48.25**	**33**	P	**P**	**18 42 31.5**	**+0.4**
	0.5nm,0.9s,baz=262,slow=6.3,SNR=4.0						
WRA	**Warramunga Arr**	**58.33**	**188**	P	**P**	**18 43 44.4**	**-1.2**
	1.8nm,1.1s,baz=7.0,slow=7.6,SNR=7.3						
WRA				pP	**pP**	**18 43 58.1**	**+0.4**
	0.7nm,0.6s,baz=6.1,slow=7.3,SNR=2.9						
ASAR	**Alice Springs**	**62.06**	**188**	P	**P**	**18 44 11.1**	**0.0**
	0.1nm,0.5s,baz=352,slow=4.3,SNR=4.6						
TXAR	**Lajitas Array**	**89.07**	**53**	P	**P**	**18 46 46.3**	**+0.5**
	0.3nm,0.7s,baz=327,slow=4.8,SNR=3.5						

*ISCJB **20** 18:36:17.6±0.4, 37.°91N±0.°04×139.°26E±0.°08, h166km±3km, mb3.5/9, Error ellipse: s-maj=10.4km s-min=6.2km az=20.7*
*IDC **20** 18:36:18.2±1.4, 37.°96N×139.°39E, h160km±13km, mb3.2/9, mb1 3.4/12, mb1mx3.2/40, mbtmp3.7/12, MS3.0/1, Ms1 3.0/1, ms1mx2.2/22, Error ellipse: s-maj=31.0km s-min=15.1km az=81.0*
*JMA **20** 18:36:19.2±0.1, 37.°92N×139.°26E, h156km±1km, M3.1*

ISC 20 18:36:18.5±0.7, 37.°94N±0.°05×139.°25E±0.°06, h159km±6km, n31, σ1°31/44, mb3.4/9, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNS	**Sasagawa**	**0.14**	**155**	P	**Pn**	**18 36 39.9**	**+0.1**
JNS				S	**Sn**	**18 36 55.3**	**-0.6**
JAW	**Awa shima**	**0.51**	**0**	P	**Pn**	**18 36 41.5**	**+0.6**
JAW				*e*S	**Sn**	**18 36 58.3**	**+0.2**
JIZZ	**Izumozaki**	**0.59**	**226**	P	**Pn**	**18 36 42.3**	**+1.0**
JIZZ				*e*S	**Sn**	**18 37 00.3**	**+1.7**
JFY	**Yanaizu**	**0.65**	**146**	P	**Pn**	**18 36 42.0**	**+0.3**
JYS	**Shirataka**	**0.70**	**66**	P	**Pn**	**18 36 42.8**	**+0.8**
JYS				S	**Sn**	**18 37 00.9**	**+1.0**
JHK	**Hiroka**	**0.72**	**195**	P	**Pn**	**18 36 42.5**	**+0.4**
JHK				S	**Sn**	**18 37 00.0**	**0.0**
JYA	**Atsumi**	**0.75**	**29**	P	**Pn**	**18 36 43.1**	**+0.9**
JYA				S	**Sn**	**18 37 00.8**	**+0.3**
JSD	**Sado**	**0.78**	**277**	P	**Pn**	**18 36 42.9**	**+0.4**
JSD				S	**Sn**	**18 37 00.8**	**0.0**
JFT	**Otama**	**0.96**	**116**	P	**Pn**	**18 36 44.3**	**+0.5**
JYK	**Kaneyama**	**1.31**	**42**	P	**Pn**	**18 36 47.6**	**+0.8**
JAG	**Ashikaga**	**1.52**	**174**	P	**Pn**	**18 36 49.5**	**+0.5**
JSZ	**Suzu**	**1.57**	**252**	P	**Pn**	**18 36 50.2**	**+0.8**
MAT	**Matsushiro**	**1.62**	**211**	P	**Pn**	**18 36 50.7**	**+0.6**
MAT				S	**Sn**	**18 37 14.8**	**+0.5**
MAT	**Matsushiro**	**1.62**	**211**	P	**Pn**	**18 36 50.7**	**+0.6**
MAT				S	**Sn**	**18 37 14.8**	**+0.5**
MJAR	**Matsushiro Arr**	**1.62**	**211**	P	**Pn**	**18 36 50.8**	**+0.7**
	2.2nm,0.3s,baz=15,slow=12,SNR=30						
MJAR				S	**Sn**	**18 37 13.8**	**-0.5**
	0.3nm,0.3s,baz=53,slow=17,SNR=5.3						
JHG	**Hegura jima**	**1.84**	**268**	P	**Pn**	**18 36 53.2**	**+0.9**
JMK	**Ichinoseki**	**1.85**	**56**	P	**Pn**	**18 36 53.1**	**+0.7**
JRY	**Ryogami san**	**1.94**	**188**	P	**Pn**	**18 36 54.5**	**+0.9**
JRY				*e*S	**Sn**	**18 37 21.3**	**+0.8**
JOM	**Ohasama**	**2.21**	**46**	P	**Pn**	**18 36 58.7**	**+2.1**
JHJ	**Hachijo jima 2**	**4.83**	**175**	P	**Pn**	**18 37 28.3**	**-1.6**
	9.0nm,0.3s,baz=322,slow=19,SNR=2.5						
JHJ				S	**Sn**	**18 38 22.5**	**-3.1**
	6.9nm,0.3s,baz=49,slow=19,SNR=3.1						
ASAJ	**Asahikawa**	**6.67**	**21**	P	**Pn**	**18 37 52.9**	**-1.2**
	0.8nm,0.3s,baz=204,slow=20,SNR=6.1						
ASAJ				S	**Sn**	**18 39 03.8**	**-5.3**
	0.2nm,0.3s,baz=209,slow=19,SNR=2.4						
USRK	**Ussuriysk Ar.**	**8.31**	**321**	P	**Pn**	**18 38 18.2**	**+2.3**
	0.2nm,0.3s,baz=146,slow=14,SNR=5.3						
SONM	**Songino Array**	**25.85**	**303**	P	**P**	**18 41 35.8**	**+0.5**
	0.4nm,0.4s,baz=104,slow=9.0,SNR=7.2						
SONM				LR	LR	18 52 34.3	
	comp=Z,31nm,19.4s,baz=324,slow=38						
ZALV	**Zalesovo Beam**	**40.03**	**312**	P	**P**	**18 43 36.8**	**-0.9**
	0.4nm,0.4s,baz=91,slow=5.8,SNR=3.2						
MKAR	**Makanchi Array**	**42.17**	**301**	P	**P**	**18 43 54.9**	**-0.5**
	0.4nm,0.7s,baz=82,slow=3.3,SNR=4.6						
WRA	**Warramunga Arr**	**57.76**	**185**	P	**P**	**18 45 53.1**	**+0.1**
	0.2nm,0.6s,baz=1.4,slow=7.6,SNR=8.3						
ARCES	**ARCESS Array B**	**62.53**	**339**	P	**P**	**18 46 23.5**	**-1.4**
	4.5nm,1.0s,baz=58,slow=8.6,SNR=3.4						
FINES	**FINESS Array B**	**67.20**	**331**	P	**P**	**18 46 55.0**	**0.0**
	0.5nm,0.2s,baz=42,slow=8.2,SNR=9.5						
AKASG	**Malin Array Be**	**72.52**	**321**	P	**P**	**18 47 27.5**	**-0.2**
	5.2nm,0.4s,baz=46,slow=5.8,SNR=8.4						
NOA	**NORSAR Array B**	**72.67**	**336**	P	**P**	**18 47 28.9**	**+0.4**
	0.4nm,0.5s,baz=40,slow=8.1,SNR=3.3						
GERES	**GERESS Array B**	**81.02**	**327**	P	**P**	**18 48 15.8**	**+0.2**
	0.2nm,0.4s,baz=27,slow=6.7,SNR=3.3						

SJA 20 18:42:20.8±0.6, 31.°24S×68.°03W, h27km±4km, ML2.9, MW4.2, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.39**	**256**	*i* P	Pb	18 42 29.5	+0.1
RTLL				IAML		18 42 29.7	
	comp=Z,508nm,0.1s						
RTLL				*i* S	Sb	18 42 36.1	+0.9
CFA	**Coronel Fontan**	**0.41**	**206**	*i* P	Pb	18 42 30.2	+0.6
CFA				*i* S	Sb	18 42 36.7	+1.0
AMOG	**MOGNA**	**0.50**	**307**	*i* P	Pb	18 42 31.4	+0.3
AMOG				*i* S	Sn	18 42 39.5	-0.5
SJA	**San Juan**	**0.54**	**237**	*i* P	Pn	18 42 32.5	-0.3
SJA				*i* S	Sn	18 42 40.6	-0.5
SJA				IAML		18 42 41.0	
	comp=Z,105nm,0.5s						
ACAN	**Cantantal**	**1.26**	**145**	*i* P	Pb	18 42 44.8	+0.9
ACAN				*i* S	Sb	18 43 02.2	+2.5
APLL	**PUNTA DE LOS L**	**1.54**	**57**	*i* P	Pb	18 42 48.7	-0.1
APLL				IAML		18 43 08.8	
	comp=Z,69nm,0.3s						
APLL				*i* S	Sb	18 43 09.2	+1.4
MRA	**San Martin**	**2.29**	**121**	*i* S	Sb	18 43 27.8	-1.8
MRA				IAML		18 43 35.1	
	comp=Z,27nm,0.5s						
TCA	**Tanti**	**2.94**	**93**	IAML		18 43 59.6	
	comp=Z,4.6nm,0.8s						
CYA	**Choya**	**3.39**	**35**	IAML		18 44 07.8	
	comp=Z,7.7nm,0.6s						

*IDC **20** 18:50:11.0±2.3, 11.°32S×166.°20E, h0km, mb4.1/7, mb1 4.3/8, mb1mx3.9/37, mbtmp4.1/8, ML4.0/1, MS3.4/2, Ms1 3.3/2, ms1mx2.9/31, Error ellipse: s-maj=50.6km s-min=32.7km az=99.0*

ISC 20 18:50:12.6±1.9, 11.°5S±0.°1×166.°3E±0.°3, h10km, n11, σ2°35/10, mb4.0/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.53**	**179**	Pn	**Pn**	**18 52 47.4**	**+3.6**
	1.0nm,0.3s,baz=351,slow=17,SNR=16						
DZM				Sn	**Sn**	**18 54 37.9**	**-4.1**
	0.2nm,0.3s,baz=306,slow=19,SNR=2.4						
DZM				LR	LR	18 56 20.0	
	comp=Z,163nm,18.7s,baz=10,slow=34						
CTA	**Charters Tower**	**21.05**	**244**	P	**

	baz=251							
TWE				S	Sg	19 06 04.3	+0.3	
	baz=251							
EOS1	**EOS1**	**0.30 148**	P		Pg	19 06 01.3	+0.4	
	baz=147							
EOS1			*e*S		Sb	19 06 08.0	-0.3	
	baz=147							
NWF	**Wu-fen Shan**	**0.31 330**	*e*P		Pg	19 06 01.1	-0.1	
	baz=329							
NWF			*e*S		Sg	19 06 05.9	+0.5	
	baz=329							
WFSB	**Wu-fen Shan**	**0.31 330**	*e*P		Pg	19 06 01.2	0.0	
	baz=329							
WFSB			*e*S		Sg	19 06 05.9	+0.6	
	baz=329							
TWA	**Mucha**	**0.38 298**	P		Pg	19 06 02.4	-0.1	
	baz=298							
TWA			S		Sg	19 06 07.8	+0.2	
	baz=298							
ENTT	**Nioudou**	**0.39 246**	*i* P		Pg	19 06 02.8	+0.2	
	baz=244							
ENTT			*e*S		Sg	19 06 07.4	-0.3	
	baz=244							
NWLT	**Wulai**	**0.41 267**	*i* P		Pg	19 06 02.9	-0.2	
	baz=266							
NWLT			*e*S		Sg	19 06 08.2	-0.3	
	baz=266							
ENA	**Nanau**	**0.42 208**	*e*P		Pg	19 06 03.5	+0.2	
	baz=206							
ENA			*e*S		Sg	19 06 09.3	+0.6	
	baz=206							
TATO	**Taipei**	**0.46 292**	*e*P		Pg	19 06 03.6	-0.4	
	baz=292							
TATO			*e*S		Sg	19 06 08.8	-1.1	
	baz=292							
YM01	**YM01**	**0.49 315**	P		Pb	19 06 05.6	-0.8	
	baz=314							
YM01			*e*S		Sg	19 06 12.3	+1.3	
	baz=314							
YM11	**YM11**	**0.50 316**	*e*P		Pg	19 06 03.5	-1.3	
	baz=316							
YM11			*e*S		Sg	19 06 11.0	-0.4	
	baz=316							
YM05	**YM05**	**0.51 316**	P		Pg	19 06 05.1	+0.2	
	baz=315							
YM08	**YM08**	**0.51 319**	*e*P		Pg	19 06 04.9	0.0	
	baz=319							
YM04	**YM04**	**0.52 313**	*e*P		Pg	19 06 05.3	+0.2	
	baz=312							
YM04			*e*S		Sb	19 06 15.8	+0.9	
	baz=312							
YHNB	**Yeheng**	**0.54 256**	P		Pg	19 06 05.2	-0.4	
	baz=256							
YHNB			S		Sg	19 06 12.5	-0.2	
	baz=256							
NSK	**Sanguang**	**0.56 257**	P		Pg	19 06 05.3	-0.6	
	baz=256							
NSK			*e*S		Sg	19 06 12.1	-1.0	
	baz=256							
TWY	**Chenhua**	**0.57 326**	*e*P		Pg	19 06 05.6	-0.6	
	baz=326							
TWY			*e*S		Sg	19 06 14.8	+1.2	
	baz=326							
NNSB	**Datong**	**0.64 235**	P		Pg	19 06 07.5	+0.1	
	baz=234							
NNSB			S		Sg	19 06 15.9	+0.2	
	baz=234							
NNS	**Nan Shan**	**0.64 236**	*e*P		Pg	19 06 06.9	-0.6	
	baz=235							
NNS			*e*S		Sg	19 06 16.1	+0.3	
	baz=235							
WLTB	**Daxi**	**0.64 275**	*e*S		Sg	19 06 15.9	+0.1	
	baz=274							
NACB	**Ninganchiao**	**0.70 208**	P		Pg	19 06 08.9	+0.2	
	baz=207							
LIOB	**Emei**	**0.87 260**	*e*P		Pb	19 06 13.2	+0.3	
	baz=259							
LIOB			*e*S		Sg	19 06 23.6	+0.5	
	baz=259							
NSTT	**Nanjuang**	**0.88 259**	*e*P		Pg	19 06 12.2	+0.1	
	baz=258							
NSTT			*e*S		Sg	19 06 24.2	+0.6	
	baz=258							
WHF	**Hehuan Shan**	**0.91 224**	*e*P		Pg	19 06 12.6	0.0	
	baz=223							
WHF			*e*S		Sg	19 06 23.9	-0.5	
	baz=223							

TAP 20 19:06:00.7, 23.28N×121.60E, h31km, ML1.8, 3C, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HGSD	**Ruisui**	**0.27 323**		⇑*i*P	Pn	19 06 08.3	-0.2
	baz=322						
CHKT	**Chengkung**	**0.28 230**		*e*S	Sn	19 06 14.5	+0.7
	baz=228						
TWF1	**Yuli**	**0.29 285**		*i* P	Pn	19 06 08.8	0.0
	baz=284						
TWF1				*e*S	Sn	19 06 13.6	-0.4
	baz=284						
YULB	**Yu-li**	**0.30 292**		⇑*i*P	Pn	19 06 08.8	-0.2
	baz=291						
YULB				*e*S	Sn	19 06 14.5	+0.1
	baz=291						
EHY	**Hungye**	**0.34 311**		⇑*i*P	Pb	19 06 09.1	+0.3
	baz=311						
EHY				*e*S	Sb	19 06 14.8	+0.4
	baz=311						
ELDTW	**Lidau**	**0.54 261**		*i* P	Pb	19 06 11.6	-0.3
	baz=260						
ELDTW				*e*S	Sb	19 06 19.1	-0.6
	baz=260						
ESL	**Shilin**	**0.55 344**		*e*P	Pb	19 06 11.8	-0.3
	baz=344						
YUS	**Yu-Shan**	**0.63 289**		*e*P	Pb	19 06 13.7	0.0
	baz=288						
YUS				*e*S	Sb	19 06 22.6	+0.1
	baz=288						
VWDT	**VWDT**	**0.63 318**		P	Pb	19 06 13.2	-0.1
	baz=318						
TWG	**Pinlang**	**0.67 227**		*e*P	Pb	19 06 13.5	-0.4
	baz=226						
TWG				*e*S	Sb	19 06 22.9	-0.1
	baz=226						
SSLB	**Suanglung**	**0.78 311**		P	Pn	19 06 15.1	-0.5
	baz=310						
SSLB				*e*S	Sb	19 06 24.6	-1.5
	baz=310						
STYT	**Tauyuan**	**0.78 262**		*e*P	Pn	19 06 15.7	+0.1
	baz=261						
STYT				*e*S	Sb	19 06 26.3	0.0
	baz=261						
CHGB	**Renai**	**0.87 333**		*e*P	Pn	19 06 15.8	-1.2
	baz=223						
CHGB				*e*S	Sn	19 06 27.4	-1.4
	baz=223						
CHGB	**Renai**	**0.87 333**		*e*P	Pn	19 06 15.3	-1.7
	baz=333						
CHGB				*e*S	Sn	19 06 27.8	-0.9
	baz=333						
SMLT	**Sun Moon Lake**	**0.88 313**		P	Pn	19 06 17.2	+0.2
	baz=313						
SMLT				S	Sn	19 06 28.5	-0.3
	baz=313						
NACB	**Ninganchiao**	**0.89 360**		*e*P	Pb	19 06 17.7	+0.1
	baz=359						
NACB	**Ninganchiao**	**0.89 360**		S	Pb	19 06 17.7	0.0
	baz=207						
TPUB	**Ta-pu**	**0.89 272**		*e*P	Pb	19 06 17.9	+0.2
	baz=271						
TPUB				S	Sb	19 06 29.5	+0.1
	baz=271						
CHN5	**Tsauling**	**0.90 291**		P	Pb	19 06 18.9	+0.9
	baz=290						
CHN5				*e*S	Sb	19 06 30.9	+1.2
	baz=290						
ECL	**Taimali**	**0.90 221**		*e*S	Sn	19 06 27.8	-1.5
	baz=220						
WTP	**Ta-pu**	**0.91 268**		*e*P	Pn	19 06 17.4	0.0
	baz=267						
WTP				S	Sn	19 06 29.6	+0.2
	baz=267						
WHF	**Hehuan Shan**	**0.91 340**		*e*P	Pn	19 06 17.1	-0.7
	baz=340						
TYC	**Yuchr**	**0.92 312**		P	Pb	19 06 17.9	-0.3
	baz=312						
TYC				S	Sb	19 06 30.2	+0.1
	baz=312						
SLGT	**Liugui**	**0.92 252**		P	Pb	19 06 18.2	0.0
	baz=251						
SLGT				*e*S	Sb	19 06 30.0	-0.2
	baz=251						
CHN4	**Tsaushan**	**0.93 275**		P	Pb	19 06 18.8	+0.4
	baz=274						
CHN4				S	Sb	19 06 30.9	+0.6
	baz=274						
WJS	**Zhushan**	**0.96 304**		*e*P	Pb	19 06 19.0	+0.1
	baz=303						
CHN1	**Nanshi**	**0.99 265**		*e*P	Pn	19 06 17.4	-1.1
	baz=264						
CHN1				*e*S	Sb	19 06 32.8	+0.7
	baz=264						
TWK	**Hsinying**	**1.02 269**		*e*P	Pn	19 06 19.3	+0.4
	baz=269						
TWK				*e*S	Sb	19 06 34.1	+1.1
	baz=269						
WNT	**Mingjian**	**1.03 305**		*e*S	Sb	19 06 33.2	0.0
	baz=305						
MASBT	**Mashibuluo**	**1.11 233**		*e*P	Pn	19 06 20.4	+0.3
	baz=233						
MASBT				*e*S	Sb	19 06 35.0	-0.6
	baz=233						
EAST	**Anshuo**	**1.13 218**		*e*P	Pn	19 06 20.6	+0.2
	baz=217						
WLGB	**Puzi**	**1.21 280**		*e*S	Sn	19 06 35.1	-1.7
	baz=279						
LAY	**Lan-yu**	**1.24 182**		*e*P	Pn	19 06 22.1	+0.2
	baz=181						
HEN	**Hengchun**	**1.50 212**		*e*P	Pn	19 06 25.7	+0.3
	baz=211						

NIED ***20*** *19:09:00, 24.70N×122.50E, h10km, Mw4.7 Best double couple: M0 1.08000×10^16 NP1:φ=295.00000°, δ=56.00000°, λ=-166.00000°. NP2:φ=197.00000°, δ=78.00000°, λ=-35.00000°.*

MOS ***20*** *19:09:44.6±1.3, 24.85N×122.56E, h114km, mb4.8/30, Error ellipse: s-maj=8.8km s-min=5.2km az=112.5*

GCMT ***20*** *19:09:45.9±0.3, 24.66N±0.02×122.36E±0.03, h118km±4km, MW4.8/77, Moment Tensor Solution. s19,c22; s77,c118; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr 0.76±.11; Mθθ -2.02±.11; Mφφ 1.26±.11; Mrθ 1.78±.07; Mθφ -0.58±.11; Mφr 0.16±.07; Best double couple: M0 2.31800×10^16 NP1:φ=98.00000°, δ=73.00000°, λ=111.00000°. NP2:φ=224.00000°, δ=27.00000°, λ=39.00000°. Principal axes: T 1.6650, Plg=56.0000°, Azm=35.0000°; N 1.3060, Plg=20.0000°, Azm=271.0000°; P -2.9720, Plg=26.0000°, Azm=171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISCJB ***20*** *19:09:45.2±0.1, 24.72N±0.01×122.53E±0.01, h116km±1km, mb4.6/95 Error ellipse: s-maj=2.2km s-min=1.8km az=151.3*

BJI ***20*** *19:09:45.9, 24.80N×122.45E, h10km, mb4.7/71, mB4.9/45*

NEIC ***20*** *19:09:45.9±0.3, 24.77N×122.54E, h114km±3km, mb4.9/34, ML5.5(TAP), Error ellipse: s-maj=5.4km s-min=4.6km az=107.0*

NEIC Felt at Hsinchu, Taipei, Xinbei and Yungho. Recorded [3 TAP] in Hualien and Yilan; [2 TAP] in Hsinchu, Miaoli, Nantou, Taitung and Taoyuan; [1 TAP] in Chiayi, Tainan and Yunlin.

JMA ***20*** *19:09:45.7±0.1, 24.66N×122.48E, h112km±2km, M4.5*

IDC ***20*** *19:09:46.6±0.7, 24.84N×122.61E, h122km±5km, mb4.3/28, mb1 4.4/30, mb1mx4.4/39, mbtmp4.6/30, MS3.4/8, Ms1 3.4/8, ms1mx3.2/41, Error ellipse: s-maj=11.4km s-min=9.6km az=66.0*

ASIES ***20*** *19:09:46.2, 24.69N×122.56E, h95km, MW4.3*

TAP ***20*** *19:09:46.4, 24.70N×122.52E, h108km, ML5.6, B*

ISC 20 19:09:46.1±0.4, 24.74N±0.03×122.55E±0.02, h117km±3km, h117km:pP-P, n442, σ1934/581, mb4.7/103, 120C-14D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.43 244**		⇑P	Pn	19 10 02.8	-0.4
	baz=243						
EOS1				S	Sn	19 10 14.9	-1.2
	baz=243						
JYNG	**Yonagunijimaku**	**0.46 128**		P	Pn	19 10 02.9	-0.5
JYNG				S	Sn	19 10 15.3	-1.2
YOJ	**Yonaguni jima**	**0.50 123**		*e*Pn	Pn	19 10 03.3	-0.4
YOJ	**Yonaguni jima**	**0.50 123**		⇑P	Pn	19 10 03.4	-0.4
	baz=123						
YOJ				S	Sn	19 10 15.6	-1.3
	baz=123						
YOJ	**Yonaguni jima**	**0.50 123**		*e*P	Pn	19 10 03.3	-0.4
YOJ	**Yonaguni jima**	**0.50 123**		P	Pn	19 10 03.2	-0.4
YOJ				S	Sn	19 10 15.6	-1.3
EGS		**0.57 281**		⇑*i*P	Pn	19 10 03.7	-0.5
	baz=276						
EGS				S	Sn	19 10 15.2	-2.5
	baz=276						
TWB1	**Santiao Chiao**	**0.58 298**		⇓*i*P	Pn	19 10 03.9	-0.3
	baz=294						
TWB1				*i* S	Sn	19 10 16.0	-1.8
	baz=294						
TWC	**Suao**	**0.65 259**		⇑*i*P	Pn	19 10 03.8	-0.9
	baz=259						
TWC				S	Sn	19 10 16.0	-2.7
	baz=259						
NTC	**Toucheng**	**0.67 280**		*e*P	Pn	19 10 04.2	-0.6
	baz=281						
NTC				*e*S	Sn	19 10 16.9	-2.0
	baz=281						
TIPB	**Shuangxi**	**0.70 290**		⇑*i*P	Pn	19 10 04.7	-0.4
	baz=288						
TIPB				*i* S	Sn	19 10 17.7	-1.8
	baz=288						
ILA	**Ilan**	**0.73 272**		⇑*i*P	Pn	19 10 05.1	-0.3
	baz=273						
ILA				*i* S	Sn	19 10 18.6	-1.3
	baz=273						
NWF	**Wu-fen Shan**	**0.77 296**		⇑P	Pn	19 10 05.7	-0.2
	baz=293						
NWF				*i* S	Sn	19 10 19.3	-1.4
	baz=293						
WFSB	**Wu-fen Shan**	**0.77 296**		⇑P	Pn	19 10 05.7	0.0
	baz=293						
WFSB				S	Sn	19 10 19.5	-1.1
	baz=293						
ENA	**Nanau**	**0.80 247**		⇑*i*P	Pn	19 10 05.4	-0.6
	baz=249						
ENA				S	Sn	19 10 19.3	-1.6
	baz=249						
TWE	**Neicheng**	**0.80 269**		⇑*i*P	Pn	19 10 05.6	-0.3
	baz=269						
TWE				S	Sn	19 10 18.7	-2.3
	baz=269						
ENTT	**Nioudou**	**0.90 264**		⇑*i*P	Pn	19 10 06.8	-0.1
	baz=269						
ENTT				S	Sn	19 10 21.5	-1.1
	baz=269						
TWA	**Mucha**	**0.91 286**		⇑P	Pn	19 10 06.5	-0.4
	baz=281						
TWA				S	Sn	19 10 20.8	-2.0
	baz=281						
NWLT	**Wulai**	**0.95 273**		*e*P	Pn	19 10 07.0	-0.4
	baz=279						
YM01	**YM01**	**0.98 295**		⇑*e*P	Pn	19 10 08.5	+0.9
	baz=289						
YM01				S	Sn	19 10 23.3	-0.7
	baz=289						
YM08	**YM08**	**0.98 297**		⇑P	Pn	19 10 07.3	-0.4
	baz=292						
YM08				S	Sn	19 10 22.1	-1.9
	baz=292						
YM11	**YM11**	**0.98 296**		⇑P	Pn	19 10 07.5	-0.2
	baz=290						
YM11				S	Sn	19 10 22.8	-1.4
	baz=290						
PCYT	**Pengchaiyu**	**0.99 334**		⇓*i*P	Pn	19 10 08.3	+0.6
	baz=328						
PCYT				*e*S	Sn	19 10 24.5	+0.4
	baz=328						
YM05	**YM05**	**0.99 296**		⇑P	Pn	19 10 07.6	-0.3
	baz=290						
YM05				S	Sn	19 10 23.0	-1.3
	baz=290						
TATO	**Taipei**	**0.99 284**		*e*Pn	Pn	19 10 07.2	-0.6
TATO	**Taipei**	**0.99 284**		⇑P	Pn	19 10 07.1	-0.6
	baz=286						
TATO				S	Sn	19 10 21.9	-2.3
	baz=286						
YM04	**YM04**	**1.01 294**		⇑*i*P	Pn	19 10 07.7	-0.3
	baz=289						
YM04				S	Sn	19 10 22.8	-1.7
	baz=289						
TWY	**Chenhua**	**1.01 302**		⇓*i*P	Pn	19 10 08.2	+0.2
	baz=296						
TWY				*i* S	Sn	19 10 24.3	-0.3
	baz=296						
NACB	**Ninganchiao**	**1.03 237**		*e*Pn	Pn	19 10 07.0	-1.2
NACB	**Ninganchiao**	**1.03 237**		⇑P	Pn	19 10 06.9	-1.2
	baz=238						
NACB				S	Sn	19 10 22.5	-2.4
	baz=238						
YHNB	**Yeheng**	**1.07 267**		*e*Pn	Pn	19 10 08.5	-0.1
YHNB	**Yeheng**	**1.07 267**		⇑P	Pn	19 10 08.6	-0.1
	baz=273						
YHNB				S	Sn	19 10 23.9	-1.8
	baz=273						
NSK	**Sanguang**	**1.08 267**		⇑*i*P	Pn	19 10 08.6	-0.1
	baz=275						
NSK				S	Sn	19 10 24.4	-1.6
	baz=275						
NTST	**Danshui**	**1.09 293**		⇑P	Pn	19 10 08.7	0.0
	baz=288						
NTST				S	Sn	19 10 24.9	-0.9
	baz=288						
TWD	**Chiawan**	**1.09 233**		⇑*i*P	Pn	19 10 07.6	-1.1
	baz=230						
TWD				S	Sn	19 10 23.7	-2.2
	baz=230						
TWS1	**Kuangyinshan**	**1.09 290**		⇑P	Pn	19 10 08.5	-0.2
	baz=291						
TWS1				*e*S	Sn	19 10 24.4	-1.5
	baz=291						
NNSB	**Datong**	**1.11 254**		⇑P	Pn	19 10 08.6	-0.5
	baz=250						
NNSB				S	Sn	19 10 24.7	-1.8
	baz=250						
NNS	**Nan Shan**	**1.11 255**		⇑*i*P	Pn	19 10 08.8	-0.4
	baz=251						
NNS				S	Sn	19 10 25.0	-1.6
	baz=251						
HWA	**Hwalien**	**1.15 229**		⇑*i*P	Pn	19 10 08.7	-0.6
	baz=224						
HWA				*e*S	Sn	19 10 25.8	-1.2
	baz=224						
IRIF	**Iriomote-Funau**	**1.15 110**		P	Pn	19 10 09.3	0.0
IRIF				S	Sn	19 10 26.2	-0.8
WLTB	**Daxi**	**1.19 276**		⇑*i*P	Pn	19 10 10.0	+0.3
	baz=278						
WLTB				S	Sn	19 10 27.1	-0.6
	baz=278						
ENLB	**Shoufeng**	**1.20 226**		⇑*i*P	Pn	19 10 09.1	-0.8
	baz=223						
ENLB				S	Sn	19 10 27.1	-0.9
	baz=223						
NCU	**National Centr**	**1.26 281**		*e*P	Pn	19 10 10.4	-0.2
	baz=289						
NCU				S	Sn	19 10 28.7	-0.5
	baz=289						
NCUH	**Zhongli**	**1.26 281**		P	Pn	19 10 10.5	-0.1
	baz=288						
NCUH				S	Sn	19 10 28.8	-0.4
	baz=288						
WHF	**Hehuan Shan**	**1.31 244**		⇑*i*P	Pn	19 10 11.2	-0.4
	baz=244						
WHF				S	Sn	19 10 28.9	-2.0
	baz=244						
HATJ	**Hateruma jima**	**1.33 120**		P	Pn	19 10 11.7	+0.4
HATJ				S	Sn	19 10 30.2	-0.3
TDCB	**Techi**	**1.36 249**		⇑P	Pn	19 10 12.0	+0.2
	baz=244						
TDCB				S	Sn	19 10 29.7	-1.6
	baz=244						
ESL	**Shilin**	**1.37 228**		⇑*i*P	Pn	19 10 10.6	-1.2
	baz=237						
ESL				*e*S	Sn	19 10 28.5	-2.9
	baz=237						
LIOB	**Emei**	**1.40 267**		⇑*i*P	Pn	19 10 12.0	-0.2
	baz=268						
LIOB				*e*S	Sn	19 10 30.0	-1.9
	baz=268						
NSTT	**Nanjuang**	**1.41 266**		⇑*i*P	Pn	19 10 12.0	-0.3
	baz=267						
NSTT				S	Sn	19 10 30.8	-1.4
	baz=267						
JKRS	**Kuro-shima**	**1.42 110**		P	Pn	19 10 12.7	+0.3
JKRS				*e*S	Sn	19 10 32.0	-0.3
SBCB	**Hsinchu**	**1.42 273**		⇑P	Pn	19 10 12.4	0.0
	baz=274						
SBCB				S	Sn	19 10 31.0	-1.4
	baz=274						
CHGB	**Renai**	**1.42 242**		⇑P	Pn	19 10 12.6	-0.1
	baz=238						
CHGB				S	Sn	19 10 30.8	-2.0
	baz=238						
HSN	**Hsinchu**	**1.44 273**		⇑P	Pn	19 10 12.1	-0.4
	baz=275						
HSN				S	Sn	19 10 31.1	-1.6
	baz=275						
JIJ	**Ishigaki jima**	**1.50 104**		P	Pn	19 10 13.2	-0.1
JIJ				S	Sn	19 10 32.8	-1.1
JISG	**Ishigakijimahi**	**1.61 95**		P	Pn	19 10 14.6	0.0
JISG				S	Sn	19 10 35.8	-0.5
HGSD	**Ruisui**	**1.61 220**		⇑P	Pn	19 10 13.7	-0.9
	baz=220						
HGSD				S	Sn	19 10 34.4	-2.0
	baz=220						
NMLH	**Miaoli**	**1.61 263**		⇑*i*P	Pn	19 10 14.9	+0.2
	baz=264						
NMLH				S	Sn	19 10 35.3	-1.1
	baz=264						
VWDT	**VWDT**	**1.62 233**		⇑P	Pn	19 10 14.4	-0.3
	baz=230						
VWDT				S	Sn	19 10 34.7	-1.7
	baz=230						
NSY	**Sanyi**	**1.66 259**		⇑*i*P	Pn	19 10 15.5	+0.3
	baz=260						
NSY				S	Sn	19 10 36.6	-0.8
	baz=260						
EHY	**Hungye**	**1.66 223**		⇑*e*P	Pn	19 10 13.7	-1.5
	baz=230						
TWQ1	**Liyutan**	**1.66 257**		⇑*i*P	Pn	19 10 15.3	+0.1
	baz=258						
TWQ1				S	Sn	19 10 36.3	-1.2
	baz=258						
PTSB	**Yuanli**	**1.70 261**		*e*P	Pn	19 10 15.2	-0.6
	baz=262						
PTSB				S	Sn	19 10 36.5	-1.8
	baz=262						
SMLT	**Sun Moon Lake**	**1.73 241**		⇑*i*P	Pn	19 10 16.4	+0.2
	baz=236						
SMLT				*e*S	Sn	19 10 39.2	+0.1
	baz=236						
SSLB	**Suanglung**	**1.74 237**		*e*Pn	Pn	19 10 15.9	-0.3
SSLB	**Suanglung**	**1.74 237**		⇑P	Pn	19 10 15.8	-0.3
	baz=235						
SSLB				*e*S	Sn	19 10 37.9	-1.2
	baz=235						
TYC	**Yuchr**	**1.75 242**		⇑*i*P	Pn	19 10 16.8	+0.5
	baz=246						
TYC				*e*S	Sn	19 10 39.1	-0.3
	baz=246						
YULB	**Yu-li**	**1.76 221**		*e*Pn	Pn	19 10 14.8	-1.7
YULB	**Yu-li**	**1.76 221**		⇑*e*P	Pn	19 10 14.9	-1.6
	baz=228						
YULB				*e*S	Sn	19 10 36.5	-3.1
	baz=228						
TWF1	**Yuli**	**1.79 220**		⇑*e*P	Pn	19 10 15.4	-1.4
	baz=227						
TWF1				*e*S	Sn	19 10 37.7	-2.6
	baz=227						
TCU	**Taichung**	**1.81 251**		⇑*i*P	Pn	19 10 17.2	+0.2
	baz=252						
TCU				*e*S	Sn	19 10 39.1	-1.4
	baz=252						
WJS	**Zhushan**	**1.90 242**		⇑*i*P	Pn	19 10 18.6	+0.5
	baz=252						
WJS				*e*S	Sn	19 10 43.3	+0.8
	baz=252						
WNT	**Mingjian**	**1.91 244**		⇑*i*P	Pn	19 10 18.6	+0.4
	baz=244						
WNT				*e*S	Sn	19 10 43.1	+0.4

baz=244
YUS Yu-Shan 1.92 230 ⇑P Pn 19 10 18.6 -0.2
baz=224
YUS S Sn 19 10 41.9 -1.9
baz=224
WCHH Zhanghua 1.93 251 ⇑P Pn 19 10 18.5 0.0
baz=251
WCHH *e*S Sn 19 10 42.8 -0.4
baz=251
CHKT Chengkung 1.96 214⇑*i*P Pn 19 10 17.6 -1.2
baz=209
CHKT S Sn 19 10 40.3 -3.6
baz=209
JTJ Tarama 1.96 92 P Pn 19 10 19.5 +0.6
JTJ S Sn 19 10 43.9 0.0
CHN5 Tsauling 2.05 237⇑*i*P Pn 19 10 20.5 +0.3
baz=247
CHN5 S Sn 19 10 46.7 +0.6
baz=247
ELDTW Lidau 2.08 223 ⇑P Pn 19 10 19.5 -1.1
baz=222
ELDTW *e*S Sn 19 10 44.4 -2.5
baz=222
WGK Gukeng 2.10 240⇑*i*P Pn 19 10 21.1 +0.5
baz=251
WGK S Sn 19 10 46.4 -0.5
baz=251
WDLH Douliu 2.11 241⇑*i*P Pn 19 10 21.3 +0.5
baz=251
WDLH S Sn 19 10 47.7 +0.3
baz=251
RLNB Erlin 2.17 248 ⇑P Pn 19 10 21.3 -0.2
baz=255
RLNB S Sn 19 10 47.7 -0.9
baz=255
CHN2 Minshiung 2.24 238⇑*i*P Pn 19 10 23.1 +0.7
baz=248
CHN2 *e*S Sn 19 10 51.6 +1.3
baz=248
WTCT Ta-ch'eng 2.25 248⇑*i*P Pn 19 10 22.2 -0.3
baz=255
WTCT S Sn 19 10 48.8 -1.6
baz=255
CHN4 Tsaushan 2.26 233⇑*i*P Pn 19 10 23.2 +0.5
baz=233
CHN4 *i* S Sn 19 10 50.9 +0.2
baz=233
TPUB Ta-pu 2.26 231 *e*Pn Pn 19 10 22.9 +0.1
TPUB Ta-pu 2.26 231 ⇑P Pn 19 10 23.0 +0.2
baz=225
TPUB S Sn 19 10 50.7 -0.2
baz=225
STYT Tauyuan 2.27 227⇑*i*P Pn 19 10 23.1 +0.3
baz=227
STYT S Sn 19 10 50.9 -0.2
baz=227
CHY Chiayi 2.30 238⇑*i*P Pn 19 10 23.6 +0.4
baz=248
CHY S Sn 19 10 51.5 -0.1
baz=248
WTP Ta-pu 2.31 230⇑*i*P Pn 19 10 23.5 +0.1
baz=231
WTP S Sn 19 10 52.4 +0.4
baz=231
WMLT Mailiao 2.32 247 *e*P Pn 19 10 22.9 -0.5
baz=248
TWGBT Beinan 2.34 215 ⇑P Pn 19 10 22.0 -1.7
baz=220
TWGBT S Sn 19 10 49.3 -3.2
baz=220
TWG Pinlang 2.34 216 *e*Pn Pn 19 10 22.1 -1.6
TWG Pinlang 2.34 216 ⇑P Pn 19 10 22.1 -1.6
baz=220
TWG *e*S Sn 19 10 49.4 -3.2
baz=220
TTN Taitung 2.35 213⇑*e*P Pn 19 10 23.5 -0.4
baz=220
TTN *e*S Sn 19 10 52.1 -0.8
baz=220
JIRB Irabujima 2.39 87 P Pn 19 10 24.7 +0.4
JIRB S Sn 19 10 53.0 -0.6
TWK Hsinying 2.39 233⇑*i*P Pn 19 10 24.4 +0.1
baz=233
TWK S Sn 19 10 53.3 -0.4
baz=233
WSF Szhu 2.39 243⇑*i*P Pn 19 10 24.1 -0.2
baz=244
WSF S Sn 19 10 52.6 -1.1
baz=244
WLGB Puzi 2.41 239 ⇑P Pn 19 10 24.7 +0.1
baz=240
WLGB S Sn 19 10 53.6 -0.5
baz=240
CHN1 Nanshi 2.41 231⇑*i*P Pn 19 10 24.7 +0.1
baz=231
CHN1 S Sn 19 10 54.1 -0.1
baz=231
JIKM Ikemajima 2.46 85 P Pn 19 10 26.3 +1.1
JIKM S Sn 19 10 55.5 +0.3
SLGT Liugui 2.46 225 ⇑P Pn 19 10 25.9 +0.6
baz=226
SLGT *e*S Sn 19 10 55.5 +0.2
baz=226
JMJ Miyako jima 2 2.50 88 *e*P Pn 19 10 26.4 +0.7
baz=86
JMJ *e*S Sn 19 10 55.5 -0.6
baz=86
JMJ Miyako jima 2 2.50 88 P Pn 19 10 26.5 +0.8
JMJ *e*S Sn 19 10 56.2 +0.1
CHN8 Yiju 2.55 238⇑*i*P Pn 19 10 26.3 -0.1
baz=238
CHN8 *e*S Sn 19 10 55.6 -1.7
baz=238
ECL Taimali 2.58 215⇑*i*P Pn 19 10 25.0 -1.8
baz=209
ECL S Sn 19 10 54.3 -3.9
baz=209
CHN3 Shinhua 2.59 231 ⇑P Pn 19 10 27.7 +0.7
baz=240
CHN3 *e*S Sn 19 10 59.3 +0.9
baz=240
JOGS Gusukube 2.60 89 P Pn 19 10 28.3 +1.3
JOGS *e*S Sn 19 10 58.6 +0.1
SSD Sandimen 2.65 222⇑*i*P Pn 19 10 28.1 +0.4
baz=222
SSD S Sn 19 10 58.8 -0.9
baz=222
SCLT Jiali 2.66 235⇑*i*P Pn 19 10 28.0 +0.2
baz=228
SCLT S Sn 19 10 59.7 -0.2
baz=228
TAI1 Yung-k'ang 2.71 232 ⇑P Pn 19 10 29.1 +0.6
baz=233
TAI1 *e*S Sn 19 11 00.6 -0.5
baz=233
TWM1 Shoushan 2.73 226 ⇑P Pn 19 10 29.9 +1.1
baz=226
MATB Ma-tsu 2.74 301⇓*e*P Pn 19 10 28.3 -0.6
baz=300
MATB *e*S Sn 19 10 59.3 -2.6
baz=300
MASBT Mashibuluo 2.75 220 ⇑P Pn 19 10 29.2 +0.1
baz=221
MASBT *e*S Sn 19 11 00.4 -1.7
baz=221
TAW Tawu 2.81 213 *e*P Pn 19 10 28.0 -1.8
baz=213
TAW *e*S Sn 19 11 00.8 -2.7
baz=213
EAST Anshuo 2.82 214 ⇑P Pn 19 10 28.6 -1.4
baz=211
VWUC VWUC 2.83 276⇑*e*P Pn 19 10 29.3 -0.7
baz=276
LAY Lan-yu 2.84 199⇑*i*P Pn 19 10 28.9 -1.3
baz=199
SCZT Fangliau 2.94 217⇑*i*P Pn 19 10 31.6 +0.1
baz=228
SCZT *e*S Sn 19 11 06.8 +0.2
baz=228
PNG Penghu 2.97 248⇑*i*P Pn 19 10 30.7 -1.3
baz=248
PNG *e*S Sn 19 11 04.0 -3.2
baz=248
KAU Kaohsiung 2.98 224 *e*P Pn 19 10 31.9 -0.2
baz=225
PHUB P'eng-hu 2.98 246 ⇑P Pn 19 10 30.8 -1.2
baz=247
PHUB S Sn 19 11 04.1 -3.4
baz=247
WDGT Dungji 3.02 242 ⇑P Pn 19 10 31.8 -0.8
baz=242
WDGT S Sn 19 11 05.1 -3.4
baz=242
WLCH Liuqiu 3.10 220 *e*P Pn 19 10 34.5 +0.9
baz=221
TWP Hsiaoliuchiu 3.11 221 ⇑P Pn 19 10 34.7 +0.9
baz=221
HEN Hengchun 3.19 212 *e*P Pn 19 10 35.1 +0.4
baz=223
HEN *e*S Sn 19 11 10.4 -1.9
baz=223
TSEB Hengchuen, Pin 3.21 209 *e*P Pn 19 10 35.2 +0.2
baz=210
TSEB *e*S Sn 19 11 11.9 -0.8
baz=210
TWKBT Hengchun 3.21 210 *e*P Pn 19 10 34.4 -0.7
baz=205
TWKBT *e*S Sn 19 11 10.4 -2.4
baz=205
TWK1 Hengchun 3.21 210 *e*P Pn 19 10 34.2 -0.9
baz=205
TWK1 *e*S Sn 19 11 12.2 -0.6
baz=205
VCHM Qimei 3.23 243 ⇑P Pn 19 10 34.3 -1.1
baz=236
VCHM S Sn 19 11 10.1 -3.3
baz=236
QZH Quanzhou 3.60 274⇑*i*P Pn 19 10 39.5 -0.7
QZH S Sn 19 11 17.8 -4.3
KNM Kinmen 3.76 266⇑*e*P Pn 19 10 43.2 +0.9
baz=259
KNMB Chin-men Tao 3.80 267⇑*e*P Pn 19 10 41.9 -0.9
baz=260
JOW Kunigami 5.57 67 P Pn 19 11 05.7 -0.9
282nm,0.3s,baz=248,slow=9.2,SNR=1404
JOW S Sn 19 12 05.6 -3.8
27nm,0.3s,baz=116,slow=18,SNR=1.8
JOW Kunigami 5.57 67⇑*e*P Pn 19 11 05.7 -0.9
baz=68
SSE Sheshan 6.45 350 *e*Pn Pn 19 11 19.3 +0.8
VDOS Pratas Island 6.71 234⇑*e*P Pn 19 11 22.6 +0.5
baz=234
NJ2 Nanjing 7.98 337 *e*P Pn 19 11 39.4 +0.2
NJ2 S Sn 19 13 09.9 +2.1
NJ2 pmax pmax
comp=Z,130nm,0.8s
NJ2 LR LR
comp=N,960nm,3.8s
NJ2 LR LR
comp=E,1μm,3.8s
NJ2 LR LR
comp=Z,510nm,3.9s
GZH Guangzhou 8.58 261 P Pn 19 11 42.8 -4.6
MCO Taipa Grande 8.66 254 P Pn 19 11 49.0 +0.5
WHN Wuhan 9.29 310⇓*i*P Pn 19 11 57.3 +0.4
WHN S Sn 19 13 42.1 +2.5
WHN LR LR
comp=E,2μm,5.4s
WHN LR LR
comp=Z,1μm,4.4s
TGY Tagaytay City 10.69 188 P Pn 19 12 17.8 +1.8
78nm,0.3s,baz=343,slow=15,SNR=2.5
JNU Nakatsue 11.09 39 P Pn 19 12 22.6 +1.4
5.9nm,0.3s,baz=236,slow=3.7,SNR=41
JNU LR LR 19 17 05.7
comp=Z,106nm,18.3s,baz=210,slow=40
JNU Nakatsue 11.09 39 *e*Pn Pn 19 12 23.4 +2.2
TJN Taejon 12.32 19 *i* P Pn 19 12 38.2 +0.8
TIA Tai'an 12.35 339 P Pn 19 12 39.5 +1.6
TIA pmax pmax
comp=Z,11nm,1.6s
ENH Enshi 12.83 298 *e*Pn Pn 19 12 45.9 +1.6
QIZ Qiongzhong 13.09 247 P Pn 19 12 47.6 0.0
QIZ S Sn 19 15 12.6 +0.7
QIZ LR LR
comp=N,330nm,5.7s
QIZ LR LR
comp=E,240nm,4.3s
QIZ LR LR
comp=Z,280nm,10.2s
KS15 Wonju Array Si 13.46 19 *e*Pn P 19 12 55.5 -1.9
KSAR Wonju Array Be 13.46 19 P P 19 12 55.1 -2.2
KSAR Wonju Array Be 13.46 19 P P 19 12 55.2 -2.2
KSRS Korea Array 13.48 19 P P 19 12 55.1 -2.5
3.0nm,0.3s,baz=198,slow=12,SNR=75
KS01 Wonju Array Si 13.49 19 *e*Pn Pn 19 12 53.9 +1.2
GYA Guiyang 14.44 280⇑*i*P P 19 13 07.5 -1.0
GYA PP Pn 19 13 20.3 +15
GYA sP 19 13 38.8
GYA S Sn 19 15 40.6 -4.0
GYA SS S 19 16 05.5 +9.2
GYA pmax pmax
comp=Z,20nm,0.6s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,530nm,8.4s
GYA LR LR
comp=E,190nm,8.7s
GYA LR LR
comp=Z,170nm,6.5s
XAN Xi'an 15.05 311 P P 19 13 16.9 +1.7
XAN pP Pn 19 13 23.8 +11
XAN S Sn 19 15 57.4 -1.8
XAN pmax pmax
comp=Z,24nm,1.0s
XAN LR LR
comp=N,690nm,7.1s
XAN LR LR
comp=E,370nm,8.1s
XAN LR LR
comp=Z,280nm,11.4s
XAN Xi'an 15.05 311 *e*Pn P 19 13 16.9 +1.7
72nm,0.8s
XAN Xi'an 15.05 311 *e*P P 19 13 16.9 +1.7
XAN pmax pmax
comp=Z,71nm,0.8s
TIY Taiyuan 15.55 329 *e*P P 19 13 23.4 +2.7
TIY pmax pmax
comp=Z,29nm,0.7s
TIY LR LR
comp=Z,350nm,6.4s
TIY LR LR
comp=Z,240nm,5.3s
TIY LR LR
comp=Z,280nm,5.8s
BJT Baijiatuao 16.15 342 *e*Pn Pn 19 13 24.4 -1.9
comp=Z,24nm,1.0s
BJT Baijiatuao 16.15 342 *e*P Pn 19 13 24.4 -1.9
BJT pmax pmax
comp=Z,24nm,1.0s
BJI Beijing 16.17 342 *e*P P 19 13 28.6 +1.1
BJI pmax pmax
comp=Z,13nm,1.1s
SNY Shenyang 17.07 3 ⇑P Pn 19 13 39.4 +2.0
SNY pmax pmax
comp=Z,33nm,0.9s
SNY pmax pmax
comp=Z,210nm,3.9s
SNY LR LR
comp=Z,260nm,11.7s
SNY LR LR
comp=Z,300nm,8.2s
SNY LR LR
comp=Z,420nm,7.6s
JHJ Hachijo jima 2 17.23 57 P Pn 19 13 43.3 +3.8
comp=Z,52nm,0.3s,baz=14,slow=1.3,SNR=11
CD2 Chengdu 17.71 295 *e*P Pn 19 13 50.0 +4.6
CD2 S Sn 19 17 06.6 +3.3
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,220nm,4.6s
CD2 LR LR
comp=N,1μm,6.7s
CD2 LR LR
comp=E,990nm,6.7s
CD2 LR LR
comp=Z,720nm,7.3s
CD2 Chengdu 17.71 295 P P 19 13 44.3 -0.4
CD2 sP sP 19 14 19.9 -0.7
CD2 S S 19 17 02.0 -0.8
CD2 pmax pmax
comp=Z,190nm,0.8s
CD2 pmax pmax
comp=Z,500nm,5.5s
CD2 LR LR
comp=Z,1μm,6.5s
CD2 LR LR
comp=Z,990nm,7.1s
CD2 LR LR
comp=Z,720nm,7.3s
MAJO Matsushiro 17.86 45 *i* P Pn 19 13 47.7 +0.6
MAJO pmax pmax
comp=Z,7.0nm,0.6s
MAT Matsushiro 17.86 45 P P 19 13 45.1 -1.1
MAT *e*S Sn 19 17 07.4 +0.7
MJAR Matsushiro Arr 17.86 45 P P 19 13 44.5 -1.7
comp=Z,0.2nm,0.3s,baz=240,slow=10.0,SNR=25
MJAR LR LR 19 21 39.7
comp=Z,98nm,19.4s,baz=240,slow=40
KMI Kunming 17.97 275 P Pn 19 13 50.4 +1.6
KMI pP pP 19 14 06.6 -2.4
KMI sP sP 19 14 21.6 -2.2
KMI pmax pmax
comp=Z,26nm,0.5s
HHC Hu-ho-hao-te 18.51 333 *e*P Pn 19 13 56.5 +1.7
HHC S Sn 19 17 22.3 +0.1
HHC pmax pmax
comp=Z,210nm,1.4s
HHC LR LR
comp=N,290nm,10.4s
HHC LR LR
comp=E,250nm,9.5s
HHC Hu-ho-hao-te 18.51 333 *e*P Pn 19 13 54.9 +0.1
HHC pmax pmax
comp=E,36nm,1.3s
HHC pmax pmax
comp=E,260nm,5.8s
KDM Kudat 18.55 198 P Pn 19 13 55.7 +0.3
SKNT Sakolnakorn 18.98 250 P Pn 19 14 02.0 +1.5
comp=E,6.3nm,1.0s
CN2 Changchun 19.17 6 ⇑P P 19 14 00.8 +0.5
CN2 *e*sP sP 19 14 36.0 -0.4
CN2 *e*S S 19 17 27.0 -4.2
CN2 pmax pmax
comp=E,50nm,0.8s
CN2 pmax pmax
comp=E,200nm,5.0s
NONG Nongkai 19.24 254 P Pn 19 14 06.7 +3.2
comp=E,0.8nm,1.0s,comp=E,680nm
KKM Kota Kinabalu 19.55 199 P Pn 19 14 06.2 -1.2
LZH Lanzhou 19.67 309 *e*P Pn 19 14 08.6 0.0
LZH pP pP 19 14 26.6 -0.9
LZH PP sP 19 14 31.4 -11
LZH sP sP 19 14 37.6 -4.6
LZH *e*S S 19 17 44.8 +3.1
LZH sS sS 19 18 09.3 -7.7
LZH pmax pmax
comp=E,73nm,1.0s
LZH pmax pmax
comp=E,410nm,4.1s
SDKM Sandakan 19.67 196 P P 19 14 07.0 +0.9
MDJ Mudanjiang 20.64 14 P P 19 14 17.0 +0.7
MDJ pmax pmax
comp=E,5.0nm,0.6s
MDJ pmax pmax
comp=E,110nm,4.4s
MDJ Mudanjiang 20.64 14 *e*Pn P 19 14 14.3 -2.0
comp=E,15nm,0.9s
TSM Tawau 20.82 193 P P 19 14 18.4 +0.1
USA0B Ussuriysk Arra 20.89 19 *e*P P 19 14 19.1 +0.3
comp=E,18nm,0.7s
USRK Ussuriysk Ar. 20.89 19 P P 19 14 19.1 +0.2
comp=E,9.5nm,0.4s,baz=184,slow=6.2,SNR=63
CHAI Chaiyaphum 21.17 249 P P 19 14 24.0 +1.8
comp=E,15nm,1.1s,comp=E,117nm
UTTA Uttaradit 21.63 256 P P 19 14 29.7 +2.6
comp=E,3.2nm,1.1s
PBKT Sadao Pong 21.75 252 P P 19 14 30.6 +2.3
comp=E,22nm,1.3s,comp=E,1μm
SRAK Srakaew 22.06 245 P P 19 14 29.5 -2.1
LAMP Lampang 22.17 258 P P 19 14 34.8 +2.1
comp=E,13nm,0.7s,comp=E,117nm
SUKH Sukhothai 22.55 256 P P 19 14 40.1 +3.6
comp=E,6.3nm,0.8s
CMMT Chiang Mai 22.68 260 P P 19 14 38.9 +1.0
comp=E,21nm,0.7s
CHTO Chiang Mai 22.68 260 *e*P P 19 14 39.0 +1.1
comp=E,29nm,1.0s
CHTO Chiang Mai 22.68 260 *e*P P 19 14 39.0 +1.1
CHTO pmax pmax
comp=Z,29nm,1.0s
CHTO Chiang Mai 22.68 260 P P 19 14 39.0 +1.1
comp=Z,90nm,0.7s,comp=Z,2μm
CM01 Chiang Mai Arr 22.80 259 *e*P P 19 14 39.6 +0.5
CM31 Chiang Mai Arr 22.80 259 *e*P P 19 14 39.3 +0.2
CMAR Chiang Mai Arr 22.80 259 P P 19 14 40.5 +1.3
comp=Z,13nm,1.0s,baz=56,slow=7.5,SNR=59
CMAR PcP PcP 19 18 27.8 +1.1
comp=Z,2.8nm,0.7s,baz=52,slow=0.9,SNR=20
CMAR ScP ScP 19 21 53.3 -0.4
comp=Z,0.3nm,0.3s,baz=110,slow=1.3,SNR=5.7
CMAR LR LR 19 24 16.0
comp=Z,57nm,21.8s,baz=95,slow=38
BTM Bintulu 23.28 205 P P 19 14 42.2 -1.3
UTHA Uthaitani 23.50 252 P P 19 14 48.0 +2.4
comp=Z,7.2nm,1.0s,comp=Z,66nm
UMPA Umpang Tak 23.73 254 P P 19 14 50.6 +2.9
GTA Gaotai 24.10 313 ⇑P P 19 14 50.8 -0.2
GTA PcP PcP 19 18 30.4 +1.2
GTA PcS PcS 19 22 09.3 +0.2
GTA pmax pmax
comp=Z,15nm,1.1s
TNTI Ternate 24.28 168 *e*P P 19 14 54.0 +1.4
comp=Z,282nm,1.2s
TNTI Ternate 24.28 168 P P 19 14 54.6 +2.0
comp=Z,203nm,1.3s,comp=Z,2μm
SBUM Sibu 24.30 206 P P 19 14 52.8 0.0
SRDT SRDT 24.34 249 P P 19 14 57.3 +4.1
comp=Z,16nm,1.3s,comp=Z,2μm
HIA Hailar 24.58 356 *e*P P 19 14 53.2 -1.9
comp=Z,8.6nm,0.6s
HIA Hailar 24.58 356 *e*P P 19 14 53.2 -1.9
HIA pmax pmax
comp=Z,9.0nm,0.6s
PHET Kaeng Krachan 24.63 246 P P 19 15 01.7 +5.9
comp=Z,4.6nm,1.0s,comp=Z,73nm
ASAJ Asahikawa 25.32 35 P P 19 15 00.5 -1.4
comp=Z,21nm,0.3s,baz=237,slow=10.0,SNR=113
ASAJ Asahikawa 25.32 35 *e*P P 19 15 00.2 -1.6
comp=Z,18nm,0.4s
KLR Kul'dur 25.49 14 *i* P P 19 15 03.3 0.0
APSI Ampana 25.51 182 P P 19 15 05.4 +1.6
comp=Z,22nm,0.9s
PCI Palu 25.63 186 P P 19 15 07.0 +2.2
KSM Kuching 25.98 209 P P 19 15 08.3 +0.3
ULN Ulaanbaatar 26.14 336 *e*P P 19 15 09.4 0.0
comp=Z,10nm,0.8s
ULN Ulaanbaatar 26.14 336*c*eP P 19 15 07.8 -1.6
ULN pmax pmax
comp=Z,21nm,1.3s
SONM Songino Array 26.37 335 P P 19 15 11.1 -0.3
comp=Z,36nm,1.1s,baz=156,slow=8.6,SNR=101
SONM pP pP 19 15 37.5 +0.9
comp=Z,15nm,1.1s,baz=154,slow=10,SNR=3.8
SONM PcP PcP 19 18 34.6 +0.4
comp=Z,0.6nm,0.4s,baz=139,slow=1.1,SNR=8.2
SONM ScP ScP 19 22 01.8 -1.6
comp=Z,0.5nm,0.7s,baz=164,slow=2.9,SNR=4.0
SONA1 Songino Array 26.38 335 *e*P P 19 15 11.3 -0.2
STKI Sintang 26.77 205 P P 19 15 16.3 +1.2
SANI Sanana 26.84 172 P P 19 15 15.3 -0.4
YSS Yuzh-Sakhalins 27.41 31⇓*i*P P 19 15 22.5 +1.9
YSS pmax pmax
comp=Z,30nm,0.9s
SHL Shillong 27.74 278 *i* P P 19 15 23.0 -1.0
LSA Lhasa 28.31 287 P P 19 15 30.8 +1.5
LSA pmax pmax
comp=Z,21nm,0.8s
LSA Lhasa 28.31 287 *e*P P 19 15 30.8 +1.5
comp=Z,24nm,0.8s
LSA Lhasa 28.31 287 *i* P P 19 15 30.9 +1.5
SNR=25
LSA Lhasa 28.31 287 *e*P P 19 15 30.8 +1.5
LSA pmax pmax
comp=Z,23nm,0.8s
IPM Ipoh 28.88 229 P P 19 15 33.9 -0.1
ZEA Zeya 29.18 6 *e*P P 19 15 36.0 -0.2
ZEA pmax pmax

ZEA MLR MLR
comp=Z,28nm,1.2s
comp=Z,200nm,16.0s
ZAK Zakamensk 29.63 335 *e*P P 19 15 35.2 -5.2
ZAK pmax pmax
comp=Z,6.0nm,1.2s
MOY Mondy 31.54 334 *e*P **P** **19 15 56.3 -0.9**
MOY pmax pmax
comp=Z,22nm,1.9s
RAMN Ramite 32.36 282 *e*P **P** **19 16 05.7 +0.8**
comp=Z,39nm,1.0s
MNSI Mandailing Nat 32.56 226 P **P** **19 16 07.0 +0.7**
comp=Z,37nm,0.7s
JIRN Jiri 32.68 283 *e*P **P** **19 16 08.8 +1.0**
comp=Z,64nm,0.8s
GUN Gumba 32.94 284 *e*P **P** **19 16 10.9 +0.9**
comp=Z,54nm,0.8s
PKIN Phulchoki 33.39 283 *e*P **P** **19 16 13.8 0.0**
comp=Z,8.4nm,0.4s
KKN Kakani 33.48 283 *e*P **P** **19 16 15.0 +0.4**
comp=Z,52nm,0.9s
DMN Daman 33.64 283 *e*P **P** **19 16 16.6 +0.6**
comp=Z,51nm,1.1s
MDSI Maura Dua 34.10 214 P **P** **19 16 20.1 +0.4**
WMQ Urumqi 34.19 313 P **P** **19 16 21.0 +0.7**
WMQ pP pP 19 16 48.8 +2.7
WMQ sP sP 19 17 02.3 +2.7
WMQ pmax pmax
comp=Z,35nm,1.3s
WMQ pmax pmax
comp=Z,450nm,5.3s
WMQ LR LR
comp=Z,200nm,23.1s
WMQ LR LR
comp=Z,77nm,25.5s
WMQ LR LR
comp=Z,130nm,27.7s
KPJI Karang Pucung 34.53 204 P **P** **19 16 24.4 +1.0**
DBJI Dramaga 34.70 208 P **P** **19 16 26.0 +1.1**
DANN Dangsing 34.79 285 *e*P **P** **19 16 26.6 +0.7**
comp=Z,59nm,0.9s
KOLN Koldanda 34.97 284 *e*P **P** **19 16 28.0 +0.6**
comp=Z,54nm,1.0s
PYUN Piuthan 35.48 284 *e*P **P** **19 16 32.7 +0.9**
comp=Z,74nm,1.0s
DGZ Jazzator, Alta 36.92 322⇓ *i*P **P** **19 16 43.8 +0.1**
DGZ pmax pmax
comp=Z,3.0nm,1.5s
YAK Yakutsk 37.59 6 *e*P **P** **19 16 47.1 -1.9**
YAK *e* 19 19 09.4
YAK *e*S **S** **19 22 26.7 -2.8**
YAK *e**SS **sS** **19 23 09.7 -5.0**
YAK pmax pmax
comp=Z,45nm,1.0s
YAK pmax pmax
comp=N,25nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,196nm,5.3s
YAK pmax pmax
comp=E,147nm,4.2s
YAK smax smax
comp=E,151nm,4.3s
YAK smax smax
comp=N,70nm,3.8s
PETK Petropavlovsk- 38.72 34 P **P** **19 16 56.8 -1.8**
comp=N,1.1nm,0.5s,baz=214,slow=7.5,SNR=15
MK01 Makanchi Array 38.80 315 *e*P **P** **19 16 59.1 -0.3**
MK31 Makanchi Array 38.82 315 *e*P **P** **19 16 59.5 -0.1**
MK31 Makanchi Array 38.82 315 *e*P **P** **19 16 59.5 -0.1**
MKAR Makanchi Array 38.82 315 P **P** **19 16 59.3 -0.2**
comp=N,3.2nm,0.3s,baz=100,slow=9.1,SNR=130
MKAR PcP **PcP** **19 19 08.4 -0.1**
comp=N,9.5nm,0.9s,baz=95,slow=4.8,SNR=16
MKAR ScP **ScP** **19 22 44.8 -1.2**
comp=N,1.8nm,0.8s,baz=100,slow=5.1,SNR=9.8
MAKZ Makanchi 39.03 315 *e*P **P** **19 17 01.2 -0.1**
comp=N,23nm,1.1s
MAKZ Makanchi 39.03 315 *e*P **P** **19 17 01.2 -0.1**
MAKZ pmax pmax
comp=Z,23nm,1.1s
PDGK Podgornoye 39.70 309 P **P** **19 17 07.2 +0.1**
PDGK pmax pmax
comp=Z,28nm,0.9s
ZAA0 Zalesovo Array 40.47 326 *e*P **P** **19 17 11.9 -1.1**
comp=Z,12nm,0.6s
ZALV Zalesovo Beam 40.47 326 P **P** **19 17 11.9 -1.1**
comp=Z,9.2nm,0.4s,baz=120,slow=8.4,SNR=49
ZALV pP **pP** **19 17 39.6 +0.2**
comp=Z,4.2nm,0.8s,baz=120,slow=8.8,SNR=2.2
ZALV PcP **PcP** **19 19 12.5 -1.0**
comp=Z,2.4nm,0.6s,baz=122,slow=4.3,SNR=4.4
ZALV LR LR 19 34 28.2
comp=Z,67nm,20.5s,baz=68,slow=37
PMG Port Moresby 41.57 142*ce*P **P** **19 17 23.3 +0.8**
PMG pmax pmax
comp=Z,123nm,1.1s
KSH Kashi 41.65 302 P **P** **19 17 26.3 +3.2**
KSH pP pP 19 17 51.9 +2.2
KSH sP sP 19 18 07.3 +4.3
KSH PP **PnPn** **19 19 06.0 -1.5**
KSH S **S** **19 23 34.0 +2.9**
KSH SS **SS** **19 26 40.9 +0.2**
KSH pmax pmax
comp=Z,30nm,0.8s
KSH pmax pmax
comp=Z,170nm,6.1s
KSH LR LR
comp=Z,370nm,6.1s
KSH LR LR
comp=Z,280nm,6.6s
KSH LR LR
comp=Z,350nm,9.6s
NVS Novosibirsk 41.72 327 *e*P **P** **19 17 22.6 -0.7**
NVS *e* 19 17 52.3
NVS *e* 19 19 16.8
NVS pmax pmax
comp=Z,18nm,1.9s
NVS pmax pmax
comp=N,16nm,1.0s
NVS pmax pmax
comp=E,13nm,1.7s
ULHL Ulahol 41.83 306 P **P** **19 17 26.2 +1.6**
SNR=6.2
TKM2 Tokmak 2 42.41 307 P **P** **19 17 30.4 +1.1**
SNR=25
KURK Kurchatov 42.48 319 *e*P **P** **19 17 29.0 -0.5**
comp=E,23nm,1.1s
KURK ScP **ScP** **19 22 58.3 -1.9**
KURK Kurchatov 42.48 319 *e*P **P** **19 17 29.0 -0.5**
KURK pmax pmax
comp=Z,23nm,1.1s
KURBB Kurchatov Arra 42.50 319 ScP **ScP** **19 22 58.3 -2.0**
baz=114,slow=3.7
KZA Kyzart 42.53 306 P **P** **19 17 32.2 +1.7**
SNR=6.9
FITZ Fitzroy Crossi 42.68 176 *e*P **P** **19 17 31.0 -0.4**
comp=Z,32nm,1.0s
KBK Karagaybulak 42.84 307 P **P** **19 17 34.1 +1.3**
SNR=16
CHMS Chumysh 43.04 307 P **P** **19 17 34.9 +0.7**
SNR=11
UCH Uchtor 43.09 306 P **P** **19 17 37.2 +2.1**
SNR=23
FRU Bishkek 43.11 307 *e*P **P** **19 17 36.0 +1.2**
AAK Ala-Archa 43.17 307 P **P** **19 17 35.7 +0.3**
comp=Z,5.0nm,0.9s,baz=112,slow=4.4,SNR=20
AAK ScP **ScP** **19 23 02.7 -0.7**
baz=92,slow=2.6
AAK LR LR 19 36 26.7
comp=Z,63nm,19.3s,baz=82,slow=37
AAK Ala-Archa 43.17 307 *i* P **P** **19 17 35.9 +0.5**
SNR=9.0
SFK Sufi-Kurgan 43.59 303 *i* P **P** **19 17 39.8 +0.8**
SFK pmax pmax
comp=Z,15nm,0.9s
NIL Nilore 43.60 294 *e*P **P** **19 17 39.1 +0.2**
comp=Z,79nm,1.1s
NIL Nilore 43.60 294 *e*P **P** **19 17 39.1 +0.2**
NIL pmax pmax
comp=Z,79nm,1.1s
AML Almayashu 43.68 306 P **P** **19 17 41.1 +1.3**
SNR=10
EKS2 Erkin-Say 43.70 307 P **P** **19 17 40.8 +1.2**
SNR=7.1
MNAS Manas 44.60 306 *i* P **P** **19 17 47.8 +0.9**

MNAS pmax pmax
comp=Z,20nm,1.3s
OTUK Ortayu 45.70 314 P **P** **19 17 55.6 +0.4**
OTUK pmax pmax
comp=Z,17nm,0.8s
WRAB Tennant Creek 45.86 164 *e*P **P** **19 17 57.2 +0.4**
comp=Z,34nm,0.9s
WRAB Tennant Creek 45.86 164*ce*P **P** **19 17 55.7 -1.1**
WRAB pmax pmax
comp=Z,66nm,1.7s
WRA Warramunga Arr 45.87 164 P **P** **19 17 57.1 +0.3**
comp=Z,30nm,0.8s,baz=347,slow=8.5,SNR=181
WRA PcP **PcP** **19 19 32.1 -0.1**
comp=Z,2.8nm,0.6s,baz=348,slow=3.8,SNR=7.9
WB2 Warramunga Arr 45.87 164 *e*P **P** **19 17 56.2 -0.7**
KBL Kabul 47.05 295 *e*P **P** **19 18 07.5 +1.2**
comp=Z,26nm,0.9s
TIXI Tiksi 47.08 3 *e*P **P** **19 18 04.5 -1.1**
comp=Z,11nm,0.8s
TIXI Tiksi 47.08 3*ce*P **P** **19 18 04.3 -1.3**
TIXI pmax pmax
comp=Z,28nm,1.7s
BVA0 Borovoye Array 48.04 320 P **P** **19 18 12.9 -0.5**
BVA0 pmax pmax
comp=Z,6.0nm,1.1s
BVAR Borovoye Array 48.04 320 P **P** **19 18 12.7 -0.7**
comp=Z,2.2nm,0.4s,baz=103,slow=8.9,SNR=49
BRVK Borovoye 48.11 320 *e*P **P** **19 18 13.7 -0.2**
comp=Z,9.3nm,0.6s
BRVK Borovoye 48.11 320⇓ *i*P **P** **19 18 12.8 -1.1**
BRVK pmax pmax
comp=Z,9.0nm,0.7s
AS31 Alice Springs 49.36 166 *e*P **P** **19 18 24.8 +1.0**
comp=Z,3.7nm,0.8s
ASAR Alice Springs 49.36 166 P **P** **19 18 24.4 +0.7**
comp=Z,4.6nm,0.3s,baz=342,slow=6.8,SNR=166
ASAR PcP **PcP** **19 19 44.4 -0.2**
comp=Z,3.3nm,0.7s,baz=340,slow=2.8,SNR=7.9
AS01 Alice Springs 49.37 166 *e*P **P** **19 18 23.6 -0.2**
AB31 Akbulak array 53.95 314 *i* P **P** **19 18 57.6 0.0**
AB31 pmax pmax
comp=Z,5.0nm,0.5s
SVE Sverdlovsk 54.34 323 *e*P **P** **19 19 00.1 -0.2**
SVE pmax pmax
comp=Z,14nm,0.8s
AKTO Aktyubinsk 55.25 315 P **P** **19 19 06.7 -0.3**
comp=Z,2.9nm,0.8s,baz=119,slow=8.1,SNR=7.8
AKTO PcP **PcP** **19 20 05.8 -0.7**
comp=Z,1.8nm,0.4s,baz=62,slow=4.4,SNR=3.2
AKTO LR LR 19 44 28.4
comp=Z,43nm,19.9s,baz=69,slow=38
ARU Arti 55.42 323 *e*P **P** **19 19 07.0 -1.1**
comp=Z,10.0nm,0.6s
ARU Arti 55.42 323*ce*P **P** **19 19 06.8 -1.3**
ARU pmax pmax
comp=Z,23nm,0.7s
FORT Forrest 55.45 174 *e*P **P** **19 19 08.8 +0.2**
comp=Z,45nm,0.7s
GEYT Alibeck 55.59 300 P **P** **19 19 10.6 +0.8**
comp=Z,9.1nm,0.9s,baz=106,slow=2.2,SNR=22
GEYT LR LR 19 46 25.9
comp=Z,43nm,18.1s,baz=70,slow=40
GYA0B ALIBECK ARRAY 55.59 300 *e*P **P** **19 19 10.2 +0.4**
comp=Z,11nm,0.9s
STKA Stephens Creek 59.16 161 P **P** **19 19 34.6 0.0**
comp=Z,5.2nm,0.7s,baz=336,slow=7.6,SNR=12
STKA LR LR 19 48 33.8
comp=Z,56nm,18.6s,baz=28,slow=38
BANOM Banah 59.29 287 P **P** **19 19 37.5 +1.7**
SHME Shamm 59.39 287 P **P** **19 19 39.5 +3.0**
ASHO Ashiyiah 59.82 285 *i* P **P** **19 19 40.6 +1.1**
SNR=5.5
FAQ Al Faqa, Dubai 60.21 285 *i* P **P** **19 19 42.9 +0.8**
SNR=7.1
ASUD Al Ashush, Dub 60.47 285 P **P** **19 19 44.8 +0.9**
PRGR Permogore 62.36 328 *e*P **P** **19 19 54.3 -1.7**
PRGR pmax pmax
comp=Z,19nm,1.0s
MZR Muzera 62.55 284 P **P** **19 19 58.5 +0.6**
KLMR Klimovskoe 65.36 328 *e*P **P** **19 20 13.4 -2.2**
KLMR pmax pmax
comp=Z,13nm,1.2s
KLMR Klimovskoe 65.36 328 *e*P **P** **19 20 13.5 -2.2**
KLMR AMP 19 20 15.6
comp=Z,13nm,1.2s
VRH Novokhopyorsk 65.50 317 *e*P **P** **19 20 14.9 -1.8**
VRH pmax pmax
comp=Z,9.0nm,0.8s
ZEI Tsey 65.58 308 *e*P **P** **19 20 16.3 -1.4**
ZEI pmax pmax
comp=Z,9.0nm,1.5s
KIV Kislovodsk 66.21 309 *e*P **P** **19 20 21.7 +0.2**
KIV pmax pmax
comp=Z,11nm,1.1s
KDAK Kodiak Island 66.74 36 *i* P **P** **19 20 24.6 +0.1**
VSR Storozhevoye 67.08 317 *e*P **P** **19 20 23.3 -3.5**
VSR pmax pmax
comp=Z,10.0nm,1.3s
RND Reindeer 67.57 29 *e*P **P** **19 20 29.5 -0.3**
comp=Z,24nm,0.8s
RND Reindeer 67.57 29 *e*P **P** **19 20 29.5 -0.3**
RND pmax pmax
comp=Z,24nm,0.8s
TCOL CIGO, UAF Yank 67.72 27 P **P** **19 20 30.4 -0.2**
baz=281
OBN Obninsk 67.84 322 *e*P **P** **19 20 30.9 -0.6**
OBN pmax pmax
comp=Z,4.0nm,1.0s
POKR Poker Plat Res 67.86 27 P **P** **19 20 31.3 -0.2**
baz=281
ILAR Eielson Array 68.15 27 P **P** **19 20 31.9 -1.5**
comp=Z,1.0nm,0.5s,baz=270,slow=5.6,SNR=20
HDA Harding Lake 68.20 28 P **P** **19 20 33.6 0.0**
baz=282
RAYN Ar Rayn 69.38 287 *e*P **P** **19 20 40.8 -0.9**
comp=Z,12nm,1.2s
RAYN Ar Rayn 69.38 287 *i* P **P** **19 20 41.4 -0.3**
SNR=9.2
RAYN Ar Rayn 69.38 287 *e*P **P** **19 20 40.8 -0.9**
RAYN pmax pmax
comp=Z,12nm,1.2s
ARCES ARCESS Array B 69.49 338 P **P** **19 20 40.9 -0.6**
comp=Z,1.5nm,0.3s,baz=77,slow=7.1,SNR=29
FINES FINESS Array B 71.60 330 P **P** **19 20 54.0 -0.4**
comp=Z,5.2nm,0.7s,baz=55,slow=5.9,SNR=35
FINES FINESS Array B 71.60 330 P **P** **19 20 54.0 -0.4**
AKASG Malin Array Be 73.28 318 P **P** **19 21 03.1 -1.5**
comp=Z,2.0nm,0.6s,baz=60,slow=6.1,SNR=6.5
KIEV Kiev 73.30 318⇑ *i*P **P** **19 21 04.1 -0.6**
KIEV Kiev 73.30 318 P **P** **19 21 03.9 -0.7**
KIEV Kiev 73.30 318⇑ P **P** **19 21 04.1 -0.6**
AK11 Malin Array Si 73.33 318 *e*P **P** **19 21 05.0 +0.1**
BR131 Keskin Array S 73.84 307 *e*P **P** **19 21 08.4 +0.1**
BRTR Keskin Array B 73.84 307 P **P** **19 21 07.9 -0.4**
comp=Z,4.1nm,0.9s,baz=106,slow=6.0,SNR=20
BRTR Keskin Array B 73.84 307 *i* P **P** **19 21 08.3 0.0**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
CFR Carcaliu 75.84 313⇓ *i*P **P** **19 21 20.3 +0.8**
CFR Carcaliu 75.84 313⇓ P **P** **19 21 20.3 +0.8**
VRI Vrincioaia 76.51 314⇓ *i*P **P** **19 21 24.9 +1.6**
VRI Vrincioaia 76.51 314⇓ P **P** **19 21 24.9 +1.6**
BIZ Bicaz 76.52 316⇓ *i*P **P** **19 21 23.8 +0.5**
PLOR Plostina 76.57 314⇑ *i*P **P** **19 21 24.7 +1.0**
PLOR Plostina 76.57 314⇑ P **P** **19 21 24.7 +1.0**
BURAR Bucovina Array 76.83 316⇑ *i*P **P** **19 21 25.8 +0.6**
BURAR Bucovina Array 76.83 316⇑ P **P** **19 21 25.8 +0.6**
BUR04 Bucovina Ar. S 76.83 316 *e*P **P** **19 21 25.1 -0.1**
MLR Muntele Rosu 77.16 314⇑ *i*P **P** **19 21 28.2 +1.1**
MLR Muntele Rosu 77.16 314⇑ P **P** **19 21 28.2 +1.1**
RES Resolute Bay 77.92 10 P **P** **19 21 30.0 -0.6**
comp=Z,2.3nm,0.5s,baz=275,slow=3.3,SNR=3.0
RES Resolute Bay 77.92 10 P **P** **19 21 30.0 -0.6**
ARR Arges 78.06 314⇓ *i*P **P** **19 21 33.0 +0.9**
NC405 NORSAR Array S 78.07 332 *e*P **P** **19 21 31.2 -0.5**
TRPA Tarpa 78.28 318⇑ *i*P **P** **19 21 33.5 +0.4**
NB2 NORSAR Subarra 78.32 332 P **P** **19 21 31.8 -1.3**
comp=Z,1.2nm,0.4s,baz=52,slow=5.9
NOA NORSAR Array B 78.32 332 P **P** **19 21 31.9 -1.3**
comp=Z,0.8nm,0.4s,baz=73,slow=6.1,SNR=18
NOA pP **pP** **19 22 03.1 +0.5**
comp=Z,4.4nm,1.0s,baz=56,slow=5.6,SNR=4.2
VTS Vitosha 80.12 312⇑ *i*P **P** **19 21 44.2 +0.8**
VTS Vitosha 80.12 312⇑ P **P** **19 21 44.2 +0.8**
VYHS Vyhne 80.37 319 *e*P **P** **19 21 45.0 +0.5**

VYHS *e* 19 22 16.1
VYHS pmax pmax
comp=Z,4.0nm,1.1s
VYHS Vyhne 80.37 319 *e*P **P** **19 21 45.0 +0.5**
VYHS *e*pP **pP** **19 22 16.1 +2.1**
MORC Moravsky Berou 80.55 321⇑ *i*P **P** **19 21 46.2 +0.7**
MORC Moravsky Berou 80.55 321⇑ P **P** **19 21 46.2 +0.7**
VRAC Vranov 81.31 320⇑ *i*P **P** **19 21 51.1 +1.6**
VRAC Vranov 81.31 320⇑ P **P** **19 21 51.1 +1.6**
YKA Yellowknife Ar 81.98 23 P **P** **19 21 51.8 -0.8**
comp=Z,2.5nm,0.6s,baz=308,slow=5.7,SNR=22
YKA pP **pP** **19 22 23.8 +1.8**
comp=Z,0.7nm,0.5s,baz=308,slow=5.3,SNR=2.3
BRG Berggiesshubel 82.06 323 *e*P **P** **19 21 54.8 +1.5**
comp=Z,8.0nm,1.3s
BRG Berggiesshubel 82.06 323 *e*P **P** **19 21 54.8 +1.5**
BRG pmax pmax
comp=Z,8.0nm,1.3s
CLL Collm 82.36 323 *i* P **P** **19 21 56.8 +1.9**
comp=Z,6.0nm,1.1s
CLL Collm 82.36 323 *i* P **P** **19 21 56.8 +1.9**
CLL pmax pmax
comp=Z,6.0nm,1.1s
GERES GERESS Array B 83.20 321 P **P** **19 21 59.5 +0.1**
comp=Z,2.8nm,0.8s,baz=67,slow=4.5,SNR=18
GEA0 GERESS Array S 83.21 321 *e*P **P** **19 22 00.1 +0.6**
KMBO Kilima Mbogo 86.19 267 P **P** **19 22 15.1 -0.1**
comp=Z,2.2nm,0.8s,baz=56,slow=8.9,SNR=3.5
D03D Eldon 87.03 38 P **P** **19 22 19.1 +0.7**
baz=304
B05A Bryant 87.17 37 P **P** **19 22 19.7 +0.7**
baz=305
E04D Cinebar 87.87 39 P **P** **19 22 23.7 +1.2**
baz=304
F04D Rainier, OR 87.88 39 P **P** **19 22 23.2 +0.7**
baz=304
LON Longmire 88.19 38 *e*P **P** **19 22 25.1 +1.0**
comp=Z,10nm,1.0s
LON Longmire 88.19 38 *e*P **P** **19 22 25.1 +1.0**
LON pmax pmax
comp=Z,10.0nm,1.0s
G03D McMinnville, O 88.22 40 P **P** **19 22 24.8 +0.6**
baz=304
B08A Colville Reser 88.61 36 *e*P **P** **19 22 26.9 +0.9**
comp=Z,18nm,0.9s
F05D White Salmon 88.89 39 P **P** **19 22 27.5 +0.2**
baz=305
H04D Lebanon 88.92 41 P **P** **19 22 28.4 +0.9**
baz=304,SNR=5.9
J01E Myrtle Point 88.96 42 P **P** **19 22 28.4 +0.8**
baz=304
I03D Drain, OR 89.02 41 P **P** **19 22 29.3 +1.4**
baz=304
H04A Detroit Lake 89.15 40 *e*P **P** **19 22 29.4 +0.8**
comp=Z,18nm,1.1s
G05D Wamic, OR 89.34 39 P **P** **19 22 30.4 +1.0**
baz=305
K02D Willamette Mer 89.38 42 P **P** **19 22 29.7 -0.1**
baz=304
E07A Sunnyside 89.40 38 *e*P **P** **19 22 31.0 +1.3**
comp=Z,23nm,1.0s
I04A Tendick Farm, 89.53 41 P **P** **19 22 30.7 +0.3**
baz=305,SNR=9.1
L02E Cave Junction 89.72 43 P **P** **19 22 31.7 +0.4**
baz=304
NEW Newport 89.84 35 P **P** **19 22 32.0 +0.2**
comp=Z,12nm,1.0s,baz=301,slow=5.1,SNR=13
NEW Newport 89.84 35 P **P** **19 22 32.0 +0.2**
NEW Newport 89.84 35 P **P** **19 22 32.0 +0.2**
NEW Newport 89.84 35 P **P** **19 22 32.3 +0.5**
baz=308
I05D Terrebonne, OR 89.85 40 P **P** **19 22 32.8 +0.9**
baz=305
J04D Umpqua Nationa 90.02 41 P **P** **19 22 32.7 -0.2**
baz=305,SNR=7.6
L04D Klamath Falls 90.48 42 P **P** **19 22 35.2 +0.2**
baz=305,SNR=16
YBH Yreka Blue Hor 90.51 43 P **P** **19 22 36.1 +1.0**
comp=Z,7.7nm,1.1s,baz=17,slow=4.1,SNR=11
J05D Fort Rock, OR 90.52 41 P **P** **19 22 35.5 +0.4**
baz=305,SNR=12
K04D Chiloquin, OR 90.59 42 P **P** **19 22 36.2 +0.7**
baz=305,SNR=5.2
M02C Callahan 90.61 43 P **P** **19 22 36.3 +0.8**
baz=304,SNR=6.6
N02D Trinity Center 90.94 43 P **P** **19 22 38.3 +1.2**
baz=304
M04C Macdoel 91.02 42 P **P** **19 22 38.2 +0.7**
baz=305,SNR=15
O02D Mt. Diablo Mer 91.33 44 P **P** **19 22 39.5 +0.6**
baz=304
MOD Modoc Plateau 91.88 42 *e*P **P** **19 22 42.6 +1.1**
comp=Z,21nm,1.0s
O03E Paynes Creek 91.89 44 P **P** **19 22 41.9 +0.4**
baz=305
FFC Flin Flon 92.12 24 *i* P **P** **19 22 42.2 +0.1**
MSO Missoula 92.42 35 P **P** **19 22 44.0 +0.2**
baz=311
BEKR Beckworth 93.04 43 *e*P **P** **19 22 47.8 +0.9**
comp=Z,11nm,0.9s
EGMT Eagleton 93.72 32 P **P** **19 22 49.7 0.0**
baz=314
PAHR Pah Rah Range 93.74 43 *e*P **P** **19 22 51.2 +1.0**
comp=Z,12nm,0.9s
DLMT Dillon 94.08 35 *e*P **P** **19 22 52.8 +1.2**
comp=Z,12nm,1.1s
YERR Yerington 94.26 44 *e*P **P** **19 22 53.8 +1.2**
comp=Z,7.8nm,1.1s
HLID Hailey 94.28 38 P **P** **19 22 53.0 +0.4**
baz=310
BOZ Bozeman (W) 94.43 35 P **P** **19 22 53.1 -0.1**
baz=312
NV01 Mina Array Sit 95.18 44 *e*P **P** **19 22 57.6 +0.8**
NVAR Mina Array Bea 95.18 44 P **P** **19 22 57.8 +1.0**
comp=Z,5.1nm,0.7s,baz=286,slow=5.2,SNR=29
MLAC Mammoth, Mammo 95.32 44 P **P** **19 22 57.5 -0.1**
baz=307
ELK Elko 95.61 40 P **P** **19 23 00.6 +1.8**
comp=Z,1.0nm,0.7s,baz=274,slow=2.9,SNR=3.4
H17A Grant Village 95.80 35 P **P** **19 23 00.4 +0.9**
baz=313
DGMT Dagmar 95.97 29 P **P** **19 23 00.1 +0.1**
baz=318
RLMT Red Lodge 95.97 34 P **P** **19 23 00.5 +0.2**
baz=314
PKM Mcpherson Peak 96.30 47 P **P** **19 23 02.2 +0.3**
baz=306
CWC Cottonwood Cre 96.52 45 P **P** **19 23 03.2 +0.3**
baz=307
ISA Isabella, Lake 96.73 46 P **P** **19 23 03.8 +0.1**
baz=307
R11A Troy Canyon, C 96.91 42 P **P** **19 23 04.9 +0.2**
baz=309
MPMC Manual Prospec 97.13 45 P **P** **19 23 05.5 -0.2**
baz=308
FURC Furnace Creek, 97.28 44 P Pdif 19 23 06.4 +0.2
baz=308
LRMC Laurel Mtn Rad 97.36 46 P Pdif 19 23 07.1 +0.4
baz=307
TPNV Topopah Spring 97.37 44 P Pdif 19 23 07.3 +0.5
baz=308
DUG Dugway, Tooele 97.38 39 P Pdif 19 23 06.7 0.0
baz=311
BW06 Boulder Array 97.45 36 P Pdif 19 23 07.5 +0.4
baz=314
EDW2 Edwards Air Fo 97.51 46 P Pdif 19 23 07.6 +0.3
baz=307
ULM Lac du Bonnet 97.95 24 P Pdif 19 23 09.2 +0.4
comp=Z,4.7nm,1.0s,baz=270,slow=1.0,SNR=3.3
E50A Wahnapitae 106.10 17 P **PKiKP** **19 27 57.8 +1.4**
baz=338
TORD Torodi Ar. Bea 111.11 296 PKiKP **PKiKP** **19 28 05.9 -0.8**
comp=Z,0.3nm,0.4s,baz=68,slow=0.9,SNR=5.9
DBIC Dimbokro 120.04 294 PKP **PKPdf** **19 28 23.5 -0.3**
comp=Z,1.8nm,0.5s,baz=12,slow=3.3,SNR=5.1
SDV Santo Domingo 144.19 23 PKP **PKPab** **19 29 07.1 -0.1**
comp=Z,7.3nm,0.3s,baz=311,slow=1.9,SNR=9.5
SDV Santo Domingo 144.19 23 *e*PKPdf PKPbc 19 29 07.4 -0.2
PCRV Puerto La Cruz 144.60 12 PKP **PKPab** **19 29 07.2 -1.3**
comp=Z,14nm,0.9s,baz=9.8,slow=2.3,SNR=7.9
ROSC El Rosal 146.33 31 PKPbc **PKPdf** **19 29 13.5 +0.3**
comp=Z,3.6nm,0.4s,baz=292,slow=18,SNR=6.0
MDP Montagnes des 149.97 350 PKPbc **PKPbc** **19 29 23.2 -0.4**
comp=Z,16nm,1.0s,baz=26,slow=3.8,SNR=7.2
LPAZ La Paz 166.94 52 PKPab **PKPab** **19 30 42.7 -0.8**
comp=Z,3.3nm,0.8s,baz=341,slow=6.1,SNR=8.9

ISCJB ***20*** *19:10:08.5±0.2, 12°.55N±0°.02×87°.85W±0°.02, h80km±1km, mb5.0/227, Error ellipse: s-maj=3.2km s-min=1.6km az=43.0*

GCMT ***20*** *19:10:08.4±0.2, 12°.40N±0°.01×88°.03W±0°.01, h67km±2km, MW5.1/96, Moment Tensor Solution. s63,c80; s96,c130; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.58±.19; Mθθ=1.13±.19; Mϕϕ=1.45±.22; Mrθ=3.52±.10; Mrϕ=-1.30±.19; Mθϕ=-4.08±.12; Best double couple: Mo=5.97900×10¹⁶ NP1:φs=319.00000°, δ77.00000°, λ-90.00000°. NP2: φs=138.00000°, δ13.00000°, λ-91.00000°. Principal axes: T 5.9880, Plg32.0000°, Azm49.0000°; N -0.0190, Plg0.0000°, Azm139.0000°; P -5.9690, Plg58.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

UCR ***20*** *19:10:08.6±1.9, 12°.47N×87°.95W, h47km±35km, MD4.5, ML5.2, mb5.1(NEIC)*

IDC ***20*** *19:10:08.6±0.6, 12°.79N×87°.54W, h62km±4km, mb4.4/30, mb1 4.6/34, mb1mx4.5/47, mbtmp4.7/34, MS4.1/28, Ms1 4.1/28, ms1mx4.0/35, Error ellipse: s-maj=15.8km s-min=7.1km az=52.0*

MOS ***20*** *19:10:09.3±1.2, 12°.67N×87°.66W, h82km, mb4.9/36, Error ellipse: s-maj=12.5km s-min=4.7km az=111.9*

SNET ***20*** *19:10:09.0±0.0, 12°.50N×88°.03W, h30km*

NEIC ***20*** *19:10:11.4±0.4, 12°.56N×87°.79W, h89km±4km, mb5.1/226, MD5.5(SNET), Error ellipse: s-maj=4.7km s-min=3.0km az=45.0*

NEIC Felt at Chinandega, Managua and Puerto Morazan. Felt [III] at San Salvador, El Salvador. Also felt at Nicoya, Samara and Sardinal, Costa Rica.

BJI ***20*** *19:10:12.0, 12°.60N×87°.70W, h95km, mB5.4/8*

ISC 20 19:10:09.0±0.5, 12°.59N±0°.04×87°.87W±0°.03, h71km±3km, h71km:pP-P, n1044, σ1♦43/1088, mb5.1/227, 6C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.68**	**3**	*e*P	**Pn**	**19 10 23.9**	**-0.1**
CNCH				*e*S	**Sn**	**19 10 36.1**	**+1.1**
CNCH				IAML		19 10 38.8	
	comp=Z,2360μm,0.6s						
LCND	**La Caada**	**0.71**	**358**	*e*P	**Pn**	**19 10 24.4**	**+0.2**
LCND				*e*S	**Sn**	**19 10 36.9**	**+1.5**
LCND				IAML		19 10 39.6	
	comp=Z,152μm,0.4s						
CRIN	**San Cristobal**	**0.81**	**82**	*e*P	**Pn**	**19 10 25.9**	**+0.5**
CRIN				*e*S	**Sn**	**19 10 39.7**	**+2.2**
SMIG	**San Miguel**	**0.89**	**342**	*e*P	**Pn**	**19 10 26.4**	**+0.2**
SMIG				*e*S	**Sn**	**19 10 40.4**	**+1.4**
SMIG				AML	AML	19 10 48.7	
	comp=Z,134μm,0.6s						
VSM	**San Miguel**	**0.92**	**335**	*e*P	**Pn**	**19 10 27.0**	**+0.1**
LCY	**Lacayo**	**0.93**	**334**	*e*P	**Pn**	**19 10 26.5**	**-0.3**
PACA	**Pacayal**	**0.98**	**333**	*e*P	**Pn**	**19 10 27.9**	**+0.4**
PACA				*e*S	**Sn**	**19 10 41.9**	**+0.7**
TECA	**Tecapa**	**1.09**	**326**	*e*P	**Pn**	**19 10 28.5**	**-0.5**
CNGN	**Cerro Negro**	**1.15**	**94**	*e*S	**Sn**	**19 10 44.4**	**-0.5**
CNGN				IAML		19 10 48.2	
	comp=Z,16μm,0.2s						
UESV	**Ojushtada**	**1.19**	**311**	*e*P	**Pn**	**19 10 32.4**	**+2.3**
UESV				*e*S	**Sn**	**19 10 50.3**	**+4.5**
CAHU	**Cacacuatique**	**1.22**	**344**	*e*P	**Pn**	**19 10 31.3**	**+0.6**
MOMN	**Momotombo**	**1.31**	**98**	*e*P	**Pn**	**19 10 31.2**	**-0.4**
COPN	**Copaltepe**	**1.31**	**108**	*e*P	**Pn**	**19 10 30.5**	**-1.1**
COPN				*e*S	**Sn**	**19 10 47.1**	**-1.5**
BRAN	**Las Pilas**	**1.49**	**85**	*e*S	**Sn**	**19 10 53.8**	**+1.1**
PAVA	**Las Pavas**	**1.52**	**317**	*e*P	**Pn**	**19 10 34.8**	**+0.3**
PAVA				*e*S	**Sn**	**19 10 54.5**	**+0.8**
LFRS	**El Faro**	**1.55**	**312**	*e*P	**Pn**	**19 10 34.0**	**-0.9**
VICT	**Victoria**	**1.55**	**331**	*e*P	**Pn**	**19 10 35.2**	**+0.3**
VICT				*e*S	**Sn**	**19 10 55.6**	**+1.3**
TGUH	**Tegucigalpa,Un**	**1.57**	**22**	*e*Pn	**Pn**	**19 10 36.8**	**+1.8**
TGUH	**Tegucigalpa,Un**	**1.57**	**22**	*e*P	**Pn**	**19 10 36.7**	**+1.8**
LBRS	**Las Brisas**	**1.61**	**315**	*e*P	**Pn**	**19 10 35.5**	**-0.2**
MGAN	**Managua**	**1.65**	**105**	*e*P	**Pn**	**19 10 35.5**	**-0.5**
LFU	**La Fuente**	**1.67**	**314**	*e*P	**Pn**	**19 10 36.2**	**-0.2**
UDBS	**Soyapango**	**1.69**	**312**	*e*P	**Pn**	**19 10 36.3**	**-0.3**
UDBS				*e*S	**Sn**	**19 10 57.3**	**-0.1**
UTEC	**San Salvador**	**1.70**	**311**	*e*P	**Pn**	**19 10 36.9**	**0.0**
UTEC				*e*S	**Sn**	**19 10 57.1**	**-0.8**
UESS	**San Salvador**	**1.71**	**311**	*e*P	**Pn**	**19 10 36.9**	**0.0**
OPAM	**San Salvador**	**1.71**	**311**	*e*P	**Pn**	**19 10 36.6**	**-0.4**
OPAM				*e*S	**Sn**	**19 10 57.4**	**-0.7**
SNET	**Serv Nac Est T**	**1.72**	**310**	*e*P	**Pn**	**19 10 36.7**	**-0.3**
SNET				*e*S	**Sn**	**19 10 57.5**	**-0.7**
CLUB	**San Salvador**	**1.75**	**309**	*e*P	**Pn**	**19 10 37.5**	**+0.1**
CLUB				*e*S	**Sn**	**19 10 58.4**	**-0.5**
CLUB				IAML		19 11 01.6	
	comp=Z,16μm,0.3s						
UEES	**San Salvador**	**1.75**	**310**	*e*P	**Pn**	**19 10 37.3**	**-0.2**
UEES				*e*S	**Sn**	**19 10 59.2**	**+0.1**
BOQS	**Boqueron**	**1.78**	**310**	*e*P	**Pn**	**19 10 37.7**	**-0.3**
MASN	**Masaya**	**1.78**	**109**	*e*P	**Pn**	**19 10 37.7**	**-0.2**
LLGN	**La Laguna**	**1.89**	**326**	*e*P	**Pn**	**19 10 39.4**	**+0.1**
MATN	**Matagalpa**	**1.93**	**80**	*e*P	**Pn**	**19 10 40.2**	**+0.4**
CEVE	**Cerro Verde**	**2.10**	**306**	*e*P	**Pn**	**19 10 42.7**	**+0.3**
SBLS	**San Blas**	**2.11**	**306**	*e*P	**Pn**	**19 10 42.5**	**+0.1**
SNJE	**San Jose**	**2.11**	**307**	*e*P	**Pn**	**19 10 42.3**	**-0.2**
UNIC	**Santa Ana**	**2.15**	**310**	*e*P	**Pn**	**19 10 42.9**	**0.0**
UNIC				*e*S	**Sn**	**19 11 09.2**	**+0.5**
BOAB	**BOACO BROADBAN**	**2.16**	**94**	*e*Pn	**Pn**	**19 10 42.8**	**0.0**
BOAB	**BOACO BROADBAN**	**2.16**	**94**	*e*S	**Sn**	**19 11 08.6**	**-0.1**
RTR	**El Retiro**	**2.16**	**307**	*e*P	**Pn**	**19 10 43.2**	**+0.1**
CONN	**Concepcion**	**2.42**	**115**	*e*P	**Pn**	**19 10 45.4**	**-1.1**
ACON	**Acoyapa**	**2.71**	**103**	*e*P	**Pn**	**19 10 49.6**	**-0.7**
NY14	**Universidad de**	**3.00**	**130**	*i* P	**Pn**	**19 10 55.0**	**+0.8**
LAPC	**Finca la Perla**	**3.00**	**127**	*i* P	**Pn**	**19 10 52.9**	**-1.4**
BUEV	**Buena Vista**	**3.00**	**126**	*e*P	**Pn**	**19 10 54.3**	**0.0**
BUEV				*e*S	**Sn**	**19 11 29.7**	**+0.4**
GPS1	**Guardaparques**	**3.06**	**126**	*i* P	**Pn**	**19 10 54.0**	**-1.2**
LIM1	**Limonal**	**3.18**	**126**	*i* P	**Pn**	**19 10 58.5**	**+1.6**
LIM1				*i* S	**Sn**	**19 11 32.1**	**-1.6**
MESS	**Mesas**	**3.20**	**125**	*e*P	**Pn**	**19 10 55.9**	**-1.3**
MESS				*i* P		19 10 56.0	
MESS				*e*S	**Sn**	**19 11 34.6**	**+0.4**
COLC	**Colonia**	**3.24**	**126**	*i* P	**Pn**	**19 10 58.2**	**+0.6**
CUI	**Cuipilapa**	**3.27**	**126**	*e*P	**Pn**	**19 10 57.8**	**-0.3**
CUI				*e*S	**Sn**	**19 11 34.6**	**-1.4**
PLVR	**Palo Verde**	**3.33**	**132**	*e*P	**Pn**	**19 10 59.0**	**+0.1**
APG	**El Apazote**	**3.48**	**314**	P	**Pn**	**19 11 01.8**	**+0.8**
	comp=Z,20nm,0.3s,baz=107,slow=10,SNR=46						
APG				LR	LR	19 12 13.3	
	comp=Z,2μm,18.8s,baz=152,slow=35						
ESPN	**Las Esperanzas**	**3.51**	**96**	*e*Pn	**Pn**	**19 11 01.5**	**+0.2**
ESPN	**Las Esperanzas**	**3.51**	**96**	*e*P	**Pn**	**19 11 01.0**	**-0.2**
ESPN				*e*P		19 11 01.5	
JTS	**JuntasAbangare**	**3.66**	**128**	P	**Pn**	**19 11 02.8**	**-0.6**
	comp=Z,14nm,0.3s,baz=2.6,slow=23,SNR=81						
JTS				S	**Sn**	**19 11 43.9**	**-1.5**
	comp=Z,61nm,0.3s,baz=40,slow=20,SNR=12						
JTS				LR	LR	19 12 34.4	
	comp=Z,3μm,21.9s,baz=354,slow=41						
JTS	**JuntasAbangare**	**3.66**	**128**	*e*P	**Pn**	**19 11 02.0**	**-1.3**
CEDE	**Laguna Cedeo**	**3.74**	**124**	*e*P	**Pn**	**19 11 04.7**	**+0.2**
ARE1	**Arenal 1**	**3.75**	**124**	*e*P	**Pn**	**19 11 05.3**	**+0.8**
SRA1	**San Ramn**	**4.15**	**126**	*e*P	**Pn**	**19 11 10.0**	**-0.1**
HDC	**Heredia**	**4.49**	**125**	*e*Pn	**Pn**	**19 11 16.5**	**+1.6**
HDC	**Heredia**	**4.49**	**125**	*e*P	**Pn**	**19 11 13.7**	**-1.1**
SJS	**Escuela Geolog**	**4.58**	**125**	*e*P	**Pn**	**19 11 19.9**	**+3.9**
LCR2	**La Lucha 2**	**4.74**	**126**	*e*P	**Pn**	**19 11 19.7**	**+1.5**
CVTR	**Volcan Turrial**	**4.77**	**122**	*e*P	**Pn**	**19 11 18.2**	**-0.6**
THIG		**4.85**	**299**	P	**Pn**	**19 11 20.3**	**+0.8**
THIG				S	**Sn**	**19 12 10.4**	**-4.0**
EDDO	**Dominical**	**5.15**	**130**	*e*P	**Pn**	**19 11 24.8**	**+1.2**
EDLM	**Las Mercedes**	**5.34**	**128**	*e*P	**Pn**	**19 11 28.0**	**+1.7**
CCIG	**Comitan**	**5.53**	**312**	*e*Pn	**Pn**	**19 11 31.0**	**+2.0**
EDPN	**Palmar Norte**	**5.64**	**129**	*e*P	**Pn**	**19 11 31.7**	**+1.3**
EDBA	**Buenos Aires**	**5.66**	**127**	*e*P	**Pn**	**19 11 31.5**	**+0.9**
PTJ1	**Puerto Jimnez**	**6.03**	**131**	*e*P	**Pn**	**19 11 37.0**	**+1.2**
PCIG		**6.04**	**301**	P	**Pn**	**19 11 37.0**	**+1.2**
PCIG				S	**Sn**	**19 12 37.9**	**-5.7**
BRU2	**Volcan**	**6.34**	**126**	*e*P	**Pn**	**19 11 40.8**	**+0.8**
PRVC	**Isla de Provid**	**6.39**	**82**	*e*P	**Pn**	**19 11 42.0**	**+1.4**
PRVC	**Isla de Provid**	**6.39**	**82**	*e*P	**Pn**	**19 11 42.0**	**+1.4**
ICCO	**Coco Island**	**7.05**	**173**	*e*P	**Pn**	**19 11 49.5**	**-0.1**
TEIG	**Tepich**	**7.60**	**357**	*e*Pn	**Pn**	**19 12 00.8**	**+3.6**
CMIG	**Matias Romero**	**8.12**	**304**	P	**Pn**	**19 12 05.2**	**+0.9**
	comp=Z,4.3nm,0.3s,baz=151,slow=10,SNR=32						
CMIG				S	**Sn**	**19 13 32.3**	**-2.3**
	comp=Z,15nm,0.3s,baz=73,slow=17,SNR=7.1						
MYIG	**Mrida**	**8.51**	**348**	*e*Pn	**Pn**	**19 12 12.1**	**+2.5**
WBCY	**West Bay, Gran**	**9.18**	**42**	*e*Pn	**Pn**	**19 12 22.9**	**+4.2**
FSCY	**Frank Sound, G**	**9.27**	**43**	*e*Pn	**Pn**	**19 12 24.0**	**+4.0**
MCJ	**Malvern**	**11.16**	**60**	*i* P	**Pn**	**19 12 50.4**	**+4.4**
CVJ	**Coleyville**	**11.43**	**59**	*i* P	**Pn**	**19 12 54.3**	**+4.7**
MTDJ	**Mount Denham**	**11.43**	**59**	*e*Pn	**Pn**	**19 12 53.5**	**+3.9**
BBJ	**Bamboo Saint A**	**11.73**	**59**	*i* P	**Pn**	**19 12 58.0**	**+4.4**
STH	**Stony Hill**	**11.98**	**62**	*i* P	Pn	19 13 01.9	+4.8
GWJ	**Greenwich**	**12.05**	**62**	*i* P	**Pn**	**19 13 02.5**	**+4.5**
DBBC	**Dabeiba**	**12.75**	**115**	*e*P	**Pn**	**19 13 09.7**	**+2.1**
DBBC	**Dabeiba**	**12.75**	**115**	*e*P	**Pn**	**19 13 09.7**	**+2.1**
UREC	**San Jos de Ur**	**13.06**	**110**	*e*P	**P**	**19 13 16.2**	**-3.2**
UREC	**San Jos de Ur**	**13.06**	**110**	*e*P	**P**	**19 13 16.2**	**-3.2**
PAYG	**Puerto Ayora**	**13.39**	**190**	*e*Pn	**Pn**	**19 13 19.2**	**+3.0**
HELC	**Santa Helena**	**13.73**	**116**	*e*P	**Pn**	**19 13 19.9**	**-1.1**
HELC	**Santa Helena**	**13.73**	**116**	*e*P	**Pn**	**19 13 19.9**	**-1.1**
ZARC	**Zaragoza, Cauc**	**13.78**	**110**	*e*P	**Pn**	**19 13 20.2**	**-1.0**
ZARC	**Zaragoza, Cauc**	**13.78**	**110**	*e*P	**Pn**	**19 13 20.2**	**-1.0**
YOTC	**Yotoco, Valle**	**14.25**	**126**	*e*P	**Pn**	**19 13 26.8**	**-0.7**
YOTC	**Yotoco, Valle**	**14.25**	**126**	*e*P	**Pn**	**19 13 26.8**	**-0.7**
GTBY	**Guantanamo Bay**	**14.25**	**58**	*e*P	**P**	**19 13 33.6**	**+1.0**
	comp=Z,392nm,0.9s						
JRQG	**Juriquilla Cam**	**14.49**	**305**	*e*P	**P**	**19 13 37.1**	**+1.5**
PTBC	**PUERTO BERRIO,**	**14.53**	**113**	*e*P	**Pn**	**19 13 31.5**	**+0.5**
PTBC	**PUERTO BERRIO,**	**14.53**	**113**	*e*P	**Pn**	**19 13 31.5**	**+0.5**
RREF	**El Recreo**	**14.54**	**121**	*e*P	**Pn**	**19 13 33.3**	**+1.5**
RREF	**El Recreo**	**14.54**	**121**	*e*P	**Pn**	**19 13 33.3**	**+1.5**
MOIG	**Morelia**	**14.60**	**301**	*e*Pn	**P**	**19 13 35.1**	**-1.7**
NORC	**Norcasia**	**14.61**	**117**	*e*P	**P**	**19 13 36.2**	**-0.5**
NORC	**Norcasia**	**14.61**	**117**	*e*P	**P**	**19 13 36.2**	**-0.5**
ANIL	**Santa Ana**	**14.72**	**122**	*e*P	**Pn**	**19 13 33.2**	**-0.6**
ANIL	**Santa Ana**	**14.72**	**122**	*e*P	**Pn**	**19 13 33.2**	**-0.6**
061Z	**Ochoppi**	**14.74**	**25**	*e*P	**P**	**19 13 39.9**	**+1.9**
061Z	**Ochoppi**	**14.74**	**25**	P	**Pn**	**19 13 35.5**	**+1.8**
	baz=207,SNR=6.4						
POPC	**Popayan, Colom**	**14.92**	**131**	*e*P	**Pn**	**19 13 36.9**	**+0.6**
POPC	**Popayan, Colom**	**14.92**	**131**	*e*P	**Pn**	**19 13 36.9**	**+0.6**
059Z	**Ave Maria**	**14.95**	**23**	P	**P**	**19 13 39.6**	**-0.8**
	baz=205,SNR=10						
BRRC	**Barranca, Sant**	**14.97**	**110**	*e*P	**Pn**	**19 13 34.7**	**-2.1**
BRRC	**Barranca, Sant**	**14.97**	**110**	*e*P	**Pn**	**19 13 34.7**	**-2.1**
SOTA	**Rioblanco**	**15.24**	**132**	*e*P	**Pn**	**19 13 42.0**	**+1.2**
SOTA	**Rioblanco**	**15.24**	**132**	*e*P	**Pn**	**19 13 42.0**	**+1.2**
MARP	**Paez Belalcaza**	**15.26**	**128**	*e*P	**P**	**19 13 42.9**	**-1.3**
MARP	**Paez Belalcaza**	**15.26**	**128**	*e*P	**P**	**19 13 42.9**	**-1.3**
PCON	**Cinco Dias**	**15.27**	**131**	*e*P	**P**	**19 13 43.5**	**-1.0**
PCON	**Cinco Dias**	**15.27**	**131**	*e*P	**P**	**19 13 43.5**	**-1.0**
CMBC	**Cumbal**	**15.27**	**139**	*e*P	**P**	**19 13 47.1**	**+2.7**
CMBC	**Cumbal**	**15.27**	**139**	*e*P	**P**	**19 13 47.1**	**+2.7**
060Z	**West Palm Beac**	**15.37**	**26**	P	**Pn**	**19 13 41.9**	**+0.2**
	baz=208,SNR=6.2						
GCUF	**Volcan Galeras**	**15.37**	**136**	*e*P	**Pn**	**19 13 43.6**	**+1.2**
GCUF	**Volcan Galeras**	**15.37**	**136**	*e*P	**Pn**	**19 13 43.6**	**+1.2**
CRUC	**La Cruz**	**15.40**	**134**	*e*P	**P**	**19 13 44.5**	**-1.2**
CRUC	**La Cruz**	**15.40**	**134**	*e*P	**P**	**19 13 44.5**	**-1.2**
OTAV	**Otavalo**	**15.43**	**142**	*e*P	**P**	**19 13 48.1**	**+2.0**
	comp=Z,29nm,1.2s						
OTAV	**Otavalo**	**15.43**	**142**	*e*P	**P**	**19 13 48.2**	**+2.0**
OTAV				pmax	pmax		
	comp=Z,29nm,1.2s						
OTAV	**Otavalo**	**15.43**	**142**	*e*P	**P**	**19 13 49.8**	**+3.6**
ROSC	**El Rosal**	**15.44**	**119**	P	**P**	**19 13 45.3**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=32,slow=4.5,SNR=13						
ROSC				LR	LR	19 20 13.4	
	comp=Z,382nm,19.1s,baz=300,slow=40						
ROSC				ScP	**ScP**	**19 22 14.1**	**+3.0**
	baz=12,slow=6.1,SNR=6.3						
ROSC	**El Rosal**	**15.44**	**119**	*e*P	**P**	**19 13 45.7**	**-0.6**
	comp=Z,63nm,1.2s						
ROSC				ScP	**ScP**	**19 22 14.1**	**+3.0**
058A	**Arcadia**	**15.48**	**21**	P	**P**	**19 13 45.0**	**-1.1**
	baz=202,SNR=13						
059A	**Moore Haven**	**15.63**	**23**	P	**P**	**19 13 46.7**	**-1.2**
	baz=205						
BARC	**Barichara**	**15.66**	**111**	*e*P	**Pn**	**19 13 46.5**	**+0.8**
BARC	**Barichara**	**15.66**	**111**	*e*P	**Pn**	**19 13 46.5**	**+0.8**
PAMC	**Pamplona, Colo**	**15.82**	**108**	*e*P	**Pn**	**19 13 48.4**	**+0.3**
PAMC	**Pamplona, Colo**	**15.82**	**108**	*e*P	**Pn**	**19 13 48.4**	**+0.3**
957A	**Wimauma**	**15.90**	**19**	P	**Pn**	**19 13 49.6**	**+1.1**
	baz=200						
958A	**Wauchula**	**15.98**	**20**	P	**P**	**19 13 50.8**	**-0.9**
	baz=202						
060A	**Indiantown**	**16.00**	**25**	P	**P**	**19 13 52.2**	**+0.2**
	baz=207						
RUSC	**La Rusia**	**16.04**	**113**	*e*P	**Pn**	**19 13 50.0**	**-0.7**
RUSC	**La Rusia**	**16.04**	**113**	*e*P	**Pn**	**19 13 50.0**	**-0.7**
CHIC	**Chingaza**	**16.05**	**118**	*e*P	**Pn**	**19 13 51.8**	**+0.8**
CHIC	**Chingaza**	**16.05**	**118**	*e*P	**Pn**	**19 13 51.8**	**+0.8**
959A	**Okeechobee**	**16.24**	**23**	P	**P**	**19 13 54.9**	**+0.4**
	baz=205						
FLOC	**Florencia**	**16.32**	**131**	*e*P	**Pn**	**19 13 53.5**	**-0.4**
FLOC	**Florencia**	**16.32**	**131**	*e*P	**Pn**	**19 13 53.5**	**-0.4**
VILC	**Villavicencio,**	**16.35**	**120**	*e*P	**Pn**	**19 13 54.9**	**+0.4**
VILC	**Villavicencio,**	**16.35**	**120**	*e*P	**Pn**	**19 13 54.9**	**+0.4**
LNIG	**Linares**	**16.43**	**320**	*e*Pn	**P**	**19 13 57.1**	**+0.3**
	comp=Z,137nm,1.6s						
LNIG				*e*S	**S**	**19 17 08.4**	**+3.2**
857A	**Zephyrhills**	**16.46**	**18**	P	**P**	**19 13 57.8**	**+0.7**
	baz=199						
DWPF	**Disney Wildern**	**16.57**	**20**	*e*Pn	P	19 14 13.3	+15
DWPF	**Disney Wildern**	**16.57**	**20**	P	**P**	**19 13 59.3**	**+1.0**
	baz=202						
DWPF	**Disney Wildern**	**16.57**	**20**	*e*P	P	19 14 14.1	+16
858A	**St. Cloud**	**16.69**	**20**	P	**P**	**19 14 00.2**	**+0.6**
	baz=202						
859A	**Kempfer Cattle**	**16.71**	**22**	P	**P**	**19 14 01.3**	**+1.5**
	baz=204						
TAMC	**Tame, Arauca**	**16.99**	**110**	*e*P	**Pn**	**19 14 02.0**	**-0.3**
TAMC	**Tame, Arauca**	**16.99**	**110**	*e*P	**Pn**	**19 14 02.0**	**-0.3**
757A	**Oxford**	**17.14**	**17**	P	**P**	**19 14 06.5**	**+1.9**
	baz=199						
SDDR	**Presa de Saban**	**17.17**	**66**	*e*P	**P**	**19 14 07.7**	**+2.6**
	comp=Z,100nm,1.3s						
ZAIG	**Zacatecas**	**17.26**	**308**	*e*Pn	**P**	**19 14 09.5**	**+3.2**
	comp=Z,41nm,0.9s						
SDV	**Santo Domingo**	**17.33**	**101**	P	**Pn**	**19 14 05.2**	**-1.4**
	comp=Z,1.5nm,0.3s,baz=275,slow=4.9,SNR=32						
SDV				PcP	**PcP**	**19 18 46.1**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=6.5,slow=2.4,SNR=5.0						
SDV				LR	LR	19 21 22.1	
	comp=Z,416nm,21.1s,baz=268,slow=40						
SDV				ScP	**ScP**	**19 22 17.5**	**+3.0**
	comp=Z,0.6nm,0.3s,baz=223,slow=4.1,SNR=9.1						
SDV	**Santo Domingo**	**17.33**	**101**	*e*Pn	**Pn**	**19 14 05.8**	**-0.8**
	comp=Z,121nm,1.2s						
SDV				PcP	**PcP**	**19 18 46.1**	**+0.5**
SDV				ScP	**ScP**	**19 22 17.6**	**+3.0**
SDV	**Santo Domingo**	**17.33**	**101**	*e*P	**Pn**	**19 14 06.2**	**-0.4**
SDV	**Santo Domingo**	**17.33**	**101**	*e*P	**Pn**	**19 14 06.2**	**-0.4**
655A	**Horseshoe Beac**	**17.37**	**14**	P	**P**	**19 14 08.9**	**+1.7**
	baz=195						
656A	**Willston**	**17.42**	**16**	P	**P**	**19 14 09.7**	**+2.1**
	baz=197,SNR=14						
KVTX	**Kingsville**	**17.59**	**329**	*e*P	**P**	**19 14 12.2**	**+2.7**
	comp=Z,64nm,0.9s						
552A	**Lynn Haven**	**17.62**	**7**	P	**P**	**19 14 12.4**	**+2.6**
	baz=188						
544A	**White Castle**	**17.70**	**351**	P	**Pn**	**19 14 13.7**	**+2.9**
	baz=169						
553A	**Crawfordville**	**17.80**	**10**	P	**Pn**	**19 14 15.1**	**+3.1**
	baz=191						
657A	**Interlachen**	**17.81**	**17**	P	**Pn**	**19 14 13.8**	**+1.7**
	baz=199,SNR=5.0						
658A	**Bunnell**	**17.84**	**19**	P	**Pn**	**19 14 14.5**	**+2.0**
	baz=201						
PTLC	**Puerto Leguiza**	**17.90**	**133**	*e*P	**Pn**	**19 14 17.2**	**+3.9**
PTLC	**Puerto Leguiza**	**17.90**	**133**	*e*P	**Pn**	**19 14 17.2**	**+3.9**
555A	**McAlpin**	**18.03**	**14**	P	**Pn**	**19 14 16.2**	**+1.5**
	baz=195,SNR=5.5						
451A	**Vernon**	**18.05**	**6**	P	**Pn**	**19 14 16.3**	**+1.3**
	baz=186,SNR=7.9						
556A	**Lake Butler**	**18.05**	**15**	P	**Pn**	**19 14 17.4**	**+2.3**
	baz=197						
449A	**Pace**	**18.09**	**2**	P	**Pn**	**19 14 16.0**	**+0.5**
	baz=182						
450A	**Crestview**	**18.16**	**4**	P	**Pn**	**19 14 16.4**	**0.0**
	baz=184,SNR=5.4						
557A	**Orange Park**	**18.25**	**17**	P	**Pn**	**19 14 18.2**	**+0.7**
	baz=199						
448A	**Bay Minette**	**18.25**	**0**	P	**Pn**	**19 14 18.9**	**+1.4**
	baz=180						
452A	**Marianna**	**18.34**	**7**	P	**Pn**	**19 14 20.8**	**+2.2**
	baz=188,SNR=15						
454A	**Quitman**	**18.46**	**12**	P	**Pn**	**19 14 22.1**	**+2.2**
	baz=193,SNR=24						
453A	**Whigham**	**18.47**	**10**	*e*P	**Pn**	**19 14 22.8**	**+2.7**
	comp=Z,460nm,1.8s						
453A	**Whigham**	**18.47**	**10**	P	**Pn**	**19 14 22.5**	**+2.4**
	baz=191,SNR=6.9						
BRAL	**Brewton**	**18.50**	**2**	*e*P	**Pn**	**19 14 22.7**	**+2.2**
	comp=Z,89nm,0.8s						
BRAL	**Brewton**	**18.50**	**2**	P	**Pn**	**19 14 22.4**	**+1.9**
	baz=182,SNR=7.2						
455A	**Stateville**	**18.61**	**13**	P	**Pn**	**19 14 22.7**	**+0.9**
	baz=195,SNR=8.2						
349A	**Repton**	**18.68**	**2**	P	**Pn**	**19 14 24.8**	**+2.1**
	baz=182,SNR=15						
351A	**Pinckard**	**18.71**	**6**	P	**Pn**	**19 14 24.2**	**+1.2**
	baz=187,SNR=12						
348A	**Jackson**	**18.73**	**360**	*e*P	**Pn**	**19 14 24.4**	**+1.2**
	comp=Z,165nm,0.8s						
348A	**Jackson**	**18.73**	**360**	P	**Pn**	**19 14 25.4**	**+2.1**
	baz=180,SNR=7.1						
346A	**Big Creek Wild**	**18.77**	**356**	*e*P	**Pn**	**19 14 25.8**	**+2.2**
	comp=Z,144nm,0.8s						
346A	**Big Creek Wild**	**18.77**	**356**	P	**Pn**	**19 14 25.8**	**+2.2**
	baz=175,SNR=8.8						
HKT	**Hockley**	**18.79**	**338**	*e*P	**P**	**19 14 23.0**	**+0.4**
	comp=Z,703nm,1.7s						
HKT	**Hockley**	**18.79**	**338**	*e*P	**P**	**19 14 23.0**	**+0.4**
HKT				pmax	pmax		
	comp=Z,703nm,1.7s						
350A	**Dozier**	**18.79**	**4**	P	**Pn**	**19 14 26.2**	**+2.2**
	baz=184,SNR=23						
456A	**Hilliard**	**18.84**	**16**	P	**Pn**	**19 14 26.4**	**+1.9**
	baz=198,SNR=6.2						
457A	**Yulee**	**18.87**	**17**	P	**Pn**	**19 14 25.1**	**+0.3**
	baz=199						
353A	**Camilla**	**18.97**	**10**	P	**Pn**	**19 14 28.1**	**+2.0**
	baz=191,SNR=30						
352A	**Blakely**	**18.99**	**8**	*e*P	**Pn**	**19 14 28.8**	**+2.4**
	comp=Z,209nm,0.9s						
352A	**Blakely**	**18.99**	**8**	P	**Pn**	**19 14 28.6**	**+2.2**
	baz=189,SNR=21						
TIGA	**Tifton**	**19.17**	**11**	P	**Pn**	**19 14 29.8**	**+1.4**
	baz=192,SNR=33						
355A	**Pearson**	**19.23**	**13**	P	**Pn**	**19 14 29.8**	**+0.6**
	baz=195						
249A	**Camden**	**19.31**	**2**	P	**Pn**	**19 14 31.3**	**+1.2**
	baz=182,SNR=42						
250A	**Grady**	**19.35**	**4**	*e*P

Y49A **Blount Mountai** 21.21 3 P P 19 14 51.2 +2.2
baz=184,SNR=34
Y46A **Houston** 21.21 358 P P 19 14 50.6 +1.6
baz=177,SNR=54
Y47A **UCPARC, Winfie** 21.21 0 P P 19 14 51.1 +2.1
baz=180,SNR=34
WHTX **Lake Whitney,** 21.23 337 P P 19 14 50.1 +0.9
baz=153,SNR=8.7
Y45A **Yeager Farm, C** 21.23 356 P P 19 14 51.3 +2.1
baz=175,SNR=22
Y48A **Jasper** 21.23 2 P P 19 14 51.2 +2.0
baz=182,SNR=35
Y50A **Piedmont** 21.29 5 P P 19 14 51.0 +1.2
baz=186,SNR=33
Y51A **Rockmart** 21.37 6 P P 19 14 53.0 +2.3
baz=187,SNR=50
Y44A **Strider, Charl** 21.38 355 P P 19 14 52.7 +2.0
baz=174,SNR=13
Y43A **Makayla and Ka** 21.41 353 P P 19 14 52.8 +1.8
baz=172
RGRS **Roger Stewart** 21.41 18 eP P 19 14 53.8 +2.8
comp=Z,553nm,0.9s
Y42A **Garnett, Star** 21.45 351 P P 19 14 53.6 +2.2
baz=169,SNR=7.0
Y52A **Lilburn** 21.46 9 eP P 19 14 54.2 +2.6
comp=Z,140nm,0.9s
Y52A **Lilburn** 21.46 9 P P 19 14 53.9 +2.3
baz=190,SNR=43
CCAR **Cane Creek** 21.53 351 eP P 19 14 54.1 +1.8
comp=Z,333nm,1.2s
Y53A **Monroe** 21.53 10 P P 19 14 54.4 +2.1
baz=191,SNR=87
NHSC **New Hope** 21.60 18 eP P 19 14 55.5 +2.5
comp=Z,154nm,1.0s
NHSC **New Hope** 21.60 18 P P 19 14 54.5 +1.4
baz=200,SNR=11
Y41A **Eaglette Beard** 21.63 349 P P 19 14 55.1 +1.7
baz=167,SNR=39
SJG **San Juan** 21.64 73 P P 19 14 53.3 -0.4
comp=Z,75nm,0.9s,baz=265,slow=6.8,SNR=24
SJG **San Juan** 21.64 73 eP P 19 14 53.0 -0.7
comp=Z,96nm,1.0s
SJG **San Juan** 21.64 73 eP P 19 14 53.0 -0.7
SJG pmax pmax
comp=Z,96nm,1.0s
Y54A **Tignall** 21.70 12 P P 19 14 55.8 +1.7
baz=194,SNR=136
ATAH **Atahualpa** 21.74 154 P P 19 14 57.2 +2.0
comp=Z,9.8nm,0.9s,baz=352,slow=9.9,SNR=11
ATAH LR LR 19 23 02.3
comp=Z,409nm,21.1s,baz=325,slow=36
X48A **Hartselle** 21.78 2 eP P 19 14 56.5 +1.5
comp=Z,123nm,1.2s
X48A **Hartselle** 21.78 2 P P 19 14 56.3 +1.3
baz=182,SNR=16
X45A **UM Field Stati** 21.78 357 P P 19 14 56.3 +1.3
baz=176,SNR=23
X47A **Russelville** 21.83 0 P P 19 14 56.6 +1.1
baz=180,SNR=35
X50B **Fort Payne** 21.87 5 P P 19 14 57.6 +1.7
baz=186,SNR=29
OXF **Oxford** 21.87 357 eP P 19 14 57.1 +1.2
comp=Z,171nm,1.0s
OXF **Oxford** 21.87 357 eP P 19 14 57.1 +1.2
OXF pmax pmax
comp=Z,171nm,1.0s
OXF **Oxford** 21.87 357 P P 19 14 57.0 +1.1
baz=176,SNR=28
X49A **Woodville** 21.87 3 P P 19 14 57.7 +1.8
baz=184,SNR=16
X46A **Booneville** 21.88 358 P P 19 14 57.3 +1.3
baz=178,SNR=23
X44A **Crenshaw** 21.91 355 P P 19 14 57.4 +1.1
baz=174
HUMP **Col San Antoni** 21.93 73 eP P 19 14 56.8 +0.1
comp=Z,124nm,1.3s
HPIG 21.96 313 eP P 19 14 57.8 +0.6
X43A **Marvell** 22.00 353 P P 19 14 59.0 +1.7
baz=172
X51A **Calhoun** 22.05 7 P P 19 14 59.9 +2.0
baz=188
X42A **Stuttgart** 22.13 352 P P 19 15 00.1 +1.4
baz=170
HODGE **Hodges** 22.14 12 eP P 19 15 00.8 +1.9
comp=Z,188nm,0.8s
TXAR **Lajitas Array** 22.21 321 P P 19 15 01.2 +1.5
comp=Z,28nm,0.7s,baz=141,slow=9.6,SNR=240
TXAR PcP PcP 19 18 55.6 +1.5
comp=Z,3.5nm,0.9s,baz=157,slow=3.5,SNR=5.3
TXAR ScP ScP 19 22 28.1 +2.6
comp=Z,7.8nm,0.8s,baz=150,slow=5.8,SNR=48
X53A **Estanollee** 22.21 10 P P 19 15 01.3 +1.7
baz=192,SNR=44
TX31 **Lajitas Ar. Si** 22.21 321 eP P 19 15 00.8 +1.0
X52A **Dahlonega** 22.21 9 P P 19 15 01.2 +1.5
baz=190,SNR=24
X41A **Kaden, Bauxite** 22.21 350 P P 19 15 00.9 +1.2
baz=168,SNR=28
X40A **Basin Creek Fa** 22.26 349 P P 19 15 01.2 +1.0
baz=167,SNR=15
PLAL **Pickwick Lake** 22.29 360 eP P 19 15 00.2 -0.3
comp=Z,366nm,0.9s
JSC **Jenkinsville** 22.41 14 eP P 19 15 03.1 +1.3
comp=Z,172nm,0.9s
JSC **Jenkinsville** 22.41 14 eP P 19 15 03.1 +1.3
JSC pmax pmax
comp=Z,173nm,0.9s
W46A **Michie** 22.45 359 P P 19 15 02.9 +0.7
baz=178,SNR=5.0
UALR **University of** 22.46 350 eP P 19 15 03.0 +0.7
comp=Z,92nm,0.8s
MIAR **Mount Ida** 22.46 348 eP P 19 15 03.6 +1.2
comp=Z,140nm,0.8s
MIAR **Mount Ida** 22.46 348 eP P 19 15 03.6 +1.2
MIAR pmax pmax
comp=Z,140nm,0.8s
MIAR **Mount Ida** 22.46 348 P P 19 15 03.6 +1.2
baz=165,SNR=94
W48A **Pulaski** 22.46 2 P P 19 15 03.3 +0.9
baz=182,SNR=36
W49A **Belvidere** 22.48 3 P P 19 15 03.7 +1.1
baz=184,SNR=30
W45A **Hickory Valley** 22.50 357 P P 19 15 03.1 +0.3
baz=176,SNR=11
W44A **Shelby Farms P** 22.52 356 P P 19 15 03.3 +0.3
baz=175
W43A **Forest City** 22.54 354 P P 19 15 04.2 +1.0
baz=173
W47A **Westpoint** 22.56 1 P P 19 15 04.1 +0.7
baz=180,SNR=23
SWET **Sewanee** 22.59 4 eP P 19 15 04.9 +1.1
comp=Z,82nm,1.2s
W50A **Signal Mountai** 22.63 5 eP P 19 15 05.4 +1.2
comp=Z,43nm,0.8s
W50A **Signal Mountai** 22.63 5 P P 19 15 04.7 +0.5
baz=186,SNR=13
W51A **Cleveland** 22.65 7 P P 19 15 05.6 +1.2
baz=188,SNR=40
ABTX **Abilene, Hawle** 22.67 333 eP P 19 15 04.4 -0.2
comp=Z,64nm,1.0s
ABTX **Abilene, Hawle** 22.67 333 P P 19 15 04.2 -0.5
baz=149,SNR=31
W52A **Murphy** 22.69 8 eP P 19 15 06.5 +1.7
comp=Z,78nm,1.0s
W52A **Murphy** 22.69 8 P P 19 15 05.5 +0.8
baz=190,SNR=16
BG3 **Lake Jocassee** 22.75 11 eP P 19 15 07.8 +2.4
comp=Z,160nm,0.7s
PAULI **Pauline** 22.80 13 eP P 19 15 07.9 +2.0
comp=Z,132nm,0.8s
STVI **Saint Thomas** 22.81 73 eP P 19 15 05.9 -0.2
comp=Z,150nm,0.9s
W42A **Bald Knob** 22.82 352 P P 19 15 06.9 +0.7
baz=171
W41B **Gary Mavity, V** 22.83 351 eP P 19 15 07.1 +0.9
comp=Z,64nm,0.9s
W41B **Gary Mavity, V** 22.83 351 P P 19 15 06.8 +0.6
baz=169,SNR=43
W53A **Cullowhee** 22.88 10 P P 19 15 08.0 +1.1
baz=192,SNR=18
PCRV **Puerto La Cruz** 22.90 94 P P 19 15 06.5 -0.8
comp=Z,34nm,0.7s,baz=232,slow=7.2,SNR=10
PCRV LR LR 19 24 40.2
comp=Z,338nm,18.8s,baz=301,slow=38
X37A **Clayton** 22.94 344 eP P 19 15 09.0 +1.7
comp=Z,97nm,1.0s
WHAR **Wooly Hollow** 22.95 351 eP P 19 15 08.1 +0.7
comp=Z,69nm,0.9s

CPCT **Cooper Cave** 22.96 7 eP P 19 15 09.1 +1.5
comp=Z,76nm,0.8s
V48A **Smith Brothers** 23.07 2 eP P 19 15 09.2 +0.6
comp=Z,172nm,1.7s
V48A **Smith Brothers** 23.07 2 P P 19 15 08.8 +0.2
baz=182,SNR=12
V45A **Humboldt** 23.07 358 P P 19 15 08.5 -0.1
baz=177,SNR=6.6
V46A **Holladay** 23.11 359 P P 19 15 08.4 -0.6
baz=179,SNR=10
V50A **Pikevile** 23.12 6 P P 19 15 09.5 +0.4
baz=187,SNR=21
W39A **Magazine** 23.13 348 eP P 19 15 10.5 +1.3
comp=Z,60nm,0.8s
W39A **Magazine** 23.13 348 P P 19 15 10.7 +1.4
baz=165,SNR=29
V47A **Nunnelly** 23.14 1 P P 19 15 09.3 0.0
baz=181,SNR=17
V49A **McMinnville** 23.14 4 P P 19 15 09.6 +0.2
baz=185,SNR=25
V44A **Blytheville** 23.21 356 P P 19 15 10.2 +0.3
baz=175
KMSC **Kings Mountain** 23.22 14 eP P 19 15 11.7 +1.6
comp=Z,109nm,0.8s
KMSC **Kings Mountain** 23.22 14 P P 19 15 11.1 +1.0
baz=196,SNR=42
V43A **Jonesboro** 23.22 354 P P 19 15 10.2 +0.1
baz=173
TKL **Tuckaleechee C** 23.26 8 P P 19 15 11.4 +1.0
comp=Z,200nm,1.0s,baz=184,slow=11,SNR=100
TKL ScP ScP 19 22 27.7 -0.2
comp=Z,3.9nm,0.8s,baz=288,slow=3.2,SNR=5.4
TKL LR LR 19 25 37.3
comp=Z,308nm,18.8s,baz=196,slow=40
TKL **Tuckaleechee C** 23.26 8 eP P 19 15 11.9 +1.4
comp=Z,193nm,0.9s
TKL ScP ScP 19 22 27.7 -0.2
TKL **Tuckaleechee C** 23.26 8 eP P 19 15 11.9 +1.4
TKL pmax pmax
comp=Z,193nm,0.9s
V51A **Loudon** 23.33 7 eP P 19 15 12.4 +1.4
comp=Z,105nm,1.1s
V51A **Loudon** 23.33 7 P P 19 15 12.2 +1.1
baz=188,SNR=16
V42A **Cord** 23.33 353 P P 19 15 10.8 -0.2
baz=171,SNR=29
V41A **Mountainview** 23.41 351 P P 19 15 12.1 +0.2
baz=169,SNR=45
V53A **Saluda** 23.43 10 eP P 19 15 13.7 +1.7
comp=Z,104nm,0.8s
V53A **Saluda** 23.43 10 P P 19 15 13.0 +0.9
baz=192,SNR=52
WVT **Waverly** 23.44 0 eP P 19 15 12.0 -0.1
comp=Z,31nm,0.9s
WVT **Waverly** 23.44 0 eP P 19 15 12.0 -0.1
WVT pmax pmax
comp=Z,31nm,0.9s
WVT **Waverly** 23.44 0 P P 19 15 11.6 -0.4
baz=180
V52A **Sevierville** 23.47 9 eP P 19 15 13.6 +1.2
comp=Z,112nm,1.0s
V52A **Sevierville** 23.47 9 P P 19 15 13.3 +0.9
baz=190,SNR=31
U46A **Springville** 23.67 359 P P 19 15 14.2 0.0
baz=179,SNR=26
U45A **Rockin P Farm,** 23.67 358 P P 19 15 13.8 -0.4
baz=178
U44B **Burton Farm, H** 23.68 357 P P 19 15 14.3 0.0
baz=176,SNR=8.9
U47A **Clarksville** 23.75 1 P P 19 15 14.9 0.0
baz=181,SNR=41
U43A **Rector** 23.79 355 P P 19 15 15.3 +0.1
baz=174,SNR=23
U48A **Cassie Rea, Po** 23.85 3 P P 19 15 15.9 +0.1
baz=183,SNR=17
U42A **Revenden** 23.85 353 P P 19 15 15.6 -0.2
baz=172,SNR=28
U44A **Portageville** 23.87 356 P P 19 15 16.1 +0.1
baz=176
U50A **Jamestown** 23.88 6 P P 19 15 17.0 +1.0
baz=187,SNR=36
U49A **Red Boiling Sp** 23.89 4 P P 19 15 16.5 +0.4
baz=185,SNR=36
U41A **Viola** 23.93 352 P P 19 15 16.4 -0.1
baz=170,SNR=20
U51A **La Follette** 23.94 8 P P 19 15 17.4 +0.7
baz=189,SNR=36
U52A **Thorn Hill** 24.04 9 P P 19 15 18.3 +0.7
baz=191,SNR=24
U40A **Yellville** 24.09 350 P P 19 15 18.7 +0.7
baz=168,SNR=52
LPIG **La Paz** 24.14 301 P P 19 15 20.1 +1.6
comp=Z,18nm,0.3s,baz=79,slow=4.8,SNR=5.0
U53A **Fall Branch** 24.15 10 P P 19 15 19.6 +1.1
baz=192,SNR=64
TZTN **Tazewell** 24.16 9 eP P 19 15 20.0 +1.4
comp=Z,49nm,0.8s
TZTN **Tazewell** 24.16 9 P P 19 15 19.7 +1.1
baz=190,SNR=19
WMOK **Wichita Mounta** 24.17 338 eP P 19 15 19.2 +0.5
comp=Z,27nm,0.7s
WMOK **Wichita Mounta** 24.17 338 eP P 19 15 19.2 +0.5
WMOK pmax pmax
comp=Z,27nm,0.7s
WMOK **Wichita Mounta** 24.17 338 P P 19 15 18.9 +0.2
baz=153,SNR=50
HHAR **Hobbs** 24.21 348 eP P 19 15 19.6 +0.5
comp=Z,60nm,0.7s
CNNC **Cliffs of the** 24.29 20 eP P 19 15 20.8 +1.1
comp=Z,290nm,1.4s
CNNC **Cliffs of the** 24.29 20 P P 19 15 19.9 +0.2
baz=204
TUL1 **Leonard** 24.29 344 eP P 19 15 20.4 +0.6
comp=Z,70nm,0.7s
TUL1 **Leonard** 24.29 344 P P 19 15 19.9 +0.2
baz=161,SNR=28
T47A **Sharon Grove** 24.30 1 eP P 19 15 20.6 +0.7
comp=Z,91nm,0.7s
T47A **Sharon Grove** 24.30 1 P P 19 15 19.9 +0.1
baz=182,SNR=14
T45A **Paducah** 24.34 358 P P 19 15 19.6 -0.6
baz=178
T46A **Princeton** 24.35 360 P P 19 15 20.4 +0.1
baz=180,SNR=27
T44A **Benton** 24.44 357 P P 19 15 21.2 +0.1
baz=176,SNR=10
T48A **Bowling Green** 24.45 3 P P 19 15 20.9 -0.3
baz=183,SNR=6.2
T50A **Nancy** 24.48 6 P P 19 15 21.8 +0.4
baz=187,SNR=14
T43A **Greenville** 24.48 355 P P 19 15 21.5 0.0
baz=174,SNR=45
T49A **Edmonton** 24.50 5 eP P 19 15 22.3 +0.6
comp=Z,44nm,0.8s
T49A **Edmonton** 24.50 5 P P 19 15 22.1 +0.4
baz=185,SNR=20
T42A **Van Buren** 24.51 354 eP P 19 15 21.8 +0.1
comp=Z,60nm,0.6s
T42A **Van Buren** 24.51 354 P P 19 15 21.6 -0.1
baz=172,SNR=42
T51A **Gray** 24.53 8 P P 19 15 23.0 +1.1
baz=189,SNR=14
T41A **Mountain View** 24.60 353 P P 19 15 22.6 0.0
baz=171,SNR=57
T52A **Hallie** 24.80 9 P P 19 15 25.6 +1.1
baz=191,SNR=11
S47A **Hartford** 24.91 2 P P 19 15 25.3 -0.1
baz=182
MNTX **Cornudas Mount** 24.93 323 eP P 19 15 26.3 +0.7
comp=Z,172nm,2.0s
MNTX **Cornudas Mount** 24.93 323 P P 19 15 26.0 +0.4
baz=136,SNR=33
S43A **Fulton Ridge,** 24.95 356 P P 19 15 25.4 -0.4
baz=175,SNR=29
S45A **Carrier Mills** 24.99 359 P P 19 15 25.8 -0.3
baz=178,SNR=7.8
S46A **Don Dixon Farm** 24.99 0 P P 19 15 26.0 -0.1
baz=180,SNR=12
S48A **Wiedeman Farm,** 25.02 3 P P 19 15 26.3 -0.1
baz=184,SNR=11
S44A **Carbondale** 25.03 357 P P 19 15 26.6 +0.2
baz=177,SNR=25
SIUC **Southern Illin** 25.05 357 eP P 19 15 27.1 +0.5
comp=Z,75nm,0.8s
S41A **Jillco Farms,** 25.13 353 P P 19 15 27.4 -0.1
baz=171,SNR=36
S50A **Richmond** 25.18 6 P P 19 15 28.1 +0.2
baz=188,SNR=6.0

S49A **Springfield** 25.20 5 P P 19 15 27.9 -0.1
baz=186,SNR=8.9
S42A **Caledonia** 25.21 355 P P 19 15 27.4 -0.7
baz=173,SNR=20
S51A **Beattyville** 25.24 8 P P 19 15 29.1 +0.7
baz=190,SNR=10
MSTX **Muleshoe** 25.24 330 eP P 19 15 29.4 +0.8
comp=Z,108nm,0.9s
MSTX **Muleshoe** 25.24 330 P P 19 15 29.5 +0.8
baz=144,SNR=68
USIN **University of** 25.27 0 eP P 19 15 29.0 +0.3
comp=Z,60nm,0.7s
S52A **Salyersville** 25.35 9 P P 19 15 30.2 +0.8
baz=191,SNR=9.7
BLA **Blacksburg** 25.41 14 eP P 19 15 29.5 -0.5
comp=Z,48nm,0.9s
BLA **Blacksburg** 25.41 14 eP P 19 15 29.5 -0.5
BLA pmax pmax
comp=Z,48nm,0.9s
BLA **Blacksburg** 25.41 14 P P 19 15 31.6 +1.6
baz=197,SNR=10
AMTX **Amarillo** 25.48 333 eP P 19 15 31.9 +1.1
comp=Z,83nm,1.2s
AMTX **Amarillo** 25.48 333 P P 19 15 31.2 +0.4
baz=147
R46A **Gibon Southern** 25.52 1 P P 19 15 31.2 +0.3
baz=184,SNR=8.0
CCM **Cathedral Cave** 25.54 354 eP P 19 15 31.0 -0.1
comp=Z,79nm,0.8s
CCM **Cathedral Cave** 25.54 354 eP P 19 15 31.0 -0.1
CCM pmax pmax
comp=Z,79nm,0.8s
CCM **Cathedral Cave** 25.54 354 P P 19 15 30.6 -0.5
baz=172
WCI **Wyandotte Cave** 25.57 3 eP P 19 15 31.8 +0.4
comp=Z,88nm,0.8s
WCI **Wyandotte Cave** 25.57 3 eP P 19 15 31.8 +0.4
WCI pmax pmax
comp=Z,88nm,0.8s
WCI **Wyandotte Cave** 25.57 3 P P 19 15 31.6 +0.2
baz=183
R44A **Waltonville** 25.57 358 P P 19 15 31.5 +0.1
baz=177,SNR=17
R45A **Skylar, Fairfi** 25.60 359 P P 19 15 31.9 +0.2
baz=179,SNR=14
R47A **Wooly Knot Far** 25.63 2 P P 19 15 31.8 -0.1
baz=183,SNR=14
R43A **Red Bud** 25.65 356 P P 19 15 32.1 +0.1
baz=175,SNR=14
R49A **Shelbyville** 25.71 5 P P 19 15 32.5 -0.1
baz=186,SNR=13
R42A **Luebbering** 25.72 355 P P 19 15 32.4 -0.3
baz=173,SNR=7.8
U32A **Winter Ranch,** 25.72 339 eP P 19 15 33.7 +0.9
comp=Z,96nm,0.9s
R48A **Northridge Ran** 25.77 4 P P 19 15 33.1 -0.1
baz=184,SNR=5.4
R50A **Paris** 25.78 6 P P 19 15 33.8 +0.6
baz=188,SNR=7.7
R41A **Rosebud** 25.79 354 P P 19 15 33.2 -0.2
baz=172,SNR=30
R51A **Hillsboro** 25.89 8 P P 19 15 34.8 +0.5
baz=189,SNR=11
OLIL **Olney** 26.04 360 eP P 19 15 35.9 +0.3
comp=Z,72nm,0.9s
R52A **Catlettsburg** 26.06 9 P P 19 15 36.4 +0.6
baz=191
R53A **Hurricane** 26.17 11 P P 19 15 37.8 +0.9
baz=193,SNR=12
Q45A **Warren Harvey,** 26.20 359 P P 19 15 37.2 +0.1
baz=179,SNR=22
R54A **Victor** 26.21 12 P P 19 15 38.0 +0.7
baz=195,SNR=8.2
Q44A **Meyer Farm, Va** 26.23 358 eP P 19 15 37.7 +0.4
comp=Z,80nm,0.8s
Q44A **Meyer Farm, Va** 26.23 358 P P 19 15 37.2 -0.1
baz=177,SNR=19
Q47A **Bedord North L** 26.27 3 P P 19 15 37.8 +0.1
baz=183,SNR=30
Q43A **New Douglas** 26.29 357 P P 19 15 37.6 -0.3
baz=176
Q48A **North Vernon** 26.30 4 P P 19 15 37.7 -0.3
baz=184,SNR=11
Q42A **Golden Eagle** 26.32 355 P P 19 15 38.1 -0.1
baz=174,SNR=5.7
Q46A **CEJHS Indians,** 26.33 1 P P 19 15 38.3 +0.1
baz=181
Q50A **Georgetown** 26.37 7 P P 19 15 38.7 +0.1
baz=188
Q41A **Truxton** 26.43 354 P P 19 15 39.1 0.0
baz=172,SNR=14
Q49A **Aurora** 26.44 5 P P 19 15 39.4 +0.2
baz=186,SNR=12
Q51A **Peebles** 26.63 8 eP P 19 15 42.1 +1.1
comp=Z,79nm,0.8s
Q51A **Peebles** 26.63 8 P P 19 15 41.8 +0.8
baz=190,SNR=25
Q52A **Bidwell** 26.73 10 P P 19 15 42.9 +1.1
baz=192,SNR=17
NNA **Nana** 26.76 155 P P 19 15 44.2 +1.9
comp=Z,2.3nm,0.3s,baz=328,slow=6.6,SNR=3.0
NNA LR LR 19 24 42.7
comp=Z,212nm,21.9s,baz=334,slow=33
P44A **Sand Creek, Wi** 26.78 359 P P 19 15 41.9 -0.3
baz=178,SNR=5.8
R58B **Mineral** 26.80 18 P P 19 15 43.6 +1.1
baz=202,SNR=7.2
P47A **Martinsville** 26.83 3 P P 19 15 42.1 -0.6
baz=183,SNR=13
P45A **Graceland, Par** 26.83 0 P P 19 15 42.4 -0.3
baz=180
P48A **Milroy** 26.85 4 P P 19 15 42.5 -0.5
baz=185,SNR=10
P46A **Rosedale** 26.93 1 P P 19 15 43.1 -0.5
baz=181,SNR=7.7
121A **Cookes Peak, D** 26.97 321 P P 19 15 46.1 +1.8
baz=133,SNR=18
P42A **Winchester** 26.98 356 P P 19 15 43.6 -0.5
baz=174,SNR=8.8
P49A **Miami Univ. Ec** 26.98 5 P P 19 15 43.5 -0.6
baz=187,SNR=7.6
P43A **Skaggs, Pawnee** 26.98 357 P P 19 15 43.8 -0.3
baz=176
P51A **Williamsport** 27.12 8 P P 19 15 46.0 +0.6
baz=190
P41A **Barry, Barry** 27.12 355 P P 19 15 44.6 -0.8
baz=173,SNR=15
P50A **Jamestown** 27.15 7 P P 19 15 45.6 -0.1
baz=188,SNR=5.6
CBN **Corbin Frederi** 27.17 18 eP P 19 15 47.2 +1.4
comp=Z,120nm,0.9s
CBN **Corbin Frederi** 27.17 18 P P 19 15 46.3 +0.5
baz=203,SNR=5.7
Q55A **Buckhannon** 27.19 13 P P 19 15 46.5 +0.4
baz=197,SNR=12
P53A **Whipple** 27.40 11 eP P 19 15 49.1 +1.3
comp=Z,86nm,0.8s
P53A **Whipple** 27.40 11 P P 19 15 48.7 +0.9
baz=194,SNR=22
P52A **Corning** 27.41 10 P P 19 15 48.4 +0.5
baz=192,SNR=12
BNM **Barren Site** 27.42 325 eP P 19 15 49.9 +1.5
O44A **Mansfield** 27.46 359 P P 19 15 47.7 -0.6
baz=179,SNR=9.2
KSU1 **Kansas State U** 27.52 345 eP P 19 15 49.5 +0.6
comp=Z,68nm,1.1s
KSU1 **Kansas State U** 27.52 345 P P 19 15 48.5 -0.5
baz=161,SNR=12
O41A **Passleys Farm,** 27.55 355 P P 19 15 48.2 -1.0
baz=174,SNR=9.5
O45A **Potomac** 27.55 0 P P 19 15 48.5 -0.7
baz=180,SNR=12
O42A **Bath** 27.57 356 P P 19 15 48.3 -1.0
baz=175
O47A **Sheridan** 27.58 3 P P 19 15 48.8 -0.6
baz=183,SNR=15
O43A **Sugar Creek Fa** 27.62 358 P P 19 15 49.2 -0.6
baz=177
LENM **Lemitar** 27.63 324 eP P 19 15 51.4 +1.3
O48A **Farmland** 27.66 4 P P 19 15 49.7 -0.5
baz=186,SNR=7.8
O49A **Covington** 27.66 6 P P 19 15 50.0 -0.2
baz=187,SNR=13
SFIN **Lafayette** 27.69 1 P P 19 15 49.7 -0.7
baz=182,SNR=6.1
O50A **Cable** 27.70 7 P P 19 15 50.9 +0.3
baz=189,SNR=24
P55A **Reedsville** 27.74 13 P P 19 15 51.7 +0.8

baz=197,SNR=7.9
O51A **Pataskala** 27.84 9 P P 19 15 52.1 +0.3
baz=191,SNR=7.6
ACSO **Alum Creek Sta** 27.87 8 eP P 19 15 52.3 +0.3
comp=Z,54nm,0.9s
ACSO **Alum Creek Sta** 27.87 8 P P 19 15 52.5 +0.5
baz=190,SNR=8.7
MCWV **Mont Chateau** 27.88 13 P P 19 15 52.9 +0.8
baz=197,SNR=9.8
HDIL **Hopedale** 27.89 358 eP P 19 15 51.2 -1.0
comp=Z,29nm,0.8s
HDIL **Hopedale** 27.89 358 P P 19 15 51.7 -0.4
baz=177,SNR=6.7
ANMO **Albuquerque** 27.91 326 P P 19 15 54.7 +2.0
comp=Z,11nm,0.9s,baz=148,slow=8.8,SNR=23
ANMO ScP ScP 19 22 42.5 +1.0
comp=Z,0.9nm,0.3s,baz=151,slow=4.0,SNR=6.1
ANMO **Albuquerque** 27.91 326 eP P 19 15 54.2 +1.5
comp=Z,19nm,1.2s
ANMO ScP ScP 19 22 42.5 +1.0
ANMO **Albuquerque** 27.91 326 eP P 19 15 54.3 +1.5
ANMO pmax pmax
comp=Z,11nm,1.0s
ANMO **Albuquerque** 27.91 326 P P 19 15 54.1 +1.5
baz=138
O52A **Adamsville** 27.93 10 eP P 19 15 53.2 +0.6
comp=Z,52nm,0.8s
O52A **Adamsville** 27.93 10 P P 19 15 53.3 +0.8
baz=192,SNR=12
N44A **Piper City** 28.10 360 P P 19 15 53.2 -0.9
baz=179
N41A **Harden Midland** 28.13 355 eP P 19 15 53.5 -0.8
comp=Z,58nm,0.8s
N41A **Harden Midland** 28.13 355 P P 19 15 53.6 -0.8
baz=174,SNR=13
N45A **Kentland** 28.15 1 P P 19 15 54.0 -0.5
baz=181
CBKS **Cedar Bluff** 28.16 340 eP P 19 15 55.7 +1.0
comp=Z,34nm,0.8s
CBKS **Cedar Bluff** 28.16 340 eP P 19 15 55.7 +1.0
CBKS pmax pmax
comp=Z,34nm,0.8s
CBKS **Cedar Bluff** 28.16 340 P P 19 15 55.3 +0.5
baz=155,SNR=12
O53A **New Philadelph** 28.17 11 P P 19 15 55.5 +0.8
baz=194,SNR=13
N42A **Yates City** 28.19 357 P P 19 15 54.1 -0.8
baz=175
N46A **Monticello** 28.21 2 P P 19 15 54.4 -0.7
baz=182,SNR=13
N47A **Urbana** 28.25 3 P P 19 15 54.3 -1.0
baz=184,SNR=5.5
N43A **Stutzman Famil** 28.26 358 P P 19 15 55.2 -0.3
baz=177,SNR=12
O54A **Avella** 28.27 12 P P 19 15 56.2 +0.6
baz=195,SNR=16
N48A **Decatur** 28.27 5 P P 19 15 55.0 -0.6
baz=186,SNR=5.6
N40A **Mertquake, Sal** 28.37 354 P P 19 15 56.1 -0.4
baz=172,SNR=9.9
N50A **Nevada** 28.38 8 P P 19 15 56.8 +0.2
baz=190,SNR=5.2
N49A **Columbus Grove** 28.41 6 P P 19 15 57.0 +0.2
baz=187,SNR=8.2
O55A **Ligonier** 28.53 14 P P 19 15 58.2 +0.3
baz=198
T25A **Trinidad** 28.59 332 eP P 19 16 01.4 +2.7
comp=Z,31nm,1.2s
T25A **Trinidad** 28.59 332 P P 19 15 59.6 +0.8
baz=144,SNR=8.0
N51A **Ashland** 28.63 9 P P 19 15 58.8 0.0
baz=191
M44A **Midewin, Midew** 28.69 360 P P 19 15 57.6 -1.7
baz=180
M47A **Cromwell** 28.73 4 P P 19 15 58.9 -0.7
baz=184,SNR=8.2
M46A **Old House Fiel** 28.74 2 P P 19 15 59.3 -0.4
baz=183,SNR=5.0
M43A **Waltham Townsh** 28.75 358 P P 19 15 59.3 -0.6
baz=178
TUC **Tucson** 28.76 317 eP P 19 16 01.1 +1.0
comp=Z,26nm,1.1s
TUC **Tucson** 28.76 317 eP P 19 16 01.1 +1.0
TUC pmax pmax
comp=Z,26nm,1.1s
TUC **Tucson** 28.76 317 P P 19 16 00.4 +0.2
baz=128
O56A **Blue Knob Stat** 28.76 15 P P 19 15 59.9 -0.2
baz=199
M41A **Milan** 28.77 356 P P 19 15 59.6 -0.5
baz=174,SNR=6.4
N53A **Lisbon** 28.78 11 P P 19 16 00.2 0.0
baz=194,SNR=5.2
M42A **Sheffield** 28.80 357 P P 19 15 59.6 -0.7
baz=176
M40A **Post Highland** 28.88 354 P P 19 16 00.6 -0.4
baz=172,SNR=6.0
M48A **Edgerton** 28.92 5 P P 19 16 00.3 -1.0
baz=186
M49A **Liberty Center** 28.98 6 P P 19 16 01.0 -0.9
baz=188
M50A **Fremont** 29.01 8 P P 19 16 02.0 -0.1
baz=190,SNR=5.4
M39A **Webster** 29.02 353 P P 19 16 02.0 -0.2
baz=171,SNR=9.2
M51A **Elyria** 29.06 9 P P 19 16 02.5 -0.1
baz=191
N54A **Moraine State** 29.10 12 eP P 19 16 03.9 +0.9
comp=Z,53nm,0.8s
N54A **Moraine State** 29.10 12 P P 19 16 03.4 +0.5
baz=196,SNR=11
N55A **Marion Center** 29.14 14 P P 19 16 03.6 +0.2
baz=198
PAGS **Pennsylvania G** 29.23 18 eP P 19 16 05.8 +1.7
comp=Z,62nm,0.7s
SSPA **Standing Stone** 29.28 16 eP P 19 16 05.5 +0.9
comp=Z,31nm,0.8s
SSPA **Standing Stone** 29.28 16 P P 19 16 05.0 +0.4
baz=200
L46A **Eue Claire** 29.34 2 P P 19 16 03.7 -1.4
baz=183
L42A **Oliver, Polo** 29.34 357 P P 19 16 04.5 -0.6
baz=176,SNR=5.4
L47A **Sherwood** 29.37 4 P P 19 16 04.5 -0.8
baz=185,SNR=5.4
KSCO **Kaye Shedlock'** 29.39 336 P P 19 16 06.7 +0.9
baz=150
L48A **N Adams** 29.40 5 P P 19 16 04.9 -0.7
baz=187,SNR=6.2
L41A **Preston** 29.46 356 P P 19 16 05.5 -0.7
baz=175,SNR=9.8
L44A **Lake County Fo** 29.48 360 P P 19 16 05.4 -0.9
baz=180
L43A **Garden Prairie** 29.49 359 P P 19 16 05.4 -1.0
baz=178
L40A **Anamosa** 29.51 355 eP P 19 16 05.9 -0.7
comp=Z,43nm,0.8s
L40A **Anamosa** 29.51 355 P P 19 16 05.9 -0.7
baz=173,SNR=9.9
SCIA **State Center** 29.58 352 P P 19 16 06.6 -0.6
baz=169
SDCO **Great Sand Dun** 29.59 331 eP P 19 16 09.8 +2.1
comp=Z,18nm,1.0s
SDCO **Great Sand Dun** 29.59 331 P P 19 16 09.6 +1.9
baz=143,SNR=29
L49A **Milan** 29.62 6 P P 19 16 06.3 -1.3
baz=188
L39A **Vinton** 29.64 354 P P 19 16 07.2 -0.5
baz=172,SNR=5.3
M54A **Oil Creek Stat** 29.69 13 eP P 19 16 08.7 +0.5
comp=Z,62nm,0.8s
M54A **Oil Creek Stat** 29.69 13 P P 19 16 07.8 -0.4
baz=196,SNR=8.3
AAM **Ann Arbor** 29.83 6 eP P 19 16 09.8 +0.4
comp=Z,45nm,0.6s
AAM **Ann Arbor** 29.83 6 eP P 19 16 09.8 +0.4
AAM pmax pmax
comp=Z,45nm,0.6s
AAM **Ann Arbor** 29.83 6 P P 19 16 08.8 -0.6
baz=188
W18A **Petrified Fore** 29.91 322 P P 19 16 11.0 +0.5
baz=133
214A **Organ Pipe Nat** 29.94 314 P P 19 16 11.0 +0.4
baz=124
K41A **Shullsburg** 29.98 356 P P 19 16 09.6 -1.1
baz=175
K43A **Burlington** 30.01 359 P P 19 16 09.8 -1.2
baz=179
K46A **Dorr** 30.04 3 P P 19 16 10.0 -1.2
baz=184
K47A **Vermontville** 30.07 4 P P 19 16 10.6 -0.9
baz=185,SNR=7.1
BGNE **Belgrade** 30.08 344 P P 19 16 11.6 -0.1
baz=160,SNR=5.8
K42A **Prairie Point,** 30.11 358 P P 19 16 11.3 -0.6
baz=177
K40A **Colesburg** 30.13 355 P P 19 16 11.6 -0.5
baz=174
N59A **State Game Lan** 30.15 18 P P 19 16 13.0 +0.7
baz=204,SNR=9.8
K39A **Oelwein** 30.21 354 P P 19 16 12.3 -0.5
baz=172,SNR=9.9
ERPA **Erie** 30.21 12 P P 19 16 12.3 -0.5
baz=195
S22A **4UR Ranch, Cre** 30.24 329 eP P 19 16 15.4 +1.9
comp=Z,23nm,1.2s
S22A **4UR Ranch, Cre** 30.24 329 P P 19 16 14.0 +0.6
baz=141,SNR=29
K48A **Perry** 30.28 5 P P 19 16 12.6 -0.8
baz=187,SNR=9.2
JFWS **Jewell Farm** 30.28 357 eP P 19 16 12.8 -0.6
comp=Z,11nm,0.5s
JFWS **Jewell Farm** 30.28 357 eP P 19 16 12.8 -0.6
JFWS pmax pmax
comp=Z,11nm,0.5s
JFWS **Jewell Farm** 30.28 357 P P 19 16 13.0 -0.4
baz=175
K49A **Clarkson** 30.32 6 P P 19 16 13.4 -0.4
baz=188,SNR=8.0
X16A **Lo Mia Camp, P** 30.50 319 eP P 19 16 17.6 +1.9
comp=Z,6.6nm,0.8s
J42A **Columbus** 30.64 358 P P 19 16 15.9 -0.6
baz=178,SNR=6.9
J47A **Sumner** 30.65 4 P P 19 16 14.7 -2.0
baz=186
J43A **Natural Harves** 30.68 359 P P 19 16 16.2 -0.7
baz=179
PTGA **Pitinga** 30.69 114 P P 19 16 15.1 -2.2
comp=Z,1.3nm,0.3s,baz=299,slow=8.8,SNR=6.7
PTGA PcP PcP 19 19 14.1 +0.1
comp=Z,2.0nm,0.5s,baz=267,slow=7.2,SNR=4.3
PTGA ScP ScP 19 22 53.0 +2.4
comp=Z,2.6nm,0.8s,baz=300,slow=2.8,SNR=4.4
PTGA LR LR 19 29 33.0
comp=Z,300nm,22.0s,baz=298,slow=38
PTGA **Pitinga** 30.69 114 eP P 19 16 16.2 -1.1
MVCO **Mesa Verde** 30.70 327 eP P 19 16 17.0 -0.4
comp=Z,16nm,1.0s
MVCO **Mesa Verde** 30.70 327 P P 19 16 18.3 +0.9
baz=138,SNR=8.8
J46A **Howard City** 30.71 3 P P 19 16 16.0 -1.1
baz=184
J41A **Loganville** 30.72 357 P P 19 16 16.6 -0.7
baz=176,SNR=6.4
J40A **Soldiers Grove** 30.80 356 P P 19 16 16.9 -1.1
baz=174,SNR=8.3
J48A **Bridge Port** 30.80 6 P P 19 16 18.5 +0.5
baz=190
J39A **Decorah** 30.81 355 P P 19 16 17.0 -1.1
baz=173,SNR=8.4
PAL **Palisades** 30.84 21 P P 19 16 17.8 -0.6
baz=207
OGNE **Ogallala** 30.86 339 P P 19 16 20.0 +1.4
baz=152
J49A **Marlette** 30.93 7 P P 19 16 17.2 -1.9
baz=189
WUAZ **Wupatki** 31.17 321 P P 19 16 22.3 +0.7
comp=Z,15nm,1.0s
WUAZ ePcP PcP 19 19 15.1 -0.1
WUAZ **Wupatki** 31.17 321 P P 19 16 23.2 +1.6
baz=131,SNR=9.0
I43A **Langenfeld Bro** 31.18 360 P P 19 16 20.4 -0.9
baz=179,SNR=5.3
I42A **Draeger Farm,** 31.20 359 eP P 19 16 20.8 -0.7
comp=Z,46nm,1.0s
I42A **Draeger Farm,** 31.20 359 P P 19 16 21.1 -0.4
baz=178,SNR=5.8
J52A **Paris** 31.20 10 P P 19 16 21.2 -0.3
baz=194
K55A **Perry** 31.21 14 P P 19 16 21.9 +0.3
baz=198
BINY **Binghamton** 31.26 17 eP P 19 16 23.2 +1.1
comp=Z,35nm,0.8s
BINY **Binghamton** 31.26 17 P P 19 16 22.4 +0.3
baz=203
I40A **Norwalk** 31.28 356 P P 19 16 21.6 -0.6
baz=175,SNR=6.8
ISCO **Idaho Springs** 31.30 333 eP P 19 16 24.0 +1.2
comp=Z,11nm,1.1s
ISCO ePP PP 19 17 36.8 +2.1
ISCO **Idaho Springs** 31.30 333 eP P 19 16 24.0 +1.2
ISCO e 19 17 36.8
ISCO pmax pmax
comp=Z,11nm,1.1s
ISCO **Idaho Springs** 31.30 333 P P 19 16 23.8 +1.0
baz=145,SNR=7.1
I46A **Reed City** 31.31 3 P P 19 16 20.3 -2.1
baz=184
I39A **Houston** 31.31 355 eP P 19 16 21.2 -1.3
comp=Z,52nm,0.6s
I39A **Houston** 31.31 355 P P 19 16 21.6 -0.9
baz=173,SNR=12
I45A **Fountain** 31.37 2 P P 19 16 21.1 -1.8
baz=183
I41A **Arkdale** 31.41 357 P P 19 16 22.7 -0.6
baz=176,SNR=8.2
SMCO **Snowmass** 31.43 331 eP P 19 16 26.0 +1.9
comp=Z,21nm,1.0s
I47A **Gladwin** 31.45 5 P P 19 16 22.3 -1.4
baz=186
PV03 **Paradox Valley** 31.66 328 eP P 19 16 27.6 +1.8
PV19 **Morning Glory** 31.77 327 eP P 19 16 28.8 +1.9
comp=Z,26nm,0.8s
H42A **Shiocton** 31.81 359 P P 19 16 26.4 -0.4
baz=179
PV14 **Lion Creek, Pa** 31.84 327 eP P 19 16 29.2 +1.7
comp=Z,32nm,1.0s
H46A **Fife Lake** 31.92 4 P P 19 16 26.2 -1.6
baz=185
I53A **Kortright Cn E** 31.93 11 P P 19 16 27.7 -0.2
baz=195
ECSD **EROS Data Cent** 31.93 348 eP P 19 16 27.7 -0.3
comp=Z,55nm,0.9s
ECSD eS S 19 21 31.1 -2.9
ECSD **EROS Data Cent** 31.93 348 P P 19 16 27.6 -0.4
baz=164,SNR=46
H41A **Junction City** 31.95 358 P P 19 16 26.9 -1.2
baz=177
H45A **Beulah** 31.96 2 P P 19 16 26.6 -1.5
baz=183
GLA **Glamis** 31.96 314 P P 19 16 29.1 +0.7
baz=123
PV09 **Paradox Valley** 31.99 328 eP P 19 16 30.5 +1.6
H40A **Chili** 31.99 357 P P 19 16 27.7 -0.7
baz=175,SNR=11
H47A **Mio** 32.05 5 P P 19 16 28.4 -0.6
baz=187
I52A **Shelburne** 32.06 10 P P 19 16 29.1 +0.1
baz=194
H39A **Augusta** 32.11 355 P P 19 16 28.7 -0.8
baz=174,SNR=5.8
Y12C **Blythe** 32.14 315 P P 19 16 29.8 0.0
baz=125
H38A **Maiden Rock** 32.20 354 P P 19 16 29.5 -0.8
baz=172,SNR=10
PDMCI **Parker Dam,Lak** 32.20 317 P P 19 16 31.3 +0.9
baz=126,SNR=6.4
H48A **Harrisville** 32.23 6 P P 19 16 30.1 -0.4
baz=186,SNR=5.4
GLMI **Grayling** 32.24 4 P P 19 16 30.1 -0.6
baz=186
N23A **Red Feather La** 32.35 334 P P 19 16 33.4 +1.4
baz=146
G45A **Suttons Bay** 32.39 3 P P 19 16 31.0 -1.0
baz=184
G41A **Antigo** 32.53 358 P P 19 16 32.1 -1.1
baz=178
G40A **Rib Lake** 32.63 357 P P 19 16 33.3 -0.7
baz=176
G38A **Ridgeland** 32.65 355 P P 19 16 33.1 -1.1
baz=173,SNR=11
IKP **In-Ko-Pah, Jac** 32.66 312 P P 19 16 36.3 +1.7
baz=121,SNR=5.7
H52A **Wyevale** 32.66 11 P P 19 16 32.7 -1.6
baz=194
G39A **Holcombe** 32.71 356 P P 19 16 33.8 -0.9
baz=174,SNR=14
BC3 **Big Chuckawall** 32.73 314 P P 19 16 36.4 +1.2
baz=123,SNR=7.0
O20A **White River Ci** 32.78 330 eP P 19 16 37.9 +2.2
comp=Z,56nm,0.9s
O20A **White River Ci** 32.78 330 P P 19 16 37.4 +1.7
baz=141,SNR=28
NEE2 **Needles Airpor** 32.79 317 P P 19 16 37.1 +1.5
baz=126
SPMN **Marine on St.** 32.79 354 eP P 19 16 34.9 -0.6
comp=Z,56nm,0.8s
SPMN **Marine on St.** 32.79 354 P P 19 16 34.6 -0.9
baz=171,SNR=18
IRM **Iron Mountain** 32.80 315 P P 19 16 37.1 +1.5
baz=124
SADO **Sadowa** 32.93 11 P P 19 16 36.6 0.0
comp=Z,29nm,0.6s,baz=220,slow=9.4,SNR=33
SADO ScP ScP 19 22 56.6 -0.9
comp=Z,19nm,0.8s,baz=212,slow=2.0,SNR=10
HRV **Adam Dziewonsk** 33.00 22 P P 19 16 38.3 +1.0
baz=210
MONP2 **Monument Peak** 33.01 312 P P 19 16 39.1 +1.3
baz=121,SNR=6.7
F41A **Three Lakes** 33.05 358 P P 19 16 37.2 -0.5
baz=178
F43A **Flat Rock, Esc** 33.13 1 P P 19 16 37.6 -0.8
baz=181
SUSD **Miller** 33.13 345 P P 19 16 38.0 -0.4
baz=160,SNR=14
SRU **San Rafael Swe** 33.17 327 eP P 19 16 40.9 +1.8
comp=Z,26nm,1.0s
SRU **San Rafael Swe** 33.17 327 eP P 19 16 40.9 +1.8
SRU pmax pmax
comp=Z,26nm,1.0s
F46A **Macinaw City C** 33.18 4 P P 19 16 38.1 -0.7
baz=185
F37A **Hinrichs Farm,** 33.27 354 P P 19 16 38.7 -0.9
baz=171,SNR=9.2
F40A **Park Falls** 33.27 357 P P 19 16 38.7 -1.0
baz=176,SNR=6.9
F44A **Big Bay de Noc** 33.30 2 P P 19 16 38.9 -0.9
baz=182,SNR=8.7
BELC **Belle Mtn. Jos** 33.30 314 P P 19 16 40.3 +0.1
baz=123,SNR=5.3
F39A **Loretta** 33.31 356 P P 19 16 38.8 -1.2
baz=174,SNR=12
G53A **Haliburton** 33.37 12 P P 19 16 40.4 -0.1
baz=196
Q16A **Castle Valley** 33.39 326 eP P 19 16 42.9 +1.9
comp=Z,12nm,1.0s
H56A **Elgin** 33.41 15 P P 19 16 40.6 -0.2
baz=201
PFO **Pinyon Flats O** 33.41 314 P P 19 16 43.1 +1.9
comp=Z,24nm,0.8s,baz=120,slow=5.1,SNR=4.1
PFO PcP PcP 19 19 22.9 +1.6
comp=Z,29nm,0.6s,baz=114,slow=4.8,SNR=6.0
PFO ScP ScP 19 23 02.6 +2.9
comp=Z,6.4nm,1.0s,baz=80,slow=1.0,SNR=8.0
PFO **Pinyon Flats O** 33.41 314 eP P 19 16 43.6 +2.4
comp=Z,9.8nm,1.3s
PFO PcP PcP 19 19 22.9 +1.6
PFO ScP ScP 19 23 02.6 +2.9
PFO **Pinyon Flats O** 33.41 314 eP P 19 16 43.6 +2.4
PFO 19 19 22.9
PFO pmax pmax
comp=Z,10.0nm,1.3s
PFO **Pinyon Flats O** 33.41 314 P P 19 16 42.1 +0.9
baz=122
COWI **Conover** 33.42 358 eP P 19 16 40.3 -0.6
comp=Z,34nm,0.9s
F48A **Evansville** 33.42 7 P P 19 16 39.7 -1.2
baz=189
F38A **Pierce - Schro** 33.43 355 P P 19 16 40.3 -0.7
baz=173,SNR=23
GMRC **Granite Mounta** 33.50 316 P P 19 16 43.4 +1.5
baz=124
RWWY **Rawlins** 33.54 333 eP P 19 16 43.6 +1.2
comp=Z,51nm,1.3s
P17A **Butcher Ranch,** 33.55 327 eP P 19 16 44.2 +1.8
comp=Z,42nm,1.0s
SZCU **Shurtz Canyon** 33.58 322 eP P 19 16 45.0 +2.3
comp=Z,15nm,1.2s
MSU **Marysvale** 33.66 324 eP P 19 16 45.8 +2.4
MSU **Marysvale** 33.66 324 eP P 19 16 45.8 +2.4
TMUT **Trail Mountain** 33.68 326 eP P 19 16 45.3 +1.7
comp=Z,14nm,1.0s
TMUT ePcP PcP 19 19 23.7 +1.5
E43A **Lone Tree Farm** 33.68 1 P P 19 16 42.2 -1.0
baz=181
CCUT **Cedar City** 33.71 322 eP P 19 16 46.3 +2.4
E42A **Champion** 33.73 360 P P 19 16 43.1 -0.5
baz=180
E45A **Wooded Hills,** 33.73 3 P P 19 16 43.6 0.0
baz=185
E39A **Mellen** 33.75 357 P P 19 16 43.0 -0.8
baz=175,SNR=7.9
E41A **Kenton** 33.77 359 P P 19 16 43.1 -0.9
baz=178
E40A **Wakefield** 33.79 357 P P 19 16 43.6 -0.5
baz=176
E46A **Sault Ste Mari** 33.80 4 P P 19 16 44.9 +0.7
baz=186
F52A **Sundridge** 33.88 11 P P 19 16 44.3 -0.6
baz=195
G55A **Calabogie** 33.91 14 P P 19 16 45.3 +0.1
baz=200
MURC **Murrieta** 33.93 313 P P 19 16 47.0 +1.4
baz=121
E47A **Iron Bridge** 33.98 6 P P 19 16 45.3 -0.4
baz=188,SNR=5.2
HEC **Hector,Ludlow** 33.98 315 P P 19 16 47.4 +1.4
baz=124
K22A **Casper** 34.04 335 eP P 19 16 48.2 +1.6
comp=Z,14nm,0.8s
K22A **Casper** 34.04 335 P P 19 16 47.1 +0.6
baz=146,SNR=10
E38A **The Farm, Brul** 34.05 355 eP P 19 16 46.0 -0.3
comp=Z,40nm,0.8s
E38A **The Farm, Brul** 34.05 355 P P 19 16 45.5 -0.8
baz=174,SNR=6.1
TUQ **Turquoise Moun** 34.05 317 P P 19 16 47.8 +1.2
baz=125
E48A **Lockeyer** 34.12 7 P P 19 16 47.2 +0.2
baz=190
SHPR **Sheep Range** 34.17 319 eP P 19 16 50.1 +2.3
comp=Z,4.6nm,1.1s
E50A **Wahnapitae** 34.26 9 P P 19 16 48.4 +0.3
baz=192
RSSD **Black Hills** 34.35 339 eP P 19 16 51.0 +1.7
comp=Z,20nm,0.7s
RSSD **Black Hills** 34.35 339 eP P 19 16 51.0 +1.7
RSSD pmax pmax
comp=Z,20nm,0.7s
RSSD **Black Hills** 34.35 339 P P 19 16 50.9 +1.6
baz=151
MPU **Maple Canyon** 34.42 327 eP P 19 16 51.7 +1.7
comp=Z,24nm,0.9s
E52A **Mattawa** 34.48 11 P P 19 16 50.4 +0.4
baz=196
E51A **G1948 Merrick** 34.56 10 P P 19 16 50.6 -0.2
baz=194,SNR=6.1
GSC **Goldstone, Bar** 34.57 316 eP P 19 16 55.6 +4.5
comp=Z,3.7nm,0.9s
GSC ePcP PcP 19 19 26.7 +2.2
GSC **Goldstone, Bar** 34.57 316 eP P 19 16 55.6 +4.5
GSC e 19 19 26.7
GSC pmax pmax
comp=Z,4.0nm,0.9s
GSC **Goldstone, Bar** 34.57 316 P P 19 16 52.6 +1.5
baz=124
D47A **Chapleau** 34.59 6 P P 19 16 50.4 -0.7
baz=188
BFSC **Mount Baldy Ra** 34.59 314 P P 19 16 51.6 +0.3
baz=121
NLU **North Lily Min** 34.61 326 eP P 19 16 53.7 +2.1
comp=Z,11nm,1.0s
PSUT **Pine Spring** 34.65 323 eP P 19 16 54.0 +2.1
comp=Z,10nm,0.9s
LPAZ **La Paz** 34.70 145 P P 19 16 54.9 +1.8
comp=Z,2.7nm,0.4s,baz=337,slow=5.5,SNR=14
LPAZ **La Paz** 34.70 145 eP P 19 16 55.0 +2.0
comp=Z,6.4nm,1.1s
LPAZ **La Paz** 34.70 145 eP P 19 16 55.0 +2.0
LPAZ **La Paz** 34.70 145 eP P 19 16 51.9 -1.2
LPAZ ePP PP 19 17 48.5 -24
CIS **Catalina Islan** 34.71 312 P P 19 16 54.0 +1.7
baz=120
JLU **Jordanelle** 34.75 328 eP P 19 16 54.5 +1.7

comp=Z,17nm,1.0s
E53A Dumoine, Ponti 34.77 12 P P 19 16 53.3 +0.7
baz=198
D48A Paudash Townsh 34.85 7 P P 19 16 52.4 -0.9
baz=190
MWC Mount Wilson 34.87 313 eP P 19 16 56.7 +2.9
comp=Z,8.8nm,1.1s
MWC Mount Wilson 34.87 313 eP P 19 16 56.7 +2.9
MWC pmax pmax
comp=Z,9.0nm,1.1s
E54A Lac Daplat, Po 34.92 13 P P 19 16 53.5 -0.4
baz=198
CTU Camp Tracy 34.97 328 eP P 19 16 56.4 +1.7
comp=Z,24nm,1.1s
TCUT Toone Canyon 35.10 328 eP P 19 16 58.0 +2.2
comp=Z,27nm,0.7s
D50A G1974 Best Tow 35.12 10 P P 19 16 55.3 -0.3
baz=194,SNR=5.4
TPNV Topopah Spring 35.14 319 eP P 19 16 58.4 +2.2
comp=Z,9.6nm,1.0s
TPNV Topopah Spring 35.14 319 P P 19 16 57.1 +0.9
baz=126,SNR=11
EDW2 Edwards Air Fo 35.16 314 P P 19 16 57.8 +1.6
baz=122
DUG Dugway, Tooele 35.19 326 eP P 19 16 58.2 +1.8
comp=Z,16nm,0.9s
DUG Dugway, Tooele 35.19 326 eP P 19 16 58.3 +1.8
DUG pmax pmax
comp=Z,16nm,0.9s
DUG Dugway, Tooele 35.19 326 P P 19 16 58.0 +1.5
baz=134,SNR=20
D52A ZEK Kipawa Sen 35.19 11 P P 19 16 56.5 +0.3
baz=196
FURC Furnace Creek, 35.26 317 P P 19 16 58.6 +1.6
baz=125
LRMC Laurel Mtn Rad 35.26 315 P P 19 16 58.1 +1.0
baz=123,SNR=5.5
EYMN Ely 35.38 356 eP P 19 16 56.8 -1.0
EYMN Ely 35.38 356 P P 19 16 56.5 -1.3
baz=174,SNR=5.4
D53A Lac Vacive, Po 35.43 12 P P 19 16 58.1 -0.1
baz=197
MPMC Manual Prospec 35.45 316 P P 19 16 59.9 +1.0
baz=124
BW06 Boulder Array 35.46 332 eP P 19 17 00.0 +1.2
comp=Z,12nm,0.9s
BW06 Boulder Array 35.46 332 P P 19 16 59.2 +0.3
baz=142,SNR=22
PD31 Pinedale Array 35.46 332 eP P 19 16 59.8 +1.0
PDAR Pinedale Array 35.46 332 P P 19 16 59.9 +1.1
comp=Z,4.2nm,0.5s,baz=123,slow=9.6,SNR=60
PDAR PcP PcP 19 19 27.0 -0.1
comp=Z,1.6nm,0.7s,baz=130,slow=5.4,SNR=4.0
PDAR ScP ScP 19 23 07.5 +0.6
comp=Z,1.4nm,0.5s,baz=133,slow=3.8,SNR=11
PDAR Pinedale Array 35.46 332 eP P 19 16 58.8 -0.1
PDAR PcP PcP 19 19 27.0 -0.1
PDAR ScP ScP 19 23 07.5 +0.6
HWUT Hardware Ranch 35.54 329 eP P 19 17 00.8 +1.3
comp=Z,41nm,1.0s
MDP Montagnes des 35.56 99 P P 19 16 58.5 -1.3
comp=Z,14nm,1.1s,baz=276,slow=15,SNR=3.5
MDP ScP ScP 19 23 09.4 +1.9
comp=Z,11nm,0.8s,baz=287,slow=1.4,SNR=3.7
MDP LR LR 19 32 42.9
comp=Z,353nm,21.4s,baz=296,slow=38
R11A Troy Canyon, C 35.57 321 eP P 19 17 01.8 +1.9
comp=Z,4.1nm,1.0s
R11A Troy Canyon, C 35.57 321 P P 19 17 01.2 +1.3
baz=129,SNR=6.8
D54A Lac Fusel, La 35.72 13 P P 19 17 00.5 -0.2
baz=199,SNR=7.2
SPUT South Promonto 35.78 328 eP P 19 17 03.3 +1.8
comp=Z,27nm,1.0s
BGU Big Grassy Mou 35.81 327 eP P 19 17 03.6 +1.7
comp=Z,22nm,1.1s
ARVC Arvin 35.88 314 P P 19 17 03.4 +1.1
baz=121
ISA Isabella, Lake 35.91 315 eP P 19 17 08.1 +5.5
ISA Isabella, Lake 35.91 315 P P 19 17 03.9 +1.3
baz=122
CWC Cottonwood Cre 36.06 316 P P 19 17 03.9 -0.1
baz=124
AHID Auburn Hatcher 36.18 331 eP P 19 17 06.5 +1.5
comp=Z,38nm,0.7s
PKME Peaks-Kenny Pk 36.21 22 eP P 19 17 06.4 +1.5
PKME Peaks-Kenny Pk 36.21 22 P P 19 17 05.9 +1.0
baz=212
AGMN Agassiz Nation 36.22 351 eP P 19 17 04.7 -0.3
comp=Z,69nm,0.8s
AGMN Agassiz Nation 36.22 351 P P 19 17 04.2 -0.7
baz=167,SNR=31
HVU Hansel Valley 36.29 328 eP P 19 17 07.6 +1.7
comp=Z,25nm,1.0s
HVU Hansel Valley 36.29 328 eP P 19 17 07.6 +1.7
HVU pmax pmax
comp=Z,25nm,1.0s
MNMC Minye Minye 36.30 150 eP P 19 17 07.7 +1.4
comp=Z,21nm,0.9s
VES Vestal, Richgr 36.42 315 P P 19 17 08.9 +2.0
baz=122
PKM Mcpherson Peak 36.45 313 P P 19 17 09.4 +2.0
baz=120
MDND Maddock 36.49 347 eP P 19 17 07.8 +0.4
comp=Z,292nm,0.9s
MDND Maddock 36.49 347 P P 19 17 07.6 +0.3
baz=160,SNR=21
REDW Red Top Meadow 36.52 331 eP P 19 17 09.6 +1.7
comp=Z,157nm,1.1s
SNOW Snow King Moun 36.55 332 eP P 19 17 10.1 +1.9
comp=Z,164nm,1.1s
LOHW Long Hollow 36.59 332 eP P 19 17 10.0 +1.5
comp=Z,38nm,1.0s
TPAW Teton Pass 36.66 331 eP P 19 17 10.4 +1.2
comp=Z,77nm,1.1s
MOOW Moose Ponds 36.76 332 eP P 19 17 11.2 +1.2
comp=Z,29nm,1.0s
FXWY Fox Creek 36.81 332 eP P 19 17 11.7 +1.3
comp=Z,16nm,1.1s
PB11 IPOC Station P 36.81 151 eP P 19 17 11.6 +1.1
comp=Z,29nm,1.1s
ELK Elko 36.91 324 P P 19 17 13.0 +1.7
comp=Z,10nm,0.9s,baz=136,slow=5.5,SNR=24
ELK PcP PcP 19 19 32.2 +0.7
comp=Z,2.3nm,0.7s,baz=156,slow=4.1,SNR=3.7
ELK ScP ScP 19 23 14.1 +1.8
comp=Z,4.3nm,1.1s,baz=100,slow=5.3,SNR=7.1
ELK Elko 36.91 324 eP P 19 17 12.8 +1.5
comp=Z,11nm,0.9s
ELK PcP PcP 19 19 32.2 +0.7
ELK ScP ScP 19 23 14.1 +1.8
ELK Elko 36.91 324 eP P 19 17 12.8 +1.5
ELK 19 19 32.3
ELK pmax pmax
comp=Z,11nm,0.9s
IMW Indian Meadow 36.97 332 eP P 19 17 13.1 +1.3
comp=Z,61nm,1.4s
FLWY Flagg Ranch 37.00 332 eP P 19 17 13.8 +1.8
comp=Z,63nm,1.3s
PAGB Antelope Grade 37.18 314 eP P 19 17 16.1 +2.8
comp=Z,13nm,1.0s
H17A Grant Village 37.19 333 eP P 19 17 15.8 +2.2
comp=Z,17nm,1.1s
H17A Grant Village 37.19 333 P P 19 17 14.9 +1.3
baz=141,SNR=11
YPP Pitchstone Pla 37.20 332 eP P 19 17 16.1 +2.4
comp=Z,34nm,1.3s
RLMT Red Lodge 37.20 335 eP P 19 17 14.7 +1.0
RLMT Red Lodge 37.20 335 P P 19 17 14.5 +0.8
baz=144,SNR=22
LKWY Lake 37.24 333 eP P 19 17 16.4 +2.3
comp=Z,37nm,1.2s
LKWY Lake 37.24 333 eP P 19 17 16.4 +2.3
LKWY pmax pmax
comp=Z,37nm,1.2s
OMMB Old Mammoth Mi 37.32 317 eP P 19 17 17.3 +2.5
comp=Z,5.4nm,1.1s
OMMB eS S 19 22 58.7 +1.0
NV01 Mina Array Sit 37.33 319 eP P 19 17 16.2 +1.4
NV01 ePcP PcP 19 19 34.5 +1.7
NVAR Mina Array Bea 37.33 319 P P 19 17 16.8 +2.0
comp=Z,9.8nm,0.9s,baz=136,slow=7.4,SNR=40
NVAR PcP PcP 19 19 34.2 +1.4
comp=Z,3.2nm,0.7s,baz=161,slow=2.5,SNR=5.9
NVAR ScP ScP 19 23 16.3 +2.4
comp=Z,6.2nm,0.6s,baz=130,slow=4.5,SNR=24
LAO LASA Array 37.35 339 eP P 19 17 15.8 +1.1
comp=Z,73nm,1.5s
LAO LASA Array 37.35 339 P P 19 17 15.4 +0.7
baz=150,SNR=5.9
YFT Old Faithful 37.35 333 eP P 19 17 18.1 +3.2
comp=Z,74nm,1.2s
YNR Norris Junctio 37.49 333 eP P 19 17 18.7 +2.6
comp=Z,12nm,0.8s
YNR epP pP 19 17 37.0 +3.6
KVN Kaiserville 37.56 320 eP P 19 17 18.5 +1.7
comp=Z,9.3nm,1.0s
KVN Kaiserville 37.56 320 eP P 19 17 18.5 +1.7
KVN pmax pmax
comp=Z,9.0nm,1.0s
YMR Madison River 37.58 333 eP P 19 17 19.4 +2.5
comp=Z,63nm,1.1s
RYN Ryan 37.58 319 eP P 19 17 18.9 +2.0
comp=Z,5.0nm,0.9s
YHB Horse Butte 37.74 333 eP P 19 17 20.5 +2.2
comp=Z,21nm,1.0s
GCMT Greycliff 37.91 335 eP P 19 17 20.6 +1.1
QLMT Earthquake Lak 37.91 332 eP P 19 17 22.3 +2.7
QLMT epP pP 19 17 38.6 +1.6
PB01 IPOC Station P 37.99 151 eP P 19 17 21.7 +1.2
comp=Z,8.0nm,0.7s
WAKR Walker 38.10 318 eP P 19 17 24.0 +2.7
comp=Z,8.2nm,1.0s
ULM Lac du Bonnet 38.12 352 P P 19 17 20.0 -1.0
comp=Z,48nm,0.6s,baz=168,slow=8.8,SNR=75
ULM LR LR 19 35 15.1
comp=Z,161nm,21.4s,baz=156,slow=40
ULM Lac du Bonnet 38.12 352 eP P 19 17 20.1 -0.9
comp=Z,54nm,0.8s
ULM Lac du Bonnet 38.12 352 eP P 19 17 20.2 -0.9
ULM pmax pmax
comp=Z,54nm,0.8s
YERR Yerington 38.25 319 eP P 19 17 24.6 +2.0
comp=Z,10nm,1.0s
DGMT Dagmar 38.26 342 eP P 19 17 23.4 +1.1
comp=Z,122nm,0.8s
DGMT Dagmar 38.26 342 P P 19 17 23.1 +0.7
baz=154,SNR=32
HLID Hailey 38.41 328 eP P 19 17 25.1 +1.3
comp=Z,21nm,1.4s
HLID Hailey 38.41 328 P P 19 17 24.8 +1.0
baz=135,SNR=22
CMB Columbia Colle 38.47 317 eP P 19 17 26.1 +1.9
comp=Z,3.3nm,0.8s
CMB Columbia Colle 38.47 317 eP P 19 17 26.1 +1.9
CMB pmax pmax
comp=Z,3.0nm,0.8s
PNTR Pine Nut 38.53 319 eP P 19 17 27.5 +2.5
comp=Z,11nm,0.9s
MCMT McKenzie Canyo 38.56 331 eP P 19 17 27.7 +2.5
BOZ Bozeman (W) 38.59 333 eP P 19 17 27.0 +1.7
comp=Z,21nm,0.8s
BOZ Bozeman (W) 38.59 333 eP P 19 17 27.0 +1.7
BOZ pmax pmax
comp=Z,21nm,0.8s
BOZ Bozeman (W) 38.59 333 P P 19 17 26.4 +1.1
baz=141,SNR=35
VCNR Virginia City 38.68 319 eP P 19 17 30.2 +4.0
comp=Z,8.9nm,1.1s
SIV San Ignacio 38.85 136 P P 19 17 26.9 -0.7
comp=Z,23nm,0.8s,baz=321,slow=9.0,SNR=80
SIV PcP PcP 19 19 38.8 +1.2
comp=Z,12nm,0.9s,baz=332,slow=2.5,SNR=8.6
DLMT Dillon 38.85 332 eP P 19 17 29.7 +2.2
comp=Z,60nm,1.2s
MFID Camas Ranch 39.04 327 eP P 19 17 30.7 +1.7
comp=Z,14nm,1.0s
BATG Bathurst New B 39.12 24 eP P 19 17 30.7 +1.2
comp=Z,82nm,0.9s
BEKR Beckworth 39.46 319 eP P 19 17 34.5 +1.8
comp=Z,13nm,1.2s
HRY Holter Researc 39.55 334 eP P 19 17 34.8 +1.6
LVC Limon Verde 39.61 152 P P 19 17 35.0 +0.8
comp=Z,6.6nm,0.8s,baz=300,slow=5.5,SNR=8.3
LVC Limon Verde 39.61 152 eP P 19 17 36.2 +1.9
comp=Z,10nm,0.9s
LVC Limon Verde 39.61 152 eP P 19 17 36.2 +1.9
LVC pmax pmax
comp=Z,10.0nm,0.9s
LVC Limon Verde 39.61 152 eP P 19 17 34.7 +0.4
EGMT Eagleton 39.77 337 eP P 19 17 36.3 +1.4
comp=Z,46nm,1.1s
EGMT Eagleton 39.77 337 P P 19 17 35.7 +0.7
baz=145,SNR=14
WVOR Wild Horse Val 39.95 324 eP P 19 17 37.6 +1.0
WVOR Wild Horse Val 39.95 324 eP P 19 17 37.6 +1.0
ORV Oroville 40.02 318 eP P 19 17 40.2 +3.1
comp=Z,5.4nm,0.9s
ORV Oroville 40.02 318 eP P 19 17 40.2 +3.1
ORV pmax pmax
comp=Z,5.0nm,0.9s
J08A Circle Bar Ran 40.44 325 eP P 19 17 41.8 +1.1
comp=Z,18nm,1.1s
MSO Missoula 40.57 332 eP P 19 17 42.8 +1.1
comp=Z,64nm,1.3s
MSO Missoula 40.57 332 P P 19 17 42.6 +0.9
baz=139,SNR=36
MOD Modoc Plateau 40.60 322 eP P 19 17 42.9 +0.9
comp=Z,10nm,1.2s
O03E Paynes Creek 40.62 319 P P 19 17 42.0 -0.1
baz=123
O02D Mt. Diablo Mer 41.19 318 P P 19 17 46.4 -0.4
baz=122
WDC Whiskeytown Da 41.24 319 eP P 19 17 46.5 -0.7
comp=Z,4.3nm,1.0s
WDC Whiskeytown Da 41.24 319 eP P 19 17 46.5 -0.7
WDC pmax pmax
comp=Z,4.0nm,1.0s
M04C Macdoel 41.47 321 P P 19 17 50.1 +1.0
baz=125
I07A Izee 41.48 325 eP P 19 17 49.9 +0.7
comp=Z,7.6nm,0.8s
F10A Beach Ranch, E 41.53 329 eP P 19 17 50.0 +0.4
comp=Z,22nm,0.9s
N02D Trinity Center 41.56 319 P P 19 17 48.8 -1.1
baz=123
KMRM Mail Ridge 41.81 318 eP P 19 17 54.5 +2.5
comp=Z,25nm,1.0s
M02C Callahan 41.88 320 P P 19 17 51.8 -0.7
baz=123
K04D Chiloquin, OR 41.90 322 P P 19 17 53.1 +0.4
baz=126
G08A Pilot Rock 41.96 327 eP P 19 17 53.5 +0.3
comp=Z,22nm,1.8s
G08A ePcP PcP 19 19 49.0 +1.7
J05D Fort Rock, OR 41.98 323 P P 19 17 54.0 +0.7
baz=127
YBH Yreka Blue Hor 41.98 320 P P 19 17 52.2 -1.1
comp=Z,2.1nm,0.5s,baz=147,slow=4.1,SNR=7.3
YBH PcP PcP 19 19 47.5 +0.1
comp=Z,2.2nm,1.0s,baz=211,slow=3.5,SNR=3.4
YBH Yreka Blue Hor 41.98 320 eP P 19 17 54.5 +1.2
comp=Z,7.7nm,1.3s
YBH PcP PcP 19 19 47.5 +0.1
YBH Yreka Blue Hor 41.98 320 eP P 19 17 54.5 +1.2
YBH 19 19 47.5
YBH pmax pmax
comp=Z,8.0nm,1.3s
L04D Klamath Falls 42.00 321 P P 19 17 53.7 +0.2
baz=124,SNR=9.0
PINE Pine Mountain 42.11 324 eP P 19 17 55.1 +0.6
comp=Z,12nm,0.8s
KHMM Horse Mountain 42.17 319 eP P 19 17 56.6 +1.7
comp=Z,12nm,0.8s
E09A Wood Farm, Sta 42.36 329 eP P 19 17 56.7 +0.5
J04D Umpqua Nationa 42.47 322 P P 19 17 58.3 +0.9
baz=126
I05D Terrebonne, OR 42.67 324 P P 19 17 59.6 +0.8
baz=128
E08A Dider Farm, El 42.81 328 eP P 19 18 00.2 +0.3
comp=Z,15nm,1.1s
G06A Carlson Farm, 42.83 326 eP P 19 18 02.2 +2.1
comp=Z,32nm,1.9s
I04A Tendick Farm, 42.97 323 P P 19 18 01.2 -0.1
baz=126,SNR=9.2
HAWA Hanford 42.99 328 eP P 19 18 01.8 +0.5
comp=Z,11nm,0.9s
NEW Newport 43.09 331 P P 19 18 02.1 +0.1
comp=Z,7.8nm,0.8s,baz=138,slow=8.2,SNR=16
NEW Newport 43.09 331 eP P 19 18 02.4 +0.3
comp=Z,9.6nm,0.9s
NEW Newport 43.09 331 eP P 19 18 02.4 +0.3
NEW pmax pmax
comp=Z,10.0nm,0.9s
NEW Newport 43.09 331 P P 19 18 02.2 +0.1
baz=136,SNR=13
K02D Willamette Mer 43.10 321 P P 19 18 02.9 +0.6
baz=123
D08A Wollman Farm, 43.12 329 eP P 19 18 03.1 +0.8
comp=Z,20nm,0.8s
G05D Wamic, OR 43.21 325 P P 19 18 03.3 +0.2
baz=128,SNR=7.3
E07A Sunnyside 43.27 328 eP P 19 18 04.3 +0.8
comp=Z,25nm,0.8s
C09A Chrisman Ranch 43.31 330 eP P 19 18 04.9 +1.0
comp=Z,11nm,0.6s
H04A Detroit Lake 43.37 324 eP P 19 18 04.9 +0.5
comp=Z,26nm,1.2s
I03D Drain, OR 43.47 322 P P 19 18 04.8 -0.4
baz=125,SNR=8.2
FFC Flin Flon 43.48 348 eP P 19 18 05.2 +0.2
comp=Z,36nm,0.8s
FFC Flin Flon 43.48 348 *i* P P 19 18 05.4 +0.3
J01E Myrtle Point 43.52 321 P P 19 18 07.2 +1.6
baz=124
H04D Lebanon 43.59 324 P P 19 18 06.2 +0.1
baz=126
KEBM Edson Butte 43.61 321 eP P 19 18 08.7 +2.3
comp=Z,43nm,1.1s
F05D White Salmon 43.69 326 P P 19 18 08.0 +1.0
baz=129
I02D Swisshome 44.00 322 P P 19 18 10.0 +0.6
baz=124
B08A Colville Reser 44.21 330 eP P 19 18 11.4 +0.3
comp=Z,20nm,1.0s
G03D McMinnville, O 44.29 324 P P 19 18 11.6 -0.2
baz=126,SNR=6.5
DRLN Deer Lake 44.31 28 eP P 19 18 11.8 -0.1
comp=Z,91nm,1.1s
LON Longmire 44.42 327 eP P 19 18 13.9 +1.0
comp=Z,8.8nm,0.8s
LON Longmire 44.42 327 eP P 19 18 13.9 +1.0
LON pmax pmax
comp=Z,9.0nm,0.8s
LCO Las Campanas 44.56 158 eP P 19 18 14.9 +0.5
comp=Z,36nm,1.1s
LCO Las Campanas 44.56 158 eP P 19 18 14.9 +0.5
LCO pmax pmax
comp=Z,36nm,1.1s
LCO Las Campanas 44.56 158 eP P 19 18 14.1 -0.3
F04D Rainier, OR 44.67 325 P P 19 18 15.6 +0.8
baz=127
C06D Leavenworth 44.70 329 P P 19 18 15.3 +0.4
baz=131,SNR=5.9
E04D Cinebar 44.71 326 P P 19 18 15.8 +0.7
baz=128
D05A Enumclaw 44.79 327 eP P 19 18 16.8 +1.1
comp=Z,28nm,1.1s
D04E Lakebay 45.20 327 P P 19 18 19.7 +0.7
baz=128
SCHQ Schefferville 45.26 17 P P 19 18 18.8 -0.6
comp=Z,77nm,0.8s,baz=218,slow=6.6,SNR=55
SCHQ LR LR 19 38 00.7
comp=Z,641nm,21.9s,baz=183,slow=37
SCHQ Schefferville 45.26 17 eP P 19 18 18.8 -0.6
comp=Z,90nm,0.9s
B06A Marblemount 45.38 329 eP P 19 18 20.9 +0.5
comp=Z,37nm,0.9s
B05A Bryant 45.53 328 P P 19 18 21.2 -0.4
baz=130,SNR=12
GO04 Tololo Observa 45.59 159 eP P 19 18 23.2 +0.7
comp=Z,22nm,1.2s
D03D Eldon 45.59 327 P P 19 18 22.1 +0.1
baz=128,SNR=12
AQDB Aquidauana 45.62 136 eP P 19 18 22.4 -0.2
AQDB epP sP 19 19 20.7 +32
NLWA Neilton Lookou 45.93 326 eP P 19 18 25.9 +1.2
comp=Z,30nm,1.2s
A04D Lummi Island 46.14 328 P P 19 18 26.7 +0.4
baz=129
FCC Fort Churchill 46.32 356 eP P 19 18 26.7 -0.8
comp=Z,44nm,0.9s
FCC Fort Churchill 46.32 356 eP P 19 18 26.7 -0.8
FCC pmax pmax
comp=Z,44nm,0.9s
BDFB Brasilia 48.40 124 P P 19 18 42.0 -2.4
comp=Z,4.6nm,0.4s,baz=308,slow=8.0,SNR=11
BDFB PcP PcP 19 20 09.8 -0.2
comp=Z,5.6nm,0.8s,baz=237,slow=4.5,SNR=4.2
BDFB LR LR 19 41 52.0
comp=Z,199nm,19.1s,baz=274,slow=40
BDFB Brasilia 48.40 124 eP P 19 18 44.0 -0.4
comp=Z,17nm,1.2s
BDFB PcP PcP 19 20 09.8 -0.2
BDFB Brasilia 48.40 124 eP P 19 18 44.0 -0.4
BDFB 19 20 09.8
BDFB pmax pmax
comp=Z,17nm,1.2s
CPUP Villa Florida 48.77 143 P P 19 18 45.9 -1.2
comp=Z,7.0nm,1.0s,baz=352,slow=10,SNR=7.7
CPUP LR LR 19 40 14.1
comp=Z,166nm,20.5s,baz=350,slow=37
CPUP Villa Florida 48.77 143 eP P 19 18 46.5 -0.5
comp=Z,16nm,1.3s
CPUP Villa Florida 48.77 143 eP P 19 18 46.5 -0.5
CPUP pmax pmax
comp=Z,16nm,1.3s
CPUP Villa Florida 48.77 143 eP P 19 18 47.5 +0.5
ITRB Iturama 48.93 130 eP P 19 18 46.8 -1.6
TRCB Terra Rica 49.28 135 eP P 19 18 50.0 -1.0
TRCB epP PcP 19 19 48.3 -25
GO05 Huala 49.70 163 eP P 19 18 54.4 +0.4
comp=Z,18nm,0.9s
PTGB Pitanga 50.95 137 eP P 19 19 03.5 -0.2
FRTB Fartura 51.77 134 eP P 19 19 08.9 -0.9
FRTB epP PcP 19 20 10.7 -11
MCI7 Montes Claros 52.41 123 eP P 19 19 13.5 -1.1
ITAB Concordia 52.63 139 eP P 19 19 16.0 -0.1
RCLB Rio Claro- Sao 52.67 131 eP P 19 19 15.3 -1.2
RCLB epP PcP 19 20 16.5 -9.1
YKA Yellowknife Ar 53.37 345 P P 19 19 20.4 -0.5
comp=Z,7.9nm,0.7s,baz=137,slow=8.0,SNR=164
YKA pP pP 19 19 36.1 -3.0
comp=Z,7.5nm,0.8s,baz=138,slow=8.0,SNR=10
YKA PcP PcP 19 20 26.6 -0.8
comp=Z,3.8nm,0.8s,baz=143,slow=4.3,SNR=8.0
YKA ScP ScP 19 24 18.9 -0.1
comp=Z,2.6nm,0.7s,baz=144,slow=4.6,SNR=24
YKA LR LR 19 43 56.5
comp=Z,28nm,21.0s,baz=150,slow=38
YKB5 Yellowknife Ar 53.37 345 eP P 19 19 19.8 -1.2
YKW3 Yellowknife Ar 53.43 345 eP P 19 19 20.5 -0.9
comp=Z,15nm,0.9s
TIJ01 Guaruva-PR 53.43 135 eP P 19 19 21.7 -0.4
BSCB Bom Sucesso 53.92 128 eP P 19 19 24.5 -1.3
BSCB epP PcP 19 20 26.2 -4.2
GO06 Curarrehue 54.11 164 eP P 19 19 26.6 -0.2
comp=Z,12nm,1.0s
PLCA Paso Flores 55.43 164 P P 19 19 36.5 +0.3
comp=Z,12nm,1.0s,baz=4.8,slow=8.2,SNR=13
PLCA LR LR 19 39 28.8
comp=Z,88nm,19.2s,baz=350,slow=32
PLCA Paso Flores 55.43 164 eP P 19 19 36.6 +0.3
comp=Z,22nm,1.1s
PLCA Paso Flores 55.43 164 eP P 19 19 34.0 -2.2
TER01 Tubaro-SC 55.45 138 eP P 19 19 36.2 -0.4
DLBC Dease Lake 55.61 335 eP P 19 19 38.8 +1.4
comp=Z,23nm,0.9s
TAOE Nuku Hiva Isla 56.14 250 eLR LR 19 35 49.0
comp=Z,972nm,27.4s
ALF01 Guarapari-ES 56.90 125 eP P 19 19 45.1 -1.8
ALF01 epP PcP 19 20 46.9 +5.1
RKT Rikitea 58.18 233 eLR LR 19 37 14.1
comp=Z,617nm,34.2s
RKT Rikitea 58.18 233 eT T 20 21 53.9
comp=Z,3.8nm,0.3s
SFJD Kangerlussuaq 59.70 16 P P 19 20 04.8 -0.9
comp=Z,8.3nm,0.8s,baz=176,slow=9.5,SNR=3.3
RES Resolute Bay 62.20 358 P P 19 20 21.8 -0.9
comp=Z,13nm,0.7s,baz=178,slow=10.0,SNR=61
EPYK Eagle Plains 62.80 340 eP P 19 20 26.8 -0.1
EPYK Eagle Plains 62.80 340 P P 19 20 26.2 -0.6
baz=124,SNR=7.8
INK Inuvik 62.95 343 LR LR 19 51 08.8
comp=Z,240nm,21.0s,baz=130,slow=39
INK Inuvik 62.95 343 eP P 19 20 27.7 0.0
comp=Z,17nm,1.1s
INK Inuvik 62.95 343 eP P 19 20 27.7 0.0
INK pmax pmax
comp=Z,17nm,1.1s
EGAK Eagle 63.53 337 eP P 19 20 31.0 -0.6

comp=Z,12nm,1.2s
SCRK Sand Creek 64.25 336 *e*P **P** **19 20 36.9 +0.3**
comp=Z,20nm,1.5s
HDA Harding Lake 65.61 336 *e*P **P** **19 20 45.0 -0.2**
comp=Z,25nm,1.2s
HDA Harding Lake 65.61 336 P **P** **19 20 44.6 -0.6**
baz=113
IL1 Eielson Array 65.73 336 *e*P **P** **19 20 45.2 -0.8**
ILAR Eielson Array 65.73 336 P **P** **19 20 45.2 -0.7**
comp=Z,0.5nm,0.5s,baz=163,slow=4.9,SNR=4.3
ILAR pP **pP** **19 21 03.8 -0.9**
comp=Z,3.3nm,0.9s,baz=158,slow=4.7,SNR=3.6
KDAK Kodiak Island 66.03 328 LR LR 19 50 57.2
comp=Z,147nm,20.6s,baz=93,slow=37
POKR Poker Plat Res 66.08 336 P **P** **19 20 47.9 -0.4**
baz=113
TCOL CIGO, UAF Yank 66.15 336 P **P** **19 20 48.4 -0.3**
baz=112
MCK McKinley 66.16 335 *e*P **P** **19 20 49.2 +0.4**
comp=Z,20nm,1.1s
MCK McKinley 66.16 335 *e*P **P** **19 20 49.2 +0.4**
MCK pmax pmax
comp=Z,20nm,1.1s
SUMG Summit 66.56 14 *e*P **P** **19 20 50.4 -1.2**
comp=Z,28nm,1.1s
SUMG Summit 66.56 14 *i*P **P** **19 20 50.5 -1.1**
comp=Z,54nm,1.0s
SUMG Summit 66.56 14 *e*P **P** **19 20 50.4 -1.2**
SUMG pmax pmax
comp=Z,28nm,1.1s
MLY Manley 67.35 336 *e*P **P** **19 20 56.3 -0.1**
comp=Z,12nm,0.9s
PPT Papeete 67.89 245 LR LR 19 43 12.8
comp=Z,359nm,18.1s,baz=24,slow=29
PPT2 Papeete2 67.89 245 *e*LR LR 19 41 21.4
comp=Z,1μm,28.0s
TBI Tubuai 70.03 239 *e*LR LR 19 42 34.0
comp=Z,716nm,28.0s
TBI Tubuai 70.03 239 *e*T T 20 36 58.3
comp=Z,9.2nm,0.3s
DAG Danmarks Havn 73.11 13 *i*P **P** **19 21 29.4 -1.9**
DAG Danmarks Havn 73.11 13 *i*P **P** **19 21 29.4 -1.9**
ESK Eskdalemuir 76.73 36 *i*P **P** **19 21 52.1 -0.4**
ESDC Sonseca Array 77.43 52 P **P** **19 21 54.8 -2.1**
comp=Z,1.7nm,0.7s,baz=289,slow=5.4,SNR=7.3
ESDC pP **pP** **19 22 13.1 -2.9**
comp=Z,3.3nm,0.9s,baz=279,slow=5.4,SNR=5.6
ESDC LR LR 19 52 28.1
comp=Z,113nm,19.9s,baz=255,slow=33
ES19 SONSECA Array 77.47 52 *e*P **P** **19 21 56.5 -0.7**
MDT Midelt 77.69 59 LR LR 19 50 48.5
comp=Z,288nm,21.1s,baz=333,slow=32
DBIC Dimbokro 81.78 85 LR LR 19 55 39.9
comp=Z,207nm,20.8s,baz=256,slow=34
NOA NORSAR Array B 83.44 29 P **P** **19 22 26.9 -1.8**
comp=Z,2.0nm,1.0s,baz=285,slow=5.2,SNR=2.7
NOA LR LR 19 55 44.5
comp=Z,104nm,21.9s,baz=285,slow=33
BILL Bilibino 84.24 339 *e*P **P** **19 22 32.4 -0.2**
comp=Z,18nm,1.0s
BILL Bilibino 84.24 339↓ *i*P **P** **19 22 31.5 -1.0**
BILL pmax pmax
comp=Z,22nm,1.1s
ARCES ARCESS Array B 86.19 19 P **P** **19 22 41.8 -0.5**
comp=Z,3.7nm,0.8s,baz=298,slow=3.9,SNR=3.1
TORD Torodi Ar. Bea 86.78 77 P **P** **19 22 43.6 -2.6**
comp=Z,0.3nm,0.5s,baz=290,slow=3.6,SNR=4.6
TORD LR LR 19 56 52.7
comp=Z,210nm,21.7s,baz=305,slow=32
CLL Collm 86.96 38 *e*P **P** **19 22 45.0 -1.4**
KHC Kasperske Hory 87.94 40 *e*P **P** **19 22 49.6 -1.6**
KHC *e*pP **sP** **19 23 17.0 -1.5**
KHC Kasperske Hory 87.94 40 *e*P **P** **19 22 49.6 -1.6**
KHC *e* 19 23 17.0
GERES GERESS Array B 88.09 40 LR LR 19 57 32.0
comp=Z,209nm,20.2s,baz=284,slow=32
KEST Kesra 88.50 54 LR LR 19 55 24.2
comp=Z,170nm,20.9s,baz=288,slow=31
FINES FINESS Array B 90.03 26 LR LR 20 01 15.2
comp=Z,110nm,21.4s,baz=280,slow=34
SEY Seymchan 91.66 337 *i*P **P** **19 23 07.1 -1.1**
TIXI Tiksi 92.43 349 *i*P **P** **19 23 09.5 -2.1**
TIXI pmax pmax
comp=Z,4.0nm,1.0s
KLMR Klimovskoe 95.82 23 *e*PP **PP** **19 27 14.2 -5.2**
KLMR AMP 19 27 19.9
comp=Z,15nm,1.3s
AKASG Malin Array Be 96.64 35 LR LR 20 03 17.5
comp=Z,119nm,21.9s,baz=285,slow=33
DZM Mont Dzumac 109.01 251 *e*LR LR 20 00 45.4
comp=Z,259nm,27.9s
BVAR Borovoye Array 112.03 14 PP **PP** **19 29 12.2 -7.7**
comp=Z,1.4nm,0.9s,baz=330,slow=5.2,SNR=5.8
ZALV Zalesovo Beam 113.43 5 PP **PP** **19 29 28.6 -1.0**
comp=Z,1.8nm,0.8s,baz=339,slow=7.9,SNR=4.6
KURK Kurchatov 115.86 9 PKP **PKiKP** **19 28 42.2 -1.4**
KURK PP **PP** **19 29 42.9 -3.9**
KURK SKP 19 32 13.0
KURK Kurchatov 115.86 9 PKiKP **PKiKP** **19 28 42.2 -1.4**
KURK 19 32 13.0
KURBB Kurchatov Arra 115.94 10 PKP **PKiKP** **19 28 42.2 -1.5**
comp=Z,0.7nm,0.8s,baz=348,slow=2.3,SNR=7.5
KURBB PP **PP** **19 29 42.9 -4.5**
comp=Z,1.1nm,0.9s,baz=345,slow=5.8,SNR=5.1
KURBB SKP 19 32 13.0
comp=Z,0.3nm,0.7s,baz=343,slow=2.2,SNR=7.1
BOSA Boshof 116.12 116 PKP **PKPdf** **19 28 44.5 -0.3**
comp=Z,1.6nm,0.4s,baz=244,slow=3.3,SNR=8.6
SONM Songino Array 118.52 349 PKP **PKPdf** **19 28 47.5 -1.5**
comp=Z,0.7nm,0.5s,baz=25,slow=0.3,SNR=6.9
SONM SKP 19 32 18.6
comp=Z,0.9nm,0.8s,baz=343,slow=1.0,SNR=5.1
KSRS Korea Array 119.94 328 PKP **PKiKP** **19 28 52.1 +0.3**
comp=Z,1.5nm,0.6s,baz=6.6,slow=1.7,SNR=7.7
KSRS SKP 19 32 22.8
comp=Z,1.0nm,0.7s,baz=0.3,slow=3.2,SNR=4.3
KSAR Wonju Array Be 119.96 328 PKP **PKiKP** **19 28 52.1 +0.2**
KSAR SKP 19 32 22.8
MKAR Makanchi Array 120.23 8 PKP **PKPdf** **19 28 49.8 -2.4**
comp=Z,0.4nm,0.6s,baz=343,slow=2.4,SNR=5.2
MKAR SKP 19 32 20.8
comp=Z,0.7nm,0.8s,baz=359,slow=2.3,SNR=5.1
GEYT Alibeck 120.49 31 PKP **PKPdf** **19 28 51.7 -1.2**
comp=Z,0.6nm,0.3s,baz=332,slow=5.2,SNR=4.0
GEYT SKP 19 32 22.4
comp=Z,1.6nm,0.7s,baz=270,slow=4.3,SNR=4.4
AAK Ala-Archa 122.71 15 PKP **PKPdf** **19 28 55.3 -1.9**
comp=Z,0.7nm,0.7s,baz=244,slow=6.0,SNR=4.0
WMQ Urumqi 123.72 4 *e*PKP **PKPdf** **19 28 58.3 -0.7**
WMQ LR LR
comp=Z,370nm,29.9s
WMQ LR LR
comp=Z,280nm,32.7s
WMQ LR LR
comp=Z,440nm,32.7s
HHC Hu-ho-hao-te 123.87 342 *e*PKP **PKiKP** **19 29 05.1 +5.4**
KSH Kashi 126.02 15 PKP **PKiKP** **19 29 04.3 +0.2**
KSH sPKP 19 29 42.8
KSH PP **PP** **19 30 58.3 +1.8**
KSH PKS **PKSdf** **19 32 36.3 -4.1**
KSH SKKS 19 37 42.3
KSH SS **SS** **19 47 53.3 +1.1**
KSH AMB AMB
comp=Z,260nm,6.6s
KSH LR LR
comp=Z,190nm,7.9s
KSH LR LR
comp=Z,92nm,8.5s
KSH LR LR
comp=Z,230nm,9.6s
GTA Gaotai 127.78 352 PKP **PKPdf** **19 29 06.3 -0.7**
NJ2 Nanjing 128.76 331 *e*PKP **PKiKP** **19 29 10.6 +1.0**
LZH Lanzhou 130.34 348 *e*PKP **PKiKP** **19 29 15.3 +2.4**
LZH sPKP 19 29 53.1
STKA Stephens Creek 130.81 239 PKP **PKPdf** **19 29 12.2 -0.5**
comp=Z,2.7nm,0.7s,baz=6.7,slow=4.6,SNR=5.4
ENH Enshi 134.22 339 *e*PKPdf **PKPdf** **19 29 19.2 -0.2**
CD2 Chengdu 135.33 346 PKP **PKPdf** **19 29 20.0 -1.4**
LSA Lhasa 137.94 1 *e*PKPdf **PKPdf** **19 29 26.5 -0.4**
GYA Guiyang 138.69 340 *e*Pdif **Pdif** **19 26 38.4 -0.8**
GYA PKP **PKPdf** **19 29 27.0 -0.9**
GYA sPKP 19 30 01.8
GYA PP **PP** **19 32 22.6 +4.8**
GYA AMB AMB
comp=Z,130nm,7.9s
WRA Warramunga Arr 138.91 254 PKhKP PKPpre 19 29 18.8
comp=Z,1.4nm,0.7s,baz=92,slow=3.3,SNR=13
WRA PKP **PKPdf** **19 29 29.2 +1.0**
comp=Z,7.4nm,0.9s,baz=89,slow=2.4,SNR=38
WRA SKPbc **SKiKP** **19 33 00.7 +0.2**
comp=Z,2.3nm,1.0s,baz=83,slow=1.8,SNR=5.9
ASAR Alice Springs 138.94 248 PKhKP PKPpre 19 29 17.7
comp=Z,2.1nm,0.7s,baz=102,slow=2.6,SNR=19
ASAR PKP **PKiKP** **19 29 29.4 -1.0**
comp=Z,2.9nm,0.6s,baz=94,slow=2.3,SNR=22
ASAR SKPbc **SKiKP** **19 33 01.0 +0.5**
comp=Z,2.5nm,0.7s,baz=104,slow=3.1,SNR=16
HYB Hyderabad 147.31 25 *i*PKP **PKPbc** **19 29 45.0 -0.5**
CHTO Chiang Mai 148.08 348 *e*PKPdf **PKPdf** **19 29 44.0 -0.3**
CHTO Chiang Mai 148.08 348 *e*PKIKP **PKPdf** **19 29 44.0 -0.3**
CMAR Chiang Mai Arr 148.43 348 PKP **PKPdf** **19 29 44.6 -0.3**
comp=Z,7.9nm,0.7s,baz=341,slow=2.8,SNR=21
CMAR PKPbc **PKPbc** **19 29 48.0 -0.4**
comp=Z,7.7nm,0.7s,baz=344,slow=3.8,SNR=21
CMAR SKP 19 33 14.0
comp=Z,1.0nm,0.9s,baz=316,slow=2.5,SNR=5.8
CMAR SKPbc **SKiKP** **19 33 20.9 +0.7**
comp=Z,1.7nm,0.8s,baz=335,slow=3.2,SNR=6.6

IDC ***20*** *19:34:31.8±5.3,32.82N×24.14E,h0km,mb3.5/2, mb1 3.3/6,mb1mx3.1/49,mbtmp3.3/6,ML3.5/4,MS2.4/1, Ms1 2.5/1,ms1mx2.2/25,Error ellipse: s-maj=82.6km s-min=34.2km az=40.0*
ISC 20 19:34:32.3±2.9,32.7N±0.2×24.0E±0.2,h10km,n7,σ0°91/8, Near coast of Libya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMAI	**Mount Meron Ar**	**9.57**	**85**	Pn		**Pn**		**19 36 50.3**	**+0.1**
	1.0nm,0.3s,baz=275,slow=8.5,SNR=7.5								
MMAI				Sn		**Sn**		**19 38 36.8**	**-1.1**
	1.4nm,0.3s,baz=266,slow=23,SNR=5.1								
EIL	**Elat**	**9.83**	**105**	Pn		**Pn**		**19 36 54.0**	**+0.3**
	0.1nm,0.3s,baz=240,slow=20,SNR=2.4								
EIL				Sn		**Sn**		**19 38 44.6**	**+0.4**
	0.2nm,0.3s,baz=204,slow=20,SNR=2.9								
BRTR	**Keskin Array B**	**10.45**	**45**	Pn		**Pn**		**19 37 03.6**	**+1.3**
	0.2nm,0.3s,baz=243,slow=19,SNR=6.4								
AKASG	**Malin Array Be**	**18.39**	**11**	P		**Pn**		**19 38 46.3**	**-0.8**
	0.4nm,0.3s,baz=206,slow=10,SNR=2.3								
ARCES	**ARCESS Array B**	**36.89**	**1**	LR		LR		19 58 44.6	
	comp=Z,6.1nm,19.3s,baz=9.0,slow=40								
MKAR	**Makanchi Array**	**45.94**	**54**	P		**P**		**19 42 55.1**	**-0.1**
	0.3nm,0.6s,baz=266,slow=6.8,SNR=3.5								
ZALV	**Zalesovo Beam**	**47.40**	**45**	P		**P**		**19 43 06.1**	**-0.4**
	0.3nm,0.3s,baz=266,slow=8.5,SNR=2.7								

IDC ***20*** *19:38:36.0±2.7,20.32S×177.86W,h466km±32km,mb3.3/8, mb1 3.6/10,mb1mx3.2/36,mbtmp4.2/10,Error ellipse: s-maj=35.7km s-min=13.8km az=158.0*
ISCJB ***20*** *19:38:40.3±0.8,20.5S±0.2×178.0W±0.2,h534km,Error ellipse: s-maj=28.3km s-min=14.3km az=149.5*
ISC 20 19:38:41.1±0.9,20.5S±0.2×177.9W±0.1,h534km,n11, σ2°96/12,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.70**	**261**	P		**P**		**19 41 45.5**	**-2.3**
	0.4nm,0.3s,baz=90,slow=19,SNR=4.1								
URZ	**Urewera**	**18.20**	**193**	P		**P**		**19 42 19.9**	**-1.4**
	0.8nm,0.3s,baz=356,slow=16,SNR=3.2								
CTA	**Charters Tower**	**33.60**	**264**	P		**P**		**19 44 35.9**	**-1.4**
	4.3nm,0.3s,baz=87,slow=10,SNR=14								
STKA	**Stephens Creek**	**37.88**	**244**	P		**P**		**19 45 14.2**	**+1.5**
	4.1nm,0.6s,baz=92,slow=10,SNR=14								
ASAR	**Alice Springs**	**44.62**	**257**	P		**P**		**19 46 06.7**	**+0.4**
	11nm,0.7s,baz=92,slow=8.0,SNR=87								
ASAR				S		**S**		**19 52 08.2**	**+4.5**
	1.1nm,1.1s,baz=91,slow=17,SNR=4.5								
WRA	**Warramunga Arr**	**44.71**	**262**	P		**P**		**19 46 06.3**	**-0.6**
	1.6nm,0.3s,baz=96,slow=7.0,SNR=64								
NVAR	**Mina Array Bea**	**80.97**	**43**	P		**P**		**19 50 00.7**	**+0.4**
	0.2nm,0.5s,baz=214,slow=7.7,SNR=4.6								
TXAR	**Lajitas Array**	**86.97**	**57**	P		**P**		**19 50 31.4**	**+1.4**
	0.2nm,0.7s,baz=217,slow=8.9,SNR=2.8								
ILAR	**Eielson Array**	**88.31**	**13**	P		**P**		**19 50 33.9**	**-1.4**
	0.3nm,0.3s,baz=226,slow=4.7,SNR=4.7								
PDAR	**Pinedale Array**	**88.90**	**43**	P		**P**		**19 50 38.8**	**-0.1**
	0.2nm,0.7s,baz=234,slow=8.8,SNR=2.9								
GERES	**GERESS Array B**	**150.26**	**344**	PKPbc		**PKiKP**		**19 57 33.8**	**+1.3**
	0.2nm,0.4s,baz=27,slow=3.3,SNR=4.3								

IDC ***20*** *19:58:11.3±2.2,23.63S×179.97W,h486km±23km,mb3.2/6, mb1 3.5/7,mb1mx3.2/31,mbtmp4.0/7,Error ellipse: s-maj=50.0km s-min=17.9km az=160.0*
ISCJB ***20*** *19:58:14.0±0.8,23.9S±0.2×180.0E±0.2,h532km,mb3.6/6, Error ellipse: s-maj=28.1km s-min=16.9km az=149.7*
ISC 20 19:58:15.1±1.0,24.0S±0.2×179.9W±0.2,h532km,n8, σ2°44/10,mb3.6/6,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.46**	**189**	P		**P**		**20 01 18.7**	**-0.4**
	0.5nm,0.3s,baz=3.4,slow=17,SNR=2.8								
STKA	**Stephens Creek**	**34.76**	**248**	P		**P**		**20 04 21.1**	**0.0**
	0.7nm,0.4s,baz=85,slow=14,SNR=6.0								
ASAR	**Alice Springs**	**42.09**	**261**	P		**P**		**20 05 20.2**	**-0.6**
	2.6nm,0.5s,baz=97,slow=7.4,SNR=52								
ASAR				ScP		**ScP**		**20 10 07.0**	**+3.9**
	1.4nm,0.8s,baz=105,slow=4.4,SNR=12								
WRA	**Warramunga Arr**	**42.48**	**266**	P		**P**		**20 05 22.4**	**-1.4**
	4.4nm,0.5s,baz=90,slow=5.9,SNR=226								
WRA				ScP		**ScP**		**20 10 08.8**	**+4.2**
	0.9nm,0.8s,baz=102,slow=3.8,SNR=3.8								
FITZ	**Fitzroy Crossi**	**50.90**	**266**	P		**P**		**20 06 27.1**	**-0.3**
	baz=108,slow=4.6								
NVAR	**Mina Array Bea**	**84.76**	**44**	P		**P**		**20 09 53.5**	**0.0**
	0.2nm,0.5s,baz=222,slow=8.0,SNR=3.6								
TXAR	**Lajitas Array**	**90.41**	**58**	P		**P**		**20 10 21.0**	**+0.8**
	0.4nm,0.6s,baz=215,slow=7.7								
PDAR	**Pinedale Array**	**92.70**	**44**	P		**P**		**20 10 28.2**	**-2.4**
	0.2nm,0.6s,baz=225,slow=3.4,SNR=2.6								

IDC 20 20:04:01.4±16.0,46.66N×151.94E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.3/41,mbtmp3.5/4,Error ellipse: s-maj=458.8km s-min=29.9km az=168.0,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**37.12**	**38**	P		P	P	20 11 13.7	+0.5
	0.5nm,0.8s,baz=249,slow=7.5,SNR=4.3								
MKAR	**Makanchi Array**	**46.26**	**297**	P		P	P	20 12 29.1	+0.8
	0.3nm,0.5s,baz=69,slow=8.7,SNR=5.1								
KURBB	**Kurchatov Arra**	**46.83**	**303**	P		P	P	20 12 31.7	-0.9
	0.7nm,0.6s,baz=67,slow=8.3,SNR=4.1								
YKA	**Yellowknife Ar**	**51.47**	**36**	P		P	P	20 13 07.4	-0.6
	0.3nm,0.4s,baz=301,slow=7.2,SNR=5.5								

SKO ***20*** *20:09:23.1,39.44N×20.18E,h294km*
ATH ***20*** *20:09:39.7,40.09N×20.33E,h25km±1km,ML2.3/7,Error ellipse: s-maj=2.3km s-min=0.9km az=148.0*
ISCJB ***20*** *20:09:40.8±0.3,40.04N±0.02×20.40E±0.03,h8km±5km, Error ellipse: s-maj=4.4km s-min=3.0km az=36.5*
TIR ***20*** *20:09:40.3,40.02N×20.42E,h11km,Md2.6/4*
THE ***20*** *20:09:41.0,40.04N×20.39E,h6km±3km,ML2.5/7,Error ellipse: s-maj=3.0km s-min=0.9km az=332.0*
ISC 20 20:09:40.8±0.9,40.01N±0.02×20.38E±0.02,h18km±8km, n36,σ0°83/57,1D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.32**	**245**	P		**Pg**		**20 09 47.2**	**-0.4**
SRN				S		**Sb**		**20 09 53.2**	**+0.4**
SRN	**Sarande**	**0.32**	**245**	*i* PG		**Pg**		**20 09 47.2**	**-0.4**
SRN				*i* SG		**Sb**		**20 09 53.3**	**+0.5**
TPE	**Tepelena**	**0.40**	**315**	P		**Pg**		**20 09 48.4**	**-0.6**
TPE				S		**Sg**		**20 09 55.0**	**+0.4**
TPE	**Tepelena**	**0.40**	**315**	*i* PG		**Pg**		**20 09 48.4**	**-0.6**
TPE				*i* SG		**Sg**		**20 09 55.2**	**+0.6**
KASA	**Kassiopi**	**0.43**	**232**	P		**Pg**		**20 09 49.2**	**-0.4**
KASA				S		**Sb**		**20 09 56.8**	**+0.7**
KASA	comp=N,891μm,0.2s			AML		AML		20 09 58.6	
KASA	comp=E,1070μm,0.4s			AML		AML		20 09 59.8	
IGT	**Igoumenitsa**	**0.48**	**184**	P		**Pg**		**20 09 50.2**	**-0.3**
IGT				S		**Sn**		**20 09 59.6**	**-1.3**
IGT	comp=E,539μm,0.3s			AML		AML		20 09 60.0	
IGT	comp=N,660μm,0.4s			AML		AML		20 10 00.1	
IGT	**Igoumenitsa**	**0.48**	**184**	P		**Pg**		**20 09 50.0**	**-0.5**
IGT				S		**Sb**		**20 09 58.8**	**+1.3**
IGT	**Igoumenitsa**	**0.48**	**184**	*i* PG		**Pg**		**20 09 50.3**	**-0.2**
IGT				*i* SG		**Sn**		**20 09 59.1**	**-1.8**
JAN	**Janina**	**0.51**	**134**	P		**Pg**		**20 09 50.8**	**-0.3**
JAN				S		**Sn**		**20 09 60.0**	**-1.7**
JAN	comp=E,1605μm,0.3s			AML		AML		20 10 01.0	
JAN	comp=N,1748μm,0.5s			AML		AML		20 10 02.0	
JAN	**Janina**	**0.51**	**134**	P		**Pg**		**20 09 50.8**	**-0.3**
JAN				S		**Sb**		**20 09 59.0**	**+0.6**
KEK	**Kerkira**	**0.54**	**236**	P		**Pg**		**20 09 50.9**	**-0.6**
KEK				S		**Sg**		**20 09 58.4**	**-0.4**
KEK	comp=E,503μm,0.2s			AML		AML		20 10 00.9	
KEK	comp=N,539μm,0.4s			AML		AML		20 10 02.4	
KEK	**Kerkira**	**0.54**	**236**	P		**Pg**		**20 09 50.7**	**-0.8**
KEK				S		**Sg**		**20 09 58.7**	**0.0**
PENT	**Pentalofos**	**0.61**	**72**	P		**Pg**		**20 09 51.5**	**-1.5**
PENT				S		**Sb**		**20 10 02.2**	**+0.7**
NEST	**Nestorio**	**0.65**	**52**	P		**Pb**		**20 09 52.6**	**-1.2**
NEST	**Nestorio**	**0.65**	**52**	P		**Pb**		**20 09 52.8**	**-1.0**
KPRO	**Kipourio**	**0.76**	**94**	P		**Pb**		**20 09 54.7**	**-0.9**
VLO	**Vlora**	**0.81**	**304**	*i* PG		**Pn**		**20 09 57.5**	**0.0**
VLO				*i* SG		**Sn**		**20 10 10.3**	**+1.2**
KZN	**Kozani**	**1.11**	**74**	P		**Pb**		**20 10 00.5**	**-1.1**
KZN	comp=E,355μm,0.4s			AML		AML		20 10 20.6	
KZN	comp=N,384μm,0.5s			AML		AML		20 10 20.7	
KZN	**Kozani**	**1.11**	**74**	P		**Pb**		**20 10 00.5**	**-1.1**
KZN				S		**Sg**		**20 10 18.1**	**+1.2**
OHR	**Ohrid**	**1.14**	**16**	*i* Pg		**Pg**		**20 10 03.3**	**+0.3**
OHR				*i* Sg		**Sg**		**20 10 19.4**	**+1.4**
BIA	**Bitola**	**1.24**	**35**	*i* Pg		**Pb**		**20 10 04.1**	**+0.3**
BIA				*i* Sg		**Sg**		**20 10 22.7**	**+1.7**
LKD2	**Lefkada island**	**1.24**	**170**	P		**Pg**		**20 10 04.5**	**-0.2**
LKD2	comp=N,340μm,0.4s			AML		AML		20 10 25.4	
LKD2	comp=E,360μm,0.4s			AML		AML		20 10 26.4	
LKD2	**Lefkada island**	**1.24**	**170**	P		**Pg**		**20 10 04.6**	**-0.2**
LKD2				S		**Sg**		**20 10 22.5**	**+1.5**
LKD2	**Lefkada island**	**1.24**	**170**	*i* PN		**Pg**		**20 10 04.8**	**0.0**
LKD2				*i* SN		**Sg**		**20 10 22.2**	**+1.2**
THL	**Klokotos Trika**	**1.34**	**109**	P		**Pb**		**20 10 05.2**	**-0.2**
THL	comp=E,104μm,0.4s			AML		AML		20 10 25.9	
THL	comp=N,121μm,0.4s			AML		AML		20 10 26.6	
KRUS	**Krusevo**	**1.51**	**26**↓	*i* Pg		**Pn**		**20 10 07.5**	**+0.3**
KRUS				*i* Sg		**Sg**		**20 10 29.7**	**+0.1**
PDO	**Prodromos**	**1.54**	**156**	P		**Pb**		**20 10 08.8**	**-0.1**
EVR	**Evrytania**	**1.56**	**134**	P		**Pb**		**20 10 09.8**	**+0.6**
LIT	**Litokhoron**	**1.62**	**86**	P		**Pn**		**20 10 09.1**	**+0.5**
PVO	**Paravola**	**1.66**	**147**	P		**Pb**		**20 10 10.4**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.69**	**126**	P		**Pb**		**20 10 11.5**	**+0.1**
AGG	**Agios Georgios**	**1.81**	**123**	P		**Pb**		**20 10 12.8**	**-0.7**
GRG	**Griva**	**1.81**	**58**	P		**Pn**		**20 10 11.3**	**+0.1**
GRG	**Griva**	**1.81**	**58**	*i* Pg		**Pn**		**20 10 11.6**	**+0.4**
GRG				*i* Sg		**Sb**		**20 10 35.7**	**-0.2**
VLS	**Valsamata**	**1.84**	**175**	P		**Pb**		**20 10 13.7**	**-0.3**
KNT	**Kendrikon**	**2.24**	**58**	P		**Pn**		**20 10 17.2**	**+0.1**

BYKL ***20*** *20:13:26.5±0.8,48.16N×108.19E*
MOS ***20*** *20:13:27.3±0.8,48.27N×108.11E,h10km,mb4.2/2,Error ellipse: s-maj=15.2km s-min=10.0km az=105.3*
IDC ***20*** *20:13:27.2±0.9,48.22N×108.10E,h0km,mb3.7/9, mb1 3.8/11,mb1mx3.6/44,mbtmp3.6/11,ML2.6/3,Error ellipse: s-maj=25.3km s-min=11.4km az=163.0*
ISC 20 20:13:28.1±0.6,48.22N±0.03×108.10E±0.03,h10km,n56, σ2°82/99,mb3.6/9,3C,Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ULN	**Ulaanbaatar**	**0.79**	**243**	*e*Pg		**Pg**		**20 13 41.9**	**-1.4**
ULN				*i* Pb		**Pb**		**20 13 42.6**	**-1.4**
ULN				*i* Sg		**Sb**		**20 13 53.6**	**-1.2**
ULN				*e*Sb		**Sn**		**20 13 59.0**	**+1.6**
SONM	**Songino Array**	**1.21**	**252**	Pg		**Pn**		**20 13 50.3**	**-0.9**
	100nm,0.3s,baz=68,slow=18,SNR=2488								
SONM				Lg		Lg		20 14 07.0	
	121nm,0.3s,baz=71,slow=22,SNR=18								
KPC	**Khapcheranga**	**3.18**	**61**	*i* Pn		**Pn**		**20 14 18.6**	**+0.4**
KPC				⇑*e*Pg		**Pb**		**20 14 23.6**	**-1.1**
KPC				*e*				20 14 28.5	
KPC				max				20 14 29.4	
	122nm,0.3s								
KPC				*e*Sn		**Sn**		**20 14 55.0**	**-1.3**
KPC				*e*Sg		**Sb**		**20 15 04.3**	**+0.7**
KPC				Smax				20 15 08.2	
	361nm,0.2s								
KPC	**Khapcheranga**	**3.18**	**61**	*e*PN		**Pn**		**20 14 18.6**	**+0.4**
KPC				*e*				20 14 24.3	
KPC				*e*S		**Sn**		**20 14 55.0**	**-1.3**
KPC				*e*				20 15 04.3	
KPC	comp=Z,122nm,0.3s			pmax	pmax				
KPC	comp=N,410nm,0.5s			smax	smax				
HRMR	**Khuramsha**	**3.49**	**348**	*e*Pn		**Pn**		**20 14 23.0**	**+0.6**
HRMR				*e*Pg		**Pb**		**20 14 29.1**	**-0.8**
HRMR				Pmax				20 14 37.2	
	comp=N,265nm,0.5s								
HRMR				*e*Sg		**Sg**		**20 15 16.0**	**-4.0**
HRMR				Smax				20 15 19.8	
	comp=N,1μm,0.3s								
UUDB	**Ulan-Yde**	**3.66**	**356**	*e*Pn		**Pn**		**20 14 26.1**	**+1.4**
UUDB				*e*Pg		**Pb**		**20 14 32.3**	**-0.5**
UUDB				Pmax				20 14 37.6	
	comp=N,119nm,0.5s								
UUDB				*e*Sg		**Sb**		**20 15 20.3**	**+3.1**
UUDB				Smax				20 15 29.2	
	comp=N,448nm,1.3s								
ZAK	**Zakamensk**	**3.82**	**306**	*i* Pn		**Pn**		**20 14 27.2**	**+0.1**
ZAK				*e*Pg		**Pb**		**20 14 35.6**	**-0.1**
ZAK				Pmax				20 14 38.4	
	comp=N,56nm,0.5s								
ZAK				*e*				20 14 57.5	
ZAK				*e*Sg		**Sg**		**20 15 26.7**	**-4.1**
ZAK				Smax				20 15 33.9	
	comp=N,307nm,0.6s								
ZAK	**Zakamensk**	**3.82**	**306**	*e*PN		**Pn**		**20 14 27.1**	**0.0**
ZAK				*e*				20 14 35.8	
ZAK				*e*				20 15 27.1	
ZAK	comp=Z,41nm,0.2s			pmax	pmax				
ZAK	comp=N,283nm,0.4s			smax	smax				
KAB	**Kabansk**	**3.94**	**347**	*e*Pn		**Pn**		**20 14 29.0**	**+0.4**
KAB				*e*Pg		**Pg**		**20 14 39.9**	**-

LSTR Pmax 20 14 51.2
comp=N,29nm,0.3s
LSTR eSg Sg 20 15 40.1 -3.2
LSTR Smax 20 15 43.8
comp=N,126nm,0.7s
IVK Ivanovka 4.30 328 ePn Pn **20 14 33.8 +0.3**
IVK ePg Pb **20 14 45.7 +2.0**
IVK e 20 14 51.1
IVK e 20 15 07.3
IVK eSg Sg **20 15 43.3 -2.7**
TLY Talaya 4.50 322 ePn Pn **20 14 37.5 +1.2**
TLY ePg Pb **20 14 48.3 +1.2**
TLY Pmax 20 14 49.2
comp=N,22nm,0.6s
TLY eSg Sg **20 15 47.4 -5.1**
TLY Smax 20 15 54.3
comp=N,276nm,1.1s
TLY Talaya 4.50 322 ePN Pb **20 14 49.1 +2.0**
KELR Kotokel 4.54 360 ePn Pn **20 14 37.9 +1.1**
KELR ePg Pb **20 14 49.6 +1.8**
KELR eSg Sg **20 15 48.3 -5.5**
TRG Tyrgan 4.68 347 ePn Pn **20 14 38.8 +0.1**
TRG ePg Pb **20 14 51.9 +1.7**
TRG Pmax 20 14 58.2
comp=N,22nm,0.3s
TRG eSg Sg **20 15 53.1 -5.1**
TRG Smax 20 15 56.9
comp=N,150nm,1.0s
TRG Tyrgan 4.68 347 ePN Pn **20 14 38.4 -0.3**
TRG e 20 14 51.6
TRG eS Sn **20 15 32.8 -0.2**
TRG e 20 15 52.8
TRG pmax pmax
comp=Z,22nm,0.3s
TRG smax smax
comp=E,146nm,0.6s
IRK Irkutsk 4.72 330 ePg Pb **20 14 52.5 +1.7**
IRK Pmax 20 14 54.1
comp=E,67nm,0.4s
IRK eSg Sg **20 15 53.3 -6.1**
IRK Smax 20 15 59.0
comp=E,520nm,0.4s
IRK Irkutsk 4.72 330 ePN Pb **20 14 53.2 +2.4**
IRK e 20 15 54.1
IRK pmax pmax
comp=Z,66nm,0.4s
IRK smax smax
comp=E,516nm,0.5s
MXMB Maximikha 5.06 4 ePn Pn **20 14 44.9 +0.9**
MXMB ePg Pb **20 14 58.8 +2.1**
MXMB eSg Sg **20 16 07.3 -3.2**
CIT Chita 5.17 41 eSg Sb **20 16 04.6 +3.9**
CIT Smax 20 16 19.0
comp=E,469nm,0.8s
ARS Arshan 5.20 317 ePn Pn **20 14 46.9 +1.0**
ARS ePg Pb **20 15 02.3 +3.2**
ARS Pmax 20 15 10.1
comp=E,26nm,0.8s
ARS eSg Sg **20 16 11.2 -3.8**
ARS Smax 20 16 15.9
comp=E,324nm,0.7s
ARS Arshan 5.20 317 ePN Pn **20 14 47.0 +1.0**
ARS e 20 15 03.9
ARS e 20 16 12.3
ARS pmax pmax
comp=Z,24nm,0.6s
ARS smax smax
comp=E,323nm,0.9s
OGRR Ongureny 5.44 357 ePn Pn **20 14 50.5 +1.4**
OGRR e 20 15 08.8
OGRR max 20 15 10.4
comp=E,12nm,0.9s
OGRR eSn Sn **20 15 51.1 -0.6**
OGRR eSg Sg **20 16 17.2 -5.3**
OGRR Smax 20 16 27.0
comp=E,105nm,1.3s
OGRR Ongureny 5.44 357 ePN Pn **20 14 50.6 +1.4**
OGRR e 20 15 06.7
OGRR e 20 16 17.2
OGRR pmax pmax
comp=Z,11nm,0.5s
OGRR smax smax
comp=E,104nm,1.4s
SYVR Suvo 5.57 12 ePn Pn **20 14 51.8 +0.8**
SYVR ePg Pb **20 15 08.1 +2.7**
SYVR Pmax 20 15 13.3
comp=E,19nm,0.7s
SYVR eSg Sg **20 16 20.5 -6.3**
SYVR Smax 20 16 25.8
comp=E,140nm,0.8s
SYVR Suvo 5.57 12 ePN Pn **20 14 51.6 +0.6**
SYVR e 20 15 08.9
SYVR e 20 16 20.5
SYVR pmax pmax
comp=Z,20nm,0.6s
SYVR smax smax
comp=E,132nm,0.6s
MOY Mondy 5.74 310 ePg Pb **20 15 10.8 +2.5**
MOY Pmax 20 15 15.8
comp=E,12nm,0.4s
MOY eSg Sg **20 16 28.6 -3.6**
MOY Smax 20 16 35.6
comp=E,215nm,0.9s
MOY Mondy 5.74 310 ePN Pb **20 15 10.0 +1.7**
MOY e 20 16 27.0
MOY pmax pmax
comp=Z,16nm,0.5s
MOY smax smax
comp=E,214nm,0.9s
ORL Orlik 6.84 312 e Pn **20 15 12.3 +3.9**
ORL ePg Pb **20 15 30.9 +3.9**
ORL Pmax 20 15 36.0
comp=E,7.0nm,0.6s
ORL eSg Sg **20 17 01.4 -6.0**
ORL Smax 20 17 13.8
comp=E,91nm,0.8s
ORL Orlik 6.84 312 ePG Pb **20 15 30.7 +3.7**
ORL e 20 17 00.3
ORL pmax pmax
comp=Z,6.0nm,0.4s
ORL smax smax
comp=N,90nm,1.0s
YLYR Ulyunkhan 6.93 15 *i* Pn Pn **20 15 09.8 +0.2**
YLYR ⇑*e*Pg Pb 20 15 33.2 +4.8
YLYR Pmax 20 15 34.7
comp=N,11nm,0.5s
YLYR eSg Sg **20 17 05.4 -4.9**
YLYR Smax 20 17 08.3
comp=N,138nm,1.3s
KNGR Kungurtug, Tuv 7.30 293 ePg Pb **20 15 38.2 +3.3**
KNGR eSg Sg **20 17 15.4 -7.0**
NIZ Nizh Angarsk 7.62 6 ePn Pn **20 15 20.4 +1.4**
NIZ ePg Pb 20 15 44.3 +4.2
NIZ Pmax 20 15 46.4
comp=N,6.0nm,1.0s
NIZ eSg Sg 20 17 22.9 -9.3
NIZ Smax 20 17 36.3
comp=N,39nm,0.8s
KMO Kumora 7.91 13 ePn Pn **20 15 22.0 -1.0**
KMO ePg Pb 20 15 50.0 +4.9
KMO Pmax 20 15 56.3
comp=N,8.0nm,0.3s
KMO e 20 17 04.7
KMO eSg Sg **20 17 35.1 -6.5**
KMO Smax 20 17 47.6
comp=N,166nm,1.1s
UKT Uakit 8.04 23 ePn Pn **20 15 25.1 +0.3**
UKT ePg Pb 20 15 52.7 +5.4
UKT Pmax 20 16 01.0
comp=N,3.0nm,0.6s
UKT eSg Sg **20 17 37.3 -8.5**
UKT Smax 20 17 51.7
comp=N,82nm,1.3s
TDJR Todzha 8.74 303 ePg Pg 20 16 06.2 -9.1
TDJR eSg Sg **20 18 02.8 -5.6**
NLYR Nelyaty 9.49 26 ePn Pn **20 15 45.2 +0.5**
NLYR eSg Sn 20 18 21.9 +51
NLYR Smax 20 18 31.9
comp=N,210nm,1.4s
TUP Tupik 9.67 46 ePg Pn 20 16 21.3 +34
TUP Pmax 20 16 31.9
comp=N,3.0nm,0.9s
TUP eSg Sn 20 18 27.2 +52
TUP Smax 20 18 42.9
comp=N,128nm,1.5s
BOD Bodaibo 10.24 18 *e*Sg Sn 20 18 43.6 +54
BOD Smax 20 18 57.5
comp=N,42nm,1.6s
CRS Chara 10.65 32 *e*Sn Sn 20 18 16.0 +16
CRS *e*Sg 20 19 00.1
CRS Smax 20 19 12.8
comp=N,56nm,0.7s
ZALV Zalesovo Beam 15.68 300 Pn **Pn 20 17 09.2 +0.4**
comp=N,0.1nm,0.3s,baz=111,slow=8.0,SNR=2.3
ZALV Lg Lg 20 21 38.9
comp=N,0.1nm,0.3s,baz=104,slow=29,SNR=3.1
MKAR Makanchi Array 17.48 275 P **P 20 17 31.6 -1.3**
comp=N,0.0nm,0.3s,baz=80,slow=15,SNR=2.0
MKAR Lg Lg 20 22 38.6
comp=N,0.0nm,0.3s,baz=78,slow=37,SNR=4.7
KURK Kurchatov 19.27 289 P **Pn 20 17 54.3 +0.8**
KURBB Kurchatov Arra 19.33 288 P **Pn 20 17 54.3 +0.1**
comp=N,0.0nm,0.3s,baz=86,slow=12,SNR=16
ASAJ Asahikawa 24.11 87 P **P 20 18 45.2 +1.4**
comp=N,19nm,1.2s,baz=85,slow=6.4,SNR=3.7
BVAR Borovoye Array 24.20 296 P **P 20 18 46.2 +1.6**
comp=N,0.2nm,0.4s,baz=92,slow=8.7,SNR=3.6
FINES FINESS Array B 45.84 318 P **P 20 21 50.4 +0.6**
comp=N,1.3nm,0.5s,baz=81,slow=6.7,SNR=14
AKASG Malin Array Be 49.02 304 P **P 20 22 15.2 +0.5**
comp=N,0.7nm,0.5s,baz=54,slow=8.8,SNR=4.9
BRTR Keskin Array B 52.31 290 P **P 20 22 40.2 +0.4**
comp=N,0.3nm,0.5s,baz=97,slow=6.3,SNR=4.1
ILAR Eielson Array 53.30 31 P **P 20 22 47.2 +0.5**
comp=N,0.2nm,0.6s,baz=320,slow=6.4,SNR=4.7
YKA Yellowknife Ar 64.51 20 P **P 20 24 04.6 +0.2**
comp=N,0.1nm,0.3s,baz=17,slow=6.8,SNR=3.9
ASAR Alice Springs 75.21 156 P **P 20 25 11.2 +0.5**
comp=N,0.4nm,0.6s,baz=352,slow=6.2,SNR=5.4
NVAR Mina Array Bea 84.37 35 P **P 20 26 02.2 +1.6**
comp=N,0.2nm,0.6s,baz=330,slow=5.2,SNR=2.6

UCR 20 20:16:09.3±1.9,9.78N×85.53W,h1km±5km,MD3.8,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLVR	**Palo Verde**	**0.59**	**18**	*e*P		Pg		20 16 20.6	0.0
PLVR				eS		Sb		20 16 31.7	+0.2
JTS	**JuntasAbangare**	**0.76**	**48**	*e*P		Pg		20 16 23.3	-0.7
JTS				eS		Sb		20 16 36.7	+0.4
NY14	**Universidad de**	**0.86**	**360**	*i* P		Pb		20 16 27.2	+0.1
NY14				*i* S		Sb		20 16 39.9	+0.8
CUI	**Cuipilapa**	**0.94**	**23**	*e*P		Pb		20 16 28.0	-0.5
CUI				*i* S		Sb		20 16 41.7	+0.1
LIM1	**Limonal**	**0.95**	**17**	*i* P		Pb		20 16 28.5	-0.2
LIM1				*i* S		Sb		20 16 41.7	-0.1
GUAB	**Guayabo de Bag**	**0.97**	**18**	*i* P		Pb		20 16 28.6	-0.4
GUAB				*i* S		Sb		20 16 42.6	+0.3
ACAL	**Aguas Claras**	**0.98**	**30**	*i* P		Pb		20 16 28.9	-0.2
LAPC	**Finca la Perla**	**0.98**	**6**	*i* P		Pg		20 16 27.9	-0.3
HORNC	**Hornillas**	**0.99**	**21**	*i* P		Pg		20 16 28.7	+0.4
GPS1	**Guardaparques**	**1.00**	**10**	*i* S		Sb		20 16 43.8	+0.4
MESS	**Mesas**	**1.01**	**19**	*e*P		Pg		20 16 28.0	-0.7
MESS				eS		Sb		20 16 42.7	-0.8
BUEV	**Buena Vista**	**1.02**	**7**	*i* P		Pg		20 16 28.5	-0.3
BUEV				eS		Sb		20 16 43.6	-0.1
PACM	**Arenal**	**1.03**	**47**	*i* S		Sg		20 16 43.1	+0.7
ARE1	**Arenal 1**	**1.05**	**50**	*e*P		Pg		20 16 29.1	-0.3
CEDE	**Laguna Cedeo**	**1.08**	**49**	*e*P		Pg		20 16 30.0	0.0
CEDE				eS		Sn		20 16 47.5	+0.2
SRA1	**San Ramn**	**1.08**	**74**	*e*P		Pg		20 16 30.0	0.0
SRA1				eS		Sb		20 16 45.4	-0.1
HDC	**Heredia**	**1.41**	**81**	*e*P		Pn		20 16 36.1	-0.2
LCR2	**La Lucha 2**	**1.51**	**91**	*e*P		Pn		20 16 36.2	-1.4
CVTR	**Volcan Turrial**	**1.76**	**82**	*e*P		Pn		20 16 41.1	-0.2
DRK0	**Durika**	**2.31**	**103**	*e*P		Pn		20 16 49.1	+0.4

*UCR **20** 20:38:36.1±1.8,9.76N×85.57W,h6km±9km,MD3.9,ML3.3, mb4.4(NEIC)*
*IDC **20** 20:38:36.3±0.9,10.90N×84.45W,h0km,mb4.0/7, mb1 4.3/10,mb1mx4.0/30,mbtmp4.0/10,ML3.2/3,MS3.9/6, Ms1 3.9/6,ms1mx3.5/26,Error ellipse: s-maj=22.6km s-min=8.8km az=119.0*
*NEIC **20** 20:38:42.5±0.9,10.18N×85.17W,h56km±6km,mb4.4/10, MD4.7(UCR),Error ellipse: s-maj=17.8km s-min=7.8km az=212.0*
NEIC Felt at Cuajiniquil, La Garuba de Guanacaste and Playa Pelada.

ISC 20 20:38:37.9±1.4,9.78N±0.05×85.44W±0.05,h32km±9km, n262,σ1§78/271,mb4.1/18,MS3.9/5,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLVR	**Palo Verde**	**0.57**	**9**	*e*P			**Pb**	**20 38 48.2**	**-1.5**
PLVR				eS			**Sb**	**20 38 57.7**	**-0.1**
JTS	**JuntasAbangare**	**0.70**	**43**	Pg			**Pb**	**20 38 51.3**	**-0.4**
	1μm,0.3s,baz=305,slow=18,SNR=1411								
JTS				Lg		Lg		20 39 02.3	
	1μm,0.3s,baz=65,slow=23,SNR=14								
JTS	**JuntasAbangare**	**0.70**	**43**	*e*Pn			**Pb**	**20 38 51.1**	**-0.6**
JTS				*e*Sn			**Sb**	**20 38 57.8**	**-3.3**
JTS	**JuntasAbangare**	**0.70**	**43**	*e*P			**Pb**	**20 38 50.7**	**-1.0**
JTS				eS			**Sn**	**20 39 02.4**	**+1.1**
NY14	**Universidad de**	**0.87**	**354**	*i* P			**Pn**	**20 38 53.0**	**-0.9**
NY14				*i* S			**Sb**	**20 39 06.1**	**+0.2**
COLC	**Colonia**	**0.91**	**15**	*i* P			**Pn**	**20 38 54.6**	**+0.1**
CUI	**Cuipilapa**	**0.91**	**17**	*i* P			**Pn**	**20 38 54.3**	**-0.3**
CUI				*i* S			**Sb**	**20 39 08.1**	**+0.9**
LIM1	**Limonal**	**0.93**	**11**	*i* P			**Pn**	**20 38 54.6**	**-0.2**
AMAS	**Alto Masis**	**0.94**	**28**	*i* P			**Pn**	**20 38 55.0**	**+0.1**
ACAL	**Aguas Claras**	**0.94**	**25**	*i* P			**Pn**	**20 38 55.1**	**+0.2**
GUAB	**Guayabo de Bag**	**0.94**	**13**	*i* P			**Pn**	**20 38 55.2**	**+0.2**
CASO	**Castillo**	**0.95**	**47**	*i* P			**Pb**	**20 38 55.9**	**-0.1**
HORNC	**Hornillas**	**0.96**	**15**	*i* P			**Pn**	**20 38 55.3**	**0.0**
GPS3	**Bodega del ICE**	**0.97**	**4**	*i* P			**Pn**	**20 38 55.0**	**-0.3**
GPS3				*i* S			**Sb**	**20 39 09.3**	**+0.4**
ARE1	**Arenal 1**	**0.98**	**46**	*e*P			**Pb**	**20 38 56.5**	**+0.1**
ARE1				eS			**Sn**	**20 39 12.0**	**+3.7**
LAPC	**Finca la Perla**	**0.98**	**0**	*i* P			**Pn**	**20 38 54.8**	**-0.7**
LAPC				*i* S			**Sb**	**20 39 08.4**	**-0.7**
MESS	**Mesas**	**0.98**	**14**	*e*P			**Pn**	**20 38 55.2**	**-0.3**
MESS				*i* P			**Pb**	**20 38 56.0**	**-0.6**
MESS				*i* S			**Sb**	**20 39 10.0**	**+0.7**
MESS				eS			**Sn**	**20 39 10.5**	**+2.0**
GPS1	**Guardaparques**	**0.99**	**5**	*i* P			**Pn**	**20 38 55.3**	**-0.4**
SRA1	**San Ramn**	**0.99**	**72**	*e*P			**Pb**	**20 38 56.4**	**-0.3**
GBS3	**Finca Las Img**	**0.99**	**359**	*i* P			**Pn**	**20 38 55.0**	**-0.7**
GBS3				*i* S			**Sb**	**20 39 09.5**	**0.0**
CEDE	**Laguna Cedeo**	**1.01**	**46**	*e*P			**Pb**	**20 38 57.1**	**+0.2**
BUEV	**Buena Vista**	**1.01**	**2**	*e*P			**Pn**	**20 38 55.3**	**-0.7**
BUEV				eS			**Sb**	**20 39 10.5**	**+0.4**
FORC	**Fortuna**	**1.02**	**48**	*i* P			**Pb**	**20 38 57.2**	**+0.1**
PTEN	**Parque Tenorio**	**1.03**	**26**	*i* P			**Pn**	**20 38 56.8**	**+0.6**
GB1A	**Borinquen Arri**	**1.03**	**2**	*i* P			**Pn**	**20 38 55.4**	**-0.9**
GB1A				*i* S			**Sb**	**20 39 10.8**	**+0.2**
BUAI	**Buenos Aires**	**1.09**	**6**	*i* P			**Pn**	**20 38 56.8**	**-0.3**
HDC	**Heredia**	**1.32**	**80**	*e*Pn			**Pb**	**20 39 02.0**	**-0.3**
HDC	**Heredia**	**1.32**	**80**	*e*P			**Pb**	**20 39 01.8**	**-0.5**
HDC				eS			**Sb**	**20 39 22.9**	**+3.9**
SJS	**Escuela Geolog**	**1.37**	**83**	*e*P			**Pb**	**20 39 03.2**	**+0.1**
LCR2	**La Lucha 2**	**1.42**	**91**	*e*P			**Pb**	**20 39 02.4**	**-1.5**
LCR2				eS			**Sb**	**20 39 27.1**	**+5.4**
EDDO	**Dominical**	**1.64**	**109**	*e*P			**Pb**	**20 39 08.0**	**+0.5**
CVTR	**Volcan Turrial**	**1.67**	**82**	*e*P			**Pb**	**20 39 07.5**	**-0.9**
CONN	**Concepcion**	**1.78**	**354**	*e*P			**Pn**	**20 39 06.3**	**-0.3**
EDLM	**Las Mercedes**	**1.89**	**105**	*e*P			**Pb**	**20 39 08.9**	**-2.9**
ACON	**Acoyapa**	**2.19**	**7**	*e*P			**Pn**	**20 39 12.3**	**+0.2**
ACON				eS			**Sb**	**20 39 45.4**	**+1.7**
DRK0	**Durika**	**2.23**	**103**	*e*P			**Pb**	**20 39 13.9**	**-3.7**
MGAN	**Managua**	**2.48**	**341**	*e*P			**Pn**	**20 39 16.8**	**+0.7**
MGAN					IAML			20 40 02.6	
	comp=N,233nm,0.7s								
ESPN	**Las Esperanzas**	**2.65**	**25**	*e*Pn			**Pn**	**20 39 17.7**	**-0.7**
ESPN	**Las Esperanzas**	**2.65**	**25**	*e*P			**Pn**	**20 39 17.9**	**-0.5**
BOAB	**BOACO BROADBAN**	**2.66**	**355**	*e*Pn			**Pn**	**20 39 19.1**	**+0.5**
BRU2	**Volcan**	**2.88**	**110**	*e*P			**Pb**	**20 39 26.3**	**-2.6**
MATN	**Matagalpa**	**3.17**	**351**	*e*P			**Pn**	**20 39 25.1**	**-0.5**
TGUH	**Tegucigalpa,Un**	**4.61**	**337**	*e*Pn			**Pn**	**20 39 47.2**	**+1.8**
BCIP	**Isla Barro Col**	**5.56**	**96**	Pn			**Pn**	**20 39 58.0**	**-0.5**
BCIP				eSn			**Sn**	**20 41 00.8**	**-0.6**
APG	**El Apazote**	**7.14**	**317**	Pn			**Pn**	**20 40 23.3**	**+2.8**
	comp=N,0.6nm,0.3s,baz=324,slow=21,SNR=5.9								
APG						Sn	**Sn**	**20 41 48.9**	**+8.2**
	baz=317,slow=12,SNR=1.2								
APG						Lg	Lg	20 42 18.4	
	comp=N,0.5nm,0.3s,baz=18,slow=19,SNR=2.6								
CCIG	**Comitan**	**9.18**	**315**	*e*Pn			**Pn**	**20 40 51.6**	**+3.2**
CMIG	**Matias Romero**	**11.71**	**309**	Pn			**Pn**	**20 41 26.1**	**+3.2**
	comp=N,0.4nm,0.3s,baz=110,slow=14,SNR=4.0								
CMIG						LR	LR	20 46 29.3	
	comp=N,490nm,18.7s,baz=128,slow=40								
SDV	**Santo Domingo**	**14.64**	**92**	Pn			Pn	20 41 53.3	-10
	comp=N,0.2nm,0.3s,baz=285,slow=20,SNR=2.4								
060Z	**West Palm Beac**	**17.17**	**15**	P			**P**	**20 42 40.4**	**+3.6**
	baz=196								
058A	**Arcadia**	**17.52**	**11**	P			**P**	**20 42 44.1**	**+3.3**
	baz=191								
LNIG	**Linares**	**20.10**	**320**	*e*P			**P**	**20 43 09.9**	**+0.8**
	comp=N,11nm,1.0s								
556A	**Lake Butler**	**20.32**	**8**	P			Pn	20 43 14.9	+1.4
	baz=188								
553A	**Crawfordville**	**20.33**	**3**	P			Pn	20 43 14.7	+1.1
	baz=182								
451A	**Vernon**	**20.73**	**359**	P			Pn	20 43 18.8	+0.5
	baz=178								
454A	**Quitman**	**20.90**	**4**	P			**P**	**20 43 20.4**	**+2.8**
	baz=184								
452A	**Marianna**	**20.96**	**1**	P			**P**	**20 43 21.2**	**+2.9**
	baz=180								
455A	**Stateville**	**20.98**	**6**	P			**P**	**20 43 21.9**	**+3.4**
	baz=186								
351A	**Pinckard**	**21.39**	**360**	P			**P**	**20 43 25.6**	**+2.8**
	baz=179								
353A	**Camilla**	**21.49**	**3**	P			**P**	**20 43 26.2**	**+2.2**
	baz=183								
349A	**Repton**	**21.52**	**356**	P			**P**	**20 43 26.8**	**+2.4**
	baz=174								
350A	**Dozier**	**21.55**	**358**	P			**P**	**20 43 26.2**	**+1.6**
	baz=177								
355A	**Pearson**	**21.59**	**6**	P			**P**	**20 43 26.9**	**+1.9**
	baz=186								
352A	**Blakely**	**21.60**	**1**	P			**P**	**20 43 26.8**	**+1.7**
	baz=181								
TIGA	**Tifton**	**21.62**	**4**	P			**P**	**20 43 27.4**	**+2.0**
	baz=184								
346A	**Big Creek Wild**	**21.82**	**351**	P			**P**	**20 43 28.3**	**+0.8**
	baz=168								
250A	**Grady**	**22.10**	**358**	*e*P			**P**	**20 43 29.6**	**-1.0**
	comp=N,93nm,1.8s								
250A	**Grady**	**22.10**	**358**	P			**P**	**20 43 31.5**	**+0.9**
	baz=177								
252A	**Lumpkin**	**22.12**	**2**	P			**P**	**20 43 31.5**	**+0.8**
	baz=181,SNR=9.4								
249A	**Camden**	**22.14**	**356**	P			**P**	**20 43 31.7**	**+0.7**
	baz=175								
251A	**Midway**	**22.20**	**0**	P			**P**	**20 43 32.9**	**+1.3**
	baz=179								
248A	**Dixon Mills**	**22.31**	**355**	P			**P**	**20 43 33.2**	**+0.4**
	baz=173								
247A	**Quitman**	**22.36**	**353**	P			**P**	**20 43 33.3**	**0.0**
	baz=171								
151A	**Opelika**	**22.64**	**0**	P			**P**	**20 43 36.8**	**+0.5**
	baz=180,SNR=5.4								
150A	**Eclectic**	**22.72**	**359**	P			**P**	**20 43 38.1**	**+0.9**
	baz=178,SNR=8.6								
149A	**Jones**	**22.74**	**357**	P			**P**	**20 43 37.7**	**+0.3**
	baz=176,SNR=6.1								
152A	**Waverly Hall**	**22.79**	**2**	P			**P**	**20 43 38.7**	**+0.8**
	baz=181,SNR=9.8								
154A	**Montrose**	**22.82**	**5**	P			**P**	**20 43 38.6**	**+0.3**
	baz=185								
148A	**Greensboro**	**22.84**	**355**	P			**P**	**20 43 38.5**	**+0.1**
	baz=174								
155A	**Kite**	**22.90**	**6**	P			**P**	**20 43 39.5**	**+0.5**
	baz=187								
147A	**Livingston**	**22.93**	**354**	P			**P**	**20 43 39.4**	**0.0**
	baz=172								
146A	**Union**	**22.99**	**352**	P			**P**	**20 43 39.5**	**-0.5**
	baz=170								
145A	**Houston Renfro**	**23.09**	**350**	P			**P**	**20 43 40.4**	**-0.6**
	baz=168								
LRAL	**Lakeview Retre**	**23.19**	**357**	*e*P			**P**	**20 43 41.0**	**-0.9**
	comp=N,16nm,0.8s								
LRAL	**Lakeview Retre**	**23.19**	**357**	P			**P**	**20 43 41.6**	**-0.3**
	baz=175,SNR=9.9								
144A	**Alexander Plac**	**23.20**	**349**	P			**P**	**20 43 41.4**	**-0.7**
	baz=167								
Z49A	**Columbiana**	**23.32**	**358**	P			**P**	**20 43 43.2**	**-0.1**
	baz=177,SNR=6.6								
Z51A	**Franklin**	**23.43**	**1**	P			**P**	**20 43 44.3**	**-0.1**
	baz=180								
Z47A	**Carrollton**	**23.43**	**354**	P			**P**	**20 43 44.0**	**-0.3**
	baz=173								
Z53A	**Monticello**	**23.45**	**4**	P			**P**	**20 43 44.5**	**0.0**
	baz=184								
Z54A	**Sparta**	**23.47**	**5**	P			**P**	**20 43 44.9**	**+0.2**
	baz=186								
Z46A	**Louisville**	**23.52**	**353**	P			**P**	**20 43 44.6**	**-0.7**
	baz=171,SNR=5.1								
Z48A	**Northport**	**23.56**	**356**	P			**P**	**20 43 45.4**	**-0.2**
	baz=174								
GOGA	**Godfrey**	**23.59**	**4**	P			**P**	**20 43 46.0**	**+0.1**
	baz=184,SNR=5.2								
NHSC	**New Hope**	**23.72**	**11**	P			**P**	**20 43 47.5**	**+0.4**
	baz=192								
Z45A	**Winona**	**23.80**	**351**	*e*P			**P**	**20 43 46.9**	**-1.1**
	comp=N,41nm,0.8s								
Z45A	**Winona**	**23.80**	**351**	P			**P**	**20 43 47.0**	**-0.9**
	baz=169								
Y49A	**Blount Mountai**	**23.98**	**358**	P			**P**	**20 43 49.2**	**-0.4**
	baz=177								
Y50A	**Piedmont**	**24.00**	**359**	P			**P**	**20 43 49.5**	**-0.2**
	baz=179								
Y52A	**Lilburn**	**24.00**	**3**	P			**P**	**20 43 49.6**	**-0.2**
	baz=183								
Y51A	**Rockmart**	**24.01**	**1**	P			**P**	**20 43 49.4**	**-0.4**
	baz=180,SNR=5.7								
Y48A	**Jasper**	**24.07**	**356**	P			**P**	**20 43 50.0**	**-0.5**
	baz=175								
Y54A	**Tignall**	**24.10**	**6**	P			**P**	**20 43 50.6**	**-0.1**
	baz=186								
Y47A	**UCPARC, Winfie**	**24.11**	**355**	P			**P**	**20 43 50.7**	**0.0**
	baz=174,SNR=5.7								
Y46A	**Houston**	**24.19**	**353**	P			**P**	**20 43 51.0**	**-0.5**
	baz=171,SNR=6.0								
Y45A	**Yeager Farm, C**	**24.27**	**352**	P			**P**	**20 43 51.8**	**-0.5**
	baz=169								
JCT	**Junction City**	**24.56**	**329**	*e*P			**P**	**20 43 55.6**	**+0.5**
	comp=N,5.2nm,0.8s								
X50B	**Fort Payne**	**24.57**	**360**	P			**P**	**20 43 54.3**	**-0.7**
	baz=179								
X48A	**Hartselle**	**24.60**	**357**	P			**P**	**20 43 54.6**	**-0.7**
	baz=176								
X49A	**Woodville**	**24.63**	**358**	P			**P**	**20 43 55.1**	**-0.4**
	baz=177								
X51A	**Calhoun**	**24.68**	**1**	P			**P**	**20 43 55.7**	**-0.2**
	baz=181								
JSC	**Jenkinsville**	**24.68**	**8**	*e*P			**P**	**20 43 55.7**	**-0.4**
	comp=N,21nm,0.9s								
X53A	**Estanollee**	**24.68**	**4**	P			**P**	**20 43 55.9**	**-0.2**
	baz=184								
X47A	**Russelville**	**24.72**	**355**	P			**P**	**20 43 55.3**	**-1.1**
	baz=174,SNR=6.6								
X52A	**Dahlonega**	**24.75**	**3**	P			**P**	**20 43 56.1**	**-0.6**
	baz=183								
X46A	**Booneville**	**24.83**	**354**	P			**P**	**20 43 55.9**	**-1.4**
	baz=172								
Y41A	**Eaglette Beard**	**24.88**	**346**	P			**P**	**20 43 56.2**	**-1.5**
	baz=162								
OXF	**Oxford**	**24.88**	**352**	P			**P**	**20 43 56.3**	**-1.5**
	baz=170								
W49A	**Belvidere**	**25.23**	**358**	P			**P**	**20 44 00.2**	**-0.8**
	baz=177								
W52A	**Murphy**	**25.23**	**3**	P			**P**	**20 44 00.5**	**-0.6**
	baz=183								
W51A	**Cleveland**	**25.27**	**1**	P			**P**	**20 44 01.2**	**-0.1**
	baz=181								
W48A	**Pulaski**	**25.28**	**357**	P			**P**	**20 44 00.5**	**-0.9**
	baz=176								
W50A	**Signal Mountai**	**25.30**	**0**	P			**P**	**20 44 01.0**	**-0.7**
	baz=180								
W53A	**Cullowhee**	**25.36**	**4**	P			**P**	**20 44 01.3**	**-0.9**
	baz=185								
W47A	**Westpoint**	**25.43**	**356**	P			**P**	**20 44 01.3**	**-1.5**
	baz=174								
X40A	**Basisin Creek Fa**	**25.51**	**346**	P			**P**	**20 44 02.1**	**-1.4**
	baz=162								
KMSC	**Kings Mountain**	**25.52**	**8**	P			**P**	**20 44

MIAR	Mount Ida	25.75	344	*e*P		P		20 44 05.7	0.0
	comp=N,13nm,0.9s									
MIAR	Mount Ida	25.75	344	P		P		20 44 03.7	-2.0
	baz=160,SNR=5.4									
TKL	Tuckaleechee C	25.80	3	P		P		20 44 02.5	-3.6
	comp=N,1.6nm,0.8s,baz=175,slow=11,SNR=1.9									
V48A	Smith Brothers	25.87	357	P		P		20 44 05.8	-1.0
	baz=176									
V49A	McMinnville	25.87	359	P		P		20 44 05.9	-0.9
	baz=178									
TXAR	Lajitas Array	25.88	321	P		P		20 44 07.5	+0.4
	comp=N,4.3nm,0.9s,baz=140,slow=10,SNR=22									
TXAR				PcP		PcP		20 47 38.9	+3.1
	comp=N,0.9nm,0.9s,baz=151,slow=4.8,SNR=4.7									
TX31	Lajitas Ar. Si	25.88	321	*e*P		P		20 44 07.6	+0.6
V51A	Loudon	25.92	2	P		P		20 44 06.4	-0.9
	baz=182									
V47A	Nunnelly	26.00	356	P		P		20 44 06.8	-1.1
	baz=175									
V46A	Holladay	26.02	355	P		P		20 44 06.8	-1.2
	baz=173									
W41B	Gary Mavity, V	26.03	347	P		P		20 44 07.0	-1.2
	baz=164									
V45A	Humboldt	26.04	353	P		P		20 44 07.1	-1.2
	baz=171									
WVT	Waverly	26.32	356	P		P		20 44 09.6	-1.2
	baz=174									
W39A	Magazine	26.42	345	P		P		20 44 10.0	-1.7
	baz=160									
V42A	Cord	26.47	349	P		P		20 44 11.0	-1.1
	baz=166									
U50A	Jamestown	26.52	1	P		P		20 44 12.0	-0.7
	baz=181									
U46A	Springville	26.57	355	P		P		20 44 11.3	-1.8
	baz=173									
U53A	Fall Branch	26.59	5	P		P		20 44 12.6	-0.7
	baz=186									
V41A	Mountainview	26.60	348	P		P		20 44 11.6	-1.8
	baz=164									
U49A	Red Boiling Sp	26.61	359	P		P		20 44 12.2	-1.3
	baz=179									
U48A	Cassie Pea, Po	26.63	358	P		P		20 44 12.5	-1.1
	baz=177									
T51A	Gray	27.10	3	P		P		20 44 17.0	-0.8
	baz=183									
T49A	Edmonton	27.20	360	P		P		20 44 18.2	-0.5
	baz=179									
T48A	Bowling Green	27.22	358	P		P		20 44 18.2	-0.7
	baz=177									
T52A	Hallie	27.30	4	P		P		20 44 19.4	-0.3
	baz=185									
PTGA	Pitinga	27.42	111	P		P		20 44 23.0	+2.0
	comp=N,0.8nm,0.3s,baz=322,slow=8.2,SNR=2.4									
T43A	Greenville	27.53	352	P		P		20 44 20.2	-1.6
	baz=169									
T42A	Van Buren	27.61	350	P		P		20 44 20.8	-1.6
	baz=167									
TUL1	Leonard	27.66	342	P		P		20 44 21.2	-1.7
	baz=157									
WMOK	Wichita Mounta	27.68	336	P		P		20 44 20.6	-2.5
	baz=150									
S49A	Springfield	27.88	0	P		P		20 44 23.6	-1.3
	baz=180									
S43A	Fulton Ridge,	27.98	352	P		P		20 44 24.3	-1.5
	baz=170									
S44A	Carbondale	28.00	354	P		P		20 44 24.2	-1.7
	baz=171									
S41A	Jillco Farms,	28.26	349	P		P		20 44 26.8	-1.5
	baz=166									
S42A	Caledonia	28.28	351	P		P		20 44 27.1	-1.4
	baz=168									
WCI	Wyandotte Cave	28.34	359	P		P		20 44 27.6	-1.3
	baz=178									
R49A	Shelbyville	28.39	0	P		P		20 44 28.2	-1.2
	baz=180									
R50A	Paris	28.39	2	P		P		20 44 28.2	-1.2
	baz=182									
R47A	Wooly Knot Far	28.41	358	P		P		20 44 27.9	-1.6
	baz=177									
R51A	Hillsboro	28.45	3	P		P		20 44 29.0	-0.9
	baz=183									
R45A	Skylar, Fairfi	28.50	355	P		P		20 44 29.4	-1.0
	baz=174									
R54A	Victor	28.56	7	P		P		20 44 29.9	-1.0
	baz=189									
R53A	Hurricane	28.60	6	P		P		20 44 30.4	-0.9
	baz=187									
CCM	Cathedral Cave	28.63	350	P		P		20 44 30.0	-1.5
	baz=167									
Q47A	Bedord North L	29.05	358	P		P		20 44 33.3	-1.9
	baz=177									
Q49A	Aurora	29.10	1	P		P		20 44 34.8	-0.9
	baz=181									
Q44A	Meyer Farm, Va	29.18	354	P		P		20 44 34.8	-1.5
	baz=172									
Q51A	Peebles	29.18	3	P		P		20 44 35.1	-1.3
	baz=184,SNR=5.1									
Q52A	Bidwell	29.20	5	P		P		20 44 35.6	-0.9
	baz=186									
Q55A	Buckhannon	29.48	9	P		P		20 44 38.9	-0.2
	baz=190									
P48A	Milroy	29.55	0	P		P		20 44 38.7	-1.0
	baz=180									
P47A	Martinsville	29.59	359	P		P		20 44 38.8	-1.2
	baz=178									
P49A	Miami Univ. Ec	29.64	1	P		P		20 44 39.6	-0.9
	baz=181									
P51A	Williamsport	29.65	4	P		P		20 44 40.0	-0.6
	baz=184									
P45A	Graceland, Par	29.69	356	P		P		20 44 40.2	-0.8
	baz=175									
P53A	Whipple	29.80	6	P		P		20 44 41.5	-0.4
	baz=188									
P52A	Corning	29.87	5	P		P		20 44 41.7	-0.9
	baz=186									
P55A	Reedsville	30.02	9	P		P		20 44 43.1	-0.8
	baz=191									
MCWV	Mont Chateau	30.17	9	P		P		20 44 44.5	-0.6
	baz=191									
O50A	Cable	30.28	3	P		P		20 44 45.0	-1.2
	baz=183									
O49A	Covington	30.30	2	P		P		20 44 45.1	-1.2
	baz=182									
O47A	Sheridan	30.34	359	P		P		20 44 45.3	-1.3
	baz=178									
O51A	Pataskala	30.34	4	P		P		20 44 45.9	-0.8
	baz=185									
O48A	Farmland	30.35	0	P		P		20 44 45.2	-1.5
	baz=180									
O52A	Adamsville	30.38	5	P		P		20 44 46.4	-0.6
	baz=187									
ACSO	Alum Creek Sta	30.40	4	P		P		20 44 46.5	-0.7
	baz=184									
SFIN	Lafayette	30.51	358	P		P		20 44 46.9	-1.3
	baz=176									
O43A	Sugar Creek Fa	30.57	354	P		P		20 44 46.8	-2.0
	baz=172									
O53A	New Philadelph	30.57	6	P		P		20 44 48.1	-0.6
	baz=188									
O54A	Avella	30.61	8	P		P		20 44 48.9	-0.2
	baz=189									
O55A	Ligonier	30.79	9	P		P		20 44 51.0	+0.4
	baz=191									
HDIL	Hopedale	30.84	354	P		P		20 44 49.6	-1.5
	baz=172									
KSU1	Kansas State U	30.86	343	P		P		20 44 48.7	-2.6
	baz=158									
O56A	Blue Knob Stat	30.97	10	P		P		20 44 51.7	-0.6
	baz=193									
N49A	Columbus Grove	31.04	2	P		P		20 44 51.8	-1.0
	baz=182									
LPAZ	La Paz	31.05	146	LR		LR		20 58 18.3	
	comp=N,250nm,19.0s,baz=336,slow=38									
N51A	Ashland	31.13	4	P		P		20 44 52.6	-1.1
	baz=185									
N53A	Lisbon	31.17	7	P		P		20 44 53.1	-0.9
	baz=188									
N42A	Yates City	31.19	353	P		P		20 44 52.8	-1.4
	baz=171									
N55A	Marion Center	31.40	9	P		P		20 44 55.7	-0.3
	baz=192									
M54A	Oil Creek Stat	32.01	8	P		P		20 45 00.9	-0.5
	baz=190									
L48A	N Adams	32.05	1	P		P		20 45 00.4	-1.3
	baz=181									
N59A	State Game Lan	32.17	14	P		P		20 45 02.2	-0.7
	baz=198									
L42A	Oliver, Polo	32.31	354	P		P		20 45 02.6	-1.4
	baz=172									
SDCO	Great Sand Dun	33.19	330	*e*P		P		20 45 11.7	-0.5
	comp=N,2.6nm,1.0s									
SDCO	Great Sand Dun	33.19	330	P		P		20 45 09.3	-2.9
	baz=141									
BINY	Binghamton	33.34	13	P		P		20 45 12.5	-0.5
	baz=197									
J42A	Columbus	33.56	355	P		P		20 45 13.0	-2.0
	baz=173									
J43A	Natural Harves	33.57	356	P		P		20 45 12.9	-2.1
	baz=174									
J52A	Paris	33.61	7	P		P		20 45 14.3	-1.0
	baz=188									
J41A	Loganville	33.69	354	P		P		20 45 14.6	-1.4
	baz=171									
J40A	Soldiers Grove	33.80	353	P		P		20 45 15.0	-2.0
	baz=170									
S22A	4UR Ranch, Cre	33.86	329	P		P		20 45 13.8	-4.2
	baz=139									
I46A	Reed City	34.03	360	P		P		20 45 17.3	-1.7
	baz=180									
I55A	Frankford	34.96	10	P		P		20 45 25.8	-1.2
	baz=193									
ECSD	EROS Data Cent	35.20	346	P		P		20 45 26.5	-2.6
	baz=160									
F48A	Evansville	36.00	3	P		P		20 45 34.5	-1.5
	baz=184									
F44A	Big Bay de Noc	36.07	359	P		P		20 45 34.8	-1.8
	baz=178									
F39A	Loretta	36.31	354	P		P		20 45 37.0	-1.6
	baz=170									
E43A	Lone Tree Farm	36.49	358	P		P		20 45 38.5	-1.6
	baz=177									
D48A	Paudash Townsh	37.39	4	P		P		20 45 46.4	-1.4
	baz=186									
D52A	ZEK Kipawa Sen	37.55	8	P		P		20 45 47.1	-2.0
	baz=191									
D50A	G1974 Best Tow	37.56	6	P		P		20 45 47.2	-2.0
	baz=189									
D54A	Lac Fusel, La	37.98	10	P		P		20 45 50.7	-2.1
	baz=194									
TPNV	Topopah Spring	38.81	319	*e*P		P		20 46 02.2	+2.0
	comp=N,7.8nm,0.9s									
TPNV	Topopah Spring	38.81	319	P		P		20 45 54.8	-5.3
	baz=126									
DUG	Dugway, Tooele	38.84	326	P		P		20 45 55.8	-4.4
	baz=133									
FURC	Furnace Creek,	38.93	318	P		P		20 45 56.7	-4.2
	baz=124									
BW06	Boulder Array	39.05	331	P		P		20 45 59.1	-3.0
	baz=140									
PDAR	Pinedale Array	39.05	331	P		P		20 46 01.0	-1.0
	comp=N,0.6nm,0.8s,baz=126,slow=7.5,SNR=4.3									
PDAR				LR		LR		21 05 07.1	
	comp=N,113nm,19.3s,baz=199,slow=41									
MPMC	Manual Prospec	39.12	317	P		P		20 45 58.1	-4.6
	baz=123									
R11A	Troy Canyon, C	39.24	321	P		P		20 46 00.0	-3.7
	baz=128									
AGMN	Agassiz Nation	39.38	349	P		P		20 46 02.5	-2.0
	baz=163									
RLMT	Red Lodge	40.75	334	P		P		20 46 13.6	-2.6
	baz=142									
NV01	Mina Array Sit	41.00	319	*e*P		P		20 46 20.3	+2.0
NVAR	Mina Array Bea	41.00	319	P		P		20 46 20.0	+1.7
	comp=N,5.6nm,0.7s,baz=133,slow=7.6,SNR=33									
NVAR				PcP		PcP		20 48 20.6	+2.5
	comp=N,0.7nm,0.7s,baz=137,slow=4.5,SNR=4.4									
KVN	Kaiserville	41.23	320	*e*P		P		20 46 20.5	+0.2
	comp=N,2.7nm,0.8s									
HLID	Hailey	42.04	328	P		P		20 46 22.1	-4.6
	baz=134									
BOZ	Bozeman (W)	42.17	333	P		P		20 46 25.3	-2.5
	baz=139									
EGMT	Eagleton	43.27	336	P		P		20 46 33.6	-3.0
	baz=143									
MSO	Missoula	44.16	332	P		P		20 46 39.6	-4.1
	baz=137									
CPUP	Villa Florida	45.11	143	LR		LR		21 07 12.1	
	comp=N,67nm,18.0s,baz=30,slow=38									
N02D	Trinity Center	45.23	320	P		P		20 46 47.7	-4.7
	baz=122									
K04D	Chiloquin, OR	45.57	322	P		P		20 46 49.7	-5.4
	baz=125									
I04A	Tendick Farm,	46.63	323	P		P		20 46 59.3	-4.0
	baz=125									
H04D	Lebanon	47.25	324	P		P		20 47 03.8	-4.3
	baz=125									
SCHQ	Schefferville	47.30	15	P		P		20 47 00.8	-7.6
	comp=N,5.7nm,1.0s,baz=229,slow=9.3,SNR=2.9									
SCHQ				LR		LR		21 07 54.6	
	comp=N,205nm,18.4s,baz=326,slow=38									
I02D	Swisshome	47.66	323	P		P		20 47 06.9	-4.4
	baz=124									
PLCA	Paso Flores	52.11	166	P		P		20 47 54.2	+9.1
	comp=N,1.8nm,1.1s,baz=61,slow=18,SNR=2.9									
YKA	Yellowknife Ar	56.70	344	P		P		20 48 15.7	-2.4
	comp=N,0.7nm,0.8s,baz=139,slow=7.2,SNR=11									
EPYK	Eagle Plains	66.23	340	P		P		20 49 18.0	-4.5
	baz=122									
ILAR	Eilson Array	69.24	336	P		P		20 49 41.1	-0.4
	comp=N,1.0nm,0.8s,baz=110,slow=5.1,SNR=10									
ILAR				LR		LR		21 22 31.0	
	comp=N,126nm,18.8s,baz=132,slow=38									
POKR	Poker Plat Res	69.59	337	P		P		20 49 38.6	-5.0
	baz=111									
ASAR	Alice Springs	140.02	245	PKhKP		PKPpre		20 58 02.8	
	comp=N,0.3nm,0.9s,baz=95,slow=3.0,SNR=3.0									
WRA	Warramunga Arr	140.34	251	PKP		PKPdf		20 58 09.7	+5.1
	comp=N,0.8nm,0.9s,baz=93,slow=2.5,SNR=3.3									
CMAR	Chiang Mai Arr	151.61	351	PKPbc		PKPbc		20 58 31.3	+1.3
	comp=N,2.9nm,0.9s,baz=338,slow=3.0,SNR=18									

IDC 20 20:53:41.9±2.7, 8.82S×112.29E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.3/32, mbtmp3.4/5, MS3.3/1, Ms1 3.3/1, ms1mx2.7/21, Error ellipse: s-maj=129.9km s-min=21.7km az=51.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.02	120	P	P	20 58 58.2	-0.6
	1.0nm,1.0s,baz=295,slow=11,SNR=3.8						
ASAR	Alice Springs	25.41	128	P	P	20 59 12.0	+0.5
	0.4nm,0.7s,baz=300,slow=8.5,SNR=4.8						
ASAR				LR	LR	21 08 15.0	
	comp=Z,73nm,21.7s,baz=296,slow=34						
SONM	Songino Array	56.64	355	P	P	21 03 27.2	+0.2
	0.1nm,0.3s,baz=168,slow=7.4,SNR=2.8						
MKAR	Makanchi Array	61.48	337	P	P	21 04 00.9	+0.4
	0.3nm,0.5s,baz=154,slow=7.9,SNR=5.3						
ZALV	Zalesovo Beam	66.70	343	P	P	21 04 34.0	-0.5
	0.4nm,0.5s,baz=165,slow=6.0,SNR=2.8						

IDC 20 20:54:28.3±3.0, 36.37N×70.89E, h180km±28km, mb3.2/5, mb1 3.2/11, mb1mx3.0/46, mbtmp3.7/11, Error ellipse: s-maj=27.4km s-min=18.8km az=157.0

ISCJB 20 20:54:29.5±0.5, 36.54N±0.04×70.82E±0.06, h188km, mb3.3/4, Error ellipse: s-maj=6.7km s-min=5.2km az=161.8

NNC 20 20:54:36.8±1.8, 36.96N×70.90E, h207km±15km, mb2.6, mpv3.5, Error ellipse: s-maj=17.1km s-min=15.1km az=53.0

ISC 20 20:54:30.0±0.8, 36.52N±0.07×70.81E±0.07, h188km, n28, σ1§39/35, mb3.3/4, 7C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	Sufi-Kurgan	4.08	30	⇓P	Pn	20 55 34.5	+2.0
	9.3nm,0.4s						
SFK				⇓S	Sn	20 56 21.4	-0.2
	22nm,0.4s						
MNAS	Manas	6.10	12	⇓P	Pn	20 55 59.9	+1.5
	1.6nm,0.4s						
MNAS				⇑S	Sn	20 57 06.5	-1.8
	28nm,0.6s						
KK31	Karatay Array	6.58	358	P	Pn	20 56 06.4	+1.9
	0.4nm,0.3s,baz=176,slow=12,SNR=10						
KK31				S	Sn	20 57 15.8	-3.5
	4.1nm,0.7s,baz=181,slow=20,SNR=7.8						
AAK	Ala-Archa	6.74	24	P	Pn	20 56 08.4	+1.6
	0.9nm,0.3s,baz=186,slow=6.3,SNR=24						
AAK				S	Sn	20 57 22.2	-1.1
	0.6nm,0.3s,baz=325,slow=22,SNR=19						
AAK	Ala-Archa	6.74	24	⇑P	Pn	20 56 08.1	+1.3
	3.4nm,0.7s						
AAK				⇓S	Sn	20 57 22.2	-1.1
	11nm,0.7s						
TKM2	Tokmak 2	7.38	29	⇑P	Pn	20 56 16.5	+1.3
	6.2nm,0.7s						
TKM2				⇑S	Sn	20 57 35.7	-2.8
	3.3nm,0.9s						
GEYT	Alibeck	10.22	282	P	Pn	20 56 52.7	+0.4
	0.2nm,0.3s,baz=97,slow=12,SNR=3.4						
GEYT				S	Sn	20 58 44.5	-1.6
	0.6nm,0.3s,baz=97,slow=32,SNR=5.5						
PYUN	Piuthan	13.28	126	*e*P	Pn	20 57 30.9	-0.7
	2.9nm,0.3s						
MK31	Makanchi Array	13.36	36	P	P	20 57 35.2	-0.1
	0.9nm,0.6s,baz=205,slow=8.2,SNR=14						
MKAR	Makanchi Array	13.36	36	P	Pn	20 57 31.9	-0.4
	0.1nm,0.3s,baz=237,slow=9.6,SNR=9.3						
DANN	Dangsing	13.63	123	*e*P	Pn	20 57 36.8	+0.8
	4.4nm,0.3s						
AB31	Akbulak array	14.99	331	P	P	20 57 55.8	+2.5
	0.2nm,0.4s,baz=154,slow=11,SNR=6.3						
DMN	Daman	15.01	122	*e*P	P	20 57 54.3	+0.2
	6.5nm,0.6s						
KKN	Kakani	15.02	121	*e*P	Pn	20 57 53.4	+0.2
	10.0nm,0.6s						
KURBB	Kurchatov Arra	15.15	19	P	P	20 57 55.5	+0.5
	0.1nm,0.3s,baz=210,slow=11,SNR=4.3						
KURBB	Kurchatov Arra	15.15	19	⇑P	P	20 57 55.6	+0.5
	3.3nm,0.9s						
PKIN	Phulchoki	15.23	122	*e*P	P	20 57 57.1	+0.6
	4.4nm,0.5s						
GUN	Gumba	15.36	120	*e*P	P	20 57 58.4	+0.4
	5.2nm,0.4s						
JIRN	Jiri	15.73	120	*e*P	P	20 58 02.4	+0.3
	14nm,0.4s						
BVA0	Borovoye Array	16.50	359	⇑P	Pn	20 58 12.1	+1.4
	0.7nm,0.5s,baz=168,slow=10,SNR=2.6						
BVAR	Borovoye Array	16.50	359	P	Pn	20 58 10.9	+0.2
	0.4nm,0.3s,baz=166,slow=11,SNR=16						
AKTO	Aktyubinsk	16.69	330	P	Pn	20 58 13.1	+0.2
	0.2nm,0.3s,baz=143,slow=10,SNR=3.4						
ZAA0	Zalesovo Array	19.96	25	⇑P	P	20 58 47.3	-0.2
	2.6nm,0.7s						
ZALV	Zalesovo Beam	19.96	25	P	P	20 58 47.6	+0.2
	2.3nm,0.5s,baz=216,slow=12,SNR=17						
SONM	Songino Array	28.45	55	P	P	21 00 06.6	-0.7
	0.4nm,0.8s,baz=263,slow=7.1,SNR=3.7						
YKA	Yellowknife Ar	81.23	3	P	P	21 06 24.4	0.0
	0.3nm,0.5s,baz=351,slow=5.4,SNR=8.6						
WRA	Warramunga Arr	82.13	122	P	P	21 06 28.2	-1.6
	0.5nm,0.6s,baz=324,slow=5.0,SNR=7.2						
ASAR	Alice Springs	84.39	125	P	P	21 06 39.6	-1.7
	0.4nm,0.7s,baz=314,slow=5.0,SNR=7.4						

IDC 20 21:02:57.3±2.1, 11.43S×116.57E, h0km, mb3.3/2, mb1 3.7/5, mb1mx3.5/35, mbtmp3.6/5, ML3.7/3, Error ellipse: s-maj=77.9km s-min=23.5km az=42.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	Baumata	7.08	81	Pn	Pn	21 04 41.8	-0.5
	1.6nm,0.3s,baz=254,slow=20,SNR=2.2						
BATI				Sn	Sn	21 05 55.2	-8.4
	2.1nm,0.3s,baz=196,slow=11,SNR=1.7						
FITZ	Fitzroy Crossi	11.00	128	Pn	Pn	21 05 34.5	-1.6
	0.5nm,0.3s,baz=303,slow=10,SNR=15						
FITZ				Sn	Sn	21 07 26.9	-13
	0.2nm,0.3s,baz=64,slow=18,SNR=1.4						
WRA	Warramunga Arr	19.08	119	P	P	21 07 21.7	+0.1
	0.2nm,0.3s,baz=286,slow=14,SNR=10						
WRA				S	Sn	21 10 38.4	-18
	0.1nm,0.3s,baz=281,slow=12,SNR=3.1						
ASAR	Alice Springs	20.50	129	P	Pn	21 07 38.5	-0.8
	0.5nm,0.8s,baz=308,slow=10,SNR=3.1						
NWAO	Narrogin (SRO)	21.41	178	P	P	21 07 51.0	+4.2
	4.2nm,0.7s,baz=51,slow=18,SNR=5.0						
NWAO				S	S	21 11 33.8	-11
	6.7nm,0.9s,baz=258,slow=2.2,SNR=1.7						
MKAR	Makanchi Array	65.57	335	P	P	21 13 42.8	0.0
	0.4nm,0.4s,baz=146,slow=6.9,SNR=11						

UCR 20 21:05:20.7±1.4, 9.92N×85.37W, h18km±3km, MD3.9, ML3.7, mb4.3(NEIC)

NEIC 20 21:05:23.5±1.0, 10.10N×85.18W, h48km±7km, mb4.3/58, MW4.4(UCR), Error ellipse: s-maj=13.8km s-min=7.2km az=211.0

NEIC Felt at Barva de Heredia, Bejuco, Esparza, Hojancha, Nandayure, Nicoya, Paquera, Samara and Veintisiete de Abril. Also felt at Managua, Nicaragua.

IDC 20 21:05:23.2±1.2, 10.61N×84.82W, h35km±12km, mb3.9/13, mb1 4.1/14, mb1mx3.9/31, mbtmp4.1/14, ML3.6/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/39, Error ellipse: s-maj=26.9km s-min=15.5km az=62.0

ISC 20 21:05:20.1±0.7, 9.91N±0.04×85.33W±0.04, h30km±3km, n302, σ1§15/325, mb4.3/69, MS3.3/3, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLVR	Palo Verde	0.43	357	*e*P	Pb	21 05 29.1	-0.6
PLVR				*e*S	Sb	21 05 35.0	-1.2
JTS	JuntasAbangare	0.53	45	Pg	Pn	21 05 31.2	-0.5
	1μm,0.3s,baz=36,slow=20,SNR=4756						
JTS				Lg	Lg	21 05 39.6	
	2μm,0.3s,baz=356,slow=22,SNR=10						
JTS	JuntasAbangare	0.53	45	*e*Pn	Pn	21 05 31.1	-0.6
JTS				*e*Sn	Sb	21 05 37.2	-1.4
JTS				Lg	Lg	21 05 39.6	
JTS	JuntasAbangare	0.53	45	*e*P	Pb	21 05 30.9	-0.2
JTS				*e*S	Sn	21 05 38.8	-1.0
NY14	Universidad de	0.76	345	*i*P	Pn	21 05 34.7	-0.2
NY14				*i*S	Sn	21 05 46.0	+0.6
COLC	Colonia	0.76	10	*i*P	Pb	21 05 34.7	-0.2
COLC				*i*S	Sn	21 05 46.1	+0.7
CUI	Cuipilapa	0.76	13	*i*P	Pb	21 05 34.9	-0.1
CUI				*i*S	Sn	21 05 45.9	+0.5
AMAS	Alto Masis	0.77	26	*i*P	Pn	21 05 35.1	0.0
ACAL	Aguas Claras	0.78	22	*i*P	Pn	21 05 35.2	0.0
CASO	Castillo	0.79	48	*i*P	Pn	21 05 35.9	+0.7
LIM1	Limonal	0.79	6	*i*P	Pb	21 05 35.3	-0.1
MICM	Guayabo	0.80	9	*i*P	Pb	21 05 35.4	-0.1
PACM	Arenal	0.80	44	*i*P	Pn	21 05 36.0	+0.6
GUAB	Guayabo de Bag	0.80	7	*i*P	Pb	21 05 35.3	-0.3
GUAB				*i*S	Sn	21 05 46.9	+0.5
HORNC	Hornillas	0.81	11	*i*P	Pb	21 05 35.5	-0.3
ARE1	Arenal 1	0.81	48	*e*P	Pn	21 05 36.7	+1.1
MESS	Mesas	0.84	9	*e*P

ESPN	Las Esperanzas	2.49	24	eP		Pn	21 06 00.2	+1.6	
BOAB	BOACO BROADBAN	2.54	353	eP	n	Pn	21 06 00.3	+0.9	
BOAB	BOACO BROADBAN	2.54	353	eP		Pn	21 06 00.4	+0.9	
MOMN	Momotombo	2.75	335	eP		Pn	21 06 03.4	+1.1	
BRU2	Volcan	2.83	113	eP		Pn	21 06 05.8	+2.3	
BRU2				eS		Sb	21 06 40.7	-3.7	
CNGN	Cerro Negro	2.90	333	eP		Pn	21 06 06.2	+1.8	
MATN	Matagalpa	3.06	349	eP		Pn	21 06 07.5	+0.9	
TGUH	Tegucigalpa,Un	4.54	335	eP	n	Pn	21 06 27.0	+0.2	
APG	El Apazote	7.12	316	Pn		Pn	21 07 03.3	+0.7	
	comp=N,1.1nm,0.3s,baz=110,slow=7.1,SNR=7.4								
APG				Sn		Sn	21 08 09.2	-13	
	comp=N,0.5nm,0.3s,baz=196,slow=13,SNR=7.3								
SDV	Santo Domingo	14.54	93	Pn		Pn	21 08 46.3	+2.2	
	comp=N,0.2nm,0.3s,baz=217,slow=20,SNR=2.6								
ATAH	Atahualpa	18.29	158	LR		LR	21 15 55.2		
	comp=N,241nm,18.6s,baz=336,slow=34								
LNIG	Linares	20.07	320	eP		P	21 09 52.0	+0.8	
	comp=N,4.3nm,0.7s								
455A	Stateville	20.84	6	P		P	21 10 00.3	+0.9	
	baz=186								
ZAIG	Zacatecas	20.87	310	eP		Pn	21 10 04.0	+1.1	
	comp=N,6.0nm,0.9s								
351A	Pinckard	21.26	359	P		P	21 10 05.1	+1.1	
	baz=179								
353A	Camilla	21.36	3	P		P	21 10 06.1	+1.0	
	baz=183								
349A	Repton	21.40	356	P		P	21 10 06.3	+0.7	
	baz=175								
352A	Blakely	21.47	1	P		P	21 10 07.4	+1.1	
	baz=181								
TIGA	Tifton	21.48	4	P		P	21 10 07.5	+1.1	
	baz=184								
357A	Townsend	21.70	9	P		P	21 10 10.0	+1.2	
	baz=190								
250A	Grady	21.98	358	P		P	21 10 12.6	+0.9	
	baz=177								
252A	Lumpkin	21.98	1	P		P	21 10 13.3	+1.5	
	baz=181								
254A	Abbeville	22.01	5	P		P	21 10 13.7	+1.7	
	baz=185								
255A	Hazlehurst	22.07	6	P		P	21 10 14.0	+1.3	
	baz=187								
251A	Midway	22.07	360	P		P	21 10 14.6	+1.8	
	baz=179								
248A	Dixon Mills	22.19	355	P		P	21 10 14.9	+0.9	
	baz=173								
247A	Quitman	22.24	353	P		P	21 10 15.7	+1.1	
	baz=171								
151A	Opelika	22.51	0	P		P	21 10 17.7	+0.3	
	baz=180,SNR=5.8								
150A	Eclectic	22.59	358	P		P	21 10 18.7	+0.3	
	baz=178,SNR=6.9								
149A	Jones	22.62	357	P		P	21 10 18.1	-0.5	
	baz=176,SNR=7.5								
152A	Waverly Hall	22.66	1	eP		P	21 10 21.1	+2.1	
	comp=N,8.4nm,0.6s								
152A				epP		pP	21 10 28.9	+1.9	
152A	Waverly Hall	22.66	1	P		P	21 10 19.0	0.0	
	baz=181,SNR=5.8								
154A	Montrose	22.69	5	P		P	21 10 19.3	0.0	
	baz=185								
VBMS	Vicksburg	22.71	349	P		P	21 10 20.1	+0.5	
	baz=166								
148A	Greensboro	22.72	355	P		P	21 10 20.4	+0.8	
	baz=174								
155A	Kite	22.76	6	P		P	21 10 20.7	+0.7	
	baz=187								
147A	Livingston	22.82	354	eP		P	21 10 22.2	+1.6	
	comp=N,24nm,0.8s								
147A	Livingston	22.82	354	P		P	21 10 21.2	+0.5	
	baz=172								
145A	Houston Renfro	22.98	350	P		P	21 10 22.8	+0.5	
	baz=168								
LRAL	Lakeview Retre	23.07	356	eP		P	21 10 24.0	+0.8	
	comp=N,14nm,0.7s								
LRAL	Lakeview Retre	23.07	356	P		P	21 10 23.8	+0.6	
	baz=175,SNR=10								
Z52A	Williamson	23.18	2	P		P	21 10 24.6	+0.2	
	baz=182								
Z49A	Columbiana	23.20	357	P		P	21 10 24.9	+0.4	
	baz=177,SNR=6.2								
Z51A	Franklin	23.30	0	P		P	21 10 25.8	+0.2	
	baz=180								
Z47A	Carrollton	23.31	354	P		P	21 10 25.7	0.0	
	baz=173								
Z53A	Monticello	23.31	4	P		P	21 10 26.0	+0.2	
	baz=184								
Z54A	Sparta	23.33	5	P		P	21 10 26.4	+0.6	
	baz=186								
NNA	Nana	23.33	159	LR		LR	21 18 46.7		
	comp=N,70nm,19.6s,baz=324,slow=34								
Z46A	Louisville	23.41	352	P		P	21 10 26.5	-0.2	
	baz=171								
Z48A	Northport	23.44	355	P		P	21 10 26.9	-0.1	
	baz=174,SNR=5.7								
GOGA	Godfrey	23.45	4	P		P	21 10 27.0	0.0	
	baz=184								
Z45A	Winona	23.69	351	P		P	21 10 29.0	-0.4	
	baz=169								
435B	Jarrell	23.69	333	eP		P	21 10 29.6	+0.1	
	comp=N,17nm,0.6s								
435B	Jarrell	23.69	333	P		P	21 10 29.6	+0.1	
	baz=148								
Y49A	Blount Mountai	23.86	358	eP		P	21 10 30.9	-0.1	
	comp=N,4.8nm,0.6s								
Y49A				epP		pP	21 10 39.7	+0.1	
Y49A	Blount Mountai	23.86	358	P		P	21 10 30.7	-0.3	
	baz=177								
Y52A	Lilburn	23.87	3	eP		P	21 10 31.6	+0.6	
	comp=N,4.2nm,0.6s								
Y52A	Lilburn	23.87	3	P		P	21 10 31.4	+0.3	
	baz=183								
Y50A	Piedmont	23.87	359	P		P	21 10 31.1	0.0	
	baz=179								
Y51A	Rockmart	23.88	1	P		P	21 10 30.3	-0.9	
	baz=180,SNR=6.1								
Y53A	Monroe	23.89	4	P		P	21 10 30.6	-0.7	
	baz=184								
Y48A	Jasper	23.95	356	P		P	21 10 30.8	-1.0	
	baz=175,SNR=8.2								
Y54A	Tignall	23.96	5	P		P	21 10 31.6	-0.3	
	baz=186								
Y46A	Houston	24.08	353	P		P	21 10 32.2	-0.8	
	baz=171,SNR=6.2								
Y45A	Yeager Farm, C	24.15	351	P		P	21 10 33.2	-0.5	
	baz=169								
Y44A	Strider, Charl	24.35	350	P		P	21 10 35.3	-0.2	
	baz=168								
HODGE	Hodges	24.37	6	eP		P	21 10 36.1	+0.4	
	comp=N,11nm,0.8s								
Y43A	Makayla and Ka	24.43	349	P		P	21 10 36.0	-0.3	
	baz=166								
X50B	Fort Payne	24.44	359	P		P	21 10 35.6	-0.7	
	baz=179								
X48A	Hartselle	24.48	357	P		P	21 10 36.4	-0.3	
	baz=176								
X49A	Woodville	24.50	358	P		P	21 10 36.6	-0.3	
	baz=177								
JCT	Junction City	24.51	329	P		P	21 10 37.0	-0.1	
	baz=143								
X53A	Estanollee	24.55	4	P		P	21 10 37.3	-0.1	
	baz=184								
X47A	Russelville	24.60	355	P		P	21 10 37.3	-0.5	
	baz=174								
X52A	Dahlonega	24.61	3	P		P	21 10 38.2	+0.3	
	baz=183								
WHTX	Lake Whitney,	24.68	335	eP		P	21 10 38.2	-0.3	
	comp=N,14nm,0.9s								
WHTX				epP		sP	21 10 50.6	-0.2	
WHTX	Lake Whitney,	24.68	335	P		P	21 10 38.9	+0.4	
	baz=150								
X46A	Booneville	24.71	354	P		P	21 10 38.8	+0.1	
	baz=172								
OXF	Oxford	24.77	352	P		P	21 10 39.1	-0.2	
	baz=170								
PAULI	Pauline	25.00	7	eP		P	21 10 42.4	+1.0	
	comp=N,8.6nm,0.8s								
BG3	Lake Jocassee	25.06	5	eP		P	21 10 43.0	+1.0	
	comp=N,12nm,1.0s								
BG3				epP		sP	21 10 54.0	-0.3	
W52A	Murphy	25.10	3	P		P	21 10 43.0	+0.6	
	baz=183								
W49A	Belvidere	25.11	358	P		P	21 10 43.4	+1.0	
	baz=178								
W51A	Cleveland	25.14	1	P		P	21 10 42.7	0.0	
	baz=181								
W48A	Pulaski	25.15	357	P		P	21 10 42.9	+0.1	
	baz=176,SNR=5.3								
W50A	Signal Mountai	25.17	0	P		P	21 10 42.4	-0.7	
	baz=180								
SWET	Sewanee	25.20	359	eP		P	21 10 43.8	+0.5	
	comp=N,6.6nm,0.7s								
SWET				epP		pP	21 10 52.8	+0.9	
W53A	Cullowhee	25.22	4	P		P	21 10 43.4	-0.1	
	baz=185								
W47A	Westpoint	25.31	356	P		P	21 10 43.5	-0.7	
	baz=174								
W45A	Hickory Valley	25.38	353	P		P	21 10 44.4	-0.4	
	baz=171								
KMSC	Kings Mountain	25.38	8	P		P	21 10 44.1	-0.7	
	baz=189								
X40A	Basin Creek Fa	25.41	345	P		P	21 10 44.8	-0.3	
	baz=162								
CPCT	Cooper Cave	25.43	2	eP		P	21 10 44.1	-1.2	
	comp=N,5.8nm,0.9s								
V50A	Pikevile	25.64	0	P		P	21 10 47.2	-0.1	
	baz=180								
MIAR	Mount Ida	25.66	344	eP		P	21 10 47.0	-0.4	
	comp=N,16nm,1.0s								
MIAR	Mount Ida	25.66	344	P		P	21 10 47.2	-0.2	
	baz=161,SNR=8.0								
TKL	Tuckaleechee C	25.67	3	P		P	21 10 43.8	-3.7	
	comp=N,2.8nm,0.8s,baz=122,slow=15,SNR=2.7								
V49A	McMinnville	25.74	359	P		P	21 10 47.8	-0.3	
	baz=178								
V53A	Saluda	25.74	5	P		P	21 10 47.8	-0.4	
	baz=185								
V48A	Smith Brothers	25.75	357	eP		P	21 10 48.6	+0.5	
	comp=N,7.3nm,0.9s								
V48A	Smith Brothers	25.75	357	P		P	21 10 47.9	-0.3	
	baz=176								
V51A	Loudon	25.79	2	P		P	21 10 48.7	+0.1	
	baz=182								
TXAR	Lajitas Array	25.84	321	P		P	21 10 49.2	0.0	
	comp=N,3.5nm,0.7s,baz=144,slow=9.5,SNR=34								
TXAR				PcP		PcP	21 14 19.8	+1.5	
	comp=N,0.9nm,0.8s,baz=151,slow=5.8,SNR=6.4								
TX31	Lajitas Ar. Si	25.84	321	eP		P	21 10 50.1	+0.8	
TX31				ePcP		PcP	21 14 20.7	+2.4	
V52A	Sevierville	25.86	3	P		P	21 10 48.6	-0.7	
	baz=184								
V47A	Nunnelly	25.88	356	P		P	21 10 48.8	-0.6	
	baz=175								
V46A	Holladay	25.90	355	P		P	21 10 48.6	-0.9	
	baz=173								
W41B	Gary Mavity, V	25.93	347	P		P	21 10 49.5	-0.3	
	baz=164								
ABTX	Abilene, Hawle	26.18	332	eP		P	21 10 53.9	+1.6	
	comp=N,8.2nm,1.0s								
ABTX	Abilene, Hawle	26.18	332	P		P	21 10 51.9	-0.4	
	baz=146								
WVT	Waverly	26.20	355	P		P	21 10 51.4	-0.9	
	baz=174								
V42A	Cord	26.36	349	P		P	21 10 53.0	-0.7	
	baz=166								
U50A	Jamestown	26.39	1	P		P	21 10 53.4	-0.6	
	baz=181								
U53A	Fall Branch	26.45	5	P		P	21 10 54.0	-0.6	
	baz=186								
U47A	Clarksville	26.47	356	P		P	21 10 54.0	-0.8	
	baz=175								
U49A	Red Boiling Sp	26.49	359	P		P	21 10 53.9	-0.9	
	baz=179								
V41A	Mountainview	26.50	347	P		P	21 10 53.5	-1.4	
	baz=164								
U42A	Revenden	26.86	349	P		P	21 10 56.1	-2.2	
	baz=167								
T47A	Sharon Grove	27.00	357	eP		P	21 10 58.3	-1.2	
	comp=N,17nm,0.6s								
T46A	Princeton	27.11	355	P		P	21 10 58.7	-1.8	
	baz=174								
PTGA	Pitinga	27.37	111	P		P	21 11 02.5	-0.5	
	comp=N,1.0nm,0.3s,baz=301,slow=3.8,SNR=3.1								
T43A	Greenville	27.42	351	P		P	21 11 01.4	-1.9	
	baz=169								
T42A	Van Buren	27.50	350	P		P	21 11 02.4	-1.5	
	baz=167								
WMOK	Wichita Mounta	27.61	336	eP		P	21 11 03.9	-1.1	
	comp=N,5.4nm,1.0s								
WMOK	Wichita Mounta	27.61	336	P		P	21 11 04.4	-0.6	
	baz=150								
S51A	Beattyville	27.65	3	P		P	21 11 04.0	-1.3	
	baz=183								
S52A	Salyersville	27.72	4	P		P	21 11 05.0	-1.0	
	baz=184								
S49A	Springfield	27.75	0	P		P	21 11 06.0	-0.2	
	baz=180								
S43A	Fulton Ridge,	27.87	352	P		P	21 11 06.1	-1.2	
	baz=170								
S44A	Carbondale	27.89	353	P		P	21 11 06.7	-0.7	
	baz=171								
S41A	Jillco Farms,	28.16	349	P		P	21 11 08.8	-1.0	
	baz=166								
WCI	Wyandotte Cave	28.21	358	P		P	21 11 09.5	-0.7	
	baz=178								
R49A	Shelbyville	28.26	0	P		P	21 11 09.7	-1.1	
	baz=180								
R50A	Paris	28.26	2	P		P	21 11 10.0	-0.8	
	baz=182								
R47A	Wooly Knot Far	28.28	358	P		P	21 11 10.4	-0.5	
	baz=177								
R51A	Hillsboro	28.31	3	P		P	21 11 10.0	-1.2	
	baz=183								
R54A	Victor	28.42	7	P		P	21 11 11.2	-1.0	
	baz=189								
R53A	Hurricane	28.46	6	P		P	21 11 11.6	-1.0	
	baz=187								
CCM	Cathedral Cave	28.52	350	P		P	21 11 12.3	-0.8	
	baz=167								
R43A	Red Bud	28.54	352	P		P	21 11 12.2	-1.1	
	baz=170								
MNTX	Cornudas Mount	28.56	322	P		P	21 11 11.5	-2.0	
	baz=135								
R42A	Luebbering	28.67	351	P		P	21 11 13.8	-0.6	
	baz=168								
MSTX	Muleshoe	28.80	329	P		P	21 11 14.0	-1.8	
	baz=142								
Q47A	Bedord North L	28.92	358	P		P	21 11 14.4	-2.2	
	baz=178								
Q45A	Warren Harvey,	28.97	355	P		P	21 11 15.6	-1.5	
	baz=174								
AMTX	Amarillo	29.00	331	P		P	21 11 15.3	-2.2	
	baz=145								
Q51A	Peebles	29.05	3	eP		P	21 11 17.9	+0.1	
	comp=N,14nm,0.6s								
Q51A				epP		sP	21 11 29.7	-0.5	
Q51A	Peebles	29.05	3	P		P	21 11 15.6	-2.1	
	baz=184								
Q44A	Meyer Farm, Va	29.06	354	P		P	21 11 15.7	-2.1	
	baz=172								
Q52A	Bidwell	29.06	5	P		P	21 11 15.9	-1.9	
	baz=186								
Q41A	Truxton	29.40	351	P		P	21 11 19.4	-1.5	
	baz=168								
P48A	Milroy	29.43	360	P		P	21 11 19.7	-1.4	
	baz=180								
P53A	Whipple	29.66	6	P		P	21 11 21.7	-1.5	
	baz=188								
P52A	Corning	29.74	5	P		P	21 11 22.2	-1.6	
	baz=186								
O50A	Cable	30.15	3	P		P	21 11 26.0	-1.6	
	baz=183								
O51A	Pataskala	30.21	4	P		P	21 11 26.6	-1.5	
	baz=185								
O52A	Adamsville	30.24	5	P		P	21 11 26.7	-1.6	
	baz=187								
ACSO	Alum Creek Sta	30.27	4	P		P	21 11 27.0	-1.5	
	baz=184								
O53A	New Philadelph	30.43	6	P		P	21 11 29.1	-0.9	
	baz=188								
N42A	Yates City	31.07	353	P		P	21 11 34.6	-1.1	
	baz=171								
N43A	Stutzman Famil	31.09	354	P		P	21 11 35.0	-0.8	
	baz=172								
ANMO	Albuquerque	31.52	325	LR		LR	21 25 58.4		
	comp=N,60nm,18.4s,baz=164,slow=40								
ANMO	Albuquerque	31.52	325	eP		P	21 11 41.0	+1.2	
	comp=N,3.2nm,1.1s								
ANMO	Albuquerque	31.52	325	P		P	21 11 39.4	-0.4	
	baz=137								
M42A	Sheffield	31.66	354	P		P	21 11 38.8	-2.0	
	baz=171								
SDCO	Great Sand Dun	33.13	330	eP		P	21 11 54.5	+0.3	
	comp=N,3.7nm,0.9s								
SDCO	Great Sand Dun	33.13	330	P		P	21 11 52.8	-1.4	
	baz=141,SNR=6.8								
S22A	4UR Ranch, Cre	33.80	329	P		P	21 11 59.0	-1.0	
	baz=139								
X16A	Lo Mia Camp, P	34.15	320	eP		P	21 12 04.7	+1.8	
	comp=N,1.8nm,0.6s								
OGNE	Ogallala	34.26	337	P		P	21 12 02.6	-1.0	
	baz=150								
MVCO	Mesa Verde	34.30	326	P		P	21 12 03.4	-0.8	
	baz=136								
WUAZ	Wupatki	34.81	321	eP		P	21 12 08.4	-0.2	
	comp=N,2.9nm,1.0s								
WUAZ	Wupatki	34.81	321	P		P	21 12 07.6	-1.0	
	baz=130								
ISCO	Idaho Springs	34.81	332	eP		P	21 12 08.5	-0.3	
	comp=N,2.6nm,0.9s								
ISCO	Idaho Springs	34.81	332	P		P	21 12 07.7	-1.0	
	baz=143								
ECSD	EROS Data Cent	35.10	346	P		P	21 12 09.0	-1.7	
	baz=160								
SADO	Sadowa	35.14	8	P		P	21 12 08.3	-2.8	
	comp=N,21nm,1.1s,baz=199,slow=10.0,SNR=5.0								
PV13	Radium Mtn., P	35.16	327	eP		P	21 12 11.8	+0.1	
	comp=N,0.8nm,0.6s								
PV03	Paradox Valley	35.24	327	eP		P	21 12 11.2	-1.1	
PV12	Saucer Basin,	35.27	327	eP		P	21 12 13.4	+0.8	
	comp=N,7.4nm,0.8s								
PV11	David Mesa, Pa	35.29	327	eP		P	21 12 12.6	-0.1	
	comp=N,6.0nm,0.7s								
PV16	Nyswonger Mesa	35.32	327	eP		P	21 12 13.8	+0.8	
	comp=N,4.6nm,0.8s								
PV17	East Wray Mesa	35.32	327	eP		P	21 12 12.3	-0.7	
	comp=N,6.7nm,0.7s								
G41A	Antigo	35.33	355	P		P	21 12 12.2	-0.6	
	baz=173								
PV10	Paradox Valley	35.44	327	eP		P	21 12 14.3	+0.3	
G39A	Holcombe	35.60	353	P		P	21 12 15.5	+0.4	
	baz=170								
Y12C	Blythe	35.79	316	eP		P	21 12 19.0	+2.2	
	comp=N,4.3nm,0.7s								
PDMCI	Parker Dam,Lak	35.84	317	P		P	21 12 17.0	-0.3	
	baz=126								
W13A	Hualapai Mount	36.15	318	eP		P	21 12 21.1	+1.0	
	comp=N,1.3nm,0.7s								
PKCU	Pink Cliffs	36.64	323	eP		P	21 12 26.5	+2.0	
	comp=N,12nm,1.0s								
KNB	Kanab	36.67	322	eP		P	21 12 27.1	+2.5	
	comp=N,5.4nm,1.0s								
SRU	San Rafael Swe	36.77	326	eP		P	21 12 26.0	+0.6	
	comp=N,5.8nm,0.7s								
P17A	Butcher Ranch,	37.14	327	eP		P	21 12 29.4	+0.8	
	comp=N,4.8nm,0.8s								
MPU	Maple Canyon	38.01	326	eP		P	21 12 36.6	+0.7	
	comp=N,2.6nm,0.7s								
PSUT	Pine Spring	38.28	323	eP		P	21 12 39.8	+1.6	
	comp=N,4.5nm,0.9s								
CIS	Catalina Islan	38.35	313	P		P	21 12 38.8	+0.1	
	baz=120								
TPNV	Topopah Spring	38.79	319	eP		P	21 12 45.5	+3.1	
	comp=N,5.5nm,1.1s								
TPNV	Topopah Spring	38.79	319	P		P	21 12 43.6	+1.2	
	baz=126								
DUG	Dugway, Tooele	38.79	326	eP		P	21 12 43.9	+1.5	
	comp=N,2.3nm,0.9s								
LRMC	Laurel Mtn Rad	38.91	316	P		P	21 12 44.2	+0.7	
	baz=123								
PDAR	Pinedale Array	38.98	331	P		P	21 12 43.5	-0.6	
	comp=N,1.3nm,0.9s,baz=120,slow=11,SNR=2.3								
PDAR				PcP		PcP	21 14 54.8	+0.6	
	comp=N,0.6nm,0.7s,baz=137,slow=6.3,SNR=4.3								
MPMC	Manual Prospec	39.10	317	P		P	21 12 46.0	+0.9	
	baz=124								
R11A	Troy Canyon, C	39.21	321	P		P	21 12 45.9	0.0	
	baz=128								
BGU	Big Grassy Mou	39.41	326	eP		P	21 12 48.7	+1.1	
	comp=N,3.4nm,1.0s								
ISA	Isabella, Lake	39.55	316	P		P	21 12 48.7	-0.1	
	baz=122								
CWC	Cottonwood Cre	39.70	317	P		P	21 12 50.0	-0.1	
	baz=123								
PKM	Mcpherson Peak	40.09	314	P		P	21 12 53.4	0.0	
	baz=120								
ELK	Elko	40.53	324	LR		LR	21 32 27.5		
	comp=N,70nm,19.8s,baz=138,slow=40								
ELK	Elko	40.53	324	eP		P	21 12 58.1	+1.1	
	comp=N,3.9nm,1.0s								
OMMB	Old Mammoth Mi	40.97	318	eP		P	21 13 04.6	+3.9	
	comp=N,2.3nm,0.8s								
NV01	Mina Array Sit	40.97	319	eP		P	21 13 02.4	+1.8	
NVAR	Mina Array Bea	40.97	319	P		P	21 13 02.3	+1.6	
	comp=N,5.6nm,0.8s,baz=130,slow=7.2,SNR=42								
NVAR				PcP		PcP	21 15 01.7	+1.1	
	comp=N,0.7nm,0.5s,baz=133,slow=4.0,SNR=5.2								
ULM	Lac du Bonnet	41.15	350	P		P	21 12 58.2	-3.4	
	comp=N,1.3nm,0.7s,baz=178,slow=9.1,SNR=3.0								
KVN	Kaiserville	41.20	320	eP		P	21 13 04.1	+1.6	
	comp=N,5.2nm,1.0s								
RYN	Ryan	41.23	319	eP		P	21 13 05.1	+2.5	
	comp=N,3.3nm,0.8s								
WAKR	Walker	41.75	319	eP		P	21 13 09.6	+2.6	
	comp=N,3.3nm,0.7s								
YERR	Yerington	41.89	319	eP		P	21 13 10.5	+2.4	
	comp=N,4.4nm,0.8s								
HLID	Hailey	41.98	328	eP		P	21 13 09.1	+0.3	
	comp=N,0.9nm,0.7s								
HLID	Hailey	41.98	328	P		P	21 13 08.8	0.0	
	baz=134								
BOZ	Bozeman (W)	42.10	332	P		P	21 13 09.5	-0.3	
	baz=139								
PNTR	Pine Nut	42.18	319	eP		P	21 13 13.0	+2.5	
	comp=N,4.9nm,0.8s								
WVOR	Wild Horse Val	43.57	324	eP		P	21 13 21.9	+0.3	
	comp=N,6.9nm,0.8s								
ORV	Oroville	43.66	319	eP		P	21 13 24.8	+2.5	
	comp=N,2.1nm,1.0s								
O03E	Paynes Creek	44.26	319	P		P	21 13 27.1	-0.1	
	baz=123								
BMO	Blue Mountains	44.38	327	eP		P	21 13 27.4	-0.7	
	comp=N,4.1nm,1.1s								
O02D	Mt. Diablo Mer	44.84	319	P		P	21 13 31.4	-0.3	
	baz=122								
M04C	Macdoel	45.11	321	P		P	21 13 33.7	-0.3	
	baz=124								
J05D	Fort Rock, OR	45.60	323	P		P	21 13 36.7	-1.2	
	baz=126								
L04D	Klamath Falls	45.64	321	P		P	21 13 37.4	-0.8	
	baz=124								
PINE	Pine Mountain	45.73	324	eP		P	21 13 39.5	+0.5	
	comp=N,4.4nm,0.8s								
J04D	Umpqua Nationa	46.10	323	P		P	21 13 41.3	-0.5	
	baz=125								
I05D	Terrebonne, OR	46.29	324	P		P	21 13 42.9	-0.3

RND	**Reindeer**	**69.49**	**335**	*e*P	**P**		**21 16 26.0**	**+0.3**
	comp=N,8.0nm,0.9s							
ESDC	**Sonseca Array**	**77.12**	**52**	P	**P**		**21 17 10.0**	**-1.1**
	comp=N,0.7nm,0.8s,baz=285,slow=4.4,SNR=2.9							
TORD	**Torodi Ar. Bea**	**84.93**	**78**	P	**P**		**21 17 52.7**	**-0.5**
	comp=N,0.6nm,1.0s,baz=296,slow=4.6,SNR=2.7							
SONM	**Songino Array**	**121.58**	**351**	PKP	**PKPdf**		**21 24 11.5**	**+0.2**
	comp=N,0.3nm,0.6s,baz=333,slow=1.6,SNR=3.3							
MKAR	**Makanchi Array**	**122.48**	**10**	PKP	**PKPdf**		**21 24 12.1**	**-0.8**
	comp=N,0.1nm,0.4s,baz=344,slow=3.7,SNR=2.4							
KSRS	**Korea Array**	**123.51**	**328**	PKP	**PKPdf**		**21 24 16.4**	**+1.4**
	comp=N,1.1nm,0.7s,baz=30,slow=2.3,SNR=3.4							
KSAR	**Wonju Array Be**	**123.54**	**328**	PKP	**PKPdf**		**21 24 16.4**	**+1.3**
KSH	**Kashi**	**127.85**	**18**	PKP	**PKPdf**		**21 24 25.3**	**+1.8**
STKA	**Stephens Creek**	**131.48**	**236**	PKP	**PKPdf**		**21 24 32.7**	**+2.3**
	comp=N,0.3nm,0.3s,baz=0.0,slow=2.0,SNR=2.4							
ASAR	**Alice Springs**	**140.17**	**245**	PKP	**PKPdf**		**21 24 49.2**	**+2.3**
	comp=N,0.4nm,0.8s,baz=104,slow=2.0,SNR=3.8							
WRA	**Warramunga Arr**	**140.48**	**251**	PKP	**PKPdf**		**21 24 48.9**	**+1.4**
	comp=N,2.2nm,1.2s,baz=89,slow=2.0,SNR=5.6							
CMAR	**Chiang Mai Arr**	**151.50**	**351**	PKP	**PKPdf**		**21 25 06.9**	**+0.8**
	comp=N,0.2nm,0.3s,baz=303,slow=1.7,SNR=4.7							
CMAR				PKPbc	**PKPbc**		**21 25 12.8**	**+0.5**
	comp=N,1.1nm,0.8s,baz=333,slow=3.1,SNR=9.7							

MEX 20 21:08:38.2±0.5, 16°.36N×98°.28W, h12km±1km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PNIG	**Pinotepa**	**0.15**	**76**	*i* P		Pg	21 08 41.1	-0.6
PNIG				*e*S		Sg	21 08 43.8	-0.3
VHO	**Vista Hermosa**	**1.64**	**64**	*e*P		Pn	21 09 03.6	-3.6
VHO				*e*S		Sn	21 09 23.5	-4.8
HUIG	**Huatulco**	**2.16**	**105**	*e*P		Pn	21 09 11.1	-3.1
HUIG				*i* S		Sn	21 09 37.0	-3.9

SJA 20 21:14:19.4±0.6, 31°.32S×69°.23W, h118km±5km, ML2.4, MW3.6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RTLS	**Leoncito**	**0.48**	**187**	*i* P		Pn	21 14 38.0	+0.6
RTLS				IAML			21 14 51.6	
	comp=Z,80nm,0.5s							
RTLS				*i* S		Sn	21 14 52.7	+1.7
RTLL	**Cerro Villicun**	**0.65**	**91**	*i* P		Pn	21 14 38.8	+0.6
RTLL				*i* S		Sn	21 14 53.1	+0.7
AMOG	**MOGNA**	**0.74**	**59**	*i* P		Pn	21 14 39.8	+0.8
ACCO	**Cerro Coronel**	**0.75**	**11**	*i* P		Pn	21 14 40.3	+0.9
ACCO				*i* S		Sn	21 14 56.4	+2.0
RTCV	**Cerro Valdivia**	**0.80**	**133**	*i* P		Pn	21 14 40.4	+1.0
RTCV				*i* S		Sn	21 14 55.3	+0.7
AUSP	**Uspallata**	**0.91**	**188**	*i* P		Pn	21 14 41.7	+0.9
AUSP				*i* S		Sn	21 14 58.5	+1.7
AROD	**Rodeo**	**1.17**	**350**	*i* P		Pn	21 14 45.0	+1.6
AROD				*i* S		Sn	21 15 03.1	+1.5

*ISCJB **20** 21:22:34.7±0.4, 53°.91N±0°.07×34°.94W±0°.10, h14km, mb4.0/19, Error ellipse: s-maj=10.6km s-min=8.0km az=13.2*
*IDC **20** 21:22:34.1±0.6, 53°.89N×34°.93W, h0km, mb3.8/14, mb1 3.9/15, mb1mx3.7/53, mbtmp3.8/15, ML3.7/1, Error ellipse: s-maj=19.6km s-min=16.2km az=1.0*
*NEIC **20** 21:22:35.7±0.3, 53°.93N×34°.96W, h10km, mb4.4/9, Error ellipse: s-maj=9.5km s-min=7.2km az=197.0*
ISC 20 21:22:36.0±0.5, 53°.92N±0°.10×35°.06W±0°.07, h14km, n41, σ1§52/47, mb4.0/19, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SFJD	**Kangerlussuaq**	**15.12**	**336**	Pn		**Pn**	**21 26 09.4**	**+0.6**
	0.3nm,0.3s,baz=297,slow=5.6,SNR=2.3							
ILULI	**Ilulissat**	**17.03**	**340**	*e*Pn		**Pn**	**21 26 31.1**	**-2.3**
	41nm,1.3s							
ESK	**Eskdalemuir**	**18.42**	**73**	*e*P		**Pn**	**21 26 50.0**	**-0.5**
	67nm,1.4s							
SCHQ	**Schefferville**	**18.45**	**286**	*e*P		**P**	**21 26 46.2**	**-4.7**
	15nm,1.3s							
MOQ	**Mont Orford**	**25.34**	**265**	*e*P		**P**	**21 28 01.8**	**-0.3**
ESDC	**Sonseca Array**	**25.36**	**111**	P		**P**	**21 28 01.9**	**-0.6**
	1.5nm,0.7s,baz=315,slow=8.3,SNR=8.2							
SFS	**San Fernando**	**26.53**	**119**	*e*P		**P**	**21 28 12.1**	**-0.8**
	382nm,1.4s							
RES	**Resolute Bay**	**31.09**	**334**	P		**P**	**21 28 55.5**	**+2.4**
	1.3nm,1.0s,baz=98,slow=9.9,SNR=4.3							
RES	**Resolute Bay**	**31.09**	**334**	*e*P		**P**	**21 28 55.5**	**+2.4**
	1.9nm,1.0s							
FIA0	**FINESS Array S**	**32.40**	**52**	*e*P		**P**	**21 29 03.7**	**-1.1**
FINES	**FINESS Array B**	**32.40**	**52**	P		**P**	**21 29 03.7**	**-1.1**
	1.0nm,0.8s,baz=288,slow=5.3,SNR=2.4							
AKASG	**Malin Array Be**	**38.23**	**68**	P		**P**	**21 29 55.1**	**0.0**
	0.5nm,0.6s,baz=310,slow=8.2,SNR=4.2							
AKBB	**Malin Array Si**	**38.23**	**68**	*e*P		**P**	**21 29 55.1**	**0.0**
	6.3nm,1.4s							
YKA	**Yellowknife Ar**	**40.18**	**315**	P		**P**	**21 30 13.8**	**+2.6**
	0.3nm,0.8s,baz=64,slow=8.5,SNR=3.9							
YKA				PcP		**PcP**	**21 32 14.4**	**-0.6**
	0.4nm,0.7s,baz=65,slow=3.4,SNR=6.3							
YKB5	**Yellowknife Ar**	**40.18**	**315**	*e*P		**P**	**21 30 13.8**	**+2.6**
YKB5				*e*PcP		**PcP**	**21 32 14.4**	**-0.6**
SJG	**San Juan**	**43.04**	**226**	P		**P**	**21 30 36.5**	**+1.4**
	7.5nm,0.8s,baz=45,slow=9.3,SNR=2.1							
BR101	**Keskin Array S**	**47.24**	**78**	*e*P		**P**	**21 31 09.9**	**+1.4**
BR131	**Keskin Array S**	**47.24**	**78**	*e*P		**P**	**21 31 10.8**	**+2.3**
BRTR	**Keskin Array B**	**47.24**	**78**	P		**P**	**21 31 09.9**	**+1.4**
	1.3nm,0.8s,baz=323,slow=6.0,SNR=8.2							
TOA1	**Torodi Ar. Sit**	**49.91**	**130**	*e*P		**P**	**21 31 29.1**	**0.0**
TOA0	**Torodi Ar. Sit**	**49.92**	**130**	*e*P		**P**	**21 31 29.5**	**+0.3**
TORD	**Torodi Ar. Bea**	**49.92**	**130**	P		**P**	**21 31 29.1**	**0.0**
	2.4nm,1.0s,baz=325,slow=9.0,SNR=10							
HWUT	**Hardware Ranch**	**50.44**	**289**	*e*P		**P**	**21 31 33.4**	**+0.4**
	3.2nm,1.0s							
ILAR	**Eielson Array**	**50.63**	**329**	P		**P**	**21 31 34.3**	**+0.3**
	0.3nm,0.8s,baz=63,slow=6.2,SNR=3.5							
ILAR				PcP		**PcP**	**21 32 49.8**	**-1.4**
	0.7nm,0.8s,baz=18,slow=3.2,SNR=5.4							
ILB	**Eielson Array**	**50.63**	**329**	*e*P		**P**	**21 31 34.3**	**+0.3**
ILB				*e*PcP		**PcP**	**21 32 49.8**	**-1.4**
LTY	**Liberty**	**51.60**	**300**	*e*P		**P**	**21 31 38.0**	**-3.6**
	5.7nm,0.6s							
TIXI	**Tiksi**	**54.21**	**6**	*e*P		**P**	**21 32 01.0**	**+0.6**
	4.3nm,1.1s							
LTX	**Lajitas**	**54.45**	**272**	*e*P		**P**	**21 32 04.5**	**+1.7**
LTX				*e*PcP		**PcP**	**21 33 06.3**	**0.0**
TXAR	**Lajitas Array**	**54.45**	**272**	P		**P**	**21 32 04.5**	**+1.7**
	0.1nm,0.4s,baz=40,slow=7.4,SNR=2.2							
TXAR				PcP		**PcP**	**21 33 06.3**	**0.0**
	0.6nm,0.9s,baz=54,slow=4.6,SNR=3.7							
ROSC	**El Rosal**	**58.40**	**228**	P		**P**	**21 32 31.4**	**0.0**
	4.0nm,0.5s,baz=149,slow=22,SNR=2.3							
MK32	**Makanchi Array**	**66.47**	**42**	*e*P		**P**	**21 33 24.6**	**0.0**
MKAR	**Makanchi Array**	**66.47**	**42**	P		**P**	**21 33 24.6**	**0.0**
	1.0nm,0.9s,baz=335,slow=5.4,SNR=7.3							
MK01	**Makanchi Array**	**66.50**	**42**	*e*P		**P**	**21 33 25.4**	**+0.6**
SONA0	**Songino Array**	**73.49**	**26**	*e*P		**P**	**21 34 08.3**	**+0.5**
SONM	**Songino Array**	**73.49**	**26**	P		**P**	**21 34 08.3**	**+0.5**
	0.6nm,0.9s,baz=29,slow=3.4,SNR=4.8							
LPAZ	**La Paz**	**75.45**	**213**	P		**P**	**21 34 20.3**	**+0.3**
	0.7nm,0.6s,baz=9.6,slow=7.3,SNR=2.0							
MAW	**Mawson**	**140.90**	**143**	PKP		**PKPdf**	**21 42 03.4**	**-0.4**
	2.5nm,0.4s,baz=214,slow=12,SNR=1.3							
WR1	**Warramunga Arr**	**145.12**	**18**	*e*PKPbc		**PKPdf**	**21 42 11.6**	**-1.2**
WRA	**Warramunga Arr**	**145.12**	**18**	PKPbc		**PKPdf**	**21 42 11.6**	**-1.2**
	0.8nm,0.9s,baz=342,slow=3.1,SNR=3.3							
AS31	**Alice Springs**	**148.66**	**20**	*e*PKPbc		**PKiKP**	**21 42 22.1**	**-1.9**
ASAR	**Alice Springs**	**148.66**	**20**	PKPbc		**PKiKP**	**21 42 22.1**	**-1.9**
	1.7nm,0.8s,baz=352,slow=2.4,SNR=14							

IDC 20 21:23:44.7±2.8, 54°.08N×34°.39W, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.3/51, mbtmp3.5/5, Error ellipse: s-maj=68.6km s-min=41.0km az=68.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ESDC	**Sonseca Array**	**25.06**	**113**	P		P	21 29 11.9	+1.3
	0.5nm,0.6s,baz=315,slow=9.0,SNR=2.7							
AKASG	**Malin Array Be**	**37.81**	**68**	P		P	21 31 00.5	-1.9
	0.1nm,0.3s,baz=309,slow=6.8,SNR=1.7							
BRTR	**Keskin Array B**	**46.82**	**79**	P		P	21 32 15.7	-0.4
	0.7nm,0.9s,baz=313,slow=5.1,SNR=1.3							
TORD	**Torodi Ar. Bea**	**49.73**	**131**	P		P	21 32 38.1	-0.5
	1.3nm,1.0s,baz=339,slow=5.4,SNR=4.1							
MKAR	**Makanchi Array**	**66.09**	**42**	P		P	21 34 34.8	+1.6
	0.5nm,0.8s,baz=308,slow=7.1,SNR=4.3							
ASAR	**Alice Springs**	**148.38**	**21**	PKPbc		PKPbc	21 43 31.3	-1.5
	0.6nm,0.7s,baz=346,slow=2.2,SNR=4.1							

*IDC **20** 21:24:03.9±1.0, 53°.97N×35°.08W, h0km, mb3.5/10, mb1 3.8/10, mb1mx3.6/51, mbtmp3.5/10, Error ellipse: s-maj=36.1km s-min=18.9km az=13.0*
*ISCJB **20** 21:24:04.3±0.8, 53°.9N±0°.2×35°.1W±0°.1, h14km, mb3.5/10, Error ellipse: s-maj=29.3km s-min=14.1km az=12.3*
ISC 20 21:24:06.1±0.8, 53°.9N±0°.2×35°.1W±0°.1, h14km, n12, σ0§97/12, mb3.6/10, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ESDC	**Sonseca Array**	**25.38**	**111**	P		**P**	**21 29 33.7**	**+0.9**
	1.8nm,0.8s,baz=314,slow=7.9,SNR=5.4							
GERES	**GERESS Array B**	**30.36**	**79**	P		**P**	**21 30 17.4**	**+0.2**
	0.2nm,0.4s,baz=317,slow=7.1,SNR=2.9							
AKASG	**Malin Array Be**	**38.23**	**68**	P		**P**	**21 31 25.1**	**-0.1**
	0.1nm,0.4s,baz=307,slow=8.0,SNR=3.8							
YKA	**Yellowknife Ar**	**40.16**	**315**	P		**P**	**21 31 42.3**	**+1.1**
	0.1nm,0.6s,baz=64,slow=9.3,SNR=2.6							
BRTR	**Keskin Array B**	**47.24**	**78**	P		**P**	**21 32 39.6**	**+1.0**
	0.9nm,0.8s,baz=303,slow=6.2,SNR=5.5							
PDAR	**Pinedale Array**	**48.54**	**289**	P		**P**	**21 32 48.7**	**0.0**
	1.1nm,0.8s,baz=64,slow=8.2,SNR=3.5							
TORD	**Torodi Ar. Bea**	**49.94**	**130**	P		**P**	**21 32 58.5**	**-0.9**
	1.3nm,1.0s,baz=336,slow=9.5,SNR=4.4							
TXAR	**Lajitas Array**	**54.44**	**272**	P		**P**	**21 33 32.5**	**-0.4**
	0.3nm,0.8s,baz=70,slow=7.9,SNR=2.6							
MKAR	**Makanchi Array**	**66.46**	**42**	P		**P**	**21 34 54.2**	**-0.5**
	0.9nm,0.9s,baz=331,slow=7.0,SNR=4.9							
SONM	**Songino Array**	**73.47**	**26**	P		**P**	**21 35 37.1**	**-0.8**
	0.4nm,0.8s,baz=340,slow=8.1,SNR=3.5							
QSPA	**South Pole Qui**	**143.83**	**180**	PKP		**PKPdf**	**21 43 40.5**	**+1.1**
	0.8nm,0.3s,baz=182,slow=0.6,SNR=2.3							
ASAR	**Alice Springs**	**148.65**	**20**	PKPbc		**PKPbc**	**21 43 51.1**	**-1.4**
	1.4nm,0.8s,baz=332,slow=2.7,SNR=5.5							

*IDC **20** 21:25:03.7±0.4, 53°.96N×35°.19W, h0km, mb4.3/38, mb1 4.4/42, mb1mx4.4/55, mbtmp4.3/42, ML3.5/4, MS5.0/1, Ms1 4.9/1, ms1mx3.6/38, Error ellipse: s-maj=12.2km s-min=8.5km az=3.0*
*ISCJB **20** 21:25:04.5±0.1, 53°.99N±0°.03×35°.15W±0°.02, h10km, mb4.7/222, Error ellipse: s-maj=4.6km s-min=1.9km az=173.6*
*BJI **20** 21:25:04.1, 54°.19N×35°.34W, h5km, mb4.8/40, mB5.3/25, Ms5.0/15, Ms7 4.8/15*
*NEIC **20** 21:25:06.2±0.1, 53°.97N×35°.06W, h10km, mb4.7/185, Error ellipse: s-maj=5.1km s-min=2.5km az=177.0*
ISC 20 21:25:05.2±2.2, 53°.93N±0°.06×35°.19W±0°.05, h6km±13km, n661, σ1§18/667, mb4.7/232, MS4.8/6, 11C-10D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NRS	**Narsarsuaq**	**9.09**	**327**	*e*Pn		**Pn**	**21 27 18.5**	**+1.8**
SFJD	**Kangerlussuaq**	**15.09**	**336**	Pn		**Pn**	**21 28 36.6**	**-2.0**
	0.2nm,0.3s,baz=142,slow=12,SNR=2.1							
SFJD	**Kangerlussuaq**	**15.09**	**336**	*e*Pn		**Pn**	**21 28 36.7**	**-1.9**
ILULI	**Ilulissat**	**17.01**	**340**	*e*Pn		**Pn**	**21 29 03.0**	**-0.3**
	36nm,1.1s							
SCO	**Scoresbysund**	**17.65**	**15**	*e*Pn		**Pn**	**21 29 11.0**	**-0.3**
	6.6nm,0.8s							
SCHQ	**Schefferville**	**18.38**	**286**	P		**Pn**	**21 29 19.3**	**-1.1**
	0.7nm,0.3s,baz=77,slow=8.1,SNR=8.8							
SCHQ	**Schefferville**	**18.38**	**286**	*e*P		**Pn**	**21 29 19.7**	**-0.7**
	11nm,0.9s							
ESK	**Eskdalemuir**	**18.49**	**73**	*e*P		**P**	**21 29 21.2**	**-0.4**
	16nm,1.0s							
EKA	**Eskdalemuir Ar**	**18.51**	**73**	P		**P**	**21 29 21.8**	**-0.1**
	baz=280,slow=9.5,SNR=8.9							
SUMG	**Summit**	**18.77**	**357**	*e*P		**Pn**	**21 29 26.6**	**+1.1**
	26nm,1.0s							
FRB	**Frobisher Bay**	**19.62**	**313**	P		**P**	**21 29 33.0**	**-1.0**
	0.0nm,0.3s,baz=82,slow=17,SNR=4.4							
PBRG	**Braganca**	**22.44**	**111**	*e*P		**P**	**21 30 06.3**	**+1.6**
	94nm,1.9s							
PVIS	**Viseu**	**22.56**	**115**	*e*P		**P**	**21 30 06.5**	**+0.5**
	120nm,1.8s							
PCAS	**Castello, Conde**	**22.72**	**117**	*e*P		**P**	**21 30 08.4**	**+0.8**
MVO	**Moncorvo**	**22.72**	**113**	*e*P		P	21 30 15.6	+7.9
PTOM	**Tomar**	**23.08**	**117**	*e*P		**P**	**21 30 12.6**	**+1.3**
	106nm,1.8s							
PCBR	**Castelo Branco**	**23.41**	**116**	*e*P		**P**	**21 30 16.0**	**+1.3**
	112nm,1.8s							
PESTR	**Estremoz**	**24.06**	**118**	*e*P		**P**	**21 30 22.0**	**+0.9**
DOU	**Dourbes**	**24.55**	**83**	⇑P		**P**	**21 30 29.7**	**+4.3**
MEM	**Membach**	**25.17**	**81**	⇓P		**P**	**21 30 30.8**	**-0.2**
PAB	**San Pablo**	**25.31**	**112**	*e*P		**P**	**21 30 33.3**	**+0.8**
	20nm,0.9s							
ESDC	**Sonseca Array**	**25.43**	**111**	P		**P**	**21 30 33.2**	**-0.4**
	1.8nm,0.8s,baz=315,slow=8.8,SNR=40							
ESLA	**Sonseca Array**	**25.43**	**111**	*e*P		**P**	**21 30 32.4**	**-1.1**
	17nm,0.8s							
ES19	**SONSECA Array**	**25.45**	**111**	*e*P		**P**	**21 30 34.0**	**+0.2**
NB2	**NORSAR Subarra**	**25.46**	**55**	P		**P**	**21 30 29.0**	**-4.6**
	comp=Z,76nm,2.0s,baz=274,slow=10							
NB200	**NORSAR Array S**	**25.46**	**55**	*e*P		**P**	**21 30 33.0**	**-0.5**
NOA	**NORSAR Array B**	**25.46**	**55**	P		**P**	**21 30 33.0**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=273,slow=8.9,SNR=5.2							
WLF	**Walferdange**	**25.65**	**89**	⇑P		**P**	**21 30 35.0**	**-0.3**
HFS	**Hagfors**	**25.78**	**57**	P		**P**	**21 30 44.2**	**-1.3**
	comp=Z,11nm,1.1s,baz=309,slow=9.1,SNR=3.3							
VLDQ	**Val d'Or**	**26.90**	**275**	*e*P		**P**	**21 30 51.1**	**+4.4**
	comp=Z,12nm,0.9s							
CLL	**Collm**	**28.93**	**75**	*i* P		**P**	**21 31 04.7**	**-0.1**
	comp=Z,6.0nm,0.8s							
F52A	**Sundridge**	**29.18**	**272**	P		**P**	**21 31 03.1**	**-3.9**
	baz=58							
DAVOX	**Davos/Dischmat**	**29.21**	**86**	P		**P**	**21 31 08.1**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=324,slow=16,SNR=3.5							
RETA	**Reute**	**29.37**	**84**	*e*P		**P**	**21 31 09.1**	**+0.2**
	comp=Z,2.4nm,0.7s							
FETA	**Feichten**	**29.59**	**84**	*e*pP		**P**	**21 31 11.2**	**+0.3**
	comp=Z,18nm,2.2s							
SADO	**Sadowa**	**29.63**	**270**	P		**P**	**21 31 11.5**	**+0.5**
	comp=Z,9.6nm,0.8s,baz=1.4,slow=5.4,SNR=2.3							
SADO	**Sadowa**	**29.63**	**270**	*e*P		**P**	**21 31 11.5**	**+0.5**
	comp=Z,19nm,0.9s							
BRG	**Berggiesshubel**	**29.65**	**76**	*e*P		**P**	**21 31 11.6**	**+0.4**
	comp=Z,15nm,1.6s							
J55A	**Hilton**	**29.71**	**267**	P		**P**	**21 31 09.6**	**-2.1**
	baz=54							
SQTA	**Sankt Quirin**	**29.77**	**84**	*i* pP		**P**	**21 31 13.3**	**+0.8**
	comp=Z,3.1nm,0.6s							
KHC	**Kasperske Hory**	**30.22**	**79**	*e*P		**P**	**21 31 17.4**	**+1.1**
KHC				*ex*		x	21 31 24.1	
MDT	**Midelt**	**30.27**	**122**	P		**P**	**21 31 16.1**	**-0.8**
	comp=Z,3.6nm,0.8s,baz=338,slow=7.4,SNR=4.4							
GERES	**GERESS Array B**	**30.43**	**79**	P		**P**	**21 31 16.9**	**-1.3**
	comp=Z,1.7nm,0.8s,baz=311,slow=10,SNR=9.5							
GERES				PcP		**PcP**	**21 34 16.2**	**-1.3**
	comp=Z,1.2nm,1.0s,baz=318,slow=1.3,SNR=2.7							
GEA0	**GERESS Array S**	**30.43**	**79**	*e*P		**P**	**21 31 18.8**	**+0.5**
UPC	**Upice**	**31.00**	**75**	*e*P		**P**	**21 31 23.7**	**+0.6**
KSP	**Ksiaz**	**31.01**	**74**	*e*P		**P**	**21 31 23.4**	**+0.3**
ARA0	**ARCESS Array S**	**31.06**	**36**	*e*P		**P**	**21 31 22.4**	**-1.0**
ARCES	**ARCESS Array B**	**31.06**	**36**	P		**P**	**21 31 22.4**	**-1.1**
	comp=Z,5.5nm,0.8s,baz=243,slow=11,SNR=7.4							
RES	**Resolute Bay**	**31.06**	**334**	P		**P**	**21 31 22.8**	**-0.6**
	comp=Z,3.6nm,0.9s,baz=98,slow=10,SNR=11							
RES	**Resolute Bay**	**31.06**	**334**	*e*P		**P**	**21 31 23.6**	**+0.2**
	comp=Z,5.5nm,0.9s							
DPC	**Dobruska-Polom**	**31.24**	**75**	*e*P		**P**	**21 31 26.2**	**+0.9**
MOA	**Molln**	**31.24**	**81**	pP		**P**	**21 31 25.9**	**+0.6**
	comp=Z,1.3nm,0.7s							
TREC	**Trest**	**31.25**	**77**	*e*P		**P**	**21 31 25.3**	**-0.1**
D46A	**Sault St. Mari**	**31.38**	**277**	P		**P**	**21 31 26.0**	**-0.5**
	baz=59							
MYKA	**Terra Mystica**	**31.50**	**83**	*e*pP		**P**	**21 31 28.3**	**+0.6**
	comp=Z,11nm,1.4s							
FCC	**Fort Churchill**	**32.07**	**303**	*e*P		**P**	**21 31 33.0**	**+0.6**
	comp=Z,12nm,0.9s							
CONA	**Conrad Observa**	**32.13**	**80**	pP		**P**	**21 31 33.9**	**+0.7**
	comp=Z,0.5nm,0.3s							
JAVS	**Javornik**	**32.14**	**84**	*i* P		**P**	**21 31 34.6**	**+1.3**
JAVS				*i*			21 31 39.5	
MORC	**Moravsky Berou**	**32.21**	**75**	*e*P		**P**	**21 31 34.5**	**+0.7**
MORC	**Moravsky Berou**	**32.21**	**75**	⇓*i*P		**P**	**21 31 33.8**	**0.0**
SOKA	**Soboth**	**32.29**	**82**	pP		**P**	**21 31 34.9**	**+0.3**
	comp=Z,2.1nm,0.6s							
PERS	**Pernice**	**32.37**	**82**	*i* P		**P**	**21 31 35.7**	**+0.5**
PERS				*i*			21 31 40.2	
FIA0	**FINESS Array S**	**32.46**	**52**	*e*P		**P**	**21 31 35.0**	**-0.7**
FINES	**FINESS Array B**	**32.46**	**52**	P		**P**	**21 31 35.0**	**-0.7**
	comp=Z,5.8nm,0.8s,baz=316,slow=8.0,SNR=9.3							
O55A	**Ligonier**	**32.47**	**263**	P		**P**	**21 31 36.6**	**+0.4**
	baz=50							
VISS	**Visnje**	**32.65**	**84**	*e*P		**P**	**21 31 35.8**	**-1.9**
VISS				*i*			21 31 38.8	
SOP	**Sopron**	**32.66**	**79**	*e*P		**P**	**21 31 39.0**	**+1.3**
SOP				*e*PP		**PP**	**21 32 51.0**	**-0.3**
BEL	**Belsk**	**33.10**	**70**	*e*P		**P**	**21 31 43.3**	**+1.8**
O54A	**Avella**	**33.12**	**264**	P		**P**	**21 31 41.5**	**-0.3**
	baz=50							
R58B	**Mineral**	**33.12**	**259**	P		**P**	**21 31 43.0**	**+1.2**
	baz=47							
OJC	**Ojcow**	**33.28**	**73**	*e*P		**P**	**21 31 43.7**	**+0.5**
OJC	**Ojcow**	**33.28**	**73**	*e*P		**P**	**21 31 43.3**	**+0.2**
	comp=Z,6.9nm,0.9s							
PABE	**Paberze**	**33.31**	**63**	*e*P		**P**	**21 31 44.4**	**+1.1**
E43A	**Lone Tree Farm**	**33.38**	**279**	P		**P**	**21 31 44.4**	**+0.4**
	baz=58							
SUW	**Suwalki**	**33.49**	**66**	*e*P		**P**	**21 31 45.5**	**+0.7**
SUW	**Suwalki**	**33.49**	**66**	*e*P		**P**	**21 31 45.5**	**+0.7**
	comp=Z,37nm,1.1s							
VYHS	**Vyhne**	**33.57**	**77**	*e*P		**P**	**21 31 46.2**	**+0.5**
LANS	**Liptovska Anna**	**33.61**	**75**	*e*P		**P**	**21 31 47.6**	**+1.6**
VSU	**Vasula**	**33.66**	**57**	*e*P		**P**	**21 31 45.5**	**-0.8**
K48A	**Perry**	**33.71**	**271**	P		**P**	**21 31 48.4**	**+1.5**
	baz=53							
Q55A	**Buckhannon**	**33.71**	**262**	P		**P**	**21 31 47.4**	**+0.4**
	baz=49							
F43A	**Flat Rock, Esc**	**33.78**	**278**	P		**P**	**21 31 46.6**	**-0.9**
	baz=57							
N51A	**Ashland**	**33.83**	**267**	P		**P**	**21 31 47.6**	**-0.3**
	baz=51							
E42A	**Champion**	**33.89**	**279**	P		**P**	**21 31 47.2**	**-1.3**
	baz=57							
L49A	**Milan**	**33.92**	**270**	P		**P**	**21 31 50.0**	**+1.2**
	baz=52							
M50A	**Fremont**	**33.92**	**268**	P		**P**	**21 31 49.4**	**+0.6**
	baz=52							
D41A	**Chassel**	**33.93**	**281**	P		**P**	**21 31 50.1**	**+1.3**
	baz=58							
NIE	**Niedzica**	**33.95**	**74**	*e*P		**P**	**21 31 47.5**	**-1.5**
O52A	**Adamsville**	**34.02**	**265**	P		**P**	**21 31 48.7**	**-1.0**
	baz=50							
P53A	**Whipple**	**34.16**	**264**	P		**P**	**21 31 51.9**	**+1.0**
	baz=49							
K47A	**Vermontville**	**34.31**	**272**	P		**P**	**21 31 52.6**	**+0.5**
	baz=53							
L48A	**N Adams**	**34.41**	**270**	P		**P**	**21 31 51.6**

G38A	Ridgeland baz=55	36.88	280	P		P	21 32 15.1	+0.9
N45A	Kentland baz=51	36.91	271	P		P	21 32 15.6	+1.1
U53A	Fall Branch baz=46	36.95	261	P		P	21 32 16.9	+2.0
SFIN	Lafayette baz=50	36.96	270	P		P	21 32 16.4	+1.5
F37A	Hinrichs Farm, baz=56	37.02	281	P		P	21 32 15.9	+0.5
P47A	Martinsville baz=50	37.04	268	P		P	21 32 15.5	-0.1
Q48A	North Vernon baz=49	37.08	267	P		P	21 32 16.2	+0.2
S50A	Richmond baz=48	37.12	264	P		P	21 32 17.0	+0.6
JFWS	Jewell Farm baz=53	37.26	276	P		P	21 32 18.4	+1.0
J40A	Soldiers Grove baz=54	37.26	277	P		P	21 32 18.7	+1.3
N44A	Piper City baz=51	37.31	272	P		P	21 32 18.0	+0.1
T51A	Gray baz=47	37.34	263	P		P	21 32 18.5	+0.3
U52A	Thorn Hill baz=46	37.39	262	P		P	21 32 18.3	-0.3
TZTN	Tazewell comp=Z,12nm,1.0s	37.39	262	eP		P	21 32 19.6	+0.9
TZTN	Tazewell baz=46	37.39	262	P		P	21 32 19.0	+0.3
SPMN	Marine on St. baz=55	37.40	281	P		P	21 32 17.9	-0.8
H38A	Maiden Rock baz=55	37.41	280	P		P	21 32 19.0	+0.2
I39A	Houston comp=Z,20nm,0.8s	37.45	278	eP		P	21 32 19.7	+0.6
I39A	Houston baz=54	37.45	278	P		P	21 32 18.3	-0.7
L42A	Oliver, Polo baz=52	37.47	274	P		P	21 32 17.6	-1.6
AGMN	Agassiz Nation baz=58	37.47	287	P		P	21 32 20.5	+1.4
K41A	Shullsburg baz=53	37.48	276	P		P	21 32 18.3	-1.0
Q47A	Bedord North L baz=49	37.49	268	P		P	21 32 20.3	+0.9
P46A	Rosedale baz=50	37.51	269	P		P	21 32 20.7	+1.2
GZR	Gura Zlata	37.51	79	⇑i	P	P	21 32 19.9	+0.3
V53A	Saluda baz=46	37.56	261	P		P	21 32 19.5	-0.6
S49A	Springfield baz=48	37.57	265	P		P	21 32 21.7	+1.6
HERR	Herculane	37.59	80	⇑i	P	P	21 32 20.7	+0.5
FFC	Flin Flon comp=Z,7.5nm,0.9s	37.62	299	eP		P	21 32 21.5	+1.1
BUR08	Bucovina Ar. S	37.66	74	eP		P	21 32 22.2	+1.3
BUR04	Bucovina Ar. S	37.68	74	eP		P	21 32 22.3	+1.3
BURAR	Bucovina Array	37.68	74	⇓i	P	P	21 32 21.8	+0.7
U51A	La Follette baz=46	37.78	263	P		P	21 32 22.2	+0.3
T50A	Nancy baz=47	37.82	264	P		P	21 32 22.6	+0.3
J39A	Decorah baz=53	37.86	277	P		P	21 32 23.5	+0.9
NHSC	New Hope baz=43	37.87	255	P		P	21 32 24.2	+1.6
WCI	Wyandotte Cave comp=Z,11nm,0.8s	37.87	267	eP		P	21 32 24.4	+1.7
WCI	Wyandotte Cave baz=48	37.87	267	P		P	21 32 22.6	-0.1
P45A	Graceland, Par baz=50	37.88	270	P		P	21 32 21.9	-0.8
V52A	Sevierville baz=46	37.90	262	P		P	21 32 22.7	-0.3
K40A	Colesburg baz=53	37.91	276	P		P	21 32 23.3	+0.3
R47A	Wooly Knot Far baz=48	37.97	267	P		P	21 32 24.7	+1.2
S48A	Wiedeman Farm, baz=48	38.11	266	P		P	21 32 25.9	+1.2
W53A	Cullowhee baz=45	38.12	260	P		P	21 32 26.2	+1.2
T49A	Edmonton comp=Z,6.6nm,0.8s	38.17	265	eP		P	21 32 25.0	-0.2
T49A	Edmonton baz=47	38.17	265	P		P	21 32 27.2	+1.9
U50A	Jamestown baz=47	38.24	263	P		P	21 32 27.7	+1.9
PUNG	Punghina	38.24	80	⇓i	P	P	21 32 25.4	-0.3
AK11	Malin Array Si	38.28	68	eP		P	21 32 25.2	-0.8
KIEV	Kiev comp=Z,9.4nm,0.8s	38.30	68	eP		P	21 32 25.0	-1.1
KIEV	Kiev	38.30	68	⇓i	P	P	21 32 25.4	-0.7
AKASG	Malin Array Be comp=Z,5.0nm,0.7s,baz=304,slow=8.2,SNR=23	38.30	68	P		P	21 32 24.9	-1.2
AKASG				PcP		PcP	21 34 38.5	-1.4
	comp=Z,1.7nm,0.7s,baz=287,slow=3.5,SNR=4.5							
AKBB	Malin Array Si comp=Z,10.0nm,0.8s	38.30	68	eP		P	21 32 25.6	-0.6
AKBB				eP	cP	PcP	21 34 38.5	-1.4
L40A	Anamosa baz=52	38.35	275	P		P	21 32 27.3	+0.7
K39A	Oelwein baz=53	38.35	277	P		P	21 32 27.6	+0.9
M41A	Milan baz=51	38.37	274	P		P	21 32 28.5	+1.7
V51A	Loudon baz=46	38.37	262	P		P	21 32 27.6	+0.7
P44A	Sand Creek, Wi baz=50	38.44	270	P		P	21 32 27.3	-0.2
Q45A	Warren Harvey, baz=49	38.54	269	P		P	21 32 27.4	-0.8
BIZ	Bicaz	38.56	75	⇓i	P	P	21 32 29.3	+0.9
ARR	Arges	38.60	78	⇑i	P	P	21 32 29.0	+0.2
R46A	Gibon Southern baz=48	38.60	268	P		P	21 32 29.4	+0.5
W52A	Murphy baz=45	38.62	261	P		P	21 32 29.0	0.0
S47A	Hartford baz=48	38.64	267	P		P	21 32 29.0	-0.1
X53A	Estanollee baz=45	38.67	260	P		P	21 32 28.8	-0.6
T48A	Bowling Green baz=47	38.68	266	P		P	21 32 30.4	+0.9
U49A	Red Boiling Sp baz=47	38.72	264	P		P	21 32 30.8	+0.9
Y54A	Tignall baz=44	38.77	258	P		P	21 32 31.4	+1.1
L39A	Vinton baz=52	38.77	276	P		P	21 32 29.2	-1.0
VOIR		38.80	77	⇓i	P	P	21 32 30.6	+0.1
P43A	Skaggs, Pawnee baz=50	38.86	271	P		P	21 32 31.1	+0.1
V50A	Pikevile baz=46	38.90	263	P		P	21 32 32.7	+1.3
X52A	Dahlonega baz=45	38.94	260	P		P	21 32 33.1	+1.3
R45A	Skylar, Fairfi baz=48	39.01	269	P		P	21 32 31.1	-1.1
Q44A	Meyer Farm, Va comp=Z,18nm,0.8s	39.04	270	eP		P	21 32 32.5	0.0
Q44A	Meyer Farm, Va baz=49	39.04	270	P		P	21 32 33.3	+0.8
W51A	Cleveland baz=45	39.06	262	P		P	21 32 33.3	+0.7
S46A	Don Dixon Farm baz=48	39.07	267	P		P	21 32 33.6	+0.9
U48A	Cassie Pea, Po baz=47	39.17	265	P		P	21 32 33.2	-0.4
M39A	Webster baz=51	39.27	275	P		P	21 32 34.7	+0.3
VLAD	Vladila	39.27	80	⇓i	P	P	21 32 34.5	+0.2
MLR	Muntele Rosu	39.29	77	⇑i	P	P	21 32 34.9	+0.3
Y53A	Monroe baz=44	39.29	259	P		P	21 32 34.7	+0.1
Z54A	Sparta baz=44	39.31	258	P		P	21 32 35.6	+0.8
V49A	McMinnville baz=46	39.31	264	P		P	21 32 34.7	0.0
W50A	Signal Mountai baz=46	39.35	262	P		P	21 32 36.8	+1.6
O41A	Passleys Farm, baz=50	39.36	273	P		P	21 32 35.2	+0.1
P42A	Winchester comp=Z,20nm,1.0s	39.38	272	eP		P	21 32 35.8	+0.4
P42A	Winchester baz=50	39.38	272	P		P	21 32 35.1	-0.2
VTS	Vitosha	39.41	82	⇓i	P	P	21 32 35.5	-0.2
Q43A	New Douglas baz=49	39.42	270	P		P	21 32 35.1	-0.5
PLOR	Plostina	39.48	76	⇑i	P	P	21 32 36.8	+0.6
R44A	Waltonville baz=48	39.51	269	P		P	21 32 37.9	+1.5
VRI	Vrincioaia	39.52	76	⇑i	P	P	21 32 36.8	+0.4
X51A	Calhoun baz=45	39.53	261	P		P	21 32 38.3	+1.7
GOGA	Godfrey baz=44	39.54	259	P		P	21 32 37.2	+0.5
Y52A	Lilburn baz=44	39.56	260	P		P	21 32 37.3	+0.4
T46A	Princeton baz=47	39.61	267	P		P	21 32 38.8	+1.5
U47A	Clarksville baz=47	39.66	266	P		P	21 32 39.2	+1.6
P41A	Barry, Barry baz=50	39.75	272	P		P	21 32 38.5	+0.1
357A	Townsend baz=42	39.85	255	P		P	21 32 41.2	+1.9
V48A	Smith Brothers comp=Z,10.0nm,1.0s	39.87	264	eP		P	21 32 40.5	+1.1
V48A	Smith Brothers baz=46	39.87	264	P		P	21 32 39.3	-0.1
Q42A	Golden Eagle baz=49	39.93	271	P		P	21 32 42.0	+2.1
SIUC	Southern Illin comp=Z,33nm,1.0s	39.94	269	eP		P	21 32 41.1	+1.1
W49A	Belvidere baz=46	39.97	263	P		P	21 32 40.9	+0.6
OBN	Obninsk comp=Z,21nm,1.1s	39.97	58	eP		P	21 32 39.5	-0.5
S44A	Carbondale baz=48	39.98	269	P		P	21 32 40.8	+0.5
R43A	Red Bud baz=48	39.99	270	P		P	21 32 40.5	+0.1
255A	Hazlehurst baz=42	40.05	256	P		P	21 32 41.8	+0.9
X50B	Fort Payne baz=45	40.07	262	P		P	21 32 42.1	+1.0
Y51A	Rockmart baz=44	40.12	261	P		P	21 32 43.2	+1.7
YKA	Yellowknife Ar comp=Z,1.1nm,0.7s,baz=63,slow=9.0,SNR=14	40.13	315	P		P	21 32 39.9	-1.3
YKA				PcP		PcP	21 34 44.5	-0.9
	comp=Z,2.6nm,0.8s,baz=61,slow=3.8,SNR=13							
YKB5	Yellowknife Ar	40.13	315	eP		P	21 32 39.9	-1.3
YKB5				eP	cP	PcP	21 34 43.8	-1.6
WVT	Waverly comp=Z,7.7nm,0.9s	40.19	266	eP		P	21 32 43.5	+1.4
WVT	Waverly baz=47	40.19	266	P		P	21 32 43.0	+0.9
V47A	Nunnelly baz=46	40.22	265	P		P	21 32 42.9	+0.6
U46A	Springville baz=47	40.24	266	P		P	21 32 44.0	+1.5
Z52A	Williamson baz=44	40.25	259	P		P	21 32 43.1	+0.4
Q41A	Truxton baz=49	40.32	272	P		P	21 32 43.5	+0.4
W48A	Pulaski baz=46	40.35	264	P		P	21 32 43.4	0.0
ECSD	EROS Data Cent comp=Z,16nm,0.9s	40.49	281	eP		P	21 32 45.4	+0.9
ECSD	EROS Data Cent baz=53,SNR=14	40.49	281	P		P	21 32 44.7	+0.2
R42A	Luebbering baz=48	40.50	271	P		P	21 32 45.7	+1.1
LIT	Litokhoron comp=Z,12nm,1.1s	40.54	86	eP		P	21 32 45.4	+0.4
S43A	Fulton Ridge, baz=48	40.54	269	P		P	21 32 46.1	+1.1
V46A	Holladay baz=46	40.59	266	P		P	21 32 47.3	+1.9
Z51A	Franklin baz=44	40.60	260	P		P	21 32 47.2	+1.7
456A	Hilliard baz=41	40.68	254	P		P	21 32 48.1	+1.9
CFR	Carcaliu	40.73	76	⇑i	P	P	21 32 45.4	-1.0
152A	Waverly Hall comp=Z,11nm,1.0s	40.80	259	eP		P	21 32 48.7	+1.5
152A	Waverly Hall baz=43	40.80	259	P		P	21 32 48.3	+1.1
R41A	Rosebud baz=48	40.84	271	P		P	21 32 48.5	+1.1
S42A	Caledonia baz=48	40.84	270	P		P	21 32 48.2	+0.8
X48A	Hartselle baz=45	40.89	263	P		P	21 32 49.9	+2.0
CCM	Cathedral Cave comp=Z,14nm,1.0s	40.91	271	eP		P	21 32 48.5	+0.5
CCM	Cathedral Cave baz=48	40.91	271	P		P	21 32 49.1	+1.1
Y49A	Blount Mountai baz=44	40.94	262	P		P	21 32 49.6	+1.3
T43A	Greenville baz=48,SNR=7.9	41.00	269	P		P	21 32 49.1	+0.4
TLB	Topalu	41.02	76	⇑i	P	P	21 32 48.2	-0.6
151A	Opelika baz=43	41.26	260	P		P	21 32 52.0	+1.1
252A	Lumpkin baz=43	41.30	258	P		P	21 32 53.1	+1.8
X47A	Russelville baz=45	41.32	264	P		P	21 32 51.7	+0.3
Y48A	Jasper baz=45	41.34	263	P		P	21 32 52.6	+1.0
Z49A	Columbiana baz=44	41.48	261	P		P	21 32 54.4	+1.7
T42A	Van Buren comp=Z,10.0nm,0.8s	41.51	269	eP		P	21 32 53.5	+0.5
T42A	Van Buren baz=48	41.51	269	P		P	21 32 53.7	+0.8
S41A	Jillco Farms, baz=48,SNR=5.8	41.52	271	P		P	21 32 53.5	+0.5
150A	Eclectic baz=44	41.61	260	P		P	21 32 55.5	+1.7
251A	Midway baz=43	41.62	259	P		P	21 32 55.0	+1.1
W45A	Hickory Valley baz=46	41.66	266	P		P	21 32 54.8	+0.6
X46A	Booneville baz=45	41.72	265	P		P	21 32 55.3	+0.6
LRAL	Lakeview Retre baz=44	41.87	262	P		P	21 32 55.6	-0.3
T41A	Mountain View baz=48	41.90	270	P		P	21 32 54.9	-1.2
Z48A	Northport baz=44	41.95	262	P		P	21 32 57.9	+1.3
DGMT	Dagmar baz=55	42.02	292	P		P	21 32 57.5	+0.5
U42A	Revenden baz=47	42.05	269	P		P	21 32 57.9	+0.5
149A	Jones baz=44	42.06	261	P		P	21 32 58.9	+1.4
250A	Grady comp=Z,20nm,0.9s	42.20	260	eP		P	21 33 00.6	+1.9
250A	Grady baz=43	42.20	260	P		P	21 32 58.8	+0.1
OXF	Oxford comp=Z,38nm,1.0s	42.24	265	eP		P	21 32 59.8	+0.8
OXF	Oxford baz=45	42.24	265	P		P	21 32 58.9	-0.1
351A	Pinckard baz=42	42.33	258	P		P	21 33 00.2	+0.5
Y46A	Houston baz=45	42.36	264	P		P	21 33 01.5	+1.6
148A	Greensboro baz=44	42.48	262	P		P	21 33 01.6	+0.7
V42A	Cord baz=46,SNR=13	42.52	268	P		P	21 33 01.9	+0.8
060A	Indiantown baz=38	42.57	249	P		P	21 33 03.1	+1.4
H05N1	Guadeloupe/Mar	42.60	218	T		T	22 18 25.1	
249A	Camden baz=43	42.70	261	P		P	21 33 03.5	+0.7
Y45A	Yeager Farm, C baz=45	42.77	265	P		P	21 33 04.5	+1.3
BGNE	Belgrade comp=Z,43nm,0.6s	42.81	280	eP		P	21 33 04.5	+0.9
BGNE	Belgrade baz=51	42.81	280	P		P	21 33 04.7	+1.1
147A	Livingston comp=Z,17nm,0.8s	42.87	262	eP		P	21 33 09.6	+5.5
147A	Livingston baz=44	42.87	262	P		P	21 33 05.4	+1.3
W42A	Bald Knob baz=46	42.96	268	P		P	21 33 05.6	+0.8
V41A	Mountainview baz=46	42.98	269	P		P	21 33 06.4	+1.4
U40A	Yellville baz=47	43.01	270	P		P	21 33 06.2	+1.0
Y44A	Strider, Charl baz=45	43.10	265	P		P	21 33 04.9	-1.1
X43A	Marvell baz=46	43.10	267	P		P	21 33 07.2	+1.2
349A	Repton baz=43	43.20	260	P		P	21 33 08.5	+1.7
Z45A	Winona baz=44	43.21	264	P		P	21 33 06.8	0.0
KSU1	Kansas State U comp=Z,23nm,0.8s	43.39	276	eP		P	21 33 08.3	0.0
KSU1	Kansas State U baz=49,SNR=5.8	43.39	276	P		P	21 33 08.7	+0.4
WHAR	Wooly Hollow comp=Z,16nm,0.9s	43.40	268	eP		P	21 33 09.1	+0.8
W41B	Gary Mavity, V comp=Z,18nm,1.0s	43.46	268	eP		P	21 33 09.6	+0.8
W41B	Gary Mavity, V baz=46	43.46	268	P		P	21 33 09.9	+1.1
247A	Quitman baz=43	43.52	262	P		P	21 33 10.7	+1.3
Y43A	Makayla and Ka baz=45	43.56	266	P		P	21 33 10.5	+0.9
HHAR	Hobbs comp=Z,14nm,0.9s	43.70	271	eP		P	21 33 11.1	+0.3
LAO	LASA Array comp=Z,34nm,0.8s	44.18	291	eP		P	21 33 16.4	+1.9
LAO	LASA Array baz=53,SNR=14	44.18	291	P		P	21 33 14.3	-0.2
X40A	Basin Creek Fa comp=Z,13nm,0.8s	44.28	268	eP		P	21 33 16.1	+0.6
X40A	Basin Creek Fa baz=46,SNR=10	44.28	268	P		P	21 33 16.1	+0.6
W39A	Magazine comp=Z,27nm,1.0s	44.35	270	eP		P	21 33 15.9	-0.1
W39A	Magazine baz=46,SNR=15	44.35	270	P		P	21 33 16.6	+0.6
VBMS	Vicksburg baz=44	44.52	264	P		P	21 33 17.7	+0.3
Y41A	Eaglette Beard baz=45,SNR=7.8	44.57	267	P		P	21 33 18.3	+0.5
MIAR	Mount Ida comp=Z,24nm,0.9s	44.68	269	eP		P	21 33 18.6	0.0
MIAR	Mount Ida baz=46,SNR=13	44.68	269	P		P	21 33 19.4	+0.7
TUL1	Leonard comp=Z,9.9nm,0.8s	45.05	272	eP		P	21 33 26.4	+4.8
TUL1	Leonard baz=46	45.05	272	P		P	21 33 22.2	+0.7
Z41A	Richland Creek comp=Z,27nm,0.9s	45.12	267	eP		P	21 33 27.4	+5.3
Z41A	Richland Creek baz=45	45.12	267	P		P	21 33 22.7	+0.5
EGMT	Eagleton comp=Z,13nm,0.8s	45.30	294	eP		P	21 33 25.1	+1.5
EGMT	Eagleton baz=53	45.30	294	P		P	21 33 23.5	0.0
OGNE	Ogallala baz=50	45.37	282	P		P	21 33 24.4	+0.3
CBKS	Cedar Bluff comp=Z,24nm,1.0s	45.42	278	eP		P	21 33 24.9	+0.4
CBKS	Cedar Bluff baz=48	45.42	278	P		P	21 33 25.3	+0.8
EPYK	Eagle Plains baz=53	46.34	327	P		P	21 33 31.3	-0.2
GCMT	Greycliff	46.62	292	eP		P	21 33 36.0	+1.9
RLMT	Red Lodge comp=Z,13nm,0.9s	46.81	291	eP		P	21 33 37.6	+1.9
RLMT	Red Lodge baz=51,SNR=12	46.81	291	P		P	21 33 36.1	+0.4
K22A	Casper comp=Z,19nm,0.9s	46.84	287	eP		P	21 33 37.3	+1.4
K22A	Casper baz=50,SNR=5.5	46.84	287	P		P	21 33 34.9	-1.0
KSCO	Kaye Shedlock' comp=Z,20nm,0.9s	46.98	280	eP		P	21 33 37.2	+0.4
KSCO	Kaye Shedlock' baz=48	46.98	280	P		P	21 33 37.8	+0.9
PHWY	Pilot Hill comp=Z,7.4nm,0.8s	47.11	285	eP		P	21 33 38.3	+0.2
HRY	Holter Researc	47.22	294	eP		P	21 33 40.4	+1.7
BR101	Keskin Array S	47.31	78	eP		P	21 33 40.1	+0.6
BR131	Keskin Array S	47.31	78	eP		P	21 33 40.6	+1.2
BRTR	Keskin Array B	47.31	78	P		P	21 33 40.1	+0.6
WMOK	Wichita Mounta comp=Z,8.4nm,0.9s	47.62	273	eP		P	21 33 42.7	+0.9
WMOK	Wichita Mounta baz=46	47.62	273	P		P	21 33 42.4	+0.6
N23A	Red Feather La comp=Z,26nm,0.9s	47.65	284	eP		P	21 33 43.3	+1.0
N23A	Red Feather La baz=49,SNR=10	47.65	284	P		P	21 33 42.4	+0.1
BOZ	Bozeman (W) comp=Z,12nm,1.0s	47.81	293	eP		P	21 33 43.9	+0.6
BOZ	Bozeman (W) baz=51,SNR=17	47.81	293	P		P	21 33 43.0	-0.3
RWWY	Rawlins comp=Z,14nm,0.8s	47.85	286	eP		P	21 33 45.5	+1.7
H17A	Grant Village comp=Z,5.9nm,0.9s	48.00	291	eP		P	21 33 47.6	+2.7
H17A	Grant Village baz=50	48.00	291	P		P	21 33 46.4	+1.4
YFT	Old Faithful comp=Z,9.1nm,0.9s	48.10	291	eP		P	21 33 49.0	+3.3
ISCO	Idaho Springs comp=Z,13nm,0.7s	48.18	283	eP		P	21 33 47.6	+1.1
ISCO	Idaho Springs baz=48,SNR=19	48.18	283	P		P	21 33 46.6	+0.1
YPP	Pitchstone Pla comp=Z,4.4nm,0.9s	48.20	291	eP		P	21 33 50.4	+3.8
FLWY	Flagg Ranch comp=Z,6.6nm,0.9s	48.27	291	eP		P	21 33 51.2	+4.2
BW06	Boulder Array comp=Z,6.7nm,0.8s	48.48	289	eP		P	21 33 47.9	-0.7
BW06	Boulder Array baz=49,SNR=10	48.48	289	P		P	21 33 48.2	-0.4
PD31	Pinedale Array	48.48	289	eP		P	21 33 47.9	-0.8
PDAR	Pinedale Array comp=Z,3.1nm,0.6s,baz=59,slow=7.9,SNR=20	48.48	289	P		P	21 33 47.6	-1.1
PDAR	Pinedale Array	48.48	289	eP		P	21 33 47.7	-0.9
DLMT	Dillon comp=Z,8.3nm,1.0s	48.49	293	eP		P	21 33 50.5	+1.9
MOOW	Moose Ponds comp=Z,3.0nm,1.1s	48.51	290	eP		P	21 33 51.2	+2.4
LOHW	Long Hollow comp=Z,4.5nm,1.0s	48.52	290	eP		P	21 33 50.3	+1.4
IMW	Indian Meadow comp=Z,4.8nm,1.1s	48.52	291	eP		P	21 33 54.7	+5.7
DAWY	Dawson comp=Z,3.6nm,0.8s	48.67	325	eP		P	21 33 51.7	+2.1
SNOW	Snow King Moun comp=Z,9.4nm,0.9s	48.70	290	eP		P	21 33 55.8	+5.5
FXWY	Fox Creek comp=Z,6.3nm,0.9s	48.73	291	eP		P	21 33 50.9	+0.3
WHTX	Lake Whitney, comp=Z,22nm,0.9s	48.78	269	eP		P	21 33 50.5	-0.2
WHTX	Lake Whitney, baz=44,SNR=8.3	48.78	269	P		P	21 33 51.3	+0.6
TPAW	Teton Pass comp=Z,10nm,0.9s	48.79	290	eP		P	21 33 51.4	+0.3
REDW	Red Top Meadow comp=Z,5.8nm,1.0s	48.81	290	eP		P	21 33 51.5	+0.3
MCMT	McKenzie Canyo	48.97	293	eP		P	21 33 57.6	+5.3
NEW	Newport comp=Z,1.6nm,0.8s,baz=66,slow=20,SNR=4.0	49.05	299	P		P	21 33 52.2	-0.6
NEW	Newport comp=Z,4.3nm,1.0s	49.05	299	eP		P	21 33 55.8	+3.1
NEW	Newport baz=51	49.05	299	P		P	21 33 53.3	+0.5
AMTX	Amarillo comp=Z,28nm,0.8s	49.23	275	eP		P	21 33 55.3	+1.0
AMTX	Amarillo baz=46	49.23	275	P		P	21 33 55.8	+1.4
T25A	Trinidad comp=Z,11nm,1.0s	49.28	280	eP		P	21 33 57.2	+2.4
T25A	Trinidad baz=47	49.28	280	P		P	21 33 55.0	+0.2
SMCO	Snowmass comp=Z,4.4nm,0.8s	49.38	283	eP		P	21 33 57.6	+1.8
O20A	White River Ci comp=Z,8.9nm,0.8s	49.47	285	eP		P	21 33 58.3	+2.1
O20A	White River Ci baz=48	49.47	285	P		P	21 33 57.5	+1.3
SDCO	Great Sand Dun	49.50	281	eP		P	21 33 58.2	+1.7

comp=Z,4.3nm,1.1s
SDCO Great Sand Dun 49.50 281 P P 21 33 58.2 +1.7
baz=47
ARU Arti 49.53 47 eP P 21 33 56.5 +0.3
comp=Z,16nm,1.0s
ABTX Abilene, Hawle 49.62 272 eP P 21 33 57.6 +0.4
comp=Z,8.7nm,1.0s
ABTX Abilene, Hawle 49.62 272 P P 21 33 57.9 +0.6
baz=44
COLD Coldfoot 49.80 332 eP P 21 33 58.6 +0.4
comp=Z,5.7nm,0.8s
C09A Chrisman Ranch 49.94 299 eP P 21 34 00.0 +0.5
comp=Z,7.3nm,0.9s
TOA1 Torodi Ar. Sit 49.97 130 eP P 21 33 58.8 -1.2
TOA0 Torodi Ar. Sit 49.98 130 eP P 21 33 59.4 -0.7
TORD Torodi Ar. Bea 49.98 130 P P 21 33 58.8 -1.3
comp=Z,11nm,0.9s,baz=330,slow=10,SNR=35
B08A Colville Reser 50.13 300 eP P 21 34 01.6 +0.7
comp=Z,12nm,1.0s
SCRK Sand Creek 50.24 327 eP P 21 34 02.4 +0.8
comp=Z,8.8nm,0.9s
S22A 4UR Ranch, Cre 50.27 282 eP P 21 34 04.5 +2.0
comp=Z,2.5nm,0.9s
S22A 4UR Ranch, Cre 50.27 282 P P 21 34 01.8 -0.7
baz=47
HWUT Hardware Ranch 50.37 289 eP P 21 34 03.3 +0.3
comp=Z,17nm,0.8s
POKR Poker Plat Res 50.51 330 P P 21 34 03.6 0.0
baz=45
MSTX Muleshoe 50.51 275 eP P 21 34 05.9 +1.8
comp=Z,14nm,0.8s
MSTX Muleshoe 50.51 275 P P 21 34 05.5 +1.4
baz=45
F10A Beach Ranch, E 50.58 297 eP P 21 34 06.5 +2.1
comp=Z,5.8nm,1.0s
IL1 Eielson Array 50.59 329 eP P 21 34 04.4 +0.2
ILAR Eielson Array 50.59 329 P P 21 34 03.7 -0.5
comp=Z,2.2nm,0.8s,baz=45,slow=5.9,SNR=18
ILB Eielson Array 50.59 329 eP P 21 34 04.0 -0.2
TCUT Toone Canyon 50.60 288 eP P 21 34 05.9 +1.0
comp=Z,21nm,1.0s
HLID Hailey 50.65 293 eP P 21 34 06.1 +1.0
comp=Z,5.7nm,0.9s
HLID Hailey 50.65 293 P P 21 34 05.9 +0.8
baz=48
E09A Wood Farm, Sta 50.71 298 eP P 21 34 05.7 +0.4
comp=Z,3.2nm,0.8s
MDM Murphy Dome 50.86 330 eP P 21 34 06.6 +0.3
comp=Z,11nm,1.1s
HDA Harding Lake 50.87 329 eP P 21 34 06.5 +0.2
comp=Z,10nm,0.6s
HDA Harding Lake 50.87 329 P P 21 34 06.3 +0.1
baz=45
HVU Hansel Valley 50.92 290 eP P 21 34 08.1 +0.9
comp=Z,7.4nm,1.1s
PV21 Cone Mtn., Par 50.95 284 eP P 21 34 13.4 +5.9
comp=Z,5.0nm,0.8s
JLU Jordanelle 50.97 288 eP P 21 34 08.5 +0.8
comp=Z,7.2nm,1.1s
PV12 Saucer Basin, 51.01 284 eP P 21 34 09.0 +1.0
comp=Z,31nm,1.0s
PV02 Paradox Valley 51.05 284 eP P 21 34 10.1 +1.8
comp=Z,19nm,1.1s
PV11 David Mesa, Pa 51.07 284 eP P 21 34 09.4 +1.1
comp=Z,28nm,0.8s
CTU Camp Tracy 51.08 288 eP P 21 34 13.7 +5.3
comp=Z,4.3nm,0.8s
PV03 Paradox Valley 51.08 284 eP P 21 34 09.4 +0.9
PV16 Nyswonger Mesa 51.08 284 eP P 21 34 09.5 +1.0
comp=Z,19nm,0.9s
PV20 West Nyswonger 51.09 284 eP P 21 34 10.9 +2.4
comp=Z,17nm,1.0s
PV14 Lion Creek, Pa 51.10 284 eP P 21 34 11.6 +2.9
comp=Z,16nm,1.1s
PV10 Paradox Valley 51.11 284 eP P 21 34 10.1 +1.4
PV19 Morning Glory 51.12 284 eP P 21 34 10.2 +1.4
comp=Z,20nm,1.1s
PV17 East Wray Mesa 51.13 284 eP P 21 34 09.8 +1.0
comp=Z,31nm,0.9s
PV13 Radium Mtn., P 51.13 284 eP P 21 34 10.0 +1.1
comp=Z,22nm,0.9s
JCT Junction City 51.25 270 eP P 21 34 10.3 +0.7
comp=Z,15nm,0.9s
JCT Junction City 51.25 270 P P 21 34 10.7 +1.0
baz=43
P17A Butcher Ranch, 51.33 286 eP P 21 34 11.7 +1.4
comp=Z,4.7nm,0.9s
PV05 Paradox Valley 51.35 284 eP P 21 34 10.6 +0.1
BMO Blue Mountains 51.35 296 eP P 21 34 09.5 -0.8
comp=Z,3.8nm,0.9s
SRU San Rafael Swe 51.46 286 eP P 21 34 12.6 +1.4
comp=Z,6.9nm,0.9s
MPU Maple Canyon 51.47 287 eP P 21 34 12.7 +1.3
comp=Z,9.1nm,1.1s
LTY Liberty 51.53 300 eP P 21 34 11.2 -0.4
comp=Z,8.9nm,1.0s
MLY Manley 51.55 331 eP P 21 34 12.0 +0.6
comp=Z,4.0nm,0.9s
MLY ePcP PcP 21 35 24.8 -0.5
MVCO Mesa Verde 51.60 283 eP P 21 34 13.8 +1.4
comp=Z,11nm,0.9s
MVCO Mesa Verde 51.60 283 P P 21 34 12.8 +0.4
baz=46,SNR=8.9
BGU Big Grassy Mou 51.64 289 eP P 21 34 12.6 +0.1
comp=Z,6.2nm,1.0s
IM3 Indian Mountai 51.68 333 eP P 21 34 11.7 -0.6
TMUT Trail Mountain 51.72 286 eP P 21 34 14.5 +1.2
comp=Z,5.6nm,0.8s
NLU North Lily Min 51.76 288 eP P 21 34 14.9 +1.3
comp=Z,9.5nm,1.0s
G08A Pilot Rock 51.94 297 eP P 21 34 15.2 +0.4
comp=Z,5.2nm,1.1s
Q16A Castle Valley 51.96 286 eP P 21 34 15.7 +0.7
comp=Z,7.1nm,0.8s
ANMO Albuquerque 51.99 279 eP P 21 34 17.4 +2.2
comp=Z,6.8nm,1.0s
ANMO Albuquerque 51.99 279 P P 21 34 16.8 +1.5
baz=45
DUG Dugway, Tooele 52.01 288 eP P 21 34 16.8 +1.5
comp=Z,8.6nm,0.9s
DUG Dugway, Tooele 52.01 288 P P 21 34 15.8 +0.4
baz=47,SNR=9.9
D03D Eldon 52.58 301 P P 21 34 19.7 +0.5
baz=48
BNM Barren Site 52.65 279 eP P 21 34 22.8 +2.6
MSU Marysvale 52.81 286 eP P 21 34 22.9 +1.5
LENM Lemitar 52.84 279 eP P 21 34 24.0 +2.4
J08A Circle Bar Ran 52.98 295 eP P 21 34 23.1 +0.6
comp=Z,14nm,0.9s
ELK Elko 52.99 290 P P 21 34 22.8 +0.1
comp=Z,4.1nm,0.9s,baz=24,slow=5.6,SNR=9.1
ELK Elko 52.99 290 eP P 21 34 24.6 +1.8
comp=Z,6.1nm,1.0s
NLWA Neilton Lookou 53.06 302 eP P 21 34 24.6 +1.7
comp=Z,18nm,1.0s
DBIC Dimbokro 53.12 141 P P 21 34 22.8 -0.8
comp=Z,8.6nm,0.8s,baz=323,slow=6.2,SNR=9.8
DBIC Dimbokro 53.12 141 eP P 21 34 22.9 -0.6
comp=Z,10.0nm,0.8s
MTPU Mount Pierson 53.14 286 eP P 21 34 25.8 +1.9
comp=Z,12nm,1.2s
CAST Castle Rocks 53.14 330 eP P 21 34 22.8 -0.4
comp=Z,7.7nm,0.8s
PKCU Pink Cliffs 53.62 285 eP P 21 34 28.2 +0.8
comp=Z,12nm,0.9s
MNTX Cornudas Mount 53.67 275 eP P 21 34 27.3 -0.2
comp=Z,5.3nm,1.0s
MNTX Cornudas Mount 53.67 275 P P 21 34 28.2 +0.7
baz=44,SNR=8.2
WVOR Wild Horse Val 53.70 294 eP P 21 34 29.0 +1.2
comp=Z,15nm,1.1s
PSUT Pine Spring, 53.74 288 eP P 21 34 29.3 +1.1
comp=Z,4.8nm,0.8s
W18A Petrified Fore 53.77 282 eP P 21 34 29.6 +1.2
comp=Z,9.3nm,0.9s
W18A Petrified Fore 53.77 282 P P 21 34 28.9 +0.5
baz=45
I05D Terrebonne, OR 53.83 298 P P 21 34 29.1 +0.5
baz=47
SIRT Sirnak 53.87 74 eP P 21 34 31.6 +2.6
comp=Z,37nm,1.0s
SZCU Shurtz Canyon 53.96 286 eP P 21 34 31.4 +1.6
comp=Z,5.2nm,1.0s
PINE Pine Mountain 54.00 297 eP P 21 34 31.2 +1.2
comp=Z,13nm,0.9s
CCUT Cedar City 54.15 286 eP P 21 34 32.4 +1.2
comp=Z,6.1nm,1.0s
KNB Kanab 54.21 285 eP P 21 34 32.5 +0.9
comp=Z,8.8nm,1.0s
TIXI Tiksi 54.22 6 eP P 21 34 31.1 +0.2
comp=Z,15nm,0.8s
X18A Snowflake 54.31 281 eP P 21 34 34.1 +1.7
comp=Z,9.5nm,1.0s
U15A North Rim 54.32 285 eP P 21 34 32.9 +0.3
comp=Z,4.8nm,0.9s
LTX Lajitas 54.38 272 eP P 21 34 31.5 -1.3
LTX ePcP PcP 21 35 36.6 0.0
TX31 Lajitas Ar. Si 54.38 272 eP P 21 34 34.1 +1.3
TXAR Lajitas Array 54.38 272 P P 21 34 31.5 -1.3
comp=Z,1.3nm,0.7s,baz=47,slow=8.7,SNR=13
TXAR PcP PcP 21 35 36.6 0.0
comp=Z,1.9nm,0.8s,baz=68,slow=4.9,SNR=5.8
WUAZ Wupatki 54.44 283 eP P 21 34 38.0 +4.8
comp=Z,6.5nm,0.9s
WUAZ Wupatki 54.44 283 P P 21 34 35.7 +2.4
baz=45
LCMT Little Creek M 54.46 286 eP P 21 34 34.5 +1.1
comp=Z,3.8nm,0.8s
121A Cookes Peak, D 54.48 278 P P 21 34 34.9 +1.3
baz=44
J05D Fort Rock, OR 54.50 297 P P 21 34 33.8 +0.2
baz=46,SNR=13
I04A Tendick Farm, 54.77 298 P P 21 34 35.6 +0.2
baz=46
R11A Troy Canyon, C 54.84 289 eP P 21 34 36.8 +0.6
comp=Z,3.6nm,0.9s
R11A Troy Canyon, C 54.84 289 P P 21 34 35.5 -0.7
baz=45
MOD Modoc Plateau 54.96 295 eP P 21 34 37.8 +0.8
comp=Z,8.2nm,0.9s
X16A Lo Mia Camp, P 55.26 282 eP P 21 34 40.5 +1.3
comp=Z,12nm,0.9s
KVN Kaiserville 55.75 291 eP P 21 34 42.9 +0.2
comp=Z,13nm,1.1s
L04D Klamath Falls 55.81 296 P P 21 34 43.2 +0.1
baz=45
M04C Macdoel 55.87 296 P P 21 34 43.2 -0.3
baz=45,SNR=6.3
SHPR Sheep Range 55.90 287 eP P 21 34 44.7 +0.9
comp=Z,6.5nm,1.0s
PAHR Pah Rah Range 56.00 292 eP P 21 34 45.9 +1.4
comp=Z,12nm,1.0s
J01E Myrtle Point 56.00 298 P P 21 34 45.2 +1.0
baz=45
K02D Willamette Mer 56.19 298 P P 21 34 45.2 -0.5
baz=45
TPNV Topopah Spring 56.20 288 eP P 21 34 46.1 +0.1
comp=Z,5.7nm,0.8s
TPNV Topopah Spring 56.20 288 P P 21 34 45.9 0.0
baz=44,SNR=9.6
RYN Ryan 56.28 291 eP P 21 34 46.6 +0.1
comp=Z,6.6nm,1.0s
NV01 Mina Array Sit 56.30 290 eP P 21 34 46.4 -0.4
NVAR Mina Array Bea 56.30 290 P P 21 34 45.9 -0.8
comp=Z,1.6nm,0.6s,baz=64,slow=7.4,SNR=14
YBH Yreka Blue Hor 56.37 296 P P 21 34 45.2 -1.8
comp=Z,3.8nm,1.1s,baz=101,slow=3.9,SNR=6.0
YBH Yreka Blue Hor 56.37 296 eP P 21 34 46.7 -0.3
comp=Z,4.8nm,1.0s
TUC Tucson 56.39 280 eP P 21 34 48.8 +1.5
comp=Z,5.4nm,1.0s
TUC Tucson 56.39 280 P P 21 34 47.6 +0.4
baz=43
YERR Yerington 56.43 292 eP P 21 34 49.0 +1.4
comp=Z,5.5nm,1.1s
VCNR Virginia City 56.43 292 eP P 21 34 48.6 +1.0
comp=Z,5.5nm,0.8s
L02E Cave Junction 56.54 297 P P 21 34 46.4 -1.7
baz=45
PNTR Pine Nut 56.55 292 eP P 21 34 49.8 +1.3
comp=Z,15nm,0.8s
M02C Calhan 56.68 296 P P 21 34 48.5 -0.8
baz=45
BRVK Borovoye 56.79 44 eP P 21 34 50.7 +1.0
comp=Z,9.8nm,1.1s
GRAC Grapevine Rang 56.80 289 P P 21 34 50.9 +0.8
baz=44
FURC Furnace Creek, 56.89 288 P P 21 34 49.9 -0.7
baz=44
O03E Paynes Creek 56.90 294 P P 21 34 49.0 -1.7
baz=45
PDMCI Parker Dam,Lak 56.90 284 P P 21 34 51.4 +0.7
baz=44
PTBC PUERTO BERRIO, 56.90 229 eP P 21 34 47.6 -3.3
PTBC PUERTO BERRIO, 56.90 229 eP P 21 34 47.6 -3.3
N02D Trinity Center 56.90 295 P P 21 34 48.7 -2.1
baz=45
SHOC Shoshone, Teco 56.97 287 P P 21 34 51.8 +0.6
baz=44
ORV Oroville 57.26 293 eP P 21 34 58.3 +5.0
comp=Z,4.9nm,1.1s
DBBC Dabeiba 57.26 231 eP P 21 34 53.1 -0.5
DBBC Dabeiba 57.26 231 eP P 21 34 53.1 -0.5
AFDM Forest Hills D 57.40 293 eP P 21 34 55.4 +1.2
comp=Z,3.4nm,1.0s
GMRC Granite Mounta 57.42 286 P P 21 34 54.7 +0.1
baz=44
DAC Darwin (Calif) 57.44 288 eP P 21 34 56.3 +1.5
comp=Z,8.6nm,1.0s
O02D Mt. Diablo Mer 57.51 295 P P 21 34 55.7 +0.6
baz=44
Y12C Blythe 57.51 284 eP P 21 34 56.4 +1.4
comp=Z,21nm,0.9s
Y12C Blythe 57.51 284 P P 21 34 55.9 +0.8
baz=43,SNR=12
KHMM Horse Mountain 57.52 296 eP P 21 34 56.1 +0.9
comp=Z,13nm,1.0s
MPMC Manual Prospec 57.54 288 P P 21 34 55.8 +0.3
baz=44
IRM Iron Mountain 57.58 285 P P 21 34 56.5 +0.9
baz=43
CWC Cottonwood Cre 57.59 289 P P 21 34 54.2 -1.6
baz=44
GSC Goldstone, Bar 57.70 287 eP P 21 34 57.2 +0.8
comp=Z,5.5nm,1.1s
GSC Goldstone, Bar 57.70 287 P P 21 34 57.3 +0.8
baz=44
HEC Hector,Ludlow 57.77 286 P P 21 34 56.5 -0.5
baz=44
113A Mohawk Valley, 57.79 283 eP P 21 34 59.0 +2.0
comp=Z,10nm,1.0s
APG El Apazote 57.79 250 P P 21 34 57.2 -0.3
comp=Z,1.2nm,0.4s,baz=0.0,slow=4.0,SNR=2.5
214A Organ Pipe Nat 57.83 281 P P 21 34 58.1 +0.7
baz=43
NORC Norcasia 57.95 229 eP P 21 34 55.7 -2.7
NORC Norcasia 57.95 229 eP P 21 34 55.7 -2.7
LRMC Laurel Mtn Rad 58.06 288 P P 21 34 59.8 +0.7
baz=44
BC3 Big Chuckawall 58.12 284 P P 21 35 00.1 +0.6
baz=43,SNR=8.4
BELC Belle Mtn. Jos 58.18 285 P P 21 35 01.4 +1.5
baz=43
GLA Glamis 58.19 284 P P 21 35 00.9 +1.0
baz=43
PTGA Pitinga 58.22 210 eP P 21 35 00.7 +0.6
comp=Z,8.5nm,0.8s
CHIC Chingaza 58.28 227 eP P 21 35 00.4 -0.7
CHIC Chingaza 58.28 227 eP P 21 35 00.4 -0.7
ROSC El Rosal 58.35 228 P P 21 35 02.2 +0.6
comp=Z,24nm,0.8s,baz=79,slow=5.8,SNR=15
ROSC El Rosal 58.35 228 eP P 21 35 03.5 +1.9
comp=Z,20nm,0.7s
ISA Isabella, Lake 58.38 288 eP P 21 35 03.9 +2.6
comp=Z,4.3nm,0.8s
ISA Isabella, Lake 58.38 288 P P 21 35 01.8 +0.6
baz=43,SNR=5.6
EDW2 Edwards Air Fo 58.67 287 P P 21 35 03.9 +0.7
baz=43,SNR=13
XPFO Pion Flat 58.72 285 eP P 21 35 04.7 +1.0
comp=Z,9.1nm,0.6s
PFO Pinyon Flats O 58.72 285 eP P 21 35 04.7 +1.0
comp=Z,8.6nm,0.6s
PFO Pinyon Flats O 58.72 285 P P 21 35 04.5 +0.8
baz=43,SNR=12
SWSC Sam W. Stewart 58.83 284 P P 21 35 05.3 +1.0
baz=43
BFSC Mount Baldy Ra 58.95 287 P P 21 35 05.1 -0.2
baz=43
ARVC Arvin 58.96 288 P P 21 35 05.1 -0.1
baz=43
MURC Murrieta 59.15 286 P P 21 35 07.2 +0.6
baz=43
MWC Mount Wilson 59.19 287 eP P 21 35 09.0 +2.0
comp=Z,8.4nm,1.0s
IKP In-Ko-Pah, Jac 59.22 284 P P 21 35 07.8 +0.7
baz=43,SNR=6.0
MONP2 Monument Peak 59.23 285 P P 21 35 08.7 +1.4
baz=43
BAR Barrett 59.52 285 eP P 21 35 10.2 +1.0
comp=Z,7.6nm,0.9s
PKM Mcpherson Peak 59.69 289 P P 21 35 11.1 +0.7
baz=43
YOTC Yotoco, Valle 60.01 229 eP P 21 35 11.7 -1.1
YOTC Yotoco, Valle 60.01 229 eP P 21 35 11.7 -1.1
POPC Popayan, Colom 61.44 229 eP P 21 35 20.3 -2.4
POPC Popayan, Colom 61.44 229 eP P 21 35 20.3 -2.4
PCON Cinco Dias 61.50 229 eP P 21 35 23.6 +0.1
PCON Cinco Dias 61.50 229 eP P 21 35 23.6 +0.1
ZAA1 Zalesovo Array 61.60 36 eP P 21 35 21.8 -1.2
ZAA1 ePcP PcP 21 36 03.7 -0.9
ZALV Zalesovo Beam 61.60 36 P P 21 35 21.8 -1.2
comp=Z,1.2nm,0.7s,baz=302,slow=6.1,SNR=6.1
ZALV PcP PcP 21 36 03.7 -0.9
comp=Z,1.0nm,0.7s,baz=327,slow=2.4,SNR=4.0
ZALV Zalesovo Beam 61.60 36 eP P 21 35 22.4 -0.6
KURK Kurchatov 61.92 41 eP P 21 35 24.9 -0.3
comp=Z,9.2nm,1.1s
GEYT Alibeck 62.18 63 P P 21 35 27.6 +0.4
comp=Z,3.2nm,0.9s,baz=302,slow=6.6,SNR=6.6
OTAV Otavalo 64.28 230 eP P 21 35 42.6 +0.8
comp=Z,4.2nm,0.8s
RAYN Ar Rayn 65.93 83 eP P 21 35 53.0 +0.9
comp=Z,2.5nm,1.0s
MAKZ Makanchi 66.39 42 eP P 21 35 54.2 -0.4
comp=Z,7.7nm,1.1s
MK31 Makanchi Array 66.52 42 eP P 21 35 55.1 -0.4
MK32 Makanchi Array 66.52 42 eP P 21 35 54.8 -0.7
MKAR Makanchi Array 66.52 42 P P 21 35 54.8 -0.7
comp=Z,5.6nm,1.0s,baz=327,slow=5.2,SNR=23
MK01 Makanchi Array 66.54 42 eP P 21 35 55.0 -0.7
AAK Ala-Archa 66.59 49 eP P 21 35 57.9 +1.7
comp=Z,3.8nm,1.1s
TARG Taragay, Kyrgy 68.79 48 eP P 21 36 12.1 +1.7
comp=Z,7.2nm,0.9s
KSH Kashi 69.76 50 P P 21 36 19.3 +3.2
KSH pP pwP 21 36 23.1 +5.5
KSH sP sP 21 36 24.9 +7.1
KSH PcP PcP 21 36 42.8 +4.0
KSH S S 21 45 27.3 +1.9
KSH sS sS 21 45 33.8 +5.8
KSH ScS ScS 21 46 18.8 +0.5
KSH pmax pmax
comp=Z,15nm,0.8s
KSH LR LR
comp=Z,79nm,7.9s
KSH LR LR
comp=Z,210nm,9.4s
KSH LR LR
comp=Z,840nm,18.2s
BDFB Brasilia 70.15 193 P P 21 36 18.5 0.0
comp=Z,3.5nm,1.0s,baz=38,slow=12,SNR=3.6
KBL Kabul 70.42 58 eP P 21 36 21.4 +1.1
comp=Z,2.6nm,0.6s
WMQ Urumqi 71.10 40 eP P 21 36 25.5 +1.4
WMQ pP pwP 21 36 29.3 +0.7
WMQ sP sP 21 36 34.0 +8.2
WMQ pmax pmax
comp=Z,11nm,0.9s
WMQ LR LR
comp=Z,540nm,21.1s
WMQ LR LR
comp=Z,550nm,29.5s
WMQ LR LR
comp=Z,730nm,25.3s
PEA1 Petropavlovsk- 72.79 352 eP P 21 36 32.8 -1.2
PETK Petropavlovsk- 72.80 352 P P 21 36 32.7 -1.3
comp=Z,1.8nm,0.8s,baz=93,slow=16,SNR=2.0
NIL Nilore 73.22 56 eP P 21 36 37.6 +0.7
comp=Z,12nm,1.1s
SONA1 Songino Array 73.51 26 eP P 21 36 38.0 -0.5
SONA0 Songino Array 73.52 26 eP P 21 36 38.5 -0.1
SONM Songino Array 73.52 26 P P 21 36 38.5 -0.1
comp=Z,3.5nm,0.9s,baz=332,slow=7.0,SNR=26
ULN Ulaanbaatar 73.66 25 eP P 21 36 39.7 +0.3
comp=Z,8.2nm,1.1s
LPAZ La Paz 75.41 213 P P 21 36 50.0 -0.3
comp=Z,2.8nm,0.9s,baz=352,slow=12,SNR=6.8
LPAZ La Paz 75.41 213 eP P 21 36 50.9 +0.6
comp=Z,3.2nm,0.8s
PB11 IPOC Station P 79.15 213 eP P 21 37 13.8 +3.1
comp=Z,6.1nm,0.9s
GTA Gaotai 79.29 34 P P 21 37 11.6 +0.2
GTA pP pwP 21 37 17.8 +1.9
GTA sP PcP 21 37 20.3 +0.6
GTA pmax pmax
comp=Z,7.0nm,1.6s
GTA pmax pmax
comp=Z,110nm,4.5s
GTA LR LR
comp=Z,190nm,20.6s
GTA LR LR
comp=Z,220nm,20.0s
GTA LR LR
comp=Z,360nm,20.0s
KMBO Kilima Mbogo 80.64 105 P P 21 37 18.4 -0.7
comp=Z,0.3nm,0.3s,baz=56,slow=6.7,SNR=2.2
CN2 Changchun 81.25 14 eP P 21 37 23.1 +1.4
CN2 pmax pmax
comp=Z,10.0nm,0.8s
HHC Hu-ho-hao-te 81.36 25 eP P 21 37 20.4 -2.1
HHC S S 21 47 30.8 -2.9
HHC pmax pmax
comp=Z,3.0nm,0.9s
HHC pmax pmax
comp=Z,210nm,6.7s
HHC LR LR
comp=Z,140nm,13.8s
HHC LR LR
comp=Z,170nm,13.0s
HHC LR LR
comp=Z,300nm,15.6s
USRK Ussuriysk Ar. 81.64 9 P P 21 37 23.2 -0.6
comp=Z,0.9nm,0.7s,baz=1.3,slow=6.2,SNR=2.4
CPUP Villa Florida 82.19 200 P P 21 37 25.8 -0.8
comp=Z,1.6nm,0.6s,baz=14,slow=12,SNR=2.1
CPUP Villa Florida 82.19 200 eP P 21 37 25.8 -0.8
comp=Z,1.2nm,0.9s
PYUN Piuthan 82.47 52 eP P 21 37 29.0 +0.3
comp=Z,62nm,1.7s
DANN Dangsing 82.61 51 eP P 21 37 30.0 +0.5
KOLN Koldanda 83.03 51 eP P 21 37 31.8 +0.2
LZH Lanzhou 83.62 32 eP P 21 37 35.3 +0.8
LZH pP pwP 21 37 39.8 +0.8
LZH sP PcP 21 37 42.8 +4.1
LZH pmax pmax
comp=Z,27nm,1.0s
KKN Kakani 83.78 50 eP P 21 37 35.9 +0.4
comp=Z,27nm,1.2s
DMN Daman 83.86 50 eP P 21 37 36.5 +0.6
GUN Gumba 83.95 50 eP P 21 37 37.6 +1.1
comp=Z,38nm,1.3s
PKIN Phulchoki 84.02 50 eP P 21 37 36.4 -0.4
JIRN Jiri 84.31 50 eP P 21 37 39.0 +0.6
comp=Z,75nm,1.4s
RAMN Ramite 85.10 50 eP P 21 37 42.3 +0.1
MAJO Matsushiro 89.72 5 eP P 21 38 02.4 -1.6
MJAR Matsushiro Arr 89.72 5 P P 21 38 02.4 -1.6
comp=Z,0.9nm,0.9s,baz=12,slow=6.5,SNR=2.9
NJ2 Nanjing 91.47 22 eP P 21 38 11.9 -0.4
NJ2 pmax pmax
comp=Z,12nm,0.5s
KMI Kunming 93.30 37 P P 21 38 23.6 +2.5
KMI pmax pmax
comp=Z,14nm,0.5s
KMI LR LR
comp=Z,310nm,18.2s
KMI LR LR
comp=Z,130nm,20.7s
KMI LR LR
comp=Z,350nm,19.5s
CM31 Chiang Mai Arr 97.88 43 eP P 21 38 40.8 -1.0
CMAR Chiang Mai Arr 97.88 43 P P 21 38 40.8 -1.0
comp=Z,0.7nm,0.7s,baz=326,slow=5.6,SNR=7.3
CM01 Chiang Mai Arr 97.92 43 eP P 21 38 41.6 -0.4
VNA2 Neumayer--Watz 126.12 169 PKP PKPdf 21 44 05.8 -1.0
baz=327,slow=6.6
SNAA Sanae 127.36 168 PKP PKPdf 21 44 07.9 -1.3
QSPA South Pole Qui 143.82 180 PKhKP PKPpre 21 44 36.1
comp=Z,2.5nm,0.7s,baz=228,slow=2.6,SNR=5.8
WR1 Warramunga Arr 145.14 17 ePKPbc PKPbc 21 44 41.8 -1.2
WRA Warramunga Arr 145.14 17 PKPbc PKPbc 21 44 41.8 -1.2

comp=Z,5.0nm,0.8s,baz=341,slow=3.5,SNR=16
WB2 Warramunga Arr 145.14 17 *e*PKPbc **PKPbc 21 44 43.0 0.0**
CTA Charters Tower 146.20 358 PKPbc **PKPdf 21 44 45.0 -0.3**
comp=Z,8.5nm,1.1s,baz=315,slow=4.3,SNR=2.7
AS31 Alice Springs 148.68 19 *ep*PKPdf **PKPbc 21 44 52.2 -0.9**
ASAR Alice Springs 148.68 20 PKPbc **PKPbc 21 44 52.1 -1.0**
comp=Z,8.6nm,0.6s,baz=351,slow=2.4,SNR=56
AS01 Alice Springs 148.69 19 *e*PKPdf **PKPbc 21 44 51.8 -1.3**
VNDA Vanda 155.51 189 PKP **PKPdf 21 44 54.9 -2.9**
comp=Z,2.2nm,1.0s,baz=90,slow=3.0,SNR=2.4
VNDA PKPab **PKPab 21 45 23.9 0.0**
comp=Z,1.9nm,1.1s,baz=135,slow=2.9,SNR=1.8

IDC ***20*** *21:26:24.9±0.3,53.98N×35.22W,h0km,mb4.6/37, mb1 4.7/42,mb1mx4.6/52,mbtmp4.6/42,ML3.6/5,MS4.6/17, Ms1 4.6/17,ms1mx4.4/38,Error ellipse: s-maj=11.9km s-min=8.6km az=178.0*

MOS ***20*** *21:26:25.9±1.0,54.03N×35.13W,h12km,mb5.1/81, MS4.9/9,Error ellipse: s-maj=7.1km s-min=5.2km az=62.9*

GCMT ***20*** *21:26:25.6±0.2,54.02N±0.02×35.09W±0.02,h17km, MW5.3/127,Moment Tensor Solution. s35,c43; s127,c221; Duration: 181 Moment tensor: Scale 1017 Nm; Mrr=1.16±.04; Mθθ0.19±.03; Mφφ0.98±.03; Mrθ0.28±.07; Mθφ0.15±.02; Mφr0.03±.06; Best double couple: Mo1.12500×1017 NP1:φ202.00000°,δ48.00000°, λ-75.00000°. NP2:φ0.00000°,δ44.00000°,λ-106.00000°. Principal axes: T 1.0150, Plg2.0000°, Azm281.0000°; N 0.2160, Plg11.0000°, Azm12.0000°; P -1.2360, Plg79.0000°, Azm180.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***20*** *21:26:26.8,54.49N×35.18W,h10km,mb5.0/59,mB5.3/38, Ms5.1/23,Ms7 4.8/22*

NEIC ***20*** *21:26:27.6±0.1,53.98N×35.05W,h10km,mb5.0/278, Error ellipse: s-maj=4.5km s-min=2.2km az=174.0*

ISCJB ***20*** *21:26:27.1±1.5,54.01N±0.03×35.17W±0.02,h17km±10km, mb4.9/349,MS4.8/36,Error ellipse: s-maj=4.5km s-min=2.1km az=172.4*

ISC 20 21:26:28.6±0.8,54.00N±0.05×35.16W±0.04,h18km±3km, h18km;pP-P,n872,σ1s35/890,mb5.0/354,MS4.8/36, 16C-8D,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	SC	Time h m s	Res SC
NRS	**Narsarsuaq**	**9.04**	**327**	*e*Pn		**Pn**		**21 28 38.1**	**+0.1**
NRS				*e*Sn		**Sn**		**21 30 18.7**	**-0.4**
NRS	**Narsarsuaq**	**9.04**	**327**	*e*P		**Pn**		**21 28 38.1**	**+0.1**
NRS				*e*				21 30 18.7	
BORG	**Borgarnes**	**12.83**	**27**	Pn		**Pn**		**21 29 29.9**	**+0.1**
	0.2nm,0.3s,baz=18,slow=17,SNR=1.1								
SFJD	**Kangerlussuaq**	**15.02**	**336**	Pn		**Pn**		**21 29 58.5**	**-1.1**
	0.4nm,0.3s,baz=133,slow=8.2,SNR=1.9								
SFJD				LR		LR		21 34 41.7	
	comp=Z,3μm,21.0s,baz=154,slow=33								
SFJD	**Kangerlussuaq**	**15.02**	**336**	*e*Pn		**Pn**		**21 30 00.1**	**+0.5**
SFJD	**Kangerlussuaq**	**15.02**	**336**	*i*P		**P**		**21 30 05.6**	**+0.7**
SFJD	**Kangerlussuaq**	**15.02**	**336**	*e*P		**Pn**		**21 30 00.1**	**+0.5**
SFJD	**Kangerlussuaq**	**15.02**	**336**	*e*P		**P**		**21 30 04.7**	**-0.2**
IGLA	**Glengowla, Co**	**15.25**	**82**	*e*P		**P**		**21 30 05.3**	**-2.2**
IGLA				*e*S		Sn		21 32 19.5	-31
IDGL	**Inch Island, C**	**16.04**	**75**	*e*P		**Pn**		**21 30 12.7**	**-0.3**
IDGL				*e*S		Sn		21 32 40.5	-30
ILULI	**Ilulissat**	**16.94**	**340**	*e*Pn		**P**		**21 30 25.3**	**-0.8**
	19nm,1.1s								
ILULI	**Ilulissat**	**16.94**	**340**	*e*P		**P**		**21 30 25.3**	**-0.8**
ILULI				pmax		pmax			
	comp=Z,19nm,1.1s								
DSB	**Dublin**	**17.04**	**81**	*e*S		Sn		21 33 13.1	-21
DSB	**Dublin**	**17.04**	**81**	*e*Pn		**P**		**21 30 27.7**	**+0.3**
	comp=Z,18nm,1.0s								
SCO	**Scoresbysund**	**17.57**	**15**	*e*Pn		**P**		**21 30 32.9**	**-0.1**
	comp=Z,13nm,0.8s								
SCO	**Scoresbysund**	**17.57**	**15**	*i*P		**P**		**21 30 35.4**	**+2.3**
SCO	**Scoresbysund**	**17.57**	**15**	*e*P		**P**		**21 30 32.9**	**-0.1**
SCO				pmax		pmax			
	comp=Z,13nm,0.8s								
SCHQ	**Schefferville**	**18.38**	**285**	P		**P**		**21 30 39.1**	**-3.0**
	comp=Z,1.0nm,0.3s,baz=90,slow=10,SNR=7.7								
SCHQ				LR		LR		21 36 34.0	
	comp=Z,2μm,20.4s,baz=85,slow=33								
SCHQ	**Schefferville**	**18.38**	**285**	*e*P		**P**		**21 30 42.0**	**-0.2**
	comp=Z,26nm,0.9s								
EKA	**Eskdalemuir Ar**	**18.47**	**73**	P		**P**		**21 30 42.9**	**-0.2**
	baz=280,slow=9.2,SNR=6.5								
EKA				LR		LR		21 36 21.7	
	comp=Z,4μm,18.8s,baz=280,slow=32								
SUMG	**Summit**	**18.70**	**357**	*e*P		**P**		**21 30 41.6**	**-4.3**
SUMG	**Summit**	**18.70**	**357**	*i*P		**Pn**		**21 30 46.7**	**+0.4**
SUMG	**Summit**	**18.70**	**357**	*e*P		**P**		**21 30 41.6**	**-4.3**
FRB	**Frobisher Bay**	**19.58**	**313**	P		**P**		**21 30 54.5**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=104,slow=17,SNR=2.8								
FRB				LR		LR		21 36 39.6	
	comp=Z,4μm,19.9s,baz=100,slow=31								
BATG	**Bathurst New B**	**20.61**	**264**	*e*P		Pn		21 31 09.7	+0.9
	comp=Z,72nm,1.0s								
LMN	**Caledonia Moun**	**20.63**	**259**	*e*P		**P**		**21 31 07.0**	**+0.2**
	comp=Z,68nm,1.1s								
JMIC	**Jan Mayen**	**20.69**	**25**	P		**P**		**21 31 06.7**	**-0.5**
	comp=Z,35nm,0.6s,baz=213,slow=7.7,SNR=2.4								
JMIC				LR		LR		21 37 03.8	
	comp=Z,2μm,18.9s,baz=230,slow=31								
GGN	**Saint George**	**22.23**	**259**	*e*P		**P**		**21 31 24.9**	**+1.0**
	comp=Z,125nm,1.1s								
PBRG	**Braganca**	**22.45**	**111**	*e*P		**P**		**21 31 28.1**	**+1.7**
	comp=Z,117nm,1.6s								
PVIS	**Viseu**	**22.58**	**115**	*e*P		**P**		**21 31 28.6**	**+0.8**
	comp=Z,124nm,1.7s								
MVO	**Moncorvo**	**22.73**	**113**	*e*P		**P**		**21 31 29.9**	**+0.5**
PCAS	**Casmilo, Conde**	**22.73**	**117**	*e*P		**P**		**21 31 30.3**	**+0.9**
MTE	**Manteigas**	**22.99**	**115**	*e*P		**P**		**21 31 37.0**	**+4.8**
	comp=Z,135nm,1.6s								
MTE	**Manteigas**	**22.99**	**115**	*e*P		**P**		**21 31 36.5**	**+4.4**
	comp=Z,34nm,1.1s								
PTOM	**Tomar**	**23.10**	**118**	*e*P		**P**		**21 31 36.8**	**+3.6**
	comp=Z,146nm,1.6s								
PCBR	**Castelo Branco**	**23.43**	**116**	*e*P		**P**		**21 31 37.0**	**+0.5**
	comp=Z,113nm,1.4s								
PMTG	**Montargil**	**23.60**	**118**	*e*P		**P**		**21 31 38.9**	**+0.7**
	comp=Z,70nm,1.5s								
PESTR	**Estremoz**	**24.08**	**118**	*e*P		**P**		**21 31 43.0**	**+0.2**
	comp=Z,72nm,1.8s								
UCC	**Uccle**	**24.10**	**81**	⇑P		**P**		**21 31 45.9**	**+3.0**
PNCL	**Nicolau / Gran**	**24.16**	**120**	*e*P		**P**		**21 31 47.1**	**+3.6**
SNF	**Seneffe**	**24.17**	**82**	⇑P		**P**		**21 31 46.8**	**+3.2**
	comp=Z,35nm,2.0s								
CHGG	**Chibougamau**	**24.29**	**276**	P		**P**		**21 31 45.3**	**+0.6**
	baz=65								
DOU	**Dourbes**	**24.52**	**83**	⇑P		**P**		**21 31 47.1**	**+0.4**
MESJ	**Messejana**	**24.53**	**120**	*e*P		**P**		**21 31 48.4**	**+1.5**
PBEJ	**Beja**	**24.57**	**119**	*e*P		**P**		**21 31 53.8**	**+6.6**
KONO	**Kongsberg**	**24.74**	**59**	⇓*e*P		**P**		**21 31 47.3**	**-1.3**
KONO				pmax		pmax			
	comp=Z,12nm,0.9s								
MEM	**Membach**	**25.14**	**81**	⇑P		**P**		**21 31 52.6**	**+0.3**
	comp=Z,15nm,1.4s								
NBO00	**NORSAR Array S**	**25.18**	**55**	*e*P		**P**		**21 31 53.1**	**+0.5**
PAB	**San Pablo**	**25.32**	**112**	*e*P		**P**		**21 31 54.2**	**+0.1**
	comp=Z,41nm,1.0s								
NB2	**NORSAR Subarra**	**25.40**	**55**	P		**P**		**21 31 53.9**	**-0.6**
	comp=Z,66nm,1.7s,baz=275,slow=9.3								
NB2	**NORSAR Subarra**	**25.40**	**55**	P		**P**		**21 31 53.9**	**-0.6**
	baz=275,slow=9.3								
NB200	**NORSAR Array S**	**25.40**	**55**	*e*P		**P**		**21 31 54.0**	**-0.6**
NOA	**NORSAR Array B**	**25.40**	**55**	P		**P**		**21 31 53.9**	**-0.6**
	comp=Z,7.4nm,1.1s,baz=295,slow=8.4,SNR=7.5								
NOA				LR		LR		21 39 46.8	
	comp=Z,2μm,22.0s,baz=270,slow=32								
NOA	**NORSAR Array B**	**25.40**	**55**	P		**P**		**21 31 54.0**	**-0.6**
ESDC	**Sonseca Array**	**25.45**	**112**	P		**P**		**21 31 54.8**	**-0.4**
	comp=Z,37nm,1.1s,baz=313,slow=8.9,SNR=19								
ESDC				LR		LR		21 39 55.4	
	comp=Z,2μm,18.2s,baz=310,slow=32								
ESLA	**Sonseca Array**	**25.45**	**112**	*e*P		**P**		**21 31 55.1**	**-0.1**
	comp=Z,30nm,0.9s								
ES19	**SONSECA Array**	**25.46**	**111**	*e*P		**P**		**21 31 54.9**	**-0.5**
NC602	**NORSAR Array S**	**25.58**	**56**	*e*P		**P**		**21 31 56.8**	**+0.6**
WLF	**Walferdange**	**25.62**	**83**	⇑P		**P**		**21 32 00.1**	**+3.5**
NC405	**NORSAR Array S**	**25.63**	**55**	*e*P		**P**		**21 31 58.7**	**+2.0**
TULEG	**Thule**	**25.87**	**343**	*e*P		**P**		**21 32 00.2**	**+1.6**
	comp=Z,21nm,1.1s								
TRQ	**Mont Tremblant**	**26.15**	**269**	*e*P		**P**		**21 32 03.7**	**+2.1**
MATQ	**Matagami**	**26.27**	**278**	P		**P**		**21 32 04.0**	**+1.5**
	baz=64								
ALFO	**Alfred**	**26.66**	**268**	P		**P**		**21 32 07.4**	**+1.3**
	baz=57								
HFS	**Hagfors**	**26.72**	**57**	P		**P**		**21 32 06.4**	**-0.1**
	comp=Z,7.6nm,0.9s,baz=313,slow=7.2,SNR=5.5								
VLDQ	**Val d'Or**	**26.91**	**275**	*e*P		**P**		**21 32 10.4**	**+2.1**
	comp=Z,33nm,1.0s								
ORIO	**Orleans, Innes**	**27.13**	**268**	P		**P**		**21 32 11.8**	**+1.5**
	baz=57								
BFO	**Black Forest**	**27.50**	**84**	*e*P		**P**		**21 32 18.3**	**+4.6**
	comp=Z,4.4nm,1.0s								
BFO	**Black Forest**	**27.50**	**84**	*e*P		**P**		**21 32 18.3**	**+4.6**
BFO				pmax		pmax			
	comp=Z,4.0nm,1.0s								
D52A	**ZEK Kipawa Sen**	**28.04**	**273**	P		**P**		**21 32 19.2**	**+0.8**
	baz=59								
GRF	**Grafenberg Arr**	**28.56**	**79**	*e*P		**P**		**21 32 27.0**	**+3.9**
	comp=Z,46nm,1.8s,baz=295,slow=8.3								
D50A	**G1974 Best Tow**	**28.78**	**275**	P		**P**		**21 32 25.5**	**+0.4**
	baz=60								
CLL	**Collm**	**28.89**	**75**	*e*P		**P**		**21 32 25.9**	**-0.1**
	comp=Z,18nm,0.9s								
CLL				*e*sP		**pP**		**21 32 29.8**	**-1.3**
CLL	**Collm**	**28.89**	**75**	*i*P		**P**		**21 32 25.6**	**-0.4**
	comp=Z,47nm,1.5s								
CLL				*i* sP		**pP**		**21 32 29.7**	**-1.3**
CLL	**Collm**	**28.89**	**75**	*e*P		**P**		**21 32 25.9**	**-0.1**
CLL				*e**SP		**pP**		**21 32 29.8**	**-1.3**
CLL				pmax		pmax			
	comp=Z,18nm,0.9s								
NKC	**Novy Kostel**	**29.03**	**78**	AMS		AMS		21 42 40.0	
	comp=Z,2μm,21.5s								
DAVOX	**Davos/Dischmat**	**29.19**	**86**	P		**P**		**21 32 27.9**	**-1.0**
	comp=Z,3.7nm,1.0s,baz=310,slow=16,SNR=3.0								
DAVOX				PcP		**PcP**		**21 35 35.9**	**+0.1**
	comp=Z,3.7nm,0.9s,baz=348,slow=7.4,SNR=3.8								
DAVOX				LR		LR		21 42 37.0	
	comp=Z,4μm,20.2s,baz=274,slow=33								
RETA	**Reutte**	**29.34**	**84**	*e*pP		**P**		**21 32 31.0**	**+0.8**
	comp=Z,5.0nm,0.9s								
BRG	**Berggiesshubel**	**29.61**	**76**	*e*P		**P**		**21 32 32.2**	**-0.2**
	comp=Z,20nm,1.3s								
	comp=N,780nm,11.4s								
	comp=E,1μm,17.4s								
	comp=Z,20μm,14.6s								
BRG	**Berggiesshubel**	**29.61**	**76**	*e*P		**P**		**21 32 32.2**	**-0.2**
BRG				pmax		pmax			
	comp=Z,20nm,1.3s								
BRG				MLR		MLR			
	comp=N,780nm,11.4s								
BRG				MLR		MLR			
	comp=E,1μm,17.4s								
BRG				MLR		MLR			
	comp=Z,20μm,14.6s								
SADO	**Sadowa**	**29.65**	**270**	P		**P**		**21 32 30.4**	**-2.3**
	comp=Z,13nm,1.0s,baz=64,slow=8.6,SNR=2.3								
SADO				PcP		**PcP**		**21 35 36.0**	**-0.8**
	comp=Z,12nm,0.9s,baz=263,slow=3.6,SNR=3.0								
SADO	**Sadowa**	**29.65**	**270**	*e*P		**P**		**21 32 30.4**	**-2.3**
	comp=Z,19nm,1.0s								
SADO				*e*PcP		**PcP**		**21 35 36.0**	**-0.8**
SQTA	**Sankt Quirin**	**29.74**	**84**	*e*pP		**P**		**21 32 34.8**	**+1.1**
	comp=Z,6.5nm,0.9s								
LUPA	**Lehigh Univers**	**29.95**	**260**	*e*P		**P**		**21 32 37.0**	**+1.5**
	comp=Z,3.5nm,1.2s								
SPITS	**Spitsbergen Ar**	**30.05**	**19**	P		**P**		**21 32 35.1**	**-1.0**
	comp=Z,16nm,1.0s,baz=240,slow=12,SNR=4.1								
SPITS				LR		LR		21 42 00.9	
	comp=Z,544nm,20.8s,baz=215,slow=31								
PVCC	**Panska Ves**	**30.12**	**76**	AMS		AMS		21 45 30.0	
	comp=Z,2μm,16.7s								
KHC	**Kasperske Hory**	**30.19**	**79**	*e*P		**P**		**21 32 38.2**	**+0.6**
	comp=Z,2.2nm,1.1s								
KHC	**Kasperske Hory**	**30.19**	**79**	*e*P		**P**		**21 32 37.8**	**+0.2**
KHC				AMS		AMS		21 44 00.0	
	comp=Z,2μm,17.4s								
KHC	**Kasperske Hory**	**30.19**	**79**	*e*P		**P**		**21 32 37.8**	**+0.2**
KHC				MLR		MLR			
	comp=Z,2μm,17.4s								
PRA	**Prague**	**30.25**	**77**	AMS		AMS		21 43 50.0	
	comp=Z,2μm,14.9s								
MDT	**Midelt**	**30.30**	**122**	P		**P**		**21 32 38.3**	**-0.4**
	comp=Z,7.1nm,0.9s,baz=346,slow=9.2,SNR=5.2								
MDT				LR		LR		21 42 59.7	
	comp=Z,734nm,20.5s,baz=343,slow=33								
PRU	**Pruhonice**	**30.35**	**77**	AMS		AMS		21 43 50.0	
	comp=Z,2μm,18.7s								
GEC2	**GERESS Array S**	**30.40**	**79**	*e*P		**P**		**21 32 40.7**	**+1.2**
	comp=Z,7.1nm,1.1s								
GEC2	**GERESS Array S**	**30.40**	**79**	*e*P		**P**		**21 32 40.7**	**+1.2**
GEC2				pmax		pmax			
	comp=Z,7.0nm,1.1s								
GERES	**GERESS Array B**	**30.40**	**79**	P		**P**		**21 32 38.7**	**-0.7**
	comp=Z,3.1nm,0.9s,baz=303,slow=7.4,SNR=8.3								
GERES				PcP		**PcP**		**21 35 37.9**	**-0.9**
	comp=Z,0.8nm,0.9s,baz=299,slow=4.4,SNR=3.3								
GEA0	**GERESS Array S**	**30.40**	**79**	*e*P		**P**		**21 32 39.1**	**-0.3**
GOPC	**GO Pecny, Ondr**	**30.52**	**77**	AMS		AMS		21 45 20.0	
	comp=Z,2μm,16.0s								
D47A	**Chapleau**	**30.75**	**277**	P		**P**		**21 32 41.6**	**-1.0**
	baz=59								
UPC	**Upice**	**30.96**	**75**	AMS		AMS		21 45 30.0	
	comp=Z,3μm,18.4s								
KSP	**Ksiaz**	**30.97**	**74**	*e*P		**P**		**21 32 42.5**	**-1.9**
KSP	**Ksiaz**	**30.97**	**74**	*e*P		**P**		**21 32 42.5**	**-1.9**
PAGS	**Pennsylvania G**	**30.97**	**261**	*e*P		**P**		**21 32 47.0**	**+2.5**
	comp=Z,37nm,1.2s								
ARA0	**ARCESS Array S**	**30.98**	**37**	*e*P		**P**		**21 32 43.8**	**-0.5**
ARCES	**ARCESS Array B**	**30.98**	**37**	P		**P**		**21 32 43.8**	**-0.5**
	comp=Z,12nm,0.9s,baz=268,slow=11,SNR=7.6								
RES	**Resolute Bay**	**31.00**	**334**	P		**P**		**21 32 42.7**	**-1.6**
	comp=Z,4.6nm,0.9s,baz=87,slow=7.4,SNR=4.5								
RES				PcP		**PcP**		**21 35 38.8**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=104,slow=4.3,SNR=4.9								
RES	**Resolute Bay**	**31.00**	**334**	*e*P		**P**		**21 32 44.5**	**+0.1**
	comp=Z,18nm,1.0s								
RES				*e*PcP		**PcP**		**21 35 42.5**	**+2.8**
RES	**Resolute Bay**	**31.00**	**334**	*e*P		**P**		**21 32 44.5**	**+0.1**
RES				*e*				21 35 42.5	
RES				pmax		pmax			
	comp=Z,18nm,1.0s								
KBA	**Koelnbreinsper**	**31.07**	**83**	pP		**P**		**21 32 46.8**	**+1.4**
	comp=Z,19nm,1.2s								
DPC	**Dobruska-Polom**	**31.20**	**75**	*e*P		**P**		**21 32 46.9**	**+0.4**
DPC				*e*pP		**pP**		**21 32 50.7**	**-0.9**
DPC				AMS		AMS		21 45 40.0	
	comp=Z,2μm,13.3s								
DPC	**Dobruska-Polom**	**31.20**	**75**	*e*P		**P**		**21 32 46.9**	**+0.4**
DPC				*e*				21 32 50.7	
DPC				MLR		MLR			
	comp=Z,2μm,13.3s								
MOA	**Molln**	**31.21**	**81**	*i* pP		**P**		**21 32 47.7**	**+1.1**
	comp=Z,23nm,1.6s								
TREC	**Trest**	**31.21**	**78**	*e*P		**P**		**21 32 47.2**	**+0.6**
TREC				*e*pP		**pP**		**21 32 51.8**	**+0.2**
TREC				AMS		AMS		21 44 50.0	
	comp=Z,3μm,16.5s								
TREC	**Trest**	**31.21**	**78**	*e*P		**P**		**21 32 47.2**	**+0.6**
TREC				*e*				21 32 51.8	
TREC				MLR		MLR			
	comp=Z,3μm,16.5s								
MYKA	**Terra Mystica**	**31.47**	**83**	*i* pP		**P**		**21 32 50.3**	**+1.3**
	comp=Z,38nm,1.6s								
KEV	**Kevo**	**31.50**	**36**	*e*P		**P**		**21 32 53.0**	**+4.2**
KLNR	**Kaliningrad**	**31.60**	**66**	*i* P		**P**		**21 32 49.7**	**-0.2**
KLNR				pmax		pmax			
	comp=Z,130nm,1.6s								
FCC	**Fort Churchill**	**32.04**	**303**	*e*P		**P**		**21 32 54.5**	**+0.8**
	comp=Z,29nm,1.0s								
FCC	**Fort Churchill**	**32.04**	**303**	*e*P		**P**		**21 32 54.5**	**+0.8**
FCC				pmax		pmax			
	comp=Z,29nm,1.0s								
JAVS	**Javornik**	**32.12**	**84**	*i* P		**P**		**21 32 54.9**	**+0.3**
JAVS				*i*				21 32 59.1	
MORC	**Moravsky Berou**	**32.17**	**76**	*e*P		**P**		**21 32 55.5**	**+0.5**
	comp=Z,8.4nm,1.1s								
MORC	**Moravsky Berou**	**32.17**	**76**	*e*P		**P**		**21 32 55.5**	**+0.5**
MORC				pmax		pmax			
	comp=Z,8.0nm,1.1s								
PERS	**Pernice**	**32.34**	**82**	*i* P		**P**		**21 32 56.4**	**-0.1**
PERS				*e*				21 33 00.5	
FIA0	**FINESS Array S**	**32.39**	**52**	*e*P		**P**		**21 32 56.4**	**-0.4**
FIA0	**FINESS Array S**	**32.39**	**52**	*e*P		**P**		**21 32 56.4**	**-0.4**
FINES	**FINESS Array B**	**32.39**	**52**	P		**P**		**21 32 56.4**	**-0.4**
	comp=Z,6.9nm,0.8s,baz=292,slow=6.0,SNR=9.1								
FIA1	**FINESS Array S**	**32.39**	**52**	*e*P		**P**		**21 32 56.8**	**+0.1**
N54A	**Moraine State**	**32.42**	**265**	P		**P**		**21 32 57.7**	**+0.5**
	baz=51								
OKC	**Ostrava-Krasne**	**32.48**	**75**	AMS		AMS		21 45 10.0	
	comp=Z,2μm,15.9s								
O55A	**Ligonier**	**32.50**	**263**	P		**P**		**21 32 58.8**	**+0.9**
	baz=50								
VISS	**Visnje**	**32.62**	**84**	*e*P		**P**		**21 32 58.9**	**-0.1**
VISS				*i*				21 33 03.6	
CBN	**Corbin Frederi**	**32.69**	**259**	P		**P**		**21 33 00.6**	**+1.0**
	baz=47								
MODS	**Modra-Piesok**	**32.70**	**78**	*e*P		**P**		**21 32 59.0**	**-0.6**
MODS				pmax		pmax			
	comp=Z,31nm,1.5s								
MODS	**Modra-Piesok**	**32.70**	**78**	*e*P		**P**		**21 32 59.0**	**-0.6**
H47A	**Mio**	**32.73**	**274**	P		**P**		**21 33 00.7**	**+0.8**
	baz=56								
N53A	**Lisbon**	**33.02**	**265**	P		**P**		**21 33 04.4**	**+2.0**
	baz=51								
BEL	**Belsk**	**33.06**	**70**	*e*P		**P**		**21 33 03.8**	**+1.1**
BEL	**Belsk**	**33.06**	**70**	*e*P		**P**		**21 33 03.8**	**+1.1**
R58B	**Mineral**	**33.15**	**259**	*e*P		**P**		**21 33 05.9**	**+2.3**
	comp=Z,13nm,1.1s								
I47A	**Gladwin**	**33.24**	**273**	P		**P**		**21 33 04.5**	**+0.1**
	baz=55								
OJC	**Ojcow**	**33.24**	**74**	*e*P		**P**		**21 33 04.5**	**+0.2**
OJC	**Ojcow**	**33.24**	**74**	*e*P		**P**		**21 33 04.5**	**+0.2**
	comp=Z,12nm,1.0s								
OJC	**Ojcow**	**33.24**	**74**	*e*P		**P**		**21 33 04.5**	**+0.2**
OJC				pmax		pmax			
	comp=Z,12nm,1.0s								
SUW	**Suwalki**	**33.44**	**66**	*e*P		**P**		**21 33 05.9**	**-0.1**
SUW	**Suwalki**	**33.44**	**66**	*e*P		**P**		**21 33 05.9**	**-0.1**
	comp=Z,50nm,1.0s								
SUW	**Suwalki**	**33.44**	**66**	*e*P		**P**		**21 33 05.9**	**-0.1**
VYHS	**Vyhne**	**33.53**	**77**	*e*P		**P**		**21 33 07.3**	**+0.4**
VYHS				*e*				21 33 11.5	
VYHS				pmax		pmax			
	comp=Z,11nm,1.5s								
VYHS	**Vyhne**	**33.53**	**77**	*e*P		**P**		**21 33 07.3**	**+0.4**
VYHS				*es*P		**pP**		**21 33 11.4**	**-0.6**
LANS	**Liptovska Anna**	**33.57**	**76**	*e*P		**P**		**21 33 08.4**	**+1.1**
LANS				*e*				21 33 12.2	
LANS	**Liptovska Anna**	**33.57**	**76**	*e*P		**P**		**21 33 08.4**	**+1.1**
LANS				*es*P		**pP**		**21 33 12.2**	**-0.1**
VSU	**Vasula**	**33.60**	**57**	*ce*P		**P**		**21 33 05.6**	**-1.8**
VSU				pmax		pmax			
	comp=Z,100nm,1.3s								
Q55A	**Buckhannon**	**33.74**	**262**	P		**P**		**21 33 10.4**	**+1.6**
	baz=49								
F43A	**Flat Rock, Esc**	**33.79**	**278**	P		**P**		**21 33 10.0**	**+0.9**
	baz=57								
NIE	**Niedzica**	**33.91**	**75**	*e*P		**P**		**21 33 11.2**	**+1.0**
NIE	**Niedzica**	**33.91**	**75**	*e*P		**P**		**21 33 11.2**	**+1.0**
O52A	**Adamsville**	**34.04**	**265**	*e*P		**P**		**21 33 14.4**	**+3.0**
	comp=Z,27nm,0.9s								
APA	**Apatity**	**34.09**	**40**	⇑*i*P		**P**		**21 33 11.0**	**-0.5**
APA				pmax		pmax			
	comp=Z,14nm,1.0s								
APA				MLR		MLR			
	comp=Z,2μm,15.0s								
P53A	**Whipple**	**34.19**	**264**	*e*P		**P**		**21 33 15.6**	**+3.0**
	comp=Z,31nm,1.1s								
P53A	**Whipple**	**34.19**	**264**	P		**P**		**21 33 13.9**	**+1.3**
	baz=49								
PSZ	**Piszkesteto**	**34.44**	**77**	*e*P		**P**		**21 33 15.7**	**+0.9**
	comp=Z,12nm,1.1s								
PSZ	**Piszkesteto**	**34.44**	**77**	*e*P		**P**		**21 33 15.7**	**+0.9**
PSZ				pmax		pmax			
	comp=Z,12nm,1.1s								
O51A	**Pataskala**	**34.48**	**266**	P		**P**		**21 33 16.1**	**+0.9**
	baz=50								
E41A	**Kenton**

baz=48
G39A **Holcombe** 36.42 280 P P 21 33 32.0 +0.1
baz=56
N46A **Monticello** 36.44 270 P P 21 33 32.9 +0.9
baz=51
F38A **Pierce - Schro** 36.46 281 P P 21 33 33.1 +1.0
baz=56
ULM **Lac du Bonnet** 36.46 290 P P 21 33 30.6 -1.5
comp=Z,16nm,0.9s,baz=67,slow=7.8,SNR=10
ULM PcP PcP 21 35 54.1 -1.5
comp=Z,5.4nm,0.9s,baz=346,slow=2.7,SNR=3.7
ULM **Lac du Bonnet** 36.46 290 *e*P P 21 33 31.9 -0.2
comp=Z,39nm,1.1s
ULM **Lac du Bonnet** 36.46 290 *e*P P 21 33 31.9 -0.2
ULM pmax pmax
comp=Z,39nm,1.1s
O47A **Sheridan** 36.52 269 P P 21 33 33.2 +0.4
baz=50
Q49A **Aurora** 36.56 266 P P 21 33 33.2 +0.1
baz=49
P48A **Milroy** 36.58 268 P P 21 33 33.6 +0.4
baz=50
S51A **Beattyville** 36.70 264 *e*P P 21 33 36.2 +1.9
comp=Z,20nm,1.0s
S51A **Beattyville** 36.70 264 P P 21 33 35.4 +1.1
baz=48
R50A **Paris** 36.70 265 P P 21 33 34.9 +0.6
baz=48
H39A **Augusta** 36.84 279 P P 21 33 36.0 +0.6
baz=55
J41A **Loganville** 36.86 276 P P 21 33 36.1 +0.5
baz=54
G38A **Ridgeland** 36.89 280 P P 21 33 35.7 -0.1
baz=55
I40A **Norwalk** 36.91 277 P P 21 33 37.1 +1.1
baz=54
N45A **Kentland** 36.93 271 P P 21 33 37.1 +1.0
baz=51
SFIN **Lafayette** 36.98 270 P P 21 33 37.2 +0.6
baz=50
Q48A **North Vernon** 37.10 267 P P 21 33 37.9 +0.2
baz=49
S50A **Richmond** 37.15 264 P P 21 33 38.7 +0.7
baz=48
R49A **Shelbyville** 37.19 266 P P 21 33 39.5 +1.0
baz=48
J40A **Soldiers Grove** 37.27 277 P P 21 33 40.3 +1.2
baz=54
T51A **Gray** 37.36 263 P P 21 33 40.9 +1.0
baz=47
SPMN **Marine on St.** 37.41 281 *e*P P 21 33 41.0 +0.8
comp=Z,36nm,1.1s
SPMN **Marine on St.** 37.41 281 P P 21 33 40.9 +0.8
baz=55
BLO **Bloomington** 37.41 268 *e*P P 21 33 45.6 +5.3
comp=Z,24nm,0.8s
U52A **Thorn Hill** 37.42 262 P P 21 33 41.3 +0.9
baz=46
TZTN **Tazewell** 37.42 262 *e*P P 21 33 44.4 +3.9
comp=Z,37nm,1.0s
TZTN **Tazewell** 37.42 262 P P 21 33 41.7 +1.2
baz=46
H38A **Maiden Rock** 37.42 280 P P 21 33 40.9 +0.6
baz=55
I39A **Houston** 37.46 278 *e*P P 21 33 41.6 +1.0
comp=Z,47nm,0.9s
I39A **Houston** 37.46 278 P P 21 33 41.7 +1.0
baz=54
AGMN **Agassiz Nation** 37.47 287 *e*P P 21 33 41.7 +1.1
comp=Z,20nm,1.1s
AGMN **Agassiz Nation** 37.47 287 P P 21 33 41.2 +0.6
baz=58
VAE **Valguarnera** 37.47 96 P P 21 33 39.6 -1.3
comp=Z,12nm,0.9s,baz=69,slow=18,SNR=1.8
L42A **Oliver, Polo** 37.48 274 *e*P P 21 33 43.4 +2.6
comp=Z,26nm,1.0s
Q47A **Bedord North L** 37.51 268 P P 21 33 41.8 +0.7
baz=49
V53A **Saluda** 37.59 261 *e*P P 21 33 42.2 +0.2
comp=Z,17nm,1.1s
V53A **Saluda** 37.59 261 P P 21 33 42.5 +0.5
baz=46
S49A **Springfield** 37.60 265 P P 21 33 42.5 +0.7
baz=48
FFC **Flin Flon** 37.60 299 *e*P P 21 33 42.4 +0.7
comp=Z,19nm,1.1s
FFC **Flin Flon** 37.60 299 *e*P P 21 33 42.4 +0.7
FFC pmax pmax
comp=Z,19nm,1.1s
BUR08 **Bucovina Ar. S** 37.62 74 *e*P P 21 33 43.3 +1.2
BUR04 **Bucovina Ar. S** 37.64 74 *e*P P 21 33 43.0 +0.7
T50A **Nancy** 37.85 264 P P 21 33 44.8 +0.8
baz=47
WCI **Wyandotte Cave** 37.90 267 *e*P P 21 33 45.2 +0.8
comp=Z,26nm,0.9s
WCI **Wyandotte Cave** 37.90 267 *e*P P 21 33 45.2 +0.8
WCI pmax pmax
comp=Z,26nm,0.9s
WCI **Wyandotte Cave** 37.90 267 P P 21 33 45.2 +0.8
baz=48
P45A **Graceland, Par** 37.90 270 *e*P P 21 33 44.7 +0.3
comp=Z,28nm,0.9s
P45A **Graceland, Par** 37.90 270 P P 21 33 44.8 +0.3
baz=50
NHSC **New Hope** 37.91 255 *e*P P 21 33 45.8 +1.4
comp=Z,88nm,1.1s
NHSC **New Hope** 37.91 255 P P 21 33 45.9 +1.4
baz=43
K40A **Colesburg** 37.92 276 P P 21 33 45.4 +0.8
baz=53
L41A **Preston** 37.92 275 P P 21 33 45.8 +1.2
baz=52
V52A **Sevierville** 37.93 261 *e*P P 21 33 45.5 +0.7
comp=Z,18nm,1.0s
V52A **Sevierville** 37.93 261 P P 21 33 44.6 -0.1
baz=46
R47A **Wooly Knot Far** 37.99 267 P P 21 33 45.8 +0.6
baz=48
S48A **Wiedeman Farm,** 38.14 266 P P 21 33 47.0 +0.6
baz=48
W53A **Cullowhee** 38.15 260 P P 21 33 47.4 +0.7
baz=45
TKL **Tuckaleechee C** 38.16 261 P P 21 33 46.0 -0.7
comp=Z,4.9nm,1.0s,baz=155,slow=7.5,SNR=2.7
TKL **Tuckaleechee C** 38.16 261 *e*P P 21 33 46.0 -0.7
comp=Z,6.2nm,1.0s
TKL **Tuckaleechee C** 38.16 261 *e*P P 21 33 46.0 -0.7
TKL pmax pmax
comp=Z,6.0nm,1.0s
T49A **Edmonton** 38.20 265 *e*P P 21 33 47.7 +0.7
comp=Z,13nm,0.9s
AK11 **Malin Array Si** 38.24 68 *e*P P 21 33 45.9 -1.2
KIEV **Kiev** 38.25 68 *e*P P 21 33 46.5 -0.7
comp=Z,27nm,1.1s
KIEV **Kiev** 38.25 68 *i*P P 21 33 45.3 -1.9
KIEV pmax pmax
comp=Z,11nm,0.9s
AKASG **Malin Array Be** 38.26 68 P P 21 33 46.4 -0.9
comp=Z,11nm,0.9s,baz=305,slow=8.1,SNR=14
AKASG PcP PcP 21 35 59.7 -1.3
comp=Z,2.6nm,0.8s,baz=293,slow=3.7,SNR=6.1
AKASG LR LR 21 50 29.6
comp=Z,1µm,18.2s,baz=305,slow=38
AKBB **Malin Array Si** 38.26 68 *e*P P 21 33 46.9 -0.3
comp=Z,28nm,1.1s
AKBB *e*PcP PcP 21 35 59.8 -1.3
U50A **Jamestown** 38.27 263 P P 21 33 47.1 -0.5
baz=46
HODGE **Hodges** 38.29 258 *e*P P 21 33 52.4 +4.7
comp=Z,19nm,1.1s
L40A **Anamosa** 38.36 275 *e*P P 21 33 51.1 +2.9
comp=Z,34nm,1.1s
P44A **Sand Creek, Wi** 38.46 270 P P 21 33 49.5 +0.3
baz=50
R46A **Gibon Southern** 38.63 268 P P 21 33 51.1 +0.6
baz=48
W52A **Murphy** 38.65 261 *e*P P 21 33 55.6 +4.8
comp=Z,10nm,0.8s
W52A **Murphy** 38.65 261 P P 21 33 51.3 +0.5
baz=45
T48A **Bowling Green** 38.70 265 P P 21 33 52.0 +0.8
baz=47
KLMR **Klimovskoe** 38.72 49 *e*P P 21 33 48.8 -2.2
KLMR pmax pmax
comp=Z,134nm,1.5s
KLMR **Klimovskoe** 38.72 49 *e*P P 21 33 48.9 -2.1
KLMR AMP 21 33 57.8
comp=Z,134nm,1.4s

CPCT **Cooper Cave** 38.75 262 *e*P P 21 33 52.6 +1.1
comp=Z,22nm,1.1s
U49A **Red Boiling Sp** 38.75 264 P P 21 33 52.2 +0.7
baz=47
L39A **Vinton** 38.78 276 P P 21 33 52.4 +0.6
baz=52
P43A **Skaggs, Pawnee** 38.88 271 P P 21 33 53.6 +1.0
baz=50
USIN **University of** 38.88 268 *e*P P 21 33 53.4 +0.7
comp=Z,41nm,0.8s
V50A **Pikevile** 38.93 263 P P 21 33 54.0 +0.9
baz=46
X52A **Dahlonega** 38.97 260 P P 21 33 54.5 +1.0
baz=45
N41A **Harden Midland** 38.99 273 *e*P P 21 33 58.2 +4.7
comp=Z,32nm,1.1s
R45A **Skylar, Fairfi** 39.03 268 P P 21 33 54.6 +0.7
baz=48
Q44A **Meyer Farm, Va** 39.06 270 *e*P P 21 33 54.9 +0.7
comp=Z,41nm,0.8s
Q44A **Meyer Farm, Va** 39.06 270 P P 21 33 54.9 +0.7
baz=49
W51A **Cleveland** 39.09 262 P P 21 33 55.4 +1.0
baz=45
S46A **Don Dixon Farm** 39.10 267 P P 21 33 55.1 +0.6
baz=48
MLR **Muntele Rosu** 39.25 77 *e*P P 21 33 56.1 +0.2
comp=Z,7.6nm,1.1s
MLR **Muntele Rosu** 39.25 77 *e*P P 21 33 56.1 +0.2
MLR pmax pmax
comp=Z,8.0nm,1.1s
M39A **Webster** 39.28 275 P P 21 33 56.2 +0.2
baz=51
Y53A **Monroe** 39.33 259 P P 21 33 57.2 +0.8
baz=44
V49A **McMinnville** 39.34 263 P P 21 33 57.2 +0.6
baz=46
W50A **Signal Mountai** 39.38 262 *e*P P 21 33 58.1 +1.1
comp=Z,26nm,1.0s
W50A **Signal Mountai** 39.38 262 P P 21 33 58.1 +1.1
baz=46
P42A **Winchester** 39.40 272 *e*P P 21 33 57.6 +0.6
comp=Z,31nm,1.0s
P42A **Winchester** 39.40 272 P P 21 33 56.1 -0.9
baz=50
R44A **Waltonville** 39.53 269 P P 21 33 58.9 +0.8
baz=48
X51A **Calhoun** 39.56 261 *e*P P 21 34 03.2 +4.8
comp=Z,19nm,1.0s
X51A **Calhoun** 39.56 261 P P 21 33 58.9 +0.5
baz=45
GOGA **Godfrey** 39.58 259 P P 21 33 59.2 +0.7
baz=44
Y52A **Lilburn** 39.60 260 *e*P P 21 33 59.2 +0.5
comp=Z,16nm,0.9s
Y52A **Lilburn** 39.60 260 P P 21 33 59.2 +0.5
baz=44
T46A **Princeton** 39.63 267 P P 21 33 59.8 +0.8
baz=47
U47A **Clarksville** 39.69 265 P P 21 34 00.2 +0.8
baz=47
SWET **Sewanee** 39.73 263 *e*P P 21 34 01.0 +1.1
comp=Z,16nm,1.0s
V48A **Smith Brothers** 39.89 264 *e*P P 21 34 02.1 +1.0
comp=Z,22nm,1.0s
V48A **Smith Brothers** 39.89 264 P P 21 34 01.7 +0.5
baz=46
OBN **Obninsk** 39.91 58 *e*P P 21 34 00.7 -0.4
comp=Z,49nm,1.1s
OBN **Obninsk** 39.91 58 *e*P P 21 34 00.0 -1.0
OBN *e* 21 35 38.2
OBN *e*SS SS 21 42 55.2 -5.9
OBN pmax pmax
comp=Z,56nm,1.2s
OBN MLR MLR
comp=Z,1µm,17.0s
SIUC **Southern Illin** 39.96 269 *e*P P 21 34 02.2 +0.5
comp=Z,85nm,1.1s
S44A **Carbondale** 40.00 269 P P 21 34 02.9 +0.9
baz=48
R43A **Red Bud** 40.01 270 P P 21 34 03.0 +0.9
baz=48
KIS **Kishinev** 40.03 73 *e*P P 21 34 03.5 +1.4
comp=Z,110nm,1.6s
KIS *e*LR LR 21 49 10.0
comp=Z,2µm,16.0s
KIS **Kishinev** 40.03 73 *e*P P 21 34 03.5 +1.4
KIS *e* 21 35 39.0
KIS pmax pmax
comp=Z,110nm,1.6s
KIS MLR MLR
comp=Z,2µm,16.0s
KIS MLR MLR
comp=N,1µm,15.0s
YKW3 **Yellowknife Ar** 40.06 315 *e*P P 21 34 01.5 -0.7
comp=N,5.1nm,1.0s
YKW3 *e*PcP PcP 21 36 05.5 -1.1
YKA **Yellowknife Ar** 40.09 315 P P 21 34 01.3 -1.1
comp=N,1.9nm,0.8s,baz=63,slow=9.0,SNR=8.1
YKA PP PP 21 35 33.4 -1.0
comp=N,2.2nm,1.1s,baz=62,slow=10,SNR=3.9
YKA PcP PcP 21 36 05.3 -1.3
comp=N,3.7nm,0.9s,baz=61,slow=3.5,SNR=12
YKB5 **Yellowknife Ar** 40.09 315 *e*P P 21 34 03.9 +1.5
YKB5 *e*PP PP 21 35 33.4 -1.1
YKB5 *e*PcP PcP 21 36 05.2 -1.5
MOS **Moscow** 40.14 57 *e*P P 21 34 05.9 +3.0
MOS pmax pmax
comp=Z,41nm,0.9s
Y51A **Rockmart** 40.15 261 P P 21 34 03.8 +0.4
baz=44
WVT **Waverly** 40.22 266 *e*P P 21 34 04.3 +0.5
comp=Z,21nm,1.0s
WVT **Waverly** 40.22 266 *e*P P 21 34 04.3 +0.5
WVT pmax pmax
comp=Z,21nm,1.0s
WVT **Waverly** 40.22 266 P P 21 34 04.4 +0.5
baz=47
V47A **Nunnelly** 40.24 265 P P 21 34 04.5 +0.5
baz=46
Z52A **Williamson** 40.29 259 P P 21 34 05.3 +0.9
baz=44
Q41A **Truxton** 40.33 272 P P 21 34 05.3 +0.5
baz=49
W48A **Pulaski** 40.38 264 P P 21 34 05.8 +0.6
baz=46
ECSD **EROS Data Cent** 40.49 281 *e*P P 21 34 06.6 +0.5
comp=Z,50nm,1.0s
ECSD **EROS Data Cent** 40.49 281 P P 21 34 06.8 +0.7
baz=53
LIT **Litokhoron** 40.52 86 *e*P P 21 34 06.5 +0.2
comp=Z,12nm,0.8s
LIT **Litokhoron** 40.52 86 *e*P P 21 34 06.5 +0.2
LIT pmax pmax
comp=Z,12nm,0.8s
R42A **Luebbering** 40.52 270 P P 21 34 06.9 +0.6
baz=48
Y50A **Piedmont** 40.55 261 P P 21 34 07.3 +0.7
baz=44
S43A **Fulton Ridge,** 40.56 269 P P 21 34 06.9 +0.2
baz=48
T44A **Benton** 40.60 268 P P 21 34 07.4 +0.3
baz=48
V46A **Holladay** 40.61 265 P P 21 34 07.6 +0.5
baz=46
Z51A **Franklin** 40.63 260 P P 21 34 08.3 +1.0
baz=44
152A **Waverly Hall** 40.84 259 *e*P P 21 34 09.5 +0.5
comp=Z,15nm,0.9s
152A **Waverly Hall** 40.84 259 P P 21 34 09.7 +0.7
baz=43
R41A **Rosebud** 40.85 271 P P 21 34 09.6 +0.5
baz=48
S42A **Caledonia** 40.86 270 P P 21 34 09.3 +0.2
baz=48
CCM **Cathedral Cave** 40.93 271 *e*P P 21 34 09.6 -0.1
comp=Z,19nm,0.9s
CCM **Cathedral Cave** 40.93 271 *e*P P 21 34 09.6 -0.1
CCM pmax pmax
comp=Z,19nm,0.9s
CCM **Cathedral Cave** 40.93 271 P P 21 34 10.1 +0.4
baz=48
Y49A **Blount Mountai** 40.97 262 *e*P P 21 34 14.8 +4.7
comp=Z,14nm,0.9s
T43A **Greenville** 41.02 269 P P 21 34 10.6 +0.1
baz=48
PRGR **Permogore** 41.03 46 *e*P P 21 34 10.2 0.0
PRGR pmax pmax
comp=Z,38nm,1.5s
AGG **Agios Georgios** 41.12 87 *e*P P 21 34 12.1 +0.8
comp=Z,32nm,1.2s
AGG **Agios Georgios** 41.12 87 *e*P P 21 34 12.1 +0.8
AGG pmax pmax
comp=Z,32nm,1.2s
151A **Opelika** 41.29 259 P P 21 34 13.1 +0.4
baz=43
X47A **Russelville** 41.35 264 P P 21 34 13.3 +0.1
baz=45
Y48A **Jasper** 41.37 263 P P 21 34 13.9 +0.5
baz=45
Z49A **Columbiana** 41.51 261 P P 21 34 15.2 +0.7
baz=44
T42A **Van Buren** 41.53 269 *e*P P 21 34 15.1 +0.4
comp=Z,24nm,0.9s
T42A **Van Buren** 41.53 269 P P 21 34 15.0 +0.4
baz=48
S41A **Jillco Farms,** 41.54 270 P P 21 34 15.1 +0.3
baz=48
150A **Eclectic** 41.64 260 P P 21 34 15.8 +0.3
baz=44
251A **Midway** 41.66 259 P P 21 34 16.1 +0.3
baz=43
W45A **Hickory Valley** 41.69 266 P P 21 34 15.9 0.0
baz=46
X46A **Booneville** 41.75 265 P P 21 34 16.7 +0.3
baz=45
Y47A **UCPARC, Winfie** 41.78 263 P P 21 34 16.9 +0.2
baz=45
352A **Blakely** 41.83 258 P P 21 34 17.6 +0.5
baz=42
LRAL **Lakeview Retre** 41.90 262 *e*P P 21 34 18.0 +0.3
comp=Z,10nm,0.9s
LRAL **Lakeview Retre** 41.90 262 P P 21 34 17.9 +0.3
baz=44
T41A **Mountain View** 41.92 270 P P 21 34 18.0 +0.1
baz=48
Z48A **Northport** 41.98 262 P P 21 34 18.8 +0.4
baz=44
DGMT **Dagmar** 42.01 292 *e*P P 21 34 20.7 +2.2
comp=Z,24nm,1.0s
U42A **Revenden** 42.08 269 P P 21 34 19.0 -0.1
baz=47
149A **Jones** 42.09 261 P P 21 34 19.7 +0.4
baz=44
250A **Grady** 42.24 260 *e*P P 21 34 21.1 +0.6
comp=Z,39nm,1.0s
250A **Grady** 42.24 260 P P 21 34 20.6 +0.1
baz=43
OXF **Oxford** 42.27 265 *e*P P 21 34 20.3 -0.4
comp=Z,68nm,0.9s
OXF **Oxford** 42.27 265 *e*P P 21 34 20.3 -0.4
OXF pmax pmax
comp=Z,68nm,0.9s
OXF **Oxford** 42.27 265 P P 21 34 20.0 -0.7
baz=45
LPSR **Galich'ya Gora** 42.41 60 *e*P P 21 34 20.8 -0.8
LPSR pmax pmax
comp=Z,40nm,1.2s
Z47A **Carrollton** 42.41 263 P P 21 34 22.3 +0.4
baz=44
148A **Greensboro** 42.51 262 P P 21 34 22.8 +0.1
baz=44
V42A **Cord** 42.54 268 P P 21 34 22.8 -0.1
baz=46
249A **Camden** 42.74 261 P P 21 34 24.9 +0.3
baz=43
Y45A **Yeager Farm, C** 42.80 265 P P 21 34 24.2 -0.8
baz=45
BGNE **Belgrade** 42.82 280 *e*P P 21 34 26.1 +0.9
comp=Z,97nm,1.0s
BGNE **Belgrade** 42.82 280 P P 21 34 25.5 +0.3
baz=51
147A **Livingston** 42.90 262 *e*P P 21 34 26.4 +0.6
comp=Z,62nm,1.0s
147A **Livingston** 42.90 262 P P 21 34 26.4 +0.6
baz=44
451A **Vernon** 42.94 258 P P 21 34 26.7 +0.5
baz=42
V41A **Mountainview** 43.00 269 P P 21 34 25.8 -0.9
baz=46
U40A **Yellville** 43.02 270 P P 21 34 26.7 -0.1
baz=47
VORR **Voronezh** 43.06 61 P P 21 34 25.0 -1.9
VORR pmax pmax
comp=Z,250nm,1.4s
349A **Repton** 43.23 260 P P 21 34 28.7 +0.2
baz=43
VSR **Storozhevoye** 43.29 62 *d i*P P 21 34 27.7 -1.1
KSU1 **Kansas State U** 43.41 276 *e*P P 21 34 29.7 -0.2
comp=Z,49nm,0.9s
KSU1 **Kansas State U** 43.41 276 P P 21 34 30.0 +0.1
baz=49
WHAR **Wooly Hollow** 43.42 268 *e*P P 21 34 30.3 +0.3
comp=Z,37nm,1.0s
W41B **Gary Mavity, V** 43.48 268 *e*P P 21 34 30.4 -0.1
comp=Z,33nm,1.0s
W41B **Gary Mavity, V** 43.48 268 P P 21 34 30.2 -0.2
baz=46
247A **Quitman** 43.55 262 P P 21 34 31.3 +0.2
baz=43
HHAR **Hobbs** 43.72 271 *e*P P 21 34 32.4 0.0
comp=Z,31nm,1.0s
UALR **University of** 43.81 268 *e*P P 21 34 34.6 +1.4
comp=Z,21nm,1.0s
CCAR **Cane Creek** 44.08 267 *e*P P 21 34 39.3 +4.0
comp=Z,39nm,1.1s
LAO **LASA Array** 44.17 291 *e*P P 21 34 37.5 +1.5
LAO **LASA Array** 44.17 291 P P 21 34 37.3 +1.3
baz=53
X40A **Basin Creek Fa** 44.30 268 *e*P P 21 34 36.8 -0.3
comp=Z,24nm,1.0s
X40A **Basin Creek Fa** 44.30 268 P P 21 34 37.3 +0.2
baz=46
W39A **Magazine** 44.37 270 *e*P P 21 34 37.8 +0.1
comp=Z,68nm,1.1s
W39A **Magazine** 44.37 270 P P 21 34 37.5 -0.2
baz=46
Y41A **Eaglette Beard** 44.60 267 P P 21 34 39.1 -0.4
baz=45
VRH **Novokhopyorsk** 44.62 61 *e*P P 21 34 38.7 -0.8
VRH pmax pmax
comp=Z,40nm,1.3s
MIAR **Mount Ida** 44.70 269 *e*P P 21 34 40.9 +0.6
comp=Z,56nm,1.0s
MIAR **Mount Ida** 44.70 269 *e*P P 21 34 40.9 +0.6
MIAR pmax pmax
comp=Z,56nm,1.0s
MIAR **Mount Ida** 44.70 269 P P 21 34 40.1 -0.2
baz=46
TUL1 **Leonard** 45.06 272 *e*P P 21 34 43.1 -0.1
comp=Z,31nm,0.9s
TUL1 **Leonard** 45.06 272 P P 21 34 42.5 -0.7
baz=46
Z41A **Richland Creek** 45.15 267 *e*P P 21 34 44.3 +0.4
comp=Z,49nm,1.0s
Z41A **Richland Creek** 45.15 267 P P 21 34 43.0 -0.9
baz=45
EGMT **Eagleton** 45.29 294 *e*P P 21 34 45.5 +0.5
comp=Z,19nm,0.8s
EGMT **Eagleton** 45.29 294 P P 21 34 45.5 +0.5
baz=53
CBKS **Cedar Bluff** 45.43 278 *e*P P 21 34 46.0 -0.1
comp=Z,38nm,0.9s
CBKS **Cedar Bluff** 45.43 278 *e*P P 21 34 46.0 -0.1
CBKS pmax pmax
comp=Z,38nm,0.9s
CBKS **Cedar Bluff** 45.43 278 P P 21 34 45.9 -0.1
baz=48
EPYK **Eagle Plains** 46.29 327 *e*P P 21 34 53.0 +0.4
comp=Z,32nm,1.1s
EPYK **Eagle Plains** 46.29 327 P P 21 34 52.8 +0.2
baz=53
GCMT **Greycliff** 46.61 292 *e*P P 21 34 56.6 +1.2
U32A **Winter Ranch,** 46.63 275 *e*P P 21 35 00.0 +4.4
comp=Z,39nm,1.1s
ANTO **Ankara** 46.69 79 *e*P P 21 34 57.5 +1.5
comp=Z,15nm,1.0s
ANTO **Ankara** 46.69 79 *e*P P 21 34 58.0 +1.9
ISP **Isparta** 46.73 82 *e*P P 21 34 56.6 +0.1
comp=Z,2.8nm,0.7s
ISP **Isparta** 46.73 82 *e*P P 21 34 56.6 +0.1
ISP pmax pmax
comp=Z,3.0nm,0.7s
RLMT **Red Lodge** 46.81 291 *e*P P 21 34 58.0 +0.9
comp=Z,25nm,1.1s
RLMT **Red Lodge** 46.81 291 P P 21 34 58.1 +1.0

	baz=51								
K22A	**Casper**	46.84	287	*e*P		P		21 34 57.4	+0.1
	comp=Z,42nm,1.0s								
K22A	**Casper**	46.84	287	P		P		21 34 56.9	-0.4
	baz=50								
KSCO	**Kaye Shedlock'**	46.98	280	*e*P		P		21 34 58.5	0.0
	comp=Z,57nm,1.1s								
KSCO	**Kaye Shedlock'**	46.98	280	P		P		21 34 58.4	0.0
	baz=48								
PHWY	**Pilot Hill**	47.11	284	*e*P		P		21 34 59.8	+0.3
	comp=Z,18nm,1.0s								
HRY	**Holter Researc**	47.21	294	*e*P		P		21 35 00.9	+0.8
BR101	**Keskin Array S**	47.27	78	*e*P		P		21 35 01.5	+0.7
BR101				*e*PcP		PcP		21 36 30.7	-0.9
BR131	**Keskin Array S**	47.27	78	*e*P		P		21 35 02.0	+1.3
BR131	**Keskin Array S**	47.27	78	P		P		21 35 01.5	+0.8
	SNR=8.4								
BRTR	**Keskin Array B**	47.27	78	P		P		21 35 01.5	+0.8
	comp=Z,9.3nm,0.8s,baz=310,slow=5.8,SNR=17								
BRTR				PcP		PcP		21 36 30.7	-0.9
	comp=Z,2.8nm,1.1s,baz=298,slow=3.1,SNR=4.0								
BRTR				LR		LR		21 56 49.3	
	comp=Z,677nm,18.4s,baz=296,slow=39								
WMOK	**Wichita Mounta**	47.64	273	*e*P		P		21 35 03.3	-0.1
	comp=Z,22nm,1.0s								
WMOK	**Wichita Mounta**	47.64	273	*e*P		P		21 35 03.3	-0.1
WMOK				pmax		pmax			
	comp=Z,22nm,1.0s								
WMOK	**Wichita Mounta**	47.64	273	P		P		21 35 03.7	+0.2
	baz=46								
N23A	**Red Feather La**	47.65	284	*e*P		P		21 35 04.9	+1.1
	comp=Z,71nm,1.1s								
N23A	**Red Feather La**	47.65	284	P		P		21 35 04.8	+1.1
	baz=49								
BOZ	**Bozeman (W)**	47.80	293	*e*P		P		21 35 05.4	+0.7
	comp=Z,19nm,1.0s								
BOZ	**Bozeman (W)**	47.80	293	*e*P		P		21 35 05.4	+0.7
BOZ				pmax		pmax			
	comp=Z,19nm,1.0s								
BOZ	**Bozeman (W)**	47.80	293	P		P		21 35 05.7	+0.9
	baz=51								
RWWY	**Rawlins**	47.85	286	*e*P		P		21 35 05.9	+0.6
	comp=Z,36nm,1.1s								
H17A	**Grant Village**	47.99	291	*e*P		P		21 35 08.8	+2.5
	comp=Z,7.2nm,1.0s								
H17A	**Grant Village**	47.99	291	P		P		21 35 08.3	+2.0
	baz=50								
YFT	**Old Faithful**	48.09	291	*e*P		P		21 35 09.9	+2.7
	comp=Z,27nm,1.1s								
YHB	**Horse Butte**	48.10	292	*e*P		P		21 35 10.0	+2.8
	comp=Z,12nm,1.1s								
ISCO	**Idaho Springs**	48.18	283	*e*P		P		21 35 08.7	+0.7
	comp=Z,30nm,1.1s								
ISCO	**Idaho Springs**	48.18	283	*e*P		P		21 35 08.7	+0.7
ISCO				pmax		pmax			
	comp=Z,31nm,1.1s								
ISCO	**Idaho Springs**	48.18	283	P		P		21 35 08.4	+0.5
	baz=48								
YPP	**Pitchstone Pla**	48.19	291	*e*P		P		21 35 11.2	+3.2
	comp=Z,3.8nm,0.9s								
FLWY	**Flagg Ranch**	48.26	291	*e*P		P		21 35 13.0	+4.6
	comp=Z,9.1nm,1.0s								
MSO	**Missoula**	48.27	296	*e*P		P		21 35 10.5	+2.2
	comp=Z,4.9nm,0.9s								
PD31	**Pinedale Array**	48.47	289	*e*P		P		21 35 09.6	-0.5
PD31				*e*PcP		PcP		21 36 33.8	-2.2
PDAR	**Pinedale Array**	48.47	289	P		P		21 35 09.2	-0.9
	comp=Z,6.5nm,0.7s,baz=60,slow=6.8,SNR=11								
PDAR				PcP		PcP		21 36 33.8	-2.2
	comp=Z,1.0nm,0.9s,baz=87,slow=3.7,SNR=1.7								
BW06	**Boulder Array**	48.47	289	*e*P		P		21 35 09.6	-0.5
	comp=Z,11nm,0.9s								
BW06	**Boulder Array**	48.47	289	P		P		21 35 09.6	-0.5
	baz=49								
DLMT	**Dillon**	48.48	293	*e*P		P		21 35 10.9	+1.0
	comp=Z,17nm,1.0s								
MOOW	**Moose Ponds**	48.50	290	*e*P		P		21 35 12.7	+2.4
	comp=Z,9.5nm,1.1s								
LOHW	**Long Hollow**	48.51	290	*e*P		P		21 35 11.1	+0.8
	comp=Z,12nm,1.1s								
IMW	**Indian Meadow**	48.51	291	*e*P		P		21 35 12.5	+2.1
	comp=Z,13nm,1.1s								
DAWY	**Dawson**	48.62	325	*e*P		P		21 35 13.5	+2.8
	comp=Z,14nm,1.0s								
SNOW	**Snow King Moun**	48.69	290	*e*P		P		21 35 13.0	+1.2
	comp=Z,16nm,1.0s								
FXWY	**Fox Creek**	48.72	290	*e*P		P		21 35 12.4	+0.3
	comp=Z,12nm,1.1s								
EGAK	**Eagle**	48.73	327	*e*P		P		21 35 11.3	-0.2
	comp=Z,14nm,0.9s								
TPAW	**Teton Pass**	48.78	290	*e*P		P		21 35 13.0	+0.5
	comp=Z,22nm,1.1s								
WHTX	**Lake Whitney,**	48.80	269	*e*P		P		21 35 12.1	-0.3
	comp=Z,37nm,1.0s								
WHTX	**Lake Whitney,**	48.80	269	P		P		21 35 11.5	-0.9
	baz=44								
REDW	**Red Top Meadow**	48.81	290	*e*P		P		21 35 12.9	+0.3
	comp=Z,12nm,1.0s								
MCMT	**McKenzie Canyo**	48.95	293	*e*P		P		21 35 16.2	+2.5
NEW	**Newport**	49.03	299	P		P		21 35 13.6	-0.5
	comp=Z,3.2nm,1.0s,baz=50,slow=8.4,SNR=3.4								
NEW	**Newport**	49.03	299	*e*P		P		21 35 14.8	+0.7
	comp=Z,8.2nm,1.1s								
NEW	**Newport**	49.03	299	*e*P		P		21 35 14.8	+0.7
NEW				pmax		pmax			
	comp=Z,8.0nm,1.1s								
NEW	**Newport**	49.03	299	P		P		21 35 14.8	+0.7
	baz=51								
GOF	**Gofitskoye**	49.08	67	*e*P		P		21 35 15.3	+0.9
GOF				pmax		pmax			
	comp=Z,80nm,1.1s								
AMTX	**Amarillo**	49.24	275	*e*P		P		21 35 16.8	+0.9
	comp=Z,76nm,1.0s								
AMTX	**Amarillo**	49.24	275	P		P		21 35 16.4	+0.5
	baz=46								
T25A	**Trinidad**	49.28	280	*e*P		P		21 35 17.2	+0.9
	comp=Z,30nm,1.1s								
T25A	**Trinidad**	49.28	280	P		P		21 35 17.0	+0.7
	baz=47								
HKT	**Hockley**	49.32	266	*e*P		P		21 35 17.7	+1.4
	comp=Z,6.4nm,1.1s								
AHID	**Auburn Hatcher**	49.33	290	*e*P		P		21 35 21.8	+5.2
	comp=Z,17nm,1.1s								
SMCO	**Snowmass**	49.38	283	*e*P		P		21 35 21.0	+3.7
	comp=Z,13nm,1.1s								
O20A	**White River Ci**	49.46	285	*e*P		P		21 35 19.1	+1.5
	comp=Z,28nm,1.1s								
O20A	**White River Ci**	49.46	285	P		P		21 35 17.9	+0.2
	baz=48								
ARU	**Arti**	49.47	47	*e*P		P		21 35 17.6	+0.4
	comp=Z,49nm,1.1s								
ARU	**Arti**	49.47	47	*d i*P		P		21 35 17.2	0.0
ARU								21 36 42.1	
ARU								21 37 11.8	
ARU				S		S		21 42 25.6	+2.3
ARU				SS		SS		21 45 48.8	-5.7
ARU				pmax		pmax			
	comp=Z,32nm,1.1s								
SDCO	**Great Sand Dun**	49.50	281	*e*P		P		21 35 18.0	-0.1
	comp=Z,6.8nm,0.9s								
SDCO	**Great Sand Dun**	49.50	281	P		P		21 35 17.9	-0.2
	baz=47								
PRP	**Porcupine Dome**	49.60	329	*e*P		P		21 35 18.8	+0.5
	comp=Z,9.8nm,0.9s								
KIV	**Kislovodsk**	49.60	68	*e*P		P		21 35 19.6	+1.1
	comp=Z,16nm,1.1s								
KIV	**Kislovodsk**	49.60	68	*e*P		P		21 35 20.2	+1.7
KIV				*e*S		S		21 42 28.3	+2.6
KIV				pmax		pmax			
	comp=Z,22nm,1.1s								
KIV				MLR		MLR			
	comp=Z,947nm,16.0s								
ABTX	**Abilene, Hawle**	49.63	272	*e*P		P		21 35 18.6	-0.3
	comp=Z,18nm,1.0s								
ABTX	**Abilene, Hawle**	49.63	272	P		P		21 35 18.4	-0.5
	baz=44								
COLD	**Coldfoot**	49.74	332	*e*P		P		21 35 20.1	+0.9
	comp=Z,10nm,0.9s								
C09A	**Chrisman Ranch**	49.92	299	*e*P		P		21 35 20.9	+0.1
	comp=Z,11nm,0.9s								
TOA1	**Torodi Ar. Sit**	50.01	130	*e*P		P		21 35 19.9	-1.8
TOA0	**Torodi Ar. Sit**	50.02	130	*e*P		P		21 35 19.1	-2.7
TOA0	**Torodi Ar. Sit**	50.02	130	P		P		21 35 20.4	-1.4
	SNR=5.5								
TOA0	**Torodi Ar. Sit**	50.02	130	*e*PcP		P		21 35 20.4	-1.4
TORD	**Torodi Ar. Bea**	50.02	130	P		P		21 35 20.0	-1.9
	comp=Z,23nm,1.0s,baz=330,slow=7.8,SNR=21								
HYT	**Haines Junctio**	50.08	321	*e*P		P		21 35 25.0	+3.0
	comp=Z,19nm,1.2s								
NEY	**Neytrino**	50.09	69	*i* P		P		21 35 24.2	+1.9
NEY				pmax		pmax			
	comp=Z,1.0nm,0.8s								
SVE	**Sverdlovsk**	50.10	45	*e*P		P		21 35 22.3	+0.3
SVE				pmax		pmax			
	comp=Z,36nm,1.5s								
B08A	**Colville Reser**	50.11	300	*e*P		P		21 35 22.3	+0.1
	comp=Z,25nm,1.1s								
SCRK	**Sand Creek**	50.18	327	*e*P		P		21 35 23.5	+0.8
	comp=Z,21nm,0.9s								
S22A	**4UR Ranch, Cre**	50.27	282	*e*P		P		21 35 25.0	+1.1
	comp=Z,4.9nm,1.1s								
HWUT	**Hardware Ranch**	50.36	289	*e*P		P		21 35 24.8	+0.4
	comp=Z,22nm,0.9s								
NCK	**Nalchik**	50.40	68	*i* P		P		21 35 26.3	+1.8
NCK				pmax		pmax			
	comp=Z,13nm,0.9s								
DOT	**Dot Lake**	50.43	327	*e*P		P		21 35 25.6	+1.1
	comp=Z,12nm,1.0s								
POKR	**Poker Plat Res**	50.45	329	P		P		21 35 25.2	+0.5
	baz=45								
MSTX	**Muleshoe**	50.52	275	*e*P		P		21 35 25.9	+0.2
	comp=Z,43nm,1.1s								
MSTX	**Muleshoe**	50.52	275	P		P		21 35 25.5	-0.2
	baz=45								
IL1	**Eielson Array**	50.53	329	*e*PcP		P		21 35 20.4	-4.8
ILAR	**Eielson Array**	50.53	329	P		P		21 35 20.9	-4.2
	comp=Z,3.6nm,0.9s,baz=12,slow=2.9,SNR=18								
ILAR				PcP		PcP		21 36 42.3	-0.5
	comp=Z,7.6nm,0.9s,baz=54,slow=2.3,SNR=13								
ILAR	**Eielson Array**	50.53	329	P		P		21 35 21.0	-4.2
ILB	**Eielson Array**	50.53	329	*e*PcP		P		21 35 21.2	-4.0
F10A	**Beach Ranch, E**	50.56	297	*e*P		P		21 35 27.8	+2.0
	comp=Z,6.7nm,0.9s								
TCUT	**Toone Canyon**	50.60	288	*e*P		P		21 35 26.6	+0.2
	comp=Z,50nm,1.1s								
HLID	**Hailey**	50.63	293	*e*P		P		21 35 27.6	+1.1
	comp=Z,8.2nm,0.9s								
HLID	**Hailey**	50.63	293	P		P		21 35 27.3	+0.8
	baz=48								
COLA	**College**	50.75	329	*e*P		P		21 35 25.8	-1.0
	comp=Z,11nm,0.8s								
COLA	**College**	50.75	329	*i* P		P		21 35 26.2	-0.6
COLA				pmax		pmax			
	comp=Z,5.0nm,0.9s								
COLA	**College**	50.75	329	*e*P		P		21 35 29.4	+2.6
MDM	**Murphy Dome**	50.81	330	*e*P		P		21 35 27.0	-0.3
	comp=Z,19nm,1.0s								
HDA	**Harding Lake**	50.81	329	*e*P		P		21 35 27.9	+0.6
	comp=Z,17nm,0.8s								
HVU	**Hansel Valley**	50.92	290	*e*P		P		21 35 28.4	-0.2
	comp=Z,17nm,1.2s								
HVU	**Hansel Valley**	50.92	290	*e*P		P		21 35 28.4	-0.2
HVU				pmax		pmax			
	comp=Z,17nm,1.2s								
PV21	**Cone Mtn., Par**	50.95	284	*e*P		P		21 35 34.1	+5.2
	comp=Z,13nm,1.0s								
JLU	**Jordanelle**	50.97	288	*e*P		P		21 35 30.4	+1.3
	comp=Z,7.9nm,0.8s								
PV01	**Paradox Valley**	51.01	283	*e*P		P		21 35 35.1	+5.7
PV12	**Saucer Basin,**	51.01	284	*e*P		P		21 35 30.5	+1.0
	comp=Z,58nm,1.1s								
ZEI	**Tsey**	51.04	68	*e*P		P		21 35 28.2	-1.4
ZEI				pmax		pmax			
	comp=Z,19nm,1.2s								
PV02	**Paradox Valley**	51.05	284	*e*P		P		21 35 30.8	+1.1
	comp=Z,36nm,1.1s								
PV11	**David Mesa, Pa**	51.07	284	*e*P		P		21 35 30.9	+1.1
	comp=Z,48nm,0.9s								
CTU	**Camp Tracy**	51.08	288	*e*P		P		21 35 29.4	-0.4
	comp=Z,8.3nm,1.0s								
PV09	**Paradox Valley**	51.08	284	*e*P		P		21 35 35.0	+4.9
PV03	**Paradox Valley**	51.08	284	*e*P		P		21 35 30.9	+0.9
PV20	**West Nyswonger**	51.09	284	*e*P		P		21 35 31.6	+1.6
	comp=Z,39nm,1.1s								
PV14	**Lion Creek, Pa**	51.10	284	*e*P		P		21 35 32.6	+2.5
	comp=Z,32nm,1.1s								
PV10	**Paradox Valley**	51.11	284	*e*P		P		21 35 31.5	+1.3
WRH	**Wood River Hil**	51.11	329	*e*P		P		21 35 30.1	+0.6
	comp=Z,12nm,0.9s								
PV19	**Morning Glory**	51.12	284	*e*P		P		21 35 31.4	+1.2
	comp=Z,32nm,1.2s								
PV17	**East Wray Mesa**	51.13	284	*e*P		P		21 35 31.3	+1.0
	comp=Z,73nm,1.2s								
PV13	**Radium Mtn., P**	51.13	284	*e*P		P		21 35 31.3	+1.0
	comp=Z,44nm,1.1s								
JCT	**Junction City**	51.27	270	*e*P		P		21 35 30.8	-0.5
	comp=Z,29nm,1.0s								
JCT	**Junction City**	51.27	270	*e*P		P		21 35 30.8	-0.5
JCT				pmax		pmax			
	comp=Z,29nm,1.0s								
JCT	**Junction City**	51.27	270	P		P		21 35 29.9	-1.4
	baz=43								
P17A	**Butcher Ranch,**	51.33	286	*e*P		P		21 35 34.2	+2.5
	comp=Z,14nm,1.2s								
BMO	**Blue Mountains**	51.34	296	*e*P		P		21 35 32.8	+1.1
	comp=Z,9.4nm,1.0s								
BMO	**Blue Mountains**	51.34	296	*e*P		P		21 35 32.8	+1.1
BMO				pmax		pmax			
	comp=Z,9.0nm,1.0s								
PV05	**Paradox Valley**	51.35	284	*e*P		P		21 35 31.7	-0.3
SRU	**San Rafael Swe**	51.45	286	*e*P		P		21 35 33.9	+1.2
	comp=Z,17nm,1.1s								
SRU	**San Rafael Swe**	51.45	286	*e*P		P		21 35 33.9	+1.2
SRU				pmax		pmax			
	comp=Z,17nm,1.1s								
MPU	**Maple Canyon**	51.47	287	*e*P		P		21 35 33.5	+0.7
	comp=Z,17nm,1.1s								
MFID	**Camas Ranch**	51.50	293	*e*PcP		P		21 35 26.6	-6.4
LTY	**Liberty**	51.51	300	*e*P		P		21 35 32.2	-0.7
	comp=Z,8.9nm,1.0s								
MVCO	**Mesa Verde**	51.60	283	*e*P		P		21 35 35.8	+1.9
	comp=Z,15nm,0.9s								
MVCO	**Mesa Verde**	51.60	283	P		P		21 35 34.5	+0.6
	baz=46								
IM3	**Indian Mountai**	51.62	333	*e*P		P		21 35 33.2	-0.1
BGU	**Big Grassy Mou**	51.63	289	*e*P		P		21 35 34.1	+0.1
	comp=Z,12nm,1.2s								
NLU	**North Lily Min**	51.76	288	*e*P		P		21 35 35.7	+0.7
	comp=Z,18nm,1.1s								
MCK	**McKinley**	51.91	329	*e*P		P		21 35 35.8	+0.3
	comp=Z,22nm,1.0s								
MCK	**McKinley**	51.91	329	*e*P		P		21 35 35.8	+0.3
MCK				pmax		pmax			
	comp=Z,22nm,1.0s								
G08A	**Pilot Rock**	51.92	297	*e*P		P		21 35 36.0	-0.1
	comp=Z,9.0nm,1.1s								
ANMO	**Albuquerque**	51.99	279	*e*P		P		21 35 37.7	+0.9
	comp=Z,14nm,1.1s								
ANMO	**Albuquerque**	51.99	279	*ce*P		P		21 35 36.3	-0.5
ANMO				pmax		pmax			
	comp=Z,13nm,1.3s								
ANMO	**Albuquerque**	51.99	279	P		P		21 35 37.7	+0.9
	baz=45								
DUG	**Dugway, Tooele**	52.01	288	*e*P		P		21 35 38.3	+1.5
	comp=Z,14nm,1.0s								
DUG	**Dugway, Tooele**	52.01	288	P		P		21 35 37.9	+1.1
	baz=47								
RND	**Reindeer**	52.12	329	*e*P		P		21 35 37.4	+0.2
	comp=Z,14nm,1.1s								
RND	**Reindeer**	52.12	329	*e*P		P		21 35 37.4	+0.2
RND				pmax		pmax			
	comp=Z,14nm,1.1s								
TBLG	**Delisi**	52.21	69	*e*P		P		21 35 39.7	+1.6
	comp=Z,17nm,1.1s								
RDOG	**Red Dog Mine**	52.26	338	*e*P		P		21 35 38.4	+0.3
	comp=Z,21nm,0.8s								
TRF	**Thorofare Moun**	52.52	329	*e*P		P		21 35 40.9	+0.6
	comp=Z,16nm,0.9s								
BNM	**Barren Site**	52.66	278	*e*P		P		21 35 43.2	+1.5
LAZ	**Ladron**	52.78	279	*e*P		P		21 35 44.9	+2.3
MSU	**Marysvale**	52.80	286	*e*P		P		21 35 43.7	+0.9
MSU	**Marysvale**	52.80	286	*e*P		P		21 35 43.7	+0.9
LENM	**Lemitar**	52.85	279	*e*P		P		21 35 44.1	+1.0
MAK	**Makhachkala**	52.88	66	*c i*P		P		21 35 42.8	-0.2
MAK				*e*S		S		21 43 11.2	+0.4
MAK				pmax		pmax			
	comp=Z,137nm,1.1s								
MAK				MLR		MLR			
	comp=Z,611nm,16.0s								
J08A	**Circle Bar Ran**	52.97	295	*e*P		P		21 35 44.2	+0.4
	comp=Z,21nm,1.1s								
ELK	**Elko**	52.98	290	*e*P		P		21 35 45.3	+1.2
	comp=Z,11nm,1.1s								
I07A	**Izee**	53.02	296	*e*P		P		21 35 47.6	+3.4
	comp=Z,5.0nm,1.1s								
NLWA	**Neilton Lookou**	53.04	302	*e*P		P		21 35 45.4	+1.2
	comp=Z,23nm,1.1s								
CAST	**Castle Rocks**	53.09	330	*e*P		P		21 35 43.9	-0.4
	comp=Z,16nm,0.8s								
MTPU	**Mount Pierson**	53.13	286	*e*P		P		21 35 46.6	+1.2
	comp=Z,22nm,1.2s								
TIC	**Tounodi**	53.13	141	*e*P		P		21 35 41.8	-3.4
DBIC	**Dimbokro**	53.17	141	P		P		21 35 44.0	-1.4
	comp=Z,18nm,0.9s,baz=320,slow=7.1,SNR=11								
DBIC	**Dimbokro**	53.17	141	*e*P		P		21 35 44.4	-1.0
	comp=Z,23nm,1.0s								
DBIC	**Dimbokro**	53.17	141	*e*P		P		21 35 44.4	-1.0
DBIC				pmax		pmax			
	comp=Z,23nm,1.0s								
DBIC	**Dimbokro**	53.17	141	*e*P		P		21 35 44.5	-0.9
GNI	**Garni**	53.29	70	*e*P		P		21 35 47.7	+1.5
	comp=Z,49nm,1.1s								
GNI	**Garni**	53.29	70	*ce*P		P		21 35 46.8	+0.5
GNI				pmax		pmax			
	comp=Z,301nm,1.3s								
KNK	**Knik Glacier**	53.46	327	*e*P		P		21 35 48.2	+1.2
	comp=Z,39nm,1.2s								
KIC	**Kosan Boka**	53.50	141	*e*P		P		21 35 45.6	-2.2
	comp=Z,29nm,0.5s								
LIC	**Lamto**	53.52	142	*e*P		P		21 35 45.8	-2.2
	comp=Z,47nm,1.0s								
PKCU	**Pink Cliffs**	53.62	285	*e*P		P		21 35 49.8	+0.8
	comp=Z,32nm,1.1s								
MNTX	**Cornudas Mount**	53.68	275	*e*P		P		21 35 48.9	-0.2
	comp=Z,10nm,1.0s								
MNTX	**Cornudas Mount**	53.68	275	P		P		21 35 49.0	0.0
	baz=44								
WVOR	**Wild Horse Val**	53.68	294	*e*P		P		21 35 50.2	+1.1
	comp=Z,9.3nm,0.8s								
WVOR	**Wild Horse Val**	53.68	294	*e*P		P		21 35 50.2	+1.1
WVOR				pmax		pmax			
	comp=Z,9.0nm,0.8s								
PSUT	**Pine Spring**	53.74	287	*e*P		P		21 35 50.9	+1.2
	comp=Z,12nm,0.9s								
W18A	**Petrified Fore**	53.78	282	*e*P		P		21 35 50.8	+0.9
	comp=Z,19nm,1.0s								
W18A	**Petrified Fore**	53.78	282	P		P		21 35 51.0	+1.1
	baz=45								
SIRT	**Sirnak**	53.83	74	*e*P		P		21 35 52.1	+1.9
	comp=Z,150nm,1.2s								
SZCU	**Shurtz Canyon**	53.96	286	*e*P		P		21 35 52.5	+1.3
	comp=Z,12nm,1.2s								
PINE	**Pine Mountain**	53.98	297	*e*P		P		21 35 52.4	+1.0
	comp=Z,18nm,1.0s								
TIXI	**Tiksi**	54.14	6	*e*P		P		21 35 52.3	+0.5
	comp=Z,52nm,1.0s								
TIXI	**Tiksi**	54.14	6	*ce*P		P		21 35 51.6	-0.2
TIXI				pmax		pmax			
	comp=Z,42nm,0.8s								
CCUT	**Cedar City**	54.14	286	*e*P		P		21 35 53.5	+0.9
	comp=Z,12nm,1.1s								
SUA	**Susitna One**	54.16	328	*e*P		P		21 35 56.2	+4.0
	comp=Z,25nm,1.0s								
KNB	**Kanab**	54.21	285	*e*P		P		21 35 53.3	+0.2
	comp=Z,21nm,1.1s								
KNB	**Kanab**	54.21	285	*e*P		P		21 35 53.3	+0.2
KNB				pmax		pmax			
	comp=Z,21nm,1.1s								
X18A	**Snowflake**	54.32	281	*e*P		P		21 35 54.5	+0.6
	comp=Z,20nm,1.1s								
U15A	**North Rim**	54.32	285	*e*P		P		21 35 54.1	0.0
	comp=Z,9.9nm,1.1s								
LTX	**Lajitas**	54.39	272	*e*P		P		21 35 54.4	0.0
LTX				*e*PcP		PcP		21 36 57.7	-0.3
LTX	**Lajitas**	54.39	272	*e*P		P		21 35 54.4	0.0
LTX				*e*				21 36 57.7	
TX31	**Lajitas Ar. Si**	54.39	272	*e*P		P		21 35 55.7	+1.3
TXAR	**Lajitas Array**	54.39	272	P		P		21 35 54.4	0.0
	comp=Z,3.3nm,1.0s,baz=61,slow=9.4,SNR=10								
TXAR				PcP		PcP		21 36 57.7	-0.3
	comp=Z,3.8nm,0.9s,baz=50,slow=4.8,SNR=5.3								
WUAZ	**Wupatki**	54.44	283	*e*P		P		21 35 59.9	+5.1
	comp=Z,15nm,1.1s								
LCMT	**Little Creek M**	54.45	286	*e*P		P		21 35 56.0	+1.2
	comp=Z,5.0nm,0.9s								
J05D	**Fort Rock, OR**	54.48	296	P		P		21 35 55.6	+0.6
	baz=46								
121A	**Cookes Peak, D**	54.49	278	P		P		21 35 55.7	+0.6
	baz=44								
R11A	**Troy Canyon, C**	54.84	288	*e*P		P		21 35 57.9	+0.2
	comp=Z,10nm,1.1s								
R11A	**Troy Canyon, C**	54.84	288	P		P		21 35 57.8	+0.2
	baz=45

GMRC	Granite Mounta	57.41	286	P		P		21 36 16.9	+0.9	
	baz=44									
DAC	Darwin (Calif)	57.43	288	eP		P		21 36 16.9	+0.7	
	comp=Z,18nm,1.1s									
DAC	Darwin (Calif)	57.43	288	eP		P		21 36 16.9	+0.7	
DAC				pmax	pmax					
	comp=Z,18nm,1.1s									
KHMM	Horse Mountain	57.50	296	eP		P		21 36 16.9	+0.4	
	comp=Z,19nm,1.1s									
Y12C	Blythe	57.51	284	eP		P		21 36 17.5	+0.9	
	comp=Z,27nm,0.9s									
Y12C	Blythe	57.51	284	P		P		21 36 17.5	+0.9	
	baz=43									
MPMC	Manual Prospec	57.53	288	P		P		21 36 17.5	+0.6	
	baz=44									
CWC	Cottonwood Cre	57.59	289	P		P		21 36 17.6	+0.3	
	baz=44									
GSC	Goldstone, Bar	57.69	287	eP		P		21 36 18.8	+0.9	
	comp=Z,11nm,1.1s									
GSC	Goldstone, Bar	57.69	287	eP		P		21 36 18.8	+0.9	
GSC				pmax	pmax					
	comp=Z,11nm,1.1s									
GSC	Goldstone, Bar	57.69	287	P		P		21 36 18.5	+0.6	
	baz=44									
113A	Mohawk Valley,	57.79	283	eP		P		21 36 19.6	+1.1	
	comp=Z,15nm,1.1s									
214A	Organ Pipe Nat	57.83	281	P		P		21 36 19.6	+0.7	
	baz=43									
KMRM	Mail Ridge	57.95	295	eP		P		21 36 20.6	+0.9	
	comp=Z,29nm,1.1s									
LRMC	Laurel Mtn Rad	58.06	288	P		P		21 36 21.0	+0.5	
	baz=44									
BC3	Big Chuckawall	58.11	284	P		P		21 36 21.7	+0.8	
	baz=43									
BELC	Belle Mtn. Jos	58.17	285	P		P		21 36 22.1	+0.8	
	baz=43									
PTGA	Pitinga	58.29	210	eP		P		21 36 21.5	-0.7	
	comp=Z,14nm,0.8s									
PTGA	Pitinga	58.29	210	eP		P		21 36 21.4	-0.7	
ISA	Isabella, Lake	58.37	288	eP		P		21 36 24.0	+1.4	
	comp=Z,11nm,1.0s									
ISA	Isabella, Lake	58.37	288	eP		P		21 36 24.0	+1.4	
ISA				pmax	pmax					
	comp=Z,11nm,1.0s									
ISA	Isabella, Lake	58.37	288	P		P		21 36 23.6	+1.0	
	baz=43									
ROSC	El Rosal	58.42	228	P		P		21 36 24.1	+0.6	
	comp=Z,51nm,0.8s,baz=109,slow=4.5,SNR=15									
ROSC				LR		LR		21 58 39.9		
	comp=Z,167nm,21.9s,baz=23,slow=33									
ROSC	El Rosal	58.42	228	eP		P		21 36 24.5	+1.0	
	comp=Z,40nm,0.8s									
GDXM	Geysers	58.48	294	eP		P		21 36 26.6	+3.2	
	comp=Z,10nm,1.1s									
HOPS	Hopland Field	58.50	294	eP		P		21 36 26.3	+2.9	
	comp=Z,19nm,1.0s									
EDW2	Edwards Air Fo	58.67	287	P		P		21 36 25.4	+0.7	
	baz=43									
ZAIG	Zacatecas	58.67	266	eP		P		21 36 26.4	+1.2	
	comp=Z,6.9nm,1.0s									
XPFO	Pion Flat	58.72	285	eP		P		21 36 26.0	+0.9	
	comp=Z,20nm,1.0s									
PFO	Pinyon Flats O	58.72	285	eP		P		21 36 26.0	+0.8	
	comp=Z,19nm,1.0s									
PFO	Pinyon Flats O	58.72	285	eP		P		21 36 26.0	+0.8	
PFO				pmax	pmax					
	comp=Z,19nm,1.0s									
PFO	Pinyon Flats O	58.72	285	P		P		21 36 26.0	+0.8	
	baz=43									
TPFO	Pinon Flats	58.72	285	P		P		21 36 26.0	+0.8	
	baz=43									
SWSC	Sam W. Stewart	58.83	284	P		P		21 36 26.6	+0.9	
	baz=43									
HSIG		58.91	277	eP		P		21 36 26.2	-0.2	
	comp=Z,7.1nm,1.0s									
BFSC	Mount Baldy Ra	58.94	287	P		P		21 36 27.6	+0.8	
	baz=43									
MURC	Murrieta	59.15	286	P		P		21 36 29.1	+1.1	
	baz=43									
MWC	Mount Wilson	59.18	287	eP		P		21 36 31.9	+3.5	
	comp=Z,15nm,1.0s									
MWC	Mount Wilson	59.18	287	eP		P		21 36 31.9	+3.5	
MWC				pmax	pmax					
	comp=Z,15nm,1.0s									
IKP	In-Ko-Pah, Jac	59.22	284	P		P		21 36 29.6	+0.9	
	baz=43									
MONP2	Monument Peak	59.22	285	P		P		21 36 29.8	+1.0	
	baz=43									
SAO	San Andreas Ge	59.22	291	eP		P		21 36 32.3	+3.8	
	comp=Z,16nm,1.0s									
SAO	San Andreas Ge	59.22	291	eP		P		21 36 32.3	+3.8	
SAO				pmax	pmax					
	comp=Z,16nm,1.0s									
BAR	Barrett	59.52	285	eP		P		21 36 31.6	+1.0	
	comp=Z,10nm,0.9s									
NVS	Novosibirsk	60.26	36	⇓ iP		P		21 36 35.7	+0.4	
NVS				pmax	pmax					
	comp=Z,63nm,1.6s									
NVS				pmax	pmax					
NVS	comp=N,13nm,1.5s			pmax	pmax					
	comp=E,10.0nm,1.6s									
ZAA1	Zalesovo Array	61.52	36	eP		P		21 36 43.5	-0.5	
ZAA1				ePcP		PcP		21 37 25.1	-0.5	
ZAA0	Zalesovo Array	61.53	36	eP		P		21 36 44.0	0.0	
	comp=E,3.2nm,0.8s									
ZALV	Zalesovo Beam	61.53	36	P		P		21 36 43.5	-0.5	
	comp=E,2.6nm,0.9s,baz=312,slow=8.7,SNR=5.3									
ZALV				PcP		PcP		21 37 25.1	-0.5	
	comp=E,4.4nm,1.0s,baz=323,slow=4.3,SNR=4.7									
KURK	Kurchatov	61.85	41	eP		P		21 36 45.9	-0.2	
	comp=E,20nm,1.1s									
KURK	Kurchatov	61.85	41	ceP		P		21 36 44.7	-1.4	
KURK				pmax	pmax					
	comp=E,18nm,1.3s									
GEYT	Alibeck	62.13	63	P		P		21 36 48.8	+0.5	
	comp=Z,10.0nm,0.9s,baz=304,slow=10,SNR=11									
GEYT				PP		PP		21 39 04.2	-0.5	
	comp=Z,2.2nm,0.9s,baz=316,slow=12,SNR=4.0									
GEYT				LR		LR		22 04 32.0		
	comp=Z,372nm,20.3s,baz=325,slow=37									
GYA0B	ALIBECK ARRAY	62.13	63	eP		P		21 36 49.4	+1.0	
	comp=Z,14nm,1.1s									
SEY	Seymchan	63.25	356	ceP		P		21 36 54.7	-0.6	
YAK	Yakutsk	63.69	8	eP		P		21 36 56.5	-1.7	
YAK				pmax	pmax					
	comp=Z,20nm,1.0s									
YAK				pmax	pmax					
	comp=N,13nm,1.4s									
YAK				pmax	pmax					
	comp=E,8.0nm,1.2s									
OTAV	Otavalo	64.34	230	eP		P		21 37 03.4	-0.2	
	comp=E,11nm,0.9s									
OTAV	Otavalo	64.34	230	eP		P		21 37 03.4	-0.2	
OTAV				pmax	pmax					
	comp=Z,11nm,0.9s									
OTAV	Otavalo	64.34	230	eP		P		21 37 03.6	-0.1	
KK31	Karatay Array	64.35	51	eP		P		21 37 03.8	+0.8	
BOD	Bodaibo	65.76	18	eP		P		21 37 09.2	-2.6	
BOD				pmax	pmax					
	comp=Z,14nm,1.6s									
RAYN	Ar Rayn	65.90	83	eP		P		21 37 13.8	+0.5	
	comp=Z,7.7nm,1.1s									
RAYN	Ar Rayn	65.90	83	eP		P		21 37 13.8	+0.5	
RAYN				pmax	pmax					
	comp=Z,8.0nm,1.1s									
DGZ	Jazzator, Alta	65.96	37	d iP		P		21 37 14.1	+0.7	
DGZ				pmax	pmax					
	comp=Z,12nm,1.6s									
EKS2	Erkin-Say	66.19	50	P		P		21 37 16.7	+1.7	
	SNR=17									
MAKZ	Makanchi	66.31	42	eP		P		21 37 15.3	-0.3	
	comp=Z,22nm,1.1s									
MAKZ	Makanchi	66.31	42	eP		P		21 37 15.3	-0.3	
MAKZ				pmax	pmax					
	comp=Z,22nm,1.1s									
FRU	Bishkek	66.43	49	⇑ eP		P		21 37 18.0	+1.6	
FRU				e				21 37 44.0		
FRU				pmax	pmax					
	comp=Z,60nm,1.8s									
MK31	Makanchi Array	66.45	42	eP		P		21 37 16.1	-0.4	
MK31	Makanchi Array	66.45	42	eP		P		21 37 16.1	-0.4	
MK32	Makanchi Array	66.45	42	eP		P		21 37 16.3	-0.2	
MKAR	Makanchi Array	66.45	42	P		P		21 37 16.3	-0.2	
	comp=Z,7.9nm,1.0s,baz=328,slow=4.6,SNR=17									
MKAR				PP		PP		21 39 44.1	+1.8	
	comp=Z,2.4nm,1.1s,baz=326,slow=7.5,SNR=3.7									
MK01	Makanchi Array	66.47	42	eP		P		21 37 16.2	-0.4	
AAK	Ala-Archa	66.53	49	P		P		21 37 18.8	+1.6	
	SNR=7.1									
AAK	Ala-Archa	66.53	49	eP		P		21 37 18.7	+1.5	
	comp=Z,8.4nm,1.1s									
AAK	Ala-Archa	66.53	49	d iP		P		21 37 18.0	+0.8	
AAK				pmax	pmax					
	comp=Z,18nm,1.4s									
AAK	Ala-Archa	66.53	49	P		P		21 37 16.6	-0.6	
	SNR=11									
AML	Almayashu	66.57	50	P		P		21 37 19.1	+1.3	
	SNR=8.4									
MA2	Magadan	66.67	357	i P		P		21 37 19.6	+2.0	
MA2				pmax	pmax					
	comp=Z,16nm,1.2s									
TKM2	Tokmak 2	66.79	48	P		P		21 37 20.0	+1.0	
	SNR=17									
UCH	Uchtor	66.86	50	P		P		21 37 21.2	+1.4	
	SNR=11									
KZA	Kyzart	67.31	49	P		P		21 37 22.9	+0.4	
	SNR=6.4									
MOY	Mondy	68.51	28	eP		P		21 37 29.7	+0.2	
MOY				pmax	pmax					
	comp=Z,26nm,1.6s									
TARG	Taragay, Kyrgy	68.72	48	eP		P		21 37 33.6	+2.2	
	comp=Z,19nm,1.1s									
JANB	Januaria	69.23	189	eP		P		21 37 32.9	-1.3	
KSH	Kashi	69.70	50	P		P		21 37 39.6	+2.5	
KSH				pP	sP			21 37 44.1	-0.1	
KSH				sP	pwP			21 37 47.9	+2.7	
KSH				PcP		PcP		21 38 01.5	+1.6	
KSH				PP		PP		21 40 11.5	+0.8	
KSH				S		S		21 46 46.1	+1.3	
KSH				sS	sS			21 46 52.8	-0.5	
KSH				ScS		SKSac		21 47 36.3	-0.5	
KSH				pmax	pmax					
	comp=Z,49nm,1.1s									
KSH				pmax	pmax					
	comp=Z,770nm,6.2s									
KSH				LR	LR					
	comp=Z,220nm,5.9s									
KSH				LR	LR					
	comp=Z,94nm,8.5s									
KSH				LR	LR					
	comp=Z,560nm,13.5s									
BDFB	Brasilia	70.23	193	P		P		21 37 39.5	-0.9	
	comp=Z,5.1nm,1.0s,baz=351,slow=18,SNR=3.3									
ZAK	Zakamensk	70.29	27	eP		P		21 37 40.1	-0.4	
ZAK				pmax	pmax					
	comp=Z,7.0nm,1.6s									
KBL	Kabul	70.36	58	eP		P		21 37 42.1	+0.7	
	comp=Z,15nm,1.1s									
KBL	Kabul	70.36	58	eP		P		21 37 42.1	+0.7	
KBL				pmax	pmax					
	comp=Z,15nm,1.1s									
MCI8	Montes Claros	70.78	189	eP		P		21 37 43.0	-0.7	
MCI9	Montes Claros	70.81	189	eP		P		21 37 43.0	-0.9	
MCI7	Montes Claros	70.89	189	eP		P		21 37 43.3	-1.0	
MCI6	Montes Claros	70.92	189	eP		P		21 37 44.0	-0.6	
UOSS	Minazif	70.98	74	eP		P		21 37 44.3	-0.7	
	comp=Z,30nm,1.1s									
UOSS	Minazif	70.98	74	P		P		21 37 43.4	-1.6	
	SNR=6.6									
WMQ	Urumqi	71.03	40	P		P		21 37 46.1	+1.0	
WMQ				pP	pP			21 37 50.8	+0.5	
WMQ				sP	pwP			21 37 56.4	+3.3	
WMQ				pmax	pmax					
	comp=Z,19nm,1.3s									
WMQ				pmax	pmax					
	comp=Z,500nm,6.3s									
WMQ				LR	LR					
	comp=Z,740nm,24.3s									
WMQ				LR	LR					
	comp=Z,680nm,17.7s									
WMQ				LR	LR					
	comp=Z,760nm,26.5s									
HATD	Hatta, Dubai	71.04	74	P		P		21 37 44.5	-0.8	
	SNR=8.5									
ASHO	Ashiyiah	71.11	74	P		P		21 37 44.8	-1.0	
SOHO	SOHO	71.80	74	P		P		21 37 48.5	-1.4	
	SNR=6.2									
RIB01	Linhares ES	73.15	185	eP		P		21 37 59.7	+1.9	
NIL	Nilore	73.16	56	eP		P		21 37 58.3	+0.3	
	comp=Z,19nm,1.0s									
NIL	Nilore	73.16	56	eP		P		21 37 58.3	+0.3	
NIL				pmax	pmax					
	comp=Z,19nm,1.0s									
SONA1	Songino Array	73.43	26	eP		P		21 37 59.3	-0.2	
SONA0	Songino Array	73.44	26	eP		P		21 37 58.9	-0.7	
SONM	Songino Array	73.44	26	P		P		21 37 58.9	-0.7	
	comp=Z,5.7nm,1.0s,baz=325,slow=6.5,SNR=18									
ULN	Ulaanbaatar	73.58	25	eP		P		21 38 00.7	+0.4	
	comp=Z,11nm,1.1s									
ULN	Ulaanbaatar	73.58	25	ceP		P		21 38 00.6	+0.2	
ULN				pmax	pmax					
	comp=Z,31nm,1.7s									
ULN	Ulaanbaatar	73.58	25	P		P		21 38 00.4	0.0	
	SNR=13									
ITRB	Iturama	74.56	195	eP		P		21 38 05.5	-0.6	
NNA	Nana	74.65	222	LR		LR		22 11 06.6		
	comp=Z,163nm,19.6s,baz=338,slow=36									
BSCB	Bom Sucesso	75.15	189	eP		P		21 38 09.3	-0.2	
LPAZ	La Paz	75.49	213	P		P		21 38 10.8	-1.4	
	comp=Z,8.1nm,0.9s,baz=29,slow=14,SNR=9.3									
LPAZ				LR		LR		22 09 57.6		
	comp=Z,128nm,20.6s,baz=350,slow=35									
LPAZ	La Paz	75.49	213	eP		P		21 38 11.3	-0.8	
	comp=Z,8.8nm,0.9s									
LPAZ	La Paz	75.49	213	eP		P		21 38 11.4	-0.8	
LPAZ				pmax	pmax					
	comp=Z,9.0nm,0.9s									
LPAZ	La Paz	75.49	213	eP		P		21 38 11.1	-1.1	
CAM01	Campos-RJ	75.72	186	eP		P		21 38 14.1	+1.5	
DUB01	Friburgo-RJ	76.02	187	eP		P		21 38 15.9	+1.4	
AQDB	Aquidauana	76.26	200	eP		P		21 38 16.0	+0.2	
MBAR	Mbarara	76.55	110	eP		P		21 38 18.7	+0.8	
	comp=Z,12nm,1.1s									
MBAR	Mbarara	76.55	110	eP		P		21 38 18.7	+0.8	
MBAR				pmax	pmax					
	comp=Z,12nm,1.1s									
KLR	Kul'dur	76.55	9	i P		P		21 38 17.4	+0.2	
RCLB	Rio Claro- Sao	76.85	192	eP		P		21 38 19.6	+0.5	
TRCB	Terra Rica	77.96	196	eP		P		21 38 25.2	-0.1	
MNMC	Minye Minye	78.62	213	eP		P		21 38 28.3	-1.0	
	comp=Z,9.9nm,0.9s									
GTA	Gaotai	79.21	34	P		P		21 38 32.4	0.0	
GTA				pP	pP			21 38 37.0	-0.7	
GTA				sP	sP			21 38 39.8	+0.3	
GTA				pmax	pmax					
	comp=Z,13nm,1.6s									
GTA				pmax	pmax					
	comp=Z,170nm,4.9s									
GTA				LR	LR					
	comp=Z,220nm,16.5s									
GTA				LR	LR					
	comp=Z,210nm,16.8s									
GTA				LR	LR					
	comp=Z,340nm,19.0s									
PB11	IPOC Station P	79.23	213	eP		P		21 38 31.2	-1.3	
	comp=Z,19nm,1.0s									
PTGB	Pitanga	79.75	196	eP		P		21 38 35.5	+0.3	
PB01	IPOC Station P	80.37	212	eP		P		21 38 42.5	+3.9	
	comp=Z,5.7nm,0.9s									
KMBO	Kilima Mbogo	80.64	105	P		P		21 38 40.4	-0.1	
	comp=Z,1.4nm,0.8s,baz=316,slow=7.8,SNR=3.1									
MDJ	Mudanjiang	80.89	11	P		P		21 38 40.3	-0.9	
MDJ				pmax	pmax					
	comp=Z,12nm,1.1s									
MDJ				pmax	pmax					
	comp=Z,210nm,5.3s									
MDJ	Mudanjiang	80.89	11	eP		P		21 38 42.4	+1.1	
	comp=Z,16nm,1.1s									
BTO	Baotou	81.12	26	eP		P		21 38 40.8	-1.8	
HHC	Hu-ho-hao-te	81.28	25	eP		P		21 38 43.9	+0.4	
HHC				S		S		21 48 51.4	-1.6	
HHC				pmax	pmax					
	comp=Z,12nm,1.7s									
HHC				pmax	pmax					
	comp=Z,300nm,5.5s									
HHC				LR	LR					
	comp=Z,170nm,13.0s									
HHC				LR	LR					
	comp=Z,250nm,13.8s									
HHC				LR	LR					
	comp=Z,180nm,13.0s									
USRK	Ussuriysk Ar.	81.56	9	P		P		21 38 43.4	-1.4	
	comp=Z,2.1nm,0.9s,baz=320,slow=6.0,SNR=3.4									
LVC	Limon Verde	81.66	211	eP		P		21 38 46.3	+0.5	
	comp=Z,20nm,1.0s									
LVC	Limon Verde	81.66	211	eP		P		21 38 45.6	-0.2	
ITAB	Concordia	82.23	195	eP		P		21 38 48.9	+0.7	
CPUP	Villa Florida	82.27	200	P		P		21 38 46.0	-2.4	
	comp=Z,2.3nm,0.9s,baz=15,slow=5.9,SNR=4.2									
CPUP	Villa Florida	82.27	200	eP		P		21 38 46.0	-2.4	
	comp=Z,2.8nm,1.1s									
CPUP	Villa Florida	82.27	200	eP		P		21 38 46.1	-2.4	
CPUP				pmax	pmax					
	comp=Z,3.0nm,1.1s									
CPUP	Villa Florida	82.27	200	eP		P		21 38 47.5	-0.9	
BJI	Beijing	83.13	22	⇑ iP		P		21 38 53.3	+0.3	
BJI				pmax	pmax					
	comp=Z,7.0nm,1.5s									
LZH	Lanzhou	83.54	32	eP		P		21 38 56.0	+0.5	
LZH				pP	PcP			21 38 59.3	-0.4	
LZH				sP	pP			21 39 00.9	+0.1	
LZH				pmax	pmax					
	comp=Z,29nm,1.0s									
LZH				LR	LR					
	comp=Z,540nm,19.0s									
LZH				LR	LR					
	comp=Z,630nm,19.0s									
LZH				LR	LR					
	comp=Z,640nm,19.0s									
CNLB	Canela	84.08	194	eP		P		21 38 58.3	+0.5	
GO02	Mina Guanaco	84.27	211	eP		P		21 38 59.4	+0.2	
	comp=Z,14nm,1.0s									
TIY	Taiyuan	84.47	25	eP		P		21 39 02.1	+2.1	
TIY				pmax	pmax					
	comp=Z,10.0nm,0.6s									
LSA	Lhasa	84.62	45	eP		P		21 39 02.4	+1.0	
	comp=Z,4.4nm,1.0s									
LSA	Lhasa	84.62	45	eP		P		21 39 02.4	+1.0	
LSA				pmax	pmax					
	comp=Z,4.0nm,1.0s									
CPSB	Cacapava Do Su	85.54	196	eP		P		21 39 04.1	-0.9	
PLTB	Pedras Altas	86.90	196	eP		P		21 39 12.8	+1.0	
XAN	Xi'an	86.97	29	P		P		21 39 11.9	-0.6	
XAN				pP	pP			21 39 16.5	-1.4	
XAN				pmax	pmax					
	comp=Z,11nm,1.0s									
XAN				pmax	pmax					
	comp=Z,91nm,3.7s									
XAN	Xi'an	86.97	29	eP		P		21 39 11.9	-0.6	
	comp=Z,47nm,1.1s									
XAN	Xi'an	86.97	29	eP		P		21 39 11.9	-0.6	
XAN				pmax	pmax					
	comp=Z,47nm,1.1s									
LSZ	Lusaka	87.46	120	eP		P		21 39 15.7	+0.7	
	comp=Z,3.4nm,0.9s									
KS01	Wonju Array Si	87.72	13	eP		P		21 39 15.0	-1.0	
KS01				ePcP		PcP		21 39 18.7	+0.8	
KSRS	Korea Array	87.75	13	P		P		21 39 15.1	-1.0	
	comp=Z,3.6nm,0.9s,baz=347,slow=4.8,SNR=4.8									
KS15	Wonju Array Si	87.75	13	eP		P		21 39 15.1	-1.1	
KSAR	Wonju Array Be	87.75	13	P		P		21 39 15.1	-1.0	
KSAR	Wonju Array Be	87.75	13	P		P		21 39 15.1	-1.0	
LCO	Las Campanas	88.21	211	eP		P		21 39 18.6	+0.1	
	comp=Z,6.9nm,1.0s									
LCO	Las Campanas	88.21	211	eP		P		21 39 18.6	+0.1	
LCO				pmax	pmax					
	comp=Z,7.0nm,1.0s									
LCO	Las Campanas	88.21	211	eP		P		21 39 18.9	+0.4	
CD2	Chengdu	88.27	34	eP		P		21 39 18.5	-0.3	
CD2				pmax	pmax					
	comp=Z,10.0nm,0.5s									
SHL	Shillong	88.55	46	eP		P		21 39 20.7	+0.3	
	comp=Z,16nm,1.1s									
SHL	Shillong	88.55	46	eP		P		21 39 20.7	+0.3	
SHL				pmax	pmax					
	comp=Z,16nm,1.1s									
MAJO	Matsushiro	89.64	5	eP		P		21 39 27.8	+2.8	
ENH	Enshi	90.67	30	eP		P		21 39 30.2	+0.2	
	comp=Z,3.0nm,0.8s									
NJ2	Nanjing	91.39	22	eP		P		21 39 34.1	+0.8	
NJ2				pmax	pmax					
	comp=Z,9.0nm,0.5s									
KMI	Kunming	93.22	37	P		P		21 39 43.4	+1.3	
KMI				pmax	pmax					
	comp=Z,16nm,0.5s									
KMI				LR	LR					
	comp=Z,310nm,18.2s									
KMI				LR	LR					
	comp=Z,130nm,20.7s									
KMI				LR	LR					
	comp=Z,350nm,19.5s									
GYA	Guiyang	93.34	34	eP		P		21 39 42.0	-0.5	
GYA				PP		PP		21 43 27.4	+1.8	
GYA				SKS		SKSac		21 50 15.8	-0.3	
GYA				S		S		21 50 45.3	-4.0	
GYA				pmax	pmax					
	comp=Z,10.0nm,1.0s									
GYA				pmax	pmax					
	comp=Z,120nm,5.8s									
CHTO	Chiang Mai	97.49	43	P		Pdif		21 40 02.2	+0.7	
CM31	Chiang Mai Arr	97.81	43	eP		P		21 40 02.4	-0.5	
CMAR	Chiang Mai Arr	97.81	43	P		P		21 40 02.3	-0.5	
	comp=Z,1.9nm,1.0s,baz=322,slow=5.5,SNR=9.4									
CM01	Chiang Mai Arr	97.85	43	eP		P		21 40 02.2	-0.8	
TAOE	Nuku Hiva Isla	105.92	277	eLR		LR		22 15 31.2		
	comp=Z,535nm,37.1s									
PPT2	Papeete2	118.37	279	eLR		LR		22 21 13.5		
	comp=Z,492nm,25.5s									
TBI	Tubuai	122.78	275	eLR		LR		22 23 21.0		
	comp=Z,490nm,29.5s									
VNA2	Neumayer--Watz	126.20	169	PKP		PKPdf		21 45 27.3	-0.9	
	baz=345,slow=4.9									
SNAA	Sanae	127.44	168	PKP		PKPdf		21 45 30.0	-0.6	
SNAA	Sanae	127.44	168	PKP		PKPdf		21 45 29.8	-0.8	
	comp=Z,3.8nm,0.7s,baz=358,slow=10,SNR=5.9									
MBWA	Marble Bar	142.05	40	eP		PKPdf		21 46 00.0	+0.7	
QSPA	South Pole Qui	143.89	180	PKhKP		PKPpre		21 45 57.5

Triangular moment-rate function

ISC 20 21:40:32.4±0.9, 54°00N±0°05, 35°16W±0°04, h18km±5km, n1092, σ1.47/1094, mb4.9/377, MS4.8/63, 27C-15D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRS	**Narsarsuaq**	**9.04**	**327**	*e*Pn	Pn	21 42 33.1	-8.8
NRS	**Narsarsuaq**	**9.04**	**327**	*e*P	Pn	21 42 33.1	-8.8
BORG	**Borgarnes**	**12.84**	**27**	Pn	**Pn**	**21 43 32.7**	**-1.0**
	0.4nm,0.3s,baz=268,slow=6.0,SNR=2.1						
BORG				LR	LR	21 46 56.9	
	comp=Z,2μm,21.3s,baz=230,slow=30						
SFJD	**Kangerlussuaq**	**15.03**	**336**	Pn	**Pn**	**21 44 02.2**	**-1.4**
	0.3nm,0.3s,baz=162,slow=13,SNR=2.3						
SFJD				LR	LR	21 48 45.2	
	comp=Z,3μm,20.3s,baz=117,slow=33						
SFJD	**Kangerlussuaq**	**15.03**	**336**	*e*Pn	**Pn**	**21 44 03.2**	**-0.3**
	38nm,1.0s						
SFJD	**Kangerlussuaq**	**15.03**	**336**	*i* P	**P**	**21 44 12.6**	**+3.8**
	92nm,1.3s						
SFJD	**Kangerlussuaq**	**15.03**	**336**	*e*P	**Pn**	**21 44 03.2**	**-0.3**
SFJD				pmax	pmax		
	comp=Z,38nm,1.0s						
SFJD	**Kangerlussuaq**	**15.03**	**336**	*e*P	**P**	**21 44 08.8**	**0.0**
IGLA	**Glengowla, Co**	**15.25**	**82**	*e*P	**P**	**21 44 11.1**	**-0.3**
IDGL	**Inch Island, C**	**16.04**	**75**	*e*P	**P**	**21 44 19.6**	**-0.6**
ILULI	**Ilulissat**	**16.95**	**340**	*e*Pn	**P**	**21 44 34.0**	**+4.0**
ILULI	**Ilulissat**	**16.95**	**340**	*e*P	**P**	**21 44 34.1**	**+4.0**
SCO	**Scoresbysund**	**17.57**	**15**	*e*Pn	**Pn**	**21 44 35.8**	**-0.2**
	comp=Z,15nm,1.0s						
SCO	**Scoresbysund**	**17.57**	**15**	*i* P	**Pn**	**21 44 35.0**	**-1.0**
SCO	**Scoresbysund**	**17.57**	**15**	*e*P	**Pn**	**21 44 35.8**	**-0.2**
SCO				pmax	pmax		
	comp=Z,15nm,1.0s						
SCHQ	**Schefferville**	**18.38**	**285**	P	**P**	**21 44 44.2**	**-1.7**
	comp=Z,1.0nm,0.3s,baz=84,slow=7.7,SNR=17						
SCHQ				LR	LR	21 50 26.9	
	comp=Z,3μm,21.9s,baz=89,slow=33						
SCHQ	**Schefferville**	**18.38**	**285**	*e*Pn	**P**	**21 44 44.7**	**-1.3**
	comp=Z,16nm,0.8s						
ESK	**Eskdalemuir**	**18.45**	**73**	*e*P	**P**	**21 44 46.6**	**-0.2**
	comp=Z,28nm,1.1s						
EKA	**Eskdalemuir Ar**	**18.47**	**73**	P	**P**	**21 44 44.6**	**-2.4**
	baz=268,slow=9.2,SNR=2.9						
EKA				LR	LR	21 50 44.3	
	comp=Z,3μm,18.4s,baz=270,slow=33						
SUMG	**Summit**	**18.71**	**357**	*e*P	**P**	**21 44 49.6**	**-0.3**
SUMG	**Summit**	**18.71**	**357**	*i* P	**P**	**21 44 49.6**	**-0.3**
	comp=Z,670nm,1.7s						
SUMG	**Summit**	**18.71**	**357**	*e*P	**P**	**21 44 49.6**	**-0.3**
FRB	**Frobisher Bay**	**19.59**	**313**	P	**P**	**21 44 58.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=105,slow=14,SNR=4.8						
FRB				LR	LR	21 51 02.4	
	comp=Z,4μm,18.4s,baz=106,slow=32						
BATG	**Bathurst New B**	**20.60**	**264**	*e*P	**P**	**21 45 09.5**	**-0.8**
	comp=Z,15nm,1.0s						
LMN	**Caledonia Moun**	**20.63**	**259**	*e*P	**P**	**21 45 10.4**	**-0.3**
	comp=Z,50nm,0.9s						
JMIC	**Jan Mayen**	**20.70**	**25**	LR	LR	21 50 15.4	
	comp=Z,312nm,19.7s,baz=224,slow=28						
POLO	**Lamas de Olo**	**22.17**	**114**	*e*P	**P**	**21 45 32.7**	**+5.4**
	comp=Z,62nm,1.9s						
GGN	**Saint George**	**22.23**	**259**	*e*P	**P**	**21 45 28.5**	**+0.7**
	comp=Z,116nm,1.0s						
PBRG	**Braganca**	**22.45**	**111**	*e*P	**P**	**21 45 32.2**	**+2.0**
	comp=Z,174nm,1.7s						
PVIS	**Viseu**	**22.57**	**115**	*e*P	**P**	**21 45 35.9**	**+4.3**
	comp=Z,108nm,1.6s						
MVO	**Moncorvo**	**22.73**	**113**	*e*P	**P**	**21 45 36.6**	**+3.3**
	comp=Z,130nm,1.8s						
MTE	**Manteigas**	**22.99**	**115**	*e*P	**P**	**21 45 37.6**	**+1.6**
	comp=Z,225nm,1.8s						
MTE	**Manteigas**	**22.99**	**115**	*e*P	**P**	**21 45 35.3**	**-0.7**
PTOM	**Tomar**	**23.09**	**118**	*e*P	**P**	**21 45 38.5**	**+1.5**
	comp=Z,258nm,1.8s						
PCBR	**Castelo Branco**	**23.42**	**116**	*e*P	**P**	**21 45 41.7**	**+1.4**
	comp=Z,264nm,1.6s						
PKME	**Peaks-Kenny Pk**	**23.57**	**262**	P	**P**	**21 45 42.0**	**+0.4**
	baz=56						
DAG	**Danmarks Havn**	**23.69**	**9**	*i* P	**P**	**21 45 42.4**	**-0.1**
	comp=Z,62nm,1.4s						
DAG	**Danmarks Havn**	**23.69**	**9**	*i* P	**P**	**21 45 42.4**	**-0.1**
DAG				pmax	pmax		
	comp=Z,140nm,1.4s						
CLF	**Chambon-Foret**	**24.08**	**89**	*e*P	**P**	**21 45 46.8**	**+0.4**
	comp=Z,20nm,1.0s						
PESTR	**Estremoz**	**24.08**	**118**	*e*P	**P**	**21 45 47.6**	**+1.0**
	comp=Z,98nm,1.8s						
UCC	**Uccle**	**24.11**	**81**	⇑P	**P**	**21 45 46.3**	**-0.4**
PNCL	**Nicolau / Gran**	**24.16**	**120**	*e*P	**P**	**21 45 48.5**	**+1.2**
	comp=Z,193nm,1.8s						
SNF	**Seneffe**	**24.18**	**82**	⇑P	**P**	**21 45 46.6**	**-0.7**
	comp=Z,62nm,2.0s						
PTEO	**Sao Teotonio**	**24.50**	**121**	*e*P	**P**	**21 45 55.5**	**+5.1**
	comp=Z,300nm,2.0s						
MESJ	**Messejana**	**24.52**	**120**	*e*P	**P**	**21 45 54.2**	**+3.5**
	comp=Z,153nm,1.7s						
DOU	**Dourbes**	**24.53**	**83**	⇑P	**P**	**21 45 50.3**	**-0.3**
	comp=Z,44nm,2.7s						
KONO	**Kongsberg**	**24.74**	**59**	*e*P	**P**	**21 45 53.2**	**+0.7**
	comp=Z,10nm,1.0s						
KONO	**Kongsberg**	**24.74**	**59**	*i* P	**P**	**21 45 52.3**	**-0.2**
KONO				pmax	pmax		
	comp=Z,17nm,1.2s						
BEBN	**Eben Emael**	**24.87**	**81**	⇑P	**P**	**21 45 57.1**	**+3.4**
PBDV	**Barranco-do-Ve**	**25.13**	**121**	*e*P	**P**	**21 46 01.8**	**+5.6**
MEM	**Membach**	**25.14**	**81**	⇑P	**P**	**21 46 01.0**	**+4.9**
	comp=Z,26nm,1.7s						
PAB	**San Pablo**	**25.32**	**112**	*e*P	**P**	**21 45 58.4**	**+0.4**
	comp=Z,44nm,1.1s						
NB2	**NORSAR Subarra**	**25.40**	**55**	P	**P**	**21 45 57.9**	**-0.6**
	comp=Z,125nm,2.0s,baz=276,slow=10						
NB2	**NORSAR Subarra**	**25.40**	**55**	P	**P**	**21 45 57.9**	**-0.6**
	baz=276,slow=10						
NB200	**NORSAR Array S**	**25.40**	**55**	*e*P	**P**	**21 45 58.0**	**-0.4**
NOA	**NORSAR Array B**	**25.40**	**55**	P	**P**	**21 45 58.0**	**-0.4**
	comp=Z,6.1nm,1.1s,baz=276,slow=9.8,SNR=4.6						
NOA				LR	LR	21 54 23.5	
	comp=Z,1μm,20.5s,baz=275,slow=33						
ESDC	**Sonseca Array**	**25.44**	**111**	P	**P**	**21 45 58.3**	**-0.8**
	comp=Z,10nm,0.8s,baz=316,slow=9.0,SNR=27						
ESDC				LR	LR	21 53 57.7	
	comp=Z,2μm,18.8s,baz=305,slow=32						
ESLA	**Sonseca Array**	**25.44**	**111**	*e*P	**P**	**21 45 58.3**	**-0.7**
	comp=Z,31nm,0.9s						
ES19	**SONSECA Array**	**25.46**	**111**	*e*P	**P**	**21 45 58.3**	**-0.9**
NC303	**NORSAR Array S**	**25.46**	**55**	*e*P	**P**	**21 45 58.5**	**-0.5**
NC602	**NORSAR Array S**	**25.59**	**56**	*e*P	**P**	**21 46 01.2**	**+1.1**
WLF	**Walferdange**	**25.62**	**83**	⇓P	**P**	**21 46 02.3**	**+1.8**
	comp=Z,39nm,2.2s						
NC405	**NORSAR Array S**	**25.64**	**55**	*e*P	**P**	**21 45 57.3**	**-3.3**
TULEG	**Thule**	**25.88**	**343**	*e*P	**P**	**21 46 01.7**	**-0.8**
	comp=Z,36nm,1.1s						
TULEG				*e*pwP	**sP**	**21 46 08.9**	**-0.5**
TRQ	**Mont Tremblant**	**26.15**	**269**	*e*P	**P**	**21 46 08.5**	**+3.1**
HRV	**Adam Dziewonsk**	**26.52**	**259**	P	**P**	**21 46 08.2**	**-0.6**
	baz=52						
HFS	**Hagfors**	**26.73**	**57**	P	**P**	**21 46 10.0**	**-0.4**
	comp=Z,9.1nm,1.2s,baz=266,slow=11,SNR=4.3						
HFS				LR	LR	21 55 32.9	
	comp=Z,2μm,18.9s,baz=280,slow=34						
HFS	**Hagfors**	**26.73**	**57**	P	**P**	**21 46 10.0**	**-0.4**
SSB	**Saint Sauveur**	**26.84**	**93**	*e*pwP	pwP	21 46 19.1	+2.6
ECH	**Echery**	**26.87**	**85**	*e*pwP	pwP	21 46 20.3	+1.2
BRYW	**Bryant College**	**26.88**	**258**	*e*P	**P**	**21 46 16.9**	**+5.0**
	comp=Z,36nm,1.1s						
VLDQ	**Val d'Or**	**26.91**	**275**	*e*P	**P**	**21 46 13.8**	**+1.6**
	comp=Z,21nm,0.8s						
D54A	**Lac Fusel, La**	**26.91**	**272**	P	**P**	**21 46 12.2**	**0.0**
	baz=60						
LONY	**Lake Ozonia**	**27.04**	**266**	P	**P**	**21 46 12.4**	**-1.1**
	baz=56						
BFO	**Black Forest**	**27.51**	**84**	*e*P	**P**	**21 46 17.4**	**-0.2**
BFO	**Black Forest**	**27.51**	**84**	*e*P	**P**	**21 46 17.4**	**-0.2**
D53A	**Lac Vacive, Po**	**27.57**	**273**	P	**P**	**21 46 18.1**	**0.0**
	baz=60						
E54A	**Lac Daplat, Po**	**27.59**	**271**	P	**P**	**21 46 18.4**	**+0.1**
	baz=58						
SENIN	**Lac Senin/Sane**	**27.88**	**88**	*e*P	**P**	**21 46 26.3**	**+5.1**
E53A	**Dumoine, Ponti**	**27.90**	**272**	P	**P**	**21 46 21.8**	**+0.7**
	baz=58						
G55A	**Calabogie**	**27.95**	**269**	P	**P**	**21 46 21.8**	**+0.3**
	baz=57						
D52A	**ZEK Kipawa Sen**	**28.04**	**273**	P	**P**	**21 46 20.7**	**-1.6**
	baz=59						
H56A	**Elgin**	**28.05**	**267**	P	**P**	**21 46 20.1**	**-2.2**
	baz=56						
E52A	**Mattawa**	**28.54**	**272**	P	**P**	**21 46 26.7**	**0.0**
	baz=58						
GRFO	**Grafenberg**	**28.57**	**79**	*e*P	**P**	**21 46 27.8**	**+0.8**
	comp=Z,5.3nm,0.9s						
GRFO	**Grafenberg**	**28.57**	**79**	*e*P	**P**	**21 46 27.8**	**+0.8**
GRFO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GRA1	**Grafenberg Arr**	**28.57**	**79**	*e*P	**P**	**21 46 27.7**	**+0.7**
	comp=Z,5.0nm,0.8s						
GRF	**Grafenberg Arr**	**28.57**	**79**	*e*P	**P**	**21 46 27.7**	**+0.7**
GRF				pmax	pmax		
	comp=Z,5.0nm,0.8s						
D50A	**G1974 Best Tow**	**28.78**	**275**	P	**P**	**21 46 28.8**	**-0.1**
	baz=60						
CLL	**Collm**	**28.90**	**75**	*e*P	**P**	**21 46 29.6**	**-0.3**
	comp=Z,14nm,1.1s						
CLL	**Collm**	**28.90**	**75**	*i* P	**P**	**21 46 29.2**	**-0.7**
	comp=Z,49nm,1.4s						
CLL				*e*S	**S**	**21 51 17.0**	**-2.2**
CLL	**Collm**	**28.90**	**75**	*i* P	**P**	**21 46 29.2**	**-0.7**
CLL				*e*S	**S**	**21 51 17.0**	**-2.2**
CLL				pmax	pmax		
	comp=Z,49nm,1.4s						
CLL				MLR	MLR		
	comp=Z,2μm,16.9s						
DAVA	**Damuels**	**28.93**	**85**	*i* P	**P**	**21 46 29.4**	**-1.0**
	comp=Z,17nm,1.9s						
NKC	**Novy Kostel**	**29.04**	**78**	AMS	AMS	21 57 10.0	
	comp=Z,2μm,17.9s						
G53A	**Haliburton**	**29.15**	**270**	P	**P**	**21 46 30.8**	**-1.4**
	baz=56						
DAVOX	**Davos/Dischmat**	**29.19**	**86**	P	**P**	**21 46 31.7**	**-1.0**
	comp=Z,2.6nm,0.8s,baz=278,slow=8.2,SNR=4.6						
DAVOX				LR	LR	21 57 34.5	
	comp=Z,3μm,19.3s,baz=270,slow=35						
RETA	**Reutte**	**29.35**	**84**	*i* P	**P**	**21 46 34.1**	**+0.1**
	comp=Z,12nm,1.4s						
FUORN	**Ofenpass-Fuorn**	**29.50**	**86**	*e*P	**P**	**21 46 38.8**	**+3.3**
FETA	**Feichten**	**29.56**	**85**	*i* P	**P**	**21 46 39.6**	**+3.6**
	comp=Z,30nm,1.7s						
BRG	**Berggiesshubel**	**29.62**	**76**	*e*P	**P**	**21 46 36.2**	**-0.1**
	comp=Z,58nm,2.0s						
	comp=N,2μm,17.3s						
	comp=E,2μm,12.2s						
	comp=Z,2μm,17.2s						
BRG	**Berggiesshubel**	**29.62**	**76**	*e*P	**P**	**21 46 36.2**	**-0.1**
BRG				pmax	pmax		
	comp=Z,58nm,2.0s						
BRG				MLR	MLR		
	comp=N,2μm,17.3s						
BRG				MLR	MLR		
	comp=E,2μm,12.2s						
BRG				MLR	MLR		
	comp=Z,2μm,17.2s						
MOTA	**Mosalm**	**29.62**	**84**	*i* pP	**P**	**21 46 36.9**	**+0.4**
	comp=Z,13nm,1.4s						
SADO	**Sadowa**	**29.65**	**270**	P	**P**	**21 46 35.8**	**-0.8**
	comp=Z,13nm,0.8s,baz=69,slow=6.3,SNR=3.9						
SADO				LR	LR	21 57 33.9	
	comp=Z,5μm,18.1s,baz=68,slow=35						
SADO	**Sadowa**	**29.65**	**270**	*e*P	**P**	**21 46 35.8**	**-0.8**
	comp=Z,17nm,0.8s						
E50A	**Wahnapitae**	**29.69**	**274**	P	**P**	**21 46 36.0**	**-1.0**
	baz=58						
SQTA	**Sankt Quirin**	**29.74**	**84**	*i* pP	**P**	**21 46 38.4**	**+0.8**
	comp=Z,20nm,1.4s						
N59A	**State Game Lan**	**29.97**	**261**	P	**P**	**21 46 38.9**	**-0.6**
	baz=50						
PVCC	**Panska Ves**	**30.12**	**76**	AMS	AMS	21 59 30.0	
	comp=Z,2μm,16.9s						
KHC	**Kasperske Hory**	**30.19**	**79**	*e*P	**P**	**21 46 44.4**	**+2.9**
	comp=Z,0.7nm,0.9s						
KHC	**Kasperske Hory**	**30.19**	**79**	*e*P	**P**	**21 46 43.2**	**+1.8**
KHC				AMS	AMS	21 58 00.0	
	comp=Z,2μm,18.0s						
KHC	**Kasperske Hory**	**30.19**	**79**	*e*P	**P**	**21 46 43.2**	**+1.8**
KHC				MLR	MLR		
	comp=Z,2μm,18.0s						
PRA	**Prague**	**30.25**	**77**	AMS	AMS	21 59 30.0	
	comp=Z,2μm,17.0s						
PRU	**Pruhonice**	**30.35**	**77**	AMS	AMS	21 58 00.0	
	comp=Z,2μm,18.3s						
GEC2	**GERESS Array S**	**30.40**	**79**	*e*P	**P**	**21 46 43.2**	**-0.1**
GEC2	**GERESS Array S**	**30.40**	**79**	*e*P	**P**	**21 46 43.2**	**-0.1**
GERES	**GERESS Array B**	**30.40**	**79**	P	**P**	**21 46 41.4**	**-1.9**
	comp=Z,3.1nm,1.0s,baz=288,slow=5.1,SNR=13						
GERES				PcP	**PcP**	**21 49 41.6**	**-1.0**
	comp=Z,1.0nm,1.0s,baz=302,slow=4.3,SNR=3.5						
GERES				LR	LR	21 58 31.6	
	comp=Z,2μm,18.6s,baz=290,slow=36						
GEA0	**GERESS Array S**	**30.40**	**79**	*e*P	**P**	**21 46 42.5**	**-0.9**
GKP	**Gorka Klasztor**	**30.49**	**70**	*e*P	**P**	**21 46 44.4**	**+0.4**
GKP	**Gorka Klasztor**	**30.49**	**70**	*e*P	**P**	**21 46 44.4**	**+0.4**
E48A	**Lockeyer**	**30.50**	**275**	P	**P**	**21 46 44.0**	**-0.2**
	baz=58						
GOPC	**GO Pecny, Ondr**	**30.53**	**77**	AMS	AMS	21 59 30.0	
	comp=Z,2μm,15.2s						
ABTA	**Abfaltersbach**	**30.75**	**84**	*i* pP	**P**	**21 46 48.2**	**+1.8**
	comp=Z,14nm,1.5s						
D47A	**Chapleau**	**30.75**	**277**	P	**P**	**21 46 45.4**	**-1.0**
	baz=59						
MVL	**Millersville**	**30.90**	**260**	*e*P	**P**	**21 46 52.0**	**+4.3**
	comp=Z,22nm,1.1s						
UPC	**Upice**	**30.96**	**75**	*e*P	**P**	**21 46 49.2**	**+1.0**
UPC				AMS	AMS	21 59 40.0	
	comp=Z,3μm,13.8s						
UPC	**Upice**	**30.96**	**75**	*e*P	**P**	**21 46 49.2**	**+1.0**
UPC				MLR	MLR		
	comp=Z,3μm,13.8s						
KSP	**Ksiaz**	**30.97**	**74**	*e*P	**P**	**21 46 46.3**	**-1.9**
KSP	**Ksiaz**	**30.97**	**74**	*e*P	**P**	**21 46 46.3**	**-1.9**
PAGS	**Pennsylvania G**	**30.97**	**261**	*e*P	**P**	**21 46 52.5**	**+4.1**
	comp=Z,51nm,1.2s						
ARA0	**ARCESS Array S**	**30.99**	**37**	*e*P	**P**	**21 46 47.4**	**-0.8**
ARCES	**ARCESS Array B**	**30.99**	**37**	P	**P**	**21 46 47.4**	**-0.8**
	comp=Z,4.8nm,0.8s,baz=260,slow=7.3,SNR=10						
ARCES				LR	LR	21 56 57.2	
	comp=Z,15nm,20.7s,baz=324,slow=32						
RES	**Resolute Bay**	**31.00**	**334**	P	**P**	**21 46 47.0**	**-1.2**
	comp=Z,2.0nm,0.8s,baz=92,slow=9.3,SNR=10.0						
RES				LR	LR	21 58 46.2	
	comp=Z,823nm,18.7s,baz=128,slow=35						
RES	**Resolute Bay**	**31.00**	**334**	*e*P	**P**	**21 46 48.3**	**+0.1**
	comp=Z,25nm,1.1s						
RES	**Resolute Bay**	**31.00**	**334**	*e*P	**P**	**21 46 48.3**	**+0.1**
RES				pmax	pmax		
	comp=Z,25nm,1.1s						
KBA	**Koelnbreinsper**	**31.07**	**83**	*i* pP	**P**	**21 46 50.0**	**+0.7**
	comp=Z,22nm,1.6s						
E47A	**Iron Bridge**	**31.17**	**276**	P	**P**	**21 46 49.2**	**-0.8**
	baz=58						
DPC	**Dobruska-Polom**	**31.21**	**75**	*e*P	**P**	**21 46 50.5**	**+0.1**
DPC				AMS	AMS	21 59 40.0	
	comp=Z,3μm,15.6s						
DPC	**Dobruska-Polom**	**31.21**	**75**	*e*P	**P**	**21 46 50.5**	**+0.1**
DPC				MLR	MLR		
	comp=Z,3μm,15.6s						
MOA	**Molln**	**31.21**	**81**	*i* pP	**P**	**21 46 51.6**	**+1.2**
	comp=Z,28nm,1.6s						
TREC	**Trest**	**31.22**	**78**	AMS	AMS	21 58 40.0	
	comp=Z,3μm,20.5s						
D46A	**Sault St. Mari**	**31.39**	**277**	P	**P**	**21 46 51.2**	**-0.7**
	baz=59						
MYKA	**Terra Mystica**	**31.48**	**83**	*i* pP	**P**	**21 46 53.4**	**+0.6**
	comp=Z,43nm,1.6s						
ERPA	**Erie**	**31.70**	**267**	P	**P**	**21 46 52.6**	**-2.1**
	baz=52						
E46A	**Sault Ste Mari**	**31.82**	**277**	P	**P**	**21 46 53.8**	**-2.0**
	baz=58						
N55A	**Marion Center**	**31.94**	**264**	P	**P**	**21 46 55.5**	**-1.4**
	baz=50						
O56A	**Blue Knob Stat**	**32.02**	**263**	*e*P	**P**	**21 47 02.0**	**+4.3**
	comp=Z,21nm,1.1s						
O56A	**Blue Knob Stat**	**32.02**	**263**	P	**P**	**21 46 56.9**	**-0.8**
	baz=50						
FCC	**Fort Churchill**	**32.05**	**303**	*e*P	**P**	**21 46 57.2**	**-0.4**
	comp=Z,18nm,1.0s						
FCC	**Fort Churchill**	**32.05**	**303**	*e*P	**P**	**21 46 57.2**	**-0.4**
FCC				pmax	pmax		
	comp=Z,18nm,1.0s						
CONA	**Conrad Observa**	**32.10**	**80**	*i* P	**P**	**21 46 57.1**	**-1.2**
	comp=Z,18nm,2.1s						
MORC	**Moravsky Berou**	**32.17**	**76**	*e*P	**P**	**21 46 59.0**	**+0.2**
MORC	**Moravsky Berou**	**32.17**	**76**	*e*P	**P**	**21 46 59.0**	**+0.2**
ARSA	**Arzberg**	**32.25**	**81**	*i* pP	**P**	**21 47 00.4**	**+0.8**
	comp=Z,8.9nm,1.0s						
SOKA	**Soboth**	**32.27**	**82**	*i* P	**P**	**21 47 02.5**	**+2.7**
	comp=Z,16nm,1.6s						
FIA0	**FINESS Array S**	**32.40**	**52**	*e*P	**P**	**21 47 00.3**	**-0.4**
FIA0	**FINESS Array S**	**32.40**	**52**	*e*P	**P**	**21 47 00.3**	**-0.4**
FIA1	**FINESS Array S**	**32.40**	**52**	*e*P	**P**	**21 47 00.7**	**0.0**
FINES	**FINESS Array B**	**32.40**	**52**	P	**P**	**21 47 00.3**	**-0.4**
	comp=Z,3.4nm,0.9s,baz=281,slow=7.8,SNR=6.4						
FINES				LR	LR	21 58 42.7	
	comp=Z,1μm,20.6s,baz=262,slow=34						
N54A	**Moraine State**	**32.42**	**265**	P	**P**	**21 46 59.9**	**-1.1**
	baz=51						
OKC	**Ostrava-Krasne**	**32.49**	**75**	AMS	AMS	22 00 50.0	
	comp=Z,2μm,17.1s						
O55A	**Ligonier**	**32.49**	**263**	P	**P**	**21 47 00.3**	**-1.4**
	baz=50						
I48A	**Sherman Twp**	**32.67**	**273**	P	**P**	**21 47 02.3**	**-0.9**
	baz=55						
MODS	**Modra-Piesok**	**32.70**	**78**	*e*P	**P**	**21 47 03.7**	**+0.2**
MODS				pmax	pmax		
	comp=Z,112nm,2.5s						
MODS	**Modra-Piesok**	**32.70**	**78**	*e*P	**P**	**21 47 03.7**	**+0.2**
MODS				*e*L	L	21 59 24.2	
H47A	**Mio**	**32.73**	**274**	P	**P**	**21 47 02.1**	**-1.6**
	baz=56						
J49A	**Marlette**	**32.82**	**271**	P	**P**	**21 47 04.9**	**+0.4**
	baz=54						
GLMI	**Grayling**	**32.85**	**274**	P	**P**	**21 47 03.1**	**-1.7**
	baz=56						
N53A	**Lisbon**	**33.01**	**265**	P	**P**	**21 47 05.5**	**-0.8**
	baz=51						
BEL	**Belsk**	**33.06**	**70**	*e*P	**P**	**21 47 07.1**	**+0.6**
BEL	**Belsk**	**33.06**	**70**	*e*P	**P**	**21 47 07.1**	**+0.6**
O54A	**Avella**	**33.14**	**264**	P	**P**	**21 47 05.9**	**-1.5**
	baz=50						
R58B	**Mineral**	**33.15**	**259**	P	**P**	**21 47 04.6**	**-2.9**
	baz=47						
MCWV	**Mont Chateau**	**33.17**	**263**	P	**P**	**21 47 06.1**	**-1.5**
	baz=49						
J48A	**Bridge Port**	**33.23**	**271**	P	P	21 47 02.4	-5.7
	baz=54						
I47A	**Gladwin**	**33.24**	**273**	P	**P**	**21 47 05.9**	**-2.3**
	baz=55						
OJC	**Ojcow**	**33.25**	**74**	*e*P	**P**	**21 47 07.3**	**-0.9**
OJC	**Ojcow**	**33.25**	**74**	*e*P	**P**	**21 47 08.1**	**-0.1**
OJC	**Ojcow**	**33.25**	**74**	*e*P	**P**	**21 47 08.1**	**-0.1**
P55A	**Reedsville**	**33.25**	**263**	P	**P**	**21 47 05.7**	**-2.7**
	baz=49						
PABE	**Paberze**	**33.27**	**63**	*e*P	**P**	**21 47 08.5**	**+0.2**
PABE				IAmb	IAmb	21 47 14.3	
	comp=Z,240nm,1.5s						
H46A	**Fife Lake**	**33.35**	**274**	P	**P**	**21 47 07.5**	**-1.7**
	baz=55						
L50A	**Kingsville**	**33.41**	**269**	P	**P**	**21 47 08.2**	**-1.5**
	baz=52						
SUW	**Suwalki**	**33.44**	**66**	*e*P	**P**	**21 47 09.7**	**-0.2**
SUW	**Suwalki**	**33.44**	**66**	*e*P	**P**	**21 47 09.7**	**-0.2**
	comp=Z,30nm,1.0s						
SUW	**Suwalki**	**33.44**	**66**	*e*P	**P**	**21 47 09.7**	**-0.2**
SUW				pmax	pmax		
	comp=Z,30nm,1.0s						
VYHS	**Vyhne**	**33.54**	**77**	*e*P	**P**	**21 47 10.5**	**-0.3**
VYHS				pmax	pmax		
	comp=Z,59nm,2.1s						
VYHS	**Vyhne**	**33.54**	**77**	*e*P	**P**	**21 47 10.5**	**-0.3**
LANS	**Liptovska Anna**	**33.57**	**75**	*e*P	**P**	**21 47 12.0**	**+0.9**
LANS	**Liptovska Anna**	**33.57**	**75**	*e*P	**P**	**21 47 12.0**	**+0.9**
O53A	**New Philadelph**	**33.59**	**265**	P	**P**	**21 47 08.8**	**-2.4**
	baz=50						
VSU	**Vasula**	**33.61**	**57**	*c*e*P*	**P**	**21 47 11.5**	**+0.3**
VSU				pmax	pmax		
	comp=Z,162nm,1.7s						
VSU	**Vasula**	**33.61**	**57**	*e*P	**P**	**21 47 09.5**	**-1.7**
VSU				IAmb	IAmb	21 47 15.5	
	comp=Z,168nm,1.4s						
Q55A	**Buckhannon**	**33.74**	**262**	P	**P**	**21 47 11.8**	**-0.8**
	baz=48						
F43A	**Flat Rock, Esc**	**33.79**	**278**	P	**P**	**21 47 10.9**	**-2.1**
	baz=57						
N51A	**Ashland**	**33.85**	**267**	P	**P**	**21 47 11.7**	**-1.9**
	baz=51						
J47A	**Sunmer**	**33.88**	**272**	P	**P**	**21 47 13.1**	**-0.7**
	baz=54						
E42A	**Champion**	**33.90**	**279**	P	**P**	**21 47 12.1**	**-1.8**
	baz=57						
NIE	**Niedzica**	**33.92**	**75**	*e*P	**P**	**21 47 14.9**	**+0.8**
NIE	**Niedzica**	**33.92**	**75**	*e*P	**P**	**21 47 14.9**	**+0.8**
L49A	**Milan**	**33.94**	**270**	P	**P**	**21 47 14.0**	**-0.3**
	baz=52						

P51A	Williamsport	35.17	266	*e*P		P	21 47 25.7	+0.7
	comp=Z,56nm,1.1s								
P51A	Williamsport	35.17	266	P		P	21 47 24.4	-0.5
	baz=49								
KWP	Kalwaria Pacla	35.18	73	*e*P		P	21 47 25.0	+0.1
KWP	Kalwaria Pacla	35.18	73	*e*P		P	21 47 25.0	+0.1
R53A	Hurricane	35.27	263	P		P	21 47 24.8	-1.1
	baz=48								
G41A	Antigo	35.31	278	P		P	21 47 25.0	-1.2
	baz=56								
UZH	Uzhgorod	35.45	75	*e*P		P	21 47 25.5	-1.7
N48A	Decatur	35.45	269	P		P	21 47 25.8	-1.6
	baz=51								
E39A	Mellen	35.46	281	P		P	21 47 26.3	-1.2
	baz=57								
F40A	Park Falls	35.46	280	P		P	21 47 26.3	-1.2
	baz=56								
I43A	Langenfeld Bro	35.46	276	P		P	21 47 26.7	-0.8
	baz=54								
O49A	Covington	35.47	268	*e*P		P	21 47 31.1	+3.6
	comp=Z,28nm,1.0s								
O49A	Covington	35.47	268	P		P	21 47 28.2	+0.6
	baz=50								
P50A	Jamestown	35.52	266	P		P	21 47 27.1	-0.9
	baz=50								
Q51A	Peebles	35.63	265	*e*P		P	21 47 30.1	+1.1
	comp=Z,28nm,0.9s								
Q51A	Peebles	35.63	265	P		P	21 47 27.8	-1.2
	baz=49								
R52A	Catlettsburg	35.68	264	P		P	21 47 29.5	+0.1
	baz=48								
KEST	Kesra	35.72	102	P		P	21 47 28.7	-1.2
	comp=Z,4.1nm,0.7s,baz=323,slow=5.1,SNR=4.3								
KEST				LR		LR	22 01 23.9		
	comp=Z,745nm,18.4s,baz=260,slow=35								
KEST	Kesra	35.72	102	*e*P		P	21 47 31.5	+1.7
	comp=Z,40nm,1.1s								
LVV	L'vov	35.83	72	*e*P		P	21 47 30.9	+0.4
LVV				MLR		MLR			
	comp=Z,2µm,16.0s								
N47A	Urbana	35.83	270	P		P	21 47 31.2	+0.6
	baz=51								
TRPA	Tarpa	35.85	75⇓	*i*P		P	21 47 31.6	+0.9
TRPA	Tarpa	35.85	75	*e*P		P	21 47 23.1	-7.6
G40A	Rib Lake	35.87	279	*e*P		P	21 47 32.1	+1.1
	comp=Z,23nm,1.0s								
G40A	Rib Lake	35.87	279	P		P	21 47 29.8	-1.2
	baz=56								
M46A	Old House Fiel	35.89	271	P		P	21 47 32.5	+1.3
	baz=52								
O48A	Farmland	35.91	268	P		P	21 47 31.3	0.0
	baz=50								
I42A	Draeger Farm,	35.91	276	P		P	21 47 30.5	-0.8
	baz=54								
E38A	The Farm, Brul	35.91	282	*e*P		P	21 47 35.2	+3.9
	comp=Z,29nm,1.1s								
E38A	The Farm, Brul	35.91	282	P		P	21 47 30.7	-0.6
	baz=57								
H41A	Junction City	35.92	278	*e*P		P	21 47 31.4	0.0
	comp=Z,38nm,1.0s								
H41A	Junction City	35.92	278	P		P	21 47 30.6	-0.8
	baz=55								
F39A	Loretta	35.93	280	P		P	21 47 30.8	-0.6
	baz=56,SNR=5.5								
P49A	Miami Univ. Ec	36.11	267	P		P	21 47 34.5	+1.4
	baz=50								
Q50A	Georgetown	36.13	266	P		P	21 47 35.4	+2.2
	baz=49								
R51A	Hillsboro	36.25	264	P		P	21 47 35.0	+0.8
	baz=48								
K43A	Burlington	36.27	274	P		P	21 47 36.4	+2.0
	baz=53								
H40A	Chili	36.35	278	P		P	21 47 35.2	+0.1
	baz=55								
J42A	Columbus	36.37	276	P		P	21 47 34.7	-0.5
	baz=54								
I41A	Arkdale	36.37	277	*e*P		P	21 47 39.9	+4.6
	comp=Z,34nm,1.1s								
I41A	Arkdale	36.37	277	P		P	21 47 36.4	+1.2
	baz=54								
S52A	Salyersville	36.37	263	P		P	21 47 35.1	-0.2
	baz=48,SNR=6.0								
G39A	Holcombe	36.42	280	P		P	21 47 34.2	-1.5
	baz=56								
N46A	Monticello	36.44	270	P		P	21 47 34.9	-1.0
	baz=51								
F38A	Pierce - Schro	36.46	281	P		P	21 47 35.5	-0.5
	baz=56,SNR=5.1								
ULM	Lac du Bonnet	36.47	290	P		P	21 47 33.9	-2.1
	comp=Z,11nm,1.0s,baz=64,slow=8.3,SNR=12								
ULM				LR		LR	22 01 18.3		
	comp=Z,3µm,18.2s,baz=70,slow=34								
ULM	Lac du Bonnet	36.47	290	*e*P		P	21 47 34.9	-1.1
	comp=Z,44nm,1.1s								
ULM	Lac du Bonnet	36.47	290	*e*P		P	21 47 34.9	-1.1
ULM				pmax		pmax			
	comp=Z,44nm,1.1s								
O47A	Sheridan	36.52	269	P		P	21 47 34.0	-2.6
	baz=50								
Q49A	Aurora	36.56	267	P		P	21 47 37.6	+0.7
	baz=49								
P48A	Milroy	36.58	268	P		P	21 47 36.9	-0.1
	baz=50								
BZS	Buzias	36.68	79⇓	*i*P		P	21 47 38.7	+0.8
S51A	Beattyville	36.70	264	*e*P		P	21 47 40.1	+2.0
	comp=Z,22nm,0.9s								
S51A	Beattyville	36.70	264	P		P	21 47 37.9	-0.2
	baz=48								
R50A	Paris	36.70	265	P		P	21 47 37.5	-0.6
	baz=48,SNR=6.1								
T52A	Hallie	36.70	262	P		P	21 47 38.6	+0.5
	baz=47								
K42A	Prairie Point,	36.82	275	P		P	21 47 37.3	-1.8
	baz=53								
L43A	Garden Prairie	36.83	274	P		P	21 47 38.7	-0.4
	baz=52								
H39A	Augusta	36.84	279	P		P	21 47 38.3	-0.9
	baz=55								
J41A	Loganville	36.86	276	P		P	21 47 40.6	+1.2
	baz=54								
G38A	Ridgeland	36.89	280	P		P	21 47 40.8	+1.1
	baz=55								
I40A	Norwalk	36.91	277	P		P	21 47 39.6	-0.2
	baz=54								
N45A	Kentland	36.92	271	P		P	21 47 39.6	-0.4
	baz=51								
U53A	Fall Branch	36.97	261	P		P	21 47 40.5	0.0
	baz=46								
SFIN	Lafayette	36.98	270	*e*P		P	21 47 44.9	+4.5
	comp=Z,22nm,0.8s								
SFIN	Lafayette	36.98	270	P		P	21 47 39.7	-0.7
	baz=50								
F37A	Hinrichs Farm,	37.02	281	P		P	21 47 41.9	+1.1
	baz=56								
P47A	Martinsville	37.06	268	P		P	21 47 42.5	+1.4
	baz=50								
Q48A	North Vernon	37.10	267	P		P	21 47 40.9	-0.6
	baz=49,SNR=6.5								
KMSC	Kings Mountain	37.10	259	P		P	21 47 42.8	+1.2
	baz=45								
S50A	Richmond	37.15	264	P		P	21 47 41.8	-0.1
	baz=48								
R49A	Shelbyville	37.19	266	P		P	21 47 42.4	+0.1
	baz=48								
JFWS	Jewell Farm	37.27	276	*e*P		P	21 47 47.2	+4.3
	comp=Z,20nm,1.0s								
JFWS	Jewell Farm	37.27	276	P		P	21 47 44.3	+1.4
	baz=53								
J40A	Soldiers Grove	37.27	277	P		P	21 47 43.0	+0.1
	baz=54								
N44A	Piper City	37.33	271	P		P	21 47 38.8	-4.6
	baz=51								
T51A	Gray	37.36	263	P		P	21 47 41.3	-2.5
	baz=47								
SPMN	Marine on St.	37.41	281	*e*P		P	21 47 44.8	+0.7
	comp=Z,47nm,1.1s								
SPMN	Marine on St.	37.41	281	P		P	21 47 40.9	-3.2
	baz=55,SNR=5.7								
M43A	Waltham Townsh	37.41	273	P		P	21 47 43.0	-1.1
	baz=52								
U52A	Thorn Hill	37.42	262	P		P	21 47 42.4	-1.8
	baz=46,SNR=5.8								
TZTN	Tazewell	37.42	262	*e*P		P	21 47 48.3	+4.0
	comp=Z,38nm,1.1s								
TZTN	Tazewell	37.42	262	P		P	21 47 44.2	0.0
	baz=46,SNR=6.2								
H38A	Maiden Rock	37.42	280	P		P	21 47 40.4	-3.8
	baz=55								
I39A	Houston	37.46	278	*e*P		P	21 47 45.5	+1.1
	comp=Z,62nm,1.0s								
I39A	Houston	37.46	278	P		P	21 47 43.6	-0.9
	baz=54								
AGMN	Agassiz Nation	37.47	287	*e*P		P	21 47 45.8	+1.3
	comp=Z,27nm,1.1s								
AGMN	Agassiz Nation	37.47	287	P		P	21 47 42.5	-2.0
	baz=58								
GZR	Gura Zlata	37.48	79⇑	*i*P		P	21 47 44.6	-0.1
L42A	Oliver, Polo	37.48	274	P		P	21 47 43.9	-0.8
	baz=52								
Q47A	Bedord North L	37.51	268	P		P	21 47 43.3	-1.7
	baz=49								
P46A	Rosedale	37.53	269	P		P	21 47 44.2	-0.9
	baz=50								
R48A	Northridge Ran	37.53	267	P		P	21 47 44.3	-0.9
	baz=48								
V53A	Saluda	37.59	261	*e*P		P	21 47 46.0	+0.2
	comp=Z,9.1nm,1.0s								
V53A	Saluda	37.59	261	P		P	21 47 44.0	-1.8
	baz=46								
S49A	Springfield	37.60	265	P		P	21 47 45.6	-0.1
	baz=48								
FFC	Flin Flon	37.61	299	*e*P		P	21 47 45.3	-0.3
	comp=Z,16nm,1.1s								
FFC	Flin Flon	37.61	299	*e*P		P	21 47 45.3	-0.3
FFC				pmax		pmax			
	comp=Z,16nm,1.1s								
PAULI	Pauline	37.61	259	*e*P		P	21 47 50.3	+4.5
	comp=Z,7.8nm,0.9s								
BUR08	Bucovina Ar. S	37.62	74	*e*P		P	21 47 46.9	+1.0
BUR08				*e*S		S	21 53 40.4	+5.7
BUR04	Bucovina Ar. S	37.64	74	*e*P		P	21 47 46.5	+0.4
BURAR	Bucovina Array	37.65	74⇓	*i*P		P	21 47 47.2	+1.0
U51A	La Follette	37.80	263	P		P	21 47 47.3	-0.2
	baz=46,SNR=5.1								
N43A	Stutzman Famil	37.85	272	P		P	21 47 45.5	-2.3
	baz=51								
T50A	Nancy	37.85	264	P		P	21 47 47.2	-0.6
	baz=47,SNR=5.3								
J39A	Decorah	37.87	277	P		P	21 47 46.5	-1.5
	baz=53								
WCI	Wyandotte Cave	37.90	267	*e*P		P	21 47 49.1	+0.9
	comp=Z,19nm,0.8s								
WCI	Wyandotte Cave	37.90	267	*e*P		P	21 47 49.1	+0.9
WCI				pmax		pmax			
	comp=Z,19nm,0.8s								
WCI	Wyandotte Cave	37.90	267	P		P	21 47 47.6	-0.6
	baz=48								
NHSC	New Hope	37.90	255	*e*P		P	21 47 49.3	+1.0
	comp=Z,62nm,0.9s								
NHSC	New Hope	37.90	255	P		P	21 47 47.7	-0.6
	baz=43								
P45A	Graceland, Par	37.90	270	*e*P		P	21 47 52.6	+4.3
	comp=Z,36nm,1.0s								
P45A	Graceland, Par	37.90	270	P		P	21 47 46.0	-2.3
	baz=50,SNR=5.6								
K40A	Celesburg	37.92	276	P		P	21 47 47.6	-0.8
	baz=53								
L41A	Preston	37.92	275	P		P	21 47 48.1	-0.3
	baz=52								
O44A	Mansfield	37.93	271	P		P	21 47 46.0	-2.5
	baz=50								
V52A	Sevierville	37.93	262	*e*P		P	21 47 49.9	+1.3
	comp=Z,21nm,1.0s								
V52A	Sevierville	37.93	262	P		P	21 47 47.7	-0.9
	baz=46,SNR=5.2								
R47A	Wooly Knot Far	37.99	267	P		P	21 47 47.9	-1.1
	baz=48,SNR=6.0								
BG3	Lake Jocassee	38.14	260	*e*P		P	21 47 52.4	+2.1
	comp=Z,23nm,1.2s								
S48A	Wiedeman Farm,	38.14	266	P		P	21 47 49.7	-0.6
	baz=48								
W53A	Cullowhee	38.15	260	P		P	21 47 49.6	-0.9
	baz=45								
HDIL	Hopedale	38.16	272	*e*P		P	21 47 55.8	+5.4
	comp=Z,9.2nm,0.6s								
HDIL	Hopedale	38.16	272	P		P	21 47 49.4	-1.1
	baz=51								
TKL	Tuckaleechee C	38.16	261	LR		LR	22 02 41.2		
	comp=Z,2µm,19.4s,baz=56,slow=35								
T49A	Edmonton	38.20	265	*e*P		P	21 47 51.0	+0.2
	comp=Z,18nm,1.0s								
T49A	Edmonton	38.20	265	P		P	21 47 50.6	-0.2
	baz=47								
AK11	Malin Array Si	38.24	68	*e*P		P	21 47 50.2	-0.8
KIEV	Kiev	38.25	68	*e*P		P	21 47 49.6	-1.5
	comp=Z,4.1nm,0.8s								
KIEV	Kiev	38.25	68⇑	*i*P		P	21 47 50.7	-0.4
KIEV	Kiev	38.25	68	*i* P		P	21 47 49.9	-1.2
	SNR=14								
KIEV	Kiev	38.25	68	*e*P		P	21 47 49.6	-1.5
KIEV				pmax		pmax			
	comp=Z,4.0nm,0.8s								
AKASG	Malin Array Be	38.26	68	P		P	21 47 49.7	-1.5
	comp=Z,3.3nm,0.8s,baz=304,slow=7.8,SNR=23								
AKASG				PcP		PcP	21 50 03.5	-1.5
	comp=Z,1.0nm,0.5s,baz=292,slow=3.1,SNR=6.3								
AKASG				LR		LR	22 04 59.2		
	comp=Z,608nm,18.4s,baz=305,slow=38								
AKASG	Malin Array Be	38.26	68	*ce*P		P	21 47 50.5	-0.6
AKASG				pmax		pmax			
	comp=Z,5.0nm,0.8s								
AKBB	Malin Array Si	38.26	68	*e*P		P	21 47 50.1	-1.0
	comp=Z,4.5nm,0.8s								
AKBB				*e*PcP		PcP	21 50 03.5	-1.5
AKBB	Malin Array Si	38.26	68	*e*P		P	21 47 50.1	-1.0
AKBB				*e*			21 50 03.5		
AKBB				pmax		pmax			
	comp=Z,5.0nm,0.8s								
U50A	Jamestown	38.26	263	P		P	21 47 50.8	-0.6
	baz=46								
HODGE	Hodges	38.29	258	*e*P		P	21 47 52.7	+1.1
	comp=Z,10nm,0.8s								
K39A	Oelwein	38.36	277	P		P	21 47 49.4	-2.7
	baz=53								
L40A	Anamosa	38.36	275	*e*P		P	21 47 54.1	+2.0
	comp=Z,36nm,1.1s								
L40A	Anamosa	38.36	275	P		P	21 47 48.7	-3.4
	baz=52								
M41A	Milan	38.38	274	P		P	21 47 52.0	-0.3
	baz=51								
V51A	Loudon	38.40	262	P		P	21 47 51.7	-0.8
	baz=46								
N42A	Yates City	38.43	273	P		P	21 47 51.3	-1.4
	baz=51								
P44A	Sand Creek, Wi	38.46	270	P		P	21 47 51.0	-2.0
	baz=50								
BIZ	Bicaz	38.52	75⇑	*i*P		P	21 47 54.6	+1.2
Q45A	Warren Harvey,	38.56	269	P		P	21 47 51.8	-1.9
	baz=49								
ARR	Arges	38.57	78⇓	*i*P		P	21 47 54.7	+0.8
R46A	Gibon Southern	38.62	268	P		P	21 47 53.5	-0.9
	baz=48								
W52A	Murphy	38.65	261	*e*P		P	21 47 55.4	+0.8
	comp=Z,15nm,0.9s								
W52A	Murphy	38.65	261	P		P	21 47 53.5	-1.1
	baz=45								
DOPR	Dopca	38.66	76⇑	*i*P		P	21 47 55.0	+0.4
S47A	Hartford	38.66	266	P		P	21 47 54.6	-0.1
	baz=48								
X53A	Estanollee	38.70	260	P		P	21 47 54.0	-1.1
	baz=45								
T48A	Bowling Green	38.70	265	P		P	21 47 54.5	-0.6
	baz=47								
KLMR	Klimovskoe	38.73	49	*e*P		P	21 47 52.8	-2.1
KLMR				pmax		pmax			
	comp=Z,171nm,1.5s								
KLMR	Klimovskoe	38.73	49	*e*P		P	21 47 52.9	-2.0
KLMR				AMP			21 48 01.1		
	comp=Z,171nm,1.6s								
CPCT	Cooper Cave	38.74	262	*e*P		P	21 47 56.1	+0.7
	comp=Z,15nm,1.0s								
U49A	Red Boiling Sp	38.75	264	P		P	21 47 53.8	-1.6
	baz=47								
VOIR		38.77	77⇓	*i*P		P	21 47 56.0	+0.4
L39A	Vinton	38.78	276	P		P	21 47 55.2	-0.4
	baz=52,SNR=6.1								
Y54A	Tignall	38.80	258	P		P	21 47 55.2	-0.7
	baz=44								
P43A	Skaggs, Pawnee	38.88	271	P		P	21 47 54.5	-2.0
	baz=50								
V50A	Pikevile	38.93	263	P		P	21 47 56.9	-0.1
	baz=46,SNR=5.3								
M40A	Post Highland	38.94	275	P		P	21 47 54.8	-2.1
	baz=51								
X52A	Dahlonega	38.97	260	P		P	21 47 57.3	0.0
	baz=45								
N41A	Harden Midland	38.99	273	*e*P		P	21 48 02.1	+4.8
	comp=Z,30nm,1.1s								
N41A	Harden Midland	38.99	273	P		P	21 47 56.9	-0.4
	baz=51								
R45A	Skylar, Fairfi	39.03	268	P		P	21 47 56.0	-1.7
	baz=48,SNR=5.9								
Q44A	Meyer Farm, Va	39.06	270	*e*P		P	21 47 57.9	-0.1
	comp=Z,46nm,0.9s								
Q44A	Meyer Farm, Va	39.06	270	P		P	21 47 57.3	-0.7
	baz=49								
W51A	Cleveland	39.08	262	P		P	21 47 57.1	-1.1
	baz=45								
S46A	Don Dixon Farm	39.10	267	P		P	21 47 57.7	-0.6
	baz=48								
U48A	Cassie Pea, Po	39.20	265	P		P	21 47 59.3	+0.1
	baz=47								
MLR	Muntele Rosu	39.25	77	*e*P		P	21 48 00.4	+0.7
	comp=Z,7.4nm,1.0s								
MLR	Muntele Rosu	39.25	77⇑	*i*P		P	21 47 59.9	+0.2
MLR	Muntele Rosu	39.25	77	*e*P		P	21 48 00.4	+0.7
MLR				pmax		pmax			
	comp=Z,7.0nm,1.0s								
M39A	Webster	39.28	275	P		P	21 47 59.0	-0.8
	baz=51								
Y53A	Monroe	39.32	259	P		P	21 47 59.9	-0.4
	baz=44								
V49A	McMinnville	39.33	264	P		P	21 47 59.8	-0.5
	baz=46								
Z54A	Sparta	39.34	258	P		P	21 47 59.7	-0.7
	baz=43								
O41A	Passleys Farm,	39.38	273	P		P	21 47 59.9	-0.8
	baz=50								
W50A	Signal Mountai	39.38	262	*e*P		P	21 48 02.4	+1.6
	comp=Z,14nm,0.9s								
W50A	Signal Mountai	39.38	262	P		P	21 48 01.5	+0.7
	baz=46								
VTS	Vitosha	39.38	82	*e*P		P	21 48 01.1	+0.2
VTS	Vitosha	39.38	82⇑	*i*P		P	21 48 01.2	+0.3
VTS	Vitosha	39.38	82	*e*P		P	21 48 01.1	+0.2
P42A	Winchester	39.40	272	*e*P		P	21 48 02.2	+1.4
	comp=Z,36nm,1.0s								
P42A	Winchester	39.40	272	P		P	21 48 00.8	-0.1
	baz=50								
Q43A	New Douglas	39.44	270	P		P	21 48 00.8	-0.4
	baz=49								
PLOR	Plostina	39.45	76⇓	*i*P		P	21 48 02.7	+1.5
VRI	Vrincioaia	39.48	76⇑	*i*P		P	21 48 01.1	-0.4
R44A	Waltonville	39.53	269	P		P	21 48 02.2	+0.3
	baz=48								
X51A	Calhoun	39.56	261	*e*P		P	21 48 06.1	+3.9
	comp=Z,12nm,0.8s								
X51A	Calhoun	39.56	261	P		P	21 48 03.8	+1.5
	baz=45								
GOGA	Godfrey	39.57	259	P		P	21 48 02.3	0.0
	baz=44								
Y52A	Lilburn	39.59	260	*e*P		P	21 48 02.0	-0.5
	comp=Z,18nm,0.9s								
Y52A	Lilburn	39.59	260	P		P	21 48 02.6	+0.1
	baz=44								
S45A	Carrier Mills	39.61	268	P		P	21 48 02.0	-0.6
	baz=48								
SCIA	State Center	39.62	277	*e*P		P	21 48 02.7	0.0
	comp=Z,76nm,1.4s								
SCIA	State Center	39.62	277	P		P	21 48 02.3	-0.4
	baz=50								
T46A	Princeton	39.63	267	P		P	21 48 02.6	-0.2
	baz=47,SNR=6.8								
U47A	Clarksville	39.68	265	P		P	21 48 03.3	0.0
	baz=47,SNR=6.0								
Z53A	Monticello	39.73	259	P		P	21 48 04.5	+0.9
	baz=44								
SWET	Sewanee	39.73	263	*e*P		P	21 48 05.1	+1.4
	comp=Z,16nm,1.1s								
P41A	Barry, Barry	39.77	272	P		P	21 48 03.6	-0.3
	baz=50								
V48A	Smith Brothers	39.89	264	*e*P		P	21 48 04.6	-0.4
	comp=Z,24nm,1.0s								
V48A	Smith Brothers	39.89	264	P		P	21 48 05.7	+0.7
	baz=46								
OBN	Obninsk	39.92	58	*e*P		P	21 48 04.8	-0.1
	comp=Z,36nm,1.1s								
OBN	Obninsk	39.92	58⇑	*i*P		P	21 48 05.5	+0.6
OBN	Obninsk	39.92	58	*d i*P		P	21 48 04.3	-0.6
OBN				*i*			21 48 08.9		
OBN				pmax		pmax			
	comp=Z,39nm,1.1s								
OBN				MLR		MLR			
	comp=Z,1µm,18.0s								
Q42A	Golden Eagle	39.95	271	P		P	21 48 04.4	-1.0
	baz=49								
SIUC	Southern Illin	39.96	269	*e*P		P	21 48 05.5	-0.1
	comp=Z,59nm,0.8s								
W49A	Belvidere	39.99	263	P		P	21 48 05.2	-0.6
	baz=46,SNR=5.6								
S44A	Carbondale	40.00	269	P		P	21 48 05.4	-0.4
	baz=48,SNR=6.0								
R43A	Red Bud	40.01	270	P		P	21 48 05.7	-0.2
	baz=48								
KIS	Kishinev	40.03	73	*e*P		P	21 48 04.0	-2.0
	comp=Z,210nm,2.0s								
KIS				*e*LR		LR	22 03 10.0		
	comp=Z,2µm,16.0s								
KIS	Kishinev	40.03	73	*e*P		P	21 48 04.0	-2.0
KIS				pmax		pmax			
	comp=Z,210nm,2.0s								
KIS				MLR		MLR			
	comp=Z,2µm,16.0s								
KIS				MLR		MLR			
	comp=N,2µm,15.0s								
YKW3	Yellowknife Ar	40.07	315	*e*P		P	21 48 05.1	-1.0
	comp=N,5.2nm,1.0s								
255A	Hazlehurst	40.08	256	P		P	21 48 07.5	+1.0
	baz=42								
T45A	Paducah	40.09	267	P		P	21 48 05.7	-0.9
	baz=47								
YKA	Yellowknife Ar	40.09	315	P		P	21 48 05.0	-1.3
	comp=N,3.6nm,0.9s,baz=62,slow=9.0,SNR=21								
YKA				PcP		PcP	21 50 09.4	-1.1
	comp=N,2.5nm,0.9s,baz=61,slow=3.4,SNR=8.0								
YKA				LR		LR	22 03 03.1		
	comp=N,105nm,20.5s,baz=66,slow=34								
YKB5	Yellowknife Ar	40.09	315	*e*P		P	21 48 05.1	-1.2
YKB5				*e*PcP		PcP	21 50 08.7	-1.8
X50B	Fort Payne	40.10	262	P		P	21 48 04.6	-2.1
	baz=45								
MOS	Moscow	40.14	57	*e*P		P	21 48 05.6	-1.2
MOS				pmax		pmax			
	comp=Z,41nm,1.1s								
Y51A	Rockmart	40.15	261	P		P	21 48 05.7	-1.4
	baz=44								
WVT	Waverly	40.22	266	*e*P		P	21 48 07.2	-0.4
	comp=Z,16nm,1.0s								
WVT	Waverly	40.22	266	*e*P		P	21 48 07.2	-0.4
WVT				pmax		pmax			
	comp=Z,16nm,1.0s								
WVT	Waverly	40.22	266	P		P	21 48 06.1	-1.5
	baz=46								
V47A	Nunnelly	40.24	265	P		P	21 48 07.8	-0.1
	baz=46								
U46A	Springville	40.26	266	P		P	21

Z51A Franklin 40.63 260 P P 21 48 09.7 -1.5
baz=44
W47A Westpoint 40.68 264 P P 21 48 08.7 -2.8
baz=46
CFR Carcaliu 40.69 76⇑ *i*P P 21 48 10.4 -1.1
152A Waverly Hall 40.84 259 *e*P P 21 48 12.7 -0.1
comp=Z,15nm,0.8s
152A Waverly Hall 40.84 259 P P 21 48 11.4 -1.4
baz=43
R41A Rosebud 40.85 271 P P 21 48 09.9 -3.0
baz=48,SNR=5.4
S42A Caledonia 40.86 270 P P 21 48 10.0 -3.0
baz=48,SNR=13
X48A Hartselle 40.92 263 P P 21 48 12.7 -0.8
baz=45
CCM Cathedral Cave 40.93 271 *e*P P 21 48 13.2 -0.3
comp=Z,24nm,0.9s
CCM Cathedral Cave 40.93 271 *e*P P 21 48 13.2 -0.3
CCM pmax pmax
comp=Z,24nm,0.9s
CCM Cathedral Cave 40.93 271 P P 21 48 13.3 -0.3
baz=48
Y49A Blount Mountai 40.97 262 *e*P P 21 48 14.1 +0.2
comp=Z,12nm,0.8s
Y49A Blount Mountai 40.97 262 P P 21 48 12.4 -1.5
baz=44
TLB Topalu 40.99 77⇓ *i*P P 21 48 14.0 +0.1
T43A Greenville 41.02 269 P P 21 48 11.3 -2.9
baz=48
PRGR Permogore 41.04 46 *e*P P 21 48 13.8 -0.3
PRGR pmax pmax
comp=Z,35nm,1.5s
TIGA Tifton 41.08 257 P P 21 48 12.0 -2.9
baz=42
455A Stateville 41.28 255 P P 21 48 13.9 -2.5
baz=42
151A Opelika 41.29 259 P P 21 48 14.5 -2.0
baz=43
252A Lumpkin 41.33 258 P P 21 48 13.3 -3.6
baz=43
X47A Russelville 41.35 264 P P 21 48 16.4 -0.6
baz=45,SNR=5.8
Y48A Jasper 41.37 263 P P 21 48 14.1 -3.1
baz=45,SNR=5.8
353A Camilla 41.51 257 P P 21 48 15.5 -2.9
baz=42
Z49A Columbiana 41.51 261 P P 21 48 17.6 -0.7
baz=44
T42A Van Buren 41.53 269 *e*P P 21 48 18.6 +0.2
comp=Z,19nm,0.8s
T42A Van Buren 41.53 269 P P 21 48 15.5 -2.9
baz=47,SNR=14
S41A Jillco Farms, 41.54 270 P P 21 48 17.8 -0.8
baz=48,SNR=10.0
150A Eclectic 41.64 260 P P 21 48 18.7 -0.7
baz=44
454A Quitman 41.64 256 P P 21 48 18.9 -0.6
baz=42
251A Midway 41.65 259 P P 21 48 17.9 -1.7
baz=43
W45A Hickory Valley 41.68 266 P P 21 48 17.6 -2.2
baz=46,SNR=5.8
X46A Booneville 41.75 265 P P 21 48 18.8 -1.5
baz=45,SNR=16
Y47A UCPARC, Winfie 41.78 263 P P 21 48 18.7 -1.8
baz=45,SNR=7.2
LRAL Lakeview Retre 41.90 262 *e*P P 21 48 22.8 +1.3
comp=Z,25nm,1.1s
LRAL Lakeview Retre 41.90 262 P P 21 48 20.4 -1.1
baz=44
T41A Mountain View 41.91 270 P P 21 48 19.6 -2.0
baz=47,SNR=15
453A Whigham 41.94 257 P P 21 48 22.2 +0.3
baz=42
Z48A Northport 41.98 262 P P 21 48 19.8 -2.4
baz=44
DGMT Dagmar 42.02 292 *e*P P 21 48 27.8 +5.4
comp=Z,42nm,1.1s
DGMT Dagmar 42.02 292 P P 21 48 20.2 -2.2
baz=55
U42A Revenden 42.07 269 P P 21 48 21.3 -1.6
baz=47,SNR=16
149A Jones 42.09 261 P P 21 48 21.4 -1.7
baz=44,SNR=13
250A Grady 42.24 260 *e*P P 21 48 24.1 -0.2
comp=Z,49nm,1.0s
250A Grady 42.24 260 P P 21 48 21.6 -2.7
baz=43
OXF Oxford 42.27 265 *e*P P 21 48 23.2 -1.3
comp=Z,79nm,1.0s
OXF Oxford 42.27 265 *e*P P 21 48 23.2 -1.3
OXF pmax pmax
comp=Z,79nm,1.0s
OXF Oxford 42.27 265 P P 21 48 21.7 -2.8
baz=45,SNR=7.8
X45A UM Field Stati 42.32 265 P P 21 48 22.8 -2.2
baz=45,SNR=6.5
351A Pinckard 42.36 258 P P 21 48 23.4 -2.0
baz=42
Y46A Houston 42.38 264 P P 21 48 23.7 -1.8
baz=45
Z47A Carrollton 42.41 263 P P 21 48 24.9 -0.8
baz=44
LPSR Galich'ya Gora 42.41 60 *e*P P 21 48 24.9 -0.6
LPSR pmax pmax
comp=Z,30nm,1.2s
U41A Viola 42.48 269 P P 21 48 23.0 -3.3
baz=47
148A Greensboro 42.51 262 P P 21 48 24.5 -2.1
baz=44,SNR=12
V42A Cord 42.54 268 P P 21 48 24.4 -2.3
baz=46,SNR=20
H05N1 Guadeloupe/Mar 42.66 218 T T 22 33 53.7
Y45A Yeager Farm, C 42.80 265 P P 21 48 27.7 -1.2
baz=45
BGNE Belgrade 42.82 280 *e*P P 21 48 30.2 +1.2
comp=Z,72nm,1.0s
BGNE Belgrade 42.82 280 P P 21 48 26.7 -2.3
baz=51
147A Livingston 42.90 262 *e*P P 21 48 29.7 0.0
comp=Z,71nm,1.1s
147A Livingston 42.90 262 P P 21 48 29.7 0.0
baz=44
V41A Mountainview 43.00 269 P P 21 48 29.7 -0.9
baz=46,SNR=11
248A Dixon Mills 43.01 261 P P 21 48 29.8 -0.8
baz=43
U40A Yellville 43.02 270 P P 21 48 29.9 -0.8
baz=47,SNR=20
SJG San Juan 43.05 226 LR LR 22 04 32.7
comp=Z,242nm,20.1s,baz=26,slow=34
Y44A Strider, Charl 43.12 265 P P 21 48 28.4 -3.1
baz=45
349A Repton 43.23 260 P P 21 48 31.6 -0.7
baz=43
VSR Storozhevoye 43.30 62 *e*P P 21 48 31.4 -1.3
VSR pmax pmax
comp=Z,50nm,1.4s
VSR MLR MLR
comp=Z,1μm,16.0s
146A Union 43.39 263 *e*P P 21 48 37.4 +3.7
comp=Z,65nm,1.1s
KSU1 Kansas State U 43.41 276 *e*P P 21 48 33.1 -0.7
comp=Z,40nm,0.9s
KSU1 Kansas State U 43.41 276 P P 21 48 32.6 -1.1
baz=49,SNR=11
WHAR Wooly Hollow 43.42 268 *e*P P 21 48 33.2 -0.7
comp=Z,38nm,1.0s
W41B Gary Mavity, V 43.48 268 *e*P P 21 48 33.1 -1.2
comp=Z,39nm,1.0s
W41B Gary Mavity, V 43.48 268 P P 21 48 33.4 -1.0
baz=46,SNR=7.0
X42A Stuttgart 43.54 267 P P 21 48 34.7 -0.1
baz=46
247A Quitman 43.55 262 P P 21 48 34.1 -0.8
baz=43,SNR=6.1
348A Jackson 43.60 261 P P 21 48 34.6 -0.7
baz=43
449A Pace 43.68 259 P P 21 48 35.6 -0.4
baz=42
HHAR Hobbs 43.72 271 *e*P P 21 48 35.1 -1.2
comp=Z,30nm,1.0s
UALR University of 43.81 268 *e*P P 21 48 36.7 -0.3
comp=Z,19nm,0.9s
145A Houston Renfro 43.92 264 P P 21 48 36.5 -1.5
baz=44
CCAR Cane Creek 44.07 267 *e*P P 21 48 40.5 +1.4
comp=Z,63nm,1.2s

X41A Kaden, Bauxite 44.11 268 P P 21 48 38.5 -0.9
baz=46
Y42A Garnett, Star 44.14 267 P P 21 48 37.8 -1.9
baz=45
INK Inuvik 44.17 328 LR LR 22 05 56.0
comp=Z,1μm,21.0s,baz=67,slow=34
INK Inuvik 44.17 328 *e*P P 21 48 38.6 -0.8
comp=Z,17nm,1.0s
INK Inuvik 44.17 328 *e*P P 21 48 38.6 -0.8
INK pmax pmax
comp=Z,17nm,1.0s
LAO LASA Array 44.17 291 *e*P P 21 48 40.6 +0.8
comp=Z,71nm,1.0s
LAO LASA Array 44.17 291 P P 21 48 38.6 -1.3
baz=53,SNR=26
X40A Basin Creek Fa 44.30 268 *e*P P 21 48 39.8 -1.2
comp=Z,23nm,0.8s
X40A Basin Creek Fa 44.30 268 P P 21 48 39.4 -1.6
baz=46,SNR=19
H05S1 Guadeloupe/Mar 44.33 217 T T 22 35 53.7
W39A Magazine 44.37 270 *e*P P 21 48 40.7 -0.8
comp=Z,50nm,1.0s
W39A Magazine 44.37 270 P P 21 48 40.2 -1.3
baz=46,SNR=23
RSSD Black Hills 44.51 287 *e*P P 21 48 46.2 +3.4
comp=Z,4.7nm,0.9s
346A Big Creek Wild 44.53 262 *e*P P 21 48 47.0 +4.2
comp=Z,70nm,1.1s
346A Big Creek Wild 44.53 262 P P 21 48 42.0 -0.8
baz=43
VBMS Vicksburg 44.55 264 P P 21 48 40.2 -2.7
baz=44
SDDR Presa de Saban 44.58 233 *e*P P 21 48 47.7 +4.3
comp=Z,25nm,1.0s
Y41A Eaglette Beard 44.59 267 P P 21 48 42.2 -1.1
baz=45,SNR=15
VRH Novokhopyorsk 44.63 61 *e*P P 21 48 43.0 -0.3
VRH pmax pmax
comp=Z,40nm,1.1s
VRH MLR MLR
comp=Z,2μm,17.0s
MIAR Mount Ida 44.70 269 *e*P P 21 48 43.4 -0.7
comp=Z,59nm,1.0s
MIAR Mount Ida 44.70 269 *e*P P 21 48 43.4 -0.7
MIAR pmax pmax
comp=Z,59nm,1.0s
MIAR Mount Ida 44.70 269 P P 21 48 43.4 -0.7
baz=46,SNR=36
244A Avery, Jackson 44.77 264 P P 21 48 43.2 -1.5
baz=44
TUL1 Leonard 45.06 272 *e*P P 21 48 46.4 -0.6
comp=Z,46nm,1.1s
TUL1 Leonard 45.06 272 P P 21 48 45.9 -1.2
baz=46,SNR=6.1
MANT Manisa 45.13 83 *e*P P 21 48 52.7 +4.8
comp=Z,32nm,1.2s
Z41A Richland Creek 45.15 267 *e*P P 21 48 48.7 +1.0
comp=Z,94nm,1.1s
Z41A Richland Creek 45.15 267 P P 21 48 46.8 -0.9
baz=45
EGMT Eagleton 45.29 294 *e*P P 21 48 48.9 +0.1
comp=Z,54nm,1.1s
EGMT Eagleton 45.29 294 P P 21 48 49.0 +0.1
baz=53,SNR=23
CBKS Cedar Bluff 45.43 278 *e*P P 21 48 50.5 +0.5
comp=Z,47nm,1.1s
CBKS Cedar Bluff 45.43 278 *e*P P 21 48 50.5 +0.5
CBKS pmax pmax
comp=Z,47nm,1.1s
CBKS Cedar Bluff 45.43 278 P P 21 48 48.3 -1.6
baz=48
X37A Clayton 45.73 270 *e*P P 21 48 56.2 +3.9
comp=Z,15nm,1.1s
EPYK Eagle Plains 46.30 327 *e*P P 21 48 56.1 -0.3
comp=Z,13nm,0.9s
EPYK Eagle Plains 46.30 327 P P 21 48 55.2 -1.3
baz=53,SNR=18
ILGA Ilgaz 46.45 77 *e*P P 21 49 00.2 +2.0
comp=Z,22nm,1.1s
GCMT Greycliff 46.61 292 *e*P P 21 49 00.1 +0.8
ANTO Ankara 46.69 79 *e*P P 21 49 01.8 +1.8
comp=Z,9.8nm,0.9s
ANTO Ankara 46.69 79 *e*P P 21 49 01.8 +1.8
ANTO pmax pmax
comp=Z,10.0nm,0.9s
ANTO Ankara 46.69 79 P P 21 49 01.6 +1.6
SNR=7.7
ANTO P P 21 49 01.6 +1.6
SNR=7.7
ANTO Ankara 46.69 79 *e*P P 21 48 58.9 -1.0
RLMT Red Lodge 46.81 291 *e*P P 21 49 01.1 +0.2
comp=Z,46nm,1.1s
RLMT Red Lodge 46.81 291 P P 21 48 58.8 -2.1
baz=51,SNR=18
K22A Casper 46.84 287 *e*P P 21 49 00.8 -0.4
comp=Z,47nm,1.1s
K22A Casper 46.84 287 P P 21 49 00.2 -1.0
baz=50,SNR=8.1
KSCO Kaye Shedlock' 46.98 280 *e*P P 21 49 02.2 -0.1
comp=Z,44nm,1.0s
KSCO Kaye Shedlock' 46.98 280 P P 21 49 00.8 -1.5
baz=48
PHWY Pilot Hill 47.11 284 *e*P P 21 49 04.2 +0.7
comp=Z,15nm,0.9s
HRY Holter Researc 47.21 294 *e*P P 21 49 03.9 -0.1
BR101 Keskin Array S 47.28 78 *e*P P 21 49 05.1 +0.5
BR101 *e*PcP PcP 21 50 34.2 -1.2
BR131 Keskin Array S 47.28 78 *e*P P 21 49 05.2 +0.6
BR131 Keskin Array S 47.28 78 P P 21 49 06.1 +1.5
SNR=14
BRTR Keskin Array B 47.28 78 P P 21 49 05.1 +0.6
comp=Z,6.2nm,0.8s,baz=305,slow=6.4,SNR=25
BRTR PcP PcP 21 50 34.2 -1.2
comp=Z,1.5nm,0.9s,baz=308,slow=2.1,SNR=4.3
BRTR LR LR 22 10 51.8
comp=Z,582nm,18.0s,baz=291,slow=38
NATX Nacogdoches 47.31 267 P P 21 49 02.9 -1.9
baz=44
WMOK Wichita Mounta 47.64 273 *e*P P 21 49 06.2 -1.1
comp=Z,16nm,1.0s
WMOK Wichita Mounta 47.64 273 *e*P P 21 49 06.2 -1.1
WMOK pmax pmax
comp=Z,16nm,1.0s
WMOK Wichita Mounta 47.64 273 P P 21 49 06.4 -0.9
baz=45,SNR=21
N23A Red Feather La 47.65 284 *e*P P 21 49 07.8 +0.2
comp=Z,55nm,1.0s
N23A Red Feather La 47.65 284 P P 21 49 07.7 0.0
baz=49,SNR=34
LKWY Lake 47.78 291 *e*P P 21 49 08.4 -0.2
comp=Z,114nm,1.8s
LKWY Lake 47.78 291 *e*P P 21 49 08.4 -0.2
LKWY pmax pmax
comp=Z,114nm,1.8s
BOZ Bozeman (W) 47.80 293 *e*P P 21 49 08.4 -0.2
comp=Z,20nm,0.9s
BOZ Bozeman (W) 47.80 293 P P 21 49 06.9 -1.8
baz=51,SNR=26
RWWY Rawlins 47.85 286 *e*P P 21 49 09.9 +0.7
comp=Z,37nm,1.1s
H17A Grant Village 47.99 291 *e*P P 21 49 12.2 +2.0
comp=Z,14nm,0.9s
H17A Grant Village 47.99 291 P P 21 49 09.7 -0.6
baz=50,SNR=6.0
YMR Madison River 48.03 291 *e*P P 21 49 13.2 +2.7
comp=Z,11nm,1.0s
YFT Old Faithful 48.10 291 *e*P P 21 49 13.8 +2.7
comp=Z,44nm,1.2s
YHB Horse Butte 48.10 292 *e*P P 21 49 12.0 +1.0
comp=Z,9.8nm,0.9s
QLMT Earthquake Lak 48.18 292 *e*P P 21 49 13.4 +1.7
ISCO Idaho Springs 48.19 283 *e*P P 21 49 12.0 +0.2
comp=Z,19nm,0.8s
ISCO Idaho Springs 48.19 283 *e*P P 21 49 12.0 +0.2
ISCO pmax pmax
comp=Z,19nm,0.8s
ISCO Idaho Springs 48.19 283 P P 21 49 10.4 -1.4
baz=48,SNR=40
YPP Pitchstone Pla 48.20 291 *e*P P 21 49 14.1 +2.2
FLWY Flagg Ranch 48.26 291 *e*P P 21 49 14.2 +2.0
comp=Z,11nm,1.0s
MSO Missoula 48.27 296 *e*P P 21 49 15.8 +3.6
comp=Z,6.8nm,0.9s
MSO Missoula 48.27 296 P P 21 49 12.7 +0.6
baz=51
BW06 Boulder Array 48.48 289 *e*P P 21 49 12.7 -1.2
comp=Z,13nm,0.8s

BW06 Boulder Array 48.48 289 P P 21 49 12.9 -1.0
baz=49,SNR=18
PD31 Pinedale Array 48.48 289 *e*P P 21 49 12.7 -1.3
PDAR Pinedale Array 48.48 289 P P 21 49 12.4 -1.5
comp=Z,5.0nm,0.8s,baz=54,slow=8.0,SNR=32
PDAR LR LR 22 08 35.9
comp=Z,2μm,18.8s,baz=63,slow=35
PDAR Pinedale Array 48.48 289 *e*P P 21 49 12.1 -1.8
Q24A Divide 48.48 282 *e*P P 21 49 18.5 +4.4
comp=Z,10nm,0.9s
Q24A Divide 48.48 282 P P 21 49 13.2 -0.9
baz=48
DLMT Dillon 48.48 293 *e*P P 21 49 14.4 +0.6
comp=Z,20nm,1.1s
MOOW Moose Ponds 48.50 290 *e*P P 21 49 14.5 +0.4
comp=Z,8.8nm,1.1s
LOHW Long Hollow 48.51 290 *e*P P 21 49 13.8 -0.4
comp=Z,12nm,1.1s
IMW Indian Meadow 48.51 291 *e*P P 21 49 16.1 +1.9
comp=Z,9.3nm,1.1s
DAWY Dawson 48.62 325 *e*P P 21 49 15.6 +1.0
comp=Z,8.1nm,1.0s
SNOW Snow King Moun 48.69 290 *e*P P 21 49 16.4 +0.8
comp=Z,24nm,1.0s
DLBC Dease Lake 48.70 316 LR LR 22 08 42.7
comp=Z,1μm,18.3s,baz=56,slow=35
DLBC Dease Lake 48.70 316 *e*P P 21 49 16.6 +1.4
comp=Z,11nm,1.1s
FXWY Fox Creek 48.73 290 *e*P P 21 49 15.4 -0.4
comp=Z,12nm,0.9s
EGAK Eagle 48.74 327 *e*P P 21 49 15.1 -0.3
comp=Z,20nm,1.1s
TPAW Teton Pass 48.78 290 *e*P P 21 49 16.1 -0.2
comp=Z,18nm,0.9s
WHTX Lake Whitney, 48.80 269 *e*P P 21 49 15.1 -1.2
comp=Z,34nm,0.9s
WHTX Lake Whitney, 48.80 269 P P 21 49 15.2 -1.1
baz=44,SNR=14
REDW Red Top Meadow 48.81 290 *e*P P 21 49 16.1 -0.4
comp=Z,13nm,1.0s
MCMT McKenzie Canyo 48.96 293 *e*P P 21 49 18.4 +0.8
NEW Newport 49.03 299 LR LR 22 08 30.3
comp=Z,2μm,18.7s,baz=49,slow=34
NEW Newport 49.03 299 *e*P P 21 49 18.1 +0.2
comp=Z,11nm,1.1s
NEW Newport 49.03 299 *e*P P 21 49 18.1 +0.2
NEW pmax pmax
comp=Z,11nm,1.1s
NEW Newport 49.03 299 P P 21 49 17.6 -0.3
baz=51,SNR=8.4
GOF Gofitskoye 49.09 67 *e*P P 21 49 19.0 +0.7
GOF pmax pmax
comp=Z,60nm,1.5s
AMTX Amarillo 49.24 275 *e*P P 21 49 19.8 0.0
comp=Z,89nm,1.1s
AMTX Amarillo 49.24 275 P P 21 49 20.0 +0.3
baz=46
T25A Trinidad 49.28 280 *e*P P 21 49 20.2 0.0
comp=Z,20nm,1.0s
T25A Trinidad 49.28 280 P P 21 49 17.7 -2.5
baz=47,SNR=6.1
HKT Hockley 49.32 266 *e*P P 21 49 20.8 +0.6
comp=Z,6.3nm,1.0s
AHID Auburn Hatcher 49.34 290 *e*P P 21 49 21.5 +1.0
comp=Z,20nm,1.0s
SMCO Snowmass 49.38 283 *e*P P 21 49 22.2 +1.0
comp=Z,6.1nm,1.0s
O20A White River Ci 49.47 285 *e*P P 21 49 21.7 +0.2
comp=Z,20nm,1.0s
O20A White River Ci 49.47 285 P P 21 49 21.7 +0.2
baz=48,SNR=9.2
ARU Arti 49.47 47 *e*P P 21 49 20.7 -0.4
comp=Z,15nm,1.1s
ARU Arti 49.47 47 P P 21 49 19.8 -1.3
ARU 21 51 11.2
ARU S S 21 56 26.9 -0.4
SDCO Great Sand Dun 49.50 281 *e*P P 21 49 22.6 +0.6
SDCO Great Sand Dun 49.50 281 P P 21 49 21.8 -0.1
baz=47,SNR=8.5
KIV Kislovodsk 49.61 68 *e*P P 21 49 23.5 +1.1
comp=Z,6.7nm,1.0s
KIV Kislovodsk 49.61 68 P P 21 49 22.8 +0.4
KIV Kislovodsk 49.61 68 *e*P P 21 49 22.5 +0.1
KIV pmax pmax
comp=Z,19nm,1.1s
KIV MLR MLR
comp=Z,763nm,16.0s
PRP Porcupine Dome 49.61 329 *e*P P 21 49 24.4 +2.2
comp=Z,7.2nm,1.1s
ABTX Abilene, Hawle 49.63 272 *e*P P 21 49 21.1 -1.6
comp=Z,26nm,1.1s
ABTX Abilene, Hawle 49.63 272 P P 21 49 21.6 -1.1
baz=44,SNR=6.6
435B Jarrell 49.74 268 P P 21 49 22.9 -0.6
baz=43
C09A Chrisman Ranch 49.93 299 *e*P P 21 49 24.1 -0.6
comp=Z,14nm,0.8s
TOA1 Torodi Ar. Sit 50.00 130 *e*P P 21 49 23.3 -2.2
TOA0 Torodi Ar. Sit 50.01 130 *e*P P 21 49 23.7 -2.0
TORD Torodi Ar. Bea 50.01 130 P P 21 49 23.3 -2.3
comp=Z,11nm,0.9s,baz=335,slow=5.3,SNR=25
TORD LR LR 22 07 07.4
comp=Z,458nm,20.6s,baz=325,slow=32
SVE Sverdlovsk 50.10 45⇓ *e*P P 21 49 26.2 +0.3
SVE pmax pmax
comp=Z,38nm,1.9s
B08A Colville Reser 50.11 300 *e*P P 21 49 25.4 -0.7
comp=Z,23nm,1.0s
SCRK Sand Creek 50.19 327 *e*P P 21 49 27.2 +0.6
comp=Z,22nm,1.0s
S22A 4UR Ranch, Cre 50.27 282 *e*P P 21 49 28.8 +1.0
comp=Z,4.1nm,1.0s
S22A 4UR Ranch, Cre 50.27 282 P P 21 49 27.1 -0.7
baz=47
HWUT Hardware Ranch 50.36 289 *e*P P 21 49 27.9 -0.4
comp=Z,29nm,0.8s
NCK Nalchik 50.41 68 *i* P P 21 49 29.5 +1.1
NCK pmax pmax
comp=Z,13nm,1.4s
DOT Dot Lake 50.44 327 *e*P P 21 49 28.8 +0.4
comp=Z,8.8nm,0.8s
POKR Poker Plat Res 50.46 329 P P 21 49 28.2 -0.4
baz=45
MSTX Muleshoe 50.52 275 *e*P P 21 49 28.9 -0.7
comp=Z,41nm,1.1s
MSTX Muleshoe 50.52 275 P P 21 49 29.1 -0.4
baz=45,SNR=6.8
IL1 Eielson Array 50.54 329 *e*P P 21 49 28.7 -0.4
IL1 *e*PcP PcP 21 50 45.4 -1.3
ILAR Eielson Array 50.54 329 P P 21 49 28.6 -0.5
comp=Z,1.1nm,0.9s,baz=41,slow=5.1,SNR=15
ILAR PcP PcP 21 50 46.0 -0.7
comp=Z,6.5nm,1.1s,baz=26,slow=2.3,SNR=7.0
ILAR LR LR 22 10 25.7
comp=Z,536nm,18.3s,baz=62,slow=36
ILB Eielson Array 50.54 329 *e*P P 21 49 29.6 +0.5
ILB *e*PcP PcP 21 50 50.6 +4.0
F10A Beach Ranch, E 50.56 297 *e*P P 21 49 29.7 +0.1
comp=Z,9.9nm,1.0s
TCUT Toone Canyon 50.60 288 *e*P P 21 49 29.6 -0.6
comp=Z,35nm,0.9s
HLID Hailey 50.64 293 *e*P P 21 49 30.3 0.0
comp=Z,12nm,0.9s
HLID Hailey 50.64 293 P P 21 49 30.3 0.0
baz=48,SNR=19
E09A Wood Farm, Sta 50.69 298 *e*P P 21 49 29.2 -1.2
comp=Z,7.1nm,0.9s
MDM Murphy Dome 50.81 330 *e*P P 21 49 31.7 +0.6
comp=Z,20nm,1.1s
HDA Harding Lake 50.82 329 *e*P P 21 49 33.2 +2.0
comp=Z,17nm,1.2s
HDA Harding Lake 50.82 329 P P 21 49 28.6 -2.6
baz=45
HVU Hansel Valley 50.92 290 *e*P P 21 49 32.4 -0.1
comp=Z,11nm,1.0s
HVU Hansel Valley 50.92 290 *e*P P 21 49 32.4 -0.1
HVU pmax pmax
comp=Z,11nm,1.0s
PV21 Cone Mtn., Par 50.95 284 *e*P P 21 49 34.7 +1.9
comp=Z,16nm,1.1s
JLU Jordanelle 50.97 288 *e*P P 21 49 33.4 +0.4
comp=Z,13nm,1.2s
PV01 Paradox Valley 51.01 283 *e*P P 21 49 34.2 +0.9
PV12 Saucer Basin, 51.02 284 *e*P P 21 49 33.5 +0.2
comp=Z,44nm,1.0s
ZEI Tsey 51.04 68 *e*P P 21 49 32.6 -0.8
ZEI pmax pmax

PV23 **Carpenter Ridg** 51.04 284 eP P 21 49 35.2 +1.6
comp=Z,9.7nm,0.9s
PV02 **Paradox Valley** 51.05 284 eP P 21 49 34.5 +0.9
comp=Z,55nm,1.2s
SPUT **South Promonto** 51.05 289 eP P 21 49 33.8 +0.3
comp=Z,25nm,1.2s
PV11 **David Mesa, Pa** 51.07 284 eP P 21 49 33.9 +0.2
comp=Z,84nm,1.1s
CTU **Camp Tracy** 51.08 288 eP P 21 49 35.0 +1.3
comp=Z,8.6nm,0.9s
PV09 **Paradox Valley** 51.08 284 eP P 21 49 34.8 +0.9
PV03 **Paradox Valley** 51.09 284 eP P 21 49 33.9 +0.1
PV16 **Nyswonger Mesa** 51.09 284 eP P 21 49 34.0 +0.2
comp=Z,37nm,0.9s
PV20 **West Nyswonger** 51.09 284 eP P 21 49 34.8 +1.0
comp=Z,37nm,1.1s
PV14 **Lion Creek, Pa** 51.10 284 eP P 21 49 34.7 +0.7
comp=Z,24nm,1.0s
PV10 **Paradox Valley** 51.11 284 eP P 21 49 34.6 +0.6
WRH **Wood River Hil** 51.12 329 eP P 21 49 34.1 +0.7
comp=Z,14nm,1.1s
PV19 **Morning Glory** 51.12 284 eP P 21 49 34.6 +0.5
comp=Z,31nm,1.1s
PV17 **East Wray Mesa** 51.13 284 eP P 21 49 34.3 +0.1
comp=Z,48nm,0.9s
PV13 **Radium Mtn., P** 51.13 284 eP P 21 49 34.5 +0.3
comp=Z,44nm,1.0s
JCT **Junction City** 51.27 270 eP P 21 49 33.6 -1.5
comp=Z,35nm,1.0s
JCT **Junction City** 51.27 270 eP P 21 49 33.6 -1.5
JCT pmax pmax
comp=Z,35nm,1.0s
JCT **Junction City** 51.27 270 P P 21 49 34.0 -1.1
baz=43,SNR=6.4
P17A **Butcher Ranch,** 51.33 286 eP P 21 49 36.1 +0.5
comp=Z,9.8nm,1.0s
BMO **Blue Mountains** 51.34 296 eP P 21 49 35.0 -0.6
comp=Z,8.5nm,0.9s
BMO **Blue Mountains** 51.34 296 eP P 21 49 35.0 -0.6
BMO pmax pmax
comp=Z,8.0nm,0.9s
PV05 **Paradox Valley** 51.35 284 eP P 21 49 35.1 -0.7
SRU **San Rafael Swe** 51.46 286 eP P 21 49 37.0 +0.4
comp=Z,21nm,1.1s
SRU **San Rafael Swe** 51.46 286 eP P 21 49 37.0 +0.4
SRU pmax pmax
comp=Z,21nm,1.1s
MPU **Maple Canyon** 51.47 287 eP P 21 49 37.1 +0.5
comp=Z,21nm,1.1s
HAWA **Hanford** 51.50 298 eP P 21 49 37.1 +0.5
comp=Z,5.3nm,0.9s
MLY **Manley** 51.50 331 eP P 21 49 36.4 0.0
comp=Z,11nm,1.1s
MFID **Camas Ranch** 51.50 293 eP P 21 49 37.6 +0.8
comp=Z,12nm,1.1s
LTY **Liberty** 51.51 300 eP P 21 49 34.8 -1.9
comp=Z,22nm,1.1s
E07A **Sunnyside** 51.55 299 eP P 21 49 38.4 +1.4
comp=Z,10.0nm,1.1s
MVCO **Mesa Verde** 51.60 283 eP P 21 49 38.4 +0.7
comp=Z,18nm,1.0s
MVCO **Mesa Verde** 51.60 283 P P 21 49 36.1 -1.6
baz=46,SNR=8.5
IM3 **Indian Mountai** 51.63 333 eP P 21 49 36.3 -0.9
BGU **Big Grassy Mou** 51.64 289 eP P 21 49 37.6 -0.3
comp=Z,9.7nm,1.0s
TMUT **Trail Mountain** 51.72 286 eP P 21 49 38.5 -0.2
comp=Z,8.9nm,1.0s
NLU **North Lily Min** 51.76 288 eP P 21 49 39.6 +0.7
comp=Z,19nm,1.1s
BBB **Bella Bella** 51.89 309 LR LR 22 10 09.8
comp=Z,779nm,20.8s,baz=33,slow=34
DHY **Denali Highway** 51.90 328 eP P 21 49 41.6 +2.0
comp=Z,14nm,1.1s
MCK **McKinley** 51.91 329 eP P 21 49 41.7 +2.3
comp=Z,40nm,1.2s
G08A **Pilot Rock** 51.93 297 eP P 21 49 38.5 -1.4
Q16A **Castle Valley** 51.96 286 eP P 21 49 40.1 -0.2
comp=Z,11nm,0.9s
ANMO **Albuquerque** 52.00 279 eP P 21 49 41.1 +0.5
comp=Z,12nm,1.0s
ANMO **Albuquerque** 52.00 279 ceP P 21 49 41.8 +1.1
ANMO pmax pmax
comp=Z,33nm,2.5s
DUG **Dugway, Tooele** 52.01 288 eP P 21 49 41.0 +0.3
comp=Z,15nm,0.9s
DUG **Dugway, Tooele** 52.01 288 eP P 21 49 41.0 +0.3
DUG pmax pmax
comp=Z,15nm,0.9s
DUG **Dugway, Tooele** 52.01 288 P P 21 49 38.4 -2.3
baz=47,SNR=18
RND **Reindeer** 52.13 329 eP P 21 49 45.6 +4.6
comp=Z,19nm,1.2s
TBLG **Delisi** 52.21 69 eP P 21 49 43.9 +2.0
comp=Z,9.3nm,1.2s
RDOG **Red Dog Mine** 52.26 338 eP P 21 49 42.1 +0.1
comp=Z,28nm,1.0s
LON **Longmire** 52.43 300 eP P 21 49 43.8 +0.2
comp=Z,11nm,1.1s
LON **Longmire** 52.43 300 eP P 21 49 43.8 +0.2
LON pmax pmax
comp=Z,11nm,1.1s
TRF **Thorofare Moun** 52.53 329 eP P 21 49 45.8 +1.6
comp=Z,15nm,1.0s
D03D **Eldon** 52.56 301 P P 21 49 43.5 -0.9
baz=48
BNM **Barren Site** 52.66 278 eP P 21 49 46.2 +0.6
LAZ **Ladron** 52.78 279 eP P 21 49 49.0 +2.6
MSU **Marysvale** 52.80 286 eP P 21 49 47.4 +0.7
MSU **Marysvale** 52.80 286 eP P 21 49 47.4 +0.7
F05D **White Salmon** 52.83 299 P P 21 49 46.4 -0.1
baz=48
G06A **Carlson Farm,** 52.84 298 eP P 21 49 46.5 -0.1
comp=Z,5.8nm,1.0s
LENM **Lemitar** 52.85 279 eP P 21 49 47.5 +0.5
J08A **Circle Bar Ran** 52.97 295 eP P 21 49 47.3 -0.4
comp=Z,23nm,0.9s
ELK **Elko** 52.99 290 eP P 21 49 48.4 +0.4
comp=Z,12nm,1.0s
ELK **Elko** 52.99 290 eP P 21 49 48.4 +0.4
ELK pmax pmax
comp=Z,12nm,1.0s
I07A **Izee** 53.03 296 eP P 21 49 48.6 +0.5
comp=Z,4.8nm,1.1s
NLWA **Neilton Lookou** 53.05 302 eP P 21 49 48.5 +0.4
comp=Z,30nm,1.0s
CAST **Castle Rocks** 53.09 330 eP P 21 49 48.3 +0.1
comp=Z,26nm,1.2s
TIC **Toumodi** 53.13 141 eP P 21 49 46.2 -2.8
MTPU **Mount Pierson** 53.13 286 eP P 21 49 49.7 +0.4
comp=Z,18nm,1.1s
DBIC **Dimbokro** 53.17 141 P P 21 49 47.1 -2.1
comp=Z,8.6nm,1.0s,baz=334,slow=5.9,SNR=8.8
DBIC LR LR 22 09 46.3
comp=Z,1μm,19.9s,baz=328,slow=33
DBIC **Dimbokro** 53.17 141 eP P 21 49 49.2 0.0
comp=Z,17nm,1.0s
DBIC **Dimbokro** 53.17 141 eP P 21 49 49.2 0.0
DBIC pmax pmax
comp=Z,17nm,1.0s
DBIC **Dimbokro** 53.17 141 eP P 21 49 49.2 0.0
G05D **Wamic, OR** 53.19 298 P P 21 49 48.3 -0.9
baz=47
SDV **Santo Domingo** 53.20 226 LR LR 22 10 09.0
comp=Z,128nm,20.3s,baz=60,slow=34
SDV **Santo Domingo** 53.20 226 eP P 21 49 50.8 +1.1
comp=Z,4.9nm,0.9s
SDV **Santo Domingo** 53.20 226 eP P 21 49 51.1 +1.4
GNI **Garni** 53.29 70 eP P 21 49 52.6 +2.4
GNI **Garni** 53.29 70 P P 21 49 49.5 -0.7
GNI **Garni** 53.29 70 ceP P 21 49 52.7 +2.6
GNI pmax pmax
comp=Z,372nm,1.7s
KIC **Kosan Boka** 53.49 141 eP P 21 49 47.2 -4.4
LIC **Lamto** 53.51 142 eP P 21 49 49.0 -2.8
comp=Z,44nm,1.0s
PKCU **Pink Cliffs** 53.62 285 eP P 21 49 52.8 0.0
comp=Z,31nm,1.0s
MNTX **Cornudas Mount** 53.68 275 eP P 21 49 51.5 -1.4
comp=Z,7.7nm,0.8s
MNTX **Cornudas Mount** 53.68 275 P P 21 49 50.5 -2.4
baz=44,SNR=11
WVOR **Wild Horse Val** 53.69 294 eP P 21 49 53.2 +0.3
comp=Z,19nm,0.9s
WVOR **Wild Horse Val** 53.69 294 eP P 21 49 53.2 +0.3
WVOR pmax pmax
comp=Z,19nm,0.9s
PSUT **Pine Spring** 53.74 287 eP P 21 49 53.7 +0.2
comp=Z,10nm,0.9s
W18A **Petrified Fore** 53.78 282 P P 21 49 51.7 -2.1
baz=45
I05D **Terrebonne, OR** 53.82 297 P P 21 49 51.4 -2.4
baz=47
SIRT **Sirnak** 53.84 74 eP P 21 49 56.4 +2.3
comp=Z,113nm,1.2s
SZCU **Shurtz Canyon** 53.96 286 eP P 21 49 55.9 +0.7
comp=Z,8.2nm,0.9s
PINE **Pine Mountain** 53.98 297 eP P 21 49 55.4 +0.2
comp=Z,32nm,1.0s
H04A **Detroit Lake** 54.02 298 eP P 21 49 53.9 -1.4
comp=Z,14nm,1.1s
CCUT **Cedar City** 54.15 286 eP P 21 49 57.0 +0.5
comp=Z,9.4nm,0.9s
TIXI **Tiksi** 54.15 6 eP P 21 49 56.2 +0.5
comp=Z,24nm,1.0s
TIXI **Tiksi** 54.15 6 ceP P 21 49 56.5 +0.8
TIXI pmax pmax
comp=Z,46nm,1.7s
KNB **Kanab** 54.21 285 eP P 21 49 56.2 -0.7
comp=Z,22nm,1.1s
KNB **Kanab** 54.21 285 eP P 21 49 56.2 -0.7
KNB pmax pmax
comp=Z,22nm,1.1s
BMN **Battle Mountai** 54.30 291 eP P 21 49 57.9 +0.4
comp=Z,11nm,0.9s
X18A **Snowflake** 54.32 281 eP P 21 49 58.0 +0.2
comp=Z,19nm,1.1s
U15A **North Rim** 54.32 285 eP P 21 49 57.1 -0.8
comp=Z,9.9nm,1.0s
LTX **Lajitas** 54.39 272 eP P 21 49 57.1 -1.1
LTX ePcP PcP 21 51 00.8 -1.1
LTX **Lajitas** 54.39 272 eP P 21 49 57.1 -1.1
LTX e 21 51 00.8
TX31 **Lajitas Ar. Si** 54.39 272 eP P 21 49 57.9 -0.3
TXAR **Lajitas Array** 54.39 272 P P 21 49 57.1 -1.1
comp=Z,3.4nm,1.1s,baz=58,slow=12,SNR=15
TXAR PcP PcP 21 51 00.8 -1.1
comp=Z,2.3nm,0.9s,baz=65,slow=4.7,SNR=6.8
TXAR LR LR 22 12 38.1
comp=Z,2μm,18.9s,baz=0.0,slow=36
H04D **Lebanon** 54.42 299 P P 21 49 57.1 -1.0
baz=46
WUAZ **Wupatki** 54.44 283 eP P 21 49 59.6 +1.0
comp=Z,14nm,1.1s
WUAZ **Wupatki** 54.44 283 P P 21 49 59.4 +0.8
baz=45
LCMT **Little Creek M** 54.46 286 eP P 21 49 59.9 +1.2
comp=Z,7.8nm,1.0s
121A **Cookes Peak, D** 54.49 278 P P 21 49 59.9 +1.0
baz=44
J05D **Fort Rock, OR** 54.49 296 P P 21 49 59.3 +0.5
baz=46,SNR=22
I04A **Tendick Farm,** 54.76 298 P P 21 49 57.3 -3.3
baz=46
R11A **Troy Canyon, C** 54.84 288 eP P 21 50 01.0 -0.5
comp=Z,6.6nm,1.0s
R11A **Troy Canyon, C** 54.84 288 P P 21 50 01.3 -0.1
baz=45,SNR=12
MOD **Modoc Plateau** 54.95 295 eP P 21 50 02.2 0.0
comp=Z,14nm,0.9s
J04D **Umpqua Nationa** 54.98 297 P P 21 50 00.9 -1.5
baz=46
K04D **Chiloquin, OR** 55.22 296 P P 21 50 02.0 -2.1
baz=46
X16A **Lo Mia Camp, P** 55.26 282 eP P 21 50 05.0 +0.4
comp=Z,13nm,0.9s
I03D **Drain, OR** 55.31 298 P P 21 50 03.3 -1.3
baz=46
KVN **Kaiserville** 55.74 291 eP P 21 50 07.8 -0.2
comp=Z,18nm,0.9s
KVN **Kaiserville** 55.74 291 eP P 21 50 07.8 -0.2
KVN pmax pmax
comp=Z,18nm,0.9s
L04D **Klamath Falls** 55.80 296 P P 21 50 07.3 -1.0
baz=45
M04C **Macdoel** 55.85 296 P P 21 50 06.6 -2.1
baz=45,SNR=17
HUMO **Hull Mountain** 55.87 297 eP P 21 50 06.9 -1.7
comp=Z,5.8nm,1.0s
SHPR **Sheep Range** 55.90 287 eP P 21 50 09.7 +0.5
comp=Z,8.1nm,0.9s
PAHR **Pah Rah Range** 55.99 292 eP P 21 50 10.1 +0.4
comp=Z,23nm,1.0s
J01E **Myrtle Point** 55.99 298 P P 21 50 07.9 -1.5
baz=45
K02D **Willamette Mer** 56.18 297 P P 21 50 10.5 -0.5
baz=45,SNR=12
TPNV **Topopah Spring** 56.20 288 eP P 21 50 10.9 -0.3
comp=Z,13nm,0.8s
TPNV **Topopah Spring** 56.20 288 P P 21 50 11.2 -0.1
baz=44,SNR=20
RYN **Ryan** 56.28 291 eP P 21 50 10.9 -0.9
comp=Z,14nm,0.9s
NV01 **Mina Array Sit** 56.30 290 eP P 21 50 10.9 -1.1
NVAR **Mina Array Bea** 56.30 290 P P 21 50 11.0 -1.0
comp=Z,2.3nm,0.8s,baz=62,slow=6.7,SNR=10
YBH **Yreka Blue Hor** 56.35 296 LR LR 22 13 25.3
comp=Z,1μm,18.8s,baz=43,slow=35
YBH **Yreka Blue Hor** 56.35 296 eP P 21 50 10.6 -1.6
comp=Z,6.4nm,0.9s
YBH **Yreka Blue Hor** 56.35 296 eP P 21 50 10.6 -1.6
YBH pmax pmax
comp=Z,6.0nm,0.9s
TUC **Tucson** 56.40 280 eP P 21 50 13.7 +1.1
comp=Z,11nm,1.0s
TUC **Tucson** 56.40 280 eP P 21 50 13.7 +1.1
TUC pmax pmax
comp=Z,11nm,1.0s
TUC **Tucson** 56.40 280 P P 21 50 11.4 -1.3
baz=43
YERR **Yerington** 56.42 291 eP P 21 50 13.4 +0.6
comp=Z,5.4nm,0.7s
VCNR **Virginia City** 56.42 292 eP P 21 50 14.0 +1.1
comp=Z,15nm,1.1s
Y14A **Wickenburg** 56.51 283 eP P 21 50 14.3 +1.0
comp=Z,8.9nm,1.0s
L02E **Cave Junction** 56.52 297 P P 21 50 11.7 -1.6
baz=45,SNR=5.6
PNTR **Pine Nut** 56.54 292 eP P 21 50 14.0 +0.3
comp=Z,20nm,0.9s
M02C **Callahan** 56.67 296 P P 21 50 12.0 -2.4
baz=45
BRVK **Borovoye** 56.73 44 eP P 21 50 15.3 +0.7
BRVK **Borovoye** 56.73 44 diP P 21 50 14.4 -0.2
BRVK pmax pmax
comp=Z,28nm,1.6s
BRVK **Borovoye** 56.73 44 P P 21 50 14.7 +0.2
SNR=23
BRVK P P 21 50 14.7 +0.2
SNR=23
GRAC **Grapevine Rang** 56.79 289 P P 21 50 13.6 -1.8
baz=44
WAKR **Walker** 56.87 291 eP P 21 50 17.3 +1.2
comp=Z,7.7nm,1.2s
O03E **Paynes Creek** 56.88 294 P P 21 50 15.9 -0.1
baz=45
N02D **Trinity Center** 56.89 295 P P 21 50 13.6 -2.4
baz=45
FURC **Furnace Creek,** 56.89 288 P P 21 50 15.2 -0.7
baz=44
PDMCI **Parker Dam,Lak** 56.90 284 P P 21 50 15.1 -0.9
baz=44
SHOC **Shoshone, Teco** 56.96 287 P P 21 50 14.8 -1.7
baz=44
WDC **Whiskeytown Da** 57.08 295 eP P 21 50 16.0 -1.2
comp=Z,3.3nm,0.7s
WDC **Whiskeytown Da** 57.08 295 eP P 21 50 16.0 -1.2
WDC pmax pmax
comp=Z,3.0nm,0.7s
BILL **Bilibino** 57.24 351 eP P 21 50 16.4 -1.6
comp=Z,7.5nm,1.1s
BILL **Bilibino** 57.24 351 ieP P 21 50 17.2 -0.8
BILL pmax pmax
comp=Z,15nm,1.7s
NBMO **Morrinhos-CE** 57.25 186 eP P 21 50 18.9 +0.3
ORV **Oroville** 57.25 293 eP P 21 50 18.5 0.0
comp=Z,8.2nm,1.1s
ORV **Oroville** 57.25 293 eP P 21 50 18.5 0.0
ORV pmax pmax
comp=Z,8.0nm,1.1s
OMMB **Old Mammoth Mi** 57.26 290 eP P 21 50 20.0 +1.0
comp=Z,6.3nm,1.1s
HPIG 57.35 272 eP P 21 50 22.4 +2.8
comp=Z,10nm,1.0s
AFDM **Forest Hills D** 57.39 293 eP P 21 50 19.1 -0.5
comp=Z,8.9nm,1.0s
GMRC **Granite Mounta** 57.42 286 P P 21 50 18.4 -1.4
baz=44
DAC **Darwin (Calif)** 57.44 288 eP P 21 50 19.7 -0.4
comp=Z,15nm,1.1s
DAC **Darwin (Calif)** 57.44 288 eP P 21 50 19.7 -0.4
DAC pmax pmax
comp=Z,15nm,1.1s
O02D **Mt. Diablo Mer** 57.50 295 P P 21 50 18.7 -1.6
baz=44
Y12C **Blythe** 57.52 284 eP P 21 50 20.9 +0.5
comp=Z,40nm,1.0s
Y12C **Blythe** 57.52 284 P P 21 50 21.2 +0.8
baz=43,SNR=22
MPMC **Manual Prospec** 57.53 288 P P 21 50 20.8 +0.1
baz=44,SNR=24
IRM **Iron Mountain** 57.58 285 P P 21 50 19.2 -1.7
baz=43
CWC **Cottonwood Cre** 57.59 289 P P 21 50 20.3 -0.8
baz=44
GSC **Goldstone, Bar** 57.69 287 eP P 21 50 21.9 +0.2
comp=Z,8.6nm,0.9s
GSC **Goldstone, Bar** 57.69 287 eP P 21 50 21.9 +0.2
GSC pmax pmax
comp=Z,9.0nm,0.9s
GSC **Goldstone, Bar** 57.69 287 P P 21 50 20.6 -1.1
baz=44,SNR=8.6
CMB **Columbia Colle** 57.73 291 eP P 21 50 22.2 +0.3
comp=Z,4.2nm,1.0s
CMB **Columbia Colle** 57.73 291 eP P 21 50 22.2 +0.3
CMB pmax pmax
comp=Z,4.0nm,1.0s
CCIG **Comitan** 57.73 252 eP P 21 50 26.2 +3.9
comp=Z,22nm,1.0s
HEC **Hector,Ludlow** 57.77 286 P P 21 50 22.4 +0.1
baz=44
113A **Mohawk Valley,** 57.79 283 eP P 21 50 22.7 +0.4
comp=Z,15nm,1.0s
214A **Organ Pipe Nat** 57.83 281 P P 21 50 22.8 +0.1
baz=43
APG **El Apazote** 57.83 250 LR LR 22 16 27.3
comp=Z,584nm,18.1s,baz=38,slow=37
KMRM **Mail Ridge** 57.96 295 eP P 21 50 24.6 +1.0
comp=Z,31nm,1.1s
LRMC **Laurel Mtn Rad** 58.06 288 P P 21 50 24.4 0.0
baz=44,SNR=15
BC3 **Big Chuckawall** 58.12 284 P P 21 50 25.0 +0.3
baz=43,SNR=15
BELC **Belle Mtn. Jos** 58.18 285 P P 21 50 23.8 -1.5
baz=43,SNR=9.3
GLA **Glamis** 58.20 284 eP P 21 50 27.3 +2.0
comp=Z,34nm,1.1s
GLA **Glamis** 58.20 284 P P 21 50 25.3 0.0
baz=43
PTGA **Pitinga** 58.29 210 LR LR 22 11 01.1
comp=Z,265nm,20.4s,baz=356,slow=32
PTGA **Pitinga** 58.29 210 eP P 21 50 24.7 -1.3
comp=Z,16nm,0.9s
PTGA **Pitinga** 58.29 210 eP P 21 50 25.6 -0.3
ISA **Isabella, Lake** 58.37 288 eP P 21 50 27.2 +0.7
comp=Z,10nm,0.9s
ISA **Isabella, Lake** 58.37 288 eP P 21 50 27.2 +0.7
ISA pmax pmax
comp=Z,10.0nm,0.9s
ISA **Isabella, Lake** 58.37 288 P P 21 50 26.3 -0.2
baz=43
ROSC **El Rosal** 58.41 228 P P 21 50 26.2 -1.1
comp=Z,7.1nm,0.5s,baz=53,slow=5.3,SNR=21
ROSC LR LR 22 12 30.3
comp=Z,139nm,21.8s,baz=16,slow=33
ROSC **El Rosal** 58.41 228 eP P 21 50 27.8 +0.5
comp=Z,56nm,0.9s
GDXM **Geysers** 58.48 294 eP P 21 50 29.4 +2.2
comp=Z,11nm,1.1s
HOPS **Hopland Field** 58.50 294 eP P 21 50 29.9 +2.6
comp=Z,32nm,1.1s
BBRC **Big Bear Solar** 58.51 286 P P 21 50 28.0 +0.3
baz=43
VES **Vestal, Richgr** 58.59 289 P P 21 50 27.2 -0.7
baz=43
CMIG **Matias Romero** 58.64 255 LR LR 22 17 06.0
comp=Z,401nm,18.5s,baz=34,slow=38
EDW2 **Edwards Air Fo** 58.67 287 P P 21 50 29.0 +0.4
baz=43,SNR=22
ZAIG **Zacatecas** 58.67 266 eP P 21 50 29.5 +0.5
comp=Z,15nm,1.2s
XPFO **Pion Flat** 58.72 285 eP P 21 50 29.6 +0.6
comp=Z,24nm,0.9s
PFO **Pinyon Flats O** 58.72 285 eP P 21 50 29.6 +0.6
comp=Z,24nm,0.9s
PFO **Pinyon Flats O** 58.72 285 eP P 21 50 29.6 +0.6
PFO pmax pmax
comp=Z,24nm,0.9s
PFO **Pinyon Flats O** 58.72 285 P P 21 50 29.4 +0.4
baz=43,SNR=21
SWSC **Sam W. Stewart** 58.83 284 P P 21 50 30.0 +0.3
baz=43
HSIG 58.91 277 eP P 21 50 30.1 -0.1
comp=Z,13nm,1.1s
BFSC **Mount Baldy Ra** 58.95 287 P P 21 50 29.2 -1.4
baz=43
ARVC **Arvin** 58.96 288 P P 21 50 30.0 -0.5
baz=43
MURC **Murrieta** 59.15 286 P P 21 50 32.1 +0.2
baz=43
MWC **Mount Wilson** 59.18 287 eP P 21 50 32.3 0.0
comp=Z,17nm,1.0s
MWC **Mount Wilson** 59.18 287 eP P 21 50 32.3 0.0
MWC pmax pmax
comp=Z,17nm,1.0s
IKP **In-Ko-Pah, Jac** 59.22 284 P P 21 50 32.7 +0.2
baz=43
MONP2 **Monument Peak** 59.23 285 P P 21 50 33.4 +0.8
baz=43
SAO **San Andreas Ge** 59.23 291 eP P 21 50 32.8 +0.5
comp=Z,15nm,1.0s
SAO **San Andreas Ge** 59.23 291 eP P 21 50 32.8 +0.5
SAO pmax pmax
comp=Z,15nm,1.0s
BAR **Barrett** 59.52 285 eP P 21 50 34.4 -0.1
comp=Z,26nm,1.1s
PKM **Mcpherson Peak** 59.69 289 P P 21 50 35.7 0.0
baz=43
CIS **Catalina Islan** 59.99 286 P P 21 50 36.4 -1.3
baz=42
NVS **Novosibirsk** 60.27 36 ijP P 21 50 40.3 +1.1
NVS pmax pmax
comp=N,13nm,1.5s
NVS pmax pmax
comp=E,10.0nm,1.5s
NVS pmax pmax
comp=Z,54nm,1.5s
ZAA1 **Zalesovo Array** 61.53 36 eP P 21 50 46.8 -1.0
ZAA1 ePcP PcP 21 51 29.2 -0.3
ZAA0 **Zalesovo Array** 61.54 36 eP P 21 50 47.9 +0.1
comp=Z,5.7nm,1.1s
ZALV **Zalesovo Beam** 61.54 36 P P 21 50 46.8 -1.0
comp=Z,0.8nm,0.6s,baz=335,slow=6.6,SNR=5.8
ZALV PcP PcP 21 51 29.2 -0.3
comp=Z,1.5nm,0.7s,baz=320,slow=3.8,SNR=2.8
ZALV LR LR 22 16 11.4
comp=Z,386nm,19.3s,baz=250,slow=35
ZALV **Zalesovo Beam** 61.54 36 eP P 21 50 47.2 -0.6
ZALV ePcP PcP 21 51 31.2 +1.7
ZALV **Zalesovo Beam** 61.54 36 eP P 21 50 47.2 -0.6
ZALV e 21 51 31.2
KURK **Kurchatov** 61.86 41 eP P 21 50 49.9 -0.2
comp=Z,3.1nm,0.8s
KURK **Kurchatov** 61.86 41 ceP P 21 50 48.6 -1.4
KURK pmax pmax
comp=Z,25nm,1.7s
KURK **Kurchatov** 61.86 41 P P 21 50 49.5 -0.6
SNR=8.9
KURK P P 21 50 49.5 -0.6
SNR=8.9
GEYT **Alibeck** 62.14 63 P P 21 50 51.4 -0.8
comp=Z,8.6nm,1.1s,baz=316,slow=4.0,SNR=12
GYA0B **ALIBECK ARRAY** 62.14 63 eP P 21 50 53.1 +1.0
comp=Z,7.3nm,1.1s
LPIG **La Paz** 62.22 273 LR LR 22 17 37.8
comp=Z,1μm,18.9s,baz=39,slow=36
SEY **Seymchan** 63.26 356 ceP P 21 51 01.3 +2.1
YAK **Yakutsk** 63.70 8 eP P 21 51 03.7 +1.6
YAK pmax pmax
comp=Z,13nm,1.1s
YAK pmax pmax

	comp=N,8.0nm,1.4s								
YAK					pmax	pmax			
	comp=E,2.0nm,1.1s								
OTAV	**Otavalo**	**64.34**	**230**	*e*P	**P**		**21 51 06.9**	**-0.6**
	comp=E,12nm,1.0s								
OTAV	**Otavalo**	**64.34**	**230**	*e*P	**P**		**21 51 06.9**	**-0.6**
OTAV					pmax	pmax			
	comp=Z,13nm,1.0s								
OTAV	**Otavalo**	**64.34**	**230**	*e*P	**P**		**21 51 08.0**	**+0.5**
KK31	**Karatay Array**	**64.36**	**51**	*e*P	**P**		**21 51 07.3**	**+0.5**
BOD	**Bodaibo**	**65.77**	**18**	*e*P	**P**		**21 51 13.5**	**-2.2**
BOD					pmax	pmax			
	comp=Z,14nm,1.7s								
RAYN	**Ar Rayn**	**65.91**	**83**	*e*P	**P**		**21 51 17.4**	**+0.3**
RAYN	**Ar Rayn**	**65.91**	**83**	*i* P	**P**		**21 51 16.2**	**-1.0**
	SNR=9.5								
RAYN	**Ar Rayn**	**65.91**	**83**	*e*P	**P**		**21 51 17.4**	**+0.3**
DGZ	**Jazzator, Alta**	**65.96**	**37**	*c i*P	**P**		**21 51 18.8**	**+1.5**
DGZ					pmax	pmax			
	comp=Z,19nm,1.6s								
EKS2	**Erkin-Say**	**66.20**	**50**	P	**P**		**21 51 19.7**	**+0.9**
	SNR=14								
MAKZ	**Makanchi**	**66.32**	**42**	*e*P	**P**		**21 51 19.5**	**0.0**
	comp=Z,5.1nm,1.1s								
MAKZ	**Makanchi**	**66.32**	**42**	*e*P	**P**		**21 51 19.5**	**0.0**
MAKZ					pmax	pmax			
	comp=Z,5.0nm,1.1s								
FRU	**Bishkek**	**66.44**	**49⇑**	*e*P	**P**		**21 51 21.0**	**+0.7**
FRU				*e*			21 51 49.0		
FRU				*e*			21 53 45.0		
FRU					pmax	pmax			
	comp=Z,60nm,2.0s								
MK31	**Makanchi Array**	**66.46**	**42**	*e*P	**P**		**21 51 20.1**	**-0.2**
MK31	**Makanchi Array**	**66.46**	**42**	*e*P	**P**		**21 51 20.1**	**-0.2**
MK32	**Makanchi Array**	**66.46**	**42**	*e*P	**P**		**21 51 19.8**	**-0.6**
MK32				*e*PP	**PP**		**21 53 49.5**	**+3.4**
MKAR	**Makanchi Array**	**66.46**	**42**	P	**P**		**21 51 19.8**	**-0.6**
	comp=Z,3.9nm,0.8s,baz=331,slow=4.0,SNR=31								
MKAR					PP	**PP**	**21 53 49.5**	**+3.4**	
	comp=Z,1.3nm,1.0s,baz=0.0,slow=4.9,SNR=3.7								
MKAR					LR	LR	22 20 53.2		
	comp=Z,344nm,18.2s,baz=292,slow=36								
MKAR	**Makanchi Array**	**66.46**	**42**		PP	PP	21 53 49.5	+3.4	
MK01	**Makanchi Array**	**66.48**	**42**	*e*P	**P**		**21 51 19.9**	**-0.6**
AAK	**Ala-Archa**	**66.54**	**49**	P	**P**		**21 51 22.5**	**+1.4**
	SNR=7.7								
AAK	**Ala-Archa**	**66.54**	**49**	*e*P	**P**		**21 51 22.4**	**+1.3**
AAK	**Ala-Archa**	**66.54**	**49**	*i* P	**P**		**21 51 21.7**	**+0.7**
	SNR=20								
AAK	**Ala-Archa**	**66.54**	**49**	*ce*P	**P**		**21 51 21.3**	**+0.2**
AAK					pmax	pmax			
	comp=Z,35nm,1.7s								
AAK	**Ala-Archa**	**66.54**	**49**	P	**P**		**21 51 21.8**	**+0.7**
	SNR=19								
AAK					P	**P**	**21 51 21.8**	**+0.7**	
	SNR=19								
AML	**Almayashu**	**66.58**	**50**	P	**P**		**21 51 23.2**	**+1.5**
	SNR=6.0								
TKM2	**Tokmak 2**	**66.80**	**48**	P	**P**		**21 51 23.3**	**+0.5**
	SNR=13								
UCH	**Uchtor**	**66.87**	**50**	P	**P**		**21 51 25.5**	**+1.9**
	SNR=8.5								
MOY	**Mondy**	**68.52**	**28**	*e*P	**P**		**21 51 33.5**	**+0.1**
MOY					pmax	pmax			
	comp=Z,39nm,2.2s								
TARG	**Taragay, Kyrgy**	**68.73**	**48**	*e*P	**P**		**21 51 36.9**	**+1.6**
	comp=Z,1.4nm,0.8s								
JANB	**Januaria**	**69.22**	**189**	*e*P	**P**		**21 51 36.3**	**-1.7**
KSH	**Kashi**	**69.70**	**50**	P	**P**		**21 51 43.3**	**+2.3**
KSH				pP	sP		21 51 47.9	-0.1	
KSH				sP	pwP		21 51 51.6	+2.7	
KSH				PcP	**PcP**		**21 52 07.5**	**+3.8**
KSH				S	**S**		**22 00 50.8**	**+2.0**
KSH				sS	pS		22 00 56.3	+0.9	
KSH				ScS	**SKKSac**		**22 01 40.8**	**0.0**
KSH				pmax	pmax				
	comp=Z,49nm,1.1s								
KSH				LR	LR				
	comp=Z,180nm,5.7s								
KSH				LR	LR				
	comp=Z,230nm,9.5s								
KSH				LR	LR				
	comp=Z,400nm,12.6s								
BDFB	**Brasilia**	**70.22**	**193**	P	**P**		**21 51 41.9**	**-2.3**
	comp=Z,0.6nm,0.3s,baz=1.0,slow=13,SNR=1.8								
BDFB	**Brasilia**	**70.22**	**193**	*e*P	**P**		**21 51 43.0**	**-1.2**
BDFB	**Brasilia**	**70.22**	**193**	*e*P	**P**		**21 51 43.0**	**-1.2**
ZAK	**Zakamensk**	**70.30**	**27**	*e*P	**P**		**21 51 42.9**	**-1.5**
ZAK					pmax	pmax			
	comp=Z,9.0nm,1.8s								
KBL	**Kabul**	**70.37**	**58**	*e*P	**P**		**21 51 45.7**	**+0.5**
	comp=Z,5.0nm,1.1s								
KBL	**Kabul**	**70.37**	**58**	*e*P	**P**		**21 51 45.7**	**+0.5**
KBL					pmax	pmax			
	comp=Z,5.0nm,1.1s								
AJN	**Ajban**	**70.59**	**75**	*i* P	**P**		**21 51 45.8**	**-0.7**
	SNR=5.5								
MSFE	**Esma-Masafi**	**70.64**	**73**	*i* P	**P**		**21 51 47.5**	**+0.7**
	SNR=7.0								
NAZ	**Nazwa, Dubai**	**70.65**	**74**	*i* P	**P**		**21 51 45.7**	**-1.1**
	SNR=5.9								
ATAH	**Atahualpa**	**70.90**	**226**	LR	LR		22 23 23.4		
	comp=Z,123nm,19.2s,baz=359,slow=36								
MCI6	**Montes Claros**	**70.91**	**189**	*e*P	**P**		**21 51 48.0**	**-0.3**
UOSS	**Minazif**	**70.99**	**74**	*e*P	**P**		**21 51 48.0**	**-0.8**
UOSS	**Minazif**	**70.99**	**74**	*i* P	**P**		**21 51 46.7**	**-2.2**
	SNR=9.5								
UOSS	**Minazif**	**70.99**	**74**	P	**P**		**21 51 46.9**	**-2.0**
	SNR=14								
UOSS					P	**P**	**21 51 46.9**	**-2.0**	
	SNR=14								
WMQ	**Urumqi**	**71.03**	**40**	P	**P**		**21 51 50.0**	**+1.0**
WMQ				pP	pP		21 51 54.4	+0.3	
WMQ				sP	pwP		21 52 01.9	+5.1	
WMQ				pmax	pmax				
	comp=Z,32nm,1.5s								
WMQ				pmax	pmax				
	comp=Z,440nm,5.9s								
WMQ				LR	LR				
	comp=Z,610nm,22.9s								
WMQ				LR	LR				
	comp=Z,470nm,22.9s								
WMQ				LR	LR				
	comp=Z,490nm,25.1s								
WMQ	**Urumqi**	**71.03**	**40**	*e*P	**P**		**21 51 50.8**	**+1.8**
	comp=Z,2.5nm,0.5s								
WMQ	**Urumqi**	**71.03**	**40**	*e*P	**P**		**21 51 50.8**	**+1.8**
WMQ					pmax	pmax			
	comp=Z,2.0nm,0.5s								
HATD	**Hatta, Dubai**	**71.04**	**74**	*i* P	**P**		**21 51 48.5**	**-0.7**
	SNR=8.3								
HATD	**Hatta, Dubai**	**71.04**	**74**	P	**P**		**21 51 48.0**	**-1.2**
	SNR=14								
HATD					P	**P**	**21 51 48.0**	**-1.2**	
	SNR=14								
ASHO	**Ashiyiah**	**71.11**	**74**	*i* P	**P**		**21 51 49.3**	**-0.3**
	SNR=6.2								
ASHO	**Ashiyiah**	**71.11**	**74**	P	**P**		**21 51 47.9**	**-1.7**
	SNR=8.5								
ALNE	**Al Ain**	**71.42**	**75**	*i* P	**P**		**21 51 52.7**	**+1.2**
	SNR=7.5								
ZEA	**Zeya**	**71.65**	**11**	*e*P	**P**		**21 51 52.8**	**+0.4**
ZEA					pmax	pmax			
	comp=Z,63nm,2.0s								
ZEA					MLR	MLR			
	comp=Z,600nm,16.0s								
IPMB	**Ipameri, GO**	**72.56**	**193**	*e*P	**P**		**21 51 57.3**	**-0.9**
SJMB	**Sao Joao De Ma**	**72.58**	**186**	*e*P	**P**		**21 51 57.5**	**-0.8**
NIL	**Nilore**	**73.17**	**56**	*e*P	**P**		**21 52 02.1**	**+0.2**
NIL	**Nilore**	**73.17**	**56**	*e*P	**P**		**21 52 02.1**	**+0.2**
SONA1	**Songino Array**	**73.44**	**26**	*e*P	**P**		**21 52 03.0**	**-0.3**
SONA0	**Songino Array**	**73.45**	**26**	*e*P	**P**		**21 52 02.5**	**-0.9**
SONM	**Songino Array**	**73.45**	**26**	P	**P**		**21 52 02.5**	**-0.9**
	comp=Z,3.6nm,1.0s,baz=327,slow=6.0,SNR=24								
ULN	**Ulaanbaatar**	**73.59**	**25**	*e*P	**P**		**21 52 04.3**	**+0.1**
	comp=Z,3.0nm,1.1s								
ULN	**Ulaanbaatar**	**73.59**	**25**	*ce*P	**P**		**21 52 03.5**	**-0.8**
ULN					pmax	pmax			
	comp=Z,43nm,1.7s								
ULN	**Ulaanbaatar**	**73.59**	**25**	P	**P**		**21 52 04.7**	**+0.5**
	SNR=25								
ULN					P	**P**	**21 52 04.7**	**+0.5**	
	SNR=25								
JLN	**Jalan Bani Buh**	**74.99**	**73**	P	**P**		**21 52 11.7**	**-0.9**
	SNR=5.1								
MHTO	**MHTO**	**75.09**	**75**	P	**P**		**21 52 12.5**	**-0.6**
	SNR=12								
MHTO					P	**P**	**21 52 12.5**	**-0.6**	
	SNR=12								
GRNR	**Gornyy**	**75.37**	**6**	*e*P	**P**		**21 52 12.0**	**-2.4**
LPAZ	**La Paz**	**75.48**	**213**	P	**P**		**21 52 14.3**	**-1.6**
	comp=Z,2.8nm,0.7s,baz=18,slow=5.5,SNR=3.6								
LPAZ	**La Paz**	**75.48**	**213**	*e*P	**P**		**21 52 15.3**	**-0.6**
	comp=Z,7.6nm,1.0s								
LPAZ	**La Paz**	**75.48**	**213**	*e*P	**P**		**21 52 15.4**	**-0.6**
LPAZ					pmax	pmax			
	comp=Z,8.0nm,1.0s								
LPAZ	**La Paz**	**75.48**	**213**	*e*P	**P**		**21 52 14.6**	**-1.4**
AQDB	**Aquidauana**	**76.25**	**200**	*e*P	**P**		**21 52 19.1**	**-0.5**
VAS01	**Vassouras-RJ**	**76.29**	**188**	*e*P	**P**		**21 52 20.6**	**+0.8**
MBAR	**Mbarara**	**76.54**	**110**	*e*P	**P**		**21 52 22.8**	**+1.1**
	comp=Z,7.6nm,1.1s								
MBAR	**Mbarara**	**76.54**	**110**	*e*P	**P**		**21 52 22.8**	**+1.1**
MBAR					pmax	pmax			
	comp=Z,8.0nm,1.1s								
KLR	**Kul'dur**	**76.56**	**9**	*i* P	**P**		**21 52 20.9**	**-0.2**
RCLB	**Rio Claro- Sao**	**76.84**	**192**	*e*P	**P**		**21 52 23.7**	**+0.7**
GTA	**Gaotai**	**79.22**	**34**	⇓P	**P**		**21 52 35.4**	**-0.9**
GTA				pP	pP		21 52 40.3	-1.2	
GTA				sP	sP		21 52 43.0	-0.4	
GTA				pmax	pmax				
	comp=Z,9.0nm,1.6s								
GTA				pmax	pmax				
	comp=Z,100nm,3.8s								
GTA				LR	LR				
	comp=Z,190nm,19.7s								
GTA				LR	LR				
	comp=Z,220nm,19.7s								
GTA				LR	LR				
	comp=Z,340nm,20.0s								
PTGB	**Pitanga**	**79.74**	**196**	*e*P	**P**		**21 52 38.9**	**-0.1**
KMBO	**Kilima Mbogo**	**80.64**	**105**	*ce*P	**P**		**21 52 47.7**	**+3.3**
KMBO					pmax	pmax			
	comp=Z,1.0nm,0.8s								
MDJ	**Mudanjiang**	**80.90**	**11**	P	**P**		**21 52 44.3**	**-0.8**
MDJ					pmax	pmax			
	comp=Z,12nm,1.3s								
MDJ					pmax	pmax			
	comp=Z,180nm,5.3s								
MDJ	**Mudanjiang**	**80.90**	**11**	*e*P	**P**		**21 52 45.5**	**+0.4**
	comp=Z,1.9nm,0.9s								
BTO	**Baotou**	**81.13**	**26**	*e*P	**P**		**21 52 43.9**	**-2.6**
CN2	**Changchun**	**81.17**	**14**	*e*P	**P**		**21 52 48.1**	**+1.5**
CN2					pmax	pmax			
	comp=Z,20nm,0.8s								
HHC	**Hu-ho-hao-te**	**81.29**	**25**	*e*P	**P**		**21 52 47.3**	**-0.1**
HHC					pmax	pmax			
	comp=Z,20nm,1.2s								
HHC					pmax	pmax			
	comp=Z,250nm,5.4s								
HHC					LR	LR			
	comp=Z,290nm,13.0s								
HHC					LR	LR			
	comp=Z,350nm,12.1s								
HHC					LR	LR			
	comp=Z,370nm,13.0s								
USRK	**Ussuriysk Ar.**	**81.56**	**9**	P	**P**		**21 52 46.4**	**-2.2**
	comp=Z,0.6nm,0.7s,baz=359,slow=7.6,SNR=4.5								
LVC	**Limon Verde**	**81.66**	**211**	*e*P	**P**		**21 52 48.7**	**-0.9**
CPUP	**Villa Florida**	**82.26**	**200**	*e*P	**P**		**21 52 52.4**	**+0.1**
BJI	**Beijing**	**83.14**	**22**	⇓P	**P**		**21 52 56.3**	**-0.6**
BJI					pmax	pmax			
	comp=Z,9.0nm,1.7s								
BJI					LR	LR			
	comp=Z,260nm,16.1s								
BJI					LR	LR			
	comp=Z,190nm,10.2s								
BJI					LR	LR			
	comp=Z,230nm,19.6s								
LZH	**Lanzhou**	**83.55**	**32**	*e*P	**P**		**21 53 00.0**	**+0.7**
LZH				pP	PcP		21 53 02.9	-0.7	
LZH				sP	pP		21 53 05.3	+0.7	
LZH				pmax	pmax				
	comp=Z,30nm,1.0s								
LZH				LR	LR				
	comp=Z,520nm,15.5s								
LZH				LR	LR				
	comp=Z,720nm,14.1s								
LZH				LR	LR				
	comp=Z,930nm,18.4s								
CNLB	**Canela**	**84.07**	**194**	*e*P	**P**		**21 53 01.2**	**-0.4**
TIY	**Taiyuan**	**84.47**	**25**	*e*P	**P**		21 53 08.8	+4.9	
LSA	**Lhasa**	**84.62**	**45**	*e*P	**P**		**21 53 06.0**	**+0.8**
LSA	**Lhasa**	**84.62**	**45**	*e*P	**P**		**21 53 06.1**	**+0.8**
XAN	**Xi'an**	**86.98**	**29**	P	**P**		**21 53 15.9**	**-0.5**
XAN					pmax	pmax			
	comp=Z,12nm,2.1s								
XAN					pmax	pmax			
	comp=Z,140nm,3.6s								
XAN	**Xi'an**	**86.98**	**29**	*e*P	**P**		**21 53 16.7**	**+0.3**
	comp=Z,42nm,1.1s								
XAN	**Xi'an**	**86.98**	**29**	*e*P	**P**		**21 53 16.7**	**+0.3**
XAN					pmax	pmax			
	comp=Z,43nm,1.1s								
LSZ	**Lusaka**	**87.46**	**120**	*e*P	**P**		**21 53 17.9**	**-0.9**
	comp=Z,3.9nm,1.1s								
LSZ	**Lusaka**	**87.46**	**120**	*e*P	**P**		**21 53 17.9**	**-0.9**
LSZ					pmax	pmax			
	comp=Z,4.0nm,1.1s								
KS01	**Wonju Array Si**	**87.73**	**13**	*e*P	**P**		**21 53 23.0**	**+3.1**
KSRS	**Korea Array**	**87.75**	**13**	P	**P**		**21 53 18.3**	**-1.6**
	comp=Z,3.4nm,1.1s,baz=356,slow=4.9,SNR=3.1								
KSRS					LR	LR	22 32 26.9		
	comp=Z,127nm,20.3s,baz=325,slow=36								
KS15	**Wonju Array Si**	**87.76**	**13**	*e*P	**P**		**21 53 18.3**	**-1.7**
KSAR	**Wonju Array Be**	**87.76**	**13**	P	**P**		**21 53 18.3**	**-1.7**
KSAR	**Wonju Array Be**	**87.76**	**13**	P	**P**		**21 53 18.3**	**-1.7**
LCO	**Las Campanas**	**88.20**	**211**	*e*P	**P**		**21 53 25.7**	**+3.4**
	comp=Z,4.6nm,1.0s								
CD2	**Chengdu**	**88.28**	**34**	*e*P	**P**		**21 53 21.5**	**-1.2**
SHL	**Shillong**	**88.56**	**46**	*e*P	**P**		**21 53 24.5**	**+0.3**
	comp=Z,8.5nm,1.2s								
SHL	**Shillong**	**88.56**	**46**	*e*P	**P**		**21 53 24.5**	**+0.3**
SHL					pmax	pmax			
	comp=Z,9.0nm,1.2s								
SHL	**Shillong**	**88.56**	**46**	*e*P	**P**		**21 53 22.0**	**-2.2**
ENH	**Enshi**	**90.67**	**30**	*e*P	**P**		**21 53 33.9**	**0.0**
	comp=Z,7.8nm,1.1s								
NJ2	**Nanjing**	**91.40**	**22**	*e*P	**P**		**21 53 38.3**	**+1.2**
NJ2					pmax	pmax			
	comp=Z,8.0nm,0.5s								
KMI	**Kunming**	**93.23**	**37**	P	**P**		**21 53 48.4**	**+2.4**
KMI					pmax	pmax			
	comp=Z,11nm,0.7s								
KMI					LR	LR			
	comp=Z,230nm,20.2s								
KMI					LR	LR			
	comp=Z,420nm,18.8s								
KMI					LR	LR			
	comp=Z,770nm,23.0s								
GYA	**Guiyang**	**93.35**	**34**	*e*P	**P**		**21 53 46.4**	**0.0**
GYA					PP	**PP**	**21 57 34.3**	**+4.8**	
GYA					SKS	**SKSac**	**22 04 19.0**	**-1.0**	
GYA					S	**S**	**22 04 50.8**	**-2.5**	
GYA					pmax	pmax			
	comp=Z,10.0nm,1.0s								
GYA					pmax	pmax			
	comp=Z,120nm,5.4s								
CHTO	**Chiang Mai**	**97.50**	**43**	*e*P	**P**		**21 54 04.6**	**-0.7**
CM31	**Chiang Mai Arr**	**97.82**	**43**	*e*P	**P**		**21 54 05.7**	**-1.1**
CMAR	**Chiang Mai Arr**	**97.82**	**43**	P	**P**		**21 54 05.7**	**-1.1**
	comp=Z,1.1nm,0.9s,baz=318,slow=6.2,SNR=6.0								
CMAR	**Chiang Mai Arr**	**97.82**	**43**	*ce*P	Pdif		21 54 07.5	+0.7	
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.9s								
CM01	**Chiang Mai Arr**	**97.86**	**43**	*e*P	**P**		**21 54 06.6**	**-0.3**
VNA2	**Neumayer--Watz**	**126.19**	**169**	PKP	**PKPdf**		**21 59 31.0**	**-1.0**
	baz=357,slow=6.0								
SNAA	**Sanae**	**127.43**	**168**	PKP	**PKPdf**		**21 59 33.0**	**-1.4**
SNAA	**Sanae**	**127.43**	**168**	PKP	**PKPdf**		**21 59 32.9**	**-1.6**
	comp=Z,3.5nm,0.7s,baz=324,slow=7.0,SNR=3.3								
MBWA	**Marble Bar**	**142.06**	**40**	*e*P	**PKiKP**		**22 00 05.4**	**-0.7**
DZM	**Mont Dzumac**	**144.17**	**324**	PKP	**PKPab**		**22 00 04.8**	**+0.1**
	comp=Z,7.7nm,1.2s,baz=85,slow=8.1,SNR=3.8								
DZM	**Mont Dzumac**	**144.17**	**324**	ePKPdf	**PKPab**		**22 00 04.8**	**+0.1**
DZM					ePKPdf	**PKiKP**	**22 00 09.9**	**-0.6**	
WR1	**Warramunga Arr**	**145.07**	**17**	ePKPbc	**PKPbc**		**22 00 06.7**	**-1.3**
WRA	**Warramunga Arr**	**145.07**	**17**	PKPbc	**PKPbc**		**22 00 06.7**	**-1.3**
	comp=Z,4.1nm,1.0s,baz=347,slow=3.1,SNR=17								
WB2	**Warramunga Arr**	**145.07**	**17**	*e*PKPbc	**PKPbc**		**22 00 07.1**	**-0.8**
AS31	**Alice Springs**	**148.61**	**20**	*e*PKPdf	**PKPbc**		**22 00 17.1**	**-1.0**
ASAR	**Alice Springs**	**148.61**	**20**	PKPbc	**PKPbc**		**22 00 17.1**	**-1.1**
	comp=Z,8.7nm,0.8s,baz=350,slow=2.4,SNR=43								
AS01	**Alice Springs**	**148.62**	**19**	*e*PKPdf	**PKPbc**		**22 00 16.6**	**-1.5**
URZ	**Urewera**	**152.96**	**292**	PKPbc	**PKPbc**		**22 00 27.7**	**-0.1**
	comp=Z,12nm,1.0s,baz=63,slow=4.5,SNR=3.7								
URZ					PKPab	**PKPab**	**22 00 37.4**	**-1.8**	
	comp=Z,19nm,1.0s,baz=93,slow=18,SNR=2.2								
VNDA	**Vanda**	**155.59**	**189**	PKP	**PKPdf**		**22 00 21.6**	**-1.5**
	comp=Z,2.7nm,0.9s,baz=93,slow=4.9,SNR=3.2								
VNDA					PKPab	**PKPab**	**22 00 46.4**	**-2.9**	
	comp=Z,2.8nm,1.0s,baz=170,slow=6.1,SNR=2.3								
SNZO	**South Karori**	**156.42**	**290**	*e*P	**PKPdf**		**22 00 27.7**	**+2.5**

*ISCJB **20** 21:42:44.0±0.4, 53.88N±0.09×35.58W±0.10, h16km, mb4.4/17, Error ellipse: s-maj=13.5km s-min=8.2km az=173.2*
*IDC **20** 21:42:44.5±0.8, 53.85N×35.41W, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/36, mbtmp3.8/8, Error ellipse: s-maj=27.3km s-min=21.8km az=178.0*
*NEIC **20** 21:42:45.0±0.4, 53.85N×35.56W, h10km, mb4.8/5, Error ellipse: s-maj=12.7km s-min=8.3km az=177.0*

ISC 20 21:42:46.1±0.6, **53.9N**±0.1×**35.44W**±0.09, **h16**km, **n34, s136/35, mb4.1/17, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ILULI	**Ilulissat**	**17.00**	**341**	*e*Pn		**Pn**		**21 46 39.9**	**-2.9**
	117nm,2.0s								
LBNH	**Lisbon**	**25.52**	**263**	*e*P		**P**		**21 48 12.0**	**-1.7**
	38nm,1.5s								
ESDC	**Sonseca Array**	**25.56**	**111**	P		**P**		**21 48 15.6**	**+1.5**
	2.6nm,0.8s,baz=317,slow=8.4,SNR=5.2								
NB201	**NORSAR Array S**	**25.64**	**55**	*e*P		**P**		**21 48 12.1**	**-2.5**
BCX	**Boston College**	**26.22**	**259**	*e*P		**P**		**21 48 19.0**	**-1.0**
	102nm,1.6s								
ACCN	**Adirondack Com**	**27.04**	**263**	*e*P		**P**		**21 48 26.4**	**-1.1**
	66nm,1.7s								
TRY	**Troy**	**27.43**	**262**	*e*P		**P**		**21 48 29.4**	**-1.5**
	86nm,1.7s								
BNI	**Bardonecchia**	**28.39**	**91**	*e*P		**P**		**21 48 39.2**	**-0.4**
	23nm,1.5s								
BINY	**Binghamton**	**29.12**	**263**	*e*P		**P**		**21 48 43.1**	**-2.9**
	93nm,1.9s								
MACI	**Morro de la Ar**	**29.13**	**144**	*e*P		**P**		**21 48 43.7**	**-2.7**
	164nm,1.5s								
MVL	**Millersville**	**30.72**	**260**	*e*P		**P**		**21 49 00.0**	**-0.1**
	35nm,1.5s								
ARCES	**ARCESS Array B**	**31.18**	**36**	*e*P		**P**		**21 49 03.2**	**-0.7**
AKASG	**Malin Array Be**	**38.45**	**68**	P		**P**		**21 50 07.1**	**+0.3**
	0.7nm,0.6s,baz=303,slow=8.0,SNR=4.6								
AKBB	**Malin Array Si**	**38.45**	**68**	*e*P		**P**		**21 50 07.1**	**+0.3**
	4.6nm,1.1s								
YKA	**Yellowknife Ar**	**40.05**	**315**	PcP		**PcP**		**21 52 25.2**	**+0.7**
	0.3nm,0.8s,baz=55,slow=3.4,SNR=5.6								
BR101	**Keskin Array S**	**47.46**	**78**	*e*P		**P**		**21 51 21.4**	**+1.3**
BRTR	**Keskin Array B**	**47.46**	**78**	P		**P**		**21 51 21.4**	**+1.3**
	0.8nm,0.7s,baz=308,slow=7.1,SNR=3.1								
PD31	**Pinedale Array**	**48.35**	**289**	*e*P		**P**		**21 51 28.3**	**+1.3**
PDAR	**Pinedale Array**	**48.35**	**289**	P		**P**		**21 51 28.3**	**+1.3**
	0.8nm,0.6s,baz=57,slow=9.8,SNR=4.1								
TOA1	**Torodi Ar. Sit**	**50.06**	**130**	*e*P		**P**		**21 51 39.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**50.07**	**130**	P		**P**		**21 51 39.5**	**-0.6**
	1.5nm,0.9s,baz=329,slow=5.4,SNR=3.2								
ILAR	**Eielson Array**	**50.55**	**329**	PcP		**PcP**		**21 53 01.9**	**+1.1**
	0.8nm,0.9s,baz=35,slow=3.3,SNR=5.5								
ILB	**Eielson Array**	**50.55**	**329**	*e*P		**P**		**21 51 42.9**	**-0.4**
ILB					*e*PcP	**PcP**		**21 53 01.9**	**+1.1**
TXAR	**Lajitas Array**	**54.23**	**272**	PcP		**PcP**		**21 53 17.3**	**+2.0**
	0.3nm,0.7s,baz=54,slow=4.6,SNR=2.6								
MK32	**Makanchi Array**	**66.65**	**41**	*e*P		**P**		**21 53 36.3**	**+0.7**
MKAR	**Makanchi Array**	**66.65**	**41**	P		**P**		**21 53 36.3**	**+0.7**
	1.0nm,0.9s,baz=325,slow=7.0,SNR=4.9								
MKAR	**Makanchi Array**	**66.65**	**41**	P		**P**		**21 53 36.3**	**+0.7**
SONA0	**Songino Array**	**73.62**	**26**	*e*P		**P**		**21 54 19.3**	**+0.9**
SONM	**Songino Array**	**73.62**	**26**	P		**P**		**21 54 19.3**	**+0.9**
	0.6nm,0.9s,baz=330,slow=5.5,SNR=3.4								
LPAZ	**La Paz**	**75.30**	**212**	P		**P**		**21 54 29.8**	**+0.8**
	0.6nm,0.5s,baz=14,slow=4.2,SNR=2.1								
WR1	**Warramunga Arr**	**145.22**	**17**	*e*PKPbc		**PKPab**		**22 02 22.8**	**+0.2**
WRA	**Warramunga Arr**	**145.22**	**17**	PKPbc		**PKPab**		**22 02 22.8**	**+0.2**
	0.9nm,0.8s,baz=341,slow=3.6,SNR=3.2								
AS31	**Alice Springs**	**148.77

*IDC **20** 22:01:27.2±1.6, 10°.92N×84°.41W, h0km, mb3.9/4, mb1 4.2/6, mb1mx3.8/40, mbtmp3.9/6, ML3.5/2, MS3.5/1, Ms1 3.5/1, ms1mx2.9/40, Error ellipse: s-maj=36.6km s-min=9.7km az=118.0*

*UCR **20** 22:01:28.2±1.8, 9°.78N×85°.49W, h2km±5km, MD4.1, ML3.6*

ISC 20 22:01:25.8±1.8, **9.81N**±0°.05×**85°.69W**±0°.05, **h5**km±10km, **n42**, σ1§**92**/52, **mb4.0**/4, **Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLVR	**Palo Verde**	**0.64**	**32**	*eP*	**Pb**	**22 01 40.0**	**+0.5**
PLVR				*eS*	**Sb**	**22 01 49.6**	**+0.9**
NY14	**Universidad de**	**0.85**	**10**	*i* P	**Pn**	**22 01 44.8**	**+0.3**
NY14				*i* S	**Sn**	**22 01 57.3**	**0.0**
JTS	**JuntasAbangare**	**0.87**	**56**	Pg	**Pg**	**22 01 42.5**	**-0.1**
	484nm,0.3s,baz=356,slow=22,SNR=1421						
JTS				Lg	Lg	22 01 54.7	
	880nm,0.3s,baz=17,slow=19,SNR=41						
JTS	**JuntasAbangare**	**0.87**	**56**	*eP*	**Pg**	**22 01 42.5**	**-0.1**
JTS				*eS*	**Sg**	**22 01 54.1**	**+0.2**
COLC	**Colonia**	**0.98**	**29**	*i* P	**Pn**	**22 01 46.4**	**+0.2**
LIM1	**Limonal**	**0.99**	**26**	*i* P	**Pn**	**22 01 46.7**	**+0.3**
LIM1				*i* S	**Sn**	**22 01 59.3**	**-1.4**
LAPC	**Finca la Perla**	**0.99**	**15**	*i* P	**Pn**	**22 01 46.1**	**-0.3**
CUI	**Cuipilapa**	**0.99**	**31**	*i* P	**Pn**	**22 01 46.0**	**-0.4**
CUI				*i* S	**Sn**	**22 02 00.1**	**-0.8**
GPS3	**Bodega del ICE**	**1.00**	**19**	*i* P	**Pn**	**22 01 46.6**	**+0.1**
GPS3				*i* S	**Sn**	**22 02 01.0**	**+0.1**
GUAB	**Guayabo de Bag**	**1.00**	**27**	*i* P	**Pn**	**22 01 46.2**	**-0.4**
GPS1	**Guardaparques**	**1.02**	**19**	*i* P	**Pn**	**22 01 46.8**	**0.0**
GPS1				*i* S	**Sn**	**22 02 00.7**	**-0.9**
BUEV	**Buena Vista**	**1.03**	**16**	*i* P	**Pn**	**22 01 47.0**	**+0.1**
HORNC	**Hornillas**	**1.03**	**29**	*i* P	**Pn**	**22 01 46.6**	**-0.4**
ACAL	**Aguas Claras**	**1.05**	**38**	*i* P	**Pn**	**22 01 46.8**	**-0.4**
GB1A	**Borinquen Arri**	**1.05**	**16**	*eP*	**Pn**	**22 01 47.4**	**+0.1**
MESS	**Mesas**	**1.05**	**28**	*i* P	**Pn**	**22 01 46.9**	**-0.4**
MESS				*eP*	**Pb**	**22 01 47.0**	**+0.5**
MESS				*i* S	**Sn**	**22 02 01.6**	**-0.7**
AMAS	**Alto Masis**	**1.05**	**41**	*i* P	**Pb**	**22 01 46.8**	**+0.1**
AMAS				*i* S	**Sg**	**22 02 00.8**	**+1.0**
BUAI	**Buenos Aires**	**1.12**	**18**	*i* P	**Pn**	**22 01 48.1**	**-0.1**
CASO	**Castillo**	**1.13**	**56**	*i* P	**Pn**	**22 01 47.6**	**-0.3**
ARE1	**Arenal 1**	**1.16**	**56**	*eP*	**Pn**	**22 01 48.3**	**-0.3**
CEDE	**Laguna Cedeo**	**1.19**	**55**	*eP*	**Pn**	**22 01 48.9**	**-0.1**
CEDE				*i* P	**Pn**	**22 01 49.0**	**-0.1**
FORC	**Fortuna**	**1.20**	**57**	*i* P	**Pn**	**22 01 48.8**	**-0.4**
SRA1	**San Ramn**	**1.22**	**77**	*eP*	**Pn**	**22 01 48.0**	**-1.7**
HDC	**Heredia**	**1.56**	**83**	*eP*	**Pn**	**22 01 53.5**	**-0.9**
LCR2	**La Lucha 2**	**1.66**	**92**	*eP*	**Pn**	**22 01 54.2**	**-1.6**
CONN	**Concepcion**	**1.75**	**2**	*eP*	**Pg**	**22 02 00.4**	**+1.0**
EDDO	**Dominical**	**1.88**	**107**	*eP*	**Pb**	**22 02 00.9**	**+0.2**
CVTR	**Volcan Turrial**	**1.92**	**83**	*eP*	**Pn**	**22 01 59.3**	**-0.2**
ACON	**Acoyapa**	**2.21**	**13**	*eP*	**Pb**	**22 02 03.9**	**-2.3**
ACON				*eS*	**Sg**	**22 02 36.9**	**0.0**
ACON				IAML		22 02 38.5	
	comp=Z,395nm,0.8s						
MGAN	**Managua**	**2.39**	**347**	*eP*	**Pg**	**22 02 10.5**	**-1.2**
DRD	**Durika**	**2.47**	**102**	*eP*	**Pn**	**22 02 06.1**	**-0.8**
ESPN	**Las Esperanzas**	**2.74**	**30**	*eP*	**Pn**	**22 02 10.8**	**+0.4**
ESPN				IAML		22 02 50.9	
	comp=N,588nm,1.0s						
CNGN	**Cerro Negro**	**2.86**	**340**	*eP*	**Pb**	**22 02 16.9**	**-0.5**
BRU2	**Volcan**	**3.13**	**108**	*eP*	**Pn**	**22 02 16.7**	**+0.8**
APG	**El Apazote**	**6.96**	**318**	Pn	Pn	22 03 14.1	+5.4
	comp=N,1.2nm,0.3s,baz=132,slow=7.5,SNR=6.7						
CMIG	**Matias Romero**	**11.50**	**310**	Pn	Pn	22 04 17.5	+6.7
	comp=N,0.3nm,0.3s,baz=129,slow=13,SNR=3.6						
TXAR	**Lajitas Array**	**25.70**	**322**	P	**P**	**22 06 58.6**	**+1.4**
	comp=N,2.6nm,0.8s,baz=140,slow=10,SNR=14						
TXAR				PcP	**PcP**	**22 10 29.7**	**+2.1**
	comp=N,0.3nm,0.8s,baz=126,slow=4.6,SNR=3.8						
TKL	**Tuckaleechee C**	**25.80**	**4**	LR	LR	22 17 34.6	
	comp=N,112nm,18.4s,baz=263,slow=39						
PDAR	**Pinedale Array**	**38.91**	**332**	P	**P**	**22 08 51.4**	**-1.3**
	comp=N,0.3nm,0.6s,baz=130,slow=8.3,SNR=3.5						
NVAR	**Mina Array Bea**	**40.82**	**320**	P	P	22 09 11.8	+3.2
	comp=N,4.6nm,0.8s,baz=125,slow=7.8,SNR=22						
NVAR				PcP	**PcP**	**22 11 12.1**	**+2.3**
	comp=N,0.6nm,0.6s,baz=126,slow=4.6,SNR=3.4						
ILAR	**Eielson Array**	**69.12**	**336**	P	**P**	**22 12 31.1**	**-1.7**
	comp=N,0.9nm,0.9s,baz=110,slow=5.2,SNR=4.5						
CMAR	**Chiang Mai Arr**	**151.55**	**351**	PKPbc	**PKPbc**	**22 21 22.3**	**+0.2**
	comp=N,1.8nm,0.9s,baz=327,slow=2.7,SNR=10						

*IDC **20** 22:03:02.9±0.6, 63°.30N×151°.40W, h0km, mb3.9/18, mb1 4.1/24, mb1mx4.0/61, mbtmp3.9/24, ML3.8/6, Error ellipse: s-maj=13.3km s-min=11.1km az=10.0*

*ISCJB **20** 22:03:03.5±0.6, 63°.33N±0°.02×151°.34W±0°.04, h14km±4km, mb4.2/29, MS4.9/2, Error ellipse: s-maj=3.1km s-min=2.9km az=34.8*

*NEIC **20** 22:03:04.1±0.0, 63°.31N×151°.33W, h12km, mb4.2/7, MW4.1, ML4.4(AEIC), Moment Tensor Solution. s46 Moment tensor: Scale 10¹⁵Nm; Mrr0.20; Mθθ-1.35; Mφφ1.15; Mrθ0.03; Mrφ-1.18; Mθφ0.63; Best double couple: M₀1.80000×10¹⁵ NP1:φs292.00000°, δ71.00000°, λ171.00000°. NP2:φs25.00000°, δ82.00000°, λ20.00000°. Principal axes: T 1.8200, Plg20.0000°, Azm250.0000°; N 0.0300, Plg69.0000°, Azm47.0000°; P -1.8500, Plg8.0000°, Azm157.0000°; After AEIC.*

NEIC Felt at Denali National Park and Talkeetna.

ISC 20 22:03:04.0±1.0, **63°.31N**±0°.03×**151°.34W**±0°.03, **h7**km±6km, **n139**, σ1§**19**/150, **mb4.1**/29, **Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAST	**Castle Rocks**	**0.35**	**289**	P	**Pg**	**22 03 11.4**	**+0.5**
CAST				S	**Sg**	**22 03 16.0**	**+0.4**
TRF	**Thorofare Moun**	**0.49**	**72**	P	**Pg**	**22 03 13.8**	**+0.2**
TRF				S	**Sg**	**22 03 21.0**	**+1.0**
PPLA	**Purkeypile**	**0.56**	**224**	P	**Pg**	**22 03 14.6**	**-0.3**
PPLA				S	**Sg**	**22 03 22.1**	**-0.1**
CHUM	**Lake Minchumin**	**0.72**	**323**	P	**Pb**	**22 03 18.6**	**-0.4**
BPAW	**Bear Paw Mtn.**	**0.81**	**11**	P	**Pb**	**22 03 19.8**	**-0.7**
BPAW				S	**Sb**	**22 03 30.7**	**-1.0**
HUR	**Hurricane**	**0.84**	**112**	P	**Pb**	**22 03 19.6**	**-1.4**
RND	**Reindeer**	**1.12**	**84**	P	**Pn**	**22 03 24.6**	**-1.7**
MCK	**McKinley**	**1.16**	**67**	P	**Pn**	**22 03 25.9**	**-0.8**
NEA	**Nenana**	**1.62**	**37**	P	**Pn**	**22 03 31.6**	**-1.4**
MLY	**Manley**	**1.75**	**8**	P	**Pn**	**22 03 34.2**	**-0.7**
DHY	**Denali Highway**	**1.81**	**96**	P	**Pn**	**22 03 35.5**	**-0.3**
DHY				S	**Sb**	**22 04 00.5**	**0.0**
WRH	**Wood River Hil**	**1.85**	**49**	P	**Pn**	**22 03 34.7**	**-1.5**
SUA	**Susitna One**	**1.87**	**171**	P	**Pn**	**22 03 35.9**	**-0.6**
GHO	**Glory Hole Cre**	**1.90**	**143**	P	**Pn**	**22 03 36.1**	**-0.9**
PMR	**Palmer**	**2.00**	**148**	P	**Pn**	**22 03 37.8**	**-0.5**
SPNN	**North Nagishla**	**2.05**	**199**	P	**Pn**	**22 03 38.9**	**-0.1**
SML	**Sawmill**	**2.05**	**136**	P	**Pn**	**22 03 37.9**	**-1.0**
SPWE	**Spurr West**	**2.12**	**196**	P	**Pn**	**22 03 40.6**	**+0.1**
MDM	**Murphy Dome**	**2.15**	**38**	P	**Pn**	**22 03 39.0**	**-1.3**
CKT	**Bend**	**2.15**	**191**	P	**Pn**	**22 03 40.7**	**+0.3**
TT01	**Tatalina**	**2.17**	**261**	P	**Pn**	**22 03 39.0**	**-1.5**
I53US	**FAIRBANKS INFR**	**2.19**	**43**	Pg	**Pb**	**22 03 45.2**	**+1.3**
	baz=235,slow=25						
I53US				Lg	Lg	22 04 13.6	
	baz=202,slow=38						
I53US				*i*		22 15 10.0	
	baz=219,slow=323,SNR=0.5						
COLA	**College**	**2.19**	**43**	P	**Pn**	**22 03 39.6**	**-1.3**
HDA	**Harding Lake**	**2.24**	**58**	P	**Pn**	**22 03 40.2**	**-1.3**
KNK	**Knik Glacier**	**2.33**	**143**	P	**Pn**	**22 03 42.5**	**-0.2**
RC01	**Rabbit Creek A**	**2.35**	**161**	P	**Pn**	**22 03 42.6**	**-0.4**
PS08	**TAPS Pump Stn8**	**2.35**	**56**	P	**Pn**	**22 03 42.5**	**-0.5**
SCM	**Sheep Creek Mo**	**2.37**	**127**	P	**Pn**	**22 03 42.5**	**-0.9**
PS07	**TAPS Pump Stn7**	**2.41**	**32**	P	**Pn**	**22 03 43.4**	**-0.5**
IL1	**Eielson Array**	**2.45**	**51**	*e*Pn	**Pn**	**22 03 42.1**	**-2.3**
ILAR	**Eielson Array**	**2.45**	**51**	Pn	**Pn**	**22 03 42.9**	**-1.5**
	13nm,0.3s,baz=236,slow=14,SNR=51						
ILAR				Sn	**Sb**	**22 04 19.4**	**+0.7**
	267nm,0.3s,baz=232,slow=29,SNR=20						
ILB	**Eielson Array**	**2.45**	**51**	P	**Pn**	**22 03 43.0**	**-1.3**
PS10	**TAPS Pump St10**	**2.51**	**85**	P	**Pn**	**22 03 46.4**	**+1.1**
NKA	**Nikishka**	**2.57**	**179**	P	**Pn**	**22 03 48.1**	**+2.0**
PS06	**TAPS Pump Stn6**	**2.65**	**14**	P	**Pn**	**22 03 46.9**	**-0.3**
PAX	**Paxson**	**2.69**	**95**	P	**Pn**	**22 03 47.9**	**+0.2**
RDT	**Redoubt**	**2.79**	**191**	P	**Pn**	**22 03 48.9**	**-0.3**
DFR	**Drift River**	**2.80**	**194**	P	**Pn**	**22 03 49.4**	**+0.1**
RDJH	**Redoubt Jeurge**	**2.81**	**195**	P	**Pn**	**22 03 49.7**	**+0.2**
PWL	**Port Wells**	**2.83**	**149**	P	**Pn**	**22 03 50.2**	**+0.5**
GCSA	**Galena City Sc**	**2.83**	**303**	P	**Pn**	**22 03 50.1**	**+0.4**
IM3	**Indian Mountai**	**2.88**	**340**	P	**Pn**	**22 03 50.0**	**-0.3**
RDN	**Redoubt North**	**2.88**	**194**	P	**Pn**	**22 03 50.8**	**+0.3**
RDWB	**Redoubt West**	**2.92**	**195**	P	**Pn**	**22 03 51.4**	**+0.4**
RSO	**Redoubt South**	**2.93**	**194**	*e*Pn	**Pn**	**22 03 51.9**	**+0.7**
RIDG	**Independ'e Rid**	**2.94**	**79**	P	**Pn**	**22 03 51.9**	**+0.6**
PS11	**TAPS Pump St11**	**2.97**	**112**	P	**Pn**	**22 03 52.4**	**+0.9**
HARP	**HAARP**	**2.97**	**105**	P	**Pn**	**22 03 52.5**	**+0.9**
SVW2	**Sparrevohn**	**2.98**	**224**	P	**Pn**	**22 03 52.3**	**+0.6**
KLU	**Klutina**	**3.11**	**123**	*e*Pn	**Pn**	**22 03 54.2**	**+0.7**
GLI	**Glacier Island**	**3.15**	**139**	P	**Pn**	**22 03 54.6**	**+0.6**
JPK	**Jack Peak**	**3.17**	**133**	P	**Pn**	**22 03 54.8**	**+0.5**
DOT	**Dot Lake**	**3.28**	**81**	P	**Pn**	**22 03 56.5**	**+0.7**
SEW	**Seward**	**3.34**	**164**	P	**Pn**	**22 03 57.5**	**+0.9**
SCRK	**Sand Creek**	**3.35**	**75**	P	**Pn**	**22 03 56.0**	**-0.9**
PRP	**Porcupine Dome**	**3.36**	**46**	P	**Pn**	**22 03 56.2**	**-0.8**
ILW	**Iliamna West**	**3.37**	**196**	P	**Pn**	**22 03 57.8**	**+0.6**
IVE	**Iliamna Volcan**	**3.40**	**194**	P	**Pn**	**22 03 58.6**	**+1.1**
DIV	**Divide**	**3.40**	**127**	P	**Pn**	**22 03 57.7**	**+0.2**
ILS	**Iliamna Low So**	**3.46**	**195**	P	**Pn**	**22 03 58.9**	**+0.6**
PS05	**TAPS Pump Stn5**	**3.53**	**4**	P	**Pn**	**22 03 59.8**	**+0.5**
BRLK	**Bradley Lake**	**3.56**	**176**	P	**Pn**	**22 04 00.1**	**+0.4**
HOM	**Homer**	**3.67**	**182**	*e*Pn	**Pn**	**22 04 04.7**	**+3.6**
BMRM	**Bremner River**	**3.94**	**124**	P	**Pn**	**22 04 05.0**	**+0.2**
COLD	**Coldfoot**	**3.97**	**6**	P	**Pn**	**22 04 05.6**	**+0.4**
SGAM	**Sherman Glacie**	**4.04**	**131**	P	**Pn**	**22 04 06.9**	**+0.6**
FYU	**Fort Yukon**	**4.18**	**36**	*e*Pn	**Pn**	**22 04 06.3**	**-1.7**
RAGM	**Ragged Mountai**	**4.31**	**130**	*e*Pn	**Pn**	**22 04 11.0**	**+1.1**
BCA3	**Beaver Creek A**	**4.33**	**89**	P	**Pn**	**22 04 10.1**	**-0.3**
HMT	**Hamilton**	**4.49**	**128**	*e*Pn	**Pn**	**22 04 13.7**	**+1.3**
EGAK	**Eagle**	**4.71**	**67**	P	**Pn**	**22 04 15.3**	**-0.1**
KHIT	**Khitrov Hills**	**4.79**	**123**	P	**Pn**	**22 04 16.5**	**0.0**
BALM	**Baldy**	**4.79**	**114**	P	**Pn**	**22 04 17.5**	**+0.8**
KIAG	**Kiagna River**	**4.85**	**116**	P	**Pn**	**22 04 17.7**	**+0.2**
BM3	**Burnt Mountain**	**5.00**	**31**	P	**Pn**	**22 04 18.2**	**-1.1**
KULT	**Kultieth River**	**5.11**	**123**	P	**Pn**	**22 04 21.1**	**+0.1**
PS04	**TAPS Pump Stn4**	**5.20**	**8**	P	**Pn**	**22 04 23.5**	**+1.3**
KBM	**Katmai Bkd Mtn**	**5.39**	**202**	P	**Pn**	**22 04 25.7**	**+0.9**
MESA	**MESA**	**5.45**	**121**	P	**Pn**	**22 04 26.2**	**+0.4**
KDAK	**Kodiak Island**	**5.58**	**187**	Pn	**Pn**	**22 04 25.6**	**-1.7**
	1.7nm,0.3s,baz=41,slow=7.1,SNR=23						
KDAK				Sn	**Sn**	**22 05 29.3**	**-2.2**
	8.5nm,0.3s,baz=127,slow=20,SNR=2.1						
KDAK	**Kodiak Island**	**5.58**	**187**	*e*Pn	**Pn**	**22 04 26.7**	**-0.6**
KDAK				Sn	**Sn**	**22 05 29.3**	**-2.2**
CAHL	**Cahill**	**5.62**	**202**	P	**Pn**	**22 04 29.4**	**+1.4**
SAMH	**Samovar Hills**	**5.94**	**118**	P	**Pn**	**22 04 33.5**	**+1.0**
OHAK	**Old Harbor**	**6.18**	**190**	*e*Pn	**Pn**	**22 04 36.2**	**+0.6**
ANM	**Nome**	**6.31**	**288**	P	**Pn**	**22 04 37.5**	**+0.1**
BCPM	**Bancas Point**	**6.51**	**116**	P	**Pn**	**22 04 40.3**	**+0.1**
RDOG	**Red Dog Mine**	**6.74**	**320**	P	**Pn**	**22 04 44.1**	**+0.8**
PNL	**Peninsula**	**6.78**	**117**	P	**Pn**	**22 04 43.6**	**-0.2**
EPYK	**Eagle Plains**	**6.94**	**57**	P	**Pn**	**22 04 45.3**	**-0.8**
HYT	**Haines Junctio**	**6.96**	**105**	*e*Pn	**Pn**	**22 04 48.3**	**+1.9**
PLBC	**Pleasant Camp**	**8.15**	**111**	P	**Pn**	**22 05 03.0**	**+0.4**
WHY	**Whitehorse**	**8.19**	**101**	P	**Pn**	**22 05 03.5**	**+0.3**
SKAG	**Skagway**	**8.59**	**109**	P	**Pn**	**22 05 08.7**	**+0.2**
INK	**Inuvik**	**8.85**	**48**	Pn	**Pn**	**22 05 11.4**	**-0.7**
	4.5nm,0.3s,baz=225,slow=17,SNR=16						
INK	**Inuvik**	**8.85**	**48**	P	**Pn**	**22 05 12.0**	**-0.1**
GAMB	**Gambell**	**9.10**	**282**	*e*Pn	**Pn**	**22 05 14.4**	**-1.1**
BESE	**Bessie Mountai**	**9.30**	**113**	*e*Pn	**Pn**	**22 05 19.0**	**+0.5**
JIS	**Juneau Island**	**9.68**	**114**	P	**Pn**	**22 05 23.5**	**-0.1**
SIT	**Sitka**	**10.12**	**121**	*e*Pn	**Pn**	**22 05 29.9**	**+0.4**
DLBC	**Dease Lake**	**11.44**	**106**	Pn	**Pn**	**22 05 48.0**	**+0.2**
	0.3nm,0.3s,baz=114,slow=20,SNR=5.2						
DLBC	**Dease Lake**	**11.44**	**106**	*e*Pn	**Pn**	**22 05 47.8**	**+0.1**
BBB	**Bella Bella**	**16.55**	**122**	Pn	**Pn**	**22 06 56.2**	**0.0**
	0.2nm,0.3s,baz=281,slow=16,SNR=2.8						
YKW3	**Yellowknife Ar**	**16.59**	**76**	*e*Pn	**P**	**22 06 58.6**	**-0.7**
	10nm,0.9s						
YKA	**Yellowknife Ar**	**16.61**	**76**	Pn	**Pn**	**22 06 55.8**	**-1.2**
	0.2nm,0.3s,baz=289,slow=13,SNR=28						
YKB5	**Yellowknife Ar**	**16.61**	**76**	*e*Pn	**P**	**22 06 59.1**	**-0.5**
RES	**Resolute Bay**	**22.11**	**36**	P	**P**	**22 07 59.0**	**-0.4**
	0.7nm,0.3s,baz=322,slow=2.5,SNR=8.1						
RES	**Resolute Bay**	**22.11**	**36**	*e*P	**P**	**22 08 00.3**	**+0.9**
NEW	**Newport**	**24.03**	**113**	P	**P**	**22 08 19.4**	**+0.1**
	2.6nm,1.0s,baz=327,slow=9.7,SNR=2.8						
D08A	**Wollman Farm,**	**24.25**	**117**	*e*P	**P**	**22 08 26.0**	**+4.7**
	4.1nm,0.8s						
E07A	**Sunnyside**	**24.28**	**119**	*e*P	**P**	**22 08 26.9**	**+5.2**
	3.9nm,0.8s						
YBH	**Yreka Blue Hor**	**27.33**	**129**	P	**P**	**22 08 48.8**	**-0.5**
	0.4nm,0.5s,baz=45,slow=8.6,SNR=2.4						
PETK	**Petropavlovsk-**	**27.96**	**273**	P	**P**	**22 08 52.9**	**-1.8**
	4.9nm,0.8s,baz=81,slow=12,SNR=3.9						
LKWY	**Lake**	**29.79**	**110**	*e*P	**P**	**22 09 11.1**	**-0.3**
	6.5nm,1.1s						
PNTR	**Pine Nut**	**30.77**	**127**	*e*P	**P**	**22 09 22.9**	**+2.8**
	4.4nm,0.9s						
BW06	**Boulder Array**	**31.61**	**111**	*e*P	**P**	**22 09 26.5**	**-0.9**
	2.6nm,1.0s						
PDAR	**Pinedale Array**	**31.61**	**111**	P	**P**	**22 09 27.2**	**-0.3**
	0.7nm,0.7s,baz=310,slow=3.4,SNR=5.2						
PDAR	**Pinedale Array**	**31.61**	**111**	*e*P	**P**	**22 09 28.2**	**+0.7**
FRB	**Frobisher Bay**	**34.48**	**51**	P	**P**	**22 09 51.4**	**-0.6**
	6.1nm,0.8s,baz=317,slow=6.5,SNR=3.9						
MWH	**Moku'aweowe**	**43.88**	**186**	*e*P	**P**	**22 11 12.8**	**+1.2**
	364nm,0.7s						
TX31	**Lajitas Ar. Si**	**45.54**	**115**	*e*P	**P**	**22 11 24.8**	**+0.6**
TXAR	**Lajitas Array**	**45.54**	**115**	P	**P**	**22 11 24.3**	**0.0**
	1.2nm,0.6s,baz=331,slow=7.2,SNR=8.9						
TKL	**Tuckaleechee C**	**48.84**	**91**	P	**P**	**22 11 49.9**	**+0.1**
	6.4nm,0.7s,baz=142,slow=1.1,SNR=13						
ULN	**Ulaanbaatar**	**53.24**	**305**	*e*P	**P**	**22 12 23.4**	**+0.5**
	2.8nm,0.8s						
KSRS	**Korea Array**	**53.27**	**281**	P	**P**	**22 12 23.1**	**+0.1**
	2.6nm,0.7s,baz=26,slow=7.1,SNR=8.9						
KSAR	**Wonju Array Be**	**53.29**	**281**	P	**P**	**22 12 23.1**	**-0.1**
SONA1	**Songino Array**	**53.50**	**305**	*e*P	**P**	**22 12 25.2**	**+0.4**
SONM	**Songino Array**	**53.51**	**305**	P	**P**	**22 12 25.4**	**+0.5**
	2.6nm,0.8s,baz=28,slow=7.4,SNR=21						
ZALV	**Zalesovo Beam**	**55.18**	**323**	P	**P**	**22 12 35.5**	**-1.2**
	0.7nm,0.5s,baz=50,slow=9.6,SNR=2.9						
NOA	**NORSAR Array B**	**55.27**	**10**	P	**P**	**22 12 38.5**	**+1.1**
	1.0nm,0.9s,baz=351,slow=6.9,SNR=3.2						
FINES	**FINESS Array B**	**55.55**	**2**	P	**P**	**22 12 40.8**	**+1.5**
	2.0nm,0.6s,baz=355,slow=7.0,SNR=9.1						
HHC	**Hu-ho-hao-te**	**57.39**	**297**	*e*P	**P**	**22 12 50.8**	**-2.0**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,240nm,8.2s						
MKAR	**Makanchi Array**	**62.34**	**321**	P	**P**	**22 13 25.0**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=50,slow=5.8,SNR=4.7						
GTA	**Gaotai**	**63.18**	**305**	*e*P	**P**	**22 13 32.5**	**0.0**
GTA				pP	pP	22 13 37.8	+3.2
GTA				sP	sP	22 13 40.8	+5.4
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				LR	LR		
	comp=N,330nm,18.7s						
GTA				LR	LR		
	comp=E,450nm,19.4s						
WMQ	**Urumqi**	**63.42**	**316**	*e*P	**P**	**22 13 34.3**	**+0.3**
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
WMQ				LR	LR		
	comp=N,1μm,22.7s						
WMQ				LR	LR		
	comp=E,440nm,22.7s						
WMQ				LR	LR		
	comp=Z,1μm,25.7s						
AKASG	**Malin Array Be**	**66.33**	**360**	P	**P**	**22 13 51.6**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=3.4,slow=6.8,SNR=3.6						
KSH	**Kashi**	**70.82**	**323**	P	**P**	**22 14 24.0**	**+2.9**
KSH				PcP	**PcP**	**22 14 44.3**	**+2.5**
KSH				S	**S**	**22 23 38.8**	**+2.6**
KSH				sS	sS	22 23 47.0	+7.3
KSH				ScS	**ScS**	**22 24 23.3**	**-1.7**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KSH				pmax	pmax		
	comp=Z,650nm,6.7s						
KSH				LR	LR		
	comp=N,110nm,7.8s						
KSH				LR	LR		
	comp=E,91nm,8.6s						
KSH				LR	LR		
	comp=Z,350nm,8.8s						
ESDC	**Sonseca Array**	**74.11**	**26**	P	**P**	**22 14 42.1**	**+1.5**
	comp=Z,0.8nm,0.7s,baz=339,slow=5.6,SNR=3.6						
BRTR	**Keskin Array B**	**77.23**	**356**	P	**P**	**22 14 58.8**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=5.7,slow=5.8,SNR=2.5						
CMAR	**Chiang Mai Arr**	**82.18**	**296**	P	**P**	**22 15 24.6**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=8.9,slow=6.4,SNR=4.2						

*ISCJB **20** 22:12:20.2±0.4, 3°.68S±0°.07×68°.44E±0°.07, h12km, mb4.3/30, MS4.3/5, Error ellipse: s-maj=10.7km s-min=9.0km az=35.3*

*IDC **20** 22:12:20.5±0.7, 3°.66S×68°.51E, h0km, mb4.0/14, mb1 4.1/15, mb1mx3.9/53, mbtmp4.0/15, ML4.1/1, MS4.3/5, Ms1 4.3/5, ms1mx3.7/38, Error ellipse: s-maj=20.2km s-min=17.9km az=157.0*

*NEIC **20** 22:12:21.7±0.3, 3°.71S×68°.43E, h10km, mb4.6/19, Error ellipse: s-maj=8.1km s-min=7.3km az=209.0*

*BJI **20** 22:12:22.0, 3°.60S×68°.80E, h7km, mb4.3/10, mB4.8/5, Ms4.8/2, Ms7 4.4/3*

ISC 20 22:12:22.2±0.6, **3.72S**±0°.10×**68°.47E**±0°.09, **h12**km, **n66**, σ1§**10**/60, **mb4.4**/30, **MS4.3**/5, **Chagos Archipelago region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**3.61**	**136**	T	T	22 17 02.2	
	baz=316,slow=75						
H08N3	**Diego Garcia H**	**3.62**	**136**	T	T	22 17 04.3	
	baz=316,slow=75						
H08N1	**Diego Garcia H**	**3.63**	**136**	T	T	22 16 58.6	
	baz=316,slow=75						
DGAR	**Diego Garcia**	**5.40**	**133**	*e*Pn	**Pn**	**22 13 43.1**	**+0.5**
H08S3	**Diego Garcia H**	**5.57**	**134**	T	T	22 19 48.8	
	baz=309,slow=75						
H08S1	**Diego Garcia H**	**5.57**	**135**	T	T	22 19 40.4	
	baz=309,slow=75						
H08S2	**Diego Garcia H**	**5.59**	**134**	T	T	22 19 31.6	
	baz=309,slow=75						
PALK	**Pallekele**	**16.38**	**48**	Pn	**Pn**	**22 16 12.4**	**+0.2**
	0.7nm,0.3s,baz=321,slow=0.6,SNR=5.2						
PALK	**Pallekele**	**16.38**	**48**	*e*Pn	**Pn**	**22 16 12.4**	**+0.2**
	10nm,0.9s						
PSI	**Prapat**	**31.11**	**78**	LR	LR	22 29 45.5	
	comp=Z,821nm,19.2s,baz=269,slow=34						
CM01	**Chiang Mai Arr**	**37.23**	**53**	*e*P	**P**	**22 19 33.9**	**0.0**
CM31	**Chiang Mai Arr**	**37.24**	**53**	*e*P	**P**	**22 19 35.0**	**+1.0**
CM31				*e*PcP	**PcP**	**22 21 53.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**37.24**	**53**	P	**P**	**22 19 35.0**	**+1.0**
	0.3nm,0.6s,baz=244,slow=9.9,SNR=4.7						
CMAR				PcP	**PcP**	**22 21 53.3**	**-0.5**
	1.1nm,0.9s,baz=240,slow=4.8,

PNIG	Pinotepa	0.41	86	*i* P	Pb	22 14 13.1	+0.2				
PNIG				*i* S	Sb	22 14 18.9	+0.3				
ACP2	Acapulco	1.38	292	*e*P	Pn	22 14 28.1	-0.3				
ACP2				*e*S	Sn	22 14 45.5	-0.6				
CAIG	El Cayaco	1.78	293	*e*P	Pn	22 14 33.4	-0.6				
CAIG				*e*S	Sn	22 14 55.7	-0.2				
CAIG	El Cayaco	1.78	293	*e*P	Pn	22 14 33.2	-0.7				
CAIG				*i* S	Sn	22 14 55.5	-0.5				
MEIG	Mezcala	1.86	327	*e*P	Pn	22 14 35.0	-0.1				
MEIG				*e*S	Sn	22 14 58.4	+0.3				
MEIG	Mezcala	1.86	327	*e*P	Pn	22 14 35.0	-0.1				
MEIG				*e*S	Sn	22 14 58.4	+0.3				
VHO	Vista Hermosa	1.88	68	*e*P	Pn	22 14 35.3	-0.3				
VHO				*e*S	Sn	22 14 57.6	-1.2				
VHO	Vista Hermosa	1.88	68	*e*P	Pn	22 14 35.3	-0.3				
VHO				*e*S	Sn	22 14 57.6	-1.2				
OXBJ	Oaxaca	1.89	68	*e*P	Pn	22 14 35.1	-0.6				
OXBJ				*e*S	Sn	22 14 58.0	-0.9				
PLIG	Platanillo	2.21	336	*e*P	Pn	22 14 40.3	+0.3				
PLIG				*e*S	Sn	22 15 07.0	+0.2				
PLIG	Platanillo	2.21	336	*e*P	Pn	22 14 40.3	+0.3				
PLIG				*e*S	Sn	22 15 07.0	+0.2				
HUIG	Huatulco	2.42	104	*e*P	Pn	22 14 41.9	-1.0				
HUIG				*e*S	Sn	22 15 11.7	-0.3				
HUIG	Huatulco	2.42	104	*e*P	Pn	22 14 41.9	-1.0				
HUIG				*i* S	Sn	22 15 10.6	-1.4				
UNM	Universidad Na	3.01	349	*e*Pn	Pb	22 14 54.8	-2.6				
UNM				*e*Sn	Sn	22 15 25.0	-1.7				
CMIG	Matias Romero	3.59	78	Pn	Pn	22 14 58.0	-0.9				
	20nm,0.3s,baz=258,slow=13,SNR=276										
CMIG				Pg	Pb	22 15 07.8	+0.6				
	18nm,0.3s,baz=265,slow=16,SNR=27										
CMIG				Lg	Lg	22 15 54.4					
	91nm,0.3s,baz=349,slow=19,SNR=12										
MOIG	Morelia	4.14	323	*e*Pn	Pb	22 15 13.5	-3.2				
MOIG				*e*Sn	Sn	22 15 55.3	+0.6				
JRQG	Juriquilla Cam	4.67	338	*e*Pn	Pn	22 15 19.7	+5.7				
JRQG				*e*Sn	Sn	22 16 09.3	+1.4				
CCIG	Comitan	6.16	90	*e*Pn	Pn	22 15 35.1	+0.7				
CCIG				*e*Sn	Sn	22 16 39.1	-5.3				
APG	El Apazote	7.91	99	Pn	Pn	22 15 58.1	-0.3				
	2.6nm,0.3s,baz=164,slow=16,SNR=19										
APG				Sn	Sn	22 17 26.3	-1.2				
	1.8nm,0.3s,baz=305,slow=18,SNR=3.0										
APG				Lg	Lg	22 18 12.1					
	2.7nm,0.3s,baz=3.4,slow=17,SNR=2.4										
TEIG	Tepich	10.49	67	*e*Pn	Pn	22 16 32.0	-1.7				
TEIG				*e*Sn	Sn	22 18 16.0	-15				
TX31	Lajitas Ar. Si	13.74	341	*e*Pn	Pn	22 17 19.6	+1.4				
TXAR	Lajitas Array	13.74	341	Pn	Pn	22 17 20.1	+2.0				
	0.0nm,0.3s,baz=162,slow=15,SNR=4.3										
TXAR				Lg	Lg	22 21 14.3					
	0.0nm,0.3s,baz=161,slow=34,SNR=2.9										
JCT	Junction City	14.10	356	*e*Pn	Pn	22 17 21.8	-1.2				
JCT	Junction City	14.10	356	P	Pn	22 17 24.8	+1.7				
	baz=175										
435B	Jarrell	14.38	3	*e*Pn	Pn	22 17 28.8	+1.9				
435B	Jarrell	14.38	3	P	Pn	22 17 28.0	+1.1				
	baz=184										
JTS	JuntasAbangare	14.54	113	Pn	P	22 17 33.6	-2.0				
	5.1nm,0.3s,baz=25,slow=11,SNR=16										
WHTX	Lake Whitney,	15.59	3	*e*Pn	Pn	22 17 41.7	-1.3				
	13nm,0.8s										
WHTX	Lake Whitney,	15.59	3	P	Pn	22 17 44.4	+1.4				
	baz=184,SNR=6.0										
ABTX	Abilene, Hawle	16.22	357	*e*Pn	Pn	22 17 51.6	+0.5				
ABTX	Abilene, Hawle	16.22	357	P	P	22 17 54.7	+0.6				
	baz=176,SNR=8.8										
MNTX	Cornudas Mount	16.48	339	*e*Pn	P	22 17 55.8	-1.2				
	6.0nm,1.3s										
MNTX	Cornudas Mount	16.48	339	P	Pn	22 17 55.6	+1.1				
	baz=156										
244A	Avery, Jackson	17.17	23	P	Pn	22 18 03.0	-0.1				
	baz=206										
MSTX	Muleshoe	17.94	349	*e*Pn	P	22 18 13.2	0.0				
	7.3nm,0.9s										
MSTX				*ep*P	sP	22 18 22.8	+1.1				
MSTX	Muleshoe	17.94	349	P	P	22 18 13.3	0.0				
	baz=167										
121A	Cookes Peak, D	18.14	334	P	P	22 18 17.1	+1.6				
	baz=150										
Y41A	Eaglette Beard	18.25	16	P	Pn	22 18 15.3	-1.1				
	baz=198										
WMOK	Wichita Mounta	18.30	359	*e*Pn	Pn	22 18 13.9	-3.2				
	1.8nm,0.8s										
WMOK	Wichita Mounta	18.30	359	P	Pn	22 18 16.7	-0.4				
	baz=179										
248A	Dixon Mills	18.48	30	P	P	22 18 17.6	-1.5				
	baz=214										
MIAR	Mount Ida	18.65	13	*e*Pn	P	22 18 19.9	-1.1				
	10nm,1.2s										
MIAR	Mount Ida	18.65	13	P	P	22 18 19.9	-1.1				
	baz=195										
AMTX	Amarillo	18.66	352	*e*P	P	22 18 20.9	-0.2				
	21nm,1.4s										
AMTX	Amarillo	18.66	352	P	Pn	22 18 21.5	0.0				
	baz=170										
X40A	Basin Creek Fa	18.76	15	P	P	22 18 20.9	-1.3				
	baz=197										
Z46A	Louisville	18.87	26	P	P	22 18 22.4	-1.0				
	baz=210										
250A	Grady	19.14	33	P	P	22 18 24.6	-1.7				
	baz=218										
Y45A	Yeager Farm, C	19.22	23	P	P	22 18 26.7	-0.6				
	baz=207										
W39A	Magazine	19.23	12	P	P	22 18 27.7	+0.3				
	baz=194										
149A	Jones	19.36	31	P	P	22 18 27.1	-1.6				
	baz=216										
TUC	Tucson	19.37	327	*e*P	Pn	22 18 32.4	+2.3				
	4.7nm,1.3s										
TUC	Tucson	19.37	327	P	Pn	22 18 31.2	+1.1				
	baz=142										
Y46A	Houston	19.51	25	P	P	22 18 29.5	-0.8				
	baz=209										
LRAL	Lakeview Retre	19.61	30	P	P	22 18 30.6	-0.9				
	baz=215										
TUL1	Leonard	19.62	7	*e*P	P	22 18 31.2	-0.4				
	19nm,1.4s										
TUL1	Leonard	19.62	7	P	P	22 18 30.5	-1.1				
	baz=188										
ANMO	Albuquerque	19.81	341	P	Pn	22 18 35.5	0.0				
	0.4nm,0.3s,baz=155,slow=12,SNR=15										
ANMO	Albuquerque	19.81	341	*e*P	Pn	22 18 35.9	+0.4				
	5.7nm,1.1s										
ANMO	Albuquerque	19.81	341	P	Pn	22 18 35.4	-0.1				
	baz=157										
V41A	Mountainview	20.17	15	P	P	22 18 37.2	-0.4				
	baz=198										
TIGA	Tifton	20.27	40	P	P	22 18 37.6	-1.1				
	baz=225										
X47A	Russelville	20.47	26	P	P	22 18 39.9	-1.0				
	baz=210										
152A	Waverly Hall	20.50	35	P	P	22 18 40.1	-1.1				
	baz=221										
U40A	Yellville	20.55	13	P	P	22 18 41.2	-0.5				
	baz=196,SNR=5.1										
Y49A	Blount Mountai	20.57	30	P	P	22 18 41.0	-0.9				
	baz=215										
U41A	Viola	20.76	15	P	P	22 18 43.0	-0.9				
	baz=198										
X18A	Snowflake	20.78	333	*e*P	Pn	22 18 45.9	-1.0				
	20nm,1.4s										
U42A	Revenden	20.94	17	P	P	22 18 45.0	-1.0				
	baz=200										
Y51A	Rockmart	21.27	32	P	P	22 18 47.2	-2.3				
	baz=218										
T25A	Trinidad	21.33	347	*e*P	P	22 18 52.8	+2.4				
	14nm,1.0s										
T25A	Trinidad	21.33	347	P	P	22 18 52.0	+1.6				
	baz=164,SNR=6.5										
X16A	Lo Mia Camp, P	21.38	330	*e*P	P	22 18 53.8	+2.9				
	8.6nm,0.8s										
X50B	Fort Payne	21.42	30	P	P	22 18 49.3	-1.8				
	baz=216										
V46A	Holladay	21.48	24	P	P	22 18 51.1	-0.6				
	baz=208										
T42A	Van Buren	21.62	16	*e*P	P	22 18 56.5	+3.3				
	5.5nm,0.8s										
T42A	Van Buren	21.62	16	P	P	22 18 53.1	-0.1				
	baz=200										
V47A	Nunnelly	21.74	25	P	P	22 18 54.0	-0.5				
	baz=210										
Y52A	Lilburn	21.77	34	P	P	22 18 53.8	-1.0				
	baz=220										
Y14A	Wickenburg	21.80	326	*e*P	P	22 18 58.4	+3.1				
	7.4nm,0.8s										
WVT	Waverly	21.88	24	*e*P	P	22 18 54.3	-1.7				
	6.2nm,0.8s										
WVT	Waverly	21.88	24	P	P	22 18 55.9	-0.1				
	baz=208										
S41A	Jillco Farms,	21.98	15	P	P	22 18 56.6	-0.5				
	baz=198										
Y53A	Monroe	22.02	35	P	P	22 18 56.7	-0.9				
	baz=221										
SDCO	Great Sand Dun	22.16	345	*e*P	P	22 19 01.1	+1.7				
	4.7nm,1.3s										
SDCO	Great Sand Dun	22.16	345	P	P	22 19 00.7	+1.3				
	baz=162,SNR=6.6										
W50A	Signal Mountai	22.18	30	P	P	22 18 59.0	-0.4				
	baz=215										
WUAZ	Wupatki	22.25	331	*e*P	P	22 19 03.2	+3.1				
	15nm,1.1s										
WUAZ	Wupatki	22.25	331	P	P	22 19 03.3	+3.1				
	baz=146,SNR=9.9										
U47A	Clarksville	22.36	24	P	P	22 18 59.1	-2.1				
	baz=209										
V49A	McMinnville	22.38	28	P	P	22 19 00.7	-0.7				
	baz=213										
CBKS	Cedar Bluff	22.39	358	P	P	22 19 02.9	+1.4				
	baz=177										
S42A	Caledonia	22.40	16	P	P	22 19 01.6	+0.1				
	baz=200,SNR=7.2										
S43A	Fulton Ridge,	22.41	18	P	P	22 19 01.8	+0.1				
	baz=202										
S22A	4UR Ranch, Cre	22.52	343	*e*P	P	22 19 04.7	+1.5				
	4.1nm,0.8s										
S22A	4UR Ranch, Cre	22.52	343	P	P	22 19 04.1	+0.9				
	baz=159,SNR=6.5										
Y54A	Tignall	22.53	36	P	P	22 19 01.9	-1.1				
	baz=223										
CCM	Cathedral Cave	22.55	15	P	P	22 19 03.6	+0.5				
	baz=198										
MVCO	Mesa Verde	22.55	339	*e*P	P	22 19 05.0	+1.5				
	14nm,1.1s										
MVCO	Mesa Verde	22.55	339	P	P	22 19 04.8	+1.3				
	baz=154										
X53A	Estanollee	22.66	34	P	P	22 19 02.3	-2.1				
	baz=221										
V50A	Pikeville	22.67	29	P	P	22 19 04.0	-0.5				
	baz=215										
PDMCI	Parker Dam,Lak	22.70	325	P	P	22 19 07.3	+2.5				
	baz=138										
IKP	In-Ko-Pah, Jac	22.71	319	P	P	22 19 06.6	+1.6				
	baz=132										
U48A	Cassie Pea, Po	22.73	26	P	P	22 19 04.3	-0.8				
	baz=211										
R41A	Rosebud	22.74	15	P	P	22 19 06.1	+0.8				
	baz=198										
S44A	Candidale	22.78	19	P	P	22 19 04.8	-0.8				
	baz=203										
W52A	Murphy	22.79	32	P	P	22 19 04.5	-1.3				
	baz=218										
KSCO	Kaye Shedlock'	22.84	352	*e*P	P	22 19 07.2	+0.8				
	10nm,0.8s										
KSCO	Kaye Shedlock'	22.84	352	P	P	22 19 06.0	-0.4				
	baz=170										
R42A	Luebbering	22.88	16	P	P	22 19 06.0	-0.6				
	baz=199										
S45A	Carrier Mills	22.98	21	P	P	22 19 07.8	+0.1				
	baz=205										
U49A	Red Boiling Sp	23.05	27	P	P	22 19 07.1	-1.4				
	baz=213										
MONP2	Monument Peak	23.06	319	P	P	22 19 11.2	+2.3				
	baz=131										
V51A	Loudon	23.13	31	P	P	22 19 07.6	-1.7				
	baz=217										
IRM	Iron Mountain	23.16	323	P	P	22 19 11.6	+2.0				
	baz=136										
T48A	Bowling Green	23.30	25	P	P	22 19 09.5	-1.5				
	baz=210										
Q41A	Truxton	23.40	14	P	P	22 19 11.0	-0.9				
	baz=198										
PV01	Paradox Valley	23.41	340	*e*P	P	22 19 14.7	+2.4				
U15A	North Rim	23.42	331	*e*P	P	22 19 15.2	+2.7				
	12nm,1.4s										
Q42A	Golden Eagle	23.54	16	P	P	22 19 12.8	-0.5				
	baz=199										
PV12	Saucer Basin,	23.65	340	*e*P	P	22 19 16.7	+2.0				
	13nm,1.2s										
SMCO	Snowmass	23.89	344	*e*P	P	22 19 19.5	+2.3				
	7.0nm,1.0s										
Q44A	Meyer Farm, Va	23.96	19	P	P	22 19 16.8	-0.5				
	baz=203										
TZTN	Tazewell	24.11	31	P	P	22 19 18.6	-0.2				
	baz=217										
P41A	Barry, Barry	24.13	14	P	P	22 19 18.1	-0.8				
	baz=196										
KNB	Kanab	24.14	331	*e*P	P	22 19 23.0	+3.7				
	16nm,1.5s										
ISCO	Idaho Springs	24.15	347	*e*P	P	22 19 21.2	+1.7				
	5.0nm,0.9s										
ISCO	Idaho Springs	24.15	347	P	P	22 19 20.5	+1.1				
	baz=163,SNR=8.5										
P42A	Winchester	24.22	16	P	P	22 19 18.0	-1.7				
	baz=199										
PKCU	Pink Cliffs	24.26	333	*e*P	P	22 19 23.7	+3.2				
	20nm,1.4s										
R47A	Wooly Knot Far	24.27	24	P	P	22 19 18.8	-1.4				
	baz=209										
WCI	Wyandotte Cave	24.31	24	P	P	22 19 19.4	-1.2				
	baz=210										
O41A	Passleys Farm,	24.59	14	P	P	22 19 23.2	0.0				
	baz=198										
S50A	Richmond	24.63	28	P	P	22 19 23.0	-0.5				
	baz=214										
OGNE	Ogallala	24.68	354	P	P	22 19 24.8	+0.7				
	baz=172										
MTPU	Mount Pierson	24.71	334	*e*P	P	22 19 27.8	+3.1				
	12nm,0.8s										
Q47A	Bedord North L	24.87	23	P	P	22 19 24.3	-1.4				
	baz=208										
SHPR	Sheep Range	24.90	327	*e*P	P	22 19 30.4	+4.2				
	3.4nm,1.1s										
SRU	San Rafael Swe	24.97	338	*e*P	P	22 19 29.6	+2.8				
	7.3nm,1.0s										
Q16A	Castle Valley	25.04	336	*e*P	P	22 19 29.8	+2.4				
	8.8nm,0.7s										
MSU	Marysvale	25.10	334	*e*P	P	22 19 31.9	+3.9				
Q48A	North Vernon	25.13	24	P	P	22 19 27.2	-0.8				
	baz=210										
O20A	White River Ci	25.14	342	*e*P	P	22 19 31.1	+2.8				
	6.6nm,1.0s										
O20A	White River Ci	25.14	342	P	P	22 19 29.2	+0.9				
	baz=158										
S52A	Salyersville	25.24	30	P	P	22 19 28.6	-0.5				
	baz=217										
N23A	Red Feather La	25.27	347	*e*P	P	22 19 32.3	+2.7				
	16nm,1.4s										
N23A	Red Feather La	25.27	347	P	P	22 19 30.3	+0.7				
	baz=163,SNR=5.4										
EDW2	Edwards Air Fo	25.36	320	P	P	22 19 33.4	+3.2				
	13nm,1.2s										
TMUT	Trail Mountain	25.39	337	*e*P	P	22 19 33.4	+2.7				
	4.2nm,0.7s										
N42A	Yates City	25.47	15	P	P	22 19 31.5	+0.4				
	baz=199										
R51A	Hillsboro	25.51	28	P	P	22 19 30.8	-0.7				
	baz=215										
Q49A	Aurora	25.53	25	P	P	22 19 31.3	-0.4				
	baz=212										
LRMC	Laurel Mtn Rad	25.57	322	P	P	22 19 34.8	+2.6				
	baz=133										
Q50A	Georgetown	25.78	27	P	P	22 19 34.0	0.0				
	baz=214										
TPNV	Topopah Spring	25.81	326	*e*P	P	22 19 39.4	+5.0				
	5.0nm,1.0s										
TPNV	Topopah Spring	25.81	326	P	P	22 19 38.0	+3.6				
	baz=138										
PSUT	Pine Spring	25.85	332	*e*P	P	22 19 38.8	+3.9				
	4.9nm,1.2s										
P49A	Miami Univ. Ec	26.05	25	P	P	22 19 35.4	-1.0				
	baz=211										
ISA	Isabella, Lake	26.17	321	P	P	22 19 39.9	+2.3				
	baz=132										
Q51A	Peebles	26.21	28	P	P	22 19 37.8	0.0				
	baz=215										
NLU	North Lily Min	26.29	336	*e*P	P	22 19 41.6	+2.8				
	6.6nm,1.3s										
R53A	Hurricane	26.30	30	P	P	22 19 38.9	+0.2				
	baz=218										
CWC	Cottonwood Cre	26.47	323	P	P	22 19 43.1	+2.7				
	baz=134										
O48A	Farmland	26.50	23	P	P	22 19 40.0	-0.4				
	baz=210										
PKM	Mcpherson Peak	26.50	318	P	P	22 19 43.6	+2.9				
	baz=129										
L41A	Preston	26.54	14	P	P	22 19 40.6	-0.2				
	baz=197										
Q52A	Bidwell	26.65	29	P	P	22 19 41.1	-0.7				
	baz=217										
P51A	Williamsport	26.71	27	P	P	22 19 40.9	-1.5				
	baz=215										
O49A	Covington	26.76	25	P	P	22 19 42.1	-0.8				
	baz=211										
DUG	Dugway, Tooele	26.79	335	P	P	22 19 46.0	+2.8				
	baz=148										
K39A	Oelwein	26.87	11	P	P	22 19 43.4	-0.3				
	baz=194										
K40A	Colesburg	27.00	12	P	P	22 19 44.7	-0.2				
	baz=196										
N48A	Decatur	27.07	23	P	P	22 19 44.5	-1.1				
	baz=209										
K42A	Prairie Point,	27.48	15	P	P	22 19 49.0	-0.2				
	baz=199										
J39A	Decorah	27.51	11	P	P	22 19 48.8	-0.6				
	baz=194										
BW06	Boulder Array	27.95	343	P	P	22 19 53.9	+0.2				
	baz=157										
PDAR	Pinedale Array	27.95	343	P	P	22 19 54.8	+1.1				
	0.9nm,0.7s,baz=137,slow=11,SNR=8.8										
PDAR				LR	LR	22 31 13.5					
	comp=Z,130nm,22.0s,baz=143,slow=37										
PDAR	Pinedale Array	27.95	343	*e*P	P	22 19 55.2	+1.5				
NV01	Mina Array Sit	28.00	326	*e*P	P	22 19 56.9	+2.7				
NVAR	Mina Array Bea	28.00	326	P	P	22 19 56.6	+2.4				
	2.3nm,1.0s,baz=148,slow=8.6,SNR=12										
HVU	Hansel Valley	28.13	337	*e*P	P	22 19 57.6	+2.3				
	2.6nm,0.9s										
SDV	Santo Domingo	28.21	102	P	P	22 19 56.6	+0.3				
	1.3nm,0.5s,baz=330,slow=14,SNR=2.7										
ELK	Elko	28.27	333	P	P	22 19 58.2	+1.6				
	0.3nm,0.3s,baz=100,slow=1.8,SNR=3.1										
LOHW	Long Hollow	29.03	342	*e*P	P	22 20 05.2	+1.9				
	2.1nm,0.8s										
G39A	Holcombe	29.50	11	P	P	22 20 07.0	-0.1				
	baz=194										
I45A	Fountain	29.50	18	P	P	22 20 07.1	0.0				
	baz=204										
RLMT	Red Lodge	30.05	345	*e*P	P	22 20 15.0	+2.6				
	1.8nm,0.8s										
RLMT	Red Lodge	30.05	345	P	P	22 20 13.2	+0.8				
	baz=159										
J08A	Circle Bar Ran	31.80	332	*e*P	P	22 20 30.2	+2.6				
	5.0nm,0.9s										
F10A	Beach Ranch, E	33.39	336	*e*P	P	22 20 43.2	+1.7				
	5.5nm,1.1s										
G08A	Pilot Rock	33.54	334	*e*P	P	22 20 45.0	+2.0				
	2.6nm,0.8s										
H04A	Detroit Lake	34.55	330	*e*P	P	22 20 53.4	+1.8				
	5.5nm,0.9s										
D03D	Eldon	37.09	332	P	P	22 21 15.0	+1.7				
	baz=139										
YKA	Yellowknife Ar	47.44	350	P	P	22 22 36.5	-0.8				
	1.0nm,0.9s,baz=157,slow=7.3,SNR=8.0										
ILAR	Eielson Array	58.23	338	P	P	22 23 56.4	-0.6				
	0.5nm,0.9s,baz=148,slow=4.9,SNR=5.3										

ISCJB ***20*** *22:15:13.6±0.4,3˚.61S±0˚.07×68˚.49E±0˚.06,h12km, mb4.3/32,MS4.0/6,Error ellipse: s-maj=9.7km s-min=8.9km az=33.8*

IDC ***20*** *22:15:13.5±0.6,3˚.58S×68˚.50E,h0km,mb4.1/19, mb1 4.1/20,mb1mx4.0/54,mbtmp4.1/20,ML4.0/1,MS4.0/6, Ms1 4.0/6,ms1mx3.7/36,Error ellipse: s-maj=19.3km s-min=15.7km az=159.0*

NEIC ***20*** *22:15:15.5±0.3,3˚.62S×68˚.49E,h10km,mb4.8/17,Error ellipse: s-maj=8.6km s-min=7.7km az=218.0*

GCMT ***20*** *22:15:17.5±0.3,3˚.72S±0˚.02×68˚.60E±0˚.03,h12km, MW5.0/90,Moment Tensor Solution. s33,c38; s90,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.21±.11; $M_{\theta\theta}$2.01±.11; $M_{\phi\phi}$1.20±.12; $M_{r\theta}$0.55±.36; $M_{\theta\phi}$-1.83±.09; $M_{\phi r}$-1.87±.41; Best double couple: M≥3.87800×10^{16} NP1:ϕ_s325.00000˚,δ60.00000˚,λ-72.00000˚. NP2: ϕ_s112.00000˚,δ34.00000˚,λ-118.00000˚. Principal axes: T 3.8570, Plg13.0000˚, Azm42.0000˚; N 0.0420, Plg15.0000˚, Azm136.0000˚; P -3.8990, Plg69.0000˚, Azm274.0000˚; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 22:15:15.7±0.5,3.66S±0˚.10×68˚.49E±0˚.09,h12km,n82, σ1§16/79,mb4.4/31,MS4.0/6,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	3.64	137	T	T	22 19 51.6	
	baz=316,slow=75						
H08N3	Diego Garcia H	3.65	137	T	T	22 19 54.9	
	baz=316,slow=75						
H08N1	Diego Carcia H	3.67	137	T	T	22 19 58.3	
	baz=316,slow=75						
DGAR	Diego Garcia	5.43	134	*e*Pn	Pn	22 16 36.5	0.0
PALK	Pallekele	16.32	48	Pn	Pn	22

AKASG	**Malin Array Be**	**63.74**	**333**	P	**P**	**22 25 45.9**	**-1.4**
	0.3nm,0.5s,baz=125,slow=5.9,SNR=4.8							
AKBB	**Malin Array Si**	**63.74**	**333**	*e*P	**P**	**22 25 45.9**	**-1.4**
	8.6nm,1.4s							
JOW	**Kunigami**	**65.14**	**58**	LR	LR	22 54 21.0		
	comp=Z,221nm,18.9s,baz=303,slow=36							
ASAR	**Alice Springs**	**66.05**	**114**	P	**P**	**22 26 02.5**	**-0.5**
	1.3nm,0.8s,baz=287,slow=6.4,SNR=6.7							
AS31	**Alice Springs**	**66.05**	**114**	*e*P	**P**	**22 26 02.5**	**-0.5**
	2.0nm,1.3s							
WR1	**Warramunga Arr**	**66.07**	**110**	*e*P	**P**	**22 26 02.6**	**-0.6**
	17nm,1.1s							
WRA	**Warramunga Arr**	**66.07**	**110**	P	**P**	**22 26 02.6**	**-0.6**
	2.4nm,0.8s,baz=285,slow=6.2,SNR=9.1							
WB2	**Warramunga Arr**	**66.08**	**110**	*e*P	**P**	**22 26 04.5**	**+1.3**
TORD	**Torodi Ar. Bea**	**68.36**	**286**	P	**P**	**22 26 17.4**	**-0.4**
	1.2nm,1.1s,baz=84,slow=2.6,SNR=5.0							
TOA1	**Torodi Ar. Sit**	**68.37**	**286**	*e*P	**P**	**22 26 17.4**	**-0.4**
FIA0	**FINESS Array S**	**72.63**	**340**	*e*P	**P**	**22 26 41.7**	**-1.2**
FINES	**FINESS Array B**	**72.63**	**340**	P	**P**	**22 26 41.7**	**-1.2**
	0.9nm,0.8s,baz=240,slow=35,SNR=2.6							
FINES				LR	LR	23 01 20.6		
	comp=Z,82nm,18.9s,baz=54,slow=38							
DBIC	**Dimbokro**	**73.93**	**278**	P	**P**	**22 26 51.1**	**-0.4**
	2.5nm,0.8s,baz=105,slow=2.1,SNR=4.7							
DBIC	**Dimbokro**	**73.93**	**278**	*e*P	**P**	**22 26 51.1**	**-0.4**
	12nm,1.3s							
MAJO	**Matsushiro**	**76.05**	**51**	*e*P	**P**	**22 27 02.8**	**-0.6**
MJAR	**Matsushiro Arr**	**76.05**	**51**	P	**P**	**22 27 02.8**	**-0.6**
	0.8nm,0.4s,baz=257,slow=4.0,SNR=4.3							
HFS	**Hagfors**	**76.52**	**335**	P	**P**	**22 27 04.2**	**-1.3**
	7.7nm,1.0s,baz=120,slow=8.5,SNR=6.4							
NOA	**NORSAR Array B**	**78.04**	**335**	LR	LR	23 04 23.2		
	comp=Z,62nm,18.3s,baz=100,slow=38							
ES19	**SONSECA Array**	**78.89**	**311**	*e*P	**P**	**22 27 20.7**	**+1.4**
ESDC	**Sonseca Array**	**78.94**	**311**	P	**P**	**22 27 19.5**	**0.0**
	1.8nm,0.8s,baz=87,slow=4.5,SNR=4.4							
TIXI	**Tiksi**	**84.48**	**16**	*e*P	**P**	**22 27 47.2**	**-0.7**
	13nm,1.3s							
THZ	**Tophouse**	**98.27**	**133**	*e*P	Pdif	22 28 53.8	+0.2	
	19nm,1.0s							
YKA	**Yellowknife Ar**	**121.25**	**2**	PKP	**PKPdf**	**22 34 08.4**	**-0.1**
	0.2nm,0.6s,baz=347,slow=2.5,SNR=4.0							
YKB5	**Yellowknife Ar**	**121.25**	**2**	*e*PKPdf	**PKPdf**	**22 34 08.4**	**-0.1**
PD31	**Pinedale Array**	**141.02**	**358**	*e*PKPdf	**PKPdf**	**22 34 45.0**	**-1.6**
PDAR	**Pinedale Array**	**141.02**	**358**	PKP	**PKPdf**	**22 34 45.0**	**-1.6**
	0.2nm,0.5s,baz=5.4,slow=1.9,SNR=2.9							
NV01	**Mina Array Sit**	**144.84**	**9**	*e*PKPdf	**PKPdf**	**22 34 52.9**	**-0.6**
NVAR	**Mina Array Bea**	**144.84**	**9**	PKP	**PKPdf**	**22 34 52.7**	**-0.8**
	0.9nm,0.6s,baz=354,slow=2.5,SNR=8.4							
Q16A	**Castle Valley**	**144.90**	**360**	*e*PKPdf	**PKPdf**	**22 34 54.0**	**+0.5**
MIAR	**Mount Ida**	**145.04**	**334**	*e*PKPbc	**PKPdf**	**22 34 53.5**	**-0.1**
PSUT	**Pine Spring**	**145.22**	**3**	*e*PKPbc	**PKPdf**	**22 34 54.9**	**+0.8**
R11A	**Troy Canyon, C**	**145.27**	**6**	*e*PKPbc	**PKPdf**	**22 34 54.8**	**+0.6**
MSU	**Marysvale**	**145.30**	**1**	*e*PKPbc	**PKPdf**	**22 34 55.6**	**+1.3**
PV12	**Saucer Basin,**	**145.41**	**356**	*e*PKPbc	**PKPdf**	**22 34 55.1**	**+0.6**
PV11	**David Mesa, Pa**	**145.44**	**356**	*e*PKPbc	**PKPab**	**22 34 55.7**	**+1.1**
PV17	**East Wray Mesa**	**145.46**	**356**	*e*PKPdf	**PKPab**	**22 34 55.7**	**+1.0**
PV02	**Paradox Valley**	**145.52**	**356**	*e*PKPdf	**PKPab**	**22 34 55.9**	**+1.0**
PV13	**Radium Mtn., P**	**145.57**	**356**	*e*PKPdf	**PKPab**	**22 34 55.5**	**+0.4**
SDCO	**Great Sand Dun**	**145.63**	**352**	*e*PKPdf	**PKPab**	**22 34 55.5**	**+0.2**
MTPU	**Mount Pierson**	**145.77**	**1**	*e*PKPdf	**PKPab**	**22 34 57.8**	**+1.8**
S22A	**4UR Ranch, Cre**	**145.80**	**353**	*e*PKPdf	**PKPab**	**22 34 57.1**	**+1.1**
U15A	**North Rim**	**147.38**	**1**	*e*PKPbc	**PKPab**	**22 35 01.4**	**-0.8**
TUC	**Tucson**	**151.49**	**359**	*e*PKPbc	**PKPbc**	**22 35 11.6**	**+1.2**
MNTX	**Cornudas Mount**	**151.51**	**349**	*e*PKPbc	**PKPbc**	**22 35 11.1**	**+0.6**
LTX	**Lajitas**	**153.40**	**345**	*e*PKPbc	**PKPbc**	**22 35 14.2**	**-0.6**
TXAR	**Lajitas Array**	**153.40**	**345**	PKPbc	**PKPbc**	**22 35 14.2**	**-0.6**
	0.8nm,0.7s,baz=188,slow=2.0,SNR=3.8							

IDC 20 22:22:14.0±1.9, 3.61°S×68.43°E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.4/44, mbtmp3.4/6, Error ellipse: s-maj=52.1km s-min=35.4km az=40.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**3.71**	**137**	T	T	22 26 51.2	
	baz=316,slow=75,SNR=32						
H08N3	**Diego Garcia H**	**3.72**	**137**	T	T	22 26 53.3	
	baz=316,slow=75,SNR=33						
H08N1	**Diego Garcia H**	**3.74**	**137**	T	T	22 26 51.0	
	baz=316,slow=75,SNR=34						
CMAR	**Chiang Mai Arr**	**37.21**	**53**	P	P	22 29 28.9	+1.6
	0.1nm,0.4s,baz=249,slow=7.5,SNR=3.7						
MKAR	**Makanchi Array**	**51.66**	**12**	P	P	22 31 22.8	+0.2
	0.1nm,0.5s,baz=192,slow=8.1,SNR=3.3						
BRTR	**Keskin Array B**	**53.68**	**327**	P	P	22 31 38.1	+0.2
	0.6nm,0.9s,baz=170,slow=8.8,SNR=4.1						
ZALV	**Zalesovo Beam**	**58.97**	**11**	P	P	22 32 13.7	-1.4
	0.4nm,0.4s,baz=175,slow=7.2,SNR=4.1						
SONM	**Songino Array**	**61.06**	**28**	P	P	22 32 28.9	-0.9
	0.4nm,0.8s,baz=223,slow=6.6,SNR=3.0						
WRA	**Warramunga Arr**	**66.14**	**110**	P	P	22 33 03.1	-0.7
	0.8nm,0.9s,baz=292,slow=5.4,SNR=3.2						
NVAR	**Mina Array Bea**	**144.81**	**9**	PKP	PKPdf	22 41 54.1	+0.3
	0.5nm,0.7s,baz=338,slow=3.2,SNR=4.7						
TXAR	**Lajitas Array**	**153.34**	**344**	PKPbc	PKiKP	22 42 15.6	+0.4
	0.4nm,0.9s,baz=90,slow=2.7,SNR=3.5						

*IDC **20** 22:23:38.1±1.1, 62.24°S×158.61°E, h0km, mb4.3/4, mb1 4.5/5, mb1mx4.2/25, mbtmp4.3/5, ML4.2/1, MS4.2/10, Ms1 4.2/10, ms1mx3.9/27, Error ellipse: s-maj=77.3km s-min=22.0km az=72.0*

*GCMT **20** 22:23:49.0±0.3, 62.46°S±0.02°×155.04°E±0.04°, h19km±1km, MW5.1/76, Moment Tensor Solution. s26,c27; s76,c111; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.83±.22; Mθθ=3.72±.17; Mϕϕ=2.88±.15; Mrθ=-2.37±.41; Mrϕ=-2.94±.15; Mθϕ=2.69±.46; Best double couple: M0=5.61000×10^16 NP1:ϕs=152.00000°, δ=88.00000°, λ=-39.00000°. NP2: ϕs=244.00000°, δ=51.00000°, λ=-177.00000°. Principal axes: T 6.3050, Plg=25.0000°, Azm=205.0000°; N -1.3820, Plg=51.0000°, Azm=329.0000°; P -4.9140, Plg=28.0000°, Azm=101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 20 22:23:39.4±1.0, 62.3°S±0.2°×158.6°E±0.5°, h10km, n22, σ1°20/11, mb4.3/4, MS4.2/9, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**15.33**	**177**	Pn	**Pn**	**22 27 14.2**	**-1.2**
	0.9nm,0.3s,baz=344,slow=12,SNR=20						
VNDA				Sn	Sn	22 29 53.2	-12
	0.1nm,0.3s,baz=246,slow=20,SNR=3.9						
VNDA				LR	LR	22 32 35.6	
	comp=Z,2μm,19.2s,baz=358,slow=35						
RPZ	**Rata Peaks**	**20.00**	**27**	LR	LR	22 35 12.2	
	comp=Z,1μm,18.1s,baz=186,slow=35						
URZ	**Urewera**	**26.62**	**34**	LR	LR	22 39 46.3	
	comp=Z,451nm,18.1s,baz=166,slow=36						
QSPA	**South Pole Qui**	**27.79**	**180**	P	**P**	**22 29 30.0**	**+1.8**
	2.2nm,0.7s,baz=36,slow=2.7,SNR=4.7						
QSPA				LR	LR	22 41 09.3	
	comp=Z,272nm,19.0s,baz=7.5,slow=38						
STKA	**Stephens Creek**	**32.34**	**332**	P	**P**	**22 30 08.8**	**+0.3**
	4.1nm,0.9s,baz=172,slow=11,SNR=6.4						
H01W1	**Cape Leeuwin H**	**38.94**	**294**	T	T	23 11 04.7	
	baz=148,slow=76						
H01W2	**Cape Leeuwin H**	**38.95**	**294**	T	T	23 11 05.2	
	baz=148,slow=76						
H01W3	**Cape Leeuwin H**	**38.96**	**294**	T	T	23 11 03.5	
	baz=148,slow=76						
ASAR	**Alice Springs**	**42.08**	**325**	P	**P**	**22 31 30.8**	**-0.4**
	6.4nm,1.0s,baz=166,slow=8.3,SNR=18						
ASAR				PcP	**PcP**	**22 33 27.4**	**+1.6**
	0.4nm,0.5s,baz=139,slow=3.5,SNR=4.0						
ASAR				LR	LR	22 46 12.8	
	comp=Z,368nm,21.9s,baz=320,slow=32						
CTA	**Charters Tower**	**43.03**	**343**	LR	LR	22 47 52.0	
	comp=Z,440nm,21.4s,baz=268,slow=34						
WRA	**Warramunga Arr**	**45.52**	**327**	P	**P**	**22 31 58.3**	**-0.6**
	3.1nm,0.7s,baz=162,slow=6.8,SNR=18						
WRA				PcP	**PcP**	**22 33 38.5**	**+1.0**
	0.9nm,0.8s,baz=162,slow=3.2,SNR=4.9						
WRA				LR	LR	22 48 15.1	
	comp=Z,196nm,19.8s,baz=80,slow=32						
FITZ	**Fitzroy Crossi**	**49.76**	**317**	LR	LR	22 52 09.0	
	comp=Z,214nm,18.1s,baz=258,slow=34						
PPT2	**Papeete2**	**57.25**	**63**	eLR	LR	22 34 35.7	
	comp=Z,428nm,25.2s						
H08S2	**Diego Garcia H**	**81.47**	**270**	T	T	00 04 12.2	
	baz=152,slow=76						
H08S1	**Diego Garcia H**	**81.47**	**270**	T	T	00 04 05.1	
	baz=152,slow=76						
H08S3	**Diego Garcia H**	**81.48**	**270**	T	T	00 04 20.8	
	baz=152,slow=76						
BOSA	**Boshof**	**81.99**	**220**	LR	LR	23 08 14.4	
	comp=Z,136nm,21.3s,baz=144,slow=33						
CMAR	**Chiang Mai Arr**	**93.10**	**305**	LR	LR	23 17 21.1	
	comp=Z,40nm,18.9s,baz=82,slow=35						
TXAR	**Lajitas Array**	**119.07**	**82**	PKP	**PKPdf**	**22 42 27.7**	**-0.1**
	0.6nm,1.0s,baz=64,slow=2.1,SNR=4.8						
ILAR	**Eielson Array**	**133.04**	**29**	PKP	**PKPdf**	**22 42 52.0**	**-1.2**
	0.6nm,1.1s,baz=278,slow=2.6,SNR=3.8						
YKA	**Yellowknife Ar**	**140.44**	**47**	PKP	**PKPdf**	**22 43 07.3**	**+0.4**
	0.4nm,0.7s,baz=224,slow=2.5,SNR=6.4						
AKASG	**Malin Array Be**	**150.55**	**270**	PKPbc	**PKPbc**	**22 43 29.0**	**-1.0**
	1.2nm,0.7s,baz=100,slow=2.3,SNR=9.1						

IDC 20 22:23:50.9±4.4, 4.37°S×66.74°E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.4/43, mbtmp3.6/5, Error ellipse: s-maj=115.5km s-min=40.2km az=64.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**39.01**	**53**	P	P	22 31 19.9	+0.4
	0.3nm,0.6s,baz=233,slow=8.7,SNR=1.9						
MKAR	**Makanchi Array**	**52.76**	**13**	P	P	22 33 07.8	+0.1
	0.2nm,0.6s,baz=191,slow=6.9,SNR=3.2						
ZALV	**Zalesovo Beam**	**60.04**	**12**	P	P	22 33 59.5	0.0
	1.1nm,0.7s,baz=200,slow=7.7,SNR=4.3						
SONM	**Songino Array**	**62.52**	**29**	P	P	22 34 16.0	-0.6
	0.5nm,0.7s,baz=217,slow=8.1,SNR=5.0						
WRA	**Warramunga Arr**	**67.47**	**110**	P	P	22 34 49.3	0.0
	1.0nm,0.8s,baz=284,slow=6.2,SNR=4.7						

*IDC **20** 22:29:36.9±3.0, 63.09°N×152.01°W, h0km, mb2.9/1, mb1 3.6/4, mb1mx3.2/45, mbtmp3.2/4, ML3.0/3, Error ellipse: s-maj=38.2km s-min=22.7km az=104.0*

*ISCJB **20** 22:29:38.8±0.7, 63.32°N±0.02°×151.35°W±0.05, h13km±5km, mb3.2/1, Error ellipse: s-maj=4.1km s-min=3.8km az=31.4*

*NEIC **20** 22:29:39.0±0.0, 63.31°N×151.34°W, h12km, ML3.3(AEIC), After AEIC.*

ISC 20 22:29:39.0±1.2, 63.31°N±0.03°×151.35°W±0.03, h8km±10km, n53, σ0°92/61, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAST	**Castle Rocks**	**0.35**	**289**	P	**Pg**	**22 29 46.2**	**+0.5**
CAST				S	**Sg**	**22 29 50.9**	**+0.6**
TRF	**Thorofare Moun**	**0.50**	**73**	P	**Pg**	**22 29 48.6**	**0.0**
TRF				S	**Sg**	**22 29 56.0**	**+0.7**
PPLA	**Purkeypile**	**0.56**	**223**	P	**Pg**	**22 29 49.3**	**-0.5**
CHUM	**Lake Minchumin**	**0.72**	**324**	P	**Pg**	**22 29 53.5**	**+0.7**
CHUM				S	**Sb**	**22 30 03.4**	**-0.3**
BPAW	**Bear Paw Mtn.**	**0.81**	**12**	P	**Pb**	**22 29 54.6**	**-0.7**
BPAW				S	**Sb**	**22 30 05.5**	**-1.0**
HUR	**Hurricane**	**0.85**	**112**	P	**Pn**	**22 29 54.4**	**-1.6**
RND	**Reindeer**	**1.13**	**84**	P	**Pn**	**22 29 59.5**	**-1.7**
RND				S	**Sn**	**22 30 14.5**	**-1.2**
MCK	**McKinley**	**1.16**	**68**	P	**Pn**	**22 30 00.2**	**-1.4**
BWN	**Browne**	**1.21**	**43**	P	**Pn**	**22 30 02.2**	**0.0**
NEA	**Nenana**	**1.62**	**37**	P	**Pn**	**22 30 06.5**	**-1.4**
MLY	**Manley**	**1.75**	**9**	P	**Pn**	**22 30 09.0**	**-0.7**
DHY	**Denali Highway**	**1.82**	**96**	P	**Pn**	**22 30 10.5**	**-0.2**
DHY				S	**Sn**	**22 30 35.0**	**+1.0**
WRH	**Wood River Hil**	**1.85**	**50**	P	**Pn**	**22 30 09.8**	**-1.3**
SUA	**Susitna One**	**1.88**	**171**	P	**Pn**	**22 30 10.8**	**-0.7**
GHO	**Glory Hole Cre**	**1.91**	**143**	P	**Pn**	**22 30 10.9**	**-1.0**
PMR	**Palmer**	**2.01**	**148**	P	**Pn**	**22 30 12.6**	**-0.6**
SPNN	**North Nagishla**	**2.05**	**198**	P	**Pn**	**22 30 13.8**	**-0.1**
SML	**Sawmill**	**2.06**	**136**	P	**Pn**	**22 30 12.8**	**-1.1**
SPWE	**Spurr West**	**2.12**	**196**	P	**Pn**	**22 30 15.3**	**+0.5**
MDM	**Murphy Dome**	**2.15**	**38**	P	**Pn**	**22 30 13.8**	**-1.4**
CKT	**Bend**	**2.15**	**191**	P	**Pn**	**22 30 15.4**	**+0.1**
TT01	**Tatalina**	**2.16**	**261**	P	**Pn**	**22 30 13.8**	**-1.4**
COLA	**College**	**2.20**	**43**	P	**Pn**	**22 30 14.9**	**-0.9**
HDA	**Harding Lake**	**2.24**	**59**	P	**Pn**	**22 30 16.1**	**-0.2**
KNK	**Knik Glacier**	**2.33**	**143**	P	**Pn**	**22 30 17.5**	**-0.1**
PS08	**TAPS Pump Stn8**	**2.35**	**56**	P	**Pn**	**22 30 18.1**	**+0.2**
RC01	**Rabbit Creek A**	**2.35**	**161**	P	**Pn**	**22 30 18.3**	**+0.4**
SCM	**Sheep Creek Mo**	**2.38**	**127**	P	**Pn**	**22 30 17.7**	**-0.7**
ILAR	**Eielson Array**	**2.45**	**51**	Pn	**Pn**	**22 30 21.0**	**+1.7**
	1.4nm,0.3s,baz=232,slow=14,SNR=57						
ILAR				Sn	**Sb**	**22 30 54.0**	**+0.4**
	23nm,0.3s,baz=237,slow=30,SNR=22						
ILB	**Eielson Array**	**2.45**	**51**	P	**Pn**	**22 30 17.8**	**-1.4**
PS10	**TAPS Pump St10**	**2.52**	**85**	P	**Pn**	**22 30 21.5**	**+1.3**
PAX	**Paxson**	**2.69**	**95**	P	**Pn**	**22 30 22.5**	**+0.3**
DFR	**Drift River**	**2.80**	**194**	P	**Pn**	**22 30 24.5**	**+0.4**
RDJH	**Redoubt Jeurge**	**2.81**	**195**	P	**Pn**	**22 30 24.6**	**+0.3**
PWL	**Port Wells**	**2.84**	**149**	P	**Pn**	**22 30 24.7**	**+0.1**
IM3	**Indian Mountai**	**2.88**	**340**	P	**Pn**	**22 30 24.9**	**-0.2**
RDWB	**Redoubt West**	**2.92**	**195**	P	**Pn**	**22 30 26.2**	**+0.4**
SVW2	**Sparrevohn**	**2.98**	**224**	P	**Pn**	**22 30 26.2**	**-0.3**
PS11	**TAPS Pump St11**	**2.98**	**112**	P	**Pn**	**22 30 27.0**	**+0.5**
HARP	**HAARP**	**2.98**	**105**	P	**Pn**	**22 30 27.5**	**+1.0**
GLI	**Glacier Island**	**3.16**	**139**	P	**Pn**	**22 30 29.6**	**+0.7**
JPK	**Jack Peak**	**3.18**	**133**	P	**Pn**	**22 30 29.8**	**+0.5**
SEW	**Seward**	**3.34**	**163**	P	**Pn**	**22 30 32.9**	**+1.4**
SCRK	**Sand Creek**	**3.35**	**75**	P	**Pn**	**22 30 31.9**	**+0.1**
PRP	**Porcupine Dome**	**3.36**	**46**	P	**Pn**	**22 30 31.1**	**-0.8**
DIV	**Divide**	**3.41**	**127**	P	**Pn**	**22 30 32.7**	**+0.3**
PS05	**TAPS Pump Stn5**	**3.53**	**4**	P	**Pn**	**22 30 34.6**	**+0.6**
BCA3	**Beaver Creek A**	**4.34**	**89**	P	**Pn**	**22 30 45.9**	**+0.6**
BM3	**Burnt Mountain**	**5.00**	**31**	P	**Pn**	**22 30 53.6**	**-0.6**
DAWY	**Dawson**	**5.38**	**77**	P	**Pn**	**22 31 00.0**	**+0.5**
INK	**Barwik**	**8.85**	**48**	Pn	**Pn**	**22 31 49.4**	**+2.5**
	0.4nm,0.3s,baz=235,slow=14,SNR=8.1						
INK				Sn	**Sn**	**22 33 28.3**	**+1.7**
	0.2nm,0.3s,baz=242,slow=2.1,SNR=5.3						
YKA	**Yellowknife Ar**	**16.62**	**76**	Pn	**P**	**22 33 34.1**	**-0.3**
	0.0nm,0.3s,baz=288,slow=11,SNR=7.8						
TXAR	**Lajitas Array**	**45.55**	**115**	P	**P**	**22 37 59.1**	**0.0**
	0.1nm,0.3s,baz=338,slow=7.1,SNR=2.4						

*IDC **20** 22:35:47.4±1.5, 5.71°S×147.45°E, h199km±21km, mb3.1/4, mb1 3.3/6, mb1mx3.1/33, mbtmp3.6/6, Error ellipse: s-maj=53.6km s-min=12.0km az=108.0*

ISC 20 22:35:47.1±1.5, 5.71°S±0.10°×147.5°E±0.3°, h200km, n7, σ1°00/10, mb3.3/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.68**	**185**	P	**Pn**	**22 36 44.7**	**-0.3**
	3.5nm,0.3s,baz=301,slow=12,SNR=3.9						
PMG				S	**Sn**	**22 37 30.5**	**0.0**
	7.1nm,0.3s,baz=358,slow=23,SNR=7.5						
WRA	**Warramunga Arr**	**19.06**	**221**	P	**Pn**	**22 39 56.4**	**-1.4**
	0.4nm,0.3s,baz=45,slow=12,SNR=27						
WRA				S	**S**	**22 43 19.7**	**-0.5**
	0.1nm,0.3s,baz=41,slow=21,SNR=3.1						
ASAR	**Alice Springs**	**22.12**	**215**	P	**P**	**22 40 28.6**	**+1.9**
	0.4nm,0.5s,baz=54,slow=8.6,SNR=7.6						
ASAR				S	**S**	**22 44 15.6**	**-0.2**
	0.2nm,0.4s,baz=32,slow=14,SNR=3.0						
FITZ	**Fitzroy Crossi**	**24.62**	**238**	P	**P**	**22 40 50.3**	**+0.9**
	5.3nm,0.4s,baz=46,slow=5.9,SNR=27						
SONM	**Songino Array**	**64.39**	**331**	P	**P**	**22 46 01.4**	**-0.5**
	0.5nm,0.9s,baz=133,slow=6.1,SNR=3.8						
MKAR	**Makanchi Array**	**77.58**	**320**	P	**P**	**22 47 21.2**	**+0.1**
	0.1nm,0.4s,baz=91,slow=7.2,SNR=5.0						
TORD	**Torodi Ar. Bea**	**145.48**	**285**	PKPbc	**PKPdf**	**22 55 02.3**	**-0.1**
	0.4nm,0.6s,baz=73,slow=3.4,SNR=4.6						

*ATH **20** 22:35:50.6, 39.76°N×25.54°E, h29km, ML3.3/17, Error ellipse: s-maj=1.2km s-min=0.8km az=66.0*

*ISK **20** 22:35:50.1, 39.75°N×25.53°E, h4km, ML3.6/40*

*DDA **20** 22:35:50.4, 39.73°N×25.57°E, h24km, ML3.7*

*ISCJB **20** 22:35:50.6±0.4, 39.76°N±0.01°×25.51°E±0.02, h9km±3km, Error ellipse: s-maj=2.3km s-min=2.2km az=169.1*

*THE **20** 22:35:51.3, 39.77°N×25.55°E, h8km±1km, ML3.3/8, Error ellipse: s-maj=1.1km s-min=0.5km az=58.0*

*SOF **20** 22:35:52.9, 39.80°N×25.13°E, h5km*

ISC 20 22:35:50.6±1.1, 39.76°N±0.02°×25.50°E±0.02, h6km±9km, n176, σ0°80/196, 11C-12D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.28**	**300**	P	**Pb**	**22 35 57.6**	**-0.6**
LIA				S	**Sb**	**22 36 02.8**	**-0.3**
LIA				AML	AML	22 36 05.8	
	comp=E,7280μm,0.6s						
LIA				AML	AML	22 36 08.6	
	comp=N,7951μm,0.4s						
LIA	**Limnos Island**	**0.28**	**300**	P	**Pb**	**22 35 57.6**	**-0.6**
LIA				S	**Sb**	**22 36 02.3**	**-0.8**
BOZC	**Bozcaada**	**0.43**	**78**	PG	**Pg**	**22 35 58.8**	**-0.2**
BOZC				SG	**Sg**	**22 36 04.3**	**-0.4**
BOZC	**Bozcaada**	**0.43**	**78**	IAML_P			
	comp=Z,35μm,0.1s						
BOZC				*i* P	**Pg**	**22 35 59.5**	**+0.5**
EFSA	**Agios Efstrati**	**0.45**	**242**	P	**Pb**	**22 36 01.8**	**+0.8**
EFSA				S	**Sb**	**22 36 09.2**	**+1.3**
EFSA				AML	AML	22 36 12.3	
	comp=E,13896μm,0.6s						
EFSA				AML	AML	22 36 17.1	
	comp=N,22324μm,0.7s						
GADA	**Gvkgeada**	**0.53**	**35**	PG	**Pg**	**22 36 00.9**	**+0.1**
GADA	**Gvkgeada**	**0.53**	**35**	P	**Pg**	**22 36 01.0**	**+0.1**
GADA				S	**Sg**	**22 36 08.6**	**+0.8**
GPNR	**Gulpinar-Canak**	**0.57**	**121**	PG	**Pg**	**22 36 01.2**	**-0.4**
SIGR	**SIGRI**	**0.61**	**153**	PG	**Pg**	**22 36 01.9**	**-0.4**
SIGR	**SIGRI**	**0.61**	**153**	P	**Pg**	**22 36 02.4**	**+0.1**
SIGR				S	**Sb**	**22 36 11.3**	**-1.1**
SIGR				AML	AML	22 36 17.0	
	comp=E,13874μm,0.6s						
SIGR				AML	AML	22 36 17.1	
	comp=N,19655μm,0.6s						
SIGR	**SIGRI**	**0.61**	**153**	P	**Pg**	**22 36 02.4**	**+0.1**
SIGR				S	**Sg**	**22 36 11.2**	**+1.0**
EZN	**Ezine**	**0.64**	**83**	PG	**Pg**	**22 36 02.7**	**-0.2**
EZN	**Ezine**	**0.64**	**83**	P	**Pg**	**22 36 02.4**	**-0.5**
EZN				S	**Sg**	**22 36 10.8**	**-0.4**
SMTH	**Samothraki Isl**	**0.71**	**2**	P	**Pg**	**22 36 04.7**	**+0.3**
SMTH				S	**Sb**	**22 36 15.9**	**+0.3**
SMTH				AML	AML	22 36 17.7	
	comp=E,2422μm,0.5s						
SMTH				AML	AML	22 36 17.9	
	comp=N,1618μm,0.2s						
SMTH	**Samothraki Isl**	**0.71**	**2**	P	**Pg**	**22 36 04.8**	**+0.3**
SMTH				S	**Sb**	**22 36 15.8**	**+0.2**
PRK	**Paraskevi**	**0.78**	**130**	P	**Pb**	**22 36 06.4**	**-0.2**
PRK				S	**Sb**	**22 36 17.2**	**-0.3**
PRK				AML	AML	22 36 21.0	
	comp=N,6744μm,0.3s						
PRK				AML	AML	22 36 21.7	
	comp=E,15858μm,0.4s						
PRK	**Paraskevi**	**0.78**	**130**	P	**Pb**	**22 36 06.4**	**-0.2**
PRK				S	**Sb**	**22 36 17.8**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**0.81**	**91**	IAML_P			
	comp=Z,18μm,0.2s						
BAYC				*i* P	**Pg**	**22 36 05.9**	**-0.2**
BAYC				*i* S	**Sg**	**22 36 17.0**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.98**	**49**	PG	**Pg**	**22 36 08.9**	**-0.6**
AYVA	**Ayvalik**	**1.02**	**116**	*i* P	**Pg**	**22 36 10.2**	**-0.1**
AYVA				*i* S	**Sn**	**22 36 26.2**	**+0.1**
THAS	**Thassos island**	**1.04**	**325**	P	**Pb**	**22 36 10.9**	**-0.1**
THAS				AML	AML	22 36 26.6	
	comp=E,3181μm,0.6s						
THAS				AML	AML	22 36 27.7	
	comp=N,2468μm,0.4s						
THAS	**Thassos island**	**1.04**	**325

SRS	Serrai	1.99	314	P	Pn	22 36 24.6	-0.3
SRS	Serrai	1.99	314	P	Pn	22 36 25.0	+0.1
AKHS	Akhisar	2.00	115	IAML_P			
	comp=Z,3μm,0.1s						
AKHS				*i* P	Pn	22 36 25.2	+0.3
RZN	Rozhen	2.02	343	P	Pn	22 36 25.7	+0.3
HORT	Hortiatis	2.02	295	PN	Pn	22 36 26.0	+0.6
HORT	Hortiatis	2.02	295	P	Pn	22 36 26.0	+0.6
NVR	Nevrokopi	2.02	322	P	Pn	22 36 24.6	-0.7
NVR				AML	AML	22 37 02.2	
	comp=N,344μm,0.5s						
NVR				AML	AML	22 37 04.5	
	comp=E,483μm,0.7s						
DION	Dionisos Attik	2.07	217	P	Pn	22 36 25.0	-1.0
PTL	Penteli	2.13	217	P	Pn	22 36 26.0	-0.8
PTL	Penteli	2.13	217	P	Pn	22 36 26.0	-0.8
THE	Thessaloniki	2.13	295	P	Pn	22 36 27.8	+1.1
CRLT	Corlu	2.19	50	PN	Pn	22 36 27.9	+0.4
KCTX	Karacabey (Bur	2.25	76	PN	Pn	22 36 28.6	+0.2
ATH	Athens Observa	2.26	219	P	Pn	22 36 29.4	+0.9
MMB	Musomiste	2.27	324	P	Pn	22 36 28.7	-0.1
EDRB	Edirne	2.29	24	PN	Pn	22 36 29.7	+0.7
SMG	Samos	2.29	153	P	Pn	22 36 28.0	-1.0
SMG				AML	AML	22 37 07.8	
	comp=E,1160μm,0.4s						
SMG				AML	AML	22 37 12.5	
	comp=N,1301μm,0.5s						
SMG	Samos	2.29	153	P	Pn	22 36 29.2	+0.2
DURS	Dursunbey	2.30	93	IAML_P			
	comp=Z,2μm,0.2s						
DURS				*i* P	Pn	22 36 29.8	+0.6
VLY	Voula,Athens	2.32	216	P	Pn	22 36 28.9	-0.5
VLY	Voula,Athens	2.32	216	P	Pn	22 36 28.6	-0.8
VIL2	Platees	2.33	229	P	Pn	22 36 29.0	-0.5
VILL	Villia	2.33	228	P	Pn	22 36 29.1	-0.5
LIT	Litokhoron	2.34	279	P	Pn	22 36 30.3	+0.6
LIT	Litokhoron	2.34	279	P	Pn	22 36 29.2	-0.5
PHSR	Pinarhisar	2.42	39	PN	Pn	22 36 31.4	+0.6
PLD	Plovdiv	2.42	346	PN	Pn	22 36 31.9	+1.1
PLD	Plovdiv	2.42	346	P	Pb	22 36 33.7	-0.9
KNT	Kendrikon	2.43	306	P	Pn	22 36 31.6	+0.7
KNT	Kendrikon	2.43	306	P	Pn	22 36 31.6	+0.7
PROD	Prodromos	2.52	234	P	Pn	22 36 31.7	-0.4
SLVT	Silivri	2.54	54	PN	Pn	22 36 32.9	+0.6
AGG	Agios Georgios	2.56	254	P	Pn	22 36 33.2	+0.4
DEMI	Demirci	2.59	105	*i* P	Pn	22 36 33.8	+0.7
AYDB	Zeytinkoy-Aydi	2.60	133	PN	Pn	22 36 33.4	+0.1
LTK	Loutraki	2.63	230	P	Pn	22 36 33.2	-0.3
LTK	Loutraki	2.63	230	P	Pn	22 36 33.3	-0.3
LOUT	Loutraki	2.65	229	P	Pn	22 36 33.5	-0.3
LOUT	Loutraki	2.65	229	P	Pn	22 36 33.6	-0.3
GRG	Griva	2.66	298	P	Pn	22 36 34.4	+0.4
MDNY	Mudanya-Bursa	2.67	76	PN	Pn	22 36 35.1	+1.0
DSF	Desfina	2.68	241	P	Pn	22 36 33.7	-0.6
APE	Apeiranthos	2.68	180	*i* P	Pg	22 36 40.7	-1.3
APE	Apeiranthos	2.68	180	S	Sg	22 37 17.1	+0.3
MANT	Manisa	2.69	117	*i* P	Pn	22 36 35.9	+1.2
THL	Klokotos Trika	2.70	267	P	Pn	22 36 35.2	+0.6
MAKR	Makrakomi, Fth	2.71	255	P	Pn	22 36 35.5	+0.7
CTKS	Kestanelik-??a	2.73	56	PN	Pn	22 36 35.7	+0.8
VAY	Valandovo	2.73	306	*i* Pn	Pb	22 36 38.7	-1.1
CTYL	Yalikoy Yolu	2.73	50	PN	Pn	22 36 35.8	+0.8
SBT5	Esenkoy-Cinarc	2.73	70	PN	Pn	22 36 36.0	+1.1
KULA	Kula-Manisa	2.75	116	PN	Pn	22 36 35.8	+0.4
KKB	Krupnik	2.80	320	P	Pb	22 36 38.5	-2.5
KKB				Pg	Pg	22 36 43.5	-0.7
AYDN	Tasoluk	2.80	138	*i* P	Pn	22 36 36.9	+0.9
DID	Didima	2.86	219	P	Pn	22 36 36.2	-0.6
BGKT	Bogazkoy	2.87	59	PN	Pn	22 36 37.7	+0.8
GEMT	Gemlik	2.91	75	PN	Pn	22 36 38.2	+0.8
KALE	Kalithea	2.95	244	P	Pn	22 36 38.3	+0.2
EVR	Evrytania	2.98	255	P	Pn	22 36 39.3	+0.7
SERG	Sergoula	3.00	245	P	Pn	22 36 39.0	+0.3
KRND	KRÂNIDI	3.00	219	P	Pn	22 36 38.5	-0.2
TRIZ	Trizonia	3.01	244	P	Pn	22 36 39.2	+0.4
ISK	Istanbul-Kandi	3.02	63	PN	Pn	22 36 39.6	+0.7
KAVV	Kandilli-Istan	3.02	63	PN	Pn	22 36 39.7	+0.8
GUR	Goura	3.06	235	P	Pn	22 36 39.6	0.0
YLV	Yalova	3.08	73	PN	Pn	22 36 40.5	+0.7
KLYT	Kilyos	3.09	60	PN	Pn	22 36 40.7	+0.8
BDRM	Kayabasi	3.09	150	*i* P	Pn	22 36 40.4	+0.4
LAKA	Lakka	3.13	242	P	Pn	22 36 40.9	+0.3
GDZ	Gediz	3.15	101	*i* P	Pn	22 36 41.6	+0.7
STIP	Stip	3.18	309	*i* Pn	Pn	22 36 40.6	-0.5
VTS	Vitosha	3.32	329	⇓ *i* P	Pn	22 36 44.3	+1.0
VTS	Vitosha	3.32	329	S	Sn	22 37 24.2	+1.1
VTS	Vitosha	3.32	329	P	Pn	22 36 44.5	+1.2
TRIP	Tripoli	3.37	230	P	Pn	22 36 44.5	+0.6
KHAL	Karahalli	3.40	113	*i* P	Pn	22 36 45.9	+1.6
KRUS	Krusevo	3.62	298	*i* Pn	Pn	22 36 48.7	+1.4
VLAD	Vladila	4.32	349	⇓ *i* P	Pn	22 36 58.5	+1.7
ISP	Isparta	4.37	115	⇓ *i* P	Pn	22 36 57.8	+0.1
ICOR	Ion Corvin	4.68	21	⇑ *i* P	Pn	22 37 02.8	+1.0
ICOR	Ion Corvin	4.68	21	S	Sn	22 37 57.7	+1.3
TIRR	Tirgusor	5.17	24	⇓ *i* P	Pn	22 37 08.2	-0.3
TLB	Topalu	5.18	21	⇓ *i* P	Pn	22 37 08.5	-0.2
HERR	Herculane	5.61	337	⇓ *i* P	Pn	22 37 16.8	+2.3
HERR	Herculane	5.61	337	S	Sn	22 38 19.4	+0.1
ARR	Arges	5.65	354	⇑ *i* P	Pn	22 37 15.9	+0.8
VOIR		5.69	357	⇑ *i* P	Pn	22 37 16.5	+0.8
MLR	Muntele Rosu	5.74	3	⇑ *i* P	Pn	22 37 18.1	+1.6
MDVR	Moldovita	5.75	332	⇓ *i* P	Pn	22 37 17.7	+1.1
LOT	Lotru	5.83	348	⇑ *i* P	Pn	22 37 18.6	+0.9
GZR	Gura Zlata	5.98	341	⇑ *i* P	Pn	22 37 20.1	+0.4
GZR	Gura Zlata	5.98	341	S	Sn	22 38 24.6	-4.0
ODBI	Odobesti	6.11	10	⇑ *i* P	Pn	22 37 23.5	+2.1
PLOR	Plostina	6.15	8	⇓ *i* P	Pn	22 37 24.2	+2.2
VRI	Vrincioaia	6.17	8	⇓ *i* P	Pn	22 37 24.1	+1.8
DOPR	Dopca	6.21	359	⇑ *i* P	Pn	22 37 24.1	+1.3
OZUR		6.34	2	⇓ *i* P	Pn	22 37 25.7	+1.1
BZS	Buzias	6.52	335	⇑ *i* P	Pn	22 37 27.9	+0.9
BZS	Buzias	6.52	335	S	Sn	22 38 43.4	+1.7
BIZ	Bicaz	7.20	3	⇓ *i* P	Pn	22 37 36.6	+0.3
GIRR	Girov	7.23	5	⇓ *i* P	Pn	22 37 38.1	+1.3
BURAR	Bucovina Array	7.86	359	⇑ *i* P	Pn	22 37 47.3	+1.8

MEX 20 22:40:21.9±0.6, 16°52N×98°26W, h6km±8km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.18	134	*i* P	Pg	22 40 24.7	-0.8
PNIG				*i* S	Sg	22 40 28.3	+0.4
VHO	Vista Hermosa	1.56	69	*e*P	Pn	22 40 47.3	-3.1
VHO				*i* S	Sn	22 41 05.9	-5.1
CAIG	El Cayaco	1.99	286	*i* P	Pn	22 40 52.6	-3.5
CAIG				*i* S	Sn	22 41 16.9	-4.5

MEX 20 22:40:42.9±0.5, 13°80N×92°62W, h16km±95km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.15	17	*e*P	Pn	22 41 00.4	-4.0
THIG				*i* S	Sb	22 41 15.0	-4.2
PCIG		1.98	343	*i* P	Pn	22 41 12.8	-2.9
PCIG				*e*S	Sn	22 41 35.5	-4.7
CCIG	Comitan	2.51	11	*i* P	Pn	22 41 20.8	-2.5
CCIG				*i* S	Sn	22 41 50.0	-3.6

WEL 20 22:41:34.6±1.4, 37°S±21'×17°9W±', h5km, ML3.8/14, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	2.10	248	P	Pn	22 42 10.2	-0.3
WMGZ				S	Sn	22 42 37.7	+0.6
MXZ	Matakaoa Point	2.11	255	P	Pn	22 42 09.1	-1.4
MXZ				S	Sn	22 42 36.8	-0.4
PUZ	Puketiti	2.32	243	P	Pn	22 42 13.9	+0.4
PUZ				S	Sn	22 42 43.8	+1.5
PKGZ	Pakihiroa	2.38	248	P	Pn	22 42 13.6	-0.7
PKGZ				S	Sn	22 42 44.0	+0.1
CNGZ	Carnagh Statio	2.56	235	P	Pn	22 42 16.8	+0.1
TWGZ	Tauwhareparae	2.56	243	P	Pn	22 42 17.5	+0.7
TWGZ				S	Sn	22 42 50.0	+1.6
HAZ	Te Kaha	2.56	253	P	Pn	22 42 16.4	-0.3
HAZ				S	Sn	22 42 49.6	+1.3
RUGZ	Raukumara Rang	2.70	249	P	Pn	22 42 19.4	+0.6
TKGZ	Te Karaka	2.77	239	P	Pn	22 42 19.9	+0.2
MWZ	Matawai	2.95	243	P	Pn	22 42 22.0	-0.1
RIGZ	Rimuhau	2.97	235	P	Pn	22 42 23.7	+1.3
RAGZ	Rawiri	3.10	241	P	Pn	22 42 26.4	+2.1
MHGZ	Mahia Peninsul	3.15	227	P	Pn	22 42 22.2	-2.7
KNZ	Kokohu	3.21	231	P	Pn	22 42 23.9	-1.7
URZ	Urewera	3.22	247	P	Pn	22 42 26.6	+0.7
SNGZ	Shannon Statio	3.29	237	P	Pn	22 42 26.4	-0.4
RTZ	Ruatahuna	3.46	242	P	Pn	22 42 29.6	+0.5
MTHZ	Maungataniwha	3.66	239	P	Pn	22 42 32.1	+0.2

*IDC **20** 22:43:22.0±1.2, 6°21N×125°24E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/33, mbtmp3.6/4, Error ellipse: s-maj=40.5km s-min=11.1km az=106.0*
*ISCJB **20** 22:43:24.7±0.7, 6°57N±0°05×126°19E±0°06, h53km±7km, mb3.6/4, Error ellipse: s-maj=10.6km s-min=6.9km az=27.9*
*MAN **20** 22:43:24.5, 6°85N×126°31E, h56km, mb4.5, ML3.3, MS3.1*
ISC 20 22:43:24.6±1.7, 6°57N±0°05×126°23E±0°07, h33km±8km, n14, σ1°s55/20, mb3.7/4, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.38	5	*e*P	Pn	22 43 34.0	+0.2
MATI				*e*S	Sn	22 43 40.8	+1.0
DDMP	Don Marcelino,	0.69	228	*e*P	Pn	22 43 38.4	+0.3
DDMP				*e*S	Sn	22 43 49.3	+1.7
DAV	Davao City (W)	0.81	308	Pg	Pb	22 43 40.0	-0.3
DAV	575nm,0.3s,baz=214,slow=3.6,SNR=33			Lg	Lg	22 43 52.1	
	201nm,0.3s,baz=258,slow=22,SNR=30						
DMPH	Davao City--Mi	0.88	306	⇓ *i* P	Pn	22 43 42.7	+2.1
DMPH				*i* S	Sn	22 43 54.1	+1.8
GSPH	General Santos	1.36	249	⇑ *i* P	Pn	22 43 47.1	-0.3
GSPH				*i* S	Sn	22 44 02.1	-2.2
BIPH	Bislig	1.61	5	⇓ *e*P	Pb	22 43 53.4	-0.3
BIPH				*e*S	Sn	22 44 12.3	+1.9
SKMP	Bagumbayan, Su	1.67	268	*e*P	Pn	22 43 50.4	-1.2
SKMP				*e*S	Sn	22 44 12.3	+0.4
BUKP	Musuan	1.74	319	*e*P	Pn	22 43 51.4	-1.2
BUKP				*e*S	Sn	22 44 11.7	-2.0
CGP	Cagayan de Oro	2.41	321	⇓ *e*P	Pb	22 44 09.3	+1.9
BUTP	Butuan	2.46	346	*e*P	Pn	22 43 59.9	-2.5
FITZ	Fitzroy Crossi	24.52	181	P	P	22 48 40.7	-0.5
	1.7nm,0.5s,baz=7.2,slow=14,SNR=3.0						
WRA	Warramunga Arr	27.53	163	P	P	22 49 09.0	+0.6
	0.7nm,1.1s,baz=342,slow=10,SNR=6.2						
MKAR	Makanchi Array	54.96	324	P	P	22 52 52.3	-0.3
	0.2nm,0.5s,baz=119,slow=8.5,SNR=8.5						
ILAR	Eielson Array	82.77	26	P	P	22 55 53.6	+8.5
	1.4nm,1.2s,baz=258,slow=4.2,SNR=3.3						

*ISCJB **20** 22:59:41.4±0.8, 20°50S±0°07×178°38W±0°05, h557km±10km, mb4.3/90, Error ellipse: s-maj=11.1km s-min=6.8km az=153.0*
*NEIC **20** 22:59:41.9±0.6, 20°51S×178°34W, h556km±7km, mb4.4/75, Error ellipse: s-maj=8.2km s-min=5.1km az=149.0*
*IDC **20** 22:59:41.4±1.9, 20°50S×178°29W, h550km±21km, mb3.8/15, mb1 4.0/17, mb1mx3.8/29, mbtmp4.6/17, Error ellipse: s-maj=17.9km s-min=9.9km az=155.0*
ISC 20 22:59:42.0±0.8, 20°5S±0°1×178°32W±0°08, h558km±7km, n275, σ0s86/297, mb4.3/90, 25C-24D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.38	308	*e*P	P	23 01 06.5	-1.0
MARNC	Mare, Loyalty	12.79	263	*e*P	P	23 02 28.4	-0.3
PINNC	Pines Island,	13.41	258	*e*P	P	23 02 35.8	+0.7
DZM	Mont Dzumac	14.29	261	P	P	23 02 43.7	-0.5
	1.0nm,0.3s,baz=92,slow=20,SNR=12						
DZM	Mont Dzumac	14.29	261	*e*P	P	23 02 44.2	0.0
OUZ	Omahuta	16.32	204	*e*P	P	23 03 04.2	+0.1
	115nm,1.8s						
URZ	Urewera	18.16	192	P	P	23 03 19.1	-1.7
	2.0nm,0.3s,baz=250,slow=6.6,SNR=28						
HIZ	Hauiti	18.92	197	*e*P	P	23 03 29.1	+1.4
	166nm,1.5s						
BFZ	Birch Farm	20.67	192	*e*P	P	23 03 42.7	-0.9
	76nm,1.5s						
THZ	Tophouse	22.48	197	*e*P	P	23 03 58.7	-1.2
	35nm,1.2s						
WKZ	Wanaka	26.45	200	*e*P	P	23 04 34.0	-0.9
	69nm,1.3s						
PPT	Papeete	27.32	89	P	P	23 04 41.0	-1.9
	377nm,0.7s,baz=270,slow=20,SNR=3.5						
WHZ	Wether Hill Ro	27.75	201	*e*P	P	23 04 46.4	+0.1
	143nm,1.8s						
EIDS	Eidsvold	28.56	254	*e*P	P	23 04 52.8	-0.9
	9.8nm,1.1s						
CTAO	Charters Tower	33.19	264	*e*P	P	23 05 33.7	+0.3
	73nm,1.6s						
COEN	Coen	37.28	274	*e*P	P	23 06 07.2	-0.2
	101nm,1.8s						
STKA	Stephens Creek	37.52	244	P	P	23 06 09.2	+0.1
	1.2nm,0.6s,baz=3.2,slow=18,SNR=2.5						
STKA				PcP	PcP	23 08 12.7	+0.2
	0.5nm,0.4s,baz=90,slow=7.0,SNR=4.1						
BBOO	Buckleboo	42.28	243	*e*P	P	23 06 47.8	+0.6
	51nm,1.6s						
AS01	Alice Springs	44.19	257	*e*P	P	23 07 02.4	+0.2
AS01				*e*PcP	PcP	23 08 34.8	0.0
AS31	Alice Springs	44.23	257	*e*P	P	23 07 03.1	+0.5
	3.7nm,0.6s						
AS31				*e*PcP	PcP	23 08 35.2	+0.3
ASAR	Alice Springs	44.23	257	P	P	23 07 03.0	+0.4
	15nm,0.8s,baz=95,slow=7.6,SNR=112						
ASAR				PcP	PcP	23 08 35.2	+0.3
	5.0nm,0.7s,baz=98,slow=4.1,SNR=16						
ASAR				S	S	23 12 55.6	-0.5
	2.2nm,0.9s,baz=95,slow=15,SNR=13						
WB2	Warramunga Arr	44.29	262	*e*P	P	23 07 02.9	-0.1
WRAB	Tennant Creek	44.29	262	*e*P	P	23 07 03.3	+0.2
	90nm,1.9s						
WR1	Warramunga Arr	44.30	262	*e*P	P	23 07 02.6	-0.5
	13nm,0.8s						
WR1				*e*PcP	PcP	23 08 35.4	+0.2
WRA	Warramunga Arr	44.30	262	P	P	23 07 02.6	-0.5
	4.1nm,0.3s,baz=97,slow=7.5,SNR=263						
WRA				PcP	PcP	23 08 35.4	+0.2
	2.6nm,0.8s,baz=94,slow=3.2,SNR=6.6						
WRA				S	S	23 12 56.2	-0.9
	1.5nm,0.9s,baz=94,slow=13,SNR=3.6						
MJAR	Matsushiro Arr	70.01	324	P	P	23 09 57.9	-0.3
	2.9nm,0.5s,baz=170,slow=5.8,SNR=7.7						
MAJO	Matsushiro	70.01	324	*e*P	P	23 09 57.9	-0.3
JNU	Nakatsue	72.05	317	P	P	23 10 10.9	+0.7
	6.7nm,0.9s,baz=150,slow=5.6,SNR=3.5						
JNU	Nakatsue	72.05	317	*e*P	P	23 10 10.9	+0.7
	65nm,1.7s						
PETK	Petropavlovsk-	76.17	345	P	P	23 10 32.5	-0.4
	10nm,0.7s,baz=151,slow=8.8,SNR=10						
PEA1	Petropavlovsk-	76.18	345	*e*P	P	23 10 32.5	-0.5
KSRS	Korea Array	76.67	319	P	P	23 10 37.3	+1.3
	4.7nm,1.2s,baz=126,slow=7.7,SNR=4.9						
KS15	Wonju Array Si	76.69	319	*e*P	P	23 10 37.3	+1.2
KSAR	Wonju Array Be	76.69	319	P	P	23 10 37.3	+1.2
USRK	Ussuriysk Ar.	78.78	326	P	P	23 10 48.7	+1.5
	5.4nm,0.8s,baz=83,slow=4.1,SNR=11						
ISA	Isabella, Lake	79.54	46	*e*P	P	23 10 52.4	+0.8
	3.2nm,1.0s						
CMB	Columbia Colle	79.65	43	*e*P	P	23 10 49.3	-2.8
	5.1nm,0.9s						
AFDM	Forest Hills D	79.82	42	*e*P	P	23 10 53.2	+0.3
	4.4nm,0.9s						
WDC	Whiskeytown Da	79.85	40	*e*P	P	23 10 53.6	+0.6
	4.9nm,0.9s						
ORV	Oroville	79.86	41	*e*P	P	23 10 53.7	+0.7
	3.9nm,0.8s						
OMMB	Old Mammoth Mi	80.30	44	*e*P	P	23 10 56.7	+0.9
	6.3nm,1.4s						
YBH	Yreka Blue Hor	80.46	39	*e*P	P	23 10 57.3	+1.0
	6.6nm,0.8s						
GSC	Goldstone, Bar	80.47	47	*e*P	P	23 10 57.2	+0.7
	6.8nm,1.4s						
WAKR	Walker	80.53	43	*e*P	P	23 10 58.0	+1.1
	8.1nm,1.0s						
PNTR	Pine Nut	80.77	42	*e*P	P	23 10 59.0	+0.9
	13nm,0.8s						
VCNR	Virginia City	80.86	42	*e*P	P	23 10 59.6	+1.1
	5.4nm,1.0s						
HUMO	Hull Mountain	80.86	38	*e*P	P	23 10 59.6	+1.4
	10.0nm,1.2s						
YERR	Yerington	80.94	43	*e*P	P	23 10 59.5	+0.6
	6.6nm,0.9s						
NV01	Mina Array Sit	81.22	44	*e*P	P	23 11 00.7	+0.2
NVAR	Mina Array Bea	81.22	44	P	P	23 11 00.7	+0.2
	3.8nm,0.8s,baz=225,slow=9.6,SNR=28						
PAHR	Pah Rah Range	81.27	42	*e*P	P	23 11 01.4	+0.8
	4.4nm,1.0s						
KVN	Kaiserville	81.70	43	*e*P	P	23 11 03.5	+0.6
	5.2nm,0.8s						
TPNV	Topopah Spring	81.74	46	*e*P	P	23 11 03.9	+0.8
	4.7nm,0.9s						
MOD	Modoc Plateau	81.99	40	*e*P	P	23 11 05.1	+0.9
	7.0nm,0.8s						
Y14A	Wickenburg	82.40	50	*e*P	P	23 11 07.4	+1.0
	6.0nm,1.1s						
H04A	Detroit Lake	82.59	37	*e*P	P	23 11 06.2	-0.8
	29nm,1.7s						
BMN	Battle Mountai	83.04	42	*e*P	P	23 11 10.3	+0.7
TUC	Tucson	83.20	52	*e*P	P	23 11 12.0	+1.6
	4.1nm,0.9s						
WVOR	Wild Horse Val	83.31	40	*e*P	P	23 11 11.7	+0.9
	5.8nm,1.0s						
I07A	Izee	83.76	38	*e*P	P	23 11 13.6	+0.7
	6.8nm,0.9s						
X16A	Lo Mia Camp, P	83.76	50	*e*P	P	23 11 14.1	+0.8
	6.1nm,1.1s						
J08A	Circle Bar Ran	83.94	39	*e*P	P	23 11 14.8	+0.9
	7.7nm,1.3s						
U15A	North Rim	84.17	48	*e*P	P	23 11 16.3	+0.9
	6.3nm,1.0s						
SUA	Susitna One	84.61	13	*e*P	P	23 11 16.3	-0.4
	82nm,1.8s						
G08A	Pilot Rock	84.78	38	*e*P	P	23 11 18.4	+0.4
	7.1nm,1.0s						
E07A	Sunnyside	85.03	36	*e*P	P	23 11 19.9	+0.9
	8.3nm,0.8s						
MTPU	Mount Pierson	85.06	46	*e*P	P	23 11 21.3	+1.5
	3.7nm,0.9s						
HAWA	Hanford	85.11	36	*e*P	P	23 11 20.2	+0.9
	8.8nm,1.1s						
BMO	Blue Mountains	85.49	39	*e*P	P	23 11 21.8	+0.4
	3.5nm,0.8s						
D08A	Wollman Farm,	85.84	36	*e*P	P	23 11 23.7	+0.9
	14nm,1.1s						
E09A	Wood Farm, Sta	85.96	37	*e*P	P	23 11 23.9	+0.5
	8.1nm,0.9s						
CAST	Castle Rocks	86.12	12	*e*P	P	23 11 21.9	-1.9
	6.9nm,0.7s						
F10A	Beach Ranch, E	86.17	38	*e*P	P	23 11 24.6	0.0
	13nm,0.8s						
TMUT	Trail Mountain	86.36	46	*e*P	P	23 11 27.4	+1.6
TMUT				*e*pP	pP	23 13 24.6	-1.5
B08A	Colville Reser	86.39	35	*e*P	P	23 11 25.4	-0.1
	8.2nm,1.1s						
HLID	Hailey	86.51	41	*e*P	P	23 11 27.3	+0.9
	3.5nm,0.9s						
C09A	Chrisman Ranch	86.63	36	*e*P	P	23 11 27.2	+0.6
	11nm,0.8s						
RND	Reindeer	86.74	13	*e*P	P	23 11 26.6	-0.2
	22nm,0.8s						
MNTX	Cornudas Mount	86.99	55	*e*P	P	23 11 29.6	+1.0
	3.5nm,1.1s						
TCUT	Toone Canyon	87.14	44	*e*P	P	23 11 30.6	+1.1
	33nm,0.8s						
TX31	Lajitas Ar. Si	87.30	57	*e*P	P	23 11 31.5	+1.2
TXAR	Lajitas Array	87.30	57	P	P	23 11 31.0	+0.7
	2.2nm,0.8s,baz=224,slow=6.3,SNR=24						
LTX	Lajitas	87.30	57	*e*P	P	23 11 31.0	+0.7
PBKT	Sadao Pong	87.33	289	*e*P	P	23 11 33.2	+2.7
	6.6nm,1.2s						
ANMO	Albuquerque	87.63	51	*e*P	P	23 11 32.3	+0.5
	2.3nm,1.0s						
MLY	Manley	87.83	11	*e*P	P	23 11 30.7	-1.2
	6.3nm,0.7s						
WRH	Wood River Hil	87.85	13	*e*P	P	23 11 31.4	-0.4
	15nm,0.9s						
HDA	Harding Lake	88.03	13	*e*P	P	23 11 32.1	-0.7
	12nm,0.7s						
MCMT	McKenzie Canyo	88.13	40	*e*P	P	23 11 32.0	-2.0
IM3	Indian Mountai	88.19	10	*e*P	P	23 11 33.1	-0.3
MDM	Murphy Dome	88.25	12	*e*P	P	23 11 33.0	-0.8
	11nm,0.8s						
COLA	College	88.25	13	*e*P	P	23 11 33.0	-0.7
	16nm,0.6s						
IL1	Eielson Array	88.36	13	*e*P	P	23 11 33.0	-1.3
ILAR	Eielson Array	88.36	13	P	P	23 11 33.2	-1.0
	3.9nm,0.8s,baz=219,slow=5.3,SNR=42						
ILB	Eielson Array	88.36	13	*e*P	P	23 11 33.0	-1.3
DLMT	Dillon	88.56	40	*e*P	P	23 11 36.8	+0.9
	4.6nm,0.9s						
REDW	Red Top Meadow	88.62	42	*e*P	P	23 11 37.0	+0.7
	6.3nm,1.1s						
REDW				*e*pP	pwP	23 13 43

comp=Z,0.4nm,0.5s,baz=14,slow=3.9,SNR=3.2
RAYN Ar Rayn 139.37 283 *e*PKPdf **PKiKP 23 18 09.9 +0.6**
SIRT Sirnak 140.86 305 *e*PKPpre PKPpre 23 18 04.1
SUW Suwalki 142.71 339 *e*PKPpre PKPpre 23 18 09.4
AKASG Malin Array Be 142.85 331 PKhKP **PKPbc** 23 18 08.9
comp=Z,17nm,0.5s,baz=42,slow=4.2,SNR=150
KIEV Kiev 142.86 331 *e*PKPpre PKPpre 23 18 08.9
KEMA Kemaliye 143.31 309 *i* P **PKPdf 23 18 13.7 +0.2**
CUZAR Zara_SIVAS 143.62 310 *i* P **PKPdf 23 18 14.2 +0.1**
MUD Monsted U'grnd 143.64 353 *i* P PKPab 23 18 10.9 -1.3
comp=Z,35nm,0.9s
SURC SANLIURFA_SURC 143.97 305 *i* P **PKPdf 23 18 15.0 +0.4**
CUKAN kangal_SIVAS 144.04 309 *i* P **PKPdf 23 18 15.9 +1.1**
CUALT Altinyayla-SIV 144.57 310 *i* P **PKPab 23 18 17.4 +0.8**
GZT Gaziantep 144.63 306 *i* P **PKPab 23 18 17.2 +0.3**
MBAR Mbarara 144.67 237 PKP **PKPab 23 18 18.1 +0.4**
comp=Z,5.1nm,0.6s,baz=152,slow=9.4,SNR=13
MBAR Mbarara 144.67 237 *e*PKPdf **PKPab 23 18 18.3 +0.6**
CUSAR Sarkisla-SIVAS 144.88 310 *i* P PKPbc 23 18 17.1 +0.1
SAIM ADANA 145.53 308 *i* P **PKPab 23 18 19.9 -0.4**
KIS Kishinev 145.55 326 *e*P **PKPdf 23 18 17.0 0.0**
BSEG Bad Segeberg 145.95 351 *e*PKPbc **PKPbc 23 18 19.9 +0.6**
baz=16,slow=2.6
LEOM Leova 146.19 326 ⇓*i*P **PKPbc 23 18 20.4 +0.2**
ASF Jabal al Asfar 146.50 298 PKPbc **PKPbc 23 18 22.4 +0.7**
comp=Z,7.8nm,0.7s,baz=12,slow=2.3,SNR=20
PRAR RASCA 146.60 329 ⇑*i*P **PKPbc 23 18 21.7 +0.4**
BR101 Keskin Array S 146.60 312 *e*PKPbc **PKPbc 23 18 21.6 -0.2**
BR131 Keskin Array S 146.60 312 *e*PKPdf **PKPbc 23 18 21.7 -0.1**
BRTR Keskin Array B 146.60 312 PKPbc **PKPbc 23 18 21.6 -0.2**
comp=Z,6.5nm,0.7s,baz=134,slow=4.6,SNR=46
RUE Ruedersdorf 146.70 346 *e*PKPbc **PKPbc 23 18 21.9 +0.5**
baz=16,slow=2.6
TLCR 146.71 324 ⇑*i*P **PKPbc 23 18 20.6 -1.1**
BUR08 Bucovina Ar. S 146.88 330 *e*PKPbc **PKPbc 23 18 23.1 +0.8**
BUR04 Bucovina Ar. S 146.89 330 *e*PKPbc **PKPbc 23 18 22.8 +0.5**
BURAR Bucovina Array 146.89 330 ⇓*i*P **PKPbc 23 18 22.7 +0.4**
BIZ Bicaz 146.95 329 ⇓*i*P **PKPbc 23 18 22.8 +0.5**
OJC Ojcow 147.03 338 *e*PKPbc **PKPbc 23 18 22.7 +0.3**
CFR Carcaliu 147.09 325 ⇓*i*P **PKPbc 23 18 22.9 +0.2**
ANTO Ankara 147.12 313 *e*PKPbc **PKPbc 23 18 23.8 +0.7**
ANTO Ankara 147.12 313 ⇓*i*P **PKPbc 23 18 23.4 +0.3**
BR231 Keskin MP Arra 147.15 313 *e*PKPbc **PKPbc 23 18 23.9 +0.7**
RETH Rethem/Aller, 147.25 351 *e*PKPbc **PKPbc 23 18 23.3 +0.5**
baz=16,slow=2.6
ODBI Odobesti 147.28 326 ⇑*i*P **PKiKP 23 18 24.4 -0.5**
NRDL Niedersach Rie 147.38 350 *e*PKPbc **PKPbc 23 18 23.5 +0.4**
baz=16,slow=2.6
VRI Vrincioaia 147.38 327 ⇓*i*P **PKPbc 23 18 23.3 -0.2**
TIRR Tirgusor 147.39 323 *e*PKPbc **PKPbc 23 18 23.9 +0.4**
TIRR Tirgusor 147.39 323 ⇓*i*P **PKPbc 23 18 23.6 +0.1**
PLOR Plostina 147.43 327 ⇑*i*P **PKPbc 23 18 23.5 -0.1**
HARR Harsova 147.51 324 ⇓*i*P **PKPbc 23 18 23.9 +0.1**
TLB Topalu 147.52 324 ⇓*i*P **PKPbc 23 18 23.9 +0.1**
MFTR Murfatlar 147.56 323 ⇓*i*P **PKPbc 23 18 24.6 +0.7**
BMR Baia Mare 147.63 332 ⇓*i*P **PKPbc 23 18 24.3 +0.3**
TRPA Tarpa 147.69 333 ⇓*i*P **PKPbc 23 18 24.5 +0.4**
TRPA Tarpa 147.69 333 *e*P **PKPbc 23 18 24.1 -0.1**
OZUR 147.70 328 ⇑*i*P **PKPbc 23 18 24.9 +0.6**
PGOR Pogoanele 147.89 325 ⇓*i*P **PKiKP 23 18 26.2 +0.1**
UPC Upice 147.96 343 ⇑*e*PKP **PKiKP 23 18 25.5 -0.6**
UPC *e*PKPAB **PKPab 23 18 30.3 +0.8**
CLZ Clausthal 147.97 350 *e*PKPbc **PKPbc 23 18 25.5 +0.7**
baz=16,slow=2.6
CLL Collm 147.97 347 *e*PKPbc **PKPbc 23 18 25.1 +0.3**
CLL Collm 147.97 347 *e*PKPbc **PKPbc 23 18 25.2 +0.5**
baz=16,slow=2.6
CLL Collm 147.97 347 *i* PKPbc **PKPbc 23 18 25.0 +0.3**
comp=Z,28nm,0.9s
CLL *i* PKPab **PKPab 23 18 29.4 -0.1**
comp=Z,15nm,0.7s
DOPR Dopca 147.99 328 ⇓*i*P **PKiKP 23 18 25.9 -0.5**
DPC Dobruska-Polom 148.01 342 ⇑*e*PKP **PKiKP 23 18 25.7 -0.6**
DPC *ex* x 23 18 29.8
MLR Muntele Rosu 148.04 327 *e*PKPbc **PKPbc 23 18 25.1 -0.3**
MLR Muntele Rosu 148.04 327 ⇓*i*P **PKPbc 23 18 25.0 -0.3**
LANS Liptovska Anna 148.05 338 *e*PKP **PKiKP 23 18 26.5 +0.1**
LANS *e* 23 18 31.3
KRLC Kraliky 148.12 341 ⇑*e*PKP **PKPbc 23 18 25.8 +0.5**
MORC Moravsky Berou 148.15 340 *e*PKPbc **PKPbc 23 18 25.6 +0.2**
MORC Moravsky Berou 148.15 340 ⇓*i*P **PKPbc 23 18 25.7 +0.3**
MORC Moravsky Berou 148.15 340 *e*PKP **PKPbc 23 18 25.6 +0.2**
BRG Berggiesshubel 148.16 345 *i* PKP **PKPbc 23 18 25.6 +0.3**
comp=Z,13nm,0.7s
BRG *i* 23 18 30.4
comp=Z,10nm,0.7s
BRG Berggiesshubel 148.16 345 *e*PKPbc **PKPbc 23 18 25.8 +0.6**
baz=16,slow=2.6
FBE Freiberg 148.25 346 *e*PKPbc **PKiKP 23 18 26.4 -0.3**
baz=16,slow=2.6
SECR 148.29 326 ⇑*i*P **PKPbc 23 18 26.1 +0.3**
CJR Cluj-Napoca 148.30 331 ⇑*i*P **PKPbc 23 18 25.1 -0.7**
NEUB Neuenburg 148.32 348 *e*PKPbc **PKPbc 23 18 26.2 +0.6**
baz=16,slow=2.6
PVCC Panska Ves 148.33 344 ⇑*e*PKP **PKiKP 23 18 26.4 -0.5**
PVCC *e*PKPAB **PKPab 23 18 31.1 +0.1**
VOIR 148.53 328 ⇑*i*P **PKPbc 23 18 26.7 +0.2**
LTVH Ltavrtes, Hu 148.54 333 *e*P **PKiKP 23 18 27.0 -0.3**
EIL Elat 148.59 294 PKPbc **PKiKP 23 18 27.6 -0.5**
comp=Z,8.5nm,0.7s,baz=14,slow=4.2,SNR=9.1
CSS Mathiatis 148.64 304 *e*PKPbc **PKPbc 23 18 27.0 0.0**
DRGR 148.65 332 ⇑*i*P **PKPbc 23 18 26.7 0.0**
PRA Prague 148.78 344 ⇑*e*PKP **PKiKP 23 18 27.4 -0.4**
ARR Arges 148.79 328 ⇓*i*P **PKiKP 23 18 27.7 -0.4**
VYHS Vyhne 148.82 338 *e*PKP **PKPbc 23 18 27.5 +0.5**
VYHS *e* 23 18 33.8
PRU Pruhonice 148.83 344 ⇑*e*PKP **PKiKP 23 18 27.5 -0.4**
PRU *e*PKPAB **PKPab 23 18 33.3 +0.2**
GOPC GO Pecny, Ondr 148.83 344 ⇑*e*PKP **PKiKP 23 18 27.6 -0.4**
GOPC *e*PKPAB **PKPab 23 18 33.5 +0.4**
VRAC Vranov 148.86 311 ⇑*i*P **PKPbc 23 18 27.5 +0.4**
VRAC Vranov 148.86 341 *e*PKP **PKPbc 23 18 27.4 +0.4**
SGRR Singureni 148.88 325 ⇓*i*P **PKiKP 23 18 27.9 -0.3**
MOX Moxa 148.89 348 *e*PKPbc **PKiKP 23 18 27.6 -0.5**
baz=16,slow=2.6
JAVC Velka Javorina 148.91 339 *e*PKP **PKiKP 23 18 28.7 +0.5**
PLN Plauen 148.93 347 *e*PKPbc **PKiKP 23 18 27.7 -0.4**
baz=16,slow=2.6
TANN Tannenbergstha 148.93 347 *e*PKPbc **PKiKP 23 18 27.9 -0.3**
baz=16,slow=2.6
GUNZ Gunzen 149.00 347 *e*PKPbc **PKiKP 23 18 28.1 -0.2**
baz=16,slow=2.6
WERN Wernitzgruen 149.07 347 *e*PKPbc **PKiKP 23 18 28.3 -0.2**
baz=16,slow=2.6
NKC Novy Kostel 149.10 346 ⇑*e*PKP **PKiKP 23 18 28.1 -0.4**
NKC *e*PKPAB **PKPab 23 18 34.3 +0.1**
KRUC Moravsky 149.14 341 *e*PKP **PKPbc 23 18 27.9 +0.2**
LOT Lotru 149.15 329 ⇑*i*P **PKPbc 23 18 27.9 -0.1**
HUMR Humele 149.20 326 ⇓*i*P **PKPbc 23 18 27.8 -0.2**
TREC Trest 149.20 342 ⇑*e*PKP **PKPbc 23 18 28.1 +0.2**
TREC *e*PKPAB **PKPab 23 18 34.7 0.0**
MANZ Manzenberg 149.41 347 *e*PKPbc **PKiKP 23 18 29.0 -0.2**
baz=16,slow=2.6
MODS Modra-Piesok 149.46 339 *e*PKP **PKiKP 23 18 29.4 +0.1**
MODS *e* 23 18 36.8
MODS *e*L L 23 51 00.3
ISP Isparta 149.62 311 *e*PKPbc **PKPbc 23 18 28.6 -0.9**
ISP Isparta 149.62 311 ⇓*i*P **PKPbc 23 18 28.5 -0.9**
GZR Gura Zlata 149.67 330 ⇓*i*P **PKPbc 23 18 28.5 -0.7**
TNS Taunus Mts 149.84 351 *e*PKPbc **PKiKP 23 18 29.9 -0.2**
baz=16,slow=2.6
KHC Kasperske Hory 149.86 344 *e*PKPbc **PKiKP 23 18 29.9 -0.3**
KHC *e*PKPab **PKPab 23 18 38.0 +0.5**
KHC Kasperske Hory 149.86 344 ⇑*e*PKP **PKiKP 23 18 29.9 -0.3**
KHC *e*PKPAB **PKPab 23 18 38.1 +0.6**
VLAD Vladila 149.86 326 ⇑*i*P **PKiKP 23 18 30.0 -0.2**
SRE Strehaia 150.00 328 ⇓*i*P **PKPbc 23 18 30.2 +0.3**
BZS Buzias 150.03 331 ⇓*i*P **PKPbc 23 18 29.0 -1.0**
GEC2 GERESS Array S 150.10 344 *e*PKPbc **PKiKP 23 18 30.5 -0.3**
GEC2 GERESS Array S 150.10 344 *e*PKPbc **PKiKP 23 18 30.5 -0.3**
baz=16,slow=2.6
GERES GERESS Array B 150.10 344 PKP **PKPdf 23 18 25.0 +0.6**
comp=Z,0.5nm,0.8s,baz=48,slow=2.0,SNR=4.7
GERES PKPbc **PKPbc 23 18 29.8 -0.3**
comp=Z,4.3nm,0.7s,baz=40,slow=2.3,SNR=31
GERES PKPab **PKPab 23 18 38.1 -0.4**
comp=Z,2.3nm,0.7s,baz=21,slow=4.5,SNR=8.1
GEA0 GERESS Array S 150.10 344 *e*PKPbc **PKPbc 23 18 29.9 -0.3**
TIM Timisoara 150.12 332 ⇑*i*P **PKPdf 23 18 22.9 -1.5**
HERR Herculane 150.22 330 ⇑*i*P **PKPbc 23 18 30.1 -0.3**
SOP Sopron 150.30 339 *e*P **PKPbc 23 18 30.1 -0.4**
CONA Conrad Observa 150.31 341 *i* PKPbc **PKPbc 23 18 30.7 +0.1**
comp=Z,15nm,1.3s
CONA *i* PKPab **PKPab 23 18 40.7 +1.3**
comp=Z,10nm,1.4s
PUNG Punghina 150.41 328 ⇑*i*P **PKPbc 23 18 30.5 -0.4**
MANT Manisa 150.67 314 *e*PKPbc **PKiKP 23 18 32.3 -0.1**
MORH Mrgy, Hungar 150.80 335 *e*P **PKPbc 23 18 31.1 -0.6**
MOA Molln 150.85 342 *i* PKPbc **PKPbc 23 18 31.6 -0.2**
comp=Z,2.0nm,0.5s
VTS Vitosha 151.47 325 *e*PKPbc **PKPbc 23 18 33.6 0.0**
VTS Vitosha 151.47 325 ⇓*i*P **PKiKP 23 18 33.7 -0.1**
KBA Koelnbreinsper 151.81 343 *e*PKPbc **PKPbc 23 18 33.5 -0.7**
comp=Z,4.7nm,0.6s
WATA Walderalm 152.03 346 *i* PKPbc **PKPbc 23 18 34.0 -0.6**
comp=Z,2.3nm,0.4s,SNR=5.6
WATA *i* PKPab **PKPab 23 18 47.2 +0.5**
comp=Z,2.2nm,0.5s
RETA Reutte 152.06 347 *i* PKPbc **PKPbc 23 18 34.6 -0.1**
comp=Z,10nm,1.8s
WTTA Wattenberg 152.08 345 *i* PKPbc **PKPbc 23 18 34.6 -0.2**
comp=Z,6.8nm,0.7s
MOTA Moosalm 152.12 346 *i* PKiKP **PKiKP 23 18 35.5 +0.5**
comp=Z,3.9nm,0.7s
MOTA *i* PKPab **PKPab 23 18 48.0 +0.8**
comp=Z,5.7nm,0.9s
MYKA Terra Mystica 152.14 342 *i* PKPbc **PKPbc 23 18 34.2 -0.6**
comp=Z,4.3nm,0.6s
SQTA Sankt Quirin 152.22 346 *i* PKPbc **PKPbc 23 18 34.8 -0.2**
comp=Z,4.9nm,0.9s
SQTA *i* PKPab **PKPab 23 18 47.4 -0.1**
comp=Z,6.8nm,1.0s
ABTA Abfaltersbach 152.34 344 *i* PKPbc **PKPbc 23 18 34.8 -0.5**
comp=Z,16nm,1.2s,SNR=7.7
ABTA *i* PKPab **PKPab 23 18 48.1 +0.1**
comp=Z,5.6nm,0.6s
FETA Feichten 152.51 347 *i* PKPbc **PKPbc 23 18 35.2 -0.5**
comp=Z,3.0nm,0.8s
FETA *i* PKPab **PKPab 23 18 49.0 +0.1**
comp=Z,6.5nm,1.2s
FUORN Ofenpass-Fuorn 153.00 347 *e*PKPbc **PKiKP 23 18 37.3 +0.4**
LIT Litzlalm 153.56 322 *e*PKPab **PKPab 23 18 53.6 +0.3**
ESDC Sonseca Array 160.26 13 PKPab **PKPab 23 19 21.2 -1.2**
comp=Z,1.7nm,0.9s,baz=327,slow=4.9,SNR=3.8
KEST Kesra 163.38 338 PKPab **PKPab 23 19 35.5 -0.7**
comp=Z,5.0nm,0.9s,baz=286,slow=4.0,SNR=4.5
TOA0 Torodi Ar. Sit 172.71 180 *e*PKPdf **PKPdf 23 18 46.4 -1.8**
TORD Torodi Ar. Bea 172.71 180 PKP **PKPdf 23 18 46.9 -1.3**
comp=Z,1.2nm,0.9s,baz=173,slow=0.9,SNR=6.4
TORD PKPab **PKPab 23 20 19.7 +1.9**
comp=Z,0.2nm,0.5s,baz=164,slow=3.3,SNR=3.0
TOA1 Torodi Ar. Sit 172.72 180 *e*PKPdf **PKPdf 23 18 46.9 -1.3**
TOA1 *e*PKPab **PKPab 23 20 19.6 +1.9**

TAP 20 23:14:03.7,24.29N×122.22E,h55km±1km,ML2.3,C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
EOS1	**EOS1** baz=341	**0.27**	**342**	*e*P		Pn	23 14 12.8	-0.2
NACB	**Ninganchiao** baz=258	**0.58**	**259**	P		Pn	23 14 15.6	-0.6
NACB				*e*S		Sn	23 14 23.7	-1.6
TWD	**Chiawan** baz=241	**0.61**	**250**	*i* S		Sn	23 14 25.8	0.0
WHF	**Hehuan Shan** baz=252	**0.89**	**261**	*i* P		Pn	23 14 20.5	+0.1
WHF	baz=252			*i* S		Sn	23 14 33.0	+0.3
WHF	**Hehuan Shan** baz=242	**0.89**	**261**	*e*S		Sn	23 14 32.9	+0.3
CHGB	**Renai** baz=248	**0.98**	**257**	*i* P		Pn	23 14 21.6	+0.1
VWDT	**VWDT** baz=233	**1.12**	**242**	*e*P		Pn	23 14 23.0	-0.1

TAP 20 23:14:09.4,24.46N×121.94E,h8km,ML2.0,1D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
TWC	**Suao** baz=333	**0.17**	**330**	P		Pg	23 14 14.0	+1.1
TWC	baz=333			S		Sg	23 14 16.8	+1.5
ENA	**Nanau** baz=258	**0.18**	**260**	⇓*i*P		Pg	23 14 14.0	+0.7
ENA	baz=258			*e*S		Sg	23 14 17.1	+1.3
EOS1	**EOS1** baz=63	**0.19**	**63**	*e*P		Pg	23 14 13.9	+0.6
EOS1	baz=63			*e*S		Sg	23 14 17.5	+1.6
TWE	**Neicheng** baz=317	**0.36**	**316**	*e*P		Pb	23 14 17.7	-0.4
TWE	baz=317			*e*S		Sb	23 14 23.1	-0.8
ENTT	**Nioudou** baz=297	**0.39**	**298**	P		Pb	23 14 18.1	-0.5
ENTT	baz=297			*e*S		Sb	23 14 24.3	-0.4
TWD	**Chiawan** baz=218	**0.49**	**220**	*e*P		Pb	23 14 20.3	-0.1
NWLT	**Wulai** baz=308	**0.51**	**308**	*e*P		Pb	23 14 20.9	+0.2
NWLT	baz=308			*e*S		Sb	23 14 28.4	+0.1
NNSB	**Datong** baz=266	**0.51**	**266**	*e*P		Pb	23 14 20.1	-0.7
NNSB	baz=266			*e*S		Sb	23 14 27.4	-1.0
TIPB	**Shuangxi** baz=348	**0.52**	**348**	P		Pb	23 14 20.9	0.0
TIPB	baz=348			*e*S		Sb	23 14 28.7	+0.1
YHNB	**Yeheng** baz=291	**0.56**	**292**	*e*P		Pb	23 14 21.4	-0.1
YHNB	baz=291			*e*S		Sb	23 14 29.0	-0.7
NSK	**Sanguang** baz=291	**0.57**	**292**	*e*P		Pb	23 14 21.5	-0.3
NSK	baz=291			*e*S		Sb	23 14 29.4	-0.8
TWA	**Mucha** baz=328	**0.61**	**328**	*e*P		Pg	23 14 21.6	+0.3
TWA	baz=328			*e*S		Sb	23 14 31.7	+0.5
NWF	**Wu-fen Shan** baz=346	**0.62**	**347**	*e*P		Pb	23 14 23.2	+0.5
NWF	baz=346			*e*S		Sb	23 14 31.7	0.0
WFSB	**Wu-fen Shan** baz=346	**0.62**	**347**	*e*P		Pb	23 14 23.2	+0.5
WFSB	baz=346			*e*S		Sb	23 14 31.7	+0.1

IDC 20 23:19:54.3±1.1,53.69N×35.30W,h0km,mb3.4/7, mb1 3.6/8,mb1mx3.4/55,mbtmp3.4/8,ML3.3/1,Error ellipse: s-maj=35.7km s-min=19.3km az=27.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
FRB	**Frobisher Bay** 0.1nm,0.3s,baz=99,slow=19,SNR=2.7	**19.74**	**314**	P		Pn	23 24 26.3	-0.3
JMIC	**Jan Mayen** 57nm,0.4s,baz=187,slow=1.4,SNR=3.8	**21.01**	**24**	P		P	23 24 39.2	+0.3
ESDC	**Sonseca Array** 0.9nm,0.7s,baz=313,slow=9.3,SNR=4.5	**25.41**	**111**	P		P	23 25 23.8	+0.5
YKA	**Yellowknife Ar** 0.1nm,0.7s,baz=64,slow=9.0,SNR=2.2	**40.25**	**315**	P		P	23 27 31.8	-0.5
BRTR	**Keskin Array B** 0.5nm,0.8s,baz=342,slow=4.6,SNR=3.6	**47.42**	**78**	P		P	23 28 30.9	+0.4
PDAR	**Pinedale Array** 0.2nm,0.4s,baz=31,slow=5.4,SNR=4.3	**48.49**	**289**	P		P	23 28 38.9	+0.1
TORD	**Torodi Ar. Bea** 0.8nm,0.8s,baz=331,slow=8.3,SNR=4.4	**49.88**	**130**	P		P	23 28 48.9	-0.4
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=339,slow=5.2,SNR=3.1	**66.74**	**42**	P		P	23 30 46.5	-0.5
SONM	**Songino Array** 0.2nm,0.3s,baz=350,slow=7.3,SNR=5.2	**73.76**	**26**	P		P	23 31 30.2	+0.1
ASAR	**Alice Springs** 0.2nm,0.3s,baz=356,slow=2.8,SNR=3.0	**148.93**	**19**	PKPbc		PKPbc	23 39 42.9	-1.0

*BJI **20** 23:32:20.1,54.13N×35.45W,h8km,mb4.8/44,mB5.3/38, Ms5.3/30,Ms7 5.1/30*
*IDC **20** 23:32:20.2±0.4,53.88N×35.23W,h0km,mb4.5/41, mb1 4.6/45,mb1mx4.5/62,mbtmp4.5/45,ML3.7/4,MS5.0/39, Ms1 5.0/39,ms1mx4.9/42,Error ellipse: s-maj=12.5km s-min=7.9km az=0.0*
*MOS **20** 23:32:20.9±0.9,53.95N×35.20W,h12km,mb5.0/79, MS5.3/59,Error ellipse: s-maj=6.9km s-min=5.6km az=56.2*
*NEIC **20** 23:32:22.5±0.1,53.87N×35.13W,h10km,mb4.9/255, MS5.4/299,Error ellipse: s-maj=4.3km s-min=2.0km az=174.0*
*ISCJB **20** 23:32:22.2±0.1,53.90N±0.03×35.24W±0.02,h20km, mb4.9/324,MS5.3/584,Error ellipse: s-maj=3.9km s-min=1.6km az=171.7*
*GCMT **20** 23:32:24.5±0.1,54.03N±0.01×35.11W±0.01,h12km, MW5.5/130,Moment Tensor Solution. s95,c145; s130,c273; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}=1.97±.03; $M_{\theta\theta}$=0.01±.03; $M_{\phi\phi}$=1.96±.02; $M_{r\theta}$=0.38±.07; $M_{\theta\phi}$=0.24±.02; $M_{\phi r}$=-0.08±.06; Best double couple: M_o=2.01700×10^{17} NP1:ϕ_s356.00000°,δ46.00000°, λ-105.00000°. NP2:ϕ_s197.00000°,δ46.00000°, λ-75.00000°. Principal axes: T 1.9890, Plg0.0000°, Azm97.0000°; N 0.0570, Plg11.0000°, Azm7.0000°; P -2.0440, Plg79.0000°, Azm189.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 23:32:22.9±0.8,53.92N±0.05×35.21W±0.04,h14km±4km, n1316,σ1923/1029,mb4.9/339,MS5.3/584,18C-10D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
BORG	**Borgarnes** comp=Z,6μm,20.8s,baz=231,slow=30	**12.93**	**27**	LR		LR	23 38 50.2	
SFJD	**Kangerlussuaq** 0.4nm,0.3s,baz=143,slow=9.1,SNR=4.3	**15.09**	**336**	Pn		**Pn**	**23 35 54.3**	**-1.1**
SFJD	comp=Z,8μm,20.7s,baz=154,slow=33			LR		LR	23 40 38.7	
SFJD	**Kangerlussuaq**	**15.09**	**336**	*e*Pn		**Pn**	**23 35 57.5**	**+2.1**
SFJD				*e*Sn		**Sn**	**23 38 38.6**	**-3.5**
SFJD	**Kangerlussuaq**	**15.09**	**336**	*i* P		**Pn**	**23 35 55.1**	**-0.3**
SFJD	**Kangerlussuaq**	**15.09**	**336**	*i* P		**Pn**	**23 35 55.1**	**-0.3**
SFJD	**Kangerlussuaq**	**15.09**	**336**	*e*P		**P**	**23 36 00.7**	**0.0**
VAL	**Valentia**	**15.16**	**87**	*e*P		**P**	**23 36 01.4**	**-0.2**
IGLA	**Glengowla, Co**	**15.30**	**81**	*e*P		**P**	**23 36 03.8**	**+0.8**
IDGL	**Inch Island, C**	**16.10**	**75**	*e*P		**Pn**	**23 36 06.0**	**-2.6**
ILULI	**Ilulissat** 130nm,1.5s	**17.01**	**340**	*e*Pn		**P**	**23 36 26.2**	**+4.3**
ILULI	**Ilulissat**	**17.01**	**340**	*e*P		**P**	**23 36 26.2**	**+4.3**
ILULI	comp=Z,130nm,1.5s			pmax		pmax		
PSET	**Sete Cidades**	**17.37**	**154**	*e*PcP		**PcP**	**23 41 04.1**	**-2.1**
CMLA	**Cha da Macela**	**17.48**	**154**	*e*PcP		**PcP**	**23 41 04.1**	**-2.3**
BART	**Pico Bartolome**	**17.56**	**153**	*e*PcP		PcP	23 40 57.3	-9.3
SCO	**Scoresbysund** comp=Z,52nm,1.3s	**17.66**	**15**	*e*Pn		**P**	**23 36 31.7**	**+2.6**
PSMA	**Santa Maria**	**18.31**	**153**	*e*PcP		**PcP**	**23 41 10.3**	**+2.6**
PSMN	**Pico do Norte,**	**18.32**	**153**	*e*PcP		**PcP**	**23 41 05.5**	**-2.2**
SCHQ	**Schefferville** comp=Z,0.6nm,0.3s,baz=82,slow=14,SNR=12	**18.37**	**286**	P		**Pn**	**23 36 35.8**	**-1.3**
SCHQ				LR		LR	23 42 31.2	
SCHQ	**Schefferville** comp=Z,33nm,0.8s	**18.37**	**286**	*e*Pn		**P**	**23 36 37.2**	**+0.2**
ESK	**Eskdalemuir** comp=Z,89nm,1.4s	**18.51**	**73**	*e*P		P	23 36 30.9	-7.6
ESK	**Eskdalemuir**	**18.51**	**73**	*e*P		P	23 36 30.9	-7.6
ESK	comp=Z,89nm,1.4s			pmax		pmax		
EKA	**Eskdalemuir Ar** baz=279,slow=9.3,SNR=8.5	**18.53**	**73**	P		**P**	**23 36 38.1**	**-0.6**
SUMG	**Summit** comp=Z,37nm,0.9s	**18.78**	**357**	*e*P		**Pn**	**23 36 43.4**	**+1.1**
SUMG	**Summit**	**18.78**	**357**	*i* P		**P**	**23 36 37.4**	**-4.5**
SUMG	**Summit**	**18.78**	**357**	*e*P		**Pn**	**23 36 43.4**	**+1.1**
SUMG	comp=Z,37nm,0.9s			pmax		pmax		
FRB	**Frobisher Bay** comp=Z,0.3nm,0.3s,baz=94,slow=12,SNR=10	**19.62**	**313**	P		**P**	**23 36 50.4**	**-0.2**
FRB				LR		LR	23 42 56.1	
BATG	**Bathurst New B** comp=Z,71nm,1.2s	**20.56**	**264**	*e*P		Pn	23 37 08.2	+4.9
LMN	**Caledonia Moun** comp=Z,9μm,18.2s,baz=118,slow=32	**20.58**	**259**	PFAKE			23 37 10.0	+6.4
LMN				LR		LR		
JMIC	**Jan Mayen** comp=Z,7μm,18.7s,baz=245,slow=31	**20.78**	**25**	LR		LR	23 43 01.1	
POLO	**Lamas de Olo** comp=Z,54nm,1.6s	**22.17**	**113**	*e*P		**P**	**23 37 20.5**	**+2.0**
GGN	**Saint George** comp=Z,61nm,0.8s	**22.18**	**260**	*e*P		**P**	**23 37 15.7**	**-2.8**
GGN	comp=Z,7μm,20.0s			LR		LR		
PBRG	**Braganca** comp=Z,71nm,1.4s	**22.45**	**111**	*e*P		**P**	**23 37 26.0**	**+4.6**
PVIS	**Viseu** comp=Z,97nm,1.7s	**22.57**	**115**	*e*P		**P**	**23 37 23.1**	**+0.3**
MVO	**Moncorvo** comp=Z,79nm,1.7s	**22.73**	**113**	*e*P		**P**	**23 37 24.6**	**+0.2**
MTE	**Manteigas** comp=Z,8μm,21.0s	**22.98**	**115**	PFAKE			23 37 40.0	+13
MTE				LR		LR		
LIS	**Lisbon**	**23.37**	**120**	*e*P		**P**	**23 37 30.9**	**0.0**
LIS				*e*S		**S**	**23 41 44.7**	**+1.3**
LIS	comp=Z,6μm,18.9s			AMS		AMS	23 44 49.0	
LIS	**Lisbon**	**23.37**	**120**	*e*P		**P**	**23 37 30.9**	**0.0**
LIS				*e*S		**S**	**23 41 44.6**	**+1.3**
PCBR	**Castelo Branco** comp=Z,93nm,1.9s	**23.42**	**116**	*e*P		**P**	**23 37 30.8**	**-0.6**
PKME	**Peaks-Kenny Pk**	**23.53**	**262**	PFAKE			23 37 40.0	+7.5
PKME	comp=Z,8μm,19.0s			LR		LR		
PKME	**Peaks-Kenny Pk** baz=56	**23.53**	**262**	P		**P**	**23 37 33.8**	**+1.3**
PMTG	**Montargil**	**23.59**	**118**	*e*P		**P**	**23 37 38.2**	**+5.1**
DAG	**Danmarks Havn**	**23.77**	**9**	*i* P		**P**	**23 37 33.5**	**-1.0**
DAG	**Danmarks Havn**	**23.77**	**9**	*i* P		**P**	**23 37 33.5**	**-1.0**
PESTR	**Estremoz**	**24.07**	**117**	*e*P		**P**	**23 37 38.5**	**+0.8**
PESTR	**Estremoz**	**24.07**	**117**	PFAKE			23 37 50.0	+12
PESTR	comp=Z,5μm,20.0s			LR		LR		
CLF	**Chambon-Foret** comp=Z,26nm,0.9s	**24.11**	**89**	*e*P		**P**	**23 37 35.6**	**-2.4**
CLF	comp=Z,6μm,20.0s			LR		LR		
MESJ	**Messejana**	**24.51**	**120**	*e*P		**P**	**23 37 41.7**	**-0.1**
MESJ				*e*S		**S**	**23 42 03.3**	**+1.6**
MESJ	comp=Z,5μm,20.0s			AMS		AMS	23 45 24.5	
MESJ	**Messejana** comp=Z,105nm,1.6s	**24.51**	**120**	*e*P		**P**	**23 37 43.0**	**+1.2**
MESJ	**Messejana**	**24.51**	**120**	*e*P		**P**	**23 37 41.7**	**-0.1**
MESJ				*e*S		**S**	**23 42 03.3**	**+1.6**
DOU	**Dourbes**	**24.57**	**83**	⇑P		**P**	**23 37 41.2**	**-1.0**
MORF	**Marmelete**	**24.70**	**121**	*e*P		**P**	**23 37 43.4**	**-0.2**
MORF				*e*S		**S**	**23 42 06.2**	**+1.3**
MORF	comp=Z,4μm,19.0s			AMS		AMS	23 45 18.5	
MORF	**Marmelete**	**24

NAO01 NORSAR Array S 25.33 56 *e*P **P 23 37 47.5 -1.4**
comp=Z,7µm,21.0s
ESDC Sonseca Array 25.45 111 P **P 23 37 49.7 -0.6**
comp=Z,16nm,0.8s,baz=315,slow=9.2,SNR=35
ESDC LR LR 23 45 52.0
comp=Z,5µm,18.7s,baz=310,slow=32
ESLA Sonseca Array 25.45 111 *e*P **P 23 37 49.7 -0.6**
comp=Z,32nm,1.0s
ESLA LR LR
comp=Z,6µm,20.0s
ES19 SONSECA Array 25.46 111 *e*P **P 23 37 50.0 -0.4**
NB2 NORSAR Subarra 25.48 55 P **P 23 37 49.5 -0.8**
comp=Z,49nm,1.7s,baz=274,slow=9.3
NB200 NORSAR Array S 25.48 55 *e*P **P 23 37 49.4 -0.9**
NOA NORSAR Array B 25.48 55 P **P 23 37 49.4 -0.9**
comp=Z,5.1nm,1.0s,baz=275,slow=9.7,SNR=5.2
NOA LR LR 23 46 07.0
comp=Z,3µm,21.8s,baz=275,slow=32
NB201 NORSAR Array S 25.51 55 *e*P **P 23 37 51.0 +0.3**
NC303 NORSAR Array S 25.53 55 *e*P **P 23 37 50.8 0.0**
LBNH Lisbon 25.66 263 PFAKE 23 38 00.0 +7.9
LBNH LR LR
comp=Z,9µm,19.0s
LBNH Lisbon 25.66 263 P **P 23 37 52.2 +0.2**
baz=55
NC602 NORSAR Array S 25.66 56 *e*P **P 23 37 52.9 +0.9**
WLF Walferdange 25.67 83 ⇓P **P 23 37 53.4 +1.3**
comp=Z,19nm,1.5s
NC405 NORSAR Array S 25.71 55 *e*P **P 23 37 54.4 +1.9**
TULEG Thule 25.94 343 *e*P **P 23 37 53.0 -1.3**
comp=Z,82nm,1.5s
TULEG LR LR
comp=Z,5µm,22.0s
FRNY Flat Rock 26.30 266 PFAKE 23 38 10.0 +12
FRNY LR LR
comp=Z,8µm,19.0s
HRV Adam Dziewonsk 26.48 259 PFAKE 23 38 10.0 +10
HRV LR LR
comp=Z,6µm,19.0s
HRV Adam Dziewonsk 26.48 259 P **P 23 37 59.0 -0.5**
baz=52
SFS San Fernando 26.60 119 PFAKE 23 38 10.0 +9.4
SFS LR LR
comp=Z,3µm,20.0s
HFS Hagfors 26.80 57 P **P 23 38 00.8 -1.4**
comp=Z,6.5nm,1.1s,baz=245,slow=9.4,SNR=4.5
HFS LR LR 23 47 26.8
comp=Z,5µm,19.3s,baz=281,slow=34
SSB Saint Sauveur 26.87 92 PFAKE 23 38 10.0 +6.9
SSB LR LR
comp=Z,6µm,20.0s
D54A Lac Fusel, La 26.88 273 P **P 23 38 02.3 -0.9**
baz=60
VLDQ Val d'Or 26.88 275 *e*P **P 23 38 04.8 +1.6**
comp=Z,23nm,0.8s
VLDQ LR LR
comp=Z,14µm,19.0s
ECH Echery 26.91 85 PFAKE 23 38 10.0 +6.6
ECH LR LR
comp=Z,16µm,18.0s
LONY Lake Ozonia 27.00 266 PFAKE 23 38 20.0 +16
LONY LR LR
comp=Z,8µm,19.0s
LONY Lake Ozonia 27.00 266 P **P 23 38 03.7 -0.6**
baz=56
ACCN Adirondack Com 27.18 263 PFAKE 23 38 20.0 +14
ACCN LR LR
comp=Z,7µm,19.0s
D53A Lac Vacive, Po 27.54 273 P **P 23 38 10.1 +1.1**
baz=60
BFO Black Forest 27.55 84 *e*P **P 23 38 06.9 -2.3**
comp=Z,20nm,1.3s
BFO LR LR
comp=Z,11µm,20.0s
BFO Black Forest 27.55 84 *e*P **P 23 38 06.9 -2.3**
BFO pmax pmax
comp=Z,20nm,1.3s
BFO MLR MLR
comp=Z,11µm,20.0s
E54A Lac Daplat, Po 27.56 272 P **P 23 38 08.7 -0.6**
baz=59
STU Stuttgart 27.85 82 PFAKE 23 38 20.0 +8.2
STU LR LR
comp=Z,5µm,18.0s
SENIN Lac Senin/Sane 27.92 88 PFAKE 23 38 20.0 +7.3
SENIN LR LR
comp=Z,5µm,20.0s
D52A ZEK Kipawa Sen 28.01 273 P **P 23 38 11.0 -2.2**
baz=60
YLE Yale 28.02 259 PFAKE 23 38 30.0 +17
YLE LR LR
comp=Z,7µm,18.0s
RTC Rabat Centre 28.22 123 PFAKE 23 38 30.0 +15
RTC LR LR
comp=Z,7µm,22.0s
BNI Bardonecchia 28.25 91 PFAKE 23 38 30.0 +14
BNI LR LR
comp=Z,10µm,20.0s
E52A Mattawa 28.51 272 P **P 23 38 16.1 -1.6**
baz=58
CART Cartagena 28.56 111 PFAKE 23 38 30.0 +12
CART LR LR
comp=Z,4µm,20.0s
GRA1 Grafenberg Arr 28.61 79 PFAKE 23 38 30.0 +11
GRA1 LR LR
comp=Z,5µm,18.0s
GRFO Grafenberg 28.61 79 PFAKE 23 38 30.0 +11
GRFO LR LR
comp=Z,5µm,18.0s
PAL Palisades 28.79 259 PFAKE 23 38 30.0 +10
PAL LR LR
comp=Z,4µm,18.0s
CLL Collm 28.95 75 *e*P **P 23 38 20.7 -0.8**
comp=Z,17nm,1.0s
CLL LR LR
comp=Z,3µm,18.0s
CLL Collm 28.95 75 *i* P **P 23 38 20.4 -1.1**
comp=Z,21nm,1.1s
CLL Collm 28.95 75 *e*P **P 23 38 20.7 -0.8**
CLL pmax pmax
comp=Z,17nm,1.0s
CLL MLR MLR
comp=Z,3µm,18.0s
TUE Stuetta 29.07 86 PFAKE 23 38 30.0 +7.1
TUE LR LR
comp=Z,4µm,22.0s
NKC Novy Kostel 29.09 78 AMS AMS 23 49 00.0
comp=Z,6µm,19.5s
G53A Haliburton 29.11 270 P **P 23 38 22.2 -0.9**
baz=57
ODNJ Ogdensburg 29.14 260 PFAKE 23 38 40.0 +17
ODNJ LR LR
comp=Z,3µm,20.0s
F52A Sundridge 29.16 272 P **P 23 38 21.9 -1.6**
baz=58
DAVOX Davos/Dischmat 29.23 85 P **P 23 38 24.4 +0.2**
comp=Z,2.0nm,0.7s,baz=302,slow=11,SNR=4.1
DAVOX LR LR 23 49 28.2
comp=Z,7µm,19.1s,baz=297,slow=35
BINY Binghamton 29.25 263 PFAKE 23 38 40.0 +16
BINY LR LR
comp=Z,6µm,20.0s
BRNJ Basking Ridge 29.38 259 PFAKE 23 38 40.0 +15
BRNJ LR LR
comp=Z,3µm,18.0s
RETA Reutte 29.39 84 *i* pP **P 23 38 25.9 +0.3**
comp=Z,11nm,1.3s
KSPA Keystone Colle 29.52 262 PFAKE 23 38 40.0 +13
KSPA LR LR
comp=Z,8µm,20.0s
FUORN Ofenpass-Fuorn 29.54 85 PFAKE 23 38 40.0 +13
FUORN LR LR
comp=Z,8µm,18.0s
FETA Feichten 29.60 84 *i* pP **P 23 38 27.9 +0.3**
comp=Z,7.5nm,1.0s
SADO Sadowa 29.61 270 P **P 23 38 25.6 -1.9**
comp=Z,7.0nm,0.7s,baz=44,slow=6.4,SNR=4.5
SADO LR LR 23 49 28.1
comp=Z,12µm,18.3s,baz=56,slow=35
SADO Sadowa 29.61 270 *e*P **P 23 38 25.6 -1.9**
comp=Z,45nm,1.2s
SADO LR LR
comp=Z,12µm,20.0s
MOTA Moosalm 29.66 84 *i* pP **P 23 38 29.2 +1.1**
comp=Z,12nm,1.4s
E50A Wahnapitae 29.67 274 P **P 23 38 26.7 -1.2**
baz=58

BRG Berggiesshubel 29.67 76 *e*P **P 23 38 28.0 +0.1**
comp=Z,28nm,2.0s
BRG *e* 23 38 35.2
comp=Z,19nm,1.4s
BRG PP **PnPn 23 39 15.0 -7.8**
BRG S **S 23 43 21.0 -1.9**
comp=N,3µm,16.7s
comp=E,4µm,16.8s
comp=Z,5µm,16.5s
BRG Berggiesshubel 29.67 76 *e*P **P 23 38 28.0 +0.1**
BRG *e* 23 38 35.2
BRG S **S 23 43 21.0 -1.9**
BRG pmax pmax
comp=Z,28nm,2.0s
BRG pmax pmax
comp=Z,19nm,1.4s
BRG MLR MLR
comp=N,3µm,16.7s
BRG MLR MLR
comp=E,4µm,16.8s
BRG MLR MLR
comp=Z,5µm,16.5s
SQTA Sankt Quirin 29.79 84 *i* pP **P 23 38 29.5 +0.4**
comp=Z,18nm,1.2s
LUPA Lehigh Univers 29.90 260 PFAKE 23 38 40.0 +10
LUPA LR LR
comp=Z,400nm,18.0s
N59A State Game Lan 29.93 261 PFAKE 23 38 40.0 +10
N59A LR LR
comp=Z,9µm,18.0s
N59A State Game Lan 29.93 261 P **P 23 38 28.8 -1.6**
baz=50
WATA Walderalm 29.94 83 *i* P **P 23 38 30.2 -0.3**
comp=Z,5.0nm,1.2s
MMNY Mt. Morris Dam 30.06 266 PFAKE 23 38 40.0 +8.5
MMNY LR LR
comp=Z,10µm,20.0s
PVCC Panska Ves 30.18 76 *e*P **P 23 38 34.6 +2.2**
PVCC AMS AMS 23 51 30.0
comp=Z,4µm,14.1s
PVCC Panska Ves 30.18 76 *e*P **PcP 23 41 37.7 +4.6**
PVCC Panska Ves 30.18 76 *e*P **P 23 38 34.6 +2.2**
PVCC MLR MLR
comp=Z,4µm,14.1s
KHC Kasperske Hory 30.24 79 *e*P **P 23 38 31.6 -1.4**
comp=Z,3.5nm,1.1s
KHC LR LR
comp=Z,2µm,18.0s
KHC Kasperske Hory 30.24 79 *e*P **P 23 38 33.4 +0.3**
KHC *e*pP **sP 23 38 38.1 -0.1**
KHC AMS AMS 23 50 00.0
comp=Z,5µm,16.0s
KHC Kasperske Hory 30.24 79 *e*P **PcP 23 41 35.5 +2.1**
KHC Kasperske Hory 30.24 79 *e*P **P 23 38 33.4 +0.3**
KHC *e* 23 38 38.1
KHC MLR MLR
comp=Z,5µm,16.0s
MDT Midelt 30.28 122 P **P 23 38 34.2 +0.7**
comp=Z,12nm,0.7s,baz=260,slow=7.2,SNR=16
PRA Prague 30.30 77 AMS AMS 23 51 10.0
comp=Z,5µm,15.3s
PRU Pruhonice 30.40 77 AMS AMS 23 51 20.0
comp=Z,5µm,15.1s
GEC2 GERESS Array S 30.45 79 *e*P **P 23 38 36.0 +1.0**
comp=Z,10nm,1.1s
GEC2 LR LR
comp=Z,5µm,18.0s
GEC2 GERESS Array S 30.45 79 *e*P **P 23 38 36.0 +1.0**
GEC2 pmax pmax
comp=Z,11nm,1.1s
GEC2 MLR MLR
comp=Z,5µm,18.0s
GERES GERESS Array B 30.45 79 P **P 23 38 34.6 -0.3**
comp=Z,3.0nm,1.0s,baz=309,slow=9.4,SNR=8.7
GERES LR LR 23 50 25.4
comp=Z,5µm,18.2s,baz=290,slow=36
GEA0 GERESS Array S 30.45 79 *e*P **P 23 38 34.9 -0.1**
E48A Lockeyer 30.48 275 P **P 23 38 34.8 -0.3**
baz=58
GOPC GO Pecny, Ondr 30.58 77 AMS AMS 23 51 20.0
comp=Z,5µm,14.8s
I52A Shelburne 30.62 270 P **P 23 38 35.2 -1.3**
baz=55
D47A Chapleau 30.73 277 P **P 23 38 37.1 -0.3**
baz=59
ABTA Abfaltersbach 30.79 84 P **P 23 38 36.5 -1.5**
comp=Z,11nm,1.3s
MVL Millersville 30.86 260 PFAKE 23 38 50.0 +11
MVL LR LR
comp=Z,2µm,21.0s
PAGS Pennsylvania G 30.93 261 PFAKE 23 38 50.0 +11
PAGS LR LR
comp=Z,9µm,18.0s
VLC Villacollemand 30.95 89 PFAKE 23 38 50.0 +11
VLC LR LR
comp=Z,6µm,20.0s
UPC Upice 31.01 75 *e*P **P 23 38 40.9 +1.1**
UPC *ex* x 23 38 46.9
UPC AMS AMS 23 51 30.0
comp=Z,6µm,15.0s
UPC Upice 31.01 75 *e*P **P 23 38 40.9 +1.1**
UPC *e* 23 38 46.9
UPC MLR MLR
comp=Z,6µm,15.0s
KSP Ksiaz 31.02 74 *e*P P 23 38 34.2 -5.7
KSP Ksiaz 31.02 74 *e*P P 23 38 34.2 -5.7
RES Resolute Bay 31.06 334 P **P 23 38 39.7 -0.3**
comp=Z,10nm,1.0s,baz=95,slow=9.3,SNR=19
RES LR LR 23 50 39.9
comp=Z,2µm,19.4s,baz=98,slow=35
RES Resolute Bay 31.06 334 *e*P **P 23 38 40.5 +0.5**
comp=Z,13nm,0.9s
RES LR LR
comp=Z,2µm,22.0s
RES Resolute Bay 31.06 334 *e*P **P 23 38 40.5 +0.5**
RES pmax pmax
comp=Z,13nm,0.9s
RES MLR MLR
comp=Z,2µm,22.0s
ARA0 ARCESS Array S 31.07 36 *e*P **P 23 38 39.7 -0.5**
ARCES ARCESS Array B 31.07 36 P **P 23 38 39.7 -0.5**
comp=Z,6.5nm,0.8s,baz=257,slow=8.1,SNR=14
ARCES LR LR 23 48 50.2
comp=Z,38nm,18.5s,baz=309,slow=32
E47A Iron Bridge 31.15 276 P **P 23 38 41.7 +0.7**
baz=58
DPC Dobruska-Polom 31.26 75 *e*P **P 23 38 42.5 +0.4**
DPC AMS AMS 23 51 30.0
comp=Z,6µm,15.1s
DPC Dobruska-Polom 31.26 75 *e*P **PcP 23 41 38.8 +2.7**
DPC Dobruska-Polom 31.26 75 *e*P **P 23 38 42.5 +0.4**
DPC MLR MLR
comp=Z,6µm,15.1s
MOA Molln 31.26 81 *i* pP **P 23 38 42.6 +0.5**
comp=Z,12nm,1.5s
TREC Trest 31.27 77 *e*P **P 23 38 42.8 +0.7**
TREC AMS AMS 23 50 40.0
comp=Z,6µm,17.6s
TREC Trest 31.27 77 *e*P **P 23 38 42.8 +0.7**
TREC MLR MLR
comp=Z,6µm,17.6s
SSPA Standing Stone 31.35 263 *e*P **P 23 38 43.8 +1.0**
comp=Z,17nm,1.1s
SSPA LR LR
comp=Z,6µm,19.0s
SSPA Standing Stone 31.35 263 P **P 23 38 42.6 -0.3**
baz=50
D46A Sault St. Mari 31.36 277 P **P 23 38 42.9 0.0**
baz=59
SDMD Soldier's Deli 31.53 260 *e*P **P 23 38 46.1 +1.7**
comp=Z,8.4nm,0.9s
SDMD LR LR
comp=Z,1µm,18.0s
ERPA Erie 31.66 267 PFAKE 23 39 00.0 +14
ERPA LR LR
comp=Z,8µm,18.0s
M54A Oil Creek Stat 31.84 265 PFAKE 23 39 00.0 +13
M54A LR LR
comp=Z,9µm,19.0s
N55A Marion Center 31.90 264 P **P 23 38 46.1 -1.6**
baz=51
O56A Blue Knob Stat 31.98 263 PFAKE 23 39 00.0 +12
O56A LR LR
comp=Z,7µm,20.0s
O56A Blue Knob Stat 31.98 263 P **P 23 38 48.5 0.0**
baz=50

ALLY Alegheny Colle 32.04 266 PFAKE 23 39 00.0 +11
ALLY LR LR
comp=Z,11µm,19.0s
FCC Fort Churchill 32.06 303 *e*P **P 23 38 49.3 +0.4**
comp=Z,20nm,1.0s
FCC LR LR
comp=Z,6µm,18.0s
FCC Fort Churchill 32.06 303 *e*P **P 23 38 49.3 +0.4**
FCC pmax pmax
comp=Z,20nm,1.0s
FCC MLR MLR
comp=Z,6µm,18.0s
TRI Trieste 32.08 84 PFAKE 23 39 00.0 +11
TRI LR LR
comp=Z,8µm,19.0s
OBKA Obir 32.12 83 *i* P **P 23 38 48.0 -1.7**
comp=Z,10nm,1.0s
CONA Conrad Observa 32.15 79 *i* P **P 23 38 48.2 -1.8**
comp=Z,9.2nm,1.6s
JAVS Javornik 32.16 84 *i* P **P 23 38 50.0 0.0**
JAVS *i* 23 38 56.2
G47A Hillman 32.18 274 P **P 23 38 48.8 -1.3**
baz=56
MORC Moravsky Berou 32.22 75 *e*P **P 23 38 50.9 +0.4**
comp=Z,26nm,1.4s
MORC LR LR
comp=Z,4µm,22.0s
MORC Moravsky Berou 32.22 75 *e*P **P 23 38 50.9 +0.4**
MORC pmax pmax
comp=Z,28nm,1.4s
MORC MLR MLR
comp=Z,4µm,22.0s
I49A Point Hope 32.26 272 P **P 23 38 48.6 -2.3**
baz=55
SOKA Soboth 32.31 82 *i* P **P 23 38 48.7 -2.7**
comp=Z,1.2nm,0.7s
N54A Moraine State 32.38 265 PFAKE 23 39 00.0 +8.1
N54A LR LR
comp=Z,9µm,19.0s
N54A Moraine State 32.38 265 P **P 23 38 50.9 -1.0**
baz=51
PERS Pernice 32.38 82 *i* P **P 23 38 51.9 -0.1**
PERS *i* 23 38 56.8
O55A Ligonier 32.45 263 P **P 23 38 52.3 -0.3**
baz=50
FIA0 FINESS Array S 32.47 52 *e*P **P 23 38 51.6 -0.8**
FIA0 FINESS Array S 32.47 52 *e*P **P 23 38 51.7 -0.8**
FINES FINESS Array B 32.47 52 P **P 23 38 51.6 -0.8**
comp=Z,2.4nm,0.7s,baz=294,slow=10,SNR=6.5
FINES LR LR 23 50 26.2
comp=Z,4µm,21.4s,baz=272,slow=33
FIA1 FINESS Array S 32.48 52 *e*P **P 23 38 52.4 -0.1**
OKC Ostrava-Krasne 32.54 75 AMS AMS 23 52 40.0
comp=Z,4µm,14.8s
E44A Grand Marais A 32.61 278 PFAKE 23 39 10.0 +16
E44A LR LR
comp=Z,16µm,19.0s
E44A Grand Marais A 32.61 278 P **P 23 38 52.5 -1.4**
baz=58
I48A Sherman Twp 32.64 273 P **P 23 38 54.5 +0.3**
baz=55
CBN Corbin Frederi 32.64 259 PFAKE 23 39 10.0 +16
CBN LR LR
comp=Z,3µm,21.0s
VISS Visnje 32.66 84 *e*P **P 23 38 56.7 +2.3**
VISS *i* 23 39 02.2
G46A Petoskey 32.69 275 P **P 23 38 53.9 -0.7**
baz=57
H47A Mio 32.70 274 P **P 23 38 54.7 0.0**
baz=56
J49A Marlette 32.78 271 P **P 23 38 55.4 0.0**
baz=54
GLMI Grayling 32.82 274 PFAKE 23 39 10.0 +14
GLMI LR LR
comp=Z,12µm,19.0s
N53A Lisbon 32.98 265 P **P 23 38 56.8 -0.3**
baz=51
R58B Mineral 33.10 259 PFAKE 23 39 10.0 +12
R58B LR LR
comp=Z,3µm,21.0s
R58B Mineral 33.10 259 P **P 23 38 58.0 -0.2**
baz=47
O54A Avella 33.10 264 P **P 23 38 57.9 -0.3**
baz=50
BEL Belsk 33.12 70 *e*P **P 23 39 00.9 +2.7**
BEL Belsk 33.12 70 *e*P **P 23 39 01.0 +2.7**
MCWV Mont Chateau 33.12 263 PFAKE 23 39 10.0 +12
MCWV LR LR
comp=Z,4µm,19.0s
MCWV Mont Chateau 33.12 263 P **P 23 38 59.5 +1.0**
baz=50
P55A Reedsville 33.21 263 P **P 23 39 00.2 +1.0**
baz=49
I47A Gladwin 33.21 273 P **P 23 38 59.1 0.0**
baz=55
OJC Ojcow 33.30 73 *e*P **P 23 38 59.7 -0.2**
OJC Ojcow 33.30 73 *e*P **P 23 39 00.2 +0.3**
comp=Z,16nm,1.1s
OJC Ojcow 33.30 73 *e*P **P 23 39 00.2 +0.3**
OJC pmax pmax
comp=Z,16nm,1.1s
G45A Suttons Bay 33.31 276 P **P 23 39 01.0 +0.9**
baz=56
H46A Fife Lake 33.33 274 P **P 23 39 00.4 +0.3**
baz=56
PABE Paberze 33.33 63 *e*P **P 23 39 00.1 0.0**
PABE IAmb IAmb 23 39 09.1
comp=Z,68nm,1.0s
E43A Lone Tree Farm 33.37 279 PFAKE 23 39 10.0 +9.5
E43A LR LR
comp=Z,14µm,20.0s
E43A Lone Tree Farm 33.37 279 P **P 23 39 00.4 -0.1**
baz=58
L50A Kingsville 33.38 269 P **P 23 39 00.3 -0.3**
baz=52
M51A Elyria 33.44 267 P **P 23 38 59.9 -1.3**
baz=52
SUW Suwalki 33.51 66 *e*P **P 23 39 01.3 -0.3**
comp=Z,43nm,1.0s
SUW LR LR
comp=Z,3µm,18.0s
SUW Suwalki 33.51 66 *e*P **P 23 39 01.3 -0.3**
SUW pmax pmax
comp=Z,43nm,1.0s
SUW MLR MLR
comp=Z,3µm,18.0s
O53A New Philadelph 33.55 265 P **P 23 39 01.8 -0.3**
baz=50
VYHS Vyhne 33.59 77 *e*P **P 23 39 04.0 +1.6**
VYHS MLR MLR
comp=Z,2µm,18.7s
VYHS Vyhne 33.59 77 *e*P **P 23 39 04.0 +1.6**
VYHS *e*L L 23 52 35.4
LANS Liptovska Anna 33.63 75 *e*P **P 23 39 03.6 +0.8**
LANS Liptovska Anna 33.63 75 *e*P **P 23 39 03.6 +0.8**
VSU Vasula 33.68 57 *i* P **P 23 39 01.9 -1.1**
VSU pmax pmax
comp=Z,42nm,1.1s
VSU Vasula 33.68 57 *e*P **P 23 39 01.9 -1.1**
VSU IAmb IAmb 23 39 08.2
comp=Z,46nm,0.9s
K48A Perry 33.69 271 P **P 23 39 01.0 -2.3**
baz=54
Q55A Buckhannon 33.70 262 P **P 23 39 01.8 -1.7**
baz=49
AAM Ann Arbor 33.72 270 PFAKE 23 39 20.0 +16
AAM LR LR
comp=Z,11µm,18.0s
AAM Ann Arbor 33.72 270 P **P 23 39 03.2 -0.4**
baz=53
F43A Flat Rock, Esc 33.77 278 P **P 23 39 03.5 -0.4**
baz=57
AQU L'Aquila 33.79 90 PFAKE 23 39 20.0 +16
AQU LR LR
comp=Z,5µm,20.0s
N51A Ashland 33.81 267 PFAKE 23 39 20.0 +16
N51A LR LR
comp=Z,7µm,20.0s
E42A Champion 33.88 279 P **P 23 39 04.5 -0.5**
baz=58
L49A Milan 33.90 270 P **P 23 39 04.8 -0.4**
baz=53
M50A Fremont 33.91 268 PFAKE 23 39 20.0 +15
M50A LR LR
comp=Z,9µm,19.0s
M50A Fremont 33.91 268 P **P 23 39 05.5 +0.3**

baz=52
D41A Chassel 33.92 281 PFAKE 23 39 20.0 +15
D41A LR LR
comp=Z,3μm,18.0s
D41A Chassel 33.92 281 P **P** **23 39 05.5 +0.2**
baz=58
NIE Niedzica 33.97 74 *eP* **P** **23 39 06.6 +0.8**
NIE Niedzica 33.97 74 *eP* **P** **23 39 06.6 +0.8**
O52A Adamsville 34.00 265 *eP* **P** **23 39 07.2 +1.1**
comp=Z,20nm,0.9s
O52A LR LR
comp=Z,7μm,18.0s
O52A Adamsville 34.00 265 P **P** **23 39 06.4 +0.3**
baz=50
P53A Whipple 34.14 264 *eP* **P** **23 39 07.5 +0.2**
comp=Z,61nm,1.5s
P53A LR LR
comp=Z,12μm,20.0s
P53A Whipple 34.14 264 P **P** **23 39 07.3 0.0**
baz=50
N50A Nevada 34.36 267 P **P** **23 39 08.8 -0.4**
baz=51
F42A Maple Grove Fa 34.37 278 P **P** **23 39 09.8 +0.5**
baz=57
G43A Wallace 34.38 277 PFAKE 23 39 20.0 +11
G43A LR LR
comp=Z,15μm,18.0s
M49A Liberty Center 34.41 269 P **P** **23 39 09.6 0.0**
baz=52
IZAR Zarasai 34.43 61 *eP* **P** **23 39 08.3 -1.3**
IZAR IAmb IAmb 23 39 15.5
comp=Z,4.7nm,0.8s
O51A Pataskala 34.44 266 P **P** **23 39 09.8 -0.1**
baz=50
ISAL Salakas 34.44 62 *eP* **P** **23 39 08.5 -1.2**
ISAL IAmb IAmb 23 39 16.4
comp=Z,15nm,1.1s
E41A Kenton 34.47 280 P **P** **23 39 09.0 -1.1**
baz=57
P52A Corning 34.48 265 P **P** **23 39 09.3 -1.0**
baz=50
PSZ Piszkesteto 34.49 77 PFAKE 23 39 20.0 +10
PSZ LR LR
comp=Z,5μm,18.0s
IIGN Ignalina 34.58 62 *eP* **P** **23 39 09.6 -1.3**
IIGN IAmb IAmb 23 39 16.7
comp=Z,9.9nm,1.0s
LVZ Lovozero 34.58 39 PFAKE 23 39 20.0 +9.2
LVZ LR LR
comp=Z,2μm,19.0s
ACSO Alum Creek Sta 34.60 267 *eP* **P** **23 39 11.9 +0.6**
comp=Z,35nm,1.0s
ACSO LR LR
comp=Z,6μm,20.0s
ACSO Alum Creek Sta 34.60 267 P **P** **23 39 10.9 -0.4**
baz=50
BLY Banja Luka 34.62 83 PFAKE 23 39 20.0 +8.6
BLY LR LR
comp=Z,8μm,20.0s
TAMR Tamra 34.69 101 PFAKE 23 39 20.0 +8.0
TAMR LR LR
comp=Z,2μm,20.0s
COWI Conover 34.77 280 *eP* **P** **23 39 12.8 +0.1**
comp=Z,24nm,0.8s
COWI LR LR
comp=Z,9μm,19.0s
R54A Victor 34.77 262 P **P** **23 39 13.1 +0.3**
baz=48
M48A Edgerton 34.84 270 PFAKE 23 39 30.0 +17
M48A LR LR
comp=Z,10μm,19.0s
H43A Windswept, Lux 34.88 276 PFAKE 23 39 20.0 +6.4
H43A LR LR
comp=Z,13μm,19.0s
N49A Columbus Grove 34.88 268 *eP* **P** **23 39 14.3 +0.6**
comp=Z,29nm,0.9s
N49A LR LR
comp=Z,10μm,20.0s
N49A Columbus Grove 34.88 268 P **P** **23 39 13.3 -0.4**
baz=51
F41A Three Lakes 34.95 279 PFAKE 23 39 30.0 +16
F41A LR LR
comp=Z,13μm,18.0s
F41A Three Lakes 34.95 279 P **P** **23 39 14.1 -0.2**
baz=56
Q52A Bidwell 35.00 264 P **P** **23 39 15.4 +0.6**
baz=49
CNNC Cliffs of the 35.00 255 PFAKE 23 39 30.0 +15
CNNC LR LR
comp=Z,8μm,18.0s
CNNC Cliffs of the 35.00 255 P **P** **23 39 13.9 -0.9**
baz=44
E40A Wakefield 35.02 281 P **P** **23 39 13.1 -1.8**
baz=57
O50A Cable 35.03 267 P **P** **23 39 13.6 -1.4**
baz=50
BLA Blacksburg 35.09 260 *eP* **P** **23 39 15.6 0.0**
comp=Z,20nm,0.9s
BLA LR LR
comp=Z,4μm,20.0s
BLA Blacksburg 35.09 260 *eP* **P** **23 39 15.6 0.0**
BLA pmax pmax
comp=Z,20nm,0.9s
BLA MLR MLR
comp=Z,4μm,20.0s
BLA Blacksburg 35.09 260 P **P** **23 39 15.9 +0.3**
baz=47
P51A Williamsport 35.13 266 *eP* **P** **23 39 16.4 +0.6**
comp=Z,32nm,0.9s
P51A LR LR
comp=Z,5μm,19.0s
P51A Williamsport 35.13 266 P **P** **23 39 15.1 -0.7**
baz=50
EYMN Ely 35.15 284 *eP* **P** **23 39 16.2 +0.2**
comp=Z,23nm,0.8s
EYMN LR LR
comp=Z,1μm,22.0s
EYMN Ely 35.15 284 P **P** **23 39 16.4 +0.5**
baz=59
KWP Kalwaria Pacla 35.23 73 *eP* **P** **23 39 13.7 -2.9**
KWP Kalwaria Pacla 35.23 73 PFAKE 23 39 30.0 +13
KWP LR LR
comp=Z,27μm,22.0s
KWP Kalwaria Pacla 35.23 73 *eP* **P** **23 39 13.7 -2.9**
R53A Hurricane 35.23 263 P **P** **23 39 16.1 -0.7**
baz=48
G41A Antigo 35.29 278 P **P** **23 39 16.3 -0.8**
baz=56
H42A Shiocton 35.30 277 PFAKE 23 39 30.0 +13
H42A LR LR
comp=Z,14μm,20.0s
H42A Shiocton 35.30 277 P **P** **23 39 16.5 -0.8**
baz=55
N48A Decatur 35.42 269 P **P** **23 39 17.6 -0.7**
baz=51
O49A Covington 35.43 268 *eP* **P** **23 39 18.8 +0.4**
comp=Z,25nm,0.9s
O49A LR LR
comp=Z,10μm,19.0s
O49A Covington 35.43 268 P **P** **23 39 17.4 -1.1**
baz=50
I43A Langenfeld Bro 35.44 276 P **P** **23 39 17.6 -0.8**
baz=54
F40A Park Falls 35.44 280 P **P** **23 39 17.0 -1.5**
baz=57
E39A Mellen 35.44 281 P **P** **23 39 17.0 -1.5**
baz=57
L46A Eue Claire 35.45 272 P **P** **23 39 16.2 -2.4**
baz=52
P50A Jamestown 35.48 266 P **P** **23 39 18.8 -0.1**
baz=50
UZH Uzhgorod 35.50 74 *eP* **P** **23 39 18.9 0.0**
UZH *i* 23 39 28.7
Q51A Peebles 35.59 265 *eP* **P** **23 39 20.5 +0.6**
comp=Z,19nm,0.8s
Q51A LR LR
comp=Z,6μm,18.0s
Q51A Peebles 35.59 265 P **P** **23 39 20.5 +0.6**
baz=49
R52A Catlettsburg 35.63 264 P **P** **23 39 20.8 +0.6**
baz=48
KEST Kesra 35.74 102 P **P** **23 39 20.9 -0.3**
comp=Z,23nm,0.9s,baz=308,slow=3.0,SNR=12
KEST LR LR 23 53 18.2
comp=Z,2μm,18.9s,baz=240,slow=35
KEST Kesra 35.74 102 *eP* **P** **23 39 22.0 +0.8**
comp=Z,37nm,0.9s
KEST LR LR
comp=Z,2μm,19.0s
N47A Urbana 35.80 270 P **P** **23 39 21.8 +0.2**
baz=51
G40A Rib Lake 35.85 279 *eP* **P** **23 39 22.1 +0.1**
comp=Z,68nm,1.6s
G40A LR LR
comp=Z,10μm,20.0s
G40A Rib Lake 35.85 279 P **P** **23 39 22.5 +0.5**
baz=56
M46A Old House Fiel 35.86 271 PFAKE 23 39 30.0 +7.9
M46A LR LR
comp=Z,7μm,18.0s
O48A Farmland 35.87 268 P **P** **23 39 22.8 +0.6**
baz=51
I42A Draeger Farm, 35.88 276 PFAKE 23 39 30.0 +7.7
I42A LR LR
comp=Z,13μm,18.0s
I42A Draeger Farm, 35.88 276 P **P** **23 39 20.5 -1.8**
baz=54
LVV L'vov 35.88 72 *eP* P 23 39 27.4 +5.2
LVV *e* 23 40 36.4
LVV *eS* **S** **23 45 03.6 +4.1**
LVV MLR MLR
comp=Z,3μm,16.0s
J43A Natural Harves 35.89 275 P **P** **23 39 21.9 -0.5**
baz=54
E38A The Farm, Brul 35.90 282 PFAKE 23 39 30.0 +7.6
E38A LR LR
comp=Z,3μm,18.0s
H41A Junction City 35.90 278 *eP* P 23 39 27.6 +5.2
comp=Z,37nm,0.8s
H41A LR LR
comp=Z,15μm,20.0s
H41A Junction City 35.90 278 P **P** **23 39 22.3 -0.2**
baz=55
TRPA Tarpa 35.90 75 ⇑ *i* P **P** **23 39 22.6 +0.3**
F39A Loretta 35.91 280 P **P** **23 39 22.3 -0.2**
baz=56
P49A Miami Univ. Ec 36.07 267 P **P** **23 39 22.2 -1.7**
baz=50
Q50A Georgetown 36.09 266 P **P** **23 39 24.3 +0.3**
baz=49
R51A Hillsboro 36.21 265 P **P** **23 39 25.1 0.0**
baz=48
K43A Burlington 36.24 274 PFAKE 23 39 40.0 +15
K43A LR LR
comp=Z,11μm,18.0s
K43A Burlington 36.24 274 P **P** **23 39 24.9 -0.5**
baz=53
L44A Lake County Fo 36.31 273 P **P** **23 39 25.8 -0.1**
baz=53
H40A Chili 36.33 278 P **P** **23 39 26.2 +0.2**
baz=55
S52A Salyersville 36.33 263 P **P** **23 39 26.1 -0.1**
baz=48
J42A Columbus 36.34 276 P **P** **23 39 26.4 +0.2**
baz=54
I41A Arkdale 36.35 277 PFAKE 23 39 40.0 +14
I41A LR LR
comp=Z,14μm,18.0s
I41A Arkdale 36.35 277 P **P** **23 39 26.4 +0.2**
baz=54
M45A Boilermakers S 36.40 272 P **P** **23 39 24.3 -2.4**
baz=52
G39A Holcombe 36.41 280 P **P** **23 39 25.9 -0.8**
baz=56
N46A Monticello 36.41 271 P **P** **23 39 27.6 +0.9**
baz=51
F38A Pierce - Schro 36.44 281 P **P** **23 39 27.2 +0.1**
baz=56
ULM Lac du Bonnet 36.46 290 P **P** **23 39 26.0 -1.2**
comp=Z,14nm,1.0s,baz=69,slow=8.2,SNR=14
ULM LR LR 23 53 12.1
comp=Z,6μm,18.1s,baz=68,slow=34
ULM Lac du Bonnet 36.46 290 *eP* **P** **23 39 26.6 -0.6**
comp=Z,23nm,1.1s
ULM LR LR
comp=Z,7μm,18.0s
ULM Lac du Bonnet 36.46 290 *eP* **P** **23 39 26.6 -0.6**
ULM pmax pmax
comp=Z,23nm,1.1s
ULM MLR MLR
comp=Z,7μm,18.0s
O47A Sheridan 36.49 269 P **P** **23 39 28.4 +0.9**
baz=51
Q49A Aurora 36.52 267 P **P** **23 39 27.1 -0.7**
baz=49
P48A Milroy 36.54 268 P **P** **23 39 27.5 -0.4**
baz=50
DIVS Divibare 36.65 82 PFAKE 23 39 40.0 +11
DIVS LR LR
comp=Z,5μm,18.0s
S51A Beattyville 36.66 264 *eP* **P** **23 39 29.9 +1.0**
comp=Z,21nm,1.0s
S51A LR LR
comp=Z,12μm,18.0s
S51A Beattyville 36.66 264 P **P** **23 39 28.3 -0.7**
baz=48
T52A Hallie 36.66 263 P **P** **23 39 28.3 -0.7**
baz=47
R50A Paris 36.66 265 P **P** **23 39 28.6 -0.4**
baz=48
DRGR 36.71 77 ⇓ *i* P **P** **23 39 30.4 +1.0**
CLTB Caltabellotta 36.73 96 PFAKE 23 39 40.0 +10
CLTB LR LR
comp=Z,2μm,21.0s
BZS Buzias 36.73 79 ⇓ *i* P **P** **23 39 29.6 +0.1**
K42A Prairie Point, 36.79 275 P **P** **23 39 30.6 +0.5**
baz=53
L43A Garden Prairie 36.80 274 P **P** **23 39 31.3 +1.2**
baz=52
H39A Augusta 36.82 279 P **P** **23 39 30.1 -0.2**
baz=55
J41A Loganville 36.84 276 P **P** **23 39 29.9 -0.5**
baz=54
G38A Ridgeland 36.87 280 P **P** **23 39 30.2 -0.5**
baz=55
M44A Midewin, Midew 36.87 272 PFAKE 23 39 40.0 +9.3
M44A LR LR
comp=Z,5μm,20.0s
M44A Midewin, Midew 36.87 272 P **P** **23 39 29.9 -0.8**
baz=52
I40A Norwalk 36.88 277 P **P** **23 39 29.7 -1.2**
baz=54
N45A Kenland 36.89 271 P **P** **23 39 29.5 -1.4**
baz=51
U53A Fall Branch 36.93 261 P **P** **23 39 31.2 -0.1**
baz=46
SFIN Lafayette 36.94 270 *eP* **P** **23 39 31.5 +0.2**
comp=Z,26nm,0.9s
SFIN LR LR
comp=Z,10μm,18.0s
SFIN Lafayette 36.94 270 P **P** **23 39 31.6 +0.2**
baz=51
F37A Hinrichs Farm, 37.01 281 P **P** **23 39 32.0 +0.1**
baz=56
P47A Martinsville 37.02 268 P **P** **23 39 32.6 +0.6**
baz=50
KMSC Kings Mountain 37.06 259 PFAKE 23 39 40.0 +7.6
KMSC LR LR
comp=Z,3μm,18.0s
KMSC Kings Mountain 37.06 259 P **P** **23 39 31.4 -1.0**
baz=45
Q48A North Vernon 37.07 267 P **P** **23 39 31.7 -0.7**
baz=49,SNR=10
S50A Richmond 37.11 264 P **P** **23 39 32.7 -0.1**
baz=48
R49A Shelbyville 37.15 266 P **P** **23 39 32.8 -0.4**
baz=48
TTG Podgorica 37.20 85 PFAKE 23 39 40.0 +6.5
TTG LR LR
comp=Z,4μm,19.0s
JFWS Jewell Farm 37.24 276 *eP* **P** **23 39 34.7 +0.8**
comp=Z,21nm,0.8s
JFWS LR LR
comp=Z,11μm,19.0s
JFWS Jewell Farm 37.24 276 *eP* **P** **23 39 34.7 +0.8**
JFWS pmax pmax
comp=Z,21nm,0.8s
JFWS MLR MLR
comp=Z,11μm,19.0s
JFWS Jewell Farm 37.24 276 P **P** **23 39 32.7 -1.2**
baz=53
N44A Piper City 37.29 272 P **P** **23 39 33.2 -1.1**
baz=51
T51A Gray 37.32 263 P **P** **23 39 35.2 +0.6**
baz=47
U52A Thorn Hill 37.37 262 P **P** **23 39 35.7 +0.6**
baz=46
TZTN Tazewell 37.38 262 *eP* **P** **23 39 35.8 +0.8**
comp=Z,33nm,1.1s
TZTN LR LR
comp=Z,3μm,19.0s
TZTN Tazewell 37.38 262 P **P** **23 39 35.0 -0.1**
baz=47
BLO Bloomington 37.38 268 *eP* **P** **23 39 37.5 +2.5**
comp=Z,21nm,0.9s
BLO LR LR
comp=Z,12μm,18.0s
M43A Waltham Townsh 37.38 273 P **P** **23 39 36.2 +1.2**
baz=52
SPMN Marine on St. 37.39 281 *eP* **P** **23 39 35.5 +0.4**
comp=Z,21nm,0.9s
SPMN LR LR
comp=Z,6μm,18.0s
SPMN Marine on St. 37.39 281 P **P** **23 39 35.9 +0.8**
baz=55
H38A Maiden Rock 37.40 280 P **P** **23 39 35.7 +0.5**
baz=55
I39A Houston 37.44 278 *eP* **P** **23 39 36.0 +0.5**
comp=Z,47nm,0.8s
I39A LR LR
comp=Z,16μm,18.0s
I39A Houston 37.44 278 P **P** **23 39 34.8 -0.7**
baz=54,SNR=7.7
L42A Oliver, Polo 37.45 274 PFAKE 23 39 50.0 +14
L42A LR LR
comp=Z,10μm,18.0s
L42A Oliver, Polo 37.45 274 P **P** **23 39 35.2 -0.5**
baz=52
K41A Shullsburg 37.46 276 P **P** **23 39 36.9 +1.1**
baz=53
Q47A Bedord North L 37.47 268 P **P** **23 39 37.1 +1.2**
baz=49
P46A Rosedale 37.49 269 P **P** **23 39 36.6 +0.5**
baz=50
R48A Northridge Ran 37.50 267 P **P** **23 39 36.6 +0.6**
baz=49
V53A Saluda 37.55 261 *eP* **P** **23 39 37.0 +0.4**
comp=Z,13nm,1.0s
V53A LR LR
comp=Z,7μm,19.0s
V53A Saluda 37.55 261 P **P** **23 39 37.2 +0.6**
baz=46
S49A Springfield 37.56 265 P **P** **23 39 37.2 +0.6**
baz=48
PAULI Pauline 37.56 259 PFAKE 23 39 50.0 +13
PAULI LR LR
comp=Z,2μm,20.0s
FFC Flin Flon 37.62 299 *eP* **P** **23 39 37.2 +0.3**
comp=Z,8.4nm,0.8s
FFC LR LR
comp=Z,4μm,19.0s
FFC Flin Flon 37.62 299 *eP* **P** **23 39 37.2 +0.3**
FFC pmax pmax
comp=Z,8.0nm,0.8s
FFC MLR MLR
comp=Z,4μm,19.0s
JSC Jenkinsville 37.62 258 PFAKE 23 39 50.0 +13
JSC LR LR
comp=Z,5μm,18.0s
BUR08 Bucovina Ar. S 37.67 74 *eP* **P** **23 39 38.6 +1.0**
BUR04 Bucovina Ar. S 37.70 74 *eP* **P** **23 39 38.5 +0.7**
BURAR Bucovina Array 37.70 74 ⇑ *iP* **P** **23 39 38.8 +1.0**
U51A La Follette 37.76 263 P **P** **23 39 38.9 +0.6**
baz=47
TIP Timpagrande 37.76 91 PFAKE 23 39 50.0 +12
TIP LR LR
comp=Z,4μm,22.0s
T50A Nancy 37.81 264 P **P** **23 39 38.1 -0.7**
baz=47,SNR=8.1
J39A Decorah 37.85 277 P **P** **23 39 38.8 -0.2**
baz=54
NHSC New Hope 37.85 255 *eP* **P** **23 39 40.2 +1.1**
comp=Z,74nm,1.1s
NHSC LR LR
comp=Z,5μm,18.0s
NHSC New Hope 37.85 255 P **P** **23 39 37.5 -1.6**
baz=43
CEL Celeste 37.85 93 PFAKE 23 39 50.0 +11
CEL LR LR
comp=Z,2μm,20.0s
WCI Wyandotte Cave 37.86 267 *eP* **P** **23 39 39.8 +0.7**
comp=Z,20nm,0.8s
WCI LR LR
comp=Z,8μm,19.0s
WCI Wyandotte Cave 37.86 267 *eP* **P** **23 39 39.8 +0.7**
WCI pmax pmax
comp=Z,20nm,0.8s
WCI MLR MLR
comp=Z,8μm,19.0s
WCI Wyandotte Cave 37.86 267 P **P** **23 39 39.0 -0.1**
baz=48
P45A Graceland, Par 37.87 270 *eP* **P** **23 39 39.6 +0.4**
comp=Z,37nm,0.9s
P45A LR LR
comp=Z,8μm,18.0s
P45A Graceland, Par 37.87 270 P **P** **23 39 39.1 -0.1**
baz=50
V52A Sevierville 37.88 262 *eP* **P** **23 39 39.8 +0.4**
comp=Z,28nm,1.3s
V52A LR LR
comp=Z,4μm,20.0s
V52A Sevierville 37.88 262 P **P** **23 39 39.4 0.0**
baz=46
K40A Colesburg 37.90 276 P **P** **23 39 38.9 -0.5**
baz=53
O44A Mansfield 37.90 271 P **P** **23 39 39.3 -0.1**
baz=50
R47A Wooly Knot Far 37.95 267 P **P** **23 39 39.1 -0.8**
baz=49,SNR=10
BG3 Lake Jocassee 38.09 260 PFAKE 23 39 50.0 +8.9
BG3 LR LR
comp=Z,4μm,18.0s
S48A Wiedeman Farm, 38.10 266 P **P** **23 39 40.7 -0.4**
baz=48
W53A Cullowhee 38.10 260 P **P** **23 39 41.5 +0.2**
baz=45
TKL Tuckaleechee C 38.12 262 P **P** **23 39 41.4 0.0**
comp=Z,2.6nm,0.9s,baz=106,slow=19,SNR=2.8
TKL LR LR 23 54 25.8
comp=Z,4μm,21.3s,baz=56,slow=35
TKL Tuckaleechee C 38.12 262 *eP* **P** **23 39 41.4 0.0**
comp=Z,38nm,1.6s
TKL LR LR
comp=Z,4μm,21.0s
HDIL Hopedale 38.13 272 PFAKE 23 39 50.0 +8.6
HDIL LR LR
comp=Z,6μm,20.0s
HDIL Hopedale 38.13 272 P **P** **23 39 40.6 -0.8**
baz=51
T49A Edmonton 38.16 265 *eP* **P** **23 39 42.1 +0.4**
comp=Z,16nm,0.9s
T49A LR LR
comp=Z,7μm,18.0s
T49A Edmonton 38.16 265 P **P** **23 39 41.6 -0.1**
baz=47
U50A Jamestown 38.22 263 P **P** **23 39 43.1 +0.9**
baz=47
TIR Tirane 38.23 86 PFAKE 23 39 50.0 +7.8
TIR LR LR
comp=Z,6μm,18.0s
HODGE Hodges 38.24 258 *eP* **P** **23 39 42.7 +0.4**
HODGE LR LR
comp=Z,2μm,18.0s
AK11 Malin Array Si 38.30 68 *eP* **P** **23 39 41.4 -1.3**
O43A Sugar Creek Fa 38.31 272 P **P** **23 39 43.1 +0.2**
baz=51
KIEV Kiev 38.31 68 *eP* **P** **23 39 42.3 -0.5**
comp=Z,17nm,0.9s
KIEV LR LR
comp=Z,2μm,18.0s
KIEV Kiev 38.31 68 ⇓ *iP* **P** **23 39 42.4 -0.5**
KIEV Kiev 38.31 68 ⇑ *iP* **P** **23 39 41.8 -1.0**
KIEV pmax pmax
comp=Z,8.0nm,0.8s
AKASG Malin Array Be 38.32 68 P **P** **23 39 40.7 -2.2**
comp=Z,5.1nm,0.8s,baz=300,slow=8.4,SNR=18
AKASG PcP **PcP** **23 41 54.8 -1.6**
comp=Z,2.7nm,0.7s,baz=286,slow=3.5,SNR=5.6
AKASG LR LR 23 56 35.0
comp=Z,1μm,19.0s,baz=310,slow=38
AKASG Malin Array Be 38.32 68 *i* P **P** **23 39 41.2 -1.7**

AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKBB Malin Array Si 38.32 68 *e*P **P 23 39 42.3 -0.6**
comp=Z,17nm,0.9s
AKBB *e*PcP **PcP 23 41 54.8 -1.6**
AKBB LR LR
comp=Z,2µm,19.0s
AKBB Malin Array Si 38.32 68 *e*P **P 23 39 42.3 -0.6**
AKBB *e* 23 41 54.8
AKBB pmax pmax
comp=Z,17nm,0.9s
AKBB MLR MLR
comp=Z,2µm,19.0s
L40A Anamosa 38.33 275 PFAKE 23 40 00.0 +17
L40A LR LR
comp=Z,11µm,18.0s
L40A Anamosa 38.33 275 P **P 23 39 42.3 -0.8**
baz=52
K39A Oelwein 38.33 277 P **P 23 39 42.6 -0.5**
baz=53
V51A Loudon 38.35 262 PFAKE 23 40 00.0 +17
V51A LR LR
comp=Z,5µm,19.0s
V51A Loudon 38.35 262 P **P 23 39 43.9 +0.6**
baz=46
M41A Milan 38.36 274 P **P 23 39 42.1 -1.1**
baz=52
N42A Yates City 38.40 273 P **P 23 39 42.8 -0.8**
baz=51
P44A Sand Creek, Wi 38.43 270 P **P 23 39 43.8 -0.1**
baz=50
Q45A Warren Harvey, 38.52 269 P **P 23 39 43.6 -1.1**
baz=49
BIZ Bicaz 38.58 75⇑ *i*P **P 23 39 45.7 +0.6**
R46A Gibon Southern 38.59 268 P **P 23 39 44.2 -1.1**
baz=49
OLIL Olney 38.59 269 PFAKE 23 40 00.0 +15
OLIL LR LR
comp=Z,8µm,19.0s
W52A Murphy 38.60 261 PFAKE 23 40 00.0 +15
W52A LR LR
comp=Z,7µm,18.0s
W52A Murphy 38.60 261 P **P 23 39 44.1 -1.4**
baz=45
S47A Hartford 38.62 267 P **P 23 39 45.5 -0.1**
baz=48
X53A Estanollee 38.65 260 P **P 23 39 46.2 +0.3**
baz=45
T48A Bowling Green 38.66 266 P **P 23 39 46.2 +0.2**
baz=48
WDD Wied Dalam 38.68 97 PFAKE 23 40 00.0 +14
WDD LR LR
comp=Z,3µm,20.0s
CPCT Cooper Cave 38.70 262 *e*P **P 23 39 47.1 +0.8**
comp=Z,24nm,1.3s
CPCT LR LR
comp=Z,4µm,21.0s
U49A Red Boiling Sp 38.71 264 P **P 23 39 47.2 +0.9**
baz=47
Y54A Tignall 38.75 258 P **P 23 39 46.7 0.0**
baz=44
L39A Vinton 38.75 276 P **P 23 39 46.8 +0.1**
baz=52
KLMR Klimovskoe 38.80 49 *e*P **P 23 39 46.0 -0.8**
KLMR pmax pmax
comp=Z,45nm,1.1s
KLMR Klimovskoe 38.80 49 *e*P **P 23 39 46.0 -0.8**
KLMR AMP 23 39 59.2
comp=Z,45nm,1.1s
O42A Bath 38.82 272 P **P 23 39 48.4 +1.2**
baz=50
USIN University of 38.84 268 *e*P **P 23 39 47.9 +0.5**
comp=Z,37nm,0.9s
USIN LR LR
comp=Z,9µm,18.0s
P43A Skaggs, Pawnee 38.85 271 P **P 23 39 47.9 +0.5**
baz=50
OZUR 38.87 76⇑ *i*P **P 23 39 47.8 +0.2**
V50A Pikevile 38.88 263 P **P 23 39 47.0 -0.8**
baz=46,SNR=7.5
Z55A Blythe 38.89 257 P **P 23 39 47.9 0.0**
baz=43
M40A Post Highland 38.91 275 P **P 23 39 47.7 -0.2**
baz=52
X52A Dahlonega 38.92 260 P **P 23 39 47.8 -0.4**
baz=45
N41A Harden Midland 38.96 274 PFAKE 23 40 00.0 +12
N41A LR LR
comp=Z,8µm,18.0s
R45A Skylar, Fairfi 38.99 269 P **P 23 39 48.0 -0.6**
baz=49,SNR=11
Q44A Meyer Farm, Va 39.03 270 *e*P **P 23 39 49.0 0.0**
comp=Z,48nm,0.9s
Q44A LR LR
comp=Z,6µm,18.0s
Q44A Meyer Farm, Va 39.03 270 P **P 23 39 48.6 -0.3**
baz=49,SNR=9.8
W51A Cleveland 39.04 262 P **P 23 39 49.1 0.0**
baz=46
S46A Don Dixon Farm 39.06 267 P **P 23 39 49.1 -0.1**
baz=48
U48A Cassie Pea, Po 39.16 265 P **P 23 39 50.0 -0.1**
baz=47
T47A Sharon Grove 39.17 266 PFAKE 23 40 00.0 +10
T47A LR LR
comp=Z,5µm,20.0s
257A Skidaway Islan 39.17 255 PFAKE 23 40 00.0 +10
257A LR LR
comp=Z,2µm,18.0s
M39A Webster 39.25 275 P **P 23 39 51.3 +0.5**
baz=52
Y53A Monroe 39.27 259 P **P 23 39 50.7 -0.3**
baz=44
N40A Mertquake, Sal 39.28 274 P **P 23 39 50.5 -0.5**
baz=51
Z54A Sparta 39.29 258 P **P 23 39 50.9 -0.3**
baz=44
V49A McMinnville 39.29 264 P **P 23 39 51.1 -0.1**
baz=46
MLR Muntele Rosu 39.30 77 *e*P **P 23 39 53.2 +1.9**
comp=Z,20nm,1.3s
MLR LR LR
comp=Z,4µm,22.0s
MLR Muntele Rosu 39.30 77 *e*P **P 23 39 53.2 +1.9**
MLR pmax pmax
comp=Z,20nm,1.3s
MLR MLR MLR
comp=Z,4µm,22.0s
W50A Signal Mountai 39.34 262 *e*P **P 23 39 52.4 +0.8**
comp=Z,15nm,0.9s
W50A LR LR
comp=Z,9µm,18.0s
W50A Signal Mountai 39.34 262 P **P 23 39 51.2 -0.4**
baz=46
O41A Passleys Farm, 39.35 273 P **P 23 39 51.5 -0.2**
baz=50
P42A Winchester 39.37 272 *e*P **P 23 39 51.3 -0.5**
comp=Z,31nm,0.9s
P42A LR LR
comp=Z,6µm,19.0s
P42A Winchester 39.37 272 P **P 23 39 53.0 +1.2**
baz=50
Q43A New Douglas 39.41 270 P **P 23 39 52.6 +0.5**
baz=49
VTS Vitosha 39.43 82 PFAKE 23 40 00.0 +7.5
VTS LR LR
comp=Z,4µm,20.0s
R44A Waltonville 39.49 269 P **P 23 39 53.0 +0.2**
baz=49
PLOR Plostina 39.50 76⇓ *i*P **P 23 39 53.1 +0.2**
X51A Calhoun 39.51 261 *e*P **P 23 39 53.6 +0.6**
comp=Z,22nm,1.1s
X51A LR LR
comp=Z,3µm,20.0s
X51A Calhoun 39.51 261 P **P 23 39 53.4 +0.3**
baz=45
155A Kite 39.52 257 P **P 23 39 53.5 +0.4**
baz=43
GOGA Godfrey 39.52 259 *e*P **P 23 39 53.5 +0.4**
comp=Z,11nm,0.9s
GOGA LR LR
comp=Z,2µm,18.0s
GOGA Godfrey 39.52 259 *e*P **P 23 39 53.6 +0.4**
GOGA pmax pmax
comp=Z,11nm,0.9s
GOGA MLR MLR
comp=Z,2µm,18.0s
GOGA Godfrey 39.52 259 P **P 23 39 53.2 0.0**
baz=44
Y52A Lilburn 39.55 260 *e*P **P 23 39 53.9 +0.5**
comp=Z,13nm,0.8s
Y52A LR LR
comp=Z,3µm,19.0s
Y52A Lilburn 39.55 260 P **P 23 39 53.3 0.0**
baz=44
S45A Carrier Mills 39.58 268 P **P 23 39 53.4 -0.1**
baz=48
T46A Princeton 39.59 267 P **P 23 39 54.6 +0.9**
baz=48
SCIA State Center 39.60 277 PFAKE 23 40 10.0 +16
SCIA LR LR
comp=Z,12µm,18.0s
SCIA State Center 39.60 277 P **P 23 39 54.5 +0.8**
baz=52
U47A Clarksville 39.64 266 P **P 23 39 55.0 +0.9**
baz=47
Z53A Monticello 39.68 259 P **P 23 39 55.4 +1.0**
baz=44
SWET Sewanee 39.69 263 *e*P **P 23 39 55.3 +0.7**
comp=Z,13nm,0.9s
SWET LR LR
comp=Z,9µm,18.0s
P41A Barry, Barry 39.74 272 P **P 23 39 55.7 +0.8**
baz=50
MDND Maddock 39.81 288 PFAKE 23 40 10.0 +15
MDND LR LR
comp=Z,6µm,18.0s
357A Townsend 39.84 255 P **P 23 39 56.2 +0.4**
baz=42
V48A Smith Brothers 39.85 264 *e*P **P 23 39 56.5 +0.6**
comp=Z,26nm,1.2s
V48A LR LR
comp=Z,8µm,18.0s
V48A Smith Brothers 39.85 264 P **P 23 39 56.7 +0.9**
baz=46
154A Montrose 39.89 257 PFAKE 23 40 10.0 +14
154A LR LR
comp=Z,6µm,18.0s
154A Montrose 39.89 257 P **P 23 39 55.9 -0.3**
baz=43
Q42A Golden Eagle 39.92 271 P **P 23 39 56.9 +0.5**
baz=49
SLM Saint Louis 39.92 271 PFAKE 23 40 10.0 +14
SLM LR LR
comp=Z,4µm,19.0s
SIUC Southern Illin 39.93 269 *e*P **P 23 39 57.0 +0.6**
comp=Z,72nm,0.8s
SIUC LR LR
comp=Z,9µm,18.0s
W49A Belvidere 39.95 263 P **P 23 39 56.3 -0.4**
baz=46
S44A Carbondale 39.96 269 P **P 23 39 56.2 -0.5**
baz=48,SNR=17
R43A Red Bud 39.98 270 P **P 23 39 56.5 -0.3**
baz=49,SNR=7.0
OBN Obninsk 39.99 58 PFAKE 23 40 10.0 +13
OBN LR LR
comp=Z,3µm,20.0s
OBN Obninsk 39.99 58⇑ *e*P **P 23 39 56.6 -0.1**
OBN *i* 23 41 31.5
OBN pmax pmax
comp=Z,64nm,1.2s
OBN MLR MLR
comp=Z,3µm,19.0s
255A Hazlehurst 40.03 256 PFAKE 23 40 10.0 +13
255A LR LR
comp=Z,5µm,20.0s
255A Hazlehurst 40.03 256 P **P 23 39 56.5 -0.9**
baz=42
X50B Fort Payne 40.05 262 P **P 23 39 57.2 -0.4**
baz=45
T45A Paducah 40.05 267 PFAKE 23 40 10.0 +12
T45A LR LR
comp=Z,9µm,18.0s
KIS Kishinev 40.08 73 *e*P **P 23 39 58.0 +0.3**
KIS Kishinev 40.08 73 *e*PP PP 23 41 28.0 -1.6
KIS *e*S **S 23 46 03.0 -0.1**
KIS *e*L L 23 51 40.0
KIS LRM MLR 23 58 22.0
comp=Z,6µm,16.0s
KIS Kishinev 40.08 73 *e*P **P 23 39 58.0 +0.3**
KIS *e* 23 40 04.0
KIS *e* 23 41 28.0
KIS *e*S **S 23 46 03.0 -0.1**
KIS MLR MLR
comp=Z,6µm,16.0s
KIS MLR MLR
comp=N,4µm,15.0s
YKW3 Yellowknife Ar 40.10 315 PFAKE 23 40 10.0 +12
YKW3 LR LR
comp=Z,3µm,19.0s
Y51A Rockmart 40.11 261 P **P 23 39 58.0 -0.1**
baz=44
YKA Yellowknife Ar 40.12 315 P **P 23 39 56.7 -1.0**
comp=Z,1.4nm,0.8s,baz=64,slow=9.0,SNR=17
YKA PcP **PcP 23 42 00.9 -1.0**
comp=Z,3.4nm,0.8s,baz=59,slow=3.7,SNR=12
YKA LR LR 23 54 57.1
comp=Z,281nm,20.6s,baz=66,slow=34
YKB5 Yellowknife Ar 40.12 315 *e*P **P 23 39 57.9 +0.1**
YKB5 *e*PcP **PcP 23 42 00.4 -1.5**
WVT Waverly 40.18 266 *e*P **P 23 39 58.7 +0.2**
comp=Z,18nm,0.9s
WVT LR LR
comp=Z,8µm,20.0s
WVT Waverly 40.18 266 *e*P **P 23 39 58.7 +0.2**
WVT pmax pmax
comp=Z,18nm,0.9s
WVT MLR MLR
comp=Z,8µm,20.0s
WVT Waverly 40.18 266 P **P 23 39 58.8 +0.2**
baz=47
V47A Nunnelly 40.20 265 P **P 23 39 58.0 -0.7**
baz=46
MOS Moscow 40.21 57 *e*P **P 23 39 58.2 -0.4**
MOS MLR MLR
comp=Z,800nm,14.0s
U46A Springville 40.22 266 P **P 23 39 58.2 -0.7**
baz=47
Z52A Williamson 40.24 259 P **P 23 39 58.5 -0.6**
baz=44,SNR=7.3
Q41A Truxton 40.30 272 P **P 23 39 59.4 -0.2**
baz=49
W48A Pulaski 40.33 264 P **P 23 40 00.4 +0.6**
baz=46
X49A Woodville 40.41 263 P **P 23 40 01.1 +0.6**
baz=45
FVM French Village 40.46 270 PFAKE 23 40 10.0 +9.1
FVM LR LR
comp=Z,5µm,18.0s
ECSD EROS Data Cent 40.48 281 *e*P **P 23 40 01.9 +0.9**
comp=Z,31nm,0.9s
ECSD LR LR
comp=Z,3µm,19.0s
ECSD EROS Data Cent 40.48 281 P **P 23 40 01.3 +0.4**
baz=53
457A Yulee 40.48 254 P **P 23 40 01.2 +0.1**
baz=41
R42A Luebbering 40.48 271 P **P 23 40 00.9 -0.2**
baz=49
254A Abbeville 40.49 257 P **P 23 40 01.5 +0.4**
baz=43
Y50A Piedmont 40.50 261 P **P 23 40 01.6 +0.3**
baz=45
S43A Fulton Ridge, 40.53 269 P **P 23 40 01.0 -0.4**
baz=48,SNR=9.3
T44A Benton 40.57 268 P **P 23 40 02.0 +0.2**
baz=48
V46A Holladay 40.57 266 P **P 23 40 00.8 -1.0**
baz=46,SNR=10
U45A Rockin P Farm, 40.58 267 P **P 23 40 01.8 -0.1**
baz=47
Z51A Franklin 40.59 260 P **P 23 40 02.9 +1.0**
baz=44
W47A Westpoint 40.64 264 P **P 23 40 03.3 +0.9**
baz=46
456A Hilliard 40.66 254 PFAKE 23 40 10.0 +7.4
456A LR LR
comp=Z,3µm,18.0s
152A Waverly Hall 40.79 259 *e*P **P 23 40 04.2 +0.6**
comp=Z,13nm,0.9s
152A LR LR
comp=Z,4µm,19.0s
152A Waverly Hall 40.79 259 P **P 23 40 03.1 -0.5**
baz=44,SNR=6.1
R41A Rosebud 40.82 271 P **P 23 40 04.0 +0.2**
baz=49
S42A Caledonia 40.82 270 P **P 23 40 04.4 +0.5**
baz=48
X48A Hartselle 40.88 263 *e*P **P 23 40 07.5 +3.1**
comp=Z,8.2nm,0.8s
X48A LR LR
comp=Z,9µm,18.0s
X48A Hartselle 40.88 263 P **P 23 40 04.6 +0.3**
baz=45
253A Americus 40.89 258 PFAKE 23 40 20.0 +16
253A LR LR
comp=Z,6µm,18.0s
CCM Cathedral Cave 40.90 271 *e*P **P 23 40 04.8 +0.3**
comp=Z,36nm,1.3s
CCM LR LR
comp=Z,4µm,19.0s
CCM Cathedral Cave 40.90 271 *e*P **P 23 40 04.8 +0.3**
CCM pmax pmax
comp=Z,36nm,1.3s
CCM MLR MLR
comp=Z,4µm,19.0s
CCM Cathedral Cave 40.90 271 P **P 23 40 04.7 +0.2**
baz=48
Y49A Blount Mountai 40.92 262 *e*P **P 23 40 04.9 +0.1**
comp=Z,12nm,0.9s
Y49A LR LR
comp=Z,8µm,19.0s
Y49A Blount Mountai 40.92 262 P **P 23 40 05.4 +0.6**
baz=45
GLAT Glass 40.94 267 PFAKE 23 40 20.0 +15
GLAT LR LR
comp=Z,7µm,20.0s
PARMO Parma 40.95 268 PFAKE 23 40 20.0 +15
PARMO LR LR
comp=Z,10µm,18.0s
T43A Greenville 40.98 269 P **P 23 40 04.5 -0.7**
baz=48,SNR=12
TIGA Tifton 41.03 257 PFAKE 23 40 20.0 +14
TIGA LR LR
comp=Z,5µm,21.0s
PVMO Portageville 41.09 268 PFAKE 23 40 20.0 +14
PVMO LR LR
comp=Z,9µm,18.0s
PLAL Pickwick Lake 41.11 265 PFAKE 23 40 20.0 +14
PLAL LR LR
comp=Z,6µm,19.0s
PRGR Permogore 41.12 46 *e*P **P 23 40 04.8 -1.2**
PRGR pmax pmax
comp=Z,16nm,1.5s
658A Bunnell 41.21 252 PFAKE 23 40 20.0 +13
658A LR LR
comp=Z,2µm,18.0s
HALT Halls 41.22 267 PFAKE 23 40 20.0 +13
HALT LR LR
comp=Z,8µm,20.0s
151A Opelika 41.24 259 P **P 23 40 07.4 0.0**
baz=44
252A Lumpkin 41.28 258 P **P 23 40 07.1 -0.6**
baz=43
X47A Russelville 41.31 264 P **P 23 40 07.8 -0.1**
baz=45
TIRR Tirgusor 41.33 76 PFAKE 23 40 20.0 +12
TIRR LR LR
comp=Z,3µm,18.0s
Y48A Jasper 41.33 263 P **P 23 40 08.4 +0.3**
baz=45
SUSD Miller 41.40 284 P **P 23 40 08.6 0.0**
baz=53
353A Camilla 41.46 257 P **P 23 40 10.2 +1.0**
baz=42
Z49A Columbiana 41.47 261 P **P 23 40 08.7 -0.5**
baz=44,SNR=6.9
T42A Van Buren 41.49 269 *e*P **P 23 40 09.5 +0.1**
comp=Z,22nm,0.8s
T42A LR LR
comp=Z,6µm,18.0s
T42A Van Buren 41.49 269 P **P 23 40 08.9 -0.5**
baz=48,SNR=9.2
S41A Jillco Farms, 41.51 271 P **P 23 40 09.1 -0.5**
baz=48,SNR=9.8
GNAR Gosnell 41.58 267 PFAKE 23 40 20.0 +10
GNAR LR LR
comp=Z,8µm,18.0s
150A Eclectic 41.59 260 P **P 23 40 10.6 +0.3**
baz=44
251A Midway 41.61 259 P **P 23 40 10.4 0.0**
baz=43
ANWB Willy Bob 41.61 220 PFAKE 23 40 20.0 +10
ANWB LR LR
comp=Z,800nm,22.0s
W45A Hickory Valley 41.65 266 P **P 23 40 10.9 +0.2**
baz=46
555A McAlpin 41.65 255 PFAKE 23 40 20.0 +9.2
555A LR LR
comp=Z,3µm,18.0s
X46A Booneville 41.71 265 P **P 23 40 10.5 -0.7**
baz=46,SNR=16
SMRT St. Maarten 41.77 222 PFAKE 23 40 20.0 +8.2
SMRT LR LR
comp=Z,1µm,22.0s
352A Blakely 41.77 258 PFAKE 23 40 20.0 +8.3
352A LR LR
comp=Z,4µm,18.0s
352A Blakely 41.77 258 P **P 23 40 12.1 +0.4**
baz=43
LRAL Lakeview Retre 41.85 262 *e*P **P 23 40 12.8 +0.4**
comp=Z,14nm,1.0s
LRAL LR LR
comp=Z,5µm,19.0s
LRAL Lakeview Retre 41.85 262 P **P 23 40 12.0 -0.4**
baz=44
T41A Mountain View 41.88 270 P **P 23 40 12.2 -0.4**
baz=48,SNR=14
453A Whigham 41.88 257 PFAKE 23 40 20.0 +7.4
453A LR LR
comp=Z,5µm,20.0s
Z48A Northport 41.94 262 P **P 23 40 13.3 +0.3**
baz=44
656A Willston 41.98 254 PFAKE 23 40 30.0 +17
656A LR LR
comp=Z,4µm,18.0s
DGMT Dagmar 42.01 292 PFAKE 23 40 30.0 +16
DGMT LR LR
comp=Z,6µm,19.0s
U42A Revenden 42.04 269 P **P 23 40 13.6 -0.2**
baz=47,SNR=10
149A Jones 42.05 261 P **P 23 40 13.3 -0.6**
baz=44,SNR=9.9
MET Memphis--Engin 42.11 266 PFAKE 23 40 30.0 +16
MET LR LR
comp=Z,8µm,20.0s
ITM Ithomi 42.14 89 PFAKE 23 40 30.0 +15
ITM LR LR
comp=Z,3µm,22.0s
ALN Alexandroupoli 42.14 82 PFAKE 23 40 30.0 +15
ALN LR LR
comp=Z,3µm,19.0s
250A Grady 42.19 260 *e*P **P 23 40 15.8 +0.7**
comp=Z,24nm,0.8s
250A LR LR
comp=Z,6µm,19.0s
250A Grady 42.19 260 P **P 23 40 15.1 0.0**
baz=43,SNR=5.6
SABA Saba 42.22 222 PFAKE 23 40 30.0 +15
SABA LR LR
comp=Z,800nm,21.0s
OXF Oxford 42.23 265 PFAKE 23 40 30.0 +15
OXF LR LR
comp=Z,8µm,19.0s
SEUS St. Eustatius 42.23 221 PFAKE 23 40 30.0 +14
SEUS LR LR
comp=Z,900nm,21.0s
HBAR Harrisburg 42.24 267 PFAKE 23 40 30.0 +15
HBAR LR LR
comp=Z,7µm,19.0s
GRTK Grand Turk 42.27 234 PFAKE 23 40 30.0 +14
GRTK LR LR
comp=Z,2µm,22.0s
X45A UM Field Stati 42.28 265 P **P 23 40 15.1 -0.7**
baz=45
DWPF Disney Wildern 42.31 251 PFAKE 23 40 30.0 +14
DWPF LR LR
comp=Z,3µm,18.0s
351A Pinckard 42.32 258 P **P 23 40 15.9 -0.3**
baz=42

Y46A	**Houston**	**42.34**	**264**	P	**P**	**23 40 15.6**	**-0.7**		
	baz=45								
Z47A	**Carrollton**	**42.36**	**263**	P	**P**	**23 40 15.8**	**-0.7**		
	baz=44								
CUPR	**Culebra, Puert**	**42.43**	**225**	PFAKE		23 40 30.0	+13		
CUPR				LR	LR				
	comp=Z,600nm,20.0s								
U41A	**Viola**	**42.45**	**269**	P	**P**	**23 40 17.0**	**-0.2**		
	baz=47								
148A	**Greensboro**	**42.47**	**262**	P	**P**	**23 40 17.1**	**-0.3**		
	baz=44,SNR=11								
LPSR	**Galich'ya Gora**	**42.48**	**60**	*eP*	**P**	**23 40 17.3**	**+0.1**		
LPSR				pmax	pmax				
	comp=Z,30nm,1.0s								
V42A	**Cord**	**42.50**	**268**	P	**P**	**23 40 16.9**	**-0.7**		
	baz=47,SNR=16								
060A	**Indiantown**	**42.55**	**249**	PFAKE		23 40 30.0	+12		
060A				LR	LR				
	comp=Z,2µm,19.0s								
060A	**Indiantown**	**42.55**	**249**	P	**P**	**23 40 19.3**	**+1.2**		
	baz=38								
H05N1	**Guadeloupe/Mar**	**42.58**	**218**	T	T	00 25 40.9			
	SNR=14								
350A	**Dozier**	**42.63**	**259**	P	**P**	**23 40 18.8**	**0.0**		
	baz=43								
249A	**Camden**	**42.69**	**261**	P	**P**	**23 40 19.5**	**+0.3**		
	baz=43								
CBYP	**Canovanas**	**42.70**	**226**	PFAKE		23 40 30.0	+11		
CBYP				LR	LR				
	comp=Z,800nm,19.0s								
MTP	**Monte Pirata**	**42.73**	**225**	PFAKE		23 40 30.0	+10		
MTP				LR	LR				
	comp=Z,700nm,18.0s								
Y45A	**Yeager Farm, C**	**42.76**	**265**	P	**P**	**23 40 19.3**	**-0.4**		
	baz=45								
BGNE	**Belgrade**	**42.80**	**280**	PFAKE		23 40 30.0	+10		
BGNE				LR	LR				
	comp=Z,10µm,18.0s								
BGNE	**Belgrade**	**42.80**	**280**	P	**P**	**23 40 19.8**	**-0.3**		
	baz=51								
HUMP	**Col San Antoni**	**42.82**	**225**	PFAKE		23 40 30.0	+10		
HUMP				LR	LR				
	comp=Z,800nm,21.0s								
147A	**Livingston**	**42.86**	**262**	*eP*	**P**	**23 40 20.6**	**+0.1**		
	comp=Z,85nm,1.3s								
147A				LR	LR				
	comp=Z,11µm,19.0s								
147A	**Livingston**	**42.86**	**262**	P	**P**	**23 40 19.9**	**-0.7**		
	baz=44								
Z46A	**Louisville**	**42.88**	**263**	P	**P**	**23 40 20.0**	**-0.7**		
	baz=44								
451A	**Vernon**	**42.88**	**258**	PFAKE		23 40 30.0	+9.2		
451A				LR	LR				
	comp=Z,5µm,18.0s								
451A	**Vernon**	**42.88**	**258**	P	**P**	**23 40 18.5**	**-2.2**		
	baz=42								
958A	**Wauchula**	**42.90**	**251**	P	**P**	**23 40 18.8**	**-2.1**		
	baz=39								
W42A	**Bald Knob**	**42.95**	**268**	P	**P**	**23 40 21.1**	**-0.1**		
	baz=46								
248A	**Dixon Mills**	**42.96**	**261**	P	**P**	**23 40 20.7**	**-0.7**		
	baz=44								
V41A	**Mountainview**	**42.97**	**269**	P	**P**	**23 40 20.4**	**-1.1**		
	baz=47,SNR=11								
SJG	**San Juan**	**42.97**	**226**	PFAKE		23 40 30.0	+8.4		
SJG				LR	LR				
	comp=Z,700nm,21.0s								
U40A	**Yellville**	**42.99**	**270**	P	**P**	**23 40 20.9**	**-0.8**		
	baz=47,SNR=12								
059A	**Moore Haven**	**43.04**	**250**	PFAKE		23 40 30.0	+7.9		
059A				LR	LR				
	comp=Z,3µm,18.0s								
Y44A	**Strider, Charl**	**43.08**	**265**	P	**P**	**23 40 22.0**	**-0.4**		
	baz=45								
X43A	**Marvell**	**43.09**	**266**	PFAKE		23 40 30.0	+7.6		
X43A				LR	LR				
	comp=Z,8µm,19.0s								
X43A	**Marvell**	**43.09**	**266**	P	**P**	**23 40 21.3**	**-1.1**		
	baz=46								
957A	**Wimauma**	**43.10**	**252**	PFAKE		23 40 30.0	+7.4		
957A				LR	LR				
	comp=Z,2µm,18.0s								
349A	**Repton**	**43.18**	**260**	P	**P**	**23 40 23.2**	**0.0**		
	baz=43								
Z45A	**Winona**	**43.20**	**264**	PFAKE		23 40 40.0	+17		
Z45A				LR	LR				
	comp=Z,6µm,20.0s								
BRAL	**Brewton**	**43.23**	**260**	PFAKE		23 40 40.0	+16		
BRAL				LR	LR				
	comp=Z,6µm,18.0s								
BRAL	**Brewton**	**43.23**	**260**	P	**P**	**23 40 24.3**	**+0.7**		
	baz=43								
MPR	**Mayaguez**	**43.31**	**227**	PFAKE		23 40 40.0	+16		
MPR				LR	LR				
	comp=Z,1µm,18.0s								
146A	**Union**	**43.34**	**263**	PFAKE		23 40 40.0	+15		
146A				LR	LR				
	comp=Z,10µm,18.0s								
VSR	**Storozhevoye**	**43.36**	**62**	*eP*	**P**	**23 40 23.1**	**-1.3**		
VSR				pmax	pmax				
	comp=Z,13nm,0.6s								
KSU1	**Kansas State U**	**43.38**	**276**	*eP*	**P**	**23 40 24.7**	**0.0**		
	comp=Z,43nm,0.8s								
KSU1				LR	LR				
	comp=Z,10µm,19.0s								
KSU1	**Kansas State U**	**43.38**	**276**	P	**P**	**23 40 23.8**	**-0.9**		
	baz=49								
WHAR	**Wooly Hollow**	**43.39**	**268**	*eP*	**P**	**23 40 24.8**	**-0.1**		
	comp=Z,29nm,0.9s								
WHAR				LR	LR				
	comp=Z,9µm,18.0s								
W41B	**Gary Mavity, V**	**43.44**	**268**	*eP*	**P**	**23 40 25.0**	**-0.2**		
	comp=Z,26nm,0.9s								
W41B				LR	LR				
	comp=Z,10µm,18.0s								
W41B	**Gary Mavity, V**	**43.44**	**268**	P	**P**	**23 40 24.6**	**-0.6**		
	baz=46,SNR=11								
CRPR	**Cabo Rojo, PR**	**43.48**	**227**	PFAKE		23 40 40.0	+14		
CRPR				LR	LR				
	comp=Z,1µm,19.0s								
247A	**Quitman**	**43.50**	**262**	P	**P**	**23 40 26.1**	**+0.3**		
	baz=44								
X42A	**Stuttgart**	**43.51**	**267**	P	**P**	**23 40 25.0**	**-0.7**		
	baz=46								
Y43A	**Makayla and Ka**	**43.54**	**266**	P	**P**	**23 40 26.0**	**-0.1**		
	baz=45								
348A	**Jackson**	**43.55**	**261**	PFAKE		23 40 40.0	+14		
348A				LR	LR				
	comp=Z,2µm,20.0s								
HHAR	**Hobbs**	**43.68**	**271**	*eP*	**P**	**23 40 27.1**	**-0.2**		
	comp=Z,33nm,1.0s								
HHAR				LR	LR				
	comp=Z,6µm,21.0s								
061Z	**Ochoppi**	**43.77**	**249**	PFAKE		23 40 40.0	+12		
061Z				LR	LR				
	comp=Z,2µm,18.0s								
061Z	**Ochoppi**	**43.77**	**249**	P	**P**	**23 40 27.9**	**-0.1**		
	baz=38								
UALR	**University of**	**43.77**	**268**	PFAKE		23 40 40.0	+12		
UALR				LR	LR				
	comp=Z,8µm,18.0s								
145A	**Houston Renfro**	**43.88**	**264**	P	**P**	**23 40 28.4**	**-0.4**		
	baz=44								
CCAR	**Cane Creek**	**44.04**	**267**	*eP*	**P**	**23 40 29.1**	**-1.0**		
	comp=Z,36nm,1.0s								
CCAR				LR	LR				
	comp=Z,7µm,20.0s								
X41A	**Kaden, Bauxite**	**44.07**	**268**	P	**P**	**23 40 31.5**	**+1.2**		
	baz=46								
FDF	**Fort de France**	**44.07**	**217**	PFAKE		23 40 40.0	+9.5		
FDF				LR	LR				
	comp=Z,900nm,21.0s								
Y42A	**Garnett, Star**	**44.10**	**267**	P	**P**	**23 40 30.8**	**+0.2**		
	baz=45								
LAO	**LASA Array**	**44.17**	**291**	*eP*	**P**	**23 40 32.6**	**+1.6**		
	comp=Z,49nm,1.1s								
LAO				LR	LR				
	comp=Z,7µm,19.0s								
LAO	**LASA Array**	**44.17**	**291**	P	**P**	**23 40 32.2**	**+1.2**		
	baz=53								
INK	**Inuvik**	**44.22**	**328**	*eP*	**P**	**23 40 30.0**	**-1.1**		
	comp=Z,18nm,1.1s								
INK				LR	LR				
	comp=Z,4µm,22.0s								
INK	**Inuvik**	**44.22**	**328**	*eP*	**P**	**23 40 30.0**	**-1.1**		
INK				pmax	pmax				
	comp=Z,18nm,1.1s								
INK				MLR	MLR				
	comp=Z,4µm,22.0s								
X40A	**Basin Creek Fa**	**44.27**	**268**	*eP*	**P**	**23 40 31.8**	**-0.1**		
	comp=Z,25nm,0.8s								
X40A				LR	LR				
	comp=Z,10µm,18.0s								
X40A	**Basin Creek Fa**	**44.27**	**268**	P	**P**	**23 40 31.0**	**-0.9**		
	baz=46,SNR=10								
W39A	**Magazine**	**44.34**	**270**	*eP*	**P**	**23 40 32.2**	**-0.2**		
	comp=Z,43nm,0.9s								
W39A				LR	LR				
	comp=Z,5µm,18.0s								
W39A	**Magazine**	**44.34**	**270**	P	**P**	**23 40 31.7**	**-0.7**		
	baz=46,SNR=13								
346A	**Big Creek Wild**	**44.48**	**262**	PFAKE		23 40 50.0	+16		
346A				LR	LR				
	comp=Z,7µm,18.0s								
346A	**Big Creek Wild**	**44.48**	**262**	P	**P**	**23 40 33.6**	**0.0**		
	baz=43								
RSSD	**Black Hills**	**44.50**	**287**	PFAKE		23 40 50.0	+16		
RSSD				LR	LR				
	comp=Z,6µm,18.0s								
VBMS	**Vicksburg**	**44.50**	**264**	PFAKE		23 40 50.0	+16		
VBMS				LR	LR				
	comp=Z,7µm,18.0s								
SDDR	**Presa de Saban**	**44.51**	**233**	PFAKE		23 40 50.0	+16		
SDDR				LR	LR				
	comp=Z,900nm,20.0s								
Y41A	**Eaglette Beard**	**44.56**	**267**	P	**P**	**23 40 33.3**	**-0.9**		
	baz=45,SNR=9.5								
MIAR	**Mount Ida**	**44.66**	**269**	*eP*	**P**	**23 40 34.9**	**-0.2**		
	comp=Z,46nm,1.0s								
MIAR				LR	LR				
	comp=Z,9µm,18.0s								
MIAR	**Mount Ida**	**44.66**	**269**	*eP*	**P**	**23 40 34.9**	**-0.2**		
MIAR				pmax	pmax				
	comp=Z,46nm,1.0s								
MIAR				MLR	MLR				
	comp=Z,9µm,18.0s								
MIAR	**Mount Ida**	**44.66**	**269**	P	**P**	**23 40 34.0**	**-1.0**		
	baz=46,SNR=26								
VRH	**Novokhopyorsk**	**44.70**	**61**	*eP*	**P**	**23 40 34.5**	**-0.6**		
VRH				pmax	pmax				
	comp=Z,20nm,0.9s								
VRH				MLR	MLR				
	comp=Z,3µm,16.0s								
SANT	**Santorini**	**44.77**	**88**	PFAKE		23 40 50.0	+14		
SANT				LR	LR				
	comp=Z,3µm,22.0s								
WLAR	**White Oak Lake**	**44.99**	**268**	*eP*	**P**	**23 40 37.7**	**0.0**		
	comp=Z,55nm,0.9s								
TUL1	**Leonard**	**45.03**	**272**	*eP*	**P**	**23 40 37.6**	**-0.4**		
	comp=Z,39nm,1.1s								
TUL1				LR	LR				
	comp=Z,6µm,18.0s								
TUL1	**Leonard**	**45.03**	**272**	P	**P**	**23 40 38.1**	**+0.1**		
	baz=47								
Z41A	**Richland Creek**	**45.11**	**267**	*eP*	**P**	**23 40 38.7**	**+0.1**		
	comp=Z,45nm,0.9s								
Z41A				LR	LR				
	comp=Z,7µm,20.0s								
Z41A	**Richland Creek**	**45.11**	**267**	P	**P**	**23 40 39.2**	**+0.6**		
	baz=45								
MANT	**Manisa**	**45.18**	**83**	PFAKE		23 40 50.0	+11		
MANT				LR	LR				
	comp=Z,14µm,18.0s								
IDI	**Anoyia**	**45.18**	**89**	PFAKE		23 40 50.0	+11		
IDI				LR	LR				
	comp=Z,2µm,21.0s								
EGMT	**Eagleton**	**45.30**	**294**	*eP*	**P**	**23 40 40.8**	**+0.7**		
	comp=Z,23nm,0.9s								
EGMT				LR	LR				
	comp=Z,4µm,20.0s								
EGMT	**Eagleton**	**45.30**	**294**	P	**P**	**23 40 40.2**	**+0.1**		
	baz=53								
OGNE	**Ogallala**	**45.35**	**282**	PFAKE		23 40 50.0	+9.4		
OGNE				LR	LR				
	comp=Z,2µm,21.0s								
OGNE	**Ogallala**	**45.35**	**282**	P	**P**	**23 40 40.5**	**-0.1**		
	baz=50								
CBKS	**Cedar Bluff**	**45.41**	**278**	PFAKE		23 40 50.0	+9.0		
CBKS				LR	LR				
	comp=Z,14µm,19.0s								
CBKS	**Cedar Bluff**	**45.41**	**278**	P	**P**	**23 40 41.0**	**0.0**		
	baz=48								
GTBY	**Guantanamo Bay**	**45.56**	**238**	PFAKE		23 40 50.0	+7.7		
GTBY				LR	LR				
	comp=Z,2µm,21.0s								
X37A	**Clayton**	**45.70**	**270**	*eP*	**P**	**23 40 43.0**	**-0.2**		
	comp=Z,17nm,1.1s								
X37A				LR	LR				
	comp=Z,6µm,19.0s								
ANN	**Anapa**	**46.23**	**70**	*eP*	**P**	**23 40 43.3**	**-4.0**		
ANN				pmax	pmax				
	comp=Z,142nm,1.3s								
ANN				MLR	MLR				
	comp=Z,7µm,19.0s								
KOWA	**Kowa**	**46.32**	**136**	PFAKE		23 41 00.0	+12		
KOWA				LR	LR				
	comp=Z,400nm,22.0s								
KARP	**Karpathos**	**46.34**	**87**	PFAKE		23 41 00.0	+12		
KARP				LR	LR				
	comp=Z,3µm,19.0s								
EPYK	**Eagle Plains**	**46.35**	**327**	*eP*	**P**	**23 40 48.0**	**-0.1**		
	comp=Z,27nm,1.0s								
EPYK				LR	LR				
	comp=Z,2µm,18.0s								
EPYK	**Eagle Plains**	**46.35**	**327**	P	**P**	**23 40 47.9**	**-0.2**		
	baz=53								
ILGA	**Ilgaz**	**46.50**	**77**	PFAKE		23 41 00.0	+10		
ILGA				LR	LR				
	comp=Z,2µm,19.0s								
U32A	**Winter Ranch,**	**46.61**	**275**	*eP*	**P**	**23 40 55.2**	**+4.7**		
	comp=Z,28nm,1.0s								
U32A				LR	LR				
	comp=Z,6µm,20.0s								
GCMT	**Greycliff**	**46.61**	**292**	*eP*	**P**	**23 40 51.2**	**+0.7**		
GRGR	**Grenville**	**46.66**	**217**	PFAKE		23 41 00.0	+9.0		
GRGR				LR	LR				
	comp=Z,800nm,22.0s								
SNOP	**Sinop**	**46.73**	**75**	PFAKE		23 41 00.0	+8.7		
SNOP				LR	LR				
	comp=Z,2µm,21.0s								
ANTO	**Ankara**	**46.74**	**78**	PFAKE		23 41 00.0	+8.5		
ANTO				LR	LR				
	comp=Z,3µm,18.0s								
ANTO	**Ankara**	**46.74**	**78**	*eP*	**P**	**23 40 52.7**	**+1.2**		
ISP	**Isparta**	**46.78**	**82**	PFAKE		23 41 00.0	+8.1		
ISP				LR	LR				
	comp=Z,2µm,21.0s								
RLMT	**Red Lodge**	**46.80**	**291**	*eP*	**P**	**23 40 53.1**	**+1.0**		
	comp=Z,25nm,1.1s								
RLMT				LR	LR				
	comp=Z,6µm,18.0s								
RLMT	**Red Lodge**	**46.80**	**291**	P	**P**	**23 40 53.1**	**+1.0**		
	baz=51								
K22A	**Casper**	**46.83**	**287**	*eP*	**P**	**23 40 52.4**	**+0.1**		
	comp=Z,27nm,1.0s								
K22A				LR	LR				
	comp=Z,4µm,18.0s								
K22A	**Casper**	**46.83**	**287**	P	**P**	**23 40 52.8**	**+0.4**		
	baz=50								
KSCO	**Kaye Shedlock'**	**46.96**	**280**	*eP*	**P**	**23 40 52.4**	**-0.9**		
	comp=Z,29nm,0.9s								
KSCO				LR	LR				
	comp=Z,8µm,19.0s								
KSCO	**Kaye Shedlock'**	**46.96**	**280**	P	**P**	**23 40 53.2**	**-0.1**		
	baz=48								
PHWY	**Pilot Hill**	**47.09**	**285**	*eP*	**P**	**23 40 54.8**	**+0.2**		
	comp=Z,15nm,1.1s								
PHWY				LR	LR				
	comp=Z,3µm,19.0s								
HRY	**Holter Researc**	**47.22**	**294**	*eP*	**P**	**23 40 56.3**	**+1.1**		
NATX	**Nacogdoches**	**47.27**	**267**	PFAKE		23 41 10.0	+14		
NATX				LR	LR				
	comp=Z,6µm,19.0s								
NATX	**Nacogdoches**	**47.27**	**267**	P	**P**	**23 40 55.9**	**+0.2**		
	baz=44								
BR101	**Keskin Array S**	**47.33**	**78**	*eP*	**P**	**23 40 57.1**	**+0.9**		
BR101				*eP*	**PcP**	**23 42 25.5**	**-1.4**		
BR131	**Keskin Array S**	**47.33**	**78**	*eP*	**P**	**23 40 57.1**	**+0.9**		
BRTR	**Keskin Array B**	**47.33**	**78**	P	**P**	**23 40 57.1**	**+0.9**		
	comp=Z,9.9nm,0.8s,baz=307,slow=5.5,SNR=30								
BRTR				PcP	**PcP**	**23 42 25.5**	**-1.4**		
	comp=Z,1.7nm,1.0s,baz=288,slow=1.4,SNR=2.9								
BRTR				LR	LR	00 02 09.9			
	comp=Z,770nm,18.3s,baz=296,slow=38								
WMOK	**Wichita Mounta**	**47.61**	**273**	*eP*	**P**	**23 40 58.2**	**0.0**		
	comp=Z,16nm,0.9s								
WMOK				LR	LR				
	comp=Z,6µm,19.0s								
WMOK	**Wichita Mounta**	**47.61**	**273**	*eP*	**P**	**23 40 58.3**	**0.0**		
WMOK				pmax	pmax				
	comp=Z,16nm,0.9s								
WMOK				MLR	MLR				
	comp=Z,6µm,19.0s								
WMOK	**Wichita Mounta**	**47.61**	**273**	P	**P**	**23 40 57.4**	**-0.9**		
	baz=46								
N23A	**Red Feather La**	**47.64**	**284**	*eP*	**P**	**23 40 59.9**	**+1.1**		
	comp=Z,47nm,1.0s								
N23A				LR	LR				
	comp=Z,3µm,20.0s								
N23A	**Red Feather La**	**47.64**	**284**	P	**P**	**23 40 58.2**	**-0.6**		
	baz=49,SNR=6.7								
LKWY	**Lake**	**47.78**	**291**	PFAKE		23 41 10.0	+10		
LKWY				LR	LR				
	comp=Z,11µm,18.0s								
BOZ	**Bozeman (W)**	**47.80**	**293**	*eP*	**P**	**23 41 00.3**	**+0.4**		
	comp=Z,12nm,0.9s								
BOZ				LR	LR				
	comp=Z,5µm,19.0s								
BOZ	**Bozeman (W)**	**47.80**	**293**	*eP*	**P**	**23 41 00.3**	**+0.4**		
BOZ				pmax	pmax				
	comp=Z,12nm,0.9s								
BOZ				MLR	MLR				
	comp=Z,5µm,19.0s								
BOZ	**Bozeman (W)**	**47.80**	**293**	P	**P**	**23 40 58.8**	**-1.0**		
	baz=51,SNR=8.9								
YNR	**Norris Junctio**	**47.84**	**291**	PFAKE		23 41 10.0	+10		
YNR				LR	LR				
	comp=Z,5µm,20.0s								
RWWY	**Rawlins**	**47.84**	**286**	*eP*	**P**	**23 41 01.0**	**+0.6**		
	comp=Z,15nm,0.8s								
RWWY				LR	LR				
	comp=Z,4µm,18.0s								
H17A	**Grant Village**	**47.99**	**291**	*eP*	**P**	**23 41 04.0**	**+2.6**		
	comp=Z,11nm,0.9s								
H17A				LR	LR				
	comp=Z,8µm,19.0s								
H17A	**Grant Village**	**47.99**	**291**	P	**P**	**23 41 02.4**	**+1.0**		
	baz=50,SNR=5.5								
YMR	**Madison River**	**48.03**	**292**	PFAKE		23 41 10.0	+8.3		
YMR				LR	LR				
	comp=Z,4µm,20.0s								
YFT	**Old Faithful**	**48.09**	**291**	*eP*	**P**	**23 41 04.8**	**+2.6**		
	comp=Z,17nm,0.9s								
YFT				LR	LR				
	comp=Z,9µm,19.0s								
YHB	**Horse Butte**	**48.10**	**292**	*eP*	**P**	**23 41 04.3**	**+2.1**		
	comp=Z,7.8nm,1.0s								
YHB				LR	LR				
	comp=Z,6µm,19.0s								
ISCO	**Idaho Springs**	**48.17**	**283**	*eP*	**P**	**23 41 04.1**	**+1.2**		
	comp=Z,17nm,0.8s								
ISCO				LR	LR				
	comp=Z,4µm,20.0s								
ISCO	**Idaho Springs**	**48.17**	**283**	*eP*	**P**	**23 41 04.1**	**+1.2**		
ISCO				pmax	pmax				
	comp=Z,17nm,0.8s								
ISCO				MLR	MLR				
	comp=Z,4µm,20.0s								
ISCO	**Idaho Springs**	**48.17**	**283**	P	**P**	**23 41 03.5**	**+0.5**		
	baz=48,SNR=18								
YPP	**Pitchstone Pla**	**48.19**	**291**	*eP*	**P**	**23 41 05.9**	**+2.9**		
	comp=Z,9.9nm,0.9s								
YPP				LR	LR				
	comp=Z,8µm,19.0s								
MTDJ	**Mount Denham**	**48.21**	**239**	PFAKE		23 41 20.0	+17		
MTDJ				LR	LR				
	comp=Z,2µm,20.0s								
FLWY	**Flagg Ranch**	**48.26**	**291**	PFAKE		23 41 20.0	+17		
FLWY				LR	LR				
	comp=Z,4µm,18.0s								
SOC	**Sochi**	**48.27**	**70**	*eP*	**P**	**23 41 02.7**	**-0.5**		
SOC				*e*		23 42 55.4			
SOC				*eS*	**S**	**23 48 01.8**	**-0.5**		
SOC				MLR	MLR				
	comp=Z,2µm,19.0s								
MSO	**Missoula**	**48.27**	**296**	PFAKE		23 41 20.0	+17		
MSO				LR	LR				
	comp=Z,6µm,19.0s								
MSO	**Missoula**	**48.27**	**296**	P	**P**	**23 41 03.2**	**-0.3**		
	baz=51								
Q24A	**Divide**	**48.46**	**282**	PFAKE		23 41 20.0	+15		
Q24A				LR	LR				
	comp=Z,3µm,18.0s								
BW06	**Boulder Array**	**48.47**	**289**	*eP*	**P**	**23 41 04.8**	**-0.3**		
	comp=Z,13nm,1.1s								
BW06				LR	LR				
	comp=Z,5µm,18.0s								
BW06	**Boulder Array**	**48.47**	**289**	P	**P**	**23 41 03.8**	**-1.3**		
	baz=50,SNR=11								
PD31	**Pinedale Array**	**48.47**	**289**	*eP*	**P**	**23 41 04.7**	**-0.4**		
PD31				*e*PcP	**PcP**	**23 42 28.9**	**-2.2**		
PDAR	**Pinedale Array**	**48.47**	**289**	P	**P**	**23 41 04.4**	**-0.7**		
	comp=Z,3.5nm,0.6s,baz=61,slow=7.6,SNR=15								
PDAR				PcP	**PcP**	**23 42 28.9**	**-2.2**		
	comp=Z,1.3nm,0.9s,baz=90,slow=4.5,SNR=1.9								
PDAR				LR	LR	00 00 29.7			
	comp=Z,5µm,18.5s,baz=45,slow=35								
PDAR	**Pinedale Array**	**48.47**	**289**	*eP*	**P**	**23 41 04.3**	**-0.8**		
DLMT	**Dillon**	**48.48**	**293**	*eP*	**P**	**23 41 06.0**	**+1.0**		
	comp=Z,9.5nm,0.8s								
DLMT				LR	LR				
	comp=Z,5µm,20.0s								
MOOW	**Moose Ponds**	**48.49**	**290**	*eP*	**P**	**23 41 05.6**	**+0.3**		
	comp=Z,7.7nm,1.0s								
MOOW				LR	LR				
	comp=Z,4µm,21.0s								
LOHW	**Long Hollow**	**48.51**	**290**	*eP*	**P**	**23 41 05.8**	**+0.4**		
	comp=Z,10nm,1.2s								
LOHW				LR	LR				
	comp=Z,6µm,18.0s								
IMW	**Indian Meadow**	**48.51**	**291**	*eP*	**P**	**23 41 06.2**	**+0.7**		
	comp=Z,4.7nm,0.8s								
IMW				LR	LR				
	comp=Z,4µm,19.0s								
DAWY	**Dawson**	**48.67**	**325**	*eP*	**P**	**23 41 06.8**	**+0.7**		
	comp=Z,13nm,1.2s								
DAWY				LR	LR				
	comp=Z,3µm,19.0s								
SNOW	**Snow King Moun**	**48.69**	**290**	*eP*	**P**	**23 41 07.7**	**+0.9**		
	comp=Z,15nm,0.9s								
SNOW				LR	LR				
	comp=Z,6µm,18.0s								
FXWY	**Fox Creek**	**48.72**	**291**	*eP*	**P**	**23 41 07.5**	**+0.5**		
	comp=Z,11nm,1.0s								
DLBC	**Dease Lake**	**48.73**	**316**	PFAKE		23 41 20.0	+13		
DLBC				LR	LR				
	comp=Z,4µm,20.0s								
WHTX	**Lake Whitney,**	**48.76**	**269**	*eP*	**P**	**23 41 07.0**	**-0.2**		
	comp=Z,29nm,0.8s								
WHTX				LR	LR				
	comp=Z,4µm,18.0s								
WHTX	**Lake Whitney,**	**48.76**	**269**	P	**P**	**23 41 06.3**	**-0.9**		
	baz=44,SNR=16								
TPAW	**Teton Pass**	**48.78**	**290**	*eP*	**P**	**23 41 08.1**	**+0.5**		
	comp=Z,14nm,0.9s								
TPAW				LR	LR				
	comp=Z,4µm,20.0s								

GOF Gofitskoye 49.15 67 *e*P P 23 41 11.0 +1.0
GOF pmax pmax
comp=Z,60nm,1.1s
AMTX Amarillo 49.22 275 *e*P P 23 41 11.7 +0.9
comp=Z,64nm,0.8s
AMTX LR LR
comp=Z,7μm,18.0s
AMTX Amarillo 49.22 275 P P 23 41 11.1 +0.3
baz=46
WHY Whitehorse 49.25 320 PFAKE 23 41 20.0 +9.3
WHY LR LR
comp=Z,4μm,19.0s
T25A Trinidad 49.26 280 PFAKE 23 41 20.0 +8.7
T25A LR LR
comp=Z,9μm,18.0s
T25A Trinidad 49.26 280 P P 23 41 11.0 -0.2
baz=47
HKT Hockley 49.28 266 *e*P P 23 41 11.1 0.0
comp=Z,9.9nm,1.1s
HKT LR LR
comp=Z,6μm,19.0s
HKT Hockley 49.28 266 *e*P P 23 41 11.1 0.0
HKT pmax pmax
comp=Z,10.0nm,1.1s
HKT MLR MLR
comp=Z,6μm,19.0s
SMCO Snowmass 49.37 283 *e*P P 23 41 15.0 +2.7
comp=Z,14nm,1.3s
SMCO LR LR
comp=Z,5μm,20.0s
O20A White River Ci 49.45 285 *e*P P 23 41 13.7 +1.0
comp=Z,20nm,1.0s
O20A LR LR
comp=Z,2μm,18.0s
O20A White River Ci 49.45 285 P P 23 41 13.1 +0.4
baz=48
SDCO Great Sand Dun 49.48 281 PFAKE 23 41 30.0 +17
SDCO LR LR
comp=Z,4μm,21.0s
SDCO Great Sand Dun 49.48 281 P P 23 41 13.0 0.0
baz=47
ARU Arti 49.55 47 *e*P P 23 41 12.2 -0.8
comp=Z,16nm,0.9s
ARU LR LR
comp=Z,3μm,20.0s
ARU Arti 49.55 47 P P 23 41 12.5 -0.4
ARU S S 23 48 21.8 +1.8
ABTX Abilene, Hawle 49.60 272 *e*P P 23 41 13.0 -0.7
comp=Z,19nm,1.0s
ABTX LR LR
comp=Z,4μm,18.0s
ABTX Abilene, Hawle 49.60 272 P P 23 41 12.8 -0.9
baz=44
PRP Porcupine Dome 49.66 329 *e*P P 23 41 14.5 +0.7
comp=Z,6.7nm,0.8s
PRP LR LR
comp=Z,2μm,21.0s
KIV Kislovodsk 49.67 68 *e*P P 23 41 17.6 +3.5
comp=Z,12nm,0.9s
KIV LR LR
comp=Z,2μm,18.0s
KIV Kislovodsk 49.67 68 *e*P P 23 41 14.5 +0.4
KIV *e*S S 23 48 23.3 +1.1
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,2μm,16.0s
435B Jarrell 49.71 268 PFAKE 23 41 30.0 +16
435B LR LR
comp=Z,2μm,20.0s
COLD Coldfoot 49.80 332 *e*P P 23 41 15.4 +0.6
comp=Z,8.3nm,1.0s
COLD LR LR
comp=Z,2μm,21.0s
C09A Chrisman Ranch 49.93 299 *e*P P 23 41 16.0 0.0
comp=Z,14nm,0.9s
C09A LR LR
comp=Z,4μm,19.0s
TOC7 Torodi Ar. Sit 49.96 130 PFAKE 23 41 30.0 +14
TOC7 LR LR
comp=Z,2μm,18.0s
TOC1 Torodi Ar. Sit 49.97 130 PFAKE 23 41 30.0 +13
TOC1 LR LR
comp=Z,2μm,18.0s
TOB5 Torodi Ar. Sit 49.97 130 PFAKE 23 41 30.0 +13
TOB5 LR LR
comp=Z,2μm,18.0s
TOA1 Torodi Ar. Sit 49.98 130 *e*P P 23 41 14.1 -2.6
TOA1 LR LR
comp=Z,2μm,18.0s
TOA0 Torodi Ar. Sit 49.98 130 *e*P P 23 41 15.5 -1.2
TOA0 LR LR
comp=Z,2μm,18.0s
TOB2 Torodi Ar. Sit 49.98 130 PFAKE 23 41 30.0 +13
TOB2 LR LR
comp=Z,2μm,18.0s
TORD Torodi Ar. Bea 49.98 130 P P 23 41 14.1 -2.6
comp=Z,14nm,0.9s,baz=320,slow=7.9,SNR=45
TORD LR LR 00 01 14.0
comp=Z,2μm,18.2s,baz=330,slow=35
TOA2 Torodi Ar. Sit 49.99 130 PFAKE 23 41 30.0 +13
TOA2 LR LR
comp=Z,2μm,20.0s
TOB4 Torodi Ar. Sit 49.99 130 PFAKE 23 41 30.0 +13
TOB4 LR LR
comp=Z,2μm,18.0s
TOC2 Torodi Ar. Sit 49.99 130 PFAKE 23 41 30.0 +13
TOC2 LR LR
comp=Z,2μm,18.0s
TOA3 Torodi Ar. Sit 49.99 130 PFAKE 23 41 30.0 +13
TOA3 LR LR
comp=Z,2μm,18.0s
TOC5 Torodi Ar. Sit 49.99 130 PFAKE 23 41 30.0 +13
TOC5 LR LR
comp=Z,2μm,18.0s
TOB3 Torodi Ar. Sit 50.00 130 PFAKE 23 41 30.0 +13
TOB3 LR LR
comp=Z,2μm,18.0s
TOC3 Torodi Ar. Sit 50.01 130 PFAKE 23 41 30.0 +13
TOC3 LR LR
comp=Z,2μm,18.0s
TOC4 Torodi Ar. Sit 50.01 130 PFAKE 23 41 30.0 +13
TOC4 LR LR
comp=Z,2μm,18.0s
B08A Colville Reser 50.12 300 *e*P P 23 41 17.5 +0.1
comp=Z,21nm,1.1s
B08A LR LR
comp=Z,4μm,20.0s
NEY Neytrino 50.15 69 *i*P P 23 41 22.4 +4.5
SVE Sverdlovsk 50.18 45⇓ *e*P P 23 41 18.1 +0.4
SVE pmax pmax
comp=Z,12nm,1.1s
SKAG Skagway 50.20 319 PFAKE 23 41 30.0 +12
SKAG LR LR
comp=Z,2μm,20.0s
SCRK Sand Creek 50.24 327 *e*P P 23 41 18.9 +0.7
comp=Z,10nm,0.8s
SCRK LR LR
comp=Z,2μm,20.0s
S22A 4UR Ranch, Cre 50.25 282 PFAKE 23 41 30.0 +11
S22A LR LR
comp=Z,4μm,21.0s
S22A 4UR Ranch, Cre 50.25 282 P P 23 41 18.2 -0.7
baz=47
CSS Mathiatis 50.38 83 PFAKE 23 41 30.0 +10
CSS LR LR
comp=Z,2μm,18.0s
NCK Nalchik 50.47 68⇑ *e*P P 23 41 20.7 +0.6
NCK pmax pmax
comp=Z,14nm,0.9s
DOT Dot Lake 50.49 327 PFAKE 23 41 30.0 +10
DOT LR LR
comp=Z,1μm,22.0s
MSTX Muleshoe 50.50 275 *e*P P 23 41 20.9 +0.3
comp=Z,42nm,1.1s
MSTX LR LR
comp=Z,7μm,18.0s
MSTX Muleshoe 50.50 275 P P 23 41 21.5 +1.0
baz=45
POKR Poker Plat Res 50.51 330 P P 23 41 20.9 +0.8
baz=45
F10A Beach Ranch, E 50.57 297 *e*P P 23 41 20.4 -0.6
comp=Z,10nm,1.0s
F10A LR LR
comp=Z,3μm,20.0s
BESE Bessie Mountai 50.59 318 PFAKE 23 41 30.0 +9.2
BESE LR LR
comp=Z,3μm,19.0s
IL1 Eielson Array 50.59 329 *e*P P 23 41 20.9 +0.2
IL1 *e*PcP PcP 23 42 37.4 -0.7
ILAR Eielson Array 50.59 329 P P 23 41 20.2 -0.5
comp=Z,2.0nm,0.8s,baz=48,slow=5.5,SNR=22
ILAR PcP PcP 23 42 37.2 -0.9
comp=Z,7.8nm,0.9s,baz=15,slow=3.1,SNR=12
ILAR LR LR 00 02 19.4
comp=Z,1μm,18.3s,baz=54,slow=36
ILB Eielson Array 50.59 329 *e*P P 23 41 20.9 +0.1
ILB *e*PcP PcP 23 42 38.2 0.0
TCUT Toone Canyon 50.59 288 *e*P P 23 41 22.1 +0.8
comp=Z,37nm,0.9s
TCUT LR LR
comp=Z,4μm,20.0s
JIS Juneau Island 50.60 318 PFAKE 23 41 30.0 +9.2
JIS LR LR
comp=Z,3μm,18.0s
HLID Hailey 50.64 293 *e*P P 23 41 22.7 +1.1
comp=Z,6.1nm,0.8s
HLID LR LR
comp=Z,6μm,19.0s
HLID Hailey 50.64 293 P P 23 41 21.2 -0.3
baz=49,SNR=12
RIDG Independ'e Rid 50.67 327 PFAKE 23 41 30.0 +8.6
RIDG LR LR
comp=Z,1μm,20.0s
E09A Wood Farm, Sta 50.70 298 *e*P P 23 41 21.3 -0.5
comp=Z,9.7nm,1.2s
E09A LR LR
comp=Z,3μm,19.0s
D08A Wollman Farm, 50.75 299 PFAKE 23 41 30.0 +7.8
D08A LR LR
comp=Z,4μm,18.0s
PV15 Paradox Valley 50.80 284 PFAKE 23 41 40.0 +17
PV15 LR LR
comp=Z,6μm,18.0s
COLA College 50.81 329 PFAKE 23 41 30.0 +7.7
COLA LR LR
comp=Z,2μm,21.0s
COLA College 50.81 329⇑ *e*P P 23 41 22.3 0.0
COLA pmax pmax
comp=Z,3.0nm,0.7s
PV07 Paradox Valley 50.83 284 PFAKE 23 41 40.0 +17
PV07 LR LR
comp=Z,4μm,18.0s
MDM Murphy Dome 50.86 330 *e*P P 23 41 23.4 +0.6
comp=Z,12nm,1.0s
MDM LR LR
comp=Z,2μm,22.0s
HDA Harding Lake 50.87 329 *e*P P 23 41 23.3 +0.5
comp=Z,14nm,0.8s
HDA LR LR
comp=Z,2μm,19.0s
HDA Harding Lake 50.87 329 P P 23 41 23.6 +0.8
baz=45
HVU Hansel Valley 50.91 290 *e*P P 23 41 23.9 +0.3
comp=Z,11nm,1.0s
HVU LR LR
comp=Z,5μm,19.0s
HVU Hansel Valley 50.91 290 *e*P P 23 41 23.9 +0.3
HVU pmax pmax
comp=Z,11nm,1.0s
HVU MLR MLR
comp=Z,5μm,19.0s
PV21 Cone Mtn., Par 50.93 284 PFAKE 23 41 40.0 +16
PV21 LR LR
comp=Z,2μm,19.0s
JLU Jordanelle 50.96 288 *e*P P 23 41 24.4 +0.3
comp=Z,9.6nm,1.1s
JLU LR LR
comp=Z,5μm,18.0s
WRAK Wrangell Islan 50.99 315 PFAKE 23 41 40.0 +16
WRAK LR LR
comp=Z,3μm,18.0s
PV12 Saucer Basin, 51.00 284 *e*P P 23 41 26.0 +1.5
comp=Z,30nm,1.0s
PV04 Paradox Valley 51.01 284 PFAKE 23 41 40.0 +16
PV04 LR LR
comp=Z,4μm,19.0s
PV23 Carpenter Ridg 51.03 284 PFAKE 23 41 40.0 +15
PV23 LR LR
comp=Z,4μm,18.0s
PV02 Paradox Valley 51.04 284 *e*P P 23 41 26.3 +1.6
comp=Z,20nm,0.9s
SPUT South Promonto 51.05 289 *e*P P 23 41 24.9 +0.2
comp=Z,20nm,1.2s
SPUT LR LR
comp=Z,5μm,18.0s
PV11 David Mesa, Pa 51.05 284 *e*P P 23 41 26.0 +1.2
comp=Z,64nm,1.1s
PV11 LR LR
comp=Z,4μm,20.0s
CTU Camp Tracy 51.07 288 PFAKE 23 41 40.0 +15
CTU LR LR
comp=Z,3μm,18.0s
PV03 Paradox Valley 51.07 284 *e*P P 23 41 25.8 +0.9
PV16 Nyswonger Mesa 51.07 284 *e*P P 23 41 26.0 +1.1
comp=Z,50nm,1.1s
PV16 LR LR
comp=Z,4μm,21.0s
PV20 West Nyswonger 51.08 284 *e*P P 23 41 26.8 +1.8
comp=Z,25nm,1.0s
PV20 LR LR
comp=Z,3μm,21.0s
PV14 Lion Creek, Pa 51.09 284 *e*P P 23 41 28.4 +3.3
comp=Z,18nm,1.1s
PV14 LR LR
comp=Z,4μm,22.0s
PV10 Paradox Valley 51.10 284 *e*P P 23 41 26.6 +1.4
PV10 LR LR
comp=Z,3μm,18.0s
ZEI Tsey 51.10 68 *e*P P 23 41 25.0 -0.1
ZEI pmax pmax
comp=Z,14nm,0.9s
B06A Marblemount 51.11 302 PFAKE 23 41 40.0 +15
B06A LR LR
comp=Z,4μm,18.0s
PV19 Morning Glory 51.11 284 *e*P P 23 41 26.5 +1.2
comp=Z,24nm,1.0s
PV19 LR LR
comp=Z,3μm,21.0s
PV17 East Wray Mesa 51.12 284 *e*P P 23 41 26.4 +1.1
comp=Z,53nm,1.0s
PV13 Radium Mtn., P 51.12 284 *e*P P 23 41 26.8 +1.5
comp=Z,38nm,1.0s
PV13 LR LR
comp=Z,5μm,18.0s
WRH Wood River Hil 51.17 329 *e*P P 23 41 25.6 +0.5
comp=Z,30nm,1.5s
WRH LR LR
comp=Z,2μm,22.0s
E08A Dider Farm, El 51.19 298 PFAKE 23 41 40.0 +15
E08A LR LR
comp=Z,3μm,18.0s
JCT Junction City 51.24 270 *e*P P 23 41 25.3 -0.8
comp=Z,21nm,0.9s
JCT LR LR
comp=Z,6μm,18.0s
JCT Junction City 51.24 270 *e*P P 23 41 25.3 -0.8
JCT pmax pmax
comp=Z,21nm,0.9s
JCT MLR MLR
comp=Z,6μm,18.0s
JCT Junction City 51.24 270 P P 23 41 25.2 -0.8
baz=43,SNR=10
P17A Butcher Ranch, 51.32 286 PFAKE 23 41 40.0 +13
P17A LR LR
comp=Z,4μm,18.0s
PV05 Paradox Valley 51.34 284 *e*P P 23 41 27.1 +0.1
PV05 LR LR
comp=Z,3μm,21.0s
BMO Blue Mountains 51.35 296 *e*P P 23 41 26.2 -0.6
comp=Z,6.0nm,0.9s
BMO Blue Mountains 51.35 296 *e*P P 23 41 26.2 -0.6
BMO pmax pmax
comp=Z,6.0nm,0.9s
PAX Paxson 51.42 327 PFAKE 23 41 40.0 +13
PAX LR LR
comp=Z,600nm,20.0s
SRU San Rafael Swe 51.45 286 *e*P P 23 41 28.9 +1.2
comp=Z,17nm,0.8s
SRU LR LR
comp=Z,3μm,19.0s
SRU San Rafael Swe 51.45 286 *e*P P 23 41 28.9 +1.2
SRU pmax pmax
comp=Z,17nm,0.8s
SRU MLR MLR
comp=Z,3μm,19.0s
MPU Maple Canyon 51.46 287 *e*P P 23 41 28.6 +0.7
comp=Z,14nm,1.0s
MPU LR LR
comp=Z,5μm,18.0s
HAWA Hanford 51.50 298 *e*P P 23 41 27.3 -0.6
comp=Z,4.1nm,0.9s
HAWA LR LR
comp=Z,3μm,19.0s
MFID Camas Ranch 51.50 293 *e*P P 23 41 28.8 +0.8
comp=Z,10nm,0.8s
MFID LR LR
comp=Z,5μm,18.0s
LTY Liberty 51.52 300 *e*P P 23 41 27.4 -0.7
comp=Z,21nm,1.2s
LTY LR LR
comp=Z,3μm,21.0s
MLY Manley 51.55 331 *e*P P 23 41 28.5 +0.5
comp=Z,5.3nm,0.8s
MLY LR LR
comp=Z,2μm,21.0s
E07A Sunnyside 51.56 299 *e*P P 23 41 29.6 +1.3
comp=Z,5.2nm,0.8s
E07A LR LR
comp=Z,3μm,21.0s
MVCO Mesa Verde 51.59 283 *e*P P 23 41 30.3 +1.5
comp=Z,18nm,0.9s
MVCO LR LR
comp=Z,6μm,19.0s
MVCO Mesa Verde 51.59 283 P P 23 41 29.6 +0.7
baz=46
BGU Big Grassy Mou 51.63 289 *e*P P 23 41 29.2 +0.1
comp=Z,7.7nm,1.0s
BGU LR LR
comp=Z,4μm,19.0s
IM3 Indian Mountai 51.69 333 *e*P P 23 41 29.0 +0.1
TMUT Trail Mountain 51.71 286 PFAKE 23 41 40.0 +10
TMUT LR LR
comp=Z,3μm,18.0s
BALM Baldy 51.72 324 PFAKE 23 41 40.0 +11
BALM LR LR
comp=Z,2μm,21.0s
NLU North Lily Min 51.75 288 *e*P P 23 41 30.5 +0.5
comp=Z,16nm,1.1s
NLU LR LR
comp=Z,4μm,18.0s
SIT Sitka 51.79 317 PFAKE 23 41 40.0 +10
SIT LR LR
comp=Z,3μm,22.0s
BWN Browne 51.80 329 PFAKE 23 41 40.0 +10
BWN LR LR
comp=Z,2μm,22.0s
BBB Bella Bella 51.91 309 PFAKE 23 41 40.0 +9.3
BBB LR LR
comp=Z,4μm,18.0s
G08A Pilot Rock 51.93 297 *e*P P 23 41 30.6 -0.6
comp=Z,7.6nm,0.9s
G08A LR LR
comp=Z,5μm,19.0s
CRAG Craig 51.94 314 PFAKE 23 41 40.0 +9.1
CRAG LR LR
comp=Z,3μm,18.0s
Q16A Castle Valley 51.95 286 PFAKE 23 41 40.0 +8.5
Q16A LR LR
comp=Z,3μm,18.0s
DHY Denali Highway 51.95 328 *e*P P 23 41 34.7 +3.5
comp=Z,14nm,1.0s
DHY LR LR
comp=Z,1μm,22.0s
MCK McKinley 51.96 329 *e*P P 23 41 31.5 +0.5
comp=Z,87nm,1.8s
MCK LR LR
comp=Z,2μm,19.0s
MCK McKinley 51.96 329 *e*P P 23 41 31.5 +0.5
MCK pmax pmax
comp=Z,87nm,1.8s
MCK MLR MLR
comp=Z,2μm,19.0s
ANMO Albuquerque 51.98 279 P P 23 41 32.3 +0.6
comp=Z,3.2nm,0.8s,baz=41,slow=6.6,SNR=9.9
ANMO Albuquerque 51.98 279 *e*P P 23 41 33.1 +1.3
comp=Z,14nm,1.1s
ANMO LR LR
comp=Z,10μm,18.0s
ANMO Albuquerque 51.98 279 *ce*P P 23 41 32.4 +0.6
ANMO pmax pmax
comp=Z,14nm,1.2s
ANMO Albuquerque 51.98 279 P P 23 41 32.9 +1.1
baz=45
DUG Dugway, Tooele 52.00 288 *e*P P 23 41 32.4 +0.6
comp=Z,18nm,1.0s
DUG LR LR
comp=Z,4μm,19.0s
DUG Dugway, Tooele 52.00 288 *e*P P 23 41 32.4 +0.6
DUG pmax pmax
comp=Z,18nm,1.0s
DUG MLR MLR
comp=Z,4μm,19.0s
DUG Dugway, Tooele 52.00 288 P P 23 41 30.6 -1.3
baz=47,SNR=8.4
F07A Phinny Hill Vi 52.04 298 PFAKE 23 41 40.0 +8.2
F07A LR LR
comp=Z,3μm,18.0s
KARS Kars 52.10 71 PFAKE 23 41 40.0 +7.5
KARS LR LR
comp=Z,4μm,20.0s
RND Reindeer 52.18 329 PFAKE 23 41 50.0 +17
RND LR LR
comp=Z,1μm,22.0s
D05A Enumclaw 52.24 301 PFAKE 23 41 50.0 +17
D05A LR LR
comp=Z,3μm,19.0s
KVTX Kingsville 52.27 266 PFAKE 23 41 50.0 +16
KVTX LR LR
comp=Z,3μm,19.0s
TBLG Delisi 52.27 69 *e*P P 23 41 35.1 +1.5
comp=Z,14nm,1.0s
BPAW Bear Paw Mtn. 52.31 330 *e*P P 23 41 34.5 +0.9
comp=Z,51nm,1.8s
BPAW LR LR
comp=Z,2μm,21.0s
RDOG Red Dog Mine 52.32 338 PFAKE 23 41 50.0 +16
RDOG LR LR
comp=Z,1μm,20.0s
TEIG Tepich 52.34 251 PFAKE 23 41 50.0 +16
TEIG LR LR
comp=Z,2μm,18.0s
LON Longmire 52.44 300 *e*P P 23 41 33.9 -1.0
comp=Z,3.3nm,0.8s
LON LR LR
comp=Z,3μm,19.0s
LON Longmire 52.44 300 *e*P P 23 41 33.9 -1.0
LON pmax pmax
comp=Z,3.0nm,0.8s
LON MLR MLR
comp=Z,3μm,19.0s
BMRM Bremner River 52.55 325 PFAKE 23 41 50.0 +15
BMRM LR LR
comp=Z,2μm,20.0s
833A Chaparral WMA, 52.58 268 PFAKE 23 41 50.0 +14
833A LR LR
comp=Z,16μm,21.0s
TRF Thorofare Moun 52.58 329 *e*P P 23 41 36.1 +0.3
comp=Z,11nm,0.8s
TRF LR LR
comp=Z,2μm,22.0s
MYIG Mrida 52.59 253 PFAKE 23 41 50.0 +14
MYIG LR LR
comp=Z,2μm,19.0s
KLU Klutina 52.62 326 PFAKE 23 41 50.0 +14
KLU LR LR
comp=Z,2μm,20.0s
BNM Barren Site 52.63 278 *e*P P 23 41 37.8 +1.1
MSU Marysvale 52.80 286 *e*P P 23 41 38.8 +1.0
MSU Marysvale 52.80 286 *e*P P 23 41 38.8 +1.0
LENM Lemitar 52.83 279 *e*P P 23 41 39.3 +1.3
DIV Divide 52.83 325 PFAKE 23 41 50.0 +12
DIV LR LR
comp=Z,3μm,22.0s
SCM Sheep Creek Mo 52.84 327 PFAKE 23 41 50.0 +12
SCM LR LR
comp=Z,2μm,20.0s
G06A Carlson Farm, 52.85 298 *e*P P 23 41 37.9 0.0
comp=Z,26nm,1.8s
G06A LR LR
comp=Z,3μm,18.0s

Y22D IRIS PASSCAL I 52.86 279 PFAKE 23 41 50.0 +12
Y22D LR LR
comp=Z,10µm,19.0s
TCRU Three Creeks R 52.88 287 PFAKE 23 41 50.0 +12
TCRU LR LR
comp=Z,4µm,19.0s
MAK Makhachkala 52.95 66 *eP* **P 23 41 38.0 -0.6**
MAK *e* 23 43 41.0
MAK *eS* **S 23 49 07.9 +0.7**
MAK pmax pmax
comp=Z,132nm,0.9s
J08A Circle Bar Ran 52.97 295 *eP* **P 23 41 39.3 +0.4**
comp=Z,19nm,0.8s
J08A LR LR
comp=Z,4µm,18.0s
ELK Elko 52.98 290 P **P 23 41 39.5 +0.4**
comp=Z,2.8nm,0.7s,baz=16,slow=4.4,SNR=9.1
ELK Elko 52.98 290 *eP* **P 23 41 40.4 +1.2**
comp=Z,11nm,1.0s
ELK LR LR
comp=Z,4µm,18.0s
I07A Izee 53.03 296 *eP* **P 23 41 42.0 +2.6**
comp=Z,4.1nm,1.0s
I07A LR LR
comp=Z,3µm,20.0s
NLWA Neilton Lookou 53.06 302 *eP* **P 23 41 40.5 +1.2**
comp=Z,23nm,1.0s
NLWA LR LR
comp=Z,8µm,18.0s
TIC Toumodi 53.09 141 *eP* **P 23 41 38.3 -1.6**
SDV Santo Domingo 53.12 226 *eP* **P 23 41 44.5 +4.2**
comp=Z,9.3nm,1.2s
SDV LR LR
comp=Z,400nm,20.0s
SDV Santo Domingo 53.12 226 *eP* **P 23 41 41.1 +0.8**
DBIC Dimbokro 53.12 141 P **P 23 41 38.6 -1.6**
comp=Z,16nm,0.7s,baz=331,slow=6.7,SNR=26
DBIC LR LR 00 01 30.8
comp=Z,3µm,20.4s,baz=324,slow=33
DBIC Dimbokro 53.12 141 *eP* **P 23 41 39.1 -1.0**
comp=Z,17nm,0.8s
DBIC Dimbokro 53.12 141 *eP* **P 23 41 39.1 -1.0**
DBIC pmax pmax
comp=Z,17nm,0.8s
DBIC Dimbokro 53.12 141 *eP* **P 23 41 39.3 -0.8**
MTPU Mount Pierson 53.12 286 *eP* **P 23 41 41.7 +1.3**
comp=Z,10nm,0.9s
MTPU LR LR
comp=Z,2µm,19.0s
CAST Castle Rocks 53.14 330 *eP* **P 23 41 39.8 0.0**
comp=Z,16nm,1.1s
CAST LR LR
comp=Z,2µm,22.0s
SML Sawmill 53.18 327 PFAKE 23 41 50.0 +10
SML LR LR
comp=Z,900nm,19.0s
DIB Dawson Inlet, 53.20 312 PFAKE 23 41 50.0 +10
DIB LR LR
comp=Z,4µm,19.0s
G05D Wamic, OR 53.20 298 P **P 23 41 41.3 +0.8**
baz=47
AKTO Aktyubinsk 53.23 53 P **P 23 41 40.3 -0.3**
comp=Z,9.3nm,0.9s,baz=313,slow=6.7,SNR=17
GNI Garni 53.35 70 PFAKE 23 41 50.0 +8.2
GNI LR LR
comp=Z,1µm,21.0s
KIC Kosan Boka 53.45 141 *eP* **P 23 41 41.3 -1.3**
comp=Z,58nm,1.3s
GLI Glacier Island 53.46 326 PFAKE 23 41 50.0 +7.9
GLI LR LR
comp=Z,2µm,20.0s
LIC Lamto 53.47 142 *eP* **P 23 41 41.4 -1.3**
comp=Z,49nm,0.8s
KNK Knik Glacier 53.52 327 PFAKE 23 42 00.0 +17
KNK LR LR
comp=Z,1µm,18.0s
PPLA Purkeypile 53.57 330 PFAKE 23 42 00.0 +17
PPLA LR LR
comp=Z,2µm,22.0s
PMR Palmer 53.60 327 PFAKE 23 42 00.0 +17
PMR LR LR
comp=Z,1µm,21.0s
PKCU Pink Cliffs 53.61 285 *eP* **P 23 41 44.9 +0.9**
comp=Z,34nm,1.2s
PKCU LR LR
comp=Z,2µm,18.0s
MNTX Cornudas Mount 53.65 275 *eP* **P 23 41 43.8 -0.2**
comp=Z,7.5nm,0.9s
MNTX LR LR
comp=Z,6µm,18.0s
MNTX Cornudas Mount 53.65 275 P **P 23 41 43.3 -0.7**
baz=44,SNR=11
WVOR Wild Horse Val 53.69 294 *eP* **P 23 41 45.2 +1.1**
comp=Z,18nm,0.8s
WVOR LR LR
comp=Z,3µm,18.0s
WVOR Wild Horse Val 53.69 294 *eP* **P 23 41 45.3 +1.1**
WVOR pmax pmax
comp=Z,18nm,0.8s
WVOR MLR MLR
comp=Z,3µm,18.0s
PSUT Pine Spring 53.73 288 *eP* **P 23 41 45.6 +0.9**
comp=Z,11nm,1.0s
PSUT *eS* **S 23 49 23.0 +4.6**
PSUT LR LR
comp=Z,4µm,18.0s
AMAZ Amatzia 53.75 85 P **P 23 41 40.2 -4.5**
comp=Z,39nm,1.1s
W18A Petrified Fore 53.76 282 PFAKE 23 42 00.0 +15
W18A LR LR
comp=Z,3µm,21.0s
W18A Petrified Fore 53.76 282 P **P 23 41 45.4 +0.5**
baz=45
I05D Terrebonne, OR 53.83 298 P **P 23 41 44.6 -0.5**
baz=47
SIRT Sirnak 53.89 74 *eP* **P 23 41 47.9 +2.2**
comp=Z,71nm,1.0s
KZIT Kziot 53.90 86 P P 23 41 40.3 -5.4
comp=Z,30nm,0.9s
SZCU Shurtz Canyon 53.95 286 *eP* **P 23 41 47.2 +0.9**
comp=Z,12nm,1.1s
SZCU *eS* **S 23 49 19.1 -2.3**
SZCU LR LR
comp=Z,3µm,19.0s
PINE Pine Mountain 53.99 297 *eP* **P 23 41 47.2 +0.7**
comp=Z,20nm,0.8s
PINE LR LR
comp=Z,4µm,19.0s
H04A Detroit Lake 54.03 298 PFAKE 23 42 00.0 +13
H04A LR LR
comp=Z,2µm,20.0s
CCUT Cedar City 54.14 286 *eP* **P 23 41 48.5 +0.9**
comp=Z,9.4nm,1.0s
CCUT LR LR
comp=Z,5µm,18.0s
RC01 Rabbit Creek A 54.17 327 PFAKE 23 42 00.0 +13
RC01 LR LR
comp=Z,1µm,19.0s
KNB Kanab 54.20 285 *eP* **P 23 41 48.7 +0.6**
comp=Z,16nm,1.0s
KNB LR LR
comp=Z,2µm,18.0s
TIXI Tiksi 54.23 6 *eP* **P 23 41 48.4 +0.9**
comp=Z,25nm,0.9s
TIXI LR LR
comp=Z,600nm,22.0s
TIXI Tiksi 54.23 6 *ceP* **P 23 41 48.1 +0.6**
TIXI pmax pmax
comp=Z,19nm,1.0s
G03D McMinnville, O 54.23 299 P **P 23 41 47.5 -0.5**
baz=47
WALJ Wala 54.26 84 P **P 23 41 49.9 +1.6**
comp=Z,35nm,0.8s
BMN Battle Mountai 54.29 291 *eP* **P 23 41 49.7 +1.0**
BMN LR LR
comp=Z,5µm,20.0s
LISJ El Lisan 54.30 85 P **P 23 41 50.3 +1.8**
comp=Z,45nm,1.1s
X18A Snowflake 54.30 281 *eP* **P 23 41 49.4 +0.5**
comp=Z,19nm,1.0s
X18A LR LR
comp=Z,3µm,21.0s
U15A North Rim 54.31 285 PFAKE 23 42 00.0 +11
U15A LR LR
comp=Z,2µm,20.0s
LTX Lajitas 54.36 272 *eP* **P 23 41 48.6 -0.6**
LTX Lajitas 54.36 272 *eP* **P 23 41 48.6 -0.6**
TX31 Lajitas Ar. Si 54.36 272 *eP* **P 23 41 49.7 +0.4**
TXAR Lajitas Array 54.36 272 P **P 23 41 48.6 -0.6**
comp=Z,2.1nm,0.8s,baz=55,slow=6.9,SNR=21
TXAR LR LR 00 04 32.4
comp=Z,5µm,19.1s,baz=0.0,slow=36
WUAZ Wupatki 54.43 283 PFAKE 23 42 00.0 +10
WUAZ LR LR
comp=Z,4µm,22.0s
LCMT Little Creek M 54.45 286 *eP* **P 23 41 51.0 +1.2**
comp=Z,6.3nm,0.9s
LCMT *eS* **S 23 49 34.5 +6.5**
LCMT LR LR
comp=Z,2µm,22.0s
ASF Jabal al Asfar 54.45 83 P **P 23 41 50.8 +0.9**
comp=Z,9.6nm,1.5s
121A Cookes Peak, D 54.47 278 P **P 23 41 49.6 -0.4**
baz=44
J05D Fort Rock, OR 54.49 297 P **P 23 41 50.6 +0.5**
baz=46,SNR=31
I04A Tendick Farm, 54.76 298 P **P 23 41 51.4 -0.5**
baz=46
JDRJ Daraweish 54.78 85 P **P 23 41 53.8 +1.5**
comp=Z,27nm,1.0s
R11A Troy Canyon, C 54.83 289 *eP* **P 23 41 53.0 +0.3**
comp=Z,6.1nm,1.0s
R11A LR LR
comp=Z,2µm,20.0s
R11A Troy Canyon, C 54.83 289 P **P 23 41 52.3 -0.4**
baz=45,SNR=6.0
HRFI Mount Harif 54.91 86 P **P 23 41 57.1 +4.0**
comp=Z,30nm,1.0s
MOD Modoc Plateau 54.95 295 *eP* **P 23 41 53.9 +0.4**
comp=Z,15nm,0.8s
MOD LR LR
comp=Z,3µm,19.0s
J04D Umpqua Nationa 54.99 297 P **P 23 41 53.7 -0.1**
baz=46
EIL Elat 55.13 86 P **P 23 41 58.4 +3.7**
LNIG Linares 55.18 265 PFAKE 23 42 10.0 +15
LNIG LR LR
comp=Z,2µm,18.0s
X16A Lo Mia Camp, P 55.24 282 PFAKE 23 42 10.0 +14
X16A LR LR
comp=Z,3µm,19.0s
I02D Swisshome 55.29 299 P **P 23 41 55.9 +0.2**
baz=46
KVN Kaiserville 55.74 291 *eP* **P 23 41 59.4 +0.2**
comp=Z,20nm,1.1s
KVN LR LR
comp=Z,5µm,19.0s
KVN Kaiserville 55.74 291 *eP* **P 23 41 59.4 +0.2**
KVN pmax pmax
comp=Z,20nm,1.1s
KVN MLR MLR
comp=Z,5µm,19.0s
ANM Nome 55.77 336 PFAKE 23 42 10.0 +11
ANM LR LR
comp=Z,1µm,19.0s
L04D Klamath Falls 55.80 296 P **P 23 41 58.6 -1.0**
baz=46
M04C Macdoel 55.86 296 P **P 23 41 59.6 -0.4**
baz=45,SNR=14
HUMO Hull Mountain 55.87 297 PFAKE 23 42 10.0 +10
HUMO LR LR
comp=Z,3µm,19.0s
SHPR Sheep Range 55.89 287 *eP* **P 23 42 00.9 +0.6**
comp=Z,8.7nm,1.1s
SHPR LR LR
comp=Z,5µm,18.0s
SVW2 Sparrevohn 55.98 330 PFAKE 23 42 10.0 +10
SVW2 LR LR
comp=Z,1µm,19.0s
PAHR Pah Rah Range 55.99 292 *eP* **P 23 42 02.1 +1.2**
comp=Z,18nm,0.9s
PAHR LR LR
comp=Z,4µm,20.0s
J01E Myrtle Point 56.00 298 P **P 23 42 00.9 +0.2**
baz=45
W13A Hualapai Mount 56.17 285 *eP* **P 23 42 02.9 +0.6**
comp=Z,4.9nm,1.0s
W13A LR LR
comp=Z,2µm,18.0s
K02D Willamette Mer 56.18 297 P **P 23 42 02.3 +0.1**
baz=45
TPNV Topopah Spring 56.19 288 *eP* **P 23 42 02.6 +0.2**
comp=Z,11nm,0.8s
TPNV LR LR
comp=Z,3µm,21.0s
TPNV Topopah Spring 56.19 288 P **P 23 42 01.8 -0.6**
baz=45,SNR=12
ZARC Zaragoza, Cauc 56.21 230 *eP* **P 23 42 03.6 +1.0**
ZARC Zaragoza, Cauc 56.21 230 *eP* **P 23 42 03.6 +1.0**
RYN Ryan 56.27 291 *eP* **P 23 42 03.2 +0.3**
comp=Z,15nm,0.8s
RYN LR LR
comp=Z,4µm,18.0s
NV01 Mina Array Sit 56.29 290 *eP* **P 23 42 03.3 +0.1**
NVAR Mina Array Bea 56.29 290 P **P 23 42 02.5 -0.7**
comp=Z,2.5nm,0.8s,baz=58,slow=7.0,SNR=16
YBH Yreka Blue Hor 56.36 296 P **P 23 42 01.8 -1.7**
comp=Z,2.4nm,0.8s,baz=99,slow=4.1,SNR=10
YBH Yreka Blue Hor 56.36 296 *eP* **P 23 42 02.2 -1.3**
comp=Z,5.8nm,0.9s
YBH LR LR
comp=Z,3µm,19.0s
YBH Yreka Blue Hor 56.36 296 *eP* **P 23 42 02.2 -1.3**
YBH pmax pmax
comp=Z,6.0nm,0.9s
YBH MLR MLR
comp=Z,3µm,19.0s
TUC Tucson 56.38 280 *eP* **P 23 42 04.8 +1.0**
comp=Z,6.9nm,1.0s
TUC LR LR
comp=Z,12µm,18.0s
TUC Tucson 56.38 280 *eP* **P 23 42 04.8 +1.0**
TUC pmax pmax
comp=Z,7.0nm,1.0s
TUC MLR MLR
comp=Z,12µm,18.0s
TUC Tucson 56.38 280 P **P 23 42 04.7 +1.0**
baz=43
BEKR Beckworth 56.41 293 *eP* **P 23 42 04.8 +0.8**
comp=Z,11nm,0.9s
BEKR LR LR
comp=Z,3µm,18.0s
YERR Yerington 56.42 291 *eP* **P 23 42 04.5 +0.4**
comp=Z,8.5nm,0.9s
YERR LR LR
comp=Z,4µm,19.0s
VCNR Virginia City 56.42 292 *eP* **P 23 42 05.1 +1.0**
comp=Z,11nm,0.9s
VCNR LR LR
comp=Z,4µm,20.0s
Y14A Wickenburg 56.49 283 *eP* **P 23 42 05.6 +1.1**
comp=Z,6.6nm,1.0s
Y14A LR LR
comp=Z,4µm,19.0s
L02E Cave Junction 56.53 297 P **P 23 42 02.8 -1.8**
baz=45
PNTR Pine Nut 56.54 292 *eP* **P 23 42 06.0 +1.1**
comp=Z,30nm,0.9s
PNTR LR LR
comp=Z,5µm,19.0s
M02C Callahan 56.67 296 P **P 23 42 05.3 -0.4**
baz=45,SNR=5.8
ESPN Las Esperanzas 56.77 242 PFAKE 23 42 20.0 +13
ESPN LR LR
comp=Z,2µm,20.0s
GRAC Grapevine Rang 56.79 289 P **P 23 42 06.5 0.0**
baz=44,SNR=17
TGUH Tegucigalpa,Un 56.80 246 PFAKE 23 42 20.0 +13
TGUH LR LR
comp=Z,2µm,19.0s
BRVK Borovoye 56.81 44 *eP* **P 23 42 07.1 +0.8**
comp=Z,8.6nm,0.9s
BRVK LR LR
comp=Z,2µm,22.0s
BRVK Borovoye 56.81 44 *i* P **P 23 42 06.4 0.0**
RUSC La Rusia 56.85 227 *eP* **P 23 42 07.6 -0.1**
RUSC La Rusia 56.85 227 *eP* **P 23 42 07.6 -0.1**
WAKR Walker 56.87 291 *eP* **P 23 42 08.0 +0.8**
comp=Z,3.1nm,0.9s
WAKR LR LR
comp=Z,5µm,18.0s
RUBR Rubicon Trail 56.87 292 PFAKE 23 42 20.0 +13
RUBR LR LR
comp=Z,4µm,20.0s
BVAR Borovoye Array 56.88 44 P **P 23 42 06.9 0.0**
comp=Z,6.5nm,0.9s,baz=308,slow=7.1,SNR=19
PTBC PUERTO BERRIO, 56.88 229 *eP* **P 23 42 06.9 -0.4**
PTBC PUERTO BERRIO, 56.88 229 *eP* **P 23 42 06.9 -0.4**
LDFC Landfair 56.88 285 PFAKE 23 42 20.0 +13
LDFC LR LR
comp=Z,2µm,22.0s
FURC Furnace Creek, 56.88 288 P **P 23 42 06.5 -0.6**
baz=44
PDMCI Parker Dam,Lak 56.88 284 P **P 23 42 07.6 +0.4**
baz=44
O03E Paynes Creek 56.89 294 P **P 23 42 06.8 -0.4**
baz=45,SNR=5.9
N02D Trinity Center 56.89 295 P **P 23 42 06.8 -0.4**
baz=45,SNR=7.2
SHOC Shoshone, Teco 56.95 287 P **P 23 42 08.3 +0.6**
baz=44
WDC Whiskeytown Da 57.08 295 *eP* **P 23 42 07.0 -1.5**
comp=Z,4.6nm,0.9s
WDC LR LR
comp=Z,2µm,18.0s
WDC Whiskeytown Da 57.08 295 *eP* **P 23 42 07.0 -1.5**
WDC pmax pmax
comp=Z,5.0nm,0.9s
WDC MLR MLR
comp=Z,2µm,18.0s
TUQ Turquoise Moun 57.09 286 P **P 23 42 09.9 +1.2**
baz=44
BCIP Isla Barro Col 57.09 236 PFAKE 23 42 20.0 +11
BCIP LR LR
comp=Z,1µm,21.0s
ORV Oroville 57.25 293 *eP* **P 23 42 09.6 -0.1**
comp=Z,12nm,1.4s
ORV LR LR
comp=Z,4µm,18.0s
OMMB Old Mammoth Mi 57.26 290 *eP* **P 23 42 11.5 +1.3**
comp=Z,10nm,1.3s
OMMB LR LR
comp=Z,5µm,19.0s
MDPB Devils Postpil 57.29 290 PFAKE 23 42 20.0 +10
MDPB LR LR
comp=Z,4µm,19.0s
BILL Bilibino 57.32 351 *eP* **P 23 42 09.3 -0.5**
comp=Z,6.0nm,0.9s
BILL Bilibino 57.32 351⇑ *eP* **P 23 42 09.0 -0.7**
BILL pmax pmax
comp=Z,3.0nm,0.9s
HPIG 57.32 272 PFAKE 23 42 20.0 +9.4
HPIG LR LR
comp=Z,7µm,19.0s
LVIG Laguna Verde 57.39 259 PFAKE 23 42 20.0 +9.1
LVIG LR LR
comp=Z,1µm,19.0s
AFDM Forest Hills D 57.39 293 *eP* **P 23 42 11.4 +0.6**
comp=Z,7.1nm,1.0s
AFDM LR LR
comp=Z,3µm,20.0s
GMRC Granite Mounta 57.41 286 P **P 23 42 11.2 +0.2**
baz=44
DAC Darwin (Calif) 57.43 288 *eP* **P 23 42 11.8 +0.5**
comp=Z,12nm,1.1s
DAC LR LR
comp=Z,2µm,21.0s
DAC Darwin (Calif) 57.43 288 *eP* **P 23 42 11.8 +0.5**
DAC pmax pmax
comp=Z,12nm,1.1s
DAC MLR MLR
comp=Z,2µm,21.0s
O02D Mt. Diablo Mer 57.50 295 P **P 23 42 11.0 -0.5**
baz=44
Y12C Blythe 57.50 284 *eP* **P 23 42 12.9 +1.4**
comp=Z,29nm,0.9s
Y12C LR LR
comp=Z,3µm,18.0s
Y12C Blythe 57.50 284 P **P 23 42 10.8 -0.7**
baz=44,SNR=9.4
KHMM Horse Mountain 57.51 296 *eP* **P 23 42 12.5 +0.8**
comp=Z,15nm,0.8s
MPMC Manual Prospec 57.53 288 P **P 23 42 12.0 +0.1**
baz=44,SNR=14
IRM Iron Mountain 57.56 285 P **P 23 42 11.7 -0.3**
baz=44
CWC Cottonwood Cre 57.58 289 P **P 23 42 11.8 -0.6**
baz=44
CCIG Comitan 57.68 252 *eP* **P 23 42 12.8 -0.3**
comp=Z,25nm,0.9s
CCIG LR LR
comp=Z,3µm,19.0s
GSC Goldstone, Bar 57.68 287 *eP* **P 23 42 13.8 +0.9**
comp=Z,12nm,1.0s
GSC LR LR
comp=Z,4µm,18.0s
GSC Goldstone, Bar 57.68 287 *eP* **P 23 42 13.8 +0.9**
GSC pmax pmax
comp=Z,12nm,1.0s
GSC MLR MLR
comp=Z,4µm,18.0s
GSC Goldstone, Bar 57.68 287 P **P 23 42 13.8 +0.9**
baz=44
CMB Columbia Colle 57.72 291 *eP* **P 23 42 14.3 +1.1**
comp=Z,3.9nm,1.0s
CMB LR LR
comp=Z,4µm,18.0s
CMB Columbia Colle 57.72 291 *eP* **P 23 42 14.3 +1.1**
CMB pmax pmax
comp=Z,4.0nm,1.0s
CMB MLR MLR
comp=Z,4µm,18.0s
HEC Hector,Ludlow 57.76 286 P **P 23 42 14.0 +0.6**
baz=44
APG El Apazote 57.77 250 P **P 23 42 12.1 -1.9**
comp=Z,4.2nm,0.7s,baz=341,slow=8.6,SNR=3.0
113A Mohawk Valley, 57.78 283 *eP* **P 23 42 14.8 +1.3**
comp=Z,12nm,0.9s
113A LR LR
comp=Z,2µm,18.0s
214A Organ Pipe Nat 57.81 281 P **P 23 42 14.5 +0.7**
baz=43
GAMB Gambell 57.88 339 PFAKE 23 42 30.0 +16
GAMB LR LR
comp=Z,1µm,18.0s
KMRM Mail Ridge 57.96 295 *eP* **P 23 42 15.6 +0.8**
comp=Z,20nm,0.9s
LRMC Laurel Mtn Rad 58.05 288 P **P 23 42 16.1 +0.5**
baz=44
BC3 Big Chuckawall 58.10 284 P **P 23 42 16.0 +0.1**
baz=43,SNR=6.3
BELC Belle Mtn. Jos 58.16 285 P **P 23 42 17.2 +0.9**
baz=43
GLA Glamis 58.18 284 PFAKE 23 42 30.0 +14
GLA LR LR
comp=Z,3µm,20.0s
GLA Glamis 58.18 284 P **P 23 42 17.4 +1.0**
baz=43
PTGA Pitinga 58.20 210 *eP* **P 23 42 16.4 -0.1**
comp=Z,13nm,0.8s
PTGA LR LR
comp=Z,800nm,21.0s
PTGA Pitinga 58.20 210 *eP* **P 23 42 16.2 -0.4**
CHIC Chingaza 58.27 227 *eP* P 23 42 24.2 +6.7
CHIC Chingaza 58.27 227 *eP* P 23 42 24.2 +6.7
KCPM Cahto Peak 58.28 295 *eP* **P 23 42 17.8 +0.7**
comp=Z,15nm,0.9s
ROSC El Rosal 58.33 228 P **P 23 42 18.4 +0.4**
comp=Z,24nm,0.9s,baz=70,slow=3.9,SNR=14
ROSC LR LR 00 04 47.6
comp=Z,314nm,22.0s,baz=20,slow=33
ROSC El Rosal 58.33 228 *eP* **P 23 42 19.4 +1.4**
comp=Z,44nm,0.8s
ROSC El Rosal 58.33 228 *eP* **P 23 42 18.9 +0.9**
ROSC El Rosal 58.33 228 *eP* **P 23 42 18.9 +0.9**
ISA Isabella, Lake 58.37 288 *eP* **P 23 42 18.8 +1.1**
comp=Z,8.6nm,0.9s
ISA Isabella, Lake 58.37 288 *eP* **P 23 42 18.8 +1.1**
ISA pmax pmax
comp=Z,9.0nm,0.9s
ISA Isabella, Lake 58.37 288 P **P 23 42 17.5 -0.2**
baz=44
BBRC Big Bear Solar 58.50 286 P **P 23 42 19.2 +0.4**
baz=43
HOPS Hopland Field 58.50 294 *eP* **P 23 42 19.6 +1.1**
comp=Z,28nm,1.1s
HOPS LR LR
comp=Z,3µm,19.0s
HDC Heredia 58.52 240 PFAKE 23 42 30.0 +11
HDC LR LR
comp=Z,1µm,20.0s

VES Vestal, Richgr 58.58 289 P P 23 42 19.4 +0.3
baz=44
ZAIG Zacatecas 58.63 266 PFAKE 23 42 30.0 +10
ZAIG LR LR
comp=Z,2µm,18.0s
EDW2 Edwards Air Fo 58.66 287 P P 23 42 20.1 +0.3
baz=43,SNR=21
XPFO Pion Flat 58.71 285 eP P 23 42 21.3 +1.1
comp=Z,22nm,0.8s
PFO Pinyon Flats O 58.71 285 P P 23 42 20.6 +0.4
comp=Z,10nm,0.7s,baz=45,slow=6.8,SNR=18
PFO Pinyon Flats O 58.71 285 eP P 23 42 21.3 +1.1
comp=Z,20nm,0.8s
PFO Pinyon Flats O 58.71 285 eP P 23 42 21.3 +1.1
PFO pmax pmax
comp=Z,20nm,0.8s
PFO Pinyon Flats O 58.71 285 P P 23 42 20.4 +0.2
baz=43,SNR=14
JTS JuntasAbangare 58.71 241 PFAKE 23 42 30.0 +10
JTS LR LR
comp=Z,1µm,20.0s
SWSC Sam W. Stewart 58.82 284 P P 23 42 20.9 +0.1
baz=43
HSIG 58.88 277 eP P 23 42 21.1 -0.2
comp=Z,10nm,1.1s
HSIG LR LR
comp=Z,6µm,19.0s
BFSC Mount Baldy Ra 58.94 287 P P 23 42 22.3 +0.5
baz=43
ARVC Arvin 58.95 288 P P 23 42 21.4 -0.3
baz=43
ANIL Santa Ana 59.12 229 eP P 23 42 27.5 +4.2
ANIL Santa Ana 59.12 229 eP P 23 42 27.5 +4.2
MURC Murrieta 59.14 286 P P 23 42 24.7 +1.6
baz=43
MWC Mount Wilson 59.17 287 eP P 23 42 24.3 +0.8
MWC LR LR
comp=Z,4µm,20.0s
MWC Mount Wilson 59.17 287 eP P 23 42 24.3 +0.8
MWC MLR MLR
comp=Z,4µm,20.0s
IKP In-Ko-Pah, Jac 59.21 284 P P 23 42 23.9 +0.3
baz=43
MONP2 Monument Peak 59.21 285 P P 23 42 24.9 +1.1
baz=43
SAO San Andreas Ge 59.22 291 eP P 23 42 24.8 +1.2
comp=Z,14nm,0.9s
SAO LR LR
comp=Z,4µm,19.0s
SAO San Andreas Ge 59.22 291 eP P 23 42 24.8 +1.2
SAO pmax pmax
comp=Z,14nm,0.9s
SAO MLR MLR
comp=Z,4µm,19.0s
OSI Osito Audit: C 59.27 288 PFAKE 23 42 40.0 +16
OSI LR LR
comp=Z,4µm,18.0s
OSI Osito Audit: C 59.27 288 P P 23 42 23.9 0.0
baz=43
PASC Pasadena Art C 59.28 287 PFAKE 23 42 40.0 +16
PASC LR LR
comp=Z,4µm,19.0s
UNM Universidad Na 59.30 261 PFAKE 23 42 40.0 +15
UNM LR LR
comp=Z,1µm,20.0s
PAGB Antelope Grade 59.31 290 PFAKE 23 42 40.0 +16
PAGB LR LR
comp=Z,2µm,18.0s
BAR Barrett 59.51 285 eP P 23 42 26.5 +0.9
comp=Z,13nm,0.9s
BAR LR LR
comp=Z,4µm,18.0s
RCBR Riachuelo 59.52 181 PFAKE 23 42 40.0 +14
RCBR LR LR
comp=Z,600nm,20.0s
RCBR Riachuelo 59.52 181 eP P 23 42 25.8 0.0
109C Camp Elliot, M 59.61 285 P P 23 42 27.0 +0.7
baz=43
CPE Camp Elliot 59.61 285 PFAKE 23 42 40.0 +14
CPE LR LR
comp=Z,3µm,19.0s
PKM Mcpherson Peak 59.68 289 P P 23 42 27.4 +0.4
baz=43
YOTC Yotoco, Valle 59.99 229 eP P 23 42 28.9 -0.3
YOTC Yotoco, Valle 59.99 229 eP P 23 42 28.9 -0.3
MOIG Morelia 60.21 263 PFAKE 23 42 40.0 +9.2
MOIG LR LR
comp=Z,2µm,18.0s
NVS Novosibirsk 60.35 36 ⇓i P P 23 42 31.6 +0.6
NVS pmax pmax
comp=Z,14nm,1.0s
NVS pmax pmax
comp=N,5.0nm,0.9s
NVS pmax pmax
comp=E,3.0nm,0.9s
SRIG Santa Rosalia 60.91 277 PFAKE 23 42 50.0 +15
SRIG LR LR
comp=Z,6µm,18.0s
ZAA1 Zalesovo Array 61.62 36 eP P 23 42 39.4 -0.2
ZAA0 Zalesovo Array 61.62 36 eP P 23 42 42.0 +2.3
comp=Z,3.2nm,0.8s
ZAA0 LR LR
comp=Z,700nm,21.0s
ZALV Zalesovo Beam 61.62 36 P P 23 42 39.4 -0.3
comp=Z,1.8nm,0.8s,baz=324,slow=7.1,SNR=7.4
ZALV LR LR 00 09 41.3
comp=Z,413nm,20.3s,baz=259,slow=36
ZALV Zalesovo Beam 61.62 36 eP P 23 42 39.6 0.0
ZALV Zalesovo Beam 61.62 36 eP P 23 42 39.6 0.0
SOTA Rioblanco 61.75 229 eP P 23 42 41.5 -0.1
SOTA Rioblanco 61.75 229 eP P 23 42 41.5 -0.1
KURK Kurchatov 61.94 41 eP P 23 42 41.6 -0.2
comp=Z,10nm,1.0s
KURK LR LR
comp=Z,1µm,19.0s
KURK Kurchatov 61.94 41 ceP P 23 42 40.8 -1.0
KURK pmax pmax
comp=Z,11nm,1.0s
GEYT Alibeck 62.20 63 P P 23 42 44.5 +0.7
comp=Z,4.3nm,0.9s,baz=270,slow=8.6,SNR=9.7
GEYT LR LR 00 10 27.6
comp=Z,1µm,20.9s,baz=350,slow=37
GYA0B ALIBECK ARRAY 62.20 63 eP P 23 42 47.1 +3.2
comp=Z,7.4nm,1.0s
SLBS Sierra La Lagu 62.30 273 PFAKE 23 43 00.0 +15
SLBS LR LR
comp=Z,3µm,18.0s
SEY Seymchan 63.34 356 ceP P 23 42 50.9 -0.1
YAK Yakutsk 63.78 8 eP P 23 42 57.0 +3.1
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.0s
OTAV Otavalo 64.26 230 eP P 23 42 58.7 +0.5
comp=N,6.9nm,0.8s
OTAV LR LR
comp=Z,400nm,21.0s
OTAV Otavalo 64.26 230 eP P 23 42 58.7 +0.5
OTAV pmax pmax
comp=Z,7.0nm,0.8s
OTAV MLR MLR
comp=Z,400nm,21.0s
OTAV Otavalo 64.26 230 eP P 23 42 57.9 -0.3
KK31 Karatay Array 64.44 51 eP P 23 42 59.4 +0.8
KK31 Karatay Array 64.44 51 eP P 23 42 59.4 +0.8
BOD Bodaibo 65.85 17 eP P 23 43 03.2 -4.3
BOD pmax pmax
comp=Z,7.0nm,2.0s
RAYN Ar Rayn 65.95 83 eP P 23 43 08.0 -0.7
comp=Z,6.5nm,1.0s
RAYN LR LR
comp=Z,1µm,19.0s
RAYN Ar Rayn 65.95 83 eP P 23 43 08.0 -0.7
RAYN pmax pmax
comp=Z,7.0nm,1.0s
RAYN MLR MLR
comp=Z,1µm,19.0s
DGZ Jazzator, Alta 66.05 37 ci P P 23 43 10.3 +1.2
DGZ pmax pmax
comp=Z,5.0nm,0.9s
MAKZ Makanchi 66.40 42 eP P 23 43 11.1 -0.2
comp=Z,9.7nm,1.0s
MAKZ LR LR
comp=Z,1µm,21.0s
MAKZ Makanchi 66.40 42 eP P 23 43 11.1 -0.2
MAKZ pmax pmax
comp=Z,10.0nm,1.0s
MAKZ MLR MLR
comp=Z,1µm,21.0s
FRU Bishkek 66.51 49 eP P 23 43 13.0 +1.0
MK31 Makanchi Array 66.54 42 eP P 23 43 11.9 -0.1
MK31 Makanchi Array 66.54 42 eP P 23 43 12.0 -0.1
MK32 Makanchi Array 66.54 42 eP P 23 43 11.6 -0.6
MKAR Makanchi Array 66.54 42 P P 23 43 11.6 -0.6
comp=Z,6.5nm,0.9s,baz=333,slow=5.1,SNR=31
MKAR LR LR 00 12 46.7
comp=Z,766nm,18.5s,baz=296,slow=36
MKAR Makanchi Array 66.54 42 iP P 23 43 11.8 -0.3
MKAR pmax pmax
comp=Z,7.0nm,0.9s
MK01 Makanchi Array 66.56 42 eP P 23 43 12.0 -0.3
AAK Ala-Archa 66.61 49 eP P 23 43 14.2 +1.4
comp=Z,15nm,1.4s
AAK LR LR
comp=Z,2µm,19.0s
AAK Ala-Archa 66.61 49 ceP P 23 43 13.5 +0.7
AAK pmax pmax
comp=Z,11nm,1.4s
TARG Taragay, Kyrgy 68.81 48 eP P 23 43 29.2 +2.2
comp=Z,9.2nm,0.9s
TARG LR LR
comp=Z,2µm,19.0s
JANB Januaria 69.14 189 eP P 23 43 29.7 +1.0
KSH Kashi 69.78 50 P P 23 43 35.3 +2.6
KSH pP pP 23 43 36.8 +0.1
KSH sP sP 23 43 40.6 +2.9
KSH PcP PcP 23 43 56.8 +1.5
KSH PP PP 23 46 10.3 +3.8
KSH S S 23 52 40.8 -0.6
KSH ScS SKSac 23 53 32.8 -0.3
KSH SS SS 23 57 08.3 -0.6
KSH pmax pmax
comp=Z,15nm,1.0s
KSH pmax pmax
comp=Z,200nm,5.0s
KSH LR LR
comp=Z,130nm,8.7s
KSH LR LR
comp=Z,220nm,8.6s
KSH LR LR
comp=Z,1µm,10.6s
BDFB Brasilia 70.14 193 P P 23 43 34.4 -0.6
comp=Z,1.7nm,0.6s,baz=28,slow=6.4,SNR=3.6
BDFB LR LR 00 08 53.4
comp=Z,496nm,21.9s,baz=297,slow=31
BDFB Brasilia 70.14 193 eP P 23 43 34.4 -0.6
BDFB LR LR
comp=Z,600nm,21.0s
BDFB Brasilia 70.14 193 eP P 23 43 34.4 -0.6
BDFB MLR MLR
comp=Z,600nm,21.0s
ZAK Zakamensk 70.38 27 eP P 23 43 34.0 -2.2
ZAK pmax pmax
comp=Z,2.0nm,1.4s
KBL Kabul 70.44 58 eP P 23 43 37.6 +0.7
comp=Z,26nm,1.8s
KBL LR LR
comp=Z,1µm,22.0s
KBL Kabul 70.44 58 eP P 23 43 37.6 +0.7
KBL pmax pmax
comp=Z,26nm,1.8s
KBL MLR MLR
comp=Z,1µm,22.0s
MCI8 Montes Claros 70.68 189 eP P 23 43 39.3 +1.1
UOSS Minazif 71.04 74 eP P 23 43 41.3 +0.8
comp=Z,17nm,1.1s
UOSS LR LR
comp=Z,800nm,21.0s
WMQ Urumqi 71.11 40 P P 23 43 41.5 +0.8
WMQ pP pwP 23 43 49.6 +2.0
WMQ PcP PcP 23 44 02.5 +1.7
WMQ S S 23 52 58.9 +2.2
WMQ ScS ScS 23 53 46.3 +1.9
WMQ pmax pmax
comp=Z,25nm,1.3s
WMQ pmax pmax
comp=Z,520nm,5.7s
WMQ LR LR
comp=Z,2µm,18.3s
WMQ LR LR
comp=Z,2µm,14.1s
WMQ LR LR
comp=Z,2µm,27.9s
WMQ Urumqi 71.11 40 PFAKE 23 43 50.0 +9.3
WMQ LR LR
comp=Z,1µm,20.0s
DAMY Dhamar 72.25 90 PFAKE 23 44 00.0 +12
DAMY LR LR
comp=Z,800nm,19.0s
PETK Petropavlovsk- 72.80 352 LR LR 00 17 22.4
comp=Z,1µm,19.2s,baz=22,slow=37
NIL Nilore 73.24 56 eP P 23 43 54.0 +0.5
comp=Z,14nm,1.0s
NIL LR LR
comp=Z,2µm,19.0s
NIL Nilore 73.24 56 eP P 23 43 54.0 +0.5
NIL pmax pmax
comp=Z,14nm,1.0s
NIL MLR MLR
comp=Z,2µm,19.0s
FURI Furi 73.38 98 PFAKE 23 44 10.0 +15
FURI LR LR
comp=Z,900nm,22.0s
SONA1 Songino Array 73.53 26 eP P 23 43 55.0 -0.1
SONA0 Songino Array 73.54 26 eP P 23 43 54.8 -0.4
SONM Songino Array 73.54 26 P P 23 43 54.8 -0.4
comp=Z,3.4nm,0.8s,baz=325,slow=5.9,SNR=22
SONM LR LR 00 16 32.4
comp=Z,470nm,21.2s,baz=346,slow=36
ULN Ulaanbaatar 73.68 25 eP P 23 43 56.5 +0.5
comp=Z,14nm,1.2s
ULN LR LR
comp=Z,500nm,20.0s
ULN Ulaanbaatar 73.68 25 ceP P 23 43 56.2 +0.2
ULN pmax pmax
comp=Z,14nm,1.3s
ATD Arta Tunnel 73.74 93 PFAKE 23 44 10.0 +13
ATD LR LR
comp=Z,500nm,22.0s
HIA Hailar 75.04 17 PFAKE 23 44 20.0 +16
HIA LR LR
comp=Z,700nm,20.0s
LPAZ La Paz 75.39 213 P P 23 44 06.0 -0.7
comp=Z,6.3nm,0.8s,baz=32,slow=6.3,SNR=9.4
LPAZ LR LR 00 16 04.8
comp=Z,206nm,20.3s,baz=347,slow=35
LPAZ La Paz 75.39 213 eP P 23 44 06.5 -0.3
comp=Z,7.6nm,0.8s
LPAZ La Paz 75.39 213 eP P 23 44 06.5 -0.3
LPAZ pmax pmax
comp=Z,8.0nm,0.8s
LPAZ La Paz 75.39 213 eP P 23 44 06.8 0.0
BB19B Bebedouro 75.55 193 eP P 23 44 07.4 +0.5
MBAR Mbarara 76.55 110 PFAKE 23 44 20.0 +7.0
MBAR LR LR
comp=Z,2µm,21.0s
KLR Kul'dur 76.64 9 iP P 23 44 12.3 -0.6
MNMC Minye Minye 78.53 213 eP P 23 44 22.5 -1.4
comp=Z,8.8nm,0.9s
PB11 IPOC Station P 79.14 213 eP P 23 44 26.4 -0.7
comp=Z,14nm,1.1s
GTA Gaotai 79.30 34 ⇓P P 23 44 27.5 -0.5
GTA pP pP 23 44 31.8 +0.1
GTA sP pwP 23 44 34.3 -0.6
GTA pmax pmax
comp=Z,5.0nm,1.4s
GTA pmax pmax
comp=Z,150nm,6.2s
GTA LR LR
comp=Z,460nm,18.1s
GTA LR LR
comp=Z,310nm,16.5s
GTA LR LR
comp=Z,710nm,20.0s
KMBO Kilima Mbogo 80.65 105 LR LR 00 20 19.6
comp=Z,592nm,20.5s,baz=288,slow=36
HHC Hu-ho-hao-te 81.38 25 eP P 23 44 38.6 -0.5
HHC S S 23 54 41.0 -8.6
HHC pmax pmax
comp=Z,7.0nm,0.8s
HHC pmax pmax
comp=Z,240nm,7.8s
HHC LR LR
comp=Z,440nm,14.7s
HHC LR LR
comp=Z,590nm,15.6s
HHC LR LR
comp=Z,660nm,16.4s
LVC Limon Verde 81.57 211 eP P 23 44 40.9 +0.5
comp=Z,9.6nm,1.0s
LVC Limon Verde 81.57 211 eP P 23 44 40.9 +0.5
LVC pmax pmax
comp=Z,10.0nm,1.0s
LVC Limon Verde 81.57 211 eP P 23 44 40.9 +0.5
USA0B Ussuriysk Arra 81.65 9 PFAKE 23 44 50.0 +10
USA0B LR LR
comp=Z,500nm,18.0s
USRK Ussuriysk Ar. 81.65 9 P P 23 44 40.6 +0.3
comp=Z,4.1nm,0.8s,baz=337,slow=6.3,SNR=6.5
USRK LR LR 00 21 27.6
comp=Z,328nm,19.0s,baz=344,slow=36
ITAB Concordia 82.13 195 eP P 23 44 43.5 +0.7
CPUP Villa Florida 82.18 200 P P 23 44 41.3 -1.8
comp=Z,1.0nm,0.7s,baz=11,slow=11,SNR=2.9
CPUP LR LR 00 17 02.4
comp=Z,308nm,21.1s,baz=5.0,slow=33
CPUP Villa Florida 82.18 200 eP P 23 44 41.3 -1.8
comp=Z,9.5nm,1.4s
CPUP Villa Florida 82.18 200 eP P 23 44 41.3 -1.8
CPUP pmax pmax
comp=Z,10.0nm,1.4s
ASAJ Asahikawa 82.33 2 PFAKE 23 45 00.0 +16
ASAJ LR LR
comp=Z,700nm,20.0s
PYUN Piuthan 82.48 52 eP P 23 44 45.5 +0.2
comp=Z,51nm,1.6s
DANN Dangsing 82.63 51 eP P 23 44 46.4 +0.3
comp=Z,27nm,1.0s
KOLN Koldanda 83.05 51 eP P 23 44 48.3 +0.1
comp=Z,24nm,1.1s
BJI Beijing 83.22 22 eP P 23 44 48.8 +0.2
BJI LR LR
comp=Z,580nm,20.8s
BJI LR LR
comp=Z,450nm,15.3s
BJI LR LR
comp=Z,490nm,21.8s
BJT Baijiatuau 83.25 22 PFAKE 23 45 00.0 +11
BJT LR LR
comp=Z,1µm,22.0s
LZH Lanzhou 83.63 32 eP P 23 44 57.4 +6.4
LZH pP pP 23 45 16.0 +21
LZH sP sP 23 45 23.4 +27
LZH pmax pmax
comp=Z,26nm,1.0s
KKN Kakani 83.80 50 eP P 23 44 52.4 +0.3
comp=Z,23nm,0.9s
DMN Daman 83.88 50 eP P 23 44 52.9 +0.4
GUN Gumba 83.97 50 eP P 23 44 53.5 +0.4
comp=Z,34nm,1.1s
CNLB Canela 83.99 194 eP P 23 44 54.6 +2.2
PKIN Phulchoki 84.04 50 eP P 23 44 54.0 +0.6
GO02 Mina Guanaco 84.17 211 eP P 23 44 54.5 +0.7
comp=Z,10nm,0.9s
JIRN Jiri 84.32 50 eP P 23 44 55.4 +0.5
comp=Z,52nm,1.1s
LSA Lhasa 84.70 45 PFAKE 23 45 10.0 +13
LSA LR LR
comp=Z,1µm,20.0s
TSUM Tsumeb 85.73 131 PFAKE 23 45 10.0 +8.4
TSUM LR LR
comp=Z,800nm,22.0s
XAN Xi'an 87.07 29 P P 23 45 07.6 -0.5
XAN pmax pmax
comp=Z,6.0nm,0.8s
XAN pmax pmax
comp=Z,110nm,5.2s
XAN Xi'an 87.07 29 eP P 23 45 07.9 -0.2
comp=Z,14nm,1.3s
XAN LR LR
comp=Z,5µm,19.0s
XAN Xi'an 87.07 29 eP P 23 45 07.9 -0.2
XAN pmax pmax
comp=Z,14nm,1.3s
XAN MLR MLR
comp=Z,5µm,19.0s
LSZ Lusaka 87.45 120 eP P 23 45 12.2 +2.1
comp=Z,12nm,1.4s
LSZ LR LR
comp=Z,700nm,20.0s
KSRS Korea Array 87.84 13 P P 23 45 10.2 -1.4
comp=Z,2.6nm,1.0s,baz=336,slow=2.7,SNR=4.1
KSRS LR LR 00 26 28.4
comp=Z,275nm,19.0s,baz=348,slow=37
KS15 Wonju Array Si 87.84 13 eP P 23 45 10.2 -1.5
KSAR Wonju Array Be 87.84 13 P P 23 45 10.2 -1.5
KSAR Wonju Array Be 87.84 13 P P 23 45 10.2 -1.5
CD2 Chengdu 88.36 34 eP P 23 45 13.0 -1.3
SHL Shillong 88.64 46 eP P 23 45 17.6 +1.7
comp=Z,11nm,1.0s
SHL Shillong 88.64 46 eP P 23 45 17.6 +1.7
SHL pmax pmax
comp=Z,11nm,1.0s
GO04 Tololo Observa 89.23 210 PFAKE 23 45 30.0 +12
GO04 LR LR
comp=Z,500nm,22.0s
NPOC North of Pu'u 90.70 305 PFAKE 23 45 40.0 +15
NPOC LR LR
comp=Z,3µm,20.0s
ENH Enshi 90.76 30 PFAKE 23 45 40.0 +14
ENH LR LR
comp=Z,900nm,20.0s
AIN Ainahou 90.89 305 PFAKE 23 45 40.0 +14
AIN LR LR
comp=Z,2µm,21.0s
NJ2 Nanjing 91.49 22 eP P 23 45 30.8 +2.0
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
SSE Sheshan 92.90 20 PFAKE 23 45 50.0 +15
SSE LR LR
comp=Z,700nm,20.0s
KMI Kunming 93.31 37 PFAKE 23 45 50.0 +12
KMI LR LR
comp=Z,3µm,20.0s
GYA Guiyang 93.43 34 eP P 23 45 38.6 +0.5
GYA PP PP 23 49 24.3 +2.9
GYA SKS SKSac 23 56 11.0 -1.2
GYA S S 23 56 41.8 -4.0
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.8s
BOSA Boshof 97.34 130 LR LR 00 27 57.1
comp=Z,1µm,20.0s,baz=346,slow=34
BOSA Boshof 97.34 130 eP Pdif 23 45 58.4 +2.7
CHTO Chiang Mai 97.58 43 PFAKE 23 46 10.0 +13
CHTO LR LR
comp=Z,500nm,21.0s
CM31 Chiang Mai Arr 97.90 43 eP P 23 45 58.0 -0.4
CMAR Chiang Mai Arr 97.90 43 P P 23 45 58.0 -0.4
comp=Z,0.8nm,0.3s,baz=324,slow=5.7,SNR=8.6
CMAR LR LR 00 32 04.1
comp=Z,679nm,21.7s,baz=324,slow=37
SUR Sutherland 98.63 135 PFAKE 23 46 10.0 +8.6
SUR LR LR
comp=Z,1µm,21.0s
PLCA Paso Flores 99.05 206 LR LR 00 29 30.3
comp=Z,216nm,20.8s,baz=39,slow=35
SSLB Suanglung 99.92 22 PFAKE 23 46 20.0 +13
SSLB LR LR
comp=Z,400nm,20.0s
YULB Yu-li 100.38 22 PFAKE 23 46 20.0 +11
YULB LR LR
comp=Z,600nm,19.0s
TAOE Nuku Hiva Isla 105.90 277 eLR LR 00 21 32.6
comp=Z,987nm,22.3s
KULM Kulim 110.42 48 PFAKE 23 51 10.0 +15
KULM LR LR
comp=Z,500nm,21.0s
IPM Ipoh 111.31 48 PFAKE 23 51 10.0 +13
IPM LR LR
comp=Z,400nm,22.0s
PSI Prapat 111.86 51 PFAKE 23 51 10.0 +12
PSI LR LR
comp=Z,500nm,22.0s
RKT Rikitea 114.02 263 eLR LR 00 25 17.8
comp=Z,1µm,39.2s
BKNI Bangkinang 115.01 50 PFAKE 23 51 20.0 +16

BKNI LR LR
comp=Z,300nm,21.0s
KKM Kota Kinabalu 115.61 32 PFAKE 23 51 20.0 +15
KKM LR LR
comp=Z,400nm,18.0s
SBUM Sibu 117.64 37 PFAKE 23 51 20.0 +11
SBUM LR LR
comp=Z,200nm,19.0s
KSM Kuching 117.83 40 PFAKE 23 51 20.0 +11
KSM LR LR
comp=Z,2µm,19.0s
PPT2 Papeete2 118.35 279 *e*LR LR 00 27 19.6
comp=Z,1µm,24.2s
TBI Tubuai 122.75 275 *e*LR LR 00 29 17.8
comp=Z,1µm,38.2s
SNAA Sanae 127.36 168 PFAKE 23 51 40.0 +14
SNAA LR LR
comp=Z,400nm,21.0s
QSPA South Pole Qui 143.81 180 *e*PKPpre PKPpre 23 51 53.0
DZM Mont Dzumac 144.21 324 *e*PKPdf **PKPdf 23 51 59.3 +1.0**
WR1 Warramunga Arr 145.15 17 *e*PKPbc **PKPbc 23 51 58.7 -0.8**
WRA Warramunga Arr 145.15 17 PKPbc **PKPbc 23 51 58.7 -0.8**
comp=Z,5.5nm,0.8s,baz=344,slow=2.6,SNR=16
WB2 Warramunga Arr 145.15 17 *e*PKPbc **PKPbc 23 51 58.8 -0.7**
AS31 Alice Springs 148.70 19 *e*PKPbc **PKPbc 23 52 08.8 -0.8**
ASAR Alice Springs 148.70 19 PKPbc **PKPbc 23 52 08.8 -0.8**
comp=Z,9.3nm,0.7s,baz=348,slow=2.3,SNR=39
AS01 Alice Springs 148.71 19 *e*PKPdf **PKPbc 23 52 07.7 -1.9**
BBOO Buckleboo 158.00 20 PFAKE 23 52 30.0 +11
BBOO LR LR
comp=Z,600nm,20.0s

*ISCJB **20** 23:43:02.8±0.8, 37.°05N±0.°04×43.°36E±0.°06, h6km, Error ellipse: s-maj=7.4km s-min=5.6km az=26.4*
*ISK **20** 23:43:03.3, 37.°13N×43.°36E, h5km, ML2.6/4*
*ISN **20** 23:43:03.1±0.3, 36.°96N×43.°36E, h0km, ML2.6*
ISC 20 23:43:03.1±1.2, 37.°06N±0.°04×43.°38E±0.°05, h6km, n6, σ0°43/9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CUKT	**Cukurca**	**0.26**	**43**	PG	**Pg**	**23 43 08.2**	**-0.1**
CUKT				SG	**Sg**	**23 43 12.3**	**+0.5**
MSL	**Mosul**	**0.69**	**198**	*e*Pg	**Pg**	**23 43 16.2**	**-0.2**
	baz=20						
MSL				*e*Sg	**Sg**	**23 43 25.4**	**0.0**
SIRT	**Sirnak**	**0.87**	**301**	PG	**Pg**	**23 43 19.8**	**-0.1**
SIRT				SG	**Sg**	**23 43 31.0**	**-0.2**
AKDM	**Akdamar-Van**	**1.31**	**346**	PN	**Pn**	**23 43 27.5**	**-0.6**
GURO	**Guroymak-BITLI**	**1.83**	**325**	PN	**Pn**	**23 43 35.5**	**+0.2**
SVAN	**Silvan-Diyarba**	**2.05**	**303**	PN	**Pn**	**23 43 38.8**	**+0.6**

*ISCJB **20** 23:53:13.3±0.5, 54.°01N±0.°09×35.°11W±0.°10, h14km, mb3.9/18, MS4.1/15, Error ellipse: s-maj=13.5km s-min=7.6km az=16.1*
*IDC **20** 23:53:13.2±0.8, 54.°04N×35.°08W, h0km, mb3.7/14, mb1 3.9/16, mb1mx3.8/45, mbtmp3.7/16, ML3.5/2, MS4.2/17, Ms1 4.1/17, ms1mx3.8/58, Error ellipse: s-maj=24.6km s-min=13.9km az=11.0*
*NEIC **20** 23:53:14.4±0.8, 53.°97N×35.°12W, h10km±4km, mb4.5/5, Error ellipse: s-maj=10.7km s-min=5.9km az=196.0*
ISC 20 23:53:15.5±0.7, 54.°0N±0.°1×35.°10W±0.°08, h14km, n56, σ1°23/51, mb4.0/18, MS4.1/15, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**18.40**	**285**	LR	LR	00 03 08.7	
	comp=Z,272nm,19.4s,baz=110,slow=32						
EKA	**Eskdalemuir Ar**	**18.43**	**73**	P	**Pn**	**23 57 30.7**	**+0.5**
	baz=267,slow=8.5,SNR=3.4						
FRB	**Frobisher Bay**	**19.59**	**313**	P	**P**	**23 57 43.2**	**+0.5**
	0.1nm,0.3s,baz=82,slow=14,SNR=3.6						
FRB				LR	LR	00 03 55.2	
	comp=Z,422nm,18.5s,baz=72,slow=33						
JMIC	**Jan Mayen**	**20.65**	**25**	P	**P**	**23 57 54.6**	**+0.3**
	78nm,0.5s,baz=74,slow=6.1,SNR=3.8						
JMIC				LR	LR	00 03 40.8	
	comp=Z,323nm,21.3s,baz=232,slow=30						
NB200	**NORSAR Array S**	**25.35**	**55**	*e*P	**P**	**23 58 42.8**	**+1.1**
NOA	**NORSAR Array B**	**25.35**	**55**	P	**P**	**23 58 42.8**	**+1.1**
	3.6nm,1.2s,baz=312,slow=7.3,SNR=3.9						
NOA				LR	LR	00 06 54.7	
	comp=Z,190nm,19.7s,baz=255,slow=32						
ESDC	**Sonseca Array**	**25.43**	**112**	P	**P**	**23 58 43.5**	**+1.0**
	3.6nm,0.8s,baz=309,slow=8.5,SNR=13						
ESDC				LR	LR	00 07 10.6	
	comp=Z,267nm,18.4s,baz=290,slow=33						
ES19	**SONSECA Array**	**25.44**	**112**	*e*P	**P**	**23 58 40.6**	**-2.0**
HFS	**Hagfors**	**26.68**	**57**	LR	LR	00 08 47.9	
	comp=Z,386nm,18.9s,baz=256,slow=35						
CART	**Cartagena**	**28.54**	**111**	*e*P	**P**	**23 59 10.2**	**-0.3**
	58nm,1.0s						
DAVOX	**Davos/Dischmat**	**29.15**	**86**	LR	LR	00 10 53.9	
	comp=Z,416nm,18.1s,baz=324,slow=36						
SADO	**Sadowa**	**29.68**	**270**	LR	LR	00 10 18.9	
	comp=Z,615nm,18.4s,baz=79,slow=34						
GERES	**GERESS Array B**	**30.36**	**80**	LR	LR	00 09 54.5	
	comp=Z,246nm,19.0s,baz=324,slow=33						
RES	**Resolute Bay**	**30.98**	**334**	P	**P**	**23 59 32.1**	**+0.4**
	1.5nm,0.8s,baz=95,slow=6.9,SNR=3.7						
RES	**Resolute Bay**	**30.98**	**334**	*e*P	**P**	**23 59 32.1**	**+0.4**
	3.7nm,1.1s						
FIA0	**FINESS Array S**	**32.35**	**52**	*e*P	**P**	**23 59 41.6**	**-2.2**
FINES	**FINESS Array B**	**32.35**	**52**	P	**P**	**23 59 41.6**	**-2.2**
	3.5nm,1.1s,baz=271,slow=12,SNR=3.1						
FINES				LR	LR	00 10 39.9	
	comp=Z,360nm,19.6s,baz=213,slow=32						
ULM	**Lac du Bonnet**	**36.48**	**290**	LR	LR	00 13 43.3	
	comp=Z,396nm,19.0s,baz=92,slow=34						
BUR04	**Bucovina Ar. S**	**37.60**	**74**	*e*P	**P**	**00 00 32.5**	**+3.1**
AKASG	**Malin Array Be**	**38.21**	**68**	P	**P**	**00 00 33.1**	**-1.4**
	0.2nm,0.3s,baz=301,slow=8.1,SNR=2.7						
AKBB	**Malin Array Si**	**38.21**	**68**	*e*P	**P**	**00 00 33.1**	**-1.4**
	2.3nm,0.8s						
YKA	**Yellowknife Ar**	**40.09**	**315**	P	**P**	**00 00 49.3**	**-0.6**
	0.2nm,0.6s,baz=64,slow=8.7,SNR=3.7						
YKA				PcP	**PcP**	**00 02 54.1**	**-0.1**
	0.5nm,0.8s,baz=63,slow=3.8,SNR=5.3						
YKB5	**Yellowknife Ar**	**40.09**	**315**	*e*P	**P**	**00 00 49.3**	**-0.6**
YKB5				*e*PcP	**PcP**	**00 02 54.1**	**-0.1**
BR101	**Keskin Array S**	**47.24**	**78**	*e*P	**P**	**00 01 48.6**	**+0.6**
BR131	**Keskin Array S**	**47.24**	**78**	*e*P	**P**	**00 01 50.7**	**+2.8**
BRTR	**Keskin Array B**	**47.24**	**78**	P	**P**	**00 01 48.6**	**+0.6**
	1.6nm,0.9s,baz=314,slow=5.4,SNR=9.3						
ISCO	**Idaho Springs**	**48.21**	**283**	*e*P	**P**	**00 01 58.1**	**+2.4**
	2.7nm,0.8s						
PD31	**Pinedale Array**	**48.49**	**289**	*e*P	**P**	**00 01 57.0**	**-0.8**
PDAR	**Pinedale Array**	**48.49**	**289**	P	**P**	**00 01 57.0**	**-0.8**
	0.9nm,0.8s,baz=68,slow=5.0,SNR=5.1						
PDAR	**Pinedale Array**	**48.49**	**289**	*e*P	**P**	**00 01 58.4**	**+0.6**
NEW	**Newport**	**49.04**	**299**	LR	LR	00 20 15.9	
	comp=Z,392nm,19.0s,baz=110,slow=33						
TOA1	**Torodi Ar. Sit**	**50.01**	**130**	*e*P	**P**	**00 02 07.8**	**-1.5**
TOA0	**Torodi Ar. Sit**	**50.01**	**130**	*e*P	**P**	**00 02 09.7**	**+0.4**
TORD	**Torodi Ar. Bea**	**50.01**	**130**	P	**P**	**00 02 07.8**	**-1.6**
	2.0nm,0.9s,baz=326,slow=9.5,SNR=9.8						
ILAR	**Eielson Array**	**50.52**	**329**	P	**P**	**00 02 12.5**	**-0.2**
	0.5nm,0.8s,baz=49,slow=5.6,SNR=5.7						
ILAR				PcP	**PcP**	**00 03 31.1**	**+0.8**
	0.9nm,0.8s,baz=13,slow=3.1,SNR=7.5						
ILB	**Eielson Array**	**50.52**	**329**	*e*P	**P**	**00 02 12.5**	**-0.2**
ILB				*e*PcP	**PcP**	**00 03 31.1**	**+0.8**
BBB	**Bella Bella**	**51.89**	**309**	LR	LR	00 23 51.1	
	comp=Z,141nm,18.7s,baz=134,slow=35						
ANMO	**Albuquerque**	**52.02**	**279**	LR	LR	00 23 49.7	
	comp=Z,563nm,18.5s,baz=86,slow=35						
DBIC	**Dimbokro**	**53.18**	**141**	LR	LR	00 22 22.5	
	comp=Z,221nm,19.9s,baz=7,slow=33						
LTX	**Lajitas**	**54.42**	**272**	*e*P	**P**	**00 02 42.4**	**+0.2**
LTX				*e*PcP	**PcP**	**00 03 46.4**	**+0.7**
TXAR	**Lajitas Array**	**54.42**	**272**	P	**P**	**00 02 42.4**	**+0.2**
	0.2nm,0.7s,baz=62,slow=8.3,SNR=3.3						
TXAR				PcP	**PcP**	**00 03 46.4**	**+0.7**
	0.4nm,0.8s,baz=52,slow=4.9,SNR=3.2						
TXAR				LR	LR	00 25 23.1	
	comp=Z,336nm,18.3s,baz=0.0,slow=36						
NV01	**Mina Array Sit**	**56.31**	**290**	*e*P	**P**	**00 02 55.5**	**-0.3**
NVAR	**Mina Array Bea**	**56.31**	**290**	P	**P**	**00 02 55.5**	**-0.3**
	0.3nm,0.7s,baz=76,slow=7.5,SNR=2.7						
MAKZ	**Makanchi**	**66.27**	**42**	*e*P	**P**	**00 04 05.8**	**+3.0**
	13nm,1.9s						
MK31	**Makanchi Array**	**66.41**	**42**	*e*P	**P**	**00 04 04.5**	**+0.8**
MK32	**Makanchi Array**	**66.41**	**42**	*e*P	**P**	**00 04 03.6**	**-0.1**
MKAR	**Makanchi Array**	**66.41**	**42**	P	**P**	**00 04 03.6**	**-0.1**
	1.1nm,0.9s,baz=342,slow=5.4,SNR=7.8						
MK01	**Makanchi Array**	**66.43**	**42**	*e*P	**P**	**00 04 04.3**	**+0.4**
SONA0	**Songino Array**	**73.40**	**26**	*e*P	**P**	**00 04 45.4**	**-1.4**
SONM	**Songino Array**	**73.40**	**26**	P	**P**	**00 04 45.4**	**-1.4**
	0.4nm,0.6s,baz=317,slow=12,SNR=2.6						
KSRS	**Korea Array**	**87.71**	**13**	LR	LR	00 46 25.7	
	comp=Z,290nm,19.2s,baz=342,slow=36						
WR1	**Warramunga Arr**	**145.02**	**18**	*e*PKPdf	**PKPbc**	**00 12 51.2**	**-0.3**
WRA	**Warramunga Arr**	**145.02**	**18**	PKPbc	**PKPbc**	**00 12 51.2**	**-0.3**
	0.9nm,0.8s,baz=343,slow=3.9,SNR=4.0						
AS31	**Alice Springs**	**148.56**	**20**	*e*pPKPdf	**PKPbc**	**00 13 01.0**	**-0.7**
ASAR	**Alice Springs**	**148.56**	**20**	PKPbc	**PKPbc**	**00 13 01.0**	**-0.7**
	1.8nm,0.9s,baz=354,slow=2.6,SNR=13						
AS01	**Alice Springs**	**148.57**	**20**	*e*PKPdf	**PKPbc**	**00 13 00.5**	**-1.2**

*ISCJB **20** 23:58:56.5±0.3, 22.°13N±0.°02×121.°12E±0.°02, h31km±2km, Error ellipse: s-maj=4.1km s-min=3.1km az=5.0*
*TAP **20** 23:58:56.9, 22.°16N×121.°07E, h27km, ML3.9, B*
*JMA **20** 23:59:00.3, 22.°56N×121.°39E, h2km±2km, M3.6*
ISC 20 23:58:56.9±0.9, 22.°18N±0.°03×121.°08E±0.°02, h29km±7km, n82, σ1°37/159, 3C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TAW	**Tawu**	**0.25**	**317**	*i* P	**Pb**	**23 59 03.8**	**+0.2**
	baz=327						
TAW				S	**Sb**	**23 59 08.6**	**+0.5**
	baz=327						
EAST	**Anshuo**	**0.30**	**314**	*i* P	**Pb**	**23 59 04.3**	**+0.1**
	baz=323						
EAST				*i* S	**Sb**	**23 59 09.5**	**+0.2**
	baz=323						
TSEB	**Hengchuen, Pin**	**0.32**	**211**	P	**Pb**	**23 59 04.7**	**+0.2**
	baz=219						
TSEB				S	**Sn**	**23 59 10.8**	**-0.5**
	baz=219						
TWKBT	**Hengchun**	**0.34**	**226**	*i* P	**Pb**	**23 59 04.5**	**-0.3**
	baz=225						
TWKBT				S	**Sb**	**23 59 09.8**	**-0.4**
	baz=225						
TWK1	**Hengchun**	**0.34**	**228**	*i* P	**Pb**	**23 59 04.5**	**-0.4**
	baz=225						
TWK1				*i* S	**Sb**	**23 59 09.9**	**-0.4**
	baz=225						
HEN	**Hengchun**	**0.36**	**242**	*e*P	**Pn**	**23 59 05.7**	**-0.4**
	baz=244						
HEN				S	**Sb**	**23 59 11.1**	**+0.4**
	baz=244						
ECL	**Taimali**	**0.43**	**345**	⇑*i* P	**Pb**	**23 59 05.9**	**-0.3**
	baz=347						
ECL				*i* S	**Sb**	**23 59 12.4**	**-0.2**
	baz=347						
LAY	**Lan-yu**	**0.46**	**107**	P	**Pb**	**23 59 06.5**	**-0.1**
	baz=94						
LAY				*e*S	**Sb**	**23 59 13.7**	**+0.3**
	baz=94						
SCZT	**Fangliau**	**0.47**	**295**	⇑*i* P	**Pb**	**23 59 07.0**	**+0.2**
	baz=305						
SCZT				S	**Sb**	**23 59 13.8**	**+0.3**
	baz=305						
TTN	**Taitung**	**0.58**	**6**	*e*P	**Pn**	**23 59 09.2**	**+0.1**
	baz=7.0						
TTN				*e*S	**Sn**	**23 59 17.9**	**+0.3**
	baz=7.0						
MASBT	**Mashibuluo**	**0.60**	**317**	*i* P	**Pb**	**23 59 09.1**	**+0.2**
	baz=324						
MASBT				S	**Sb**	**23 59 17.3**	**+0.2**
	baz=324						
TWGBT	**Beinan**	**0.64**	**0**	P	**Pb**	**23 59 08.7**	**-0.9**
	baz=360						
TWGBT				*e*S	**Sb**	**23 59 14.1**	**-4.2**
	baz=360						
TWG	**Pinlang**	**0.64**	**359**	P	**Pb**	**23 59 08.7**	**-1.0**
	baz=360						
TWG				*e*S	**Sb**	**23 59 14.2**	**-4.1**
	baz=360						
WLCH	**Liuqiu**	**0.67**	**285**	*e*P	**Pn**	**23 59 12.3**	**+2.0**
	baz=288						
WLCH				*e*S	**Sn**	**23 59 21.9**	**+2.0**
	baz=288						
TWP	**Hsiaoliuchiu**	**0.68**	**284**	P	**Pn**	**23 59 12.2**	**+1.6**
	baz=287						
TWP				*e*S	**Sn**	**23 59 22.3**	**+2.0**
	baz=287						
SSD	**Sandimen**	**0.70**	**324**	⇑*i* P	**Pb**	**23 59 10.5**	**-0.1**
	baz=326						
SSD				*e*S	**Sb**	**23 59 20.2**	**+0.2**
	baz=326						
TWM1	**Shoushan**	**0.88**	**317**	P	**Pb**	**23 59 15.2**	**+1.5**
	baz=324						
TWM1				S	**Sb**	**23 59 29.9**	**+4.7**
	baz=324						
CHKT	**Chengkung**	**0.96**	**16**	*e*P	**Pn**	**23 59 13.2**	**-1.1**
	baz=15						
CHKT				S	**Sn**	**23 59 26.5**	**-0.5**
	baz=15						
ELDTW	**Lidau**	**1.01**	**357**	*e*P	**Pn**	**23 59 14.3**	**-0.9**
	baz=2.0						
STYT	**Tauyuan**	**1.03**	**343**	*e*P	**Pb**	**23 59 17.0**	**+0.9**
	baz=344						
STYT				*e*S	**Sb**	**23 59 32.0**	**+2.7**
	baz=344						
CHN1	**Nanshi**	**1.12**	**333**	*e*P	**Pb**	**23 59 18.0**	**+0.2**
	baz=335						
CHN1				*e*S	**Sb**	**23 59 32.8**	**+0.8**
	baz=335						
WTP	**Ta-pu**	**1.15**	**338**	*e*P	**Pb**	**23 59 18.2**	**0.0**
	baz=340						
WTP				*e*S	**Sb**	**23 59 34.5**	**+1.8**
	baz=340						
TWF1	**Yuli**	**1.19**	**10**	*e*P	**Pn**	**23 59 16.3**	**-1.3**
	baz=8.0						
TPUB	**Ta-pu**	**1.19**	**340**	*e*P	**Pb**	**23 59 18.6**	**-0.3**
	baz=327						
TPUB				*e*S	**Sb**	**23 59 37.0**	**+3.0**
	baz=327						
TWK	**Hsinying**	**1.21**	**333**	*e*P	**Pb**	**23 59 19.1**	**-0.2**
	baz=336						
TWK				*e*S	**Sb**	**23 59 37.3**	**+2.6**
	baz=336						
YULB	**Yu-li**	**1.23**	**9**	*e*P	**Pn**	**23 59 16.6**	**-1.5**
	baz=8.0						
YULB				*e*S	**Sn**	**23 59 31.6**	**-2.1**
	baz=8.0						
YUS	**Yu-Shan**	**1.31**	**355**	*e*P	**Pn**	**23 59 19.9**	**+0.3**
	baz=5.0						
YUS				*e*S	**Sb**	**23 59 39.5**	**+1.7**
	baz=5.0						
CHN2	**Minshiung**	**1.46**	**338**	*e*P	**Pn**	**23 59 21.4**	**+0.1**
	baz=340						
CHN2				*e*S	**Sb**	**23 59 42.0**	**+0.4**
	baz=340						
CHN5	**Tsauling**	**1.46**	**345**	*e*P	**Pb**	**23 59 23.0**	**-0.5**
	baz=332						
CHN5				*e*S	**Sb**	**23 59 43.8**	**+2.1**
	baz=332						
VWDT	**VWDT**	**1.57**	**2**	*e*P	**Pn**	**23 59 23.3**	**+0.6**
	baz=3.0						
VWDT				*e*S	**Sb**	**23 59 43.8**	**-1.0**
	baz=3.0						
WGK	**Gukeng**	**1.58**	**343**	*e*P	**Pb**	**23 59 24.7**	**-0.7**
	baz=345						
WGK				*e*S	**Sb**	**23 59 47.4**	**+2.5**
	baz=345						
WDLH	**Douliu**	**1.59**	**342**	*e*P	**Pb**	**23 59 24.4**	**-1.1**
	baz=344						
WDLH				*e*S	**Sb**	**23 59 46.8**	**+1.6**
	baz=344						
SSLB	**Suanglung**	**1.61**	**356**	*e*P	**Pb**	**23 59 25.8**	**-0.2**
	baz=8.0						
SSLB				*e*S	**Sb**	**23 59 46.2**	**+0.3**
	baz=8.0						
WSF	**Szhu**	**1.66**	**332**	*e*P	**Pn**	**23 59 24.4**	**+0.5**
	baz=334						
WSF				*e*S	**Sb**	**23 59 45.9**	**-1.3**
	baz=334						
ESL	**Shilin**	**1.66**	**11**	*e*P	**Pb**	**23 59 26.2**	**-0.7**
	baz=9.0						
ESL				*e*S	**Sn**	**23 59 42.5**	**-2.0**
	baz=9.0						
WJS	**Zhushan**	**1.67**	**349**	*e*P	**Pb**	**23 59 26.8**	**-0.2**
	baz=334						
WJS				*e*S	**Sb**	**23 59 49.8**	**+2.2**
	baz=334						
WDGT	**Dungji**	**1.70**	**310**	*e*P	**Pn**	**23 59 23.9**	**-0.6**
	baz=313						
WDGT				*e*S	**Sn**	**23 59 43.6**	**-1.6**
	baz=313						
SMLT	**Sun Moon Lake**	**1.71**	**355**	*e*P	**Pb**	**23 59 26.9**	**-0.8**
SMLT				*e*S	**Sb**	**23 59 50.0**	**+1.2**
TYC	**Yuchr**	**1.73**	**353**	*e*P	**Pb**	**23 59 26.9**	**-1.2**
	baz=8.0						
TYC				*e*S	**Sb**	**23 59 50.2**	**+0.8**
	baz=8.0						
WNT	**Mingjian**	**1.73**	**348**	*e*P	**Pb**	**23 59 27.4**	**-0.7**
	baz=335						
WNT				*e*S	**Sb**	**23 59 50.6**	**+1.2**
	baz=335						
ENLB	**Shoufeng**	**1.79**	**16**	*e*P	**Pb**	**23 59 28.9**	**-0.1**
	baz=13						
ENLB				*e*S	**Sn**	**23 59 49.0**	**+1.6**
	baz=13						
VCHM	**Qimei**	**1.84**	**304**	*e*P	**Pn**	**23 59 25.6**	**-0.8**
	baz=308						
VCHM				*e*S	**Sn**	**23 59 46.4**	**-2.4**
	baz=308						
CHGB	**Renai**	**1.88**	**3**	*e*P	**Pn**	**23 59 28.4**	**+1.1**
	baz=3.0						
CHGB				*e*S	**Sn**	**23 59 49.5**	**-0.6**
	baz=3.0						
PHUB	**P'eng-hu**	**1.92**	**314**	*e*P	**Pn**	**23 59 26.9**	**-0.7**
	baz=317						
PHUB				*e*S	**Sn**	**23 59 50.1**	**-0.8**
	baz=317						
TWD	**Chiawan**	**1.95**	**14**	*e*P	**Pb**	**23 59 30.1**	**-1.7**
	baz=11						
TWD				*e*S	**Sn**	**23 59 52.6**	**+1.0**
	baz=11						
WCHH	**Zhanghua**	**1.95**	**346**	*e*P	**Pn**	**23 59 29.8**	**+1.8**
	baz=334						
WCHH				*e*S	**Sb**	**23 59 55.0**	**-0.7**
	baz=334						
WHF	**Hehuan Shan**	**1.97**	**5**	*e*P	**Pn**	**23 59 29.2**	**+0.6**
	baz=14						
WHF				*e*S	**Sn**	**23 59 53.0**	**+0.5**
	baz=14						
PNG	**Penghu**	**1.97**	**315**	*e*P	**Pn**	**23 59 27.7**	**-0.6**
	baz=318						
PNG				*e*S	**Sn**	**23 59 51.4**	**-0.7**
	baz=318						
NACB	**Ninganchiao**	**2.04**	**13**	*e*P	**Pn**	**23 59 29.0**	**-0.3**
	baz=10.0						
NACB				*e*S	**Sn**	**23 59 55.1**	**+1.3**
	baz=10.0						
TDCB	**Techi**	**2.07**	**2**	*e*P	**Pb**	**23 59 33.4**	**-0.5**
	baz=2.0						
TDCB				*e*S	**Sn**	**23 59 56.5**	**+1.8**
	baz=2.0						
TWT	**Tachien**	**2.07**	**2**	*e*P	**Pb**	**23 59 32.5**	**-1.4**
	baz=2.0						
TWT				*e*S	**Sb**	**23 59 57.5**	**-1.8**
	baz=2.0						
TWQ1	**Liyutan**	**2.18**	**353**	*e*P	**Pn**	**23 59 33.2**	**+2.0**
	baz=341						
TWQ1				*e*S	**Sb**	**00 00 01.6**	**-0.7**
	baz=341						
NSY	**Sanyi**	**2.25**	**353**	*e*P	**Pb**	**23 59 35.3**	**-1.6**
	baz=342						
NSY				*e*S	**Sb**	**00 00 04.7**	**+0.5**
	baz=342						
NNSB	**Datong**	**2.26**	**7**	*e*P	**Pn**	**23 59 33.3**	**+0.9**
	baz=13						
NNSB				*e*S	**Sn**	**23 59 59.2**	**-0.1**
	baz=13						
NNS	**Nan Shan**	**2.27**	**7**	*e*P	**Pn**	**23 59 34.4**	**+1.9**
	baz=13						
NNS				*e*S	**Sn**	**00 00 00.6**	**+1.1**
	baz=13						
ENA	**Nanau**	**2.32**	**15**	*e*P	**Pn**	**23 59 33.7**	**+0.6**
	baz=12						
ENA				*e*S	**Sn**	**00 00 01.6**	**+0.9**
	baz=12						
NSTT	**Nanjuang**	**2.44**	**358**	*e*P	**Pn**	**23 59 36.4**	**+1.6**
NSTT				*e*S	**Sb**	**00 00 08.4**	**-1.5**
LIOB	**Emei**	**2.46**	**359**	*e*P	**Pn**	**23 59 37.4**	**+2.3**
LIOB				*e*S	**Sb**	**00 00 09.8**	**-0.5**
YHNB	**Yeheng**	**2.50**	**6**	*e*P	**Pn**	**23 59 37.3**	**+1.7**
	baz=16						
YHNB				*e*S	**Sn**	**00 00 05.8**	**+0.7**
	baz=16						
NSK	**Sanguang**	**2.50**	**6**	*e*P	**Pn**	**23 59 37.7**	**+2.0**
	baz=15						
NSK				*e*S	**Sn**	**00 00 06.1**	**+0.9**
	baz=15						
TWC	**Suao**	**2.52**	**16**	*e*P	**Pn**	**23 59 38.1**	**+2.2**
	baz=5.0						
TWC				*e*S	**Sn**	**00 00 07.3**	**+1.7**
	baz=5.0						
EOS1	**EOS1**	**2.55**	**22**	*e*P	**Pn**	**23 59 37.4**	**+1.2**
	baz=18						
EOS1				*e*S	**Sn**	**00 00 08.3**	**+2.0**
	baz=18						
JYNG	**Yonagunijimaku**	**2.84**	**37**	P	**Pn**	**23 59 41.6**	**+1.4**
JYNG				*e*S	**Sn**	**00 00 15.0**	**+1.5**
TIPB	**Shuangxi**	**2.87**	**14**	*e*P	**Pn**	**23 59 41.9**	**+1.3**
	baz=10.0						
TIPB				*e*S	**Sn**	**00 00 15.7**	**+1.5**
	baz=10.0						
YOJ	**Yonaguni jima**	**2.89**	**38**	*e*P	**Pn**	**23 59 42.4**	**+1.5**
	baz=45						
YOJ				*e*S	**Sn**	**00 00 15.3**	**+0.7**
	baz=45						
YOJ	**Yonaguni jima**	**2.89**	**38**	P	**Pn**	**23 59 42.7**	**+1.8**
YOJ				S	**Sn**	**00 00 16.6**	**+2.0**
HATJ	**Hateruma jima**	**3.13**	**53**	*e*S	**Sn**	**00 00 20.2**	**-0.4**
VWUC	**VWUC**	**3.17**	**332**	*e*P	**Pn**	**23 59 44.4**	**-0.4**
	baz=336						
VWUC				*e*S	**Sn**	**00 00 21.6**	**-0.1**
	baz=336						
IRIF	**Iriomote-Funau**	**3.25**	**48**	P	**Pn**	**23 59 47.0**	**+1.1**
IRIF				*e*S	**Sn**	**00 00 24.5**	**+0.9**
KNM	**Kinmen**	**3.30**	**313**	*e*P	**Pn**	**23 59 47.7**	**+1.2**
	baz=315						
KNM				*e*S	**Sn**	**00 00 25.4**	**+0.6**
	baz=315						
KNMB	**Chin-men Tao**	**3.36**	**313**	*e*P	**Pn**	**23 59 46.9**	**-0.5**
	baz=317						
KNMB				*e*S	**Sn**	**00 00 23.8**	**-2.5**
	baz=317						
PTMZ	**Houxiangcun**	**3.37**	**328**	*e*P	**Pn**	**23 59 47.3**	**-0.2**
	baz=342						
PTMZ				*e*S	**Sn**	**00 00 24.4**	**-2.1**
	baz=342						
JKRS	**Kuro-shima**	**3.39**	**52**	P	**Pn**	**23 59 47.7**	**-0.1**
JKRS				*e*S	**Sn**	**00 00 27.2**	**+0.2**
ZPLA	**Ao Xicun**	**3.53**	**300**	*e*P	**P

11nm,0.3s,baz=104,slow=15,SNR=6.6
CMIG Matias Romero 2.89 319 Pn Pn 00 18 16.3 +0.7
2.3nm,0.3s,baz=164,slow=14,SNR=21
CMIG Sn Sn 00 18 52.5 +1.3
11nm,0.3s,baz=106,slow=16,SNR=11
TXAR Lajitas Array 17.47 327 P Pn 00 21 34.2 +0.7
0.0nm,0.3s,baz=159,slow=15,SNR=3.1
NVAR Mina Array Bea 32.42 321 P P 00 24 01.2 +0.8
0.4nm,0.6s,baz=133,slow=8.9,SNR=4.1
YKA Yellowknife Ar 49.95 347 P P 00 26 22.3 -1.4
0.4nm,0.5s,baz=151,slow=7.3,SNR=8.3

*ISCJB **21** 00:23:19.6±0.6,23°35'N±0"02×122°01'E±0"03,h16km±7km, Error ellipse: s-maj=5.3km s-min=2.7km az=41.5*
*JMA **21** 00:23:20.5±0.1,23°40'N×121°90'E,h54km±3km*
*TAP **21** 00:23:21.5,23°36'N×121°93'E,h40km±1km,ML2.7,D*
ISC 21 00:23:19.4±1.3,23°34'N±0"03×121°98'E±0"03,h17km±10km, n34,σ0°92/67,1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.61**	**247**	*e*P	**Pb**	**00 23 32.5**	**+0.9**
	baz=238						
CHKT				S	**Sb**	**00 23 40.4**	**+0.5**
	baz=238						
EHY	**Hungye**	**0.62**	**285**	*e*P	**Pb**	**00 23 32.8**	**+1.0**
	baz=285						
EHY				*e*S	**Sb**	**00 23 41.4**	**+1.1**
	baz=285						
TWF1	**Yuli**	**0.62**	**271**	↓*i*P	**Pb**	**00 23 32.8**	**+1.0**
	baz=262						
TWF1				*e*S	**Sb**	**00 23 41.4**	**+1.2**
	baz=262						
YULB	**Yu-li**	**0.63**	**275**	P	**Pb**	**00 23 32.8**	**+0.9**
	baz=273						
YULB				S	**Sb**	**00 23 42.0**	**+1.7**
	baz=273						
ENLB	**Shoufeng**	**0.66**	**328**	*e*P	**Pn**	**00 23 33.8**	**-0.1**
	baz=331						
ENLB				*e*S	**Sb**	**00 23 41.8**	**+0.6**
	baz=331						
ESL	**Shilin**	**0.68**	**313**	P	**Pb**	**00 23 33.2**	**+0.4**
	baz=320						
ESL				*e*S	**Sg**	**00 23 41.5**	**-0.5**
	baz=320						
VWDT	**VWDT**	**0.87**	**298**	P	**Pn**	**00 23 36.8**	**+0.1**
	baz=292						
VWDT				S	**Sb**	**00 23 47.6**	**+0.4**
	baz=292						
ELDTW	**Lidau**	**0.90**	**260**	P	**Pb**	**00 23 36.6**	**+0.2**
	baz=250						
ELDTW				S	**Sb**	**00 23 47.0**	**-1.1**
	baz=250						
NACB	**Ninganchiao**	**0.90**	**337**	P	**Pb**	**00 23 36.4**	**-0.1**
	baz=346						
NACB				S	**Sb**	**00 23 47.0**	**-1.2**
	baz=346						
YUS	**Yu-Shan**	**0.95**	**279**	P	**Pg**	**00 23 38.3**	**+0.4**
	baz=286						
YUS				S	**Sb**	**00 23 50.2**	**0.0**
	baz=286						
TWGBT	**Beinan**	**0.98**	**238**	*e*P	**Pb**	**00 23 38.1**	**+0.3**
	baz=231						
TWGBT				*e*S	**Sb**	**00 23 49.9**	**-0.5**
	baz=231						
TWG	**Pinlang**	**0.98**	**238**	*e*P	**Pb**	**00 23 38.1**	**+0.3**
	baz=231						
TWG				*e*S	**Sb**	**00 23 50.1**	**-0.4**
	baz=231						
CHGB	**Renai**	**1.02**	**314**	*e*P	**Pb**	**00 23 39.1**	**+0.4**
	baz=315						
CHGB				*e*S	**Sb**	**00 23 50.7**	**-1.3**
	baz=315						
WHF	**Hehuan Shan**	**1.03**	**321**	*e*P	**Pb**	**00 23 38.9**	**-0.1**
	baz=312						
WHF				*e*S	**Sb**	**00 23 51.3**	**-1.1**
	baz=312						
ENA	**Nanau**	**1.10**	**349**	P	**Pb**	**00 23 39.9**	**-0.1**
	baz=351						
ENA				*e*S	**Sb**	**00 23 52.8**	**-1.2**
	baz=351						
ECL	**Taimali**	**1.20**	**232**	*e*P	**Pn**	**00 23 41.1**	**-0.2**
	baz=230						
ECL				*e*S	**Sb**	**00 23 54.8**	**-2.0**
	baz=230						
EOS1	**EOS1**	**1.21**	**7**	P	**Pb**	**00 23 42.0**	**+0.3**
	baz=18						
EOS1				S	**Sb**	**00 23 56.9**	**-0.1**
	baz=18						
NNSB	**Datong**	**1.21**	**333**	*e*P	**Pn**	**00 23 41.9**	**+0.3**
	baz=335						
NNSB				*e*S	**Sb**	**00 23 55.8**	**-1.4**
	baz=335						
TPUB	**Ta-pu**	**1.24**	**268**	*e*P	**Pg**	**00 23 43.3**	**0.0**
	baz=275						
TPUB				*e*S	**Sn**	**00 23 59.1**	**+0.9**
	baz=275						
WTP	**Ta-pu**	**1.26**	**266**	*e*P	**Pg**	**00 23 43.5**	**-0.1**
	baz=265						
WTP				*e*S	**Sn**	**00 23 59.6**	**+0.9**
	baz=265						
TWC	**Suao**	**1.27**	**355**	*e*P	**Pb**	**00 23 43.0**	**+0.3**
	baz=357						
TWC				*e*S	**Sb**	**00 23 58.2**	**-0.5**
	baz=357						
CHN4	**Tsaushan**	**1.27**	**271**	*e*P	**Pg**	**00 23 44.1**	**+0.1**
	baz=270						
CHN4				*e*S	**Sn**	**00 24 00.0**	**+1.1**
	baz=270						
SLGT	**Liugui**	**1.27**	**254**	*e*P	**Pb**	**00 23 43.3**	**+0.4**
	baz=253						
SLGT				*e*S	**Sb**	**00 23 59.1**	**+0.2**
	baz=253						
TWK	**Hsinying**	**1.37**	**267**	*e*P	**Pg**	**00 23 45.5**	**-0.3**
	baz=266						
TWK				*e*S	**Sg**	**00 24 03.2**	**-0.5**
	baz=266						
EAST	**Anshuo**	**1.41**	**228**	*e*P	**Pn**	**00 23 44.3**	**0.0**
	baz=232						
EAST				*e*S	**Sn**	**00 23 58.2**	**-4.3**
	baz=232						
JYNG	**Yonagunijimaku**	**1.42**	**39**	P	**Pn**	**00 23 44.0**	**-0.3**
JYNG				*e*S	**Sn**	**00 24 02.2**	**-0.3**
MASBT	**Mashibuluo**	**1.44**	**240**	*e*P	**Pn**	**00 23 45.3**	**+0.7**
	baz=237						
MASBT				*e*S	**Sn**	**00 24 02.2**	**-0.8**
	baz=237						
NSK	**Sanguang**	**1.44**	**337**	*e*P	**Pn**	**00 23 45.3**	**+0.6**
	baz=338						
NSK				*e*S	**Sn**	**00 24 01.9**	**-1.4**
	baz=338						
YOJ	**Yonaguni jima**	**1.46**	**40**	P	**Pn**	**00 23 45.7**	**+0.8**
YOJ				*e*S	**Sn**	**00 24 04.2**	**+0.5**
TIPB	**Shuangxi**	**1.63**	**355**	*e*P	**Pb**	**00 23 48.8**	**-0.2**
	baz=4.0						
TIPB				*e*S	**Sn**	**00 24 08.0**	**+0.2**
	baz=4.0						
IRIF	**Iriomote-Funau**	**1.89**	**58**	P	**Pn**	**00 23 51.9**	**+1.2**
IRIF				*e*S	**Sn**	**00 24 14.7**	**+0.6**
JKRS	**Kuro-shima**	**2.06**	**64**	*e*S	**Sn**	**00 24 19.0**	**+0.5**
JIJ	**Ishigaki jima**	**2.23**	**62**	P	**Pn**	**00 23 56.2**	**+0.7**
JIJ				*e*S	**Sn**	**00 24 22.5**	**-0.1**
JISG	**Ishigakijimahi**	**2.47**	**59**	P	**Pn**	**00 23 59.1**	**+0.3**
JISG				*e*S	**Sn**	**00 24 28.2**	**-0.3**

*IDC **21** 00:23:25.4±5.0,6°54S×130°30E,h100km±46km,mb3.6/6, mb1 3.9/9,mb1mx3.7/27,mbtmp4.2/9,Error ellipse: s-maj=56.2km s-min=16.7km az=67.0*
*ISCJB **21** 00:23:29.4±0.5,6°78S±0"04×129°71E±0"05,h146km, mb3.8/7,Error ellipse: s-maj=7.4km s-min=5.6km az=30.0*
*DJA **21** 00:23:33.2±0.9,7°S±6'×13°0E±°,h109km±33km,M4.8/6, mB5.3/4,mb4.8/5,MLv4.8/6,Mw(mB)4.7/4*
ISC 21 00:23:30.5±0.6,6°81S±0"05×129°78E±0"06,h146km,n18, σ2°18/23,mb3.9/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.90**	**128**	P	**Pn**	**00 24 06.7**	**+2.5**
SAUI				S	**Sn**	**00 24 32.3**	**+2.2**
FAKI	**Fak Fak**	**4.58**	**33**	P	**Pn**	**00 24 38.7**	**+0.3**
FAKI				S	**Sn**	**00 25 29.0**	**-2.2**
SANI	**Sanana**	**6.06**	**321**	P	**Pn**	**00 24 59.2**	**+1.2**
SWI	**Sorong**	**6.09**	**14**	P	**Pn**	**00 24 58.8**	**+0.4**
SOEI	**Soe**	**6.19**	**241**	P	**Pn**	**00 25 02.4**	**+2.5**
SOEI				S	**Sn**	**00 26 08.8**	**-1.0**
RKPI	**Ransiki, Papua**	**6.85**	**40**	P	**Pn**	**00 25 09.8**	**+1.2**
BATI	**Baumata**	**6.93**	**240**	P	**Pn**	**00 25 12.2**	**+2.5**
	15nm,0.3s,baz=55,slow=4.0,SNR=6.3						
BATI				S	**Sn**	**00 26 25.4**	**-1.9**
	26nm,0.3s,baz=102,slow=4.7,SNR=9.3						
FITZ	**Fitzroy Crossi**	**11.92**	**199**	P	**Pn**	**00 26 14.8**	**-1.2**
	2.9nm,0.3s,baz=17,slow=9.1,SNR=47						
FITZ				S	Sn	00 28 18.4	-9.3
	1.7nm,0.3s,baz=299,slow=20,SNR=2.5						
WRA	**Warramunga Arr**	**13.78**	**162**	P	**Pn**	**00 26 36.6**	**-3.2**
	1.7nm,0.3s,baz=338,slow=13,SNR=66						
WRA				S	Sn	00 29 02.7	-10
	4.1nm,0.3s,baz=336,slow=22,SNR=7.1						
ASAR	**Alice Springs**	**17.22**	**167**	P	**P**	**00 27 22.4**	**+0.9**
	2.2nm,0.3s,baz=340,slow=8.9,SNR=77						
ASAR				S	**S**	**00 30 29.7**	**-4.1**
	1.0nm,0.3s,baz=266,slow=7.8,SNR=5.5						
STKA	**Stephens Creek**	**27.27**	**158**	P	**P**	**00 29 01.3**	**+0.1**
	0.6nm,0.4s,baz=333,slow=16,SNR=2.4						
CMAR	**Chiang Mai Arr**	**39.45**	**310**	P	**P**	**00 30 51.3**	**+4.6**
	1.4nm,0.3s,baz=142,slow=6.8,SNR=5.9						
SONM	**Songino Array**	**58.20**	**342**	P	**P**	**00 33 09.3**	**-0.1**
	0.2nm,0.5s,baz=160,slow=4.6,SNR=2.8						
MKAR	**Makanchi Array**	**67.95**	**327**	P	**P**	**00 34 13.8**	**+0.1**
	1.4nm,0.4s,baz=114,slow=8.4,SNR=28						
ZALV	**Zalesovo Beam**	**71.32**	**334**	P	**P**	**00 34 33.5**	**-0.5**
	0.7nm,0.6s,baz=140,slow=6.9,SNR=4.0						
SEY	**Seymchan**	**71.66**	**11**	P	**P**	**00 34 33.1**	**-2.8**
	0.7nm,0.3s,baz=360,slow=23,SNR=3.1						
VNDA	**Vanda**	**72.66**	**173**	P	**P**	**00 34 42.4**	**+0.7**
	3.9nm,1.2s,baz=312,slow=7.6,SNR=3.4						
CPUP	**Villa Florida**	**146.34**	**168**	PKPbc	**PKPbc**	**00 42 55.5**	**+0.7**
	0.7nm,0.6s,baz=201,slow=4.0,SNR=3.6						

*MEX **21** 00:32:54.1±0.5,13°89N×92°74W,h5km±19km,MD4.9*
*UCR **21** 00:32:56.4±2.2,13°98N×92°57W,h67km±115km,MD4.2, ML4.1,mb4.6(NEIC)*
*NEIC **21** 00:33:00.8±0.6,14°22N×92°28W,h59km±5km,mb4.6/180, MD4.9(MEX),Error ellipse: s-maj=5.7km s-min=3.5km az=220.0*
*ISCJB **21** 00:33:01.2±0.4,14°34N±0"02×92°16W±0"02,h80km±3km, mb4.5/172,Error ellipse: s-maj=4.7km s-min=2.8km az=44.5*
*IDC **21** 00:33:05.4±1.3,14°58N×92°04W,h93km±9km,mb4.1/26, mb1 4.3/28,mb1mx4.2/41,mbtmp4.4/28,MS4.0/13, Ms1 4.0/13,ms1mx3.7/31,Error ellipse: s-maj=16.1km s-min=7.7km az=36.0*
ISC 21 00:32:59.7±0.8,14°23N±0"05×92°32W±0"05,h52km±6km, n622,σ1°56/636,mb4.6/172,MS4.0/12,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.67**	**5**	*e*Pg	**Pn**	**00 33 12.6**	**-0.6**
THIG		**0.67**	**5**	*e*P	**Pn**	**00 33 12.6**	**-0.6**
THIG				*i* S	**Sn**	**00 33 26.5**	**+3.5**
FUG	**Fuego 3**	**1.45**	**81**	*e*P	**Pn**	**00 33 24.5**	**+0.8**
PCG	**Pacaya**	**1.67**	**84**	*e*P	**Pn**	**00 33 28.1**	**+1.3**
PCG				*e*S	**Sn**	**00 33 53.2**	**+6.0**
PCIG		**1.70**	**329**	*e*Pn	Pn	00 33 23.0	-4.0
PCIG				*e*Sn	**Sn**	**00 33 46.2**	**-1.4**
PCIG		**1.70**	**329**	*e*P	Pn	00 33 23.0	-4.0
PCIG				*e*S	**Sn**	**00 33 46.2**	**-1.4**
IXG	**Ixpaco**	**1.81**	**92**	*e*P	**Pn**	**00 33 28.6**	**-0.1**
NBG	**Las Nubes**	**1.95**	**79**	*e*P	**Pn**	**00 33 32.9**	**+2.3**
APG	**El Apazote**	**1.96**	**67**	P	**Pn**	**00 33 33.0**	**+2.3**
	49nm,0.3s,baz=234,slow=11,SNR=674						
APG				S	**Sn**	**00 33 53.3**	**-0.9**
	92nm,0.3s,baz=257,slow=12,SNR=8.6						
APG				LR	LR	00 34 05.1	
	comp=Z,623nm,20.9s,baz=226,slow=38						
CCIG	**Comitan**	**2.05**	**5**	*e*Pn	**Pn**	**00 33 34.1**	**+2.2**
CCIG	**Comitan**	**2.05**	**5**	*i* P	**Pn**	**00 33 32.7**	**+0.8**
CCIG				*e*P		00 33 34.1	
CCIG				*e*S	**Sn**	**00 34 01.6**	**+5.2**
SBLS	**San Blas**	**2.65**	**98**	*e*P	**Pn**	**00 33 39.9**	**-0.2**
BOQS	**Boqueron**	**2.99**	**99**	*e*P	**Pn**	**00 33 44.7**	**-0.2**
SNET	**Serv Nac Est T**	**3.05**	**100**	*e*P	**Pn**	**00 33 45.6**	**+0.1**
SNET				*e*S	**Sn**	**00 34 23.0**	**+2.2**
CMIG	**Matias Romero**	**3.77**	**319**	P	Pn	00 33 52.0	-3.3
	4.5nm,0.3s,baz=136,slow=10,SNR=47						
CMIG				S	**Sn**	**00 34 42.5**	**+4.2**
	23nm,0.3s,baz=49,slow=6.5,SNR=4.8						
CMIG	**Matias Romero**	**3.77**	**319**	*e*Pn	Pn	00 33 51.2	-4.1
CMIG				*e*Sn	**Sn**	**00 34 42.5**	**+4.2**
CMIG	**Matias Romero**	**3.77**	**319**	*e*P	Pn	00 33 51.2	-4.1
HUIG	**Huatulco**	**3.97**	**293**	*e*Pn	Pn	00 33 50.1	-7.9
HUIG	**Huatulco**	**3.97**	**293**	*e*P	Pn	00 33 50.1	-7.9
VSM	**San Miguel**	**4.01**	**101**	*e*P	**Pn**	**00 34 00.6**	**+1.7**
CAHU	**Cacacuatique**	**4.02**	**96**	*e*P	**Pn**	**00 34 01.8**	**+2.9**
CNCH	**Conchagua**	**4.46**	**102**	*e*P	**Pn**	**00 34 05.6**	**+0.7**
CNGN	**Cerro Negro**	**5.74**	**107**	*e*P	**Pn**	**00 34 20.9**	**-1.4**
MATN	**Matagalpa**	**6.35**	**101**	*e*P	**Pn**	**00 34 30.2**	**-0.7**
MATN				IAML		00 36 03.6	
	comp=E,239nm,0.8s						
BOAB	**BOACO BROADBAN**	**6.71**	**105**	*e*Pn	**Pn**	**00 34 32.7**	**-3.0**
BOAB	**BOACO BROADBAN**	**6.71**	**105**	*e*P	**Pn**	**00 34 32.6**	**-3.1**
LVIG	**Laguna Verde**	**6.72**	**325**	*e*Pn	**Pn**	**00 34 32.7**	**-3.1**
TEIG	**Tepich**	**7.10**	**32**	*e*Pn	**Pn**	**00 34 42.7**	**+1.6**
TEIG	**Tepich**	**7.10**	**32**	*e*P	**Pn**	**00 34 42.9**	**+1.8**
MYIG	**Mrida**	**7.13**	**20**	*e*Pn	Pn	00 34 50.0	+8.6
JTS	**JuntasAbangare**	**8.20**	**118**	P	**Pn**	**00 34 56.3**	**+0.2**
	comp=E,1.6nm,0.3s,baz=11,slow=18,SNR=9.2						
JTS				S	**Sn**	**00 36 26.0**	**-1.5**
	comp=E,1.2nm,0.3s,baz=346,slow=20,SNR=1.7						
JTS	**JuntasAbangare**	**8.20**	**118**	*e*Pn	**Pn**	**00 34 56.5**	**+0.4**
JTS				*e*Sn	**Sn**	**00 36 26.9**	**-0.5**
JTS	**JuntasAbangare**	**8.20**	**118**	*e*P	**Pn**	**00 34 56.3**	**+0.2**
MOIG	**Morelia**	**10.06**	**304**	*e*Pn	**Pn**	**00 35 21.2**	**-0.6**
LNIG	**Linares**	**12.56**	**329**	*e*Pn	**Pn**	**00 36 00.1**	**+4.4**
ZAIG	**Zacatecas**	**12.90**	**313**	*e*Pn	**Pn**	**00 36 00.1**	**-0.6**
061Z	**Ochoppi**	**15.77**	**41**	*e*Pn	**Pn**	**00 36 39.6**	**+1.3**
	comp=E,90nm,1.0s						
061Z	**Ochoppi**	**15.77**	**41**	P	**Pn**	**00 36 38.6**	**+0.3**
	baz=225						
059Z	**Ave Maria**	**15.77**	**39**	P	**Pn**	**00 36 37.0**	**-1.5**
	baz=222						
HKT	**Hockley**	**15.98**	**349**	*e*Pn	**Pn**	**00 36 42.3**	**+1.4**
	comp=E,27nm,1.4s						
058A	**Arcadia**	**16.10**	**36**	P	**Pn**	**00 36 42.0**	**-0.6**
	baz=219						
060Z	**West Palm Beac**	**16.37**	**40**	P	**Pn**	**00 36 44.7**	**-1.3**
	baz=224						
059A	**Moore Haven**	**16.42**	**38**	P	**Pn**	**00 36 44.2**	**-2.4**
	baz=221						
958A	**Wauchula**	**16.54**	**35**	P	**Pn**	**00 36 47.9**	**-0.2**
	baz=218						
857A	**Zephyrhills**	**16.82**	**32**	P	**Pn**	**00 36 49.1**	**-2.6**
	baz=216						
552A	**Lynn Haven**	**17.10**	**21**	P	**Pn**	**00 36 54.1**	**-1.0**
	baz=204						
449A	**Pace**	**17.11**	**15**	P	**Pn**	**00 36 54.3**	**-0.9**
	baz=197						
448A	**Bay Minette**	**17.12**	**13**	P	**Pn**	**00 36 55.8**	**+0.5**
	baz=195						
DWPF	**Disney Wildern**	**17.12**	**35**	P	**Pn**	**00 36 54.9**	**-0.5**
	baz=218						
435B	**Jarrell**	**17.17**	**344**	*e*Pn	**P**	**00 36 60.0**	**+3.0**
	comp=E,18nm,0.8s						
435B	**Jarrell**	**17.17**	**344**	P	**Pn**	**00 36 55.4**	**-0.6**
	baz=162						
858A	**St. Cloud**	**17.24**	**34**	P	**Pn**	**00 36 56.1**	**-0.8**
	baz=218						
450A	**Crestview**	**17.32**	**17**	P	**Pn**	**00 36 58.4**	**+0.6**
	baz=199						
655A	**Horseshoe Beac**	**17.36**	**27**	P	**Pn**	**00 36 58.0**	**-0.3**
	baz=210						
859A	**Kempfer Cattle**	**17.38**	**36**	P	**Pn**	**00 36 58.1**	**-0.6**
	baz=220						
451A	**Vernon**	**17.39**	**19**	P	**Pn**	**00 36 58.1**	**-0.6**
	baz=202						
757A	**Oxford**	**17.45**	**31**	P	**Pn**	**00 36 59.9**	**+0.4**
	baz=215						
553A	**Crawfordville**	**17.47**	**23**	P	**Pn**	**00 37 00.2**	**+0.5**
	baz=206						
BRAL	**Brewton**	**17.54**	**15**	*e*Pn	**P**	**00 37 05.7**	**+4.6**
	comp=E,90nm,1.2s						
BRAL	**Brewton**	**17.54**	**15**	P	**Pn**	**00 36 59.7**	**-0.8**
	baz=197						
348A	**Jackson**	**17.58**	**13**	P	**Pn**	**00 36 59.8**	**-1.1**
	baz=194						
656A	**Willston**	**17.58**	**29**	P	**Pn**	**00 37 00.2**	**-0.8**
	baz=213						
JCT	**Junction City**	**17.58**	**338**	*e*Pn	**Pn**	**00 37 00.9**	**-0.2**
	comp=E,23nm,1.0s						
JCT				*e*S	**S**	**00 40 30.6**	**+9.1**
JCT	**Junction City**	**17.58**	**338**	P	**Pn**	**00 36 59.7**	**-1.4**
	baz=155						
NATX	**Nacogdoches**	**17.58**	**353**	P	**Pn**	**00 37 01.0**	**0.0**
	baz=172						
349A	**Repton**	**17.68**	**15**	P	**Pn**	**00 37 02.4**	**+0.1**
	baz=196						
HPIG		**17.75**	**317**	*e*Pn	**Pn**	**00 37 03.4**	**0.0**
	comp=E,14nm,1.0s						
244A	**Avery, Jackson**	**17.79**	**5**	P	**Pn**	**00 37 03.8**	**+0.2**
	baz=185						
452A	**Marianna**	**17.80**	**20**	P	**Pn**	**00 37 03.3**	**-0.4**
	baz=203						
350A	**Dozier**	**17.97**	**17**	P	**P**	**00 37 06.0**	**+0.2**
	baz=199						
555A	**McAlpin**	**18.02**	**27**	*e*P	**Pn**	**00 37 12.1**	**+5.8**
	comp=E,72nm,0.9s						
555A	**McAlpin**	**18.02**	**27**	P	**Pn**	**00 37 07.6**	**+1.3**
	baz=210						
351A	**Pinckard**	**18.05**	**19**	P	**Pn**	**00 37 07.6**	**+0.8**
	baz=201						
247A	**Quitman**	**18.06**	**10**	P	**P**	**00 37 06.6**	**-0.2**
	baz=192						
453A	**Whigham**	**18.11**	**23**	P	**P**	**00 37 07.0**	**-0.3**
	baz=206						
556A	**Lake Butler**	**18.17**	**29**	P	**P**	**00 37 08.1**	**+0.1**
	baz=212						
454A	**Quitman**	**18.25**	**25**	P	**P**	**00 37 08.5**	**-0.4**
	baz=208						
248A	**Dixon Mills**	**18.27**	**12**	P	**P**	**00 37 09.4**	**+0.3**
	baz=194						
249A	**Camden**	**18.29**	**14**	P	**P**	**00 37 09.4**	**+0.1**
	baz=196						
WHTX	**Lake Whitney,**	**18.29**	**346**	*e*P	**Pn**	**00 37 10.6**	**+0.8**
	comp=E,14nm,0.7s						
WHTX	**Lake Whitney,**	**18.29**	**346**	P	**Pn**	**00 37 11.2**	**+1.4**
	baz=164						
LTX	**Lajitas**	**18.33**	**327**	*e*Pn	**P**	**00 37 10.8**	**+0.9**
LTX				*e*PcP	**PcP**	**00 41 39.6**	**-0.3**
TXAR	**Lajitas Array**	**18.33**	**327**	P	**P**	**00 37 10.8**	**+0.9**
	comp=E,0.1nm,0.3s,baz=151,slow=15,SNR=49						
TXAR				PcP	**PcP**	**00 41 39.6**	**-0.3**
	comp=E,0.0nm,0.3s,baz=144,slow=1.7,SNR=2.0						
TXAR				LR	LR	00 45 20.6	
	comp=E,225nm,18.6s,baz=0.0,slow=40						
TX31	**Lajitas Ar. Si**	**18.33**	**327**	*e*P	**P**	**00 37 10.8**	**+0.9**
HELC	**Santa Helena**	**18.34**	**114**	*e*P	**Pn**	**00 37 11.0**	**+0.2**
HELC	**Santa Helena**	**18.34**	**114**	*e*P	**Pn**	**00 37 11.0**	**+0.2**
ZARC	**Zaragoza, Cauc**	**18.40**	**110**	*e*P	**P**	**00 37 10.0**	**-0.7**
ZARC	**Zaragoza, Cauc**	**18.40**	**110**	*e*P	**P**	**00 37 10.0**	**-0.7**
352A	**Blakely**	**18.46**	**20**	*e*P	**Pn**	**00 37 14.6**	**+2.9**
	comp=E,42nm,1.0s						
352A	**Blakely**	**18.46**	**20**	P	**P**	**00 37 10.6**	**-0.5**
	baz=203						
557A	**Orange Park**	**18.50**	**30**	P	**P**	**00 37 10.7**	**-1.0**
	baz=214						
250A	**Grady**	**18.51**	**16**	*e*P	**Pn**	**00 37 18.9**	**+6.6**
	comp=E,87nm,1.5s						
250A	**Grady**	**18.51**	**16**	P	**P**	**00 37 11.7**	**-0.1**
	baz=199						
455A	**Stateville**	**18.52**	**26**	P	**P**	**00 37 09.8**	**-2.1**
	baz=209						
146A	**Union**	**18.56**	**9**	P	**P**	**00 37 11.0**	**-1.3**
	baz=190						
353A	**Camilla**	**18.59**	**22**	P	**P**	**00 37 12.6**	**+0.1**
	baz=205						
147A	**Livingston**	**18.73**	**11**	*e*P	**Pn**	**00 37 22.1**	**+7.1**
	comp=E,90nm,1.3s						
147A	**Livingston**	**18.73**	**11**	P	**P**	**00 37 15.2**	**+1.1**
	baz=192						
YOTC	**Yotoco, Valle**	**18.76**	**121**	*e*P	**P**	**00 37 14.0**	**-0.8**
YOTC	**Yotoco, Valle**	**18.76**	**121**	*e*P	**P**	**00 37 14.0**	**-0.8**
148A	**Greensboro**	**18.84**	**12**	P	**P**	**00 37 16.2**	**+0.9**
	baz=194						
251A	**Midway**	**18.87**	**18**	P	**P**	**00 37 15.2**	**-0.5**
	baz=201						
TIGA	**Tifton**	**18.91**	**24**	P	**P**	**00 37 16.1**	**0.0**
	baz=207						
Z43A	**Armstrong Fami**	**18.92**	**3**	P	**P**	**00 37 16.2**	**0.0**
	baz=183						
Z41A	**Richland Creek**	**18.95**	**359**	P	**P**	**00 37 16.5**	**0.0**
	baz=178						
456A	**Hilliard**	**18.95**	**28**	P	**P**	**00 37 16.1**	**-0.5**
	baz=212						
149A	**Jones**	**18.97**	**14**	P	**Pn**	**00 37 18.4**	**+0.6**
	baz=196						
252A	**Lumpkin**	**19.00**	**20**	P	**P**	**00 37 18.0**	**+0.9**
	baz=203						
457A	**Yulee**	**19.08**	**30**	P	**P**	**00 37 16.8**	**-1.2**
	baz=213						
RREF	**El Recreo**	**19.12**	**117**	*e*P	**Pn**	**00 37 20.9**	**+0.4**
RREF	**El Recreo**	**19.12**	**117**	*e*P	**Pn**	**00 37 20.9**	**+0.4**
Z46A	**Louisville**	**19.13**	**9**	P	**P**	**00 37 18.0**	**-0.4**
	baz=190						
PTBC	**PUERTO BERRIO,**	**19.15**	**112**	*e*P	**P**	**00 37 18.8**	**-0.1**
PTBC	**PUERTO BERRIO,**	**19.15**	**112**	*e*P	**P**	**00 37 18.8**	**-0.1**
150A	**Eclectic**	**19.17**	**16**	P	**Pn**	**00 37 20.4**	**+0.1**
	baz=199,SNR=5.8						
253A	**Americus**	**19.27**	**22**	P	**P**	**00 37 19.7**	**-0.2**
	baz=204						
Z47A	**Carrollton**	**19.27**	**11**	P	**P**	**00 37 20.1**	**0.0**
	baz=192						
ANIL	**Santa Ana**	**19.28**	**119**	*e*P	**Pn**	**00 37 22.1**	**0.0**
ANIL	**Santa Ana**	**19.28**	**119**	*e*P	**Pn**	**00 37 22.1**	**0.0**
151A	**Opelika**	**19.30**	**18**	P	**P**	**00 37 21.0**	**+0.6**
	baz=201,SNR=11						
POPC	**Popayan, Colom**	**19.33**	**126**	*e*P	**P**	**00 37 20.9**	**-0.2**
POPC	**Popayan, Colom**	**19.33**	**126**	*e*P	**P**	**00 37 20.9**	**-0.2**
LRAL	**Lakeview Retre**	**19.34**	**14**	*e*P	**Pn**	**00 37 22.4**	**+0.2**
	comp=E,32nm,1.

Y48A	Jasper baz=194	20.14	13	P		P	00 37 29.6	0.0
X40A	Basin Creek Fa comp=E,9.7nm,0.9s	20.17	359	eP		Pn	00 37 33.9	+1.7
X40A	Basin Creek Fa baz=178	20.17	359	P		P	00 37 29.5	-0.3
X41A	Kaden, Bauxite baz=179	20.18	360	P		P	00 37 30.3	+0.4
Z52A	Williamson baz=202	20.20	20	P		P	00 37 30.8	+0.6
MIAR	Mount Ida comp=E,33nm,0.9s	20.26	357	eP		P	00 37 31.8	+1.0
MIAR	Mount Ida baz=176,SNR=21	20.26	357	P		P	00 37 31.1	+0.3
Y49A	Blount Mountai comp=E,15nm,0.9s	20.26	14	eP		P	00 37 32.1	+1.2
Y49A	Blount Mountai baz=197	20.26	14	P		P	00 37 31.3	+0.4
X45A	UM Field Stati baz=188	20.28	7	P		P	00 37 30.3	-0.7
BARC	Barichara	20.28	110	eP		Pn	00 37 33.1	-0.7
BARC	Barichara	20.28	110	eP		Pn	00 37 33.1	-0.7
OXF	Oxford comp=E,59nm,1.0s	20.36	7	eP		P	00 37 33.6	+1.7
OXF	Oxford baz=188	20.36	7	P		P	00 37 32.2	+0.3
155A	Kite baz=208,SNR=9.4	20.39	24	P		P	00 37 33.9	+1.6
PAMC	Pamplona, Colo	20.45	108	eP		P	00 37 34.6	+1.1
PAMC	Pamplona, Colo	20.45	108	eP		P	00 37 34.6	+1.1
UALR	University of comp=E,36nm,0.9s	20.45	360	eP		P	00 37 34.8	+1.9
X37A	Clayton comp=E,21nm,0.8s	20.46	353	eP		P	00 37 34.1	+1.2
257A	Skidaway Islan baz=213	20.46	28	P		P	00 37 32.5	-0.5
Y50A	Piedmont baz=198	20.46	16	P		P	00 37 33.3	+0.2
X46A	Booneville baz=190	20.52	9	P		P	00 37 33.3	-0.3
Z53A	Monticello baz=205,SNR=6.9	20.57	21	P		P	00 37 34.6	+0.5
X47A	Russelville baz=192	20.60	11	P		P	00 37 34.2	-0.3
CHIC	Chingaza	20.65	116	eP		P	00 37 36.5	+0.8
CHIC	Chingaza	20.65	116	eP		P	00 37 36.5	+0.8
Y51A	Rockmart baz=200	20.66	17	P		P	00 37 36.3	+1.2
RUSC	La Rusia	20.66	112	eP		P	00 37 35.8	-0.1
RUSC	La Rusia	20.66	112	eP		P	00 37 35.8	-0.1
X48A	Hartselle comp=E,16nm,0.9s	20.69	12	eP		P	00 37 36.0	+0.6
X48A	Hartselle baz=194	20.69	12	P		P	00 37 35.4	-0.1
GOGA	Godfrey comp=E,25nm,1.0s	20.72	21	eP		P	00 37 37.1	+1.3
GOGA	Godfrey baz=205	20.72	21	P		P	00 37 35.6	-0.2
FLOC	Florencia	20.72	126	eP		P	00 37 35.5	-0.5
FLOC	Florencia	20.72	126	eP		P	00 37 35.5	-0.5
Z54A	Sparta baz=206,SNR=8.8	20.79	23	P		P	00 37 36.0	-0.6
156A	Sylvania baz=211	20.83	26	P		P	00 37 37.5	+0.6
W41B	Gary Mavity, V comp=E,23nm,1.3s	20.85	0	eP		P	00 37 38.8	+1.6
W41B	Gary Mavity, V baz=180	20.85	0	P		P	00 37 37.2	0.0
X49A	Woodville baz=196	20.91	14	P		P	00 37 37.8	0.0
W39A	Magazine comp=E,22nm,0.8s	20.92	357	eP		P	00 37 38.8	+0.9
W39A	Magazine baz=176,SNR=12	20.92	357	P		P	00 37 38.5	+0.6
Y52A	Lilburn comp=E,24nm,0.9s	20.93	20	eP		P	00 37 39.6	+1.5
Y52A	Lilburn baz=203	20.93	20	P		P	00 37 38.9	+0.8
VILC	Villavicencio,	20.94	117	eP		P	00 37 39.7	+1.2
VILC	Villavicencio,	20.94	117	eP		P	00 37 39.7	+1.2
W42A	Bald Knob baz=182	20.96	2	P		P	00 37 38.1	-0.3
WHAR	Wooly Hollow comp=E,15nm,0.9s	20.97	0	eP		P	00 37 38.8	+0.4
X50B	Fort Payne baz=198,SNR=5.7	21.03	16	P		P	00 37 37.7	-1.4
W45A	Hickory Valley baz=186	21.03	7	P		P	00 37 37.5	-1.6
Z55A	Blythe baz=208	21.05	24	P		P	00 37 38.7	-0.7
Y53A	Monroe baz=204,SNR=6.4	21.08	21	P		P	00 37 39.8	+0.1
MNTX	Cornudas Mount comp=E,18nm,0.9s	21.10	328	eP		P	00 37 39.8	-0.2
MNTX	Cornudas Mount baz=143,SNR=29	21.10	328	P		P	00 37 39.6	-0.4
WMOK	Wichita Mounta comp=E,9.7nm,0.6s	21.23	345	eP		P	00 37 41.7	+0.3
WMOK	Wichita Mounta baz=162,SNR=13	21.23	345	P		P	00 37 39.9	-1.5
X51A	Calhoun comp=E,19nm,0.9s	21.34	17	eP		P	00 37 45.3	+2.8
X51A	Calhoun baz=200	21.34	17	P		P	00 37 41.7	-0.7
W47A	Westpoint baz=192	21.36	11	P		P	00 37 41.7	-1.0
W48A	Pulaski baz=194	21.38	12	P		P	00 37 42.3	-0.6
Y54A	Tignall baz=206	21.41	22	P		P	00 37 42.9	-0.2
V41A	Mountainview baz=180,SNR=13	21.46	0	P		P	00 37 43.1	-0.6
V42A	Cord baz=182	21.50	2	P		P	00 37 43.7	-0.4
W49A	Belvidere baz=196,SNR=5.7	21.50	14	P		P	00 37 42.7	-1.5
TAMC	Tame, Arauca	21.62	109	eP		P	00 37 45.6	0.0
TAMC	Tame, Arauca	21.62	109	eP		P	00 37 45.6	0.0
V45A	Humboldt baz=189	21.63	7	P		P	00 37 46.3	+0.8
X52A	Dahlonega baz=202,SNR=5.3	21.67	19	P		P	00 37 46.5	+0.5
SWET	Sewanee comp=E,18nm,0.8s	21.67	14	eP		P	00 37 46.7	+0.7
X53A	Estanollee baz=204	21.77	20	P		P	00 37 45.2	-1.8
NHSC	New Hope comp=E,130nm,1.4s	21.80	28	eP		P	00 37 50.6	+3.2
NHSC	New Hope baz=213	21.80	28	P		P	00 37 47.5	+0.1
V46A	Holladay baz=191,SNR=7.1	21.81	9	P		P	00 37 46.5	-0.9
TUL1	Leonard comp=E,21nm,0.9s	21.81	352	eP		P	00 37 47.3	-0.2
TUL1	Leonard baz=171,SNR=5.5	21.81	352	P		P	00 37 46.7	-0.8
W50A	Signal Mountai comp=E,13nm,0.8s	21.81	16	eP		P	00 37 48.3	+0.7
W50A	Signal Mountai baz=198,SNR=5.5	21.81	16	P		P	00 37 47.3	-0.2
MSTX	Muleshoe comp=E,33nm,1.0s	21.82	336	eP		P	00 37 47.1	-0.6
MSTX	Muleshoe baz=152,SNR=5.3	21.82	336	P		P	00 37 47.2	-0.4
SDV	Santo Domingo comp=E,11nm,0.8s,baz=294,slow=5.0,SNR=14	21.89	102	P		P	00 37 48.8	+0.1
SDV	comp=E,4.9nm,0.8s,baz=349,slow=4.1,SNR=4.8				PcP	PcP	00 41 46.2	-0.6
HODGE	Hodges comp=E,20nm,1.0s	21.90	23	eP		P	00 37 50.2	+1.8
W51A	Cleveland baz=200	21.93	17	P		P	00 37 48.6	-0.1
V47A	Nunnelly baz=192,SNR=5.3	21.93	10	P		P	00 37 48.0	-0.7
V48A	Smith Brothers comp=E,19nm,1.3s	21.98	12	eP		P	00 37 48.9	-0.4
V48A	Smith Brothers baz=194	21.98	12	P		P	00 37 48.3	-1.0
HHAR	Hobbs comp=E,16nm,0.8s	22.01	357	eP		P	00 37 50.2	+0.6
U41A	Viola baz=181,SNR=5.6	22.02	1	P		P	00 37 49.0	-0.7
U40A	Yellville baz=178,SNR=12	22.04	359	P		P	00 37 49.5	-0.4
U42A	Revenden baz=183,SNR=9.9	22.05	2	P		P	00 37 49.0	-1.0
W52A	Murphy baz=202	22.11	19	P		P	00 37 50.5	-0.2
U43A	Rector baz=185	22.11	4	P		P	00 37 49.2	-1.5
WVT	Waverly comp=E,8.3nm,0.7s	22.18	10	eP		P	00 37 51.9	+0.5
WVT	Waverly baz=191	22.18	10	P		P	00 37 51.0	-0.4
V49A	McMinnville baz=196,SNR=13	22.21	14	P		P	00 37 51.2	-0.6
AMTX	Amarillo comp=E,67nm,0.8s	22.23	339	eP		P	00 37 52.2	+0.1
AMTX	Amarillo baz=155	22.23	339	P		P	00 37 52.4	+0.2
U45A	Rockin P Farm, baz=189	22.25	8	P		P	00 37 52.3	+0.1
CPCT	Cooper Cave comp=E,41nm,1.3s	22.26	17	eP		P	00 37 53.1	+0.8
U44A	Portageville baz=187	22.31	6	P		P	00 37 52.3	-0.4
V50A	Pikevile baz=198	22.31	16	P		P	00 37 52.0	-0.9
BG3	Lake Jocassee comp=E,15nm,1.0s	22.34	21	eP		P	00 37 54.7	+1.5
U46A	Springville baz=190,SNR=8.1	22.35	9	P		P	00 37 52.6	-0.6
W53A	Cullowhee baz=204	22.42	20	P		P	00 37 54.4	+0.2
PARMO	Parma comp=E,58nm,0.7s	22.46	5	eP		P	00 37 55.0	+0.6
U47A	Clarksville baz=193	22.57	11	P		P	00 37 53.4	-2.2
PAULI	Pauline comp=E,48nm,1.4s	22.59	23	eP		P	00 37 56.9	+1.1
V51A	Loudon comp=E,18nm,0.9s	22.64	17	eP		P	00 37 57.6	+1.2
V51A	Loudon baz=200	22.64	17	P		P	00 37 56.1	-0.3
GUVC	San Jose del G	22.65	119	eP		P	00 37 57.1	+0.4
GUVC	San Jose del G	22.65	119	eP		P	00 37 57.1	+0.4
TKL	Tuckaleechee C comp=E,17nm,1.0s,baz=195,slow=11,SNR=13	22.68	18	P		P	00 37 56.7	-0.1
TKL	Tuckaleechee C comp=E,35nm,1.1s	22.68	18	eP		P	00 37 57.4	+0.6
T41A	Mountain View baz=181,SNR=11	22.72	1	P		P	00 37 56.1	-1.2
T42A	Van Buren comp=E,7.8nm,0.7s	22.73	3	eP		P	00 37 56.2	-1.1
T42A	Van Buren baz=183,SNR=7.3	22.73	3	P		P	00 37 56.0	-1.3
U48A	Cassie Pea, Po baz=194,SNR=5.3	22.78	12	P		P	00 37 56.6	-1.3
T43A	Greenville baz=185	22.83	4	P		P	00 37 57.4	-0.9
U32A	Winter Ranch, comp=E,40nm,0.9s	22.85	346	eP		P	00 37 58.9	+0.2
T44A	Benton baz=187	22.89	6	P		P	00 37 57.7	-1.2
V52A	Sevierville comp=E,41nm,1.3s	22.90	18	eP		P	00 37 57.9	-1.3
V52A	Sevierville baz=202,SNR=6.8	22.90	18	P		P	00 37 57.5	-1.6
U49A	Red Boiling Sp baz=196,SNR=8.5	22.95	14	P		P	00 37 58.2	-1.4
V53A	Saluda comp=E,9.8nm,0.8s	22.99	20	eP		P	00 38 00.7	+0.6
V53A	Saluda baz=204	22.99	20	P		P	00 37 58.6	-1.5
121A	Cookes Peak, D baz=139,SNR=19	23.04	325	P		P	00 38 00.8	+0.1
KMSC	Kings Mountain comp=E,18nm,0.9s	23.05	24	eP		P	00 38 01.3	+0.6
KMSC	Kings Mountain baz=208,SNR=7.2	23.05	24	P		P	00 38 00.4	-0.3
T46A	Princeton baz=191	23.06	9	P		P	00 37 59.7	-0.9
U50A	Jamestown baz=199,SNR=9.3	23.08	16	P		P	00 37 59.6	-1.4
T47A	Sharon Grove baz=193	23.14	11	P		P	00 37 59.2	-2.2
S41A	Jillco Farms, baz=181,SNR=6.7	23.27	1	P		P	00 38 01.2	-1.6
U51A	La Follette baz=201,SNR=25	23.27	17	P		P	00 38 01.8	-1.0
S43A	Fulton Ridge, baz=185	23.33	5	P		P	00 38 01.7	-1.6
T48A	Bowling Green baz=194	23.39	12	P		P	00 38 02.6	-1.3
U52A	Thorn Hill baz=202	23.48	18	P		P	00 38 04.2	-0.6
S42A	Caledonia baz=184	23.48	3	P		P	00 38 03.8	-1.0
S44A	Carbondale baz=187,SNR=12	23.53	6	P		P	00 38 03.9	-1.2
SIUC	Southern Illin comp=E,42nm,0.8s	23.55	6	eP		P	00 38 04.8	-0.6
TZTN	Tazewell comp=E,16nm,0.8s	23.57	18	eP		P	00 38 05.4	-0.2
TZTN	Tazewell baz=202,SNR=7.5	23.57	18	P		P	00 38 04.8	-0.8
T49A	Edmonton comp=E,31nm,1.3s	23.57	14	eP		P	00 38 05.0	-0.6
T49A	Edmonton baz=196,SNR=6.1	23.57	14	P		P	00 38 04.3	-1.3
S45A	Carrier Mills baz=189	23.59	7	P		P	00 38 04.1	-1.6
T50A	Nancy baz=198,SNR=8.4	23.66	15	P		P	00 38 05.3	-1.1
BNM	Barren Site	23.69	329	eP		P	00 38 08.3	+1.3
U53A	Fall Branch baz=204	23.71	20	P		P	00 38 06.3	-0.6
S46A	Don Dixon Farm baz=191	23.71	9	P		P	00 38 06.4	-0.5
CCM	Cathedral Cave comp=E,14nm,0.8s	23.75	2	eP		P	00 38 05.9	-1.3
CCM	Cathedral Cave baz=182	23.75	2	P		P	00 38 05.8	-1.5
S47A	Hartford baz=193	23.77	11	P		P	00 38 05.7	-1.7
T51A	Gray baz=200,SNR=8.1	23.84	17	P		P	00 38 07.3	-0.8
LENM	Lemitar	23.87	329	eP		P	00 38 09.7	+1.1
R41A	Rosebud baz=182,SNR=11	23.98	2	P		P	00 38 07.4	-2.0
S48A	Wiedeman Farm, baz=195	23.99	12	P		P	00 38 08.7	-0.7
R42A	Luebbering baz=184	23.99	3	P		P	00 38 08.4	-1.0
R43A	Red Bud baz=186,SNR=9.4	24.04	5	P		P	00 38 08.1	-1.8
LAZ	Ladron	24.14	329	eP		P	00 38 12.0	+0.9
R45A	Skylar, Fairfi baz=189,SNR=5.9	24.23	8	P		P	00 38 10.7	-1.0
ANMO	Albuquerque comp=E,5.8nm,0.7s,baz=145,slow=11,SNR=14	24.25	331	P		P	00 38 12.3	+0.2
ANMO	Albuquerque comp=E,6.3nm,0.8s	24.25	331	eP		P	00 38 12.8	+0.8
ANMO	Albuquerque baz=145	24.25	331	P		P	00 38 13.1	+1.0
T52A	Hallie baz=202	24.26	18	P		P	00 38 11.0	-0.9
R46A	Gibon Southern baz=191	24.26	9	P		P	00 38 10.9	-1.0
S49A	Springfield baz=197,SNR=6.3	24.28	14	P		P	00 38 10.6	-1.5
S50A	Richmond baz=199,SNR=7.5	24.39	15	P		P	00 38 12.1	-1.0
WCI	Wyandotte Cave comp=E,35nm,0.8s	24.49	12	eP		P	00 38 13.7	-0.3
WCI	Wyandotte Cave baz=194	24.49	12	P		P	00 38 13.3	-0.8
R47A	Wooly Knot Far baz=194	24.51	11	P		P	00 38 13.4	-0.8
S51A	Beattyville comp=E,17nm,0.8s	24.57	17	eP		P	00 38 14.8	+0.1
S51A	Beattyville baz=200,SNR=7.8	24.57	17	P		P	00 38 13.2	-1.5
Q42A	Golden Eagle baz=184	24.64	3	P		P	00 38 14.8	-0.4
Q41A	Truxton baz=182,SNR=6.0	24.64	2	P		P	00 38 13.5	-1.9
TUC	Tucson comp=E,12nm,1.3s	24.66	320	eP		P	00 38 16.2	+0.5
TUC	Tucson baz=133	24.66	320	P		P	00 38 15.5	-0.2
OLIL	Olney comp=E,45nm,0.8s	24.69	8	eP		P	00 38 15.5	-0.3
Q43A	New Douglas baz=186	24.72	5	P		P	00 38 15.4	-0.7
R48A	Northridge Ran	24.74	12	P		P	00 38 15.8	-0.5
	baz=195,SNR=5.1							
Q44A	Meyer Farm, Va comp=E,29nm,0.9s	24.75	6	eP		P	00 38 17.2	+0.9
Q44A	Meyer Farm, Va baz=188	24.75	6	P		P	00 38 15.6	-0.7
S52A	Salyersville baz=202	24.76	18	P		P	00 38 15.4	-1.0
R49A	Shelbyville baz=197	24.79	14	P		P	00 38 15.7	-1.0
Q45A	Warren Harvey, baz=190,SNR=5.6	24.84	8	P		P	00 38 15.2	-2.0
R50A	Paris baz=198,SNR=6.5	24.98	15	P		P	00 38 17.3	-1.1
KSU1	Kansas State U comp=E,24nm,0.7s	25.06	352	eP		P	00 38 18.5	-0.7
KSU1	Kansas State U baz=170,SNR=6.3	25.06	352	P		P	00 38 18.3	-0.9
Q47A	Bedord North L baz=193	25.15	11	P		P	00 38 19.0	-1.0
R51A	Hillsboro baz=200,SNR=5.5	25.19	16	P		P	00 38 19.3	-1.1
BLA	Blacksburg baz=208	25.23	23	P		P	00 38 19.2	-1.6
T25A	Trinidad comp=E,25nm,0.9s	25.23	337	eP		P	00 38 22.4	+1.4
T25A	Trinidad baz=152,SNR=26	25.23	337	P		P	00 38 20.8	-0.2
Q48A	North Vernon baz=195,SNR=5.4	25.28	12	P		P	00 38 20.5	-0.6
P42A	Winchester baz=184	25.32	4	P		P	00 38 20.4	-1.1
ATAH	Atahualpa comp=E,5.4nm,0.8s,baz=13,slow=1.5,SNR=4.7	25.33	146	P		P	00 38 27.4	+5.1
CBKS	Cedar Bluff comp=E,43nm,0.8s	25.35	346	eP		P	00 38 21.7	-0.1
CBKS	Cedar Bluff baz=163,SNR=14	25.35	346	P		P	00 38 21.7	-0.1
P44A	Sand Creek, Wi baz=188	25.35	7	P		P	00 38 22.1	+0.3
R52A	Catlettsburg baz=202	25.49	18	P		P	00 38 20.6	-2.5
P45A	Graceland, Par comp=E,19nm,0.9s	25.52	8	eP		P	00 38 23.5	+0.2
P45A	Graceland, Par baz=190	25.52	8	P		P	00 38 22.0	-1.3
Q49A	Aurora baz=197	25.53	14	P		P	00 38 22.4	-1.1
Q50A	Georgetown baz=199	25.60	15	P		P	00 38 21.6	-2.4
P46A	Rosedale baz=191,SNR=5.5	25.69	9	P		P	00 38 23.9	-0.9
R53A	Hurricane baz=204	25.70	19	P		P	00 38 23.8	-1.2
X18A	Snowflake comp=E,6.1nm,0.9s	25.73	325	eP		P	00 38 28.2	+2.7
O41A	Passleys Farm, baz=183	25.82	3	P		P	00 38 23.6	-2.5
P48A	Milroy baz=195	25.86	12	P		P	00 38 25.0	-1.4
R54A	Victor baz=206	25.88	21	P		P	00 38 25.2	-1.4
Q51A	Peebles comp=E,28nm,0.9s	25.94	16	eP		P	00 38 26.9	-0.2
Q51A	Peebles baz=200,SNR=8.3	25.94	16	P		P	00 38 26.5	-0.7
O44A	Mansfield baz=188	26.04	7	P		P	00 38 27.1	-1.0
W18A	Petrified Fore baz=139	26.05	326	P		P	00 38 28.9	+0.5
P49A	Miami Univ. Ec baz=197	26.08	13	P		P	00 38 27.1	-1.3
Q52A	Bidwell baz=202	26.18	18	P		P	00 38 27.8	-1.5
SDCO	Great Sand Dun comp=E,20nm,1.2s	26.18	336	eP		P	00 38 30.9	+1.1
SDCO	Great Sand Dun baz=150,SNR=20	26.18	336	P		P	00 38 30.2	+0.4
O45A	Potomac baz=190	26.23	8	P		P	00 38 29.1	-0.6
P50A	Jamestown baz=199	26.37	15	P		P	00 38 28.2	-2.8
P51A	Williamsport baz=200	26.44	16	P		P	00 38 29.9	-1.8
SFIN	Lafayette baz=191	26.45	9	P		P	00 38 30.1	-1.6
O47A	Sheridan baz=193	26.46	11	P		P	00 38 30.0	-1.8
X16A	Lo Mia Camp, P comp=E,3.7nm,0.8s	26.51	323	eP		P	00 38 33.5	+0.9
N40A	Mertquake, Sal baz=182	26.56	1	P		P	00 38 31.4	-1.4
O48A	Farmland baz=196	26.68	12	P		P	00 38 31.7	-2.1
S22A	4UR Ranch, Cre comp=E,17nm,1.1s	26.73	334	eP		P	00 38 36.2	+1.5
S22A					ePcP	PcP	00 42 01.7	+4.6
S22A	4UR Ranch, Cre baz=147,SNR=22	26.73	334	P		P	00 38 35.1	+0.4
N43A	Stutzman Famil baz=187	26.75	5	P		P	00 38 32.0	-2.4
O49A	Covington baz=197	26.79	14	P		P	00 38 31.8	-3.0
P52A	Corning baz=202	26.84	18	P		P	00 38 33.9	-1.4
R58B	Mineral baz=212	26.89	26	P		P	00 38 33.5	-2.3
MVCO	Mesa Verde comp=E,21nm,0.9s	27.05	331	eP		P	00 38 38.3	+0.8
MVCO	Mesa Verde baz=144,SNR=21	27.05	331	P		P	00 38 37.5	0.0
M40A	Post Highland baz=182	27.08	1	P		P	00 38 36.1	-1.4
Y14A	Wickenburg comp=E,11nm,1.5s	27.13	320	eP		P	00 38 38.5	+0.5
N47A	Urbana baz=194	27.17	11	P		P	00 38 36.2	-2.0
WUAZ	Wupatki comp=E,4.9nm,0.8s	27.25	324	eP		P	00 38 39.9	+0.6
WUAZ	Wupatki baz=136,SNR=5.1	27.25	324	P		P	00 38 37.7	-1.6
N48A	Decatur baz=195,SNR=5.6	27.28	12	P		P	00 38 37.5	-1.7
O52A	Adamsville baz=202	27.38	18	P		P	00 38 38.0	-2.1
MCWV	Mont Chateau baz=207	27.60	21	P		P	00 38 39.2	-3.0
L40A	Anamosa baz=182	27.75	2	P		P	00 38 42.0	-1.4
L42A	Oliver, Polo baz=185	27.77	4	P		P	00 38 41.4	-2.1
L41A	Preston baz=184	27.79	3	P		P	00 38 42.5	-1.2
O54A	Avella baz=205	27.89	20	P		P	00 38 41.8	-2.9
PV13	Radium Mtn., P comp=E,20nm,1.0s	27.96	331	eP		P	00 38 47.2	+1.5
PV02	Paradox Valley comp=E,29nm,1.3s	27.96	332	eP		P	00 38 47.3	+1.7
Y12C	Blythe baz=129	27.98	318	P		P	00 38 43.2	-2.3
SMCO	Snowmass comp=E,21nm,1.4s	28.00	335	eP		P	00 38 47.5	+1.3
ISCO	Idaho Springs comp=E,3.1nm,0.8s	28.02	338	eP		P	00 38 47.2	+1.0
ISCO	Idaho Springs baz=152	28.02	338	P		P	00 38 45.1	-1.1
PDMCI	Parker Dam,Lak baz=130	28.08	319	P		P	00 38 45.6	-0.9
PV12	Saucer Basin, comp=E,25nm,0.9s	28.08	332	eP		P	00 38 48.4	+1.8
PV11	David Mesa, Pa comp=E,24nm,1.0s	28.10	332	eP		P	00 38 48.5	+1.6
PV17	East Wray Mesa comp=E,20nm,1.0s	28.12	331	eP		P	00 38 48.4	+1.4
PV16	Nyswonger Mesa comp=E,25nm,1.2s	28.13	332	eP		P	00 38 48.6	+1.5
PV19	Morning Glory comp=E,13nm,1.0s	28.16	331	eP		P	00 38 49.0	+1.6
PV20	West Nyswonger comp=E,11nm,0.9s	28.18	332	eP		P	00 38 48.9	+1.4
PV14	Lion Creek, Pa comp=E,18nm,1.0s	28.23	331	eP		P	00 38 49.4	+1.3
O55A	Ligonier baz=207	28.28	21	P		P	00 38 46.0	-2.1
PV23	Carpenter Ridg comp=E,19nm,0.9s	28.29	332	eP		P	00 38 50.0	+1.5
N53A	Lisbon baz=204	28.31	19	P		P	00 38 45.4	-3.0

SWSC	**Sam W. Stewart**	28.35	315	P		P		00 38 47.8	-1.0
	baz=126								
PV21	**Cone Mtn., Par**	28.36	332	*e*P		P		00 38 50.7	+1.6
	comp=E,9.9nm,1.1s								
PV09	**Paradox Valley**	28.38	331	*e*P		P		00 38 50.8	+1.3
IKP	**In-Ko-Pah, Jac**	28.39	314	P		P		00 38 48.2	-1.1
	baz=125								
L48A	**N Adams**	28.45	12	P		P		00 38 48.1	-1.5
	baz=196								
BC3	**Big Chuckawall**	28.53	317	P		P		00 38 48.0	-2.6
	baz=127								
K42A	**Prairie Point,**	28.56	5	P		P		00 38 48.8	-1.8
	baz=186								
O56A	**Blue Knob Stat**	28.60	22	*e*P		P		00 38 51.2	+0.1
	comp=E,25nm,1.0s								
O56A	**Blue Knob Stat**	28.60	22	P		P		00 38 49.3	-1.8
	baz=209								
IRM	**Iron Mountain**	28.64	318	P		P		00 38 50.4	-1.1
	baz=128								
JFWS	**Jewell Farm**	28.64	3	P		P		00 38 49.8	-1.5
	baz=184								
N54A	**Moraine State**	28.72	20	P		P		00 38 49.8	-2.3
	baz=205								
KNB	**Kanab**	29.14	325	*e*P		P		00 38 57.5	+1.4
	comp=E,10nm,1.3s								
SSPA	**Standing Stone**	29.17	23	P		P		00 38 54.0	-2.0
	baz=210								
PFO	**Pinyon Flats O**	29.18	316	P		P		00 38 59.5	+3.1
	comp=E,2.2nm,0.9s,baz=149,slow=16,SNR=3.9								
PFO	**Pinyon Flats O**	29.18	316	*e*P		P		00 38 59.5	+3.1
	comp=E,4.7nm,1.0s								
O20A	**White River Ci**	29.34	335	P		P		00 38 54.8	-3.0
	baz=147								
LCMT	**Little Creek M**	29.37	324	*e*P		P		00 38 59.8	+1.7
	comp=E,3.2nm,1.1s								
MTPU	**Mount Pierson**	29.54	327	*e*P		P		00 39 01.3	+1.5
	comp=E,7.7nm,1.4s								
ECSD	**EROS Data Cent**	29.63	354	*e*P		P		00 38 59.5	-0.6
	comp=E,4.4nm,0.7s								
ECSD	**EROS Data Cent**	29.63	354	P		P		00 38 57.9	-2.2
	baz=172								
Q16A	**Castle Valley**	29.69	329	*e*P		P		00 39 02.5	+1.6
	comp=E,9.2nm,1.1s								
SZCU	**Shurtz Canyon**	29.70	325	*e*P		P		00 39 02.6	+1.6
	comp=E,5.5nm,1.0s								
CCUT	**Cedar City**	29.82	325	*e*P		P		00 39 04.0	+1.8
	comp=E,4.9nm,0.9s								
P17A	**Butcher Ranch,**	29.91	331	*e*P		P		00 39 04.2	+1.4
	comp=E,6.4nm,0.8s								
TMUT	**Trail Mountain**	30.00	330	*e*P		P		00 39 05.2	+1.4
	comp=E,4.7nm,1.0s								
RWWY	**Rawlins**	30.26	338	*e*P		P		00 39 07.3	+1.3
	comp=E,15nm,1.1s								
H38A	**Maiden Rock**	30.34	0	P		P		00 39 03.0	-3.4
	baz=180								
BFSC	**Mount Baldy Ra**	30.36	315	P		P		00 39 02.5	-4.4
	baz=125								
H39A	**Augusta**	30.36	1	P		P		00 39 03.3	-3.2
	baz=182								
J52A	**Paris**	30.65	17	P		P		00 39 07.3	-1.9
	baz=203								
I49A	**Point Hope**	30.70	13	P		P		00 39 05.5	-4.1
	baz=198								
MPU	**Maple Canyon**	30.76	330	*e*P		P		00 39 11.7	+1.3
	comp=E,4.7nm,0.9s								
PSUT	**Pine Spring**	30.80	326	*e*P		P		00 39 12.3	+1.5
	comp=E,8.4nm,1.2s								
G38A	**Ridgeland**	30.84	1	P		P		00 39 09.0	-1.7
	baz=181								
K22A	**Casper**	30.86	339	*e*P		P		00 39 12.0	+0.9
	comp=E,8.5nm,0.8s								
K22A	**Casper**	30.86	339	P		P		00 39 08.1	-3.1
	baz=152								
SPMN	**Marine on St.**	30.89	359	*e*P		P		00 39 11.2	-0.1
	comp=E,11nm,0.8s								
SPMN	**Marine on St.**	30.89	359	P		P		00 39 10.2	-1.1
	baz=179								
EDW2	**Edwards Air Fo**	30.95	316	P		P		00 39 10.0	-1.9
	baz=125								
TPNV	**Topopah Spring**	31.10	321	*e*P		P		00 39 14.4	+1.0
TPNV				*e*pwP		pP		00 39 24.4	-2.3
TPNV	**Topopah Spring**	31.10	321	P		P		00 39 11.4	-2.0
	baz=130								
PAL	**Palisades**	31.13	28	P		P		00 39 10.5	-2.9
	baz=216								
FURC	**Furnace Creek,**	31.17	320	P		P		00 39 12.4	-1.4
	baz=129								
BINY	**Binghamton**	31.25	24	P		P		00 39 13.1	-1.4
	baz=212								
MPMC	**Manual Prospec**	31.32	318	P		P		00 39 14.4	-0.9
	baz=128								
CTU	**Camp Tracy**	31.35	331	*e*P		P		00 39 17.5	+1.9
	comp=E,4.2nm,0.7s								
RSSD	**Black Hills**	31.43	344	*e*P		P		00 39 16.7	+0.5
	comp=E,9.1nm,0.7s								
RSSD	**Black Hills**	31.43	344	P		P		00 39 16.1	-0.1
	baz=158								
DUG	**Dugway, Tooele**	31.48	329	P		P		00 39 17.3	+0.7
	baz=140								
TCUT	**Toone Canyon**	31.53	332	*e*P		P		00 39 16.5	-0.7
	comp=E,37nm,0.6s								
R11A	**Troy Canyon, C**	31.64	324	*e*P		P		00 39 19.4	+1.3
	comp=E,1.9nm,0.9s								
R11A	**Troy Canyon, C**	31.64	324	P		P		00 39 17.6	-0.5
	baz=133								
BW06	**Boulder Array**	32.08	336	*e*P		P		00 39 22.1	+0.1
	comp=E,3.6nm,0.9s								
BW06	**Boulder Array**	32.08	336	P		P		00 39 21.3	-0.7
	baz=147,SNR=6.3								
PD31	**Pinedale Array**	32.08	336	*e*P		P		00 39 22.1	+0.1
PD31				*e*PcP		PcP		00 42 13.1	+2.6
PDAR	**Pinedale Array**	32.08	336	P		P		00 39 21.6	-0.4
	comp=E,4.0nm,1.0s,baz=136,slow=8.0,SNR=19								
PDAR				PcP		PcP		00 42 13.1	+2.6
	comp=E,1.1nm,0.7s,baz=147,slow=5.1,SNR=7.0								
BGU	**Big Grassy Mou**	32.14	330	*e*P		P		00 39 23.8	+1.3
	comp=E,2.9nm,0.8s								
SPUT	**South Promonto**	32.16	331	*e*P		P		00 39 24.0	+1.4
	comp=E,4.3nm,1.0s								
PKM	**Mcpherson Peak**	32.20	315	P		P		00 39 21.8	-1.3
	baz=123								
VES	**Vestal, Richgr**	32.23	317	P		P		00 39 21.3	-1.8
	baz=125								
SADO	**Sadowa**	32.44	18	LR		LR		00 54 29.2	
	comp=E,749nm,18.7s,baz=217,slow=40								
HVU	**Hansel Valley**	32.68	331	*e*P		P		00 39 28.2	+1.0
	comp=E,9.8nm,0.9s								
AHID	**Auburn Hatcher**	32.72	334	*e*P		P		00 39 28.4	+0.8
	comp=E,10.0nm,1.0s								
REDW	**Red Top Meadow**	33.10	335	*e*P		P		00 39 31.9	+0.9
	comp=E,48nm,1.1s								
ELK	**Elko**	33.13	327	*e*P		P		00 39 32.6	+1.4
	comp=E,3.5nm,0.9s								
SNOW	**Snow King Moun**	33.15	335	*e*P		P		00 39 32.5	+1.2
	comp=E,47nm,0.8s								
LOHW	**Long Hollow**	33.21	335	*e*P		P		00 39 32.6	+0.8
	comp=E,16nm,0.9s								
TPAW	**Teton Pass**	33.25	335	*e*P		P		00 39 33.6	+1.3
	comp=E,32nm,1.1s								
NV01	**Mina Array Sit**	33.30	321	*e*P		P		00 39 33.4	+0.7
NV01				*e*PcP		PcP		00 42 18.2	+4.3
NV01				*e*S		S		00 44 52.5	+2.8
NVAR	**Mina Array Bea**	33.30	321	P		P		00 39 33.6	+0.9
	comp=E,5.6nm,0.7s,baz=134,slow=8.4,SNR=58								
NVAR				PcP		PcP		00 42 14.0	+0.1
	comp=E,1.6nm,0.8s,baz=146,slow=2.7,SNR=3.6								
MOOW	**Moose Ponds**	33.38	335	*e*P		P		00 39 34.0	+0.6
	comp=E,10.0nm,1.0s								
FXWY	**Fox Creek**	33.40	335	*e*P		P		00 39 34.2	+0.6
	comp=E,7.5nm,1.0s								
RYN	**Ryan**	33.55	321	*e*P		P		00 39 36.1	+1.3
	comp=E,2.5nm,0.9s								
KVN	**Kaiserville**	33.57	322	*e*P		P		00 39 36.2	+1.2
	comp=E,4.9nm,1.0s								
IMW	**Indian Meadow**	33.58	335	*e*P		P		00 39 36.1	+0.9
	comp=E,7.7nm,0.9s								
IMW				*e*PcP		PcP		00 42 15.1	+0.4
G55A	**Calabogie**	33.63	20	P		P		00 39 31.5	-3.7
	baz=208								
FLWY	**Flagg Ranch**	33.64	336	*e*P		P		00 39 36.9	+1.3
	comp=E,8.4nm,0.9s								
YPP	**Pitchstone Pla**	33.84	336	*e*P		P		00 39 39.4	+2.0
	comp=E,8.8nm,1.4s								
H17A	**Grant Village**	33.85	336	*e*P		P		00 39 39.5	+2.0
	comp=E,6.0nm,1.0s								
H17A	**Grant Village**	33.85	336	P		P		00 39 37.6	+0.2
	baz=147								
LKWY	**Lake**	33.92	337	*e*P		P		00 39 39.6	+1.5
	comp=E,11nm,1.1s								
RLMT	**Red Lodge**	33.98	338	*e*P		P		00 39 39.1	+0.6
	comp=E,6.6nm,1.0s								
RLMT	**Red Lodge**	33.98	338	P		P		00 39 37.0	-1.5
	baz=150,SNR=5.5								
YFT	**Old Faithful**	34.00	336	*e*P		P		00 39 41.3	+2.5
	comp=E,23nm,1.3s								
MDND	**Maddock**	34.06	351	*e*P		P		00 39 38.8	-0.1
	comp=E,52nm,0.6s								
MDND	**Maddock**	34.06	351	P		P		00 39 37.9	-1.0
	baz=167,SNR=5.7								
YMR	**Madison River**	34.23	336	*e*P		P		00 39 42.6	+1.8
	comp=E,19nm,1.0s								
F55A	**Otter Lake**	34.26	20	P		P		00 39 39.2	-1.5
	baz=208								
YHB	**Horse Butte**	34.39	336	*e*P		P		00 39 43.8	+1.6
YHB				*e*pwP		pP		00 39 52.9	-2.7
LAO	**LASA Array**	34.39	343	P		P		00 39 40.9	-1.0
	baz=156								
PNTR	**Pine Nut**	34.50	321	*e*P		P		00 39 44.5	+1.4
PNTR				*e*pwP		pP		00 39 56.3	-0.2
E54A	**Lac Daplat, Po**	34.53	19	P		P		00 39 41.4	-1.6
	baz=206								
QLMT	**Earthquake Lak**	34.55	336	*e*P		P		00 39 45.6	+2.1
PAHR	**Pah Rah Range**	34.76	322	*e*P		P		00 39 46.4	+1.1
	comp=E,3.8nm,1.0s								
HLID	**Hailey**	34.82	331	*e*P		P		00 39 47.0	+1.1
	comp=E,6.6nm,0.9s								
HLID	**Hailey**	34.82	331	P		P		00 39 44.3	-1.5
	baz=140,SNR=13								
D53A	**Lac Vacive, Po**	34.95	18	P		P		00 39 45.9	-0.7
	baz=205								
MCMT	**McKenzie Canyo**	35.13	334	*e*P		P		00 39 50.3	+1.8
MCMT				*e*PcP		PcP		00 42 22.6	+3.5
BOZ	**Bozeman (W)**	35.27	336	*e*P		P		00 39 50.5	+0.9
	comp=E,5.5nm,0.9s								
BOZ	**Bozeman (W)**	35.27	336	P		P		00 39 49.3	-0.3
	baz=146,SNR=6.8								
PTGA	**Pitinga**	35.31	112	*e*P		P		00 39 49.8	-0.4
	comp=E,21nm,0.8s								
D54A	**Lac Fusel, La**	35.33	19	P		P		00 39 48.6	-1.3
	baz=207								
BEKR	**Beckworth**	35.44	321	*e*P		P		00 39 52.4	+1.2
	comp=E,5.2nm,1.1s								
DLMT	**Dillon**	35.46	335	*e*P		P		00 39 52.6	+1.4
	comp=E,22nm,1.1s								
DGMT	**Dagmar**	35.52	346	*e*P		P		00 39 51.8	+0.3
	comp=E,15nm,0.7s								
DGMT	**Dagmar**	35.52	346	P		P		00 39 51.1	-0.4
	baz=160								
ULM	**Lac du Bonnet**	36.04	356	P		P		00 39 54.2	-1.7
	comp=E,6.2nm,0.7s,baz=173,slow=8.3,SNR=13								
ULM				PcP		PcP		00 42 22.0	+0.7
	comp=E,3.9nm,0.8s,baz=169,slow=5.0,SNR=4.7								
WVOR	**Wild Horse Val**	36.13	326	*e*P		P		00 39 57.6	+0.7
	comp=E,11nm,1.2s								
HRY	**Holter Researc**	36.27	337	*e*P		P		00 39 58.7	+0.6
O03E	**Paynes Creek**	36.58	321	P		P		00 40 01.1	+0.3
	baz=127								
EGMT	**Eagleton**	36.67	340	*e*P		P		00 40 02.3	+0.9
	comp=E,11nm,0.8s								
EGMT	**Eagleton**	36.67	340	P		P		00 40 01.1	-0.3
	baz=151								
J08A	**Circle Bar Ran**	36.68	327	*e*P		P		00 40 02.3	+0.7
	comp=E,11nm,0.9s								
O02D	**Mt. Diablo Mer**	37.12	320	P		P		00 40 03.6	-1.8
	baz=126								
BMO	**Blue Mountains**	37.16	330	*e*P		P		00 40 05.7	0.0
	comp=E,3.0nm,1.0s								
MSO	**Missoula**	37.20	335	*e*P		P		00 40 06.3	+0.4
	comp=E,12nm,0.9s								
MSO	**Missoula**	37.20	335	P		P		00 40 04.1	-1.8
	baz=144,SNR=5.8								
I07A	**Izee**	37.72	327	*e*P		P		00 40 10.6	+0.1
	comp=E,5.0nm,1.1s								
F10A	**Beach Ranch, E**	37.96	331	*e*P		P		00 40 12.4	0.0
	comp=E,22nm,0.8s								
PINE	**Pine Mountain**	38.29	326	*e*P		P		00 40 17.7	+2.4
	comp=E,5.4nm,1.0s								
J04D	**Umppqua Nationa**	38.58	324	P		P		00 40 16.4	-1.3
	baz=130								
LPAZ	**La Paz**	38.61	141	P		P		00 40 20.2	+1.4
	comp=E,1.3nm,0.8s,baz=328,slow=9.5,SNR=4.5								
LPAZ				LR		LR		00 56 15.6	
	comp=E,99nm,19.0s,baz=324,slow=36								
LPAZ	**La Paz**	38.61	141	*e*P		P		00 40 21.0	+2.2
	comp=E,6.6nm,1.4s								
E09A	**Wood Farm, Sta**	38.79	331	*e*P		P		00 40 19.7	+0.5
	comp=E,4.9nm,0.8s								
I04A	**Tendick Farm,**	39.10	325	P		P		00 40 21.1	-0.9
	baz=130								
G05D	**Wamic, OR**	39.46	327	P		P		00 40 25.1	+0.2
	baz=132								
D08A	**Wollman Farm,**	39.55	331	*e*P		P		00 40 26.4	+0.8
	comp=E,8.7nm,1.4s								
H04A	**Detroit Lake**	39.55	326	*e*P		P		00 40 25.7	0.0
	comp=E,9.9nm,0.8s								
NEW	**Newport**	39.65	334	*e*P		P		00 40 26.5	0.0
NEW	**Newport**	39.65	334	P		P		00 40 25.8	-0.7
	baz=140								
H04D	**Lebanon**	39.75	326	P		P		00 40 24.6	-2.6
	baz=130								
C09A	**Chrisman Ranch**	39.80	333	*e*P		P		00 40 28.4	+0.7
	comp=E,9.1nm,0.9s								
MNMC	**Minye Minye**	40.00	145	*e*P		P		00 40 30.5	+0.5
	comp=E,25nm,1.1s								
G03D	**McMinnville, O**	40.47	326	P		P		00 40 31.3	-2.0
	baz=130								
PB11	**IPOC Station P**	40.48	146	*e*P		P		00 40 32.0	-1.8
	comp=E,12nm,0.9s								
LTY	**Liberty**	40.52	330	*e*P		P		00 40 34.3	+0.5
	comp=E,8.7nm,1.4s								
B08A	**Colville Reser**	40.69	332	*e*P		P		00 40 35.8	+0.6
	comp=E,3.9nm,0.9s								
LON	**Longmire**	40.73	329	*e*P		P		00 40 36.0	+0.5
	comp=E,5.9nm,1.1s								
FFC	**Flin Flon**	41.10	351	*e*P		P		00 40 38.0	-0.3
	comp=E,4.9nm,0.6s								
D03D	**Eldon**	41.91	329	P		P		00 40 44.0	-1.0
	baz=132								
LVC	**Limon Verde**	43.20	148	P		P		00 40 57.3	+1.1
	comp=E,3.5nm,1.0s,baz=54,slow=5.0,SNR=3.3								
GO02	**Mina Guanaco**	44.99	150	*e*P		P		00 41 11.9	+1.4
	comp=E,7.5nm,1.1s								
SCHQ	**Schefferville**	45.12	21	P		P		00 41 08.3	-2.4
	comp=E,17nm,0.9s,baz=206,slow=5.4,SNR=9.4								
SCHQ				PcP		PcP		00 42 50.6	0.0
	comp=E,6.1nm,0.8s,baz=202,slow=1.8,SNR=4.7								
SCHQ				LR		LR		01 01 15.0	
	comp=E,586nm,19.2s,baz=250,slow=38								
LCO	**Las Campanas**	47.80	154	*e*P		P		00 41 33.3	+0.9
	comp=E,9.2nm,1.0s								
YKA	**Yellowknife Ar**	50.73	347	P		P		00 41 53.3	-0.7
	comp=E,2.7nm,0.8s,baz=151,slow=7.5,SNR=7.0								
YKA				PcP		PcP		00 43 09.9	-0.5
	comp=E,2.9nm,0.8s,baz=146,slow=3.8,SNR=9.5								
YKW3	**Yellowknife Ar**	50.79	347	*e*P		P		00 41 54.9	+0.4
	comp=E,28nm,0.7s								
FRB	**Frobisher Bay**	52.16	13	P		P		00 42 02.4	-2.3
	comp=E,8.8nm,0.9s,baz=217,slow=9.6,SNR=21								
DLBC	**Dease Lake**	52.32	336	*e*P		P		00 42 08.2	+2.1
	comp=E,18nm,1.0s								
CPUP	**Villa Florida**	52.76	140	P		P		00 42 09.9	+0.2
	comp=E,3.2nm,1.0s,baz=231,slow=16,SNR=2.9								
CPUP	**Villa Florida**	52.76	140	*e*P		P		00 42 09.9	+0.2
	comp=E,13nm,1.4s								
BDFB	**Brasilia**	52.91	122	P		P		00 42 09.3	-1.8
	comp=E,2.1nm,0.7s,baz=255,slow=8.4,SNR=3.8								
BDFB				LR		LR		01 07 01.3	
	comp=E,85nm,21.6s,baz=246,slow=38								
PLCA	**Paso Flores**	58.30	161	P		P		00 42 49.2	0.0
	comp=E,4.0nm,1.1s,baz=8.5,slow=15,SNR=3.8								
PLCA	**Paso Flores**	58.30	161	*e*P		P		00 42 49.2	0.0
	comp=E,9.9nm,1.3s								
DAWY	**Dawson**	59.35	338	*e*P		P		00 42 56.3	0.0
	comp=E,5.3nm,0.8s								
INK	**Inuvik**	60.13	344	P		P		00 43 01.1	-0.3
	comp=E,6.2nm,0.6s,baz=128,slow=6.3,SNR=23								
INK	**Inuvik**	60.13	344	*e*P		P		00 43 01.6	+0.2
	comp=E,8.3nm,0.8s								
EGAK	**Eagle**	60.38	338	*e*P		P		00 43 03.4	+0.1
	comp=E,9.9nm,0.9s								
RES	**Resolute Bay**	60.47	359	P		P		00 43 02.5	-1.1
	comp=E,1.2nm,0.6s,baz=186,slow=8.5,SNR=12								
RES	**Resolute Bay**	60.47	359	*e*P		P		00 43 02.5	-1.1
	comp=E,5.0nm,1.3s								
DOT	**Dot Lake**	60.88	336	*e*P		P		00 43 07.7	+0.9
	comp=E,9.3nm,0.8s								
SCRK	**Sand Creek**	61.02	337	*e*P		P		00 43 08.5	+0.7
	comp=E,7.8nm,1.0s								
PRP	**Porcupine Dome**	62.35	338	*e*P		P		00 43 17.1	+0.4
	comp=E,12nm,0.8s								
HDA	**Harding Lake**	62.36	336	*e*P		P		00 43 18.0	+1.3
	comp=E,9.8nm,1.1s								
HDA	**Harding Lake**	62.36	336	P		P		00 43 13.6	-3.0
	baz=117								
ILAR	**Eielson Array**	62.51	337	P		P		00 43 17.2	-0.4
	comp=E,8.8nm,1.0s,baz=136,slow=4.0,SNR=30								
ILAR				PcP		PcP		00 43 55.8	-0.6
	comp=E,0.7nm,0.7s,baz=149,slow=2.1,SNR=4.1								
ILB	**Eielson Array**	62.51	337	*e*P		P		00 43 18.2	+0.6
ILB				*e*PcP		PcP		00 43 55.8	-0.6
RND	**Reindeer**	62.69	335	*e*P		P		00 43 19.6	+0.6
	comp=E,18nm,1.0s								
SUA	**Susitna One**	62.73	333	*e*P		P		00 43 21.9	+2.5
	comp=E,10.0nm,0.8s								
POKR	**Poker Plat Res**	62.87	337	P		P		00 43 17.4	-2.7
	baz=117								
COLA	**College**	62.92	337	*e*P		P		00 43 22.1	+1.8
	comp=E,9.5nm,0.8s								
TCOL	**CIGO, UAF Yank**	62.92	337	P		P		00 43 18.3	-2.0
	baz=116								
MDM	**Murphy Dome**	63.10	337	*e*P		P		00 43 21.5	-0.1
	comp=E,5.0nm,1.0s								
TRF	**Thorofare Moun**	63.30	335	*e*P		P		00 43 23.8	+0.7
	comp=E,14nm,0.8s								
RSO	**Redoubt South**	63.30	331	*e*P		P		00 43 23.6	+0.4
CAST	**Castle Rocks**	64.03	334	*e*P		P		00 43 29.5	+1.7
	comp=E,10nm,1.1s								
MLY	**Manley**	64.10	336	*e*P		P		00 43 28.4	+0.2
	comp=E,14nm,0.7s								
BORG	**Borgarnes**	69.14	26	LR		LR		01 14 29.4	
	comp=E,81nm,18.1s,baz=262,slow=36								
EKA	**Eskdalemuir Ar**	77.96	36	P		P		00 44 50.4	-1.8
	comp=E,16.6nm,0.6s,baz=278,slow=8,SNR=32								
ESDC	**Sonseca Array**	79.82	52	P		P		00 45 01.1	-1.8
	comp=E,2.3nm,0.8s,baz=296,slow=5.5,SNR=7.7								
SPITS	**Spitsbergen Ar**	79.92	11	P		P		00 45 02.4	-0.3
	comp=E,13nm,0.9s,baz=46,slow=2.4,SNR=5.3								
BILL	**Bilibino**	81.13	338	*e*P		P		00 45 09.6	+0.4
	comp=E,10nm,0.8s								
NB200	**NORSAR Array S**	84.09	28	*e*P		P		00 45 24.4	-0.5
NOA	**NORSAR Array B**	84.09	28	P		P		00 45 24.4	-0.5
	comp=E,0.9nm,0.8s,baz=288,slow=5.3,SNR=3.4								
NOA				LR		LR		01 23 25.6	
	comp=E,67nm,19.5s,baz=255,slow=36								
HFS	**Hagfors**	85.55	29	P		P		00 45 31.2	-0.9
	comp=E,4.1nm,1.0s,baz=224,slow=4.1,SNR=4.1								
TIC	**Toumodi**	85.79	84	*e*P		P		00 45 34.2	0.0
LIC	**Lamto**	85.88	85	*e*P		P		00 45 34.5	-0.2
	comp=E,84nm,1.8s								
DBIC	**Dimbokro**	85.94	84	P		P		00 45 34.1	-0.8
	comp=E,4.2nm,0.7s,baz=310,slow=3.7,SNR=6.8								
DBIC				LR		LR		01 22 47.6	
	comp=E,53nm,19.6s,baz=319,slow=35								
DBIC	**Dimbokro**	85.94	84	*e*P		P		00 45 34.1	-0.8
	comp=E,6.2nm,0.9s								
KIC	**Kosan Boka**	86.12	84	*e*P		P		00 45 35.8	-0.1
	comp=E,96nm,1.8s								
GERES	**GERESS Array B**	89.62	39	P		P		00 45 50.9	-1.2
	comp=E,0.2nm,0.7s,baz=305,slow=8.0,SNR=3.5								
GERES				LR		LR		01 26 18.2	
	comp=E,87nm,18.9s,baz=306,slow=36								
FIA0	**FINESS Array S**	90.42	25	*e*P		P		00 45 52.6	-2.7
FINES	**FINESS Array B**	90.42	25	P		P		00 45 52.6	-2.7
	comp=E,2.3nm,0.9s,baz=266,slow=5.7,SNR=6.1								
FINES				LR		LR		01 27 14.2	
	comp=E,116nm,20.1s,baz=244,slow=36								
TOA1	**Torodi Ar. Sit**	90.62	76	*e*P		P		00 45 55.5	-1.7
TORD	**Torodi Ar. Bea**	90.63	76	P		P		00 45 55.5	-1.7
	comp=E,0.7nm,0.7s,baz=276,slow=4.1,SNR=5.2								
TORD				LR		LR		01 22 32.1	
	comp=E,39nm,21.7s,baz=330,slow=33								
AKASG	**Malin Array Be**	97.70	33	LR		LR		01 32 29.6	
	comp=E,116nm,18.3s,baz=310,slow=37								
SONA0	**Songino Array**	115.99	346	*e*PKPdf		PKPdf		00 51 38.1	+1.0
SONM	**

0.8nm,0.9s,baz=62,slow=8.6,SNR=7.2
YKB5 Yellowknife Ar 40.15 315 *e*P **P 00 41 47.5 -0.8**
ECSD EROS Data Cent 40.51 281 *e*P **P 00 41 52.2 +0.6**
8.4nm,1.0s
LAO LASA Array 44.20 291 *e*P **P 00 42 24.6 +3.0**
22nm,1.1s
RLMT Red Lodge 46.84 291 *e*P **P 00 42 45.4 +2.7**
18nm,1.3s
K22A Casper 46.86 287 *e*P **P 00 42 43.8 +0.9**
15nm,1.4s
KSCO Kaye Shedlock' 46.99 280 *e*P **P 00 42 42.7 -1.3**
20nm,0.9s
BR101 Keskin Array S 47.29 78 *e*P **P 00 42 47.8 +1.5**
BR131 Keskin Array S 47.29 78 *e*P **P 00 42 48.0 +1.7**
BRTR Keskin Array B 47.29 78 P **P 00 42 47.8 +1.5**
2.1nm,0.7s,baz=307,slow=5.5,SNR=14
N23A Red Feather La 47.67 284 *e*P **P 00 42 50.6 +1.3**
14nm,1.1s
BOZ Bozeman (W) 47.83 293 *e*P **P 00 42 50.9 +0.4**
4.1nm,0.9s
ISCO Idaho Springs 48.20 283 *e*P **P 00 42 54.5 +0.9**
40nm,1.9s
PD31 Pinedale Array 48.50 289 *e*P **P 00 42 55.0 -0.7**
PDAR Pinedale Array 48.50 289 P **P 00 42 54.9 -0.8**
1.2nm,0.5s,baz=56,slow=7.9,SNR=11
PDAR Pinedale Array 48.50 289 *e*P **P 00 42 54.6 -1.1**
BW06 Boulder Array 48.50 289 *e*P **P 00 42 55.1 -0.7**
14nm,1.7s
TOA1 Torodi Ar. Sit 49.95 130 *e*P **P 00 43 05.4 -1.4**
TOA0 Torodi Ar. Sit 49.96 130 *e*P **P 00 43 06.5 -0.4**
5.5nm,1.1s
TORD Torodi Ar. Bea 49.96 130 P **P 00 43 05.4 -1.4**
1.8nm,0.9s,baz=326,slow=8.1,SNR=10
TORD LR LR 01 00 48.5
comp=Z,111nm,19.9s,baz=345,slow=32
B08A Colville Reser 50.15 300 *e*P **P 00 43 08.2 +0.3**
5.8nm,1.0s
IL1 Eielson Array 50.61 329 *e*P **P 00 43 15.3 +4.2**
ILAR Eielson Array 50.61 329 P **P 00 43 10.8 -0.4**
0.9nm,0.9s,baz=49,slow=5.5,SNR=7.3
ILB Eielson Array 50.61 329 *e*P **P 00 43 10.8 -0.4**
PV12 Saucer Basin, 51.03 284 *e*P **P 00 43 16.3 +1.2**
17nm,1.1s
SPUT South Promonto 51.08 289 *e*P **P 00 43 15.6 +0.3**
27nm,1.8s
PV11 David Mesa, Pa 51.09 284 *e*P **P 00 43 16.6 +1.2**
11nm,0.9s
PV16 Nyswonger Mesa 51.10 284 *e*P **P 00 43 16.5 +0.9**
10nm,1.0s
PV17 East Wray Mesa 51.15 284 *e*P **P 00 43 16.7 +0.8**
11nm,1.0s
PV13 Radium Mtn., P 51.15 284 *e*P **P 00 43 17.1 +1.2**
11nm,1.1s
SRU San Rafael Swe 51.48 286 *e*P **P 00 43 20.1 +1.8**
24nm,2.0s
IM3 Indian Mountai 51.70 333 *e*P **P 00 43 19.7 +0.4**
ANMO Albuquerque 52.01 279 *e*P **P 00 43 23.4 +1.1**
4.9nm,1.4s
DUG Dugway, Tooele 52.03 288 *e*P **P 00 43 23.6 +1.2**
23nm,1.9s
J08A Circle Bar Ran 53.00 295 *e*P **P 00 43 30.1 +0.6**
4.2nm,0.8s
DBIC Dimbokro 53.11 141 LR LR 01 02 58.7
comp=Z,92nm,18.9s,baz=308,slow=32
MTPU Mount Pierson 53.16 286 *e*P **P 00 43 34.0 +3.0**
8.9nm,1.3s
WVOR Wild Horse Val 53.72 294 *e*P **P 00 43 37.6 +2.8**
5.6nm,1.0s
PSUT Pine Spring 53.76 288 *e*P **P 00 43 37.5 +2.2**
3.4nm,1.0s
SZCU Shurtz Canyon 53.98 286 *e*P **P 00 43 38.0 +1.1**
13nm,1.5s
PINE Pine Mountain 54.02 297 *e*P **P 00 43 37.8 +0.7**
5.8nm,0.9s
KNB Kanab 54.23 285 *e*P **P 00 43 40.5 +1.9**
13nm,1.4s
LTX Lajitas 54.39 272 *e*P **P 00 43 39.4 -0.4**
TX31 Lajitas Ar. Si 54.39 272 *e*P **P 00 43 39.6 -0.3**
TXAR Lajitas Array 54.39 272 P **P 00 43 39.4 -0.4**
1.3nm,1.1s,baz=55,slow=9.3,SNR=5.8
TXAR LR LR 01 06 20.2
comp=Z,148nm,18.2s,baz=0.0,slow=36
X16A Lo Mia Camp, P 55.28 282 *e*P **P 00 43 47.7 +1.4**
3.6nm,1.0s
KVN Kaiserville 55.77 291 *e*P **P 00 43 50.1 +0.3**
15nm,1.5s
PAHR Pah Rah Range 56.02 292 *e*P **P 00 43 52.3 +0.8**
6.4nm,1.1s
RYN Ryan 56.30 291 *e*P **P 00 43 53.5 0.0**
4.0nm,1.1s
PNTR Pine Nut 56.57 292 *e*P **P 00 43 56.3 +0.8**
9.4nm,0.9s
Y12C Blythe 57.53 284 *e*P **P 00 44 03.3 +1.1**
8.3nm,1.0s
ISA Isabella, Lake 58.40 288 *e*P **P 00 44 09.2 +0.9**
10.0nm,1.8s
XPFO Pion Flat 58.74 285 *e*P **P 00 44 11.9 +1.2**
5.5nm,0.9s
PFO Pinyon Flats O 58.74 285 *e*P **P 00 44 11.9 +1.2**
5.2nm,0.9s
BAR Barrett 59.54 285 *e*P **P 00 44 17.8 +1.6**
4.1nm,0.9s
MK31 Makanchi Array 66.52 42 *e*P **P 00 45 03.0 +0.6**
MK32 Makanchi Array 66.52 42 *e*P **P 00 45 02.2 -0.1**
MKAR Makanchi Array 66.52 42 P **P 00 45 02.2 -0.1**
0.5nm,0.6s,baz=327,slow=5.3,SNR=7.2
MK01 Makanchi Array 66.54 42 *e*P **P 00 45 02.9 +0.4**
SONA0 Songino Array 73.52 26 *e*P **P 00 45 44.3 -1.1**
SONM Songino Array 73.52 26 P **P 00 45 44.3 -1.1**
0.3nm,0.7s,baz=342,slow=9.1,SNR=2.3
WR1 Warramunga Arr 145.14 17 *e*PKPbc **PKPbc 00 53 48.4 -1.4**
WRA Warramunga Arr 145.14 17 PKPbc **PKPbc 00 53 48.4 -1.4**
0.7nm,0.9s,baz=346,slow=3.8,SNR=3.2
AS31 Alice Springs 148.69 20 *e*PKPdf **PKPbc 00 53 58.6 -1.3**
ASAR Alice Springs 148.69 20 PKPbc **PKPbc 00 53 58.6 -1.3**
0.8nm,0.7s,baz=352,slow=2.4,SNR=6.7

MEX 21 00:40:46.2±0.4, 13°82N×92°59W, h120km±19km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
THIG		**1.13**	**16**	*i* P	Pn		00 41 08.0	-1.5
THIG				*e*S	Sn		00 41 25.4	-1.8
PCIG		**1.97**	**342**	*i* P	Pn		00 41 18.2	-1.0
PCIG				*i* S	Sn		00 41 42.9	-1.6
CCIG	**Comitan**	**2.49**	**10**	*i* P	Pn		00 41 24.1	-1.9
CCIG				*i* S	Sn		00 41 54.8	-1.8

MEX 21 00:59:01.4±0.9, 24°07N×108°96W, h10km, MD3.7, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SLBS	**Sierra La Lagu**	**0.98**	**247**	*i* P	Pg		00 59 17.8	-2.4
SLBS				*e*S	Sg		00 59 29.1	-3.9
LPIG	**La Paz**	**1.23**	**272**	*i* P	Pn		00 59 20.9	-3.8
baz=94,slow=3.8								
LPIG				*e*S	Sb		00 59 36.0	-4.7

*MOS **21** 01:14:57.4±0.4, 56°.34N×113°.54E, h11km, mb4.3/1, Error ellipse: s-maj=38.3km s-min=15.5km az=80.0*

BYKL 21 01:14:58.4±0.2, 56°.38N×113°.43E, h18km±3km, 3C-6D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.27**	**165**	⇓*i* Pg	Pg		01 15 03.4	-1.1
SVKR				*e*Sg	Sg		01 15 07.0	-1.7
SVKR				Pmax				
553nm,0.2s								
SVKR				Smax				
7µm,0.4s								
SVKR	**Severomuysk**	**0.27**	**165**	*e*PG	Pg		01 15 03.3	-1.2
SVKR				*e*			01 15 07.9	
SVKR				pmax	pmax			
comp=Z,710nm,0.5s								
SVKR				smax	smax			
comp=N,10µm,0.5s								
UKT	**Uakit**	**0.90**	**173**	⇑*i* Pg	Pb		01 15 14.6	-0.9
UKT				*e*Sg	Sb		01 15 26.9	-0.3
UKT				*e*Sb	Sn		01 15 30.6	+1.8
UKT				Pmax				
comp=N,97nm,0.4s								
UKT				max				
comp=N,556nm,0.3s								
UKT	**Uakit**	**0.90**	**173**	⇑*i* PG	Pb		01 15 14.6	-0.9
UKT				*e*			01 15 26.9	
UKT				pmax	pmax			
comp=Z,122nm,0.5s								
UKT				smax	smax			
comp=E,569nm,0.5s								
YOA	**Uoyan**	**0.98**	**256**	*e*Pg	Pb		01 15 16.8	-0.1
YOA				*e*Sg	Sn		01 15 31.3	+0.5
YOA				Pmax				
comp=E,184nm,0.2s								
YOA				Smax				
comp=E,1µm,0.3s								
YOA	**Uoyan**	**0.98**	**256**	*e*PG	Pb		01 15 16.9	0.0
YOA				*i*			01 15 31.2	
YOA				pmax	pmax			
comp=Z,170nm,0.2s								
YOA				smax	smax			
comp=N,1µm,0.4s								
NLYR	**Nelyaty**	**1.27**	**84**	⇓*i* Pg	Pn		01 15 21.1	-0.1
NLYR				*e*Sg	Sn		01 15 38.3	+0.5
NLYR				Pmax				
comp=N,51nm,0.3s								
NLYR				Smax				
comp=N,267nm,0.6s								
KMO	**Kumora**	**1.34**	**249**	⇓*i* Pg	Pb		01 15 22.8	-0.2
KMO				*e*Sg	Sg		01 15 40.9	-0.9
KMO				*e*Sb	Sb		01 15 42.5	+2.7
KMO				Pmax				
comp=N,85nm,0.3s								
KMO				max				
comp=N,276nm,0.6s								
KMO	**Kumora**	**1.34**	**249**	⇓*i* PG	Pb		01 15 22.8	-0.2
KMO				*e*			01 15 42.8	
KMO				pmax	pmax			
comp=Z,129nm,0.5s								
KMO				smax	smax			
comp=E,303nm,0.5s								
BOD	**Bodaibo**	**1.48**	**12**	⇑*i* Pg	Pb		01 15 25.1	-0.2
BOD				*i* Sg	Sb		01 15 44.7	+1.0
BOD				Pmax				
comp=E,93nm,0.3s								
BOD				Smax				
comp=E,467nm,0.3s								
BOD	**Bodaibo**	**1.48**	**12**	*e*PG	Pn		01 15 24.6	+0.5
BOD				*e*			01 15 44.4	
BOD				pmax	pmax			
comp=Z,94nm,0.3s								
BOD				smax	smax			
comp=E,467nm,0.4s								
YLYR	**Ulyunkhan**	**1.98**	**221**	*i* Pn	Pn		01 15 32.1	+1.1
YLYR				⇓*e*Pg	Pb		01 15 33.2	-0.7
YLYR				*e*Sn	Sn		01 15 56.7	+1.3
YLYR				*e*Sg	Sg		01 16 00.2	-1.9
YLYR				Pmax				
comp=E,14nm,0.2s								
YLYR				Smax				
comp=E,140nm,0.4s								
YLYR	**Ulyunkhan**	**1.98**	**221**	⇓*i* PN	Pn		01 15 32.1	+1.1
YLYR				*e*			01 15 33.4	
YLYR				*e*			01 16 00.2	
YLYR				pmax	pmax			
comp=Z,17nm,0.5s								
YLYR				smax	smax			
comp=E,197nm,0.5s								
NIZ	**Nizh Angarsk**	**2.26**	**256**	*e*Pn	Pn		01 15 36.7	+1.8
NIZ				*e*Pg	Pb		01 15 38.8	+0.1
NIZ				*e*Sn	Sn		01 16 02.1	-0.2
NIZ				*e*			01 16 06.1	
NIZ				*e*Sg	Sg		01 16 09.5	-1.6
NIZ				Pmax				
comp=E,16nm,0.4s								
NIZ				Smax				
comp=E,81nm,0.8s								
CRS	**Chara**	**2.72**	**77**	*e*Pn	Pn		01 15 41.9	+0.7
CRS				*e*Pg	Pb		01 15 46.9	+0.3
CRS				*e*			01 16 12.7	
CRS				*e*Sg	Sg		01 16 23.5	-2.4
CRS				Pmax				
comp=E,24nm,0.9s								
CRS				Smax				
comp=E,69nm,0.5s								
SYVR	**Suvo**	**3.37**	**217**	*e*Pn	Pn		01 15 50.5	+0.4
SYVR				*e*Pg	Pb		01 15 58.7	+1.2
SYVR				*e*Sg	Sg		01 16 42.8	-3.7
SYVR				Pmax				
comp=E,4.0nm,0.6s								
SYVR				Smax				
comp=E,57nm,1.0s								
MXMB	**Maximikha**	**4.13**	**223**	*e*	Sn		01 16 37.8	-11
MXMB				*e*			01 16 57.5	
MXMB				*e*Sg	Sg		01 17 06.7	-4.3
TUP	**Tupik**	**4.20**	**115**	*i* Pn	Pn		01 16 01.6	0.0
TUP				*e*			01 16 10.0	
TUP				*e*Sg	Sg		01 17 08.1	-5.1
TUP				Smax				
comp=E,46nm,0.8s								
OGRR	**Ongureny**	**4.34**	**233**	*e*Pn	Pn		01 16 05.2	+1.8
OGRR				*e*Pg	Pb		01 16 15.4	+1.4
OGRR				*e*Sn	Sn		01 16 52.7	-0.7
OGRR				*e*Sg	Sg		01 17 12.2	-5.3
OGRR				*e*			01 17 15.5	
OGRR				Pmax				
comp=E,3.0nm,0.5s								
OGRR				max				
comp=E,17nm,0.7s								
CIT	**Chita**	**4.37**	**179**	*e*Sg	Sg		01 17 15.6	-2.9
CIT				*e*			01 17 26.7	
CIT				max				
comp=E,148nm,0.3s								
ZRHB	**Zarechye**	**5.30**	**226**	*e*Sg	Sg		01 17 42.6	-5.8
TRTB	**Turuntaevo**	**5.37**	**222**	*e*Sg	Sg		01 17 43.8	-6.7
TRTB				*e*			01 17 48.8	
TRTB				*e*			01 17 51.1	
TRG	**Tyrgan**	**5.49**	**232**	*e*	Pg		01 16 55.4	+12
TRG				*e*			01 17 29.6	
TRG				*e*Sg	Sg		01 17 48.7	-5.7
TRG				Smax				
comp=E,9.0nm,0.6s								
UUDB	**Ulan-Yde**	**5.65**	**219**	*e*	Pg		01 16 59.1	+13
UUDB				*e*Sg	Sg		01 17 53.6	-6.0
UUDB				Smax				
comp=E,32nm,1.4s								
HRMR	**Khuramsha**	**6.10**	**221**	*e*	Pb		01 16 42.3	-1.8
HRMR				*e*			01 16 48.4	
HRMR				*e*Sg	Sg		01 18 06.6	-7.4
HRMR				max				
comp=E,3.0nm,0.2s								
HRMR				Smax				
comp=E,44nm,0.6s								
BGT	**Bolshoye Golou**	**6.40**	**231**	*e*			01 18 13.1	
BGT				*e*Sg	Sg		01 18 15.1	-8.5
BGT				Smax				
comp=E,8.0nm,0.4s								
KPC	**Khapcheranga**	**6.72**	**186**	*e*Pn	Pn		01 16 38.5	+2.4
KPC				*e*			01 16 57.4	
KPC				*e*Sn	Sn		01 17 48.1	-4.1
KPC				*e*Sg	Sg		01 18 26.2	-7.6
KPC				*e*			01 18 31.6	
KPC				max				
comp=E,1.0nm,0.3s								
KPC				max				
comp=E,24nm,1.3s								
IRK	**Irkutsk**	**6.77**	**236**	*e*			01 18 16.5	
IRK				*e*Sg	Sg		01 18 27.2	-8.3
IRK				Smax				
comp=E,127nm,0.3s								
LSTR	**Listvyanka**	**6.78**	**232**	*e*Sg	Sg		01 18 27.0	-8.7
LSTR				Smax				
comp=E,15nm,0.5s								
IVK	**Ivanovka**	**7.01**	**233**	*e*			01 18 27.1	
IVK				*e*Sg	Sg		01 18 36.5	-6.6
IVK				Smax				
comp=E,5.0nm,0.8s								
TLY	**Talaya**	**7.44**	**235**	*e*Sg	Sg		01 18 47.2	-10
TLY				Smax				
comp=E,7.0nm,1.0s								
ARS	**Arshan**	**7.85**	**240**	*e*			01 18 15.0	
ARS				*e*Sg	Sb		01 19 00.5	+13
ARS				*e*			01 19 04.8	
ARS				max				
comp=E,51nm,1.1s								
MOY	**Mondy**	**8.71**	**242**	*e*			01 19 05.4	
MOY				*e*Sg	Sn		01 19 27.3	+46
MOY				Smax				
comp=E,13nm,1.1s								
ORL	**Orlik**	**8.81**	**250**	*e*Pn	Pn		01 17 05.4	+0.5
ORL				*e*			01 17 29.8	
ORL				*e*			01 18 46.7	
ORL				*e*Sg	Sn		01 19 31.1	+47
ORL				Smax				
comp=E,10.0nm,1.4s								

*SJA **21** 01:38:42.7±0.9, 34°.85S×72°.13W, h69km±14km, ML3.6, MW3.8*

*ISCJB **21** 01:38:43.2±1.1, 34°.95S±0°.07×72°.0W±0°.1, h75km±8km, Error ellipse: s-maj=17.2km s-min=11.0km az=24.1*

*GUC **21** 01:38:45.3±0.7, 34°.90S×71°.85W, h62km±5km, ML3.9*

ISC 21 01:38:44.3±3.3, 34°.9S±0°.1×72°.0W±0°.1, h68km±21km, n26, σ1§20/34, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**0.12**	**156**	*e*P	**Pn**		**01 38 54.8**	**+0.4**
GO05				*i* S	**Sn**		**01 39 01.1**	**-0.6**
LMEL	**Las Melosas**	**1.81**	**55**	*e*P	**Pn**		**01 39 13.3**	**-0.1**
LMEL				*i* S	**Sn**		**01 39 34.5**	**-1.1**
LMEL				IAML			01 39 38.7	
comp=N,2µm,0.1s								
CLCH	**Cerro Calan**	**1.92**	**39**	⇑*i* P	**Pn**		**01 39 14.8**	**-0.1**
CLCH				*i* S	**Sn**		**01 39 37.5**	**-0.7**
CLCH				IAML			01 39 40.8	
comp=E,2µm,0.4s								
PEL	**Peldehue**	**2.06**	**32**	*e*P	**Pn**		**01 39 17.3**	**+0.5**
PEL				*e*S	**Sn**		**01 39 42.4**	**+1.0**
PEL	**Peldehue**	**2.06**	**32**	*e*P	**Pn**		**01 39 17.0**	**+0.3**
PEL				*e*S	**Sn**		**01 39 41.2**	**-0.2**
PEL				IAML			01 39 45.0	
comp=E,706nm,0.2s								
ROC1	**El Roble**	**2.08**	**23**	*e*P	**Pn**		**01 39 17.6**	**+0.4**
ROC1				*e*S	**Sn**		**01 39 43.8**	**+1.5**
ROCH	**El Roble**	**2.09**	**23**	⇓*i* P	**Pn**		**01 39 17.7**	**+0.2**
ROCH				*i* S	**Sn**		**01 39 42.6**	**+0.2**
ROCH				IAML			01 39 48.0	
comp=N,1µm,0.4s								
FCH	**Farellones**	**2.11**	**42**	*e*P	**Pn**		**01 39 17.7**	**+0.1**
FCH				*i* S	**Sn**		**01 39 42.1**	**-0.9**
FCH				IAML			01 39 47.9	
comp=N,1µm,0.3s								
AUSP	**Uspallata**	**3.44**	**40**	*e*P	**Pn**		**01 39 37.4**	**+1.6**
CMCH	**Combarbala**	**3.81**	**13**	*e*P	**Pn**		**01 39 40.8**	**+0.3**
RTLS	**Leoncito**	**3.83**	**37**	*e*P	**Pn**		**01 39 43.1**	**+2.1**
RTLS				IAML			01 40 40.9	
comp=Z,93nm,0.5s								
RTCV	**Cerro Valdivia**	**4.18**	**45**	*e*P	**Pn**		**01 39 47.2**	**+1.6**
CFA	**Coronel Fontan**	**4.55**	**45**	*e*P	**Pn**		**01 39 51.6**	**+1.0**
RTLL	**Cerro Villicun**	**4.62**	**41**	*e*P	**Pn**		**01 39 52.5**	**+0.9**
ACAN	**Cantantal**	**4.79**	**58**	*e*P	**Pn**		**01 39 55.3**	**+1.4**
AMOG	**MOGNA**	**4.92**	**38**	*e*P	**Pn**		**01 39 56.4**	**+0.6**
ACCO	**Cerro Coronel**	**4.96**	**31**	*e*P	**Pn**		**01 39 57.1**	**+0.6**
AROD	**Rodeo**	**5.17**	**25**	*e*P	**Pn**		**01 40 00.8**	**+1.3**
ACDV	**Cuesta del Vie**	**5.30**	**28**	*e*P	**Pn**		**01 40 01.9**	**+0.8**
MRA	**San Martin**	**5.79**	**66**	*e*P	**Pn**		**01 40 07.7**	**+0.1**
LCO	**Las Campanas**	**5.97**	**11**	*e*P	**Pn**		**01 40 09.7**	**-0.6**
AGUA	**GUANDACOL**	**6.16**	**30**	*e*P	**Pn**		**01 40 12.7**	**0.0**
APLL	**PUNTA DE LOS L**	**6.43**	**47**	*e*P	**Pn**		**01 40 14.8**	**-1.6**
APLL				IAML			01 41 42.6	
comp=Z,12nm,0.5s								
ACLC	**CERRO LA CRUZ**	**6.93**	**39**	*e*P	**Pn**		**01 40 21.6**	**-1.7**
TCA	**Tanti**	**7.15**	**62**	*e*P	**Pn**		**01 40 28.2**	**+1.9**
CYA	**Choya**	**8.32**	**41**	*e*P	**Pn**		**01 40 39.1**	**-3.1**

*ISCJB **21** 01:42:26.2±0.3, 44°.87N±0°.01×15°.75E±0°.02, h11km±2km, mb3.4/2, Error ellipse: s-maj=2.6km s-min=1.7km az=136.5*

*PDG **21** 01:42:26.7±0.4, 44°.85N×15°.85E, h11km±1km, ML3.7/6, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*

*BEO **21** 01:42:26.7±0.3, 44°.77N×15°.71E, h0km, ML3.3/9*

*LDG **21** 01:42:27.4±0.1, 44°.93N×15°.92E, h2km, Md3.5/13, Ml3.3/14, Error ellipse: s-maj=4.4km s-min=2.7km az=12.0*

*SAR **21** 01:42:27.3±0.3, 44°.84N×15°.81E, h4km±2km, ML3.5/1*

*IDC **21** 01:42:28.2±1.5, 45°.07N×16°.03E, h0km, mb3.4/2, mb1 3.8/7, mb1mx3.4/37, mbtmp3.7/7, ML3.4/3, Error ellipse: s-maj=18.1km s-min=14.0km az=54.0*

*BGR **21** 01:42:29.6±0.8, 44°.95N×15°.85E, h10km, ML3.7/4, Error ellipse: s-maj=11.1km s-min=7.8km az=82.0*

*PRU **21** 01:42:29.8±0.0, 45°.02N×15°.80E, h1km*

ISC 21 01:42:26.0±1.1, 44°.86N±0°.02×15°.82E±0°.02, h4km±8km, n165, σ1§92/274, 15C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
UDBI	**Udbina**	**0.33**	**187**	*i* Pg	**Pg**		**01 42 31.5**	**-0.8**
UDBI				Sg	**Sg**		**01 42 36.2**	**-0.4**
NVLJ	**Novalja**	**0.73**	**247**	*e*Pg	**Pg**		**01 42 39.4**	**-0.7**
NVLJ				Sg	**Sg**		**01 42 49.7**	**+0.2**
BOJS	**Bojanci**	**0.76**	**329**	*i* Pg	**Pg**		**01 42 41.0**	**+0.4**
BOJS				*i* Sg	**Sg**		**01 42 51.4**	**+0.9**
comp=Z,480nm,0.2s								
OZLJ	**Ozalj**	**0.80**	**342**	*i* Pg	**Pb**		**01 42 42.1**	**-0.4**
OZLJ				Sg	**Sb**		**01 42 53.2**	**-0.4**
BLY	**Banja Luka**	**0.98**	**96**	*e*Pg	**Pg**		**01 42 44.4**	**-0.3**
BLY				*e*Sg	**Sn**		**01 43 00.1**	**-0.7**
BLY	**Banja Luka**	**0.98**	**96**	⇑*i* P	**Pg**		**01 42 44.6**	**-0.1**
BLY				S	**Sg**		**01 42 57.7**	**+0.3**
BLY	**Banja Luka**	**0.98**	**96**	⇓*i* Pg	**Pg**		**01 42 44.3**	**-0.4**
BLY				*e*Sg	**Sb**		**01 42 58.4**	**-0.4**
GBRS	**Gornja Briga**	**0.98**	**314**	*i* Pg	**Pg**		**01 42 45.1**	**+0.4**
comp=Z,405nm,0.3s								
CRES	**Cresnjev**	**1.00**	**345**	*i* Pg	**Pg**		**01 42 45.5**	**+0.2**
comp=Z,327nm,0.2s								
CRES	**Cresnjev**	**1.00**	**345**	⇓*i* Pg	**Pg**		**01 42 45.4**	**+0.2**
CRES				*e*Sg	**Sb**		**01 42 59.8**	**+0.3**
GCIS	**Gornji Cirnik**	**1.02**	**353**	*i* Pg	**Pb**		**01 42 46.0**	**-0.2**
GCIS				*i* Sg	**Sn**		**01 43 03.1**	**+1.2**
comp=Z,235nm,0.3s								
LEGS	**Legarje**	**1.15**	**342**	*i* Pg	**Pb**		**01 42 48.2**	**-0.2**
GOLS	**Golise**	**1.16**	**353**	*e*Pg	**Pn**		**01 42 49.0**	**-0.1**
GOLS				*e*Sg	**Sn**		**01 43 07.2**	**+1.8**
comp=Z,190nm,0.3s								
VISS	**Visnje**	**1.17**	**324**	*i* Pg	**Pg**		**01 42 48.2**	**-0.2**
VISS				*e*Sg	**Sn**		**01 43 05.5**	**-0.2**
KNDS	**Knezji Dol**	**1.22**	**304**	*i* Pg	**Pg**		**01 42 49.0**	**-0.3**
comp=Z,176nm,0.2s								
DOBS	**Dobrina**	**1.32**	**349**	*e*Pg	**Pb**		**01 42 51.8**	**+0.5**
CEY	**Cerknica**	**1.32**	**312**	*e*Pg	**Pg**		**01 42 50.3**	**-1.0**
CEY				*e*Sg	**Sg**		**01 43 08.4**	**0.0**
CEY	**Cerknica**	**1.32**	**312**	*e*Pg	**Pg**		**01 42 51.2**	**0.0**
CEY	**Cerknica**	**1.32**	**312**	⇑*i* Pg	**Pn**		**01 42 51.4**	**+0.2**
CEY				*e*Sg	**Sn**		**01 43 09.4**	**+0.1**
PDKS	**Podkum**	**1.34**	**335**	*i* Pg	**Pb**		**01 42 51.8**	**+0.2**
comp=Z,264nm,0.3s								
SKDS	**Skadanscina**	**1.45**	**299**	*e*Pg	**Pn**		**01 42 52.6**	**-0.4**
SKDS				*e*Sg	**Sn**		**01 43 14.7**	**+2.1**
comp=Z,157nm,0.1s								
VNDS	**Vrh nad Dolski**	**1.47**	**328**	*e*Pg	**Pb**		**01 42 54.0**	**0.0**
LJU	**Ljubljana**	**1.50**	**323**	*e*Pg	**Pb**		**01 42 54.3**	**-0.1**
LJU				*e*Sg	**Sg**		**01 43 15.3**	**+1.3**
LJU	**Ljubljana**	**1.50**	**323**	*e*Pg	**Pb**		**01 42 54.4**	**+0.1**
LJU	**Ljubljana**	**1.50**	**323**	*e*Pn	**Pb**		**01 42 54.2**	**-0.1**
LJU				*e*Sn	**Sg**		**01 43 15.3**	**+1.3**
JAVS	**Javornik**	**1.61**	**311**	*i* Pn	**Pb**		**01 42 56.4**	**0.0**
comp=Z,152nm,0.2s								
GROS	**Grobnik**	**1.62**	**352**	*e*Pn	**Pb**		**01 42 56.2**	**-0.3**
comp=Z,110nm,0.3s								
KOGS	**Kog**	**1.62**	**11**	*i* Pn	**Pb**		**01 42 56.1**	**-0.4**
DOB	**Doboj**	**1.63**	**93**	*e*Pn	**Pn**		**01 42 55.8**	**+0.4**
DOB				*e*Sn	**Sb**		**01 43 17.5**	**0.0**
CRNS	**Crni Vrh**	**1.64**	**319**	*e*Pn	**Pb**		**01 42 57.0**	**+0.1**
comp=Z,154nm,0.2s								
VOJS	**Vojsko**	**1.80**	**312**	*e*Pn	**Pb**		**01 42 59.5**	**-0.1

comp=Z,46nm,0.5s
MYKA Terra Mystica 2.34 320 *e*Pn **Pn 01 43 06.7 +1.4**
comp=Z,21nm,0.3s,SNR=8.7
MYKA Sn **Sb 01 43 37.5 -0.5**
comp=Z,36nm,0.3s
HAPS Han Pijesak,Bl 2.37 108 *e*Pn **Pn 01 43 06.5 +0.7**
HAPS *e*Sn **Sb 01 43 37.8 -1.2**
HAPS Han Pijesak,Bl 2.37 108 *e*Pn **Pn 01 43 06.0 +0.2**
HAPS *e*Sn **Sn 01 43 36.5 +1.2**
ARSA Arzberg 2.41 355 *e*Pn **Pn 01 43 07.2 +1.1**
comp=Z,23nm,0.5s,SNR=16
ARSA Sn **Sb 01 43 40.0 +0.1**
comp=Z,12nm,0.5s
STON Ston 2.41 145 *e*Pn **Pn 01 43 07.4 +1.3**
STON Sn **Sb 01 43 40.6 +0.9**
MORH Mrgy, Hungar 2.41 55 *e*Pn **Pg 01 43 11.0 -1.0**
MORH Sn **Sb 01 43 41.1 +1.2**
MORH Mrgy, Hungar 2.41 55 *e*Pn **Pn 01 43 07.5 +1.4**
MORH *e*Sn **Sn 01 43 37.7 +1.7**
TIH Tihany 2.51 35 *e*Pn **Pb 01 43 11.1 -0.5**
TIH Sn **Sg 01 43 48.0 +1.5**
TEKS Tekeris 2.66 95 *e*Pn **Pb 01 43 12.9 -1.3**
TEKS *e*Sn **Sb 01 43 45.7 -1.6**
TEKS Tekeris 2.66 95 *e*Pn **Pn 01 43 11.4 +1.7**
BBLS Lazići 2.76 110 *e*Pn **Pn 01 43 12.5 +1.5**
BBLS *e*Sn **Sb 01 43 47.5 -2.5**
BBLS Lazići 2.76 110 ⇓*i*Pn **Pn 01 43 12.1 +1.1**
BBLS *e*Sn **Sn 01 43 46.4 +1.6**
KBA Koelnbreinsper 2.81 323 *e*Pn **Pn 01 43 13.4 +1.5**
comp=Z,2.4nm,0.4s
KBA Sn **Sb 01 43 49.2 -2.5**
comp=Z,15nm,0.3s
TREB Trebinje 2.82 138 *e*Pn **Pn 01 43 12.8 +1.0**
TREB *e*Sn **Sn 01 43 47.9 +1.7**
TREB Trebinje 2.82 138 *e*Pn **Pn 01 43 13.4 +1.6**
TREB *e*Sn **Sn 01 43 47.2 +1.0**
FRGS Fruska Gora 2.85 82 *e*Pn **Pb 01 43 16.1 -1.3**
FRGS *e*Sn **Sb 01 43 50.6 -2.0**
FRGS Fruska Gora 2.85 82 *e*Pn **Pn 01 43 13.7 +1.5**
FRGS *e*Sn **Sn 01 43 48.6 +1.6**
SOP Sopron 2.88 10 *e*Pn **Pn 01 43 13.1 +0.5**
SOP Sn **Sn 01 43 45.1 -2.5**
ABTA Abfaltersbach 2.99 310 *e*Pn **Pn 01 43 16.1 +1.9**
comp=Z,6.0nm,0.3s
ABTA Sg **Sb 01 43 57.5 +0.8**
comp=Z,10.0nm,0.2s
PLE Pljevlja 2.99 119 ⇓*i*Pn **Pn 01 43 15.2 +0.9**
PLE *e*Sn **Sn 01 43 52.0 +1.4**
AQU L'Aquila 3.05 216 *e*Pn **Pn 01 43 16.2 +1.1**
AQU *e*Sn **Sn 01 43 52.3 +0.2**
CONA Conrad Observa 3.07 1 *i*Pn **Pn 01 43 16.8 +1.4**
comp=Z,45nm,0.3s,SNR=28
CONA Sn **Sn 01 43 52.6 0.0**
comp=Z,17nm,0.4s
DIVS Divibare 3.08 103 *e*Pn **Pn 01 43 16.7 +1.2**
DIVS *e*Sn **Sn 01 43 55.2 +2.3**
DIVS Divibare 3.08 103 *e*Pn **Pn 01 43 16.3 +0.8**
DIVS *e*Sn **Sn 01 43 53.7 +0.8**
NKME Niksic 3.08 132 ⇑*i*Pn **Pn 01 43 16.9 +1.4**
NKME *e*Sn **Sn 01 43 54.5 +1.7**
HCY Herceg Novi 3.09 140 ⇑*i*Pn **Pn 01 43 16.9 +1.3**
HCY *e*Sn **Sn 01 43 55.2 +2.2**
HCY Herceg Novi 3.09 140 *e*Pn **Pn 01 43 17.5 +1.9**
MOA Molln 3.18 341 *i*Pn **Pn 01 43 18.8 +2.0**
comp=Z,32nm,0.2s,SNR=22
MOA Sn **Sn 01 43 56.3 +1.1**
comp=Z,10nm,0.2s
TRUS Trudelj 3.34 99 *e*Pn **Pn 01 43 20.5 +1.5**
IVAS Ivanjica 3.37 111 *e*Pn **Pn 01 43 20.5 +1.1**
BUM Brajici-Budva 3.39 138 ⇑*i*Pn **Pn 01 43 21.3 +1.5**
BUM *e*Sn **Sn 01 44 02.1 +1.6**
BUD Budapest 3.45 39 ⇑*e*Pn **Pn 01 43 21.0 +0.6**
BUD *e*Pn **Pb 01 43 24.1 -3.4**
BUD Sn **Sb 01 44 10.1 +0.4**
ZST Bratislava 3.46 14 *e*PN **Pn 01 43 20.6 0.0**
ZST *e*SN **Sn 01 43 59.5 -2.5**
PDG Podgorica 3.48 133 *e*Pn **Pn 01 43 23.2 +2.4**
PDG *e*Sn **Sn 01 44 03.7 +1.2**
PDG Podgorica 3.48 133 ⇑*i*P **Pn 01 43 20.0 +3.2**
PDG Podgorica 3.48 133 *e*Pn **Sn 01 43 22.3 +1.4**
PDG *e*Sn **Sn 01 44 03.0 +0.5**
TTG Podgorica 3.48 133 ⇓*i*Pn **Pn 01 43 22.2 +1.4**
TTG *e*Sn **Sn 01 44 04.1 +1.6**
IVA Berane 3.55 123 ⇑*i*Pn **Pn 01 43 22.8 +0.8**
IVA *e*Sn **Sn 01 44 05.6 +1.2**
RJOB Jochberg 3.56 325 *e*Pn **Pn 01 43 24.9 +2.8**
DRME Dracevica, Mon 3.62 136 ⇑*i*Pn **Pn 01 43 24.0 +1.2**
DRME *e*Sn **Sn 01 44 07.7 +1.7**
DRME Dracevica, Mon 3.62 136 *e*Pn **Pn 01 43 24.4 +1.6**
DRME *e*Sn **Sn 01 44 06.4 +0.4**
GRUS Gruza 3.64 104 *e*Pn **Pn 01 43 24.3 +1.2**
MODS Modra-Piesok 3.66 15 *e*PN **Pn 01 43 23.9 +0.5**
MODS *e*SN **Sn 01 44 04.8 -2.2**
WTTA Wattenberg 3.78 311 *e*Pn **Pn 01 43 27.9 +2.7**
comp=Z,2.2nm,0.2s
WTTA *e*Sn **Sb 01 44 15.3 -4.2**
comp=Z,3.9nm,0.2s
ULC Ulcinj 3.82 138 ⇓*i*Pn **Pn 01 43 26.6 +1.0**
ULC *e*Sn **Sn 01 44 12.5 +1.6**
SMOL Smolenice 3.82 16 *e*PN **Pn 01 43 26.3 +0.7**
SMOL *e*SN **Sn 01 44 09.7 -1.3**
WATA Walderalm 3.85 312 *e*Pn **Pn 01 43 28.8 +2.6**
comp=Z,1.4nm,0.2s,SNR=13
WATA *i*Sn **Sb 01 44 17.8 -3.9**
SQTA Sankt Quirin 3.99 308 *e*Pn **Pn 01 43 30.8 +2.9**
comp=Z,7.1nm,0.3s,SNR=22
SQTA *e*Sn **Sn 01 44 19.5 +4.3**
comp=Z,22nm,0.4s
MOTA Moosalm 4.12 309 *e*Pn **Pn 01 43 33.5 +3.7**
comp=Z,1.2nm,0.2s,SNR=32
MOTA *i*Sn **Sn 01 44 22.4 +4.0**
KOLL Kolacno 4.13 25 *e*PN **Pn 01 43 30.5 +0.7**
KOLL *e*SN **Sn 01 44 16.0 -2.5**
FETA Feichten 4.16 303 *e*Pn **Pn 01 43 33.4 +3.1**
comp=Z,1.8nm,0.2s
FETA *e*Sn **Sn 01 44 23.9 +4.4**
comp=Z,4.6nm,0.4s
SELS Selova 4.16 111 *e*Pn **Pn 01 43 30.6 +0.4**
PSZ Piszkesteto 4.17 41 ⇓*i*P **Pn 01 43 30.2 -0.2**
PSZ Piszkesteto 4.17 41 Sn **Sn 01 44 20.1 +0.5**
PSZ *e*Pn **Pn 01 43 30.0 -0.3**
BZS Buzias 4.17 77 *e*Pn **Pn 01 43 33.4 +3.1**
BZS Buzias 4.17 77 ⇑*i*P **Pn 01 43 31.0 +0.7**
VYHS Vyhne 4.19 29 *e*PN **Pn 01 43 31.2 +0.5**
VYHS *e*SN **Sn 01 44 17.3 -2.8**
MDVR Moldovita 4.20 89 ⇑*i*P **Pn 01 43 31.1 +0.3**
JAVC Velka Javorina 4.20 17 *e*PN **Pn 01 43 32.6 +1.7**
KRUC Moravsky 4.23 5 *e*PN **Pn 01 43 32.0 +0.8**
KRUC *e*SN **Sn 01 44 19.0 -1.9**
GEC2 GERESS Array S 4.25 341 *e*Pn **Pn 01 43 32.9 +1.4**
GEC2 *e*Sn **Sn 01 44 21.5 -0.1**
GERES GERESS Array B 4.25 341 Pn **Pn 01 43 32.6 +1.1**
comp=Z,3.3nm,0.3s,baz=162,slow=14,SNR=144
GERES Sn **Sn 01 44 20.8 -0.8**
comp=Z,8.3nm,0.3s,baz=151,slow=23,SNR=13
GERES Lg Lg 01 44 39.4
comp=Z,0.1nm,0.3s,baz=156,slow=33,SNR=2.6
RETA Reutte 4.39 309 *e*Pn **Pn 01 43 35.7 +2.3**
comp=Z,1.2nm,0.2s,SNR=7.0
RETA *e*Sn **Sn 01 44 28.1 +3.1**
comp=Z,13nm,0.4s
BOVS Bovan 4.40 104 *e*Pn **Pn 01 43 34.5 +0.9**
TREC Trest 4.45 357 *e*PN **Pn 01 43 35.8 +1.6**
VRAC Vranov 4.49 7 Pn **Pn 01 43 35.2 +0.5**
comp=Z,3.0nm,0.3s,baz=198,slow=14,SNR=29
VRAC Sn **Sn 01 44 25.1 -2.2**
comp=Z,1.0nm,0.3s,baz=122,slow=22,SNR=2.8
VRAC Vranov 4.49 7 ⇓*i*P **Pn 01 43 35.8 +1.0**
VRAC Vranov 4.49 7 *e*PN **Pn 01 43 35.7 +1.0**
VRAC *e*SN **Sn 01 44 25.0 -2.4**
KHC Kasperske Hory 4.54 341 *e*PN **Pn 01 43 37.0 +1.5**
KHC *e*SN **Sn 01 44 28.2 -0.6**
FUR Furstenfeldbru 4.56 318 *e*Pn **Pn 01 43 38.0 +2.3**
FUR *e*Sg **Sg 01 44 56.5 +4.1**
DAVOX Davos/Dischmat 4.58 297 Pn **Pn 01 43 38.5 +2.4**
baz=156,slow=18
DAVOX Sn **Sn 01 44 32.5 +2.6**
comp=Z,1.9nm,0.3s,baz=148,slow=23,SNR=3.6
DAVOX Lg Lg 01 44 54.8
comp=Z,3.1nm,0.3s,baz=318,slow=20,SNR=6.8
ZAGS Zajecar 4.72 101 *e*Pn **Pn 01 43 38.3 +0.4**
WET Wettzell 4.74 336 *e*Pn **Pn 01 43 39.3 +1.1**
WET *e*Sn **Sn 01 44 32.9 -0.7**

BARS Barje 4.79 113 *e*Pn **Pn 01 43 39.7 +0.8**
DAVA Damuels 4.79 303 *i*Pn **Pn 01 43 39.8 +0.7**
comp=Z,0.7nm,0.1s
DAVA Sn **Sn 01 44 40.9 +5.7**
comp=Z,9.6nm,0.3s
UBR Ueberruh 4.86 308 *e*Pn **Pn 01 43 41.9 +2.0**
GZR Gura Zlata 4.95 81 ⇓*i*P **Pn 01 43 42.4 +1.2**
MORC Moravsky Berou 5.06 13 ⇑*i*P **Pn 01 43 44.3 +1.6**
MORC Moravsky Berou 5.06 13 *e*PN **Pn 01 43 44.0 +1.3**
MORC *e*SN **Sn 01 44 40.1 -1.5**
GOPC GO Pecny, Ondr 5.11 352 *e*PN **Pn 01 43 44.9 +1.6**
GOPC *e*SN **Sn 01 44 41.4 -1.3**
ZAPS Zavoj 5.16 105 *e*Pn **Pn 01 43 45.5 +1.5**
DRGR 5.19 66 ⇑*i*P **Pn 01 43 45.1 +0.6**
PRU Pruhonice 5.21 351 *e*PN **Pn 01 43 46.1 +1.5**
PRU *e*SN **Sn 01 44 43.8 -1.3**
OKC Ostrava-Krasne 5.23 17 *e*PN **Pn 01 43 46.4 +1.5**
OKC *e*SN **Sn 01 44 44.7 -0.9**
KRLC Kraliky 5.26 7 *e*PN **Pn 01 43 47.3 +1.9**
KRUS Krusevo 5.29 129 *e*Pn **Pn 01 43 42.5 -3.3**
PRA Prague 5.30 350 *e*PN **Pn 01 43 47.4 +1.5**
PGF Pioggiola 5.45 247 *e*Pn **Pn 01 43 48.8 +0.7**
PGF *e*Sn **Sn 01 44 50.0 -1.4**
comp=Z,2.5nm,0.2s
DPC Dobruska-Polom 5.51 3 *e*PN **Pn 01 43 50.5 +1.7**
TRPA Tarpa 5.68 52 ⇑*i*P **Pn 01 43 52.3 +1.2**
TRPA Tarpa 5.68 52 *e*Pn **Pn 01 43 52.0 +0.9**
TRPA *e*Pg **Pg 01 44 13.1 -1.6**
MANZ Manzenberg 5.72 335 *e*Pn **Pn 01 43 52.2 +0.5**
MANZ *e*Sn **Sn 01 44 55.4 -2.3**
PVCC Panska Ves 5.74 352 *e*PN **Pn 01 43 52.9 +1.0**
GRF Grafenberg Arr 5.76 329 *e*Sg **Sg 01 45 35.4 +4.5**
VTS Vitosha 5.81 110 ⇑*i*P **Pn 01 43 54.7 +1.6**
NKC Novy Kostel 5.84 338 *e*PN **Pn 01 43 54.0 +0.6**
NKC *e*SN **Sn 01 44 58.7 -2.1**
WERN Wernitzgruen 5.91 338 *e*Pn **Pn 01 43 54.9 +0.6**
GUNZ Gunzen 5.99 338 *e*Pn **Pn 01 43 56.4 +0.9**
TANN Tannenbergstha 6.01 339 *e*Pn **Pn 01 43 56.8 +1.2**
TANN *e*Sn **Sn 01 45 02.2 -2.6**
SBF Sospel 6.09 264 *e*Pn **Pn 01 43 57.8 +1.0**
SBF *e*Sn **Sn 01 45 02.2 -4.8**
BRG Berggiesshubel 6.15 349 PN **Pn 01 43 58.4 +0.8**
BRG *i* 01 44 05.6
BRG Berggiesshubel 6.15 349 SN **Sn 01 45 05.2 -3.1**
BRG SG **Sg 01 45 45.0 +1.6**
comp=Z,7.9nm,0.9s
BRG Berggiesshubel 6.15 349 *e*Pn **Pn 01 43 58.3 +0.7**
BRG *e*Sn **Sn 01 45 05.6 -2.7**
BFO Black Forest 6.22 307 *e*Pn **Pn 01 43 59.7 +1.2**
BFO *e*Sn **Sn 01 45 08.2 -1.9**
BFO *e*Sg **Sg 01 45 42.1 -3.5**
MBDF Montbardon 6.44 272 *e*Pn **Pn 01 44 01.2 -0.5**
MBDF *e*Sn **Sn 01 45 10.3 -5.4**
comp=Z,5.4nm,0.3s
LPG La Plagne 6.44 279 *e*Pn **Pn 01 44 04.2 +2.4**
LPG *e*Sn **Sn 01 45 13.8 -2.1**
comp=Z,13nm,0.5s
MOX Moxa 6.45 335 *e*Pn **Pn 01 44 02.6 +0.9**
MOX *e*Sn **Sn 01 45 12.2 -3.4**
LPL La Plagne 6.46 279 *e*Pn **Pn 01 44 04.1 +2.1**
LPL *e*Sn **Sn 01 45 13.3 -2.9**
comp=Z,5.2nm,0.4s
FRF La Foret Royal 6.72 262 *e*Pn **Pn 01 44 05.3 -0.1**
FRF *e*Sn **Sn 01 45 19.1 -3.2**
comp=Z,4.7nm,0.3s
CLL Collm 6.73 345 *i*Pn **Pn 01 44 06.2 +0.8**
CLL *e*Sn **Sn 01 45 18.0 -4.5**
CLL *e*Sg **Sg 01 46 02.0 +0.2**
comp=Z,18nm,0.9s
CLL Collm 6.73 345 *e*Pn **Pn 01 44 06.2 +0.8**
CDF Champ du Feu 6.87 304 *e*Pn **Pn 01 44 08.3 +0.7**
LMR La Mourre 6.87 260 *e*Pn **Pn 01 44 08.1 +0.6**
LMR *e*Sn **Sn 01 45 22.8 -3.3**
comp=Z,2.0nm,0.2s
HINF Hinteralfeld 6.88 299 *e*Pn **Pn 01 44 09.0 +1.4**
HINF *e*Sn **Sn 01 45 23.7 -2.6**
comp=Z,6.5nm,0.5s
CABF La Chapelle 7.03 288 *e*Pn **Pn 01 44 10.2 +0.4**
CABF *e*Sn **Sn 01 45 26.6 -3.6**
comp=Z,1.9nm,0.3s
ORIF Oris-en-Rattie 7.06 274 *e*Pn **Pn 01 44 10.9 +0.8**
ORIF *e*Sn **Sn 01 45 27.4 -3.5**
comp=Z,9.1nm,0.4s
HAU Haudompre 7.26 299 *e*Pn **Pn 01 44 13.9 +1.1**
HAU *e*Sn **Sn 01 45 31.1 -4.6**
comp=Z,7.2nm,0.4s
VAE Valguarnera 7.45 189 Pn **Pn** 01 44 21.1 +5.7
comp=Z,0.2nm,0.3s,baz=133,slow=12,SNR=1.8
VIVF Saint-Julien-l 7.92 274 *e*Pn **Pn 01 44 22.8 +0.9**
VIVF *e*Sn **Sn 01 45 45.1 -6.9**
comp=Z,1.8nm,0.3s
SMF Signal de Mont 8.57 286 *e*Pn **Pn 01 44 30.0 -0.7**
SMF *e*Sn **Sn 01 46 03.0 -4.8**
comp=Z,6.9nm,0.5s
LASF Ste Croix 8.59 269 *e*Pn **Pn 01 44 31.2 +0.1**
LASF *e*Sn **Sn 01 46 03.7 -4.7**
comp=Z,0.3nm,0.2s
LOR Lormes 8.66 290 *e*Pn **Pn 01 44 31.9 -0.1**
LOR *e*Sn **Sn 01 46 06.2 -3.9**
comp=Z,3.4nm,0.4s
SSF Saint Saulge 8.86 289 *e*Pn **Pn 01 44 35.1 +0.4**
SSF *e*Sn **Sn 01 46 11.5 -3.4**
AVF Avril sur Loir 8.92 287 *e*Pn **Pn 01 44 35.7 +0.2**
BGF Bois d'Agland 9.24 285 *e*Pn **Pn 01 44 40.0 +0.1**
BGF *e*Sn **Sn 01 46 18.6 -5.6**
HYF Humbligny 9.47 289 *e*Pn **Pn 01 44 44.2 +1.0**
TCF Toulx Ste Croi 9.65 283 *e*Pn **Pn 01 44 44.4 -1.2**
TCF *e*Sn **Sn 01 46 29.5 -5.0**
FINES FINESS Array B 17.68 16 P **P 01 46 34.0 +0.2**
comp=Z,0.1nm,0.3s,baz=168,slow=14,SNR=3.0
MKAR Makanchi Array 45.10 63 P **P 01 50 44.1 +0.9**
comp=Z,0.6nm,0.8s,baz=279,slow=7.3,SNR=5.3
SONM Songino Array 59.03 52 P **P 01 52 27.9 +1.0**
comp=Z,0.3nm,0.8s,baz=284,slow=5.8,SNR=2.8

ATH 21 01:43:00.6, 38°.48N×22°.34E, h16km±3km, ML1.3/1, Error ellipse: s-maj=7.4km s-min=1.0km az=177.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
DSF	**Desfina**	**0.16**	**115**	P	Pg	01	43	04.8	0.0
DSF				S	Sg	01	43	07.6	0.0
DSF				AML	AML	01	43	08.0	
	comp=N,476μm,0.2s								
DSF				AML	AML	01	43	08.3	
	comp=E,195μm,0.1s								
KALE	**Kalithea**	**0.18**	**242**	P	Pg	01	43	05.1	-0.1
KALE				S	Sg	01	43	08.3	+0.1
SERG	**Sergoula**	**0.23**	**254**	P	Pg	01	43	05.5	-0.4
SERG				S	Sg	01	43	09.9	+0.4
TRIZ	**Trizonia**	**0.24**	**242**	P	Pg	01	43	05.9	-0.1
TRIZ				S	Sg	01	43	09.7	+0.1
EFP	**Efpalio**	**0.35**	**262**	P	Pg	01	43	07.8	0.0
EFP				S	Sg	01	43	10.4	+0.3
LAKA	**Lakka**	**0.37**	**230**	P	Pg	01	43	08.3	+0.1

*KRNET **21** 02:04:29.3±0.1, 40°.11N×69°.43E, mb3.0*
*SOME **21** 02:04:30.6, 40°.27N×69°.87E, h15km*
*NNC **21** 02:04:31.4±3.5, 40°.15N×69°.90E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=27.1km s-min=15.9km az=49.0*

ISC 21 02:04:34.6±2.1, 40°.24N±0°.08×69°.92E±0°.08, h17km, n20, σ2s26/33, 16C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
IUG	**Iuzhnay**	**1.91**	**3**	Pg	**Pb**	**02**	**05**	**07.7**	**-1.4**
	58nm,0.3s								
IUG				Lg	Lg	02	05	33.4	
	373nm,0.4s								
IUG	**Iuzhnay**	**1.91**	**3**	*e*P	**Pn**	**02**	**05**	**06.9**	**+0.4**
	58nm,0.3s								
IUG				*e*S	**Sb**	**02**	**05**	**32.9**	**+0.2**
	151nm,0.3s								
ARK	**Arkit**	**2.20**	**44**	⇑*i*P	**Pn**	**02**	**05**	**09.7**	**-0.8**
	baz=48								
ARK				⇑*i*S	**Sb**	**02**	**05**	**39.6**	**-1.4**
	baz=48								
ARSB	**Arslanbob**	**2.57**	**64**	⇓*i*P	**Pn**	**02**	**05**	**15.6**	**0.0**
	baz=65								
ARSB				⇓*i*S	**Sb**	**02**	**05**	**49.5**	**-2.2**
	baz=65								
SFK	**Sufi-Kurgan**	**2.76**	**93**	⇓Pn	**Pn**	**02**	**05**	**18.5**	**+0.2**
	1.1nm,0.2s								
SFK				⇑Lg	Lg	02	05	56.9	
	9.1nm,0.2s								
SFK	**Sufi-Kurgan**	**2.76**	**93**	Pg	**Pb**	**02**	**05**	**21.7**	**-1.9**
	3.9nm,0.2s								
SFK				Lg	Lg	02	05	57.1	
	18nm,0.3s								
SFK	**Sufi-Kurgan**	**2.76**	**93**	⇑*i*P	**Pn**	**02**	**05**	**17.9**	**-0.4**
	baz=90								
SFK				⇑*i*S	**Sn**	**02**	**05**	**53.4**	**+2.1**
	baz=90								
KK31	**Karatay Array**	**2.90**	**9**	Pn	**Pn**	**02**	**05**	**20.4**	**+0.4**
	0.7nm,0.2s,baz=191,slow=9.7,SNR=54								
KK31				Lg	Lg	02	06	02.5	
	7.2nm,0.3s,baz=193,slow=32,SNR=15								
MNAS	**Manas**	**2.98**	**40**	⇑Pn	**Pn**	**02**	**05**	**20.7**	**-0.5**
	2.0nm,0.3s								
MNAS				⇓Sn	**Sb**	**02**	**06**	**04.1**	**+0.8**
	17nm,0.5s								
MNAS	**Manas**	**2.98**	**40**	⇑*i*P	**Pn**	**02**	**05**	**20.9**	**-0.3**
	baz=43								
MNAS				⇑*i*S	**Sn**	**02**	**05**	**58.3**	**+1.8**
	baz=43								
AML	**Almayashu**	**3.42**	**55**	⇑*i*P	**Pn**	**02**	**05**	**28.0**	**+0.5**
	baz=57								
AML				⇑*i*S	**Sn**	**02**	**06**	**10.7**	**+2.8**
	baz=57								
MRKS	**Merke**	**3.53**	**44**	Pg	**Pb**	**02**	**05**	**35.0**	**-1.7**
	9.4nm,0.4s								
MRKS				Lg	Lg	02	06	20.0	
	23nm,0.4s								
MRKS	**Merke**	**3.53**	**44**	*e*P	**Pb**	**02**	**05**	**34.7**	**-1.9**
	4.9nm,0.4s								
MRKS				*e*S	**Sb**	**02**	**06**	**19.3**	**0.0**
	24nm,0.4s								
ARLS	**Aral**	**3.71**	**63**	⇑*i*P	**Pn**	**02**	**05**	**31.7**	**+0.5**
	baz=63								
ARLS				⇑*i*S	**Sn**	**02**	**06**	**16.9**	**+2.3**
	baz=63								
EKS2	**Erkin-Say**	**3.78**	**49**	⇑*i*P	**Pn**	**02**	**05**	**32.1**	**-0.1**
	baz=51								
EKS2				⇑*i*S	**Sn**	**02**	**06**	**18.7**	**+2.3**
	baz=51								
AAK	**Ala-Archa**	**4.20**	**54**	⇑Pn	**Pn**	**02**	**05**	**36.4**	**-1.5**
	1.5nm,0.3s								
AAK				⇑Sn	**Sn**	**02**	**06**	**30.5**	**+3.9**
	1.8nm,0.4s								
DGS	**Degeres**	**5.31**	**54**	Pg	**Pb**	**02**	**06**	**08.0**	**+1.0**
	3.0nm,0.5s								
DGS				Lg	Lg	02	07	16.4	
	4.4nm,0.6s								
DGS	**Degeres**	**5.31**	**54**	*e*P	**Pb**	**02**	**06**	**08.0**	**+1.0**
	3.0nm,0.5s								
DGS				*e*S	**Sb**	**02**	**07**	**16.4**	**+5.9**
	4.4nm,0.6s								
KST	**Kastek**	**5.33**	**56**	Pg	**Pb**	**02**	**06**	**09.7**	**+2.4**
	2.6nm,0.4s								
KST				Lg	Lg	02	07	19.1	
	6.4nm,0.8s								
KST	**Kastek**	**5.33**	**56**	*e*P	**Pb**	**02**	**06**	**09.6**	**+2.4**
	4.0nm,0.7s								
KST				*e*S	**Sg**	**02**	**07**	**19.2**	**-6.4**
	8.0nm,0.7s								

IDC 21 02:10:25.9±4.7, 8°.08S×127°.42E, h220km±49km, mb3.0/1, mb1 3.2/5, mb1mx2.9/33, mbtmp3.7/5, MS3.2/1, Ms1 3.2/1, ms1mx2.5/11, Error ellipse: s-maj=56.7km s-min=20.2km az=53.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
BATI	**Baumata**	**4.27**	**240**	P	Pn	02	11	31.7	-0.1
	15nm,0.3s,baz=206,slow=5.8,SNR=6.2								
BATI				S	S	02	12	24.5	+0.9
	3.9nm,0.3s,baz=100,slow=18,SNR=3.6								
FITZ	**Fitzroy Crossi**	**10.11**	**190**	P	Pn	02	12	46.2	-0.1
	0.3nm,0.3s,baz=12,slow=14,SNR=11								
FITZ				S	S	02	14	38.2	-1.6
	0.8nm,0.3s,baz=207,slow=14,SNR=5.6								
WRA	**Warramunga Arr**	**13.56**	**151**	P	Pn	02	13	28.7	-1.1
	0.2nm,0.3s,baz=329,slow=13,SNR=11								
WRA				S	S	02	15	55.6	-4.4
	0.6nm,0.3s,baz=89,slow=18,SNR=10								
ASAR	**Alice Springs**	**16.70**	**159**	P	Pn	02	14	08.3	+0.6
	0.2nm,0.3s,baz=340,slow=12,SNR=6.3								
ASAR				S	S	02	17	10.2	+0.5
	0.2nm,0.3s,baz=320,slow=18,SNR=3.5								
JOW	**Kunigami**	**34.71**	**1**	LR	LR	02	32	54.6	
	comp=Z,44nm,20.5s,baz=51,slow=39								
MKAR	**Makanchi Array**	**67.76**	**328**	P	P	02	20	59.6	-0.2
	0.3nm,0.6s,baz=139,slow=8.1,SNR=3.8								

IDC 21 02:22:30.6±1.2, 54°.19N×34°.86W, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.4/49, mbtmp3.4/6, MS3.7/7, Ms1 3.7/7, ms1mx3.3/31, Error ellipse: s-maj=49.6km s-min=21.2km az=26.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
FRB	**Frobisher Bay**	**19.59**	**313**	LR	LR	02	33	03.0	
	comp=Z,207nm,20.2s,baz=51,slow=32								
NOA	**NORSAR Array B**	**25.14**	**56**	LR	LR	02	35	04.8	
	comp=Z,116nm,20.0s,baz=255,slow=30								
ESDC	**Sonseca Array**	**25.35**	**112**	P	P	02	28	00.2	+1.1
	0.9nm,0.6s,baz=315,slow=9.0,SNR=5.8								
ESDC				LR	LR	02	35	40.2	
	comp=Z,156nm,20.7s,baz=115,slow=31								
VRAC	**Vranov**	**31.63**	**77**	LR	LR	02	41	45.4	
	comp=Z,184nm,18.2s,baz=323,slow=36								
ULM	**Lac du Bonnet**	**36.57**	**290**	LR	LR	02	43	02.9	
	comp=Z,117nm,18.6s,baz=82,slow=34								
YKA	**Yellowknife Ar**	**40.08**	**315**	P	P	02	30	08.2	+1.1
	0.1nm,0.4s,baz=56,slow=9.0,SNR=5.3								
BRTR	**Keskin Array B**	**47.06**	**79**	P	P	02	31	05.2	+1.4
	0.4nm,0.6s,baz=313,slow=6.9,SNR=3.3								
BRTR				LR	LR	02	51	33.7	
	comp=Z,57nm,19.3s,baz=280,slow=37								
PDAR	**Pinedale Array**	**48.58**	**289**	P	P	02	31	15.8	+0.1
	0.3nm,0.6s,baz=71,slow=11,SNR=4.0								
PDAR				LR	LR	02	50	18.4	
	comp=Z,114nm,18.5s,baz=70,slow=34								
TORD	**Torodi Ar. Bea**	**50.00**	**131**	P	P	02	31	25.6	-1.0
	0.9nm,1.0s,baz=337,slow=7.1,SNR=4.6								
MKAR	**Makanchi Array**	**66.19**	**42**	P	P	02	33	18.5	-1.2
	0.2nm,0.7s,baz=104,slow=4.1,SNR=3.6								
ASAR	**Alice Springs**	**148.37**	**20**	PKPbc	PKPdf	02	42	16.1	+0.8
	0.8nm,0.7s,baz=357,slow=2.2,SNR=7.3								

*NIED **21** 02:29:00, 36°.90N×140°.60E, h11km, Mw3.6 Best double couple: M0 2.90000×10^14 NP1:φs331.00000°, δ31.00000°, λ-140.00000°. NP2:φs206.00000°, δ71.00000°, λ-66.00000°.*
*IDC **21** 02:29:47.2±0.9, 36°.74N×140°.57E, h0km, mb3.7/10, mb1 4.0/11, mb1mx3.7/34, mbtmp3.7/11, ML3.7/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/31, Error ellipse: s-maj=24.4km s-min=12.5km az=168.0*
*ISCJB **21**

JFK	**Kawauchi**	**0.56**	**25**	⇑P		**Pg**	**02 29 59.2**	**-0.4**
JFK				S		**Sg**	**02 30 06.9**	**-0.1**
JFT	**Otama**	**0.69**	**344**	⇑P		**Pg**	**02 30 01.8**	**-0.2**
JFT				*i* S		**Sg**	**02 30 10.6**	**-0.4**
JYT	**Yasato**	**0.70**	**206**	⇑P		**Pb**	**02 30 02.0**	**-1.3**
JYT				S		**Sb**	**02 30 11.4**	**-1.8**
JFY	**Yanaizu**	**0.89**	**308**	⇑P		**Pg**	**02 30 05.2**	**-0.6**
JFY				S		**Sg**	**02 30 16.6**	**-0.8**
JAG	**Ashikaga**	**1.00**	**245**	⇑P		**Pb**	**02 30 07.0**	**-1.5**
MJAR	**Matsushiro Arr**	**1.93**	**261**	Pg		**Pn**	**02 30 21.9**	**-0.2**
	8.6nm,0.3s,baz=84,slow=15,SNR=189							
MJAR				Lg		Lg	02 30 47.4	
	7.6nm,0.3s,baz=60,slow=28,SNR=15							
MAT	**Matsushiro**	**1.93**	**261**	P		**Pn**	**02 30 22.3**	**+0.2**
MAT				S		**Sb**	**02 30 47.9**	**-0.8**
ASAJ	**Asahikawa**	**7.41**	**11**	Pn		**Pn**	**02 31 37.5**	**+0.1**
	1.3nm,0.3s,baz=249,slow=16,SNR=5.8							
ASAJ				Sn		**Sn**	**02 33 01.7**	**0.0**
	0.1nm,0.3s,baz=83,slow=29,SNR=1.3							
USRK	**Ussuriysk Ar.**	**9.82**	**321**	Pn		**Pn**	**02 32 15.0**	**+4.6**
	0.2nm,0.3s,baz=128,slow=11,SNR=6.9							
KSRS	**Korea Array**	**10.12**	**277**	LR		LR	02 35 51.8	
	comp=Z,46nm,19.2s,baz=57,slow=36							
SONM	**Songino Array**	**27.33**	**304**	P		**P**	**02 35 34.3**	**0.0**
	0.9nm,0.7s,baz=105,slow=8.2,SNR=8.8							
H11N2	**WAKE ISLAND Hy**	**28.64**	**119**	T		T	03 05 32.3	
	baz=312,slow=75,SNR=225							
H11N1	**WAKE ISLAND Hy**	**28.65**	**119**	T		T	03 05 33.6	
	baz=312,slow=75,SNR=233							
H11N3	**WAKE ISLAND Hy**	**28.66**	**119**	T		T	03 05 34.4	
	baz=312,slow=75,SNR=184							
H11S1	**WAKE ISLAND Hy**	**29.33**	**121**	T		T	03 06 22.9	
	baz=314,slow=75,SNR=247							
H11S3	**WAKE ISLAND Hy**	**29.33**	**122**	T		T	03 06 21.9	
	baz=314,slow=75,SNR=231							
H11S2	**WAKE ISLAND Hy**	**29.35**	**121**	T		T	03 06 24.1	
	baz=314,slow=75,SNR=118							
ZALV	**Zalesovo Beam**	**41.54**	**313**	P		**P**	**02 37 35.4**	**-1.3**
	0.4nm,0.4s,baz=76,slow=7.9,SNR=3.0							
MKAR	**Makanchi Array**	**43.65**	**302**	P		**P**	**02 37 53.8**	**-0.2**
	0.2nm,0.5s,baz=95,slow=9.0,SNR=3.0							
WRA	**Warramunga Arr**	**56.80**	**187**	P		**P**	**02 39 31.9**	**-1.9**
	0.9nm,0.8s,baz=3.7,slow=7.6,SNR=10							
YKA	**Yellowknife Ar**	**64.30**	**30**	P		**P**	**02 40 25.1**	**+0.6**
	0.2nm,0.8s,baz=299,slow=6.3,SNR=3.6							
FINES	**FINESS Array B**	**68.66**	**332**	P		**P**	**02 40 51.9**	**-0.5**
	1.5nm,0.8s,baz=116,slow=4.4,SNR=4.8							
NVAR	**Mina Array Bea**	**75.63**	**53**	P		**P**	**02 41 34.5**	**-0.4**
	0.6nm,0.7s,baz=296,slow=5.1,SNR=7.2							
PDAR	**Pinedale Array**	**78.27**	**45**	P		**P**	**02 41 50.5**	**+0.8**
	0.3nm,0.6s,baz=312,slow=3.4,SNR=3.1							
GERES	**GERESS Array B**	**82.51**	**328**	P		**P**	**02 42 13.2**	**+1.0**
	0.2nm,0.4s,baz=46,slow=7.0,SNR=3.6							
TXAR	**Lajitas Array**	**90.76**	**52**	P		**P**	**02 42 53.3**	**+0.3**
	0.5nm,0.7s,baz=303,slow=3.4,SNR=5.0							

*IDC **21** 02:45:33.9±0.9, 53.98N×35.13W, h0km, mb3.5/9, mb1 3.8/10, mb1mx3.6/47, mbtmp3.6/10, ML2.6/1, MS3.8/11, Ms1 3.8/11, ms1mx3.4/35, Error ellipse: s-maj=37.3km s-min=15.8km az=11.0*

*ISCJB **21** 02:45:34.2±0.7, 54.0N±0.0×35.2W±0.1, h14km, mb3.5/9, MS3.7/11, Error ellipse: s-maj=30.9km s-min=11.4km az=10.0*

ISC 21 02:45:35.9±0.8, 54.0N±0.0×35.2W±0.1, h14km, n15, σ1°13/11, mb3.5/9, MS3.8/11, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.38**	**286**	P		**P**		**02 49 49.6**	**-0.5**
	0.2nm,0.3s,baz=63,slow=11,SNR=4.1								
SCHQ				LR		LR		02 55 17.4	
	comp=Z,245nm,21.9s,baz=60,slow=32								
NOA	**NORSAR Array B**	**25.42**	**55**	LR		LR		02 58 42.3	
	comp=Z,98nm,20.7s,baz=260,slow=31								
ESDC	**Sonseca Array**	**25.43**	**111**	P		**P**		**02 51 04.8**	**+1.8**
	0.7nm,0.7s,baz=311,slow=8.7,SNR=4.2								
ESDC				LR		LR		02 58 54.8	
	comp=Z,171nm,19.6s,baz=320,slow=32								
DAVOX	**Davos/Dischmat**	**29.19**	**86**	LR		LR		03 03 05.3	
	comp=Z,379nm,18.3s,baz=286,slow=36								
GERES	**GERESS Array B**	**30.41**	**79**	P		**P**		**02 51 48.6**	**+1.1**
	0.1nm,0.3s,baz=282,slow=5.8,SNR=3.9								
GERES				LR		LR		03 02 45.1	
	comp=Z,178nm,18.1s,baz=305,slow=34								
ULM	**Lac du Bonnet**	**36.48**	**290**	LR		LR		03 06 32.4	
	comp=Z,123nm,18.1s,baz=84,slow=34								
AKASG	**Malin Array Be**	**38.27**	**68**	P		**P**		**02 52 55.3**	**0.0**
	1.0nm,0.8s,baz=306,slow=7.9,SNR=3.3								
AKASG				LR		LR		03 08 11.0	
	comp=Z,110nm,18.6s,baz=295,slow=36								
YKA	**Yellowknife Ar**	**40.11**	**315**	P		**P**		**02 53 10.6**	**0.0**
	0.4nm,0.9s,baz=67,slow=9.2,SNR=3.1								
YKA				LR		LR		03 09 34.2	
	comp=Z,8.6nm,18.1s,baz=60,slow=36								
BRTR	**Keskin Array B**	**47.28**	**78**	P		**P**		**02 54 07.2**	**-1.6**
	1.2nm,0.9s,baz=312,slow=4.7,SNR=6.1								
PDAR	**Pinedale Array**	**48.48**	**289**	P		**P**		**02 54 17.8**	**-0.4**
	0.3nm,0.6s,baz=46,slow=5.2,SNR=3.4								
PDAR				LR		LR		03 13 41.0	
	comp=Z,159nm,18.3s,baz=62,slow=35								
TORD	**Torodi Ar. Bea**	**49.99**	**130**	P		**P**		**02 54 28.4**	**-1.2**
	1.9nm,1.0s,baz=337,slow=6.4,SNR=6.9								
TORD				LR		LR		03 15 19.9	
	comp=Z,80nm,18.4s,baz=320,slow=36								
DBIC	**Dimbokro**	**53.15**	**141**	LR		LR		03 15 21.2	
	comp=Z,99nm,18.4s,baz=332,slow=34								
TXAR	**Lajitas Array**	**54.39**	**272**	P		**P**		**02 55 03.5**	**+1.1**
	0.4nm,1.0s,baz=32,slow=5.3,SNR=2.9								
TXAR				LR		LR		03 17 52.7	
	comp=Z,116nm,18.4s,baz=0.0,slow=36								
MKAR	**Makanchi Array**	**66.48**	**42**	P		**P**		**02 56 24.8**	**+0.2**
	0.5nm,0.8s,baz=338,slow=4.8,SNR=3.9								
ASAR	**Alice Springs**	**148.64**	**20**	PKPbc		**PKPbc**		**03 05 22.2**	**-0.1**
	0.6nm,0.5s,baz=354,slow=2.7,SNR=8.6								

*MOS **21** 03:16:45.0±0.9, 0.17S×124.56E, h56km, mb5.1/34, Error ellipse: s-maj=14.7km s-min=6.3km az=113.1*

*IDC **21** 03:16:46.5±2.2, 0.16S×124.50E, h50km±20km, mb4.3/23, mb1 4.4/24, mb1mx4.3/38, mbtmp4.6/24, ML4.4/1, MS3.3/10, Ms1 3.4/10, ms1mx3.2/40, Error ellipse: s-maj=19.5km s-min=11.7km az=78.0*

*DJA **21** 03:16:46.4±1.4, 0.1S±2.2°×12.2°5E±°, h10km±11km, M5.0/14, mb5.3/8, mB5.3/7, MLv5.1/14, Mw(mB)4.8/7*

*ISCJB **21** 03:16:47.7±0.5, 0.23S±0.03×124.72E±0.03, h82km±5km, mb4.7/91, Error ellipse: s-maj=5.2km s-min=4.9km az=24.9*

*BJI **21** 03:16:49.5, 0.10S×124.70E, h82km, mb4.9/49, mB5.2/29, Ms4.6/11, Ms7 4.3/10*

*NEIC **21** 03:16:50.2±0.6, 0.16S×124.70E, h87km±7km, mb4.9/28, Error ellipse: s-maj=7.8km s-min=5.2km az=80.0*

ISC 21 03:16:48.2±0.6, 0.19S±0.04×124.77E±0.04, h66km±5km, n171, σ1°61/191, mb4.8/99, 8C, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**2.17**	**247**	*e*Pn		**Pn**		**03 17 21.3**	**-0.8**
LUWI				*e*Sn		**Sn**		**03 17 49.8**	**+1.8**
LUWI	**Luwuk**	**2.17**	**247**	P		**Pn**		**03 17 21.6**	**-0.6**
LUWI				S		**Sn**		**03 17 51.4**	**+3.3**
SANI	**Sanana**	**2.21**	**147**	P		**Pn**		**03 17 21.3**	**-1.5**
SANI				S		**Sn**		**03 17 50.2**	**+1.1**
TNTI	**Ternate**	**2.77**	**70**	*e*Pn		**Pn**		**03 17 32.3**	**+2.0**
TNTI				*e*Sn		**Sn**		**03 18 05.0**	**+2.4**
TNTI	**Ternate**	**2.77**	**70**	P		**Pn**		**03 17 32.2**	**+2.0**
NLAI	**Namlea**	**3.82**	**143**	P		**Pn**		**03 17 44.6**	**-0.1**
NLAI				S		**Sn**		**03 18 27.5**	**-0.9**
KDI	**Kendari**	**4.32**	**210**	P		**Pn**		**03 17 49.6**	**-1.9**
PCI	**Palu**	**4.99**	**262**	P		**Pn**		**03 18 02.0**	**+1.4**
BBSI	**Bau Bau**	**5.71**	**203**	P		**Pn**		**03 18 09.8**	**-0.7**
	84nm,0.7s,1μm0.3nm								
TTSI	**Tana Toraja**	**5.71**	**240**	P		**Pn**		**03 18 10.3**	**-0.2**
	539nm,0.8s,5μm1.9nm								
SPSI	**Sidrap Palu**	**6.25**	**233**	P		**Pn**		**03 18 17.8**	**-0.1**
	199nm,0.4s,3μm1.0nm								
BNSI	**Bone**	**6.26**	**228**	P		**Pn**		**03 18 18.1**	**0.0**
	402nm,0.7s,4μm1.4nm								
BKSI	**Bulukumba**	**6.90**	**222**	P		**Pn**		**03 18 26.8**	**0.0**
	101nm,0.6s,1μm0.4nm								
DAV	**Davao City (W)**	**7.25**	**6**	P		**Pn**		**03 18 35.4**	**+3.8**
	35nm,0.3s,baz=321,slow=3.8,SNR=4.5								
DAV				LR		LR		03 21 45.0	
	comp=Z,708nm,19.4s,baz=139,slow=41								
SMKI	**Samarinda**	**7.57**	**268**	P		**Pn**		**03 18 39.0**	**+3.1**
BKB	**Balikpapan**	**7.95**	**262**	P		**Pn**		**03 18 43.1**	**+2.0**
FAKI	**Fak Fak**	**7.95**	**110**	*e*Pn		**Pn**		**03 18 41.4**	**+0.2**
FAKI				*e*Sn		**Sn**		**03 20 06.8**	**-2.9**
EDFI	**Ende, Flores**	**9.04**	**200**	P		**Pn**		**03 18 55.4**	**-0.9**
KBKI	**Kotabaru**	**9.14**	**250**	P		**Pn**		**03 19 00.5**	**+3.1**
SOEI	**Soe**	**9.52**	**183**	*e*Pn		Pn		03 19 07.5	+4.7
SOEI	**Soe**	**9.52**	**183**	P		**Pn**		**03 19 00.5**	**-2.3**
BATI	**Baumata**	**10.02**	**186**	P		**Pn**		**03 19 13.2**	**+3.7**
	7.2nm,0.3s,baz=333,slow=3.5,SNR=4.3								
BATI				LR		LR		03 23 26.5	
	comp=Z,369nm,20.4s,baz=324,slow=40								
SAUI	**Saumlaki**	**10.12**	**140**	*e*Pn		**Pn**		**03 19 14.8**	**+4.0**
FITZ	**Fitzroy Crossi**	**17.82**	**177**	P		**P**		**03 20 51.4**	**-0.4**
	1.0nm,0.3s,baz=16,slow=7.5,SNR=25								
FITZ				LR		LR		03 27 48.9	
	comp=Z,70nm,20.4s,baz=34,slow=37								
FITZ	**Fitzroy Crossi**	**17.82**	**177**	*e*P		**Pn**		**03 20 52.4**	**+0.5**
CISI	**Cisompet, Garu**	**18.42**	**246**	*e*P		**Pn**		**03 21 03.7**	**+4.4**
	45nm,0.7s								
MBWA	**Marble Bar**	**21.42**	**193**	*e*P		**P**		**03 21 30.8**	**-0.1**
	82nm,1.4s								
WRAB	**Tennant Creek**	**21.75**	**155**	*e*P		**P**		**03 21 33.8**	**-0.7**
	16nm,0.9s								
WRAB	**Tennant Creek**	**21.75**	**155**	*ce*P		**P**		**03 21 34.3**	**-0.2**
WRAB				pmax		pmax			
	comp=Z,16nm,0.8s								
WRA	**Warramunga Arr**	**21.76**	**155**	P		**P**		**03 21 34.2**	**-0.4**
	comp=Z,7.7nm,0.6s,baz=333,slow=11,SNR=55								
WRA				LR		LR		03 30 29.3	
	comp=Z,48nm,19.8s,baz=45,slow=38								
WB2	**Warramunga Arr**	**21.76**	**155**	*e*P		**P**		**03 21 34.1**	**-0.4**
TWG	**Pinlang**	**23.15**	**351**	*e*P		**P**		**03 21 48.5**	**-0.6**
	comp=Z,111nm,1.1s								
YULB	**Yu-li**	**23.68**	**352**	*e*P		**P**		**03 21 52.7**	**-1.4**
	comp=Z,34nm,1.3s								
TPUB	**Ta-pu**	**23.69**	**350**	*e*P		**P**		**03 21 53.3**	**-0.9**
	comp=Z,32nm,0.8s								
YOJ	**Yonaguni jima**	**24.56**	**356**	*e*P		**P**		**03 22 01.1**	**-0.8**
	comp=Z,147nm,1.2s								
YOJ	**Yonaguni jima**	**24.56**	**356**	*e*P		**P**		**03 22 01.2**	**-0.8**
YOJ				pmax		pmax			
	comp=Z,147nm,1.2s								
GIRL	**Giralia**	**24.57**	**204**	*e*P		**P**		**03 22 03.3**	**+1.2**
	comp=Z,197nm,1.4s								
AS31	**Alice Springs**	**24.97**	**160**	*e*P		**P**		**03 22 06.1**	**+0.3**
	comp=Z,7.7nm,1.1s								
ASAR	**Alice Springs**	**24.97**	**160**	P		**P**		**03 22 06.5**	**+0.6**
	comp=Z,18nm,0.8s,baz=326,slow=6.9,SNR=102								
ASAR				PcP		**PcP**		**03 25 40.9**	**+1.1**
	comp=Z,1.1nm,0.4s,baz=344,slow=2.1,SNR=7.5								
ASAR				LR		LR		03 32 47.2	
	comp=Z,62nm,18.5s,baz=302,slow=38								
AS01	**Alice Springs**	**24.98**	**160**	*e*P		**P**		**03 22 06.4**	**+0.4**
PSI	**Prapat**	**26.01**	**277**	P		**P**		**03 22 12.9**	**-2.6**
	comp=Z,6.5nm,0.8s,baz=0.9,slow=5.2,SNR=4.2								
PSI				LR		LR		03 34 05.7	
	comp=Z,59nm,19.0s,baz=82,slow=40								
SRAK	**Srakaew**	**26.56**	**303**	P		**P**		**03 22 17.5**	**-2.8**
SKNT	**Sakolnakorn**	**26.65**	**311**	P		**P**		**03 22 24.2**	**+3.1**
	comp=Z,4.3nm,0.9s								
CHAI	**Chaiyaphum**	**27.59**	**306**	P		**P**		**03 22 29.1**	**-0.5**
	comp=Z,7.4nm,0.8s								
NONG	**Nongkai**	**27.95**	**312**	P		**P**		**03 22 32.9**	**+0.2**
	comp=Z,0.2nm,1.3s								
PBKT	**Sadao Pong**	**28.77**	**306**	*e*P		**P**		**03 22 39.9**	**-0.1**
	comp=Z,4.9nm,1.0s								
UTHA	**Uthaitani**	**29.50**	**303**	P		**P**		**03 22 46.7**	**+0.2**
	comp=Z,4.3nm,0.6s								
UTTA	**Uttaradit**	**29.75**	**308**	P		**P**		**03 22 48.7**	**0.0**
	comp=Z,4.7nm,0.8s								
SUKH	**Sukhothai**	**30.34**	**307**	P		**P**		**03 22 54.2**	**+0.3**
	comp=Z,8.8nm,0.8s								
FORT	**Forrest**	**30.59**	**174**	*e*P		**P**		**03 22 56.3**	**+0.4**
	comp=Z,31nm,0.6s								
LAMP	**Lampang**	**30.91**	**308**	P		**P**		**03 22 59.6**	**+0.6**
	comp=Z,5.7nm,0.8s								
CMAR	**Chiang Mai Arr**	**31.42**	**308**	P		**P**		**03 23 03.0**	**-0.5**
	comp=Z,3.2nm,0.7s,baz=138,slow=7.4,SNR=17								
CMAR				PcP		**PcP**		**03 25 56.4**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=174,slow=3.1,SNR=5.3								
CMAR				LR		LR		03 37 59.0	
	comp=Z,38nm,18.1s,baz=138,slow=41								
CMMT	**Chiang Mai**	**31.61**	**308**	P		**P**		**03 23 05.0**	**-0.2**
	comp=Z,20nm,0.8s								
CHTO	**Chiang Mai**	**31.62**	**308**	*e*P		**P**		**03 23 05.0**	**-0.2**
	comp=Z,14nm,0.8s								
CHTO	**Chiang Mai**	**31.62**	**308**	*e*P		**P**		**03 23 05.0**	**-0.2**
CHTO				pmax		pmax			
	comp=Z,14nm,0.8s								
CHTO	**Chiang Mai**	**31.62**	**308**	P		**P**		**03 23 05.1**	**-0.1**
	comp=Z,92nm,0.8s								
GYA	**Guiyang**	**31.72**	**328**	*e*P		**P**		**03 23 07.8**	**+1.7**
GYA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
NJ2	**Nanjing**	**32.55**	**351**	*e*P		**P**		**03 23 12.8**	**-0.3**
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
KMI	**Kunming**	**32.97**	**321**	P		**P**		**03 23 18.8**	**+1.6**
KMI				pmax		pmax			
	comp=Z,14nm,0.7s								
ENH	**Enshi**	**33.60**	**336**	*e*P		**P**		**03 23 22.5**	**+0.1**
	comp=Z,8.6nm,0.5s								
JNU	**Nakatsue**	**33.63**	**9**	P		**P**		**03 23 22.5**	**-0.1**
	comp=Z,23nm,0.9s,baz=146,slow=2.8,SNR=8.5								
JNU	**Nakatsue**	**33.63**	**9**	*e*P		**P**		**03 23 21.4**	**-1.2**
	comp=Z,29nm,1.0s								
BBOO	**Buckleboo**	**34.15**	**163**	*e*P		**P**		**03 23 28.3**	**+1.2**
	comp=Z,15nm,0.9s								
STKA	**Stephens Creek**	**35.31**	**155**	P		**P**		**03 23 38.5**	**+1.4**
	comp=Z,6.4nm,0.5s,baz=327,slow=8.5,SNR=31								
STKA	**Stephens Creek**	**35.31**	**155**	*e*P		**P**		**03 23 38.5**	**+1.4**
	comp=Z,1.7nm,0.6s								
STKA	**Stephens Creek**	**35.31**	**155**	*e*P		**P**		**03 23 38.5**	**+1.4**
STKA				pmax		pmax			
	comp=Z,2.0nm,0.6s								
CD2	**Chengdu**	**36.80**	**329**	*e*P		**P**		**03 23 50.0**	**0.0**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
XAN	**Xi'an**	**37.15**	**338**	P		**P**		**03 23 53.3**	**+0.4**
XAN				pP		pP		03 24 07.8	-0.4
XAN				pmax		pmax			
	comp=Z,18nm,0.8s								
XAN				pmax		pmax			
	comp=Z,120nm,4.7s								
XAN	**Xi'an**	**37.15**	**338**	*e*P		**P**		**03 23 52.2**	**-0.7**
XAN	**Xi'an**	**37.15**	**338**	*e*P		**P**		**03 23 52.2**	**-0.7**
KSAR	**Wonju Array Be**	**37.55**	**4**	P		**P**		**03 23 56.7**	**+0.6**
KSAR	**Wonju Array Be**	**37.55**	**4**	P		**P**		**03 23 56.7**	**+0.6**
KSRS	**Korea Array**	**37.57**	**4**	P		**P**		**03 23 56.7**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=175,slow=10,SNR=8.8								
KSRS				LR		LR		03 39 11.3	
	comp=Z,52nm,21.1s,baz=180,slow=36								
MAJO	**Matsushiro**	**38.61**	**17**	*e*P		**P**		**03 24 04.8**	**-0.4**
	comp=Z,8.9nm,0.8s								
MAJO	**Matsushiro**	**38.61**	**17**	*i* P		**P**		**03 24 06.1**	**+1.0**
MAJO				pmax		pmax			
	comp=Z,9.0nm,0.8s								
MAT	**Matsushiro**	**38.61**	**17**	P		**P**		**03 24 04.9**	**-0.2**
MJAR	**Matsushiro Arr**	**38.61**	**17**	P		**P**		**03 24 04.8**	**-0.3**
	comp=Z,8.5nm,0.8s,baz=198,slow=9.5,SNR=19								
MJAR				LR		LR		03 42 31.9	
	comp=Z,21nm,19.0s,baz=90,slow=40								
MJB9	**Matsu-Tunnel**	**38.62**	**17**	*e*P		**P**		**03 24 05.5**	**+0.3**
	comp=Z,9.3nm,0.9s								
BJI	**Beijing**	**40.80**	**350**	⇑*i* P		**P**		**03 24 24.3**	**+1.1**
BJI				pmax		pmax			
	comp=Z,9.0nm,0.7s								
LZH	**Lanzhou**	**41.00**	**334**	*e*P		**P**		**03 24 26.0**	**+0.8**
LZH				pP		pwP		03 24 44.6	-1.1
LZH				sP		sP		03 24 53.6	+6.1
LZH				pmax		pmax			
	comp=Z,30nm,1.3s								
HHC	**Hu-ho-hao-te**	**42.57**	**345**	*e*P		**P**		**03 24 40.1**	**+2.3**
HHC				S		**S**		**03 30 57.6**	**+1.8**
HHC				pmax		pmax			
	comp=Z,13nm,1.2s								
HHC				LR		LR			
	comp=Z,380nm,15.1s								
HHC				LR		LR			
	comp=Z,210nm,15.1s								
HHC				LR		LR			
	comp=Z,190nm,14.1s								
LSA	**Lhasa**	**43.70**	**316**	*e*P		**P**		**03 24 47.6**	**0.0**
	comp=Z,13nm,0.7s								
LSA	**Lhasa**	**43.70**	**316**	*e*P		**P**		**03 24 47.6**	**0.0**
LSA				pmax		pmax			
	comp=Z,13nm,0.7s								
PALK	**Pallekele**	**44.57**	**281**	*i* P		**P**		**03 24 51.6**	**-2.7**
USA0B	**Ussuriysk Arra**	**44.66**	**7**	*e*P		**P**		**03 24 55.2**	**+0.8**
	comp=Z,13nm,0.6s								
USRK	**Ussuriysk Ar.**	**44.66**	**7**	P		**P**		**03 24 54.9**	**+0.5**
	comp=Z,7.9nm,0.4s,baz=192,slow=6.9,SNR=28								
MDJ	**Mudanjiang**	**44.81**	**5**	*e*P		**P**		**03 24 56.1**	**+0.5**
	comp=Z,17nm,0.8s								
GTA	**Gaotai**	**45.55**	**333**	P		**P**		**03 25 02.3**	**+0.6**
GTA				pP		pwP		03 25 19.8	-2.6
GTA				sP		sP		03 25 30.4	+6.2
GTA				ScP		**ScP**		**03 30 27.5**	**+0.8**
GTA				pmax		pmax			
	comp=Z,22nm,1.0s								
RAMN	**Ramite**	**45.55**	**309**	*e*P		**P**		**03 25 01.3**	**-0.8**
	comp=Z,31nm,0.5s								
JIRN	**Jiri**	**46.22**	**310**	*e*P		**P**		**03 25 06.3**	**-1.2**
	comp=Z,16nm,0.4s								
GUN	**Gumba**	**46.58**	**310**	*e*P		**P**		**03 25 09.1**	**-1.2**
	comp=Z,25nm,0.5s								
PKIN	**Phulchoki**	**46.79**	**309**	*e*P		**P**		**03 25 10.5**	**-1.3**
	comp=Z,6.2nm,0.5s								
ASAJ	**Asahikawa**	**46.89**	**18**	P		**P**		**03 25 12.7**	**+0.7**
	comp=Z,4.1nm,0.5s,baz=215,slow=8.9,SNR=5.4								
KKN	**Kakani**	**46.98**	**310**	*e*P		**P**		**03 25 12.3**	**-1.0**
	comp=Z,17nm,0.6s								
DMN	**Daman**	**47.03**	**309**	*e*P		**P**		**03 25 12.9**	**-0.8**
KOLN	**Koldanda**	**48.28**	**309**	*e*P		**P**		**03 25 22.0**	**-1.3**
	comp=Z,41nm,0.6s								
DANN	**Dangsing**	**48.43**	**309**	*e*P		**P**		**03 25 23.1**	**-1.5**
	comp=Z,64nm,0.6s								
HYB	**Hyderabad**	**48.73**	**293**	*i* P		**P**		**03 25 26.0**	**-0.7**
PYUN	**Piuthan**	**48.91**	**309**	*e*P		**P**		**03 25 27.0**	**-1.2**
	comp=Z,60nm,0.6s								
HIA	**Hailar**	**49.45**	**356**	*e*P		**P**		**03 25 30.9**	**-0.8**
	comp=Z,6.1nm,0.5s								
HIA	**Hailar**	**49.45**	**356**	*e*P		**P**		**03 25 30.9**	**-0.8**
HIA				pmax		pmax			
	comp=Z,6.0nm,0.5s								
KLR	**Kul'dur**	**49.59**	**6**	P		**P**		**03 25 33.1**	**+0.4**
	comp=Z,12nm,0.6s,baz=195,slow=5.3,SNR=63								
KLR	**Kul'dur**	**49.59**	**6**	*i* P		**P**		**03 25 32.8**	**+0.1**
ULN	**Ulaanbaatar**	**50.28**	**345**	*e*P		**P**		**03 25 37.5**	**-0.7**
	comp=Z,9.9nm,1.0s								
ULN	**Ulaanbaatar**	**50.28**	**345**	*ce*P		**P**		**03 25 37.2**	**-1.0**
ULN				pmax		pmax			
	comp=Z,11nm,1.3s								
SONM	**Songino Array**	**50.43**	**344**	P		**P**		**03 25 38.7**	**-0.5**
	comp=Z,6.5nm,0.8s,baz=162,slow=7.0,SNR=21								
SONM				ScP		**ScP**		**03 30 48.4**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=152,slow=6.5,SNR=3.2								
GRNR	**Gornyy**	**51.73**	**9**	*e*P		**P**		**03 25 49.7**	**+0.9**
ZAK	**Zakamensk**	**53.61**	**343**	*e*P		**P**		**03 25 59.4**	**-3.5**
ZAK				pmax		pmax			
	comp=Z,20nm,0.9s								
ZEA	**Zeya**	**53.78**	**2**	*e*P		**P**		**03 26 03.3**	**-0.5**
ZEA				pmax		pmax			
	comp=Z,22nm,0.9s								
WMQ	**Urumqi**	**54.88**	**328**	*e*P		**P**		**03 26 13.1**	**+0.9**
WMQ				sP		sP		03 26 42.1	+7.1
WMQ				PcP		**PcP**		**03 27 17.8**	**+4.2**
W

NVS	**Novosibirsk**	**64.51**	**335**	⇑ *iP*		**P**		**03 27 15.9**	**-2.1**
NVS					pmax	pmax			
	comp=N,4.0nm,0.5s								
NVS					pmax	pmax			
	comp=E,6.0nm,0.5s								
NVS					pmax	pmax			
	comp=Z,8.0nm,0.5s								
KK31	**Karatay Array**	**64.81**	**319**		P	**P**		**03 27 18.3**	**-2.0**
KK31					pmax	pmax			
	comp=Z,5.0nm,0.8s								
OTUK	**Ortayu**	**66.10**	**325**		P	**P**		**03 27 26.6**	**-1.9**
OTUK					pmax	pmax			
	comp=Z,11nm,0.8s								
BVA0	**Borovoye Array**	**69.56**	**328**	*i* P		**P**		**03 27 48.5**	**-1.6**
BVA0					pmax	pmax			
	comp=Z,7.0nm,0.8s								
BRVK	**Borovoye**	**69.63**	**328**	*e*P		**P**		**03 27 48.6**	**-1.9**
	comp=Z,21nm,0.8s								
BRVK	**Borovoye**	**69.63**	**328**⇑	*e*P		**P**		**03 27 50.1**	**-0.5**
BRVK					pmax	pmax			
	comp=Z,10.0nm,0.9s								
TIXI	**Tiksi**	**71.77**	**1**	*ce*P		**P**		**03 28 02.7**	**-0.4**
TIXI					pmax	pmax			
	comp=Z,11nm,1.7s								
GEYT	**Alibeck**	**71.86**	**310**	P		**P**		**03 28 03.3**	**-1.2**
	comp=Z,6.1nm,0.8s,baz=119,slow=7.4,SNR=4.0								
BILL	**Bilibino**	**73.82**	**15**	*i* P		**P**		**03 28 14.3**	**-1.1**
BILL				*i*				03 28 27.7	
BILL					pmax	pmax			
	comp=Z,3.0nm,1.2s								
AB31	**Akbulak array**	**73.96**	**322**	*i* P		**P**		**03 28 14.6**	**-2.0**
AB31					pmax	pmax			
	comp=Z,6.0nm,0.7s								
AKTO	**Aktyubinsk**	**75.53**	**323**	P		**P**		**03 28 23.8**	**-1.8**
AKTO					pmax	pmax			
	comp=Z,12nm,0.7s								
ARU	**Arti**	**77.21**	**329**	*e*P		**P**		**03 28 34.4**	**-0.6**
	comp=Z,18nm,0.3s								
ARU	**Arti**	**77.21**	**329**	P		**P**		**03 28 33.0**	**-2.0**
ARU				S		**S**		**03 38 18.6**	**-0.7**
ARU				SS		**SS**		**03 43 16.0**	**-2.3**
KBZ	**Khabaz**	**84.25**	**314**	P		**P**		**03 29 11.9**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=87,slow=6.5,SNR=3.9								
PRGR	**Permogore**	**85.00**	**332**	*e*P		**P**		**03 29 14.4**	**-1.9**
PRGR					pmax	pmax			
	comp=Z,12nm,0.7s								
VRH	**Novokhopyorsk**	**85.78**	**321**	*e*P		**P**		**03 29 19.0**	**-1.4**
VRH					pmax	pmax			
	comp=Z,10.0nm,0.8s								
VSR	**Storozhevoye**	**87.38**	**321**	*e*P		**P**		**03 29 28.0**	**-0.2**
VSR					pmax	pmax			
	comp=Z,10.0nm,0.6s								
KMBO	**Kilima Mbogo**	**87.52**	**269**	P		**P**		**03 29 29.5**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=51,slow=8.3,SNR=4.3								
KMBO	**Kilima Mbogo**	**87.52**	**269**	*i* P		**P**		**03 29 31.2**	**+1.2**
KMBO					pmax	pmax			
	comp=Z,2.0nm,0.8s								
LPSR	**Galich'ya Gora**	**87.61**	**322**	*e*P		**P**		**03 29 29.9**	**+0.6**
LPSR					pmax	pmax			
	comp=Z,30nm,0.8s								
KLMR	**Klimovskoe**	**87.84**	**331**	*e*P		**P**		**03 29 27.4**	**-2.7**
KLMR					pmax	pmax			
	comp=Z,10.0nm,1.0s								
KLMR	**Klimovskoe**	**87.84**	**331**	*e*P		**P**		**03 29 27.5**	**-2.7**
KLMR					AMP			03 29 29.5	
	comp=Z,10.0nm,1.0s								
OBN	**Obninsk**	**89.12**	**325**	*i* P		**P**		**03 29 34.5**	**-1.8**
OBN					pmax	pmax			
	comp=Z,4.0nm,0.7s								
ILAR	**Eielson Array**	**89.46**	**25**	P		**P**		**03 29 37.2**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=242,slow=5.0,SNR=19								
BRTR	**Keskin Array B**	**90.99**	**310**	P		**P**		**03 29 44.0**	**-1.6**
	comp=Z,0.8nm,0.7s,baz=118,slow=5.2,SNR=7.8								
ARCES	**ARCESS Array B**	**93.42**	**340**	P		**P**		**03 29 54.2**	**-1.9**
	comp=Z,1.7nm,0.5s,baz=65,slow=5.8,SNR=9.1								
AKASG	**Malin Array Be**	**93.67**	**321**	P		**P**		**03 29 55.5**	**-2.0**
	comp=Z,1.3nm,0.6s,baz=70,slow=4.7,SNR=9.5								
FINES	**FINESS Array B**	**94.33**	**332**	P		**P**		**03 29 57.9**	**-2.4**
	comp=Z,1.7nm,0.6s,baz=59,slow=7.4,SNR=7.9								
FINES	**FINESS Array B**	**94.33**	**332**	*i* P		**P**		**03 29 57.7**	**-2.6**
FINES					pmax	pmax			
	comp=Z,2.0nm,0.6s								
YKA	**Yellowknife Ar**	**103.85**	**24**	Pdiff		**Pdif**		**03 30 44.4**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=297,slow=4.8,SNR=4.2								
YKA					PKiKP	**PKiKP**		**03 35 02.7**	**+2.2**
	comp=Z,0.1nm,0.6s,baz=306,slow=2.0,SNR=3.9								
TORD	**Torodi Ar. Bea**	**122.17**	**285**	PKP		**PKPdf**		**03 35 36.5**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=57,slow=2.8,SNR=5.6								
SCHQ	**Schefferville**	**124.71**	**8**	PKP		**PKiKP**		**03 35 41.1**	**+0.4**
	comp=Z,2.9nm,1.0s,baz=292,slow=3.6,SNR=6.2								
TXAR	**Lajitas Array**	**125.51**	**53**	PKP		**PKiKP**		**03 35 44.5**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=269,slow=2.8,SNR=5.9								

IDC 21 03:29:41.3±2.4, 18°22S×172°73W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.7/42, mbtmp3.7/5, Error ellipse: s-maj=150.3km s-min=26.2km az=152.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.88**	**259**	P	P	03 38 35.7	-1.2
	0.8nm,0.7s,baz=97,slow=6.8,SNR=14						
ASAR	**Alice Springs**	**49.91**	**254**	P	P	03 38 37.6	+0.5
	1.3nm,0.5s,baz=94,slow=7.8,SNR=13						
TXAR	**Lajitas Array**	**81.66**	**56**	P	P	03 42 01.7	-0.1
	0.2nm,0.7s,baz=229,slow=6.9,SNR=3.5						
PDAR	**Pinedale Array**	**83.94**	**41**	P	P	03 42 13.2	-0.4
	0.5nm,0.7s,baz=202,slow=4.5,SNR=1.7						
ILAR	**Eielson Array**	**85.08**	**11**	P	P	03 42 18.1	-0.4
	0.3nm,0.7s,baz=224,slow=6.3,SNR=1.6						
BRTR	**Keskin Array B**	**148.72**	**319**	PKPbc	PKiKP	03 49 31.9	-0.6
	0.7nm,0.7s,baz=54,slow=1.9,SNR=6.6						

IDC 21 03:32:46.2±2.7, 44°16S×113°43E, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.6/36, mbtmp3.9/3, ML2.0/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/19, Error ellipse: s-maj=106.6km s-min=45.0km az=111.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**11.61**	**16**	Pn	Pn	03 35 31.7	-1.4
	0.5nm,0.3s,baz=240,slow=15,SNR=1.7						
ASAR	**Alice Springs**	**26.45**	**46**	P	P	03 38 25.1	+0.2
	1.4nm,0.8s,baz=210,slow=8.4,SNR=9.0						
WRA	**Warramunga Arr**	**29.79**	**43**	P	P	03 38 55.4	+0.7
	0.8nm,0.7s,baz=210,slow=9.7,SNR=5.2						
WRA				LR	LR	03 51 04.8	
	comp=Z,55nm,19.1s,baz=60,slow=37						
BOSA	**Boshof**	**69.46**	**250**	LR	LR	04 08 17.7	
	comp=Z,53nm,19.2s,baz=352,slow=31						
YKA	**Yellowknife Ar**	**146.97**	**39**	PKPbc	PKPdf	03 52 27.8	+0.3
	0.5nm,0.7s,baz=286,slow=3.0,SNR=8.0						
TXAR	**Lajitas Array**	**147.10**	**104**	PKPbc	PKPbc	03 52 31.0	-0.2
	0.3nm,0.6s,baz=198,slow=5.6,SNR=5.2						

*NIED **21** 03:34:00, 24°.10N×123°.60E, h26km, Mw3.8 Best double couple: M0 5.44000×10^14 NP1:φ=193.00000°, δ=49.00000°, λ=152.00000°. NP2:φ=302.00000°, δ=70.00000°, λ=45.00000°.*
*IDC **21** 03:34:13.4±1.0, 24°.20N×123°.63E, h0km, mb3.7/11, mb1 3.8/11, mb1mx3.6/57, mbtmp3.7/11, Error ellipse: s-maj=62.2km s-min=18.3km az=64.0*
*ISCJB **21** 03:34:18.9±0.6, 24°.09N±0°.08×123°.62E±0°.05, h53km±4km, mb3.6/11, Error ellipse: s-maj=13.3km s-min=6.9km az=7.4*
*JMA **21** 03:34:19.8±0.2, 24°.10N×123°.61E, h44km±2km, M3.5*
JMA Felt I J1.

ISC 21 03:34:19.7±0.9, 24°.11N±0°.09×123°.62E±0°.04, h45km±6km, n20, σ0961/27, mb3.6/11, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.18**	**106**	P	**Pn**	**03 34 27.2**	**-0.1**
HATJ				S	**Sn**	**03 34 32.5**	**-0.2**
IRIF	**Iriomote-Funau**	**0.25**	**24**	P	**Pn**	**03 34 27.7**	**-0.2**
IRIF				S	**Sn**	**03 34 33.8**	**+0.1**
JKRS	**Kuro-shima**	**0.38**	**70**	P	**Pn**	**03 34 29.5**	**+0.3**
JKRS				S	**Sn**	**03 34 36.9**	**+0.9**
JJ	**Ishigaki jima**	**0.54**	**62**	P	**Pn**	**03 34 31.1**	**-0.1**
JJ				S	**Sn**	**03 34 40.0**	**+0.6**
YOJ	**Yonaguni jima**	**0.66**	**303**	P	**Pn**	**03 34 33.0**	**+0.3**
YOJ				S	**Sn**	**03 34 42.8**	**+0.7**
JYNG	**Yonagunijimaku**	**0.70**	**299**	P	**Pn**	**03 34 33.4**	**0.0**
JYNG				S	**Sn**	**03 34 44.2**	**+1.0**
JISG	**Ishigakijimahi**	**0.79**	**53**	P	**Pn**	**03 34 34.4**	**-0.1**
JISG				S	**Sn**	**03 34 45.7**	**+0.4**
JTJ	**Tarama**	**1.12**	**61**	P	**Pn**	**03 34 39.6**	**+0.6**
MKAR	**Makanchi Array**	**39.95**	**315**	P	**P**	**03 41 49.1**	**-0.6**
	0.8nm,0.8s,baz=103,slow=9.8,SNR=7.5						
ZALV	**Zalesovo Beam**	**41.53**	**326**	P	**P**	**03 42 01.0**	**-1.6**
	0.5nm,0.5s,baz=28,slow=13,SNR=2.3						
KURBB	**Kurchatov Arra**	**43.61**	**319**	P	**P**	**03 42 18.8**	**-0.7**
	0.2nm,0.3s,baz=116,slow=7.6,SNR=2.4						
WRA	**Warramunga Arr**	**45.01**	**166**	P	**P**	**03 42 31.2**	**+0.2**
	2.5nm,0.8s,baz=346,slow=9.0,SNR=10						
ASAR	**Alice Springs**	**48.53**	**167**	P	**P**	**03 42 59.0**	**+0.5**
	0.5nm,0.4s,baz=354,slow=6.9,SNR=10						
BVAR	**Borovoye Array**	**49.15**	**320**	P	**P**	**03 43 02.4**	**-0.6**
	0.5nm,0.5s,baz=102,slow=9.0,SNR=4.2						
FINES	**FINESS Array B**	**72.63**	**330**	P	**P**	**03 45 41.8**	**-0.5**
	0.6nm,0.5s,baz=39,slow=9.0,SNR=1.3						
BRTR	**Keskin Array B**	**75.00**	**307**	P	**P**	**03 45 57.4**	**+0.6**
	0.5nm,0.7s,baz=72,slow=5.3,SNR=4.5						
NB2	**NORSAR Subarra**	**79.32**	**333**	P	**P**	**03 46 20.1**	**-0.4**
	comp=Z,2.8nm,0.8s,baz=55,slow=6.2						
NOA	**NORSAR Array B**	**79.32**	**333**	P	**P**	**03 46 20.3**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=69,slow=6.7,SNR=4.3						
YKA	**Yellowknife Ar**	**82.17**	**23**	P	**P**	**03 46 35.8**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=303,slow=5.1,SNR=3.2						
GERES	**GERESS Array B**	**84.30**	**321**	P	**P**	**03 46 47.2**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=37,slow=8.6,SNR=1.6						

*IDC **21** 03:40:55.3±1.4, 39°.36N×20°.37E, h0km, mb3.4/5, mb1 3.5/8, mb1mx3.3/46, mbtmp3.3/8, ML3.3/2, Error ellipse: s-maj=23.8km s-min=20.8km az=115.0*
*ATH **21** 03:40:57.6, 39°.38N×20°.54E, h15km±1km, ML3.0/8, Error ellipse: s-maj=1.3km s-min=0.7km az=269.0*
*ISCJB **21** 03:40:58.4±0.3, 39°.39N±0°.02×20°.43E±0°.03, h20km±3km, mb3.4/5, Error ellipse: s-maj=3.7km s-min=2.4km az=142.5*
*THE **21** 03:40:58.0, 39°.37N×20°.56E, h0km±1km, ML2.8/14, Error ellipse: s-maj=1.6km s-min=0.4km az=254.0*

ISC 21 03:40:58.1±0.8, 39°38N±0°.02×20°52E±0°.02, h16km±6km, n106, σ1$38/133, mb3.5/5, 4C-2D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.21**	**317**	P	**Pg**	**03 41 02.6**	**-0.5**
IGT				S	**Sg**	**03 41 06.3**	**0.0**
IGT				AML	AML	03 41 08.2	
	comp=E,9584μm,0.3s						
IGT				AML	AML	03 41 12.6	
	comp=N,5920μm,0.3s						
IGT	**Igoumenitsa**	**0.21**	**317**	P	**Pg**	**03 41 02.6**	**-0.5**
IGT				S	**Sg**	**03 41 06.7**	**+0.4**
JAN	**Janina**	**0.38**	**43**	P	**Pg**	**03 41 05.0**	**-0.8**
JAN				S	**Sg**	**03 41 10.8**	**-0.4**
JAN				AML	AML	03 41 12.1	
	comp=E,11858μm,0.3s						
JAN				AML	AML	03 41 12.8	
	comp=N,9242μm,0.3s						
JAN	**Janina**	**0.38**	**43**	P	**Pg**	**03 41 05.1**	**-0.8**
JAN				S	**Sg**	**03 41 11.2**	**0.0**
KASA	**Kassiopi**	**0.58**	**309**	P	**Pg**	**03 41 09.6**	**0.0**
KASA				S	**Sg**	**03 41 17.3**	**-0.1**
KASA				AML	AML	03 41 25.6	
	comp=E,3966μm,0.4s						
KASA				AML	AML	03 41 25.7	
	comp=N,3259μm,0.4s						
LKD2	**Lefkada island**	**0.60**	**170**	P	**Pg**	**03 41 08.7**	**-1.2**
LKD2				S	**Sg**	**03 41 18.6**	**+0.1**
LKD2				AML	AML	03 41 21.0	
	comp=E,2664μm,0.4s						
LKD2				AML	AML	03 41 26.1	
	comp=N,2369μm,0.4s						
LKD2	**Lefkada island**	**0.60**	**170**	P	**Pg**	**03 41 08.8**	**-1.2**
LKD2				S	**Sg**	**03 41 18.2**	**+0.3**
SRN	**Sarande**	**0.64**	**321**	P	**Pg**	**03 41 10.3**	**-0.4**
SRN				S	**Sb**	**03 41 20.6**	**+0.9**
KEK	**Kerkira**	**0.65**	**301**	P	**Pg**	**03 41 10.5**	**-0.4**
KEK				S	**Sg**	**03 41 19.8**	**+0.3**
KEK				AML	AML	03 41 27.6	
	comp=N,2434μm,0.3s						
KEK				AML	AML	03 41 29.6	
	comp=E,2252μm,0.3s						
KEK	**Kerkira**	**0.65**	**301**	P	**Pg**	**03 41 10.9**	**0.0**
KEK				S	**Sb**	**03 41 21.3**	**+1.3**
MGNA	**Meganis**	**0.75**	**164**	P	**Pg**	**03 41 11.8**	**-0.9**
KPRO	**Kipourio**	**0.87**	**48**	P	**Pb**	**03 41 14.1**	**-0.8**
KPRO				S	**Sg**	**03 41 26.7**	**+0.2**
PDO	**Prodromos**	**0.94**	**146**	P	**Pb**	**03 41 14.8**	**-1.1**
PDO	**Prodromos**	**0.94**	**146**	P	**Pb**	**03 41 14.9**	**-1.1**
PDO				S	**Sg**	**03 41 28.9**	**+0.4**
PENT	**Pentalofos**	**0.94**	**30**	P	**Pb**	**03 41 15.6**	**-0.6**
PENT	**Pentalofos**	**0.94**	**30**	P	**Pb**	**03 41 15.7**	**-0.6**
PENT				S	**Sn**	**03 41 30.0**	**-0.1**
PVO	**Paravola**	**1.09**	**134**	P	**Pb**	**03 41 18.5**	**-0.2**
PVO				S	**Sn**	**03 41 34.0**	**+0.4**
PVO				AML	AML	03 41 40.2	
	comp=E,1255μm,0.4s						
PVO				AML	AML	03 41 42.2	
	comp=N,1435μm,0.6s						
PVO	**Paravola**	**1.09**	**134**	P	**Pb**	**03 41 18.6**	**-0.1**
PVO				S	**Sb**	**03 41 33.0**	**+0.3**
EVR	**Evrytania**	**1.10**	**114**	P	**Pb**	**03 41 18.3**	**-0.6**
EVR	**Evrytania**	**1.10**	**114**	P	**Pb**	**03 41 18.4**	**-0.6**
EVR				S	**Sn**	**03 41 34.4**	**+0.4**
NEST	**Nestorio**	**1.11**	**21**	P	**Pb**	**03 41 18.8**	**-0.3**
NEST	**Nestorio**	**1.11**	**21**	P	**Pb**	**03 41 18.9**	**-0.2**
NEST				S	**Sn**	**03 41 35.0**	**+0.7**
THL	**Klokotos Trika**	**1.17**	**80**	P	**Pn**	**03 41 18.9**	**-1.0**
THL				S	**Sn**	**03 41 35.7**	**+0.1**
THL				AML	AML	03 41 42.0	
	comp=E,514μm,0.3s						
THL				AML	AML	03 41 42.3	
	comp=N,386μm,0.7s						
THL	**Klokotos Trika**	**1.17**	**80**	P	**Pn**	**03 41 19.1**	**-0.8**
THL				S	**Sg**	**03 41 36.7**	**+0.7**
VLS	**Valsamata**	**1.20**	**177**	P	**Pn**	**03 41 20.1**	**-0.2**
VLS				S	**Sg**	**03 41 37.7**	**+0.7**
VLS				AML	AML	03 41 40.9	
	comp=E,2187μm,0.3s						
VLS				AML	AML	03 41 41.2	
	comp=N,2721μm,0.3s						
VLS	**Valsamata**	**1.20**	**177**	P	**Pn**	**03 41 20.0**	**-0.3**
VLS				S	**Sg**	**03 41 38.8**	**+1.8**
MAKR	**Makrakomi, Fth**	**1.30**	**106**	P	**Pn**	**03 41 22.0**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.30**	**106**	P	**Pn**	**03 41 22.1**	**+0.3**
KZN	**Kozani**	**1.34**	**46**	P	**Pn**	**03 41 22.4**	**+0.2**
KZN	**Kozani**	**1.34**	**46**	P	**Pn**	**03 41 22.3**	**0.0**
EFP	**Efpalio**	**1.44**	**131**	P	**Pb**	**03 41 25.1**	**+0.6**
AGG	**Agios Georgios**	**1.45**	**104**	P	**Pb**	**03 41 24.6**	**-0.3**
AGG	**Agios Georgios**	**1.45**	**104**	P	**Pn**	**03 41 24.1**	**+0.3**
AGG				S	**Sg**	**03 41 45.0**	**0.0**
RLS	**Riolos of Patr**	**1.51**	**150**	P	**Pb**	**03 41 25.7**	**-0.1**
SERG	**Sergoula**	**1.54**	**128**	P	**Pb**	**03 41 26.8**	**+0.5**
VTN	**Vitineika**	**1.55**	**160**	P	**Pb**	**03 41 26.8**	**+0.4**
TRIZ	**Trizonia**	**1.58**	**129**	P	**Pb**	**03 41 27.7**	**+0.7**
KALE	**Kalithea**	**1.60**	**127**	P	**Pg**	**03 41 28.4**	**-0.6**
LAKA	**Lakka**	**1.61**	**134**	P	**Pb**	**03 41 27.6**	**+0.1**
LIT	**Litokhoron**	**1.68**	**64**	P	**Pb**	**03 41 28.2**	**-0.5**
LIT	**Litokhoron**	**1.68**	**64**	P	**Pb**	**03 41 28.3**	**-0.4**
DRO	**Drossia**	**1.70**	**146**	P	**Pb**	**03 41 28.6**	**-0.5**
BIA	**Bitola**	**1.75**	**20**	*i* Pn	**Pb**	**03 41 30.9**	**+1.0**
BIA				*i* Sn	**Sg**	**03 41 56.9**	**+2.4**
DSF	**Desfina**	**1.84**	**121**	P	**Pb**	**03 41 31.3**	**-0.2**
KLV	**Kalavryta, Ach**	**1.84**	**136**	P	**Pb**	**03 41 31.5**	**-0.1**
FYTO	**Fytoko, Volos**	**1.88**	**88**	P	**Pb**	**03 41 31.3**	**-0.7**
GUR	**Goura**	**2.03**	**135**	P	**Pb**	**03 41 34.0**	**-0.7**
TIR	**Tirane**	**2.03**	**346**	P	**Pb**	**03 41 33.9**	**-0.7**
TIR	**Tirane**	**2.03**	**346**	P	**Pb**	**03 41 34.6**	**0.0**
KRUS	**Krusevo**	**2.06**	**15**	*i* Pn	**Pb**	**03 41 34.5**	**-0.8**
ATAL	**Atalanti**	**2.06**	**109**	P	**Pb**	**03 41 35.0**	**-0.3**
AMT	**Artemida-Makis**	**2.07**	**153**	P	**Pb**	**03 41 34.7**	**-0.5**
XOR	**Xorichti**	**2.07**	**90**	P	**Pb**	**03 41 34.5**	**-0.9**
NEO	**Neokhori**	**2.10**	**91**	P	**Pn**	**03 41 34.2**	**+1.5**
GRG	**Griva**	**2.14**	**42**	P	**Pb**	**03 41 35.4**	**-1.1**
PROD	**Prodromos**	**2.17**	**120**	P	**Pn**	**03 41 35.0**	**+1.3**
TRIP	**Tripoli**	**2.30**	**143**	P	**Pb**	**03 41 38.1**	**-1.3**
LTK	**Loutraki**	**2.34**	**124**	P	**Pn**	**03 41 37.7**	**+1.7**
VIL2	**Platees**	**2.44**	**118**	P	**Pn**	**03 41 38.8**	**+1.3**
ITM	**Ithomi**	**2.46**	**153**	P	**Pn**	**03 41 39.7**	**+2.1**
PLG	**Polygyros**	**2.46**	**65**	P	**Pn**	**03 41 38.9**	**+1.2**
VAY	**Valandovo**	**2.49**	**38**	*i* Pn	**Pn**	**03 41 39.5**	**+1.4**
PAIG	**Paliouri**	**2.50**	**76**	P	**Pn**	**03 41 39.2**	**+1.0**
KNT	**Kendrikon**	**2.55**	**45**	P	**Pn**	**03 41 40.1**	**+1.3**
SOH	**Sokhos**	**2.61**	**56**	P	**Pn**	**03 41 41.7**	**+2.0**
STIP	**Stip**	**2.64**	**28**	*i* Pn	**Pb**	**03 41 44.4**	**-0.7**
PYL	**PYLOS**	**2.66**	**158**	P	**Pn**	**03 41 41.1**	**+0.8**
SKO	**Skopje**	**2.68**	**15**	*i* Pn	**Pn**	**03 41 42.5**	**+1.9**
OUR	**Ouranopolis**	**2.83**	**69**	P	**Pn**	**03 41 44.3**	**+1.6**
DID	**Didima**	**2.84**	**130**	P	**Pn**	**03 41 44.5**	**+1.6**
KRND	**KRANIDI**	**2.87**	**133**	P	**Pn**	**03 41 44.2**	**+0.9**
ATHU	**Athens Univers**	**2.92**	**118**	P	**Pn**	**03 41 45.8**	**+1.9**
SRS	**Serrai**	**2.92**	**53**	P	**Pn**	**03 41 45.3**	**+1.3**
TIP	**Tinpagrande**	**2.93**	**267**	P	**Pn**	**03 41 44.8**	**+0.7**
DION	**Dionisos Attik**	**2.97**	**115**	P	**Pn**	**03 41 46.2**	**+1.6**
VLY	**Voula,Athens**	**2.98**	**120**	P	**Pn**	**03 41 46.8**	**+2.0**
NOCI	**Noci**	**3.00**	**299**	P	**Pn**	**03 41 45.6**	**+0.5**
NVR	**Nevrokopi**	**3.22**	**51**	P	**Pn**	**03 41 50.0**	**+1.8**
VLI	**Veliai**	**3.27**	**144**	P	**Pn**	**03 41 50.8**	**+2.0**
BAI	**Bari**	**3.28**	**303**	*e*Pn	**Pn**	**03 41 49.1**	**+0.3**
SG1	**Sgolgore (BA)**	**3.29**	**298**	*e*Pn	**Pn**	**03 41 49.8**	**+0.8**
SG1					Sn	**Sn**	**03 42 28.1**	**+0.3**
KAVA	**Kavala**	**3.46**	**61**	P	**Pn**	**03 41 52.4**	**+1.1**
VTS	**Vitosha**	**3.80**	**32**	⇑ *iP*	**Pn**	**03 41 59.3**	**+3.1**
VTS					S	**Sn**	**03 42 35.0**	**-5.6**
STON	**Ston**	**4.09**	**330**	*e*Pn	**Pn**	**03 41 59.8**	**-0.2**
STON					Sn	**Sn**	**03 42 45.6**	**-1.8**
NVLJ	**Novalja**	**6.67**	**323**	*e*Pn	**Pn**	**03 42 36.0**	**+0.5**
NVLJ					Sn	**Sn**	**03 43 47.6**	**-3.5**
VOIR		**6.92**	**27**	⇑ *iP*	**Pn**	**03 42 42.0**	**+3.1**
OZLJ	**Ozalj**	**7.26**	**331**	*e*Pn	**Pn**	**03 42 44.1**	**+0.6**
MLR	**Muntele Rosu**	**7.31**	**32**	‖ Pn	**Pn**	**03 42 46.9**	**+2.6**
MLR	**Muntele Rosu**	**7.31**	**32**	‖ *iP*	**Pn**	**03 42 48.0**	**+3.7**
PLOR	**Plostina**	**7.89**	**33**	⇑ *iP*	**Pn**	**03 42 56.5**	**+4.3**
VRI	**Vrincioaia**	**7.93**	**33**	‖ *iP*	**Pn**	**03 42 56.7**	**+3.9**
SOKA	**Soboth**	**8.33**	**333**	*e*Pn	**Pn**	**03 42 58.4**	**+0.1**
	comp=N,0.9nm,0.2s						
OBKA	**Obir**	**8.36**	**330**	*e*Pn	**Pn**	**03 42 59.0**	**+0.3**
	comp=N,0.7nm,0.3s						
ARSA	**Arzberg**	**8.67**	**337**	*i* Pn	**Pn**	**03 43 03.0**	**+0.1**
	comp=N,0.7nm,0.2s						
CONA	**Conrad Observa**	**9.19**	**340**	*i* Pn	**Pn**	**03 43 11.3**	**+1.3**
	comp=N,0.6nm,0.4s						
KBA	**Koelnbreinsper**	**9.30**	**328**	*e*Pn	**Pn**	**03 43 12.1**	**+0.4**
	comp=N,0.6nm,0.3s						
MOA	**Molln**	**9.60**	**334**	*e*Pn	**Pn**	**03 43 17.2**	**+1.5**
	comp=N,0.9nm,0.2s						
BRTR	**Keskin Array B**	**10.14**	**84**	Pn	**Pn**	**03 43 27.5**	**+4.3**
	comp=N,0.1nm,0.3s,baz=268,slow=14,SNR=3.9						
SQTA	**Sankt Quirin**	**10.36**	**322**	*e*Pn	**Pn**	**03 43 28.1**	**+1.9**
	comp=N,0.6nm,0.2s						
MOTA	**Moosalm**	**10.50**	**322**	*e*Pn	**Pn**	**03 43 30.2**	**+2.1**
	comp=N,0.8nm,0.3s						
GERES	**GERESS Array B**	**10.65**	**335**	Pn	**Pn**	**03 43 29.4**	**-0.7**
	comp=N,0.2nm,0.3s,baz=157,slow=13,SNR=4.7						
HFS	**Hagfors**	**21.22**	**351**	P	**P**	**03 45 42.5**	**-0.5**
	comp=N,4.5nm,1.1s,baz=161,slow=9.4,SNR=4.1						
FINES	**FINESS Array B**	**22.36**	**7**	P	**P**	**03 45 55.2**	**0.0**
	comp=N,1.4nm,0.7s,baz=181,slow=9.5,SNR=6.5						
NOA	**NORSAR Array B**	**22.44**	**348**	P	**P**	**03 45 55.6**	**-0.6**
	comp=N,0.6nm,0.6s,baz=165,slow=11,SNR=2.8						
TORD	**Torodi Ar. Bea**	**30.57**	**218**	P	**P**	**03 47 14.0**	**-0.7**
	comp=N,0.4nm,0.6s,baz=26,slow=10,SNR=6.0						
MKAR	**Makanchi Array**	**44.68**	**59**	P	**P**	**03 49 09.1**	**-1.1**
	comp=N,0.2nm,0.4s,baz=278,slow=8.5,SNR=5.7						

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30nm,0.3s,baz=359,slow=17,SNR=8.2
SJG LR LR 04 27 07.3
comp=Z,89nm,21.9s,baz=60,slow=40
SJG San Juan 2.14 230 *e*Pn **Pn 04 26 12.7 -0.4**
SJG Sn **Sn 04 26 37.3 -1.4**
SJG *e*S 04 26 38.8
SABA Saba 2.20 149 *e*P **Pn 04 26 14.0 +0.2**
SABA *e*S **Sn 04 26 42.0 +1.9**
EMPR Esperanza - Ma 2.24 243⇑*e*P **Pn 04 26 14.3 0.0**
EMPR Esperanza - Ma 2.24 243 *e*S **Sn 04 26 41.4 +0.4**
EMPR Esperanza - Ma 2.24 243⇑*e*P **Pn 04 26 14.3 0.0**
EMPR *e*S **Sn 04 26 41.4 +0.4**
SEUS St. Eustatius 2.44 145 *e*P Pn 04 26 12.2 -4.9
SEUS *e*S **Sn 04 26 45.6 -0.4**
CELP Cerrillos 2.49 235⇓*i*P **Pn 04 26 17.8 0.0**
CELP *e*S **Sn 04 26 47.6 +0.4**
CELP Cerrillos 2.49 235⇓*i*P **Pn 04 26 17.8 0.0**
CELP *e*S **Sn 04 26 47.6 +0.4**
OBIP Obispado Ponce 2.53 235⇓*e*P **Pn 04 26 18.3 0.0**
OBIP Obispado Ponce 2.53 235 *e*S **Sn 04 26 48.5 +0.4**
OBIP Obispado Ponce 2.53 235⇓*e*P **Pn 04 26 18.3 0.0**
OBIP *e*S **Sn 04 26 48.5 +0.4**
AGPR Aguadilla, PR 2.74 248⇑*e*P **Pn 04 26 20.9 -0.3**
AGPR *e*S **Sn 04 26 53.7 +0.3**
AGPR Aguadilla, PR 2.74 248⇑*e*P **Pn 04 26 20.9 -0.3**
AGPR *e*S **Sn 04 26 53.7 +0.3**
CRPR Cabo Rojo, PR 2.95 240⇑*e*P **Pn 04 26 23.7 -0.4**
CRPR Cabo Rojo, PR 2.95 240 *e*S **Sn 04 26 59.3 +0.8**
CRPR Cabo Rojo, PR 2.95 240⇑*e*P **Pn 04 26 23.7 -0.4**
CRPR *e*S **Sn 04 26 59.3 +0.8**
NEV Hard Times 2.96 143 *e*P **Pn 04 26 24.9 +0.7**
NEV *e*S **Sn 04 27 00.5 +1.7**
ANWB Willy Bob 3.11 126 *e*Pn **Pn 04 26 26.4 0.0**
ANWB Willy Bob 3.11 126 *e*P **Pn 04 26 24.3 -2.0**
ANWB *e*S **Sn 04 27 00.1 -2.5**
BPA Boggy Peak 3.47 135 *e*P **Pn 04 26 30.3 -1.0**
BPA *e*S **Sn 04 27 10.0 -1.5**
MLYT Lee's Yard 3.50 142 *e*P **Pn 04 26 31.8 0.0**
MLYT *e*S **Sn 04 27 13.9 +1.6**
ABD La Joyeuse, An 4.12 137 *e*P **Pn 04 26 38.9 -1.4**
CBE Ff, Capester 4.36 141 *e*P **Pn 04 26 43.3 -0.3**
TDBA Terre de Bas, 4.52 143 *e*P **Pn 04 26 46.6 +0.9**
DEG La Desirade 4.52 134 *e*P **Pn 04 26 46.3 +0.5**
DEG La Desirade 4.52 134 *e*S **Sn 04 27 35.5 -2.1**
H05N1 Guadeloupe/Mar 4.52 134 Pn **Pn 04 26 45.6 -0.3**
H05N1 Sn **Sn 04 27 34.4 -3.0**
MAGL Barre de l'ile 4.65 139 *e*P **Pn 04 26 47.1 -0.4**
MDPV Dominica, Penn 4.82 143 *e*P **Pn 04 26 48.8 -1.1**
MDPV Dominica, Penn 4.82 143 *e*S **Sn 04 27 45.9 +1.1**
MDPO Dominica; Chan 4.84 144 *e*P **Pn 04 26 50.2 0.0**
MDPO Dominica; Chan 4.84 144 *e*S **Sn 04 27 44.7 -0.6**
DWS Wesley 4.93 142 *e*P **Pn 04 26 53.8 +2.4**
DWS Wesley 4.93 142 *e*S **Sn 04 27 51.0 +3.6**
DLPL La Plaine 5.15 143 *e*S **Sn 04 27 56.3 +3.2**
PCM Pelee Case Pet 5.60 146 *e*P **Pn 04 27 00.7 +0.1**
CXM Morne La Croix 5.62 146 *e*P **Pn 04 27 01.5 +0.5**
BAMF Morne Balai 5.63 146 *e*P **Pn 04 27 01.4 +0.3**
GBMF Grand Be 5.64 146 *e*P **Pn 04 27 01.5 +0.3**
PML Morne Lenard 5.64 146 *e*P **Pn 04 27 01.3 +0.1**
FDF Fort de France 5.70 146 *e*P **Pn 04 27 01.5 -0.5**
FDF Fort de France 5.70 146 *e*S **Sn 04 27 59.7 -6.8**
H05S1 Guadeloupe/Mar 6.12 145 Pn **Pn 04 27 08.3 +0.5**
H05S1 Sn **Sn 04 28 16.0 -0.8**
SLW Petit Monier 6.41 148 *e*P **Pn 04 27 10.2 -1.6**
SDDR Presa de Saban 6.50 266 *e*Pn **Pn 04 27 13.6 +0.7**
141nm,0.8s
SDDR *e*S **Sn 04 28 25.0 -1.2**
SLB Belfond 6.53 150 *e*P **Pn 04 27 11.1 -2.2**
SLDE Delcer 6.54 150 *e*P **Pn 04 27 12.9 -0.7**
SLPA Patience 6.56 149 *e*P **Pn 04 27 12.5 -1.3**
SFAN Fancy Village 6.85 152 *e*P **Pn 04 27 19.2 +1.3**
SVV Soufriere Volc 6.89 153 *e*P **Pn 04 27 21.1 +2.7**
SSV Crater Summit 6.89 153 *e*P **Pn 04 27 20.8 +2.3**
SVB Belmont 6.92 153 *e*P **Pn 04 27 21.5 +2.8**
SVCV St. Vincent, C 6.96 153 *e*P **Pn 04 27 22.6 +3.2**
FCV Fort Charlotte 7.03 154 *e*P **Pn 04 27 21.7 +1.5**
GRSS Sisters 7.67 159 *e*P Pn 04 27 34.3 +5.2
GRHS Sauteurs 7.73 159 *e*P **Pn 04 27 34.5 +4.6**
GRGR Grenville 7.81 160 *e*P **Pn 04 27 34.1 +3.1**
BBGH Gun Hill 7.88 143 *e*P **Pn 04 27 34.3 +2.4**
TOSP Speyside 8.99 155 *e*P **Pn 04 27 49.0 +1.8**
BOT Bacolet 9.04 156 *e*P **Pn 04 27 51.8 +3.9**
PCRV Puerto La Cruz 9.29 181 Pn **Pn 04 27 52.0 +0.7**
1.5nm,0.3s,baz=54,slow=1.2,SNR=7.1
TRN Trinidad (W) 9.29 161 *e*P Pn 04 27 57.5 +6.2
SDV Santo Domingo 12.15 210 Pn **Pn 04 28 32.4 +1.8**
0.8nm,0.3s,baz=50,slow=6.2,SNR=11
SDV Sn **Sn 04 30 42.1 -3.3**
0.1nm,0.3s,baz=308,slow=21,SNR=1.9
SDV Santo Domingo 12.15 210 *e*Pn **Pn 04 28 32.5 +1.8**
6.6nm,0.6s
SDV *e*S **Sn 04 30 41.9 -3.6**
OCAC Ocana 14.14 219 *e*P **Pn 04 28 57.8 0.0**
OCAC Ocana 14.14 219 *e*P **Pn 04 28 57.8 0.0**
PAMC Pamplona, Colo 14.52 215 *e*P **Pn 04 29 03.2 -0.1**
PAMC *e*P **P 04 29 06.2 -3.5**
PAMC Pamplona, Colo 14.52 215 *e*P **Pn 04 29 03.2 -0.1**
PAMC *e*P **P 04 29 06.2 -3.5**
BARC Barichara 15.41 215 *e*P **Pn 04 29 14.3 -0.6**
BARC Barichara 15.41 215 *e*P **Pn 04 29 14.3 -0.6**
ZARC Zaragoza, Cauc 15.66 222 *e*P **Pn 04 29 14.7 -3.3**
ZARC Zaragoza, Cauc 15.66 222 *e*P **Pn 04 29 14.7 -3.3**
RUSC La Rusia 15.95 213 *e*P **Pn 04 29 20.7 -1.4**
RUSC La Rusia 15.95 213 *e*P **Pn 04 29 20.7 -1.4**
PTBC PUERTO BERRIO, 16.17 218 *e*P **Pn 04 29 23.0 -1.5**
PTBC PUERTO BERRIO, 16.17 218 *e*P **Pn 04 29 23.0 -1.5**
HELC Santa Helena 17.09 221 *e*P **Pn 04 29 36.6 +0.2**
HELC Santa Helena 17.09 221 *e*P **Pn 04 29 36.6 +0.2**
CHIC Chingaza 17.35 213 *e*P **Pn 04 29 39.1 -0.7**
CHIC Chingaza 17.35 213 *e*P **Pn 04 29 39.1 -0.7**
ROSC El Rosal 17.48 215 P **P 04 29 42.8 +0.3**
1.6nm,0.3s,baz=80,slow=12,SNR=7.6
ROSC El Rosal 17.48 215 *e*P **P 04 29 43.6 +1.2**
ROSC El Rosal 17.48 215 *e*P **P 04 29 43.6 +1.2**
YOTC Yotoco, Valle 19.33 218 *e*P **P 04 30 00.5 -1.9**
YOTC Yotoco, Valle 19.33 218 *e*P **P 04 30 00.5 -1.9**
PTGA Pitinga 20.59 167 P **P 04 30 14.4 -1.7**
1.3nm,0.3s,baz=325,slow=22,SNR=3.6
POPC Popayan, Colom 20.69 217 *e*P **P 04 30 16.5 -0.9**
POPC Popayan, Colom 20.69 217 *e*P **P 04 30 16.5 -0.9**
CRUC La Cruz 21.64 216 *e*P **P 04 30 25.4 -2.4**
CRUC La Cruz 21.64 216 *e*P **P 04 30 25.4 -2.4**
OTAV Otavalo 23.58 217 *e*P **P 04 30 47.9 -0.2**
OTAV Otavalo 23.58 217 *e*P **P 04 30 47.9 -0.2**
TXAR Lajitas Array 36.89 293 P **P 04 32 47.7 +2.1**
0.6nm,0.8s,baz=116,slow=11,SNR=8.3
BDFB Brasilia 38.49 154 P **P 04 32 60.0 +0.8**
1.5nm,0.7s,baz=329,slow=5.9,SNR=4.2
BDFB LR LR 04 50 05.3
comp=Z,81nm,18.8s,baz=260,slow=38
ULM Lac du Bonnet 39.53 328 P **P 04 33 09.2 +1.7**
1.3nm,0.6s,baz=136,slow=7.1,SNR=4.6
PDAR Pinedale Array 44.38 312 P **P 04 33 47.9 +0.5**
0.2nm,0.5s,baz=122,slow=8.6,SNR=2.2
YKA Yellowknife Ar 54.93 334 P **P 04 35 06.7 -0.4**
0.8nm,0.8s,baz=110,slow=7.5,SNR=8.8
TORD Torodi Ar. Bea 63.45 85 P **P 04 36 07.2 +0.2**
0.9nm,1.0s,baz=270,slow=5.8,SNR=3.3
ILAR Eielson Array 69.32 333 P **P 04 36 43.5 -0.2**
0.3nm,0.8s,baz=105,slow=4.2,SNR=5.5
BRTR Keskin Array B 83.73 50 P **P 04 38 05.9 0.0**
0.4nm,0.9s,baz=320,slow=6.9,SNR=2.6

*SJA **21** 04:33:10.6±1.0, 32°.41S×72°.02W, h69km±13km, ML3.7, MW4.1*
*GUC **21** 04:33:10.8±0.6, 32°.16S×71°.76W, h40km±3km, ML3.8*
ISC 21 04:33:03.7±3.3, 32°.5S±0°.1×72°.5W±0°.2, h16km±14km, n24, σ1°49/31, 5C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**1.38**	**112**	*e*P		**Pg**		**04 33 30.4**	**+0.1**
ROC1				*e*S		**Sb**		**04 33 44.8**	**-1.9**
ROCH	**El Roble**	**1.38**	**112**⇑	*i*P		**Pg**		**04 33 30.4**	**+0.1**
ROCH				*i* S		**Sn**		**04 33 46.0**	**-0.5**
ROCH				IAML				04 33 48.6	
	comp=N,6μm,0.3s								
PEL	**Peldehue**	**1.70**	**114**	*e*P		**Pb**		**04 33 35.3**	**+0.7**
PEL				*e*S		**Sn**		**04 33 53.2**	**-0.9**
PEL	**Peldehue**	**1.70**	**114**⇑	*i*P		**Pb**		**04 33 35.3**	**+0.7**
PEL				*e*S		**Sn**		**04 33 53.1**	**-1.1**
PEL				IAML				04 33 57.0	
	comp=N,2μm,0.3s								
CMCH	**Combarbala**	**1.84**	**46**⇑	*i*P		**Pn**		**04 33 32.3**	**-2.4**
CMCH				*i* S		Sn		04 33 49.2	-8.5
CMCH				IAML				04 33 53.6	
	comp=E,4μm,0.4s								
CLCH	**Cerro Calan**	**1.92**	**119**⇑	*i*P		**Pg**		**04 33 39.3**	**-1.2**
CLCH				*e*S		**Sn**		**04 34 00.1**	**+0.5**
CLCH				IAML				04 34 09.4	
	comp=E,4μm,0.8s								
FCH	**Farellones**	**2.07**	**115**⇑	*i*P		**Pb**		**04 33 40.9**	**-0.2**
FCH				*i* S		**Sn**		**04 34 03.8**	**0.0**
FCH				IAML				04 34 06.3	
	comp=N,1μm,0.2s								
LMEL	**Las Melosas**	**2.39**	**126**	*e*P		**Pb**		**04 33 46.9**	**+0.4**
LMEL				*i* S		**Sb**		**04 34 14.4**	**-1.4**
LMEL				IAML				04 34 27.8	
	comp=N,976nm,0.3s								
AUSP	**Uspallata**	**2.68**	**86**	*e*P		**Pn**		**04 33 48.4**	**+2.0**
GO04	**Tololo Observa**	**2.73**	**33**⇓	*i*P		**Pn**		**04 33 46.2**	**-1.0**
GO04				*i* S		Sn		04 34 15.1	-4.9
LSCH	**La Serena**	**2.79**	**24**	*e*P		**Pn**		**04 33 48.6**	**+1.0**
RTLS	**Leoncito**	**2.83**	**77**	*e*P		**Pn**		**04 33 49.9**	**+1.4**
RTLS				IAML				04 34 25.2	
	comp=Z,391nm,0.5s								
RTCV	**Cerro Valdivia**	**3.44**	**81**	*e*P		**Pn**		**04 33 58.7**	**+2.0**
AROD	**Rodeo**	**3.49**	**50**	*e*P		**Pn**		**04 34 00.3**	**+2.7**
ACCO	**Cerro Coronel**	**3.51**	**59**	*e*P		**Pn**		**04 34 00.4**	**+2.5**
RTLL	**Cerro Villicun**	**3.64**	**73**	*e*P		**Pn**		**04 34 00.4**	**+1.0**
RTLL				IAML				04 34 45.7	
	comp=Z,152nm,0.4s								
ACDV	**Cuesta del Vie**	**3.72**	**53**	*e*P		**Pn**		**04 34 03.0**	**+2.4**
CFA	**Coronel Fontan**	**3.75**	**78**	*e*P		**Pn**		**04 34 02.2**	**+1.2**
AMOG	**MOGNA**	**3.77**	**67**	*e*P		**Pn**		**04 34 02.9**	**+1.7**
ACAN	**Cantantal**	**4.53**	**89**	*e*P		**Pn**		**04 34 13.3**	**+1.6**
AGUA	**GUANDACOL**	**4.58**	**50**	*e*P		**Pn**		**04 34 14.1**	**+1.8**
APLL	**PUNTA DE LOS L**	**5.54**	**70**	*e*P		**Pn**		**04 34 26.0**	**+0.5**
APLL				IAML				04 35 33.2	
	comp=Z,47nm,0.5s								
ACLC	**CERRO LA CRUZ**	**5.68**	**59**	*e*P		**Pn**		**04 34 28.5**	**+1.0**
MRA	**San Martin**	**5.77**	**91**	*e*P		**Pn**		**04 34 29.1**	**+0.4**
MRA				IAML				04 35 36.5	
	comp=Z,57nm,0.4s								

*IDC **21** 04:33:00.6±1.2, 13°.47N×87°.25W, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.7/33, mbtmp3.8/9, ML2.7/2, MS3.4/2, Ms1 3.4/2, ms1mx2.6/35, Error ellipse: s-maj=44.1km s-min=14.5km az=47.0*
*ISCJB **21** 04:33:03.3±0.7, 13°.4N±0°.1×87°.3W±0°.1, h33km, mb3.8/8, MS3.2/2, Error ellipse: s-maj=26.5km s-min=7.5km az=139.2*
ISC 21 04:33:05.1±0.9, 13°.4N±0°.2×87°.4W±0°.2, h35km, n12, σ1°22/12, mb3.8/8, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**3.41**	**299**	Pn		**Pn**		**04 33 54.9**	**-1.2**
	0.6nm,0.3s,baz=117,slow=22,SNR=1.8								
JTS	**JuntasAbangare**	**3.87**	**142**	Pn		**Pn**		**04 34 01.5**	**-0.7**
	0.8nm,0.3s,baz=62,slow=6.6,SNR=2.0								
JTS				Sn		**Sn**		**04 34 47.4**	**+0.9**
	1.3nm,0.3s,baz=336,slow=23,SNR=1.8								
JTS				Lg		Lg		04 35 05.7	
	0.8nm,0.3s,baz=212,slow=12,SNR=4.5								
TXAR	**Lajitas Array**	**21.92**	**319**	P		**P**		**04 37 56.2**	**+0.6**
	1.6nm,0.8s,baz=145,slow=13,SNR=14								
ATAH	**Atahualpa**	**22.24**	**156**	LR		LR		04 45 32.3	
	comp=Z,84nm,18.2s,baz=248,slow=34								
TKL	**Tuckaleechee C**	**22.43**	**8**	LR		LR		04 46 24.2	
	comp=Z,86nm,19.2s,baz=310,slow=36								
PCRV	**Puerto La Cruz**	**22.49**	**96**	P		**P**		**04 37 59.4**	**-2.5**
	19nm,1.0s,baz=306,slow=5.0,SNR=3.6								
PDAR	**Pinedale Array**	**35.01**	**331**	P		**P**		**04 39 55.1**	**+0.5**
	0.3nm,0.7s,baz=134,slow=7.8,SNR=2.6								
NVAR	**Mina Array Bea**	**37.07**	**318**	P		**P**		**04 40 12.4**	**+0.1**
	0.5nm,0.8s,baz=134,slow=8.9,SNR=2.0								
ULM	**Lac du Bonnet**	**37.43**	**351**	P		**P**		**04 40 14.0**	**-0.9**
	2.7nm,0.6s,baz=173,slow=9.3,SNR=6.7								
YKA	**Yellowknife Ar**	**52.75**	**345**	P		**P**		**04 42 16.5**	**+0.2**
	0.5nm,0.6s,baz=132,slow=8.5,SNR=16								
YKA				PcP		**PcP**		**04 43 25.4**	**-0.1**
	0.2nm,0.5s,baz=145,slow=3.8,SNR=5.1								
RES	**Resolute Bay**	**61.45**	**358**	P		**P**		**04 43 19.2**	**+1.5**
	0.9nm,0.7s,baz=175,slow=8.0,SNR=4.3								
TORD	**Torodi Ar. Bea**	**86.15**	**77**	P		**P**		**04 45 44.4**	**+1.0**
	1.0nm,0.9s,baz=287,slow=4.5,SNR=5.2								

*NEIC **21** 04:48:52.6±0.3, 15°.06S×173°.45W, h10km, mb4.4/32, Error ellipse: s-maj=12.6km s-min=7.3km az=143.0*
*IDC **21** 04:48:52.2±0.8, 14°.91S×173°.57W, h0km, mb4.1/12, mb1 4.3/12, mb1mx4.2/33, mbtmp4.1/12, MS3.9/16, Ms1 3.9/16, ms1mx3.7/25, Error ellipse: s-maj=35.0km s-min=16.5km az=139.0*
ISC 21 04:48:55.8±0.5, 15°.07S±0°.09×173°.4W±0°.1, h30km, n86, σ1°39/60, mb4.3/40, MS3.9/16, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.20**	**141**	*e*Pn		Pn		04 50 08.6	-3.0
NIUE				*e*Sn		**Sn**		**04 51 07.7**	**-2.9**
MSVF	**Nonsavu**	**8.60**	**251**	*e*Pn		Pn		04 51 06.2	+7.8
KNTN	**Kanton**	**12.33**	**8**	*e*Pn		**Pn**		**04 51 46.4**	**-3.0**
MARNC	**Mare, Loyalty**	**18.72**	**247**	*e*P		**P**		**04 53 08.7**	**-3.4**
	38nm,0.9s								
PINNC	**Pines Island,**	**19.59**	**245**	*e*P		**P**		**04 53 19.7**	**-1.9**
	8.9nm,0.9s								
OUENC	**Ouen Island, N**	**20.06**	**246**	*e*P		**P**		**04 53 24.0**	**-2.7**
	7.0nm,0.9s								
DZM	**Mont Dzumac**	**20.30**	**247**	*e*P		Pn		04 53 33.6	+2.0
	80nm,1.4s								
DZM				eLR		LR		04 58 35.9	
	comp=Z,596nm,25.9s								
DZM	**Mont Dzumac**	**20.30**	**247**	P		**P**		**04 53 31.1**	**+1.6**
	11nm,1.0s,baz=72,slow=19,SNR=2.8								
DZM				LR		LR		05 00 04.0	
	comp=Z,387nm,19.8s,baz=34,slow=33								
ONTNC	**Ouen Toro**	**20.36**	**246**	*e*P		**P**		**04 53 26.5**	**-3.5**
	18nm,0.9s								
PPT	**Papeete**	**23.02**	**99**	LR		LR		05 00 20.3	
	comp=Z,199nm,20.9s,baz=230,slow=30								
PAE	**Paea**	**23.02**	**100**	*e*T		T		05 17 26.2	
	5.0nm,0.4s								
PPT2	**Papeete2**	**23.02**	**100**	eLR		LR		04 59 25.7	
	comp=Z,522nm,25.0s								
PPT2	**Papeete2**	**23.02**	**100**	*e*T		T		05 17 26.1	
	7.4nm,0.4s								
TVO	**Taravao**	**23.34**	**100**	*e*T		T		05 17 49.0	
	3.2nm,0.4s								
TBI	**Tubuai**	**24.05**	**114**	eLR		LR		04 59 48.9	
	comp=Z,441nm,26.5s								
TBI	**Tubuai**	**24.05**	**114**	*e*T		T		05 18 56.5	
	14nm,0.3s								
URZ	**Urewera**	**24.57**	**198**	P		**P**		**04 54 15.4**	**+2.3**
	4.3nm,0.6s,baz=342,slow=6.4,SNR=3.9								
VAH	**Vaihoa**	**24.90**	**94**	*e*T		T		05 19 38.6	
	7.9nm,0.4s								
HNR	**Honiara**	**26.61**	**279**	LR		LR		05 03 13.9	
	comp=Z,289nm,21.2s,baz=132,slow=33								
TAOE	**Nuku Hiva Isla**	**33.10**	**83**	eLR		LR		05 04 03.6	
	comp=Z,368nm,23.2s								
TAOE	**Nuku Hiva Isla**	**33.10**	**83**	*e*T		T		05 29 46.1	
	82nm,0.3s								
RKT	**Rikitea**	**37.12**	**108**	*e*T		T		05 35 09.6	
	6.9nm,0.4s								
H11S2	**WAKE ISLAND Hy**	**38.67**	**329**	T		T		05 37 31.1	
	baz=148,slow=76,SNR=44								
H11S3	**WAKE ISLAND Hy**	**38.68**	**329**	T		T		05 37 25.6	
	baz=148,slow=76,SNR=21								
H11S1	**WAKE ISLAND Hy**	**38.69**	**329**	T		T		05 37 29.0	
	baz=148,slow=76,SNR=20								
H11N3	**WAKE ISLAND Hy**	**39.61**	**330**	T		T		05 38 31.3	
	baz=149,slow=76,SNR=13								
H11N1	**WAKE ISLAND Hy**	**39.62**	**330**	T		T		05 38 33.4	
	baz=149,slow=76,SNR=18								
H11N2	**WAKE ISLAND Hy**	**39.63**	**330**	T		T		05 38 28.4	
	baz=149,slow=76,SNR=18								
STKA	**Stephens Creek**	**44.18**	**240**	P		**P**		**04 57 03.6**	**+1.4**
	1.1nm,0.6s,baz=112,slow=13,SNR=2.9								
STKA				LR		LR		05 13 24.5	
	comp=Z,76nm,18.2s,baz=28,slow=33								
WR1	**Warramunga Arr**	**49.90**	**256**	*e*P		**P**		**04 57 45.3**	**-1.7**
	14nm,1.1s								
WRA	**Warramunga Arr**	**49.90**	**256**	P		**P**		**04 57 45.3**	**-1.7**
	4.0nm,0.7s,baz=90,slow=7.1,SNR=64								
WRA				LR		LR		05 16 22.7	
	comp=Z,117nm,20.3s,baz=65,slow=33								
ASAR	**Alice Springs**	**50.19**	**252**	P		**P**		**04 57 47.9**	**-1.3**
	23nm,0.7s,baz=85,slow=8.4,SNR=189								
ASAR				LR		LR		05 16 55.0	
	comp=Z,241nm,21.6s,baz=92,slow=34								
MJAR	**Matsushiro Arr**	**68.67**	**320**	P		**P**		**04 59 57.1**	**+0.6**
	1.0nm,0.4s,baz=166,slow=5.6,SNR=4.2								
MJAR				LR		LR		05 24 18.0	
	comp=Z,95nm,21.8s,baz=95,slow=31								
MAJO	**Matsushiro**	**68.67**	**320**	*e*P		**P**		**04 59 57.1**	**+0.6**
PETK	**Petropavlovsk-**	**72.31**	**342**	P		**P**		**05 00 18.8**	**+0.5**
	2.7nm,0.8s,baz=157,slow=7.9,SNR=3.6								
PETK				LR		LR		05 28 20.6	
	comp=Z,57nm,20.6s,baz=107,slow=33								
PEA1	**Petropavlovsk-**	**72.31**	**342**	*e*P		**P**		**05 00 18.8**	**+0.5**
NVAR	**Mina Array Bea**	**74.10**	**42**	P		**P**		**05 00 29.9**	**+0.4**
	2.0nm,0.8s,baz=228,slow=10,SNR=6.4								
KVN	**Kaiserville**	**74.58**	**42**	*e*P		**P**		**05 00 31.6**	**-0.7**
	3.9nm,1.2s								
MOD	**Modoc Plateau**	**74.88**	**38**	*e*P		**P**		**05 00 33.9**	**0.0**
	3.3nm,0.9s								
QSPA	**South Pole Qui**	**74.97**	**180**	*e*P		**P**		**05 00 35.3**	**+1.2**
	7.4nm,1.0s								
PINE	**Pine Mountain**	**75.64**	**36**	*e*P		**P**		**05 00 37.8**	**-0.5**
	6.0nm,0.9s								
KSRS	**Korea Array**	**75.91**	**316**	LR		LR		05 29 08.2	
	comp=Z,44nm,21.3s,baz=74,slow=32								
WVOR	**Wild Horse Val**	**76.19**	**39**	*e*P		**P**		**05 00 40.3**	**-1.0**
	5.2nm,1.0s								
I07A	**Izee**	**76.65**	**37**	*e*P		**P**		**05 00 42.6**	**-1.3**
	1.8nm,0.8s								
X16A	**Lo Mia Camp, P**	**76.71**	**49**	*e*P		**P**		**05 00 43.0**	**-1.6**
	1.9nm,1.1s								
U15A	**North Rim**	**77.09**	**46**	*e*P		**P**		**05 00 46.1**	**-0.6**
ELK	**Elko**	**77.35**	**41**	*e*P		**P**		**05 00 48.1**	**0.0**
	1.6nm,1.0s								
MTPU	**Mount Pierson**	**77.97**	**45**	*e*P		**P**		**05 00 51.6**	**-0.1**
	4.7nm,1.2s								
MFID	**Camas Ranch**	**78.44**	**39**	*e*P		**P**		**05 00 53.5**	**-0.4**
	4.0nm,1.0s								
TMUT	**Trail Mountain**	**79.25**	**44**	*e*P		**P**		**05 00 57.6**	**-1.1**
	5.5nm,1.0s								
HLID	**Hailey**	**79.39**	**39**	*e*P		**P**		**05 00 59.0**	**-0.2**
	3.9nm,0.9s								
HVU	**Hansel Valley**	**79.47**	**42**	*e*P		**P**		**05 00 59.5**	**-0.1**
	2.6nm,0.9s								
SRU	**San Rafael Swe**	**79.62**	**45**	*e*P		**P**		**05 00 59.6**	**-1.0**
	2.6nm,1.0s								
P17A	**Butcher Ranch,**	**79.65**	**44**	*e*P		**P**		**05 01 02.6**	**+1.9**
	3.7nm,1.1s								
TCUT	**Toone Canyon**	**80.02**	**43**	*e*P		**P**		**05 01 02.1**	**-0.7**
	8.7nm,0.7s								
MNTX	**Cornudas Mount**	**80.05**	**53**	*e*P		**P**		**05 01 02.7**	**-0.2**
	0.3nm,0.6s								
KLR	**Kul'dur**	**80.23**	**327**	LR		LR		05 30 21.4	
	comp=Z,53nm,21.4s,baz=129,slow=31								
LTX	**Lajitas**	**80.44**	**56**	*e*P		**P**		**05 01 07.2**	**+2.0**
TXAR	**Lajitas Array**	**80.44**	**56**	P		**P**		**05 01 07.2**	**+2.0**
	2.3nm,1.1s,baz=212,slow=6.8,SNR=7.2								
TXAR				LR		LR		05 31 17.2	
	comp=Z,95nm,18.9s,baz=0.0,slow=32								
ANMO	**Albuquerque**	**80.61**	**50**	*e*P		**P**		**05 01 07.4**	**+1.4**
	1.4nm,0.8s								
TPAW	**Teton Pass**	**81.50**	**41**	*e*P		**P**		**05 01 11.0**	**+0.3**
	3.0nm,0.8s								
FXWY	**Fox Creek**	**81.53**	**41**	*e*P		**P**		**05 01 11.9**	**+1.1**
	1.4nm,1.1s								
S22A	**4UR Ranch, Cre**	**81.56**	**47**	*e*P		**P**		**05 01 10.8**	**-0.3**
	4.7nm,1.1s								
IMW	**Indian Meadow**	**81.71**	**40**	*e*P		**P**		**05 01 11.5**	**-0.3**
	2.6nm,0.9s								
PD31	**Pinedale Array**	**82.03**	**42**	*e*P		**P**		**05 01 13.8**	**+0.4**
PDAR	**Pinedale Array**	**82.03**	**42**	P		**P**		**05 01 13.8**	**+0.4**
	0.9nm,0.6s,baz=193,slow=2.1,SNR=9.5								
PDAR				LR		LR		05 31 57.9	
	comp=Z,90nm,20.6s,baz=32,slow=32								
SMCO	**Snowmass**	**82.10**	**46**	*e*P		**P**		**05 01 13.8**	**-0.3**
	2.6nm,1.0s								
ILAR	**Eielson Array**	**82.12**	**11**	P		**P**		**05 01 12.7**	**-0.4**
	0.6nm,0.8s,baz=220,slow=5.5,SNR=8.9								
ILB	**Eielson Array**	**82.12**	**11**	*e*P		**P**		**05 01 12.7**	**-0.4**
SDCO	**Great Sand Dun**	**82.51**	**48**	*e*P		**P**		**05 01 16.1**	**0.0**
	2.2nm,1.0s								
MSTX	**Muleshoe**	**82.97

0.4nm,0.7s,baz=298,slow=0.9,SNR=5.5

SJA 21 04:59:59.3±0.8, 32°.41S×72°.02W, h60km±12km, ML3.3, MW3.7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**1.02**	**124**	*eP*	Pn	05 00 18.8	+1.0
ROC1				*eS*	Sn	05 00 33.1	+1.6
PEL	**Peldehue**	**1.34**	**123**	*eP*	Pn	05 00 23.5	+1.6
PEL				*eS*	Sn	05 00 41.5	+2.7
AUSP	**Uspallata**	**2.23**	**86**	*eP*	Pn	05 00 37.0	+2.8
RTLS	**Leoncito**	**2.39**	**76**	*eP*	Pn	05 00 38.5	+2.1
RTLS				IAML		05 01 12.1	
	comp=Z,164nm,0.7s						
RTCV	**Cerro Valdivia**	**3.00**	**80**	*eP*	Pn	05 00 47.4	+2.9
ACCO	**Cerro Coronel**	**3.11**	**55**	*eP*	Pn	05 00 48.8	+2.6
AROD	**Rodeo**	**3.12**	**45**	*eP*	Pn	05 00 49.0	+2.6
RTLL	**Cerro Villicun**	**3.20**	**71**	*eP*	Pn	05 00 49.3	+2.1
RTLL				IAML		05 01 38.7	
	comp=Z,90nm,0.4s						
CFA	**Coronel Fontan**	**3.31**	**77**	*eP*	Pn	05 00 50.7	+2.1
ACDV	**Cuesta del Vie**	**3.34**	**49**	*eP*	Pn	05 00 52.2	+3.0
ACDV				IAML		05 01 46.9	
	comp=Z,46nm,0.5s						
AMOG	**MOGNA**	**3.34**	**65**	*eP*	Pn	05 00 51.7	+2.5
ACAN	**Cantantal**	**4.09**	**89**	*eP*	Pn	05 01 01.9	+2.5
AGUA	**GUANDACOL**	**4.20**	**47**	*eP*	Pn	05 01 03.8	+2.8
APLL	**PUNTA DE LOS L**	**5.11**	**68**	*eP*	Pn	05 01 15.6	+2.3
ACLC	**CERRO LA CRUZ**	**5.27**	**57**	*eP*	Pn	05 01 17.6	+1.9
MRA	**San Martin**	**5.33**	**92**	*eP*	Pn	05 01 18.3	+1.9
MRA				IAML		05 02 55.5	
	comp=Z,20nm,0.7s						

MAN 21 05:05:56.8, 9°.91N×123°.14E, h24km, mb4.1, ML2.9, MS2.6, 1C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.57**	**170**	⇓*iP*	Pn	05 06 09.7	+0.3
SNPH				*i* S	Sn	05 06 18.3	+0.3
TBP	**Tagbilaran**	**0.74**	**107**	*eP*	Pb	05 06 10.5	-0.6
GUIM	**Jordan**	**0.90**	**323**	*eP*	Pb	05 06 12.7	-1.0
GUIM				*eS*	Sn	05 06 26.9	+0.7
LLP	**Lapu-Lapu**	**0.91**	**63**	*eP*	Pb	05 06 12.7	-1.2
LLP				*i* S	Sn	05 06 26.7	+0.2
RCP	**Roxas**	**1.69**	**347**	⇑*eP*	Pb	05 06 27.1	-0.1
RCP				*eS*	Sb	05 06 52.2	+4.1
MSLP	**Maasin**	**1.71**	**82**	*eP*	Pn	05 06 26.0	+0.9
MSLP				*eS*	Sb	05 06 49.5	+0.9

KRSC 21 05:09:17.3±0.9, 51°.03N×158°.11E, h44km±13km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.78**	**359**	*eP*	Pn	05 09 33.0	+1.0
KDTR				*eS*	Sn	05 09 44.1	+1.5
SKR	**Severo-Kuril's**	**1.31**	**256**	*eP*	Pn	05 09 40.5	+1.4
SKR				*eS*	Sn	05 09 57.4	+2.1
RUS	**Russkaya**	**1.43**	**10**	*eP*	Pn	05 09 41.9	+1.1
RUS				*eS*	Sn	05 10 00.4	+2.0
MTVR	**Mutnovka**	**1.46**	**2**	*eP*	Pn	05 09 43.0	+1.7
MTVR				*eS*	Sn	05 10 01.5	+2.2
GRL	**Gorelyy**	**1.53**	**359**	*eS*	Sn	05 10 03.8	+2.8
APC	**Apacha**	**1.99**	**343**	*eP*	Pn	05 09 51.2	+2.8
APC				*eS*	Sn	05 10 16.1	+4.0
PET	**Petropavlovsk**	**2.03**	**9**	*eP*	Pn	05 09 51.1	+2.1
PET				*eS*	Sn	05 10 15.1	+2.1
DALK	**Dalny**	**2.05**	**11**	*eP*	Pn	05 09 51.0	+1.8
DALK				*eS*	Sn	05 10 15.1	+1.6
UGLR	**Uglovaya**	**2.23**	**11**	*eP*	Pn	05 09 53.9	+2.1
UGLR				*eS*	Sn	05 10 20.2	+2.0
AVH	**Avacha**	**2.27**	**10**	*eP*	Pn	05 09 55.8	+3.4
NLC	**Nalytchevo**	**2.28**	**19**	*eS*	Sn	05 10 21.8	+2.6
SMAR	**Somma**	**2.28**	**11**	*eP*	Pn	05 09 55.2	+2.6
KOK	**Koryaka**	**2.29**	**8**	*eP*	Pn	05 09 55.6	+2.9
KOK				*eS*	Sn	05 10 23.3	+3.6
KRX	**Arik**	**2.36**	**8**	*eP*	Pn	05 09 56.2	+2.5
KRX				*eS*	Sn	05 10 24.3	+2.9
SPN	**Mys Shipunskiy**	**2.39**	**29**	*eP*	Pn	05 09 57.3	+3.4
SPN				*eS*	Sn	05 10 26.6	+4.7
GNL	**Ganaly**	**2.67**	**358**	*eP*	Pn	05 10 00.7	+2.7

*IDC **21** 05:10:58.4±2.0, 37°.94N×144°.31E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.4/38, mbtmp3.7/5, ML3.4/2, Error ellipse: s-maj=42.9km s-min=28.4km az=78.0*
*NIED **21** 05:11:00, 38°.10N×144°.20E, h5km, Mw3.7 Best double couple: M₀4.42000×10¹⁴ NP1:φs=23.00000°, δ28.00000°, λ-108.00000°. NP2:φs=223.00000°, δ63.00000°, λ-81.00000°.*
*ISCJB **21** 05:11:01.2±0.7, 38°.15N±0°.04×144°.27E±0°.05, h33km, mb3.7/3, Error ellipse: s-maj=6.7km s-min=4.6km az=30.7*
*JMA **21** 05:11:02.4±0.2, 38°.11N×144°.18E, h42km, M4.0*

ISC 21 05:11:02.3±1.3, 38°.10N±0°.06×144°.33E±0°.08, h35km, n24, σ1s89/42, mb3.8/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.26**	**276**	P	**Pn**	**05 11 36.8**	**-0.4**
JIKH				S	**Sn**	**05 12 01.8**	**-2.1**
OFUJ	**Ofunato**	**2.30**	**296**	P	**Pn**	**05 11 37.6**	**-0.2**
OFUJ				S	**Sn**	**05 12 03.8**	**-1.1**
JKMT	**Kesennumamotoy**	**2.35**	**288**	P	**Pn**	**05 11 38.1**	**-0.3**
JKMT				S	**Sn**	**05 12 04.6**	**-1.4**
JIO	**Ouri**	**2.37**	**279**	P	**Pn**	**05 11 38.7**	**0.0**
JIO				S	**Sn**	**05 12 04.6**	**-1.9**
JMK	**Ichinoseki**	**2.58**	**290**	P	**Pn**	**05 11 41.9**	**+0.3**
JMK				S	**Sn**	**05 12 11.4**	**-0.3**
JANG	**Nango**	**3.15**	**317**	P	**Pn**	**05 11 49.8**	**+0.4**
JANG				*eS*	**Sn**	**05 12 25.4**	**-0.4**
JFT	**Otama**	**3.21**	**261**	P	**Pn**	**05 11 50.7**	**+0.4**
JFT				S	**Sn**	**05 12 26.4**	**-1.0**
JYK	**Kaneyama**	**3.22**	**286**	P	**Pn**	**05 11 51.2**	**+0.8**
JYK				*eS*	**Sn**	**05 12 27.6**	**+0.1**
JOT	**Ohata**	**4.14**	**323**	P	**Pn**	**05 12 04.1**	**+1.1**
JOT				*eS*	**Sn**	**05 12 48.1**	**-2.0**
BSO1	**Boso 1**	**4.38**	**219**	P	**Pn**	**05 12 04.5**	**-1.3**
JKB	**Kayabe**	**4.55**	**327**	S	**Sn**	**05 12 58.0**	**-2.3**
JCH	**Churui**	**4.57**	**351**	P	**Pn**	**05 12 08.9**	**0.0**
JCH				*eS*	**Sn**	**05 12 58.3**	**-2.4**
JRY	**Ryogami san**	**4.81**	**246**	P	**Pn**	**05 12 12.0**	**-0.3**
JRY				*eS*	**Sn**	**05 13 02.9**	**-4.0**
JOD2	**Odawara 2**	**5.07**	**238**	P	**Pn**	**05 12 16.9**	**+1.0**
JOD2				*eS*	**Sn**	**05 13 09.1**	**-4.2**
MJAR	**Matsushiro Arr**	**5.12**	**254**	Pn	**Pn**	**05 12 17.1**	**+0.5**
	0.3nm,0.3s,baz=80,slow=15,SNR=9.3						
MJAR				Sn	**Sn**	**05 13 13.2**	**-1.2**
	0.2nm,0.3s,baz=80,slow=15,SNR=1.4						
MAT	**Matsushiro**	**5.12**	**254**	P	**Pn**	**05 12 18.0**	**+1.4**
MAT				S	**Sn**	**05 13 14.1**	**-0.3**
NEM2	**Nemuro 2**	**5.37**	**11**	P	**Pn**	**05 12 18.2**	**-1.7**
NEM2				*eS*	**Sn**	**05 13 15.4**	**-5.0**
JOSM	**Okushiri--Mats**	**5.45**	**318**	P	**Pn**	**05 12 22.1**	**+1.1**
JTKR	**Abashiri--Toko**	**5.87**	**357**	P	**Pn**	**05 12 26.8**	**0.0**
JTKR				*eS*	**Sn**	**05 13 28.5**	**-4.3**
JHR	**Hokuryu**	**5.97**	**342**	P	**Pn**	**05 12 30.8**	**+2.6**
JHR				S	**Sn**	**05 13 36.1**	**+0.8**
ASAJ	**Asahikawa**	**6.15**	**348**	Pn	**Pn**	**05 12 32.7**	**+2.0**
	1.5nm,0.3s,baz=86,slow=34,SNR=3.0						
ASAJ				Sn	**Sn**	**05 13 38.2**	**-1.5**
	0.7nm,0.3s,baz=30,slow=30,SNR=1.9						
MKAR	**Makanchi Array**	**45.52**	**302**	P	**P**	**05 19 19.9**	**+1.6**
	0.5nm,0.7s,baz=81,slow=9.6,SNR=5.4						
KURBB	**Kurchatov Arra**	**47.18**	**308**	P	**P**	**05 19 33.3**	**+2.0**
	0.5nm,0.5s,baz=79,slow=8.1,SNR=3.4						
WRA	**Warramunga Arr**	**58.49**	**191**	P	**P**	**05 20 55.0**	**0.0**
	0.8nm,0.5s,baz=10,slow=7.0,SNR=7.8						

MAN 21 05:26:34.0, 13°.58N×121°.29E, h1km, mb4.1, ML2.9, MS2.5, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.55**	**103**	*eP*	Pg	05 26 44.8	+0.2
BOAC				*eS*	Sb	05 26 54.8	-0.1
TGY	**Tagaytay City**	**0.62**	**326**	*eP*	Pg	05 26 46.6	+0.7
TGY				*eS*	Sn	05 26 59.9	-0.8
LUBP	**Lubang**	**1.03**	**279**	*eP*	Pb	05 26 54.4	-0.2
SJMP	**San Jose**	**1.13**	**189**	*eP*	Pg	05 26 55.9	+0.3
SJMP				*eS*	Sn	05 27 13.2	+0.1
GQP	**Guinayangan**	**1.17**	**74**	⇑*eP*	Pg	05 26 56.5	+0.1
GQP				*eS*	Sg	05 27 11.7	+0.2
POLP	**Polilio Island**	**1.30**	**29**	*eP*	Pg	05 26 58.4	-0.6
POLP				*eS*	Sn	05 27 17.4	0.0
OTRP	**Odiongan**	**1.41**	**149**	*eP*	Pn	05 26 56.9	-3.9
OTRP				*eS*	Sg	05 27 18.4	-0.8
BUSP	**Coron**	**1.90**	**214**	*eP*	Pn	05 27 06.3	-1.2
BUSP				*eS*	Sn	05 27 29.7	-2.3

*SJA **21** 05:43:12.8±0.8, 24°.00S×66°.66W, h223km±8km, ML2.7, MW3.3*
*ISCJB **21** 05:43:13.3±0.5, 23°.97S±0°.04×66°.74W±0°.04, h215km±4km, mb3.0/3, Error ellipse: s-maj=6.6km s-min=4.3km az=40.3*
*IDC **21** 05:43:14.4±1.3, 23°.76S×66°.50W, h202km±13km, mb3.0/3, mb1 3.3/7, mb1mx3.2/27, mbtmp3.5/7, Error ellipse: s-maj=22.8km s-min=17.2km az=59.0*
*GUC **21** 05:43:15.4±0.4, 23°.87S×67°.05W, h253km±6km, ML4.3*

ISC 21 05:43:14.1±0.8, 23°.95S±0°.05×66°.71W±0°.05, h212km±7km, n44, σ1s105/63, mb3.1/3, 11C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.35**	**125**	*eP*	**Pn**	**05 43 48.0**	**+0.2**
SLA				*eS*	**S**	**05 44 13.3**	**-0.6**
SLA				IAML		05 44 16.3	
	comp=Z,35nm,0.6s						
AZAP	**Zapla**	**1.53**	**101**	*eP*	**Pn**	**05 43 49.0**	**-0.5**
AZAP				IAML		05 43 50.4	
	comp=Z,42nm,0.3s						
AZAP				*eS*	**S**	**05 44 16.2**	**-0.5**
YJA	**Yavi**	**2.08**	**32**	*eP*	**Pn**	**05 43 55.7**	**+0.8**
YJA				IAML		05 43 56.6	
	comp=Z,12nm,0.7s						
YJA				*eS*	**S**	**05 44 26.9**	**+0.6**
FSA	**Cafayete**	**2.26**	**163**	*eP*	**Pn**	**05 43 56.0**	**-0.3**
FSA				*eS*	**S**	**05 44 27.2**	**-1.9**
LVC	**Limon Verde**	**2.42**	**303**	P	**Pn**	**05 43 59.3**	**+1.0**
	comp=Z,12nm,0.3s,baz=150,slow=5.8,SNR=288						
LVC				S	**S**	**05 44 33.2**	**+0.8**
	comp=Z,24nm,0.3s,baz=275,slow=19,SNR=29						
LVC	**Limon Verde**	**2.42**	**303**	*eP*	**Pn**	**05 43 59.3**	**+1.0**
LVC				IAML		05 44 36.1	
	comp=Z,48nm,0.2s						
LVC	**Limon Verde**	**2.42**	**303**	⇓*iP*	**Pn**	**05 43 59.3**	**+1.0**
LVC				*i* S	**S**	**05 44 33.1**	**+0.8**
PB15	**IPOC Station P**	**2.63**	**286**	*eP*	**Pn**	**05 44 01.3**	**+0.8**
PB15	**IPOC Station P**	**2.63**	**286**	⇑*iP*	**Pn**	**05 44 01.3**	**+0.8**
PB15				*i* S	**S**	**05 44 36.1**	**-0.2**
GO02	**Mina Guanaco**	**2.89**	**245**	⇑*iP*	**Pn**	**05 44 03.8**	**+0.4**
GO02				*i* S	**S**	**05 44 41.5**	**-0.1**
PB06	**IPOC Station P**	**2.90**	**295**	*eP*	**Pn**	**05 44 04.3**	**+0.8**
PB06	**IPOC Station P**	**2.90**	**295**	⇑*iP*	**Pn**	**05 44 04.2**	**+0.8**
PB06				*i* S	**S**	**05 44 40.9**	**-0.7**
PB06				IAML		05 44 42.3	
	comp=N,466nm,0.5s						
PB09	**IPOC Station P**	**3.17**	**312**	*eP*	**Pn**	**05 44 07.7**	**+1.1**
PB09	**IPOC Station P**	**3.17**	**312**	⇑*iP*	**Pn**	**05 44 07.7**	**+1.1**
PB09				*eS*	**S**	**05 44 46.6**	**-0.5**
PB03	**IPOC Station P**	**3.38**	**303**	*eP*	**Pn**	**05 44 09.5**	**+0.4**
PB03	**IPOC Station P**	**3.38**	**303**	⇑*iP*	**Pn**	**05 44 09.4**	**+0.4**
PB03				*i* S	**S**	**05 44 50.5**	**-1.1**
PB03				IAML		05 44 53.0	
	comp=N,328nm,0.3s						
PB05	**IPOC Station P**	**3.38**	**288**	*eP*	**Pn**	**05 44 09.4**	**+0.3**
PB05	**IPOC Station P**	**3.38**	**288**	*eP*	**Pn**	**05 44 09.3**	**+0.3**
PB05				*i* S	**S**	**05 44 49.8**	**-1.9**
PB05				IAML		05 44 52.8	
	comp=N,138nm,0.1s						
PB14	**IPOC Station P**	**3.44**	**258**	*eP*	**Pn**	**05 44 09.9**	**+0.1**
PB10	**IPOC Station P**	**3.55**	**276**	*eP*	**Pn**	**05 44 10.9**	**+0.1**
PB10	**IPOC Station P**	**3.55**	**276**	⇑*iP*	**Pn**	**05 44 10.8**	**0.0**
PB10				*i* S	**S**	**05 44 53.1**	**-1.9**
PB10				IAML		05 44 56.6	
	comp=E,165nm,0.4s						
PB04	**IPOC Station P**	**3.55**	**296**	*eP*	**Pn**	**05 44 11.4**	**+0.4**
PB04	**IPOC Station P**	**3.55**	**296**	⇑*iP*	**Pn**	**05 44 11.2**	**+0.2**
PB04				*i* S	**S**	**05 44 53.7**	**-1.6**
PB04				IAML		05 44 59.4	
	comp=N,243nm,0.7s						
PB07	**IPOC Station P**	**3.67**	**306**	*eP*	**Pn**	**05 44 12.7**	**+0.2**
PB07	**IPOC Station P**	**3.67**	**306**	⇑*iP*	**Pn**	**05 44 12.7**	**+0.2**
PB07				*i* S	**S**	**05 44 56.3**	**-1.7**
PB07				IAML		05 44 57.3	
	comp=N,284nm,0.2s						
PB01	**IPOC Station P**	**3.86**	**318**	*eP*	**Pn**	**05 44 15.1**	**+0.3**
PB01	**IPOC Station P**	**3.86**	**318**	⇑*iP*	**Pn**	**05 44 14.9**	**+0.1**
PB01				*i* S	**S**	**05 45 00.6**	**-1.6**
PB01				IAML		05 45 03.3	
	comp=E,212nm,0.3s						
PB02	**IPOC Station P**	**3.93**	**311**	*eP*	**Pn**	**05 44 16.0**	**+0.3**
PB02	**IPOC Station P**	**3.93**	**311**	⇑*iP*	**Pn**	**05 44 15.5**	**-0.2**
PB02				*i* S	**S**	**05 45 02.0**	**-1.7**
PB08	**IPOC Station P**	**4.41**	**329**	*eP*	**Pn**	**05 44 22.7**	**+0.8**
PB08	**IPOC Station P**	**4.41**	**329**	⇑*iP*	**Pn**	**05 44 22.6**	**+0.8**
PB08				*i* S	**S**	**05 45 14.7**	**-0.1**
PB08				IAML		05 45 20.1	
	comp=E,73nm,0.5s						
PB11	**IPOC Station P**	**4.98**	**326**	*eP*	**Pn**	**05 44 27.9**	**-0.9**
PSGCX	**Pisagua**	**5.36**	**323**	*eP*	**Pn**	**05 44 32.8**	**-0.8**
ACLC	**CERRO LA CRUZ**	**5.46**	**182**	*eP*	**Pn**	**05 44 34.0**	**-0.9**
AGUA	**GUANDACOL**	**5.74**	**196**	*eP*	**Pn**	**05 44 37.1**	**-1.2**
PB12	**IPOC Station P**	**6.29**	**327**	*eP*	**Pn**	**05 44 43.5**	**-1.9**
LPAZ	**La Paz**	**7.74**	**350**	P	**Pn**	**05 45 04.6**	**0.0**
	comp=E,0.7nm,0.3s,baz=168,slow=5.9,SNR=16						
LPAZ				S	**S**	**05 46 31.0**	**-1.6**
	comp=E,0.1nm,0.3s,baz=339,slow=16,SNR=1.3						
CPUP	**Villa Florida**	**8.83**	**108**	P	**Pn**	**05 45 15.6**	**-2.5**
	comp=E,0.1nm,0.3s,baz=276,slow=11,SNR=6.2						
PLCA	**Paso Flores**	**17.05**	**190**	P	**Pn**	**05 47 03.2**	**+2.9**
	comp=E,0.1nm,0.3s,baz=43,slow=8.6,SNR=5.2						
TXAR	**Lajitas Array**	**63.79**	**324**	P	**P**	**05 53 23.5**	**-0.4**
	comp=E,0.2nm,0.8s,baz=132,slow=6.7,SNR=1.7						
TORD	**Torodi Ar. Bea**	**76.31**	**69**	P	**P**	**05 54 39.2**	**-0.9**
	comp=E,0.2nm,0.5s,baz=254,slow=5.8,SNR=6.0						
YKA	**Yellowknife Ar**	**94.17**	**340**	P	**P**	**05 56 09.1**	**+0.9**
	comp=E,0.1nm,0.4s,baz=129,slow=4.1,SNR=5.2						
WRA	**Warramunga Arr**	**131.79**	**207**	PKP	**PKPdf**	**06 02 03.5**	**+0.7**
	comp=E,0.5nm,0.7s,baz=152,slow=1.8,SNR=2.2						
MKAR	**Makanchi Array**	**146.32**	**40**	PKPbc	**PKPab**	**06 02 30.8**	**-0.2**
	comp=E,0.6nm,0.5s,baz=318,slow=2.6,SNR=10						

*ISCJB **21** 05:56:59.4±0.9, 40°.40S±0°.10×155°.72E±0°.10, h10km, mb3.3/2, MS3.5/1, Error ellipse: s-maj=14.3km s-min=10.6km az=13.8*
*IDC **21** 05:57:00.8±2.2, 40°.59S×155°.64E, h0km, mb3.6/2, mb1 4.0/4, mb1mx3.8/23, mbtmp3.9/4, ML4.1/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/17, Error ellipse: s-maj=171.6km s-min=30.6km az=31.0*
*AUST **21** 05:57:01.1±0.7, 40°.39S×155°.71E, h0km, Error ellipse: s-maj=8.6km s-min=3.8km az=124.0*

ISC 21 05:57:02.3±1.2, 40°.4S±0°.1×155°.7E±0°.1, h10km, n16, σ0s76/14, Southeast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MILA	**Mila**	**6.12**	**301**	P	**Pn**	**05 58 32.2**	**-0.6**
	baz=6.1,SNR=48						
MOO	**Moorlands**	**6.72**	**250**	P	**Pn**	**05 58 40.7**	**-0.3**
	baz=6.7,SNR=20						
CNB	**Canberra Magne**	**7.15**	**313**	P	**Pn**	**05 58 46.3**	**-0.6**
	baz=7.1,SNR=93						
RIV	**Riverview**	**7.51**	**330**	P	**Pn**	**05 58 51.3**	**-0.5**
	baz=7.5,SNR=12						
MGCD	**Mangrove Creek**	**8.08**	**331**	P	**Pn**	**05 58 59.2**	**-0.4**
	baz=8.1,SNR=30						
YNG	**Young**	**8.43**	**314**	P	**Pn**	**05 59 04.4**	**-0.2**
	baz=8.4,SNR=36						
TOO	**Toolangi**	**8.45**	**286**	P	**Pn**	**05 59 04.8**	**0.0**
	baz=8.4,SNR=107						
LHI	**Lord Howe Isla**	**9.28**	**18**	P	**Pn**	**05 59 16.2**	**+0.1**
	baz=9.3,SNR=4.6						
ARPS	**Mount Arapiles**	**11.45**	**284**	P	**Pn**	**05 59 46.0**	**+0.2**
	baz=11,SNR=13						
RPZ	**Rata Peaks**	**11.87**	**111**	Pn	**Pn**	**05 59 51.3**	**-0.3**
	4.0nm,0.3s,baz=283,slow=3.7,SNR=9.2						
CMSA	**Cobar Meteorol**	**12.00**	**314**	P	**Pn**	**05 59 53.6**	**+0.2**
	baz=12,SNR=9.1						
STKA	**Stephens Creek**	**14.22**	**302**	Pn	**Pn**	**06 00 22.1**	**-1.7**
	0.3nm,0.3s,baz=124,slow=13,SNR=3.1						
ASAR	**Alice Springs**	**24.81**	**306**	P	**P**	**06 02 25.9**	**+1.3**
	0.5nm,0.6s,baz=132,slow=8.1,SNR=6.4						
WRA	**Warramunga Arr**	**27.39**	**312**	P	**P**	**06 02 48.6**	**+0.6**
	1.0nm,1.0s,baz=139,slow=8.4,SNR=4.6						
HNR	**Honiara**	**31.08**	**8**	LR	LR	06 13 33.9	
	comp=Z,86nm,18.5s,baz=324,slow=32						
TORD	**Torodi Ar. Bea**	**144.55**	**227**	PKP	PKPbc	06 16 38.1	+0.1
	0.9nm,1.0s,baz=163,slow=1.5,SNR=4.0						

*ISN **21** 06:05:22.3±0.3, 36°.27N×45°.09E, h0km, ML3.0*
*TEH **21** 06:05:27.0, 36°.22N×45°.36E, h10km, ML3.0*
*ISCJB **21** 06:05:30.5±0.7, 36°.22N±0°.06×45°.35E±0°.07, h33km, Error ellipse: s-maj=9.9km s-min=7.5km az=41.2*

ISC 21 06:05:31.7±1.5, 36°.22N±0°.06×45°.27E±0°.07, h35km, n8, σ1s36/9, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSL	**Mosul**	**1.76**	**277**	*ePg*	**Pn**	**06 05 58.0**	**-1.6**
	baz=94						
MSL				*eSg*	**Sn**	**06 06 23.0**	**+2.3**
IVIS	**Veis**	**2.12**	**142**	*ePn*	**Pn**	**06 06 03.7**	**-1.1**
IVIS				IAMB	IAmb	06 06 35.3	
	comp=Z,782nm,0.4s						
ITBZ	**Tabriz**	**2.13**	**19**	*ePn*	**Pn**	**06 06 03.6**	**-1.4**
ITBZ				IAMB	IAmb	06 06 41.1	
	comp=Z,663nm,0.4s						
IGHG	**Ghaleghazi**	**2.16**	**150**	IAMB	IAmb	06 06 44.6	
	comp=Z,926nm,0.5s						
IGHG				*ePn*	**Pn**	**06 06 05.2**	**-0.2**
IMRD	**Marand**	**2.52**	**8**	*ePn*	**Pn**	**06 06 10.3**	**0.0**
IMRD				IAMB	IAmb	06 06 56.5	
	comp=Z,633nm,0.3s						
IHRS	**Heris**	**2.53**	**33**	*ePn*	**Pn**	**06 06 10.2**	**-0.3**
IHRS				IAMB	IAmb	06 06 46.9	
	comp=E,760nm,0.4s						
IHRS				IAMB	IAmb	06 06 54.0	
	comp=Z,368nm,0.4s						
IKOM	**Komasi**	**2.74**	**137**	*ePn*	**Pn**	**06 06 13.0**	**-0.3**
IKOM				IAMB	IAmb	06 06 57.3	
	comp=Z,0.0nm,0.8s						
IKFM	**Kafar-mosalman**	**3.42**	**141**	*ePn*	**Pn**	**06 06 21.9**	**-0.6**

*ISCJB **21** 06:39:18.0±0.5, 56°.41S±0°.08×26°.7W±0°.2, h100km, mb4.4/11, Error ellipse: s-maj=16.7km s-min=8.4km az=142.9*
*IDC **21** 06:39:19.7±8.7, 56°.47S×26°.80W, h103km±79km, mb3.9/6, mb1 4.0/6, mb1mx3.8/23, mbtmp4.3/6, MS3.8/1, Ms1 3.8/1, ms1mx2.9/22, Error ellipse: s-maj=28.8km s-min=21.5km az=41.0*
*NEIC **21** 06:39:21.2±1.3, 56°.52S×26°.86W, h119km±12km, mb4.3/7, Error ellipse: s-maj=12.8km s-min=7.8km az=47.0*

ISC 21 06:39:19.1±0.6, 56°.5S±0°.1×26°.8W±0°.1, h100km, n31, σ0s84/26, mb4.3/11, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.97**	**288**	*ePn*	**Pn**	**06 40 46.4**	**+1.6**
VNA1	**Neumayer--Stat**	**16.31**	**158**	P	**P**	**06 43 04.7**	**+1.9**
VNA3	**Neumayer Olymp**	**16.50**	**160**	P	**P**	**06 43 05.8**	**+0.7**
VNA2	**Neumayer--Watz**	**16.70**	**158**	P	**P**	**06 43 07.5**	**+0.2**
	baz=319,slow=14						
SNAA	**Sanae**	**18.25**	**156**	P	**Pn**	**06 43 24.7**	**-0.8**
SNAA	**Sanae**	**18.25**	**156**	*eP*	**Pn**	**06 43 24.6**	**-0.8**
	6.3nm,0.7s						
QSPA	**South Pole Qui**	**33.77**	**180**	*eP*	**P**	**06 45 51.5**	**+0.5**
	1.8nm,0.6s						
CPUP	**Villa Florida**	**37.27**	**311**	P	**P**	**06 46 20.4**	**-0.7**
	2.4nm,0.7s,baz=151,slow=5.3,SNR=7.1						
CPUP	**Villa Florida**	**37.27**	**311**	*eP*	**P**	**06 46 20.6**	**-0.4**
	2.2nm,0.7s						
GO02	**Mina Guanaco**	**43.90**	**297**	*eP*	**P**	**06 47 16.0**	**0.0**
	3.7nm,0.7s						
LVC	**Limon Verde**	**45.72**	**300**	P	**P**	**06 47 30.5**	**0.0**
	6.1nm,0.6s,baz=135,slow=5.7,SNR=5.5						
BOSA	**Boshof**	**45.84**	**75**	P	**P**	**06 47 31.9**	**+0.7**
	2.0nm,0.9s,baz=197,slow=11,SNR=2.6						
VNDA	**Vanda**	**46.16**	**183**	P	**P**	**06 47 33.0**	**+0.2**
	2.9nm,1.1s,baz=153,slow=4.5,SNR=3.2						
SIV	**San Ignacio**	**48.05**	**313**	LR	LR	07 07 14.8	
	comp=Z,95nm,19.3s,baz=218,slow=35						
H10S2	**ASCENSION HYDR**	**48.34**	**16**	T	T	07 40 48.7	
	baz=189,slow=75,SNR=6.5						
H10S3	**ASCENSION HYDR**	**48.35**	**16**	T	T	07 40 49.8	
	baz=189

KAPS	**Kapalarasan**	**2.44**	**204**	*e*P		**Pg**	**07 34 55.9**	**-0.1**
	6.0nm,0.3s							
KAPS				*e*S		**Sg**	**07 35 26.1**	**-1.4**
	35nm,0.4s							
ZSN	**Zaisan**	**2.77**	**90**	Pg	Pg	**Pg**	**07 35 01.9**	**-0.4**
	1.9nm,0.2s							
ZSN				Lg	Lg		07 35 35.5	
	7.5nm,0.3s							
ZSN	**Zaisan**	**2.77**	**90**	*e*P		**Pg**	**07 35 01.6**	**-0.7**
	1.2nm,0.2s							
ZSN				*e*S		**Sb**	**07 35 35.3**	**+2.5**
	8.9nm,0.3s							
SEM	**Semipalatinsk**	**2.92**	**353**	Pg		**Pg**	**07 35 05.0**	**-0.1**
SEM				Lg	Lg		07 35 40.9	
SEM	**Semipalatinsk**	**2.92**	**353**	*e*P		**Pg**	**07 35 04.8**	**-0.4**
	6.1nm,0.1s							
SEM				*e*S		**Sg**	**07 35 40.4**	**-2.5**
	43nm,0.4s							
KURBB	**Kurchatov Arra**	**3.44**	**335**	⇑Pg		**Pb**	**07 35 11.6**	**+1.3**
	2.8nm,0.3s							
KURBB				⇑Lg	Lg		07 36 00.4	
	27nm,0.7s							
KURK	**Kurchatov**	**3.50**	**337**	⇓Pg		**Pb**	**07 35 12.2**	**+1.0**
	3.0nm,0.4s							
KURK				⇑Lg	Lg		07 35 59.3	
	12nm,0.6s							
MNBS	**Baschi**	**3.82**	**207**	Pg		**Pg**	**07 35 23.2**	**+0.8**
	4.4nm,0.3s							
MNBS				Lg	Lg		07 36 11.9	
	20nm,0.5s							
MNBS	**Baschi**	**3.82**	**207**	*e*P		**Pg**	**07 35 23.2**	**+0.8**
	4.4nm,0.3s							
MNBS				*e*S		**Sg**	**07 36 11.9**	**+0.1**
	20nm,0.5s							
ARXS	**Arharly**	**3.89**	**213**	Pg		**Pg**	**07 35 23.4**	**-0.4**
	11nm,0.7s							
ARXS				Lg	Lg		07 36 12.9	
	31nm,0.6s							
ARXS	**Arharly**	**3.89**	**213**	*e*P		**Pg**	**07 35 23.4**	**-0.4**
	11nm,0.7s							
ARXS				*e*S		**Sg**	**07 36 12.9**	**-1.3**
	31nm,0.6s							
KTMS	**Ketmen**	**4.08**	**184**	Pg		**Pg**	**07 35 27.4**	**0.0**
	1.8nm,0.2s							
KTMS				Lg	Lg		07 36 19.4	
	4.5nm,0.2s							
KTMS	**Ketmen**	**4.08**	**184**	*e*P		**Pg**	**07 35 27.6**	**+0.2**
	1.8nm,0.1s							
KTMS				*e*S		**Sg**	**07 36 19.4**	**-0.8**
	5.9nm,0.3s							
KTBS	**Karatobe**	**4.77**	**219**	Pg		**Pg**	**07 35 41.2**	**+0.6**
	1.4nm,0.1s							
KTBS				Lg	Lg		07 36 42.7	
	15nm,0.6s							
IZV	**Izvestkoviy**	**5.36**	**215**	Pg		**Pg**	**07 35 51.5**	**-0.3**
	1.0nm,0.2s							
IZV				Lg	Lg		07 37 01.6	
	5.1nm,0.6s							
IZV	**Izvestkoviy**	**5.36**	**215**	*e*P		**Pg**	**07 35 51.6**	**-0.3**
	0.9nm,0.7s							
IZV				*e*S		**Sg**	**07 37 01.4**	**+0.2**
	4.5nm,0.6s							
DGS	**Degeres**	**5.54**	**221**	Pg		**Pg**	**07 35 54.3**	**-1.0**
	2.0nm,0.4s							
DGS				Lg	Lg		07 37 06.3	
	6.2nm,0.4s							
OTK	**Orto-Tokoy**	**6.18**	**215**	Pg		**Pb**	**07 35 56.6**	**-0.3**
	0.3nm,0.1s							
OTK				Lg	Lg		07 37 09.3	
	2.9nm,0.5s							

MEX 21 07:39:33.4±0.5, 18°.32N×102°.60W, h9km±5km, MD3.9, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**1.29**	**123**	*e*P	Pn	07 39 54.6	-3.1
ZIIG				*i* S	Sb	07 40 09.7	-5.0
EZ5V		**1.49**	**321**	*e*P	Pn	07 39 57.0	-3.7
EZ5V				*e*S	Sn	07 40 16.1	-4.4
R15V		**1.56**	**303**	*e*P	Pn	07 39 57.8	-3.6
R15V				*e*S	Sn	07 40 16.9	-4.9
ARIG	**Puente Sto Nin**	**2.14**	**91**	*e*P	Pn	07 40 05.6	-3.8
ARIG				*i* S	Sn	07 40 31.4	-4.8
CAIG	**El Cayaco**	**2.56**	**119**	*e*P	Pn	07 40 12.3	-2.9
CAIG				*i* S	Sn	07 40 41.6	-4.9
MEIG	**Mezcala**	**2.86**	**97**	*i* P	Pn	07 40 16.8	-2.6
MEIG				*i* S	Sn	07 40 50.7	-3.4
PLIG	**Platanillo**	**2.95**	**88**	*e*P	Pn	07 40 17.9	-2.7
PLIG				*i* S	Sn	07 40 52.4	-3.7

*ISCJB **21** 08:10:36.7±0.3, 42°.86N±0°.03×122°.58E±0°.05, h10km, mb4.1/23, MS3.3/1, Error ellipse: s-maj=4.9km s-min=4.7km az=140.3*
*IDC **21** 08:10:36.5±0.7, 42°.76N×122°.29E, h0km, mb3.9/14, mb1 4.0/19, mb1mx3.9/37, mbtmp3.8/19, ML3.1/5, MS3.2/5, Ms1 3.2/5, ms1mx2.8/45, Error ellipse: s-maj=19.5km s-min=12.1km az=43.0*
*BJI **21** 08:10:39.0, 42°.93N×122°.36E, h7km, mb4.0/11, ML4.4/20*
*MOS **21** 08:10:40.1±1.3, 42°.87N×122°.49E, h33km, mb4.3/17, Error ellipse: s-maj=15.6km s-min=7.6km az=123.7*

ISC 21 08:10:39.3±0.5, 42°.91N±0°.04×122°.50E±0°.04, h10km, n54, σ1$50/56, mb4.1/23, 7C-4D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CN2	**Changchun**	**2.33**	**67**	Pg	**Pb**	**08 11 21.0**	**-0.4**
CN2				Sg	**Sb**	**08 11 52.6**	**+2.4**
CN2				smax	smax		
	comp=N,1μm,0.8s						
CN2				smax	smax		
	comp=E,1μm,0.8s						
DL2	**Dalian**	**4.05**	**190**	Pn	**Pn**	**08 11 40.9**	**-0.4**
DL2				Pg	**Pb**	**08 11 53.5**	**+2.8**
DL2				Sg	**Sg**	**08 12 49.9**	**+0.5**
DL2				smax	smax		
	comp=N,230nm,0.6s						
DL2				smax	smax		
	comp=E,290nm,0.7s						
MDJ	**Mudanjiang**	**5.41**	**69**	Pg	**Pb**	**08 12 17.3**	**+3.4**
MDJ				Sg	**Sg**	**08 13 30.8**	**-2.2**
MDJ				smax	smax		
	comp=N,450nm,0.8s						
MDJ				smax	smax		
	comp=E,330nm,0.8s						
KSRS	**Korea Array**	**6.85**	**141**	Pn	**Pn**	**08 12 19.2**	**-0.5**
	1.9nm,0.3s,baz=322,slow=13,SNR=18						
KSRS				Pg	Pb	08 12 44.4	+6.0
	1.1nm,0.3s,baz=318,slow=17,SNR=6.6						
KSRS				Sn	**Sn**	**08 13 35.5**	**-2.2**
	1.8nm,0.3s,baz=319,slow=23,SNR=7.5						
KSRS				Lg	Lg	08 14 13.7	
	3.9nm,0.3s,baz=320,slow=31,SNR=7.8						
USRK	**Ussuriysk Ar.**	**7.02**	**76**	Pn	**Pn**	**08 12 23.3**	**+1.3**
	0.9nm,0.3s,baz=254,slow=12,SNR=6.4						
USRK				Pg	Pb	08 12 47.9	+6.7
	1.7nm,0.3s,baz=255,slow=18,SNR=16						
USRK				Lg	Lg	08 14 20.9	
	3.3nm,0.3s,baz=267,slow=26,SNR=9.4						
TJN	**Taejon**	**7.53**	**148**	⇑*i*P	**Pn**	**08 12 29.9**	**+0.9**
KLR	**Kul'dur**	**9.01**	**42**	Pn	**Pn**	**08 12 51.7**	**+2.3**
	0.2nm,0.3s,baz=188,slow=13,SNR=5.1						
KLR				Lg	Lg	08 15 26.4	
	1.9nm,0.3s,baz=136,slow=21,SNR=15						
KLR	**Kul'dur**	**9.01**	**42**	⇓*e*P	**Pn**	**08 12 52.1**	**+2.7**
ZEA	**Zeya**	**11.29**	**15**	*e*P	Pn	08 13 30.2	+10
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZEA				MLR	MLR		
	comp=N,300nm,8.0s						
ZEA				MLR	MLR		
	comp=E,500nm,8.0s						
ZEA				MLR	MLR		
	comp=Z,500nm,8.0s						
JNU	**Nakatsue**	**11.79**	**143**	Lg	Lg	08 16 51.4	
	comp=Z,0.2nm,0.3s,baz=195,slow=20,SNR=2.6						
JNU				LR	LR	08 17 59.7	
	comp=Z,62nm,20.6s,baz=116,slow=38						
ULN	**Ulaanbaatar**	**11.93**	**300**	⇑*e*P	**Pn**	**08 13 28.5**	**-1.0**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.3s						
SONM	**Songino Array**	**12.34**	**299**	Pn	**Pn**	**08 13 33.7**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=105,slow=11,SNR=5.8						
SONM				Lg	Lg	08 17 08.1	
	comp=Z,0.4nm,0.3s,baz=110,slow=26,SNR=9.1						
SONM				LR	LR	08 18 38.1	
	comp=Z,95nm,19.6s,baz=11,slow=39						
SONM	**Songino Array**	**12.34**	**299**	*e*P	**Pn**	**08 13 35.0**	**-0.1**
MJAR	**Matsushiro Arr**	**13.65**	**113**	Pn	**Pn**	**08 13 54.4**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=304,slow=12,SNR=2.8						
MJAR				LR	LR	08 19 00.2	
	comp=Z,51nm,18.9s,baz=150,slow=37						
ASAJ	**Asahikawa**	**14.64**	**78**	LR	LR	08 19 56.3	
	comp=Z,171nm,18.6s,baz=269,slow=38						
BOD	**Bodaibo**	**15.86**	**343**	*e*P	**P**	**08 14 27.2**	**+1.1**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.1s						
GTA	**Gaotai**	**17.42**	**266**	*e*P	**P**	**08 14 44.0**	**+0.2**
GTA				pP	sP	08 14 51.5	+3.5
GTA				sP	pP	08 14 55.0	+8.3
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KNGR	**Kungurtug, Tuv**	**18.70**	**303**	⇓*e*P	**Pn**	**08 15 00.3**	**+2.2**
WMQ	**Urumqi**	**25.21**	**284**	*e*P	**P**	**08 16 04.5**	**-0.6**
SEY	**Seymchan**	**26.54**	**31**	⇑*e*P	**P**	**08 16 14.7**	**-2.1**
ZALV	**Zalesovo Beam**	**27.01**	**307**	P	**P**	**08 16 18.4**	**-2.8**
	comp=Z,0.9nm,0.7s,baz=96,slow=9.1,SNR=3.9						
ZALV	**Zalesovo Beam**	**27.01**	**307**	*e*P	**P**	**08 16 20.8**	**-0.4**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**28.55**	**292**	P	**P**	**08 16 33.6**	**-1.4**
	comp=Z,2.0nm,0.8s,baz=92,slow=9.1,SNR=16						
TIXI	**Tiksi**	**28.99**	**4**	P	**P**	**08 16 39.3**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=165,slow=5.1,SNR=5.3						
TIXI	**Tiksi**	**28.99**	**4**	⇑*e*P	**P**	**08 16 38.6**	**0.0**
TIXI				pmax	pmax		
	comp=Z,11nm,2.5s						
KURK	**Kurchatov**	**30.64**	**300**	⇑*e*P	**P**	**08 16 53.6**	**+0.1**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
CMAR	**Chiang Mai Arr**	**31.49**	**227**	LR	LR	08 29 36.4	
	comp=Z,62nm,19.2s,baz=14,slow=36						
AAK	**Ala-Archa**	**34.86**	**286**	⇓*i*P	**P**	**08 17 31.9**	**+1.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**35.59**	**305**	P	**P**	**08 17 34.8**	**-1.9**
	comp=Z,1.4nm,0.8s,baz=93,slow=9.1,SNR=6.1						
BRVK	**Borovoye**	**35.65**	**305**	⇑*i*P	**P**	**08 17 37.5**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARU	**Arti**	**41.98**	**312**	*c i*P	**P**	**08 18 30.9**	**+0.8**
ARU				S	**S**	**08 24 51.2**	**+2.7**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.0s						
AKTO	**Aktyubinsk**	**43.62**	**303**	P	**P**	**08 18 42.4**	**-1.2**
	comp=Z,1.7nm,0.8s,baz=100,slow=11,SNR=4.3						
PRGR	**Permogore**	**47.49**	**321**	*e*P	**P**	**08 19 12.8**	**-1.2**
PRGR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KLMR	**Klimovskoe**	**50.54**	**321**	*e*P	**P**	**08 19 36.9**	**-0.5**
KLMR				pmax	pmax		
	comp=Z,12nm,1.5s						
KLMR	**Klimovskoe**	**50.54**	**321**	*e*P	**P**	**08 19 37.0**	**-0.5**
KLMR				AMP		08 19 54.5	
	comp=Z,12nm,1.6s						
ILAR	**Eielson Array**	**52.44**	**33**	P	**P**	**08 19 51.2**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=83,slow=12,SNR=5.2						
ARCES	**ARCESS Array B**	**52.87**	**334**	P	**P**	**08 19 54.1**	**-0.7**
	comp=Z,4.5nm,0.9s,baz=52,slow=7.9,SNR=7.8						
ARCES	**ARCESS Array B**	**52.87**	**334**	*e*P	**P**	**08 19 55.8**	**+1.1**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
OBN	**Obninsk**	**54.18**	**315**	*i* P	**P**	**08 20 04.6**	**+0.1**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KIV	**Kislovodsk**	**55.73**	**301**	*e*P	**P**	**08 20 17.5**	**+1.5**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
NEY	**Neytrino**	**56.05**	**300**	⇓*i*P	**P**	**08 20 19.0**	**+0.6**
NEY				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	**FINESS Array B**	**56.26**	**325**	P	**P**	**08 20 18.0**	**-1.4**
	comp=Z,1.8nm,0.8s,baz=64,slow=8.9,SNR=3.7						
FINES	**FINESS Array B**	**56.26**	**325**	*e*P	**P**	**08 20 19.1**	**-0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NB2	**NORSAR Subarra**	**62.43**	**329**	P	**P**	**08 21 02.2**	**+0.1**
	comp=Z,4.2nm,1.0s,baz=52,slow=6.9						
NOA	**NORSAR Array B**	**62.43**	**329**	P	**P**	**08 21 01.5**	**-0.6**
	comp=Z,2.5nm,0.9s,baz=52,slow=6.7,SNR=4.4						
NOA	**NORSAR Array B**	**62.43**	**329**	*e*P	**P**	**08 21 02.5**	**+0.4**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA	**Warramunga Arr**	**63.48**	**168**	P	**P**	**08 21 06.9**	**-2.5**
	comp=Z,1.2nm,0.9s,baz=349,slow=7.3,SNR=5.0						
WRA	**Warramunga Ar**	**63.48**	**168**	*e*P	**P**	**08 21 08.9**	**-0.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR	**Keskin Array B**	**63.70**	**301**	P	**P**	**08 21 09.5**	**-1.5**
	comp=Z,0.7nm,0.8s,baz=69,slow=6.9,SNR=4.4						
BRTR	**Keskin Array B**	**63.70**	**301**	*e*P	**P**	**08 21 13.0**	**+2.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**65.45**	**25**	P	**P**	**08 21 21.3**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=317,slow=6.8,SNR=3.9						
ASAR	**Alice Springs**	**67.07**	**169**	P	**P**	**08 21 31.2**	**-1.5**
	comp=Z,0.8nm,0.9s,baz=12,slow=6.4,SNR=4.2						
STKA	**Stephens Creek**	**76.46**	**163**	P	**P**	**08 22 27.1**	**-1.8**
	comp=Z,1.7nm,0.8s,baz=344,slow=10.0,SNR=4.6						
STKA	**Stephens Creek**	**76.46**	**163**	*e*P	**P**	**08 22 28.2**	**-0.7**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						

IDC 21 08:14:55.0±2.3, 20°.63S×70°.16W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.6/19, mbtmp3.8/3, ML3.9/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/19, Error ellipse: s-maj=63.9km s-min=63.2km az=84.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.73**	**24**	Pn	Pn	08 16 08.3	+0.2
	3.5nm,0.3s,baz=222,slow=7.1,SNR=52						
LPAZ				LR	LR	08 17 59.8	
	comp=Z,70nm,18.9s,baz=303,slow=39						
TORD	**Toroell Ar. Bea**	**78.17**	**71**	P	P	08 26 56.4	-0.4
	0.3nm,0.3s,baz=243,slow=6.1,SNR=6.1						
YKA	**Yellowknife Ar**	**89.98**	**341**	P	P	08 27 55.3	-0.6
	0.3nm,0.7s,baz=136,slow=4.7,SNR=6.6						
URZ	**Urewera**	**93.95**	**227**	LR	LR	09 03 55.9	
	comp=Z,56nm,18.3s,baz=24,slow=31						
MKAR	**Makanchi Array**	**145.59**	**34**	PKPbc	PKPab	08 34 35.7	-0.1
	0.4nm,0.8s,baz=336,slow=3.2,SNR=4.4						

*NIED **21** 08:22:00, 38°.10N×144°.40E, h8km, Mw3.6 Best double couple: M₀2.96000×10¹⁴ NP1:φs360.00000°, δ31.00000°, λ-120.00000°. NP2:φs214.00000°, δ64.00000°, λ-74.00000°.*

JMA 21 08:22:17.5±0.2, 38°.06N×144°.44E, h31km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.36**	**277**	P	Pn	08 22 55.3	+1.3
JIKH				S	Sn	08 23 23.4	+1.5
OFUJ	**Ofunato**	**2.40**	**296**	P	Pn	08 22 56.0	+1.4
OFUJ				S	Sn	08 23 25.2	+2.2
JKMT	**Kesennumamotoy**	**2.45**	**289**	P	Pn	08 22 56.9	+1.6
JKMT				S	Sn	08 23 25.8	+1.7
JIO	**Ouri**	**2.46**	**280**	P	Pn	08 22 57.1	+1.6
JIO				S	Sn	08 23 26.4	+1.8
MIYJ	**Miyakonagasawa**	**2.55**	**307**	P	Pn	08 22 58.1	+1.4
MIYJ				*e*S	Sn	08 23 27.5	+0.9
JMK	**Ichinoseki**	**2.68**	**290**	P	Pn	08 23 00.0	+1.5
JMK				S	Sn	08 23 31.9	+2.1
JOM	**Ohasama**	**2.84**	**301**	P	Pn	08 23 03.0	+2.4
JOM				*e*S	Sn	08 23 36.9	+3.2
JANG	**Nango**	**3.24**	**316**	P	Pn	08 23 08.0	+1.8
JANG				*e*S	Sn	08 23 44.4	+0.7
JFT	**Otama**	**3.29**	**262**	P	Pn	08 23 10.7	+3.7
JFT				S	Sn	08 23 47.2	+2.1
JYK	**Kaneyama**	**3.31**	**286**	P	Pn	08 23 10.3	+3.1
JYK				*e*S	Sn	08 23 48.8	+3.2
JOT	**Ohata**	**4.22**	**323**	P	Pn	08 23 21.9	+2.2
JOT				*e*S	Sn	08 24 07.3	-0.6
JCH	**Churui**	**4.62**	**350**	P	Pn	08 23 24.9	-0.3
JCH				S	Sn	08 24 14.6	-3.2
JKB	**Kayabe**	**4.63**	**327**	*e*S	Sn	08 24 17.9	-0.1
JRY	**Ryogami san**	**4.88**	**247**	P	Pn	08 23 29.9	+1.2
JRY				S	Sn	08 24 23.4	-0.8
JOD2	**Odawara 2**	**5.13**	**239**	S	Sn	08 24 29.4	-0.9
NEM2	**Nemuro 2**	**5.39**	**10**	P	Pn	08 23 32.7	-3.0
NEM2				*e*S	Sn	08 24 29.8	-6.9
JTKR	**Abashiri--Toko**	**5.92**	**356**	P	Pn	08 23 42.0	-1.0
JTKR				*e*S	Sn	08 24 45.6	-4.1
JHR	**Hokuryu**	**6.04**	**341**	P	Pn	08 23 46.3	+1.7
JHR				*e*S	Sn	08 24 53.1	+0.5

*SJA **21** 08:42:05.3±0.8, 20°.75S×66°.86W, h238km±7km, ML3.0, MW3.1*
*ISCJB **21** 08:42:06.5±1.0, 20°.71S±0°.05×66°.97W±0°.05, h225km±12km, Error ellipse: s-maj=9.7km s-min=6.3km az=43.0*
*GUC **21** 08:42:07.4±0.6, 20°.70S×67°.25W, h262km±8km, ML3.8*

ISC 21 08:42:03.3±2.4, 20°.67S±0°.06×66°.91W±0°.06, h252km±20km, n29, σ1$79/44, 5C-1D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.98**	**139**	*e*P	**Pn**	**08 42 47.5**	**+1.2**
YJA				*e*S	**S**	**08 43 17.8**	**-2.5**
PB08	**IPOC Station P**	**2.17**	**284**	*e*P	**Pn**	**08 42 50.1**	**+2.1**
PB08				*e*S	**S**	**08 43 23.0**	**-0.1**
PB08	**IPOC Station P**	**2.17**	**284**	⇑*i*P	**Pn**	**08 42 49.7**	**+1.7**
PB08				*i* S	**S**	**08 43 22.9**	**-0.3**
PB01	**IPOC Station P**	**2.44**	**261**	*e*P	**Pn**	**08 42 51.4**	**+1.1**
PB01				*i* S	**S**	**08 43 25.5**	**-1.7**
PB01				IAML		08 43 27.6	
	comp=N,142nm,0.2s						
PB09	**IPOC Station P**	**2.45**	**242**	*e*P	**Pn**	**08 42 53.1**	**+2.7**
PB09	**IPOC Station P**	**2.45**	**242**	*e*P	**Pn**	**08 42 52.6**	**+2.2**
PB09				*i* S	**S**	**08 43 26.6**	**-1.0**
PB11	**IPOC Station P**	**2.73**	**289**	*e*P	**Pn**	**08 42 54.7**	**+1.4**
PB11	**IPOC Station P**	**2.73**	**289**	⇑*i*P	**Pn**	**08 42 54.5**	**+1.2**
PB11				*i* S	**S**	**08 43 31.1**	**-1.7**
PB11				IAML		08 43 34.1	
	comp=N,155nm,0.1s						
PB02	**IPOC Station P**	**2.87**	**256**	*e*P	**Pn**	**08 42 56.3**	**+1.7**
PB02	**IPOC Station P**	**2.87**	**256**	*e*P	**Pn**	**08 42 56.0**	**+1.4**
PB02				*i* S	**S**	**08 43 33.1**	**-2.1**
PB02				IAML		08 43 33.6	
	comp=N,242nm,0.2s						
HJA	**Humahuaca**	**2.89**	**151**	*e*P	**Pn**	**08 42 56.8**	**+1.7**
HJA				IAML		08 42 57.5	
	comp=Z,40nm,0.5s						
MNMC	**Minye Minye**	**2.95**	**301**	⇑*i*P	**Pn**	**08 42 57.7**	**+1.9**
MNMC				*i* S	**S**	**08 43 36.8**	**-0.5**
MNMCX	**Minye Minye**	**2.95**	**301**	*e*P	**Pn**	**08 42 58.0**	**+2.3**
PB07	**IPOC Station P**	**2.97**	**249**	*e*P	**Pn**	**08 42 57.5**	**+1.7**
PB07	**IPOC Station P**	**2.97**	**249**	*e*P	**Pn**	**08 42 57.3**	**+1.5**
PB07				*i* S	**S**	**08 43 35.1**	**-2.3**
PB07				IAML		08 43 36.0	
	comp=N,80nm,0.4s						
PB03	**IPOC Station P**	**2.99**	**242**	*e*P	**Pn**	**08 42 57.7**	**+1.8**
PB03	**IPOC Station P**	**2.99**	**242**	*e*P	**Pn**	**08 42 57.5**	**+1.5**
PB03				*i* S	**S**	**08 43 35.5**	**-2.1**
PB03				IAML		08 43 36.3	
	comp=E,234nm,0.1s						
PB06	**IPOC Station P**	**3.20**	**230**	*e*P	**Pn**	**08 43 00.6**	**+2.3**
PB06	**IPOC Station P**	**3.20**	**230**	*e*P	**Pn**	**08 43 00.1**	**+1.8**
PB06				*i* S	**S**	**08 43 40.4**	**-1.4**
PB06				IAML		08 43 41.1	
PSGC	**Pisagua**	**3.20**	**289**	⇑*i*P	**Pn**	**08 42 59.2**	**+0.9**
PSGC				*i* S	**S**	**08 43 39.4**	**-2.4**
PSGC				IAML		08 43 40.3	
	comp=E,61nm,0.1s						
PSGCX	**Pisagua**	**3.20**	**289**	*e*P	**Pn**	**08 42 59.2**	**+1.0**
PB04	**IPOC Station P**	**3.44**	**241**	*e*P	**Pn**	**08 43 02.4**	**+1.4**
PB04	**IPOC Station P**	**3.44**	**241**	*e*P	**Pn**	**08 43 02.2**	**+1.2**
PB04				*i* S	**S**	**08 43 44.5**	**-2.2**
PB04				IAML		08 43 47.9	
	comp=N,45nm,0.5s						
PB15	**IPOC Station P**	**3.47**	**223**	*e*P	**Pn**	**08 43 03.9**	**+2.6**
PB15				*e*S	**S**	**08 43 45.6**	**-1.7**
PB05	**IPOC Station P**	**3.75**	**234**	*e*P	**Pn**	**08 43 06.0**	**+1.5**
PB12	**IPOC Station P**	**3.81**	**302**	*e*P	**Pn**	**08 43 06.0**	**+0.8**
PB12	**IPOC Station P**	**3.81**	**302**	⇑*i*P	**Pn**	**08 43 05.7**	**+0.5**
PB12				*i* S	**S**	**08 43 51.7**	**-2.6**
PB12				IAML		08 43 52.8	
	comp=N,70nm,0.2s						
AZAP	**Zapla**	**3.93**	**155**	*e*P	**Pn**	**08 43 07.7**	**+1.0**
AZAP				IAML		08 43 08.5	
	comp=Z,12nm,0.3s						
SLA	**San Lorenzo**	**4.24**	**162**	⇓*e*P	**Pn**	**08 43 11.0**	**+0.8**

IDC 21 08:59:19.2±6.8, 6°.26S×128°.20E, h343km±73km, mb2.8/2, mb1 3.2/6, mb1mx3.0/34, mbtmp3.9/6, Error ellipse: s-maj=101.2km s-min=20.3km az=54.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.96**	**229**	P	Pn	09 00 49.6	+0.2
	8.6nm,0.3s,baz=66,slow=9.0,SNR=5.1						
FITZ	**Fitzroy Crossi**	**12.03**	**192**	P	Pn	09 01 59.0	-2.5
	0.2nm,0.3s,baz=12,slow=9.3,SNR=5.9						
WRA	**Warramunga Arr**	**14.85**	**157**	P	P	09 02 33.5	+0.9
	0.7nm,0.3s,baz=337,slow=11,SNR=45						
ASAR	**Alice Springs**	**18.16**	**163**	P	P	09 03 08.7	+0.4
	0.6nm,0.3s,baz=348,slow=13,SNR=34						
STKA	**Stephens Creek**	**28.40**	**156**	P	P	09 04 42.9	-0.3
	0.7nm,0.5s,baz=334,slow=8.0,SNR=4.9						
MKAR	**Makanchi Array**	**66.64**	**327**	P	P	09 09 33.7	0.0
	0.1nm,0.4s,baz=113,slow=7.6,SNR=3.3		

TAMC					*e*S		**Sn**	**09 02 18.0**	**+1.9**
TAMC					*i*			09 02 20.1	
	comp=Z,100nm,0.5s								
CTAB	**Cerro Tablazo,**	**4.02**	**183**		*e*P		**Pn**	**09 01 47.9**	**+2.0**
ROSC	**El Rosal**	**4.20**	**185**		P		**Pn**	**09 01 50.8**	**+2.5**
	comp=Z,21nm,0.3s,baz=62,slow=8.4,SNR=72								
ROSC					S		**Sn**	**09 02 39.2**	**+2.9**
	comp=Z,15nm,0.3s,baz=56,slow=23,SNR=3.8								
ROSC	**El Rosal**	**4.20**	**185**		*e*P		**Pn**	**09 01 50.3**	**+2.0**
ROSC					*i*			09 02 45.9	
	comp=Z,109nm,0.4s								
CHIC	**Chingaza**	**4.40**	**177**	⇓	*e*P		**Pn**	**09 01 52.4**	**+1.3**
CHIC					*i*			09 02 57.4	
	comp=Z,87nm,0.6s								
SOLC	**Bahia Solano**	**4.40**	**231**		*e*P		**Pn**	**09 01 51.5**	**+0.8**
ANIL	**Santa Ana**	**4.74**	**197**		*e*P		**Pn**	**09 01 57.1**	**+1.4**
ANIL					*i*			09 03 07.1	
	comp=Z,70nm,0.3s								
VILC	**Villavicencio,**	**4.92**	**177**		*e*P		**Pn**	**09 01 59.4**	**+1.5**
VILC					*e*S		**Sn**	**09 02 54.7**	**+1.2**
PCRV	**Puerto La Cruz**	**9.29**	**82**		P		**Pn**	**09 02 58.0**	**+0.4**
	comp=Z,2.5nm,0.3s,baz=303,slow=1.7,SNR=11								
PCRV					S		**Sn**	**09 04 37.5**	**-2.9**
	comp=Z,1.3nm,0.3s,baz=37,slow=20,SNR=4.3								
SJG	**San Juan**	**11.79**	**39**		P		**Pn**	**09 03 28.9**	**-2.7**
	comp=Z,3.7nm,0.3s,baz=279,slow=2.3,SNR=3.5								
SJG					S		**Sn**	**09 05 33.8**	**-7.6**
	comp=Z,2.5nm,0.3s,baz=67,slow=24,SNR=3.6								
PTGA	**Pitinga**	**17.02**	**124**		P		**P**	**09 04 40.1**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=319,slow=20,SNR=2.8								
LPAZ	**La Paz**	**25.84**	**167**		P		**P**	**09 06 11.3**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=354,slow=9.2,SNR=2.9								
TXAR	**Lajitas Array**	**34.36**	**310**		P		**P**	**09 07 26.1**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=124,slow=9.2,SNR=4.9								
TXAR					pP		**pP**	**09 07 46.2**	**+1.7**
	comp=Z,0.1nm,0.4s,baz=121,slow=9.9,SNR=2.4								
PDAR	**Pinedale Array**	**45.78**	**323**		PcP		**PcP**	**09 10 35.7**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=122,slow=6.9,SNR=3.0								
NVAR	**Mina Array Bea**	**49.32**	**314**		P		**P**	**09 09 28.1**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=118,slow=9.3,SNR=2.1								
NVAR					PcP		**PcP**	**09 10 50.6**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=117,slow=4.4,SNR=3.2								
YKA	**Yellowknife Ar**	**60.89**	**340**		P		**P**	**09 10 50.9**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=132,slow=7.1,SNR=8.2								
YKA					pP		**pP**	**09 11 10.6**	**0.0**
	comp=Z,0.5nm,0.4s,baz=130,slow=7.1,SNR=9.0								
ILAR	**Eielson Array**	**74.59**	**335**		P		**P**	**09 12 17.0**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=78,slow=4.4,SNR=4.5								
ASAR	**Alice Springs**	**149.63**	**238**		PKPbc		**PKPbc**	**09 20 27.1**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=114,slow=3.5,SNR=40								
ASAR					pPKPbc		**pPKPdf**	**09 20 47.8**	**+2.3**
	comp=Z,0.8nm,0.8s,baz=89,slow=2.5,SNR=3.8								
WRA	**Warramunga Arr**	**150.57**	**245**		PKPbc		**PKPbc**	**09 20 29.9**	**-0.2**
	comp=Z,1.4nm,0.4s,baz=282,slow=0.2,SNR=40								
WRA					pPKPbc		**pPKPbc**	**09 20 51.9**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=103,slow=2.7,SNR=3.0								

*IDC **21** 09:27:11.3±1.1, 43.°28S×74.°26W, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.1/25, mbtmp4.0/11, ML3.9/1, MS3.3/3, Ms1 3.2/3, ms1mx3.0/23, Error ellipse: s-maj=29.9km s-min=27.0km az=52.0*
*NEIC **21** 09:27:14.0±0.0, 43.°35S×74.°48W, h31km, mb4.2/2, ML4.1(GUC), After GUC.*
*GUC **21** 09:27:14.1±0.6, 43.°35S×74.°48W, h31km±7km, ML4.1*
*ISCJB **21** 09:27:15.5±0.6, 43.°26S±0.°06×74.°44W±0.°09, h33km, mb3.9/12, MS4.2/1, Error ellipse: s-maj=9.8km s-min=7.2km az=38.5*

ISC 21 09:27:16.8±0.8, **43.°30S**±0.°08×**74.°33W**±0.°09, **h35**km, **n39,** σ1**°77**/42, **mb3.9**/12, **1C-1D, Southern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO07	**Milladeo Hill,**	**0.52**	**70**	*e*Pg	**Pn**	**09 27 27.1**	**-0.6**
GO07				*e*Pn	**Sn**	**09 27 35.1**	**-0.3**
GO07	**Milladeo Hill,**	**0.52**	**70**	*e*P	**Pn**	**09 27 26.5**	**-1.3**
GO07				*e*S	**Sn**	**09 27 35.1**	**-0.3**
GO07				IAML		09 27 38.7	
	comp=E,31μm,0.4s						
PMCH	**Puerto Montt**	**2.10**	**31**	*e*P	**Pn**	**09 27 50.6**	**+1.2**
PMCH				*e*S	**Sn**	**09 28 18.1**	**+3.9**
PUEL	**Puelo Alto**	**2.22**	**43**	*e*P	**Pn**	**09 27 51.5**	**+0.4**
PLCA	**Paso Flores**	**3.81**	**49**	Pn	**Pn**	**09 28 12.7**	**-0.3**
	comp=E,2.0nm,0.3s,baz=252,slow=11,SNR=79						
PLCA				Lg	Lg	09 29 10.4	
	comp=E,10nm,0.3s,baz=318,slow=17,SNR=4.7						
PLCA				LR	LR	09 29 29.6	
	comp=E,67nm,20.3s,baz=272,slow=37						
PLCA	**Paso Flores**	**3.81**	**49**	*e*Pn	**Pn**	**09 28 14.3**	**+1.3**
PLCA				Lg	Lg	09 29 10.4	
PLCA	**Paso Flores**	**3.81**	**49**	⇓*e*P	**Pn**	**09 28 13.9**	**+0.9**
PLCA				*e*S	**Sn**	**09 29 00.2**	**+3.6**
GO06	**Curarrehue**	**4.29**	**31**	*e*Pn	**Pn**	**09 28 19.9**	**+0.2**
GO06	**Curarrehue**	**4.29**	**31**	⇑*e*P	**Pn**	**09 28 19.8**	**+0.1**
GO06				IAML		09 29 02.5	
	comp=E,51nm,0.8s						
TMU	**Temuco**	**4.74**	**17**	*e*P	**Pn**	**09 28 26.7**	**+0.9**
TMU				*i* S	**Sn**	**09 29 23.4**	**+3.9**
ROC1	**El Roble**	**10.63**	**15**	*e*Pn	**Pn**	**09 29 43.1**	**-3.7**
USHA	**Ushuaia**	**12.17**	**164**	LR	LR	09 35 04.2	
	comp=E,114nm,19.3s,baz=323,slow=39						
LVC	**Limon Verde**	**21.12**	**14**	P	**P**	**09 31 58.2**	**-0.6**
	comp=E,4.2nm,0.9s,baz=197,slow=12,SNR=4.2						
CPUP	**Villa Florida**	**21.87**	**45**	P	**P**	**09 32 05.3**	**-1.1**
	comp=E,6.3nm,0.6s,baz=223,slow=9.8,SNR=14						
CPUP	**Villa Florida**	**21.87**	**45**	*e*P	**P**	**09 32 06.0**	**-0.5**
	comp=E,6.1nm,0.8s						
MNMC	**Minye Minye**	**24.42**	**11**	*e*P	**P**	**09 32 31.9**	**-0.4**
	comp=E,7.4nm,0.8s						
LPAZ	**La Paz**	**27.43**	**13**	P	**P**	**09 32 59.1**	**-0.9**
	comp=E,1.0nm,0.7s,baz=167,slow=9.3,SNR=4.6						
LPAZ	**La Paz**	**27.43**	**13**	*e*P	**P**	**09 32 57.3**	**-2.7**
LPAZ				*e*pP	**P**	**09 32 59.1**	**-0.9**
SIV	**San Ignacio**	**29.48**	**27**	P	**P**	**09 33 14.4**	**-3.1**
	comp=E,1.3nm,0.9s,baz=194,slow=8.4,SNR=4.1						
VNA3	**Neumayer Olymp**	**41.61**	**154**	P	**P**	**09 35 04.5**	**+3.5**
VNA1	**Neumayer--Stat**	**42.02**	**153**	P	**P**	09 35 09.2	+5.1
VNA2	**Neumayer--Watz**	**42.32**	**153**	P	**P**	**09 35 09.2**	**+2.5**
	baz=287,slow=9.6						
SNAA	**Sanae**	**43.82**	**154**	P	**P**	**09 35 20.5**	**+1.7**
PTGA	**Pitinga**	**44.28**	**21**	P	**P**	**09 35 21.0**	**-2.1**
	comp=E,2.2nm,0.3s,baz=182,slow=4.3,SNR=7.4						
LTX	**Lajitas**	**77.13**	**334**	*e*P	**P**	**09 39 07.3**	**+0.7**
TXAR	**Lajitas Array**	**77.13**	**334**	P	**P**	**09 39 07.3**	**+0.7**
	comp=E,0.9nm,0.7s,baz=150,slow=7.4,SNR=9.3						
BOSA	**Boshof**	**77.37**	**117**	P	**P**	**09 39 08.8**	**+0.5**
	comp=E,2.8nm,0.8s,baz=253,slow=1.4,SNR=4.8						
DBIC	**Dimbokro**	**79.90**	**71**	P	**P**	**09 39 20.7**	**-1.4**
	comp=E,1.9nm,0.7s,baz=197,slow=7.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**89.01**	**71**	P	**P**	**09 40 08.4**	**+0.2**
	comp=E,0.6nm,0.9s,baz=245,slow=4.0,SNR=3.2						
TOA1	**Torodi Ar. Sit**	**89.01**	**71**	*e*P	**P**	**09 40 08.4**	**+0.2**
NVAR	**Mina Array Bea**	**90.59**	**327**	P	**P**	**09 40 16.3**	**+1.0**
	comp=E,0.2nm,0.5s,baz=159,slow=7.7,SNR=3.3						
PDAR	**Pinedale Array**	**91.33**	**335**	P	**P**	**09 40 18.6**	**0.0**
	comp=E,0.4nm,0.8s,baz=133,slow=5.3,SNR=3.4						
MDT	**Midelt**	**98.95**	**53**	LR	LR	10 25 01.2	
	comp=E,73nm,18.3s,baz=351,slow=35						
NB200	**NORSAR Array S**	**124.70**	**36**	*e*PKPdf	**PKPdf**	**09 46 10.5**	**-1.1**
NOA	**NORSAR Array B**	**124.70**	**36**	PKP	**PKPdf**	**09 46 10.5**	**-1.1**
	comp=E,0.5nm,0.7s,baz=242,slow=8.0,SNR=3.3						
FIA0	**FINESS Array S**	**131.50**	**39**	*e*PKPdf	**PKPdf**	**09 46 22.9**	**-1.5**
FINES	**FINESS Array B**	**131.50**	**39**	PKP	**PKPdf**	**09 46 23.0**	**-1.5**
	comp=E,1.4nm,0.9s,baz=246,slow=13,SNR=2.8						
MK32	**Makanchi Array**	**163.13**	**70**	*e*PKPab	**PKPab**	**09 48 05.9**	**+0.7**
MKAR	**Makanchi Array**	**163.13**	**70**	PKPab	**PKPab**	**09 48 05.9**	**+0.7**
	comp=E,1.1nm,0.8s,baz=271,slow=4.3,SNR=9.2						

*ISK **21** 09:27:43.9, 39.°71N×25.°61E, h9km, ML2.9/10*
*ATH **21** 09:27:44.6, 39.°70N×25.°64E, h25km±2km, ML2.7/4, Error ellipse: s-maj=3.0km s-min=0.9km az=226.0*
*ISCJB **21** 09:27:45.6±0.4, 39.°70N±0.°03×25.°62E±0.°03, h20km±5km, Error ellipse: s-maj=4.5km s-min=3.5km az=24.4*
*DDA **21** 09:27:45.9, 39.°80N×25.°72E, h25km±1km, ML3.1*

ISC 21 09:27:44.6±1.0, **39.°69N**±0.°03×**25.°61E**±0.°02, **h14**km±9km, **n36,** σ0**°58**/50, **Argentina Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOZC	**Bozcaada**	**0.38**	**66**	PG	**Pg**	**09 27 51.9**	**-0.4**
BOZC				SG	**Sg**	**09 27 57.4**	**-0.1**
BOZC	**Bozcaada**	**0.38**	**66**	IAML_P			
	comp=Z,8μm,0.2s						
BOZC				*i* P	**Pg**	**09 27 52.0**	**-0.2**
BOZC				*i* S	**Sb**	**09 27 58.6**	**-0.2**
LIA	**Limnos Island**	**0.39**	**303**	P	**Pb**	**09 27 53.1**	**-0.1**
LIA				S	**Sb**	**09 27 59.3**	**+0.2**
LIA				AML	AML	09 28 07.2	
	comp=N,2069μm,0.4s						
LIA				AML	AML	09 28 08.3	
	comp=E,2012μm,0.6s						
EFSA	**Agios Efstrati**	**0.50**	**253**	P	**Pn**	**09 27 56.5**	**-0.8**
EFSA				S	**Sn**	**09 28 04.1**	**-1.6**
SIGR	**SIGRI**	**0.51**	**158**	P	**Pg**	**09 27 55.2**	**+0.4**
SIGR				S	**Sb**	**09 28 02.5**	**-0.2**
SIGR				AML	AML	09 28 03.7	
	comp=E,3572μm,0.4s						
SIGR				AML	AML	09 28 03.9	
	comp=N,4413μm,0.5s						
EZN	**Ezine**	**0.57**	**76**	PG	**Pg**	**09 27 55.3**	**-0.6**
EZN				SG	**Sg**	**09 28 03.6**	**+0.1**
PRK	**Paraskevi**	**0.68**	**130**	P	**Pg**	**09 27 57.9**	**0.0**
PRK				S	**Sb**	**09 28 07.7**	**+0.2**
PRK				AML	AML	09 28 11.8	
	comp=N,1357μm,0.4s						
PRK				AML	AML	09 28 14.8	
	comp=E,1402μm,0.5s						
BAYC	**CANAKKALE_Bayr**	**0.73**	**85**	IAML_P			
	comp=Z,5μm,0.1s						
BAYC				*i* P	**Pb**	**09 27 59.4**	**+0.3**
BAYC				*i* S	**Sn**	**09 28 10.2**	**-1.2**
SMTH	**Samothraki Isl**	**0.78**	**356**	P	**Pg**	**09 27 60.0**	**+0.1**
AYVA	**Ayvalik**	**0.92**	**114**	*i* P	**Pn**	**09 28 03.0**	**-0.1**
AYVA				*i* S	**Sn**	**09 28 16.5**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.97**	**43**	PG	**Pb**	**09 28 02.7**	**-0.6**
GELI				SG	**Sg**	**09 28 16.3**	**+0.1**
LPK	**Lapseki**	**1.12**	**52**	PN	**Pb**	**09 28 05.4**	**-0.4**
ENEZ	**Enez**	**1.13**	**22**	PN	**Pb**	**09 28 05.4**	**-0.5**
THAS	**Thassos island**	**1.14**	**324**	P	**Pg**	**09 28 07.2**	**+0.5**
THAS				S	**Sg**	**09 28 21.9**	**+0.3**
THAS				AML	AML	09 28 22.6	
	comp=N,439μm,0.4s						
THAS				AML	AML	09 28 23.7	
	comp=E,476μm,0.2s						
DKL	**Dikili**	**1.18**	**121**	PN	**Pg**	**09 28 07.3**	**-0.1**
ERIK	**Erikli-Kesan**	**1.20**	**35**	PN	**Pb**	**09 28 07.0**	**-0.2**
ALN	**Alexandroupoli**	**1.25**	**15**	P	**Pb**	**09 28 08.1**	**+0.1**
CHOS	**Chios island**	**1.35**	**165**	P	**Pn**	**09 28 09.3**	**+0.3**
AOS	**Alonnisos**	**1.43**	**249**	P	**Pb**	**09 28 10.8**	**-0.3**
RDO	**Rodhopi**	**1.46**	**358**	PN	**Pn**	**09 28 10.3**	**-0.2**
RDO	**Rodhopi**	**1.46**	**358**	P	**Pb**	**09 28 11.3**	**-0.2**
KRBG	**Karabiga-Canak**	**1.48**	**61**	PN	**Pn**	**09 28 10.8**	**0.0**
URLA	**Izmir**	**1.53**	**149**	PN	**Pb**	**09 28 12.3**	**-0.5**
BALY	**Balya**	**1.56**	**87**	IAML_P			
	comp=Z,524nm,0.1s						
BALY				*i* P	**Pg**	**09 28 14.3**	**-0.2**
BALY				*i* S	**Sb**	**09 28 33.2**	**+0.5**
SART	**Tekirdag**	**1.57**	**50**	IAML_P			
	comp=Z,2μm,0.2s						
SART				*i* P	**Pg**	**09 28 14.3**	**-0.4**
GONE	**Gonen-Balikesi**	**1.64**	**77**	PN	**Pn**	**09 28 13.6**	**+0.6**
STEP	**BALIKESIR_Sava**	**1.66**	**100**	IAML_P			
	comp=Z,1μm,0.2s						
STEP				*i* P	**Pg**	**09 28 16.5**	**-0.1**
STEP				*i* S	**Sg**	**09 28 38.6**	**+0.4**
BLCB	**Balcova**	**1.72**	**139**	PN	**Pn**	**09 28 14.8**	**+0.7**
BALB	**Balikesir**	**1.76**	**91**	PN	**Pn**	**09 28 14.5**	**-0.1**
MRMT	**Marmara Adasi**	**1.78**	**58**	PN	**Pn**	**09 28 15.3**	**+0.3**
SBT4	**Kumbag-Tekirda**	**1.86**	**52**	PN	**Pn**	**09 28 16.4**	**+0.4**
NVR	**Nevrokopi**	**2.13**	**322**	P	**Pn**	**09 28 21.1**	**+1.3**
DURS	**Dursunbey**	**2.22**	**91**	IAML_P			
	comp=Z,784nm,0.2s						
DURS				*i* P	**Pb**	**09 28 23.5**	**-1.0**
DURS				*i* S	**Sn**	**09 28 49.3**	**+1.1**
EDRB	**Edirne**	**2.32**	**21**	PN	**Pn**	**09 28 22.9**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**2.49**	**134**	PN	**Pn**	**09 28 25.7**	**+0.8**
KULA	**Kula-Manisa**	**2.65**	**115**	PN	**Pn**	**09 28 28.1**	**+1.1**

*IDC **21** 09:35:47.0±0.8, 10.°48N×141.°80E, h0km, mb3.9/10, mb1 4.1/11, mb1mx3.9/35, mbtmp3.9/11, ML4.3/1, Error ellipse: s-maj=26.3km s-min=19.5km az=97.0*
*ISCJB **21** 09:35:50.0±0.7, 10.°5N±0.°1×141.°9E±0.°1, h33km, mb3.9/10, Error ellipse: s-maj=20.1km s-min=9.4km az=43.4*

ISC 21 09:35:52.2±0.8, **10.°5N**±0.°1×**141.°8E**±0.°1, **h35**km, **n15,** σ0**°88**/13, **mb3.8**/10, **Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.27**	**44**	Pn	**Pn**	**09 36 54.6**	**-0.2**
	16nm,0.3s,baz=198,slow=20,SNR=2.8						
GUMO				Sn	**Sn**	**09 37 42.6**	**-0.7**
	20nm,0.3s,baz=164,slow=19,SNR=2.4						
H11S3	**WAKE ISLAND Hy**	**25.31**	**69**	T	T	10 07 50.4	
	baz=253,slow=74						
H11S1	**WAKE ISLAND Hy**	**25.32**	**69**	T	T	10 08 07.4	
	baz=253,slow=74						
H11S2	**WAKE ISLAND Hy**	**25.32**	**69**	T	T	10 08 28.7	
	baz=253						
WRA	**Warramunga Arr**	**31.14**	**194**	P	**P**	**09 42 07.3**	**-0.5**
	0.7nm,0.6s,baz=16,slow=9.7,SNR=7.5						
ASAR	**Alice Springs**	**34.83**	**193**	P	**P**	**09 42 39.7**	**-0.4**
	0.3nm,0.5s,baz=19,slow=12,SNR=10						
CMAR	**Chiang Mai Arr**	**42.20**	**286**	P	**P**	**09 43 42.1**	**0.0**
	0.7nm,0.3s,baz=81,slow=5.9,SNR=3.2						
SONM	**Songino Array**	**47.66**	**328**	P	**P**	**09 44 26.0**	**+0.7**
	0.7nm,1.0s,baz=165,slow=6.0,SNR=3.3						
MKAR	**Makanchi Array**	**61.71**	**318**	P	**P**	**09 46 07.0**	**-0.1**
	0.7nm,0.6s,baz=98,slow=8.3,SNR=7.8						
ZALV	**Zalesovo Beam**	**62.46**	**326**	P	**P**	**09 46 11.2**	**-0.7**
	0.8nm,0.4s,baz=108,slow=7.2,SNR=4.7						
ILAR	**Eielson Array**	**72.61**	**25**	P	**P**	**09 47 15.0**	**-0.9**
	0.4nm,0.7s,baz=245,slow=5.9,SNR=4.9						
YKA	**Yellowknife Ar**	**86.94**	**27**	P	**P**	**09 48 35.1**	**+1.6**
	0.4nm,0.5s,baz=289,slow=5.1,SNR=5.8						
NVAR	**Mina Array Bea**	**91.15**	**51**	P	**P**	**09 48 55.4**	**+1.2**
	0.3nm,0.6s,baz=268,slow=5.1,SNR=4.3						
FINES	**FINESS Array B**	**92.67**	**334**	P	**P**	**09 48 59.4**	**-1.0**
	3.1nm,1.0s,baz=43,slow=3.3,SNR=3.2						
LPAZ	**La Paz**	**150.30**	**104**	PKPbc	**PKPbc**	**09 55 41.8**	**+0.2**
	0.7nm,0.5s,baz=0.0,slow=3.0,SNR=3.3						

*ISK **21** 09:46:30.7, 38.°48N×43.°75E, h16km, ML2.6/8*
*ISCJB **21** 09:46:32.8±0.7, 38.°51N±0.°04×43.°71E±0.°06, h24km±5km, Error ellipse: s-maj=8.1km s-min=6.4km az=0.4*
*DDA **21** 09:46:32.3, 38.°55N×43.°67E, h7km±4km, ML2.9*

ISC 21 09:46:32.1±1.1, **38.°53N**±0.°03×**43.°72E**±0.°04, **h15**km±8km, **n15,** σ1**°42**/24, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TVAN	**Van**	**0.25**	**270**	IAML_P			
	comp=Z,12μm,0.2s						
TVAN				*i* P	**Pb**	**09 46 37.5**	**-0.8**
TVAN				*i* S	**Sg**	**09 46 43.6**	**+2.2**
VANB	**Van**	**0.27**	**285**	PG	**Pg**	**09 46 36.6**	**-1.3**
VANB				SG	**Sg**	**09 46 41.5**	**-0.4**
BASK	**Baskale_VAN**	**0.53**	**155**	*i* P	**Pb**	**09 46 43.7**	**+0.6**
BASK				*i* S	**Sn**	**09 46 53.2**	**-0.6**
GEVA	**Gevas**	**0.56**	**248**	IAML_P			
	comp=Z,5μm,0.2s						
GEVA				*i* P	**Pg**	**09 46 42.2**	**-1.1**
GEVA				*i* S	**Sn**	**09 46 53.7**	**-1.1**
AKDM	**Akdamar-Van**	**0.61**	**251**	PG	**Pg**	**09 46 43.4**	**-0.8**
CLDR	**Caldiran**	**0.63**	**14**	PG	**Pg**	**09 46 44.1**	**-0.5**
CLDR				SG	**Sb**	**09 46 54.4**	**+0.7**
CLDR	**Caldiran**	**0.63**	**14**	IAML_P			
	comp=Z,3μm,0.2s						
CLDR				*i* P	**Pb**	**09 46 44.7**	**-0.3**
CLDR				*i* S	**Sn**	**09 46 56.4**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.83**	**290**	IAML_P			
	comp=Z,1μm,0.1s						
ADCV				*i* P	**Pb**	**09 46 48.2**	**0.0**
TUTA	**Tutak**	**1.12**	**321**	*i* P	**Pg**	**09 46 53.2**	**-0.6**
TUTA				*i* S	**Sn**	**09 47 10.3**	**+1.6**
AGRB	**Hanur-Agry**	**1.19**	**332**	PN	**Pb**	**09 46 53.7**	**-0.7**
AGRB				SN	**Sn**	**09 47 11.0**	**+0.7**
CUKT	**Cukurca**	**1.28**	**184**	PN	**Pn**	**09 46 54.3**	**-1.2**
GURO	**Guroymak-BITLI**	**1.32**	**272**	PN	**Pn**	**09 46 55.3**	**-0.8**
SIRT	**Sirnak**	**1.44**	**225**	PN	**Pn**	**09 46 56.8**	**-0.8**
SRTM	**Siirt_Merkez**	**1.51**	**250**	IAML_P			
	comp=Z,651nm,0.3s						
SRTM				*i* P	**Pg**	**09 47 01.2**	**0.0**
SRTM				*i* S	**Sg**	**09 47 25.5**	**+4.6**
GNI	**Garni**	**1.80**	**26**	PN	**Pn**	**09 47 02.4**	**-0.3**

*ISCJB **21** 10:00:28.2±0.7, 32.°57S±0.°05×69.°88W±0.°05, h129km±6km, Error ellipse: s-maj=9.5km s-min=4.7km az=44.9*
*SJA **21** 10:00:28.4±0.9, 32.°61S×69.°83W, h121km±5km, ML3.1, MW3.2*
*GUC **21** 10:00:29.2±0.7, 32.°60S×69.°98W, h133km±4km, ML3.3*

ISC 21 10:00:27.9±1.6, **32.°59S**±0.°05×**69.°89W**±0.°05, **h134**km±11km, **n20,** σ0**°83**/32, **1C-3D, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AUSP	**Uspallata**	**0.56**	**49**	*i* P	**Pn**	**10 00 48.1**	**0.0**
AUSP				*i* S	**Sn**	**10 01 02.0**	**-1.3**
FCH	**Farellones**	**0.81**	**205**	⇓*i* P	**Pn**	**10 00 50.9**	**+1.1**
FCH				*i* S	**Sn**	**10 01 06.7**	**+0.2**
FCH				IAML		10 01 08.2	
	comp=E,773nm,0.3s						
PEL	**Peldehue**	**0.87**	**230**	*e*P	**Pn**	**10 00 49.9**	**-0.1**
PEL				*i* S	**Sn**	**10 01 06.2**	**-0.7**
PEL				IAML		10 01 08.5	
	comp=N,381nm,0.1s						
CLCH	**Cerro Calan**	**0.97**	**214**	⇓*i* P	**Pn**	**10 00 52.1**	**+1.2**
CLCH				*i* S	**Sn**	**10 01 08.7**	**+0.2**
CLCH				IAML		10 01 10.1	
	comp=E,941nm,0.3s						
ROCH	**El Roble**	**1.02**	**248**	⇓*i* P	**Pn**	**10 00 51.9**	**+0.4**
ROCH				*i* S	**Sn**	**10 01 09.0**	**-0.6**
ROCH				IAML		10 01 10.3	
	comp=N,2μm,0.2s						
ROC1	**El Roble**	**1.02**	**248**	*i* P	**Pn**	**10 00 52.1**	**+0.5**
ROC1				*e*S	**Sn**	**10 01 09.0**	**-0.6**
ROC1				*i* S		10 01 09.7	
LMEL	**Las Melosas**	**1.28**	**192**	*e*P	**Pn**	**10 00 55.0**	**+0.9**
LMEL				IAML		10 01 21.4	
	comp=N,442nm,0.2s						
RTCV	**Cerro Valdivia**	**1.35**	**58**	*i* P	**Pn**	**10 00 55.2**	**+0.5**
RTCV				*i* S	**Sn**	**10 01 14.5**	**-0.7**
CMCH	**Combarbala**	**1.70**	**326**	*e*P	**Pn**	**10 00 59.5**	**+0.8**
CMCH				IAML		10 01 23.6	
	comp=E,676nm,0.5s						
CFA	**Coronel Fontan**	**1.71**	**55**	*i* P	**Pn**	**10 00 59.3**	**+0.6**
CFA				*i* S	**Sn**	**10 01 21.5**	**-0.7**
RTLL	**Cerro Villicun**	**1.74**	**44**	*i* P	**Pn**	**10 00 60.0**	**+0.9**
RTLL				IAML		10 01 00.0	
	comp=Z,162nm,0.4s						
RTLL				*e*S	**Sn**	**10 01 22.3**	**-0.5**
AMOG	**MOGNA**	**2.03**	**36**	*i* P	**Pn**	**10 01 03.6**	**+1.1**
AMOG				*i* S	**Sn**	**10 01 28.9**	**-0.2**
ACAN	**Cantantal**	**2.31**	**83**	*i* P	**Pn**	**10 01 06.8**	**+1.0**
GO04	**Tololo Observa**	**2.53**	**342**	⇑*i* P	**Pn**	**10 01 09.5**	**+0.6**
GO04				*i* S	**Sn**	**10 01 39.9**	**-0.6**
GO05	**Huala**	**2.95**	**215**	*e*P	**Pn**	**10 01 14.1**	**+0.2**
GO05				*i* S	**Sn**	**10 01 48.2**	**-1.4**
GO05				IAML		10 01 56.4	
	comp=E,57nm,0.4s						
AGUA	**GUANDACOL**	**3.32**	**22**	*e*P	**Pn**	**10 01 20.5**	**+1.6**
MRA	**San Martin**	**3.53**	**88**	*e*P	**Pn**	**10 01 22.1**	**+0.5**
MRA				IAML		10 02 03.6	
	comp=Z,43nm,0.5s						
APLL	**PUNTA DE LOS L**	**3.61**	**54**	*e*P	**Pn**	**10 01 23.2**	**+0.6**
APLL				IAML		10 01 23.6	
	comp=Z,26nm,0.2s						
ACLC	**CERRO LA CRUZ**	**4.04**	**39**	*e*P	**Pn**	**10 01 28.8**	**+0.4**
CYA	**Choya**	**5.43**	**42**	*e*P	**Pn**	**10 01 45.9

MATN	Matagalpa	2.02	45	eP		Pn	10 39 29.1	-0.1
MATN				IAML			10 39 44.7	
	comp=Z,844nm,0.6s							
GBS3	Finca Las Img	2.04	110	i P		Pn	10 39 29.8	+0.4
BUEV	Buena Vista	2.08	110	i P		Pn	10 39 29.6	-0.3
BUEV				i S		Sn	10 39 53.7	-2.2
VSM	San Miguel	2.09	336	eP		Pb	10 39 32.4	-0.8
PACA	Pacayal	2.15	335	eP		Pn	10 39 31.7	+0.8
ACON	Acoyapa	2.23	78	eP		Pn	10 39 32.2	+0.3
TECA	Tecapa	2.25	332	eP		Pn	10 39 32.9	+0.5
MESS	Mesas	2.29	109	i P		Pn	10 39 33.8	+0.9
UESV	Ojushtada	2.31	324	eP		Pb	10 39 36.5	-0.2
UESV				eS		Sb	10 40 05.8	+0.5
COLC	Colonia	2.31	111	i P		Pn	10 39 32.8	-0.3
TGUH	Tegucigalpa,Un	2.54	3	ePn		Pn	10 39 37.6	+1.4
LFRS	El Faro	2.66	323	eP		Pn	10 39 38.2	+0.3
LFRS				eS		Sn	10 40 10.4	+0.1
PAVA	Las Pavas	2.66	326	eS		Sn	10 40 10.5	+0.2
JTS	JuntasAbangare	2.69	116	Pn		Pn	10 39 37.7	-0.6
	comp=Z,3.3nm,0.3s,baz=16,slow=15,SNR=13							
JTS				Sn		Sn	10 40 08.4	-2.5
	comp=Z,29nm,0.3s,baz=327,slow=18,SNR=13							
JTS	JuntasAbangare	2.69	116	ePn		Pn	10 39 38.0	-0.3
JTS				eSn		Sn	10 40 08.7	-2.3
JTS	JuntasAbangare	2.69	116	eP		Pn	10 39 37.3	-1.0
JTS				eS		Sn	10 40 08.5	-2.5
VICT	Victoria	2.72	334	eP		Pn	10 39 39.9	+1.0
LFU	La Fuente	2.79	323	eP		Pn	10 39 40.9	+1.2
ARE1	Arenal 1	2.83	111	eP		Pn	10 39 42.6	+2.4
CEDE	Laguna Cedeo	2.83	111	eP		Pn	10 39 42.7	+2.4
BOQS	Boqueron	2.88	321	eS		Sn	10 40 15.3	-0.5
ESPN	Las Esperanzas	3.11	77	ePn		Pn	10 39 46.6	+2.5
CEVE	Cerro Verde	3.17	317	IAML			10 40 27.9	
	comp=Z,458nm,0.3s							
HDC	Heredia	3.56	114	ePn		Pn	10 39 52.7	+2.4
HDC				eSn		Sn	10 40 31.9	-0.6
LCR2	La Lucha 2	3.77	117	eP		Pn	10 39 54.4	+1.0
BRU2	Volcan	5.36	120	eP		Pn	10 40 14.4	-0.8
CMIG	Matias Romero	9.13	308	Pn		Pn	10 41 08.9	+2.1
	comp=Z,1.0nm,0.3s,baz=146,slow=11,SNR=20							
CMIG				Sn		Sn	10 42 51.2	+1.5
	comp=Z,0.2nm,0.3s,baz=143,slow=20,SNR=2.7							
062Z	Marathon	14.46	24	P		P	10 42 26.0	-0.6
	baz=206							
061Z	Ochoppi	15.55	22	P		Pn	10 42 35.0	+0.7
	baz=204							
957A	Wimauma	16.80	16	ePn		Pn	10 42 48.7	-1.6
	comp=Z,110nm,0.4s							
959A	Okeechobee	17.07	20	P		Pn	10 42 54.0	+0.2
	baz=202							
LNIG	Linares	17.55	321	ePn		Pn	10 43 00.5	+0.6
	comp=Z,2.4nm,0.8s							
454A	Quitman	19.43	10	P		Pn	10 43 22.6	-0.1
	baz=191							
453A	Whigham	19.47	8	P		P	10 43 22.4	+0.5
	baz=189							
455A	Stateville	19.57	11	P		P	10 43 23.1	+0.1
	baz=193							
349A	Repton	19.75	1	P		P	10 43 25.2	+0.2
	baz=180							
353A	Camilla	19.97	8	P		P	10 43 27.2	-0.2
	baz=189							
352A	Blakely	20.01	6	P		Pn	10 43 29.0	-0.6
	baz=187							
TIGA	Tifton	20.15	9	eP		P	10 43 29.8	+0.5
	comp=Z,15nm,0.8s							
TIGA	Tifton	20.15	9	P		P	10 43 30.5	+1.1
	baz=191							
249A	Camden	20.38	1	P		P	10 43 31.7	-0.1
	baz=181							
247A	Quitman	20.48	357	P		Pn	10 43 34.5	-0.6
	baz=176							
252A	Lumpkin	20.54	6	P		Pn	10 43 35.1	-0.7
	baz=187							
251A	Midway	20.57	5	P		P	10 43 35.1	+1.2
	baz=185							
244A	Avery, Jackson	20.66	352	P		Pn	10 43 37.2	-0.1
	baz=171							
149A	Jones	21.00	1	P		P	10 43 39.5	+0.9
	baz=182							
151A	Opelika	21.01	5	P		P	10 43 38.9	+0.2
	baz=186							
150A	Eclectic	21.04	3	P		P	10 43 40.2	+1.2
	baz=184							
148A	Greensboro	21.04	360	P		P	10 43 40.8	+1.8
	baz=179,SNR=5.7							
146A	Union	21.09	356	P		P	10 43 41.7	+2.2
	baz=175							
152A	Waverly Hall	21.21	6	eP		P	10 43 41.8	+1.0
	comp=Z,12nm,0.8s							
152A	Waverly Hall	21.21	6	P		P	10 43 43.0	+2.2
	baz=187,SNR=5.9							
NATX	Nacogdoches	21.24	343	eP		P	10 43 41.8	+0.6
	comp=Z,14nm,0.8s							
NATX	Nacogdoches	21.24	343	P		P	10 43 42.4	+1.3
	baz=160							
LRAL	Lakeview Retre	21.43	1	eP		P	10 43 44.0	+0.8
	comp=Z,7.6nm,0.8s							
LRAL	Lakeview Retre	21.43	1	P		P	10 43 43.8	+0.6
	baz=181							
Z47A	Carrollton	21.60	358	P		P	10 43 45.6	+0.6
	baz=178							
Z49A	Columbiana	21.60	2	P		P	10 43 45.3	+0.2
	baz=182							
Z46A	Louisville	21.64	356	P		P	10 43 46.3	+0.9
	baz=176							
156A	Sylvania	21.74	14	P		P	10 43 48.5	+2.1
	baz=196							
Z52A	Williamson	21.76	7	P		P	10 43 48.5	+1.8
	baz=188							
Z48A	Northport	21.77	360	P		P	10 43 47.1	+0.2
	baz=180							
Z51A	Franklin	21.81	5	P		P	10 43 48.7	+1.5
	baz=186							
Z53A	Monticello	21.96	9	P		P	10 43 50.2	+1.3
	baz=190,SNR=5.4							
Z54A	Sparta	22.03	10	P		P	10 43 49.7	+0.1
	baz=192							
Z42A	Norrel Spur, H	22.07	350	P		P	10 43 50.6	+0.6
	baz=168							
GOGA	Godfrey	22.10	9	eP		P	10 43 51.2	+0.9
	comp=Z,7.2nm,0.8s							
GOGA	Godfrey	22.10	9	P		P	10 43 50.8	+0.5
	baz=190							
JCT	Junction City	22.11	330	P		P	10 43 49.4	-1.2
	baz=146							
Z41A	Richland Creek	22.21	348	P		P	10 43 51.8	+0.3
	baz=166							
Y49A	Blount Mountai	22.27	2	eP		P	10 43 52.1	-0.1
	comp=Z,10nm,0.8s							
Y49A	Blount Mountai	22.27	2	P		P	10 43 52.0	-0.1
	baz=182							
Y47A	UCPARC, Winfie	22.30	359	P		P	10 43 53.0	+0.5
	baz=179							
Y48A	Jasper	22.31	1	P		P	10 43 52.3	-0.3
	baz=180,SNR=7.2							
Y46A	Houston	22.32	357	P		P	10 43 51.6	-1.1
	baz=176							
Y50A	Piedmont	22.34	4	P		P	10 43 53.4	+0.5
	baz=184							
Y45A	Yeager Farm, C	22.34	355	P		P	10 43 53.6	+0.6
	baz=174							
Y51A	Rockmart	22.39	5	P		P	10 43 53.7	+0.1
	baz=186,SNR=6.1							
Y52A	Lilburn	22.47	7	eP		P	10 43 55.1	+0.8
	comp=Z,11nm,0.8s							
Y52A	Lilburn	22.47	7	P		P	10 43 55.1	+0.8
	baz=188							
Y53A	Monroe	22.52	8	P		P	10 43 55.0	+0.1
	baz=190,SNR=6.0							
Y54A	Tignall	22.67	10	P		P	10 43 56.8	+0.4
	baz=192							
X48A	Hartselle	22.85	1	P		P	10 43 57.5	-0.8
	baz=181							
X45A	UM Field Stati	22.89	356	P		P	10 43 58.6	-0.1
	baz=175							
X50B	Fort Payne	22.91	4	P		P	10 43 58.5	-0.5
	baz=184							
X47A	Russelville	22.91	359	P		P	10 43 57.3	-1.8
	baz=179							
X49A	Woodville	22.93	2	P		P	10 43 58.3	-0.8
	baz=183							
X46A	Booneville	22.97	357	P		P	10 43 58.2	-1.4
	baz=177							
OXF	Oxford	22.98	356	eP		P	10 43 58.8	-0.9
	comp=Z,12nm,0.8s							
OXF	Oxford	22.98	356	P		P	10 43 57.9	-1.7
	baz=175							
X51A	Calhoun	23.07	5	P		P	10 44 00.2	-0.5
	baz=186							
X53A	Estanollee	23.20	9	P		P	10 44 01.5	-0.5
	baz=190							
X52A	Dahlonega	23.22	7	P		P	10 44 01.7	-0.5
	baz=189							
TX31	Lajitas Ar. Si	23.34	322	eP		P	10 44 03.6	+0.1
TX31				eP		pP	10 44 04.2	-2.4
TXAR	Lajitas Array	23.34	322	P		P	10 44 04.2	+0.7
	comp=Z,1.5nm,0.6s,baz=134,slow=10,SNR=24							
TXAR				PcP		PcP	10 47 53.1	+2.4
	comp=Z,0.4nm,0.8s,baz=123,slow=4.6,SNR=4.3							
W48A	Pulaski	23.53	1	P		P	10 44 04.6	-0.7
	baz=181,SNR=5.8							
W49A	Belvidere	23.53	2	P		P	10 44 05.3	0.0
	baz=183							
W45A	Hickory Valley	23.60	356	P		P	10 44 05.0	-1.0
	baz=176							
MIAR	Mount Ida	23.62	347	P		P	10 44 05.5	-0.7
	baz=165							
W47A	Westpoint	23.64	360	P		P	10 44 06.3	-0.1
	baz=179							
W50A	Signal Mountai	23.67	4	P		P	10 44 06.8	+0.1
	baz=185							
W51A	Cleveland	23.67	5	P		P	10 44 06.9	+0.2
	baz=186							
W52A	Murphy	23.70	7	P		P	10 44 07.4	+0.4
	baz=188							
BG3	Lake Jocassee	23.73	9	eP		P	10 44 06.9	-0.4
	comp=Z,7.2nm,0.6s							
ABTX	Abilene, Hawle	23.84	334	P		P	10 44 08.5	+0.1
	baz=149							
W53A	Cullowhee	23.87	9	P		P	10 44 08.0	-0.8
	baz=190							
W41B	Gary Mavity, V	23.97	350	P		P	10 44 08.0	-1.5
	baz=168							
CPCT	Cooper Cave	23.98	6	eP		P	10 44 09.8	+0.2
	comp=Z,6.8nm,0.8s							
WHAR	Wooly Hollow	24.09	350	eP		P	10 44 09.5	-1.2
	comp=Z,1.6nm,0.8s							
X37A	Clayton	24.10	344	eP		P	10 44 11.7	+0.9
	comp=Z,16nm,1.1s							
V48A	Smith Brothers	24.14	1	P		P	10 44 09.5	-1.6
	baz=181							
V50A	Pikeville	24.15	5	P		P	10 44 09.6	-1.6
	baz=185							
KMSC	Kings Mountain	24.17	12	P		P	10 44 11.3	-0.1
	baz=194							
V49A	McMinnville	24.19	3	P		P	10 44 10.0	-1.6
	baz=184							
V46A	Holladay	24.20	359	P		P	10 44 10.1	-1.6
	baz=178							
V47A	Nunnelly	24.22	360	P		P	10 44 08.9	-2.9
	baz=180							
W39A	Magazine	24.29	347	P		P	10 44 12.2	-0.2
	baz=165							
V51A	Loudon	24.35	6	P		P	10 44 12.1	-1.0
	baz=187							
V53A	Saluda	24.42	9	eP		P	10 44 13.6	-0.1
	comp=Z,5.3nm,0.6s							
V53A	Saluda	24.42	9	P		P	10 44 13.0	-0.8
	baz=191							
V42A	Cord	24.46	352	P		P	10 44 11.9	-2.2
	baz=170							
WVT	Waverly	24.52	359	P		P	10 44 12.7	-1.9
	baz=179							
V41A	Mountainview	24.55	351	P		P	10 44 13.2	-1.8
	baz=169,SNR=5.3							
U46A	Springville	24.76	359	P		P	10 44 15.5	-1.2
	baz=178							
U47A	Clarksville	24.83	0	P		P	10 44 15.2	-2.2
	baz=180							
U43A	Rector	24.91	354	P		P	10 44 16.9	-1.2
	baz=173							
U48A	Cassie Pea, Po	24.91	2	P		P	10 44 16.9	-1.2
	baz=182							
U50A	Jamestown	24.91	5	P		P	10 44 14.9	-3.3
	baz=186							
U49A	Red Boiling Sp	24.94	3	P		P	10 44 18.2	-0.3
	baz=184							
U51A	La Follette	24.95	6	P		P	10 44 14.9	-3.6
	baz=188							
U42A	Revenden	24.98	353	P		P	10 44 15.9	-2.8
	baz=171							
U52A	Thorn Hill	25.05	8	P		P	10 44 18.1	-1.3
	baz=189							
U53A	Fall Branch	25.13	9	P		P	10 44 19.5	-0.7
	baz=191							
TZTN	Tazewell	25.17	7	eP		P	10 44 20.2	-0.3
	comp=Z,17nm,0.6s							
TZTN	Tazewell	25.17	7	P		P	10 44 19.9	-0.6
	baz=189							
U40A	Yellville	25.23	350	P		P	10 44 19.8	-1.2
	baz=167							
T47A	Sharon Grove	25.38	1	P		P	10 44 21.8	-0.5
	baz=181							
T46A	Princeton	25.43	359	P		P	10 44 22.0	-0.8
	baz=179							
TUL1	Leonard	25.46	344	eP		P	10 44 22.6	-0.5
	comp=Z,21nm,0.9s							
TUL1	Leonard	25.46	344	P		P	10 44 23.2	+0.1
	baz=160,SNR=6.4							
T51A	Gray	25.54	6	P		P	10 44 22.3	-1.6
	baz=188							
T49A	Edmonton	25.55	3	P		P	10 44 22.3	-1.6
	baz=184							
T43A	Greenville	25.60	355	P		P	10 44 22.6	-1.8
	baz=173							
T42A	Van Buren	25.63	353	P		P	10 44 22.2	-2.5
	baz=172							
T41A	Mountain View	25.73	352	P		P	10 44 24.1	-1.5
	baz=170							
GDL2	Guadalupe Moun	25.85	325	eP		P	10 44 27.7	+0.8
S43A	Fulton Ridge,	26.07	355	P		P	10 44 25.8	-2.8
	baz=174							
S44A	Carbondale	26.13	357	P		P	10 44 27.3	-1.8
	baz=176							
S50A	Richmond	26.20	5	P		P	10 44 27.6	-2.2
	baz=187							
S51A	Beattyville	26.25	7	P		P	10 44 28.3	-1.9
	baz=188							
S41A	Jillco Farms,	26.26	352	P		P	10 44 28.6	-1.8
	baz=170							
S42A	Caledonia	26.33	354	P		P	10 44 29.8	-1.2
	baz=172							
MSTX	Muleshoe	26.41	330	P		P	10 44 30.8	-1.1
	baz=144							
R46A	Gibon Southern	26.60	360	P		P	10 44 31.5	-1.8
	baz=180							
WCI	Wyandotte Cave	26.63	2	P		P	10 44 32.2	-1.5
	baz=182							
CCM	Cathedral Cave	26.66	353	P		P	10 44 32.5	-1.5
	baz=172							
R44A	Waltonville	26.67	357	P		P	10 44 32.9	-1.2
	baz=176							
R49A	Shelbyville	26.75	4	P		P	10 44 33.2	-1.6
	baz=185							
R43A	Red Bud	26.76	356	P		P	10 44 33.3	-1.5
	baz=174							
R51A	Hillsboro	26.90	7	P		P	10 44 34.2	-1.9
	baz=188							
R41A	Rosebud	26.92	353	P		P	10 44 34.1	-2.2
	baz=171							
R52A	Catlettsburg	27.06	8	P		P	10 44 36.6	-1.0
	baz=190							
R53A	Hurricane	27.16	9	P		P	10 44 37.5	-1.0
	baz=192							
R54A	Victor	27.18	11	P		P	10 44 37.6	-1.0
	baz=194							
Q44A	Meyer Farm, Va	27.32	357	P		P	10 44 37.4	-2.5
	baz=176							
Q47A	Bedord North L	27.33	2	P		P	10 44 37.8	-2.2
	baz=182							
Q50A	Georgetown	27.40	6	P		P	10 44 38.7	-1.9
	baz=187							
Q51A	Peebles	27.65	7	eP		P	10 44 42.1	-0.7
	comp=Z,14nm,0.6s							
Q51A	Peebles	27.65	7	P		P	10 44 41.8	-1.1
	baz=188,SNR=5.6							
Q52A	Bidwell	27.73	9	P		P	10 44 41.6	-1.9
	baz=191							
P44A	Sand Creek, Wi	27.87	358	P		P	10 44 42.3	-2.5
	baz=177							
P47A	Martinsville	27.89	2	P		P	10 44 41.5	-3.5
	baz=182							
P48A	Milroy	27.90	3	P		P	10 44 41.9	-3.2
	baz=184							
P51A	Williamsport	28.13	7	P		P	10 44 45.5	-1.6
	baz=189							
Q55A	Buckhannon	28.14	12	P		P	10 44 45.6	-1.7
	baz=195							
P50A	Jamestown	28.17	6	P		P	10 44 45.3	-2.2
	baz=187							
P53A	Whipple	28.38	10	P		P	10 44 48.0	-1.3
	baz=192							
P52A	Corning	28.40	9	P		P	10 44 47.6	-1.9
	baz=191							
O44A	Mansfield	28.55	358	P		P	10 44 49.7	-1.2
	baz=178							
O45A	Potomac	28.63	359	P		P	10 44 49.1	-2.5
	baz=179							
O50A	Cable	28.72	6	P		P	10 44 51.5	-0.9
	baz=188							
LENM	Lemitar	28.77	325	eP		P	10 44 53.5	+0.3
O51A	Pataskala	28.84	8	P		P	10 44 52.2	-1.3
	baz=190							
ACSO	Alum Creek Sta	28.88	7	P		P	10 44 52.9	-0.9
	baz=189							
O52A	Adamsville	28.92	9	P		P	10 44 50.9	-3.3
	baz=191							
O53A	New Philadelph	29.15	10	P		P	10 44 55.2	-1.0
	baz=192							
N45A	Kentland	29.23	360	P		P	10 44 55.0	-1.8
	baz=180							
N49A	Columbus Grove	29.44	5	P		P	10 44 56.4	-2.4
	baz=186							
M40A	Post Highland	30.00	354	P		P	10 45 02.6	-1.2
	baz=172							
SDCO	Great Sand Dun	30.76	331	P		P	10 45 10.5	-0.4
	baz=143							
N59A	State Game Lan	31.04	17	P		P	10 45 12.5	-0.5
	baz=202							
MVCO	Mesa Verde	31.85	327	P		P	10 45 20.7	+0.3
	baz=138							
J40A	Soldiers Grove	31.91	355	P		P	10 45 19.0	-1.5
	baz=174							
K55A	Perry	32.15	13	P		P	10 45 22.0	-0.7
	baz=197							
BINY	Binghamton	32.16	16	P		P	10 45 21.4	-1.4
	baz=201							
H48A	Harrisville	33.27	5	P		P	10 45 31.1	-1.3
	baz=187							
N23A	Red Feather La	33.52	334	P		P	10 45 35.3	+0.3
	baz=146							
G43A	Wallace	33.64	360	P		P	10 45 35.1	-0.6
	baz=179							
HRV	Adam Dziewonsk	33.83	21	P		P	10 45 36.8	-0.6
	baz=209							
O20A	White River Ci	33.95	331	P		P	10 45 38.4	-0.3
	baz=141							
F43A	Flat Rock, Esc	34.21	0	P		P	10 45 39.0	-1.6
	baz=180							
H56A	Elgin	34.34	14	P		P	10 45 41.0	-0.8
	baz=200							
E54A	Lac Daplat, Po	35.88	12	P		P	10 45 53.2	-1.8
	baz=197							
D53A	Lac Vacive, Po	36.39	11	P		P	10 45 57.3	-2.1
	baz=196							
PDAR	Pinedale Array	36.63	332	P		P	10 46 01.5	-0.3
	comp=Z,0.4nm,0.6s,baz=129,slow=8.4,SNR=5.4							
REDW	Red Mesa Array	37.69	332	eP		P	10 46 11.0	+0.3
	comp=Z,3.4nm,0.6s							
SNOW	Snow King Moun	37.72	332	eP		P	10 46 11.4	+0.4
	comp=Z,4.7nm,1.1s							
RLMT	Red Lodge	38.38	335	P		P	10 46 14.5	-2.1
	baz=144							
NVAR	Mina Array Bea	38.45	320	P		P	10 46 18.8	+1.6
	comp=Z,0.4nm,0.7s,baz=130,slow=9.6,SNR=3.4							
NVAR				PcP		PcP	10 48 31.8	+1.3
	comp=Z,0.6nm,0.7s,baz=132,slow=4.0,SNR=5.7							
ULM	Lac du Bonnet	39.26	351	P		P	10 46 21.0	-2.6
	comp=Z,2.1nm,0.7s,baz=194,slow=7.1,SNR=4.8							
SCHQ	Schefferville	46.17	16	P		P	10 47 16.6	-3.0
	comp=Z,3.1nm,0.7s,baz=225,slow=7.6,SNR=9.1							
D03D	Eldon	46.75	327	P		P	10 47 20.5	-3.8
	baz=128							
YKA	Yellowknife Ar	54.53	345	P		P	10 48 20.8	-1.9
	comp=Z,0.4nm,0.7s,baz=142,slow=7.3,SNR=9.7							
YKA				PcP		PcP	10 49 25.0	-1.0
	comp=Z,0.3nm,0.8s,baz=146,slow=4.0,SNR=4.0							
ILAR	Eielson Array	66.90	336	P		P	10 49 45.9	-1.2
	comp=Z,0.3nm,0.9s,baz=158,slow=3.2,SNR=4.5							
KSRS	Korea Array	121.09	327	PKP		PKPdf	10 57 49.5	+1.1
	comp=Z,0.9nm,0.6s,baz=61,slow=2.1,SNR=3.8							
KSH	Kashi	126.94	16	PKP		PKPdf	10 58 02.5	+2.8
KSH				sPKP			10 58 11.3	
KSH				PP		PP	11 00 02.6	+6.5
KSH				AMB	AMB			
	comp=Z,170nm,5.6s							
STKA	Stephens Creek	130.64	238	PKP		PKPdf	10 58 10.3	+3.6
	comp=Z,1.1nm,0.6s,baz=334,slow=9.6,SNR=3.1							
ASAR	Alice Springs	138.96	247	PKP		PKPdf	10 58 25.7	+3.1
	comp=Z,0.4nm,0.7s,baz=91,slow=2.3,SNR=5.9							
WRA	Warramunga Arr	139.05	253	PKP		PKPdf	10 58 24.4	+1.6
	comp=Z,0.5nm,0.6s,baz=87,slow=2.4,SNR=6.6							
CMAR	Chiang Mai Arr	149.58	348	PKPbc		PKPbc	10 58 45.3	-0.3
	comp=Z,1.6nm,0.7s,baz=350,slow=4.1,SNR=12							

KRAR ***21*** *10:40:14.6±0.1, 53.77N×88.13E, M2.1, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

IDC 21 10:40:16.1±2.8, 53.77N×88.16E, h0km, mb1 3.3/2, mb1mx3.0/38, mbtmp3.3/2, ML2.9/2, 2C-1D, Error ellipse: s-maj=24.3km s-min=17.0km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.98	277	i			10 57 20.6	
	baz=92,slow=335,SNR=1.6							
ZALV	Zalesovo Beam	1.98	277	Pn		Pn	10 40 51.2	+0.2
	3.6nm,0.3s,baz=91,slow=12,SNR=59							
ZALV				Lg		Lg	10 41 18.8	
	8.5nm,0.3s,baz=101,slow=26,SNR=20							
KURBB	Kurchatov Arra	6.70	246	Pn		Pn	10 41 56.4	+0.6
	0.3nm,0.3s,baz=62,slow=14,SNR=18							
KURBB				Sn		Sn	10 43 12.2	-0.5
	baz=61,slow=32,SNR=2.9							
KURBB				Lg		Lg	10 43 48.2	
	0.0nm,0.3s,baz=63,slow=35,SNR=3.4							
MK31	Makanchi Array	7.93	211	↑Pn		Pn	10 42 12.9	+0.3
	0.5nm,0.6s,baz=34,slow=14,SNR=3.5							
MK31				↑Sn		Sn	10 43 44.1	+1.2
	0.2nm,0.4s,baz=32,slow=19,SNR=2.9							
MK31				↓Lg		Lg	10 44 23.4	
	1.2nm,0.7s,baz=26,slow=29							
MKAR	Makanchi Array	7.93	211	Pn		Pn	10 42 13.5	+0.9
	0.2nm,0.3s,baz=30,slow=14,SNR=10							
MKAR				Sn		Sn	10 43 42.6	-0.3
	0.2nm,0.3s,baz=24,slow=20,SNR=4.8							
MKAR				Lg		Lg	10 44 26.4	
	0.1nm,0.3s,baz=26,slow=30,SNR=3.8							

IDC 21 10:48:57.1±6.8, 59.97S×28.37W, h171km±62km, mb3.7/2, mb1 3.6/3, mb1mx3.2/24, mbtmp4.0/3, Error ellipse: s-maj=43.9km s-min=30.5km az=33.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SNAA	Sanae	15.53	149	P		Pn	10 52 26.5	-0.2
	0.1nm,0.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.90**	**311**	Pn	Pn	10 50 20.4	+0.9
	24nm,0.3s,baz=188,slow=5.9,SNR=8.3						
HNR				Sn	Sn	10 50 44.3	+0.1
	62nm,0.3s,baz=168,slow=12,SNR=6.2						
HNR				LR	LR	10 51 10.9	
	comp=Z,180nm,20.2s,baz=211,slow=45						
HNR	**Honiara**	**1.90**	**311**	*e*P	Pn	10 50 20.0	+0.5
HNR				*e*S	Sn	10 50 43.0	-1.2
PMG	**Port Moresby**	**14.08**	**274**	LR	LR	10 57 58.4	
	comp=Z,106nm,19.8s,baz=94,slow=35						
WRA	**Warramunga Arr**	**27.63**	**247**	P	P	10 55 35.6	+0.1
	1.2nm,0.9s,baz=77,slow=9.7,SNR=4.1						
WRA				LR	LR	11 06 29.4	
	comp=Z,65nm,19.0s,baz=85,slow=36						
ASAR	**Alice Springs**	**29.20**	**240**	P	P	10 55 49.2	-0.1
	0.3nm,0.8s,baz=62,slow=9.9,SNR=4.2						
SONM	**Songino Array**	**75.90**	**325**	P	P	11 01 35.2	+0.8
	0.2nm,0.4s,baz=116,slow=6.6,SNR=2.2						
MKAR	**Makanchi Array**	**90.36**	**318**	P	P	11 02 47.6	-1.5
	0.2nm,0.4s,baz=98,slow=6.2,SNR=5.3						

*ISK **21** 11:01:46.0, 39.44N×28.19E, h5km, ML2.2/11*
*DDA **21** 11:01:47.7, 39.44N×28.16E, h7km±4km, ML2.5*
ISC 21 11:01:46.8±1.5, 39.44N±0.03×28.16E±0.03, h2km±13km, n21, σ0.80/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.29**	**313**	PG	**Pg**	**11 01 53.4**	**+1.0**
BALB				SG	**Sb**	**11 01 59.2**	**-0.9**
DURS	**Dursunbey**	**0.29**	**57**	*i* P	**Pg**	**11 01 53.2**	**+0.8**
STEP	**BALIKESIR_Sava**	**0.35**	**260**	IAML_P			
	comp=Z,5μm,0.3s						
STEP				*i* P	**Pb**	**11 01 54.9**	**-0.7**
STEP				*i* S	**Sb**	**11 02 00.1**	**-1.5**
DST	**Dursunbey**	**0.39**	**65**	PG	**Pg**	**11 01 54.3**	**0.0**
DEMI	**Demirci**	**0.59**	**132**	IAML_P			
	comp=Z,550nm,0.2s						
DEMI				*i* P	**Pb**	**11 01 59.7**	**-0.2**
DEMI				*i* S	**Sb**	**11 02 08.2**	**-0.4**
AKHS	**Akhisar**	**0.62**	**206**	*i* P	**Pg**	**11 01 59.0**	**+0.3**
KCTX	**Karacabey (Bur**	**0.84**	**10**	PG	**Pg**	**11 02 02.9**	**0.0**
EDC	**Edincik**	**0.93**	**346**	PG	**Pg**	**11 02 04.6**	**-0.1**
MANT	**Manisa**	**1.00**	**162**	IAML_P			
	comp=Z,2μm,0.3s						
MANT				*i* P	**Pn**	**11 02 08.2**	**+0.2**
MANT				*i* S	**Sn**	**11 02 21.5**	**-1.3**
KULA	**Kula-Manisa**	**1.00**	**157**	PG	**Pb**	**11 02 06.4**	**-0.5**
DKL	**Dikili**	**1.04**	**250**	PG	**Pb**	**11 02 07.4**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.08**	**31**	PG	**Pb**	**11 02 07.8**	**-0.4**
GDZ	**Gediz**	**1.09**	**108**	IAML_P			
	comp=Z,1μm,0.2s						
GDZ				*i* P	**Pn**	**11 02 09.2**	**+0.1**
GDZ				*i* S	**Sn**	**11 02 26.3**	**+1.5**
AYVA	**Ayvalik**	**1.15**	**264**	IAML_P			
	comp=Z,629nm,0.4s						
AYVA				*i* P	**Pn**	**11 02 10.2**	**+0.4**
AYVA				*i* S	**Sn**	**11 02 27.8**	**+1.8**
KRBG	**Karabiga-Canak**	**1.16**	**325**	PN	**Pn**	**11 02 09.7**	**-0.3**
MRMT	**Marmara Adasi**	**1.24**	**340**	PN	**Pn**	**11 02 11.3**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**1.28**	**284**	IAML_P			
	comp=Z,706nm,0.3s						
BAYC				*i* P	**Pg**	**11 02 11.7**	**+0.4**
BAYC				*i* S	**Sn**	**11 02 30.7**	**+1.3**
SBT5	**Esenkoy-Cinarc**	**1.31**	**25**	PN	**Pg**	**11 02 12.3**	**+0.4**
EZN	**Ezine**	**1.47**	**286**	PN	**Pg**	**11 02 15.0**	**+0.1**
SBT4	**Kumbag-Tekirda**	**1.47**	**341**	PN	**Pg**	**11 02 15.0**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.61**	**307**	PN	**Pb**	**11 02 16.6**	**-0.6**

IGQ 21 11:10:18.2±0.7, 2°S±3°×81°W±°, h10km, MLv3.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**0.63**	**167**	P	Pb	11 10 31.0	-0.3
SALI				S	Sb	11 10 41.1	+0.9
ALIBE	**La Libertad**	**0.72**	**157**	P	Pg	11 10 30.6	-1.6
MORR	**Playas El Morr**	**1.32**	**143**	P	Pn	11 10 41.7	-1.1
MAG1	**Magdalena**	**2.01**	**42**	P	Pn	11 10 51.5	-0.8
COHC	**Cochancay**	**2.07**	**115**	P	Pn	11 10 49.8	-3.3
COHC				S	Sn	11 11 13.8	-5.2
BMAS	**Trigal station**	**2.65**	**89**	P	Pn	11 10 59.0	-2.3
ARRY	**Arrayan**	**2.67**	**89**	P	Pn	11 10 59.1	-2.6
BPAT	**Tungurahua Vol**	**2.69**	**89**	P	Pn	11 11 01.8	-0.3
BPAT				S	Sn	11 11 34.4	-0.7
BRUN	**Tungurahua Vol**	**2.72**	**87**	P	Pn	11 11 01.0	-1.3
BRUN				S	Sn	11 11 35.5	+0.1
BNAS	**Cotopaxi Volca**	**2.79**	**71**	P	Pn	11 11 04.5	+1.0
BREF	**Cotopaxi Volca**	**2.83**	**72**	P	Pn	11 11 05.0	+0.9
BREF				S	Sb	11 11 44.8	+0.5
BTAM	**Cotopaxi Volca**	**2.87**	**72**	P	Pn	11 11 05.7	+1.1
PITA	**Cotopaxi Volc**	**2.88**	**70**	P	Pn	11 11 04.8	+0.2
PAC1	**Pacto, Paraso**	**2.96**	**52**	P	Pn	11 11 04.5	-1.0
PAC1				S	Sn	11 11 41.2	-0.1
OTAV	**Otavalo**	**3.22**	**56**	P	Pn	11 11 07.4	-1.9
CUIC	**Cuicocha-Domo**	**3.33**	**56**	P	Pn	11 11 10.6	-0.2
CUIC				S	Sn	11 11 53.9	+3.1
ARDO	**Archidona, Ten**	**3.38**	**80**	P	Pn	11 11 13.8	+2.7
URCU	**Urcuqui**	**3.50**	**55**	P	Pn	11 11 16.1	+3.0

IDC 21 11:16:58.6±2.2, 5.93S×130.31E, h0km, mb3.9/1, mb1 3.9/4, mb1mx3.5/26, mbtmp3.7/4, ML3.5/3, Error ellipse: s-maj=91.9km s-min=27.6km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.92**	**200**	Pn	Pn	11 20 04.5	+0.8
	0.1nm,0.3s,baz=23,slow=8.5,SNR=7.3						
FITZ				Sn	Sn	11 22 10.1	-18
	0.1nm,0.3s,baz=90,slow=20,SNR=4.0						
WRA	**Warramunga Arr**	**14.47**	**165**	Pn	Pn	11 20 25.6	+0.8
	0.2nm,0.3s,baz=347,slow=12,SNR=28						
WRA				Sn	Sn	11 22 51.9	-14
	0.4nm,0.3s,baz=336,slow=22,SNR=6.3						
ASAR	**Alice Springs**	**17.97**	**169**	P	Pn	11 21 09.2	-1.0
	0.2nm,0.3s,baz=349,slow=9.9,SNR=16						
ASAR				S	Sn	11 24 14.2	-17
	0.1nm,0.3s,baz=350,slow=24,SNR=2.8						
MKAR	**Makanchi Array**	**67.51**	**326**	P	P	11 27 56.7	0.0
	0.6nm,0.5s,baz=131,slow=6.7,SNR=8.7						

*ISCJB **21** 11:20:47.6±0.2, 46.42N±0.01×13.07E±0.02, h10km±2km, Error ellipse: s-maj=2.6km s-min=1.8km az=20.5*
*VIE **21** 11:20:47.3±0.1, 46.41N×13.05E, h8km±1km, mb1.9/8, ml2.5/20, Error ellipse: s-maj=1.3km s-min=0.7km az=10.0 3 km ENE of Tolmezzo*
*ROM **21** 11:20:47.6±0.2, 46.41N±0.01×13.10E±0.01, h9km±1km, ML2.4/18*
*PRU **21** 11:20:48.5±0.0, 46.51N×14.55E, h0km*
ISC 21 11:20:48.0±0.8, 46.42N±0.02×13.08E±0.02, h13km±4km, n68, σ1.9/104/100, 10C-8D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUSE	**Fusea**	**0.06**	**267**	*i*P*g*	**Pg**	**11 20 50.2**	**-0.4**
FUSE				*i* S*g*	**Sg**	**11 20 51.8**	**-0.6**
BOO	**Bordano**	**0.10**	**172**	*e*P*g*	**Pg**	**11 20 50.8**	**-0.2**
PLRO	**Paularo**	**0.14**	**19**	*e*P*g*	**Pg**	**11 20 51.6**	**-0.1**
PLRO				*e*S*g*	**Sg**	**11 20 54.3**	**0.0**
CLUD	**Cludinico**	**0.14**	**286**	*e*P*g*	**Pg**	**11 20 51.2**	**-0.4**
CLUD				*e*S*g*	**Sg**	**11 20 53.9**	**-0.3**
GEPF	**Gemona**	**0.15**	**164**	P	**Pg**	**11 20 51.2**	**-0.4**
GEPF				S	**Sg**	**11 20 54.1**	**0.0**
GEPF				AML	AML		
	comp=E,856μm,1.3s						
GEPF				AML	AML		
	comp=N,1580μm,0.4s						
GEPF				AML	AML		
	comp=E,856μm,1.3s						
GEPF				AML	AML		
	comp=N,1580μm,0.4s						
GEPF				AML	AML		
	comp=N,1580μm,0.4s						
GEPF				AML	AML		
	comp=E,856μm,1.3s						
ZOU	**Zoufplan**	**0.16**	**332**	*e*P*g*	**Pg**	**11 20 51.8**	**-0.2**
ZOU				*e*S*g*	**Sg**	**11 20 54.7**	**-0.1**
ZOU	**Zoufplan**	**0.16**	**332**	*e*P*g*	**Pg**	**11 20 51.8**	**-0.2**
ZOU				*e*S*g*	**Sg**	**11 20 54.7**	**-0.1**
MPRI	**Monte Prat**	**0.19**	**200**	*e*P*g*	**Pg**	**11 20 51.9**	**-0.4**
MPRI				*e*S*g*	**Sg**	**11 20 55.3**	**+0.1**
PTCC	**Patocco-Chiusa**	**0.19**	**93**	P	**Pg**	**11 20 52.1**	**-0.2**
PTCC				S	**Sg**	**11 20 55.5**	**+0.2**
PTCC				AML	AML		
	comp=E,3575μm,0.1s						
PTCC				AML	AML		
	comp=N,2600μm,0.4s						
PTCC				AML	AML		
	comp=E,3575μm,0.1s						
PTCC				AML	AML		
	comp=N,2600μm,0.4s						
PTCC				AML	AML		
	comp=E,3575μm,0.1s						
PTCC				AML	AML		
	comp=N,2600μm,0.4s						
BUA	**Buia**	**0.20**	**171**	*e*P*g*	**Pg**	**11 20 52.3**	**-0.2**
BUA				*e*S*g*	**Sg**	**11 20 55.9**	**+0.4**
BAD	**Bernadia**	**0.21**	**148**	*e*P*g*	**Pg**	**11 20 52.5**	**-0.2**
BAD				*e*S*g*	**Sg**	**11 20 56.2**	**+0.3**
VINO	**Villanova**	**0.21**	**139**	*e*P*g*	**Pg**	**11 20 52.2**	**-0.5**
VINO				*e*S*g*	**Sg**	**11 20 56.3**	**+0.4**
VINO	**Villanova**	**0.21**	**139**	P	**Pg**	**11 20 52.2**	**-0.5**
VINO				S	**Sg**	**11 20 56.2**	**+0.4**
FVI	**Forni Avoltri**	**0.27**	**311**	P	**Pg**	**11 20 53.4**	**-0.3**
FVI				S	**Sg**	**11 20 57.7**	**0.0**
FVI				AML	AML		
	comp=E,1590μm,0.3s						
FVI				AML	AML		
	comp=N,1815μm,0.3s						
FVI				AML	AML		
	comp=E,1590μm,0.3s						
FVI				AML	AML		
	comp=N,1815μm,0.3s						
FVI				AML	AML		
	comp=N,1815μm,0.3s						
FVI				AML	AML		
	comp=E,1590μm,0.3s						
STAL	**STALIGIAL**	**0.30**	**239**	P	**Pg**	**11 20 53.5**	**-0.7**
STAL				AML	AML		
	comp=E,755μm,0.2s						
STAL				AML	AML		
	comp=N,1114μm,0.9s						
STAL				AML	AML		
	comp=E,806μm,0.5s						
STAL				AML	AML		
	comp=N,637μm,0.2s						
STAL				AML	AML		
	comp=E,756μm,0.2s						
STAL				AML	AML		
	comp=N,1110μm,0.9s						
STAL				AML	AML		
	comp=E,806μm,0.5s						
STAL				AML	AML		
	comp=N,636μm,0.2s						
STAL				AML	AML		
	comp=E,756μm,0.2s						
STAL				AML	AML		
	comp=N,636μm,0.2s						
STAL				AML	AML		
	comp=E,806μm,0.5s						
STAL				AML	AML		
	comp=N,1110μm,0.9s						
CSMI	**Casera Mimoias**	**0.31**	**288**	*e*P*g*	**Pg**	**11 20 54.1**	**-0.4**
CSMI				*e*S*g*	**Sg**	**11 20 59.0**	**+0.1**
LSR	**Lussari**	**0.32**	**79**	*e*P*g*	**Pg**	**11 20 54.3**	**-0.2**
LSR				*e*S*g*	**Sb**	**11 20 59.6**	**-1.1**
ACOM	**Acomizza, Ital**	**0.33**	**66**	*e*P*g*	**Pg**	**11 20 54.6**	**-0.2**
ACOM				*e*S*g*	**Sb**	**11 21 00.2**	**-0.7**
ACOM	**Acomizza, Ital**	**0.33**	**66**	P	**Pg**	**11 20 54.6**	**-0.2**
ACOM				S	**Sb**	**11 21 00.3**	**-0.7**
ACOM				AML	AML		
	comp=E,1270μm,0.2s						
ACOM				AML	AML		
	comp=N,1189μm,0.5s						
ACOM				AML	AML		
	comp=E,1270μm,0.2s						
ACOM				AML	AML		
	comp=N,1189μm,0.5s						
ACOM				AML	AML		
	comp=E,1270μm,0.2s						
ACOM				AML	AML		
	comp=N,1189μm,0.5s						
ROBS	**Robic**	**0.34**	**120**	*i* P*g*	**Pg**	**11 20 54.1**	**-0.8**
ROBS				*i* S*g*	**Sg**	**11 20 59.5**	**-0.2**
	comp=Z,28nm,0.1s						
COLI	**Coloredo**	**0.35**	**144**	*e*P*g*	**Pg**	**11 20 54.8**	**-0.3**
MYKA	**Terra Mystica**	**0.44**	**61**	*e*P*g*	**Pg**	**11 20 56.6**	**-0.2**
	comp=Z,4.8nm,0.2s,SNR=11						
MYKA				*e*S*g*	**Sg**	**11 21 03.0**	**+0.3**
	comp=Z,25nm,0.2s						
DRE	**Drenchia**	**0.46**	**122**	*e*P*g*	**Pg**	**11 20 56.3**	**-0.8**
DRE				*e*S*g*	**Sb**	**11 21 03.7**	**-1.0**
CADS	**Cadrg**	**0.49**	**112**	*i* P*g*	**Pg**	**11 20 56.7**	**-1.0**
CADS				*e*S*g*	**Sb**	**11 21 04.8**	**-0.8**
	comp=Z,51nm,0.1s						
ABTA	**Abfaltersbach**	**0.51**	**310**	*e*P*g*	**Pg**	**11 20 57.7**	**-0.4**
	comp=Z,8.4nm,0.1s,SNR=27						
ABTA				*e*S*g*	**Sg**	**11 21 04.6**	**-0.3**
CSO	**Casso**	**0.54**	**255**	*e*P*g*	**Pg**	**11 20 58.2**	**-0.5**
POLC	**Polcenigo**	**0.56**	**226**	P	**Pb**	**11 20 59.3**	**-0.3**
POLC				AML	AML		
	comp=E,228μm,0.8s						
POLC				AML	AML		
	comp=N,248μm,0.8s						
POLC				AML	AML		
	comp=E,228μm,0.8s						
POLC				AML	AML		
	comp=N,248μm,0.8s						
POLC				AML	AML		
	comp=E,228μm,0.8s						
POLC				AML	AML		
	comp=N,248μm,0.8s						
SABO	**M.te Sabotino**	**0.57**	**140**	*e*P*g*	**Pg**	**11 20 58.3**	**-0.8**
SABO	**M.te Sabotino**	**0.57**	**140**	P	**Pg**	**11 20 58.3**	**-0.8**
SABO				AML	AML		
	comp=E,274μm,0.6s						
SABO				AML	AML		
	comp=N,356μm,0.8s						
SABO				AML	AML		
	comp=E,274μm,0.6s						
SABO				AML	AML		
	comp=N,356μm,0.8s						
CAE	**Caneva**	**0.61**	**228**	*e*P*g*	**Pg**	**11 20 59.5**	**-0.4**
GORS	**Gorjuse**	**0.64**	**99**	*e*P*g*	**Pg**	**11 20 59.5**	**-1.0**
	comp=Z,15nm,0.1s						
VOJS	**Vojsko**	**0.68**	**124**	*i* P*g*	**Pg**	**11 20 59.8**	**-1.4**
KBA	**Koelnbreinsper**	**0.69**	**15**	*e*P*g*	**Pg**	**11 21 01.3**	**-0.1**
	comp=Z,3.9nm,0.1s,SNR=16						
KBA				*e*S*g*	**Sg**	**11 21 10.6**	**+0.1**
	comp=Z,6.0nm,0.1s						
VARN	**Col Varnada, M**	**0.80**	**238**	*e*P*g*	**Pg**	**11 21 02.9**	**-0.5**
TRI	**Trieste**	**0.85**	**146**	AML	AML		
	comp=E,200μm,0.2s						
TRI				AML	AML		
	comp=E,200μm,0.2s						
TRI				AML	AML		
	comp=N,80μm,1.5s						
TRI				AML	AML		
	comp=N,80μm,1.5s						
RISI	**Rein**	**0.87**	**308**	P	**Pg**	**11 21 04.2**	**-0.7**
RISI				AML	AML		
	comp=E,377μm,0.2s						
RISI				AML	AML		
	comp=N,352μm,1.5s						
RISI				AML	AML		
	comp=E,377μm,0.2s						
RISI				AML	AML		
	comp=N,352μm,1.5s						
BRES	**Bressanone**	**0.97**	**287**	P	**Pg**	**11 21 05.9**	**-0.8**
OBKA	**Obir**	**1.02**	**84**	*e*P*g*	**Pb**	**11 21 07.7**	**+0.2**
	comp=N,1.1nm,0.1s						
OBKA				*e*S*g*	**Sn**	**11 21 22.1**	**-0.1**
	comp=N,16nm,0.3s						
ASOL	**Asolo**	**1.02**	**233**	P	**Pn**	**11 21 08.8**	**+0.8**
CGRP	**Cima Grappa**	**1.04**	**239**	*e*P*g*	**Pb**	**11 21 08.3**	**+0.4**
CGRP	**Cima Grappa**	**1.04**	**239**	P	**Pb**	**11 21 08.1**	**+0.2**
CGRP				AML	AML		
	comp=E,173μm,1.5s						
CGRP				AML	AML		
	comp=N,115μm,0.7s						
CGRP				AML	AML		
	comp=E,173μm,1.5s						
CGRP				AML	AML		
	comp=N,115μm,0.7s						
CTI	**Castel Tesino**	**1.06**	**250**	P	**Pb**	**11 21 08.4**	**+0.2**
CTI				AML	AML		
	comp=E,402μm,0.9s						
CTI				AML	AML		
	comp=N,318μm,0.2s						
CTI				AML	AML		
	comp=E,402μm,0.9s						
CTI				AML	AML		
	comp=N,318μm,0.2s						
LJU	**Ljubljana**	**1.07**	**110**	AML	AML		
	comp=N,293μm,1.4s						
LJU				AML	AML		
	comp=E,212μm,0.5s						
LJU				AML	AML		
	comp=N,293μm,1.4s						
LJU				AML	AML		
	comp=E,212μm,0.5s						
KOSI	**Kohlern**	**1.18**	**273**	P	**Pb**	**11 21 10.5**	**+0.2**
KOSI				AML	AML		
	comp=E,92μm,0.3s						
KOSI				AML	AML		
	comp=N,74μm,0.8s						
KOSI				AML	AML		
	comp=E,92μm,0.3s						
KOSI				AML	AML		
	comp=N,74μm,0.8s						
ABSI	**Aberstueckl**	**1.25**	**285**	P	**Pn**	**11 21 11.2**	**-0.1**
ABSI				AML	AML		
	comp=E,154μm,0.5s						
ABSI				AML	AML		
	comp=N,148μm,0.7s						
ABSI				AML	AML		
	comp=E,154μm,0.5s						
ABSI				AML	AML		
	comp=N,148μm,0.7s						
ROSI	**Rosskopf**	**1.26**	**295**	P	**Pn**	**11 21 11.2**	**-0.1**
ROSI				AML	AML		
	comp=E,71μm,0.4s						
ROSI				AML	AML		
	comp=N,87μm,0.4s						
ROSI				AML	AML		
	comp=E,71μm,0.4s						
ROSI				AML	AML		
	comp=N,87μm,0.4s						
APPI	**Appiano**	**1.28**	**273**	P	**Pb**	**11 21 12.1**	**+0.1**
WTTA	**Wattenberg**	**1.30**	**311**	*e*P*g*	**Pg**	**11 21 12.8**	**-0.3**
	comp=N,2.8nm,0.1s,SNR=5.8						
WTTA				*e*S*g*	**Sb**	**11 21 29.7**	**+0.6**
	comp=N,6.8nm,0.2s						
WTTA	**Wattenberg**	**1.30**	**311**	P	**Pn**	**11 21 12.5**	**+0.4**
SOKA	**Soboth**	**1.37**	**78**	*e*P*g*	**Pb**	**11 21 13.5**	**0.0**
	comp=N,0.7nm,0.2s						
SOKA				*e*S*g*	**Sg**	**11 21 33.6**	**+1.4**
	comp=N,2.7nm,0.3s						
WATA	**Walderalm**	**1.38**	**312**	*e*P*g*	**Pb**	**11 21 13.7**	**0.0**
	comp=N,1.8nm,0.2s,SNR=7.3						
WATA				*e*S*g*	**Sg**	**11 21 32.6**	**+0.1**
	comp=N,4.8nm,0.2s						
DOSS	**Dosso del Somm**	**1.42**	**249**	*e*P*g*	**Pb**	**11 21 14.6**	**+0.2**
TEOL	**Teolo**	**1.45**	**223**	*e*P*g*	**Pb**	**11 21 14.8**	**+0.1**
TEOL	**Teolo**	**1.45**	**223**	AML	AML		
	comp=N,236μm,0.8s						
TEOL				AML	AML		
	comp=E,366μm,0.4s						
TEOL				AML	AML		
	comp=N,236μm,0.8s						
TEOL				AML	AML		
	comp=E,366μm,0.4s						
ROVR	**Rover Verones**	**1.60**	**242**	P	**Pn**	**11 21 16.8**	**+0.8**
ROVR				AML	AML		
	comp=E,92μm,0.5s						
ROVR				AML	AML		
	comp=N,258μm,0.4s						
ROVR				AML	AML		
	comp=E,92μm,0.5s						
ROVR				AML	AML		
	comp=N,258μm,0.4s						
MOTA	**Moosalm**	**1.64**	**305**	*e*P*n*	**Pn**	**11 21 16.9**	**+0.2**
	comp=N,1.4nm,0.2s,SNR=7.1						
MOTA				*e*S*n*	**Sn**	**11 21 37.9**	**+0.2**
	comp=N,13nm,0.3s						
MOA	**Molln**	**1.65**	**29**	P*g*	**Pg**	**11 21 18.8**	**-0.8**
	comp=N,0.5nm,0.2s,SNR=5.8						
MOA				Sn	**Sb**	**11 21 38.8**	**0.0**
	comp=N,3.3nm,0.2s						
FETA	**Feichten**	**1.73**	**291**	*i* P*g*	**Pb**	**11 21 20.1**	**+0.5**
	comp=N,0.2nm,0.1s						
FETA				*e*S*g*	**Sg**	**11 21 43.7**	**+0.1**
	comp=N,0.5nm,0.1s						
MOSI	**Grossmontoni**	**1.76**	**277**	P	**Pb**	**11 21 20.5**	**+0.3**
OZLJ	**Ozalj**	**1.85**	**115**	*e*P*n*	**Pn**	**11 21 20.0**	**+0.8**
OZLJ				Sn	**Sn**	**11 21 43.3**	**+0.9**
ARSA	**Arzberg**	**1.87**	**63**	*e*P*g*	**Pg**	**11 21 24.0**	**+0.1**
	comp=N,1.5nm,0.3s						
ARSA				*e*S*n*	**Sb**	**11 21 44.5**	**-0.8**
	comp=N,1.0nm,0.2s						
RETA	**Reutte**	**1.92**	**305**	*e*P*g*	**Pb**	**11 21 23.6**	**+0.9**
	comp=N,1.3nm,0.1s						
RETA				Sg	**Sg**	**11 21 50.4**	**+0.9**
	comp=N,7.6nm,0.2s,SNR=4.7						
NVLJ	**Novalja**	**2.24**	**145**	*i* P*n*	**Pn**	**11 21 25.3**	**+0.6**
NVLJ				Sn	**Sn**	**11 21 54.1**	**+2.0**
DAVA	**Damuels**	**2.36**	**293**	Sg	**Sg**	**11 22 03.7**	**-0.2**
	comp=N,0.1nm,0.1s						
CONA	**Conrad Observa**	**2.43**	**50**	*e*P*g*	**Pg**	**11 21 34.5**	**0.0**
	comp=N,0.3nm,0.2s						
CONA				*e*S*n*	**Sn**	**11 21 58.6**	**+1.7**
	comp=N,0.7nm,0.2s						
KHC	**Kasperske Hory**	**2.74**	**7**	*e*P*N*	**Pn**	**11 21 32.9**	**+1.3**
KHC				*e*S*N*	**Sn**	**11 22 06.9**	**+2.4**
TREC	**Trest**	**3.30**	**28**	*e*S*N*	**Sn**	**11 22 10.4**	**-8.1**
MCIV	**Monte Civitell**	**3.77**	**196**	AML	AML		
	comp=E,451μm,0.9s						
MCIV				AML	AML		
	comp=N,395μm,1.5s						
MCIV				AML	AML		
	comp=N,395μm,1.5s						
MCIV				AML	AML		
	comp=E,451μm,0.9s						

*BJI **21** 11:32:15.9, 51.60N×178.30W, h5km, mb4.9/52, mB5.2/39, Ms4.8/43, Ms7 4.5/43*
*ISCJB **21** 11:32:17.0±0.1, 51.68N±0.03×178.43W±0.02, h10km, mb5.0/290, MS4.4/47, Error ellipse: s-maj=4.2km s-min=1.8km az=175.4*
*AEIC **21** 11:32:17.6±0.0, 51.53N×178.43W, h3km*
*NEIC **21** 11:32:19.8±0.3, 51.61N×178.42W, h15km±2km, mb5.1/269, ML5.0(AEIC), Error ellipse: s-maj=3.1km s-min=1.4km az=177.0*
*GCMT **21** 11:32:20.8±0.2, 51.69N±0.01×178.52W±0.02, h12km, MW5.0/102, Moment Tensor Solution. s40,c50; s102,c163; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.12±.10; Mθθ 1.99±.11; Mϕϕ 0.12±.09; Mrθ 0.43±.26; Mθϕ -3.37±.07; Mϕr 0.43±.26; Best double couple: M=3.73000×10^16 NP1:ϕs269.00000°, δ65.00000°, λ-151.00000°. NP2:ϕs166.00000°, δ64.00000°, λ-28.00000°. Principal axes: T 4.5550, Plg1.0000°, Azm37.0000°; N -1.6550, Plg52.0000°, Azm306.0000°; P -2.9060, Plg38.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **21** 11:32:21.7±1.7, 51.61N×178.48W, h28km±10km, mb4.3/36, mb1 4.5/40, mb1mx4.4/59, mbtmp4.5/40, ML4.6/3, MS4.2/36, Ms1 4.2/36, ms1mx4.2/52 Error ellipse: s-maj=14.3km s-min=8.0km az=175.0*
*MOS **21** 11:32:21.0±0.9, 51.69N×178.36W, h33km, mb5.0/78, MS4.2/19, Error ellipse: s-maj=6.8km s-min=5.9km az=51.4*
ISC 21 11:32:19.6±0.9, 51.55N±0.05×178.37W±0.02, h15km±4km, n944, σ1.13/960, mb5.1/298, MS4.4/48, 11C-14D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.33**	**310**	P	**Pg**	**11 32 25.5**	**-0.9**
GAEA	**Gareloi East**	**0.33**	**314**	P	**Pg**	**11 32 25.6**	**-0.8**
TASE	**Tanaga Southea**	**0.35**	**36**	P	**Pb**	**11 32 27.1**	**-0.5**
GANE	**Gareloi Northe**

TAPA Tanaga Point A 0.43 53 P **Pb 11 32 28.6 -0.4**
KIMD Kanaga Island 0.74 73 P **Pg 11 32 33.4 -0.5**
KIKV Kanaga Island 0.81 66 P **Pg 11 32 34.8 -0.5**
KIWB Kanaga Island 0.81 68 *e*Pg **Pg 11 32 34.4 -1.0**
KINC Kanaga Island 0.86 63 P **Pg 11 32 35.6 -0.6**
KIRH Kanaga Island 0.86 66 P **Pg 11 32 35.7 -0.6**
ADK Adak 1.10 72 *e*Pn **Pb 11 32 39.1 -1.2**
ADK *e*Sg **Sb 11 32 54.1 -0.3**
ADK Adak 1.10 72 *e*P **Pb 11 32 39.1 -1.2**
ADK *e* 11 32 52.5
ADAG Mount Adagdak 1.18 68 P **Pn 11 32 41.1 -0.5**
ETKA Kagalaska Isla 1.26 75 P **Pn 11 32 41.8 -0.9**
GSSP Great Sitkin S 1.46 68 P **Pn 11 32 45.8 +0.3**
GSTD Great Sitkin T 1.47 69 P **Pn 11 32 45.7 +0.1**
GSMY Great Sitkin M 1.52 70 P **Pn 11 32 46.3 0.0**
GSTR Great Sitkin T 1.53 68 *e*Pn **Pn 11 32 46.5 +0.1**
GSIG Igitkin Island 1.58 73 P **Pn 11 32 47.0 -0.1**
ATKA Atka Island 2.67 74 *e*Pn **Pn 11 33 02.6 +0.6**
ATKA *e*Sn **Sn 11 33 34.5 +0.5**
KOKL Mount Kliuchef 2.69 72 P **Pn 11 33 03.7 +1.2**
KOFP Korovin Flat P 2.74 73 P **Pn 11 33 03.9 +0.8**
KOSE Korovin Southe 2.79 72 P **Pn 11 33 05.0 +1.3**
KOSE S **Sb 11 33 41.9 -1.1**
SMY Shemya 4.79 287 *e*Pn **Pn 11 33 31.5 +0.4**
SMY Shemya 4.79 287 *e*P **Pn 11 33 31.5 +0.4**
OKWE Okmok W'ng Wal 6.47 69 P **Pn 11 33 55.2 +0.9**
SPIA Saint Paul Isl 7.36 37 *e*Pn **Pn 11 34 07.6 +1.2**
SPIA *e*Sn **Sn 11 35 28.4 -1.3**
MSW Makushin Switc 7.42 67 P **Pn 11 34 08.3 +1.0**
MTBL Makushin Table 7.49 67 P **Pn 11 34 10.3 +1.9**
UNV Unalaska Valle 7.57 68 *e*Pn **Pn 11 34 10.9 +1.7**
AKGG Akutan Green G 7.94 66 P **Pn 11 34 16.2 +1.8**
AKUT Akutan 8.05 66 *e*Pn **Pn 11 34 16.6 +0.7**
AKSA Akutan Strait 8.10 66 P **Pn 11 34 18.5 +2.0**
FALS False Pass 9.56 64 *e*Pn **Pn 11 34 37.0 +0.4**
SDPT Sand Point 11.32 63 *e*Pn **Pn 11 35 01.5 +0.9**
CHGN Chignik 12.67 60 *e*Pn **Pn 11 35 20.7 +1.7**
GAMB Gambell 12.75 14 *e*Pn **Pn 11 35 19.3 -0.9**
PET Petropavlovsk 14.13 285 *e*P **P 11 35 46.2 -0.4**
PET pmax pmax
comp=Z,19nm,0.8s
PET MLR MLR
comp=Z,2µm,20.0s
ANM Nome 14.70 23 *e*Pn **Pn 11 35 46.2 -0.5**
ANM Nome 14.70 23 *e*P **Pn 11 35 46.2 -0.5**
PEA0B Petropavlovsk- 14.70 285 *e*Pn **Pn 11 35 46.6 -0.2**
PEA1 Petropavlovsk- 14.70 285 *e*Pn **Pn 11 35 46.6 -0.2**
PEA1 *e*Sn **Sn 11 38 23.1 -6.2**
PETK Petropavlovsk- 14.70 285 Pn **Pn 11 35 46.6 -0.2**
comp=Z,0.2nm,0.3s,baz=97,slow=16,SNR=4.0
PETK Sn **Sn 11 38 23.1 -6.2**
comp=Z,0.1nm,0.3s,baz=103,slow=18,SNR=2.6
PETK LR LR 11 40 48.4
comp=Z,1µm,21.9s,baz=101,slow=35
PETK Petropavlovsk- 14.70 285 *e*Pn **Pn 11 35 47.1 +0.3**
OHAK Old Harbor 15.62 59 *e*Pn **Pn 11 35 57.6 -1.4**
comp=Z,241nm,1.8s
SVW2 Sparrevohn 15.76 44 *e*Pn **Pn 11 36 00.4 -0.4**
comp=Z,77nm,1.0s
KDAK Kodiak Island 16.10 57 Pn **Pn 11 36 04.1 -1.0**
comp=Z,3.9nm,0.3s,baz=208,slow=3.0,SNR=56
KDAK Sn **Sn 11 39 05.1 +1.8**
comp=Z,0.5nm,0.3s,baz=139,slow=19,SNR=4.8
KDAK LR LR 11 43 08.0
comp=Z,6µm,18.3s,baz=245,slow=40
KDAK Kodiak Island 16.10 57 *e*Pn **Pn 11 36 03.6 -1.6**
comp=Z,286nm,1.7s
KDAK Kodiak Island 16.10 57 *i* P **Pn 11 36 03.3 -1.9**
RSO Redoubt South 16.77 48 *e*Pn **P 11 36 15.3 -0.8**
HOM Homer 17.04 51 *e*Pn **P 11 36 19.0 +0.2**
comp=Z,160nm,0.9s
PPLA Purkeypile 18.01 41 *e*Pn **P 11 36 30.8 +1.1**
comp=Z,235nm,1.1s
SUA Susitna One 18.04 46 *e*Pn **P 11 36 30.3 +0.2**
comp=Z,149nm,1.2s
BILL Bilibino 18.15 341 *e*Pn **Pn 11 36 30.1 -0.6**
comp=Z,136nm,1.5s
BILL Bilibino 18.15 341 *d i*P **P 11 36 33.1 +2.1**
BILL pmax pmax
comp=Z,53nm,1.2s
BILL MLR MLR
comp=Z,1µm,21.0s
RDOG Red Dog Mine 18.18 19 *e*Pn **P 11 36 32.3 +0.9**
comp=Z,40nm,1.0s
SEW Seward 18.23 51 *e*Pn **Pn 11 36 31.3 -0.4**
comp=Z,175nm,1.4s
CAST Castle Rocks 18.29 39 *e*Pn **Pn 11 36 32.2 -0.3**
comp=Z,89nm,1.2s
RC01 Rabbit Creek A 18.38 48 *e*P **P 11 36 33.4 -0.2**
comp=Z,41nm,1.0s
PMR Palmer 18.81 46 *e*P **Pn 11 36 38.9 0.0**
comp=Z,113nm,1.8s
PMR Palmer 18.81 46 *e*P **Pn 11 36 38.9 0.0**
PMR pmax pmax
comp=Z,113nm,1.8s
GHO Glory Hole Cre 18.96 46 *e*P **Pn 11 36 40.7 -0.1**
comp=Z,31nm,1.0s
TRF Thorofare Moun 19.02 40 *e*P **P 11 36 41.1 +0.2**
comp=Z,185nm,1.5s
BPAW Bear Paw Mtn. 19.05 38 *e*P **P 11 36 41.2 +0.2**
comp=Z,73nm,0.9s
MA2 Magadan 19.06 307 P **Pn 11 36 41.7 -0.2**
comp=Z,0.4nm,0.3s,baz=135,slow=19,SNR=7.5
MA2 LR LR 11 43 22.3
comp=Z,979nm,20.4s,baz=108,slow=35
MA2 Magadan 19.06 307 *e*P **Pn 11 36 42.5 +0.6**
comp=Z,87nm,1.5s
MA2 Magadan 19.06 307‖ *e*P **Pn 11 36 44.4 +2.5**
MA2 pmax pmax
comp=Z,106nm,2.5s
KNK Knik Glacier 19.06 47 *e*P **P 11 36 40.7 -0.4**
comp=Z,47nm,0.8s
IM3 Indian Mountai 19.09 31 *e*P **P 11 36 41.1 -0.2**
SEY Seymchan 19.30 317 P **P 11 36 42.9 -0.7**
comp=Z,0.2nm,0.3s,baz=105,slow=17,SNR=9.6
SEY ScP **ScP 11 44 37.4 -3.2**
comp=Z,0.2nm,0.3s,baz=148,slow=4.1,SNR=5.3
SEY Seymchan 19.30 317‖ *e*P **Pn 11 36 45.1 +0.4**
GLI Glacier Island 19.55 49 *e*P **P 11 36 46.0 -0.5**
comp=Z,103nm,1.5s
RND Reindeer 19.59 41 *e*P **P 11 36 46.3 -0.7**
comp=Z,49nm,0.9s
RND Reindeer 19.59 41 *e*P **P 11 36 46.3 -0.7**
RND pmax pmax
comp=Z,49nm,0.9s
MLY Manley 19.60 36 *e*P **P 11 36 47.2 +0.2**
comp=Z,144nm,1.4s
BWN Browne 19.67 39 *e*P **P 11 36 47.9 +0.2**
comp=Z,331nm,1.1s
MCK McKinley 19.69 40 *e*P **P 11 36 47.6 -0.4**
comp=Z,151nm,1.5s
MCK McKinley 19.69 40 *e*P **P 11 36 48.0 0.0**
MCK pmax pmax
comp=Z,150nm,1.4s
SCM Sheep Creek Mo 19.70 47 *e*P **P 11 36 47.5 -0.7**
comp=Z,96nm,1.1s
SCM Sheep Creek Mo 19.70 47 *e*P **P 11 36 47.5 -0.7**
SCM pmax pmax
comp=Z,96nm,1.1s
DIV Divide 20.24 49 *e*P **P 11 36 54.6 +0.6**
comp=Z,167nm,1.3s
KLU Klutina 20.26 48 *e*P **P 11 36 54.4 +0.2**
comp=Z,82nm,1.0s
WRH Wood River Hil 20.34 39 *e*P **P 11 36 54.6 -0.4**
comp=Z,80nm,1.2s
MDM Murphy Dome 20.50 38 *e*P **P 11 36 57.1 +0.3**
comp=Z,192nm,1.0s
TCOL CIGO, UAF Yank 20.60 38 P **P 11 36 58.8 +1.0**
baz=244,SNR=59
COLA College 20.61 38 *e*P **P 11 36 58.3 +0.4**
comp=Z,150nm,1.0s
COLA College 20.61 38‖ *i*P **P 11 36 57.9 0.0**
COLA pmax pmax
comp=Z,49nm,1.4s
RAGM Ragged Mountai 20.61 52 *e*P **P 11 36 58.3 +0.2**
comp=Z,106nm,1.4s
BMRM Bremner River 20.76 50 *e*P **P 11 36 59.8 +0.2**
comp=Z,174nm,1.4s
HDA Harding Lake 20.77 40 *e*P **P 11 36 59.0 -0.6**
comp=Z,173nm,2.0s
HDA Harding Lake 20.77 40 P **P 11 37 00.6 +0.9**
baz=247,SNR=19
HARP HAARP 20.85 46 *e*P **P 11 37 00.8 +0.2**
comp=Z,420nm,1.4s
POKR Poker Plat Res 20.87 38 P **P 11 37 01.5 +0.8**
baz=244,SNR=41
PAX Paxson 20.88 44 *e*P **P 11 37 01.1 +0.1**
comp=Z,211nm,1.2s
PAX Paxson 20.88 44 *e*P **P 11 37 01.3 +0.4**
ILAR Eielson Array 20.94 39 P **P 11 37 00.7 -0.8**
comp=Z,15nm,1.0s,baz=254,slow=9.9,SNR=36
ILAR PcP **PcP 11 41 06.2 -2.2**
comp=Z,1.0nm,0.7s,baz=262,slow=3.7,SNR=5.6
ILAR ScP **ScP 11 44 42.2 -2.2**
comp=Z,1.7nm,0.6s,baz=269,slow=3.3,SNR=16
ILAR LR LR 11 45 47.6
comp=Z,1µm,20.5s,baz=235,slow=38
ILB Eielson Array 20.94 39 *e*P **P 11 37 00.6 -0.9**
IL1 Eielson Array 20.94 39 *e*P **P 11 37 00.1 -1.4**
COLD Coldfoot 20.96 31 *e*P **P 11 37 02.6 +0.9**
comp=Z,29nm,1.0s
RIDG Independ'e Rid 21.39 42 *e*P **P 11 37 06.3 -0.1**
comp=Z,114nm,1.2s
DOT Dot Lake 21.69 43 *e*P **P 11 37 09.5 -0.1**
comp=Z,83nm,1.1s
PRP Porcupine Dome 21.77 38 *e*P **P 11 37 11.1 +0.5**
comp=Z,41nm,1.0s
SCRK Sand Creek 21.82 42 *e*P **P 11 37 10.7 -0.4**
BALM Baldy 21.85 50 *e*P **P 11 37 11.7 +0.3**
comp=Z,60nm,1.1s
BALM Baldy 21.85 50 *e*P **P 11 37 11.7 +0.3**
BALM pmax pmax
comp=Z,60nm,1.1s
FYU Fort Yukon 22.32 35 *e*P **P 11 37 16.0 -0.3**
comp=Z,240nm,1.5s
EGAK Eagle 23.24 41 *e*P **P 11 37 25.3 -0.6**
comp=Z,125nm,1.3s
DAWY Dawson 23.79 43 *e*P **P 11 37 30.4 -1.1**
comp=Z,98nm,1.3s
HYT Haines Junctio 24.17 52 *e*P **P 11 37 34.0 -1.1**
comp=Z,23nm,1.1s
TYV Tymovskoe 24.24 284 *e*P **P 11 37 35.7 +0.1**
TYV *e*S **S 11 41 56.3 +2.9**
TYV pmax pmax
comp=Z,400nm,2.7s
TYV pmax pmax
comp=Z,38nm,1.4s
TYV smax smax
comp=N,300nm,2.7s
TYV MLR MLR
comp=Z,1µm,18.0s
SKAG Skagway 25.22 55 *e*P **P 11 37 44.1 -0.4**
comp=Z,34nm,1.4s
EPYK Eagle Plains 25.45 39 *e*P **P 11 37 45.1 -1.4**
EPYK Eagle Plains 25.45 39 P **P 11 37 46.7 +0.1**
baz=255,SNR=7.8
YSS Yuzh-Sakhalins 25.57 275 *e*P **P 11 37 46.8 -0.9**
comp=Z,75nm,0.9s
YSS Yuzh-Sakhalins 25.57 275 *αe*P **P 11 37 47.1 -0.7**
YSS *e* 11 37 59.1
YSS *e*S **S 11 42 12.0 -2.9**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,500nm,12.0s
YSS MLR MLR
comp=E,600nm,16.0s
ASAJ Asahikawa 26.98 270 P **P 11 38 00.8 +0.3**
comp=E,25nm,1.1s,baz=18,slow=5.3,SNR=8.0
ASAJ Asahikawa 26.98 270 *e*P **P 11 38 00.9 +0.3**
comp=E,67nm,1.3s
INK Inuvik 27.16 35 P **P 11 38 01.9 0.0**
comp=E,8.2nm,0.9s,baz=232,slow=11,SNR=9.9
INK PcP **PcP 11 41 21.4 -0.3**
comp=E,1.4nm,0.5s,baz=268,slow=2.3,SNR=4.0
INK ScP **ScP 11 44 59.4 -1.9**
comp=E,5.2nm,1.1s,baz=225,slow=2.8,SNR=3.9
INK Inuvik 27.16 35 *e*P **P 11 38 01.5 -0.4**
comp=E,66nm,1.6s
INK Inuvik 27.16 35 P **P 11 38 01.9 0.0**
INK 11 41 21.4
INK pmax pmax
comp=Z,10.0nm,1.0s
INK pmax pmax
comp=Z,1.0nm,0.5s
INK pmax pmax
comp=N,5.0nm,1.1s
ERM Erimo 27.73 265‖ *e*P **P 11 38 09.8 +2.5**
ERM pmax pmax
comp=Z,66nm,1.2s
GRNR Gornyy 28.02 286 *e*P **P 11 38 10.0 +0.2**
GRNR pmax pmax
comp=Z,26nm,1.1s
DLBC Dease Lake 28.04 57 P **P 11 38 11.6 +1.6**
comp=Z,2.2nm,0.7s,baz=254,slow=8.3,SNR=5.7
DLBC Dease Lake 28.04 57 *e*P **P 11 38 11.3 +1.4**
comp=Z,64nm,1.9s
YAK Yakutsk 29.50 311 *e*P P 11 38 32.1 +9.3
YAK *e**PP sP 11 38 41.3 +12
YAK *e* 11 39 23.1
YAK *e*PPP PPP 11 39 36.4
YAK *e* 11 41 36.0
YAK pmax pmax
comp=Z,19nm,1.3s
YAK pmax pmax
comp=E,12nm,1.4s
YAK pmax pmax
comp=Z,45nm,2.3s
YAK pmax pmax
comp=N,49nm,2.8s
YAK pmax pmax
comp=E,83nm,2.7s
YAK MLR MLR
comp=Z,492nm,18.0s
YAK MLR MLR
comp=N,473nm,15.0s
YAK MLR MLR
comp=E,473nm,19.0s
BBB Bella Bella 30.54 69 LR LR 11 49 08.1
comp=E,328nm,19.8s,baz=288,slow=33
TIXI Tiksi 30.62 330 P **P 11 38 32.4 -0.2**
comp=E,2.3nm,0.5s,baz=102,slow=10,SNR=12
TIXI ScP **ScP 11 45 08.9 -3.3**
comp=E,1.9nm,0.5s,baz=118,slow=3.8,SNR=6.5
TIXI Tiksi 30.62 330 *e*P **P 11 38 32.1 -0.4**
comp=E,42nm,1.7s
TIXI Tiksi 30.62 330 *ce*P **P 11 38 33.3 +0.7**
TIXI pmax pmax
comp=Z,25nm,1.7s
KLR Kul'dur 31.39 286 P **P 11 38 37.9 -1.7**
comp=Z,10nm,0.5s,baz=63,slow=5.9,SNR=31
KLR LR LR 11 50 58.8
comp=Z,613nm,20.3s,baz=74,slow=36
KLR Kul'dur 31.39 286 *c i*P **P 11 38 37.8 -1.9**
ZEA Zeya 32.39 296 *e*P **P 11 38 45.9 -2.5**
ZEA pmax pmax
comp=Z,43nm,1.2s
ZEA MLR MLR
comp=Z,700nm,15.0s
ZEA MLR MLR
comp=N,500nm,16.0s
ZEA MLR MLR
comp=E,400nm,16.0s
USA0B Ussuriysk Arra 33.54 277 *e*P **P 11 38 58.0 -0.6**
comp=E,15nm,1.3s
USRK Ussuriysk Ar. 33.54 277 P **P 11 38 56.8 -1.7**
comp=E,5.0nm,0.6s,baz=53,slow=7.8,SNR=15
USRK LR LR 11 54 22.5
comp=E,241nm,18.8s,baz=62,slow=40
H11N2 WAKE ISLAND Hy 33.80 206 T T 12 14 40.1
baz=17,slow=76,SNR=2786
H11N3 WAKE ISLAND Hy 33.81 205 T T 12 14 41.2
baz=17,slow=76,SNR=2295
H11N1 WAKE ISLAND Hy 33.82 206 T T 12 14 34.2
baz=17,slow=76,SNR=2088
KIP Kipapa 34.00 145 *e*P **P 11 39 02.4 -0.3**
comp=E,188nm,1.5s
KIP Kipapa 34.00 145 *e*P **P 11 39 02.4 -0.3**
KIP pmax pmax
comp=Z,188nm,1.5s
MJAR Matsushiro Arr 34.08 261 P **P 11 39 02.3 -1.0**
comp=Z,4.0nm,0.9s,baz=40,slow=7.1,SNR=10
MJAR PcP **PcP 11 41 40.1 -0.4**
comp=Z,2.0nm,0.9s,baz=169,slow=0.4,SNR=4.8
MJAR LR LR 11 50 55.1
comp=Z,315nm,21.7s,baz=65,slow=33
MAJO Matsushiro 34.08 261 *e*P **P 11 39 03.4 +0.1**
comp=Z,90nm,1.9s
MAJO Matsushiro 34.08 261‖ *e*P **P 11 39 02.8 -0.5**
MAJO pmax pmax
comp=Z,10.0nm,1.2s
MAT Matsushiro 34.08 261 P **P 11 39 02.7 -0.6**
MAT S **S 11 44 27.4 -1.0**
MJB9 Matsu-Tunnel 34.08 261 *e*P **P 11 39 03.4 +0.1**
comp=Z,86nm,1.8s
VLA Vladivostok 34.16 276‖ *e*P **P 11 39 04.7 +0.8**
VLA pmax pmax
comp=Z,27nm,0.8s
MDJ Mudanjiang 34.81 279 P **P 11 39 08.9 -0.6**
MDJ S **S 11 44 40.8 +1.3**
MDJ ScP **ScP 11 45 25.3 -1.8**
MDJ ScS **ScS 11 49 27.6 -2.8**
MDJ pmax pmax
comp=Z,10.0nm,1.4s
MDJ pmax pmax
comp=Z,260nm,3.2s
MDJ LR LR
comp=Z,540nm,14.7s
MDJ LR LR
comp=Z,290nm,8.8s
MDJ LR LR
comp=Z,410nm,9.0s
YKW3 Yellowknife Ar 34.90 47 *e*P **P 11 39 09.6 -0.5**
comp=Z,5.8nm,0.7s
MSHR Mys Shultsa 34.91 275‖ *e*P **P 11 39 11.7 +1.3**
YKA Yellowknife Ar 34.91 47 P **P 11 39 09.2 -1.0**
comp=Z,3.3nm,0.7s,baz=284,slow=8.1,SNR=41
YKA PcP **PcP 11 41 42.4 0.0**
comp=Z,0.5nm,0.4s,baz=282,slow=3.0,SNR=5.6
YKA ScP **ScP 11 45 25.3 -1.9**
comp=Z,1.9nm,0.7s,baz=292,slow=3.1,SNR=18
YKA LR LR 11 55 12.0
comp=Z,206nm,18.8s,baz=276,slow=39
YKB5 Yellowknife Ar 34.91 47 *e*P **P 11 39 09.0 -1.2**
NLWA Neilton Lookou 34.97 75 *e*P **P 11 39 11.5 +0.6**
comp=Z,51nm,1.3s
H11S1 WAKE ISLAND Hy 35.02 205 T T 12 16 09.8
baz=16,slow=76,SNR=5687
H11S2 WAKE ISLAND Hy 35.04 205 T T 12 16 16.6
baz=16,slow=76,SNR=2061
H11S3 WAKE ISLAND Hy 35.04 205 T T 12 16 14.9
baz=16,slow=76,SNR=1954
D03D Eldon 35.37 74 P **P 11 39 16.0 +1.7**
baz=298,SNR=19
B05A Bryant 35.63 73 P **P 11 39 17.5 +1.0**
baz=297,SNR=20
D04E Lakebay 35.73 75 P **P 11 39 18.6 +1.2**
baz=298
F04D Rainier, OR 36.11 76 P **P 11 39 21.9 +1.2**
baz=300
E04D Cinebar 36.15 75 P **P 11 39 22.7 +1.8**
baz=299,SNR=26
D05A Enumclaw 36.19 74 *e*P **P 11 39 22.2 +0.8**
comp=Z,78nm,1.3s
G03D McMinnville, O 36.39 78 P **P 11 39 24.8 +1.7**
baz=300,SNR=7.7
C06D Leavenworth 36.50 72 P **P 11 39 24.3 +0.2**
baz=298
LON Longmire 36.51 75 *e*P **P 11 39 25.5 +1.3**
comp=Z,14nm,0.7s
LON Longmire 36.51 75 *e*P **P 11 39 25.5 +1.3**
LON pmax pmax
comp=Z,14nm,0.7s
I02D Swisshome 36.60 80 P **P 11 39 25.6 +0.7**
baz=302
COR Corvallis 36.68 79 *e*P **P 11 39 28.0 +2.4**
comp=Z,68nm,0.9s
COR Corvallis 36.68 79 *e*P **P 11 39 28.0 +2.4**
COR pmax pmax
comp=Z,68nm,0.9s
KEBM Edson Butte 36.95 82 *e*P **P 11 39 30.9 +2.9**
comp=Z,55nm,1.0s
J01E Myrtle Point 37.05 81 P **P 11 39 29.1 +0.4**
baz=303
H04D Lebanon 37.06 78 P **P 11 39 30.6 +1.7**
baz=301,SNR=21
I03D Drain, OR 37.12 80 P **P 11 39 31.4 +2.1**
baz=302,SNR=5.1
F05D White Salmon 37.15 76 P **P 11 39 30.1 +0.6**
baz=300
B08A Colville Reser 37.22 71 *e*P **P 11 39 30.6 +0.4**
H04A Detroit Lake 37.31 78 *e*P **P 11 39 31.4 +0.4**
comp=Z,88nm,0.8s
K02D Willamette Mer 37.46 82 P **P 11 39 34.0 +1.6**
baz=303,SNR=8.0
G05D Wamic, OR 37.56 77 P **P 11 39 34.5 +1.4**
baz=301,SNR=17
I04A Tendick Farm, 37.64 79 P **P 11 39 35.4 +1.6**
baz=302,SNR=58
E07A Sunnyside 37.78 74 *e*P **P 11 39 35.7 +0.8**
comp=Z,48nm,1.5s
L02E Cave Junction 37.80 82 P **P 11 39 37.1 +2.0**
baz=304,SNR=9.1
HUMO Hull Mountain 37.95 81 *e*P **P 11 39 37.2 +0.8**
comp=Z,47nm,1.5s
G06A Carlson Farm, 37.97 76 *e*P **P 11 39 36.6 -0.1**
comp=Z,65nm,1.6s
I05D Terrebonne, OR 38.01 78 P **P 11 39 38.4 +1.5**
baz=302,SNR=22
HAWA Hanford 38.05 74 *e*P **P 11 39 37.2 0.0**
comp=Z,30nm,0.9s
F07A Phinny Hill Vi 38.07 75 *e*P **P 11 39 37.7 +0.4**
comp=Z,27nm,0.8s
BOD Bodaibo 38.09 307 *e*P **P 11 39 36.8 -0.5**
BOD pmax pmax
comp=Z,8.0nm,1.5s
D08A Wollman Farm, 38.09 73 *e*P **P 11 39 37.5 0.0**
comp=Z,19nm,1.0s
C09A Chrisman Ranch 38.11 71 *e*P **P 11 39 38.0 +0.3**
comp=Z,19nm,1.1s
J04D Umpqua Nationa 38.13 80 P **P 11 39 39.9 +1.8**
baz=303,SNR=9.7
E08A Dider Farm, El 38.29 74 *e*P **P 11 39 39.5 +0.3**
comp=Z,24nm,1.1s
CBIJ Chichi jima 38.40 246 *e*P **P 11 39 39.9 -0.3**
comp=Z,138nm,1.0s
KHMM Horse Mountain 38.44 84 *e*P **P 11 39 41.6 +0.8**
comp=Z,40nm,1.1s
PINE Pine Mountain 38.55 78 *e*P **P 11 39 42.4 +0.8**
comp=Z,73nm,1.4s
L04D Klamath Falls 38.57 81 P **P 11 39 43.6 +1.9**
baz=304,SNR=17
NEW Newport 38.57 70 P **P 11 39 41.2 -0.4**
comp=Z,6.4nm,0.4s,baz=298,slow=6.9,SNR=24
NEW Newport 38.57 70 *e*P **P 11 39 41.8 +0.2**
comp=Z,15nm,0.9s
NEW Newport 38.57 70 *e*P **P 11 39 41.6 0.0**
NEW *e*S **S 11 45 37.2 +0.3**
NEW pmax pmax
comp=Z,15nm,1.0s
NEW Newport 38.57 70 P **P 11 39 41.3 -0.2**
baz=299,SNR=16
YBH Yreka Blue Hor 38.59 82 P **P 11 39 43.1 +1.2**
comp=Z,20nm,1.0s,baz=305,slow=3.3,SNR=56
YBH LR LR 11 52 57.0
comp=Z,266nm,18.5s,baz=299,slow=32
YBH Yreka Blue Hor 38.59 82 *e*P **P 11 39 42.5 +0.6**
comp=Z,26nm,1.0s
J05D Fort Rock, OR 38.64 79 P **P 11 39 44.4 +2.0**
baz=303,SNR=36
K04D Chiloquin, OR 38.68 80 P **P 11 39 44.5 +1.8**
baz=304,SNR=12
M02C Callahan 38.69 83 P **P 11 39 45.1 +2.3**
baz=305,SNR=15
E09A Wood Farm, Sta 38.82 73 *e*P **P 11 39 43.8 +0.1**
comp=Z,32nm,1.2s
KMRM Mail Ridge 38.83 85 *e*P **P 11 39 44.8 +0.9**
comp=Z,26nm,0.8s
G08A Pilot Rock 38.96 75 *e*P **P 11 39 44.8 -0.1**
comp=Z,11nm,1.0s
N02D Trinity Center 39.02 83 P **P 11 39 47.8 +2.3**
baz=305,SNR=14
M04C Macdoel 39.10 82 P **P 11 39 48.0 +1.8**
baz=304,SNR=25
KCPM Cahto Peak 39.23 86 *e*P **P 11 39 48.4 +1.2**
comp=Z,33nm,0.8s
I07A Izee 39.27 77 *e*P **P 11 39 48.1 +0.6**
comp=Z,32nm,0.8s
WDC Whiskeytown Da 39.35 84 *e*P **P 11 39 48.9 +0.8**
comp=Z,24nm,1.0s
WDC Whiskeytown Da 39.35 84 *e*P **P 11 39 49.9 +1.8**
WDC pmax pmax
comp=Z,24nm,1.0s
O02D Mt. Diablo Mer 39.43 84 P **P 11 39 51.0 +2.1**
baz=306,SNR=26
RES Resolute Bay 39.47 25 P **P 11 39 48.8 +0.1**
comp=Z,3.4nm,1.0s,baz=302,slow=6.5,SNR=4.3
RES Resolute Bay 39.47 25 *e*P **P 11 39 48.8 +0.1**
comp=Z,9.0nm,1.1s
RES Resolute Bay 39.47 25 *e*P **P 11 39 50.8 +2.1**

RES pmax pmax
comp=Z,9.0nm,1.1s
KSRS Korea Array 39.91 271 P **P 11 39 52.5 -0.3**
comp=Z,6.5nm,1.0s,baz=57,slow=7.9,SNR=7.5
KSRS LR LR 11 56 11.6
comp=Z,142nm,19.2s,baz=50,slow=36
KS01 Wonju Array Si 39.91 271 *eP* **P 11 39 52.8 0.0**
KSAR Wonju Array Be 39.94 271 P **P 11 39 52.5 -0.5**
KSAR Wonju Array Be 39.94 271 P **P 11 39 52.5 -0.5**
HOPS Hopland Field 39.96 86 *eP* **P 11 39 54.1 +0.9**
comp=Z,30nm,1.0s
O03E Paynes Creek 39.98 83 P **P 11 39 54.6 +1.1**
baz=306,SNR=24
MOD Modoc Plateau 39.98 80 *eP* **P 11 39 54.6 +1.1**
comp=Z,26nm,0.9s
SNY Shenyang 40.01 279 ⇑P **P 11 39 54.8 +1.2**
SNY pmax pmax
comp=Z,31nm,1.7s
SNY pmax pmax
comp=Z,360nm,4.5s
SNY LR LR
comp=Z,470nm,13.6s
SNY LR LR
comp=Z,660nm,15.2s
SNY LR LR
comp=Z,560nm,14.4s
BMO Blue Mountains 40.19 75 *eP* **P 11 39 55.5 +0.3**
comp=Z,25nm,1.3s
BMO Blue Mountains 40.19 75 *eP* **P 11 39 55.5 +0.3**
BMO pmax pmax
comp=Z,25nm,1.3s
GDXM Geysers 40.24 86 *eP* **P 11 39 57.1 +1.5**
comp=Z,32nm,1.1s
J08A Circle Bar Ran 40.29 77 *eP* **P 11 39 56.7 +0.7**
comp=Z,22nm,0.8s
ORV Oroville 40.60 84 *eP* **P 11 39 59.2 +0.7**
comp=Z,12nm,0.8s
ORV Oroville 40.60 84 *eP* **P 11 39 59.3 +0.7**
ORV pmax pmax
comp=Z,12nm,0.8s
WVOR Wild Horse Val 40.70 79 *eP* **P 11 40 00.5 +1.0**
comp=Z,38nm,0.8s
WVOR Wild Horse Val 40.70 79 *eP* **P 11 40 00.5 +1.0**
WVOR pmax pmax
comp=Z,38nm,0.8s
JNU Nakatsue 40.86 263 P **P 11 40 00.3 -0.5**
comp=Z,6.8nm,0.8s,baz=63,slow=6.8,SNR=2.5
JNU Nakatsue 40.86 263 *eP* **P 11 40 00.4 -0.4**
comp=Z,165nm,1.7s
BEKR Beckworth 41.12 83 *eP* **P 11 40 03.8 +0.7**
comp=Z,78nm,1.8s
MSO Missoula 41.15 70 *eP* **P 11 40 03.3 +0.2**
comp=Z,80nm,1.8s
MSO Missoula 41.15 70 P **P 11 40 03.3 +0.2**
baz=301,SNR=18
AFDM Forest Hills D 41.29 85 *eP* **P 11 40 05.1 +0.8**
comp=Z,25nm,1.5s
RUBR Rubicon Trail 41.74 84 *eP* **P 11 40 08.9 +0.7**
comp=Z,26nm,0.8s
PAHR Pah Rah Range 41.82 83 *eP* **P 11 40 09.5 +0.7**
comp=Z,60nm,1.3s
MFID Camas Ranch 41.86 76 *eP* **P 11 40 09.3 +0.3**
comp=Z,28nm,1.4s
VCNR Virginia City 41.90 83 *eP* **P 11 40 10.6 +1.1**
comp=Z,37nm,1.0s
PNTR Pine Nut 42.06 83 *eP* **P 11 40 11.7 +0.9**
comp=Z,45nm,0.7s
CMB Columbia Colle 42.21 85 *eP* **P 11 40 12.7 +0.9**
comp=Z,29nm,1.3s
CMB Columbia Colle 42.21 85 *eP* **P 11 40 12.7 +0.9**
CMB pmax pmax
comp=Z,29nm,1.3s
SAO San Andreas Ge 42.34 87 *eP* **P 11 40 13.7 +0.9**
comp=Z,90nm,2.0s
SAO San Andreas Ge 42.34 87 *eP* **P 11 40 13.7 +0.9**
SAO pmax pmax
comp=Z,90nm,2.0s
YERR Yerington 42.34 83 *eP* **P 11 40 14.0 +0.9**
comp=Z,27nm,1.0s
HRY Holter Researc 42.45 69 *eP* **P 11 40 14.1 +0.3**
WAKR Walker 42.51 84 *eP* **P 11 40 15.0 +0.5**
comp=Z,18nm,0.8s
HLID Hailey 42.63 75 *eP* **P 11 40 15.8 +0.4**
comp=Z,26nm,1.1s
HLID Hailey 42.63 75 P **P 11 40 15.9 +0.6**
baz=304,SNR=34
DLMT Dillon 42.72 71 *eP* **P 11 40 16.5 +0.4**
comp=Z,10.0nm,1.3s
MCMT McKenzie Canyo 42.87 72 *eP* **P 11 40 17.6 +0.3**
EGMT Eagleton 42.96 67 *eP* **P 11 40 18.2 +0.4**
comp=Z,53nm,1.9s
EGMT Eagleton 42.96 67 P **P 11 40 17.9 +0.1**
baz=302,SNR=5.9
RYN Ryan 43.01 83 *eP* **P 11 40 18.7 +0.3**
comp=Z,25nm,1.1s
KVN Kaiserville 43.01 82 *eP* **P 11 40 19.0 +0.5**
comp=Z,13nm,0.9s
KVN Kaiserville 43.01 82 *eP* **P 11 40 19.0 +0.5**
KVN pmax pmax
comp=Z,13nm,0.9s
BOZ Bozeman (W) 43.17 71 *eP* **P 11 40 20.0 +0.4**
comp=Z,16nm,0.9s
BOZ Bozeman (W) 43.17 71 *eP* **P 11 40 20.0 +0.4**
BOZ pmax pmax
comp=Z,16nm,0.9s
BOZ Bozeman (W) 43.17 71 P **P 11 40 19.3 -0.3**
baz=303,SNR=7.1
NV01 Mina Array Sit 43.26 83 *eP* **P 11 40 21.3 +0.8**
NVAR Mina Array Bea 43.26 83 P **P 11 40 21.8 +1.2**
comp=Z,14nm,0.8s,baz=290,slow=8.1,SNR=88
NVAR PcP **PcP 11 42 08.6 -0.8**
comp=Z,3.4nm,0.8s,baz=283,slow=2.4,SNR=4.3
NVAR ScP **ScP 11 45 59.2 -0.8**
comp=Z,0.8nm,0.6s,baz=283,slow=4.8,SNR=7.2
MDPB Devils Postpil 43.27 85 *eP* **P 11 40 21.8 +1.1**
comp=Z,27nm,1.0s
MLAC Mammoth, Mammo 43.42 85 P **P 11 40 22.2 +0.3**
baz=309
QLMT Earthquake Lak 43.71 71 *eP* **P 11 40 24.5 +0.4**
PAGB Antelope Grade 43.74 88 *eP* **P 11 40 25.3 +1.1**
comp=Z,31nm,0.7s
ELK Elko 43.76 79 P **P 11 40 25.7 +1.1**
comp=Z,22nm,0.8s,baz=306,slow=8.2,SNR=119
ELK LR LR 11 55 05.2
comp=Z,407nm,20.5s,baz=309,slow=31
ELK Elko 43.76 79 *eP* **P 11 40 25.3 +0.7**
comp=Z,24nm,0.8s
ELK Elko 43.76 79 *eP* **P 11 40 25.6 +1.1**
ELK pmax pmax
comp=Z,24nm,0.8s
YHB Horse Butte 43.89 71 *eP* **P 11 40 25.0 -0.5**
comp=Z,25nm,1.0s
YMR Madison River 44.07 71 *eP* **P 11 40 27.3 +0.3**
comp=Z,27nm,1.1s
TIN Tinemaha, Big 44.16 85 P **P 11 40 29.0 +1.3**
baz=309
SMMC Simmler 44.17 88 P **P 11 40 29.1 +1.4**
baz=310
GCMT Greycliff 44.21 69 *eP* **P 11 40 28.4 +0.4**
YNR Norris Junctio 44.22 71 *eP* **P 11 40 28.3 +0.1**
comp=Z,20nm,1.0s
YFT Old Faithful 44.27 71 *eP* **P 11 40 29.2 +0.5**
comp=Z,11nm,0.8s
YPP Pitchstone Pla 44.39 72 *eP* **P 11 40 29.9 +0.3**
comp=Z,52nm,2.0s
VES Vestal, Richgr 44.40 87 P **P 11 40 29.9 +0.5**
baz=310,SNR=27
H17A Grant Village 44.46 71 *eP* **P 11 40 30.6 +0.5**
comp=Z,24nm,1.0s
H17A Grant Village 44.46 71 P **P 11 40 31.0 +0.9**
baz=305,SNR=14
IMW Indian Meadow 44.52 72 *eP* **P 11 40 30.9 +0.1**
comp=Z,11nm,1.0s
PKM Mcpherson Peak 44.56 88 P **P 11 40 32.2 +1.3**
baz=311
FLWY Flagg Ranch 44.56 72 *eP* **P 11 40 31.2 +0.2**
comp=Z,18nm,1.0s
FXWY Fox Creek 44.62 73 *eP* **P 11 40 31.8 +0.4**
comp=Z,4.3nm,1.0s
CWC Cottonwood Cre 44.64 85 P **P 11 40 32.5 +0.9**
baz=310
HVU Hansel Valley 44.65 76 *eP* **P 11 40 31.9 +0.3**
comp=Z,21nm,0.7s
HVU Hansel Valley 44.65 76 *eP* **P 11 40 31.9 +0.3**
HVU pmax pmax
comp=Z,21nm,0.7s
MOOW Moose Ponds 44.72 72 *eP* **P 11 40 32.5 +0.2**
comp=Z,8.7nm,1.2s
GRAC Grapevine Rang 44.73 84 P **P 11 40 33.2 +1.0**
baz=309
TPAW Teton Pass 44.75 73 *eP* **P 11 40 32.8 +0.3**
comp=Z,48nm,1.8s
RLMT Red Lodge 44.82 70 *eP* **P 11 40 33.2 +0.3**
comp=Z,18nm,1.0s
RLMT Red Lodge 44.82 70 P **P 11 40 33.3 +0.3**
baz=304,SNR=13
REDW Red Top Meadow 44.88 73 *eP* **P 11 40 33.5 0.0**
comp=Z,37nm,1.8s
SNOW Snow King Moun 44.88 73 *eP* **P 11 40 33.6 +0.1**
comp=Z,7.1nm,0.8s
LOHW Long Hollow 44.88 72 *eP* **P 11 40 33.5 0.0**
comp=Z,13nm,1.5s
ISA Isabella, Lake 44.89 86 *eP* **P 11 40 33.7 +0.2**
comp=Z,19nm,0.9s
ISA Isabella, Lake 44.89 86 *eP* **P 11 40 33.7 +0.2**
ISA pmax pmax
comp=Z,19nm,0.9s
ISA Isabella, Lake 44.89 86 P **P 11 40 33.7 +0.2**
baz=310,SNR=21
SBC Santa Barbara 44.91 89 P **P 11 40 34.6 +1.1**
baz=311
R11A Troy Canyon, C 44.99 81 *eP* **P 11 40 34.7 +0.3**
comp=Z,76nm,1.6s
R11A Troy Canyon, C 44.99 81 P **P 11 40 35.1 +0.7**
baz=308
BGU Big Grassy Mou 45.00 77 *eP* **P 11 40 34.5 +0.2**
comp=Z,14nm,1.0s
ARVC Arvin 45.02 87 P **P 11 40 34.7 +0.3**
baz=311
DAC Darwin (Calif) 45.05 85 *eP* **P 11 40 35.6 +0.7**
comp=Z,15nm,0.9s
DAC Darwin (Calif) 45.05 85 *eP* **P 11 40 35.6 +0.7**
DAC pmax pmax
comp=Z,15nm,0.9s
SPUT South Promonto 45.12 76 *eP* **P 11 40 35.9 +0.6**
comp=Z,21nm,1.0s
MPMC Manual Prospec 45.25 85 P **P 11 40 37.3 +0.8**
baz=310,SNR=20
FURC Furnace Creek, 45.38 84 P **P 11 40 38.6 +1.3**
baz=310,SNR=28
OSI Osito Audit: C 45.42 88 *eP* **P 11 40 37.9 +0.3**
comp=Z,27nm,0.8s
OSI Osito Audit: C 45.42 88 P **P 11 40 38.8 +1.1**
baz=311
TPNV Topopah Spring 45.46 83 *eP* **P 11 40 38.9 +0.8**
comp=Z,44nm,0.8s
TPNV Topopah Spring 45.46 83 *eP* **P 11 40 39.1 +1.0**
TPNV pmax pmax
comp=Z,44nm,0.8s
TPNV Topopah Spring 45.46 83 P **P 11 40 39.1 +1.0**
baz=310,SNR=53
LRMC Laurel Mtn Rad 45.51 86 P **P 11 40 38.8 +0.4**
baz=310,SNR=16
DUG Dugway, Tooele 45.57 78 *eP* **P 11 40 39.5 +0.6**
DUG Dugway, Tooele 45.57 78 *eP* **P 11 40 39.7 +0.8**
DUG pmax pmax
comp=Z,45nm,0.9s
DUG Dugway, Tooele 45.57 78 P **P 11 40 39.7 +0.8**
baz=307,SNR=71
FCC Fort Churchill 45.64 46 *eP* **P 11 40 38.6 -0.4**
comp=Z,28nm,1.9s
FCC Fort Churchill 45.64 46 *eP* **P 11 40 38.6 -0.4**
FCC pmax pmax
comp=Z,28nm,1.9s
EDW2 Edwards Air Fo 45.70 87 P **P 11 40 40.4 +0.5**
baz=311,SNR=14
LAO LASA Array 45.70 66 *eP* **P 11 40 39.4 -0.4**
comp=Z,22nm,1.0s
LAO LASA Array 45.70 66 P **P 11 40 39.6 -0.2**
baz=304,SNR=6.5
DGMT Dagmar 45.86 63 P **P 11 40 41.4 +0.4**
baz=303
TCUT Toone Canyon 45.87 76 *eP* **P 11 40 41.8 +0.4**
comp=Z,31nm,0.9s
DECC Green Verdugo 45.90 88 P **P 11 40 41.7 +0.3**
baz=311
CTU Camp Tracy 45.91 76 *eP* **P 11 40 42.1 +0.4**
comp=Z,27nm,1.1s
PSUT Pine Spring 45.95 80 *eP* **P 11 40 42.1 +0.2**
comp=Z,24nm,0.7s
BW06 Beder Array 46.00 73 *eP* **P 11 40 42.3 -0.1**
comp=Z,26nm,0.9s
BW06 Boulder Array 46.00 73 P **P 11 40 42.0 -0.3**
baz=306,SNR=35
PD31 Pinedale Array 46.00 73 *eP* **P 11 40 42.3 -0.1**
PDAR Pinedale Array 46.00 73 P **P 11 40 42.6 +0.3**
comp=Z,15nm,0.8s,baz=296,slow=3.5,SNR=145
PDAR ScP **ScP 11 46 09.7 -1.6**
comp=Z,1.3nm,1.0s,baz=318,slow=2.0,SNR=5.8
PDAR LR LR 11 58 02.1
comp=Z,338nm,19.0s,baz=308,slow=34
PDAR Pinedale Array 46.00 73 *eP* **P 11 40 41.9 -0.4**
PASC Pasadena Art C 46.04 88 *eP* **P 11 40 42.8 +0.2**
comp=Z,14nm,0.9s
MWC Mount Wilson 46.09 88 *eP* **P 11 40 43.8 +0.7**
comp=Z,27nm,0.9s
MWC Mount Wilson 46.09 88 *eP* **P 11 40 43.8 +0.7**
MWC pmax pmax
comp=Z,27nm,0.9s
SHOC Shoshone, Teco 46.11 85 P **P 11 40 43.7 +0.6**
310,SNR=22
JLU Jordanelle 46.15 76 *eP* **P 11 40 44.0 +0.4**
comp=Z,25nm,1.0s
NLU North Lily Min 46.16 77 *eP* **P 11 40 44.1 +0.4**
comp=Z,20nm,0.8s
GSC Goldstone, Bar 46.16 86 *eP* **P 11 40 44.2 +0.6**
comp=Z,36nm,0.9s
GSC Goldstone, Bar 46.16 86 *eP* **P 11 40 44.2 +0.6**
GSC pmax pmax
comp=Z,36nm,0.9s
GSC Goldstone, Bar 46.16 86 P **P 11 40 44.4 +0.8**
baz=311,SNR=37
BFSC Mount Baldy Ra 46.33 87 P **P 11 40 45.4 +0.5**
baz=311,SNR=13
MPU Maple Canyon 46.39 77 *eP* **P 11 40 45.9 +0.4**
comp=Z,14nm,0.7s
CIS Catalina Islan 46.41 89 P **P 11 40 45.6 +0.2**
baz=312
SHPR Sheep Range 46.41 83 *eP* **P 11 40 46.3 +0.7**
comp=Z,8.8nm,1.0s
ULN Ulaanbaatar 46.42 296 *eP* **P 11 40 45.2 -0.3**
comp=Z,14nm,1.4s
ULN Ulaanbaatar 46.42 296⇑*eP* **P 11 40 45.4 -0.2**
ULN pmax pmax
comp=Z,13nm,1.5s
HEC Hector,Ludlow 46.77 86 P **P 11 40 49.1 +0.8**
baz=311,SNR=5.1
BBRC Big Bear Solar 46.77 87 P **P 11 40 49.3 +0.8**
baz=311,SNR=8.3
SONA1 Songino Array 46.80 297 *eP* **P 11 40 48.2 -0.2**
SONA0 Songino Array 46.81 297 *eP* **P 11 40 48.4 -0.2**
SONA0 *e*PcP **PcP 11 42 21.2 -0.2**
SONM Songino Array 46.81 297 P **P 11 40 48.4 -0.2**
comp=Z,2.7nm,0.8s,baz=52,slow=8.3,SNR=15
SONM PcP **PcP 11 42 21.3 -0.2**
comp=Z,1.1nm,0.5s,baz=67,slow=3.7,SNR=4.9
SONM ScP **ScP 11 46 11.4 -2.9**
comp=Z,1.6nm,0.9s,baz=57,slow=2.5,SNR=7.1
SONM LR LR 12 01 20.2
comp=Z,298nm,18.7s,baz=36,slow=37
CCUT Cedar City 46.86 81 *eP* **P 11 40 49.7 +0.5**
comp=Z,15nm,0.9s
MSU Marysvale 46.99 79 *eP* **P 11 40 50.9 +0.7**
MSU Marysvale 46.99 79 *eP* **P 11 40 50.9 +0.7**
SZCU Shurtz Canyon 47.01 81 *eP* **P 11 40 50.7 +0.4**
comp=Z,18nm,1.2s
MURC Murrieta 47.04 88 P **P 11 40 51.0 +0.6**
baz=312,SNR=6.9
ZAK Zakamensk 47.09 301 *eP* **P 11 40 50.3 -0.4**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
TMUT Trail Mountain 47.09 78 *eP* **P 11 40 51.7 +0.6**
comp=Z,46nm,0.9s
GMRC Granite Mounta 47.22 85 P **P 11 40 52.5 +0.6**
baz=311,SNR=19
P17A Butcher Ranch, 47.27 77 *eP* **P 11 40 52.5 +0.2**
comp=Z,128nm,1.8s
LCMT Little Creek M 47.28 81 *eP* **P 11 40 53.1 +0.7**
comp=Z,31nm,0.9s
MTPU Mount Pierson 47.28 79 *eP* **P 11 40 53.2 +0.6**
comp=Z,27nm,0.9s
Q16A Castle Valley 47.35 78 *eP* **P 11 40 53.3 +0.3**
comp=Z,34nm,0.8s
PFO Pinyon Flats O 47.49 87 P **P 11 40 54.1 +0.2**
comp=Z,4.9nm,0.7s,baz=334,slow=5.4,SNR=12
PFO Pinyon Flats O 47.49 87 *eP* **P 11 40 54.2 +0.2**
comp=Z,44nm,1.7s
PFO Pinyon Flats O 47.49 87 P **P 11 40 54.4 +0.4**
baz=312,SNR=10
XPFO Pion Flat 47.49 87 *eP* **P 11 40 54.2 +0.2**
comp=Z,50nm,1.8s
BELC Belle Mtn. Jos 47.52 86 P **P 11 40 54.1 -0.1**
baz=312
KNB Kanab 47.53 81 *eP* **P 11 40 54.8 +0.4**
comp=Z,133nm,1.7s
KNB Kanab 47.53 81 *eP* **P 11 40 54.8 +0.4**
KNB pmax pmax
comp=Z,133nm,1.7s
109C Camp Elliot, M 47.57 88 P **P 11 40 55.1 +0.7**
baz=312
CPE Camp Elliot 47.57 88 *eP* **P 11 40 55.2 +0.7**
comp=Z,29nm,1.0s
PKCU Pink Cliffs 47.58 80 *eP* **P 11 40 55.7 +0.8**
comp=Z,22nm,0.9s
SRU San Rafael Swe 47.63 77 *eP* **P 11 40 55.2 +0.1**
comp=Z,36nm,0.8s
SRU San Rafael Swe 47.63 77 *eP* **P 11 40 55.2 +0.1**
SRU pmax pmax
comp=Z,36nm,0.8s
K22A Casper 47.87 71 *eP* **P 11 40 56.9 0.0**
comp=Z,14nm,0.9s
K22A Casper 47.87 71 P **P 11 40 56.4 -0.5**
baz=307,SNR=7.1
NEE2 Needles Airpor 47.87 85 P **P 11 40 56.8 0.0**
baz=311
HHC Hu-ho-hao-te 47.90 286 *eP* **P 11 40 59.3 +2.2**
HHC PP **PP 11 42 50.3 +1.5**
HHC S **S 11 47 55.4 +1.6**
HHC SS **SS 11 51 17.6 -4.4**
HHC pmax pmax
comp=Z,36nm,1.1s
HHC pmax pmax
comp=Z,290nm,5.4s
HHC LR LR
comp=Z,580nm,17.6s
HHC LR LR
comp=Z,380nm,16.9s
HHC LR LR
comp=Z,220nm,16.3s
IRM Iron Mountain 47.95 86 P **P 11 40 58.1 +0.6**
baz=312,SNR=15
BAR Barrett 47.98 88 *eP* **P 11 40 57.7 +0.1**
comp=Z,18nm,0.8s
MONP2 Monument Peak 47.99 88 P **P 11 40 58.7 +0.7**
baz=312,SNR=11
RWWY Rawlins 48.04 72 *eP* **P 11 40 57.9 -0.4**
comp=Z,23nm,1.0s
BC3 Big Chuckawall 48.09 86 P **P 11 40 58.0 -0.7**
baz=312
W13A Hualapai Mount 48.11 84 *eP* **P 11 40 59.0 +0.1**
comp=Z,43nm,1.5s
U15A North Rim 48.24 81 *eP* **P 11 41 00.7 +0.7**
comp=Z,42nm,0.7s
SWSC Sam W. Stewart 48.34 87 P **P 11 41 00.8 +0.4**
baz=312,SNR=5.5
IKP In-Ko-Pah, Jac 48.35 88 P **P 11 41 01.3 +0.7**
baz=312,SNR=12
O20A White River Ci 48.37 75 *eP* **P 11 41 00.8 -0.1**
comp=Z,41nm,0.8s
O20A White River Ci 48.37 75 P **P 11 41 00.9 0.0**
baz=308,SNR=30
RSSD Black Hills 48.44 68 *eP* **P 11 41 01.3 -0.1**
comp=Z,12nm,1.0s
RSSD Black Hills 48.44 68 *eP* **P 11 41 01.3 -0.1**
RSSD pmax pmax
comp=Z,13nm,1.0s
RSSD Black Hills 48.44 68 P **P 11 41 01.4 +0.1**
baz=307
PDMCI Parker Dam,Lak 48.48 85 P **P 11 41 02.0 +0.6**
baz=312,SNR=12
Y12C Blythe 48.60 86 *eP* **P 11 41 03.0 +0.6**
comp=Z,20nm,0.9s
Y12C Blythe 48.60 86 P **P 11 41 03.0 +0.6**
baz=312,SNR=10
MDND Maddock 48.75 61 P **P 11 41 02.0 -1.5**
baz=306
PV09 Paradox Valley 48.86 77 *eP* **P 11 41 04.8 +0.1**
GLA Glamis 48.88 86 *eP* **P 11 41 05.2 +0.6**
comp=Z,27nm,0.9s
GLA Glamis 48.88 86 *eP* **P 11 41 05.2 +0.6**
GLA pmax pmax
comp=Z,27nm,0.9s
GLA Glamis 48.88 86 P **P 11 41 04.1 -0.6**
baz=312
PV21 Cone Mtn., Par 48.91 77 *eP* **P 11 41 05.2 +0.1**
comp=Z,88nm,1.5s
PV23 Carpenter Ridg 48.96 77 *eP* **P 11 41 05.6 +0.1**
comp=Z,39nm,0.8s
BTO Baotou 48.97 287 *eP* **P 11 41 06.6 +1.2**
PV10 Paradox Valley 48.99 77 *eP* **P 11 41 06.3 +0.6**
PV14 Lion Creek, Pa 49.00 77 *eP* **P 11 41 05.9 +0.1**
comp=Z,34nm,0.7s
PV20 West Nyswonger 49.06 77 *eP* **P 11 41 06.5 +0.4**
comp=Z,38nm,0.7s
PV19 Morning Glory 49.07 77 *eP* **P 11 41 06.2 0.0**
comp=Z,34nm,0.7s
NJ2 Nanjing 49.08 272 *eP* **P 11 41 08.0 +1.9**
NJ2 pmax pmax
comp=Z,11nm,0.6s
PV17 East Wray Mesa 49.10 77 *eP* **P 11 41 06.6 +0.1**
comp=Z,76nm,0.7s
PV16 Nyswonger Mesa 49.11 77 *eP* **P 11 41 06.8 +0.2**
comp=Z,43nm,0.7s
PV11 David Mesa, Pa 49.14 77 *eP* **P 11 41 07.0 +0.2**
comp=Z,72nm,0.6s
PV05 Paradox Valley 49.14 77 *eP* **P 11 41 07.3 +0.4**
PV12 Saucer Basin, 49.17 77 *eP* **P 11 41 07.0 -0.1**
comp=Z,51nm,0.9s
PV03 Paradox Valley 49.18 77 *eP* **P 11 41 07.3 +0.1**
PV13 Radium Mtn., P 49.26 77 *eP* **P 11 41 07.8 0.0**
comp=Z,130nm,0.7s
N23A Red Feather La 49.28 72 *eP* **P 11 41 08.1 +0.1**
comp=Z,24nm,1.2s
N23A Red Feather La 49.28 72 P **P 11 41 07.8 -0.1**
baz=308,SNR=11
PV02 Paradox Valley 49.28 77 *eP* **P 11 41 08.1 +0.2**
comp=Z,76nm,0.7s
ULM Lac du Bonnet 49.36 57 P **P 11 41 06.2 -1.9**
comp=Z,1.1nm,0.4s,baz=294,slow=9.0,SNR=4.7
ULM LR LR 12 04 26.1
comp=Z,435nm,18.0s,baz=311,slow=39
WUAZ Wupatki 49.40 82 *eP* **P 11 41 09.0 +0.3**
comp=Z,37nm,0.8s
WUAZ Wupatki 49.40 82 P **P 11 41 09.6 +0.9**
baz=311,SNR=29
Y14A Wickenburg 49.42 84 *eP* **P 11 41 08.7 -0.1**
comp=Z,23nm,1.1s
PV01 Paradox Valley 49.43 77 *eP* **P 11 41 09.2 +0.2**
113A Mohawk Valley, 49.73 86 *eP* **P 11 41 11.2 +0.1**
comp=Z,45nm,1.8s
SMCO Snowmass 49.74 75 *eP* **P 11 41 11.4 -0.2**
comp=Z,30nm,1.6s
MVCO Mesa Verde 50.06 78 *eP* **P 11 41 13.5 -0.4**
MVCO Mesa Verde 50.06 78 P **P 11 41 14.1 +0.2**
baz=310,SNR=19
X16A Lo Mia Camp, P 50.08 83 *eP* **P 11 41 13.9 0.0**
comp=Z,16nm,0.9s
ISCO Idaho Springs 50.16 73 *eP* **P 11 41 14.9 +0.2**
comp=Z,20nm,1.1s
ISCO Idaho Springs 50.16 73 *eP* **P 11 41 14.9 +0.2**
ISCO pmax pmax
comp=Z,19nm,1.1s
ISCO Idaho Springs 50.16 73 P **P 11 41 14.7 0.0**
baz=309,SNR=13
SPA0 Spitsbergen Ar 50.22 356 *eP* **P 11 41 14.2 -0.1**
W18A Petrified Fore 50.67 81 *eP* **P 11 41 19.0 +0.6**
comp=Z,28nm,0.8s
W18A Petrified Fore 50.67 81 P **P 11 41 19.0 +0.6**
baz=312
S22A 4UR Ranch, Cre 50.73 76 *eP* **P 11 41 19.4 +0.4**
comp=Z,42nm,1.3s
S22A 4UR Ranch, Cre 50.73 76 P **P 11 41 19.8 +0.7**
baz=310,SNR=33
214A Organ Pipe Nat 50.87 86 P **P 11 41 20.3 +0.5**
baz=313,SNR=14
X18A Snowflake 50.92 81 *eP* **P 11 41 20.9 +0.5**
comp=Z,20nm,0.7s
Q24A Divide 50.97 74 *eP* **P 11 41 20.7 -0.1**
comp=Z,7.1nm,0.8s
Q24A Divide 50.97 74 P **P 11 41 20.8 -0.1**
baz=310
SUSD Miller 51.15 65 P **P 11 41 21.2 -0.5**

baz=308
DAG **Danmarks Havn** 51.30 6 *i* P P 11 41 21.9 -0.4
DAG **Danmarks Havn** 51.30 6 *e* P P 11 41 21.9 -0.4
SDCO **Great Sand Dun** 51.54 75 *e* P P 11 41 25.3 +0.2
comp=Z,31nm,1.1s
SDCO **Great Sand Dun** 51.54 75 P P 11 41 25.6 +0.5
baz=311,SNR=36
OGNE **Ogallala** 51.56 70 P P 11 41 24.3 -0.7
baz=309
TUC **Tucson** 51.89 84 *e* P P 11 41 27.7 +0.2
comp=Z,22nm,0.8s
TUC **Tucson** 51.89 84 *e* P P 11 41 27.7 +0.2
TUC pmax pmax
comp=Z,22nm,0.8s
TUC **Tucson** 51.89 84 P P 11 41 28.3 +0.8
baz=313
KSCO **Kaye Shedlock'** 52.45 72 *e* P P 11 41 31.8 +0.2
comp=Z,63nm,1.3s
KSCO **Kaye Shedlock'** 52.45 72 P P 11 41 32.0 +0.4
baz=310,SNR=8.6
T25A **Trinidad** 52.59 75 *e* P P 11 41 32.8 0.0
comp=Z,70nm,1.1s
T25A **Trinidad** 52.59 75 P P 11 41 33.2 +0.4
baz=311,SNR=43
LAZ **Ladron** 52.74 80 *e* P P 11 41 34.6 +0.7
ANMO **Albuquerque** 52.79 79 *e* P P 11 41 34.2 -0.2
comp=Z,18nm,1.1s
ANMO **Albuquerque** 52.79 79 ⇓ *i* P P 11 41 34.8 +0.5
ANMO pmax pmax
comp=Z,20nm,1.3s
ANMO **Albuquerque** 52.79 79 P P 11 41 34.4 +0.1
baz=312
ECSD **EROS Data Cent** 52.91 64 P P 11 41 34.4 -0.4
baz=309
LENM **Lemitar** 53.00 80 *e* P P 11 41 35.7 -0.1
EYMN **Ely** 53.05 57 P P 11 41 35.3 -0.5
baz=309
SUMG **Summit** 53.06 14 *e* P P 11 41 36.0 0.0
comp=Z,17nm,1.4s
SUMG **Summit** 53.06 14 *i* P P 11 41 37.4 +1.4
SUMG **Summit** 53.06 14 *e* P P 11 41 36.0 0.0
SUMG pmax pmax
comp=Z,17nm,1.4s
Y22D **IRIS PASSCAL I** 53.09 80 P P 11 41 35.5 -1.0
baz=312
LPM **Los Pinos Moun** 53.11 79 *e* P P 11 41 38.0 +1.4
BNM **Barren Site** 53.22 80 *e* P P 11 41 37.9 +0.4
121A **Cookes Peak, D** 53.60 82 P P 11 41 40.9 +0.6
baz=313,SNR=17
SSLB **Suanglung** 53.60 263 *e* P P 11 41 41.1 +0.9
comp=Z,16nm,0.9s
YULB **Yu-li** 53.68 262 *e* P P 11 41 39.5 -1.2
comp=Z,34nm,1.3s
XAN **Xi'an** 53.89 281 P P 11 41 43.1 +0.9
XAN sP sP 11 41 51.8 +3.2
XAN pmax pmax
comp=Z,15nm,1.4s
XAN LR LR
comp=Z,370nm,18.4s
XAN LR LR
comp=Z,320nm,22.8s
XAN LR LR
comp=Z,340nm,15.2s
SPMN **Marine on St.** 54.07 60 P P 11 41 43.5 +0.2
baz=310
F38A **Pierce - Schro** 54.10 59 P P 11 41 43.8 +0.3
baz=310
ZAA1 **Zalesovo Array** 54.10 314 *e* P P 11 41 43.0 -0.4
ZAA1 *e* PcP PcP 11 42 47.8 -0.2
ZALV **Zalesovo Beam** 54.10 314 P P 11 41 43.0 -0.4
comp=Z,0.4nm,0.4s,baz=38,slow=7.3,SNR=3.0
ZALV PcP PcP 11 42 47.8 -0.2
comp=Z,0.9nm,0.6s,baz=24,slow=4.0,SNR=3.6
ZALV LR LR 12 06 12.2
comp=Z,310nm,18.8s,baz=58,slow=38
ZALV **Zalesovo Beam** 54.10 314 P P 11 41 43.0 -0.4
ZALV 11 42 47.8
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV MLR MLR
comp=Z,310nm,18.8s
CBKS **Cedar Bluff** 54.28 71 *e* P P 11 41 44.8 -0.3
comp=Z,36nm,0.8s
CBKS **Cedar Bluff** 54.28 71 *e* P P 11 41 44.8 -0.3
CBKS pmax pmax
comp=Z,36nm,0.8s
CBKS **Cedar Bluff** 54.28 71 P P 11 41 44.7 -0.3
baz=311,SNR=13
E39A **Mellen** 54.54 58 P P 11 41 47.9 +1.2
baz=310
F40A **Park Falls** 55.06 58 P P 11 41 50.0 -0.5
baz=311
H39A **Augusta** 55.25 60 P P 11 41 51.0 -0.8
baz=311
LZH **Lanzhou** 55.59 286 *e* P P 11 41 56.3 +1.6
LZH pP pP 11 41 59.6 +0.3
LZH sP sP 11 42 01.8 +0.8
LZH SS SS 11 53 27.3 +2.8
LZH pmax pmax
comp=Z,29nm,1.2s
LZH pmax pmax
comp=Z,140nm,4.9s
LZH LR LR
comp=Z,1μm,17.3s
LZH LR LR
comp=Z,800nm,16.3s
LZH LR LR
comp=Z,1μm,18.4s
DGZ **Jazzator, Alta** 55.64 308 ⇓ *i* P P 11 41 55.2 +0.4
DGZ pmax pmax
comp=Z,2.0nm,0.8s
MNTX **Cornudas Mount** 55.65 81 *e* P P 11 41 55.3 +0.3
comp=Z,22nm,0.9s
MNTX **Cornudas Mount** 55.65 81 P P 11 41 55.6 +0.6
baz=314,SNR=36
MSTX **Muleshoe** 55.70 77 *e* P P 11 41 54.9 -0.5
comp=Z,104nm,1.5s
MSTX **Muleshoe** 55.70 77 P P 11 41 55.3 -0.1
baz=313,SNR=21
AMTX **Amarillo** 55.74 75 *e* P P 11 41 55.6 0.0
comp=Z,26nm,0.6s
AMTX **Amarillo** 55.74 75 P P 11 41 55.4 -0.2
baz=313
GTA **Gaotai** 55.75 292 P P 11 41 54.3 -1.4
GTA pP pP 11 41 58.9 -1.4
GTA sP sP 11 42 01.4 -0.7
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,130nm,5.6s
GTA LR LR
comp=Z,460nm,20.6s
GTA LR LR
comp=Z,450nm,18.4s
GTA LR LR
comp=Z,540nm,18.1s
J39A **Decorah** 55.90 62 P P 11 41 54.5 -2.0
baz=311
KSU1 **Kansas State U** 55.92 68 *e* P P 11 41 56.3 -0.5
comp=Z,16nm,0.8s
KSU1 **Kansas State U** 55.92 68 P P 11 41 55.7 -1.1
baz=312
U32A **Winter Ranch,** 56.34 72 *e* P P 11 41 59.8 -0.1
comp=Z,37nm,0.8s
K41A **Shullsburg** 57.15 61 P P 11 42 04.6 -0.8
baz=312
E45A **Wooded Hills,** 57.36 55 P P 11 42 04.8 -2.1
baz=312
D46A **Sault St. Mari** 57.58 54 P P 11 42 06.7 -1.7
baz=313
WMOK **Wichita Mounta** 57.59 74 *e* P P 11 42 08.7 0.0
comp=Z,23nm,0.8s
WMOK **Wichita Mounta** 57.59 74 *e* P P 11 42 08.7 0.0
WMOK pmax pmax
comp=Z,23nm,0.8s
WMOK **Wichita Mounta** 57.59 74 P P 11 42 08.6 0.0
baz=314,SNR=7.7
ARA0 **ARCESS Array S** 57.96 350 *e* P P 11 42 12.3 +1.5
ARCES **ARCESS Array B** 57.96 350 P P 11 42 12.3 +1.5
comp=Z,3.9nm,0.7s,baz=27,slow=8.3,SNR=11
ARE0 **ARCESS Array S** 57.96 350 *e* P P 11 42 10.4 -0.4
comp=Z,5.2nm,1.5s
G45A **Suttons Bay** 58.00 57 P P 11 42 10.1 -1.3
baz=313
LTX **Lajitas** 58.36 82 *e* P P 11 42 14.3 0.0
LTX **Lajitas** 58.36 82 *e* P P 11 42 14.3 0.0
TX31 **Lajitas Ar. Si** 58.36 82 *e* P P 11 42 14.2 0.0
TXAR **Lajitas Array** 58.36 82 P P 11 42 14.3 0.0
comp=Z,8.8nm,0.7s,baz=301,slow=5.1,SNR=111
TXAR ScP ScP 11 47 04.1 -0.5
comp=Z,0.5nm,0.8s,baz=328,slow=4.4,SNR=3.6
SLBS **Sierra La Lagu** 58.50 91 *e* P P 11 42 15.7 +0.4
comp=Z,88nm,1.9s
O41A **Passleys Farm,** 58.51 64 P P 11 42 14.3 -0.7
baz=313
ABTX **Abilene, Hawle** 58.52 76 *e* P P 11 42 14.9 -0.4
comp=Z,109nm,1.4s
ABTX **Abilene, Hawle** 58.52 76 P P 11 42 15.1 -0.2
baz=314,SNR=20
TUL1 **Leonard** 58.56 71 *e* P P 11 42 14.8 -0.7
comp=Z,25nm,0.9s
TUL1 **Leonard** 58.56 71 P P 11 42 14.7 -0.7
baz=314,SNR=9.5
P41A **Barry, Barry** 58.71 64 P P 11 42 13.7 -2.7
baz=313
HPIG 58.82 85 *e* P P 11 42 17.8 +0.2
comp=Z,18nm,1.0s
KURK **Kurchatov** 59.09 314 *e* P P 11 42 17.8 -1.1
comp=Z,0.4nm,0.6s
KURK **Kurchatov** 59.09 314 *ce* P P 11 42 18.4 -0.5
KURK pmax pmax
comp=Z,9.0nm,1.3s
Q41A **Truxton** 59.11 65 P P 11 42 16.5 -2.7
baz=314
P42A **Winchester** 59.17 64 P P 11 42 18.1 -1.5
baz=314
KURBB **Kurchatov Arra** 59.20 314 P P 11 42 17.8 -1.9
comp=Z,3.5nm,0.6s,baz=43,slow=6.6,SNR=29
CD2 **Chengdu** 59.20 282 *e* P P 11 42 20.0 0.0
CD2 S S 11 50 27.9 +0.7
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.0s
CD2 LR LR
comp=Z,610nm,15.9s
CD2 LR LR
comp=Z,470nm,14.4s
CD2 LR LR
comp=Z,320nm,10.9s
HHAR **Hobbs** 59.39 69 *e* P P 11 42 20.0 -1.2
comp=Z,7.7nm,1.0s
WMQ **Urumqi** 59.47 303 *e* P P 11 42 23.0 +1.2
WMQ pmax pmax
comp=Z,22nm,0.7s
WMQ pmax pmax
comp=Z,310nm,4.9s
WMQ LR LR
comp=Z,2μm,24.1s
WMQ LR LR
comp=Z,900nm,24.1s
WMQ LR LR
comp=Z,540nm,22.9s
R41A **Rosebud** 59.47 66 P P 11 42 19.9 -1.9
baz=314
Q42A **Golden Eagle** 59.53 65 P P 11 42 21.5 -0.6
baz=314,SNR=6.2
P43A **Skaggs, Pawnee** 59.60 64 P P 11 42 20.7 -1.9
baz=314
SCHQ **Schefferville** 59.70 39 LR LR 12 11 34.6
comp=Z,269nm,20.0s,baz=322,slow=39
CCM **Cathedral Cave** 59.72 66 *e* P P 11 42 22.9 -0.5
comp=Z,49nm,2.0s
CCM **Cathedral Cave** 59.72 66 *e* P P 11 42 21.9 -1.5
CCM pmax pmax
comp=Z,49nm,2.0s
CCM **Cathedral Cave** 59.72 66 P P 11 42 21.4 -2.1
baz=314
X37A **Clayton** 59.72 71 *e* P P 11 42 23.4 -0.1
comp=Z,32nm,0.9s
S41A **Jillco Farms,** 59.76 67 P P 11 42 22.2 -1.5
baz=314,SNR=6.9
R42A **Luebbering** 59.82 65 P P 11 42 22.4 -1.7
baz=314
N45A **Kentland** 59.88 61 P P 11 42 23.1 -1.4
baz=314
JCT **Junction City** 59.93 78 *e* P P 11 42 24.1 -0.9
comp=Z,60nm,1.6s
JCT **Junction City** 59.93 78 *e* P P 11 42 24.1 -0.9
JCT pmax pmax
comp=Z,60nm,1.6s
JCT **Junction City** 59.93 78 P P 11 42 24.3 -0.7
baz=315,SNR=9.1
U40A **Yellville** 59.97 68 P P 11 42 23.9 -1.3
baz=314,SNR=7.6
Q43A **New Douglas** 59.98 64 P P 11 42 24.2 -1.1
baz=314
T41A **Mountain View** 60.12 67 P P 11 42 23.9 -2.3
baz=314
MK31 **Makanchi Array** 60.13 309 *e* P P 11 42 25.1 -1.1
MK31 **Makanchi Array** 60.13 309 *e* P P 11 42 25.1 -1.1
MK32 **Makanchi Array** 60.13 309 *e* P P 11 42 24.1 -2.1
MKAR **Makanchi Array** 60.13 309 P P 11 42 24.1 -2.1
comp=Z,2.4nm,0.5s,baz=44,slow=5.3,SNR=20
MKAR LR LR 12 08 28.2
comp=Z,300nm,21.9s,baz=34,slow=36
MK01 **Makanchi Array** 60.15 309 *e* P P 11 42 24.8 -1.5
S42A **Caledonia** 60.17 66 P P 11 42 25.2 -1.4
baz=314,SNR=8.0
P44A **Sand Creek, Wi** 60.22 63 P P 11 42 25.8 -1.1
baz=314
W39A **Magazine** 60.23 70 *e* P P 11 42 26.4 -0.6
comp=Z,31nm,1.1s
W39A **Magazine** 60.23 70 P P 11 42 26.4 -0.6
baz=314,SNR=9.9
N46A **Monticello** 60.27 61 P P 11 42 25.0 -2.2
baz=314
MAKZ **Makanchi** 60.28 309 *e* P P 11 42 26.2 -0.9
comp=Z,3.4nm,0.8s
MAKZ **Makanchi** 60.28 309 *e* P P 11 42 26.3 -0.9
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
WHTX **Lake Whitney,** 60.29 75 *e* P P 11 42 27.2 -0.2
comp=Z,46nm,0.6s
WHTX **Lake Whitney,** 60.29 75 P P 11 42 27.3 -0.2
baz=315,SNR=17
F51A **Arnstein** 60.31 53 P P 11 42 25.7 -1.7
baz=315
R43A **Red Bud** 60.31 65 P P 11 42 26.8 -0.7
baz=314
L47A **Sherwood** 60.34 59 P P 11 42 26.0 -1.7
baz=314
Q44A **Meyer Farm, Va** 60.39 64 P P 11 42 27.0 -1.1
baz=314
SFIN **Lafayette** 60.43 61 P P 11 42 26.6 -1.6
baz=314
T42A **Van Buren** 60.52 67 P P 11 42 27.5 -1.4
baz=314
U41A **Viola** 60.52 68 P P 11 42 27.7 -1.2
baz=314,SNR=6.0
M47A **Cromwell** 60.55 60 P P 11 42 27.7 -1.4
baz=314
GYA **Guiyang** 60.57 276 *e* P P 11 42 31.0 +1.4
GYA pmax pmax
comp=Z,10.0nm,1.0s
K49A **Clarkson** 60.70 57 P P 11 42 28.7 -1.5
baz=315
S43A **Fulton Ridge,** 60.72 66 P P 11 42 29.4 -0.9
baz=314
V41A **Mountainview** 60.77 68 P P 11 42 28.8 -2.0
baz=315,SNR=7.2
L48A **N Adams** 60.78 59 P P 11 42 29.1 -1.6
baz=315
MIAR **Mount Ida** 60.81 70 *e* P P 11 42 30.0 -1.0
comp=Z,37nm,1.0s
MIAR **Mount Ida** 60.81 70 *e* P P 11 42 30.0 -1.0
MIAR pmax pmax
comp=Z,37nm,1.0s
MIAR **Mount Ida** 60.81 70 P P 11 42 30.0 -1.0
baz=315,SNR=17
R44A **Waltonville** 60.81 64 P P 11 42 29.5 -1.4
baz=314
N47A **Urbana** 60.84 60 P P 11 42 29.4 -1.7
baz=315
Q45A **Warren Harvey,** 60.88 63 P P 11 42 30.5 -0.8
baz=315
P46A **Rosedale** 60.90 62 P P 11 42 30.6 -0.9
baz=315
U42A **Revenden** 60.91 67 P P 11 42 30.7 -0.9
baz=315
BVAR **Borovoye Array** 60.93 320 P P 11 42 29.9 -1.6
comp=Z,2.8nm,0.5s,baz=46,slow=6.7,SNR=17
T43A **Greenville** 60.94 66 P P 11 42 30.8 -1.0
baz=315,SNR=11
BRVK **Borovoye** 60.95 320 *e* P P 11 42 31.2 -0.4
comp=Z,17nm,1.8s
BRVK **Borovoye** 60.95 320 *j e* P P 11 42 32.1 +0.5
BRVK pmax pmax
comp=Z,10.0nm,1.9s
O47A **Sheridan** 61.03 61 P P 11 42 31.0 -1.4
baz=315
WHAR **Wooly Hollow** 61.04 69 *e* P P 11 42 32.0 -0.5
comp=Z,38nm,1.6s
435B **Jarrell** 61.06 76 *e* P P 11 42 32.8 +0.1
comp=Z,54nm,1.2s
435B **Jarrell** 61.06 76 P P 11 42 32.4 -0.4
baz=315
E53A **Dumoine, Ponti** 61.09 51 P P 11 42 31.9 -0.8
baz=316
S44A **Carbondale** 61.10 65 P P 11 42 32.4 -0.5
baz=315
W41B **Gary Mavity, V** 61.15 69 *e* P P 11 42 32.5 -0.7
comp=Z,23nm,1.1s
W41B **Gary Mavity, V** 61.15 69 P P 11 42 32.6 -0.6
baz=315,SNR=5.6
V42A **Cord** 61.20 68 P P 11 42 32.1 -1.5
baz=315
N48A **Decatur** 61.22 60 P P 11 42 33.1 -0.5
baz=315
R45A **Skylar, Fairfi** 61.23 64 P P 11 42 32.6 -1.2
baz=315
I51A **Listowel** 61.25 55 P P 11 42 32.8 -1.0
baz=315
E54A **Lac Daplat, Po** 61.28 51 P P 11 42 32.3 -1.7
baz=316
X40A **Basin Creek Fa** 61.28 70 *e* P P 11 42 33.7 -0.5
comp=Z,21nm,1.2s
X40A **Basin Creek Fa** 61.28 70 P P 11 42 33.4 -0.8
baz=315
M49A **Liberty Center** 61.35 59 P P 11 42 33.0 -1.6
baz=315
UALR **University of** 61.37 69 *e* P P 11 42 34.9 +0.2
comp=Z,29nm,1.4s
U43A **Rector** 61.37 67 P P 11 42 33.6 -1.1
baz=315
I52A **Shelburne** 61.49 54 P P 11 42 34.6 -0.9
baz=316
S45A **Carrier Mills** 61.49 65 P P 11 42 34.8 -0.8
baz=315
P47A **Martinsville** 61.51 62 P P 11 42 35.5 -0.1
baz=315
G53A **Haliburton** 61.52 53 P P 11 42 34.1 -1.5
baz=316
O48A **Farmland** 61.57 60 P P 11 42 34.7 -1.4
baz=315
N49A **Columbus Grove** 61.63 59 P P 11 42 35.4 -1.0
baz=315
Q47A **Bedford North L** 61.81 62 P P 11 42 37.1 -0.6
baz=315
Y41A **Eaglette Beard** 61.84 70 P P 11 42 37.8 -0.1
baz=315
PRGR **Permogore** 61.85 338 *e* P P 11 42 38.4 +0.9
PRGR pmax pmax
comp=Z,10.0nm,0.4s
X42A **Stuttgart** 61.95 69 P P 11 42 38.0 -0.7
baz=315
S46A **Don Dixon Farm** 61.97 64 P P 11 42 37.6 -1.2
baz=315
P48A **Milroy** 61.99 61 P P 11 42 37.7 -1.1
baz=315
V44A **Blytheville** 62.05 67 P P 11 42 38.7 -0.6
baz=315
O49A **Covington** 62.06 60 P P 11 42 38.7 -0.6
baz=315
NATX **Nacogdoches** 62.13 73 *e* P P 11 42 40.0 +0.1
comp=Z,69nm,1.4s
NATX **Nacogdoches** 62.13 73 P P 11 42 39.9 0.0
baz=316
Z41A **Richland Creek** 62.17 71 P P 11 42 39.3 -0.9
baz=316
Q48A **North Vernon** 62.20 62 P P 11 42 39.7 -0.6
baz=315
R47A **Wooly Knot Far** 62.20 63 P P 11 42 39.9 -0.4
baz=315
N50A **Nevada** 62.29 59 P P 11 42 39.9 -0.9
baz=316
P49A **Miami Univ. Ec** 62.32 61 P P 11 42 40.0 -1.1
baz=316
T46A **Princeton** 62.33 65 P P 11 42 40.3 -0.9
baz=315
Y42A **Garnett, Star** 62.36 70 P P 11 42 41.2 -0.2
baz=316
WCI **Wyandotte Cave** 62.38 63 P P 11 42 41.2 -0.3
baz=315
X43A **Marvell** 62.40 69 P P 11 42 41.3 -0.4
baz=316
O50A **Cable** 62.48 59 P P 11 42 41.4 -0.8
baz=316
S47A **Hartford** 62.51 64 P P 11 42 41.3 -1.0
baz=316
ARU **Arti** 62.60 328 *d i* P P 11 42 42.9 +0.2
ARU 11 44 59.8
ARU S S 11 51 12.4 +2.7
ARU SS SS 11 55 15.1 +2.1
ARU pmax pmax
comp=Z,12nm,1.6s
ARU MLR MLR
comp=Z,356nm,12.0s
Q49A **Aurora** 62.60 61 P P 11 42 41.7 -1.2
baz=316
I55A **Frankford** 62.64 53 P P 11 42 41.9 -1.2
baz=316
H55A **Tweed** 62.64 52 P P 11 42 42.1 -1.0
baz=317
V45A **Humboldt** 62.65 66 P P 11 42 42.5 -0.8
baz=316
U46A **Springville** 62.65 65 P P 11 42 42.5 -0.9
baz=316
ACSO **Alum Creek Sta** 62.76 59 P P 11 42 43.0 -1.0
baz=316
P50A **Jamestown** 62.77 60 P P 11 42 43.5 -0.6
baz=316
T47A **Sharon Grove** 62.81 64 P P 11 42 43.2 -1.2
baz=316
X44A **Crenshaw** 62.84 68 P P 11 42 44.2 -0.4
baz=316
S48A **Wiedeman Farm,** 62.92 63 P P 11 42 44.1 -1.1
baz=316
W45A **Hickory Valley** 62.93 67 P P 11 42 44.5 -0.7
baz=316
R49A **Shelbyville** 62.96 62 P P 11 42 44.4 -1.0
baz=316
WVT **Waverly** 63.01 65 P P 11 42 45.5 -0.2
baz=316
O51A **Pataskala** 63.02 59 P P 11 42 45.3 -0.5
baz=316
V46A **Holladay** 63.08 66 P P 11 42 45.2 -1.0
baz=316
U47A **Clarksville** 63.09 65 P P 11 42 45.2 -1.1
baz=316
T48A **Bowling Green** 63.12 64 P P 11 42 44.9 -1.6
baz=316
Z43A **Armstrong Fami** 63.12 70 P P 11 42 45.9 -0.6
baz=316
Y44A **Strider, Charl** 63.19 69 P P 11 42 45.8 -1.1
baz=316
Q50A **Georgetown** 63.22 61 P P 11 42 45.6 -1.5
baz=316
S49A **Springfield** 63.26 62 P P 11 42 46.0 -1.3
baz=316
P51A **Williamsport** 63.26 60 P P 11 42 46.7 -0.6
baz=316
OXF **Oxford** 63.26 68 *e* P P 11 42 47.0 -0.4
comp=Z,136nm,1.3s
OXF **Oxford** 63.26 68 *e* P P 11 42 47.0 -0.4
OXF pmax pmax
comp=Z,136nm,1.3s
OXF **Oxford** 63.26 68 P P 11 42 46.0 -1.4
baz=316,SNR=12
X45A **UM Field Stati** 63.33 68 P P 11 42 46.2 -1.7
baz=316,SNR=5.5
V47A **Nunnelly** 63.40 65 P P 11 42 46.8 -1.5
baz=316
W46A **Michie** 63.41 66 P P 11 42 47.9 -0.4
baz=316
R50A **Paris** 63.43 61 P P 11 42 47.0 -1.5
baz=316
Q51A **Peebles** 63.43 60 P P 11 42 46.6 -1.9
baz=316
O52A **Adamsville** 63.46 58 P P 11 42 47.6 -1.0
baz=316

U48A **Cassie Pea, Po** 63.47 64 P P 11 42 48.1 -0.7
baz=316,SNR=6.8
K55A **Perry** 63.52 54 P P 11 42 47.9 -1.1
baz=317
M54A **Oil Creek Stat** 63.59 56 P P 11 42 48.2 -1.4
baz=317
T49A **Edmonton** 63.60 63 eP P 11 42 49.3 -0.3
comp=Z,38nm,1.8s
T49A **Edmonton** 63.60 63 P P 11 42 48.6 -1.1
baz=316
P52A **Corning** 63.65 59 P P 11 42 48.8 -1.1
baz=316
Y45A **Yeager Farm, C** 63.65 68 P P 11 42 49.1 -0.8
baz=316,SNR=7.4
O53A **New Philadelph** 63.69 58 P P 11 42 48.6 -1.6
baz=316
X46A **Booneville** 63.70 67 P P 11 42 49.0 -1.3
baz=316
ZAIG **Zacatecas** 63.77 86 eP P 11 42 51.3 0.0
W47A **Westpoint** 63.77 66 P P 11 42 49.8 -1.0
baz=316
N54A **Moraine State** 63.82 57 P P 11 42 50.2 -0.8
baz=317
S50A **Richmond** 63.82 62 P P 11 42 49.9 -1.2
baz=316
R51A **Hillsboro** 63.82 61 P P 11 42 50.2 -0.9
baz=316,SNR=7.6
V48A **Smith Brothers** 63.86 65 eP P 11 42 51.0 -0.3
comp=Z,12nm,1.2s
V48A **Smith Brothers** 63.86 65 P P 11 42 49.5 -1.9
baz=316
U49A **Red Boiling Sp** 63.89 64 P P 11 42 50.0 -1.5
baz=316
Z45A **Winona** 63.91 69 P P 11 42 50.2 -1.5
baz=316
KMI **Kunming** 63.97 278 P P 11 42 54.0 +1.5
KMI pP sP 11 42 58.5 -0.4
KMI pmax pmax
comp=Z,16nm,1.6s
KMI pmax pmax
comp=Z,120nm,3.1s
KMI LR LR
comp=Z,92nm,18.5s
KMI LR LR
comp=Z,310nm,16.6s
KMI LR LR
comp=Z,220nm,14.7s
144A **Alexander Plac** 64.02 70 P P 11 42 52.1 -0.3
baz=316
Y46A **Houston** 64.03 68 P P 11 42 50.6 -1.9
baz=316,SNR=12
T50A **Nancy** 64.05 63 P P 11 42 51.2 -1.4
baz=316
LNIG **Linares** 64.14 82 eP P 11 42 52.1 -1.2
comp=Z,8.8nm,0.9s
X47A **Russeville** 64.15 67 P P 11 42 52.6 -0.7
baz=316
W48A **Pulaski** 64.23 65 P P 11 42 52.8 -1.0
baz=316,SNR=7.8
VBMS **Vicksburg** 64.26 70 eP P 11 42 53.9 -0.1
comp=Z,58nm,1.0s
VBMS **Vicksburg** 64.26 70 P P 11 42 53.7 -0.3
baz=316
244A **Avery, Jackson** 64.29 70 P P 11 42 53.2 -1.0
baz=316,SNR=12
S51A **Beattyville** 64.29 61 P P 11 42 53.0 -1.2
baz=316
R52A **Catlettsburg** 64.31 60 P P 11 42 53.2 -1.1
baz=317
145A **Houston Renfro** 64.33 69 P P 11 42 52.8 -1.6
baz=316
V49A **McMinnville** 64.36 64 P P 11 42 53.4 -1.3
baz=316
N55A **Marion Center** 64.47 56 P P 11 42 53.9 -1.5
baz=317
Z46A **Louisville** 64.48 68 P P 11 42 54.3 -1.1
baz=316
U50A **Jamestown** 64.48 63 P P 11 42 54.7 -0.8
baz=316
T51A **Gray** 64.59 62 P P 11 42 55.2 -0.9
baz=317,SNR=5.1
Y47A **UCPARC, Winfie** 64.60 67 P P 11 42 54.1 -2.1
baz=316,SNR=14
W49A **Belvidere** 64.62 65 P P 11 42 54.9 -1.4
baz=316,SNR=6.6
X48A **Hartselle** 64.66 66 P P 11 42 54.8 -1.8
baz=316
R53A **Hurricane** 64.69 60 P P 11 42 55.3 -1.5
baz=317
SWET **Sewanee** 64.74 65 eP P 11 42 56.6 -0.6
comp=Z,17nm,1.4s
146A **Union** 64.81 69 P P 11 42 57.0 -0.6
baz=317
V50A **Pikevile** 64.88 64 P P 11 42 57.3 -0.8
baz=317
BINY **Binghamton** 64.96 53 P P 11 42 57.9 -0.6
baz=318
P55A **Reedsville** 64.96 58 P P 11 42 57.8 -0.8
baz=317
U51A **La Follette** 64.97 63 P P 11 42 57.1 -1.6
baz=317
Z47A **Carrollton** 64.98 68 P P 11 42 57.1 -1.6
baz=317,SNR=11
Y48A **Jasper** 64.98 67 P P 11 42 56.9 -1.8
baz=317,SNR=5.0
T52A **Hallie** 65.01 61 P P 11 42 56.2 -2.8
baz=317
X49A **Woodville** 65.03 66 P P 11 42 58.2 -0.8
baz=317
W50A **Signal Mountai** 65.10 64 eP P 11 42 59.1 -0.5
comp=Z,10nm,0.6s
W50A **Signal Mountai** 65.10 64 P P 11 42 58.6 -0.9
baz=317
TZTN **Tazewell** 65.11 62 P P 11 42 58.2 -1.3
baz=317
SSPA **Standing Stone** 65.14 56 P P 11 42 58.8 -0.9
baz=318
Z48A **Northport** 65.14 67 P P 11 42 58.1 -1.6
baz=317,SNR=13
V51A **Loudon** 65.20 63 eP P 11 42 59.8 -0.4
comp=Z,35nm,1.6s
V51A **Loudon** 65.20 63 P P 11 42 58.7 -1.4
baz=317
147A **Livingston** 65.24 68 eP P 11 43 00.2 -0.2
comp=Z,80nm,1.2s
147A **Livingston** 65.24 68 P P 11 42 58.8 -1.6
baz=317,SNR=8.3
R54A **Victor** 65.31 59 P P 11 42 59.6 -1.3
baz=317
U52A **Thorn Hill** 65.32 62 P P 11 42 60.0 -0.9
baz=317
CPCT **Cooper Cave** 65.36 64 eP P 11 43 00.2 -1.0
comp=Z,21nm,1.5s
W51A **Cleveland** 65.44 64 P P 11 43 00.7 -1.0
baz=317
X50B **Fort Payne** 65.45 65 P P 11 42 59.9 -1.9
baz=317,SNR=7.9
Y49A **Blount Mountai** 65.45 66 eP P 11 43 01.1 -0.7
comp=Z,41nm,1.6s
Y49A **Blount Mountai** 65.45 66 P P 11 43 00.2 -1.6
baz=317,SNR=5.3
346A **Big Creek Wild** 65.48 70 P P 11 43 01.0 -0.9
baz=317
247A **Quitman** 65.49 69 P P 11 43 01.3 -0.7
baz=317
V52A **Sevierville** 65.59 63 eP P 11 43 02.4 -0.3
comp=Z,7.0nm,0.6s
V52A **Sevierville** 65.59 63 P P 11 43 01.7 -1.0
baz=317
TKL **Tuckaleechee C** 65.63 63 eP P 11 43 02.8 -0.1
comp=Z,16nm,1.1s
TKL **Tuckaleechee C** 65.63 63 eP P 11 43 02.8 -0.1
TKL pmax pmax
comp=Z,16nm,1.1s
148A **Greensboro** 65.67 68 P P 11 43 01.5 -1.6
baz=317
FIA1 **FINESS Array S** 65.67 347 eP P 11 43 02.2 -0.6
FIA0 **FINESS Array S** 65.67 347 eP P 11 43 02.1 -0.6
FIA0 **FINESS Array S** 65.67 347 eP P 11 43 02.2 -0.6
FINES **FINESS Array B** 65.67 347 P P 11 43 02.1 -0.6
comp=Z,1.6nm,0.8s,baz=40,slow=9.9,SNR=4.8
FINES LR LR 12 15 32.0
comp=Z,269nm,18.6s,baz=282,slow=40
LRAL **Lakeview Retre** 65.71 67 eP P 11 43 02.6 -0.9
comp=Z,17nm,1.1s
LRAL **Lakeview Retre** 65.71 67 P P 11 43 01.7 -1.8
baz=317,SNR=7.7
U53A **Fall Branch** 65.78 62 P P 11 43 03.2 -0.7
baz=317
Y50A **Piedmont** 65.81 66 P P 11 43 03.1 -1.0
baz=317,SNR=8.3
X51A **Calhoun** 65.82 65 P P 11 43 02.5 -1.6
baz=317
Z49A **Columbiana** 65.87 67 P P 11 43 03.1 -1.4
baz=317,SNR=15
W52A **Murphy** 65.96 64 P P 11 43 04.2 -0.9
baz=317
248A **Dixon Mills** 65.97 68 P P 11 43 04.4 -0.8
baz=317,SNR=5.2
N59A **State Game Lan** 66.02 54 P P 11 43 04.0 -1.4
baz=318
149A **Jones** 66.15 67 P P 11 43 05.2 -1.1
baz=317,SNR=19
V53A **Saluda** 66.16 62 eP P 11 43 06.6 +0.2
comp=Z,16nm,1.4s
V53A **Saluda** 66.16 62 P P 11 43 04.9 -1.5
baz=317
Y51A **Rockmart** 66.19 65 P P 11 43 05.1 -1.4
baz=317,SNR=6.2
W53A **Cullowhee** 66.33 63 P P 11 43 06.5 -1.0
baz=317
BLA **Blacksburg** 66.33 60 P P 11 43 06.2 -1.3
baz=318
X52A **Dahlonega** 66.33 64 P P 11 43 06.4 -1.1
baz=317,SNR=6.5
348A **Jackson** 66.37 69 eP P 11 43 07.6 -0.1
348A **Jackson** 66.37 69 P P 11 43 07.0 -0.7
baz=317
249A **Camden** 66.41 68 P P 11 43 07.3 -0.7
baz=317
Z51A **Franklin** 66.55 66 P P 11 43 07.4 -1.4
baz=317
BG3 **Lake Jocassee** 66.58 63 eP P 11 43 08.9 -0.2
comp=Z,10nm,0.7s
150A **Eclectic** 66.59 67 P P 11 43 08.0 -1.1
baz=317,SNR=9.3
X53A **Estanollee** 66.74 64 P P 11 43 08.9 -1.1
baz=318
448A **Bay Minette** 66.75 69 P P 11 43 09.6 -0.5
baz=317
Y52A **Lilburn** 66.78 65 eP P 11 43 09.9 -0.4
comp=Z,15nm,0.9s
Y52A **Lilburn** 66.78 65 P P 11 43 09.2 -1.1
baz=318
349A **Repton** 66.83 68 P P 11 43 09.8 -0.8
baz=317
PAL **Palisades** 66.88 53 P P 11 43 09.7 -1.2
baz=319
250A **Grady** 66.91 67 eP P 11 43 11.0 -0.2
comp=Z,71nm,1.0s
250A **Grady** 66.91 67 P P 11 43 09.8 -1.3
baz=318,SNR=9.7
MOIG **Morelia** 66.92 87 eP P 11 43 11.3 -0.4
comp=Z,71nm,1.4s
AAK **Ala-Archa** 66.96 310 P P 11 43 11.8 +0.3
comp=Z,1.2nm,0.4s,baz=93,slow=1.7,SNR=4.8
AAK LR LR 12 13 23.8
comp=Z,318nm,18.8s,baz=19,slow=37
AAK **Ala-Archa** 66.96 310 eP P 11 43 11.5 -0.1
comp=Z,3.0nm,0.8s
AAK **Ala-Archa** 66.96 310 eP P 11 43 12.2 +0.7
AAK pmax pmax
comp=Z,3.0nm,0.8s
151A **Opelika** 67.04 66 P P 11 43 11.0 -1.0
baz=318
Y53A **Monroe** 67.06 64 P P 11 43 10.6 -1.5
baz=318
Z52A **Williamson** 67.08 65 P P 11 43 10.9 -1.3
baz=318
CBN **Corbin Frederi** 67.21 57 P P 11 43 12.0 -1.0
baz=318
449A **Pace** 67.25 69 P P 11 43 12.6 -0.7
baz=318
350A **Dozier** 67.28 68 P P 11 43 12.5 -1.0
baz=318
152A **Waverly Hall** 67.29 66 eP P 11 43 12.5 -1.0
comp=Z,18nm,1.2s
152A **Waverly Hall** 67.29 66 P P 11 43 12.1 -1.4
baz=318
251A **Midway** 67.31 67 P P 11 43 12.1 -1.6
baz=318,SNR=5.9
KMSC **Kings Mountain** 67.36 62 eP P 11 43 14.0 0.0
comp=Z,19nm,1.0s
KMSC **Kings Mountain** 67.36 62 P P 11 43 12.2 -1.8
baz=318,SNR=5.7
NC405 **NORSAR Array S** 67.39 355 eP P 11 43 13.2 -0.6
GOGA **Godfrey** 67.45 64 eP P 11 43 14.1 -0.4
comp=Z,13nm,1.0s
GOGA **Godfrey** 67.45 64 eP P 11 43 13.9 -0.7
GOGA pmax pmax
comp=Z,13nm,1.0s
GOGA **Godfrey** 67.45 64 P P 11 43 13.3 -1.3
baz=318,SNR=5.1
Z53A **Monticello** 67.49 65 P P 11 43 12.4 -2.4
baz=318,SNR=8.0
NB2 **NORSAR Subarra** 67.49 355 P P 11 43 15.6 +1.1
comp=Z,14nm,1.4s,baz=8.8,slow=6.5
NB200 **NORSAR Array S** 67.49 355 eP P 11 43 15.1 +0.7
NOA **NORSAR Array B** 67.49 355 P P 11 43 15.1 +0.7
comp=Z,1.0nm,0.8s,baz=6.3,slow=6.3,SNR=3.4
NOA LR LR 12 15 33.6
comp=Z,84nm,19.4s,baz=240,slow=38
HODGE **Hodges** 67.52 63 eP P 11 43 14.9 -0.1
comp=Z,13nm,0.7s
Y54A **Tignall** 67.55 64 P P 11 43 13.9 -1.3
baz=318,SNR=7.5
450A **Crestview** 67.58 68 P P 11 43 13.6 -1.8
baz=318
LSA **Lhasa** 67.64 290 eP P 11 43 15.9 -0.5
comp=Z,16nm,0.8s
LSA **Lhasa** 67.64 290 eP P 11 43 15.9 -0.5
LSA pmax pmax
comp=Z,16nm,0.8s
AKTO **Aktyubinsk** 67.70 325 P P 11 43 15.7 -0.2
comp=Z,2.1nm,0.6s,baz=23,slow=7.2,SNR=10
AKTO LR LR 12 15 53.2
comp=Z,188nm,18.4s,baz=26,slow=39
252A **Lumpkin** 67.77 66 P P 11 43 14.7 -1.9
baz=318,SNR=6.9
351A **Pinckard** 67.81 67 P P 11 43 15.8 -1.0
baz=318,SNR=10.0
Z54A **Sparta** 67.93 64 P P 11 43 16.8 -0.8
baz=318,SNR=8.1
JSC **Jenkinsville** 68.04 62 eP P 11 43 17.1 -1.1
comp=Z,7.5nm,0.8s
JSC **Jenkinsville** 68.04 62 eP P 11 43 17.2 -1.1
JSC pmax pmax
comp=Z,8.0nm,0.8s
352A **Blakely** 68.04 67 P P 11 43 17.1 -1.2
baz=318,SNR=6.9
253A **Americus** 68.07 66 P P 11 43 17.5 -1.0
baz=318
451A **Vernon** 68.21 68 P P 11 43 19.1 -0.3
baz=318
154A **Montrose** 68.24 65 P P 11 43 17.0 -2.6
baz=318
Z55A **Blythe** 68.34 64 P P 11 43 19.1 -1.1
baz=318
452A **Marianna** 68.36 67 P P 11 43 19.6 -0.7
baz=318
353A **Camilla** 68.55 66 P P 11 43 20.3 -1.2
baz=318
TAOE **Nuku Hiva Isla** 68.58 139 eLR LR 12 03 59.2
comp=Z,320nm,23.5s
TAOE **Nuku Hiva Isla** 68.58 139 eT T 12 57 49.1
comp=Z,61nm,0.3s
155A **Kite** 68.60 64 P P 11 43 20.7 -1.1
baz=318
KSH **Kashi** 68.61 307 P P 11 43 25.9 +4.0
KSH PcP PcP 11 43 52.9 +6.0
KSH PP PP 11 46 02.4 +9.5
KSH PcS 11 47 50.5
KSH S S 11 52 27.4 +3.4
KSH SKS ScS 11 53 22.4 +1.0
KSH SS SS 11 56 53.5 +6.1
KSH pmax pmax
comp=Z,11nm,0.6s
KSH pmax pmax
comp=Z,200nm,4.7s
KSH LR LR
comp=Z,180nm,10.4s
KSH LR LR
comp=Z,240nm,6.8s
KSH LR LR
comp=Z,400nm,11.4s
254A **Abbeville** 68.63 65 P P 11 43 20.9 -1.1
baz=318
552A **Lynn Haven** 68.83 68 P P 11 43 22.0 -1.2
baz=318
TIGA **Tifton** 68.84 66 P P 11 43 21.2 -2.1
baz=318
453A **Whigham** 68.86 67 P P 11 43 22.8 -0.7
baz=318
553A **Crawfordville** 69.28 67 P P 11 43 25.7 -0.4
baz=318
355A **Pearson** 69.33 66 P P 11 43 24.4 -1.9
baz=319
454A **Quitman** 69.35 67 P P 11 43 25.2 -1.3
baz=318
NHSC **New Hope** 69.51 62 P P 11 43 25.6 -1.8
baz=319
455A **Stateville** 69.68 66 P P 11 43 27.8 -0.7
baz=319
356A **Blackshear** 69.75 65 P P 11 43 27.3 -1.6
baz=319
OBN **Obninsk** 69.80 339 i P P 11 43 30.0 +1.2
OBN e 11 43 54.5
OBN pmax pmax
comp=Z,5.0nm,0.7s
357A **Townsend** 70.04 65 P P 11 43 30.2 -0.5
baz=319
555A **McAlpin** 70.18 66 P P 11 43 31.1 -0.4
baz=319
SHL **Shillong** 70.26 286 eP P 11 43 32.6 +0.2
comp=Z,96nm,1.2s
SHL **Shillong** 70.26 286 eP P 11 43 32.6 +0.2
SHL pmax pmax
comp=Z,96nm,1.2s
556A **Lake Butler** 70.59 66 P P 11 43 33.4 -0.7
baz=319
656A **Willston** 70.99 67 P P 11 43 37.3 +0.8
baz=319
CHTO **Chiang Mai** 70.99 276 eP P 11 43 37.5 +0.8
comp=Z,7.5nm,1.3s
CHTO **Chiang Mai** 70.99 276 eP P 11 43 37.5 +0.8
CHTO pmax pmax
comp=Z,8.0nm,1.3s
CM31 **Chiang Mai Arr** 71.26 276 eP P 11 43 38.7 +0.4
CMAR **Chiang Mai Arr** 71.26 276 P P 11 43 38.8 +0.4
comp=Z,1.5nm,0.5s,baz=30,slow=6.7,SNR=11
CMAR LR LR 12 17 52.7
comp=Z,132nm,19.1s,baz=42,slow=38
CMAR **Chiang Mai Arr** 71.26 276 P P 11 43 38.8 +0.4
CMAR pmax pmax
comp=Z,3.0nm,0.6s
CMAR MLR MLR
comp=Z,133nm,19.1s
CM01 **Chiang Mai Arr** 71.28 276 eP P 11 43 38.6 +0.1
PMOR **Pomariorio Ree** 71.39 149 eT T 13 01 24.9
comp=Z,37nm,0.3s
TAPN **Taplejung** 71.40 291 eP P 11 43 38.4 -1.0
comp=Z,42nm,0.9s
VAH **Vaihoa** 71.70 149 eT T 13 01 47.3
comp=Z,6.8nm,0.4s
857A **Zephyrhills** 71.99 67 P P 11 43 42.0 -0.7
baz=320
GUN **Gumba** 72.04 292 eP P 11 43 42.1 -1.3
comp=Z,90nm,0.4s
JIRN **Jiri** 72.05 292 eP P 11 43 42.5 -1.0
comp=Z,89nm,0.6s
RAMN **Ramite** 72.35 291 eP P 11 43 43.6 -1.5
comp=Z,69nm,0.5s
KKN **Kakani** 72.48 293 eP P 11 43 45.1 -0.7
comp=Z,27nm,0.5s
BRDH **Bariadhala** 72.57 285 P P 11 43 47.1 +1.0
comp=Z,80nm,0.3s,baz=76,slow=9.5,SNR=4.3
DWPF **Disney Wildern** 72.57 67 P P 11 43 44.8 -1.2
baz=320
PKIN **Phulchoki** 72.57 292 eP P 11 43 45.4 -1.0
comp=Z,20nm,0.5s
DMN **Daman** 72.71 293 eP P 11 43 46.2 -1.1
VSR **Storozhevoye** 72.79 336 eP P 11 43 47.0 0.0
VSR pmax pmax
comp=Z,52nm,3.9s
DANN **Dangsing** 72.92 294 eP P 11 43 47.3 -1.3
comp=Z,21nm,0.6s
UTHA **Uthaitani** 73.14 274 P P 11 43 55.6 +6.0
058A **Arcadia** 73.15 68 P P 11 43 48.6 -0.9
baz=320
PPT **Papeete** 73.29 151 LR LR 12 09 22.8
comp=Z,128nm,19.9s,baz=254,slow=30
PPT2 **Papeete2** 73.31 151 eT T 13 03 48.7
comp=Z,9.9nm,0.3s
PAE **Paea** 73.37 151 eT T 13 03 53.5
comp=Z,2.6nm,0.3s
PYUN **Piuthan** 73.55 294 eP P 11 43 51.8 -0.4
comp=Z,19nm,0.7s
DZM **Mont Dzumac** 74.51 195 eLR LR 12 06 45.2
comp=Z,545nm,25.1s
DZM **Mont Dzumac** 74.51 195 eP P 11 43 58.4 +0.9
comp=Z,22nm,1.2s
CCIG **Comitan** 75.10 83 eP P 11 44 01.9 +0.6
comp=Z,36nm,1.2s
SBUM **Sibu** 75.37 255 eP P 11 44 02.4 -0.2
comp=Z,8.9nm,1.3s
AKASG **Malin Array Be** 75.46 342 P P 11 44 01.0 -1.6
comp=Z,2.0nm,0.5s,baz=22,slow=6.2,SNR=5.4
AKASG LR LR 12 22 11.5
comp=Z,267nm,18.3s,baz=325,slow=40
AKASG **Malin Array Be** 75.46 342 i P P 11 44 03.7 +1.1
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB **Malin Array Si** 75.46 342 eP P 11 44 02.5 -0.1
comp=Z,6.4nm,0.9s
KIEV **Kiev** 75.47 342 eP P 11 44 02.3 -0.4
comp=Z,5.8nm,0.9s
KIEV **Kiev** 75.47 342 eP P 11 44 02.7 0.0
KIEV pmax pmax
comp=Z,25nm,2.6s
MAK **Makhachkala** 77.80 327 eP P 11 44 15.5 -0.4
MAK e 11 47 11.7
MAK eS S 11 54 10.0 +2.2
MAK pmax pmax
comp=Z,31nm,0.4s
GEYT **Alibeck** 78.14 318 LR LR 12 21 45.0
comp=Z,301nm,19.4s,baz=15,slow=38
KIV **Kislovodsk** 78.45 331 eP P 11 44 18.7 -1.0
KIV pmax pmax
comp=Z,7.0nm,1.0s
KBZ **Khabaz** 78.59 331 P P 11 44 21.0 +0.7
comp=Z,2.8nm,0.9s,baz=29,slow=4.2,SNR=4.1
KBZ LR LR 12 24 57.0
comp=Z,252nm,19.0s,baz=10,slow=40
KBZ **Khabaz** 78.59 331 P P 11 44 21.0 +0.7
KBZ pmax pmax
comp=Z,4.0nm,1.0s
TBI **Tubuai** 78.79 153 eT T 13 10 40.1
comp=Z,6.3nm,0.3s
ZEI **Tsey** 79.13 330 eP P 11 44 19.8 -3.8
ZEI pmax pmax
comp=Z,16nm,1.5s
BUR08 **Bucovina Ar. S** 79.13 344 eP P 11 44 22.9 -0.5
BUR04 **Bucovina Ar. S** 79.16 344 eP P 11 44 22.7 -0.8
GERES **GERESS Array B** 79.45 352 P P 11 44 25.7 +0.6
comp=Z,0.5nm,0.7s,baz=19,slow=6.2,SNR=3.3
TGUH **Tegucigalpa,Un** 79.81 80 eP P 11 44 28.4 +1.0
comp=Z,78nm,1.1s
TBLG **Delisi** 79.81 329 eP P 11 44 27.6 +0.6
comp=Z,11nm,0.7s
TBLG **Delisi** 79.81 329 eP P 11 44 27.7 +0.6
TBLG pmax pmax
comp=Z,11nm,0.7s
GNI **Garni** 81.24 328 LR LR 12 26 11.5
comp=Z,349nm,18.6s,baz=16,slow=40
WRAB **Tennant Creek** 82.31 224 eP P 11 44 40.1 -0.4
comp=Z,91nm,1.8s
WRAB **Tennant Creek** 82.31 224 i P P 11 44 43.0 +2.5
WRAB pmax pmax
comp=Z,50nm,2.1s
WB2 **Warramunga Arr** 82.32 224 eP P 11 44 42.0 +1.4
WR1 **Warramunga Arr** 82.33 224 eP P 11 44 39.6 -0.9
comp=Z,86nm,1.7s
WRA **Warramunga Arr** 82.33 224 P P 11 44 39.6 -0.9
comp=Z,8.4nm,1.2s,baz=32,slow=6.2,SNR=13
WRA LR LR 12 19 43.3
comp=Z,85nm,19.4s,baz=20,slow=34
WRA **Warramunga Arr** 82.33 224 i P P 11 44 42.4 +1.8
WRA pmax pmax
comp=Z,3.0nm,0.8s
ESPN **Las Esperanzas** 83.07 79 eP P 11 44 45.4 +0.7
comp=Z,63nm,1.2s
PSI **Prapat** 83.28 266 LR LR 12 19 13.0
comp=Z,35nm,21.9s,baz=290,slow=34

PSI	**Prapat**	**83.28**	**266**	*e*P		**P**	**11 44 46.6**	**+0.7**
	comp=Z,11nm,0.7s								
PSI	**Prapat**	**83.28**	**266**	*e*P		**P**	**11 44 46.6**	**+0.7**
PSI					pmax	pmax			
	comp=Z,11nm,0.7s								
RKT	**Rikitea**	**83.53**	**140**	*e*T		T	13 16 30.5		
	comp=Z,10nm,0.3s								
FITZ	**Fitzroy Crossi**	**84.78**	**232**	*e*P		**P**	**11 44 54.1**	**+0.9**
	comp=Z,51nm,1.4s								
BR101	**Keskin Array S**	**84.90**	**336**	*e*P		**P**	**11 44 53.2**	**-0.6**
BR131	**Keskin Array S**	**84.90**	**336**	*e*P		**P**	**11 44 54.2**	**+0.3**
BRTR	**Keskin Array B**	**84.90**	**336**	P		**P**	**11 44 53.2**	**-0.6**
	comp=Z,1.9nm,0.9s,baz=46,slow=3.6,SNR=7.0								
BRTR					LR	LR	12 27 10.9		
	comp=Z,74nm,19.6s,baz=326,slow=39								
BRTR	**Keskin Array B**	**84.90**	**336**	*i* P		**P**	**11 44 54.7**	**+0.8**
BRTR					pmax	pmax			
	comp=Z,2.0nm,0.9s								
AS01	**Alice Springs**	**85.78**	**223**	*e*P		**P**	**11 44 58.4**	**+0.3**
ARMA	**Armidale**	**85.78**	**206**	*e*P		**P**	**11 44 59.0**	**+1.0**
	comp=Z,46nm,1.4s								
AS31	**Alice Springs**	**85.80**	**223**	*e*P		**P**	**11 44 58.3**	**+0.1**
	comp=Z,8.8nm,1.9s								
ASAR	**Alice Springs**	**85.80**	**223**	P		**P**	**11 44 58.2**	**0.0**
	comp=Z,3.3nm,0.7s,baz=25,slow=5.1,SNR=28								
ASAR					LR	LR	12 20 09.1		
	comp=Z,121nm,19.9s,baz=42,slow=33								
MTP	**Monte Pirata**	**89.38**	**61**	*e*P		**P**	**11 45 16.6**	**+0.9**
	comp=Z,40nm,1.4s								
STKA	**Stephens Creek**	**90.22**	**213**	P		**P**	**11 45 20.0**	**+0.9**
	comp=Z,5.9nm,0.6s,baz=360,slow=4.3,SNR=14								
STKA					LR	LR	12 23 15.2		
	comp=Z,227nm,18.9s,baz=23,slow=34								
STKA	**Stephens Creek**	**90.22**	**213**	*e*P		**P**	**11 45 19.7**	**+0.6**
	comp=Z,6.5nm,1.4s								
WSAR	**Wadi Sarin**	**90.36**	**310**	LR		LR	12 26 59.2		
	comp=Z,110nm,21.5s,baz=34,slow=36								
MMAI	**Mount Meron Ar**	**90.71**	**332**	LR		LR	12 29 59.3		
	comp=Z,84nm,19.2s,baz=20,slow=38								
ZARC	**Zaragoza, Cauc**	**92.49**	**75**	*e*P		**P**	**11 45 30.2**	**0.0**
ZARC	**Zaragoza, Cauc**	**92.49**	**75**	*e*P		**P**	**11 45 30.2**	**0.0**
BRRC	**Barranca, Sant**	**93.48**	**74**	*e*P		**P**	**11 45 35.0**	**+0.2**
BRRC	**Barranca, Sant**	**93.48**	**74**	*e*P		**P**	**11 45 35.0**	**+0.2**
PTBC	**PUERTO BERRIO,**	**93.48**	**75**	*e*P		**P**	**11 45 34.4**	**-0.5**
PTBC	**PUERTO BERRIO,**	**93.48**	**75**	*e*P		**P**	**11 45 34.4**	**-0.5**
SDV	**Santo Domingo**	**93.90**	**71**	*e*P		**P**	**11 45 36.8**	**-0.2**
	comp=Z,5.5nm,0.9s								
SDV	**Santo Domingo**	**93.90**	**71**	*e*P		**P**	**11 45 35.9**	**-1.0**
SDV	**Santo Domingo**	**93.90**	**71**	*e*P		**P**	**11 45 35.9**	**-1.0**
PAMC	**Pamplona, Colo**	**93.91**	**73**	*e*P		**P**	**11 45 36.5**	**-0.8**
PAMC	**Pamplona, Colo**	**93.91**	**73**	*e*P		**P**	**11 45 36.5**	**-0.8**
BARC	**Barichara**	**94.21**	**74**	*e*P		**P**	**11 45 37.9**	**-0.5**
BARC	**Barichara**	**94.21**	**74**	*e*P		**P**	**11 45 37.9**	**-0.5**
YOTC	**Yotoco, Valle**	**94.35**	**78**	*e*P		**P**	**11 45 40.0**	**+1.0**
YOTC	**Yotoco, Valle**	**94.35**	**78**	*e*P		**P**	**11 45 40.0**	**+1.0**
RUSC	**La Rusia**	**94.82**	**74**	*e*P		**P**	**11 45 40.5**	**-1.1**
RUSC	**La Rusia**	**94.82**	**74**	*e*P		**P**	**11 45 40.5**	**-1.1**
ROSC	**El Rosal**	**94.91**	**76**	LR		LR	12 28 52.6		
	comp=Z,42nm,22.0s,baz=326,slow=36								
CHIC	**Chingaza**	**95.43**	**76**	*e*P		**P**	**11 45 43.4**	**-0.8**
CHIC	**Chingaza**	**95.43**	**76**	*e*P		**P**	**11 45 43.4**	**-0.8**
SOTA	**Rioblanco**	**95.64**	**79**	*e*P		P	11 45 35.3	-10
SOTA	**Rioblanco**	**95.64**	**79**	*e*P		P	11 45 35.3	-10
VILC	**Villavicencio,**	**95.86**	**76**	*e*P		**P**	**11 45 48.5**	**+2.6**
VILC	**Villavicencio,**	**95.86**	**76**	*e*P		**P**	**11 45 48.5**	**+2.6**
TOA1	**Torodi Ar. Sit**	**115.56**	**360**	*e*PKPdf		**PKPdf**	**11 51 01.9**	**+0.7**
TORD	**Torodi Ar. Bea**	**115.57**	**360**	PKP		**PKPdf**	**11 51 01.9**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=7,6,slow=1.6,SNR=4.0								
DBIC	**Dimbokro**	**121.74**	**8**	PKP		**PKPdf**	**11 51 11.6**	**-1.5**
	comp=Z,1.7nm,0.5s,baz=313,slow=3.4,SNR=6.1								
DBIC	**Dimbokro**	**121.74**	**8**	*e*PKPdf		**PKPdf**	**11 51 12.7**	**-0.4**
BDFB	**Brasilia**	**126.78**	**66**	PKP		**PKPdf**	**11 51 22.0**	**-0.8**
	comp=Z,3.9nm,0.8s,baz=342,slow=5.5,SNR=3.4								
CPUP	**Villa Florida**	**129.31**	**84**	PKP		**PKPdf**	**11 51 26.1**	**-1.1**
	comp=Z,1.9nm,0.8s,baz=339,slow=6.1,SNR=4.2								
CPUP	**Villa Florida**	**129.31**	**84**	*e*PKPdf		**PKPdf**	**11 51 26.9**	**-0.3**
PLCA	**Paso Flores**	**130.76**	**107**	PKP		**PKPdf**	**11 51 29.9**	**+0.3**
	comp=Z,2.3nm,1.0s,baz=344,slow=3.1,SNR=5.6								
PLCA	**Paso Flores**	**130.76**	**107**	*e*PKPdf		**PKPdf**	**11 51 29.3**	**-0.3**
PLCA	**Paso Flores**	**130.76**	**107**	*e*PKIKP		**PKPdf**	**11 51 29.3**	**-0.3**
MAW	**Mawson**	**146.79**	**218**	PKPbc		**PKPbc**	**11 51 59.4**	**-0.1**
	comp=Z,7.8nm,0.6s,baz=101,slow=5.0,SNR=10								
MAW	**Mawson**	**146.79**	**218**	*e*PKPdf		**PKPbc**	**11 51 59.2**	**-0.3**
MAW	**Mawson**	**146.79**	**218**	*e*PKP2		**PKPbc**	**11 51 59.2**	**-0.3**
BOSA	**Boshof**	**151.06**	**313**	PKPbc		**PKPbc**	**11 52 11.6**	**-0.2**
	comp=Z,5.5nm,0.5s,baz=20,slow=2.8,SNR=12								
SYO	**Syowa Base**	**154.97**	**212**	⇓*e*PKiKP		**PKPbc**	**11 52 24.8**	**+5.8**
SYO	**Syowa Base**	**154.97**	**212**	⇓*e*PKPab		**PKPab**	**11 52 37.6**	**+3.0**

*DDA **21** 12:03:55.8,39˚.92N×25˚.65E,h8km±2km,ML3.0*
*ISCJB **21** 12:03:57.7±0.4,39˚.72N±0˚.02×25˚.59E±0˚.03,h9km±3km,*
Error ellipse: s-maj=4.0km s-min=3.2km az=17.8
*ATH **21** 12:03:57.3,39˚.72N×25˚.62E,h28km±1km,ML2.9/3,Error*
ellipse: s-maj=2.8km s-min=1.4km az=228.0
*ISK **21** 12:03:57.3,39˚.70N×25˚.61E,h5km,ML2.9/14*
*THE **21** 12:03:58.1,39˚.68N×25˚.58E,h10km,ML2.8/4,Error*
ellipse: s-maj=1.0km s-min=0.4km az=53.0

ISC 21 12:03:57.6±1.0,39˚.70N±0˚.02×25˚.59E±0˚.02,h11km±9km,
n43,σ0°66/59,2C,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.37**	**302**	P	**Pb**	**12 04 05.7**	**-0.4**
LIA				S	**Sb**	**12 04 11.4**	**-0.5**
LIA				AML	AML	12 04 19.7	
	comp=E,2119μm,0.6s						
LIA				AML	AML	12 04 19.7	
	comp=N,1655μm,0.4s						
LIA	**Limnos Island**	**0.37**	**302**	P	**Pb**	**12 04 05.7**	**-0.4**
LIA				S	**Sb**	**12 04 11.1**	**-0.8**
BOZC	**Bozcaada**	**0.38**	**69**	PG	**Pg**	**12 04 04.9**	**-0.2**
BOZC				SG	**Sg**	**12 04 10.5**	**+0.3**
EFSA	**Agios Efstrati**	**0.49**	**251**	P	**Pb**	**12 04 08.9**	**+0.7**
EFSA				S	**Sb**	**12 04 16.5**	**+1.0**
EFSA				AML	AML	12 04 16.5	
	comp=N,3414μm,0.4s						
EFSA				AML	AML	12 04 18.2	
	comp=E,3967μm,0.4s						
SIGR	**SIGRI**	**0.53**	**157**	P	**Pg**	**12 04 07.6**	**-0.3**
SIGR				S	**Sb**	**12 04 15.9**	**-0.8**
SIGR				AML	AML	12 04 16.4	
	comp=E,3726μm,0.5s						
SIGR				AML	AML	12 04 16.5	
	comp=N,5607μm,0.4s						
SIGR	**SIGRI**	**0.53**	**157**	P	**Pg**	**12 04 07.8**	**-0.1**
SIGR				S	**Sg**	**12 04 15.7**	**+0.8**
GADA	**Gvkgeada**	**0.54**	**26**	PG	**Pg**	**12 04 08.2**	**+0.1**
EZN	**Ezine**	**0.58**	**78**	PG	**Pg**	**12 04 08.5**	**-0.3**
EZN				SG	**Sg**	**12 04 16.5**	**0.0**
PRK	**Paraskevi**	**0.70**	**131**	P	**Pb**	**12 04 11.9**	**+0.1**
PRK				S	**Sb**	**12 04 20.9**	**-0.4**
PRK	**Paraskevi**	**0.70**	**131**	P	**Pg**	**12 04 11.2**	**+0.1**
PRK				S	**Sb**	**12 04 21.4**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.74**	**87**	*i* P	**Pg**	**12 04 11.7**	**-0.1**
BAYC				*i* S	**Sb**	**12 04 22.5**	**-0.1**
SMTH	**Samothraki Isl**	**0.77**	**357**	P	**Pb**	**12 04 12.9**	**-0.2**
SMTH	**Samothraki Isl**	**0.77**	**357**	P	**Pb**	**12 04 12.8**	**-0.2**
AYVA	**Ayvalik**	**0.94**	**115**	*i* P	**Pb**	**12 04 15.9**	**+0.1**
AYVA				*i* S	**Sn**	**12 04 30.4**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.97**	**44**	PG	**Pb**	**12 04 16.2**	**-0.2**
GELI				SG	**Sb**	**12 04 29.5**	**+0.2**
LPK	**Lapseki**	**1.12**	**53**	PN	**Pn**	**12 04 19.5**	**+0.3**
SKY	**Skiros Island**	**1.15**	**225**	P	**Pb**	**12 04 18.9**	**-0.6**
ERIK	**Erikli-Kesan**	**1.20**	**36**	PN	**Pn**	**12 04 19.9**	**-0.4**
DKL	**Dikili**	**1.20**	**121**	PN	**Pg**	**12 04 20.5**	**-0.1**
ALN	**Alexandroupoli**	**1.24**	**16**	P	**Pg**	**12 04 21.2**	**-0.2**
ALN	**Alexandroupoli**	**1.24**	**16**	P	**Pn**	**12 04 20.7**	**-0.2**
CHOS	**Chios island**	**1.36**	**164**	P	**Pn**	**12 04 22.2**	**-0.5**
CHOS	**Chios island**	**1.36**	**164**	P	**Pn**	**12 04 22.2**	**-0.5**
CHOS				S	**Sb**	**12 04 40.2**	**-0.4**
OUR	**Ouranopolis**	**1.39**	**298**	P	**Pn**	**12 04 22.7**	**-0.2**
RDO	**Rodhopi**	**1.44**	**358**	PN	**Pn**	**12 04 23.1**	**-0.5**
KRBG	**Karabiga-Canak**	**1.48**	**62**	PN	**Pb**	**12 04 24.9**	**-0.2**
PAIG	**Paliouri**	**1.49**	**279**	P	**Pn**	**12 04 24.2**	**-0.1**
KAVA	**Kavala**	**1.53**	**328**	P	**Pn**	**12 04 25.0**	**+0.1**
KAVA				S	**Sn**	**12 04 44.5**	**-0.3**
KAVA	**Kavala**	**1.53**	**328**	P	**Pn**	**12 04 24.5**	**-0.4**
URLA	**Izmir**	**1.55**	**149**	PN	**Pn**	**12 04 25.1**	**-0.1**
BALY	**Balya**	**1.57**	**88**	IAML_P			
	comp=Z,1μm,0.3s						
BALY				*i* S	**Sg**	**12 04 47.5**	**-0.5**
GONE	**Gonen-Balikesi**	**1.65**	**77**	PN	**Pb**	**12 04 27.8**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.68**	**101**	IAML_P			
	comp=Z,766nm,0.3s						
STEP				*i* P	**Pb**	**12 04 27.9**	**-0.6**
STEP				*i* S	**Sg**	**12 04 50.4**	**-1.1**
BALB	**Balikesir**	**1.77**	**91**	PN	**Pn**	**12 04 28.4**	**+0.3**
MRMT	**Marmara Adasi**	**1.78**	**59**	PN	**Pb**	**12 04 29.9**	**-0.4**
EDC	**Edincik**	**1.86**	**69**	PN	**Pb**	**12 04 30.7**	**-0.9**
SBT4	**Kumbag-Tekirda**	**1.86**	**52**	PN	**Pb**	**12 04 31.1**	**-0.5**
DURS	**Dursunbey**	**2.23**	**92**	IAML_P			
	comp=Z,407nm,0.2s						
DURS				*i* P	**Pn**	**12 04 35.4**	**+0.8**
DURS				*i* S	**Sn**	**12 05 03.1**	**+0.9**
DEMI	**Demirci**	**2.51**	**104**	*i* P	**Pn**	**12 04 39.6**	**+1.2**
STIP	**Stip**	**3.26**	**309**	*i* Pn	**Pn**	**12 04 48.8**	**+0.1**
VTS	**Vitosha**	**3.40**	**329**	⇑*i*P	**Pg**	**12 05 01.0**	**-1.7**
VTS	**Vitosha**	**3.40**	**329**	S	**Sg**	**12 05 49.1**	**+2.4**
ARR	**Arges**	**5.70**	**353**	⇑*i*P	**Pb**	**12 05 38.8**	**+1.7**

KRNET 21 12:10:13.8±0.1,41˚.66N×76˚.10E,h8km,mb1.6,4C-2D,
Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**0.24**	**199**	⇑*e*P	Pg	12 10 19.1	+0.3
	baz=3.0						
NRN				⇑*i*S	Sg	12 10 22.6	+0.5
	baz=3.0						
ULHL	**Ulahol**	**0.59**	**10**	⇑*i*P	Pg	12 10 25.5	+0.2
	baz=10.0						
ULHL				⇑*i*S	Sg	12 10 33.1	0.0
	baz=10.0						
KZA	**Kyzart**	**0.76**	**303**	⇓*e*P	Pg	12 10 28.3	-0.2
	baz=3.0						
KZA				⇓*i*S	Sg	12 10 38.9	+0.4
	baz=3.0						

*IDC **21** 12:10:15.7±3.3,36˚.55N×71˚.19E,h47km±28km,mb3.6/6,*
mb1 3.8/13,mb1mx3.5/54,mbtmp3.9/13,ML3.7/6,Error
ellipse: s-maj=31.1km s-min=22.1km az=4.0

ISC 21 12:10:14.3±0.8,36˚.5N±0˚.1×71˚.16E±0˚.08,h35km,n24,
σ1°36/25,mb3.6/6,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.99**	**18**	P	**Pn**	**12 11 42.3**	**+1.4**
	SNR=16						
KZA	**Kyzart**	**6.44**	**28**	P	**Pn**	**12 11 49.3**	**+2.2**
	SNR=7.2						
EKS2	**Erkin-Say**	**6.51**	**17**	P	**Pn**	**12 11 49.8**	**+2.1**
	SNR=18						
AAK	**Ala-Archa**	**6.68**	**22**	P	**Pn**	**12 11 51.0**	**+0.9**
	1.9nm,0.3s,baz=147,slow=5.6,SNR=16						
GEYT	**Alibeck**	**10.51**	**282**	P	**Pn**	**12 12 44.7**	**+2.2**
	1.3nm,0.3s,baz=101,slow=15,SNR=5.7						
GEYT				S	**Sn**	**12 14 37.8**	**-1.1**
	2.1nm,0.3s,baz=118,slow=15,SNR=4.1						
PYUN	**Piuthan**	**13.02**	**126**	*e*P	**P**	**12 13 25.2**	**-1.7**
	10.0nm,0.4s						
MKAR	**Makanchi Array**	**13.25**	**35**	P	**Pn**	**12 13 19.8**	**-0.1**
	0.1nm,0.3s,baz=222,slow=15,SNR=8.3						
DANN	**Dangsing**	**13.36**	**124**	*e*P	**P**	**12 13 29.9**	**-0.9**
	15nm,0.5s						
KOLN	**Koldanda**	**13.64**	**126**	*e*P	**P**	**12 13 33.7**	**-0.1**
	16nm,0.7s						
DMN	**Daman**	**14.74**	**123**	*e*P	**P**	**12 13 46.6**	**+0.4**
KKN	**Kakani**	**14.75**	**122**	*e*P	**P**	**12 13 47.0**	**+0.8**
GUN	**Gumba**	**15.09**	**120**	*e*P	**P**	**12 13 51.1**	**+1.0**
KURBB	**Kurchatov Arra**	**15.12**	**18**	P	**Pn**	**12 13 44.6**	**-0.5**
	0.0nm,0.3s,baz=207,slow=11,SNR=4.6						
JIRN	**Jiri**	**15.46**	**120**	*e*P	**P**	**12 13 56.0**	**+1.8**
	33nm,0.6s						
RAMN	**Ramite**	**16.18**	**122**	*e*P	**P**	**12 14 04.3**	**+2.1**
	21nm,0.5s						
BVAR	**Borovoye Array**	**16.57**	**358**	P	**Pn**	**12 14 03.0**	**-0.8**
	0.3nm,0.3s,baz=167,slow=11,SNR=6.8						
AKTO	**Aktyubinsk**	**16.88**	**330**	P	**Pn**	**12 14 07.2**	**-0.5**
	1.5nm,0.3s,baz=133,slow=10,SNR=24						
ZALV	**Zalesovo Beam**	**19.90**	**24**	P	**P**	**12 14 40.0**	**-2.5**
	0.4nm,0.3s,baz=214,slow=12,SNR=6.3						
BRTR	**Keskin Array B**	**29.57**	**288**	P	**P**	**12 16 14.7**	**-1.2**
	0.6nm,0.8s,baz=93,slow=9.4,SNR=2.0						
FINES	**FINESS Array B**	**37.59**	**326**	P	**P**	**12 17 25.1**	**0.0**
	2.8nm,0.9s,baz=118,slow=8.4,SNR=8.3						
ARCES	**ARCESS Array B**	**41.23**	**338**	P	**P**	**12 17 55.5**	**+0.1**
	5.0nm,1.0s,baz=117,slow=11,SNR=4.9						
NOA	**NORSAR Array B**	**44.49**	**323**	P	**P**	**12 18 21.7**	**-0.3**
	0.5nm,0.6s,baz=115,slow=7.9,SNR=2.4						
YKA	**Yellowknife Ar**	**81.28**	**3**	P	**P**	**12 22 26.2**	**-0.3**
	0.2nm,0.3s,baz=352,slow=5.0,SNR=6.4						
WRA	**Warramunga Arr**	**81.86**	**122**	P	**P**	**12 22 30.4**	**+0.2**
	0.5nm,1.1s,baz=327,slow=4.9,SNR=2.8						

*IDC **21** 12:11:12.1±3.5,36˚.12N×70˚.98E,h193km±32km,mb3.3/13,*
mb1 3.5/18,mb1mx3.3/53,mbtmp4.0/18,Error ellipse:
s-maj=22.6km s-min=12.4km az=26.0
*ISCJB **21** 12:11:16.2±0.4,36˚.40N±0˚.04×71˚.24E±0˚.08,h250km,*
mb3.5/12,Error ellipse: s-maj=8.8km s-min=4.9km
az=162.8

ISC 21 12:11:16.9±0.5,36˚.38N±0˚.06×71˚.26E±0˚.08,h250km,n39,
σ1°80/41,mb3.5/12,1D,Afghanistan-Tajikistan border
region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.60**	**168**	⇓P	**Pn**	**12 12 05.0**	**-0.5**
CEP				S	**S**	**12 12 40.0**	**-3.8**
CHCP	**Chirah Chowk**	**3.17**	**148**	P	**Pn**	**12 12 11.8**	**+0.4**
THW	**Thamme Wali**	**3.60**	**174**	P	**Pn**	**12 12 16.0**	**-0.2**
SARP	**Sargodha**	**4.60**	**165**	P	**Pn**	**12 12 27.4**	**-0.5**
UCH	**Uchtor**	**6.36**	**22**	P	**Pn**	**12 12 48.8**	**-1.1**
	SNR=20						
AAK	**Ala-Archa**	**6.73**	**21**	P	**Pn**	**12 12 53.2**	**-1.0**
	11nm,0.3s,baz=262,slow=1.4,SNR=34						
AAK				S	**S**	**12 14 08.1**	**-4.1**
	2.9nm,0.3s,baz=318,slow=24,SNR=19						
AAK	**Ala-Archa**	**6.73**	**21**	P	**Pn**	**12 12 53.6**	**-0.6**
	SNR=19						
KBK	**Karagaybulak**	**6.88**	**23**	P	**Pn**	**12 12 55.6**	**-0.6**
	SNR=6.0						
ULHL	**Ulahol**	**7.01**	**32**	P	**Pn**	**12 12 56.5**	**-1.3**
	SNR=15						
CHMS	**Chumysh**	**7.13**	**21**	P	**Pn**	**12 12 58.8**	**-0.4**
	SNR=13						
TKM2	**Tokmak 2**	**7.34**	**26**	P	**Pn**	**12 13 01.1**	**-0.8**
	SNR=9.8						
PYUN	**Piuthan**	**12.90**	**126**	*e*P	**P**	**12 14 12.3**	**-1.5**
	24nm,0.3s						
DANN	**Dangsing**	**13.24**	**124**	*e*P	**P**	**12 14 17.1**	**-0.6**
	28nm,0.3s						
MKAR	**Makanchi Array**	**13.27**	**35**	P	**P**	**12 14 15.9**	**-1.5**
	0.3nm,0.3s,baz=214,slow=11,SNR=8.1						
KOLN	**Koldanda**	**13.52**	**126**	*e*P	**P**	**12 14 20.2**	**-0.4**
	15nm,0.3s						
DMN	**Daman**	**14.63**	**123**	*e*P	**Pn**	**12 14 34.2**	**+1.2**
	23nm,0.3s						
KKN	**Kakani**	**14.63**	**122**	*e*P	**Pn**	**12 14 33.9**	**+0.9**
	68nm,0.5s						
PKIN	**Phulchoki**	**14.85**	**122**	*e*P	**Pn**	**12 14 36.1**	**+0.5**
	43nm,0.4s						
GUN	**Gumba**	**14.97**	**120**	*e*P	**Pn**	**12 14 38.1**	**+0.9**
	39nm,0.4s						
KURBB	**Kurchatov Arra**	**15.17**	**18**	P	**Pn**	**12 14 39.7**	**+0.8**
	0.1nm,0.3s,baz=196,slow=11,SNR=3.6						
JIRN	**Jiri**	**15.35**	**120**	*e*P	**Pn**	**12 14 40.9**	**-0.7**
	52nm,0.4s						
RAMN	**Ramite**	**16.07**	**121**	*e*P	**Pn**	**12 14 48.5**	**-1.7**
	37nm,0.6s						
BVAR	**Borovoye Array**	**16.66**	**358**	P	**Pn**	**12 14 56.6**	**+0.2**
	1.9nm,0.3s,baz=169,slow=11,SNR=24						
AKTO	**Aktyubinsk**	**16.99**	**330**	P	**Pn**	**12 14 59.9**	**-0.5**
	1.9nm,0.3s,baz=138,slow=11,SNR=20						
ZALV	**Zalesovo Beam**	**19.94**	**24**	P	**Pn**	**12 15 31.9**	**-3.0**
	0.9nm,0.3s,baz=209,slow=11,SNR=2.3						
SONM	**Songino Array**	**28.23**	**55**	P	**P**	**12 16 49.9**	**+3.1**
	0.2nm,0.4s,baz=245,slow=6.6,SNR=2.5						
BRTR	**Keskin Array B**	**29.67**	**288**	P	**P**	**12 16 58.6**	**-1.1**
	0.6nm,0.7s,baz=102,slow=12,SNR=3.6						
CMAR	**Chiang Mai Arr**	**30.21**	**119**	P	**P**	**12 17 06.5**	**+2.0**
	0.6nm,0.6s,baz=306,slow=9.8,SNR=4.8						
AKASG	**Malin Array Be**	**33.19**	**309**	P	**P**	**12 17 30.1**	**+0.1**
	1.2nm,0.6s,baz=77,slow=7.3,SNR=6.8						
FINES	**FINESS Array B**	**37.70**	**326**	P	**P**	**12 18 09.9**	**+1.7**
	1.4nm,0.4s,baz=122,slow=10,SNR=8.6						
ARCES	**ARCESS Array B**	**41.34**	**338**	P	**P**	**12 18 39.9**	**+1.9**
	2.0nm,0.5s,baz=115,slow=8.2,SNR=8.1						
NB2	**NORSAR Subarra**	**44.60**	**323**	P	**P**	**12 19 05.2**	**+1.0**
	comp=Z,1.2nm,0.5s,baz=100,slow=7.9						
NOA	**NORSAR Array B**	**44.60**	**323**	P	**P**	**12 19 05.4**	**+1.1**
	comp=Z,0.2nm,0.2s,baz=146,slow=4.2,SNR=4.3						
SPITS	**Spitsbergen Ar**	**47.66**	**347**	P	**P**	**12 19 30.2**	**+2.6**
	comp=Z,7.0nm,0.8s,baz=104,slow=14,SNR=4.0						
TORD	**Torodi Ar. Bea**	**65.93**	**269**	P	**P**	**12 21 35.4**	**-1.1**
	comp=Z,1.2nm,0.4s,baz=49,slow=5.9,SNR=11						
YKA	**Yellowknife Ar**	**81.35**	**3**	P	**P**	**12 23 07.5**	**+2.3**
	comp=Z,0.4nm,0.6s,baz=350,slow=5.7,SNR=5.2						
WRA	**Warramunga Arr**	**81.75**	**122**	P	**P**	**12 23 09.5**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=326,slow=5.1,SNR=14						
ASAR	**Alice Springs**	**84.01**	**125**	P	**P**	**12 23 21.3**	**+1.8**
	comp=Z,0.8nm,0.8s,baz=316,slow=4.6,SNR=11						
PLCA	**Paso Flores**	**149.98**	**250**	PKPbc	**PKPab**	**12 30 39.6**	**-4.7**
	comp=Z,2.5nm,1.1s,baz=345,slow=3.2,SNR=3.8						

*IDC **21** 12:23:39.9±1.4,29˚.41N×130˚.35E,h0km,mb3.8/11,*
mb1 3.8/15,mb1mx3.7/45,mbtmp3.7/15,ML3.0/4,MS3.1/2,
Ms1 3.1/2,ms1mx2.6/51,Error ellipse: s-maj=31.3km
s-min=23.0km az=147.0
*ISCJB **21** 12:23:43.3±0.6,29˚.22N±0˚.04×130˚.62E±0˚.07,h57km±4km,*
mb3.8/13,MS3.5/1,Error ellipse: s-maj=10.6km
s-min=4.6km az=23.3
*NEIC **21** 12:23:44.5±0.8,29˚.31N×130˚.39E,h37km±8km,mb4.4/2,*
Error ellipse: s-maj=14.5km s-min=7.9km az=131.0
*JMA **21** 12:23:44.0±0.1,29˚.27N×130˚.53E,h63km,M3.3*

ISC 21 12:23:44.1±1.1,29˚.21N±0˚.04×130˚.59E±0˚.07,h46km±11km,
n43,σ0°99/48,mb3.9/13,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.88**	**315**	P	**Pn**	**12 23 59.6**	**-0.6**
JNN				*e*S	**Sn**	**12 24 11.6**	**-0.3**
JYAK	**Yakushimahirau**	**1.03**	**356**	P	**Pn**	**12 24 01.6**	**-0.5**
JYAK				*e*S	**Sn**	**12 24 16.2**	**+0.9**
JZK	**Kikaishima**	**1.04**	**211**	P	**Pn**	**12 24 03.6**	**+1.3**
JAM	**Amami Oshima**	**1.18**	**228**	P	**Pn**	**12 24 04.6**	**+0.5**
JAM				*e*S	**Sn**	**12 24 20.9**	**+2.0**
JMTN	**Minamitane**	**1.21**	**13**	P	**Pn**	**12 24 04.5**	**-0.1**
JTAJ	**Takarajima**	**1.21**	**268**	P	**Pn**	**12 24 04.8**	**+0.2**
JKC	**Kuchinoerabu**	**1.29**	**345**	P	**Pn**	**12 24 06.1**	**+0.4**
JKC				*e*S	**Sn**	**12 24 22.9**	**+1.1**
JTN	**Tanegashima 3**	**1.48**	**13**	P	**Pn**	**12 24 08.1**	**-0.2**
JAMN	**Amaminishikomi**	**1.57**	**233**	P	**Pn**	**12 24 09.9**	**+0.4**
JTSR	**Tashiro 2**	**1.97**	**8**	P	**Pn**	**12 24 15.1**	**+0.1**
JTSR				*e*S	**Sn**	**12 24 39.1**	**+0.5**
JTK	**Tokunoshima**	**2.02**	**226**	P	**Pn**	**12 24 16.1**	**+0.4**

STKA				LR	LR	12 44 04.3		
	comp=Z,79nm,18.8s,baz=25,slow=40							
STKA	**Stephens Creek**	**25.84**	**189**	*e*P	**P**	**12 32 25.7**	**-1.0**	
	0.6nm,1.1s							
LEM	**Lembang**	**38.30**	**267**	LR	LR	12 52 36.6		
	comp=Z,31nm,19.1s,baz=271,slow=40							
KSRS	**Korea Array**	**46.71**	**340**	P	P	12 35 21.9	-2.0	
	1.3nm,0.8s,baz=159,slow=8.5,SNR=3.3							
KSRS				LR	LR	12 52 25.9		
	comp=Z,26nm,20.9s,baz=195,slow=33							
KSAR	**Wonju Array Be**	**46.71**	**340**	P	P	12 35 21.9	-2.0	
USRK	**Ussuriysk Ar.**	**51.84**	**347**	P	**P**	**12 36 01.5**	**-1.5**	
	0.6nm,0.5s,baz=166,slow=7.0,SNR=2.8							
CM01	**Chiang Mai Arr**	**52.62**	**299**	*e*P	**P**	**12 36 09.0**	**-0.4**	
CMAR	**Chiang Mai Arr**	**52.65**	**299**	P	**P**	**12 36 10.9**	**+1.3**	
	0.7nm,0.5s,baz=112,slow=6.1,SNR=3.9							
PETK	**Petropavlovsk-**	**59.95**	**8**	P	**P**	**12 37 00.2**	**-0.8**	
	5.5nm,1.0s,baz=217,slow=9.1,SNR=3.0							
PEA1	**Petropavlovsk-**	**59.95**	**8**	*e*P	**P**	**12 37 00.2**	**-0.8**	
SONA0	**Songino Array**	**64.24**	**331**	*e*P	**P**	**12 37 30.1**	**+0.1**	
SONM	**Songino Array**	**64.24**	**331**	P	**P**	**12 37 30.1**	**+0.1**	
	0.1nm,0.3s,baz=151,slow=3.3,SNR=3.5							
MK01	**Makanchi Array**	**77.16**	**321**	*e*P	**P**	**12 38 46.9**	**-1.7**	
MK32	**Makanchi Array**	**77.18**	**321**	*e*P	**P**	**12 38 48.6**	**-0.1**	
MKAR	**Makanchi Array**	**77.18**	**321**	P	**P**	**12 38 48.6**	**-0.1**	
	0.1nm,0.3s,baz=94,slow=5.8,SNR=3.3							
QSPA	**South Pole Qui**	**83.70**	**180**	*e*P	**P**	**12 39 21.3**	**-2.2**	
	9.8nm,1.6s							
ILAR	**Eielson Array**	**86.05**	**23**	P	P	12 39 31.4	-3.8	
	0.7nm,0.6s,baz=254,slow=4.9,SNR=16							
ILB	**Eielson Array**	**86.05**	**23**	*e*P	P	12 39 32.3	-2.8	
TORD	**Torodi Ar. Bea**	**144.36**	**284**	PKP	**PKPab**	**12 46 29.9**	**-0.1**	
	1.2nm,0.8s,baz=56,slow=3.1,SNR=7.1							
TOA1	**Torodi Ar. Sit**	**144.36**	**284**	*e*PKPdf	**PKPab**	**12 46 29.9**	**-0.1**	
DBIC	**Dimbokro**	**151.21**	**272**	PKPbc	**PKPbc**	**12 46 50.1**	**+0.9**	
	2.2nm,0.7s,baz=96,slow=6.1,SNR=4.3							

IDC 21 12:44:39.4±1.5, 0.73N×124.68E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.6/40, mbtmp3.8/5, ML4.0/1, Error ellipse: s-maj=112.8km s-min=22.2km az=65.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
FITZ	**Fitzroy Crossi**	**18.73**	**177**	P		P		12 48 57.9	-1.9
	0.3nm,0.3s,baz=7.1,slow=9.4,SNR=16								
WRA	**Warramunga Arr**	**22.62**	**156**	P		P		12 49 42.8	+0.7
	1.6nm,0.5s,baz=337,slow=10,SNR=25								
ASAR	**Alice Springs**	**25.85**	**160**	P		P		12 50 12.8	-0.1
	0.8nm,0.4s,baz=335,slow=8.4,SNR=40								
STKA	**Stephens Creek**	**36.17**	**155**	P		P		12 51 43.9	+0.1
	0.7nm,0.4s,baz=324,slow=9.3,SNR=3.5								
MKAR	**Makanchi Array**	**58.90**	**327**	P		P		12 54 40.4	+0.1
	0.3nm,0.4s,baz=129,slow=7.5,SNR=8.1								

MEX 21 12:45:32.8±0.9, 17.41N×100.46W, h6km±13km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CAIG	**El Cayaco**	**0.40**	**152**	*i* P		Pg		12 45 40.1	-0.5
CAIG				*i* S		Sg		12 45 46.7	+0.8
ARIG	**Puente Sto Nin**	**0.88**	**7**	*e*P		Pg		12 45 47.9	-1.8
ARIG				*i* S		Sg		12 46 00.2	-0.8
MEIG	**Mezcala**	**0.95**	**57**	*e*P		Pg		12 45 48.5	-2.7
MEIG				*i* S		Sg		12 46 01.4	-2.1
ZIIG	**Zihuatanejo**	**0.98**	**282**	*e*P		Pg		12 45 49.1	-2.5
ZIIG				*e*S		Sg		12 46 01.6	-2.7
PLIG	**Platanillo**	**1.34**	**43**	*e*P		Pn		12 45 53.4	-3.9
PLIG				*i* S		Sb		12 46 10.5	-5.4

IDC 21 13:04:45.3±1.7, 1.10N×124.14E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/26, mbtmp3.6/3, Error ellipse: s-maj=188.8km s-min=24.1km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**23.18**	**155**	P		P		13 09 54.3	+0.6
	1.4nm,0.5s,baz=333,slow=11,SNR=22								
ASAR	**Alice Springs**	**26.38**	**160**	P		P		13 10 23.0	-0.6
	0.2nm,0.5s,baz=349,slow=8.5,SNR=3.6								
MKAR	**Makanchi Array**	**58.30**	**327**	P		P		13 14 42.0	0.0
	0.6nm,0.4s,baz=124,slow=8.1,SNR=8.4								

IDC 21 13:21:31.3±8.9, 18.92S×179.47W, h672km±128km, mb3.2/9, mb1 3.5/9, mb1mx3.1/31, mbtmp4.2/9, Error ellipse: s-maj=71.6km s-min=38.2km az=175.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CTA	**Charters Tower**	**32.30**	**262**	P		P		13 27 09.8	+0.6
	5.3nm,0.4s,baz=88,slow=9.5,SNR=13								
STKA	**Stephens Creek**	**37.27**	**242**	P		P		13 27 49.9	0.0
	2.1nm,0.3s,baz=82,slow=9.8,SNR=14								
WRA	**Warramunga Arr**	**43.47**	**261**	P		P		13 28 38.3	-0.6
	2.8nm,0.4s,baz=97,slow=8.4,SNR=11								
ASAR	**Alice Springs**	**43.56**	**255**	P		P		13 28 39.5	0.0
	5.1nm,0.5s,baz=87,slow=8.9,SNR=24								
NVAR	**Mina Array Bea**	**80.84**	**44**	P		P		13 32 38.4	+0.3
	1.1nm,0.7s,baz=220,slow=8.5,SNR=8.7								
ILAR	**Eielson Array**	**87.09**	**13**	P		P		13 33 06.6	-1.1
	0.4nm,0.6s,baz=214,slow=5.6,SNR=6.0								
TXAR	**Lajitas Array**	**87.38**	**58**	P		P		13 33 10.4	+0.4
	0.7nm,0.7s,baz=220,slow=5.8,SNR=12								
PDAR	**Pinedale Array**	**88.77**	**44**	P		P		13 33 16.1	-0.2
	0.6nm,0.6s,baz=170,slow=4.5,SNR=4.3								
SONM	**Songino Array**	**93.66**	**320**	P		P		13 33 39.5	+0.9
	0.2nm,0.4s,baz=114,slow=6.5,SNR=2.3								

*ISCJB **21** 13:23:42.5±0.4, 13.23S±0.04×123.14E±0.06, h10km, mb3.8/4, Error ellipse: s-maj=8.4km s-min=4.8km az=165.1*
*NEIC **21** 13:23:44.4±0.3, 13.21S×123.07E, h10km, mb4.5/3, Error ellipse: s-maj=7.8km s-min=5.2km az=62.0*
*IDC **21** 13:23:44.0±1.0, 13.08S×123.19E, h0km, mb3.9/5, mb1 4.2/9, mb1mx3.9/39, mbtmp4.1/9, ML4.0/4, MS2.6/2, Ms1 2.6/2, ms1mx2.5/33, Error ellipse: s-maj=41.0km s-min=18.3km az=77.0*
ISC 21 13:23:44.0±0.7, 13.22S±0.05×123.15E±0.08, h10km, n32, σ1s77/32, mb3.9/4, Northwest of Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
BATI	**Baumata**	**3.04**	**10**	Pn		**Pn**		**13 24 33.3**	**+1.1**
	35nm,0.3s,baz=184,slow=2.4,SNR=49								
BATI				Sn		**Sn**		**13 25 08.1**	**-0.7**
	29nm,0.3s,baz=313,slow=24,SNR=32								
BATI				LR		LR		13 26 20.2	
	comp=Z,145nm,19.4s,baz=52,slow=54								
SOEI	**Soe**	**3.62**	**18**	*e*Pn		**Pn**		**13 24 41.8**	**+1.6**
MMRI	**Maumere**	**4.64**	**349**	*e*Pn		**Pn**		**13 24 53.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**5.41**	**154**	Pn		**Pn**		**13 25 08.4**	**+3.6**
	3.9nm,0.3s,baz=344,slow=9.9,SNR=108								
FITZ				Sn		**Sn**		**13 26 08.1**	**+0.9**
	17nm,0.3s,baz=233,slow=21,SNR=24								
FITZ				LR		LR		13 27 37.8	
	comp=Z,42nm,18.1s,baz=240,slow=42								
FITZ	**Fitzroy Crossi**	**5.41**	**154**	*e*Pn		**Pn**		**13 25 07.9**	**+3.1**
FITZ				*e*Sn		**Sn**		**13 26 07.4**	**+0.3**
MBWA	**Marble Bar**	**8.54**	**202**	*e*Pn		**Pn**		**13 25 49.3**	**+1.5**
JAGI	**Jajag, Banyuwa**	**10.02**	**297**	*e*Pn		**Pn**		**13 26 04.7**	**-3.4**
GIRL	**Giralia**	**12.63**	**221**	*e*Pn		**Pn**		**13 26 43.8**	**-0.1**
WR1	**Warramunga Arr**	**12.63**	**123**	*e*Pn		**Pn**		**13 26 44.6**	**+0.7**
WR1				*e*Sn		Sn		13 28 55.6	-9.3
WRA	**Warramunga Arr**	**12.63**	**123**	Pn		**Pn**		**13 26 44.6**	**+0.7**
	0.6nm,0.3s,baz=300,slow=13,SNR=52								
WRA				Sn		Sn		13 28 55.6	-9.3
	2.8nm,0.3s,baz=300,slow=23,SNR=12								
WRAB	**Tennant Creek**	**12.64**	**123**	*e*Pn		**Pn**		**13 26 44.8**	**+0.7**
WB2	**Warramunga Arr**	**12.64**	**123**	*e*Pn		**Pn**		**13 26 44.7**	**+0.6**
FAKI	**Fak Fak**	**13.63**	**42**	*e*Pn		**Pn**		**13 26 57.4**	**-0.2**
AS31	**Alice Springs**	**14.55**	**137**	*e*Pn		**Pn**		**13 27 10.8**	**+0.6**
ASAR	**Alice Springs**	**14.55**	**137**	Pn		**Pn**		**13 27 11.3**	**+1.2**
	0.5nm,0.3s,baz=315,slow=12,SNR=34								
ASAR				Sn		**Sn**		**13 29 45.5**	**-6.1**
	0.9nm,0.3s,baz=315,slow=25,SNR=23								
AS01	**Alice Springs**	**14.58**	**137**	*e*Pn		**Pn**		**13 27 11.7**	**+1.0**
CISI	**Cisompet, Garu**	**16.09**	**289**	*e*Pn		**Pn**		**13 27 29.6**	**-1.0**
	87nm,1.4s								
MORW	**Morawa**	**17.09**	**202**	*e*Pn		**Pn**		**13 27 42.8**	**-0.4**
	91nm,2.0s								
FORT	**Forrest**	**18.05**	**166**	*e*Pn		**Pn**		**13 27 55.5**	**+0.4**
	21nm,0.9s								
NWAO	**Narrogin (SRO)**	**20.34**	**194**	P		Pn		13 28 24.6	+1.9
	16nm,1.1s,baz=274,slow=14,SNR=4.3								
H08S2	**Diego Garcia H**	**50.06**	**271**	T		T		14 26 08.5	
	baz=100,slow=76,SNR=22								
H08S3	**Diego Garcia H**	**50.07**	**271**	T		T		14 26 11.4	
	baz=100,slow=76,SNR=22								
H08S1	**Diego Carcia H**	**50.08**	**271**	T		T		14 26 09.7	
	baz=100,slow=76,SNR=18								
SONA0	**Songino Array**	**62.59**	**347**	*e*P		**P**		**13 34 09.6**	**+1.1**
SONM	**Songino Array**	**62.59**	**347**	P		**P**		**13 34 09.6**	**+1.1**
	1.2nm,0.9s,baz=169,slow=8.2,SNR=5.9								
MK32	**Makanchi Array**	**70.07**	**331**	*e*P		**P**		**13 34 57.0**	**+0.7**
MKAR	**Makanchi Array**	**70.07**	**331**	P		**P**		**13 34 57.0**	**+0.7**
	0.7nm,0.7s,baz=141,slow=7.8,SNR=6.0								
ZALV	**Zalesovo Beam**	**74.44**	**338**	P		**P**		**13 35 22.6**	**+0.4**
	0.9nm,0.6s,baz=129,slow=4.0,SNR=6.0								
ZALV	**Zalesovo Beam**	**74.44**	**338**	*e*P		**P**		**13 35 21.6**	**-0.6**
ZAA1	**Zalesovo Array**	**74.44**	**338**	*e*P		**P**		**13 35 22.6**	**+0.3**
KURBB	**Kurchatov Arra**	**74.55**	**332**	P		**P**		**13 35 23.8**	**+0.8**
	0.3nm,0.5s,baz=148,slow=4.3,SNR=3.4								
KURK	**Kurchatov**	**74.58**	**332**	*e*P		**P**		**13 35 23.8**	**+0.7**

*IDC **21** 13:24:33.0±0.7, 30.17N×132.01E, h0km, mb3.7/14, mb1 3.9/18, mb1mx3.8/44, mbtmp3.7/18, ML3.2/4, MS3.0/6, Ms1 3.0/6, ms1mx2.8/40, Error ellipse: s-maj=19.7km s-min=15.7km az=93.0*
*JMA **21** 13:24:35.3±0.2, 30.14N×132.10E, h47km, M3.8*
ISC 21 13:24:34.5±3.3, 30.16N±0.05×132.05E±0.05, h12km±21km, n34, σ1s21/44, mb3.7/14, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JMTN	**Minamitane**	**1.02**	**283**	P		**Pb**		**13 24 54.2**	**0.0**
JMTN				*e*S		**Sn**		**13 25 09.0**	**0.0**
JTN	**Tanegashima 3**	**1.05**	**298**	P		**Pb**		**13 24 54.5**	**-0.1**
JTN				*e*S		**Sn**		**13 25 09.2**	**-0.4**
JYAK	**Yakushimahirau**	**1.34**	**274**	P		**Pn**		**13 24 58.5**	**-0.5**
JYAK				*e*S		**Sb**		**13 25 15.1**	**-1.5**
JTSR	**Tashiro 2**	**1.40**	**316**	P		**Pn**		**13 24 59.6**	**-0.3**
JTSR				*e*S		**Sn**		**13 25 16.6**	**-1.6**
JNAR	**Kushima--Naru**	**1.52**	**334**	P		**Pn**		**13 25 01.6**	**+0.1**
JNAR				*e*S		**Sn**		**13 25 20.1**	**-1.0**
JKC	**Kuchinoerabu**	**1.63**	**281**	P		**Pn**		**13 25 03.1**	**0.0**
JKC				*e*S		**Sn**		**13 25 24.1**	**+0.1**
JNN	**Nakanoshima**	**1.92**	**261**	P		**Pn**		**13 25 07.1**	**+0.1**
JNN				*e*S		**Sn**		**13 25 30.7**	**-0.3**
JTZ	**Takazaki**	**1.92**	**335**	P		**Pn**		**13 25 07.2**	**+0.1**
JTZ				S		**Sn**		**13 25 30.3**	**-0.8**
JSJ	**Shimokoshiki**	**2.51**	**308**	P		**Pn**		**13 25 13.9**	**-1.3**
JSJ				S		**Sn**		**13 25 43.3**	**-2.5**
JTAJ	**Takarajima**	**2.68**	**249**	P		**Pn**		**13 25 17.7**	**+0.3**
JAM	**Amami Oshima**	**2.76**	**231**	P		**Pn**		**13 25 17.9**	**-0.7**
JTO	**Tosashimizu**	**2.76**	**13**	P		**Pn**		**13 25 17.5**	**-1.2**
UWA2	**Uwa jima 2**	**3.08**	**9**	P		**Pn**		**13 25 22.4**	**-0.6**
UWA2				S		**Sn**		**13 25 54.9**	**-4.9**
JNU	**Nakatsue**	**3.12**	**342**	Pn		**Pn**		**13 25 24.3**	**+0.8**
	5.1nm,0.3s,baz=16,slow=4.6,SNR=42								
JNU				Sn		**Sn**		**13 26 00.4**	**-0.3**
	9.0nm,0.3s,baz=355,slow=17,SNR=9.9								
JNU				LR		LR		13 26 49.6	
	comp=Z,83nm,20.8s,baz=122,slow=44								
JAMN	**Amaminishikomi**	**3.16**	**233**	P		**Pn**		**13 25 23.6**	**-0.5**
JOW	**Kunigami**	**4.70**	**226**	Pn		**Pn**		**13 25 44.4**	**-0.9**
	2.6nm,0.3s,baz=273,slow=17,SNR=30								
JOW				Sn		**Sn**		**13 26 36.8**	**-2.9**
	4.3nm,0.3s,baz=84,slow=25,SNR=6.6								
JHJ	**Hachijo jima 2**	**7.22**	**64**	LR		LR		13 28 38.6	
	comp=Z,153nm,20.7s,baz=43,slow=34								
KSRS	**Korea Array**	**8.04**	**336**	LR		LR		13 29 54.7	
	comp=Z,68nm,21.0s,baz=140,slow=40								
MJAR	**Matsushiro Arr**	**8.18**	**37**	Pn		**Pn**		**13 26 34.0**	**+0.9**
	0.1nm,0.3s,baz=262,slow=11,SNR=8.0								
MJAR				LR		LR		13 29 28.1	
	comp=Z,90nm,19.3s,baz=235,slow=36								
KLR	**Kul'dur**	**19.05**	**359**	P		**P**		**13 28 57.0**	**+0.6**
	0.1nm,0.3s,baz=158,slow=8.6,SNR=11								
SONM	**Songino Array**	**26.44**	**319**	P		**P**		**13 30 11.2**	**-0.1**
	0.3nm,0.5s,baz=129,slow=9.5,SNR=2.8								
CMAR	**Chiang Mai Arr**	**32.23**	**256**	P		**P**		**13 31 02.5**	**-0.4**
	0.7nm,0.6s,baz=53,slow=8.2,SNR=5.3								
CMAR				LR		LR		13 45 19.5	
	comp=Z,16nm,19.9s,baz=335,slow=39								
MKAR	**Makanchi Array**	**41.61**	**308**	P		**P**		**13 32 21.8**	**-0.6**
	0.2nm,0.6s,baz=96,slow=8.8,SNR=3.3								
MKAR				LR		LR		13 50 21.9	
	comp=Z,73nm,21.1s,baz=330,slow=37								
KURBB	**Kurchatov Arra**	**44.49**	**313**	P		**P**		**13 32 47.0**	**+1.4**
	0.5nm,0.7s,baz=97,slow=8.6,SNR=2.7								
WRA	**Warramunga Arr**	**49.87**	**177**	P		**P**		**13 33 28.2**	**+0.4**
	1.3nm,1.0s,baz=356,slow=7.8,SNR=2.5								
ASAR	**Alice Springs**	**53.55**	**178**	P		**P**		**13 33 56.4**	**+1.1**
	0.8nm,0.9s,baz=9.1,slow=12,SNR=4.0								
ILAR	**Eielson Array**	**59.38**	**29**	P		**P**		**13 34 36.5**	**+0.1**
	0.6nm,0.9s,baz=266,slow=8.1,SNR=6.2								
KBZ	**Khabaz**	**69.29**	**309**	P		**P**		**13 35 42.0**	**+0.3**
	1.9nm,0.9s,baz=153,slow=6.8,SNR=3.1								
FINES	**FINESS Array B**	**71.10**	**331**	P		**P**		**13 35 53.6**	**+1.2**
	2.2nm,0.9s,baz=54,slow=9.7,SNR=5.1								
YKA	**Yellowknife Ar**	**73.53**	**26**	P		**P**		**13 36 07.3**	**+0.4**
	0.6nm,0.9s,baz=305,slow=5.7,SNR=6.5								
AKASG	**Malin Array Be**	**74.72**	**320**	P		**P**		**13 36 14.0**	**-0.1**
	0.2nm,0.3s,baz=56,slow=6.1,SNR=3.0								
BRTR	**Keskin Array B**	**77.26**	**309**	P		**P**		**13 36 29.0**	**0.0**
	0.8nm,0.9s,baz=76,slow=6.1,SNR=4.1								
NVAR	**Mina Array Bea**	**85.37**	**48**	P		**P**		**13 37 12.4**	**+0.3**
	1.2nm,0.7s,baz=306,slow=5.2,SNR=11								
PDAR	**Pinedale Array**	**87.99**	**40**	P		**P**		**13 37 25.3**	**+0.3**
	0.3nm,0.7s,baz=274,slow=4.4,SNR=3.2								

*ISCJB **21** 13:30:12.1±0.6, 4.90S±0.06×153.88E±0.09, h105km, mb4.1/13, Error ellipse: s-maj=14.5km s-min=6.6km az=28.4*
*NEIC **21** 13:30:13.1±1.1, 4.89S×153.89E, h101km±8km, mb4.2/5, Error ellipse: s-maj=16.4km s-min=6.2km az=108.0*
*IDC **21** 13:30:14.7±4.7, 4.95S×153.89E, h114km±38km, mb3.8/10, mb1 4.1/11, mb1mx3.8/28, mbtmp4.3/11, MS3.2/3, Ms1 3.1/3, ms1mx2.8/30, Error ellipse: s-maj=38.0km s-min=17.9km az=103.0*
ISC 21 13:30:13.7±0.8, 4.87S±0.10×153.9E±0.1, h105km, n44, σ0s73/46, mb4.4/18, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
RABL	**Rabaul**	**1.82**	**292**	*e*Pn		**Pn**		**13 30 43.2**	**-1.0**
MANU	**Manus Island**	**7.07**	**293**	*e*Pn		**Pn**		**13 31 53.5**	**-1.1**
HNR	**Honiara**	**7.55**	**127**	LR		LR		13 35 20.9	
	comp=Z,69nm,20.6s,baz=344,slow=41								
PMG	**Port Moresby**	**8.04**	**235**	P		**Pn**		**13 32 08.9**	**+1.1**
	28nm,0.3s,baz=36,slow=4.9,SNR=66								
PMG				S		**Sn**		**13 33 36.7**	**-0.3**
	7.1nm,0.3s,baz=180,slow=20,SNR=2.8								
PMG	**Port Moresby**	**8.04**	**235**	*e*Pn		**Pn**		**13 32 08.3**	**+0.6**
PMG				*e*Sn		**Sn**		**13 33 36.7**	**-0.3**
PATS	**Pohnpei**	**12.45**	**21**	*e*Pn		**Pn**		**13 33 06.8**	**-0.4**
COEN	**Coen**	**13.88**	**229**	*e*Pn		**Pn**		**13 33 27.4**	**+1.5**
CTAO	**Charters Tower**	**16.85**	**205**	*e*Pn		**Pn**		**13 34 02.1**	**-1.1**
	32nm,1.3s								
WB2	**Warramunga Arr**	**24.20**	**230**	*e*P		**P**		**13 35 20.1**	**-0.5**
WR1	**Warramunga Arr**	**24.20**	**230**	*e*P		**P**		**13 35 20.9**	**+0.2**
	42nm,1.5s								
WRA	**Warramunga Arr**	**24.20**	**230**	P		**P**		**13 35 20.9**	**+0.2**
	9.5nm,0.7s,baz=53,slow=9.8,SNR=40								
AS01	**Alice Springs**	**26.79**	**224**	*e*P		**P**		**13 35 43.3**	**-0.8**
AS31	**Alice Springs**	**26.82**	**224**	*e*P		**P**		**13 35 43.5**	**-0.9**
	1.2nm,0.8s								
ASAR	**Alice Springs**	**26.83**	**224**	P		**P**		**13 35 43.9**	**-0.5**
	3.7nm,1.0s,baz=54,slow=8.8,SNR=14								
STKA	**Stephens Creek**	**29.23**	**202**	P		**P**		**13 36 05.5**	**-0.3**
	5.1nm,0.7s,baz=35,slow=14,SNR=10								
STKA				LR		LR		13 47 58.6	
	comp=Z,38nm,20.1s,baz=191,slow=36								
STKA	**Stephens Creek**	**29.23**	**202**	*e*P		**P**		**13 36 05.4**	**-0.3**
	1.2nm,0.8s								
BATI	**Baumata**	**30.39**	**258**	LR		LR		13 50 56.1	
	comp=Z,99nm,18.1s,baz=30,slow=41								
FORT	**Forrest**	**35.41**	**220**	*e*P		**P**		**13 36 59.1**	**-0.6**
	34nm,0.6s								

PETK	**Petropavlovsk-**	**57.85**	**3**	P		**P**		**13 39 55.5**	**+1.3**
	7.1nm,1.1s,baz=182,slow=11,SNR=3.5							
PEA1	**Petropavlovsk-**	**57.85**	**3**	*e*P		**P**		**13 39 55.5**	**+1.3**
CMAR	**Chiang Mai Arr**	**58.87**	**295**	P		**P**		**13 40 03.3**	**+1.3**
	0.9nm,0.6s,baz=107,slow=4.9,SNR=5.6							
SONA0	**Songino Array**	**66.95**	**327**	*e*P		**P**		**13 40 55.8**	**+0.7**
SONM	**Songino Array**	**66.95**	**327**	P		**P**		**13 40 55.8**	**+0.7**
	0.7nm,0.5s,baz=160,slow=4.2,SNR=4.8							
RAMN	**Ramite**	**72.20**	**300**	*e*P		**P**		**13 41 28.5**	**+0.5**
JIRN	**Jiri**	**72.73**	**301**	*e*P		**P**		**13 41 31.9**	**+0.6**
	14nm,0.7s							
GUN	**Gumba**	**73.06**	**301**	*e*P		**P**		**13 41 34.1**	**+0.9**
	18nm,0.7s							
PKIN	**Phulchoki**	**73.39**	**300**	*e*P		**P**		**13 41 34.7**	**-0.4**
KKN	**Kakani**	**73.55**	**301**	*e*P		**P**		**13 41 36.3**	**+0.4**
DMN	**Daman**	**73.65**	**300**	*e*P		**P**		**13 41 37.4**	**+0.8**
	21nm,0.9s							
KOLN	**Koldanda**	**74.98**	**300**	*e*P		**P**		**13 41 44.4**	**+0.1**
	12nm,0.8s							
DANN	**Dangsing**	**74.98**	**301**	*e*P		**P**		**13 41 44.5**	**+0.1**
PYUN	**Piuthan**	**75.59**	**300**	*e*P		**P**		**13 41 47.7**	**0.0**
	21nm,0.9s							
MK01	**Makanchi Array**	**81.06**	**319**	*e*P		**P**		**13 42 17.2**	**0.0**
MK31	**Makanchi Array**	**81.07**	**319**	*e*P		**P**		**13 42 17.3**	**0.0**
MK32	**Makanchi Array**	**81.07**	**319**	*e*P		**P**		**13 42 17.7**	**+0.4**
MKAR	**Makanchi Array**	**81.07**	**319**	P		**P**		**13 42 17.7**	**+0.4**
	1.0nm,0.8s,baz=99,slow=6.1,SNR=7.7							
ZALV	**Zalesovo Beam**	**81.80**	**326**	P		**P**		**13 42 19.8**	**-1.1**
	0.8nm,0.7s,baz=95,slow=6.4,SNR=4.6							
ZAA1	**Zalesovo Array**	**81.80**	**326**	*e*P		**P**		**13 42 19.8**	**-1.1**
ILAR	**Eielson Array**	**81.82**	**22**	P		**P**		**13 42 20.4**	**-0.4**
	0.5nm,0.7s,baz=251,slow=4.5,SNR=6.0							
MAW	**Mawson**	**85.92**	**203**	P		**P**		**13 42 41.7**	**+0.1**
	6.2nm,0.8s,baz=94,slow=13,SNR=5.5							
MAW	**Mawson**	**85.92**	**203**	*e*P		**P**		**13 42 41.3**	**-0.3**
	20nm,1.7s							
TOA0	**Torodi Ar. Sit**	**151.33**	**289**	*e*PKPbc		**PKPbc**		**13 49 55.6**	**-0.6**
TORD	**Torodi Ar. Bea**	**151.33**	**289**	PKPbc		**PKPbc**		**13 49 55.5**	**-0.7**
	1.1nm,0.7s,baz=84,slow=3.2,SNR=7.1							
TORD				PKPab		**PKPab**		**13 50 04.5**	**-0.1**
	1.0nm,0.7s,baz=91,slow=4.4,SNR=5.2							
TOA1	**Torodi Ar. Sit**	**151.34**	**289**	*e*PKPbc		**PKPbc**		**13 49 55.5**	**-0.7**
TOA1				*e*PKPab		**PKPab**		**13 50 04.5**	**-0.2**

*MAN **21** 13:41:49.7, 5.89N×126.22E, h9km, mb4.9, ML3.8, MS3.8*
*ISCJB **21** 13:41:50.6±0.6, 5.85N±0.04×126.29E±0.07, h79km±6km, mb4.1/15, Error ellipse: s-maj=12.5km s-min=6.3km az=168.7*
*NEIC **21** 13:41:51.1±0.7, 5.93N×126.38E, h68km±6km, mb4.6/7, Error ellipse: s-maj=13.6km s-min=4.6km az=74.0*
*IDC **21** 13:41:51.5±2.5, 5.96N×126.51E, h69km±21km, mb3.8/11, mb1 3.9/11, mb1mx3.6/36, mbtmp4.1/11, MS3.2/1, Ms1 3.2/1, ms1mx2.5/37, Error ellipse: s-maj=51.3km s-min=11

DAT	**Datca**	**0.94**	**324**	IAML_P				
	comp=Z,468nm,0.2s							
DAT				*i* P		**Pn**	**13 50 21.6**	**+1.1**
DAT				*i* S		**Sn**	**13 50 34.0**	**+0.4**
KARP	**Karpathos**	**1.00**	**245**	PG		**Pn**	**13 50 22.1**	**+0.9**
AKAS	**Kas**	**1.11**	**76**	PN		**Pn**	**13 50 23.6**	**+0.9**
AKAS	**Kas**	**1.11**	**76**	IAML_P				
	comp=Z,2μm,0.1s							
AKAS				*i* P		**Pn**	**13 50 23.8**	**+1.0**
AKAS				*i* S		**Sn**	**13 50 37.2**	**-0.3**
BDRM	**Kayabasi**	**1.28**	**329**	*i* P		**Pn**	**13 50 25.9**	**+1.1**
BDRM				*i* S		**Sn**	**13 50 40.7**	**-0.5**
BODT	**Bodrum**	**1.34**	**325**	PN		**Pn**	**13 50 26.1**	**+0.5**
MLSB	**Milas**	**1.38**	**343**	PN		**Pn**	**13 50 26.8**	**+0.6**
ELL	**Elmali**	**1.53**	**59**	PN		**Pn**	**13 50 29.5**	**+1.2**
TAVA	**DENIZLI_Tavas**	**1.58**	**19**	*i* P		**Pn**	**13 50 30.0**	**+1.1**
TAVA				*i* S		**Sn**	**13 50 48.2**	**-0.3**
GOLH	**Golhisar**	**1.64**	**39**	*i* P		Pn	13 50 40.0	+10
GOLH				*i* S		Sn	13 51 00.0	+10
AYDN	**Tasoluk**	**1.72**	**350**	*i* P		**Pn**	**13 50 31.2**	**+0.5**
AYDN				*i* S		**Sn**	**13 50 51.0**	**-0.8**
ZKR	**Zakros**	**1.88**	**244**	PN		**Pn**	**13 50 35.3**	**+2.5**
KORT	**Korkueli**	**1.97**	**58**	PN		**Pn**	**13 50 35.6**	**+1.5**
KORT	**Korkueli**	**1.97**	**58**	*i* P		**Pn**	**13 50 33.5**	**-0.6**
KORT				*i* S		**Sn**	**13 51 00.6**	**+2.7**
AYDB	**Zeytinkoy-Aydi**	**2.00**	**351**	PN		**Pn**	**13 50 35.1**	**+0.6**
KHAL	**Karahalli**	**2.59**	**22**	*i* P		**Pn**	**13 50 40.8**	**-1.7**
KHAL				*i* S		**Sn**	**13 51 10.8**	**-2.1**
SLUM	**Salum**	**5.14**	**211**	P		**Pn**	**13 51 19.1**	**+1.8**
	baz=213							
SLUM				S		**Sn**	**13 52 12.4**	**-2.9**
	baz=213							
HNAT	**Natroun**	**6.62**	**162**	P		**Pn**	**13 51 38.4**	**+0.8**
	baz=161							
SWA2		**7.12**	**200**	P		**Pn**	**13 51 45.1**	**+0.7**
	baz=202							
SWA2				S		**Sn**	**13 52 59.3**	**-4.4**
	baz=202							
SWA2				AMP			13 53 00.0	
	baz=202							
SUZ	**Suez**	**7.21**	**147**	P		**Pn**	**13 51 48.1**	**+2.3**
	baz=145							
HNKL	**Nakhl**	**7.70**	**140**	P		**Pn**	**13 51 52.7**	**+0.3**
	baz=138							
HFRF	**Wahat Farafira**	**8.79**	**180**	P		**Pn**	**13 52 08.0**	**+0.7**
	baz=181							

*ISCJB **21** 14:09:29.3±0.6, 49°.51N±0°.05×156°.6E±0°.1, h63km, mb3.5/6, Error ellipse: s-maj=11.9km s-min=4.5km az=31.1*
*KRSC **21** 14:09:30.8±2.0, 49°.66N×156°.82E, h61km±24km, ML4.4*
*MOS **21** 14:09:31.6±1.1, 49°.79N×156°.11E, h105km, mb4.0/3, Error ellipse: s-maj=19.5km s-min=5.2km az=72.1*
*IDC **21** 14:09:35.1±3.5, 49°.92N×155°.91E, h115km±32km, mb3.2/6, mb1 3.4/8, mb1mx3.1/34, mbtmp3.5/8, MS3.3/1, Ms1 3.3/1, ms1mx2.5/21, Error ellipse: s-maj=32.8km s-min=19.5km az=160.0*

ISC 21 14:09:30.5±1.0, 49°.54N±0°.08×156°.56E±0°.08, h63km, n59, σ1s36/65, mb3.4/6, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.18**	**346**	*e*P	**Pn**	**14 09 51.2**	**+0.3**
SKR				*e*S	**Sn**	**14 10 05.6**	**-0.6**
SKR	**Severo-Kuril's**	**1.18**	**346**	*e*PN	**Pn**	**14 09 51.3**	**+0.3**
SKR				*e*S	**Sn**	**14 10 05.4**	**-0.8**
SKR				pmax	pmax		
	comp=Z,208nm,0.3s						
SKR				smax	smax		
	comp=E,1μm,0.5s						
SKR				smax	smax		
	comp=N,3μm,0.6s						
ALID	**Alaid**	**1.48**	**334**	*i* P	**Pn**	**14 09 55.1**	**0.0**
PAU	**Pauzhetka**	**1.94**	**5**	*e*P	**Pn**	**14 10 01.9**	**+0.8**
PAU				*e*S	**Sn**	**14 10 24.3**	**0.0**
PAU	**Pauzhetka**	**1.94**	**5**	PN	**Pn**	**14 10 01.9**	**+0.8**
PAU				S	**Sn**	**14 10 24.3**	**0.0**
KDTR	**Khodutka, Kamc**	**2.47**	**22**	*e*P	**Pn**	**14 10 09.1**	**+0.8**
KDTR				*e*S	**Sn**	**14 10 37.1**	**-0.1**
KDTR	**Khodutka, Kamc**	**2.47**	**22**	PN	**Pn**	**14 10 09.1**	**+0.8**
KDTR				S	**Sn**	**14 10 37.1**	**-0.1**
MTVR	**Mutnovka**	**3.12**	**19**	*e*P	**Pn**	**14 10 18.5**	**+1.2**
MTVR				*e*S	**Sn**	**14 10 53.5**	**+0.1**
MTVR	**Mutnovka**	**3.12**	**19**	PN	**Pn**	**14 10 18.5**	**+1.2**
MTVR				S	**Sn**	**14 10 53.5**	**+0.1**
RUS	**Russkaya**	**3.15**	**22**	*i* P	**Pn**	**14 10 18.2**	**+0.7**
RUS				*e*S	**Sn**	**14 10 53.0**	**-0.9**
RUS	**Russkaya**	**3.15**	**22**	PN	**Pn**	**14 10 18.2**	**+0.7**
RUS				S	**Sn**	**14 10 53.0**	**-0.9**
GRL	**Gorelyy**	**3.16**	**17**	*e*P	**Pn**	**14 10 19.7**	**+1.8**
GRL	**Gorelyy**	**3.16**	**17**	PN	**Pn**	**14 10 19.7**	**+1.8**
APC	**Apacha**	**3.41**	**6**	*e*P	**Pn**	**14 10 22.5**	**+1.4**
APC	**Apacha**	**3.41**	**6**	PN	**Pn**	**14 10 22.5**	**+1.4**
KRMR	**Karymshinskiy**	**3.44**	**16**	*e*P	**Pn**	**14 10 22.8**	**+1.3**
KRMR	**Karymshinskiy**	**3.44**	**16**	PN	**Pn**	**14 10 22.8**	**+1.3**
PETK	**Petropavlovsk-**	**3.64**	**11**	P	**Pn**	**14 10 25.8**	**+1.5**
	comp=N,13nm,0.3s,baz=184,slow=13,SNR=303						
PETK				S	Sn	14 11 14.9	+8.8
	baz=161,slow=21,SNR=1.7						
PET	**Petropavlovsk**	**3.73**	**20**	*e*P	**Pn**	**14 10 26.6**	**+1.2**
PET				*e*S	**Sn**	**14 11 08.6**	**+0.6**
PET	**Petropavlovsk**	**3.73**	**20**	PN	**Pn**	**14 10 26.6**	**+1.2**
PET				S	**Sn**	**14 11 08.6**	**+0.6**
DALK	**Dalny**	**3.76**	**21**	*e*P	**Pn**	**14 10 26.8**	**+0.9**
DALK				*e*S	**Sn**	**14 11 10.0**	**+1.2**
DALK	**Dalny**	**3.76**	**21**	PN	**Pn**	**14 10 26.8**	**+0.9**
DALK				S	**Sn**	**14 11 10.0**	**+1.2**
UGLR	**Uglovaya**	**3.94**	**20**	*e*P	**Pn**	**14 10 30.2**	**+1.7**
UGLR	**Uglovaya**	**3.94**	**20**	PN	**Pn**	**14 10 30.2**	**+1.7**
AVH	**Avacha**	**3.97**	**19**	*i* P	**Pn**	**14 10 31.1**	**+2.2**
AVH	**Avacha**	**3.97**	**19**	PN	**Pn**	**14 10 31.1**	**+2.2**
KOK	**Koryaka**	**3.97**	**18**	*e*P	**Pn**	**14 10 31.4**	**+2.4**
KOK	**Koryaka**	**3.97**	**18**	PN	**Pn**	**14 10 31.4**	**+2.4**
SMAR	**Somma**	**3.98**	**20**	*i* P	**Pn**	**14 10 31.0**	**+1.8**
SMAR	**Somma**	**3.98**	**20**	PN	**Pn**	**14 10 31.0**	**+1.8**
NLC	**Nalytchevo**	**4.03**	**25**	*e*P	**Pn**	**14 10 29.4**	**-0.2**
NLC				*e*S	**Sn**	**14 11 13.0**	**-2.5**
NLC	**Nalytchevo**	**4.03**	**25**	PN	**Pn**	**14 10 29.4**	**-0.2**
NLC				S	**Sn**	**14 11 13.0**	**-2.5**
KRX	**Arik**	**4.04**	**18**	*e*P	**Pn**	**14 10 31.9**	**+2.0**
KRX	**Arik**	**4.04**	**18**	PN	**Pn**	**14 10 31.9**	**+2.0**
SPN	**Mys Shipunski**	**4.17**	**30**	*e*P	**Pn**	**14 10 32.3**	**+0.8**
SPN				*e*S	**Sn**	**14 11 17.5**	**-1.4**
SPN	**Mys Shipunski**	**4.17**	**30**	PN	**Pn**	**14 10 32.3**	**+0.8**
SPN				S	**Sn**	**14 11 17.5**	**-1.4**
GNL	**Ganaly**	**4.25**	**11**	*i* P	**Pn**	**14 10 34.4**	**+1.7**
GNL	**Ganaly**	**4.25**	**11**	PN	**Pn**	**14 10 34.4**	**+1.7**
KUR	**Kuril'sk**	**7.30**	**237**	PN	**Pn**	**14 11 14.9**	**+0.5**
KBTR	**Krutoberegovo**	**7.67**	**27**	*e*P	**Pn**	**14 11 19.4**	**0.0**
KBTR	**Krutoberegovo**	**7.67**	**27**	PN	**Pn**	**14 11 19.4**	**0.0**
SHO	**Shikotan**	**8.76**	**233**	*e*PN	**Pn**	**14 11 35.9**	**+1.5**
YUK	**Yuzh-Kuril'sk**	**9.17**	**237↓**	*e*PN	**Pn**	**14 11 41.8**	**+1.9**
KLR	**Kul'dur**	**16.14**	**278**	P	**Pn**	**14 13 10.7**	**-2.4**
	comp=N,0.0nm,0.3s,baz=101,slow=5.4,SNR=1.9						
MJAR	**Matsushiro Arr**	**18.61**	**233**	LR	LR	14 20 55.8	
	comp=N,91nm,18.5s,baz=80,slow=37						
H11N2	**WAKE ISLAND Hy**	**30.87**	**161**	T	T	14 48 44.1	
	baz=346,slow=76						
H11N1	**WAKE ISLAND Hy**	**30.89**	**161**	T	T	14 48 48.1	
	baz=346,slow=76						
H11N3	**WAKE ISLAND Hy**	**30.89**	**161**	T	T	14 48 49.4	
	baz=346,slow=76						
H11S1	**WAKE ISLAND Hy**	**32.02**	**162**	T	T	14 50 15.3	
	baz=347,slow=76,SNR=36						
H11S3	**WAKE ISLAND Hy**	**32.03**	**162**	T	T	14 50 07.5	
	baz=347,slow=76,SNR=107						
H11S2	**WAKE ISLAND Hy**	**32.04**	**162**	T	T	14 50 17.8	
	baz=347,slow=76,SNR=23						
ILAR	**Eielson Array**	**32.92**	**41**	P	**P**	**14 15 58.4**	**0.0**
	comp=N,0.3nm,0.6s,baz=253,slow=7.2,SNR=6.2						
ZALV	**Zalesovo Beam**	**42.89**	**304**	P	P	14 17 15.6	-6.7
	comp=N,0.7nm,0.5s,baz=57,slow=8.5,SNR=3.1						
MKAR	**Makanchi Array**	**47.73**	**297**	P	P	14 17 55.7	-5.1
	comp=N,0.4nm,0.6s,baz=44,slow=5.2,SNR=4.9						
KURK	**Kurchatov**	**47.76**	**303↓**	*e*P	P	14 17 56.3	-4.6
KURK				pmax	pmax		
	comp=Z,10.0nm,3.6s						
CMAR	**Chiang Mai Arr**	**55.26**	**257**	P	**P**	**14 18 55.6**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=38,slow=6.9,SNR=6.1						
WRA	**Warramunga Arr**	**71.94**	**202**	P	P	14 20 46.0	-1.0
	comp=Z,0.3nm,0.8s,baz=18,slow=6.6,SNR=4.3						
WRA	**Warramunga Arr**	**71.94**	**202**	P	P	14 20 46.0	-1.0
TXAR	**Lajitas Array**	**74.14**	**63**	P	**P**	**14 21 00.6**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=298,slow=4.1,SNR=4.9						

*NIED **21** 14:19:00, 36°.00N×141°.30E, h5km, Mw3.5 Best double couple: M₀2.32000×10¹⁴ NP1:φs162.00000°, δ45.00000°, λ-113.00000°. NP2:φs13.00000°, δ50.00000°, λ-69.00000°.*
*IDC **21** 14:19:16.7±1.1, 35°.91N×141°.20E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.4/35, mbtmp3.4/6, ML3.2/2, MS3.6/1, Ms1 3.6/1, ms1mx2.5/25, Error ellipse: s-maj=26.7km s-min=21.1km az=78.0*
*ISCJB **21** 14:19:18.6±0.9, 36°.00N±0°.03×141°.15E±0°.07, h31km±5km, mb3.4/4, MS3.6/1, Error ellipse: s-maj=9.0km s-min=5.4km az=176.7*
*JMA **21** 14:19:18.5±0.1, 35°.98N×141°.17E, h22km±2km, M4.0*
JMA Felt I J1.

ISC 21 14:19:17.8±1.7, 35°.99N±0°.03×141°.15E±0°.06, h12km±11km, n23, σ1s27/28, mb3.4/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.37**	**219**	P	**Pb**	**14 19 26.4**	**0.0**
CHOJ				*e*S	**Sb**	**14 19 31.9**	**-0.2**
JIHU	**Itakohorinouch**	**0.51**	**267**	P	**Pb**	**14 19 29.4**	**+0.8**
JIHU				*e*S	**Sb**	**14 19 37.1**	**+1.2**
JHYU	**Hitachinakayam**	**0.57**	**307**	P	**Pb**	**14 19 30.2**	**+0.5**
JHYU				S	**Sb**	**14 19 38.7**	**+0.9**
JSMT	**Sammumatsuo**	**0.67**	**239**	P	**Pn**	**14 19 32.4**	**-0.7**
JSMT				*e*S	**Sb**	**14 19 41.0**	**+0.4**
JHO	**Hitachi**	**0.77**	**323**	P	**Pb**	**14 19 33.3**	**+0.1**
JHO				*e*S	**Sb**	**14 19 44.2**	**+0.5**
JYT	**Yasato**	**0.81**	**287**	P	**Pb**	**14 19 33.7**	**0.0**
JYT				*e*S	**Sg**	**14 19 44.6**	**+0.7**
BSO3	**Boso 3**	**1.30**	**204**	P	**Pg**	**14 19 41.6**	**-1.1**
BSO3				*e*S	**Sn**	**14 19 58.0**	**-0.7**
JFK	**Kawauchi**	**1.39**	**351**	P	**Pn**	**14 19 41.7**	**-1.3**
JFK				S	**Sn**	**14 19 58.4**	**-2.9**
JAG	**Ashikaga**	**1.44**	**288**	P	**Pn**	**14 19 42.8**	**-0.9**
JAG				S	**Sn**	**14 20 00.8**	**-1.7**
MJAR	**Matsushiro Arr**	**2.44**	**284**	Pn	**Pn**	**14 19 57.6**	**+0.1**
	1.8nm,0.3s,baz=122,slow=7.1,SNR=104						
MJAR				Sn	**Sb**	**14 20 31.3**	**-0.3**
	2.1nm,0.3s,baz=60,slow=23,SNR=7.5						
MAT	**Matsushiro**	**2.44**	**284**	P	**Pn**	**14 19 58.1**	**+0.6**
MAT				S	**Sn**	**14 20 24.9**	**-2.3**
ASAJ	**Asahikawa**	**8.19**	**7**	Pn	**Pn**	**14 21 17.7**	**+1.3**
	0.5nm,0.3s,baz=217,slow=12,SNR=7.6						
ASAJ				Sn	**Sn**	**14 22 46.0**	**-2.8**
	0.1nm,0.3s,baz=18,slow=20,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**27.82**	**119**	T	T	14 54 09.8	
	baz=311,slow=75,SNR=58						
H11N1	**WAKE ISLAND Hy**	**27.83**	**119**	T	T	14 54 15.7	
	baz=311,slow=75,SNR=60						
H11N3	**WAKE ISLAND Hy**	**27.84**	**119**	T	T	14 54 16.5	
	baz=311,slow=75,SNR=48						
H11S1	**WAKE ISLAND Hy**	**28.49**	**121**	T	T	14 54 58.1	
	baz=314,slow=75,SNR=71						
H11S3	**WAKE ISLAND Hy**	**28.49**	**121**	T	T	14 54 57.7	
	baz=314,slow=75,SNR=48						
H11S2	**WAKE ISLAND Hy**	**28.51**	**121**	T	T	14 55 02.6	
	baz=314,slow=75,SNR=46						
ZALV	**Zalesovo Beam**	**42.46**	**313**	LR	LR	14 46 32.2	
	comp=Z,74nm,20.2s,baz=252,slow=38						
MKAR	**Makanchi Array**	**44.50**	**303**	P	**P**	**14 27 30.3**	**+1.3**
	0.1nm,0.4s,baz=88,slow=9.6,SNR=3.0						
ILAR	**Eielson Array**	**50.49**	**32**	P	**P**	**14 28 16.5**	**+1.2**
	0.2nm,0.6s,baz=281,slow=6.3,SNR=2.9						
WRA	**Warramunga Arr**	**56.00**	**188**	P	**P**	**14 28 56.3**	**0.0**
	0.5nm,0.4s,baz=5.8,slow=7.0,SNR=25						
ASAR	**Alice Springs**	**59.73**	**188**	P	**P**	**14 29 22.9**	**+0.4**
	0.3nm,0.5s,baz=18,slow=13,SNR=15						

MEX 21 14:23:36.9±0.8, 16°.54N×96°.54W, h28km±9km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.56**	**340**	*i* P	Pb	14 23 45.9	-2.5
VHO				*i* S	Sb	14 23 54.6	-1.7
HUIG	**Huatulco**	**0.87**	**152**	*i* P	Pn	14 23 51.0	-2.3
HUIG				*i* S	Sb	14 24 01.9	-2.8
PNIG	**Pinotepa**	**1.53**	**265**	*e*P	Pn	14 23 59.5	-3.0
PNIG				*i* S	Sn	14 24 17.5	-4.1
CMIG	**Matias Romero**	**1.67**	**71**	*e*P	Pn	14 24 01.6	-2.8
CMIG				*e*S	Sn	14 24 21.2	-3.8

*IDC **21** 14:35:30.1±0.6, 57°.86S×25°.17W, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.1/21, mbtmp4.2/10, ML4.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.8/21, Error ellipse: s-maj=26.0km s-min=17.0km az=65.0*
*ISCJB **21** 14:35:34.4±0.5, 57°.93S±0°.08×25°.0W±0°.2, h40km, mb4.3/10, MS3.2/1, Error ellipse: s-maj=15.8km s-min=8.3km az=148.5*
*NEIC **21** 14:35:39.5±1.6, 57°.98S×25°.15W, h71km±13km, mb4.5/8, Error ellipse: s-maj=15.0km s-min=8.5km az=53.0*

ISC 21 14:35:35.6±0.5, 58°.11S±0°.08×24°.9W±0°.1, h40km, n50, σ2s13/48, mb4.3/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.50**	**296**	*e*Pn	**Pn**	**14 37 25.1**	**+2.8**
VNA1	**Neumayer--Stat**	**14.41**	**157**	P	**P**	**14 39 00.3**	**-2.4**
VNA3	**Neumayer Olymp**	**14.63**	**160**	P	**Pn**	**14 39 01.5**	**+1.9**
VNA3				S	**Sn**	**14 41 37.6**	**-2.5**
VNA2	**Neumayer--Watz**	**14.81**	**157**	P	**Pn**	**14 39 03.6**	**+1.6**
	baz=321,slow=15						
VNA2				S	**Sn**	**14 41 41.8**	**-2.7**
SNAA	**Sanae**	**16.35**	**155**	P	**P**	**14 39 24.8**	**+0.5**
SNAA	**Sanae**	**16.35**	**155**	Pn	**P**	**14 39 24.8**	**+0.5**
	0.6nm,0.3s,baz=322,slow=17,SNR=13						
SNAA				Sn	**Sn**	**14 42 14.8**	**-7.1**
	0.1nm,0.3s,baz=331,slow=19,SNR=4.4						
SNAA	**Sanae**	**16.35**	**155**	*e*Pn	**P**	**14 39 24.4**	**+0.1**
	4.4nm,0.6s						
SNAA				Sn	**Sn**	**14 42 14.8**	**-7.1**
EFI	**East Falkland**	**19.96**	**274**	*e*P	**Pn**	**14 40 04.7**	**-1.3**
	34nm,1.1s						
QSPA	**South Pole Qui**	**32.13**	**180**	P	**P**	**14 42 01.9**	**+2.9**
	2.2nm,0.7s,baz=46,slow=2.6,SNR=18						
PLCA	**Paso Flores**	**33.59**	**281**	P	**P**	**14 42 09.9**	**-1.9**
	1.8nm,0.8s,baz=189,slow=6.0,SNR=6.8						
PLCA				LR	LR	14 55 09.6	
	comp=Z,40nm,18.1s,baz=170,slow=35						
PLCA	**Paso Flores**	**33.59**	**281**	*e*P	**P**	**14 42 10.1**	**-1.7**
	12nm,1.6s						
MAW	**Mawson**	**37.76**	**141**	P	**P**	**14 42 48.9**	**+1.8**
	5.9nm,1.0s,baz=256,slow=19,SNR=3.4						
MAW	**Mawson**	**37.76**	**141**	*e*P	**P**	**14 42 49.4**	**+2.3**
	11nm,1.4s						
CPUP	**Villa Florida**	**39.10**	**310**	P	**P**	**14 42 56.4**	**-2.4**
	1.1nm,0.4s,baz=171,slow=6.9,SNR=3.8						
CPUP	**Villa Florida**	**39.10**	**310**	*e*P	**P**	**14 42 56.5**	**-2.3**
	13nm,1.8s						
VNDA	**Vanda**	**44.56**	**182**	P	**P**	**14 43 46.2**	**+3.4**
	1.9nm,0.6s,baz=195,slow=5.4,SNR=5.8						
VNDA	**Vanda**	**44.56**	**182**	*e*P	**P**	**14 43 45.8**	**+3.0**
H10S2	**ASCENSION HYDR**	**49.68**	**13**	T	T	15 37 58.2	
	baz=188						
H10S3	**ASCENSION HYDR**	**49.68**	**13**	T	T	15 38 09.8	
	baz=188						
H10S1	**ASCENSION HYDR**	**49.70**	**13**	T	T	15 37 57.8	
	baz=188						
H10N1	**ASCENSION HYDR**	**50.80**	**13**	T	T	15 39 21.9	
	baz=187						
H10N3	**ASCENSION HYDR**	**50.80**	**13**	T	T	15 39 24.7	
	baz=187						
H10N2	**ASCENSION HYDR**	**50.81**	**13**	T	T	15 39 31.6	
	baz=187						
LPAZ	**La Paz**	**52.57**	**304**	P	**P**	**14 44 44.5**	**-1.3**
	1.8nm,0.3s,baz=72,slow=4.7,SNR=12						
LPAZ	**La Paz**	**52.57**	**304**	*e*P	**P**	**14 44 44.0**	**-1.8**
	1.9nm,0.9s						
DBIC	**Dimbokro**	**66.58**	**22**	P	**P**	**14 46 21.9**	**+0.3**
	2.3nm,0.8s,baz=188,slow=7.7,SNR=4.1						
DBIC	**Dimbokro**	**66.58**	**22**	*e*P	**P**	**14 46 21.8**	**+0.3**
	31nm,1.8s						
TOA0	**Torodi Ar. Sit**	**74.30**	**27**	*e*P	**P**	**14 47 08.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**74.30**	**27**	P	**P**	**14 47 08.4**	**-0.1**
	2.3nm,0.6s,baz=198,slow=6.2,SNR=18						
TOA1	**Torodi Ar. Sit**	**74.30**	**27**	*e*P	**P**	**14 47 08.4**	**-0.1**
ASAR	**Alice Springs**	**96.64**	**161**	P	**P**	**14 49 02.1**	**+0.7**
	0.5nm,0.8s,baz=174,slow=3.7,SNR=5.0						
AS31	**Alice Springs**	**96.64**	**161**	*e*P	**P**	**14 49 02.8**	**+1.4**
	2.2nm,1.3s						
PDAR	**Pinedale Array**	**122.47**	**300**	PKP	**PKPdf**	**14 54 24.8**	**-1.1**
	0.2nm,0.4s,baz=122,slow=3.3,SNR=3.8						
CM31	**Chiang Mai Arr**	**123.20**	**110**	*e*PKPdf	**PKPdf**	**14 54 27.3**	**-0.4**
CMAR	**Chiang Mai Arr**	**123.20**	**110**	PKP	**PKPdf**	**14 54 27.8**	**+0.1**
	0.7nm,0.8s,baz=242,slow=3.3,SNR=5.0						
BEKR	**Beckworth**	**125.43**	**290**	*e*PKPdf	**PKPdf**	**14 54 30.2**	**-1.4**
FIA0	**FINESS Array S**	**125.65**	**27**	*e*PKPdf	**PKPdf**	**14 54 31.1**	**+0.1**
FINES	**FINESS Array B**	**125.65**	**27**	PKP	**PKPdf**	**14 54 31.1**	**+0.1**
	0.5nm,0.5s,baz=224,slow=5.3,SNR=6.5						
MK32	**Makanchi Array**	**136.37**	**72**	*e*PKPdf	**PKiKP**	**14 54 53.8**	**+0.2**
MKAR	**Makanchi Array**	**136.37**	**72**	PKP	**PKiKP**	**14 54 53.8**	**+0.2**
	0.3nm,0.7s,baz=204,slow=2.2,SNR=3.6						
YKA	**Yellowknife Ar**	**138.52**	**315**	PKP	**PKPdf**	**14 54 55.1**	**-0.2**
	0.5nm,0.5s,baz=131,slow=2.2,SNR=9.4						
YKB5	**Yellowknife Ar**	**138.52**	**315**	*e*PKPdf	**PKPdf**	**14 54 55.0**	**-0.2**
INK	**Inuvik**	**148.18**	**318**	*e*PKPbc	**PKPbc**	**14 55 15.1**	**-0.3**
SONA0	**Songino Array**	**149.59**	**88**	*e*PKPbc	**PKPbc**	**14 55 19.4**	**-0.4**
SONM	**Songino Array**	**149.59**	**88**	PKPbc	**PKPbc**	**14 55 19.4**	**-0.4**
	1.2nm,0.6s,baz=233,slow=2.9,SNR=8.6						
DOT	**Dot Lake**	**150.90**	**307**	*e*PKPbc	**PKiKP**	**14 55 22.4**	**-0.4**
SCRK	**Sand Creek**	**150.96**	**307**	*e*PKPbc	**PKiKP**	**14 55 23.1**	**-0.1**
IL1	**Eielson Array**	**152.39**	**308**	*e*PKPbc	**PKPbc**	**14 55 25.4**	**-0.2**
ILAR	**Eielson Array**	**152.39**	**308**	PKPbc	**PKPbc**	**14 55 25.6**	**-0.1**
	1.2nm,0.4s,baz=156,slow=1.7,SNR=22						
ILB	**Eielson Array**	**152.39**	**308**	*e*PKPbc	**PKiKP**	**14 55 25.7**	**-0.2**

MAN 21 14:44:58.3, 8°.36N×126°.67E, h57km, mb4.3, ML3.1, MS2.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.35**	**240↑**	*i* P	Pn	14 45 11.3	+2.8
BIPH				*i* S	Sn	14 45 16.5	+0.6
BUTP	**Butuan**	**1.20**	**300**	*e*P	Pn	14 45 19.4	+0.5
BUTP				*e*S	Sn	14 45 35.2	+1.0
MATI	**Mati**	**1.47**	**196**	*e*P	Pn	14 45 23.2	+0.8
BUKP	**Musuan**	**1.66**	**253**	*e*P	Pn	14 45 25.8	+0.6
BUKP				*e*S	Sn	14 45 47.4	+1.9
SCPH	**Surigao**	**1.83**	**320**	*e*P	Pn	14 45 29.9	+2.5
SCPH				*e*S	Sn	14 45 51.0	+1.5
TBP	**Tagbilaran**	**3.07**	**296**	*e*P	Pn	14 45 44.0	-0.3

*ISCJB **21** 14:48:57.8±0.3, 47°.96N±0°.01×14°.38E±0°.03, h0km, Error ellipse: s-maj=2.8km s-min=1.8km az=24.4*
*VIE **21** 14:48:58.7±0.2, 47°.93N×14°.34E, h0km, mb2.1/12, ml2.7/14, Error ellipse: s-maj=1.3km s-min=1.2km az=176.0 9 km S of Aschach a.d. Steyr Mining explosion.*
*PRU **21** 14:49:02.0±0.0, 47°.99N×14°.30E, h13km, Aschach*

ISC 21 14:48:58.8±0.7, 47°.92N±0°.02×14°.31E±0°.02, h0km, n28, σ0s64/55, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOA	**Molln**	**0.08**	**203**	*e*Pg	**Pg**	**14 48 59.7**	**-0.6**
	147nm,0.1s						
MOA				*e*Sg	**Sg**	**14 49 01.3**	**0.0**
	2μm,0.5s						
CONA	**Conrad Observa**	**1.04**	**89**	*e*Pg	**Pg**	**14 49 18.2**	**-0.6**
	5.6nm,0.2s						
CONA				*e*Sg	**Sb**	**14 49 33.3**	**-0.7**
	91nm,0.5s						
ARSA	**Arzberg**	**1.06**	**129**	Pg	**Pg**	**14 49 19.3**	**+0.2**
	8.9nm,0.4s						
ARSA				Sg	**Sb**	**14 49 34.4**	**-0.1**
	31nm,0.5s						
KBA	**Koelnbreinsper**	**1.07**	**218**	*e*Pg	**Pg**	**14 49 18.8**	**-0.4**
	1.3nm,0.2s,SNR=6.8						
KBA				*e*Sg	**Sb**	**14 49 35.4**	**+0

ARS				max					
	36nm,0.2s								
ARS				Smax					
	661nm,0.2s								
ARS	**Arshan**	**1.00**	**199**	*e*PG	Pg	14 55 27.5	-0.3		
ARS				*e*		14 55 40.9			
ARS				pmax	pmax				
	comp=Z,91nm,0.5s								
ARS				smax	smax				
	comp=E,1μm,0.5s								
IRK	**Irkutsk**	**1.01**	**127**	⇓*i*Pg	Pg	14 55 27.2	-0.9		
IRK				*e*Pb	Pb	14 55 28.8	-0.3		
IRK				*e*		14 55 36.5			
IRK				*e*Sg	Sg	14 55 42.0	+0.9		
IRK				max					
	comp=E,182nm,0.2s								
IRK				Smax					
	comp=E,1μm,0.4s								
IRK	**Irkutsk**	**1.01**	**127**	*e*PG	Pb	14 55 28.8	-0.3		
IRK				*e*		14 55 42.2			
IRK				pmax	pmax				
	comp=Z,182nm,0.2s								
IRK				smax	smax				
	comp=Z,176nm,0.4s								
TLY	**Talaya**	**1.25**	**160**	*e*Pg	Pg	14 55 30.9	-1.8		
TLY				*e*Pb	Pb	14 55 32.0	-1.2		
TLY				*i* Sg	Sg	14 55 47.9	-1.0		
TLY				max					
	comp=Z,51nm,0.2s								
TLY				Smax					
	comp=Z,459nm,0.2s								
TLY	**Talaya**	**1.25**	**160**	*e*PG	Pg	14 55 31.8	-0.9		
TLY				*e*		14 55 47.6			
TLY				pmax	pmax				
	comp=Z,35nm,0.1s								
TLY				smax	smax				
	comp=N,459nm,0.2s								
IVK	**Ivanovka**	**1.39**	**139**	*e*Pg	Pg	14 55 32.6	-2.6		
IVK				*e*Sg	Sg	14 55 52.0	-1.2		
IVK				*e*		14 55 55.9			
IVK				Pmax					
	comp=N,34nm,0.1s								
IVK				max					
	comp=N,229nm,0.2s								
LSTR	**Listvyanka**	**1.52**	**130**	*e*Pn	Pn	14 55 34.2	-2.9		
LSTR				*e*Pg	Pb	14 55 36.0	-1.7		
LSTR				*e*		14 55 45.8			
LSTR				*e*Sg	Sg	14 55 56.2	-1.2		
LSTR				*e*		14 56 02.7			
LSTR				Pmax					
	comp=N,59nm,0.1s								
LSTR				Smax					
	comp=N,208nm,0.1s								
LSTR	**Listvyanka**	**1.52**	**130**	*e*PG	Pn	14 55 36.5	-0.6		
LSTR				*e*		14 55 56.3			
LSTR				pmax	pmax				
	comp=Z,53nm,0.1s								
LSTR				smax	smax				
	comp=N,189nm,0.1s								
MOY	**Mondy**	**1.70**	**226**	*e*Pg	Pn	14 55 39.0	-0.7		
MOY				*e*		14 55 41.9			
MOY				*e*		14 55 46.9			
MOY				*e*Sg	Sn	14 56 00.9	-1.3		
MOY				max					
	comp=N,15nm,0.3s								
MOY				Smax					
	comp=N,34nm,0.2s								
BGT	**Bolshoye Golou**	**1.71**	**118**	*e*	Pn	14 55 36.8	-2.9		
BGT				*e*Pg	Pb	14 55 40.0	-0.9		
BGT				*e*Sg	Sn	14 56 02.1	-0.1		
BGT				Pmax					
	comp=N,75nm,0.1s								
BGT				Smax					
	comp=N,190nm,0.1s								
ORL	**Orlik**	**1.94**	**262**	⇑*i*Pg	Pn	14 55 42.5	-0.6		
ORL				*e*Sg	Sn	14 56 08.1	-0.1		
ORL				Pmax					
	comp=N,15nm,0.4s								
ORL				Smax					
	comp=N,45nm,0.4s								
ORL	**Orlik**	**1.94**	**262**	⇑*i*PN	Pn	14 55 42.5	-0.6		
ORL				*e*		14 55 43.2			
ORL				*e*		14 56 08.3			
TRG	**Tyrgan**	**2.06**	**91**	*i*	Pn	14 55 42.9	-1.7		
TRG				*e*Sn	Sn	14 56 07.6	-3.4		
TRG				*e*Sg	Sb	14 56 10.8	-2.3		
TRG				max					
	comp=N,56nm,0.1s								
TRG				Smax					
	comp=N,100nm,0.1s								
STDB	**Stepnoy Dvoret**	**2.19**	**107**	*e*Pn	Pn	14 55 45.0	-1.4		
STDB				*e*		14 55 49.8			
STDB				Sg	Sg	14 56 18.5	-0.6		
STDB				*e*		14 56 25.6			
KAB	**Kabansk**	**2.40**	**108**	*e*	Pn	14 55 36.0	-13		
KAB				*e*		14 55 43.9			
KAB				*e*Sg	Sb	14 56 23.7	+0.8		
KAB				*e*		14 56 30.6			
KAB				max					
	comp=N,623nm,0.6s								
ZAK	**Zakamensk**	**2.49**	**175**	*e*Pg	Pb	14 55 52.8	-1.5		
ZAK				*e*		14 55 56.8			
ZAK				*e*Sg	Sb	14 56 24.9	-0.7		
ZAK				*e*		14 56 31.7			
ZAK				max					
	comp=N,7.0nm,0.1s								
ZAK				max					
	comp=N,113nm,0.5s								
ZAK	**Zakamensk**	**2.49**	**175**	*e*PN	Pb	14 55 53.6	-0.7		
ZAK				*e*		14 56 25.8			
ZAK				pmax	pmax				
	comp=Z,11nm,0.5s								
ZAK				smax	smax				
	comp=N,114nm,0.5s								
ZRHB	**Zarechye**	**2.57**	**95**	*e*Pn	Pn	14 55 51.2	-0.4		
ZRHB				*e*Sg	Sb	14 56 28.9	+1.2		
ZRHB				Smax					
	comp=N,196nm,0.5s								
HRMR	**Khuramsha**	**2.75**	**115**	*e*Pn	Pn	14 55 52.1	-1.9		
HRMR				*e*		14 56 02.3			
HRMR				*e*Sg	Sb	14 56 33.7	+0.8		
HRMR				*e*		14 56 36.1			
HRMR				max					
HRMR				max					
	comp=N,225nm,0.3s								
OGRR	**Ongureny**	**2.89**	**72**	*e*Pn	Pn	14 55 54.7	-1.3		
OGRR				Pg	Pb	14 56 00.8	-0.4		
OGRR				*e*		14 56 04.5			
OGRR				*e*		14 56 12.3			
OGRR				*e*Sn	Sn	14 56 27.4	-4.1		
OGRR				*e*Sg	Sb	14 56 39.3	+2.2		
OGRR				*e*		14 56 42.5			
OGRR				max					
	comp=N,13nm,0.3s								
OGRR				max					
	comp=N,115nm,0.3s								
OGRR	**Ongureny**	**2.89**	**72**	*e*PN	Pn	14 55 54.9	-1.1		
OGRR				*e*		14 56 00.7			
OGRR				*e*S	Sn	14 56 28.0	-3.5		
OGRR				*e*		14 56 39.4			
OGRR				pmax	pmax				
	comp=Z,13nm,0.4s								
OGRR				smax	smax				
	comp=E,115nm,0.3s								
TRTB	**Turuntaevo**	**2.92**	**101**	*e*Pn	Pn	14 55 54.4	-2.0		
TRTB				*e*Pg	Pb	14 56 00.2	-1.4		
TRTB				*e*		14 56 03.7			
TRTB				*e*Sg	Sb	14 56 39.7	+1.8		
TRTB				*e*		14 56 42.7			
UUDB	**Ulan-Yde**	**3.05**	**107**	*e*Pn	Pn	14 55 56.2	-2.0		
UUDB				*e*		14 56 04.7			
UUDB				*e*Sg	Sb	14 56 43.1	+1.5		
UUDB				max					
	comp=E,1.0nm,0.2s								
UUDB				Smax					
	comp=E,71nm,0.9s								
KELR	**Kotokel**	**3.11**	**90**	*e*Pn	Pn	14 55 58.5	-0.5		
KELR				*e*		14 56 07.4			
KELR				*e*Sg	Sb	14 56 44.2	+0.9		
KELR				*e*		14 56 48.2			
MXMB	**Maximikha**	**3.51**	**81**	*e*Pn	Pn	14 56 02.4	-2.1		
MXMB				*e*Pg	Pb	14 56 11.0	-0.7		
MXMB				*e*Sn	Sn	14 56 44.9	-1.9		
MXMB				*e*Sg	Sb	14 56 58.0	+3.1		
MXMB				*e*		14 57 01.1			
TDJR	**Todzha**	**4.21**	**266**	*e*	Pb	14 56 21.5	-2.0		
TDJR				*e*		14 56 25.3			
TDJR				Sg	Sb	14 57 18.7	+3.8		
TDJR				*e*		14 57 26.2			
SYVR	**Suvo**	**4.30**	**76**	*e*Sg	Sb	14 57 21.4	+3.8		
SYVR				Smax					
	comp=E,14nm,0.7s								
YLYR	**Ulyunkhan**	**5.26**	**64**	*i* Pn	Pn	14 56 27.3	-1.2		
YLYR				⇓Pg	Pb	14 56 42.8	+1.4		
YLYR				*e*Sn	Sn	14 57 23.8	-5.9		
YLYR				Sg	Sg	14 57 52.9	-4.5		
YLYR				Pmax					
	comp=E,1.0nm,0.2s								
YLYR				Smax					
	comp=E,12nm,0.9s								
KZLR	**Kyzyl**	**5.35**	**261**	*e*Sg	Sg	14 57 54.3	-6.1		
ERNS	**Erzin**	**5.52**	**245**	*e*Sg	Sb	14 57 58.7	+6.0		
ERNS				*e*		14 58 03.4			
KMO	**Kumora**	**5.69**	**55**	*e*Pn	Pn	14 56 34.4	0.0		
KMO				*e*		14 56 46.0			
KMO				*e*Sn	Sn	14 57 35.7	-4.7		
KMO				Sg	Sg	14 58 05.2	-6.1		
KMO				Smax					
	comp=E,19nm,1.3s								
KPC	**Khapcheranga**	**6.70**	**114**	*e*Pn	Pn	14 56 50.0	+1.7		
KPC				*e*		14 58 08.8			
KPC				*e*		14 58 34.4			
KPC				*e*Sg	Sg	14 58 36.0	-7.7		
KPC				*e*		14 58 40.4			
KPC				max					
	comp=E,1.0nm,0.4s								
KPC				max					
	comp=E,11nm,1.2s								
UKT	**Uakit**	**6.79**	**63**	*e*Pn	Pn	14 56 51.5	+1.9		
UKT				*e*		14 57 20.4			
UKT				*e*		14 58 19.3			
UKT				*e*Sg	Sg	14 58 38.7	-8.0		
UKT				*e*		14 58 44.7			
UKT				max					
	comp=E,6.0nm,1.2s								

MEX 21 15:07:38.5±0.7, 15°.95N×96°.77W, h28km±14km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.66**	**106**	*e*P	Pb	15 07 49.6	-1.9
HUIG				*e*S	Sb	15 07 58.3	-2.0
VHO	**Vista Hermosa**	**1.12**	**2**	*e*P	Pn	15 07 55.7	-2.8
VHO				*i* S	Sn	15 08 09.4	-3.7
PNIG	**Pinotepa**	**1.38**	**289**	*e*P	Pn	15 07 59.0	-2.9
PNIG				*e*S	Sn	15 08 16.8	-2.5

*ISCJB **21** 15:14:51.1±0.9, 31°.14N±0°.09×115°.85W±0°.05, h11km±7km, Error ellipse: s-maj=15.5km s-min=4.7km az=22.4*
*ECX **21** 15:14:52.1±0.6, 31°.12N×115°.85W, h5km, MD2.5,ML2.8*
*MEX **21** 15:14:52.5±0.4, 31°.02N×115°.83W, h10km, MD3.5*

ISC 21 15:14:50.5±1.4, 31°.22N±0°.07×115°.77W±0°.05, h12km±13km, n13, σ0.31 s/24, 3C-1D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.31**	**123**	*e*P	**Pb**	**15 14 58.6**	**+0.3**
SPIG				*i* S	**Sb**	**15 15 03.2**	**-0.3**
SPIG	**San Pedro Mart**	**0.31**	**123**	⇑*e*P	**Pb**	**15 14 58.4**	**+0.1**
SPIG				*e*S	**Sb**	**15 15 03.2**	**-0.3**
SPX	**San Pedro Mart**	**0.32**	**123**	*e*P	**Pb**	**15 14 58.0**	**-0.2**
SPX				*e*S	**Sb**	**15 15 03.0**	**-0.4**
SPX	**San Pedro Mart**	**0.32**	**123**	⇑*i*P	**Pb**	**15 14 58.6**	**+0.3**
SPX				*e*S	**Sb**	**15 15 03.3**	**-0.2**
SPX				⇓*e*		15 15 03.7	
SPX				IAML		15 15 03.7	
	comp=N,773nm,0.1s						
SPX				*e*		15 15 04.0	
SPX				IAML		15 15 04.0	
	comp=E,727nm,0.2s						
ZAX	**El Zacaton**	**0.52**	**305**	*e*P	**Pb**	**15 15 01.5**	**-0.1**
ZAX				*e*S	**Sb**	**15 15 08.9**	**-0.3**
ZAX				IAML		15 15 10.9	
	comp=N,709nm,0.2s						
ZAX				*e*		15 15 10.9	
ECBX	**El Chinero**	**0.67**	**67**	⇑*e*P	**Pn**	**15 15 06.2**	**+0.4**
ECBX				*e*S	**Sn**	**15 15 16.0**	**-0.2**
ECNX	**Esteban Cantu**	**0.83**	**302**	*e*P	**Pg**	**15 15 06.6**	**+0.1**
PBX	**Punta Banda**	**0.97**	**303**	*e*P	**Pg**	**15 15 08.9**	**-0.3**
PBX				*e*S	**Sb**	**15 15 22.0**	**+0.1**
CBX	**Cerro Bola**	**1.33**	**326**	*e*P	**Pg**	**15 15 15.9**	**-0.2**
CBX				*e*S	**Sg**	**15 15 33.4**	**0.0**
CBX	**Cerro Bola**	**1.33**	**326**	*e*P	**Pg**	**15 15 16.1**	**0.0**
CBX				*e*S	**Sg**	**15 15 33.9**	**+0.5**
RMX	**La Rumorosa**	**1.41**	**349**	*e*P	**Pg**	**15 15 17.3**	**-0.3**
RMX				*e*S	**Sg**	**15 15 36.1**	**+0.3**
TJIG	**Tijuana**	**1.44**	**328**	*e*P	**Pb**	**15 15 17.4**	**+0.2**
TJIG				*i* S	**Sg**	**15 15 36.5**	**-0.2**
BAR	**Barrett**	**1.65**	**333**	*e*P	**Pg**	**15 15 21.5**	**-0.6**

*NORS **21** 15:20:44.3±0.0, 42°.51N×41°.16E, h5km, MPVA3.6*
*ISK **21** 15:20:44.6, 42°.33N×40°.94E, h7km, ML3.3/4*
*TIF **21** 15:20:44.8, 42°.36N×40°.96E, h21km±2km*
*ISCJB **21** 15:20:44.7±0.4, 42°.39N±0°.02×40°.87E±0°.03, h10km, mb3.6/3, Error ellipse: s-maj=3.7km s-min=2.4km az=171.7*
*MOS **21** 15:20:46.2±0.0, 42°.44N×41°.02E, h10km, MPVA3.7*
*DDA **21** 15:20:47.5, 42°.10N×40°.92E, h6km±2km, ML2.8*

ISC 21 15:20:45.7±0.6, 42°.38N±0°.02×40°.97E±0.02, h10km, n62, σ1.64/103, mb3.7/3, 3C-4D, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.95**	**145**	P	**Pg**	**15 21 03.7**	**-0.3**
BATM				S	**Sg**	**15 21 17.0**	**+0.7**
DOMR	**Dombai**	**1.03**	**28**	⇓*i*PG	**Pg**	**15 21 04.8**	**-0.7**
DOMR				*e*S	**Sb**	**15 21 17.7**	**-1.6**
DOMR	**Dombai**	**1.03**	**28**	*i* Pg	**Pg**	**15 21 04.9**	**-0.7**
DOMR				*e*Sg	**Sb**	**15 21 17.7**	**-1.6**
BCA	**Borcka**	**1.06**	**152**	PG	**Pg**	**15 21 04.7**	**-1.3**
BCA				SG	**Sg**	**15 21 19.3**	**-0.5**
DBOC	**Borcka**	**1.16**	**153**	*i* P	**Pb**	**15 21 06.8**	**-1.1**
ARXR	**Arkhyz**	**1.20**	**11**	*e*Pg	**Pb**	**15 21 07.5**	**-1.1**
ARXR				*e*Sg	**Sb**	**15 21 23.1**	**-1.1**
CHOM	**Cayeli-Rize**	**1.29**	**187**	PN	**Pn**	**15 21 08.7**	**-1.2**
CHOM				SN	**Sb**	**15 21 26.3**	**-0.5**
ARTV	**Artvin**	**1.40**	**149**	IAML_P			
	comp=Z,3μm,0.2s						
ARTV				*i* P	**Pn**	**15 21 10.7**	**-0.7**
ARTV				*i* S	**Sn**	**15 21 28.2**	**-1.9**
RPOR	**Krasnaya Polya**	**1.41**	**339**	*e*PG	**Pb**	**15 21 11.7**	**-0.4**
RPOR				*e*S	**Sg**	**15 21 31.0**	**-0.1**
RPOR	**Krasnaya Polya**	**1.41**	**339**	*e*Pg	**Pb**	**15 21 11.8**	**-0.4**
RPOR				*e*Sg	**Sg**	**15 21 30.2**	**-1.0**
DBAD	**Bademkaya**	**1.47**	**158**	IAML_P			
	comp=Z,2μm,0.2s						
DBAD				*i* P	**Pn**	**15 21 11.2**	**-1.1**
DBAD				*i* S	**Sn**	**15 21 28.8**	**-2.9**
DAGI	**Agillar**	**1.49**	**151**	IAML_P			
	comp=Z,271nm,0.2s						
DAGI				*i* P	**Pn**	**15 21 11.8**	**-0.7**
DAGI				*i* S	**Sn**	**15 21 30.9**	**-1.2**
SOC	**Sochi**	**1.51**	**323**	⇓*i*PG	**Pb**	**15 21 13.7**	**-0.1**
SOC				*e*		15 21 34.7	
SOC				pmax	pmax		
	comp=Z,71nm,0.3s						
SOC				smax	smax		
	comp=N,503nm,0.2s						
SOC				smax	smax		
	comp=E,383nm,0.3s						
SOC	**Sochi**	**1.51**	**323**	*e*Pg	**Pb**	**15 21 13.5**	**-0.3**
SOC				*e*Sg	**Sg**	**15 21 33.9**	**-0.4**
NEY	**Neytrino**	**1.55**	**56**	*e*PG	**Pn**	**15 21 12.6**	**-1.0**
NEY				*e*S	**Sn**	**15 21 32.8**	**-1.1**
NEY	**Neytrino**	**1.55**	**56**	*e*Pg	**Pn**	**15 21 12.4**	**-1.1**
NEY				*e*Sg	**Sn**	**15 21 31.2**	**-2.7**
DDEM	**Demirkent**	**1.60**	**158**	IAML_P			
	comp=Z,1μm,0.2s						
DDEM				*i* P	**Pn**	**15 21 13.5**	**-0.7**
DDEM				*i* S	**Sn**	**15 21 32.8**	**-2.1**
MACK	**Trabzon**	**1.70**	**212**	*i* P	**Pn**	**15 21 15.0**	**-0.4**
SHA1	**Shidzhatmaz**	**1.83**	**42**	*e*PN	**Pn**	**15 21 17.5**	**0.0**
SHA1				*e*S	**Sb**	**15 21 41.5**	**-1.1**
SHA1	**Shidzhatmaz**	**1.83**	**42**	*e*Pg	**Pn**	**15 21 17.5**	**0.0**
SHA1				*e*Sg	**Sn**	**15 21 39.9**	**-1.0**
LZRR	**Lazarevskoye**	**1.94**	**324**	*e*Pg	**Pn**	**15 21 19.2**	**+0.5**
LZRR				*e*Sg	**Sb**	**15 21 44.5**	**-0.8**
DIGR	**Digorskoe uzhe**	**2.00**	**74**	*e*PN	**Pn**	**15 21 20.2**	**+0.5**
DIGR	**Digorskoe uzhe**	**2.00**	**74**	*i* Pg	**Pn**	**15 21 20.0**	**+0.4**
DIGR				*e*Sg	**Sn**	**15 21 44.2**	**-0.7**
KIV	**Kislovodsk**	**2.01**	**38**	*e*PN	**Pb**	**15 21 21.1**	**-1.3**
KIV0	**Kislovodsk Arr**	**2.02**	**38**	*e*Pg	**Pb**	**15 21 20.8**	**-1.7**
KIV0				*e*Sg	**Sb**	**15 21 46.2**	**-1.5**
BAYT	**Aydıntepe-Bayb**	**2.08**	**198**	PN	**Pn**	**15 21 20.1**	**-0.7**
BEYR	**Belyy Ugol+**	**2.12**	**39**	*e*PN	**Pn**	**15 21 22.1**	**+0.9**
BEYR	**Belyy Ugol+**	**2.12**	**39**	*e*Pg	**Pn**	**15 21 22.1**	**+0.9**
BEYR				*e*Sg	**Sb**	**15 21 49.3**	**-1.2**
BAYB	**BAYBURT**	**2.19**	**194**	IAML_P			
	comp=Z,136nm,0.3s						
BAYB				*i* P	**Pn**	**15 21 23.2**	**+0.9**
ZEI	**Tsey**	**2.20**	**78**	*e*PN	**Pn**	**15 21 23.2**	**+0.7**
ZEI				*e*S	**Sb**	**15 21 51.5**	**-1.7**
ZEI	**Tsey**	**2.20**	**78**	*e*Pg	**Pn**	**15 21 23.8**	**+1.2**
ZEI				*e*Sg	**Sn**	**15 21 50.9**	**+0.9**
NCK	**Nalchik**	**2.23**	**59**	⇑*e*PN	**Pb**	**15 21 26.6**	**+0.6**
NCK	**Nalchik**	**2.23**	**59**	*e*Pg	**Pn**	**15 21 23.4**	**+0.7**
NCK				*e*Sg	**Sb**	**15 21 51.7**	**-2.0**
ESPY	**Espiye-Giresun**	**2.23**	**230**	PN	**Pn**	**15 21 22.1**	**-0.6**
BGD	**Bogdanovka**	**2.26**	**119**	P	**Pn**	**15 21 24.7**	**+1.3**
BGD				S	**Sb**	**15 21 54.3**	**-0.6**
LSNR	**Lesken**	**2.29**	**66**	*e*PN	**Pb**	**15 21 26.8**	**-0.2**
LSNR				*e*S	**Sb**	**15 21 52.9**	**-2.5**
LSNR	**Lesken**	**2.29**	**66**	*e*Pg	**Pb**	**15 21 26.1**	**-0.9**
LSNR				*e*Sg	**Sb**	**15 21 53.3**	**-2.0**
PYA1	**Pyatigorsk**	**2.29**	**42**	*e*PN	**Pn**	**15 21 23.7**	**+0.2**
PYA1				*e*S	**Sb**	**15 21 52.6**	**-2.8**
PYA1	**Pyatigorsk**	**2.29**	**42**	*i* Pg	**Pb**	**15 21 25.2**	**-1.8**
PYA1				*e*Sg	**Sb**	**15 21 52.4**	**-3.0**
KBTC	**Kuba-Taba**	**2.29**	**50**	*e*PN	**Pn**	**15 21 24.0**	**+0.4**
KBTC				*e*S	**Sb**	**15 21 52.7**	**-2.8**
KBTC	**Kuba-Taba**	**2.29**	**50**	*e*Pg	**Pb**	**15 21 27.3**	**+0.1**
KBTC				*e*Sg	**Sg**	**15 21 56.0**	**-3.3**
KORR	**Kora**	**2.39**	**72**	*e*PN	**Pn**	**15 21 26.1**	**+1.2**
KORR				*e*S	**Sb**	**15 21 55.6**	**-2.8**
KORR	**Kora**	**2.39**	**72**	*e*Pn	**Pg**	**15 21 29.8**	**-1.7**
KORR				*e*Sn	**Sb**	**15 21 57.7**	**-0.7**
STDR	**Stavd-Durt**	**2.48**	**66**	*e*Pn	**Pg**	**15 21 34.0**	**+0.8**
STDR				*i* Sn	**Sg**	**15 22 05.2**	**-0.2**
TRLG	**Trialeti**	**2.49**	**109**	P	**Pb**	**15 21 30.3**	**-0.2**
TRLG				S	**Sb**	**15 22 00.8**	**-0.5**
LACR	**Lac**	**2.50**	**79**	*e*PN	**Pn**	**15 21 27.9**	**+1.4**
LACR				*e*S	**Sn**	**15 21 58.5**	**+1.4**
LACR	**Lac**	**2.50**	**79**	*e*Pn	**Pb**	**15 21 28.9**	**-1.9**
LACR				*e*Sn	**Sn**	**15 21 58.5**	**+1.4**
ARNR	**Ardon**	**2.57**	**71**	*i* Pn	**Pg**	**15 21 33.6**	**-1.3**
ARNR				*e*Sn	**Sb**	**15 22 04.5**	**+1.0**
ALER	**Alexandrovskoy**	**2.77**	**30**	*i* Pn	**Pb**	**15 21 34.2**	**-1.1**
ALER				*e*Sn	**Sb**	**15 22 08.1**	**-1.1**
GOF	**Gofitskoye**	**3.07**	**29**	*e*PN	**Pb**	**15 21 37.9**	**-2.4**
GOF				*e*S	**Sg**	**15 22 25.2**	**+1.0**
GOF				pmax	pmax		
	comp=Z,20nm,0.6s						
GOF				smax	smax		
	comp=E,50nm,0.9s						
ANN	**Anapa**	**3.52**	**314**	*e*PN	**Pb**	**15 21 45.6**	**-2.5**
ANN				*e*		15 22 28.0	
ANN				pmax	pmax		
	comp=Z,12nm,0.5s						
ANN				smax	smax		
	comp=E,28nm,1.2s						
LGD	**Lagodekhi**	**3.96**	**96**	P	**Pb**	**15 21 56.6**	**+0.9**
LGD	**Lagodekhi**	**3.96**	**96**	*e*PN	**Pb**	**15 21 56.5**	**+0.9**
GNBR	**Gunib**	**4.44**	**88**	*e*Pn	**Pn**	**15 21 48.6**	**-4.6**
GNBR				*i* Sn	**Sn**	**15 22 40.2**	**-4.7**
MAK	**Makhachkala**	**4.86**	**81**	*i* PN	**Pn**	**15 22 02.1**	**+3.4**
ARU	**Arti**	**18.05**	**33**	⇑*e*P	**P**	**15 25 00.1**	**+3.3**
ARU				pmax	pmax		
	comp=Z,16nm,1.7s						
PRGR	**Permogore**	**19.48**	**7**	*e*P	**Pn**	**15 25 13.8**	**+0.1**
PRGR				pmax	pmax		
	comp=Z,11nm,0.9s						
BRVK	**Borovoye**	**22.27**	**51**	⇓*e*P	**P**	**15 25 47.0**	**+4.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
KURK	**Kurchatov**	**26.96**	**59**	⇑*e*P	**P**	**15 26 28.5**	**+1.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MKAR	**Makanchi Array**	**29.51**	**67**	*i* P	**P**	**15 26 48.9**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
DGZ	**Jazzator, Alta**	**32.63**	**61**	⇓*e*P	**P**	**15 27 20.6**	**+2.9**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SHEL	**Horse Pasture**	**72.23**	**227**	*i* P	**P**	**15 32 13.5**	**+2.4**

*IDC **21** 15:23:35.4±1.1, 39°.26N×77°.46E, h0km, mb3.6/6, mb1 3.7/10, mb1mx3.5/40, mbtmp3.6/10, ML2.9/4, Error ellipse: s-maj=22.9km s-min=17.8km az=128.0*
*BJI **21** 15:23:36.8, 39°.41N×77°.58E, h6km, mb3.8/4, ML4.0/10*
*SOME **21** 15:23:36.9, 39°.48N×77°.45E, h0km*
*ISCJB **21** 15:23:37.3±0.4, 39°.25N±0°.02×77°.56E±0°.04, h17km, mb3.6/6, Error ellipse: s-maj=4.6km s-min=3.1km az=150.3*
*KRNET **21** 15:23:38.2±0.1, 39°.43N×77°.38E, mb3.9*
*NNC **21** 15:23:39.6±0.9, 39°.56N×77°.42E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=8.1km s-min=4.3km az=142.0*

ISC 21 15:23:38.8±0.6, 39°.32N±0°.04×77°.61E±0°.03, h17km, n88, σ2.02/118, mb3.6/6, 27C-38D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.28**	**280**	Pg	**Pg**	**15 24 06.3**	**+2.7**
KSH				Sg	**Sg**	**15 24 28.0**	**+7.7**
KSH				smax	smax		
	comp=N,2μm,0.6s						
KSH				smax	smax		
	comp=E,2μm,0.7s						
NRN	**Naryn**	**2.44**	**330**	⇑*e*P	**Pn**	**15 24 18.6**	**+0.3**
	baz=32						
NRN				⇑*i*S	**Sn**	**15 24 49.0**	**+1.1**
	baz=32						
KDJ	**Kajisay**	**2.83**	**354**	⇓*i*P	**Pn**	**15 24 25.6**	**+2.2**
	baz=57						
KDJ				⇓*e*S	**Sn**	**15 24 59.6**	**+2.4**
	baz=57						
ULHL	**Ulahol**	**3.10**	**341**	P	**Pn**	**15 24 30.8**	**+3.5**
	SNR=74						
**ULHL

ARLS				⇑*i*S		**Sn**	**15 25 15.3 0.0**
	baz=17								
UCH	**Uchtor**	**3.74**	**322**	P		**Pn**	**15 24 37.0 +0.8**
	SNR=26								
UCH	**Uchtor**	**3.74**	**322**	⇓*i*P		**Pn**	**15 24 36.9 +0.8**
	baz=23								
UCH				⇓*i*S		**Sn**	**15 25 20.2 +0.2**
	baz=23								
TNSS	**Tian-Shan**	**3.75**	**353**	Pg		**Pb**	**15 24 43.3 -1.6**
	111nm,0.5s								
TNSS				Lg		Lg	15 25 31.5		
	130nm,0.6s								
TNSS	**Tian-Shan**	**3.75**	**353**	*e*P		**Pb**	**15 24 43.0 -1.8**
	114nm,0.5s								
TNSS				*e*S		**Sb**	**15 25 31.7 +1.6**
	151nm,0.5s								
SATY	**Saty**	**3.79**	**9**	Pg		**Pb**	**15 24 44.8 -0.5**
	89nm,0.4s								
SATY				Lg		Lg	15 25 33.8		
	142nm,0.5s								
SATY	**Saty**	**3.79**	**9**	*e*P		**Pb**	**15 24 44.6 -0.7**
	75nm,0.3s								
SATY				*e*S		**Sb**	**15 25 34.0 +3.1**
	209nm,0.4s								
IZV	**Izvestkoviy**	**3.79**	**349**	Pg		**Pb**	**15 24 43.7 -1.7**
	49nm,0.4s								
IZV				Lg		Lg	15 25 32.9		
	131nm,0.7s								
MDOK	**Medeo**	**3.87**	**354**	Pg		**Pb**	**15 24 46.5 -0.2**
	58nm,0.4s								
MDOK				Lg		Lg	15 25 35.4		
	67nm,0.6s								
KBK	**Karagaybulak**	**3.90**	**330**	P		**Pn**	**15 24 45.4 -1.8**
	SNR=65								
KBK	**Karagaybulak**	**3.90**	**330**	⇓*i*P		**Pn**	**15 24 39.4 +1.3**
	baz=31								
KBK				⇓*i*S		**Sn**	**15 25 23.7 +0.2**
	baz=31								
ZHN	**Zhinishke**	**3.90**	**9**	*e*P		**Pb**	**15 24 46.8 -0.4**
	26nm,0.3s								
ZHN				*e*S		**Sb**	**15 25 37.7 +3.6**
	35nm,0.3s								
TKM2	**Tokmak 2**	**3.91**	**338**	P		**Pn**	**15 24 39.6 +1.3**
	SNR=14								
TKM2	**Tokmak 2**	**3.91**	**338**	⇑Pg		**Pb**	**15 24 46.4 -1.0**
	16nm,0.5s								
TKM2				⇓Lg		Lg	15 25 35.1		
	22nm,0.7s								
TKM2	**Tokmak 2**	**3.91**	**338**	⇓*i*P		**Pn**	**15 24 39.7 +1.4**
	baz=40								
TKM2				⇓*i*S		**Sn**	**15 25 24.5 +0.6**
	baz=40								
MTBS	**Maitube**	**3.91**	**347**	*e*P		**Pb**	**15 24 46.1 -1.3**
	14nm,0.3s								
MTBS				*e*S		**Sb**	**15 25 36.3 +1.8**
	51nm,0.4s								
AAA	**Alma-Ata**	**3.92**	**353**	Pg		**Pb**	**15 24 47.1 -0.5**
	109nm,0.5s								
AAA				Lg		Lg	15 25 37.6		
	359nm,0.6s								
KST	**Kastek**	**3.92**	**342**	Pg		**Pb**	**15 24 45.7 -1.9**
	66nm,0.9s								
KST				Lg		Lg	15 25 35.6		
	82nm,0.6s								
KST	**Kastek**	**3.92**	**342**	*e*P		**Pb**	**15 24 45.9 -1.8**
	32nm,0.4s								
KST				*e*S		**Sb**	**15 25 35.8 +0.9**
	51nm,0.4s								
KNDC	**Almaty**	**3.93**	**353**	⇑Pg		**Pb**	**15 24 46.8 -0.8**
	43nm,0.5s								
KNDC				⇑Lg		Lg	15 25 37.1		
	261nm,0.7s								
KOTS	**Kotyrbulak**	**3.93**	**355**	Pg		**Pb**	**15 24 46.7 -1.1**
	104nm,0.5s								
KOTS				Lg		Lg	15 25 37.0		
	390nm,0.5s								
UZB	**Uzynbulak**	**3.97**	**15**	Pg		**Pb**	**15 24 48.0 -0.5**
	20nm,0.6s								
UZB				Lg		Lg	15 25 39.8		
	115nm,0.9s								
UZB	**Uzynbulak**	**3.97**	**15**	*e*P		**Pb**	**15 24 49.0 +0.5**
	15nm,0.4s								
UZB				*e*S		**Sg**	**15 25 41.5 -4.9**
	133nm,0.5s								
ARSB	**Arslanbob**	**4.07**	**301**	⇓*i*P		**Pn**	**15 24 40.8 +0.4**
	baz=1.0								
ARSB				⇓*e*S		**Sn**	**15 25 26.6 -1.0**
	baz=1.0								
AAK	**Ala-Archa**	**4.07**	**326**	P		**Pn**	**15 24 41.7 +1.3**
	SNR=8.2								
AAK	**Ala-Archa**	**4.07**	**326**	Pg		**Pb**	**15 24 48.7 -1.4**
	15nm,0.5s								
AAK				Lg		Lg	15 25 38.7		
	147nm,1.1s								
AAK	**Ala-Archa**	**4.07**	**326**	⇓*i*P		**Pn**	**15 24 41.4 +1.0**
	baz=27								
AAK				⇓*i*S		**Sn**	**15 25 27.4 -0.4**
	baz=27								
SHLS	**Shalkode**	**4.08**	**19**	Pg		**Pb**	**15 24 52.1 +1.7**
	49nm,0.4s								
SHLS				Lg		Lg	15 25 46.4		
	471nm,0.6s								
AML	**Almayashu**	**4.09**	**315**	P		**Pn**	**15 24 41.9 +0.9**
	SNR=22								
AML	**Almayashu**	**4.09**	**315**	⇑*i*P		**Pn**	**15 24 41.9 +0.9**
	baz=15								
AML				⇑*i*S		**Sn**	**15 25 27.9 -0.8**
	baz=15								
FRU1	**Bishkek**	**4.15**	**328**	⇑*i*P		**Pn**	**15 24 43.0 +1.5**
	baz=29								
FRU1				⇑*i*S		**Sn**	**15 25 29.1 -0.6**
	baz=29								
DGS	**Degeres**	**4.16**	**341**	Pg		**Pb**	**15 24 49.8 -1.8**
	82nm,0.6s								
DGS				Lg		Lg	15 25 43.2		
	78nm,0.7s								
PDGK	**Podgornoye**	**4.25**	**19**	⇑Pn		**Pn**	**15 24 43.7 +0.8**
	1.9nm,0.6s								
PDGK				⇓Pg		**Pb**	**15 24 53.7 +0.5**
	8.5nm,0.5s								
PDGK				⇑Lg		Lg	15 25 48.7		
	119nm,0.7s								
PDGK	**Podgornoye**	**4.25**	**19**	⇓*i*P		**Pn**	**15 24 46.2 +3.3**
	baz=21								
PDGK				⇓*i*S		**Sn**	**15 25 35.3 +3.1**
	baz=21								
CHMS	**Chumysh**	**4.26**	**331**	P		**Pn**	**15 24 44.4 +1.4**
	SNR=10								
CHMS	**Chumysh**	**4.26**	**331**	⇓*e*P		**Pn**	**15 24 43.7 +0.7**
	baz=32								
CHMS				⇓*i*S		**Sn**	**15 25 32.6 +0.2**
	baz=32								
EKS2	**Erkin-Say**	**4.42**	**320**	P		**Pn**	**15 24 46.7 +1.4**
	SNR=11								
EKS2	**Erkin-Say**	**4.42**	**320**	⇑*i*P		**Pn**	**15 24 46.2 +0.9**
	baz=21								
EKS2				⇑*i*S		**Sn**	**15 25 35.9 -0.5**
	baz=21								
KTBS	**Karatobe**	**4.45**	**351**	Pg		**Pb**	**15 24 54.9 -1.6**
	28nm,0.5s								
KTBS				Lg		Lg	15 25 50.9		
	144nm,0.6s								
DRK	**Karamyk**	**4.50**	**274**	⇑*i*P		**Pn**	**15 24 47.8 +1.3**
	baz=72								
DRK				⇑*i*S		**Sn**	**15 25 38.4 -0.2**
	baz=72								
USP	**Ospenovka**	**4.59**	**330**	P		Pn	15 24 52.6 +5.1		
	SNR=15								
USP	**Ospenovka**	**4.59**	**330**	⇓*i*P		**Pn**	**15 24 48.6 +1.1**
	baz=31								
USP				⇓*i*S		**Sn**	**15 25 40.2 -0.2**
	baz=31								
KTMS	**Ketmen**	**4.61**	**26**	Pg		**Pb**	**15 24 59.2 -0.2**
KTMS				Lg		Lg	15 25 59.0		
MNBS	**Baschi**	**4.80**	**7**	Pg		**Pb**	**15 25 02.7 +0.3**
	28nm,0.7s								
MNBS				Lg		Lg	15 26 04.5		
	96nm,0.6s								
ARXS	**Arharly**	**4.90**	**2**	Pg		**Pb**	**15 25 04.3 +0.1**
	39nm,0.6s								
ARXS				Lg		Lg	15 26 07.2		
	140nm,0.7s								
MNAS	**Manas**	**5.00**	**311**	⇓Pn		**Pn**	**15 24 53.9 +0.7**
	0.7nm,0.5s								
MNAS				⇑Pg		**Pb**	**15 25 06.4 +0.5**
	6.0nm,0.6s								
MNAS				⇑Lg		Lg	15 26 08.6		
	69nm,0.9s								
MNAS	**Manas**	**5.00**	**311**	⇓*i*P		**Pn**	**15 24 54.1 +0.9**
	baz=11								
MNAS				⇓*i*S		**Sn**	**15 25 49.8 -0.8**
	baz=11								
KK31	**Karatay Array**	**6.55**	**308**	⇓Pn		**Pn**	**15 25 17.9 +3.5**
	0.2nm,0.3s,baz=122,slow=11,SNR=5.4								
KK31				⇑Pg		**Pb**	**15 25 33.3 +1.0**
	2.0nm,0.6s,baz=133,slow=13,SNR=16								
KK31				⇑Lg		Lg	15 26 58.4		
	21nm,0.9s,baz=129,slow=25,SNR=5.8								
CHCP	**Chirak Chowk**	**6.64**	**213**	P		**Pn**	**15 25 20.0 +4.3**
CEP	**Cherat**	**7.14**	**222**	P		**Pn**	**15 25 25.3 +2.6**
CEP				S		**Sn**	**15 26 50.0 +6.5**
THW	**Thamme Wali**	**8.05**	**218**	P		**Pn**	**15 25 37.3 +2.2**
MAKZ	**Makanchi**	**8.14**	**22**	⇓Pn		**Pn**	**15 25 34.7 -1.5**
MAKZ				⇓Lg		Lg	15 27 52.3		
	2.2nm,0.7s								
MK31	**Makanchi Array**	**8.22**	**23**	Pn		**Pn**	**15 25 37.4 +0.1**
	baz=196,slow=13,SNR=31								
MK31				⇓Pg		Pb	15 26 08.3 +7.6		
	0.8nm,0.4s,baz=206,slow=16,SNR=9.3								
MK31				⇓Lg		Lg	15 27 49.6		
	4.9nm,0.7s,baz=218,slow=27,SNR=3.7								
MKAR	**Makanchi Array**	**8.22**	**23**	Pn		**Pn**	**15 25 37.7 +0.4**
	0.3nm,0.3s,baz=201,slow=12,SNR=12								
MKAR				Sn		**Sn**	**15 27 11.9 +2.2**
	0.6nm,0.3s,baz=206,slow=23,SNR=4.6								
MKAR				Lg		Lg	15 27 48.4		
	0.8nm,0.3s,baz=196,slow=30,SNR=4.9								
WMQ	**Urumqi**	**8.80**	**56**	P		**Pn**	**15 25 44.3 -1.0**
WMQ				smax		smax			
	comp=N,31nm,0.5s								
WMQ				smax		smax			
	comp=E,33nm,0.4s								
OTUK	**Ortayu**	**9.70**	**339**	⇑Lg		Lg	15 28 34.0		
	11nm,0.8s								
KURBB	**Kurchatov Arra**	**11.32**	**3**	Pn		**Pn**	**15 26 19.0 -0.8**
	0.0nm,0.3s,baz=187,slow=12,SNR=3.6								
KURBB	**Kurchatov Arra**	**11.32**	**3**	⇓Lg		Lg	15 29 31.7		
	29nm,0.8s								
KURK	**Kurchatov**	**11.42**	**3**	⇓Lg		Lg	15 29 28.4		
	8.7nm,1.0s								
PYUN	**Piuthan**	**12.05**	**157**	*e*P		**Pn**	**15 26 29.2 -0.7**
	19nm,0.3s								
DANN	**Dangsing**	**12.07**	**153**	*e*P		**Pn**	**15 26 29.6 -0.7**
	11nm,0.3s								
KOLN	**Koldanda**	**12.55**	**155**	*e*P		**Pn**	**15 26 35.7 -1.1**
	7.2nm,0.3s								
KKN	**Kakani**	**13.15**	**149**	*e*P		**Pn**	**15 26 43.9 -1.1**
	9.7nm,0.5s								
GUN	**Gumba**	**13.29**	**146**	*e*P		**Pn**	**15 26 46.1 -1.0**
	7.3nm,0.4s								
PKIN	**Phulchoki**	**13.38**	**149**	*e*P		**Pn**	**15 26 46.5 -1.8**
	8.8nm,0.5s								
JIRN	**Jiri**	**13.64**	**146**	*e*P		**Pn**	**15 26 50.2 -1.7**
	17nm,0.3s								
RAMN	**Ramite**	**14.44**	**146**	*e*P		Pn	15 26 57.8 -4.9		
	7.5nm,0.4s								
GEYT	**Alibeck**	**15.30**	**271**	Pn		**Pn**	**15 27 09.6 -4.5**
	0.2nm,0.3s,baz=72,slow=15,SNR=3.3								
GEYT				Sn		**Sn**	**15 29 55.1 -7.9**
	0.3nm,0.3s,baz=72,slow=11,SNR=3.7								
ZALV	**Zalesovo Beam**	**15.44**	**16**	Pn		**Pn**	**15 27 15.7 +0.1**
	0.1nm,0.3s,baz=218,slow=8.6,SNR=2.2								
ZALV				Lg		Lg	15 31 49.0		
	0.1nm,0.3s,baz=211,slow=26,SNR=3.7								
GTA	**Gaotai**	**17.17**	**83**	*e*P		**P**	**15 27 40.9 +1.3**
GTA				pP		sP	15 27 45.3 -1.3		
GTA				sP		pP	15 27 48.0 +3.6		
GTA				pmax		pmax			
	comp=Z,1.0nm,1.2s								
SONM	**Songino Array**	**22.43**	**58**	P		**P**	**15 28 37.5 +0.8**
	1.6nm,0.6s,baz=254,slow=10,SNR=12								
BRTR	**Keskin Array B**	**33.66**	**285**	P		**P**	**15 30 18.4 -0.4**
	0.4nm,0.6s,baz=84,slow=6.6,SNR=3.1								
FINES	**FINESS Array B**	**38.25**	**323**	P		**P**	**15 30 55.8 -1.8**
	2.1nm,0.8s,baz=104,slow=8.0,SNR=3.3								
TORD	**Torodi Ar. Bea**	**70.94**	**272**	P		**P**	**15 34 53.7 -1.8**
	0.3nm,0.5s,baz=46,slow=5.0,SNR=4.2								
WRA	**Warramunga Arr**	**79.26**	**127**	P		**P**	**15 35 43.1 -0.2**
	0.5nm,1.0s,baz=318,slow=5.8,SNR=2.6								
ASAR	**Alice Springs**	**81.79**	**130**	P		**P**	**15 35 56.4 -0.4**
	0.6nm,1.0s,baz=324,slow=5.4,SNR=3.2								

IDC 21 15:24:30.9±1.7, 32°11N×137°58E, h413km±38km, mb2.6/2, mb1 2.8/5, mb1mx2.5/37, mbtmp3.4/5, Error ellipse: s-maj=55.6km s-min=30.3km az=68.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAT	**Matsushiro**	**4.45**	**7**	S	P	15 25 49.2	+1.5
MJAR	**Matsushiro Arr**	**4.45**	**7**	P	P	15 25 48.4	+0.6
	0.3nm,0.3s,baz=185,slow=11,SNR=17						
MJAR				S	S	15 26 50.2	-0.4
	0.0nm,0.3s,baz=195,slow=16,SNR=3.6						
KSRS	**Korea Array**	**9.56**	**307**	P	P	15 26 44.6	+1.4
	0.1nm,0.3s,baz=120,slow=9.6,SNR=5.1						
KLR	**Kul'dur**	**17.65**	**347**	P	P	15 28 10.9	0.0
	0.2nm,0.3s,baz=164,slow=10,SNR=5.6						
WRA	**Warramunga Arr**	**51.85**	**184**	P	P	15 32 59.0	-0.1
	0.2nm,0.3s,baz=0.1,slow=7.7,SNR=14						
ASAR	**Alice Springs**	**55.58**	**184**	P	P	15 33 25.4	-0.3
	0.3nm,0.8s,baz=15,slow=10.0,SNR=3.5						

WEL 21 15:44:50.4±0.7, 33°S±11°×177°9W±2°8, h12km, ML4.7/17, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.66**	**16**	S	Sn	15 46 30.6	+0.7
MXZ	**Matakaoa Point**	**5.21**	**203**	P	Pn	15 46 10.5	+2.3
MXZ				S	Sn	15 47 10.7	+2.4
WMGZ	**Waiomatatini S**	**5.42**	**201**	P	Pn	15 46 12.2	+1.3
WMGZ				S	Sn	15 47 17.3	+4.1
HAZ	**Te Kaha**	**5.57**	**206**	P	Pn	15 46 13.4	+0.3
PKGZ	**Pakihiroa**	**5.59**	**204**	P	Pn	15 46 13.0	-0.3
PUZ	**Puketiti**	**5.70**	**202**	P	Pn	15 46 14.5	-0.4
PUZ				S	Sn	15 47 22.0	+1.9
RUGZ	**Raukumara Rang**	**5.80**	**206**	P	Pn	15 46 16.1	-0.3
TWGZ	**Tauwhareparae**	**5.88**	**203**	P	Pn	15 46 18.1	+0.8
TWGZ				S	Sn	15 47 27.3	+2.6
CNGZ	**Carnagh Statio**	**6.09**	**200**	P	Pn	15 46 20.0	-0.2
TKGZ	**Te Karaka**	**6.16**	**203**	P	Pn	15 46 19.4	-1.7
OPRZ	**Ohinepanea**	**6.17**	**214**	P	Pn	15 46 23.1	+1.8
MWZ	**Matawai**	**6.18**	**205**	P	Pn	15 46 19.7	-1.7
MWZ				S	Sn	15 47 30.4	-1.6
MARZ	**Manawahe**	**6.23**	**212**	P	Pn	15 46 23.9	+1.8
URZ	**Urewera**	**6.27**	**208**	P	Pn	15 46 21.9	-0.8
URZ				S	Sn	15 47 32.3	-2.0
RAGZ	**Rawiri**	**6.36**	**205**	P	Pn	15 46 22.7	-1.3
RAGZ				S	Sn	15 47 35.5	-1.1
RIGZ	**Rimuhau**	**6.43**	**202**	P	Pn	15 46 24.4	-0.6
KARZ	**Kaharoa**	**6.46**	**215**	P	Pn	15 46 26.6	+1.3
PRGZ	**Paritu Road**	**6.59**	**201**	P	Pn	15 46 26.6	-0.6
MUGZ	**Murupara**	**6.60**	**209**	P	Pn	15 46 25.1	-2.1
TOZ	**Tahuroa Road**	**6.62**	**220**	P	Pn	15 46 30.0	+2.5
RTZ	**Ruatahuna**	**6.63**	**208**	P	Pn	15 46 26.3	-1.4
SNGZ	**Shannon Statio**	**6.64**	**205**	P	Pn	15 46 27.0	-0.9
KNZ	**Kokohu**	**6.75**	**202**	P	Pn	15 46 27.6	-1.6
PRRZ	**Plateau Road**	**6.78**	**212**	P	Pn	15 46 29.9	+0.2
MHGZ	**Mahia Peninsul**	**6.80**	**200**	P	Pn	15 46 29.4	-0.5
ALRZ	**Allen Road**	**6.85**	**211**	P	Pn	15 46 31.1	+0.4
RAHZ	**Arahi**	**6.85**	**206**	P	Pn	15 46 29.4	-1.3
MTHZ	**Maungataniwha**	**6.89**	**207**	P	Pn	15 46 29.8	-1.4
WPRZ	**Whakapapatarin**	**6.90**	**213**	P	Pn	15 46 32.2	+0.9
WHHZ	**Waihua**	**6.94**	**204**	P	Pn	15 46 31.1	-0.8
MRHZ	**Matea Rd**	**7.04**	**210**	P	Pn	15 46 31.8	-1.6
TLZ	**Tolley Road**	**7.05**	**217**	P	Pn	15 46 34.3	+0.9
NMHZ	**Naumai**	**7.12**	**207**	P	Pn	15 46 34.2	-0.1
ARHZ	**Aropaoanui**	**7.19**	**205**	P	Pn	15 46 34.7	-0.7
WATZ	**Wairara**	**7.25**	**214**	P	Pn	15 46 34.9	-1.2
BKZ	**Black Stump Fm**	**7.30**	**208**	P	Pn	15 46 34.6	-2.3
RATZ	**Rangitukua**	**7.36**	**213**	P	Pn	15 46 37.3	-0.3
MCHZ	**McNeill Hill**	**7.46**	**206**	P	Pn	15 46 37.4	-1.7
HIZ	**Hauiti**	**7.54**	**219**	P	Pn	15 46 40.6	+0.5
KWHZ	**Kaweka Forest**	**7.55**	**207**	P	Pn	15 46 37.6	-2.7
KRVZ	**Karewarewa**	**7.60**	**213**	P	Pn	15 46 39.9	-1.2
WTVZ	**West Tongariro**	**7.64**	**213**	P	Pn	15 46 40.2	-1.4
NGZ	**Ngauruhoe**	**7.68**	**212**	P	Pn	15 46 40.7	-1.5
KAHZ	**Kahuranaki**	**7.71**	**204**	P	Pn	15 46 39.6	-2.9
TUVZ	**Tukino**	**7.74**	**212**	P	Pn	15 46 41.0	-2.0
BHHZ	**Black Hill Sta**	**7.75**	**209**	P	Pn	15 46 39.5	-3.5
FWVZ	**Far West T-bar**	**7.77**	**212**	P	Pn	15 46 41.2	-2.3
MOVZ	**Moawhango**	**7.81**	**211**	P	Pn	15 46 41.1	-2.8
PXZ	**Pawanui**	**7.93**	**203**	P	Pn	15 46 42.1	-3.3
VRZ	**Vera Road**	**8.05**	**216**	P	Pn	15 46 45.3	-1.7

MEX 21 15:46:23.4±0.4, 17°36N×100°90W, h4km±4km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.60**	**295**	*e*P	Pg	15 46 34.4	-0.5
ZIIG				*e*S	Sg	15 46 43.2	+0.5
CAIG	**El Cayaco**	**0.68**	**117**	*e*P	Pg	15 46 35.4	-1.0
CAIG				*i* S	Sg	15 46 45.0	-0.1
ARIG	**Puente Sto Nin**	**1.05**	**30**	*e*P	Pg	15 46 40.9	-2.8
ARIG				*i* S	Sg	15 46 54.6	-2.8
MEIG	**Mezcala**	**1.34**	**65**	*e*P	Pn	15 46 45.6	-3.4
MEIG				*e*S	Sg	15 47 02.4	-4.1
PLIG	**Platanillo**	**1.68**	**52**	*e*P	Pn	15 46 50.2	-3.4
PLIG				*e*S	Sn	15 47 10.9	-4.7
MOIG	**Morelia**	**2.32**	**353**	*i* P	Pn	15 47 00.1	-2.5
MOIG				*i* S	Sn	15 47 26.9	-4.9

ISCJB ***21*** *15:46:31.2±0.4, 24°.43N±0°.02×122°.01E±0°.01, h0km±4km, Error ellipse: s-maj=2.9km s-min=2.1km az=153.8*
JMA ***21*** *15:46:31.8±0.1, 24°.43N×121°.97E, h15km, M2.4*
TAP ***21*** *15:46:31.6, 24°.46N×121°.96E, h13km, ML2.8, B*
ISC 21 15:46:31.6±0.8, 24°44N±0°.02×121°99E±0°.02, h13km±5km, n63, σ0.955/113, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.17**	**50**	*e*P	**Pg**	**15 46 36.1**	**+0.6**
	baz=51						
EOS1				*e*S	**Sb**	**15 46 39.7**	**-0.2**
	baz=51						
TWC	**Suao**	**0.21**	**323**	*i* P	**Pg**	**15 46 36.0**	**-0.2**
	baz=334						
TWC				*i* S	**Sg**	**15 46 38.5**	**-0.8**
	baz=334						
ENA	**Nanau**	**0.22**	**267**	*i* P	**Pg**	**15 46 36.3**	**-0.2**
	baz=268						
ENA				*i* S	**Sg**	**15 46 39.4**	**-0.3**
	baz=268						
ILA	**Ilan**	**0.39**	**326**	*e*P	**Pg**	**15 46 39.7**	**+0.3**
	baz=317						
TWE	**Neicheng**	**0.40**	**314**	P	**Pg**	**15 46 39.7**	**0.0**
	baz=319						
TWE				S	**Sg**	**15 46 44.9**	**-0.3**
	baz=319						
EGS		**0.41**	**353**	P	**Pg**	**15 46 40.0**	**+0.3**
	baz=349						
EGS				S	**Sb**	**15 46 46.7**	**-0.1**
	baz=349						
ENTT	**Nioudou**	**0.43**	**298**	*i* P	**Pg**	**15 46 40.2**	**+0.1**
	baz=296						
ENTT				*i* S	**Sg**	**15 46 45.7**	**-0.3**
	baz=296						
NTC	**Toucheng**	**0.44**	**341**	P	**Pg**	**15 46 40.4**	**+0.1**
	baz=341						
NTC				*e*S	**Sb**	**15 46 47.5**	**-0.1**
	baz=341						
NACB	**Ninganchiao**	**0.45**	**234**	*e*P	**Pg**	**15 46 40.2**	**-0.2**
	baz=231						
NACB				*e*S	**Sg**	**15 46 46.4**	**+0.1**
	baz=231						
TWD	**Chiawan**	**0.51**	**225**	P	**Pg**	**15 46 41.3**	**-0.2**
	baz=227						
TWD				S	**Sg**	**15 46 48.4**	**+0.1**
	baz=227						
NNSB	**Datong**	**0.55**	**269**	*e*P	**Pg**	**15 46 42.3**	**-0.1**
	baz=267						
NNSB				*e*S	**Sg**	**15 46 49.3**	**-0.4**
	baz=267						
NWLT	**Wulai**	**0.55**	**307**	P	**Pg**	**15 46 42.6**	**+0.2**
	baz=307						
NNS	**Nan Shan**	**0.56**	**270**	*i* P	**Pg**	**15 46 42.4**	**-0.2**
	baz=268						
NNS				*i* S	**Sg**	**15 46 49.6**	**-0.5**
	baz=268						
YHNB	**Yeheng**	**0.60**	**292**	*e*P	**Pg**	**15 46 43.5**	**+0.1**
	baz=297						
YHNB				*e*S	**Sg**	**15 46 50.1**	**-1.3**
	baz=297						
NSK	**Sanguang**	**0.62**	**292**	*i* P	**Pb**	**15 46 43.8**	**-0.5**
	baz=297						
NSK				*i* S	**Sg**	**15 46 51.5**	**-0.4**
	baz=297						
TWA	**Mucha**	**0.65**	**326**	P	**Pb**	**15 46 44.7**	**-0.1**
	baz=326						
TWA				S	**Sb**	**15 46 53.4**	**-0.4**
	baz=326						
NWF	**Wu-fen Shan**	**0.66**	**343**	P	**Pb**	**15 46 45.3**	**+0.3**
	baz=332						
NWF				S	**Sg**	**15 46 53.3**	**+0.2**
	baz=332						
WFSB	**Wu-fen Shan**	**0.66**	**343**	*e*P	**Pb**	**15 46 44.8**	**-0.1**
	baz=332						
WFSB				*e*S	**Sg**	**15 46 53.1**	**+0.1**
	baz=332						
TATO	**Taipei**	**0.70**	**320**	*e*P	**Pb**	**15 46 45.6**	**0.0**
	baz=308						
TATO				*e*S	**Sg**	**15 46 54.0**	**-0.4**
	baz=308						
WHF	**Hehuan Shan**	**0.72**	**246**	*i* P	**Pg**	**15 46 45.5**	**-0.2**
	baz=254						
WHF				*i* S	**Sb**	**15 46 55.6**	**-0.6**
	baz=254						
TWT	**Tachien**	**0.76**	**256**	*i* P	**Pb**	**15 46 46.6**	**-0.2**
	baz=255						
TWT				*i* S	**Sb**	**15 46 56.9**	**-0.3**
	baz=255						
TDCB	**Techi**	**0.78**	**256**	*e*P	**Pg**	**15 46 46.7**	**0.0**
	baz=255						
TDCB				*e*S	**Sg**	**15 46 56.6**	**-0.3

	baz=282							
LIOB				S		Sb	15 47 01.1	-0.1
	baz=282							
NSTT	**Nanjuang**	**0.92**	**282**	*i* P		**Pn**	**15 46 49.9**	**-0.3**
	baz=281							
NSTT				*i* S		**Sg**	**15 47 00.8**	**-0.5**
	baz=281							
YOJ	**Yonaguni jima**	**0.93**	**88**	*eP*		**Pb**	**15 46 49.2**	**-0.4**
	baz=89							
YOJ	**Yonaguni jima**	**0.93**	**88**	P		**Pb**	**15 46 49.5**	**-0.1**
YOJ				*eS*		**Sb**	**15 47 02.1**	**+0.2**
SBCB	**Hsinchu**	**0.98**	**291**	*eS*		**Sn**	**15 47 07.0**	**+2.2**
	baz=284							
VWDT	**VWDT**	**1.03**	**229**	*eP*		**Pg**	**15 46 51.4**	**-0.1**
	baz=232							
VWDT				*eS*		**Sg**	**15 47 04.6**	**-0.4**
	baz=232							
HGSD	**Ruisui**	**1.07**	**209**	*eP*		**Pg**	**15 46 52.6**	**+0.2**
	baz=209							
TWQ1	**Liyutan**	**1.11**	**266**	P		**Pg**	**15 46 53.1**	**+0.1**
	baz=265							
TWQ1				*eS*		**Sn**	**15 47 07.6**	**-0.5**
	baz=265							
SMLT	**Sun Moon Lake**	**1.14**	**241**	P		**Pg**	**15 46 53.6**	**+0.1**
	baz=240							
SSLB	**Suanglung**	**1.15**	**236**	*eP*		**Pn**	**15 46 53.2**	**-0.2**
	baz=242							
SSLB				*eS*		**Sb**	**15 47 07.7**	**-0.4**
	baz=242							
TYC	**Yuchr**	**1.16**	**243**	P		**Pg**	**15 46 53.7**	**-0.3**
	baz=249							
TYC				S		**Sb**	**15 47 08.1**	**-0.4**
	baz=249							
YULB	**Yu-li**	**1.22**	**211**	*eP*		**Pb**	**15 46 54.4**	**-0.1**
	baz=212							
TWF1	**Yuli**	**1.25**	**210**	P		**Pn**	**15 46 54.6**	**-0.2**
	baz=229							
TWF1				S		**Sg**	**15 47 12.3**	**+0.3**
	baz=229							
ALS	**Alishan**	**1.42**	**230**	P		**Pg**	**15 46 58.9**	**-0.1**
	baz=230							
ALS				S		**Sg**	**15 47 19.2**	**+1.7**
	baz=230							
CHN5	**Tsauling**	**1.46**	**235**	P		**Pg**	**15 47 00.4**	**+0.7**
	baz=238							
CHN5				S		**Sg**	**15 47 19.2**	**+0.5**
	baz=238							
ELDTW	**Lidau**	**1.53**	**216**	*eP*		**Pn**	**15 46 58.7**	**0.0**
	baz=218							
ELDTW				*eS*		**Sg**	**15 47 20.4**	**-0.5**
	baz=218							
IRIF	**Iriomote-Funau**	**1.59**	**93**	P		**Pn**	**15 46 58.9**	**-0.6**
IRIF				S		**Sn**	**15 47 19.8**	**-0.1**
CHN4	**Tsaushan**	**1.67**	**230**	*eP*		**Pg**	**15 47 03.8**	**0.0**
	baz=233							
CHN4				*eS*		**Sg**	**15 47 26.4**	**+0.9**
	baz=233							
TPUB	**Ta-pu**	**1.68**	**228**	*eP*		**Pg**	**15 47 03.8**	**-0.1**
	baz=230							
TPUB				*eS*		**Sg**	**15 47 26.7**	**+0.9**
	baz=230							
WTP	**Ta-pu**	**1.73**	**227**	*eP*		**Pg**	**15 47 05.1**	**+0.3**
	baz=229							
WTP				*eS*		**Sg**	**15 47 29.0**	**+1.7**
	baz=229							
TWK	**Hsinying**	**1.80**	**230**	*eP*		**Pb**	**15 47 03.7**	**-0.8**
	baz=233							
TWK				*eS*		**Sg**	**15 47 31.1**	**+1.5**
	baz=233							
CHN1	**Nanshi**	**1.83**	**227**	*eS*		**Sg**	**15 47 31.3**	**+0.8**
	baz=231							
JKRS	**Kuro-shima**	**1.86**	**96**	P		**Pn**	**15 47 03.1**	**0.0**
JKRS				S		**Sn**	**15 47 26.1**	**-0.3**
SLGT	**Liugui**	**1.89**	**221**	*eP*		**Pb**	**15 47 06.7**	**+0.7**
	baz=225							
SLGT				*eS*		**Sg**	**15 47 32.0**	**-0.5**
	baz=225							
JIJ	**Ishigaki jima**	**1.97**	**92**	P		**Pn**	**15 47 04.3**	**-0.3**
JIJ				*eS*		**Sn**	**15 47 28.0**	**-1.2**
JISG	**Ishigakijimahi**	**2.12**	**86**	P		**Pn**	**15 47 06.1**	**-0.7**
JISG				*eS*		**Sn**	**15 47 32.6**	**-0.4**

*ISK **21** 16:08:49.4, 39.˝76N×25.˝56E, h5km, ML3.2/23*
*ISCJB **21** 16:08:50.0±0.5, 39.˝78N±0.˝02×25.˝56E±0.˝03, h8km±4km, Error ellipse: s-maj=3.8km s-min=3.2km az=30.2*
*DDA **21** 16:08:50.3, 39.˝74N×25.˝64E, h26km±1km, ML3.4*
*THE **21** 16:08:50.8, 39.˝79N×25.˝54E, h9km, ML2.5/4, Error ellipse: s-maj=0.8km s-min=0.4km az=268.0*
*ATH **21** 16:08:50.0, 39.˝81N×25.˝53E, h26km±1km, ML2.7/5, Error ellipse: s-maj=2.1km s-min=1.1km az=225.0*

ISC 21 16:08:49.7±1.1, **39.˝73N**±0.˝02×**25.˝54E**±0.˝02, **h12**km±10km, **n69**, σ1§**43**/80, **6C-3D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.32**	**301**	P	**Pb**	**16 08 56.7**	**-0.7**
LIA				S	**Sb**	**16 09 01.2**	**-1.4**
LIA				AML	AML	16 09 05.0	
	comp=E,2700μm,0.3s						
LIA				AML	AML	16 09 05.8	
	comp=N,2058μm,0.3s						
LIA	**Limnos Island**	**0.32**	**301**	P	**Pb**	**16 08 56.7**	**-0.7**
LIA				S	**Sb**	**16 09 01.0**	**-1.6**
BOZC	**Bozcaada**	**0.41**	**74**	PG	**Pb**	**16 08 57.7**	**-1.2**
BOZC				SG	**Sb**	**16 09 03.3**	**-1.7**
BOZC	**Bozcaada**	**0.41**	**74**	IAML_P			
	comp=Z,25μm,0.2s						
BOZC				*i* S	**Sb**	**16 09 03.8**	**-1.3**
BOZC				*i* P	Pn	16 09 06.5	+5.1
EFSA	**Agios Efstrati**	**0.47**	**246**	P	**Pn**	**16 09 01.0**	**-1.3**
EFSA				S	**Sb**	**16 09 08.0**	**+1.2**
EFSA				AML	AML	16 09 08.4	
	comp=E,3648μm,0.7s						
EFSA				AML	AML	16 09 08.4	
	comp=N,3866μm,0.4s						
GADA	**Gvkgeada**	**0.53**	**31**	PG	**Pb**	**16 08 59.9**	**-1.1**
EZN	**Ezine**	**0.61**	**81**	PG	**Pb**	**16 09 01.4**	**-0.9**
EZN				SG	**Sb**	**16 09 09.6**	**-1.2**
SMTH	**Samothraki Isl**	**0.74**	**359**	P	**Pb**	**16 09 03.3**	**-1.2**
SMTH				S	**Sb**	**16 09 13.8**	**-0.8**
SMTH				AML	AML	16 09 16.6	
	comp=N,684μm,0.3s						
SMTH				AML	AML	16 09 17.5	
	comp=E,560μm,0.4s						
SMTH	**Samothraki Isl**	**0.74**	**359**	P	**Pb**	**16 09 03.8**	**-0.7**
SMTH				S	**Sb**	**16 09 13.9**	**-0.7**
PRK	**Paraskevi**	**0.74**	**131**	P	**Pn**	**16 09 05.5**	**-0.5**
PRK				S	**Sn**	**16 09 16.9**	**-0.3**
PRK				AML	AML	16 09 19.6	
	comp=N,2225μm,0.3s						
PRK				AML	AML	16 09 20.5	
	comp=E,4727μm,0.3s						
PRK	**Paraskevi**	**0.74**	**131**	P	**Pn**	**16 09 05.4**	**-0.6**
BAYC	**CANAKKALE_Bayr**	**0.77**	**89**	*i* P	**Pb**	**16 09 04.7**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.97**	**47**	PG	**Pb**	**16 09 07.9**	**-0.6**
AYVA	**Ayvalik**	**0.98**	**115**	IAML_P			
	comp=Z,3μm,0.2s						
AYVA				*i* P	**Pn**	**16 09 09.3**	**0.0**
THAS	**Thassos island**	**1.08**	**324**	P	**Pg**	**16 09 09.3**	**-1.2**
ENEZ	**Enez**	**1.10**	**25**	PG	**Pn**	**16 09 10.3**	**-0.7**
LPK	**Lapseki**	**1.13**	**55**	PN	**Pn**	**16 09 10.8**	**-0.6**
ALN	**Alexandroupoli**	**1.22**	**18**	P	**Pn**	**16 09 12.0**	**-0.7**
ALN				S	**Sn**	**16 09 29.0**	**-0.2**
ALN				AML	AML	16 09 29.3	
	comp=E,405μm,0.3s						
ALN				AML	AML	16 09 34.5	
	comp=N,348μm,0.4s						
ALN	**Alexandroupoli**	**1.22**	**18**	P	**Pn**	**16 09 12.1**	**-0.6**
ALN				S	**Sn**	**16 09 28.6**	**-0.5**
DKL	**Dikili**	**1.25**	**122**	PN	**Pn**	**16 09 13.9**	**+1.0**
OUR	**Ouranopolis**	**1.34**	**297**	P	**Pb**	**16 09 14.3**	**-0.5**
FOCM	**Foa**	**1.37**	**137**	PN	**Pg**	**16 09 15.5**	**-0.6**
KESN	**Edirne-Kesan**	**1.40**	**38**	IAML_P			
	comp=Z,1μm,0.2s						
KESN				*i* P	**Pg**	**16 09 15.1**	**-1.5**
KESN				*i* S	**Sn**	**16 09 34.4**	**+0.5**
CHOS	**Chios island**	**1.40**	**163**	P	**Pg**	**16 09 17.4**	**+0.8**
CHOS	**Chios island**	**1.40**	**163**	P	**Pg**	**16 09 16.4**	**-0.3**
CHOS				S	**Sg**	**16 09 36.3**	**+1.4**
RDO	**Rodhopi**	**1.41**	**360**	PN	**Pb**	**16 09 15.0**	**-1.0**
RDO	**Rodhopi**	**1.41**	**360**	P	**Pb**	**16 09 15.0**	**-1.0**
RDO	**Rodhopi**	**1.41**	**360**	P	**Pb**	**16 09 15.0**	**-1.0**
RDO				S	**Sg**	**16 09 33.7**	**-1.5**
PAIG	**Paliouri**	**1.45**	**278**	P	**Pn**	**16 09 15.7**	**-0.1**
PAIG	**Paliouri**	**1.45**	**278**	P	**Pb**	**16 09 16.3**	**-0.3**
KAVA	**Kavala**	**1.49**	**328**	P	**Pn**	**16 09 15.9**	**-0.4**
KAVA	**Kavala**	**1.49**	**328**	P	**Pn**	**16 09 15.9**	**-0.4**
KVLA	**Kavala**	**1.49**	**324**	P	**Pn**	**16 09 16.1**	**-0.3**
KRBG	**Karabiga-Canak**	**1.50**	**63**	PN	**Pg**	**16 09 17.4**	**-1.1**
URLA	**Izmir**	**1.60**	**149**	PN	**Pb**	**16 09 18.1**	**-1.1**
GONE	**Gonen-Balikesi**	**1.68**	**79**	PN	**Pb**	**16 09 19.9**	**-0.6**
STEP	**BALIKESIR_Sava**	**1.72**	**101**	IAML_P			
	comp=Z,947nm,0.2s						
STEP				*i* P	**Pb**	**16 09 20.7**	**-0.5**
BLCB	**Balcova**	**1.78**	**139**	PN	**Pb**	**16 09 21.6**	**-0.7**
MRMT	**Marmara Adasi**	**1.80**	**60**	PN	**Pb**	**16 09 21.4**	**-1.3**
BALB	**Balikesir**	**1.81**	**92**	PN	**Pb**	**16 09 21.4**	**-1.3**
SBT4	**Kumbag-Tekirda**	**1.88**	**54**	PN	**Pb**	**16 09 22.6**	**-1.2**
EDC	**Edincik**	**1.88**	**70**	PN	**Pb**	**16 09 22.6**	**-1.4**
AKHS	**Akhisar**	**1.96**	**115**	IAML_P			
	comp=Z,990nm,0.1s						
AKHS				*i* P	**Pb**	**16 09 24.2**	**-1.1**
TKR	**Tekirdag**	**1.97**	**50**	PN	**Pb**	**16 09 23.8**	**-1.8**
SOH	**Sokhos**	**2.00**	**304**	P	**Pb**	**16 09 24.3**	**-1.7**
NVR	**Nevrokopi**	**2.06**	**322**	P	**Pn**	**16 09 24.3**	**+0.1**
KCTX	**Karacabey (Bur**	**2.23**	**75**	PN	**Pb**	**16 09 27.8**	**-2.1**
DURS	**Dursunbey**	**2.27**	**92**	IAML_P			
	comp=Z,699nm,0.2s						
DURS				*i* P	**Pb**	**16 09 28.8**	**-1.8**
DURS				*i* S	**Sn**	**16 09 55.2**	**+0.3**
EDRB	**Edirne**	**2.30**	**23**	PN	**Pn**	**16 09 28.4**	**+1.0**
DST	**Dursunbey**	**2.38**	**92**	PN	**Pb**	**16 09 30.0**	**-2.5**
SLVT	**Silivri**	**2.52**	**53**	PN	**Pn**	**16 09 31.7**	**+1.2**
DEMI	**Demirci**	**2.55**	**105**	*i* P	**Pn**	**16 09 32.3**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**2.56**	**133**	PN	**Pn**	**16 09 31.4**	**+0.3**
MDNY	**Mudanya-Bursa**	**2.64**	**75**	PN	**Pn**	**16 09 33.1**	**+1.0**
SBT5	**Esenkoy-Cinarc**	**2.71**	**70**	PN	**Pn**	**16 09 34.5**	**+1.5**
CTKS	**Kestanelik-??a**	**2.71**	**55**	PN	**Pn**	**16 09 34.3**	**+1.2**
KULA	**Kula-Manisa**	**2.71**	**116**	PN	**Pn**	**16 09 34.5**	**+1.3**
BGKT	**Bogazkoy**	**2.86**	**59**	PN	**Pn**	**16 09 36.3**	**+1.2**
VTS	**Vitosha**	**3.36**	**329**	↑ *i* P	**Pb**	**16 09 45.8**	**-3.4**
VTS	**Vitosha**	**3.36**	**329**	S	**Sg**	**16 10 37.9**	**+0.4**
TIRR	**Tirgusor**	**5.18**	**23**	↑ *i* P	Pg	16 10 32.9	+4.0
TLB	**Topalu**	**5.19**	**20**	↓ *i* P	**Pg**	**16 10 31.5**	**+2.4**
VOIR		**5.71**	**357**	↓ *i* P	**Pb**	**16 10 28.8**	**-0.5**
MLR	**Muntele Rosu**	**5.76**	**3**	↑ *i* P	Pb	16 10 25.1	-5.1
MLR	**Muntele Rosu**	**5.76**	**3**	S	**Sg**	**16 12 01.1**	**+6.5**
GZR	**Gura Zlata**	**6.01**	**341**	↑ *i* P	**Pn**	**16 10 20.7**	**+2.2**
VRI	**Vrincioaia**	**6.19**	**8**	↑ *i* P	Pn	16 10 25.3	+4.4
DOPR	**Dopca**	**6.23**	**359**	↑ *i* P	**Pn**	**16 10 23.2**	**+1.7**
BZS	**Buzias**	**6.55**	**335**	↓ *i* P	**Pn**	**16 10 28.7**	**+2.8**

*ISCJB **21** 16:09:21.3±0.5, 0.˝28N±0.˝05×122.˝62E±0.˝04, h114km, mb3.9/8, Error ellipse: s-maj=6.8km s-min=5.7km az=32.8*
*DJA **21** 16:09:21.3±0.4, 0.˝N±3.˝×12.˝3E±.˝, h107km±8km, M4.1/12, mb4.0/7, mB4.6/1, MLv4.2/12, Mw(mB)3.8/1*
*IDC **21** 16:09:23.8±3.1, 0.˝44N×122.˝93E, h126km±29km, mb3.6/8, mb1 3.6/9, mb1mx3.4/30, mbtmp4.0/9, Error ellipse: s-maj=40.5km s-min=12.9km az=65.0*

ISC 21 16:09:22.2±0.6, 0.˝**32N**±0.˝07×**122.˝64E**±0.˝05, **h114**km, **n25**, σ1§**55**/34, **mb4.4**/13, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.36**	**174**	P	**Pn**	**16 09 47.7**	**0.0**
LUWI				S	**Sn**	**16 10 09.0**	**+2.1**
PCI	**Palu**	**3.06**	**247**	P	**Pn**	**16 10 08.4**	**-0.7**
PCI				S	**Sn**	**16 10 42.9**	**-2.4**
SANI	**Sanana**	**4.09**	**125**	P	**Pn**	**16 10 21.5**	**-1.4**
SANI				S	**Sn**	**16 11 05.5**	**-4.5**
TTSI	**Tana Toraja**	**4.37**	**220**	P	**Pn**	**16 10 27.0**	**+0.3**
TTSI				S	**Sn**	**16 11 15.5**	**-1.2**
SGKI	**Sangatta, Kali**	**5.11**	**260**	P	**Pn**	**16 10 35.5**	**-1.1**
SGKI				S	**Sn**	**16 11 30.8**	**-3.7**
SPSI	**Sidrap Palu**	**5.13**	**214**	P	**Pn**	**16 10 36.3**	**-0.6**
BNSI	**Bone**	**5.33**	**208**	P	**Pn**	**16 10 39.3**	**-0.3**
	32nm,1.1s						
NLAI	**Namlea**	**5.69**	**128**	P	**Pn**	**16 10 44.1**	**-0.3**
NLAI				S	**Sn**	**16 11 47.9**	**-0.6**
BBSI	**Bau Bau**	**5.77**	**181**	P	**Pn**	**16 10 46.2**	**+0.7**
BKSI	**Bulukumba**	**6.14**	**204**	P	**Pn**	**16 10 51.7**	**+1.1**
KBKI	**Kotabaru**	**7.40**	**241**	P	**Pn**	**16 11 07.1**	**-0.5**
FITZ	**Fitzroy Crossi**	**18.54**	**171**	P	**Pn**	**16 13 30.9**	**-0.7**
	0.3nm,0.3s,baz=3,3,slow=7.2,SNR=8.9						
WRA	**Warramunga Arr**	**23.17**	**151**	P	**P**	**16 14 19.0**	**-0.1**
	0.9nm,0.6s,baz=327,slow=10,SNR=24						
ASAR	**Alice Springs**	**26.23**	**156**	P	**P**	**16 14 47.4**	**+0.6**
	0.3nm,0.5s,baz=340,slow=15,SNR=4.3						
ASAR				PcP	**PcP**	**16 18 10.7**	**-0.1**
	0.2nm,0.3s,baz=346,slow=2.3,SNR=8.7						
ASAR				ScP	**ScP**	**16 21 38.8**	**-1.5**
	0.3nm,0.7s,baz=336,slow=2.7,SNR=5.0						
CMAR	**Chiang Mai Arr**	**29.44**	**309**	P	**P**	**16 15 17.4**	**+2.0**
	0.9nm,0.7s,baz=126,slow=6.8,SNR=9.4						
STKA	**Stephens Creek**	**36.71**	**152**	P	**P**	**16 16 19.2**	**+0.8**
	0.7nm,0.4s,baz=309,slow=7.3,SNR=3.5						
JIRN	**Jiri**	**44.27**	**311**	*eP*	**P**	**16 17 22.5**	**+1.3**
	7.5nm,0.4s						
GUN	**Gumba**	**44.64**	**311**	*eP*	**P**	**16 17 25.4**	**+1.3**
	9.0nm,0.4s						
KOLN	**Koldanda**	**46.31**	**309**	*eP*	**P**	**16 17 38.8**	**+1.7**
	12nm,0.7s						
DANN	**Dangsing**	**46.47**	**310**	*eP*	**P**	**16 17 39.7**	**+1.3**
	16nm,0.6s						
PYUN	**Piuthan**	**46.94**	**310**	*eP*	**P**	**16 17 43.8**	**+1.8**
	22nm,0.6s						
SONM	**Songino Array**	**49.39**	**346**	P	**P**	**16 18 01.0**	**+0.6**
	3.3nm,0.7s,baz=165,slow=8.8,SNR=34						
MKAR	**Makanchi Array**	**58.15**	**328**	P	**P**	**16 19 05.0**	**+0.8**
	1.3nm,0.6s,baz=121,slow=8.8,SNR=22						
MKAR				PcP	**PcP**	**16 19 54.0**	**-0.5**
	0.4nm,0.5s,baz=149,slow=4.1,SNR=4.7						
PETK	**Petropavlovsk-**	**60.14**	**24**	P	**P**	**16 19 16.1**	**-1.5**
	16nm,1.3s,baz=198,slow=4.1,SNR=5.5						
ZALV	**Zalesovo Beam**	**61.88**	**336**	P	**P**	**16 19 28.6**	**-0.8**
	0.5nm,0.5s,baz=141,slow=5.2,SNR=2.8						

*DDA **21** 16:13:00.6, 38.˝73N×40.˝08E, h21km±1km, ML3.5*
*ISK **21** 16:13:00.5, 38.˝65N×40.˝04E, h2km, ML3.4/12*

ISC 21 16:13:01.5±1.1, **38.˝72N**±0.˝02×**40.˝11E**±0.˝02, **h9**km±10km, **n43**, σ1§**25**/52, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HANI	**Diyarbakir_Han**	**0.38**	**143**	IAML_P			
	comp=Z,28μm,0.3s						
HANI				*i* P	**Pg**	**16 13 08.6**	**-0.3**
BGOL	**Bingol**	**0.51**	**58**	IAML_P			
	comp=Z,2μm,0.1s						
BGOL				*i* P	**Pg**	**16 13 11.0**	**-0.5**
BGOL				*i* S	**Sb**	**16 13 19.6**	**-0.8**
PTK	**Pertek**	**0.59**	**287**	PG	**Pg**	**16 13 10.9**	**-2.0**
PTK				SG	**Sg**	**16 13 20.8**	**+0.1**
TNCL	**Tunceli-Merkez**	**0.59**	**312**	*i* P	**Pb**	**16 13 14.8**	**+0.6**
KARO	**Karliova-Bingo**	**0.94**	**51**	PG	**Pn**	**16 13 21.3**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.02**	**123**	PG	**Pg**	**16 13 21.1**	**-0.1**
SVAN				SG	**Sn**	**16 13 36.4**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.02**	**123**	*i* P	**Pn**	**16 13 21.9**	**-0.2**
SVAN				*i* S	**Sn**	**16 13 36.7**	**+0.2**
EUZM	**Uzumlu**	**1.04**	**342**	IAML_P			
	comp=Z,14μm,0.1s						
EUZM				*i* P	**Pg**	**16 13 20.1**	**-1.3**
EUZM				*i* S	**Sn**	**16 13 36.4**	**-0.7**
ECAT	**Cat-ERZURUM**	**1.11**	**37**	*i* P	**Pb**	**16 13 22.7**	**-0.3**
BTMN	**Batman**	**1.23**	**132**	*i* P	**Pg**	**16 13 25.5**	**+0.3**
BTMN				*i* S	**Sn**	**16 13 42.1**	**+0.4**
REFA	**Refahiye_ERZN**	**1.25**	**303**	IAML_P			
	comp=Z,6μm,0.4s						
REFA				*i* P	**Pg**	**16 13 29.5**	**+4.1**
KOPT	**Kop Dagi**	**1.33**	**13**	*i* P	**Pg**	**16 13 26.8**	**-0.3**
KEMA	**Kemaliye**	**1.38**	**294**	IAML_P			
	comp=Z,4μm,0.2s						
KEMA				*i* P	**Pn**	**16 13 24.9**	**-2.1**
KEMA				*i* S	**Sg**	**16 13 45.8**	**+0.1**
GURO	**Guroymak-BITLI**	**1.51**	**96**	PN	**Pb**	**16 13 29.8**	**0.0**
BAYB	**BAYBURT**	**1.54**	**4**	*i* P	**Pn**	**16 13 29.2**	**-0.2**
BAYB				*i* S	**Sg**	**16 13 55.5**	**+4.3**
KELT	**Kelkit**	**1.57**	**335**	IAML_P			
	comp=Z,2μm,0.3s						
KELT				*i* P	**Pn**	**16 13 29.8**	**0.0**
SRTM	**Siirt_Merkez**	**1.60**	**116**	IAML_P			
	comp=Z,7μm,0.2s						
SRTM				*i* P	**Pb**	**16 13 30.5**	**-0.7**
URFA	**Urfa**	**1.63**	**219**	PN	**Pn**	**16 13 30.1**	**-0.3**
BAYT	**Aydıntepe-Bayb**	**1.67**	**1**	PN	**Pg**	**16 13 32.8**	**-0.8**
AKCD	**Akcadag**	**1.77**	**257**	IAML_P			
	comp=Z,3μm,0.3s						
AKCD				*i* P	**Pn**	**16 13 32.4**	**+0.1**
SANL	**SANLIURFA_Merk**	**1.78**	**210**	IAML_P			
	comp=Z,5μm,0.1s						
SANL				*i* P	**Pn**	**16 13 33.2**	**+0.8**
SANL				*i* S	**Sg**	**16 13 58.9**	**+0.2**
KOPR	**Koprukoy-ERZUR**	**1.86**	**46**	PN	**Pb**	**16 13 35.7**	**0.0**
ATAB	**Bozova**	**1.90**	**230**	IAML_P			
	comp=Z,3μm,0.2s						
ATAB				*i* P	**Pn**	**16 13 34.9**	**+0.8**
DARE	**Darende-Malaty**	**2.06**	**267**	PN	**Pn**	**16 13 36.5**	**+0.1**
CUKAN	**kangal_SIVAS**	**2.15**	**287**	*i* P	**Pb**	**16 13 39.5**	**-1.1**
CUZAR	**Zara_SIVAS**	**2.16**	**304**	*i* P	**Pn**	**16 13 39.0**	**+1.2**
EATA	**Eleskirt**	**2.17**	**58**	*i* P	**Pg**	**16 13 42.4**	**-0.7**
SURC	**SANLIURFA_SURC**	**2.19**	**213**	IAML_P			
	comp=Z,597nm,0.1s						
SURC				*i* P	**Pn**	**16 13 38.4**	**+0.3**
SIRN	**Sirnak**	**2.19**	**123**	IAML_P			
	comp=Z,966nm,0.1s						
SIRN				*i* P	**Pn**	**16 13 39.1**	**+1.0**
SIRT	**Sirnak**	**2.20**	**123**	PN	**Pn**	**16 13 39.6**	**+1.3**
KTUT	**Trabzon**	**2.28**	**353**	PN	**Pb**	**16 13 41.3**	**-1.5**
AKDM	**Akdamar-Van**	**2.28**	**99**	PN	**Pb**	**16 13 41.4**	**-1.6**
AGRB	**Hanur-Agry**	**2.40**	**68**	PN	**Pb**	**16 13 43.4**	**-1.5**
GZT	**Gaziantep**	**2.43**	**237**	IAML_P			
	comp=Z,575nm,0.2s						
GZT				*i* P	**Pn**	**16 13 41.7**	**+0.3**
ESPY	**Espiye-Giresun**	**2.44**	**335**	PN	**Pb**	**16 13 43.3**	**-2.3**
SVSK	**Karacayir**	**2.69**	**297**	PN	**Pn**	**16 13 46.3**	**+1.3**
RSDY	**Resadiye-TOKAT**	**2.73**	**309**	PN	**Pn**	**16 13 46.6**	**+1.1**
DAGI	**Agillar**	**2.73**	**30**	IAML_P			
	comp=Z,349nm,0.4s						
DAGI				*i* P	**Pn**	**16 13 46.8**	**+1.2**
GAZ	**Gaziantep**	**2.76**	**237**	PN	**Pn**	**16 13 46.1**	**+0.1**
KMRS	**Kahramanmaras**	**2.81**	**245**	PN	**Pn**	**16 13 46.9**	**+0.3**
BNN	**Bunyan**	**3.33**	**274**	PN	**Pn**	**16 13 54.7**	**+0.8**
KOZT	**Kozan**	**3.60**	**251**	PN	**Pn**	**16 13 58.3**	**+0.9**
TAHT	**Tahtakopru-Hat**	**3.90**	**234**	PN	**Pn**	**16 14 01.9**	**+0.4**

*ISCJB **21** 16:16:15.9±0.5, 39.˝76N±0.˝02×25.˝54E±0.˝02, h9km±3km, Error ellipse: s-maj=3.6km s-min=3.1km az=22.7*
*ATH **21** 16:16:15.8, 39.˝78N×25.˝52E, h30km±1km, ML2.7/7, Error ellipse: s-maj=1.5km s-min=1.1km az=238.0*
*ISK **21** 16:16:15.2, 39.˝76N×25.˝54E, h6km, ML3.2/23*
*DDA **21** 16:16:16.0, 39.˝76N×25.˝63E, h26km, ML3.1*
*THE **21** 16:16:16.7, 39.˝76N×25.˝51E, h12km, ML2.7/5, Error ellipse: s-maj=0.7km s-min=0.4km az=253.0*

ISC 21 16:16:15.5±1.0, **39.˝76N**±0.˝02×**25.˝61E**±0.˝02, **h13**km±8km, **n67**, σ1§**29**/85, **5C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.35**	**76**	PG	**Pb**	**16 16 23.5**	**-0.1**
BOZC				SG	**Sb**	**16 16 29.3**	**+0.2**
BOZC	**Bozcaada**	**0.35**	**76**	*i* P	**Pb**	**16 16 24.0**	**+0.4**
BOZC				*i* S	**Sb**	**16 16 29.4**	**+0.3**
LIA	**Limnos Island**	**0.36**	**293**	P	**Pg**	**16 16 22.7**	**0.0**
LIA				S	**Sg**	**16 16 27.7**	**+0.2**
LIA				AML	AML	16 16 30.9	
	comp=E,2749μm,0.3s						
LIA				AML	AML	16 16 33.5	
	comp=N,1937μm,0.4s						
LIA	**Limnos Island**	**0.36**	**293**	P	**Pg**	**16 16 22.7**	**0.0**
LIA				S	**Sg**	**16 16 27.1**	**-0.4**
GADA	**Gvkgeada**	**0.49**	**27**	PG	**Pb**	**16 16 25.9**	**0.0**
GADA				SG	**Sb**	**16 16 33.3**	**+0.3**
EFSA	**Agios Efstrati**	**0.53**	**246**	P	**Pb**	**16 16 26.7**	**+0.1**
EFSA				S	**Sb**	**16 16 34.0**	**-0.1**
EFSA				AML	AML	16 16 34.6	
	comp=N,2970μm,0.3s						
EFSA				AML	AML	16 16 34.8	
	comp=E,3742μm,0.2s						
EZN	**Ezine**	**0.56**	**83**	PG	**Pb**	**16 16 27.4**	**+0.3**
SMTH	**Samothraki Isl**	**0.71**	**355**	P	**Pb**	**16 16 29.8**	**-0.1**
SMTH				S	**Sb**	**16 16 40.6**	**+1.0**
SMTH				AML	AML	16 16 42.5	
	comp=E,549μm,0.2s						
SMTH				AML	AML

NVR	Nevrokopi	2.07	321	P		Pn	16 16 50.3	+0.3
NVR	Nevrokopi	2.07	321	P		Pn	16 16 50.1	+0.1
KCTX	Karacabey (Bur	2.17	76	PN		Pb	16 16 52.9	-1.7
DURS	Dursunbey	2.22	93	IAML_P				
	comp=Z,540nm,0.2s							
DURS				*i* P		Pb	16 16 54.2	-1.3
DURS				*i* S		Sb	16 17 22.3	-0.6
EDRB	Edirne	2.26	22	PN		Pb	16 16 54.5	-1.6
DST	Dursunbey	2.33	93	PN		Pb	16 16 55.9	-1.5
SLVT	Silivri	2.47	53	PN		Pb	16 16 57.8	-1.9
AYDB	Zeytinkoy-Aydi	2.54	135	PN		Pn	16 16 58.1	+1.6
MDNY	Mudanya-Bursa	2.55	70	PN		Pb	16 16 59.5	-2.2
SBTS	Esenkoy-Cinarc	2.65	70	PN		Pb	16 17 00.4	-2.4
CTKS	Kestanelik-??a	2.66	55	PN		Pn	16 16 59.3	+1.3
VTS	Vitosha	3.36	328	⇑*i* P		Pg	16 17 22.5	+2.6
VTS	Vitosha	3.36	328	S		Sn	16 17 48.5	+0.8
VOIR		5.69	356	⇑*i* P		Pg	16 18 10.8	+6.4
CFR	Carcaliu	5.73	18	⇑*i* P		Sb	16 18 56.1	-7.7
MLR	Muntele Rosu	5.74	2	⇑*i* P		Pb	16 17 53.8	-1.6
GZR	Gura Zlata	6.01	341	⇑*i* P		Pn	16 17 47.9	+3.8

*BJI **21** 16:32:46.0,21.1″16S×170.1″27E,h197km,mb4.5/8,mB5.0/3*
*WEL **21** 16:32:47.0,20.1″50S×170.1″62E,h196km*
*NEIC **21** 16:32:47.3±6.0,20.1″50S×170.1″62E,h196km±26km,mb4.7/8,*
Error ellipse: s-maj=88.0km s-min=10.2km az=215.0
*ISCJB **21** 16:32:48.1±0.6,20.1″72S±0.1″07×170.1″46E±0.1″07,h200km,*
mb4.3/19,Error ellipse: s-maj=11.9km s-min=6.0km
az=41.8
*IDC **21** 16:32:54.4±2.5,21.1″24S×170.1″18E,h212km±18km,mb3.6/9,*
mb1 3.8/11,mb1mx3.6/38,mbtmp4.2/11,MS3.1/1,
Ms1 3.1/1,ms1mx2.7/26,Error ellipse: s-maj=27.1km
s-min=15.7km az=40.0

ISC 21 16:32:50.9±0.6,20.1″87S±0.1″08×170.1″32E±0.1″09,h200km,n51,
σ1s24/55,mb4.4/18,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
DZM	**Mont Dzumac**	**3.80**	**251**	P		**Pn**	**16**	**33**	**51.3**	**+1.0**
	17nm,0.3s,baz=115,slow=19,SNR=16									
DZM				S		**Sn**	**16**	**34**	**36.9**	**0.0**
	5.9nm,0.3s,baz=301,slow=14,SNR=9.2									
DZM				LR		LR	16	35	05.8	
	comp=Z,320nm,21.6s,baz=46,slow=37									
DZM	**Mont Dzumac**	**3.80**	**251**	*e*Pn		**Pn**	**16**	**33**	**51.1**	**+0.8**
OUZ	**Omahuta**	**14.58**	**169**	*e*Pn		**Pn**	**16**	**36**	**08.2**	**+0.3**
	44nm,0.9s									
OUZ	**Omahuta**	**14.58**	**169**	P		**Pn**	**16**	**36**	**07.9**	**0.0**
WCZ	**Waipu Caves**	**15.42**	**168**	P		**P**	**16**	**36**	**18.6**	**+0.3**
WIAZ	**Waiheke Island**	**16.41**	**166**	P		**Pn**	**16**	**36**	**30.1**	**0.0**
KUZ	**Kuaotunu**	**16.50**	**165**	P		**P**	**16**	**36**	**30.2**	**-0.1**
MKJZ	**Moumakai**	**16.71**	**166**	P		**Pn**	**16**	**36**	**33.1**	**-0.5**
TOZ	**Tahuroa Road**	**17.39**	**166**	P		**P**	**16**	**36**	**40.4**	**+0.5**
MXZ	**Matakaoa Point**	**18.02**	**159**	*e*P		**P**	**16**	**36**	**47.4**	**+0.6**
	65nm,1.1s									
RUGZ	**Raukumara Rang**	**18.19**	**161**	P		**P**	**16**	**36**	**49.0**	**+0.2**
PKGZ	**Pakihiroa**	**18.24**	**160**	P		**P**	**16**	**36**	**49.8**	**+0.5**
EIDS	**Eidsvold**	**18.25**	**252**	*e*P		**Pn**	**16**	**36**	**52.1**	**+0.2**
	15nm,0.6s									
WMGZ	**Waiomatatini S**	**18.29**	**159**	P		**P**	**16**	**36**	**50.3**	**+0.6**
URZ	**Urewera**	**18.29**	**163**	P		**P**	**16**	**36**	**49.3**	**-0.4**
	2.0nm,0.3s,baz=347,slow=3.7,SNR=15									
URZ	**Urewera**	**18.29**	**163**	*e*P		**P**	**16**	**36**	**50.0**	**+0.2**
	21nm,0.9s									
MUGZ	**Murupara**	**18.41**	**164**	P		**Pn**	**16**	**36**	**52.2**	**-1.3**
TWGZ	**Tauwhareparae**	**18.47**	**161**	P		**P**	**16**	**36**	**52.8**	**+1.0**
TKGZ	**Te Karaka**	**18.68**	**161**	P		**P**	**16**	**36**	**53.7**	**-0.2**
SNGZ	**Shannon Statio**	**18.85**	**163**	P		**P**	**16**	**36**	**56.3**	**+0.5**
RIGZ	**Rimuhau**	**18.90**	**162**	P		**P**	**16**	**36**	**56.2**	**-0.1**
BKZ	**Black Stump Fm**	**18.99**	**165**	*e*P		**P**	**16**	**36**	**57.6**	**+0.3**
	29nm,0.8s									
THZ	**Tophouse**	**20.94**	**175**	*e*P		**P**	**16**	**37**	**18.2**	**+0.1**
	99nm,1.8s									
LTZ	**Lake Taylor**	**21.91**	**176**	*e*P		**P**	**16**	**37**	**27.4**	**-0.7**
	28nm,1.1s									
OXZ	**Oxford**	**22.43**	**177**	*e*P		**P**	**16**	**37**	**32.1**	**-0.9**
	20nm,0.7s									
CTA	**Charters Tower**	**22.56**	**268**	P		**P**	**16**	**37**	**36.2**	**+1.8**
	2.2nm,0.3s,baz=106,slow=7.4,SNR=14									
RPZ	**Rata Peaks**	**22.79**	**179**	P		**P**	**16**	**37**	**35.5**	**-0.6**
	8.4nm,0.8s,baz=52,slow=8.8,SNR=4.6									
STKA	**Stephens Creek**	**27.89**	**241**	P		**P**	**16**	**38**	**22.3**	**0.0**
	1.3nm,0.5s,baz=83,slow=16,SNR=3.8									
WB2	**Warramunga Arr**	**33.68**	**265**	*e*P		**P**	**16**	**39**	**12.3**	**-0.9**
WRA	**Warramunga Arr**	**33.69**	**265**	P		**P**	**16**	**39**	**13.5**	**+0.2**
	2.0nm,0.5s,baz=98,slow=7.1,SNR=33									
AS31	**Alice Springs**	**33.76**	**258**	*e*P		**P**	**16**	**39**	**14.0**	**+0.1**
	3.8nm,0.3s									
ASAR	**Alice Springs**	**33.76**	**258**	P		**P**	**16**	**39**	**14.4**	**+0.6**
	5.7nm,0.6s,baz=82,slow=8.4,SNR=179									
FITZ	**Fitzroy Crossi**	**42.11**	**266**	P		**P**	**16**	**40**	**24.7**	**+1.0**
	7.8nm,1.1s,baz=117,slow=6.8,SNR=3.8									
MBWA	**Marble Bar**	**47.06**	**260**	*e*P		**P**	**16**	**41**	**01.8**	**-0.9**
	55nm,1.0s									
VNDA	**Vanda**	**56.84**	**182**	P		**P**	**16**	**42**	**13.6**	**-0.5**
	2.4nm,0.9s,baz=356,slow=9.1,SNR=2.3									
QSPA	**South Pole Qui**	**69.19**	**180**	*e*P		**P**	**16**	**43**	**35.1**	**-0.5**
	7.6nm,0.8s									
NJ2	**Nanjing**	**72.08**	**316**	*e*P		**P**	**16**	**43**	**49.9**	**-3.5**
NJ2				pmax		pmax				
	comp=Z,8.0nm,0.5s									
MDJ	**Mudanjiang**	**75.04**	**331**	P		**P**	**16**	**44**	**09.9**	**-0.4**
MDJ				pP		pP	16	44	56.1	-2.0
MDJ				sP		sP	16	45	17.8	-1.5
MDJ				S		**S**	**16**	**53**	**31.8**	**+0.2**
MDJ				sS		sS	16	54	55.3	+0.3
MDJ				pmax		pmax				
	comp=Z,9.0nm,1.8s									
MDJ				pmax		pmax				
	comp=Z,99nm,2.9s									
CMAR	**Chiang Mai Arr**	**80.10**	**294**	P		**P**	**16**	**44**	**42.5**	**+3.6**
	0.3nm,0.7s,baz=128,slow=5.8,SNR=4.1									
CD2	**Chengdu**	**82.03**	**307**	*e*P		**P**	**16**	**44**	**46.6**	**-2.4**
HHC	**Hu-ho-hao-te**	**82.12**	**319**	*e*P		**P**	**16**	**44**	**48.0**	**-1.2**
HHC				pmax		pmax				
	comp=Z,13nm,1.1s									
LZH	**Lanzhou**	**84.57**	**312**	*e*P		**P**	**16**	**45**	**00.0**	**-2.0**
LZH				pP		pP	16	45	46.8	-3.8
LZH				sP		sP	16	46	06.6	-4.9
LZH				PP		**PP**	**16**	**48**	**19.3**	**-1.5**
LZH				*e*S		**S**	**16**	**55**	**12.4**	**+0.3**
LZH				sS		sS	16	56	29.1	-7.2
LZH				pmax		pmax				
	comp=Z,47nm,1.1s									
LZH				pmax		pmax				
	comp=Z,220nm,4.9s									
LZH				LR		LR				
	comp=N,2μm,16.7s									
LZH				LR		LR				
	comp=E,2μm,16.4s									
LZH				LR		LR				
	comp=Z,1μm,17.9s									
SNAA	**Sanae**	**87.58**	**182**	P		**P**	**16**	**45**	**15.0**	**-1.0**
VNA3	**Neumayer Olymp**	**88.13**	**180**	P		**P**	**16**	**45**	**17.9**	**-0.7**
VNA2	**Neumayer--Watz**	**88.44**	**181**	P		**P**	**16**	**45**	**19.2**	**-0.7**
	baz=188,slow=4.2									
ILAR	**Eielson Array**	**91.49**	**17**	P		**P**	**16**	**45**	**37.9**	**+3.9**
	0.4nm,0.9s,baz=229,slow=6.8,SNR=1.8									
WMQ	**Urumqi**	**99.06**	**313**	*e*P		**Pdif**	**16**	**46**	**06.5**	**-2.6**
WMQ				LR		LR				
	comp=N,170nm,21.1s									
WMQ				LR		LR				
	comp=E,260nm,23.9s									
WMQ				LR		LR				
	comp=Z,140nm,23.9s									
ARCES	**ARCESS Array B**	**126.90**	**345**	PKP		**PKiKP**	**16**	**51**	**31.5**	**+0.9**
	9.3nm,1.1s,baz=46,slow=2.6,SNR=4.4									
AKASG	**Malin Array Be**	**137.40**	**324**	PKP		**PKiKP**	**16**	**51**	**53.6**	**+1.2**
	0.3nm,0.4s,baz=54,slow=3.0,SNR=3.9									
GERES	**GERESS Array B**	**146.40**	**332**	PKPbc		**PKiKP**	**16**	**52**	**10.4**	**-0.7**
	1.9nm,0.6s,baz=29,slow=3.0,SNR=15									
DBIC	**Dimbokro**	**165.13**	**199**	PKPab		**PKPab**	**16**	**53**	**30.2**	**+0.3**
	1.4nm,0.5s,baz=184,slow=4.9,SNR=4.1									

*IDC **21** 16:34:13.8±0.7,53.1″26N×166.1″86W,h0km,mb4.0/23,*
mb1 4.3/24,mb1mx4.1/55,mbtmp4.1/24,ML4.1/1,MS3.5/10,
Ms1 3.5/10,ms1mx3.2/43,Error ellipse: s-maj=22.3km
s-min=12.4km az=0.0
*ISCJB **21** 16:34:18.9±0.6,53.1″14N±0.1″05×166.1″75W±0.1″04,h51km±4km,*
mb4.2/37,MS3.6/9,Error ellipse: s-maj=8.6km
s-min=3.9km az=163.4

*AEIC **21** 16:34:18.6±0.0,53.1″14N×166.1″76W,h18km*
*NEIC **21** 16:34:20.1±0.5,53.1″18N×166.1″81W,h46km±4km,mb4.3/27,*
ML4.0(AEIC),Error ellipse: s-maj=7.9km s-min=3.4km
az=165.0

ISC 21 16:34:20.4±1.1,53.1″17N±0.1″08×166.1″79W±0.1″05,h49km±8km,
n151,σ1s34/162,mb4.3/38,MS3.6/9,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
MGOD	**Makushin Gods**	**0.63**	**356**	P		**Pn**	**16**	**34**	**32.2**	**-1.1**
MREP	**Makushin Rep't**	**0.64**	**2**	P		**Pn**	**16**	**34**	**32.4**	**-1.1**
UNV	**Unalaska Valle**	**0.70**	**14**	P		**Pn**	**16**	**34**	**32.3**	**-1.8**
UNV				S		**Sn**	**16**	**34**	**42.8**	**-1.2**
MNAT	**Makushin Natee**	**0.72**	**5**	P		**Pn**	**16**	**34**	**33.5**	**-0.9**
MSW	**Makushin Switc**	**0.75**	**0**	P		**Pn**	**16**	**34**	**33.8**	**-1.0**
MSW				S		**Sn**	**16**	**34**	**45.1**	**-0.1**
MTBL	**Makushin Table**	**0.80**	**5**	P		**Pn**	**16**	**34**	**34.9**	**-0.7**
OKER	**Okmok East Rim**	**0.81**	**291**	P		**Pn**	**16**	**34**	**34.6**	**-1.0**
OKWR	**Okmok West Rim**	**0.89**	**288**	P		**Pn**	**16**	**34**	**35.9**	**-0.9**
AKMO	**Akutan Morgan**	**1.03**	**26**	P		**Pn**	**16**	**34**	**37.6**	**-1.0**
AKMO				S		**Sn**	**16**	**34**	**52.1**	**+0.1**
AKRB	**Akutan Reef Bi**	**1.05**	**24**	P		**Pn**	**16**	**34**	**38.2**	**-0.7**
AKRB				S		**Sn**	**16**	**34**	**53.9**	**+1.4**
LVA	**Lava Point**	**1.09**	**24**	P		**Pn**	**16**	**34**	**38.6**	**-0.7**
AKLV	**Akutan Long Va**	**1.11**	**26**	P		**Pn**	**16**	**34**	**38.6**	**-1.1**
AKLV				S		**Sn**	**16**	**34**	**54.6**	**+0.7**
AKGG	**Akutan Green G**	**1.14**	**24**	P		**Pn**	**16**	**34**	**39.2**	**-0.8**
AKUT	**Akutan**	**1.14**	**32**	P		**Pn**	**16**	**34**	**38.9**	**-1.1**
AKUT				S		**Sn**	**16**	**34**	**54.9**	**+0.3**
HSB	**Akutan Spr's B**	**1.15**	**27**	P		**Pn**	**16**	**34**	**39.1**	**-1.0**
AKSA	**Akutan Strait**	**1.17**	**34**	P		**Pn**	**16**	**34**	**38.9**	**-1.5**
AKSA				S		**Sn**	**16**	**34**	**56.0**	**+0.8**
WESP	**Westdahl Peak**	**1.81**	**42**	P		**Pn**	**16**	**34**	**49.4**	**+0.2**
WESE	**West Dahl East**	**1.85**	**44**	P		**Pn**	**16**	**34**	**49.6**	**-0.2**
WEBT	**Westdahl Beart**	**1.87**	**39**	P		**Pn**	**16**	**34**	**50.3**	**+0.3**
SSBA	**Shishaldin**	**2.25**	**43**	P		**Pn**	**16**	**34**	**55.0**	**-0.3**
SSLN	**Shishaldin Nor**	**2.33**	**44**	P		**Pn**	**16**	**34**	**56.9**	**+0.6**
FALS	**False Pass**	**2.61**	**48**	P		**Pn**	**16**	**35**	**00.8**	**+0.7**
FALS				S		**Sn**	**16**	**35**	**34.0**	**+3.4**
DRIA	**Deer Island**	**3.22**	**54**	P		**Pn**	**16**	**35**	**08.5**	**+0.1**
DT1	**Dutton Round H**	**3.29**	**52**	P		**Pn**	**16**	**35**	**10.0**	**+0.6**
SDPT	**Sand Point**	**4.30**	**57**	P		**Pn**	**16**	**35**	**24.0**	**+0.8**
SPIA	**Saint Paul Isl**	**4.48**	**335**	P		**Pn**	**16**	**35**	**26.9**	**+1.3**
KOFP	**Korovin Flat P**	**4.53**	**262**	P		**Pn**	**16**	**35**	**27.8**	**+1.3**
ATKA	**Atka Island**	**4.61**	**261**	P		**Pn**	**16**	**35**	**28.4**	**+1.0**
GSTR	**Great Sitkin T**	**5.75**	**263**	*e*Pn		**Pn**	**16**	**35**	**40.9**	**-2.2**
CHGN	**Chignik**	**5.78**	**54**	*e*Pn		**Pn**	**16**	**35**	**42.8**	**-0.7**
ADK	**Adak**	**6.17**	**262**	*e*Pn		**Pn**	**16**	**35**	**49.7**	**+0.8**
KIWB	**Kanaga Island**	**6.46**	**262**	*e*Pn		**Pn**	**16**	**35**	**51.9**	**-1.0**
OHAK	**Old Harbor**	**8.72**	**57**	*e*Pn		**Pn**	**16**	**36**	**23.0**	**-0.8**
KDAK	**Kodiak Island**	**9.29**	**55**	Pn		**Pn**	**16**	**36**	**30.1**	**-1.4**
	1.8nm,0.3s,baz=212,slow=8.2,SNR=16									
KDAK						Sn	**16**	**38**	**10.4**	**-4.1**
	0.8nm,0.3s,baz=131,slow=20,SNR=3.8									
RSO	**Redoubt South**	**10.59**	**41**	*e*Pn		**Pn**	**16**	**36**	**51.4**	**+1.9**
ANM	**Nome**	**11.45**	**3**	*e*Pn		**Pn**	**16**	**37**	**02.4**	**+1.3**
SEW	**Seward**	**11.78**	**47**	*e*Pn		**Pn**	**16**	**37**	**04.8**	**-0.7**
SUA	**Susitna One**	**11.98**	**40**	*e*Pn		**Pn**	**16**	**37**	**09.5**	**+1.1**
RC01	**Rabbit Creek A**	**12.16**	**43**	*e*Pn		**Pn**	**16**	**37**	**11.6**	**+0.8**
PPLA	**Purkeypile**	**12.41**	**33**	*e*Pn		**Pn**	**16**	**37**	**14.4**	**+0.2**
PMR	**Palmer**	**12.69**	**41**	*e*Pn		**Pn**	**16**	**37**	**16.4**	**-1.5**
CAST	**Castle Rocks**	**12.82**	**31**	*e*Pn		**Pn**	**16**	**37**	**18.4**	**-1.3**
KNK	**Knik Glacier**	**12.86**	**43**	*e*Pn		**Pn**	**16**	**37**	**18.8**	**-1.6**
GHO	**Glory Hole Cre**	**12.87**	**41**	*e*Pn		**Pn**	**16**	**37**	**21.1**	**+0.6**
SML	**Sawmill**	**13.12**	**41**	*e*Pn		**Pn**	**16**	**37**	**21.8**	**-2.1**
GLI	**Glacier Island**	**13.18**	**46**	*e*Pn		**Pn**	**16**	**37**	**22.4**	**-2.1**
TRF	**Thorofare Moun**	**13.42**	**33**	*e*Pn		**Pn**	**16**	**37**	**28.1**	**+0.1**
SCM	**Sheep Creek Mo**	**13.54**	**42**	*e*Pn		**Pn**	**16**	**37**	**28.2**	**-1.5**
RND	**Reindeer**	**13.88**	**35**	*e*Pn		**Pn**	**16**	**37**	**34.3**	**+0.1**
KLU	**Klutina**	**13.96**	**45**	*e*Pn		**Pn**	**16**	**37**	**32.9**	**-2.5**
MCK	**McKinley**	**14.06**	**34**	*e*P		**P**	**16**	**37**	**41.3**	**-1.8**
RAGM	**Ragged Mountai**	**14.06**	**50**	*e*Pn		**Pn**	**16**	**37**	**36.6**	**-0.1**
HMT	**Hamilton**	**14.24**	**51**	*e*Pn		**Pn**	**16**	**37**	**38.0**	**-1.0**
BMRM	**Bremner River**	**14.31**	**48**	*e*Pn		**Pn**	**16**	**37**	**39.9**	**-0.2**
IM3	**Indian Mountai**	**14.40**	**22**	*e*Pn		**Pn**	**16**	**37**	**42.7**	**+1.6**
MLY	**Manley**	**14.41**	**28**	*e*Pn		**P**	**16**	**37**	**45.2**	**-1.8**
HARP	**HAARP**	**14.71**	**43**	*e*Pn		**Pn**	**16**	**37**	**45.6**	**+0.3**
WRH	**Wood River Hil**	**14.82**	**33**	*e*Pn		**Pn**	**16**	**37**	**47.2**	**+0.5**
MDM	**Murphy Dome**	**15.11**	**31**	*e*Pn		**Pn**	**16**	**37**	**52.3**	**+1.9**
	13nm,1.3s									
HDA	**Harding Lake**	**15.16**	**34**	*e*Pn		**Pn**	**16**	**37**	**51.4**	**+0.3**
	14nm,1.4s									
BALM	**Baldy**	**15.36**	**49**	*e*Pn		**Pn**	**16**	**37**	**53.1**	**-0.7**
	25nm,1.4s									
ILAR	**Eielson Array**	**15.41**	**33**	Pn		**Pn**	**16**	**37**	**53.8**	**-0.6**
	0.1nm,0.3s,baz=230,slow=12,SNR=7.2									
ILAR				LR		LR	16	42	59.3	
	comp=Z,67nm,18.4s,baz=230,slow=34									
ILB	**Eielson Array**	**15.41**	**33**	*e*Pn		**Pn**	**16**	**37**	**53.9**	**-0.4**
RIDG	**Independ'e Rid**	**15.53**	**38**	*e*Pn		**Pn**	**16**	**37**	**54.4**	**-1.5**
	54nm,1.9s									
DOT	**Dot Lake**	**15.77**	**39**	*e*Pn		**Pn**	**16**	**37**	**57.8**	**-1.2**
	5.8nm,0.8s									
SCRK	**Sand Creek**	**15.97**	**38**	*e*Pn		**Pn**	**16**	**38**	**00.1**	**-1.6**
	35nm,1.8s									
PRP	**Porcupine Dome**	**16.34**	**33**	*e*Pn		**Pn**	**16**	**38**	**04.5**	**-1.7**
	4.8nm,1.1s									
HYT	**Haines Junctio**	**17.57**	**53**	*e*Pn		**P**	**16**	**38**	**24.3**	**+2.1**
	20nm,1.1s									
DAWY	**Dawson**	**17.79**	**41**	*e*Pn		**P**	**16**	**38**	**24.8**	**+0.3**
	10nm,1.1s									
SKAG	**Skagway**	**18.42**	**58**	*e*P		**Pn**	**16**	**38**	**33.5**	**+1.7**
	18nm,1.0s									
BESE	**Bessie Mountai**	**18.60**	**60**	*e*P		**Pn**	**16**	**38**	**35.0**	**+1.0**
	88nm,1.8s									
WHY	**Whitehorse**	**18.81**	**54**	*e*P		**Pn**	**16**	**38**	**38.5**	**+1.9**
	15nm,1.1s									
BILL	**Bilibino**	**19.66**	**330**	*e*Pn		**Pn**	**16**	**38**	**47.8**	**+1.3**
	10nm,1.2s									
EPYK	**Eagle Plains**	**19.82**	**37**	*e*P		**P**	**16**	**38**	**45.9**	**-0.7**
	24nm,0.4s									
DLBC	**Dease Lake**	**21.13**	**61**	P		**P**	**16**	**39**	**01.4**	**+0.5**
	4.5nm,0.8s,baz=266,slow=14,SNR=2.0									
DLBC	**Dease Lake**	**21.13**	**61**	P		**P**	**16**	**39**	**01.6**	**+0.7**
	9.9nm,1.2s									
PETK	**Petropavlovsk-**	**21.17**	**284**	P		**P**	**16**	**39**	**01.0**	**-0.3**
	1.0nm,0.3s,baz=85,slow=13,SNR=23									
PETK				LR		LR	16	47	02.9	
	comp=Z,85nm,21.2s,baz=77,slow=36									
INK	**Inuvik**	**21.82**	**33**	P		**P**	**16**	**39**	**06.8**	**-1.2**
	3.6nm,0.4s,baz=225,slow=8.3,SNR=11									
INK	**Inuvik**	**21.82**	**33**	*e*P		**P**	**16**	**39**	**07.2**	**-0.8**
	11nm,0.8s									
SEY	**Seymchan**	**23.30**	**311**	P		**P**	**16**	**39**	**23.6**	**0.0**
	2.4nm,0.9s,baz=112,slow=7.7,SNR=5.7									
MA2	**Magadan**	**24.01**	**302**	P		**P**	**16**	**39**	**32.9**	**+2.6**
	1.7nm,0.5s,baz=124,slow=14,SNR=2.4									
YKA	**Yellowknife Ar**	**28.53**	**50**	P		**P**	**16**	**40**	**10.7**	**-0.2**
	1.2nm,0.7s,baz=273,slow=8.6,SNR=11									
YKA				PcP		**PcP**	**16**	**43**	**21.8**	**+0.7**
	0.2nm,0.4s,baz=287,slow=1.7,SNR=4.3									
YKB5	**Yellowknife Ar**	**28.53**	**50**	*e*P		**P**	**16**	**40**	**10.7**	**-0.2**
YKB5				*e*PcP		**PcP**	**16**	**43**	**21.7**	**+0.6**
TIXI	**Tiksi**	**32.87**	**328**	P		**P**	**16**	**40**	**49.0**	**0.0**
	0.6nm,0.7s,baz=94,slow=5.7,SNR=2.3									
TIXI				PcP		**PcP**	**16**	**43**	**32.5**	**+0.1**
	1.1nm,0.8s,baz=28,slow=1.6,SNR=5.9									
WAKR	**Walker**	**35.41**	**95**	*e*P		**P**	**16**	**41**	**10.7**	**-1.0**
	4.6nm,0.8s									
EGMT	**Eagleton**	**35.74**	**75**	P		**P**	**16**	**41**	**14.7**	**+0.5**
NV01	**Mina Array Sit**	**36.13**	**94**	*e*P		**P**	**16**	**41**	**15.9**	**-2.0**
NVAR	**Mina Array Bea**	**36.13**	**94**	P		**P**	**16**	**41**	**17.8**	**-0.1**
	0.7nm,0.4s,baz=296,slow=15,SNR=15									
RLMT	**Red Lodge**	**37.55**	**78**	*e*P		**P**	**16**	**41**	**30.9**	**+1.0**
	8.8nm,1.3s									
PDAR	**Pinedale Array**	**38.73**	**82**	P		**P**	**16**	**41**	**40.5**	**+0.7**
	0.5nm,0.5s,baz=301,slow=4.3,SNR=7.2									
PDAR				LR		LR	16	55	24.4	
	comp=Z,80nm,18.7s,baz=48,slow=33									
PDAR	**Pinedale Array**	**38.73**	**82**	*e*P		**P**	**16**	**41**	**40.0**	**+0.2**
H11N2	**WAKE ISLAND Hy**	**39.07**	**221**	T		T	17	23	21.2	
	baz=25,slow=76,SNR=799									
H11N3	**WAKE ISLAND Hy**	**39.08**	**221**	T		T	17	23	21.7	
	baz=25,slow=76,SNR=647									
H11N1	**WAKE ISLAND Hy**	**39.09**	**221**	T		T	17	23	25.0	
	baz=25,slow=76,SNR=462									
FCC	**Fort Churchill**	**39.22**	**52**	*e*P		**P**	**16**	**41**	**43.9**	**+0.6**
	6.6nm,0.8s									
H11S1	**WAKE ISLAND Hy**	**40.26**	**221**	T		T	17	25	06.8	
	baz=24,slow=76,SNR=722									
H11S2	**WAKE ISLAND Hy**	**40.27**	**221**	T		T	17	25	03.2	
	baz=24,slow=76,SNR=508									
H11S3	**WAKE ISLAND Hy**	**40.27**	**221**	T		T	17	24	53.2	
	baz=24,slow=76,SNR=469									

O20A	**White River Ci**	**41.11**	**84**	*e*P		**P**	**16**	**42**	**00.0**	**+0.5**
	15nm,1.1s									
MJAR	**Matsushiro Arr**	**41.28**	**269**	LR		LR	16	57	02.5	
	comp=Z,40nm,21.8s,baz=35,slow=33									
PV09	**Paradox Valley**	**41.61**	**87**	*e*P		**P**	**16**	**42**	**03.4**	**-0.4**
PV03	**Paradox Valley**	**41.94**	**87**	*e*P		**P**	**16**	**42**	**05.4**	**-0.9**
PV13	**Radium Mtn., P**	**42.02**	**87**	*e*P		**P**	**16**	**42**	**06.8**	**-0.2**
	9.2nm,0.8s									
KSRS	**Korea Array**	**46.86**	**278**	LR		LR	17	03	38.5	
	comp=Z,19nm,19.1s,baz=75,slow=38									
MNTX	**Cornudas Mount**	**48.46**	**91**	*e*P		**P**	**16**	**42**	**58.7**	**+0.8**
	3.2nm,0.8s									
SUMG	**Summit**	**49.54**	**18**	*e*P		**P**	**16**	**43**	**06.2**	**+0.1**
	26nm,1.3s									
SUMG	**Summit**	**49.54**	**18**	*i* P		**P**	**16**	**43**	**05.6**	**-0.5**
	34nm,1.0s									
TX31	**Lajitas Ar. Si**	**51.18**	**92**	*e*P		**P**	**16**	**43**	**18.5**	**-0.2**
TXAR	**Lajitas Array**	**51.19**	**92**	P		**P**	**16**	**43**	**19.3**	**+0.6**
	0.8nm,0.7s,baz=298,slow=5.3,SNR=12									
ULN	**Ulaanbaatar**	**51.87**	**301**	*e*P		**P**	**16**	**43**	**22.3**	**-1.3**
	7.2nm,1.5s									
SONM	**Songino Array**	**52.22**	**302**	P		**P**	**16**	**43**	**25.9**	**-0.3**
	1.3nm,1.0s,baz=63,slow=7.2,SNR=6.1		

az=117.0

ISC 21 17:03:39.1±0.7, 21°26S±0.04×68°49W±0.07, h129km±7km, n79, σ1°73/94, mb4.3/7, 7C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.88**	**233**	⇑*iP*	**Pn**	**17 04 02.6**	**+1.5**
PB09				*eS*	**Sn**	**17 04 19.7**	**+2.0**
PB09				IAML		17 04 20.6	
	comp=N,3μm,0.3s						
PB01	**IPOC Station P**	**0.96**	**283**	*ePn*	**Pn**	**17 04 02.1**	**+0.5**
PB01	**IPOC Station P**	**0.96**	**283**	*eP*	**Pn**	**17 04 02.0**	**+0.4**
PB01				*eS*	**Sn**	**17 04 19.0**	**+0.3**
PB01				IAML		17 04 20.6	
	comp=N,5μm,0.1s						
PB08	**IPOC Station P**	**1.28**	**331**	⇓*iP*	**Pn**	**17 04 05.8**	**+0.7**
PB08				*eS*	**Sn**	**17 04 25.1**	**+0.2**
PB08				IAML		17 04 27.0	
	comp=E,3μm,0.7s						
PB07	**IPOC Station P**	**1.38**	**250**	⇑*iP*	**Pn**	**17 04 06.8**	**+0.8**
PB07				*eS*	**Sn**	**17 04 27.1**	**+0.5**
LVC	**Limon Verde**	**1.40**	**196**	P	**Pn**	**17 04 08.1**	**+1.7**
	comp=E,250nm,0.3s,baz=20,slow=10,SNR=1841						
LVC				S	**Sn**	**17 04 29.1**	**+1.9**
	comp=E,129nm,0.3s,baz=183,slow=18,SNR=44						
LVC				LR	LR	17 04 32.3	
	comp=E,102nm,19.3s,baz=206,slow=34						
LVC	**Limon Verde**	**1.40**	**196**	⇓*iP*	**Pn**	**17 04 08.0**	**+1.7**
LVC				*eS*	**Sn**	**17 04 29.8**	**+2.6**
LVC	**Limon Verde**	**1.40**	**196**	*eP*	**Pn**	**17 04 08.1**	**+1.7**
LVC				*eS*	**Sn**	**17 04 29.1**	**+1.9**
PB03	**IPOC Station P**	**1.42**	**236**	⇑*iP*	**Pn**	**17 04 07.3**	**+1.0**
PB03				*eS*	**Sn**	**17 04 28.0**	**+0.9**
PB03				IAML		17 04 29.6	
	comp=N,5μm,0.4s						
PB06	**IPOC Station P**	**1.75**	**215**	⇑*iP*	**Pn**	**17 04 11.4**	**+1.2**
PB06				*eS*	**Sn**	**17 04 35.7**	**+1.7**
PB06				IAML		17 04 36.3	
	comp=E,2μm,0.3s						
PB11	**IPOC Station P**	**1.85**	**324**	*ePn*	**Pn**	**17 04 11.1**	**-0.2**
PB11	**IPOC Station P**	**1.85**	**324**	⇓*iP*	**Pn**	**17 04 11.2**	**-0.2**
PB04	**IPOC Station P**	**1.88**	**235**	*ePn*	**Pn**	**17 04 12.4**	**+0.7**
PB04	**IPOC Station P**	**1.88**	**235**	⇑*iP*	**Pn**	**17 04 12.5**	**+0.8**
PB04				*eS*	**Sn**	**17 04 36.8**	**+0.1**
PB04				IAML		17 04 38.3	
	comp=E,2μm,0.6s						
PB05	**IPOC Station P**	**2.25**	**225**	⇑*iP*	**Pn**	**17 04 16.8**	**+0.6**
PB05				IAML		17 04 50.6	
	comp=E,610nm,0.2s						
MNMC	**Minye Minye**	**2.36**	**334**	*ePn*	**Pn**	**17 04 17.2**	**-0.6**
MNMC	**Minye Minye**	**2.36**	**334**	*eP*	**Pn**	**17 04 18.0**	**+0.2**
MNMC				*eS*	**Sn**	**17 04 47.1**	**-0.3**
PB10	**IPOC Station P**	**2.95**	**220**	*ePn*	**Pn**	**17 04 24.5**	**-0.4**
PB12	**IPOC Station P**	**3.15**	**326**	⇓*iP*	**Pn**	**17 04 26.1**	**-1.7**
PB12				*iS*	**Sn**	**17 05 02.3**	**-3.1**
GO02	**Mina Guanaco**	**4.01**	**194**	*ePn*	**Pn**	**17 04 39.6**	**+0.4**
GO02	**Mina Guanaco**	**4.01**	**194**	⇑*iP*	**Pn**	**17 04 39.7**	**+0.4**
GO02				*eS*	**Sn**	**17 05 26.6**	**+0.6**
LPAZ	**La Paz**	**4.96**	**4**	P	**Pn**	**17 04 52.8**	**+0.6**
	comp=E,7.4nm,0.3s,baz=189,slow=7.8,SNR=117						
LPAZ				S	**Sn**	**17 05 44.5**	**-4.5**
	baz=156,slow=12,SNR=1.6						
LPAZ				LR	LR	17 06 38.2	
	comp=E,60nm,18.9s,baz=86,slow=36						
LPAZ	**La Paz**	**4.96**	**4**	*eP*	**Pn**	**17 04 53.3**	**+1.1**
LCO	**Las Campanas**	**7.97**	**194**	*ePn*	**Pn**	**17 05 29.0**	**-3.4**
LCO	**Las Campanas**	**7.97**	**194**	*eP*	**Pn**	**17 05 29.5**	**-2.8**
LCO				*eS*	**Sn**	**17 06 56.5**	**-4.6**
LCO	**Las Campanas**	**7.97**	**194**	*eP*	**Pn**	**17 05 29.0**	**-3.4**
AGUA	**GUANDACOL**	**8.19**	**180**	*eP*	**Pn**	**17 05 33.0**	**-2.2**
AGUA				*eS*	**Sn**	**17 07 04.4**	**-1.8**
ACLC	**CERRO LA CRUZ**	**8.25**	**171**	*eP*	**Pn**	**17 05 35.3**	**-0.7**
SIV	**San Ignacio**	**8.77**	**55**	P	**Pn**	**17 05 40.1**	**-2.8**
	comp=E,12nm,0.3s,baz=249,slow=12,SNR=220						
SIV				LR	LR	17 09 54.1	
	comp=E,58nm,20.9s,baz=119,slow=44						
ACDV	**Cuesta del Vie**	**8.89**	**184**	*eP*	**Pn**	**17 05 42.5**	**-2.2**
AROD	**Rodeo**	**8.91**	**186**	*eP*	**Pn**	**17 05 44.0**	**-1.0**
GO04	**Tololo Observa**	**9.12**	**193**	*ePn*	**Pn**	**17 05 44.3**	**-3.5**
APLL	**PUNTA DE LOS L**	**9.27**	**169**	*eP*	**Pn**	**17 05 49.3**	**-0.2**
ACCO	**Cerro Coronel**	**9.30**	**183**	*eP*	**Pn**	**17 05 48.9**	**-1.5**
AMOG	**MOGNA**	**9.64**	**154**	*eP*	**Pn**	**17 05 52.4**	**-2.2**
RTLL	**Cerro Villicun**	**10.03**	**180**	*eP*	**Pn**	**17 05 56.6**	**-3.2**
CFA	**Coronel Fontan**	**10.30**	**179**	*eP*	**Pn**	**17 06 01.2**	**-2.3**
RTLS	**Leoncito**	**10.52**	**184**	*eP*	**Pn**	**17 06 04.3**	**-2.3**
RTCV	**Cerro Valdivia**	**10.56**	**180**	*eP*	**Pn**	**17 06 03.2**	**-3.6**
AUSP	**Uspallata**	**10.95**	**184**	*eP*	**Pn**	**17 06 09.5**	**-2.9**
ACAN	**Cantantal**	**11.03**	**174**	*eP*	**Pn**	**17 06 12.1**	**-1.1**
MRA	**San Martin**	**11.38**	**168**	*eP*	**Pn**	**17 06 17.3**	**-0.7**
MRA				IAML		17 06 18.4	
	comp=Z,1.4nm,0.3s						
TRCB	**Terra Rica**	**14.78**	**99**	*eP*	**P**	**17 07 04.0**	**-0.4**
PTGB	**Pitanga**	**15.51**	**106**	*eP*	**P**	**17 07 12.9**	**+0.4**
ITAB	**Concordia**	**16.05**	**115**	*eP*	**P**	**17 07 18.6**	**+0.3**
CPSB	**Cacapava Do Su**	**16.31**	**127**	*eP*	**P**	**17 07 21.5**	**+0.3**
FRTB	**Fartura**	**17.63**	**100**	*eP*	**Pn**	**17 07 37.7**	**+0.9**
CNLB	**Canela**	**17.83**	**120**	*eP*	**P**	**17 07 38.4**	**+0.4**
GO06	**Curarrehue**	**18.44**	**187**	*eP*	**Pn**	**17 07 47.6**	**+1.2**
	comp=Z,6.0nm,0.6s						
BB19B	**Bebedouro**	**18.62**	**93**	*eP*	**P**	**17 07 46.9**	**+0.2**
IPMB	**Ipameri, GO**	**19.37**	**84**	*eP*	**P**	**17 07 55.2**	**+0.3**
RCLB	**Rio Claro- Sao**	**19.49**	**97**	*eP*	**P**	**17 07 56.2**	**0.0**
PLCA	**Paso Flores**	**19.49**	**185**	P	**Pn**	**17 07 58.7**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=45,slow=13,SNR=5.8						
PLCA	**Paso Flores**	**19.49**	**185**	*eP*	**P**	**17 07 51.2**	**-4.8**
BDFB	**Brasilia**	**20.20**	**77**	P	**P**	**17 08 03.8**	**-0.2**
	comp=Z,1.8nm,0.3s,baz=242,slow=11,SNR=8.7						
PTGA	**Pitinga**	**22.04**	**23**	P	**P**	**17 08 21.6**	**-1.7**
	comp=Z,13nm,0.7s,baz=203,slow=16,SNR=16						
PTGA	**Pitinga**	**22.04**	**23**	*eP*	**P**	**17 08 21.7**	**-1.7**
	comp=Z,12nm,0.8s						
PTGA	**Pitinga**	**22.04**	**23**	*eP*	**P**	**17 08 21.4**	**-2.0**
JANB	**Januaria**	**23.77**	**79**	*eP*	**P**	**17 08 39.5**	**-0.5**
DBIC	**Dimbokro**	**68.29**	**73**	P	**P**	**17 14 26.1**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=229,slow=3.8,SNR=4.5						
QSPA	**South Pole Qui**	**68.93**	**180**	*eP*	**P**	**17 14 32.8**	**+2.9**
	comp=Z,7.5nm,1.1s						
PDAR	**Pinedale Array**	**74.10**	**330**	LR	LR	17 49 45.4	
	comp=Z,55nm,21.0s,baz=48,slow=37						
KVN	**Kaiserville**	**75.85**	**322**	*eP*	**P**	**17 15 13.5**	**+2.1**
	comp=Z,16nm,1.9s						
TOA0	**Torodi Ar. Sit**	**76.90**	**70**	*eP*	**P**	**17 15 16.9**	**-0.6**
TOA1	**Torodi Ar. Sit**	**76.90**	**70**	*eP*	**P**	**17 15 16.1**	**-1.5**
TORD	**Torodi Ar. Bea**	**76.90**	**70**	P	**P**	**17 15 16.1**	**-1.5**
	comp=Z,4.4nm,0.8s,baz=254,slow=5.3,SNR=21						
BOSA	**Boshof**	**83.21**	**118**	P	**P**	**17 15 51.5**	**0.0**
	comp=Z,2.5nm,1.0s,baz=243,slow=7.5,SNR=3.7						
YKA	**Yellowknife Ar**	**91.09**	**340**	P	**P**	**17 16 29.3**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=134,slow=4.5,SNR=22						
YKB5	**Yellowknife Ar**	**91.09**	**340**	*eP*	**P**	**17 16 29.0**	**+0.5**
ASAR	**Alice Springs**	**130.31**	**207**	PKP	**PKiKP**	**17 22 35.9**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=129,slow=1.6,SNR=18						
WR1	**Warramunga Arr**	**133.36**	**210**	*e*PKPdf	**PKiKP**	**17 22 41.8**	**-0.1**
WRA	**Warramunga Arr**	**133.36**	**210**	PKP	**PKiKP**	**17 22 41.8**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=157,slow=1.7,SNR=12						
ZAA1	**Zalesovo Array**	**141.57**	**25**	*e*PKPdf	**PKPdf**	**17 22 55.6**	**+1.0**
ZALV	**Zalesovo Beam**	**141.57**	**25**	PKP	**PKPdf**	**17 22 55.6**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=261,slow=2.8,SNR=5.6						
MK32	**Makanchi Array**	**145.21**	**36**	*e*PKPbc	**PKPab**	**17 23 02.4**	**+0.9**
MKAR	**Makanchi Array**	**145.21**	**36**	PKPbc	**PKPab**	**17 23 02.4**	**+0.9**
	comp=Z,3.0nm,0.7s,baz=320,slow=3.4,SNR=34						
USRK	**Ussuriysk Ar.**	**151.52**	**328**	PKPbc	**PKiKP**	**17 23 18.8**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=276,slow=2.3,SNR=5.0						
SONA0	**Songino Array**	**153.17**	**8**	*e*PKPbc	**PKiKP**	**17 23 22.6**	**+0.8**
SONM	**Songino Array**	**153.17**	**8**	PKPbc	**PKiKP**	**17 23 22.6**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=42,slow=0.4,SNR=3.2						

*IDC **21** 17:18:45.8±0.9, 30°88N×99°72E, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.6/50, mbtmp3.7/11, ML3.6/2, Error ellipse: s-maj=47.2km s-min=16.2km az=59.0*

ISC 21 17:18:51.1±0.9, 30°87N±0.09×99°4E±0.1, h35km, n20, σ2°09/20, mb3.7/8, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**8.46**	**233**	*eP*	**Sn**	**17 22 28.0**	**+2.2**
RAMN	**Ramite**	**11.86**	**254**	*eP*	**Pn**	**17 21 37.3**	**-0.7**
	15nm,0.5s						
JIRN	**Jiri**	**11.95**	**258**	*eP*	**Pn**	**17 21 37.9**	**-1.5**
	11nm,0.4s						
GUN	**Gumba**	**12.14**	**259**	*eP*	**Pn**	**17 21 39.9**	**-2.0**
	12nm,0.4s						
CMAR	**Chiang Mai Arr**	**12.36**	**182**	Pn	**Pn**	**17 21 45.7**	**+1.0**
	0.3nm,0.3s,baz=356,slow=12,SNR=5.7						
PKIN	**Phulchoki**	**12.65**	**258**	*eP*	**Pn**	**17 21 46.2**	**-2.6**
	10nm,0.4s						
DMN	**Daman**	**12.88**	**259**	*eP*	**Pn**	**17 21 49.8**	**-2.2**
	15nm,0.8s						
DANN	**Dangsing**	**13.82**	**263**	*eP*	**Pn**	**17 22 01.9**	**-3.0**
KOLN	**Koldanda**	**14.11**	**261**	*eP*	**Pn**	**17 22 05.5**	**-3.2**
	12nm,0.8s						
PYUN	**Piuthan**	**14.54**	**263**	*eP*	**Pn**	**17 22 10.3**	**-4.3**
	5.0nm,0.5s						
SONM	**Songino Array**	**17.78**	**16**	P	**Pn**	**17 22 55.1**	**-0.7**
	0.0nm,0.3s,baz=198,slow=12,SNR=4.2						
MKAR	**Makanchi Array**	**20.67**	**325**	P	**P**	**17 23 29.0**	**+1.1**
	1.5nm,0.6s,baz=132,slow=12,SNR=14						
AAK	**Ala-Archa**	**23.06**	**308**	P	**P**	**17 23 55.0**	**+1.5**
	1.2nm,0.6s,baz=116,slow=9.3,SNR=6.4						
KURBB	**Kurchatov Arra**	**25.13**	**328**	P	**P**	**17 24 13.3**	**+0.6**
	2.8nm,0.8s,baz=140,slow=9.0,SNR=20						
ZALV	**Zalesovo Beam**	**25.35**	**340**	P	**P**	**17 24 15.3**	**+0.6**
	2.3nm,0.6s,baz=148,slow=9.6,SNR=11						
AKASG	**Malin Array Be**	**54.58**	**313**	P	**P**	**17 28 17.2**	**+1.4**
	0.2nm,0.5s,baz=69,slow=7.2,SNR=2.3						
FINES	**FINESS Array B**	**55.50**	**326**	P	**P**	**17 28 23.3**	**+1.1**
	1.0nm,0.5s,baz=101,slow=7.2,SNR=6.0						
WRA	**Warramunga Arr**	**60.66**	**142**	P	**P**	**17 28 57.6**	**-1.3**
	0.6nm,0.8s,baz=321,slow=6.9,SNR=4.4						
NOA	**NORSAR Array B**	**62.66**	**327**	P	**P**	**17 29 12.8**	**+0.9**
	0.3nm,0.6s,baz=80,slow=4.1,SNR=2.6						
ASAR	**Alice Springs**	**63.52**	**145**	P	**P**	**17 29 16.7**	**-1.4**
	0.2nm,0.7s,baz=325,slow=7.1,SNR=4.6						

IDC 21 17:26:16.8±7.5, 18°78S×176°95W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/31, mbtmp3.7/2, Error ellipse: s-maj=301.5km s-min=119.0km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.84**	**260**	P	P	17 34 41.2	+0.2
	0.4nm,0.3s,baz=96,slow=7.6,SNR=20						
ASAR	**Alice Springs**	**45.89**	**255**	P	P	17 34 41.0	-0.4
	0.7nm,0.6s,baz=90,slow=7.6,SNR=18						
AKASG	**Malin Array Be**	**141.97**	**333**	PKP	PKPdf	17 45 49.9	-0.7
	0.6nm,0.4s,baz=42,slow=4.3,SNR=7.3						

*ISCJB **21** 17:46:10.3±0.5, 6°88N±0.03×73°14W±0.04, h160km±4km, mb3.3/4, Error ellipse: s-maj=6.0km s-min=4.9km az=24.3*
*IDC **21** 17:46:11.4±0.7, 6°81N×72°96W, h166km±10km, mb3.1/4, mb1 3.5/6, mb1mx3.1/29, mbtmp3.7/6, Error ellipse: s-maj=38.3km s-min=7.9km az=131.0*
*RSNC **21** 17:46:12.2±0.9, 6°79N×73°13W, h152km±4km, ML3.5, Mw3.7*

ISC 21 17:46:11.2±0.8, 6°86N±0.04×73°14W±0.04, h156km±5km, n31, σ1°08/47, mb3.4/4, 2C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.27**	**190**	⇑*iP*	**Pn**	**17 46 32.5**	**-0.3**
BARC				*eS*	**Sn**	**17 46 47.8**	**-1.3**
BARC				*i*		17 46 50.2	
	comp=Z,769nm,0.4s						
BRRC	**Barranca, Sant**	**0.62**	**293**	⇑*iP*	**Pn**	**17 46 34.4**	**+0.5**
BRRC				*eS*	**Sn**	**17 46 51.9**	**+0.8**
BRRC				*i*		17 46 52.8	
	comp=N,1μm,0.2s						
PAMC	**Pamplona, Colo**	**0.64**	**42**	*eP*	**Pn**	**17 46 35.3**	**+0.7**
PAMC				*eS*	**Sn**	**17 46 52.5**	**+0.1**
PAMC				*i*		17 46 53.9	
	comp=E,298nm,0.4s						
RUSC	**La Rusia**	**0.97**	**177**	⇓*iP*	**Pn**	**17 46 36.3**	**-0.6**
RUSC				*eS*	**Sn**	**17 46 55.0**	**-1.5**
RUSC				*i*		17 46 56.8	
	comp=N,297nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.35**	**256**	*eP*	**Pn**	**17 46 39.1**	**-0.7**
PTBC				*eS*	**Sn**	**17 47 00.7**	**-0.9**
PTBC				*i*		17 47 06.2	
	comp=E,1μm,0.4s						
OCAC	**Ocana**	**1.38**	**352**	*eP*	**Pn**	**17 46 41.0**	**+0.7**
OCAC				*eS*	**Sn**	**17 47 03.5**	**+1.0**
OCAC				*i*		17 47 07.5	
	comp=Z,376nm,0.2s						
TAMC	**Tame, Arauca**	**1.40**	**108**	⇓*iP*	**Pn**	**17 46 40.7**	**+0.3**
TAMC				*i*		17 46 40.8	
	comp=Z,205nm,0.2s						
TAMC				*eS*	**Sn**	**17 47 02.4**	**-0.2**
ZARC	**Zaragoza, Cauc**	**1.82**	**290**	*eP*	**Pn**	**17 46 44.9**	**+0.2**
ZARC				*eS*	**Sn**	**17 47 11.3**	**+0.9**
ZARC				*i*		17 47 16.9	
	comp=Z,264nm,0.4s						
NORC	**Norcasia**	**2.15**	**233**	*eP*	**Pn**	**17 46 48.2**	**-0.4**
NORC				*eS*	**Sn**	**17 47 16.4**	**-1.0**
NORC				*i*		17 47 21.9	
	comp=Z,286nm,0.3s						
CHIC	**Chingaza**	**2.30**	**195**	⇓*iP*	**Pn**	**17 46 50.1**	**-0.6**
CHIC				*eS*	**Sn**	**17 47 20.0**	**-1.0**
CHIC				*i*		17 47 25.1	
	comp=Z,71nm,0.3s						
ROSC	**El Rosal**	**2.33**	**210**	P	**Pn**	**17 46 52.3**	**+1.3**
	comp=Z,42nm,0.3s,baz=82,slow=15,SNR=76						
ROSC				S	**Sn**	**17 47 24.3**	**+2.7**
	comp=Z,43nm,0.3s,baz=358,slow=23,SNR=7.7						
ROSC	**El Rosal**	**2.33**	**210**	*eP*	**Pn**	**17 46 52.1**	**+1.1**
ROSC				*i*		17 47 30.5	
	comp=Z,328nm,0.4s						
HELC	**Santa Helena**	**2.47**	**254**	*eP*	**Pn**	**17 46 52.4**	**-0.2**
HELC				*eS*	**Sn**	**17 47 25.3**	**+0.8**
HELC				*i*		17 47 31.4	
	comp=N,242nm,0.3s						
UREC	**San Jos de Ur**	**2.54**	**291**	*eP*	**Pn**	**17 46 52.3**	**-0.8**
UREC				*eS*	**Sn**	**17 47 24.0**	**-1.5**
UREC				*i*		17 47 37.6	
	comp=Z,120nm,0.2s						
VILC	**Villavicencio,**	**2.79**	**191**	*eP*	**Pn**	**17 46 55.6**	**-0.8**
VILC				*eS*	**Sn**	**17 47 29.8**	**-1.5**
VILC				*i*		17 47 46.2	
	comp=Z,147nm,0.3s						
DBBC	**Dabeiba**	**3.05**	**273**	*eP*	**Pn**	**17 47 00.0**	**+0.4**
TOLC	**Tolima**	**3.14**	**224**	*eP*	**Pn**	**17 47 01.8**	**+0.9**
TOLC				*i*		17 47 44.3	
	comp=Z,69nm,0.4s						
SDV	**Santo Domingo**	**3.19**	**51**	P	**Pn**	**17 47 01.7**	**+0.2**
	comp=Z,18nm,0.3s,baz=242,slow=12,SNR=34						
SDV				S	**Sn**	**17 47 39.3**	**-1.1**
	comp=Z,15nm,0.3s,baz=240,slow=20,SNR=30						
SDV	**Santo Domingo**	**3.19**	**51**	*eP*	**Pn**	**17 47 01.8**	**+0.3**
SJCC	**San Jacinto, C**	**3.63**	**326**	*eS*	**Sn**	**17 47 48.1**	**-2.2**
PLMC	**San Jos del P**	**3.68**	**238**	*eP*	**Pn**	**17 47 08.1**	**+0.4**
YOTC	**Yotoco, Valle**	**4.29**	**228**	*eP*	**Pn**	**17 47 15.3**	**-0.3**
SMRC	**Santa Marta, M**	**4.41**	**346**	*eP*	**Pn**	**17 47 17.5**	**+0.5**
SMRC				*eS*	**Sn**	**17 48 05.7**	**-2.6**
POPC	**Popayan, Colom**	**5.56**	**220**	*eP*	**Pn**	**17 47 32.5**	**+0.1**
ULM	**Lac du Bonnet**	**47.24**	**340**	P	**P**	**17 54 28.3**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=154,slow=6.1,SNR=2.2						
PDAR	**Pinedale Array**	**48.03**	**324**	P	**P**	**17 54 35.6**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=129,slow=8.2,SNR=2.7						
YKA	**Yellowknife Ar**	**63.22**	**340**	P	**P**	**17 56 22.5**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=133,slow=6.7,SNR=11						
ILAR	**Eielson Array**	**76.92**	**335**	P	**P**	**17 57 45.9**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=123,slow=6.6,SNR=1.7						
MKAR	**Makanchi Array**	**122.29**	**20**	PKP	**PKPdf**	**18 04 48.3**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=343,slow=1.5,SNR=3.2						
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc	**PKPdf**	**18 05 40.0**	**+2.3**
	comp=Z,0.4nm,0.9s,baz=118,slow=3.4,SNR=2.6						
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc	**PKPbc**	**18 05 43.8**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=105,slow=3.0,SNR=5.8						

*SOME **21** 18:06:11.1, 41°78N×77°37E, h20km*
*KRNET **21** 18:06:11.4±0.1, 41°76N×77°38E, h18km, mb2.2*
*NNC **21** 18:06:12.0±1.1, 44°39N×76°84E, h0km, mb2.4, mpv2.2, Error ellipse: s-maj=10.0km s-min=4.3km az=169.0*

ISC 21 18:06:11.5±1.4, 41°78N±0.05×77°33E±0.02, h17km±10km, n29, σ1°07/58, 18C-12D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**0.37**	**342**	⇓*eP*	**Pg**	**18 06 19.3**	**0.0**
	baz=39						
KDJ				⇓*iS*	**Sg**	**18 06 25.0**	**+0.4**
	baz=39						
ULHL	**Ulahol**	**0.94**	**300**	⇓*iP*	**Pb**	**18 06 28.9**	**-0.6**
	baz=0.0						
ULHL				⇓*iS*	**Sb**	**18 06 42.3**	**+0.5**
	baz=0.0						
NRN	**Naryn**	**1.06**	**251**	⇑*iP*	**Pb**	**18 06 31.9**	**+0.3**
	baz=53						
NRN				⇑*iS*	**Sn**	**18 06 46.6**	**+0.2**
	baz=53						
PRZ	**Przheval'sk**	**1.06**	**48**	⇑*iP*	**Pb**	**18 06 30.7**	**-0.9**
	baz=46						
PRZ				⇑*iS*	**Sg**	**18 06 45.0**	**-1.1**
	baz=46						
BOOM	**Boomskoye usch**	**1.26**	**305**	⇑*iP*	**Pb**	**18 06 35.1**	**+0.2**
	baz=5.0						
BOOM				⇑*iS*	**Sg**	**18 06 52.6**	**+0.3**
	baz=5.0						
IZV	**Izvestkoviy**	**1.37**	**337**	*eP*	**Pb**	**18 06 36.9**	**+0.1**
	0.6nm,0.2s						
IZV				*eS*	**Sg**	**18 06 55.3**	**-0.5**
	7.7nm,0.1s						
MDOK	**Medeo**	**1.40**	**352**	Pn	**Pn**	**18 06 36.1**	**-0.4**
	0.5nm,0.4s						
MDOK				Sn	**Sb**	**18 06 55.1**	**0.0**
	1.4nm,0.4s						
KOTS	**Kotyrbulak**	**1.47**	**354**	*eP*	**Pb**	**18 06 38.4**	**-0.1**
	3.7nm,0.4s						
KOTS				*eS*	**Sg**	**18 06 58.0**	**-0.9**
	13nm,0.5s						
SATY	**Saty**	**1.51**	**31**	*eP*	**Pn**	**18 06 37.9**	**-0.1**
	3.3nm,0.2s						
SATY				*eS*	**Sb**	**18 06 57.2**	**-0.9**
	7.6nm,0.1s						
KZA	**Kyzart**	**1.58**	**282**	⇓*iP*	**Pb**	**18 06 40.3**	**-0.3**
	baz=82						
KZA				⇓*iS*	**Sg**	**18 07 02.7**	**0.0**
	baz=82						
KST	**Kastek**	**1.62**	**322**	*eP*	**Pb**	**18 06 41.3**	**+0.2**
	4.1nm,0.4s						
KST				*eS*	**Sg**	**18 07 02.8**	**-1.1**
	8.2nm,0.5s						
TKM2	**Tokmak 2**	**1.72**	**312**	⇑Pn	**Pb**	**18 06 43.1**	**+0.2**
	0.5nm,0.3s						
TKM2				⇑Sn	**Sg**	**18 07 07.1**	**+0.1**
	1.3nm,0.2s						
TKM2	**Tokmak 2**	**1.72**	**312**	⇓*eP*	**Pb**	**18 06 43.0**	**+0.1**
	baz=12						
TKM2				⇓*iS*	**Sg**	**18 07 06.6**	**-0.5**
	baz=12						
KURS	**Kuram**	**1.82**	**20**	*eP*	**Pb**	**18 06 44.3**	**-0.1**
	0.8nm,0.2s						
KURS				*eS*	**Sb**	**18 07 07.8**	**+0.8**
	2.4nm,0.3s						
UZB	**Uzynbulak**	**1.85**	**42**	*eP*	**Pb**	**18 06 43.7**	**-1.4**
	1.1nm,0.2s						
UZB				*eS*	**Sb**	**18 07 06.7**	**-1.4**
	4.4nm,0.3s						
DGS	**Degeres**	**1.86**	**322**	*eP*	**Pb**	**18 06 46.3**	**+1.0**
	1.3nm,0.2s						
DGS				*eS*	**Sg**	**18 07 11.0**	**-0.6**
	7.6nm,0.5s						
KBK	**Karagaybulak**	**1.98**	**297**	⇑*iP*	**Pb**	**18 06 47.0**	**-0.2**
	baz=97						
KBK				⇑*eS*	**Sg**	**18 07 14.2**	**-1.0**
	baz=97						
KTBS	**Karatobe**	**1.99**	**346**	*eP*	**Pb**	**18 06 48.0**	**+0.6**
	0.7nm,0.2s						
KTBS				*eS*	**Sg**	**18 07 14.6**	**-1.1**
	12nm,0.2s						
SHLS	**Shalkode**	**2.10**	**48**	*eP*	**Pg**	**18 06 53.1**	**+1.3**
	2.6nm,0.2s						
SHLS				*eS*	**Sg**	**18 07 22.8**	**+3.8**
	14nm,0.3s						
UCH	**Uchtor**	**2.15**	**283**	⇑*iP*	**Pb**	**18 06 49.8**	**-0.5**

IZEF				IAMB	IAmb	18 07 48.2	
	comp=Z,1μm,0.3s						
IKFM	**Kafar-mosalman**	**2.79**	**324**	*e*Pn	**Pn**	**18 07 45.6**	**+0.8**
IKFM				IAMB	IAmb	18 08 33.0	
	comp=Z,0.0nm,0.8s						
HSAM	**Samen**	**3.10**	**341**	*e*Pn	**Pn**	**18 07 49.3**	**0.0**
HSAM				IAMB	IAmb	18 08 34.4	
	comp=Z,0.0nm,0.3s						
ASAO	**Ashtian**	**3.26**	**3**	*e*Pn	**Pn**	**18 07 51.8**	**+0.2**
ASAO	**Ashtian**	**3.26**	**3**	*e*AML	AML	18 08 47.0	
	comp=E,49nm,0.6s						
ASAO	**Ashtian**	**3.26**	**3**	*e*Pn	**Pn**	**18 07 51.8**	**+0.2**
KRSH	**Karshahi**	**3.32**	**36**	*e*Pn	**Pn**	**18 07 52.9**	**+0.6**
KRSH				IAMB	IAmb	18 07 56.0	
	comp=Z,0.0nm,0.2s						
ISAD	**Sadrabad**	**3.36**	**78**	*e*Pn	**Pn**	**18 07 53.5**	**+0.5**
GHVR	**GHOM**	**3.42**	**21**	*e*Pn	**Pn**	**18 07 53.1**	**-0.6**
GHVR	**GHOM**	**3.42**	**21**	*e*Pn	**Pn**	**18 07 53.1**	**-0.6**
IKOM	**Komasi**	**3.48**	**327**	*e*Pn	**Pn**	**18 07 55.0**	**+0.5**
IKOM				IAMB	IAmb	18 09 11.9	
	comp=Z,0.0nm,1.0s						
HAGD	**Aghdareh**	**3.58**	**351**	*e*Pn	**Pn**	**18 07 56.5**	**+0.6**
ISFB	**Sefidab**	**3.68**	**33**	*e*Pn	**Pn**	**18 07 56.8**	**-0.4**
ISFB				IAMB	IAmb	18 07 57.8	
	comp=Z,1μm,0.2s						
IVIS	**Veis**	**4.09**	**323**	IAMB	IAmb	18 08 59.8	
	comp=Z,342nm,0.4s						
IGHG	**Ghaleghazi**	**4.09**	**319**	*e*Pn	**Pn**	**18 08 03.5**	**+0.6**
IGHG				IAMB	IAmb	18 09 25.5	
	comp=Z,714nm,0.6s						
IMEH	**Mehriz**	**4.11**	**87**	*e*Pn	**Pn**	**18 08 04.1**	**+0.9**
YZKH	**Yazd**	**4.21**	**74**	*e*Pn	**Pn**	**18 08 04.7**	**+0.2**
YZKH	**Yazd**	**4.21**	**74**	*e*Pn	**Pn**	**18 08 04.7**	**+0.2**
IDMV	**Damavand**	**4.67**	**23**	*e*Pn	**Pn**	**18 08 10.7**	**-0.3**
ILAS	**Lasjerd**	**4.86**	**32**	*e*Pn	**Pn**	**18 08 13.3**	**-0.3**
IFIR	**Firoozkooh**	**5.00**	**29**	*e*Pn	**Pn**	**18 08 15.3**	**-0.1**
ISHM	**Shahmirzad**	**5.37**	**32**	*e*Pn	**Pn**	**18 08 21.0**	**+0.4**
GEYT	**Alibeck**	**9.53**	**44**	Pn	**Pn**	**18 09 17.6**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=234,slow=12,SNR=15						
GEYT				LR	LR	18 13 45.2	
	comp=Z,88nm,20.2s,baz=290,slow=43						
BRTR	**Keskin Array B**	**15.62**	**307**	Pn	**Pn**	**18 10 42.2**	**+1.8**
	comp=Z,0.0nm,0.3s,baz=124,slow=23,SNR=2.5						
AAK	**Ala-Archa**	**22.66**	**53**	P	**P**	**18 12 03.8**	**+2.6**
	comp=Z,0.7nm,0.6s,baz=210,slow=8.1,SNR=3.6						
AKASG	**Malin Array Be**	**24.71**	**328**	P	**P**	**18 12 19.1**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=131,slow=8.5,SNR=6.3						
MKAR	**Makanchi Array**	**29.35**	**49**	P	**P**	**18 13 01.6**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=236,slow=9.6,SNR=3.0						
FINES	**FINESS Array B**	**33.93**	**340**	P	**P**	**18 13 40.7**	**-1.7**
	comp=Z,1.2nm,0.5s,baz=146,slow=10,SNR=5.4						
NOA	**NORSAR Array B**	**39.01**	**331**	P	**P**	**18 14 23.7**	**-2.1**
	comp=Z,0.2nm,0.5s,baz=133,slow=8.5,SNR=2.7						
TORD	**Torodi Ar. Bea**	**47.66**	**259**	P	**P**	**18 15 34.9**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=60,slow=7.8,SNR=6.6						

MEX 21 18:09:08.2±0.7, 15.54N×98.25W, h16km±36km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.86**	**8**	*e*P	Pb	18 09 21.5	-3.3
PNIG				*e*S	Sb	18 09 32.0	-4.0
HUIG	**Huatulco**	**2.07**	**83**	*e*P	Pn	18 09 39.0	-3.4
HUIG				*e*S	Sn	18 10 02.5	-5.4
VHO	**Vista Hermosa**	**2.11**	**43**	*i* P	Pn	18 09 40.7	-2.3
VHO				*i* S	Sn	18 10 05.1	-3.9

*ISCJB **21** 18:15:21.2±0.4, 60.72N±0.07×43.92W±0.08, h10km, mb3.9/18, Error ellipse: s-maj=10.9km s-min=5.4km az=12.0*
*IDC **21** 18:15:21.7±0.6, 60.70N×43.89W, h0km, mb3.8/15, mb1 4.0/19, mb1mx3.9/50, mbtmp3.9/19, ML3.4/4, Error ellipse: s-maj=20.3km s-min=12.1km az=5.0*
*NEIC **21** 18:15:23.3±0.3, 60.77N×43.97W, h10km, mb4.5/4, Error ellipse: s-maj=8.0km s-min=4.7km az=182.0*

ISC 21 18:15:22.8±0.5, 60.70N±0.08×44.09W±0.05, h10km, n42, σ1°56/46, mb3.9/18, 1C, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**0.79**	**306**	*e*Pg	**Pg**	**18 15 37.8**	**-0.3**
NRS	**Narsarsuaq**	**0.79**	**306**	*i* P	**Pg**	**18 15 38.0**	**-0.1**
NRS				*i* S	**Sg**	**18 15 48.9**	**+0.4**
IVI	**Ivigtut**	**2.05**	**286**	*e*Pn	**Pn**	**18 15 57.9**	**+0.5**
SFJD	**Kangerlussuaq**	**6.94**	**338**	Pn	**Pn**	**18 17 04.7**	**+0.3**
	1.4nm,0.3s,baz=155,slow=13,SNR=14						
SFJD	**Kangerlussuaq**	**6.94**	**338**	*e*Pn	**Pn**	**18 17 02.4**	**-2.0**
SFJD	**Kangerlussuaq**	**6.94**	**338**	*i* P	**Pn**	**18 17 04.9**	**+0.5**
BORG	**Borgarnes**	**11.17**	**59**	Pn	**Pn**	**18 18 00.7**	**-1.6**
	0.5nm,0.3s,baz=276,slow=7.1,SNR=3.0						
FRB	**Frobisher Bay**	**11.78**	**296**	Pn	**Pn**	**18 18 11.5**	**+0.9**
	0.4nm,0.3s,baz=92,slow=14,SNR=4.5						
FRB				Sn	**Sn**	**18 20 17.8**	**-4.1**
	0.3nm,0.3s,baz=68,slow=19,SNR=2.6						
SUMG	**Summit**	**12.13**	**8**	*e*Pn	**Pn**	**18 18 14.1**	**-1.6**
SUMG	**Summit**	**12.13**	**8**	*i* P	**Pn**	**18 18 12.9**	**-2.8**
SCHQ	**Schefferville**	**13.44**	**254**	Pn	**Pn**	**18 18 34.1**	**+0.7**
	1.0nm,0.3s,baz=41,slow=11,SNR=8.1						
SCHQ				Sn	**Sn**	**18 20 56.0**	**-6.7**
	0.9nm,0.3s,baz=135,slow=19,SNR=4.7						
RES	**Resolute Bay**	**22.79**	**328**	P	**P**	**18 20 26.5**	**+1.5**
	3.3nm,1.1s,baz=84,slow=9.7,SNR=3.0						
FCC	**Fort Churchill**	**24.79**	**288**	*e*P	**P**	**18 20 44.2**	**-0.2**
	4.7nm,0.8s						
ULM	**Lac du Bonnet**	**30.35**	**274**	P	**P**	**18 21 36.0**	**+1.6**
	1.6nm,0.6s,baz=59,slow=7.3,SNR=3.8						
YKA	**Yellowknife Ar**	**32.08**	**304**	P	**P**	**18 21 49.5**	**+0.1**
	0.2nm,0.4s,baz=58,slow=9.6,SNR=3.0						
FIA0	**FINESS Array S**	**32.46**	**57**	*e*P	**P**	**18 21 52.1**	**-0.7**
FINES	**FINESS Array B**	**32.46**	**57**	P	**P**	**18 21 52.1**	**-0.7**
	2.0nm,0.9s,baz=290,slow=8.1,SNR=2.7						
AKASG	**Malin Array Be**	**40.38**	**70**	P	**P**	**18 22 59.9**	**-0.5**
	0.7nm,0.6s,baz=314,slow=8.1,SNR=5.9						
ILAR	**Eielson Array**	**42.27**	**322**	P	**P**	**18 23 16.9**	**+1.1**
	1.9nm,0.9s,baz=49,slow=7.2,SNR=16						
ILAR				PcP	**PcP**	**18 25 08.9**	**-0.4**
	0.6nm,0.7s,baz=31,slow=2.0,SNR=7.2						
ILB	**Eielson Array**	**42.27**	**322**	*e*P	**P**	**18 23 17.2**	**+1.4**
TIXI	**Tiksi**	**47.84**	**3**	*e*P	**P**	**18 24 01.2**	**+1.3**
	2.5nm,0.5s						
NV01	**Mina Array Sit**	**49.91**	**279**	*e*P	**P**	**18 24 17.4**	**+0.9**
NVAR	**Mina Array Bea**	**49.91**	**279**	P	**P**	**18 24 17.4**	**+0.9**
	0.7nm,0.7s,baz=53,slow=6.0,SNR=5.2						
NVAR				PcP	**PcP**	**18 25 37.3**	**+0.5**
	0.3nm,0.5s,baz=21,slow=3.9,SNR=2.8						
PNTR	**Pine Nut**	**50.02**	**280**	*e*P	**P**	**18 24 19.6**	**+2.3**
	4.4nm,0.7s						
LTX	**Lajitas**	**50.07**	**259**	*e*P	**P**	**18 24 18.5**	**+0.8**
TXAR	**Lajitas Array**	**50.07**	**259**	P	**P**	**18 24 18.5**	**+0.8**
	0.3nm,0.6s,baz=66,slow=7.3,SNR=4.5						
BR101	**Keskin Array S**	**50.59**	**77**	*e*P	**P**	**18 24 21.9**	**+0.3**
BRTR	**Keskin Array B**	**50.59**	**77**	P	**P**	**18 24 21.8**	**+0.2**
	0.4nm,0.6s,baz=313,slow=7.3,SNR=3.5						
KBZ	**Khabaz**	**51.80**	**67**	P	**P**	**18 24 30.8**	**+0.4**
	2.8nm,1.0s,baz=306,slow=5.4,SNR=4.4						
TOA1	**Torodi Ar. Sit**	**57.93**	**125**	*e*P	**P**	**18 25 15.3**	**+0.2**
TORD	**Torodi Ar. Bea**	**57.93**	**125**	P	**P**	**18 25 15.3**	**+0.2**
	0.6nm,0.5s,baz=328,slow=7.8,SNR=6.0						
DBIC	**Dimbokro**	**61.39**	**134**	P	**P**	**18 25 37.9**	**-1.0**
	1.5nm,0.5s,baz=323,slow=8.0,SNR=6.1						
DBIC	**Dimbokro**	**61.39**	**134**	*e*P	**P**	**18 25 37.9**	**-1.0**
	19nm,1.4s						
MK31	**Makanchi Array**	**64.39**	**38**	*e*P	**P**	**18 25 58.6**	**0.0**
MK32	**Makanchi Array**	**64.39**	**38**	*e*P	**P**	**18 25 58.5**	**-0.1**
MKAR	**Makanchi Array**	**64.39**	**38**	P	**P**	**18 25 58.5**	**-0.1**
	0.8nm,0.7s,baz=337,slow=5.2,SNR=11						
MK01	**Makanchi Array**	**64.42**	**38**	*e*P	**P**	**18 25 58.1**	**-0.7**
SONA0	**Songino Array**	**69.21**	**21**	*e*P	**P**	**18 26 29.9**	**+0.6**
SONM	**Songino Array**	**69.21**	**21**	P	**P**	**18 26 29.9**	**+0.6**
	0.4nm,0.6s,baz=307,slow=5.9,SNR=4.6						
CMAR	**Chiang Mai Arr**	**95.68**	**35**	P	**P**	**18 28 48.6**	**-0.1**
	0.3nm,0.8s,baz=332,slow=5.1,SNR=4.0						
ASAR	**Alice Springs**	**142.96**	**3**	PKhKP	PKPpre	18 34 52.3	
	0.5nm,0.7s,baz=348,slow=3.1,SNR=7.9						
MAW	**Mawson**	**149.23**	**134**	PKPbc	**PKPbc**	**18 35 10.4**	**+0.6**
	5.1nm,0.9s,baz=243,slow=2.3,SNR=3.3						

IDC 21 18:22:05.5±3.4, 32.16S×178.10W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/37, mbtmp3.8/3, ML3.2/1, Error ellipse: s-maj=73.3km s-min=39.4km az=110.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.24**	**211**	Pn	Pn	18 23 52.4	-0.1
	0.4nm,0.3s,baz=4.8,slow=12,SNR=2.9						
URZ				Sn	Sn	18 25 13.9	-1.5
	2.1nm,0.3s,baz=112,slow=19,SNR=9.8						
ASAR	**Alice Springs**	**42.96**	**269**	P	P	18 30 06.5	0.0
	0.8nm,0.7s,baz=103,slow=7.4,SNR=13						
WRA	**Warramunga Arr**	**44.10**	**274**	P	P	18 30 15.8	+0.1
	1.4nm,0.6s,baz=113,slow=7.9,SNR=20						
AKASG	**Malin Array Be**	**152.62**	**321**	PKPbc	PKPbc	18 42 03.2	-0.3
	0.1nm,0.3s,baz=62,slow=2.2,SNR=2.0						

*SJA **21** 18:22:22.4±0.7, 20.46S×64.19W, h20km±32km, ML4.1, MW3.9*
*SCB **21** 18:22:28.1±3.6, 20.97S×64.32W, h20km±44km, ML4.0/2, Error ellipse: s-maj=9.6km s-min=5.2km az=0.0*
*IDC **21** 18:22:30.9±1.5, 20.79S×64.22W, h43km±15km, mb3.7/8, mb1 4.0/12, mb1mx3.9/32, mbtmp4.0/12, ML3.9/4, MS3.0/4, Ms1 2.9/4, ms1mx2.8/23, Error ellipse: s-maj=15.1km s-min=11.4km az=129.0*
*ISCJB **21** 18:22:31.0±0.5, 20.86S±0.03×64.30W±0.05, h64km±6km, mb3.8/6, Error ellipse: s-maj=7.4km s-min=5.5km az=13.7*
*NEIC **21** 18:22:31.4±0.6, 20.83S×64.18W, h49km±6km, mb4.2/2, Error ellipse: s-maj=7.4km s-min=6.7km az=99.0*

ISC 21 18:22:33.3±0.9, 20.80S±0.03×64.33W±0.05, h66km±10km, n49, σ2°05/56, mb3.9/6, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BS06	**Camiri**	**1.07**	**45**	P	**Pn**	**18 22 52.1**	**-0.5**
BS06				S	**Sn**	**18 23 09.4**	**+2.4**
BS06				AML	AML	18 23 10.9	
	1μm,0.4s						
MOCB	**Mochara**	**1.30**	**250**	P	**Pn**	**18 22 52.0**	**-4.0**
YJA	**Yavi**	**1.76**	**219**	*e*P	**Pn**	**18 23 00.1**	**-1.9**
YJA				IAML		18 23 01.4	
	comp=Z,1μm,0.5s						
YJA				*e*S	**Sn**	**18 23 27.5**	**+3.8**
BS02	**Patallajta**	**1.82**	**337**	P	**Pn**	**18 23 03.1**	**+0.3**
BS08	**Valle Grande**	**2.30**	**5**	P	**Pn**	**18 23 10.0**	**+0.7**
HJA	**Humahuaca**	**2.59**	**203**	*e*P	**Pn**	**18 23 12.2**	**-1.1**
HJA				IAML		18 23 17.2	
	comp=Z,557nm,0.6s						
HJA				*e*S	**Sn**	**18 23 49.2**	**+5.3**
BB01	**Montecillos**	**2.86**	**342**	P	**Pn**	**18 23 17.2**	**+0.4**
BB01				S	**Sn**	**18 23 55.1**	**+4.9**
BB01				AML	AML	18 23 55.7	
	comp=Z,1μm,0.3s						
ALOL	**LOMAS DE OLMED**	**3.02**	**174**	*e*P	**Pn**	**18 23 16.3**	**-2.4**
ALOL				*e*S	**Sn**	**18 23 56.9**	**+3.2**
BB02	**La Guardia**	**3.04**	**18**	P	**Pn**	**18 23 17.9**	**-1.2**
AZAP	**Zapla**	**3.47**	**191**	*e*P	**Pn**	**18 23 24.3**	**-0.8**
AZAP				*e*S	**Sn**	**18 24 10.1**	**+4.9**
AZAP				IAML		18 24 26.8	
	comp=Z,393nm,0.6s						
PB08	**IPOC Station P**	**4.57**	**277**	P	**Pn**	**18 23 39.8**	**-0.5**
LVC	**Limon Verde**	**4.62**	**246**	P	**Pn**	**18 23 40.6**	**-0.4**
	comp=Z,6.4nm,0.3s,baz=59,slow=7.3,SNR=26						
LVC				S	**Sn**	**18 24 34.1**	**+0.5**
	baz=282,slow=19,SNR=2.3						
LVC				LR	LR	18 26 09.4	
	comp=Z,85nm,18.7s,baz=30,slow=46						
LVC	**Limon Verde**	**4.62**	**246**	*e*P	**Pn**	**18 23 39.3**	**-1.7**
PB01	**IPOC Station P**	**4.83**	**266**	*e*Pn	**Pn**	**18 23 43.6**	**0.0**
PB01	**IPOC Station P**	**4.83**	**266**	P	**Pn**	**18 23 41.5**	**-2.1**
PB11	**IPOC Station P**	**5.11**	**281**	*e*Pn	**Pn**	**18 23 46.8**	**-0.6**
MNMC	**Minye Minye**	**5.23**	**288**	*e*Pn	**Pn**	**18 23 50.9**	**+1.7**
MNMC	**Minye Minye**	**5.23**	**288**	P	**Pn**	**18 23 48.7**	**-0.5**
PB06	**IPOC Station P**	**5.23**	**248**	P	**Pn**	**18 23 46.7**	**-2.4**
BBOE	**La Paz, Chanca**	**5.27**	**318**	P	**Pn**	**18 23 50.3**	**+0.3**
BBOJ	**La Paz, Jacaqu**	**5.28**	**316**	P	**Pn**	**18 23 51.1**	**+0.9**
FSA	**Cafayete**	**5.50**	**196**	*e*P	**Pn**	**18 23 51.2**	**-1.6**
PB04	**IPOC Station P**	**5.63**	**253**	P	**Pn**	**18 23 53.5**	**-1.1**
SIV	**San Ignacio**	**5.70**	**33**	P	**Pn**	**18 23 52.9**	**-2.6**
	comp=Z,21nm,0.3s,baz=229,slow=11,SNR=336						
SIV				S	**Sn**	**18 24 55.6**	**-3.9**
	comp=Z,19nm,0.3s,baz=160,slow=19,SNR=9.6						
LPAZ	**La Paz**	**5.76**	**321**	P	**Pn**	**18 23 55.7**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=110,slow=4.2,SNR=31						
LPAZ				S	**Sn**	**18 25 00.8**	**-1.1**
	comp=Z,8.7nm,0.3s,baz=323,slow=16,SNR=9.2						
LPAZ	**La Paz**	**5.76**	**321**	*e*Pn	**Pn**	**18 23 55.4**	**-1.4**
LPAZ				S	**Sn**	**18 25 00.8**	**-1.1**
LPAZ	**La Paz**	**5.76**	**321**	P	**Pn**	**18 23 57.7**	**+0.9**
BBOD	**La Paz, Gloria**	**5.79**	**315**	P	**Pn**	**18 23 57.2**	**0.0**
BBOB	**La Paz, Bander**	**5.88**	**321**	P	**Pn**	**18 23 58.3**	**0.0**
BB08	**Puerto Suarez**	**6.40**	**75**	P	**Pn**	**18 24 02.1**	**-2.9**
GO02	**Mina Guanaco**	**6.51**	**227**	*e*Pn	**Pn**	**18 24 06.4**	**-0.4**
CPUP	**Villa Florida**	**8.45**	**132**	P	**Pn**	**18 24 29.4**	**-3.6**
	comp=Z,0.3nm,0.3s,baz=323,slow=13,SNR=7.1						
CPUP				LR	LR	18 27 27.9	
	comp=Z,47nm,18.6s,baz=37,slow=35						
BDFB	**Brasilia**	**16.32**	**74**	LR	LR	18 32 17.1	
	comp=Z,51nm,18.0s,baz=342,slow=36						
GO06	**Curarrehue**	**19.70**	**197**	*e*P	**P**	**18 26 56.1**	**-1.2**
	comp=Z,16nm,1.0s						
PTGA	**Pitinga**	**20.40**	**13**	P	**P**	**18 27 04.2**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=320,slow=19,SNR=3.3						
PLCA	**Paso Flores**	**20.56**	**194**	P	**P**	**18 27 05.6**	**-1.1**
	comp=Z,7.9nm,0.9s,baz=32,slow=13,SNR=14						
PLCA				LR	LR	18 36 34.6	
	comp=Z,94nm,19.6s,baz=19,slow=41						
PLCA	**Paso Flores**	**20.56**	**194**	*e*P	**P**	**18 27 05.4**	**-1.3**
	comp=Z,13nm,1.0s						
VNA3	**Neumayer Olymp**	**59.39**	**162**	P	P	18 32 34.1	+5.6
VNA1	**Neumayer--Stat**	**59.54**	**161**	P	P	18 32 35.6	+6.1
VNA2	**Neumayer--Watz**	**59.92**	**161**	P	**P**	**18 32 33.8**	**+1.7**
	baz=300,slow=8.1						
SNAA	**Sanae**	**61.56**	**162**	P	**P**	**18 32 43.3**	**-0.1**
	comp=Z,1.4nm,0.9s,baz=288,slow=9.6,SNR=4.4						
TOA1	**Torodi Ar. Sit**	**73.11**	**68**	*e*P	**P**	**18 33 56.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**73.11**	**68**	P	**P**	**18 33 56.9**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=252,slow=5.5,SNR=6.3						
PDAR	**Pinedale Array**	**75.74**	**327**	P	**P**	**18 34 12.3**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=92,slow=8.1,SNR=5.0						
ULM	**Lac du Bonnet**	**76.05**	**340**	P	**P**	**18 34 13.2**	**-0.2**
	comp=Z,4.7nm,0.7s,baz=161,slow=7.7,SNR=7.1						
NVAR	**Mina Array Bea**	**77.67**	**319**	P	**P**	**18 34 24.0**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=162,slow=6.6,SNR=3.2						
YKA	**Yellowknife Ar**	**92.01**	**339**	P	**P**	**18 35 34.8**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=122,slow=4.4,SNR=8.1						
ZALV	**Zalesovo Beam**	**139.43**	**28**	PKP	**PKPdf**	**18 41 53.7**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=294,slow=1.4,SNR=2.8						
MKAR	**Makanchi Array**	**142.50**	**38**	PKP	**PKPdf**	**18 41 58.3**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=316,slow=4.0,SNR=3.3						

*IDC **21** 18:32:23.0±0.3, 4.32S×134.82E, h0km, mb4.8/27, mb1 4.9/30, mb1mx4.9/36, mbtmp4.8/30, ML5.3/3, MS4.9/30, Ms1 4.9/30, ms1mx4.8/38, Error ellipse: s-maj=11.3km s-min=6.8km az=53.0*
*ISCJB **21** 18:32:22.4±0.1, 4.41S±0.02×134.88E±0.02, h10km, mb5.2/166, MS4.9/44, Error ellipse: s-maj=3.2km s-min=2.8km az=26.9*
*GCMT **21** 18:32:24.6±0.1, 4.31S±0.01×134.75E±0.01, h12km, MW5.4/126, Moment Tensor Solution. s103,c176; s126,c228; Duration: 1ꢀ2 Moment tensor: Scale 10^17 Nm; Mrr0.03±.02; Mθθ-0.47±.02; Mφφ0.43±.02; Mrθ0.17±.04; Mθφ1.28±.01; Mφr0.38±.04; Best double couple: Mo1.41800×10^17 NP1:φs349.00000°,δ81.00000°, λ166.00000°. NP2:φs81.00000°,δ76.00000°,λ9.00000°. Principal axes: T 1.4570, Plg16.0000°, Azm305.0000°; N -0.0780, Plg74.0000°, Azm138.0000°; P -1.3790, Plg3.0000°, Azm36.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **21** 18:32:24.7, 4.40S×134.80E, h17km, mb4.9/69, mB5.3/49, Ms5.1/72, Ms7 4.9/67*
*DJA **21** 18:32:24.7±0.7, 4.3S±2.3×13.5E±1.1, h11km±5km, MS.5/20, mb5.3/20, mB5.7/11, MLv6.0/7, Mw(mB)5.3/11, Mwp5.4/1*
*MOS **21** 18:32:25.8±1.3, 4.38S×134.89E, h33km, mb5.3/62, MS4.7/18, Error ellipse: s-maj=9.9km s-min=5.3km az=113.3*
*NEIC **21** 18:32:27.6±0.1, 4.42S×134.82E, h35km, mb5.4/102, Error ellipse: s-maj=4.2km s-min=3.6km az=55.0*

ISC 21 18:32:26.2±0.5, 4.48S±0.03×134.86E±0.03, h25km±3km, h25km:pP-P, n546, σ2°12/594, mb5.3/174, MS4.8/45, 15C-7D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**2.94**	**28**	P	**Pn**	**18 33 07.7**	**-3.6**
RKPI	**Ransiki, Papua**	**3.03**	**347**	P	**Pn**	**18 33 11.5**	**-1.0**
FAKI	**Fak Fak**	**3.03**	**301**	*e*Pn	**Pn**	**18 33 10.0**	**-2.6**
FAKI	**Fak Fak**	**3.03**	**301**	P	**Pn**	**18 33 10.8**	**-1.8**
FAKI	**Fak Fak**	**3.03**	**301**	P	**Pn**	**18 33 10.8**	**-1.8**
BNDI	**Bandanaira**	**4.94**	**269**	P	**Pn**	**18 33 38.6**	**-0.3**
BNDI	**Bandanaira**	**4.94**	**269**	P	**Pn**	**18 33 38.5**	**-0.3**
BNDI				S	**Sn**	**18 34 33.9**	**-1.3**
SAUI	**Saumlaki**	**4.96**	**225**	*e*Pn	**Pn**	**18 33 39.3**	**+0.1**
SAUI	**Saumlaki**	**4.96**	**225**	P	**Pn**	**18 33 41.1**	**+2.0**
SAUI	**Saumlaki**	**4.96**	**225**	P	**Pn**	**18 33 40.7**	**+1.6**
SAUI				S	**Sn**	**18 34 43.0**	**+7.2**
SWI	**Sorong**	**5.08**	**315**	P	**Pn**	**18 33 39.1**	**-1.8**
SWI	**Sorong**	**5.08**	**315**	P	**Pn**	**18 33 39.0**	**-1.8**
GENI	**Genyem**	**5.62**	**71**	P	**Pn**	**18 33 48.9**	**+0.7**
GENI				S	**Sn**	**18 34 52.7**	**+0.7**
JAY	**Jayapura**	**6.15**	**72**	P	**Pn**	**18 33 55.1**	**-0.5**
	3μm,0.8s,37μm16nm						
MMPI	**Merauke**	**6.77**	**126**	P	**Pn**	**18 34 05.5**	**+1.5**
	2μm,0.5s,61μm50nm						
NLAI	**Namlea**	**7.84**	**279**	P	Pn	18 34 10.6	-8.1
NLAI				S	**Sn**	**18 35 45.0**	**-1.7**
NLAI	**Namlea**	**7.84**	**279**	S	Pn	18 34 10.3	-8.4
KDU	**Kakadu**	**8.49**	**196**	P	**Pn**	**18 34 28.4**	**+0.8**
	baz=8.6,SNR=87						
TNTI	**Ternate**	**9.12**	**305**	*e*Pn	**Pn**	**18 34 34.8**	**-1.6**
SANI	**Sanana**	**9.18**	**285**	P	**Pn**	**18 34 33.8**	**-3.3**
SOEI	**Soe**	**11.74**	**243**	*e*Pn	**Pn**	**18 35 11.7**	**-0.6**
SOEI	**Soe**	**11.74**	**243**	P	**Pn**	**18 35 10.7**	**-1.6**
SOEI	**Soe**	**11.74**	**243**	P	**Pn**	**18 35 10.9**	**-1.4**
PALU	**Palau**	**11.75**	**358**	P	**Pn**	**18 35 12.7**	**+0.4**
	baz=12,SNR=3.2						
KDI	**Kendari**	**12.22**	**272**	P	**Pn**	**18 35 14.5**	**-4.2**
BBSI	**Bau Bau**	**12.28**	**265**	P	**Pn**	**18 35 22.2**	**+2.6**
BATI	**Baumata**	**12.47**	**242**	Pn	**Pn**	**18 35 21.7**	**-0.6**
	25nm,0.3s,baz=91,slow=2.7,SNR=20						
BATI				Sn	**Sn**	**18 37 38.0**	**-2.5**
	32nm,0.3s,baz=130,slow=19,SNR=6.6						
BATI				LR	LR	18 41 05.8	
	comp=Z,5μm,21.9s,baz=70,slow=42						
BATI	**Baumata**	**12.47**	**242**	P	**Pn**	**18 35 20.6**	**-1.6**
BATI	**Baumata**	**12.47**	**242**	P	**Pn**	**18 35 21.0**	**-1.2**
COEN	**Coen**	**12.49**	**140**	*e*Pn	**Pn**	**18 35 20.7**	**-1.7**
LUWI	**Luwuk**	**12.55**	**285**	*e*Pn	**Pn**	**18 35 21.4**	**-1.8**
LUWI	**Luwuk**	**12.55**	**285**	P	**Pn**	**18 35 26.4**	**+3.2**
KNRA	**Kununurra**	**12.64**	**208**	P	**Pn**	**18 35 23.7**	**-0.7**
	baz=13,SNR=329						
MANU	**Manus Island**	**12.72**	**79**	*e*Pn	**Pn**	**18 35 24.5**	**-1.1**
PMG	**Port Moresby**	**13.15**	**112**	Pn	**Pn**	**18 35 30.9**	**-0.6**
	6.2nm,0.3s,baz=276,slow=3.5,SNR=25						
PMG				Sn	**Sn**	**18 37 51.6**	**-5.4**
	2.9nm,0.3s,baz=151,slow=19,SNR=3.4						
PMG				LR	LR	18 41 56.5	
	comp=Z,9μm,18.2s,baz=332,slow=43						
PMG	**Port Moresby**	**13.15**	**112**	*e*Pn	**Pn**	**18 35 30.2**	**-

SMRI	Semarang	24.43	263	P		P	18 37 43.6	+0.5	
UGM	Wanagama	24.43	261	*e*P		P	18 37 43.3	+0.1	
	comp=Z,2μm,1.8s								
UGM	Wanagama	24.43	261	P		P	18 37 48.2	+5.0	
KSM	Kuching	25.23	283	*e*P		P	18 37 50.9	+0.5	
	comp=Z,81nm,1.0s								
KSM	Kuching	25.23	283	P		P	18 37 51.4	+1.0	
HNR	Honiara	25.38	103	P		P	18 37 52.7	+1.0	
	comp=Z,244nm,0.8s,baz=222,slow=5.1,SNR=21								
HNR				S		S	18 42 22.6	+5.6	
	comp=Z,8.3nm,0.4s,baz=256,slow=12,SNR=1.8								
HNR				LR		LR	18 49 04.2		
	comp=Z,4μm,18.5s,baz=280,slow=39								
HNR	Honiara	25.38	103	*e*P		P	18 37 51.0	-0.7	
HNR	Honiara	25.38	103	*e*P		P	18 37 51.3	-0.4	
	comp=Z,413nm,1.0s								
HNR				*e*S		S	18 42 22.6	+5.6	
HNR	Honiara	25.38	103	*e*P		P	18 37 51.3	-0.4	
HNR				*e*S		S	18 42 22.6	+5.6	
HNR				pmax		pmax			
	comp=Z,413nm,1.0s								
RMQ	Roma	25.61	150	P		P	18 37 55.0	+1.4	
	baz=26,SNR=7.0								
KPJI	Karang Pucung	25.94	262	P		P	18 37 57.9	+1.1	
EIDS	Eidsvold	25.96	145	P		P	18 37 59.3	+2.4	
	baz=26,SNR=12								
EIDS	Eidsvold	25.96	145	*e*P		P	18 37 57.3	+0.4	
	comp=Z,79nm,1.1s								
JCJI	Jatiwangi	26.54	264	P		P	18 38 08.1	+5.8	
FORT	Forrest	26.93	193	P		P	18 38 07.4	+1.9	
	baz=27,SNR=16								
FORT	Forrest	26.93	193	*e*P		P	18 38 05.6	0.0	
	comp=Z,198nm,0.8s								
CISI	Cisompet, Garu	27.06	262	*e*P		P	18 38 04.7	-2.4	
	comp=Z,235nm,1.1s								
CISI	Cisompet, Garu	27.06	262	P		P	18 38 05.5	-1.6	
TPI	Tanjungpandan	27.20	273	P		P	18 38 07.5	-0.7	
	comp=Z,48nm,1.0s,comp=Z,919nm								
LEM	Lembang	27.21	264	P		P	18 38 09.0	+0.5	
	comp=Z,27nm,0.7s,baz=57,slow=5.7,SNR=6.9								
LEM				S		S	18 42 50.1	+3.8	
	comp=Z,6.5nm,0.4s,baz=143,slow=20,SNR=1.8								
CBJI	Citeko	27.95	265	P		P	18 38 21.8	+6.9	
STKA	Stephens Creek	27.98	168	P		P	18 38 16.8	+1.8	
	comp=Z,16nm,0.8s,baz=339,slow=8.1,SNR=15								
STKA				S		S	18 43 03.0	+5.3	
	comp=Z,7.4nm,0.8s,baz=294,slow=20,SNR=1.9								
STKA				LR		LR	18 50 23.6		
	comp=Z,6μm,18.1s,baz=338,slow=38								
STKA	Stephens Creek	27.98	168	P		P	18 38 16.3	+1.3	
	baz=28,SNR=15								
STKA	Stephens Creek	27.98	168	*e*P		P	18 38 15.7	+0.7	
	comp=Z,39nm,1.5s								
STKA				S		S	18 43 03.0	+5.3	
STKA	Stephens Creek	27.98	168	*e*P		S	18 38 15.7	+0.7	
STKA				S		S	18 43 03.0	+5.3	
STKA				pmax		pmax			
	comp=Z,39nm,1.5s								
DBJI	Dramaga	28.05	265	P		P	18 38 20.1	+4.2	
BBOO	Buckleboo	28.21	178	P		P	18 38 18.4	+1.4	
	baz=28,SNR=11								
BBOO	Buckleboo	28.21	178	*e*P		P	18 38 18.4	+1.4	
	comp=Z,94nm,1.0s								
PPBI	Pangkal Pinang	28.76	274	P		P	18 38 30.2	+8.0	
CMSA	Cobar Meteorol	28.78	161	P		P	18 38 24.0	+2.0	
	baz=29,SNR=6.9								
HTT	Hallett	29.05	173	P		P	18 38 27.1	+2.5	
	baz=29,SNR=4.2								
ARMA	Armidale	30.27	150	P		P	18 38 38.6	+3.1	
	baz=30,SNR=6.4								
ARMA	Armidale	30.27	150	*e*P		P	18 38 34.5	-0.9	
MORW	Morawa	30.27	214	*e*P		P	18 38 34.9	-0.5	
	comp=Z,82nm,1.4s								
MDSI	Maura Dua	30.59	269	P		P	18 38 37.6	-0.7	
LWLI	Liwa	30.70	268	P		P	18 38 46.2	+6.7	
YULB	Yu-li	30.70	335	*e*P		P	18 38 39.0	-0.2	
	comp=Z,29nm,1.4s								
BLDU	Ballidu	31.12	211	P		P	18 38 44.6	+1.7	
	baz=31,SNR=9.7								
SSLB	Suanglung	31.20	335	*e*P		P	18 38 43.9	+0.3	
	comp=Z,19nm,1.1s								
LHSI	Lahat	31.26	270	P		P	18 38 46.3	+2.0	
	comp=Z,86nm,1.3s,comp=Z,1μm								
KLBR	Kellerberrin	31.39	209	P		P	18 38 47.2	+1.9	
	baz=32,SNR=6.7								
MYKOM	Kota Tinggi	31.61	281	P		P	18 38 47.4	+0.1	
JOW	Kunigami	31.77	349	LR		LR	18 50 44.3		
	comp=Z,3μm,19.6s,baz=148,slow=35								
YHNB	Yeheng	31.81	336	*e*P		P	18 38 50.1	+1.1	
	comp=Z,112nm,1.9s								
KGM	Kluang	32.17	281	P		P	18 38 53.9	+1.6	
MASI	Maura Aman, Be	32.57	271	P		P	18 39 00.8	+4.9	
NWAO	Narrogin (SRO)	32.74	208	P		P	18 38 59.1	+2.0	
	baz=33,SNR=3.9								
NWAO	Narrogin (SRO)	32.74	208	*e*P		P	18 38 56.8	-0.3	
	comp=Z,115nm,1.4s								
NWAO	Narrogin (SRO)	32.74	208	*e*P		P	18 38 56.8	-0.3	
NWAO				pmax		pmax			
	comp=Z,115nm,1.4s								
ARPS	Mount Arapiles	32.77	170	P		P	18 39 00.0	+2.8	
	baz=33,SNR=16								
KTGM	Kuala Trenggan	33.15	287	P		P	18 39 02.4	+1.5	
QZH	Quanzhou	33.25	332	*e*P		P	18 39 06.4	+4.8	
QZH				S		S	18 44 28.8	+8.4	
QZH				LR		LR			
	comp=Z,1μm,19.4s								
QZH				LR		LR			
	comp=Z,1μm,19.4s								
QZH				LR		LR			
	comp=Z,2μm,21.3s								
KRJI	Kerinci	33.42	273	P		P	18 39 05.9	+2.5	
QIZ	Qiongzhong	33.95	314	P		P	18 39 07.1	-0.7	
QIZ				S		S	18 44 31.0	-0.4	
QIZ				sS		sS	18 44 46.9	+3.1	
QIZ				pmax		pmax			
	comp=Z,22nm,1.4s								
QIZ				LR		LR			
	comp=Z,1μm,16.7s								
QIZ				LR		LR			
	comp=Z,1μm,19.6s								
QIZ				LR		LR			
	comp=Z,2μm,20.6s								
FRIM	Kepong	34.08	282	P		P	18 39 10.1	+1.1	
BKNI	Bangkinang	34.12	277	*e*P		P	18 39 08.7	-0.7	
	comp=Z,231nm,1.4s								
BKNI	Bangkinang	34.12	277	P		P	18 39 12.5	+3.1	
TOO	Toolangi	34.34	165	P		P	18 39 11.8	+0.8	
	baz=35,SNR=3.6								
TOO	Toolangi	34.34	165	*e*P		P	18 39 10.0	-1.0	
	comp=Z,105nm,2.0s								
TOO	Toolangi	34.34	165	*e*P		P	18 39 10.0	-1.0	
TOO				pmax		pmax			
	comp=Z,105nm,2.0s								
GZH	Guangzhou	34.53	323	P		P	18 39 16.9	+4.2	
GZH				S		S	18 44 45.0	+4.8	
GZH				LR		LR			
	comp=Z,950nm,16.9s								
GZH				LR		LR			
	comp=Z,1μm,16.7s								
PDSI	Padang	34.53	275	P		P	18 39 13.9	+0.9	
	comp=Z,50nm,1.1s,comp=Z,509nm								
IPM	Ipoh	34.95	284	*e*P		P	18 39 16.7	+0.1	
	comp=Z,50nm,1.0s								
IPM	Ipoh	34.95	284	P		P	18 39 16.8	+0.3	
DZM	Mont Dzumac	35.23	123	*e*P		P	18 39 20.7	+1.7	
	comp=Z,122nm,1.3s								
DZM				*e*S		S	18 44 49.2	-2.3	
	comp=Z,1μm,28.5s								
DZM				*e*LR		LR	18 48 49.7		
	comp=Z,5μm,24.2s								
DZM	Mont Dzumac	35.23	123	P		P	18 39 20.3	+1.3	
	comp=Z,27nm,0.9s,baz=327,slow=7.3,SNR=12								
DZM	Mont Dzumac	35.23	123	*e*P		P	18 39 18.6	-0.5	
	comp=Z,64nm,1.2s								
ONTNC	Ouen Toro	35.34	123	*e*P		P	18 39 21.0	+1.2	
	comp=Z,64nm,0.9s								
KULM	Kulim	35.52	285	*e*P		P	18 39 18.7	-2.7	
	comp=Z,33nm,1.1s								
KULM	Kulim	35.52	285	P		P	18 39 21.4	0.0	
MNSI	Mandailing Nat	35.64	278	P		P	18 39 27.7	+5.3	
SISI	Saibi	35.85	274	P		P	18 39 25.8	+1.5	
	comp=Z,28nm,1.3s								
PINNC	Pines Island,	36.30	123	*e*P		P	18 39 29.4	+1.3	
	comp=Z,142nm,1.3s								
PSI	Prapat	36.63	281	P		P	18 39 30.6	-0.5	
	comp=Z,35nm,1.0s,baz=180,slow=2.8,SNR=12								
PSI	Prapat	36.63	281	*e*P		P	18 39 29.6	-1.5	
	comp=Z,39nm,0.9s								
PSI	Prapat	36.63	281	*e*P		P	18 39 29.6	-1.5	
PSI				pmax		pmax			
	comp=Z,39nm,0.9s								
TRTT	Trang	37.16	289	P		P	18 39 36.9	+1.5	
	comp=Z,20nm,0.9s								
SKNT	Sakolnakorn	37.22	306	P		P	18 39 35.4	-0.5	
	comp=Z,23nm,1.2s								
SRAK	Srakaew	37.38	300	P		P	18 39 34.2	-3.1	
	comp=Z,44nm,0.8s,comp=Z,627nm								
JNU	Nakatsue	37.59	355	P		P	18 39 39.7	+0.9	
	comp=Z,20nm,0.9s,baz=263,slow=2.2,SNR=8.0								
JNU	Nakatsue	37.59	355	*e*P		P	18 39 38.8	0.0	
	comp=Z,35nm,0.9s								
JHJ	Hachijo jima 2	37.68	7	LR		LR	18 54 23.8		
	comp=Z,2μm,19.1s,baz=126,slow=35								
KCSI	Kotacane, Aceh	37.90	282	P		P	18 39 40.7	-1.1	
PATY	Pattaya	37.94	298	P		P	18 39 51.2	+9.2	
CHAI	Chaiyaphum	38.32	303	P		P	18 39 44.6	-0.6	
	comp=Z,27nm,0.7s,comp=Z,193nm								
TPTI		38.42	281	P		P	18 39 47.9	+1.7	
NONG	Nongkai	38.47	307	P		P	18 39 45.5	-0.9	
	comp=Z,1.0nm,1.1s								
PHET	Kaeng Krachan	39.03	297	P		P	18 39 53.2	+2.0	
	comp=Z,9.8nm,1.0s,comp=Z,94nm								
LHMI	Lhok Sumawe	39.08	284	*e*P		P	18 39 51.3	-0.3	
	comp=Z,158nm,1.2s								
LHMI	Lhok Sumawe	39.08	284	P		P	18 39 56.5	+4.9	
NJ2	Nanjing	39.39	338	*e*P		P	18 39 54.3	+0.3	
NJ2				S		S	18 45 54.3	+0.2	
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
NJ2				LR		LR			
	comp=Z,1μm,21.6s								
NJ2				LR		LR			
	comp=Z,2μm,22.4s								
NJ2				LR		LR			
	comp=Z,2μm,21.6s								
PBKT	Sadao Pong	39.49	303	*e*P		P	18 39 54.0	-1.1	
	comp=Z,20nm,1.1s								
PBKT	Sadao Pong	39.49	303	P		P	18 39 55.3	+0.3	
	comp=Z,25nm,1.0s,comp=Z,952nm								
WHN	Wuhan	39.97	332	⇑P		P	18 40 03.5	+4.7	
WHN				S		S	18 46 10.8	+8.0	
WHN				LR		LR			
	comp=Z,2μm,9.6s								
WHN				LR		LR			
	comp=Z,2μm,18.3s								
WHN				LR		LR			
	comp=Z,4μm,18.8s								
SRDT	SRDT	40.07	298	P		P	18 40 01.0	+1.1	
	comp=Z,39nm,1.4s								
UTHA	Uthaitani	40.32	300	P		P	18 40 02.0	+0.1	
	comp=Z,7.5nm,0.9s,comp=Z,96nm								
UTTA	Uttaradit	40.42	304	P		P	18 40 02.7	0.0	
	comp=Z,12nm,1.0s,comp=Z,96nm								
MJAR	Matsushiro Arr	40.93	4	P		P	18 40 06.3	-0.4	
	comp=Z,3.7nm,0.9s,baz=184,slow=9.7,SNR=5.2								
MJAR				LR		LR	18 53 47.2		
	comp=Z,2μm,21.6s,baz=200,slow=32								
MAJO	Matsushiro	40.93	4	*e*P		P	18 40 05.5	-1.2	
	comp=Z,15nm,1.0s								
MAJO	Matsushiro	40.93	4⇓	*e*P		P	18 40 05.8	-0.9	
MAJO				pmax		pmax			
	comp=Z,8.0nm,1.2s								
MAT	Matsushiro	40.93	4	P		P	18 40 03.5	-3.2	
MAT				S		S	18 46 21.2	+4.1	
MJB9	Matsu-Tunnel	40.93	4	*e*P		P	18 40 05.2	-1.5	
	comp=Z,14nm,1.0s								
SUKH	Sukhothai	41.05	303	P		P	18 40 14.5	+6.5	
UMPA	Umpang Tak	41.11	301	P		P	18 40 09.2	+0.7	
	comp=Z,8.8nm,0.8s,comp=Z,2μm								
GYA	Guiyang	41.12	320	⇑*i*P		P	18 40 10.5	+1.9	
GYA				pP		sP	18 40 18.0	-1.2	
GYA				PP		PnPn	18 41 48.4	+0.1	
GYA				S		S	18 46 13.8	-6.7	
GYA				sS		sS	18 46 35.8	+2.9	
GYA				SS		SS	18 49 19.3	-4.4	
GYA				pmax		pmax			
	comp=Z,20nm,0.8s								
GYA				pmax		pmax			
	comp=Z,130nm,5.4s								
GYA				LR		LR			
	comp=Z,1μm,19.9s								
GYA				LR		LR			
	comp=Z,1μm,19.4s								
GYA				LR		LR			
	comp=Z,2μm,21.4s								
LAMP	Lampang	41.56	304	P		P	18 40 12.6	+0.5	
	comp=Z,16nm,1.0s,comp=Z,117nm								
CM01	Chiang Mai Arr	42.07	304	*e*P		P	18 40 15.6	-0.7	
CM31	Chiang Mai Arr	42.10	304	*e*P		P	18 40 14.9	-1.7	
CM31	Chiang Mai Arr	42.10	304	P		P	18 40 16.7	+0.1	
	SNR=33								
CMAR	Chiang Mai Arr	42.10	304	P		P	18 40 16.4	-0.1	
	comp=Z,11nm,0.9s,baz=129,slow=6.3,SNR=66								
CMAR				LR		LR	18 59 37.5		
	comp=Z,913nm,19.8s,baz=156,slow=39								
KSAR	Wonju Array Be	42.21	352	P		P	18 40 16.9	-0.3	
KSRS	Korea Array	42.22	352	P		P	18 40 16.9	-0.3	
	comp=Z,2.7nm,0.9s,baz=173,slow=9.0,SNR=4.3								
KSRS				LR		LR	18 56 30.7		
	comp=Z,1μm,21.2s,baz=162,slow=34								
ENH	Enshi	42.24	327	*e*P		P	18 40 16.9	-0.6	
	comp=Z,18nm,1.0s								
CMMT	Chiang Mai	42.27	304	P		P	18 40 17.3	-0.6	
	comp=Z,52nm,1.0s,comp=Z,604nm								
CHTO	Chiang Mai	42.27	304	*e*P		P	18 40 16.5	-1.4	
	comp=Z,52nm,1.0s								
CHTO	Chiang Mai	42.27	304	*e*P		P	18 40 16.5	-1.4	
CHTO				pmax		pmax			
	comp=Z,52nm,1.0s								
CHTO	Chiang Mai	42.27	304	P		P	18 40 17.2	-0.7	
	SNR=33								
CHTO	Chiang Mai	42.27	304	P		P	18 40 17.4	-0.6	
	comp=Z,235nm,1.1s,comp=Z,3μm								
KMI	Kunming	42.89	315	P		P	18 40 23.6	+0.5	
KMI				pP		pP	18 40 29.9	-0.9	
KMI				sP		sP	18 40 33.6	-0.2	
KMI				PP		PcP	18 42 10.0	-3.9	
KMI				S		S	18 46 40.9	-5.9	
KMI				sS		pS	18 46 56.8	+1.2	
KMI				pmax		pmax			
	comp=Z,35nm,1.4s								
KMI				pmax		pmax			
	comp=Z,250nm,4.6s								
KMI				LR		LR			
	comp=Z,1μm,19.5s								
KMI				LR		LR			
	comp=Z,850nm,19.2s								
KMI				LR		LR			
	comp=Z,1μm,18.9s								
MSVF	Nonsavu	44.25	111	*e*P		P	18 40 36.0	+1.9	
	comp=Z,72nm,1.0s								
MSVF	Nonsavu	44.25	111	*e*P		P	18 40 36.0	+1.9	
MSVF				pmax		pmax			
	comp=Z,72nm,1.0s								
XAN	Xi'an	45.47	329	P		P	18 40 42.3	-1.2	
XAN				pP		pP	18 40 51.9	+0.8	
XAN				sP		sP	18 40 57.6	+3.4	
XAN				PcP		PcP	18 42 22.9	+0.6	
XAN				PP		PP	18 42 26.8	-3.4	
XAN				S		S	18 47 16.9	-6.9	
XAN				sS		sS	18 47 35.3	-1.2	
XAN				SS		ScS	18 50 34.3	-4.5	
XAN				pmax		pmax			
	comp=Z,21nm,1.3s								
XAN				pmax		pmax			
	comp=Z,200nm,5.1s								
XAN				LR		LR			
	comp=Z,950nm,21.7s								
XAN				LR		LR			
	comp=Z,840nm,23.9s								
XAN				LR		LR			
	comp=Z,2μm,22.1s								
XAN	Xi'an	45.47	329	*e*P		P	18 40 42.9	-0.6	
	comp=Z,24nm,1.0s								
XAN	Xi'an	45.47	329	*e*P		P	18 40 42.9	-0.6	
XAN				pmax		pmax			
	comp=Z,24nm,1.0s								
CD2	Chengdu	46.05	322	P		P	18 40 48.3	+0.2	
CD2				pP		pP	18 40 56.3	+0.5	
CD2				sP		sP	18 40 59.8	+1.0	
CD2				PP		PP	18 42 36.6	+0.2	
CD2				S		S	18 47 33.3	+1.1	
CD2				sS		sS	18 47 47.3	+2.5	
CD2				pmax		pmax			
	comp=Z,40nm,0.5s								
CD2				pmax		pmax			
	comp=Z,280nm,5.4s								
CD2				LR		LR			
	comp=Z,1μm,18.9s								
CD2				LR		LR			
	comp=Z,2μm,19.4s								
CD2				LR		LR			
	comp=Z,2μm,18.9s								
TIY	Taiyuan	46.87	336	*e*P		P	18 40 55.3	+0.8	
TIY				sP		sP	18 41 08.1	+2.9	
TIY				S		S	18 47 39.8	-4.1	
TIY				pmax		pmax			
	comp=Z,13nm,0.6s								
TIY				pmax		pmax			
	comp=Z,160nm,4.4s								
TIY				LR		LR			
	comp=Z,810nm,16.5s								
TIY				LR		LR			
	comp=Z,750nm,15.7s								
TIY				LR		LR			
	comp=Z,860nm,27.4s								
BJT	Baijiatuao	47.50	341	*e*P		P	18 40 58.9	-0.3	
	comp=Z,97nm,1.1s								
BJT	Baijiatuao	47.50	341	*e*P		P	18 40 58.9	-0.3	
BJT				pmax		pmax			
	comp=Z,97nm,1.1s								
USA0B	Ussuriysk Arra	48.53	357	*e*P		P	18 41 06.0	-1.1	
	comp=Z,33nm,1.5s								
USRK	Ussuriysk Ar.	48.53	357	P		P	18 41 06.5	-0.6	
	comp=Z,8.8nm,1.1s,baz=193,slow=7.8,SNR=4.7								
USRK				LR		LR	18 59 15.1		
	comp=Z,1μm,21.5s,baz=160,slow=33								
CN2	Changchun	48.80	351	*e*P		P	18 41 12.6	+3.4	
CN2				*e*sP		sP	18 41 23.4	+3.4	
CN2				*e*S		S	18 48 14.4	+3.5	
CN2				pmax		pmax			
	comp=Z,10.0nm,0.7s								
CN2				pmax		pmax			
	comp=Z,200nm,3.0s								
CN2				LR		LR			
	comp=Z,670nm,19.0s								
CN2				LR		LR			
	comp=Z,680nm,19.0s								
CN2				LR		LR			
	comp=Z,1μm,21.0s								
ASAJ	Asahikawa	48.87	7	P		P	18 41 08.3	-1.5	
	comp=Z,3.2nm,0.6s,baz=209,slow=11,SNR=12								
ASAJ	Asahikawa	48.87	7	*e*P		P	18 41 09.1	-0.6	
	comp=Z,28nm,1.2s								
MDJ	Mudanjiang	49.10	355	P		P	18 41 10.5	-1.0	
MDJ				pP		pP	18 41 18.0	-1.2	
MDJ				sP		sP	18 41 23.1	+0.8	
MDJ				ScP		ScP	18 46 25.5	-3.1	
MDJ				PcS		PcS	18 46 28.8	-2.3	
MDJ				S		S	18 48 14.0	-1.1	
MDJ				sS		pS	18 48 26.1	+1.7	
MDJ				pmax		pmax			
	comp=Z,230nm,3.3s								
MDJ				LR		LR			
	comp=Z,1μm,19.9s								
MDJ				LR		LR			
	comp=Z,850nm,15.9s								
MDJ				LR		LR			
	comp=Z,2μm,21.5s								
MDJ	Mudanjiang	49.10	355	*e*P		P	18 41 10.2	-1.3	
	comp=Z,32nm,1.3s								
TEY	Ternei	49.32	2⇑	*e*P		P	18 41 11.8	-1.3	
TEY				pmax		pmax			
	comp=Z,10.0nm,1.5s								
LZH	Lanzhou	49.71	327	*e*P		P	18 41 17.5	+0.9	
LZH				pP		pP	18 41 23.4	-0.9	
LZH				sP		sP	18 41 26.9	-0.4	
LZH				PP		PP	18 43 10.6	-0.8	
LZH				*e*S		S	18 48 25.0	+0.7	
LZH				pmax		pmax			
	comp=Z,72nm,1.2s								
LZH				pmax		pmax			
	comp=Z,460nm,5.2s								
LZH				LR		LR			
	comp=Z,2μm,18.4s								
LZH				LR		LR			
	comp=Z,2μm,16.3s								
LZH				LR		LR			
	comp=Z,3μm,19.5s								
HHC	Hu-ho-hao-te	49.90	337	*e*P		P	18 41 19.3	+1.5	
HHC				pP		pP	18 41 26.6	+1.0	
HHC				sP		sP	18 41 29.9	+1.3	
HHC				PP		PP	18 43 15.1	+2.2	
HHC				S		S	18 48 27.3	+0.6	
HHC				SS		SS	18 51 56.8	-3.1	
HHC				pmax		pmax			
	comp=Z,34nm,1.1s								
HHC				pmax		pmax			
	comp=Z,350nm,5.3s								
HHC				LR		LR			
	comp=Z,580nm,19.4s								
HHC				LR		LR			
	comp=Z,2μm,20.6s								
HHC				LR		LR			
	comp=Z,390nm,17.9s								
BRDH	Bariadhala	50.11	304	P		P	18 41 19.9	+0.3	
	comp=Z,76nm,0.3s,baz=107,slow=14,SNR=5.0								
BRDH				LR		LR	19 05 04.7		
	comp=Z,498nm,18.5s,baz=93,slow=39								
BTO	Baotou	50.32	335	*e*P		P	18 41 19.1	-1.9	
LBZ	Lake Benmore	50.41	147	*e*P		P	18 41 22.2	+0.6	
	comp=Z,36nm,1.1s								
LTZ	Lake Taylor	50.54	145	*e*P		P	18 41 22.0	-0.6	
	comp=Z,42nm,1.2s								
BKZ	Black Stump Fm	51.09	138	*e*P		P	18 41 27.4	+0.5	
	comp=Z,17nm,0.8s								
SHL	Shillong	51.28	308	*e*P		P	18 41 28.5	-0.1	
	comp=Z,64nm,0.9s								
SHL	Shillong	51.28	308	*e*P		P	18 41 28.5	-0.1	
SHL				pmax		pmax			
	comp=Z,64nm,0.9s								
SHL	Shillong	51.28	308	*e*P		P	18 41 28.0	-0.6	
SHL				*e*S		S	18 48 30.0	-16	
YSS	Yuzh-Sakhalins	51.69	7	*e*P		P	18 41 29.8	-1.2	
	comp=Z,20nm,1.0s								
YSS	Yuzh-Sakhalins	51.69	7	*e*P		P	18 41 30.0	-1.0	
YSS				*e**SP		pP	18 41 38.6	-0.2	
YSS				*e*			18 42 46.9		
YSS				*e*			18 43 22.9		
YSS				*e*PPP		PPP	18 44 30.9		
YSS				*e*S		S	18 48 47.5	-3.4	
YSS				*e*PS		pS	18 48 56.7	-3.5	
YSS				pmax		pmax			
	comp=Z,10.0nm,1.1s								
YSS				MLR		MLR			
	comp=N,600nm,18.0s								
YSS				MLR		MLR			
	comp=Z,500nm,18.0s								
KLR	Kul'dur	53.56	357	P		P	18 41 44.0	-0.9	
	comp=Z,10nm,1.0s,baz=193,

	comp=Z,13nm,1.0s								
TYV	**Tymovskoe**	**55.53**	**6**	*e*P	**P**	**18 41 58.8**	**-0.3**		
TYV				*e*S	**S**	**18 49 45.7**	**+2.7**		
TYV				pmax	pmax				
	comp=Z,200nm,3.8s								
TYV				pmax	pmax				
	comp=Z,12nm,1.3s								
TYV				smax	smax				
	comp=E,300nm,6.3s								
TYV				MLR	MLR				
	comp=Z,800nm,16.0s								
RAMN	**Ramite**	**56.12**	**307**	*e*P	**P**	**18 42 03.8**	**-0.3**		
	comp=Z,50nm,0.6s								
JIRN	**Jiri**	**56.76**	**307**	*e*P	**P**	**18 42 08.4**	**-0.4**		
	comp=Z,96nm,0.8s								
GUN	**Gumba**	**57.12**	**307**	*e*P	**P**	**18 42 11.0**	**-0.3**		
	comp=Z,76nm,0.8s								
PKIN	**Phulchoki**	**57.35**	**307**	*e*P	**P**	**18 42 11.9**	**-1.0**		
	comp=Z,24nm,0.8s								
KKN	**Kakani**	**57.54**	**307**	*e*P	**P**	**18 42 13.7**	**-0.5**		
	comp=Z,79nm,1.0s								
ULN	**Ulaanbaatar**	**57.56**	**338**	*e*P	**P**	**18 42 13.4**	**-0.5**		
	comp=Z,77nm,1.4s								
ULN	**Ulaanbaatar**	**57.56**	**338**⇓	*e*P	**P**	**18 42 13.2**	**-0.7**		
ULN				pmax	pmax				
	comp=Z,44nm,1.7s								
ULN	**Ulaanbaatar**	**57.56**	**338**	P	**P**	**18 42 13.8**	**0.0**		
	SNR=28								
DMN	**Daman**	**57.60**	**307**	*e*P	**P**	**18 42 14.2**	**-0.5**		
	comp=Z,52nm,0.8s								
SONA0	**Songino Array**	**57.78**	**338**	*e*P	**P**	**18 42 15.2**	**-0.2**		
SONA0			⇑	*e*		19 12 10.1			
SONM	**Songino Array**	**57.78**	**338**	P	**P**	**18 42 15.2**	**-0.2**		
	comp=Z,6.2nm,0.9s,baz=150,slow=7.4,SNR=34								
SONM				LR	LR	19 06 56.8			
	comp=Z,678nm,21.3s,baz=147,slow=36								
SONM				PKP2bc		19 12 10.1			
	comp=Z,0.3nm,0.5s,baz=282,slow=0.8,SNR=3.8								
SONA1	**Songino Array**	**57.79**	**338**	*e*P	**P**	**18 42 14.7**	**-0.7**		
ZEA	**Zeya**	**58.36**	**355**	*e*P	**P**	**18 42 18.1**	**-1.0**		
ZEA				*e*		18 50 29.0			
ZEA				pmax	pmax				
	comp=N,36nm,1.2s								
ZEA				pmax	pmax				
	comp=Z,51nm,1.4s								
ZEA				MLR	MLR				
	comp=Z,1µm,18.0s								
ZEA				MLR	MLR				
	comp=E,700nm,16.0s								
ZEA				MLR	MLR				
	comp=N,800nm,18.0s								
KOLN	**Koldanda**	**58.88**	**306**	*e*P	**P**	**18 42 23.7**	**+0.2**		
	comp=N,75nm,0.8s								
DANN	**Dangsing**	**58.99**	**307**	*e*P	**P**	**18 42 24.4**	**0.0**		
	comp=N,107nm,1.0s								
CIT	**Chita**	**59.14**	**345**	*e*P	**P**	**18 42 25.1**	**+0.4**		
CIT				*e*		18 42 40.3			
CIT				*e*		18 43 16.9			
CIT				pmax	pmax				
	comp=Z,156nm,1.5s								
PYUN	**Piuthan**	**59.50**	**306**	*e*P	**P**	**18 42 28.2**	**+0.3**		
	comp=Z,204nm,0.8s								
HYB	**Hyderabad**	**59.67**	**293**	*i* P	**P**	**18 42 29.0**	**0.0**		
PETK	**Petropavlovsk-**	**60.53**	**16**	P	**P**	**18 42 33.7**	**-0.5**		
	comp=Z,6.0nm,0.8s,baz=183,slow=5.1,SNR=9.0								
PETK				LR	LR	19 06 08.7			
	comp=Z,726nm,21.5s,baz=199,slow=34								
PEA1	**Petropavlovsk-**	**60.53**	**16**	*e*P	**P**	**18 42 33.7**	**-0.5**		
PET	**Petropavlovsk**	**60.71**	**16**	*e*P	P	18 42 42.0	+6.7		
PET				*e*S	**S**	**18 50 57.1**	**+6.5**		
PET				MLR	MLR				
	comp=Z,600nm,21.0s								
ZAK	**Zakamensk**	**61.04**	**337**	*e*P	**P**	**18 42 38.6**	**+0.8**		
ZAK				pmax	pmax				
	comp=Z,43nm,1.5s								
IRK	**Irkutsk**	**62.19**	**339**	*e*P	**P**	**18 42 46.1**	**+0.7**		
IRK				pmax	pmax				
	comp=Z,93nm,1.8s								
MOY	**Mondy**	**62.94**	**337**	*e*P	**P**	**18 42 52.1**	**+1.5**		
MOY				pmax	pmax				
	comp=Z,99nm,1.7s								
WMQ	**Urumqi**	**64.08**	**324**	*e*P	**P**	**18 42 59.3**	**+1.1**		
WMQ				pP	pP	18 43 04.4	-1.7		
WMQ				sP	sP	18 43 13.8	+4.7		
WMQ				PcP	**PcP**	**18 43 35.4**	**+2.1**		
WMQ				S	**S**	**18 51 32.3**	**-1.3**		
WMQ				sS	sS	18 51 46.3	-0.2		
WMQ				pmax	pmax				
	comp=Z,61nm,1.7s								
WMQ				LR	LR				
	comp=Z,1µm,15.9s								
WMQ				LR	LR				
	comp=Z,1µm,21.5s								
WMQ				LR	LR				
	comp=Z,1µm,22.5s								
WMQ	**Urumqi**	**64.08**	**324**	*e*P	**P**	**18 42 59.7**	**+1.5**		
	comp=Z,82nm,1.3s								
WMQ	**Urumqi**	**64.08**	**324**	*e*P	**P**	**18 42 59.7**	**+1.5**		
WMQ				pmax	pmax				
	comp=Z,82nm,1.3s								
POO	**Poona**	**64.28**	**293**	*e*P	**P**	**18 42 59.0**	**-1.0**		
BOD	**Bodaibo**	**64.34**	**348**	*e*P	**P**	**18 42 59.0**	**-0.5**		
BOD				pmax	pmax				
	comp=Z,69nm,1.6s								
MA2	**Magadan**	**65.09**	**9**	P	**P**	**18 43 04.2**	**-0.2**		
	comp=Z,6.0nm,0.9s,baz=166,slow=8.3,SNR=2.5								
MA2				LR	LR	19 11 27.4			
	comp=Z,496nm,19.1s,baz=193,slow=36								
MA2	**Magadan**	**65.09**	**9**	*e*P	**P**	**18 43 04.5**	**+0.1**		
	comp=Z,29nm,1.4s								
MA2	**Magadan**	**65.09**	**9**⇑	*e*P	**P**	**18 43 05.1**	**+0.7**		
MA2				pmax	pmax				
	comp=Z,8.0nm,1.0s								
RAR	**Rarotonga**	**65.44**	**111**	LR	LR	19 10 11.2			
	comp=Z,637nm,19.5s,baz=260,slow=35								
YAK	**Yakutsk**	**66.44**	**357**	*e*P	**P**	**18 43 12.7**	**-0.3**		
YAK				*e*		18 52 00.0			
YAK				pmax	pmax				
	comp=Z,24nm,0.8s								
YAK				pmax	pmax				
	comp=N,6.0nm,0.9s								
YAK				pmax	pmax				
	comp=E,2.0nm,0.9s								
DGZ	**Jazzator, Alta**	**67.73**	**329**	*c* *i*P	**P**	**18 43 22.8**	**+1.1**		
DGZ				pmax	pmax				
	comp=Z,9.0nm,1.1s								
SEY	**Seymchan**	**68.54**	**9**	P	**P**	**18 43 25.9**	**-0.3**		
	comp=Z,19nm,1.1s,baz=190,slow=7.9,SNR=22								
MK01	**Makanchi Array**	**68.88**	**324**	*e*P	**P**	**18 43 28.6**	**-0.3**		
MK31	**Makanchi Array**	**68.90**	**324**	*e*P	**P**	**18 43 29.3**	**+0.3**		
MK31	**Makanchi Array**	**68.90**	**324**	*e*P	**P**	**18 43 29.3**	**+0.3**		
MK32	**Makanchi Array**	**68.90**	**324**	*e*P	**P**	**18 43 28.9**	**0.0**		
MKAR	**Makanchi Array**	**68.90**	**324**	P	**P**	**18 43 28.9**	**0.0**		
	comp=Z,7.9nm,0.7s,baz=117,slow=7.2,SNR=25								
MKAR				LR	LR	19 16 45.2			
	comp=Z,698nm,18.6s,baz=112,slow=39								
MKAR	**Makanchi Array**	**68.90**	**324**	P	**P**	**18 43 29.0**	**0.0**		
MKAR				pmax	pmax				
	comp=Z,8.0nm,0.7s								
MKAR				MLR	MLR				
	comp=Z,698nm,18.6s								
MAKZ	**Makanchi**	**69.09**	**324**	*e*P	**P**	**18 43 30.1**	**0.0**		
	comp=Z,27nm,0.8s								
MAKZ	**Makanchi**	**69.09**	**324**	*e*P	**P**	**18 43 30.1**	**0.0**		
MAKZ				pmax	pmax				
	comp=Z,27nm,0.8s								
PRZ	**Przheval'sk**	**69.19**	**319**	*e*P	**P**	**18 43 32.7**	**+1.6**		
	comp=Z,70nm,1.4s								
PRZ	**Przheval'sk**	**69.19**	**319**	*e*P	**P**	**18 43 32.7**	**+1.6**		
PRZ				pmax	pmax				
	comp=Z,70nm,1.4s								
TARG	**Taragay, Kyrgy**	**69.24**	**318**	*e*P	**P**	**18 43 33.2**	**+1.6**		
	comp=Z,23nm,1.2s								
NIL	**Nilore**	**69.35**	**308**	*e*P	**P**	**18 43 33.1**	**+1.1**		
	comp=Z,22nm,1.1s								
NIL	**Nilore**	**69.35**	**308**	*e*P	**P**	**18 43 33.1**	**+1.1**		
NIL				pmax	pmax				
	comp=Z,22nm,1.1s								
KSH	**Kashi**	**69.55**	**315**	P	**P**	**18 43 35.5**	**+2.2**		
KSH				pP	sP	18 43 45.6	+1.4		
KSH				PcP	**PcP**	**18 43 56.8**	**+0.5**		
KSH				PP	**PP**	**18 46 11.8**	**+4.5**		
KSH				S	**S**	**18 52 40.3**	**+0.3**		
KSH				sS	sS	18 52 52.4	-0.7		
KSH				ScS	**SKSac**	**18 53 28.8**	**-3.7**		
KSH				pmax	pmax				
	comp=Z,42nm,1.3s								
KSH				pmax	pmax				
	comp=Z,450nm,5.6s								
KSH				LR	LR				
	comp=Z,420nm,6.9s								
KSH				LR	LR				
	comp=Z,540nm,10.1s								
KSH				LR	LR				
	comp=Z,420nm,12.4s								
NRN	**Naryn**	**70.33**	**317**	*e*P	**P**	**18 43 38.7**	**+0.4**		
	comp=Z,7.9nm,0.9s								
NRN	**Naryn**	**70.33**	**317**	*e*P	**P**	**18 43 38.7**	**+0.4**		
NRN				pmax	pmax				
	comp=Z,8.0nm,0.9s								
KZA	**Kyzart**	**71.11**	**317**	P	**P**	**18 43 45.2**	**+2.1**		
	SNR=17								
TKM2	**Tokmak 2**	**71.24**	**318**	P	**P**	**18 43 43.4**	**-0.2**		
	SNR=7.8								
ZAA0	**Zalesovo Array**	**71.58**	**331**	*e*P	**P**	**18 43 44.4**	**-0.8**		
	comp=Z,23nm,0.8s								
ZALV	**Zalesovo Beam**	**71.58**	**331**	P	**P**	**18 43 44.5**	**-0.7**		
	comp=Z,5.3nm,0.8s,baz=117,slow=6.3,SNR=18								
ZALV				LR	LR	19 16 47.0			
	comp=Z,291nm,20.6s,baz=74,slow=37								
ZALV	**Zalesovo Beam**	**71.58**	**331**	*e*P	**P**	**18 43 43.3**	**-1.9**		
ZALV	**Zalesovo Beam**	**71.58**	**331**	*i* P	**P**	**18 43 43.9**	**-1.3**		
ZALV				pmax	pmax				
	comp=Z,5.0nm,0.8s								
ZAA1	**Zalesovo Array**	**71.59**	**331**	*e*P	**P**	**18 43 44.5**	**-0.7**		
UCH	**Uchtor**	**71.67**	**317**	P	**P**	**18 43 49.0**	**+2.4**		
	SNR=10								
FRU	**Bishkek**	**71.85**	**318**⇓	*e*P	**P**	**18 43 47.0**	**-0.1**		
FRU				pmax	pmax				
	comp=Z,30nm,2.2s								
AAK	**Ala-Archa**	**71.86**	**318**	P	**P**	**18 43 49.4**	**+2.1**		
	SNR=5.9								
AAK	**Ala-Archa**	**71.86**	**318**	*e*P	**P**	**18 43 48.0**	**+0.7**		
	comp=Z,19nm,1.2s								
AAK	**Ala-Archa**	**71.86**	**318**	*i* P	**P**	**18 43 45.2**	**-2.1**		
	SNR=12								
AAK	**Ala-Archa**	**71.86**	**318**⇑	*e*P	**P**	**18 43 48.7**	**+1.4**		
AAK				pmax	pmax				
	comp=Z,14nm,1.4s								
AAK	**Ala-Archa**	**71.86**	**318**	P	**P**	**18 43 45.8**	**-1.5**		
	SNR=9.7								
USP	**Ospenovka**	**72.11**	**318**	P	**P**	**18 43 45.9**	**-2.8**		
	SNR=14								
AML	**Almayashu**	**72.19**	**317**	P	**P**	**18 43 51.4**	**+1.8**		
	SNR=14								
EKS2	**Erkin-Say**	**72.35**	**317**	P	**P**	**18 43 47.8**	**-2.4**		
	SNR=10.0								
NVS	**Novosibirsk**	**72.86**	**332**⇑	*i* P	**P**	**18 43 51.7**	**-1.1**		
NVS				*e*S	**S**	**18 53 16.3**	**-1.1**		
NVS				pmax	pmax				
	comp=N,20nm,1.3s								
NVS				pmax	pmax				
	comp=E,23nm,1.3s								
NVS				pmax	pmax				
	comp=Z,33nm,1.3s								
NVS				smax	smax				
	comp=N,11nm,1.7s								
NVS				smax	smax				
	comp=E,26nm,2.4s								
KBL	**Kabul**	**72.94**	**308**	*e*P	**P**	**18 43 53.3**	**-0.7**		
	comp=E,25nm,1.3s								
KBL	**Kabul**	**72.94**	**308**	*e*P	**P**	**18 43 53.3**	**-0.7**		
KBL				pmax	pmax				
	comp=Z,25nm,1.3s								
KURK	**Kurchatov**	**73.00**	**326**	*e*P	**P**	**18 43 53.3**	**-0.4**		
	comp=Z,27nm,0.8s								
KURK	**Kurchatov**	**73.00**	**326**	*d* *i*P	**P**	**18 43 53.9**	**+0.2**		
KURK				pmax	pmax				
	comp=Z,24nm,1.3s								
KURK	**Kurchatov**	**73.00**	**326**	P	**P**	**18 43 54.0**	**+0.2**		
	SNR=14								
KURBB	**Kurchatov Arra**	**73.01**	**326**	P	**P**	**18 43 53.5**	**-0.2**		
	comp=Z,7.4nm,0.8s,baz=125,slow=5.4,SNR=32								
BTK	**Batken**	**73.43**	**314**	*e*P	**P**	**18 43 58.6**	**+2.0**		
	comp=Z,53nm,1.5s								
BTK	**Batken**	**73.43**	**314**	*e*P	**P**	**18 43 58.6**	**+2.0**		
BTK				pmax	pmax				
	comp=Z,53nm,1.5s								
VNDA	**Vanda**	**74.40**	**174**	P	**P**	**18 44 03.1**	**+1.7**		
	comp=Z,12nm,1.0s,baz=323,slow=5.7,SNR=10								
VNDA				LR	LR	19 14 10.4			
	comp=Z,2µm,20.7s,baz=353,slow=34								
VNDA	**Vanda**	**74.40**	**174**	*e*P	**P**	**18 44 03.8**	**+2.3**		
	comp=Z,27nm,1.0s								
KK31	**Karatay Array**	**74.73**	**317**	*e*P	**P**	**18 44 04.2**	**+0.1**		
KK31	**Karatay Array**	**74.73**	**317**	*e*P	**P**	**18 44 04.2**	**+0.1**		
PPT	**Papeete**	**74.91**	**107**	P	**P**	**18 44 07.3**	**+1.7**		
	comp=Z,21nm,0.7s,baz=292,slow=11,SNR=2.3								
PPT				LR	LR	19 13 53.1			
	comp=Z,553nm,21.9s,baz=243,slow=33								
PPT2	**Papeete2**	**74.91**	**107**	*e*P	**P**	**18 44 06.5**	**+0.8**		
	comp=Z,61nm,1.0s								
PPT2				*e*S	**S**	**18 53 37.9**	**-4.2**		
	comp=Z,229nm,25.8s								
PPT2				*e*SS	**SS**	**18 58 28.9**	**-1.9**		
	comp=Z,387nm,26.0s								
PPT2				*e*LR	LR	19 07 05.1			
	comp=Z,2µm,23.0s								
TBI	**Tubuai**	**75.09**	**113**	*e*S	**S**	**18 53 39.7**	**-4.1**		
	comp=Z,149nm,27.0s								
TBI	**Tubuai**	**75.09**	**113**	*e*LR	LR	19 07 09.6			
	comp=Z,2µm,23.5s								
TIAR	**Tiarei**	**75.13**	**107**	*e*P	**P**	**18 44 07.3**	**+0.4**		
	comp=Z,23nm,1.1s								
TVO	**Taravao**	**75.22**	**107**	*e*P	**P**	**18 44 07.8**	**+0.4**		
	comp=Z,18nm,1.0s								
BILL	**Bilibino**	**75.63**	**12**	*e*P	**P**	**18 44 07.5**	**-1.2**		
	comp=Z,10.0nm,1.2s								
BILL	**Bilibino**	**75.63**	**12**	*i* P	**P**	**18 44 04.6**	**-4.1**		
BILL				*i*		18 44 17.1			
BILL				*i* S	**S**	**18 53 52.9**	**+4.8**		
BILL				pmax	pmax				
	comp=Z,11nm,1.3s								
BILL				MLR	MLR				
	comp=Z,484nm,19.0s								
TIXI	**Tiksi**	**76.09**	**358**	P	**P**	**18 44 10.9**	**-0.3**		
	comp=Z,2.9nm,0.8s,baz=183,slow=6.2,SNR=8.2								
TIXI	**Tiksi**	**76.09**	**358**⇑	*e*P	**P**	**18 44 10.5**	**-0.7**		
TIXI				pmax	pmax				
	comp=Z,14nm,1.7s								
JLN	**Jalan Bani Buh**	**78.28**	**294**	P	**P**	**18 44 26.2**	**+1.6**		
	SNR=8.9								
BRVK	**Borovoye**	**78.67**	**326**	*e*P	**P**	**18 44 25.7**	**-0.4**		
	comp=Z,24nm,0.8s								
BRVK	**Borovoye**	**78.67**	**326**⇓	*e*P	**P**	**18 44 25.6**	**-0.4**		
BRVK				pmax	pmax				
	comp=Z,19nm,1.1s								
BRVK	**Borovoye**	**78.67**	**326**	P	**P**	**18 44 25.8**	**-0.3**		
	SNR=13								
MAW	**Mawson**	**79.06**	**202**	LR	LR	19 17 56.3			
	comp=Z,1µm,18.5s,baz=72,slow=34								
WSAR	**Wadi Sarin**	**79.17**	**295**	P	**P**	**18 44 30.5**	**+1.0**		
	SNR=8.9								
MHTO	**MHTO**	**79.42**	**292**	P	**P**	**18 44 31.4**	**+0.5**		
	SNR=12								
BIDO	**Bidbid**	**79.67**	**295**	P	**P**	**18 44 34.0**	**+1.8**		
	SNR=13								
SOHO	**SOHO**	**81.21**	**295**	P	**P**	**18 44 41.7**	**+1.3**		
	SNR=7.8								
ANM	**Nome**	**81.56**	**22**	*e*P	**P**	**18 44 41.8**	**+0.4**		
	comp=Z,42nm,1.8s								
ANM	**Nome**	**81.56**	**22**	*e*P	**P**	**18 44 41.8**	**+0.4**		
ANM				pmax	pmax				
	comp=Z,42nm,1.8s								
UOSS	**Minazif**	**81.63**	**296**	*e*P	**P**	**18 44 42.8**	**+0.1**		
	comp=Z,15nm,1.0s								
UOSS	**Minazif**	**81.63**	**296**	P	**P**	**18 44 42.2**	**-0.5**		
HATD	**Hatta, Dubai**	**81.68**	**296**	P	**P**	**18 44 44.6**	**+1.7**		
BANOM	**Banah**	**81.70**	**297**	P	**P**	**18 44 44.4**	**+1.3**		
ASHO	**Ashiyiah**	**81.72**	**296**	P	**P**	**18 44 44.8**	**+1.6**		
	SNR=5.3								
MSFE	**Esma-Masafi**	**81.74**	**296**	P	**P**	**18 44 42.5**	**-0.7**		
ALNE	**Al Ain**	**81.91**	**295**	*i* P	**P**	**18 44 44.3**	**+0.1**		
	SNR=5.2								
FAQ	**Al Faqa, Dubai**	**82.15**	**296**	P	**P**	**18 44 45.2**	**-0.3**		
FAQ	**Al Faqa, Dubai**	**82.15**	**296**	P	**P**	**18 44 47.0**	**+1.6**		
GEYT	**Alibeck**	**82.34**	**309**	P	**P**	**18 44 47.1**	**+0.9**		
	comp=Z,9.2nm,1.0s,baz=149,slow=3.1,SNR=22								
GEYT				LR	LR	19 24 18.2			
	comp=Z,476nm,21.6s,baz=105,slow=38								
GYA0B	**ALIBECK ARRAY**	**82.34**	**309**	*e*P	**P**	**18 44 46.5**	**+0.3**		
	comp=Z,69nm,1.7s								
ASUD	**Al Ashush, Dub**	**82.37**	**295**	P	**P**	**18 44 47.2**	**+0.7**		
ASUD	**Al Ashush, Dub**	**82.37**	**295**	P	**P**	**18 44 48.7**	**+2.1**		
OHAK	**Old Harbor**	**84.04**	**31**	*e*P	**P**	**18 44 53.9**	**-0.5**		
	comp=Z,94nm,0.8s								
RDOG	**Red Dog Mine**	**84.11**	**20**	*e*P	**P**	**18 44 54.6**	**0.0**		
	comp=Z,211nm,2.0s								
TAOE	**Nuku Hiva Isla**	**84.38**	**98**	*e*SS	SS	19 00 52.5	-0.6		
	comp=Z,203nm,25.1s								
TAOE	**Nuku Hiva Isla**	**84.38**	**98**	*e*LR	LR	19 11 26.9			
	comp=Z,1µm,22.4s								
KDAK	**Kodiak Island**	**84.57**	**31**	P	**P**	**18 44 57.5**	**+0.4**		
	comp=Z,21nm,1.1s,baz=170,slow=14,SNR=2.6								
SVE	**Sverdlovsk**	**85.17**	**328**	*e*P	**P**	**18 45 00.3**	**+0.1**		
SVE				pmax	pmax				
	comp=Z,24nm,0.8s								
QSPA	**South Pole Qui**	**85.48**	**180**	*e*P	**P**	**18 45 02.6**	**+0.9**		
	comp=Z,28nm,1.1s								
ARU	**Arti**	**86.18**	**327**	*e*P	**P**	**18 45 04.0**	**-1.2**		
	comp=Z,13nm,0.8s								
ARU	**Arti**	**86.18**	**327**	*c* *i*P	**P**	**18 45 04.5**	**-0.7**		
ARU				S	S	18 55 29.0	-9.4		
ARU				SS	**SS**	**19 01 21.8**	**+4.3**		
ARU				pmax	pmax				
	comp=Z,9.0nm,1.2s								
PPLA	**Purkeypile**	**86.28**	**26**	*e*P	**P**	**18 45 05.6**	**-0.1**		
	comp=Z,160nm,1.7s								
CAST	**Castle Rocks**	**86.48**	**26**	*e*P	**P**	**18 45 05.5**	**-1.1**		
	comp=Z,111nm,2.0s								
SUA	**Susitna One**	**86.52**	**28**	*e*P	**P**	**18 45 06.1**	**-0.8**		
	comp=Z,36nm,1.0s								
IM3	**Indian Mountai**	**86.59**	**23**	*e*P	**P**	**18 45 06.5**	**-0.6**		
RC01	**Rabbit Creek A**	**86.89**	**28**	*e*P	**P**	**18 45 08.1**	**-0.5**		
	comp=Z,120nm,1.7s								
TRF	**Thorofare Moun**	**87.26**	**26**	*e*P	**P**	**18 45 10.7**	**+0.1**		
	comp=Z,72nm,1.6s								
PMR	**Palmer**	**87.30**	**28**	*e*P	**P**	**18 45 09.8**	**-0.7**		
	comp=Z,37nm,1.1s								
PMR	**Palmer**	**87.30**	**28**	*e*P	**P**	**18 45 09.8**	**-0.7**		
PMR				pmax	pmax				
	comp=Z,37nm,1.1s								
MLY	**Manley**	**87.50**	**24**	*e*P	**P**	**18 45 11.7**	**+0.2**		
	comp=Z,26nm,0.8s								
KNK	**Knik Glacier**	**87.57**	**28**	*e*P	**P**	**18 45 12.3**	**+0.4**		
	comp=Z,72nm,1.1s								
SYO	**Syowa Base**	**87.74**	**201**⇑	*e*pP	pP	18 45 23.0	+2.3		
SYO	**Syowa Base**	**87.74**	**201**⇑	*e*sP	sP	18 45 25.0	+1.4		
RND	**Reindeer**	**87.88**	**26**	*e*P	**P**	**18 45 11.8**	**-1.6**		
	comp=Z,306nm,2.0s								
RND	**Reindeer**	**87.88**	**26**	*e*P	**P**	**18 45 11.8**	**-1.6**		
RND				pmax	pmax				
	comp=Z,306nm,2.0s								
MCK	**McKinley**	**87.92**	**26**	*e*P	**P**	**18 45 12.8**	**-0.8**		
	comp=Z,65nm,1.1s								
MCK	**McKinley**	**87.92**	**26**	*e*P	**P**	**18 45 12.8**	**-0.8**		
MCK				pmax	pmax				
	comp=Z,65nm,1.1s								
GLI	**Glacier Island**	**88.09**	**29**	*e*P	**P**	**18 45 14.9**	**+0.6**		
	comp=Z,46nm,1.1s								
SCM	**Sheep Creek Mo**	**88.19**	**28**	*e*P	**P**	**18 45 14.8**	**-0.2**		
	comp=Z,116nm,1.4s								
SCM	**Sheep Creek Mo**	**88.19**	**28**	*e*P	**P**	**18 45 14.8**	**-0.2**		
SCM				pmax	pmax				
	comp=Z,116nm,1.4s								
COLD	**Coldfoot**	**88.32**	**22**	*e*P	**P**	**18 45 15.5**	**+0.1**		
	comp=Z,6.9nm,1.1s								
RKT	**Rikitea**	**88.42**	**113**	*e*LR	LR	19 13 29.3			
	comp=Z,1µm,30.2s								
WRH	**Wood River Hil**	**88.46**	**25**	*e*P	**P**	**18 45 15.3**	**-0.7**		
	comp=Z,31nm,1.0s								
MDM	**Murphy Dome**	**88.52**	**24**	*e*P	**P**	**18 45 16.5**	**+0.2**		
	comp=Z,7.8nm,0.9s								
COLA	**College**	**88.65**	**25**⇑	*e*P	**P**	**18 45 16.3**	**-0.6**		
COLA				pmax	pmax				
	comp=Z,14nm,1.4s								
DIV	**Divide**	**88.77**	**28**	*e*P	**P**	**18 45 18.0**	**+0.3**		
	comp=Z,61nm,1.0s								
KLU	**Klutina**	**88.78**	**28**	*e*P	**P**	**18 45 17.6**	**-0.1**		
	comp=Z,21nm,1.0s								
HDA	**Harding Lake**	**88.93**	**25**	*e*P	**P**	**18 45 17.0**	**-1.3**		
	comp=Z,16nm,0.8s								
HDA	**Harding Lake**	**88.93**	**25**	P	**P**	**18 45 18.1**	**-0.2**		
	baz=258								
ILAR	**Eielson Array**	**89.03**	**25**	P	**P**	**18 45 17.4**	**-1.3**		
	comp=Z,4.9nm,1.0s,baz=260,slow=4.4,SNR=23								
ILAR				LR	LR	19 20 11.9			
	comp=Z,358nm,20.8s,baz=267,slow=32								
ILB	**Eielson Array**	**89.03**	**25**	*e*P	**P**	**18 45 16.9**	**-1.8**		
IL1	**Eielson Array**	**89.03**	**25**	*e*P	**P**	**18 45 16.4**	**-2.3**		
PAX	**Paxson**	**89.28**	**27**	*e*P	**P**	**18 45 20.3**	**+0.2**		
	comp=Z,87nm,1.9s								
PAX	**Paxson**	**89.28**	**27**	*e*P	**P**	**18 45 20.3**	**+0.2**		
PAX				pmax	pmax				
	comp=Z,87nm,1.9s								
BMRM	**Bremner River**	**89.30**	**29**	*e*P	**P**	**18 45 20.1**	**0.0**		
	comp=Z,91nm,1.5s								
RIDG	**Independ'e Rid**	**89.70**	**26**	*e*P	**P**

comp=Z,2.6nm,0.9s,baz=72,slow=6.2,SNR=4.6
FINES FINESS Array B 102.84 332 *i* P **Pdif 18 46 21.8 +0.2**
FINES pmax pmax
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 103.34 321 PP **PP 18 50 38.8 -0.8**
comp=Z,0.1nm,0.3s,baz=74,slow=6.8,SNR=3.5
YKA Yellowknife Ar 103.36 27 PP **PP 18 50 38.8 -0.5**
comp=Z,0.4nm,0.9s,baz=289,slow=7.6,SNR=3.0
NVAR Mina Array Bea 105.95 51 Pdiff **Pdif 18 46 38.0 +1.7**
comp=Z,0.9nm,0.9s,baz=272,slow=5.6,SNR=4.9
NVAR PP **PP 18 50 59.6 -0.1**
comp=Z,0.7nm,0.7s,baz=267,slow=4.5,SNR=3.0
MLR Muntele Rosu 106.41 316 PP **PP 18 51 02.9 +0.2**
comp=Z,3.2nm,0.9s,baz=146,slow=11,SNR=3.2
GERES GERESS Array B 113.52 322 PKiKP **PKiKP 18 51 02.6 +0.1**
comp=Z,0.4nm,0.6s,baz=93,slow=2.7,SNR=4.1
RSSD Black Hills 115.14 43 P **PKPdf 18 51 07.0 +1.2**
baz=290
ANMO Albuquerque 115.94 53 P **PKiKP 18 51 09.7 +2.1**
baz=284
BORG Borgarnes 117.47 349 *i* PKiKP **PKiKP 18 51 09.4 0.0**
MNTX Cornudas Mount 117.54 57 *e*PKPdf **PKPdf 18 51 09.2 -1.3**
MNTX Cornudas Mount 117.54 57 P **PKiKP 18 51 12.1 +1.5**
baz=283
ULM Lac du Bonnet 117.68 34 PKP **PKiKP 18 51 11.2 +1.0**
comp=Z,0.9nm,0.5s,baz=315,slow=2.9,SNR=2.4
TX31 Lajitas Ar. Si 119.49 59 *e*PKPdf **PKiKP 18 51 15.6 +1.0**
LTX Lajitas 119.50 59 *e*PKPdf **PKiKP 18 51 15.3 +0.7**
LTX Lajitas 119.50 59 *e*PKIKP **PKiKP 18 51 15.3 +0.7**
TXAR Lajitas Array 119.50 59 PKP **PKiKP 18 51 15.3 +0.7**
comp=Z,0.4nm,0.6s,baz=222,slow=1.7,SNR=4.7
CBKS Cedar Bluff 119.98 47 P **PKiKP 18 51 16.4 +1.2**
baz=290
ECSD EROS Data Cent 120.24 41 *e*PKPdf **PKiKP 18 51 15.9 +0.4**
ECSD EROS Data Cent 120.24 41 P **PKiKP 18 51 16.8 +1.3**
baz=296
EYMN Ely 121.34 35 P **PKiKP 18 51 18.3 +0.8**
baz=302
JCT Junction City 122.48 57 *e*PKPdf **PKPdf 18 51 18.2 -1.9**
JCT Junction City 122.48 57 *e*PKIKP **PKPdf 18 51 18.2 -1.9**
JCT Junction City 122.48 57 P **PKiKP 18 51 21.6 +1.3**
baz=286
H39A Augusta 123.17 38 P **PKiKP 18 51 22.3 +1.1**
baz=301
J39A Decorah 123.59 39 P **PKiKP 18 51 22.6 +0.5**
baz=300
L41A Preston 124.99 40 P **PKiKP 18 51 24.9 +0.1**
baz=300
O41A Passeys Farm, 125.69 43 P **PKiKP 18 51 27.8 +1.4**
baz=299
U40A Yellville 125.97 48 P **PKiKP 18 51 27.6 +0.6**
baz=294
R41A Rosebud 126.19 45 P **PKiKP 18 51 28.4 +1.0**
baz=297
S41A Jillco Farms, 126.25 46 P **PKiKP 18 51 28.3 +0.7**
baz=296
S42A Caledonia 126.84 45 P **PKiKP 18 51 30.2 +1.5**
baz=297
T42A Van Buren 126.96 46 P **PKiKP 18 51 29.2 +0.3**
baz=296
V42A Cord 127.27 48 P **PKiKP 18 51 30.7 +1.1**
baz=295
T43A Greenville 127.51 46 P **PKiKP 18 51 31.0 +0.9**
baz=297
Q45A Warren Harvey, 128.12 43 P **PKiKP 18 51 32.2 +0.9**
baz=300
PLCA Paso Flores 129.34 155 PKP **PKiKP 18 51 34.5 +0.7**
comp=Z,2.2nm,0.9s,baz=340,slow=0.7,SNR=3.1
WVT Waverly 129.70 46 P **PKiKP 18 51 34.7 +0.2**
baz=299
S48A Wiedeman Farm, 130.18 43 P **PKiKP 18 51 36.2 +0.9**
baz=302
W49A Belvidere 131.31 46 P **PKiKP 18 51 38.9 +1.1**
baz=299
T50A Nancy 131.34 43 P **PKiKP 18 51 39.1 +1.3**
baz=302
Z49A Columbiana 132.03 48 P **PKiKP 18 51 40.6 +1.4**
baz=298
P53A Whipple 132.17 38 P **PKiKP 18 51 40.9 +1.6**
baz=308
150A Eclectic 132.68 49 P **PKiKP 18 51 41.4 +0.8**
baz=298
TOA0 Torodi Ar. Sit 132.99 284 *e*PKPdf **PKPdf 18 51 37.5 -3.0**
TORD Torodi Ar. Bea 132.99 284 PKP **PKPdf 18 51 40.6 +0.1**
comp=Z,1.9nm,0.9s,baz=28,slow=0.6,SNR=8.7
TORD PP **PP 18 54 09.0 +2.5**
comp=Z,1.5nm,0.9s,baz=91,slow=6.9,SNR=3.9
TORD SKPbc **SKPab 18 55 09.7 +1.2**
comp=Z,2.4nm,1.0s,baz=87,slow=2.2,SNR=2.7
TOA1 Torodi Ar. Sit 133.00 284 *e*PKPdf **PKPdf 18 51 40.6 +0.1**
TOA1 *e*PP **PP 18 54 09.0 +2.5**
TOA1 *e*SKPbc **SKPab 18 55 09.7 +1.2**
HODGE Hodges 134.60 45 *e*PKPpre PKPpre 18 51 32.2
LCO Las Campanas 138.62 145 *e*PKPdf **PKPdf 18 51 48.5 -2.5**
LCO Las Campanas 138.62 145 *e*PKIKP **PKPdf 18 51 48.5 -2.5**
DBIC Dimbokro 139.85 275 PKP **PKPdf 18 51 53.8 +0.5**
comp=Z,1.4nm,0.5s,baz=338,slow=1.8,SNR=3.6
DBIC Dimbokro 139.85 275 PKiKP **PKPdf 18 51 53.8 +0.5**
DBIC pmax pmax
comp=Z,7.0nm,1.1s
LVC Limon Verde 144.44 140 *e*PKPdf **PKPab 18 51 59.6 -0.3**
LVC Limon Verde 144.44 140 *e*PKIKP **PKPab 18 51 59.6 -0.3**
NNA Nana 144.49 118 *e*PKPdf **PKPdf 18 52 01.3 -0.3**
NNA Nana 144.49 118 *i* PKIKP **PKiKP 18 52 03.7 -1.5**
CMBC Cumbal 147.17 95 *e*P **PKiKP 18 52 11.4 +0.1**
CMBC Cumbal 147.17 95 *e*P **PKiKP 18 52 11.4 +0.1**
CPUP Villa Florida 147.17 160 PKPbc **PKPbc 18 52 08.6 +0.6**
comp=Z,12nm,0.9s,baz=219,slow=2.0,SNR=12
CPUP Villa Florida 147.17 160 *e*PKPbc **PKPab 18 52 08.9 -0.7**
GCUF Volcan Galeras 147.68 95 *e*P **PKPab 18 52 13.1 +0.5**
GCUF Volcan Galeras 147.68 95 *e*P **PKPab 18 52 13.1 +0.5**
CRUC La Cruz 148.11 94 *e*P **PKiKP 18 52 13.4 +0.2**
CRUC La Cruz 148.11 94 *e*P **PKiKP 18 52 13.4 +0.2**
POPC Popayan, Colom 148.47 92 *e*P **PKPbc 18 52 12.4 +0.2**
POPC Popayan, Colom 148.47 92 *e*P **PKPbc 18 52 12.4 +0.2**
SOTA Rioblanco 148.50 93 *e*P **PKiKP 18 52 14.2 +0.1**
SOTA Rioblanco 148.50 93 *e*P **PKiKP 18 52 14.2 +0.1**
PCON Cinco Dias 148.73 93 *e*P **PKiKP 18 52 14.7 0.0**
PCON Cinco Dias 148.73 93 *e*P **PKiKP 18 52 14.7 0.0**
YOTC Yotoco, Valle 148.88 90 *e*P **PKPbc 18 52 13.4 +0.4**
YOTC Yotoco, Valle 148.88 90 *e*P **PKPbc 18 52 13.4 +0.4**
DBBC Dabeiba 148.99 84 *e*P **PKiKP 18 52 15.2 +0.6**
DBBC Dabeiba 148.99 84 *e*P **PKiKP 18 52 15.2 +0.6**
MARP Paez Belalcaza 149.21 92 *e*P **PKiKP 18 52 15.5 +0.2**
MARP Paez Belalcaza 149.21 92 *e*P **PKiKP 18 52 15.5 +0.2**
LPAZ La Paz 149.29 133 PKP **PKPdf 18 52 12.2 +1.9**
comp=Z,1.9nm,0.9s,baz=21,slow=0.5,SNR=6.4
LPAZ PKPbc **pPKPdf 18 52 17.4 -1.3**
comp=Z,18nm,1.1s,baz=340,slow=0.5,SNR=21
FLOC Florencia 149.40 94 *e*P **PKPbc 18 52 14.1 -0.1**
FLOC Florencia 149.40 94 *e*P **PKPbc 18 52 14.1 -0.1**
HELC Santa Helena 149.70 85 *e*P **PKPbc 18 52 14.0 -1.4**
HELC Santa Helena 149.70 85 *e*P **PKPbc 18 52 14.0 -1.4**
TOLC Tolima 149.92 89 *e*P **PKiKP 18 52 18.6 +1.8**
TOLC Tolima 149.92 89 *e*P **PKiKP 18 52 18.6 +1.8**
PTLC Puerto Leguiza 150.07 97 *e*P **PKiKP 18 52 17.4 +0.6**
PTLC Puerto Leguiza 150.07 97 *e*P **PKiKP 18 52 17.4 +0.6**
ZARC Zaragoza, Cauc 150.30 83 *e*P **PKiKP 18 52 17.1 -0.1**
ZARC Zaragoza, Cauc 150.30 83 *e*P **PKiKP 18 52 17.1 -0.1**
NORC Norcasia 150.37 87 *e*P **PKiKP 18 52 17.5 +0.1**
NORC Norcasia 150.37 87 *e*P **PKiKP 18 52 17.5 +0.1**
PTBC PUERTO BERRIO 150.75 85 *e*P **PKPbc 18 52 16.8 -0.7**
PTBC PUERTO BERRIO 150.75 85 *e*P **PKPbc 18 52 16.8 -0.7**
ROSC El Rosal 150.92 88 PKPbc **PKiKP 18 52 19.2 +0.2**
comp=Z,24nm,0.6s,baz=304,slow=7.3,SNR=9.6
ROSC El Rosal 150.92 88 *e*PKPdf **PKPdf 18 52 11.9 -0.7**
ROSC PKPbc **PKiKP 18 52 19.2 +0.2**
ROSC El Rosal 150.92 88 *e*P **PKiKP 18 52 19.9 +0.9**
ROSC El Rosal 150.92 88 *e*P **PKiKP 18 52 19.9 +0.9**
BRRC Barranca, Sant 151.46 83 *e*P **PKiKP 18 52 22.9 +3.3**
BRRC Barranca, Sant 151.46 83 *e*P **PKiKP 18 52 22.9 +3.3**
CHIC Chingaza 151.50 89 *e*P **PKiKP 18 52 21.5 +1.3**
CHIC Chingaza 151.50 89 *e*P **PKiKP 18 52 21.5 +1.3**
BARC Barichara 152.01 84 *e*P **PKiKP 18 52 21.3 +0.2**
BARC Barichara 152.01 84 *e*P **PKiKP 18 52 21.3 +0.2**
RUSC La Rusia 152.14 86 *e*P **PKiKP 18 52 22.1 +0.5**
RUSC La Rusia 152.14 86 *e*P **PKiKP 18 52 22.1 +0.5**
PAMC Pamplona, Colo 152.44 83 *e*P **PKPbc 18 52 21.4 -0.6**
PAMC Pamplona, Colo 152.44 83 *e*P **PKPbc 18 52 21.4 -0.6**
URIC Uribia, Colomb 152.48 73 *e*P **PKPab 18 52 27.7 -4.0**
URIC Uribia, Colomb 152.48 73 *e*P **PKPab 18 52 27.7 -4.0**
SDV Santo Domingo 154.31 79 *e*PKPdf **PKPdf 18 52 18.7 +1.3**

DJA 21 18:32:38.0±0.6, 0.°0N±3.°3×12.°7E±.°, h119km±9km, M4.6/7, MLv4.6/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
TNTI	**Ternate**	**0.51**	**12**	P		Pn	18 32 57.9	+2.0
SANI	**Sanana**	**2.63**	**209**	P		Pn	18 33 19.9	+0.4
NLAI	**Namlea**	**3.49**	**183**	P		Pn	18 33 32.3	+1.5
LUWI	**Luwuk**	**4.67**	**254**	P		Pn	18 33 47.0	+0.4
TTSI	**Tana Toraja**	**8.13**	**246**	P		Pn	18 34 35.0	+1.7
BNSI	**Bone**	**8.52**	**237**	P		Pn	18 34 39.6	+1.0
SPSI	**Sidrap Palu**	**8.59**	**241**	P		Pn	18 34 43.1	+3.6
BKSI	**Bulukumba**	**9.04**	**232**	P		Pn	18 34 50.1	+4.6
WSI	**Waingapu**	**12.06**	**215**	P		Pn	18 35 29.6	+3.5
BASI	**Baing, Sumba**	**12.36**	**212**	P		P	18 35 34.6	-2.5

IDC 21 18:40:12.2±5.1, 29.°65S×179.°15W, h0km, mb4.2/2, mb1 4.5/2, mb1mx3.8/32, mbtmp4.2/2, Error ellipse: s-maj=207.2km s-min=82.5km az=165.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
ASAR	**Alice Springs**	**42.15**	**267**	P		P	18 48 06.0	-0.7
	3.7nm,1.0s,baz=104,slow=7.8,SNR=3.6							
WRA	**Warramunga Arr**	**43.07**	**272**	P		P	18 48 14.6	+0.5
	4.6nm,0.8s,baz=112,slow=8.0,SNR=10							
FINES	**FINESS Array B**	**144.09**	**340**	PKP		PKPdf	18 59 48.3	-0.8
	1.0nm,0.6s,baz=35,slow=3.4,SNR=4.8							

*GII **21** 18:50:31.1±0.0, 31.°76N×46.°09E, h10km*
*ISN **21** 18:50:44.9±1.1, 31.°81N×45.°95E, h14km±5km, ML3.6*
*TEH **21** 18:50:45.2, 31.°62N×45.°94E, h10km, ML3.5*
*ISCJB **21** 18:50:45.5±0.4, 31.°69N±0.°03×45.°86E±0.°04, h10km, mb3.8/8, Error ellipse: s-maj=5.2km s-min=4.0km az=42.0*
*IDC **21** 18:50:45.3±2.0, 31.°65N×45.°87E, h0km, mb3.8/6, mb1 3.8/7, mb1mx3.5/45, mbtmp3.8/7, ML2.7/1, Error ellipse: s-maj=43.4km s-min=24.4km az=167.0*
*NEIC **21** 18:50:47.8±0.0, 31.°76N×46.°09E, h10km, mb4.2/2, MN3.6(TEH), After TEH.*

ISC 21 18:50:47.1±0.6, 31.°67N±0.°05×45.°80E±0.°05, h10km, n68, σ2.°95/60, mb3.9/8, 4C-7D, Iraq

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
NSR	**Nassriya**	**0.72**	**156**	*e*Pg		**Pg**	**18 51 01.0**	**+0.1**
NSR				*e*Sg		**Sg**	**18 51 11.0**	**+0.7**
BHD	**Baghdad**	**2.00**	**324**	*e*Pg		**Pn**	**18 51 20.4**	**-0.5**
BHD				*e*Sg		**Sn**	**18 51 46.7**	**+0.8**
IKFM	**Kafar-mosalman**	**2.53**	**43**	*e*Pn		**Pn**	**18 51 28.1**	**-0.2**
IKFM				IAMB		IAmb	18 52 19.0	
comp=Z,0.0nm,1.2s								
IGHG	**Ghaleghazi**	**2.73**	**14**	*e*Pn		**Pn**	**18 51 31.7**	**+0.5**
IGHG				IAMB		IAmb	18 52 22.9	
comp=Z,10μm,1.0s								
IKMR	**Kamar-syah**	**2.86**	**49**	*e*Pn		**Pn**	**18 51 32.5**	**-0.2**
IKMR				IAMB		IAmb	18 52 26.2	
comp=Z,0.0nm,0.8s								
IKOM	**Komasi**	**2.88**	**29**	Pn		**Pn**	**18 51 33.8**	**+0.5**
IKOM	**Komasi**	**2.88**	**29**	*e*Pn		**Pn**	**18 51 33.3**	**0.0**
IKOM				IAMB		IAmb	18 52 54.9	
comp=Z,0.0nm,2.1s								
IVIS	**Veis**	**2.98**	**17**	Pn		**Pn**	**18 51 34.5**	**-0.1**
IVIS	**Veis**	**2.98**	**17**	*e*Pn		**Pn**	**18 51 34.5**	**-0.1**
IVIS				IAMB		IAmb	18 52 34.6	
comp=Z,1μm,0.6s								
ILIN	**Lien**	**3.39**	**16**	*e*Pn		**Pn**	**18 51 40.9**	**+0.7**
ILIN				IAMB		IAmb	18 51 54.1	
comp=Z,1μm,0.4s								
HSAM	**Samen**	**3.46**	**42**	*e*Pn		**Pn**	**18 51 40.8**	**-0.5**
IKRK	**Kirkuk**	**3.92**	**342**	*e*Pn		**Pn**	**18 51 46.0**	**-1.3**
IKRK				*e*Sn		**Sn**	**18 52 30.0**	**-3.3**
HSRG	**Sareghieh**	**4.12**	**30**	*e*Pn		**Pn**	**18 51 50.4**	**0.0**
IPIR	**Pirpir**	**4.44**	**75**	*e*Pn		**Pn**	**18 51 54.7**	**0.0**
IPIR				IAMB		IAmb	18 51 57.6	
comp=Z,834nm,0.4s								
ROKH	**ROKH**	**4.50**	**80**	*e*Pn		**Pn**	**18 51 54.4**	**-1.1**
RTB	**Rutbah**	**4.84**	**288**	*e*Pn		**Pn**	**18 52 01.0**	**+1.0**
RTB				*e*Sn		**Sn**	**18 52 56.0**	**-0.2**
KLNJ	**Kolanjah**	**5.00**	**96**	*e*Pn		**Pn**	**18 52 00.9**	**-1.6**
MSL	**Mosul**	**5.22**	**335**	*e*Pn		Pn	18 52 03.5	-1.7
MSL				*e*Sn		**Sn**	**18 53 01.0**	**-4.5**
IRAM	**Ramesheh**	**5.61**	**87**	*e*Pn		**Pn**	**18 52 09.3**	**-1.5**
IRAM				IAMB		IAmb	18 53 18.2	
comp=Z,138nm,0.6s								
IZEF	**Zefreh**	**5.67**	**76**	*e*Pn		**Pn**	**18 52 10.0**	**-1.6**
IZEF				IAMB		IAmb	18 52 13.1	
comp=Z,257nm,0.4s								
KRSH	**Karshahi**	**5.81**	**65**	*e*Pn		**Pn**	**18 52 12.2**	**-1.3**
KRSH				IAMB		IAmb	18 53 19.3	
comp=Z,0.0nm,0.5s								
CUKT	**Cukurca**	**5.85**	**343**	*i* P		**Pn**	**18 52 13.8**	**-0.3**
CUKT				*i* S		**Sn**	**18 53 20.4**	**-0.8**
ISRB	**Sarab**	**6.33**	**14**	*e*Pn		**Pn**	**18 52 21.3**	**+0.6**
ISRB				IAMB		IAmb	18 52 49.8	
comp=Z,167nm,0.7s								
SIRT	**Sirnak**	**6.45**	**335**	*e*Pn		**Pn**	**18 52 22.2**	**+0.1**
IDMV	**Damavand**	**6.50**	**51**	*e*Pn		Pn	18 52 21.7	-1.4
IDMV				IAMB		IAmb	18 52 58.4	
comp=Z,118nm,0.6s								
ISAD	**Sadrabad**	**6.72**	**86**	*e*Pn		**Pn**	**18 52 24.3**	**-1.8**
ISAD				IAMB		IAmb	18 53 48.4	
comp=Z,122nm,0.5s								
ANAR	**Anarak**	**6.88**	**75**	*e*Pn		**Pn**	**18 52 27.2**	**-0.9**
RAYN	**Ar Rayn**	**8.12**	**182**	*e*Pn		**Pn**	**18 52 44.8**	**-0.3**
KSDI	**Kefar Szold**	**8.70**	**283**	Sn		Sn	18 54 22.9	-8.3
HMDT	**Nahal Hemdat**	**8.75**	**277**	Sn		Sn	18 54 19.9	-12
MMLI	**Mount Malkishu**	**8.84**	**278**	Sn		Sn	18 54 24.7	-10
DSI	**Dead Sea**	**8.88**	**272**	Sn		Sn	18 54 28.5	-7.2
MZDA	**Masada**	**8.92**	**270**	Sn		Sn	18 54 25.5	-11
SLTI	**Sal'it**	**9.16**	**276**	Sn		Sn	18 54 33.0	-9.4
PRNI	**Paran**	**9.36**	**265**	Sn		**Sn**	**18 54 40.4**	**-6.9**
HRFI	**Mount Harif**	**9.39**	**263**	Sn		Sn	18 54 39.9	-8.3
EIL	**Elat**	**9.55**	**261**	Pn		Pn	18 53 12.4	+7.7
comp=Z,0.3nm,0.3s,baz=31,slow=15,SNR=2.4								
EIL				Sn		Sn	18 55 08.0	+16
comp=Z,0.3nm,0.3s,baz=12,slow=8.9,SNR=1.8								
EIL				Lg		Lg	18 56 05.2	
comp=Z,1.7nm,0.3s,baz=35,slow=17,SNR=3.0								
EIL	**Elat**	**9.55**	**261**	Sn		Sn	18 54 42.3	-10
MBRI	**Mt Berech**	**9.55**	**262**	Sn		Sn	18 54 41.4	-11
BRTR	**Keskin Array B**	**12.73**	**313**	Pn		**Pn**	**18 53 52.7**	**+4.5**
comp=Z,0.0nm,0.3s,baz=134,slow=14,SNR=11								
BR101	**Keskin Array S**	**12.73**	**313**	*e*Pn		**Pn**	**18 53 52.7**	**+4.5**
MLR	**Muntele Rosu**	**20.70**	**317**	↑*i*P		Pn	18 55 36.3	+5.5
OZUR		**21.14**	**319**	↑*i*P		**P**	**18 55 33.2**	**+1.1**
VOIR		**21.19**	**316**	↑*i*P		**P**	**18 55 34.9**	**+2.2**
DOPR	**Dopca**	**21.29**	**318**	↑*i*P		**P**	**18 55 35.5**	**+1.8**
ARR	**Arges**	**21.39**	**316**	↓*i*P		**P**	**18 55 39.8**	**+4.9**
BIZ	**Bicaz**	**21.47**	**321**	↓*i*P		**P**	**18 55 36.8**	**+1.1**
BURAR	**Bucovina Array**	**22.36**	**321**	↓*i*P		**P**	**18 55 48.8**	**+3.5**
GZR	**Gura Zlata**	**22.53**	**314**	↓*i*P		**P**	**18 55 51.0**	**+3.9**
KK31	**Karatay Array**	**22.63**	**53**	*e*P		**P**	**18 55 46.2**	**-1.9**
AKASG	**Malin Array Be**	**22.65**	**332**	P		**P**	**18 55 47.9**	**-0.3**
comp=Z,6.0nm,0.9s,baz=138,slow=10,SNR=16								
AKBB	**Malin Array Si**	**22.65**	**332**	*e*P		**P**	**18 55 49.3**	**+1.1**
comp=Z,7.2nm,0.9s								
KIEV	**Kiev**	**22.65**	**332**	*e*P		**P**	**18 55 49.0**	**+0.8**
comp=Z,7.0nm,0.9s								
KIEV	**Kiev**	**22.65**	**332**	↑*i*P		**P**	**18 55 49.3**	**+1.1**
AK11	**Malin Array Si**	**22.65**	**332**	*e*P		**P**	**18 55 48.7**	**+0.4**
MDVR	**Moldovita**	**22.91**	**312**	↓*i*P		P	18 55 37.9	-13
DRGR		**23.29**	**317**	↓*i*P		**P**	**18 55 56.2**	**+1.2**
NACGM	**Naroch**	**26.86**	**335**	*e*		**P**	**18 56 33.0**	**+5.3**
KURBB	**Kurchatov Arra**	**30.73**	**42**	P		**P**	**18 57 02.0**	**-0.2**
comp=Z,0.8nm,0.9s,baz=244,slow=9.1,SNR=3.7								
KURK	**Kurchatov**	**30.82**	**42**	*e*P		**P**	**18 57 02.0**	**-1.0**
MK32	**Makanchi Array**	**31.73**	**51**	*e*P		**P**	**18 57 10.4**	**-0.7**
MKAR	**Makanchi Array**	**31.73**	**51**	P		**P**	**18 57 10.4**	**-0.7**
comp=Z,0.3nm,0.5s,baz=244,slow=11,SNR=6.4								
FIA0	**FINESS Array S**	**32.45**	**342**	*e*P		**P**	**18 57 16.9**	**-0.3**
FINES	**FINESS Array B**	**32.45**	**342**	P		**P**	**18 57 16.9**	**-0.3**
comp=Z,0.8nm,0.4s,baz=152,slow=8.6,SNR=4.4								
ZALV	**Zalesovo Beam**	**35.61**	**40**	P		**P**	**18 57 44.2**	**-0.5**
comp=Z,6.0nm,0.4s,baz=250,slow=7.3,SNR=4.0								
ZAA1	**Zalesovo Array**	**35.61**	**40**	*e*P		**P**	**18 57 44.2**	**-0.5**
TOA1	**Torodi Ar. Sit**	**44.39**	**256**	*e*P		**P**	**18 58 58.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**44.40**	**256**	P		**P**	**18 58 58.2**	**+0.1**
comp=Z,1.2nm,1.0s,baz=45,slow=8.6,SNR=4.3								

*ISCJB **21** 19:01:44.8±0.7, 20.°6S±0.°1×169.°80E±0.°10, h250km, mb4.0/8, Error ellipse: s-maj=14.9km s-min=12.5km az=173.6*
*IDC **21** 19:01:44.4±2.1, 20.°58S×169.°87E, h236km±16km, mb3.7/8, mb1 3.9/11, mb1mx3.7/27, mbtmp4.4/11, Error ellipse: s-maj=23.1km s-min=18.9km az=21.0*

ISC 21 19:01:45.5±0.9, 20.°7S±0.°1×169.°9E±0.°1, h250km, n16, σ1.°9/11/17, mb4.2/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
DZM	**Mont Dzumac**	**3.46**	**246**	P		**Pn**	**19 02 43.7**	**+0.6**
	2.1nm,0.3s,baz=283,slow=23,SNR=46							
DZM				S		**S**	**19 03 26.3**	**-2.5**
	2.5nm,0.3s,baz=109,slow=14,SNR=3.5							
HNR	**Honiara**	**14.74**	**318**	P		**Pn**	**19 05 01.7**	**-0.9**
	4.5nm,0.3s,baz=50,slow=1.8,SNR=6.9							
URZ	**Urewera**	**18.58**	**162**	P		**Pn**	**19 05 47.0**	**-0.7**
	0.9nm,0.3s,baz=313,slow=6.0,SNR=6.8							
CTA	**Charters Tower**	**22.13**	**267**	P		**P**	**19 06 22.2**	**+1.3**
	7.8nm,0.5s,baz=92,slow=11,SNR=23							
STKA	**Stephens Creek**	**27.59**	**240**	P		**P**	**19 07 11.7**	**+1.8**
	6.1nm,0.6s,baz=89,slow=11,SNR=26							
WRA	**Warramunga Arr**	**33.28**	**265**	P		**P**	**19 07 59.3**	**-0.6**
	2.7nm,0.4s,baz=90,slow=8.9,SNR=111							
ASAR	**Alice Springs**	**33.37**	**258**	P		**P**	**19 08 00.8**	**+0.1**
	9.3nm,0.5s,baz=82,slow=8.0,SNR=404							
CMAR	**Chiang Mai Arr**	**79.64**	**294**	P		**P**	**19 13 26.8**	**+1.1**
	0.5nm,0.7s,baz=137,slow=4.4,SNR=5.4							
SNAA	**Sanae**	**87.72**	**182**	P		**P**	**19 14 05.8**	**+0.1**
SNAA	**Sanae**	**87.72**	**182**	P		**P**	**19 14 05.2**	**-0.5**
	1.3nm,0.5s,baz=216,slow=4.1,SNR=8.2							
VNA3	**Neumayer Olymp**	**88.29**	**180**	P		**P**	**19 14 08.0**	**-0.2**
VNA2	**Neumayer--Wasi**	**88.59**	**181**	P		**P**	**19 14 09.7**	**+0.1**
	baz=182,slow=3.1							
SONM	**Songino Array**	**88.74**	**323**	P		**P**	**19 14 11.4**	**+0.6**
	0.2nm,0.4s,baz=154,slow=6.3,SNR=3.1							
NVAR	**Mina Array Bea**	**89.34**	**48**	P		**P**	**19 14 13.2**	**-0.7**
	0.4nm,0.6s,baz=235,slow=8.7,SNR=3.2							
GERES	**GERESS Array B**	**146.06**	**331**	PKPbc		**PKPbc**	**19 20 55.0**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=29,slow=3.0,SNR=7.4							
TORD	**Torodi Ar. Bea**	**166.41**	**238**	PKPab		**PKPab**	**19 22 25.1**	**+0.4**
	0.2nm,0.4s,baz=101,slow=1.5,SNR=2.6							

IDC 21 19:19:00.0±1.9, 22.°87S×67.°94E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.4/44, mbtmp3.5/6, MS3.7/2, Ms1 3.8/2, ms1mx3.2/35, Error ellipse: s-maj=57.2km s-min=27.6km az=66.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
H08N2	**Diego Garcia H**	**4.59**	**139**	T		T	19 24 53.7	
	baz=321,slow=75,SNR=190							
H08N3	**Diego Garcia H**	**4.60**	**139**	T		T	19 24 57.0	
	baz=321,slow=75,SNR=216							
H08N1	**Diego Garcia H**	**4.62**	**139**	T		T	19 24 55.4	
	baz=321,slow=75,SNR=215							
PALK	**Pallekele**	**16.24**	**52**	LR		LR	19 27 37.0	
	comp=Z,299nm,21.3s,baz=127,slow=32							
CMAR	**Chiang Mai Arr**	**37.16**	**54**	P		P	19 26 13.6	+0.6
	0.7nm,0.9s,baz=245,slow=9.9,SNR=7.6							
CMAR				LR		LR	19 39 38.5	
	comp=Z,111nm,19.2s,baz=198,slow=33							
MKAR	**Makanchi Array**	**51.04**	**13**	P		P	19 28 03.0	-1.0
	0.2nm,0.7s,baz=193,slow=5.6,SNR=2.9							
ZALV	**Zalesovo Beam**	**58.34**	**12**	P		P	19 28 56.4	-0.4
	0.5nm,0.6s,baz=189,slow=8.2,SNR=3.3							
SONM	**Songino Array**	**60.64**	**29**	P		P	19 29 13.4	+0.4
	0.2nm,0.4s,baz=222,slow=7.2,SNR=2.8							
WRA	**Warramunga Arr**	**66.86**	**110**	P		P	19 29 53.9	-0.5
	0.5nm,0.8s,baz=288,slow=5.9,SNR=2.8							
ASAR	**Alice Springs**	**66.87**	**114**	P		P	19 29 54.6	+0.1
	0.3nm,1.0s,baz=295,slow=6.6,SNR=3.1							
TXAR	**Lajitas Array**	**152.50**	**344**	PKPbc		PKiKP	19 38 59.8	+0.3
	0.1nm,0.3s,baz=119,slow=1.1,SNR=3.1							

RSNC 21 19:22:09.5±1.1, 6.°81N×73.°14W, h145km±6km, ML3.1, Mw3.6,2C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
BARC	**Barichara**	**0.22**	**192**	*e*P		Pn	19 22 29.2	-0.5
BARC				*e*S		Sn	19 22 43.9	-1.0
BRRC	**Barranca, Sant**	**0.64**	**297**	↓*e*

115nm,0.3s,baz=128,slow=3.0,SNR=15
DAV S Sn 19 28 23.6 +1.5
702nm,0.3s,baz=139,slow=19,SNR=14
DAV Davao City (W) 1.83 340 *e*Pn Pn 19 27 57.7 -1.1
DAV S Sn 19 28 23.6 +1.5
SKMP Bagumbayan, Su 2.03 306 *e*P Pn 19 28 01.5 +0.2
SKMP *e*S Sn 19 28 29.2 +2.7
BUKP Musuan 2.77 336 *e*P Pn 19 28 11.3 +0.2
BUKP *e*S Sn 19 28 46.7 +2.7
BIPH Bislig 2.83 3⇑*e*P Pn 19 28 14.2 +2.3
BIPH *e*S Sn 19 28 50.0 +4.6
CGP Cagayan de Oro 3.44 334⇓*i*P Pn 19 28 22.8 +2.7
CGP *e*S Sn 19 29 07.5 +7.5
BUTP Butuan 3.66 351 *e*P Pn 19 28 23.1 +0.2
BUTP *e*S Sn 19 29 09.5 +4.4
PAGZ Pagadian 3.75 312 *e*P Pn 19 28 24.6 +0.4
IPIL Ipil 4.35 304 *e*P Pn 19 28 33.4 +1.1
ZMPH Zamboanga City 4.42 292⇓*i*P Pn 19 28 33.3 +0.2
ZMPH *i* S Sn 19 29 24.3 +0.7
SCPH Surigao 4.47 351 *e*P Pn 19 28 35.4 +1.5
TNTI Ternate 4.68 166 *e*Pn Pn 19 28 35.6 -1.1
TNTI Ternate 4.68 166 P Pn 19 28 35.8 -0.9
TNTI S Sn 19 29 27.6 -2.4
MSLP Maasin 4.95 344 *e*P Pn 19 28 40.9 +0.5
MSLP *e*S Sn 19 29 39.3 +2.8
SNPH Sibulan 4.95 324 *e*P Pn 19 28 43.5 +3.0
LLP Lapu-Lapu 5.42 336 *e*P Pn 19 28 48.3 +1.5
LLP *e*S Sn 19 29 54.0 +6.1
PLP Palo 5.92 348⇓*e*P Pn 19 28 53.6 +0.1
PLP *e*S Sn 19 29 59.5 -0.5
RCP Roxas 7.07 331⇑*e*P Pn 19 29 11.9 +2.8
LUWI Luwuk 7.20 209 *e*Pn Pn 19 29 14.1 +3.1
LUWI Luwuk 7.20 209 P Pn 19 29 16.3 +5.3
SANI Sanana 7.34 182 P Pn 19 29 10.1 -2.8
47nm,0.6s,2μm
SANI S Sn 19 30 26.6 -8.0
47nm,0.6s,2μm
TSM Tawau 8.37 263 P Pn 19 29 30.1 +3.3
NLAI Namlea 8.56 174 P Pn 19 29 26.8 -2.7
NLAI S Sn 19 30 56.3 -8.2
PCI Palu 8.88 226 P Pn 19 29 37.0 +3.2
SDKM Sandakan 8.97 272 P Pn 19 29 39.4 +4.3
KDM Kudat 9.45 280 P Pn 19 29 46.3 +4.8
KKM Kota Kinabalu 9.96 275 *e*Pn Pn 19 29 50.3 +1.7
FAKI Fak Fak 10.19 143 *e*Pn Pn 19 29 51.3 -0.2
TTSI Tana Toraja 10.49 218 P Pn 19 29 58.8 +3.1
BNSI Bone 11.43 212 P Pn 19 30 10.2 +1.8
SBUM Sibu 14.24 259 *e*Pn Pn 19 30 46.0 +0.6
SOEI Soe 15.12 187 *e*Pn Pn 19 30 58.4 +1.9
42nm,0.9s
BATI Baumata 15.65 189 P Pn 19 31 05.3 +2.2
6.0nm,0.3s,baz=51,slow=1.5,SNR=9.9
BATI S S 19 34 04.3 -0.2
0.9nm,0.3s,baz=54,slow=19,SNR=3.8
KSM Kuching 16.32 257 *e*Pn P 19 31 15.5 +2.9
20nm,0.7s
KSM Kuching 16.32 257 P P 19 31 15.5 +2.9
YULB Yu-li 18.56 346 *e*P P 19 31 32.6 -4.6
51nm,1.8s
TPUB Ta-pu 18.65 344 *e*P P 19 31 35.5 -2.7
43nm,1.2s
SSLB Suanglung 19.03 345 *e*P P 19 31 40.9 -1.4
14nm,1.0s
JOW Kunigami 21.47 5 P P 19 32 09.4 +0.8
21nm,0.8s,baz=195,slow=4.5,SNR=4.1
LEM Lembang 22.14 237 P P 19 32 17.7 +1.8
37nm,0.7s,baz=44,slow=9.5,SNR=12
MYKOM Kota Tinggi 22.58 262 P P 19 32 22.0 +1.6
KTGM Kuala Trenggan 22.97 271 P P 19 32 25.8 +1.6
KGM Kluang 23.07 263 P P 19 32 26.4 +1.1
FITZ Fitzroy Crossi 23.29 181 P P 19 32 28.2 +1.1
3.8nm,0.4s,baz=3.4,slow=6.5,SNR=28
FITZ Fitzroy Crossi 23.29 181 *e*P P 19 32 27.2 0.0
19nm,1.3s
FRIM Kepong 24.60 266 P P 19 32 40.0 +0.9
SKNT Sakolnakorn 24.64 300 P P 19 32 40.4 +0.9
10nm,1.3s
IPM Ipoh 25.10 269 *e*P P 19 32 43.7 -0.1
17nm,0.7s
IPM Ipoh 25.10 269 P P 19 32 44.4 +0.6
SRAK Srakaew 25.30 292 P P 19 32 41.6 -3.9
37nm,0.6s,443nm
KULM Kulim 25.44 271 *e*P P 19 32 46.3 -0.5
14nm,0.8s
KULM Kulim 25.44 271 P P 19 32 47.2 +0.4
PATY Pattaya 26.11 289 P P 19 32 54.8 +2.0
5.5nm,0.8s
WRAB Tennant Creek 26.36 163 *e*P P 19 32 53.9 -1.1
33nm,1.3s
WRAB Tennant Creek 26.36 163⇑*e*P P 19 32 57.1 +2.1
WR1 Warramunga Arr 26.36 163 *e*P P 19 32 57.2 +2.1
22nm,1.2s
WRA Warramunga Arr 26.36 163 P P 19 32 57.2 +2.1
7.3nm,0.9s,baz=343,slow=10,SNR=33
WB2 Warramunga Arr 26.37 163 *e*P P 19 32 54.4 -0.6
18nm,0.9s
PBKT Sadao Pong 27.13 296 *e*P P 19 33 00.8 -1.2
6.3nm,0.7s
PBKT Sadao Pong 27.13 296 P P 19 33 04.7 +2.7
9.9nm,0.8s
PHET Kaeng Krachan 27.27 288 P P 19 33 07.0 +3.7
6.5nm,0.9s,73nm
PSI Prapat 27.32 266 P P 19 33 04.6 +0.7
13nm,0.6s,baz=5.5,slow=0.6,SNR=15
PSI Prapat 27.32 266 *e*P P 19 33 02.9 -1.0
15nm,0.7s
PSI Prapat 27.32 266 *e*P P 19 33 02.9 -1.0
PSI pmax pmax
comp=Z,15nm,0.7s
SRDT SRDT 28.11 291 P P 19 33 16.8 +6.0
comp=Z,8.0nm,0.8s
UTHA Uthaitani 28.17 293 P P 19 33 13.4 +2.2
comp=Z,2.2nm,0.8s
UMPA Umpang Tak 28.91 294 P P 19 33 20.3 +2.5
comp=Z,2.8nm,0.9s,comp=Z,76nm
ENH Enshi 29.38 330 *e*P P 19 33 20.8 -1.1
comp=Z,6.6nm,0.8s
CM01 Chiang Mai Arr 29.60 298 *e*P P 19 33 23.5 -0.4
CM01 *e*PcP PcP 19 36 27.5 +1.0
CM31 Chiang Mai Arr 29.63 298 *e*P P 19 33 24.4 +0.2
CMAR Chiang Mai Arr 29.63 298 P P 19 33 24.4 +0.2
comp=Z,2.6nm,0.8s,baz=116,slow=7.4,SNR=26
CMAR PcP PcP 19 36 27.5 +0.9
comp=Z,1.8nm,0.8s,baz=140,slow=1.3,SNR=13
CMAR ScP ScP 19 40 00.1 +0.8
comp=Z,1.6nm,0.9s,baz=128,slow=1.7,SNR=11
CMMT Chiang Mai 29.76 299 P P 19 33 26.7 +1.3
comp=Z,3.9nm,1.0s
CHTO Chiang Mai 29.77 299 *e*P P 19 33 25.2 -0.2
comp=Z,3.7nm,0.9s
CHTO *e*PcP PcP 19 36 27.6 +0.6
CHTO Chiang Mai 29.77 299 *e*P P 19 33 25.2 -0.2
CHTO *e* 19 36 27.6
CHTO pmax pmax
comp=Z,4.0nm,0.9s
CHTO Chiang Mai 29.77 299 P P 19 33 27.0 +1.6
comp=Z,18nm,1.0s
AS31 Alice Springs 29.79 166 *e*P P 19 33 27.5 +2.0
comp=Z,2.2nm,0.6s
ASAR Alice Springs 29.79 166 P P 19 33 25.9 +0.4
comp=Z,0.7nm,0.6s,baz=347,slow=7.1,SNR=19
ASAR PcP PcP 19 36 29.7 +2.8
comp=Z,0.7nm,0.7s,baz=357,slow=3.7,SNR=3.0
ASAR ScP ScP 19 40 00.2 +0.5
comp=Z,1.4nm,0.9s,baz=8.5,slow=3.0,SNR=6.0
AS01 Alice Springs 29.80 166 *e*P P 19 33 25.1 -0.6
TJN Taejon 30.91 2⇓*e*P P 19 33 31.1 -4.1
KSAR Wonju Array Be 31.99 3 P P 19 33 45.3 +0.6
KSAR Wonju Array Be 31.99 3 P P 19 33 45.3 +0.6
KSRS Korea Array 32.01 3 P P 19 33 45.3 +0.5
comp=Z,1.7nm,0.7s,baz=184,slow=9.6,SNR=6.0
XAN Xi'an 32.76 333 P P 19 33 49.9 -1.6
XAN pmax pmax
comp=Z,13nm,1.2s
XAN pmax pmax
comp=Z,170nm,3.7s
XAN LR LR
comp=Z,230nm,10.8s
XAN Xi'an 32.76 333 *e*P P 19 33 49.9 -1.6
comp=Z,41nm,0.8s
XAN Xi'an 32.76 333 *e*P P 19 33 49.9 -1.6
XAN pmax pmax
comp=Z,41nm,0.8s
MAJO Matsushiro 32.95 18 *e*P P 19 33 55.0 +1.8
MAJO Matsushiro 32.95 18 *e*P P 19 33 55.0 +1.8
MJAR Matsushiro Arr 32.95 18 P P 19 33 55.0 +1.8
comp=Z,2.1nm,0.9s,baz=195,slow=12,SNR=4.2
MJAR Matsushiro Arr 32.95 18 P P 19 33 55.0 +1.8
BJT Baijiatuau 35.69 347 *e*P P 19 34 16.4 -0.3
comp=Z,18nm,0.6s
BJT Baijiatuau 35.69 347 *e*P P 19 34 16.4 -0.3
BJT pmax pmax
comp=Z,18nm,0.6s
LZH Lanzhou 36.86 329 *e*P P 19 34 26.9 -0.1
LZH pP pP 19 34 40.3 -10
LZH sP sP 19 34 46.9 -15
LZH pmax pmax
comp=Z,20nm,1.1s
SHL Shillong 38.52 305 *e*P P 19 34 40.5 -0.6
comp=Z,31nm,0.7s
SHL Shillong 38.52 305 *e*P P 19 34 40.5 -0.6
SHL pmax pmax
comp=Z,31nm,0.7s
USRK Ussuriysk Ar. 39.04 7 P P 19 34 46.5 +1.5
comp=Z,5.4nm,1.0s,baz=200,slow=9.2,SNR=7.6
BBOO Buckleboo 39.08 167 *e*P P 19 34 45.0 -0.4
comp=Z,25nm,1.1s
STKA Stephens Creek 39.81 159 P P 19 34 52.0 +0.5
comp=Z,4.8nm,0.9s,baz=325,slow=8.0,SNR=11
STKA Stephens Creek 39.81 159 *e*P P 19 34 52.2 +0.7
comp=Z,2.3nm,0.8s
STKA Stephens Creek 39.81 159 *e*P P 19 34 52.2 +0.7
STKA pmax pmax
comp=Z,2.0nm,0.8s
LSA Lhasa 41.00 310 *e*P P 19 35 01.8 -0.1
comp=Z,6.5nm,1.0s
LSA Lhasa 41.00 310 *e*P P 19 35 01.8 -0.1
LSA pmax pmax
comp=Z,7.0nm,1.0s
ASAJ Asahikawa 41.23 18 P P 19 35 05.2 +2.2
comp=Z,1.2nm,0.5s,baz=180,slow=19,SNR=4.1
GTA Gaotai 41.46 329⇑P P 19 35 04.4 -0.8
GTA pP pP 19 35 14.4 -15
GTA PcP PcP 19 37 02.3 +1.1
GTA ScP ScP 19 40 44.1 +2.0
GTA ScS ScS 19 44 57.3 -1.3
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA LR LR
comp=Z,150nm,16.5s
GTA LR LR
comp=Z,130nm,16.5s
GTA LR LR
comp=Z,140nm,18.1s
RAMN Ramite 43.41 304 *e*P P 19 35 21.7 +0.4
comp=Z,19nm,0.7s
KLR Kul'dur 43.99 5 P P 19 35 26.1 +0.8
comp=Z,2.9nm,0.7s,baz=192,slow=7.2,SNR=9.2
KLR Kul'dur 43.99 5⇑*e*P P 19 35 24.2 -1.1
JIRN Jiri 44.02 305 *e*P P 19 35 26.4 0.0
comp=Z,51nm,0.7s
GUN Gumba 44.37 305 *e*P P 19 35 29.3 +0.2
comp=Z,43nm,0.6s
PKIN Phulchoki 44.64 304 *e*P P 19 35 30.3 -0.9
comp=Z,7.2nm,0.6s
KKN Kakani 44.81 305 *e*P P 19 35 32.2 -0.3
comp=Z,22nm,0.9s
DMN Daman 44.89 304 *e*P P 19 35 32.8 -0.3
comp=Z,12nm,0.7s
ULN Ulaanbaatar 45.44 342 *e*P P 19 35 35.9 -1.1
comp=Z,4.1nm,1.1s
ULN Ulaanbaatar 45.44 342⇑*e*P P 19 35 36.4 -0.6
ULN pmax pmax
comp=Z,4.0nm,1.1s
SONA0 Songino Array 45.62 341 *e*P P 19 35 37.5 -0.9
SONA0 *e*PcP PcP 19 37 15.1 0.0
SONA0 *e*ScP ScP 19 40 58.9 +0.1
SONM Songino Array 45.62 341 P P 19 35 37.5 -0.9
comp=Z,1.5nm,0.8s,baz=161,slow=6.8,SNR=8.6
SONM PcP PcP 19 37 15.1 0.0
comp=Z,2.5nm,0.7s,baz=158,slow=3.7,SNR=9.0
SONM ScP ScP 19 40 58.9 +0.1
comp=Z,0.3nm,0.6s,baz=142,slow=5.4,SNR=3.0
SONA1 Songino Array 45.63 341 *e*P P 19 35 37.6 -0.9
SONA1 *e*PcP PcP 19 37 15.5 +0.3
KOLN Koldanda 46.19 304 *e*P P 19 35 43.0 -0.4
comp=Z,36nm,0.5s
DANN Dangsing 46.27 305 *e*P P 19 35 43.8 -0.3
comp=Z,48nm,0.6s
PYUN Piuthan 46.81 304 *e*P P 19 35 48.3 +0.1
comp=Z,26nm,0.8s
BOD Bodaibo 53.21 352 *e*P P 19 36 35.6 -0.2
BOD pmax pmax
comp=Z,6.0nm,1.1s
PETK Petropavlovsk-Kamchatskiy 54.16 23 P P 19 36 43.5 +0.7
comp=Z,4.0nm,0.9s,baz=191,slow=6.8,SNR=3.1
PEA1 Petropavlovsk-Kamchatskiy 54.16 23 *e*P P 19 36 43.5 +0.7
DGZ Jazzator, Alta 54.95 330*c i*P P 19 36 48.0 -0.8
DGZ pmax pmax
comp=Z,2.0nm,0.9s
MK01 Makanchi Array 55.93 325 *e*P P 19 36 54.5 -1.2
MK31 Makanchi Array 55.95 325 *e*P P 19 36 55.0 -0.9
MK31 Makanchi Array 55.95 325 *e*P P 19 36 55.0 -0.9
MK32 Makanchi Array 55.95 325 *e*P P 19 36 54.9 -1.0
MK32 *e*PcP PcP 19 37 52.9 -0.3
MK32 *e*ScP ScP 19 41 42.4 -0.7
MKAR Makanchi Array 55.95 325 P P 19 36 54.9 -1.0
comp=Z,2.7nm,0.4s,baz=117,slow=7.4,SNR=66
MKAR PcP PcP 19 37 52.9 -0.3
comp=Z,3.4nm,0.8s,baz=107,slow=4.2,SNR=7.1
MKAR ScP ScP 19 41 42.4 -0.7
comp=Z,1.7nm,0.8s,baz=121,slow=4.5,SNR=11
MAKZ Makanchi 56.13 325 *e*P P 19 36 56.1 -1.1
comp=Z,9.9nm,1.2s
MAKZ Makanchi 56.13 325 *e*P P 19 36 56.1 -1.1
MAKZ pmax pmax
comp=Z,10.0nm,1.2s
PRZ Przheval'sk 56.16 319 *e*P P 19 36 57.8 +0.2
comp=Z,15nm,0.9s
PRZ Przheval'sk 56.16 319 *e*P P 19 36 57.8 +0.2
PRZ pmax pmax
comp=Z,15nm,0.9s
TARG Taragay, Kyrgy 56.21 318 *e*P P 19 36 57.8 -0.5
comp=Z,8.7nm,1.1s
NIL Nilore 56.54 307 *e*P P 19 36 59.9 -0.4
comp=Z,10nm,0.9s
NIL Nilore 56.54 307 *e*P P 19 36 59.9 -0.4
NIL pmax pmax
comp=Z,10.0nm,0.9s
YAK Yakutsk 56.63 2 *e*P P 19 37 00.3 0.0
YAK pmax pmax
comp=Z,18nm,0.8s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.8s
NRN Naryn 57.31 317 *e*P P 19 37 05.3 -0.6
comp=E,8.7nm,1.3s
NRN Naryn 57.31 317 *e*P P 19 37 05.4 -0.6
NRN pmax pmax
comp=Z,9.0nm,1.3s
KZA Kyzart 58.09 317 P P 19 37 11.7 +0.2
SNR=5.7
TKM2 Tokmak 2 58.20 318 P P 19 37 11.4 -0.7
SNR=7.7
KBK Karagaybulak 58.53 318 P P 19 37 14.2 -0.1
SNR=6.2
UCH Uchtor 58.65 317 P P 19 37 15.6 +0.2
SNR=10
AAK Ala-Archa 58.83 317 *e*P P 19 37 15.1 -1.3
comp=Z,19nm,1.9s
AAK Ala-Archa 58.83 317⇑*e*P P 19 37 15.6 -0.7
AAK pmax pmax
comp=Z,8.0nm,1.7s
ZALV Zalesovo Beam 58.93 333 P P 19 37 14.7 -1.9
comp=Z,2.5nm,0.7s,baz=121,slow=6.3,SNR=9.6
ZALV PcP PcP 19 38 02.5 -2.2
comp=Z,3.1nm,0.8s,baz=144,slow=2.8,SNR=6.3
ZAA1 Zalesovo Array 58.93 333 *e*P P 19 37 14.7 -1.9
ZAA1 *e*PcP PcP 19 38 02.5 -2.2
USP Ospenovka 59.08 318 P P 19 37 17.0 -1.0
SNR=14
AML Almayashu 59.17 317 P P 19 37 18.7 -0.3
SNR=11
EKS2 Erkin-Say 59.32 317 P P 19 37 16.1 -3.6
SNR=7.0
ARSB Arslanbob 59.35 315 *e*P P 19 37 18.2 -1.7
comp=Z,20nm,1.5s
KURK Kurchatov 60.11 327 *e*P P 19 37 23.6 -1.2
comp=Z,7.3nm,0.8s
KURK Kurchatov 60.11 327 *e*P P 19 37 23.6 -1.2
KURK pmax pmax
comp=Z,7.0nm,0.8s
KBL Kabul 60.14 307 *e*P P 19 37 24.4 -1.2
comp=Z,3.0nm,0.7s
KBL Kabul 60.14 307 *e*P P 19 37 24.4 -1.2
KBL pmax pmax
comp=Z,3.0nm,0.7s
NVS Novosibirsk 60.21 333 *e*P P 19 37 24.3 -1.1
BTK Batken 60.44 313 *e*P P 19 37 27.5 +0.1
comp=Z,5.5nm,0.8s
BTK Batken 60.44 313 *e*P P 19 37 27.5 +0.1
BTK pmax pmax
comp=Z,6.0nm,0.8s
SEY Seymchan 60.60 13 P P 19 37 29.1 +1.2
comp=Z,0.4nm,0.4s,baz=198,slow=16,SNR=2.8
KK31 Karatay Array 61.71 317 *e*P P 19 37 34.9 -0.9
KK31 Karatay Array 61.71 317 *e*P P 19 37 34.9 -0.9
BRVK Borovoye 65.77 327 *e*P P 19 38 00.8 -1.4
comp=Z,8.2nm,0.8s
BRVK Borovoye 65.77 327 *e*P P 19 38 00.8 -1.4
BRVK pmax pmax
comp=Z,8.0nm,0.8s
TIXI Tiksi 66.25 1 P P 19 38 04.4 -0.5
comp=Z,2.9nm,0.5s,baz=169,slow=3.8,SNR=17
TIXI Tiksi 66.25 1⇑*e*P P 19 38 03.9 -1.1
TIXI pmax pmax
comp=Z,5.0nm,0.8s
BILL Bilibino 68.15 15 *i*P P 19 38 17.7 +0.7
BILL *i* 19 38 40.9
BILL pmax pmax
comp=Z,2.0nm,1.2s
SVE Sverdlovsk 72.33 328⇑*e*P P 19 38 42.0 -0.7
SVE pmax pmax
comp=Z,10.0nm,0.8s
ARU Arti 73.31 328 *e*P P 19 38 46.8 -1.8
comp=Z,10.0nm,0.6s
ARU Arti 73.31 328*c i*P P 19 38 46.6 -1.9
ARU S SKiKP 19 48 14.3 +4.4
ARU SS SS 19 52 51.0 -1.6
ARU pmax pmax
comp=Z,8.0nm,0.6s
PRGR Permogore 80.85 331 *e*P P 19 39 26.6 -4.0
PRGR pmax pmax
comp=Z,9.0nm,0.9s
IM3 Indian Mountai 81.10 24 *e*P P 19 39 32.6 +0.7
MLY Manley 82.26 25 *e*P P 19 39 38.5 +0.4
comp=Z,5.6nm,1.0s
KLMR Klimovskoe 83.76 331 *e*P P 19 39 43.7 -2.1
KLMR pmax pmax
comp=Z,11nm,1.0s
KLMR Klimovskoe 83.76 331 *e*P P 19 39 43.7 -2.1
KLMR AMP 19 39 45.9
comp=Z,11nm,1.0s
ILAR Eielson Array 83.89 25 P P 19 39 45.5 -0.9
comp=Z,0.8nm,0.7s,baz=253,slow=5.5,SNR=9.0
VSR Storozhevoye 84.02 321⇓*e*P P 19 39 46.6 -0.7
VSR pmax pmax
comp=Z,6.0nm,0.5s
OBN Obninsk 85.45 325⇑*e*P P 19 39 52.9 -1.5
OBN pmax pmax
comp=Z,35nm,2.5s
BR101 Keskin Array S 88.60 310 *e*P P 19 40 08.2 -2.1
BRTR Keskin Array B 88.60 310 P P 19 40 08.2 -2.1
comp=Z,0.9nm,0.8s,baz=105,slow=4.4,SNR=5.3
ARA0 ARCESS Array S 88.77 340 *e*P P 19 40 08.6 -1.6
ARCES ARCESS Array B 88.77 340 P P 19 40 08.6 -1.6
comp=Z,7.2nm,0.8s,baz=28,slow=5.5,SNR=7.0
FIA0 FINESS Array S 90.18 332 *e*P P 19 40 15.4 -1.5
FIA0 FINESS Array S 90.18 332 *e*P P 19 40 15.4 -1.5
FINES FINESS Array B 90.18 332 P P 19 40 15.4 -1.5
comp=Z,2.8nm,0.6s,baz=59,slow=4.7,SNR=12
FINES FINESS Array B 90.18 332 *i*P P 19 40 15.6 -1.3
FINES pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 90.32 321 P P 19 40 15.4 -2.4
comp=Z,0.2nm,0.3s,baz=60,slow=5.6,SNR=2.8
NB2 NORSAR Subarra 97.12 334 P P 19 40 46.9 -2.0
comp=Z,2.8nm,0.8s,baz=66,slow=4.6
NB200 NORSAR Array S 97.12 334 *e*P P 19 40 46.9 -2.0
NOA NORSAR Array B 97.12 334 P P 19 40 46.9 -2.0
comp=Z,1.7nm,0.7s,baz=66,slow=4.6,SNR=7.7
YKA Yellowknife Ar 98.26 24 P P 19 40 53.6 -0.2
comp=Z,0.2nm,0.5s,baz=299,slow=4.2,SNR=3.1
LTX Lajitas 121.02 51 *e*PKPdf **PKPdf** 19 46 10.4 +0.7
LTX *e*PKKPbc **PKKPbc** 19 56 13.6 +0.2
LTX Lajitas 121.02 51 *e*PKIKP **PKPdf** 19 46 10.4 +0.7
TXAR Lajitas Array 121.02 51 PKP **PKPdf** 19 46 10.4 +0.7
comp=Z,0.3nm,0.7s,baz=295,slow=2.8,SNR=3.3
TXAR PKKPab **PKKPbc** 19 56 13.6 +0.2
comp=Z,0.5nm,0.8s,baz=123,slow=4.6,SNR=4.9
TORD Torodi Ar. Bea 121.91 289 PKP **PKPdf** 19 46 11.5 -0.1
comp=Z,1.8nm,0.7s,baz=72,slow=2.0,SNR=14
TOA1 Torodi Ar. Sit 121.91 289 *e*PKPdf **PKPdf** 19 46 11.5 -0.1
DBIC Dimbokro 129.72 283 PKP **PKPdf** 19 46 27.1 +0.6
comp=Z,2.5nm,0.7s,baz=6.3,slow=4.1,SNR=4.3
PLCA Paso Flores 141.68 159 PKP **PKPdf** 19 46 50.0 +1.9
comp=Z,0.9nm,0.7s,baz=242,slow=5.1,SNR=3.2

*ISCJB **21** 19:33:32.9±0.4, 6.86N±0.04×73.10W±0.04, h156km±3km, Error ellipse: s-maj=6.7km s-min=4.7km az=44.1*
*IDC **21** 19:33:33.3±0.7, 6.69N×72.89W, h161km±7km, mb3.3/6, mb1 3.6/11,mb1mx3.3/31,mbtmp3.9/11, Error ellipse: s-maj=17.7km s-min=7.3km az=135.0*
*RSNC **21** 19:33:34.8±1.0, 6.82N×73.14W, h148km±5km, ML3.7, Mw3.9*

ISC 21 19:33:33.3±0.7, 6.84N±0.04×73.11W±0.04, h155km±5km, n39, σ0 90/52, 3C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
BARC	**Barichara**	**0.26**	**196**	*i* P	**Pn**		**19 33 54.8**	**+0.1**
BARC				*e*S	**Sn**		**19 34 10.1**	**-0.8**
BARC				*i*			19 34 11.3	
comp=Z,2μm,0.6s								
PAMC	**Pamplona, Colo**	**0.64**	**40**⇓	*e*P	**Pn**		**19 33 57.5**	**+0.9**
PAMC				*e*S	**Sn**		**19 34 14.6**	**+0.3**
PAMC				*i*			19 34 16.8	
comp=Z,790nm,0.5s								
BRRC	**Barranca, Sant**	**0.65**	**294**⇑	*e*P	**Pn**		**19 33 56.6**	**+0.5**
BRRC				*e*S	**Sn**		**19 34 13.5**	**+0.1**
BRRC				*i*			19 34 16.0	
comp=Z,420nm,0.4s								
RUSC	**La Rusia**	**0.94**	**178**⇓	*e*P	**Pn**		**19 33 58.7**	**0.0**
RUSC				*e*S	**Sn**		**19 34 17.0**	**-1.1**
RUSC				*i*			19 34 19.2	
comp=Z,568nm,0.4s								
PTBC	**PUERTO BERRIO,**	**1.37**	**257**	*e*P	**Pn**		**19 34 01.3**	**-0.7**
PTBC				*e*S	**Sn**		**19 34 22.5**	**-1.4**
PTBC				*i*			19 34 24.6	
comp=Z,673nm,0.3s								
TAMC	**Tame, Arauca**	**1.37**	**107**	*e*S	**Sn**		**19 34 24.6**	**+0.7**
OCAC	**Ocana**	**1.40**	**352**	*e*P	**Pn**		**19 34 02.9**	**+0.4**
OCAC				*e*S	**Sn**		**19 34 24.7**	**-0.1**
OCAC				*i*			19 34 30.4	
comp=Z,576nm,0.2s								
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	*e*P	**Pn**		**19 34 07.1**	**+0.1**
ZARC				*e*S	**Sn**		**19 34 32.9**	**0.0**
ZARC				*i*			19 34 39.5	
comp=Z,477nm,0.4s								
NORC	**Norcasia**	**2.16**	**234**⇑	*e*P	**Pn**		**19 34 10.8**	**+0.1**
NORC				*e*S	**Sn**		**19 34 38.7**	**-0.8**
NORC				*i*			19 34 44.1	
comp=Z,525nm,0.2s								
CHIC	**Chingaza**	**2.28**	**196**⇓	*e*P	**Pn**		**19 34 12.6**	**+0.1**
CHIC				*e*S	**Sn**		**19 34 42.3**	**-0.4**
CHIC				*i*			19 34 49.4	
comp=Z,256nm,0.3s								
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**		**19 34 14.7**	**+1.7**
comp=Z,108nm,0.3s,baz=352,slow=5.2,SNR=159								
ROSC				S	**Sn**		**19 34 44.0**	**+0.5**
comp=Z,78nm,0.3s,baz=60,slow=19,SNR=11								
ROSC	**El Rosal**	**2.33**	**211**⇓	*e*P	**Pn**		**19 34 14.5**	**+1.5**
ROSC				*i*			19 34 51.0	
comp=Z,555nm,0.4s								
HELC	**Santa Helena**	**2.49**	**255**	*e*P	**Pn**		**19 34 15.4**	**+0.5**
HELC				*e*S	**Sn**		**19 34 47.3**	**+0.4**
HELC				*i*			19 34 54.9	
comp=Z,338nm,0.5s								
UREC	**San Jos de Ur**	**2.57**	**291**	*e*P	**Pn**		**19 34 14.8**	**-0.7**
VILC	**Villavicencio,**	**2.77**	**192**	*e*P	**Pn**		**19 34 18.2**	**-0.1**
RREF	**El Recreo**	**2.94**	**229**	*e*P	**Pn**		**19 34 22.0**	**+1.2**
RREF				*i*			19 35 06.4	
comp=Z,318nm,0.3s								

DBBC	**Dabeiba**	**3.08**	**273**	⇑*e*P		**Pn**	**19 34 22.3**	**+0.3**
TOLC	**Tolima**	**3.14**	**225**	*e*P		**Pn**	**19 34 24.1**	**+1.0**
TOLC				*i*			19 35 11.6	
	comp=Z,199nm,0.3s							
SDV	**Santo Domingo**	**3.19**	**50**	P		**Pn**	**19 34 24.2**	**+0.8**
	comp=Z,41nm,0.3s,baz=231,slow=11,SNR=73							
SDV				S		**Sn**	**19 35 01.0**	**-1.2**
	comp=Z,48nm,0.3s,baz=9.6,slow=10,SNR=30							
SDV	**Santo Domingo**	**3.19**	**50**	*e*P		**Pn**	**19 34 24.1**	**+0.6**
ANIL	**Santa Ana**	**3.27**	**224**	*e*P		**Pn**	**19 34 25.6**	**+1.0**
ANIL				*e*S		**Sn**	**19 35 03.6**	**-0.6**
ANIL				*i*			19 35 10.2	
	comp=Z,203nm,0.3s							
PLMC	**San Jos del P**	**3.70**	**239**	*e*P		**Pn**	**19 34 30.7**	**+0.8**
YOTC	**Yotoco, Valle**	**4.29**	**229**	*e*P		**Pn**	**19 34 37.9**	**+0.2**
SMRC	**Santa Marta, M**	**4.43**	**346**	*e*P		**Pn**	**19 34 39.5**	**+0.1**
MARP	**Paez Belalcaza**	**4.88**	**216**	*e*P		**Pn**	**19 34 45.2**	**-0.4**
PCRV	**Puerto La Cruz**	**9.01**	**68**	P		**Pn**	**19 35 40.1**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=342,slow=6.4,SNR=3.1							
JTS	**JuntasAbangare**	**12.20**	**287**	P		**P**	**19 36 25.9**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=45,slow=20,SNR=2.2							
APG	**El Apazote**	**18.86**	**297**	P		**Pn**	**19 37 45.8**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=34,slow=7.3,SNR=3.4							
MDP	**Montagnes des**	**20.43**	**94**	P		**P**	**19 37 58.9**	**+0.1**
	comp=Z,8.2nm,0.8s,baz=254,slow=7.4,SNR=2.9							
TXAR	**Lajitas Array**	**36.45**	**312**	P		**P**	**19 40 25.0**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=125,slow=7.8,SNR=2.3							
ULM	**Lac du Bonnet**	**47.27**	**340**	P		**P**	**19 41 51.6**	**+0.7**
	comp=Z,1.7nm,0.5s,baz=144,slow=5.0,SNR=5.0							
PDAR	**Pinedale Array**	**48.07**	**324**	P		**P**	**19 41 58.5**	**+1.0**
	comp=Z,0.1nm,0.5s,baz=134,slow=5.2,SNR=2.3							
SCHQ	**Schefferville**	**48.12**	**5**	P		**P**	**19 41 58.4**	**+1.0**
	comp=Z,2.6nm,0.7s,baz=49,slow=20,SNR=4.7							
YKA	**Yellowknife Ar**	**63.25**	**340**	P		**P**	**19 43 45.4**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=131,slow=6.7,SNR=22							
TORD	**Torodi Ar. Bea**	**73.72**	**78**	P		**P**	**19 44 49.3**	**-1.7**
	comp=Z,0.5nm,0.9s,baz=261,slow=5.2,SNR=2.6							
MKAR	**Makanchi Array**	**122.30**	**20**	PKP		**PKPdf**	**19 52 09.7**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=318,slow=1.9,SNR=2.9							
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc		**PKPbc**	**19 53 03.1**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=116,slow=3.5,SNR=7.6							
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc		**PKPbc**	**19 53 06.4**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=108,slow=2.9,SNR=4.7							
CMAR	**Chiang Mai Arr**	**153.67**	**17**	PKPbc		**PKPbc**	**19 53 14.4**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=312,slow=2.7,SNR=3.5							

IDC 21 19:40:39.3±5.6, 2.99S×67.75E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/47, mbtmp3.5/4, MS3.8/1, Ms1 3.8/1, ms1mx3.2/33, Error ellipse: s-maj=141.1km s-min=41.2km az=83.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**4.64**	**136**	T	T	19 46 32.1	
	baz=320,slow=75,SNR=222						
H08N3	**Diego Garcia H**	**4.64**	**136**	T	T	19 46 32.4	
	baz=320,slow=75,SNR=190						
H08N1	**Diego Garcia H**	**4.66**	**136**	T	T	19 46 31.2	
	baz=320,slow=75,SNR=246						
H08S3	**Diego Garcia H**	**6.59**	**135**	T	T	19 49 03.9	
	baz=308						
H08S1	**Diego Garcia H**	**6.60**	**135**	T	T	19 49 02.3	
	baz=308,SNR=5.3						
H08S2	**Diego Garcia H**	**6.61**	**135**	T	T	19 49 03.4	
	baz=308						
OPO	**Ambohidratompo**	**25.39**	**231**	LR	LR	19 53 56.4	
	comp=Z,224nm,20.3s,baz=20,slow=31						
CMAR	**Chiang Mai Arr**	**37.39**	**54**	P	P	19 47 54.1	-0.1
	0.3nm,0.7s,baz=250,slow=9.5,SNR=3.3						
SONM	**Songino Array**	**60.84**	**29**	P	P	19 50 53.7	0.0
	0.3nm,0.7s,baz=243,slow=6.3,SNR=3.7						
ASAR	**Alice Springs**	**67.00**	**114**	P	P	19 51 34.7	+0.1
	0.4nm,0.8s,baz=272,slow=6.4,SNR=3.7						
WRA	**Warramunga Arr**	**67.00**	**110**	P	P	19 51 34.6	-0.1
	0.9nm,0.9s,baz=288,slow=5.8,SNR=4.7						

MEX 21 19:45:14.7±0.5, 18.23N×101.86W, h40km±7km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.73**	**149**	*e*P	Pn	19 45 26.6	-2.0
ZIIG				*i* S	Sn	19 45 37.2	-1.3
ARIG	**Puente Sto Nin**	**1.44**	**88**	*e*P	Pn	19 45 36.9	-1.5
ARIG				*e*S	Sn	19 45 53.7	-2.4
CAIG	**El Cayaco**	**1.92**	**128**	*e*P	Pn	19 45 43.7	-1.3
CAIG				*i* S	Sn	19 46 05.8	-2.2
EZ5V		**2.06**	**307**	*e*P	Pn	19 45 45.7	-1.4
EZ5V				*i* S	Sn	19 46 10.5	-1.2
MEIG	**Mezcala**	**2.15**	**98**	*i* P	Pn	19 45 47.6	-0.6
MEIG				*i* S	Sn	19 46 12.3	-1.4
R15V		**2.22**	**295**	*e*P	Pn	19 45 47.8	-1.2
R15V				*i* S	Sn	19 46 12.7	-2.5
PLIG	**Platanillo**	**2.25**	**86**	*i* P	Pn	19 45 48.0	-1.4
PLIG				*e*S	Sn	19 46 13.8	-2.3

*NIED **21** 19:46:00, 35.90N×140.90E, h8km, Mw4.8 Best double couple: M0 1.62000×10^16 NP1: φs 348.00000°, δ 44.00000°, λ -141.00000°. NP2: φs 228.00000°, δ 64.00000°, λ -53.00000°.*

*BJI **21** 19:46:51.7, 35.77N×141.23E, h4km, mb4.7/66, mB5.2/47, Ms4.6/54, Ms7 4.3/48*

*IDC **21** 19:46:55.3±0.5, 35.79N×140.84E, h0km, mb4.7/28, mb1 4.8/32, mb1mx4.7/47, mbtmp4.7/32, ML3.7/4, MS3.9/7, Ms1 3.9/7, ms1mx3.5/46, Error ellipse: s-maj=13.2km s-min=11.2km az=121.0*

*ISCJB **21** 19:46:57.7±0.4, 35.82N±0.02×140.80E±0.02, h21km±2km, mb4.8/207, MS4.3/14, Error ellipse: s-maj=3.3km s-min=3.2km az=166.4*

*JMA **21** 19:46:57.3±0.1, 35.87N×140.94E, h16km±1km, M5.1 Broadband fault plane solution: P waves. NP1: φs 242.00000°, δ 85.00000°, λ -52.00000°. NP2: φs 338.00000°, δ 38.00000°, λ -172.00000°. Principal axes: T Plg30.0000°, Azm302.0000°; N Plg37.0000°, Azm58.0000°; P Plg38.0000°, Azm185.0000°;*

JMA Felt IV J1.

*NEIC **21** 19:46:58.6±2.1, 35.78N×140.74E, h19km±13km, mb4.9/157 Error ellipse: s-maj=5.0km s-min=3.4km az=134.0*

NEIC Felt [IV] at Chiba and Narita; [III] at Tokyo, Tsukuba and Yokohama. Felt widely in east-central Honshu. Recorded [4 JMA] in Ibaraki.

*MOS **21** 19:46:58.0±1.8, 35.89N×140.86E, h33km, mb5.1/61, MS4.0/11, Error ellipse: s-maj=8.2km s-min=5.1km az=94.1*

*GCMT **21** 19:47:00.6±0.4, 36.03N±0.03×140.88E±0.03, h21km±1km, MW5.0/65, Moment Tensor Solution. s23,c26; s65,c100; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.41±.26; Mθθ 0.13±.16; Mφφ 2.28±.16; Mrθ 3.15±.36; Mθφ 1.48±.09; Mφr-0.06±.20; Best double couple: M0 4.08100×10^16 NP1: φs 243.00000°, δ 70.00000°, λ -58.00000°. NP2: φs 3.00000°, δ 37.00000°, λ -145.00000°. Principal axes: T 3.5120, Plg19.0000°, Azm310.0000°; N 1.1360, Plg30.0000°, Azm51.0000°; P -4.6510, Plg54.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 19:46:57.6±0.5, 35.85N±0.03×140.95E±0.03, h15km±2km, h15km: pP-P, n454, σ1 92/475, mb4.9/209, MS4.3/14, 35C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.16**	**208**	⇑P	**Pg**	**19 47 01.7**	**+0.1**
CHOJ				S	**Sg**	**19 47 04.9**	**+0.6**
JIHU	**Itakohorinouch**	**0.37**	**289**	P	**Pb**	**19 47 05.0**	**-0.8**
JSMT	**Sammumatsuo**	**0.46**	**244**	P	**Pb**	**19 47 07.0**	**-0.3**
JSMT				S	**Sb**	**19 47 13.5**	**-0.4**
JHYU	**Hitachinakayam**	**0.57**	**329**	P	**Pb**	**19 47 08.4**	**-0.9**
JHYU				S	**Sg**	**19 47 15.8**	**-0.8**
JYT	**Yasato**	**0.72**	**302**	⇑P	**Pg**	**19 47 10.3**	**-1.4**
JYT				S	**Sg**	**19 47 19.9**	**-1.3**
JCN	**Nagara**	**0.75**	**235**	⇓P	**Pb**	**19 47 12.6**	**+0.4**
JHO	**Hitachi**	**0.82**	**338**	⇑P	**Pb**	**19 47 12.0**	**-1.6**
JHO				S	**Sb**	**19 47 23.0**	**-1.5**
BSO4	**Boso 4**	**0.99**	**211**	P	**Pg**	**19 47 16.8**	**+0.1**
BSO3	**Boso 3**	**1.10**	**199**	⇓P	**Pn**	**19 47 17.9**	**-0.3**
BSO1	**Boso 1**	**1.19**	**179**	P	**Pn**	**19 47 18.3**	**-0.9**
ONAJ	**Iwakimizuishiy**	**1.26**	**354**	⇑P	**Pn**	**19 47 18.0**	**-2.7**
JAG	**Ashikaga**	**1.34**	**296**	⇑P	**Pn**	**19 47 19.2**	**-2.6**
JFK	**Kawauchi**	**1.52**	**358**	⇑P	**Pn**	**19 47 21.6**	**-2.6**
JKT	**Katashina**	**1.66**	**304**	⇑P	**Pn**	**19 47 24.2**	**-1.9**
JRY	**Ryogami san**	**1.67**	**276**	⇑P	**Pn**	**19 47 24.1**	**-2.2**
JIM2	**Oshima 3**	**1.68**	**228**	⇓P	**Pn**	**19 47 25.5**	**-0.9**
JFT	**Otama**	**1.74**	**344**	⇑P	**Pn**	**19 47 25.9**	**-1.3**
JFY	**Yanaizu**	**1.85**	**328**	⇑P	**Pn**	**19 47 27.2**	**-1.6**
JMM	**Marumori**	**2.02**	**356**	⇑P	**Pn**	**19 47 29.2**	**-1.9**
JIZS	**Izushimoda**	**2.04**	**237**	P	**Pn**	**19 47 31.0**	**-0.3**
JHK	**Hiroka**	**2.09**	**312**	⇑P	**Pn**	**19 47 31.0**	**-1.1**
JNT	**Takato**	**2.29**	**272**	P	**Pn**	**19 47 34.8**	**-0.1**
MJAR	**Matsushiro Arr**	**2.33**	**288**	Pn	**Pn**	**19 47 33.4**	**-2.0**
	35nm,0.3s,baz=98,slow=1.8,SNR=1081						
MJAR				LR	LR	19 48 01.6	
	comp=Z,2μm,18.3s,baz=150,slow=30						
MJAR				Sn	**Sn**	**19 48 03.0**	**-0.6**
	19nm,0.3s,baz=84,slow=36,SNR=5.5						
MAJO	**Matsushiro**	**2.33**	**288**	*e*Pn	**Pn**	**19 47 34.0**	**-1.3**
MAJO				*e*Sn	**Sn**	**19 48 03.0**	**-0.6**
MAJO	**Matsushiro**	**2.33**	**288**	*c i*P	**Pn**	**19 47 34.4**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,853nm,0.7s						
MAT	**Matsushiro**	**2.33**	**288**	P	**Pn**	**19 47 33.2**	**-2.1**
MAT				S	**Sb**	**19 48 06.2**	**-1.6**
MAT	**Matsushiro**	**2.33**	**288**	P	**Pn**	**19 47 34.4**	**-0.9**
MJB9	**Matsu-Tunnel**	**2.33**	**288**	*e*Pn	**Pn**	**19 47 34.4**	**-1.0**
JNG	**Nsakai**	**2.38**	**284**	⇑P	**Pn**	**19 47 35.0**	**-1.1**
JIZZ	**Izumozaki**	**2.47**	**314**	P	**Pn**	**19 47 37.3**	**+0.1**
JYS	**Shirataka**	**2.47**	**344**	⇑P	**Pn**	**19 47 36.7**	**-0.6**
JJN	**Nakama**	**2.58**	**300**	P	**Pn**	**19 47 38.2**	**-0.5**
JHJ2	**Mitsune**	**2.89**	**199**	*e*Pn	**Pn**	**19 47 42.6**	**-0.4**
JHJ	**Hachijo jima 2**	**2.89**	**200**	Pn	**Pn**	**19 47 42.5**	**-0.5**
	comp=Z,150nm,0.3s,baz=83,slow=19,SNR=21						
JHJ				Sn	Sn	19 48 07.3	-10
	comp=Z,152nm,0.3s,baz=240,slow=21,SNR=6.3						
JYA	**Atsumi**	**2.91**	**341**	⇑P	**Pn**	**19 47 42.9**	**-0.5**
JAW	**Awa shima**	**2.94**	**333**	P	**Pn**	**19 47 42.8**	**-0.9**
JYK	**Kaneyama**	**3.10**	**351**	P	**Pn**	**19 47 45.2**	**-0.7**
INU	**Inuyama**	**3.25**	**262**	*e*Pn	**Pn**	**19 47 48.6**	**+0.7**
ERM	**Erimo**	**6.39**	**15**	*e*Pn	**Pn**	**19 48 29.9**	**-1.3**
ERM	**Erimo**	**6.39**	**15**	⇑*e*P	**Pn**	**19 48 30.1**	**-1.0**
ASAJ	**Asahikawa**	**8.36**	**8**	*e*Pn	**Pn**	**19 48 56.0**	**-2.1**
JNU	**Nakatsue**	**8.75**	**255**	Pn	**Pn**	**19 49 03.9**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=50,slow=7.9,SNR=3.0						
JNU	**Nakatsue**	**8.75**	**255**	*e*Pn	**Pn**	**19 49 02.0**	**-1.6**
CBIJ	**Chichi jima**	**8.79**	**173**	*e*Pn	**Pn**	**19 49 01.4**	**-2.7**
CBIJ				Sn	**Sn**	**19 50 36.0**	**-6.9**
JCJ	**Chichijima**	**8.79**	**173**	Sn	**Sn**	**19 50 36.0**	**-6.9**
	comp=Z,2μm,0.3s,baz=298,slow=0.0,SNR=2.2						
YUK	**Yuzh-Kuril'sk**	**9.00**	**23**	*e*P	**Pn**	**19 49 05.2**	**-1.7**
YUK				*e*S	**Sn**	**19 50 39.9**	**-8.1**
YUK				pmax	pmax		
	comp=E,42nm,0.3s						
YUK				pmax	pmax		
	comp=Z,153nm,0.3s						
YUK				pmax	pmax		
	comp=N,75nm,0.4s						
YUK				MLR	MLR		
	comp=E,725nm,15.0s						
YUK				MLR	MLR		
	comp=Z,1μm,15.0s						
YUK				MLR	MLR		
	comp=N,916nm,16.0s						
SHO	**Shikotan**	**9.20**	**28**	*e*P	**Pn**	**19 49 07.7**	**-1.9**
SHO				pmax	pmax		
	comp=E,28nm,0.4s						
SHO				pmax	pmax		
	comp=Z,34nm,0.4s						
SHO				pmax	pmax		
	comp=N,17nm,0.3s						
SHO				MLR	MLR		
	comp=Z,690nm,12.0s						
SHO				MLR	MLR		
	comp=N,573nm,9.0s						
SHO				MLR	MLR		
	comp=E,489nm,9.0s						
TEY	**Ternei**	**9.76**	**341**	⇑*e*P	**Pn**	**19 49 20.7**	**+3.4**
TEY				pmax	pmax		
	comp=E,10.0nm,0.7s						
TEY				pmax	pmax		
	comp=N,20nm,0.9s						
TEY				pmax	pmax		
	comp=Z,20nm,1.0s						
VLA	**Vladivostok**	**10.09**	**319**	*c e*P	**Pn**	**19 49 24.5**	**+2.7**
VLA				pmax	pmax		
	comp=Z,76nm,1.2s						
KSRS	**Korea Array**	**10.59**	**283**	Pn	Pn	19 49 35.2	+6.5
	comp=Z,1.0nm,0.3s,baz=97,slow=14,SNR=25						
KS01	**Wonju Array Si**	**10.62**	**283**	*e*Pn	**Pn**	**19 49 29.9**	**+0.8**
KS15	**Wonju Array Si**	**10.62**	**282**	*e*Pn	**Pn**	**19 49 28.9**	**-0.3**
KUR	**Kuril'sk**	**10.74**	**27**	*e*P	**Pn**	**19 49 31.0**	**+0.2**
KUR				*e*S	**Sn**	**19 51 24.2**	**-6.5**
KUR				pmax	pmax		
	comp=Z,34nm,0.4s						
KUR				pmax	pmax		
	comp=N,11nm,0.2s						
KUR				pmax	pmax		
	comp=E,23nm,0.3s						
KUR				MLR	MLR		
	comp=Z,573nm,9.0s						
KUR				MLR	MLR		
	comp=N,735nm,12.0s						
KUR				MLR	MLR		
	comp=E,332nm,12.0s						
USA0B	**Ussuriysk Arra**	**10.80**	**323**	*e*Pn	**Pn**	**19 49 29.8**	**-1.9**
USRK	**Ussuriysk Ar.**	**10.80**	**323**	Pn	**Pn**	**19 49 34.2**	**+2.6**
	comp=E,0.6nm,0.3s,baz=144,slow=12,SNR=30						
USRK				LR	LR	19 53 04.4	
	comp=E,291nm,18.1s,baz=120,slow=34						
YSS	**Yuzh-Sakhalins**	**11.18**	**6**	*e*Pn	**Pn**	**19 49 35.2**	**-1.5**
YSS	**Yuzh-Sakhalins**	**11.18**	**6**	⇑*e*P	**Pn**	**19 49 35.1**	**-1.6**
YSS				*e*S	**Sn**	**19 51 34.6**	**-6.8**
YSS				pmax	pmax		
	comp=Z,50nm,0.7s						
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS				MLR	MLR		
	comp=N,1μm,14.0s						
YSS				MLR	MLR		
	comp=E,1μm,16.0s						
MDJ	**Mudanjiang**	**12.32**	**319**	P	**Pn**	**19 49 55.0**	**+2.6**
MDJ				pP	P	19 49 56.6	-8.0
MDJ				S	**Sn**	**19 52 16.3**	**+6.9**
MDJ				sS		19 52 19.0	
MDJ				ScP	**ScP**	**19 59 07.0**	**+0.9**
MDJ				pmax	pmax		
	comp=E,13nm,1.0s						
MDJ				pmax	pmax		
	comp=E,350nm,3.6s						
MDJ				LR	LR		
	comp=E,1μm,15.1s						
MDJ				LR	LR		
	comp=E,1μm,15.0s						
MDJ				LR	LR		
	comp=E,1μm,15.2s						
MDJ	**Mudanjiang**	**12.32**	**319**	*e*Pn	**Pn**	**19 49 51.4**	**-0.9**
UGL	**Uglegorsk**	**13.25**	**3**	*e*P	**Pn**	**19 50 04.6**	**-0.4**
UGL				S	Sn	19 52 42.0	+10
UGL				pmax	pmax		
	comp=Z,22nm,1.1s						
UGL				smax	smax		
	comp=E,1μm,18.0s						
UGL				MLR	MLR		
	comp=Z,2μm,16.0s						
UGL				MLR	MLR		
	comp=N,1μm,18.0s						
UGL				MLR	MLR		
	comp=E,2μm,16.0s						
JOW	**Kunigami**	**14.06**	**234**	Pn	**Pn**	**19 50 17.2**	**+0.9**
	comp=E,1.0nm,0.3s,baz=39,slow=14,SNR=2.2						
JOW				LR	LR	19 55 43.3	
	comp=E,436nm,18.6s,baz=94,slow=38						
CN2	**Changchun**	**14.30**	**308**	*e*P	**Pn**	**19 50 20.8**	**+1.3**
CN2				*e*sP	P	19 50 27.6	+1.0
CN2				*e*S	**Sn**	**19 52 59.3**	**+1.5**
CN2				pmax	pmax		
	comp=E,10.0nm,1.2s						
CN2				pmax	pmax		
	comp=E,200nm,3.0s						
CN2				LR	LR		
	comp=E,600nm,11.0s						
CN2				LR	LR		
	comp=E,500nm,11.0s						
CN2				LR	LR		
	comp=E,340nm,10.0s						
SNY	**Shenyang**	**14.79**	**299**	⇑P	**Pn**	**19 50 27.3**	**+1.2**
SNY				S	**Sn**	**19 53 05.3**	**-4.3**
SNY				pmax	pmax		
	comp=E,16nm,0.5s						
SNY				pmax	pmax		
	comp=E,440nm,3.7s						
SNY				LR	LR		
	comp=E,1μm,15.4s						
SNY				LR	LR		
	comp=E,790nm,16.1s						
SNY				LR	LR		
	comp=E,1μm,18.5s						
KLR	**Kul'dur**	**14.98**	**336**	Pn	**Pn**	**19 50 29.9**	**+1.3**
	comp=E,0.3nm,0.3s,baz=148,slow=11,SNR=12						
KLR				LR	LR	19 56 16.9	
	comp=E,671nm,18.3s,baz=148,slow=37						
KLR	**Kul'dur**	**14.98**	**336**	⇑*e*P	**Pn**	**19 50 29.7**	**+1.1**
TYV	**Tymovskoe**	**15.06**	**4**	*e*P	**Pn**	**19 50 26.9**	**-2.8**
TYV				*e*S	**Sn**	**19 53 13.8**	**-2.3**
TYV				pmax	pmax		
	comp=Z,200nm,4.7s						
TYV				pmax	pmax		
	comp=Z,78nm,0.9s						
TYV				smax	smax		
	comp=E,400nm,6.0s						
TYV				MLR	MLR		
	comp=N,2μm,18.0s						
TYV				MLR	MLR		
	comp=Z,2μm,18.0s						
GRNR	**Gornyy**	**15.27**	**349**	*e*P	**Pn**	**19 50 29.2**	**-3.3**
GRNR				pmax	pmax		
	comp=Z,13nm,1.0s						
DL2	**Dalian**	**15.66**	**287**	P	**P**	**19 50 39.1**	**-2.6**
DL2				*e*S	**Sn**	**19 53 34.3**	**+3.4**
DL2				pmax	pmax		
	comp=Z,59nm,1.3s						
DL2				pmax	pmax		
	comp=Z,550nm,4.8s						
DL2				LR	LR		
	comp=Z,920nm,12.3s						
DL2				LR	LR		
	comp=Z,810nm,10.8s						
DL2				LR	LR		
	comp=Z,980nm,11.1s						
NJ2	**Nanjing**	**18.71**	**265**	*e*P	**Pn**	**19 51 18.5**	**+2.6**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
NJ2				LR	LR		
	comp=Z,840nm,17.0s						
NJ2				LR	LR		
	comp=Z,960nm,16.3s						
NJ2				LR	LR		
	comp=Z,830nm,15.5s						
YOJ	**Yonaguni jima**	**19.19**	**239**	*e*P	**P**	**19 51 18.1**	**-2.6**
	comp=Z,136nm,1.1s						
YOJ	**Yonaguni jima**	**19.19**	**239**	*e*P	**P**	**19 51 18.1**	**-2.6**
YOJ				pmax	pmax		
	comp=Z,138nm,1.1s						
TIA	**Tai'an**	**19.27**	**278**	P	**P**	**19 51 19.4**	**-2.2**
TIA				pmax	pmax		
	comp=Z,16nm,1.2s						
BJI	**Beijing**	**19.96**	**290**	⇑*e*P	**P**	**19 51 28.4**	**-0.7**
BJI				pmax	pmax		
	comp=Z,16nm,1.1s						
BJT	**Baijiatuau**	**19.97**	**289**	*e*P	**P**	**19 51 26.9**	**-2.3**
	comp=Z,115nm,1.4s						
BJT	**Baijiatuau**	**19.97**	**289**	*e*P	**P**	**19 51 26.9**	**-2.3**
BJT				pmax	pmax		
	comp=Z,115nm,1.4s						
ZEA	**Zeya**	**20.30**	**336**	*e*P	**P**	**19 51 31.9**	**-0.7**
ZEA				pmax	pmax		
	comp=N,35nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,46nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,1μm,15.0s						
ZEA				MLR	MLR		
	comp=E,700nm,10.0s						
ZEA				MLR	MLR		
	comp=N,600nm,15.0s						
PETK	**Petropavlovsk-**	**20.90**	**29**	P	Pn	19 51 40.5	-1.2
	comp=N,23nm,1.0s,baz=221,slow=7.9,SNR=9.3						
PETK				LR	LR	20 00 28.6	
	comp=N,262nm,18.4s,baz=221,slow=39						
PETK	**Petropavlovsk-**	**20.90**	**29**	*e*P	**P**	**19 51 39.0**	**-0.1**
PEA1	**Petropavlovsk-**	**20.90**	**29**	*e*P	Pn	19 51 40.5	-1.3
SSLB	**Suanglung**	**21.06**	**241**	*e*P	**P**	**19 51 37.6**	**-3.6**
	comp=N,25nm,1.0s						
YULB	**Yu-li**	**21.07**	**239**	*e*P	**P**	**19 51 37.0**	**-4.3**
	comp=N,24nm,0.9s						
PET	**Petropavlovsk**	**21.22**	**30**	*e*P	**P**	**19 51 47.6**	**+5.0**
	comp=N,104nm,1.1s						
PET	**Petropavlovsk**	**21.22**	**30**	*e*P	**P**	**19 51 47.6**	**+5.0**
PET				*e*S	**S**	**19 55 36.9**	**-1.0**
PET				pmax	pmax		
	comp=Z,99nm,1.1s						
PET				MLR	MLR		
	comp=Z,700nm,18.0s						
PET				MLR	MLR		
	comp=Z,600nm,13.0s						
TPUB	**Ta-pu**	**21.60**	**240**	*e*P	**P**	**19 51 44.3**	**-2.6**
	comp=Z,28nm,0.8s						
GUMO	**Guam**	**22.44**	**170**	LR	LR	19 59 34.7	
	comp=Z,477nm,20.6s,baz=20,slow=34						
WHN	**Wuhan**	**22.85**	**264**	⇑P	**P**	**19 52 00.4**	**+0.2**
WHN				LR	LR		
	comp=Z,3μm,16.4s						
WHN				LR	LR		
	comp=Z,2μm,16.2s						
WHN				LR	LR		
	comp=Z,2μm,11.5s						
HHC	**Hu-ho-hao-te**	**23.52**	**291**	*e*P	**P**	**19 52 09.3**	**+2.1**
HHC				S	**S**	**19 56 19.4**	**-1.2**
HHC				pmax	pmax		
	comp=Z,20nm,1.2s						
HHC				pmax	pmax		
	comp=Z,95nm,5.4s						
HHC				LR	LR		
	comp=Z,1μm,12.4s						
HHC				LR	LR		
	comp=Z,1μm,11.8s						
HHC				LR	LR		
	comp=Z,1μm,11.2s						
MA2	**Magadan**	**24.59**	**12**	P	**P**	**19 52 16.9**	**+0.1**
	comp=Z,16nm,0.8s,baz=186,slow=6.0,SNR=14						
MA2				LR	LR	20 02 46.2	
	comp=Z,336nm,19.9s,baz=202,slow=39						
MA2	**Magadan**	**24.59**	**12**	*e*P	**P**	**19 52 18.1**	**+1.3**
	comp=Z,37nm,0.9s						
MA2	**Magadan**	**24.59**	**12**	⇓*i*P	**P**	**19 52 18.5**	**+1.7**
MA2				pmax	pmax		
	comp=Z,68nm,2.0s						
BTO	**Baotou**	**24.69**	**290**	*e*P	**P**	**19 52 18.3**	**+0.3**
CIT	**Chita**	**25.30**	**318**	*e*P

YAK pmax pmax
comp=N,24nm,1.1s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK pmax pmax
comp=Z,35nm,1.5s
YAK pmax pmax
comp=N,47nm,1.3s
YAK pmax pmax
comp=E,23nm,1.5s
YAK smax smax
comp=E,92nm,2.3s
YAK smax smax
comp=N,71nm,2.3s
YAK MLR MLR
comp=Z,543nm,16.0s
YAK MLR MLR
comp=N,554nm,16.0s
YAK MLR MLR
comp=E,254nm,16.0s
ULN Ulaanbaatar 27.73 306 *e*P **P 19 52 43.8 -1.7**
comp=E,40nm,1.5s
ULN Ulaanbaatar 27.73 306 *ce*P **P 19 52 44.0 -1.5**
ULN pmax pmax
comp=Z,25nm,1.4s
H11N2 WAKE ISLAND Hy 27.89 118 T T 20 21 47.4
baz=311,slow=75,SNR=2660
H11N1 WAKE ISLAND Hy 27.89 118 T T 20 21 48.4
baz=311,slow=75,SNR=509
H11N3 WAKE ISLAND Hy 27.91 118 T T 20 21 48.7
baz=311,slow=75,SNR=735
SEY Seymchan 28.02 11⇓ *e*P **P 19 52 50.1 +2.4**
SONA1 Songino Array 28.16 306 *e*P **P 19 52 47.5 -1.8**
SONA0 Songino Array 28.16 306 *e*P **P 19 52 48.2 -1.1**
SONM Songino Array 28.16 306 P **P 19 52 48.2 -1.1**
comp=Z,7.0nm,0.9s,baz=107,slow=9.2,SNR=29
BOD Bodaibo 28.35 329 *e*P **P 19 52 49.7 -1.0**
BOD pmax pmax
comp=Z,59nm,1.8s
H11S1 WAKE ISLAND Hy 28.55 120 T T 20 22 38.4
baz=312,slow=75,SNR=2419
H11S3 WAKE ISLAND Hy 28.55 120 T T 20 22 35.7
baz=312,slow=75,SNR=1786
H11S2 WAKE ISLAND Hy 28.57 120 T T 20 22 39.1
baz=312,slow=75,SNR=1894
LZH Lanzhou 29.92 282 *e*P **P 19 53 03.6 -1.5**
LZH pP pP 19 53 07.0 -2.7
LZH sP sP 19 53 10.0 -1.5
LZH PP **PnPn 19 54 01.4 +0.1**
LZH pmax pmax
comp=Z,38nm,1.4s
LZH pmax pmax
comp=Z,140nm,4.6s
LZH LR LR
comp=Z,1μm,13.3s
LZH LR LR
comp=Z,790nm,15.4s
LZH LR LR
comp=Z,1μm,17.4s
GYA Guiyang 30.67 262⇑ *i*P **P 19 53 10.0 -1.8**
GYA PP **PnPn 19 54 14.4 +3.1**
GYA S **S 19 58 15.8 +1.9**
GYA SS **ScP 19 59 54.3 +2.6**
GYA pmax pmax
comp=Z,50nm,0.9s
GYA pmax pmax
comp=Z,130nm,5.4s
GYA LR LR
comp=Z,570nm,18.0s
GYA LR LR
comp=Z,540nm,18.2s
GYA LR LR
comp=Z,550nm,18.4s
ZAK Zakamensk 30.73 310 *e*P **P 19 53 09.0 -3.0**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
CD2 Chengdu 31.32 272 *e*P **P 19 53 17.5 +0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.8s
QIZ Qiongzhong 32.11 247 P **P 19 53 26.8 +2.5**
QIZ S **S 19 58 41.5 +5.2**
QIZ LR LR
comp=Z,500nm,18.0s
QIZ LR LR
comp=Z,430nm,16.3s
QIZ LR LR
comp=Z,460nm,14.7s
MOY Mondy 32.44 312 *e*P **P 19 53 27.3 +0.3**
GTA Gaotai 32.58 289⇑ P **P 19 53 27.8 -0.6**
GTA pP sP 19 53 35.0 +0.1
GTA sP pP 19 53 38.3 +5.3
GTA pmax pmax
comp=Z,4.0nm,1.4s
KMI Kunming 34.43 263 P **P 19 53 46.8 +2.0**
KMI pP pP 19 53 49.3 -0.1
KMI sP sP 19 53 50.5 -0.8
KMI pmax pmax
comp=Z,31nm,0.9s
KMI pmax pmax
comp=Z,130nm,3.5s
KMI LR LR
comp=Z,600nm,14.2s
KMI LR LR
comp=Z,590nm,17.7s
KMI LR LR
comp=Z,530nm,12.9s
BILL Bilibino 35.27 16 *e*P **P 19 53 51.2 -0.1**
comp=Z,21nm,1.1s
BILL Bilibino 35.27 16 *i*P **P 19 53 51.5 +0.2**
BILL *i* 19 54 00.4
BILL *i* 19 56 22.1
BILL *i*S **S 19 59 31.1 +6.9**
BILL pmax pmax
comp=Z,16nm,1.0s
BILL MLR MLR
comp=Z,507nm,18.0s
TIXI Tiksi 36.42 354 P **P 19 54 00.1 -1.0**
comp=Z,8.1nm,0.8s,baz=156,slow=5.9,SNR=14
TIXI Tiksi 36.42 354 *e*P **P 19 53 59.9 -1.3**
comp=Z,10nm,1.0s
NONG Nongkai 37.78 252 P **P 19 54 13.3 0.0**
comp=Z,0.8nm,0.9s,comp=Z,154nm
SKNT Sakolnakorn 37.78 250 P **P 19 54 15.4 +2.1**
UTTA Uttaradit 39.98 254 P **P 19 54 32.6 +0.9**
comp=Z,2.8nm,0.8s
LAMP Lampang 40.27 256 P **P 19 54 37.9 +3.8**
comp=Z,4.9nm,0.7s
PBKT Sadao Pong 40.34 252 *e*P **P 19 54 33.1 -1.6**
comp=Z,15nm,1.0s
PBKT Sadao Pong 40.34 252 P **P 19 54 35.2 +0.5**
comp=Z,17nm,1.3s,comp=Z,988nm
CMMT Chiang Mai 40.65 257 P **P 19 54 37.9 +0.6**
comp=Z,9.0nm,0.8s
CHTO Chiang Mai 40.65 257 *e*P **P 19 54 35.6 -1.7**
comp=Z,6.8nm,0.8s
CHTO Chiang Mai 40.65 257 *e*P **P 19 54 35.6 -1.7**
CHTO pmax pmax
comp=Z,7.0nm,0.8s
CHTO Chiang Mai 40.65 257 P **P 19 54 37.9 +0.6**
comp=Z,40nm,0.9s
DGZ Jazzator, Alta 40.80 307 *c i*P **P 19 54 38.8 +0.5**
DGZ pmax pmax
comp=Z,30nm,1.5s
CM31 Chiang Mai Arr 40.85 256 *e*P **P 19 54 37.2 -1.7**
CMAR Chiang Mai Arr 40.85 256 P **P 19 54 38.0 -0.8**
comp=Z,3.0nm,0.8s,baz=46,slow=7.9,SNR=20
CMAR Chiang Mai Arr 40.85 256 P **P 19 54 38.1 -0.8**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CM01 Chiang Mai Arr 40.85 256 *e*P **P 19 54 37.0 -2.0**
WMQ Urumqi 41.06 298 *e*P **P 19 54 41.9 +1.5**
WMQ pmax pmax
comp=Z,26nm,0.9s
WMQ pmax pmax
comp=Z,130nm,3.6s
WMQ Urumqi 41.06 298 *e*P **P 19 54 40.4 0.0**
comp=Z,71nm,0.7s
WMQ Urumqi 41.06 298 *e*P **P 19 54 41.4 +0.9**
comp=Z,56nm,1.0s
WMQ Urumqi 41.06 298 *e*P **P 19 54 40.4 0.0**
WMQ pmax pmax
comp=Z,71nm,0.7s
WMQ Urumqi 41.06 298 *e*P **P 19 54 41.4 +0.9**
WMQ pmax pmax
comp=Z,56nm,1.0s
SRAK Srakaew 41.07 248 P **P 19 54 38.7 -2.0**
comp=Z,38nm,1.2s
BTM Bintulu 41.46 225 P **P 19 54 42.6 -1.3**
LSA Lhasa 41.96 276 P **P 19 54 49.1 +0.6**
LSA pmax pmax
comp=Z,5.0nm,1.3s
LSA Lhasa 41.96 276 *e*P **P 19 54 48.8 +0.3**
comp=Z,42nm,1.3s
LSA Lhasa 41.96 276 *e*P **P 19 54 48.8 +0.3**
LSA pmax pmax
comp=Z,42nm,1.3s
UTHA Uthaitani 42.12 252 P **P 19 54 52.6 +3.3**
comp=Z,2.9nm,0.8s
UMPA Umpang Tak 42.19 254 P **P 19 54 54.0 +4.1**
comp=Z,5.3nm,0.8s
ZAA0 Zalesovo Array 42.45 313 *e*P **P 19 54 50.5 -1.1**
comp=Z,30nm,0.8s
ZAA1 Zalesovo Array 42.45 313 *e*P **P 19 54 50.8 -0.8**
ZALV Zalesovo Beam 42.45 313 P **P 19 54 50.8 -0.8**
comp=Z,15nm,0.8s,baz=95,slow=6.4,SNR=52
ZALV Zalesovo Beam 42.45 313 *e*P **P 19 54 50.5 -1.1**
ANM Nome 42.80 31 *e*P **P 19 54 55.1 +0.8**
comp=Z,26nm,1.1s
ANM Nome 42.80 31 *e*P **P 19 54 55.1 +0.8**
ANM pmax pmax
comp=Z,26nm,1.1s
SHL Shillong 43.03 270 *e*P **P 19 54 55.6 -1.3**
comp=Z,138nm,1.7s
SRDT SRDT 43.09 251 P **P 19 55 00.1 +2.9**
comp=Z,14nm,1.0s
NVS Novosibirsk 43.40 315⇑ *i*P **P 19 54 59.1 -0.2**
NVS pmax pmax
comp=N,20nm,1.0s
NVS pmax pmax
comp=E,23nm,1.0s
NVS pmax pmax
comp=Z,39nm,1.0s
PHET Kaeng Krachan 43.59 249 P **P 19 55 04.9 +3.7**
comp=Z,5.3nm,0.7s,comp=Z,84nm
MK32 Makanchi Array 44.44 303 *e*P **P 19 55 07.7 -0.2**
MKAR Makanchi Array 44.44 303 P **P 19 55 07.7 -0.2**
comp=Z,16nm,0.7s,baz=78,slow=11,SNR=7.3
KSM Kuching 44.47 227 P **P 19 55 08.2 -0.1**
RDOG Red Dog Mine 44.73 26 *e*P **P 19 55 09.1 -0.7**
comp=Z,26nm,0.9s
KURK Kurchatov 46.38 309 *ce*P **P 19 55 22.3 -0.8**
KURK pmax pmax
comp=Z,52nm,1.2s
KURBB Kurchatov Arra 46.45 309 P **P 19 55 22.8 -0.8**
comp=Z,11nm,0.4s,baz=82,slow=7.5,SNR=17
IM3 Indian Mountai 47.86 30 *e*P **P 19 55 35.0 +0.6**
PRZ Przheval'sk 47.98 298 *e*P **P 19 55 38.1 +2.2**
comp=Z,61nm,0.9s
SOEI Soe 48.01 202 *e*P **P 19 55 35.2 -1.0**
comp=Z,105nm,1.1s
IPM Ipoh 48.21 239 P **P 19 55 36.7 -1.1**
KDAK Kodiak Island 48.23 41 P **P 19 55 38.4 +1.0**
baz=298,slow=15
KDAK Kodiak Island 48.23 41 *e*P **P 19 55 36.9 -0.5**
comp=Z,146nm,1.6s
PPLA Purkeypile 48.35 34 *e*P **P 19 55 42.3 +3.9**
comp=Z,74nm,1.9s
KGM Kluang 48.44 235 P **P 19 55 36.3 -3.2**
SUA Susitna One 49.03 36 *e*P **P 19 55 46.1 +2.4**
comp=Z,27nm,1.2s
MLY Manley 49.05 31 *e*P **P 19 55 46.4 +2.7**
comp=Z,17nm,1.0s
PMR Palmer 49.80 36 *e*P **P 19 55 53.6 +4.3**
comp=Z,15nm,1.0s
MCK McKinley 49.83 33 *e*P **P 19 55 51.0 +1.5**
comp=Z,27nm,1.2s
MCK McKinley 49.83 33 *e*P **P**
MCK pmax pmax **19 55 51.1 +1.5**
comp=Z,27nm,1.2s
RND Reindeer 49.87 34 *e*P **P 19 55 51.4 +1.4**
comp=Z,20nm,1.2s
RND Reindeer 49.87 34 *e*P **P 19 55 51.4 +1.4**
RND pmax pmax
comp=Z,20nm,1.2s
MDM Murphy Dome 50.12 32 *e*P **P 19 55 53.9 +2.2**
comp=Z,40nm,1.1s
WRH Wood River Hil 50.18 32 *e*P **P 19 55 53.4 +1.1**
comp=Z,11nm,1.0s
COLA College 50.28 32⇓ *e*P **P 19 55 55.4 +2.5**
COLA pmax pmax
comp=Z,15nm,1.0s
KSH Kashi 50.56 295 P P 19 56 02.6 +7.0
KSH PcP **PcP 19 57 18.5 +5.2**
KSH PP PP 19 58 00.8 +10
KSH pmax pmax
comp=Z,120nm,1.6s
KSH pmax pmax
comp=Z,1μm,5.5s
HDA Harding Lake 50.68 32 *e*P **P 19 55 57.3 +1.3**
comp=Z,14nm,1.1s
IL1 Eielson Array 50.70 32 *e*P **P 19 55 56.8 +0.7**
ILAR Eielson Array 50.70 32 P **P 19 55 57.3 +1.2**
comp=Z,7.1nm,0.8s,baz=268,slow=6.3,SNR=34
ILB Eielson Array 50.70 32 *e*P **P 19 55 57.2 +1.2**
AAK Ala-Archa 50.73 299 P **P 19 55 57.1 +0.2**
comp=Z,7.3nm,0.7s,baz=322,slow=17,SNR=3.6
PSI Prapat 50.87 240 P **P 19 55 56.9 -1.3**
comp=Z,3.5nm,0.3s,baz=179,slow=1.3,SNR=4.7
PSI Prapat 50.87 240 *e*P **P 19 55 56.4 -1.8**
comp=Z,51nm,1.4s
PRP Porcupine Dome 51.24 31 *e*P **P 19 56 01.3 +0.9**
comp=Z,13nm,1.2s
KLU Klutina 51.34 36 *e*P **P 19 56 02.2 +1.1**
comp=Z,22nm,1.1s
DIV Divide 51.45 36 *e*P **P 19 56 01.8 -0.1**
comp=Z,20nm,1.0s
HARP HAARP 51.62 35 *e*P **P 19 56 05.5 +2.4**
comp=Z,34nm,1.1s
RIDG Independ'e Rid 51.64 33 *e*P **P 19 56 06.1 +2.8**
comp=Z,13nm,1.0s
DOT Dot Lake 52.00 33 *e*P **P 19 56 07.8 +1.9**
comp=Z,52nm,1.9s
SCRK Sand Creek 52.00 33 *e*P **P 19 56 07.6 +1.5**
comp=Z,44nm,1.8s
KK31 Karatay Array 53.40 301 *e*P **P 19 56 18.4 +1.8**
KK31 Karatay Array 53.40 301 *e*P **P 19 56 18.4 +1.8**
JBP Jabalpur 53.78 274 *e*S **P 19 56 19.9 +0.3**
EPYK Eagle Plains 54.74 29 *e*P **P 19 56 28.3 +2.2**
comp=Z,36nm,1.1s
HYT Haines Junctio 55.47 36 *e*P **P 19 56 34.1 +2.5**
comp=Z,18nm,1.1s
FITZ Fitzroy Crossi 55.58 198 *e*P **P 19 56 32.6 +0.1**
comp=Z,18nm,0.8s
INK Inuvik 55.61 27 *e*P **P 19 56 33.3 +1.1**
comp=Z,13nm,1.1s
INK Inuvik 55.61 27 *e*P **P 19 56 33.3 +1.1**
INK pmax pmax
comp=Z,13nm,1.1s
SVE Sverdlovsk 55.80 319 *e*P **P 19 56 36.4 +2.7**
SVE pmax pmax
comp=Z,88nm,1.5s
WRAB Tennant Creek 55.83 188 *e*P **P 19 56 33.9 -0.4**
comp=Z,32nm,0.9s
WRAB Tennant Creek 55.83 188⇓ *e*P **P 19 56 33.5 -0.8**
WRAB pmax pmax
comp=Z,39nm,1.0s
WB2 Warramunga Arr 55.84 188 *e*P **P 19 56 32.6 -1.8**
WR1 Warramunga Arr 55.84 188 *e*P **P 19 56 33.5 -0.9**
comp=Z,32nm,0.8s
WRA Warramunga Arr 55.84 188 P **P 19 56 33.5 -0.9**
comp=Z,23nm,0.9s,baz=5.8,slow=7.4,SNR=79
WHY Whitehorse 56.76 36 *e*P **P 19 56 43.4 +2.6**
comp=Z,8.6nm,0.8s
ARU Arti 57.01 319 P **P 19 56 43.1 +0.7**
ARU 19 58 50.2
ARU S **S 20 04 37.5 +1.5**
ARU SS **SS 20 08 24.8 +0.8**
AS01 Alice Springs 59.56 187 *e*P **P 19 56 59.8 -0.7**
AS31 Alice Springs 59.56 187 *e*P **P 19 57 00.3 -0.3**
comp=Z,3.7nm,0.5s
ASAR Alice Springs 59.56 187 P **P 19 57 00.2 -0.3**
comp=Z,6.0nm,0.8s,baz=9.0,slow=6.8,SNR=38
MBWA Marble Bar 60.15 203 *e*P **P 19 57 04.3 -0.3**
comp=Z,59nm,1.2s
SPITS Spitsbergen Ar 61.61 349 P **P 19 57 15.3 +1.4**
comp=Z,20nm,1.0s,baz=86,slow=12,SNR=7.3
SPITS Spitsbergen Ar 61.61 349 P **P 19 57 15.3 +1.4**
SPITS pmax pmax
comp=Z,24nm,1.0s
EIDS Eidsvold 61.63 170 *e*P **P 19 57 14.6 0.0**
comp=Z,17nm,0.9s
PALK Pallekele 61.75 258 P **P 19 57 15.4 -0.5**
comp=Z,12nm,0.9s,baz=116,slow=5.8,SNR=2.8
PALK Pallekele 61.75 258 *e*P **P 19 57 15.1 -0.7**
comp=Z,119nm,2.0s
PALK Pallekele 61.75 258 *e*P **P 19 57 15.1 -0.7**
PALK pmax pmax
comp=Z,119nm,2.0s
DZM Mont Dzumac 62.45 153 *e*P **P 19 57 21.6 +1.3**
comp=Z,60nm,1.2s
DZM Mont Dzumac 62.45 153 *e*LR LR 20 15 58.6
comp=Z,299nm,24.9s
DZM Mont Dzumac 62.45 153 *e*P **P 19 57 21.1 +0.9**
comp=Z,38nm,1.3s
RES Resolute Bay 63.84 14 *e*P **P 19 57 28.6 -0.1**
comp=Z,16nm,0.9s
RES Resolute Bay 63.84 14 *e*P **P 19 57 28.6 -0.1**
RES pmax pmax
comp=Z,16nm,0.9s
ARA0 ARCESS Array S 64.97 339 *e*P **P 19 57 36.8 +0.4**
ARCES ARCESS Array B 64.97 339 P **P 19 57 36.8 +0.4**
comp=Z,17nm,1.1s,baz=46,slow=4.2,SNR=4.3
YKW3 Yellowknife Ar 64.98 30 *e*P **P 19 57 37.1 +0.7**
comp=Z,3.3nm,0.8s
YKA Yellowknife Ar 65.02 30 P **P 19 57 37.4 +0.8**
comp=Z,3.7nm,0.8s,baz=301,slow=6.6,SNR=27
YKB5 Yellowknife Ar 65.02 30 *e*P **P 19 57 36.4 -0.2**
DAG Danmarks Havn 66.92 355 *i*P **P 19 57 50.7 +2.0**
DAG *i* 19 58 02.0
DAG Danmarks Havn 66.92 355 *i*P **P 19 57 50.7 +2.0**
DAG *i* 19 58 02.0
STKA Stephens Creek 67.37 179 P **P 19 57 52.1 +0.1**
comp=Z,12nm,0.9s,baz=347,slow=8.1,SNR=26
STKA Stephens Creek 67.37 179 *e*P **P 19 57 52.0 0.0**
comp=Z,2.5nm,0.8s
STKA Stephens Creek 67.37 179 *e*P **P 19 57 52.0 0.0**
STKA pmax pmax
comp=Z,3.0nm,0.8s
FORT Forrest 67.37 192 *e*P **P 19 57 51.6 -0.4**
comp=Z,40nm,0.6s
NLWA Neilton Lookou 67.79 47 *e*P **P 19 57 57.3 +2.5**
comp=Z,12nm,0.9s
BBOO Buckleboo 68.45 184 *e*P **P 19 57 59.1 +0.3**
comp=Z,24nm,1.0s
FIA0 FINESS Array S 69.69 332 *e*P **P 19 58 06.7 +0.4**
FIA0 FINESS Array S 69.69 332 *e*P **P 19 58 06.7 +0.4**
FINES FINESS Array B 69.69 332 P **P 19 58 06.7 +0.4**
comp=Z,15nm,0.7s,baz=38,slow=5.3,SNR=5.8
LTY Liberty 69.74 46 *e*P **P 19 58 08.3 +1.4**
comp=Z,7.6nm,1.0s
B08A Colville Reser 69.94 44 *e*P **P 19 58 08.9 +0.8**
comp=Z,14nm,1.4s
H04A Detroit Lake 70.16 49 *e*P **P 19 58 11.3 +1.8**
comp=Z,9.3nm,1.0s
C09A Chrisman Ranch 70.84 45 *e*P **P 19 58 15.2 +1.6**
comp=Z,10nm,1.1s
E08A Dider Farm, El 71.08 46 *e*P **P 19 58 16.8 +1.7**
comp=Z,5.9nm,0.9s
NCK Nalchik 71.08 310⇑ *e*P **P 19 58 15.9 +0.7**
NCK pmax pmax
comp=Z,57nm,1.8s
NEW Newport 71.24 44 *e*P **P 19 58 17.6 +1.5**
comp=Z,17nm,1.4s
NEW Newport 71.24 44 *e*P **P 19 58 17.6 +1.5**
NEW pmax pmax
comp=Z,17nm,1.4s
VSU Vasula 71.29 330⇑ *e*P **P 19 58 16.9 +0.9**
VSU pmax pmax
comp=Z,72nm,0.8s
YBH Yreka Blue Hor 71.36 52 *e*P **P 19 58 19.2 +2.2**
comp=Z,9.1nm,1.3s
YBH Yreka Blue Hor 71.36 52 *e*P **P 19 58 19.2 +2.2**
YBH pmax pmax
comp=Z,9.0nm,1.3s
PINE Pine Mountain 71.39 49 *e*P **P 19 58 19.5 +2.2**
comp=Z,14nm,0.9s
KBZ Khabaz 71.39 311 P **P 19 58 18.1 +1.2**
comp=Z,18nm,1.0s,baz=38,slow=4.0,SNR=5.9
KIV Kislovodsk 71.40 311 *e*P **P 19 58 19.2 +2.0**
comp=Z,98nm,1.5s
KIV Kislovodsk 71.40 311 *e*P **P 19 58 18.8 +1.6**
KIV pmax pmax
comp=Z,48nm,1.1s
E09A Wood Farm, Sta 71.61 46 *e*P **P 19 58 20.1 +1.9**
comp=Z,10nm,1.1s
NEY Neytrino 71.76 310⇓ *e*P **P 19 58 21.4 +2.0**
NEY pmax pmax
comp=Z,4.0nm,1.4s
SUMG Summit 71.87 360 *e*P **P 19 58 20.5 +0.7**
comp=Z,26nm,1.0s
SUMG Summit 71.87 360 *i*P **P 19 58 21.5 +1.7**
comp=Z,55nm,1.0s
SUMG Summit 71.87 360 *e*P **P 19 58 20.5 +0.7**
SUMG pmax pmax
comp=Z,26nm,1.0s
WDC Whiskeytown Da 72.08 53 *e*P **P 19 58 22.9 +1.7**
comp=Z,5.0nm,1.0s
WDC Whiskeytown Da 72.08 53 *e*P **P 19 58 22.9 +1.7**
WDC pmax pmax
comp=Z,5.0nm,1.0s
F10A Beach Ranch, E 72.43 46 *e*P **P 19 58 26.1 +2.8**
comp=Z,11nm,1.4s
MOD Modoc Plateau 72.80 51 *e*P **P 19 58 27.5 +1.9**
comp=Z,10nm,1.4s
ORV Oroville 73.30 53 *e*P **P 19 58 29.8 +1.3**
comp=Z,6.2nm,1.1s
ORV Oroville 73.30 53 *e*P **P 19 58 29.8 +1.3**
ORV pmax pmax
comp=Z,6.0nm,1.1s
AFDM Forest Hills D 73.98 53 *e*P **P 19 58 33.8 +1.3**
comp=Z,4.4nm,0.9s
PAHR Pah Rah Range 74.58 52 *e*P **P 19 58 37.7 +1.5**
comp=Z,6.3nm,0.9s
MFID Camas Ranch 74.70 47 *e*P **P 19 58 38.5 +1.8**
comp=Z,5.7nm,1.0s
CMB Columbia Colle 74.86 54 *e*P **P 19 58 39.5 +1.8**
comp=Z,8.0nm,1.1s
FFC Flin Flon 74.90 32 *ce*P **P 19 58 38.1 +0.6**
comp=Z,22nm,1.4s
FFC Flin Flon 74.90 32 *ce*P **P 19 58 39.0 +1.5**
NC405 NORSAR Array S 74.92 337 *e*P **P 19 58 37.6 0.0**
NC303 NORSAR Array S 74.94 337 *e*P **P 19 58 38.4 +0.7**
AKASG Malin Array Be 75.01 322 P **P 19 58 38.8 +0.6**
comp=Z,13nm,0.8s,baz=48,slow=5.9,SNR=16
AKBB Malin Array Si 75.01 322 *e*P **P 19 58 38.6 +0.4**
comp=Z,21nm,1.0s
KIEV Kiev 75.02 322⇑ *e*P **P 19 58 38.5 +0.3**
KIEV pmax pmax
comp=Z,38nm,2.5s
AK11 Malin Array Si 75.05 322 *e*P **P 19 58 39.2 +0.8**
HRY Holter Researc 75.07 43 *e*P **P 19 58 40.6 +1.8**
YERR Yerington 75.08 53 *e*P **P 19 58 39.6 +0.5**
comp=Z,8.3nm,0.9s
NC204 NORSAR Array S 75.09 338 *e*P **P 19 58 38.3 -0.3**
NB201 NORSAR Array S 75.10 337 *e*P **P 19 58 39.2 +0.6**
NB2 NORSAR Subarra 75.14 337 P **P 19 58 38.7 -0.1**
comp=Z,6.3nm,0.7s,baz=41,slow=5.9
NB200 NORSAR Array S 75.14 337 *e*P **P 19 58 39.1 +0.3**
NOA NORSAR Array B 75.14 337 P **P 19 58 39.1 +0.3**
comp=Z,11nm,1.0s,baz=40,slow=5.8,SNR=15
WAKR Walker 75.22 53 *e*P **P 19 58 42.4 +2.5**
comp=Z,5.6nm,1.0s
FCC Fort Churchill 75.23 26 *e*P **P 19 58 38.7 -0.6**
comp=Z,19nm,1.1s
FCC Fort Churchill 75.23 26 *e*P **P 19 58 38.7 -0.6**
FCC pmax pmax
comp=Z,19nm,1.1s
LRM Limekiln Ridge 75.25 44 *e*P **P 19 58 41.4 +1.3**
EGMT Eagleton 75.41 41 *e*P **P 19 58 41.2 +0.5**
comp=Z,16nm,0.9s
DLMT Dillon 75.45 44 *e*P **P 19 58 42.6 +1.6**
comp=Z,16nm,1.3s
HLID Hailey 75.45 47 *e*P **P 19 58 42.8 +1.7**
comp=Z,4.4nm,1.1s
BMN Battle Mountai 75.55 50 *e*P **P 19 58 43.2 +1.5**
comp=Z,6.0nm,1.0s
BMN Battle Mountai 75.55 50 *e*P **P 19 58 43.3 +1.5**
BMN pmax pmax
comp=Z,6.0nm,1.0s
RYN Ryan 75.74 53 *e*P **P 19 58 44.4 +1.5**
comp=Z,8.1nm,1.0s
KVN Kaiserville 75.78 52 *e*P **P 19 58 45.0 +1.9**
comp=Z,8.8nm,1.0s
BOZ Bozeman (W) 75.85 44 *e*P **P 19 58 44.5 +1.1**
comp=Z,12nm,0.8s
BOZ Bozeman (W) 75.85 44 *e*P **P 19 58 44.5 +1.1**
BOZ pmax pmax
comp=Z,12nm,0.8s

NV01	Mina Array Sit	76.00	53	*e*P		P	19 58 45.8 +1.4
NVAR	Mina Array Bea	76.00	53	P		P	19 58 45.8 +1.4
	comp=Z,7.5nm,0.9s,baz=311,slow=17,SNR=5.0						
OMMB	Old Mammoth Mi	76.01	54	*e*P		P	19 58 46.1 +1.5
	comp=Z,5.8nm,1.3s						
PAGB	Antelope Grade	76.24	56	*e*P		P	19 58 47.6 +2.0
	comp=Z,9.3nm,0.9s						
ELK	Elko	76.60	49	*e*P		P	19 58 49.2 +1.4
	comp=Z,4.7nm,1.0s						
ELK	Elko	76.60	49	*e*P		P	19 58 49.2 +1.4
ELK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
YHB	Horse Butte	76.61	44	*e*P		P	19 58 49.4 +1.6
	comp=Z,7.7nm,0.9s						
YMR	Madison River	76.79	44	*e*P		P	19 58 51.0 +2.2
	comp=Z,9.4nm,1.1s						
LKWY	Lake	77.17	44	*e*P		P	19 58 54.2 +3.2
	comp=Z,8.5nm,0.8s						
LKWY	Lake	77.17	44	*e*P		P	19 58 54.2 +3.2
LKWY				pmax	pmax		
	comp=Z,9.0nm,0.8s						
H17A	Grant Village	77.17	44	*e*P		P	19 58 54.7 +3.7
	comp=Z,14nm,0.9s						
IMW	Indian Meadow	77.27	45	*e*P		P	19 58 54.1 +2.5
	comp=Z,8.1nm,1.0s						
FLWY	Flagg Ranch	77.30	45	*e*P		P	19 58 54.2 +2.6
	comp=Z,16nm,1.1s						
FXWY	Fox Creek	77.38	45	*e*P		P	19 58 54.0 +1.8
	comp=Z,8.4nm,1.2s						
RLMT	Red Lodge	77.46	43	*e*P		P	19 58 54.4 +1.9
	comp=Z,20nm,1.6s						
MOOW	Moose Ponds	77.47	45	*e*P		P	19 58 54.4 +1.7
	comp=Z,9.7nm,1.4s						
HVU	Hansel Valley	77.48	47	*e*P		P	19 58 54.3 +1.6
	comp=Z,5.3nm,0.9s						
HVU	Hansel Valley	77.48	47	*e*P		P	19 58 54.3 +1.6
HVU				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TPAW	Teton Pass	77.52	45	*e*P		P	19 58 54.8 +1.8
	comp=Z,22nm,1.6s						
LOHW	Long Hollow	77.64	45	*e*P		P	19 58 56.2 +2.7
	comp=Z,8.6nm,1.5s						
REDW	Red Top Meadow	77.65	45	*e*P		P	19 58 55.2 +1.6
	comp=Z,12nm,1.3s						
DAC	Darwin (Calif)	77.69	54	*e*P		P	19 58 55.4 +1.4
	comp=Z,2.7nm,0.9s						
DAC	Darwin (Calif)	77.69	54	*e*P		P	19 58 55.4 +1.4
DAC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
R11A	Troy Canyon, C	77.79	51	*e*P		P	19 58 56.2 +1.8
	comp=Z,5.4nm,1.0s						
BGU	Big Grassy Mou	77.84	48	*e*P		P	19 58 56.5 +1.8
	comp=Z,4.3nm,1.0s						
SPUT	South Promonto	77.96	48	*e*P		P	19 58 57.5 +2.2
	comp=Z,4.4nm,0.9s						
LAO	LASA Array	78.11	40	*e*P		P	19 58 57.5 +1.6
	comp=Z,10nm,0.9s						
TPNV	Topopah Spring	78.18	53	*e*P		P	19 58 58.0 +1.3
	comp=Z,8.8nm,1.0s						
TPNV	Topopah Spring	78.18	53	*e*P		P	19 58 58.0 +1.3
TPNV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HWUT	Hardware Ranch	78.31	47	*e*P		P	19 58 58.8 +1.5
	comp=Z,4.4nm,0.9s						
DUG	Dugway, Tooele	78.41	49	*e*P		P	19 58 59.8 +1.9
	comp=Z,8.1nm,1.0s						
DUG	Dugway, Tooele	78.41	49	*e*P		P	19 58 59.8 +1.9
DUG				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TCUT	Toone Canyon	78.70	47	*e*P		P	19 58 59.6 0.0
	comp=Z,13nm,0.9s						
BW06	Boulder Array	78.76	45	*e*P		P	19 59 01.0 +1.1
	comp=Z,9.2nm,1.4s						
PD31	Pinedale Array	78.76	45	*e*P		P	19 59 01.0 +1.1
PDAR	Pinedale Array	78.76	45	P		P	19 59 00.9 +1.1
	comp=Z,2.4nm,0.8s,baz=274,slow=2.2,SNR=16						
PDAR	Pinedale Array	78.76	45	*e*P		P	19 59 00.3 +0.5
PSUT	Pine Spring	78.77	51	*e*P		P	19 59 01.6 +1.7
	comp=Z,8.3nm,1.1s						
GSC	Goldstone, Bar	78.78	55	*e*P		P	19 59 01.5 +1.6
	comp=Z,10nm,1.5s						
GSC	Goldstone, Bar	78.78	55	*e*P		P	19 59 01.5 +1.6
GSC				pmax	pmax		
	comp=Z,11nm,1.5s						
JLU	Jordanelle	78.99	48	*e*P		P	19 59 01.6 +0.4
	comp=Z,7.4nm,1.2s						
NLU	North Lily Min	79.01	48	*e*P		P	19 59 02.8 +1.6
	comp=Z,6.5nm,1.0s						
SHPR	Sheep Range	79.15	53	*e*P		P	19 59 02.7 +0.7
	comp=Z,6.1nm,1.2s						
BR101	Keskin Array S	79.36	311	*e*P		P	19 59 03.9 +0.9
BR131	Keskin Array S	79.36	311	*e*P		P	19 59 03.4 +0.3
BRTR	Keskin Array B	79.36	311	P		P	19 59 03.9 +0.9
	comp=Z,2.8nm,0.9s,baz=136,slow=3.9,SNR=4.8						
BRTR	Keskin Array B	79.36	311	P		P	19 59 03.9 +0.9
BRTR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CCUT	Cedar City	79.67	51	*e*P		P	19 59 04.6 -0.3
	comp=Z,7.2nm,1.3s						
MSU	Marysvale	79.83	50	*e*P		P	19 59 07.6 +1.9
PFO	Pinyon Flats O	80.01	56	*e*P		P	19 59 06.3 -0.4
	comp=Z,15nm,1.5s						
PFO	Pinyon Flats O	80.01	56	*e*P		P	19 59 06.3 -0.4
PFO				pmax	pmax		
	comp=Z,15nm,1.5s						
XPFO	Pion Flat	80.01	56	*e*P		P	19 59 06.6 -0.1
	comp=Z,18nm,1.6s						
LCMT	Little Creek M	80.07	51	*e*P		P	19 59 08.7 +1.7
	comp=Z,7.9nm,1.2s						
MTPU	Mount Pierson	80.11	50	*e*P		P	19 59 09.4 +2.0
	comp=Z,4.0nm,0.9s						
P17A	Butcher Ranch,	80.12	48	*e*P		P	19 59 08.5 +1.3
	comp=Z,9.5nm,1.0s						
KNB	Kanab	80.34	51	*e*P		P	19 59 10.2 +1.8
	comp=Z,10nm,1.2s						
SRU	San Rafael Swe	80.47	48	*e*P		P	19 59 10.9 +1.7
ULM	Lac du Bonnet	80.70	33	P		P	19 59 10.1 +0.2
	comp=Z,3.0nm,0.8s,baz=216,slow=9.0,SNR=5.4						
LANS	Liptovska Anna	80.73	325	*e*P		P	19 59 13.1 +3.0
LANS	Liptovska Anna	80.73	325	*e*P		P	19 59 13.1 +3.0
LANS				*e*pP		PcP	19 59 15.7 -1.1
U15A	North Rim	81.04	51	*e*P		P	19 59 14.2 +1.9
	comp=Z,7.6nm,1.3s						
O20A	White River Ci	81.19	46	*e*P		P	19 59 14.0 +1.0
	comp=Z,8.7nm,0.9s						
DPC	Dobruska-Polom	81.26	328	*e*P		P	19 59 14.4 +1.4
DPC				*e*pP		sP	19 59 19.2 -0.5
DPC	Dobruska-Polom	81.26	328	*e*P		P	19 59 14.4 +1.4
UPC	Upice	81.28	328	*e*pP		PcP	19 59 18.7 -0.5
UPC	Upice	81.28	328	*e*P		PcP	19 59 18.7 -0.5
PSZ	Piszkesteto	81.40	324	*e*P		P	19 59 15.4 +1.6
	comp=Z,31nm,1.4s						
PSZ	Piszkesteto	81.40	324	*e*P		P	19 59 15.4 +1.6
PSZ				pmax	pmax		
	comp=Z,31nm,1.4s						
VYHS	Vyhne	81.49	325	*e*P		P	19 59 15.2 +1.0
VYHS				pmax	pmax		
	comp=Z,28nm,2.3s						
VYHS	Vyhne	81.49	325	*e*P		P	19 59 15.2 +1.0
PV09	Paradox Valley	81.70	48	*e*P		P	19 59 16.9 +1.1
PV21	Cone Mtn., Par	81.76	48	*e*P		P	19 59 16.7 +0.6
	comp=Z,11nm,1.1s						
PV23	Carpenter Ridg	81.81	48	*e*P		P	19 59 17.9 +1.5
	comp=Z,11nm,1.0s						
PV14	Lion Creek, Pa	81.85	48	*e*P		P	19 59 18.4 +1.8
	comp=Z,16nm,0.9s						
PVCC	Panska Ves	81.88	329	*e*pP		PcP	19 59 22.2 +0.4
PVCC	Panska Ves	81.88	329	*e*P		PcP	19 59 22.2 +0.4
PV20	West Nyswonger	81.90	48	*e*P		P	19 59 17.5 +0.7
	comp=Z,8.4nm,0.7s						
PV19	Morning Glory	81.91	48	*e*P		P	19 59 17.8 +0.9
	comp=Z,10nm,0.9s						
CLL	Collm	81.94	330	*i* P		P	19 59 17.2 +0.8
	comp=Z,31nm,1.0s						
CLL				*i* pP		pP	19 59 21.3 -0.1
CLL				*i* sPcP			19 59 32.1
CLL	Collm	81.94	330	*i* P		P	19 59 17.2 +0.8
CLL				pmax	pmax		
	comp=Z,31nm,1.0s						
PV17	East Wray Mesa	81.95	48	*e*P		P	19 59 18.7 +1.7
	comp=Z,15nm,1.1s						
PV16	Nyswonger Mesa	81.95	48	*e*P		P	19 59 19.0 +1.9
	comp=Z,13nm,1.2s						
PV11	David Mesa, Pa	81.99	48	*e*P		P	19 59 18.7 +1.5
	comp=Z,11nm,1.0s						
PV12	Saucer Basin,	82.02	48	*e*P		P	19 59 19.0 +1.6
	comp=Z,15nm,1.1s						
N23A	Red Feather La	82.03	45	*e*P		P	19 59 18.3 +0.8
	comp=Z,11nm,1.0s						
PV13	Radium Mtn., P	82.11	48	*e*P		P	19 59 19.7 +1.8
	comp=Z,8.4nm,0.9s						
SMOL	Smolenice	82.12	326	*e*P		P	19 59 23.8 +6.3
SMOL	Smolenice	82.12	326	*e*PCP		PcP	19 59 23.8 +0.9
PV02	Paradox Valley	82.13	48	*e*P		P	19 59 19.3 +1.3
	comp=Z,8.4nm,0.9s						
WUAZ	Wupatki	82.18	52	*e*P		P	19 59 19.5 +1.2
	comp=Z,21nm,1.8s						
GOPC	GO Pecny, Ondr	82.25	328	*e*P		P	19 59 19.5 +1.4
GOPC				*e*pP		sP	19 59 24.0 -0.9
GOPC	GO Pecny, Ondr	82.25	328	*e*P		P	19 59 19.5 +1.4
MODS	Modra-Piesok	82.29	326	*e*P		P	19 59 19.1 +0.7
MODS				pmax	pmax		
	comp=Z,97nm,2.4s						
MODS	Modra-Piesok	82.29	326	*e*P		P	19 59 19.1 +0.7
PRU	Pruhonice	82.30	328	*e*pP		PcP	19 59 24.3 +0.7
PRU	Pruhonice	82.30	328	*e*P		PcP	19 59 24.3 +0.7
113A	Mohawk Valley,	82.32	55	*e*P		P	19 59 20.1 +1.3
	comp=Z,6.3nm,1.1s						
SMCO	Snowmass	82.56	47	*e*P		P	19 59 21.6 +1.1
	comp=Z,3.9nm,0.9s						
X16A	Lo Mia Camp, P	82.83	53	*e*P		P	19 59 22.7 +1.0
	comp=Z,14nm,1.6s						
KHC	Kasperske Hory	83.36	328	*e*P		P	19 59 25.1 +1.2
KHC				*ex*		x	19 59 29.7
KHC	Kasperske Hory	83.36	328	*e*P		P	19 59 25.1 +1.2
VTS	Vitosha	83.46	319	*e*P		P	19 59 26.1 +1.4
	comp=Z,72nm,2.0s						
GERES	GERESS Array B	83.52	328	P		P	19 59 25.4 +0.6
	comp=Z,3.2nm,0.8s,baz=43,slow=6.0,SNR=5.0						
S22A	4UR Ranch, Cre	83.58	48	*e*P		P	19 59 26.4 +0.8
	comp=Z,6.9nm,1.1s						
GRF	Grafenberg Arr	83.91	330	*e*P		P	19 59 28.6 +1.8
	comp=Z,9.8nm,1.2s,baz=42,slow=4.5						
GRF				*e*PcP		pP	19 59 31.9 +0.2
PMOR	Pomariorio Ree	84.05	113	*e*T		T	21 31 50.5
	comp=Z,33nm,0.2s						
SDCO	Great Sand Dun	84.37	47	*e*P		P	19 59 31.2 +1.5
	comp=Z,12nm,1.4s						
PPT2	Papeete2	84.45	116	*e*LR		LR	20 25 31.5
	comp=Z,430nm,30.0s						
PPT2	Papeete2	84.45	116	*e*T		T	21 32 20.8
	comp=Z,5.1nm,0.3s						
TUC	Tucson	84.57	54	*e*P		P	19 59 32.1 +1.6
	comp=Z,5.0nm,1.1s						
TUC	Tucson	84.57	54	*e*P		P	19 59 32.1 +1.6
TUC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TIAR	Tiarei	84.60	116	*e*T		T	21 32 31.0
	comp=Z,2.7nm,0.2s						
ECSD	EROS Data Cent	85.08	38	*e*P		P	19 59 33.4 +0.6
	comp=Z,6.0nm,0.9s						
T25A	Trinidad	85.42	47	*e*P		P	19 59 35.0 +0.2
	comp=Z,7.3nm,0.9s						
ANMO	Albuquerque	85.64	50	*e*P		P	19 59 38.2 +2.3
	comp=Z,8.7nm,1.3s						
ANMO	Albuquerque	85.64	50	*ce*P		P	19 59 38.2 +2.3
ANMO				pmax	pmax		
	comp=Z,14nm,2.5s						
BFO	Black Forest	86.15	331	*e*P		P	19 59 38.1 +0.1
	comp=Z,23nm,1.3s						
BFO	Black Forest	86.15	331	*e*P		P	19 59 38.2 +0.1
BFO				pmax	pmax		
	comp=Z,23nm,1.3s						
TAOE	Nuku Hiva Isla	86.25	104	*e*LR		LR	20 27 02.2
	comp=Z,273nm,26.5s						
TBI	Tubuai	88.24	120	*e*LR		LR	20 27 23.2
	comp=Z,209nm,30.5s						
TBI	Tubuai	88.24	120	*e*T		T	21 37 02.2
	comp=Z,15nm,0.3s						
KSU1	Kansas State U	88.44	41	*e*P		P	19 59 50.4 +1.1
	comp=Z,9.2nm,0.8s						
AMTX	Amarillo	88.57	47	*e*P		P	19 59 52.1 +2.0
	comp=Z,12nm,0.9s						
LTX	Lajitas	91.14	52	*e*P		P	20 00 03.4 +1.2
LTX	Lajitas	91.14	52	*e*P		P	20 00 03.4 +1.2
TX31	Lajitas Ar. Si	91.14	52	*e*P		P	20 00 03.0 +0.8
TXAR	Lajitas Array	91.14	52	P		P	20 00 03.4 +1.2
	comp=Z,1.4nm,0.6s,baz=290,slow=3.1,SNR=21						
MIAR	Mount Ida	93.44	42	*e*P		P	20 00 13.6 +1.0
	comp=Z,19nm,1.4s						
MIAR	Mount Ida	93.44	42	*e*P		P	20 00 13.6 +1.0
MIAR				pmax	pmax		
	comp=Z,19nm,1.4s						
TOA1	Torodi Ar. Sit	117.89	314	*e*PKPdf		PKPdf	20 05 42.4 -1.7
TOA1				*e*PP		PP	20 06 50.0 -7.1
TOA1				*e*PKKPbc		PKKPab	20 16 06.0 -3.4
TOA0	Torodi Ar. Sit	117.89	314	*e*PKPdf		PKiKP	20 05 44.2 +0.1
TORD	Torodi Ar. Bea	117.89	314	PKP		PKPdf	20 05 42.4 -1.7
	comp=Z,0.9nm,0.8s,baz=7.8,slow=3.2,SNR=5.9						
TORD				PP		PP	20 06 50.0 -7.1
	comp=Z,1.1nm,1.0s,baz=2.5,slow=5.3,SNR=2.8						
TORD				PKKPab		PKKPab	20 16 06.0 -3.4
	comp=Z,1.0nm,0.8s,baz=210,slow=4.2,SNR=4.3						
BOSA	Boshof	125.98	258	PKP		PKiKP	20 05 59.6 -0.2
	comp=Z,1.8nm,0.7s,baz=332,slow=8.3,SNR=3.3						
SDV	Santo Domingo	126.47	40	*e*PKPdf		PKPdf	20 05 59.9 -1.0
VNA2	Neumayer--Watz	141.08	196	PKP		PKPdf	20 06 26.5 +0.4
VNA3	Neumayer Olymp	141.33	195	PKP		PKPdf	20 06 25.6 -1.0
VNA1	Neumayer--Stat	141.48	196	PKP		PKPdf	20 06 22.7 -4.2
LPAZ	La Paz	147.60	61	PKPbc		PKPbc	20 06 41.7 -0.9
	comp=Z,19nm,0.9s,baz=339,slow=3.4,SNR=48						
LPAZ	La Paz	147.60	61	*e*PKPdf		PKPbc	20 06 42.0 -0.5
MNMC	Minye Minye	148.37	66	*e*PKPdf		PKPbc	20 06 42.0 -2.1
PB11	IPOC Station P	148.71	67	*e*PKPdf		PKPdf	20 06 42.0 +1.0
PB04	IPOC Station P	149.81	72	*e*PKPdf		PKPbc	20 06 46.0 -1.6
LVC	Limon Verde	150.92	71	*e*PKPbc		PKiKP	20 06 52.0 +0.9
LVC	Limon Verde	150.92	71	*e*PKIKP		PKiKP	20 06 52.0 +0.9
GO09	Cerro Castillo	151.67	133	*e*PKPbc		PKiKP	20 06 52.5 +1.3
GO10	Punta Arenas	151.69	138	*e*PKPbc		PKiKP	20 06 53.0 +1.7
GO02	Mina Guanaco	151.72	76	*e*PKPbc		PKiKP	20 06 53.5 +0.9
LCO	Las Campanas	152.51	85	*e*PKPbc		PKiKP	20 06 54.8 +0.7
LCO	Las Campanas	152.51	85	*e*PKIKP		PKiKP	20 06 54.8 +0.7
GO04	Tololo Observa	152.85	87	*e*PKPdf		PKPdf	20 06 48.4 +1.1
GO04				*e*PKPbc		PKiKP	20 06 54.8 +0.1

ISCJB ***21*** *19:48:58.0±0.4,30°.36N±0°.01×57°.51E±0°.01,h12km±3km, mb5.2/179,MS5.1/174, Error ellipse: s-maj=2.2km s-min=1.9km az=140.6*

GCMT ***21*** *19:48:57.9±0.1,30°.23N±0°.01×57°.41E±0°.01,h12km, MW5.3/127,Moment Tensor Solution. s76,c114; s127,c242; Duration: 1^{s}1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.35±.02; $M_{\theta\theta}$-1.33±.02; $M_{\phi\phi}$0.97±.01; $M_{r\theta}$0.11±.04; $M_{\theta\phi}$0.34±.02; $M_{\phi r}$-0.36±.04; Best double couple: $M_0$1.28000×10^{17} NP1:ϕ_{s1}141.00000°,δ78.00000°, λ160.00000°. NP2:ϕ_{s2}235.00000°,δ70.00000°,λ13.00000°. Principal axes: T 1.1670, Plg23.0000°, Azm97.0000°; N 0.2250, Plg67.0000°, Azm291.0000°; P -1.3940, Plg5.0000°, Azm189.0000°; nsta1 refers to body waves, cutoff=40s nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***21*** *19:48:57.5±0.4,30°.35N×57°.49E, h0km, mb5.0/36, mb1 5.1/41,mb1mx5.0/49,mbtmp5.0/41,ML4.1/5,MS4.9/38, Ms1 4.9/38,ms1mx4.8/49 Error ellipse: s-maj=10.3km s-min=9.0km az=155.0*

NEIC ***21*** *19:48:58.9±0.2,30°.33N×57°.47E,h10km,mb5.3/95, MS5.2/102,MW5.5,ML5.3(THR),MN5.5(TEH),Error ellipse: s-maj=4.0km s-min=3.0km az=186.0,Moment Tensor Solution. s7 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.91; $M_{\theta\theta}$0.26; $M_{\phi\phi}$ 1.65; $M_{r\theta}$-0.19; $M_{\theta\phi}$0.30; $M_{\phi r}$0.43; Best double couple: $M_0$1.90000×10^{17} NP1:ϕ_{s}18.00000°, δ40.00000°,λ-79.00000°. NP2:ϕ_{s}184.00000°,δ51.00000°, λ-99.00000°. Principal axes: T 1.7500, Plg6.0000°, Azm280.0000°; N 0.2300, Plg7.0000°, Azm190.0000°; P -1.9800, Plg81.0000°, Azm51.0000°;*

NEIC Felt [IV] at Kerman.

TEH ***21*** *19:48:58.1,30°.37N×57°.47E,h10km, ML5.4*

THR ***21*** *19:48:58.5,30°.30N×57°.48E,h28km, ML5.3*

OMAN ***21*** *19:48:59.9±1.6,30°.45N×57°.13E,h32km,mb5.9/6,ml5.5/5, ms4.8/8,Error ellipse: s-maj=37.0km s-min=31.1km az=272.0*

BJI ***21*** *19:48:59.4,30°.44N×57°.29E,h31km,mb5.3/71,mB5.3/50, Ms5.5/72,Ms7 5.2/67*

MOS ***21*** *19:49:01.2±1.2,30°.41N×57°.54E,h33km,mb5.4/74, MS4.9/42,Error ellipse: s-maj=4.9km s-min=3.7km az=108.4*

ISC 21 19:48:59.9±0.5,30°.36N±0°.03×57°.52E±0°.03,h15km±2km, n790,σ1^{s}77/763,mb5.2/198,MS5.1/175,46C-50D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMN	Cheshme madani	0.49	178	*e*Sg	Sg	19 49 13.4	-3.1
CHMN				*e*Pg	Pg	19 49 06.6	-3.2
CHMN				IAMB	IAmb	19 49 14.1	
	comp=Z,0.0nm,0.2s						
TVBK	TV Kerman	0.75	241	*e*Pg	Pg	19 49 11.6	-3.0
TVBK				IAMB	IAmb	19 49 24.5	
	comp=Z,0.0nm,0.6s						
KRBR	Kerman	0.75	241	*e*Pg	Pg	19 49 12.3	-2.3
KRBR	Kerman	0.75	241	*e*Pg	Pg	19 49 12.3	-2.3
KRBR	Kerman	0.75	241	*e*Pg	Pg	19 49 12.3	-2.3
KHGB	Koh Gabri	0.90	272	*e*Pg	Pg	19 49 13.3	-4.1
KHGB				IAMB	IAmb	19 49 40.7	
	comp=Z,0.0nm,2.5s						
NGRK	Negar Kerman	0.98	224	*e*Pg	Pg	19 49 15.7	-3.3
NGRK				IAMB	IAmb	19 50 25.2	
	comp=Z,0.0nm,2.3s						
IMEH	Mehriz	2.70	293	*e*Pn	Pn	19 49 42.4	-0.6
IMEH				IAMB	IAmb	19 50 24.2	
	comp=Z,25μm,0.7s						
ITEG	Tejag	2.74	22	*e*Pn	Pn	19 49 43.1	-0.4
ITEG				IAMB	IAmb	19 50 33.3	
	comp=Z,82μm,0.6s						
TPRV	Parvadeh(Tabas	2.76	345	*e*Pn	Pn	19 49 43.0	-0.6
NIAN	Nian	2.85	192	*e*Pn	Pn	19 49 46.3	+1.5
SZD1	Zahaedan-tmp	3.03	106	*e*Pn	Pn	19 49 48.1	+0.7
IDAH	Dahanechah	3.11	40	*e*Pn	Pn	19 49 49.3	+0.7
IDAH				IAMB	IAmb	19 50 52.8	
	comp=Z,8μm,1.3s						
GENO	Geno	3.17	202	*e*Pn	Pn	19 49 49.8	+0.4
YZKH	Yazd	3.22	310	*e*Pn	Pn	19 49 49.7	-0.3
YZKH	Yazd	3.22	310	*e*Pn	Pn	19 49 49.7	-0.3
ICHK	Chekchek	3.26	306	*e*Pn	Pn	19 49 50.5	-0.2
ICHK				IAMB	IAmb	19 50 44.9	
	comp=Z,7μm,0.8s						
TKDS	Koohdasht(Taba	3.27	354	*e*Pn	Pn	19 49 50.2	-0.4
TABS	Tabas	3.30	354	*e*Pn	Pn	19 49 51.0	-0.1
TABS	Tabas	3.30	354	*e*Pn	Pn	19 49 51.0	-0.1
TABS	Tabas	3.30	354	*e*AML	AML	19 50 47.6	
	comp=E,6μm,0.9s						
TABS	Tabas	3.30	354	*e*Pn	Pn	19 49 51.0	-0.1
IMON	Monand	3.37	32	*e*Pn	Pn	19 49 53.1	+1.0
IMON				IAMB	IAmb	19 50 54.9	
	comp=Z,93μm,1.2s						
ISAD	Sadrabad	3.63	296	*e*Pn	Pn	19 49 55.7	-0.1
ISAD				IAMB	IAmb	19 51 09.2	
	comp=Z,98μm,1.0s						
TNSJ	Nastanj	3.68	348	*e*Pn	Pn	19 49 56.0	-0.3
JHRM	Jahrom	3.90	243	*e*Pn	Pn	19 49 59.1	-0.2
IPAR	Pars	3.91	264	*e*Pn	Pn	19 49 59.7	+0.1
ISRV	Sarvestan	3.95	257	*e*Pn	Pn	19 49 59.5	-0.7
ISRV				IAMB	IAmb	19 51 20.9	
	comp=Z,14μm,1.2s						
SHRT	Shahrakht	4.04	35	*e*Pn	Pn	19 50 02.3	+1.1
SHRT	Shahrakht	4.04	35	*e*Pn	Pn	19 50 02.3	+1.1
ANAR	Anarak	4.29	312	*e*Pn	Pn	19 50 04.3	-0.4
SHI	Shiraz	4.40	262	*e*Pn	Pn	19 50 06.2	-0.1
SHME	Shamm	4.46	196	*i* Pn	Pn	19 50 08.6	+1.6
	SNR=30						
SHME	Shamm	4.46	196	*e*Pn	Pn	19 50 07.9	+0.9
GHIR	Ghir-Karzin	4.46	244	*e*Pn	Pn	19 50 06.4	-0.7
GHIR	Ghir-Karzin	4.46	244	*e*Pn	Pn	19 50 06.4	-0.7
BANOM	Banah	4.54	194	*i* Pn	Pn	19 50 09.7	+1.6
	SNR=324						
BANOM				*i* Pn	Pn	19 50 10.0	+1.8
	SNR=169						
BANOM				*i* Pn	Pn	19 50 10.7	+2.5
	SNR=70						
BANOM	Banah	4.54	194	P	Pn	19 50 10.0	+1.8
	SNR=169						
BANOM				S	Sn	19 51 04.5	+3.8
IRAM	Ramesheh	4.64	290	*e*Pn	Pn	19 50 08.9	-0.7
IRAM				IAMB	IAmb	19 51 36.1	
	comp=Z,37μm,1.0s						
UMQ	Umm Al-Quwin	5.08	199	*i* Pn	Pn	19 50 18.2	+2.7
	SNR=28						
UMQ	Umm Al-Quwin	5.08	199	P	Pn	19 50 17.1	+1.6
	SNR=28						
UMQ	Umm Al-Quwin	5.08	199	*e*Pn	Pn	19 50 18.3	+2.8
IZEF	Zefreh	5.10	301	*e*Pn	Pn	19 50 15.7	-0.3
IZEF				IAMB	IAmb	19 51 48.1	
	comp=Z,16μm,0.9s						
IGAR	Gharneh	5.11	295	*e*Pn	Pn	19 50 17.9	+1.8
MSFE	Esma-Masafi	5.12	194	*i* Pn	Pn	19 50 17.8	+1.8
	SNR=196						
MSFE	Esma-Masafi	5.12	194	*e*Pn	Pn	19 50 17.5	+1.4
KLNJ	Kolanjah	5.15	279	*e*Pn	Pn	19 50 17.4	+0.7
MDH	Madha	5.15	192	*i* Pn	Pn	19 50 18.1	+1

IKRD **Kardeh** 6.46 7 *e*Pn **Pn** 19 50 38.1 +3.5
ALNE **Al Ain** 6.47 194 *i* Pn **Pn** 19 50 35.9 +1.3
SNR=73
ALNE **Al Ain** 6.47 194 *e*Pn **Pn** 19 50 35.9 +1.3
ISHM **Shahmirzad** 6.49 328 *e*Pn **Pn** 19 50 36.0 +0.9
IFIR **Firoozkooh** 6.62 324 *e*Pn **Pn** 19 50 36.7 -0.1
ISFR **Sfrayin** 6.69 3 *e*Pn **Pn** 19 50 38.1 +0.2
ISFR IAMB IAmb 19 53 05.8
comp=Z,22μm,1.5s
HOQ **Hoqain** 6.75 182 P **Pn** 19 50 40.0 +1.6
SNR=82
HOQ S **Sn** 19 51 56.0 +0.9
HOQ **Hoqain** 6.75 182 *e*Pn **Pn** 19 50 39.1 +0.7
BIDO **Bidbid** 6.83 175 P **Pn** 19 50 40.8 +1.2
SNR=33
BIDO **Bidbid** 6.83 175 *e*Pn **Pn** 19 50 38.9 -0.6
IALA **Alasht** 6.94 327 *e*Pn **Pn** 19 50 41.9 +0.6
IDMV **Damavand** 6.95 320 *e*Pn **Pn** 19 50 41.8 +0.4
ARQ **Araqi** 7.05 187 P **Pn** 19 50 45.4 +2.9
SNR=172
WSAR **Wadi Sarin** 7.16 172 P **Pn** 19 50 44.1 +0.1
SNR=137
WSAR S **Sn** 19 52 02.7 -2.4
SMDO **Samad** 7.28 176 P **Pn** 19 50 46.7 +0.9
SNR=61
IPRN **Peran** 7.30 325 *e*Pn **Pn** 19 50 47.5 +1.5
MRVT **Maraveh tapeh** 7.38 351 *e*Pn **Pn** 19 50 47.6 +0.5
MRVT **Maraveh tapeh** 7.38 351 *e*Pn **Pn** 19 50 47.6 +0.5
GEYT **Alibeck** 7.57 4 Pn **Pn** 19 50 49.7 0.0
comp=Z,3.2nm,0.3s,baz=188,slow=8.1,SNR=154
GEYT Sn **Sn** 19 52 17.9 +2.6
comp=Z,1.3nm,0.3s,baz=237,slow=12,SNR=2.6
GEYT Lg Lg 19 52 52.5
comp=Z,0.4nm,0.3s,baz=221,slow=17,SNR=2.6
GYA0B **ALIBECK ARRAY** 7.57 4 *e*Pn **Pn** 19 50 50.3 +0.6
BSY **Bisya** 7.59 182 P **Pn** 19 50 52.6 +2.7
SNR=130
CHTH **Charan** 7.71 318 *e*Pn **Pn** 19 50 51.9 +0.2
CHTH **Charan** 7.71 318 *e*Pn **Pn** 19 50 51.9 +0.2
WBK **Wadi Bani Khal** 7.82 170 P **Pn** 19 50 53.9 +0.8
SNR=38
JMDO **Jabal Madar** 7.97 176 P **Pn** 19 50 56.5 +1.3
SNR=43
JLN **Jalan Bani Buh** 8.35 168 P **Pn** 19 50 59.4 -1.0
SNR=53
IKMR **Kamar-syah** 8.38 294 *e*Pn **Pn** 19 51 00.0 -0.7
IKFM **Kafar-mosalman** 8.80 294 *e*Pn **Pn** 19 51 07.0 +0.5
IKOM **Komasi** 9.29 297 *e*Pn **Pn** 19 51 14.0 +0.6
MHTO **MHTO** 9.34 177 P **Pn** 19 51 15.6 +1.7
SNR=91
IVIS **Veis** 9.93 298 *e*Pn **Pn** 19 51 22.0 -0.1
DQM **DQM** 10.38 180 P **Pn** 19 51 29.2 +1.0
SNR=19
KBL **Kabul** 10.59 64 *e*Pn **Pn** 19 51 33.3 +2.0
KBL **Kabul** 10.59 64 *e*P **Pn** 19 51 33.3 +2.0
KBL **Kabul** 10.59 64 *e*Pn **Pn** 19 51 35.4 +4.1
LKRN **Lenkeran, Azer** 11.01 322 P **Pn** 19 51 37.7 +0.9
ISRB **Sarab** 11.05 315 *e*Pn **Pn** 19 51 38.4 +0.9
IBST **Bostanabad** 11.46 313 *e*Pn **Pn** 19 51 43.6 +0.5
RAYN **Ar Rayn** 12.69 240 *e*Pn Pn 19 51 54.3 -5.6
RAYN **Ar Rayn** 12.69 240 *i* Pn Pn 19 51 55.5 -4.4
SNR=56
RAYN **Ar Rayn** 12.69 240 *e*P Pn 19 51 54.3 -5.6
DMTO **DMTO** 12.80 191 P **Pn** 19 51 58.9 -2.4
SNR=19
IMRD **Marand** 12.81 314 *e*Pn **Pn** 19 52 02.7 +1.1
WHFO **Wadi Hawf** 12.84 196 P **Pn** 19 52 01.1 -0.9
SNR=24
RBK **Rabkut** 13.15 194 P **Pn** 19 52 05.0 -1.1
SNR=30
ABTO **Aybut** 13.51 198 P **Pn** 19 52 08.9 -2.1
SNR=34
SEKA **Sheki** 13.68 325 P **Pn** 19 52 14.8 +1.5
GANJ **Ganja** 13.72 321 P **Pn** 19 52 15.2 +1.4
NIL **Nilore** 13.75 72 *e*Pn **Pn** 19 52 14.9 +0.6
NIL **Nilore** 13.75 72 *e*P **Pn** 19 52 14.9 +0.6
NIL **Nilore** 13.75 72 *e*Pn **Pn** 19 52 16.6 +2.3
CLDR **Caldiran** 14.20 312 *e*P **P** 19 52 26.5 -1.5
VANB **Van** 14.25 309 *e*P **Pn** 19 52 23.8 +2.6
GNI **Garni** 14.28 317 *i* P **P** 19 52 31.9 +3.0
GNI **Garni** 14.28 317 *e*Pn **Pn** 19 52 22.2 +0.6
GNI **Garni** 14.28 317 Pn **Pn** 19 52 22.8 +1.1
GNI **Garni** 14.28 317 *ce*P **Pn** 19 52 23.8 +2.1
GNI pmax pmax
comp=Z,499nm,1.5s
GNI **Garni** 14.28 317 P **Pn** 19 52 25.0 +3.3
SNR=45
AKDM **Akdamar-Van** 14.39 307 *e*P **Pn** 19 52 25.6 +2.4
SIRT **Sirnak** 14.39 304 *e*P **Pn** 19 52 22.7 -0.5
SIRT **Sirnak** 14.39 304 *e*Pn **Pn** 19 52 22.4 -0.7
TASB **TASBURUN-IGDIR** 14.48 315 *e*P **P** 19 52 33.9 +2.9
BTK **Batken** 14.54 45 *e*Pn **Pn** 19 52 25.4 +0.3
BTK **Batken** 14.54 45 *e*P **Pn** 19 52 25.4 +0.3
MAK **Makhachkala** 14.91 330 *e*P **Pn** 19 52 29.7 -0.3
MAK *e*S **Sn** 19 55 15.6 +0.7
MAK pmax pmax
comp=Z,291nm,0.9s
MAK MLR MLR
comp=Z,3μm,15.0s
AGRB **Hanur-Agry** 15.03 312 *i* P **P** 19 52 37.5 +0.3
GURO **Guroymak-BITLI** 15.15 307 *e*P **Pn** 19 52 34.6 +1.1
TBLG **Delisi** 15.33 321 *e*Pn **Pn** 19 52 36.4 +0.7
comp=Z,321nm,1.6s
TBLG **Delisi** 15.33 321 *e*P **Pn** 19 52 36.4 +0.7
TBLG pmax pmax
comp=Z,321nm,1.6s
IUG **Iuzhnay** 15.48 37 *e*P **Pn** 19 52 36.0 -1.7
IUG pmax pmax
comp=Z,1μm,1.3s
IUG MLR MLR
comp=Z,6μm,12.0s
IUG **Iuzhnay** 15.48 37 *e*P **Pn** 19 52 36.1 -1.7
comp=Z,1μm,1.3s
IUG *e*LRM MLR 19 59 40.5
comp=Z,6μm,11.9s
SVAN **Silvan-Diyarba** 15.56 304 *e*P **Pn** 19 52 38.9 +0.2
KARS **Kars** 15.58 315 *e*Pn **Pn** 19 52 40.3 +1.3
comp=Z,2μm,1.9s
KARS **Kars** 15.58 315 *e*P **Pn** 19 52 40.3 +1.3
KARS pmax pmax
comp=Z,2μm,1.9s
GROC **Groznyy** 15.87 327 ⇓*i* P **Pn** 19 52 43.3 +0.7
GROC *e*S **Sn** 19 55 37.8 -0.4
GROC pmax pmax
comp=Z,691nm,1.3s
KOPR **Koprukoy-ERZUR** 15.99 311 *e*P **P** 19 52 49.4 +1.5
KK31 **Karatay Array** 16.42 36 *e*Pn **Pn** 19 52 47.6 -2.0
KK31 **Karatay Array** 16.42 36 *e*P **Pn** 19 52 47.6 -2.0
ZEI **Tsey** 16.51 322 *e*P **Pn** 19 52 49.6 -1.5
ZEI pmax pmax
comp=Z,222nm,1.1s
ARSB **Arslanbob** 16.62 45 *e*Pn **Pn** 19 52 50.2 -2.1
comp=Z,211nm,1.0s
DZA **Taraz** 16.69 38 *e*P **P** 19 52 56.4 +1.0
DZA pmax pmax
comp=Z,1μm,1.3s
DZA MLR MLR
comp=Z,5μm,13.0s
DZA **Taraz** 16.69 38 *e*P **P** 19 52 56.4 +1.0
comp=Z,1μm,1.3s
DZA *e*LRM MLR 20 00 31.1
comp=Z,5μm,12.7s
BCA **Borcka** 16.95 315 P **P** 19 52 59.3 +1.0
URFA **Urfa** 17.04 299 *e*P **Pn** 19 52 56.1 -1.6
PTK **Pertek** 17.16 305 *e*P **Pn** 19 53 00.3 +1.1
NCK **Nalchik** 17.17 324 *d* iP **P** 19 53 01.3 +0.6
NCK pmax pmax
comp=Z,609nm,1.2s
CHOM **Cayeli-Rize** 17.29 313 *e*P **P** 19 53 03.9 +1.8
BAYT **Aydintepe-Bayb** 17.32 310 *e*P **Pn** 19 53 02.5 +1.2
NEY **Neytrino** 17.46 322 *de*P **P** 19 53 05.7 +1.6
NEY pmax pmax
comp=Z,39nm,1.5s
AML **Almayashu** 17.52 43 P **Pn** 19 53 04.0 0.0
SNR=38
KSH **Kashi** 17.65 54 P **Pn** 19 52 59.6 -5.7
KSH pP P 19 53 08.3 +2.1
KSH sP sP 19 53 12.8 0.0
KSH S Sn 19 56 06.3 -15
KSH sS S 19 56 19.0 -10
KSH SS **SnSn** **19 56 28.5 -6.7**
KSH pmax pmax
comp=Z,53nm,0.9s
KSH pmax pmax
comp=Z,640nm,3.2s
KSH LR LR
comp=Z,3μm,7.0s
KSH LR LR
comp=Z,5μm,7.9s
KSH LR LR
comp=Z,9μm,13.9s
KBZ **Khabaz** 17.69 323 P **Pn** 19 53 06.8 +1.1
comp=Z,0.4nm,0.3s,baz=104,slow=10,SNR=34
EKS2 **Erkin-Say** 17.90 42 P **Pn** 19 53 08.7 +0.4
SNR=46
KVAR **Kislovodsk Arr** 17.96 323 P **P** 19 53 10.5 +1.0
baz=53,slow=20,SNR=50
KIV **Kislovodsk** 17.96 323 *e*Pn **P** 19 53 10.5 +0.9
comp=Z,387nm,1.2s
KIV **Kislovodsk** 17.96 323 ⇓*i* P **Pn** 19 53 09.9 +0.9
KIV **Kislovodsk** 17.96 323 *i* P **P** 19 53 10.6 +1.0
SNR=50
KIV **Kislovodsk** 17.96 323 *e*P **P** 19 53 10.6 +1.0
KIV *e*S **Sn** 19 56 30.8 +1.7
KIV pmax pmax
comp=Z,313nm,1.1s
KIV MLR MLR
comp=Z,1μm,13.0s
KIV **Kislovodsk** 17.96 323 P **Pn** 19 53 10.0 +0.9
SNR=117
BOM **Bombay** 17.96 126 *i* P **Pn** 19 53 06.6 -2.5
BOM *e*S **S** 19 56 39.8 +4.4
UCH **Uchtor** 18.07 44 P **Pn** 19 53 10.2 -0.6
SNR=25
GAZ **Gaziantep** 18.18 297 *e*P **Pn** 19 53 11.3 -0.5
AAK **Ala-Archa** 18.30 43 P **Pn** 19 53 13.8 +0.4
comp=Z,0.5nm,0.3s,baz=211,slow=8.5,SNR=79
AAK LR LR 20 01 26.1
comp=Z,8μm,18.2s,baz=233,slow=41
AAK **Ala-Archa** 18.30 43 P **Pn** 19 53 13.8 +0.4
SNR=45
AAK **Ala-Archa** 18.30 43 *e*Pn **Pn** 19 53 13.0 -0.3
comp=Z,75nm,1.1s
AAK **Ala-Archa** 18.30 43 *i* P **Pn** 19 53 13.0 -0.3
SNR=136
AAK **Ala-Archa** 18.30 43 *d* iP **Pn** 19 53 12.6 -0.7
AAK pmax pmax
comp=Z,68nm,1.0s
AAK **Ala-Archa** 18.30 43 P **Pn** 19 53 11.9 -1.5
SNR=44
DARE **Darende-Malaty** 18.42 302 *e*P **Pn** 19 53 15.6 +0.9
KZA **Kyzart** 18.44 46 P **P** 19 53 15.2 0.0
SNR=43
SWQJ **Swaqa** 18.46 278 P **P** 19 53 14.1 -1.0
FRU1 **Bishkek** 18.49 43 *e*P **P** 19 53 15.5 +0.2
comp=Z,110nm,1.2s
FRU1 **Bishkek** 18.49 43 *e*P **P** 19 53 15.5 +0.2
FRU1 pmax pmax
comp=Z,110nm,1.2s
FRU **Bishkek** 18.49 43 ⇑*e*P **P** 19 53 15.0 -0.4
FRU pmax pmax
comp=Z,200nm,1.6s
KMRS **Kahramanmaras** 18.52 298 *i* P **P** 19 53 15.9 +0.2
NRN **Naryn** 18.57 48 *e*P **P** 19 53 15.8 -0.8
comp=Z,50nm,0.8s
NRN **Naryn** 18.57 48 *e*P **P** 19 53 15.8 -0.8
NRN pmax pmax
comp=Z,50nm,0.8s
GOF **Gofitskoye** 18.57 326 *e*P **P** 19 53 16.0 -0.2
GOF pmax pmax
comp=Z,170nm,1.3s
KBK **Karagaybulak** 18.58 44 P **P** 19 53 16.9 +0.4
SNR=30
HWQ **Hawqa** 18.64 288 *e*P **Pn** 19 53 18.5 +1.0
WALJ **Wala** 18.66 279 P **P** 19 53 17.6 +0.4
CHMS **Chumysh** 18.67 43 P **P** 19 53 18.2 +0.8
SNR=16
USP **Ospenovka** 18.69 42 P **P** 19 53 17.2 -0.3
SNR=25
CUKAN **kangal_SIVAS** 18.70 304 *i* P **Pn** 19 53 20.0 +1.8
CUZAR **Zara_SIVAS** 18.71 306 *i* P **Pn** 19 53 20.3 +2.0
TAHT **Tahtakopru-Hat** 18.79 294 *i* P **P** 19 53 19.2 +0.6
KSDI **Kefar Szold** 18.80 284 P **Pn** 19 53 20.2 +1.0
comp=Z,222nm,1.6s
KARJ 18.81 278 P **Pn** 19 53 20.1 +0.7
comp=Z,161nm,0.9s
JDRJ **Daraweish** 18.83 277 P **P** 19 53 18.0 -1.2
comp=Z,193nm,1.1s
BHL **Bhannes** 18.85 287 *e*P **Pn** 19 53 21.1 +1.1
HSNJ **Maan** 18.85 275 P **P** 19 53 20.2 +0.7
GHAJ **Ghor Haditha** 18.88 278 P **P** 19 53 19.7 +0.1
comp=Z,249nm,1.6s
DQRL **Deir Qamar** 18.90 286 *e*P **Pn** 19 53 22.1 +1.5
LISJ **El Lisan** 18.95 278 P **P** 19 53 21.0 +0.6
comp=Z,143nm,1.6s
MMLI **Mont Malkishu** 18.98 282 P **P** 19 53 21.3 +0.6
comp=Z,174nm,1.5s
BEYL **Beirut** 18.98 286 *e*P **Pn** 19 53 22.1 +0.7
TKM2 **Tokmak 2** 19.13 44 P **P** 19 53 23.2 +0.7
SNR=128
ULHL **Ulahol** 19.15 47 P **P** 19 53 23.6 +0.8
SNR=24
CUALT **Altinyayla-SIV** 19.20 303 *i* P **Pn** 19 53 26.6 +2.4
SVSK **Karacayir** 19.27 305 *e*P **Pn** 19 53 27.3 +2.5
CEYT **Ceyhan** 19.27 296 *e*P **Pn** 19 53 25.6 +0.6
KOZT **Kozan** 19.33 297 *e*P **Pn** 19 53 26.5 +0.8
SOC **Sochi** 19.35 318 *d* iP **P** 19 53 26.2 +1.5
SOC *e* 19 57 01.7
SOC pmax pmax
comp=Z,103nm,0.9s
SOC MLR MLR
comp=Z,2μm,12.0s
AMAZ **Amatzia** 19.42 279 P **Pn** 19 53 27.2 +0.4
comp=Z,350nm,1.6s
HRFI **Mount Harif** 19.43 275 P **P** 19 53 26.9 +1.1
comp=Z,477nm,1.6s
AQBJ **Aqaba** 19.46 274 P **Pn** 19 53 28.0 +0.7
comp=Z,200nm,1.4s
EIL **Elat** 19.55 274 P **P** 19 53 28.1 +1.0
comp=Z,1.0nm,0.3s,baz=83,slow=0.2,SNR=68
EIL LR LR 20 02 21.8
comp=Z,8μm,18.7s,baz=85,slow=41
EIL **Elat** 19.55 274 P **P** 19 53 28.1 +1.0
comp=Z,169nm,1.4s
CUSAR **Sarkisla-SIVAS** 19.62 303 *i* P **Pn** 19 53 29.8 +0.6
BNN **Bunyan** 19.72 301 *e*P **P** 19 53 25.9 -3.0
TOKT **Tokat** 19.75 306 *e*P **P** 19 53 30.5 +1.4
MTBS **Maitube** 19.75 45 *e*P **P** 19 53 29.3 +0.2
MTBS pmax pmax
comp=Z,288nm,1.3s
MTBS **Maitube** 19.75 45 *e*P **P** 19 53 29.4 +0.2
comp=Z,288nm,1.3s
DAMY **Dhamar** 19.82 220 *e*P **P** 19 53 27.9 -2.4
comp=Z,191nm,0.9s
TARG **Taragay, Kyrgy** 19.90 50 *e*P **P** 19 53 32.3 +1.2
comp=Z,159nm,1.1s
KZIT **Kzt** 19.90 277 P **P** 19 53 32.3 +1.5
comp=Z,423nm,1.8s
TNSS **Tian-Shan** 20.01 45 ⇓*e*P **P** 19 53 32.8 +0.4
TNSS pmax pmax
comp=Z,696nm,1.2s
TNSS **Tian-Shan** 20.01 45 ⇓*e*P **P** 19 53 32.9 +0.4
comp=Z,696nm,1.2s
AKTO **Aktyubinsk** 20.06 1 LR LR 20 02 42.2
comp=Z,12μm,18.6s,baz=170,slow=41
AAA **Alma-Ata** 20.09 45 *ce*P **P** 19 53 34.1 +1.2
AAA *e*S Sn 19 57 21.9 +1.5
AAA pmax pmax
comp=Z,233nm,1.5s
AAA smax smax
comp=E,3μm,8.3s
AAA MLR MLR
comp=Z,1μm,15.0s
AAA **Alma-Ata** 20.09 45 ⇑*e*P **P** 19 53 34.1 +1.2
comp=Z,233nm,1.5s
AAA *e*S Sn 19 57 21.9 +1.5
comp=Z,3μm,8.3s
AAA *e*LRM MLR 20 01 48.2
comp=Z,1μm,15.2s
KUU **Kurty** 20.13 43 *d* iP **P** 19 53 33.1 -0.2
KUU pmax pmax
comp=Z,480nm,1.2s
KUU MLR MLR
comp=Z,2μm,14.0s
KUU **Kurty** 20.13 43 ⇓*i* P **P** 19 53 33.1 -0.2
comp=Z,480nm,1.2s
KUU *e*S Sn 19 57 24.2 +2.8
comp=Z,1μm,3.1s
KUU *e*LRM MLR 20 01 53.5
comp=Z,2μm,14.2s
MDOK **Medeo** 20.14 45 *ce*P **P** 19 53 32.2 -1.3
MDOK *i* S **S** 19 57 21.7 +2.3
MDOK pmax pmax
comp=Z,443nm,1.2s
MDOK MLR MLR
comp=Z,2μm,17.0s
MDOK **Medeo** 20.14 45 ⇑*e*P **P** 19 53 32.3 -1.3
comp=Z,443nm,1.2s
MDOK ⇑*i* S **S** 19 57 21.8 +2.3
comp=Z,2μm,8.1s
MDOK *e*LRM MLR 20 01 46.5
comp=Z,2μm,17.4s
EREN **Erenkoy** 20.25 291 *e*P Pn 19 53 38.5 +2.0
KVT **Kavak** 20.40 307 *e*P **P** 19 53 35.9 -0.4
KIZK **Mersin** 20.42 294 *e*P Pn 19 53 41.6 +3.0
CHKK **Chushkaly** 20.49 44 ⇑*e*P **P** 19 53 37.4 +0.2
CHKK pmax pmax
comp=Z,629nm,0.9s
CHKK **Chushkaly** 20.49 44 ⇑*e*P **P** 19 53 37.4 +0.2
comp=Z,629nm,0.9s
PRZ **Przheval'sk** 20.65 48 *e*P Pn 19 53 41.4 0.0
comp=Z,254nm,1.6s
PRZ **Przheval'sk** 20.65 48 *e*P Pn 19 53 41.4 0.0
PRZ pmax pmax
comp=Z,254nm,1.6s
IKL **Isikli** 20.74 293 *e*P **P** 19 53 41.8 +1.9
AKKU **Akkuyu-Mersin** 20.84 292 *e*P Pn 19 53 45.9 +2.4
CSS **Mathiatis** 20.86 289 *i* P Pn 19 53 47.8 +4.1
CSS **Mathiatis** 20.86 289 *e*P **P** 19 53 40.4 -0.9
comp=Z,727nm,1.6s
CSS **Mathiatis** 20.86 289 P **P** 19 53 42.1 +0.9
comp=Z,62nm,1.6s
SATY **Saty** 20.94 47 *d* iP **P** 19 53 41.5 -0.6
SATY pmax pmax
comp=Z,1μm,1.2s
SATY MLR MLR
comp=Z,2μm,12.0s
SATY **Saty** 20.94 47 ⇓*i* P **P** 19 53 41.6 -0.6
comp=Z,1μm,1.2s
SATY *e*LRM MLR 20 02 25.8
comp=Z,2μm,11.8s
MAMC **Mammari** 20.97 290 P **P** 19 53 43.6 +1.2
CDAG **Cicekdag** 21.05 302 *i* P **P** 19 53 43.4 0.0
BERE **Bereket-Mersin** 21.13 293 *e*P **P** 19 53 47.2 +2.9
AKDN **Akdeniz- Kıbrı** 21.19 290 P **P** 19 53 39.2 -5.6
SZAC **Souni** 21.21 288 P **P** 19 53 45.6 +0.6
JBP **Jabalpur** 21.28 104 *e*P **P** 19 53 47.8 +2.1
UZB **Uzynbulak** 21.37 47 *d* iP **P** 19 53 46.5 -0.3
UZB *i* S Sn 19 57 54.8 +3.4
UZB pmax pmax
comp=Z,326nm,1.1s
UZB MLR MLR
comp=Z,1μm,10.0s
UZB **Uzynbulak** 21.37 47 ⇓*i* P **P** 19 53 46.5 -0.3
comp=Z,326nm,1.1s
UZB ⇑*i* S Sn 19 57 54.8 +3.4
comp=Z,1μm,8.3s
UZB *e*LRM MLR 20 03 15.8
comp=Z,1μm,9.9s
SNOP **Sinop** 21.38 309 *e*P **P** 19 53 46.6 -0.1
comp=Z,80nm,1.0s
ANN **Anapa** 21.40 318 *e*P **P** 19 53 41.5 -5.4
ANN *e**PP **sP** 19 53 53.2 -0.9
ANN *e*S S 19 57 32.8 -11
ANN pmax pmax
comp=Z,151nm,1.1s
ANN MLR MLR
comp=N,2μm,14.0s
ANN MLR MLR
comp=E,368nm,14.0s
ANN MLR MLR
comp=Z,2μm,14.0s
NGP **Nagpur** 21.42 110 ⇓*e*P **P** 19 53 49.0 +1.6
NGP *e*S Sn 19 57 55.6 +2.9
ALFC **Alefka** 21.48 289 P **P** 19 53 49.1 +1.2
BR101 **Keskin Array S** 21.62 302 *e*P **P** 19 53 49.1 -0.4
BR131 **Keskin Array S** 21.62 302 *e*P **P** 19 53 48.6 -0.9
BR131 **Keskin Array S** 21.62 302 P **P** 19 53 49.1 -0.4
SNR=100
BRTR **Keskin Array B** 21.62 302 P **P** 19 53 49.1 -0.4
comp=Z,73nm,0.8s,baz=117,slow=12,SNR=276
BRTR LR LR 20 03 23.5
comp=Z,2μm,19.2s,baz=99,slow=40
SHLS **Shalkode** 21.66 48 *d* iP **P** 19 53 52.2 +2.3
SHLS pmax pmax
comp=Z,1μm,0.9s
SHLS MLR MLR
comp=Z,2μm,14.0s
SHLS **Shalkode** 21.66 48 ⇓*i* P **P** 19 53 52.2 +2.3
comp=Z,1μm,0.9s
SHLS *e*LRM MLR 20 03 21.7
comp=Z,2μm,14.0s
PPCY **Paphos** 21.66 289 P **P** 19 53 50.9 +1.1
TDK **Taldyqorghan** 21.98 43 *d* iP **P** 19 53 52.8 -0.4
TDK *i* S **S** 19 57 59.3 +4.0
TDK pmax pmax
comp=Z,796nm,0.9s
TDK MLR MLR
comp=Z,8μm,15.0s
TDK **Taldyqorghan** 21.98 43 ⇓*i* P **P** 19 53 52.9 -0.4
comp=Z,796nm,0.9s
TDK ⇑*i* S **S** 19 57 59.3 +4.0
comp=Z,2μm,9.2s
TDK *e*LRM MLR 20 03 38.8
comp=Z,8μm,14.7s
ILGA **Ilgaz** 22.01 305 *e*P **P** 19 53 53.4 -0.4
LADK **Ladik-KONYA** 22.16 297 *e*P **P** 19 53 56.4 +1.1
ANTO **Ankara** 22.28 302 *e*P **P** 19 53 55.7 -0.9
comp=Z,71nm,1.0s
ANTO LR LR
comp=Z,2μm,22.0s
ANTO **Ankara** 22.28 302 ⇑*i* P **P** 19 53 56.1 -0.5
ANTO **Ankara** 22.28 302 *e*P **P** 19 53 55.7 -0.9
ANTO pmax pmax
comp=Z,71nm,1.0s
ANTO MLR MLR
comp=Z,2μm,22.0s
ANTO **Ankara** 22.28 302 P **P** 19 53 56.0 -0.6
SNR=18
BR231 **Keskin MP Arra** 22.29 302 *e*P **P** 19 53 56.3 -0.4
PYUN **Piuthan** 22.33 89 *e*P **P** 19 53 58.2 +0.9
KOLN **Koldanda** 22.93 90 *e*P **P** 19 54 04.1 +0.4
comp=Z,783nm,1.4s
DANN **Dangsing** 22.95 88 *e*P **P** 19 54 04.5 +0.6
comp=Z,1μm,1.0s
HYB **Hyderabad** 23.10 119 *i* P **P** 19 54 06.0 +0.7
comp=Z,200nm,1.0s
HYB *e* 19 54 15.0
HYB *e*S **S** 19 58 18.0 +1.9
ATD **Arta Tunnel** 23.16 219 P **P** 19 54 06.5 +0.6
comp=Z,78nm,1.1s,baz=31,slow=7.9,SNR=24
ATD LR LR 20 04 54.1
comp=Z,11μm,18.2s,baz=36,slow=41
ATD **Arta Tunnel** 23.16 219 *e*P **P** 19 54 06.0 +0.1
comp=Z,133nm,1.2s
SIM **Simferopol'** 23.46 315 *e*P **P** 19 54 09.4 +0.8
SIM pmax pmax
comp=Z,650nm,3.2s
SIM MLR MLR
comp=Z,4μm,16.3s
ISP **Isparta** 23.51 296 *e*P **P** 19 54 08.7 -0.7
comp=Z,583nm,1.8s
ISP **Isparta** 23.51 296 ⇑*i* P **P** 19 54 09.0 -0.4
ISP **Isparta** 23.51 296 *e*P **P** 19 54 08.7 -0.7
ISP pmax pmax
comp=Z,583nm,1.8s
VRH **Novokhopyorsk** 23.92 335 *e*P **P** 19 54 12.9 -0.1
VRH *e*S **S** 19 58 24.2 -4.5
VRH pmax pmax
comp=Z,210nm,1.6s
VRH smax smax
comp=E,1μm,9.0s
VRH MLR MLR
comp=Z,2μm,13.0s
DMN **Daman** 24.27 90 *e*P **P** 19 54 17.2 +0.4
comp=Z,1μm,1.7s
KKN **Kakani** 24.38 89 *e*P **P** 19 54 18.4 +0.6
comp=Z,575nm,1.3s
PKIN **Phulchoki** 24.52 90 *e*P **P** 19 54 19.5 +0.3
comp=Z,449nm,1.2s
BRVK **Borovoye** 24.53 19 *e*P **P** 19 54 18.7 +0.1
comp=Z,94nm,0.8s
BRVK LR LR
comp=Z,837nm,20.0s
BRVK **Borovoye** 24.53 19 *d* iP **P** 19 54 19.5 +0.9
BRVK pmax pmax

comp=Z,108nm,0.8s
BRVK Borovoye 24.53 19 P P 19 54 19.1 +0.5
SNR=52
GUN Gumba 24.87 89 *e*P P 19 54 23.4 +1.0
comp=Z,544nm,1.0s
VSR Storozhevoye 24.92 332 *e*P P 19 54 22.0 -0.1
VSR *e*S S 19 58 43.3 -1.5
VSR pmax pmax
comp=Z,210nm,1.7s
VSR smax smax
comp=N,1μm,10.8s
VSR MLR MLR
comp=Z,2μm,15.0s
MAKZ Makanchi 25.06 42 *e*P P 19 54 24.1 +0.6
comp=Z,182nm,0.8s
MAKZ Makanchi 25.06 42 *e*P P 19 54 24.1 +0.6
MAKZ pmax pmax
comp=Z,182nm,0.8s
MANT Manisa 25.15 297 *e*P P 19 54 25.2 +0.4
comp=Z,364nm,1.0s
JIRN Jiri 25.19 89 *e*P P 19 54 26.3 +1.0
comp=Z,758nm,1.1s
MK01 Makanchi Array 25.22 43 *e*P P 19 54 25.8 +0.7
MK31 Makanchi Array 25.23 42 *e*P P 19 54 25.9 +0.8
MK31 Makanchi Array 25.23 42 *e*P P 19 54 25.9 +0.8
MK32 Makanchi Array 25.23 42 *e*P P 19 54 26.0 +0.9
MKAR Makanchi Array 25.23 42 P P 19 54 26.0 +0.9
comp=Z,63nm,0.8s,baz=226,slow=8.2,SNR=463
MKAR LR LR 20 06 04.2
comp=Z,6μm,18.1s,baz=250,slow=41
MKAR Makanchi Array 25.23 42 P P 19 54 26.0 +0.9
MKAR pmax pmax
comp=Z,61nm,0.8s
MKAR MLR MLR
comp=Z,6μm,18.1s
VORR Voronezh 25.25 333 *e*P P 19 54 22.0 -3.1
VORR pmax pmax
comp=Z,400nm,2.0s
KURBB Kurchatov Arra 25.63 32 P P 19 54 29.8 +1.2
comp=Z,36nm,0.9s,baz=232,slow=9.6,SNR=68
RAMN Ramite 25.71 90 *e*P P 19 54 30.3 +0.4
comp=Z,528nm,0.9s
KURK Kurchatov 25.74 32 *e*P P 19 54 30.5 +1.0
comp=Z,88nm,1.0s
KURK LR LR
comp=Z,14μm,19.0s
KURK Kurchatov 25.74 32*c i*P P 19 54 31.1 +1.5
KURK pmax pmax
comp=Z,34nm,1.1s
KURK Kurchatov 25.74 32 P P 19 54 30.4 +0.8
SNR=33
ARU Arti 26.07 1 *e*P P 19 54 33.9 +1.3
comp=Z,212nm,1.3s
ARU LR LR
comp=Z,2μm,21.0s
ARU Arti 26.07 1 P P 19 54 35.4 +2.8
ARU 19 55 17.4
ARU 19 57 57.6
ARU *e*S S 19 59 08.6 +5.5
ARU SS SnSn 20 00 12.4 +11
ARU MLR MLR
comp=Z,4μm,24.0s
LPSR Galich'ya Gora 26.08 334 *e*P P 19 54 32.4 -0.3
LPSR pmax pmax
comp=Z,120nm,0.9s
SEM Semipalatinsk 26.29 34*de*P P 19 54 34.1 -0.8
SEM pmax pmax
comp=Z,303nm,1.2s
SEM MLR MLR
comp=Z,4μm,14.0s
SEM Semipalatinsk 26.29 34⇓*e*P P 19 54 34.2 -0.8
comp=Z,303nm,1.2s
SEM ⇑*i*S S 19 59 22.4 +15
comp=Z,2μm,7.1s
SEM *e*LRM MLR 20 05 55.2
comp=Z,4μm,13.8s
ANKE Ethiopia-Afar 26.50 222 *i* P P 19 54 35.5 -1.7
ANKE Ethiopia-Afar 26.50 222 *i* P P 19 54 35.5 -1.7
SVE Sverdlovsk 26.55 4 *e*P P 19 54 37.9 +1.0
SVE *e*S S 19 59 14.8 +4.2
SVE pmax pmax
comp=Z,163nm,1.6s
SVE MLR MLR
comp=Z,3μm,12.0s
TIRR Tirgusor 26.90 310 *e*P P 19 54 40.2 0.0
comp=Z,28nm,1.1s
TIRR Tirgusor 26.90 310⇑*i*P P 19 54 40.1 0.0
TIRR Tirgusor 26.90 310 *e*P P 19 54 40.2 0.0
TIRR pmax pmax
comp=Z,28nm,1.1s
ZSN Zaisan 27.08 43*c i*P P 19 54 41.7 -0.1
ZSN pmax pmax
comp=Z,112nm,1.1s
ZSN MLR MLR
comp=Z,2μm,13.0s
ZSN Zaisan 27.08 43⇑*i*P P 19 54 41.7 -0.1
comp=Z,112nm,1.1s
ZSN *e*LRM MLR 20 06 13.6
comp=Z,2μm,12.6s
MDRS Chennai 27.15 124 *ex* P 19 54 36.8 -5.8
MDRS *ex* x 19 56 58.8
MDRS *ex* x 19 59 06.8
MDRS *ex* x 20 02 54.8
MDRS *ex* x 20 04 54.8
MDRS *ex* x 20 08 04.8
TLB Topalu 27.19 310⇑*i*P P 19 54 42.9 +0.1
HARR Harsova 27.30 310⇑*i*P P 19 54 44.1 +0.3
CFR Carcaliu 27.35 311⇓*i*P P 19 54 45.7 +1.5
WMQ Urumqi 27.40 52 P P 19 54 46.1 +1.3
WMQ pP sP 19 54 56.6 +4.6
WMQ sP pP 19 55 03.4 +14
WMQ S S 19 59 23.8 -0.6
WMQ sS sS 19 59 44.0 +12
WMQ SS SnSn 20 00 43.1 +9.3
WMQ pmax pmax
comp=Z,89nm,1.1s
WMQ pmax pmax
comp=Z,610nm,3.8s
WMQ LR LR
comp=Z,20μm,23.1s
WMQ LR LR
comp=Z,8μm,16.1s
WMQ LR LR
comp=Z,7μm,22.1s
FURI Furi 27.67 223 *e*P P 19 54 49.4 +1.6
comp=Z,59nm,1.1s
KIS Kishinev 27.68 315 *e*P P 19 54 42.0 -5.2
comp=Z,530nm,3.0s
KIS Kishinev 27.68 315 *e*PP PnPn 19 55 26.0 -6.8
KIS Kishinev 27.68 315 *e*PPP PP 19 55 40.0 -10
KIS *e*S S 19 59 30.0 +1.4
KIS LQM 20 08 30.0
comp=Z,2μm,24.0s
KIS LRM MLR 20 09 20.0
comp=Z,2μm,17.0s
KIS Kishinev 27.68 315 *e*P P 19 54 42.0 -5.2
KIS *e*PPP PP 19 55 40.0 -10
KIS *e*S S 19 59 30.0 +1.4
KIS *e* 19 59 44.0
KIS pmax pmax
comp=Z,530nm,3.0s
KIS MLR MLR
comp=Z,2μm,17.0s
IDI Anoyia 27.78 289 *e*P P 19 54 49.1 +0.8
comp=Z,184nm,1.5s
IDI Anoyia 27.78 289⇑*i*P P 19 54 48.1 -0.2
ISR Istrita 28.38 310⇑*i*P P 19 54 52.8 -0.7
VRI Vrincioaia 28.53 312⇑*i*P P 19 54 56.6 +1.8
PLOR Plostina 28.57 311⇑*i*P P 19 54 54.3 -0.9
MLR Muntele Rosu 28.91 310 P P 19 54 59.7 +1.5
comp=Z,11nm,0.8s,baz=193,slow=8.3,SNR=17
MLR LR LR 20 06 53.1
comp=Z,2μm,21.2s,baz=123,slow=37
MLR Muntele Rosu 28.91 310 *e*P P 19 54 59.9 +1.6
comp=Z,45nm,1.3s
MLR Muntele Rosu 28.91 310⇑*i*P P 19 55 00.0 +1.7
MLR Muntele Rosu 28.91 310 P P 19 54 59.7 +1.5
MLR pmax pmax
comp=Z,11nm,0.8s
MLR MLR MLR
comp=Z,2μm,21.3s
OBN Obninsk 28.91 335 P P 19 54 59.2 +1.2
comp=Z,4.4nm,0.8s,baz=112,slow=2.6,SNR=11
OBN LR LR 20 09 02.4
comp=Z,410nm,19.6s,baz=152,slow=42

OBN Obninsk 28.91 335 *e*P P 19 54 58.5 +0.5
comp=Z,134nm,1.5s
OBN Obninsk 28.91 335⇓*i*P P 19 54 58.5 +0.5
OBN Obninsk 28.91 335*d i*P P 19 54 59.0 +1.0
OBN *i* 19 55 14.3
OBN *i* 19 55 58.5
OBN pmax pmax
comp=Z,100nm,1.7s
OBN MLR MLR
comp=Z,2μm,17.0s
MOS Moscow 29.03 337 *e*P P 19 54 57.1 -1.9
MOS *e* 19 55 09.8
MOS *e* 19 55 49.6
MOS *e*S S 19 59 46.2 -3.4
MOS *e*SS SnSn 20 01 12.3 -0.8
MOS pmax pmax
comp=Z,100nm,1.5s
MOS MLR MLR
comp=Z,800nm,16.0s
LSA Lhasa 29.07 83 PFAKE 19 55 10.0 +10
LSA LR LR
comp=Z,6μm,21.0s
LSA Lhasa 29.07 83 P P 19 54 50.2 -10
OZUR 29.23 311⇓*i*P P 19 55 00.6 -0.4
AKASG Malin Array Be 29.30 322 P P 19 55 01.4 -0.1
comp=Z,15nm,0.8s,baz=123,slow=8.4,SNR=48
AKASG PcP PcP 19 58 07.0 -0.8
comp=Z,1.8nm,0.7s,baz=95,slow=2.6,SNR=3.4
AKASG LR LR 20 08 00.4
comp=Z,1μm,18.9s,baz=105,slow=39
AKBB Malin Array Si 29.30 322 *e*P P 19 55 00.7 -0.8
comp=Z,28nm,0.9s
KIEV Kiev 29.30 322 *e*P P 19 55 00.4 -1.2
comp=Z,27nm,0.9s
KIEV LR LR
comp=Z,2μm,21.0s
KIEV Kiev 29.30 322⇓*i*P P 19 55 01.9 +0.3
KIEV Kiev 29.30 322 *i* P P 19 55 01.7 +0.2
SNR=9.5
KIEV Kiev 29.30 322*d i*P P 19 55 02.1 +0.5
KIEV pmax pmax
comp=Z,38nm,1.1s
AK11 Malin Array Si 29.32 322 *e*P P 19 55 00.7 -1.0
BIZ Bicaz 29.34 313⇓*i*P P 19 55 02.7 +0.7
MTUR Matau 29.40 309⇓*i*P P 19 55 03.0 +0.4
DOPR Dopca 29.44 311⇓*i*P P 19 55 02.8 -0.1
VOIR 29.48 310⇑*i*P P 19 55 02.9 -0.4
ARR Arges 29.73 309⇓*i*P P 19 55 05.3 -0.2
VTS Vitosha 29.97 304 *e*P P 19 55 05.9 -1.9
comp=Z,36nm,1.6s
VTS Vitosha 29.97 304⇑*i*P P 19 55 06.5 -1.2
VTS Vitosha 29.97 304 *e*P P 19 55 05.9 -1.9
VTS pmax pmax
comp=Z,36nm,1.6s
BURAR Bucovina Array 30.16 314⇓*i*P P 19 55 08.5 -0.9
BUR04 Bucovina Ar. S 30.17 314 *e*P P 19 55 08.5 -0.9
BUR08 Bucovina Ar. S 30.18 314 *e*P P 19 55 09.4 -0.1
ARCR ARCALIA 30.51 313⇓*i*P P 19 55 14.2 +1.9
ZALV Zalesovo Beam 30.73 32 P P 19 55 15.2 +1.1
comp=Z,27nm,0.7s,baz=237,slow=9.0,SNR=22
ZALV PcP PcP 19 58 11.8 +0.2
comp=Z,3.8nm,0.8s,baz=251,slow=4.4,SNR=3.4
ZALV LR LR 20 08 01.6
comp=Z,2μm,18.2s,baz=224,slow=37
ZAA1 Zalesovo Array 30.73 32 *e*P P 19 55 15.2 +1.1
ZAA1 *e*PcP PcP 19 58 11.8 +0.2
GZR Gura Zlata 30.99 309⇓*i*P P 19 55 18.6 +2.0
ORGR 31.46 311⇑*i*P P 19 55 19.6 -1.2
MDVR Moldovita 31.54 307⇓*i*P P 19 55 23.0 +1.5
PALK Pallekele 31.62 132 P P 19 55 23.0 +0.5
comp=Z,9.3nm,0.8s,baz=296,slow=6.5,SNR=4.1
PALK Pallekele 31.62 132 *e*P P 19 55 21.4 -1.0
comp=Z,31nm,1.1s
PALK Pallekele 31.62 132 P P 19 55 23.0 +0.5
PALK pmax pmax
comp=Z,9.0nm,0.8s
LVV L'vov 31.78 317 *e*P P 19 55 24.1 +0.6
LVV *e*S S 20 00 32.1 -0.9
BZS Buzias 31.83 309⇓*i*P P 19 55 24.1 +0.1
TRPA Tarpa 32.03 314⇓*i*P P 19 55 25.0 -0.6
TRPA Tarpa 32.03 314 *e*P P 19 55 27.1 +1.4
MICGM Minsk 32.15 327 *e* P 19 55 27.0 +0.4
MNK Minsk 32.15 327 *e*P P 19 55 27.0 +0.4
TIR Tirane 32.20 300 *e*P P 19 55 26.2 -1.1
comp=Z,103nm,1.2s
TIR Tirane 32.20 300 *e*P P 19 55 26.2 -1.1
TIR pmax pmax
comp=Z,103nm,1.2s
PRGR Permogore 32.25 349 *e*P P 19 55 27.1 -0.3
PRGR *e**PP sP 19 55 35.9 +1.5
PRGR *e* 19 56 32.0
PRGR pmax pmax
comp=Z,43nm,1.5s
UZH Uzhgorod 32.36 314 *e*P P 19 55 31.9 +3.3
UZH *e* 19 55 41.2
UZH *e*S S 20 00 43.0 +1.0
KWP Kalwaria Pacla 32.49 316 *e*P P 19 55 31.3 +1.6
KWP Kalwaria Pacla 32.49 316 *e*P P 19 55 29.9 +0.2
comp=Z,546nm,1.4s
KWP Kalwaria Pacla 32.49 316 *e*P P 19 55 29.9 +0.2
KWP pmax pmax
comp=Z,547nm,1.4s
KLMR Klimovskoe 32.76 344 *e*P P 19 55 32.5 +0.6
KLMR *e* 19 56 44.2
KLMR pmax pmax
comp=Z,145nm,1.5s
KLMR Klimovskoe 32.76 344 *e*P P 19 55 32.5 +0.6
KLMR AMP 19 55 37.9
comp=Z,145nm,1.5s
KLMR *e*PP PP 19 56 44.2 -1.8
NACGM Naroch 32.90 327 *e* P 19 55 34.0 +0.8
NACGM *e*LR LR 20 06 26.0
IDID Didziasalis 33.16 328 *e*P P 19 55 35.4 -0.1
IDID IAmb IAmb 19 55 37.9
comp=Z,9.7nm,0.8s
IIGN Ignalina 33.42 327 *e*P P 19 55 38.1 +0.3
IIGN IAmb IAmb 19 55 40.3
comp=Z,16nm,1.0s
ISAL Salakas 33.60 328 *e*P P 19 55 39.1 -0.2
ISAL IAmb IAmb 19 55 43.8
comp=Z,11nm,0.9s
PSZ Piszkesteto 33.63 312 *e*P P 19 55 39.3 -0.5
comp=Z,9.4nm,0.8s
PSZ Piszkesteto 33.63 312⇓*i*P P 19 55 39.4 -0.4
IZAR Zarasai 33.65 328 *e*P P 19 55 39.3 -0.4
IZAR IAmb IAmb 19 55 42.1
comp=Z,15nm,1.0s
NIE Niedzica 33.87 315 *e*P P 19 55 41.7 -0.1
NIE Niedzica 33.87 315 *e*P P 19 55 41.7 -0.1
SUW Suwalki 34.19 324 *e*P P 19 55 39.2 -5.3
comp=Z,88nm,1.2s
SUW Suwalki 34.19 324 *e*P P 19 55 39.2 -5.2
SUW pmax pmax
comp=Z,88nm,1.2s
LANS Liptovska Anna 34.29 314 *e*P P 19 55 46.6 +1.1
LANS Liptovska Anna 34.29 314 *e*P P 19 55 46.6 +1.1
TIP Timpagrande 34.38 296 *e*P P 19 55 47.0 +0.6
comp=Z,94nm,1.5s
TIP Timpagrande 34.38 296⇓*i*P P 19 55 47.1 +0.7
OJC Ojcow 34.45 316 *e*P P 19 55 46.9 +0.1
OJC Ojcow 34.45 316 *e*P P 19 55 46.2 -0.6
comp=Z,33nm,1.0s
OJC Ojcow 34.45 316 *e*P P 19 55 46.2 -0.6
OJC pmax pmax
comp=Z,33nm,1.0s
VYHS Vyhne 34.48 313 *e*P P 19 55 47.5 +0.4
VYHS pmax pmax
comp=Z,20nm,1.9s
VYHS Vyhne 34.48 313 *e*P P 19 55 47.5 +0.4
VYHS *e*PP PnPn 19 57 04.1 +2.0
PABE Paberze 34.58 326 *e*P P 19 55 47.0 -0.8
PABE IAmb IAmb 19 55 49.7
comp=Z,36nm,0.8s
VSU Vasula 35.10 332⇑*e*P P 19 55 53.2 +0.9
VSU pmax pmax
comp=Z,163nm,1.7s
VSU Vasula 35.10 332 *e*P P 19 55 52.6 +0.3
JAVC Velka Javorina 35.33 313 *e*P P 19 55 55.9 +1.5
MODS Modra-Piesok 35.44 312 *e*P P 19 55 56.6 +1.2
MODS pmax pmax
comp=Z,65nm,2.0s
MODS Modra-Piesok 35.44 312 *e*P P 19 55 56.6 +1.2
GTA Gaotai 35.58 64 ⇓P P 19 55 58.4 +1.6
GTA pP sP 19 56 03.8 +0.1

GTA sP pP 19 56 07.0 +5.3
GTA S S 20 01 37.3 +4.9
GTA PcS PcS 20 02 12.3 -0.6
GTA pmax pmax
comp=Z,100nm,1.2s
GTA pmax pmax
comp=Z,240nm,4.2s
GTA LR LR
comp=Z,5μm,14.1s
GTA LR LR
comp=Z,3μm,15.5s
GTA LR LR
comp=Z,4μm,14.8s
MORC Moravsky Berou 35.68 314 *e*P P 19 55 56.5 -1.0
comp=Z,48nm,2.0s
MORC Moravsky Berou 35.68 314⇑*i*P P 19 55 57.0 -0.4
MORC Moravsky Berou 35.68 314 *e*P P 19 55 56.5 -1.0
MORC pmax pmax
comp=Z,49nm,2.0s
MORC Moravsky Berou 35.68 314 *e*P P 19 55 57.0 -0.4
SOP Sopron 35.73 311 *e*P P 19 55 58.0 +0.2
KLNR Kaliningrad 36.00 323*ce*P P 19 56 01.8 +1.8
KLNR pmax pmax
comp=Z,303nm,1.6s
VRAC Vranov 36.13 313⇑*i*P P 19 56 02.6 +1.3
VRAC Vranov 36.13 313 *e*P P 19 56 01.2 -0.1
KRUC Moravsky 36.19 313 *e*P P 19 56 00.3 -1.5
KRLC Kraliky 36.24 315 *e*P P 19 56 03.4 +1.2
KRLC Kraliky 36.24 315 *e*P P 19 56 03.4 +1.2
CONA Conrad Observa 36.25 311 *e*P P 19 56 02.7 +0.3
comp=Z,17nm,1.4s
ARSA Arzberg 36.32 310 *e*P P 19 56 03.2 +0.2
comp=Z,8.9nm,0.8s
SLIT Slitere, Latvi 36.51 329 *e*P P 19 56 04.6 +0.3
SLIT *e* 19 56 04.6
DPC Dobruska-Polom 36.60 315 *e*P P 19 56 05.7 +0.4
DPC AMS AMS 20 15 00.0
comp=Z,2μm,25.8s
DPC Dobruska-Polom 36.60 315 *e*P P 19 56 05.7 +0.4
DPC MLR MLR
comp=Z,2μm,25.8s
KSP Ksiaz 36.77 316 *e*P P 19 56 08.1 +1.4
KSP Ksiaz 36.77 316 *e*P P 19 56 08.1 +1.4
KMBO Kilima Mbogo 36.78 215 P P 19 56 08.4 +1.0
comp=Z,19nm,1.1s,baz=19,slow=9.3,SNR=22
KMBO LR LR 20 12 20.6
comp=Z,3μm,19.3s,baz=24,slow=38
KMBO Kilima Mbogo 36.78 215 *i* P P 19 56 09.3 +1.9
KMBO pmax pmax
comp=Z,16nm,1.1s
OBKA Obir 36.82 308 *e*pP P 19 56 09.7 +2.3
comp=Z,24nm,1.6s
TREC Trest 36.83 313 *e*P P 19 56 08.3 +1.1
TREC Trest 36.83 313 *e*P P 19 56 08.3 +1.1
AQU L'Aquila 37.11 301 *e*P P 19 56 10.7 +1.0
comp=Z,51nm,1.2s
AQU L'Aquila 37.11 301 *e*P P 19 56 10.7 +1.0
AQU pmax pmax
comp=Z,51nm,1.2s
MOA Molln 37.28 310 *e*pP P 19 56 11.7 +0.6
comp=Z,23nm,1.1s
FIA0 FINESS Array S 37.31 336 *e*P P 19 56 11.1 0.0
FIA0 FINESS Array S 37.31 336 *e*P P 19 56 11.1 0.0
FINES FINESS Array B 37.31 336 P P 19 56 11.1 0.0
comp=Z,4.9nm,0.6s,baz=128,slow=9.1,SNR=19
FINES LR LR 20 14 52.3
comp=Z,1μm,19.3s,baz=136,slow=42
GOPC GO Pecny, Ondr 37.43 314 AMS AMS 20 15 50.0
comp=Z,2μm,12.3s
PVCC Panska Ves 37.73 315 *e*P P 19 56 17.1 +2.3
PVCC Panska Ves 37.73 315 *e*P P 19 56 17.1 +2.3
KBA Koelnbreinsper 37.74 309 *e*pP P 19 56 15.6 +0.4
comp=Z,36nm,1.2s
GEA0 GERESS Array S 37.86 312 *e*P P 19 56 14.6 -1.5
GEC2 GERESS Array S 37.86 312 *e*P P 19 56 14.9 -1.2
comp=Z,33nm,1.1s
GEC2 GERESS Array S 37.86 312 *e*P P 19 56 14.9 -1.2
GEC2 pmax pmax
comp=Z,33nm,1.1s
GERES GERESS Array B 37.86 312 P P 19 56 15.4 -0.7
comp=Z,5.5nm,0.8s,baz=107,slow=7.1,SNR=34
GERES PcP PcP 19 58 32.0 -0.2
comp=Z,3.2nm,0.9s,baz=119,slow=3.5,SNR=2.6
KHC Kasperske Hory 38.00 312 *e*P P 19 56 16.1 -1.1
comp=Z,20nm,1.4s
KHC Kasperske Hory 38.00 312 *e*P P 19 56 17.4 +0.2
KHC *ex* x 19 56 33.6
KHC Kasperske Hory 38.00 312 *e*P P 19 56 17.4 +0.2
KHC *e* 19 56 33.6
BRG Berggiesshubel 38.21 315 *e*P P 19 56 19.8 +0.9
comp=Z,11nm,1.3s
BRG *e* 19 56 30.2
comp=Z,39nm,1.7s
BRG *e*PP PP 19 57 47.6 +1.5
comp=Z,35nm,2.0s
BRG *e*PCP PcP 19 58 34.7 +1.6
comp=Z,42nm,1.8s
comp=N,2μm,20.9s
comp=E,2μm,27.2s
comp=Z,3μm,26.5s
BRG Berggiesshubel 38.21 315 *e*P P 19 56 19.8 +0.9
BRG *e* 19 56 30.2
BRG *e* 19 57 47.6
BRG *e* 19 58 34.7
BRG pmax pmax
comp=Z,11nm,1.3s
BRG pmax pmax
comp=Z,39nm,1.7s
BRG pmax pmax
comp=Z,35nm,2.0s
BRG pmax pmax
comp=Z,42nm,1.8s
BRG MLR MLR
comp=N,2μm,20.9s
BRG MLR MLR
comp=E,2μm,27.2s
BRG MLR MLR
comp=Z,3μm,26.5s
ABTA Abfaltersbach 38.25 308 *e*P P 19 56 18.8 -0.5
comp=Z,36nm,1.4s
MOY Mondy 38.37 44 *e*P P 19 56 22.4 +2.1
MOY pmax pmax
comp=Z,99nm,1.7s
LZH Lanzhou 38.89 69 *e*P P 19 56 26.9 +1.9
LZH pP sP 19 56 36.3 +4.4
LZH sP pP 19 56 41.8 +12
LZH *e*S S 20 02 23.4 +0.6
LZH sS sS 20 02 39.3 +8.5
LZH SS SnSn 20 05 06.1 -6.9
LZH pmax pmax
comp=Z,170nm,1.1s
LZH pmax pmax
comp=Z,530nm,4.3s
LZH LR LR
comp=Z,7μm,13.6s
LZH LR LR
comp=Z,2μm,10.0s
LZH LR LR
comp=Z,7μm,14.1s
CLL Collm 38.89 316 *e*P P 19 56 24.0 -0.6
comp=Z,31nm,1.2s
CLL *e*PP PP 19 57 52.9 -0.8
CLL Collm 38.89 316 *i* P P 19 56 25.7 +1.1
comp=Z,30nm,1.2s
CLL *i* 19 56 35.4
CLL *e*PP PP 19 57 53.0 -0.6
CLL *i* 19 58 02.6
CLL *e*SS SS 20 05 18.0 +4.5
CLL LmH 20 12 00.0
comp=N,1μm,19.0s
CLL LmH 20 12 00.0
comp=E,700nm,21.4s
CLL LmV 20 16 00.0
comp=Z,2μm,18.9s
CLL Collm 38.89 316 *e*P P 19 56 24.0 -0.6
CLL *e* 19 57 52.9
CLL pmax pmax
comp=Z,31nm,1.2s
WATA Walderalm 38.97 309 *e*P P 19 56 24.0 -1.5
comp=Z,21nm,0.8s
CHTO Chiang Mai 39.19 97 *e*P P 19 56 27.2 -0.2
comp=Z,63nm,1.3s
CHTO LR LR
comp=Z,1μm,19.0s
CHTO Chiang Mai 39.19 97 *e*P P 19 56 27.3 -0.2
CHTO pmax pmax

comp=Z,63nm,1.3s
CHTO MLR MLR
comp=Z,1μm,19.0s
CHTO Chiang Mai 39.19 97 P P 19 56 27.4 -0.1
SNR=23
CHTO Chiang Mai 39.19 97 P P 19 56 28.2 +0.8
comp=Z,194nm,1.3s,comp=Z,2μm
CMMT Chiang Mai 39.19 97 P P 19 56 28.1 +0.6
comp=Z,42nm,1.3s,comp=Z,455nm
SQTA Sankt Quirin 39.20 309 *e*P **P 19 56 26.2 -1.2**
comp=Z,37nm,1.8s,SNR=6.5
MOTA Moosalm 39.29 309 *e*P **P 19 56 27.5 -0.7**
comp=Z,23nm,1.0s,SNR=8.6
CM31 Chiang Mai Arr 39.34 98 *e*P **P 19 56 28.2 -0.5**
CM31 *e*PP **PP 19 57 58.2 -0.8**
CM31 *e*PcP **PcP 19 58 38.2 +1.0**
CM31 Chiang Mai Arr 39.34 98 P **P 19 56 28.7 0.0**
SNR=8.4
CMAR Chiang Mai Arr 39.34 98 P **P 19 56 29.1 +0.4**
comp=Z,4.5nm,0.8s,baz=291,slow=8.0,SNR=21
CMAR PP **PP 19 57 53.4 -5.6**
comp=Z,1.1nm,0.8s,baz=290,slow=8.4,SNR=2.1
CMAR PcP **PcP 19 58 38.2 +1.0**
comp=Z,4.0nm,0.9s,baz=292,slow=5.3,SNR=6.3
CMAR LR LR 20 14 46.3
comp=Z,1μm,21.5s,baz=286,slow=39
CM01 Chiang Mai Arr 39.37 98 *e*P **P 19 56 28.6 -0.3**
CM01 *e*PP **PP 19 57 58.2 -1.1**
CM01 *e*PcP **PcP 19 58 37.5 +0.2**
ZAK Zakamensk 39.44 46 *e*P **P 19 56 30.8 +1.5**
ZAK *e* 19 58 37.3
ZAK pmax pmax
comp=Z,18nm,1.1s
ZAK pmax pmax
comp=Z,17nm,1.5s
FETA Feichten 39.50 308 *e*P **P 19 56 29.0 -0.9**
comp=Z,38nm,1.0s,SNR=9.8
RETA Reutte 39.54 309 *e*P **P 19 56 29.6 -0.6**
comp=Z,16nm,1.0s
CD2 Chengdu 39.57 77 ⇑P **P 19 56 31.4 +0.8**
CD2 pP sP 19 56 40.8 +3.3
CD2 sP pP 19 56 44.9 +9.4
CD2 PP **PP 19 58 02.6 +1.2**
CD2 PcS **PcS 20 02 28.4 +0.5**
CD2 S **S 20 02 32.5 -0.4**
CD2 pmax pmax
comp=Z,80nm,0.7s
CD2 pmax pmax
comp=Z,200nm,4.8s
CD2 LR LR
comp=Z,6μm,17.4s
CD2 LR LR
comp=Z,3μm,16.9s
CD2 LR LR
comp=Z,2μm,19.4s
GRA1 Grafenberg Arr 39.63 313 *e*P **P 19 56 30.8 0.0**
comp=Z,31nm,1.2s
GRF Grafenberg Arr 39.63 313 *e*P **P 19 56 31.8 +1.0**
comp=Z,34nm,1.4s,baz=109,slow=8.8
GRF Grafenberg Arr 39.63 313 *e*P **P 19 56 30.8 0.0**
GRF pmax pmax
comp=Z,31nm,1.2s
GRFO Grafenberg 39.63 313 *e*P **P 19 56 31.2 +0.4**
comp=Z,29nm,1.2s
GRFO Grafenberg 39.63 313 *e*P **P 19 56 31.2 +0.4**
GRFO pmax pmax
comp=Z,29nm,1.2s
FUORN Ofenpass-Fuorn 39.76 308 *e*P **P 19 56 29.4 -2.8**
comp=Z,15nm,0.8s
LAMP Lampang 39.90 97 P **P 19 56 36.7 +3.3**
comp=Z,6.1nm,0.9s
APA Apatity 39.91 346 ⇑*i*P **P 19 56 33.9 +1.1**
APA pmax pmax
comp=Z,11nm,0.8s
APA MLR MLR
comp=Z,4μm,11.0s
LVZ Lovozero 39.93 347 PFAKE 19 56 40.0 +6.9
LVZ LR LR
comp=Z,1μm,19.0s
MBAR Mbarara 39.97 225 P **P 19 56 35.0 +0.9**
comp=Z,8.8nm,0.5s,baz=46,slow=7.1,SNR=27
MBAR Mbarara 39.97 225 *e*P **P 19 56 34.5 +0.4**
comp=Z,44nm,1.2s
MBAR Mbarara 39.97 225*d i*P **P 19 56 35.2 +1.0**
MBAR pmax pmax
comp=Z,49nm,1.3s
DAVA Damuels 40.11 309 *e*P **P 19 56 33.9 -1.1**
comp=Z,27nm,0.9s
KMI Kunming 40.16 86 P **P 19 56 36.8 +1.0**
KMI pP sP 19 56 43.4 +0.7
KMI sP pP 19 56 46.8 +6.1
KMI PP **PnPn 19 58 11.9 +0.2**
KMI S **S 20 02 41.4 -0.8**
KMI sS sS 20 02 53.5 +3.2
KMI pmax pmax
comp=Z,140nm,1.1s
KMI pmax pmax
comp=Z,370nm,4.4s
KMI LR LR
comp=Z,2μm,17.4s
KMI LR LR
comp=Z,1μm,17.4s
KMI LR LR
comp=Z,2μm,17.7s
KMI Kunming 40.16 86 *e*P **P 19 56 36.9 +1.1**
comp=Z,39nm,0.9s
KMI Kunming 40.16 86 *e*P **P 19 56 36.9 +1.1**
KMI pmax pmax
comp=Z,39nm,0.9s
DGAR Diego Garcia 40.20 157 PFAKE 19 56 50.0 +14
DGAR LR LR
comp=Z,1μm,19.0s
UMPA Umpang Tak 40.27 101 P **P 19 56 39.3 +2.8**
comp=Z,9.6nm,1.2s,comp=Z,101nm
SUKH Sukhothai 40.35 99 P P 19 56 42.7 +5.6
TUE Stuetta 40.37 307 *e*P **P 19 56 35.9 -1.3**
comp=Z,96nm,1.9s
KEST Kesra 40.42 291 P **P 19 56 38.2 +0.6**
comp=Z,10.0nm,0.9s,baz=27,slow=11,SNR=5.4
KEST LR LR 20 17 29.0
comp=Z,705nm,18.6s,baz=34,slow=42
KEST Kesra 40.42 291 *e*P **P 19 56 37.5 -0.1**
comp=Z,124nm,2.0s
IRK Irkutsk 40.47 44 *e*P **P 19 56 38.9 +1.1**
IRK *e* 19 58 38.8
IRK pmax pmax
comp=Z,846nm,2.0s
SONA0 Songino Array 41.01 51 *e*P **P 19 56 43.7 +1.3**
SONA0 *e*PcP **PcP 19 58 42.3 +0.1**
SONM Songino Array 41.01 51 P **P 19 56 43.7 +1.3**
comp=Z,36nm,0.9s,baz=263,slow=8.7,SNR=89
SONM PcP **PcP 19 58 42.3 +0.1**
comp=Z,3.5nm,0.8s,baz=232,slow=3.9,SNR=3.6
SONM LR LR 20 14 32.5
comp=Z,5μm,18.5s,baz=264,slow=37
SONA1 Songino Array 41.02 51 *e*P **P 19 56 43.3 +0.8**
UTTA Uttaradit 41.02 98 P **P 19 56 44.0 +1.3**
comp=Z,13nm,0.8s,comp=Z,107nm
UTHA Uthaitani 41.07 101 P **P 19 56 45.0 +1.9**
comp=Z,6.2nm,0.9s,comp=Z,56nm
BFO Black Forest 41.28 310 PFAKE 19 57 00.0 +15
BFO LR LR
comp=Z,51nm,20.0s
SRDT SRDT 41.38 103 P **P 19 56 47.7 +2.0**
comp=Z,26nm,1.4s
ULN Ulaanbaatar 41.45 51 *e*P **P 19 56 47.9 +1.8**
comp=Z,47nm,0.9s
ULN LR LR
comp=Z,4μm,21.0s
ULN Ulaanbaatar 41.45 51*d i*P **P 19 56 47.5 +1.4**
ULN pmax pmax
comp=Z,101nm,1.7s
ULN Ulaanbaatar 41.45 51 P **P 19 56 47.3 +1.2**
SNR=21
SENIN Lac Senin/Sane 41.77 307 *e*P **P 19 56 49.5 +0.7**
comp=Z,51nm,1.8s
PBKT Sadao Pong 41.90 99 *e*P **P 19 56 50.3 +0.4**
comp=Z,36nm,0.9s
PBKT Sadao Pong 41.90 99 P **P 19 56 51.2 +1.3**
comp=Z,48nm,0.9s,comp=Z,900nm
BNI Bardonecchia 42.13 305 *e*P **P 19 56 49.4 -2.2**
comp=Z,50nm,1.3s
BNI Bardonecchia 42.13 305 *e*P **P 19 56 49.4 -2.2**
BNI pmax pmax
comp=Z,50nm,1.3s
PHET Kaeng Krachan 42.54 105 P **P 19 56 57.3 +2.2**
comp=Z,18nm,1.0s,comp=Z,152nm
WLF Walferdange 42.87 312 ⇑P **P 19 56 56.4 -1.0**
CHAI Chaiyaphum 43.08 99 P **P 19 57 01.4 +1.9**
comp=Z,6.7nm,1.2s,comp=Z,71nm
MEM Membach 43.09 313 ⇑P **P 19 57 00.4 +1.2**
MEM ⇑pP **sP 19 57 09.6 +2.9**
comp=Z,20nm,1.4s
NONG Nongkai 43.11 96 P **P 19 57 00.5 +0.8**
comp=Z,1.1nm,1.5s
NB2 NORSAR Subarra 43.12 329 P **P 19 56 58.3 -1.1**
comp=Z,22nm,1.2s,baz=120,slow=7.4
NB200 NORSAR Array S 43.12 329 *e*P **P 19 56 58.8 -0.5**
NOA NORSAR Array B 43.12 329 P **P 19 56 58.8 -0.5**
comp=Z,5.0nm,0.8s,baz=114,slow=8.1,SNR=22
NOA LR LR 20 17 29.0
comp=Z,1μm,20.4s,baz=100,slow=40
GYA Guiyang 43.14 83 ⇑*i*P **P 19 57 00.4 +0.4**
GYA pP sP 19 57 10.8 +3.8
GYA PP **PP 19 58 43.3 +3.1**
GYA S **S 20 03 24.0 -2.1**
GYA sS sS 20 03 40.6 +6.4
GYA SS **SS 20 06 30.1 -8.7**
GYA pmax pmax
comp=Z,30nm,1.1s
GYA pmax pmax
comp=Z,130nm,5.6s
GYA LR LR
comp=Z,640nm,18.0s
GYA LR LR
comp=Z,540nm,18.8s
GYA LR LR
comp=Z,550nm,18.6s
ARA0 ARCESS Array S 43.24 344 *e*P **P 19 56 59.0 -1.2**
ARCES ARCESS Array B 43.24 344 P **P 19 56 59.0 -1.2**
comp=Z,7.1nm,0.9s,baz=134,slow=8.7,SNR=8.2
ARCES LR LR 20 17 21.3
comp=Z,86nm,18.9s,baz=126,slow=39
ARCES ARCESS Array B 43.24 344 P **P 19 56 59.0 -1.2**
ARCES pmax pmax
comp=Z,5.0nm,0.7s
ARCES MLR MLR
comp=Z,86nm,19.0s
XAN Xi'an 43.29 71 P **P 19 57 00.9 -0.2**
XAN S S 20 03 19.5 -8.5
XAN ScS **ScS 20 06 59.4 -1.6**
XAN pmax pmax
comp=Z,61nm,1.1s
XAN pmax pmax
comp=Z,140nm,3.9s
XAN LR LR
comp=Z,3μm,17.3s
XAN LR LR
comp=Z,2μm,13.2s
XAN Xi'an 43.29 71 *e*P **P 19 57 01.3 +0.2**
comp=Z,347nm,1.2s
XAN Xi'an 43.29 71 *e*P **P 19 57 01.3 +0.2**
XAN pmax pmax
comp=Z,347nm,1.2s
BTO Baotou 43.40 62 *e*P **P 19 57 01.3 -0.6**
PATY Pattaya 43.56 104 P **P 19 57 05.4 +2.0**
comp=Z,6.0nm,1.2s
DOU Dourbes 43.92 312 ⇑P **P 19 57 05.5 -0.4**
DOU ⇑pP **sP 19 57 14.1 +0.7**
comp=Z,21nm,1.5s
SRAK Srakaew 44.02 102 P P 19 57 13.7 +6.6
SKNT Sakolnakorn 44.30 97 P **P 19 57 11.2 +1.9**
comp=Z,16nm,1.5s,comp=Z,329nm
ENH Enshi 44.53 76 *e*P **P 19 57 10.0 -1.1**
comp=Z,26nm,1.0s
ENH LR LR
comp=Z,3μm,19.0s
HHC Hu-ho-hao-te 44.55 61 ⇓*i*P **P 19 57 13.1 +1.9**
HHC pP sP 19 57 23.1 +4.6
HHC PP **PP 19 58 58.3 +3.2**
HHC S **S 20 03 45.6 -0.8**
HHC SS **SS 20 06 56.8 -9.2**
HHC pmax pmax
comp=Z,55nm,1.4s
HHC pmax pmax
comp=Z,130nm,5.4s
HHC LR LR
comp=Z,4μm,18.2s
HHC LR LR
comp=Z,2μm,20.2s
HHC LR LR
comp=Z,760nm,18.8s
TRTT Trang 45.35 111 P **P 19 57 19.5 +1.8**
comp=Z,12nm,1.2s
TIY Taiyuan 45.55 65 *e*P **P 19 57 20.5 +1.4**
TIY S **S 20 03 58.1 -2.7**
TIY pmax pmax
comp=Z,48nm,0.5s
TIY pmax pmax
comp=Z,160nm,4.2s
TIY LR LR
comp=Z,2μm,12.4s
TIY LR LR
comp=Z,1μm,15.2s
TIY LR LR
comp=Z,2μm,22.2s
CIT Chita 46.07 45 *e*P **P 19 57 24.5 +1.5**
CIT *e* 19 57 38.8
CIT pmax pmax
comp=Z,101nm,1.7s
TAM Tamanrasset 46.78 274 *e*P **P 19 57 28.9 -0.2**
comp=Z,39nm,1.3s
TAM Tamanrasset 46.78 274 *e*P **P 19 57 28.9 -0.2**
TAM pmax pmax
comp=Z,39nm,1.3s
BOD Bodaibo 47.14 37 *e*P **P 19 57 31.3 0.0**
BOD pmax pmax
comp=Z,71nm,1.7s
KULM Kulim 47.61 113 *e*P **P 19 57 35.5 +0.1**
comp=Z,44nm,1.2s
PSI Prapat 47.78 117 P **P 19 57 36.5 -0.5**
comp=Z,17nm,1.0s,baz=359,slow=3.4,SNR=8.7
PSI LR LR 20 19 39.4
comp=Z,692nm,19.6s,baz=271,slow=38
PSI Prapat 47.78 117 *e*P **P 19 57 36.6 -0.3**
comp=Z,51nm,1.4s
PSI Prapat 47.78 117 *e*P **P 19 57 36.6 -0.3**
PSI pmax pmax
comp=Z,51nm,1.4s
BJT Baijiatuau 48.13 62 *e*P **P 19 57 40.8 +1.6**
comp=Z,53nm,1.3s
BJT LR LR
comp=Z,2μm,20.0s
BJT Baijiatuau 48.13 62 *e*P **P 19 57 40.8 +1.6**
BJT pmax pmax
comp=Z,53nm,1.3s
BJT MLR MLR
comp=Z,2μm,20.0s
BJI Beijing 48.13 62 ⇓*i*P **P 19 57 40.0 +0.8**
BJI pmax pmax
comp=Z,22nm,1.2s
IPM Ipoh 48.39 113 *e*P **P 19 57 41.4 -0.2**
comp=Z,61nm,1.1s
QIZ Qiongzhong 48.49 91 P **P 19 57 43.6 +1.3**
QIZ S **S 20 04 42.3 -0.8**
QIZ pmax pmax
comp=Z,35nm,0.9s
QIZ pmax pmax
comp=Z,330nm,4.7s
QIZ LR LR
comp=Z,1μm,11.8s
QIZ LR LR
comp=Z,1μm,15.2s
QIZ LR LR
comp=Z,910nm,14.7s
QIZ Qiongzhong 48.49 91 *e*P **P 19 57 43.8 +1.5**
comp=Z,46nm,1.1s
WHN Wuhan 48.53 75 ⇑P **P 19 57 43.3 +0.9**
WHN S **S 20 04 49.8 +6.5**
WHN LR LR
comp=Z,5μm,16.1s
WHN LR LR
comp=Z,6μm,16.0s
TIA Tai'an 49.50 67 P **P 19 57 49.6 -0.2**
TIA pmax pmax
comp=Z,26nm,1.6s
OPO Ambohidratompo 49.65 193 P **P 19 57 52.5 +1.3**
comp=Z,32nm,0.9s,baz=9.3,slow=8.4,SNR=25
ABPO Ambohimpanom 50.08 193 *e*P **P 19 57 56.0 +1.6**
comp=Z,79nm,1.4s
ABPO LR LR
comp=Z,683nm,19.0s
ABPO Ambohimpanom 50.08 193 *e*P **P 19 57 56.0 +1.6**
ABPO pmax pmax
comp=Z,79nm,1.4s
ABPO MLR MLR
comp=Z,683nm,19.0s
ES19 SONSECA Array 50.28 298 *e*P **P 19 57 54.3 -1.5**
ESDC Sonseca Array 50.34 298 P **P 19 57 54.4 -1.9**
comp=Z,3.9nm,0.9s,baz=67,slow=7.2,SNR=13
ESDC LR LR 20 23 48.6
comp=Z,286nm,18.3s,baz=40,slow=42
MRIV Mauritius Mete 50.36 180 *e*P **P 19 57 56.7 +0.4**
comp=Z,34nm,1.1s
SISI Saibi 50.59 121 P **P 19 57 58.4 +0.2**
SPITS Spitsbergen Ar 51.23 350 LR LR 20 23 29.1
comp=Z,4μm,18.3s,baz=135,slow=40
PDSI Padang 51.34 119 P **P 19 58 02.9 -1.0**
NJ2 Nanjing 51.86 71 *e*P **P 19 58 08.0 +0.4**
NJ2 pmax pmax
comp=Z,33nm,1.0s
NJ2 LR LR
comp=Z,2μm,13.9s
NJ2 LR LR
comp=Z,2μm,14.9s
NJ2 LR LR
comp=Z,2μm,15.5s
KBS Kingsbay 52.39 350 PFAKE 19 58 20.0 +9.1
KBS LR LR
comp=Z,2μm,21.0s
KRJI Kerinci 52.86 120 P **P 19 58 14.3 -1.1**
PCBR Castelo Branco 52.97 299 *e*P **P 19 58 15.0 -0.8**
comp=Z,68nm,2.0s
LSZ Lusaka 53.44 216 *e*P **P 19 58 20.9 +1.3**
comp=Z,40nm,1.1s
LSZ LR LR
comp=Z,1μm,19.0s
LSZ Lusaka 53.44 216 *e*P **P 19 58 20.9 +1.3**
LSZ pmax pmax
comp=Z,40nm,1.1s
LSZ MLR MLR
comp=Z,1μm,19.0s
LSZ Lusaka 53.44 216 P **P 19 58 19.9 +0.3**
SNR=5.4
PTOM Tomar 53.72 299 *e*P **P 19 58 21.8 +0.5**
comp=Z,145nm,1.6s
JMIC Jan Mayen 53.83 338 LR LR 20 23 32.7
comp=Z,941nm,18.1s,baz=101,slow=39
SSE Sheshan 54.03 72 PFAKE 19 58 40.0 +16
SSE LR LR
comp=Z,2μm,21.0s
TOA0 Torodi Ar. Sit 54.08 264 *e*P **P 19 58 21.8 -2.5**
TOA0 Torodi Ar. Sit 54.08 264 P **P 19 58 23.1 -1.1**
SNR=30
TOA1 Torodi Ar. Sit 54.08 264 *e*P **P 19 58 22.3 -2.0**
TORD Torodi Ar. Bea 54.08 264 P **P 19 58 22.3 -2.0**
comp=Z,46nm,0.9s,baz=17,slow=6.2,SNR=181
TORD LR LR 20 23 31.5
comp=Z,2μm,19.3s,baz=355,slow=38
MASI Maura Aman, Be 54.13 120 P **P 19 58 24.4 -0.2**
PNCL Nicolau / Gran 54.13 297 *e*P **P 19 58 25.4 +1.0**
comp=Z,46nm,1.4s
ZEA Zeya 54.38 43 *e*P **P 19 58 27.2 +1.3**
ZEA pmax pmax
comp=E,35nm,1.0s
ZEA pmax pmax
comp=N,37nm,1.4s
ZEA pmax pmax
comp=Z,92nm,1.4s
CN2 Changchun 54.41 56 *e*P **P 19 58 26.5 +0.2**
CN2 *e*SP sP 19 58 40.5 +6.9
CN2 *e*S **S 20 05 59.8 -4.4**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,4μm,19.0s
CN2 LR LR
comp=Z,1μm,19.0s
CN2 LR LR
comp=Z,610nm,21.0s
YAK Yakutsk 55.37 33 *e*P **P 19 58 32.8 -0.1**
YAK *e**PP sP 19 58 47.0 +6.8
YAK *e* 19 59 31.8
YAK *e*S **S 20 06 14.4 -2.1**
YAK *e*SSS SSS 20 12 03.4
YAK pmax pmax
comp=Z,37nm,0.9s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,18nm,1.2s
YAK pmax pmax
comp=Z,83nm,3.5s
YAK pmax pmax
comp=N,68nm,3.5s
YAK pmax pmax
comp=E,109nm,3.3s
YAK smax smax
comp=N,290nm,5.6s
YAK smax smax
comp=E,383nm,5.4s
TIXI Tiksi 55.63 21 P **P 19 58 34.6 -0.1**
baz=281,slow=5.8,SNR=16
TIXI Tiksi 55.63 21 PFAKE 19 58 50.0 +15
TIXI LR LR
comp=Z,2μm,21.0s
TIXI Tiksi 55.63 21*d i*P **P 19 58 35.3 +0.7**
TIXI pmax pmax
comp=Z,41nm,1.7s
SSLB Suanglung 56.24 80 *e*P **P 19 58 40.1 +0.3**
comp=Z,52nm,1.4s
TATO Taipei 56.26 79 PFAKE 19 58 50.0 +10
TATO LR LR
comp=Z,1μm,19.0s
YHNB Yeheng 56.27 79 *e*P **P 19 58 41.5 +1.5**
comp=Z,134nm,1.8s
PPBI Pangkal Pinang 56.48 116 P **P 19 58 45.9 +4.3**
LWLI Liwa 56.73 120 P **P 19 58 41.8 -1.6**
COCO West Island 56.75 132 PFAKE 19 59 00.0 +17
COCO LR LR
comp=Z,1μm,19.0s
MDJ Mudanjiang 57.18 54 P **P 19 58 45.6 -0.6**
MDJ pP sP 19 58 55.3 +1.8
MDJ sP pP 19 58 58.9 +7.4
MDJ PcS **PcS 20 03 42.3 +0.8**
MDJ S **S 20 06 39.0 -2.1**
MDJ pmax pmax
comp=Z,14nm,1.4s
MDJ pmax pmax
comp=Z,230nm,3.6s
MDJ LR LR
comp=Z,3μm,13.9s
MDJ LR LR
comp=Z,2μm,17.8s
MDJ LR LR
comp=Z,3μm,18.3s
MDJ Mudanjiang 57.18 54 *e*P **P 19 58 45.8 -0.4**
comp=Z,22nm,1.1s
MDJ LR LR
comp=Z,2μm,20.0s
KASI Kota Agung 57.39 120 P **P 19 58 45.1 -2.8**
TJN Taejon 57.50 64 ⇓*e*P **P 19 58 47.1 -1.4**
KS01 Wonju Array Si 57.62 63 *e*P **P 19 58 48.8 -0.6**
KS15 Wonju Array Si 57.62 63 *e*P **P 19 58 49.8 +0.4**
KSAR Wonju Array Be 57.62 63 P **P 19 58 49.8 +0.5**
KSAR PcP **PcP 19 59 42.6 +0.2**
KSAR Wonju Array Be 57.62 63 P **P 19 58 49.8 +0.5**
KSAR 19 59 42.7
KSRS Korea Array 57.64 63 P **P 19 58 49.8 +0.3**
comp=Z,17nm,1.0s,baz=276,slow=7.4,SNR=17
KSRS PcP **PcP 19 59 42.6 +0.1**
comp=Z,6.2nm,0.9s,baz=277,slow=3.1,SNR=5.4
KSRS LR LR 20 25 37.2
comp=Z,1μm,18.6s,baz=296,slow=38
KLR Kul'dur 57.74 48 P **P 19 58 50.2 +0.2**
comp=Z,27nm,1.0s,baz=286,slow=8.1,SNR=64
KLR PcP **PcP 19 59 41.8 -1.0**
comp=Z,10nm,0.9s,baz=290,slow=5.9,SNR=6.0
KLR Kul'dur 57.74 48*ce*P **P 19 58 48.7 -1.3**
SBUM Sibu 58.64 107 *e*P **P 19 58 56.6 -0.2**
comp=Z,28nm,1.8s
MSHR Mys Shultsa 58.75 56 ⇓*e*P **P 19 58 57.8 +0.7**
USA0B Ussuriysk Arra 58.95 54 *e*P **P 19 58 58.5 0.0**
comp=Z,26nm,1.1s
USRK Ussuriysk Ar. 58.95 54 P **P 19 58 58.5 0.0**
comp=Z,11nm,0.8s,baz=272,slow=6.5,SNR=22

USRK PcP **PcP** **19 59 46.6 -1.0**
comp=Z,6.9nm,0.9s,baz=270,slow=4.3,SNR=5.3
USRK LR LR 20 26 44.8
comp=Z,3μm,18.5s,baz=270,slow=38
VLA **Vladivostok** **59.13 55** *ceP* **P** **19 59 00.4 +0.6**
VLA pmax pmax
comp=Z,70nm,1.3s
TGY **Tagaytay City** **60.20 91** LR LR 20 29 56.3
comp=Z,380nm,18.5s,baz=299,slow=41
GRNR **Gornyy** **60.39 46** *eP* **P** **19 59 08.0 -0.4**
GRNR pmax pmax
comp=Z,16nm,1.0s
LEM **Lembang** **60.58 119** LR LR 20 27 08.0
comp=Z,1μm,20.5s,baz=297,slow=38
TEY **Ternei** **61.92 52** *eP* **P** **19 59 17.8 -1.0**
TEY pmax pmax
comp=Z,20nm,1.0s
TEY pmax pmax
comp=N,10.0nm,0.9s
TSUM **Tsumeb** **62.49 223** *eP* **P** **19 59 24.3 +1.3**
comp=N,56nm,1.1s
TSUM LR LR
comp=Z,2μm,19.0s
DBIC **Dimbokro** **62.86 261** P **P** **19 59 24.5 -1.1**
comp=Z,57nm,1.0s,baz=44,slow=8.0,SNR=25
DBIC LR LR 20 29 49.4
comp=Z,1μm,18.9s,baz=40,slow=39
DBIC **Dimbokro** **62.86 261** *eP* **P** **19 59 25.1 -0.5**
comp=Z,110nm,1.3s
KIC **Kosan Boka** **62.92 261** *eP* **P** **19 59 25.2 -0.8**
comp=Z,144nm,1.1s
LBTB **Lobatse** **62.99 213** *eP* **P** **19 59 27.0 +0.8**
comp=Z,45nm,1.0s
LBTB **Lobatse** **62.99 213** *eP* **P** **19 59 27.0 +0.8**
LBTB pmax pmax
comp=Z,45nm,1.0s
TIC **Toumodi** **63.01 262** *eP* **P** **19 59 25.8 -0.8**
LIC **Lamto** **63.23 261** *eP* **P** **19 59 27.0 -1.0**
comp=Z,238nm,1.3s
TYV **Tymovskoe** **64.19 45** *eP* **P** **19 59 34.8 +1.0**
TYV *e* 20 08 05.7
TYV pmax pmax
comp=Z,23nm,0.8s
TYV pmax pmax
comp=Z,400nm,5.4s
TYV MLR MLR
comp=Z,2μm,18.0s
INU **Inuyama** **65.27 62** *eP* **P** **19 59 39.8 -1.3**
comp=Z,53nm,1.1s
YSS **Yuzh-Sakhalins** **65.45 49** *eP* **P** **19 59 41.9 -0.1**
comp=Z,63nm,0.9s
YSS LR LR
comp=Z,1μm,20.0s
YSS **Yuzh-Sakhalins** **65.45 49**⇑ *eP* **P** **19 59 42.4 +0.3**
YSS MLR MLR
comp=E,4μm,15.0s
YSS MLR MLR
comp=Z,4μm,15.0s
SEY **Seymchan** **65.57 30** ⇓ *iP* **P** **19 59 43.3 +0.7**
MJB9 **Matsu-Tunnel** **65.75 61** *eP* **P** **19 59 44.2 0.0**
comp=Z,30nm,1.1s
MAJO **Matsushiro** **65.75 61** *eP* **P** **19 59 44.2 0.0**
comp=Z,28nm,1.1s
MAJO *e*PcP **PcP** **20 00 15.1 -0.3**
MAJO **Matsushiro** **65.75 61** *ce*P **P** **19 59 44.2 0.0**
MAJO pmax pmax
comp=Z,30nm,1.1s
MAT **Matsushiro** **65.75 61** P **P** **19 59 44.0 -0.2**
MJAR **Matsushiro Arr** **65.75 61** P **P** **19 59 44.5 +0.3**
comp=Z,12nm,1.0s,baz=282,slow=9.9,SNR=24
MJAR PcP **PcP** **20 00 15.1 -0.3**
comp=Z,8.1nm,0.9s,baz=280,slow=6.1,SNR=7.9
MJAR LR LR 20 32 12.3
comp=Z,1μm,18.1s,baz=290,slow=39
MJAR **Matsushiro Arr** **65.75 61** P **P** **19 59 44.5 +0.3**
MJAR 20 00 15.1
MJAR pmax pmax
comp=Z,11nm,1.0s
MJAR pmax pmax
comp=Z,8.0nm,0.9s
MJAR MLR MLR
comp=Z,1μm,18.1s
MA2 **Magadan** **65.93 34** P **P** **19 59 45.3 +0.3**
comp=Z,26nm,0.9s,baz=293,slow=4.0,SNR=18
MA2 **Magadan** **65.93 34** *eP* **P** **19 59 44.9 0.0**
comp=Z,30nm,0.9s
MA2 LR LR
comp=Z,3μm,22.0s
MA2 **Magadan** **65.93 34** *ce*P **P** **19 59 45.5 +0.6**
MA2 pmax pmax
comp=Z,62nm,1.7s
BOSA **Boshof** **66.23 211** P **P** **19 59 47.1 -0.3**
comp=Z,30nm,0.8s,baz=28,slow=7.2,SNR=38
BOSA LR LR 20 29 59.7
comp=Z,709nm,18.1s,baz=20,slow=37
PCI **Palu** **66.82 106** P **P** **19 59 51.2 -0.2**
ERM **Erimo** **67.40 54** PFAKE 20 00 10.0 +15
ERM LR LR
comp=Z,1μm,20.0s
DAV **Davao City (W)** **67.54 95** LR LR 20 32 23.6
comp=Z,505nm,20.2s,baz=338,slow=39
BILL **Bilibino** **68.81 22** *eP* **P** **20 00 03.8 +0.7**
BILL comp=Z,46nm,1.4s LR LR
comp=Z,2μm,20.0s
KAPI **Kappang** **69.05 109** PFAKE 20 00 20.0 +15
KAPI LR LR
comp=Z,686nm,20.0s
SUR **Sutherland** **71.44 212** PFAKE 20 00 30.0 +10
SUR LR LR
comp=Z,2μm,22.0s
PEA1 **Petropavlovsk-** **71.99 39** *eP* **P** **20 00 21.7 -1.1**
PETK **Petropavlovsk-** **72.00 39** P **P** **20 00 21.7 -1.1**
comp=Z,12nm,1.0s,baz=126,slow=2.0,SNR=6.0
PETK LR LR 20 34 27.3
comp=Z,2μm,18.3s,baz=294,slow=38
TNTI **Ternate** **72.27 100** *eP* **P** **20 00 25.0 0.0**
comp=Z,141nm,1.4s
TNTI **Ternate** **72.27 100** P **P** **20 00 24.6 -0.5**
PET **Petropavlovsk** **72.55 38** PFAKE 20 00 40.0 +14
PET LR LR
comp=Z,1μm,20.0s
SANI **Sanana** **72.59 103** P **P** **20 00 25.8 -1.2**
SACV **Santiago Islan** **75.05 279** PFAKE 20 00 50.0 +8.6
SACV LR LR
comp=Z,657nm,20.0s
BATI **Baumata** **75.19 111** P **P** **20 00 40.7 -1.5**
SOEI **Soe** **75.42 111** *eP* **P** **20 00 41.9 -1.7**
comp=Z,199nm,1.7s
SOEI **Soe** **75.42 111** P P 20 00 51.7 +8.1
SHEL **Horse Pasture** **76.31 242** PFAKE 20 01 00.0 +11
SHEL LR LR
comp=Z,894nm,19.0s
FAKI **Fak Fak** **78.35 100** *eP* **P** **20 01 00.8 +0.8**
comp=Z,121nm,1.4s
FAKI **Fak Fak** **78.35 100** P **P** **20 01 00.8 +0.8**
GAMB **Gambell** **78.48 20** *eP* **P** **20 01 01.1 +1.3**
comp=Z,9.4nm,1.0s
ASCN **Ascension** **78.62 254** PFAKE 20 01 10.0 +8.5
ASCN LR LR
comp=Z,18μm,20.0s
MBWA **Marble Bar** **78.72 123** PFAKE 20 01 10.0 +8.2
MBWA LR LR
comp=Z,1μm,22.0s
ANM **Nome** **79.63 17** *eP* **P** **20 01 07.1 +0.9**
comp=Z,19nm,1.0s
COLD **Coldfoot** **80.48 11** *eP* **P** **20 01 08.7 -2.1**
comp=Z,41nm,0.7s
INK **Inuvik** **81.29 4** P **P** **20 01 14.9 -0.1**
comp=Z,14nm,1.0s,baz=357,slow=8.6,SNR=22
INK **Inuvik** **81.29 4** *eP* **P** **20 01 14.9 -0.1**
comp=Z,18nm,1.0s
FITZ **Fitzroy Crossi** **81.31 117** *eP* **P** **20 01 15.8 -0.1**
comp=Z,50nm,1.5s
SCHQ **Schefferville** **82.65 331** P **P** **20 01 22.5 0.0**
comp=Z,8.1nm,0.8s,baz=35,slow=6.5,SNR=7.0
SCHQ LR LR 20 39 48.4
comp=Z,269nm,21.4s,baz=75,slow=37
EPYK **Eagle Plains** **82.97 6** *eP* **P** **20 01 22.4 -1.6**
comp=Z,16nm,1.0s
COLA **College** **83.04 11** PFAKE 20 01 40.0 +16
COLA LR LR
comp=Z,1μm,20.0s
ILAR **Eielson Array** **83.28 10** LR LR 20 43 48.0
comp=Z,826nm,18.8s,baz=339,slow=40
EGAK **Eagle** **84.06 8** PFAKE 20 01 40.0 +10
EGAK LR LR
comp=Z,1μm,20.0s
NWAO **Narrogin (SRO)** **84.57 133** LR LR 20 35 29.0
comp=Z,354nm,21.6s,baz=210,slow=33
GENI **Genyem** **84.96 96** P **P** **20 01 36.1 +1.1**
ADK **Adak** **85.34 30** PFAKE 20 01 50.0 +14
ADK LR LR
comp=Z,2μm,19.0s
YKW3 **Yellowknife Ar** **87.19 356** *eP* **P** **20 01 45.0 -0.1**
comp=Z,20nm,0.9s
YKA **Yellowknife Ar** **87.26 356** P **P** **20 01 45.5 +0.1**
comp=Z,15nm,0.9s,baz=357,slow=4.9,SNR=73
YKA LR LR 20 46 00.4
comp=Z,55nm,18.9s,baz=2.5,slow=39
YKB5 **Yellowknife Ar** **87.26 356** *eP* **P** **20 01 45.5 0.0**
FCC **Fort Churchill** **88.11 346** *eP* **P** **20 01 50.0 +0.4**
comp=Z,36nm,1.4s
KDAK **Kodiak Island** **88.62 16** LR LR 20 48 42.9
comp=Z,979nm,18.2s,baz=324,slow=40
WHY **Whitehorse** **88.75 6** *eP* **P** **20 01 51.9 -0.9**
comp=Z,71nm,2.0s
WR1 **Warramunga Arr** **89.15 114** *eP* **P** **20 01 54.5 -0.6**
comp=Z,232nm,2.0s
WRA **Warramunga Arr** **89.15 114** P **P** **20 01 54.5 -0.6**
comp=Z,20nm,1.0s,baz=312,slow=4.1,SNR=53
WRA LR LR 20 46 06.6
comp=Z,153nm,19.2s,baz=270,slow=38
WRAB **Tennant Creek** **89.15 114** *eP* **P** **20 01 54.8 -0.4**
comp=Z,43nm,1.1s
WB2 **Warramunga Arr** **89.16 114** *eP* **P** **20 01 54.7 -0.4**
PKME **Peaks-Kenny Pk** **90.56 326** PFAKE 20 02 10.0 +8.6
PKME LR LR
comp=Z,889nm,19.0s
ASAR **Alice Springs** **90.81 117** P **P** **20 02 01.9 -1.0**
comp=Z,13nm,0.9s,baz=303,slow=4.2,SNR=38
ASAR LR LR 20 47 06.8
comp=Z,354nm,18.4s,baz=304,slow=38
AS31 **Alice Springs** **90.81 117** *eP* **P** **20 02 02.8 -0.1**
comp=Z,5.4nm,1.1s
AS01 **Alice Springs** **90.85 117** *eP* **P** **20 02 02.0 -1.0**
DLBC **Dease Lake** **91.32 4** P **P** **20 02 05.7 +0.9**
comp=Z,4.5nm,0.8s,baz=334,slow=3.5,SNR=6.0
DLBC **Dease Lake** **91.32 4** *eP* **P** **20 02 05.4 +0.6**
comp=Z,36nm,1.5s
WRAK **Wrangell Islan** **93.16 5** PFAKE 20 02 20.0 +6.8
WRAK LR LR
comp=Z,1μm,19.0s
FFC **Flin Flon** **93.44 348** *eP* **P** **20 02 13.3 -1.3**
FFC comp=Z,37nm,1.8s LR LR
comp=Z,1μm,19.0s
LONY **Lake Ozonia** **93.55 328** PFAKE 20 02 30.0 +15
LONY LR LR
comp=Z,332nm,19.0s
PMG **Port Moresby** **94.38 98** PFAKE 20 02 30.0 +11
PMG LR LR
comp=Z,348nm,20.0s
BINY **Binghamton** **96.06 327** PFAKE 20 02 40.0 +13
BINY LR LR
comp=Z,554nm,19.0s
ULM **Lac du Bonnet** **96.35 343** P **P** **20 02 26.5 -1.4**
comp=Z,4.4nm,0.9s,baz=14,slow=5.7,SNR=5.7
ULM LR LR 20 48 50.0
comp=Z,700nm,19.6s,baz=30,slow=37
EYMN **Ely** **97.24 340** PFAKE 20 02 40.0 +7.9
EYMN LR LR
comp=Z,1μm,21.0s
GLMI **Grayling** **97.61 334** PFAKE 20 02 40.0 +6.2
GLMI LR LR
comp=Z,1μm,22.0s
MAW **Mawson** **97.74 178** P **P** **20 02 29.6 -3.9**
comp=Z,4.0nm,0.5s,baz=45,slow=1.4,SNR=5.7
MAW LR LR 20 41 45.1
comp=Z,490nm,19.0s,baz=343,slow=32
COWI **Conover** **98.12 337** PFAKE 20 02 50.0 +14
COWI LR LR
comp=Z,896nm,20.0s
AGMN **Agassiz Nation** **98.15 342** PFAKE 20 02 50.0 +14
AGMN LR LR
comp=Z,1μm,19.0s
AAM **Ann Arbor** **99.35 332** PFAKE 20 02 50.0 +8.4
AAM LR LR
comp=Z,461nm,19.0s
DGMT **Dagmar** **99.84 348** PFAKE 20 03 00.0 +16
DGMT LR LR
comp=Z,1μm,20.0s
CBN **Corbin Frederi** **99.84 325** PFAKE 20 03 00.0 +16
CBN LR LR
comp=Z,581nm,20.0s
ACSO **Alum Creek Sta** **100.78 330** PFAKE 20 03 00.0 +12
ACSO LR LR
comp=Z,696nm,22.0s
EGMT **Eagleton** **101.15 351** PFAKE 20 03 00.0 +10
EGMT LR LR
comp=Z,1μm,21.0s
JFWS **Jewell Farm** **101.30 336** PFAKE 20 03 00.0 +10
JFWS LR LR
comp=Z,1μm,21.0s
NEW **Newport** **101.59 356** PFAKE 20 03 00.0 +8.5
NEW LR LR
comp=Z,1μm,20.0s
LAO **LASA Array** **101.92 349** PFAKE 20 03 00.0 +7.0
LAO LR LR
comp=Z,747nm,21.0s
BLA **Blacksburg** **102.09 327** PFAKE 20 03 10.0 +16
BLA LR LR
comp=Z,731nm,19.0s
CNNC **Cliffs of the** **102.42 324** PFAKE 20 03 10.0 +15
CNNC LR LR
comp=Z,533nm,19.0s
ECSD **EROS Data Cent** **102.56 341** PFAKE 20 03 10.0 +14
ECSD LR LR
comp=Z,848nm,20.0s
NLWA **Neilton Lookou** **102.60 1** PFAKE 20 03 10.0 +14
NLWA LR LR
comp=Z,1μm,20.0s
HDIL **Hopedale** **103.03 335** PFAKE 20 03 10.0 +12
HDIL LR LR
comp=Z,1μm,21.0s
SCIA **State Center** **103.19 338** PFAKE 20 03 10.0 +11
SCIA LR LR
comp=Z,966nm,19.0s
HAWA **Hanford** **103.56 358** PFAKE 20 03 10.0 +10
HAWA LR LR
comp=Z,1μm,20.0s
BOZ **Bozeman (W)** **103.77 352** PFAKE 20 03 10.0 +8.6
BOZ LR LR
comp=Z,803nm,19.0s
RLMT **Red Lodge** **103.92 350** PFAKE 20 03 10.0 +7.8
RLMT LR LR
comp=Z,2μm,20.0s
CASY **Casey** **104.45 161** PFAKE 20 03 10.0 +6.6
CASY LR LR
comp=Z,86nm,19.0s
LKWY **Lake** **104.63 351** PFAKE 20 03 20.0 +15
LKWY LR LR
comp=Z,2μm,19.0s
NHSC **New Hope** **105.26 324** PFAKE 20 07 30.0 +7.9
NHSC LR LR
comp=Z,496nm,20.0s
HLID **Hailey** **106.07 354** PFAKE 20 07 30.0 +6.4
HLID LR LR
comp=Z,625nm,19.0s
BW06 **Boulder Array** **106.27 350** PFAKE 20 07 40.0 +16
BW06 LR LR
comp=Z,1μm,19.0s
AHID **Auburn Hatcher** **106.49 351** PFAKE 20 07 40.0 +16
AHID LR LR
comp=Z,1μm,22.0s
OGNE **Ogallala** **106.57 344** PFAKE 20 07 40.0 +15
OGNE LR LR
comp=Z,658nm,19.0s
GOGA **Godfrey** **106.63 327** PFAKE 20 07 40.0 +15
GOGA LR LR
comp=Z,649nm,19.0s
KSU1 **Kansas State U** **106.82 339** PFAKE 20 07 40.0 +15
KSU1 LR LR
comp=Z,1μm,21.0s
SJG **San Juan** **107.48 304** PFAKE 20 07 40.0 +13
SJG LR LR
comp=Z,309nm,19.0s
WVOR **Wild Horse Val** **107.48 357** PFAKE 20 07 40.0 +14
WVOR LR LR
comp=Z,1μm,19.0s
GRGR **Grenville** **107.88 296** PFAKE 20 07 40.0 +13
GRGR LR LR
comp=Z,256nm,21.0s
CBKS **Cedar Bluff** **107.99 341** PFAKE 20 07 40.0 +13
CBKS LR LR
comp=Z,1μm,22.0s
ISCO **Idaho Springs** **108.46 346** PFAKE 20 07 40.0 +12
ISCO LR LR
comp=Z,1μm,19.0s
GRTK **Grand Turk** **108.63 310** PFAKE 20 07 40.0 +11
GRTK LR LR
comp=Z,349nm,20.0s
DUG **Dugway, Tooele** **109.23 352** PFAKE 20 07 40.0 +10
DUG LR LR
comp=Z,1μm,21.0s
MIAR **Mount Ida** **109.92 335** PFAKE 20 07 40.0 +9.2
MIAR LR LR
comp=Z,1μm,19.0s
BRAL **Brewton** **110.17 328** PFAKE 20 07 40.0 +8.6
BRAL LR LR
comp=Z,913nm,19.0s
SDCO **Great Sand Dun** **110.42 346** PFAKE 20 07 40.0 +7.9
SDCO LR LR
comp=Z,992nm,20.0s
SDDR **Presa de Saban** **110.49 308** PFAKE 20 07 40.0 +7.7
SDDR LR LR
comp=Z,425nm,19.0s
NVAR **Mina Array Bea** **111.46 356** PKiKP **PKiKP** **20 07 33.8 -0.1**
comp=Z,0.9nm,0.8s,baz=37,slow=1.9,SNR=4.9
WMOK **Wichita Mounta** **111.51 339** PFAKE 20 07 50.0 +16
WMOK LR LR
comp=Z,946nm,20.0s
MVCO **Mesa Verde** **111.52 348** PFAKE 20 07 50.0 +16
MVCO LR LR
comp=Z,1μm,19.0s
GTBY **Guantanamo Bay** **112.36 312** PFAKE 20 07 50.0 +14
GTBY LR LR
comp=Z,293nm,20.0s
NATX **Nacogdoches** **112.82 334** PFAKE 20 07 50.0 +14
NATX LR LR
comp=Z,727nm,19.0s
ANMO **Albuquerque** **113.31 346** PFAKE 20 07 50.0 +12
ANMO LR LR
comp=Z,720nm,20.0s
WUAZ **Wupatki** **113.65 350** PFAKE 20 07 50.0 +12
WUAZ LR LR
comp=Z,735nm,19.0s
JCT **Junction City** **115.77 338** PFAKE 20 07 50.0 +7.8
JCT LR LR
comp=Z,786nm,21.0s
PFO **Pinyon Flats O** **116.12 354** PFAKE 20 07 50.0 +7.1
PFO LR LR
comp=Z,1μm,21.0s
MNTX **Cornudas Mount** **116.19 344** PFAKE 20 07 50.0 +7.1
MNTX LR LR
comp=Z,966nm,20.0s
HOPE **Hope Point** **116.28 221** PFAKE 20 07 50.0 +7.9
HOPE LR LR
comp=Z,855nm,20.0s
DZM **Mont Dzumac** **116.61 101** *e*LR LR 20 43 11.1
comp=Z,436nm,24.4s
TUC **Tucson** **116.70 349** PFAKE 20 08 00.0 +16
TUC LR LR
comp=Z,1μm,19.0s
SDV **Santo Domingo** **116.77 299** PFAKE 20 08 00.0 +15
SDV LR LR
comp=Z,246nm,22.0s
KVTX **Kingsville** **117.81 335** PFAKE 20 08 00.0 +14
KVTX LR LR
comp=Z,941nm,20.0s
LTX **Lajitas** **117.99 341** *e*PKPdf **PKPdf** **20 07 44.9 -1.7**
LTX **Lajitas** **117.99 341** *e*PKIKP **PKPdf** **20 07 44.9 -1.7**
TXAR **Lajitas Array** **117.99 341** PKP **PKPdf** **20 07 44.9 -1.7**
comp=Z,0.4nm,0.8s,baz=348,slow=3.9,SNR=2.4
TXAR PP PP 20 08 47.9 -12
comp=Z,0.3nm,0.5s,baz=332,slow=3.3,SNR=4.0
QSPA **South Pole Qui** **120.19 180** PFAKE 20 08 00.0 +11
QSPA LR LR
comp=Z,992nm,19.0s
CPUP **Villa Florida** **123.22 257** PKP **PKPdf** **20 07 56.3 -0.1**
comp=Z,2.3nm,0.9s,baz=270,slow=3.0,SNR=4.2
JTS **JuntasAbangare** **125.83 312** PFAKE 20 08 10.0 +7.8
JTS LR LR
comp=Z,279nm,19.0s
OTAV **Otavalo** **128.27 298** PFAKE 20 08 20.0 +12
OTAV LR LR
comp=Z,249nm,20.0s
EFI **East Falkland** **128.75 226** PFAKE 20 08 20.0 +13
EFI LR LR
comp=Z,815nm,20.0s
LVC **Limon Verde** **131.80 266** PFAKE 20 08 20.0 +5.7
LVC LR LR
comp=Z,481nm,20.0s
NNA **Nana** **134.04 283** PFAKE 20 08 30.0 +11
NNA LR LR
comp=Z,339nm,20.0s
LCO **Las Campanas** **135.32 258** PFAKE 20 08 30.0 +8.8
LCO LR LR
comp=Z,798nm,19.0s
PPT2 **Papeete2** **152.25 69** *e*LR LR 20 59 42.0
comp=Z,517nm,25.5s
TAOE **Nuku Hiva Isla** **152.98 41** *e*LR LR 21 00 04.8
comp=Z,570nm,24.6s
TBI **Tubuai** **154.98 80** *e*LR LR 21 00 57.9
comp=Z,337nm,24.0s

IDC ***21*** *20:00:12.7±3.3, 62.48N×149.96W, h43km±29km, mb3.8/12, mb1 4.0/16, mb1mx3.7/40, mbtmp4.1/16, ML3.7/4, MS4.5/1, Ms1 4.5/1, ms1mx3.0/46, Error ellipse: s-maj=39.7km s-min=25.6km az=170.0*
ISCJB ***21*** *20:00:15.5±0.2, 62.70N±0.02×149.50W±0.04, h83km±3km, mb3.9/13, Error ellipse: s-maj=3.3km s-min=2.9km az=176.2*
NEIC ***21*** *20:00:16.0±0.0, 62.69N×149.53W, h66km, mb4.3/1, MW4.1, ML4.0(AEIC), Moment Tensor Solution. s29 Moment tensor: Scale 10^{15}Nm; M_{rr}0.24; $M_{\theta\theta}$0.85; $M_{\phi\phi}$-1.09; $M_{r\theta}$0.55; $M_{\theta\phi}$1.28; $M_{r\phi}$0.17; Best double couple: $M_0$1.70000×10^{15} NP1:χ_{ϕ}17.00000°, δ73.00000°, λ167.00000°. NP2:χ_{ϕ}111.00000°, δ77.00000°, λ17.00000°. Principal axes: T 1.7000, Plg21.0000°, Azm334.0000°; N 0.0300, Plg69.0000°, Azm146.0000°; P -1.7300, Plg3.0000°, Azm243.0000°; After AEIC.*
NEIC Felt at Anchorage, Eagle River, Talkeetna and Wasilla.
ISC 21 20:00:16.4±0.7, 62.70N±0.03×149.54W±0.04, h71km±6km, n123, σ1$2$0/131, mb4.0/13, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HUR	**Hurricane**	**0.28**	**351**	P		**Pn**	**20 00 27.7**	**+0.1**
HUR				S		Sn	20 00 35.9	+0.1
RND	**Reindeer**	**0.77**	**24**	P		**Pn**	**20 00 32.3**	**0.0**
RND				S		Sn	20 00 44.2	+0.1
TRF	**Thorofare Moun**	**0.82**	**336**	P		**Pn**	**20 00 33.3**	**+0.3**
TRF				S		Sn	20 00 46.0	+0.7
GHO	**Glory Hole Cre**	**0.98**	**163**	P		**Pn**	**20 00 34.2**	**-0.5**
GHO				S		Sn	20 00 48.9	+0.5
DHY	**Denali Highway**	**1.06**	**68**	P		**Pn**	**20 00 35.7**	**-0.2**
SML	**Sawmill**	**1.06**	**147**	S		**Sn**	**20 00 50.4**	**+0.2**
MCK	**McKinley**	**1.07**	**15**	S		**Sn**	**20 00 50.9**	**+0.6**
PMR	**Palmer**	**1.13**	**170**	S		**Sn**	**20 00 51.9**	**+0.3**
PPLA	**Purkeypile**	**1.23**	**280**	S		**Sn**	**20 00 54.9**	**+0.8**
SCM	**Sheep Creek Mo**	**1.35**	**129**	P		**Pn**	**20 00 39.2**	**-0.3**
SCM				S		Sn	20 00 58.2	+1.3
CAST	**Castle Rocks**	**1.36**	**303**	P		**Pn**	**20 00 39.5**	**-0.1**
SUA	**Susitna One**	**1.37**	**205**	P		**Pn**	**20 00 39.7**	**0.0**
KNK	**Knik Glacier**	**1.39**	**158**	P		**Pn**	**20 00 40.0**	**0.0**
BWN	**Browne**	**1.47**	**1**	P		**Pn**	**20 00 41.7**	**+0.7**
BPAW	**Bear Paw Mtn.**	**1.54**	**336**	P		**Pn**	**20 00 42.1**	**+0.2**
RC01	**Rabbit Creek A**	**1.62**	**183**	P		**Pn**	**20 00 43.3**	**+0.3**
CHUM	**Lake Minchumin**	**1.72**	**315**	P		**Pn**	**20 00 44.8**	**+0.5**
PTE	**Portage**	**1.86**	**172**	P		**Pn**	**20 00 46.9**	**+0.8**
PS10	**TAPS Pump St10**	**1.86**	**66**	P		**Pn**	**20 00 47.2**	**+0.9**
PAX	**Paxson**	**1.89**	**80**	P		**Pn**	**20 00 47.3**	**+0.7**
WRH	**Wood River Hil**	**1.89**	**19**	P		**Pn**	**20 00 46.7**	**+0.2**
NEA	**Nenana**	**1.89**	**6**	P		**Pn**	**20 00 46.9**	**+0.3**
PWL	**Port Wells**	**1.94**	**162**	P		**Pn**	**20 00 46.8**	**-0.5**
CKT	**Bend**	**1.96**	**221**	P		**Pn**	**20 00 48.0**	**+0.4**
PS11	**TAPS Pump St11**	**2.00**	**106**	P		**Pn**	**20 00 49.4**	**+1.4**
SPNN	**North Nagishla**	**2.00**	**229**	P		**Pn**	**20 00 48.5**	**+0.2**
SPWE	**Spurr West**	**2.02**	**226**	P		**Pn**	**20 00 49.0**	**+0.6**
HARP	**HAARP**	**2.05**	**96**	P		**Pn**	**20 00 50.1**	**+1.3**
HDA	**Harding Lake**	**2.07**	**33**	P		**Pn**	**20 00 49.2**	**+0.3**
KLU	**Klutina**	**2.09**	**124**	P		**Pn**	**20 00 49.4**	**0.0**
JPK	**Jack Peak**	**2.16**	**139**	P		**Pn**	**20 00 49.7**	**-0.6**

GLI	Glacier Island	2.17	146	P	Pn	20 00 49.7 -0.6
PS08	TAPS Pump Stn8	2.21	32	P	Pn	20 00 51.1 +0.3
SLKM	Skilak Lake	2.23	189	P	Pn	20 00 52.5 +1.3
COLA	College	2.31	18	P	Pn	20 00 52.5 +0.4
MDM	Murphy Dome	2.34	14	P	Pn	20 00 53.1 +0.5
RIDG	Independ'e Rid	2.37	62	P	Pn	20 00 54.5 +1.4
DIV	Divide	2.38	130	P	Pn	20 00 52.4 -0.9
ILAR	Eielson Array	2.39	28	P	Pn	20 00 53.3 +0.1
	24nm,0.3s,baz=210,slow=14,SNR=1439					
ILAR				S	Sn	20 01 20.4 -1.1
	86nm,0.3s,baz=160,slow=33,SNR=45					
ILB	Eielson Array	2.39	28	P	Pn	20 00 53.4 +0.1
IL1	Eielson Array	2.39	28	ePn	Pn	20 00 53.2 0.0
MLY	Manley	2.40	348	P	Pn	20 00 53.6 +0.2
RDT	Redoubt	2.54	214	P	Pn	20 00 55.9 +0.6
DFR	Drift River	2.60	217	P	Pn	20 00 56.3 +0.1
SEW	Seward	2.61	179	P	Pn	20 00 57.0 +0.8
RDJH	Redoubt Jeurge	2.63	218	P	Pn	20 00 57.9 +1.3
DOT	Dot Lake	2.66	67	P	Pn	20 00 57.9 +0.9
RDN	Redoubt North	2.68	216	P	Pn	20 00 58.1 +0.7
RSO	Redoubt South	2.72	216	ePn	Pn	20 00 58.5 +0.5
RDWB	Redoubt West	2.73	217	P	Pn	20 00 58.3 +0.3
SCRK	Sand Creek	2.81	61	P	Pn	20 00 59.7 +0.6
BMRM	Bremner River	2.92	124	P	Pn	20 00 59.9 -0.6
TT01	Tatalina	2.98	277	P	Pn	20 01 01.2 -0.1
BRLK	Bradley Lake	3.02	193	P	Pn	20 01 03.1 +1.2
SGAM	Sherman Glacie	3.03	135	P	Pn	20 01 01.5 -0.5
ILW	Iliamna West	3.17	215	P	Pn	20 01 05.0 +1.0
PS06	TAPS Pump Stn6	3.17	359	P	Pn	20 01 04.4 +0.7
IVE	Iliamna Volcan	3.17	213	P	Pn	20 01 04.8 +0.8
HOM	Homer	3.22	199	ePn	Pn	20 01 05.5 +0.9
ILS	Iliamna Low So	3.24	213	P	Pn	20 01 05.8 +0.9
SVW2	Sparrevohn	3.28	243	P	Pn	20 01 05.3 -0.1
RAGM	Ragged Mountai	3.29	133	P	Pn	20 01 05.5 -0.1
PRP	Porcupine Dome	3.33	30	P	Pn	20 01 06.7 +0.5
MCARA	McCarthy VSAT	3.34	110	P	Pn	20 01 06.6 +0.3
HMT	Hamilton	3.47	131	P	Pn	20 01 07.7 -0.3
BCA3	Beaver Creek A	3.57	81	P	Pn	20 01 09.4 +0.1
BERG	Berg Lake	3.63	127	P	Pn	20 01 10.5 +0.3
IM3	Indian Mountai	3.77	333	P	Pn	20 01 12.4 +0.4
KHIT	Khitrov Hills	3.77	124	P	Pn	20 01 11.8 -0.3
BALM	Baldy	3.80	113	P	Pn	20 01 12.0 -0.5
KIAG	Kiagna River	3.85	114	P	Pn	20 01 12.5 -0.8
GCSA	Galena City Sc	3.85	305	P	Pn	20 01 14.1 +1.0
BVCY	Beaver Creek	4.03	90	P	Pn	20 01 16.2 +0.6
BARK	Barkley Ridge	4.09	121	P	Pn	20 01 17.6 +1.1
KULT	Kultieth River	4.09	124	P	Pn	20 01 17.4 +0.8
PS05	TAPS Pump Stn5	4.15	354	P	Pn	20 01 18.5 +1.3
YUK2	White River	4.17	99	P	Pn	20 01 18.1 +0.5
EGAK	Eagle	4.27	57	P	Pn	20 01 19.5 +0.7
FYU	Fort Yukon	4.30	24	ePn	Pn	20 01 20.3 +1.1
YUK3	Moose Creek	4.35	98	P	Pn	20 01 20.7 +0.6
FONW	Fourpeaked Sta	4.43	211	P	Pn	20 01 21.7 +0.6
MESA	MESA	4.44	121	P	Pn	20 01 21.5 +0.2
COLD	Coldfoot	4.55	357	P	Pn	20 01 23.8 +1.1
DAWY	Dawson	4.77	69	P	Pn	20 01 26.0 +0.3
KDAK	Kodiak Island	5.16	198	P	Pn	20 01 29.6 -1.4
	3.9nm,0.3s,baz=52,slow=7.0,SNR=171					
KDAK				S	Sn	20 02 22.8 -6.4
	17nm,0.3s,baz=161,slow=24,SNR=7.8					
PCA	Pinnacle	5.17	116	ePn	Pn	20 01 31.3 +0.1
YUK4	Talbot Arm	5.31	100	P	Pn	20 01 33.6 +0.4
YUK6	Outpost Mounta	5.58	103	P	Pn	20 01 36.5 -0.5
YUK5	Granite Creek	5.74	101	P	Pn	20 01 38.8 -0.3
OHAK	Old Harbor	5.81	201	P	Pn	20 01 38.4 -1.5
HYT	Haines Junctio	6.02	103	P	Pn	20 01 42.4 -0.5
EPYK	Eagle Plains	6.64	51	ePn	Pn	20 01 51.9 +0.7
WHY	Whitehorse	7.27	100	ePn	Pn	20 01 59.7 -0.2
ANM	Nome	7.29	292	ePn	Pn	20 02 01.4 +1.4
SKAG	Skagway	7.62	109	ePn	Pn	20 02 04.4 -0.1
BESE	Bessie Mountai	8.31	113	ePn	Pn	20 02 13.6 -0.5
INK	Inuvik	8.69	43	P	Pn	20 02 19.6 +0.5
	1.2nm,0.3s,baz=226,slow=14,SNR=16					
INK				S	Sn	20 03 50.5 -4.8
	0.6nm,0.3s,baz=228,slow=19,SNR=2.4					
INK	Inuvik	8.69	43	ePn	Pn	20 02 20.2 +1.1
INK				S	Sn	20 03 50.5 -4.8
JIS	Juneau Island	8.69	114	ePn	Pn	20 02 18.6 -0.5
DLBC	Dease Lake	10.49	105	P	Pn	20 02 43.1 -0.7
	0.3nm,0.3s,baz=166,slow=8.3,SNR=3.8					
YKA	Yellowknife Ar	15.97	75	P	Pn	20 03 54.9 -1.4
	0.1nm,0.3s,baz=284,slow=12,SNR=7.3					
YKB5	Yellowknife Ar	15.97	75	ePn	Pn	20 03 54.9 -1.4
RES	Resolute Bay	22.12	35	P	P	20 05 05.4 0.0
	1.5nm,0.6s,baz=251,slow=19,SNR=3.2					
RES	Resolute Bay	22.12	35	eP	P	20 05 05.4 0.0
	21nm,1.8s					
SEY	Seymchan	25.76	297	P	P	20 05 39.2 -0.8
	0.9nm,0.4s,baz=18,slow=15,SNR=4.0					
TIXI	Tiksi	30.34	322	P	P	20 06 19.5 -1.1
	0.7nm,0.3s,baz=81,slow=8.1,SNR=4.6					
NVAR	Mina Array Bea	30.81	127	P	P	20 06 28.4 +3.0
	0.4nm,0.9s,baz=316,slow=6.4,SNR=3.1					
ARA0	ARCESS Array S	48.00	2	eP	P	20 08 48.6 +1.2
ARCES	ARCESS Array B	48.00	2	P	P	20 08 48.6 +1.2
	7.4nm,1.0s,baz=335,slow=3.3,SNR=3.4					
SONA0	Songino Array	54.53	307	eP	P	20 09 36.2 -0.5
SONM	Songino Array	54.53	307	P	P	20 09 36.2 -0.5
	0.6nm,0.7s,baz=21,slow=4.7,SNR=5.3					
NB200	NORSAR Array S	55.71	11	eP	P	20 09 46.7 +1.8
NOA	NORSAR Array B	55.71	11	P	P	20 09 46.7 +1.8
	1.1nm,0.8s,baz=348,slow=7.5,SNR=3.6					
FIA0	FINESS Array S	56.13	3	eP	P	20 09 49.8 +2.0
FINES	FINESS Array B	56.13	3	P	P	20 09 49.8 +2.0
	1.8nm,0.7s,baz=12,slow=10,SNR=7.0					
ZAA1	Zalesovo Array	56.15	325	eP	P	20 09 47.2 -0.9
ZALV	Zalesovo Beam	56.15	325	P	P	20 09 47.2 -0.9
	3.1nm,0.5s,baz=16,slow=6.9,SNR=14					
JNU	Nakatsue	56.46	278	LR	LR	20 36 22.5
	comp=Z,356nm,18.2s,baz=293,slow=38					
MK32	Makanchi Array	63.32	323	eP	P	20 10 35.9 -1.5
MKAR	Makanchi Array	63.32	323	P	P	20 10 35.9 -1.5
	2.1nm,0.6s,baz=40,slow=6.7,SNR=26					
KBZ	Khabaz	73.45	351	P	P	20 11 42.9 +2.3
	1.9nm,0.8s,baz=355,slow=6.5,SNR=4.0					
GEYT	Allbeck	77.27	338	P	P	20 12 02.2 -0.5
	5.8nm,0.9s,baz=57,slow=5.3,SNR=2.7					
CMAR	Chiang Mai Arr	83.18	297	P	P	20 12 33.1 -1.5
	0.5nm,0.8s,baz=8.5,slow=5.6,SNR=6.0					

IDC 21 20:12:21.0±5.7, 7°29S×126°46E, h368km±67km, mb2.5/1, mb1 2.9/5, mb1mx2.7/29, mbtmp3.6/5, Error ellipse: s-maj=105.6km s-min=21.4km az=51.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	Baumata	4.01	223	P	Pn	20 13 32.1	+1.0
	8.0nm,0.3s,baz=91,slow=3.5,SNR=9.8						
BATI				S	S	20 14 27.9	-0.1
	12nm,0.3s,baz=217,slow=0.5,SNR=15						
FITZ	Fitzroy Crossi	10.77	184	P	P	20 14 48.4	+0.1
	0.4nm,0.3s,baz=2.7,slow=9.3,SNR=15						
WRA	Warramunga Arr	14.72	149	P	P	20 15 30.3	-1.5
	0.3nm,0.3s,baz=327,slow=12,SNR=23						
ASAR	Alice Springs	17.78	157	P	P	20 16 04.9	+0.1
	0.2nm,0.3s,baz=334,slow=11,SNR=11						
MKAR	Makanchi Array	66.59	329	P	P	20 22 32.8	-0.1
	0.2nm,0.6s,baz=125,slow=9.0,SNR=2.9						

ISCJB 21 20:14:36.3±1.0, 68°09N±0°08×18°8W±0°3, h10km, mb3.3/2, Error ellipse: s-maj=18.9km s-min=10.2km az=18.0
IDC 21 20:14:36.7±3.5, 68°08N×18°86W, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.2/45, mbtmp3.5/4, ML3.0/2, Error ellipse: s-maj=76.5km s-min=27.1km az=122.0
ISC 21 20:14:37.8±1.2, 68°12N±0°07×19°0W±0°2, h10km, n5, σ0 2 6/6, Iceland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCO	Scoresbysund	2.60	337	*i* P	Pn	20 15 19.9	0.0
BORG	Borgarnes	3.52	197	Pn	Pn	20 15 32.5	+0.1
	1.5nm,0.3s,baz=6.3,slow=7.7,SNR=6.6						
BORG				Sn	Sn	20 16 13.8	-0.2
	0.4nm,0.3s,baz=249,slow=10.0,SNR=3.1						
FINES	FINESS Array B	19.89	88	P	P	20 19 08.6	-0.3
	0.1nm,0.3s,baz=303,slow=13,SNR=4.0						
GERES	GERESS Array B	25.25	123	P	P	20 20 03.9	+0.1
	0.2nm,0.3s,baz=330,slow=11,SNR=4.0						
MKAR	Makanchi Array	51.44	60	P	P	20 23 42.8	+0.2
	0.4nm,0.8s,baz=337,slow=6.9,SNR=3.1						

MOS 21 20:57:11.3±1.7, 49°47N×156°33E, h70km, mb4.2/1, Error ellipse: s-maj=66.7km s-min=7.3km az=77.6
KRSC 21 20:57:11.4±1.8, 49°47N×156°33E, h70km±24km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	1.22	354	eP	Pn	20 57 33.8	+1.1
SKR				eS	Sn	20 57 50.0	+1.4
SKR	Severo-Kuril's	1.22	354	ePN	Pn	20 57 34.0	+1.3
SKR				eS	Sn	20 57 50.3	+1.7
SKR				smax	smax		
	comp=N,85nm,0.2s						
SKR				smax	smax		
	comp=E,173nm,0.2s						
PAU	Pauzhetka	2.02	9	eP	Pn	20 57 44.8	+1.5
PAU				eS	Sn	20 58 09.7	+2.1
PAU	Pauzhetka	2.02	9	PN	Pn	20 57 44.8	+1.5
PAU				S	Sn	20 58 09.7	+2.1
KDTR	Khodutka, Kamc	2.59	25	eP	Pn	20 57 53.6	+2.6
KDTR				eS	Sn	20 58 24.7	+3.3
KDTR	Khodutka, Kamc	2.59	25	PN	Pn	20 57 53.6	+2.6
KDTR				S	Sn	20 58 24.7	+3.3
MTVR	Mutnovka	3.24	21	eP	Pn	20 58 03.5	+3.6
MTVR				eS	Sn	20 58 41.1	+3.8
MTVR	Mutnovka	3.24	21	PN	Pn	20 58 03.5	+3.6
MTVR				S	Sn	20 58 41.1	+3.8
RUS	Russkaya	3.27	24	eP	Pn	20 58 02.6	+2.4
RUS				eS	Sn	20 58 40.5	+2.5
RUS	Russkaya	3.27	24	PN	Pn	20 58 02.6	+2.4
RUS				S	Sn	20 58 40.5	+2.5
KRMR	Karymshinskiy	3.55	18	eP	Pn	20 58 07.2	+3.2
KRMR	Karymshinskiy	3.55	18	PN	Pn	20 58 07.2	+3.2
UGLR	Uglovaya	4.06	22	eP	Pn	20 58 14.4	+3.3
UGLR	Uglovaya	4.06	22	PN	Pn	20 58 14.4	+3.3
AVH	Avacha	4.09	21	eP	Pn	20 58 15.5	+4.0
AVH	Avacha	4.09	21	PN	Pn	20 58 15.5	+4.0
KOK	Koryaka	4.09	20	eP	Pn	20 58 15.3	+3.8
KOK	Koryaka	4.09	20	PN	Pn	20 58 15.3	+3.8
KRX	Arik	4.16	20	eP	Pn	20 58 16.1	+3.7
KRX	Arik	4.16	20	PN	Pn	20 58 16.1	+3.7
SPN	Mys Shipunski	4.31	31	eP	Pn	20 58 17.5	+3.1
SPN	Mys Shipunski	4.31	31	PN	Pn	20 58 17.5	+3.1
GNL	Ganaly	4.35	13	eP	Pn	20 58 17.1	+2.1
GNL	Ganaly	4.35	13	PN	Pn	20 58 17.1	+2.1
KBTR	Krutoberegovo	7.81	28	eP	Pn	20 59 04.0	+1.9
KBTR	Krutoberegovo	7.81	28	PN	Pn	20 59 04.0	+1.9

MAN 21 21:03:23.5, 9°46N×125°85E, h100km, mb4.3, ML3.1, MS2.8, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	Surigao	0.48	312	⇑*i* P	Pn	21 03 35.6	-3.5
SCPH				*i* S	Sn	21 03 47.1	-3.7
BUTP	Butuan	0.54	204	eP	Pn	21 03 36.0	-3.5
BUTP				eS	Sn	21 03 48.5	-3.0
MSLP	Maasin	1.18	305	eP	Pn	21 03 46.5	+0.6
MSLP				eS	Sn	21 04 07.7	+4.8
BIPH	Bislig	1.37	158	⇑*i* P	Pn	21 03 48.5	+0.4
BIPH				eS	Sn	21 04 05.8	-1.0
CGP	Cagayan de Oro	1.51	229	⇓eP	Pn	21 03 50.8	+0.9
CGP				eS	Sn	21 04 10.6	+0.6
BUKP	Musuan	1.75	206	eP	Pn	21 03 53.4	+0.4
BUKP				eS	Sn	21 04 18.3	+3.0
PLP	Palo	1.90	333	⇓eP	Pn	21 03 54.6	-0.1
PLP				eS	Sn	21 04 19.2	+0.6
TBP	Tagbilaran	1.97	277	eP	Pn	21 03 56.3	+0.7
TBP				eS	Sn	21 04 22.9	+2.7
BESP	Borongan	2.17	349	eP	Pn	21 03 58.3	+0.1
BESP				eS	Sn	21 04 25.5	+0.7

NNC 21 21:04:20.8±3.4, 44°31N×84°13E, h0km, mb2.7, mpv2.4, Error ellipse: s-maj=30.8km s-min=16.2km az=110.0
SOME 21 21:04:27.5, 44°12N×83°78E, h10km
ISC 21 21:04:18.4±3.0, 44°2N±0°1×84°6E±0°1, h20km, n11, σ 2 9 3/16, 6C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	Makanchi Array	3.09	330	⇑Pn	Pn	21 05 06.4	+0.4
	baz=145,slow=17,SNR=22						
MK31				⇑Pg	Pb	21 05 11.3	-1.3
	0.5nm,0.3s,baz=147,slow=16,SNR=6.9						
MK31				⇓Lg	Lg	21 05 49.0	
	1.7nm,0.4s						
KTMS	Ketmen	3.12	258	eP	Pb	21 05 15.8	+2.4
	0.5nm,0.2s						
KTMS				eS	Sb	21 05 50.3	-0.8
	8.8nm,0.5s						
MAKZ	Makanchi	3.22	327	⇑Pn	Pn	21 05 08.8	+1.0
	0.6nm,0.5s						
MAKZ				⇓Lg	Lg	21 05 56.6	
	1.5nm,0.5s						
DJR	Jarkent	3.43	275	eP	Pb	21 05 20.0	+1.5
	0.4nm,0.4s						
DJR				eS	Sb	21 05 58.2	-1.7
	4.8nm,0.4s						
PDGK	Podgornoye	3.76	259	⇑Pg	Pb	21 05 26.0	+1.7
	1.0nm,0.6s						
PDGK				⇓Lg	Lg	21 06 09.0	
	2.5nm,0.6s						
SHLS	Shalkode	3.83	257	eP	Pb	21 05 22.9	-2.4
	1.5nm,0.3s						
SHLS				eS	Sb	21 06 02.8	-8.5
	12nm,0.4s						
KAPS	Kapalarasan	3.88	289	eP	Pb	21 05 28.4	+2.2
	0.7nm,0.3s						
KAPS				eS	Sb	21 06 12.1	-0.5
	2.1nm,0.5s						
UZB	Uzynbulak	4.14	258	eP	Pb	21 05 32.6	+1.9
	0.9nm,0.5s						
UZB				eS	Sb	21 06 19.5	-0.8
	2.1nm,0.6s						
MNBS	Baschi	4.43	271	eP	Pb	21 05 38.2	+2.5
	1.1nm,0.4s						
MNBS				eS	Sb	21 06 29.1	+0.4
	2.9nm,0.4s						
KURBB	Kurchatov Arra	7.66	330	⇑Lg	Lg	21 08 13.6	
	0.7nm,0.7s						
KURK	Kurchatov	7.70	331	⇑Lg	Lg	21 08 10.9	
	0.5nm,0.6s						

MAN 21 21:14:28.9, 5°71N×125°53E, h43km, mb4.9, ML3.8, MS3.8
IDC 21 21:14:35.0±1.1, 6°08N×125°64E, h63km±13km, mb3.8/10, mb1 4.0/10, mb1mx3.7/44, mbtmp4.1/10, MS3.1/2, Ms1 3.2/2, ms1mx2.8/29, Error ellipse: s-maj=32.5km s-min=12.7km az=72.0
ISC 21 21:14:28.1±1.7, 5°92N±0°05×125°59E±0°05, h4km±10km, n28, σ 1 8 3 1/35, mb4.4/14, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	General Santos	0.66	285	⇓*i* P	Pb	21 14 42.0	-0.2
GSPH				*i* S	Sg	21 14 49.1	-0.2
DAV	Davao City (W)	1.15	360	P	Pg	21 14 51.1	+1.0
	114nm,0.3s,baz=300,slow=7.3,SNR=9.0						
DAV				S	Sb	21 15 07.0	+1.3
	280nm,0.3s,baz=70,slow=22,SNR=13						
SKMP	Bagumbayan, Su	1.20	300	eP	Pg	21 14 50.0	-1.1
SKMP				eS	Sb	21 15 07.3	+0.1
MATI	Mati	1.22	33	eP	Pg	21 14 49.9	-1.7
BUKP	Musuan	2.02	345	eP	Pn	21 15 03.9	+0.9
BUKP				eS	Sb	21 15 31.2	+0.3
BIPH	Bislig	2.38	19	⇑eP	Pn	21 15 10.0	+2.1
BIPH				eS	Sn	21 15 36.0	-1.6
CGP	Cagayan de Oro	2.67	341	⇓eP	Pb	21 15 17.6	+1.0
CGP				eS	Sn	21 15 46.6	+1.8
BUTP	Butuan	3.03	1	eP	Pn	21 15 17.7	+0.8
IPIL	Ipil	3.52	302	eP	Pn	21 15 24.0	+0.4
IPIL				eS	Sn	21 16 07.8	+2.0
FITZ	Fitzroy Crossi	23.86	180	P	P	21 19 44.4	+1.6
	3.3nm,0.4s,baz=359,slow=8.3,SNR=19						
WRA	Warramunga Arr	27.10	162	P	P	21 20 12.8	+0.5
	1.8nm,0.7s,baz=333,slow=10,SNR=17						
CMAR	Chiang Mai Arr	28.82	298	P	P	21 20 29.1	+1.4
	0.3nm,0.5s,baz=110,slow=7.2,SNR=4.7						
CMAR				LR	LR	21 33 50.1	
	comp=Z,44nm,18.9s,baz=348,slow=40						
ASAR	Alice Springs	30.50	165	P	P	21 20 43.5	+0.9
	1.1nm,0.6s,baz=344,slow=7.0,SNR=18						
ASAR				PcP	PcP	21 23 40.5	-1.3
	0.6nm,0.4s,baz=344,slow=2.5,SNR=6.6						
KSRS	Korea Array	31.46	4	LR	LR	21 35 14.5	
	comp=Z,20nm,18.6s,baz=355,slow=40						
NWAO	Narrogin (SRO)	39.44	191	P	P	21 21 59.9	+0.5
	16nm,0.9s,baz=236,slow=6.0,SNR=5.6						
STKA	Stephens Creek	40.57	159	P	P	21 22 10.5	+1.7
	8.0nm,0.8s,baz=331,slow=8.1,SNR=21						
RAMN	Ramite	42.58	304	eP	P	21 22 25.4	-0.4
JIRN	Jiri	43.19	305	eP	P	21 22 30.2	-0.7
	20nm,0.7s						
GUN	Gumba	43.54	305	eP	P	21 22 32.9	-0.8
	15nm,0.7s						
PKIN	Phulchoki	43.81	304	eP	P	21 22 35.0	-0.8
DMN	Daman	44.06	304	eP	P	21 22 37.3	-0.5
SONM	Songino Array	44.88	342	P	P	21 22 41.8	-2.0
	0.4nm,0.8s,baz=134,slow=6.2,SNR=3.0						
KOLN	Koldanda	45.36	304	eP	P	21 22 47.5	-0.6
DANN	Dangsing	45.44	304	eP	P	21 22 47.7	-1.1
	15nm,0.7s						
PYUN	Piuthan	45.98	304	eP	P	21 22 52.4	-0.6
	18nm,1.0s						
DZM	Mont Dzumac	48.73	126	P	P	21 23 15.0	+0.6
	4.5nm,0.7s,baz=265,slow=9.6,SNR=5.6						
MKAR	Makanchi Array	55.12	325	P	P	21 23 59.3	-2.3
	0.3nm,0.4s,baz=117,slow=6.1,SNR=11						
ILAR	Eielson Array	83.63	26	P	P	21 26 55.3	-2.3
	0.5nm,0.7s,baz=234,slow=5.2,SNR=5.7						

ISCJB 21 21:31:10.8±0.5, 0°53N±0°05×122°39E±0°06, h114km, Error ellipse: s-maj=7.4km s-min=6.4km az=139.0
DJA 21 21:31:13.3±1.2, 1°N±3°×12°2E±°, h25km±10km, M4.1/8, mb4.2/2, MLv4.0/8
IDC 21 21:31:21.8±5.1, 0°26N×122°12E, h214km±52km, mb3.0/6, mb1 3.2/7, mb1mx3.0/47, mbtmp3.6/7, Error ellipse: s-maj=61.0km s-min=13.2km az=62.0
ISC 21 21:31:11.8±0.7, 0°59N±0°08×122°39E±0°06, h114km, n22, σ 1 9 7 1/27, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	Luwuk	1.67	167	P	Pn	21 31 42.5	+1.6
LUWI				S	Sn	21 32 06.7	+3.7
PCI	Palu	2.96	240	P	Pn	21 31 55.3	-2.1
PCI				S	Sn	21 32 31.5	-1.0
TTSI	Tana Toraja	4.44	215	P	Pn	21 32 16.5	-0.6
TTSI				S	Sn	21 33 05.9	-1.9
SANI	Sanana	4.45	126	P	Pn	21 32 18.1	+0.8
SANI				S	Sn	21 33 06.7	-1.5
SPSI	Sidrap Palu	5.23	210	P	Pn	21 32 28.9	+1.1
BNSI	Bone	5.46	205	P	Pn	21 32 31.3	+0.4
PBKI	Pangkalan Bun	11.21	253	P	Pn	21 33 51.6	+2.9
FITZ	Fitzroy Crossi	18.85	170	P	P	21 35 22.9	-0.1
	0.4nm,0.3s,baz=359,slow=6.6,SNR=6.5						
WRA	Warramunga Arr	23.53	151	P	P	21 36 11.4	-0.5
	0.4nm,0.5s,baz=336,slow=8.8,SNR=12						
ASAR	Alice Springs	26.58	156	P	P	21 36 38.8	-0.8
	0.4nm,0.7s,baz=341,slow=9.8,SNR=4.1						
ASAR				PcP	PcP	21 39 56.5	-4.7
	0.2nm,0.3s,baz=348,slow=2.3,SNR=3.7						
CMAR	Chiang Mai Arr	29.07	309	P	P	21 37 01.7	0.0
	0.4nm,0.6s,baz=135,slow=8.2,SNR=5.0						
STKA	Stephens Creek	37.06	152	P	P	21 38 11.3	+0.4
	0.5nm,0.4s,baz=329,slow=12,SNR=2.8						
RAMN	Ramite	43.23	310	eP	P	21 39 03.3	+1.1
	6.5nm,0.6s						
JIRN	Jiri	43.91	311	eP	P	21 39 08.4	+0.6
	5.0nm,0.4s						
GUN	Gumba	44.27	311	eP	P	21 39 11.6	+0.9
PKIN	Phulchoki	44.47	310	eP	P	21 39 12.8	+0.6
KOLN	Koldanda	45.94	309	eP	P	21 39 24.4	+0.6
DANN	Dangsing	46.10	310	eP	P	21 39 25.7	+0.6
	11nm,0.6s						
PYUN	Piuthan	46.57	309	eP	P	21 39 29.5	+0.8
	14nm,0.6s						
SONM	Songino Array	49.06	346	P	P	21 39 48.9	+1.4
	0.3nm,0.9s,baz=152,slow=6.5,SNR=2.5						
MKAR	Makanchi Array	57.79	328	P	P	21 40 52.4	+1.2
	0.6nm,0.4s,baz=126,slow=8.9,SNR=15						
TORD	Torodi Ar. Bea	119.67	285	PKP	PKPdf	21 49 48.0	-1.5
	0.6nm,1.1s,baz=123,slow=4.0,SNR=2.2						

IDC 21 21:33:41.9±1.8, 36°88S×177°02E, h232km±13km, mb4.0/6, mb1 4.1/6, mb1mx3.7/28, mbtmp4.6/6, Error ellipse: s-maj=36.0km s-min=15.7km az=37.0
ISCJB 21 21:33:43.9±0.3, 37°58S±0°03×176°38E±0°05, h247km±2km, mb4.1/10, Error ellipse: s-maj=6.1km s-min=4.3km az=1.9
WEL 21 21:33:43.2, 37°S±3°×17°7E±°, h248km±5km
NEIC 21 21:33:43.9±0.7, 37°61S×176°52E, h244km±6km, mb4.0/4, ML4.3(WEL), Error ellipse: s-maj=13.8km s-min=10.2km az=109.0
ISC 21 21:33:44.9±0.7, 37°65S±0°05×176°43E±0°05, h247km±5km, n234, σ 2 9 0 9/260, mb4.2/10, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGRZ	Tauranga	0

RAHZ	Arahi	1.37 158	P	S	21 34 50.9	-0.2
TKGZ	Te Karaka	1.37 126	P	Pn	21 34 21.1	-0.8
TKGZ	Te Karaka	1.37 126	P	S	21 34 45.6	-5.5
ETAZ	East Tamaki Re	1.38 300	P	Pn	21 34 20.4	-1.6
RITZ	Rihia Road	1.40 198	P	Pn	21 34 23.3	+1.2
KATZ	Kakaramea	1.44 203	P	Pn	21 34 23.5	+0.9
NMHZ	Naumai	1.48 168	P	Pn	21 34 24.1	+1.3
RIGZ	Rimuhau	1.49 135	P	Pn	21 34 22.9	0.0
RIGZ	Rimuhau	1.49 135	P	S	21 34 45.7	-7.0
MXZ	Matakaoa Point	1.50 87	*e*Pn	Pn	21 34 20.4	-2.5
MXZ			*e*S	S	21 34 46.1	-6.6
MXZ	Matakaoa Point	1.50 87	P	Pn	21 34 20.5	-2.4
MBAZ	Motutapu North	1.50 305	P	Pn	21 34 21.0	-2.0
HIZ	Hauiti	1.51 235	*e*Pn	Pn	21 34 24.1	+1.1
HIZ	Hauiti	1.51 235	P	Pn	21 34 23.9	+1.0
PUZ	Puketiti	1.51 107	P	Pn	21 34 21.3	-1.7
BKZ	Black Stump Fm	1.52 178	*e*Pn	Pn	21 34 23.3	+0.3
BKZ			*e*S	S	21 34 48.2	-4.9
BKZ	Black Stump Fm	1.52 178	P	Pn	21 34 23.2	+0.2
AWAZ	Awhitu Peninsu	1.54 292	P	Pn	21 34 21.8	-1.4
EPAZ	Eden Park BICE	1.55 299	P	Pn	21 34 21.6	-1.7
WHHZ	Waihua	1.56 156	P	Pn	21 34 23.9	+0.5
WHHZ	Waihua	1.56 156	P	S	21 34 53.6	-0.1
KRVZ	Karewarewa	1.57 203	P	Pn	21 34 24.4	+0.8
HBAZ	Herne Bay Bore	1.57 300	P	Pn	21 34 21.7	-1.7
WMGZ	Waiomatatini S	1.59 97	P	Pn	21 34 21.8	-1.7
GRZ	Great Barrier	1.60 331	P	Pn	21 34 20.5	-3.2
WTVZ	West Tongariro	1.60 204	P	Pn	21 34 24.7	+0.8
TWVZ	Taurewa	1.62 208	P	Pn	21 34 24.8	+0.9
CNGZ	Carnagh Statio	1.64 121	P	Pn	21 34 23.7	-0.2
WTAZ	Waiatarua	1.64 295	P	Pn	21 34 22.7	-1.4
ABAZ	Army Bay	1.65 309	P	Pn	21 34 22.3	-1.8
NGZ	Ngauruhoe	1.66 203	P	Pn	21 34 25.4	+1.1
ARHZ	Aropaoanui	1.67 165	P	Pn	21 34 25.1	+0.9
ARHZ	Aropaoanui	1.67 165	P	S	21 34 53.8	-1.4
KNZ	Kokohu	1.69 145	P	Pn	21 34 24.3	0.0
KNZ	Kokohu	1.69 145	P	S	21 34 50.7	-4.7
COVZ	Chateau Observ	1.70 204	P	Pn	21 34 25.4	+0.9
PRGZ	Paritu Road	1.71 138	P	Pn	21 34 24.4	-0.2
PRGZ	Paritu Road	1.71 138	P	S	21 34 51.2	-4.7
RVAZ	Riverhead Bore	1.71 300	P	Pn	21 34 22.7	-2.0
TUVZ	Tukino	1.73 200	P	Pn	21 34 25.7	+0.9
FWVZ	Far West T-bar	1.74 203	P	Pn	21 34 25.9	+0.8
WHVZ	Whangaehu Hut	1.76 202	P	Pn	21 34 26.1	+0.9
DRZ	Dome Shelter	1.76 202	P	Pn	21 34 27.4	+2.1
KWHZ	Kaweka Forest	1.77 180	P	Pn	21 34 26.0	+0.9
KWHZ	Kaweka Forest	1.77 180	P	S	21 34 58.7	+1.8
TRVZ	Turoa	1.79 202	P	Pn	21 34 26.5	+1.0
MCHZ	McNeill Hill	1.81 173	P	Pn	21 34 26.6	+1.2
MOVZ	Moawhango	1.83 197	P	Pn	21 34 26.0	+0.4
PKVZ	Pokaka	1.84 207	P	Pn	21 34 26.8	+1.0
BHHZ	Black Hill Sta	1.86 189	P	Pn	21 34 26.4	+0.5
MTVZ	Mangateitei	1.89 203	P	Pn	21 34 27.1	+1.0
MHGZ	Mahia Peninsul	1.90 143	P	Pn	21 34 26.4	+0.2
MHGZ	Mahia Peninsul	1.90 143	P	S	21 34 53.9	-4.8
VRZ	Vera Road	1.97 221	P	Pn	21 34 28.7	+1.9
CKHZ	Cape Kidnapper	2.07 166	P	Pn	21 34 28.8	+1.1
CKHZ	Cape Kidnapper	2.07 166	P	S	21 34 57.4	-4.1
KAHZ	Kahuranaki	2.17 171	P	Pn	21 34 29.7	+1.0
KAHZ	Kahuranaki	2.17 171	P	S	21 34 59.5	-3.8
MHEZ	Mangahewa	2.18 229	P	Pn	21 34 31.6	+2.8
DREZ	Durham Road	2.33 228	P	Pn	21 34 33.2	+3.1
WAZ	Wanganui	2.38 208	P	Pn	21 34 32.2	+1.5
WCZ	Waipu Caves	2.39 315	P	Pn	21 34 28.5	-2.4
PXZ	Pawanui	2.40 172	P	Pn	21 34 31.6	+0.8
PXZ	Pawanui	2.40 172	P	S	21 35 05.7	-1.5
LREZ	Lake Rotokare	2.41 221	P	Pn	21 34 33.4	+2.5
WPHZ	Waipukurau	2.41 180	P	Pn	21 34 31.9	+0.9
WPHZ	Waipukurau	2.41 180	P	S	21 35 05.8	-1.6
TSZ	Takapari Road	2.43 188	P	Pn	21 34 31.9	+0.7
PREZ	Palmer Road	2.45 226	P	Pn	21 34 34.4	+2.9
PKE	Pukeiti	2.46 230	P	Pn	21 34 34.4	+2.9
KHEZ	Kahui Hut	2.51 228	P	Pn	21 34 34.5	+2.5
NBEZ	Newall Road No	2.58 230	P	Pn	21 34 35.7	+3.0
PRHZ	Porangahau	2.62 176	P	Pn	21 34 33.9	+0.8
PRHZ	Porangahau	2.62 176	P	S	21 35 06.1	-5.1
DVHZ	Dannevirke	2.65 184	P	Pn	21 34 34.0	+0.6
NMEZ	Namu Road	2.66 228	P	Pn	21 34 36.3	+2.7
OHWZ	Ohakea	2.70 198	P	Pn	21 34 35.5	+1.7
POWZ	Post Office Ro	2.79 190	P	Pn	21 34 35.6	+0.7
POWZ	Post Office Ro	2.79 190	P	S	21 35 16.2	+1.8
ANWZ	Angora Road	2.81 179	P	Pn	21 34 36.1	+1.1
ANWZ			P	Pn	21 34 36.1	+1.1
ANWZ	Angora Road	2.81 179	P	S	21 35 14.7	-0.1
PRWZ	Pori Road	2.92 187	P	Pn	21 34 37.2	+0.9
PRWZ	Pori Road	2.92 187	P	S	21 35 16.3	-1.6
BFZ	Birch Farm	3.03 183	*e*Pn	Pn	21 34 38.2	+0.8
BFZ	Birch Farm	3.03 183	P	Pn	21 34 38.1	+0.6
BFZ	Birch Farm	3.03 183	P	S	21 35 16.5	-2.6
MRZ	Mangatainoka R	3.08 192	P	Pn	21 34 38.3	+0.3
MRZ	Mangatainoka R	3.08 192	P	S	21 35 15.9	-4.1
TIWZ	Tintock	3.15 187	P	Pn	21 34 39.6	+0.8
TIWZ	Tintock	3.15 187	P	S	21 35 17.6	-4.0
CPWZ	Castlepoint	3.26 183	P	Pn	21 34 41.3	+1.4
CPWZ	Castlepoint	3.26 183	P	S	21 35 23.0	-0.7
OGWZ	Otaki Gorge	3.31 197	P	Pn	21 34 41.2	+0.6
OGWZ	Otaki Gorge	3.31 197	P	S	21 35 25.8	+1.1
HOWZ	Holdsworth Sta	3.32 192	P	Pn	21 34 40.9	+0.2
HOWZ	Holdsworth Sta	3.32 192	P	S	21 35 24.4	-0.5
OUZ	Omahuta	3.33 316	*e*Pn	Pn	21 34 38.3	-2.6
OUZ	Omahuta	3.33 316	P	Pn	21 34 38.2	-2.6
KIWZ	Kapiti Island	3.42 205	P	Pn	21 34 42.8	+0.3
TMWZ	Te Maipa	3.48 187	P	Pn	21 34 42.8	+0.4
TMWZ	Te Maipa	3.48 187	P	S	21 35 24.6	-3.5
MTWZ	Mount Morrison	3.58 191	P	Pn	21 34 43.5	-0.1
MTWZ	Mount Morrison	3.58 191	P	S	21 35 24.5	-5.6
CAWZ	Cannon Point	3.61 197	P	Pn	21 34 44.2	+0.3
CAWZ	Cannon Point	3.61 197	P	S	21 35 30.7	-0.1
DUWZ	D'Urville Isla	3.70 211	P	Pn	21 34 45.1	0.0
TRWZ	Traveller	3.79 188	P	Pn	21 34 46.2	+0.2
TRWZ	Traveller	3.79 188	P	S	21 35 30.9	-3.6
PAWZ	Paruwai Farm	3.81 191	P	Pn	21 34 46.2	0.0
PAWZ	Paruwai Farm	3.81 191	P	S	21 35 32.6	-2.3
MSWZ	Moikau Station	3.87 193	P	Pn	21 34 46.9	-0.1
MSWZ	Moikau Station	3.87 193	P	S	21 35 35.0	-1.3
SNZO	South Karori	3.89 199	*e*Pn	Pn	21 34 47.2	+0.1
SNZO			*e*S	S	21 35 35.2	-1.4
TCW	Tory Channel	3.93 204	P	Pn	21 34 47.7	+0.1
TCW	Tory Channel	3.93 204	P	S	21 35 37.7	+0.3
BHW	Baring Head	3.94 197	P	Pn	21 34 47.7	0.0
BHW	Baring Head	3.94 197	P	S	21 35 34.5	-3.2
PLWZ	Palliser	4.02 193	P	Pn	21 34 48.5	-0.2
PLWZ	Palliser	4.02 193	P	S	21 35 34.7	-4.8
TUWZ	Tuamarina	4.24 206	P	Pn	21 34 51.3	+0.1
NNZ	Nelson	4.27 213	P	Pn	21 34 51.6	-0.1
QRZ	Quartz Range	4.38 222	P	Pn	21 34 52.6	-0.5
CMWZ	Cape Campbell	4.44 202	P	Pn	21 34 54.6	+0.9
BSWZ	Blackbirch Sta	4.51 205	P	Pn	21 34 54.9	+0.3
THZ	Tophouse	4.92 212	*e*Pn	Pn	21 35 00.1	+0.5
THZ			*e*S	S	21 35 58.6	-0.6
THZ	Tophouse	4.92 212	P	Pn	21 34 59.3	-0.4
KHZ	Kahutara	5.25 204	*e*Pn	Pn	21 35 04.0	+0.4
KHZ	Kahutara	5.25 204	P	Pn	21 35 03.9	+0.4
DSZ	Denniston Nort	5.42 220	P	Pn	21 35 04.5	-1.3
LTZ	Lake Taylor	6.03 211	*e*Pn	Pn	21 35 13.5	+0.2
LTZ			*e*S	S	21 36 21.1	-2.9
LTZ	Lake Taylor	6.03 211	P	Pn	21 35 13.1	-0.2
AMCZ	Amberley	6.23 206	P	Pn	21 35 16.6	-0.1
INZ	Inchbonnie	6.34 215	P	Pn	21 35 16.3	-0.8
OXZ	Oxford	6.58 209	*e*Pn	Pn	21 35 19.5	-0.7
OXZ			*e*S	S	21 36 33.1	-3.4
OXZ	Oxford	6.58 209	P	Pn	21 35 19.2	-1.0
OKCZ	Okains Bay	6.58 202	P	Pn	21 35 20.4	+0.2
CRLZ	Canterbury Las	6.59 205	*e*Pn	Pn	21 35 19.4	-0.8
CRLZ			*e*S	S	21 36 32.5	-4.0
MQZ	McQueen's Vall	6.69 204	*e*Pn	Pn	21 35 20.8	-0.7
MQZ			*e*S	S	21 36 36.0	-3.0
MQZ	McQueen's Vall	6.69 204	P	Pn	21 35 20.8	-0.7
AKCZ	Akaroa Harbour	6.76 202	P	Pn	21 35 22.4	-0.1
RPZ	Rata Peaks	7.30 212	P	Pn	21 35 28.6	-0.6
	5.9nm,0.3s,baz=198,slow=4.1,SNR=18					
RPZ			S	S	21 36 48.7	-4.4
	19nm,0.3s,baz=340,slow=3.2,SNR=20					
RPZ	Rata Peaks	7.30 212	P	Pn	21 35 28.5	-0.8
FOZ	Fox Glacier	7.73 218	*e*Pn	Pn	21 35 33.4	-1.3
FOZ			*e*S	S	21 36 58.3	-4.7
FOZ	Fox Glacier	7.73 218	P	Pn	21 35 33.4	-1.3
LBZ	Lake Benmore	8.22 213	*e*Pn	Pn	21 35 40.2	-0.7
LBZ			*e*S	S	21 37 08.0	-6.3
LBZ	Lake Benmore	8.22 213	P	Pn	21 35 40.1	-0.7
ODZ	Otahua Downs	8.57 209	*e*Pn	Pn	21 35 45.4	+0.1
ODZ			*e*S	S	21 37 18.0	-4.4
ODZ	Otahua Downs	8.57 209	P	Pn	21 35 46.1	+0.8
JCZ	Jackson Bay	8.64 220	P	Pn	21 35 44.9	-1.4
WKZ	Wanaka	9.08 216	*e*Pn	Pn	21 35 49.9	-1.9
WKZ			*e*S	S	21 37 28.1	-6.3
WKZ	Wanaka	9.08 216	P	Pn	21 35 50.3	-1.5
TUZ	Tuapeka	9.72 209	P	Pn	21 36 00.6	+0.8
MLZ	Mavora Lakes	9.91 216	*e*Pn	Pn	21 36 02.3	0.0
MLZ			*e*S	S	21 37 50.5	-3.1
MLZ	Mavora Lakes	9.91 216	P	Pn	21 36 02.0	-0.2
WHZ	Wether Hill Ro	10.38 215	*e*Pn	Pn	21 36 06.8	-1.4
WHZ			*e*S	S	21 37 57.4	-7.2
SYZ	Scrubby Hill	10.40 209	P	Pn	21 36 08.9	+0.6
DCZ	Deep Cove	10.45 219	*e*Pn	Pn	21 36 06.9	-2.1
ARMA	Armidale	21.74 282	*e*P	P	21 38 14.3	-2.6
	2.6nm,0.8s					
STKA	Stephens Creek	29.08 271	P	P	21 39 25.4	+2.7
	2.9nm,0.4s,baz=106,slow=9.8,SNR=16					
CTA	Charters Tower	31.50 295	P	P	21 39 44.9	+0.9
	9.5nm,1.1s,baz=113,slow=14,SNR=3.5					
BBOO	Buckleboo	33.14 266	*e*P	P	21 39 59.6	+1.4
	4.4nm,1.0s					
AS01	Alice Springs	38.78 279	*e*P	P	21 40 45.6	-0.4
AS31	Alice Springs	38.81 279	*e*P	P	21 40 46.9	+0.6
	3.4nm,0.4s					
ASAR	Alice Springs	38.81 279	P	P	21 40 47.0	+0.6
	5.2nm,0.5s,baz=122,slow=8.4,SNR=85					
WB2	Warramunga Arr	40.49 284	*e*P	P	21 41 00.1	+0.1
WR1	Warramunga Arr	40.50 284	*e*P	P	21 41 00.3	+0.2
	4.7nm,1.0s					
WRA	Warramunga Arr	40.50 284	P	P	21 41 00.3	+0.2
	4.8nm,0.5s,baz=120,slow=7.9,SNR=88					
FITZ	Fitzroy Crossi	48.31 279	P	P	21 42 01.9	+0.1
	4.4nm,0.7s,baz=149,slow=9.6,SNR=8.9					
QSPA	South Pole Qui	52.48 180	P	P	21 42 36.9	+4.5
	2.9nm,0.3s,baz=215,slow=3.4,SNR=9.2					
SNAA	Sanae	70.98 180	P	P	21 44 42.0	+6.7
VNA3	Neumayer Olymp	71.32 178	P	P	21 44 39.2	+1.9
VNA2	Neumayer--Watz	71.70 179	P	P	21 44 41.3	+1.8
	baz=175,slow=4.2					
VNA1	Neumayer--Stat	71.95 178	P	P	21 44 41.7	+0.7
MK32	Makanchi Array	118.77 309	*e*PKPdf	PKPdf	21 52 01.4	-1.8
MKAR	Makanchi Array	118.77 309	PKP	PKPdf	21 52 01.4	-1.8
	1.0nm,1.2s,baz=141,slow=3.4,SNR=3.7					
ARA0	ARCESS Array S	144.43 343	*e*PKPdf	PKPab	21 52 47.6	-2.0
ARCES	ARCESS Array B	144.43 343	PKP	PKPab	21 52 47.6	-2.0
	0.9nm,0.5s,baz=49,slow=4.1,SNR=5.1					
DBIC	Dimbokro	149.14 178	PKPbc	PKPbc	21 53 04.5	-0.1
	0.8nm,0.6s,baz=207,slow=4.5,SNR=3.0					
FIA0	FINESS Array S	149.87 332	*e*PKPdf	PKPdf	21 53 01.9	+2.1
FINES	FINESS Array B	149.87 332	PKPbc	PKPdf	21 53 01.9	+2.1
	2.7nm,1.0s,baz=172,slow=11,SNR=2.9					
BR101	Keskin Array S	151.01 286	*e*PKPbc	PKPbc	21 53 07.5	-0.9
BRTR	Keskin Array B	151.01 286	PKPbc	PKPbc	21 53 07.5	-0.9
	0.3nm,0.5s,baz=355,slow=2.5,SNR=2.7					
TORD	Torodi Ar. Bea	155.15 192	PKPab	PKPab	21 53 35.6	+0.8
	0.3nm,0.5s,baz=169,slow=3.9,SNR=5.0					
TOA1	Torodi Ar. Sit	155.16 192	*e*PKPab	PKPab	21 53 35.6	+0.8

MEX 21 21:37:40.9±0.6, 17.13N×99.97W, h41km±7km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ACP2	Acapulco	0.27	163	*e*P		Pn	21 37 46.7	-2.2
ACP2				*e*S		Sn	21 37 53.1	-1.5
CAIG	El Cayaco	0.30	254	*e*P		Pn	21 37 47.5	-1.8
CAIG				*e*S		Sn	21 37 53.5	-1.7
MEIG	Mezcala	0.86	23	*e*P		Pn	21 37 54.4	-2.2
MEIG				*e*S		Sn	21 38 05.6	-2.4
ARIG	Puente Sto Nin	1.20	342	*e*P		Pn	21 37 59.6	-1.6
ARIG				*e*S		Sn	21 38 14.6	-1.8
PLIG	Platanillo	1.33	19	*e*P		Pn	21 38 01.5	-1.6
PLIG				*e*S		Sn	21 38 17.1	-2.5
ZIIG	Zihuatanejo	1.51	289	*e*P		Pn	21 38 03.9	-1.5
ZIIG				*i* S		Sn	21 38 21.4	-2.5

IDC 21 21:42:12.1±5.1, 20.25S×179.12W, h670km±55km, mb3.0/7,mb1 3.3/7,mb1mx3.0/23,mbtmp4.0/7, Error ellipse: s-maj=103.0km s-min=27.0km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	32.47	264	P		P	21 47 52.1	+0.6
	1.6nm,0.4s,baz=91,slow=10,SNR=2.8							
ASAR	Alice Springs	43.56	257	P		P	21 49 20.3	-0.1
	2.0nm,0.5s,baz=94,slow=7.6,SNR=37							
ASAR				PcP		PcP	21 50 52.6	+0.4
	0.3nm,0.7s,baz=109,slow=3.7,SNR=5.5							
WRA	Warramunga Arr	43.60	262	P		P	21 49 20.5	-0.3
	1.0nm,0.3s,baz=97,slow=7.6,SNR=36							
NVAR	Mina Array Bea	81.56	44	P		P	21 53 23.2	+0.5
	0.6nm,0.6s,baz=232,slow=7.8,SNR=4.2							
ILAR	Eielson Array	88.31	13	P		P	21 53 54.5	+0.2
	0.3nm,0.5s,baz=222,slow=5.5,SNR=4.6							
CMAR	Chiang Mai Arr	89.04	290	P		P	21 53 58.2	-0.6
	0.3nm,0.3s,baz=84,slow=2.8,SNR=2.6							
PDAR	Pinedale Array	89.50	44	P		P	21 54 00.2	-0.4
	0.3nm,0.6s,baz=211,slow=2.6,SNR=4.9							
FINES	FINESS Array B	135.23	343	PKP		PKiKP	22 00 19.0	+0.1
	2.0nm,0.9s,baz=240,slow=3.8,SNR=4.0							
AKASG	Malin Array Be	142.28	330	PKP		PKPdf	22 00 28.2	-2.1
	1.1nm,0.3s,baz=42,slow=4.2,SNR=14							
BRTR	Keskin Array B	145.89	312	PKPbc		PKPbc	22 00 40.1	+0.9
	0.7nm,0.6s,baz=124,slow=4.5,SNR=4.8							
GERES	GERESS Array B	149.67	343	PKPbc		PKPbc	22 00 47.2	-1.2
	0.6nm,0.7s,baz=31,slow=3.1,SNR=4.1							

*NEIC **21** 21:57:37.1±0.0, 16.26N×98.33W, h4km, MD4.0(MEX), After MEX.*

MEX 21 21:57:37.0±0.3, 16.26N×98.34W, h5km±2km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.24	56	*i* P		Pg	21 57 41.4	-0.3
PNIG				*i* S		Sg	21 57 45.0	0.0
PNIG	Pinotepa	0.24	56	*i* P		Pg	21 57 41.4	-0.3
PNIG				*i* S		Sg	21 57 45.0	0.0
VHO	Vista Hermosa	1.74	62	*e*P		Pn	21 58 05.5	-2.6
VHO				*i* S		Sn	21 58 28.7	-2.1
VHO	Vista Hermosa	1.74	62	*e*P		Pn	21 58 05.5	-2.6
VHO				*i* S		Sn	21 58 26.0	-4.8
CAIG	El Cayaco	2.01	293	*e*P		Pn	21 58 03.3	-8.3
CAIG				*e*S		Sn	21 58 37.9	+0.7
CAIG	El Cayaco	2.01	293	*e*P		Pn	21 58 07.8	-3.8
CAIG				*i* S		Sn	21 58 32.4	-4.8
TPIG	Tehuac#an	2.34	23	*e*P		Pn	21 58 08.3	-8.1
TPIG				*e*S		Sn	21 58 45.2	-0.5
TPIG	Tehuac#an	2.34	23	*i* P		Pn	21 58 13.9	-2.6
TPIG				*i* S		Sn	21 58 41.1	-4.6
PLIG	Platanillo	2.40	333	*e*P		Pn	21 58 16.9	-0.2
PLIG				*e*S		Sb	21 58 48.8	-1.9
PLIG	Platanillo	2.40	333	*e*P		Pn	21 58 14.2	-2.8
PLIG				*i* S		Sn	21 58 42.2	-4.7

MEX 21 22:11:28.9±0.3, 15.15N×92.46W, h101km±5km, MD3.5, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
THIG		0.30	143	*i* P		Pn	22 11 42.6	-1.1
THIG				*e*S		Sn	22 11 52.8	-1.9
PCIG		0.92	307	*e*P		Pn	22 11 47.3	-1.3
PCIG				*e*S		Sn	22 12 01.8	-1.6
CCIG	Comitan	1.17	15	*i* P		Pn	22 11 50.9	-0.6
CCIG				*i* S		Sn	22 12 06.8	-1.7

*ISCJB **21** 22:22:51.0±0.5, 4.89N±0.02×95.87E±0.02, h15km±3km, mb5.7/294,MS5.9/259, Error ellipse: s-maj=3.2km s-min=2.2km az=36.3*

*NEIC **21** 22:22:52.8±0.1, 4.93N×95.91E, h12km, mb5.8/153, ME6.9, MS6.0/160, MW6.1, MW6.0, MW6.1, Error ellipse: s-maj=4.8km s-min=3.1km az=36.0, Moment Tensor Solution. s15 Moment tensor: Scale 10^{18}Nm; M_{rr}=0.01; $M_{\theta\theta}$=1.43; $M_{\phi\phi}$ 1.44; $M_{r\theta}$=0.12; $M_{\theta\phi}$=0.02; $M_{\phi r}$=0.66; Best double couple: $M_0$1.60000×10^{18} NP1:ϕ_s313.00000°, δ72.00000°, λ168.00000°. NP2:ϕ_s47.00000°, δ79.00000°, λ19.00000°. Principal axes: T 1.7000, Plg21.0000°, Azm271.0000°; N -0.2500, Plg68.0000°, Azm77.0000°; P -1.4400, Plg5.0000°, Azm179.0000°; Moment Tensor Solution. s38 Moment tensor: Scale 10^{18} Nm; M_{rr}=0.09; $M_{\theta\theta}$=1.20; $M_{\phi\phi}$ 1.11; $M_{r\theta}$=0.03; $M_{\theta\phi}$=0.21; $M_{\phi r}$=0.39; Best double couple: $M_0$1.20000×10^{18} NP1:ϕ_s41.00000°, δ79.00000°, λ15.00000°. NP2:ϕ_s308.00000°, δ75.00000°, λ169.00000°. Principal axes: T 1.2600, Plg18.0000°, Azm265.0000°; N -0.0300, Plg72.0000°, Azm76.0000°; P -1.2200, Plg3.0000°, Azm174.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s309.00000°, δ85.00000°, λ170.00000°. NP2:ϕ_s40.00000°, δ80.00000°, λ5.00000°. Principal axes: T Plg11.0000°, Azm264.0000°; N Plg0.0000°, Azm0.0000°; P Plg4.0000°, Azm355.0000°; Apparent Stress 4.10 MPa. Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC One person killed, 15 people injured, 71 buildings damaged and utilities disrupted in Aceh. Felt [V] at Banda Aceh and Sigli. Also felt at Banda Sakti, Sampoyniet and Takengon.

*BJI **21** 22:22:52.0, 4.90N×95.90E, h12km, mb5.6/81, mB5.9/66, Ms6.2/94, Ms7 6.0/91*

*NEIC **21** 22:22:54.0±0.0, 4.86N×95.88E, h13km, Moment Tensor Solution. s17 Moment tensor: Scale 10^{18}Nm; M_{rr}=0.31; $M_{\theta\theta}$=1.01; $M_{\phi\phi}$ 1.33; $M_{r\theta}$=0.58; $M_{\theta\phi}$=0.59; $M_{\phi r}$=0.16; Best double couple: $M_0$1.50000×10^{18} NP1:ϕ_s28.00000°, δ71.00000°, λ-20.00000°. NP2:ϕ_s125.00000°, δ70.00000°, λ-160.00000°. Principal axes: T 1.4700, Plg0.0000°, Azm76.0000°; N 0.0000, Plg62.0000°, Azm167.0000°; P -1.4700, Plg27.0000°, Azm346.0000°;*

*DJA **21** 22:22:54.2±0.2, 5°N±3°×9°E±°, h10km, M5.9/63, mb5.8/63, mB6.2/49, MLv6.2/9, Mw(mB)5.9/49, Mwp5.9/14*

*GCMT **21** 22:22:54.8±0.1, 4.95N×96.02E, h17km, MW6.1/140, Moment Tensor Solution. s139,c288; s140,c499; Duration: 2^{s}7 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.08±.01; $M_{\theta\theta}$-1.56±.01; $M_{\phi\phi}$1.64±.01; $M_{r\theta}$-0.74±.04; $M_{\theta\phi}$-0.31±.01; $M_{\phi r}$0.00±.03; Best double couple: $M_0$1.78300×10^{18} NP1:ϕ_s132.00000°, δ76.00000°, λ-162.00000°. NP2:ϕ_s37.00000°, δ73.00000°, λ-14.00000°. Principal axes: T 1.6740, Plg3.0000°, Azm264.0000°; N 0.2190, Plg68.0000°, Azm167.0000°; P -1.8930, Plg22.0000°, Azm355.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*KLM **21** 22:22:55.7, 4.73N×96.10E, h10km, mb6.0*

*MOS **21** 22:22:55.1±1.0, 5.22N×95.82E, h33km, mb5.9/100, MS5.9/83, Error ellipse: s-maj=6.7km s-min=3.7km az=114.1*

*IDC **21** 22:22:56.2±0.9, 4.95N×95.97E, h38km±7km, mb5.2/39, mb1 5.2/44, mb1mx5.2/45, mbtmp5.4/44, ML5.1/5, MS5.8/32, Ms1 5.8/32, ms1mx5.7/37, Error ellipse: s-maj=12.3km s-min=7.1km az=49.0*

ISC 21 22:22:54.8±0.4, 4.96N±0.03×95.92E±0.03, h25km±2km, h25km:pP-P,n2114,σ2s03/2284,mb5.9/309,MS6.0/264, 114C-66D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	1.05	75	*e*Pg		Pn	22 23 11.3	-2.8
LHMI				*e*Sg		Sb	22 23 22.0	-5.8
LHMI	Lhok Sumawe	1.05	75	P		Pn	22 23 11.2	-2.8
KCSI	Kotacane, Aceh	2.33	128	P		Pn	22 23 31.7	0.0
KCSI				S		Sb	22 24 02.4	-2.3
SNSI	Sinabang, Aceh	2.57	171	P		Pn	22 23 32.6	-2.3
CMBY	CAMPBELL BAY	2.84	316	*e*P		Pn	22 23 40.3	+1.6
TSI	Tuntungan	3.01	119	P		Pn	22 23 39.9	-1.0
TSI				S		Sb	22 24 24.1	0.0
PSI	Prapat	3.69	126	Pn		Pn	22 23 50.4	0.0
	103nm,0.3s,baz=360,slow=13,SNR=268							
PSI				Sn		Sn	22 24 32.8	-0.3
	473nm,0.3s,baz=360,slow=23,SNR=5.3							
PSI			

CMAR Chiang Mai Arr 13.73 12 Pn **Pn 22 26 10.3 +2.2**
2.5nm,0.3s,baz=197,slow=14,SNR=258
CMAR Lg Lg 22 30 05.1
4.5nm,0.3s,baz=202,slow=31,SNR=7.0
CMAR LR LR 22 32 27.4
comp=Z,36µm,18.9s,baz=204,slow=42
CMAR ScP **ScP 22 35 04.9 +0.8**
0.5nm,0.3s,baz=212,slow=2.7,SNR=4.5
CMAR P3KP 23 02 21.1
0.2nm,0.3s,baz=336,slow=3.2,SNR=5.0
LAMP Lampang 13.96 15 P **Pn 22 26 14.5 +3.4**
222nm,0.8s,1µm
TPI Tanjungpandan 14.01 123 P **Pn 22 26 11.6 -0.2**
310nm,1.5s,7µm
CHTO Chiang Mai 14.08 12 *e*Pn **Pn 22 26 14.8 +1.9**
CHTO Chiang Mai 14.08 12 *e*P **Pn 22 26 14.8 +1.9**
CHTO Chiang Mai 14.08 12 P **Pn 22 26 14.7 +1.9**
SNR=253
CHTO Chiang Mai 14.08 12 P **Pn 22 26 14.7 +1.9**
3µm,1.1s,45µm157µm
CHTO Chiang Mai 14.08 12 *e*P **Pn 22 26 14.6 +1.7**
SKNT Sakolnakorn 14.31 33 P **Pn 22 26 17.1 +1.0**
156nm,1.7s,3µm
KSM Kuching 14.77 103 *e*Pn **Pn 22 26 23.2 +0.8**
KSM Kuching 14.77 103 P **Pn 22 26 21.9 -0.5**
NONG Nongkai 14.81 28 P **Pn 22 26 23.5 +0.7**
12nm,1.4s,410nm
PALK Pallekele 15.30 279 Pn **Pn 22 26 31.1 +1.7**
4.4nm,0.3s,baz=116,slow=14,SNR=41
PALK Sn **Sn 22 29 10.5 -7.9**
21nm,0.3s,baz=116,slow=8.1,SNR=8.0
PALK LR LR 22 31 47.3
comp=Z,16µm,20.2s,baz=189,slow=35
PALK Pallekele 15.30 279 *e*Pn **Pn 22 26 31.1 +1.7**
921nm,1.1s
PALK *e*S **Sn 22 29 10.2 -8.2**
PALK Pallekele 15.30 279 *i* P **Pn 22 26 31.3 +1.8**
SNR=53
DBJI Dramaga 15.74 137 P **Pn 22 26 32.4 -2.7**
140nm,1.1s
SKJI Sukabumi 15.94 138 P **P 22 26 41.9 +0.9**
STKI Sintang 16.28 107 P **P 22 26 43.8 -1.0**
440nm,1.7s,10µm
SBUM Sibu 16.45 98 *e*Pn **Pn 22 26 43.3 -0.9**
302nm,1.5s
SBUM Sibu 16.45 98 P **Pn 22 26 43.6 -0.6**
LEM Lembang 16.54 135 Pn **Pn 22 26 46.0 +0.6**
5.0nm,0.3s,baz=222,slow=4.7,SNR=7.7
LEM LR LR 22 32 52.2
comp=Z,73µm,18.7s,baz=295,slow=36
LEM Lembang 16.54 135 P **Pn 22 26 46.0 +0.6**
LEM pmax pmax
comp=Z,5.0nm,0.3s
LEM MLR MLR
comp=Z,73µm,18.7s
COCO West Island 17.07 177 *e*Pn **Pn 22 26 50.2 -1.7**
comp=Z,6µm,1.3s
COCO West Island 17.07 177 *e*P **Pn 22 26 50.2 -1.7**
COCO pmax pmax
comp=Z,6µm,1.3s
COCO West Island 17.07 177 P **Pn 22 26 49.1 -2.7**
SNR=21
CISI Cisompet, Garu 17.19 136 *e*Pn Pn 22 26 45.8 -7.7
comp=Z,78nm,0.6s
CISI Cisompet, Garu 17.19 136 P **Pn 22 26 46.7 -6.8**
BTM Bintulu 17.21 95 P **Pn 22 26 54.0 +0.3**
MDRS Chennai 17.44 299 *e*P **Pn 22 26 56.0 -0.6**
PBKI Pangkalan Bun 17.48 116 P **P 22 27 02.8 +4.7**
KPJI Karang Pucung 17.82 133 P **Pn 22 26 58.3 -3.0**
comp=Z,115nm,1.7s,comp=Z,3µm
BRDH Bariadhala 18.09 347 P **P 22 27 06.0 +1.2**
comp=Z,19nm,0.3s,baz=116,slow=5.4,SNR=35
BRDH LR LR 22 35 55.7
comp=Z,51µm,18.5s,baz=172,slow=43
XMIS Christmas Isla 18.14 148 *e*Pn **Pn 22 27 03.9 -1.4**
comp=Z,674nm,1.4s
SMRI Semarang 18.77 129 *e*P **P 22 27 10.7 -1.7**
comp=Z,206nm,1.0s
SMRI Semarang 18.77 129 P **Pn 22 27 17.4 +4.5**
TRD Trivandrum 19.16 282 *e*P **Pn 22 27 19.2 +1.7**
QIZ Qiongzhong 19.49 43 P **Pn 22 27 23.0 +1.4**
QIZ S **S 22 30 58.9 -0.3**
QIZ pmax pmax
comp=Z,4µm,8.0s
QIZ LR LR
comp=Z,92µm,18.1s
QIZ LR LR
comp=Z,25µm,20.6s
QIZ Qiongzhong 19.49 43 *e*P **Pn 22 27 22.7 +1.1**
comp=Z,233nm,1.1s
WOJI Wongiri, Jawa 19.64 130 P **Pn 22 27 27.0 +3.7**
TBJI Tambak Boyo 19.74 126 P Pn 22 27 32.0 +7.5
NGJI Ngawi 19.76 128 P **Pn 22 27 28.6 +3.8**
MTKI Muara Teweh, K 19.84 107 P **Pn 22 27 29.3 +3.5**
PCJI Pacitan 20.06 131 P Pn 22 27 41.9 +14
KKM Kota Kinabalu 20.23 86 *e*P **P 22 27 25.5 -3.0**
comp=Z,334nm,0.9s
KKM LR LR
comp=Z,15µm,21.0s
KKM Kota Kinabalu 20.23 86 P **P 22 27 28.7 +0.2**
GRJI Gresik 20.30 125 P Pn 22 27 33.2 +2.0
PWJI Pagerwojo 20.43 129 P Pn 22 27 34.0 +1.3
SHL Shillong 20.85 350 PFAKE 22 27 50.0 +12
SHL LR LR
comp=Z,12µm,18.0s
SHL Shillong 20.85 350 *e*P **P 22 27 35.0 -0.2**
SHL *i* S **S 22 31 28.0 +1.2**
KDM Kudat 20.89 84 P **P 22 27 36.5 +1.0**
HYB Hyderabad 21.03 307 *i* P **P 22 27 38.0 +1.0**
comp=Z,290nm,1.0s
HYB *e*S **S 22 31 30.0 -0.3**
HYB LR LR
comp=Z,28nm,20.0s
HYB Hyderabad 21.03 307 *e*P **P 22 27 39.6 +2.6**
BOK Bokaro 21.07 334 *e*P **P 22 27 35.7 -1.7**
BOK IAmb IAmb 22 27 46.0
KMI Kunming 21.09 17 P **P 22 27 41.0 +3.3**
KMI pP pP 22 27 45.1 +0.4
KMI sP sP 22 27 46.8 -1.1
KMI S Sn 22 31 37.4 -1.1
KMI sS pS 22 31 43.8 -0.3
KMI pmax pmax
comp=Z,170nm,1.5s
KMI pmax pmax
comp=Z,4µm,4.0s
KMI LR LR
comp=Z,37µm,12.1s
KMI LR LR
comp=Z,33µm,11.5s
KMI Kunming 21.09 17 *e*P **P 22 27 41.1 +3.3**
comp=Z,212nm,1.3s
KMI LR LR
comp=Z,229µm,20.0s
KMI Kunming 21.09 17 *e*P **P 22 27 41.1 +3.3**
KMI pmax pmax
comp=Z,212nm,1.3s
KMI MLR MLR
comp=Z,229µm,20.0s
SDKM Sandakan 21.19 87 P **P 22 27 39.2 +0.4**
KMMI Kalianget 21.60 123 P **P 22 27 45.5 +2.3**
KBKI Kotabaru 21.83 112 P **P 22 27 50.6 +5.0**
BKB Balikpapan 21.85 106 P **P 22 27 48.9 +3.1**
GMJI Gumukmas 21.87 127 P P 22 27 53.2 +7.2
TSM Tawau 21.89 91 P **P 22 27 48.0 +1.8**
SMKI Samarinda 21.93 104 P **P 22 27 50.4 +3.7**
BATP Bataraza 22.05 79 *e*P **P 22 27 46.9 -1.1**
BATP *e*S **S 22 31 48.3 -1.9**
SGKI Sangatta, Kali 22.34 104 P **P 22 27 53.4 +2.3**
comp=Z,446nm,1.4s,comp=Z,6µmcomp=Z,13µm
JAGI Jajag, Banyuwa 22.55 126 *e*P **P 22 27 53.9 +0.5**
comp=Z,334nm,1.1s
JAGI LR LR
comp=Z,56µm,20.0s
JAGI Jajag, Banyuwa 22.55 126 P **P 22 27 57.8 +4.4**
MNCI Minicoy 22.94 279 *e*P **P 22 28 01.1 +3.7**
comp=Z,2µm,1.4s
NGP Nagpur 22.96 316 *e*P **P 22 27 58.8 +1.2**
NGP *e*S **S 22 32 08.2 +1.6**
MNCY Minicoy 22.97 279 *e*P **P 22 27 59.4 +1.7**
SRBI Singaraja 23.20 124 P **P 22 27 59.7 -0.4**
comp=Z,599nm,2.0s,comp=Z,12µmcomp=Z,8µm
IGBI Denpasar 23.55 125 P **P 22 28 08.6 +5.0**
RAMN Ramite 23.61 339 *e*P **P 22 28 02.0 -2.3**
comp=Z,1µm,1.2s
GYA Guiyang 23.71 25⇓ *i* P **P 22 28 05.9 +0.7**
GYA pP pP 22 28 11.0 -1.4
GYA PP **PnPn 22 28 39.5 +6.4**
GYA PcP **PcP 22 31 51.8 +2.7**
GYA S **S 22 32 21.9 +2.8**
GYA sS pS 22 32 25.6 -1.6
GYA SS **SnSn 22 33 07.0 +9.0**
GYA pmax pmax
comp=Z,380nm,0.9s
GYA pmax pmax
comp=Z,2µm,5.9s
GYA LR LR
comp=Z,41µm,15.7s
GYA LR LR
comp=Z,35µm,17.7s
ENPP El Nido 24.07 74 *e*P **P 22 28 07.4 -1.1**
ENPP *e*S **S 22 32 31.5 +6.7**
GOA Goa 24.10 297 *e*P **P 22 28 10.3 +1.6**
MCO Taipa Grande 24.14 43 P **P 22 28 11.0 +2.0**
JIRN Jiri 24.40 339 *e*P **P 22 28 09.9 -1.9**
comp=Z,743nm,0.9s
PCI Palu 24.59 103 P **P 22 28 14.6 +1.3**
comp=Z,543nm,1.1s,comp=Z,9µm
PKIN Phulchoki 24.62 337 *e*P **P 22 28 11.5 -2.2**
comp=Z,496nm,1.1s
GZH Guangzhou 24.65 41 P **P 22 28 20.4 +6.7**
GZH S S 22 32 46.8 +13
GZH LR LR
comp=N,62µm,14.9s
GZH LR LR
comp=E,54µm,15.5s
HKC Hong Kong Obse 24.68 44⇑ P **P 22 28 16.0 +2.0**
GUN Gumba 24.74 338 *e*P **P 22 28 12.6 -2.3**
DMN Daman 24.77 337 *e*P **P 22 28 12.7 -2.3**
comp=E,1µm,1.2s
KKN Kakani 24.86 337 *e*P **P 22 28 14.3 -1.5**
comp=E,437nm,1.1s
LSA Lhasa 25.02 350 P **P 22 28 18.0 +0.5**
LSA pmax pmax
comp=E,59nm,0.9s
LSA pmax pmax
comp=E,2µm,4.3s
LSA LR LR
comp=E,9µm,17.1s
LSA LR LR
comp=E,13µm,14.0s
LSA LR LR
comp=E,20µm,15.9s
LSA Lhasa 25.02 350 *e*P **P 22 28 18.0 +0.5**
comp=E,568nm,1.3s
LSA *e*S **S 22 32 46.4 +5.8**
LSA Lhasa 25.02 350 *i* P **P 22 28 17.0 -0.5**
SNR=42
LSA Lhasa 25.02 350 *e*P **P 22 28 18.0 +0.5**
LSA pmax pmax
comp=Z,570nm,1.2s
TTSI Tana Toraja 25.16 108 P **P 22 28 21.6 +3.1**
SPSI Sidrap Palu 25.42 110 P **P 22 28 23.6 +2.8**
POO Poona 25.42 304 *e*P **P 22 28 22.1 +1.2**
BHPL Bhopal 25.47 317 *e*P **P 22 28 21.6 +0.4**
BHPL IAmb IAmb 22 28 31.2
comp=Z,646nm,1.1s
KOLN Koldanda 25.54 334 *e*P **P 22 28 21.0 -0.9**
comp=Z,2µm,1.2s
PLAI Plampang 25.74 122 P **P 22 28 23.7 0.0**
comp=Z,347nm,1.2s,comp=Z,4µm
BNSI Bone 25.89 111 P **P 22 28 28.0 +3.0**
DANN Dangsing 25.97 335 *e*P **P 22 28 24.9 -1.1**
comp=Z,1µm,1.0s
PYUN Piuthan 26.09 333 *e*P **P 22 28 25.8 -1.2**
comp=Z,1µm,1.0s
BKSI Bulukumba 26.24 113 P **P 22 28 28.7 +0.5**
comp=Z,220nm,0.9s,comp=Z,3µm
TGY Tagaytay City 26.26 68 P **P 22 28 30.4 +1.9**
comp=Z,190nm,0.4s,baz=43,slow=4.4,SNR=8.8
DGAR Diego Garcia 26.45 242 *e*P **P 22 28 31.8 +1.7**
comp=Z,414nm,1.1s
DGAR Diego Garcia 26.45 242 *e*P **P 22 28 31.8 +1.7**
DGAR pmax pmax
comp=Z,414nm,1.1s
BOM Bombay 26.46 303 *e*P **P 22 28 29.3 -0.9**
BOM *ex* x 22 33 03.1
H08S2 Diego Garcia H 26.52 242 T T 22 55 33.2
baz=61,slow=75
H08S3 Diego Garcia H 26.52 242 T T 22 55 35.3
baz=61,slow=75,SNR=7781
H08S1 Diego Carcia H 26.54 242 T T 22 55 34.5
baz=61,slow=75,SNR=7603
SMPP San Manuel, Pa 26.72 64 *e*P **P 22 28 35.5 +2.9**
SMPP *e*S **S 22 33 07.1 +0.1**
CD2 Chengdu 26.84 15⇓ *i* P **P 22 28 33.9 +0.3**
CD2 pP pP 22 28 36.3 -4.8
CD2 PcP **PcP 22 31 55.3 -0.6**
CD2 S **S 22 33 12.8 +4.1**
CD2 sS pS 22 33 16.6 -0.5
CD2 pmax pmax
comp=Z,1µm,0.7s
CD2 pmax pmax
comp=Z,2µm,4.4s
CD2 LR LR
comp=Z,46µm,13.1s
CD2 LR LR
comp=Z,39µm,13.3s
GUIM Jordan 27.00 76 *e*P P 22 28 20.5 -15
GUIM *e*S **S 22 33 20.8 +9.4**
H08N1 Diego Carcia H 27.28 246 T T 22 56 44.4
baz=45,slow=74,SNR=65
H08N2 Diego Garcia H 27.29 246 T T 22 56 45.6
baz=45,slow=74,SNR=64
H08N3 Diego Garcia H 27.30 246 T T 22 56 44.8
baz=45,slow=74,SNR=60
RCP Roxas 27.33 74⇑ *e*P **P 22 28 38.4 +0.4**
PAGZ Pagadian 27.43 83 *e*P **P 22 28 40.0 +1.0**
PAGZ *e*S **S 22 33 26.5 +8.2**
LUWI Luwuk 27.48 102 *e*P **P 22 28 39.0 -0.4**
comp=Z,457nm,0.9s
LUWI Luwuk 27.48 102 P **P 22 28 40.6 +1.2**
comp=Z,563nm,1.0s,comp=Z,12µm
KDI Kendari 28.10 108 P **P 22 28 48.6 +3.6**
ENH Enshi 28.24 25 *e*P **P 22 28 46.1 0.0**
comp=Z,255nm,1.1s
ENH LR LR
comp=Z,29µm,20.0s
BBSI Bau Bau 28.57 111 P **P 22 28 51.9 +2.8**
EDFI Ende, Flores 29.08 118 P **P 22 28 58.1 +4.3**
QZH Quanzhou 29.47 45⇑ *i* P **P 22 29 00.1 +3.1**
QZH sP **sP 22 29 06.8 -1.1**
QZH S **S 22 33 55.3 +5.2**
QZH pmax pmax
comp=Z,170nm,1.0s
QZH LR LR
comp=Z,78µm,15.2s
QZH LR LR
comp=Z,51µm,15.8s
QZH LR LR
comp=Z,44µm,12.3s
MMRI Maumere 29.51 117 PFAKE 22 29 10.0 +12
MMRI LR LR
comp=Z,37µm,20.0s
NDI New Delhi 29.52 325 *e*P **P 22 28 57.5 +0.1**
DAV Davao City (W) 29.57 84 LR LR 22 42 29.9
comp=Z,16µm,18.2s,baz=215,slow=40
DAV Davao City (W) 29.57 84 *e*P **P 22 28 58.8 +0.8**
TPUB Ta-pu 30.01 50 *e*P **P 22 29 00.4 -1.5**
comp=Z,51nm,1.0s
TPUB LR LR
comp=Z,25µm,18.0s
TWG Pinlang 30.09 51 *e*P **P 22 29 05.0 +2.5**
comp=Z,691nm,1.1s
TWG LR LR
comp=Z,54µm,21.0s
DDI Dehra Dun 30.33 328 *e*P **P 22 29 04.1 -0.5**
DDI IAmb IAmb 22 29 13.1
comp=Z,119nm,0.5s
SSLB Suanglung 30.53 50 *e*P **P 22 29 05.6 -0.8**
comp=Z,158nm,1.3s
SSLB LR LR
comp=Z,32µm,18.0s
YULB Yu-li 30.57 51 PFAKE 22 29 20.0 +13
YULB LR LR
comp=Z,33µm,21.0s
WHN Wuhan 30.80 32⇓ P **P 22 29 09.5 +0.8**
WHN S **S 22 34 14.6 +3.7**
WHN LR LR
comp=Z,179µm,18.9s
WHN LR LR
comp=Z,99µm,12.8s
SANI Sanana 30.84 102 P **P 22 29 09.7 +0.5**
comp=Z,138nm,1.0s,comp=Z,2µm
BHJ Bhuj 31.19 308 *e*P **P 22 29 12.4 +0.1**
BHJ IAmb IAmb 22 29 22.4
comp=Z,97nm,0.9s
NACB Ninganchiao 31.23 50 PFAKE 22 29 20.0 +7.4
NACB LR LR
comp=Z,38µm,18.0s
YHNB Yeheng 31.34 49 PFAKE 22 29 30.0 +16
YHNB LR LR
comp=Z,37µm,22.0s
XAN Xi'an 31.35 21 P **P 22 29 13.6 0.0**
XAN pP pP 22 29 19.8 -1.4
XAN PP **PnPn 22 30 16.8 +0.3**
XAN S **S 22 34 19.8 +0.3**
XAN sS sS 22 34 35.1 +3.5
XAN pmax pmax
comp=Z,290nm,0.8s
XAN pmax pmax
comp=Z,2µm,3.8s
XAN LR LR
comp=Z,32µm,22.8s
XAN LR LR
comp=Z,73µm,21.1s
XAN LR LR
comp=Z,30µm,12.7s
XAN Xi'an 31.35 21 *e*P **P 22 29 13.8 +0.2**
comp=Z,905nm,0.8s
XAN LR LR
comp=Z,130µm,20.0s
XAN Xi'an 31.35 21 *e*P **P 22 29 13.8 +0.2**
XAN pmax pmax
comp=Z,905nm,0.8s
XAN MLR MLR
comp=Z,130µm,20.0s
SMLA Simla 31.44 328 *e*P **P 22 29 14.5 +0.2**
SMLA IAmb IAmb 22 29 22.9
comp=Z,164nm,1.2s
BATI Baumata 31.47 119 P **P 22 29 17.7 +2.8**
TATO Taipei 31.60 48 *e*P **P 22 29 19.4 +3.6**
comp=Z,928nm,1.8s
TATO LR LR
comp=Z,37µm,22.0s
TNTI Ternate 31.67 97 *e*P **P 22 29 14.8 -1.8**
comp=Z,72nm,0.8s
TNTI LR LR
comp=Z,3µm,20.0s
TNTI Ternate 31.67 97 P P 22 29 22.2 +5.6
SOEI Soe 31.80 117 *e*P **P 22 29 14.9 -3.0**
comp=Z,80nm,0.8s
SOEI LR LR
comp=Z,99µm,22.0s
SOEI Soe 31.80 117 P **P 22 29 22.6 +4.7**
LZH Lanzhou 31.82 12 *e*P **P 22 29 18.8 +1.0**
LZH pP pP 22 29 23.5 -2.0
LZH sP sP 22 29 26.8 -1.8
LZH PP **PnPn 22 30 21.3 -1.4**
LZH *e*S **S 22 34 28.8 +1.8**
LZH SS **SnSn 22 36 20.9 +5.2**
LZH pmax pmax
comp=Z,250nm,1.3s
LZH pmax pmax
comp=Z,700nm,4.6s
LZH LR LR
comp=Z,15µm,17.4s
LZH LR LR
comp=Z,79µm,16.3s
LZH LR LR
comp=Z,37µm,17.9s
NLAI Namlea 32.20 104 P **P 22 29 25.3 +4.1**
YOJ Yonaguni jima 32.47 51 PFAKE 22 29 40.0 +17
YOJ LR LR
comp=Z,20µm,20.0s
GIRL Giralia 32.76 148 P **P 22 29 25.7 -0.3**
baz=33,SNR=7.4
GIRL Giralia 32.76 148 *e*P **P 22 29 25.6 -0.4**
comp=Z,270nm,1.1s
GIRL LR LR
comp=Z,12µm,22.0s
DHRM DHARAMSHALA 32.77 328 *e*P **P 22 29 25.9 -0.4**
DHRM IAmb IAmb 22 29 28.0
NJ2 Nanjing 34.46 36 *e*P **P 22 29 44.0 +3.3**
NJ2 pP **pP 22 29 47.9 -0.4**
NJ2 sP **sP 22 29 51.3 -0.1**
NJ2 S **S 22 35 08.0 +0.3**
NJ2 sS **sS 22 35 20.3 +0.3**
NJ2 pmax pmax
comp=Z,100nm,1.3s
NJ2 pmax pmax
comp=Z,1µm,3.5s
NJ2 LR LR
comp=Z,66µm,19.0s
NJ2 LR LR
comp=Z,87µm,20.0s
NJ2 LR LR
comp=Z,31µm,13.7s
GTA Gaotai 34.47 5⇓ P **P 22 29 40.6 -0.3**
GTA pP pP 22 29 45.4 -3.2
GTA sP sP 22 29 47.5 -4.2
GTA S **S 22 35 08.8 +0.7**
GTA sS pS 22 35 17.6 +1.1
GTA ScP **ScP 22 35 59.1 -0.7**
GTA SS **SnSn 22 37 19.6 -0.3**
GTA ScS **ScS 22 40 00.4 -2.2**
GTA pmax pmax
comp=Z,44nm,1.2s
GTA pmax pmax
comp=Z,800nm,5.5s
GTA LR LR
comp=Z,12µm,18.5s
GTA LR LR
comp=Z,18µm,18.9s
GTA LR LR
comp=Z,16µm,17.9s
MBWA Marble Bar 34.92 139 *e*P **P 22 29 43.7 -1.2**
comp=Z,209nm,1.2s
MBWA LR LR
comp=Z,18µm,20.0s
SSE Sheshan 35.21 39 P **P 22 29 50.8 +3.6**
SSE S **S 22 35 23.6 +4.3**
SSE pmax pmax
comp=Z,27nm,1.3s
SSE LR LR
comp=Z,7µm,16.8s
SSE LR LR
comp=Z,9µm,17.1s
SSE LR LR
comp=Z,3µm,18.6s
SSE Sheshan 35.21 39 PFAKE 22 30 00.0 +13
SSE LR LR
comp=Z,29µm,19.0s
NIL Nilore 35.49 326 *e*P **P 22 29 48.8 -0.9**
comp=Z,460nm,0.7s
NIL *e*S **S 22 35 19.4 -4.3**
NIL LR LR
comp=Z,51µm,19.0s
NIL Nilore 35.49 326 *e*P **P 22 29 48.8 -0.9**
NIL *e*S **S 22 35 19.4 -4.3**
NIL pmax pmax
comp=Z,460nm,0.7s
NIL MLR MLR
comp=Z,51µm,19.0s
SWI Sorong 35.77 98 P **P 22 29 53.9 +1.6**
comp=Z,249nm,0.8s,comp=Z,3µm
TIY Taiyuan 35.91 23 *e*P **P 22 29 55.6 +2.3**
TIY S **S 22 35 30.1 -0.1**
TIY SS **SnSn 22 37 57.3 +2.5**
TIY pmax pmax
comp=Z,82nm,1.0s
TIY pmax pmax
comp=Z,990nm,4.8s
TIY LR LR
comp=Z,17µm,14.4s
TIY LR LR
comp=Z,22µm,12.8s
TIA Tai'an 36.70 29 P **P 22 30 01.3 +1.3**
TIA PP **PP 22 31 29.1 +5.3**
TIA S **S 22 35 45.8 +3.6**
TIA pmax pmax
comp=Z,56nm,1.0s
TIA pmax pmax
comp=Z,400nm,7.4s
TIA LR LR
comp=Z,16µm,17.7s
TIA LR LR
comp=Z,10µm,21.1s

FAKI	**Fak Fak**	**37.13**	**101**	PFAKE		22 30 20.0	+16	SATY		*i* S	**S**	**22 36 46.6**	**-0.2**
FAKI				LR	LR			SATY		pmax	pmax		
	comp=Z,8μm,20.0s								comp=Z,2μm,0.7s				
FITZ	**Fitzroy Crossi**	**37.21**	**129**	P	**P**	**22 30 01.1**	**-3.3**	SATY		MLR	MLR		
	baz=37,SNR=58								comp=Z,2μm,16.0s				
FITZ	**Fitzroy Crossi**	**37.21**	**129**	*e*P	**P**	**22 30 01.4**	**-3.1**	**SATY**	**Saty**	**40.99**	**340**⇑*e*P	**P**	**22 30 34.4**	**-1.6**
	comp=Z,125nm,1.1s								comp=Z,2μm,0.7s				
FITZ				LR	LR			SATY		⇓*i*S	**S**	**22 36 46.7**	**-0.2**
	comp=Z,23μm,21.0s								comp=Z,2μm,4.8s				
SAUI	**Saumlaki**	**37.56**	**110**	PFAKE		22 30 20.0	+12	SATY		*e*LRM	MLR	22 49 31.9	
SAUI				LR	LR				comp=Z,2μm,16.1s				
	comp=Z,23μm,21.0s							**DL2**	**Dalian**	**41.05**	**31** P	**P**	**22 30 38.4**	**+2.1**
BTO	**Baotou**	**37.68**	**18**	*e*P	**P**	**22 30 06.0**	**-2.3**	DL2			PP	**PnPn**	**22 32 16.9**	**+1.2**
BTO				S	**S**	**22 35 56.9**	**-0.2**	DL2			S	**S**	**22 36 51.6**	**+4.1**
JOW	**Kunigami**	**37.76**	**51**	PFAKE		22 30 20.0	+11	DL2			SS	**SS**	**22 39 49.3**	**-1.1**
JOW				LR	LR			DL2			pmax	pmax		
	comp=Z,14μm,18.0s								comp=Z,280nm,0.9s					
MEEK	**Meekatharra**	**38.34**	**146**	P	**P**	**22 30 11.7**	**-2.2**	DL2			pmax	pmax		
	baz=38,SNR=13								comp=Z,1μm,4.5s					
HHC	**Hu-ho-hao-te**	**38.39**	**19**	*e*P	**P**	**22 30 17.1**	**+2.8**	DL2			LR	LR		
HHC				pP	pP	22 30 21.6	-0.4		comp=Z,26μm,21.2s					
HHC				sP	sP	22 30 24.3	-0.9	DL2			LR	LR		
HHC				PP	**PnPn**	**22 31 48.9**	**+4.6**		comp=Z,34μm,21.4s					
HHC				S	**S**	**22 36 11.9**	**+4.0**	DL2			LR	LR		
HHC				sS	sS	22 36 19.8	-0.5		comp=Z,22μm,16.7s					
HHC				SS	**SnSn**	**22 38 52.0**	**-2.6**	**ULHL**	**Ulahol**	**41.05**	**338** P	**P**	**22 30 36.4**	**-0.2**
HHC				pmax	pmax				SNR=20					
	comp=Z,130nm,1.2s							**KZA**	**Kyzart**	**41.29**	**337** P	**P**	**22 30 38.4**	**-0.5**
HHC				pmax	pmax				SNR=33					
	comp=Z,4μm,5.2s							**BSY**	**Bisya**	**41.36**	**299** P	**P**	**22 30 41.6**	**+2.4**
HHC				LR	LR				SNR=40					
	comp=Z,15μm,20.6s							**TNSS**	**Tian-Shan**	**41.48**	**339***de*P	**P**	**22 30 39.2**	**-1.1**
HHC				LR	LR			TNSS			pmax	pmax		
	comp=Z,17μm,19.8s								comp=Z,615nm,0.7s					
HHC				LR	LR			**TNSS**	**Tian-Shan**	**41.48**	**339**⇓*e*P	**P**	**22 30 39.3**	**-1.1**
	comp=Z,22μm,21.2s								comp=Z,615nm,0.7s					
KNRA	**Kununurra**	**38.44**	**123**	P	**P**	**22 30 12.0**	**-2.9**	**MUN**	**Mundaring**	**41.51**	**154** P	**P**	**22 30 39.4**	**-0.8**
	baz=38,SNR=5.1								baz=42,SNR=12					
KBL	**Kabul**	**38.55**	**323**	*e*P	**P**	**22 30 14.9**	**-1.0**	**HOQ**	**Hoqin**	**41.54**	**300** P	**P**	**22 30 43.3**	**+2.6**
	comp=Z,55nm,0.6s								SNR=38					
KBL				LR	LR			**MDOK**	**Medeo**	**41.55**	**339***ce*P	**P**	**22 30 39.8**	**-0.8**
	comp=Z,25μm,20.0s							MDOK			*i* S	**S**	**22 36 53.9**	**-1.3**
KBL	**Kabul**	**38.55**	**323**	*e*P	**P**	**22 30 14.9**	**-1.0**	MDOK			pmax	pmax		
KBL				pmax	pmax				comp=Z,1μm,1.1s					
	comp=Z,55nm,0.7s							MDOK			MLR	MLR		
RKPI	**Ransiki, Papua**	**38.76**	**99**	P	P	22 30 23.1	+5.5		comp=Z,7μm,19.0s					
KSH	**Kashi**	**38.84**	**335**	P	**P**	**22 30 16.0**	**-2.2**	**MDOK**	**Medeo**	**41.55**	**339**⇑*e*P	**P**	**22 30 39.9**	**-0.8**
KSH				pP	pP	22 30 20.3	-5.6		comp=Z,1μm,1.1s					
KSH				sP	sP	22 30 24.3	-4.7	MDOK			⇓*i*S	**S**	**22 36 53.9**	**-1.3**
KSH				PcP	**PcP**	**22 32 26.1**	**-3.0**		comp=Z,2μm,4.4s					
KSH				S	**S**	**22 36 09.5**	**-5.3**	MDOK			*e*LRM	MLR	22 50 06.1	
KSH				SS	**SnSn**	**22 38 52.6**	**-13**		comp=Z,7μm,18.6s					
KSH				pmax	pmax			**ARSB**	**Arslanbob**	**41.62**	**334** *e*P	**P**	**22 30 41.3**	**+0.1**
	comp=Z,47nm,0.9s								comp=Z,316nm,0.9s					
KSH				pmax	pmax			**BTK**	**Batken**	**41.62**	**331** *e*P	**P**	**22 30 42.2**	**+1.0**
	comp=Z,780nm,3.8s								comp=Z,181nm,0.8s					
KSH				LR	LR			BTK			LR	LR		
	comp=Z,5μm,12.0s								comp=Z,37μm,21.0s					
KSH				LR	LR			**BTK**	**Batken**	**41.62**	**331** *e*P	**P**	**22 30 42.2**	**+1.0**
	comp=Z,7μm,13.4s							BTK			pmax	pmax		
KSH				LR	LR				comp=Z,180nm,0.8s					
	comp=Z,29μm,17.7s							**AAA**	**Alma-Ata**	**41.64**	**339** *e*P	**P**	**22 30 40.9**	**-0.3**
MORW	**Morawa**	**38.97**	**151**	P	**P**	**22 30 17.9**	**-1.3**	AAA			*i* S	**S**	**22 36 57.4**	**+1.1**
	baz=39,SNR=19							AAA			pmax	pmax		
MORW	**Morawa**	**38.97**	**151**	*e*P	**P**	**22 30 17.8**	**-1.5**		comp=Z,408nm,0.9s					
	comp=Z,167nm,1.4s							AAA			MLR	MLR		
MORW				LR	LR				comp=Z,3μm,19.0s					
	comp=Z,13μm,21.0s							**AAA**	**Alma-Ata**	**41.64**	**339** *e*P	**P**	**22 30 40.9**	**-0.3**
JLN	**Jalan Bani Buh**	**39.23**	**299**	P	**P**	**22 30 23.8**	**+2.3**		comp=Z,408nm,0.9s					
	SNR=64							AAA			⇓*i*S	**S**	**22 36 57.5**	**+1.1**
JLN				S	**S**	**22 36 26.6**	**+5.8**		comp=Z,3μm,5.8s					
WMQ	**Urumqi**	**39.38**	**351**	*e*P	**P**	**22 30 22.4**	**-0.1**	AAA			*e*LRM	MLR	22 50 17.6	
WMQ				pP	pP	22 30 29.4	-0.9		comp=Z,3μm,18.7s					
WMQ				sP	sP	22 30 31.5	-1.9	**UCH**	**Uchtor**	**41.72**	**336** P	**P**	**22 30 42.5**	**+0.1**
WMQ				PP	**PnPn**	**22 31 59.4**	**+3.4**		SNR=70					
WMQ				ScP	**ScP**	**22 36 20.0**	**+2.2**	**MTBS**	**Maitube**	**41.74**	**338** *e*P	**P**	**22 30 39.7**	**-2.4**
WMQ				S	**S**	**22 36 28.6**	**+6.1**	MTBS			pmax	pmax		
WMQ				sS	sS	22 36 39.6	+4.8		comp=Z,261nm,1.1s					
WMQ				SS	**SS**	**22 39 10.3**	**-6.7**	**MTBS**	**Maitube**	**41.74**	**338** *e*P	**P**	**22 30 39.8**	**-2.4**
WMQ				pmax	pmax				comp=Z,261nm,1.1s					
	comp=Z,49nm,1.5s							**TKM2**	**Tokmak 2**	**41.88**	**338** P	**P**	**22 30 42.6**	**-0.8**
WMQ				pmax	pmax				SNR=29					
	comp=Z,920nm,3.6s							**KLBR**	**Kellerberrin**	**41.89**	**152** P	**P**	**22 30 41.9**	**-1.4**
WMQ				LR	LR				baz=42,SNR=28					
	comp=Z,16μm,19.3s							**KBK**	**Karagaybulak**	**41.90**	**337** P	**P**	**22 30 43.5**	**0.0**
WMQ				LR	LR				SNR=57					
	comp=Z,45μm,23.7s							**AML**	**Almayashu**	**41.97**	**335** P	**P**	**22 30 44.6**	**+0.3**
WMQ				LR	LR				SNR=79					
	comp=Z,21μm,31.5s							**DMTO**	**DMTO**	**42.02**	**291** P	**P**	**22 30 46.9**	**+2.3**
WMQ	**Urumqi**	**39.38**	**351**	*e*P	**P**	**22 30 22.7**	**+0.2**		SNR=11					
	comp=Z,120nm,1.1s							DMTO			P	**P**	**22 30 46.9**	**+2.3**
WMQ	**Urumqi**	**39.38**	**351**	*e*P	**P**	**22 30 22.7**	**+0.2**		SNR=11					
WMQ				pmax	pmax			DMTO			S	**S**	**22 37 06.7**	**+4.3**
	comp=Z,120nm,1.1s							DMTO			S	**S**	**22 37 06.7**	**+4.3**
BJT	**Baijiatuau**	**39.39**	**25**	*e*P	**P**	**22 30 23.8**	**+1.3**	**AAK**	**Ala-Archa**	**42.07**	**336** S	**S**	**22 37 06.6**	**+3.7**
	comp=Z,400nm,1.0s								comp=Z,13nm,0.9s,baz=253,slow=19,SNR=4.4					
BJT				LR	LR			AAK			LR	LR	22 49 34.5	
	comp=Z,20μm,18.0s								comp=Z,38μm,22.0s,baz=144,slow=38					
BJT	**Baijiatuau**	**39.39**	**25**	*e*P	**P**	**22 30 23.8**	**+1.3**	**AAK**	**Ala-Archa**	**42.07**	**336** P	**P**	**22 30 45.9**	**+1.1**
BJT				pmax	pmax				SNR=28					
	comp=Z,400nm,1.0s							**AAK**	**Ala-Archa**	**42.07**	**336** *e*P	**P**	**22 30 45.0**	**+0.2**
BJT				MLR	MLR				comp=Z,151nm,1.0s					
	comp=Z,20μm,18.0s							AAK			S	**S**	**22 37 06.6**	**+3.7**
WBK	**Wadi Bani Khal**	**39.77**	**300**	P	**P**	**22 30 29.3**	**+3.2**	**AAK**	**Ala-Archa**	**42.07**	**336** *i* P	**P**	**22 30 44.4**	**-0.4**
	SNR=29								SNR=62					
MHTO	**MHTO**	**40.12**	**297**	P	**P**	**22 30 30.3**	**+1.3**	**AAK**	**Ala-Archa**	**42.07**	**336***d* iP	**P**	**22 30 44.4**	**-0.4**
	SNR=24							AAK			pmax	pmax		
MHTO				P	**P**	**22 30 30.3**	**+1.3**		comp=Z,67nm,1.7s					
	SNR=24							AAK			MLR	MLR		
MHTO				S	**S**	**22 36 36.5**	**+2.3**		comp=Z,40μm,22.0s					
MHTO				S	**S**	**22 36 36.5**	**+2.3**	**AAK**	**Ala-Archa**	**42.07**	**336** P	**P**	**22 30 44.6**	**-0.2**
DQM	**DQM**	**40.19**	**295**	P	**P**	**22 30 31.5**	**+2.0**		SNR=64					
	SNR=17							AAK			S	**S**	**22 37 03.7**	**+0.8**
DQM				P	**P**	**22 30 31.5**	**+2.0**	**ARQ**	**Araqi**	**42.14**	**300** P	**P**	**22 30 47.4**	**+1.8**
	SNR=17								SNR=34					
DQM				S	**S**	**22 36 40.0**	**+4.7**	**FRU1**	**Bishkek**	**42.16**	**337** *e*P	**P**	**22 30 45.8**	**+0.3**
DQM				S	**S**	**22 36 40.0**	**+4.7**		comp=Z,81nm,0.9s					
WSAR	**Wadi Sarin**	**40.29**	**300**	S	**S**	**22 36 42.5**	**+5.7**	FRU1			LR	LR		
	comp=Z,17nm,1.2s,baz=63,slow=11,SNR=4.5								comp=Z,39μm,22.0s					
WSAR	**Wadi Sarin**	**40.29**	**300**	P	**P**	**22 30 32.7**	**+2.4**	**FRU1**	**Bishkek**	**42.16**	**337** *e*P	**P**	**22 30 45.8**	**+0.3**
	SNR=92							FRU1			pmax	pmax		
WSAR				S	**S**	**22 36 41.2**	**+4.5**		comp=Z,81nm,1.0s					
KDU	**Kakadu**	**40.33**	**116**	P	**P**	**22 30 27.6**	**-3.1**	**CHKK**	**Chushkaly**	**42.18**	**340** *e*P	**P**	**22 30 43.5**	**-2.0**
	baz=40,SNR=19							CHKK			pmax	pmax		
JMDO	**Jabal Madar**	**40.45**	**299**	P	**P**	**22 30 34.3**	**+2.7**		comp=Z,159nm,1.1s					
	SNR=29							**CHKK**	**Chushkaly**	**42.18**	**340** *e*P	**P**	**22 30 43.6**	**-2.0**
NRN	**Naryn**	**40.45**	**337** *e*P		**P**	**22 30 30.6**	**-1.1**		comp=Z,159nm,1.1s					
	comp=Z,106nm,1.0s							**FRU**	**Bishkek**	**42.18**	**337** *e*P	**P**	**22 30 44.0**	**-1.6**
NRN	**Naryn**	**40.45**	**337** *e*P		**P**	**22 30 30.7**	**-1.1**	FRU			*e*		22 32 46.0	
NRN				pmax	pmax			FRU			*e*S	**S**	**22 37 00.0**	**-4.4**
	comp=Z,106nm,1.0s							FRU			*e*SS	**SS**	**22 40 05.0**	**-7.8**
PRZ	**Przheval'sk**	**40.48**	**340** *e*P		**P**	**22 30 32.6**	**+0.8**	FRU			pmax	pmax		
	comp=Z,112nm,0.9s								comp=Z,220nm,2.0s					
PRZ				LR	LR			**CHMS**	**Chumysh**	**42.27**	**337** P	**P**	**22 30 46.1**	**-0.2**
	comp=Z,20μm,21.0s								SNR=19					
PRZ	**Przheval'sk**	**40.48**	**340** *e*P		**P**	**22 30 32.7**	**+0.8**	**EKS2**	**Erkin-Say**	**42.38**	**336** P	**P**	**22 30 47.4**	**0.0**
PRZ				pmax	pmax				SNR=40					
	comp=Z,110nm,1.0s							**SOHO**	**SOHO**	**42.40**	**301** P	**P**	**22 30 49.5**	**+1.9**
BLDU	**Ballidu**	**40.58**	**152**	P	**P**	**22 30 31.3**	**-1.3**		SNR=38					
	baz=41,SNR=12							SOHO			P	**P**	**22 30 49.5**	**+1.9**
SMDO	**Samad**	**40.73**	**300**	P	**P**	**22 30 36.8**	**+2.8**		SNR=38					
	SNR=38							SOHO			S	**S**	**22 37 13.0**	**+5.0**
SHLS	**Shalkode**	**40.73**	**341***ce*P		**P**	**22 30 31.7**	**-2.1**	SOHO			S	**S**	**22 37 13.0**	**+5.0**
SHLS				*e*S	**S**	**22 36 39.4**	**-3.6**	**KUU**	**Kurty**	**42.44**	**339***d* iP	**P**	**22 30 46.1**	**-1.6**
SHLS				pmax	pmax			KUU			*i* S	**S**	**22 37 06.9**	**-1.2**
	comp=Z,613nm,1.1s							KUU			pmax	pmax		
SHLS				MLR	MLR				comp=Z,283nm,1.2s					
	comp=Z,3μm,19.0s							KUU			MLR	MLR		
SHLS	**Shalkode**	**40.73**	**341**⇑*e*P		**P**	**22 30 31.8**	**-2.1**		comp=Z,4μm,23.0s					
	comp=Z,612nm,1.1s							**KUU**	**Kurty**	**42.44**	**339**⇓*i* P	**P**	**22 30 46.2**	**-1.6**
SHLS				⇑*e*S	**S**	**22 36 39.4**	**-3.6**		comp=Z,283nm,1.2s					
	comp=Z,3μm,5.0s							KUU			⇓*i*S	**S**	**22 37 06.9**	**-1.2**
SHLS				*e*LRM	MLR	22 49 37.6			comp=Z,3μm,4.1s					
	comp=Z,3μm,18.7s							KUU			*e*LRM	MLR	22 50 46.2	
BIDO	**Bidbid**	**40.82**	**301**	P	**P**	**22 30 37.5**	**+2.8**		comp=Z,4μm,22.5s					
	SNR=114							**TJN**	**Taejon**	**42.55**	**39**⇑*e*P	**P**	**22 30 50.6**	**+2.0**
BIDO				S	**S**	**22 36 50.8**	**+6.2**	**USP**	**Ospenovka**	**42.59**	**337** P	**P**	**22 30 48.4**	**-0.6**
UZB	**Uzynbulak**	**40.87**	**341***de*P		**P**	**22 30 34.0**	**-0.9**		SNR=88					
UZB				*i* S	**S**	**22 36 43.6**	**-1.4**	**RBK**	**Rabkut**	**42.66**	**290** P	**P**	**22 30 52.3**	**+2.3**
UZB				pmax	pmax				SNR=17					
	comp=Z,378nm,1.1s							**TDK**	**Taldyqorghan**	**42.73**	**342** *e*P	**P**	**22 30 48.2**	**-1.8**
UZB	**Uzynbulak**	**40.87**	**341**⇓*e*P		**P**	**22 30 34.1**	**-0.9**	TDK			*i* S	**S**	**22 37 10.8**	**-1.4**
	comp=Z,378nm,1.1s							TDK			pmax	pmax		
UZB				⇓*i*S	**S**	**22 36 43.6**	**-1.4**		comp=Z,592nm,1.1s					
	comp=Z,2μm,5.5s							TDK			MLR	MLR		
SATY	**Saty**	**40.99**	**340***ce*P		**P**	**22 30 34.4**	**-1.6**		comp=Z,8μm,23.0s					
								TDK	**Taldyqorghan**	**42.73**	**342** *e*P	**P**	**22 30 48.2**	**-1.8**
									comp=Z,592nm,1.1s					
								TDK			⇑*i*S	**S**	**22 37 10.9**	**-1.4**
									comp=Z,2μm,5.0s					
								TDK			*e*LRM	MLR	22 49 51.6	
									comp=Z,8μm,23.3s					
								NWAO	**Narrogin (SRO)**	**42.77**	**153** P	**P**	**22 30 49.2**	**-1.2**
									comp=Z,93nm,0.8s,baz=199,slow=7.1,SNR=24					
								NWAO	**Narrogin (SRO)**	**42.77**	**153** P	**P**	**22 30 49.8**	**-0.6**
									baz=43,SNR=22					
								NWAO	**Narrogin (SRO)**	**42.77**	**153** *e*P	**P**	**22 30 49.2**	**-1.2**
									comp=Z,118nm,0.8s					
								NWAO			LR	LR		
									comp=Z,19μm,21.0s					
								NWAO	**Narrogin (SRO)**	**42.77**	**153** *e*P	**P**	**22 30 49.2**	**-1.2**
								NWAO			pmax	pmax		
									comp=Z,120nm,0.9s					
								NWAO	**Narrogin (SRO)**	**42.77**	**153** P	**P**	**22 30 49.1**	**-1.4**
									SNR=8.1					
								JNU	**Nakatsue**	**42.95**	**45** *e*P	**P**	**22 30 52.2**	**+0.2**
									comp=Z,145nm,1.1s					
								JNU			LR	LR		
									comp=Z,17μm,20.0s					
								UOSS	**Minazif**	**42.97**	**302** *e*P	**P**	**22 30 53.6**	**+1.3**
									comp=Z,106nm,1.1s					
								UOSS			LR	LR		
									comp=Z,8μm,20.0s					
								UOSS	**Minazif**	**42.97**	**302** *i* P	**P**	**22 30 52.2**	**-0.1**
									SNR=19					
								UOSS	**Minazif**	**42.97**	**302** P	**P**	**22 30 52.9**	**+0.7**
									SNR=24					
								UOSS			P	**P**	**22 30 52.9**	**+0.7**
									SNR=24					
								HATD	**Hatta, Dubai**	**42.99**	**301** *i* P	**P**	**22 30 54.1**	**+1.7**
									SNR=24					
								HATD	**Hatta, Dubai**	**42.99**	**301** P	**P**	**22 30 53.9**	**+1.5**
									SNR=32					
								HATD			S	**S**	**22 37 20.6**	**+3.9**
								ASHO	**Ashiyiah**	**43.00**	**301** *i* P	**P**	**22 30 53.5**	**+0.9**
									SNR=61					
								ASHO	**Ashiyiah**	**43.00**	**301** P	**P**	**22 30 54.2**	**+1.7**
									SNR=32					
								ASHO			S	**S**	**22 37 20.5**	**+3.6**
								MDH	**Madha**	**43.02**	**302** *i* P	**P**	**22 30 53.0**	**+0.4**
									SNR=13					
								MDH	**Madha**	**43.02**	**302** P	**P**	**22 30 53.0**	**+0.4**
									SNR=16					
								MDH			P	**P**	**22 30 53.0**	**+0.4**
									SNR=16					
								ALNE	**Al Ain**	**43.05**	**300** *i* P	**P**	**22 30 54.5**	**+1.5**
									SNR=54					
								WHFO	**Wadi Hawf**	**43.15**	**291** P	**P**	**22 30 55.7**	**+1.8**
									SNR=51					
								MSFE	**Esma-Masafi**	**43.15**	**302** *i* P	**P**	**22 30 54.5**	**+0.7**
									SNR=12					
								H01W3	**Cape Leeuwin H**	**43.19**	**158** T	T	23 19 19.3	
									baz=331,slow=76,SNR=4.9					
								H01W2	**Cape Leeuwin H**	**43.20**	**158** T	T	23 18 52.4	
									baz=331,slow=76,SNR=4.5					
								H01W1	**Cape Leeuwin H**	**43.20**	**158** T	T	23 19 12.3	
									baz=331,slow=76,SNR=6.6					
								MK01	**Makanchi Array**	**43.28**	**346** *e*P	**P**	**22 30 52.6**	**-1.9**
								MK31	**Makanchi Array**	**43.31**	**346** *e*P	**P**	**22 30 53.5**	**-1.1**
								MK31	**Makanchi Array**	**43.31**	**346** *e*P	**P**	**22 30 53.6**	**-1.1**
								MKAR	**Makanchi Array**	**43.31**	**346** P	**P**	**22 30 53.8**	**-1.0**
									comp=Z,45nm,0.8s,baz=162,slow=6.2,SNR=185					
								MKAR			LR	LR	22 52 45.9	
									comp=Z,6μm,18.9s,baz=166,slow=41					
								MKAR	**Makanchi Array**	**43.31**	**346** *i* P	**P**	**22 30 53.7**	**-1.0**
								MKAR			pmax	pmax		
									comp=Z,43nm,0.8s					
								WRKA	**Warakurna**	**43.35**	**135** P	**P**	**22 30 52.5**	**-2.9**
									baz=43,SNR=143					
								ZSN	**Zaisan**	**43.39**	**349***de*P	**P**	**22 30 54.1**	**-1.2**
								ZSN			pmax	pmax		
									comp=Z,280nm,1.2s					
								ZSN			MLR	MLR		
									comp=Z,2μm,20.0s					
								ZSN	**Zaisan**	**43.39**	**349**⇓*e*P	**P**	**22 30 54.2**	**-1.2**
									comp=Z,280nm,1.2s					
								ZSN			*e*LRM	MLR	22 51 27.4	
									comp=Z,2μm,20.4s					
								MAKZ	**Makanchi**	**43.40**	**346** *e*P	**P**	**22 30 54.5**	**-0.9**
									comp=Z,49nm,0.9s					
								MAKZ			LR	LR		
									comp=Z,9μm,22.0s					
								MAKZ	**Makanchi**	**43.40**	**346** *e*P	**P**	**22 30 54.5**	**-0.9**
								MAKZ			pmax	pmax		
									comp=Z,49nm,0.9s					
								FAQ	**Al Faqa, Dubai**	**43.42**	**301** *i* P	**P**	**22 30 57.4**	**+1.5**
									SNR=32					
								FAQ	**Al Faqa, Dubai**	**43.42**	**301** P	**P**	**22 30 57.4**	**+1.5**
									SNR=16					
								FAQ			P	**P**	**22 30 57.4**	**+1.5**
									SNR=16					
								NAZ	**Nazwa, Dubai**	**43.44**	**301** *i* P	**P**	**22 30 57.6**	**+1.5**
									SNR=26					
								NAZ	**Nazwa, Dubai**	**43.44**	**301** P	**P**	**22 30 57.3**	**+1.2**
									SNR=19					
								ABTO	**Aybut**	**43.48**	**290** P	**P**	**22 30 58.4**	**+1.8**
									SNR=22					
								KS15	**Wonju Array Si**	**43.55**	**38** *e*P	**P**	**22 30 58.9**	**+2.1**
								KSAR	**Wonju Array Be**	**43.55**	**38** P	**P**	**22 30 57.9**	**+1.2**
								KS01	**Wonju Array Si**	**43.58**	**38** *e*P	**P**	**22 30 57.4**	**+0.4**
								KSRS	**Korea Array**	**43.58**	**38** P	**P**	**22 30 57.9**	**+0.9**
									comp=Z,67nm,1.0s,baz=217,slow=7.8,SNR=35					
								KSRS			LR	LR	22 52 27.0	
									comp=Z,9μm,18.4s,baz=245,slow=41					
								ASUD	**Al Ashush, Dub**	**43.60**	**301** *i* P	**P**	**22 30 59.1**	**+1.8**
									SNR=23					
								ASUD	**Al Ashush, Dub**	**43.60**	**301** P	**P**	**22 30 59.8**	**+2.4**
									SNR=57					
								DZA	**Taraz**	**43.61**	**334***de*P	**P**	**22 30 56.1**	**-1.1**
								DZA			*i* S	**S**	**22 37 25.4**	**+0.1**
									comp=Z,482nm,0.8s					
								DZA			MLR	MLR		
									comp=Z,13μm,20.0s					
								DZA	**Taraz**	**43.61**	**334**⇓*e*P	**P**	**22 30 56.1**	**-1.1**
									comp=Z,482nm,0.8s					
								DZA			⇓*i*S	**S**	**22 37 25.5**	**+0.1**
									comp=Z,369nm,3.2s					
								DZA			*e*LRM	MLR	22 50 40.1	
									comp=Z,13μm,20.1s					
								IUG	**Iuzhnay**	**43.62**	**332***d* iP	**P**	**22 30 56.7**	**-0.6**
								IUG			*i* S	**S**	**22 37 26.1**	**+0.5**
								IUG			pmax	pmax		
									comp=Z,1μm,1.1s					
								IUG			MLR	MLR		
									comp=Z,12μm,19.0s					
								IUG	**Iuzhnay**	**43.62**	**332**⇓*i* P	**P**	**22 30 56.8**	**-0.6**
									comp=Z,1μm,1.1s					
								IUG			⇓*i*S	**S**	**22 37 26.1**	**+0.5**
									comp=Z,9μm,2.7s					
								IUG			*e*LRM	MLR	22 50 39.2	
									comp=Z,12μm,18.9s					
								SONM	**Songino Array**	**43.65**	**10** P	**P**	**22 30 57.8**	**+0.3**
									comp=Z,39nm,0.7s,baz=190,slow=8.4,SNR=108					
								SONM			PcP	**PcP**	**22 32 44.9**	**+0.3**
									comp=Z,15nm,0.8s,baz=188,slow=2.7,SNR=4.7					
								SONM			ScP	**ScP**	**22 36 34.3**	**-0.5**
									comp=Z,14nm,1.1s,baz=193,slow=5.3,SNR=4.3					
								SONM			LR	LR	22 50 58.1	
									comp=Z,21μm,18.9s,baz=188,slow=38					
								SONA1	**Songino Array**	**43.66**	**10** *e*P	**P**	**22 30 57.0**	**-0.6**
								**ULN

SNY pmax pmax
comp=Z,110nm,2.5s
SNY pmax pmax
comp=Z,1μm,3.6s
SNY LR LR
comp=Z,14μm,13.4s
SNY LR LR
comp=Z,29μm,15.3s
SNY LR LR
comp=Z,29μm,16.9s
GENI Genyem 44.84 99 P **P** **22 31 10.2 +2.8**
comp=Z,134nm,0.7s,comp=Z,4μm
WB0 Warramunga Arr 45.11 124 PFAKE **22 31 20.0 +10**
WB0 LR LR
comp=Z,16μm,21.0s
WB9 Warramunga Arr 45.12 124 PFAKE **22 31 20.0 +10**
WB9 LR LR
comp=Z,32μm,21.0s
WB8 Warramunga Arr 45.12 124 PFAKE **22 31 20.0 +10**
WB8 LR LR
comp=Z,16μm,21.0s
WB6 Warramunga Arr 45.13 124 PFAKE **22 31 20.0 +10**
WB6 LR LR
comp=Z,15μm,21.0s
WB5 Warramunga Arr 45.14 124 PFAKE **22 31 20.0 +10**
WB5 LR LR
comp=Z,15μm,20.0s
WC1 Warramunga Arr 45.14 124 PFAKE **22 31 20.0 +10**
WC1 LR LR
comp=Z,12μm,19.0s
WB4 Warramunga Arr 45.15 124 PFAKE **22 31 20.0 +10**
WB4 LR LR
comp=Z,15μm,19.0s
WR1 Warramunga Arr 45.15 124 PFAKE **22 31 20.0 +10**
WR1 LR LR
comp=Z,16μm,18.0s
WRA Warramunga Arr 45.15 124 P **P** **22 31 07.7 -2.1**
comp=Z,49nm,0.7s,baz=302,slow=9.3,SNR=160
WRA ScP **ScP** **22 36 40.0 -1.3**
comp=Z,13nm,1.1s,baz=320,slow=3.8,SNR=5.3
WRA LR LR 22 52 40.3
comp=Z,16μm,18.3s,baz=280,slow=40
WRA Warramunga Arr 45.15 124 *i* P **P** **22 31 06.9 -2.9**
WRA pmax pmax
comp=Z,49nm,0.7s
WB3 Warramunga Arr 45.16 124 PFAKE **22 31 20.0 +10**
WB3 LR LR
comp=Z,15μm,18.0s
WRAB Tennant Creek 45.16 124 *e*P **P** **22 31 07.2 -2.7**
comp=Z,102nm,0.6s
WRAB LR LR
comp=Z,16μm,20.0s
WRAB Tennant Creek 45.16 124*c i*P **P** **22 31 07.8 -2.1**
WRAB pmax pmax
comp=Z,157nm,1.3s
WRAB MLR MLR
comp=Z,17μm,21.0s
DGZ Jazzator, Alta 45.16 352*de*P **P** **22 31 09.0 -0.6**
DGZ pmax pmax
comp=Z,6.0nm,1.2s
DGZ MLR MLR
comp=Z,3μm,15.0s
WB2 Warramunga Arr 45.16 124 *e*P **P** **22 31 06.7 -3.3**
WB2 LR LR
comp=Z,16μm,20.0s
WC4 Warramunga Arr 45.16 124 PFAKE **22 31 20.0 +10**
WC4 LR LR
comp=Z,15μm,18.0s
WC2 Warramunga Arr 45.16 124 PFAKE **22 31 20.0 +10**
WC2 LR LR
comp=Z,17μm,18.0s
WR2 Warramunga Arr 45.17 124 PFAKE **22 31 20.0 +10**
WR2 LR LR
comp=Z,15μm,19.0s
WC3 Warramunga Arr 45.19 124 PFAKE **22 31 20.0 +10**
WC3 LR LR
comp=Z,16μm,18.0s
WR3 Warramunga Arr 45.19 124 PFAKE **22 31 20.0 +10**
WR3 LR LR
comp=Z,15μm,18.0s
WR4 Warramunga Arr 45.21 124 PFAKE **22 31 20.0 +10**
WR4 LR LR
comp=Z,15μm,18.0s
WR5 Warramunga Arr 45.23 124 PFAKE **22 31 20.0 +10**
WR5 LR LR
comp=Z,15μm,18.0s
WR6 Warramunga Arr 45.25 124 PFAKE **22 31 20.0 +9.4**
WR6 LR LR
comp=Z,15μm,19.0s
WR7 Warramunga Arr 45.27 124 PFAKE **22 31 20.0 +9.2**
WR7 LR LR
comp=Z,16μm,21.0s
WR8 Warramunga Arr 45.29 124 PFAKE **22 31 20.0 +9.1**
WR8 LR LR
comp=Z,16μm,21.0s
WR9 Warramunga Arr 45.30 124 PFAKE **22 31 20.0 +9.0**
WR9 LR LR
comp=Z,16μm,21.0s
WR0 Warramunga Arr 45.33 124 PFAKE **22 31 20.0 +8.8**
WR0 LR LR
comp=Z,16μm,21.0s
MRIV Mauritius Mete 45.33 235 *e*P **P** **22 31 13.8 +2.6**
MRIV LR LR
comp=Z,3μm,22.0s
JAY Jayapura 45.35 98 P P 22 31 25.4 +14
ZAK Zakamensk 45.69 7 *e*P **P** **22 31 13.1 -0.6**
ZAK pmax pmax
comp=Z,92nm,1.4s
ZAK pmax pmax
comp=Z,68nm,1.7s
CN2 Changchun 46.61 29 *e*P **P** **22 31 21.3 +0.3**
CN2 *es*P sP 22 31 35.1 +3.2
CN2 *e*PP **PP** **22 33 10.6 -0.2**
CN2 *e*S **S** **22 38 07.1 -1.5**
CN2 SS **SS** **22 41 25.8 -9.2**
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,20μm,22.0s
CN2 LR LR
comp=Z,24μm,22.0s
CN2 LR LR
comp=Z,7μm,23.0s
AS31 Alice Springs 46.71 129 *e*P **P** **22 31 19.6 -2.5**
comp=Z,38nm,0.5s
AS31 LR LR
comp=Z,200nm,20.0s
ASAR Alice Springs 46.71 129 P **P** **22 31 19.6 -2.5**
comp=Z,66nm,0.6s,baz=300,slow=7.7,SNR=338
ASAR ScP **ScP** **22 36 45.4 -2.4**
comp=Z,6.3nm,1.0s,baz=302,slow=4.2,SNR=2.8
ASAR S **S** **22 38 07.8 -2.9**
comp=Z,4.7nm,0.9s,baz=297,slow=14,SNR=4.2
ASAR LR LR 22 50 36.3
comp=Z,16μm,21.9s,baz=298,slow=36
ASAR PKPPKP **P'P'df** **23 02 41.9 -2.7**
comp=Z,2.8nm,1.1s,baz=106,slow=2.1,SNR=5.8
AS01 Alice Springs 46.74 129 *e*P **P** **22 31 18.9 -3.4**
FORT Forrest 46.97 141 P **P** **22 31 22.4 -1.6**
baz=47,SNR=146
FORT Forrest 46.97 141 *e*P **P** **22 31 22.4 -1.6**
comp=Z,308nm,0.6s
FORT LR LR
comp=Z,12μm,20.0s
SEM Semipalatinsk 47.17 346*ce*P **P** **22 31 22.7 -2.8**
SEM *i* S **S** **22 38 14.6 -2.3**
SEM pmax pmax
comp=Z,479nm,1.5s
SEM MLR MLR
comp=Z,6μm,21.0s
SEM Semipalatinsk 47.17 346⇑*e*P **P** **22 31 22.8 -2.8**
comp=Z,479nm,1.5s
SEM ⇑*i*S **S** **22 38 14.6 -2.3**
comp=Z,3μm,4.1s
SEM *e*LRM MLR 22 53 37.4
comp=Z,6μm,20.9s
RER Riviere de l'E 47.18 235 *e*P **P** **22 31 28.6 +2.7**
comp=Z,156nm,0.7s
RER LR LR
comp=Z,8μm,18.0s
GEYT Alibeck 47.54 319 P **P** **22 31 28.9 +0.5**
comp=Z,140nm,0.8s,baz=141,slow=7.6,SNR=352
GEYT ScP **ScP** **22 36 49.1 -1.9**
comp=Z,10.0nm,0.8s,baz=129,slow=4.1,SNR=4.2
GEYT S **S** **22 38 23.8 +1.7**
comp=Z,35nm,1.2s,baz=208,slow=15,SNR=12

GEYT LR LR 22 53 21.6
comp=Z,22μm,19.9s,baz=125,slow=38
GYA0B ALIBECK ARRAY 47.54 319 *e*P **P** **22 31 28.7 +0.3**
comp=Z,552nm,0.9s
GYA0B *e*S **S** **22 38 24.7 +2.5**
IRK Irkutsk 47.63 7 *e*P **P** **22 31 28.9 +0.1**
IRK pmax pmax
comp=Z,333nm,2.2s
KURBB Kurchatov Arra 47.79 345 ScP **ScP** **22 36 51.5 -0.2**
comp=Z,14nm,1.1s,baz=170,slow=3.4,SNR=4.6
KURBB S **S** **22 38 25.2 0.0**
comp=Z,3.4nm,0.9s,baz=213,slow=23,SNR=3.8
KURK Kurchatov 47.85 345 *e*P **P** **22 31 29.9 -0.6**
comp=Z,127nm,1.1s
KURK ScP **ScP** **22 36 51.5 -0.5**
KURK *e*S **S** **22 38 25.2 -0.9**
KURK LR LR
comp=Z,12μm,21.0s
KURK Kurchatov 47.85 345*c i*P **P** **22 31 30.0 -0.5**
KURK pmax pmax
comp=Z,71nm,1.7s
KURK MLR MLR
comp=Z,12μm,22.0s
KURK Kurchatov 47.85 345 P **P** **22 31 30.4 -0.1**
SNR=37
INU Inuyama 48.45 46 *e*P **P** **22 31 36.6 +1.2**
comp=Z,74nm,1.0s
INU LR LR
comp=Z,15μm,19.0s
MSHR Mys Shultsa 48.78 35*d i*P **P** **22 31 38.8 +1.0**
GUMO Guam 48.98 76 PFAKE 22 31 50.0 +10
GUMO LR LR
comp=Z,5μm,20.0s
CIT Chita 49.13 14 *e*P **P** **22 31 37.8 -2.7**
CIT *e* 22 33 39.6
CIT pmax pmax
comp=Z,333nm,1.5s
CBIJ Chichi jima 49.23 58 PFAKE 22 31 50.0 +8.4
CBIJ LR LR
comp=Z,5μm,19.0s
MDJ Mudanjiang 49.28 31 P **P** **22 31 42.8 +1.1**
MDJ S **S** **22 38 49.6 +3.1**
MDJ pmax pmax
comp=Z,30nm,1.4s
MDJ pmax pmax
comp=Z,650nm,2.9s
MDJ LR LR
comp=Z,25μm,20.7s
MDJ LR LR
comp=Z,42μm,20.7s
MDJ LR LR
comp=Z,22μm,20.2s
MDJ Mudanjiang 49.28 31 *e*P **P** **22 31 42.5 +0.8**
comp=Z,258nm,1.4s
MDJ LR LR
comp=Z,23μm,18.0s
JHJ2 Mitsune 49.51 50 PFAKE 22 32 00.0 +16
JHJ2 LR LR
comp=Z,10μm,19.0s
VLA Vladivostok 49.53 34*d i*P **P** **22 31 45.4 +1.8**
VLA pmax pmax
comp=Z,183nm,1.3s
VLA MLR MLR
comp=Z,17μm,19.0s
ZAA0 Zalesovo Array 49.67 351 *e*P **P** **22 31 43.1 -1.3**
comp=Z,183nm,1.2s
ZALV Zalesovo Beam 49.67 351 P **P** **22 31 43.6 -0.8**
comp=Z,49nm,0.8s,baz=180,slow=6.5,SNR=57
ZALV ScP **ScP** **22 36 59.7 +0.1**
comp=Z,14nm,0.8s,baz=157,slow=2.7,SNR=6.0
ZALV S **S** **22 38 52.1 +0.5**
comp=Z,13nm,1.1s,baz=180,slow=15,SNR=5.2
ZALV LR LR 22 56 20.5
comp=Z,10μm,19.4s,baz=174,slow=40
ZALV PKPPKP P'P'df 23 02 32.2 -8.2
comp=Z,1.1nm,0.7s,baz=310,slow=5.6,SNR=4.1
QIS Mount Isa 49.82 122 P **P** **22 31 44.0 -2.2**
baz=50,SNR=18
MJB9 Matsu-Tunnel 49.87 45 *e*P **P** **22 31 47.4 +1.1**
comp=Z,64nm,1.0s
MJB9 LR LR
comp=Z,17μm,20.0s
MAJO Matsushiro 49.87 45 *e*P **P** **22 31 46.7 +0.4**
comp=Z,62nm,1.0s
MAJO LR LR
comp=Z,15μm,20.0s
MAJO Matsushiro 49.87 45⇓*e*P **P** **22 31 46.4 +0.1**
MAJO pmax pmax
comp=Z,28nm,1.0s
MAJO MLR MLR
comp=Z,15μm,19.0s
MAT Matsushiro 49.87 45 P **P** **22 31 46.4 +0.1**
MAT S **S** **22 38 58.2 +3.2**
MJAR Matsushiro Arr 49.87 45 P **P** **22 31 46.9 +0.5**
comp=Z,61nm,1.2s,baz=239,slow=6.1,SNR=25
MJAR PcP **PcP** **22 33 07.6 +0.9**
comp=Z,45nm,1.2s,baz=245,slow=5.1,SNR=5.7
MJAR LR LR 22 54 50.0
comp=Z,13μm,19.8s,baz=235,slow=38
MJAR Matsushiro Arr 49.87 45 P **P** **22 31 46.9 +0.5**
MJAR 22 33 07.6
MJAR pmax pmax
comp=Z,57nm,1.2s
MJAR pmax pmax
comp=Z,45nm,1.2s
MJAR MLR MLR
comp=Z,13μm,19.8s
USA0B Ussuriysk Arra 50.29 33 *e*P **P** **22 31 50.2 +0.9**
USRK Ussuriysk Ar. 50.29 33 P **P** **22 31 49.3 0.0**
comp=Z,26nm,0.9s,baz=239,slow=6.2,SNR=29
USRK LR LR 22 54 52.7
comp=Z,14μm,19.3s,baz=213,slow=38
COEN Coen 50.51 113 P **P** **22 31 49.0 -2.4**
baz=50,SNR=9.0
COEN Coen 50.51 113 PFAKE 22 32 00.0 +8.5
COEN LR LR
comp=Z,17μm,21.0s
NVS Novosibirsk 50.78 351⇑*i*P **P** **22 31 50.8 -2.0**
NVS *e*S **S** **22 39 01.7 -5.3**
NVS pmax pmax
comp=N,148nm,1.2s
NVS pmax pmax
comp=E,101nm,1.2s
NVS pmax pmax
comp=Z,198nm,1.2s
NVS smax smax
comp=N,113nm,1.8s
NVS smax smax
comp=E,129nm,1.8s
DAMY Dhamar 51.57 285 *e*P **P** **22 32 02.1 +2.3**
comp=E,548nm,1.2s
DAMY LR LR
comp=Z,7μm,19.0s
MANU Manus Island 51.86 96 *e*P **P** **22 32 01.5 -0.2**
comp=Z,146nm,0.8s
MANU LR LR
comp=Z,5μm,21.0s
RAYN Ar Rayn 51.92 296 *e*P **P** **22 32 02.9 +0.9**
comp=Z,94nm,0.7s
RAYN *e*ScP **ScP** **22 37 10.3 +0.2**
RAYN LR LR
comp=Z,10μm,18.0s
RAYN Ar Rayn 51.92 296 *i* P **P** **22 32 02.3 +0.3**
SNR=149
RAYN Ar Rayn 51.92 296 *e*P **P** **22 32 02.9 +0.9**
RAYN pmax pmax
comp=Z,95nm,0.7s
BVAR Borovoye Array 52.30 341 P **P** **22 32 03.1 -1.2**
comp=Z,20nm,0.7s,baz=142,slow=7.2
BVAR S **S** **22 39 26.7 -1.4**
comp=Z,3.5nm,0.9s,baz=135,slow=14,SNR=2.6
BRVK Borovoye 52.36 341 *e*P **P** **22 32 03.4 -1.3**
comp=Z,64nm,0.9s
BRVK LR LR
comp=Z,23μm,18.0s
BRVK Borovoye 52.36 341*d i*P **P** **22 32 03.0 -1.7**
BRVK pmax pmax
comp=Z,39nm,1.0s
BRVK MLR MLR
comp=Z,20μm,17.0s
BRVK Borovoye 52.36 341 P **P** **22 32 03.4 -1.3**
SNR=32
BRVK P **P** **22 32 03.4 -1.3**
SNR=32
ATD Arta Tunnel 52.87 281 *e*P **P** **22 32 11.6 +2.4**
comp=Z,164nm,1.1s
ATD LR LR
comp=Z,4μm,18.0s
ATD Arta Tunnel 52.87 281 *i* S **S** **22 39 39.1 +2.0**
ATD Arta Tunnel 52.87 281 *i* S **S** **22 39 34.1 -3.0**
MTSU Mount Surprise 52.95 117 P **P** **22 32 08.8 -0.8**
baz=53,SNR=30
PMG Port Moresby 53.02 106 *e*P **P** **22 32 09.3 -0.9**
comp=Z,12nm,0.6s
PMG LR LR
comp=Z,8μm,19.0s
PMG Port Moresby 53.02 106*c i*P **P** **22 32 10.5 +0.3**
PMG pmax pmax
comp=Z,142nm,0.6s
PMG MLR MLR
comp=Z,28μm,20.0s
TEY Ternei 53.40 35⇑*e*P **P** **22 32 13.6 +1.1**
TEY *e* 22 32 32.3
TEY pmax pmax
comp=Z,10.0nm,0.9s
TEY MLR MLR
comp=E,1μm,17.0s
TEY MLR MLR
comp=N,400nm,13.0s
TEY MLR MLR
comp=Z,900nm,17.0s
BBOO Buckleboo 53.48 138 P **P** **22 32 10.9 -2.4**
baz=54,SNR=69
BBOO Buckleboo 53.48 138 *e*P **P** **22 32 11.3 -2.1**
comp=Z,72nm,1.0s
BBOO LR LR
comp=Z,15μm,20.0s
KLR Kul'dur 53.53 29*c i*P **P** **22 32 13.9 +0.5**
ABPO Ambohimpanom 53.53 242 *e*P **P** **22 32 16.3 +2.1**
comp=Z,155nm,1.3s
ABPO LR LR
comp=Z,5μm,20.0s
ABPO Ambohimpanom 53.53 242 *e*P **P** **22 32 16.3 +2.1**
ABPO pmax pmax
comp=Z,155nm,1.3s
ABPO MLR MLR
comp=Z,5μm,20.0s
BOD Bodaibo 54.59 12 *e*P **P** **22 32 20.4 -0.6**
BOD pmax pmax
comp=Z,159nm,1.5s
ZEA Zeya 54.92 22 *e*P **P** **22 32 23.9 +0.4**
ZEA *e* 22 33 32.0
ZEA *e*S **S** **22 40 10.0 +6.4**
ZEA *e*SS **SS** **22 43 48.0 +0.7**
ZEA pmax pmax
comp=E,58nm,1.2s
ZEA pmax pmax
comp=Z,140nm,1.2s
ZEA pmax pmax
comp=Z,700nm,7.0s
ZEA pmax pmax
comp=Z,800nm,12.0s
ZEA smax smax
comp=Z,1μm,15.0s
ZEA smax smax
comp=E,3μm,16.0s
ZEA smax smax
comp=N,2μm,10.0s
ZEA MLR MLR
comp=Z,26μm,14.0s
ZEA MLR MLR
comp=E,16μm,15.0s
ZEA MLR MLR
comp=N,15μm,14.0s
AKTO Aktyubinsk 55.34 331 P **P** **22 32 25.3 -1.2**
comp=N,22nm,0.6s,baz=120,slow=8.1,SNR=58
AKTO S **S** **22 40 07.8 -1.5**
comp=N,28nm,1.2s,baz=321,slow=18,SNR=11
CTAO Charters Tower 55.36 118 *e*P **P** **22 32 25.5 -1.7**
comp=N,146nm,1.0s
CTAO LR LR
comp=Z,19μm,22.0s
CTAO Charters Tower 55.36 118 *e*P **P** **22 32 25.5 -1.7**
CTAO pmax pmax
comp=Z,150nm,1.0s
HTT Hallett 55.79 136 P **P** **22 32 28.0 -2.1**
baz=56,SNR=50
ERM Erimo 55.85 41 PFAKE 22 32 40.0 +10
ERM LR LR
comp=Z,12μm,19.0s
ANKE Ethiopia-Afar 55.88 278 *i* P **P** **22 32 33.5 +2.0**
ANKE *i* S S 22 40 29.5 +11
ANKE Ethiopia-Afar 55.88 278 *i* P **P** **22 32 33.5 +2.0**
ANKE *i* S S 22 40 29.5 +11
DESE Dese 56.00 280 *e*P **P** **22 32 34.7 +2.4**
DESE *e*S **S** **22 40 26.7 +6.8**
DESE Dese 56.00 280 *e*P **P** **22 32 34.7 +2.4**
DESE *e*S **S** **22 40 26.7 +6.8**
QLP Quilpie 56.28 126 P **P** **22 32 32.0 -1.7**
baz=56,SNR=26
ASAJ Asahikawa 56.50 39 *e*P **P** **22 32 35.9 +1.0**
comp=Z,94nm,1.1s
ASAJ LR LR
comp=Z,11μm,18.0s
GRNR Gornyy 56.81 30 *e*P **P** **22 32 37.0 -0.1**
GRNR pmax pmax
comp=Z,21nm,1.0s
AAE Adis Abeba 56.83 278⇑*i*P **P** **22 32 41.1 +2.9**
AAE *i* S S 22 40 43.9 +13
AAE Adis Abeba 56.83 278⇑*i*P **P** **22 32 41.1 +2.9**
AAE *i* S S 22 40 43.9 +13
STKA Stephens Creek 56.83 133 P **P** **22 32 35.2 -2.3**
comp=Z,17nm,0.7s,baz=309,slow=7.3,SNR=32
STKA LR LR 23 01 32.1
comp=Z,12μm,18.6s,baz=300,slow=41
STKA PKPPKP **P'P'df** **23 02 32.1 +2.0**
comp=Z,0.5nm,0.2s,baz=345,slow=7.4,SNR=3.1
STKA Stephens Creek 56.83 133 P **P** **22 32 35.3 -2.3**
baz=57,SNR=70
STKA Stephens Creek 56.83 133 *e*P **P** **22 32 35.6 -1.9**
STKA P'P' 23 02 32.1
RABL Rabaul 56.91 98 PFAKE 22 32 50.0 +12
RABL LR LR
comp=Z,4μm,22.0s
FURI Furi 56.91 277 *e*P **P** **22 32 42.7 +3.8**
comp=Z,183nm,0.9s
FURI LR LR
comp=Z,8μm,20.0s
FURI Furi 56.91 277⇑*i*P **P** **22 32 42.3 +3.5**
FURI *i* S S 22 40 42.7 +11
FURI Furi 56.91 277⇑*i*P **P** **22 32 42.3 +3.5**
FURI *i* S S 22 40 42.7 +11
MAK Makhachkala 57.06 319 *e*P P 22 32 33.5 -5.4
MAK *e* 22 34 40.2
MAK *e*S **S** **22 40 26.4 -6.0**
MAK *e*SS **SS** **22 44 18.1 -3.2**
MAK pmax pmax
comp=Z,261nm,0.8s
MAK MLR MLR
comp=Z,11μm,16.0s
CUKT Cukurca 57.47 311 *e*P **P** **22 32 40.6 -1.5**
CUKT Cukurca 57.47 311 *i* P **P** **22 32 40.9 -1.2**
GNI Garni 57.73 315 *e*P **P** **22 32 43.8 -0.2**
GNI Garni 57.73 315 P **P** **22 32 43.6 -0.3**
comp=Z,71nm,1.0s,baz=329,slow=1.6,SNR=49
GNI S **S** **22 40 42.3 +0.7**
comp=Z,32nm,1.3s,baz=176,slow=17,SNR=9.9
GNI Garni 57.73 315 *e*P **P** **22 32 43.7 -0.2**
comp=Z,291nm,1.0s
GNI *e*S **S** **22 40 38.8 -2.9**
GNI S S 22 40 42.4 +0.7
GNI LR LR
comp=Z,8μm,19.0s
GNI Garni 57.73 315 *i* P **P** **22 32 43.7 -0.2**
SNR=32
GNI Garni 57.73 315 P **P** **22 32 44.3 +0.3**
SNR=67
TASB TASBURUN-IGDIR 58.02 315 *e*P **P** **22 32 45.4 -0.5**
YSS Yuzh-Sakhalins 58.03 36 *e*P **P** **22 32 46.6 +0.9**
comp=Z,235nm,1.2s
YSS Yuzh-Sakhalins 58.03 36 *e*P **P** **22 32 46.8 +1.1**
YSS *e**SP **pP** **22 32 52.9 -0.8**
YSS *e* 22 33 32.8
YSS *e*S **S** **22 40 48.4 +3.5**
YSS *e*PS **PnS** **22 40 58.4 +0.3**
YSS *e*SS **SS** **22 44 40.8 +4.4**
YSS *e*SSS SSS 22 46 54.9
YSS pmax pmax
comp=Z,90nm,1.0s
YSS MLR MLR
comp=N,5μm,15.0s
YSS MLR MLR
comp=Z,9μm,15.0s

YSS MLR MLR
comp=E,8µm,14.0s
GROC Groznyy 58.29 319 *e*P **P** **22 32 45.2 -2.4**
GROC *e* 22 33 33.6
GROC *e* 22 34 58.8
GROC *e*S **S** **22 40 45.2 -3.3**
GROC pmax pmax
comp=Z,380nm,0.9s
AKDM Akdamar-Van 58.31 312 *e*P **P** **22 32 48.6 +0.5**
TBLG Delisi 58.37 317 *e*P **P** **22 32 47.9 -0.3**
TBLG Delisi 58.37 317 *e*P **P** **22 32 48.0 -0.3**
comp=Z,436nm,1.1s
TBLG Delisi 58.37 317 *e*P **P** **22 32 48.0 -0.3**
TBLG pmax pmax
comp=Z,440nm,1.0s
SIRT Sirnak 58.43 311 *e*P **P** **22 32 47.5 -1.3**
PAF Port-aux-Franc 58.53 199 PFAKE 22 33 00.0 +11
PAF LR LR
comp=Z,8µm,20.0s
YUK Yuzh-Kuril'sk 58.53 40*c i*P **P** **22 32 51.8 +2.5**
YUK *e* 22 33 46.1
YUK *e*S **S** **22 40 49.5 -2.1**
YUK *e*SS **SS** **22 44 37.1 -7.4**
YUK pmax pmax
comp=Z,203nm,1.5s
YUK pmax pmax
comp=E,156nm,1.2s
YUK pmax pmax
comp=N,49nm,0.6s
YUK pmax pmax
comp=Z,200nm,1.8s
YUK MLR MLR
comp=Z,7µm,20.0s
YUK MLR MLR
comp=N,4µm,19.0s
YUK MLR MLR
comp=E,6µm,19.0s
SVE Sverdlovsk 58.74 338*d i*P **P** **22 32 49.5 -1.0**
SVE *e*S **S** **22 40 52.9 -1.1**
SVE *e*SS **SS** **22 44 38.4 -8.9**
SVE pmax pmax
comp=Z,287nm,1.5s
SVE MLR MLR
comp=N,19µm,21.0s
SVE MLR MLR
comp=Z,33µm,21.0s
SVE MLR MLR
comp=E,18µm,19.0s
AGRB Hanur-Agry 58.76 314 *e*P **P** **22 32 51.0 -0.2**
KMBO Kilima Mbogo 58.92 266 P **P** **22 32 55.1 +2.3**
comp=E,102nm,0.8s,baz=68,slow=8.7,SNR=231
KMBO S **S** **22 40 58.5 +0.4**
comp=E,0.5nm,0.6s,baz=225,slow=10,SNR=2.1
KMBO LR LR 22 56 23.5
comp=E,7µm,18.5s,baz=76,slow=34
MLAZ Malazgirt-MUS 58.92 313 *e*P **P** **22 32 52.1 -0.2**
KARS Kars 59.09 315 *e*P **P** **22 32 53.2 -0.2**
GURO Guroymak-BITLI 59.09 312 *e*P **P** **22 32 53.2 -0.3**
ARU Arti 59.24 337 *e*P **P** **22 32 52.4 -1.6**
comp=E,111nm,1.4s
ARU *e*S S 22 40 45.1 -15
ARU LR LR
comp=Z,33µm,20.0s
ARU Arti 59.24 337*d i*P **P** **22 32 52.2 -1.8**
ARU 22 33 38.0
ARU 22 35 00.5
ARU *e*S **S** **22 40 59.3 -1.2**
ARU 22 42 43.5
ARU SS **SS** **22 44 53.0 -2.2**
ARU pmax pmax
comp=Z,22nm,1.0s
ARU MLR MLR
comp=Z,33µm,20.0s
ZEI Tsey 59.37 318 *e*P **P** **22 32 52.6 -2.8**
ZEI *e*S **S** **22 41 02.4 -0.6**
ZEI *e* 22 42 44.6
ZEI pmax pmax
comp=Z,139nm,0.9s
ZEI pmax pmax
comp=N,77nm,0.8s
ZEI pmax pmax
comp=E,114nm,1.0s
SVAN Silvan-Diyarba 59.57 312 *e*P **P** **22 32 56.0 -0.7**
ARPS Mount Arapiles 59.65 138 P **P** **22 32 56.2 -0.9**
baz=60,SNR=6.0
CMSA Cobar Meteorol 59.69 131 P **P** **22 32 55.8 -1.7**
baz=60,SNR=79
NCK Nalchik 59.86 318⇑ *e*P **P** **22 32 57.9 -0.7**
NCK pmax pmax
comp=Z,56nm,1.1s
NCK MLR MLR
comp=Z,7µm,19.0s
RMQ Roma 59.91 124 P **P** **22 32 58.5 -0.7**
baz=60,SNR=15
KARO Karlova-Bingo 60.07 313 *e*P **P** **22 33 00.2 -0.1**
ECAT Cat-ERZURUM 60.22 313 *i*P **P** **22 33 02.0 +0.6**
KUR Kuril'sk 60.35 40 P **P** **22 33 06.0 +4.2**
KUR *i* 22 33 42.1
KUR *i*S **S** **22 40 20.1 +5.1**
KUR *e* 22 42 49.1
KUR MLR MLR
comp=Z,6µm,16.0s
KUR MLR MLR
comp=N,6µm,14.0s
KUR MLR MLR
comp=E,800nm,11.0s
NEY Neytrino 60.35 318⇑ *e*P **P** **22 33 02.2 +0.1**
NEY pmax pmax
comp=Z,4.0nm,0.7s
NEY MLR MLR
comp=Z,4µm,18.0s
NKL Nikolayevsk 60.35 29 *e*P **P** **22 33 00.5 -1.1**
NKL *e*S **S** **22 41 18.0 +3.2**
NKL *e* 22 45 13.0
NKL pmax pmax
comp=Z,800nm,8.0s
NKL smax smax
comp=N,2µm,15.0s
NKL smax smax
comp=E,2µm,15.0s
NKL MLR MLR
comp=E,10µm,17.0s
NKL MLR MLR
comp=N,7µm,17.0s
NKL MLR MLR
comp=Z,20µm,17.0s
KBZ Khabaz 60.42 318 P **P** **22 33 01.6 -0.8**
comp=Z,98nm,1.0s,baz=108,slow=6.0,SNR=80
KBZ S **S** **22 41 14.3 -1.8**
comp=Z,11nm,1.1s,baz=44,slow=23,SNR=8.6
KBZ PKP2bc 23 02 31.0
comp=Z,1.7nm,0.9s,baz=250,slow=4.3,SNR=3.3
KBZ LR LR 23 02 45.7
comp=Z,6µm,21.0s,baz=114,slow=40
KVAR Kislovodsk Arr 60.65 318 P **P** **22 33 04.0 0.0**
comp=Z,12nm,0.6s,baz=90,slow=20,SNR=34
KVAR S **S** **22 41 17.3 -1.9**
comp=Z,51nm,1.3s,baz=168,slow=17,SNR=19
KIV Kislovodsk 60.65 318 *e*P **P** **22 33 03.2 -0.9**
comp=Z,219nm,1.1s
KIV *e*S **S** **22 41 18.8 -0.5**
KIV LR LR
comp=Z,9µm,20.0s
KIV Kislovodsk 60.65 318⇑ *i*P **P** **22 33 02.7 -1.4**
KIV Kislovodsk 60.65 318 *i*P **P** **22 33 02.9 -1.2**
SNR=31
KIV Kislovodsk 60.65 318 *e*P **P** **22 33 03.2 -0.9**
KIV *e*S **S** **22 41 19.3 0.0**
KIV pmax pmax
comp=Z,219nm,1.1s
KIV pmax pmax
comp=Z,119nm,4.5s
KIV MLR MLR
comp=Z,8µm,17.0s
KIV Kislovodsk 60.65 318 P **P** **22 33 02.5 -1.5**
SNR=66
KOPT Kop Dagi 60.71 314 *i*P **P** **22 33 06.0 +1.2**
GOF Gofitskoye 60.87 320⇑ *i*P **P** **22 33 04.3 -1.1**
GOF *e*S **S** **22 41 21.8 0.0**
GOF pmax pmax
comp=Z,190nm,1.0s
GOF smax smax
comp=E,250nm,1.2s
CHOM Cayeli-Rize 60.89 315 *e*P **P** **22 33 04.9 -0.8**
BAYT Aydıntepe-Bayb 61.09 314 *e*P **P** **22 33 06.7 -0.5**

URFA Urfa 61.13 310 *e*P **P** **22 33 07.5 0.0**
PTK Pertek 61.15 312 *e*P **P** **22 33 07.0 -0.7**
EIDS Eidsvold 61.43 122 P **P** **22 33 07.7 -1.8**
baz=61,SNR=8.7
EIDS Eidsvold 61.43 122 *e*P **P** **22 33 07.8 -1.7**
comp=E,51nm,1.3s
EIDS LR LR
comp=Z,10µm,20.0s
KTUT Trabzon 61.56 314 *e*P **P** **22 33 09.6 -0.6**
SWQJ Swaqa 61.78 303 P **P** **22 33 13.5 +1.5**
SWQJ Swaqa 61.78 303 P **P** **22 33 16.5 +4.5**
HSNJ Maan 61.90 302 P **P** **22 33 14.2 +1.4**
PATS Pohnpei 62.05 85 PFAKE 22 33 30.0 +16
PATS LR LR
comp=Z,6µm,21.0s
WALJ Wala 62.06 303 P **P** **22 33 15.2 +1.5**
WALJ Wala 62.06 303 P **P** **22 33 15.2 +1.5**
YAK Yakutsk 62.21 17 *e*P **P** **22 33 13.3 -0.7**
YAK *e**PP **sP** **22 33 28.8 +3.6**
YAK *e* 22 33 54.7
YAK *e* 22 35 30.4
YAK *e*S **S** **22 41 37.6 -0.5**
YAK *e**SS sS 22 42 01.8 +11
YAK pmax pmax
comp=Z,129nm,0.9s
YAK pmax pmax
comp=N,62nm,1.0s
YAK pmax pmax
comp=E,52nm,1.1s
YAK pmax pmax
comp=Z,247nm,2.7s
YAK pmax pmax
comp=N,260nm,2.6s
YAK pmax pmax
comp=E,293nm,2.7s
YAK smax smax
comp=N,507nm,3.7s
YAK smax smax
comp=E,324nm,3.0s
YAK MLR MLR
comp=Z,15µm,15.0s
YAK MLR MLR
comp=N,10µm,13.0s
YAK MLR MLR
comp=E,3µm,12.0s
GHAJ Ghor Haditha 62.21 303 P **P** **22 33 15.7 +1.0**
comp=E,231nm,1.6s
GHAJ Ghor Haditha 62.21 303 P **P** **22 33 15.7 +1.0**
LISJ El Lisan 62.27 303 P **P** **22 33 16.5 +1.5**
ESPY Espiye-Giresun 62.28 314 *e*P **P** **22 33 14.5 -0.5**
GAZ Gaziantep 62.29 310 *e*P **P** **22 33 15.5 +0.3**
AQBJ Aqaba 62.34 301 P **P** **22 33 16.7 +1.1**
AQBJ Aqaba 62.34 301 P **P** **22 33 16.7 +1.1**
SHMJ Saham 62.35 304 P **P** 22 33 21.0 +5.4
SHMJ Saham 62.35 304 P **P** 22 33 21.0 +5.4
HRFI Mount Harif 62.41 301 P **P** **22 33 17.1 +1.0**
EIL Elat 62.41 301 P **P** **22 33 16.8 +0.7**
comp=E,85nm,0.7s,baz=110,slow=2.9,SNR=36
EIL S **S** **22 41 42.0 +0.2**
comp=E,5.9nm,1.2s,baz=331,slow=10,SNR=2.9
EIL LR LR 23 02 12.8
comp=E,572nm,18.0s,baz=87,slow=38
EIL Elat 62.41 301 P **P** **22 33 17.1 +1.0**
comp=E,139nm,0.9s
EIL Elat 62.41 301 P **P** **22 33 17.1 +1.0**
DARE Darende-Malaty 62.48 311 *e*P **P** **22 33 16.3 -0.2**
SOC Sochi 62.50 317 *e*P **P** **22 33 12.5 -3.9**
SOC *e* 22 35 29.6
SOC *e*S **S** **22 41 38.3 -4.2**
SOC *e*SS SS 22 45 35.5 -11
SOC pmax pmax
comp=Z,272nm,1.1s
SOC MLR MLR
comp=Z,5µm,20.0s
TOO Toolangi 62.53 137 P **P** **22 33 16.6 -0.2**
baz=62,SNR=7.2
TOO Toolangi 62.53 137 *e*P **P** **22 33 16.6 -0.2**
comp=E,80nm,1.1s
TOO LR LR
comp=Z,12µm,20.0s
TOO Toolangi 62.53 137 *e*P **P** **22 33 16.6 -0.2**
TOO pmax pmax
comp=Z,80nm,1.1s
KSDI Kefar Szold 62.53 305 P **P** **22 33 18.1 +1.3**
HWQ Hawqa 62.55 306 *e*P **P** **22 33 17.6 +0.6**
MMLI Mount Malkishu 62.57 304 P **P** **22 33 18.4 +1.3**
KMRS Kahramanmaras 62.62 310 *e*P **P** **22 33 17.4 0.0**
BHL Bhannes 62.70 306 *e*P **P** **22 33 19.1 +1.0**
CUKAN kangal_SIVAS 62.70 312 *i*P **P** **22 33 17.8 -0.3**
MMAI Mount Meron Ar 62.71 305 P **P** **22 33 19.8 +1.7**
comp=Z,112nm,0.7s,baz=101,slow=8.6,SNR=57
DQRL Deir Qamar 62.72 305 *e*P **P** **22 33 19.5 +1.3**
AMAZ Amatzia 62.80 303 P **P** **22 33 19.8 +1.1**
KZIT Kziot 63.11 302 P **P** **22 33 21.6 +0.8**
RSDY Resadiye-TOKAT 63.13 313 *e*P **P** **22 33 20.5 -0.2**
CEYT Ceyhan 63.37 309 *e*P **P** **22 33 22.9 +0.6**
KOZT Kozan 63.43 310 *e*P **P** **22 33 22.5 -0.3**
KRTS Karatas 63.55 308 *e*P **P** **22 33 24.3 +0.8**
CUSAR Sarkisla-SIVAS 63.64 312 *i*P **P** **22 33 24.7 +0.4**
TOKT Tokat 63.68 313 *e*P **P** **22 33 24.1 -0.3**
BNN Bunyan 63.78 311 *e*P **P** **22 33 24.6 -0.6**
ARMA Armidale 63.79 127 P **P** **22 33 25.7 +0.3**
baz=64,SNR=5.6
ARMA Armidale 63.79 127 *e*P **P** **22 33 25.6 +0.3**
comp=Z,84nm,1.2s
ARMA LR LR
comp=Z,8µm,19.0s
CAN Canberra 63.90 133 *e*P **P** **22 33 24.8 -1.1**
comp=Z,154nm,1.1s
CAN LR LR
comp=Z,17µm,22.0s
CAN Canberra 63.90 133 *e*P **P** **22 33 24.8 -1.1**
CAN pmax pmax
comp=Z,150nm,1.1s
KARA Karaisali 63.97 309 *e*P **P** **22 33 26.1 -0.2**
CNB Canberra Magne 64.16 133 P **P** **22 33 26.8 -0.8**
baz=64,SNR=6.9
KVT Kavak 64.26 313 *e*P **P** **22 33 27.8 -0.4**
MERS Mersin 64.29 309 *e*P **P** **22 33 28.4 -0.1**
VRH Novokhopyorsk 64.31 326 *e*P **P** **22 33 26.3 -1.9**
VRH *e*S **S** **22 41 58.8 -6.0**
VRH pmax pmax
comp=Z,140nm,0.8s
VRH pmax pmax
comp=Z,650nm,2.7s
VRH smax smax
comp=E,2µm,3.4s
VRH MLR MLR
comp=Z,21µm,21.0s
CRZF Crozet Islands 64.33 212 PFAKE 22 33 40.0 +12
CRZF LR LR
comp=Z,4µm,18.0s
ANN Anapa 64.46 318 *e*P P 22 33 24.3 -5.0
ANN *e**PP pP 22 33 31.5 -5.9
ANN *e*S **S** **22 42 00.5 -6.4**
ANN pmax pmax
comp=Z,145nm,1.4s
MGCD Mangrove Creek 64.53 130 P **P** **22 33 29.3 -0.7**
baz=64,SNR=4.3
CSS Mathiatis 64.80 306 *e*P **P** **22 33 31.8 0.0**
comp=Z,313nm,0.9s
CSS LR LR
comp=Z,13µm,19.0s
CSS Mathiatis 64.80 306 P **P** **22 33 32.0 +0.2**
comp=Z,96nm,1.4s
KEBE Kemer-Mersin 64.83 308 *e*P **P** **22 33 31.9 -0.1**
AKKU Akkuyu-Mersin 64.89 308 *e*P **P** **22 33 31.8 -0.5**
MAMC Mammari 64.94 307 P **P** **22 33 33.2 +0.5**
SZAC Souni 65.12 306 P **P** **22 33 34.0 +0.1**
SNOP Sinop 65.14 314 *e*P **P** **22 33 32.9 -0.9**
BERE Bereket-Mersin 65.19 308 *e*P **P** **22 33 34.4 -0.1**
MBAR Mbarara 65.34 267 PFAKE 22 33 50.0 +14
MBAR LR LR
comp=Z,9µm,21.0s
YAYX Yaylak 65.34 311 *e*P **P** **22 33 34.7 -0.6**
HNR Honiara 65.38 103 PFAKE 22 33 50.0 +14
HNR LR LR
comp=Z,3µm,21.0s
SULT Sultanhani-AKS 65.39 310 *e*P **P** **22 33 35.6 0.0**
ALFC Alefka 65.43 306 P **P** **22 33 35.6 -0.3**
PPCY Paphos 65.58 306 P **P** **22 33 35.5 -1.3**
BRTR Keskin Array B 65.66 311 P **P** **22 33 36.2 -1.2**
comp=Z,54nm,0.9s,baz=130,slow=7.5,SNR=221
BRTR S **S** **22 42 19.9 -2.3**
comp=Z,1.4nm,1.0s,baz=64,slow=3.4,SNR=4.7
BRTR PKP2ab 23 02 24.7
comp=Z,1.2nm,1.0s,baz=225,slow=3.3,SNR=4.5
BRTR LR LR 23 05 08.5
comp=Z,3µm,18.8s,baz=104,slow=38
BR131 Keskin Array S 65.67 311 *e*P **P** **22 33 36.2 -1.2**
BR131 Keskin Array S 65.67 311 P **P** **22 33 36.5 -1.0**
SNR=99
VSR Storozhevoye 65.78 325 *e*P **P** **22 33 35.0 -2.7**
VSR *e*S S 22 42 13.5 -9.3
VSR pmax pmax
comp=Z,110nm,0.9s
VSR pmax pmax
comp=Z,390nm,2.3s
VSR smax smax
comp=N,1µm,2.9s
VSR MLR MLR
comp=Z,12µm,17.0s
HDMB Hadim 65.90 308 *e*P **P** **22 33 38.6 -0.6**
CANT Cankiri 65.90 312 *e*P **P** **22 33 38.5 -0.4**
VORR Voronezh 65.94 325 *e*P P 22 33 32.0 -6.8
VORR pmax pmax
comp=Z,300nm,1.5s
ILGA Ilgaz 65.95 313 *e*P **P** **22 33 39.2 -0.2**
comp=Z,565nm,1.4s
ILGA LR LR
comp=Z,6µm,19.0s
BZK Bozkurt 65.98 314 *e*P **P** **22 33 38.9 -0.4**
ANTO Ankara 66.33 311 *e*P **P** **22 33 40.8 -0.9**
ANTO Ankara 66.33 311 *e*P **P** **22 33 40.7 -0.9**
comp=Z,165nm,1.0s
ANTO Ankara 66.33 311‖ *i*P **P** **22 33 40.3 -1.4**
ANTO Ankara 66.33 311 *e*P **P** **22 33 40.7 -0.9**
ANTO pmax pmax
comp=Z,165nm,1.0s
ANTO Ankara 66.33 311 P **P** **22 33 40.2 -1.4**
SNR=29
ANTO Ankara 66.33 311 *e*P **P** **22 33 40.9 -0.9**
BR231 Keskin MP Arra 66.34 311 *e*P **P** **22 33 40.7 -1.1**
LOD Lodumlu 66.36 311 *e*P **P** **22 33 40.9 -1.0**
LPSR Galich'ya Gora 66.48 326 *e*P **P** **22 33 40.0 -2.2**
LPSR *e*S **S** **22 42 25.4 -5.8**
LPSR pmax pmax
comp=Z,140nm,0.9s
LPSR pmax pmax
comp=Z,150nm,1.0s
LPSR smax smax
comp=N,1µm,1.9s
TAU Tasmania Unive 66.52 141 *e*P **P** **22 33 42.5 -0.2**
comp=N,54nm,1.4s
TAU LR LR
comp=Z,11µm,18.0s
TAU Tasmania Unive 66.52 141 *e*P **P** **22 33 42.5 -0.2**
TAU pmax pmax
comp=Z,54nm,1.4s
TAU MLR MLR
comp=Z,11µm,18.0s
SIM Simferopol' 66.75 317 *e*P **P** **22 33 43.7 -0.4**
SIM *e*S **S** **22 42 32.0 -2.9**
SIM pmax pmax
comp=Z,126nm,0.9s
AUSIV SIVRIHISAR 67.17 311 *e*P **P** **22 33 46.4 -0.7**
SVRH Sivrihisar-ESK 67.19 311 *i*P **P** **22 33 46.5 -0.7**
KORT Korkueli 67.58 308 *e*P **P** **22 33 49.4 -0.4**
SKR Severo-Kuril's 67.58 37‖ *e*P **P** **22 33 49.4 +0.1**
ISP Isparta 67.61 309 *e*P **P** **22 33 49.6 -0.3**
comp=Z,669nm,1.5s
ISP LR LR
comp=Z,5µm,22.0s
ISP Isparta 67.61 309⇑ *i*P **P** **22 33 49.9 0.0**
ISP Isparta 67.61 309 P **P** **22 33 49.2 -0.7**
ISP Isparta 67.61 309 *e*P **P** **22 33 49.6 -0.3**
ISP pmax pmax
comp=Z,670nm,1.5s
MDUB Mudurnu 67.66 312 *e*P **P** **22 33 49.3 -0.9**
PRGR Permogore 67.70 337⇑ *i*P **P** **22 33 48.1 -1.7**
PRGR *e*S **S** **22 42 44.0 -1.7**
PRGR pmax pmax
comp=Z,81nm,0.7s
SHUT Suhut-Afyon 67.73 310 *e*P **P** **22 33 49.9 -0.8**
ELL Elmali 67.88 308 *e*P **P** **22 33 51.5 -0.2**
AKAS Kas 68.03 307 *e*P **P** **22 33 52.4 -0.2**
GULT Gulveren 68.16 312 *e*P **P** **22 33 51.9 -1.4**
SAUV Serdivan-Sakar 68.37 312 *e*P **P** **22 33 52.3 -2.1**
MOS Moscow 68.47 329 *e*P **P** **22 33 52.6 -2.2**
MOS *e* 22 34 18.4
MOS *e* 22 36 19.8
MOS *e*S **S** **22 42 51.7 -3.4**
MOS *e*SS **SS** **22 47 17.3 -1.8**
MOS pmax pmax
comp=Z,82nm,0.6s
MOS pmax pmax
comp=Z,100nm,0.6s
MOS MLR MLR
comp=E,9µm,18.0s
MOS MLR MLR
comp=Z,10µm,18.0s
FETY Fethiye 68.52 307 *e*P **P** **22 33 53.9 -1.6**
FETY Fethiye 68.52 307 P **P** **22 33 54.6 -0.9**
FETY Fethiye 68.52 307 P **P** **22 33 54.6 -0.9**
MA2 Magadan 68.54 27⇑ *e*P **P** **22 33 54.5 -0.7**
comp=Z,539nm,1.2s
MA2 Magadan 68.54 27⇑ *e*P **P** **22 33 54.6 -0.5**
MA2 pmax pmax
comp=Z,69nm,1.0s
MA2 MLR MLR
comp=Z,10µm,17.0s
GEDZ Gediz 68.71 310 *e*P **P** **22 33 56.1 -0.6**
OBN Obninsk 68.77 328 P **P** **22 33 55.1 -1.6**
comp=Z,16nm,0.9s,baz=23,slow=0.3,SNR=15
OBN S **S** **22 42 55.1 -3.5**
comp=Z,1.5nm,0.3s,baz=349,slow=20,SNR=14
OBN Obninsk 68.77 328 *e*P **P** **22 33 55.0 -1.6**
comp=Z,364nm,1.5s
OBN S **S** **22 42 55.1 -3.5**
OBN LR LR
comp=Z,14µm,19.0s
OBN Obninsk 68.77 328⇑ *i*P **P** **22 33 54.6 -2.0**
OBN Obninsk 68.77 328*c i*P **P** **22 33 55.0 -1.6**
OBN *i* 22 34 26.1
OBN *i* 22 36 28.1
OBN *i*S **S** **22 42 53.2 -5.4**
OBN pmax pmax
comp=Z,98nm,1.3s
OBN MLR MLR
comp=Z,13µm,18.0s
DALY Dalyan (Mula) 68.89 307 *e*P **P** **22 33 56.2 -1.5**
SILT Sile 68.96 312 *e*P **P** **22 33 56.9 -1.2**
YLV Yalova 69.04 312 *e*P **P** **22 33 57.6 -1.2**
KULA Kula-Manisa 69.18 309 *e*P **P** **22 33 58.9 -0.8**
PEA0B Petropavlovsk- 69.35 35 PFAKE 22 34 10.0 +10
PEA0B LR LR
comp=Z,9µm,20.0s
PETK Petropavlovsk- 69.35 35 P **P** **22 34 01.3 +0.9**
comp=Z,12nm,0.9s,baz=169,slow=2.3,SNR=7.4
PETK PKP2ab 23 02 14.1
comp=Z,9.9nm,1.1s,baz=49,slow=10,SNR=5.4
PETK LR LR 23 07 39.4
comp=Z,6µm,18.5s,baz=245,slow=39
MDNY Mudanya-Bursa 69.36 311 *e*P **P** **22 33 59.6 -1.1**
KAVV Kandilli-Istan 69.37 312 *e*P **P** **22 33 59.4 -1.3**
ISK Istanbul-Kandi 69.38 312 *e*P **P** **22 33 59.6 -1.1**
SBT5 Esenkoy-Cinarc 69.42 312 *e*P **P** **22 34 00.2 -0.7**
KLYT Kilyos 69.43 312 *e*P **P** **22 33 59.7 -1.3**
BGKT Bogazkoy 69.61 312 *e*P **P** **22 34 01.2 -0.9**
MLSB Milas 69.66 308 *e*P **P** **22 34 01.7 -0.9**
AYDB Zeytinkoy-Aydi 69.68 309 *e*P **P** **22 34 02.6 -0.2**
DATC Datca 69.72 307 *e*P **P** **22 34 01.7 -1.4**
TIXI Tiksi 69.74 11 *e*P **P** **22 34 00.3 -2.0**
TIXI LR LR
comp=Z,12µm,22.0s
TIXI Tiksi 69.74 11*c e*P **P** **22 34 00.3 -2.0**
TIXI pmax pmax
comp=Z,45nm,1.1s
TIXI MLR MLR
comp=Z,11µm,20.0s
KCTX Karacabey (Bur 69.74 311 *e*P **P** **22 34 01.6 -1.4**
CTKS Kestanelik-??a 69.82 312 *e*P **P** **22 34 01.6 -1.8**
KLMR Klimovskoe 69.83 334 *e*P **P** **22 34 01.4 -1.6**
KLMR *e*S **S** **22 43 10.3 -0.7**
KLMR pmax pmax
comp=Z,137nm,1.1s
KLMR Klimovskoe 69.83 334 *e*P **P** **22 34 01.5 -1.6**
KLMR AMP 22 34 08.8

comp=Z,137nm,1.1s
KLMR eS S 22 43 10.4 -0.6
KLMR eS S 22 43 10.4 -0.6
PET Petropavlovsk 69.87 35 eP P 22 34 02.8 -0.7
PET eS S 22 43 09.8 -1.9
PET pmax pmax
comp=Z,72nm,1.0s
PET MLR MLR
comp=Z,8µm,21.0s
PET MLR MLR
comp=Z,8µm,19.0s
KARP Karpathos 69.88 306 eP P 22 34 04.4 +0.5
comp=Z,799nm,0.9s
KARP Karpathos 69.88 306 P P 22 34 04.2 +0.2
BALB Balikesir 69.98 310 eP P 22 34 03.5 -1.0
LSZ Lusaka 70.01 252 eP P 22 34 06.8 +1.5
comp=Z,188nm,1.4s
LSZ LR LR
comp=Z,11µm,20.0s
LSZ Lusaka 70.01 252 eP P 22 34 06.8 +1.5
LSZ pmax pmax
comp=Z,188nm,1.4s
LSZ MLR MLR
comp=Z,11µm,20.0s
LSZ Lusaka 70.01 252 P P 22 34 06.8 +1.5
SNR=23
CTYL Yalikoy Yolu 70.03 312 eP P 22 34 03.4 -1.3
SLVT Silivri 70.04 312 eP P 22 34 03.5 -1.3
EDC Edincik 70.13 311 eP P 22 34 04.4 -1.0
LHI Lord Howe Isla 70.14 126 PFAKE 22 34 20.0 +14
LHI LR LR
comp=Z,10µm,18.0s
EFOR EFORIE 70.32 315⇑ iP P 22 34 05.9 -0.5
CRLT Corlu 70.37 312 eP P 22 34 06.0 -0.8
MRMT Marmara Adasi 70.38 311 eP P 22 34 05.8 -1.2
BLCB Balcova 70.41 309 eP P 22 34 06.7 -0.4
TLCR 70.44 316⇑ iP P 22 34 06.6 -0.5
SBT4 Kumbag-Tekirda 70.46 312 eP P 22 34 06.5 -0.7
MFTR Murfatlar 70.49 315⇑ iP P 22 34 07.3 -0.2
PSN Preselentsi 70.55 315 P P 22 34 07.4 -0.5
TIRR Tirgusor 70.56 315 eP P 22 34 07.0 -0.9
comp=Z,132nm,0.9s
TIRR LR LR
comp=Z,4µm,18.0s
TIRR Tirgusor 70.56 315⇑ iP P 22 34 07.0 -0.9
TIRR Tirgusor 70.56 315⇓ iP S 22 43 15.1 -5.0
TIRR Tirgusor 70.56 315 eP P 22 34 07.0 -0.9
TIRR pmax pmax
comp=Z,130nm,0.9s
KRBG Karabiga-Canak 70.56 311 eP P 22 34 07.0 -1.0
ZKR Zakros 70.58 305 P P 22 34 10.3 +2.0
ZKR Zakros 70.58 305 P P 22 34 10.3 +2.0
PHSR Pinarhisar 70.62 312 i P P 22 34 07.9 -0.5
DKL Dikili 70.63 310 eP P 22 34 08.1 -0.3
SEY Seymchan 70.84 24⇓ eP P 22 34 07.9 -1.3
TLB Topalu 70.84 316⇓ iP P 22 34 08.6 -1.0
TLB Topalu 70.84 316⇑ iP S 22 43 19.0 -4.4
KIS Kishinev 70.86 318 eP P 22 34 07.0 -2.7
KIS Kishinev 70.86 318 ePcP PcP 22 34 22.0 -8.2
KIS Kishinev 70.86 318 ePP PP 22 37 02.0 +15
KIS eS S 22 43 18.0 -5.5
KIS Kishinev 70.86 318 eP P 22 34 07.0 -2.7
KIS i 22 34 15.0
KIS e 22 34 22.0
KIS e 22 34 32.0
KIS eS S 22 43 18.0 -5.5
KIS ePS PnS 22 44 08.0 +15
CFR Carcaliu 70.90 316⇑ iP P 22 34 08.9 -1.1
ICOR Ion Corvin 70.91 315⇑ iP P 22 34 09.1 -1.0
GIUM Giurgiulesti 70.92 316⇑ iP P 22 34 10.6 +0.5
HARR Harsova 70.94 316⇑ iP P 22 34 09.5 -0.7
NPS Neapolis 71.09 305 P P 22 34 11.4 0.0
NPS Neapolis 71.09 305 P P 22 34 11.4 0.0
NPS Neapolis 71.09 305 P P 22 34 11.4 0.0
ANAF Anafi Island 71.11 307 P P 22 34 10.7 -0.7
PRK Paraskevi 71.14 310 P P 22 34 12.1 +0.5
PRK Paraskevi 71.14 310 P P 22 34 12.1 +0.5
CHOS Chios island 71.18 309 P P 22 34 11.9 0.0
CHOS Chios island 71.18 309 P P 22 34 11.9 0.0
LAST Lasithi 71.18 305 P P 22 34 12.1 +0.1
LAST Lasithi 71.18 305 P P 22 34 12.1 +0.1
EZN Ezine 71.20 310 P P 22 34 11.6 -0.3
EZN Ezine 71.20 310 P P 22 34 11.6 -0.3
AMRR Amara 71.34 315⇓ iP P 22 34 23.6 +11
SANT Santorini 71.36 307 eP P 22 34 13.5 +0.5
comp=Z,546nm,1.3s
RASA Rasa 71.39 315⇑ iP P 22 34 13.1 +0.1
APE Apeiranthos 71.40 307 P P 22 34 11.9 -1.3
APE Apeiranthos 71.40 307⇑ iP P 22 34 12.1 -1.1
APE Apeiranthos 71.40 307 P P 22 34 11.9 -1.3
THR3 Thira Island, 71.41 307 P P 22 34 10.6 -2.6
THR3 Thira Island, 71.41 307 P P 22 34 10.6 -2.6
JMB Yambol 71.46 313 P P 22 34 13.1 -0.4
BIR Birlad 71.49 317⇑ iP P 22 34 09.1 -4.4
AKASG Malin Array Be 71.52 322 P P 22 34 11.6 -2.0
comp=Z,13nm,0.6s,baz=88,slow=5.1,SNR=48
AKASG S S 22 43 25.7 -5.4
comp=Z,3.0nm,0.9s,baz=99,slow=11,SNR=8.9
AKASG LR LR 23 10 48.2
comp=Z,8µm,18.1s,baz=95,slow=40
AKBB Malin Array Si 71.52 322 eP P 22 34 11.6 -2.0
comp=Z,62nm,0.9s
AKBB eS S 22 43 27.8 -3.3
AKBB LR LR
comp=Z,11µm,18.0s
AKBB Malin Array Si 71.52 322 eP P 22 34 11.6 -2.0
KIEV Kiev 71.53 322 eP P 22 34 11.5 -2.2
comp=Z,66nm,1.0s
KIEV ePP PP 22 36 46.6 -5.9
KIEV LR LR
comp=Z,10µm,18.0s
KIEV Kiev 71.53 322⇑ iP P 22 34 12.4 -1.3
KIEV Kiev 71.53 322⇓ iP S 22 43 24.2 -6.9
KIEV Kiev 71.53 322 i P P 22 34 11.5 -2.2
SNR=20
KIEV Kiev 71.53 322 ceP P 22 34 11.4 -2.2
KIEV pmax pmax
comp=Z,26nm,0.8s
KIEV MLR MLR
comp=Z,11µm,18.0s
IOSP Ios island 71.54 307 P P 22 34 11.9 -2.2
AK11 Malin Array Si 71.55 322 eP P 22 34 11.6 -2.2
GADA Gvkgeada 71.58 311 P P 22 34 13.8 -0.4
GADA Gvkgeada 71.58 311 P P 22 34 13.8 -0.4
ALN Alexandroupoli 71.58 311 P P 22 34 13.7 -0.5
ALN Alexandroupoli 71.58 311 P P 22 34 13.7 -0.5
ALN Alexandroupoli 71.58 311 P P 22 34 13.7 -0.5
PETR Petresti 71.64 316⇑ iP P 22 34 15.4 +1.0
PGOR Pogoanele 71.64 316⇑ iP P 22 34 14.8 +0.3
LEHL Lehliu 71.67 315⇑ iP P 22 34 14.8 +0.1
IDI Anoyia 71.68 305 eP P 22 34 15.2 +0.2
comp=Z,167nm,0.8s
IDI LR LR
comp=Z,4µm,20.0s
IDI Anoyia 71.68 305⇑ iP P 22 34 15.2 +0.2
IAS Iasi 71.73 318⇓ iP P 22 34 14.3 -0.7
ODBI Odobesti 71.77 317⇓ iP P 22 34 15.7 +0.5
CASY Casey 71.86 174 eP P 22 34 15.3 0.0
comp=Z,173nm,1.5s
CASY LR LR
comp=Z,7µm,22.0s
ISR Istrita 71.99 316⇑ iP P 22 34 17.9 +1.2
RDO Rodhopi 72.01 312 P P 22 34 16.1 -0.6
RDO Rodhopi 72.01 312 P P 22 34 16.1 -0.6
VRI Vrincioaia 72.02 317⇓ iP S 22 43 37.6 +0.6
PLOR Plostina 72.07 317⇑ iP P 22 34 16.9 -0.2
PLOR Plostina 72.07 317⇑ iP S 22 43 34.8 -2.9
SULR 72.11 315⇑ iP P 22 34 17.4 +0.1
DIM Dimitrovgrad 72.16 313 P P 22 34 17.0 -0.6
SGRR Singureni 72.22 315⇑ iP P 22 34 18.4 +0.4
SERI Serifos 72.24 307 P P 22 34 16.7 -1.6
VAM Vamos 72.25 305 P P 22 34 18.9 +0.5
VAM Vamos 72.25 305 P P 22 34 18.9 +0.5
VAM Vamos 72.25 305 P P 22 34 18.9 +0.5
SECR 72.31 316⇑ iP P 22 34 19.9 +0.4
PLAR PLOIESTI 72.31 316⇑ iP P 22 34 17.9 -0.6
CHAN Chania 72.39 306 P P 22 34 17.5 -1.7
IMMV Iera Moni Meta 72.44 306 P P 22 34 19.7 +0.2
MLR Muntele Rosu 72.48 316 P P 22 34 19.3 -0.3
comp=Z,160nm,1.1s,baz=106,slow=1.6,SNR=45
MLR S S 22 43 41.1 -1.5
comp=Z,38nm,1.3s,baz=124,slow=23,SNR=10.0
MLR Muntele Rosu 72.48 316 P P 22 34 19.3 -0.3
comp=Z,282nm,1.0s
MLR eS S 22 43 43.2 +0.6
MLR LR LR
comp=Z,10µm,18.0s
MLR Muntele Rosu 72.48 316⇑ iP P 22 34 19.4 -0.3
MLR Muntele Rosu 72.48 316⇓ iP S 22 43 43.0 +0.4
MLR Muntele Rosu 72.48 316 eP P 22 34 19.1 -0.6
MLR pmax pmax
comp=Z,280nm,1.0s
BIZ Bicaz 72.66 318⇑ iP P 22 34 20.0 -0.5
PRAR RASCA 72.66 318⇑ iP P 22 34 19.4 -1.1
RZN Rozhen 72.70 312 P P 22 34 20.3 -0.8
OZUR 72.70 317⇑ iP P 22 34 20.1 -0.8
OZUR 72.70 317⇑ iP S 22 43 45.8 +0.8
KAVA Kavala 72.75 311 P P 22 34 20.5 -0.7
KAVA Kavala 72.75 311 P P 22 34 20.5 -0.7
PTL Penteli 72.84 308 P P 22 34 20.9 -0.9
PTL Penteli 72.84 308 P P 22 34 20.9 -0.9
VLY Voula,Athens 72.87 308 P P 22 34 19.2 -2.8
VLY Voula,Athens 72.87 308 P P 22 34 19.2 -2.8
ATHU Athens Univers 72.89 308 P P 22 34 20.3 -1.8
ATHU Athens Univers 72.89 308 P P 22 34 20.3 -1.8
DOPR Dopca 72.95 317⇓ iP P 22 34 21.6 -0.7
HUMR Humele 72.98 315⇑ iP P 22 34 21.7 -0.8
ANKY Antikythira Is 73.03 306 P P 22 34 23.0 0.0
ANKY Antikythira Is 73.03 306 P P 22 34 23.0 0.0
MTUR Matau 73.04 316⇑ iP P 22 34 22.4 -0.6
MTUR Matau 73.04 316⇓ iP S 22 43 55.1 +6.2
GOLR 73.04 315⇑ iP P 22 34 23.0 +0.1
VOIR 73.09 316⇑ iP P 22 34 22.1 -1.1
VOIR 73.09 316⇑ iP S 22 43 45.8 -3.6
PAIG Paliouri 73.23 310 P P 22 34 23.2 -0.8
PAIG Paliouri 73.23 310 P P 22 34 23.2 -0.8
PAIG Paliouri 73.23 310 P P 22 34 23.2 -0.8
PGB Panagyurishte 73.24 313 P P 22 34 23.1 -1.0
DID Didima 73.27 308 P P 22 34 22.3 -2.1
DID Didima 73.27 308 P P 22 34 22.3 -2.1
NVR Nevrokopi 73.28 312 P P 22 34 23.5 -0.9
NVR Nevrokopi 73.28 312 P P 22 34 23.5 -0.9
VILL Villia 73.28 308 P P 22 34 22.4 -2.1
VLAD Vladila 73.30 314⇑ iP P 22 34 23.6 -0.8
MICGM Minsk 73.31 326 eP P 22 34 22.0 -2.2
MICGM ePcP PcP 22 34 38.0 -2.5
MICGM ePP PP 22 37 13.0 +5.3
MICGM ePPP PPP 22 38 44.0
MICGM eS S 22 43 47.0 -4.4
MICGM ePS PnS 22 44 13.0 -12
MICGM eLQ LQ 22 59 36.0
MICGM eLR LR 23 03 50.0
MICGM LRM MLR 23 10 20.0
comp=E,15nm,20.0s
MICGM LRM MLR 23 10 24.0
comp=Z,26nm,20.0s
MICGM LRM MLR 23 10 30.0
comp=Z,19nm,19.0s
MICGM LRM MLR 23 10 34.0
comp=E,17nm,19.0s
MNK Minsk 73.31 326 eP P 22 34 22.0 -2.2
MNK e 22 34 38.0
MNK e 22 37 13.0
MNK eS S 22 43 47.0 -4.4
MNK ePS PnS 22 44 13.0 -12
KRND KRANIDI 73.32 307 P P 22 34 22.8 -1.8
ARR Arges 73.37 316⇑ iP P 22 34 23.8 -1.1
ARR Arges 73.37 316⇑ iP S 22 43 49.0 -3.6
BURAR Bucovina Array 73.38 318⇑ iP P 22 34 24.7 -0.2
BUR04 Bucovina Ar. S 73.38 318 eP P 22 34 24.1 -0.8
BUR08 Bucovina Ar. S 73.40 318 eP P 22 34 24.7 -0.4
VLI Veliai 73.42 307 P P 22 34 25.0 -0.2
VLI Veliai 73.42 307 P P 22 34 25.0 -0.2
MMB Musomiste 73.42 312 P P 22 34 24.0 -1.2
SRS Serrai 73.45 311 P P 22 34 24.1 -1.3
SRS Serrai 73.45 311 P P 22 34 24.1 -1.3
SRS Serrai 73.45 311 P P 22 34 24.1 -1.3
PLG Polygyros 73.46 311 P P 22 34 24.4 -1.1
PLG Polygyros 73.46 311 P P 22 34 24.4 -1.1
PLG Polygyros 73.46 311 P P 22 34 24.4 -1.1
XOR Xorichti 73.53 309 P P 22 34 27.3 +1.4
XOR Xorichti 73.53 309 P P 22 34 27.3 +1.4
LTK Loutraki 73.54 308 P P 22 34 24.4 -1.6
LTK Loutraki 73.54 308 P P 22 34 24.4 -1.6
ATAL Atalanti 73.58 309 P P 22 34 24.1 -2.0
ATAL Atalanti 73.58 309 P P 22 34 24.1 -2.0
SOH Sokhos 73.59 311 P P 22 34 25.1 -1.2
SOH Sokhos 73.59 311 P P 22 34 25.1 -1.2
SOH Sokhos 73.59 311 P P 22 34 25.1 -1.2
PUL Pulkovo 73.60 331⇑ eP P 22 34 25.6 -0.2
PUL pmax pmax
comp=Z,110nm,1.0s
PUL MLR MLR
comp=Z,10µm,21.0s
PROD Prodromos 73.62 308 P P 22 34 24.2 -2.2
MDB Medias 73.67 317⇓ iP P 22 34 26.7 +0.1
HORT Hortiatis 73.75 311 P P 22 34 26.2 -1.1
HORT Hortiatis 73.75 311 P P 22 34 26.2 -1.1
ARCR ARCALIA 73.86 318⇑ iP P 22 34 27.6 0.0
THE Thessaloniki 73.86 311 P P 22 34 26.7 -1.0
THE Thessaloniki 73.86 311 P P 22 34 26.7 -1.0
DSF Desfina 73.93 308 P P 22 34 26.2 -2.1
DSF Desfina 73.93 308 P P 22 34 26.2 -2.1
VLX Vlachokerasia 73.93 307 P P 22 34 27.5 -0.9
VLX Vlachokerasia 73.93 307 P P 22 34 27.5 -0.9
KKB Krupnik 73.94 312 eP P 22 34 26.4 -1.8
VTS Vitosha 73.94 313 eP P 22 34 27.5 -0.9
comp=Z,118nm,1.0s
VTS eS SKiKP 22 43 57.1 +1.2
VTS LR LR
comp=Z,4µm,20.0s
VTS Vitosha 73.94 313⇓ iP S 22 43 53.0 -6.4
VTS Vitosha 73.94 313 P P 22 34 27.2 -1.2
VTS Vitosha 73.94 313 eP P 22 34 27.5 -0.9
VTS pmax pmax
comp=Z,120nm,1.0s
VTS Vitosha 73.94 313 P P 22 34 26.6 -1.8
DZM Mont Dzumac 73.98 115 eP P 22 34 28.2 -0.6
comp=Z,131nm,1.2s
DZM eS SKiKP 22 43 54.5 -1.9
comp=Z,4µm,31.2s
DZM Mont Dzumac 73.98 115 eLR LR 22 57 04.3
comp=Z,12µm,25.4s
DZM Mont Dzumac 73.98 115 eP P 22 34 28.3 -0.6
comp=Z,24nm,1.0s
DZM LR LR
comp=Z,7µm,18.0s
KNT Kendrikon 73.98 311 P P 22 34 27.3 -1.2
KNT Kendrikon 73.98 311 P P 22 34 27.3 -1.2
LOT Lotru 73.98 316⇑ iP P 22 34 27.3 -1.2
GUR Goura 74.02 308 P P 22 34 27.3 -1.6
GUR Goura 74.02 308 P P 22 34 27.3 -1.6
TRIP Tripoli 74.03 307 P P 22 34 30.6 +1.7
NACGM Naroch 74.03 326 eP P 22 34 27.0 -1.5
NACGM PM 22 34 34.0
comp=Z,0.5nm,1.0s
NACGM eS SKiKP 22 43 54.0 -1.4
NACGM eSS SS 22 49 04.0 +20
NACGM eSSS SSS 22 51 35.0
NACGM eLR LR 23 05 17.0
NACGM LRM MLR 23 11 06.0
comp=Z,17nm,20.0s
AGG Agios Georgios 74.15 309 P P 22 34 27.3 -2.2
AGG Agios Georgios 74.15 309 P P 22 34 27.3 -2.2
LIT Litokhoron 74.15 310 P P 22 34 25.7 -3.8
LIT Litokhoron 74.15 310 P P 22 34 25.7 -3.8
LIT Litokhoron 74.15 310 P P 22 34 25.7 -3.8
IDID Didziasalis 74.16 326 eP P 22 34 28.2 -0.9
IDID lAmb lAmb 22 34 36.1
comp=Z,64nm,1.0s
KLV Kalavryta, Ach 74.18 308 P P 22 34 27.7 -2.1
KLV Kalavryta, Ach 74.18 308 P P 22 34 27.7 -2.1
KALE Kalithea 74.23 308 P P 22 34 28.2 -1.8
KALE Kalithea 74.23 308 P P 22 34 28.2 -1.8
VAY Valandovo 74.25 311 P P 22 34 28.9 -1.1
VAY Valandovo 74.25 311 P P 22 34 28.9 -1.1
VAY Valandovo 74.25 311 i P P 22 34 28.9 -1.1
VAY Valandovo 74.25 311 P P 22 34 28.9 -1.1
ITM Ithomi 74.27 307 eP P 22 34 29.3 -0.9
comp=Z,140nm,0.8s
ITM eS S 22 44 05.8 +2.8
ITM Ithomi 74.27 307 P P 22 34 29.0 -1.3
TRIZ Trizonia 74.28 308 P P 22 34 28.8 -1.4
SERG Sergoula 74.30 308 P P 22 34 26.7 -3.7
MAKR Makrakomi, Fth 74.30 309 P P 22 34 28.7 -1.7
MAKR Makrakomi, Fth 74.30 309 P P 22 34 28.7 -1.7
CJR Cluj-Napoca 74.31 317⇑ iP P 22 34 30.5 +0.2
GRG Griva 74.33 311 P P 22 34 29.1 -1.4
GRG Griva 74.33 311 P P 22 34 29.1 -1.4
GRG Griva 74.33 311 P P 22 34 29.1 -1.4
LAKA Lakka 74.34 308 P P 22 34 29.2 -1.4
LAKA Lakka 74.34 308 P P 22 34 29.2 -1.4
PUNG Punghina 74.39 315⇑ iP P 22 34 30.2 -0.5
PYL PYLOS 74.39 307 P P 22 34 29.6 -1.3
PYL PYLOS 74.39 307 P P 22 34 29.6 -1.3
EFP Efpalio 74.42 308 P P 22 34 29.3 -1.7
LBTB Lobatse 74.44 242 eP P 22 34 33.2 +1.7
comp=Z,178nm,1.1s
LBTB Lobatse 74.44 242 eP P 22 34 33.3 +1.7
LBTB pmax pmax
comp=Z,180nm,1.1s
THL Klokotos Trika 74.45 310 P P 22 34 28.4 -2.8
IIGN Ignalina 74.46 326 eP P 22 34 30.1 -0.8
IIGN lAmb lAmb 22 34 38.0
comp=Z,87nm,1.0s
AMT Artemida-Makis 74.48 307 P P 22 34 31.0 -0.5
DRO Drossia 74.52 308 P P 22 34 31.2 -0.5
BMR Baia Mare 74.53 318⇑ iP P 22 34 31.7 +0.1
IZAR Zarasai 74.54 327 eP P 22 34 30.1 -1.2
IZAR lAmb lAmb 22 34 38.2
comp=Z,49nm,0.9s
EVR Evrytania 74.54 309 P P 22 34 30.6 -1.3
EVR Evrytania 74.54 309 P P 22 34 30.6 -1.3
ISAL Salakas 74.56 326 eP P 22 34 30.5 -1.0
ISAL lAmb lAmb 22 34 38.5
comp=Z,78nm,1.1s
LVV L'vov 74.57 320 eP P 22 34 30.7 -1.0
LVV eS S 22 44 02.9 -2.9
LVV e 22 44 28.8
LVV MLR MLR
comp=E,2µm,21.0s
LVV MLR MLR
comp=N,800nm,18.0s
LVV MLR MLR
comp=Z,4µm,21.0s
STIP Stip 74.58 312 i P P 22 34 29.0 -2.9
DEV Deva 74.65 316⇑ iP P 22 34 31.8 -0.4
GZR Gura Zlata 74.66 316⇓ iP P 22 34 32.0 -0.4
RLS Riolos of Patr 74.72 308 P P 22 34 32.2 -0.6
RLS Riolos of Patr 74.72 308 P P 22 34 32.2 -0.6
PVO Paravola 74.73 309 P P 22 34 32.8 -0.1
HERR Herculane 74.84 315⇑ iP P 22 34 32.8 -0.6
LVZ Lovozero 74.88 340 eP P 22 34 31.1 -2.1
comp=Z,40nm,0.7s
LVZ LR LR
comp=Z,28µm,20.0s
LVZ Lovozero 74.88 340⇑ eP P 22 34 31.9 -1.3
LVZ pmax pmax
comp=Z,4.0nm,0.7s
LVZ MLR MLR
comp=Z,88µm,20.0s
DRGR 74.92 317⇑ iP P 22 34 33.8 -0.1
DRGR 74.92 317⇑ iP S 22 44 07.6 -2.4
VSU Vasula 74.98 329⇑ eP P 22 34 32.5 -1.3
VSU pmax pmax
comp=Z,144nm,0.9s
VSU MLR MLR
comp=Z,32µm,20.0s
VSU Vasula 74.98 329 eP P 22 34 32.4 -1.5
VSU lAmb lAmb 22 34 40.3
comp=Z,228nm,0.8s
PDO Prodromos 75.00 308 P P 22 34 33.6 -0.8
KPRO Kipourio 75.00 310 P P 22 34 32.7 -1.8
BIA Bitola 75.14 311 i P P 22 34 34.0 -1.3
SKO Skopje 75.17 312 i P P 22 34 33.7 -1.6
APA Apatity 75.18 339⇑ iP P 22 34 32.4 -2.4
APA i 22 34 53.7
APA iS S 22 44 12.0 +0.1
APA iSS SS 22 48 56.0 -5.4
APA pmax pmax
comp=Z,32nm,0.8s
APA MLR MLR
comp=Z,27µm,21.0s
KRUS Krusevo 75.24 311 i P P 22 34 34.2 -1.7
TRPA Tarpa 75.25 318⇑ iP P 22 34 35.3 -0.3
TRPA Tarpa 75.25 318 eP P 22 34 34.0 -1.6
TRPA eS S 22 44 13.0 -0.3
NEST Nestorio 75.28 310 P P 22 34 33.8 -2.4
MDVR Moldovita 75.32 315⇑ iP P 22 34 35.6 -0.6
JAN Janina 75.36 310 P P 22 34 36.0 -0.5
JAN Janina 75.36 310 P P 22 34 36.0 -0.5
KWP Kalwaria Pacla 75.38 320 eP P 22 34 35.9 -0.5
KWP eS S 22 44 12.4 -2.5
KWP LMZ LR 23 06 45.6
comp=Z,5µm,27.5s
KWP Kalwaria Pacla 75.38 320 PFAKE 22 34 50.0 +14
KWP LR LR
comp=Z,45µm,22.0s
KWP Kalwaria Pacla 75.38 320 eP P 22 34 35.9 -0.5
KWP eS S 22 44 12.4 -2.5
KWP MLR MLR
comp=Z,5µm,27.5s
EVGI Lefkada island 75.41 308 P P 22 34 36.0 -0.8
VLS Valsamata 75.42 308 P P 22 34 35.1 -1.8
VLS Valsamata 75.42 308 P P 22 34 35.1 -1.8
VLS Valsamata 75.42 308 P P 22 34 35.1 -1.8
LKD2 Lefkada island 75.42 309 P P 22 34 35.9 -1.0
LKD2 Lefkada island 75.42 309 P P 22 34 35.9 -1.0
UZH Uzhgorod 75.49 319 eP P 22 34 39.0 +2.0
UZH e 22 34 46.4
UZH eS S 22 44 19.0 +3.0
BZS Buzias 75.50 316⇑ iP P 22 34 36.6 -0.6
BZS Buzias 75.50 316⇑ iP S 22 44 12.9 -3.4
LTVH Ltavrtes, Hu 75.56 318 eP P 22 34 37.1 -0.4
LTVH eS S 22 44 12.0 -4.8
BOSA Boshof 75.58 239 P P 22 34 39.5 +1.4
comp=Z,67nm,0.9s,baz=87,slow=5.7,SNR=79
BOSA LR LR 23 06 05.3
comp=Z,7µm,18.3s,baz=78,slow=34
BOSA Boshof 75.58 239 eP P 22 34 39.5 +1.4
comp=Z,121nm,1.1s
PABE Paberze 75.74 326 eP P 22 34 36.3 -2.0
PABE lAmb lAmb 22 34 44.8
comp=Z,273nm,0.9s
IGT Igoumenitsa 75.75 309 P P 22 34 37.1 -1.6
IGT Igoumenitsa 75.75 309 P P 22 34 37.1 -1.6
IGT Igoumenitsa 75.75 309 P P 22 34 37.1 -1.6
BANR Banloc 75.81 315⇑ iP P 22 34 38.3 -0.6
PHP Peshkopia 75.88 312 P P 22 34 38.1 -1.4
PHP Peshkopia 75.88 312 P P 22 34 38.1 -1.4
SUW Suwalki 75.89 324 eP P 22 34 37.6 -1.6
SUW eS S 22 44 13.9 -6.3
SUW LMZ LR 23 03 38.0
comp=Z,4µm,30.2s
SUW Suwalki 75.89 324 eP P 22 34 37.2 -2.0
comp=Z,468nm,1.1s
SUW Suwalki 75.89 324 eP P 22 34 37.2 -2.0
SUW pmax pmax
comp=Z,470nm,1.1s
SRN Sarande 76.03 310 P P 22 34 39.7 -0.6
SRN Sarande 76.03 310 P P 22 34 39.7 -0.6
MAW Mawson 76.08 192 P P 22 34 41.0 +1.1
comp=Z,30nm,0.8s,baz=17,slow=8.8,SNR=5.9
MAW LR LR 23 04 12.7
comp=Z,3µm,18.4s,baz=32,slow=33
MAW Mawson 76.08 192 P P 22 34 41.0 +1.1
MAW pmax pmax
comp=Z,31nm,0.8s
MAW MLR MLR
comp=Z,3µm,18.4s
FIA1 FINESS Array S 76.09 332 eP P 22 34 38.7 -1.5
FINES FINESS Array B 76.09 332 P P 22 34 38.6 -1.6
comp=Z,21nm,0.6s,baz=96,slow=6.2,SNR=83
FINES S S 22 44 17.2 -5.0
comp=Z,4.5nm,1.1s,baz=142,slow=9.5,SNR=4.8
FINES LR LR 23 12 25.3
comp=Z,8µm,20.3s,baz=116,slow=39
KEK Kerkira 76.17 310 P P 22 34 40.1 -1.0
KEK Kerkira 76.17 310 P P 22 34 40.1 -1.0
TIR Tirane 76.27 311 PFAKE 22 34 50.0 +8.3
TIR LR LR
comp=Z,5µm,22.0s
TIR Tirane 76.27 311⇓ iP P 22 34 48.5 +6.8
PVY Plav 76.33 313⇓ iP P 22 34 40.8 -1.3
IVA Berane 76.40 313⇓ iP P 22 34 41.7 -0.8
DIVS Divibare 76.46 314 eP P 22 34 42.2 -0.6
comp=Z,125nm,1.3s

DIVS LR LR
comp=Z,4µm,20.0s
DIVS Divibare 76.46 314 ⇑ *i* P **P 22 34 40.9 -1.9**
FRGS Fruska Gora 76.71 315 ⇑ *i* P **P 22 34 42.6 -1.5**
ULC Ulcinj 76.79 312 ⇓ *i* P **P 22 34 44.5 -0.1**
PLE Pljevlja 76.82 313 ⇓ *i* P **P 22 34 44.8 -0.1**
PDG Podgorica 76.83 312 ⇓ *i* P **P 22 34 43.8 -0.9**
PDG Podgorica 76.83 312 ⇑ *i* P **P 22 34 43.4 -1.3**
TTG Podgorica 76.83 312 ⇓ *i* P **P 22 34 43.5 -1.3**
TTG Podgorica 76.83 312 *eP* **P 22 34 43.8 -0.9**
comp=Z,189nm,0.9s
TTG LR LR
comp=Z,3µm,18.0s
TTG Podgorica 76.83 312 *eP* **P 22 34 43.8 -0.9**
TTG pmax pmax
comp=Z,190nm,0.9s
TEKS Tekeris 76.84 314 *eP* **P 22 34 45.0 +0.1**
BBLS Lazići 76.86 314 ⇑ *i* P **P 22 34 44.3 -0.7**
DRME Dracevica, Mon 76.86 312 ⇓ *i* P **P 22 34 44.5 -0.5**
DRME Dracevica, Mon 76.86 312 *eP* **P 22 34 43.4 -1.6**
NIE Niedzica 76.90 319 *eP* **P 22 34 45.1 0.0**
NIE *eS* **S 22 44 28.4 -3.2**
NIE LMZ LR 23 12 47.9
comp=Z,4µm,22.0s
NIE Niedzica 76.90 319 *eP* **P 22 34 45.1 0.0**
NIE *eS* **S 22 44 28.4 -3.2**
NIE MLR MLR
comp=Z,4µm,22.0s
TARA Tarawa 76.94 90 PFAKE 22 35 00.0 +14
TARA LR LR
comp=Z,10µm,22.0s
BEL Belsk 76.94 322 *eP* **P 22 34 44.5 -0.7**
BEL *eS* **S 22 44 29.3 -2.5**
BEL LMZ LR 23 14 04.8
comp=Z,10µm,19.3s
BEL Belsk 76.94 322 *eP* **P 22 34 44.5 -0.7**
BEL *eS* **S 22 44 29.3 -2.5**
BEL MLR MLR
comp=Z,10µm,19.3s
PSZ Piszkesteto 76.97 318 *eP* **P 22 34 45.1 -0.5**
comp=Z,194nm,1.1s
PSZ LR LR
comp=Z,5µm,19.0s
PSZ Piszkesteto 76.97 318 ⇑ *i* P **P 22 34 45.1 -0.5**
PSZ Piszkesteto 76.97 318 *eP* **P 22 34 45.1 -0.5**
PSZ Piszkesteto 76.97 318 *eP* **P 22 34 45.0 -0.6**
PSZ *eS* **S 22 44 27.0 -5.6**
PBUR Paburg 76.98 326 *eP* **P 22 34 43.2 -2.1**
PBUR IAmb IAmb 22 34 51.9
comp=Z,391nm,0.8s
NKY Niksic 77.06 313 ⇓ *i* P **P 22 34 45.0 -1.2**
NKME Niksic 77.08 313 ⇓ *i* P **P 22 34 45.3 -1.0**
BUM Brajici-Budva 77.08 312 ⇓ *i* P **P 22 34 45.4 -0.9**
SLIT Slitere, Latvi 77.09 328 *eP* **P 22 34 44.6 -1.2**
SLIT IAmb IAmb 22 34 51.7
comp=Z,265nm,0.9s
UPM Unac-Piva 77.16 313 ⇓ *i* P **P 22 34 46.2 -0.7**
UPM Unac-Piva 77.16 313 *eP* **P 22 34 44.1 -2.8**
HAPS Han Pijesak,BI 77.21 314 *eP* **P 22 34 45.8 -1.2**
OJC Ojcow 77.33 320 *eP* **P 22 34 46.8 -0.7**
OJC *eS* **S 22 44 33.4 -2.8**
OJC LMZ LR 23 11 03.8
comp=Z,5µm,22.7s
OJC Ojcow 77.33 320 *eP* **P 22 34 45.3 -2.1**
OJC Ojcow 77.33 320 *eP* **P 22 34 46.8 -0.7**
OJC *eS* **S 22 44 33.4 -2.8**
OJC MLR MLR
comp=Z,5µm,22.7s
HCY Herceg Novi 77.39 312 ⇓ *i* P **P 22 34 46.9 -1.1**
BRY Bratogost 77.40 313 ⇓ *i* P **P 22 34 46.9 -1.3**
BRY Bratogost 77.40 313 *eP* **P 22 34 46.4 -1.8**
LANS Liptovska Anna 77.41 319 *eP* **P 22 34 47.6 -0.4**
LANS *e* 22 34 53.0
LANS Liptovska Anna 77.41 319 *eP* **P 22 34 47.6 -0.4**
LANS *epP* **pP 22 34 53.0 -3.2**
TREB Trebinje 77.52 313 *eP* **P 22 34 47.4 -1.3**
KLNR Kaliningrad 77.70 325 *c i* P **P 22 34 48.2 -1.2**
KLNR pmax pmax
comp=Z,287nm,1.3s
KLNR MLR MLR
comp=Z,11µm,19.0s
VYHS Vyhne 77.74 318 *eP* **P 22 34 49.0 -0.8**
VYHS *e* 22 34 54.5
VYHS *eS* **S 22 44 38.6 -2.2**
VYHS pmax pmax
comp=Z,60nm,1.1s
VYHS MLR MLR
comp=Z,3µm,25.5s
VYHS Vyhne 77.74 318 *eP* **P 22 34 49.0 -0.8**
VYHS *epP* **pP 22 34 54.5 -3.6**
VYHS *eS* **S 22 44 38.6 -2.2**
VYHS *eL* L 23 09 15.4
DOB Doboj 77.87 315 *eP* **P 22 34 49.0 -1.6**
STON Ston 78.01 313 P **P 22 34 49.5 -1.8**
SRO Srobarova 78.02 318 *eP* **P 22 34 51.4 +0.1**
SRO *e* 22 34 58.0
SRO Srobarova 78.02 318 *eP* **P 22 34 51.4 +0.1**
SRO *epP* **pP 22 34 58.0 -1.6**
KOLL Kolacno 78.04 318 *eP* **P 22 34 51.4 0.0**
KOLL *e* 22 34 56.2
KOLL Kolacno 78.04 318 *eP* **P 22 34 51.4 0.0**
KOLL *epP* **pP 22 34 56.2 -3.5**
BILL Bilibino 78.13 21 *eP* **P 22 34 50.2 -1.4**
comp=Z,23nm,0.9s
BILL LR LR
comp=Z,15µm,20.0s
BILL Bilibino 78.13 21 *d i* P **P 22 34 50.4 -1.2**
BILL *i* 22 34 58.9
BILL *i* S **S 22 44 49.3 +5.1**
BILL pmax pmax
comp=Z,26nm,1.2s
BILL MLR MLR
comp=Z,13µm,19.0s
KEV Kevo 78.15 341 *eP* **P 22 34 50.5 -1.1**
comp=Z,117nm,1.3s
KEV LR LR
comp=Z,23µm,21.0s
KEV Kevo 78.15 341 *eP* **P 22 34 50.5 -1.1**
KEV pmax pmax
comp=Z,117nm,1.3s
KEV MLR MLR
comp=Z,23µm,21.0s
TIH Tihany 78.21 317 *eP* **P 22 34 49.0 -3.4**
TIH *eS* SKiKP 22 44 22.1 +20
RAC Raciborz 78.34 320 *eP* **P 22 34 53.3 +0.3**
RAC *eS* **S 22 44 46.1 -0.9**
RAC MLR MLR
comp=Z,8µm,18.4s
OKC Ostrava-Krasne 78.34 320 *eP* **P 22 34 53.1 0.0**
OKC AMS AMS 23 14 50.0
comp=Z,4µm,16.4s
OKC Ostrava-Krasne 78.34 320 *eP* **P 22 34 53.1 0.0**
OKC MLR MLR
comp=Z,4µm,16.4s
TIP Timpagrande 78.48 309 *eP* **P 22 34 56.4 +2.2**
comp=Z,68nm,0.9s
TIP Timpagrande 78.48 309 ⇑ *i* P **P 22 34 54.8 +0.6**
TIP Timpagrande 78.48 309 P **P 22 34 54.1 -0.1**
BLY Banja Luka 78.53 315 *eP* **P 22 34 53.8 -0.4**
comp=Z,233nm,1.1s
BLY LR LR
comp=Z,4µm,20.0s
BLY Banja Luka 78.53 315 ⇑ *i* P **P 22 34 53.9 -0.3**
BLY Banja Luka 78.53 315 ⇑ *i* P **P 22 34 53.5 -0.7**
JAVC Velka Javorina 78.55 319 *eP* **P 22 34 53.8 -0.5**
ARCES ARCESS Array B 78.59 340 P **P 22 34 52.8 -1.3**
comp=Z,11nm,0.4s,baz=95,slow=5.0,SNR=78
ARCES LR LR 23 12 31.7
comp=Z,1µm,20.7s,baz=114,slow=38
ARCES ARCESS Array B 78.59 340 *eP* **P 22 34 53.0 -1.0**
ARCES ARCESS Array S 78.59 340 P **P 22 34 52.8 -1.3**
ARCES pmax pmax
comp=Z,12nm,0.4s
ARCES MLR MLR
comp=Z,1µm,20.7s
ARE0 ARCESS Array S 78.59 340 *eP* **P 22 34 53.0 -1.0**
comp=Z,4.7nm,1.1s
ARE0 LR LR
comp=Z,2µm,21.0s
ARE0 ARCESS Array S 78.59 340 *eP* **P 22 34 52.6 -1.4**
MORC Moravsky Berou 78.72 320 *eP* **P 22 34 54.8 -0.4**
comp=Z,190nm,1.4s
MORC LR LR
comp=Z,6µm,18.0s

MORC Moravsky Berou 78.72 320 ⇓ *i* P **P 22 34 54.9 -0.4**
MORC Moravsky Berou 78.72 320 *eP* **P 22 34 54.8 -0.4**
MORC Moravsky Berou 78.72 320 *eP* **P 22 34 54.2 -1.1**
MORC *eS* **S 22 44 48.3 -3.1**
MODS Modra-Piesok 78.77 318 *eP* **P 22 34 55.0 -0.5**
MODS *e* 22 35 01.6
MODS pmax pmax
comp=Z,201nm,1.5s
MODS MLR MLR
comp=Z,6µm,21.0s
MODS Modra-Piesok 78.77 318 *eP* **P 22 34 55.0 -0.5**
MODS *epP* **pP 22 35 01.6 -2.1**
MODS *eL* L 23 14 18.3
ZST Bratislava 78.86 318 *eS* **S 22 44 49.8 -3.0**
CEL Celeste 79.12 308 *eP* **P 22 34 58.8 +1.1**
comp=Z,289nm,1.1s
SOP Sopron 79.19 317 *eP* **P 22 34 59.1 +1.3**
SOP *eS* S 22 44 40.1 -16
KRLC Kraliky 79.24 320 *eP* **P 22 34 58.1 0.0**
KRLC *ex* x 22 35 25.2
KRLC Kraliky 79.24 320 *eP* **P 22 34 58.1 0.0**
GKP Gorka Klasztor 79.27 323 *eP* **P 22 35 02.5 +4.4**
GKP *eS* **S 22 44 53.4 -3.5**
GKP LMZ LR 23 08 54.0
comp=Z,7µm,26.1s
GKP Gorka Klasztor 79.27 323 *eP* **P 22 35 02.5 +4.4**
GKP *eS* **S 22 44 53.4 -3.5**
GKP MLR MLR
comp=Z,7µm,26.1s
VRAC Vranov 79.30 319 P **P 22 34 58.1 -0.3**
comp=Z,6.7nm,0.5s,baz=99,slow=3.0,SNR=10.0
VRAC Vranov 79.30 319 ⇑ *i* P **P 22 34 58.5 +0.1**
VRAC Vranov 79.30 319 *eP* **P 22 34 57.2 -1.2**
VRAC *eS* **S 22 44 54.1 -3.3**
KOGS Kog 79.30 316 *i* P **P 22 34 58.1 -0.3**
KRUC Moravsky 79.41 319 *eP* **P 22 34 57.5 -1.5**
KRUC *eS* S 22 44 56.0 -2.5
HAMF Hammerfest 79.49 341 *eP* **P 22 34 57.1 -1.9**
UDBI Udbina 79.52 314 P **P 22 34 58.3 -1.4**
DPC Dobruska-Polom 79.56 320 *eP* **P 22 35 00.0 +0.2**
DPC AMS AMS 23 15 30.0
comp=Z,6µm,14.6s
DPC Dobruska-Polom 79.56 320 *eP* **P 22 35 00.0 +0.2**
DPC MLR MLR
comp=Z,6µm,14.6s
KSP Ksiaz 79.62 321 *eP* **P 22 34 59.7 -0.4**
KSP LMZ LR 23 09 22.8
comp=Z,5µm,27.1s
KSP Ksiaz 79.62 321 *eP* **P 22 34 59.7 -0.4**
KSP MLR MLR
comp=Z,5µm,27.1s
CONA Conrad Observa 79.67 318 *i* P **P 22 34 59.7 -0.8**
comp=Z,66nm,1.4s,SNR=6.3
UPC Upice 79.77 320 *eP* **P 22 35 00.7 -0.2**
UPC *eS* **S 22 44 54.3 -8.1**
UPC AMS AMS 23 16 00.0
comp=Z,8µm,19.4s
UPC Upice 79.77 320 *eP* **P 22 35 00.7 -0.2**
UPC *eS* **S 22 44 54.3 -8.1**
UPC MLR MLR
comp=Z,8µm,19.4s
OZLJ Ozalj 79.80 315 P **P 22 34 59.6 -1.5**
CRES Cresnjev 79.81 316 ⇑ *i* P **P 22 35 00.8 -0.5**
ARSA Arzberg 79.86 317 *eP* **P 22 35 01.3 -0.2**
comp=Z,134nm,1.3s,SNR=30
BOJS Bojanci 79.94 315 *i* P **P 22 35 01.5 -0.4**
TREC Trest 80.02 319 *eP* **P 22 35 01.8 -0.5**
TREC *eS* **S 22 45 01.1 -4.0**
TREC AMS AMS 23 19 00.0
comp=Z,4µm,16.4s
TREC Trest 80.02 319 *eP* **P 22 35 01.8 -0.5**
TREC *eS* **S 22 45 01.1 -4.0**
TREC MLR MLR
comp=Z,4µm,16.4s
PERS Pernice 80.10 316 *i* P **P 22 35 02.5 -0.3**
PERS *eS* **S 22 45 04.0 -2.1**
WDD Wied Dalam 80.14 305 PFAKE 22 35 10.0 +6.8
WDD LR LR
comp=Z,3µm,20.0s
SOKA Soboth 80.16 316 *i* P **P 22 35 02.9 -0.3**
comp=Z,208nm,1.1s,SNR=38
NVLJ Novalja 80.16 314 P **P 22 35 01.3 -1.8**
SUR Sutherland 80.16 236 *eP* **P 22 35 06.0 +2.3**
comp=Z,257nm,1.1s
SUR LR LR
comp=Z,6µm,22.0s
VAE Valguarnera 80.27 307 P **P 22 35 05.4 +1.5**
comp=Z,118nm,1.0s,baz=43,slow=4.6,SNR=9.2
PYZ Puysegur Point 80.42 138 PFAKE 22 35 20.0 +16
PYZ LR LR
comp=Z,6µm,20.0s
LJU Ljubljana 80.47 316 *i* P **P 22 35 04.8 -0.1**
LJU Ljubljana 80.47 316 ⇑ *i* P **P 22 35 04.6 -0.2**
OBKA Obkar 80.48 316 *eP* **P 22 35 04.9 -0.1**
comp=Z,102nm,1.1s,SNR=8.2
GOPC GO Pecny, Ondr 80.51 320 *eP* **P 22 35 04.2 -0.8**
GOPC *eS* **S 22 45 08.2 -2.0**
GOPC AMS AMS 23 16 40.0
comp=Z,6µm,13.8s
GOPC GO Pecny, Ondr 80.51 320 *eP* **P 22 35 04.2 -0.8**
GOPC *eS* **S 22 45 08.2 -2.0**
GOPC MLR MLR
comp=Z,6µm,13.8s
CEY Cerknica 80.53 315 ⇑ *i* P **P 22 35 04.3 -0.9**
DCZ Deep Cove 80.53 138 *eP* **P 22 35 05.3 +0.3**
TSUM Tsumeb 80.66 250 *eP* **P 22 35 08.2 +1.7**
comp=Z,94nm,1.0s
TSUM LR LR
comp=Z,5µm,21.0s
PRU Pruhonice 80.68 320 *eP* **P 22 35 05.4 -0.4**
PRU *eS* S 22 45 02.4 -9.5
PRU AMS AMS 23 16 00.0
comp=Z,6µm,15.8s
PRU Pruhonice 80.68 320 *eP* **P 22 35 05.4 -0.4**
PRU *eS* S 22 45 02.4 -9.5
PRU MLR MLR
comp=Z,6µm,15.8s
PVCC Panska Ves 80.69 320 *eP* **P 22 35 05.5 -0.4**
PVCC AMS AMS 23 16 30.0
comp=Z,9µm,20.1s
PVCC Panska Ves 80.69 320 *eP* **P 22 35 05.5 -0.4**
PVCC MLR MLR
comp=Z,9µm,20.1s
MOA Molln 80.74 318 *eP* **P 22 35 05.5 -0.7**
comp=Z,85nm,1.4s,SNR=9.2
MOA *eS* **S 22 45 16.9 +4.2**
comp=Z,23nm,1.7s
PRA Prague 80.75 320 AMS AMS 23 16 50.0
comp=Z,6µm,13.7s
TRO Tromso 80.85 340 *eP* **P 22 35 04.8 -1.4**
TRI Trieste 80.99 315 *eP* **P 22 35 06.6 -0.9**
comp=Z,56nm,0.8s
TRI Trieste 80.99 315 *eP* **P 22 35 06.6 -0.9**
TRI pmax pmax
comp=Z,56nm,0.8s
BRG Berggiesshubel 81.11 321 *i* P **P 22 35 07.7 -0.4**
comp=Z,19nm,0.9s
BRG *i* 22 35 12.5
comp=Z,119nm,1.2s
BRG *i* 22 35 26.7
comp=Z,146nm,1.4s
BRG *i* 22 35 53.8
comp=Z,217nm,1.5s
BRG S **S 22 45 12.0 -4.3**
BRG SS SS 22 50 20.0 -11
comp=N,5µm,17.0s
comp=E,6µm,20.7s
comp=Z,9µm,20.5s
BRG Berggiesshubel 81.11 321 *eP* **P 22 35 07.5 -0.6**
comp=Z,119nm,1.2s,baz=91,slow=5.2
BRG *epP* **PcP 22 35 12.5 -1.9**
baz=91,slow=5.1
BRG Berggiesshubel 81.11 321 *i* P **P 22 35 07.7 -0.4**
BRG *i* 22 35 26.7
BRG S **S 22 45 12.0 -4.3**
BRG pmax pmax
comp=Z,19nm,0.9s
BRG pmax pmax
comp=Z,146nm,1.4s
BRG MLR MLR
comp=N,5µm,17.0s
BRG MLR MLR
comp=E,6µm,20.7s
BRG MLR MLR
comp=Z,9µm,20.5s

MYKA Terra Mystica 81.11 316 *i* P **P 22 35 07.8 -0.5**
comp=Z,81nm,1.1s,SNR=14
MYKA *eS* **S 22 45 15.3 -1.5**
comp=Z,27nm,1.7s
AQU L'Aquila 81.15 312 *eP* **P 22 35 08.2 -0.4**
comp=Z,492nm,1.3s
AQU LR LR
comp=Z,5µm,22.0s
AQU L'Aquila 81.15 312 *eP* **P 22 35 08.2 -0.4**
AQU L'Aquila 81.15 312 ⇑ *i* P **P 22 35 08.0 -0.6**
GEA0 GERESS Array S 81.16 319 *eP* **P 22 35 07.3 -1.2**
GEA0 *eS* **S 22 45 15.7 -1.6**
GEC2 GERESS Array S 81.16 319 *eP* **P 22 35 08.1 -0.6**
comp=Z,146nm,1.1s
GEC2 *eS* **S 22 45 17.1 -0.1**
GEC2 LR LR
comp=Z,5µm,22.0s
GEC2 GERESS Array S 81.16 319 *eP* **P 22 35 08.1 -0.5**
comp=Z,182nm,1.2s,baz=91,slow=5.2
GEC2 *epP* **PcP 22 35 13.0 -1.8**
baz=91,slow=5.1
GEC2 GERESS Array S 81.16 319 *eP* **P 22 35 08.1 -0.5**
GEC2 *eS* **S 22 45 17.1 -0.1**
GEC2 pmax pmax
comp=Z,146nm,1.1s
GEC2 MLR MLR
comp=Z,5µm,22.0s
GERES GERESS Array B 81.16 319 P **P 22 35 08.0 -0.6**
comp=Z,22nm,0.8s,baz=99,slow=3.9,SNR=70
GERES S **S 22 45 16.1 -1.1**
comp=Z,1.3nm,1.0s,baz=114,slow=3.3,SNR=5.9
GERES LR LR 23 17 22.4
comp=Z,3µm,18.9s,baz=86,slow=40
CLTB Caltabellotta 81.22 307 *eP* **P 22 35 10.1 +1.1**
comp=Z,156nm,1.3s
KHC Kasperske Hory 81.26 319 *eP* **P 22 35 08.3 -0.7**
comp=Z,17nm,0.9s
KHC *eS* **S 22 45 20.4 +2.3**
KHC LR LR
comp=Z,2µm,18.0s
KHC Kasperske Hory 81.26 319 *eP* **P 22 35 08.5 -0.5**
KHC *eS* **S 22 45 13.8 -4.3**
KHC AMS AMS 23 16 50.0
comp=Z,6µm,12.7s
KHC Kasperske Hory 81.26 319 *eP* **P 22 35 08.5 -0.5**
KHC *eS* **S 22 45 13.8 -4.3**
KHC MLR MLR
comp=Z,6µm,12.7s
RUE Ruedersdorf 81.30 322 *eP* **P 22 35 08.5 -0.5**
comp=Z,301nm,1.1s,baz=91,slow=5.2
RUE *epP* **PcP 22 35 13.3 -1.8**
baz=91,slow=5.1
RUE Ruedersdorf 81.30 322 *eP* **P 22 35 08.3 -0.7**
RUE IAmb IAmb 22 35 16.3
comp=Z,445nm,1.3s
KBA Koelnbreinsper 81.33 317 *i* P **P 22 35 08.3 -1.3**
comp=Z,58nm,1.2s,SNR=6.7
KBA *eS* **S 22 45 20.2 +0.9**
comp=Z,34nm,1.4s
FBE Freiberg 81.48 321 *eP* **P 22 35 09.5 -0.5**
comp=Z,214nm,1.4s,baz=91,slow=5.2
FBE *epP* **PcP 22 35 14.6 -1.4**
baz=91,slow=5.1
WKZ Wanaka 81.62 137 PFAKE 22 35 20.0 +9.1
WKZ LR LR
comp=Z,12µm,20.0s
RGN Rugen 81.69 324 PFAKE 22 35 20.0 +9.0
RGN LR LR
comp=Z,10µm,19.0s
RGN Rugen 81.69 324 *epP* pP 22 35 15.5 -3.8
baz=91,slow=5.1
WET Wettzell 81.72 319 *eP* **P 22 35 10.8 -0.6**
comp=Z,292nm,1.8s,baz=91,slow=5.2
WET *epP* **PcP 22 35 15.6 -1.5**
baz=91,slow=5.1
CLL Collm 81.72 321 *eP* **P 22 35 10.3 -1.0**
comp=Z,72nm,1.1s
CLL Collm 81.72 321 *eP* **P 22 35 10.3 -1.0**
comp=Z,104nm,1.3s,baz=91,slow=5.2
CLL Collm 81.72 321 *i* P **P 22 35 10.3 -1.0**
CLL *i* Pmax 22 35 15.0
comp=Z,104nm,1.3s
CLL *e* 22 35 29.0
comp=Z,76nm,1.2s
CLL *i* 22 35 56.3
comp=Z,120nm,1.4s
CLL *eS* **S 22 45 20.0 -2.7**
CLL *eSKSac* **SKSac 22 45 26.0 -3.8**
CLL *eSS* SS 22 50 54.0 +14
CLL L L 23 18 00.0
comp=Z,7µm,19.0s
CLL Collm 81.72 321 *i* P **P 22 35 10.3 -1.0**
CLL *eS* **S 22 45 20.0 -2.7**
CLL pmax pmax
comp=Z,104nm,1.3s
RJOB Jochberg 81.73 317 *eP* **P 22 35 10.3 -1.2**
baz=91,slow=5.2
FOZ Fox Glacier 81.83 135 PFAKE 22 35 20.0 +8.0
FOZ LR LR
comp=Z,12µm,20.0s
HFS Hagfors 81.85 330 P **P 22 35 10.4 -1.4**
comp=Z,15nm,0.7s,baz=100,slow=5.0,SNR=43
ABTA Abfaltersbach 81.89 316 *i* P **P 22 35 11.2 -1.3**
comp=Z,57nm,1.0s,SNR=14
ABTA *eS* **S 22 45 23.6 -1.3**
comp=Z,26nm,1.3s
STEI Steigen 81.92 338 *eP* **P 22 35 10.7 -1.3**
TANN Tannenbergstha 82.03 320 *eP* **P 22 35 12.1 -0.9**
comp=Z,112nm,1.2s,baz=91,slow=5.2
TANN *epP* **PcP 22 35 17.1 -1.4**
baz=91,slow=5.1
NKC Novy Kostel 82.03 320 *eP* **P 22 35 13.0 0.0**
NKC AMS AMS 23 17 30.0
comp=Z,10µm,16.3s
NKC Novy Kostel 82.03 320 *eP* **P 22 35 13.0 0.0**
NKC MLR MLR
comp=Z,10µm,16.3s
MOR8 Moi Rana 82.04 336 *eP* **P 22 35 10.7 -2.0**
WERN Wernitzgruen 82.08 320 *eP* **P 22 35 12.8 -0.5**
comp=Z,37nm,0.9s,baz=91,slow=5.2
WERN *epP* **PcP 22 35 17.4 -1.3**
baz=91,slow=5.1
GUNZ Gunzen 82.11 320 *eP* **P 22 35 12.7 -0.8**
comp=Z,74nm,1.1s,baz=91,slow=5.2
GUNZ *epP* **PcP 22 35 17.6 -1.2**
baz=91,slow=5.1
PLN Plauen 82.23 320 *eP* **P 22 35 13.4 -0.7**
comp=Z,49nm,1.1s,baz=91,slow=5.2
PLN *epP* **PcP 22 35 18.3 -1.0**
baz=91,slow=5.1
LBZ Lake Benmore 82.31 136 PFAKE 22 35 30.0 +15
LBZ LR LR
comp=Z,13µm,21.0s
NEUB Neuenburg 82.49 321 *eP* **P 22 35 14.5 -0.8**
comp=Z,173nm,1.4s,baz=91,slow=5.2
NEUB *epP* **PcP 22 35 19.3 -1.1**
baz=91,slow=5.1
WATA Walderalm 82.54 317 *i* P **P 22 35 14.3 -1.6**
comp=Z,102nm,1.0s,SNR=21
WATA *eS* **S 22 45 27.1 -4.5**
comp=Z,20nm,1.2s
MOX Moxa 82.58 320 *eP* **P 22 35 15.2 -0.7**
comp=Z,62nm,1.1s,baz=91,slow=5.2
MOX *epP* **PcP 22 35 20.0 -0.8**
baz=91,slow=5.1
MOX *eL* L 23 19 20.9
comp=Z,8µm,18.4s
LOF Lofoten 82.58 338 *eP* **P 22 35 14.1 -1.3**
RPZ Rata Peaks 82.75 135 *eP* **P 22 35 17.4 +0.6**
comp=Z,79nm,1.0s
FUR Furstenfeldbru 82.76 318 *eP* **P 22 35 16.0 -0.9**
comp=Z,108nm,1.0s,baz=91,slow=5.2
FUR *epP* **PcP 22 35 20.6 -1.1**
baz=91,slow=5.1
ODZ Otahua Downs 82.79 136 PFAKE 22 35 30.0 +13
ODZ LR LR
comp=Z,12µm,19.0s
SQTA Sankt Quirin 82.79 317 *i* P **P 22 35 16.1 -1.1**
comp=Z,126nm,1.0s,SNR=27
SQTA *eS* **S 22 45 30.3 -3.9**
comp=Z,114nm,1.7s,SNR=13
GRA1 Grafenberg Arr 82.81 319 *eP* **P 22 35 16.7 -0.4**
comp=Z,112nm,1.0s
GRA1 LR LR
comp=Z,8µm,18.0s
GRF Grafenberg Arr 82.81 319 *eP* **P 22 35 16.6 -0.4**
comp=Z,162nm,1.2s,baz=91,slow=5.2

GRF ep **PcP** 22 35 21.8 -0.2
baz=91,slow=5.1
GRF eL L 23 19 20.1
comp=Z,7µm,19.0s
GRFO Grafenberg 82.81 319 eP **P** **22 35 16.6 -0.5**
comp=Z,99nm,1.0s
GRFO eP P **22 38 29.2 +1.9**
GRFO LR LR
comp=Z,8µm,18.0s
GRFO Grafenberg 82.81 319 eP **P** **22 35 16.6 -0.5**
GRFO e 22 38 29.2
GRFO pmax pmax
comp=Z,99nm,1.0s
GRFO MLR MLR
comp=Z,8µm,18.0s
OUZ Omahuta 82.83 126 PFAKE 22 35 30.0 +13
OUZ LR LR
comp=Z,11µm,19.0s
MOTA Moosalm 82.87 317 *i* P **P** **22 35 17.2 -0.4**
comp=Z,119nm,1.0s,SNR=36
MOTA eS **S** **22 45 33.7 -1.2**
comp=Z,32nm,1.1s
NC405 NORSAR Array S 82.88 331 eP **P** **22 35 16.1 -1.1**
NSS Namsos 82.94 334 eP **P** **22 35 16.0 -1.4**
NC602 NORSAR Array S 82.95 330 eP **P** **22 35 16.2 -1.3**
SPA0 Spitsbergen Ar 83.03 348 eP **P** **22 35 17.3 -0.4**
SPA0 Spitsbergen Ar 83.03 348 eP **P** **22 35 16.5 -1.2**
NC303 NORSAR Array S 83.05 331 eP **P** **22 35 17.6 -0.4**
NB201 NORSAR Array S 83.08 331 eP **P** **22 35 17.3 -0.9**
RETA Reutte 83.10 317 *i* P **P** **22 35 17.7 -1.1**
comp=Z,158nm,1.1s,SNR=24
RETA eS **S** **22 45 30.3 -6.9**
comp=Z,30nm,1.7s
FETA Feichten 83.12 317 *i* P **P** **22 35 17.9 -1.0**
comp=Z,107nm,1.0s,SNR=11
FETA eS **S** **22 45 34.0 -3.6**
comp=Z,72nm,1.8s,SNR=14
NB2 NORSAR Subarra 83.12 331 P **P** **22 35 16.4 -2.1**
comp=Z,5.4nm,0.7s,baz=96,slow=4.8
NB2 NORSAR Subarra 83.12 331 P **P** **22 35 16.4 -2.1**
baz=96,slow=4.8
NOA NORSAR Array B 83.12 331 P **P** **22 35 16.7 -1.8**
comp=Z,17nm,1.0s,baz=97,slow=5.4,SNR=18
NOA LR LR 23 17 02.2
comp=Z,12µm,19.4s,baz=105,slow=39
SYO Syowa Base 83.17 198⇑ eP **P** **22 35 19.0 +0.6**
SYO Syowa Base 83.17 198⇓ *i* pP **P** **22 35 21.4 +3.0**
ASSE Asse, Remlinge 83.19 322 eP **P** **22 35 18.1 -0.8**
comp=Z,132nm,1.2s,baz=91,slow=5.2
ASSE epP **PcP** **22 35 22.7 -0.7**
baz=91,slow=5.1
NAO01 NORSAR Array S 83.27 331 eP **P** **22 35 20.2 +1.0**
NBO00 NORSAR Array S 83.33 331 eP **P** **22 35 19.6 +0.1**
NC204 NORSAR Array S 83.35 331 eP **P** **22 35 18.6 -1.0**
OXZ Oxford 83.36 135 PFAKE 22 35 30.0 +10
OXZ LR LR
comp=Z,12µm,21.0s
VLC Villacollemand 83.37 314 PFAKE 22 35 30.0 +10
VLC LR LR
comp=Z,4µm,21.0s
CLZ Clausthal 83.38 321 eP **P** **22 35 19.5 -0.5**
comp=Z,116nm,1.0s,baz=91,slow=5.2
CLZ epP **PcP** **22 35 24.2 -0.1**
baz=91,slow=5.1
LTZ Lake Taylor 83.40 134 PFAKE 22 35 30.0 +10
LTZ LR LR
comp=Z,12µm,20.0s
BSEG Bad Segeberg 83.43 324 eP **P** **22 35 19.8 -0.3**
comp=Z,210nm,1.1s,baz=91,slow=5.2
BSEG epP **PcP** **22 35 24.3 -0.1**
baz=91,slow=5.1
FUORN Ofenpass-Fuorn 83.44 316 eP **P** **22 35 20.6 -0.1**
comp=Z,213nm,1.1s
FUORN LR LR
comp=Z,5µm,20.0s
UBR Ueberruh 83.54 317 eP **P** **22 35 19.8 -1.1**
comp=Z,113nm,1.2s,baz=91,slow=5.2
UBR epP **PcP** **22 35 24.6 -0.7**
baz=91,slow=5.1
NRDL Niedersach Rie 83.54 322 epP pP 22 35 25.3 -3.7
baz=91,slow=5.1
GTTG Guttingen 83.63 321 eP **P** **22 35 20.7 -0.5**
comp=Z,271nm,1.4s,baz=91,slow=5.2
GTTG epP **PcP** **22 35 25.5 +0.1**
baz=91,slow=5.1
THZ Tophouse 83.64 133 eP **P** **22 35 20.1 -1.4**
comp=Z,51nm,0.9s
THZ LR LR
comp=Z,8µm,21.0s
DAVA Damuels 83.70 317 *i* P **P** **22 35 21.1 -0.8**
comp=Z,169nm,1.1s,SNR=18
DAVA eSKSac **S** **22 45 39.2 -4.2**
comp=Z,27nm,2.0s
DAVOX Davos/Dischmat 83.70 316 P **P** **22 35 21.6 -0.4**
comp=Z,50nm,0.5s,baz=125,slow=4.5,SNR=108
DAVOX S **S** **22 45 41.2 -2.3**
comp=Z,14nm,1.1s,baz=215,slow=22,SNR=17
KONO Kongsberg 83.89 329 eP **P** **22 35 21.5 -0.9**
comp=Z,180nm,1.4s
KONO LR LR
comp=Z,16µm,20.0s
KONO Kongsberg 83.89 329⇓ eP **P** **22 35 21.5 -0.9**
KONO pmax pmax
comp=Z,107nm,1.3s
RETH Rethem/Aller, 84.00 322 eP **P** **22 35 22.1 -1.0**
comp=Z,154nm,1.1s,baz=91,slow=5.2
RETH epP **PcP** **22 35 27.2 +0.3**
baz=91,slow=5.1
KBS Kingsbay 84.00 349 PFAKE 22 35 30.0 +7.4
KBS LR LR
comp=Z,15µm,18.0s
MSVF Nonsavu 84.03 108 eP **P** **22 35 24.0 0.0**
comp=Z,167nm,1.3s
MSVF LR LR
comp=Z,9µm,20.0s
TUE Stuetta 84.07 316 eP **P** **22 35 23.5 -0.4**
comp=Z,61nm,0.9s
MUD Monsted U'grnd 84.10 326 *i* P **P** **22 35 26.6 +3.1**
comp=Z,121nm,1.1s
comp=Z,12µm,20.0s
MUD Monsted U'grnd 84.10 326 *i* P **P** **22 35 26.6 +3.1**
MUD pmax pmax
comp=Z,120nm,1.1s
MUD MLR MLR
comp=Z,12µm,20.0s
STU Stuttgart 84.14 318 eP **P** **22 35 23.8 -0.1**
comp=Z,65nm,0.9s
STU Stuttgart 84.14 318 epP **P** **22 35 27.9 +4.0**
baz=91,slow=5.1
STU Stuttgart 84.14 318 eP **P** **22 35 23.8 -0.1**
STU pmax pmax
comp=Z,65nm,0.9s
DOMB Dombas 84.17 332 eP **P** **22 35 22.8 -1.1**
KIWB Kanaga Island 84.23 38 eP **P** **22 35 21.9 -2.3**
KEST Kesra 84.35 305 P **P** **22 35 26.4 +1.0**
comp=Z,100nm,0.9s,baz=7.2,slow=1.8,SNR=17
KEST LR LR 23 19 27.4
comp=Z,2µm,18.1s,baz=32,slow=40
KEST Kesra 84.35 305 eP **P** **22 35 26.4 +1.0**
comp=Z,139nm,1.0s
HIZ Hauiti 84.45 129 PFAKE 22 35 40.0 +14
HIZ LR LR
comp=Z,12µm,21.0s
ADK Adak 84.52 38 PFAKE 22 35 40.0 +14
ADK LR LR
comp=Z,7µm,22.0s
TNS Taunus Mts 84.60 320 eP **P** **22 35 25.6 -0.7**
comp=Z,122nm,1.3s,baz=91,slow=5.2
TNS epP **PcP** **22 35 30.4 +0.6**
baz=91,slow=5.1
BFO Black Forest 84.72 318 eP **P** **22 35 25.6 -1.3**
comp=Z,47nm,0.8s
BFO ePP **PP** **22 38 42.2 -0.8**
BFO Black Forest 84.72 318 eP **P** **22 35 25.8 -1.1**
comp=Z,131nm,1.6s,baz=91,slow=5.2
BFO epP **PcP** **22 35 30.6 +0.2**
baz=91,slow=5.1
BFO Black Forest 84.72 318 *i* P **P** **22 35 26.1 -0.8**
HLG Helgoland 84.86 324 epP pP 22 35 31.9 -3.8
baz=91,slow=5.1
SNZO South Karori 84.87 132 eP **P** **22 35 28.7 +1.1**
comp=Z,214nm,1.0s
SNZO LR LR
comp=Z,9µm,22.0s
MOL Molde 84.88 332 eP **P** **22 35 25.1 -2.2**
IBBN Ibbenburen 84.98 322 eP **P** **22 35 27.6 -0.5**
comp=Z,205nm,1.1s,baz=91,slow=5.2

IBBN epP **PcP** **22 35 32.4 +1.1**
baz=91,slow=5.1
AKN Aaknes 85.14 332 eP **P** **22 35 26.8 -2.0**
BUG Bochum--Univer 85.31 321 eP **P** **22 35 29.2 -0.5**
comp=Z,218nm,1.3s,baz=91,slow=5.2
BUG epP **PcP** **22 35 34.1 +1.3**
baz=91,slow=5.1
AHRW Bad Neuenahr-A 85.47 320 eP **P** **22 35 30.3 -0.3**
comp=Z,167nm,1.6s,baz=91,slow=5.2
AHRW epP **PcP** **22 35 34.9 +1.4**
baz=91,slow=5.1
SENIN Lac Senin/Sane 85.49 316 eP **P** **22 35 30.8 -0.3**
comp=Z,66nm,0.8s
ECH Echery 85.51 318 eP **P** **22 35 30.5 -0.4**
comp=Z,44nm,1.0s
ECH Echery 85.51 318 eP **P** **22 35 30.5 -0.4**
ECH pmax pmax
comp=Z,44nm,1.0s
WTSB Winterswijk 85.59 322 eP **P** **22 35 30.6 -0.5**
comp=Z,74nm,0.8s
BKZ Black Stump Fm 85.82 130 eP **P** **22 35 31.0 -1.6**
comp=Z,80nm,1.1s
BKZ LR LR
comp=Z,15µm,22.0s
BFZ Birch Farm 85.90 131 PFAKE 22 35 40.0 +7.1
BFZ LR LR
comp=Z,10µm,19.0s
BNI Bardonecchia 85.99 315 eP **P** **22 35 35.5 +2.0**
comp=Z,77nm,1.0s
ATKA Atka Island 86.05 38 PFAKE 22 35 40.0 +6.7
ATKA LR LR
comp=Z,5µm,21.0s
WLF Walferdange 86.11 319 eP **P** **22 35 35.2 +1.5**
comp=Z,559nm,1.3s
WLF LR LR
comp=Z,30µm,18.0s
WLF Walferdange 86.11 319 eP **P** **22 35 35.2 +1.5**
WLF pmax pmax
comp=Z,559nm,1.3s
WLF MLR MLR
comp=Z,30µm,18.0s
WLF Walferdange 86.11 319⇑ P **P** **22 35 36.8 +3.1**
comp=Z,70nm,1.4s
MEM Membach 86.15 320⇑ P **P** **22 35 33.2 -0.8**
comp=Z,66nm,1.1s
URZ Urewera 86.15 129 eP **P** **22 35 32.1 -2.1**
comp=Z,82nm,0.9s
URZ LR LR
comp=Z,11µm,20.0s
HGN Heimansgroeve 86.19 320 eP **P** **22 35 38.1 +4.0**
comp=Z,113nm,1.4s
HGN Heimansgroeve 86.19 320 eS **S** **22 46 04.7 -2.8**
HGN eSS **SS** **22 51 47.2 +0.9**
BEBN Eben Emael 86.35 321⇑ P **P** **22 35 35.2 +0.4**
GAMB Gambell 86.64 26 eP **P** **22 35 36.8 +0.8**
comp=Z,39nm,0.9s
GAMB LR LR
comp=Z,8µm,21.0s
MXZ Matakaoa Point 86.98 128 PFAKE 22 35 50.0 +12
MXZ LR LR
comp=Z,10µm,22.0s
DOU Dourbes 87.08 320⇑ P **P** **22 35 37.5 -1.0**
comp=Z,24nm,1.0s
SNF Seneffe 87.25 320⇑ P **P** **22 35 39.2 -0.1**
SSB Saint Sauveur 87.48 315 eP **P** **22 35 40.3 -0.3**
comp=Z,64nm,0.9s
SSB Saint Sauveur 87.48 315 eP **P** **22 35 40.3 -0.3**
SSB pmax pmax
comp=Z,64nm,0.9s
SPIA Saint Paul Isl 87.95 33 PFAKE 22 35 50.0 +7.5
SPIA LR LR
comp=Z,6µm,19.0s
TAM Tamanrasset 88.47 293 eP **P** **22 35 47.5 +1.6**
comp=Z,74nm,1.4s
TAM Tamanrasset 88.47 293 eP **P** **22 35 47.5 +1.6**
TAM pmax pmax
comp=Z,74nm,1.4s
CLF Chambon-Foret 88.80 318 eP **P** **22 35 46.8 +0.1**
comp=Z,107nm,1.0s
RAO Raoul Island 89.05 119 PFAKE 22 36 00.0 +12
RAO LR LR
comp=Z,6µm,20.0s
ANM Nome 89.29 25 eP **P** **22 35 48.7 0.0**
comp=Z,13nm,0.9s
ANM Nome 89.29 25 eP **P** **22 35 48.7 0.0**
ANM pmax pmax
comp=Z,13nm,0.9s
RDOG Red Dog Mine 89.60 22 eP **P** **22 35 50.7 +0.6**
comp=Z,20nm,1.0s
VNDA Vanda 89.74 169 P **P** **22 35 50.5 -0.1**
comp=Z,8.5nm,0.8s,baz=322,slow=8.7,SNR=6.6
VNDA LR LR 23 10 31.1
comp=Z,5µm,21.5s,baz=306,slow=32
VNDA Vanda 89.74 169 eP **P** **22 35 50.6 +0.1**
DAG Danmarks Havn 90.68 348 *i* P **P** **22 35 53.5 -1.4**
comp=Z,10µm,27.0s
DAG Danmarks Havn 90.68 348 *i* P **P** **22 35 53.5 -1.4**
DAG MLR MLR
comp=Z,13µm,27.0s
ESK Eskdalemuir 91.14 326 eP **P** **22 35 56.9 -0.6**
comp=Z,7.9nm,0.5s
ESK Eskdalemuir 91.14 326 eP **P** **22 35 56.9 -0.6**
ESK pmax pmax
comp=Z,8.0nm,0.5s
TOA0 Torodi Ar. Sit 92.99 283 eP **P** **22 36 06.0 -1.0**
TOA0 Torodi Ar. Sit 92.99 283 P **P** **22 36 07.5 +0.6**
SNR=14
TORD Torodi Ar. Bea 92.99 283 P **P** **22 36 06.2 -0.7**
comp=Z,14nm,0.7s,baz=285,slow=31,SNR=87
TORD PP **PP** **22 39 47.5 -2.5**
comp=Z,3.9nm,1.0s,baz=22,slow=9.3,SNR=3.8
TORD S **SKSac** **22 46 36.9 -3.2**
comp=Z,2.2nm,0.9s,baz=82,slow=7.7,SNR=5.6
TORD PKKPbc **PKKPbc** **22 53 15.9 -0.6**
comp=Z,1.4nm,0.6s,baz=301,slow=1.8,SNR=9.9
TORD LR LR 23 15 12.6
comp=Z,3µm,21.7s,baz=15,slow=34
IM3 Indian Mountai 93.63 23 eP **P** **22 36 07.5 -1.3**
TOLK Tolik Lake Re 94.10 20 P **P** **22 36 08.3 -2.7**
baz=295
ES19 SONSECA Array 94.38 310 eP **P** **22 36 13.1 +0.1**
ESDC Sonseca Array 94.44 310 P **P** **22 36 13.1 -0.1**
comp=Z,3.4nm,0.5s,baz=66,slow=4.2,SNR=16
ESDC PP **PP** **22 39 59.7 -1.0**
comp=Z,3.4nm,1.0s,baz=60,slow=7.6,SNR=3.1
ESDC PKKP **PKKPbc** **22 53 16.2 +2.6**
comp=Z,5.1nm,1.1s,baz=279,slow=1.6,SNR=8.9
ESLA Sonseca Array 94.44 310 eP **P** **22 36 16.8 +3.6**
comp=Z,65nm,1.4s
PAB San Pablo 94.75 310 eP **P** **22 36 16.5 +1.8**
comp=Z,45nm,1.4s
PAB San Pablo 94.75 310 eP **P** **22 36 16.5 +1.8**
PAB pmax pmax
comp=Z,45nm,1.4s
QSPA South Pole Qui 94.88 180 eP **P** **22 36 14.4 -0.2**
comp=Z,11nm,1.0s
MLY Manley 95.15 23 eP **P** **22 36 15.5 -0.4**
comp=Z,8.6nm,1.0s
CAST Castle Rocks 95.23 25 eP **P** **22 36 17.4 +1.2**
comp=Z,28nm,1.1s
TRF Thorofare Moun 95.96 24 eP **P** **22 36 23.6 +3.8**
comp=Z,14nm,1.1s
MDT Midelt 96.14 304 P **P** **22 36 20.2 -0.9**
comp=Z,2.6nm,1.0s,baz=238,slow=19,SNR=2.3
MDT PP **PP** **22 40 14.7 +0.6**
comp=Z,14nm,1.2s,baz=14,slow=12,SNR=3.2
MDM Murphy Dome 96.15 23 eP **P** **22 36 21.2 +0.8**
comp=Z,8.2nm,1.0s
COLA College 96.33 23 eP P 22 36 27.4 +6.3
POKR Poker Plat Res 96.38 22 P **P** **22 36 19.2 -2.3**
baz=296
MCK McKinley 96.40 24 eP **P** **22 36 23.6 +2.0**
comp=Z,37nm,1.4s
SUA Susitna One 96.55 26 eP **P** **22 36 23.2 +0.7**
comp=Z,26nm,1.1s
RND Reindeer 96.57 24 eP **P** **22 36 22.4 0.0**
comp=Z,19nm,1.1s
RND Reindeer 96.57 24 eP **P** **22 36 22.4 0.0**
RND pmax pmax
comp=Z,19nm,1.1s
IL1 Eielson Array 96.75 23 eP **P** **22 36 22.5 -0.6**
ILAR Eielson Array 96.75 23 P **P** **22 36 23.1 +0.1**
comp=Z,1.1nm,0.7s,baz=316,slow=5.0,SNR=9.9
ILAR PP **PP** **22 40 15.6 -2.1**
comp=Z,2.9nm,1.0s,baz=292,slow=6.9,SNR=3.5
ILAR S **SKSac** **22 46 55.2 -3.1**
comp=Z,0.8nm,1.1s,baz=219,slow=7.0,SNR=4.3

ILAR PKKPbc **PKKPbc** **22 53 04.5 -3.7**
comp=Z,0.5nm,0.6s,baz=151,slow=2.1,SNR=4.0
ILAR LR LR 23 24 01.8
comp=Z,4µm,18.3s,baz=305,slow=38
HDA Harding Lake 96.89 23 P **P** **22 36 22.0 -1.7**
baz=297
RC01 Rabbit Creek A 97.15 27 eP Pdif 22 36 29.3 +4.3
comp=Z,20nm,0.9s
SUMG Summit 97.35 347 eP **P** **22 36 25.3 -0.9**
comp=Z,17nm,1.1s
SUMG Summit 97.35 347 *i* P **P** **22 36 26.2 0.0**
SUMG Summit 97.35 347 eP **P** **22 36 25.3 -0.9**
SUMG pmax pmax
comp=Z,17nm,1.1s
SNAA Sanae 97.44 198 P Pdif 22 36 29.5 +3.3
SNAA Sanae 97.44 198 eP Pdif 22 36 27.4 +1.2
comp=Z,13nm,1.3s
SNAA Sanae 97.44 198 eP Pdif 22 36 27.4 +1.2
SNAA pmax pmax
comp=Z,13nm,1.3s
SCRK Sand Creek 98.23 23 eP Pdif 22 36 32.6 +2.6
comp=Z,12nm,1.3s
KULLO Kullorsuaq 98.92 353 *i* P Pdif 22 36 34.5 +1.9
comp=Z,18µm,27.0s
KULLO Kullorsuaq 98.92 353 *i* P Pdif 22 36 34.5 +1.9
KULLO MLR MLR
comp=Z,18µm,27.0s
VNA2 Neumayer--Watz 99.01 199 P **Pdif** **22 36 32.3 -0.8**
VNA1 Neumayer--Stat 99.34 199 P **Pdif** **22 36 35.3 +0.8**
EPYK Eagle Plains 99.50 19 P **Pdif** **22 36 34.2 -1.3**
baz=307
VNA3 Neumayer Olymp 99.67 198 P **Pdif** **22 36 35.7 -0.3**
VNA3 Neumayer Olymp 99.67 198 P **PKKPbc** **22 52 59.2 -1.1**
DAWY Dawson 99.91 22 ePdif **Pdif** **22 36 36.8 -0.6**
comp=Z,5.0nm,0.9s
KIC Kosan Boka 100.01 277 eP **Pdif** **22 36 40.5 +1.7**
comp=Z,52nm,1.2s
DBIC Dimbokro 100.09 278 P **Pdif** **22 36 40.0 +0.9**
comp=Z,4.4nm,0.7s,baz=88,slow=3.4,SNR=7.0
RES Resolute Bay 100.21 3 ePdif **Pdif** **22 36 38.2 -0.2**
comp=Z,26nm,1.1s
RES Resolute Bay 100.21 3 eP **Pdif** **22 36 38.2 -0.2**
RES pmax pmax
comp=Z,28nm,1.1s
TIC Toumodi 100.25 278 eP **Pdif** **22 36 40.1 +0.2**
LIC Lamto 100.31 277 eP **Pdif** **22 36 37.3 -2.8**
comp=Z,65nm,1.5s
YKA Yellowknife Ar 108.81 14 Pdiff **Pdif** **22 37 18.5 +1.7**
comp=Z,0.3nm,0.6s,baz=334,slow=4.6,SNR=3.3
YKA PKiKP **PKiKP** **22 41 22.0 +0.3**
comp=Z,1.3nm,0.9s,baz=316,slow=1.8,SNR=6.7
YKA PKKPbc **PKKPbc** **22 52 29.3 -3.2**
comp=Z,1.2nm,0.9s,baz=141,slow=2.9,SNR=5.2
TBI Tubuai 114.54 113 eSP SP 22 52 00.4 -5.9
comp=Z,1µm,28.0s
TBI Tubuai 114.54 113 eLQ LQ 23 11 03.5
comp=Z,8µm,36.0s
TBI eLR LR 23 16 01.9
comp=Z,4µm,24.5s
PPT2 Papeete2 114.83 107 eSP SP 22 52 03.0 -6.4
comp=Z,1µm,25.5s
PPT2 Papeete2 114.83 107 eLQ LQ 23 11 10.7
comp=Z,8µm,33.8s
PPT2 eLR LR 23 16 10.3
comp=Z,4µm,23.2s
FCC Fort Churchill 115.97 6 ePKPdf **PKPdf** **22 41 36.1 +0.7**
FCC ePP **PP** **22 42 36.4 -2.3**
FCC Fort Churchill 115.97 6 ePKIKP **PKPdf** **22 41 36.1 +0.7**
FCC e 22 42 36.4
A04D Lummi Island 116.81 28 P **PKPdf** **22 41 36.1 -1.2**
baz=316
B05A Bryant 117.42 28 P **PKPdf** **22 41 36.9 -1.6**
baz=316
D03D Eldon 117.48 29 P **PKPdf** **22 41 36.7 -1.9**
baz=315
C06D Leavenworth 118.22 27 P **PKPdf** **22 41 38.5 -1.6**
baz=317
E04D Cinebar 118.42 29 P **PKPdf** **22 41 38.0 -2.5**
baz=315
F04D Rainier, OR 118.54 30 P **PKPdf** **22 41 36.8 -4.0**
baz=315
B08A Colville Reser 118.59 26 ePKPdf **PKiKP** **22 41 41.4 +0.5**
LON Longmire 118.65 29 ePKPdf **PKPdf** **22 41 40.9 -0.1**
FFC Flin Flon 118.68 12 ePKPdf **PKiKP** **22 41 40.8 0.0**
FFC Flin Flon 118.68 12 ePKIKP **PKiKP** **22 41 40.8 0.0**
SCHQ Schefferville 118.71 349 PKP **PKPdf** **22 41 39.6 -1.2**
comp=Z,9.9nm,0.7s,baz=73,slow=6.7,SNR=10
LTY Liberty 118.81 28 ePKPdf **PKiKP** **22 41 41.8 +0.4**
G03D McMinnville, O 119.02 31 P **PKPdf** **22 41 40.0 -1.7**
baz=314
I02D Swisshome 119.48 32 P **PKPdf** **22 41 42.1 -0.5**
baz=313
C09A Chrisman Ranch 119.48 26 ePKPdf **PKiKP** **22 41 43.3 +0.7**
NEW Newport 119.61 25 ePKPdf **PKiKP** **22 41 43.0 +0.1**
NEW Newport 119.61 25 ePKIKP **PKiKP** **22 41 43.0 +0.1**
NEW Newport 119.61 25 P **PKPdf** **22 41 41.4 -1.4**
baz=321
H04D Lebanon 119.77 31 P **PKPdf** **22 41 39.1 -4.0**
baz=314
H04A Detroit Lake 119.94 31 ePKPdf **PKiKP** **22 41 44.2 +0.6**
G05D Wamic, OR 119.97 30 P **PKPdf** **22 41 40.1 -3.5**
baz=316
HAWA Hanford 119.98 28 ePKPdf **PKiKP** **22 41 44.3 +0.7**
I03D Drain, OR 120.02 32 P **PKPdf** **22 41 41.1 -2.6**
baz=313
J01E Myrtle Point 120.07 33 P **PKPdf** **22 41 42.9 -0.9**
baz=313
E08A Dider Farm, El 120.12 27 ePKPdf **PKiKP** **22 41 45.0 +1.2**
G06A Carlson Farm, 120.31 29 ePKPdf **PKiKP** **22 41 45.3 +0.9**
I04A Tendick Farm, 120.44 31 P **PKPdf** **22 41 42.2 -2.4**
baz=314
E09A Wood Farm, Sta 120.52 27 ePKPdf **PKiKP** **22 41 45.4 +0.7**
K02D Willamette Mer 120.53 33 P **PKPdf** **22 41 42.6 -2.2**
baz=313
I05D Terrebonne, OR 120.61 30 P **PKPdf** **22 41 42.8 -2.1**
baz=316
L02E Cave Junction 120.93 33 P **PKPdf** **22 41 43.4 -2.1**
baz=312
HUMO Hull Mountain 120.97 33 ePKPdf **PKPdf** **22 41 45.3 -0.3**
J04D Umpqua Nationa 120.99 32 P **PKPdf** **22 41 43.1 -2.7**
baz=314,SNR=10
G08A Pilot Rock 121.07 28 ePKPdf **PKPdf** **22 41 45.6 -0.2**
PINE Pine Mountain 121.20 31 ePKPdf **PKiKP** **22 41 47.9 +1.6**
F10A Beach Ranch, E 121.34 27 ePKPdf **PKiKP** **22 41 46.7 +0.3**
J05D Fort Rock, OR 121.41 31 P **PKPdf** **22 41 45.6 -0.9**
baz=315,SNR=12
L04D Klamath Falls 121.59 33 P **PKPdf** **22 41 45.4 -1.6**
baz=314,SNR=5.8
I07A Izee 121.70 29 ePKPdf **PKiKP** **22 41 48.5 +1.3**
YBH Yreka Blue Hor 121.70 33 ePKPdf **PKiKP** **22 41 47.3 0.0**
YBH Yreka Blue Hor 121.70 33 ePKIKP **PKiKP** **22 41 47.3 0.0**
KHMM Horse Mountain 121.71 35 ePKPdf **PKiKP** **22 41 48.8 +1.4**
M02C Callahan 121.86 34 P **PKPdf** **22 41 46.4 -1.1**
baz=313,SNR=11
MSO Missoula 122.06 24 ePKPdf **PKiKP** **22 41 48.0 +0.2**
MSO Missoula 122.06 24 P **PKPdf** **22 41 45.5 -2.1**
baz=324
M04C Macdoel 122.14 33 P **PKPdf** **22 41 45.9 -2.1**
baz=314
KMRM Mail Ridge 122.16 35 ePKPdf **PKiKP** **22 41 49.7 +1.5**
BMO Blue Mountains 122.17 27 ePKPdf **PKiKP** **22 41 49.4 +1.2**
N02D Trinity Center 122.22 34 P **PKPdf** **22 41 46.6 -1.5**
baz=313,SNR=8.5
WDC Whiskeytown Da 122.58 34 ePKPdf **PKiKP** **22 41 49.3 +0.4**
WDC Whiskeytown Da 122.58 34 ePKIKP **PKiKP** **22 41 49.3 +0.4**
EGMT Eagleton 122.62 20 ePKPdf **PKPdf** **22 41 48.1 -0.6**
EGMT Eagleton 122.62 20 P **PKPdf** **22 41 46.9 -1.8**
baz=329
O02D Mt. Diablo Mer 122.71 35 P **PKPdf** **22 41 47.0 -2.1**
baz=312,SNR=7.9
J08A Circle Bar Ran 122.74 29 ePKPdf **PKiKP** **22 41 50.5 +1.2**
MOD Modoc Plateau 122.88 32 ePKPdf **PKPdf** **22 41 48.8 -0.6**
O03E Paynes Creek 123.19 34 P **PKPdf** **22 41 48.9 -1.1**
baz=313,SNR=18
HOPS Hopland Field 123.34 36 ePKPdf **PKiKP** **22 41 50.4 0.0**
WVOR Wild Horse Val 123.34 30 ePKPdf **PKiKP** **22 41 50.7 +0.2**
DLMT Dillon 123.80 24 ePKPdf **PKiKP** **22 41 52.3 +0.9**
ORV Oroville 123.86 34 ePKPdf **PKiKP** **22 41 51.5 0.0**
DGMT Dagmar 123.95 16 ePKPdf **PKiKP** **22 41 52.0 +0.6**
DGMT Dagmar 123.95 16 P **PKPdf** **22 41 49.4 -1.7**
baz=336
MFID Camas Ranch 123.95 28 ePKPdf **PKiKP** **22 41 52.7 +1.0**
BOZ Bozeman (W) 123.99 23 P **PKPdf** **22 41 48.8 -2.6**
baz=326
ULM Lac du Bonnet 124.07 9 PKP **PKPdf** **22 41 50.2 -1.0**
comp=Z,21nm,0.8s,baz=328,slow=2.4,SNR=17

MCMT McKenzie Canyo 124.13 24 ePKPdf PKiKP 22 41 53.3 +1.1
TAOE Nuku Hiva Isla 124.24 97 eSS SS 23 00 28.5 -0.6
comp=Z,911nm,28.8s
TAOE Nuku Hiva Isla 124.24 97 eLR LR 23 20 20.5
comp=Z,3µm,23.3s
HLID Hailey 124.48 26 ePKPdf PKPdf 22 41 52.3 -0.2
HLID Hailey 124.48 26 P PKPdf 22 41 49.5 -3.0
baz=322
AFDM Forest Hills D 124.58 35 ePKPdf PKiKP 22 41 53.0 0.0
QLMT Earthquake Lak 124.70 23 ePKPdf PKiKP 22 41 54.7 +1.4
YHB Horse Butte 124.86 23 ePKPdf PKiKP 22 41 55.1 +1.5
PAHR Pah Rah Range 124.93 33 ePKPdf PKiKP 22 41 54.7 +0.9
LAO LASA Array 124.95 18 P PKPdf 22 41 51.6 -1.6
baz=333
RUBR Rubicon Trail 124.97 34 ePKPdf PKiKP 22 41 55.2 +1.2
YMR Madison River 125.02 23 ePKPdf PKiKP 22 41 55.6 +1.7
VCNR Virginia City 125.07 33 ePKPdf PKiKP 22 41 55.4 +1.2
YNR Norris Junctio 125.09 23 ePKPdf PKiKP 22 41 56.2 +2.1
PNTR Pine Nut 125.25 34 ePKPdf PKiKP 22 41 55.6 +1.1
RLMT Red Lodge 125.28 22 ePdif Pdif 22 38 29.2 -1.7
RLMT ePKPdf PKiKP 22 41 54.4 0.0
RLMT Red Lodge 125.28 22 P PKPdf 22 41 51.4 -2.7
baz=329
H17A Grant Village 125.40 23 P PKPdf 22 41 51.9 -2.5
baz=327
CMB Columbia Colle 125.54 35 ePKPdf PKPdf 22 41 52.7 -1.8
CMB Columbia Colle 125.54 35 ePKIKP PKPdf 22 41 52.7 -1.8
MDND Maddock 125.67 13 ePKPdf PKiKP 22 41 55.5 +0.7
MDND Maddock 125.67 13 P PKPdf 22 41 53.0 -1.4
baz=341
IMW Indian Meadow 125.67 24 ePKPdf PKiKP 22 41 56.4 +1.0
WAKR Walker 125.75 34 ePKPdf PKiKP 22 41 56.9 +1.3
SAO San Andreas Ge 125.78 37 ePKPdf PKiKP 22 41 55.5 +0.1
SAO San Andreas Ge 125.78 37 ePKIKP PKiKP 22 41 55.5 +0.1
FXWY Fox Creek 125.85 24 ePKPdf PKPdf 22 41 54.9 -0.3
MOOW Moose Ponds 125.87 24 ePKPdf PKiKP 22 41 56.0 +0.4
AGMN Agassiz Nation 125.97 10 ePKPdf PKiKP 22 41 55.3 -0.1
AGMN Agassiz Nation 125.97 10 P PKPdf 22 41 53.9 -1.1
baz=346
TPAW Teton Pass 126.01 24 ePKPdf PKPdf 22 41 55.5 -0.1
LOHW Long Hollow 126.04 24 ePKPdf PKPdf 22 41 55.4 -0.2
KVN Kaiserville 126.09 33 ePKPdf PKPdf 22 41 55.5 -0.2
KVN Kaiserville 126.09 33 ePKIKP PKPdf 22 41 55.5 -0.2
SNOW Snow King Moun 126.11 24 ePKPdf PKiKP 22 41 57.1 +1.0
REDW Red Top Meadow 126.15 24 ePKPdf PKiKP 22 41 56.2 -0.1
RYN Ryan 126.17 33 ePKPdf PKiKP 22 41 57.5 +1.2
ELK Elko 126.29 29 ePKPdf PKPdf 22 41 56.2 0.0
ELK Elko 126.29 29 ePKIKP PKPdf 22 41 56.2 0.0
NVAR Mina Array Bea 126.43 33 PKP PKPdf 22 41 55.8 -0.7
comp=Z,13nm,0.8s,baz=275,slow=2.4,SNR=28
NV01 Mina Array Sit 126.43 33 ePKPdf PKPdf 22 41 55.7 -0.8
HVU Hansel Valley 126.63 27 ePKPdf PKiKP 22 41 57.0 -0.1
HVU Hansel Valley 126.63 27 ePKIKP PKiKP 22 41 57.0 -0.1
VLDQ Val d'Or 126.83 354 ePKPdf PKiKP 22 41 57.1 +0.1
EYMN Ely 126.91 6 ePKPdf PKPdf 22 41 56.3 -0.5
EYMN Ely 126.91 6 P PKPdf 22 41 55.7 -1.1
baz=351
BW06 Boulder Array 127.17 23 ePKPdf PKPdf 22 41 57.5 -0.2
BW06 Boulder Array 127.17 23 P PKPdf 22 41 56.6 -1.2
baz=328,SNR=15
PD31 Pinedale Array 127.17 23 ePKPdf PKiKP 22 41 58.2 -0.1
PDAR Pinedale Array 127.17 23 PKP PKPdf 22 41 57.0 -0.7
comp=Z,3.6nm,0.6s,baz=5.7,slow=1.5,SNR=26
PAGB Antelope Grade 127.19 37 ePKPdf PKiKP 22 41 59.7 +1.4
BGU Big Grassy Mou 127.19 27 ePKPdf PKiKP 22 41 58.5 +0.2
D54A Lac Fusel, La 127.70 354 P PKPdf 22 41 54.9 -3.4
baz=9.3
RKT Rikitea 127.74 115 eLQ LQ 23 16 37.2
comp=Z,6µm,41.0s
RKT eLR LR 23 21 59.4
comp=Z,3µm,29.0s
TCUT Toone Canyon 127.77 26 ePKPdf PKiKP 22 42 00.2 +0.6
VES Vestal, Richgr 127.80 36 P PKPdf 22 41 57.1 -1.8
baz=314
DUG Dugway, Tooele 127.87 28 P PKPdf 22 41 56.9 -2.2
baz=323
D53A Lac Vacive, Po 127.88 354 P PKPdf 22 41 57.3 -1.4
baz=8.1
D49A Beulah Townshi 127.93 358 P PKPdf 22 41 56.2 -2.6
baz=3.5
R11A Troy Canyon, C 127.94 31 ePKPdf PKPdf 22 41 59.5 +0.2
R11A Troy Canyon, C 127.94 31 P PKPdf 22 41 57.3 -2.0
baz=319
RSSD Black Hills 127.94 18 ePKPdf PKPdf 22 41 59.0 -0.1
RSSD Black Hills 127.94 18 ePKIKP PKPdf 22 41 59.1 -0.1
RSSD Black Hills 127.94 18 P PKPdf 22 41 57.6 -1.6
baz=334
CTU Camp Tracy 127.96 27 ePKPdf PKiKP 22 42 01.4 +1.6
D50A G1974 Best Tow 127.96 356 P PKPdf 22 41 57.7 -1.1
baz=5.4
CWC Cottonwood Cre 127.97 35 P PKPdf 22 41 57.7 -1.7
baz=315
GRAC Grapevine Rang 127.97 34 P PKPdf 22 41 58.2 -1.0
baz=316
PKM Mcpherson Peak 128.02 38 P PKPdf 22 41 57.5 -2.1
baz=312
D52A ZEK Kipawa Sen 128.04 355 P PKPdf 22 41 56.7 -2.3
baz=7.2
D48A Paudash Townsh 128.05 358 P PKPdf 22 41 57.3 -1.7
baz=2.9
D41A Chassel 128.05 4 P PKPdf 22 41 57.2 -1.7
baz=354
D47A Chapleau 128.20 359 P PKPdf 22 41 57.2 -2.1
baz=1.2
E38A The Farm, Brul 128.23 7 ePKPdf PKiKP 22 42 00.2 +0.3
E38A The Farm, Brul 128.23 7 P PKPdf 22 41 58.5 -0.9
baz=350
PKME Peaks-Kenny Pk 128.28 347 P PKPdf 22 41 57.8 -1.7
baz=19
TRQ Mont Tremblant 128.34 352 ePKPdf PKiKP 22 42 00.4 +0.1
DAC Darwin (Calif) 128.36 35 ePKPdf PKPdf 22 42 00.5 +0.3
DAC Darwin (Calif) 128.36 35 ePKIKP PKPdf 22 42 00.5 +0.3
D46A Sault St. Mari 128.37 360 P PKPdf 22 41 59.3 -0.3
baz=0.1
SBC Santa Barbara 128.38 38 P PKPdf 22 41 59.0 -0.9
baz=312
NLU North Lily Min 128.41 27 ePKPdf PKPdf 22 42 00.3 +0.1
K22A Casper 128.41 21 ePKPdf PKiKP 22 42 00.7 0.0
K22A Casper 128.41 21 P PKPdf 22 41 59.1 -1.0
baz=331
ARVC Arvin 128.45 37 P PKPdf 22 41 58.0 -2.1
baz=314
E54A Lac Daplat, Po 128.46 354 P PKPdf 22 41 59.3 -0.5
baz=8.8
E40A Wakefield 128.56 5 P PKPdf 22 41 57.3 -2.7
baz=353
E39A Mellen 128.56 6 P PKPdf 22 41 59.5 -0.5
baz=352
E53A Dumoine, Ponti 128.57 354 P PKPdf 22 41 59.7 -0.3
baz=8.2
E51A G1948 Merrick 128.57 356 P PKPdf 22 41 58.6 -1.4
baz=5.8
MPMC Manual Prospec 128.57 35 P PKPdf 22 41 58.8 -1.8
baz=316,SNR=20
E41A Kenton 128.62 4 P PKPdf 22 41 58.9 -1.2
baz=354
TPNV Topopah Spring 128.62 33 ePKPdf PKiKP 22 42 02.1 +0.8
TPNV Topopah Spring 128.62 33 P PKPdf 22 41 58.6 -2.0
baz=317
FURC Furnace Creek, 128.63 34 P PKPdf 22 41 59.8 -0.6
baz=316
PSUT Pine Spring 128.68 30 ePKPdf PKiKP 22 42 01.4 +0.1
E52A Mattawa 128.75 355 P PKPdf 22 41 58.6 -1.7
baz=6.9
E50A Wahnapitae 128.75 357 P PKPdf 22 41 57.5 -2.9
baz=4.3
E48A Lockeyer 128.75 358 P PKPdf 22 42 00.1 -0.3
baz=2.5
E47A Iron Bridge 128.80 359 P PKPdf 22 41 59.6 -0.9
baz=1.0
E43A Lone Tree Farm 128.82 3 P PKPdf 22 41 59.6 -0.9
baz=356
F38A Pierce - Schro 128.83 7 P PKPdf 22 41 59.6 -0.9
baz=350
MOQ Mont Orford 128.84 349 ePKPdf PKPdf 22 42 00.9 +0.3
LRMC Laurel Mtn Rad 128.87 35 P PKPdf 22 42 00.5 -0.6
baz=315,SNR=6.8
E46A Sault Ste Mari 128.90 0 P PKPdf 22 41 58.9 -1.7
baz=360
F55A Otter Lake 128.96 353 P PKPdf 22 42 00.2 -0.5
baz=9.9
COWI Conover 128.96 5 ePKPdf PKiKP 22 42 01.5 0.0
F37A Hinrichs Farm, 128.97 8 P PKPdf 22 41 59.2 -1.6
baz=349
F39A Loretta 128.98 6 P PKPdf 22 41 59.3 -1.5
baz=351
RWWY Rawlins 129.00 22 ePKPdf PKiKP 22 42 02.3 +0.3
BLG Laguna Peak, P 129.00 38 P PKPdf 22 41 59.6 -1.6
baz=313
WVL Waterville 129.02 347 ePKPdf PKiKP 22 42 02.2 +0.7
F40A Park Falls 129.06 5 P PKPdf 22 41 59.7 -1.2
baz=352
EDW2 Edwards Air Fo 129.11 36 P PKPdf 22 41 59.5 -1.9
baz=314
F51A Arnstein 129.20 356 P PKPdf 22 42 00.0 -1.2
baz=5.4
F44A Big Bay de Noc 129.25 2 P PKPdf 22 41 59.7 -1.6
baz=357
F52A Sundridge 129.29 356 P PKPdf 22 42 00.2 -1.2
baz=6.1
F41A Three Lakes 129.32 5 P PKPdf 22 42 01.4 -0.1
baz=354
TMUT Trail Mountain 129.33 27 ePKPpre PKPpre 22 41 49.4
DECC Green Verdugo 129.34 37 P PKPdf 22 42 00.3 -1.6
baz=314
F43A Flat Rock, Esc 129.36 3 P PKPdf 22 42 00.6 -0.9
baz=356
SHOC Shoshone, Teco 129.37 34 P PKPdf 22 42 00.2 -1.7
baz=317
P17A Butcher Ranch, 129.40 27 ePKPdf PKiKP 22 42 02.9 +0.1
F48A Evansville 129.42 359 P PKPdf 22 42 00.4 -1.3
baz=1.9
SPMN Marine on St. 129.43 8 P PKPdf 22 42 00.4 -1.2
baz=349
F49A Sandfield 129.47 358 P PKPdf 22 41 60.0 -1.8
baz=2.6
F46A Macinaw City C 129.49 1 P PKiKP 22 42 02.3 -0.2
baz=359
GSC Goldstone, Bar 129.50 35 ePKPdf PKPdf 22 42 02.3 +0.1
GSC Goldstone, Bar 129.50 35 P PKPdf 22 42 01.7 -0.6
baz=316,SNR=10
MSU Marysvale 129.51 29 ePKPdf PKiKP 22 42 03.3 +0.2
MWC Mount Wilson 129.53 37 ePKPdf PKiKP 22 42 04.7 +1.6
SHPR Shoe Range 129.54 33 ePKPdf PKiKP 22 42 04.0 +0.8
F45A CMU Biological 129.56 1 P PKPdf 22 42 01.6 -0.3
baz=358
G39A Holcombe 129.57 6 P PKPdf 22 42 01.9 -0.1
baz=351
G55A Calabogie 129.58 353 P PKPdf 22 42 00.8 -1.2
baz=9.5
G38A Ridgeland 129.61 7 P PKPdf 22 42 01.1 -1.0
baz=350
Q16A Castle Valley 129.66 27 ePKPdf PKiKP 22 42 04.9 +1.6
CCUT Cedar City 129.68 30 ePKPdf PKiKP 22 42 04.0 +0.5
G40A Rib Lake 129.69 6 ePKPdf PKiKP 22 42 03.7 +0.8
G40A Rib Lake 129.69 6 P PKPdf 22 42 00.9 -1.3
baz=352
BFSC Mount Baldy Ra 129.76 37 P PKPdf 22 42 01.5 -1.3
baz=314
SZCU Shurtz Canyon 129.78 30 ePKPdf PKiKP 22 42 04.1 +0.5
SRU San Rafael Swe 129.79 27 ePKPdf PKiKP 22 42 03.3 -0.3
G41A Antigo 129.84 5 P PKPdf 22 42 02.4 -0.1
baz=353
CIS Catalina Islan 129.88 38 P PKPdf 22 42 01.0 -1.9
baz=313
MTPU Mount Pierson 129.88 29 ePKPdf PKiKP 22 42 04.7 +0.7
G43A Wallace 129.90 3 P PKPdf 22 42 01.6 -0.9
baz=355
G53A Haliburton 129.90 355 P PKPdf 22 42 01.6 -1.0
baz=7.1
TUQ Turquoise Moun 129.91 34 P PKPdf 22 42 01.6 -1.5
baz=317
LONY Lake Ozonia 129.91 351 ePKPdf PKPdf 22 42 01.6 -1.0
LONY Lake Ozonia 129.91 351 P PKPdf 22 42 00.5 -2.1
baz=12
O20A White River Ci 129.92 24 ePKPdf PKPdf 22 42 03.2 +0.2
O20A White River Ci 129.92 24 P PKPdf 22 42 01.3 -1.7
baz=328,SNR=8.1
G46A Petoskey 129.94 1 P PKPdf 22 42 00.5 -2.1
baz=359
PHWY Pilot Hill 129.98 21 ePKPpre PKPpre 22 41 54.7
H38A Maiden Rock 130.04 8 P PKPdf 22 42 00.7 -2.2
baz=349
SCI2 San Clemente I 130.08 38 P PKPdf 22 42 02.2 -1.0
baz=313
G47A Hillman 130.09 360 P PKPdf 22 42 01.6 -1.3
baz=0.3
HEC Hector,Ludlow 130.11 35 P PKPdf 22 42 02.0 -1.4
baz=316,SNR=6.2
LCMT Little Creek M 130.16 31 ePKPdf PKiKP 22 42 04.3 0.0
N23A Red Feather La 130.16 22 ePKPdf PKPdf 22 42 03.9 +0.3
N23A Red Feather La 130.16 22 P PKPdf 22 42 01.7 -1.9
baz=331
H39A Augusta 130.16 7 P PKPdf 22 42 00.9 -2.2
baz=351
BBRC Big Bear Solar 130.17 36 P PKPdf 22 42 00.7 -3.1
baz=315
ECSD EROS Data Cent 130.22 12 ePKPdf PKPdf 22 42 02.7 -0.5
ECSD EROS Data Cent 130.22 12 P PKPdf 22 42 02.2 -1.1
baz=344
PKCU Pink Cliffs 130.29 30 ePKPdf PKiKP 22 42 06.3 +1.5
H40A Chili 130.32 6 P PKPdf 22 41 01.8 -1.6
baz=352
H55A Tweed 130.32 354 P PKPdf 22 42 00.7 -2.7
baz=9.0
KNB Kanab 130.37 30 ePKPdf PKiKP 22 42 05.7 +0.9
H41A Junction City 130.39 5 P PKPdf 22 42 02.7 -0.8
baz=353
GLMI Grayling 130.44 1 P PKPdf 22 42 02.9 -0.7
baz=359
MURC Murrieta 130.48 37 P PKPdf 22 42 01.2 -2.8
baz=314
GMRC Granite Mounta 130.53 35 P PKPdf 22 42 02.5 -1.8
baz=317,SNR=10.0
H42A Shiocton 130.59 4 P PKPdf 22 42 02.3 -1.6
baz=354
H45A Beulah 130.61 2 P PKPdf 22 42 01.2 -2.7
baz=357
BELC Belle Mtn. Jos 130.90 36 P PKPdf 22 42 01.1 -3.9
baz=316
PFO Pinyon Flats O 130.91 36 ePKPdf PKPdf 22 42 01.8 -3.2
PFO Pinyon Flats O 130.91 36 ePKIKP PKPdf 22 42 01.8 -3.2
PFO Pinyon Flats O 130.91 36 P PKPdf 22 42 01.7 -3.3
baz=315
XPFO Pion Flat 130.91 36 ePKPdf PKiKP 22 42 05.7 -0.2
I41A Arkdale 130.93 6 P PKPdf 22 42 01.2 -3.3
baz=352
PV21 Cone Mtn., Par 130.93 26 ePKPdf PKiKP 22 42 06.9 +1.0
I39A Houston 130.95 7 ePKPdf PKiKP 22 42 05.5 0.0
I39A Houston 130.95 7 P PKPdf 22 42 02.4 -2.2
baz=350
I40A Norwalk 131.01 6 P PKPdf 22 42 02.5 -2.2
baz=351
PV10 Paradox Valley 131.06 26 ePKPdf PKiKP 22 42 06.7 +0.5
PV14 Lion Creek, Pa 131.07 26 ePKPdf PKiKP 22 42 07.0 +0.8
U15A North Rim 131.09 30 ePKPdf PKPdf 22 42 04.9 -0.6
PV20 West Nyswonger 131.12 26 ePKPdf PKiKP 22 42 07.1 +0.8
PV19 Morning Glory 131.14 26 ePKPdf PKiKP 22 42 07.7 +1.3
PV16 Nyswonger Mesa 131.16 26 ePKPdf PKiKP 22 42 07.0 +0.6
PV17 East Wray Mesa 131.17 26 ePKPdf PKiKP 22 42 07.0 +0.6
I42A Draeger Farm, 131.18 5 P PKPdf 22 42 02.3 -2.8
baz=354
PV11 David Mesa, Pa 131.19 26 ePKPdf PKiKP 22 42 07.1 +0.7
PV12 Saucer Basin, 131.21 26 ePKPdf PKiKP 22 42 06.6 +0.1
ISCO Idaho Springs 131.24 22 ePKPdf PKPdf 22 42 05.8 +0.1
I43A Langenfeld Bro 131.24 4 P PKPdf 22 42 03.0 -2.2
baz=355
PV03 Paradox Valley 131.24 26 ePKPdf PKiKP 22 42 06.3 -0.2
I47A Gladwin 131.24 0 P PKPdf 22 42 03.6 -1.6
baz=359
SMCO Snowmass 131.25 24 ePKPdf PKiKP 22 42 07.4 +0.6
I53A Kortright Cn E 131.27 356 P PKPdf 22 42 03.3 -1.9
baz=6.0
IRM Iron Mountain 131.27 35 P PKPdf 22 42 03.8 -1.8
baz=317
W13A Hualapai Mount 131.28 33 ePKPdf PKiKP 22 42 07.8 +1.1
PV05 Paradox Valley 131.28 26 ePKPdf PKiKP 22 42 06.5 -0.1
I46A Reed City 131.31 1 P PKPdf 22 42 01.9 -3.3
baz=358
I49A Point Hope 131.31 359 P PKPdf 22 42 03.4 -1.8
baz=1.7
PV02 Paradox Valley 131.33 26 ePKPdf PKiKP 22 42 08.1 +1.3
PV13 Radium Mtn., P 131.33 26 ePKPdf PKiKP 22 42 06.5 -0.2
I51A Listowel 131.38 357 P PKPdf 22 42 04.7 -0.7
baz=4.1
HRV Adam Dziewonsk 131.40 348 P PKPdf 22 42 05.4 -0.1
baz=17
BAR Barrett 131.43 37 ePKPdf PKiKP 22 42 07.4 +0.6
MONP2 Monument Peak 131.43 37 P PKPdf 22 42 03.9 -2.2
baz=315
J39A Decorah 131.43 7 P PKPdf 22 42 04.5 -1.1
baz=350
BC3 Big Chuckawall 131.46 35 P PKPdf 22 42 03.0 -3.0
baz=316
J41A Loganville 131.60 6 P PKPdf 22 42 04.1 -1.7
baz=352
J55A Hilton 131.66 354 P PKPdf 22 42 03.8 -2.1
baz=8.4
J43A Natural Harves 131.72 4 P PKPdf 22 42 03.9 -2.2
baz=354
J42A Columbus 131.73 5 P PKPdf 22 42 04.1 -2.0
baz=353
PDMCI Parker Dam,Lak 131.73 34 P PKPdf 22 42 04.4 -1.9
baz=318
SWSC Sam W. Stewart 131.77 36 P PKPdf 22 42 04.2 -2.2
baz=316
IKP In-Ko-Pah, Jac 131.79 37 P PKPdf 22 42 05.4 -1.2
baz=315
J49A Marlette 131.90 359 P PKPdf 22 42 03.9 -2.5
baz=1.3
J52A Paris 131.91 356 P PKPdf 22 42 04.0 -2.5
baz=4.8
Y12C Blythe 131.92 35 P PKPdf 22 42 05.1 -1.6
baz=317
J48A Bridge Port 131.96 360 P PKPdf 22 42 04.8 -1.7
baz=1.8
J47A Sumner 132.02 1 P PKPdf 22 42 05.9 -0.7
baz=359
JFWS Jewell Farm 132.02 6 ePKPdf PKPdf 22 42 05.7 -1.0
JFWS Jewell Farm 132.02 6 ePKIKP PKPdf 22 42 05.7 -1.0
JFWS Jewell Farm 132.02 6 P PKPdf 22 42 05.2 -1.4
baz=352
K39A Oelwein 132.03 8 P PKPdf 22 42 04.2 -2.5
baz=350
RCBR Riachuelo 132.04 267 eP PKiKP 22 42 14.3 +5.8
BGNE Belgrade 132.09 14 ePKPdf PKiKP 22 42 08.5 +0.5
BGNE Belgrade 132.09 14 P PKPdf 22 42 03.4 -3.5
baz=341
K40A Colesburg 132.13 7 P PKPdf 22 42 04.6 -2.2
baz=350
Q24A Divide 132.14 22 P PKPdf 22 42 04.6 -2.8
baz=331
K55A Perry 132.22 354 P PKPdf 22 42 04.6 -2.5
baz=8.1
K42A Prairie Point, 132.24 5 P PKPdf 22 42 04.6 -2.5
baz=353
GLA Glamis 132.26 35 P PKPdf 22 42 06.3 -1.1
baz=317
MVCO Mesa Verde 132.26 26 ePKPdf PKiKP 22 42 08.3 -0.3
MVCO Mesa Verde 132.26 26 P PKPdf 22 42 05.4 -2.2
baz=326
WUAZ Wupatki 132.27 30 ePKPdf PKPdf 22 42 07.8 +0.2
WUAZ Wupatki 132.27 30 P PKPdf 22 42 05.9 -1.6
baz=322
K41A Shullsburg 132.32 6 P PKPdf 22 42 06.4 -0.8
baz=352
K43A Burlington 132.40 4 P PKPdf 22 42 03.7 -3.7
baz=354
BINY Binghamton 132.49 352 ePKPdf PKPdf 22 42 08.1 +0.5
BINY Binghamton 132.49 352 P PKPdf 22 42 05.6 -2.0
baz=11
S22A 4UR Ranch, Cre 132.53 25 ePKPdf PKPdf 22 42 06.7 -1.5
S22A 4UR Ranch, Cre 132.53 25 P PKPdf 22 42 05.1 -3.1
baz=329
K46A Dorr 132.55 2 P PKPdf 22 42 05.2 -2.5
baz=358
K47A Vermontville 132.59 1 P PKPdf 22 42 05.5 -2.2
baz=359
L39A Vinton 132.59 8 P PKPdf 22 42 05.8 -2.0
baz=349
SCIA State Center 132.62 9 P PKPdf 22 42 07.6 -0.2
baz=348
L40A Anamosa 132.75 7 ePKPdf PKiKP 22 42 09.7 +0.5
L40A Anamosa 132.75 7 P PKPdf 22 42 07.2 -0.8
baz=350
L41A Preston 132.82 7 P PKPdf 22 42 07.4 -0.8
baz=351
L43A Garden Prairie 132.89 5 P PKPdf 22 42 07.8 -0.5
baz=354
L44A Lake County Fo 132.95 4 P PKPdf 22 42 08.2 -0.2
baz=355
AAM Ann Arbor 132.96 360 P PKPdf 22 42 08.3 -0.2
baz=0.6
L42A Oliver, Polo 132.98 6 P PKPdf 22 42 08.3 -0.2
baz=352
KSCO Kaye Shedlock' 133.00 20 P PKPdf 22 42 06.8 -2.0
baz=334
SDCO Great Sand Dun 133.07 23 ePKPdf PKiKP 22 42 11.3 +0.9
KSPA Keystone Colle 133.09 351 ePKPdf PKiKP 22 42 10.9 +1.0
X16A Lo Mia Camp, P 133.09 31 ePKPdf PKPdf 22 42 09.6 +0.4
L49A Milan 133.15 360 P PKPdf 22 42 08.6 -0.2
baz=0.4
M39A Webster 133.19 8 P PKPdf 22 42 09.0 0.0
baz=349
L50A Kingsville 133.21 359 P PKPdf 22 42 06.4 -2.5
baz=1.8
L47A Sherwood 133.28 1 P PKPdf 22 42 08.1 -0.9
baz=358
PAL Palisades 133.31 349 P PKPdf 22 42 09.0 -0.1
baz=14
L48A N Adams 133.32 0 P PKPdf 22 42 08.2 -0.9
baz=360
M40A Post Highland 133.36 8 P PKPdf 22 42 08.1 -1.1
baz=350
ODNJ Ogdensburg 133.36 350 ePKPdf PKiKP 22 42 09.9 -0.5
W18A Petrified Fore 133.39 29 P PKPdf 22 42 08.4 -1.3
baz=324
M42A Sheffield 133.52 6 P PKPdf 22 42 08.1 -1.4
baz=352
M54A Oil Creek Stat 133.58 355 ePKPdf PKPdf 22 42 10.2 +0.5
M54A Oil Creek Stat 133.58 355 P PKPdf 22 42 07.4 -2.3
baz=6.1
M43A Waltham Townsh 133.61 5 P PKPdf 22 42 07.1 -2.6
baz=353
N59A State Game Lan 133.71 351 P PKPdf 22 42 07.9 -2.0
baz=12
M44A Midewin, Midew 133.73 4 P PKPdf 22 42 07.9 -2.0
baz=355
M49A Liberty Center 133.79 360 P PKPdf 22 42 08.6 -1.4
baz=0.2
M46A Old House Fiel 133.81 2 P PKPdf 22 42 08.1 -2.0
baz=357
M50A Fremont 133.85 359 P PKPdf 22 42 08.5 -1.7
baz=1.4
N40A Mertquake, Sal 133.86 8 P PKPdf 22 42 09.6 -0.6
baz=350
M47A Cromwell 133.88 2 P PKPdf 22 42 09.1 -1.1
baz=358
M51A Elyria 133.90 358 P PKPdf 22 42 08.6 -1.7
baz=2.6
T25A Trinidad 134.02 23 P PKPdf 22 42 10.8 -0.1
baz=331
N43A Stutzman Famil 134.08 5 P PKPdf 22 42 11.2 +0.6
baz=353
CBKS Cedar Bluff 134.09 17 P PKPdf 22 42 09.9 -0.9
baz=338
N42A Yates City 134.10 6 P PKiKP 22 42 11.3 -0.6
baz=352
N54A Moraine State 134.15 356 P PKPdf 22 42 11.4 +0.6
baz=5.7
214A Organ Pipe Nat 134.22 35 P PKPdf 22 42 10.0 -1.2
baz=318
N55A Marion Center 134.24 355 P PKPdf 22 42 10.4 -0.6
baz=7.1
SSPA Standing Stone 134.27 353 ePKPdf PKPdf 22 42 11.1 +0.2
SSPA Standing Stone 134.27 353 P PKPdf 22 42 10.4 -0.5
baz=8.6
N46A Monticello 134.30 3 P PKPdf 22 42 10.5 -0.5
baz=356
N45A Kentland 134.30 4 P PKPdf 22 42 10.2 -0.8
baz=355
N44A Piper City 134.31 4 P PKPdf 22 42 10.3 -0.7
baz=354
N51A Ashland 134.32 358 P PKPdf 22 42 09.9 -1.1
baz=2.4
N49A Columbus Grove 134.34 0 ePKPdf PKPdf 22 42 11.2 +0.1
N49A Columbus Grove 134.34 0 P PKPdf 22 42 10.0 -1.1
baz=360
N47A Urbana 134.36 2 P PKPdf 22 42 10.4 -0.7
baz=358
N53A Lisbon 134.36 357 P PKPdf 22 42 10.6 -0.5
baz=4.5
N48A Decatur 134.39 1 P PKPdf 22 42 10.1 -1.1
baz=359
N52A McGinn's Farm, 134.40 357 P PKPdf 22 42 10.1 -1.1
baz=3.4
HDIL Hopedale 134.45 6 P PKPdf 22 42 10.1 -1.2
baz=353
N50A Nevada 134.48 359 P PKPdf 22 42 09.9 -1.4

	baz=1.3								
KSU1	Kansas State U	134.65	14	ePKPdf	PKPdf	22 42 12.2	+0.4		
KSU1	Kansas State U	134.65	14	P	PKPdf	22 42 10.8	-1.0		
	baz=342								
MVL	Millersville	134.70	352	ePKPdf	PKiKP	22 42 13.2	0.0		
O56A	Blue Knob Stat	134.71	354	P	PKPdf	22 42 12.1	+0.3		
	baz=7.7								
O41A	Passleys Farm,	134.71	7	P	PKPdf	22 42 10.9	-0.9		
	baz=350								
O43A	Sugar Creek Fa	134.72	6	P	PKPdf	22 42 10.6	-1.2		
	baz=353								
O42A	Bath	134.73	6	P	PKPdf	22 42 11.1	-0.7		
	baz=352								
SFIN	Lafayette	134.80	3	P	PKPdf	22 42 11.7	-0.3		
	baz=356								
O55A	Ligonier	134.84	355	P	PKPdf	22 42 10.9	-1.2		
	baz=6.7								
O45A	Potomac	134.89	4	P	PKPdf	22 42 11.5	-0.6		
	baz=355								
O44A	Mansfield	134.93	5	P	PKPdf	22 42 11.2	-1.0		
	baz=354								
O53A	New Philadelph	134.93	357	P	PKPdf	22 42 11.0	-1.3		
	baz=4.0								
O54A	Avella	134.95	356	P	PKPdf	22 42 11.1	-1.2		
	baz=5.2								
O47A	Sheridan	134.98	2	P	PKPdf	22 42 11.1	-1.2		
	baz=357								
O48A	Farmland	134.99	1	P	PKPdf	22 42 11.2	-1.2		
	baz=358								
ACSO	Alum Creek Sta	135.02	359	ePKPdf	PKPdf	22 42 12.8	+0.4		
ACSO	Alum Creek Sta	135.02	359	P	PKPdf	22 42 09.8	-2.6		
	baz=1.6								
ANMO	Albuquerque	135.06	26	ePKPdf	PKiKP	22 42 14.7	+0.4		
ANMO	Albuquerque	135.06	26	P	PKPdf	22 42 10.9	-2.0		
	baz=328								
TUC	Tucson	135.07	33	ePKPdf	PKPdf	22 42 10.8	-2.0		
TUC	Tucson	135.07	33	ePKIKP	PKPdf	22 42 10.8	-2.0		
TUC	Tucson	135.07	33	P	PKPdf	22 42 11.6	-1.3		
	baz=321								
O49A	Covington	135.07	0	ePKPdf	PKPdf	22 42 12.7	+0.2		
O49A	Covington	135.07	0	P	PKPdf	22 42 10.7	-1.7		
	baz=360								
O51A	Pataskala	135.09	358	P	PKPdf	22 42 10.5	-2.0		
	baz=2.1								
O52A	Adamsville	135.10	358	ePKPdf	PKiKP	22 42 14.2	+0.2		
O52A	Adamsville	135.10	358	P	PKPdf	22 42 11.3	-1.3		
	baz=3.2								
O50A	Cable	135.11	360	P	PKPdf	22 42 11.1	-1.5		
	baz=0.7								
P41A	Barry, Barry	135.12	8	P	PKPdf	22 42 11.1	-1.5		
	baz=350								
RIB01	Linhares ES	135.13	248	eP	PKiKP	22 42 21.0	+6.4		
P42A	Winchester	135.30	7	P	PKPdf	22 42 11.3	-1.6		
	baz=351								
P43A	Skaggs, Pawnee	135.34	6	P	PKPdf	22 42 11.5	-1.5		
	baz=352								
MCWV	Mont Chateau	135.43	355	P	PKPdf	22 42 11.4	-1.7		
	baz=6.0								
LENM	Lemitar	135.48	27	ePKPdf	PKiKP	22 42 16.1	+0.9		
P46A	Rosedale	135.55	3	P	PKPdf	22 42 11.8	-1.6		
	baz=356								
P55A	Reedsville	135.58	355	P	PKPdf	22 42 12.5	-1.0		
	baz=6.1								
P52A	Corning	135.59	358	P	PKPdf	22 42 12.0	-1.5		
	baz=2.8								
P44A	Sand Creek, Wi	135.59	5	P	PKPdf	22 42 12.4	-1.0		
	baz=354								
P45A	Graceland, Par	135.60	4	P	PKPdf	22 42 12.0	-1.5		
	baz=355								
BNM	Barren Site	135.65	27	ePKPdf	PKiKP	22 42 16.1	+0.4		
BSFB	Barra de Sao F	135.65	248	eP	PKiKP	22 42 22.1	+6.5		
P50A	Jamestown	135.65	360	P	PKPdf	22 42 12.3	-1.3		
	baz=0.4								
CAM01	Campos-RJ	135.66	244	eP	PKiKP	22 42 22.8	+7.2		
P53A	Whipple	135.70	357	ePKPdf	PKiKP	22 42 14.5	-0.8		
P53A	Whipple	135.70	357	P	PKPdf	22 42 13.7	0.0		
	baz=3.9								
P49A	Miami Univ. Ec	135.72	1	P	PKPdf	22 42 12.4	-1.3		
	baz=359								
P47A	Martinsville	135.73	2	P	PKPdf	22 42 12.1	-1.6		
	baz=357								
P51A	Williamsport	135.77	359	P	PKPdf	22 42 13.5	-0.3		
	baz=1.5								
P48A	Milroy	135.78	1	P	PKPdf	22 42 14.2	+0.4		
	baz=358								
Q41A	Truxton	135.81	8	P	PKPdf	22 42 13.2	-0.6		
	baz=350								
Q42A	Golden Eagle	135.94	7	P	PKPdf	22 42 13.5	-0.6		
	baz=351								
SJMB	Sao Joao De Ma	135.99	248	eP	PKiKP	22 42 22.3	+5.9		
Q43A	New Douglas	136.01	6	P	PKPdf	22 42 14.5	+0.2		
	baz=352								
NBMO	Morrinhos-CE	136.05	270	eP	PKiKP	22 42 21.9	+5.2		
Q55A	Buckhannon	136.11	356	P	PKPdf	22 42 13.8	-0.7		
	baz=5.8								
Q44A	Meyer Farm, Va	136.12	6	P	PKPdf	22 42 14.7	+0.2		
	baz=353								
Q45A	Warren Harvey,	136.20	5	P	PKPdf	22 42 14.5	-0.1		
	baz=354								
DUB01	Friburgo-RJ	136.22	243	eP	PKiKP	22 42 22.4	+5.6		
Q51A	Peebles	136.23	359	ePKPdf	PKiKP	22 42 17.2	+0.8		
Q51A	Peebles	136.23	359	P	PKPdf	22 42 14.8	+0.1		
	baz=1.1								
Q49A	Aurora	136.25	1	P	PKPdf	22 42 13.5	-1.2		
	baz=359								
Q52A	Bidwell	136.26	358	P	PKPdf	22 42 13.8	-0.9		
	baz=2.6								
Q47A	Bedord North L	136.27	3	P	PKPdf	22 42 15.0	+0.2		
	baz=357								
Q48A	North Vernon	136.30	2	P	PKPdf	22 42 13.3	-1.5		
	baz=358								
Q50A	Georgetown	136.41	360	P	PKPdf	22 42 15.5	+0.5		
	baz=0.2								
R41A	Rosebud	136.43	8	P	PKPdf	22 42 14.1	-1.0		
	baz=350								
121A	Cookes Peak, D	136.44	30	P	PKPdf	22 42 13.8	-1.7		
	baz=325								
R42A	Luebbering	136.53	8	P	PKPdf	22 42 14.7	-0.5		
	baz=350								
CBN	Corbin Frederi	136.60	352	P	PKPdf	22 42 15.2	-0.1		
	baz=9.7								
R43A	Red Bud	136.64	7	P	PKPdf	22 42 14.8	-0.7		
	baz=352								
CCM	Cathedral Cave	136.69	8	ePKPdf	PKiKP	22 42 16.5	-0.8		
CCM	Cathedral Cave	136.69	8	P	PKPdf	22 42 14.3	-1.3		
	baz=350								
R44A	Waltonville	136.76	6	P	PKPdf	22 42 15.3	-0.4		
	baz=353								
R45A	Skylar, Fairfi	136.79	5	P	PKPdf	22 42 15.0	-0.7		
	baz=354								
R48A	Northridge Ran	136.83	2	P	PKPdf	22 42 14.5	-1.2		
	baz=357								
R53A	Hurricane	136.88	358	P	PKPdf	22 42 15.0	-0.9		
	baz=3.1								
R52A	Catlettsburg	136.90	358	P	PKPdf	22 42 15.0	-0.9		
	baz=2.1								
R47A	Wooly Knot Far	136.90	3	P	PKPdf	22 42 15.0	-1.0		
	baz=356								
R58B	Mineral	136.91	353	ePKPdf	PKiKP	22 42 17.8	+0.1		
R58B	Mineral	136.91	353	P	PKPdf	22 42 15.9	0.0		
	baz=9.1								
R46A	Gibon Southern	136.93	4	P	PKPdf	22 42 14.4	-1.5		
	baz=355								
R49A	Shelbyville	136.95	1	P	PKPdf	22 42 14.8	-1.2		
	baz=358								
R51A	Hillsboro	136.96	359	P	PKPdf	22 42 16.0	-0.1		
	baz=0.7								
R50A	Paris	136.97	0	P	PKPdf	22 42 15.3	-0.8		
	baz=360								
WCI	Wyandotte Cave	136.98	3	ePKPdf	PKPdf	22 42 16.8	+0.8		
WCI	Wyandotte Cave	136.98	3	P	PKPdf	22 42 15.7	-0.4		
	baz=357								
R54A	Victor	136.98	356	P	PKPdf	22 42 15.7	-0.4		
	baz=4.5								
S42A	Caledonia	137.03	8	P	PKPdf	22 42 14.6	-1.6		
	baz=350								
S41A	Jillco Farms,	137.07	9	P	PKPdf	22 42 15.0	-1.3		
	baz=349								
VAS01	Vassouras-RJ	137.11	242	eP	PKiKP	22 42 24.9	+6.3		
SIUC	Southern Illin	137.27	6	ePKPdf	PKiKP	22 42 18.4	-0.1		
S44A	Carbondale	137.29	6	P	PKPdf	22 42 15.3	-1.4		
	baz=352								
S43A	Fulton Ridge,	137.32	7	P	PKPdf	22 42 16.6	-0.1		
	baz=351								
S45A	Carrier Mills	137.37	5	P	PKPdf	22 42 17.0	+0.2		
	baz=353								
MSTX	Muleshoe	137.44	23	ePKPdf	PKPdf	22 42 14.2	-3.0		
	baz=332								
MSTX	Muleshoe	137.44	23	P	PKPdf	22 42 17.1	-0.1		
	baz=332								
S46A	Don Dixon Farm	137.44	4	P	PKPdf	22 42 16.5	-0.4		
	baz=355								
S49A	Springfield	137.46	1	P	PKPdf	22 42 16.0	-1.0		
	baz=358								
S53A	Williamson	137.54	358	P	PKPdf	22 42 17.0	-0.1		
	baz=2.9								
S48A	Wiedeman Farm,	137.56	2	P	PKPdf	22 42 16.5	-0.7		
	baz=357								
S50A	Richmond	137.58	0	P	PKPdf	22 42 16.8	-0.4		
	baz=360								
S47A	Hartford	137.58	3	P	PKPdf	22 42 16.5	-0.7		
	baz=356								
S51A	Beattyville	137.62	359	ePKPdf	PKPdf	22 42 17.8	+0.5		
S51A	Beattyville	137.62	359	P	PKPdf	22 42 17.2	-0.1		
	baz=0.7								
T42A	Van Buren	137.72	8	ePKPdf	PKPdf	22 42 15.5	-2.0		
T42A	Van Buren	137.72	8	P	PKPdf	22 42 16.4	-1.0		
	baz=350								
T43A	Greenville	137.77	7	P	PKPdf	22 42 16.6	-1.0		
	baz=351								
T44A	Benton	137.85	7	P	PKPdf	22 42 17.0	-0.7		
	baz=352								
TUL1	Leonard	137.88	14	ePKPdf	PKPdf	22 42 18.0	+0.2		
TUL1	Leonard	137.88	14	P	PKPdf	22 42 17.3	-0.5		
	baz=342								
BLA	Blacksburg	137.91	356	P	PKPdf	22 42 17.1	-0.7		
	baz=5.4								
HHAR	Hobbs	137.94	12	ePKPdf	PKPdf	22 42 17.8	-0.2		
T46A	Princeton	138.06	5	P	PKPdf	22 42 18.3	+0.2		
	baz=354								
U40A	Yellville	138.08	11	P	PKPdf	22 42 16.2	-2.0		
	baz=347								
T48A	Bowling Green	138.09	3	P	PKPdf	22 42 16.8	-1.4		
	baz=357								
T49A	Edmonton	138.13	2	ePKPdf	PKPdf	22 42 18.9	+0.6		
T49A	Edmonton	138.13	2	P	PKPdf	22 42 18.1	-0.1		
	baz=358								
T52A	Hallie	138.14	359	P	PKPdf	22 42 17.1	-1.1		
	baz=1.6								
WMOK	Wichita Mounta	138.15	18	ePKPpre	PKPpre	22 42 10.8			
WMOK				ePKPdf	PKPdf	22 42 18.3	-0.1		
WMOK	Wichita Mounta	138.15	18	ePKHKP	PKPpre	22 42 10.8			
WMOK				e		22 42 18.3			
WMOK	Wichita Mounta	138.15	18	P	PKPdf	22 42 17.4	-1.0		
	baz=338								
T47A	Sharon Grove	138.17	4	P	PKPdf	22 42 16.6	-1.7		
	baz=356								
T50A	Nancy	138.23	1	P	PKPdf	22 42 16.2	-2.3		
	baz=359								
U41A	Viola	138.26	10	P	PKPdf	22 42 17.3	-1.2		
	baz=348								
MNTX	Cornudas Mount	138.27	28	ePKPdf	PKPdf	22 42 17.1	-1.6		
MNTX	Cornudas Mount	138.27	28	P	PKPdf	22 42 17.7	-1.0		
	baz=327								
T51A	Gray	138.29	360	P	PKPdf	22 42 17.2	-1.3		
	baz=0.2								
U42A	Revenden	138.36	9	P	PKPdf	22 42 16.4	-2.3		
	baz=349								
U44B	Burton Farm, H	138.62	6	P	PKPdf	22 42 18.7	-0.5		
	baz=352								
U45A	Rockin P Farm,	138.67	6	P	PKPdf	22 42 19.1	-0.2		
	baz=353								
BSCB	Bom Sucesso	138.67	244	eP	PKiKP	22 42 28.8	+6.9		
U48A	Cassie Pea, Po	138.68	3	P	PKPdf	22 42 17.9	-1.3		
	baz=356								
U47A	Clarksville	138.70	4	P	PKPdf	22 42 17.9	-1.4		
	baz=355								
TZTN	Tazewell	138.71	359	ePKPdf	PKPdf	22 42 19.2	-0.2		
TZTN	Tazewell	138.71	359	P	PKPdf	22 42 18.3	-1.1		
	baz=0.8								
U49A	Red Boiling Sp	138.71	2	P	PKPdf	22 42 17.7	-1.6		
	baz=358								
U46A	Springville	138.72	5	P	PKPdf	22 42 17.4	-1.9		
	baz=354								
V41A	Mountainview	138.76	10	P	PKPdf	22 42 18.4	-1.1		
	baz=348								
U50A	Jamestown	138.83	1	P	PKPdf	22 42 17.1	-2.5		
	baz=359								
MCI7	Montes Claros	138.85	250	eP	PKiKP	22 42 29.4	+7.0		
U52A	Thorn Hill	138.86	359	P	PKPdf	22 42 18.0	-1.7		
	baz=1.1								
U53A	Fall Branch	138.87	358	P	PKPdf	22 42 19.2	-0.5		
	baz=2.3								
V42A	Cord	138.87	9	P	PKPdf	22 42 18.5	-1.1		
	baz=349								
U51A	Follette	138.88	360	P	PKPdf	22 42 18.6	-1.1		
	baz=0.1								
MCI6	Montes Claros	138.91	250	eP	PKiKP	22 42 28.7	+6.3		
MCI9	Montes Claros	138.94	250	eP	PKiKP	22 42 27.4	+4.9		
MCI8	Montes Claros	138.97	250	eP	PKiKP	22 42 28.7	+6.1		
WVT	Waverly	138.97	5	ePKPdf	PKPdf	22 42 19.8	0.0		
WVT	Waverly	138.97	5	P	PKPdf	22 42 18.5	-1.3		
	baz=354								
W39A	Magazine	139.02	12	ePKPdf	PKPdf	22 42 20.4	+0.5		
W39A	Magazine	139.02	12	P	PKPdf	22 42 17.9	-2.0		
	baz=345								
V44A	Blytheville	139.06	7	P	PKPdf	22 42 17.1	-2.9		
	baz=349								
WHAR	Wooly Hollow	139.22	10	ePKPdf	PKiKP	22 42 21.6	-0.9		
X37A	Clayton	139.24	14	ePKPpre	PKPpre	22 42 14.7			
V46A	Holladay	139.28	5	P	PKPdf	22 42 19.0	-1.4		
	baz=354								
V47A	Nunnelly	139.30	4	P	PKPdf	22 42 19.6	-0.8		
	baz=355								
W41B	Gary Mavity, V	139.34	10	ePKPdf	PKPdf	22 42 21.1	+0.6		
W41B	Gary Mavity, V	139.34	10	P	PKPdf	22 42 19.7	-0.8		
	baz=348								
W42A	Bald Knob	139.37	9	P	PKPdf	22 42 19.2	-1.4		
	baz=349								
V52A	Sevierville	139.41	359	ePKPdf	PKPdf	22 42 20.9	+0.3		
V52A	Sevierville	139.41	359	P	PKPdf	22 42 20.1	-0.5		
	baz=0.8								
V48A	Smith Brothers	139.43	3	P	PKPdf	22 42 18.9	-1.8		
	baz=356								
V51A	Loudon	139.45	0	ePKPdf	PKiKP	22 42 22.4	-0.6		
V51A	Loudon	139.45	0	P	PKPdf	22 42 20.5	-0.2		
	baz=360								
V49A	McMinnville	139.45	2	P	PKPdf	22 42 19.8	-0.9		
	baz=357								
V53A	Saluda	139.57	358	ePKPdf	PKPdf	22 42 21.9	+1.0		
V53A	Saluda	139.57	358	P	PKPdf	22 42 20.3	-0.7		
	baz=2.0								
V50A	Pikevile	139.57	1	P	PKPdf	22 42 19.6	-1.4		
	baz=358								
TKL	Tuckaleechee C	139.59	360	ePKPdf	PKPdf	22 42 21.4	+0.4		
MIAR	Mount Ida	139.70	12	ePKPdf	PKPdf	22 42 18.2	-2.9		
MIAR	Mount Ida	139.70	12	P	PKPdf	22 42 20.6	-0.6		
	baz=345								
UALR	University of	139.72	11	ePKPdf	PKPdf	22 42 21.7	+0.5		
CPCT	Cooper Cave	139.80	1	ePKPdf	PKPdf	22 42 20.5	-0.8		
ABTX	Abilene, Hawle	139.80	21	ePKPdf	PKPdf	22 42 21.6	+0.1		
W47A	Westpoint	139.86	4	P	PKPdf	22 42 20.4	-1.1		
	baz=355								
X40A	Basin Creek Fa	139.90	11	P	PKPdf	22 42 20.4	-1.1		
	baz=346								
W46A	Michie	139.91	5	P	PKPdf	22 42 21.0	-0.5		
	baz=353								
SWET	Sewanee	140.00	2	ePKPdf	PKPdf	22 42 22.2	+0.4		
W48A	Pulaski	140.02	4	P	PKPdf	22 42 20.0	-1.8		
	baz=356								
KMSC	Kings Mountain	140.03	356	ePKPdf	PKPdf	22 42 20.2	-1.5		
KMSC	Kings Mountain	140.03	356	P	PKPdf	22 42 22.3	+0.5		
	baz=4.3								
W50A	Signal Mountai	140.03	2	P	PKPdf	22 42 21.3	-0.6		
	baz=358								
X42A	Stuttgart	140.06	10	P	PKPdf	22 42 21.4	-0.4		
	baz=348								
W53A	Cullowhee	140.07	359	P	PKPdf	22 42 19.3	-2.8		
	baz=1.4								
W49A	Belvidere	140.08	3	P	PKPdf	22 42 17.3	-4.6		
	baz=357								
W51A	Cleveland	140.09	1	P	PKPdf	22 42 19.3	-2.6		
	baz=359								
PLAL	Pickwick Lake	140.09	5	ePKPdf	PKPdf	22 42 21.6	-0.3		
W52A	Murphy	140.16	360	P	PKPdf	22 42 19.7	-2.3		
	baz=0.3								
X43A	Marvell	140.21	9	P	PKPdf	22 42 18.6	-3.5		
	baz=349								
CNLB	Canela	140.33	229	eP	PKiKP	22 42 30.1	+5.0		
X44A	Crenshaw	140.34	8	P	PKPdf	22 42 18.6	-3.8		
	baz=351								
PAULI	Pauline	140.37	357	ePKPdf	PKPdf	22 42 22.0	-0.4		
OXF	Oxford	140.42	7	ePKPdf	PKPdf	22 42 22.9	+0.4		
OXF	Oxford	140.42	7	P	PKPdf	22 42 19.6	-2.9		
	baz=352								
X46A	Booneville	140.46	6	P	PKPdf	22 42 21.1	-1.4		
	baz=353								
Y41A	Eaglette Beard	140.53	11	P	PKPdf	22 42 20.3	-2.4		
	baz=347								
X47A	Russelville	140.57	5	P	PKPdf	22 42 21.2	-1.5		
	baz=354								
RCLB	Rio Claro- Sao	140.64	240	eP	PKiKP	22 42 30.9	+5.0		
X52A	Dahlonega	140.65	360	P	PKPdf	22 42 20.3	-2.7		
	baz=0.3								
X51A	Calhoun	140.68	1	ePKPdf	PKPdf	22 42 23.0	0.0		
X51A	Calhoun	140.68	1	P	PKPdf	22 42 21.0	-2.0		
	baz=359								
X49A	Woodville	140.68	3	P	PKPdf	22 42 21.3	-1.7		
	baz=356								
X48A	Hartselle	140.70	4	ePKPdf	PKPdf	22 42 22.9	-0.1		
X48A	Hartselle	140.70	4	P	PKPdf	22 42 20.1	-2.9		
	baz=355								
X53A	Estanollee	140.74	359	P	PKPdf	22 42 20.8	-2.3		
	baz=1.2								
TIJ01	Guaruva-PR	140.76	235	eP	PKiKP	22 42 31.5	+5.4		
X50B	Fort Payne	140.76	2	P	PKPdf	22 42 20.8	-2.3		
	baz=358								
Y43A	Makayla and Ka	140.80	9	P	PKPdf	22 42 21.4	-1.7		
	baz=349								
JSC	Jenkinsville	140.88	356	ePKPdf	PKPdf	22 42 23.9	+0.6		
HODGE	Hodges	140.98	358	ePKPdf	PKPdf	22 42 23.7	+0.2		
Y45A	Yeager Farm, C	141.04	7	P	PKPdf	22 42 22.3	-1.3		
	baz=351								
TX31	Lajitas Ar. Si	141.05	28	ePKPpre	PKPpre	22 42 17.6			
TX31				ePKPdf	PKPdf	22 42 25.2	+1.3		
TXAR	Lajitas Array	141.05	28	PKhKP	PKPpre	22 42 18.1			
	comp=Z,1.3nm,0.6s,baz=303,slow=2.0,SNR=15								
TXAR				PKP	PKiKP	22 42 25.4	-1.2		
	comp=Z,7.1nm,0.9s,baz=193,slow=0.6,SNR=23								
Y46A	Houston	141.10	6	P	PKPdf	22 42 22.0	-1.7		
	baz=352								
WHTX	Lake Whitney,	141.11	18	P	PKPdf	22 42 22.0	-1.8		
	baz=338								
Y47A	UCPARC, Winfie	141.18	5	P	PKPdf	22 42 21.6	-2.3		
	baz=354								
Y48A	Jasper	141.22	4	P	PKPdf	22 42 22.4	-1.5		
	baz=355								
Y50A	Piedmont	141.33	2	P	PKPdf	22 42 22.7	-1.4		
	baz=357								
Y49A	Blount Mountai	141.33	3	ePKPdf	PKPdf	22 42 23.0	-1.2		
Y49A	Blount Mountai	141.33	3	P	PKPdf	22 42 22.4	-1.8		
	baz=356								
Y51A	Rockmart	141.34	1	P	PKPdf	22 42 22.1	-2.0		
	baz=358								
Y54A	Tignall	141.36	358	P	PKPdf	22 42 21.6	-2.6		
	baz=2.2								
Y52A	Lilburn	141.38	360	ePKPdf	PKPdf	22 42 23.1	-1.1		
Y52A	Lilburn	141.38	360	P	PKPdf	22 42 22.5	-1.7		
	baz=0.1								
Y53A	Monroe	141.39	359	P	PKPdf	22 42 22.2	-2.1		
	baz=0.8								
JCT	Junction City	141.68	22	ePKPpre	PKPpre	22 42 18.9			
JCT				ePKPdf	PKiKP	22 42 27.1	-0.6		
JCT	Junction City	141.68	22	ePKHKP	PKPpre	22 42 19.0			
JCT				e		22 42 27.2			
JCT	Junction City	141.68	22	P	PKPdf	22 42 21.2	-3.7		
	baz=334								
Z48A	Northport	141.73	5	P	PKPdf	22 42 22.7	-2.1		
	baz=354								
Z46A	Louisville	141.77	7	P	PKPdf	22 42 23.2	-1.8		
	baz=352								
GOGA	Godfrey	141.83	359	ePKPdf	PKPdf	22 42 25.4	+0.4		
GOGA	Godfrey	141.83	359	P	PKPdf	22 42 22.5	-2.6		
	baz=1.0								
Z47A	Carrollton	141.86	5	P	PKPdf	22 42 23.6	-1.5		
	baz=354								
Z51A	Franklin	141.92	1	P	PKPdf	22 42 23.8	-1.5		
	baz=358								
Z53A	Monticello	141.96	359	P	PKPdf	22 42 24.7	-0.6		
	baz=0.8								
Z49A	Columbiana	141.98	3	P	PKPdf	22 42 24.4	-0.9		
	baz=356								
Z55A	Blythe	141.98	357	P	PKPdf	22 42 24.8	-0.6		
	baz=3.1								
Z54A	Sparta	141.99	358	P	PKPdf	22 42 24.6	-0.7		
	baz=2.0								
HPIG		142.03	32	ePKPdf	PKPdf	22 42 25.3	-0.6		
FRTB	Fartura	142.03	238	eP	PKiKP	22 42 35.2	+6.5		
Z52A	Williamson	142.06	0	P	PKPdf	22 42 25.0	-0.5		
	baz=360								
LRAL	Lakeview Retre	142.11	4	ePKPdf	PKPdf	22 42 26.0	+0.4		
LRAL	Lakeview Retre	142.11	4	P	PKPdf	22 42 25.0	-0.6		
	baz=355								
NATX	Nacogdoches	142.12	15	P	PKPdf	22 42 24.6	-1.0		
	baz=343								
144A	Alexander Plac	142.13	9	P	PKPdf	22 42 24.4	-1.2		
	baz=350								
145A	Houston Renfro	142.23	8	P	PKPdf	22 42 24.2	-1.6		
	baz=350								
146A	Union	142.31	7	ePKPdf	PKPdf	22 42 25.2	-0.7		
146A	Union	142.31	7	P	PKPdf	22 42 23.9	-2.1		
	baz=352								
147A	Livingston	142.36	6	P	PKPdf	22 42 24.5	-1.5		
	baz=353								
PLCA

455A	Stateville	144.48	358	P	PKPab	22 42 27.1	-0.9
	baz=1.8						
454A	Quitman	144.52	359	P	PKPbc	22 42 28.6	+0.2
	baz=0.8						
451A	Vernon	144.59	2	ePKPdf	PKPdf	22 42 29.4	-0.6
451A	Vernon	144.59	2	P	PKPdf	22 42 29.3	-0.6
	baz=357						
TRCB	Terra Rica	144.83	237	eP	PKiKP	22 42 37.0	+2.6
KVTX	Kingsville	145.04	22	ePKPdf	PKPdf	22 42 32.6	+1.8
553A	Crawfordville	145.05	1	P	PKPbc	22 42 28.5	-1.6
	baz=359						
552A	Lynn Haven	145.09	2	P	PKPbc	22 42 28.9	-1.3
	baz=358						
557A	Orange Park	145.15	356	P	PKPbc	22 42 29.9	-0.5
	baz=4.1						
556A	Lake Butler	145.20	357	P	PKPbc	22 42 30.3	-0.2
	baz=2.9						
657A	Interlachen	145.59	357	P	PKPdf	22 42 30.6	-1.1
	baz=3.9						
658A	Bunnell	145.71	356	ePKPdf	PKPab	22 42 33.0	+0.5
658A	Bunnell	145.71	356	P	PKPdf	22 42 31.0	-0.9
	baz=5.0						
655A	Horseshoe Beac	145.72	359	P	PKPdf	22 42 31.4	-0.5
	baz=1.5						
656A	Willston	145.83	358	P	PKPdf	22 42 31.6	-0.6
	baz=2.8						
757A	Oxford	146.24	357	P	PKPdf	22 42 32.0	-0.8
	baz=3.6						
CPUP	Villa Florida	146.75	227	PKPbc	PKPbc	22 42 35.4	-0.1
	comp=Z,15nm,0.8s,baz=115,slow=1.5,SNR=23						
CPUP	Villa Florida	146.75	227	ePKPdf	PKPbc	22 42 34.9	-0.6
CPUP				PKPbc	PKPbc	22 42 35.4	-0.1
CPUP	Villa Florida	146.75	227	ePKP2	PKPbc	22 42 34.9	-0.6
LNIG	Linares	146.76	26	ePKPdf	PKPdf	22 42 33.7	-0.2
858A	St. Cloud	146.91	356	P	PKPdf	22 42 33.3	-0.7
	baz=5.0						
857A	Zephyrhills	146.92	357	P	PKPdf	22 42 34.2	+0.1
	baz=3.4						
DWPF	Disney Wildern	147.02	356	ePKPbc	PKPbc	22 42 36.8	+0.6
DWPF	Disney Wildern	147.02	356	P	PKPdf	22 42 33.9	-0.3
	baz=4.8						
DWPF	Disney Wildern	147.02	356	eP	PKiKP	22 42 42.4	+3.6
859A	Kempfer Cattle	147.03	355	P	PKPbc	22 42 35.8	-0.4
	baz=5.8						
ZAIG	Zacatecas	147.04	33	ePKPbc	PKPbc	22 42 37.1	+0.3
957A	Wimauma	147.51	357	P	PKPdf	22 42 36.0	+1.0
	baz=3.4						
959A	Okeechobee	147.56	355	P	PKPdf	22 42 35.3	+0.2
	baz=6.0						
958A	Wauchula	147.56	356	P	PKPdf	22 42 35.3	+0.2
	baz=4.3						
MRA	San Martin	147.74	210	eP	PKPbc	22 42 37.1	-1.1
060A	Indiantown	147.99	354	P	PKPdf	22 42 36.3	+0.5
	baz=7.0						
TCA	Tanti	148.01	213	eP	PKiKP	22 42 40.2	-0.6
GO05	Huala	148.06	199	eP	PKPbc	22 42 39.8	+0.9
058A	Arcadia	148.09	356	P	PKPdf	22 42 36.1	+0.1
	baz=4.3						
059A	Moore Haven	148.13	355	P	PKPdf	22 42 37.0	+1.0
	baz=5.5						
ANWB	Willy Bob	148.54	316	ePKPbc	PKPbc	22 42 40.7	+0.1
ANWB				ePKPab	PKPab	22 42 43.6	-0.3
ANWB	Willy Bob	148.54	316	eP	PKPbc	22 42 40.4	-0.2
ACAN	Cantantal	148.57	208	eP	PKiKP	22 42 41.9	0.0
060Z	West Palm Beac	148.63	354	P	PKPdf	22 42 37.9	+1.0
	baz=6.8						
DEG	La Desirade	148.93	313	e	PKPab	22 42 57.8	+12
SMRT	St. Maarten	149.14	318	ePKPbc	PKPbc	22 42 42.2	+0.1
SMRT	St. Maarten	149.14	318	eP	PKiKP	22 42 42.9	-0.5
061Z	Ochoppi	149.20	354	P	PKPdf	22 42 38.3	+0.5
	baz=6.2						
PEL	Peldehue	149.31	202	ePKPbc	PKPbc	22 42 41.3	-0.9
MLYT	Lee's Yard	149.46	315	eP	PKiKP	22 42 44.0	0.0
SEUS	St. Eustatius	149.47	317	eP	PKPab	22 42 47.1	-0.6
RTCV	Cerro Valdivia	149.53	207	eP	PKPbc	22 42 42.6	-0.2
SABA	Saba	149.56	318	eP	PKPab	22 42 47.6	-0.5
ROC1	El Roble	149.58	202	ePKPbc	PKPbc	22 42 42.4	-0.7
ROC1	El Roble	149.58	202	eP	PKPbc	22 42 42.1	-1.0
AUSP	Uspallata	149.59	205	eP	PKPbc	22 42 43.0	-0.2
DWS	Wesley	149.60	313	eP	PKPdf	22 42 38.4	-0.3
MDPV	Dominica, Penn	149.64	313	eP	PKPbc	22 42 41.9	-1.5
BBSP	Saint Philip	149.66	307	eP	PKPbc	22 42 41.8	-1.7
MDPO	Dominica; Chan	149.69	313	eP	PKPdf	22 42 40.0	+1.2
DLPL	La Plaine	149.70	312	eP	PKPdf	22 42 38.2	-0.7
BBGH	Gun Hill	149.72	307	eP	PKPdf	22 42 35.7	-3.2
APLL	PUNTA DE LOS L	149.77	211	eP	PKPbc	22 42 43.2	-0.2
JRQG	Juriquilla Cam	149.85	32	ePKPbc	PKPbc	22 42 44.1	0.0
RTLS	Leoncito	149.92	206	eP	PKPbc	22 42 44.1	0.0
RTLL	Cerro Villicun	149.95	207	eP	PKPbc	22 42 43.4	-0.4
FDF	Fort de France	150.01	311	ePKPbc	PKPbc	22 42 43.5	-0.8
FDF	Fort de France	150.01	311	eP	PKPbc	22 42 42.2	-2.2
FDF	Fort de France	150.01	311	ePKP2	PKPbc	22 42 43.5	-0.8
STVI	Saint Thomas	150.13	321	ePKPdf	PKPbc	22 42 42.2	-2.2
MOIG	Morelia	150.29	34	ePKPbc	PKiKP	22 42 45.8	-0.2
SLW	Petit Monier	150.29	310	eP	PKiKP	22 42 46.1	+0.3
AMOG	MOGNA	150.29	208	eP	PKPbc	22 42 44.1	-0.6
CUPR	Culebra, Puert	150.37	322	ePKPdf	PKPbc	22 42 42.9	-2.1
SLPA	Patience	150.37	309	eP	PKiKP	22 42 45.7	-0.2
SLB	Belfond	150.48	310	eP	PKiKP	22 42 46.5	+0.2
SLDE	Delcer	150.51	309	eP	PKiKP	22 42 46.8	+0.6
ACLC	CERRO LA CRUZ	150.77	212	eP	PKPbc	22 42 45.2	-0.8
GRTK	Grand Turk	150.79	335	ePKPbc	PKPbc	22 42 45.8	-0.2
HUMP	Col San Antoni	150.84	322	ePKPdf	PKPdf	22 42 41.0	+0.4
HUMP				ePKPbc	PKiKP	22 42 46.9	+0.1
ACCO	Cerro Coronel	150.85	207	eP	PKPbc	22 42 45.9	-0.4
SFAN	Fancy Village	150.85	309	eP	PKiKP	22 42 47.1	+0.1
SVCV	St. Vincent, C	150.90	309	eP	PKiKP	22 42 47.9	+0.8
SSV	Crater Summit	150.90	309	eP	PKiKP	22 42 47.0	-0.2
CYA	Choya	150.91	215	eP	PKPbc	22 42 44.3	-1.9
SVV	Soufriere Volc	150.93	309	eP	PKiKP	22 42 47.4	+0.3
SVB	Belmont	150.98	309	ePKPbc	PKiKP	22 42 48.4	+1.2
SVB	Belmont	150.98	309	eP	PKiKP	22 42 47.8	+0.5
EMPR	Esperanza - Ma	150.99	324	ePKPbc	PKiKP	22 42 48.5	+1.4
SJG	San Juan	151.04	323	ePKPbc	PKiKP	22 42 47.3	0.0
SJG				ePKPab	PKPab	22 42 54.6	+0.5
SJG	San Juan	151.04	323	ePKIKP	PKiKP	22 42 47.3	0.0
SJG				e		22 42 54.6	
FCV	Fort Charlotte	151.04	309	eP	PKiKP	22 42 48.0	+0.6
AROD	Rodeo	151.39	207	eP	PKPbc	22 42 47.4	-0.3
AGP	Aguadilla	151.40	325	ePKPbc	PKiKP	22 42 48.2	+0.2
AGUA	GUANDACOL	151.50	209	eP	PKPbc	22 42 45.7	-1.9
TOSP	Speyside	151.54	305	eP	PKPdf	22 42 43.1	+1.4
BOT	Bacolet	151.76	305	eP	PKPbc	22 42 48.3	-0.2
TPR	Prospect	151.80	305	eP	PKPbc	22 42 48.4	-0.2
GRSS	Sisters	151.84	308	eP	PKPbc	22 42 46.1	-2.5
GRHS	Sauteurs	151.91	308	eP	PKPbc	22 42 48.8	0.0
GO04	Tololo Observa	151.97	205	ePKPdf	PKPdf	22 42 43.7	+1.3
GO04				ePKPbc	PKPbc	22 42 49.5	+0.7
GO04	Tololo Observa	151.97	205	eP	PKPbc	22 42 45.8	-3.1
GRGR	Grenville	151.97	307	ePKPbc	PKiKP	22 42 49.7	+0.4
GRGR	Grenville	151.97	307	eP	PKiKP	22 42 49.7	+0.4
TBH	Brigand Hill	152.42	304	eP	PKPab	22 42 59.1	-1.0
TRN	Trinidad (W)	152.61	305	eP	PKiKP	22 42 52.4	+1.8
TPP	Pointe-a-Pierr	152.83	304	eP	PKiKP	22 42 55.3	+4.3
LCO	Las Campanas	152.93	206	ePKPbc	PKPbc	22 42 48.4	-2.6
LCO	Las Campanas	152.93	206	ePKIKP	PKPpre	22 42 38.1	
LCO				pmax	pmax		
	comp=Z,88nm,1.4s						
SDDR	Presa de Saban	153.08	332	ePKPbc	PKPbc	22 42 50.4	-1.0
AZAP	Zapla	153.51	222	eP	PKPbc	22 42 49.8	-2.7
TEIG	Tepich	154.63	9	ePKPdf	PKPdf	22 42 47.2	+1.1
PTGA	Pitinga	155.56	279	eP	PKPdf	22 42 56.2	+8.6
PB11	IPOC Station P	159.66	222	ePKPdf	PKPdf	22 42 53.6	+0.9
PB11				ePKPab	PKPab	22 43 32.2	+1.1
LPAZ	La Paz	160.72	233	PKP	PKPdf	22 42 54.7	+0.2
	comp=Z,42nm,1.3s,baz=35,slow=3.6,SNR=25						
LPAZ	La Paz	160.72	233	PKIKP	PKPdf	22 42 54.7	+0.2
LPAZ				pmax	pmax		
	comp=Z,22nm,1.2s						
SDV	Santo Domingo	160.79	316	ePKPdf	PKPdf	22 42 55.1	+0.9
SDV				ePKPab	PKPab	22 43 34.8	-1.4
SDV				ePP	PP	22 47 22.9	+4.8
SDV	Santo Domingo	160.79	316	eP	PKPdf	22 42 55.9	+1.7
SDV	Santo Domingo	160.79	316	eP	PKPdf	22 42 55.9	+1.7
OCAC	Ocana	163.06	321	eP	PKPdf	22 42 57.6	+1.2
OCAC	Ocana	163.06	321	eP	PKPdf	22 42 57.6	+1.2
TAMC	Tame, Arauca	163.31	313	eP	PKPdf	22 42 58.8	+2.2
TAMC	Tame, Arauca	163.31	313	eP	PKPdf	22 42 58.8	+2.2
PAMC	Pamplona, Colo	163.32	317	eP	PKPdf	22 42 58.8	+1.6
PAMC	Pamplona, Colo	163.32	317	eP	PKPdf	22 42 58.8	+1.6
BRRC	Barranca, Sant	164.16	319	eP	PKPdf	22 42 57.6	+0.4
BRRC	Barranca, Sant	164.16	319	eP	PKPdf	22 42 57.6	+0.4
ZARC	Zaragoza, Cauc	164.58	323	eP	PKPdf	22 42 57.5	-0.2
ZARC	Zaragoza, Cauc	164.58	323	eP	PKPdf	22 42 57.5	-0.2
RUSC	La Rusia	164.61	314	eP	PKPdf	22 42 57.5	-0.8
RUSC	La Rusia	164.61	314	eP	PKPdf	22 42 57.5	-0.8
JTS	JuntasAbangare	164.82	3	ePKPdf	PKPdf	22 42 59.4	+1.5
JTS				ePKPab	PKPab	22 43 54.8	+1.4
JTS	JuntasAbangare	164.82	3	ePKIKP	PKPdf	22 42 59.4	+1.5
JTS				e		22 43 54.8	
PTBC	PUERTO BERRIO	165.07	320	eP	PKPdf	22 42 56.9	-1.2
PTBC	PUERTO BERRIO	165.07	320	eP	PKPdf	22 42 56.9	-1.2
DBBC	Dabeiba	165.74	327	eP	PKPdf	22 43 01.1	+2.3
DBBC	Dabeiba	165.74	327	eP	PKPdf	22 43 01.1	+2.3
CHIC	Chingaza	165.94	313	eP	PKPdf	22 42 56.6	-2.7
CHIC	Chingaza	165.94	313	eP	PKPdf	22 42 56.6	-2.7
HELC	Santa Helena	166.01	322	eP	PKPdf	22 43 01.1	+1.7
HELC	Santa Helena	166.01	322	eP	PKPdf	22 43 01.1	+1.7
CTAB	Cerro Tablazo,	166.02	315	eP	PKPdf	22 43 01.1	+1.6
CTAB	Cerro Tablazo,	166.02	315	eP	PKPdf	22 43 01.1	+1.6
NORC	Norcasia	166.07	319	eP	PKPdf	22 42 58.4	-0.6
NORC	Norcasia	166.07	319	eP	PKPdf	22 42 58.4	-0.6
ROSC	El Rosal	166.22	315	PKP	PKPdf	22 43 00.7	+1.2
	comp=Z,29nm,0.8s,baz=271,slow=2.9,SNR=19						
ROSC	El Rosal	166.22	315	eP	PKPdf	22 43 00.2	+0.7
ROSC	El Rosal	166.22	315	eP	PKPdf	22 43 00.2	+0.7
RREF	El Recreo	166.88	318	eP	PKPdf	22 43 00.2	-0.1
RREF	El Recreo	166.88	318	eP	PKPdf	22 43 00.2	-0.1
ANIL	Santa Ana	167.22	317	eP	PKPdf	22 42 59.5	-0.7
ANIL	Santa Ana	167.22	317	eP	PKPdf	22 42 59.5	-0.7
YOTC	Yotoco, Valle	168.22	319	eP	PKPdf	22 43 00.1	-0.5
YOTC	Yotoco, Valle	168.22	319	eP	PKPdf	22 43 00.1	-0.5
MARP	Paez Belalcaza	168.78	314	eP	PKPdf	22 43 01.6	+0.3
MARP	Paez Belalcaza	168.78	314	eP	PKPdf	22 43 01.6	+0.3
FLOC	Florencia	169.36	307	eP	PKPdf	22 43 01.1	-0.2
FLOC	Florencia	169.36	307	eP	PKPdf	22 43 01.1	-0.2
PTLC	Puerto Leguiza	169.42	299	eP	PKPdf	22 42 57.8	-3.6
PTLC	Puerto Leguiza	169.42	299	eP	PKPdf	22 42 57.8	-3.6
POPC	Popayan, Colom	169.50	315	eP	PKPdf	22 43 03.1	+1.4
POPC	Popayan, Colom	169.50	315	eP	PKPdf	22 43 03.1	+1.4
SOTA	Rioblanco	169.73	313	eP	PKPdf	22 43 02.5	+0.4
SOTA	Rioblanco	169.73	313	eP	PKPdf	22 43 02.5	+0.4
NNA	Nana	170.00	225	ePKPdf	PKPdf	22 43 02.8	+1.2
NNA	Nana	170.00	225	ePKIKP	PKPdf	22 43 02.8	+1.2
GCUF	Volcan Galeras	170.89	312	eP	PKPdf	22 43 03.7	+1.0
GCUF	Volcan Galeras	170.89	312	eP	PKPdf	22 43 03.7	+1.0
CMBC	Cumbal	171.43	313	eP	PKPdf	22 43 05.0	+2.1
CMBC	Cumbal	171.43	313	eP	PKPdf	22 43 05.0	+2.1
OTAV	Otavalo	172.37	312	ePKPdf	PKPdf	22 43 04.3	+0.9
OTAV				ePKPab	PKPab	22 44 28.4	+0.8
OTAV				ePP	PP	22 48 18.2	0.0
OTAV	Otavalo	172.37	312	ePKIKP	PKPdf	22 43 04.3	+0.9
OTAV				e		22 44 28.5	
OTAV				e		22 48 18.3	

ROM 21 22:33:23.0±0.3, 38.42N±0.02×15.46E±0.02, h121km±2km, ML2.6/8, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSRU	Castanea	0.17	166	P	Pn	22 33 39.5	-0.2
MSRU				S	Sn	22 33 52.1	-0.1
MSRU				AML	AML		
	comp=E,474µm,1.6s						
MSRU				AML	AML		
	comp=N,502µm,1.3s						
MSRU				AML	AML		
	comp=E,474µm,1.6s						
MSRU				AML	AML		
	comp=N,502µm,1.3s						
MSRU				AML	AML		
	comp=E,474µm,1.6s						
MSRU				AML	AML		
	comp=N,502µm,1.3s						
MPNC	Port Mandanici	0.29	197	P	Pn	22 33 39.8	-0.3
MPNC				S	Sn	22 33 52.8	-0.1
MSCL	Scilla	0.32	126	P	Pn	22 33 40.1	-0.1
MSCL				S	Sn	22 33 53.1	-0.1
MSCL				AML	AML		
	comp=E,644µm,0.9s						
MSCL				AML	AML		
	comp=N,481µm,1.4s						
MSCL				AML	AML		
	comp=E,644µm,0.9s						
MSCL				AML	AML		
	comp=N,481µm,1.4s						
MSCL				AML	AML		
	comp=E,644µm,0.9s						
MSCL				AML	AML		
	comp=N,481µm,1.4s						
CEL	Celeste	0.38	115	P	Pn	22 33 40.6	+0.1
CEL				S	Sn	22 33 54.0	+0.4
JOPP	Joppolo	0.38	61	P	Pn	22 33 40.5	0.0
JOPP				S	Sn	22 33 53.6	0.0
JOPP				AML	AML		
	comp=E,276µm,0.2s						
JOPP				AML	AML		
	comp=N,284µm,0.9s						
JOPP				AML	AML		
	comp=E,276µm,0.2s						
JOPP				AML	AML		
	comp=N,284µm,0.9s						
JOPP				AML	AML		
	comp=E,276µm,0.2s						
JOPP				AML	AML		
	comp=N,284µm,0.9s						
MCSR	Castroreale	0.39	205	P	Pn	22 33 41.4	+0.8
MTTG	Motta San Giov	0.46	156	P	Pn	22 33 41.2	+0.3
MTTG				AML	AML		
	comp=E,152µm,0.6s						
MTTG				AML	AML		
	comp=N,194µm,0.7s						
MTTG				AML	AML		
	comp=E,152µm,0.6s						
MTTG				AML	AML		
	comp=N,194µm,0.7s						
MTTG				AML	AML		
	comp=N,194µm,0.7s						
MTTG				AML	AML		
	comp=E,152µm,0.6s						
SOI	Samo	0.59	126	P	Pn	22 33 41.7	+0.1
SOI				S	Sn	22 33 55.6	0.0
MPAZ	Palizzi	0.64	137	P	Pn	22 33 42.2	+0.2
MPAZ				AML	AML		
	comp=E,146µm,1.6s						
MPAZ				AML	AML		
	comp=N,206µm,1.4s						
MPAZ				AML	AML		
	comp=E,146µm,1.6s						
MPAZ				AML	AML		
	comp=N,205µm,1.4s						
MPAZ				AML	AML		
	comp=N,206µm,1.4s						
MPAZ				AML	AML		
	comp=E,146µm,1.6s						
GRI	Girifalco	0.85	62	P	Pn	22 33 44.2	+0.4
GRI				AML	AML		
	comp=E,183µm,0.3s						
GRI				AML	AML		
	comp=N,146µm,0.4s						
GRI				AML	AML		
	comp=E,183µm,0.3s						
GRI				AML	AML		
	comp=N,146µm,0.4s						
CELI	Celico	1.28	40	P	Pn	22 33 48.6	+0.5
CELI				AML	AML		
	comp=E,215µm,1.1s						
CELI				AML	AML		
	comp=N,237µm,1.6s						
CELI				AML	AML		
	comp=E,552µm,1.1s						
CELI				AML	AML		
	comp=N,574µm,1.6s						
CELI				AML	AML		
	comp=E,215µm,1.1s						
CELI				AML	AML		
	comp=E,552µm,1.1s						
CELI				AML	AML		
	comp=N,574µm,1.6s						
CELI				AML	AML		
	comp=N,237µm,1.6s						
LAV9	Lanuvio	3.88	328	AML	AML		
	comp=E,858µm,1.6s						
LAV9				AML	AML		
	comp=E,858µm,1.6s						
LAV9				AML	AML		
	comp=N,622µm,1.0s						
LAV9				AML	AML		
	comp=N,622µm,1.0s						

*IDC **21** 22:48:04.9±0.5, 4.°94N×95.°86E, h0km, mb4.4/17, mb1 4.5/18, mb1mx4.3/30, mbtmp4.4/18, ML3.9/1, Error ellipse: s-maj=22.8km s-min=12.0km az=52.0*
*DJA **21** 22:48:04.5±1.1, 5.°1N±3.°x9.°6E±.°, h12km±7km, M4.7/13, mb4.6/6, mB5.6/1, MLv4.8/13, Mw(mB)5.1/1*
*NEIC **21** 22:48:06.7±0.2, 5.°02N×96.°02E, h10km, mb4.7/25, Error ellipse: s-maj=7.7km s-min=4.9km az=38.0*
NEIC Felt [IV] at Banda Aceh and Sigli.
*ISCJB **21** 22:48:07.4±0.2, 4.°90N±0.°03×95.°89E±0.°03, h29km, mb4.5/69, MS5.0/2, Error ellipse: s-maj=4.5km s-min=3.3km az=38.9*
*MOS **21** 22:48:08.1±1.1, 5.°11N×96.°06E, h33km, mb4.8/35, Error ellipse: s-maj=12.6km s-min=5.8km az=123.2*
*KLM **21** 22:48:11.0, 4.°76N×96.°33E, h4km, mb4.5*

ISC 21 22:48:09.6±0.3, 5.°03N±0.°04×95.°92E±0.°04, h29km, n215, σ1.°78/218, mb4.6/78, 18C-17D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	1.04	79	ePg	Pn	22 48 24.9	-3.4
LHMI	Lhok Sumawe	1.04	79	P	Pn	22 48 26.2	-2.1
LHMI				S	Sn	22 48 40.6	-1.4
KCSI	Kotacane, Aceh	2.38	129	P	Pn	22 48 47.2	+0.5
KCSI				S	Sb	22 49 17.2	-3.5
SNSI	Sinabang, Aceh	2.63	171	P	Pn	22 48 48.0	-2.2
CMBY	CAMPBELL BAY	2.79	315	eP	Pn	22 48 53.6	+1.1
TSI	Tuntungan	3.04	120	P	Pn	22 48 54.9	-1.0
PKDT	Phuket	3.73	40	P	Pn	22 49 06.3	+1.0
PSI	Prapat	3.73	126	Pn	Pn	22 49 06.0	+0.6
	9.6nm,0.3s,baz=360,slow=8.6,SNR=31						
PSI				Sn	Sn	22 49 50.0	+1.6
	10nm,0.3s,baz=359,slow=4.7,SNR=4.6						
PSI	Prapat	3.73	126	ePn	Pn	22 49 04.6	-0.8
PSI				Sn	Sn	22 49 50.0	+1.6
PSI	Prapat	3.73	126	eP	Pn	22 49 04.6	-0.8
PSI						22 49 50.0	
GSI	Gunungsitoli	4.05	156	ePn	Pn	22 49 08.0	-1.8
GSI	Gunungsitoli	4.05	156	P	Pn	22 49 07.5	-2.2
TRTT	Trang	4.67	53	P	Pn	22 49 18.7	+0.4
KULM	Kulim	4.72	87	ePn	Pn	22 49 17.1	-1.9
KULM	Kulim	4.72	87	P	Pn	22 49 17.4	-1.6
IPM	Ipoh	5.12	96	ePn	Pn	22 49 21.9	-2.6
IPM	Ipoh	5.12	96	P	Pn	22 49 22.7	-1.8
SKLT	Songkhla	5.14	65	P	Pn	22 49 26.6	+1.9
MNSI	Mandailing Nat	5.57	139	P	Pn	22 49 30.6	0.0
	85nm,0.6s,0.7nm						
PBSI	Pulau Batu	5.57	155	P	Pn	22 49 27.8	-2.8
FRIM	Kepong	5.96	107	P	Pn	22 49 33.0	-3.0
SISI	Saibi	7.06	153	P	Pn	22 49 49.9	-1.2
KTGM	Kuala Trenggan	7.19	87	P	Pn	22 49 51.7	-1.3
PBA	Port Blair	7.30	335	eP	Pn	22 49 53.3	-1.1
PDSI	Padang	7.44	142	P	Pn	22 50 00.2	+3.8
KGM	Kuang	7.97	112	P	Pn	22 50 01.5	-2.1
PHET	Kaeng Krachan	8.65	25	P	Pn	22 50 17.0	+4.1
	12nm,0.8s,126nm0.1nm						
PATY	Pattaya	9.24	32	P	Pn	22 50 26.8	+5.7
	5.3nm,0.8s,735nm						
SRDT	SRDT	9.79	19	P	Pn	22 50 39.4	+11
SRAK	Srakaew	10.78	34	P	Pn	22 50 48.9	+6.8
	160nm,0.4s,2µm						
UTHA	Uthaitani	11.03	18	P	Pn	22 50 49.7	+4.2
	5.2nm,1.0s,71nm						
UMPA	Umpang Tak	11.48	14	P	Pn	22 50 54.9	+3.1
	18nm,1.0s,167nm						
LHSI	Lahat	11.62	139	P	Pn	22 50 53.3	-0.4
CHAI	Chaiyaphum	12.34	28	P	Pn	22 51 08.1	+4.6
	4.4nm,1.1s,86nm						
PBKT	Sadao Pong	12.50	23	ePn	Pn	22 51 09.0	+3.3
PBKT	Sadao Pong	12.50	23	P	Pn	22 51 08.9	+3.3
	36nm,0.6s						
MDSI	Maura Dua	12.54	139	P	Pn	22 51 02.6	-3.7
SUKH	Sukhothai	12.90	16	P	P	22 51 29.0	+7.4
UTTA	Uttaradit	13.43	19	P	P	22 51 26.6	-0.8
	4.2nm,0.8s						
CM01	Chiang Mai Arr	13.64	12	ePn	Pn	22 51 23.9	+2.6
CM31	Chiang Mai Arr	13.67	12	ePn	P	22 51 26.3	-3.9
CMAR	Chiang Mai Arr	13.67	12	Pn	Pn	22 51 24.8	+3.0
	0.2nm,0.3s,baz=198,slow=14,SNR=24						
CMAR				Lg	Lg	22 55 20.3	
	0.2nm,0.3s,baz=200,slow=31,SNR=6.2						
CMAR				ScP	ScP	23 00 19.2	+1.5
	0.1nm,0.3s,baz=225,slow=3.8,SNR=4.7						
LAMP	Lampang	13.90	15	P	P	22 51 36.3	+3.7
CHTO	Chiang Mai	14.02	12	ePn	Pn	22 51 20.6	-5.9
CHTO	Chiang Mai	14.02	12	eP	Pn	22 51 20.6	-5.9
CHTO	Chiang Mai	14.02	12	P	P	22 51 31.5	-2.5
	88nm,2.0s						
SKNT	Sakolnakorn	14.26	33	P	Pn	22 51 32.7	+2.9
	7.6nm,1.4s						
NONG	Nongkai	14.76	28	P	P	22 51 39.9	-2.3
	0.3nm,1.2s						
PALK	Pallekele	15.29	279	Pn	Pn	22 51 45.8	+2.1
	0.6nm,0.3s,baz=116,slow=12,SNR=3.4						
PALK				Sn	Sn	22 54 26.4	-5.9
	1.1nm,0.3s,baz=296,slow=12,SNR=6.0						
PALK	Pallekele	15.29	279	ePn	Pn	22 51 44.8	+1.1
PALK				eS	Sn

comp=Z,13nm,1.1s
XAN **Xi'an** **31.29 21** *e*P **P** **22 54 27.1 -0.2**
comp=Z,83nm,1.3s
XAN **Xi'an** **31.29 21** *e*P **P** **22 54 27.2 -0.2**
XAN pmax pmax
comp=Z,83nm,1.3s
SMLA **Simla** **31.38 328** *e*P **P** **22 54 27.4 -0.7**
SMLA IAmb IAmb 22 54 30.5
comp=Z,21nm,1.9s
LZH **Lanzhou** **31.76 12** *e*P **P** **22 54 33.4 +1.8**
LZH pP pP 22 54 36.8 -3.6
LZH sP sP 22 54 38.6 -5.4
LZH pmax pmax
comp=Z,23nm,1.0s
DHRM **DHARAMSHALA** **32.72 328** *e*P **P** **22 54 39.0 -1.1**
DHRM IAmb IAmb 22 54 40.4
comp=Z,9.1nm,1.0s
NJ2 **Nanjing** **34.41 36** *e*P **P** **22 54 54.3 -0.3**
NJ2 pmax pmax
comp=Z,11nm,0.5s
GTA **Gaotai** **34.41 5** ⇓P **P** **22 54 55.6 +0.9**
GTA pP pP 22 55 01.3 -2.2
GTA sP sP 22 55 02.8 -4.3
GTA ScP **ScP** **23 01 13.8 +0.5**
GTA ScS **ScS** **23 05 15.4 -0.6**
NIL **Nilore** **35.43 326** *e*P **P** **22 55 02.8 -0.7**
comp=Z,23nm,0.6s
NIL **Nilore** **35.43 326** *e*P **P** **22 55 02.8 -0.7**
NIL pmax pmax
comp=Z,23nm,0.6s
HHC **Hu-ho-hao-te** **38.33 19** *e*P **P** **22 55 29.6 +1.5**
HHC pmax pmax
comp=Z,8.0nm,1.1s
KBL **Kabul** **38.50 323** *e*P **P** **22 55 29.2 -0.5**
comp=Z,4.4nm,0.7s
KBL **Kabul** **38.50 323** *e*P **P** **22 55 29.2 -0.5**
KBL pmax pmax
comp=Z,4.0nm,0.7s
KSH **Kashi** **38.78 335** P **P** **22 55 30.6 -1.3**
KSH sP pP 22 55 37.0 -3.8
KSH PP **PP** **22 57 00.9 -0.2**
KSH S **S** **23 01 24.8 -3.0**
KSH SS **SnSn** **23 04 08.9 -9.5**
KSH pmax pmax
comp=Z,11nm,0.6s
KSH LR LR
comp=Z,800nm,10.4s
KSH LR LR
comp=Z,990nm,12.7s
KSH LR LR
comp=Z,2μm,16.6s
WMQ **Urumqi** **39.31 351** *e*P **P** **22 55 37.1 +0.9**
WMQ LR LR
comp=Z,3μm,22.9s
BJT **Baijiatuan** **39.33 25** *e*P **P** **22 55 37.5 +1.2**
comp=Z,27nm,1.3s
BJT **Baijiatuan** **39.33 25** *e*P **P** **22 55 37.5 +1.2**
BJT pmax pmax
comp=Z,27nm,1.3s
BJI **Beijing** **39.35 25**⇓*e*P **P** **22 55 38.8 +2.3**
BJI pmax pmax
comp=Z,11nm,1.1s
WSAR **Wadi Sarin** **40.26 300** P **P** **22 55 47.1 +2.8**
comp=Z,4.0nm,0.5s,baz=142,slow=7.5,SNR=18
NRN **Naryn** **40.39 337** *e*P **P** **22 55 46.0 +0.5**
comp=Z,5.8nm,1.1s
NRN **Naryn** **40.39 337** *e*P **P** **22 55 46.0 +0.5**
NRN pmax pmax
comp=Z,6.0nm,1.1s
ARSB **Arslanbob** **41.56 334** *e*P **P** **22 55 55.8 +0.8**
comp=Z,12nm,1.0s
BTK **Batken** **41.57 331** *e*P **P** **22 55 57.1 +2.2**
comp=Z,8.2nm,0.8s
BTK **Batken** **41.57 331** *e*P **P** **22 55 57.2 +2.2**
BTK pmax pmax
comp=Z,8.0nm,0.8s
AAK **Ala-Archa** **42.01 336** *e*P **P** **22 55 59.3 +0.7**
comp=Z,4.1nm,0.8s
AAK **Ala-Archa** **42.01 336**⇑*i*P **P** **22 55 59.6 +1.0**
AAK pmax pmax
comp=Z,9.0nm,1.8s
NWAO **Narrogin (SRO)** **42.82 153** P **P** **22 56 04.5 -0.6**
comp=Z,6.6nm,0.9s,baz=346,slow=19,SNR=3.7
MK01 **Makanchi Array** **43.22 346** *e*P **P** **22 56 07.8 -0.4**
MK31 **Makanchi Array** **43.25 346** *e*P **P** **22 56 08.4 0.0**
MK31 **Makanchi Array** **43.25 346** *e*P **P** **22 56 08.4 0.0**
MKAR **Makanchi Array** **43.25 346** P **P** **22 56 08.2 -0.2**
comp=Z,4.3nm,0.8s,baz=162,slow=8.3,SNR=36
MKAR **Makanchi Array** **43.25 346***ce*P **P** **22 56 08.6 +0.1**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MAKZ **Makanchi** **43.33 346** *e*P **P** **22 56 08.9 -0.3**
comp=Z,3.7nm,0.9s
MAKZ **Makanchi** **43.33 346** *e*P **P** **22 56 08.9 -0.3**
MAKZ pmax pmax
comp=Z,4.0nm,0.9s
KSAR **Wonju Array Be** **43.50 38** P **P** **22 56 12.6 +1.9**
KSRS **Korea Array** **43.53 38** P **P** **22 56 12.6 +1.7**
comp=Z,1.9nm,0.7s,baz=216,slow=9.0,SNR=4.0
SONM **Songino Array** **43.59 10** P **P** **22 56 12.5 +1.1**
comp=Z,5.0nm,0.8s,baz=190,slow=8.4,SNR=26
SONA1 **Songino Array** **43.60 10** *e*P **P** **22 56 11.2 -0.3**
ULN **Ulaanbaatar** **43.74 11** *e*P **P** **22 56 09.2 -3.3**
comp=Z,4.3nm,0.9s
ULN **Ulaanbaatar** **43.74 11**⇓*e*P **P** **22 56 11.6 -1.0**
ULN pmax pmax
comp=Z,15nm,2.5s
KK31 **Karatay Array** **44.09 333** *e*P **P** **22 56 16.2 +0.9**
KK31 **Karatay Array** **44.09 333** *e*P **P** **22 56 16.2 +0.9**
DGZ **Jazzator, Alta** **45.09 352**⇓*e*P **P** **22 56 22.5 -0.9**
DGZ pmax pmax
comp=Z,1.0nm,1.0s
WRA **Warramunga Arr** **45.19 125** P **P** **22 56 23.4 -1.1**
comp=Z,2.2nm,0.5s,baz=304,slow=9.5,SNR=17
WRA **Warramunga Arr** **45.19 125** *i* P **P** **22 56 25.7 +1.3**
WRA pmax pmax
comp=Z,2.0nm,0.5s
WRAB **Tennant Creek** **45.19 124** *e*P **P** **22 56 23.2 -1.3**
comp=Z,2.3nm,0.6s
WRAB **Tennant Creek** **45.19 124**⇓*e*P **P** **22 56 23.3 -1.1**
WRAB pmax pmax
comp=Z,20nm,1.6s
AS31 **Alice Springs** **46.75 129** *e*P **P** **22 56 35.6 -1.0**
comp=Z,3.0nm,0.4s
ASAR **Alice Springs** **46.75 129** P **P** **22 56 35.3 -1.4**
comp=Z,4.3nm,0.4s,baz=302,slow=7.8,SNR=56
ASAR ScP **ScP** **23 02 03.8 +2.1**
comp=Z,1.1nm,0.9s,baz=275,slow=4.6,SNR=4.5
AS01 **Alice Springs** **46.78 129** *e*P **P** **22 56 35.4 -1.5**
FORT **Forrest** **47.02 141** *e*P **P** **22 56 40.4 +1.7**
comp=Z,21nm,0.6s
GEYT **Alibeck** **47.49 319** P **P** **22 56 43.6 +1.3**
comp=Z,17nm,0.7s,baz=148,slow=8.7,SNR=62
KURK **Kurchatov** **47.79 345** *e*P **P** **22 56 44.1 -0.1**
comp=Z,37nm,0.9s
KURK **Kurchatov** **47.79 345**⇑*i*P **P** **22 56 44.5 +0.2**
KURK pmax pmax
comp=Z,4.0nm,1.3s
MDJ **Mudanjiang** **49.23 32** P **P** **22 56 55.0 -0.5**
MDJ pmax pmax
comp=Z,12nm,2.5s
ZAA0 **Zalesovo Array** **49.61 351** *e*P **P** **22 56 58.3 +0.1**
comp=Z,13nm,1.4s
ZALV **Zalesovo Beam** **49.61 351** P **P** **22 56 58.1 -0.1**
comp=Z,3.4nm,1.0s,baz=174,slow=6.0,SNR=12
RAYN **Ar Rayn** **51.89 296** *e*P **P** **22 57 16.5 +0.5**
comp=Z,4.6nm,0.8s
RAYN **Ar Rayn** **51.89 296** *e*P **P** **22 57 16.5 +0.5**
RAYN pmax pmax
comp=Z,5.0nm,0.8s
BRVK **Borovoye** **52.30 341** *e*P **P** **22 57 17.7 -0.8**
comp=Z,4.6nm,1.0s
BRVK **Borovoye** **52.30 341**⇓*i*P **P** **22 57 16.9 -1.6**
BRVK pmax pmax
comp=Z,4.0nm,1.1s
KLR **Kul'dur** **53.48 29**⇓*e*P **P** **22 57 26.3 -0.9**
BOD **Bodaibo** **54.53 12** *e*P **P** **22 57 33.5 -1.3**
BOD pmax pmax
comp=Z,6.0nm,1.5s
STKA **Stephens Creek** **56.88 133** P **P** **22 57 51.5 -0.6**
comp=Z,1.8nm,0.6s,baz=317,slow=9.5,SNR=5.5
GNI **Garni** **57.68 315**⇓*e*P **P** **22 57 58.9 +1.0**
GNI pmax pmax
comp=Z,66nm,1.3s
GROC **Groznyy** **58.24 319** *e*P **P** **22 58 01.0 -0.5**
GROC *e* 22 58 52.5
GROC *e* 23 00 10.8
GROC *e*S **S** **23 06 01.3 -0.4**
GROC pmax pmax
comp=Z,21nm,1.0s
TBLG **Delisi** **58.32 317** *e*P **P** **22 58 02.7 +0.5**
comp=Z,14nm,0.8s
TBLG **Delisi** **58.32 317** *e*P **P** **22 58 02.7 +0.5**
TBLG pmax pmax
comp=Z,14nm,0.8s
SVE **Sverdlovsk** **58.68 338** *e*P **P** **22 58 04.1 -0.2**
KMBO **Kilima Mbogo** **58.92 266** P **P** **22 58 10.2 +3.1**
comp=Z,4.7nm,0.8s,baz=64,slow=7.8,SNR=12
ARU **Arti** **59.19 337** P **P** **22 58 07.0 -0.8**
ARU 23 00 15.0
ARU S **S** **23 06 17.1 +3.6**
ARU SS **SS** **23 10 09.7 +1.5**
ZEI **Tsey** **59.32 318** *e*P **P** **22 58 08.0 -1.3**
ZEI pmax pmax
comp=Z,6.0nm,0.8s
NCK **Nalchik** **59.81 318**⇓*e*P **P** **22 58 13.0 +0.5**
NCK pmax pmax
comp=Z,5.0nm,0.6s
KBZ **Khabaz** **60.37 318** P **P** **22 58 15.3 -0.9**
comp=Z,6.3nm,1.1s,baz=147,slow=4.0,SNR=8.2
KIV **Kislovodsk** **60.60 318** *e*P **P** **22 58 17.6 -0.4**
comp=Z,12nm,1.0s
KIV **Kislovodsk** **60.60 318** *e*P **P** **22 58 17.9 -0.1**
KIV pmax pmax
comp=Z,12nm,1.1s
VRH **Novokhopyorsk** **64.26 325** *e*P **P** **22 58 40.2 -1.9**
VRH pmax pmax
comp=Z,10.0nm,0.8s
BR131 **Keskin Array S** **65.62 311** *e*P **P** **22 58 51.0 -0.4**
BRTR **Keskin Array B** **65.62 311** P **P** **22 58 51.0 -0.4**
comp=Z,4.0nm,0.9s,baz=130,slow=6.8,SNR=20
BRTR **Keskin Array B** **65.62 311***ce*P **P** **22 58 50.7 -0.7**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
VSR **Storozhevoye** **65.72 325** *e*P **P** **22 58 48.5 -3.1**
VSR pmax pmax
comp=Z,5.0nm,0.6s
LPSR **Galich'ya Gora** **66.42 326** *e*P **P** **22 58 54.2 -1.9**
LPSR pmax pmax
comp=Z,9.0nm,0.8s
PRGR **Permogore** **67.64 337** *e*P **P** **22 59 02.1 -1.6**
PRGR pmax pmax
comp=Z,15nm,0.9s
OBN **Obninsk** **68.72 328** *i* P **P** **22 59 08.8 -1.7**
OBN *i* 22 59 36.5
OBN *i* 23 01 43.5
OBN pmax pmax
comp=Z,7.0nm,1.0s
TIXI **Tiksi** **69.68 11**⇑*i*P **P** **22 59 13.9 -2.3**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
LSZ **Lusaka** **70.03 252** *e*P **P** **22 59 20.0 +0.5**
comp=Z,5.6nm,0.9s
LSZ **Lusaka** **70.03 252** *e*P **P** **22 59 20.0 +0.5**
LSZ pmax pmax
comp=Z,6.0nm,0.9s
AKASG **Malin Array Be** **71.47 322** P **P** **22 59 26.1 -1.5**
comp=Z,1.2nm,0.5s,baz=90,slow=5.0,SNR=9.7
AKASG **Malin Array Be** **71.47 322***ce*P **P** **22 59 26.2 -1.3**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
KIEV **Kiev** **71.48 322**⇑*e*P **P** **22 59 26.4 -1.2**
KIEV pmax pmax
comp=Z,4.0nm,0.8s
VRI **Vrincioaia** **71.97 317**⇓*i*P **P** **22 59 31.1 +0.4**
VRI **Vrincioaia** **71.97 317** ⇓P **P** **22 59 31.1 +0.4**
PLOR **Plostina** **72.02 317**⇑*i*P **P** **22 59 31.9 +0.9**
PLOR **Plostina** **72.02 317** ⇑P **P** **22 59 31.9 +0.9**
MLR **Muntele Rosu** **72.43 316** *e*P **P** **22 59 33.6 0.0**
comp=Z,14nm,1.2s
MLR **Muntele Rosu** **72.43 316**⇑*i*P **P** **22 59 33.2 -0.4**
MLR **Muntele Rosu** **72.43 316** ⇑P **P** **22 59 33.2 -0.4**
BIZ **Bicaz** **72.61 318**⇓*i*P **P** **22 59 34.1 -0.4**
VOIR **73.04 316**⇑*i*P **P** **22 59 36.1 -1.1**
VOIR **73.04 316** ⇑P **P** **22 59 36.1 -1.1**
ARR **Arges** **73.32 316**⇓*i*P **P** **22 59 38.3 -0.5**
BURAR **Bucovina Array** **73.33 318**⇓*i*P **P** **22 59 39.3 +0.4**
BUR04 **Bucovina Ar. S** **73.33 318** *e*P **P** **22 59 39.0 +0.1**
BUR08 **Bucovina Ar. S** **73.35 318** *e*P **P** **22 59 39.4 +0.4**
LBTB **Lobatse** **74.47 242** *e*P **P** **22 59 48.1 +2.2**
comp=Z,22nm,1.3s
LBTB **Lobatse** **74.47 242** *e*P **P** **22 59 48.1 +2.2**
LBTB pmax pmax
comp=Z,22nm,1.3s
LVZ **Lovozero** **74.82 340**⇓*e*P **P** **22 59 44.9 -2.2**
LVZ pmax pmax
comp=Z,31nm,1.7s
DRGR **74.87 317**⇑*i*P **P** **22 59 48.2 +0.4**
DRGR **74.87 317** ⇑P **P** **22 59 48.2 +0.4**
VSU **Vasula** **74.92 329**⇑*e*P **P** **22 59 47.8 +0.1**
VSU pmax pmax
comp=Z,22nm,1.0s
TRPA **Tarpa** **75.20 318**⇑*i*P **P** **22 59 49.8 +0.2**
BOSA **Boshof** **75.61 239** P **P** **22 59 52.5 0.0**
comp=Z,5.8nm,0.8s,baz=125,slow=2.6,SNR=17
FINES **FINESS Array B** **76.04 332** P **P** **22 59 53.4 -0.7**
comp=Z,2.0nm,0.6s,baz=108,slow=6.4,SNR=16
OJC **Ojcow** **77.28 320** *e*P **P** **23 00 00.6 -0.8**
comp=Z,8.0nm,0.8s
OJC **Ojcow** **77.28 320** *e*P **P** **23 00 00.6 -0.8**
OJC pmax pmax
comp=Z,8.0nm,0.8s
VYHS **Vyhne** **77.69 318** *e*P **P** **23 00 05.9 +2.1**
VYHS **Vyhne** **77.69 318** *e*P **P** **23 00 05.9 +2.1**
ARCES **ARCESS Array B** **78.53 340** P **P** **23 00 07.8 -0.1**
comp=Z,3.3nm,0.7s,baz=99,slow=7.2,SNR=10.0
MORC **Moravsky Berou** **78.67 320**⇓*i*P **P** **23 00 09.4 +0.2**
MORC **Moravsky Berou** **78.67 320** ⇓P **P** **23 00 09.4 +0.2**
DPC **Dobruska-Polom** **79.51 320** *e*P **P** **23 00 14.8 +1.0**
DPC **Dobruska-Polom** **79.51 320** *e*P **P** **23 00 14.8 +1.0**
GEA0 **GERESS Array S** **81.11 319** *e*P **P** **23 00 22.3 -0.2**
GERES **GERESS Array B** **81.11 319** P **P** **23 00 22.5 0.0**
comp=Z,1.7nm,0.7s,baz=112,slow=4.6,SNR=14
KHC **Kasperske Hory** **81.21 319** *e*P **P** **23 00 22.8 -0.1**
KHC **Kasperske Hory** **81.21 319** *e*P **P** **23 00 22.8 -0.1**
WATA **Walderalm** **82.50 317** *e*P **P** **23 00 29.0 -0.9**
comp=Z,1.9nm,0.6s
SQTA **Sankt Quirin** **82.75 317** *e*P **P** **23 00 30.6 -0.5**
comp=Z,2.7nm,0.6s
MOTA **Moosalm** **82.82 317** *i* P **P** **23 00 32.3 +0.7**
comp=Z,4.4nm,1.0s
RETA **Reutte** **83.05 317** *e*P **P** **23 00 32.2 -0.4**
comp=Z,3.6nm,0.5s
FETA **Feichten** **83.07 317** *e*P **P** **23 00 32.7 -0.2**
comp=Z,4.7nm,1.1s
SYO **Syowa Base** **83.23 198**⇑*e*P **P** **23 00 34.3 +1.4**
TORD **Torodi Ar. Bea** **92.97 283** P **P** **23 01 22.1 +1.1**
comp=Z,0.9nm,0.8s,baz=92,slow=4.9,SNR=5.5
IM3 **Indian Mountai** **93.57 23** *e*P **P** **23 01 22.7 -0.1**
PD31 **Pinedale Array** **127.11 23** *e*PKPpre PKPpre 23 07 03.4
TXAR **Lajitas Array** **141.00 28** PKP - **PKPdf** **23 07 36.1 -1.9**
comp=Z,0.1nm,0.4s,baz=282,slow=1.8,SNR=3.8
CPUP **Villa Florida** **146.79 228** PKPbc **PKPbc** **23 07 50.1 +0.3**
comp=Z,2.0nm,0.8s,baz=147,slow=4.2,SNR=5.0

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*JMA **21** 23:02:54.8±0.2,23°.98N×121°.74E,h0km,M3.3*
*TAP **21** 23:02:55.4,24°.01N×121°.75E,h7km,ML3.7,C*
ISC 21 23:02:56.0±0.9,**23°.99N**±0°.02×**121°.77E**±0°.02,**h12**km±6km,
n90,σ1s04/141,**15C-5D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
HWA	**Hwalien** baz=254	**0.15**	**266**	⇓*i*P	**Pg**	**23 02 59.4**	**-0.1**
HWA				*e*S	**Sg**	**23 03 02.8**	**+0.9**
ENLB	**Shoufeng** baz=223	**0.17**	**241**	⇑P	**Pg**	**23 03 00.1**	**+0.2**
ENLB				S	**Sg**	**23 03 04.2**	**+1.6**
TWD	**Chiawan** baz=297	**0.18**	**300**	⇓*i*P	**Pg**	**23 02 59.3**	**-0.7**
TWD				*i* S	**Sg**	**23 03 02.2**	**-0.6**
NACB	**Ninganchiao** baz=318	**0.24**	**320**	⇓P	**Pg**	**23 03 00.3**	**-0.7**
NACB				S	**Sg**	**23 03 04.2**	**-0.3**
ESL	**Shilin** baz=243	**0.35**	**241**	⇑P	**Pg**	**23 03 02.6**	**-0.4**
ENA	**Nanau** baz=360	**0.44**	**357**	⇑P	**Pb**	**23 03 04.5**	**-1.2**
ENA				*e*S	**Sb**	**23 03 11.0**	**-1.2**
NANB	**Nanao** baz=360	**0.44**	**358**	⇑P	**Pb**	**23 03 04.5**	**-1.2**
NANB				S	**Sb**	**23 03 10.8**	**-1.3**
WHF	**Hehuan Shan** baz=287	**0.48**	**289**	⇑P	**Pg**	**23 03 05.0**	**-0.6**
WHF				S	**Sb**	**23 03 12.0**	**-2.0**
CHGB	**Renai** baz=276	**0.55**	**278**	⇑P	**Pb**	**23 03 06.5**	**-1.1**
CHGB				S	**Sb**	**23 03 14.2**	**-1.3**
NNSB	**Datong** baz=320	**0.56**	**321**	⇓P	**Pb**	**23 03 06.7**	**-1.2**
NNSB				S	**Sb**	**23 03 14.4**	**-1.5**
NNS	**Nan Shan** baz=321	**0.58**	**321**	P	**Pb**	**23 03 06.9**	**-1.2**
NNS				S	**Sb**	**23 03 15.3**	**-1.0**
HGSD	**Ruisui** baz=196	**0.59**	**213**	*e*P	**Pb**	**23 03 08.5**	**+0.4**
TWT	**Tachien** baz=294	**0.60**	**296**	*e*P	**Pb**	**23 03 07.8**	**-0.8**
TWT				*e*S	**Sb**	**23 03 16.6**	**-0.4**
TDCB	**Techi** baz=294	**0.62**	**295**	⇓P	**Pb**	**23 03 07.9**	**-0.9**
TDCB				S	**Sb**	**23 03 16.4**	**-1.1**
VWDT	**VWDT** baz=253	**0.62**	**248**	P	**Pb**	**23 03 08.2**	**-0.5**
VWDT				S	**Sb**	**23 03 17.1**	**-0.2**
TWC	**Suao** baz=2.0	**0.62**	**7**	P	**Pb**	**23 03 08.4**	**-0.4**
TWC				S	**Sb**	**23 03 17.0**	**-0.5**
EHY	**Hungye** baz=218	**0.63**	**220**	*e*P	**Pb**	**23 03 08.3**	**-0.7**
EOS1	**EOS1** baz=19	**0.65**	**30**	*e*P	**Pn**	**23 03 10.6**	**-0.3**
EOS1				*e*S	**Sn**	**23 03 22.5**	**+1.3**
ENTT	**Nioudou** baz=334	**0.67**	**344**	P	**Pb**	**23 03 09.0**	**-0.7**
ENTT				*e*S	**Sb**	**23 03 18.8**	**-0.2**
YULB	**Yu-li** baz=213	**0.73**	**216**	*e*P	**Pb**	**23 03 09.7**	**-1.0**
YULB				*e*S	**Sb**	**23 03 21.6**	**+0.9**
TWE	**Neicheng** baz=355	**0.73**	**353**	*e*P	**Pb**	**23 03 09.9**	**-0.8**
TWE				S	**Sb**	**23 03 20.9**	**+0.2**
TWF1	**Yuli** baz=211	**0.77**	**214**	*e*P	**Pg**	**23 03 10.2**	**-0.6**
TWF1				*e*S	**Sn**	**23 03 23.3**	**-0.8**
YHNB	**Yeheng** baz=333	**0.77**	**332**	⇑P	**Pb**	**23 03 10.8**	**-0.5**
YHNB				S	**Sb**	**23 03 21.3**	**-0.5**
SSLB	**Suanglung** baz=266	**0.77**	**255**	⇑P	**Pb**	**23 03 10.5**	**-0.8**
SSLB				S	**Sb**	**23 03 20.8**	**-1.0**
NSK	**Sanguang** baz=332	**0.78**	**331**	⇑P	**Pb**	**23 03 10.9**	**-0.6**
NSK				*e*S	**Sb**	**23 03 22.1**	**0.0**
SMLT	**Sun Moon Lake** baz=271	**0.80**	**263**	⇑*i*P	**Pb**	**23 03 11.3**	**-0.6**
SMLT				S	**Sb**	**23 03 22.4**	**-0.3**
NTC	**Toucheng** baz=4.0	**0.86**	**4**	*e*P	**Pb**	**23 03 13.3**	**+0.4**
EGS	baz=11	**0.87**	**10**	*e*P	**Pb**	**23 03 13.1**	**+0.1**
YUS	**Yu-Shan** baz=233	**0.90**	**237**	*e*P	**Pb**	**23 03 13.1**	**-0.7**
YUS				*e*S	**Sb**	**23 03 26.7**	**+0.9**
LIOB	**Emei** baz=313	**0.95**	**314**	⇑P	**Pn**	**23 03 14.7**	**-0.5**
LIOB				S	**Sb**	**23 03 27.6**	**+0.7**
NSTT	**Nanjuang** baz=312	**0.95**	**313**	⇑P	**Pb**	**23 03 14.3**	**-0.1**
NSTT				S	**Sb**	**23 03 26.5**	**-0.4**
CHKT	**Chengkung** baz=191	**0.96**	**203**	*e*P	**Pg**	**23 03 13.8**	**-0.7**
WJS	**Zhushan** baz=266	**0.97**	**260**	*e*P	**Pn**	**23 03 15.0**	**-0.4**
WJS				*e*S	**Sn**	**23 03 29.5**	**+0.5**
TWQ1	**Liyutan** baz=304	**0.98**	**292**	⇑P	**Pn**	**23 03 15.3**	**-0.2**
TWQ1				*e*S	**Sn**	**23 03 29.4**	**+0.1**
WLTB	**Daxi** baz=329	**0.98**	**331**	*e*P	**Pn**	**23 03 15.2**	**-0.3**
TIPB	**Shuangxi** baz=353	**0.98**	**3**	⇑P	**Pb**	**23 03 15.1**	**+0.2**
WNT	**Mingjian** baz=270	**1.00**	**264**	*e*P	**Pb**	**23 03 15.5**	**-0.3**
WNT				*e*S	**Sn**	**23 03 30.1**	**+0.3**
TWA	**Mucha** baz=352	**1.00**	**350**	P	**Pb**	**23 03 15.4**	**+0.1**
TWA				S	**Sb**	**23 03 28.3**	**-0.2**
TCU	**Taichung** baz=272	**1.01**	**279**	*e*P	**Pn**	**23 03 16.6**	**+0.6**
TCU				*e*S	**Sn**	**23 03 31.9**	**+1.7**
NSY	**Sanyi** baz=305	**1.01**	**295**	P	**Pn**	**23 03 16.0**	**0.0**
NSY				S	**Sn**	**23 03 30.8**	**+0.6**
TATO	**Taipei** baz=336	**1.01**	**346**	*e*P	**Pb**	**23 03 15.4**	**-0.1**
TATO				*e*S	**Sb**	**23 03 29.1**	**+0.3**
TWB1	**Santiao Chiao** baz=5.0	**1.03**	**11**	*e*P	**Pn**	**23 03 16.1**	**-0.3**
TWB1				*e*S	**Sn**	**23 03 30.7**	**0.0**
NMLH	**Miaoli** baz=301	**1.04**	**302**	*e*P	**Pn**	**23 03 16.8**	**+0.3**
NMLH				*e*S	**Sn**	**23 03 31.6**	**+0.5**
ELDTW	**Lidau** baz=219	**1.05**	**221**	*e*P	**Pg**	**23 03 14.5**	**-1.7**
CHN5	**Tsauling** baz=234	**1.07**	**249**	⇑P	**Pn**	**23 03 16.7**	**-0.2**
CHN5				*e*S	**Sn**	**23 03 33.7**	**+1.9**
SBCB	**Hsinchu** baz=315	**1.07**	**318**	*e*P	**Pn**	**23 03 17.2**	**+0.4**
NWF	**Wu-fen Shan** baz=353	**1.08**	**1**	*e*P	**Pb**	**23 03 16.4**	**-0.2**
NWF				*e*S	**Sb**	**23 03 31.3**	**+0.6**
WFSB	**Wu-fen Shan** baz=353	**1.08**	**1**	*e*P	**Pb**	**23 03 16.5**	**-0.1**
WFSB				*e*S	**Sb**	**23 03 31.3**	**+0.7**
WCHH	**Zhanghua** baz=272	**1.11**	**275**	*e*P	**Pn**	**23 03 17.5**	**+0.2**
NCUH	**Zhongli** baz=329	**1.11**	**332**	*e*P	**Pn**	**23 03 18.0**	**+0.6**
WGK	**Gukeng** baz=254	**1.14**	**255**	*e*P	**Pn**	**23 03 19.6**	**+1.8**
WGK				*e*S	**Sn**	**23 03 36.4**	**+3.0**
TWS1	**Kuangyinshan** baz=344	**1.15**	**344**	*e*P	**Pn**	**23 03 19.0**	**+1.1**
TWS1				*e*S	**Sn**	**23 03 36.2**	**+2.5**
WDLH	**Douliu** baz=253	**1.16**	**255**	*e*P	**Pn**	**23 03 17.9**	**-0.2**

YM01	**YM01** baz=352	**1.17**	**351**	*eP*	**Pn**	**23 03 19.4**	**+1.2**
YM01	baz=352			*eS*	**Sn**	**23 03 35.6**	**+1.5**
JYNG	**Yonagunijimaku**	**1.17**	**67**	P	**Pg**	**23 03 17.8**	**-0.7**
JYNG				*eS*	**Sb**	**23 03 33.7**	**+0.4**
YM04	**YM04** baz=335	**1.18**	**350**	*eP*	**Pn**	**23 03 18.7**	**+0.4**
YM05	**YM05** baz=352	**1.19**	**351**	*eP*	**Pn**	**23 03 18.9**	**+0.5**
YM05	baz=352			*eS*	**Sn**	**23 03 36.8**	**+2.2**
YM11	**YM11** baz=350	**1.19**	**352**	*eP*	**Pn**	**23 03 18.3**	**-0.1**
NTST	**Danshui** baz=343	**1.21**	**346**	*eP*	**Pn**	**23 03 20.1**	**+1.5**
YOJ	**Yonaguni jima** baz=69	**1.23**	**67**	*eP*	**Pg**	**23 03 18.8**	**-0.8**
YOJ	**Yonaguni jima**	**1.23**	**67**	P	**Pb**	**23 03 19.1**	**0.0**
YOJ				*eS*	**Sb**	**23 03 36.0**	**+1.0**
STYT	**Tauyuan** baz=214	**1.24**	**229**	*eP*	**Pn**	**23 03 19.2**	**0.0**
TPUB	**Ta-pu** baz=234	**1.25**	**237**	*eP*	**Pn**	**23 03 19.4**	**+0.1**
TPUB	baz=234			*eS*	**Sn**	**23 03 37.1**	**+1.1**
CHN4	**Tsaushan** baz=237	**1.25**	**240**	*eP*	**Pn**	**23 03 20.4**	**+1.1**
CHN2	**Minshiung** baz=247	**1.27**	**249**	*eP*	**Pn**	**23 03 22.2**	**+2.7**
WTP	**Ta-pu** baz=220	**1.29**	**235**	*eP*	**Pn**	**23 03 20.4**	**+0.6**
RLNB	**Erlin** baz=267	**1.29**	**266**	*eP*	**Pn**	**23 03 21.1**	**+1.3**
RLNB	baz=267			*eS*	**Sn**	**23 03 39.6**	**+2.5**
CHY	**Chiayi** baz=246	**1.32**	**249**	*eP*	**Pb**	**23 03 21.0**	**+0.3**
TWGBT	**Beinan** baz=193	**1.32**	**209**	*eP*	**Pn**	**23 03 18.6**	**-1.7**
TWG	**Pinlang** baz=193	**1.33**	**209**	*eP*	**Pn**	**23 03 18.9**	**-1.4**
TWK	**Hsinying** baz=236	**1.38**	**239**	*eP*	**Pb**	**23 03 21.5**	**-0.1**
TWK	baz=236			*eS*	**Sn**	**23 03 42.9**	**+3.7**
CHN1	**Nanshi** baz=233	**1.39**	**235**	*eP*	**Pg**	**23 03 22.1**	**-0.6**
SLGT	**Liugui** baz=212	**1.43**	**226**	*eP*	**Pg**	**23 03 22.6**	**-0.8**
ECL	**Taimali** baz=195	**1.57**	**209**	*eP*	**Pb**	**23 03 24.6**	**-0.5**
SSD	**Sandimen** baz=209	**1.62**	**220**	*eP*	**Pn**	**23 03 23.6**	**-0.8**
TWM1	**Shoushan** baz=214	**1.69**	**227**	*eP*	**Pg**	**23 03 27.8**	**-0.7**
MASBT	**Mashibuluo** baz=208	**1.72**	**218**	*eP*	**Pn**	**23 03 25.9**	**+0.1**
EAST	**Anshuo** baz=198	**1.81**	**208**	*eP*	**Pn**	**23 03 27.3**	**+0.3**
IRIF	**Iriomote-Funau**	**1.83**	**79**	P	**Pn**	**23 03 27.5**	**+0.3**
IRIF				*eS*	**Sn**	**23 03 52.0**	**+1.8**
SCZT	**Fangliau** baz=213	**1.92**	**214**	*eP*	**Pn**	**23 03 28.7**	**+0.2**
LAY	**Lan-yu** baz=188	**1.95**	**186**	*eP*	**Pn**	**23 03 26.4**	**-2.5**
JKRS	**Kuro-shima**	**2.06**	**83**	P	**Pn**	**23 03 31.2**	**+0.8**
JKRS				*eS*	**Sn**	**23 03 58.2**	**+2.1**
WDGT	**Dungji** baz=246	**2.06**	**250**	*eP*	**Pn**	**23 03 31.6**	**+1.1**
PHUB	**P'eng-hu** baz=254	**2.07**	**257**	*eP*	**Pn**	**23 03 30.7**	**+0.2**
PNG	**Penghu** baz=255	**2.07**	**259**	*eP*	**Pn**	**23 03 31.1**	**+0.6**
JIJ	**Ishigaki jima**	**2.20**	**80**	P	**Pn**	**23 03 32.4**	**0.0**
JIJ				S	**Sn**	**23 03 58.8**	**-0.7**
VCHM	**Qimei** baz=246	**2.28**	**251**	*eP*	**Pn**	**23 03 33.2**	**-0.3**
JISG	**Ishigakijimahi**	**2.40**	**75**	P	**Pn**	**23 03 34.9**	**-0.1**
JISG				S	**Sn**	**23 04 02.9**	**-1.4**
MATB	**Ma-tsu** baz=315	**2.71**	**323**	*eP*	**Pb**	**23 03 42.5**	**-1.9**
KNMB	**Chin-men Tao** baz=273	**3.12**	**279**	*eP*	**Pn**	**23 03 45.1**	**+0.2**

*IDC **21** 23:03:28.7±0.9, 4°.84N×95°.74E, h0km, mb3.9/8, mb1 4.0/10, mb1mx3.7/42, mbtmp3.9/10, ML3.9/2, Error ellipse: s-maj=37.0km s-min=14.8km az=51.0*
*ISCJB **21** 23:03:29.8±0.6, 4°.98N±0°.05×95°.76E±0°.05, h10km, mb3.8/9, Error ellipse: s-maj=8.2km s-min=5.8km az=148.6*
*DJA **21** 23:03:30.2±1.3, 5°.N±4°×9°.6E±°, h17km±14km, M4.6/9, mb4.7/4, MLv4.6/9*

ISC 21 23:03:30.9±0.7, **4°.96N**±0°.06×**95°.83E**±0°.06, **h10**km, **n27,** σ**2**§**01**/23, **mb3.9**/9, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**1.15**	**77**	P	**Pb**	**23 03 51.3**	**-1.5**
LHMI				S	**Sb**	**23 04 06.7**	**-1.1**
KCSI	**Kotacane, Aceh**	**2.41**	**126**	P	**Pn**	**23 04 10.7**	**+0.2**
KCSI				S	**Sn**	**23 04 44.6**	**+4.5**
SNSI	**Sinabang, Aceh**	**2.59**	**169**	P	**Pn**	**23 04 12.7**	**-0.1**
PSI	**Prapat** 12nm,0.3s,baz=360,slow=7.7,SNR=50	**3.77**	**125**	Pn	**Pn**	**23 04 30.6**	**+1.5**
PSI	9.4nm,0.3s,baz=0.6,slow=4.4,SNR=4.5			Sn	**Sn**	**23 05 16.7**	**+3.0**
PKDT	**Phuket**	**3.83**	**40**	P	**Pg**	**23 04 41.8**	**-2.6**
GSI	**Gunungsitoli**	**4.03**	**154**	P	**Pn**	**23 04 34.9**	**+2.1**
TRTT	**Trang**	**4.79**	**53**	P	**Pn**	**23 04 45.6**	**+2.5**
PBSI	**Pulau Batu**	**5.55**	**154**	P	**Pn**	**23 04 55.4**	**+1.7**
PBSI				S	**Sn**	**23 05 55.8**	**-1.9**
MNSI	**Mandailing Nat**	**5.58**	**138**	P	**Pn**	**23 04 55.6**	**+1.5**
PATY	**Pattaya** 3.9nm,0.6s	**9.34**	**32**	P	Pn	23 05 56.8	+11
SRAK	**Srakaew** 48nm,0.7s,978nm	**10.88**	**34**	P	Pn	23 06 12.4	+5.6
UMPA	**Umpang Tak**	**11.56**	**15**	P	Pn	23 06 19.0	+2.8
PBKT	**Sadao Pong**	**12.59**	**23**	P	Pn	23 06 32.3	+2.1
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=204,slow=15,SNR=5.0	**13.75**	**13**	Pn	**Pn**	**23 06 47.5**	**+1.4**
CMAR	0.3nm,0.3s,baz=198,slow=28,SNR=5.1			Lg	Lg	23 10 51.5	
CHTO	**Chiang Mai**	**14.10**	**12**	P	P	23 07 08.6	+10
H08S2	**Diego Garcia H** baz=62,slow=75,SNR=92	**26.43**	**242**	T	T	23 36 09.8	
H08S3	**Diego Garcia H** baz=62,slow=75,SNR=146	**26.43**	**242**	T	T	23 36 20.2	
H08S1	**Diego Garcia H** baz=62,slow=75,SNR=74	**26.45**	**242**	T	T	23 36 21.3	
MKAR	**Makanchi Array** 0.5nm,0.8s,baz=153,slow=6.5,SNR=4.3	**43.28**	**346**	P	**P**	**23 11 32.2**	**-0.6**
SONM	**Songino Array** 0.5nm,0.5s,baz=187,slow=9.6,SNR=4.7	**43.67**	**10**	P	**P**	**23 11 35.7**	**-0.3**
WRA	**Warramunga Arr** 1.9nm,0.8s,baz=304,slow=9.2,SNR=8.8	**45.23**	**124**	P	**P**	**23 11 47.0**	**-1.7**
ASAR	**Alice Springs** 3.3nm,0.5s,baz=300,slow=7.9,SNR=28	**46.78**	**129**	P	**P**	**23 11 59.9**	**-1.1**
GEYT	**Alibeck** 2.1nm,0.7s,baz=152,slow=9.6,SNR=8.8	**47.48**	**319**	P	**P**	**23 12 06.9**	**+0.7**
AKTO	**Aktyubinsk** 0.3nm,0.3s,baz=45,slow=5.7,SNR=2.8	**55.29**	**332**	P	**P**	**23 13 06.8**	**+2.3**
STKA	**Stephens Creek** 0.7nm,0.5s,baz=330,slow=16,SNR=2.1	**56.90**	**133**	P	**P**	**23 13 15.9**	**-0.5**
BRTR	**Keskin Array B** 0.6nm,0.7s,baz=133,slow=5.6,SNR=3.3	**65.59**	**311**	P	**P**	**23 14 13.2**	**-2.1**
GERES	**GERESS Array B** 0.4nm,0.5s,baz=270,slow=0.9,SNR=3.3	**81.10**	**319**	P	**P**	**23 15 48.0**	**+1.4**

*IDC **21** 23:08:51.5±0.6, 4°.91N×95°.99E, h0km, mb4.1/14, mb1 4.2/15, mb1mx4.0/37, mbtmp4.1/15, ML4.0/1, MS5.4/1, Ms1 5.4/1, ms1mx3.9/39, Error ellipse: s-maj=35.5km s-min=12.7km az=47.0*
*NEIC **21** 23:08:53.4±0.3, 5°.01N×96°.08E, h10km, mb4.2/2, Error ellipse: s-maj=11.9km s-min=6.3km az=218.0*
*ISCJB **21** 23:08:56.7±1.3, 5°.07N±0°.07×96°.20E±0°.09, h49km±12km, mb4.1/18, MS5.5/1, Error ellipse: s-maj=16.1km s-min=9.1km az=151.3*

ISC 21 23:08:57.7±0.5, **5°.11N**±0°.07×**96°.2E**±0°.1, **h39**km±8km, **n41,** σ**1**§**05**/44, **mb4.2**/18, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**0.76**	**81**	*eP*n	**Pn**	**23 09 13.0**	**+1.0**
LHMI				*eS*n	**Sn**	**23 09 21.0**	**-1.3**
PSI	**Prapat** 12nm,0.3s,baz=360,slow=17,SNR=12	**3.56**	**130**	Pn	**Pn**	**23 09 51.2**	**+0.7**
PSI	4.0nm,0.3s,baz=0.0,slow=4.0,SNR=3.2			Sn	**Sn**	**23 10 33.5**	**+2.0**
GSI	**Gunungsitoli**	**4.02**	**160**	*eP*n	**Pn**	**23 09 55.3**	**-1.5**
KULM	**Kulim**	**4.45**	**87**	*eP*n	**Pn**	**23 10 02.6**	**0.0**
IPM	**Ipoh**	**4.85**	**97**	*eP*n	**Pn**	**23 10 08.6**	**+0.3**
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=209,slow=9.2,SNR=1.9	**13.54**	**11**	Pn	**P**	**23 12 13.1**	**-2.6**
H08S2	**Diego Garcia H** baz=62,slow=75,SNR=61	**26.82**	**242**	T	T	23 41 41.9	
H08S3	**Diego Garcia H** baz=62,slow=75,SNR=41	**26.82**	**242**	T	T	23 41 28.3	
H08S1	**Diego Garcia H** baz=62,slow=75,SNR=18	**26.84**	**242**	T	T	23 41 33.9	
WSAR	**Wadi Sarin** 2.6nm,0.6s,baz=139,slow=12,SNR=4.1	**40.45**	**300**	P	**P**	**23 16 34.5**	**+1.8**
MK31	**Makanchi Array**	**43.23**	**346**	*eP*	**P**	**23 16 54.6**	**-0.5**
MK32	**Makanchi Array**	**43.23**	**346**	*eP*	**P**	**23 16 55.6**	**+0.4**
MKAR	**Makanchi Array** 1.4nm,0.8s,baz=153,slow=8.2,SNR=11	**43.23**	**346**	P	**P**	**23 16 55.6**	**+0.4**
SONA0	**Songino Array**	**43.46**	**10**	*eP*	**P**	**23 16 59.2**	**+2.1**
SONA0				*ePP*	**PcP**	**23 18 45.0**	**+0.2**
SONM	**Songino Array** 1.0nm,0.8s,baz=188,slow=8.8,SNR=7.8	**43.46**	**10**	P	**P**	**23 16 59.2**	**+2.1**
SONM	0.4nm,0.5s,baz=186,slow=5.4,SNR=3.5			PcP	**PcP**	**23 18 45.0**	**+0.2**
WR1	**Warramunga Arr**	**45.01**	**125**	*eP*	**P**	**23 17 09.2**	**-0.6**
WR1				*ePcP*	**PcP**	**23 18 50.5**	**0.0**
WRA	**Warramunga Arr** 1.5nm,0.6s,baz=302,slow=9.2,SNR=24	**45.01**	**125**	P	**P**	**23 17 09.2**	**-0.6**
WRA	1.1nm,0.6s,baz=315,slow=2.7,SNR=9.6			PcP	**PcP**	**23 18 50.5**	**0.0**
AS31	**Alice Springs** 1.2nm,0.6s	**46.59**	**129**	*eP*	**P**	**23 17 21.0**	**-1.2**
ASAR	**Alice Springs** 4.8nm,0.8s,baz=299,slow=7.8,SNR=32	**46.59**	**129**	P	**P**	**23 17 21.8**	**-0.4**
ASAR	0.8nm,0.7s,baz=310,slow=3.7,SNR=5.8			PcP	**PcP**	**23 18 56.2**	**+0.3**
AS01	**Alice Springs**	**46.63**	**129**	*eP*	**P**	**23 17 21.6**	**-0.8**
GEYT	**Alibeck** 7.6nm,0.8s,baz=148,slow=8.7,SNR=24	**47.61**	**319**	P	**P**	**23 17 31.0**	**+1.1**
JCJ	**Chichijima** comp=Z,4µm,18.4s,baz=108,slow=36	**48.93**	**58**	LR	LR	23 38 27.5	
ZALV	**Zalesovo Beam** 0.6nm,0.5s,baz=167,slow=8.4,SNR=3.8	**49.57**	**351**	P	**P**	**23 17 44.5**	**-0.2**
ZAA1	**Zalesovo Array**	**49.57**	**351**	*eP*	**P**	**23 17 44.5**	**-0.3**
RAYN	**Ar Rayn** 2.3nm,0.6s	**52.10**	**296**	*eP*	**P**	**23 18 03.6**	**-0.7**
AKTO	**Aktyubinsk** 0.9nm,0.8s,baz=107,slow=8.1,SNR=3.9	**55.34**	**331**	P	**P**	**23 18 26.9**	**-0.6**
STKA	**Stephens Creek** 2.3nm,0.5s,baz=320,slow=6.2,SNR=9.4	**56.73**	**134**	P	**P**	**23 18 37.5**	**-0.4**
KMBO	**Kilima Mbogo** 1.5nm,0.7s,baz=36,slow=7.8,SNR=4.4	**59.20**	**266**	P	**P**	**23 18 57.3**	**+1.6**
MMAI	**Mount Meron Ar** 2.0nm,0.7s,baz=110,slow=7.2,SNR=4.3	**62.85**	**304**	P	**P**	**23 19 19.6**	**-0.3**
BR101	**Keskin Array S**	**65.77**	**311**	*eP*	**P**	**23 19 38.2**	**-0.9**
BR131	**Keskin Array S**	**65.77**	**311**	*eP*	**P**	**23 19 38.6**	**-0.5**
BRTR	**Keskin Array B** 2.3nm,0.8s,baz=131,slow=7.4,SNR=14	**65.77**	**311**	P	**P**	**23 19 38.2**	**-0.9**
AKASG	**Malin Array Be** 0.3nm,0.5s,baz=87,slow=5.8,SNR=4.7	**71.58**	**322**	P	**P**	**23 20 13.4**	**-1.5**
AKBB	**Malin Array Si**	**71.58**	**322**	*eP*	**P**	**23 20 13.4**	**-1.5**
ARA0	**ARCESS Array S**	**78.54**	**340**	*eP*	**P**	**23 20 54.5**	**-0.2**
ARCES	**ARCESS Array B** 5.4nm,1.0s,baz=101,slow=5.1,SNR=4.1	**78.54**	**340**	P	**P**	**23 20 54.5**	**-0.2**
GERES	**GERESS Array B** 1.0nm,0.8s,baz=90,slow=5.3,SNR=6.6	**81.23**	**318**	P	**P**	**23 21 09.7**	**-0.1**
TORD	**Torodi Ar. Bea** 0.8nm,0.6s,baz=98,slow=5.5,SNR=6.0	**93.22**	**283**	P	**P**	**23 22 09.5**	**+0.7**
TOA1	**Torodi Ar. Sit**	**93.22**	**283**	*eP*	**P**	**23 22 09.5**	**+0.7**
NVAR	**Mina Array Bea** 0.3nm,0.6s,baz=325,slow=2.3,SNR=4.4	**126.16**	**33**	PKP	**PKiKP**	**23 27 57.6**	**+0.5**
CPUP	**Villa Florida** 3.2nm,0.8s,baz=68,slow=6.6,SNR=5.9	**147.05**	**227**	PKPbc	**PKPdf**	**23 28 34.5**	**-0.5**

*IDC **21** 23:29:41.9±1.4, 37°.20N×144°.13E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/29, mbtmp3.5/6, ML3.2/1, Error ellipse: s-maj=30.7km s-min=28.8km az=85.0*
*ISCJB **21** 23:29:44.4±0.8, 37°.48N±0°.04×143°.72E±0°.06, h33km, mb3.5/5, Error ellipse: s-maj=6.5km s-min=5.6km az=18.3*
*JMA **21** 23:29:45.8±0.2, 37°.48N×143°.62E, h57km, M3.8*

ISC 21 23:29:46.8±1.1, **37°.48N**±0°.05×**143°.77E**±0°.08, **h35**km, **n24,** σ**2**§**40**/39, **mb3.5**/5, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.00**	**295**	P	**Pn**	**23 30 16.8**	**-1.2**
JIKH				*eS*	**Sn**	**23 30 39.6**	**-2.2**
JIO	**Ouri**	**2.14**	**298**	P	**Pn**	**23 30 18.9**	**-1.1**
JIO				S	**Sn**	**23 30 43.4**	**-1.9**
JKMT	**Kesennumamotoy**	**2.24**	**307**	P	**Pn**	**23 30 20.1**	**-1.3**
JKMT				S	**Sn**	**23 30 45.7**	**-2.1**
OFUJ	**Ofunato**	**2.29**	**315**	P	**Pn**	**23 30 20.8**	**-1.3**
OFUJ				*eS*	**Sn**	**23 30 47.0**	**-2.1**
JFK	**Kawauchi**	**2.30**	**268**	P	**Pn**	**23 30 20.6**	**-1.7**
JFK				*eS*	**Sn**	**23 30 46.1**	**-3.4**
JMK	**Ichinoseki**	**2.48**	**307**	P	**Pn**	**23 30 23.7**	**-1.0**
JMK				*eS*	**Sn**	**23 30 52.1**	**-1.7**
JFT	**Otama**	**2.73**	**272**	P	**Pn**	**23 30 27.6**	**-0.5**
JFT				S	**Sn**	**23 30 57.8**	**-2.0**
JOM	**Ohasama**	**2.78**	**316**	P	**Pn**	**23 30 28.0**	**-0.8**
JOM				S	**Sn**	**23 30 59.4**	**-1.6**
JYK	**Kaneyama**	**3.04**	**299**	P	**Pn**	**23 30 32.0**	**-0.4**
JYK				*eS*	**Sn**	**23 31 06.7**	**-0.9**
JANG	**Nango**	**3.38**	**329**	P	**Pn**	**23 30 36.4**	**-0.6**
JANG				*eS*	**Sn**	**23 31 13.0**	**-2.8**
JAG	**Ashikaga**	**3.61**	**254**	P	**Pn**	**23 30 39.0**	**-1.2**
JAG				S	**Sn**	**23 31 18.3**	**-3.4**
BSO1	**Boso 1**	**3.62**	**219**	P	**Pn**	**23 30 37.9**	**-1.9**
JRY	**Ryogami san**	**4.17**	**251**	P	**Pn**	**23 30 46.4**	**-1.6**
JRY				S	**Sn**	**23 31 30.7**	**-4.8**
JOD2	**Odawara 2**	**4.38**	**241**	*eS*	**Sn**	**23 31 35.4**	**-5.2**
JOT	**Ohata**	**4.42**	**332**	*eS*	**Sn**	**23 31 37.9**	**-3.7**
MJAR	**Matsushiro Ar** 1.0nm,0.3s,baz=93,slow=14,SNR=30	**4.54**	**260**	Pn	**Pn**	**23 30 53.2**	**+0.1**
MJAR	0.1nm,0.3s,baz=75,slow=39,SNR=5.4			Sn	**Sn**	**23 31 44.3**	**-0.4**
MAT	**Matsushiro**	**4.55**	**260**	P	**Pn**	**23 30 53.8**	**+0.7**
MAT				S	**Sn**	**23 31 43.6**	**-1.1**
JCH	**Churui**	**5.13**	**357**	P	**Pn**	**23 30 59.4**	**-1.7**
JCH				*eS*	**Sn**	**23 31 54.3**	**-4.8**
ASAJ	**Asahikawa** 1.1nm,0.3s,baz=204,slow=13,SNR=6.5	**6.68**	**353**	Pn	**Pn**	**23 31 21.5**	**-0.9**
ASAJ	0.7nm,0.3s,baz=53,slow=19,SNR=5.0			Sn	**Sn**	**23 32 34.1**	**-3.2**
SONM	**Songino Array** 0.2nm,0.4s,baz=90,slow=8.6,SNR=2.6	**29.11**	**303**	P	**P**	**23 35 47.8**	**+3.6**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=90,slow=5.9,SNR=3.7	**43.00**	**312**	P	P	23 37 46.7	+4.2
MKAR	**Makanchi Array** 0.3nm,0.9s,baz=79,slow=7.5,SNR=4.5	**45.47**	**302**	P	**P**	**23 38 06.1**	**+3.7**
ILAR	**Eielson Array** 0.6nm,0.8s,baz=260,slow=6.1,SNR=7.3	**48.11**	**33**	P	**P**	**23 38 23.1**	**+0.4**
WRA	**Warramunga Arr** 0.5nm,0.6s,baz=11,slow=6.2,SNR=2.9	**57.80**	**190**	P	**P**	**23 39 33.6**	**-1.0**

IDC 21 23:32:39.9±2.3, **7°.78S**×**127°.37E, h0**km, **mb3.4**/1, **mb1 3.5**/3, **mb1mx3.3**/25, **mbtmp3.3**/3, **ML3.3**/2, **Error ellipse: s-maj=283.7km s-min=33.2km az=63.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=328,slow=14,SNR=11	**13.85**	**152**	Pn	Pn	23 35 57.0	-0.5
WRA	0.5nm,0.3s,baz=338,slow=22,SNR=9.3			Sn	Sn	23 38 19.9	-12
ASAR	**Alice Springs** 0.1nm,0.3s,baz=342,slow=9.2,SNR=5.0	**16.99**	**159**	Pn	Pn	23 36 39.6	+0.5
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=125,slow=7.9,SNR=4.1	**67.48**	**328**	P	P	23 43 37.7	0.0

*ISCJB **21** 23:39:22.6±0.4, 19°.87S±0°.03×69°.07W±0°.07, h107km±4km, mb3.8/6, Error ellipse: s-maj=11.0km s-min=5.4km az=172.1*

*GUC **21** 23:39:24.1±0.6, 19°.90S×69°.16W, h102km±2km, ML4.2*
*IDC **21** 23:39:25.3±1.4, 19°.98S×68°.80W, h118km±14km, mb3.6/7, mb1 3.9/11, mb1mx3.6/31, mbtmp4.1/11, Error ellipse: s-maj=21.9km s-min=13.6km az=101.0*

ISC 21 23:39:23.4±0.7, **19°.89S**±0°.04×**69°.12W**±0°.07, **h99**km±6km, **n25,** σ1§**15**/33, **mb3.9**/6, **7D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.25**	**187**	*iP*	**Pn**	**23 39 38.6**	**+0.5**
PB08				*eS*	**Sn**	**23 39 50.1**	**+1.0**
PB08	comp=E,10µm,0.1s			IAML		23 39 52.2	
PB11	**IPOC Station P**	**0.52**	**284**	*iP*	**Pn**	**23 39 39.5**	**+0.1**
PB11				*eS*	**Sn**	**23 39 51.5**	**+0.2**
PB11	comp=E,27µm,0.2s			IAML		23 39 52.1	
MNMC	**Minye Minye**	**0.88**	**329**	*iP*	**Pn**	**23 39 43.7**	**+1.0**
MNMC				*eS*	**Sn**	**23 39 58.6**	**+1.4**
PSGC	**Pisagua**	**0.99**	**287**	*iP*	**Pn**	**23 39 43.7**	**0.0**
PSGC				*eS*	**Sn**	**23 39 58.7**	**-0.3**
PSGC	comp=N,5µm,0.3s			IAML		23 39 59.5	
PB01	**IPOC Station P**	**1.20**	**197**	*iP*	**Pn**	**23 39 46.4**	**+0.3**
PB01				*eS*	**Sn**	**23 40 03.7**	**+0.5**
PB01	comp=N,12µm,0.4s			IAML		23 40 05.6	
PB12	**IPOC Station P**	**1.71**	**318**	*iP*	**Pn**	**23 39 52.2**	**-0.1**
PB12				*eS*	**Sn**	**23 40 14.9**	**+0.7**
PB12	comp=E,3µm,0.7s			IAML		23 40 20.1	
PB09	**IPOC Station P**	**1.90**	**183**	*eP*	**Pn**	**23 39 55.9**	**+1.0**
PB09	comp=E,1µm,0.3s			IAML		23 40 25.5	
PB07	**IPOC Station P**	**1.96**	**201**	*eP*	**Pn**	**23 39 56.2**	**+0.6**
PB07	comp=N,2µm,0.5s			IAML		23 40 27.7	
PB03	**IPOC Station P**	**2.23**	**195**	*eP*	**Pn**	**23 39 59.5**	**+0.5**
PB03	comp=E,1µm,0.4s			IAML		23 40 32.6	
PB04	**IPOC Station P**	**2.62**	**201**	*eP*	**Pn**	**23 40 05.2**	**+1.0**
PB04	comp=E,1µm,0.6s			IAML		23 40 50.3	
LVC	**Limon Verde** comp=E,28nm,0.3s,baz=355,slow=9.1,SNR=114	**2.71**	**176**	P	**Pn**	**23 40 07.1**	**+1.5**
LVC	comp=E,48nm,0.3s,baz=103,slow=20,SNR=15			S	**Sn**	**23 40 39.1**	**+1.0**
PB05	**IPOC Station P**	**3.12**	**199**	*eP*	**Pn**	**23 40 11.1**	**+0.3**
PB05	comp=E,462nm,0.5s			IAML		23 41 00.3	
LPAZ	**La Paz** comp=E,4.9nm,0.3s,baz=184,slow=6.0,SNR=92	**3.70**	**15**	P	**Pn**	**23 40 22.4**	**+3.3**
LPAZ	comp=E,3.0nm,0.3s,baz=189,slow=18,SNR=5.8			S	**Sn**	**23 41 01.9**	**-0.2**
SIV	**San Ignacio** comp=E,5.7nm,0.3s,baz=265,slow=10,SNR=164	**8.58**	**64**	P	**Pn**	**23 41 23.4**	**-1.5**
CPUP	**Villa Florida** comp=E,0.2nm,0.3s,baz=297,slow=12,SNR=13	**12.60**	**123**	P	**Pn**	**23 42 18.3**	**-0.7**
PLCA	**Paso Flores** comp=E,3.4nm,0.9s,baz=25,slow=16,SNR=5.3	**20.81**	**183**	P	**P**	**23 43 57.4**	**+0.5**
DBIC	**Dimbokro** comp=E,2.5nm,0.7s,baz=206,slow=6.8,SNR=4.6	**68.47**	**74**	P	**P**	**23 50 13.3**	**-2.1**
PDAR	**Pinedale Array** comp=E,0.4nm,0.9s,baz=51,slow=7.1,SNR=3.2	**72.62**	**330**	P	**P**	**23 50 42.1**	**+1.7**
ULM	**Lac du Bonnet** comp=E,1.3nm,0.6s,baz=159,slow=5.9,SNR=4.9	**73.73**	**342**	P	**P**	**23 50 45.9**	**-0.5**
NVAR	**Mina Array Bea** comp=E,0.4nm,0.8s,baz=167,slow=8.4,SNR=4.2	**74.11**	**322**	P	**P**	**23 50 50.3**	**+1.1**
TORD	**Torodi Ar. Bea** comp=E,1.0nm,0.5s,baz=247,slow=5.6,SNR=26	**77.01**	**71**	P	**P**	**23 51 03.9**	**-2.0**
YKA	**Yellowknife Ar** comp=E,2.4nm,0.7s,baz=134,slow=4.7,SNR=37	**89.61**	**341**	P	**P**	**23 52 09.8**	**+0.4**
WRA	**Warramunga Arr** comp=E,0.7nm,0.7s,baz=146,slow=1.8,SNR=6.8	**134.23**	**212**	PKP	**PKPdf**	**23 58 30.4**	**0.0**
MKAR	**Makanchi Array** comp=E,0.4nm,0.6s,baz=296,slow=4.0,SNR=4.7	**144.44**	**34**	PKP	**PKPab**	**23 58 46.8**	**+0.3**
SONM	**Songino Array** comp=E,3.7nm,1.1s,baz=324,slow=1.5,SNR=9.9	**151.88**	**6**	PKPbc	**PKPbc**	**23 59 07.3**	**+0.5**

*DDA **21** 23:40:03.3, 38°.68N×43°.69E, h5km±3km, ML2.8*
*ISCJB **21** 23:40:04.8±0.5, 38°.69N±0°.03×43°.62E±0°.06, h13km, Error ellipse: s-maj=6.6km s-min=4.4km az=18.9*
*ISK **21** 23:40:04.1, 38°.70N×43°.58E, h13km, ML2.8/11*

ISC 21 23:40:04.3±0.9, **38°.69N**±0°.02×**43°.65E**±0°.04, **h13**km, **n30,** σ**0**§**72**/32, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.22**	**246**	PG	**Pg**	**23 40 09.3**	**+0.1**
VANB				SG	**Sb**	**23 40 13.8**	**-0.5**
ERCV	**ERCIS-VAN**	**0.41**	**324**	PG	**Pg**	**23 40 12.0**	**-0.6**
GEVA	**Gevas**	**0.59**	**232**	*i* P	**Pg**	**23 40 15.8**	**-0.2**
GEVA	comp=Z,2µm,0.1s			IAML_P			
AKDM	**Akdamar-Van**	**0.64**	**236**	PG	**Pg**	**23 40 16.0**	**-0.7**
BASK	**Baskale_VAN**	**0.69**	**156**	*i* P	**Pg**	**23 40 17.4**	**-0.4**
BASK	comp=Z,2µm,0.1s			IAML_P			
ADCV	**BITLIS_Adilcev**	**0.73**	**280**	*i* P	**Pb**	**23 40 19.4**	**+0.3**
DYDN	**Diyadin**	**0.86**	**2**	*i* P	**Pg**	**23 40 20.8**	**-0.1**
DYDN	comp=Z,3µm,0.4s			IAML_P			
TUTA	**Tutak**	**0.97**	**318**	*i* P	**Pg**	**23 40 22.2**	**-0.8**
MLAZ	**Malazgirt-MUS**	**0.97**	**298**	PG	**Pg**	**23 40 22.4**	**-0.7**
AGRB	**Hanur-Agry**	**1.03**	**330**	PG	**Pb**	**23 40 23.5**	**-0.5**
YOVA	**Hakkari_Y

	12nm,0.3s,baz=0.3,slow=1.5,SNR=5.5							
PKDT	**Phuket**	**3.85**	**41**	P	Pb	23 46 44.3	+9.1	
GSI	**Gunungsitoli**	**4.04**	**154**	P	**Pn**	**23 46 30.5**	**+2.6**	
TRTT	**Trang**	**4.81**	**53**	P	**Sb**	**23 47 54.9**	**+5.9**	
TRTT	**Trang**	**4.81**	**53**	P	**Pb**	**23 46 48.9**	**-2.6**	
MNSI	**Mandailing Nat**	**5.60**	**137**	P	**Pn**	**23 46 51.1**	**+1.8**	
PDSI	**Padang**	**7.46**	**141**	P	**Pn**	**23 47 16.1**	**+1.1**	
SRAK	**Srakaew**	**10.90**	**34**	P	Pn	23 48 07.1	+5.1	
	37nm,0.7s							
PBKT	**Sadao Pong**	**12.61**	**23**	P	**Pn**	**23 48 26.9**	**+1.5**	
CMAR	**Chiang Mai Arr**	**13.76**	**13**	Pn	**Pn**	**23 48 42.8**	**+1.6**	
	0.7nm,0.3s,baz=199,slow=13,SNR=3.8							
H08S2	**Diego Garcia H**	**26.41**	**242**	T	T	00 18 09.8		
	baz=62,slow=75,SNR=11							
H08S3	**Diego Garcia H**	**26.41**	**242**	T	T	00 18 08.3		
	baz=62,slow=75,SNR=11							
H08S1	**Diego Garcia H**	**26.43**	**242**	T	T	00 18 06.1		
	baz=62,slow=75,SNR=11							
MKAR	**Makanchi Array**	**43.28**	**346**	P	**P**	**23 53 26.1**	**-0.9**	
	0.5nm,0.7s,baz=162,slow=7.1,SNR=4.1							
SONM	**Songino Array**	**43.67**	**10**	P	**P**	**23 53 30.3**	**0.0**	
	0.5nm,0.7s,baz=187,slow=10,SNR=3.2							
WRA	**Warramunga Arr**	**45.25**	**124**	P	**P**	**23 53 41.9**	**-1.3**	
	1.9nm,0.7s,baz=302,slow=9.3,SNR=12							
ASAR	**Alice Springs**	**46.80**	**129**	P	**P**	**23 53 54.5**	**-0.9**	
	4.1nm,0.5s,baz=300,slow=8.0,SNR=58							
GEYT	**Alibeck**	**47.46**	**319**	P	**P**	**23 54 00.3**	**0.0**	
	5.0nm,0.8s,baz=152,slow=9.8,SNR=6.3							
ZALV	**Zalesovo Beam**	**49.64**	**352**	P	**P**	**23 54 20.9**	**+4.1**	
	0.4nm,0.4s,baz=173,slow=8.1,SNR=3.1							
BRTR	**Keskin Array B**	**65.58**	**311**	P	**P**	**23 56 06.3**	**-3.0**	
	0.4nm,0.5s,baz=153,slow=10,SNR=3.7							

IDC 22 00:14:04.5±10.0, 2°.57N×96°.71E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/51, mbtmp3.7/4, ML4.5/1, Error ellipse: s-maj=195.6km s-min=68.0km az=153.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.94**	**8**	Pn	Pn	00 17 52.2	+1.8
	0.7nm,0.3s,baz=204,slow=11,SNR=5.1						
H08S2	**Diego Garcia H**	**26.21**	**247**	T	T	00 47 12.4	
	baz=60,slow=75						
H08S3	**Diego Garcia H**	**26.21**	**247**	T	T	00 47 07.7	
	baz=60,slow=75						
H08S1	**Diego Garcia H**	**26.23**	**247**	T	T	00 47 16.4	
	baz=60,slow=75						
MKAR	**Makanchi Array**	**45.80**	**346**	P	P	00 22 26.5	-1.7
	0.2nm,0.6s,baz=171,slow=6.3,SNR=3.8						
SONM	**Songino Array**	**45.86**	**9**	P	P	00 22 28.7	0.0
	0.2nm,0.4s,baz=189,slow=8.5,SNR=2.3						
GEYT	**Alibeck**	**49.86**	**320**	P	P	00 23 00.5	+0.7
	0.5nm,0.4s,baz=124,slow=8.9,SNR=5.1						

*IDC **22** 00:17:11.4±1.5, 5°.42S×151°.96E, h0km, mb3.9/10, mb1 4.1/11, mb1mx3.9/35, mbtmp3.9/11, ML1.8/1, MS4.1/1, Ms1 4.1/1, ms1mx3.2/33, Error ellipse: s-maj=57.2km s-min=19.2km az=122.0*

*ISCJB **22** 00:17:17.1±1.3, 5°.5S±0°.2×151°.7E±0°.3, h45km, mb3.8/10, MS4.1/1, Error ellipse: s-maj=45.7km s-min=9.6km az=37.1*

ISC 22 00:17:18.0±1.5, 5°.5S±0°.3×151°.9E±0°.3, h45km, n13, σ0s73/13, mb3.8/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.08**	**230**	Pn	**Pn**	**00 18 46.4**	**+0.9**
	1.3nm,0.3s,baz=65,slow=16,SNR=4.6						
PMG				Sn	**Sn**	**00 19 52.8**	**-1.1**
	2.2nm,0.3s,baz=139,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	**22.30**	**228**	P	**P**	**00 22 11.7**	**-0.1**
	3.8nm,0.9s,baz=52,slow=9.6,SNR=14						
ASAR	**Alice Springs**	**25.02**	**222**	P	**P**	**00 22 38.6**	**+0.5**
	7.2nm,0.8s,baz=55,slow=9.4,SNR=44						
FITZ	**Fitzroy Crossi**	**28.53**	**242**	P	**P**	**00 23 09.0**	**-0.6**
	2.6nm,0.8s,baz=72,slow=10,SNR=5.7						
PETK	**Petropavlovsk-**	**58.60**	**4**	LR	LR	00 50 42.8	
	comp=Z,142nm,19.1s,baz=54,slow=34						
SONM	**Songino Array**	**66.44**	**328**	P	**P**	**00 28 03.3**	**+0.5**
	0.3nm,0.4s,baz=152,slow=5.4,SNR=3.6						
MKAR	**Makanchi Array**	**80.26**	**319**	P	**P**	**00 29 23.8**	**-0.4**
	0.2nm,0.5s,baz=91,slow=4.1,SNR=3.9						
ILAR	**Eielson Array**	**83.15**	**22**	P	**P**	**00 29 38.0**	**-0.9**
	0.3nm,0.6s,baz=246,slow=5.5,SNR=8.3						
KURBB	**Kurchatov Arra**	**83.80**	**322**	P	**P**	**00 29 41.9**	**-0.7**
	0.5nm,0.7s,baz=120,slow=4.0,SNR=3.3						
AAK	**Ala-Archa**	**84.50**	**314**	P	**P**	**00 29 47.3**	**+0.8**
	0.3nm,0.3s,baz=126,slow=8.7,SNR=3.0						
BVAR	**Borovoye Array**	**89.26**	**323**	P	**P**	**00 30 09.1**	**-0.2**
	0.6nm,0.7s,baz=104,slow=4.9,SNR=4.1						
YKA	**Yellowknife Ar**	**96.47**	**28**	P	**P**	**00 30 42.6**	**+0.3**
	0.2nm,0.7s,baz=277,slow=4.9,SNR=2.5						
TORD	**Torodi Ar. Bea**	**149.65**	**287**	PKPbc	**PKPbc**	**00 37 03.5**	**-0.4**
	2.2nm,0.8s,baz=94,slow=3.3,SNR=14						

*HEL **22** 00:23:42.1, 67°.79N×20°.34E, h0km, ML1.5, Explosion*

UPP 22 00:23:41.2±0.0, 67°.83N×20°.20E, h0km, ML2.3, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**21**	P	Pg	00 23 44.1	+0.3
KUA				S	Sg	00 23 46.1	+0.4
KUA	**Kurravaara**	**0.14**	**21**	*i* P	Pg	00 23 44.1	+0.3
KUA				*i* S	Sg	00 23 46.1	+0.4
RATU	**Laukkuluspa**	**0.23**	**270**	P	Pg	00 23 45.8	+0.2
RATU	**Laukkuluspa**	**0.23**	**270**	*i* P	Pg	00 23 45.8	+0.2
NIKU	**Nikkaluokta**	**0.45**	**276**	P	Pg	00 23 49.8	+0.1
NIKU	**Nikkaluokta**	**0.45**	**276**	*i* P	Pg	00 23 49.8	+0.1
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	00 23 54.6	-0.1
LANU	**Lannavaara**	**0.71**	**71**	*i* P	Pg	00 23 54.6	-0.1
DUNU	**Dundret**	**0.72**	**169**	P	Pg	00 23 54.8	-0.2
DUNU	**Dundret**	**0.72**	**169**	*i* P	Pg	00 23 54.8	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	00 23 56.2	-0.1
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	00 23 56.2	-0.1
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*PN	Pn	00 24 06.3	+1.0
KIF				*e*SB	Sg	00 24 20.3	+0.4
KIF				MSG		00 24 20.5	
	comp=Z,5.1nm,0.2s						
PAJU	**Pajala**	**1.38**	**124**	P	Pg	00 24 06.5	-1.1
PAJU	**Pajala**	**1.38**	**124**	*e*P	Pg	00 24 06.5	-1.1
HEF	**Hetta**	**1.42**	**64**	*e*PG	Pn	00 24 07.3	-0.9
	baz=248						
HEF				MSG		00 24 24.1	
	comp=Z,1.9nm,0.2s						
HEF				*e*SN	Sn	00 24 30.6	+3.0
TOF	**Tornio**	**2.39**	**135**	*e*PB	Pn	00 24 23.0	+1.5
	baz=311						
TOF				MSG		00 24 51.0	
	comp=Z,2.3nm,0.2s						
TOF				*e*SB	Sn	00 24 52.8	+1.4
SGF	**Sodankyl**	**2.45**	**96**	*e*SB	Sb	00 24 55.1	-1.6
ARE0	**ARCESS Array S**	**2.59**	**46**	*e*PB	Pn	00 24 26.2	+1.9
	baz=227						
ARE0				*e*S	Sn	00 24 55.4	-1.0

UPP 22 00:24:11.1±0.1, 67°.83N×20°.21E, h0km, ML2.0, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**21**	P	Pg	00 24 14.0	+0.2
KUA				S	Sg	00 24 15.9	+0.4
RATU	**Laukkuluspa**	**0.23**	**270**	P	Pg	00 24 15.7	+0.2
NIKU	**Nikkaluokta**	**0.45**	**276**	P	Pg	00 24 19.7	0.0
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	00 24 25.9	-0.3
PAJU	**Pajala**	**1.38**	**124**	P	Pg	00 24 36.5	-1.0

*ISK **22** 00:29:55.7, 37°.28N×42°.53E, h5km, ML2.4/8*

*ISN **22** 00:29:56.3±0.3, 37°.17N×42°.61E, h0km, ML2.4*

*DDA **22** 00:29:57.3, 37°.43N×42°.64E, h7km±2km, ML2.5*

ISC 22 00:29:56.4±1.1, 37°.31N±0°.05×42°.60E±0°.03, h11km±10km, n16, σ0s90/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRT	**Sirnak**	**0.23**	**327**	PG	**Pg**	**00 30 00.6**	**-0.7**
SIRT				SG	**Sg**	**00 30 04.5**	**-0.1**
CUKT	**Cukurca**	**0.81**	**94**	PG	**Pb**	**00 30 12.6**	**0.0**
CUKT				SG	**Sn**	**00 30 24.9**	**-1.2**
CUKT	**Cukurca**	**0.81**	**94**	IAML_P			
	comp=Z,385nm,0.1s						
CUKT				*i* P	**Pn**	**00 30 13.4**	**-0.5**
SRTM	**Siirt_Merkez**	**0.87**	**322**	IAML_P			
	comp=Z,861nm,0.1s						
SRTM				*i* P	**Pb**	**00 30 13.8**	**+0.3**
MSL	**Mosul**	**1.00**	**155**	*e*Pg	**Pb**	**00 30 15.4**	**-0.3**
	baz=332						
MSL				*e*Sg	**Sb**	**00 30 28.7**	**-0.1**
AKDM	**Akdamar-Van**	**1.06**	**17**	PN	**Pn**	**00 30 17.5**	**0.0**
GEVA	**Gevas**	**1.07**	**20**	*i* P	**Pg**	**00 30 15.5**	**-1.5**
BTMN	**Batman**	**1.20**	**299**	*i* P	**Pg**	**00 30 20.0**	**+0.5**
GURO	**Guroymak-BITLI**	**1.32**	**340**	PN	**Pg**	**00 30 21.8**	**0.0**
YOVA	**Hakkari_Yksek**	**1.38**	**78**	IAML_P			
	comp=Z,356nm,0.2s						
YOVA				*i* P	**Pg**	**00 30 23.3**	**+0.4**
YOVA				*i* S	**Sg**	**00 30 43.0**	**+2.1**
SVAN	**Silvan-Diyarba**	**1.39**	**308**	PN	**Pb**	**00 30 22.3**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.39**	**308**	*i* P	**Pg**	**00 30 22.9**	**-0.3**
SVAN				*i* S	**Sg**	**00 30 42.3**	**+1.1**
HANI	**Diyarbakir_Han**	**2.06**	**303**	*i* P	**Pb**	**00 30 32.9**	**-1.0**
AGRB	**Hanur-Agry**	**2.29**	**8**	PN	**Pn**	**00 30 35.7**	**+1.4**
PTK	**Pertek**	**2.98**	**303**	PN	**Pn**	**00 30 43.9**	**0.0**
URFA	**Urfa**	**3.01**	**274**	PN	**Pn**	**00 30 44.7**	**+0.6**

IDC 22 00:33:24.0±3.7, 19°.30S×167°.90E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.7/36, mbtmp3.7/4, ML3.3/1, Error ellipse: s-maj=84.5km s-min=37.7km az=109.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.08**	**206**	Pn	Pn	00 34 12.1	-1.9
	3.9nm,0.3s,baz=115,slow=14,SNR=58						
DZM				Sn	Sn	00 34 46.3	-5.3
	11nm,0.3s,baz=152,slow=15,SNR=5.8						
WRA	**Warramunga Arr**	**31.59**	**263**	P	P	00 39 48.2	-0.5
	1.5nm,1.2s,baz=86,slow=8.2,SNR=3.4						
ASAR	**Alice Springs**	**31.89**	**256**	P	P	00 39 52.1	+0.8
	1.0nm,0.6s,baz=84,slow=8.6,SNR=15						
SONM	**Songino Array**	**86.51**	**324**	P	P	00 46 09.2	+0.2
	0.4nm,0.7s,baz=118,slow=3.1,SNR=3.4						

*GII **22** 00:35:42.2±0.1, 27°.68N×32°.61E, h32km, mb4.1/5, MD4.0/5*

*SGS **22** 00:35:46, 28°.31N×32°.72E, h16km, Ml3.6*

ISC 22 00:35:45.8±3.2, 28°.2N±0°.1×32°.9E±0°.1, h5km±20km, n29, σ0s70/38, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSHS		**1.64**	**86**	P	**Pg**	**00 36 16.9**	**-0.3**
RSHS				S	**Sg**	**00 36 39.5**	**+1.0**
HAQS	**Haql**	**1.94**	**63**	P	**Pn**	**00 36 20.0**	**+0.6**
HAQS				S	**Sb**	**00 36 45.4**	**-0.7**
KRABS	**KRABS**	**2.04**	**92**	P	**Pn**	**00 36 22.6**	**-0.8**
KRABS				S	**Sb**	**00 36 49.0**	**-0.1**
HQLS		**2.17**	**59**	P	**Pn**	**00 36 23.1**	**+0.6**
HQLS				S	**Sb**	**00 36 52.2**	**-0.6**
EIL	**Elat**	**2.30**	**50**	P	**Pn**	**00 36 24.7**	**+0.4**
	164nm,0.5s						
EIL	**Elat**	**2.30**	**50**	Pn	**Pn**	**00 36 24.4**	**+0.1**
EIL				Sn	**Sb**	**00 36 56.2**	**-0.3**
MBRI	**Mt Berech**	**2.36**	**47**	Pn	**Pn**	**00 36 25.6**	**+0.4**
MBRI				Sn	**Sb**	**00 36 58.7**	**+0.5**
AQBJ	**Aqaba**	**2.40**	**50**	P	**Pn**	**00 36 26.7**	**+0.9**
	554nm,0.5s						
HRFI	**Mount Harif**	**2.60**	**44**	P	**Pn**	**00 36 30.0**	**+1.5**
	165nm,0.8s						
HRFI	**Mount Harif**	**2.60**	**44**	Pn	**Pn**	**00 36 28.6**	**+0.1**
HRFI				Sn	**Sb**	**00 37 04.5**	**-0.6**
PRNI	**Paran**	**2.81**	**39**	Pn	**Pn**	**00 36 31.6**	**+0.2**
PRNI				Sn	**Sb**	**00 37 11.0**	**-0.2**
KZIT	**Kziot**	**2.99**	**25**	P	**Pn**	**00 36 34.4**	**+0.5**
	198nm,0.8s						
KZIT	**Kziot**	**2.99**	**25**	Pn	**Pn**	**00 36 34.3**	**+0.4**
ZFRI	**Zfri**	**3.06**	**39**	Pn	**Pn**	**00 36 35.2**	**+0.4**
ZFRI				Sn	**Sb**	**00 37 17.7**	**-0.7**
JDRJ	**Daraweish**	**3.47**	**43**	P	**Pn**	**00 36 42.4**	**+1.8**
	132nm,0.8s						
YTIR	**Yattir**	**3.69**	**30**	Pn	**Pn**	**00 36 43.8**	**+0.3**
AMAZ	**Amatzia**	**3.75**	**27**	P	**Pn**	**00 36 45.0**	**+0.7**
	102nm,0.6s						
AMAZ	**Amatzia**	**3.75**	**27**	Pn	**Pn**	**00 36 44.5**	**+0.2**
MZDA	**Masada**	**3.76**	**33**	Pn	**Pn**	**00 36 44.4**	**+0.1**
LISJ	**El Lisan**	**3.76**	**35**	P	**Pn**	**00 36 45.3**	**+0.9**
	73nm,0.8s						
GHAJ	**Ghor Haditha**	**3.85**	**36**	P	**Pn**	**00 36 46.7**	**+1.0**
	109nm,0.5s						
GHAJ	**Ghor Haditha**	**3.85**	**36**	Pn	**Pn**	**00 36 46.3**	**+0.6**
DSI	**Dead Sea**	**3.98**	**32**	Pn	**Pn**	**00 36 47.9**	**+0.4**
WALJ	**Wala**	**4.19**	**36**	P	**Pn**	**00 36 50.6**	**+0.3**
	89nm,0.7s						
SLTI	**Sal'it**	**4.43**	**24**	Pn	**Pn**	**00 36 54.1**	**+0.5**
HMDT	**Nahal Hemdat**	**4.63**	**28**	Pn	**Pn**	**00 36 57.1**	**+0.7**
MMLI	**Mount Malkishu**	**4.75**	**26**	Pn	**Pn**	**00 36 58.7**	**+0.6**
OFRI	**`Ofer**	**4.76**	**21**	Pn	**Pn**	**00 36 58.8**	**+0.6**
MMA0B	**Mount Meron ar**	**5.26**	**23**	Pn	**Pn**	**00 37 05.6**	**+0.5**

*IDC **22** 00:39:43.2±2.3, 39°.15N×143°.78E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.3/41, mbtmp3.4/5, ML2.8/2, Error ellipse: s-maj=56.1km s-min=26.9km az=77.0*

*ISCJB **22** 00:39:46.3±1.6, 38°.99N±0°.05×143°.34E±0°.08, h15km±12km, mb3.3/3, Error ellipse: s-maj=10.6km s-min=8.3km az=175.0*

*JMA **22** 00:39:46.9±0.2, 39°.02N×143°.21E, h6km±2km, M3.5*

ISC 22 00:39:46.3±2.8, 39°.15N±0°.06×143°.33E±0°.08, h13km±16km, n22, σ1s23/28, mb3.3/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.25**	**290**	P	**Pb**	**00 40 09.5**	**-0.2**
MIYJ				S	**Sn**	**00 40 25.7**	**-0.5**
OFUJ	**Ofunato**	**1.30**	**267**	P	**Pn**	**00 40 09.3**	**-0.8**
OFUJ				*e*S	**Sn**	**00 40 25.6**	**-1.8**
JTH	**Tanohata**	**1.38**	**305**	*e*S	**Sg**	**00 40 31.7**	**+0.9**
JKMT	**Kesennumamotoy**	**1.49**	**257**	P	**Pn**	**00 40 12.1**	**-0.7**
JKMT				S	**Sn**	**00 40 30.2**	**-1.9**
JOM	**Ohasama**	**1.62**	**282**	*e*S	**Sn**	**00 40 35.4**	**+0.1**
JMK	**Ichinoseki**	**1.66**	**264**	P	**Pb**	**00 40 15.5**	**-1.2**
JMK				*e*S	**Sn**	**00 40 35.3**	**-1.0**
JIO	**Ouri**	**1.70**	**246**	P	**Pn**	**00 40 15.0**	**-0.7**
JIO				*e*S	**Sn**	**00 40 35.3**	**-2.0**
JANG	**Nango**	**1.86**	**312**	P	**Pb**	**00 40 19.8**	**-0.4**
JANG				*e*S	**Sb**	**00 40 44.2**	**+0.9**
JRG	**Rokugo**	**2.11**	**278**	P	**Pb**	**00 40 22.8**	**-1.6**
JRG				*e*S	**Sb**	**00 40 50.0**	**-0.5**
JOU	**Okura**	**2.23**	**250**	P	**Pn**	**00 40 23.7**	**+0.7**
JOU				*e*S	**Sn**	**00 40 50.8**	**+0.4**
JAH	**Hinai**	**2.33**	**297**	P	**Pb**	**00 40 26.1**	**-2.0**
JAH				*e*S	**Sb**	**00 40 57.6**	**+0.8**
JYK	**Kaneyama**	**2.33**	**265**	P	**Pn**	**00 40 25.2**	**+0.9**
JMM	**Marumori**	**2.37**	**238**	P	**Pn**	**00 40 24.8**	**-0.1**
JTM	**Tenmabayashi**	**2.39**	**314**	S	**Sb**	**00 40 58.4**	**-0.1**
MJAR	**Matsushiro Arr**	**4.82**	**239**	Pn	**Pn**	**00 41 00.5**	**+1.9**
	0.1nm,0.3s,baz=47,slow=10,SNR=4.5						
ASAJ	**Asahikawa**	**4.99**	**354**	Pn	**Pn**	**00 40 59.6**	**-1.4**
	0.5nm,0.3s,baz=343,slow=20,SNR=1.9						
SONM	**Songino Array**	**27.95**	**300**	P	**P**	**00 45 37.9**	**+1.5**
	0.2nm,0.4s,baz=87,slow=7.4,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**28.06**	**127**	T	T	01 14 53.5	
	baz=319,slow=74,SNR=18						
H11N1	**WAKE ISLAND Hy**	**28.07**	**127**	T	T	01 14 50.5	
	baz=319,slow=74,SNR=12						
H11N3	**WAKE ISLAND Hy**	**28.08**	**127**	T	T	01 14 50.3	
	baz=319,slow=74,SNR=17						
MKAR	**Makanchi Array**	**44.31**	**301**	P	**P**	**00 47 57.4**	**+1.5**
	0.2nm,0.5s,baz=74,slow=7.7,SNR=2.9						
WRA	**Warramunga Arr**	**59.38**	**190**	P	**P**	**00 49 47.7**	**-0.7**
	0.5nm,0.8s,baz=6.9,slow=7.1,SNR=4.3						

KRSC 22 00:42:01.3±1.0, 52°.63N×159°.73E, h41km±11km, ML4.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.50**	**21**	*e*P	Pn	00 42 12.9	+0.8
SPN				*e*S	Sn	00 42 20.5	+0.9
NLC	**Nalytchevo**	**0.59**	**337**	*e*P	Pn	00 42 14.0	+0.8
NLC				*e*S	Sn	00 42 23.2	+1.5
DALK	**Dalny**	**0.71**	**304**	*e*P	Pn	00 42 15.5	+0.6
DALK				*e*S	Sn	00 42 25.1	+0.4
PET	**Petropavlovsk**	**0.76**	**301**	*e*P	Pn	00 42 16.1	+0.5
PET				*e*S	Sn	00 42 26.7	+0.8
RUS	**Russkaya**	**0.77**	**255**	*e*P	Pn	00 42 16.2	+0.5
RUS				*e*S	Sn	00 42 27.2	+1.1
UGLR	**Uglovaya**	**0.79**	**317**	*e*P	Pn	00 42 17.3	+1.1
SDLR	**Sedlovina**	**0.82**	**322**	*e*P	Pn	00 42 17.3	+0.7
SMAR	**Somma**	**0.84**	**319**	*e*P	Pn	00 42 17.6	+0.6
AVH	**Avacha**	**0.87**	**317**	*e*P	Pn	00 42 18.4	+1.2
KOK	**Koryaka**	**0.93**	**315**	*e*P	Pn	00 42 19.2	+1.1
MTVR	**Mutnovka**	**0.95**	**261**	*e*P	Pn	00 42 19.2	+0.8
MTVR				*e*S	Sn	00 42 32.3	+1.4
KRX	**Arik**	**0.98**	**318**	*e*P	Pn	00 42 19.6	+0.9
KRX				*e*S	Sn	00 42 33.8	+2.4
KRMR	**Karymshinskiy**	**0.99**	**282**	*e*P	Pn	00 42 19.3	+0.6
KRMR				*e*S	Sn	00 42 32.3	+0.8
GRL	**Gorelyy**	**1.01**	**266**	*e*P	Pn	00 42 20.7	+1.5
KDTR	**Khodutka, Kamc**	**1.31**	**232**	*e*P	Pn	00 42 24.3	+1.2
KDTR				*e*S	Sn	00 42 41.1	+1.8
GNL	**Ganaly**	**1.51**	**315**	*e*P	Pn	00 42 27.7	+1.7
KZV	**Kizimen**	**2.51**	**7**	*e*P	Pn	00 42 41.7	+2.0
KZV				*e*S	Sn	00 43 14.1	+5.0
TUMD	**Tumrok D**	**2.60**	**8**	*e*P	Pn	00 42 42.2	+1.3
TUMD				*e*S	Sn	00 43 14.9	+3.6
TUMR	**Tumrok**	**2.67**	**5**	*e*P	Pn	00 42 44.2	+2.4
ZLN	**Zelenaya**	**3.45**	**10**	*e*P	Pn	00 42 56.6	+4.0
KBTR	**Krutoberegovo**	**4.01**	**26**	*e*P	Pn	00 43 03.0	+2.8
SMKR	**Semkarok**	**4.08**	**14**	*e*P	Pn	00 43 07.5	+6.2

UCR 22 00:43:02.1±2.3, 10°.50N×83°.11W, h18km±9km, MD4.0, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVTR	**Volcan Turrial**	**0.80**	**234**	*e*P	Pb	00 43 17.6	-0.1
CVTR				*e*S	Sg	00 43 29.3	+0.7
HDC	**Heredia**	**1.11**	**244**	*e*P	Pb	00 43 22.4	-0.5
HDC				*e*S	Sb	00 43 37.2	+0.2
LCR2	**La Lucha 2**	**1.16**	**230**	*e*P	Pn	00 43 23.2	-0.5
LCR2				*e*S	Sb	00 43 38.3	-0.3
DRK0	**Durika**	**1.24**	**186**	*e*P	Pn	00 43 24.0	-0.7
DRK0				*e*S	Sb	00 43 40.7	0.0
EDLM	**Las Mercedes**	**1.30**	**201**	*e*P	Pn	00 43 25.1	-0.3
EDBA	**Buenos Aires**	**1.34**	**187**	*e*P	Pn	00 43 25.6	-0.3
EDBA				*e*S	Sb	00 43 43.5	0.0
EDDO	**Dominical**	**1.45**	**211**	*e*P	Pb	00 43 28.4	-0.1
FORC	**Fortuna**	**1.54**	**269**	*i* P	Pn	00 43 29.2	+0.5
EDPN	**Palmar Norte**	**1.57**	**193**	*e*P	Pb	00 43 30.1	-0.5
CEDE	**Laguna Cedeo**	**1.57**	**270**	*i* P	Pb	00 43 29.9	-0.8
CEDE				*i* S	Sn	00 43 48.8	-0.3
ARE1	**Arenal 1**	**1.59**	**269**	*e*P	Pn	00 43 30.0	+0.6
ARE1				*e*S	Sb	00 43 50.5	-0.2
CASO	**Castillo**	**1.60**	**268**	*i* P	Pn	00 43 30.2	+0.6
TBS2		**1.75**	**165**	*i* P	Pn	00 43 32.3	+0.9
JTS	**JuntasAbangare**	**1.83**	**264**	*e*P	Pn	00 43 32.2	-0.5
JTS				*e*S	Sb	00 43 56.5	-1.1
ESPN	**Las Esperanzas**	**2.05**	**325**	*e*P	Pn	00 43 34.1	-1.6
PLVR	**Palo Verde**	**2.21**	**266**	*e*P	Pn	00 43 38.6	+0.5
NY14	**Universidad de**	**2.39**	**274**	*i* P	Pn	00 43 40.8	+0.4
BCIP	**Isla Barro Col**	**3.48**	**112**	*e*P	Pn	00 43 53.5	-1.9
ZANG	**Zanguenga, Cho**	**3.54**	**115**	*e*P	Pn	00 43 54.3	-2.0

RSNC 22 01:13:38.5±1.2, 6°.81N×73°.15W, h147km±5km, ML3.2, Mw3.5,2C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**189**	*i* P	Pn	01 13 58.4	-0.4
BARC				*e*S	Sn	01 14 13.7	-0.5
BARC				*i*		01 14 14.9	
	comp=Z,652nm,0.1s						
BRRC	**Barranca, Sant**	**0.63**	**298**	⇑*i* P	Pn	01 14 00.3	0.0
BRRC				*e*S	Sn	01 14 17.3	+0.4
BRRC				*i*		01 14 18.2	
	comp=E,658nm,0.2s						
PAMC	**Pamplona, Colo**	**0.69**	**40**	⇑*e*P	Pn	01 14 01.2	0.0
PAMC				*e*S	Sn	01 14 18.2	-0.3
PAMC				*i*		01 14 19.9	
	comp=E,148nm,0.7s						
**RUS

EUZM	**Uzumlu**	**1.03**	**344**	*i* P	**Pg**	**01 21 33.4**	**-1.0**
EUZM				*i* S	**Sb**	**01 21 48.3**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.05**	**122**	PG	**Pb**	**01 21 34.5**	**-0.3**
SVAN				SG	**Sn**	**01 21 49.9**	**-0.2**
ECAT	**Cat-ERZURUM**	**1.14**	**38**	*i* P	**Pn**	**01 21 36.8**	**+0.2**
ECAT				*i* S	**Sn**	**01 21 53.3**	**+0.9**
BTMN	**Batman**	**1.25**	**130**	IAML_P			
	comp=Z,133nm,0.3s						
BTMN				*i* P	**Pn**	**01 21 38.8**	**+0.7**
BTMN				*i* S	**Sn**	**01 21 54.8**	**-0.2**
GURO	**Guroymak-BITLI**	**1.55**	**95**	PN	**Pb**	**01 21 42.9**	**-0.4**
URFA	**Urfa**	**1.60**	**218**	PN	**Pb**	**01 21 43.9**	**-0.3**
URFA				SN	**Sg**	**01 22 06.7**	**+0.7**
SRTM	**Siirt_Merkez**	**1.63**	**116**	IAML_P			
	comp=Z,176nm,0.2s						
SRTM				*i* P	**Pg**	**01 21 45.0**	**-0.7**
SRTM				*i* S	**Sg**	**01 22 07.8**	**+0.9**

GUC 22 01:29:49.5±0.5, 24°21'S×67°94'W, h173km±7km, ML3.5, 4C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO02	**Mina Guanaco**	**1.78**	**238**	*i* P	Pn	01 30 23.8	-0.2
GO02				*i* S	Sn	01 30 50.5	-0.2
GO02				IAML		01 30 51.2	
	comp=E,166nm,0.3s						
LVC	**Limon Verde**	**1.83**	**330**	*i* P	Pn	01 30 24.5	-0.2
LVC				*i* S	Sn	01 30 50.9	-0.9
PB06	**IPOC Station P**	**2.12**	**315**	*i* P	Pn	01 30 27.7	+0.1
PB06				*i* S	Sn	01 30 56.5	-0.7
PB06				IAML		01 30 58.1	
	comp=E,240nm,0.3s						
PB05	**IPOC Station P**	**2.48**	**303**	*e*P	Pn	01 30 31.9	+0.2
PB05				*i* S	Sn	01 31 03.5	-1.0
PB10	**IPOC Station P**	**2.50**	**286**	*e*P	Pn	01 30 32.1	+0.3
PB10				*i* S	Sn	01 31 04.0	-0.5
PB09	**IPOC Station P**	**2.69**	**333**	*e*P	Pn	01 30 34.6	+0.3
PB09				*e*S	Sn	01 31 08.7	-0.4
PB03	**IPOC Station P**	**2.73**	**322**	*i* P	Pn	01 30 34.7	0.0
PB03				*i* S	Sn	01 31 08.6	-1.3
PB03				IAML		01 31 09.4	
	comp=E,135nm,0.2s						
PB04	**IPOC Station P**	**2.76**	**312**	*e*P	Pn	01 30 35.1	0.0
PB04				IAML		01 31 12.0	
	comp=N,109nm,0.2s						
PB07	**IPOC Station P**	**3.06**	**324**	*i* P	Pn	01 30 38.7	0.0
PB07				IAML		01 31 16.2	
	comp=E,83nm,0.2s						
PB01	**IPOC Station P**	**3.46**	**335**	*e*P	Pn	01 30 43.4	-0.3
PB08	**IPOC Station P**	**4.21**	**344**	*e*P	Pn	01 30 53.2	-0.3
PB08				*i* S	Sn	01 31 42.5	-0.8
PSGC	**Pisagua**	**5.02**	**336**	*e*P	Pn	01 31 05.1	+1.3

IDC 22 01:46:10.6±2.0, 21°68S×174°47W, h0km, mb4.2/6, mb1 4.5/6, mb1mx4.0/34, mbtmp4.2/6, Error ellipse: s-maj=80.8km s-min=25.8km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.29**	**246**	P	P	01 53 49.6	0.0
	2.3nm,0.7s,baz=66,slow=7.6,SNR=6.7						
ASAR	**Alice Springs**	**47.47**	**257**	P	P	01 54 47.4	-0.2
	2.8nm,0.8s,baz=91,slow=8.4,SNR=22						
WRA	**Warramunga Arr**	**47.71**	**262**	P	P	01 54 48.5	-0.9
	2.9nm,0.9s,baz=100,slow=8.0,SNR=17						
MJAR	**Matsushiro Arr**	**73.14**	**322**	P	P	01 57 42.7	-0.3
	1.6nm,0.5s,baz=160,slow=5.9,SNR=4.0						
NVAR	**Mina Array Bea**	**79.66**	**42**	P	P	01 58 20.1	-0.2
	0.3nm,0.7s,baz=224,slow=7.3,SNR=3.2						
CMAR	**Chiang Mai Arr**	**93.61**	**288**	P	P	01 59 31.1	+1.7
	1.7nm,0.3s,baz=108,slow=2.9,SNR=7.8						
AKASG	**Malin Array Be**	**145.59**	**333**	PKPbc	PKPdf	02 05 49.8	-0.9
	0.6nm,0.4s,baz=37,slow=4.9,SNR=7.4						

*ISCJB **22** 01:51:26.9±1.6, 23°.7S±0°.7×179°.8W±0°.4, h500km, mb3.8/8, Error ellipse: s-maj=105.4km s-min=16.6km az=156.7*
*IDC **22** 01:51:26.9±2.8, 23°.88S×179°.73W, h490km±24km, mb3.5/8, mb1 3.8/8, mb1mx3.4/33, mbtmp4.3/8, Error ellipse: s-maj=95.5km s-min=16.7km az=157.0*
ISC 22 01:51:27.9±1.6, 23°.6S±0°.6×179°.9W±0°.3, h500km, n9, σ0s87/11, mb3.8/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**34.95**	**248**	P	**P**	**01 57 37.5**	**+0.1**
	2.0nm,0.5s,baz=88,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**42.21**	**260**	P	**P**	**01 58 36.4**	**-0.2**
	8.3nm,0.8s,baz=95,slow=7.9,SNR=42						
ASAR				ScP	**ScP**	**02 03 21.6**	**-0.6**
	1.2nm,0.8s,baz=114,slow=4.0,SNR=6.4						
WRA	**Warramunga Arr**	**42.55**	**266**	P	**P**	**01 58 38.7**	**-0.6**
	10nm,0.5s,baz=96,slow=8.4,SNR=318						
WRA				ScP	**ScP**	**02 03 23.5**	**-0.1**
	0.5nm,0.8s,baz=92,slow=4.2,SNR=3.7						
YBH	**Yreka Blue Hor**	**83.78**	**39**	P	**P**	**02 03 04.3**	**+0.1**
	0.9nm,0.7s,baz=212,slow=1.7,SNR=5.5						
NVAR	**Mina Array Bea**	**84.46**	**44**	P	**P**	**02 03 07.2**	**-0.5**
	0.7nm,0.7s,baz=238,slow=8.4,SNR=5.5						
CMAR	**Chiang Mai Arr**	**89.55**	**290**	P	**P**	**02 03 33.6**	**+1.6**
	1.0nm,0.3s,baz=126,slow=4.6,SNR=3.5						
TXAR	**Lajitas Array**	**90.17**	**58**	P	**P**	**02 03 35.2**	**+0.5**
	0.8nm,0.6s,baz=209,slow=7.2,SNR=6.7						
PDAR	**Pinedale Array**	**92.39**	**44**	P	**P**	**02 03 44.2**	**-0.7**
	0.5nm,0.8s,baz=188,slow=3.0,SNR=5.4						
BRTR	**Keskin Array B**	**147.50**	**308**	PKPbc	**PKPab**	**02 10 18.3**	**-1.3**
	0.7nm,0.6s,baz=93,slow=4.8,SNR=6.4						

IDC 22 01:51:54.6±6.8, 10°.05N×127°.61E, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.4/35, mbtmp3.7/3, Error ellipse: s-maj=218.3km s-min=139.3km az=72.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**41.70**	**338**	P	P	01 59 45.1	-0.1
	0.2nm,0.5s,baz=165,slow=7.4,SNR=3.5						
MKAR	**Manchi Array**	**53.00**	**322**	P	P	02 01 13.2	-0.1
	0.7nm,0.6s,baz=120,slow=8.2,SNR=8.2						
FINES	**FINESS Array B**	**86.71**	**332**	P	P	02 04 40.2	0.0
	0.5nm,0.4s,baz=73,slow=6.4,SNR=6.5						

*ISK **22** 02:00:47.9, 42°.33N×40°.93E, h6km±1km, ML2.5/4*
*DDA **22** 02:00:49.1, 42°.30N×41°.13E, h7km±5km, ML2.8*
*MOS **22** 02:00:51.1±0.0, 42°.52N×41°.01E, h15km, MPVA3.2*
ISC 22 02:00:48.1±1.2, 42°.37N±0°.02×41°.03E±0°.03, h7km±10km, n23, σ0s69/42, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DOMR	**Dombai**	**1.02**	**25**	*e*Pg	**Pb**	**02 01 08.4**	**+0.2**
DOMR				*e*Sg	**Sg**	**02 01 21.0**	**0.0**
BCA	**Borcka**	**1.02**	**154**	PG	**Pb**	**02 01 08.1**	**0.0**
BCA				SG	**Sn**	**02 01 22.6**	**-0.9**
DBOC	**Borcka**	**1.13**	**155**	IAML_P			
	comp=Z,1μm,0.1s						
DBOC				*i* P	**Pn**	**02 01 10.8**	**+0.5**
DBOC				*i* S	**Sb**	**02 01 25.1**	**+0.4**
ARXR	**Arkhyz**	**1.21**	**8**	*e*Pg	**Pg**	**02 01 10.7**	**-0.5**
ARXR				*e*Sg	**Sg**	**02 01 26.0**	**-0.9**
CHOM	**Cayeli-Rize**	**1.29**	**189**	PN	**Pn**	**02 01 12.3**	**-0.2**
CHOM				SN	**Sb**	**02 01 29.0**	**-0.4**
ARTV	**Artvin**	**1.36**	**150**	IAML_P			
	comp=Z,838nm,0.1s						
ARTV				*i* P	**Pn**	**02 01 13.4**	**-0.3**
ARTV				*i* S	**Sb**	**02 01 31.4**	**-0.2**
DBAD	**Bademkaya**	**1.44**	**160**	IAML_P			
	comp=Z,308nm,0.1s						
DBAD				*i* P	**Pn**	**02 01 14.3**	**-0.4**
DBAD				*i* S	**Sb**	**02 01 33.2**	**-0.5**
RPOR	**Krasnaya Polya**	**1.45**	**337**	*e*Pg	**Pn**	**02 01 15.2**	**+0.5**
RPOR				*i* Sg	**Sn**	**02 01 33.7**	**-0.2**
DAGI	**Agillar**	**1.45**	**153**	IAML_P			
	comp=Z,172nm,0.1s						
DAGI				*i* P	**Pb**	**02 01 15.4**	**0.0**
NEY	**Neytrino**	**1.52**	**54**	*e*Pg	**Pn**	**02 01 15.6**	**-0.3**
NEY				*e*Sg	**Sn**	**02 01 34.8**	**-1.3**
SOC	**Sochi**	**1.55**	**322**	*e*Pg	**Pn**	**02 01 15.4**	**-0.7**
SOC				*e*Sg	**Sn**	**02 01 36.1**	**-0.4**
DDEM	**Demirkent**	**1.57**	**160**	IAML_P			
	comp=Z,574nm,0.1s						
DDEM				*i* P	**Pb**	**02 01 17.2**	**-0.4**
DDEM				*i* S	**Sg**	**02 01 38.3**	**-0.2**
KTUT	**Trabzon**	**1.68**	**215**	PN	**Pn**	**02 01 17.5**	**-0.3**
MACK	**Trabzon**	**1.71**	**214**	*i* P	**Sn**	**02 01 41.2**	**+0.7**
MACK				*i* S	**Sg**	**02 01 45.2**	**+2.1**
SHA1	**Shidzhatmaz**	**1.81**	**40**	*i* Pg	**Pb**	**02 01 21.8**	**0.0**
SHA1				*e*Sg	**Sn**	**02 01 44.2**	**+0.9**
DIGR	**Digorskoe uzhe**	**1.95**	**73**	*e*Pg	**Pn**	**02 01 22.7**	**+0.9**
DIGR				*i* Sg	**Sn**	**02 01 47.5**	**+0.8**
LZRR	**Lazarevskoye**	**1.98**	**323**	*e*Pg	**Pb**	**02 01 24.6**	**+0.2**
LZRR				*e*Sg	**Sb**	**02 01 50.3**	**+1.0**
KIV	**Kislovodsk**	**2.00**	**37**	PN	**Pn**	**02 01 23.6**	**+1.3**
KIV0	**Kislovodsk Arr**	**2.00**	**37**	*e*Pg	**Pb**	**02 01 24.0**	**-0.9**
KIV0				*e*Sg	**Sb**	**02 01 49.5**	**-0.5**
ZEI	**Tsey**	**2.16**	**78**	*e*Pg	**Pg**	**02 01 30.3**	**+0.8**
ZEI				*e*Sg	**Sg**	**02 01 57.4**	**-0.1**
BAYB	**BAYBURT**	**2.19**	**196**	*i* P	**Pg**	**02 01 29.5**	**-0.5**
BAYB				*i* S	**Sn**	**02 01 52.9**	**+0.3**
ESPY	**Espiye-Giresun**	**2.26**	**231**	PN	**Pn**	**02 01 25.6**	**-0.2**
LACR	**Lac**	**2.45**	**78**	*e*Pn	**Pb**	**02 01 32.3**	**-0.2**
LACR				*i* Sn	**Sb**	**02 02 03.0**	**-0.1**

*IDC **22** 02:06:11.8±2.7, 16°.25N×96°.21E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.3/30, mbtmp3.6/3, ML4.1/1, MS2.6/1, Ms1 2.8/1, ms1mx2.5/42, Error ellipse: s-maj=35.4km s-min=24.2km az=1.0*
ISC 22 02:06:14.3±1.9, 16°.4N±0°.1×95°.9E±0°.2, h10km, n13, σ2s45/12, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UMPA	**Umpang Tak**	**2.82**	**93**	P	**Pn**	**02 06 57.2**	**-2.4**
UTHA	**Uthaitani**	**3.48**	**103**	P	**Pn**	**02 07 05.8**	**-2.8**
CMAR	**Chiang Mai Arr**	**3.56**	**54**	Pn	**Pn**	**02 07 05.8**	**-3.8**
	4.3nm,0.3s,baz=237,slow=14,SNR=21						
CMAR				Lg	Lg	02 08 00.8	
	5.6nm,0.3s,baz=234,slow=33,SNR=7.3						
CMAR				LR	LR	02 08 20.7	
	comp=Z,88nm,18.8s,baz=215,slow=38						
SRDT	**SRDT**	**3.67**	**123**	P	Pg	02 07 34.1	+9.3
SUKH	**Sukhothai**	**3.72**	**72**	P	**Pn**	**02 07 08.5**	**-3.4**
CHTO	**Chiang Mai**	**3.77**	**49**	P	**Pn**	**02 07 11.6**	**-1.1**
CMMT	**Chiang Mai**	**3.78**	**49**	P	**Pn**	**02 07 11.1**	**-1.6**
LAMP	**Lampang**	**4.14**	**58**	P	**Pn**	**02 07 17.9**	**+0.2**
UTTA	**Uttaradit**	**4.64**	**72**	P	**Pb**	**02 07 37.4**	**+1.6**
PBKT	**Sadao Pong**	**4.84**	**87**	P	**Pn**	**02 07 30.1**	**+2.8**
PHET	**Kaeng Krachan**	**4.96**	**133**	P	**Pg**	**02 07 49.5**	**+0.1**
MKAR	**Makanchi Array**	**32.39**	**342**	P	**P**	**02 12 45.2**	**+1.0**
	0.4nm,0.4s,baz=151,slow=9.2,SNR=9.8						
ZALV	**Zalesovo Beam**	**38.50**	**349**	P	**P**	**02 13 36.7**	**+0.1**
	0.4nm,0.4s,baz=164,slow=7.5,SNR=3.2						

IDC 22 02:23:24.0±28.0, 16°.76S×176°.63W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/27, mbtmp4.1/4, Error ellipse: s-maj=542.1km s-min=144.7km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.67**	**240**	P	P	02 31 06.7	+0.4
	1.8nm,0.7s,baz=75,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**46.52**	**258**	P	P	02 31 53.1	-0.5
	0.7nm,0.5s,baz=95,slow=7.5,SNR=9.7						
ASAR	**Alice Springs**	**46.75**	**253**	P	P	02 31 55.5	+0.1
	4.8nm,0.8s,baz=88,slow=8.4,SNR=48						
FITZ	**Fitzroy Crossi**	**54.90**	**259**	P	P	02 32 56.6	-0.3
	1.5nm,0.6s,baz=72,slow=9.6,SNR=3.7						

MEX 22 02:24:02.5±0.6, 17°.20N×100°.07W, h27km±10km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.24**	**232**	*e*P	Pb	02 24 07.0	-1.8
CAIG				*i* S	Sb	02 24 12.1	-1.1
ACP2	**Acapulco**	**0.36**	**151**	*e*P	Pb	02 24 08.8	-1.8
ACP2				*i* S	Sb	02 24 14.5	-1.7
MEIG	**Mezcala**	**0.84**	**31**	*e*P	Pb	02 24 16.1	-2.6
MEIG				*i* S	Sb	02 24 26.9	-2.7
ARIG	**Puente Sto Nin**	**1.11**	**346**	*e*P	Pn	02 24 19.7	-2.7
ARIG				*e*S	Sn	02 24 33.2	-3.6
PLIG	**Platanillo**	**1.31**	**24**	*e*P	Pn	02 24 22.8	-2.4
PLIG				*e*S	Sn	02 24 37.9	-3.8
ZIIG	**Zihuatanejo**	**1.39**	**287**	*e*P	Pn	02 24 23.4	-2.8
ZIIG				*i* S	Sn	02 24 40.8	-2.8

*DJA **22** 02:32:06.7±1.3, 5°N±7°×9°6E±°, h10km, M3.8/6, MLv3.8/6*
*IDC **22** 02:34:01.0±10.0, 4°.27S×106°.42E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/34, mbtmp3.7/3, Error ellipse: s-maj=284.5km s-min=32.3km az=73.0*
ISC 22 02:32:04.8±2.6, 5°.2N±0°.2×95°.8E±0°.1, h10km, n6, σ0s46/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**1.18**	**87**	P	**Pb**	**02 32 27.4**	**+0.2**
LHMI				S	**Sg**	**02 32 42.1**	**-0.6**
TPTI		**2.35**	**143**	P	**Pn**	**02 32 43.8**	**+0.3**
TPTI				S	**Sn**	**02 33 12.5**	**0.0**
KCSI	**Kotacane, Aceh**	**2.58**	**129**	P	**Pn**	**02 32 47.3**	**+0.7**
SNSI	**Sinabang, Aceh**	**2.79**	**168**	P	**Pn**	**02 32 49.5**	**0.0**
WRA	**Warramunga Arr**	**45.39**	**125**	P	**P**	**02 40 23.5**	**-0.4**
	0.4nm,0.6s,baz=299,slow=9.4,SNR=2.9						
ASAR	**Alice Springs**	**46.95**	**129**	P	**P**	**02 40 36.1**	**-0.1**
	0.7nm,0.5s,baz=300,slow=7.9,SNR=12						

*ISCJB **22** 02:32:57.8±0.3, 42°.42N±0°.02×40°.95E±0°.03, h10km, mb3.9/2, Error ellipse: s-maj=3.4km s-min=2.3km az=177.2*
*TIF **22** 02:32:58.5, 42°.35N×40°.99E, h27km±4km*
*ISK **22** 02:32:58.3, 42°.31N×40°.95E, h10km, ML2.8/6*
*MOS **22** 02:32:59.4±0.0, 42°.45N×41°.01E, h11km, MPVA3.5*
*NORS **22** 02:33:00.0±0.0, 42°.54N×41°.28E, h6km, MPVA3.3*
*DDA **22** 02:33:00.2, 42°.16N×40°.96E, h7km±4km, ML3.2*
ISC 22 02:32:59.4±0.7, 42°.39N±0°.02×41°.01E±0°.02, h10km, n52, σ1s43/82, 4C-4D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DOMR	**Dombai**	**1.01**	**26**	*e*PG	**Pb**	**02 33 18.4**	**-0.7**
DOMR				*i* S	**Sb**	**02 33 31.0**	**-1.5**
DOMR	**Dombai**	**1.01**	**26**	*e*Pg	**Pb**	**02 33 18.4**	**-0.7**
DOMR				*e*Sg	**Sb**	**02 33 30.9**	**-1.5**
BCA	**Borcka**	**1.05**	**154**	PG	**Pb**	**02 33 18.1**	**-1.5**
BCA				SG	**Sg**	**02 33 32.3**	**-0.8**
DBOC	**Borcka**	**1.15**	**155**	IAML_P			
	comp=Z,4μm,0.1s						
DBOC				*i* P	**Pb**	**02 33 20.2**	**-1.2**
DBOC				*i* S	**Sb**	**02 33 35.7**	**-0.7**
ARXR	**Arkhyz**	**1.19**	**9**	*e*Pg	**Pb**	**02 33 20.8**	**-1.3**
ARXR				*e*Sg	**Sb**	**02 33 36.2**	**-1.4**
CHOM	**Cayeli-Rize**	**1.30**	**188**	PN	**Pn**	**02 33 22.1**	**-1.6**
CHOM				SN	**Sb**	**02 33 39.2**	**-1.6**
ARTV	**Artvin**	**1.39**	**150**	IAML_P			
	comp=Z,3μm,0.1s						
ARTV				*i* P	**Pn**	**02 33 23.4**	**-1.6**
ARTV				*i* S	**Sn**	**02 33 41.4**	**-2.0**
RPOR	**Krasnaya Polya**	**1.42**	**338**	*e*PG	**Pb**	**02 33 25.1**	**-0.9**
RPOR				*e*S	**Sg**	**02 33 44.9**	**-0.1**
RPOR	**Krasnaya Polya**	**1.42**	**338**	*e*Pg	**Pb**	**02 33 24.9**	**-1.1**
RPOR				*e*Sg	**Sg**	**02 33 43.8**	**-1.2**
DBAD	**Bademkaya**	**1.46**	**159**	IAML_P			
	comp=Z,1μm,0.1s						
DBAD				*i* P	**Pn**	**02 33 24.5**	**-1.4**
DBAD				*i* S	**Sn**	**02 33 43.9**	**-1.3**
DAGI	**Agillar**	**1.48**	**152**	IAML_P			
	comp=Z,465nm,0.1s						
DAGI				*i* P	**Pn**	**02 33 24.9**	**-1.2**
NEY	**Neytrino**	**1.52**	**55**	*e*PG	**Pn**	**02 33 26.2**	**-0.7**
NEY				*e*S	**Sn**	**02 33 45.2**	**-1.7**
NEY	**Neytrino**	**1.52**	**55**	*e*Pg	**Pn**	**02 33 26.0**	**-0.9**
NEY				*e*Sg	**Sn**	**02 33 45.2**	**-1.7**
SOC	**Sochi**	**1.52**	**322**	*e*PG	**Pb**	**02 33 26.9**	**-0.8**
SOC				*e*		02 33 48.0	
SOC				pmax	pmax		
	comp=Z,20nm,0.2s						
SOC				smax	smax		
	comp=N,117nm,0.2s						
SOC				smax	smax		
	comp=E,75nm,0.2s						
SOC	**Sochi**	**1.52**	**322**	*e*Pg	**Pn**	**02 33 25.4**	**-1.2**
SOC				*e*Sg	**Sg**	**02 33 46.7**	**-1.7**
DDEM	**Demirkent**	**1.59**	**159**	IAML_P			
	comp=Z,2μm,0.1s						
DDEM				*i* P	**Pn**	**02 33 27.9**	**+0.2**
DDEM				*i* S	**Sn**	**02 33 46.2**	**-2.2**
KTUT	**Trabzon**	**1.68**	**214**	PN	**Pn**	**02 33 26.9**	**-1.9**
SHA1	**Shidzhatmaz**	**1.81**	**41**	*e*PN	**Pb**	**02 33 31.5**	**-1.2**
SHA1	**Shidzhatmaz**	**1.81**	**41**	*i* Pg	**Pb**	**02 33 31.3**	**-1.5**
SHA1				*e*Sg	**Sb**	**02 33 54.3**	**-1.3**
LZRR	**Lazarevskoye**	**1.95**	**323**	*e*Pg	**Pb**	**02 33 34.8**	**-0.2**
LZRR				*i* Sg	**Sg**	**02 34 00.3**	**-1.8**
DIGR	**Digorskoe uzhe**	**1.96**	**74**	*e*PN	**Pb**	**02 33 34.1**	**-1.3**
DIGR	**Digorskoe uzhe**	**1.96**	**74**	*e*Pg	**Pb**	**02 33 34.9**	**-0.4**
DIGR				*e*Sg	**Sn**	**02 33 58.1**	**+0.4**
KIV	**Kislovodsk**	**1.99**	**38**	PN	**Pb**	**02 33 33.9**	**-1.8**
KIV	**Kislovodsk**	**1.99**	**38**	*e*PN	**Pb**	**02 33 34.7**	**-1.0**
KIV0	**Kislovodsk Arr**	**1.99**	**38**	*i* Pg	**Pb**	**02 33 34.4**	**-1.4**
KIV0				*e*Sg	**Sb**	**02 33 56.5**	**-1.3**
BEYR	**Belyy Ugol+**	**2.09**	**39**	*e*PN	**Pb**	**02 33 36.3**	**-1.1**
BEYR				*e*S	**Sb**	**02 34 02.8**	**-0.7**
BEYR	**Belyy Ugol+**	**2.09**	**39**	*e*Pg	**Pb**	**02 33 36.3**	**-1.1**
BEYR				*e*Sg	**Sb**	**02 34 02.8**	**-0.7**
BAYT	**Aydıntepe-Bayb**	**2.10**	**198**	PN	**Pn**	**02 33 33.3**	**-1.4**
ZEI	**Tsey**	**2.17**	**78**	*e*PN	**Pn**	**02 33 36.7**	**+0.9**
ZEI				*e*S	**Sb**	**02 34 04.8**	**-1.2**
ZEI	**Tsey**	**2.17**	**78**	*e*Pg	**Pn**	**02 33 35.8**	**+0.1**
ZEI				*e*Sg	**Sb**	**02 34 04.2**	**-1.7**
NCK	**Nalchik**	**2.20**	**59**	*e*PN	**Pn**	**02 33 33.8**	**-2.2**
BAYB	**BAYBURT**	**2.20**	**195**	*i* P	**Pn**	**02 33 36.2**	**0.0**
BAYB				*i* S	**Sn**	**02 34 03.3**	**-0.3**
BGD	**Bogdanovka**	**2.24**	**119**	P	**Sg**	**02 34 08.7**	**-2.5**
LSNR	**Lesken**	**2.25**	**66**	*i* Pg	**Pb**	**02 33 39.5**	**-0.7**
LSNR				*e*Sg	**Sg**	**02 34 09.5**	**-2.3**
ESPY	**Espiye-Giresun**	**2.26**	**230**	PN	**Pn**	**02 33 35.5**	**-1.3**
KBTC	**Kuba-Taba**	**2.26**	**50**	*e*Pg	**Pn**	**02 33 35.1**	**-1.8**
KBTC				*i* Sg	**Sn**	**02 34 03.8**	**-1.1**
KORR	**Kora**	**2.36**	**72**	*e*Pn	**Sb**	**02 33 37.0**	**-1.2**
KORR				*e*Sn	**Sb**	**02 34 12.2**	**+1.0**
TRLG	**Trialeti**	**2.46**	**109**	P	**Pb**	**02 33 42.5**	**-1.2**
TRLG				S	**Sb**	**02 34 13.6**	**-0.5**
LACR	**Lac**	**2.47**	**79**	*e*PN	**Pb**	**02 33 42.9**	**-1.0**
LACR				*e*S	**Sb**	**02 34 12.9**	**-1.4**
LACR	**Lac**	**2.47**	**79**	*e*Pn	**Pn**	**02 33 40.4**	**+0.6**
LACR				*e*Sn	**Sb**	**02 34 12.1**	**-2.3**
KELT	**Kelkit**	**2.60**	**211**	*i* P	**Pn**	**02 33 42.3**	**+0.7**
KELT				*i* S	**Sn**	**02 34 13.8**	**+0.4**
TBLG	**Delisi**	**2.85**	**102**	PN	**Pn**	**02 33 45.7**	**+0.7**
GOF	**Gofitskoye**	**3.05**	**28**	*e*PN	Pg	02 34 02.6	+4.8
GOF				*e*S	**Sg**	**02 34 38.6**	**+1.3**
GOF				pmax	pmax		
	comp=Z,20nm,0.6s						
GOF				smax	smax		
	comp=E,20nm,0.6s						
ANN	**Anapa**	**3.54**	**314**	*e*PN	**Pn**	**02 33 52.9**	**-1.5**
ANN				pmax	pmax		
	comp=Z,27nm,1.3s						
GNI	**Garni**	**3.59**	**127**	*e*PN	**Pn**	**02 33 57.9**	**+2.6**
LGD	**Lagodekhi**	**3.93**	**96**	P	**Sb**	**02 34 57.8**	**+1.4**
KIEV	**Kiev**	**11.61**	**320**	*e*P	**Pn**	**02 35 48.9**	**+3.9**
KIEV				pmax	pmax		
	comp=Z,7.0nm,1.3s						
BRVK	**Borovoye**	**22.24**	**51**	*e*P	**P**	**02 37 57.7**	**+1.6**
AAK	**Ala-Archa**	**24.60**	**78**	*e*P	**P**	**02 38 19.7**	**-0.1**
KURK	**Kurchatov**	**26.93**	**59**	*e*P	**P**	**02 38 41.9**	**+1.3**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.8s						
ULN	**Ulaanbaatar**	**45.64**	**59**	*e*P	**P**	**02 41 22.3**	**+2.3**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.8s						
ABPO	**Ambohimpanom**	**61.37**	**173**	*e*P	**P**	**02 43 17.3**	**+1.7**

IDC 22 02:36:26.7±4.9, 65°.27S×179°.51W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.9/25, mbtmp3.9/4, ML3.5/1, MS3.5/4, Ms1 3.5/4, ms1mx3.2/23, Error ellipse: s-maj=156.1km s-min=27.7km az=69.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**13.54**	**197**	Pn	Pn	02 39 38.5	-1.2
	0.2nm,0.3s,baz=45,slow=17,SNR=11						
VNDA				LR	LR	02 43 04.5	
	comp=Z,132nm,19.1s,baz=123,slow=29		

SFK	**Sufi-Kurgan**	**4.66**	**34**	⇑P		**Pn**	**03 08 51.1**	**+2.3**
	12nm,0.4s							
SFK				⇓S		**Sn**	**03 09 44.5**	**+2.7**
	17nm,0.4s							
AML	**Almayashu**	**6.55**	**24**	P		**Pn**	**03 09 15.8**	**+1.3**
	SNR=36							
MNAS	**Manas**	**6.56**	**16**	⇓P		**Pn**	**03 09 15.4**	**+1.0**
	1.7nm,0.4s							
MNAS				⇑S		**Sn**	**03 10 28.5**	**+0.8**
	4.4nm,0.4s							
KK31	**Karatay Array**	**6.91**	**2**	⇓P		**Pn**	**03 09 20.2**	**+1.2**
	2.1nm,0.3s,baz=189,slow=13,SNR=23							
KK31				⇑S		**Sn**	**03 10 37.5**	**+1.3**
	1.6nm,0.3s,baz=195,slow=25,SNR=3.9							
UCH	**Uchtor**	**6.93**	**28**	P		**Pn**	**03 09 21.0**	**+1.3**
	SNR=6.8							
EKS2	**Erkin-Say**	**7.06**	**23**	P		**Pn**	**03 09 23.2**	**+2.0**
	SNR=12							
KZA	**Kyzart**	**7.11**	**33**	P		**Pn**	**03 09 22.7**	**+0.6**
	SNR=10							
AAK	**Ala-Archa**	**7.28**	**26**	P		**Pn**	**03 09 25.7**	**+1.5**
	2.4nm,0.3s,baz=189,slow=7.4,SNR=29							
AAK				S		**Sn**	**03 10 44.4**	**-0.9**
	0.8nm,0.3s,baz=317,slow=21,SNR=12							
AAK	**Ala-Archa**	**7.28**	**26**	P		**Pn**	**03 09 25.9**	**+1.7**
	SNR=11							
AAK	**Ala-Archa**	**7.28**	**26**	⇓P		**Pn**	**03 09 25.2**	**+1.0**
	6.3nm,0.6s							
AAK				⇑S		**Sn**	**03 10 43.9**	**-1.4**
	7.2nm,0.7s							
KBK	**Karagaybulak**	**7.47**	**29**	P		**Pn**	**03 09 28.4**	**+1.7**
	SNR=6.6							
CHMS	**Chumysh**	**7.69**	**26**	P		**Pn**	**03 09 30.9**	**+1.3**
	SNR=12							
USP	**Ospenovka**	**7.84**	**24**	P		**Pn**	**03 09 33.5**	**+1.9**
	SNR=11							
TKM2	**Tokmak 2**	**7.95**	**31**	P		**Pn**	**03 09 33.9**	**+0.6**
	SNR=11							
TKM2	**Tokmak 2**	**7.95**	**31**	⇑P		**Pn**	**03 09 34.0**	**+0.7**
	4.2nm,0.5s							
TKM2				⇑S		**Sn**	**03 11 01.8**	**+0.2**
	3.2nm,0.8s							
GEYT	**Alibeck**	**9.74**	**284**	P		**Pn**	**03 09 56.1**	**-1.4**
	1.1nm,0.3s,baz=95,slow=12,SNR=9.0							
GEYT				S		**Sn**	**03 11 45.0**	**0.0**
	1.0nm,0.3s,baz=94,slow=23,SNR=5.1							
GYA0B	**ALIBECK ARRAY**	**9.74**	**284**	⇓P		**Pn**	**03 09 57.5**	**0.0**
	2.3nm,0.6s							
GYA0B				⇑S		**Sn**	**03 11 43.8**	**-1.1**
	5.7nm,0.6s							
PYUN	**Piuthan**	**13.56**	**123**	*e*P		Pn	03 10 44.0	-4.9
DANN	**Dangsing**	**13.94**	**120**	*e*P		Pn	03 10 49.5	-4.4
MKAR	**Makanchi Array**	**13.97**	**37**	P		**Pn**	**03 10 54.9**	**+1.1**
	0.1nm,0.3s,baz=224,slow=15,SNR=7.2							
KOLN	**Koldanda**	**14.19**	**122**	*e*P		Pn	03 10 52.7	-4.3
AB31	**Akbulak array**	**15.02**	**334**	⇑P		**Pn**	**03 11 08.1**	**+0.8**
	1.5nm,0.4s,baz=153,slow=12,SNR=83							
AB31				⇑S		**Sn**	**03 13 46.9**	**-6.0**
	2.7nm,0.6s,baz=149,slow=22,SNR=13							
DMN	**Daman**	**15.33**	**120**	*e*P		**Pn**	**03 11 07.1**	**-4.5**
	8.3nm,0.5s							
KKN	**Kakani**	**15.35**	**119**	*e*P		**Pn**	**03 11 07.7**	**-4.0**
	8.5nm,0.4s							
PKIN	**Phulchoki**	**15.56**	**119**	*e*P		**Pn**	**03 11 10.7**	**-3.7**
	8.9nm,0.5s							
KURBB	**Kurchatov Arra**	**15.65**	**20**	P		**Pn**	**03 11 15.1**	**-0.1**
	0.0nm,0.3s,baz=212,slow=12,SNR=3.0							
GUN	**Gumba**	**15.71**	**117**	*e*P		**Pn**	**03 11 13.5**	**-2.8**
	5.5nm,0.4s							
JIRN	**Jiri**	**16.07**	**117**	*e*P		**Pn**	**03 11 17.6**	**-3.4**
	26nm,0.5s							
AKTO	**Aktyubinsk**	**16.70**	**332**	P		**Pn**	**03 11 30.0**	**+1.9**
	0.3nm,0.3s,baz=139,slow=11,SNR=5.4							
AKTO				S		**Sn**	**03 14 26.1**	**-7.3**
	0.1nm,0.3s,baz=53,slow=20,SNR=8.1							
AKTO	**Aktyubinsk**	**16.70**	**332**	⇑P		**P**	**03 11 31.1**	**+2.3**
	2.4nm,0.9s							
AKTO				⇓S		**Sn**	**03 14 27.2**	**-6.2**
	6.2nm,0.9s							
RAMN	**Ramite**	**16.79**	**119**	*e*P		**Pn**	**03 11 27.0**	**-2.7**
	12nm,0.5s							
BVAR	**Borovoye Array**	**16.83**	**1**	P		**Pn**	**03 11 30.2**	**+0.5**
	0.1nm,0.3s,baz=175,slow=18,SNR=2.9							
ZALV	**Zalesovo Beam**	**20.50**	**25**	P		**P**	**03 12 12.2**	**+2.0**
	3.1nm,0.4s,baz=213,slow=11,SNR=9.7							
BRTR	**Keskin Array B**	**28.84**	**288**	P		**P**	**03 13 34.2**	**+4.8**
	0.5nm,0.7s,baz=79,slow=9.0,SNR=3.6							
CHTO	**Chiang Mai**	**30.72**	**117**	P		P	03 13 54.1	+8.0
CMMT	**Chiang Mai**	**30.73**	**117**	P		P	03 13 54.0	+7.9
SUKH	**Sukhothai**	**32.08**	**118**	P		P	03 13 52.2	-5.8
	11nm,0.6s							
UTTA	**Uttaradit**	**32.58**	**116**	P		P	03 13 58.4	-3.9
	5.0nm,0.9s							
ESDC	**Sonseca Array**	**56.96**	**298**	LR		LR	03 45 08.7	
	comp=Z,96nm,18.1s,baz=330,slow=40							

*ISCJB **22** 03:14:05.7±0.6,37.°91N±0.°04×28.°78E±0.°05,h9^{km}±8^{km}, Error ellipse: s-maj=6.5km s-min=5.9km az=163.3*
*DDA **22** 03:14:05.5,37.°92N×28.°80E,h7^{km}×2^{km},ML2.5*
*ISK **22** 03:14:05.3,37.°92N×28.°82E,h13^{km}±5^{km},ML2.2/4*

ISC 22 03:14:05.6±1.1,37.°91N±0.°04×28.°81E±0.°04,h15^{km}±11^{km}, n8,σ0°39/13,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.24**	**131**	PG	**Pg**	**03 14 10.8**	**-0.1**
DENT				SG	**Sg**	**03 14 14.6**	**+0.2**
TAVA	**DENIZLI_Tavas**	**0.45**	**169**	*i* P	**Pb**	**03 14 15.1**	**-0.2**
TAVA				*i* S	**Sb**	**03 14 21.7**	**-0.3**
MANT	**Manisa**	**0.61**	**341**	IAML_P			
	comp=Z,245nm,0.1s						
MANT				*i* P	**Pb**	**03 14 18.3**	**0.0**
MANT				*i* S	**Sb**	**03 14 26.5**	**-0.3**
KULA	**Kula-Manisa**	**0.61**	**349**	PG	**Pg**	**03 14 17.6**	**-0.1**
KHAL	**Karahalli**	**0.71**	**49**	*i* P	**Pb**	**03 14 19.5**	**-0.3**
KHAL				*i* S	**Sb**	**03 14 30.3**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**0.73**	**273**	PG	**Pb**	**03 14 20.0**	**-0.1**
AYDN	**Tasoluk**	**0.78**	**252**	IAML_P			
	comp=Z,560nm,0.1s						
AYDN				*i* P	**Pb**	**03 14 21.0**	**+0.1**
AYDN				*i* S	**Sg**	**03 14 30.9**	**-0.1**
MLSB	**Milas**	**1.02**	**234**	PG	**Pb**	**03 14 25.5**	**+0.4**

IDC 22 03:16:40.8±2.9,4.°13S×135.°92E,h0^{km},mb3.3/1, mb1 3.6/3,mb1mx3.4/28,mbtmp3.4/3,ML3.5/2,Error ellipse: s-maj=111.5km s-min=16.0km az=86.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.79**	**185**	Pn	Pn	03 20 25.4	+0.6
	0.2nm,0.3s,baz=3.8,slow=12,SNR=8.8						
WRA				Sn	Sn	03 23 02.1	-19
	0.1nm,0.3s,baz=3.0,slow=23,SNR=4.1						
ASAR	**Alice Springs**	**19.52**	**186**	P	P	03 21 08.8	-1.2
	0.1nm,0.3s,baz=6.6,slow=11,SNR=9.5						
ASAR				S	S	03 24 51.9	+0.4
	0.1nm,0.3s,baz=8.9,slow=30,SNR=4.0						
MKAR	**Makanchi Array**	**69.24**	**324**	P	P	03 27 49.9	+0.2
	0.2nm,0.7s,baz=112,slow=7.6,SNR=2.7						

IDC 22 03:26:34.7±2.6,6.°07S×131.°10E,h0^{km},mb3.7/1, mb1 3.6/4,mb1mx3.4/30,mbtmp3.4/4,ML3.0/2,Error ellipse: s-maj=113.7km s-min=28.9km az=79.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.09**	**204**	Pn	Pn	03 29 41.3	-0.8
	0.1nm,0.3s,baz=24,slow=12,SNR=3.3						
WRA	**Warramunga Arr**	**14.14**	**167**	Pn	Pn	03 29 54.4	-2.1
	0.1nm,0.3s,baz=351,slow=14,SNR=5.0						
WRA				Sn	Sn	03 32 27.0	-7.2
	0.1nm,0.3s,baz=334,slow=23,SNR=5.4						
ASAR	**Alice Springs**	**17.70**	**172**	P	P	03 30 44.8	+1.0
	baz=345,slow=9.1,SNR=3.2						
MKAR	**Makanchi Array**	**68.06**	**326**	P	P	03 37 36.2	0.0
	0.4nm,0.5s,baz=118,slow=8.2,SNR=6.3						

*NIED **22** 03:42:00,42.°10N×142.°60E,h50^{km},Mw3.7 Best double couple: M₀4.27000×10^{14} NP1:φ$_s$196.00000°,δ25.00000°, λ74.00000°. NP2:φ$_s$34.00000°,δ66.00000°,λ98.00000°.*

*ISCJB **22** 03:42:44.5±0.4,42.°12N±0.°05×142.°60E±0.°04,h72^{km}±3^{km}, mb3.6/9,Error ellipse: s-maj=7.9km s-min=4.6km az=165.0*
*MOS **22** 03:42:45.1±0.6,42.°13N×142.°71E,h87^{km},mb4.0/4,Error ellipse: s-maj=23.3km s-min=13.9km az=72.7*
*JMA **22** 03:42:45.3±0.2,42.°12N×142.°61E,h64^{km}±2^{km},M3.7 Broadband fault plane solution: P waves. NP1: φ$_s$9.00000°,δ82.00000°,λ95.00000°. NP2:φ$_s$158.00000°, δ9.00000°,λ59.00000°. Principal axes: T Plg53.0000°, Azm285.0000°; N Plg5.0000°, Azm189.0000°; P Plg37.0000°, Azm95.0000°;*
JMA Felt I J1.
*IDC **22** 03:42:47.1±3.8,42.°11N×142.°66E,h86^{km}±34^{km},mb3.3/7, mb1 3.4/9,mb1mx3.2/33,mbtmp3.6/9,MS2.6/1,Ms1 2.6/1, ms1mx2.3/15 Error ellipse: s-maj=31.5km s-min=21.4km az=70.0*

ISC 22 03:42:44.9±0.8,42.°09N±0.°05×142.°59E±0.°03,h67^{km}±6^{km}, n43,σ1°23/50,mb4.0/14,9C-9D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNBK	**Urakawa-nobuka**	**0.23**	**33**	⇑P	**Pn**	**03 42 55.0**	**-0.3**
JNBK				*e*S	**Sn**	**03 43 02.5**	**-0.4**
JSHD	**Hidakashinhida**	**0.33**	**345**	⇑P	**Pn**	**03 42 56.0**	**0.0**
JSHD				*e*S	**Sn**	**03 43 04.3**	**+0.3**
JEM	**Erimo**	**0.43**	**99**	⇑P	**Pn**	**03 42 57.2**	**+0.5**
JEM				*e*S	**Sn**	**03 43 06.2**	**+0.8**
JTHR	**Tokachihiroo**	**0.57**	**69**	⇑P	**Pn**	**03 42 58.2**	**+0.1**
JTHR				*e*S	**Sn**	**03 43 07.9**	**+0.1**
JBT2	**Biratori 2**	**0.71**	**347**	⇓P	**Pn**	**03 42 59.5**	**-0.2**
JBT2				*e*S	**Sn**	**03 43 10.2**	**-0.4**
JIAM	**Iburiatsuma**	**0.73**	**318**	P	**Pn**	**03 43 00.8**	**+1.0**
JCH	**Churui**	**0.78**	**47**	⇑P	**Pn**	**03 43 00.5**	**0.0**
JCH				*e*S	**Sn**	**03 43 11.9**	**-0.1**
JFR	**Furan**	**1.07**	**0**	⇓P	**Pn**	**03 43 04.1**	**-0.1**
JEW	**Eniwo**	**1.13**	**312**	⇓P	**Pn**	**03 43 05.3**	**+0.5**
JEW				*e*S	**Sn**	**03 43 20.8**	**+1.1**
JKB	**Kayabe**	**1.18**	**261**	⇓P	**Pn**	**03 43 05.7**	**+0.3**
JKB				*e*S	**Sn**	**03 43 20.9**	**+0.1**
JNB	**Noboribetsu**	**1.21**	**289**	⇓P	**Pn**	**03 43 05.4**	**-0.5**
JNB				*e*S	**Sn**	**03 43 20.9**	**-0.7**
JOB	**Onbets**	**1.23**	**48**	⇑P	**Pn**	**03 43 07.2**	**+1.1**
JOB				*e*S	**Sn**	**03 43 23.6**	**+1.5**
JOT	**Ohata**	**1.35**	**239**	⇓P	**Pn**	**03 43 08.1**	**+0.4**
JAB	**Ashibetsu**	**1.44**	**349**	P	**Pn**	**03 43 09.5**	**+0.6**
JISS	**Ishikarishitsu**	**1.47**	**324**	P	**Pn**	**03 43 09.7**	**+0.5**
JAR	**Ashorobuto**	**1.49**	**35**	⇑P	**Pn**	**03 43 09.7**	**+0.1**
JAR				*e*S	**Sn**	**03 43 27.5**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**3.09**	**50**	*e*PN	**Pn**	**03 43 32.3**	**+1.1**
YUK				S	**Sn**	**03 44 07.9**	**+1.0**
YUK				pmax	pmax		
	comp=N,19nm,0.2s						
YUK				pmax	pmax		
	comp=Z,68nm,0.2s						
YUK				pmax	pmax		
	comp=E,22nm,0.1s						
YUK				smax	smax		
	comp=N,195nm,0.4s						
YUK				smax	smax		
	comp=E,294nm,0.3s						
SHO	**Shikotan**	**3.59**	**59**	*i* PN	**Pn**	**03 43 38.1**	**+0.1**
SHO				*e*S	**Sn**	**03 44 16.9**	**-2.2**
SHO				pmax	pmax		
	comp=Z,44nm,0.1s						
SHO				pmax	pmax		
	comp=E,10.0nm,0.2s						
SHO				pmax	pmax		
	comp=N,9.0nm,0.1s						
SHO				smax	smax		
	comp=N,106nm,0.2s						
SHO				smax	smax		
	comp=E,22nm,0.2s						
YSS	**Yuzh-Sakhalins**	**4.87**	**1**	PN	**Pn**	**03 43 56.1**	**+0.7**
MJAR	**Matsushiro Arr**	**6.49**	**213**	P	**Pn**	**03 44 21.3**	**+3.5**
	comp=E,0.1nm,0.3s,baz=26,slow=13,SNR=3.1						
USRK	**Ussuriysk Ar.**	**8.03**	**289**	P	**Pn**	**03 44 40.8**	**+2.0**
	comp=E,0.2nm,0.3s,baz=89,slow=16,SNR=6.8						
KSRS	**Korea Array**	**12.19**	**253**	P	**P**	**03 45 42.0**	**-3.6**
	comp=E,0.2nm,0.3s,baz=64,slow=14,SNR=3.6						
KSRS				LR	LR	03 49 49.2	
	comp=E,31nm,19.6s,baz=40,slow=34						
KSRS	**Korea Array**	**12.19**	**253**	PN	**P**	**03 45 42.0**	**-3.6**
KSRS				MLR	MLR		
	comp=Z,31nm,19.6s						
SONM	**Songino Array**	**26.08**	**295**	P	**P**	**03 48 13.1**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=79,slow=7.9,SNR=6.5						
H11N2	**WAKE ISLAND Hy**	**30.33**	**130**	T	T	04 20 26.8	
	baz=324,slow=75,SNR=25						
H11N1	**WAKE ISLAND Hy**	**30.34**	**130**	T	T	04 20 28.8	
	baz=324,slow=75,SNR=25						
H11N3	**WAKE ISLAND Hy**	**30.35**	**130**	T	T	04 20 29.3	
	baz=324,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**31.20**	**132**	T	T	04 21 31.8	
	baz=325,slow=76,SNR=31						
H11S3	**WAKE ISLAND Hy**	**31.20**	**132**	T	T	04 21 34.0	
	baz=325,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**31.21**	**132**	T	T	04 21 37.2	
	baz=325,slow=76,SNR=32						
ZALV	**Zalesovo Beam**	**39.35**	**308**	P	**P**	**03 50 08.2**	**+0.9**
	comp=Z,2.6nm,0.7s,baz=97,slow=7.5,SNR=9.4						
MK31	**Makanchi Array**	**42.39**	**298**	⇑Pn	**P**	**03 50 32.7**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=82,slow=11						
MK31				⇑Lg	Lg	03 51 11.4	
	comp=Z,0.3nm,0.4s,baz=79,slow=33						
MKAR	**Makanchi Array**	**42.39**	**298**	P	**P**	**03 50 33.2**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=80,slow=9.3,SNR=8.8						
MAKZ	**Makanchi**	**42.59**	**298**	⇓Pn	**P**	**03 50 33.4**	**-0.7**
	comp=Z,1.3nm,1.1s						
MAKZ				⇓Lg	Lg	03 51 14.4	
	comp=Z,0.3nm,0.5s						
JIRN	**Jiri**	**47.64**	**271**	*e*P	**P**	**03 51 16.2**	**+1.4**
	comp=Z,3.5nm,0.3s						
GUN	**Gumba**	**47.74**	**272**	*e*P	**P**	**03 51 16.4**	**+0.9**
	comp=Z,11nm,0.4s						
DANN	**Dangsing**	**49.08**	**274**	*e*P	**P**	**03 51 27.2**	**+1.5**
	comp=Z,7.3nm,0.6s						
KOLN	**Koldanda**	**49.51**	**273**	*e*P	**P**	**03 51 30.1**	**+1.2**
	comp=Z,3.4nm,0.3s						
PYUN	**Piuthan**	**49.78**	**274**	*e*P	**P**	**03 51 32.1**	**+1.1**
	comp=Z,11nm,1.0s						
YKA	**Yellowknife Ar**	**59.01**	**32**	P	**P**	**03 52 37.2**	**0.0**
	comp=Z,0.1nm,0.7s,baz=307,slow=7.1,SNR=3.3						
WRA	**Warramunga Arr**	**62.19**	**189**	P	**P**	**03 52 59.4**	**+0.1**
	comp=Z,0.6nm,1.0s,baz=4.9,slow=7.1,SNR=4.1						
FINES	**FINESS Array B**	**64.79**	**332**	P	**P**	**03 53 15.7**	**-0.2**
	comp=Z,2.6nm,1.0s,baz=43,slow=8.4,SNR=6.1						
AKASG	**Malin Array Be**	**70.87**	**322**	P	**P**	**03 53 54.5**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=45,slow=5.9,SNR=4.7						

*DDA **22** 04:20:53.0,37.°12N×35.°72E,h7^{km}×4^{km},ML2.5*
*ISK **22** 04:20:54.1,37.°19N×35.°64E,h25^{km},ML2.4/9*

ISC 22 04:20:53.9±1.9,37.°19N±0.°04×35.°67E±0.°03,h13^{km}±18^{km}, n15,σ0°88/18,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEYT	**Ceyhan**	**0.19**	**161**	PG	**Pb**	**04 20 59.9**	**+0.7**
CEYT				SG	**Sb**	**04 21 04.5**	**+1.7**
KOZT	**Kozan**	**0.32**	**23**	PG	**Pb**	**04 21 02.0**	**+0.6**
KOZT				SG	**Sb**	**04 21 07.8**	**+1.3**
KARA	**Karaisali**	**0.50**	**278**	PG	**Pb**	**04 21 04.6**	**+0.1**
KARA				SG	**Sb**	**04 21 11.9**	**+0.2**
KRTS	**Karatas**	**0.66**	**201**	PG	**Pn**	**04 21 07.6**	**-1.3**
ANDN	**Andirin**	**0.66**	**54**	IAML_P			
	comp=Z,941nm,0.1s						
ANDN				*i* P	**Pn**	**04 21 07.9**	**-1.2**
GULE	**Gulek**	**0.72**	**278**	*i* P	**Pn**	**04 21 09.6**	**-0.3**
SAIM	**ADANA**	**0.85**	**22**	*i* P	**Pb**	**04 21 10.5**	**-0.1**
TAHT	**Tahtakopru-Hat**	**0.91**	**153**	PG	**Pn**	**04 21 11.8**	**-0.6**
MERS	**Mersin**	**0.97**	**251**	PG	**Pn**	**04 21 12.6**	**-0.7**
KMRS	**Kahramanmaras**	**1.03**	**72**	PG	**Pg**	**04 21 13.8**	**+0.1**
GAZ	**Gaziantep**	**1.23**	**90**	PN	**Pb**	**04 21 16.4**	**-0.6**
KERG	**Konya-Eregli**	**1.25**	**281**	*i* P	**Pb**	**04 21 17.3**	**-0.2**
GZT	**Gaziantep**	**1.52**	**83**	IAML_P			
	comp=Z,227nm,0.2s						
GZT				*i* P	**Pb**	**04 21 21.3**	**-0.7**
KEBE	**Keben-Mersin**	**1.74**	**245**	PN	**Pn**	**04 21 23.4**	**-0.4**
DARE	**Darende-Malaty**	**1.99**	**46**	PN	**Pn**	**04 21 27.3**	**0.0**

*IDC **22** 04:32:32.5±1.2,29.°44N×89.°46E,h0^{km},mb3.6/6,*

mb1 3.8/9,mb1mx3.5/41,mbtmp3.6/9,ML3.9/3,Error ellipse: s-maj=44.7km s-min=17.8km az=61.0
*ISCJB **22** 04:32:37.9±0.6,29.°68N±0.°06×89.°74E±0.°09,h33^{km}, mb3.6/6,Error ellipse: s-maj=13.0km s-min=4.7km az=145.1*
*NDI **22** 04:32:42.2±2.3,29.°73N×89.°71E,h41^{km}±36^{km},ML4.0*

ISC 22 04:32:39.0±0.8,29.°68N±0.°07×89.°65E±0.°06,h35^{km},n19, σ2°15/26,mb3.7/6,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAWA	**Tawang**	**2.85**	**136**	*e*P	**Pn**	**04 33 23.9**	**+1.6**
TAWA				*e*S	**Sn**	**04 33 56.7**	**+1.0**
GUWA	**GUWAHATI**	**3.92**	**152**	*e*P	**Pn**	**04 33 40.3**	**+3.7**
GUWA				*e*S	**Sn**	**04 34 21.5**	**+0.1**
GUWA				IAML		04 34 24.5	
	comp=N,405nm,0.2s						
GUWA				IAML		04 34 25.1	
	comp=E,216nm,0.1s						
TEZP	**TEZPUR**	**4.13**	**137**	*e*P	**Pn**	**04 33 42.3**	**+2.7**
TEZP				*e*S	**Sn**	**04 34 26.0**	**-0.6**
TEZP				IAML		04 34 28.7	
	comp=E,519nm,0.1s						
TEZP				IAML		04 34 28.9	
	comp=N,402nm,0.1s						
ZIRO	**ZIRO**	**4.27**	**119**	*e*P	**Pn**	**04 33 44.4**	**+2.7**
ZIRO				*e*S	**Sn**	**04 34 29.5**	**-0.9**
ITAN	**ITANAGAR**	**4.39**	**124**	*e*S	**Sn**	**04 34 32.1**	**-1.0**
ITAN				IAML		04 34 38.6	
	comp=E,363nm,0.4s						
ITAN				IAML		04 34 38.7	
	comp=N,419nm,0.3s						
SHL	**Shillong**	**4.55**	**154**	*e*P	**Pn**	**04 33 48.5**	**+2.9**
SHL				*e*S	**Sn**	**04 34 36.5**	**-0.9**
MOKO	**MOKOCHONG**	**5.45**	**127**	IAML		04 35 03.3	
	comp=E,512nm,0.5s						
KOHI	**KOHIMA**	**5.58**	**134**	*e*P	**Pn**	**04 34 02.3**	**+2.6**
KOHI				*e*S	**Sn**	**04 35 01.0**	**-1.8**
KOHI				IAML		04 35 06.8	
	comp=E,214nm,0.5s						
KOHI				IAML		04 35 07.6	
	comp=N,270nm,0.3s						
BOK	**Bokaro**	**6.76**	**211**	*e*P	**Pn**	**04 34 19.6**	**+3.8**
BOK				*e*S	**Sn**	**04 35 28.8**	**-2.8**
SAIH	**SAIHA**	**7.77**	**157**	*e*P	**Pn**	**04 34 32.6**	**+3.0**
SAIH				*e*S	**Sn**	**04 35 54.2**	**-2.3**
SAIH				IAML		04 36 01.0	
	comp=E,161nm,0.5s						
SAIH				IAML		04 36 01.4	
	comp=N,73nm,0.4s						
CMAR	**Chiang Mai Arr**	**14.02**	**141**	Pn	**Pn**	**04 35 53.0**	**-2.3**
	comp=N,0.6nm,0.3s,baz=315,slow=10,SNR=6.6						
AAK	**Ala-Archa**	**17.77**	**321**	P	**Pn**	**04 36 44.2**	**+0.6**
	comp=N,0.1nm,0.3s,baz=121,slow=12,SNR=4.0						
MKAR	**Makanchi Array**	**18.02**	**343**	P	**P**	**04 36 47.1**	**+0.4**
	comp=N,0.2nm,0.3s,baz=160,slow=9.2,SNR=9.3						
SONM	**Songino Array**	**22.25**	**31**	P	**P**	**04 37 33.8**	**+0.9**
	comp=N,4.3nm,1.1s,baz=215,slow=12,SNR=14						
KURBB	**Kurchatov Arra**	**22.53**	**341**	P	**P**	**04 37 36.8**	**+1.2**
	comp=N,0.5nm,0.4s,baz=154,slow=9.7,SNR=5.0						
ZALV	**Zalesovo Beam**	**24.50**	**353**	P	**P**	**04 37 54.9**	**+0.1**
	comp=N,0.7nm,0.4s,baz=184,slow=11,SNR=3.6						
AKASG	**Malin Array Be**	**49.20**	**313**	P	**P**	**04 41 21.4**	**-2.2**
	comp=N,0.4nm,0.4s,baz=83,slow=6.9,SNR=4.3						
WRA	**Warramunga Arr**	**65.48**	**133**	P	**P**	**04 43 17.4**	**-1.5**
	comp=N,0.2nm,0.5s,baz=328,slow=6.8,SNR=3.7						
ASAR	**Alice Springs**	**67.99**	**136**	P	**P**	**04 43 33.5**	**-1.2**
	comp=N,0.3nm,0.3s,baz=318,slow=5.9,SNR=5.7						

*ISCJB **22** 04:47:42.2±0.2,35.°88N±0.°02×32.°04E±0.°03,h86^{km}±4^{km}, mb3.6/4,Error ellipse: s-maj=4.2km s-min=2.5km az=149.3*
*GII **22** 04:47:42.9±0.4,35.°95N×32.°05E,h60^{km},MD3.5/4*
*DDA **22** 04:47:42.3,35.°89N×32.°06E,h50^{km}±4^{km},ML3.8*
*HLW **22** 04:47:42.4,35.°94N×32.°17E,h30^{km}±15^{km},Md4.0,MI3.9*
*IDC **22** 04:47:42.2±1.8,35.°94N×32.°17E,h75^{km}±23^{km},mb3.4/4, mb1 3.5/9,mb1mx3.3/49,mbtmp3.7/9,Error ellipse: s-maj=23.7km s-min=9.3km az=82.0*
*ISK **22** 04:47:42.7,35.°91N×32.°03E,h28^{km},ML3.6/32*
*NIC **22** 04:47:45.9±0.1,35.°90N×32.°21E,h35^{km},mb4.0,ML3.7*

ISC 22 04:47:42.6±0.8,35.°92N±0.°03×32.°04E±0.°03,h69^{km}±9^{km}, n103,σ1°49/129,mb3.5/4,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALAN	**Alanya-ANTALYA**	**0.63**	**359**	PG	**Pn**	**04 47 57.1**	**+0.4**
BOZY	**Bozyazi-Mersin**	**0.78**	**76**	PG	**Pn**	**04 47 58.8**	**+0.5**
ALFC	**Alefka**	**0.89**	**149**	P	**Pn**	**04 48 00.8**	**+1.1**
	baz=336						
ALFC				S	**Sn**

BRDR				*i* P		**Pn**	**04 48 21.5 +2.2**
GOLH	**Golhisar**	**2.39**	**304**	*i* P		Pn	04 48 31.9 +12
GOLH				*i* S		Sn	04 49 00.7 +13
FETY	**Fethiye**	**2.49**	**287**	PN		**Pn**	**04 48 22.3 +1.4**
SULT	**Sultanhani-AKS**	**2.56**	**27**	PN		**Pn**	**04 48 23.6 +1.7**
GULE	**Gulek**	**2.59**	**58**	*i* P		**Pn**	**04 48 25.0 +2.7**
GULE				*i* S		**Sn**	**04 48 55.4 +2.6**
KDHN	**Kadinhani**	**2.59**	**1**	IAML_P			
	comp=Z,1μm,0.2s						
KDHN				*i* P		**Pn**	**04 48 23.2 +0.8**
CHBY	**Cihanbeyli**	**2.74**	**14**	PN		**Pn**	**04 48 26.2 +1.9**
KARA	**Karaisali**	**2.77**	**60**	PN		**Pn**	**04 48 26.4 +1.8**
KRTS	**Karatas**	**2.77**	**75**	PN		**Pn**	**04 48 26.8 +2.2**
KZIL	**AFYON_Kizioren**	**2.78**	**327**	*i* P		**Pn**	**04 48 25.8 +0.9**
DALY	**Dalyan (Mula)**	**2.88**	**289**	*i* P		**Pn**	**04 48 27.7 +1.6**
DALY				*i* S		**Sn**	**04 48 59.5 +0.1**
BOLV	**Bolvadin**	**2.92**	**343**	*i* P		**Pn**	**04 48 28.6 +1.8**
TAVA	**DENIZLI_Tavas**	**2.95**	**302**	*i* P		**Pn**	**04 48 28.9 +1.8**
AKSY	**AKSARAY - Alti**	**3.05**	**26**	*i* P		**Pn**	**04 48 29.8 +1.3**
DAT	**Datca**	**3.69**	**284**	*i* P		**Pn**	**04 48 38.4 +1.1**
GDZ	**Gediz**	**3.76**	**328**	*i* P		**Pn**	**04 48 39.1 +0.9**
GDZ				*i* S		**Sn**	**04 49 18.7 -2.6**
AYDN	**Tasoluk**	**3.76**	**299**	*i* P		**Pn**	**04 48 39.7 +1.5**
HNTI	**Hanita**	**3.84**	**137**	P		**Pn**	**04 48 40.9 +1.7**
HNTI				Sn		**Sn**	**04 49 23.6 +0.6**
BRTR	**Keskin Array B**	**4.00**	**18**	P		**Pn**	**04 48 41.9 +0.3**
	comp=Z,4.4nm,0.3s,baz=193,slow=16,SNR=210						
BRTR				S		**Sn**	**04 49 25.8 -1.4**
	comp=Z,1.0nm,0.3s,baz=185,slow=26,SNR=7.2						
MMA0B	**Mount Meron ar**	**4.01**	**135**	Pn		**Pn**	**04 48 42.1 +0.4**
MMAI	**Mount Meron Ar**	**4.01**	**135**	P		**Pn**	**04 48 42.2 +0.5**
	comp=Z,26nm,0.3s,baz=302,slow=12,SNR=135						
MMAI				S		**Sn**	**04 49 26.1 -1.4**
	comp=Z,50nm,0.3s,baz=310,slow=25,SNR=21						
KSDI	**Kefar Szold**	**4.04**	**131**	Pn		**Pn**	**04 48 42.3 +0.4**
OFRI	**`Ofer**	**4.10**	**143**	Pn		**Pn**	**04 48 43.1 +0.3**
OFRI				Sn		**Sn**	**04 49 29.3 -0.2**
BLGI	**Bet Lehem HaGe**	**4.11**	**140**	Pn		**Pn**	**04 48 43.4 +0.5**
BLGI				Sn		**Sn**	**04 49 31.0 +1.2**
CDAG	**Cicekdag**	**4.13**	**26**	*i* P		**Pn**	**04 48 44.9 +1.7**
SLTI	**Sal'it**	**4.44**	**145**	Pn		**Pn**	**04 48 47.8 +0.4**
SLTI				Sn		**Sn**	**04 49 38.4 +0.7**
MMLI	**Mount Malkishu**	**4.46**	**140**	Pn		**Pn**	**04 48 49.4 +1.6**
MMLI				Sn		**Sn**	**04 49 39.1 +0.6**
HMDT	**Nahal Hemdat**	**4.66**	**141**	Pn		**Pn**	**04 48 51.9 +1.4**
AMAZ	**Amatzia**	**4.99**	**151**	Pn		**Pn**	**04 48 56.3 +1.3**
AMAZ				Sn		**Sn**	**04 49 52.3 +1.0**
DSI	**Dead Sea**	**5.16**	**146**	Pn		**Pn**	**04 48 58.7 +1.5**
DSI				Sn		**Sn**	**04 49 55.7 +0.4**
YTIR	**Yattir**	**5.22**	**150**	Pn		**Pn**	**04 48 59.2 +1.0**
MZDA	**Masada**	**5.37**	**148**	Pn		**Pn**	**04 49 01.8 +1.7**
MZDA				Sn		**Sn**	**04 50 01.7 +1.2**
KZIT	**Kziot**	**5.38**	**158**	Pn		**Pn**	**04 49 01.1 +0.9**
GHAJ	**Ghor Haditha**	**5.46**	**146**	Pn		**Pn**	**04 49 03.5 +2.1**
HBRG	**Burj al `Arab**	**5.64**	**200**	P		**Pn**	**04 49 05.0 +1.1**
	baz=201						
HBRG				AMP			04 50 00.0
	baz=201						
HBRG				S		**Sn**	**04 50 05.1 -2.2**
	baz=201						
RMNI	**Mount Ramon**	**5.78**	**156**	Pn		**Pn**	**04 49 07.0 +1.2**
HHAG	**Hagoal**	**5.95**	**180**	P		**Pn**	**04 49 08.5 +0.4**
	baz=181						
HHAG				AMP			04 50 00.0
	baz=181						
KOT	**Kottamia**	**5.98**	**182**	P		**Pn**	**04 49 09.5 +0.9**
	baz=183						
KOT				AMP			04 50 00.0
	baz=183						
MATC	**Matruh**	**6.08**	**223**	P		**Pn**	**04 49 11.6 +1.9**
	baz=224						
PRNI	**Paran**	**6.08**	**155**	Pn		**Pn**	**04 49 10.4 +0.5**
HNKL	**Nakhl**	**6.19**	**164**	P		**Pn**	**04 49 11.3 -0.1**
	baz=165						
HNKL				AMP			04 50 00.0
	baz=165						
HNKL				S		**Sn**	**04 50 17.5 -3.4**
	baz=165						
HMYD	**Mayadein**	**6.20**	**190**	P		**Pn**	**04 49 13.1 +1.6**
	baz=192						
HNAT	**Natroun**	**6.38**	**191**	P		**Pn**	**04 49 15.5 +1.5**
	baz=193						
HNAT				AMP			04 50 00.0
	baz=193						
HNAT				S		**Sn**	**04 50 22.6 -2.9**
	baz=193						
HRFI	**Mount Harif**	**6.39**	**156**	Pn		**Pn**	**04 49 14.6 +0.5**
ZNM	**Zenema**	**6.56**	**174**	P		**Pn**	**04 49 17.1 +0.6**
	baz=174						
MBRI	**Mt Berech**	**6.57**	**158**	Pn		**Pn**	**04 49 17.2 +0.6**
MBRI				Sn		**Sn**	**04 50 31.3 +1.1**
EIL	**Elat**	**6.70**	**158**	P		**Pn**	**04 49 18.8 +0.5**
	comp=Z,8.7nm,0.3s,baz=324,slow=2.8,SNR=89						
EIL				S		**Sn**	**04 50 31.0 -2.2**
	comp=Z,3.1nm,0.3s,baz=323,slow=20,SNR=8.7						
EIL	**Elat**	**6.70**	**158**	Pn		**Pn**	**04 49 18.8 +0.5**
HBST	**Basata**	**7.06**	**160**	P		**Pn**	**04 49 23.9 +0.6**
	baz=161						
HKAT	**Jabal Katrina**	**7.56**	**167**	P		**Pn**	**04 49 30.3 0.0**
	baz=167						
AKASG	**Malin Array Be**	**14.91**	**353**	P		**Pn**	**04 51 10.0 +0.7**
	comp=Z,0.7nm,0.3s,baz=176,slow=10.0,SNR=5.7						
GERES	**GERESS Array B**	**18.65**	**319**	P		**P**	**04 51 55.9 +1.1**
	comp=Z,0.1nm,0.3s,baz=134,slow=6.9,SNR=3.9						
FINES	**FINESS Array B**	**25.82**	**353**	P		**P**	**04 53 04.8 -2.3**
	comp=Z,2.0nm,0.9s,baz=156,slow=10,SNR=6.5						
ARCES	**ARCESS Array B**	**33.86**	**356**	P		**P**	**04 54 16.6 -1.5**
	comp=Z,4.0nm,0.9s,baz=170,slow=7.4,SNR=4.8						
TORD	**Torodi Ar. Bea**	**35.48**	**238**	P		**P**	**04 54 32.3 -0.3**
	comp=Z,0.2nm,0.6s,baz=31,slow=6.8,SNR=3.5						
MKAR	**Makanchi Array**	**38.65**	**58**	P		**P**	**04 54 58.6 -0.7**
	comp=Z,0.3nm,0.5s,baz=269,slow=8.0,SNR=4.5						

IDC 22 04:55:44.7±2.0, 6°01'S×130°26'E, h0km, mb3.9/1, mb1 3.9/4, mb1mx3.6/27, mbtmp3.7/4, ML3.6/3, Error ellipse: s-maj=88.5km s-min=15.6km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.83**	**200**	Pn	Pn	04 58 47.7	-0.7
	0.4nm,0.3s,baz=29,slow=12,SNR=14						
FITZ				Sn	Sn	05 00 55.9	-16
	0.5nm,0.3s,baz=210,slow=18,SNR=6.5						
WRA	**Warramunga Arr**	**14.40**	**164**	Pn	Pn	04 59 09.7	-0.4
	0.2nm,0.3s,baz=347,slow=13,SNR=15						
WRA				Sn	Sn	05 01 38.3	-12
	0.5nm,0.3s,baz=335,slow=22,SNR=6.8						
ASAR	**Alice Springs**	**17.90**	**169**	P	Pn	04 59 54.5	-0.8
	0.2nm,0.3s,baz=342,slow=9.1,SNR=8.9						
ASAR				S	Sn	05 03 17.1	+1.5
	0.2nm,0.3s,baz=353,slow=22,SNR=4.8						
MKAR	**Makanchi Array**	**67.55**	**326**	P	P	05 06 43.1	+0.1
	0.7nm,0.5s,baz=116,slow=8.0,SNR=12						

DJA 22 05:40:38.9±1.2, 5°N±6°×9°6E±°, h10km, M3.7/4, MLv3.7/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**1.05**	**79**	P	Pb	05 40 59.2	0.0
LHMI				S	Sg	05 41 12.8	-0.1
TPTI		**2.17**	**144**	P	Pn	05 41 14.8	-0.3
TPTI				S	Sn	05 41 42.0	0.0
KCSI	**Kotacane, Aceh**	**2.38**	**129**	P	Pn	05 41 19.3	+1.2
KCSI				S	Sn	05 41 49.1	+1.7
SNSI	**Sinabang, Aceh**	**2.64**	**171**	P	Pn	05 41 20.8	-0.7

DJA 22 05:44:35.1±1.2, 5°N±5°×9°6E±°, h10km, M3.7/3, MLv3.7/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**1.14**	**77**	P	Pb	05 44 56.2	-0.7
LHMI				S	Sg	05 45 11.9	0.0
TPTI		**2.17**	**142**	P	Pn	05 45 11.4	0.0
TPTI				S	Sn	05 45 38.0	-0.4
KCSI	**Kotacane, Aceh**	**2.42**	**127**	P	Pn	05 45 15.0	+0.3
KCSI				S	Sn	05 45 46.5	+2.1
SNSI	**Sinabang, Aceh**	**2.60**	**169**	P	Pn	05 45 17.3	0.0

*IDC **22** 05:48:07.0±1.0, 17°.48N×119°.87E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.6/41, mbtmp3.7/7, ML4.4/1, MS3.3/3, Ms1 3.4/3, ms1mx2.8/48, Error ellipse: s-maj=46.6km s-min=18.7km az=61.0*

*MAN **22** 05:48:09.9, 17°.51N×119°.62E, h14km, mb4.8, ML3.7, MS3.7*

*ISCJB **22** 05:48:10.3±0.7, 17°.48N±0°.07×119°.56E±0°.06, h32km, mb3.7/6, MS3.6/2, Error ellipse: s-maj=9.8km s-min=7.9km az=21.4*

ISC 22 05:48:11.7±0.9, 17°.44N±0°.07×119°.63E±0°.07, h32km, n14, σ1§45/15, mb3.7/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.05**	**79**	*e*P	**Pn**	**05 48 28.5**	**-1.7**
ABRA				*e*S	**Sb**	**05 48 48.5**	**+3.7**
BOLP	**Bolinao**	**1.09**	**166**	*e*P	**Pn**	**05 48 30.4**	**-0.4**
BOLP				*e*S	Sb	05 48 58.5	+12
APYP	**Conner**	**1.59**	**75**	*e*P	**Pn**	**05 48 37.0**	**-0.7**
APYP				*e*S	**Sb**	**05 48 58.3**	**-1.9**
SMPP	**San Manuel, Pa**	**1.63**	**142**	*e*P	**Pn**	**05 48 38.3**	**+0.1**
SMPP				*e*S	**Sb**	**05 49 01.1**	**-0.3**
PALP	**Palanan**	**2.69**	**98**	*e*P	**Pn**	**05 48 54.0**	**+1.1**
PALP				*e*S	Sb	05 49 43.1	+11
CMAR	**Chiang Mai Arr**	**19.71**	**276**	P	**Pn**	**05 52 40.8**	**+0.4**
	0.5nm,0.3s,baz=82,slow=8.3,SNR=3.1						
CMAR				LR	LR	05 59 48.1	
	comp=Z,24nm,19.4s,baz=105,slow=35						
MJAR	**Matsushiro Arr**	**25.13**	**37**	LR	LR	06 03 07.7	
	comp=Z,84nm,18.2s,baz=90,slow=36						
WRA	**Warramunga Arr**	**39.86**	**158**	P	**P**	**05 55 41.3**	**-1.3**
	1.2nm,0.7s,baz=341,slow=9.0,SNR=6.0						
MKAR	**Makanchi Array**	**42.45**	**322**	P	**P**	**05 56 04.5**	**+0.8**
	0.7nm,1.0s,baz=120,slow=7.1,SNR=4.5						
ASAR	**Alice Springs**	**43.17**	**161**	P	**P**	**05 56 09.2**	**-0.5**
	1.1nm,0.6s,baz=340,slow=6.7,SNR=14						
ZALV	**Zalesovo Beam**	**45.29**	**332**	P	**P**	**05 56 26.4**	**+0.1**
	0.4nm,0.5s,baz=107,slow=9.2,SNR=2.5						
STKA	**Stephens Creek**	**53.37**	**157**	P	**P**	**05 57 28.6**	**+0.3**
	1.7nm,0.7s,baz=335,slow=11,SNR=4.8						
GNI	**Garni**	**67.54**	**307**	LR	LR	06 32 23.8	
	comp=Z,68nm,18.0s,baz=324,slow=39						
YKA	**Yellowknife Ar**	**89.72**	**22**	P	**P**	**06 01 06.4**	**-0.1**
	0.2nm,0.7s,baz=314,slow=4.3,SNR=7.8						

*NIED **22** 06:00:00, 38°.50N×142°.20E, h23km, Mw3.6 Best double couple: M03.26000×10^14 NP1:φ201.00000°, δ69.00000°, λ-21.00000°. NP2:φ299.00000°, δ70.00000°, λ-158.00000°.*

*IDC **22** 06:00:32.5±1.7, 38°.17N×142°.83E, h0km, mb4.0/4, mb1 3.9/8, mb1mx3.6/49, mbtmp3.7/8, ML3.0/4, Error ellipse: s-maj=41.9km s-min=21.7km az=68.0*

*ISCJB **22** 06:00:34.5±1.2, 38°.42N±0°.04×142°.25E±0°.08, h27km±6km, mb4.0/4, Error ellipse: s-maj=10.2km s-min=6.9km az=15.4*

*JMA **22** 06:00:35.2±0.1, 38°.46N×142°.23E, h29km±2km, M4.2*

JMA Felt I J1.

ISC 22 06:00:36.6±1.8, 38°.46N±0°.05×142°.05E±0°.08, h27km±12km, n24, σ1§42/24, mb4.1/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.48**	**252**	P	**Pn**	**06 00 47.0**	**-0.7**
JIKH				S	**Sn**	**06 00 55.2**	**-0.1**
JIO	**Ouri**	**0.55**	**270**	P	**Pn**	**06 00 48.5**	**-0.2**
JIO				*e*S	**Sn**	**06 00 57.4**	**+0.4**
JKMT	**Kesennumamotoy**	**0.57**	**308**	P	**Pn**	**06 00 48.5**	**-0.5**
JKMT				S	**Sn**	**06 00 57.5**	**-0.1**
OFUJ	**Ofunato**	**0.69**	**335**	P	**Pb**	**06 00 49.5**	**-0.6**
OFUJ				S	**Sb**	**06 00 59.3**	**0.0**
JMK	**Ichinoseki**	**0.81**	**308**	P	**Pb**	**06 00 52.2**	**0.0**
JMK				*e*S	**Sn**	**06 01 04.2**	**+0.7**
JMM	**Marumori**	**1.15**	**240**	P	**Pb**	**06 00 56.6**	**-1.3**
JMM				*e*S	**Sb**	**06 01 12.7**	**+0.3**
JOM	**Ohasama**	**1.17**	**330**	P	**Pb**	**06 00 57.1**	**-1.2**
JOM				S	**Sb**	**06 01 12.7**	**-0.4**
JYK	**Kaneyama**	**1.40**	**290**	P	**Pb**	**06 01 01.5**	**-0.6**
JYK				S	**Sb**	**06 01 21.1**	**+1.6**
JRG	**Rokugo**	**1.45**	**311**	P	**Pb**	**06 01 02.0**	**-0.9**
MJAR	**Matsushiro Arr**	**3.60**	**239**	Pn	**Pn**	**06 01 33.8**	**+3.1**
	0.4nm,0.3s,baz=60,slow=11,SNR=8.4						
MAT	**Matsushiro**	**3.60**	**239**	P	**Pn**	**06 01 33.0**	**+2.3**
MAT				*e*S	**Sn**	**06 02 14.8**	**+2.4**
ASAJ	**Asahikawa**	**5.67**	**4**	Pn	**Pn**	**06 02 01.8**	**+2.7**
	0.9nm,0.3s,baz=198,slow=17,SNR=4.6						
USRK	**Ussuriysk Ar.**	**9.49**	**310**	Pn	Pn	06 02 59.5	+8.0
	0.2nm,0.3s,baz=108,slow=14,SNR=2.8						
KSRS	**Korea Array**	**11.20**	**269**	Pn	Pn	06 03 24.7	+10
	0.3nm,0.3s,baz=88,slow=14,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**28.48**	**124**	T	T	06 36 06.3	
	SNR=175						
H11N1	**WAKE ISLAND Hy**	**28.49**	**124**	T	T	06 36 46.5	
	baz=197,slow=74,SNR=204						
H11N3	**WAKE ISLAND Hy**	**28.50**	**124**	T	T	06 36 29.4	
	baz=316,slow=74,SNR=180						
H11S1	**WAKE ISLAND Hy**	**29.25**	**126**	T	T	06 37 44.0	
	baz=318,slow=76,SNR=58						
H11S3	**WAKE ISLAND Hy**	**29.25**	**126**	T	T	06 37 41.6	
	baz=318,slow=76,SNR=64						
H11S2	**WAKE ISLAND Hy**	**29.26**	**126**	T	T	06 37 42.2	
	baz=318,slow=76,SNR=49						
MKAR	**Makanchi Array**	**43.80**	**301**	P	P	06 08 45.0	+5.0
	1.3nm,0.8s,baz=88,slow=8.7,SNR=11						
FITZ	**Fitzroy Crossi**	**58.33**	**198**	P	**P**	**06 10 28.6**	**-0.7**
	1.9nm,0.8s,baz=14,slow=12,SNR=3.5						
WRA	**Warramunga Arr**	**58.54**	**189**	P	**P**	**06 10 29.1**	**-1.6**
	2.3nm,0.9s,baz=6.7,slow=7.2,SNR=10						
ASAR	**Alice Springs**	**62.27**	**188**	P	**P**	**06 10 55.5**	**-0.8**
	0.9nm,0.7s,baz=1.5,slow=4.1,SNR=7.7						

SVSA 22 06:01:41.7±0.8, 37°.77N×24°.46W, h5km, MD3.6, ML2.2, Error ellipse: s-maj=7.4km s-min=4.5km az=63.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BART	**Pico Bartolome**	**0.56**	**271**	*e*P	Pg	06 01 50.5	-2.0
BART				*e*S	Sg	06 01 57.7	-2.1
BART				A	A	06 02 02.0	
	65nm,0.5s						
CMLA	**Cha da Macela**	**0.84**	**270**	*e*S	Sg	06 02 05.7	-3.1
CMLA				A	A	06 02 11.2	
	76nm,1.0s						
GRON	**Grota Negra**	**0.85**	**270**	*e*P	Pg	06 01 54.1	-3.9
GRON				*e*S	Sg	06 02 03.0	-6.1
GRON				A	A	06 02 03.3	
	12nm,0.6s						
PSMA	**Santa Maria**	**0.94**	**215**	*e*S	Sg	06 02 07.8	-4.0
PDA	**Ponta Delgada**	**0.95**	**269**	*e*P	Pg	06 01 56.5	-3.5
PDA				*e*S	Sg	06 02 07.9	-4.5
PDA				A	A	06 02 10.1	
	15nm,0.5s						
PSET	**Sete Cidades**	**1.00**	**274**	*e*S	Sg	06 02 09.5	-4.4
PSET				A	A	06 02 12.7	
	84nm,0.6s						

DJA 22 06:10:11.0±1.1, 5°N±5°×9°6E±°, h10km, M3.8/6, MLv3.8/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**1.06**	**74**	P	Pg	06 10 30.1	-1.4
LHMI				S	Sb	06 10 45.5	0.0
TPTI		**2.09**	**143**	P	Pn	06 10 45.8	-0.3
TPTI				S	Sn	06 11 11.6	-0.6
KCSI	**Kotacane, Aceh**	**2.32**	**127**	P	Pn	06 10 50.1	+0.8
KCSI				S	Sn	06 11 19.3	+1.3
SNSI	**Sinabang, Aceh**	**2.55**	**171**	P	Pn	06 10 51.7	-0.7

*ISCJB **22** 06:30:17.2±0.8, 4°.96S±0°.06×146°.1E±0°.1, h150km, mb3.9/7, Error ellipse: s-maj=17.6km s-min=8.4km az=179.2*

*IDC **22** 06:30:19.5±1.9, 5°.10S×145°.97E, h158km±23km, mb3.7/7, mb1 3.8/9, mb1mx3.7/27, mbtmp4.1/9, Error ellipse: s-maj=32.8km s-min=9.7km az=107.0*

ISC 22 06:30:18.9±0.9, 5°.05S±0°.08×145°.9E±0°.2, h150km, n9, σ0§56/12, mb4.0/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.50**	**164**	P	**Pn**	**06 31 25.7**	**0.0**
	2.3nm,0.3s,baz=302,slow=15,SNR=2.6						
PMG				S	**Sn**	**06 32 17.4**	**-0.3**
	13nm,0.3s,baz=144,slow=20,SNR=12						
WRA	**Warramunga Arr**	**18.61**	**216**	P	**P**	**06 34 26.1**	**+1.1**
	1.5nm,0.3s,baz=34,slow=11,SNR=85						
WRA				S	**S**	**06 37 49.3**	**0.0**
	0.1nm,0.3s,baz=33,slow=24,SNR=3.6						
ASAR	**Alice Springs**	**21.84**	**211**	P	**P**	**06 35 00.3**	**+0.7**
	3.3nm,0.5s,baz=42,slow=7.3,SNR=49						
ASAR				S	**S**	**06 38 50.6**	**-0.5**
	0.7nm,0.7s,baz=34,slow=20,SNR=3.4						
FITZ	**Fitzroy Crossi**	**23.70**	**235**	P	**P**	**06 35 16.4**	**-0.8**
	20nm,0.5s,baz=48,slow=9.2,SNR=92						
KSRS	**Korea Array**	**45.49**	**340**	P	**P**	**06 38 23.2**	**+0.1**
	1.3nm,0.7s,baz=156,slow=9.6,SNR=4.4						
USRK	**Ussuriysk Ar.**	**50.61**	**347**	P	**P**	**06 39 02.4**	**0.0**
	2.8nm,0.7s,baz=155,slow=4.8,SNR=7.5						
SONM	**Songino Array**	**63.06**	**331**	P	**P**	**06 40 30.4**	**+0.1**
	0.3nm,0.5s,baz=143,slow=6.2,SNR=3.6						
MKAR	**Makanchi Array**	**76.09**	**321**	P	**P**	**06 41 49.8**	**-0.3**
	0.3nm,0.5s,baz=96,slow=8.6,SNR=4.5						
ILAR	**Eielson Array**	**85.03**	**23**	P	**P**	**06 42 37.4**	**+0.1**
	3.0nm,0.7s,baz=250,slow=5.3,SNR=40						

AUST 22 06:40:39.1±0.1, 30°.91S×117°.98E, h7km, Error ellipse: s-maj=2.0km s-min=0.7km az=234.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLBR	**Kellerberrin**	**0.71**	**196**	S	Sg	06 41 01.8	-0.1
	baz=0.7						
KLBR				P	Sg	06 41 02.6	+0.7
	baz=0.7,SNR=5.2						
KLBR				P	Sg	06 41 02.6	+0.7
	baz=0.7,SNR=5.2						
BLDU	**Ballidu**	**1.14**	**285**	S	Pg	06 41 00.5	-0.4
	baz=1.1,SNR=37						
BLDU				S	Sg	06 41 15.0	-0.7
	baz=1.1						
MUN	**Mundaring**	**1.85**	**234**	P	Pn	06 41 11.4	+0.1
	baz=1.9,SNR=3.4						
MUN				S	Sn	06 41 35.8	+0.8
	baz=1.9						
NWAO	**Narrogin (SRO)**	**2.11**	**197**	P	Pn	06 41 15.5	+0.7
	baz=2.1,SNR=5.3						
NWAO				S	Sb	06 41 44.0	-0.1
	baz=2.1,SNR=9.2						
NWAO				S	Sb	06 41 44.0	-0.1
	baz=2.1,SNR=9.2						
KDU	**Kakadu**	**22.54**	**40**	P	P	06 45 44.7	+5.0
	baz=23,SNR=6.5						

IDC 22 06:41:58.9±3.0, 31°.19S×177°.78W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.7/26, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=72.3km s-min=45.1km az=122.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.21**	**209**	Pn	Pn	06 43 58.9	-0.3
	0.7nm,0.3s,baz=25,slow=19,SNR=4.5						
URZ				Sn	Sn	06 45 25.8	-6.7
	0.3nm,0.3s,baz=252,slow=20,SNR=3.0						
ASAR	**Alice Springs**	**43.26**	**268**	P	P	06 50 02.4	+0.1
	0.6nm,0.7s,baz=108,slow=7.2,SNR=3.7						
WRA	**Warramunga Arr**	**44.32**	**273**	P	P	06 50 10.6	-0.3
	0.3nm,0.3s,baz=111,slow=8.1,SNR=10						
FINES	**FINESS Array B**	**145.95**	**340**	PKPbc	PKPdf	07 01 38.8	-0.1
	1.0nm,0.7s,baz=69,slow=4.6,SNR=3.0						

*ISCJB **22** 06:57:51.2±0.8, 25°.88N±0°.05×110°.20W±0°.08, h15km, Error ellipse: s-maj=10.2km s-min=6.7km az=3.0*

*IDC **22** 06:57:52.8±1.4, 25°.60N×109°.87W, h0km, mb1 3.7/4, mb1mx3.4/45, mbtmp3.3/4, ML3.4/4, Error ellipse: s-maj=25.0km s-min=11.2km az=111.0*

*MEX **22** 06:57:55.3±0.7, 25°.88N×110°.21W, h13km, MD3.9*

ISC 22 06:57:54.0±1.1, 25°.83N±0°.05×110°.34W±0°.07, h15km, n9, σ2§69/12, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.72**	**179**	Pg	**Pn**	**06 58 21.4**	**-2.1**
	11nm,0.3s,baz=15,slow=18,SNR=18						
LPIG				Lg	Lg	06 58 41.3	
	31nm,0.3s,baz=13,slow=13,SNR=9.7						
LPIG	**La Paz**	**1.72**	**179**	*i* P	**Pn**	**06 58 22.8**	**-0.6**
LPIG				*i* S	**Sn**	**06 58 42.9**	**-2.2**
GUYB	**Guaymas**	**2.12**	**347**	*e*P	**Pn**	**06 58 27.0**	**-1.9**
GUYB				*i* S	**Sn**	**06 58 51.7**	**-3.2**
SRIG	**Santa Rosalia**	**2.26**	**311**	*i* P	**Pn**	**06 58 29.6**	**-1.3**
TXAR	**Lajitas Array**	**6.87**	**58**	Pn	**Pn**	**06 59 32.1**	**-2.3**
	0.1nm,0.3s,baz=231,slow=12,SNR=3.8						
TXAR				Pg	**Pb**	**06 59 56.3**	**+3.1**
	0.3nm,0.3s,baz=232,slow=16,SNR=4.5						
TXAR				Sn	**Sn**	**07 00 49.1**	**-3.2**
	0.2nm,0.3s,baz=239,slow=17,SNR=3.1						
TXAR				Lg	Lg	07 01 21.8	
	0.8nm,0.3s,baz=247,slow=30,SNR=5.3						
ANMO	**Albuquerque**	**9.68**	**19**	Lg	Lg	07 03 01.8	
	0.1nm,0.3s,baz=275,slow=18,SNR=5.2						
NVAR	**Mina Array Bea**	**14.25**	**334**	Pn	**P**	**07 01 24.4**	**+1.5**
	0.1nm,0.3s,baz=156,slow=13,SNR=5.8						
ELK	**Elko**	**15.43**	**346**	Pn	**P**	**07 01 38.3**	**+2.5**
	0.1nm,0.3s,baz=192,slow=14,SNR

baz=355
YUS Yu-Shan 0.65 273 *e*P Pb 07 07 06.2 -0.9
baz=272
YUS *e*S Sb 07 07 15.5 -0.6
baz=272
NACB Ninganchiao 0.72 355 P Pb 07 07 06.9 -1.1
baz=355
NACB S Sb 07 07 17.4 -0.1
baz=355
NACB Ninganchiao 0.72 355 *e*S Sb 07 07 17.5 0.0
baz=217
CHGB Renai 0.75 324 P Pb 07 07 07.9 -0.7
baz=323
CHGB *e*S Sb 07 07 17.7 -0.8
baz=323
WHF Hehuan Shan 0.78 332 P Pb 07 07 08.0 -1.2
baz=332
WHF *e*S Sb 07 07 19.0 -0.6
baz=332
ALS Alishan 0.79 274 *e*P Pn 07 07 07.9 -1.3
baz=273
ALS *e*S Sb 07 07 19.2 -0.5
baz=273
SMLT Sun Moon Lake 0.82 302 *e*P Pn 07 07 09.0 -0.5
baz=301
SMLT *e*S Sb 07 07 19.7 -0.7
baz=301
TYC Yuchr 0.86 301 *e*P Pn 07 07 09.7 -0.3
baz=301
TYC *e*S Sb 07 07 21.1 -0.4
baz=301
CHN5 Tsauling 0.91 279 *e*P Pn 07 07 10.6 -0.2
baz=278
CHN5 *e*S Sn 07 07 22.8 -0.2
baz=278
TPUB Ta-pu 0.96 261 *e*P Pb 07 07 11.7 -0.3
baz=260
TPUB *e*S Sb 07 07 24.7 +0.4
baz=260
CHN4 Tsaushan 0.98 264 *e*P Pn 07 07 11.8 0.0
baz=263
CHN4 *e*S Sb 07 07 25.3 +0.2
baz=263

TAP 22 07:07:05.3, 24.47N×121.84E, h19$^{km}_{\pm 1km}$, ML1.7, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.10**	**248**	*e*P	Pg	07 07 08.5	-0.7
	baz=245						
ENA				S	Sg	07 07 12.0	+0.2
	baz=245						
TWC	**Suao**	**0.14**	**3**	P	Pg	07 07 09.3	-0.4
	baz=6.0						
TWC				S	Sg	07 07 12.2	-0.4
	baz=6.0						
EOS1	**EOS1**	**0.28**	**72**	P	Pg	07 07 11.3	-0.2
	baz=72						
EOS1				S	Sg	07 07 16.6	+0.8
	baz=72						
ENTT	**Nioudou**	**0.30**	**305**	*e*P	Pg	07 07 11.8	-0.2
	baz=305						
ENTT				*e*S	Sb	07 07 17.1	+0.3
	baz=305						
NACB	**Ninganchiao**	**0.37**	**218**	*e*P	Pg	07 07 12.5	-0.6
	baz=217						
NNSB	**Datong**	**0.42**	**265**	*e*P	Pg	07 07 13.5	-0.6
	baz=265						
NNSB				*e*S	Sb	07 07 20.2	-0.1
	baz=265						
NWLT	**Wulai**	**0.44**	**315**	*e*P	Pg	07 07 13.9	-0.4
	baz=315						
NWLT				*e*S	Sg	07 07 20.4	-0.1
	baz=315						
TWD	**Chiawan**	**0.44**	**210**	*e*P	Pg	07 07 14.5	0.0
	baz=209						
TWD				*e*S	Sg	07 07 20.5	0.0
	baz=209						
YHNB	**Yeheng**	**0.47**	**296**	*e*P	Pg	07 07 14.7	-0.3
	baz=295						
YHNB				*e*S	Sb	07 07 21.7	0.0
	baz=295						
NSK	**Sanguang**	**0.49**	**296**	*e*P	Pg	07 07 15.3	0.0
	baz=295						
NSK				*e*S	Sg	07 07 21.6	-0.4
	baz=295						
TIPB	**Shuangxi**	**0.51**	**358**	P	Pg	07 07 15.4	-0.2
	baz=358						
TIPB				*e*S	Sg	07 07 22.2	-0.3
	baz=358						

*ISCJB **22** 07:25:50.6±0.5, 49.92N±0.03×78.62E±0.06, h0^{km}, Error ellipse: s-maj=5.2km s-min=4.5km az=157.9*
*NNC **22** 07:25:53.3±0.4, 50.03N×78.68E, h0$^{km}_{\pm 4km}$, mb3.6, mpv3.2, Error ellipse: s-maj=4.4km s-min=3.1km az=59.0, Suspected Mining explosion.*
*IDC **22** 07:25:53.6±0.8, 50.03N×78.77E, h0^{km}, mb1 3.4/4, mb1mx3.2/38, mbtmp3.4/4, ML3.2/4, Error ellipse: s-maj=1.8km s-min=6.6km az=69.0*

ISC 22 07:25:52.8±0.7, 49.91N±0.04×78.62E±0.04, h0^{km}, n24, σ1°87/29, 17C-11D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.71**	**355**	Pg	**Pg**	**07 26 04.7**	**-1.8**
	7.5nm,0.3s,baz=166,slow=19,SNR=162						
KURBB				Lg	Lg	07 26 13.9	
	8.5nm,0.3s,baz=178,slow=28,SNR=45						
KURBB	**Kurchatov Arra**	**0.71**	**355**	⇑P	**Pg**	**07 26 05.3**	**-1.1**
	57nm,0.3s						
KURBB				⇓S	**Sg**	**07 26 14.1**	**-1.6**
	138nm,0.7s						
KURK	**Kurchatov**	**0.81**	**0**	⇑P	**Pg**	**07 26 06.7**	**-1.5**
	20nm,0.4s						
KURK				⇑S	**Sg**	**07 26 16.3**	**-2.4**
	41nm,0.8s						
SEM	**Semipalatinsk**	**1.16**	**64**	P	**Pg**	**07 26 13.8**	**-1.2**
	14nm,0.1s						
SEM				S	**Sg**	**07 26 28.4**	**-1.7**
	133nm,0.4s						
MAKZ	**Makanchi**	**3.83**	**143**	⇑Pn	**Pn**	**07 26 55.7**	**+2.7**
	0.5nm,0.4s						
MAKZ				⇑Pg	**Pb**	**07 27 01.8**	**+0.6**
	2.9nm,0.7s						
MAKZ				⇑Lg	Lg	07 27 53.8	
	15nm,0.7s						
MK31	**Makanchi Array**	**3.96**	**140**	⇓Pn	**Pn**	**07 26 57.5**	**+2.6**
	0.2nm,0.3s,baz=23,slow=14,SNR=68						
MK31				⇓Pg	**Pg**	**07 27 06.4**	**-2.3**
	2.4nm,0.4s,baz=322,slow=13,SNR=30						
MK31				⇑Lg	Lg	07 28 00.4	
	18nm,0.7s,baz=340,slow=23,SNR=31						
MKAR	**Makanchi Array**	**3.96**	**140**	Pn	**Pn**	**07 26 57.2**	**+2.4**
	1.0nm,0.3s,baz=327,slow=11,SNR=52						
MKAR				Lg	Lg	07 27 57.8	
	2.5nm,0.3s,baz=334,slow=22,SNR=18						
OTUK	**Ortayu**	**4.45**	**250**	⇓Pn	**Pn**	**07 27 03.9**	**+2.4**
	2.9nm,0.3s						
OTUK				⇑Lg	Lg	07 28 15.1	
	5.2nm,0.6s						
KAPS	**Kapalarasan**	**4.66**	**174**	Pg	**Pg**	**07 27 19.7**	**-2.3**
	2.6nm,0.2s						
KAPS				Lg	Lg	07 28 21.0	
	15nm,0.6s						
ZSN	**Zaisan**	**4.81**	**118**	Pg	**Pb**	**07 27 19.4**	**+1.4**
	1.2nm,0.2s						
ZSN				Lg	Lg	07 28 21.5	
	2.6nm,0.4s						
I46RU	**ZALESOVO INFRA**	**5.57**	**41**	*i*		08 00 40.0	
	baz=225,slow=265,SNR=0.9						
ZAA0	**Zalesovo Array**	**5.57**	**41**	⇑Pn	**Pn**	**07 27 17.4**	**+0.5**
	1.2nm,0.3s						
ZAA0				⇓Lg	Lg	07 28 44.6	
	6.7nm,0.8s						
ZALV	**Zalesovo Beam**	**5.57**	**41**	Pn	**Pn**	**07 27 17.1**	**+0.2**
	2.4nm,0.3s,baz=232,slow=14,SNR=17						
ZALV				Lg	Lg	07 28 48.2	
	0.5nm,0.3s,baz=222,slow=26,SNR=5.5						
DJR	**Jarkent**	**5.64**	**171**	Pg	**Pg**	**07 27 41.0**	**+0.2**
	1.9nm,0.4s						
DJR				Lg	Lg	07 28 57.7	
	4.1nm,0.4s						
BVA0	**Borovoye Array**	**6.01**	**304**	⇑Pn	**Pn**	**07 27 23.6**	**+0.6**
	0.7nm,0.5s,baz=110,slow=15,SNR=4.1						
BVA0				⇓Pg	**Pb**	**07 27 40.1**	**+1.7**
	0.6nm,0.3s,baz=110,slow=14,SNR=4.1						
BVA0				⇑Sn	**Sn**	**07 28 32.7**	**+0.3**
	2.4nm,0.5s,baz=120,slow=23,SNR=14						
BVA0				⇑Lg	Lg	07 29 00.1	
BVAR	**Borovoye Array**	**6.01**	**304**	Pn	**Pn**	**07 27 23.3**	**+0.4**
	0.5nm,0.3s,baz=115,slow=13,SNR=5.6						
BVAR				Sn	**Sn**	**07 28 33.6**	**+1.2**
	1.1nm,0.3s,baz=116,slow=23,SNR=15						
BVAR				Lg	Lg	07 29 05.3	
	0.8nm,0.3s,baz=119,slow=27,SNR=5.7						
BRVK	**Borovoye**	**6.08**	**304**	⇑Pn	**Pn**	**07 27 24.4**	**+0.5**
	1.6nm,0.7s						
BRVK				⇑Sn	**Sn**	**07 28 34.1**	**-0.2**
	6.5nm,0.7s						
BRVK				⇓Lg	Lg	07 29 02.7	
	2.2nm,0.6s						
KUU	**Kurty**	**6.22**	**195**	Pg	**Pg**	**07 27 50.9**	**-1.0**
	1.3nm,0.2s						
KUU				Lg	Lg	07 29 14.6	
	14nm,0.5s						
PDGK	**Podgornoye**	**6.61**	**174**	⇓Pn	**Pn**	**07 27 31.3**	**0.0**
	3.1nm,1.3s						
PDGK				⇓Lg	Lg	07 29 25.7	
	8.1nm,0.8s						
TKM2	**Tokmak 2**	**7.30**	**198**	⇓Lg	Lg	07 29 45.7	
	4.1nm,0.6s						
AAK	**Ala-Archa**	**7.81**	**203**	Pn	**Pn**	**07 27 50.0**	**+2.2**
	0.7nm,0.3s,baz=64,slow=2.1,SNR=5.3						
AAK				Lg	Lg	07 30 06.1	
	0.3nm,0.3s,baz=251,slow=23,SNR=4.9						
AAK	**Ala-Archa**	**7.81**	**203**	⇑Lg	Lg	07 30 02.3	
	4.6nm,0.8s						
MNAS	**Manas**	**8.55**	**212**	⇑Lg	Lg	07 30 25.0	
	3.1nm,0.8s						
KK31	**Karatay Array**	**8.81**	**222**	⇓Pg	**Pg**	**07 28 36.6**	**-4.8**
	0.3nm,0.3s,baz=225,slow=17,SNR=3.5						
KK31				⇑Lg	Lg	07 30 37.1	
	2.3nm,0.7s,baz=35,slow=28,SNR=5.7						

*MOS **22** 07:29:24.7±0.8, 15.78S×173.95W, h45^{km}, mb5.0/31, Error ellipse: s-maj=15.3km s-min=9.3km az=60.1*
*IDC **22** 07:29:24.4±4.4, 16.29S×174.07W, h49$^{km}_{\pm 41km}$, mb4.3/16, mb1 4.6/18, mb1mx4.5/28, mbtmp4.6/18, ML3.7/2, MS3.6/10, Ms1 3.6/10, ms1mx3.4/24, Error ellipse: s-maj=21.8km s-min=15.4km az=152.0*
*ISCJB **22** 07:29:29.6±0.1, 16.47S±0.04×174.04W±0.04, h111^{km}, mb4.7/198, Error ellipse: s-maj=6.4km s-min=3.8km az=145.8*
*NEIC **22** 07:29:29.8±0.5, 16.47S×173.99W, h100$^{km}_{\pm 4km}$, mb4.8/171, Error ellipse: s-maj=3.9km s-min=2.2km az=147.0*
*BJI **22** 07:29:29.5, 16.50S×173.90W, h110^{km}, mb4.9/24, mB5.2/12*
*GCMT **22** 07:29:34.8±0.3, 16.34S±0.02×173.71W±0.02, h116$^{km}_{\pm 4km}$, MW5.0/68, Moment Tensor Solution. s19,c22; s68,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.13±.17; $M_{\theta\theta}$-3.23±.19; $M_{\phi\phi}$3.36±.15; $M_{r\theta}$-1.58±.14; $M_{\theta\phi}$1.13±.15; $M_{\phi r}$-1.74±.11; Best double couple: $M_0$4.17900×10^{16} NP1:ϕ_s234.00000°, δ88.00000°, λ33.00000°. NP2:ϕ_s143.00000°, δ57.00000°, λ178.00000°. Principal axes: T 4.4420, Plg24.0000°, Azm104.0000°; N -0.5290, Plg57.6000°, Azm237.0000°; P -3.9150, Plg21.0000°, Azm4.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 07:29:31.1±0.3, 16.54S±0.06×173.84W±0.05, h111^{km}, n552, $_{\sigma}$0°89/549, mb4.7/198, 25C-9D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.50**	**125**	*e*Pn	**Pn**	**07 30 36.3**	**-1.0**
NIUE				*e*Sn	**Sn**	**07 31 24.7**	**-3.9**
MSVF	**Nonsavu**	**7.84**	**260**	*e*Pn	**Pn**	**07 31 21.3**	**-1.3**
MSVF	**Nonsavu**	**7.84**	**260**	*e*P	**Pn**	**07 31 21.3**	**-1.3**
KNTN	**Kanton**	**13.84**	**9**	*e*Pn	**Pn**	**07 32 40.7**	**-2.0**
RAR	**Rarotonga**	**14.10**	**111**	P	**Pn**	**07 32 45.1**	**-0.8**
	4.4nm,0.3s,baz=236,slow=5.0,SNR=6.4						
RAR				LR	LR	07 37 06.2	
	comp=Z,187nm,19.4s,baz=258,slow=32						
RAR	**Rarotonga**	**14.10**	**111**	*e*Pn	**Pn**	**07 32 46.9**	**+0.9**
MARNC	**Mare, Loyalty**	**17.83**	**251**	*e*P	**P**	**07 33 31.5**	**+0.2**
	200nm,1.1s						
PINNC	**Pines Island,**	**18.63**	**248**	*e*P	**P**	**07 33 39.1**	**-1.0**
	103nm,1.3s						
DZM	**Mont Dzumac**	**19.40**	**250**	*e*P	**Pn**	**07 33 53.4**	**+2.5**
	155nm,1.2s						
DZM				*e*LQ	LQ	07 37 47.1	
	2μm,32.0s						
DZM				*e*LR	LR	07 38 35.7	
	comp=Z,615nm,26.4s						
DZM	**Mont Dzumac**	**19.40**	**250**	P	**P**	**07 33 46.1**	**-2.5**
	0.2nm,0.3s,baz=95,slow=16,SNR=3.8						
DZM				LR	LR	07 40 04.8	
	comp=Z,373nm,21.6s,baz=61,slow=33						
DZM	**Mont Dzumac**	**19.40**	**250**	*e*P	**P**	**07 33 46.7**	**-1.9**
	81nm,1.2s						
ONTNC	**Ouen Toro**	**19.44**	**250**	*e*P	**P**	**07 33 49.1**	**+0.1**
	39nm,0.9s						
TARA	**Tarawa**	**22.07**	**322**	*e*P	**P**	**07 34 15.2**	**-2.0**
	166nm,1.3s						
URZ	**Urewera**	**23.05**	**198**	P	**P**	**07 34 26.7**	**-0.1**
	5.6nm,0.3s,baz=289,slow=3.9,SNR=13						
PAE	**Paea**	**23.21**	**96**	*e*P	**P**	**07 34 30.0**	**+1.4**
	19nm,1.4s						
PAE	**Paea**	**23.21**	**96**	*e*T	T	07 58 12.6	
	1.7nm,0.3s						
PPT2	**Papeete2**	**23.22**	**96**	*e*P	**P**	**07 34 30.6**	**+1.9**
	83nm,1.3s						
PPT2				*e*LR	LR	07 39 39.0	
	comp=Z,354nm,30.0s						
PPT2	**Papeete2**	**23.22**	**96**	*e*T	T	07 58 13.7	
	2.7nm,0.3s						
PPT	**Papeete**	**23.22**	**96**	LR	LR	07 42 03.4	
	comp=Z,171nm,18.3s,baz=253,slow=32						
TIAR	**Tiarei**	**23.44**	**96**	*e*P	**P**	**07 34 32.4**	**+1.7**
	18nm,1.1s						
TVO	**Taravao**	**23.52**	**97**	*e*P	**P**	**07 34 33.3**	**+1.8**
	14nm,1.0s						
TVO	**Taravao**	**23.52**	**97**	*e*T	T	07 58 36.4	
	0.9nm,0.3s						
TBI	**Tubuai**	**23.88**	**110**	*e*LR	LR	07 40 08.3	
	comp=Z,418nm,32.0s						
BKZ	**Black Stump Fm**	**24.07**	**199**	*e*P	**P**	**07 34 36.0**	**-0.2**
	29nm,1.3s						
VAH	**Vaihoa**	**25.24**	**91**	*e*P	**P**	**07 34 48.7**	**+1.7**
	77nm,1.2s						
VAH	**Vaihoa**	**25.24**	**91**	*e*T	T	08 00 43.3	
	3.8nm,0.2s						
HNR	**Honiara**	**26.48**	**282**	LR	LR	07 44 00.6	
	comp=Z,218nm,20.4s,baz=120,slow=33						
KHZ	**Kahutara**	**27.96**	**200**	*e*P	**P**	**07 35 11.9**	**+0.8**
	42nm,1.3s						
LTZ	**Lake Taylor**	**28.72**	**202**	*e*P	**P**	**07 35 18.3**	**+0.4**
	15nm,1.2s						
FOZ	**Fox Glacier**	**30.28**	**204**	*e*P	**P**	**07 35 30.9**	**-0.7**
	69nm,1.5s						
WKZ	**Wanaka**	**31.68**	**204**	*e*P	**P**	**07 35 43.7**	**-0.3**
	86nm,1.7s						
WHZ	**Wether Hill Ro**	**32.98**	**204**	*e*P	**P**	**07 35 55.8**	**+0.4**
	68nm,1.7s						
TAOE	**Nuku Hiva Isla**	**33.70**	**81**	*e*LR	LR	07 44 24.8	
	comp=Z,269nm,31.7s						
EIDS	**Eidsvold**	**33.83**	**249**	*e*P	**P**	**07 36 01.5**	**-1.5**
	32nm,1.4s						
ARMA	**Armidale**	**34.40**	**240**	*e*P	**P**	**07 36 06.3**	**-1.7**
	32nm,1.5s						
RKT	**Rikitea**	**37.06**	**107**	*e*T	T	08 15 30.4	
	2.3nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**39.73**	**330**	T	T	08 18 11.7	
	baz=146,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**39.74**	**330**	T	T	08 18 12.8	
	baz=146,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy**	**39.75**	**330**	T	T	08 18 10.8	
	baz=146,slow=76,SNR=12						
STKA	**Stephens Creek**	**43.11**	**241**	P	**P**	**07 37 20.0**	**-0.5**
	15nm,0.9s,baz=71,slow=8.0,SNR=23						
STKA				LR	LR	07 54 13.3	
	comp=Z,57nm,18.8s,baz=39,slow=35						
STKA	**Stephens Creek**	**43.11**	**241**	*e*P	**P**	**07 37 19.5**	**-1.1**
	4.8nm,1.0s						
STKA	**Stephens Creek**	**43.11**	**241**	*e*P	**P**	**07 37 19.5**	**-1.1**
STKA				pmax	pmax		

comp=Z,5.0nm,1.0s
BBOO Buckleboo 47.88 241 *e*P **P** 07 37 56.8 -1.4
comp=Z,16nm,1.0s
WB2 Warramunga Arr 49.17 258 *e*P **P** 07 38 05.8 -2.5
WRAB Tennant Creek 49.17 258 *e*P **P** 07 38 06.2 -2.1
WRAB Tennant Creek 49.17 258⇓*e*P **P** 07 38 04.1 -4.1
WRAB pmax pmax
comp=Z,10.0nm,1.5s
WR1 Warramunga Arr 49.18 258 *e*P **P** 07 38 06.0 -2.3
comp=Z,50nm,1.5s
WRA Warramunga Arr 49.18 258 P **P** 07 38 06.0 -2.3
comp=Z,0.7nm,0.3s,baz=82,slow=5.9,SNR=24
WRA LR LR 07 57 45.8
comp=Z,55nm,18.7s,baz=65,slow=35
WRA Warramunga Arr 49.18 258 *i* P **P** 07 38 04.6 -3.7
WRA pmax pmax
comp=Z,1.0nm,0.3s
AS01 Alice Springs 49.32 253 *e*P **P** 07 38 07.2 -2.2
AS31 Alice Springs 49.36 253 *e*P **P** 07 38 07.8 -1.9
comp=Z,3.6nm,0.8s
ASAR Alice Springs 49.36 253 P **P** 07 38 07.9 -1.8
comp=Z,8.4nm,0.7s,baz=86,slow=8.5,SNR=59
FITZ Fitzroy Crossi 57.57 259 *e*P **P** 07 39 08.1 -1.5
comp=Z,14nm,1.3s
VNDA Vanda 62.20 186 P **P** 07 39 42.6 +2.2
comp=Z,7.2nm,1.0s,baz=335,slow=5.5,SNR=6.2
VNDA LR LR 08 02 31.1
comp=Z,34nm,20.1s,baz=194,slow=32
VNDA Vanda 62.20 186 *e*P **P** 07 39 42.0 +1.6
VNDA Vanda 62.20 186 *e*P **P** 07 39 42.0 +1.6
SCI2 San Clemente I 72.20 47 P **P** 07 40 44.5 +0.3
baz=236
ASAJ Asahikawa 72.28 329 *e*P **P** 07 40 43.4 -1.0
comp=Z,12nm,1.1s
PKM Mcpherson Peak 72.42 44 P **P** 07 40 45.8 0.0
baz=235
SAO San Andreas Ge 72.46 42 *e*P **P** 07 40 45.5 -0.2
comp=Z,10nm,0.8s
SAO San Andreas Ge 72.46 42 *e*P **P** 07 40 45.5 -0.2
SAO pmax pmax
comp=Z,10.0nm,0.8s
CIS Catalina Islan 72.53 46 P **P** 07 40 46.6 +0.4
baz=236
HOPS Hopland Field 72.82 39 *e*P **P** 07 40 48.2 +0.4
comp=Z,25nm,1.2s
KCPM Cahto Peak 72.95 38 *e*P **P** 07 40 48.4 -0.3
comp=Z,16nm,1.1s
KMRM Mail Ridge 73.22 38 *e*P **P** 07 40 50.5 +0.3
comp=Z,38nm,0.9s
ARVC Arvin 73.22 45 P **P** 07 40 50.3 +0.1
baz=235
VES Vestal, Richgr 73.46 44 P **P** 07 40 52.1 +0.5
baz=235,SNR=5.1
MURC Murrieta 73.48 47 P **P** 07 40 52.4 +0.5
baz=237
QSPA South Pole Qui 73.51 180 LR LR 08 09 06.6
comp=Z,4.4nm,19.7s,baz=218,slow=32
QSPA South Pole Qui 73.51 180 *e*P **P** 07 40 52.7 +1.1
comp=Z,13nm,1.0s
BFSC Mount Baldy Ra 73.52 46 P **P** 07 40 52.2 +0.1
baz=236
PETK Petropavlovsk- 73.58 343 P **P** 07 40 49.5 -2.5
comp=Z,5.0nm,0.8s,baz=154,slow=11,SNR=4.9
PEA1 Petropavlovsk- 73.59 343 *e*P **P** 07 40 49.5 -2.5
KHMM Horse Mountain 73.62 37 *e*P **P** 07 40 52.5 -0.2
comp=Z,13nm,1.1s
EDW2 Edwards Air Fo 73.64 45 P **P** 07 40 53.4 +0.7
baz=236,SNR=6.0
MONP2 Monument Peak 73.64 48 P **P** 07 40 53.1 +0.1
baz=237,SNR=6.0
O02D Mt. Diablo Mer 73.73 38 P **P** 07 40 54.2 +1.0
baz=231,SNR=11
IKP In-Ko-Pah, Jac 73.74 48 P **P** 07 40 53.9 +0.5
baz=238,SNR=7.0
CMB Columbia Colle 73.90 41 *e*P **P** 07 40 54.5 +0.3
comp=Z,6.4nm,0.8s
CMB Columbia Colle 73.90 41 *e*P **P** 07 40 54.5 +0.3
CMB pmax pmax
comp=Z,6.0nm,0.8s
PFO Pinyon Flats O 74.01 47 *e*P **P** 07 40 55.4 +0.4
comp=Z,8.1nm,1.1s
PFO Pinyon Flats O 74.01 47 P **P** 07 40 55.7 +0.7
baz=237,SNR=6.1
XPFO Pion Flat 74.01 47 *e*P **P** 07 40 55.3 +0.2
comp=Z,9.5nm,1.1s
AFDM Forest Hills 74.08 40 *e*P **P** 07 40 55.1 -0.1
comp=Z,7.7nm,0.9s
SWSC Sam W. Stewart 74.11 48 P **P** 07 40 55.8 +0.3
baz=238
ORV Oroville 74.12 40 *e*P **P** 07 40 55.4 0.0
comp=Z,5.4nm,0.9s
ORV Oroville 74.12 40 *e*P **P** 07 40 55.4 0.0
ORV pmax pmax
comp=Z,5.0nm,0.9s
WDC Whiskeytown Da 74.13 38 *e*P **P** 07 40 55.1 -0.3
comp=Z,12nm,1.1s
WDC Whiskeytown Da 74.13 38 *e*P **P** 07 40 55.1 -0.3
WDC pmax pmax
comp=Z,12nm,1.1s
LRMC Laurel Mtn Rad 74.19 45 P **P** 07 40 56.6 +0.6
baz=236,SNR=5.8
YSS Yuzh-Sakhalins 74.26 331 *e*P **P** 07 40 54.1 -1.9
YSS MLR MLR
comp=Z,100nm,16.0s
N02D Trinity Center 74.28 38 P **P** 07 40 57.5 +1.0
baz=231,SNR=10
O03E Paynes Creek 74.40 39 P **P** 07 40 57.6 +0.5
baz=232,SNR=7.5
M02C Callahan 74.46 37 P **P** 07 40 58.3 +0.9
baz=231,SNR=7.0
CWC Cottonwood Cre 74.47 44 P **P** 07 40 57.9 +0.2
baz=235
MDPB Devils Postpil 74.50 42 *e*P **P** 07 40 58.2 +0.2
comp=Z,5.8nm,0.9s
L02E Cave Junction 74.52 36 P **P** 07 40 58.3 +0.6
baz=230
OMMB Old Mammoth Mi 74.54 42 *e*P **P** 07 40 58.2 -0.1
comp=Z,4.7nm,1.0s
BELC Belle Mtn. Jos 74.54 47 P **P** 07 40 58.7 +0.6
baz=237,SNR=6.9
KEBM Edson Butte 74.57 35 *e*P **P** 07 40 58.3 +0.3
comp=Z,28nm,1.1s
MPMC Manual Prospec 74.64 44 P **P** 07 40 59.5 +0.7
baz=236,SNR=14
GSC Goldstone, Bar 74.69 45 *e*P **P** 07 40 59.0 +0.1
comp=Z,11nm,1.3s
GSC Goldstone, Bar 74.69 45 *e*P **P** 07 40 59.0 +0.1
GSC pmax pmax
comp=Z,11nm,1.3s
GSC Goldstone, Bar 74.69 45 P **P** 07 40 59.4 +0.6
baz=237,SNR=7.3
DAC Darwin (Calif) 74.70 44 *e*P **P** 07 40 59.3 +0.3
comp=Z,4.6nm,1.0s
TIN Tinemaha, Big 74.72 43 P **P** 07 40 59.5 +0.5
baz=235
BC3 Big Chuckawall 74.74 47 P **P** 07 40 59.6 +0.3
baz=238
HEC Hector,Ludlow 74.75 46 P **P** 07 40 59.5 +0.2
baz=237
YBH Yreka Blue Hor 74.76 37 *e*P **P** 07 40 59.3 +0.1
comp=Z,18nm,1.0s
YBH Yreka Blue Hor 74.76 37 *e*P **P** 07 40 59.3 +0.1
YBH pmax pmax
comp=Z,18nm,1.0s
WAKR Walker 74.78 41 *e*P **P** 07 40 59.6 +0.1
comp=Z,8.2nm,0.9s
K02D Willamette Mer 74.83 36 P **P** 07 41 00.4 +0.9
baz=230,SNR=6.4
GLA Glamis 74.86 48 P **P** 07 41 00.6 +0.7
baz=238
J01E Myrtle Point 74.98 35 P **P** 07 41 01.1 +0.8
baz=230
BEKR Beckworth 75.01 40 *e*P **P** 07 41 00.9 +0.1
comp=Z,10nm,1.0s
PNTR Pine Nut 75.02 41 *e*P **P** 07 41 00.9 0.0
comp=Z,13nm,0.9s
VCNR Virginia City 75.11 41 *e*P **P** 07 41 01.5 +0.1
comp=Z,7.7nm,0.9s
HUMO Hull Mountain 75.17 36 *e*P **P** 07 41 01.9 +0.5
comp=Z,13nm,1.2s
YERR Yerington 75.18 41 *e*P **P** 07 41 02.1 +0.3
comp=Z,9.1nm,0.9s
GMRC Granite Mounta 75.19 46 P **P** 07 41 02.4 +0.6
baz=238
IRM Iron Mountain 75.22 47 P **P** 07 41 02.6 +0.7
baz=238,SNR=10.0
FURC Furnace Creek, 75.29 44 P **P** 07 41 02.9 +0.7
baz=236

M04C	Macdoel	75.30	38	P		P	07 41 02.9	+0.6
	baz=231,SNR=9.4							
L04D	Klamath Falls	75.30	37	P		P	07 41 02.5	+0.2
	baz=231,SNR=8.1							
SHOC	Shoshone, Teco	75.38	45	P		P	07 41 03.1	+0.3
	baz=237							
RYN	Ryan	75.43	42	eP		P	07 41 03.3	+0.1
	comp=Z,7.0nm,1.0s							
Y12C	Blythe	75.44	48	eP		P	07 41 03.7	+0.5
	comp=Z,7.6nm,1.0s							
Y12C	Blythe	75.44	48	P		P	07 41 03.7	+0.5
	baz=238							
NV01	Mina Array Sit	75.46	42	eP		P	07 41 03.6	+0.2
NVAR	Mina Array Bea	75.46	42	P		P	07 41 04.3	+0.9
	comp=Z,7.6nm,0.9s,baz=227,slow=10,SNR=42							
113A	Mohawk Valley,	75.48	49	eP		P	07 41 03.8	+0.4
	comp=Z,7.3nm,0.8s							
PAHR	Pah Rah Range	75.52	40	eP		P	07 41 04.0	+0.4
	comp=Z,7.9nm,0.9s							
I02D	Swisshome	75.64	35	P		P	07 41 04.6	+0.6
	baz=229							
I03D	Drain, OR	75.65	35	P		P	07 41 04.8	+0.7
	baz=230							
HSIG		75.75	54	eP		P	07 41 05.2	+0.2
	comp=Z,9.2nm,0.7s							
214A	Organ Pipe Nat	75.77	50	P		P	07 41 05.5	+0.4
	baz=240							
KVN	Kaiserville	75.94	42	eP		P	07 41 06.2	+0.1
	comp=Z,7.4nm,1.0s							
KVN	Kaiserville	75.94	42	eP		P	07 41 06.2	+0.1
KVN					pmax	pmax		
	comp=Z,7.0nm,1.0s							
TPNV	Topopah Spring	75.97	44	eP		P	07 41 06.8	+0.5
	comp=Z,10nm,1.1s							
TPNV	Topopah Spring	75.97	44	eP		P	07 41 06.8	+0.5
TPNV					pmax	pmax		
	comp=Z,10.0nm,1.1s							
TPNV	Topopah Spring	75.97	44	P		P	07 41 06.9	+0.6
	baz=237,SNR=7.1							
PDMCI	Parker Dam,Lak	76.00	47	P		P	07 41 06.9	+0.6
	baz=239,SNR=5.9							
J04D	Umpqua Nationa	76.06	36	P		P	07 41 07.5	+0.8
	baz=231,SNR=5.8							
I04A	Tendick Farm,	76.24	36	P		P	07 41 08.0	+0.5
	baz=231,SNR=5.6							
MOD	Modoc Plateau	76.28	38	eP		P	07 41 08.1	+0.2
	comp=Z,17nm,1.1s							
SHPR	Sheep Range	76.46	45	eP		P	07 41 09.5	+0.4
	comp=Z,9.9nm,1.1s							
H04D	Lebanon	76.52	35	P		P	07 41 09.7	+0.7
	baz=230							
J05D	Fort Rock, OR	76.58	37	P		P	07 41 10.1	+0.5
	baz=232,SNR=17							
W13A	Hualapai Mount	76.60	47	eP		P	07 41 10.3	+0.4
	comp=Z,6.5nm,1.0s							
Y14A	Wickenburg	76.62	48	eP		P	07 41 09.9	0.0
	comp=Z,13nm,0.9s							
G03D	McMinnville, O	76.68	34	P		P	07 41 10.3	+0.4
	baz=230							
KSM	Kuching	76.87	276	eP		P	07 41 11.4	-0.3
	comp=Z,39nm,1.2s							
H04A	Detroit Lake	76.93	35	eP		P	07 41 11.4	+0.1
	comp=Z,13nm,1.3s							
PINE	Pine Mountain	77.07	36	eP		P	07 41 12.6	+0.3
	comp=Z,17nm,0.9s							
R11A	Troy Canyon, C	77.18	43	eP		P	07 41 13.5	+0.4
	comp=Z,11nm,1.3s							
R11A	Troy Canyon, C	77.18	43	P		P	07 41 13.7	+0.6
	baz=237,SNR=9.7							
I05D	Terrebonne, OR	77.18	36	P		P	07 41 13.8	+1.0
	baz=231							
TUC	Tucson	77.44	51	eP		P	07 41 15.2	+0.7
	comp=Z,9.5nm,0.8s							
TUC	Tucson	77.44	51	eP		P	07 41 15.2	+0.7
TUC					pmax	pmax		
	comp=Z,10.0nm,0.8s							
TUC	Tucson	77.44	51	P		P	07 41 15.2	+0.7
	baz=241							
VLA	Vladivostok	77.45	322	eP		P	07 41 13.0	-1.2
VLA					pmax	pmax		
	comp=Z,33nm,0.7s							
WVOR	Wild Horse Val	77.59	38	eP		P	07 41 15.6	+0.4
	comp=Z,12nm,1.0s							
WVOR	Wild Horse Val	77.59	38	eP		P	07 41 15.6	+0.4
WVOR					pmax	pmax		
	comp=Z,12nm,1.0s							
G05D	Wamic, OR	77.76	35	P		P	07 41 16.9	+0.9
	baz=231							
E04D	Cinebar	77.92	33	P		P	07 41 17.5	+0.7
	baz=230							
X16A	Lo Mia Camp, P	77.99	49	eP		P	07 41 18.1	+0.4
	comp=Z,10nm,0.8s							
LCMT	Little Creek M	78.03	45	eP		P	07 41 17.9	0.0
	comp=Z,10.0nm,0.9s							
USRK	Ussuriysk Ar.	78.04	323	P		P	07 41 16.1	-1.4
	comp=Z,0.9nm,0.6s,baz=160,slow=6.1,SNR=4.7							
I07A	Izee	78.06	37	eP		P	07 41 18.1	+0.3
	comp=Z,7.3nm,1.0s							
F05D	White Salmon	78.09	34	P		P	07 41 18.1	+0.4
	baz=231							
D04E	Lakebay	78.22	33	P		P	07 41 19.0	+0.6
	baz=230							
J08A	Circle Bar Ran	78.23	38	eP		P	07 41 18.9	+0.2
	comp=Z,8.6nm,1.0s							
CCUT	Cedar City	78.23	45	eP		P	07 41 19.3	+0.2
	comp=Z,16nm,1.1s							
D03D	Eldon	78.28	32	P		P	07 41 19.6	+0.8
	baz=229							
KNB	Kanab	78.33	46	eP		P	07 41 20.1	+0.6
	comp=Z,14nm,1.0s							
KNB	Kanab	78.33	46	eP		P	07 41 20.1	+0.6
KNB					pmax	pmax		
	comp=Z,14nm,1.0s							
U15A	North Rim	78.39	46	eP		P	07 41 20.6	+0.6
	comp=Z,21nm,1.0s							
PSUT	Pine Spring	78.42	44	eP		P	07 41 20.5	+0.5
	comp=Z,8.7nm,0.8s							
SZCU	Shurtz Canyon	78.44	45	eP		P	07 41 20.7	+0.5
	comp=Z,15nm,1.1s							
WUAZ	Wupatki	78.58	48	eP		P	07 41 21.1	+0.3
	comp=Z,14nm,1.1s							
WUAZ	Wupatki	78.58	48	P		P	07 41 21.4	+0.5
	baz=240							
D05A	Enumclaw	78.63	33	eP		P	07 41 21.4	+0.7
	comp=Z,45nm,1.6s							
ELK	Elko	78.72	41	eP		P	07 41 21.8	+0.2
	comp=Z,12nm,1.1s							
ELK	Elko	78.72	41	eP		P	07 41 21.8	+0.2
ELK					pmax	pmax		
	comp=Z,12nm,1.1s							
PKCU	Pink Cliffs	78.90	45	eP		P	07 41 22.8	0.0
	comp=Z,28nm,1.0s							
HPIG		79.00	58	eP		P	07 41 23.5	+0.1
	comp=Z,4.5nm,0.7s							
G08A	Pilot Rock	79.10	36	eP		P	07 41 23.6	+0.2
	comp=Z,13nm,1.1s							
A04D	Lummi Island	79.25	32	P		P	07 41 25.0	+1.0
	baz=230							
B05A	Bryant	79.26	32	P		P	07 41 24.8	+0.7
	baz=230							
MTPU	Mount Pierson	79.29	45	eP		P	07 41 25.5	+0.5
	comp=Z,12nm,1.0s							
HAWA	Hanford	79.45	35	eP		P	07 41 25.3	+0.2
	comp=Z,7.6nm,1.0s							
MSU	Marysvale	79.53	45	eP		P	07 41 26.7	+0.6
MSU	Marysvale	79.53	45	eP		P	07 41 26.7	+0.6
121A	Cookes Peak, D	79.78	52	P		P	07 41 28.5	+0.9
	baz=243							
BMO	Blue Mountains	79.79	37	eP		P	07 41 27.3	+0.1
	comp=Z,6.4nm,1.0s							
BMO	Blue Mountains	79.79	37	eP		P	07 41 27.3	+0.1
BMO					pmax	pmax		
	comp=Z,6.0nm,1.0s							
MFID	Camas Ranch	79.84	39	eP		P	07 41 27.5	0.0
	comp=Z,8.7nm,1.0s							
SUA	Susitna One	79.90	11	eP		P	07 41 26.9	-0.5
	comp=Z,25nm,0.8s							
ZAIG	Zacatecas	79.90	63	eP		P	07 41 28.7	+0.2
	comp=Z,3.2nm,0.8s							
DUG	Dugway, Tooele	79.98	43	eP		P	07 41 28.5	+0.1
	comp=Z,7.9nm,0.9s							
DUG	Dugway, Tooele	79.98	43	eP		P	07 41 28.5	+0.1
DUG					pmax	pmax		
	comp=Z,8.0nm,0.9s							
DUG	Dugway, Tooele	79.98	43	P		P	07 41 28.9	+0.5
	baz=238							
GAMB	Gambell	80.08	1	eP		P	07 41 28.1	0.0
	comp=Z,12nm,1.1s							
E09A	Wood Farm, Sta	80.29	35	eP		P	07 41 29.8	+0.1
	comp=Z,8.0nm,1.1s							
NLU	North Lily Min	80.34	43	eP		P	07 41 30.9	+0.4
Q16A	Castle Valley	80.42	45	eP		P	07 41 31.3	+0.4
	comp=Z,7.1nm,0.9s							
NJ2	Nanjing	80.52	307	eP		P	07 41 30.9	-0.3
NJ2					pmax	pmax		
	comp=Z,8.0nm,0.5s							
TMUT	Trail Mountain	80.58	44	eP		P	07 41 32.3	+0.5
	comp=Z,22nm,0.9s							
DIV	Divide	80.60	13	eP		P	07 41 30.8	-0.3
	comp=Z,20nm,0.9s							
MPU	Maple Canyon	80.66	44	eP		P	07 41 32.5	+0.4
	comp=Z,6.5nm,1.0s							
B08A	Colville Reser	80.76	33	eP		P	07 41 31.8	-0.4
	comp=Z,6.9nm,1.1s							
HLID	Hailey	80.78	39	eP		P	07 41 32.7	+0.1
	comp=Z,15nm,1.1s							
HLID	Hailey	80.78	39	P		P	07 41 33.2	+0.6
	baz=237							
SPUT	South Promonto	80.80	42	eP		P	07 41 32.9	+0.1
	comp=Z,8.2nm,1.0s							
HVU	Hansel Valley	80.84	42	eP		P	07 41 33.0	+0.1
	comp=Z,9.9nm,1.0s							
HVU	Hansel Valley	80.84	42	eP		P	07 41 33.1	+0.1
HVU					pmax	pmax		
	comp=Z,10.0nm,1.0s							
SCM	Sheep Creek Mo	80.90	12	eP		P	07 41 32.4	-0.3
	comp=Z,26nm,0.9s							
SCM	Sheep Creek Mo	80.90	12	eP		P	07 41 32.4	-0.3
SCM					pmax	pmax		
	comp=Z,26nm,0.9s							
CTU	Camp Tracy	80.93	43	eP		P	07 41 33.8	+0.3
	comp=Z,7.8nm,1.0s							
SRU	San Rafael Swe	80.95	45	eP		P	07 41 34.0	+0.3
	comp=Z,11nm,0.8s							
SRU	San Rafael Swe	80.95	45	eP		P	07 41 34.0	+0.3
SRU					pmax	pmax		
	comp=Z,11nm,0.8s							
P17A	Butcher Ranch,	80.98	44	eP		P	07 41 34.4	+0.6
	comp=Z,11nm,1.1s							
JLU	Jordanelle	81.08	43	eP		P	07 41 34.6	+0.2
	comp=Z,9.5nm,1.0s							
LAZ	Ladron	81.11	50	eP		P	07 41 35.4	+0.8
MA2	Magadan	81.12	343	eP		P	07 41 32.5	-1.3
MA2					pmax	pmax		
	comp=Z,27nm,4.1s							
LENM	Lemitar	81.13	51	eP		P	07 41 35.5	+0.8
KLR	Kul'dur	81.24	327	P		P	07 41 34.1	-0.6
	comp=Z,1.3nm,1.0s,baz=114,slow=6.6,SNR=3.7							
KLR	Kul'dur	81.24	327	eP		P	07 41 33.5	-1.2
MNTX	Cornudas Mount	81.24	53	eP		P	07 41 35.7	+0.6
	comp=Z,10nm,0.8s							
MNTX	Cornudas Mount	81.24	53	P		P	07 41 35.7	+0.6
	baz=245							
TCUT	Toone Canyon	81.37	43	eP		P	07 41 36.3	+0.4
	comp=Z,35nm,0.9s							
BNM	Barren Site	81.38	51	eP		P	07 41 36.7	+0.6
MVCO	Mesa Verde	81.43	47	P		P	07 41 36.7	+0.5
	baz=242							
LTX	Lajitas	81.60	56	eP		P	07 41 38.3	+1.1
TX31	Lajitas Ar. Si	81.60	56	eP		P	07 41 38.1	+0.9
TXAR	Lajitas Array	81.60	56	P		P	07 41 38.3	+1.1
	comp=Z,8.7nm,1.0s,baz=220,slow=5.6,SNR=28							
PV09	Paradox Valley	81.60	46	eP		P	07 41 37.9	+0.7
PV19	Morning Glory	81.61	46	eP		P	07 41 38.0	+0.8
	comp=Z,22nm,0.9s							
PV17	East Wray Mesa	81.61	46	eP		P	07 41 37.5	+0.3
	comp=Z,14nm,1.0s							
PV14	Lion Creek, Pa	81.61	46	eP		P	07 41 38.1	+0.8
	comp=Z,23nm,0.9s							
PV20	West Nyswonger	81.64	46	eP		P	07 41 37.7	+0.4
	comp=Z,18nm,0.9s							
PV13	Radium Mtn., P	81.65	46	eP		P	07 41 37.8	+0.4
	comp=Z,14nm,1.0s							
PV16	Nyswonger Mesa	81.66	46	eP		P	07 41 37.8	+0.4
	comp=Z,10nm,1.0s							
PV23	Carpenter Ridg	81.66	46	eP		P	07 41 38.1	+0.5
	comp=Z,24nm,0.8s							
PV11	David Mesa, Pa	81.68	46	eP		P	07 41 37.8	+0.2
	comp=Z,18nm,1.0s							
PV02	Paradox Valley	81.73	46	eP		P	07 41 37.9	+0.1
	comp=Z,15nm,0.9s							
PV21	Cone Mtn., Par	81.74	46	eP		P	07 41 38.4	+0.5
	comp=Z,18nm,0.9s							
PV12	Saucer Basin,	81.74	46	eP		P	07 41 38.5	+0.6
	comp=Z,21nm,1.0s							
TRF	Thofare Moun	81.82	10	eP		P	07 41 37.0	-0.6
	comp=Z,20nm,1.0s							
ANMO	Albuquerque	81.86	50	eP		P	07 41 39.0	+0.4
	comp=Z,8.6nm,0.9s							
ANMO	Albuquerque	81.86	50	deP		P	07 41 39.5	+1.0
ANMO					pmax	pmax		
	comp=Z,10.0nm,1.0s							
ANMO	Albuquerque	81.86	50	P		P	07 41 39.0	+0.4
	baz=244							
NEW	Newport	81.89	34	P		P	07 41 38.8	+0.6
	baz=234							
RND	Reindeer	82.03	11	eP		P	07 41 38.2	-0.5
	comp=Z,32nm,1.0s							
RND	Reindeer	82.03	11	eP		P	07 41 38.2	-0.5
RND					pmax	pmax		
	comp=Z,32nm,1.0s							
GDL2	Guadalupe Moun	82.24	53	eP		P	07 41 41.4	+0.8
MCK	McKinley	82.32	11	eP		P	07 41 39.4	-0.7
	comp=Z,42nm,0.9s							
MCK	McKinley	82.32	11	eP		P	07 41 39.4	-0.7
MCK					pmax	pmax		
	comp=Z,42nm,0.9s							
MCMT	McKenzie Canyo	82.41	39	eP		P	07 41 41.5	+0.2
AHID	Auburn Hatcher	82.41	41	eP		P	07 41 41.4	+0.2
	comp=Z,12nm,1.0s							
DLMT	Dillon	82.84	39	eP		P	07 41 43.0	-0.4
	comp=Z,10nm,0.9s							
MSO	Missoula	82.84	37	eP		P	07 41 43.2	0.0
	comp=Z,16nm,1.4s							
MSO	Missoula	82.84	37	P		P	07 41 43.3	0.0
	baz=237							
S22A	4UR Ranch, Cre	82.85	47	eP		P	07 41 44.5	+0.8
	comp=Z,20nm,0.8s							
S22A	4UR Ranch, Cre	82.85	47	P		P	07 41 44.1	+0.3
	baz=243							
REDW	Red Top Meadow	82.87	41	eP		P	07 41 44.1	+0.4
	comp=Z,30nm,1.1s							
TPAW	Teton Pass	82.87	41	eP		P	07 41 44.1	+0.3
	comp=Z,18nm,0.9s							
FXWY	Fox Creek	82.90	41	eP		P	07 41 44.2	+0.4
	comp=Z,16nm,1.3s							
SNOW	Snow King Moun	82.98	41	eP		P	07 41 44.9	+0.6
	comp=Z,27nm,0.9s							
O20A	White River Ci	82.99	45	eP		P	07 41 44.3	0.0
	comp=Z,14nm,0.9s							
O20A	White River Ci	82.99	45	P		P	07 41 44.7	+0.4
	baz=242							
IMW	Indian Meadow	83.09	40	eP		P	07 41 45.0	+0.2
	comp=Z,20nm,1.0s							
MOOW	Moose Ponds	83.14	41	eP		P	07 41 44.6	-0.4
	comp=Z,8.0nm,1.1s							
WRH	Wood River Hil	83.15	11	eP		P	07 41 43.7	-0.6
	comp=Z,43nm,1.2s							
LOHW	Long Hollow	83.15	41	eP		P	07 41 45.0	-0.1
	comp=Z,12nm,1.1s							
MLY	Manley	83.21	10	eP		P	07 41 43.7	-1.0
	comp=Z,12nm,1.0s							
QLMT	Earthquake Lak	83.27	39	eP		P	07 41 46.0	+0.3
HDA	Harding Lake	83.30	11	eP		P	07 41 44.5	-0.5
	comp=Z,26nm,1.2s							
HDA	Harding Lake	83.30	11	P		P	07 41 44.6	-0.5
	baz=206							
LNIG	Linares	83.33	62	eP		P	07 41 45.7	-0.4
	comp=Z,7.1nm,0.8s							
FLWY	Flagg Ranch	83.33	40	eP		P	07 41 46.0	0.0
	comp=Z,24nm,0.9s							
YPP	Pitchstone Pla	83.36	40	eP		P	07 41 46.5	+0.2
	comp=Z,13nm,1.5s							
YHB	Horse Butte	83.37	40	eP		P	07 41 46.8	+0.6
	comp=Z,25nm,0.9s							
BW06	Boulder Array	83.39	42	eP		P	07 41 45.9	-0.5
	comp=Z,16nm,0.8s							
BW06	Boulder Array	83.39	42	P		P	07 41 46.1	-0.3
	baz=240							
PD31	Pinedale Array	83.39	42	eP		P	07 41 46.1	-0.3
PDAR	Pinedale Array	83.39	42	P		P	07 41 46.6	+0.3
	comp=Z,16nm,0.9s,baz=215,slow=3.3,SNR=108							
PDAR	Pinedale Array	83.39	42	eP		P	07 41 45.8	-0.6
SMCO	Snowmass	83.41	46	eP		P	07 41 46.8	+0.1
	comp=Z,14nm,0.9s							
YFT	Old Faithful	83.44	40	eP		P	07 41 47.3	+0.8
	comp=Z,12nm,1.0s							
YMR	Madison River	83.47	40	eP		P	07 41 47.3	+0.6
	comp=Z,21nm,1.0s							
SEY	Seymchan	83.51	345	eP		P	07 41 45.3	-0.8
SCRK	Sand Creek	83.51	13	eP		P	07 41 46.0	-0.4
	comp=Z,6.6nm,0.8s							
BOZ	Bozeman (W)	83.54	39	eP		P	07 41 47.1	+0.1
	comp=Z,10nm,0.7s							
BOZ	Bozeman (W)	83.54	39	eP		P	07 41 47.1	+0.1
BOZ					pmax	pmax		
	comp=Z,11nm,0.7s							
BOZ	Bozeman (W)	83.54	39	P		P	07 41 47.3	+0.3
	baz=239							
TCOL	CIGO, UAF Yank	83.56	11	P		P	07 41 45.9	-0.4
	baz=205							
COLA	College	83.56	11	eP		P	07 41 45.6	-0.7
	comp=Z,47nm,1.0s							
COLA	College	83.56	11	eP		P	07 41 45.6	-0.7
COLA					pmax	pmax		
	comp=Z,47nm,1.0s							
H17A	Grant Village	83.57	40	eP		P	07 41 47.3	0.0
	comp=Z,10nm,0.9s							
H17A	Grant Village	83.57	40	P		P	07 41 48.5	+1.3
	baz=240							
MDM	Murphy Dome	83.57	11	eP		P	07 41 45.6	-0.8
	comp=Z,28nm,1.1s							
ILAR	Eielson Array	83.64	11	P		P	07 41 46.0	-0.9
	comp=Z,5.1nm,0.9s,baz=215,slow=5.9,SNR=25							
ILAR	Eielson Array	83.64	11	P		P	07 41 46.0	-0.9
ILB	Eielson Array	83.64	11	eP		P	07 41 46.2	-0.6
IM3	Indian Mountai	83.66	8	eP		P	07 41 46.5	-0.4
YNR	Norris Junctio	83.67	40	eP		P	07 41 47.5	-0.2
	comp=Z,12nm,1.1s							
SDCO	Great Sand Dun	83.79	48	eP		P	07 41 48.8	+0.1
	comp=Z,5.9nm,0.9s							
SDCO	Great Sand Dun	83.79	48	P		P	07 41 48.7	+0.1
	baz=244							
POKR	Poker Plat Res	83.85	11	P		P	07 41 47.1	-0.8
	baz=206							
HRY	Holter Researc	84.01	38	eP		P	07 41 49.2	0.0
LVIG	Laguna Verde	84.16	68	eP		P	07 41 50.3	-0.1
	comp=Z,15nm,0.9s							
MSTX	Muleshoe	84.19	52	eP		P	07 41 50.7	+0.2
	comp=Z,19nm,0.8s							
MSTX	Muleshoe	84.19	52	P		P	07 41 51.2	+0.7
	baz=246							
T25A	Trinidad	84.31	49	eP		P	07 41 51.4	+0.3
	comp=Z,19nm,1.6s							
T25A	Trinidad	84.31	49	P		P	07 41 51.5	+0.4
	baz=244							
RWWY	Rawlins	84.41	44	eP		P	07 41 51.4	-0.2
	comp=Z,21nm,0.9s							
PRP	Porcupine Dome	84.57	11	eP		P	07 41 50.9	-0.8
	comp=Z,49nm,1.3s							
Q24A	Divide	84.58	47	P		P	07 41 53.1	+0.5
	baz=244							
ISCO	Idaho Springs	84.62	46	P		P	07 41 53.1	+0.3
	baz=244							
DAWY	Dawson	84.63	14	eP		P	07 41 51.8	-0.1
	comp=Z,15nm,1.1s							
RLMT	Red Lodge	84.74	40	eP		P	07 41 53.0	-0.1
	comp=Z,17nm,1.1s							
RLMT	Red Lodge	84.74	40	P		P	07 41 53.7	+0.6
	baz=240							
EGAK	Eagle	84.82	13	eP		P	07 41 52.4	-0.4
	comp=Z,33nm,1.4s							
N23A	Red Feather La	84.89	45	eP		P	07 41 54.3	+0.2
	comp=Z,13nm,1.1s							
N23A	Red Feather La	84.89	45	P		P	07 41 54.5	+0.4
	baz=243							
JCT	Junction City	85.13	56	eP		P	07 41 55.6	+0.4
	comp=Z,4.8nm,1.0s							
JCT	Junction City	85.13	56	eP		P	07 41 55.6	+0.4
JCT					pmax	pmax		
	comp=Z,5.0nm,1.0s							
JCT	Junction City	85.13	56	P		P	07 41 55.5	+0.4
	baz=248							
K22A	Casper	85.31	43	P		P	07 41 56.5	+0.6
	baz=243							
COLD	Coldfoot	85.33	9	eP		P	07 41 55.8	+0.5
	comp=Z,12nm,1.3s							
AMTX	Amarillo	85.39	52	eP		P	07 41 56.3	-0.1
	comp=Z,11nm,0.8s							
AMTX	Amarillo	85.39	52	P		P	07 41 56.8	+0.4
	baz=246							
PHWY	Pilot Hill	85.40	45	eP		P	07 41 56.5	-0.2
	comp=Z,8.9nm,1.2s							
BILL	Bilibino	85.58	353	eP		P	07 41 55.8	-0.7
	comp=Z,17nm,1.2s							
BILL	Bilibino	85.58	353	eP		P	07 41 55.7	-0.8
BILL					pmax	pmax		
	comp=Z,15nm,1.1s							
EGMT	Eagleton	85.89	37	P		P	07 41 59.7	+1.1
	baz=240							
BJT	Baijiatuau	85.94	314	eP		P	07 41 58.5	-0.4
	comp=Z,18nm,1.3s							
BJT	Baijiatuau	85.94	314	eP		P	07 41 58.5	-0.4
BJT					pmax	pmax		
	comp=Z,18nm,1.3s							
BJI	Beijing	85.94	314	eP		P	07 41 59.3	+0.4
BJI					pmax	pmax		
	comp=Z,7.0nm,1.1s							
ABTX	Abilene, Hawle	86.07	54	eP		P	07 41 59.9	+0.1
	comp=Z,24nm,0.8s							
ABTX	Abilene, Hawle	86.07	54	P		P	07 42 00.5	+0.7
	baz=248							
435B	Jarrell	87.02	57	eP		P	07 42 05.0	+0.6
	comp=Z,11nm,0.8s							
435B	Jarrell	87.02	57	P		P	07 42 05.0	+0.6
	baz=249							
ENH	Enshi	87.17	303	eP		P	07 42 04.5	-0.7
	comp=Z,33nm,1.3s							
EPYK	Eagle Plains	87.17	14	eP		P	07 42 04.7	+0.3
	comp=Z,8.2nm,1.0s							
EPYK	Eagle Plains	87.17	14	P		P	07 42 04.4	0.0
	baz=216							
LAO	LASA Array	87.35	40	eP		P	07 42 06.2	+0.5
	comp=Z,16nm,1.0s							
LAO	LASA Array	87.35	40	P		P	07 42 06.6	+0.8
	baz=243							
WMOK	Wichita Mounta	87.53	53	P		P	07 42 07.2	+0.4
	baz=248							
WHTX	Lake Whitney,	87.56	56	P		P	07 42 07.2	+0.2
	baz=249							
RSSD	Black Hills	87.58	43	eP		P	07 42 06.7	-0.4
	comp=Z,6.0nm,0.8s							

baz=250
KMI Kunming 91.14 296 P P 07 42 27.6 +3.4
KMI pmax pmax
comp=Z,11nm,1.0s
YKA Yellowknife Ar 91.31 24 P P 07 42 23.6 -0.1
comp=Z,4.0nm,1.2s,baz=238,slow=4.4,SNR=16
YKA LR LR 08 17 46.6
comp=Z,7.9nm,19.0s,baz=250,slow=32
YKB5 Yellowknife Ar 91.31 24 *e*P **P 07 42 23.7 0.0**
MIAR Mount Ida 91.48 54 P **P 07 42 25.3 0.0**
baz=251
W39A Magazine 91.53 54 P **P 07 42 25.7 +0.2**
baz=251
PEL Peldehue 91.67 125 *e*P **P 07 42 27.2 +0.7**
comp=Z,14nm,0.9s
VNA3 Neumayer Olymp 91.76 175 P **P 07 42 27.1 +1.1**
SNAA Sanae 91.79 177 P **P 07 42 27.2 +1.0**
SNAA Sanae 91.79 177 *e*P **P 07 42 26.6 +0.4**
comp=Z,5.8nm,1.1s
SNAA Sanae 91.79 177‖ *e*P **P 07 42 26.9 +0.7**
SNAA pmax pmax
comp=Z,256nm,1.1s
CD2 Chengdu 92.04 302 *e*P **P 07 42 28.0 0.0**
EFI East Falkland 92.19 146‖ *e*P **P 07 42 27.7 -0.6**
EFI pmax pmax
comp=Z,17nm,1.2s
VNA2 Neumayer--Watz 92.25 176 P **P 07 42 29.2 +1.0**
baz=207,slow=3.5
X41A Kaden, Bauxite 92.30 55 P **P 07 42 29.6 +0.6**
baz=252
ECSD EROS Data Cent 92.36 45 P **P 07 42 29.2 0.0**
baz=250
VNA1 Neumayer--Stat 92.45 175 P **P 07 42 28.6 -0.5**
UALR University of 92.52 55 *e*P **P 07 42 30.1 0.0**
comp=Z,8.8nm,0.9s
CM01 Chiang Mai Arr 92.55 288 *e*P **P 07 42 30.2 -0.4**
CMAR Chiang Mai Arr 92.57 288 P **P 07 42 30.9 +0.3**
comp=Z,1.3nm,0.3s,baz=107,slow=3.2,SNR=9.6
CMAR LR LR 08 23 28.9
comp=Z,17nm,18.7s,baz=100,slow=35
CMAR Chiang Mai Arr 92.57 288 *i* P **P 07 42 31.8 +1.1**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
U40A Yellville 92.62 53 P **P 07 42 30.9 +0.3**
baz=252
W41B Gary Mavity, V 92.72 54 P **P 07 42 31.2 +0.3**
baz=252
U41A Viola 93.33 53 P **P 07 42 33.9 0.0**
baz=252
LZH Lanzhou 93.56 306 *e*P **P 07 42 35.9 +0.8**
LZH pP pP 07 43 03.3 -0.7
LZH sP sP 07 43 14.3 -1.5
LZH *e*PP **PP 07 46 24.0 +2.6**
LZH pmax pmax
comp=Z,16nm,1.4s
LZH pmax pmax
comp=Z,75nm,6.2s
LZH LR LR
comp=Z,140nm,17.1s
LZH LR LR
comp=Z,130nm,17.5s
LZH LR LR
comp=Z,180nm,19.7s
T41A Mountain View 93.67 53 P **P 07 42 35.4 0.0**
baz=252
S41A Jillco Farms, 93.85 52 P **P 07 42 36.5 +0.3**
baz=252
T42A Van Buren 94.17 53 P **P 07 42 38.0 +0.3**
baz=253
V43A Jonesboro 94.23 54 P **P 07 42 38.2 +0.3**
baz=253
R41A Rosebud 94.34 51 P **P 07 42 38.5 +0.1**
baz=253
CCM Cathedral Cave 94.37 52 P **P 07 42 38.3 -0.2**
baz=253
Q41A Truxton 94.64 51 P **P 07 42 39.8 +0.1**
baz=253
M39A Webster 94.72 48 P **P 07 42 39.4 -0.7**
baz=252
P41A Barry, Barry 94.98 50 P **P 07 42 40.8 -0.5**
baz=253
Y46A Houston 95.00 56 P **P 07 42 41.4 -0.2**
baz=254
ULM Lac du Bonnet 95.08 39 P **P 07 42 40.3 -1.2**
comp=Z,4.0nm,0.9s,baz=258,slow=4.4,SNR=5.7
S43A Fulton Ridge, 95.11 52 P **P 07 42 41.8 -0.1**
baz=253
M40A Post Highland 95.17 48 P **P 07 42 42.1 0.0**
baz=253
O41A Passleys Farm, 95.25 50 P **P 07 42 42.6 +0.1**
baz=253
P42A Winchester 95.49 50 P **P 07 42 43.1 -0.5**
baz=253
J39A Decorah 95.61 47 P **P 07 42 43.6 -0.5**
baz=253
M41A Milan 95.86 49 P **P 07 42 44.2 -1.0**
baz=253
TIXI Tiksi 95.98 344*ce*P **P 07 42 43.7 -1.4**
TIXI pmax pmax
comp=Z,3.0nm,1.1s
G38A Ridgeland 96.05 45 P **P 07 42 45.1 -0.9**
baz=253
R44A Waltonville 96.06 52 P **P 07 42 45.4 -0.8**
baz=254
H39A Augusta 96.30 45 P **P 07 42 46.5 -0.7**
baz=253
J40A Soldiers Grove 96.30 47 P **P 07 42 46.5 -0.7**
baz=253
K41A Shullsburg 96.38 48 P **P 07 42 47.1 -0.5**
baz=254
W47A Westpoint 96.38 55 P **P 07 42 47.0 -0.8**
baz=254
WVT Waverly 96.44 54 P **P 07 42 47.4 -0.6**
baz=254
I40A Norwalk 96.53 46 P **P 07 42 47.5 -0.7**
baz=254
V47A Nunnelly 96.60 55 P **P 07 42 48.1 -0.7**
baz=255
E38A The Farm, Brul 96.67 43 P **P 07 42 48.0 -0.8**
baz=253
J41A Loganville 96.80 47 P **P 07 42 48.2 -1.3**
baz=254
W48A Pulaski 96.88 56 P **P 07 42 48.8 -1.3**
baz=255
H40A Chili 96.89 46 P **P 07 42 48.8 -1.0**
baz=254
F39A Loretta 96.90 44 P **P 07 42 49.4 -0.4**
baz=254
U47A Clarksville 96.94 54 P **P 07 42 49.6 -0.7**
baz=255
EYMN Ely 97.10 42 P **P 07 42 50.1 -0.7**
baz=253
K42A Prairie Point, 97.11 48 P **P 07 42 50.1 -0.8**
baz=254
V48A Smith Brothers 97.12 55 P **P 07 42 50.2 -0.9**
baz=255
E39A Mellen 97.27 44 P **P 07 42 51.1 -0.4**
baz=254
251A Midway 97.32 59 P **P 07 42 50.4 -1.6**
baz=255
F40A Park Falls 97.43 44 P **P 07 42 51.8 -0.5**
baz=254
GTA Gaotai 97.56 309 *e*P Pdif 07 42 55.9 +2.7
GTA pP pP 07 43 26.3 +4.1
GTA sP sP 07 43 36.8 +2.9
GTA pmax pmax
comp=Z,2.0nm,0.8s
I42A Draeger Farm, 97.71 47 P **P 07 42 53.1 -0.4**
baz=255
F41A Three Lakes 98.07 45 P **P 07 42 53.5 -1.6**
baz=255
GOGA Godfrey 99.23 58 P **Pdif 07 43 00.6 0.0**
baz=256
MKAR Makanchi Array 111.32 314 PKiKP **PKiKP 07 47 50.8 -1.3**
comp=Z,1.2nm,0.8s,baz=62,slow=2.9,SNR=12
KSH Kashi 115.81 306 PKP **PKPdf 07 48 04.8 +3.7**
KSH sPKP 07 48 43.3
KSH PP **PP 07 49 11.4 +5.3**
KSH PKS **PKSdf 07 51 39.3 +1.5**
KSH SKKS 07 55 55.9
KSH AMB AMB
comp=Z,170nm,6.1s
BRVK Borovoye 118.57 322‖ *i*PKIKP **PKPdf 07 48 05.1 -0.7**
ARA0 ARCESS Array S 125.67 352 *e*PKPdf **PKPdf 07 48 19.2 +0.2**
ARCES ARCESS Array B 125.67 352 PKP **PKPdf 07 48 19.2 +0.2**
comp=Z,4.9nm,0.7s,baz=40,slow=0.9,SNR=12
FIA0 FINESS Array S 132.96 347 *e*PKPdf **PKPdf 07 48 33.5 +0.5**
FIA0 FINESS Array S 132.96 347 *e*PKIKP **PKPdf 07 48 33.5 +0.5**
FINES FINESS Array B 132.96 347 PKP **PKPdf 07 48 33.5 +0.5**
comp=Z,5.4nm,0.9s,baz=90,slow=3.8,SNR=8.8
OBN Obninsk 134.98 336 *i* PKIKP **PKPdf 07 48 36.5 -0.4**
OBN pmax pmax
comp=Z,8.0nm,1.0s
NB2 NORSAR Subarra135.41 356 PKP **PKPdf 07 48 38.8 +1.1**
comp=Z,1.1nm,0.9s,baz=6.9,slow=2.5
NB200 NORSAR Array S 135.41 356 *e*PKPdf **PKPdf 07 48 37.6 -0.1**
NOA NORSAR Array B 135.41 356 PKP **PKPdf 07 48 37.6 -0.1**
comp=Z,1.7nm,0.8s,baz=13,slow=4.0,SNR=4.1
KIV Kislovodsk 138.79 319 *e*PKIKP **PKPdf 07 48 45.0 +0.5**
KIV pmax pmax
comp=Z,7.0nm,1.0s
AKASG Malin Array Be 141.22 337 PKhKP PKPpre 07 48 43.5
comp=Z,0.6nm,0.4s,baz=42,slow=4.3,SNR=5.8
AKASG Malin Array Be 141.22 337*c i*PKIKP **PKPdf 07 48 50.7 +2.1**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
OJC Ojcow 144.65 345 *e*PKP PKPbc 07 48 53.6 -0.1
OJC Ojcow 144.65 345 *e*PKPdf **PKPab 07 48 53.3 -0.3**
OJC Ojcow 144.65 345 *e*PKIKP PKPbc 07 48 53.6 -0.1
KMBO Kilima Mbogo 144.65 243 PKP **PKPab 07 48 55.0 0.0**
comp=Z,3.5nm,0.9s,baz=59,slow=3.8,SNR=6.4
KMBO Kilima Mbogo 144.65 243*c i*PKIKP **PKPdf 07 48 56.5 +0.4**
KMBO pmax pmax
comp=Z,4.0nm,0.9s
KSP Ksiaz 144.83 349 *e*PKP PKPbc 07 48 54.6 +0.4
KSP Ksiaz 144.83 349 *e*PKIKP PKPbc 07 48 54.6 +0.4
CLL Collm 144.89 353 *i* PKPdf **PKPab 07 48 53.5 -0.9**
comp=Z,13nm,0.9s
CLL Collm 144.89 353 *i* PKIKP **PKPab 07 48 53.5 -0.9**
CLL pmax pmax
comp=Z,13nm,0.9s
BRG Berggiesshubel 145.19 351 *i* PKP **PKPbc 07 48 55.1 -0.2**
comp=Z,8.9nm,1.0s
BRG Berggiesshubel 145.19 351 *i* PKIKP **PKPbc 07 48 55.2 -0.2**
BRG pmax pmax
comp=Z,9.0nm,1.0s
UPC Upice 145.20 349 *e*PKP **PKPdf 07 48 55.7 +0.1**
UPC Upice 145.20 349 *e*PKIKP **PKPdf 07 48 55.7 +0.1**
BUR08 Bucovina Ar. S 145.24 337 *e*PKPbc **PKPbc 07 48 55.6 -0.2**
NIE Niedzica 145.25 344 *e*PKP **PKPab 07 48 55.8 -0.1**
NIE Niedzica 145.25 344 *e*PKIKP **PKPab 07 48 55.8 -0.1**
BUR04 Bucovina Ar. S 145.26 337 *e*PKPbc **PKPbc 07 48 55.6 -0.2**
BURAR Bucovina Array 145.26 337‖ PKIKP **PKPab 07 48 56.0 0.0**
DPC Dobruska-Polom 145.29 349 *e*PKP **PKPdf 07 48 56.4 +0.6**
DPC *ex* x 07 49 01.6
DPC Dobruska-Polom 145.29 349 *e*PKIKP **PKPdf 07 48 56.4 +0.6**
MORC Moravsky Berou 145.59 347 *e*PKPdf **PKPdf 07 48 56.3 0.0**
MORC Moravsky Berou 145.59 347‖ PKIKP **PKPab 07 48 56.9 -0.2**
MORC Moravsky Berou 145.59 347 *e*PKP **PKPdf 07 48 56.6 +0.2**
LANS Liptovska Anna 145.72 344 *e*PKIKP **PKPab 07 48 58.1 +0.5**
LANS Liptovska Anna 145.72 344 *e*PKP **PKPab 07 48 58.1 +0.5**
BEBN Eben Emael 145.83 1‖ PKP **PKPdf 07 48 56.3 -0.3**
PRU Pruhonice 145.96 350 *e*PKP **PKPab 07 48 58.1 -0.3**
PRU *ex* x 07 49 02.2
PRU Pruhonice 145.96 350 *e*PKIKP **PKPab 07 48 58.1 -0.3**
GOPC GO Pecny, Ondr 145.99 350 *e*PKP **PKPdf 07 48 57.5 +0.5**
GOPC GO Pecny, Ondr 145.99 350 *e*PKIKP **PKPdf 07 48 57.5 +0.5**
CFK Carcaliu 146.01 332‖ PKIKP **PKPbc 07 48 58.1 0.0**
NKC Novy Kostel 146.01 353 *e*PKP **PKPbc 07 48 58.0 0.0**
NKC Novy Kostel 146.01 353 *e*PKIKP **PKPbc 07 48 58.0 0.0**
MEM Membach 146.02 0‖ PKP **PKPbc 07 48 57.8 -0.2**
SNF Seneffe 146.08 2‖ PKP **PKPab 07 48 58.5 -0.4**
VRI Vrincioaia 146.09 334‖ PKIKP **PKPbc 07 48 58.0 -0.4**
VRAC Vranov 146.23 348‖ PKIKP **PKPbc 07 48 58.4 -0.3**
VRAC Vranov 146.23 348 *e*PKP **PKPbc 07 48 58.7 0.0**
JAVC Velka Javorina 146.43 346 *e*PKP **PKPab 07 49 00.6 +0.2**
TIRR Tirgusor 146.43 331‖ *e*PKPdf **PKPdf 07 48 57.7 -0.1**
TIRR Tirgusor 146.43 331‖ PKIKP **PKPdf 07 48 58.5 +0.6**
HARR Harsova 146.48 331‖ PKIKP **PKPdf 07 48 58.1 +0.2**
VYHS Vyhne 146.49 345 *e*PKP2 **PKPab 07 49 00.0 -0.5**
VYHS Vyhne 146.49 345 *e*PKP **PKPab 07 49 00.0 -0.5**
TLB Topalu 146.50 331‖ PKP2 **PKPbc 07 48 59.4 -0.2**
DOU Dourbes 146.51 2‖ PKP **PKPbc 07 48 59.3 -0.1**
KRUC Moravsky 146.51 348 *e*PKP **PKPbc 07 48 59.6 +0.1**
GRF Grafenberg Arr 146.68 354 *e*PKP **PKPbc 07 48 60.0 0.0**
baz=9.0,slow=3.2
MLR Muntele Rosu 146.72 334 *e*PKPdf **PKPdf 07 48 58.3 -0.2**
MLR Muntele Rosu 146.72 334‖ PKP2 **PKPbc 07 49 00.3 -0.1**
PSZ Piszkesteto 146.73 343 *e*PKPdf **PKPdf 07 48 58.8 +0.4**
PSZ Piszkesteto 146.73 343‖ PKP2 **PKPbc 07 49 00.8 +0.6**
BR101 Keskin Array S 146.76 320 *e*PKPdf **PKPdf 07 48 59.2 +0.4**
BR131 Keskin Array S 146.76 320 *e*PKPdf **PKPdf 07 48 58.6 -0.2**
BRTR Keskin Array B 146.76 320 PKPbc **PKPdf 07 48 59.2 +0.4**
comp=Z,11nm,0.9s,baz=135,slow=1.8,SNR=49
BRTR Keskin Array B 146.76 320*c i*PKP2 **PKPbc 07 49 00.2 -0.5**
BRTR pmax pmax
comp=Z,11nm,0.9s
DRGR 146.86 339‖ PKP2 **PKPbc 07 49 00.4 -0.2**
KHC Kasperske Hory 146.94 351 *e*PKPdf **PKPdf 07 48 59.1 +0.5**
KHC Kasperske Hory 146.94 351 *e*PKP **PKPbc 07 49 00.8 +0.1**
KHC Kasperske Hory 146.94 351 *e*PKIKP **PKPdf 07 48 59.1 +0.5**
WLF Walferdange 146.96 0 *e*PKPdf **PKPdf 07 48 59.2 +0.6**
WLF Walferdange 146.96 0 *e*PKIKP **PKPdf 07 48 59.2 +0.6**
WLF Walferdange 146.96 0‖ PKP **PKPbc 07 49 01.4 +0.7**
MODS Modra-Piesok 146.97 346 *e*PKP2 **PKPab 07 49 01.8 -0.7**
MODS Modra-Piesok 146.97 346 *e*PKP **PKPab 07 49 01.8 -0.7**
VOIR 147.13 335‖ PKP2 **PKPbc 07 49 01.7 +0.3**
GEC2 GERESS Array S 147.20 351 *e*PKPdf **PKPdf 07 48 59.7 +0.5**
GEC2 GERESS Array S 147.20 351 *e*PKIKP **PKPdf 07 48 59.7 +0.5**
GERES GERESS Array B 147.20 351 PKP **PKPdf 07 48 59.2 0.0**
comp=Z,9.8nm,0.9s,baz=29,slow=3.0,SNR=43
GERES PKPbc **PKPbc 07 49 01.2 -0.3**
comp=Z,9.9nm,0.9s,baz=31,slow=2.3,SNR=42
GEA0 GERESS Array S 147.21 351 *e*PKPdf **PKPdf 07 48 59.5 +0.3**
CONA Conrad Observa 147.70 348 *i* PKPab **PKPbc 07 49 03.7 +0.8**
comp=Z,23nm,1.1s,SNR=8.2
GZR Gura Zlata 148.04 338‖ PKIKP **PKPbc 07 49 03.7 -0.2**
MOA Molln 148.07 350 *i* PKiKP **PKPbc 07 49 04.3 +0.4**
comp=Z,21nm,1.0s,SNR=6.6
BFO Black Forest 148.25 357 *e*PKPdf **PKPdf 07 49 00.9 +0.1**
BFO Black Forest 148.25 357 *i* PKP2 **PKPbc 07 49 04.8 +0.5**
BZS Buzias 148.25 339‖ PKP2 **PKPbc 07 49 04.4 +0.1**
ECH Echery 148.40 359 *e*PKPdf **PKPdf 07 49 01.6 +0.5**
ECH Echery 148.40 359 *e*PKIKP **PKPdf 07 49 01.6 +0.5**
ARSA Arzberg 148.41 348 *i* PKiKP **PKPbc 07 49 04.8 +0.1**
comp=Z,10nm,1.0s
CLF Chambon-Foret 148.44 5 *e*PKPdf **PKPdf 07 49 01.3 +0.2**
RETA Reutte 148.91 354 *i* PKiKP **PKPbc 07 49 06.4 +0.4**
comp=Z,17nm,1.0s
KBA Koelnbreinsper 148.97 350 *i* PKiKP **PKPbc 07 49 06.1 -0.3**
comp=Z,7.9nm,0.9s
MOTA Moosalm 149.01 353 *i* PKiKP **PKiKP 07 49 07.6 -0.1**
comp=Z,15nm,0.9s,SNR=6.3
SOKA Soboth 149.06 348 *e*PKiKP **PKPbc 07 49 06.3 -0.2**
comp=Z,22nm,1.2s,SNR=5.1
SQTA Sankt Quirin 149.12 353 *i* PKiKP **PKPbc 07 49 07.2 +0.5**
comp=Z,14nm,0.9s
DAVA Damuels 149.19 355 *i* PKiKP **PKPbc 07 49 07.5 +0.6**
comp=Z,30nm,0.9s,SNR=6.1
OBKA Obir 149.31 349 *i* PKPbc **PKPbc 07 49 06.6 -0.5**
comp=Z,14nm,1.3s
MYKA Terra Mystica 149.36 350 *i* PKPbc **PKPbc 07 49 06.8 -0.5**
comp=Z,12nm,0.9s
FETA Feichten 149.37 354 *i* PKiKP **PKPbc 07 49 07.9 +0.5**
comp=Z,22nm,1.1s,SNR=6.2
ABTA Abfaltersbach 149.42 351 *i* PKiKP **PKPbc 07 49 07.2 -0.2**
comp=Z,32nm,1.0s,SNR=7.1
FUORN Ofenpass-Fuorn 149.82 354 *e*PKPdf **PKPdf 07 49 03.7 0.0**
FUORN *e*PKPbc **PKiKP 07 49 09.2 -0.3**
TUE Stuetta 150.04 356 *e*PKPbc **PKPbc 07 49 09.4 +0.4**
DIVS Divibare 150.14 340 *e*PKPdf **PKPdf 07 49 04.4 +0.3**
DIVS *e*PKPbc **PKiKP 07 49 09.7 -0.3**
VTS Vitosha 150.22 334 *e*PKPdf **PKPdf 07 49 04.2 -0.2**
VTS *e*PKPbc **PKPbc 07 49 09.7 +0.1**
VTS Vitosha 150.22 334 *e*PKIKP **PKPdf 07 49 04.2 -0.2**
SENIN Lac Senin/Sane 150.25 358 *e*PKPdf **PKPdf 07 49 04.8 +0.5**
SENIN *e*PKPbc **PKiKP 07 49 10.8 +0.4**
SSB Saint Sauveur 151.32 2 *e*PKPdf **PKPdf 07 49 05.8 +0.2**
SSB *e*PKPbc **PKiKP 07 49 12.4 0.0**
SSB Saint Sauveur 151.32 2 *e*PKIKP **PKPdf 07 49 06.0 +0.2**
BNI Bardonecchia 151.57 359 *e*PKPbc **PKPbc 07 49 14.1 +1.5**
BNI Bardonecchia 151.57 359 *e*PKIKP **PKPbc 07 49 14.1 +1.5**
ES19 SONSECA Array 155.32 19 *e*PKPab **PKPab 07 49 37.5 +0.2**
ESDC Sonseca Array 155.32 19 PKPbc PKPdf 07 49 20.9 +9.1
comp=Z,1.0nm,0.7s,baz=327,slow=2.5,SNR=4.9
ESDC PKPab **PKPab 07 49 37.6 +0.3**
comp=Z,1.1nm,0.9s,baz=310,slow=1.4,SNR=8.1
TOA0 Torodi Ar. Sit 174.52 127 *e*PKPdf **PKPdf 07 49 27.1 -1.6**
TOA0 *e*PKPab **PKPab 07 51 03.1 +0.8**
TORD Torodi Ar. Bea 174.52 127 PKP **PKPdf 07 49 27.0 -1.7**
comp=Z,2.2nm,0.9s,baz=359,slow=2.6,SNR=11
TORD PKPab **PKPab 07 51 03.0 +0.7**
comp=Z,1.6nm,0.7s,baz=276,slow=4.6,SNR=8.8
TOA1 Torodi Ar. Sit 174.52 127 *e*PKPdf **PKPdf 07 49 27.0 -1.7**
TOA1 *e*PKPab **PKPab 07 51 03.0 +0.7**

NIED ***22*** *08:12:00, 39.40N×142.80E, h17km, Mw3.4 Best double couple: M0 1.64000×10^14 NP1:φ=70.00000°, δ=36.00000°, λ=-59.00000°. NP2:φ=213.00000°, δ=60.00000°, λ=-110.00000°.*

JMA 22 08:12:06.0±0.1, 39.44N×142.76E, h33km±1km, M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.74**	**281**	P	Pn		08 12 20.0	-0.1
MIYJ				S	Sn		08 12 29.8	-0.5
JTH	**Tanohata**	**0.85**	**306**	P	Pn		08 12 21.8	+0.1
JTH				S	Sn		08 12 33.2	+0.2
OFUJ	**Ofunato**	**0.92**	**247**	P	Pn		08 12 22.6	0.0
OFUJ				S	Sn		08 12 34.7	0.0
JOM	**Ohasama**	**1.14**	**272**	P	Pn		08 12 26.3	+0.7
JOM				S	Sn		08 12 40.8	+0.8
JKMT	**Kesennumamotoy**	**1.18**	**238**	P	Pn		08 12 26.5	+0.3
JKMT				S	Sn		08 12 41.6	+0.5
JKZ	**Kuzumaki**	**1.23**	**297**	P	Pn		08 12 27.6	+0.7
JKZ				S	Sn		08 12 43.0	+0.6
JMK	**Ichinoseki**	**1.29**	**248**	P	Pn		08 12 28.4	+0.7
JMK				S	Sn		08 12 44.8	+0.9
JANG	**Nango**	**1.34**	**315**	P	Pn		08 12 28.7	+0.4
JANG				*e*S	Sn		08 12 45.5	+0.5
JIO	**Ouri**	**1.48**	**229**	P	Pn		08 12 30.8	+0.6
JIO				*e*S	Sn		08 12 49.1	+0.7
JRG	**Rokugo**	**1.65**	**269**	P	Pn		08 12 34.1	+1.5
JRG				*e*S	Sb		08 12 56.2	+0.1
JAH	**Hinai**	**1.80**	**295**	P	Pn		08 12 36.1	+1.4
JAH				*e*S	Sb		08 12 59.4	-1.1
JTM	**Tenmabayashi**	**1.87**	**317**	P	Pn		08 12 36.3	+0.6
JTM				*e*S	Sn		08 12 59.0	+0.9
JYK	**Kaneyama**	**1.94**	**255**	P	Pn		08 12 38.1	+1.5
JOU	**Okura**	**1.96**	**237**	P	Pn		08 12 38.2	+1.3

STR ***22*** *08:19:46.6±0.3, 48°N±2°×±°, h0km, MLv1.3/6*
LDG ***22*** *08:19:46.5±0.1, 48.48N×7.82E, h10km, Md2.1/1, Ml2.1/5, Error ellipse: s-maj=1.9km s-min=1.2km az=4.0*

ISC 22 08:19:45.9±1.3, 48°51N±0.07×7°81E±0.04, h12km±9km, n11, σ0.98/19, France

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
OPP	**Oppenau**	**0.25**	**92**	P	**Pg**	**Pn**	**08 19 51.0**	**-0.1**
CDF	**Champ du Feu**	**0.37**	**255**	*e*Pg	**Pg**	**Pn**	**08 19 53.6**	**+0.3**
CDF				*e*Sg	**Sg**	**Sn**	**08 19 58.6**	**+0.4**
	3.0nm,0.2s							
ECH	**Echery**	**0.52**	**236**	Pg	**Pg**	**Pn**	**08 19 56.1**	**0.0**
KIZ	**Kirchzarten**	**0.56**	**172**	Pg	**Pg**	**Pn**	**08 19 56.9**	**+0.2**
KIZ				Sg	**Sb**	**Sn**	**08 20 06.0**	**+0.6**
HINF	**Hinteralfeld**	**0.94**	**223**	*e*Pg	**Pg**	**Pn**	**08 20 04.1**	**+0.1**
HINF				*e*Sg	**Sg**	**Sn**	**08 20 16.2**	**-0.1**
	14nm,0.2s							
HAU	**Haudompre**	**1.10**	**243**	*e*Pn	**Pg**	**Pn**	**08 20 05.9**	**-1.1**
HAU	**Haudompre**	**1.10**	**243**	*e*Pg	**Pg**	**Pn**	**08 20 07.4**	**+0.4**
HAU				*e*Sn	**Sg**	**Sn**	**08 20 19.6**	**-1.7**
HAU				*e*Sg	**Sb**	**Sn**	**08 20 22.2**	**+1.2**
	3.1nm,0.2s							
PAGF	**Fort de Pagny**	**1.39**	**273**	*e*Pn	**Pn**	**Pn**	**08 20 10.4**	**-0.6**
PAGF	**Fort de Pagny**	**1.39**	**273**	*e*Pg	**Pb**	**Pn**	**08 20 12.7**	**+1.0**
PAGF				*e*Sg	**Sn**	**Sn**	**08 20 30.7**	**+1.5**
	2.9nm,0.2s							
MEZF	**Maizieres J'vi**	**1.83**	**271**	*e*Pn	**Pn**	**Pn**	**08 20 16.4**	**-0.7**
MEZF				*e*Sg	**Sg**	**Sn**	**08 20 44.5**	**-0.3**
	3.0nm,0.2s							
SFTF	**Sexfontaines**	**1.87**	**262**	*e*Pn	**Pn**	**Pn**	**08 20 16.7**	**-1.0**
SFTF				*e*Sn	**Sn**	**Sn**	**08 20 39.5**	**-1.7**
	0.9nm,0.2s							

NEIC ***22*** *08:36:54.5±0.8, 17.11N×59.69W, h10km, MD4.1(TRN), Error ellipse: s-maj=10.6km s-min=3.8km az=59.0*
TRN ***22*** *08:36:55.2, 17.08N×59.66W, h45km, MD4.1*

ISC 22 08:36:55.9±2.4, 17.10N±0.08×59.6W±0.1, h66km±35km, n73, σ0.81/113, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DEG	**La Desirade**	**1.58**	**241**	*e*Pn	**Pn**	**Pn**	**08 37 22.1**	**+0.3**
DEG				*e*Sn	**Sn**	**Sn**	**08 37 41.3**	**-0.2**
DEG	**La Desirade**	**1.58**	**241**	*e*P	**Pn**	**Pn**	**08 37 22.1**	**+0.3**
DEG				*e*S	**Sn**	**Sn**	**08 37 41.3**	**-0.2**
ABD	**La Joyeuse, An**	**1.89**	**251**	*e*P	**Pn**	**Pn**	**08 37 27.4**	**+1.5**
MAGL	**Barre de l'ile**	**1.96**	**234**	*e*P	**Pn**	**Pn**	**08 37 27.3**	**+0.4**
BPA	**Boggy Peak**	**2.13**	**269**	*e*Pn	**Pn**	**Pn**	**08 37 29.2**	**-0.1**
BPA				*e*Sn	**Sn**	**Sn**	**08 37 54.5**	**-0.3**
BPA	**Boggy Peak**	**2.13**	**269**	*e*P	**Pn**	**Pn**	**08 37 29.2**	**-0.1**
BPA				*e*S	**Sn**	**Sn**	**08 37 54.5**	**-0.3**
ANWB	**Willy Bob**	**2.14**	**286**	*e*Pn	**Pn**	**Pn**	**08 37 29.4**	**0.0**
ANWB				*e*Sn	**Sn**	**Sn**	**08 37 54.0**	**-0.8**
ANWB	**Willy Bob**	**2.14**	**286**	*e*P	**Pn**	**Pn**	**08 37 29.0**	**-0.3**
ANWB				*e*S	**Sn**	**Sn**	**08 37 54.1**	**-0.7**
CBE	**Ff, Capester**	**2.16**	**242**	*e*P	**Pn**	**Pn**	**08 37 30.9**	**+1.2**
DWS	**Wesley**	**2.22**	**227**	*e*Pn	**Pn**	**Pn**	**08 37 30.2**	**-0.3**
DWS				*e*Sn	**Sn**	**Sn**	**08 37 56.5**	**-0.3**
DWS	**Wesley**	**2.22**	**227**	*e*P	**Pn**	**Pn**	**08 37 30.2**	**-0.3**
DWS				*e*S	**Sn**	**Sn**	**08 37 56.5**	**-0.3**
MDPV	**Dominica, Penn**	**2.26**	**230**	*e*P	**Pn**	**Pn**	**08 37 30.4**	**-0.7**
MDPV				*e*S	**Sn**	**Sn**	**08 37 57.7**	**-0.2**
TDBA	**Terre de Bas,**	**2.29**	**237**	*e*P	**Pn**	**Pn**	**08 37 33.4**	**+1.9**
MDPO	**Dominica; Chan**	**2.32**	**229**	*e*P	**Pn**	**Pn**	**08 37 31.4**	**-0.4**
MDPO				*e*S	**Sn**	**Sn**	**08 37 59.6**	**+0.4**
DLPL	**La Plaine**	**2.35**	**222**	*e*Pn	**Pn**	**Pn**	**08 37 33.6**	**+1.4**
DLPL				*e*Sn	**Sn**	**Sn**	**08 37 59.0**	**-0.9**
DLPL	**La Plaine**	**2.35**	**222**	*e*P	**Pn**	**Pn**	**08 37 31.3**	**-0.6**
DLPL				*e*S	**Sn**	**Sn**	**08 37 59.0**	**-0.9**
MLYT	**Lee's Yard**	**2.48**	**262**	*e*P	**Pn**	**Pn**	**08 37 35.1**	**+1.1**
MLYT				*e*S	**Sn**	**Sn**	**08 38 03.3**	**0.0**
BAMF	**Morne Balai**	**2.70**	**213**	*e*P	**Pn**	**Pn**	**08 37 37.4**	**+0.3**
CXM	**Morne La Croix**	**2.72**	**213**	*e*P	**Pn**	**Pn**	**08 37 37.6**	**+0.2**
GBMF	**Grand Be**	**2.73**	**213**	*e*P	**Pn**	**Pn**	**08 37 37.9**	**+0.5**
PCM	**Pelee Case Pet**	**2.73**	**214**	*e*P	**Pn**	**Pn**	**08 37 38.0**	**+0.5**
PML	**Morne Lenard**	**2.75**	**213**	*e*P	**Pn**	**Pn**	**08 37 37.6**	**-0.1**
FDF	**Fort de France**	**2.77**	**212**	*e*Pn	**Pn**	**Pn**	**08 37 38.0**	**-0.1**
FDF				*e*Sn	**Sn**	**Sn**	**08 38 10.4**	**0.0**
FDF	**Fort de France**	**2.77**	**212**	*e*P	**Pn**	**Pn**	**08 37 37.8**	**-0.2**
FDF				*e*S	**Sn**	**Sn**	**08 38 10.4**	**0.0**
MVM	**Montagne Vaucl**	**2.81**	**206**	*e*P	**Pn**	**Pn**	**08 37 38.6**	**+0.1**
NEV	**Hard Times**	**2.82**	**271**	*e*Pn	**Pn**	**Pn**	**08 37 39.2**	**+0.6**
NEV				*e*Sn	**Sn**	**Sn**	**08 38 10.8**	**-0.6**
NEV	**Hard Times**	**2.82**	**271**	*e*P	**Pn**	**Pn**	**08 37 39.2**	**+0.6**
NEV				*e*S	**Sn**	**Sn**	**08 38 10.8**	**-0.6**
LPMF	**Morne Lapointe**	**2.82**	**207**	*e*P	**Pn**	**Pn**	**08 37 38.0**	**-0.7**
ZAM	**Aeronautique**	**2.85**	**208**	*e*P	**Pn**	**Pn**	**08 37 38.5**	**-0.5**
TRMF	**Trois Ilets**	**2.89**	**208**	*e*P	**Pn**	**Pn**	**08 37 39.7**	**+0.1**
BIM	**Bigot**	**2.92**	**209**	*e*P	**Pn**	**Pn**	**08 37 40.4**	**+0.3**
SEUS	**St. Eustatius**	**

SFAN				*e*Sn	**Sn**	**08 38 39.2**	**-0.8**	
SFAN	**Fancy Village**	**3.98**	**202**	*e*P	**Pn**	**08 37 55.9**	**+1.4**	
SFAN				*e*S	**Sn**	**08 38 39.2**	**-0.8**	
SSV	**Crater Summit**	**4.04**	**202**	*e*Pn	**Pn**	**08 37 56.7**	**+1.2**	
SSV				*e*Sn	**Sn**	**08 38 40.8**	**-0.8**	
SSV	**Crater Summit**	**4.04**	**202**	*e*P	**Pn**	**08 37 56.7**	**+1.2**	
SSV				*e*S	**Sn**	**08 38 40.8**	**-0.8**	
SVV	**Soufriere Volc**	**4.06**	**202**	*e*Pn	**Pn**	**08 37 56.6**	**+1.0**	
SVV				*e*Sn	**Sn**	**08 38 41.3**	**-0.7**	
SVV	**Soufriere Volc**	**4.06**	**202**	*e*P	**Pn**	**08 37 56.6**	**+1.0**	
SVV				*e*S	**Sn**	**08 38 41.3**	**-0.7**	
SVCV	**St. Vincent, C**	**4.08**	**201**	*e*P	**Pn**	**08 37 55.9**	**+0.1**	
SVCV	**St. Vincent, C**	**4.08**	**201**	*e*S	**Sn**	**08 38 42.1**	**-0.3**	
SVB	**Belmont**	**4.12**	**203**	*e*Pn	**Pn**	**08 37 57.1**	**+0.8**	
SVB				*e*Sn	**Sn**	**08 38 43.0**	**-0.3**	
SVB	**Belmont**	**4.12**	**203**	*e*P	**Pn**	**08 37 57.5**	**+1.1**	
SVB				*e*S	**Sn**	**08 38 42.1**	**-1.2**	
FCV	**Fort Charlotte**	**4.22**	**202**	*e*Pn	**Pn**	**08 37 59.1**	**+1.4**	
FCV				*e*Sn	**Sn**	**08 38 45.3**	**-0.5**	
FCV	**Fort Charlotte**	**4.22**	**202**	*e*P	**Pn**	**08 37 59.1**	**+1.4**	
FCV	**Fort Charlotte**	**4.22**	**202**	*e*S	**Sn**	**08 38 45.3**	**-0.5**	
GRSS	**Sisters**	**5.14**	**202**	*e*P	**Pn**	**08 38 10.9**	**+0.5**	
GRSS				*e*S	**Sn**	**08 39 06.7**	**-1.8**	
GRSS	**Sisters**	**5.14**	**202**	*e*P	**Pn**	**08 38 10.9**	**+0.5**	
GRHS	**Sauteurs**	**5.22**	**202**	*e*Pn	**Pn**	**08 38 10.9**	**-0.6**	
GRHS				*e*Sn	**Sn**	**08 39 08.4**	**-2.0**	
GRHS	**Sauteurs**	**5.22**	**202**	*e*P	**Pn**	**08 38 11.7**	**+0.2**	
STVI	**Saint Thomas**	**5.23**	**285**	*e*Pn	**Pn**	**08 38 11.6**	**+0.1**	
STVI				*e*Sn	**Sn**	**08 39 10.6**	**+0.1**	
GRGR	**Grenville**	**5.31**	**202**	*e*Pn	**Pn**	**08 38 13.4**	**+0.7**	
CUPR	**Culebra, Puert**	**5.52**	**283**	*e*Pn	**Pn**	**08 38 15.7**	**+0.1**	
CUPR				*e*Sn	**Sn**	**08 39 17.0**	**-0.8**	
MTP	**Monte Pirata**	**5.74**	**281**	*e*Pn	**Pn**	**08 38 18.2**	**-0.3**	
MTP				*e*Sn	**Sn**	**08 39 22.9**	**-0.2**	
TOSP	**Speyside**	**5.83**	**189**	*e*P	**Pn**	**08 38 21.6**	**+1.8**	
TOSP				*e*S	**Sn**	**08 39 24.1**	**-1.3**	
TOSP	**Speyside**	**5.83**	**189**	*e*P	**Pn**	**08 38 21.6**	**+1.8**	
HUMP	**Col San Antoni**	**6.02**	**281**	*e*Pn	**Pn**	**08 38 22.8**	**+0.4**	
CBYP	**Canovanas**	**6.05**	**282**	*e*Pn	**Pn**	**08 38 23.1**	**+0.2**	
CBYP				*e*Sn	**Sn**	**08 39 30.3**	**-0.5**	
ASCN	**Ascension**	**51.20**	**115**	*e*P	P	08 45 58.9	+6.0	

ISCJB ***22*** *08:40:49.8±0.2,61°.30S±0°.03×154°.25E±0°.09,h10km, mb5.2/60,MS4.8/21,Error ellipse: s-maj=6.0km s-min=4.5km az=2.9*

IDC ***22*** *08:40:49.5±0.5,61°.29S×154°.39E,h0km,mb4.9/12, mb1 5.0/12,mb1mx4.9/17,mbtmp4.9/12,MS4.8/17, Ms1 4.8/17,ms1mx4.7/19,Error ellipse: s-maj=21.9km s-min=14.9km az=84.0*

NEIC ***22*** *08:40:50.5±2.1,61°.34S×154°.14E,h7$^{km}_{b}$ 12km,mb5.3/60, MW5.4,Error ellipse: s-maj=5.2km s-min=4.1km az=69.0, Moment Tensor Solution. s12 Moment tensor: Scale 10^{17}Nm; M_{rr}0.20; $M_{\theta\theta}$1.10; $M_{\phi\phi}$-1.29; $M_{r\theta}$-0.32; $M_{\theta\phi}$-0.89; $M_{\phi r}$-0.11; Best double couple: $M_0$1.50000×10^{17} NP1: ϕ_s243.00000°,δ86.00000°,λ167.00000°. NP2: ϕ_s334.00000°,δ77.00000°,λ4.00000°. Principal axes: T 1.4500, Plg12.0000°, Azm197.0000°; N 0.1600, Plg76.0000°, Azm46.0000°; P -1.6100, Plg7.0000°, Azm289.0000°;*

BJI ***22*** *08:40:52.1,61°.30S×154°.10E,h10km,mb5.6/4,mB5.6/4, Ms5.2/8,Ms7 4.9/7*

MOS ***22*** *08:40:54.7±1.5,60°.99S×154°.95E,h33km,mb5.2/26,Error ellipse: s-maj=38.2km s-min=8.9km az=97.2*

GCMT ***22*** *08:40:55.5±0.1,61°.31S±0°.01×153°.99E±0°.02,h17km, MW5.5/116,Moment Tensor Solution. s99,c177; s116,c209; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.08±.03; $M_{\theta\theta}$1.65±.03; $M_{\phi\phi}$-1.57±.03; $M_{r\theta}$-0.11±.06; $M_{\theta\phi}$-1.29±.03; $M_{\phi r}$0.40±.07; Best double couple: $M_0$2.10400×10^{17} NP1:ϕ_s154.00000°,δ88.00000°, λ-11.00000°. NP2:ϕ_s245.00000°,δ79.00000°, λ-178.00000°. Principal axes: T 2.1280, Plg6.0000°, Azm200.0000°; N -0.0450, Plg79.0000°, Azm322.0000°; P -2.0800, Plg10.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 08:40:51.2±0.3,61°.35S±0°.05×154.73E±0°.07,h10km,n292, σ1§32/283,mb5.2/60,MS4.8/21,34C-8D,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**7.22**	**20**	P	**Pn**	**08 42 34.5**	**-2.2**
	baz=7.2,SNR=7.4						
MCQ	**Macquarie Isla**	**7.22**	**20**	*e*Pn	**Pn**	**08 42 35.2**	**-1.5**
MCQ	**Macquarie Isla**	**7.22**	**20**	*e*P	**Pn**	**08 42 35.2**	**-1.5**
VNDA	**Vanda**	**16.42**	**175**	Pn	**Pn**	**08 44 36.8**	**-4.4**
	13nm,0.3s,baz=348,slow=14,SNR=311						
VNDA				LR	LR	08 50 14.5	
	comp=Z,7μm,19.7s,baz=356,slow=34						
VNDA	**Vanda**	**16.42**	**175**	*e*Pn	**Pn**	**08 44 37.1**	**-4.1**
	112nm,1.1s						
PYZ	**Puysegur Point**	**16.72**	**30**	*e*Pn	**P**	**08 44 47.0**	**-0.6**
	99nm,1.1s						
SBA	**Scott Base**	**17.03**	**171**	*e*Pn	**Pn**	**08 44 47.1**	**-1.8**
	178nm,1.0s						
SBA	**Scott Base**	**17.03**	**171**	*e*P	**Pn**	**08 44 47.1**	**-1.8**
SBA				pmax	pmax		
	comp=Z,178nm,1.0s						
WHZ	**Wether Hill Ro**	**17.30**	**32**	*e*Pn	**P**	**08 44 55.0**	**+1.1**
	comp=Z,195nm,1.4s						
DCZ	**Deep Cove**	**17.50**	**30**	*e*Pn	**P**	**08 44 57.1**	**+1.0**
	comp=Z,564nm,1.7s						
MLZ	**Mavora Lakes**	**17.83**	**32**	*e*Pn	**P**	**08 45 00.9**	**+1.1**
	comp=Z,658nm,1.5s						
WKZ	**Wanaka**	**18.57**	**33**	*e*P	**Pn**	**08 45 09.7**	**+1.5**
	comp=Z,393nm,1.5s						
ODZ	**Otahua Downs**	**18.82**	**37**	*e*P	**Pn**	**08 45 12.5**	**+1.3**
	comp=Z,261nm,1.3s						
TAU	**Tasmania Unive**	**18.99**	**343**	*e*P	**P**	**08 45 10.5**	**-2.1**
	comp=Z,142nm,1.4s						
TAU	**Tasmania Unive**	**18.99**	**343**	*e*P	**P**	**08 45 10.5**	**-2.1**
TAU				pmax	pmax		
	comp=Z,142nm,1.4s						
LBZ	**Lake Benmore**	**19.29**	**35**	*e*P	**Pn**	**08 45 17.7**	**+0.8**
	comp=Z,374nm,1.6s						
MOO	**Moorlands**	**19.47**	**343**	P	**P**	**08 45 18.2**	**+0.3**
	baz=19,SNR=6.0						
FOZ	**Fox Glacier**	**19.98**	**34**	*e*P	**Pn**	**08 45 25.3**	**+0.2**
	comp=Z,504nm,1.7s						
RPZ	**Rata Peaks**	**20.15**	**36**	P	Pn	08 45 27.1	-0.1
	comp=Z,84nm,1.1s,baz=210,slow=9.7,SNR=18						
RPZ				LR	LR	08 52 03.3	
	comp=Z,4μm,19.6s,baz=186,slow=33						
MQZ	**McQueen's Vall**	**20.63**	**39**	*e*P	Pn	08 45 32.5	-0.3
	comp=Z,294nm,1.4s						
CRLZ	**Canterbury Las**	**20.74**	**39**	*e*P	Pn	08 45 33.4	-0.7
	comp=Z,241nm,1.3s						
OXZ	**Oxford**	**20.80**	**38**	*e*P	Pn	08 45 34.1	-0.5
	comp=Z,223nm,1.7s						
LTZ	**Lake Taylor**	**21.36**	**38**	*e*P	**P**	**08 45 41.2**	**+2.8**
	comp=Z,162nm,1.5s						
KHZ	**Kahutara**	**22.08**	**39**	*e*P	**P**	**08 45 48.7**	**+2.7**
	comp=Z,267nm,1.4s						
THZ	**Tophouse**	**22.48**	**38**	*e*P	**P**	**08 45 52.5**	**+2.0**
	comp=Z,420nm,1.5s						
TOO	**Toolangi**	**24.50**	**342**	P	**P**	**08 46 10.4**	**0.0**
	baz=24,SNR=14						
TOO	**Toolangi**	**24.50**	**342**	*e*P	**P**	**08 46 08.1**	**-2.2**
	comp=Z,48nm,0.9s						
TOO	**Toolangi**	**24.50**	**342**	*e*P	**P**	**08 46 08.1**	**-2.2**
TOO				pmax	pmax		
	comp=Z,48nm,0.9s						
BFZ	**Birch Farm**	**24.50**	**42**	*e*P	**P**	**08 46 11.9**	**+1.6**
	comp=Z,62nm,1.0s						
MILA	**Mila**	**24.57**	**349**	P	**P**	**08 46 11.2**	**+0.2**
	baz=24,SNR=4.1						
ARPS	**Mount Arapiles**	**25.91**	**336**	P	**P**	**08 46 23.2**	**+0.1**
	baz=26,SNR=10						
BKZ	**Black Stump Fm**	**25.96**	**41**	*e*P	**P**	**08 46 25.5**	**+1.9**
	comp=Z,86nm,1.2s						
CNB	**Canberra Magne**	**26.27**	**350**	P	**P**	**08 46 27.1**	**+0.6**
	baz=26,SNR=7.1						
CAN	**Canberra**	**26.30**	**349**	P	**P**	**08 46 27.2**	**+0.5**
	baz=26						
CAN	**Canberra**	**26.30**	**349**	*e*P	**P**	**08 46 25.6**	**-1.1**
	comp=Z,39nm,1.1s						
CAN	**Canberra**	**26.30**	**349**	*e*P	**P**	**08 46 25.6**	**-1.1**
CAN				pmax	pmax		
	comp=Z,39nm,1.1s						
URZ	**Urewera**	**26.98**	**41**	P	**P**	**08 46 34.0**	**+1.3**
	comp=Z,62nm,0.9s,baz=244,slow=6.1,SNR=29						
URZ				LR	LR	08 57 42.6	
	comp=Z,2μm,18.7s,baz=210,slow=38						
YNG	**Young**	**27.37**	**349**	P	**P**	**08 46 36.8**	**+0.5**
	baz=27,SNR=7.8						
QSPA	**South Pole Qui**	**28.74**	**180**	P	**P**	**08 46 49.9**	**+1.4**
	comp=Z,30nm,1.1s,baz=0.9,slow=4.6,SNR=22						
QSPA				LR	LR	08 58 17.0	
	comp=Z,3μm,19.7s,baz=17,slow=36						
QSPA	**South Pole Qui**	**28.74**	**180**	*e*P	**P**	**08 46 48.7**	**+0.2**
	comp=Z,87nm,1.3s						
HTT	**Hallett**	**29.74**	**333**	P	**P**	**08 46 57.8**	**+0.3**
	baz=30,SNR=7.2						
CMSA	**Cobar Meteorol**	**30.40**	**345**	P	**P**	**08 47 03.4**	**+0.1**
	baz=30,SNR=13						
STKA	**Stephens Creek**	**30.71**	**338**	P	**P**	**08 47 06.0**	**+0.1**
	comp=Z,17nm,0.9s,baz=166,slow=9.1,SNR=29						
STKA				LR	LR	08 56 38.2	
	comp=Z,2μm,21.4s,baz=159,slow=31						
STKA	**Stephens Creek**	**30.71**	**338**	P	**P**	**08 47 06.1**	**+0.1**
	baz=31,SNR=18						
ARMA	**Armidale**	**31.00**	**355**	P	**P**	**08 47 09.4**	**+0.7**
	baz=31,SNR=6.0						
ARMA	**Armidale**	**31.00**	**355**	*e*P	**P**	**08 47 08.0**	**-0.7**
	comp=Z,31nm,1.1s						
BBOO	**Buckleboo**	**31.01**	**328**	P	**P**	**08 47 08.1**	**-0.5**
	baz=31,SNR=9.1						
BBOO	**Buckleboo**	**31.01**	**328**	*e*P	**P**	**08 47 06.5**	**-2.1**
	comp=Z,39nm,1.1s						
RMQ	**Roma**	**35.09**	**351**	P	**P**	**08 47 44.8**	**+0.5**
	baz=35,SNR=25						
FORT	**Forrest**	**35.23**	**318**	*e*P	**P**	**08 47 43.4**	**-2.1**
	comp=Z,30nm,0.9s						
QLP	**Quilpie**	**35.48**	**344**	P	**P**	**08 47 47.8**	**+0.2**
	baz=35,SNR=31						
EIDS	**Eidsvold**	**36.05**	**354**	P	**P**	**08 47 52.8**	**+0.3**
	baz=36,SNR=4.8						
EIDS	**Eidsvold**	**36.05**	**354**	*e*P	**P**	**08 47 51.8**	**-0.7**
	comp=Z,97nm,1.5s						
MAW	**Mawson**	**36.55**	**220**	P	**P**	**08 47 55.9**	**-0.5**
	comp=Z,14nm,0.8s,baz=120,slow=9.6,SNR=5.1						
MAW				LR	LR	09 03 00.7	
	comp=Z,4μm,18.2s,baz=114,slow=36						
H01W1	**Cape Leeuwin H**	**36.88**	**297**	T	T	09 26 58.2	
	baz=147,slow=75,SNR=129						
H01W2	**Cape Leeuwin H**	**36.89**	**297**	T	T	09 26 57.1	
	baz=147,slow=75,SNR=103						
H01W3	**Cape Leeuwin H**	**36.90**	**297**	T	T	09 27 00.3	
	baz=147,slow=75,SNR=149						
KLBR	**Kellerberrin**	**38.25**	**304**	P	**P**	**08 48 10.0**	**-1.2**
	baz=38						
BLDU	**Ballidu**	**39.53**	**303**	P	**P**	**08 48 20.3**	**-1.5**
	baz=39,SNR=6.1						
PINNC	**Pines Island,**	**39.70**	**19**	*e*P	**P**	**08 48 23.6**	**+0.2**
	comp=Z,44nm,1.0s						
ONTNC	**Ouen Toro**	**39.85**	**17**	*e*P	**P**	**08 48 24.9**	**+0.3**
	comp=Z,106nm,1.2s						
DZM	**Mont Dzumac**	**40.08**	**17**	*e*S	**S**	**08 54 28.8**	**-3.8**
	comp=Z,549nm,27.4s						
DZM				*e*LR	LR	08 59 26.8	
	comp=Z,4μm,25.9s						
DZM	**Mont Dzumac**	**40.08**	**17**	LR	LR	09 01 47.6	
	comp=Z,2μm,19.1s,baz=212,slow=31						
DZM	**Mont Dzumac**	**40.08**	**17**	*e*P	**P**	**08 48 27.3**	**+0.6**
	comp=Z,92nm,1.2s						
AS01	**Alice Springs**	**40.28**	**330**	*e*P	**P**	**08 48 26.5**	**-1.7**
ASAR	**Alice Springs**	**40.29**	**330**	P	**P**	**08 48 27.1**	**-1.3**
	comp=Z,11nm,0.9s,baz=166,slow=8.8,SNR=56						
ASAR				PcP	**PcP**	**08 50 30.4**	**-1.4**
	comp=Z,6.6nm,0.9s,baz=158,slow=4.0,SNR=13						
AS31	**Alice Springs**	**40.29**	**330**	*e*P	**P**	**08 48 26.6**	**-1.8**
	comp=Z,4.9nm,1.0s						
WRKA	**Warakurna**	**40.51**	**322**	P	**P**	**08 48 28.8**	**-1.3**
	baz=40,SNR=11						
MARNC	**Mare, Loyalty**	**40.90**	**19**	*e*P	**P**	**08 48 33.5**	**+0.2**
	comp=Z,213nm,1.1s						
MORW	**Morawa**	**41.16**	**304**	P	**P**	**08 48 34.2**	**-1.2**
	baz=41,SNR=6.0						
MORW	**Morawa**	**41.16**	**304**	*e*P	**P**	**08 48 33.3**	**-2.2**
	comp=Z,22nm,0.9s						
CTAO	**Charters Tower**	**41.65**	**348**	*e*P	**P**	**08 48 38.5**	**-1.0**
	comp=Z,96nm,1.4s						
CTAO	**Charters Tower**	**41.65**	**348**	*e*P	**P**	**08 48 38.5**	**-1.0**
CTAO				pmax	pmax		
	comp=Z,96nm,1.4s						
SYO	**Syowa Base**	**41.97**	**209**	⇓*i*P	**P**	**08 48 41.6**	**+0.1**
QIS	**Mount Isa**	**42.11**	**339**	P	**P**	**08 48 42.4**	**-0.9**
	baz=42,SNR=6.0						
MEEK	**Meekatharra**	**42.34**	**308**	P	**P**	**08 48 43.7**	**-1.4**
	baz=42,SNR=6.5						
WB2	**Warramunga Arr**	**43.77**	**332**	*e*P	**P**	**08 48 54.6**	**-2.1**
WR1	**Warramunga Arr**	**43.77**	**332**	*e*P	**P**	**08 48 55.0**	**-1.7**
	comp=Z,96nm,1.4s						
WRA	**Warramunga Arr**	**43.77**	**332**	P	**P**	**08 48 55.0**	**-1.7**
	comp=Z,21nm,1.1s,baz=163,slow=6.7,SNR=42						
WRA				PcP	**PcP**	**08 50 41.4**	**-2.0**
	comp=Z,7.5nm,0.9s,baz=164,slow=3.1,SNR=16						
WRA				LR	LR	09 04 26.4	
	comp=Z,954nm,21.8s,baz=165,slow=32						
WRAB	**Tennant Creek**	**43.78**	**332**	*e*P	**P**	**08 48 55.1**	**-1.6**
	comp=Z,129nm,1.6s						
WRAB	**Tennant Creek**	**43.78**	**332**	⇑*i*P	**P**	**08 48 55.0**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,88nm,1.6s						
MTSU	**Mount Surprise**	**43.79**	**346**	P	**P**	**08 48 57.3**	**+0.4**
	baz=44,SNR=4.9						
NVL	**N'lazarevskaya**	**45.63**	**196**	*e*P	**P**	**08 49 11.4**	**+0.4**
NVL				*e*		08 50 56.7	
NVL				*e*S	**S**	**08 55 54.0**	**+1.0**
NVL				*e*SS	**SS**	**08 59 13.1**	**-3.0**
NVL				pmax	pmax		
	comp=Z,34nm,1.2s						
NVL				MLR	MLR		
	comp=Z,2μm,13.0s						
SNAA	**Sanae**	**46.35**	**190**	P	**P**	**08 49 17.3**	**+0.5**
SNAA	**Sanae**	**46.35**	**190**	*e*P	**P**	**08 49 16.5**	**-0.3**
	comp=Z,84nm,1.6s						
SNAA	**Sanae**	**46.35**	**190**	*c i*P	**P**	**08 49 17.3**	**+0.5**
SNAA				pmax	pmax		
	comp=Z,4μm,1.8s						
VNA3	**Neumayer Olymp**	**47.24**	**187**	P	**P**	**08 49 24.3**	**+0.6**
VNA3	**Neumayer Olymp**	**47.24**	**187**	PP	PP	08 51 10.6	-3.6
VNA2	**Neumayer--Watz**	**47.42**	**188**	P	**P**	**08 49 25.4**	**+0.4**
	baz=151,slow=6.8						
VNA2	**Neumayer--Watz**	**47.42**	**188**	PP	PP	08 51 12.5	-3.3
VNA1	**Neumayer--Stat**	**47.74**	**188**	P	**P**	**08 49 28.2**	**+0.7**
FITZ	**Fitzroy Crossi**	**47.84**	**321**	P	**P**	**08 49 28.2**	**-0.7**
	baz=48,SNR=10.0						
FITZ	**Fitzroy Crossi**	**47.84**	**321**	*e*P	**P**	**08 49 27.2**	**-1.7**
	comp=Z,26nm,0.9s						
KNRA	**Kununurra**	**49.26**	**326**	P	**P**	**08 49 38.8**	**-0.9**
	baz=49,SNR=3.7						
RAR	**Rarotonga**	**50.92**	**59**	LR	LR	09 08 19.5	
	comp=Z,276nm,20.1s,baz=214,slow=32						
KDU	**Kakadu**	**51.21**	**332**	P	**P**	**08 49 53.4**	**-1.1**
	baz=51						
HNR	**Honiara**	**51.96**	**7**	*e*P	**P**	**08 49 59.6**	**-0.5**
	comp=Z,94nm,0.9s						
HNR	**Honiara**	**51.96**	**7**	*e*P	**P**	**08 49 59.6**	**-0.5**
HNR				pmax	pmax		
	comp=Z,94nm,0.9s						
PMG	**Port Moresby**	**52.14**	**351**	⇑*e*P	**P**	**08 50 01.6**	**+0.1**
PMG				pmax	pmax		
	comp=Z,442nm,1.9s						
TBI	**Tubuai**	**53.54**	**71**	*e*S	**S**	**08 57 44.2**	**-0.4**
	comp=Z,214nm,27.8s						
TBI				*e*LR	LR	09 05 31.2	
	comp=Z,1μm,28.0s						
TBI	**Tubuai**	**53.54**	**71**	*e*T	T	09 47 56.5	
	comp=Z,139nm,0.3s						
SOEI	**Soe**	**56.15**	**323**	*e*P	**P**	**08 50 29.6**	**-1.3**
	comp=Z,119nm,1.6s						
RABL	**Rabaul**	**57.05**	**357**	*e*P	**P**	**08 50 36.5**	**-0.7**
	comp=Z,90nm,1.5s						
PAE	**Paea**	**58.45**	**68**	*e*T	T	09 54 03.6	
	comp=Z,2.6nm,0.3s						
TVO	**Taravao**	**58.49**	**68**	*e*T	T	09 54 06.6	
	comp=Z,3.0nm,0.3s						
PPT2	**Papeete2**	**58.51**	**68**	*e*S	**S**	**08 58 49.2**	**-1.8**
	comp=Z,736nm,25.8s						
PPT2				*e*LQ	LQ	09 05 36.6	
	comp=Z,2μm,28.5s						
PPT2				*e*LR	LR	09 07 58.0	
	comp=Z,1μm,27.2s,baz=197						
PPT2	**Papeete2**	**58.51**	**68**	*e*T	T	09 54 09.2	
	comp=Z,4.0nm,0.3s						
PPT	**Papeete**	**58.53**	**67**	LR	LR	09 12 35.7	
	comp=Z,465nm,19.1s,baz=226,slow=32						
RKT	**Rikitea**	**60.55**	**84**	*e*S	**S**	**08 59 19.1**	**+2.0**
	comp=Z,960nm,29.0s						
RKT				*e*LR	LR	09 08 48.3	
	comp=Z,1μm,30.0s,baz=204						
RKT	**Rikitea**	**60.55**	**84**	*e*T	T	09 56 43.7	
	comp=Z,50nm,0.2s						
FAKI	**Fak Fak**	**60.72**	**334**	*e*P	**P**	**08 51 01.5**	**-1.2**
	comp=Z,103nm,0.9s						
FAKI	**Fak Fak**	**60.72**	**334**	P	**P**	**08 51 02.6**	**0.0**
VAH	**Vaihoa**	**61.45**	**68**	*e*T	T	09 57 48.9	
	comp=Z,71nm,0.2s						
NLAI	**Namlea**	**61.61**	**328**	P	**P**	**08 51 08.4**	**-0.3**
GO09	**Cerro Castillo**	**61.61**	**148**	*e*P	**P**	**08 51 09.5**	**+1.2**
	comp=Z,27nm,0.9s						
SPSI	**Sidrap Palu**	**62.98**	**320**	P	**P**	**08 51 20.1**	**+2.2**
SANI	**Sanana**	**63.03**	**327**	P	**P**	**08 51 17.2**	**-1.0**
TTSI	**Tana Toraja**	**63.84**	**320**	P	**P**	**08 51 25.2**	**+1.7**
EFI	**East Falkland**	**64.32**	**158**	*e*P	**P**	**08 51 26.6**	**+0.3**
	comp=Z,100nm,1.6s						
EFI	**East Falkland**	**64.32**	**158**	⇓*e*P	**P**	**08 51 27.4**	**+1.1**
EFI				pmax	pmax		
	comp=Z,78nm,1.8s						
LUWI	**Luwuk**	**64.87**	**324**	*e*P	**P**	**08 51 28.7**	**-1.6**
	comp=Z,94nm,1.4s						
MDSI	**Maura Dua**	**68.08**	**304**	P	**P**	**08 51 51.5**	**+0.7**
TAOE	**Nuku Hiva Isla**	**70.47**	**72**	*e*LQ	LQ	09 10 00.5	
	comp=Z,1μm,25.1s						
TAOE				*e*LR	LR	09 13 16.4	
	comp=Z,596nm,27.3s						
TAOE	**Nuku Hiva Isla**	**70.47**	**72**	*e*T	T	10 09 05.0	
	comp=Z,15nm,0.2s						
SBUM	**Sibu**	**71.47**	**315**	*e*P	**P**	**08 52 10.6**	**-1.1**
	comp=Z,14nm,1.3s						
PLCA	**Paso Flores**	**71.83**	**145**	P	**P**	**08 52 14.9**	**+1.2**
	comp=Z,8.3nm,0.8s,baz=241,slow=6.0,SNR=23						
PLCA				LR	LR	09 17 45.8	
	comp=Z,587nm,19.4s,baz=232,slow=31						
PLCA	**Paso Flores**	**71.83**	**145**	*e*P	**P**	**08 52 14.6**	**+0.8**
	comp=Z,17nm,1.0s						
GO06	**Curarrehue**	**72.65**	**144**	*e*P	**P**	**08 52 19.2**	**+0.5**
	comp=Z,28nm,1.4s						
KKM	**Kota Kinabalu**	**73.54**	**320**	*e*P	**P**	**08 52 22.5**	**-1.6**
	comp=Z,56nm,1.2s						
GSI	**Gunungsitoli**	**76.02**	**300**	*e*P	**P**	**08 52 36.9**	**-1.6**
	comp=Z,84nm,1.6s						
GO05	**Huala**	**76.77**	**142**	*e*P	**P**	**08 52 42.9**	**+0.4**
	comp=Z,59nm,1.6s						
PSI	**Prapat**	**76.82**	**302**	*e*P	**P**	**08 52 41.0**	**-2.1**
	comp=Z,9.4nm,1.0s						
PSI	**Prapat**	**76.82**	**302**	*e*P	**P**	**08 52 41.0**	**-2.1**
PSI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KCSI	**Kotacane, Aceh**	**77.95**	**301**	P	**P**	**08 52 49.2**	**-0.1**
KULM	**Kulim**	**78.39**	**305**	*e*P	**P**	**08 52 50.4**	**-1.3**
	comp=Z,60nm,1.4s						
PEL	**Peldehue**	**78.88**	**142**	*e*P	**P**	**08 52 54.6**	**+0.3**
	comp=Z,31nm,1.1s						
PEL	**Peldehue**	**78.88**	**142**	*e*P	**P**	**08 52 54.6**	**+0.3**
PEL				pmax	pmax		
	comp=Z,31nm,1.1s						
H08S2	**Diego Garcia H**	**79.61**	**273**	T	T	10 20 31.4	
	baz=151,slow=76,SNR=46						
H08S1	**Diego Garcia H**	**79.62**	**273**	T	T	10 20 39.3	
	baz=151,slow=76,SNR=46						
H08S3	**Diego Garcia H**	**79.63**	**273**	T	T	10 20 44.2	
	baz=151,slow=76,SNR=68						
BOSA	**Boshof**	**81.49**	**223**	P	**P**	**08 53 09.0**	**+0.4**
	comp=Z,4.0nm,0.9s,baz=147,slow=5.8,SNR=3.6						
BOSA				LR	LR	09 27 29.6	
	comp=Z,440nm,18.7s,baz=156,slow=34						
BOSA	**Boshof**	**81.49**	**223**	P	**P**	**08 53 09.0**	**+0.4**
BOSA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GO04	**Tololo Observa**	**81.62**	**141**	*e*P	**P**	**08 53 10.1**	**+0.7**
	comp=Z,23nm,1.1s						
LCO	**Las Campanas**	**82.73**	**141**	*e*P	**P**	**08 53 15.4**	**+0.1**
	comp=Z,17nm,1.0s						
LCO	**Las Campanas**	**82.73**	**141**	*e*P	**P**	**08 53 15.4**	**+0.1**
LCO				pmax	pmax		
	comp=Z,17nm,1.0s						
GO02	**Mina Guanaco**	**86.67**	**141**	*e*P	**P**	**08 53 35.8**	**+0.5**
	comp=Z,12nm,0.9s						
QIZ	**Qiongzhong**	**87.76**	**318**	P	**P**	**08 53 40.6**	**+0.6**
QIZ				PP	**PP**	**08 57 09.0**	**+3.1**
QIZ				S	**S**	**09 04 24.3**	**+2.2**
QIZ			

comp=Z,240nm,17.8s
HHC LR LR
comp=Z,180nm,16.3s
HHC LR LR
comp=Z,190nm,18.4s
KLR Kul'dur 111.76 344 ⇑*i* PKIKP **PKiKP 08 59 24.7 -0.1**
WMQ Urumqi 117.93 311 *e*PKP **PKiKP 08 59 38.6 +1.6**
KSH Kashi 118.86 300 PKP **PKiKP 08 59 42.1 +3.1**
KSH PP **PP 09 01 02.8 +4.3**
KSH PKS **PKSdf 09 03 15.6 -0.1**
KSH SKS **SKSdf 09 06 54.6 +3.9**
KSH LR LR
comp=Z,190nm,7.5s
KSH LR LR
comp=Z,160nm,6.6s
TARG Taragay, Kyrgy 119.96 303 *e*PKPdf **PKPdf 08 59 40.6 -0.8**
NV01 Mina Array Sit 121.49 67 *e*PKPdf **PKiKP 08 59 44.7 +0.3**
NVAR Mina Array Bea 121.49 67 PKP **PKiKP 08 59 44.7 +0.4**
comp=Z,1.8nm,0.8s,baz=205,slow=4.9,SNR=8.0
MNTX Cornudas Mount 121.92 82 *e*PKPdf **PKPdf 08 59 43.9 -1.1**
KVN Kaiserville 122.09 67 *e*PKPdf **PKiKP 08 59 45.7 +0.3**
MK32 Makanchi Array 122.46 309 *e*PKPdf **PKPdf 08 59 44.2 -1.3**
MKAR Makanchi Array 122.46 309 PKP **PKPdf 08 59 44.2 -1.3**
comp=Z,1.8nm,0.9s,baz=132,slow=1.8,SNR=12
MAKZ Makanchi 122.59 309 *e*PKPdf **PKPdf 08 59 44.3 -1.5**
MAKZ Makanchi 122.59 309 *e*PKIKP **PKPdf 08 59 44.3 -1.5**
HUMO Hull Mountain 122.91 61 *e*PKPdf **PKiKP 08 59 47.1 +0.4**
DGZ Jazzator, Alta 123.06 314 *d* iPKIKP **PKPdf 08 59 46.1 -0.6**
MOD Modoc Plateau 123.46 63 *e*PKPdf **PKPdf 08 59 48.0 0.0**
SEY Seymchan 123.97 359 ⇑*i* PKIKP **PKPdf 08 59 47.1 -0.7**
WVOR Wild Horse Val 124.61 64 *e*PKPdf **PKPdf 08 59 50.0 +0.1**
WVOR Wild Horse Val 124.61 64 *e*PKIKP **PKPdf 08 59 50.0 +0.1**
PINE Pine Mountain 124.73 61 *e*PKPdf **PKiKP 08 59 50.6 +0.1**
ELK Elko 124.74 68 PKP **PKPdf 08 59 50.4 0.0**
comp=Z,0.9nm,0.8s,baz=224,slow=3.2,SNR=4.2
JU0A Circle Bar Ran 125.43 63 *e*PKPdf **PKiKP 08 59 51.8 0.0**
SRU San Rafael Swe 125.56 72 *e*PKPdf **PKPdf 08 59 51.8 -0.1**
SRU San Rafael Swe 125.56 72 *e*PKIKP **PKPdf 08 59 51.8 -0.1**
PV14 Lion Creek, Pa 125.65 74 *e*PKPdf **PKPdf 08 59 52.4 +0.2**
PV16 Nyswonger Mesa 125.65 74 *e*PKPdf **PKiKP 08 59 52.9 +0.3**
PV12 Saucer Basin, 125.71 74 *e*PKPdf **PKiKP 08 59 52.8 +0.1**
SPUT South Promonto 126.44 69 *e*PKPdf **PKiKP 08 59 53.9 -0.1**
MFID Camas Ranch 126.63 65 *e*PKPdf **PKPdf 08 59 53.7 -0.1**
G08A Pilot Rock 126.78 62 *e*PKPdf **PKPdf 08 59 54.0 0.0**
KURK Kurchatov 127.07 309 *e*PKPdf **PKPdf 08 59 53.0 -1.1**
KURK Kurchatov 127.07 309 ⇑*i* PKIKP **PKPdf 08 59 53.8 -0.3**
HAWA Hanford 127.42 60 *e*PKPdf **PKPdf 08 59 55.2 +0.2**
ZALV Zalesovo Beam 127.51 316 PKP **PKPdf 08 59 53.2 -1.6**
comp=Z,0.3nm,0.4s,baz=359,slow=8.9,SNR=3.6
ZAA1 Zalesovo Array 127.51 316 *e*PKPdf **PKPdf 08 59 53.2 -1.7**
TORD Torodi Ar. Bea 129.06 214 PKP **PKPdf 08 59 56.5 -0.7**
comp=Z,3.2nm,1.1s,baz=161,slow=2.7,SNR=10
TOA1 Torodi Ar. Sit 128.07 214 *e*PKPdf **PKPdf 08 59 56.5 -0.7**
TPAW Teton Pass 128.85 69 *e*PKPdf **PKPdf 08 59 57.8 -0.4**
BW06 Boulder Array 128.91 70 *e*PKPdf **PKPdf 08 59 57.5 -0.8**
PDAR Pinedale Array 128.91 70 PKP **PKPdf 08 59 57.5 -0.7**
comp=Z,1.5nm,1.1s,baz=197,slow=4.5,SNR=6.9
FXWY Fox Creek 128.93 69 *e*PKPdf **PKPdf 08 59 58.0 -0.2**
B08A Colville Reser 129.05 59 *e*PKPdf **PKPdf 08 59 58.1 +0.1**
ANM Nome 129.09 21 *e*PKPdf **PKPdf 08 59 57.3 -0.3**
ANM Nome 129.09 21 *e*PKIKP **PKPdf 08 59 57.3 -0.3**
BILL Bilibino 129.36 6 *i* PKIKP **PKPdf 08 59 58.2 +0.2**
BILL *i* 09 02 04.4
BILL pmax pmax
comp=Z,3.0nm,1.4s
CBKS Cedar Bluff 130.37 81 *e*PKPdf **PKPdf 09 00 00.7 -0.2**
CBKS Cedar Bluff 130.37 81 *e*PKIKP **PKPdf 09 00 00.7 -0.2**
RND Reindeer 131.49 30 *e*PKPdf **PKPdf 09 00 01.6 -0.6**
RND Reindeer 131.49 30 *e*PKIKP **PKPdf 09 00 01.6 -0.6**
BRVK Borovoye 132.10 306 ⇓*i* PKIKP **PKiKP 09 00 04.8 +0.1**
IM3 Indian Mountai 132.58 26 *e*PKPdf **PKPdf 09 00 03.5 -0.6**
RDOG Red Dog Mine 132.69 20 *e*PKPpre PKPpre 08 59 52.7
HDA Harding Lake 132.79 30 *e*PKPdf **PKPdf 09 00 04.1 -0.5**
IL1 Eielson Array 133.10 30 *e*PKPdf **PKPdf 09 00 04.0 -1.2**
ILAR Eielson Array 133.10 30 PKP **PKPdf 09 00 03.9 -1.3**
comp=Z,2.6nm,0.9s,baz=291,slow=3.7,SNR=15
ILAR Eielson Array 133.10 30 PKIKP **PKPdf 09 00 03.9 -1.3**
ILAR pmax pmax
comp=Z,6.0nm,0.3s
ILB Eielson Array 133.10 30 *e*PKPdf **PKPdf 09 00 04.4 -0.8**
TIXI Tiksi 133.92 349 ⇓*e*PKIKP **PKPdf 09 00 07.0 +0.5**
KIV Kislovodsk 137.45 278 *i* PKIKP **PKiKP 09 00 16.8 +0.8**
KIV pmax pmax
comp=Z,9.0nm,1.1s
BR101 Keskin Array S 138.56 266 *e*PKPdf **PKiKP 09 00 17.5 -1.0**
BRTR Keskin Array B 138.56 266 PKP **PKiKP 09 00 17.5 -1.0**
comp=Z,2.1nm,1.1s,baz=149,slow=2.9,SNR=5.7
INK Inuvik 139.22 33 PKP **PKiKP 09 00 17.7 -0.9**
comp=Z,1.8nm,0.8s,baz=337,slow=3.2,SNR=3.9
INK Inuvik 139.22 33 PKIKP **PKPdf 09 00 16.9 +0.5**
ARU Arti 139.23 302 *i* PKIKP **PKPdf 09 00 16.0 -0.8**
ARU SS SS 09 21 19.8 -8.9
ULM Lac du Bonnet 140.76 73 PKP **PKPdf 09 00 20.4 +0.6**
comp=Z,2.0nm,0.8s,baz=151,slow=6.9,SNR=2.9
YKA Yellowknife Ar 141.13 48 PKhKP PKPpre 09 00 12.3
comp=Z,0.7nm,0.9s,baz=222,slow=2.5,SNR=9.4
YKB5 Yellowknife Ar 141.13 48 *e*PKPpre PKPpre 09 00 12.3
VRH Novokhopyorsk 143.09 285 *e*PKIKP **PKiKP 09 00 26.5 -0.6**
VRH pmax pmax
comp=Z,8.0nm,0.8s
VSR Storozhevoye 144.29 284 *e*PKHKP PKPpre 09 00 21.8
VSR pmax pmax
comp=Z,7.0nm,1.0s
TIRR Tirgusor 144.69 267 *e*PKPdf **PKPab 09 00 25.3 -0.3**
TIRR Tirgusor 144.69 267 ⇑*i* P **PKPab 09 00 25.4 -0.3**
TIRR Tirgusor 144.69 267 ⇑PKIKP **PKPab 09 00 25.4 -0.3**
SADO Sadowa 144.82 93 PKP **PKPab 09 00 26.1 -0.1**
comp=Z,9.0nm,0.8s,baz=260,slow=2.9,SNR=4.5
TLB Topalu 144.96 266 ⇑*i* P **PKPab 09 00 26.4 -0.3**
TLB Topalu 144.96 266 ⇑PKP2 **PKPab 09 00 26.4 -0.3**
LPSR Galich'ya Gora 145.31 285 *e*PKP2 **PKPab 09 00 27.6 -0.2**
LPSR pmax pmax
comp=Z,40nm,0.8s
CFR Carcaliu 145.35 267 ⇑*i* P **PKPbc 09 00 27.5 -0.4**
CFR Carcaliu 145.35 267 ⇑PKP2 **PKPbc 09 00 27.5 -0.4**
VTS Vitosha 145.77 259 *e*PKPdf **PKPdf 09 00 28.1 -0.9**
VTS Vitosha 145.77 259 ⇑*i* P **PKPdf 09 00 28.6 -0.5**
VTS Vitosha 145.77 259 ⇑PKIKP **PKPdf 09 00 28.7 -0.4**
KEST Kesra 146.32 236 PKPbc **PKPbc 09 00 31.4 +0.1**
comp=Z,11nm,0.9s,baz=256,slow=2.4,SNR=6.1
VRI Vrincioaia 146.53 267 ⇑*i* P **PKPbc 09 00 30.8 -0.8**
VRI Vrincioaia 146.53 267 ⇑PKIKP **PKPbc 09 00 30.8 -0.8**
PLOR Plostina 146.56 267 ⇑*i* P **PKPbc 09 00 30.9 -0.8**
PLOR Plostina 146.56 267 ⇑PKIKP **PKPbc 09 00 30.9 -0.8**
MLR Muntele Rosu 146.63 265 PKPbc **PKPdf 09 00 31.0 +0.6**
comp=Z,6.6nm,0.8s,baz=56,slow=2.8,SNR=9.1
MLR Muntele Rosu 146.63 265 *e*PKPdf **PKPdf 09 00 30.0 -0.4**
MLR Muntele Rosu 146.63 265 ⇑*i* P **PKPbc 09 00 31.2 -0.9**
MLR Muntele Rosu 146.63 265 ⇑PKIKP **PKPbc 09 00 31.2 -0.9**
FCC Fort Churchill 146.99 63 *e*PKPdf **PKPdf 09 00 31.4 +1.0**
FCC Fort Churchill 146.99 63 *e*PKP2 **PKPdf 09 00 31.4 +1.0**
VOIR 147.02 265 ⇑*i* P **PKPab 09 00 34.0 -0.7**
VOIR 147.02 265 ⇑PKP2 **PKPab 09 00 34.0 -0.7**
DOPR Dopca 147.25 266 ⇑*i* P **PKPbc 09 00 33.2 -0.4**
LOT Lotru 147.64 263 ⇑*i* P **PKPbc 09 00 34.3 -0.6**
PRGR Permogore 147.69 302 *e*PKIKP **PKPdf 09 00 32.6 +1.2**
PRGR pmax pmax
comp=Z,36nm,0.9s
MOS Moscow 147.87 289 *e*PKIKP **PKPbc 09 00 33.5 -1.4**
MOS *e* 09 00 45.9
MOS *e* 09 04 13.0
HERR Herculane 147.87 261 ⇑*i* P **PKPbc 09 00 35.5 +0.2**
OBN Obninsk 147.98 287 PKPbc **PKPbc 09 00 35.2 0.0**
comp=Z,3.8nm,0.4s,baz=31,slow=5.5,SNR=5.5
OBN Obninsk 147.98 287 *i* PKP2 **PKPbc 09 00 34.7 -0.5**
OBN pmax pmax
comp=Z,19nm,0.9s
GZR Gura Zlata 148.08 262 ⇑*i* P **PKPbc 09 00 35.8 -0.2**
MDVR Moldovita 148.13 260 ⇑*i* P **PKPbc 09 00 35.4 -0.7**
BURAR Bucovina Array 148.50 268 ⇑*i* P **PKiKP 09 00 38.1 -0.5**
BURAR Bucovina Array 148.50 268 ⇑PKP2 **PKiKP 09 00 38.1 -0.5**
BUR04 Bucovina Ar. S 148.51 268 *e*PKPdf **PKPdf 09 00 33.4 -0.1**
BUR08 Bucovina Ar. S 148.53 268 *e*PKPdf **PKPdf 09 00 33.9 +0.4**
ARCR ARCALIA 148.55 266 ⇓*i* P **PKPbc 09 00 37.5 +0.5**
AKASG Malin Array Be 148.67 275 PKPbc **PKPbc 09 00 36.0 -1.2**
comp=Z,3.8nm,0.8s,baz=94,slow=2.7,SNR=12
AKASG Malin Array Be 148.67 275 PKIKP **PKPbc 09 00 36.0 -1.2**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
KIEV Kiev 148.68 275 *e*PKPdf **PKPdf 09 00 34.6 +1.2**
KIEV Kiev 148.68 275 ⇑*i* P **PKPbc 09 00 36.3 -0.9**
KIEV Kiev 148.68 275 ⇑PKIKP **PKPbc 09 00 36.3 -0.9**
BZS Buzias 148.80 261 ⇑*i* P **PKPbc 09 00 36.4 -1.3**
BZS Buzias 148.80 261 ⇑PKIKP **PKPbc 09 00 36.4 -1.3**
TRPA Tarpa 150.15 266 ⇑*i* P **PKPbc 09 00 40.7 -0.2**
TRPA Tarpa 150.15 266 *e*PKPbc **PKPab 09 00 45.1 -2.0**
BLY Banja Luka 150.24 256 ⇓*i* P **PKPbc 09 00 41.0 -0.3**
MORH Mrgy, Hungar 150.65 259 ⇓*e*PKPbc **PKPdf 09 00 39.0 +2.3**
RES Resolute Bay 152.78 33 PKPbc **PKPbc 09 00 44.5 -1.8**
comp=Z,5.1nm,0.9s,baz=294,slow=2.7,SNR=11
RES Resolute Bay 152.78 33 *e*PKPdf **PKPdf 09 00 41.5 +2.4**
RES *e*PKPbc **PKPbc 09 00 45.9 -0.4**
RES *e*PKPab **PKPab 09 00 57.8 +0.4**
RES Resolute Bay 152.78 33 *e*PKIKP **PKPdf 09 00 41.5 +2.4**
RES *e* 09 00 45.9
RES *e* 09 00 57.8
ESDC Sonseca Array 154.65 221 PKPbc **PKPbc 09 00 50.6 -0.9**
comp=Z,0.5nm,0.4s,baz=302,slow=2.8,SNR=5.8
GERES GERESS Array B 154.87 258 PKPbc **PKPbc 09 00 50.4 -1.2**
comp=Z,0.6nm,0.6s,baz=197,slow=2.0,SNR=3.2
ARA0 ARCESS Array S 158.03 313 *e*PKPab **PKPab 09 01 19.5 -0.5**
ARCES ARCESS Array B 158.03 313 PKPab **PKPab 09 01 19.5 -0.5**
comp=Z,8.0nm,0.9s,baz=31,slow=5.4,SNR=5.0

IDC ***22*** *08:43:56.4±1.4,30.°58N×50.°06E,h0km,mb3.4/6, mb1 3.7/9,mb1mx3.5/41,mbtmp3.6/9,ML3.3/3,Error ellipse: s-maj=32.3km s-min=21.8km az=174.0*
TEH ***22*** *08:43:57.7,30.°50N×50.°17E,h11km,ML3.7*
ISCJB ***22*** *08:43:58.6±0.5,30.°40N±0.°04×50.°06E±0.°06,h25km, mb3.4/6,Error ellipse: s-maj=7.8km s-min=4.5km az=148.1*
THR ***22*** *08:44:01.9,30.°55N×50.°54E,h15km,ML3.4*
ISC 22 08:44:00.2±0.8, 30.°42N±0.°08×50.°19E±0.°08, h25km, n46, σ1s88/45, mb3.4/6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLNJ	**Kolanjah**	**1.34**	**64**	*e*Pg	**Pn**	**08 44 22.7**	**-1.0**
IKAZ	**Kazeroun**	**1.57**	**114**	*e*Pn	**Pn**	**08 44 29.3**	**+2.6**
IKAZ				IAMB	IAmb	08 44 59.1	
comp=Z,17μm,0.2s							
ZNGN	**Zangian**	**1.79**	**18**	*e*Pn	**Pn**	**08 44 30.1**	**+0.4**
ROKH	**ROKH**	**2.05**	**20**	*e*Pn	**Pn**	**08 44 33.9**	**+0.6**
ROKH				IAMB	IAmb	08 45 02.3	
comp=Z,0.0nm,0.8s							
SHGR	**Shooshtar-Gavs**	**2.06**	**325**	*e*Pn	**Pb**	**08 44 39.3**	**+2.4**
SHGR	**Shooshtar-Gavs**	**2.06**	**325**	*e*AML	AML	08 45 04.5	
comp=E,238nm,0.4s							
SHGR				*e*AML	AML	08 45 04.6	
comp=N,211nm,0.4s							
SHGR	**Shooshtar-Gavs**	**2.06**	**325**	*e*Pn	**Pb**	**08 44 39.2**	**+2.4**
IPIR	**Pirpir**	**2.33**	**15**	*e*Pn	**Pn**	**08 44 39.2**	**+1.9**
IPIR				IAMB	IAmb	08 45 14.4	
comp=Z,2μm,0.4s							
IRAM	**Ramesheh**	**2.34**	**53**	*e*Pn	**Pn**	**08 44 38.5**	**+1.3**
IRAM				IAMB	IAmb	08 45 13.7	
comp=Z,2μm,0.3s							
IGAR	**Gharneh**	**2.53**	**38**	*e*Pn	**Pn**	**08 44 41.5**	**+1.6**
IGAR				IAMB	IAmb	08 45 21.1	
comp=Z,2μm,0.4s							
IZEF	**Zefreh**	**3.07**	**36**	*e*Pn	**Pn**	**08 44 48.2**	**+0.9**
IZEF				IAMB	IAmb	08 44 55.7	
comp=Z,459nm,0.4s							
IKLH	**Kolahrood**	**3.12**	**22**	*e*Pn	**Pn**	**08 44 49.2**	**+1.1**
IKLH				IAMB	IAmb	08 45 42.6	
comp=Z,1μm,0.7s							
GHIR	**Ghir-Karzin**	**3.24**	**130**	*e*Pn	**Pn**	**08 44 52.3**	**+2.7**
GHIR	**Ghir-Karzin**	**3.24**	**130**	*e*Pn	**Pn**	**08 44 52.2**	**+2.7**
GHIR				*e*Sn	**Sn**	**08 45 29.3**	**+1.9**
ISAD	**Sadrabad**	**3.35**	**63**	*e*Pn	**Pn**	**08 44 52.6**	**+1.4**
ISAD				IAMB	IAmb	08 45 05.1	
comp=Z,933nm,0.4s							
KRSH	**Karshahi**	**3.91**	**25**	*e*Pn	**Pn**	**08 44 59.4**	**+0.7**
IMEH	**Mehriz**	**3.92**	**75**	*e*Pn	**Pn**	**08 45 00.8**	**+1.7**
IMEH				IAMB	IAmb	08 45 54.6	
comp=Z,505nm,0.4s							
HSAM	**Samen**	**4.01**	**341**	*e*Pn	**Pn**	**08 45 00.4**	**+0.1**
YZKH	**Yazd**	**4.25**	**61**	*e*Pn	**Pn**	**08 45 04.0**	**+0.6**
YZKH	**Yazd**	**4.25**	**61**	*e*Pn	**Pn**	**08 45 04.0**	**+0.6**
IKOM	**Komasi**	**4.38**	**330**	*e*Pn	**Pn**	**08 45 05.7**	**+0.5**
KHGB	**Koh Gabri**	**5.43**	**89**	*e*Pn	**Pn**	**08 45 21.1**	**+1.3**
KRBR	**Kerman**	**5.71**	**93**	*e*Pn	**Pn**	**08 45 24.8**	**+1.2**
KRBR	**Kerman**	**5.71**	**93**	*e*AML	AML	08 46 38.3	
comp=E,19nm,0.5s							
KRBR	**Kerman**	**5.71**	**93**	*e*Pn	**Pn**	**08 45 24.8**	**+1.2**
NGRK	**Negar Kerman**	**5.73**	**96**	*e*Pn	**Pn**	**08 45 26.1**	**+2.1**
NGRK				IAMB	IAmb	08 46 35.7	
comp=Z,0.0nm,0.4s							
NIAN	**Nian**	**6.48**	**114**	*e*Pn	**Pn**	**08 45 36.8**	**+2.8**
NIAN				IAMB	IAmb	08 46 55.0	
comp=Z,0.0nm,0.2s							
TABS	**Tabas**	**6.71**	**60**	*e*Pn	**Pn**	**08 45 38.0**	**+0.8**
TABS	**Tabas**	**6.71**	**60**	*e*Pn	**Pn**	**08 45 38.0**	**+0.8**
SHME	**Shamm**	**6.82**	**128**	*e*Pn	**Pn**	**08 45 39.7**	**+1.0**
NAZ	**Nazwa, Dubai**	**7.27**	**137**	*e*Pn	**Pn**	**08 45 48.0**	**+3.2**
MSFE	**Esma-Masafi**	**7.30**	**132**	*e*Pn	**Pn**	**08 45 47.3**	**+2.0**
MDH	**Madha**	**7.43**	**132**	*e*Pn	**Pn**	**08 45 49.6**	**+2.5**
UOSS	**Minazif**	**7.63**	**134**	*e*Pn	**Pn**	**08 45 53.3**	**+3.6**
HATD	**Hatta, Dubai**	**7.67**	**135**	*e*Pn	Pn	08 45 56.3	+6.0
ASHO	**Ashiyiah**	**7.73**	**136**	*e*Pn	**Pn**	**08 45 52.7**	**+1.5**
ALNE	**Al Ain**	**8.04**	**141**	*e*Pn	**Pn**	**08 45 57.5**	**+2.0**
GEYT	**Alibeck**	**9.96**	**39**	Pn	**Pn**	**08 46 22.2**	**+0.5**
comp=Z,0.4nm,0.3s,baz=220,slow=18,SNR=2.4							
WSAR	**Wadi Sarin**	**10.39**	**132**	Pn	**Pn**	**08 46 28.3**	**+0.6**
comp=Z,0.6nm,0.3s,baz=356,slow=7.5,SNR=7.9							
WSAR				Sn	**Sn**	**08 48 18.6**	**-4.7**
comp=Z,0.7nm,0.3s,baz=136,slow=18,SNR=5.7							
BRTR	**Keskin Array B**	**16.40**	**309**	Pn	**Pn**	**08 47 47.7**	**-1.1**
comp=Z,0.0nm,0.3s,baz=134,slow=12,SNR=2.7							
MLR	**Muntele Rosu**	**24.20**	**315**	P	**P**	**08 49 12.7**	**-2.0**
comp=Z,0.6nm,0.4s,baz=117,slow=11,SNR=2.1							
AKASG	**Malin Array Be**	**25.61**	**328**	P	**P**	**08 49 25.0**	**-2.3**
comp=Z,0.3nm,0.3s,baz=139,slow=8.0,SNR=3.1							
MKAR	**Makanchi Array**	**29.68**	**48**	P	**P**	**08 50 03.9**	**0.0**
comp=Z,0.1nm,0.4s,baz=245,slow=9.2,SNR=2.7							
ZALV	**Zalesovo Beam**	**34.26**	**37**	P	**P**	**08 50 43.0**	**-1.0**
comp=Z,0.4nm,0.4s,baz=279,slow=9.6,SNR=3.0							
TORD	**Torodi Ar. Bea**	**47.81**	**260**	P	**P**	**08 52 35.9**	**0.0**
comp=Z,0.2nm,0.6s,baz=69,slow=7.9,SNR=2.6							
YKA	**Yellowknife Ar**	**86.61**	**353**	P	**P**	**08 56 40.2**	**-0.8**
comp=Z,0.2nm,0.7s,baz=5.6,slow=5.5,SNR=4.0							

IDC ***22*** *08:56:06.6±4.3,22.°01S×70.°28W,h0km,mb3.5/1, mb1 3.4/2,mb1mx3.2/24,mbtmp3.3/2,ML2.9/1,Error ellipse: s-maj=145.2km s-min=63.6km az=94.0*
GUC ***22*** *08:56:24.9±0.6,21.°17S×68.°92W,h121km±3km,ML3.2*
ISCJB ***22*** *08:56:25.5±0.7,21.°17S±0.°03×68.°99W±0.°09,h117km±7km, mb3.0/1,Error ellipse: s-maj=14.5km s-min=4.6km az=1.2*
ISC 22 08:56:25.4±1.3, 21.°17S±0.°03×68.°97W±0.°10, h117km±10km, n17, σ0s36/30, 8C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.50**	**284**	⇓*i* P	**Pn**	**08 56 42.7**	**-0.4**
PB01				*i* S	**Sn**	**08 56 56.3**	**-0.3**
PB01				IAML		08 56 57.7	
comp=E,2μm,0.2s							
PB09	**IPOC Station P**	**0.68**	**202**	*e*P	**Pn**	**08 56 44.3**	**-0.3**
PB09				*i* S	**Sn**	**08 56 59.1**	**+0.1**
PB09				IAML		08 57 01.5	
comp=E,474nm,0.5s							
PB02	**IPOC Station P**	**0.88**	**260**	⇑*i* P	**Pn**	**08 56 46.4**	**+0.2**
PB02				*i* S	**Sn**	**08 57 02.4**	**+0.6**
PB07	**IPOC Station P**	**1.02**	**237**	⇑*i* P	**Pn**	**08 56 47.6**	**0.0**
PB07				*i* S	**Sn**	**08 57 04.8**	**+0.4**
PB07				IAML		08 57 05.8	
comp=N,568nm,0.1s							
PB08	**IPOC Station P**	**1.03**	**351**	⇓*i* P	**Pn**	**08 56 47.9**	**-0.2**
PB08				*i* S	**Sn**	**08 57 05.4**	**+0.4**
PB08				IAML		08 57 06.1	
comp=E,277nm,0.2s							
PB03	**IPOC Station P**	**1.14**	**219**	⇑*i* P	**Pn**	**08 56 48.7**	**-0.1**
PB03				*i* S	**Sn**	**08 57 06.8**	**+0.2**
PB03				IAML		08 57 07.4	
comp=E,522nm,0.3s							
LVC	**Limon Verde**	**1.44**	**178**	*e*P	**Pn**	**08 56 52.2**	**-0.1**
LVC				*e*S	**Sn**	**08 57 12.7**	**-0.1**
PB11	**IPOC Station P**	**1.54**	**335**	⇓*i* P	**Pn**	**08 56 53.0**	**-0.3**
PB11				*i* S	**Sn**	**08 57 14.9**	**+0.5**
PB04	**IPOC Station P**	**1.60**	**223**	⇑*i* P	**Pn**	**08 56 53.9**	**-0.1**
PB04				*i* S	**Sn**	**08 57 16.3**	**+0.5**
PB04				IAML		08 57 19.8	
comp=N,267nm,0.5s							
PB06	**IPOC Station P**	**1.63**	**200**	⇑*i* P	**Pn**	**08 56 54.3**	**-0.1**
PB06				*i* S	**Sn**	**08 57 16.5**	**0.0**
PB06				IAML		08 57 18.4	
comp=E,313nm,0.4s							
PSGC	**Pisagua**	**1.90**	**325**	⇑*i* P	**Pn**	**08 56 57.0**	**-0.6**
PSGC				*i* S	**Sn**	**08 57 21.9**	**-0.2**
PB05	**IPOC Station P**	**2.03**	**214**	⇑*i* P	**Pn**	**08 56 58.9**	**-0.4**
PB05				*i* S	**Sn**	**08 57 24.5**	**-0.6**
PB05				IAML		08 57 30.0	
comp=E,95nm,0.4s							
PB15	**IPOC Station P**	**2.08**	**193**	⇑*i* P	**Pn**	**08 57 00.1**	**+0.1**
PB15				*e*S	**Sn**	**08 57 27.1**	**+0.6**
MNMC	**Minye Minye**	**2.11**	**344**	⇓*i* P	**Pn**	**08 57 00.3**	**0.0**
MNMC				*i* S	**Sn**	**08 57 27.7**	**+0.6**
MNMC				IAML		08 57 29.5	
comp=N,270nm,0.8s							
LPAZ	**La Paz**	**4.92**	**9**	Pn	**Pn**	**08 57 37.9**	**0.0**
comp=N,0.2nm,0.3s,baz=191,slow=9.0,SNR=4.2							
TORD	**Torodi Ar. Bea**	**77.30**	**70**	P	P	09 08 11.5	+4.0
comp=N,0.3nm,1.0s,baz=249,slow=3.9,SNR=4.7							
MKAR	**Makanchi Array**	**145.40**	**36**	PKPbc	**PKPab**	**09 15 49.9**	**-0.1**
comp=N,0.4nm,0.8s,baz=319,slow=4.0,SNR=3.6							

KRNET ***22*** *08:58:19.2±0.1,41.°18N×71.°84E,h10km,mb3.1*
ISCJB ***22*** *08:58:21.2±0.5,41.°15N±0.°03×71.°83E±0.°04,h10km,Error ellipse: s-maj=5.0km s-min=3.2km az=33.0*
NNC ***22*** *08:58:21.6±1.4,41.°22N×71.°95E,h5km,8km,mb3.8, mpv3.4,Error ellipse: s-maj=8.7km s-min=3.7km az=70.0*
SOME ***22*** *08:58:23.2,41.°32N×71.°95E,h10km*
ISC 22 08:58:20.1±0.9, 41.°19N±0.°02×71.°89E±0.°03, h10km, n53, σ1s79/86, 44C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARK	**Arkit**	**0.61**	**5**	⇑*i* P	**Pg**	**08 58 30.5**	**-1.5**
baz=10.0							
ARK				⇑*i* S	**Sg**	**08 58 39.2**	**-0.8**
baz=10.0							
ARSB	**Arslanbob**	**0.83**	**80**	⇑*i* P	**Pg**	**08 58 35.0**	**-1.2**
baz=80							
ARSB				⇑*i* S	**Sb**	**08 58 47.6**	**-0.5**
baz=80							
MNAS	**Manas**	**1.38**	**19**	⇑P	**Pg**	**08 58 46.7**	**+0.2**
4.9nm,0.3s							
MNAS				⇓S	**Sg**	**08 59 04.0**	**-0.4**
12nm,0.3s							
MNAS	**Manas**	**1.38**	**19**	P	**Pg**	**08 58 47.0**	**+0.5**
7.6nm,0.2s							
MNAS				S	**Sg**	**08 59 04.1**	**-0.3**
36nm,0.3s							
MNAS	**Manas**	**1.38**	**19**	⇑*i* P	**Pb**	**08 58 45.4**	**-0.6**
baz=21							
MNAS				⇑*i* S	**Sg**	**08 59 04.8**	**+0.4**
baz=21							
BTK	**Batken**	**1.39**	**216**	⇑*i* P	**Pb**	**08 58 44.9**	**-1.3**
baz=15							
BTK				⇑*i* S	**Sg**	**08 59 03.2**	**-1.7**
baz=15							
AML	**Almayashu**	**1.65**	**55**	P	**Pg**	**08 58 51.0**	**-0.7**
SNR=34							
AML	**Almayashu**	**1.65**	**55**	⇑*i* P	**Pb**	**08 58 50.6**	**-0.2**
baz=55							
AML				⇑*i* S	**Sg**	**08 59 13.8**	**+0.7**
baz=55							
SFK	**Sufi-Kurgan**	**1.70**	**133**	⇓P	**Pb**	**08 58 50.6**	**-0.9**
6.6nm,0.4s							
SFK				⇑S	**Sg**	**08 59 14.1**	**-0.6**
18nm,0.3s							
SFK	**Sufi-Kurgan**	**1.70**	**133**	Pg	**Pg**	**08 58 52.8**	**+0.1**
12nm,0.1s							
SFK				Lg	Lg	08 59 13.9	
47nm,0.3s							
SFK	**Sufi-Kurgan**	**1.70**	**133**	⇑*i* P	**Pb**	**08 58 50.9**	**-0.7**
baz=32							
SFK				⇑*i* S	**Sg**	**08 59 14.1**	**-0.6**
baz=32							
DRK	**Karamyk**	**1.71**	**182**	⇑*i* P	**Pb**	**08 58 50.6**	**-1.1**
baz=81							
DRK				⇑*i* S	**Sg**	**08 59 13.6**	**-1.4**
baz=81							
MRKS	**Merke**	**1.85**	**32**	P	**Pg**	**08 58 55.0**	**-0.6**
31nm,0.3s							
MRKS				S	**Sb**	**08 59 17.9**	**+0.6**
88nm,0.3s							
MRKS	**Merke**	**1.85**	**32**	*e*P	**Pg**	**08 58 54.9**	**-0.6**
13nm,0.4s							
MR

ULHL				⇓*i*S		Sn	08 59 57.6	+3.1
	baz=71							
DGS	**Degeres**	**3.54**	**53**	Pg		**Pg**	**08 59 26.5**	**-1.4**
	3.7nm,0.4s							
DGS				Lg		Lg	09 00 12.2	
	21nm,0.5s							
DGS	**Degeres**	**3.54**	**53**	*e*P		**Pg**	**08 59 26.5**	**-1.4**
	1.4nm,0.6s							
DGS				*e*S		**Sg**	**09 00 12.1**	**-1.6**
	21nm,0.5s							
KST	**Kastek**	**3.55**	**57**	Pg		**Pg**	**08 59 26.2**	**-1.9**
	6.8nm,0.8s							
KST				Lg		Lg	09 00 11.6	
	22nm,0.8s							
KST	**Kastek**	**3.55**	**57**	*e*P		**Pg**	**08 59 26.2**	**-1.9**
	3.2nm,0.3s							
KST				*e*S		**Sg**	**09 00 11.5**	**-2.6**
	22nm,0.8s							
MTBS	**Maitube**	**3.89**	**59**	Pg		**Pg**	**08 59 32.7**	**-1.9**
	4.8nm,0.4s							
MTBS				Lg		Lg	09 00 22.4	
	16nm,0.6s							
MTBS	**Maitube**	**3.89**	**59**	*e*P		**Pg**	**08 59 32.7**	**-1.9**
	1.0nm,0.1s							
MTBS				*e*S		**Sg**	**09 00 22.4**	**-2.6**
	16nm,0.6s							
TNSS	**Tian-Shan**	**4.19**	**62**	Pg		**Pg**	**08 59 39.3**	**-1.0**
	6.0nm,0.5s							
TNSS				Lg		Lg	09 00 34.2	
	10nm,0.8s							
TNSS	**Tian-Shan**	**4.19**	**62**	*e*P		**Pg**	**08 59 39.3**	**-1.0**
	0.9nm,0.4s							
TNSS				*e*S		**Sg**	**09 00 34.1**	**-0.5**
	10nm,0.8s							
MDOK	**Medeo**	**4.31**	**61**	Pg		**Pb**	**08 59 38.7**	**+2.7**
	3.6nm,0.5s							
MDOK				Lg		Lg	09 00 36.6	
	12nm,0.8s							
MDOK	**Medeo**	**4.31**	**61**	Pg		**Pg**	**08 59 41.1**	**-1.5**
	3.8nm,0.4s							
MDOK				Lg		Lg	09 00 37.1	
	8.0nm,0.8s							
MDOK	**Medeo**	**4.31**	**61**	*e*P		**Pg**	**08 59 41.1**	**-1.5**
	2.3nm,0.2s							
MDOK				*e*S		**Sg**	**09 00 37.1**	**-1.4**
	8.9nm,0.7s							
KTBS	**Karatobe**	**4.35**	**53**	Pg		**Pg**	**08 59 40.5**	**-2.9**
	2.8nm,0.5s							
KTBS				Lg		Lg	09 00 36.0	
	14nm,0.5s							
KTBS	**Karatobe**	**4.35**	**53**	*e*P		**Pg**	**08 59 40.5**	**-2.9**
	1.2nm,0.7s							
KTBS				*e*S		**Sg**	**09 00 36.0**	**-3.7**
	14nm,0.5s							
KOTS	**Kotyrbulak**	**4.38**	**60**	Pg		**Pg**	**08 59 41.8**	**-2.2**
	5.4nm,0.5s							
KOTS				Lg		Lg	09 00 38.2	
	21nm,0.6s							
KOTS	**Kotyrbulak**	**4.38**	**60**	*e*P		**Pg**	**08 59 41.8**	**-2.2**
	1.0nm,0.3s							
KOTS				*e*S		**Sg**	**09 00 38.2**	**-2.7**
	21nm,0.6s							
CHKK	**Chushkaly**	**4.61**	**53**	*e*P		**Pg**	**08 59 45.6**	**-2.8**
	0.6nm,0.1s							
CHKK				*e*S		**Sg**	**09 00 44.4**	**-3.8**
	12nm,0.4s							
PDGK	**Podgornoye**	**6.03**	**67**	⇓Pn		Pn	08 59 54.2	+4.7
	2.3nm,1.0s							
PDGK				⇑Lg		Lg	09 01 30.0	
	4.4nm,1.0s							

*ISCJB **22** 09:00:17.9±1.0, 38.°02N±0.°07×143.°91E±0.°08, h33km, mb3.8/2, Error ellipse: s-maj=9.8km s-min=8.8km az=6.9*
*JMA **22** 09:00:18.7±0.1, 38.°07N×143.°79E, h27km, M2.9*
*IDC **22** 09:00:35.3±22.0, 35.°24N×142.°15E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.3/26, mbtmp3.6/2, ML1.7/1, Error ellipse: s-maj=596.1km s-min=38.0km az=47.0*

ISC 22 09:00:19.4±1.5, 38.°09N±0.°08×143.°90E±0.°10, h35km, n14, σ0$64/19, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.93**	**277**	P		**Pn**	**09 00 49.5**	**-0.3**
JIKH				*e*S		**Sn**	**09 01 11.7**	**-1.1**
OFUJ	**Ofunato**	**2.01**	**300**	P		**Pn**	**09 00 51.1**	**+0.3**
JKMT	**Kesennumamotoy**	**2.04**	**291**	P		**Pn**	**09 00 51.1**	**-0.1**
JKMT				*e*S		**Sn**	**09 01 15.6**	**+0.2**
JIO	**Ouri**	**2.04**	**281**	P		**Pn**	**09 00 51.5**	**+0.2**
JIO				*e*S		**Sn**	**09 01 14.6**	**-0.9**
JMK	**Ichinoseki**	**2.27**	**293**	P		**Pn**	**09 00 54.8**	**+0.4**
JOM	**Ohasama**	**2.46**	**305**	P		**Pn**	**09 00 57.8**	**+0.7**
JFT	**Otama**	**2.88**	**260**	P		**Pn**	**09 01 03.7**	**+0.8**
JFT				S		**Sn**	**09 01 36.2**	**-0.1**
JYK	**Kaneyama**	**2.90**	**288**	P		**Pn**	**09 01 04.4**	**+1.3**
JAG	**Ashikaga**	**3.92**	**246**	P		**Pn**	**09 01 17.2**	**+0.1**
JAG				*e*S		**Sn**	**09 02 01.4**	**-0.5**
JRY	**Ryogami san**	**4.50**	**244**	P		**Pn**	**09 01 25.2**	**0.0**
JCH	**Churui**	**4.54**	**355**	P		**Pn**	**09 01 25.6**	**0.0**
MJAR	**Matsushiro Arr**	**4.79**	**253**	Pn		**Pn**	**09 01 30.0**	**+0.8**
	0.1nm,0.3s,baz=80,slow=12,SNR=4.2							
WRA	**Warramunga Arr**	**58.42**	**191**	P		**P**	**09 10 11.2**	**-0.4**
	1.5nm,0.9s,baz=11,slow=7.3,SNR=8.3							
ASAR	**Alice Springs**	**62.14**	**190**	P		**P**	**09 10 37.4**	**+0.3**
	0.4nm,0.9s,baz=2.5,slow=6.5,SNR=3.0							

TRN 22 09:14:06.3, 14.°92N×60.°81W, h83km, MD3.5, 1C-3D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILAM	**Ilet Lapin Mar**	**0.16**	**203**	*e*P		Pn	09 14 16.7	-1.7
BAMF	**Morne Balai**	**0.34**	**253**	*e*P		Pn	09 14 20.4	+1.0
CXM	**Morne La Croix**	**0.36**	**253**	*e*P		Pn	09 14 20.7	+1.2
GBMF	**Grand Be**	**0.36**	**251**	*e*P		Pn	09 14 20.6	+1.1
MVM	**Montagne Vaucl**	**0.37**	**193**	*e*P		Pn	09 14 18.7	-0.8
LPMF	**Morne Lapointe**	**0.38**	**204**	⇑*e*P		Pn	09 14 19.0	-0.5
FDF	**Fort de France**	**0.38**	**241**	*e*P		Pn	09 14 20.1	+0.6
FDF				*e*S		Sn	09 14 32.2	+2.9
PML	**Morne Lenard**	**0.39**	**249**	*e*P		Pn	09 14 21.2	+1.6
PCM	**Pelee Case Pet**	**0.40**	**255**	⇓*e*P		Pn	09 14 21.0	+1.4
ZAM	**Aeronautique**	**0.41**	**212**	⇓*e*P		Pn	09 14 19.8	+0.2
TRMF	**Trois Ilets**	**0.45**	**212**	⇓*e*P		Pn	09 14 20.4	+0.5
BIM	**Bigot**	**0.47**	**212**	*e*P		Pn	09 14 21.0	+0.7
DLPL	**La Plaine**	**0.59**	**314**	*e*P		Pn	09 14 22.2	+1.0
DLPL				*e*S		Sn	09 14 35.2	+2.9
DWS	**Wesley**	**0.81**	**323**	*e*P		Pn	09 14 24.1	+0.7
DWS				*e*S		Sn	09 14 37.9	+1.8
MDPO	**Dominica; Chan**	**0.90**	**317**	*e*P		Pn	09 14 26.3	+1.9
MDPO				*e*S		Sn	09 14 38.8	+0.8
SLW	**Petit Monier**	**0.90**	**188**	*e*P		Pn	09 14 26.1	+1.5
SLW				*e*S		Sn	09 14 40.0	+1.9
MDPV	**Dominica, Penn**	**0.92**	**320**	*e*P		Pn	09 14 26.3	+1.6
MDPV				*e*S		Sn	09 14 41.2	+2.9
SLPA	**Patience**	**1.06**	**186**	*e*P		Pn	09 14 27.4	+1.0
SLPA				*e*S		Sn	09 14 42.3	+1.0
SLB	**Belfond**	**1.11**	**192**	*e*P		Pn	09 14 27.5	+0.5
SLB				*e*S		Sn	09 14 44.3	+1.9
MAGL	**Barre de l'ile**	**1.12**	**336**	*e*P		Pn	09 14 27.3	+0.2
SLDE	**Delcer**	**1.14**	**192**	*e*P		Pn	09 14 27.9	+0.6
SLDE				*e*S		Sn	09 14 45.4	+2.5
TDBA	**Terre de Bas,**	**1.22**	**319**	*e*P		Pn	09 14 29.5	+1.3
CBE	**Ff, Capester**	**1.38**	**326**	*e*P		Pn	09 14 31.3	+1.1
DEG	**La Desirade**	**1.41**	**350**	*e*P		Pn	09 14 32.8	+2.1
DEG				*e*S		Sn	09 14 50.2	+1.3
SFAN	**Fancy Village**	**1.57**	**193**	*e*P		Pn	09 14 34.0	+1.4
SFAN				*e*S		Sn	09 14 53.6	+1.0
SSV	**Crater Summit**	**1.63**	**193**	*e*P		Pn	09 14 34.9	+1.4
SSV				*e*S		Sn	09 14 55.1	+1.0
SVV	**Soufriere Volc**	**1.64**	**194**	*e*P		Pn	09 14 35.2	+1.6
SVV				*e*S		Sn	09 14 55.5	+1.2
SVCV	**St. Vincent, C**	**1.67**	**191**	*e*P		Pn	09 14 35.8	+1.8
SVCV				*e*S		Sn	09 14 56.4	+1.4
SVB	**Belmont**	**1.69**	**195**	*e*P		Pn	09 14 35.5	+1.1
SVB				*e*S		Sn	09 14 56.1	+0.6
FCV	**Fort Charlotte**	**1.80**	**194**	*e*P		Pn	09 14 37.5	+1.7
FCV				*e*S		Sn	09 14 59.6	+1.5
MLYT	**Lee's Yard**	**2.23**	**324**	*e*P		Pn	09 14 42.5	+1.0
MLYT				*e*S		Sn	09 15 09.5	+1.2
BPA	**Boggy Peak**	**2.34**	**335**	*e*P		Pn	09 14 44.2	+1.3
BPA				*e*S		Sn	09 15 11.3	+0.4
GRSS	**Sisters**	**2.72**	**197**	*e*P		Pn	09 14 49.1	+1.1
GRSS				*e*S		Sn	09 15 20.6	+0.6
NEV	**Hard Times**	**2.78**	**323**	*e*P		Pn	09 14 49.1	+0.3
NEV				*e*S		Sn	09 15 21.2	-0.2
GRHS	**Sauteurs**	**2.80**	**197**	*e*P		Pn	09 14 51.2	+2.1
ANWB	**Willy Bob**	**2.89**	**341**	*e*P		Pn	09 14 52.2	+1.9
ANWB				*e*S		Sn	09 15 25.9	+1.8
TOSP	**Speyside**	**3.61**	**176**	*e*P		Pn	09 15 01.9	+1.9
TOSP				*e*S		Sn	09 15 41.6	+0.1
TPR	**Prospect**	**3.71**	**180**	*e*P		Pn	09 15 03.4	+1.9
BOT	**Bacolet**	**3.73**	**179**	*e*P		Pn	09 15 03.6	+1.9

IDC 22 09:25:04.2±10.0, 1.°32N×126.°89E, h170km±111km, mb3.3/4, mb1 3.4/5, mb1mx3.1/30, mbtmp3.7/5, Error ellipse: s-maj=40.7km s-min=19.0km az=94.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.34**	**184**	P		P	09 29 17.3	+0.7
	0.2nm,0.3s,baz=27,slow=13,SNR=4.8							
GUMO	**Guam**	**21.57**	**55**	P		P	09 29 41.1	+0.5
	51nm,0.5s,baz=197,slow=20,SNR=5.1							
WRA	**Warramunga Arr**	**22.36**	**161**	P		P	09 29 47.8	-0.7
	1.6nm,0.4s,baz=341,slow=11,SNR=32							
ASAR	**Alice Springs**	**25.76**	**165**	P		P	09 30 19.4	+0.1
	0.4nm,0.5s,baz=349,slow=7.8,SNR=8.8							
STKA	**Stephens Creek**	**35.84**	**158**	P		P	09 31 47.9	+0.3
	0.5nm,0.3s,baz=330,slow=8.1,SNR=3.0							
MKAR	**Makanchi Array**	**59.62**	**326**	P		P	09 34 50.0	-0.3
	0.4nm,0.5s,baz=121,slow=8.3,SNR=9.5							

*ISCJB **22** 09:38:23.8±0.6, 4.°02N±0.°09×126.°0E±0.°2, h150km, mb3.7/10, Error ellipse: s-maj=31.9km s-min=7.1km az=158.6*
*MAN **22** 09:38:24.8, 3.°67N×125.°23E, h100km, mb4.9, ML3.9, MS3.9*
*IDC **22** 09:38:29.3±7.1, 3.°97N×125.°92E, h188km±73km, mb3.4/10, mb1 3.5/10, mb1mx3.4/33, mbtmp3.9/10, Error ellipse: s-maj=42.2km s-min=13.6km az=71.0*

ISC 22 09:38:25.6±0.8, 3.°97N±0.°08×125.°8E±0.°2, h150km, n14, σ2$31/19, mb3.8/10, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DDMP	**Don Marcelino,**	**2.12**	**358**	*e*P		**Pn**	**09 39 00.6**	**-1.6**
DDMP				*e*S		**Sn**	**09 39 24.2**	**-6.2**
GSPH	**General Santos**	**2.26**	**338**	⇓*i*P		**Pn**	**09 39 03.8**	**-0.2**
GSPH				*i* S		**Sn**	**09 39 33.1**	**-0.4**
SKMP	**Bagumbayan, Su**	**2.82**	**334**	*e*P		**Pn**	**09 39 09.5**	**-1.2**
SKMP				*e*S		**Sn**	**09 39 45.1**	**-0.5**
DMPH	**Davao City--Mi**	**3.10**	**355**	*e*P		**Pn**	**09 39 18.1**	**+3.8**
DMPH				*e*S		**Sn**	**09 39 56.2**	**+4.1**
FITZ	**Fitzroy Crossi**	**21.93**	**180**	P		**P**	**09 43 08.4**	**+1.2**
	1.4nm,0.4s,baz=359,slow=8.1,SNR=8.9							
WRA	**Warramunga Arr**	**25.20**	**161**	P		**P**	**09 43 37.0**	**-0.5**
	0.9nm,0.4s,baz=340,slow=10,SNR=12							
ASAR	**Alice Springs**	**28.59**	**164**	P		**P**	**09 44 07.4**	**-0.4**
	0.4nm,0.4s,baz=341,slow=7.3,SNR=13							
CMAR	**Chiang Mai Arr**	**29.95**	**301**	P		**P**	**09 44 21.7**	**+1.8**
	0.7nm,0.3s,baz=134,slow=7.7,SNR=3.6							
KSRS	**Korea Array**	**33.38**	**3**	P		**P**	**09 44 50.1**	**+0.4**
	1.8nm,0.8s,baz=177,slow=8.7,SNR=5.2							
STKA	**Stephens Creek**	**38.69**	**158**	P		**P**	**09 45 34.9**	**0.0**
	1.7nm,0.8s,baz=329,slow=12,SNR=3.6							
SONM	**Songino Array**	**46.78**	**342**	P		**P**	**09 46 40.1**	**+0.1**
	1.4nm,0.9s,baz=153,slow=7.3,SNR=6.6							
MKAR	**Makanchi Array**	**56.83**	**326**	P		**P**	**09 47 54.6**	**+0.2**
	1.4nm,0.5s,baz=123,slow=7.6,SNR=27							
MKAR				PcP		**PcP**	**09 48 49.2**	**+0.8**
	1.1nm,0.6s,baz=116,slow=3.8,SNR=9.6							
ZALV	**Zalesovo Beam**	**59.95**	**333**	P		**P**	**09 48 15.0**	**-0.9**
	1.1nm,0.6s,baz=101,slow=6.3,SNR=5.6							
BRTR	**Keskin Array B**	**89.15**	**310**	P		**P**	**09 51 02.5**	**-2.1**
	0.5nm,0.7s,baz=120,slow=7.3,SNR=4.0							

IDC 22 10:14:22.8±2.0, 23.°76S×174.°20W, h0km, mb4.5/3, mb1 4.7/4, mb1mx3.9/36, mbtmp4.5/4, ML3.4/1, Error ellipse: s-maj=120.5km s-min=32.5km az=164.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAR	**Rarotonga**	**13.57**	**82**	Pn		Pn	10 17 36.4	-0.2
	2.1nm,0.3s,baz=251,slow=13,SNR=3.8							
ASAR	**Alice Springs**	**47.29**	**259**	P		P	10 22 58.7	+0.3
	1.8nm,0.7s,baz=93,slow=7.8,SNR=19							
WRA	**Warramunga Arr**	**47.71**	**264**	P		P	10 23 00.6	-1.1
	1.0nm,0.5s,baz=102,slow=8.6,SNR=18							
CMAR	**Chiang Mai Arr**	**94.50**	**288**	P		P	10 27 46.7	+1.1
	0.6nm,0.3s,baz=136,slow=3.7,SNR=5.6							
SONM	**Songino Array**	**100.52**	**318**	P		Pdif	10 28 11.8	-0.5
	0.1nm,0.4s,baz=116,slow=3.4,SNR=2.3							
AKASG	**Malin Array Be**	**147.55**	**332**	PKPbc		PKPdf	10 34 07.2	+1.1
	0.4nm,0.3s,baz=45,slow=4.4,SNR=5.1							
BRTR	**Keskin Array B**	**151.63**	**311**	PKPbc		PKPbc	10 34 19.5	0.0
	0.6nm,0.7s,baz=90,slow=4.3,SNR=3.3							

*ISCJB **22** 10:24:21.5±0.3, 25.°40S±0.°02×68.°81W±0.°03, h93km±2km, mb4.3/72, Error ellipse: s-maj=5.1km s-min=3.3km az=151.9*
*VAO **22** 10:24:21.4±0.5, 25.°28S×69.°05W, h92km, mb4.6*
*SJA **22** 10:24:21.3±0.9, 25.°44S×69.°13W, h133km±11km, ML4.0, MW4.1, MW4.6(GUC)*
*NEIC **22** 10:24:24.0±0.0, 25.°26S×69.°07W, h99km, mb4.4/65, ML4.6(GUC), After GUC.*
NEIC Felt [II] at Copiapo and Tierra Amarilla.
*GUC **22** 10:24:24.5±0.6, 25.°30S×69.°07W, h105km±6km, ML4.6*
*IDC **22** 10:24:25.1±0.6, 25.°30S×68.°72W, h109km±3km, mb4.0/9, mb1 4.1/13, mb1mx4.0/25, mbtmp4.3/13, MS3.0/4, Ms1 3.0/4, ms1mx2.8/31, Error ellipse: s-maj=19.7km s-min=15.8km az=34.0*

ISC 22 10:24:23.3±0.4, 25.°37S±0.°05×68.°91W±0.°05, h100km±4km, h100km:pP-P, n189, σ1$43/208, mb4.4/72, 6C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GO02	**Mina Guanaco**	**0.65**	**289**	*e*Pn		**Pn**	**10 24 40.9**	**+0.2**
GO02	**Mina Guanaco**	**0.65**	**289**	⇑*i*P		**Pn**	**10 24 40.6**	**0.0**
GO02				*i* S		**Sn**	**10 24 53.7**	**0.0**
PB14	**IPOC Station P**	**1.54**	**298**	*e*P		**Pn**	**10 24 50.2**	**-0.2**
PB14				*e*S		**Sn**	**10 25 10.5**	**-0.5**
PB14	**IPOC Station P**	**1.54**	**298**	⇑*i*P		**Pn**	**10 24 50.3**	**-0.2**
PB14				*i* S		**Sn**	**10 25 10.0**	**-1.0**
PB10	**IPOC Station P**	**2.38**	**321**	*e*Pn		**Pn**	**10 25 00.9**	**0.0**
PB10	**IPOC Station P**	**2.38**	**321**	*e*P		**Pn**	**10 25 00.8**	**0.0**
PB10				*e*S		**Sn**	**10 25 29.0**	**-0.7**
PB10	**IPOC Station P**	**2.38**	**321**	⇑*i*P		**Pn**	**10 25 00.8**	**-0.1**
PB10				*i* S		**Sn**	**10 25 27.7**	**-2.0**
PB06	**IPOC Station P**	**2.72**	**347**	*e*P		**Pn**	**10 25 06.6**	**+1.0**
PB06	**IPOC Station P**	**2.72**	**347**	⇑*i*P		**Pn**	**10 25 06.5**	**+1.0**
PB06				IAML			10 25 46.2	
	comp=N,1μm,0.3s							
FSA	**Cafayete**	**2.75**	**106**	*e*P		**Pn**	**10 25 08.0**	**+2.1**
LVC	**Limon Verde**	**2.75**	**0**	P		**Pn**	**10 25 07.4**	**+1.2**
	comp=N,50nm,0.3s,baz=180,slow=8.3,SNR=76							
LVC				S		**Sn**	**10 25 35.4**	**-3.6**
	comp=N,103nm,0.3s,baz=186,slow=13,SNR=9.5							
LVC	**Limon Verde**	**2.75**	**0**	*e*P		**Pn**	**10 25 07.3**	**+1.1**
LVC	**Limon Verde**	**2.75**	**0**	*i* P		**Pn**	**10 25 07.3**	**+1.2**
PB05	**IPOC Station P**	**2.77**	**335**	*e*P		**Pn**	**10 25 06.2**	**0.0**
PB05	**IPOC Station P**	**2.77**	**335**	⇑*i*P		**Pn**	**10 25 06.1**	**0.0**
PB05				*e*S		**Sn**	**10 25 37.9**	**-1.2**
PB05				IAML			10 25 50.2	
	comp=E,2μm,0.5s							
SLA	**San Lorenzo**	**3.16**	**79**	*e*P		**Pn**	**10 25 14.2**	**+2.9**
PB04	**IPOC Station P**	**3.23**	**339**	*e*Pn		**Pn**	**10 25 11.9**	**-0.4**
PB04	**IPOC Station P**	**3.23**	**339**	*e*P		**Pn**	**10 25 11.9**	**-0.4**
PB03	**IPOC Station P**	**3.40**	**347**	*e*P		**Pn**	**10 25 14.7**	**+0.1**
PB09	**IPOC Station P**	**3.57**	**355**	*e*P		**Pn**	**10 25 18.1**	**+1.1**
PB09	**IPOC Station P**	**3.57**	**355**	⇑*i*P		**Pn**	**10 25 18.1**	**+1.1**
PB09				IAML			10 25 53.5	
	comp=E,926nm,0.7s							
AZAP	**Zapla**	**3.68**	**73**	*e*P		**Pn**	**10 25 20.8**	**+2.5**
AZAP				IAML			10 25 21.9	
	comp=Z,220nm,0.8s							
PB07	**IPOC Station P**	**3.74**	**346**	*e*P		**Pn**	**10 25 18.7**	**-0.4**
HJA	**Humahuaca**	**3.85**	**57**	*e*P		**Pn**	**10 25 24.3**	**+3.4**
LCO	**Las Campanas**	**3.96**	**203**	*e*Pn		**Pn**	**10 25 19.8**	**-2.4**
LCO	**Las Campanas**	**3.96**	**203**	*e*P		**Pn**	**10 25 19.8**	**-2.4**
LCO	**Las Campanas**	**3.96**	**203**	*e*P		**Pn**	**10 25 20.3**	**-1.9**
AGUA	**GUANDACOL**	**4.12**	**175**	*e*P		**Pn**	**10 25 24.9**	**+0.8**
CYA	**Choya**	**4.13**	**138**	*e*P		**Pn**	**10 25 24.9**	**+0.6**
PB01	**IPOC Station P**	**4.34**	**353**	*e*Pn		**Pn**	**10 25 26.8**	**-0.5**
PB01	**IPOC Station P**	**4.34**	**353**	IAML			10 26 34.8	
	comp=E,460nm,0.5s							
ACLC	**CERRO LA CRUZ**	**4.40**	**157**	*e*P		**Pn**	**10 25 28.3**	**+0.2**
YJA	**Yavi**	**4.45**	**45**	*e*P		**Pn**	**10 25 32.0**	**+3.0**
GO04	**Tololo Observa**	**5.07**	**199**	*e*Pn		**Pn**	**10 25 34.1**	**-3.1**
GO04	**Tololo Observa**	**5.07**	**199**	*e*P		**Pn**	**10 25 34.0**	**-3.1**
PB08	**IPOC Station P**	**5.21**	**357**	*e*P		**Pn**	**10 25 38.9**	**-0.4**
APLL	**PUNTA DE LOS L**	**5.43**	**158**	*e*P		**Pn**	**10 25 41.0**	**-0.9**
AMOG	**MOGNA**	**5.56**	**176**	*e*P		**Pn**	**10 25 42.6**	**-1.1**
PB11	**IPOC Station P**	**5.63**	**353**	*e*Pn		**Pn**	**10 25 43.1**	**-1.6**
PB11	**IPOC Station P**	**5.63**	**353**	*e*P		**Pn**	**10 25 43.1**	**-1.6**
PSGCX	**Pisagua**	**5.86**	**349**	*e*P		**Pn**	**10 25 46.0**	**-1.8**
RTLL	**Cerro Villicun**	**5.95**	**176**	*e*P		**Pn**	**10 25 47.8**	**-1.2**
CFA	**Coronel Fontan**	**6.24**	**175**	*e*P		**Pn**	**10 25 51.6**	**-1.3**
MNMC	**Minye Minye**	**6.24**	**354**	*e*Pn		**Pn**	**10 25 51.7**	**-1.5**
MNMCX	**Minye Minye**	**6.24**	**354**	*e*P		**Pn**	**10 25 51.7**	**-1.6**
RTLS	**Leoncito**	**6.41**	**183**	*e*P		**Pn**	**10 25 54.1**	**-1.4**
RTLS				IAML			10 27 03.4	
	comp=Z,53nm,0.4s							
RTCV	**Cerro Valdivia**	**6.47**	**177**	*e*P		**Pn**	**10 25 54.8**	**-1.3**
AUSP	**Uspallata**	**6.84**	**183**	*e*P		**Pn**	**10 25 59.6**	**-1.6**
PB12	**IPOC Station P**	**6.85**	**349**	*e*P		**Pn**	**10 25 57.9**	**-3.4**
ACAN	**Cantantal**	**7.04**	**168**	*e*P		**Pn**	**10 26 02.6**	**-1.2**
TCA	**Tanti**	**7.05**	**148**	*e*P		**Pn**	**10 26 01.6**	**-2.4**
MRA	**San Martin**	**7.56**	**159**	*e*P		**Pn**	**10 26 08.8**	**-2.1**
MRA				IAML			10 26 10.1	
	comp=Z,14nm,0.2s							
ROC1	**El Roble**	**7.80**	**193**	*e*Pn		Pn	10 26 09.7	-4.5
ROC1	**El Roble**	**7.80**	**193**	*e*P		Pn	10 26 09.6	-4.7
PEL	**Peldehue**	**7.90**	**191**	*e*Pn		Pn	10 26 10.9	-4.5
LPAZ	**La Paz**	**9.07**	**5**	P		**Pn**	**10 26 31.4**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=176,slow=2.6,SNR=21							
LPAZ	**La Paz**	**9.07**	**5**	*e*Pn		**Pn**	**10 26 32.2**	**+0.2**
LPAZ	**La Paz**	**9.07**	**5**	*e*P		**Pn**	**10 26 31.7**	**-0.3**
CPUP	**Villa Florida**	**10.48**	**98**	P		**Pn**	**10 26 48.8**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=279,slow=13,SNR=12							
CPUP				LR		LR	10 31 05.6	
	comp=Z,58nm,21.9s,baz=282,slow=39							
CPUP	**Villa Florida**	**10.48**	**98**	*e*P		**Pn**	**10 26 49.0**	**-1.5**
SIV	**San Ignacio**	**11.87**	**40**	P		**Pn**	**10 27 05.4**	**-3.9**
	comp=Z,9.9nm,0.3s,baz=257,slow=8.8,SNR=170							
SIV				S		**Sn**	**10 29 16.6**	**-3.3**
	comp=Z,0.2nm,0.3s,baz=209,slow=15,SNR=3.1							
SIV				LR		LR	10 31 10.4	
	comp=Z,47nm,21.9s,baz=309,slow=35							
AQDB	**Aquidauana**	**13.11**	**71**	*e*P		**Pn**	**10 27 23.7**	**-2.0**
GO06	**Curarrehue**	**14.33**	**188**	*e*Pn		**Pn**	**10 27 39.1**	**-2.5**
CPSB	**Cacapava Do Su**	**14.57**	**114**	*e*P		**Pn**	**10 27 45.7**	**+1.2**
TRCB	**Terra Rica**	**15.09**	**84**	*e*P		**Pn**	**10 27 51.8**	**+0.6**
ITAB	**Concordia**	**15.16**	**101**	*e*P		**Pn**	**10 27 51.6**	**-0.5**
PTGB	**Pitanga**	**15.29**	**91**	*e*P		**Pn**	**10 27 55.4**	**+1.7**
PLCA	**Paso Flores**	**15.38**	**185**	P		**P**	**10 27 57.0**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=30,slow=12,SNR=19							
PLCA				PcP		**PcP**	**10 32 53.3**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=299,slow=6.0,SNR=3.4							
PLCA				LR		LR	10 34 06.3	
	comp=Z,64n

SZCU	**Shurtz Canyon**	**75.14**	**325**	*e*P		**P**	**10**	**35**	**57.2 +2.3**
	comp=Z,2.1nm,0.9s								
CCUT	**Cedar City**	**75.25**	**325**	*e*P		**P**	**10**	**35**	**57.5 +2.0**
	comp=Z,7.2nm,0.8s								
MSU	**Marysvale**	**75.37**	**326**	*e*P		**P**	**10**	**35**	**57.7 +1.6**
SHPR	**Sheep Range**	**75.43**	**323**	*e*P		**P**	**10**	**35**	**57.8 +1.3**
	comp=Z,4.0nm,0.9s								
GSC	**Goldstone, Bar**	**75.47**	**321**	*e*P		**P**	**10**	**35**	**58.8 +2.3**
	comp=Z,1.6nm,1.1s								
PSUT	**Pine Spring**	**76.24**	**325**	*e*P		**P**	**10**	**36**	**02.2 +1.1**
	comp=Z,4.7nm,0.8s								
TPNV	**Topopah Spring**	**76.35**	**323**	*e*P		**P**	**10**	**36**	**03.2 +1.5**
	comp=Z,3.3nm,0.7s								
DUG	**Dugway, Tooele**	**76.98**	**327**	*e*P		**P**	**10**	**36**	**07.1 +2.0**
	comp=Z,2.6nm,0.8s								
TCUT	**Toone Canyon**	**77.01**	**328**	*e*P		**P**	**10**	**36**	**07.1 +1.7**
	comp=Z,6.9nm,1.0s								
R11A	**Troy Canyon, C**	**77.01**	**324**	*e*P		**P**	**10**	**36**	**07.4 +2.0**
	comp=Z,1.8nm,0.6s								
PD31	**Pinedale Array**	**77.46**	**331**	*e*P		**P**	**10**	**36**	**08.8 +0.9**
PDAR	**Pinedale Array**	**77.46**	**331**	P		**P**	**10**	**36**	**08.6 +0.8**
	comp=Z,0.7nm,0.5s,baz=129,slow=7.7,SNR=11								
SPUT	**South Promonto**	**77.65**	**328**	*e*P		**P**	**10**	**36**	**10.4 +1.5**
	comp=Z,5.8nm,0.8s								
MDND	**Maddock**	**77.94**	**339**	*e*P		**P**	**10**	**36**	**11.2 +1.2**
	comp=Z,19nm,1.0s								
HVU	**Hansel Valley**	**78.17**	**328**	*e*P		**P**	**10**	**36**	**13.0 +1.2**
MDPB	**Devils Postpil**	**78.41**	**322**	*e*P		**P**	**10**	**36**	**15.4 +2.1**
	comp=Z,4.1nm,1.0s								
NV01	**Mina Array Sit**	**78.54**	**323**	*e*P		**P**	**10**	**36**	**14.7 +0.7**
NVAR	**Mina Array Bea**	**78.54**	**323**	P		**P**	**10**	**36**	**15.4 +1.5**
	comp=Z,1.5nm,0.6s,baz=152,slow=6.8,SNR=14								
NVAR				pP		**pP**	**10**	**36**	**43.5 +2.4**
	comp=Z,0.3nm,0.5s,baz=127,slow=6.9,SNR=2.4								
SNOW	**Snow King Moun**	**78.54**	**330**	*e*P		**P**	**10**	**36**	**15.3 +1.4**
	comp=Z,4.1nm,0.8s								
LOHW	**Long Hollow**	**78.59**	**330**	*e*P		**P**	**10**	**36**	**15.4 +1.3**
	comp=Z,2.6nm,0.6s								
ELK	**Elko**	**78.61**	**326**	*e*P		**P**	**10**	**36**	**15.7 +1.4**
	comp=Z,3.7nm,0.8s								
TPAW	**Teton Pass**	**78.65**	**330**	*e*P		**P**	**10**	**36**	**16.0 +1.5**
	comp=Z,4.4nm,0.9s								
TOA0	**Torodi Ar. Sit**	**78.68**	**70**	*e*P		**P**	**10**	**36**	**15.3 +0.4**
TOA1	**Torodi Ar. Sit**	**78.68**	**70**	*e*P		**P**	**10**	**36**	**14.1 -0.9**
TOA1				*e*pP		**pP**	**10**	**36**	**42.2 -0.1**
TORD	**Torodi Ar. Bea**	**78.68**	**70**	P		**P**	**10**	**36**	**14.1 -0.9**
	comp=Z,3.5nm,0.7s,baz=246,slow=5.0,SNR=20								
TORD				pP		**pP**	**10**	**36**	**42.2 -0.1**
	comp=Z,2.1nm,0.6s,baz=258,slow=5.1,SNR=4.4								
KVN	**Kaiserville**	**78.87**	**323**	*e*P		**P**	**10**	**36**	**17.2 +1.5**
	comp=Z,3.3nm,0.6s								
ULM	**Lac du Bonnet**	**79.00**	**343**	P		**P**	**10**	**36**	**16.2 +0.4**
	comp=Z,3.0nm,0.5s,baz=129,slow=6.1,SNR=6.3								
ULM				pP		**pP**	**10**	**36**	**43.6 +0.7**
	comp=Z,2.8nm,0.7s,baz=147,slow=7.3,SNR=3.3								
RLMT	**Red Lodge**	**79.22**	**332**	*e*P		**P**	**10**	**36**	**18.6 +1.2**
	comp=Z,3.6nm,0.6s								
WAKR	**Walker**	**79.22**	**322**	*e*P		**P**	**10**	**36**	**19.5 +1.9**
	comp=Z,3.7nm,0.9s								
LKWY	**Lake**	**79.26**	**331**	*e*P		**P**	**10**	**36**	**18.6 +0.9**
	comp=Z,11nm,0.6s								
YERR	**Yerington**	**79.45**	**322**	*e*P		**P**	**10**	**36**	**20.9 +2.0**
	comp=Z,4.3nm,0.7s								
YMR	**Madison River**	**79.59**	**331**	*e*P		**P**	**10**	**36**	**21.1 +1.6**
	comp=Z,5.9nm,0.8s								
PNTR	**Pine Nut**	**79.72**	**322**	*e*P		**P**	**10**	**36**	**21.9 +1.5**
	comp=Z,9.5nm,0.7s								
YHB	**Horse Butte**	**79.75**	**331**	*e*P		**P**	**10**	**36**	**22.0 +1.6**
	comp=Z,6.7nm,1.1s								
VCNR	**Virginia City**	**79.89**	**322**	*e*P		**P**	**10**	**36**	**22.4 +1.2**
	comp=Z,2.5nm,0.8s								
RUBR	**Rubicon Trail**	**80.00**	**322**	*e*P		**P**	**10**	**36**	**23.9 +2.1**
	comp=Z,8.2nm,0.9s								
PAHR	**Pah Rah Range**	**80.04**	**323**	*e*P		**P**	**10**	**36**	**23.8 +1.9**
	comp=Z,7.4nm,0.9s								
HLID	**Hailey**	**80.31**	**328**	*e*P		**P**	**10**	**36**	**24.6 +1.2**
	comp=Z,5.7nm,0.8s								
AFDM	**Forest Hills D**	**80.39**	**321**	*e*P		**P**	**10**	**36**	**24.2 +0.5**
	comp=Z,2.7nm,0.8s								
MCMT	**McKenzie Canyo**	**80.55**	**330**	*e*P		**P**	**10**	**36**	**26.0 +1.3**
BEKR	**Beckworth**	**80.69**	**322**	*e*P		**P**	**10**	**36**	**27.1 +1.7**
	comp=Z,3.4nm,0.8s								
ORV	**Oroville**	**81.11**	**322**	*e*P		**P**	**10**	**36**	**28.4 +1.0**
	comp=Z,6.3nm,0.9s								
J08A	**Circle Bar Ran**	**82.16**	**326**	*e*P		**P**	**10**	**36**	**34.6 +1.6**
	comp=Z,3.4nm,0.8s								
C09A	**Chrisman Ranch**	**85.27**	**329**	*e*P		**P**	**10**	**36**	**49.4 +0.7**
	comp=Z,8.0nm,0.6s								
SFJD	**Kangerlussuaq**	**93.11**	**7**	*e*P		**P**	**10**	**37**	**23.6 -1.7**
YKA	**Yellowknife Ar**	**94.82**	**341**	P		**P**	**10**	**37**	**33.3 +0.1**
	comp=Z,1.1nm,0.7s,baz=137,slow=4.4,SNR=29								
YKA				pP		**pP**	**10**	**38**	**01.4 +0.4**
	comp=Z,1.5nm,0.8s,baz=138,slow=4.6,SNR=13								
YKB5	**Yellowknife Ar**	**94.82**	**341**	*e*P		**P**	**10**	**37**	**32.7 -0.6**
ASAR	**Alice Springs**	**126.47**	**206**	PKP		**PKPdf**	**10**	**43**	**14.6 -0.7**
	comp=Z,7.1nm,0.4s,baz=140,slow=1.8,SNR=28								
ASAR				pPKP		**pPKPdf**	**10**	**43**	**44.4 +0.1**
	comp=Z,0.3nm,0.5s,baz=121,slow=1.7,SNR=1.8								
WR1	**Warramunga Arr**	**129.60**	**209**	*e*PKPdf		**PKPdf**	**10**	**43**	**21.1 -0.2**
WRA	**Warramunga Arr**	**129.60**	**209**	PKP		**PKPdf**	**10**	**43**	**21.1 -0.2**
	comp=Z,0.7nm,0.4s,baz=155,slow=1.7,SNR=22								
KURK	**Kurchatov**	**144.50**	**36**	*e*PKPdf		**PKPdf**	**10**	**43**	**47.6 -0.1**
KURK				*e*pPKPdf		**pPKPdf**	**10**	**44**	**16.1 -0.5**
KURBB	**Kurchatov Arra**	**144.51**	**36**	PKP		**PKPdf**	**10**	**43**	**47.6 -0.1**
	comp=Z,4.7nm,0.7s,baz=304,slow=3.5,SNR=31								
KURBB				pPKP		**pPKPdf**	**10**	**44**	**16.1 -0.5**
	comp=Z,2.2nm,0.7s,baz=306,slow=3.7,SNR=6.5								
ZAA1	**Zalesovo Array**	**145.41**	**27**	*e*PKPdf		**PKPab**	**10**	**43**	**50.0 +0.5**
ZAA1				*e*pPKPab		pPKPbc	10	44	18.8 +1.0
ZALV	**Zalesovo Beam**	**145.41**	**27**	PKPbc		**PKPab**	**10**	**43**	**50.0 +0.5**
	comp=Z,10nm,0.8s,baz=307,slow=3.9,SNR=44								
ZALV				pPKPbc		pPKPbc	10	44	18.8 +1.0
	comp=Z,13nm,0.7s,baz=305,slow=4.4,SNR=15								
AAK	**Ala-Archa**	**145.44**	**51**	PKPbc		**PKPab**	**10**	**43**	**51.1 +0.8**
	comp=Z,6.3nm,0.8s,baz=216,slow=2.8,SNR=20								
MK32	**Makanchi Array**	**148.69**	**40**	*e*PKPbc		**PKPbc**	**10**	**43**	**59.4 +0.7**
MKAR	**Makanchi Array**	**148.69**	**40**	PKPbc		**PKPbc**	**10**	**43**	**59.4 +0.7**
	comp=Z,6.2nm,0.6s,baz=312,slow=2.7,SNR=74								
MKAR				pPKPbc		**pPKPbc**	**10**	**44**	**28.2 +0.8**
	comp=Z,4.2nm,0.7s,baz=321,slow=2.4,SNR=8.9								
SONA0	**Songino Array**	**157.28**	**8**	*e*PKPdf		**PKPdf**	**10**	**44**	**07.8 +0.4**
SONA0				*e*PKPab		**pPKPdf**	**10**	**44**	**37.9 +1.4**
SONM	**Songino Array**	**157.28**	**8**	PKP		**PKPdf**	**10**	**44**	**07.8 +0.4**
	comp=Z,0.7nm,0.8s,baz=305,slow=0.5,SNR=4.5								
SONM				pPKP		**pPKPdf**	**10**	**44**	**37.8 +1.4**
	comp=Z,0.2nm,0.3s,baz=333,slow=0.5,SNR=1.7								
LZH	**Lanzhou**	**167.64**	**29**	*e*PKP		**PKPdf**	**10**	**44**	**19.3 +1.2**
LZH				pPKP		pPKPdf	10	44	48.0 +0.7
LZH				sPKP			10	44	58.3
LZH				PKP		**PKPab**	**10**	**45**	**28.0 +3.3**

ANF 22 10:26:27.1±0.9, 42.02N×125.61W, ML3.5/1, Error ellipse: s-maj=9.8km s-min=4.0km az=90.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
L02E	**Cave Junction**	**1.50**	**84**	P	Pn	10 26 55.3	-0.1
	baz=265,SNR=38						
L02E				S	Sn	10 27 16.9	+1.1
	baz=265						
J01E	**Myrtle Point**	**1.69**	**47**	P	Pn	10 26 58.0	+0.1
	baz=228						
J01E				S	Sg	10 27 21.3	-0.1
	baz=228						
M02C	**Callahan**	**2.16**	**106**	P	Pn	10 27 04.4	-0.1
	baz=288,SNR=26						
I03D	**Drain, OR**	**2.37**	**44**	P	Pn	10 27 07.3	+0.1
	baz=225						
I03D				S	Sn	10 27 37.9	+1.0
	baz=225						
N02D	**Trinity Center**	**2.42**	**115**	P	Pn	10 27 08.0	0.0
	baz=296						
I02D	**Swisshome**	**2.46**	**31**	P	Pn	10 27 08.7	+0.2
	baz=212,SNR=5.1						
I02D				S	Sn	10 27 39.6	+0.4
	baz=212						
L04D	**Klamath Falls**	**2.47**	**84**	P	Pn	10 27 10.2	+1.4
	baz=266,SNR=31						
M04C	**Macdoel**	**2.83**	**93**	P	Pn	10 27 15.2	+1.5
	baz=276,SNR=5.7						
O03E	**Paynes Creek**	**3.35**	**120**	P	Pn	10 27 20.9	0.0
	baz=302						
E04D	**Cinebar**	**5.04**	**25**	P	Pn	10 27 46.7	+2.8
	baz=207,SNR=8.0						

STR ***22*** *10:31:57.9±1.3, 44°N×3°×1°E±1°0, h19km±6km, M3.6/2, MLv3.6/2*
ISCJB ***22*** *10:32:07.5±0.3, 44°.08N±0°.02×10°.92E±0°.02, h70km±3km, Error ellipse: s-maj=3.0km s-min=2.5km az=169.2*
ROM ***22*** *10:32:09.0±0.2, 44°.00N±0°.02×10°.97E±0°.01, h58km±1km, ML2.8/38*
GEN ***22*** *10:32:09.1, 43°.94N×10°.98E, h62km±2km, Ml2.8*
LDG ***22*** *10:32:09.7, 44°.05N×10°.87E, h53km*
ISC 22 10:32:07.6±1.2, 44°.06N±0°.03×10°.95E±0°.02, h70km±5km, n95, σ1.65/143, 1C-1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTCR	**Monte La Croce**	**0.05**	**131**	*i* P	**Pn**	**10 32 18.2**	**+0.3**
MTCR				S	**Sn**	**10 32 24.8**	**-0.7**
MTCR				AML	AML		
	comp=E,2810μm,0.1s						
MTCR				AML	AML		
	comp=N,6710μm,0.2s						
MTCR				AML	AML		
	comp=E,2805μm,0.1s						
MTCR				AML	AML		
	comp=N,6710μm,0.2s						
MTCR				AML	AML		
	comp=E,2805μm,0.1s						
MTCR				AML	AML		
	comp=N,6710μm,0.2s						
MTCR				AML	AML		
	comp=E,2805μm,0.1s						
MTCR				AML	AML		
PTF	**Prato**	**0.13**	**138**	*i* P	**Pn**	**10 32 18.2**	**+0.2**
PTF				S	**Sn**	**10 32 24.6**	**-1.0**
POPM	**Popiglio**	**0.14**	**265**	P	**Pn**	**10 32 18.4**	**+0.4**
POPM				S	**Sn**	**10 32 25.0**	**-0.7**
POPM	**Popiglio**	**0.14**	**265**	P	**Pn**	**10 32 18.4**	**+0.4**
POPM				S	**Sn**	**10 32 24.9**	**-0.7**
POPM				AML	AML		
	comp=E,3895μm,0.3s						
POPM				AML	AML		
	comp=N,3180μm,0.7s						
POPM				AML	AML		
	comp=E,3895μm,0.3s						
POPM				AML	AML		
	comp=N,3180μm,0.7s						
POPM				AML	AML		
	comp=E,3895μm,0.3s						
POPM				AML	AML		
	comp=N,3180μm,0.7s						
BDI	**Bagni Di Lucca**	**0.25**	**271**	*i* P	**Pn**	**10 32 18.9**	**+0.3**
BDI				S	**Sn**	**10 32 25.9**	**-0.7**
BDI				AML	AML		
	comp=E,1640μm,0.3s						
BDI				AML	AML		
	comp=N,1275μm,1.6s						
BDI				AML	AML		
	comp=E,1750μm,0.3s						
BDI				AML	AML		
	comp=N,1499μm,0.2s						
BDI				AML	AML		
	comp=N,1499μm,0.2s						
BDI				AML	AML		
	comp=N,1275μm,1.6s						
BDI				AML	AML		
	comp=E,1640μm,0.3s						
BDI				AML	AML		
	comp=E,1750μm,0.3s						
CRMI	**Carmignano**	**0.27**	**177**	*i* P	**Pn**	**10 32 18.9**	**+0.3**
CRMI				S	**Sn**	**10 32 25.7**	**-1.0**
CRMI				AML	AML		
	comp=E,396μm,0.7s						
CRMI				AML	AML		
	comp=N,420μm,0.5s						
CRMI				AML	AML		
	comp=E,396μm,0.7s						
CRMI				AML	AML		
	comp=N,420μm,0.5s						
CRMI				AML	AML		
	comp=E,396μm,0.7s						
CRMI				AML	AML		
	comp=N,420μm,0.5s						
ZCCA	**Zocca**	**0.29**	**4**	P	**Pn**	**10 32 20.8**	**+2.0**
ZCCA				AML	AML		
	comp=E,844μm,1.1s						
ZCCA				AML	AML		
	comp=N,1044μm,0.7s						
ZCCA				AML	AML		
	comp=E,820μm,1.1s						
ZCCA				AML	AML		
	comp=N,1064μm,0.7s						
ZCCA				AML	AML		
	comp=E,844μm,1.1s						
ZCCA				AML	AML		
	comp=N,1042μm,0.7s						
ZCCA				AML	AML		
	comp=E,820μm,1.1s						
ZCCA				AML	AML		
	comp=N,1064μm,0.7s						
ZCCA				AML	AML		
	comp=E,844μm,1.1s						
ZCCA				AML	AML		
	comp=N,1044μm,0.7s						
ZCCA				AML	AML		
	comp=E,820μm,1.1s						
ZCCA				AML	AML		
	comp=N,1064μm,0.7s						
ZCCA				AML	AML		
	comp=E,820μm,1.1s						
ZCCA				AML	AML		
	comp=N,1064μm,0.7s						
ZCCA				AML	AML		
	comp=N,1042μm,0.7s						
ZCCA				AML	AML		
	comp=E,844μm,1.1s						
FIR	**Firenze**	**0.36**	**142**	P	**Pn**	**10 32 19.6**	**+0.4**
MAIM	**Mastiano**	**0.36**	**247**	P	**Pn**	**10 32 19.7**	**+0.4**
MAIM				S	**Sn**	**10 32 26.9**	**-0.9**
MAIM	**Mastiano**	**0.36**	**247**	P	**Pn**	**10 32 19.6**	**+0.4**
MAIM				S	**Sn**	**10 32 26.8**	**-0.9**
MAIM				AML	AML		
	comp=E,1122μm,0.5s						
MAIM				AML	AML		
	comp=N,664μm,1.0s						
MAIM				AML	AML		
	comp=E,1122μm,0.5s						
MAIM				AML	AML		
	comp=N,664μm,1.0s						
MAIM				AML	AML		
	comp=E,1122μm,0.5s						
MAIM				AML	AML		
	comp=N,664μm,1.0s						
MAIM				AML	AML		
	comp=N,664μm,1.0s						
MAIM				AML	AML		
	comp=E,1122μm,0.5s						
SARO	**Sassorosso**	**0.41**	**288**	P	**Pn**	**10 32 20.6**	**+0.8**
SARO				S	**Sn**	**10 32 28.8**	**+0.1**
VLC	**Villacollemand**	**0.42**	**284**	*i* P	**Pn**	**10 32 20.6**	**+0.8**
VLC				S	**Sn**	**10 32 28.6**	**0.0**
VLC				AML	AML		
	comp=E,851μm,0.2s						
VLC				AML	AML		
	comp=N,771μm,0.4s						
VLC				AML	AML		
	comp=E,895μm,0.1s						
VLC				AML	AML		
	comp=N,748μm,0.4s						
VLC				AML	AML		
	comp=E,851μm,0.2s						
VLC				AML	AML		
	comp=N,771μm,0.4s						
VLC				AML	AML		
	comp=E,895μm,0.1s						
VLC				AML	AML		
	comp=N,748μm,0.4s						
VLC				AML	AML		
	comp=N,748μm,0.4s						
VLC				AML	AML		
	comp=N,771μm,0.4s						
VLC				AML	AML		
	comp=E,895μm,0.1s						
VLC				AML	AML		
	comp=E,851μm,0.2s						
MTRZ	**Monterenzio**	**0.49**	**49**	P	**Pn**	**10 32 22.1**	**+1.7**
MTRZ				AML	AML		
MTRZ				AML	AML		
	comp=E,1268μm,1.4s						
MTRZ				AML	AML		
	comp=N,998μm,1.0s						
MTRZ				AML	AML		
	comp=E,1311μm,1.4s						
MTRZ				AML	AML		
	comp=N,974μm,1.0s						
MTRZ				AML	AML		
	comp=E,1269μm,1.4s						
MTRZ				AML	AML		
	comp=N,1002μm,1.0s						
MTRZ				AML	AML		
	comp=E,1311μm,1.4s						
MTRZ				AML	AML		
	comp=N,973μm,1.0s						
MTRZ				AML	AML		
	comp=E,1266μm,1.4s						
MTRZ				AML	AML		
	comp=N,998μm,1.0s						
MTRZ				AML	AML		
	comp=E,1312μm,1.4s						
MTRZ				AML	AML		
	comp=N,974μm,1.0s						
MTRZ				AML	AML		
	comp=N,1002μm,1.0s						
MTRZ				AML	AML		
	comp=E,1269μm,1.4s						
MTRZ				AML	AML		
	comp=E,1311μm,1.4s						
MTRZ				AML	AML		
	comp=N,973μm,1.0s						
EQUI	**Equi**	**0.58**	**281**	P	**Pn**	**10 32 22.3**	**+1.0**
EQUI				S	**Sn**	**10 32 31.3**	**0.0**
EQUI	**Equi**	**0.58**	**281**	*i* P	**Pn**	**10 32 22.3**	**+1.0**
EQUI				S	**Sn**	**10 32 31.3**	**0.0**
EQUI				AML	AML		
	comp=E,995μm,0.5s						
EQUI				AML	AML		
	comp=N,1490μm,0.4s						
EQUI				AML	AML		
	comp=E,995μm,0.5s						
EQUI				AML	AML		
	comp=N,1490μm,0.4s						
EQUI				AML	AML		
	comp=E,995μm,0.5s						
EQUI				AML	AML		
	comp=N,1490μm,0.4s						
EQUI				AML	AML		
	comp=N,1490μm,0.4s						
EQUI				AML	AML		
	comp=E,995μm,0.5s						
CSNT	**Castellina Chi**	**0.64**	**157**	P	**Pn**	**10 32 22.5**	**+0.6**
CSNT				S	**Sn**	**10 32 31.7**	**-0.6**
CSNT				AML	AML		
	comp=E,318μm,0.2s						
CSNT				AML	AML		
	comp=N,332μm,0.8s						
CSNT				AML	AML		
	comp=E,318μm,0.2s						
CSNT				AML	AML		
	comp=N,332μm,0.8s						
CSNT				AML	AML		
	comp=E,318μm,0.2s						
CSNT				AML	AML		
	comp=N,332μm,0.8s						
CSNT				AML	AML		
	comp=E,318μm,0.2s						
CSNT				AML	AML		
	comp=N,332μm,0.8s						
ASQU	**Asqua**	**0.66**	**113**	P	**Pn**	**10 32 22.4**	**+0.2**
ASQU				S	**Sn**	**10 32 31.9**	**-1.0**
ASQU				AML	AML		
	comp=E,622μm,1.0s						
ASQU				AML	AML		
	comp=N,435μm,1.2s						
ASQU				AML	AML		
	comp=E,622μm,1.0s						
ASQU				AML	AML		
	comp=N,435μm,1.2s						
ASQU				AML	AML		
	comp=N,435μm,1.2s						
ASQU				AML	AML		
	comp=E,622μm,1.0s						
SFI	**Santa Sofia**	**0.67**	**103**	P	**Pn**	**10 32 22.6**	**+0.4**
SFI				S	**Sn**	**10 32 32.3**	**-0.6**
SFI				AML	AML		
	comp=E,510μm,1.6s						
SFI				AML	AML		
	comp=N,549μm,0.2s						
SFI				AML	AML		
	comp=E,518μm,1.6s						
SFI				AML	AML		
	comp=N,579μm,0.2s						
SFI				AML	AML		
	comp=E,518μm,1.6s						
SFI				AML	AML		
	comp=N,579μm,0.2s						
SFI				AML	AML		
	comp=N,549μm,0.2s						
SFI				AML	AML		
	comp=E,510μm,1.6s						
SFI				AML	AML		
	comp=E,518μm,1.6s						
SFI				AML	AML		
	comp=N,579μm,0.2s						
NOVE	**Novellara**	**0.76**	**347**	P	**Pn**	**10 32 25.1**	**+2.0**
GRAM	**Graiana**	**0.77**	**305**	P	**Pn**	**10 32 26.2**	**+2.8**
SSP9	**Sansepolcro**	**0.98**	**119**	P	**Pn**	**10 32 26.6**	**+0.8**
PARC	**Parchiule**	**1.02**	**113**	P	**Pn**	**10 32 27.1**	**+0.8**
PARC				AML	AML		
	comp=E,120μm,1.6s						
PARC				AML	AML		
	comp=N,142μm,0.2s						
PARC				AML	AML		
	comp=E,120μm,1.6s						
PARC				AML	AML		
	comp=N,142μm,0.2s						
PARC				AML	AML		
	comp=N,142μm,0.2s						
PARC				AML	AML		
	comp=E,120μm,1.6s						
CPGN	**Carpegna, Ital**	**1.02**	**104**	P	**Pn**	**10 32 29.1**	**+2.5**
CPGN				AML	AML		
	comp=E,256μm,1.4s						
CPGN				AML	AML		
	comp=N,585μm,1.1s						
CPGN				AML	AML		
	comp=E,256μm,1.4s						
CAFI	**Castiglion Fio**	**1.04**	**134**	P	**Pn**	**10 32 27.3**	**+0.7**
CAFI				AML	AML		
	comp=E,142μm,0.5s						
CAFI				AML	AML		
	comp=N,230μm,0.3s						
CAFI				AML	AML		
	comp=E,142μm,0.5s						
CAFI				AML	AML		
	comp=N,230μm,0.3s						
CAFI				AML	AML		
	comp=N,230μm,0.3s						
CAFI				AML	AML		
	comp=E,142μm,0.5s						
BADI	**Badiali**	**1.09**	**120**	P	**Pn**	**10 32 27.6**	**+0.4**
BADI				S	**Sn**	**10 32 41.4**	**-0.4**
BADI				AML	AML		
	comp=E,250μm,0.3s						
BADI				AML	AML		
	comp=N,401μm,0.2s						
BADI				AML	AML		
	comp=E,251μm,0.3s						
BADI				AML	AML		
	comp=N,400μm,0.2s						
BADI				AML	AML		
	comp=N,401μm,0.2s						
BADI				AML	AML		
	comp=E,250μm,0.3s						
ATMC	**Monte Cedrone**	**1.09**	**124**	P	**Pn**	**10 32 27.5**	**+0.2**
ATMC				AML	AML		
	comp=E,271μm,1.2s						
ATMC				AML	AML		
	comp=N,274μm,1.1s						
ATMC				AML	AML		

	comp=E,272µm,1.2s							
ATMC					AML	AML		
	comp=N,274µm,1.1s							
ATMC					AML	AML		
	comp=N,274µm,1.1s							
ATMC					AML	AML		
	comp=E,271µm,1.2s							
PE3	**Peglio**	**1.18**	**107**	P	**Pn**		**10 32 30.2**	**+1.8**
PE3				AML	AML			
	comp=E,357µm,0.5s							
PE3				AML	AML			
	comp=N,398µm,0.5s							
PE3				AML	AML			
	comp=E,357µm,0.5s							
PE3				AML	AML			
	comp=N,398µm,0.5s							
PE3				AML	AML			
	comp=E,357µm,0.5s							
PE3				AML	AML			
	comp=N,398µm,0.5s							
ATPI	**Pietralunga -**	**1.22**	**119**	P	**Pn**		**10 32 29.4**	**+0.5**
ATPC	**Poggio Castell**	**1.24**	**117**	P	**Pn**		**10 32 29.9**	**+0.7**
ATPC				AML	AML			
	comp=E,183µm,0.5s							
ATPC				AML	AML			
	comp=N,140µm,0.6s							
ATPC				AML	AML			
	comp=E,183µm,0.5s							
ATPC				AML	AML			
	comp=N,140µm,0.6s							
ATPC				AML	AML			
	comp=E,183µm,0.5s							
ATVA	**AVT- Monte Val**	**1.24**	**128**	P	**Pn**		**10 32 29.7**	**+0.5**
ATVO	**AVT- Monte Val**	**1.25**	**122**	P	**Pn**		**10 32 29.9**	**+0.5**
ATVO				AML	AML			
	comp=E,178µm,0.6s							
ATVO				AML	AML			
	comp=N,110µm,1.3s							
ATVO				AML	AML			
	comp=E,178µm,0.6s							
ATVO				AML	AML			
	comp=N,110µm,1.3s							
ATVO				AML	AML			
	comp=E,178µm,0.6s							
ATVO				AML	AML			
	comp=N,110µm,1.3s							
NARO	**Abbazia di Nar**	**1.26**	**110**	P	**Pn**		**10 32 30.7**	**+1.3**
NARO				AML	AML			
	comp=E,76µm,1.3s							
NARO				AML	AML			
	comp=N,78µm,0.7s							
NARO				AML	AML			
	comp=E,76µm,1.3s							
NARO				AML	AML			
	comp=N,78µm,0.7s							
CASP	**Castiglione de**	**1.27**	**183**	P	**Pn**		**10 32 30.5**	**+1.0**
ATBU	**Serra di Buran**	**1.30**	**116**	P	**Pn**		**10 32 31.0**	**+1.0**
ATBU				AML	AML			
	comp=E,200µm,0.8s							
ATBU				AML	AML			
	comp=N,241µm,0.8s							
ATBU				AML	AML			
	comp=E,200µm,0.8s							
ATBU				AML	AML			
	comp=N,241µm,0.8s							
ATBU				AML	AML			
	comp=N,241µm,0.8s							
ATBU				AML	AML			
	comp=E,200µm,0.8s							
GORR	**Gorreto**	**1.31**	**295**	P	**Pn**		**10 32 32.6**	**+2.5**
PESA	**Pesaro**	**1.37**	**94**	P	**Pn**		**10 32 31.9**	**+1.1**
FSSB	**Fossombrone**	**1.37**	**105**	AML	AML			
	comp=N,354µm,0.3s							
FSSB				AML	AML			
	comp=E,329µm,0.3s							
FSSB				AML	AML			
	comp=N,354µm,0.3s							
FSSB				AML	AML			
	comp=E,329µm,0.3s							
MPAG	**Monte Paganucc**	**1.38**	**108**	P	**Pn**		**10 32 32.5**	**+1.5**
MPAG				AML	AML			
	comp=E,101µm,1.6s							
MPAG				AML	AML			
	comp=N,90µm,1.2s							
MPAG				AML	AML			
	comp=E,101µm,1.6s							
MPAG				AML	AML			
	comp=N,90µm,1.2s							
MURB	**Monte Urbino**	**1.39**	**124**	P	**Pn**		**10 32 31.8**	**+0.5**
MURB				AML	AML			
	comp=E,362µm,0.3s							
MURB				AML	AML			
	comp=N,392µm,0.3s							
MURB				AML	AML			
	comp=E,362µm,0.3s							
MURB				AML	AML			
	comp=N,392µm,0.3s							
MURB				AML	AML			
	comp=E,362µm,0.3s							
MURB				AML	AML			
	comp=N,392µm,0.3s							
TEOL	**Teolo**	**1.40**	**21**	*e*Pg	**Pn**		**10 32 31.2**	**0.0**
TEOL				*e*Sg	**Sn**		**10 32 47.6**	**-1.4**
TEOL	**Teolo**	**1.40**	**21**	P	**Pn**		**10 32 31.1**	**-0.2**
TEOL				AML	AML			
	comp=E,363µm,0.7s							
TEOL				AML	AML			
	comp=N,399µm,0.6s							
TEOL				AML	AML			
	comp=N,399µm,0.6s							
TEOL				AML	AML			
	comp=E,363µm,0.7s							
MARN	**Marana (Italy)**	**1.59**	**7**	*e*Pg	**Pn**		**10 32 33.7**	**-0.1**
MARN				*e*Sg	**Sn**		**10 32 52.2**	**-1.3**
BALD	**Monte Baldo**	**1.63**	**357**⇑	*e*Pg	**Pn**		**10 32 34.6**	**+0.1**
BALD				*e*Sg	**Sn**		**10 32 53.6**	**-1.1**
MAGA	**Magasa**	**1.73**	**353**	P	**Pn**		**10 32 35.9**	**+0.2**
MAGA				AML	AML			
	comp=E,294µm,0.4s							
MAGA				AML	AML			
	comp=N,204µm,0.2s							
MAGA				AML	AML			
	comp=N,204µm,0.2s							
MAGA				AML	AML			
	comp=E,294µm,0.4s							
DOSS	**Dosso del Somm**	**1.83**	**5**	*e*Pg	**Pn**		**10 32 37.1**	**0.0**
DOSS				*e*Sg	**Sn**		**10 32 58.5**	**-1.0**
QLNO	**Quiliano**	**1.89**	**279**	P	**Pn**		**10 32 39.0**	**+1.2**
RNI	**Roncone**	**1.94**	**353**⇓	*e*Pg	**Pn**		**10 32 39.3**	**+0.7**
RNI				*e*Sg	**Sn**		**10 33 01.3**	**-0.8**
ARRO	**Arrone**	**1.99**	**137**	AML	AML			
	comp=N,66µm,1.5s							
ARRO				AML	AML			
	comp=E,73µm,1.5s							
ARRO				AML	AML			
	comp=N,66µm,1.5s							
ARRO				AML	AML			
	comp=E,73µm,1.5s							
PANI	**Panarotta**	**2.01**	**8**	*e*Pg	**Pn**		**10 32 39.8**	**+0.2**
CTI	**Castel Tesino**	**2.05**	**14**	P	**Pn**		**10 32 40.0**	**0.0**
CTI				AML	AML			
	comp=E,404µm,0.2s							
CTI				AML	AML			
	comp=N,402µm,1.5s							
CTI				AML	AML			
	comp=E,404µm,0.2s							
CTI				AML	AML			
	comp=N,402µm,1.5s							
PGF	**Pioggiola**	**2.07**	**224**	*e*Pn	**Pn**		**10 32 41.9**	**+1.6**
PGF				*e*Sn	**Sn**		**10 33 05.5**	**+0.2**
	comp=N,13nm,0.2s							
POLC	**Polcenigo**	**2.25**	**29**	P	**Pn**		**10 32 43.0**	**+0.3**
POLC				AML	AML			
	comp=E,252µm,0.4s							
POLC				AML	AML			
	comp=N,340µm,0.3s							
POLC				AML	AML			
	comp=N,340µm,0.3s							
POLC				AML	AML			
	comp=E,252µm,0.4s							
MUGIO	**Muggio**	**2.30**	**325**	P	**Pn**		**10 32 44.0**	**+0.7**
MUGIO				AML	AML			
	comp=E,86µm,0.3s							
MUGIO				AML	AML			
	comp=N,92µm,0.3s							
MUGIO				AML	AML			
	comp=E,86µm,0.3s							
MUGIO				AML	AML			
	comp=N,92µm,0.3s							
OZOL	**Ozolo**	**2.35**	**2**	*e*Pg	**Pn**		**10 32 45.0**	**+1.0**
OZOL				*e*Sg	**Sn**		**10 33 11.0**	**-0.9**
CARE	**Lago del Cares**	**2.37**	**356**	*e*Pg	**Pn**		**10 32 45.5**	**+0.9**
CARE				*e*Sg	**Sn**		**10 33 12.2**	**-0.6**
KOSI	**Kohlern**	**2.42**	**7**	AML	AML			
	comp=N,104µm,0.4s							
KOSI				AML	AML			
	comp=E,88µm,0.9s							
KOSI				AML	AML			
	comp=N,104µm,0.4s							
KOSI				AML	AML			
	comp=E,88µm,0.9s							
APPI	**Appiano**	**2.43**	**5**	P	**Pn**		**10 32 46.2**	**+1.1**
APPI				AML	AML			
	comp=E,162µm,0.5s							
APPI				AML	AML			
	comp=N,190µm,0.4s							
APPI				AML	AML			
	comp=N,190µm,0.4s							
APPI				AML	AML			
	comp=E,162µm,0.5s							
CIMO	**Cimolais**	**2.49**	**25**	*e*Pg	**Pn**		**10 32 45.8**	**0.0**
CIMO				*e*Sg	**Sn**		**10 33 13.6**	**-1.6**
STAL	**STALIGIAL**	**2.53**	**29**	AML	AML			
	comp=E,322µm,0.3s							
STAL				AML	AML			
	comp=N,226µm,1.0s							
STAL				AML	AML			
	comp=N,226µm,1.0s							
STAL				AML	AML			
	comp=E,322µm,0.3s							
SBF	**Sospel**	**2.54**	**267**	*e*Pn	**Pn**		**10 32 48.2**	**+1.5**
SBF				*e*Sn	**Sn**		**10 33 16.5**	**-0.1**
	comp=E,19nm,0.2s							
MOSI	**Grossmontoni**	**2.57**	**354**	AML	AML			
	comp=E,142µm,0.9s							
MOSI				AML	AML			
	comp=E,142µm,0.9s							
MOSI				AML	AML			
	comp=N,142µm,0.5s							
MOSI				AML	AML			
	comp=N,142µm,0.5s							
MPRI	**Monte Prat**	**2.62**	**33**	*e*Pg	**Pn**		**10 32 48.1**	**+0.5**
MPRI				*e*Sg	**Sn**		**10 33 17.8**	**-0.5**
SABO	**M.te Sabotino**	**2.69**	**43**	*e*Pg	**Pn**		**10 32 48.6**	**+0.1**
SABO				*e*Sg	**Sn**		**10 33 19.2**	**-0.8**
MVIF	**Mont Vial**	**2.75**	**268**	Pg	**Pn**		**10 32 50.4**	**+1.0**
MVIF				Sn	**Sn**		**10 33 21.4**	**-0.2**
NVLJ	**Novalja**	**2.86**	**78**	*e*Pn	**Pn**		**10 32 50.9**	**0.0**
NVLJ				Sn	**Sn**		**10 33 20.9**	**-3.2**
ABTA	**Abfaltersbach**	**2.91**	**22**	*e*Pn	**Pn**		**10 32 53.1**	**+1.5**
	comp=N,0.9nm,0.1s							
ABTA				*e*Sn	**Sn**		**10 33 25.5**	**+0.1**
	comp=N,6.1nm,0.2s							
CALF	**Calern**	**2.93**	**265**	Pg	**Pn**		**10 32 53.9**	**+2.0**
CALF				Sn	**Sn**		**10 33 26.5**	**+0.5**
FETA	**Feichten**	**2.97**	**357**	*i* Pn	**Pn**		**10 32 54.8**	**+2.4**
	comp=N,0.8nm,0.4s							
FETA				*e*Sn	**Sn**		**10 33 28.9**	**+1.8**
	comp=N,2.2nm,0.4s							
RISI	**Rein**	**3.00**	**15**	AML	AML			
	comp=E,228µm,0.4s							
RISI				AML	AML			
	comp=E,228µm,0.4s							
RISI				AML	AML			
	comp=N,254µm,0.4s							
RISI				AML	AML			
	comp=N,254µm,0.4s							
MBDF	**Montbardon**	**3.07**	**284**	*e*Pg	**Pn**		**10 32 55.1**	**+1.3**
MBDF				*e*Sn	**Sn**		**10 33 28.3**	**-1.2**
	comp=N,1.5nm,0.2s							
FRF	**La Foret Royal**	**3.15**	**262**	*e*Pn	**Pn**		**10 32 56.7**	**+1.8**
FRF				*e*Sn	**Sn**		**10 33 30.2**	**-1.1**
	comp=N,19nm,0.3s							
SQTA	**Sankt Quirin**	**3.17**	**3**	*i* Pn	**Pn**		**10 32 57.2**	**+2.0**
	comp=N,5.8nm,0.3s							
SQTA				*e*Sn	**Sn**		**10 33 33.7**	**+1.9**
	comp=N,14nm,0.4s							
MOTA	**Moosalm**	**3.29**	**2**	*e*Pn	**Pn**		**10 33 00.4**	**+3.6**
	comp=N,1.4nm,0.2s							
MOTA				*e*Sn	**Sn**		**10 33 38.4**	**+3.5**
	comp=N,3.4nm,0.3s							
LMR	**La Mourre**	**3.30**	**259**	*e*Pn	**Pn**		**10 32 58.4**	**+1.5**
LMR				*e*Sn	**Sn**		**10 33 33.6**	**-1.3**
	comp=N,2.6nm,0.2s							
WATA	**Walderalm**	**3.31**	**7**	*i* Pn	**Pn**		**10 32 59.6**	**+2.5**
	comp=N,3.1nm,0.2s							
WATA				*i* Sn	**Sn**		**10 33 38.0**	**+2.7**
	comp=N,3.2nm,0.2s							
DAVA	**Damuels**	**3.31**	**347**	*i* Sn	**Sn**		**10 33 37.4**	**+1.9**
	comp=N,9.6nm,0.3s							
LPG	**La Plagne**	**3.32**	**297**	*e*Pn	**Pn**		**10 32 57.9**	**+0.5**
LPG				*e*Sn	**Sn**		**10 33 33.9**	**-1.9**
	comp=N,2.2nm,0.2s							
LPL	**La Plagne**	**3.34**	**297**	*e*Pn	**Pn**		**10 32 56.6**	**-1.0**
LPL				*e*Sn	**Sn**		**10 33 34.9**	**-1.2**
	comp=N,4.9nm,0.3s							
KBA	**Koelnbreinsper**	**3.46**	**28**	*i* Sn	**Sn**		**10 33 38.8**	**-0.2**
	comp=N,5.6nm,0.2s							
OZLJ	**Ozalj**	**3.57**	**63**	Sn	**Sn**		**10 33 38.2**	**-3.2**
ORIF	**Oris-en-Rattie**	**3.73**	**285**	*e*Pn	**Pn**		**10 33 05.5**	**+2.7**
ORIF				*e*Sn	**Sn**		**10 33 44.4**	**-1.1**
	comp=N,0.8nm,0.2s							
ORIF	**Oris-en-Rattie**	**3.73**	**285**	Pg	**Pn**		**10 33 05.7**	**+2.9**
SMRF	**Simiane la Rot**	**3.88**	**271**	*e*Pn	**Pn**		**10 33 07.4**	**+2.6**
SMRF				*e*Sg	**Sn**		**10 33 47.3**	**-1.8**
	comp=N,2.6nm,0.3s							
CABF	**La Chapelle**	**4.27**	**308**	*e*Pn	**Pn**		**10 33 11.4**	**+1.2**
CABF				*e*Sn	**Sn**		**10 33 56.5**	**-2.3**
LOMF	**Lomont**	**4.38**	**320**	Pg	**Pn**		**10 33 13.2**	**+1.6**
LOMF				Sn	**Sn**		**10 33 55.4**	**-6.0**
MOA	**Molln**	**4.44**	**30**	*i* Pn	**Pn**		**10 33 13.8**	**+1.4**
MOA				*i* Sn	**Sn**		**10 34 02.7**	**-0.1**
	comp=N,2.7nm,0.2s							
HINF	**Hinteralfeld**	**4.72**	**324**	*e*Pn	**Pn**		**10 33 17.6**	**+1.3**
HINF				*e*Sn	**Sn**		**10 34 07.0**	**-2.7**
ECH	**Echery**	**4.92**	**329**	Pg	**Pn**		**10 33 22.0**	**+3.0**
ECH				Sn	**Sn**		**10 34 07.6**	**-7.0**
CDF	**Champ du Feu**	**5.04**	**331**	*e*Pn	**Pn**		**10 33 22.0**	**+1.3**
CDF				*e*Sn	**Sn**		**10 34 14.5**	**-3.2**
HAU	**Haudompre**	**5.08**	**323**	*e*Pn	**Pn**		**10 33 22.1**	**+0.9**
HAU				*e*Sn	**Sn**		**10 34 15.4**	**-3.2**
CONA	**Conrad Observa**	**5.17**	**40**	*e*Sn	**Sn**		**10 34 19.1**	**-1.5**
	comp=N,2.8nm,0.3s							
SMF	**Signal de Mont**	**5.64**	**300**	*e*Pn	**Pn**		**10 33 29.0**	**+0.2**
SMF				*e*Sn	**Sn**		**10 34 29.8**	**-2.3**
	comp=N,1.8nm,0.2s							
LOR	**Lormes**	**5.92**	**305**	*e*Pn	**Pn**		**10 33 33.0**	**+0.4**
	baz=119							
LOR				*e*Sn	**Sn**		**10 34 36.3**	**-2.6**
	comp=N,2.4nm,0.2s							
AVF	**Avril sur Loir**	**6.00**	**300**	*e*Pn	**Pn**		**10 33 34.0**	**+0.3**
AVF				*e*Sn	**Sn**		**10 34 39.3**	**-1.7**
	comp=N,2.0nm,0.2s							
TCF	**Toulx Ste Croi**	**6.57**	**293**	*e*Pn	**Pn**		**10 33 42.2**	**+0.7**
TCF				*e*Sn	**Sn**		**10 34 51.3**	**-3.6**
	comp=N,1.0nm,0.2s							

IDC ***22*** *10:43:03.1±0.6,39.˚38N×73.˚15E,h0km,mb4.0/20, mb1 4.2/25,mb1mx4.1/50,mbtmp4.0/25,ML3.4/5,MS3.4/3, Ms1 3.4/3,ms1mx2.9/50,Error ellipse: s-maj=13.3km s-min=10.2km az=141.0*

SOME ***22*** *10:43:04.9,39.˚67N×73.˚18E,h0km*

KRNET ***22*** *10:43:04.2±0.1,39.˚52N×73.˚18E,h14km,mb4.1*

BJI ***22*** *10:43:06.0,39.˚51N×72.˚66E,h57km,mb4.4/31,mB4.5/16, ML4.2/4,Ms3.9/10,Ms7 3.9/12*

NNC ***22*** *10:43:06.7±1.2,39.˚62N×73.˚08E,h0km,mb4.7,mpv4.4, Error ellipse: s-maj=11.1km s-min=5.8km az=154.0*

MOS ***22*** *10:43:08.4±1.1,39.˚42N×73.˚13E,h51km,mb4.4/28,Error ellipse: s-maj=7.5km s-min=4.8km az=80.6*

NEIC ***22*** *10:43:10.0±0.5,39.˚44N×73.˚11E,h51km±4km,mb4.3/14, Error ellipse: s-maj=5.1km s-min=3.6km az=173.0*

ISC 22 10:43:04.8±1.0,39.˚55N±0.˚03×73.˚11E±0.˚02,h3km±6km, n235,σ2ˢ42/263,mb4.4/50,MS4.2/7,51C-39D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.55**	**33**	⇑P	**Pg**	**10 43 15.2**	**-0.3**
	174nm,0.3s						
SFK				⇑S	**Sg**	**10 43 24.4**	**+1.8**
	258nm,0.2s						
SFK	**Sufi-Kurgan**	**0.55**	**33**	Pg	**Pg**	**10 43 15.1**	**-0.3**
SFK				Lg	Lg	10 43 24.0	
SFK	**Sufi-Kurgan**	**0.55**	**33**	P	**Pg**	**10 43 15.1**	**-0.3**
SFK				S	**Sg**	**10 43 24.4**	**+1.8**
SFK				pmax	pmax		
	comp=Z,174nm,0.3s						
SFK				smax	smax		
	comp=E,258nm,0.2s						
SFK	**Sufi-Kurgan**	**0.55**	**33**	⇑*i*P	**Pg**	**10 43 15.2**	**-0.3**
	baz=26						
SFK				⇑*i*S	**Sg**	**10 43 22.6**	**0.0**
	baz=26						
DRK	**Karamyk**	**1.01**	**267**	⇑*i*P	**Pg**	**10 43 24.0**	**-0.2**
	baz=69						
DRK				⇑*i*S	**Sg**	**10 43 39.3**	**+1.9**
	baz=69						
ARSB	**Arslanbob**	**1.77**	**357**	⇓*i*P	**Pn**	**10 43 38.2**	**+1.6**
	baz=55						
ARSB				⇓*i*S	**Sg**	**10 44 02.3**	**+0.5**
	baz=55						
BTK	**Batken**	**1.84**	**287**	*e*Pn	**Pn**	**10 43 38.2**	**+0.9**
BTK	**Batken**	**1.84**	**287**	*e*PN	**Pn**	**10 43 38.2**	**+0.9**
BTK	**Batken**	**1.84**	**287**⇓	*e*P	**Pn**	**10 43 39.5**	**+2.2**
	baz=87						
BTK				⇓*i*S	**Sg**	**10 44 04.7**	**+1.0**
	baz=87						
KSH	**Kashi**	**2.22**	**90**	P	Pn	10 43 40.1	-2.5
KSH				S	Sn	10 43 59.6	-11
ARK	**Arkit**	**2.41**	**339**	⇑*i*P	**Pn**	**10 43 47.4**	**+2.2**
	baz=38						
ARK				⇑*i*S	**Sb**	**10 44 18.5**	**-0.5**
	baz=38						
ARLS	**Aral**	**2.49**	**21**	⇓*i*P	**Pn**	**10 43 48.6**	**+2.2**
	baz=20						
ARLS				⇓*i*S	**Sb**	**10 44 20.2**	**-1.1**
	baz=20						
AML	**Almayashu**	**2.62**	**10**	P	**Pb**	**10 43 52.1**	**-0.5**
	SNR=228						
AML	**Almayashu**	**2.62**	**10**	⇓*i*P	**Pn**	**10 43 50.4**	**+2.0**
	baz=8.0						
AML				⇓*i*S	**Sb**	**10 44 24.1**	**-1.2**
	baz=8.0						
UCH	**Uchtor**	**2.88**	**21**	P	**Pn**	**10 43 55.5**	**+3.5**
	SNR=79						
UCH	**Uchtor**	**2.88**	**21**	⇓*i*P	**Pn**	**10 43 54.1**	**+2.1**
	baz=20						
UCH				⇓*i*S	**Sn**	**10 44 30.1**	**+2.7**
	baz=20						
NRN	**Naryn**	**2.90**	**49**	*e*Pn	**Pn**	**10 43 54.6**	**+2.4**
NRN	**Naryn**	**2.90**	**49**	*e*PN	**Pn**	**10 43 54.6**	**+2.4**
NRN	**Naryn**	**2.90**	**49**⇑	*i*P	**Pn**	**10 43 54.0**	**+1.8**
	baz=47						
NRN				⇑*i*S	**Sn**	**10 44 29.6**	**+1.9**
	baz=47						
MNAS	**Manas**	**2.97**	**351**	⇑Pg	**Pb**	**10 43 57.1**	**-1.3**
	comp=E,48nm,0.4s						
MNAS				⇓Lg	Lg	10 44 37.6	
	comp=E,321nm,0.6s						
MNAS	**Manas**	**2.97**	**351**	Pg	**Pb**	**10 43 58.5**	**+0.1**
	comp=E,49nm,0.5s						
MNAS				Lg	Lg	10 44 38.3	
	comp=E,173nm,0.5s						
MNAS	**Manas**	**2.97**	**351**	PN	**Pb**	**10 43 57.1**	**-1.3**
MNAS				pmax	pmax		
	comp=Z,48nm,0.4s						
MNAS	**Manas**	**2.97**	**351**⇑	*i*P	**Pn**	**10 43 55.4**	**+2.4**
	baz=50						
MNAS				⇑*i*S	**Sn**	**10 44 32.2**	**+3.0**
	baz=50						
KZA	**Kyzart**	**3.00**	**32**	P	**Pn**	**10 43 56.9**	**+3.2**
	SNR=44						
KZA	**Kyzart**	**3.00**	**32**⇓	*i*P	**Pn**	**10 43 55.8**	**+2.1**
	baz=31						
KZA				⇓*i*S	**Sn**	**10 44 33.1**	**+2.7**
	baz=31						
EKS2	**Erkin-Say**	**3.15**	**9**	P	**Pb**	**10 44 00.1**	**-1.4**
	SNR=55						
EKS2	**Erkin-Say**	**3.15**	**9**⇓	*e*P	**Pn**	**10 43 57.4**	**+2.0**
	baz=8.0						
EKS2				⇓*i*S	**Sn**	**10 44 35.7**	**+2.1**
	baz=8.0						
MRKS	**Merke**	**3.19**	**2**	Pg	**Pb**	**10 44 03.6**	**+1.4**
	comp=Z,115nm,0.6s						
MRKS				Lg	Lg	10 44 46.8	
	comp=Z,341nm,0.6s						
MRKS	**Merke**	**3.19**	**2**	*e*P	**Pn**	**10 43 59.3**	**+3.3**
	comp=Z,20nm,0.6s						
MRKS				*e*S	**Sn**	**10 44 38.6**	**+3.9**
	comp=Z,341nm,0.6s						
AAK	**Ala-Archa**	**3.26**	**18**	Pn	**Pn**	**10 44 01.1**	**+4.1**
	comp=Z,28nm,0.3s,baz=186,slow=11,SNR=248						
AAK				Sn	**Sb**	**10 44 43.2**	**-0.3**
	comp=Z,19nm,0.3s,baz=91,slow=20,SNR=16						
AAK				LR	LR	10 45 29.0	
	comp=Z,247nm,21.9s,baz=304,slow=43						
AAK	**Ala-Archa**	**3.26**	**18**	P	**Pn**	**10 44 01.4**	**+4.5**
	SNR=49						
AAK	**Ala-Archa**	**3.26**	**18**	⇑Pn	**Pn**	**10 44 00.7**	**+3.8**
	comp=Z,95nm,0.6s						
AAK				⇓Sn	**Sn**	**10 44 40.3**	**+3.9**
	comp=Z,241nm,0.7s						
AAK	**Ala-Archa**	**3.26**	**18**⇑	*i*P	**Pn**	**10 43 58.9**	**+1.9**
	baz=17						
AAK				⇑*i*S	**Sn**	**10 44 38.7**	**+2.3**
	baz=17						
KBK	**Karagaybulak**	**3.40**	**24**	P	**Pn**	**10 44 03.0**	**+4.0**
	SNR=32						
KBK	**Karagaybulak**	**3.40**	**24**⇑	*i*P	**Pn**	**10 44 01.1**	**+2.2**
	baz=22						
KBK				⇑*i*S	**Sn**	**10 44 42.2**	**+2.3**
	baz=22						
FRU1	**Bishkek**	**3.45**	**19**	*e*Pn	**Pn**	**10 44 03.2**	**+3.6**
FRU1	**Bishkek**	**3.45**	**19**	*e*PN	**Pn**	**10 44 03.2**	**+3.6**
FRU	**Bishkek**	**3.47**	**19**⇑	*i*PN	**Pn**	**10 44 04.0**	**+4.2**
FRU				*e*S	**Sb**	**10 44 51.0**	**+1.4**
FRU				pmax	pmax		
	comp=Z,21nm,1.9s						
FRU				smax	smax		
	comp=E,1µm,1.9s						
ULHL	**Ulahol**	**3.59**	**40**	P	**Pn**	**10 44 06.0**	**+4.4**
	SNR=8.0						
ULHL	**Ulahol**	**3.59**	**40**⇑	*i*P	**Pn**	**10 44 03.9**	**+2.3**
	baz=39						
ULHL				⇑*i*S	**Sn**	**10 44 46.4**	**+1.8**
	baz=39						
BOOM	**Boomskoye usch**	**3.64**	**35**⇓	*i*P	**Pn**	**10 44 04.6**	**+2.4**
	baz=34						
BOOM				⇓*i*S	**Sn**	**10 44 47.6**	**+1.9**
	baz=34						
CHMS	**Chumysh**	**3.66**	**19**	P	**Pn**	**10 44 06.3**	**+4.0**
	SNR=69						
CHMS	**Chumysh**	**3.66**	**19**⇓	*i*P	**Pn**	**10 44 04.6**	**+2.2**
	baz=18						
CHMS				⇓*i*S	**Sn**	**10 44 48.3**	**+2.2**
	baz=18						
CHM	**Chimkent**	**3.83**	**317**	*e*P	**Pb**	**10 44 14.1**	**+1.0**
	comp=E,135nm,0.3s						
CHM				*e*S	**Sb**	**10 45 03.9**	**+4.0**
	comp=E,683nm,0.5s						
TKM2	**Tokmak 2**	**3.86**	**28**	P	**Pn**	**10 44 09.0**	**+3.8**
	SNR=19						
TKM2	**Tokmak 2**	**3.86**	**28**	⇑Pn	**Pn**	**10 44 08.8**	**+3.5**
	comp=E,23nm,0.6s						
TKM2				⇓Lg	Lg	10 45 09.4	
	comp=E,79nm,0.5s						
TKM2	**Tokmak 2**	**3.86**	**28**	PN	**Pn**	**10 44 08.7**	**+3.5**
TKM2				pmax	pmax		
	comp=Z,23nm,0.6s						
TKM2	**Tokmak 2**	**3.86**	**28**⇑	*e*P	**Pn**	**10 44 07.3**	**+2.1**
	baz=27						
TKM2				⇑*i*S	**Sn**	**10 44 52.9**	**+1.7**
	baz=27						
USP	**Ospenovka**	**3.86**	**15**	P	**Pn**	**10 44 08.8**	**+3.7**
	SNR=30						
USP	**Ospenovka**	**3.86**	**15**⇑	*i*P	**Pn**	**10 44 07.4**	**+2.3**
	baz=14						
USP				⇑*i*S	**Sn

KK31 Karatay Array 4.05 332 ⇑Pn **Pn 10 44 10.9 +3.1**
comp=Z,87nm,0.8s,baz=137,slow=14,SNR=253
KK31 ⇓Lg Lg 10 45 15.2
comp=Z,101nm,0.6s,baz=149,slow=28,SNR=4.7
KK31 Karatay Array 4.05 332 *e*PN **Pn 10 44 10.2 +2.5**
KK31 pmax pmax
comp=E,87nm,0.8s
SGDS Sogindy 4.06 16 Pg **Pb 10 44 19.8 +2.8**
comp=Z,60nm,0.5s
SGDS Lg Lg 10 45 13.7
comp=Z,121nm,0.6s
KST Kastek 4.10 31 Pg **Pb 10 44 20.1 +2.4**
comp=Z,73nm,0.6s
KST Lg Lg 10 45 14.5
comp=Z,200nm,0.7s
KST Kastek 4.10 31 *e*P **Pb 10 44 20.1 +2.4**
comp=Z,73nm,0.6s
KST *e*S **Sg 10 45 14.5 -1.9**
comp=E,200nm,0.7s
TARG Taragay, Kyrgy 4.18 57 *e*Pn **Pn 10 44 12.7 +2.8**
TARG *e*Sn **Sn 10 45 02.9 +3.4**
DGS Degeres 4.20 28 Pg **Pb 10 44 22.3 +3.0**
comp=Z,59nm,0.6s
DGS Lg Lg 10 45 18.7
comp=Z,243nm,0.8s
DGS Degeres 4.20 28 *e*P **Pb 10 44 23.0 +3.6**
comp=Z,60nm,0.6s
DGS *e*S **Sg 10 45 19.2 -0.4**
comp=Z,243nm,0.8s
TNSS Tian-Shan 4.53 38 Pg **Pb 10 44 29.2 +4.1**
comp=Z,75nm,0.6s
TNSS Lg Lg 10 45 30.0
comp=Z,171nm,0.5s
TNSS Tian-Shan 4.53 38 *e*P **Pb 10 44 29.2 +4.1**
comp=Z,75nm,0.6s
TNSS *e*S **Sg 10 45 30.0 -0.2**
comp=Z,171nm,0.5s
AAA Alma-Ata 4.64 37 *e*P **Pb 10 44 31.6 +4.7**
comp=Z,25nm,0.1s
AAA *e*S **Sg 10 45 33.5 -0.4**
comp=Z,273nm,0.7s
MDOK Medeo 4.67 38 ⇑Pg **Pb 10 44 32.1 +4.7**
comp=Z,92nm,1.0s
MDOK ⇑Lg Lg 10 45 33.5
comp=Z,179nm,0.8s
MDOK Medeo 4.67 38 Pg **Pb 10 44 32.0 +4.6**
comp=Z,60nm,0.8s
MDOK Lg Lg 10 45 34.2
comp=Z,134nm,0.8s
MDOK Medeo 4.67 38 ⇑*i*P **Pb 10 44 32.0 +4.6**
comp=Z,60nm,0.8s
MDOK ⇓*i*S **Sg 10 45 34.2 -0.6**
comp=Z,134nm,0.8s
KNDC Almaty 4.67 37 ⇓Pg **Pb 10 44 29.4 +2.0**
comp=Z,137nm,0.7s
KNDC ⇑Lg Lg 10 45 34.5
comp=Z,774nm,0.8s
KOTS Kotyrbulak 4.76 38 Pg **Pb 10 44 32.9 +4.0**
comp=Z,74nm,0.6s
KOTS Lg Lg 10 45 36.9
comp=Z,377nm,0.6s
KOTS Kotyrbulak 4.76 38 *e*P **Pb 10 44 32.9 +4.0**
comp=Z,24nm,0.5s
KOTS *e*S **Sg 10 45 37.0 -0.5**
comp=Z,377nm,0.6s
KTBS Karatobe 4.95 32 Pg **Pb 10 44 35.6 +3.6**
comp=Z,37nm,0.7s
KTBS Lg Lg 10 45 41.6
comp=Z,130nm,0.6s
KTBS Karatobe 4.95 32 *e*P **Pb 10 44 35.6 +3.6**
comp=Z,37nm,0.7s
KTBS *e*S **Sg 10 45 41.6 -2.0**
comp=Z,130nm,0.6s
PRZ Przheval'sk 4.96 52 *e*Pn **Pn 10 44 23.9 +3.5**
PRZ Przheval'sk 4.96 52 *e*PN **Pn 10 44 23.9 +3.5**
KUU Kurty 4.97 28 Pg **Pb 10 44 35.9 +3.5**
comp=Z,33nm,0.6s
KUU Lg Lg 10 45 41.6
comp=Z,174nm,0.8s
KUU Kurty 4.97 28 *e*P **Pb 10 44 35.9 +3.5**
comp=Z,33nm,0.6s
KUU *e*S **Sg 10 45 41.6 -2.7**
comp=Z,174nm,0.8s
SATY Saty 5.31 47 Pg Pb 10 44 43.1 +4.8
comp=Z,79nm,0.7s
SATY Lg Lg 10 45 53.8
comp=Z,162nm,1.1s
SATY Saty 5.31 47 *e*P Pb 10 44 43.1 +4.8
comp=Z,79nm,0.7s
SATY *e*S **Sg 10 45 53.8 -1.5**
comp=Z,162nm,1.1s
KURS Kuram 5.47 42 Pg Pb 10 44 45.9 +4.9
comp=Z,25nm,0.7s
KURS Lg Lg 10 45 59.2
comp=Z,47nm,0.9s
KURS Kuram 5.47 42 *e*P **Pb 10 44 45.3 +4.3**
comp=Z,25nm,0.7s
KURS *e*S **Sg 10 45 57.0 -3.4**
comp=Z,47nm,0.9s
UZB Uzynbulak 5.72 49 *e*P **Pb 10 44 47.8 +2.5**
UZB *e*S **Sb 10 46 01.4 +7.0**
CEP Cherat 5.79 190 P **Pn 10 44 35.8 +4.0**
CEP S **Sn 10 45 44.0 +5.1**
ARXS Arharly 5.84 36 Pg **Pb 10 44 51.6 +4.3**
comp=Z,23nm,0.6s
ARXS Lg Lg 10 46 08.9
comp=Z,133nm,1.3s
ARXS Arharly 5.84 36 *e*P **Pb 10 44 50.6 +3.3**
comp=Z,5.3nm,0.5s
ARXS *e*S **Sg 10 46 07.4 -4.9**
comp=Z,133nm,1.3s
CHCP Chirah Chowk 5.88 179 P **Pn 10 44 37.5 +4.6**
NIL Nilore 5.89 179 *e*Pn **Pn 10 44 34.4 +1.4**
NIL *e*Sn **Sn 10 45 40.3 -0.8**
NIL Nilore 5.89 179 *e*PN **Pn 10 44 34.4 +1.4**
NIL *e* 10 45 40.3
SHLS Shalkode 5.99 51 *e*P **Pg 10 44 56.4 -3.1**
comp=Z,14nm,0.8s
SHLS *e*S **Sg 10 46 16.0 -1.0**
comp=Z,50nm,0.9s
PDGK Podgornoye 6.10 50 ⇑Pn **Pn 10 44 38.5 +2.4**
comp=Z,8.3nm,0.7s
PDGK ⇓Lg Lg 10 46 17.5
comp=Z,122nm,1.2s
PDGK Podgornoye 6.10 50 PN **Pn 10 44 38.4 +2.4**
PDGK pmax pmax
comp=Z,8.0nm,0.7s
TDK Taldyqorghan 6.72 34 Pg **Pg 10 45 10.0 -3.4**
comp=Z,26nm,0.3s
TDK Lg Lg 10 46 39.8
comp=Z,247nm,0.8s
TDK Taldyqorghan 6.72 34 *e*P **Pg 10 45 09.9 -3.4**
comp=Z,28nm,0.3s
TDK *e*S **Sg 10 46 39.8 -0.6**
comp=Z,247nm,0.8s
THW Thamme Wali 6.83 190 P **Pn 10 44 49.1 +3.2**
DJR Jarkent 6.90 44 Pg Pb 10 45 12.3 +6.9
comp=Z,4.2nm,0.8s
DJR Lg Lg 10 46 43.7
comp=Z,16nm,0.7s
DJR Jarkent 6.90 44 *e*P Pb 10 45 12.3 +6.9
comp=Z,4.2nm,0.8s
DJR *e*S **Sg 10 46 43.7 -2.6**
comp=Z,16nm,0.7s
KAPS Kapalarasan 7.36 37 Pg Pb 10 45 19.7 +6.5
comp=Z,8.1nm,0.5s
KAPS Lg Lg 10 46 56.4
comp=Z,18nm,0.6s
KAPS Kapalarasan 7.36 37 *e*P Pb 10 45 19.7 +6.5
comp=Z,8.1nm,0.5s
KAPS *e*S **Sg 10 46 56.4 -4.6**
comp=Z,18nm,0.6s
OTUK Ortayu 8.71 357 ⇓Pn **Pn 10 45 15.7 +4.0**
comp=Z,4.1nm,0.7s
OTUK ⇓Lg Lg 10 47 42.5
comp=Z,29nm,0.8s
OTUK Ortayu 8.71 357 P **Pn 10 45 15.6 +4.0**
OTUK pmax pmax
comp=Z,4.0nm,0.7s
MAKZ Makanchi 9.72 39 *e*Pn **Pn 10 45 28.9 +3.4**
MAKZ Makanchi 9.72 39 ⇓Pn Pn 10 45 31.5 +6.0
comp=Z,1.9nm,0.8s
MAKZ ⇑Lg Lg 10 48 18.6
comp=Z,19nm,1.3s
MAKZ Makanchi 9.72 39 *e*P **Pn 10 45 28.9 +3.4**
MK01 Makanchi Array 9.85 40 *e*Pn **Pn 10 45 30.6 +3.3**
MK31 Makanchi Array 9.86 40 *e*Pn **Pn 10 45 30.6 +3.1**

MK31 Makanchi Array 9.86 40 ⇑Pn **Pn 10 45 31.7 +4.2**
comp=Z,2.6nm,0.9s
MK31 ⇑Lg Lg 10 48 17.9
comp=Z,10nm,1.1s,baz=234,slow=27,SNR=4.5
MK31 Makanchi Array 9.86 40 *e*P **Pn 10 45 30.6 +3.1**
MK32 Makanchi Array 9.86 40 *e*Pn **Pn 10 45 30.8 +3.3**
MKAR Makanchi Array 9.86 40 Pn **Pn 10 45 30.7 +3.3**
comp=Z,0.1nm,0.3s,baz=217,slow=14,SNR=3.8
MKAR Lg Lg 10 48 18.1
comp=Z,0.2nm,0.3s,baz=234,slow=26,SNR=4.0
WMQ Urumqi 11.71 64 *e*P Pn 10 46 00.8 +8.0
WMQ smax smax
comp=N,24nm,0.7s
WMQ smax smax
comp=E,19nm,0.7s
WMQ Urumqi 11.71 64 *e*P **Pn 10 45 54.3 +1.5**
WMQ LR LR
comp=E,200nm,19.1s
WMQ LR LR
comp=E,250nm,20.1s
WMQ LR LR
comp=E,170nm,14.5s
WMQ Urumqi 11.71 64 *e*Pn **Pn 10 45 54.3 +1.5**
WMQ Urumqi 11.71 64 *e*P **Pn 10 45 54.3 +1.5**
KURBB Kurchatov Arra 11.71 17 Pn **Pn 10 45 53.0 +0.3**
comp=E,0.1nm,0.3s,baz=205,slow=12,SNR=4.7
KURBB Lg Lg 10 49 18.1
comp=E,0.1nm,0.3s,baz=204,slow=29,SNR=7.1
KURBB Kurchatov Arra 11.71 17 ⇓Pn **Pn 10 45 53.6 +0.9**
comp=E,1.7nm,0.6s
KURK Kurchatov 11.82 17 ⇑Pn **Pn 10 45 55.2 +1.0**
comp=E,3.3nm,0.9s
KURK Kurchatov 11.82 17 ⇑*e*P **Pn 10 45 56.8 +2.6**
GEYT Alibeck 11.82 267 Pn **Pn 10 45 54.5 +0.1**
comp=E,0.8nm,0.3s,baz=90,slow=8.9,SNR=17
GEYT Sn **Sn 10 48 02.5 -4.2**
comp=E,1.2nm,0.3s,baz=72,slow=14,SNR=4.8
GYA0B ALIBECK ARRAY 11.82 267 *e*Pn **Pn 10 45 55.4 +1.1**
GYA0B ALIBECK ARRAY 11.82 267 ⇓Pn **Pn 10 45 54.9 +0.6**
comp=E,24nm,1.4s
GYA0B ⇓Sn **Sn 10 48 07.6 +0.9**
comp=E,34nm,1.1s
AB31 Akbulak array 13.50 320 ⇑Pn **Pn 10 46 15.2 -1.9**
comp=E,4.7nm,0.7s,baz=129,slow=13,SNR=46
AB31 ⇑Sn **Sn 10 48 50.2 +2.7**
comp=E,2.4nm,0.5s,baz=128,slow=23,SNR=7.9
BVA0 Borovoye Array 13.61 353 *e*P **P 10 46 29.6 +1.8**
BVA0 pmax pmax
comp=Z,5.0nm,0.6s
BRVK Borovoye 13.65 353 *e*Pn **Pn 10 46 21.6 +2.5**
BRVK Borovoye 13.65 353 ⇓*e*P **Pn 10 46 21.5 +2.3**
PYUN Piuthan 14.05 141 *e*P Pn 10 46 21.1 -3.9
comp=Z,35nm,0.6s
DANN Dangsing 14.23 138 *e*P Pn 10 46 23.4 -4.1
comp=Z,26nm,0.5s
DGZ Jazzator, Alta 14.36 40 *de*P **Pn 10 46 32.1 +3.0**
KOLN Koldanda 14.63 140 *e*P Pn 10 46 28.3 -4.5
comp=Z,14nm,0.5s
AKTO Aktyubinsk 15.21 321 ⇓Pn **Pn 10 46 40.2 -0.3**
comp=Z,11nm,0.6s
AKTO ⇑Sn **Sn 10 49 31.6 +2.2**
comp=Z,5.3nm,0.8s
AKTO Aktyubinsk 15.21 321 P **Pn 10 46 37.1 -3.3**
AKTO pmax pmax
comp=Z,11nm,0.6s
DMN Daman 15.53 136 *e*P Pn 10 46 40.7 -4.3
comp=Z,12nm,0.7s
PKIN Phulchoki 15.71 136 *e*P Pn 10 46 43.3 -4.1
comp=Z,12nm,0.5s
JIRN Jiri 16.08 134 *e*P Pn 10 46 47.7 -4.6
ZALV Zalesovo Beam 16.45 25 Pn **Pn 10 46 56.9 +0.4**
comp=Z,0.4nm,0.3s,baz=217,slow=13,SNR=5.0
ZALV Zalesovo Beam 16.45 25 *e*Pn **Pn 10 46 57.3 +0.8**
ZALV Zalesovo Beam 16.45 25 *e*P **Pn 10 46 57.3 +0.8**
ZAA1 Zalesovo Array 16.46 25 *e*Pn **Pn 10 46 56.9 +0.4**
NVS Novosibirsk 16.75 21 ⇓*i*P **P 10 47 04.2 +1.7**
RAMN Ramite 16.86 134 *e*P Pn 10 46 58.0 -4.1
ARU Arti 19.42 335 P **Pn 10 47 36.3 +3.2**
WSAR Wadi Sarin 20.38 221 P **P 10 47 41.7 -1.0**
comp=Z,2.2nm,0.6s,baz=72,slow=7.5,SNR=4.1
GTA Gaotai 20.59 82 ⇑P **P 10 47 46.4 +1.3**
GTA pP Pn 10 47 59.4 +12
GTA sP sP 10 48 06.4 +19
GTA pmax pmax
comp=Z,11nm,0.8s
SHL Shillong 21.03 126 *e*P **P 10 47 47.4 -2.6**
comp=Z,9.5nm,0.8s
SHL Shillong 21.03 126 *e*P **P 10 47 47.4 -2.6**
SHL pmax pmax
comp=Z,10.0nm,0.8s
TBLG Delisi 21.60 285 *e*P **P 10 47 54.2 -1.6**
comp=Z,7.3nm,0.5s
TBLG Delisi 21.60 285 *e*P **P 10 47 54.2 -1.6**
TBLG pmax pmax
comp=Z,7.0nm,0.5s
GNI Garni 21.75 281 P **P 10 48 00.3 +2.7**
comp=Z,16nm,0.8s,baz=28,slow=15,SNR=4.3
KBZ Khabaz 22.89 290 P **P 10 48 14.1 +4.5**
comp=Z,1.9nm,0.8s,baz=122,slow=6.5,SNR=4.0
KIV Kislovodsk 23.05 291 *e*P **P 10 48 09.1 -2.2**
KIV pmax pmax
comp=Z,10.0nm,1.0s
LZH Lanzhou 24.47 88 *e*P **P 10 48 24.5 -0.7**
LZH sP sP 10 48 44.3 +16
LZH *e*PP **PnPn 10 49 02.1 +6.6**
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,75nm,4.8s
LZH LR LR
comp=Z,380nm,11.5s
LZH LR LR
comp=Z,380nm,12.3s
LZH LR LR
comp=Z,450nm,14.6s
VRH Novokhopyorsk 24.74 308 *e*P **P 10 48 28.9 +1.6**
VRH pmax pmax
comp=Z,7.0nm,0.6s
SONA0 Songino Array 25.30 60 *e*P **P 10 48 30.7 -1.9**
SONM Songino Array 25.30 60 P **P 10 48 30.7 -1.9**
comp=Z,2.5nm,1.0s,baz=264,slow=8.7,SNR=12
SONA1 Songino Array 25.30 60 *e*P **P 10 48 32.2 -0.4**
ULN Ulaanbaatar 25.74 60 *e*P **P 10 48 36.7 +0.1**
comp=Z,2.8nm,0.7s
ULN Ulaanbaatar 25.74 60 *ce*P **P 10 48 37.0 +0.4**
ULN *i* *PP 10 48 50.9
ULN pmax pmax
comp=Z,3.0nm,0.7s
VSR Storozhevoye 26.30 308 ⇑*e*P **P 10 48 41.7 +0.3**
VSR pmax pmax
comp=Z,8.0nm,0.9s
CD2 Chengdu 26.38 100 *e*P **P 10 48 42.5 +0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
LPSR Galich'ya Gora 26.79 311 *e*P **P 10 48 45.4 -0.4**
LPSR pmax pmax
comp=Z,9.0nm,0.6s
RAYN Ar Rayn 28.29 244 *e*P **P 10 48 58.9 -0.7**
comp=Z,4.2nm,0.9s
RAYN Ar Rayn 28.29 244 *e*P **P 10 48 58.9 -0.7**
RAYN pmax pmax
comp=Z,4.0nm,0.9s
KMI Kunming 28.72 111 P **P 10 49 07.6 +4.0**
KMI pmax pmax
comp=Z,10.0nm,0.8s
HHC Hu-ho-hao-te 29.25 75 *e*P **P 10 49 09.1 +1.0**
HHC pP PP 10 49 20.6 -53
HHC S S 10 53 53.3 -8.3
HHC sS sS 10 54 23.8 +19
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC LR LR
comp=Z,450nm,10.8s
BR101 Keskin Array S 30.23 283 *e*P **P 10 49 17.1 +0.2**
BR131 Keskin Array S 30.23 283 *e*P **P 10 49 16.4 -0.4**
BRTR Keskin Array B 30.23 283 P **P 10 49 17.1 +0.2**
comp=Z,2.2nm,0.8s,baz=84,slow=6.4,SNR=11
BRTR Keskin Array B 30.23 283 *ce*P **P 10 49 19.1 +2.3**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
CM31 Chiang Mai Arr 30.67 126 *e*P P 10 49 18.6 -2.1
CMAR Chiang Mai Arr 30.67 126 P **P 10 49 19.3 -1.4**
comp=Z,0.6nm,0.4s,baz=311,slow=8.2,SNR=3.9
AKASG Malin Array Be 32.45 305 P **P 10 49 35.9 -0.2**
comp=Z,2.6nm,0.6s,baz=80,slow=7.5,SNR=17
AKASG Malin Array Be 32.45 305 *ce*P **P 10 49 36.0 -0.1**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 32.45 305 *e*P **P 10 49 35.6 -0.5**
comp=Z,3.7nm,0.6s
AKBB Malin Array Si 32.45 305 *e*P **P 10 49 35.6 -0.5**
AKBB pmax pmax
comp=Z,4.0nm,0.6s
KIEV Kiev 32.46 305 ⇓*e*P **P 10 49 35.9 -0.3**
KIEV pmax pmax
comp=Z,12nm,1.7s
BJI Beijing 32.86 75 ⇑*e*P **P 10 49 40.3 +0.6**
BJI pmax pmax
comp=Z,4.0nm,0.7s
PBKT Sadao Pong 33.36 125 *e*P **P 10 49 43.5 -0.8**
comp=Z,3.5nm,0.7s
LVZ Lovozero 35.30 336 ⇓*e*P **P 10 50 02.0 +1.3**
LVZ pmax pmax
comp=Z,239nm,4.3s
APA Apatity 35.52 335 ⇓*i*P P 10 49 56.0 -6.5
APA pmax pmax
comp=Z,10.0nm,1.4s
APA MLR MLR
comp=Z,900nm,12.0s
FIA1 FINESS Array S 35.96 323 *e*P **P 10 50 06.5 +0.1**
comp=Z,12nm,1.1s
FIA0 FINESS Array S 35.96 323 *e*P **P 10 50 06.4 0.0**
FIA0 FINESS Array S 35.96 323 *e*P **P 10 50 06.4 0.0**
FINES FINESS Array B 35.96 323 P **P 10 50 06.4 0.0**
comp=Z,2.1nm,0.5s,baz=104,slow=11,SNR=11
FINES FINESS Array B 35.96 323 *i*P **P 10 50 06.8 +0.4**
FINES pmax pmax
comp=Z,2.0nm,0.5s
KWP Kalwaria Pacla 36.65 303 *e*P **P 10 50 11.7 -0.8**
comp=Z,50nm,0.6s
KWP Kalwaria Pacla 36.65 303 *e*P **P 10 50 11.7 -0.8**
KWP pmax pmax
comp=Z,51nm,0.6s
NJ2 Nanjing 37.52 87 *e*P **P 10 50 21.4 +1.4**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
QIZ Qiongzhong 37.65 112 P **P 10 50 21.4 +0.1**
QIZ S **S 10 56 08.3 -3.6**
QIZ LR LR
comp=Z,200nm,14.2s
QIZ LR LR
comp=Z,140nm,11.8s
ARA0 ARCESS Array S 39.01 336 *e*P **P 10 50 33.2 +1.0**
ARCES ARCESS Array B 39.01 336 P **P 10 50 33.2 +1.0**
comp=Z,6.7nm,0.8s,baz=110,slow=9.2,SNR=7.9
ARCES ARCESS Array B 39.01 336 *e*P **P 10 50 32.6 +0.4**
DIVS Divibare 39.27 294 *e*P **P 10 50 34.4 -0.4**
comp=Z,3.0nm,0.8s
KLR Kul'dur 42.04 57 P **P 10 50 57.0 -0.4**
comp=Z,1.7nm,0.5s,baz=272,slow=7.1,SNR=14
KLR Kul'dur 42.04 57 ⇑*e*P **P 10 50 55.8 -1.6**
TIXI Tiksi 42.32 23 ⇓*e*P **P 10 50 58.6 -0.8**
TIXI pmax pmax
comp=Z,17nm,4.4s
GEC2 GERESS Array S 42.60 303 *e*P **P 10 51 01.4 -0.8**
comp=Z,2.2nm,1.0s
GEC2 GERESS Array S 42.60 303 *e*P **P 10 51 01.4 -0.8**
GEC2 pmax pmax
comp=Z,2.0nm,1.0s
GERES GERESS Array B 42.60 303 P **P 10 51 02.1 0.0**
comp=Z,1.5nm,0.6s,baz=59,slow=8.0,SNR=11
GERES LR LR 11 10 39.1
comp=Z,137nm,21.2s,baz=304,slow=39
GEA0 GERESS Array S 42.60 303 *e*P **P 10 51 01.9 -0.3**
CLL Collm 42.64 307 *e*P **P 10 51 00.0 -2.3**
NC303 NORSAR Array S 42.93 321 *e*P **P 10 51 04.5 0.0**
NB2 NORSAR Subarra 43.01 321 P **P 10 51 04.5 -0.7**
comp=Z,0.8nm,0.6s,baz=92,slow=8.6
NB200 NORSAR Array S 43.01 321 *e*P **P 10 51 04.7 -0.5**
NOA NORSAR Array B 43.01 321 P **P 10 51 04.7 -0.5**
comp=Z,0.9nm,0.5s,baz=92,slow=7.8,SNR=6.3
NOA LR LR 11 08 22.0
comp=Z,50nm,21.8s,baz=280,slow=35
NC204 NORSAR Array S 43.23 321 *e*P **P 10 51 06.8 -0.2**
USRK Ussuriysk Ar. 43.28 64 P **P 10 51 05.1 -2.5**
comp=Z,0.8nm,0.5s,baz=256,slow=8.8,SNR=2.6
YOJ Yonaguni jima 44.36 94 *e*P **P 10 51 16.4 -0.1**
comp=Z,71nm,0.9s
YOJ Yonaguni jima 44.36 94 *e*P **P 10 51 16.4 -0.1**
YOJ pmax pmax
comp=Z,71nm,0.9s
MAJO Matsushiro 50.35 72 *e*P **P 10 52 02.2 -0.8**
MAJO Matsushiro 50.35 72 ⇑*e*P **P 10 52 03.3 +0.3**
MAJO pmax pmax
comp=Z,7.0nm,1.0s
MJAR Matsushiro Arr 50.35 72 P **P 10 52 02.2 -0.8**
comp=Z,2.0nm,0.7s,baz=279,slow=10.0,SNR=4.5
MJAR Matsushiro Arr 50.35 72 P **P 10 52 02.2 -0.8**
MJAR pmax pmax
comp=Z,3.0nm,1.0s
ASAJ Asahikawa 50.58 61 P **P 10 52 04.2 -0.4**
comp=Z,1.9nm,0.5s,baz=330,slow=20,SNR=5.3
MA2 Magadan 50.95 40 LR LR 11 13 32.0
comp=Z,1μm,20.8s,baz=165,slow=36
SEY Seymchan 50.97 35 ⇑*e*P **P 10 52 06.9 -0.4**
KMBO Kilima Mbogo 52.11 228 P **P 10 52 15.1 -1.6**
comp=Z,1.9nm,0.6s,baz=14,slow=8.3,SNR=5.0
ESDC Sonseca Array 57.53 297 P **P 10 52 55.3 -0.3**
comp=Z,0.4nm,0.3s,baz=60,slow=8.6,SNR=4.7
TOA1 Torodi Ar. Sit 67.45 269 *e*P P 10 53 59.3 -2.9
TOA0 Torodi Ar. Sit 67.45 269 *e*P **P 10 54 00.0 -2.2**
TORD Torodi Ar. Bea 67.45 269 P P 10 53 59.3 -2.9
comp=Z,1.9nm,0.7s,baz=62,slow=5.1,SNR=13
IM3 Indian Mountai 68.76 19 *e*P **P 10 54 09.2 -0.5**
INK Inuvik 70.62 10 *e*P **P 10 54 20.6 -0.4**
comp=Z,2.6nm,0.6s
INK Inuvik 70.62 10 *e*P **P 10 54 20.6 -0.4**
INK pmax pmax
comp=Z,3.0nm,0.6s
MDM Murphy Dome 70.92 17 *e*P **P 10 54 22.6 -0.4**
comp=Z,1.2nm,0.5s
IL1 Eielson Array 71.39 17 *e*P **P 10 54 24.9 -0.9**
ILAR Eielson Array 71.39 17 P **P 10 54 24.3 -1.5**
comp=Z,0.6nm,0.9s,baz=320,slow=4.6,SNR=4.8
PPLA Purkeypile 71.66 20 *e*P **P 10 54 27.3 -0.3**
DOT Dot Lake 72.99 16 *e*P P 10 54 31.8 -3.6
comp=Z,17nm,1.2s
YKA Yellowknife Ar 78.11 4 P **P 10 55 04.7 0.0**
comp=Z,0.9nm,0.7s,baz=349,slow=5.7,SNR=20
YKB5 Yellowknife Ar 78.11 4 *e*P **P 10 55 04.3 -0.4**
WR1 Warramunga Arr 82.24 124 *e*P **P 10 55 26.0 -1.6**
comp=Z,6.3nm,1.1s
WRA Warramunga Arr 82.24 124 P **P 10 55 26.0 -1.6**
comp=Z,1.3nm,0.6s,baz=326,slow=5.0,SNR=20
WRA Warramunga Arr 82.24 124 *i*P **P 10 55 25.6 -2.0**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRAB Tennant Creek 82.24 124 *e*P **P 10 55 26.2 -1.4**
WRAB Tennant Creek 82.24 124 *e*P **P 10 55 26.2 -1.4**
WB2 Warramunga Arr 82.25 124 *e*P **P 10 55 25.8 -1.8**
comp=Z,6.8nm,1.1s
ASAR Alice Springs 84.68 127 P P 10 55 37.7 -2.4
comp=Z,13nm,0.6s,baz=313,slow=4.9,SNR=7.9
PDAR Pinedale Array 98.03 2 P **P 10 56 40.6 -2.2**
comp=Z,0.7nm,0.6s,baz=360,slow=17,SNR=8.1

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*IDC **22** 10:47:29.4±1.1, 10°.75N×62°.11W, h0km, mb3.5/6, mb1 3.8/8, mb1mx3.5/44, mbtmp3.6/8, ML3.3/2, MS3.4/2, Ms1 3.4/2, ms1mx2.7/38, Error ellipse: s-maj=43.9km s-min=14.8km az=168.0*
*TRN **22** 10:47:33.8, 10°.35N×62°.03W, h4km, MD4.0*
*NEIC **22** 10:47:34.7±0.0, 10°.35N×61°.99W, h7km, MD4.0(TRN), After TRN.*

ISC 22 10:47:32.6±1.1, **10°.27N**±0°.05×**62°.09W**±0°.04, **h16**km±8km, **n72**, σ1°54/103, **mb3.5**/6, **Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
ALNG	**Atlantic LNG**	**0.41**	**102**	*e*Pg	**Pb**	**10 47 42.4**	**+0.9**
ALNG	**Atlantic LNG**	**0.41**	**102**	*e*P	**Pb**	**10 47 42.4**	**+0.9**
BUAY	**Buenos Aires**	**0.43**	**112**	*e*Pg	**Pg**	**10 47 41.4**	**+0.1**
BUAY				*e*Sg	**Sg**	**10 47 48.0**	**+0.7**
BUAY	**Buenos Aires**	**0.43**	**112**	*e*P	**Pg**	**10 47 41.4**	**+0.1**
BUAY				*e*S	**Sg**	**10 47 48.0**	**+0.7**
TPP	**Pointe-a-Pierr**	**0.63**	**86**	*e*Pg	**Pb**	**10 47 45.7**	**+0.4**
TPP				*e*Sg	**Sg**	**10 47 51.9**	**-1.7**
TPP	**Pointe-a-Pierr**	**0.63**	**86**	*e*P	**Pb**	**10 47 45.7**	**+0.4**
TPP				*e*S	**Sg**	**10 47 52.6**	**-0.9**
TRN	**Trinidad (W)**	**0.78**	**61**	*e*P	**Pg**	**10 47 46.7**	**-1.1**
TRN				*e*S	**Sg**	**10 47 56.6**	**-1.5**

TBH	**Brigand Hill**	**1.03**	**78**	*e*Pb	**Pb**	**10 47 53.0**	**+0.9**
TBH				*e*Sn	**Sb**	**10 48 06.4**	**+0.9**
TBH	**Brigand Hill**	**1.03**	**78**	*e*P	**Pb**	**10 47 53.0**	**+0.9**
TBH				*e*S	**Sb**	**10 48 06.4**	**+0.9**
TPR	**Prospect**	**1.58**	**55**	*e*Pn	**Pn**	**10 48 01.2**	**+1.1**
TPR				*e*Sn	**Sb**	**10 48 21.4**	**0.0**
TPR	**Prospect**	**1.58**	**55**	*e*P	**Pn**	**10 48 01.2**	**+1.1**
TPR				*e*S	**Sb**	**10 48 21.4**	**0.0**
BOT	**Bacolet**	**1.62**	**56**	*e*Pn	**Pn**	**10 48 01.6**	**+1.1**
BOT				*e*Sn	**Sg**	**10 48 23.4**	**-1.6**
BOT	**Bacolet**	**1.62**	**56**	*e*P	**Pn**	**10 48 01.6**	**+1.1**
BOT				*e*S	**Sg**	**10 48 23.4**	**-1.6**
TOSP	**Speyside**	**1.84**	**56**	*e*P	**Pn**	**10 48 05.1**	**+1.5**
TOSP				*e*S	**Sn**	**10 48 26.9**	**+0.4**
TOSP	**Speyside**	**1.84**	**56**	*e*P	**Pn**	**10 48 05.1**	**+1.5**
TOSP				*e*S	**Sn**	**10 48 28.0**	**+1.4**
GRGR	**Grenville**	**1.90**	**13**	*e*Pn	**Pn**	**10 48 04.7**	**+0.3**
GRGR				*e*Sn	**Sn**	**10 48 28.3**	**+0.2**
GRGR	**Grenville**	**1.90**	**13**	*e*P	**Pn**	**10 48 04.7**	**+0.3**
GRHS	**Sauteurs**	**1.99**	**13**	*e*Pn	**Pn**	**10 48 07.8**	**+2.1**
GRHS				*e*Sn	**Sb**	**10 48 33.9**	**+0.7**
GRHS	**Sauteurs**	**1.99**	**13**	*e*P	**Pn**	**10 48 07.8**	**+2.1**
GRSS	**Sisters**	**2.07**	**13**	*e*P	**Pn**	**10 48 08.7**	**+1.9**
GRSS				*e*S	**Sn**	**10 48 33.9**	**+1.6**
GRSS	**Sisters**	**2.07**	**13**	*e*P	**Pn**	**10 48 08.7**	**+1.9**
GRSS				*e*S	**Sn**	**10 48 33.9**	**+1.6**
PCRV	**Puerto La Cruz**	**2.50**	**268**	Pn	**Pn**	**10 48 12.5**	**-0.2**
	10nm,0.3s,baz=66,slow=6.3,SNR=21						
PCRV				Pg	**Pb**	**10 48 18.5**	**+1.2**
	58nm,0.3s,baz=109,slow=8.5,SNR=80						
PCRV				Lg	Lg	10 48 48.1	
	11nm,0.3s,baz=300,slow=20,SNR=5.1						
FCV	**Fort Charlotte**	**2.99**	**16**	*e*Pn	**Pn**	**10 48 21.1**	**+1.7**
FCV				*e*Sn	**Sn**	**10 48 55.6**	**+0.6**
FCV	**Fort Charlotte**	**2.99**	**16**	*e*P	**Pn**	**10 48 21.1**	**+1.7**
FCV				*e*S	**Sn**	**10 48 55.6**	**+0.6**
SVB	**Belmont**	**3.10**	**15**	*e*Pn	**Pn**	**10 48 22.5**	**+1.6**
SVB				*e*Sn	**Sn**	**10 48 58.9**	**+1.3**
SVB	**Belmont**	**3.10**	**15**	*e*P	**Pn**	**10 48 23.5**	**+2.6**
SVB				*e*S	**Sn**	**10 48 59.0**	**+1.4**
SVCV	**St. Vincent, C**	**3.13**	**17**	*e*P	**Pn**	**10 48 23.3**	**+2.0**
SVCV				*e*S	**Sn**	**10 48 59.7**	**+1.3**
SVV	**Soufriere Volc**	**3.15**	**16**	*e*Pn	**Pn**	**10 48 24.5**	**+2.9**
SVV				*e*Sn	**Sn**	**10 49 00.4**	**+1.4**
SVV	**Soufriere Volc**	**3.15**	**16**	*e*P	**Pn**	**10 48 24.5**	**+2.9**
SVV				*e*S	**Sn**	**10 49 00.4**	**+1.4**
SSV	**Crater Summit**	**3.17**	**16**	*e*Pn	**Pn**	**10 48 24.8**	**+2.8**
SSV				*e*Sn	**Sn**	**10 48 59.8**	**+0.3**
SSV	**Crater Summit**	**3.17**	**16**	*e*P	**Pn**	**10 48 24.7**	**+2.8**
SSV				*e*S	**Sn**	**10 48 59.8**	**+0.3**
SLDE	**Delcer**	**3.66**	**16**	*e*Pn	**Pn**	**10 48 31.8**	**+3.2**
SLDE				*e*Sn	**Sn**	**10 49 12.6**	**+1.2**
SLDE	**Delcer**	**3.66**	**16**	*e*P	**Pn**	**10 48 30.5**	**+1.9**
SLDE				*e*S	**Sn**	**10 49 12.6**	**+1.2**
SLB	**Belfond**	**3.68**	**16**	*e*Pn	**Pn**	**10 48 30.6**	**+1.6**
SLB				*e*Sn	**Sn**	**10 49 12.5**	**+0.3**
SLB	**Belfond**	**3.68**	**16**	*e*P	**Pn**	**10 48 30.6**	**+1.6**
SLB				*e*S	**Sn**	**10 49 12.5**	**+0.3**
SLPA	**Patience**	**3.74**	**18**	*e*Pn	**Pn**	**10 48 32.0**	**+2.2**
SLPA				*e*Sn	**Sn**	**10 49 14.9**	**+1.3**
SLPA	**Patience**	**3.74**	**18**	*e*P	**Pn**	**10 48 32.0**	**+2.2**
SLPA				*e*S	**Sn**	**10 49 14.9**	**+1.3**
BBGH	**Gun Hill**	**3.78**	**41**	*e*P	**Pn**	**10 48 32.3**	**+2.0**
BBGH	**Gun Hill**	**3.78**	**41**	*e*P	**Pn**	**10 48 32.3**	**+2.0**
BBSP	**Saint Philip**	**3.82**	**42**	*e*Pn	**Pn**	**10 48 32.2**	**+1.3**
BBSP	**Saint Philip**	**3.82**	**42**	*e*P	**Pn**	**10 48 32.2**	**+1.3**
SLW	**Petit Monier**	**3.90**	**17**	*e*Pn	**Pn**	**10 48 34.8**	**+2.9**
SLW				*e*Sn	**Sn**	**10 49 18.7**	**+1.3**
SLW	**Petit Monier**	**3.90**	**17**	*e*P	**Pn**	**10 48 33.9**	**+2.0**
SLW				*e*S	**Sn**	**10 49 18.7**	**+1.3**
BIM	**Bigot**	**4.34**	**13**	*e*P	**Pn**	**10 48 40.1**	**+2.0**
TRMF	**Trois Ilets**	**4.36**	**13**	*e*P	**Pn**	**10 48 39.5**	**+1.2**
ZAM	**Aeronautique**	**4.40**	**14**	*e*P	**Pn**	**10 48 42.3**	**+3.4**
MVM	**Montagne Vaucl**	**4.42**	**15**	*e*P	**Pn**	**10 48 40.8**	**+1.7**
LPMF	**Morne Lapointe**	**4.42**	**14**	*e*P	**Pn**	**10 48 42.1**	**+3.0**
FDF	**Fort de France**	**4.53**	**12**	*e*Pn	**Pn**	**10 48 41.6**	**+0.9**
FDF				*e*Sn	**Sn**	**10 49 33.0**	**-0.1**
FDF	**Fort de France**	**4.53**	**12**	*e*P	**Pn**	**10 48 43.6**	**+2.9**
FDF	**Fort de France**	**4.53**	**12**	*e*S	**Sn**	**10 49 33.0**	**-0.1**
GBMF	**Grand Be**	**4.59**	**11**	*e*P	**Pn**	**10 48 42.9**	**+1.3**
PCM	**Pelee Case Pet**	**4.60**	**11**	*e*P	**Pn**	**10 48 42.3**	**+0.7**
BAMF	**Morne Balai**	**4.61**	**11**	*e*P	**Pn**	**10 48 42.8**	**+0.9**
CBE	**Ff, Capester**	**5.79**	**5**	*e*P	**Pn**	**10 48 59.2**	**+1.3**
CDVI	**St. Croix**	**7.88**	**341**	*e*Pn	**Pn**	**10 49 27.1**	**+0.5**
MTP	**Monte Pirata**	**8.47**	**337**	*e*Pn	**Pn**	**10 49 34.7**	**-0.1**
STVI	**Saint Thomas**	**8.50**	**341**	*e*Pn	**Pn**	**10 49 35.7**	**+0.5**
SDV	**Santo Domingo**	**8.53**	**261**	Pn	Pn	10 49 34.5	-1.3
	1.9nm,0.3s,baz=50,slow=4.4,SNR=9.7						
SDV				Sn	Sn	10 51 06.4	-5.5
	0.8nm,0.3s,baz=40,slow=18,SNR=1.9						
SDV				LR	LR	10 54 04.3	
	comp=Z,70nm,21.8s,baz=80,slow=46						
SDV	**Santo Domingo**	**8.53**	**261**	*e*Pn	**Pn**	**10 49 35.3**	**-0.5**
CUPR	**Culebra, Puert**	**8.57**	**339**	*e*Pn	**Pn**	**10 49 35.2**	**-0.8**
HUMP	**Col San Antoni**	**8.63**	**335**	*e*Pn	**Pn**	**10 49 36.5**	**-0.4**
CBYP	**Canovanas**	**8.75**	**336**	*e*Pn	**Pn**	**10 49 38.8**	**+0.1**
PTGA	**Pitinga**	**11.13**	**169**	Pn	Pn	10 50 08.1	-3.2
	0.5nm,0.3s,baz=330,slow=20,SNR=4.1						
PTGA				Sn	Sn	10 52 09.9	-5.6
	0.6nm,0.3s,baz=320,slow=19,SNR=3.4						
SDDR	**Presa de Saban**	**12.41**	**315**	*e*Pn	**Pn**	**10 50 31.5**	**+2.6**
TXAR	**Lajitas Array**	**43.18**	**302**	P	P	10 55 31.2	-1.9
	0.2nm,0.5s,baz=125,slow=7.8,SNR=5.7						
TXAR				PcP	**PcP**	**10 57 22.1**	**-0.5**
	0.4nm,0.7s,baz=101,slow=4.6,SNR=4.4						
MDT	**Midelt**	**57.25**	**58**	LR	LR	11 19 48.9	
	comp=Z,98nm,19.2s,baz=354,slow=34						
TORD	**Torodi Ar. Bea**	**62.39**	**81**	P	**P**	**10 57 53.6**	**-1.7**
	0.4nm,0.9s,baz=277,slow=6.5,SNR=2.9						
TORD				PcP	**PcP**	**10 58 33.6**	**-1.2**
	0.3nm,0.8s,baz=255,slow=5.9,SNR=2.1						
YKA	**Yellowknife Ar**	**64.22**	**336**	P	P	10 58 01.6	-4.9
	0.2nm,0.6s,baz=110,slow=7.3,SNR=4.6						
ILAR	**Eielson Array**	**78.56**	**334**	P	P	10 59 28.9	-4.3
	0.2nm,0.5s,baz=84,slow=5.1,SNR=4.2						
FINES	**FINESS Array B**	**80.19**	**29**	P	**P**	**10 59 40.9**	**-1.2**
	0.7nm,0.5s,baz=278,slow=6.0,SNR=4.0						
BRTR	**Keskin Array B**	**87.88**	**50**	P	P	11 00 19.5	-2.5
	0.4nm,0.6s,baz=256,slow=5.8,SNR=2.7						

NIED ***22*** *10:51:00,37.˚40N×143.˚50E, h5km, Mw3.8 Best double couple: M₀5.42000×10¹⁴ NP1:ϕs17.00000°, δ22.00000°, λ-85.00000°. NP2:ϕs191.00000°, δ68.00000°, λ-92.00000°.*

IDC ***22*** *10:51:23.2±0.9,37.˚27N×143.˚57E, h0km, mb3.8/10, mb1 4.0/15, mb1mx3.8/48, mbtmp3.8/15, ML3.7/4, MS2.8/1, Ms1 2.8/1, ms1mx2.4/47, Error ellipse: s-maj=21.7km s-min=17.1km az=107.0*

ISCJB ***22*** *10:51:24.7±1.3,37.˚37N±0.˚03×143.˚43E±0.˚04, h20km±9km, mb4.0/14, Error ellipse: s-maj=5.5km s-min=4.7km az=44.6*

NEIC ***22*** *10:51:24.6±0.3,37.˚28N×143.˚57E, h10km, mb4.3/2, Error ellipse: s-maj=6.7km s-min=5.3km az=113.0*

JMA ***22*** *10:51:25.9±0.1,37.˚41N×143.˚46E, h48km, M3.9*

ISC 22 10:51:25.0±4.2,37.˚40N±0.˚05×143.˚45E±0.˚07, h12km±27km, n62, σ1§77/80, mb4.0/14, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.82**	**301**	P	**Pn**	**10 51 55.5**	**-0.6**
JIKH				S	**Sn**	**10 52 17.2**	**-1.8**
JIO	**Ouri**	**1.97**	**303**	P	**Pn**	**10 51 57.9**	**-0.3**
JIO				S	**Sn**	**10 52 21.3**	**-1.5**
JFK	**Kawauchi**	**2.05**	**270**	P	**Pn**	**10 51 59.0**	**-0.4**
JFK				S	**Sn**	**10 52 23.3**	**-1.7**
JKMT	**Kesennumamotoy**	**2.10**	**313**	P	**Pn**	**10 51 59.4**	**-0.6**
JKMT				*e*S	**Sn**	**10 52 24.2**	**-1.9**
ONAJ	**Iwakimizuishiy**	**2.14**	**263**	P	**Pn**	**10 52 00.4**	**-0.2**
ONAJ				S	**Sn**	**10 52 25.4**	**-1.7**
JMM	**Marumori**	**2.16**	**283**	P	**Pn**	**10 52 00.3**	**-0.5**
JMM				*e*S	**Sn**	**10 52 25.9**	**-1.7**
JMK	**Ichinoseki**	**2.34**	**312**	P	**Pn**	**10 52 03.0**	**-0.3**
JFT	**Otama**	**2.48**	**274**	P	**Pn**	**10 52 05.9**	**+0.6**
JFT				S	**Sn**	**10 52 35.8**	**+0.3**
JOM	**Ohasama**	**2.67**	**321**	P	**Pn**	**10 52 07.7**	**-0.2**
JOM				S	**Sn**	**10 52 38.9**	**-1.4**
JYK	**Kaneyama**	**2.87**	**303**	P	**Pn**	**10 52 11.0**	**+0.4**
JANG	**Nango**	**3.33**	**334**	P	**Pn**	**10 52 16.7**	**-0.2**
JANG				*e*S	**Sn**	**10 52 54.9**	**-1.5**
JAG	**Ashikaga**	**3.35**	**254**	P	**Pn**	**10 52 17.6**	**+0.4**
JAG				S	**Sn**	**10 52 55.7**	**-1.2**
BSO1	**Boso 1**	**3.40**	**217**	P	**Pn**	**10 52 17.0**	**-0.3**
JRY	**Ryogami san**	**3.91**	**251**	P	**Pn**	**10 52 25.2**	**+0.3**
JRY				*e*S	**Sn**	**10 53 07.0**	**-3.7**
JOD2	**Odawara 2**	**4.12**	**240**	P	**Pn**	**10 52 27.9**	**+0.1**
JOD2				*e*S	**Sn**	**10 53 13.3**	**-2.6**
MJAR	**Matsushiro Arr**	**4.29**	**260**	Pn	**Pn**	**10 52 31.4**	**+1.4**
	0.8nm,0.3s,baz=90,slow=15,SNR=29						
MJAR				Sn	**Sn**	**10 53 19.0**	**-1.1**
	0.3nm,0.3s,baz=82,slow=14,SNR=3.6						
MJAR				LR	LR	10 54 12.6	
	comp=Z,100nm,18.4s,baz=325,slow=39						
MAJO	**Matsushiro**	**4.29**	**260**	*e*Pn	**Pn**	**10 52 30.8**	**+0.8**
MAJO				*e*Sn	**Sn**	**10 53 19.0**	**-1.1**
MAT	**Matsushiro**	**4.29**	**260**	P	**Pn**	**10 52 32.2**	**+2.1**
MAT				S	**Sn**	**10 53 20.1**	**0.0**
MJB9	**Matsu-Tunnel**	**4.29**	**260**	*e*Pn	**Pn**	**10 52 31.7**	**+1.6**
JOT	**Ohata**	**4.39**	**336**	P	**Pn**	**10 52 31.9**	**+0.4**
JOT				*e*S	**Sn**	**10 53 20.0**	**-2.5**
ERM	**Erimo**	**4.61**	**357**	*e*Pn	**Pn**	**10 52 33.4**	**-1.2**
ERM				*e*Sn	**Sn**	**10 53 24.2**	**-3.8**
JKB	**Kayabe**	**4.86**	**338**	P	**Pn**	**10 52 38.3**	**+0.5**
JKB				*e*S	**Sn**	**10 53 31.2**	**-2.8**
JCH	**Churui**	**5.21**	**359**	P	**Pn**	**10 52 41.1**	**-1.6**
JCH				*e*S	**Sn**	**10 53 37.1**	**-5.6**
JHJ2	**Mitsune**	**5.21**	**216**	*e*Pn	**Pn**	**10 52 41.1**	**-1.6**
JHJ	**Hachijo jima 2**	**5.22**	**216**	Pn	**Pn**	**10 52 41.0**	**-1.9**
	16nm,0.3s,baz=72,slow=20,SNR=5.5						
JHJ				Sn	**Sn**	**10 53 37.4**	**-5.7**
	16nm,0.3s,baz=29,slow=19,SNR=2.4						
INU	**Inuyama**	**5.58**	**250**	*e*Pn	**Pn**	**10 52 47.7**	**-0.1**
ASAJ	**Asahikawa**	**6.74**	**355**	Pn	**Pn**	**10 53 04.0**	**+0.3**
	3.6nm,0.3s,baz=204,slow=8.0,SNR=17						
ASAJ				Sn	**Sn**	**10 54 15.8**	**-4.7**
	0.4nm,0.3s,baz=252,slow=20,SNR=3.9						
CBIJ	**Chichi jima**	**10.33**	**186**	*e*Pn	**Pn**	**10 53 50.3**	**-2.7**
USRK	**Ussuriysk Ar.**	**11.02**	**312**	Pn	**Pn**	**10 54 04.5**	**+2.1**
	0.2nm,0.3s,baz=98,slow=13,SNR=4.4						
KSRS	**Korea Array**	**12.35**	**275**	Pn	**Pn**	**10 54 22.0**	**+1.4**
	0.2nm,0.3s,baz=84,slow=14,SNR=5.1						
KS15	**Wonju Array Si**	**12.38**	**275**	*e*Pn	**Pn**	**10 54 22.2**	**+1.2**
KSAR	**Wonju Array Be**	**12.38**	**275**	Pn	**Pn**	**10 54 22.0**	**+1.0**
SEY	**Seymchan**	**26.14**	**9**	P	**P**	**10 57 00.4**	**+1.7**
	0.8nm,0.6s,baz=192,slow=15,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**26.97**	**124**	T	T	11 25 27.0	
	baz=316,slow=75,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**26.98**	**124**	T	T	11 25 25.9	
	baz=316,slow=75,SNR=3.4						
H11N3	**WAKE ISLAND Hy**	**26.99**	**124**	T	T	11 25 27.7	
	baz=316,slow=75,SNR=3.8						
SONA1	**Songino Array**	**28.94**	**303**	*e*P	**P**	**10 57 25.4**	**+1.2**
SONA0	**Songino Array**	**28.94**	**303**	*e*P	**P**	**10 57 25.6**	**+1.5**
SONM	**Songino Array**	**28.94**	**303**	P	**P**	**10 57 25.6**	**+1.5**
	1.0nm,0.5s,baz=106,slow=9.1,SNR=9.9						
ZAA0	**Zalesovo Array**	**42.87**	**312**	*e*P	**P**	**10 59 24.1**	**+1.1**
	6.0nm,1.5s						
ZAA1	**Zalesovo Array**	**42.87**	**312**	*e*P	**P**	**10 59 24.4**	**+1.5**
ZALV	**Zalesovo Beam**	**42.87**	**312**	P	**P**	**10 59 24.4**	**+1.5**
	0.5nm,0.4s,baz=72,slow=9.3,SNR=3.7						
ZALV	**Zalesovo Beam**	**42.87**	**312**	*e*P	**P**	**10 59 24.0**	**+1.1**
MK01	**Makanchi Array**	**45.30**	**302**	*e*P	**P**	**10 59 44.1**	**+1.5**
MK31	**Makanchi Array**	**45.30**	**302**	*e*P	**P**	**10 59 44.0**	**+1.4**
MK32	**Makanchi Array**	**45.30**	**302**	*e*P	**P**	**10 59 44.4**	**+1.7**
MKAR	**Makanchi Array**	**45.30**	**302**	P	**P**	**10 59 44.4**	**+1.7**
	1.0nm,0.6s,baz=85,slow=10.0,SNR=9.1						
KURK	**Kurchatov**	**46.99**	**308**	*e*P	**P**	**10 59 56.9**	**+1.2**
	3.5nm,0.7s						
ILAR	**Eielson Array**	**48.31**	**33**	P	**P**	**11 00 06.3**	**+0.4**
	0.4nm,0.5s,baz=263,slow=5.9,SNR=9.2						
ILB	**Eielson Array**	**48.31**	**33**	*e*P	**P**	**11 00 06.2**	**+0.3**
WRAB	**Tennant Creek**	**57.67**	**190**	*e*P	**P**	**11 01 14.4**	**-0.9**
	19nm,1.6s						
WB2	**Warramunga Arr**	**57.68**	**190**	*e*P	**P**	**11 01 14.3**	**-1.1**
WR1	**Warramunga Arr**	**57.68**	**190**	*e*P	**P**	**11 01 14.5**	**-0.9**
WRA	**Warramunga Arr**	**57.68**	**190**	P	**P**	**11 01 14.5**	**-0.9**
	1.3nm,0.6s,baz=8.7,slow=7.2,SNR=12						
ASAR	**Alice Springs**	**61.40**	**190**	P	**P**	**11 01 40.3**	**-0.7**
	8.6nm,0.3s,baz=8.3,slow=6.9,SNR=3.5						
YKA	**Yellowknife Ar**	**62.67**	**31**	P	**P**	**11 01 49.5**	**+0.4**
	0.1nm,0.6s,baz=305,slow=7.1,SNR=2.8						
ARA0	**ARCESS Array S**	**64.22**	**340**	*e*P	**P**	**11 01 58.9**	**-0.5**
ARCES	**ARCESS Array B**	**64.22**	**340**	P	**P**	**11 01 58.9**	**-0.5**
	8.7nm,1.1s,baz=49,slow=7.1,SNR=2.0						
FIA0	**FINESS Array S**	**69.24**	**333**	*e*P	**P**	**11 02 32.5**	**+1.1**
FINES	**FINESS Array B**	**69.24**	**333**	P	**P**	**11 02 32.5**	**+1.1**
	1.5nm,0.9s,baz=50,slow=6.0,SNR=2.5						
LTX	**Lajitas**	**88.60**	**54**	*e*P	**P**	**11 04 19.6**	**+1.4**
TXAR	**Lajitas Array**	**88.60**	**54**	P	**P**	**11 04 19.6**	**+1.4**
	0.3nm,0.8s,baz=318,slow=1.2,SNR=3.4						

NNC ***22*** *10:52:39.9±1.6,41.˚19N×71.˚04E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=13.8km s-min=8.4km az=52.0*

KRNET ***22*** *10:52:40.5±0.1,41.˚39N×71.˚01E, h11km, mb2.3*

ISCJB ***22*** *10:52:42.3±0.8,41.˚36N±0.˚04×71.˚00E±0.˚07, h10km, Error ellipse: s-maj=8.0km s-min=4.6km az=30.6*

ISC 22 10:52:41.7±1.0,41.˚30N±0.˚03×71.˚10E±0.˚05, h10km, n15, σ1§64/29, 25C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARK	**Arkit**	**0.82**	**52**	⇑*i*P	**Pg**	**10 52 56.0**	**-1.4**
	baz=61						
ARK				⇑*i*S	**Sg**	**10 53 07.8**	**-0.3**
	baz=61						
BTK	**Batken**	**1.26**	**190**	⇑*i*P	**Pg**	**10 53 05.5**	**-0.3**
	baz=86						
BTK				⇑*i*S	**Sn**	**10 53 23.5**	**+1.1**
	baz=86						
ARSB	**Arslanbob**	**1.42**	**88**	⇑*i*P	**Pb**	**10 53 07.9**	**-0.4**
	baz=92						
ARSB				⇑*i*S	**Sg**	**10 53 27.8**	**+0.6**
	baz=92						
MNAS	**Manas**	**1.58**	**41**	⇑Pn	**Pb**	**10 53 09.9**	**-1.2**
	1.4nm,0.4s						
MNAS				⇓Sn	**Sg**	**10 53 34.8**	**+2.2**
	1.4nm,0.4s						
MNAS	**Manas**	**1.58**	**41**	⇑*i*P	**Pb**	**10 53 10.1**	**-1.0**
	baz=45						
MNAS				⇑*i*S	**Sb**	**10 53 31.2**	**-0.1**
	baz=45						
KK31	**Karatay Array**	**1.86**	**347**	⇓Pn	**Pb**	**10 53 14.9**	**-0.8**
	2.7nm,0.3s,baz=163,slow=14,SNR=8.4						
KK31				⇑Sn	**Sg**	**10 53 40.6**	**-0.8**
	6.1nm,0.5s,baz=158,slow=25,SNR=21						
AML	**Almayashu**	**2.11**	**66**	⇓*i*P	**Pb**	**10 53 18.8**	**-1.5**
	baz=69						
AML				⇓*i*S	**Sb**	**10 53 47.3**	**+0.6**
	baz=69						
SFK	**Sufi-Kurgan**	**2.23**	**124**	⇑Pn	**Pn**	**10 53 18.5**	**-0.4**
	0.6nm,0.5s						
SFK				⇓Lg	Lg	10 53 50.0	
	1.6nm,0.4s						
SFK	**Sufi-Kurgan**	**2.23**	**124**	⇑*i*P	**Pb**	**10 53 22.2**	**0.0**
	baz=25						
SFK				⇑*i*S	**Sg**	**10 53 52.0**	**-1.4**
	baz=25						
EKS2	**Erkin-Say**	**2.42**	**55**	⇑*i*P	**Pb**	**10 53 22.9**	**-2.4**
	baz=57						
EKS2				⇑*i*S	**Sb**	**10 53 53.4**	**-1.8**
	baz=57						
ARLS	**Aral**	**2.48**	**76**	⇑*i*P	**Pb**	**10 53 24.8**	**-1.6**
	baz=78						
ARLS				⇑*i*S	**Sb**	**10 53 56.7**	**-0.4**
	baz=78						
UCH	**Uchtor**	**2.71**	**69**	⇑*i*P	**Pb**	**10 53 27.7**	**-2.9**
	baz=71						
UCH				⇑*i*S	**Sb**	**10 54 02.1**	**-2.0**
	baz=71						
AAK	**Ala-Archa**	**2.86**	**61**	⇑*i*P	**Pn**	**10 53 29.1**	**+1.6**
	baz=63						
AAK				⇑*i*S	**Sn**	**10 54 04.6**	**+2.5**
	baz=63						
USP	**Ospenovka**	**3.20**	**51**	⇑*i*P	**Pn**	**10 53 33.2**	**+1.2**
	baz=53						
USP				⇑*i*S	**Sn**	**10 54 11.8**	**+1.6**
	baz=53						
KZA	**Kyzart**	**3.20**	**75**	⇑*i*P	**Pn**	**10 53 34.8**	**+2.4**
	baz=76						
KZA				⇑*i*S	**Sn**	**10 54 14.0**	**+3.1**
	baz=76						

IDC ***22*** *10:58:56.7±1.2,5.˚10N×96.˚18E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/42, mbtmp3.6/6, ML3.8/1, MS3.3/5, Ms1 3.3/5, ms1mx3.1/43, Error ellipse: s-maj=51.8km s-min=15.9km az=52.0*

NEIC ***22*** *10:58:58.1±0.6,5.˚00N×96.˚02E, h10km, mb4.2/5, Error ellipse: s-maj=15.1km s-min=8.6km az=55.0*

ISCJB ***22*** *10:58:59.5±0.5,5.˚10N±0.˚04×96.˚14E±0.˚05, h29km, mb3.9/9, MS3.4/1, Error ellipse: s-maj=7.9km s-min=5.0km az=147.2*

DJA ***22*** *10:58:59.8±1.0,5.˚N±5.˚×9.˚6E±.˚, h10km, M4.7/7, mb4.8/1, mB5.0/1, MLv4.6/7, Mw(mB)4.2/1*

ISC 22 10:59:01.3±0.7,5.˚06N±0.˚05×96.˚05E±0.˚07, h29km, n34, σ1§51/41, mb3.9/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**0.91**	**79**	*e*Pn	**Pn**	**10 59 17.3**	**-0.8**
LHMI	**Lhok Sumawe**	**0.91**	**79**	P	**Pn**	**10 59 17.9**	**-0.3**
LHMI				S	**Sn**	**10 59 32.4**	**+2.1**
TPTI		**2.11**	**148**	P	**Pn**	**10 59 33.8**	**-0.9**
TPTI				S	**Sn**	**10 59 59.4**	**-0.6**
KCSI	**Kotacane, Aceh**	**2.29**	**131**	P	**Pn**	**10 59 38.7**	**+1.4**
KCSI				S	**Sn**	**11 00 06.6**	**+2.0**
SNSI	**Sinabang, Aceh**	**2.64**	**174**	P	**Pn**	**10 59 39.7**	**-2.3**
TSI	**Tuntungan**	**2.94**	**122**	P	**Pn**	**10 59 46.9**	**+0.7**
PSI	**Prapat**	**3.64**	**128**	Pn	**Pn**	**10 59 56.4**	**+0.5**
	7.8nm,0.3s,baz=359,slow=6.1,SNR=36						
PSI				Pg	**Pb**	**11 00 06.7**	**+1.7**
	15nm,0.3s,baz=360,slow=8.1,SNR=19						
PSI				Sn	**Sn**	**11 00 35.3**	**-2.6**
	13nm,0.3s,baz=360,slow=15,SNR=5.7						
PSI				Lg	Lg	11 00 50.9	
	27nm,0.3s,baz=0.0,slow=9.1,SNR=11						
PSI				LR	LR	11 01 33.2	
	comp=Z,602nm,18.9s,baz=178,slow=43						
PSI	**Prapat**	**3.64**	**128**	*e*Pn	**Pn**	**10 59 56.7**	**+0.8**
PSI				*e*Sn	**Sn**	**11 00 39.5**	**+1.6**
GSI	**Gunungsitoli**	**4.03**	**158**	*e*Pn	**Pn**	**11 00 01.7**	**+0.6**
GSI				*e*Sn	**Sn**	**11 00 48.6**	**+1.3**
GSI	**Gunungsitoli**	**4.03**	**158**	P	**Pn**	**11 00 01.0**	**-0.1**
KULM	**Kulim**	**4.59**	**87**	*e*Pn	**Pn**	**11 00 08.5**	**-0.3**
KULM				*e*Sn	**Sn**	**11 00 58.5**	**-2.7**
IPM	**Ipoh**	**4.99**	**96**	*e*Pn	**Pn**	**11 00 13.7**	**-0.7**
IPM				*e*Sn	**Sn**	**11 01 08.5**	**-2.7**
MNSI	**Mandailing Nat**	**5.51**	**140**	P	**Pn**	**11 00 21.7**	**+0.3**
MYKOM	**Kota Tinggi**	**8.43**	**112**	*e*Pn	**Pn**	**11 01 00.6**	**-1.0**
MYKOM				*e*Sn	**Sn**	**11 02 33.7**	**-2.3**
PBKT	**Sadao Pong**	**12.42**	**22**	*e*Pn	**Pn**	**11 01 58.6**	**+2.3**
CMAR	**Chiang Mai Arr**	**13.62**	**12**	LR	LR	11 08 06.3	
	comp=Z,50nm,18.8s,baz=215,slow=41						
LEM	**Lembang**	**16.51**	**136**	LR	LR	11 08 45.8	
	comp=Z,154nm

IDC ***22*** *11:12:24.7±2.1,33˚40N×48˚54E,h76km±19km,mb4.3/41, mb1 4.4/44,mb1mx4.3/55,mbtmp4.6/44,MS3.8/26, Ms1 3.8/26,ms1mx3.7/51,Error ellipse: s-maj=10.0km s-min=8.5km az=158.0*

ISC 22 11:12:17.2±0.6,33˚22N±0.0˚02×48˚60E±0.0˚03,h17km±3km, n681,σt1s86/711,mb4.9/176,MS4.0/31,112C-30D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKMR	**Kamar-syah**	**0.35**	**329**	*e*Pg	**Pg**	**11 12 21.8**	**-2.6**
IKMR				*e*Sg	**Sg**	**11 12 25.0**	**-4.4**
IKMR				IAMB	IAmb	11 12 27.3	
	comp=Z,0.0nm,0.2s						
IKFM	**Kafar-mosalman**	**0.70**	**296**	*e*Pg	**Pb**	**11 12 28.5**	**-2.4**
IKFM				*e*Sg	**Sb**	**11 12 39.6**	**-0.6**
IKFM				IAMB	IAmb	11 12 42.4	
	comp=Z,0.0nm,0.4s						
HSAM	**Samen**	**0.99**	**0**	*e*Pg	**Pb**	**11 12 33.2**	**-2.8**
HSAM				*e*Sg	**Sb**	**11 12 47.0**	**-1.9**
HSAM				IAMB	IAmb	11 12 52.2	
	comp=Z,0.0nm,0.7s						
SHGR	**Shooshtar-Gavs**	**1.12**	**171**	*e*Pg	**Pb**	**11 12 38.2**	**+0.1**
SHGR	**Shooshtar-Gavs**	**1.12**	**171**	*e*Pg	**Pb**	**11 12 38.2**	**+0.1**
SHGR	**Shooshtar-Gavs**	**1.12**	**171**	*e*Pg	**Pb**	**11 12 38.2**	**+0.1**
KHMZ	**Khomeyn**	**1.25**	**65**	*e*Pg	**Pn**	**11 12 38.8**	**-1.3**
KHMZ	**Khomeyn**	**1.25**	**65**	*e*Pg	**Pn**	**11 12 38.8**	**-1.3**
KHMZ	**Khomeyn**	**1.25**	**65**	*e*Pg	**Pn**	**11 12 38.8**	**-1.3**
IKOM	**Komasi**	**1.31**	**317**	*e*Pg	**Pn**	**11 12 38.9**	**-2.0**
IKOM				IAMB	IAmb	11 13 06.4	
	comp=Z,0.0nm,0.4s						
ASAO	**Ashtian**	**1.78**	**42**	*e*Pg	**Pn**	**11 12 48.0**	**+0.7**
ASAO	**Ashtian**	**1.78**	**42**	*e*Pn	**Pn**	**11 12 48.1**	**+0.7**
ASAO	**Ashtian**	**1.78**	**42**	*e*AML	AML	11 13 19.0	
	comp=E,4μm,0.6s						
ASAO	**Ashtian**	**1.78**	**42**	*e*Pg	**Pn**	**11 12 48.0**	**+0.7**
AHWZ	**Ahwaz**	**1.89**	**179**	*e*Pn	**Pb**	**11 12 51.7**	**+0.6**
IVIS	**Veis**	**1.95**	**312**	*e*Pn	**Pb**	**11 12 51.2**	**-1.1**
IVIS				IAMB	IAmb	11 13 23.8	
	comp=Z,32μm,1.0s						
IPIR	**Pirpir**	**2.00**	**105**	*e*Pn	**Pb**	**11 12 53.9**	**+0.6**
IPIR	**Pirpir**	**2.00**	**105**	*e*Pn	**Pb**	**11 12 54.0**	**+0.6**
IPIR				IAMB	IAmb	11 13 35.0	
	comp=Z,40μm,0.7s						
IGHG	**Ghaleghazi**	**2.02**	**304**	*e*Pn	**Pb**	**11 12 52.2**	**-1.4**
IGHG				IAMB	IAmb	11 13 31.1	
	comp=Z,91μm,0.8s						
HSRG	**Sareghieh**	**2.03**	**353**	*e*Pn	**Pn**	**11 12 51.0**	**+0.1**
HSRG				IAMB	IAmb	11 13 22.8	
	comp=N,0.0nm,0.9s						
HKZM	**Kohzaman**	**2.17**	**7**	*e*Pn	**Pn**	**11 12 53.7**	**+0.9**
HKZM				IAMB	IAmb	11 13 27.5	
	comp=Z,0.0nm,1.4s						
ILIN	**Lien**	**2.17**	**322**	*e*Pn	**Pb**	**11 12 54.9**	**-1.3**
ILIN				IAMB	IAmb	11 13 28.5	
	comp=Z,16μm,0.4s						
ZNGN	**Zangian**	**2.20**	**119**	*e*Pn	**Pb**	**11 12 56.1**	**-0.6**
ROKH	**ROKH**	**2.23**	**112**	*e*Pn	**Pb**	**11 12 56.7**	**-0.5**
ROKH				IAMB	IAmb	11 13 37.6	
	comp=Z,0.0nm,1.4s						
IRAZ	**Razeghan**	**2.44**	**26**	*e*Pn	**Pb**	**11 12 58.9**	**-1.9**
IRAZ				IAMB	IAmb	11 13 40.5	
	comp=Z,2μm,1.0s						
IKLH	**Kolahroud**	**2.50**	**87**	*e*Pn	**Pb**	**11 13 00.5**	**-1.3**
IKLH				IAMB	IAmb	11 13 46.9	
	comp=E,57μm,1.0s						
IMHD	**Mahdasht**	**3.00**	**34**	IAMB	IAmb	11 13 54.2	
	comp=Z,20μm,0.6s						
IMHD				*e*Pn	**Pn**	**11 13 06.9**	**+2.9**
IGAR	**Gharneh**	**3.01**	**105**	*e*Pn	**Pn**	**11 13 07.1**	**+2.7**
IGAR				IAMB	IAmb	11 14 04.2	
	comp=Z,13μm,0.7s						
KRSH	**Karshahi**	**3.05**	**75**	*e*Pn	**Pn**	**11 13 07.6**	**+2.8**
IZEF	**Zefreh**	**3.15**	**95**	IAMB	IAmb	11 13 24.4	
	comp=Z,8μm,0.7s						
IZEF				*e*Pn	**Pn**	**11 13 08.9**	**+2.6**
KLNJ	**Kolanjah**	**3.37**	**130**	*e*Pn	**Pn**	**11 13 11.6**	**+2.3**
TEH	**Tehran**	**3.41**	**42**	*e*Pn	**Pn**	**11 13 12.2**	**+2.5**
ZNJK	**Zanjan**	**3.44**	**1**	*e*Pn	**Pn**	**11 13 12.9**	**+2.7**
ZNJK	**Zanjan**	**3.44**	**1**	*e*Pn	**Pn**	**11 13 12.9**	**+2.7**
ZNJK	**Zanjan**	**3.44**	**1**	*e*Pn	**Pn**	**11 13 12.9**	**+2.7**
IRAM	**Ramesheh**	**3.49**	**113**	*e*Pn	**Pn**	**11 13 12.9**	**+1.9**
IRAM				IAMB	IAmb	11 14 21.9	
	comp=Z,16μm,1.5s						
IDMV	**Damavand**	**3.69**	**49**	*e*Pn	**Pn**	**11 13 16.1**	**+2.4**
IDMV				IAMB	IAmb	11 14 36.9	
	comp=Z,28μm,1.4s						
IFIR	**Firoozkooh**	**4.20**	**54**	*e*Pn	**Pn**	**11 13 23.1**	**+2.4**
IFIR				IAMB	IAmb	11 13 45.4	
	comp=Z,5μm,0.4s						
ILAS	**Lasjerd**	**4.21**	**58**	*e*Pn	**Pn**	**11 13 23.3**	**+2.5**
ILAS				IAMB	IAmb	11 14 50.8	
	comp=Z,12μm,1.2s						
ANAR	**Anarak**	**4.30**	**89**	*e*Pn	**Pn**	**11 13 24.6**	**+2.6**
IKAZ	**Kazeroun**	**4.41**	**140**	*e*Pn	**Pn**	**11 13 26.1**	**+2.4**
IKAZ				IAMB	IAmb	11 15 21.5	
	comp=Z,17μm,1.0s						
ISAD	**Sadrabad**	**4.49**	**105**	*e*Pn	**Pn**	**11 13 27.2**	**+2.5**
ISAD				IAMB	IAmb	11 15 19.8	
	comp=Z,5μm,1.1s						
IALA	**Alasht**	**4.50**	**49**	*e*Pn	**Pn**	**11 13 28.5**	**+3.7**
IALA				IAMB	IAmb	11 13 47.4	
	comp=Z,9μm,0.9s						
IALA				IAMB	IAmb	11 14 55.4	
	comp=E,22μm,0.8s						
ISRB	**Sarab**	**4.66**	**351**	*e*Pn	**Pn**	**11 13 28.3**	**+1.4**
ISRB				IAMB	IAmb	11 15 01.5	
	comp=N,27μm,1.4s						
ISHM	**Shahmirzad**	**4.66**	**55**	*e*Pn	**Pn**	**11 13 29.1**	**+2.1**
ISHM				IAMB	IAmb	11 14 52.2	
	comp=Z,12μm,0.7s						
IBST	**Bostanabad**	**4.68**	**343**	*e*Pn	**Pn**	**11 13 28.4**	**+1.1**
IBST				IAMB	IAmb	11 14 52.2	
	comp=Z,7μm,1.4s						
IANJ	**Anjilo**	**4.94**	**62**	*e*Pn	**Pn**	**11 13 32.8**	**+2.0**
IANJ				IAMB	IAmb	11 15 22.8	
	comp=Z,6μm,1.0s						
ICHK	**Chekchek**	**4.99**	**100**	*e*Pn	**Pn**	**11 13 33.6**	**+2.0**
ICHK				IAMB	IAmb	11 15 09.5	
	comp=Z,9μm,1.0s						
YZKH	**Yazd**	**5.12**	**98**	*e*Pn	**Pn**	**11 13 34.3**	**+1.1**
YZKH	**Yazd**	**5.12**	**98**	*e*Pn	**Pn**	**11 13 34.3**	**+1.1**
IKIA	**Kiasar**	**5.14**	**53**	*e*Pn	**Pn**	**11 13 36.0**	**+2.4**
IKIA				IAMB	IAmb	11 15 21.6	
	comp=Z,10μm,1.4s						
IHRS	**Heris**	**5.24**	**346**	*e*Pn	**Pn**	**11 13 37.0**	**+2.0**
IHRS				IAMB	IAmb	11 14 07.4	
	comp=Z,6μm,1.0s						
ASTR	**Astara**	**5.33**	**2**	⇑P	**Pn**	**11 13 37.7**	**+1.8**
	SNR=11						
ASTR				⇓S	**Sn**	**11 14 39.9**	**+2.9**
IMEH	**Mehriz**	**5.41**	**108**	*e*Pn	**Pn**	**11 13 39.8**	**+2.5**
LRK	**Lerik**	**5.42**	**358**	⇓P	**Pn**	**11 13 40.2**	**+2.9**
	SNR=45						
LRK				⇓S	**Sn**	**11 14 42.5**	**+3.1**
ISRV	**Sarvestan**	**5.44**	**134**	*e*Pn	**Pn**	**11 13 40.6**	**+2.8**
LKRN	**Lenkeran, Azer**	**5.48**	**2**	P	**Pn**	**11 13 40.2**	**+2.2**
	SNR=11						
LKRN				⇓S	**Sn**	**11 14 43.6**	**+3.0**
GRMI	**Germi**	**5.61**	**354**	*e*Pn	**Pn**	**11 13 42.3**	**+2.4**
GRMI	**Germi**	**5.61**	**354**	*e*Pn	**Pn**	**11 13 42.3**	**+2.4**
GRMI	**Germi**	**5.61**	**354**	*e*Pn	**Pn**	**11 13 42.3**	**+2.4**
CUKT	**Cukurca**	**5.73**	**316**	*e*P	**Pn**	**11 13 41.1**	**-0.5**
GLBA	**Clilabad**	**6.01**	**358**	P	**Pn**	**11 13 48.4**	**+3.1**
	SNR=24						
GLBA				⇑S	**Sn**	**11 14 56.6**	**+2.9**
ORD	**Ordubad**	**6.07**	**340**	⇑P	**Pn**	**11 13 50.3**	**+4.1**
ORD				⇑S	**Sn**	**11 15 04.2**	**+8.8**
GHIR	**Ghir-Karzin**	**6.20**	**141**	*e*P	**Pn**	**11 13 49.1**	**+1.0**
GHIR	**Ghir-Karzin**	**6.20**	**141**	*e*Pn	**Pn**	**11 13 49.1**	**+1.0**
GHIR	**Ghir-Karzin**	**6.20**	**141**	*e*AML	AML	11 15 26.8	
	comp=E,96nm,0.6s						
GHIR				*e*AML	AML	11 15 35.8	
	comp=N,95nm,0.6s						
GHIR	**Ghir-Karzin**	**6.20**	**141**	*e*P	**Pn**	**11 13 49.1**	**+1.0**
NAX	**Nakhchivan**	**6.45**	**338**	⇓P	Pn	11 13 56.2	+4.8
	SNR=4.8						
NAX				⇓S	Sn	11 15 13.9	+9.2
SIRT	**Sirnak**	**6.60**	**312**	*e*P	**Pn**	**11 13 52.9**	**-0.6**
SIRT	**Sirnak**	**6.60**	**312**	*e*Pn	**Pn**	**11 13 52.9**	**-0.6**
SIRT				*e*Sn	**Sn**	**11 15 07.9**	**-0.4**
SBZ	**Shahbuz**	**6.63**	**339**	⇑P	Pn	11 13 58.8	+4.8
SBZ				⇑S	Sn	11 15 18.6	+9.3
SHRO	**Shahrood**	**6.71**	**64**	*e*Pn	**Pn**	**11 13 56.7**	**+1.7**
SHRO	**Shahrood**	**6.71**	**64**	*e*Pn	**Pn**	**11 13 56.7**	**+1.7**
TNSJ	**Nastanj**	**6.73**	**81**	*e*Pn	**Pn**	**11 13 57.2**	**+1.9**
ALIB	**Äli-Bayra**	**6.73**	**3**	⇑P	**Pn**	**11 13 57.4**	**+2.2**
ALIB				⇓S	**Sn**	**11 15 14.8**	**+3.3**
TPRV	**Parvadeh(Tabas**	**6.79**	**89**	*e*Pn	**Pn**	**11 13 58.4**	**+2.3**
VANB	**Van**	**6.83**	**323**	*e*P	**Pn**	**11 13 56.9**	**+0.3**
AKDM	**Akdamar-Van**	**6.84**	**320**	*e*P	**Pn**	**11 13 57.3**	**+0.4**
MAKU	**Maku**	**6.89**	**334**	*e*Pn	**Pn**	**11 14 00.8**	**+3.2**
MAKU	**Maku**	**6.89**	**334**	*e*Pn	**Pn**	**11 14 00.8**	**+3.2**
MAKU	**Maku**	**6.89**	**334**	*e*Pn	**Pn**	**11 14 00.8**	**+3.2**
CLDR	**Caldiran**	**7.02**	**329**	*e*P	**Pn**	**11 14 02.3**	**+3.0**
ZRD	**Zardab**	**7.08**	**354**	⇓P	**Pn**	**11 14 03.5**	**+3.4**
ZRD	SNR=6.4			⇑S	**Sn**	**11 15 26.4**	**+6.3**
BRDA	**Brd**	**7.12**	**351**	⇑S	**Sn**	**11 15 27.7**	**+6.7**
TABS	**Tabas**	**7.14**	**84**	*e*Pn	**Pn**	**11 14 02.7**	**+1.8**
TABS	**Tabas**	**7.14**	**84**	*e*Pn	**Pn**	**11 14 02.7**	**+1.8**
TABS	**Tabas**	**7.14**	**84**	*e*Pn	**Pn**	**11 14 02.7**	**+1.8**
TKDS	**Koohdasht(Taba**	**7.14**	**85**	*e*Pn	**Pn**	**11 14 03.2**	**+2.2**
KDMR	**Kurdemir**	**7.15**	**357**	⇑S	**Sn**	**11 15 27.1**	**+5.4**
HYR	**Heyderabad**	**7.15**	**336**	⇑P	Pn	11 14 06.0	+5.0
HYR				⇓S	Sn	11 15 31.2	+9.3
SRTM	**Siirt_Merkez**	**7.22**	**313**	*i* P	**Pn**	**11 14 02.1**	**+0.1**
GALA	**Gala**	**7.28**	**9**	⇓S	**Sn**	**11 15 28.2**	**+3.1**
KHGB	**Koh Gabri**	**7.28**	**111**	*e*Pn	**Pn**	**11 14 05.6**	**+2.6**
GBS	**Qobustan**	**7.31**	**2**	⇓P	**Pn**	**11 14 05.0**	**+1.9**
GBS				⇑S	**Sn**	**11 15 28.8**	**+3.1**
NDR	**Nardaran**	**7.43**	**8**	⇓S	**Sn**	**11 15 31.1**	**+2.4**
GURO	**Guroymak-BITLI**	**7.53**	**317**	*e*P	**Pn**	**11 14 05.8**	**-0.5**
PQL	**Pirkuli**	**7.55**	**360**	⇑P	**Pn**	**11 14 09.4**	**+2.7**
PQL	SNR=8.1			⇑S	**Sn**	**11 15 35.1**	**+3.1**
IML	**Ismayilli**	**7.56**	**358**	⇓P	**Pn**	**11 14 09.9**	**+3.2**
IML	SNR=4.7			⇑S	**Sn**	**11 15 35.4**	**+3.3**
GNI	**Garni**	**7.58**	**337**	*e*Pn	**Pn**	**11 14 07.2**	**+0.2**
GNI	**Garni**	**7.58**	**337**	⇑*e*P	**Pn**	**11 14 06.6**	**-0.4**
ATGJ	**Altiaghaj**	**7.63**	**2**	⇑P	**Pn**	**11 14 10.4**	**+2.7**
ATGJ	SNR=7.0			⇑S	**Sn**	**11 15 38.1**	**+4.3**
GANJ	**Ganja**	**7.63**	**347**	P	**Pn**	**11 14 11.6**	**+4.0**
GANJ	SNR=6.9			⇓S	**Sn**	**11 15 40.5**	**+6.8**
MNGR	**Mingechevir, A**	**7.63**	**351**	⇑S	**Sn**	**11 15 39.6**	**+6.0**
KRBR	**Kerman**	**7.67**	**113**	*e*Pn	**Pn**	**11 14 10.3**	**+1.8**
KRBR	**Kerman**	**7.67**	**113**	*e*Pn	**Pn**	**11 14 10.3**	**+1.8**
KRBR	**Kerman**	**7.67**	**113**	*e*AML	AML	11 16 51.3	
	comp=E,58nm,0.9s						
KRBR	**Kerman**	**7.67**	**113**	*e*Pn	**Pn**	**11 14 10.3**	**+1.8**
QBL	**Gabala**	**7.74**	**356**	⇑S	**Sn**	**11 15 40.7**	**+4.4**
SVAN	**Silvan-Diyarba**	**7.77**	**311**	*e*P	**Pn**	**11 14 09.4**	**-0.1**
GDB	**GEDABAY**	**7.82**	**344**	⇓P	**Pn**	**11 14 14.5**	**+4.1**
GDB	SNR=3.5			⇓S	**Sn**	**11 15 46.5**	**+7.9**
SIZA	**Siyzn**	**7.84**	**2**	⇑P	**Pn**	**11 14 13.1**	**+2.5**
XNQ	**Khinaliq**	**7.95**	**358**	⇑P	**Pn**	**11 14 15.2**	**+3.1**
XNQ	SNR=8.4			⇑S	**Sn**	**11 15 47.3**	**+5.6**
SEKA	**Sheki**	**8.05**	**352**	⇓P	**Pn**	**11 14 16.6**	**+3.2**
SEKA	SNR=9.2			⇑S	**Sn**	**11 15 49.4**	**+5.4**
SBZV	**Sabzevar**	**8.06**	**64**	*e*Pn	**Pn**	**11 14 15.8**	**+2.1**
QUBA	**Quba, Azerbaij**	**8.12**	**359**	⇑P	**Pn**	**11 14 16.8**	**+2.5**
QUBA				⇓S	**Sn**	**11 15 50.0**	**+4.2**
QZX	**Qazax, Azerbai**	**8.23**	**343**	⇑P	**Pn**	**11 14 20.1**	**+4.3**
	SNR=3.8						
QSAR	**Qusar**	**8.28**	**358**	⇓P	**Pn**	**11 14 19.3**	**+2.8**
	SNR=4.4						
ITEG	**Tejag**	**8.53**	**89**	*e*Pn	**Pn**	**11 14 22.1**	**+2.0**
ZKTA	**Zakatala**	**8.55**	**350**	⇑P	**Pn**	**11 14 23.8**	**+3.6**
	SNR=10.0						
ISFR	**Sfrayin**	**8.60**	**61**	*e*Pn	**Pn**	**11 14 23.1**	**+2.0**
KARS	**Kars**	**8.61**	**331**	*e*Pn	**Pn**	**11 14 24.1**	**+3.0**
KARS	**Kars**	**8.61**	**331**	*e*P	**Pn**	**11 14 24.1**	**+3.0**
LGD	**Lagodekhi**	**8.80**	**348**	P	Pn	11 14 30.2	+6.6
LGD	**Lagodekhi**	**8.80**	**348**	*e*P	Pn	11 14 30.1	+6.5
URFA	**Urfa**	**9.03**	**301**	*e*P	**Pn**	**11 14 31.5**	**+4.7**
TBLG	**Delisi**	**9.03**	**341**	P	Pn	11 14 31.8	+5.0
TBLG	**Delisi**	**9.03**	**341**	*e*Pn	**Pn**	**11 14 30.9**	**+4.1**
TBLG	**Delisi**	**9.03**	**341**	*e*P	**Pn**	**11 14 30.9**	**+4.1**
TRLG	**Trialeti**	**9.04**	**338**	P	**Pn**	**11 14 31.3**	**+4.3**
GEYT	**Alibeck**	**9.07**	**56**	P	**Pn**	**11 14 31.7**	**+4.4**
	comp=E,1.0nm,0.3s,baz=262,slow=10,SNR=10						
GEYT				LR	LR	11 18 59.2	
	comp=E,258nm,21.9s,baz=250,slow=44						
GYA0B	**ALIBECK ARRAY**	**9.07**	**56**	*e*Pn	**Pn**	**11 14 31.3**	**+4.0**
GYA0B	**ALIBECK ARRAY**	**9.07**	**56**	⇑Pn	**Pn**	**11 14 30.9**	**+3.6**
	comp=E,37nm,1.1s						
GYA0B				⇓Sn	Sn	11 16 30.4	+21
	comp=E,69nm,1.4s						
IEMG	**Emamgholi**	**9.22**	**60**	*e*Pn	**Pn**	**11 14 32.2**	**+2.5**
PTK	**Peyk**	**9.35**	**310**	*e*P	**Pn**	**11 14 30.6**	**-0.8**
SHME	**Shamm**	**9.70**	**135**	Pn	**Pn**	**11 14 37.4**	**+1.4**
SHME	**Shamm**	**9.70**	**135**	*e*Pn	**Pn**	**11 14 36.2**	**+0.2**
MAK	**Makhachkala**	**9.76**	**355**	*e*P	**Pn**	**11 14 36.5**	**-0.2**
MAK				*e*S	**Sn**	**11 16 25.3**	**-0.6**
MAK				pmax	pmax		
	comp=Z,105nm,1.1s						
MAK				MLR	MLR		
	comp=Z,686nm,15.0s						
SHRT	**Shahrakht**	**9.78**	**84**	*e*Pn	**Pn**	**11 14 38.6**	**+1.4**
SHRT	**Shahrakht**	**9.78**	**84**	*e*Pn	**Pn**	**11 14 38.6**	**+1.4**
SHRT	**Shahrakht**	**9.78**	**84**	*e*Pn	**Pn**	**11 14 38.6**	**+1.4**
BANOM	**Banah**	**9.89**	**135**	*i* Pn	**Pn**	**11 14 38.3**	**-0.3**
	SNR=31						
BANOM	**Banah**	**9.89**	**135**	P	**Pn**	**11 14 42.7**	**+4.1**
	SNR=9.0						
BCA	**Borcka**	**9.91**	**328**	*e*P	**Pn**	**11 14 40.2**	**+1.4**
RAYN	**Ar Rayn**	**10.04**	**197**	*e*Pn	**Pn**	**11 14 39.4**	**-1.3**
RAYN				*e*Sn	**Sn**	**11 16 31.4**	**-1.5**
RAYN	**Ar Rayn**	**10.04**	**197**	*i* Pn	**Pn**	**11 14 39.2**	**-1.5**
	SNR=124						
RAYN	**Ar Rayn**	**10.04**	**197**	*e*P	**Pn**	**11 14 39.4**	**-1.3**
RAYN				*e*		11 16 31.4	
CHAY	**Cayeli-Rize**	**10.05**	**324**	*e*P	**Pn**	**11 14 41.2**	**+0.5**
TOTH	**TOTAH**	**10.19**	**274**	*e*P	Pn	11 14 37.4	-5.3
TOTH				*e*S	Sn	11 17 05.3	+29
TOTH				AML	AML	11 18 21.2	
	comp=E,32nm,1.0s						
TOTH				AML	AML	11 18 40.0	
	comp=N,31nm,0.9s						
MSFE	**Esma-Masafi**	**10.24**	**138**	*i* Pn	**Pn**	**11 14 43.6**	**+0.1**
	SNR=26						
MSFE	**Esma-Masafi**	**10.24**	**138**	*e*Pn	**Pn**	**11 14 43.9**	**+0.5**
ZEI	**Tsey**	**10.24**	**340**	*e*P	**Pn**	**11 14 44.8**	**+1.3**
ZEI				pmax	pmax		
	comp=Z,28nm,1.5s						
NAZ	**Nazwa, Dubai**	**10.27**	**141**	*i* Pn	**Pn**	**11 14 44.8**	**+1.0**
	SNR=15						
NAZ	**Nazwa, Dubai**	**10.27**	**141**	P	**Pn**	**11 14 45.6**	**+1.8**
	SNR=12						
NAZ				S	**Sn**	**11 16 34.5**	**-4.0**
NAZ	**Nazwa, Dubai**	**10.27**	**141**	*e*Pn	**Pn**	**11 14 47.1**	**+3.3**
AJN	**Ajban**	**10.28**	**145**	*e*Pn	**Pn**	**11 14 47.0**	**+3.0**
QASN	**Qassioun**	**10.31**	**275**	*e*P	Pn	11 14 34.1	-10
QASN				AML	AML	11 17 18.3	
	comp=N,172nm,0.1s						
QASN				AML	AML	11 18 07.1	
	comp=E,247nm,0.1s						
MDH	**Madha**	**10.37**	**138**	*i* Pn	**Pn**	**11 14 46.2**	**+1.0**
	SNR=29						
MDH	**Madha**	**10.37**	**138**	P	**Pn**	**11 14 45.5**	**+0.4**
	SNR=12						
MDH				S	**Sn**	**11 16 37.3**	**-3.6**
MDH	**Madha**	**10.37**	**138**	*e*Pn	**Pn**	**11 14 45.8**	**+0.7**
ASUD	**Al Ashush, Dub**	**10.39**	**144**	*i* Pn	**Pn**	**11 14 46.9**	**+1.4**
	SNR=8.7						
ASUD	**Al Ashush, Dub**	**10.39**	**144**	P	**Pn**	**11 14 46.7**	**+1.2**
	SNR=7.4						
ASUD	**Al Ashush, Dub**	**10.39**	**144**	*e*Pn	**Pn**	**11 14 47.9**	**+2.4**
FAQ	**Al Faqa, Dubai**	**10.43**	**142**	*i* Pn	**Pn**	**11 14 47.7**	**+1.8**
	SNR=10						
FAQ	**Al Faqa, Dubai**	**10.43**	**142**	*e*Pn	**Pn**	**11 14 48.3**	**+2.3**
UOSS	**Minazif**	**10.59**	**139**	*e*Pn	**Pn**	**11 14 48.9**	**+0.7**
UOSS				*e*Sn	**Sn**	**11 16 42.9**	**-3.6**
UOSS	**Minazif**	**10.59**	**139**	*i* Pn	**Pn**	**11 14 49.2**	**+1.0**
	SNR=21						
UOSS	**Minazif**	**10.59**	**139**	P	**Pn**	**11 14 48.4**	**+0.2**
	SNR=12						
UOSS				S	**Sn**	**11 16 39.3**	**-7.2**
UOSS	**Minazif**	**10.59**	**139**	*e*Pn	**Pn**	**11 14 48.6**	**+0.4**
HATD	**Hatta, Dubai**	**10.65**	**140**	*i* Pn	**Pn**	**11 14 50.5**	**+1.5**
	SNR=9.8						
HATD	**Hatta, Dubai**	**10.65**	**140**	P	**Pn**	**11 14 50.1**	**+1.1**
	SNR=8.0						
HATD				S	**Sn**	**11 16 43.7**	**-4.2**
HATD	**Hatta, Dubai**	**10.65**	**140**	*e*Pn	**Pn**	**11 14 50.9**	**+1.9**
ASHO	**Ashiyiah**	**10.72**	**141**	*i* Pn	**Pn**	**11 14 50.6**	**+0.5**
	SNR=43						
ASHO	**Ashiyiah**	**10.72**	**141**	P	**Pn**	**11 14 50.6**	**+0.5**
	SNR=13						
ASHO				S	**Sn**	**11 16 44.4**	**-5.4**
ASHO	**Ashiyiah**	**10.72**	**141**	*e*Pn	**Pn**	**11 14 50.6**	**+0.5**
CUKAN	**kangal_SIVAS**	**10.85**	**307**	*i* P	**Pn**	**11 14 54.3**	**+2.5**
CUZAR	**Zara_SIVAS**	**10.95**	**310**	*i* P	**Pn**	**11 14 57.7**	**+4.5**
MZR	**Muzera**	**11.05**	**156**	*i* Pn	**Pn**	**11 14 56.2**	**+1.7**
	SNR=13						
MZR	**Muzera**	**11.05**	**156**	P	**Pn**	**11 14 56.4**	**+1.9**
	SNR=28						
MZR	**Muzera**	**11.05**	**156**	*e*Pn	**Pn**	**11 14 55.8**	**+1.3**
ALNE	**Al Ain**	**11.08**	**144**	Pn	**Pn**	**11 14 55.9**	**+1.0**
ALNE	**Al Ain**	**11.08**	**144**	*e*Pn	**Pn**	**11 14 56.7**	**+1.8**
GHAJ	**Ghor Haditha**	**11.20**	**264**	Pn	**Pn**	**11 14 58.1**	**+1.7**
HNTI	**Hanita**	**11.25**	**273**	Pn	**Pn**	**11 14 57.3**	**+0.1**
KBZ	**Khabaz**	**11.40**	**339**	P	**Pn**	**11 15 03.2**	**+4.1**
	comp=E,0.1nm,0.3s,baz=157,slow=9.2,SNR=8.1						
KBZ				LR	LR	11 18 55.3	
	comp=E,218nm,21.7s,baz=152,slow=35						
SOHO	**SOHO**	**11.42**	**140**	P	**Pn**	**11 14 59.6**	**0.0**
	SNR=9.9						
OFRI	**`Ofer**	**11.46**	**271**	Pn	**Pn**	**11 15 01.1**	**+1.1**
SLTI	**Sal'it**	**11.46**	**269**	Pn	**Pn**	**11 15 01.6**	**+1.5**
SVSK	**Karacayir**	**11.47**	**309**	*e*P	**Pn**	**11 15 00.1**	**0.0**
KVAR	**Kislovodsk Arr**	**11.67**	**338**	LR	LR	11 19 08.1	
	comp=E,2μm,18.7s,baz=104,slow=35						
KIV	**Kislovodsk**	**11.67**	**338**	*e*Pn	**Pn**	**11 15 02.8**	**-0.2**
KIV	**Kislovodsk**	**11.67**	**338**	*i* Pn	**Pn**	**11 15 06.8**	**+3.8**
	SNR=5.8						
KIV	**Kislovodsk**	**11.67**	**338**	*e*P	**Pn**	**11 15 04.8**	**+1.9**
KIV				pmax	pmax		
	comp=Z,52nm,1.1s						
KIV				MLR	MLR		
	comp=Z,210nm,10.0s						
ZFRI	**Zfri**	**11.71**	**260**	Pn	**Pn**	**11 15 05.5**	**+2.0**
BNN	**Bunyan**	**11.75**	**302**	*e*P	**Pn**	**11 15 05.7**	**+1.6**
PRNI	**Paran**	**11.91**	**260**	Pn	**Pn**	**11 15 07.4**	**+1.1**
HRFI	**Mount Harif**	**11.98**	**258**	Pn	**Pn**	**11 15 09.1**	**+1.8**
MBRI	**Mt Berech**	**12.16**	**257**	Pn	**Pn**	**11 15 11.3**	**+1.5**
EIL	**Elat**	**12.18**	**257**	*e*Pn	**Pn**	**11 15 08.5**	**-1.4**
EIL	**Elat**	**12.18**	**257**	Pn	**Pn**	**11 15 11.8**	**+1.9**
HOQ	**Hoqain**	**12.28**	**139**	*e*Pn	**Pn**	**11 15 15.8**	**+4.4**
SOC	**Sochi**	**12.46**	**329**	*e*P	**Pn**

KIS Kishinev 20.37 318 *e*P P 11 16 51.0 -1.9
KIS *e* 11 20 40.0
KIS pmax pmax
comp=Z,400nm,1.6s
KIS MLR MLR
comp=Z,500nm,14.0s
PGOR Pogoanele 20.37 311⇑*i*P Pn 11 16 54.9 -0.1
LEOM Leova 20.40 316⇑*i*P P **11 16 53.2 0.0**
NIL Nilore 20.57 82 *e*P P **11 16 56.2 +1.0**
comp=Z,173nm,0.8s
NIL Nilore 20.57 82 *e*P P **11 16 56.3 +1.0**
NIL pmax pmax
comp=Z,173nm,0.8s
LPSR Galich'ya Gora 20.59 343 *e*P P **11 16 54.4 -0.7**
LPSR pmax pmax
comp=Z,280nm,0.8s
PETR Petresti 20.61 314⇑*i*P Pn 11 16 56.7 -1.1
SGRR Singureni 20.72 309⇑*i*P P **11 16 56.6 -0.1**
ODBI Odobesti 20.74 313⇑*i*P Pn 11 16 58.5 -0.7
ISR Istrita 20.75 311⇑*i*P Pn 11 16 58.8 -0.6
PLD Plovdiv 20.84 302 P P **11 16 57.0 -1.0**
MNAS Manas 20.97 57 ⇑P P **11 17 00.6 +1.1**
comp=Z,18nm,1.1s
MNAS Manas 20.97 57 P P **11 17 00.6 +1.1**
MNAS pmax pmax
comp=Z,18nm,1.1s
VRI Vrincioaia 20.99 313⇑*i*P P **11 16 59.7 +0.1**
SECR 21.01 311⇑*i*P P **11 17 01.4 +1.6**
PLOR Plostina 21.03 313⇑*i*P P **11 17 01.0 +1.0**
SFK Sufi-Kurgan 21.07 64 ⇑P P **11 17 01.5 +0.6**
comp=Z,41nm,1.3s
SFK Sufi-Kurgan 21.07 64 P P **11 17 01.4 +0.6**
SFK pmax pmax
comp=Z,41nm,1.3s
IAS Iasi 21.19 317⇑*i*P P **11 17 00.6 -1.1**
MLR Muntele Rosu 21.29 312 P P **11 17 03.3 +0.3**
comp=Z,38nm,1.0s,baz=111,slow=4.0,SNR=23
MLR LR LR 11 25 39.1
comp=Z,207nm,21.2s,baz=146,slow=38
MLR Muntele Rosu 21.29 312 *e*P P **11 17 03.5 +0.5**
comp=Z,75nm,0.8s
MLR Muntele Rosu 21.29 312⇓*i*P P **11 17 04.7 +1.7**
PGB Panagyurishte 21.35 303 P P **11 17 04.0 +0.4**
MMB Musomiste 21.39 300 P P **11 17 03.6 -0.4**
HUMR Humele 21.50 309⇑*i*P P **11 17 06.3 +1.3**
OZUR 21.67 313⇑*i*P P **11 17 07.5 +0.5**
VLAD Vladila 21.68 307⇑*i*P P **11 17 07.4 +0.4**
MTUR Matau 21.73 310⇑*i*P P **11 17 09.1 +1.4**
VOIR 21.83 311⇑*i*P P **11 17 09.8 +1.1**
DOPR Dopca 21.86 312⇑*i*P P **11 17 09.4 +0.5**
BIZ Bicaz 21.90 315⇑*i*P P **11 17 09.4 +0.1**
KKB Krupnik 21.93 301 P P **11 17 09.0 -0.8**
AGG Agios Georgios 21.95 293 *e*P P **11 17 09.7 -0.4**
comp=Z,42nm,1.1s
AGG Agios Georgios 21.95 293 *e*P P **11 17 09.7 -0.4**
AGG pmax pmax
comp=Z,42nm,1.1s
LIT Litokhoron 21.99 296 *e*P P **11 17 09.9 -0.6**
comp=Z,30nm,0.7s
LIT Litokhoron 21.99 296 *e*P P **11 17 09.9 -0.6**
LIT pmax pmax
comp=Z,30nm,0.7s
VTS Vitosha 22.04 302 *e*P P **11 17 10.6 -0.5**
comp=Z,13nm,1.0s
VTS Vitosha 22.04 302⇑*i*P P **11 17 11.3 +0.2**
VTS Vitosha 22.04 302 *e*P P **11 17 10.6 -0.5**
VTS pmax pmax
comp=Z,13nm,1.0s
VTS Vitosha 22.04 302 P P **11 17 10.4 -0.7**
PRAR RASCA 22.05 316⇑*i*P P **11 17 10.2 -0.7**
ARR Arges 22.07 310⇑*i*P P **11 17 11.9 +0.7**
ITM Ithomi 22.12 288 *e*P P **11 17 10.9 -1.0**
comp=Z,44nm,0.6s
ATD Arta Tunnel 22.22 195 P P **11 17 18.5 +5.4**
comp=Z,19nm,0.9s,baz=341,slow=7.5,SNR=5.5
AAK Ala-Archa 22.41 58 P P **11 17 16.9 +1.8**
comp=Z,2.7nm,0.7s,baz=239,slow=10,SNR=7.8
AAK Ala-Archa 22.41 58 *e*P P **11 17 15.8 +0.7**
comp=Z,5.8nm,1.0s
AAK Ala-Archa 22.41 58⇓*e*P P **11 17 16.5 +1.4**
AAK pmax pmax
comp=Z,15nm,2.5s
AKASG Malin Array Be 22.53 327 P P **11 17 14.6 -1.4**
comp=Z,17nm,0.8s,baz=131,slow=9.0,SNR=47
AKASG PcP **PcP** **11 21 08.8 -0.5**
comp=Z,0.6nm,0.3s,baz=96,slow=1.9,SNR=6.2
AKBB Malin Array Si 22.53 327 *e*P P **11 17 14.8 -1.1**
comp=Z,31nm,0.8s
AKBB Malin Array Si 22.53 327 *e*P P **11 17 14.9 -1.1**
AKBB pmax pmax
comp=Z,31nm,0.8s
KIEV Kiev 22.53 327 *e*P P **11 17 14.9 -1.1**
comp=Z,30nm,0.8s
KIEV Kiev 22.53 327⇑*i*P P **11 17 15.8 -0.2**
KIEV Kiev 22.53 327⇑*e*P P **11 17 14.4 -1.6**
KIEV pmax pmax
comp=Z,38nm,0.9s
AK11 Malin Array Si 22.54 326 *e*P P **11 17 14.2 -2.0**
FRU Bishkek 22.56 57 *e*P P **11 17 19.0 +2.5**
FRU *e* 11 17 55.0
MDB Medias 22.56 312⇑*i*P P **11 17 18.9 +2.4**
BURAR Bucovina Array 22.76 316⇑*i*P P **11 17 18.2 -0.5**
PUNG Punghina 22.77 306⇑*i*P P **11 17 20.0 +1.4**
BUR04 Bucovina Ar. S 22.77 316 *e*P P **11 17 17.7 -1.0**
BUR08 Bucovina Ar. S 22.79 316 *e*P P **11 17 18.1 -0.9**
KSH Kashi 22.87 66 P P **11 17 19.0 -1.0**
KSH pP sP 11 17 28.3 +0.8
KSH sP pP 11 17 34.4 +9.0
KSH S S 11 21 15.5 -13
KSH sS pS 11 21 36.0 +1.0
KSH PcS **PcS** **11 24 51.3 +1.7**
KSH ScS **ScS** **11 28 29.1 -4.2**
KSH pmax pmax
comp=Z,29nm,1.0s
KSH pmax pmax
comp=Z,760nm,7.2s
KSH LR LR
comp=Z,770nm,6.5s
KSH LR LR
comp=Z,600nm,6.1s
KSH LR LR
comp=Z,450nm,8.2s
ARCR ARCALIA 23.01 314⇑*i*P P **11 17 21.9 +0.7**
NRN Naryn 23.21 61 *e*P P **11 17 24.4 +0.8**
comp=Z,36nm,1.0s
NRN Naryn 23.21 61 *e*P P **11 17 24.4 +0.8**
NRN pmax pmax
comp=Z,36nm,1.0s
TKM2 Tokmak 2 23.27 58 ⇑P P **11 17 22.4 -1.7**
comp=Z,33nm,1.4s
TKM2 Tokmak 2 23.27 58 P P **11 17 22.4 -1.7**
TKM2 pmax pmax
comp=Z,33nm,1.4s
GZR Gura Zlata 23.28 309⇑*i*P P **11 17 23.1 -0.8**
OTUK Ortayu 23.30 43 ⇓P P **11 17 24.1 0.0**
comp=Z,29nm,1.1s
OTUK Ortayu 23.30 43 P P **11 17 24.1 0.0**
OTUK pmax pmax
comp=Z,29nm,1.1s
CJR Cluj-Napoca 23.30 313⇑*i*P P **11 17 24.8 +0.6**
HERR Herculane 23.32 308⇑*i*P P **11 17 25.0 +0.7**
DEV Deva 23.39 310⇑*i*P P **11 17 26.0 +1.0**
OBN Obninsk 23.46 342 P P **11 17 24.9 -0.6**
comp=Z,13nm,0.6s,baz=145,slow=12,SNR=23
OBN LR LR 11 27 13.6
comp=Z,100nm,18.5s,baz=171,slow=38
OBN Obninsk 23.46 342 *e*P P **11 17 25.1 -0.5**
comp=Z,114nm,1.0s
OBN Obninsk 23.46 342⇑*i*P P **11 17 25.7 +0.2**
OBN Obninsk 23.46 342*c i*P P **11 17 25.8 +0.2**
OBN *i* 11 17 30.8
OBN *i* 11 17 40.8
OBN *i* 11 21 08.8
OBN pmax pmax
comp=Z,131nm,1.3s
OBN MLR MLR
comp=Z,244nm,16.0s
MDVR Moldovita 23.76 307⇑*i*P P **11 17 28.6 -0.1**
MOS Moscow 23.78 345 *e*P P **11 17 27.8 -0.8**
MOS *e* 11 17 34.7
MOS pmax pmax
comp=Z,205nm,1.4s
MOS pmax pmax
comp=Z,600nm,2.1s

BMR Baia Mare 23.80 315⇑*i*P P **11 17 29.7 +0.7**
DRGR 23.89 312⇑*i*P P **11 17 30.2 +0.3**
BZS Buzias 24.12 309⇑*i*P P **11 17 31.6 -0.4**
ARU Arti 24.21 14 *e*P P **11 17 32.2 -0.4**
comp=Z,16nm,0.9s
ARU Arti 24.21 14*ce*P P **11 17 33.0 +0.3**
ARU pmax pmax
comp=Z,108nm,2.5s
TRPA Tarpa 24.59 315⇑*i*P P **11 17 36.6 +0.4**
TRPA Tarpa 24.59 315⇑*e*P P **11 17 36.0 -0.2**
LVV L'vov 24.60 320 *e*P P **11 17 35.5 -0.8**
TARG Taragay, Kyrgy 24.60 61 *e*P P **11 17 37.6 +0.7**
comp=Z,15nm,0.8s
LTVH Ltavrtes, Hu 24.64 313 *e*P P **11 17 38.0 +1.3**
DIVS Divibare 24.72 304 *e*P P **11 17 37.2 -0.4**
comp=Z,23nm,1.0s
DIVS Divibare 24.72 304 *e*P P **11 17 37.2 -0.4**
PDG Podgorica 24.83 300⇑*i*P P **11 17 38.7 +0.2**
PDG Podgorica 24.83 300 *e*P P **11 17 39.7 +1.2**
DRME Dracevica, Mon 24.83 300 *e*P P **11 17 38.1 -0.5**
UZH Uzhgorod 24.97 316*d i*P P **11 17 37.0 -2.7**
UZH *e* 11 17 44.7
SVE Sverdlovsk 25.02 16 *e*P P **11 17 40.4 +0.4**
SVE pmax pmax
comp=Z,41nm,1.5s
BBLS Lazići 25.06 304 *e*P P **11 17 40.4 -0.3**
FRGS Fruska Gora 25.16 307 *e*P P **11 17 41.7 +0.2**
PRZ Przheval'sk 25.18 60 *e*P P **11 17 43.4 +1.5**
comp=Z,20nm,0.9s
BRVK Borovoye 25.19 32 *e*P P **11 17 42.5 +0.8**
comp=Z,38nm,1.0s
BRVK Borovoye 25.19 32 ⇑P P **11 17 40.8 -0.8**
comp=Z,33nm,0.9s
BRVK Borovoye 25.19 32*c i*P P **11 17 42.3 +0.7**
BRVK pmax pmax
comp=Z,35nm,1.2s
BRVK Borovoye 25.19 32 P P **11 17 42.7 +1.1**
SNR=21
KWP Kalwaria Pacla 25.23 318 *e*P P **11 17 42.0 0.0**
comp=Z,471nm,0.9s
KWP Kalwaria Pacla 25.23 318 *e*P P **11 17 42.0 0.0**
KWP pmax pmax
comp=Z,471nm,0.9s
HCY Herceg Novi 25.39 300 *e*P P **11 17 43.0 -0.6**
HAPS Han Pijesak,Bl 25.44 304 *e*P P **11 17 44.8 +0.7**
BRY Bratogost 25.45 301 *e*P P **11 17 44.3 0.0**
TREB Trebinje 25.55 301 *e*P P **11 17 43.9 -1.1**
MICGM Minsk 25.81 332⇑*e*P P **11 17 46.0 -1.2**
MICGM PM 11 17 48.0
comp=Z,0.3nm,1.0s
MNK Minsk 25.81 332⇑*e*P P **11 17 46.0 -1.2**
PSZ Piszkesteto 26.09 313 *e*P P **11 17 50.4 +0.4**
comp=Z,107nm,1.0s
PSZ Piszkesteto 26.09 313⇑*i*P P **11 17 50.5 +0.5**
PSZ Piszkesteto 26.09 313 *e*P P **11 17 52.0 +2.0**
PSZ Piszkesteto 26.09 313 *e*P P **11 17 50.4 +0.4**
PSZ pmax pmax
comp=Z,107nm,1.0s
PDGK Podgornoye 26.14 58 ⇑P P **11 17 50.7 +0.1**
comp=Z,13nm,1.1s
PDGK Podgornoye 26.14 58 P P **11 17 50.6 +0.1**
PDGK pmax pmax
comp=Z,13nm,1.1s
MORH Mrgy, Hungar 26.27 308 *e*P P **11 17 51.7 +0.2**
MORH Mrgy, Hungar 26.27 308 *e*P P **11 17 52.0 +0.5**
TIP Timpagrande 26.29 292 *e*P P **11 17 52.2 +0.4**
comp=Z,38nm,0.8s
TIP Timpagrande 26.29 292⇑*i*P P **11 17 52.6 +0.8**
MATE Matera 26.44 295⇑*i*P P **11 17 54.5 +1.4**
BUD Budapest 26.47 311 *e*P P **11 17 55.1 +1.8**
NACGM Naroch 26.54 331 *e* P **11 17 53.0 -0.8**
BLY Banja Luka 26.83 305⇑*i*P P **11 17 56.7 +0.1**
BLY Banja Luka 26.83 305 *e*P P **11 17 56.4 -0.2**
IDID Didziasalis 26.86 332 *e*P P **11 17 57.1 +0.4**
IDID IAmb IAmb 11 18 01.9
comp=Z,19nm,1.1s
LANS Liptovska Anna 26.87 315 *e*P P **11 17 57.7 +0.8**
LANS Liptovska Anna 26.87 315 *e*P P **11 17 57.7 +0.8**
VYHS Vyhne 26.97 313 *e*P P **11 17 58.5 +0.6**
VYHS pmax pmax
comp=Z,15nm,1.0s
VYHS Vyhne 26.97 313 *e*P P **11 17 58.5 +0.6**
TIH Tihany 26.98 310 *e*P P **11 17 58.1 +0.1**
IIGN Ignalina 27.09 331 *e*P P **11 17 59.2 +0.5**
IIGN IAmb IAmb 11 18 00.7
comp=Z,21nm,1.0s
OJC Ojcow 27.15 317 *e*P P **11 17 59.5 +0.1**
OJC Ojcow 27.15 317 *e*P P **11 17 59.6 +0.2**
comp=Z,52nm,0.7s
OJC Ojcow 27.15 317 *e*P P **11 17 59.5 +0.1**
ISAL Salakas 27.28 332 *e*P P **11 18 00.9 +0.4**
IZAR Zarasai 27.36 332 *e*P P **11 18 01.7 +0.5**
IZAR IAmb IAmb 11 18 03.5
comp=Z,8.4nm,0.6s
SUW Suwalki 27.50 327 *e*P P **11 18 02.2 -0.2**
SUW Suwalki 27.50 327 *e*P P **11 18 02.1 -0.3**
comp=Z,152nm,1.1s
SUW Suwalki 27.50 327 *e*P P **11 18 02.1 -0.3**
SUW pmax pmax
comp=Z,153nm,1.1s
JAVC Velka Javorina 27.83 313 *e*P P **11 18 06.6 +1.0**
MODS Modra-Piesok 27.89 312 *e*P P **11 18 05.0 -1.1**
MODS pmax pmax
comp=Z,31nm,1.2s
MODS Modra-Piesok 27.89 312 *e*P P **11 18 05.0 -1.1**
KURBB Kurchatov Arra 27.98 43 P P **11 18 08.3 +1.4**
comp=Z,12nm,1.0s,baz=247,slow=9.3,SNR=22
KURBB PcP **PcP** **11 21 21.1 -0.5**
comp=Z,1.1nm,0.6s,baz=252,slow=2.9,SNR=4.3
KURBB Kurchatov Arra 27.98 43 ⇑P P **11 18 05.7 -1.2**
comp=Z,14nm,1.3s
KURK Kurchatov 28.08 43 *e*P P **11 18 08.3 +0.6**
KURK Kurchatov 28.08 43⇑*e*P P **11 18 09.0 +1.3**
KURK pmax pmax
comp=Z,21nm,1.3s
KURK Kurchatov 28.08 43 P P **11 18 09.8 +2.1**
SNR=6.9
PABE Paberze 28.12 330 *e*P P **11 18 07.9 -0.1**
PABE IAmb IAmb 11 18 09.3
comp=Z,67nm,1.1s
MORC Moravsky Berou 28.27 315 *e*P P **11 18 09.4 -0.1**
comp=Z,14nm,0.9s
MORC Moravsky Berou 28.27 315⇑*i*P P **11 18 09.5 0.0**
MORC Moravsky Berou 28.27 315 *e*P P **11 18 09.4 -0.1**
MORC pmax pmax
comp=Z,14nm,0.9s
MORC Moravsky Berou 28.27 315 *e*P P **11 18 09.1 -0.4**
BOJS Bojanci 28.34 305 *i*P P **11 18 10.6 +0.4**
BOJS *i* 11 18 13.0
PRGR Permogore 28.50 357 *e*P P **11 18 10.1 -1.2**
PRGR pmax pmax
comp=Z,19nm,0.9s
CONA Conrad Observa 28.62 311 *e*P P **11 18 12.7 0.0**
comp=Z,21nm,1.6s,SNR=6.7
ARSA Arzberg 28.63 309 *e*P P **11 18 12.6 -0.1**
comp=Z,8.3nm,1.1s
VRAC Vranov 28.65 314 P P **11 18 12.7 -0.2**
comp=Z,2.5nm,0.4s,baz=123,slow=11,SNR=5.2
VRAC Vranov 28.65 314 P P **11 18 12.7 -0.2**
VRAC pmax pmax
comp=Z,5.0nm,0.7s
VRAC Vranov 28.65 314 *e*P P **11 18 12.8 -0.1**
KRUC Moravsky 28.68 313 *e*P P **11 18 13.0 -0.1**
MAKZ Makanchi 28.71 52 *e*P P **11 18 14.0 +0.6**
comp=Z,4.7nm,1.1s
PERS Pernice 28.72 308 *i*P P **11 18 13.6 0.0**
KRLC Kraliky 28.84 315 *e*P P **11 18 14.4 -0.2**
KRLC Kraliky 28.84 315 *e*P P **11 18 14.4 -0.2**
MK01 Makanchi Array 28.91 52 *e*P P **11 18 16.4 +1.1**
MK31 Makanchi Array 28.91 52 *e*P P **11 18 16.1 +0.8**
MK31 Makanchi Array 28.91 52 *i*P P **11 18 16.0 +0.8**
MK31 pmax pmax
comp=Z,5.0nm,0.7s
MK32 Makanchi Array 28.91 52 *e*P P **11 18 16.5 +1.3**
MKAR Makanchi Array 28.91 52 P P **11 18 16.5 +1.3**
comp=Z,6.4nm,0.8s,baz=248,slow=8.4,SNR=42
MKAR PcP **PcP** **11 21 23.0 -1.0**
comp=Z,0.9nm,0.9s,baz=218,slow=3.4,SNR=2.9
MKAR LR LR 11 31 19.7
comp=Z,163nm,18.8s,baz=252,slow=39
VSU Vasula 29.21 336*ce*P P **11 18 17.5 -0.2**
VSU pmax pmax
comp=Z,95nm,0.6s
VSU Vasula 29.21 336 *e*P P **11 18 17.7 0.0**
VSU IAmb IAmb 11 18 18.9
comp=Z,116nm,0.7s
DPC Dobruska-Polom 29.22 316 *e*P P **11 18 18.0 +0.1**
DPC Dobruska-Polom 29.22 316 *e*P P **11 18 18.0 +0.1**
JAVS Javornik 29.24 306 *i*P P **11 18 18.4 +0.1**
KSP Ksiaz 29.44 316 *e*P P **11 18 19.6 -0.1**
KSP Ksiaz 29.44 316 *e*P P **11 18 19.7 -0.1**
MOA Molln 29.62 310 *i*P P **11 18 21.7 +0.2**
comp=Z,6.8nm,0.6s
PYUN Piuthan 29.94 91 *e*P P **11 18 26.1 +1.4**
comp=Z,24nm,1.1s
KBA Koelnbreinsper 30.01 308 *e*P P **11 18 25.3 +0.1**
comp=Z,23nm,0.6s,SNR=9.0
SLIT Slitere, Latvi 30.24 332 *e*P P **11 18 26.1 -0.7**
GEA0 GERESS Array S 30.28 311 *e*P P **11 18 26.7 -0.7**
GEC2 GERESS Array S 30.28 311 *e*P P **11 18 26.9 -0.6**
comp=Z,6.7nm,1.1s
GEC2 GERESS Array S 30.28 311 *e*P P **11 18 26.9 -0.6**
GEC2 pmax pmax
comp=Z,7.0nm,1.1s
GERES GERESS Array B 30.28 311 P P **11 18 26.8 -0.6**
comp=Z,2.1nm,0.5s,baz=111,slow=8.4,SNR=17
GERES PcP **PcP** **11 21 27.2 -0.4**
comp=Z,2.0nm,0.7s,baz=114,slow=1.6,SNR=7.7
GERES LR LR 11 31 32.6
comp=Z,130nm,19.6s,baz=5.5,slow=38
KHC Kasperske Hory 30.45 312 *e*P P **11 18 28.3 -0.5**
comp=Z,3.0nm,1.0s
KHC Kasperske Hory 30.45 312 *e*P P **11 18 28.6 -0.2**
KHC Kasperske Hory 30.45 312 *e*P P **11 18 28.3 -0.5**
KHC pmax pmax
comp=Z,3.0nm,1.0s
ABTA Abfaltersbach 30.49 307 *i*P P **11 18 29.7 +0.4**
comp=Z,20nm,0.9s,SNR=5.0
DANN Dangsing 30.51 90 *e*P P **11 18 31.6 +1.8**
comp=Z,44nm,1.0s
KOLN Koldanda 30.55 91 *e*P P **11 18 31.6 +1.4**
comp=Z,11nm,0.9s
BRG Berggiesshubel 30.82 315 *e*P P **11 18 23.6 -8.4**
comp=Z,4.4nm,1.0s
BRG *e* 11 18 31.6
comp=Z,9.2nm,0.9s
BRG Berggiesshubel 30.82 315 *e*P P **11 18 32.0 0.0**
comp=Z,9.2nm,0.9s,baz=107,slow=9.1
BRG Berggiesshubel 30.82 315 *e*P P **11 18 23.6 -8.4**
BRG *e* 11 18 31.6
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG pmax pmax
comp=Z,9.0nm,0.9s
WET Wettzell 30.89 312 *e*P P **11 18 32.4 -0.3**
comp=Z,11nm,1.0s,baz=107,slow=9.1
HYB Hyderabad 31.18 113 *i*P P **11 18 37.0 +1.5**
WATA Walderalm 31.25 308 *i*P P **11 18 35.3 -0.7**
comp=Z,12nm,0.4s,SNR=11
SQTA Sankt Quirin 31.46 308 *i*P P **11 18 37.3 -0.5**
comp=Z,42nm,0.4s,SNR=17
CLL Collm 31.53 316⇑*i*P P **11 18 38.0 -0.3**
comp=Z,25nm,1.0s
CLL Collm 31.53 316⇑*i*P P **11 18 38.0 -0.3**
CLL pmax pmax
comp=Z,25nm,1.0s
RUE Ruedersdorf 31.54 318 *e*P P **11 18 38.2 0.0**
RUE IAmb IAmb 11 18 42.0
comp=Z,25nm,0.7s
MOTA Moosalm 31.56 308 *i*P P **11 18 38.9 +0.1**
comp=Z,15nm,0.4s,SNR=22
FUR Furstenfeldbru 31.64 309 *e*P P **11 18 39.3 -0.1**
comp=Z,51nm,0.7s,baz=107,slow=9.1
FETA Feichten 31.74 307 *i*P P **11 18 40.1 -0.3**
comp=Z,24nm,0.5s,SNR=11
FIA0 FINESS Array S 31.76 340 *e*P P **11 18 40.0 -0.1**
FIA0 FINESS Array S 31.76 340 *e*P P **11 18 40.0 -0.1**
FIA1 FINESS Array S 31.76 340 *e*P P **11 18 39.7 -0.4**
FINES FINESS Array B 31.76 340 P P **11 18 40.0 -0.1**
comp=Z,17nm,0.8s,baz=126,slow=9.7,SNR=33
FINES LR LR 11 33 17.3
comp=Z,249nm,21.5s,baz=160,slow=40
RETA Reutte 31.82 308 *i*P P **11 18 40.0 -0.9**
comp=Z,14nm,0.4s,SNR=5.9
DMN Daman 31.87 90 *e*P P **11 18 43.2 +1.4**
comp=Z,37nm,1.0s
KKN Kakani 31.96 90 *e*P P **11 18 44.3 +1.8**
comp=Z,12nm,0.5s
FUORN Ofenpass-Fuorn 31.97 306 *e*P P **11 18 43.0 +0.5**
comp=Z,15nm,0.9s
GRA1 Grafenberg Arr 32.09 312 *e*P P **11 18 43.1 -0.1**
comp=Z,17nm,0.8s
GRF Grafenberg Arr 32.09 312 *e*P P **11 18 43.5 +0.3**
comp=Z,77nm,1.6s,baz=107,slow=9.1
GRFO Grafenberg 32.09 312 *e*P P **11 18 42.9 -0.3**
comp=Z,18nm,0.9s
GRFO Grafenberg 32.09 312 *e*P P **11 18 42.9 -0.3**
GRFO pmax pmax
comp=Z,18nm,0.9s
WMQ Urumqi 32.10 59 *e*P P **11 18 45.4 +1.9**
WMQ pP sP 11 18 56.4 +5.1
WMQ PP **PP** **11 19 54.6 -1.4**
WMQ ScS ScS 11 29 06.8 -7.2
WMQ pmax pmax
comp=Z,19nm,1.5s
WMQ pmax pmax
comp=Z,420nm,5.9s
WMQ LR LR
comp=Z,610nm,27.5s
WMQ LR LR
comp=Z,440nm,20.3s
WMQ Urumqi 32.10 59 *e*P P **11 18 43.5 0.0**
comp=Z,18nm,1.1s
BSD Bornholm Skovb 32.11 323 *i*P P **11 18 41.0 -2.2**
comp=Z,51nm,0.8s
BSD Bornholm Skovb 32.11 323 *i*P P **11 18 41.0 -2.2**
BSD pmax pmax
comp=Z,51nm,0.8s
PKIN Phulchoki 32.12 90 *e*P P **11 18 44.9 +0.8**
comp=Z,22nm,0.9s
DAVOX Davos/Dischmat 32.26 306 P P **11 18 44.3 -0.7**
comp=Z,11nm,0.7s,baz=112,slow=10,SNR=14
UBR Ueberruh 32.29 308 *e*P P **11 18 44.4 -0.7**
comp=Z,27nm,0.6s,baz=107,slow=9.1
KEST Kesra 32.31 286 P P **11 18 46.0 +0.6**
comp=Z,4.2nm,0.5s,baz=145,slow=5.4,SNR=5.6
DAVA Damuels 32.36 307 *i*P P **11 18 45.2 -0.6**
comp=Z,46nm,0.5s,SNR=14
GUN Gumba 32.42 89 *e*P P **11 18 48.2 +1.4**
comp=Z,53nm,0.9s
NVS Novosibirsk 32.46 38⇓*i*P P **11 18 48.4 +2.0**
NVS *i* 11 21 30.4
NVS pmax pmax
comp=N,4.0nm,1.0s
NVS pmax pmax
comp=E,7.0nm,1.0s
NVS pmax pmax
comp=Z,12nm,1.0s
TUE Stuetta 32.57 306 *e*P P **11 18 47.1 -0.7**
comp=Z,13nm,1.0s
RGN Rugen 32.66 321 *e*P P **11 18 48.4 +0.3**
RGN IAmb IAmb 11 18 49.2
comp=Z,138nm,0.9s
JIRN Jiri 32.76 90 *e*P P **11 18 51.1 +1.3**
comp=Z,34nm,0.8s
ZAA0 Zalesovo Array 32.91 40 *e*P P **11 18 50.5 +0.1**
comp=Z,15nm,1.1s
ZALV Zalesovo Beam 32.91 40 P P **11 18 50.7 +0.4**
comp=Z,7.0nm,0.6s,baz=250,slow=9.1,SNR=30
ZALV PcP **PcP** **11 21 32.6 -1.8**
comp=Z,1.1nm,0.5s,baz=231,slow=4.6,SNR=3.6
ZALV LR LR 11 33 33.3
comp=Z,107nm,21.1s,baz=254,slow=39
ZALV Zalesovo Beam 32.91 40 *e*P P **11 18 50.2 -0.1**
ZAA1 Zalesovo Array 32.91 40 *e*P P **11 18 50.7 +0.4**
DGZ Jazzator, Alta 33.00 48*d i*P P **11 18 52.9 +1.5**
DGZ pmax pmax
comp=Z,5.0nm,0.8s
ASSE Asse, Remlinge 33.18 316 *e*P P **11 18 52.9 +0.3**
comp=Z,15nm,1.0s,baz=107,slow=9.1
CLZ Clausthal 33.26 316 *e*P P **11 18 54.0 +0.6**
comp=Z,34nm,1.0s,baz=107,slow=9.1
RAMN Ramite 33.34 91 *e*P P **11 18 55.6 +0.9**
comp=Z,32nm,0.7s
NRDL Niedersach Rie 33.63 317 *e*P P **11 18 57.7 +1.2**
comp=Z,48nm,1.1s,baz=107,slow=9.1
SENIN Lac Senin/Sane 33.95 305 *e*P P **11 18 59.2 -0.6**
comp=Z,5.7nm,0.8s
BSEG Bad Segeberg 34.02 319 *e*P P **11 19 00.8 +0.8**
comp=Z,36nm,1.3s,baz=107,slow=9.1
RETH Rethem/Aller, 34.14 317 *e*P P **11 19 02.4 +1.4**

comp=Z,68nm,1.3s,baz=107,slow=9.1
BNI Bardonecchia 34.23 303 *e*P **P 11 19 01.6 -0.5**
comp=Z,41nm,1.0s
BNI Bardonecchia 34.23 303 *e*P **P 11 19 01.7 -0.5**
BNI pmax pmax
comp=Z,41nm,1.0s
ECH Echery 34.34 308 *e*P **P 11 19 01.9 -1.0**
ECH Echery 34.34 308 *e*P **P 11 19 01.9 -1.0**
IBBN Ibbenburen 34.94 315 *e*P **P 11 19 09.1 +1.2**
comp=Z,67nm,1.2s,baz=107,slow=9.1
HFS Hagfors 35.30 330 P **P 11 19 10.8 -0.2**
comp=Z,12nm,0.3s,baz=120,slow=8.8,SNR=131
MUD Monsted U'grnd 35.61 323 *i* P **P 11 19 14.7 +1.1**
comp=Z,61nm,1.0s
MUD Monsted U'grnd 35.61 323 *i* P **P 11 19 14.7 +1.1**
MUD pmax pmax
comp=Z,61nm,1.0s
KMBO Kilima Mbogo 35.80 200 P **P 11 19 20.1 +4.1**
comp=Z,0.9nm,0.4s,baz=4.3,slow=12,SNR=3.5
KMBO LR LR 11 34 18.5
comp=Z,147nm,20.5s,baz=98,slow=36
LSA Lhasa 36.29 84 *e*P **P 11 19 18.7 -1.7**
comp=Z,4.7nm,0.6s
LSA Lhasa 36.29 84 *e*P **P 11 19 18.7 -1.7**
LSA pmax pmax
comp=Z,5.0nm,0.6s
UCC Uccle 36.63 312 *e*P **P 11 19 21.6 -0.8**
comp=Z,15nm,0.7s
UCC Uccle 36.63 312 *e*P **P 11 19 21.7 -0.8**
UCC pmax pmax
comp=Z,15nm,0.7s
NC405 NORSAR Array S 36.65 331 *e*P **P 11 19 21.9 -0.7**
NB201 NORSAR Array S 36.79 331 *e*P **P 11 19 23.1 -0.7**
KONO Kongsberg 36.81 328⇑ *e*P **P 11 19 24.2 +0.2**
KONO pmax pmax
comp=Z,23nm,0.8s
NB2 NORSAR Subarra 36.82 330 P **P 11 19 23.1 -0.9**
comp=Z,8.0nm,0.7s,baz=122,slow=8.6
NB200 NORSAR Array S 36.82 330 *e*P **P 11 19 23.1 -0.9**
NOA NORSAR Array B 36.82 330 P **P 11 19 23.1 -0.9**
comp=Z,6.0nm,0.8s,baz=123,slow=8.4,SNR=17
NOA LR LR 11 36 04.7
comp=Z,163nm,21.2s,baz=130,slow=39
NAO01 NORSAR Array S 36.85 330 *e*P **P 11 19 23.6 -0.7**
NC303 NORSAR Array S 36.85 331 *e*P **P 11 19 23.3 -1.0**
NBO00 NORSAR Array S 37.00 330 *e*P **P 11 19 25.2 -0.3**
NC204 NORSAR Array S 37.13 331 *e*P **P 11 19 25.9 -0.8**
MBAR Mbarara 37.62 210 P **P 11 19 33.3 +1.9**
comp=Z,3.4nm,0.3s,baz=38,slow=15,SNR=6.0
MBAR Mbarara 37.62 210 *e*P **P 11 19 31.3 -0.1**
comp=Z,9.4nm,0.8s
MBAR Mbarara 37.62 210 *e*P **P 11 19 31.3 -0.1**
MBAR pmax pmax
comp=Z,9.0nm,0.8s
SHL Shillong 38.27 90 *e*P **P 11 19 36.2 -0.7**
comp=Z,9.2nm,0.9s
SHL Shillong 38.27 90 *e*P **P 11 19 36.2 -0.7**
SHL pmax pmax
comp=Z,9.0nm,0.9s
ARA0 ARCESS Array S 38.59 347 *e*P **P 11 19 39.5 +0.7**
ARCES ARCESS Array B 38.59 347 P **P 11 19 39.5 +0.7**
comp=Z,3.1nm,0.7s,baz=155,slow=9.7,SNR=11
ARCES PcP **PcP 11 21 49.6 -1.3**
comp=Z,3.0nm,0.8s,baz=169,slow=1.8,SNR=4.1
TAM Tamanrasset 39.18 266 *e*P **P 11 19 44.9 +0.3**
comp=Z,10nm,1.0s
TAM Tamanrasset 39.18 266 *e*P **P 11 19 44.9 +0.3**
TAM pmax pmax
comp=Z,10.0nm,1.0s
EDMD Edmundbyers 41.16 317 *e*P **P 11 20 00.1 -0.3**
GTA Gaotai 41.27 66 ⇑P **P 11 20 02.9 +1.2**
GTA S **S 11 26 11.8 -3.4**
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,100nm,5.3s
GTA LR LR
comp=Z,240nm,19.9s
GTA LR LR
comp=Z,190nm,19.2s
GTA LR LR
comp=Z,250nm,17.9s
HLM1 Long Mynd 41.35 314 *e*P **P 11 20 01.7 -0.3**
MCH1 Michaelchurch 41.36 313 *e*P **P 11 20 01.4 -0.7**
MCH1 IAmb IAmb 11 20 03.1
comp=Z,46nm,1.2s
ESY Stoneypath 41.73 319 *e*P **P 11 20 05.1 0.0**
KESW Keswick, Cumbr 41.77 317 *e*P **P 11 20 05.5 +0.1**
KESW IAmb IAmb 11 20 06.3
comp=Z,48nm,0.8s
MOY Mondy 41.83 48 *e*P **P 11 20 08.2 +2.1**
MOY pmax pmax
comp=Z,16nm,1.5s
EKA Eskdalemuir Ar 41.93 318 P **P 11 20 06.2 -0.4**
comp=Z,8.4nm,0.8s,baz=104,slow=8.3,SNR=12
EKA PcP **PcP 11 22 01.7 -0.2**
comp=Z,7.3nm,0.9s,baz=71,slow=3.8,SNR=5.5
ESK Eskdalemuir 41.95 318 IAmb IAmb 11 20 06.1
comp=Z,85nm,1.0s
ESK *e*P **P 11 20 06.2 -0.7**
MME1 Meikle Cairn 42.20 321 *e*P **P 11 20 08.4 -0.5**
ES19 SONSECA Array 42.21 294 *e*P **P 11 20 08.8 -0.5**
ESDC Sonseca Array 42.26 294 P **P 11 20 09.4 -0.3**
comp=Z,2.5nm,0.6s,baz=71,slow=8.1,SNR=9.3
MCD Coleburn Disti 42.41 321 *e*P **P 11 20 10.0 -0.6**
ZAK Zakamensk 43.19 50 *e*P **P 11 20 18.2 +1.1**
ZAK *e* 11 22 05.2
ZAK pmax pmax
comp=Z,6.0nm,1.1s
ZAK pmax pmax
comp=Z,4.0nm,1.0s
KAC Achnashellach 43.48 321 *e*P **P 11 20 18.8 -0.4**
PBRG Braganca 44.06 298 *e*P **P 11 20 24.0 -0.2**
MDT Midelt 44.20 285 P **P 11 20 25.1 -0.4**
comp=Z,7.3nm,0.9s,baz=96,slow=8.9,SNR=6.9
PCBR Castelo Branco 44.91 295 *e*P **P 11 20 31.3 +0.3**
LZH Lanzhou 45.02 70 ⇓P **P 11 20 33.8 +1.7**
LZH pP sP 11 20 47.3 +7.2
LZH sP pP 11 20 53.3 +15
LZH PP **PP 11 22 19.8 +2.5**
LZH pmax pmax
comp=Z,20nm,1.1s
LZH pmax pmax
comp=Z,92nm,6.8s
LZH LR LR
comp=Z,400nm,13.5s
LZH LR LR
comp=Z,410nm,14.0s
LZH LR LR
comp=Z,530nm,16.8s
PESTR Estremoz 45.17 294 *e*P **P 11 20 33.4 +0.3**
SONA0 Songino Array 45.26 53 *e*P **P 11 20 34.8 +1.0**
SONM Songino Array 45.26 53 P **P 11 20 34.8 +1.0**
comp=Z,7.5nm,0.9s,baz=280,slow=9.1,SNR=27
SONM PcP **PcP 11 22 13.2 -0.3**
comp=Z,1.2nm,0.8s,baz=275,slow=3.2,SNR=3.3
SONM LR LR 11 41 10.0
comp=Z,164nm,20.1s,baz=342,slow=38
SONA1 Songino Array 45.26 53 *e*P **P 11 20 33.9 0.0**
PBEJ Beja 45.55 293 *e*P **P 11 20 37.4 +1.3**
PVAQ Vaqueiros 45.57 292 *e*P **P 11 20 35.8 -0.4**
PTOM Tomar 45.66 295 *e*P **P 11 20 38.2 +1.3**
comp=Z,117nm,1.8s
ULN Ulaanbaatar 45.70 53 *e*P **P 11 20 37.3 0.0**
comp=Z,24nm,0.8s
ULN Ulaanbaatar 45.70 53*c i*P **P 11 20 38.4 +1.1**
ULN *i* *PP **sP 11 20 46.9 +1.6**
ULN pmax pmax
comp=Z,40nm,1.3s
ULN Ulaanbaatar 45.70 53 P **P 11 20 38.8 +1.5**
SNR=14
PNCL Nicolau / Gran 46.05 293 *e*P **P 11 20 40.1 +0.1**
CD2 Chengdu 46.35 77 *e*P **P 11 20 43.0 +0.5**
CD2 S **S 11 27 26.9 -2.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.8s
CD2 LR LR
comp=Z,430nm,16.4s
CD2 LR LR
comp=Z,600nm,16.9s
CD2 LR LR
comp=Z,260nm,9.7s
CHTO Chiang Mai 47.04 95 *e*P **P 11 20 48.0 0.0**
comp=Z,7.8nm,0.8s

CHTO Chiang Mai 47.04 95 *e*P **P 11 20 48.0 0.0**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 47.04 95 P **P 11 20 48.6 +0.6**
comp=Z,47nm,1.0s
CMMT Chiang Mai 47.05 95 P **P 11 20 48.5 +0.4**
comp=Z,11nm,0.9s
TOA0 Torodi Ar. Sit 47.06 256 *e*P **P 11 20 47.8 -0.5**
TOA0 Torodi Ar. Sit 47.06 256 P **P 11 20 48.4 +0.2**
SNR=5.9
TOA1 Torodi Ar. Sit 47.06 256 *e*P **P 11 20 48.0 -0.3**
TORD Torodi Ar. Bea 47.06 256 P **P 11 20 48.0 -0.3**
comp=Z,12nm,0.9s,baz=1.9,slow=4.5,SNR=70
TORD LR LR 11 41 01.0
comp=Z,62nm,20.0s,baz=340,slow=36
SPA0 Spitsbergen Ar 47.17 351 *e*P **P 11 20 48.5 +0.2**
SPITS Spitsbergen Ar 47.17 351 P **P 11 20 49.0 +0.7**
comp=Z,3.0nm,0.4s,baz=126,slow=12,SNR=46
SPITS Spitsbergen Ar 47.17 351 P **P 11 20 49.0 +0.7**
SPITS pmax pmax
comp=Z,3.0nm,0.4s
CM31 Chiang Mai Arr 47.21 95 *e*P **P 11 20 49.3 0.0**
CMAR Chiang Mai Arr 47.21 95 P **P 11 20 49.6 +0.3**
comp=Z,4.5nm,0.7s,baz=296,slow=8.3,SNR=21
CMAR PcP **PcP 11 22 19.7 -1.0**
comp=Z,1.0nm,0.4s,baz=308,slow=4.5,SNR=3.0
CMAR PP **PP 11 22 42.9 +2.6**
comp=Z,4.5nm,1.0s,baz=300,slow=10,SNR=6.6
CMAR LR LR 11 44 48.5
comp=Z,73nm,18.4s,baz=320,slow=41
CMAR Chiang Mai Arr 47.21 95*ce*P **P 11 20 53.0 +3.7**
CMAR pmax pmax
comp=Z,5.0nm,0.7s
CM01 Chiang Mai Arr 47.24 95 *e*P **P 11 20 49.5 -0.1**
CM01 *e*P **pP 11 20 53.1 -2.3**
KMI Kunming 47.52 85 P **P 11 20 55.3 +3.3**
KMI pmax pmax
comp=Z,16nm,0.7s
KMI pmax pmax
comp=Z,97nm,5.0s
KMI LR LR
comp=Z,160nm,19.9s
KMI LR LR
comp=Z,160nm,19.9s
UMPA Umpang Tak 48.24 98 P **P 11 21 02.1 +4.8**
comp=Z,4.9nm,0.9s
NANT Nan 48.52 94 P **P 11 21 03.0 +3.5**
comp=Z,3.9nm,0.8s
UTHA Uthaitani 49.05 98 P P 11 21 08.5 +5.0
comp=Z,2.2nm,1.0s,comp=Z,61nm
XAN Xi'an 49.58 71 P **P 11 21 07.8 +0.3**
XAN pP sP 11 21 22.8 +7.3
XAN sP pP 11 21 30.1 +17
XAN pmax pmax
comp=Z,24nm,1.1s
XAN LR LR
comp=Z,250nm,17.3s
XAN LR LR
comp=Z,300nm,19.5s
XAN Xi'an 49.58 71 *e*P **P 11 21 07.0 -0.5**
comp=Z,23nm,0.9s
XAN Xi'an 49.58 71 *e*P **P 11 21 07.0 -0.5**
XAN pmax pmax
comp=Z,23nm,0.9s
BOD Bodaibo 49.66 40 *e*P **P 11 21 07.1 -0.6**
BOD pmax pmax
comp=Z,10.0nm,1.5s
PBKT Sadao Pong 49.81 96 *e*P **P 11 21 09.5 +0.1**
comp=Z,16nm,1.2s
PBKT Sadao Pong 49.81 96 P **P 11 21 10.6 +1.2**
comp=Z,14nm,1.0s,comp=Z,751nm
HHC Hu-ho-hao-te 49.89 62 *e*P **P 11 21 12.3 +2.5**
HHC sP sP 11 21 28.5 +11
HHC PP **PP 11 23 11.4 +6.9**
HHC S **S 11 28 14.3 -5.0**
HHC pmax pmax
comp=Z,10.0nm,0.9s
HHC pmax pmax
comp=Z,110nm,5.6s
HHC LR LR
comp=Z,220nm,16.7s
HHC LR LR
comp=Z,300nm,10.8s
HHC LR LR
comp=Z,350nm,15.2s
NONG Nongkai 50.91 93 P **P 11 21 19.1 +1.4**
comp=Z,0.2nm,1.4s
ENH Enshi 51.22 76 *e*P **P 11 21 20.4 +0.4**
comp=Z,21nm,1.1s
OPO Ambohidratompo 51.52 182 P **P 11 21 24.9 +2.7**
comp=Z,7.6nm,0.9s,baz=337,slow=8.0,SNR=6.9
OPO LR LR 11 44 51.4
comp=Z,176nm,18.3s,baz=11,slow=38
ABPO Ambohimpanom 51.96 182 *e*P **P 11 21 26.0 +0.4**
comp=Z,15nm,0.9s
ABPO Ambohimpanom 51.96 182 *e*P **P 11 21 26.0 +0.4**
ABPO pmax pmax
comp=Z,15nm,0.9s
SKNT Sakolnakorn 52.13 94 P **P 11 21 27.7 +0.9**
comp=Z,9.2nm,1.0s
SCO Scoresbysund 52.60 336 *i* P **P 11 21 30.3 +0.8**
SCO Scoresbysund 52.60 336 *i* P **P 11 21 30.3 +0.8**
HIA Hailar 53.88 50 *e*P **P 11 21 39.2 -0.2**
comp=Z,29nm,1.1s
HIA Hailar 53.88 50 *e*P **P 11 21 39.2 -0.2**
HIA pmax pmax
comp=Z,29nm,1.1s
KULM Kulim 55.72 108 *e*P **P 11 21 53.1 0.0**
comp=Z,13nm,1.0s
TIXI Tiksi 55.80 22 P **P 11 21 51.7 -1.2**
comp=Z,2.1nm,0.4s,baz=302,slow=3.4,SNR=10
TIXI Tiksi 55.80 22⇓ *i* P **P 11 21 53.0 +0.1**
TIXI pmax pmax
comp=Z,10.0nm,1.3s
PSI Prapat 55.88 112 LR LR 11 48 23.3
comp=Z,58nm,20.3s,baz=52,slow=38
PSI Prapat 55.88 112 *e*P **P 11 21 53.0 -1.4**
PSI Prapat 55.88 112 *e*P **P 11 21 53.0 -1.4**
DBIC Dimbokro 56.03 254 P **P 11 21 55.2 -0.1**
comp=Z,12nm,1.0s,baz=25,slow=8.0,SNR=9.1
DBIC LR LR 11 49 18.4
comp=Z,116nm,19.2s,baz=17,slow=40
DBIC Dimbokro 56.03 254 *e*P **P 11 21 55.1 -0.2**
comp=Z,14nm,1.0s
DBIC Dimbokro 56.03 254 *e*P **P 11 21 55.1 -0.2**
DBIC pmax pmax
comp=Z,14nm,1.0s
KIC Kosan Boka 56.12 254 *e*P **P 11 21 56.1 +0.1**
comp=Z,88nm,1.2s
TIC Toumodi 56.18 254 *e*P **P 11 21 56.2 -0.2**
LIC Lamto 56.43 254 *e*P **P 11 21 58.2 0.0**
comp=Z,87nm,1.2s
IPM Ipoh 56.51 109 *e*P **P 11 21 58.4 -0.3**
comp=Z,17nm,0.9s
SUMG Summit 57.80 339 *e*P **P 11 22 07.5 -0.1**
comp=Z,16nm,0.8s
SUMG Summit 57.80 339 *i* P **P 11 22 08.0 +0.5**
comp=Z,44nm,0.8s
SUMG Summit 57.80 339 *i* P **P 11 22 08.0 +0.5**
SUMG pmax pmax
comp=Z,44nm,0.8s
NJ2 Nanjing 58.10 70 *e*P **P 11 22 10.4 +0.6**
NJ2 pmax pmax
comp=Z,12nm,0.5s
CN2 Changchun 59.06 55 *e*P **P 11 22 13.8 -2.5**
CN2 *ep*P sP 11 22 26.4 +2.0
CN2 *e*PP **PP 11 24 25.6 -1.0**
CN2 *e*S S 11 30 13.4 -9.0
CN2 pmax pmax
comp=Z,10.0nm,1.5s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,130nm,16.0s
BKNI Bangkinang 59.07 112 *e*P **P 11 22 16.5 -0.2**
comp=Z,69nm,1.0s
KLR Kul'dur 61.49 48 P **P 11 22 32.6 -0.3**
comp=Z,5.6nm,0.9s,baz=268,slow=6.1,SNR=4.2
KLR LR LR 11 50 52.1
comp=Z,90nm,20.5s,baz=330,slow=38
KLR Kul'dur 61.49 48⇑ *e*P **P 11 22 32.5 -0.4**
LBTB Lobatse 61.92 204 *e*P **P 11 22 36.3 +0.3**
comp=Z,15nm,1.1s
LBTB Lobatse 61.92 204 *e*P **P 11 22 36.3 +0.3**
LBTB pmax pmax
comp=Z,15nm,1.1s
KS01 Wonju Array Si 62.99 61 *e*P **P 11 22 42.5 -0.6**
KS15 Wonju Array Si 62.99 61 *e*P **P 11 22 42.4 -0.7**
KSAR Wonju Array Be 62.99 61 P **P 11 22 42.5 -0.6**
KSAR Wonju Array Be 62.99 61 P **P 11 22 42.5 -0.6**
KSRS Korea Array 63.02 61 P **P 11 22 42.5 -0.7**
comp=Z,4.5nm,0.8s,baz=280,slow=6.8,SNR=8.9
KSRS LR LR 11 53 16.6
comp=Z,120nm,19.4s,baz=290,slow=39
USA0B Ussuriysk Arra 63.37 53 *e*P **P 11 22 45.2 -0.3**
USRK Ussuriysk Ar. 63.37 53 P **P 11 22 45.0 -0.5**
comp=Z,11nm,1.0s,baz=279,slow=6.0,SNR=14
NKL Nikolayevsk 65.36 41 *e*P **P 11 22 57.0 -1.3**
BOSA Boshof 65.36 203 P **P 11 23 00.3 +1.6**
comp=Z,5.2nm,0.8s,baz=26,slow=9.4,SNR=6.7
BOSA LR LR 11 55 24.1
comp=Z,109nm,19.2s,baz=19,slow=39
BOSA Boshof 65.36 203 *e*P **P 11 22 58.3 -0.4**
comp=Z,8.5nm,1.1s
BOSA Boshof 65.36 203 *e*P **P 11 22 58.3 -0.4**
BOSA pmax pmax
comp=Z,9.0nm,1.1s
SEY Seymchan 66.83 29 P **P 11 23 08.3 +0.7**
comp=Z,9.9nm,0.5s,baz=277,slow=6.5,SNR=35
SEY Seymchan 66.83 29⇓ *e*P **P 11 23 09.0 +1.4**
JNU Nakatsue 66.98 65 LR LR 11 55 08.6
comp=Z,114nm,18.6s,baz=302,slow=38
TYV Tymovskoe 67.41 43 *e*P **P 11 23 11.9 +0.4**
TYV *e*S **S 11 32 03.1 -3.4**
TYV pmax pmax
comp=Z,9.0nm,1.4s
TYV smax smax
comp=N,4.0nm,1.2s
TYV smax smax
comp=N,300nm,8.8s
MA2 Magadan 67.70 33 P **P 11 23 12.1 -1.2**
comp=N,6.8nm,0.9s,baz=179,slow=0.7,SNR=7.0
MA2 Magadan 67.70 33 *e*P **P 11 23 13.3 +0.1**
comp=N,11nm,0.9s
MA2 Magadan 67.70 33*ce*P **P 11 23 13.3 +0.1**
MA2 pmax pmax
comp=Z,13nm,1.0s
BILL Bilibino 68.97 21 *e*P **P 11 23 21.4 +0.3**
comp=Z,17nm,1.1s
BILL Bilibino 68.97 21*c i*P **P 11 23 21.4 +0.3**
BILL *i* 11 23 34.4
BILL *i* 11 23 46.4
BILL pmax pmax
comp=Z,17nm,1.3s
YSS Yuzh-Sakhalins 69.17 47 *e*P **P 11 23 22.4 -0.2**
comp=Z,28nm,1.1s
YSS Yuzh-Sakhalins 69.17 47⇑ *e*P **P 11 23 22.4 -0.2**
YSS *e* 11 23 31.0
YSS pmax pmax
comp=Z,20nm,1.0s
ASAJ Asahikawa 70.36 50 P **P 11 23 28.8 -1.3**
comp=Z,6.4nm,0.8s,baz=215,slow=2.7,SNR=7.7
MJAR Matsushiro Arr 70.86 58 LR LR 11 57 43.4
comp=Z,57nm,18.4s,baz=335,slow=38
PETK Petropavlovsk- 74.36 36 LR LR 11 59 35.3
comp=Z,94nm,21.0s,baz=94,slow=38
RDOG Red Dog Mine 76.31 12 *e*P **P 11 24 04.1 -0.6**
comp=Z,10nm,0.8s
SCHQ Schefferville 76.32 327 P **P 11 24 04.3 -0.7**
comp=Z,12nm,0.8s,baz=42,slow=4.6,SNR=9.1
SCHQ Schefferville 76.32 327 *e*P **P 11 24 04.8 -0.3**
comp=Z,17nm,0.9s
COLD Coldfoot 78.85 7 *e*P **P 11 24 18.1 -0.8**
comp=Z,8.4nm,1.1s
ANM Nome 78.95 14 *e*P **P 11 24 19.1 -0.4**
comp=Z,12nm,1.0s
ANM Nome 78.95 14 *e*P **P 11 24 19.1 -0.4**
ANM pmax pmax
comp=Z,12nm,1.0s
IM3 Indian Mountai 79.62 9 *e*P **P 11 24 23.0 -0.1**
MLY Manley 80.91 8 *e*P **P 11 24 29.8 -0.4**
comp=Z,8.2nm,0.9s
MDM Murphy Dome 81.26 7 *e*P **P 11 24 31.9 -0.1**
comp=Z,14nm,1.0s
COLA College 81.38 7 *e*P **P 11 24 32.8 +0.2**
comp=Z,15nm,0.8s
COLA College 81.38 7*ce*P **P 11 24 31.6 -1.0**
COLA pmax pmax
comp=Z,12nm,0.9s
IL1 Eielson Array 81.58 7 *e*P **P 11 24 33.1 -0.5**
ILAR Eielson Array 81.58 7 P **P 11 24 32.8 -0.8**
comp=Z,2.7nm,0.8s,baz=339,slow=4.8,SNR=12
ILAR LR LR 12 05 38.0
comp=Z,44nm,20.3s,baz=134,slow=39
ILB Eielson Array 81.58 7 *e*P **P 11 24 33.0 -0.6**
EGAK Eagle 82.03 4 *e*P **P 11 24 35.8 -0.2**
comp=Z,8.9nm,0.9s
DAWY Dawson 82.83 4 *e*P **P 11 24 40.5 +0.2**
FCC Fort Churchill 83.22 341 *e*P **P 11 24 42.2 -0.1**
comp=Z,10nm,0.9s
FCC Fort Churchill 83.22 341 *e*P **P 11 24 42.2 -0.1**
FCC pmax pmax
comp=Z,10.0nm,0.9s
YKW3 Yellowknife Ar 83.60 352 *e*P **P 11 24 43.4 -0.8**
comp=Z,5.4nm,1.1s
YKA Yellowknife Ar 83.66 352 P **P 11 24 43.7 -0.8**
comp=Z,4.0nm,1.0s,baz=11,slow=5.3,SNR=39
YKB5 Yellowknife Ar 83.66 352 *e*P **P 11 24 43.9 -0.6**
BALM Baldy 85.66 5 *e*P **P 11 24 56.1 +1.3**
BALM Baldy 85.66 5 *e*P **P 11 24 56.1 +1.3**
KDAK Kodiak Island 87.61 11*ce*P **P 11 25 04.8 +0.6**
DLBC Dease Lake 88.68 359 P **P 11 25 08.7 -0.8**
comp=Z,3.1nm,0.9s,baz=333,slow=4.5,SNR=3.2
FFC Flin Flon 88.82 343 *e*P **P 11 25 09.8 -0.3**
FFC Flin Flon 88.82 343*ce*P **P 11 25 10.2 +0.2**
ULM Lac du Bonnet 91.14 338 P **P 11 25 18.6 -2.4**
comp=Z,3.2nm,0.8s,baz=44,slow=3.7,SNR=6.2
ULM LR LR 12 07 25.8
comp=Z,116nm,18.6s,baz=352,slow=36
WR1 Warramunga Arr 97.26 109 *e*P **P 11 25 47.7 -1.7**
comp=Z,1.6nm,0.7s
WRA Warramunga Arr 97.26 109 P **P 11 25 47.7 -1.7**
comp=Z,0.6nm,0.6s,baz=319,slow=3.8,SNR=9.3
WRA Warramunga Arr 97.26 109*ce*P **P 11 25 49.0 -0.5**
WRA pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 98.91 112 P **P 11 25 55.1 -1.8**
comp=Z,6.9nm,0.4s,baz=308,slow=5.0,SNR=3.5
NVAR Mina Array Bea 107.68 349 PKiKP **PKiKP 11 30 43.5 -0.2**
comp=Z,0.3nm,0.6s,baz=30,slow=1.0,SNR=3.9
TXAR Lajitas Array 112.46 334 PKiKP **PKiKP 11 30 51.9 -1.0**
comp=Z,0.2nm,0.8s,baz=348,slow=4.0,SNR=3.2
QSPA South Pole Qui 123.05 180 *e*PKPdf **PKPdf 11 31 11.7 -0.2**
PLCA Paso Flores 131.66 243 PKP **PKiKP 11 31 29.6 -0.5**
comp=Z,1.7nm,0.7s,baz=46,slow=5.0,SNR=5.8

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*ISCJB **22** 11:25:49.2±0.4, 44.°62N±0.°06×141.°24E±0.°08, h254km±3km, mb3.2/8, Error ellipse: s-maj=9.7km s-min=8.7km az=140.1*
*IDC **22** 11:25:49.1±0.6, 44.°62N×141.°24E, h238km±6km, mb2.8/7, mb1 3.0/11, mb1mx2.9/46, mbtmp3.5/11, Error ellipse: s-maj=15.4km s-min=13.8km az=139.0*
*JMA **22** 11:25:50.1±0.2, 44.°61N×141.°28E, h252km±2km, M2.9*
ISC 22 11:25:50.0±0.7, 44.°58N±0.°06×141.°24E±0.°07, h250km±6km, n28, σ1℘12/38, mb3.0/8, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYG	**Yagishiri**	**0.20**	**139**	P	**Pn**	**11 26 22.5**	**+0.2**
JYG				*e*S	**S**	**11 26 47.4**	**-0.2**
JSS	**Shosan**	**0.47**	**112**	P	**Pn**	**11 26 23.5**	**+0.7**
JSS				*e*S	**S**	**11 26 49.4**	**+0.9**
JRR	**Rishiri**	**0.56**	**5**	P	**Pn**	**11 26 23.6**	**+0.6**
JRR				*e*S	**S**	**11 26 50.1**	**+1.0**
JWK2	**Keihoku**	**0.88**	**32**	P	**Pn**	**11 26 24.2**	**-0.1**
JWK2				*e*S	**S**	**11 26 50.5**	**-0.8**
JHR	**Hokuryu**	**0.90**	**157**	P	**Pn**	**11 26 25.4**	**+0.9**
JHR				*e*S	**S**	**11 26 52.5**	**+0.8**
JSE	**Soyaes**	**1.03**	**68**	P	**Pn**	**11 26 24.8**	**-0.3**
JSE				*e*S	**S**	**11 26 51.4**	**-1.3**
ASAJ	**Asahikawa**	**1.07**	**115**	P	**Pn**	**11 26 25.3**	**-0.1**
	2.6nm,0.3s,baz=292,slow=5.4,SNR=17						
ASAJ				S	**S**	**11 26 50.1**	**-3.1**
	0.9nm,0.3s,baz=50,slow=29,SNR=3.9						
ASAJ	**Asahikawa**	**1.07**	**115**	P	**Pn**	**11 26 25.4**	**-0.1**
JKK2	**Kamakawa 2**	**1.29**	**122**	P	**Pn**	**11 26 27.2**	**+0.4**
JKK2				*e*S	**S**	**11 26 55.8**	**0.0**
JSK	**Shakotan**	**1.34**	**205**	P	**Pn**	**11 26 27.5**	**+0.3**

JTKR	**Abashiri--Toko**	**2.01**	**107**	P		**Pn**	**11 26 33.2**	**+0.7**
JTKR				*e*S		**S**	**11 27 06.2**	**+0.3**
JAR	**Ashorobuto**	**2.23**	**124**	P		**Pn**	**11 26 35.2**	**+0.6**
JAR				*e*S		**S**	**11 27 10.1**	**+0.4**
JCH	**Churui**	**2.49**	**141**	*e*S		**S**	**11 27 10.6**	**-3.8**
JNBK	**Urakawa-nobuka**	**2.54**	**154**	*e*S		**S**	**11 27 15.7**	**+0.3**
JOSM	**Okushiri--Mats**	**2.81**	**208**	P		**Pn**	**11 26 40.5**	**+0.1**
JOT	**Ohata**	**3.19**	**183**	P		**Pn**	**11 26 44.4**	**-0.2**
USRK	**Ussuriysk Ar.**	**6.64**	**270**	P		**Pn**	**11 27 26.1**	**0.0**
	0.3nm,0.3s,baz=85,slow=13,SNR=8.8							
KLR	**Kul'dur**	**8.00**	**309**	P		**Pn**	**11 27 43.1**	**+0.1**
	0.1nm,0.3s,baz=117,slow=14,SNR=4.2							
PETK	**Petropavlovsk-**	**13.77**	**46**	P		**Pn**	**11 28 55.4**	**+0.3**
	0.3nm,0.3s,baz=222,slow=8.9,SNR=7.8							
SEY	**Seymchan**	**19.48**	**15**	P		**P**	**11 29 57.0**	**-1.1**
	0.3nm,0.3s,baz=198,slow=9.4,SNR=9.8							
SONM	**Songino Array**	**24.21**	**290**	P		**P**	**11 30 44.9**	**+0.9**
	0.2nm,0.4s,baz=102,slow=10.0,SNR=3.0							
ZALV	**Zalesovo Beam**	**37.08**	**305**	P		**P**	**11 32 34.2**	**-1.9**
	0.5nm,0.4s,baz=77,slow=9.0,SNR=2.2							
MKAR	**Makanchi Array**	**40.41**	**295**	P		**P**	**11 33 02.8**	**-0.9**
	0.2nm,0.4s,baz=86,slow=8.1,SNR=2.5							
ILAR	**Eielson Array**	**43.34**	**36**	P		**P**	**11 33 26.6**	**-0.5**
	0.4nm,0.6s,baz=276,slow=9.9,SNR=12							
YKA	**Yellowknife Ar**	**57.43**	**32**	P		**P**	**11 35 13.0**	**+0.9**
	0.2nm,0.5s,baz=306,slow=6.4,SNR=5.0							
WRA	**Warramunga Arr**	**64.51**	**187**	P		**P**	**11 36 00.1**	**-0.1**
	0.3nm,0.9s,baz=5.1,slow=7.2,SNR=6.4							
ASAR	**Alice Springs**	**68.24**	**187**	P		**P**	**11 36 25.2**	**+1.5**
	6.8nm,0.5s,baz=360,slow=6.3,SNR=4.6							
PDAR	**Pinedale Array**	**72.53**	**47**	P		**P**	**11 36 50.5**	**+0.7**
	0.4nm,0.7s,baz=253,slow=1.5,SNR=4.1							

IDC 22 11:38:35.8±1.1, 12°.70N×86°.32W, h0km, mb3.1/3, mb1 3.5/5, mb1mx3.4/38, mbtmp3.2/5, ML2.9/2, MS1.7/1, Ms1 1.7/1, ms1mx1.7/16, Error ellipse: s-maj=75.5km s-min=13.5km az=59.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**2.74**	**151**	Pn	Pn	11 39 19.4	-1.7
	1.2nm,0.3s,baz=0.0,slow=20,SNR=8.3						
JTS				Pg	Pb	11 39 26.0	+0.2
	3.0nm,0.3s,baz=357,slow=19,SNR=8.5						
JTS				Sn	Sn	11 39 48.5	-6.5
	8.6nm,0.3s,baz=330,slow=16,SNR=6.3						
JTS				Lg	Lg	11 40 04.9	
	6.7nm,0.3s,baz=286,slow=19,SNR=4.4						
JTS				LR	LR	11 40 09.8	
	comp=Z,14nm,20.9s,baz=216,slow=34						
CMIG	**Matias Romero**	**9.36**	**299**	Pn	Pn	11 40 50.5	-1.5
	0.2nm,0.3s,baz=73,slow=11,SNR=2.6						
TXAR	**Lajitas Array**	**23.10**	**318**	P	P	11 43 45.2	+1.7
	0.5nm,0.7s,baz=139,slow=11,SNR=8.1						
PDAR	**Pinedale Array**	**36.09**	**330**	P	P	11 45 39.6	-0.1
	0.1nm,0.4s,baz=122,slow=8.6,SNR=3.2						
YKA	**Yellowknife Ar**	**53.67**	**344**	P	P	11 47 59.2	+0.2
	0.1nm,0.7s,baz=157,slow=5.9,SNR=5.3						
WRA	**Warramunga Arr**	**140.39**	**254**	PKP	PKPdf	11 58 07.8	-0.1
	0.3nm,0.7s,baz=87,slow=3.0,SNR=4.6						
CMAR	**Chiang Mai Arr**	**148.61**	**350**	PKPbc	PKPdf	11 58 23.9	+1.7
	0.5nm,0.5s,baz=354,slow=4.5,SNR=4.0						

ISK 22 11:56:06.4, 39°.89N×39°.10E, h6km, ML2.1/5
DDA 22 11:56:07.2, 39°.89N×39°.05E, h7km±6km, ML2.6
ISC 22 11:56:06.3±1.1, 39°.85N±0°.03×39°.05E±0°.04, h5km±11km, n13, σ1°81/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELT	**Kelkit**	**0.34**	**28**	*i* P	**Pg**	**11 56 14.1**	**+1.1**
KELT				*i* S	**Sg**	**11 56 18.6**	**+1.1**
REFA	**Refahiye_ERZN**	**0.50**	**206**	IAML_P			
	comp=Z,3μm,0.1s						
REFA				*i* P	**Pg**	**11 56 13.2**	**-2.7**
REFA				*i* S	**Sg**	**11 56 17.3**	**-5.1**
KEMA	**Kemaliye**	**0.72**	**217**	*i* P	**Pb**	**11 56 21.8**	**+0.5**
KEMA				*i* S	**Sb**	**11 56 32.2**	**+0.6**
TNCL	**Tunceli-Merkez**	**0.82**	**152**	IAML_P			
	comp=Z,185nm,0.2s						
TNCL				*i* P	**Pn**	**11 56 26.4**	**+1.7**
TNCL				*i* S	**Sn**	**11 56 38.0**	**+0.6**
CUZAR	**Zara_SIVAS**	**0.98**	**273**	*i* P	**Pn**	**11 56 26.8**	**-0.2**
CUZAR				*i* S	**Sn**	**11 56 40.3**	**-1.1**
PTK	**Pertek**	**0.99**	**164**	PG	**Pb**	**11 56 26.3**	**+0.3**
BAYT	**Aydıntepe-Bayb**	**1.00**	**56**	PG	**Pg**	**11 56 25.3**	**-0.2**
BAYT				SG	**Sg**	**11 56 38.4**	**-0.1**
BAYB	**BAYBURT**	**1.02**	**66**	IAML_P			
	comp=Z,755nm,0.2s						
BAYB				*i* P	**Pn**	**11 56 26.7**	**-0.8**
BAYB				*i* S	**Sn**	**11 56 40.5**	**-1.7**
ESPY	**Espiye-Giresun**	**1.10**	**347**	PG	**Pb**	**11 56 26.8**	**-1.0**
KTUT	**Trabzon**	**1.27**	**25**	PN	**Pb**	**11 56 30.3**	**-0.3**
CUKAN	**kangal_SIVAS**	**1.33**	**247**	*i* P	**Pg**	**11 56 33.5**	**+1.7**
SVSK	**Karaciyir**	**1.58**	**273**	PN	**Pb**	**11 56 36.3**	**+0.3**
AKCD	**Akcadag**	**1.78**	**210**	IAML_P			
	comp=Z,143nm,0.1s						
AKCD				*i* P	**Pg**	**11 56 42.0**	**+1.6**
AKCD				*i* S	**Sg**	**11 57 05.8**	**+2.3**

ISCJB 22 12:06:32.2±0.5, 9°.99S±0°.05×73°.84W±0°.05, h150km, mb3.8/12, Error ellipse: s-maj=7.3km s-min=7.0km az=44.5
IDC 22 12:06:33.8±0.6, 10°.01S×73°.91W, h157km±5km, mb3.6/12, mb1 3.8/18, mb1mx3.7/42, mbtmp4.1/18, Error ellipse: s-maj=12.4km s-min=10.9km az=12.0
ISC 22 12:06:33.6±0.5, 9°.97S±0°.07×73°.85W±0°.07, h150km, n47, σ1°19/53, mb3.8/12, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.56**	**235**	P	**Pn**	**12 07 29.0**	**+0.8**
	17nm,0.3s,baz=74,slow=7.9,SNR=36						
NNA				S	**Sn**	**12 08 09.1**	**-1.3**
	102nm,0.3s,baz=44,slow=14,SNR=7.3						
ATAH	**Atahualpa**	**5.30**	**302**	P	**Pn**	**12 07 51.2**	**-0.3**
	28nm,0.3s,baz=25,slow=5.9,SNR=181						
ATAH				S	**Sn**	**12 08 52.7**	**+0.6**
	12nm,0.3s,baz=54,slow=17,SNR=2.8						
LPAZ	**La Paz**	**8.39**	**139**	P	**Pn**	**12 08 34.5**	**+1.6**
	0.5nm,0.3s,baz=325,slow=12						
PTLC	**Puerto Leguiza**	**10.12**	**355**	*e*P	Pn	12 08 48.4	-6.8
PTLC	**Puerto Leguiza**	**10.12**	**355**	*e*P	Pn	12 08 48.4	-6.8
FLOC	**Florencia**	**11.62**	**351**	*e*P	**Pn**	**12 09 13.8**	**-1.2**
FLOC	**Florencia**	**11.62**	**351**	*e*P	**Pn**	**12 09 13.8**	**-1.2**
GCUF	**Volcan Galeras**	**11.65**	**342**	*e*P	**Pn**	**12 09 16.1**	**+0.2**
GCUF	**Volcan Galeras**	**11.65**	**342**	*e*P	**Pn**	**12 09 16.1**	**+0.2**
SOTA	**Rioblanco**	**12.33**	**347**	*e*P	**Pn**	**12 09 23.7**	**-1.0**
SOTA	**Rioblanco**	**12.33**	**347**	*e*P	**Pn**	**12 09 23.7**	**-1.0**
PCON	**Cinco Dias**	**12.48**	**348**	*e*P	**Pn**	**12 09 26.3**	**-0.4**
PCON	**Cinco Dias**	**12.48**	**348**	*e*P	**Pn**	**12 09 26.3**	**-0.4**
SIV	**San Ignacio**	**13.81**	**117**	P	**Pn**	**12 09 43.6**	**+0.3**
	1.3nm,0.3s,baz=298,slow=11,SNR=44						
VILC	**Villavicencio,**	**13.99**	**1**	*e*P	**P**	**12 09 47.9**	**-1.0**
VILC	**Villavicencio,**	**13.99**	**1**	*e*P	**P**	**12 09 47.9**	**-1.0**
CHIC	**Chingaza**	**14.50**	**0**	*e*P	**P**	**12 09 54.4**	**-0.4**
CHIC	**Chingaza**	**14.50**	**0**	*e*P	**P**	**12 09 54.4**	**-0.4**
RREF	**El Recreo**	**14.85**	**354**	*e*P	P	12 10 05.8	+6.9
RREF	**El Recreo**	**14.85**	**354**	*e*P	P	12 10 05.8	+6.9
RUSC	**La Rusia**	**15.78**	**3**	*e*P	**P**	**12 10 13.2**	**+4.2**
RUSC	**La Rusia**	**15.78**	**3**	*e*P	**P**	**12 10 13.2**	**+4.2**
PTBC	**PUERTO BERRIO,**	**16.41**	**358**	*e*P	**P**	**12 10 16.3**	**+0.8**
PTBC	**PUERTO BERRIO,**	**16.41**	**358**	*e*P	**P**	**12 10 16.3**	**+0.8**
PTGA	**Pitinga**	**16.58**	**57**	P	**P**	**12 10 17.0**	**-0.4**
	1.6nm,0.3s,baz=321,slow=21,SNR=6.7						
ZARC	**Zaragoza, Cauc**	**17.38**	**357**	*e*P	**P**	**12 10 26.5**	**+0.3**
ZARC	**Zaragoza, Cauc**	**17.38**	**357**	*e*P	**P**	**12 10 26.5**	**+0.3**
SDV	**Santo Domingo**	**19.00**	**10**	P	**P**	**12 10 44.8**	**+0.7**
	0.9nm,0.3s,baz=229,slow=19,SNR=4.3						
SJCC	**San Jacinto, C**	**19.78**	**356**	*e*P	**Pn**	**12 10 55.0**	**-0.4**
SJCC	**San Jacinto, C**	**19.78**	**356**	*e*P	**Pn**	**12 10 55.0**	**-0.4**
CPUP	**Villa Florida**	**22.57**	**138**	P	**P**	**12 11 20.8**	**-0.6**
	1.5nm,0.6s,baz=342,slow=9.6,SNR=3.6						
TXAR	**Lajitas Array**	**48.51**	**325**	P	**P**	**12 15 02.0**	**+0.5**
	0.9nm,0.5s,baz=152,slow=8.8,SNR=41						
TXAR				pP	**pP**	**12 15 35.3**	**-0.4**
	0.3nm,0.6s,baz=143,slow=9.1,SNR=2.0						
TXAR				sP	**sP**	**12 15 54.5**	**+2.1**
	0.5nm,0.7s,baz=140,slow=9.9,SNR=4.0						
ANMO	**Albuquerque**	**54.29**	**327**	P	**P**	**12 15 44.1**	**-0.5**
	0.6nm,0.8s,baz=163,slow=8.2,SNR=4.4						

PDAR	**Pinedale Array**	**61.79**	**331**	P		**P**	**12 16 36.0**	**-0.7**
	0.5nm,0.6s,baz=118,slow=7.5,SNR=6.5							
PDAR				pP		**pP**	**12 17 14.0**	**+1.6**
	0.3nm,0.6s,baz=123,slow=11,SNR=2.8							
ULM	**Lac du Bonnet**	**62.97**	**344**	P		**P**	**12 16 43.1**	**-1.1**
	2.5nm,0.5s,baz=160,slow=4.8,SNR=9.4							
NVAR	**Mina Array Bea**	**63.52**	**322**	P		**P**	**12 16 47.3**	**-1.0**
	1.0nm,0.8s,baz=140,slow=8.1,SNR=7.2							
SCHQ	**Schefferville**	**64.83**	**4**	P		**P**	**12 16 56.0**	**-0.2**
	3.0nm,0.7s,baz=196,slow=7.4,SNR=3.9							
DBIC	**Dimbokro**	**70.68**	**79**	P		**P**	**12 17 33.0**	**-0.7**
	1.2nm,0.5s,baz=230,slow=8.1,SNR=2.7							
TORD	**Torodi Ar. Bea**	**78.43**	**74**	P		**P**	**12 18 17.9**	**-0.4**
	1.4nm,0.8s,baz=263,slow=5.3,SNR=7.2							
TORD				pP		**pP**	**12 18 56.0**	**+0.4**
	0.9nm,0.9s,baz=267,slow=5.2,SNR=2.9							
YKA	**Yellowknife Ar**	**78.81**	**342**	P		**P**	**12 18 19.3**	**-0.1**
	1.3nm,0.7s,baz=138,slow=6.3,SNR=34							
YKA				pP		**pP**	**12 18 57.9**	**+1.3**
	0.8nm,0.5s,baz=141,slow=5.9,SNR=6.7							
INK	**Inuvik**	**88.55**	**341**	P		**P**	**12 19 08.6**	**-0.2**
	3.0nm,0.8s,baz=74,slow=4.1,SNR=7.2							
ILAR	**Eielson Array**	**91.85**	**336**	P		**P**	**12 19 23.1**	**-1.2**
	0.5nm,0.9s,baz=132,slow=2.7,SNR=3.8							
ILAR				pP		**pP**	**12 20 03.5**	**+1.2**
	0.4nm,0.8s,baz=111,slow=2.0,SNR=3.3							
ZALV	**Zalesovo Beam**	**132.93**	**17**	PKP		**PKPdf**	**12 25 30.2**	**-0.7**
	0.9nm,0.4s,baz=264,slow=2.9,SNR=5.1							
ASAR	**Alice Springs**	**136.94**	**219**	PKP		**PKPdf**	**12 25 39.7**	**+0.2**
	6.1nm,0.4s,baz=122,slow=1.9,SNR=10							
ASAR				pPKP		**pPKPdf**	**12 26 19.4**	**+0.1**
	0.5nm,0.7s,baz=107,slow=1.4,SNR=2.9							
MKAR	**Makanchi Array**	**138.07**	**25**	PKP		**PKPdf**	**12 25 40.2**	**-0.6**
	0.3nm,0.7s,baz=349,slow=2.3,SNR=3.0							
WRA	**Warramunga Arr**	**139.33**	**223**	PKP		**PKPdf**	**12 25 43.2**	**-0.7**
	1.2nm,0.6s,baz=128,slow=2.0,SNR=20							
WRA				pPKP		**pPKPdf**	**12 26 25.1**	**+1.4**
	0.8nm,0.7s,baz=168,slow=1.6,SNR=3.8							
SONM	**Songino Array**	**142.26**	**360**	PKhKP		PKPpre	12 25 42.7	
	0.6nm,0.6s,baz=0.2,slow=2.0,SNR=5.8							
SONM				PKP		**PKPdf**	**12 25 48.7**	**+0.2**
	0.4nm,0.6s,baz=274,slow=1.1,SNR=3.6							

NIED 22 12:15:00, 39°.40N×143°.50E, h11km, Mw3.6 Best double couple: M₀2.81000×10¹⁴ NP1:φ₁100.00000°, δ24.00000°, λ-36.00000°. NP2:φ₂223.00000°, δ76.00000°, λ-110.00000°.
IDC 22 12:15:15.4±1.1, 39°.26N×143°.87E, h0km, mb3.3/6, mb1 3.5/7, mb1mx3.4/38, mbtmp3.3/7, ML2.7/1, Error ellipse: s-maj=28.8km s-min=23.2km az=136.0
ISCJB 22 12:15:17.4±0.8, 39°.38N±0°.05×143°.54E±0°.07, h11km, mb3.2/6, Error ellipse: s-maj=8.5km s-min=7.0km az=38.7
JMA 22 12:15:19.3±0.2, 39°.36N×143°.48E, h27km±5km, M3.9
ISC 22 12:15:18.0±1.0, 39°.36N±0°.06×143°.51E±0°.08, h11km, n26, σ1°38/24, mb3.4/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.32**	**280**	P	**Pn**	**12 15 42.0**	**-0.4**
MIYJ				*e*S	**Sn**	**12 15 58.8**	**-1.2**
JTH	**Tanohata**	**1.39**	**295**	P	**Pn**	**12 15 43.1**	**-0.2**
JTH				*e*S	**Sn**	**12 16 00.5**	**-1.2**
OFUJ	**Ofunato**	**1.45**	**259**	P	**Pn**	**12 15 44.0**	**-0.2**
JOM	**Ohasama**	**1.72**	**274**	P	**Pn**	**12 15 48.1**	**+0.3**
JOM				*e*S	**Sn**	**12 16 09.1**	**-0.6**
JMK	**Ichinoseki**	**1.82**	**258**	P	**Pn**	**12 15 49.8**	**+0.6**
JANG	**Nango**	**1.84**	**304**	P	**Pn**	**12 15 49.1**	**-0.3**
JIO	**Ouri**	**1.91**	**242**	P	**Pn**	**12 15 50.3**	**-0.1**
JRG	**Rokugo**	**2.23**	**272**	P	**Pn**	**12 15 55.8**	**+1.0**
JYK	**Kaneyama**	**2.49**	**261**	P	**Pn**	**12 15 59.4**	**+1.0**
JOT	**Ohata**	**2.76**	**318**	P	**Pn**	**12 16 04.0**	**+1.9**
JNBK	**Urakawa-nobuka**	**2.97**	**349**	P	**Pn**	**12 16 06.3**	**+1.3**
JNBK				*e*S	**Sn**	**12 16 40.5**	**-0.2**
JFT	**Otama**	**3.09**	**235**	P	**Pn**	**12 16 07.4**	**+0.7**
MJAR	**Matsushiro Arr**	**5.04**	**238**	Pn	**Pn**	**12 16 35.9**	**+2.3**
	0.3nm,0.3s,baz=34,slow=14,SNR=13						
MAT	**Matsushiro**	**5.04**	**238**	P	**Pn**	**12 16 36.0**	**+2.5**
SONM	**Songino Array**	**27.96**	**300**	P	**P**	**12 21 08.6**	**+0.1**
	0.2nm,0.6s,baz=87,slow=7.5,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**28.08**	**127**	T	T	12 50 37.8	
	baz=318,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.09**	**127**	T	T	12 50 37.2	
	baz=318,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.10**	**127**	T	T	12 50 38.2	
	baz=318,slow=75						
H11S1	**WAKE ISLAND Hy**	**28.90**	**129**	T	T	12 51 42.2	
	baz=324						
H11S3	**WAKE ISLAND Hy**	**28.90**	**129**	T	T	12 51 43.1	
	baz=324						
H11S2	**WAKE ISLAND Hy**	**28.91**	**129**	T	T	12 51 51.6	
	baz=324						
ZALV	**Zalesovo Beam**	**41.61**	**310**	P	**P**	**12 23 08.9**	**+3.1**
	0.3nm,0.3s,baz=83,slow=8.3,SNR=2.7						
MKAR	**Makanchi Array**	**44.32**	**300**	P	**P**	**12 23 29.0**	**+1.1**
	0.4nm,0.8s,baz=86,slow=7.6,SNR=3.3						
ILAR	**Eielson Array**	**46.65**	**34**	P	**P**	**12 23 45.5**	**-0.5**
	0.4nm,0.9s,baz=254,slow=6.5,SNR=3.3						
WRA	**Warramunga Arr**	**59.61**	**190**	P	**P**	**12 25 20.6**	**-1.3**
	0.3nm,0.7s,baz=8.7,slow=6.8,SNR=4.1						
YKA	**Yellowknife Ar**	**60.97**	**31**	P	**P**	**12 25 28.8**	**-2.0**
	0.1nm,0.5s,baz=301,slow=6.4,SNR=3.0						

IDC 22 12:21:33.9±3.9, 53°.33N×161°.62E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.3/42, mbtmp3.7/4, ML3.1/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/46, Error ellipse: s-maj=78.5km s-min=35.1km az=120.0
KRSC 22 12:21:45.2±0.8, 53°.34N×160°.48E, h56km±7km, ML3.9
ISC 22 12:21:41.4±1.5, 53°.32N±0°.04×160°.90E±0°.07, h30km±11km, n39, σ1°57/52, mb3.5/3, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.57**	**247**	*i* P	**Pn**	**12 21 56.3**	**+2.8**
SPN				*e*S	**Sn**	**12 22 02.7**	**+0.8**
NLC	**Nalytchevo**	**0.94**	**262**	*e*P	**Pn**	**12 22 00.5**	**+1.9**
NLC				*e*S	**Sb**	**12 22 10.5**	**-0.8**
KII	**Karymskiy**	**1.12**	**310**	*e*P	**Pn**	**12 22 03.4**	**+2.3**
KII				*e*S	**Sn**	**12 22 18.8**	**+0.2**
UGLR	**Uglovaya**	**1.25**	**266**	*e*P	**Pb**	**12 22 05.1**	**+0.7**
UGLR				*e*S	**Sb**	**12 22 18.7**	**-1.4**
SMAR	**Somma**	**1.26**	**268**	*e*P	**Pb**	**12 22 05.0**	**+0.4**
AVH	**Avacha**	**1.30**	**268**	*e*P	**Pb**	**12 22 05.5**	**+0.3**
AVH				*e*S	**Sn**	**12 22 19.1**	**-0.8**
DALK	**Dalny**	**1.32**	**258**	*e*P	**Pb**	**12 22 05.6**	**+0.1**
DALK				*e*S	**Sn**	**12 22 19.3**	**-1.1**
KRX	**Arik**	**1.35**	**273**	*i* P	**Pb**	**12 22 06.4**	**+0.3**
KRX				*e*S	**Sn**	**12 22 20.1**	**-1.2**
KOK	**Koryaka**	**1.36**	**270**	*e*P	**Pb**	**12 22 06.3**	**+0.1**
KOK				*e*S	**Sn**	**12 22 20.7**	**-0.7**
PET	**Petropavlovsk**	**1.38**	**259**	*i* P	**Pb**	**12 22 06.7**	**+0.2**
RUS	**Russkaya**	**1.70**	**239**	*e*P	**Pb**	**12 22 11.2**	**-0.7**
RUS				*e*S	**Sn**	**12 22 29.0**	**-0.6**
KRMR	**Karymshinskiy**	**1.74**	**255**	*e*P	**Pb**	**12 22 11.9**	**-0.7**
KRMR				*e*S	**Sn**	**12 22 29.9**	**-0.8**
GNL	**Ganaly**	**1.80**	**283**	*e*P	**Pb**	**12 22 12.9**	**-0.9**
KZV	**Kizimen**	**1.83**	**349**	*e*P	**Pb**	**12 22 16.2**	**+1.9**
KZV				*e*S	**Sb**	**12 22 37.4**	**+0.6**
MTVR	**Mutnovka**	**1.84**	**244**	*e*P	**Pb**	**12 22 13.7**	**-0.8**
MTVR				*e*S	**Sn**	**12 22 33.4**	**-0.1**
GRL	**Gorelyy**	**1.87**	**247**	*e*P	**Pb**	**12 22 14.2**	**-0.8**
TUMD	**Tumrok D**	**1.91**	**351**	*e*P	**Pb**	**12 22 17.0**	**+1.5**
TUMD				*e*S	**Sb**	**12 22 39.0**	**+0.1**
PETK	**Petropavlovsk-**	**1.94**	**265**	Pn	**Pb**	**12 22 14.8**	**-1.1**
	24nm,0.3s,baz=85,slow=18,SNR=441						
PETK				Sn	**Sn**	**12 22 35.7**	**+0.1**
	17nm,0.3s,baz=64,slow=17,SNR=7.7						
PETK				LR	LR	12 22 38.6	
	comp=Z,63nm,19.4s,baz=89,slow=27						
TUMR	**Tumrok**	**2.02**	**348**	*e*P	**Pb**	**12 22 19.2**	**+1.8**
TUMR				*e*S	**Sb**	**12 22 42.9**	**+0.8**
APC	**Apacha**	**2.29**	**262**	*e*P	**Pb**	**12 22 20.3**	**-1.6**
APC				*e*S	**Sn**	**12 22 45.1**	**+0.9**
KDTR	**Khodutka, Kamc**	**2.29**	**230**	*e*P	**Pb**	**12 22 20.7**	**-1.3**
KDTR				*e*S	**Sn**	**12 22 45.7**	**+1.4**
KLY	**Klyuchi**	**3.00**	**357**	*e*P	**Pb**	**12 22 33.4**	**-0.7**
SRDR	**Sredinnyy**	**3.08**	**348**	*e*P	**Pb**	**12 22 33.5**	**-2.0**
KBTR	**Krutoberegovo**	**3.10**	**20**	*e*P	**Pb**	**12 22 35.8**	**0.0**
PAU	**Pauzhetka**	**3.12**	**235**	*e*P	**Pb**	**12 22 32.8**	**-3.2**
PAU				*e*S	**Sn**	**12 23 07.2**	**+2.6**
BDR	**Baidarnaya**	**3.26**	**3**	*e*P	**Pb**	**12 22 37.6**	**-0.9**
BDR				*e*S	**Sb**	**12 23 14.0**	**-3.8**
SMKR	**Semkarok**	**3.29**	**6**	*e*P	**Pb**	**12 22 37.4**	**-1.6**
SRKR	**Sorokina**	**3.34**	**3**	*e*P	**Pb**	**12 22 36.9**	**-3.1**
SKR	**Severo-Kuril's**	**3.96**	**230**	*e*P	**Pn**	**12 22 44.1**	**+4.1**
SKR				*e*S	**Sn**	**12 23 26.9**	**+1.5**
MJAR	**Matsushiro Arr**	**23.07**	**232**	P	**P**	**12 26 44.6**	**+0.3**
	1.3nm,0.8s,baz=40,slow=10,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**33.85**	**170**	T	T	13 04 56.4	
	baz=354,slow=76,SNR=21						
H11N3	**WAKE ISLAND Hy**	**33.86**	**170**	T	T	13 04 53.9	
	baz=354,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**33.86**	**170**	T	T	13 04 54.4	
	baz=354,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**35.03**	**170**	T	T	13 06 19.6	
	baz=359						
H11S3	**WAKE ISLAND Hy**	**35.05**	**170**	T	T	13 06 22.8	
	baz=359						
H11S2	**WAKE ISLAND Hy**	**35.05**	**170**	T	T	13 06 16.8	
	baz=359						
MKAR	**Makanchi Array**	**48.49**	**296**	P	**P**	**12 30 19.8**	**-1.3**
	0.2nm,0.4s,baz=46,slow=5.8,SNR=6.2						
FINES	**FINESS Array B**	**60.10**	**337**	P	**P**	**12 31 44.0**	**-1.3**
	4.9nm,1.0s,baz=27,slow=9.0,SNR=4.2						
KBZ	**Khabaz**	**69.70**	**317**	LR	LR	13 06 09.7	
	comp=Z,102nm,18.6s,baz=328,slow=38						

NEIC 22 12:28:11.4±0.0, 17°.13N×101°.47W, h16km, MD4.0(MEX), After MEX.
MEX 22 12:28:11.3±0.4, 17°.13N×101°.48W, h16km±48km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.47**	**2**	*e*Pg	Pg	12 28 19.4	-1.4
ZIIG				*e*Sg	Sg	12 28 25.4	-1.8
ZIIG	**Zihuatanejo**	**0.47**	**2**	*i* P	Pg	12 28 19.4	-1.4
ZIIG				*e*S	Sg	12 28 25.4	-1.8
CAIG	**El Cayaco**	**1.16**	**94**	*e*Pn	Pn	12 28 28.9	-4.0
CAIG				*e*Sn	Sb	12 28 43.1	-4.8
CAIG	**El Cayaco**	**1.16**	**94**	*e*P	Pn	12 28 28.9	-4.0
CAIG				*e*S	Sb	12 28 43.1	-4.8
ARIG	**Puente Sto Nin**	**1.57**	**43**	*e*P	Pn	12 28 35.4	-3.2
ARIG				*e*S	Sn	12 28 53.6	-5.0
ARIG	**Puente Sto Nin**	**1.57**	**43**	*e*P	Pn	12 28 35.4	-3.2
ARIG				*e*S	Sn	12 28 53.2	-5.5
MEIG	**Mezcala**	**1.94**	**66**	*e*Pn	Pn	12 28 41.1	-2.7
MEIG				*e*Sn	Sn	12 29 03.8	-4.1
MEIG	**Mezcala**	**1.94**	**66**	*e*P	Pn	12 28 41.1	-2.7
MEIG				*i* S	Sn	12 29 03.8	-4.1
PLIG	**Platanillo**	**2.26**	**56**	*e*Pn	Pn	12 28 45.4	-2.7
PLIG				*e*Sn	Sn	12 29 12.1	-3.7
PLIG	**Platanillo**	**2.26**	**56

JCH eS Sn **12 55 25.1 +2.2**
JFT Otama 3.07 230 P Pn **12 54 45.9 -1.2**
ASAJ Asahikawa 4.59 354 P Pn **12 55 09.9 +1.9**
comp=Z,8.1nm,0.3s,baz=222,slow=14,SNR=69
ASAJ S Sb **12 56 06.8 -7.9**
comp=Z,8.1nm,0.3s,baz=303,slow=30,SNR=5.9
ASAJ LR LR 12 57 27.3
comp=Z,486nm,20.4s,baz=182,slow=43
ASAJ Asahikawa 4.59 354 ePn Pn **12 55 09.6 +1.6**
ASAJ eSn Sn **12 56 04.4 +3.8**
ASAJ Asahikawa 4.59 354 P Pn **12 55 09.9 +1.9**
ASAJ S Sb **12 56 06.8 -7.9**
ASAJ pmax pmax
comp=Z,8.0nm,0.3s
ASAJ smax smax
comp=N,8.0nm,0.3s
ASAJ MLR MLR
comp=Z,486nm,20.4s
YUK Yuzh-Kuril'sk 4.88 23 eP Pn **12 55 10.9 -1.1**
YUK *i* S Sn **12 56 04.5 -3.2**
YUK pmax pmax
comp=Z,182nm,0.5s
YUK pmax pmax
comp=E,114nm,0.3s
YUK pmax pmax
comp=N,179nm,0.5s
YUK smax smax
comp=N,734nm,0.5s
YUK smax smax
comp=E,758nm,0.7s
YUK MLR MLR
comp=Z,344nm,16.0s
MJAR Matsushiro Arr 5.00 235 P Pn **12 55 13.4 -0.2**
comp=Z,2.7nm,0.3s,baz=35,slow=13,SNR=174
MJAR LR LR 12 57 02.4
comp=Z,243nm,20.9s,baz=35,slow=37
MAJO Matsushiro 5.00 235 ePn Pn **12 55 13.8 +0.2**
MAJO Matsushiro 5.00 235*c iP* Pn **12 55 14.3 +0.7**
MAT Matsushiro 5.00 235 P Pn **12 55 14.3 +0.7**
MAT eS Sn **12 56 06.3 -4.4**
MJB9 Matsu-Tunnel 5.00 235 ePn Pn **12 55 13.8 +0.2**
SHO Shikotan 5.07 31⇓*iP* Pn **12 55 12.6 -2.0**
SHO *i* S Sn **12 56 07.8 -4.6**
SHO pmax pmax
comp=Z,39nm,0.6s
SHO pmax pmax
comp=E,29nm,0.3s
SHO pmax pmax
comp=N,26nm,0.2s
SHO smax smax
comp=N,399nm,0.3s
SHO smax smax
comp=E,451nm,0.3s
SHO MLR MLR
comp=Z,354nm,12.0s
INU Inuyama 6.50 232 ePn Pn **12 55 34.1 -0.2**
KUR Kuril'sk 6.62 29 eP Pn **12 55 35.9 +0.1**
KUR *i* S Sn **12 56 47.6 -2.9**
KUR pmax pmax
comp=Z,52nm,0.4s
KUR pmax pmax
comp=N,20nm,0.5s
KUR pmax pmax
comp=E,27nm,0.2s
KUR smax smax
comp=E,188nm,0.5s
KUR smax smax
comp=N,83nm,0.6s
JHJ Hachijo jima 2 7.01 205 P Pn **12 55 38.5 -2.6**
comp=N,14nm,0.3s,baz=12,slow=22,SNR=8.8
JHJ S Sn 12 56 49.2 -11
comp=N,64nm,0.3s,baz=58,slow=23,SNR=6.5
TEY Ternei 7.38 320⇓*eP* Pn 12 55 51.2 +5.0
TEY pmax pmax
comp=N,60nm,0.7s
TEY pmax pmax
comp=E,70nm,0.7s
TEY pmax pmax
comp=Z,100nm,0.7s
YSS Yuzh-Sakhalins 7.41 357 ePn Pn **12 55 48.4 +1.7**
YSS Yuzh-Sakhalins 7.41 357 eP Pn **12 55 48.9 +2.2**
YSS eS Sn **12 57 10.1 +0.2**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,500nm,14.0s
YSS MLR MLR
comp=N,500nm,13.0s
YSS MLR MLR
comp=E,700nm,17.0s
USA0B Ussuriysk Arra 9.61 303 ePn Pn **12 56 19.6 +2.8**
USRK Ussuriysk Ar. 9.61 303 P Pn 12 56 20.4 +3.6
comp=E,1.1nm,0.3s,baz=101,slow=13,SNR=37
USRK LR LR 12 59 55.7
comp=E,549nm,19.8s,baz=96,slow=36
TYV Tymovskoe 11.32 358 eP Pn **12 56 41.6 +1.4**
TYV pmax pmax
comp=Z,11nm,0.9s
TYV pmax pmax
comp=Z,200nm,4.0s
MDJ Mudanjiang 11.35 301 P Pn 12 56 44.6 +3.9
MDJ pP 12 56 52.6
MDJ sP 12 56 57.3
MDJ pmax pmax
comp=Z,19nm,1.0s
MDJ pmax pmax
comp=Z,200nm,4.2s
MDJ LR LR
comp=Z,400nm,16.1s
MDJ LR LR
comp=Z,890nm,15.9s
MDJ LR LR
comp=Z,1μm,16.2s
MDJ Mudanjiang 11.35 301 ePn Pn **12 56 42.8 +2.1**
JNU Nakatsue 11.87 241 LR LR 13 01 50.7
comp=Z,704nm,18.1s,baz=63,slow=40
KSRS Korea Array 12.21 265 P Pn **12 56 55.1 +2.8**
comp=Z,0.3nm,0.3s,baz=82,slow=13,SNR=10.0
KSRS LR LR 13 01 18.5
comp=Z,406nm,18.8s,baz=73,slow=36
KS01 Wonju Array Si 12.22 265 ePn Pn **12 56 53.7 +1.1**
KS15 Wonju Array Si 12.24 265 ePn Pn **12 56 53.9 +1.1**
KLR Kul'dur 12.70 323 P Pn **12 56 59.6 +0.6**
comp=Z,0.2nm,0.3s,baz=126,slow=14,SNR=9.2
KLR LR LR 13 02 16.5
comp=Z,540nm,18.1s,baz=132,slow=38
KLR Kul'dur 12.70 323*de*P Pn **12 57 00.7 +1.7**
NKL Nikolayevsk 13.72 353 eP Pn **12 57 13.0 +0.1**
NKL pmax pmax
comp=N,16nm,0.9s
NKL pmax pmax
comp=Z,16nm,0.9s
CN2 Changchun 13.98 293 eP Pn **12 57 14.8 -1.8**
CN2 epP P 12 57 22.3 -2.1
CN2 eS Sn **12 59 48.0 -2.9**
CN2 LR LR
comp=Z,330nm,14.0s
CN2 LR LR
comp=Z,490nm,14.0s
CN2 LR LR
comp=Z,510nm,15.0s
PETK Petropavlovsk- 16.78 31 P P **12 57 56.9 +1.4**
comp=Z,0.1nm,0.3s,baz=209,slow=12,SNR=3.2
PETK LR LR 13 03 59.1
comp=Z,96nm,18.6s,baz=212,slow=35
PEA1 Petropavlovsk- 16.79 31 ePn P **12 57 56.9 +1.4**
ZEA Zeya 17.89 328 eP Pn **12 58 06.1 -1.1**
ZEA pmax pmax
comp=E,29nm,1.2s
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=Z,32nm,1.0s
ZEA MLR MLR
comp=Z,600nm,14.0s
ZEA MLR MLR
comp=E,200nm,12.0s
ZEA MLR MLR
comp=N,400nm,16.0s
HIA Hailar 19.34 308 eP P **12 58 22.9 -0.8**
comp=N,15nm,0.9s
HIA Hailar 19.34 308 eP P **12 58 22.9 -0.8**
HIA pmax pmax
comp=Z,15nm,0.9s
MA2 Magadan 20.60 11 P Pn 12 58 38.9 -0.7
comp=Z,14nm,0.7s,baz=192,slow=9.1,SNR=15
MA2 LR LR 13 06 06.7
comp=Z,118nm,21.4s,baz=184,slow=35
MA2 Magadan 20.60 11 *ce*P Pn 12 58 39.0 -0.6
comp=Z,15nm,0.8s
MA2 Magadan 20.60 11*ce*P Pn 12 58 38.6 -1.0
MA2 pmax pmax
comp=Z,17nm,1.3s
BJI Beijing 20.80 280⇓*iP* P **12 58 38.3 -1.2**
BJI pmax pmax
comp=Z,15nm,0.8s
BJT Baijiatuan 20.81 280 *e*P P **12 58 37.8 -1.8**
comp=Z,16nm,0.8s
BJT Baijiatuan 20.81 280 *e*P P **12 58 37.8 -1.8**
BJT pmax pmax
comp=Z,16nm,0.8s
NJ2 Nanjing 21.13 257 *e*P P **12 58 44.0 +0.8**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
YAK Yakutsk 23.99 344 eP P **12 59 12.6 +0.1**
YAK *e**PP **sP** **12 59 24.3 +1.9**
YAK *e* 12 59 31.1
YAK *e*PPP PPP 12 59 49.1
YAK eS S **13 03 26.1 -1.7**
YAK eSSS SSS 13 04 39.1
YAK pmax pmax
comp=Z,24nm,0.8s
YAK pmax pmax
comp=N,5.0nm,0.8s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=Z,53nm,2.3s
YAK pmax pmax
comp=N,50nm,2.7s
YAK pmax pmax
comp=E,55nm,2.5s
YAK smax smax
comp=N,49nm,3.3s
YAK smax smax
comp=E,57nm,2.4s
YAK MLR MLR
comp=Z,168nm,14.0s
YAK MLR MLR
comp=N,143nm,13.0s
YAK MLR MLR
comp=E,67nm,13.0s
SEY Seymchan 24.05 10 P P **12 59 15.0 +1.9**
comp=E,19nm,0.8s,baz=188,slow=7.5,SNR=56
SEY Seymchan 24.05 10⇓*eP* P **12 59 14.6 +1.5**
HHC Hu-ho-hao-te 24.19 283 eP P **12 59 15.9 +1.2**
HHC sP sP 12 59 32.4 +7.8
HHC S S **13 03 31.5 -0.2**
HHC sS sS 13 03 44.3 +1.2
HHC pmax pmax
comp=E,23nm,1.1s
HHC pmax pmax
comp=E,110nm,7.2s
HHC LR LR
comp=E,280nm,13.4s
HHC LR LR
comp=E,530nm,13.6s
HHC LR LR
comp=E,600nm,15.1s
SSLB Suanglung 24.55 237 eP P **12 59 14.4 -3.7**
comp=E,14nm,0.9s
WHN Wuhan 25.24 258⇑*iP* P **12 59 24.0 -0.2**
GUMO Guam 25.90 176 LR LR 13 08 19.0
comp=E,84nm,19.5s,baz=42,slow=33
BOD Bodaibo 26.27 324 eP P **12 59 33.6 +0.3**
BOD pmax pmax
comp=Z,3.0nm,1.7s
ULN Ulaanbaatar 27.27 300 eP P **12 59 42.4 -0.2**
comp=Z,8.6nm,0.7s
ULN Ulaanbaatar 27.27 300*c iP* P **12 59 43.6 +1.0**
ULN pmax pmax
comp=Z,18nm,1.3s
SONA1 Songino Array 27.70 300 eP P **12 59 46.4 0.0**
SONA0 Songino Array 27.70 300 eP P **12 59 47.1 +0.6**
SONM Songino Array 27.70 300 P P **12 59 47.1 +0.6**
comp=Z,4.3nm,0.6s,baz=93,slow=9.1,SNR=37
SONM LR LR 13 11 28.6
comp=Z,441nm,18.8s,baz=54,slow=38
XAN Xi'an 27.94 270 P P **12 59 49.5 +0.9**
XAN pP sP 12 59 59.6 +1.1
XAN sP pP 13 00 04.6 +9.0
XAN pmax pmax
comp=Z,8.0nm,1.4s
XAN pmax pmax
comp=Z,140nm,4.9s
XAN LR LR
comp=Z,270nm,17.3s
XAN LR LR
comp=Z,270nm,13.2s
XAN Xi'an 27.94 270 eP P **12 59 47.8 -0.8**
comp=Z,6.3nm,0.8s
XAN Xi'an 27.94 270 eP P **12 59 47.8 -0.8**
XAN pmax pmax
comp=Z,6.0nm,0.8s
H11N2 WAKE ISLAND Hy 28.34 127 T T 13 29 19.7
baz=322,slow=75
H11N1 WAKE ISLAND Hy 28.35 127 T T 13 29 16.1
baz=322,slow=75
H11N3 WAKE ISLAND Hy 28.36 127 T T 13 29 22.1
baz=322,slow=75
ENH Enshi 29.07 262 eP P **12 59 57.9 -0.8**
comp=Z,22nm,0.9s
H11S1 WAKE ISLAND Hy 29.16 129 T T 13 30 21.1
baz=313,slow=76
H11S3 WAKE ISLAND Hy 29.16 129 T T 13 30 34.5
baz=313,slow=76
H11S2 WAKE ISLAND Hy 29.17 129 T T 13 30 37.7
baz=313,slow=76
ZAK Zakamensk 29.95 305 eP P **13 00 06.9 +0.5**
ZAK pmax pmax
comp=Z,6.0nm,0.8s
LZH Lanzhou 31.17 276 eP P **13 00 18.5 +1.2**
LZH pP sP 13 00 28.1 +0.9
LZH sP pP 13 00 32.3 +8.0
LZH e**PP **PnPn** **13 01 20.1 +0.9**
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,70nm,4.9s
LZH LR LR
comp=Z,310nm,12.9s
LZH LR LR
comp=Z,320nm,13.2s
LZH LR LR
comp=Z,400nm,16.7s
BILL Bilibino 31.20 16 eP P **13 00 18.0 +0.9**
comp=Z,2.5nm,1.0s
BILL Bilibino 31.20 16 *i* P P **13 00 16.8 -0.3**
BILL *i* 13 00 26.0
BILL *i* 13 01 25.0
BILL pmax pmax
comp=Z,5.0nm,1.3s
BILL MLR MLR
comp=Z,761nm,24.0s
MOY Mondy 31.52 307 eP P **13 00 21.6 +1.4**
MOY pmax pmax
comp=Z,13nm,2.1s
TIXI Tiksi 32.99 352 P P **13 00 33.1 +0.3**
comp=Z,1.5nm,0.8s,baz=138,slow=8.3,SNR=5.9
TIXI Tiksi 32.99 352 eP P **13 00 33.1 +0.3**
comp=Z,0.2nm,1.1s
TIXI Tiksi 32.99 352⇓*eP* P **13 00 32.6 -0.1**
TIXI pmax pmax
comp=Z,8.0nm,2.5s
GYA Guiyang 33.13 258⇑*iP* P **13 00 33.9 -0.7**
GYA pP sP 13 00 46.4 +1.9
GYA PP PP **13 01 47.3 -2.3**
GYA S S **13 05 51.0 -1.7**
GYA sS sS 13 06 07.6 +3.3
GYA SS SnSn **13 07 50.8 -1.5**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,490nm,17.0s
GYA LR LR
comp=Z,440nm,18.2s
GYA LR LR
comp=Z,460nm,18.6s
CD2 Chengdu 33.19 267 P P **13 00 35.5 +0.5**
CD2 S S **13 05 51.8 -1.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.8s
CD2 LR LR
comp=Z,620nm,11.9s
CD2 LR LR
comp=Z,350nm,8.5s
CD2 LR LR
comp=Z,430nm,12.1s
GTA Gaotai 33.30 284⇑P P **13 00 36.8 +0.8**
GTA pP pP 13 00 42.3 -0.7
GTA sP sP 13 00 45.0 -0.9
GTA PP PP **13 01 50.0 -1.3**
GTA PcP PcP **13 03 18.8 +1.1**
GTA S S **13 05 56.0 +0.8**
GTA sS sS 13 06 12.3 +5.6
GTA pmax pmax
comp=Z,19nm,1.1s
GTA pmax pmax
comp=Z,41nm,4.4s
GTA LR LR
comp=Z,270nm,17.2s
GTA LR LR
comp=Z,500nm,17.5s
GTA LR LR
comp=Z,690nm,18.2s
QIZ Qiongzhong 35.31 244 P P **13 00 54.3 +0.9**
QIZ S S **13 06 25.0 -1.3**
QIZ LR LR
comp=Z,210nm,11.4s
QIZ LR LR
comp=Z,180nm,12.7s
QIZ LR LR
comp=Z,250nm,14.5s
ANM Nome 38.69 33 eP P **13 01 23.3 +1.7**
comp=Z,1.4nm,0.9s
ANM Nome 38.69 33 eP P **13 01 23.3 +1.7**
ANM pmax pmax
comp=Z,1.0nm,0.9s
DGZ Jazzator, Alta 40.16 304*ce*P P **13 01 35.9 +1.6**
DGZ pmax pmax
comp=Z,8.0nm,0.6s
NONG Nongkai 40.72 250 P P **13 01 40.2 +1.2**
comp=Z,0.2nm,0.9s
WMQ Urumqi 41.06 295 eP P **13 01 43.3 +1.6**
WMQ pP sP 13 01 52.5 +0.8
WMQ sP pP 13 01 55.5 +6.6
WMQ pmax pmax
comp=Z,29nm,0.9s
WMQ pmax pmax
comp=Z,650nm,5.3s
WMQ LR LR
comp=Z,110nm,19.5s
WMQ LR LR
comp=Z,160nm,18.7s
WMQ LR LR
comp=Z,140nm,20.5s
WMQ Urumqi 41.06 295 eP P **13 01 41.4 -0.3**
comp=Z,13nm,0.8s
WMQ Urumqi 41.06 295 eP P **13 01 41.4 -0.3**
WMQ pmax pmax
comp=Z,13nm,0.8s
ZAA0 Zalesovo Array 41.35 310 eP P **13 01 44.3 +0.5**
comp=Z,7.9nm,0.7s
ZAA0 *e*PcP **PcP** **13 03 41.7 -0.1**
ZAA1 Zalesovo Array 41.35 310 eP P **13 01 44.5 +0.6**
ZALV Zalesovo Beam 41.35 310 P P **13 01 44.5 +0.6**
comp=Z,6.1nm,0.6s,baz=87,slow=7.6,SNR=28
ZALV LR LR 13 19 53.9
comp=Z,215nm,18.6s,baz=62,slow=37
ZALV Zalesovo Beam 41.35 310 eP P **13 01 43.4 -0.5**
ZALV *e*PcP **PcP** **13 03 42.0 +0.3**
ZALV Zalesovo Beam 41.35 310 eP P **13 01 43.4 -0.5**
ZALV *e* 13 03 42.0
NVS Novosibirsk 42.21 312⇓*iP* P **13 01 52.2 +1.4**
NVS pmax pmax
comp=Z,6.0nm,0.8s
NVS pmax pmax
comp=N,2.0nm,0.7s
NVS pmax pmax
comp=E,3.0nm,0.5s
CMMT Chiang Mai 43.34 255 P P **13 02 01.3 +0.8**
comp=E,5.3nm,0.7s
CHTO Chiang Mai 43.35 255 eP P **13 02 00.0 -0.5**
comp=E,3.7nm,0.6s
CHTO Chiang Mai 43.35 255 eP P **13 02 00.0 -0.5**
CHTO pmax pmax
comp=Z,4.0nm,0.6s
CHTO Chiang Mai 43.35 255 P P **13 02 01.4 +0.9**
comp=Z,26nm,1.0s
CM31 Chiang Mai Arr 43.57 254 eP P **13 02 01.6 -0.7**
CMAR Chiang Mai Arr 43.57 254 P P **13 02 02.2 -0.1**
comp=Z,1.2nm,0.5s,baz=46,slow=6.8,SNR=10
CMAR LR LR 13 20 27.7
comp=Z,47nm,19.1s,baz=36,slow=36
CMAR Chiang Mai Arr 43.57 254 *i* P P **13 02 02.7 +0.4**
CMAR pmax pmax
comp=Z,1.0nm,0.5s
CM01 Chiang Mai Arr 43.58 254 eP P **13 02 01.6 -0.8**
MK01 Makanchi Array 44.07 300 eP P **13 02 06.1 0.0**
MK31 Makanchi Array 44.07 300 eP P **13 02 06.1 0.0**
MK31 Makanchi Array 44.07 300 *i* P P **13 02 06.8 +0.8**
MK31 pmax pmax
comp=Z,15nm,1.0s
MK32 Makanchi Array 44.07 300 eP P **13 02 06.9 +0.9**
MKAR Makanchi Array 44.07 300 P P **13 02 06.9 +0.9**
comp=Z,7.9nm,0.9s,baz=84,slow=9.4,SNR=57
MKAR LR LR 13 21 17.6
comp=Z,202nm,18.8s,baz=36,slow=37
MAKZ Makanchi 44.27 300 eP P **13 02 07.7 0.0**
comp=Z,8.3nm,0.9s
MAKZ Makanchi 44.27 300 P P **13 02 07.5 -0.2**
MAKZ pmax pmax
comp=Z,11nm,1.1s
KURK Kurchatov 45.57 306 eP P **13 02 17.5 -0.4**
comp=Z,17nm,0.8s
KURK Kurchatov 45.57 306*c iP* P **13 02 18.6 +0.7**
KURK pmax pmax
comp=Z,19nm,0.8s
KURBB Kurchatov Arra 45.65 306 P P **13 02 19.3 +0.8**
comp=Z,15nm,0.7s,baz=81,slow=8.3,SNR=110
RND Reindeer 45.78 36 eP P **13 02 21.4 +1.9**
comp=Z,2.9nm,1.2s
RND Reindeer 45.78 36 eP P **13 02 21.4 +1.9**
RND pmax pmax
comp=Z,3.0nm,1.2s
WRH Wood River Hil 46.09 34 eP P **13 02 24.0 +2.3**
comp=Z,0.8nm,0.7s
ILAR Eielson Array 46.59 34 P P **13 02 27.0 +1.2**
comp=Z,1.4nm,0.8s,baz=262,slow=6.7,SNR=14
ILB Eielson Array 46.59 34 eP P **13 02 27.4 +1.6**
IL1 Eielson Array 46.59 34 eP P **13 02 27.1 +1.4**
JIRN Jiri 48.27 274 eP P **13 02 40.3 +0.5**
comp=Z,24nm,0.6s
RAMN Ramite 48.31 273 eP P **13 02 40.3 +0.4**
comp=Z,34nm,0.9s
GUN Gumba 48.39 274 eP P **13 02 41.2 +0.5**
comp=Z,28nm,0.4s
KKN Kakani 48.91 275 eP P **13 02 45.2 +0.7**
comp=Z,25nm,0.5s
PKIN Phulchoki 48.93 274 eP P **13 02 45.3 +0.6**
comp=Z,11nm,0.6s
DMN Daman 49.13 275 eP P **13 02 46.7 +0.4**
comp=Z,5.5nm,0.3s
DANN Dangsing 49.81 276 eP P **13 02 52.0 +0.6**
comp=Z,76nm,0.5s
BVA0 Borovoye Array 49.99 311 *i* P P **13 02 53.0 +0.8**
BVA0 pmax pmax
comp=Z,7.0nm,0.8s
BRVK Borovoye 50.05 311 eP P **13 02 52.4 -0.1**
comp=Z,9.2nm,0.9s
BRVK Borovoye 50.05 311*c iP* P **13 02 53.5 +1.0**
BRVK pmax pmax
comp=Z,8.0nm,0.9s
KOLN Koldanda 50.22 276 eP P **13 02 54.9 +0.5**
comp=Z,34nm,0.9s
FRU Bishkek 50.46 297 eP P **13 02 57.0 +1.1**
FRU *e* 13 03 06.0
PYUN Piuthan 50.52 276 eP P **13 02 57.4 +0.6**
comp=Z,71nm,1.1s
AAK Ala-Archa 50.61 297⇓*eP* P **13 02 58.4 +1.2**
AAK pmax pmax
comp=Z,1.0nm,0.4s
EPYK Eagle Plains 50.62 31 eP P **13 02 58.5 +1.7**
comp=Z,7.1nm,1.0s

KSH	Kashi	50.75	293	P	P		13 03 03.3 +5.1
KSH				pP	sP		13 03 10.3 +2.0
KSH				PcP	PcP		13 04 20.8 +5.7
KSH				S	S		13 10 14.3 +1.9
KSH				sS	sS		13 10 34.3 +10
KSH				ScS	ScS		13 12 49.3 +1.6
KSH				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,190nm,5.0s						
KSH				LR	LR		
	comp=Z,170nm,6.4s						
KSH				LR	LR		
	comp=Z,110nm,4.5s						
KSH				LR	LR		
	comp=Z,790nm,14.8s						
HYT	Haines Junctio	51.41	38	eP	P		13 03 04.7 +1.8
	comp=Z,9.8nm,1.1s						
INK	Inuvik	51.48	28	P	P		13 03 04.5 +1.3
	comp=Z,1.1nm,0.5s,baz=287,slow=8.2,SNR=6.9						
INK	Inuvik	51.48	28	eP	P		13 03 04.3 +1.1
	comp=Z,2.1nm,0.9s						
MNAS	Manas	52.03	298	P	P		13 03 07.8 -0.1
MNAS				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ARSB	Arslanbob	52.15	296	eP	P		13 03 08.2 -0.5
	comp=Z,13nm,1.0s						
KK31	Karatay Array	53.16	299	eP	P		13 03 15.3 -0.7
KK31	Karatay Array	53.16	299	eP	P		13 03 15.3 -0.7
SVE	Sverdlovsk	54.25	318	eP	P		13 03 25.2 +1.5
SVE				pmax	pmax		
	comp=Z,21nm,0.9s						
PSI	Prapat	54.34	239	LR	LR		13 28 06.1
	comp=Z,60nm,18.2s,baz=4.5,slow=38						
NIL	Nilore	55.24	287	eP	P		13 03 30.5 -0.8
	comp=Z,12nm,0.8s						
NIL	Nilore	55.24	287	eP	P		13 03 30.5 -0.8
NIL				pmax	pmax		
	comp=Z,12nm,0.8s						
ARU	Arti	55.46	318	eP	P		13 03 32.4 -0.2
	comp=Z,18nm,0.9s						
ARU	Arti	55.46	318	c iP	P		13 03 33.9 +1.4
ARU				*PP	sP		13 03 43.0 +0.3
ARU							13 04 28.5
ARU							13 05 34.8
ARU				S	S		13 11 17.5 +1.6
ARU				SS	SS		13 14 54.6 -5.5
ARU				pmax	pmax		
	comp=Z,22nm,1.0s						
AB31	Akbulak array	57.45	309	i P	P		13 03 46.7 -0.1
AB31				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KBL	Kabul	57.90	290	eP	P		13 03 50.0 -0.4
	comp=Z,12nm,1.0s						
KBL	Kabul	57.90	290	eP	P		13 03 50.0 -0.4
KBL				pmax	pmax		
	comp=Z,12nm,1.0s						
AKTO	Aktyubinsk	58.10	311	P	P		13 03 51.9 +0.6
AKTO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
WRAB	Tennant Creek	59.76	190	eP	P		13 04 01.9 -1.1
	comp=Z,5.4nm,1.1s						
WRAB	Tennant Creek	59.76	190	eP	P		13 04 01.9 -1.1
WRAB				pmax	pmax		
	comp=Z,5.0nm,1.1s						
WB2	Warramunga Arr	59.77	190	eP	P		13 04 01.8 -1.3
WR1	Warramunga Arr	59.77	190	eP	P		13 04 00.5 -2.6
	comp=Z,3.7nm,1.0s						
WRA	Warramunga Arr	59.77	190	P	P		13 04 00.5 -2.6
	comp=Z,2.1nm,0.7s,baz=8.4,slow=7.0,SNR=12						
RES	Resolute Bay	59.80	15	eP	P		13 04 03.5 +0.8
	comp=Z,1.3nm,0.5s						
RES	Resolute Bay	59.80	15	eP	P		13 04 03.5 +0.8
RES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	Yellowknife Ar	60.90	31	P	P		13 04 11.2 +0.8
	comp=Z,0.6nm,0.6s,baz=300,slow=6.5,SNR=11						
YKB5	Yellowknife Ar	60.90	31	eP	P		13 04 11.2 +0.8
ARA0	ARCESS Array S	62.16	339	eP	P		13 04 19.5 +0.7
ARCES	ARCESS Array B	62.16	339	P	P		13 04 19.5 +0.7
	comp=Z,4.3nm,1.0s,baz=61,slow=9.9,SNR=3.9						
ASAR	Alice Springs	63.49	190	P	P		13 04 26.5 -1.7
	comp=Z,4.0nm,0.5s,baz=6.6,slow=7.3,SNR=6.1						
GEYT	Allbeck	64.33	258	i P	P		13 04 30.3 -0.7
	comp=Z,24nm,0.7s,baz=343,slow=4.6,SNR=5.2						
PALK	Pallekele	64.33	258	i P	P		13 04 33.1 -1.0
FIA1	FINESS Array S	67.27	332	eP	P		13 04 51.9 -0.3
	comp=Z,8.7nm,0.9s						
FIA0	FINESS Array S	67.27	332	eP	P		13 04 52.8 +0.6
FIA0	FINESS Array S	67.27	332	eP	P		13 04 52.8 +0.6
FINES	FINESS Array B	67.27	332	P	P		13 04 52.8 +0.6
	comp=Z,4.8nm,0.8s,baz=53,slow=11,SNR=9.4						
PINE	Pine Mountain	67.61	51	eP	P		13 04 56.3 +1.2
	comp=Z,5.6nm,1.1s						
VSR	Storozhevoye	68.00	319	⇓eP	P		13 04 57.5 +0.4
VSR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
VSU	Vasula	69.03	330	⇑eP	P		13 05 04.5 +1.2
VSU				pmax	pmax		
	comp=Z,23nm,0.9s						
GOF	Gofitskoye	69.51	312	eP	P		13 05 08.0 +1.4
BEKR	Beckworth	70.19	54	eP	P		13 05 12.3 +1.2
	comp=Z,1.6nm,0.9s						
ZEI	Tsey	70.33	310	eP	P		13 05 10.1 -1.8
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KIV	Kislovodsk	70.36	311	eP	P		13 05 11.8 -0.1
	comp=Z,19nm,0.8s						
KIV	Kislovodsk	70.36	311	eP	P		13 05 13.8 +1.8
KIV				pmax	pmax		
	comp=Z,28nm,1.1s						
KIV				MLR	MLR		
	comp=Z,146nm,18.0s						
KBZ	Khabaz	70.37	311	P	P		13 05 13.0 +1.1
	comp=Z,8.0nm,0.8s,baz=67,slow=2.1,SNR=21						
KVN	Kaiserville	72.08	54	eP	P		13 05 23.1 +0.5
	comp=Z,3.0nm,1.1s						
KVN	Kaiserville	72.08	54	eP	P		13 05 23.1 +0.5
KVN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
NV01	Mina Array Sit	72.33	55	eP	P		13 05 25.0 +0.9
NVAR	Mina Array Bea	72.33	55	P	P		13 05 26.0 +1.9
	comp=Z,1.4nm,0.9s,baz=284,slow=5.7,SNR=6.8						
HFS	Hagfors	72.39	336	P	P		13 05 24.4 +0.6
	comp=Z,5.2nm,0.8s,baz=33,slow=5.5,SNR=8.7						
NB2	NORSAR Subarra	72.41	299	P	P		13 05 24.7 +0.7
	comp=Z,14nm,1.2s,baz=37,slow=6.2						
NB200	NORSAR Array S	72.42	338	eP	P		13 05 24.8 +0.7
NOA	NORSAR Array B	72.42	338	P	P		13 05 24.8 +0.7
	comp=Z,3.1nm,0.8s,baz=38,slow=6.0,SNR=7.7						
AKASG	Malin Array Be	73.20	323	P	P		13 05 27.3 -1.4
	comp=Z,1.3nm,0.5s,baz=45,slow=5.9,SNR=10						
AKASG	Malin Array Be	73.20	323	i P	P		13 05 28.7 0.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KIEV	Kiev	73.21	323	⇓eP	P		13 05 29.6 +0.8
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AK11	Malin Array Si	73.24	323	eP	P		13 05 28.7 -0.3
PDAR	Pinedale Array	74.87	47	P	P		13 05 37.4 -1.6
	comp=Z,0.3nm,0.7s,baz=284,slow=3.6,SNR=3.6						
BUR04	Bucovina Ar. S	77.23	322	eP	P		13 05 52.5 +0.3
PV17	East Wray Mesa	78.14	50	eP	P		13 05 58.8 +1.2
	comp=Z,4.7nm,1.2s						
BR101	Keskin Array S	78.27	312	eP	P		13 05 57.4 -0.7
BRTR	Keskin Array B	78.27	312	P	P		13 05 57.4 -0.7
	comp=Z,1.3nm,0.9s,baz=113,slow=2.8,SNR=6.8						
BRTR	Keskin Array B	78.27	312	i P	P		13 05 59.2 +1.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
LANS	Liptovska Anna	78.70	326	eP	P		13 06 02.2 +2.0
LANS	Liptovska Anna	78.70	326	eP	P		13 06 02.1 +1.9
VYHS	Vyhne	79.47	326	eP	P		13 06 06.4 +2.0
VYHS	Vyhne	79.47	326	eP	P		13 06 06.4 +2.0
CLL	Collm	79.63	331	i P	P		13 06 05.9 +0.7
	comp=Z,5.0nm,0.9s						
CLL	Collm	79.63	331	i P	P		13 06 05.9 +0.7
CLL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
VRAC	Vranov	79.79	328	P	P		13 06 07.1 +0.9
	comp=Z,1.5nm,0.4s,baz=59,slow=5.9,SNR=3.9						
EKA	Eskdalemuir Ar	81.24	341	P	P		13 06 14.0 +0.3
	comp=Z,2.8nm,1.0s,baz=30,slow=5.8,SNR=3.2						
EKA	Eskdalemuir Ar	81.24	341	P	P		13 06 14.0 +0.3
EKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	GERESS Array B	81.33	329	P	P		13 06 15.3 +0.8
	comp=Z,0.8nm,0.8s,baz=36,slow=5.3,SNR=6.1						
GEA0	GERESS Array S	81.34	329	eP	P		13 06 14.6 0.0
FUORN	Ofenpass-Fuorn	84.49	330	eP	P		13 06 31.6 +0.4
	comp=Z,8.7nm,0.8s						
DAVOX	Davos/Dischmat	84.51	330	P	P		13 06 31.4 +0.3
	comp=Z,3.6nm,0.8s,baz=49,slow=5.0,SNR=4.5						
LTX	Lajitas	87.44	54	eP	P		13 06 45.7 -0.2
LTX	Lajitas	87.44	54	eP	P		13 06 45.7 -0.2
TXAR	Lajitas Array	87.44	54	P	P		13 06 45.7 -0.2
	comp=Z,0.1nm,0.6s,baz=308,slow=4.4,SNR=2.2						
VNA2	Neumayer--Watz	145.14	196	PKP	PKPbc		13 13 32.4 -1.5
	baz=131,slow=2.6						
VNA3	Neumayer Olymp	145.37	195	PKP	PKPbc		13 13 32.9 -1.7

IDC ***22*** *13:03:31.9±0.6,26.77N×141.58E,h0km,mb3.8/13, mb1 3.9/15,mb1mx3.7/43,mbtmp3.7/15,ML2.9/2,MS3.6/2, Ms1 3.6/2,ms1mx2.8/43,Error ellipse: s-maj=17.7km s-min=13.1km az=126.0*

ISCJB ***22*** *13:03:34.9±0.8,26.80N±0.05×141.57E±0.05,h32km±6km, mb4.0/18,MS3.9/1,Error ellipse: s-maj=9.1km s-min=6.7km az=144.8*

NEIC ***22*** *13:03:34.8±3.5,26.80N×141.60E,h19km±22km,mb4.5/7, Error ellipse: s-maj=9.5km s-min=7.3km az=109.0*

NEIC Recorded [2 JMA] in the Chichijima-retto and Hahajima-retto.

JMA ***22*** *13:03:39.4±0.1,26.78N×142.25E,h50km,M4.5*

JMA Felt II J1.

ISC 22 13:03:37.5±0.8,26.77N±0.07×141.7E±0.1,h38km±3km, n46,σ0°78/35,mb3.9/18,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	0.41	110	P		Pn	13 03 47.4	+0.6
JHHJ				S		Sn	13 03 53.2	-0.4
CBIJ	Chichi jima	0.51	51	ePn		Pn	13 03 48.8	+0.5
CBIJ				eSn		Sn	13 03 55.6	-0.2
CBIJ	Chichi jima	0.51	51	P		Pn	13 03 48.7	+0.5
CBIJ				S		Sn	13 03 55.6	-0.2
JCJ	Chichijima	0.51	51	Pn		Pn	13 03 48.0	-0.3
	18μm,0.3s,baz=164,slow=0.1,SNR=428							
JCJ				Sn		Sn	13 03 55.1	-0.7
	25μm,0.3s,baz=111,slow=7.8,SNR=120							
MJAR	Matsushiro Arr	10.19	344	Pn		Pn	13 05 58.6	-2.6
	0.0nm,0.3s,baz=158,slow=11,SNR=2.8							
MAJO	Matsushiro	10.19	344	ePn		Pn	13 05 58.6	-2.6
KS01	Wonju Array Si	15.84	316	ePn		Pn	13 07 17.8	+0.2
ASAJ	Asahikawa	17.32	2	P		Pn	13 07 35.8	-0.4
	0.2nm,0.3s,baz=167,slow=18,SNR=3.6							
ASAJ	Asahikawa	17.32	2	ePn		Pn	13 07 34.5	-1.6
	34nm,1.6s							
YULB	Yu-li	18.82	264	eP		P	13 07 51.7	-2.4
	40nm,1.4s							
SSLB	Suanglung	19.03	266	eP		P	13 07 54.0	-2.3
	112nm,2.0s							
USRK	Ussuriysk Ar.	19.09	338	LR		LR	13 15 41.7	
	comp=Z,87nm,18.3s,baz=326,slow=38							
KLR	Kul'dur	23.72	344	P		P	13 08 46.9	+1.0
	1.5nm,0.5s,baz=171,slow=6.5,SNR=10							
H11N2	WAKE ISLAND Hy	24.12	102	T		T	13 33 35.5	
	baz=292,slow=74,SNR=14							
H11N1	WAKE ISLAND Hy	24.12	102	T		T	13 33 30.3	
	baz=292,slow=74,SNR=9.8							
H11N3	WAKE ISLAND Hy	24.14	102	T		T	13 33 36.1	
	baz=292,slow=74,SNR=15							
H11S3	WAKE ISLAND Hy	24.42	105	T		T	13 33 53.8	
	baz=294,slow=75,SNR=11							
H11S1	WAKE ISLAND Hy	24.43	104	T		T	13 33 50.9	
	baz=294,slow=75,SNR=7.4							
H11S2	WAKE ISLAND Hy	24.44	105	T		T	13 33 53.4	
	baz=294,slow=75,SNR=8.9							
CMAR	Chiang Mai Arr	40.22	267	P		P	13 11 09.1	-1.5
	0.4nm,0.4s,baz=60,slow=7.6,SNR=5.5							
WRAB	Tennant Creek	46.98	190	eP		P	13 12 05.4	+0.5
	40nm,1.4s							
WB2	Warramunga Arr	46.99	190	eP		P	13 12 05.3	+0.4
WR1	Warramunga Arr	46.99	190	eP		P	13 12 05.7	+0.7
	15nm,0.6s							
WRA	Warramunga Arr	46.99	190	P		P	13 12 05.7	+0.7
	8.2nm,0.5s,baz=11,slow=8.8,SNR=92							
PSI	Prapat	47.41	247	P		P	13 12 08.1	-0.4
	3.7nm,0.5s,baz=49,slow=7.2,SNR=4.1							
MK32	Makanchi Array	50.38	310	eP		P	13 12 28.4	-2.4
MKAR	Makanchi Array	50.38	310	P		P	13 12 28.4	-2.4
	0.1nm,0.6s,baz=90,slow=10,SNR=3.1							
AS31	Alice Springs	50.71	189	eP		P	13 12 33.4	-0.1
	3.3nm,1.5s							
ASAR	Alice Springs	50.72	189	P		P	13 12 33.0	-0.6
	0.5nm,0.3s,baz=5.5,slow=5.4,SNR=26							
RSO	Redoubt South	55.05	33	eP		P	13 13 03.7	-1.6
ILAR	Eielson Array	58.18	29	P		P	13 13 27.6	+0.4
	0.7nm,0.7s,baz=257,slow=5.8,SNR=7.2							
STKA	Stephens Creek	58.33	180	P		P	13 13 27.5	-1.0
	0.8nm,0.4s,baz=13,slow=8.8,SNR=4.7							
STKA	Stephens Creek	58.33	180	eP		P	13 13 27.4	-1.1
	4.7nm,1.6s							
YKA	Yellowknife Ar	72.61	28	P		P	13 15 01.7	+1.2
	0.3nm,0.5s,baz=295,slow=6.3,SNR=11							
YKB5	Yellowknife Ar	72.61	28	eP		P	13 14 59.9	-0.7
RPZ	Rata Peaks	75.12	158	LR		LR	13 42 31.1	
	comp=Z,62nm,21.7s,baz=282,slow=31							
FIA0	FINESS Array S	78.06	334	eP		P	13 15 31.9	0.0
FINES	FINESS Array B	78.06	334	P		P	13 15 31.9	0.0
	1.4nm,0.4s,baz=75,slow=5.3,SNR=18							
NVAR	Mina Array Bea	81.03	52	P		P	13 15 50.5	+1.7
	0.1nm,0.3s,baz=291,slow=5.9,SNR=4.2							
HFS	Hagfors	83.56	337	P		P	13 16 00.8	-0.5
	1.9nm,0.8s,baz=101,slow=1.5,SNR=5.9							
NB200	NORSAR Array S	83.76	338	eP		P	13 16 02.4	-0.1
NOA	NORSAR Array B	83.76	338	P		P	13 16 02.3	-0.1
	0.3nm,0.5s,baz=46,slow=4.8,SNR=2.7							
PDAR	Pinedale Array	84.72	44	P		P	13 16 08.2	+0.3
	0.2nm,0.5s,baz=352,slow=1.8,SNR=3.6							
BR101	Keskin Array S	85.93	313	eP		P	13 16 14.5	+0.6
BRTR	Keskin Array B	85.93	313	P		P	13 16 14.5	+0.6
	0.3nm,0.6s,baz=56,slow=3.7,SNR=3.0							
PLCA	Paso Flores	149.94	126	PKPbc		PKiKP	13 23 24.4	-0.4
	0.9nm,0.7s,baz=254,slow=8.1,SNR=4.4							

IDC 22 13:07:15.4±1.5,4.61N,95.62E,h0km,mb3.5/3,mb1 3.6/5, mb1mx3.3/37,mbtmp3.4/5,ML3.5/2,Error ellipse: s-maj=51.0km s-min=17.7km az=44.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	3.76	119	Pn		Pn	13 08 16.1	+1.2
	1.2nm,0.3s,baz=359,slow=13,SNR=3.9							
PSI				Sn		Sn	13 09 02.4	+2.5
	1.0nm,0.3s,baz=180,slow=12,SNR=2.4							
PSI				Lg		Lg	13 09 17.1	
	1.3nm,0.3s,baz=180,slow=7.1,SNR=8.4							
CMAR	Chiang Mai Arr	14.14	13	Pn		Pn	13 10 37.5	+0.4
	0.1nm,0.3s,baz=199,slow=10,SNR=2.6							
H08S2	Diego Garcia H	26.09	242	T		T	13 40 06.5	
	baz=61							
H08S3	Diego Garcia H	26.09	242	T		T	13 40 06.0	
	baz=61,slow=74							
H08S1	Diego Garcia H	26.10	242	T		T	13 40 05.6	
	baz=61,slow=74							
SONM	Songino Array	44.05	10	P		P	13 15 24.6	-0.5
	0.3nm,0.8s,baz=199,slow=8.4,SNR=3.0							
WRA	Warramunga Arr	45.21	124	P		P	13 15 34.0	-0.7
	0.4nm,0.6s,baz=302,slow=9.1,SNR=5.5							
ASAR	Alice Springs	46.73	129	P		P	13 15 46.7	0.0
	1.1nm,0.5s,baz=300,slow=8.0,SNR=26							
BRTR	Keskin Array B	65.67	312	P		P	13 18 02.3	+0.3
	0.4nm,0.6s,baz=122,slow=4.6,SNR=3.1							

NSSC ***22*** *13:25:48.5±1.2,32.22N×37.29E,h0km±999km,ML2.2*

JSO ***22*** *13:26:02.2±0.5,32°N±4°×3°6E±°,h10km,M1.5/6, Mjma2.5/6,ML1.6/3,MLv2.6/6*

ISC 22 13:25:45.6±4.6,32.11N±0.09×37.7E±0.3,h10km,n7, σ2°28/10,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TOTH	TOTAH	1.62	321	eP		Pn	13 26 14.0	-0.3
TOTH				eS		Sn	13 26 32.4	-2.9
TOTH				AML		AML	13 26 37.0	
	comp=E,39nm,0.5s							
TOTH				AML		AML	13 26 49.6	
	comp=N,23nm,0.4s							
WALJ	Wala	1.66	251	P		Pn	13 26 13.3	-1.5
SHMJ	Saham	1.71	292	P		Pg	13 26 21.7	+3.2
QASN	Qassioun	1.83	321	eP		Pn	13 26 17.3	0.0
QASN				eS		Sn	13 26 38.5	-2.1
QASN				AML		AML	13 26 44.0	
	comp=N,102nm,0.3s							
QASN				AML		AML	13 26 47.4	
	comp=E,145nm,0.4s							
BRBR	Barbar	1.94	313	eP		Pn	13 26 19.3	+0.5
BRBR				eS		Sn	13 26 40.0	-3.2
BRBR				AML		AML	13 26 42.3	
	comp=N,23nm,0.3s							
BRBR				AML		AML	13 26 44.6	
	comp=E,26nm,0.3s							
GHAJ	Ghor Haditha	1.95	246	P		Pn	13 26 18.1	-0.6
LISJ	El Lisan	2.04	246	P		Pn	13 26 19.9	-0.1

NIED ***22*** *13:29:00,44.50N×141.10E,h280km,Mw5.5 Best double couple: M0 1.82000×10^17 NP1:φs188.00000°, δ58.00000°,λ-30.00000°. NP2:φs295.00000°,δ65.00000°, λ-144.00000°.*

BJI ***22*** *13:29:19.3,44.41N×141.30E,h230km,mb5.4/68, mB5.1/47*

ISCJB ***22*** *13:29:22.7±0.1,44.42N±0.01×140.99E±0.02, h244km±1km,mb5.0/508,Error ellipse: s-maj=2.3km s-min=1.6km az=149.8*

MOS ***22*** *13:29:22.4±0.9,44.45N×141.00E,h243km,mb5.0/118, Error ellipse: s-maj=5.0km s-min=3.7km az=102.2*

NEIC ***22*** *13:29:22.9±0.2,44.48N×140.96E,h235km±2km, mb4.9/293,MW5.4,Error ellipse: s-maj=2.4km s-min=1.6km az=143.0 Best double couple: NP1: φs299.00000°,δ63.00000°,λ-137.00000°. NP2: φs187.00000°,δ53.00000°,λ-35.00000°. Principal axes: T 1.4000, Plg6.0000°, Azm61.0000°; N 0.1000, Plg41.0000°, Azm325.0000°; P -1.5000, Plg48.0000°, Azm158.0000°;*

NEIC Recorded [1 JMA] in Aomori, Honshu.

JMA ***22*** *13:29:23.1±0.2,44.43N×141.02E,h250km±2km,M5.2 Broadband fault plane solution: P waves. NP1: φs303.00000°,δ60.00000°,λ-138.00000°. NP2: φs189.00000°,δ55.00000°,λ-38.00000°. Principal axes: T Plg3.0000°, Azm65.0000°; N Plg40.0000°, Azm332.0000°; P Plg50.0000°, Azm158.0000°;*

JMA Felt I J1.

IDC ***22*** *13:29:23.4±0.7,44.49N×141.00E,h236km±6km,mb4.7/40, mb1 4.8/47,mb1mx4.8/52,mbtmp5.3/47 Error ellipse: s-maj=7.2km s-min=5.7km az=94.0*

GCMT ***22*** *13:29:24.9±0.1,44.45N±0.01×140.83E±0.01, h248km±1km,MW5.4/128,Moment Tensor Solution. s98,c159; s128,c230; Duration: 1±2 Moment tensor: Scale 10^17Nm; Mrr-1.03±.02; Mθθ0.01±.02; Mφφ1.02±.03; Mrθ0.85±.02; Mφφ-0.94±.02; Mrr0.21±.02; Best double couple: M0 1.64200×10^17 NP1:φs298.00000°,δ61.00000°, λ-133.00000°. NP2:φs180.00000°,δ50.00000°, λ-40.00000°. Principal axes: T 1.6090, Plg6.0000°, Azm57.0000°; N 0.0660, Plg36.0000°, Azm322.0000°; P -1.6750, Plg53.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 13:29:23.1±0.3,44.45N±0.03×140.94E±0.03,h237km±2km, h236km:pP-P,n1583,σ1°18/1791,mb5.0/528,85C-71D, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JYG	Yagishiri	0.35	93	⇓P		Pn	13 29 55.4	+1.4
JYG				eS		S	13 30 20.2	+2.0
JSS	Shosan	0.65	94	⇓P		Pn	13 29 56.8	+1.8
JSS				eS		S	13 30 22.4	+2.5
JRR	Rishiri	0.74	21	⇓P		Pn	13 29 57.3	+2.0
JRR				eS		S	13 30 24.3	+3.7
JHR	Hokuryu	0.90	141	⇓P		Pn	13 29 58.0	+1.8
JHR				eS		S	13 30 24.8	+2.7
JWK2	Keihoku	1.10	38	⇓P		Pn	13 29 58.7	+1.4
JWK2				eS		S	13 30 25.6	+1.5
JSK	Shakotan	1.15	197	P		Pn	13 29 59.3	+1.6
JSK				eS		S	13 30 26.2	+1.6
ASAJ	Asahikawa	1.23	105	ePn		Pn	13 29 59.1	+0.8
ASAJ				eS		S	13 30 26.7	+1.1
ASAJ	Asahikawa	1.23	105	⇓P		Pn	13 29 59.0	+0.8
JSE	Soyaes	1.28	66	⇓P		Pn	13 29 59.1	+0.7
JSE				eS		S	13 30 26.7	+0.6
JKK2	Kamakawa 2	1.42	113	⇓P		Pn	13 30 00.5	+0.9
JKK2				eS		S	13 30 29.1	+1.0
JEW	Eniwo	1.65	167	⇓P		Pn	13 30 03.1	+1.7
JEW				eS		S	13 30 33.5	+2.1
JFR	Furan	1.75	137	⇑P		Pn	13 30 02.8	+0.5
JFR				eS		S	13 30 33.5	+0.5
JTKR	Abashiri--Toko	2.19	102	⇑P		Pn	13 30 07.1	+0.9
JTKR				eS		S	13 30 40.9	+0.9
JAR	Ashorobuto	2.35	118	⇑P		Pn	13 30 08.6	+0.7
JAR				eS		S	13 30 43.8	+0.9
JNBK	Urakawa-nobuka	2.54	148	P		Pn	13 30 10.1	+0.3
JNBK				eS		S	13 30 45.7	-0.8
JCH	Churui	2.54	135	P		Pn	13 30 08.7	-1.2
JCH				eS		S	13 30 43.7	-2.8
JKB	Kayabe	2.56	179	P		Pn	13 30 10.3	+0.2
JKB				eS		S	13 30 46.7	-0.2
JOSM	Okushiri--Mats	2.60	205	⇑P		Pn	13 30 11.4	+0.9
JOSM				eS		S	13 30 48.0	+0.4
YSS	Yuzh-Sakhalins	2.81	26	κ iPN		Pn	13 30 13.6	+1.0
YSS				eS		S	13 30 50.3	-1.3
YSS				pmax	pmax			
	comp=Z,2μm,1.1s							
YSS				pmax	pmax			
	comp=Z,3μm,0.6s							
YSS				smax	smax			
	comp=N,6μm,1.2s							
YSS				smax	smax			
	comp=Z,28μm,5.0s							
YSS				MLR	MLR			
	comp=Z,6μm,7.0s							
ERM	Erimo	2.92	146	ePn		Pn	13 30 15.1	+1.1
ERM	Erimo	2.92	146	dePN		Pn	13 30 15.0	+1.1
ERM				pmax	pmax			
	comp=Z,586nm,1.7s							
JRA	Rausu	3.05	98	⇑P

YUK					pmax	pmax			
	comp=Z,725nm,0.6s								
YUK					pmax	pmax			
	comp=N,305nm,0.5s								
YUK					pmax	pmax			
	comp=E,498nm,0.5s								
YUK					smax	smax			
	comp=E,3µm,2.0s								
YUK					smax	smax			
	comp=N,8µm,2.3s								
YUK					smax	smax			
	comp=N,365nm,0.3s								
YUK					smax	smax			
	comp=E,858nm,0.6s								
JTM	**Tenmabayashi**	**3.66**	**179**	⇑P	**Pn**		**13 30 21.9**	**-0.5**	
JIW	**Iwasaki**	**3.92**	**190**	⇑P	**Pn**		**13 30 25.4**	**0.0**	
JAH	**Hinai**	**4.26**	**183**	⇑P	**Pn**		**13 30 29.3**	**-0.2**	
SHO	**Shikotan**	**4.28**	**96**	*d iPN*	**Pn**		**13 30 27.5**	**-2.1**	
SHO				*i* S	**S**		**13 31 17.4**	**-4.8**	
SHO				pmax	pmax				
	comp=Z,380nm,0.6s								
SHO				pmax	pmax				
	comp=E,245nm,0.4s								
SHO				pmax	pmax				
	comp=N,125nm,0.2s								
SHO				smax	smax				
	comp=E,2µm,0.3s								
SHO				smax	smax				
	comp=N,862nm,0.2s								
SHO				smax	smax				
	comp=E,2µm,3.1s								
SHO				smax	smax				
	comp=N,2µm,2.3s								
JKZ	**Kuzumaki**	**4.47**	**176**	⇓P	**Pn**		**13 30 30.8**	**-1.3**	
UGL	**Uglegorsk**	**4.70**	**9**	⇓*i*PN	**Pn**		**13 30 36.0**	**+1.4**	
UGL				*e*S	**S**		**13 31 30.6**	**-0.7**	
UGL				pmax	pmax				
	comp=Z,3µm,1.9s								
UGL				pmax	pmax				
	comp=Z,1µm,0.8s								
UGL				pmax	pmax				
	comp=E,857nm,0.9s								
UGL				smax	smax				
	comp=N,16µm,7.0s								
UGL				smax	smax				
	comp=E,36µm,3.0s								
UGL				smax	smax				
	comp=E,2µm,1.7s								
UGL				smax	smax				
	comp=N,887nm,1.3s								
JOG3	**Oga3**	**4.73**	**198**	P	**Pn**		**13 30 33.4**	**-1.8**	
JYW	**Yuwa**	**4.94**	**187**	P	**Pn**		**13 30 37.8**	**+0.1**	
JOM	**Ohasama**	**4.98**	**177**	⇓P	**Pn**		**13 30 37.1**	**-1.2**	
KUR	**Kuril'sk**	**4.99**	**79**	*c iPN*	**Pn**		**13 30 39.0**	**+0.8**	
KUR				*i* S	**S**		**13 31 37.4**	**-0.5**	
KUR				pmax	pmax				
	comp=E,396nm,0.7s								
KUR				pmax	pmax				
	comp=Z,2µm,0.7s								
KUR				pmax	pmax				
	comp=N,168nm,0.6s								
KUR				pmax	pmax				
	comp=Z,12µm,1.3s								
KUR				smax	smax				
	comp=N,393nm,1.0s								
KUR				smax	smax				
	comp=E,115nm,1.1s								
KUR				smax	smax				
	comp=N,20µm,5.6s								
KUR				smax	smax				
	comp=E,3µm,4.0s								
JTB	**Tobi-shima**	**5.35**	**192**	⇑P	**Pn**		**13 30 42.8**	**-0.1**	
JTB				*i* S	**S**		**13 31 43.3**	**-3.0**	
JMK	**Ichinoseki**	**5.50**	**178**	P	**Pn**		**13 30 43.2**	**-1.5**	
JYK	**Kaneyama**	**5.54**	**185**	P	**Pn**		**13 30 44.4**	**-0.9**	
JYA	**Atsumi**	**5.92**	**189**	⇑P	**Pn**		**13 30 49.5**	**-0.6**	
JOU	**Okura**	**6.08**	**182**	P	**Pn**		**13 30 51.1**	**-1.0**	
JAW	**Awa shima**	**6.12**	**193**	P	**Pn**		**13 30 52.3**	**-0.2**	
JYS	**Shirataka**	**6.26**	**186**	⇑P	**Pn**		**13 30 53.7**	**-0.6**	
JYS				*i* S	**S**		**13 32 03.5**	**-3.5**	
USA0B	**Ussuriysk Arra**	**6.43**	**271**	*e*Pn	**Pn**		**13 30 57.9**	**+1.5**	
USRK	**Ussuriysk Ar.**	**6.43**	**271**	P	**Pn**		**13 30 58.1**	**+1.7**	
	comp=E,62nm,0.3s,baz=84,slow=12,SNR=1408								
USRK					ScP	**ScP**		**13 40 34.9**	**+0.3**
	comp=E,0.1nm,0.3s,baz=348,slow=1.9,SNR=5.8								
TYV	**Tymovskoe**	**6.52**	**10**	*e*PN	**Pn**		**13 30 59.4**	**+2.0**	
TYV				*e*S	**S**		**13 32 14.5**	**+1.7**	
TYV				pmax	pmax				
	comp=Z,302nm,1.0s								
TYV				pmax	pmax				
	comp=Z,2µm,2.1s								
TYV				smax	smax				
	comp=N,283nm,1.6s								
TYV				smax	smax				
	comp=N,11µm,5.4s								
VLA	**Vladivostok**	**6.69**	**262**	*c iPN*	**Pn**		**13 31 01.2**	**+1.6**	
JSD	**Sado**	**6.72**	**198**	P	**Pn**		**13 31 00.1**	**0.0**	
GRNR	**Gornyy**	**7.02**	**336**	⇓*i*PN	**Pn**		**13 31 04.0**	**+0.2**	
GRNR				*e*			13 32 21.8		
GRNR				pmax	pmax				
	comp=N,200nm,0.8s								
GRNR				pmax	pmax				
	comp=E,130nm,0.8s								
GRNR				pmax	pmax				
	comp=Z,220nm,0.8s								
GRNR				pmax	pmax				
	comp=Z,72nm,0.8s								
GRNR				pmax	pmax				
	comp=N,84nm,1.0s								
JIZZ	**Izumozaki**	**7.11**	**194**	P	**Pn**		**13 31 05.8**	**+0.7**	
ONAJ	**Iwakimizuishiy**	**7.34**	**181**	P	**Pn**		**13 31 05.8**	**-2.3**	
MSHR	**Mys Shultsa**	**7.36**	**259**	*c iPN*	**Pn**		**13 31 09.2**	**+1.1**	
JHO	**Hitachi**	**7.83**	**182**	P	**Pn**		**13 31 11.0**	**-3.3**	
KLR	**Kul'dur**	**7.91**	**310**	P	**Pn**		**13 31 16.6**	**+1.6**	
	comp=N,4.8nm,0.3s,baz=120,slow=13,SNR=307								
KLR					ScP	**ScP**		**13 40 36.1**	**+0.3**
	comp=N,0.4nm,0.3s,baz=39,slow=1.1,SNR=11								
KLR	**Kul'dur**	**7.91**	**310**	*d iPN*	**Pn**		**13 31 16.5**	**+1.4**	
JAG	**Ashikaga**	**8.10**	**189**	P	**Pn**		**13 31 15.9**	**-1.7**	
MDJ	**Mudanjiang**	**8.11**	**275**	P	**Pn**		**13 31 18.1**	**+0.3**	
MDJ				sP			13 32 08.8		
MDJ				S	**S**		**13 32 49.3**	**-0.6**	
MDJ	**Mudanjiang**	**8.11**	**275**	*e*Pn	**Pn**		**13 31 19.4**	**+1.6**	
MJB9	**Matsu-Tunnel**	**8.16**	**196**	*e*Pn	**Pn**		**13 31 17.6**	**-1.0**	
MJB9				*e*S	**S**		**13 32 49.4**	**-1.9**	
MAJO	**Matsushiro**	**8.17**	**196**	*e*Pn	**Pn**		**13 31 17.6**	**-0.9**	
MAJO				*e*S	**S**		**13 32 49.8**	**-1.5**	
MAJO	**Matsushiro**	**8.17**	**196**	*c iPN*	**Pn**		**13 31 17.7**	**-0.9**	
MAJO	**Matsushiro**	**8.17**	**196**	*e*P	**Pn**		**13 31 17.8**	**-0.8**	
MAJO				*e*S	**S**		**13 32 50.2**	**-1.2**	
MAT	**Matsushiro**	**8.17**	**196**	P	**Pn**		**13 31 17.7**	**-0.9**	
MAT				S	**S**		**13 32 46.4**	**-5.0**	
MAT	**Matsushiro**	**8.17**	**196**	P	**Pn**		**13 31 17.7**	**-0.9**	
MJAR	**Matsushiro Arr**	**8.17**	**196**	P	**Pn**		**13 31 18.0**	**-0.6**	
	comp=N,3.1nm,0.3s,baz=13,slow=13,SNR=147								
MJAR				S	**S**		**13 32 50.9**	**-0.5**	
	baz=7.9,slow=26,SNR=4.8								
MJAR				ScP	**ScP**		**13 40 36.2**	**-0.2**	
	comp=N,0.0nm,0.3s,baz=68,slow=0.2,SNR=10								
JNG	**Nsakai**	**8.32**	**196**	P	**Pn**		**13 31 19.9**	**-0.7**	
JGN	**Niukaw**	**8.67**	**200**	P	**Pn**		**13 31 24.3**	**-0.7**	
NKL	**Nikolayevsk**	**8.71**	**359**	*e*PN	**Pn**		**13 31 25.0**	**-0.2**	
NKL				*e*S	**S**		**13 33 03.0**	**-0.6**	
NKL				pmax	pmax				
	comp=N,64nm,1.0s								
NKL				pmax	pmax				
	comp=E,47nm,1.0s								
NKL				pmax	pmax				
	comp=Z,170nm,1.0s								
NKL				pmax	pmax				
	comp=N,700nm,4.0s								
NKL				pmax	pmax				
	comp=Z,1µm,4.0s								
NKL				smax	smax				
	comp=E,4µm,12.0s								
NKL				MLR	MLR				
	comp=N,1µm,6.0s								
NKL				MLR	MLR				
	comp=Z,2µm,11.0s								
JKG	**Kaga**	**8.89**	**205**	P	**Pn**		**13 31 27.7**	**0.0**	
OKH	**Okha**	**9.20**	**7**	⇑*i*PN	**Pn**		**13 31 32.9**	**+1.4**	
OKH				*i* S	**S**		**13 33 15.9**	**+0.8**	
OKH				pmax	pmax				
	comp=Z,500nm,7.0s								
OKH				smax	smax				
	comp=E,5µm,7.4s								
OKH				smax	smax				
	comp=N,2µm,22.0s								
OKH				smax	smax				
	comp=Z,900nm,12.0s								
JGF	**Kuroka**	**9.25**	**198**	P	**Pn**		**13 31 31.4**	**-1.1**	
INU	**Inuyama**	**9.57**	**200**	*e*Pn	**Pn**		**13 31 34.9**	**-1.6**	
CN2	**Changchun**	**11.16**	**272**	*e*P	**Pn**		**13 31 56.4**	**0.0**	
CN2				*e*sP	sP		13 32 49.3		
CN2				*e*S	**S**		**13 33 57.8**	**-2.6**	
CN2				ScP	**ScP**		**13 40 39.3**	**-0.5**	
CN2				pmax	pmax				
	comp=Z,270nm,1.6s								
CN2				pmax	pmax				
	comp=Z,200nm,4.0s								
CN2				LR	LR				
	comp=Z,3µm,7.0s								
CN2				LR	LR				
	comp=Z,1µm,7.0s								
CN2				LR	LR				
	comp=Z,2µm,7.0s								
JHJ	**Hachijo jima 2**	**11.35**	**185**	P	**Pn**		**13 31 56.1**	**-2.8**	
	comp=Z,74nm,0.3s,baz=296,slow=21,SNR=16								
JHJ				S	S		13 33 55.0	-10	
	comp=Z,167nm,0.3s,baz=9.5,slow=23,SNR=12								
JHJ2	**Mitsune**	**11.36**	**185**	*e*Pn	**Pn**		**13 31 56.3**	**-2.7**	
SKR	**Severo-Kuril's**	**11.99**	**53**	⇑*i*PN	**Pn**		**13 32 06.6**	**-0.1**	
SKR				*e*S	**S**		**13 34 16.8**	**-2.7**	
SKR				pmax	pmax				
	comp=Z,7µm,2.7s								
SKR				pmax	pmax				
	comp=Z,1µm,2.4s								
SKR				pmax	pmax				
	comp=Z,2µm,1.4s								
SKR				MLR	MLR				
	comp=Z,1µm,16.0s								
SKR				MLR	MLR				
	comp=Z,800nm,17.0s								
KSRS	**Korea Array**	**12.06**	**239**	P	**Pn**		**13 32 08.4**	**+0.7**	
	comp=Z,9.1nm,0.3s,baz=52,slow=12,SNR=279								
KSRS				PcP	**PcP**		**13 37 31.4**	**+0.2**	
	comp=Z,0.4nm,0.3s,baz=55,slow=1.5,SNR=4.5								
KSRS				ScP	**ScP**		**13 40 41.2**	**0.0**	
	comp=Z,0.3nm,0.3s,baz=23,slow=1.1,SNR=14								
KS01	**Wonju Array Si**	**12.07**	**239**	*e*Pn	**Pn**		**13 32 06.7**	**-1.1**	
KS15	**Wonju Array Si**	**12.09**	**239**	*e*Pn	**Pn**		**13 32 08.3**	**+0.1**	
KSAR	**Wonju Array Be**	**12.09**	**239**	P	**Pn**		**13 32 08.4**	**+0.3**	
KSAR				PcP	**PcP**		**13 37 31.4**	**+0.1**	
KSAR				ScP	**ScP**		**13 40 41.2**	**-0.1**	
KSAR	**Wonju Array Be**	**12.09**	**239**	PN	**Pn**		**13 32 08.5**	**+0.3**	
ZEA	**Zeya**	**12.90**	**321**	⇓*e*PN	**Pn**		**13 32 18.2**	**+0.2**	
ZEA				*e*			13 34 41.0		
ZEA				pmax	pmax				
	comp=N,83nm,1.0s								
ZEA				pmax	pmax				
	comp=E,71nm,1.0s								
ZEA				pmax	pmax				
	comp=Z,120nm,1.0s								
ZEA				pmax	pmax				
	comp=N,300nm,2.0s								
ZEA				pmax	pmax				
	comp=Z,300nm,2.0s								
ZEA				MLR	MLR				
	comp=Z,2µm,8.0s								
ZEA				MLR	MLR				
	comp=E,2µm,5.0s								
ZEA				MLR	MLR				
	comp=N,2µm,7.0s								
SNY	**Shenyang**	**12.95**	**264**	⇑P	**P**		**13 32 20.0**	**-0.9**	
SNY				S	**S**		**13 34 42.1**	**-0.1**	
SNY				pmax	pmax				
	comp=N,490nm,1.3s								
SNY				pmax	pmax				
	comp=N,1µm,3.9s								
SNY				LR	LR				
	comp=N,2µm,7.5s								
SNY				LR	LR				
	comp=N,2µm,4.7s								
SNY				LR	LR				
	comp=N,1µm,7.2s								
TJN	**Taejon**	**13.11**	**237**	*c iPN*	**Pn**		**13 32 21.2**	**+0.5**	
JNU	**Nakatsue**	**13.75**	**218**	P	**Pn**		**13 32 28.5**	**-0.3**	
	comp=N,13nm,0.3s,baz=27,slow=3.9,SNR=51								
JNU				S	**S**		**13 35 03.4**	**+2.4**	
	baz=196,slow=23,SNR=5.0								
JNU	**Nakatsue**	**13.75**	**218**	*e*Pn	**Pn**		**13 32 28.4**	**-0.4**	
JNU				*e*S	**S**		**13 35 04.4**	**+3.4**	
PEA0B	**Petropavlovsk-**	**14.01**	**46**	*e*Pn	**Pn**		**13 32 30.7**	**-0.9**	
PETK	**Petropavlovsk-**	**14.01**	**46**	P	**Pn**		**13 32 31.8**	**+0.1**	
	comp=N,9.8nm,0.3s,baz=218,slow=5.1,SNR=160								
PETK				ScP	**ScP**		**13 40 43.9**	**-0.2**	
	comp=N,0.2nm,0.3s,baz=216,slow=4.8,SNR=5.4								
PETK	**Petropavlovsk-**	**14.01**	**46**	*e*Pn	**Pn**		**13 32 30.4**	**-1.3**	
PETK				ScP	**ScP**		**13 40 43.9**	**-0.2**	
PETK	**Petropavlovsk-**	**14.01**	**46**	*e*P	**Pn**		**13 32 30.4**	**-1.3**	
PET	**Petropavlovsk**	**14.46**	**47**	*e*P	**Pn**		**13 32 35.9**	**-1.2**	
PET				*e*S	**S**		**13 35 13.8**	**-3.2**	
PET				pmax	pmax				
	comp=Z,1µm,9.3s								
PET				pmax	pmax				
	comp=Z,800nm,13.6s								
PET				pmax	pmax				
	comp=Z,234nm,0.7s								
PET				MLR	MLR				
	comp=Z,1µm,15.0s								
PET				MLR	MLR				
	comp=Z,2µm,17.0s								
HIA	**Hailar**	**15.27**	**296**	*e*P	**P**		**13 32 45.5**	**-1.1**	
	comp=Z,118nm,0.7s								
HIA				*e*S	**S**		**13 35 33.3**	**-1.8**	
HIA	**Hailar**	**15.27**	**296**	*e*P	**P**		**13 32 45.5**	**-1.1**	
HIA				*e*S	**S**		**13 35 33.3**	**-1.8**	
HIA				pmax	pmax				
	comp=Z,118nm,0.7s								
DL2	**Dalian**	**15.45**	**256**	⇑*i*P	**Pn**		**13 32 49.0**	**-0.1**	
DL2				sP	**sP**		**13 33 48.8**	**-5.4**	
DL2				S	**S**		**13 35 37.3**	**-1.7**	
DL2				ScS	**ScS**		**13 44 22.1**	**-3.2**	
DL2				pmax	pmax				
	comp=Z,1µm,3.6s								
MA2	**Magadan**	**16.28**	**18**	P	**P**		**13 32 57.2**	**-0.3**	
	comp=Z,6.4nm,0.3s,baz=204,slow=9.5,SNR=68								
MA2				ScP	**ScP**		**13 40 47.6**	**-0.5**	
	comp=Z,0.4nm,0.3s,baz=120,slow=1.7,SNR=9.3								
CBIJ	**Chichi jima**	**17.34**	**176**	*e*P	**P**		**13 33 09.1**	**-0.4**	
	comp=Z,868nm,0.9s								
JCJ	**Chichijima**	**17.35**	**176**	P	**Pn**		**13 33 11.2**	**-0.4**	
	comp=Z,5µm,0.3s,baz=278,slow=0.1,SNR=121								
YAK	**Yakutsk**	**18.81**	**343**	*c iP*	**P**		**13 33 23.9**	**-1.0**	
YAK				*e*S	**S**		**13 36 44.7**	**-1.0**	
YAK				pmax	pmax				
	comp=Z,92nm,0.8s								
YAK				pmax	pmax				
	comp=N,18nm,0.8s								
YAK				pmax	pmax				
	comp=E,12nm,0.6s								
YAK				smax	smax				
	comp=E,595nm,1.3s								
YAK				smax	smax				
	comp=N,675nm,1.6s								
BJT	**Baijiatuau**	**18.85**	**265**	*e*P	**P**		**13 33 24.7**	**-0.9**	
	comp=N,224nm,0.8s								
BJT	**Baijiatuau**	**18.85**	**265**	*e*P	**P**		**13 33 24.7**	**-0.9**	
BJT				pmax	pmax				
	comp=Z,224nm,0.8s								
SEY	**Seymchan**	**19.66**	**16**	ScP	**ScP**		**13 40 54.8**	**-0.5**	
	comp=Z,0.2nm,0.3s,baz=190,slow=1.5,SNR=3.8								
SEY	**Seymchan**	**19.66**	**16**	⇑*i*P	**P**		**13 33 32.9**	**-1.1**	
CIT	**Chita**	**19.67**	**302**	*e*P	**Pn**		**13 33 37.7**	**-1.1**	
CIT				*e*			13 37 01.1		
TIA	**Tai'an**	**19.89**	**254**	P	**P**		**13 33 36.3**	**-0.4**	
TIA				sP	**sP**		**13 34 48.1**	**+4.7**	
TIA				S	**S**		**13 37 04.3**	**-3.1**	
TIA				pmax	pmax				
	comp=Z,230nm,0.8s								
TIA				LR	LR				
	comp=Z,160nm,6.0s								
TIA				LR	LR				
	comp=Z,270nm,8.5s								
TIA				LR	LR				
	comp=Z,200nm,10.4s								
JOW	**Kunigami**	**20.33**	**214**	P	**P**		**13 33 41.4**	**-0.2**	
	comp=Z,93nm,0.5s,baz=89,slow=12,SNR=40								
JOW				S	**S**		**13 37 15.2**	**-0.6**	
	comp=Z,80nm,0.9s,baz=98,slow=29,SNR=18								
JOW				ScP	**ScP**		**13 40 57.2**	**-0.3**	
	comp=Z,21nm,0.7s,baz=95,slow=3.6,SNR=4.8								
JOW	**Kunigami**	**20.33**	**214**	*e*P	**P**		**13 33 41.7**	**+0.2**	
	comp=Z,177nm,1.2s								
JOW				S	**S**		**13 37 15.2**	**-0.6**	
JOW				ScP	**ScP**		**13 40 57.2**	**-0.3**	
SSE	**Sheshan**	**20.46**	**236**	P	**P**		**13 33 41.6**	**-1.4**	
SSE				S	**S**		**13 37 20.0**	**+1.9**	
SSE				pmax	pmax				
	comp=Z,50nm,1.1s								
SSE				pmax	pmax				
	comp=Z,230nm,3.5s								
SSE				LR	LR				
	comp=Z,340nm,8.7s								
SSE				LR	LR				
	comp=Z,420nm,8.9s								
SSE				LR	LR				
	comp=Z,800nm,18.0s								
SSE	**Sheshan**	**20.46**	**236**	*e*P	**P**		**13 33 41.4**	**-1.6**	
	comp=Z,254nm,1.2s								
NJ2	**Nanjing**	**21.23**	**242**	*e*P	**P**		**13 33 49.8**	**-1.1**	
NJ2				S	**S**		**13 37 30.6**	**-0.6**	
NJ2				LR	LR				
	comp=Z,2µm,6.3s								
NJ2				LR	LR				
	comp=Z,1µm,6.7s								
NJ2				LR	LR				
	comp=Z,2µm,14.4s								
BOD	**Bodaibo**	**21.37**	**318**	*e*P	**P**		**13 33 49.2**	**-2.8**	
BOD				pmax	pmax				
	comp=Z,23nm,1.0s								
HHC	**Hu-ho-hao-te**	**21.85**	**271**	*e*P	**P**		**13 33 56.8**	**-0.1**	
HHC				PP	**pP**		**13 34 34.6**	**-1.3**	
HHC				S	**S**		**13 37 38.4**	**-2.9**	
HHC				pmax	pmax				
	comp=Z,310nm,1.0s								
HHC				pmax	pmax				
	comp=Z,950nm,5.0s								
TIY	**Taiyuan**	**22.45**	**262**	*e*P	**P**		**13 34 02.8**	**+0.5**	
TIY				sP	**sP**		**13 35 16.4**	**+4.4**	
TIY				S	**S**		**13 37 50.8**	**0.0**	
BTO	**Baotou**	**23.04**	**271**	*e*P	**P**		**13 34 08.8**	**+1.1**	
BTO				S	**S**		**13 37 53.0**	**-7.4**	
SMY	**Shemya**	**23.27**	**57**	*e*P	**P**		**13 34 10.0**	**+0.5**	
	comp=Z,194nm,1.0s								
SMY	**Shemya**	**23.27**	**57**	*e*P	**P**		**13 34 10.0**	**+0.5**	
SMY				pmax	pmax				
	comp=Z,194nm,1.0s								
ULN	**Ulaanbaatar**	**23.61**	**290**	*e*P	**P**		**13 34 12.6**	**-0.3**	
	comp=Z,164nm,1.1s								
ULN	**Ulaanbaatar**	**23.61**	**290**	*ce*P	**P**		**13 34 12.9**	**0.0**	
ULN				pmax	pmax				
	comp=Z,143nm,1.0s								
ULN	**Ulaanbaatar**	**23.61**	**290**	P	**P**		**13 34 13.3**	**+0.5**	
	SNR=59								
SONA1	**Songino Array**	**24.05**	**290**	*e*P	**P**		**13 34 16.8**	**-0.1**	
SONM	**Songino Array**	**24.05**	**290**	P	**P**		**13 34 17.3**	**+0.5**	
	comp=Z,184nm,0.7s,baz=84,slow=8.0,SNR=747								
SONM				PcP	**PcP**		**13 37 51.9**	**+0.5**	
	comp=Z,4.8nm,0.6s,baz=105,slow=1.4,SNR=4.2								
SONM				ScP	**ScP**		**13 41 06.8**	**-0.2**	
	comp=Z,22nm,0.8s,baz=160,slow=2.4,SNR=23								
TATO	**Taipei**	**25.05**	**226**	*e*P	**P**		**13 34 28.4**	**+2.5**	
	comp=Z,947nm,1.1s								
TATO	**Taipei**	**25.05**	**226**	P	**P**		**13 34 29.2**	**+3.3**	
	SNR=7.0								
WHN	**Wuhan**	**25.12**	**245**	⇑*i*P	**P**		**13 34 27.0**	**+0.5**	
WHN				S	**S**		**13 38 33.8**	**+0.5**	
WHN				sS	**sS**		**13 39 57.3**	**+0.8**	
YHNB	**Yeheng**	**25.36**	**225**	*e*P	**P**		**13 34 29.2**	**+0.4**	
	comp=Z,235nm,1.1s								
NACB	**Ninganchiao**	**25.66**	**224**	*e*P	**P**		**13 34 30.6**	**-0.7**	
	comp=Z,106nm,1.4s								
ZAK	**Zakamensk**	**25.96**	**297**	*e*P	**P**		**13 34 33.8**	**-0.2**	
ZAK				*e*			13 38 44.8		
ZAK				pmax	pmax				
	comp=Z,41nm,1.4s								
SSLB	**Suanglung**	**26.30**	**225**	*e*P	**P**		**13 34 37.5**	**+0.4**	
	comp=Z,124nm,1.0s								
YULB	**Yu-li**	**26.46**	**224**	*e*P	**P**		**13 34 37.8**	**-0.8**	
	comp=Z,68nm,1.1s								
QZH	**Quanzhou**	**26.62**	**230**	⇑*i*P	**P**		**13 34 43.4**	**+3.5**	
QZH				S	**S**		**13 38 59.9**	**+3.0**	
QZH				pmax	pmax				
	comp=Z,57nm,0.9s								
XAN	**Xi'an**	**26.73**	**258**	P	**P**		**13 34 41.5**	**+0.5**	
XAN				pP	pP		13 35 25.8	-0.9	
XAN				sP	sP		13 35 51.8	-2.3	
XAN				PcP	**PcP**		**13 37 58.3**	**+0.7**	
XAN				S	**S**		**13 38 58.1**	**-0.7**	
XAN				pmax	pmax				
	comp=Z,60nm,0.8s								
XAN				pmax	pmax				
	comp=Z,320nm,3.5s								
XAN				LR	LR				
	comp=Z,670nm,10.3s								
XAN				LR	LR				
	comp=Z,360nm,10.2s								
XAN				LR	LR				
	comp=Z,390nm,14.2s								
XAN	**Xi'an**	**26.73**	**258**	*e*P	**P**		**13 34 40.6**	**-0.4**	
	comp=Z,537nm,1.4s								
XAN	**Xi'an**	**26.73**	**258**	*e*P	**P**		**13 34 40.6**	**-0.4**	
XAN				pmax	pmax				
	comp=Z,537nm,1.4s								
TPUB	**Ta-pu**	**26.87**	**225**	*e*P	**P**		**13 34 42.9**	**+0.6**	
	comp=Z,183nm,1.0s								
TWG	**Pinlang**	**27.05**	**224**	*e*P	**P**		**13 34 45.2**	**+1.4**	
	comp=Z,900nm,1.5s								
BILL	**Bilibino**	**27.11**	**21**	*e*P	**P**		**13 34 41.7**	**-2.2**	
	comp=Z,11nm,1.0s								
BILL	**Bilibino**	**27.11**	**21**	*c iP*	**P**		**13 34 41.0**	**-2.9**	
BILL				*i* *PP	**pP**		**13 35 30.6**	**+0.1**	
BILL				*i*			13 37 57.8		
BILL				*i* S	**S**		**13 39 07.6**	**+3.7**	
BILL				pmax	pmax				
	comp=Z,9.0nm,1.3s								
MOY	**Mondy**	**27.38**	**300**	*e*P	**P**		**13 34 46.8**	**+0.2**	
MOY				pmax	pmax				
	comp=Z,40nm,1.7s								
TIXI	**Tiksi**	**27.90**	**352**	P	**P**		**13 34 48.9**	**-1.9**	
	comp=Z,2.5nm,0.3s,baz=147,slow=6.6,SNR=17								
TIXI				PcP	**PcP**		**13 37 59.8**	**+0.2**	
	comp=Z,4.3nm,0.4s,baz=114,slow=5.1,SNR=4.0								
TIXI				ScP	**ScP**		**13 41 16.9**	**-0.6**	
	comp=Z,7.8nm,0.7s,baz=228,slow=0.9,SNR=7.5								
TIXI	**Tiksi**	**27.90**	**352**	*e*P	**P**		**13 34 48.1**	**-2.6**	
	comp=Z,8.4nm,0.7s								
TIXI				PcP	**PcP**		**13 37 59.8**	**+0.2

GZH sP **sP** **13 36 28.0 -4.4**
GZH S **S** **13 39 59.5 -7.1**
GZH pmax pmax
comp=Z,130nm,0.8s
CD2 Chengdu 32.10 258 ⇑P **P** **13 35 28.9 +0.7**
CD2 pP pP 13 36 15.6 +0.8
CD2 sP sP 13 36 42.6 +0.8
CD2 PP **PP** **13 36 46.4 +0.5**
CD2 S **S** **13 40 24.0 +1.3**
CD2 pmax pmax
comp=Z,140nm,0.6s
CD2 pmax pmax
comp=Z,120nm,4.4s
CD2 LR LR
comp=Z,700nm,12.7s
CD2 LR LR
comp=Z,510nm,10.1s
CD2 LR LR
comp=Z,600nm,11.7s
GYA Guiyang 32.88 248 ⇑*i*P **P** **13 35 35.4 +0.2**
GYA pP pwP 13 36 24.0 -2.1
GYA PP **PP** **13 36 54.5 -0.2**
GYA PcP **PcP** **13 38 11.5 -2.3**
GYA S **S** **13 40 31.9 -3.1**
GYA ScP **ScP** **13 41 33.0 -1.9**
GYA sS sS 13 42 00.8 +0.8
GYA SS **SS** **13 42 54.3 -8.6**
GYA ScS **ScS** **13 45 33.4 -2.4**
GYA pmax pmax
comp=Z,50nm,0.8s
GYA pmax pmax
comp=Z,180nm,5.3s
GYA LR LR
comp=Z,540nm,16.2s
GYA LR LR
comp=Z,520nm,17.0s
GYA LR LR
comp=Z,510nm,17.3s
TGY Tagaytay City 34.72 216 P **P** **13 35 51.9 +0.9**
comp=Z,410nm,0.4s,baz=26,slow=4.0,SNR=6.8
TGY PcP **PcP** **13 38 20.2 +1.2**
comp=Z,142nm,0.4s,baz=133,slow=21,SNR=3.3
ANM Nome 35.65 37 *e*P **P** **13 35 56.5 -1.8**
comp=Z,20nm,1.1s
ANM Nome 35.65 37 *e*P **P** **13 35 56.5 -1.8**
ANM pmax pmax
comp=Z,20nm,1.1s
DGZ Jazzator, Alta 36.17 298*c i*P **P** **13 36 04.7 +1.6**
DGZ pmax pmax
comp=Z,59nm,1.2s
QIZ Qiongzhong 36.26 236 P P 13 36 08.9 +4.9
QIZ S **S** **13 41 30.4 +3.8**
QIZ pmax pmax
comp=Z,110nm,0.8s
QIZ Qiongzhong 36.26 236 *e*P **P** **13 36 05.7 +1.8**
comp=Z,98nm,0.8s
KMI Kunming 36.40 251 P **P** **13 36 06.6 +1.2**
KMI pP pwP 13 36 57.5 +0.6
KMI PP **PnPn** **13 37 37.8 +1.2**
KMI PcP **PcP** **13 38 25.1 +0.9**
KMI S **S** **13 41 28.4 -0.7**
KMI ScP **ScP** **13 41 48.3 +0.5**
KMI sS sS 13 42 56.6 +1.6
KMI SS **SS** **13 44 12.3 -6.6**
KMI pmax pmax
comp=Z,140nm,1.0s
KMI pmax pmax
comp=Z,240nm,3.5s
KMI LR LR
comp=Z,330nm,15.9s
KMI LR LR
comp=Z,150nm,19.7s
KMI LR LR
comp=Z,300nm,16.3s
KMI Kunming 36.40 251 *e*P **P** **13 36 06.0 +0.6**
comp=Z,42nm,0.9s
KMI Kunming 36.40 251 *e*P **P** **13 36 06.0 +0.6**
KMI pmax pmax
comp=Z,42nm,0.9s
ZAA0 Zalesovo Array 36.98 305 *e*P **P** **13 36 09.0 -0.6**
comp=Z,52nm,0.9s
ZALV Zalesovo Beam 36.98 305 P **P** **13 36 09.7 +0.1**
comp=Z,12nm,0.3s,baz=83,slow=8.3,SNR=64
ZALV PcP **PcP** **13 38 25.4 +0.3**
comp=Z,17nm,0.5s,baz=87,slow=2.4,SNR=9.2
ZALV ScP **ScP** **13 41 49.0 -0.1**
comp=Z,37nm,0.7s,baz=83,slow=3.4,SNR=38
ZALV PKiKP **PKiKP** **13 45 40.5 -1.4**
comp=Z,1.3nm,0.5s,baz=132,slow=2.2,SNR=3.7
ZALV Zalesovo Beam 36.98 305 *e*P **P** **13 36 09.3 -0.3**
ZALV PcP **PcP** **13 38 25.4 +0.3**
ZALV ScP **ScP** **13 41 49.0 -0.1**
ZALV PKiKP **PKiKP** **13 45 40.5 -1.4**
RDOG Red Dog Mine 37.19 31 *e*P **P** **13 36 09.7 -1.5**
comp=Z,14nm,0.6s
WMQ Urumqi 37.65 288 *e*P **P** **13 36 17.0 +1.5**
WMQ PP **PnPn** **13 37 49.0 -1.8**
WMQ S **S** **13 41 49.0 +1.7**
WMQ PcS **PcS** **13 42 14.8 -1.7**
WMQ sS sS 13 43 10.3 -3.2
WMQ SS **SS** **13 44 42.3 -0.7**
WMQ ScS **ScS** **13 45 58.4 -2.9**
WMQ pmax pmax
comp=Z,89nm,0.9s
WMQ pmax pmax
comp=Z,200nm,3.6s
WMQ LR LR
comp=Z,3μm,10.5s
WMQ LR LR
comp=Z,1μm,7.1s
WMQ LR LR
comp=Z,730nm,14.9s
WMQ Urumqi 37.65 288 *e*P **P** **13 36 16.5 +1.0**
comp=Z,58nm,0.8s
WMQ Urumqi 37.65 288 *e*P **P** **13 36 16.5 +1.0**
WMQ pmax pmax
comp=Z,58nm,0.8s
NVS Novosibirsk 37.76 307 ⇑*i*P **P** **13 36 17.2 +1.1**
NVS *i* 13 37 10.3
NVS *i*PPP PPP 13 37 51.2
NVS *i*S **S** **13 41 49.7 +1.3**
NVS pmax pmax
comp=Z,19nm,0.4s
NVS pmax pmax
comp=E,9.0nm,0.4s
ZSN Zaisan 38.39 295*d i*P **P** **13 36 22.3 +0.8**
ZSN *i*S **S** **13 41 59.2 +1.0**
ZSN pmax pmax
comp=Z,112nm,1.1s
ZSN Zaisan 38.39 295⇓*i*P **P** **13 36 22.3 +0.8**
comp=Z,112nm,1.1s
ZSN ⇑*i*S **S** **13 41 59.2 +1.0**
comp=Z,258nm,4.0s
MK31 Makanchi Array 40.26 295 *e*P **P** **13 36 37.7 +0.7**
MK31 Makanchi Array 40.26 295 *e*P **P** **13 36 37.7 +0.7**
MKAR Makanchi Array 40.26 295 P **P** **13 36 38.0 +1.0**
comp=Z,26nm,0.7s,baz=81,slow=10,SNR=313
MKAR PcP **PcP** **13 38 36.1 +0.4**
comp=Z,7.8nm,0.6s,baz=72,slow=5.0,SNR=6.2
MKAR ScP **ScP** **13 42 02.2 +0.3**
comp=Z,12nm,0.7s,baz=59,slow=4.7,SNR=18
MKAR Makanchi Array 40.26 295 P **P** **13 36 38.0 +1.0**
MKAR 13 38 36.1
MKAR pmax pmax
comp=Z,31nm,0.7s
MKAR pmax pmax
comp=Z,8.0nm,0.6s
MKAR pmax pmax
comp=N,12nm,0.7s
MK01 Makanchi Array 40.27 295 *e*P **P** **13 36 37.5 +0.4**
MAKZ Makanchi 40.46 295 *e*P **P** **13 36 39.4 +0.7**
comp=N,50nm,0.9s
MAKZ Makanchi 40.46 295 *e*P **P** **13 36 39.4 +0.7**
MAKZ pmax pmax
comp=Z,51nm,0.9s
SEM Semipalatinsk 40.48 301*de*P **P** **13 36 37.8 -1.1**
SEM *i*S **S** **13 42 25.7 -3.8**
SEM pmax pmax
comp=Z,455nm,1.0s
SEM Semipalatinsk 40.48 301⇓*e*P **P** **13 36 37.9 -1.1**
comp=Z,454nm,1.0s
SEM ⇓*i*S **S** **13 42 25.8 -3.8**
comp=Z,736nm,3.0s
IM3 Indian Mountai 40.61 35 *e*P **P** **13 36 37.9 -1.6**
NONG Nongkai 41.11 242 P **P** **13 36 45.6 +1.5**
comp=Z,3.9nm,1.1s,comp=Z,153nm
KURK Kurchatov 41.39 302 *e*P **P** **13 36 45.5 -0.6**
comp=Z,115nm,0.9s
KURK PcP **PcP** **13 38 39.7 +0.5**
KURK ScP **ScP** **13 42 06.6 +0.3**
KURK Kurchatov 41.39 302*c i*P **P** **13 36 46.7 +0.6**
KURK pmax pmax
comp=Z,175nm,1.3s
KURK Kurchatov 41.39 302 P **P** **13 36 47.0 +0.9**
SNR=27
SKNT Sakolnakorn 41.40 240 P **P** **13 36 47.7 +1.2**
comp=Z,35nm,0.8s
CAST Castle Rocks 41.47 39 *e*P **P** **13 36 46.1 -0.5**
comp=Z,24nm,0.6s
KURBB Kurchatov Arra 41.47 302 P **P** **13 36 47.4 +0.7**
comp=Z,78nm,0.5s,baz=73,slow=8.9,SNR=786
KURBB PcP **PcP** **13 38 39.7 +0.2**
comp=Z,7.3nm,0.5s,baz=75,slow=2.8,SNR=9.0
KURBB ScP **ScP** **13 42 06.6 0.0**
comp=Z,20nm,0.9s,baz=78,slow=3.5,SNR=19
PPLA Purkeypile 41.48 39 *e*P **P** **13 36 46.6 -0.2**
comp=Z,105nm,1.5s
RSO Redoubt South 41.51 43 *e*P **P** **13 36 46.8 -0.3**
LSA Lhasa 41.73 267 P **P** **13 36 51.3 +1.6**
LSA pmax pmax
comp=Z,32nm,0.9s
LSA Lhasa 41.73 267 *e*P **P** **13 36 49.8 +0.2**
comp=Z,79nm,1.4s
LSA Lhasa 41.73 267 *i*P **P** **13 36 51.2 +1.5**
SNR=27
LSA Lhasa 41.73 267 *e*P **P** **13 36 49.8 +0.2**
LSA pmax pmax
comp=Z,79nm,1.4s
OHAK Old Harbor 41.80 48 *e*P **P** **13 36 48.9 -0.4**
comp=Z,87nm,0.8s
MLY Manley 41.91 36 *e*P **P** **13 36 49.3 -0.9**
comp=Z,11nm,0.6s
COLD Coldfoot 41.98 33 *e*P **P** **13 36 49.6 -1.0**
comp=Z,10nm,0.8s
KDAK Kodiak Island 42.06 47 P **P** **13 36 51.3 -0.1**
comp=Z,58nm,0.8s,baz=287,slow=3.7,SNR=18
KDAK Kodiak Island 42.06 47 *e*P **P** **13 36 50.5 -0.8**
comp=Z,104nm,1.1s
KDAK Kodiak Island 42.06 47 *i*P **P** **13 36 50.9 -0.4**
TRF Thorofare Moun 42.27 39 *e*P **P** **13 36 52.3 -1.0**
comp=Z,17nm,1.0s
SUA Susitna One 42.33 41 *e*P **P** **13 36 52.7 -0.9**
comp=Z,21nm,1.0s
MCK McKinley 42.83 38 *e*P **P** **13 36 56.3 -1.2**
comp=Z,50nm,1.2s
MCK McKinley 42.83 38 *e*P **P** **13 36 56.3 -1.2**
MCK pmax pmax
comp=Z,50nm,1.2s
RC01 Rabbit Creek A 42.88 42 *e*P **P** **13 36 57.2 -0.7**
comp=Z,58nm,1.4s
RND Reindeer 42.91 38 *e*P **P** **13 36 56.9 -1.4**
comp=Z,17nm,0.8s
RND Reindeer 42.91 38 *e*P **P** **13 36 56.9 -1.4**
RND pmax pmax
comp=Z,17nm,0.8s
MDM Murphy Dome 42.98 36 *e*P **P** **13 36 57.7 -1.0**
comp=Z,18nm,0.9s
UTTA Uttaradit 43.01 245 P **P** **13 37 00.9 +1.5**
comp=Z,8.9nm,0.7s,comp=Z,96nm
PMR Palmer 43.08 41 *e*P **P** **13 36 58.5 -0.9**
comp=Z,26nm,1.1s
PMR Palmer 43.08 41 *e*P **P** **13 36 58.5 -0.9**
PMR pmax pmax
comp=Z,26nm,1.1s
WRH Wood River Hil 43.10 37 *e*P **P** **13 36 58.4 -1.3**
comp=Z,31nm,1.2s
TCOL CIGO, UAF Yank 43.14 36 P **P** **13 36 59.5 -0.4**
baz=278
COLA College 43.15 36 *e*P **P** **13 36 59.2 -0.8**
comp=Z,39nm,0.8s
COLA College 43.15 36*c i*P **P** **13 36 59.4 -0.6**
COLA pmax pmax
comp=Z,33nm,0.9s
SEW Seward 43.20 43 *e*P **P** **13 36 59.2 -1.2**
comp=Z,59nm,1.0s
CMMT Chiang Mai 43.29 248 P **P** **13 37 02.5 +0.8**
comp=Z,46nm,0.6s,comp=Z,433nm
CHTO Chiang Mai 43.29 248 *e*P **P** **13 37 02.0 +0.3**
comp=Z,29nm,0.6s
CHTO Chiang Mai 43.29 248 *e*P **P** **13 37 02.0 +0.3**
CHTO pmax pmax
comp=Z,29nm,0.6s
CHTO Chiang Mai 43.29 248 P **P** **13 37 03.0 +1.2**
SNR=17
CHTO Chiang Mai 43.29 248 P **P** **13 37 02.6 +0.9**
comp=Z,198nm,1.1s,comp=Z,2μm
CHTO Chiang Mai 43.29 248 *e*P **P** **13 37 02.7 +1.0**
POKR Poker Flat Res 43.29 36 P **P** **13 37 00.8 -0.4**
baz=278
KNK Knik Glacier 43.43 41 *e*P **P** **13 37 01.6 -0.7**
comp=Z,91nm,1.3s
TDK Taldyqorghan 43.43 294*d i*P **P** **13 37 03.1 +0.5**
TDK *i*S **S** **13 43 13.2 +0.7**
TDK pmax pmax
comp=Z,2μm,0.6s
TDK Taldyqorghan 43.43 294⇓*i*P **P** **13 37 03.1 +0.5**
comp=Z,2μm,0.7s
TDK ⇓*i*S **S** **13 43 13.2 +0.7**
comp=Z,1μm,2.5s
SHLS Shalkode 43.46 291*d i*P **P** **13 37 01.2 -1.8**
SHLS *i*S **S** **13 43 09.8 -3.4**
SHLS pmax pmax
comp=Z,383nm,0.6s
SHLS Shalkode 43.46 291⇓*i*P **P** **13 37 01.2 -1.8**
comp=Z,383nm,0.6s
SHLS ⇑*i*S **S** **13 43 09.8 -3.4**
comp=Z,2μm,3.1s
CM31 Chiang Mai Arr 43.55 247 *e*P **P** **13 37 02.8 -1.0**
CM31 Chiang Mai Arr 43.55 247 P **P** **13 37 05.2 +1.4**
SNR=14
CMAR Chiang Mai Arr 43.55 247 P **P** **13 37 05.1 +1.3**
comp=Z,5.0nm,0.7s,baz=34,slow=7.1,SNR=32
CMAR PcP **PcP** **13 38 48.0 +1.0**
comp=Z,12nm,0.8s,baz=12,slow=3.1,SNR=12
CMAR ScP **ScP** **13 42 16.1 +0.6**
comp=Z,28nm,0.8s,baz=16,slow=3.0,SNR=45
CMAR Chiang Mai Arr 43.55 247*ce*P **P** **13 37 05.0 +1.3**
CMAR pmax pmax
comp=Z,6.0nm,0.6s
CM01 Chiang Mai Arr 43.56 247 *e*P **P** **13 37 02.9 -1.0**
ILAR Eielson Array 43.57 36 P **P** **13 37 02.1 -1.2**
comp=Z,17nm,0.7s,baz=278,slow=9.7,SNR=88
ILAR ScP **ScP** **13 42 13.5 -1.3**
comp=Z,0.9nm,0.7s,baz=270,slow=3.5,SNR=4.4
ILB Eielson Array 43.57 36 *e*P **P** **13 37 01.9 -1.5**
IL1 Eielson Array 43.57 36 *e*P **P** **13 37 01.3 -2.1**
IL1 *ep*P **pP** **13 37 49.5 -3.6**
HDA Harding Lake 43.60 37 *e*P **P** **13 37 01.8 -1.8**
comp=Z,57nm,1.5s
HDA Harding Lake 43.60 37 P **P** **13 37 02.5 -1.1**
baz=279
PBKT Sadao Pong 43.60 243 P **P** **13 37 05.5 +1.3**
comp=Z,33nm,0.8s,comp=Z,699nm
DHY Denali Highway 43.63 39 *e*P **P** **13 37 02.8 -1.3**
SHL Shillong 43.66 261 *e*P **P** **13 37 03.3 -1.5**
comp=Z,100nm,0.5s
SHL Shillong 43.66 261 *e*P **P** **13 37 03.3 -1.5**
SHL pmax pmax
comp=Z,100nm,0.5s
SHL Shillong 43.66 261 *e*P **P** **13 37 06.0 +1.2**
UZB Uzynbulak 43.76 291*ce*P **P** **13 37 04.2 -1.1**
UZB *i*S **S** **13 43 16.9 -0.6**
UZB pmax pmax
comp=Z,160nm,1.4s
UZB Uzynbulak 43.76 291⇑*e*P **P** **13 37 04.3 -1.1**
comp=Z,160nm,1.4s
UZB ⇑*i*S **S** **13 43 16.9 -0.6**
comp=Z,914nm,2.0s
SUKH Sukhothai 43.80 246 P **P** **13 37 08.6 +2.9**
comp=Z,7.6nm,0.6s
SCM Sheep Creek Mo 43.88 41 *e*P **P** **13 37 05.5 -0.5**
comp=Z,28nm,0.8s
SCM Sheep Creek Mo 43.88 41 *e*P **P** **13 37 05.5 -0.5**
SCM pmax pmax
comp=Z,28nm,0.8s
SDKM Sandakan 43.90 215 P **P** **13 37 07.8 +1.1**
KKM Kota Kinabalu 43.95 217 *e*P **P** **13 37 08.0 +0.9**
comp=Z,85nm,0.9s
KKM Kota Kinabalu 43.95 217 P **P** **13 37 08.9 +1.8**
PRP Porcupine Dome 44.03 35 *e*P **P** **13 37 06.5 -0.7**
comp=Z,29nm,0.8s
PRP *ep*P **pP** **13 37 53.2 -3.8**
GLI Glacier Island 44.18 42 *e*P **P** **13 37 07.5 -0.7**
comp=Z,26nm,0.9s
PRZ Przheval'sk 44.45 290 *e*P **P** **13 37 11.4 +0.5**
comp=Z,29nm,0.8s
PAX Paxson 44.50 39 *e*P **P** **13 37 10.3 -0.6**
comp=Z,8.7nm,0.8s
PAX Paxson 44.50 39 *e*P **P** **13 37 10.3 -0.6**
PAX pmax pmax
comp=Z,9.0nm,0.8s
KLU Klutina 44.60 41 *e*P **P** **13 37 11.4 -0.3**
comp=Z,37nm,1.0s
RIDG Independ'e Rid 44.63 38 *e*P **P** **13 37 10.1 -1.7**
comp=Z,51nm,1.4s
DIV Divide 44.75 41 *e*P **P** **13 37 12.5 -0.4**
comp=Z,38nm,1.1s
DIV *e*S **S** **13 43 31.1 -0.1**
HARP HAARP 44.76 39 *e*P **P** **13 37 13.0 +0.2**
comp=Z,100nm,1.1s
HARP *ep*P **pP** **13 37 59.8 -3.0**
CHKK Chushkaly 44.82 293*de*P **P** **13 37 13.4 -0.2**
CHKK *i*S **S** **13 43 31.9 -0.6**
CHKK pmax pmax
comp=Z,280nm,0.6s
CHKK Chushkaly 44.82 293⇓*e*P **P** **13 37 13.4 -0.2**
comp=Z,280nm,0.6s
CHKK ⇓*i*S **S** **13 43 31.9 -0.6**
comp=Z,179nm,1.7s
TSM Tawau 44.84 214 P **P** **13 37 15.1 +1.1**
SRAK Srakaew 44.85 240 P **P** **13 37 12.7 -1.4**
comp=Z,214nm,0.8s,comp=Z,2μm
SCRK Sand Creek 44.95 37 *e*P **P** **13 37 12.9 -1.5**
comp=Z,117nm,1.6s
SCRK *ep*P **pP** **13 38 00.2 -4.3**
DOT Dot Lake 44.99 38 *e*P **P** **13 37 12.6 -2.0**
comp=Z,13nm,0.6s
MDOK Medeo 45.07 292*c i*P **P** **13 37 16.2 +0.5**
MDOK *e*S **S** **13 43 36.6 +0.2**
MDOK pmax pmax
comp=Z,265nm,0.8s
MDOK smax smax
comp=N,289nm,3.2s
MDOK Medeo 45.07 292⇑*i*P **P** **13 37 16.2 +0.5**
comp=N,265nm,0.8s
MDOK *e*S **S** **13 43 36.6 +0.2**
comp=N,289nm,3.2s
TNTI Ternate 45.13 199 *e*P **P** **13 37 15.4 -0.8**
comp=N,88nm,1.1s
TNTI Ternate 45.13 199 P **P** **13 37 15.3 -1.0**
UMPA Umpang Tak 45.23 245 P **P** **13 37 20.4 +3.3**
comp=N,22nm,1.0s,comp=N,156nm
KUU Kurty 45.23 293 *e*P **P** **13 37 16.3 -0.5**
KUU pmax pmax
comp=Z,126nm,0.6s
KUU Kurty 45.23 293 *e*P **P** **13 37 16.3 -0.5**
comp=Z,126nm,0.6s
BRZS Berezniki 45.24 302*de*P **P** **13 37 16.0 -0.7**
BRZS pmax pmax
comp=Z,1μm,0.8s
BRZS Berezniki 45.24 302⇓*e*P **P** **13 37 16.1 -0.7**
comp=Z,1μm,0.8s
BRZS ⇓*i*S **S** **13 43 38.0 -0.3**
comp=Z,377nm,2.7s
UTHA Uthaitani 45.33 244 P **P** **13 37 19.7 +1.9**
comp=Z,16nm,0.8s,comp=Z,131nm
MTBS Maitube 45.49 292*ce*P **P** **13 37 19.7 +0.8**
MTBS pmax pmax
comp=Z,281nm,0.9s
MTBS Maitube 45.49 292⇑*e*P **P** **13 37 19.7 +0.8**
comp=Z,281nm,0.9s
BVA0 Borovoye Array 45.56 307 *i*P **P** **13 37 19.1 -0.1**
BVA0 pmax pmax
comp=Z,19nm,0.5s
BVAR Borovoye Array 45.56 307 ScP **ScP** **13 42 23.5 +0.3**
comp=Z,18nm,0.8s,baz=67,slow=3.9,SNR=16
BRVK Borovoye 45.61 307 *e*P **P** **13 37 19.7 +0.1**
comp=Z,26nm,0.8s
BRVK *e*S **S** **13 43 42.2 -1.3**
BRVK Borovoye 45.61 307*d i*P **P** **13 37 20.3 +0.7**
BRVK pmax pmax
comp=Z,31nm,1.0s
BRVK Borovoye 45.61 307 P **P** **13 37 20.5 +0.9**
SNR=15
BRDH Bariadhala 45.66 258 P **P** **13 37 21.3 +0.9**
comp=Z,115nm,0.4s,baz=90,slow=20,SNR=2.6
SWI Sorong 45.93 194 P **P** **13 37 24.3 +1.8**
comp=Z,94nm,0.7s
EGAK Eagle 45.98 36 *e*P **P** **13 37 21.2 -1.1**
comp=Z,33nm,0.8s
ULHL Ulahol 45.99 291 P **P** **13 37 24.4 +1.3**
SNR=14
OTUK Ortayu 46.08 300 P **P** **13 37 24.5 +1.1**
OTUK pmax pmax
comp=Z,57nm,1.2s
TKM2 Tokmak 2 46.13 292 P **P** **13 37 25.8 +1.7**
SNR=156
RKPI Ransiki, Papua 46.16 189 P **P** **13 37 24.8 +0.6**
comp=Z,305nm,0.8s,comp=Z,8μm
SRPI Serui, Papua 46.30 187 P **P** **13 37 28.6 +3.2**
comp=Z,186nm,0.7s,comp=Z,5μm
BALM Baldy 46.39 41 *e*P **P** **13 37 25.9 +0.2**
comp=Z,40nm,1.0s
BALM Baldy 46.39 41 *e*P **P** **13 37 25.9 +0.2**
BALM pmax pmax
comp=Z,41nm,1.0s
PATY Pattaya 46.42 240 P **P** **13 37 29.8 +3.5**
comp=Z,20nm,0.8s
SRDT SRDT 46.44 243 P P 13 37 39.6 +13
JIRN Jiri 46.46 268 *e*P **P** **13 37 28.0 +1.0**
comp=Z,188nm,0.5s
NRN Naryn 46.52 290 *e*P **P** **13 37 27.6 +0.3**
comp=Z,18nm,0.9s
NRN Naryn 46.52 290 *e*P **P** **13 37 27.6 +0.3**
NRN pmax pmax
comp=Z,18nm,0.9s
GUN Gumba 46.53 268 *e*P **P** **13 37 28.2 +0.6**
comp=Z,116nm,0.4s
RAMN Ramite 46.59 267 *e*P **P** **13 37 28.5 +0.7**
comp=Z,314nm,0.6s
MANU Manus Island 46.64 171 *e*P **P** **13 37 27.5 -0.5**
comp=Z,66nm,0.8s
CHMS Chumysh 46.66 293 P **P** **13 37 29.2 +1.2**
SNR=11
KBK Karagaybulak 46.68 292 P **P** **13 37 29.8 +1.5**
SNR=8.8
USP Ospenovka 46.71 293 P **P** **13 37 29.4 +1.0**
SNR=65
KZA Kyzart 46.73 291 P **P** **13 37 31.1 +2.1**
SNR=82
JAY Jayapura 46.76 180 P **P** **13 37 30.0 +1.1**
comp=Z,1μm,0.9s
FRU Bishkek 46.82 292 *i*P **P** **13 37 30.0 +0.8**
FRU *i* *PP **PcP** **13 38 58.0 -0.1**
FRU *i*S **S** **13 44 02.5 +1.4**
FRU *i* 13 46 54.5
FRU pmax pmax
comp=Z,67nm,1.2s
FRU smax smax
comp=E,50nm,4.0s
FRU1 Bishkek 46.82 292 *e*P **P** **13 37 28.2 -1.1**
comp=E,52nm,0.8s
FRU1 Bishkek 46.82 292 *e*P **P** **13 37 28.2 -1.1**
FRU1 pmax pmax
comp=Z,53nm,0.8s
DAWY Dawson 46.90 36 *e*P **P** **13 37 29.2 -0.3**
comp=Z,4.9nm,0.8s
AAK Ala-Archa 46.99 292 P **P** **13 37 31.8 +1.2**
comp=Z,24nm,0.5s,baz=102,slow=4.5,SNR=112
AAK PcP **PcP** **13 38 58.5 -0.3**
comp=Z,12nm,0.9s,baz=113,slow=0.9,SNR=4.5
AAK ScP **ScP** **13 42 29.8 +0.2**
baz=94,slow=5.2
AAK Ala-Archa 46.99 292 P **P** **13 37 31.9 +1.2**
SNR=32
AAK Ala-Archa 46.99 292 *e*P **P** **13 37 31.4 +0.7**
comp=Z,25nm,0.7s
AAK PcP **PcP** **13 38 58.5 -0.3**
AAK ScP **ScP** **13 42 29.8 +0.2**
AAK Ala-Archa 46.99 292 *i*P **P** **13 37 31.4 +0.7**
SNR=71
AAK Ala-Archa 46.99 292*c i*P **P** **13 37 31.6 +0.9**
AAK pmax pmax
comp=Z,26nm,0.8s
AAK Ala-Archa 46.99 292 P **P** **13 37 31.4 +0.7**
SNR=8.8
KKN Kakani 47.03 269 *e*P **P** **13 37 32.5 +1.2**
comp=Z,162nm,0.5s
PKIN Phulchoki 47.08 268 *e*P **P** **13 37 31.8 +0.1**

comp=Z,97nm,0.6s
UCH Uchtor 47.16 292 P **P** **13 37 34.0 +1.6**
SNR=10
PHET Kaeng Krachan 47.20 241 P **P** **13 37 34.7 +2.3**
comp=Z,17nm,1.1s,comp=Z,183nm
DMN Daman 47.26 269 *eP* **P** **13 37 33.9 +0.8**
comp=Z,124nm,0.6s
EPYK Eagle Plains 47.38 33 P **P** **13 37 32.9 -0.3**
baz=285
KSH Kashi 47.41 288 P P 13 37 38.8 +4.8
KSH pP pwP 13 38 26.3 +0.1
KSH PP **PP** **13 39 34.3 +7.0**
KSH S **S** **13 44 14.5 +4.8**
KSH SS **SS** **13 47 42.8 +2.5**
KSH pmax pmax
comp=Z,42nm,0.8s
KSH pmax pmax
comp=Z,480nm,5.5s
KSH LR LR
comp=Z,130nm,7.2s
KSH LR LR
comp=Z,280nm,7.3s
KSH LR LR
comp=Z,620nm,12.2s
EKS2 Erkin-Say 47.45 293 P **P** **13 37 35.4 +1.2**
SNR=27
AML Almayashu 47.74 292 P **P** **13 37 38.4 +1.6**
SNR=42
DANN Dangsing 47.80 270 *eP* **P** **13 37 38.5 +1.3**
comp=Z,518nm,0.7s
FAKI Fak Fak 47.80 192 *eP* **P** **13 37 37.2 +0.3**
comp=Z,570nm,1.0s
FAKI Fak Fak 47.80 192 P **P** **13 37 36.9 0.0**
comp=Z,606nm,1.0s,comp=Z,6µm
BTM Bintulu 47.86 219 P **P** **13 37 38.2 +0.8**
INK Inuvik 48.04 30 *eP* **P** **13 37 37.3 -0.8**
comp=Z,26nm,0.6s
INK Inuvik 48.04 30 *eP* **P** **13 37 37.3 -0.8**
INK pmax pmax
comp=Z,26nm,0.6s
LUWI Luwuk 48.10 205 P **P** **13 37 39.7 +0.5**
comp=Z,154nm,0.8s
SANI Sanana 48.18 200 P **P** **13 37 39.0 -0.9**
comp=Z,158nm,0.7s,comp=Z,2µm
KOLN Koldanda 48.25 270 *eP* **P** **13 37 41.5 +0.9**
MNAS Manas 48.37 293 P **P** **13 37 41.8 +0.6**
MNAS pmax pmax
comp=Z,99nm,0.9s
PYUN Piuthan 48.49 271 *eP* **P** **13 37 43.4 +1.0**
comp=Z,233nm,0.7s
ARSB Arslanbob 48.59 291 *eP* **P** **13 37 44.3 +1.4**
comp=Z,92nm,0.6s
HYT Haines Junctio 48.71 40 *eP* **P** **13 37 44.9 +1.4**
comp=Z,125nm,0.9s
HYT *ep*P **pP** **13 38 30.8 -3.6**
SBUM Sibu 48.92 220 *eP* **P** **13 37 46.4 +0.9**
comp=Z,32nm,0.8s
SBUM Sibu 48.92 220 P **P** **13 37 46.9 +1.5**
PCI Palu 48.92 209 P **P** **13 37 45.5 0.0**
comp=Z,165nm,1.1s,comp=Z,1µm
DZA Taraz 48.96 294*c iP* **P** **13 37 46.6 +1.1**
DZA pmax pmax
comp=Z,861nm,0.9s
DZA Taraz 48.96 294⇑ *i*P **P** **13 37 46.6 +1.1**
comp=Z,861nm,0.9s
BOK Bokaro 49.02 264 *eP* **P** **13 37 45.6 -0.7**
BOK IAmb IAmb 13 37 53.5
comp=Z,36nm,0.4s
NLAI Namlea 49.07 198 P **P** **13 37 48.4 +1.8**
comp=Z,63nm,1.0s
KK31 Karatay Array 49.39 295 *eP* **P** **13 37 48.8 -0.1**
KK31 Karatay Array 49.39 295 *eP* **P** **13 37 48.8 -0.1**
RABL Rabaul 49.46 165 *eP* **P** **13 37 48.0 -1.5**
comp=Z,168nm,0.6s
SVE Sverdlovsk 49.51 315*ce*P **P** **13 37 50.6 +1.1**
SVE pmax pmax
comp=Z,77nm,1.2s
WHY Whitehorse 49.97 40 *eP* **P** **13 37 53.9 +0.9**
comp=Z,22nm,0.9s
IUG Iuzhnay 50.15 294*d iP* **P** **13 37 54.4 -0.2**
IUG *i* S **S** **13 44 47.2 -0.5**
IUG pmax pmax
comp=Z,344nm,0.9s
IUG Iuzhnay 50.15 294⇓ *i*P **P** **13 37 54.5 -0.2**
comp=Z,344nm,0.9s
IUG ⇑ *i*S **S** **13 44 47.3 -0.5**
comp=Z,928nm,5.6s
SKAG Skagway 50.21 41 *eP* **P** **13 37 55.5 +0.9**
comp=Z,28nm,1.0s
CHM Chimkent 50.35 294 *eP* **P** **13 37 56.8 +0.8**
CHM pmax pmax
comp=Z,1µm,0.4s
CHM Chimkent 50.35 294 *eP* **P** **13 37 56.8 +0.8**
comp=Z,1µm,0.4s
BTK Batken 50.64 291 *eP* **P** **13 37 58.5 +0.3**
comp=Z,27nm,0.8s
KSM Kuching 50.66 221 *eP* **P** **13 37 59.3 +0.7**
comp=Z,75nm,0.8s
KSM Kuching 50.66 221 P **P** **13 37 60.0 +1.4**
ARU Arti 50.73 315 *eP* **P** **13 37 58.1 -0.4**
comp=Z,56nm,0.6s
ARU Arti 50.73 315*d iP* **P** **13 37 58.8 +0.2**
ARU *PP **pP** **13 38 50.0 +0.7**
ARU 13 39 11.7
ARU 13 39 53.5
ARU S **S** **13 44 56.3 +1.3**
ARU SS **SS** **13 48 34.9 +2.9**
ARU pmax pmax
comp=Z,46nm,1.0s
DDI Dehra Dun 50.74 276 *eP* **P** **13 38 00.0 +0.9**
MTKI Muara Teweh, K 50.80 215 P **P** **13 38 01.5 +1.9**
DHRM DHARAMSHALA 50.91 279 *eP* **P** **13 38 00.5 -0.1**
SMLA Simla 50.92 278 *eP* **P** **13 38 00.8 +0.5**
TTSI Tana Toraja 50.92 208 P P 13 38 10.2 +10
TRTT Trang 51.09 237 P **P** **13 38 04.7 +2.9**
comp=Z,19nm,1.1s
KTGM Kuala Trenggan 51.11 232 P **P** **13 38 04.0 +2.1**
SPSI Sidrap Palu 51.80 207 P **P** **13 38 06.8 -0.2**
comp=Z,61nm,1.0s,comp=Z,624nm
BNSI Bone 52.10 207 P **P** **13 38 09.7 +0.5**
comp=Z,167nm,1.0s,comp=Z,1µm
NDI New Delhi 52.28 275 *eP* **P** **13 38 11.0 +0.5**
NIL Nilore 52.29 283 *eP* **P** **13 38 11.1 +0.6**
comp=Z,46nm,0.8s
NIL Nilore 52.29 283 *eP* **P** **13 38 11.1 +0.6**
NIL pmax pmax
comp=Z,46nm,0.8s
KULM Kulim 52.56 234 *eP* **P** **13 38 13.8 +1.1**
comp=Z,51nm,1.1s
KULM Kulim 52.56 234 P **P** **13 38 14.3 +1.7**
PBA Port Blair 52.57 247 *eP* P 13 38 13.7 +1.0
BKSI Bulukumba 52.97 206 P **P** **13 38 15.6 +0.1**
comp=Z,41nm,0.9s,comp=Z,510nm
IPM Ipoh 53.00 233 *eP* **P** **13 38 15.0 -0.8**
comp=Z,22nm,0.9s
IPM *ep*PcP **PcP** **13 39 21.0 -0.2**
IPM Ipoh 53.00 233 P **P** **13 38 16.6 +0.8**
AB31 Akbulak array 53.09 306 *i* P **P** **13 38 16.9 +0.9**
AB31 pmax pmax
comp=Z,7.0nm,0.3s
DLBC Dease Lake 53.14 41 *eP* **P** **13 38 17.1 +0.7**
comp=Z,29nm,1.0s
JBP Jabalpur 53.63 268 *eP* **P** **13 38 21.3 +1.0**
JBP *ex* x 13 38 21.4
MYKOM Kota Tinggi 53.65 228 *eP* **P** **13 38 21.1 +0.5**
comp=Z,90nm,1.4s
MYKOM Kota Tinggi 53.65 228 P **P** **13 38 22.4 +1.9**
KGM Kluang 53.75 229 P **P** **13 38 23.1 +1.8**
PMG Port Moresby 53.90 172 P **P** **13 38 22.5 +0.3**
comp=Z,36nm,0.8s,baz=132,slow=8.8,SNR=7.9
PMG Port Moresby 53.90 172 *eP* **P** **13 38 22.2 0.0**
comp=Z,49nm,0.9s
PMG Port Moresby 53.90 172*de*P **P** **13 38 22.2 0.0**
PMG pmax pmax
comp=Z,260nm,1.0s
PRGR Permogore 54.45 324 *eP* **P** **13 38 25.6 0.0**
PRGR *e**PP **pP** **13 39 18.4 +1.0**
PRGR pmax pmax
comp=Z,24nm,0.9s
KBL Kabul 54.72 286 *eP* **P** **13 38 27.4 -0.9**
comp=Z,26nm,0.9s
KBL Kabul 54.72 286 *eP* **P** **13 38 27.4 -0.9**
KBL pmax pmax
comp=Z,26nm,0.9s
KIP Kipapa 54.80 94 *eP* **P** **13 38 28.3 -0.4**
comp=Z,61nm,0.7s

KIP Kipapa 54.80 94⇑ *eP* **P** **13 38 28.4 -0.4**
KIP pmax pmax
comp=Z,177nm,1.8s
LVZ Lovozero 55.25 334 *eP* **P** **13 38 30.7 -0.7**
LVZ Lovozero 55.25 334 *eP* **P** **13 38 30.7 -0.7**
CMBY CAMPBELL BAY 55.30 242 *eP* **P** **13 38 32.8 +0.4**
BHPL Bhopal 55.42 270 *eP* **P** **13 38 33.2 0.0**
BHPL IAmb IAmb 13 38 34.3
comp=Z,21nm,0.7s
MMRI Maumere 55.48 203 *eP* **P** **13 38 32.9 -0.7**
comp=Z,184nm,0.9s
MMRI Maumere 55.48 203 P **P** **13 38 33.4 -0.2**
comp=Z,307nm,1.5s,comp=Z,3µm
RES Resolute Bay 55.53 15 *eP* **P** **13 38 32.0 -1.2**
comp=Z,26nm,0.7s
RES Resolute Bay 55.53 15 *eP* **P** **13 38 32.0 -1.2**
RES pmax pmax
comp=Z,26nm,0.7s
PSI Prapat 55.57 234 P **P** **13 38 34.8 +0.3**
comp=Z,15nm,0.8s,baz=0.2,slow=3.4,SNR=13
PSI PcP **PcP** **13 39 31.2 0.0**
comp=Z,21nm,0.9s,baz=0.4,slow=1.6,SNR=7.8
PSI Prapat 55.57 234 *eP* **P** **13 38 34.3 -0.1**
comp=Z,23nm,0.8s
PSI PcP **PcP** **13 39 31.2 0.0**
SOEI Soe 56.02 200 *eP* **P** **13 38 36.8 -0.8**
comp=Z,161nm,0.8s
HNR Honiara 56.32 157 P **P** **13 38 40.1 +0.6**
comp=Z,94nm,0.7s,baz=247,slow=2.0,SNR=14
HNR Honiara 56.32 157 *eP* **P** **13 38 40.0 +0.5**
HNR Honiara 56.32 157 *eP* **P** **13 38 39.2 -0.3**
comp=Z,187nm,0.8s
BATI Baumata 56.61 200 P **P** **13 38 41.4 -0.2**
comp=Z,138nm,0.7s,baz=142,slow=0.3,SNR=20
ARCES ARCESS Array B 56.97 338 P **P** **13 38 43.5 +0.1**
comp=Z,4.0nm,0.5s,baz=51,slow=7.0,SNR=25
ARCES ScP **ScP** **13 43 11.6 -0.6**
comp=Z,9.3nm,1.1s,baz=61,slow=5.6,SNR=4.5
KLMR Klimovskoe 57.38 325 *eP* **P** **13 38 45.3 -1.1**
KLMR *e*PP **PcP** **13 39 35.3 -2.1**
KLMR pmax pmax
comp=Z,63nm,1.5s
KLMR Klimovskoe 57.38 325 *eP* **P** **13 38 45.3 -1.1**
KLMR AMP 13 38 53.3
comp=Z,63nm,1.4s
KLMR *ep*P **PcP** **13 39 35.4 -2.0**
GSI Gunungsitoli 57.57 234 *eP* **P** **13 38 47.7 -0.7**
comp=Z,56nm,0.8s
YKW3 Yellowknife Ar 57.61 32 *eP* **P** **13 38 47.6 -0.3**
comp=Z,7.8nm,0.8s
POHA Pohakuloa 57.64 94 *eP* **P** **13 38 49.6 +0.4**
comp=Z,528nm,1.5s
YKA Yellowknife Ar 57.65 32 P **P** **13 38 48.4 +0.2**
comp=Z,7.7nm,0.6s,baz=305,slow=6.7,SNR=76
YKA ScP **ScP** **13 43 15.0 -0.2**
comp=Z,1.3nm,0.7s,baz=306,slow=4.3,SNR=5.3
YKA PKP2bc 14 08 43.6
comp=Z,1.4nm,0.9s,baz=93,slow=26,SNR=5.5
YKB5 Yellowknife Ar 57.65 32 *eP* **P** **13 38 47.2 -1.0**
TULEG Thule 57.81 8 *eP* **P** **13 38 48.1 -1.0**
comp=Z,38nm,1.1s
MLH Mauna Loa 57.91 94 *eP* **P** **13 38 51.0 0.0**
comp=Z,106nm,0.7s
MLH Mauna Loa 57.91 94 *eP* **P** **13 38 51.0 0.0**
MLH pmax pmax
comp=Z,106nm,0.7s
NGJI Ngawi 58.03 215 P **P** **13 38 53.3 +1.8**
comp=Z,56nm,1.0s
COEN Coen 58.16 177 *eP* **P** **13 38 53.0 +0.7**
comp=Z,206nm,1.1s
SMRI Semarang 58.17 216 *eP* **P** **13 38 53.7 +1.2**
comp=Z,350nm,1.1s
HYB Hyderabad 58.36 264 *i* P **P** **13 38 54.0 +0.1**
HYB *ep*PcP **PcP** **13 39 42.5 +0.4**
HYB Hyderabad 58.36 264 *eP* **P** **13 38 53.7 -0.2**
HYB IAmb IAmb 13 38 54.3
comp=Z,123nm,1.8s
TRO Tromso 58.62 340 *eP* **P** **13 38 53.0 -1.8**
LEM Lembang 59.21 219 P **P** **13 39 00.5 +0.6**
comp=Z,76nm,0.9s,baz=34,slow=4.4,SNR=8.7
DBJI Dramaga 59.37 220 P **P** **13 39 01.0 +0.3**
MDRS Chennai 60.11 259 *eP* **P** **13 39 05.7 -0.1**
MDRS IAmb IAmb 13 39 07.8
comp=Z,25nm,0.8s
GEYT Alibeck 60.14 295 P **P** **13 39 06.3 +0.5**
comp=Z,9.1nm,0.4s,baz=48,slow=2.2,SNR=25
GYA0B ALIBECK ARRAY 60.14 295 *eP* **P** **13 39 05.5 -0.3**
comp=Z,32nm,1.2s
KULLO Kullorsuaq 60.64 5 *i* P **P** **13 39 10.2 +1.7**
comp=Z,12nm,0.7s
KULLO Kullorsuaq 60.64 5 *eP* **P** **13 39 10.2 +1.7**
KULLO pmax pmax
comp=Z,12nm,0.7s
BHJ Bhuj 60.97 275 *eP* **P** **13 39 11.6 +0.1**
BHJ IAmb IAmb 13 39 13.8
comp=Z,27nm,0.8s
POO Poona 60.99 268 *eP* **P** **13 39 11.7 -0.1**
MOS Moscow 61.17 321 *eP* **P** **13 39 11.5 -0.8**
MOS *e* 13 39 52.2
MOS *e**PP **pP** **13 40 05.0 -0.4**
MOS *eS* **S** **13 47 09.4 -3.0**
MOS *e* 13 48 36.0
MOS *eSSS SSS 13 54 11.1
MOS pmax pmax
comp=Z,56nm,1.1s
A04D Lummi Island 61.94 48 P **P** **13 39 18.0 +0.5**
baz=306
VRH Novokhopyorsk 61.95 315 *eP* **P** **13 39 17.4 -0.2**
VRH pmax pmax
comp=Z,80nm,1.3s
OBN Obninsk 62.03 321*d iP* **P** **13 39 17.1 -1.0**
OBN *i* *PP **pP** **13 40 11.5 +0.2**
OBN *i* 13 41 34.9
OBN pmax pmax
comp=Z,52nm,1.1s
NLWA Neilton Lookou 62.09 50 *eP* **P** **13 39 19.2 +0.4**
comp=Z,26nm,0.9s
FIA1 FINESS Array S 62.14 330 *eP* **P** **13 39 17.8 -0.9**
FIA1 *ep*P **pP** **13 40 11.9 -0.1**
FINES FINESS Array B 62.14 330 P **P** **13 39 18.6 -0.1**
comp=Z,17nm,0.5s,baz=46,slow=8.7,SNR=81
MOR8 Moi Rana 62.32 338 *eP* **P** **13 39 18.3 -1.5**
KONS Konsvik 62.41 339 *eP* **P** **13 39 19.3 -1.1**
D03D Eldon 62.43 49 P **P** **13 39 22.1 +1.2**
baz=307,SNR=8.2
LPSR Galich'ya Gora 62.48 318 *eP* **P** **13 39 20.9 -0.2**
LPSR pmax pmax
comp=Z,50nm,1.0s
B05A Bryant 62.53 48 P **P** **13 39 22.3 +0.7**
baz=307,SNR=10.0
B06A Marblemount 62.71 48 *eP* **P** **13 39 22.9 +0.2**
comp=Z,20nm,0.8s
GOA Goa 63.02 265 *eP* **P** **13 39 24.7 -0.4**
KNTN Kanton 63.18 125 *eP* **P** **13 39 27.2 +1.0**
comp=Z,172nm,1.0s
VSR Storozhevoye 63.22 316 *eP* **P** **13 39 25.8 -0.2**
VSR pmax pmax
comp=Z,30nm,0.7s
D05A Enumclaw 63.24 49 *eP* **P** **13 39 27.2 +1.0**
comp=Z,72nm,1.5s
SUMG Summit 63.28 360 *eP* **P** **13 39 26.9 +0.3**
comp=Z,31nm,0.7s
SUMG Summit 63.28 360 *i* P **P** **13 39 26.9 +0.3**
comp=Z,74nm,0.8s
SUMG Summit 63.28 360 *i* P **P** **13 39 26.9 +0.3**
SUMG pmax pmax
comp=Z,74nm,0.8s
E04D Cinebar 63.31 50 P **P** **13 39 27.7 +1.0**
baz=307,SNR=9.8
F04D Rainier, OR 63.35 51 P **P** **13 39 27.0 0.0**
baz=307
C06D Leavenworth 63.38 48 P **P** **13 39 27.8 +0.6**
baz=308
LON Longmire 63.60 50 *eP* **P** **13 39 29.1 +0.4**
comp=Z,13nm,1.1s
LON Longmire 63.60 50 *eP* **P** **13 39 29.1 +0.4**
LON pmax pmax
comp=Z,13nm,1.1s
G03D McMinnville, O 63.73 52 P **P** **13 39 30.2 +0.7**
baz=308
FITZ Fitzroy Crossi 63.79 196 *eP* **P** **13 39 30.4 +0.3**
comp=Z,109nm,1.0s
PALK Pallekele 63.87 254 P **P** **13 39 31.3 +0.4**
comp=Z,13nm,0.7s,baz=296,slow=0.6,SNR=4.7
PALK Pallekele 63.87 254 *eP* **P** **13 39 31.0 +0.2**
comp=Z,60nm,1.3s

PALK Pallekele 63.87 254 P **P** **13 39 30.7 -0.1**
LTY Liberty 63.91 49 *eP* **P** **13 39 30.8 +0.1**
comp=Z,8.9nm,0.9s
VSU Vasula 63.94 328*d iP* **P** **13 39 30.2 -0.4**
VSU pmax pmax
comp=Z,145nm,1.2s
VSU Vasula 63.94 328 *eP* **P** **13 39 29.8 -0.8**
VSU IAmb IAmb 13 39 38.6
comp=Z,94nm,0.9s
B08A Colville Reser 63.94 47 *eP* **P** **13 39 31.1 +0.2**
comp=Z,10nm,0.9s
I02D Swisshome 64.08 53 P **P** **13 39 32.0 +0.3**
baz=308
COR Corvallis 64.09 52 *eP* **P** **13 39 32.8 +1.0**
comp=Z,100nm,1.5s
COR Corvallis 64.09 52 *eP* **P** **13 39 32.8 +1.0**
COR pmax pmax
comp=Z,100nm,1.5s
NSS Namsos 64.25 338 *eP* **P** **13 39 32.6 +0.1**
F05D White Salmon 64.33 50 P **P** **13 39 34.2 +0.8**
baz=308
WRAB Tennant Creek 64.35 187 *eP* **P** **13 39 33.3 -0.4**
comp=Z,63nm,0.8s
WRAB Tennant Creek 64.35 187*d iP* **P** **13 39 33.1 -0.6**
WRAB pmax pmax
comp=Z,55nm,0.9s
WB2 Warramunga Arr 64.36 187 *eP* **P** **13 39 33.0 -0.8**
WRA Warramunga Arr 64.36 187 P **P** **13 39 33.4 -0.3**
comp=Z,55nm,0.7s,baz=5.3,slow=7.2,SNR=512
WRA PcP **PcP** **13 40 06.3 +0.2**
comp=Z,22nm,0.8s,baz=357,slow=4.8,SNR=8.9
WRA PKP2bc 14 08 24.8
comp=Z,5.8nm,1.1s,baz=193,slow=1.9,SNR=10.0
CTA Charters Tower 64.41 174 P **P** **13 39 33.9 -0.2**
comp=Z,29nm,1.0s,baz=341,slow=6.6,SNR=11
H04D Lebanon 64.45 52 P **P** **13 39 35.1 +0.9**
baz=308,SNR=8.3
KEBM Edson Butte 64.55 54 *eP* **P** **13 39 35.8 +0.8**
comp=Z,32nm,1.0s
GROC Groznyy 64.59 306 *eP* **P** **13 39 36.1 +1.0**
GROC *e* 13 40 06.0
GROC *e**SP **sP** **13 40 56.1 +1.9**
GROC *e* 13 42 02.6
GROC *eS* **S** **13 47 54.8 -0.4**
GROC pmax pmax
comp=Z,32nm,0.8s
J01E Myrtle Point 64.61 54 P **P** **13 39 36.0 +0.9**
baz=308
I03D Drain, OR 64.61 53 P **P** **13 39 36.6 +1.4**
baz=308,SNR=14
H04A Detroit Lake 64.66 52 *eP* **P** **13 39 36.2 +0.6**
comp=Z,28nm,0.7s
SCO Scoresbysund 64.71 354 *i* P **P** **13 39 36.4 +1.0**
comp=Z,10nm,1.0s
SCO Scoresbysund 64.71 354 *i* P **P** **13 39 36.4 +1.0**
SCO pmax pmax
comp=Z,10.0nm,1.0s
E07A Sunnyside 64.78 49 *eP* **P** **13 39 35.9 -0.4**
comp=Z,13nm,0.9s
G05D Wamic, OR 64.80 51 P **P** **13 39 37.5 +1.0**
baz=308,SNR=5.8
C09A Chrisman Ranch 64.84 47 *eP* **P** **13 39 36.6 0.0**
comp=Z,35nm,1.2s
GOF Gofitskoye 65.00 309⇓ *i*P **P** **13 39 38.8 +1.1**
GOF *eS* **S** **13 48 02.5 +2.3**
GOF pmax pmax
comp=Z,90nm,0.9s
GOF smax smax
comp=E,70nm,1.0s
K02D Willamette Mer 65.05 54 P **P** **13 39 39.2 +1.1**
baz=308,SNR=8.2
HAWA Hanford 65.06 49 *eP* **P** **13 39 37.6 -0.4**
comp=E,51nm,1.6s
I04A Tendick Farm, 65.09 52 P **P** **13 39 39.1 +0.8**
baz=308,SNR=22
NEW Newport 65.15 46 *eP* **P** **13 39 38.0 -0.7**
comp=E,8.5nm,0.8s
NEW Newport 65.15 46 *eP* **P** **13 39 38.0 -0.7**
NEW pmax pmax
comp=Z,9.0nm,0.8s
NEW Newport 65.15 46 P **P** **13 39 38.8 +0.2**
baz=310,SNR=9.8
F07A Phinny Hill Vi 65.16 49 *eP* **P** **13 39 39.3 +0.7**
comp=Z,20nm,0.8s
G06A Carlson Farm, 65.18 50 *eP* **P** **13 39 39.7 +0.7**
comp=Z,44nm,1.6s
I05D Terrebonne, OR 65.35 51 P **P** **13 39 40.6 +0.5**
baz=309,SNR=13
L02E Cave Junction 65.42 54 P **P** **13 39 41.5 +1.0**
baz=308,SNR=6.7
HUMO Hull Mountain 65.51 54 *eP* **P** **13 39 42.1 +1.0**
comp=Z,10.0nm,0.8s
TRD Trivandrum 65.59 257 *eP* **P** **13 39 42.8 +0.9**
J04D Umpqua Nationa 65.60 53 P **P** **13 39 42.7 +0.8**
baz=309,SNR=5.4
NCK Nalchik 65.67 308⇓ *eP* **P** **13 39 42.4 +0.4**
NCK pmax pmax
comp=Z,44nm,1.0s
E09A Wood Farm, Sta 65.73 48 *eP* **P** **13 39 42.8 +0.5**
comp=Z,19nm,0.9s
KIV Kislovodsk 65.89 308 *eP* **P** **13 39 44.4 +0.9**
comp=Z,134nm,0.8s
KIV Kislovodsk 65.89 308⇑ *i*P **P** **13 39 45.0 +1.4**
KIV Kislovodsk 65.89 308 *i* P **P** **13 39 44.6 +1.1**
SNR=13
KIV Kislovodsk 65.89 308 *eP* **P** **13 39 44.8 +1.2**
KIV *e**PP **pP** **13 40 39.7 +2.4**
KIV *eS* **S** **13 48 12.8 +1.6**
KIV pmax pmax
comp=Z,192nm,1.1s
KIV pmax pmax
comp=Z,42nm,3.6s
KIV MLR MLR
comp=Z,195nm,17.0s
KIV Kislovodsk 65.89 308 P **P** **13 39 44.6 +1.1**
SNR=41
KBZ Khabaz 65.92 308 P **P** **13 39 44.9 +1.4**
comp=Z,35nm,0.9s,baz=42,slow=4.4,SNR=76
PINE Pine Mountain 65.92 52 *eP* **P** **13 39 44.9 +1.1**
comp=Z,47nm,0.7s
ZEI Tsey 65.94 307 *eP* **P** **13 39 41.6 -2.4**
ZEI pmax pmax
comp=Z,28nm,0.7s
IZAR Zarasai 66.02 326 *eP* **P** **13 39 43.9 -0.1**
IZAR IAmb IAmb 13 39 54.3
comp=Z,20nm,0.7s
G08A Pilot Rock 66.07 49 *eP* **P** **13 39 45.0 +0.4**
comp=Z,16nm,1.5s
J05D Fort Rock, OR 66.07 52 P **P** **13 39 46.0 +1.2**
baz=309,SNR=21
TBLG Delisi 66.12 306 *eP* **P** **13 39 46.2 +1.3**
comp=Z,90nm,1.0s
TBLG Delisi 66.12 306 *eP* **P** **13 39 46.2 +1.3**
TBLG pmax pmax
comp=Z,90nm,1.0s
IDID Didziasalis 66.12 325 *eP* **P** **13 39 44.3 -0.4**
IDID IAmb IAmb 13 39 45.9
comp=Z,23nm,1.1s
L04D Klamath Falls 66.13 54 P **P** **13 39 45.9 +0.8**
baz=309,SNR=18
KHMM Horse Mountain 66.14 56 *eP* **P** **13 39 46.3 +1.0**
comp=Z,13nm,0.8s
K04D Chiloquin, OR 66.19 53 P **P** **13 39 46.4 +0.8**
baz=309
ISAL Salakas 66.19 326 *eP* **P** **13 39 45.0 -0.1**
ISAL IAmb IAmb 13 39 46.3
comp=Z,32nm,1.2s
SLIT Slitere, Latvi 66.20 329 *eP* **P** **13 39 44.2 -0.9**
SLIT IAmb IAmb 13 39 45.6
comp=Z,326nm,1.1s
YBH Yreka Blue Hor 66.20 54 *eP* **P** **13 39 46.4 +0.9**
comp=Z,42nm,1.6s
YBH Yreka Blue Hor 66.20 54 *eP* **P** **13 39 46.4 +0.9**
YBH pmax pmax
comp=Z,42nm,1.6s
ILULI Ilulissat 66.31 5 *i* P **P** **13 39 45.3 -0.3**
comp=Z,29nm,0.8s
ILULI Ilulissat 66.31 5 *i* P **P** **13 39 45.3 -0.3**
ILULI pmax pmax
comp=Z,29nm,0.8s
IIGN Ignalina 66.31 325 *eP* **P** **13 39 45.8 -0.1**
IIGN IAmb IAmb 13 39 48.2
comp=Z,28nm,1.1s
NEY Neytrino 66.32 308*ce*P **P** **13 39 48.4 +2.0**
NEY pmax pmax
comp=Z,7.0nm,0.8s
M02C Callahan 66.33 55 P **P** **13 39 47.6 +1.2**

	baz=309,SNR=10									
NACGM	**Naroch**	66.40	325	*e*		**P**	13 39 45.0	-1.4		
I07A	**Izee**	66.54	51	*eP*		**P**	13 39 48.2	+0.6		
	comp=Z,8.0nm,0.8s									
KMRM	**Mail Ridge**	66.56	56	*eP*		**P**	13 39 48.7	+0.9		
	comp=Z,9.3nm,0.7s									
F10A	**Beach Ranch, E**	66.56	48	*eP*		**P**	13 39 48.2	+0.4		
	comp=Z,38nm,1.6s									
M04C	**Macdoel**	66.67	54	P		**P**	13 39 49.5	+0.9		
	baz=309,SNR=25									
N02D	**Trinity Center**	66.68	55	P		**P**	13 39 49.3	+0.7		
	baz=309,SNR=14									
DOMR	**Dombai**	66.91	308⇑	*eP*		**P**	13 39 52.7	+2.6		
DOMR				pmax	pmax					
	comp=Z,46nm,1.2s									
KCPM	**Cahto Peak**	66.97	57	*eP*		**P**	13 39 51.3	+0.8		
	comp=Z,9.5nm,0.7s									
WDC	**Whiskeytown Da**	67.03	55	*eP*		**P**	13 39 51.1	+0.4		
	comp=Z,32nm,1.6s									
WDC	**Whiskeytown Da**	67.03	55	*eP*		**P**	13 39 51.1	+0.4		
WDC				pmax	pmax					
	comp=Z,32nm,1.6s									
DOMB	**Dombas**	67.03	338	*eP*		**P**	13 39 50.4	0.0		
NC405	**NORSAR Array S**	67.04	336	*eP*		**P**	13 39 50.1	-0.3		
NC303	**NORSAR Array S**	67.05	336	*eP*		**P**	13 39 50.1	-0.3		
PABE	**Paberze**	67.10	327	*eP*		**P**	13 39 49.8	-1.0		
PABE				IAmb	IAmb		13 39 51.7			
	comp=Z,58nm,1.1s									
GNI	**Garni**	67.11	304	*eP*		**P**	13 39 53.6	+2.2		
	comp=Z,82nm,1.3s									
GNI	**Garni**	67.11	304	P		**P**	13 39 53.4	+2.0		
GNI	**Garni**	67.11	304	*d iP*		**P**	13 39 53.0	+1.6		
GNI				pmax	pmax					
	comp=Z,270nm,1.3s									
GNI	**Garni**	67.11	304	P		**P**	13 39 53.6	+2.2		
	SNR=6.7									
O02D	**Mt. Diablo Mer**	67.14	56	P		**P**	13 39 52.5	+1.0		
	baz=310,SNR=12									
NC204	**NORSAR Array S**	67.18	336	*eP*		**P**	13 39 51.0	-0.3		
NB201	**NORSAR Array S**	67.21	336	*eP*		**P**	13 39 51.1	-0.4		
NB2	**NORSAR Subarra**	67.24	336	P		**P**	13 39 51.4	-0.3		
	comp=Z,3.2nm,0.4s,baz=36,slow=6.5									
NB2	**NORSAR Subarra**	67.24	336	P		**P**	13 39 51.4	-0.4		
	baz=36,slow=6.5									
NOA	**NORSAR Array B**	67.24	336	P		**P**	13 39 51.3	-0.3		
	comp=Z,15nm,0.8s,baz=36,slow=6.4,SNR=38									
NOA	**NORSAR Array B**	67.24	336	P		**P**	13 39 51.3	-0.4		
NOA				pmax	pmax					
	comp=Z,14nm,0.8s									
BMO	**Blue Mountains**	67.25	49	*eP*		**P**	13 39 52.0	-0.1		
	comp=Z,11nm,0.8s									
BMO	**Blue Mountains**	67.25	49	*eP*		**P**	13 39 52.0	-0.1		
BMO				pmax	pmax					
	comp=Z,11nm,0.8s									
NBO00	**NORSAR Array S**	67.38	336	*eP*		**P**	13 39 52.1	-0.4		
NC602	**NORSAR Array S**	67.39	336	*eP*		**P**	13 39 51.8	-0.8		
NC602	**NORSAR Array S**	67.39	336	*eP*		**P**	13 39 52.1	-0.4		
AKN	**Aaknes**	67.47	339	*eP*		**P**	13 39 53.4	+0.3		
MOD	**Modoc Plateau**	67.48	53	*eP*		**P**	13 39 53.9	+0.2		
	comp=Z,12nm,0.8s									
NAO01	**NORSAR Array S**	67.50	336	*eP*		**P**	13 39 52.2	-1.0		
PBUR	**Paburg**	67.51	328	*eP*		**P**	13 39 52.2	-1.2		
PBUR				IAmb	IAmb		13 39 58.9			
	comp=Z,42nm,0.6s									
FCC	**Fort Churchill**	67.56	28	*eP*		**P**	13 39 53.1	-0.5		
	comp=Z,54nm,1.1s									
FCC	**Fort Churchill**	67.56	28	*eP*		**P**	13 39 53.2	-0.5		
FCC				pmax	pmax					
	comp=Z,54nm,1.1s									
J08A	**Circle Bar Ran**	67.57	51	*eP*		**P**	13 39 54.0	-0.2		
	comp=Z,22nm,1.1s									
O03E	**Paynes Creek**	67.64	55	P		**P**	13 39 54.7	+0.1		
	baz=310,SNR=10									
FFC	**Flin Flon**	67.71	34	*eP*		**P**	13 39 54.0	-0.7		
	comp=Z,71nm,1.4s									
FFC	**Flin Flon**	67.71	34	*i* P		**P**	13 39 55.0	+0.3		
MSO	**Missoula**	67.72	46	*eP*		**P**	13 39 54.7	-0.3		
	comp=Z,16nm,1.0s									
MSO	**Missoula**	67.72	46	P		**P**	13 39 55.1	0.0		
	baz=312,SNR=16									
SOC	**Sochi**	67.78	310	*eP*		**P**	13 39 59.4	+4.1		
SOC				*e*			13 42 29.3			
SOC				ePPP	PPP		13 44 08.1			
SOC				*eS*	**S**		**13 48 39.3**	**+5.7**		
SOC				*eSS*	**SS**		**13 53 00.6**	**+1.6**		
SOC				*eSSS*	SSS		13 56 01.8			
SOC				pmax	pmax					
	comp=Z,43nm,0.7s									
AS01	**Alice Springs**	68.08	187	*eP*		**P**	13 39 57.5	+0.2		
WVOR	**Wild Horse Val**	68.08	52	*eP*		**P**	13 39 57.0	-0.4		
	comp=Z,17nm,0.9s									
WVOR	**Wild Horse Val**	68.08	52	*eP*		**P**	13 39 57.0	-0.4		
WVOR				pmax	pmax					
	comp=Z,17nm,0.9s									
AS31	**Alice Springs**	68.09	187	*eP*		**P**	13 39 57.7	+0.4		
	comp=Z,20nm,0.7s									
ASAR	**Alice Springs**	68.09	187	P		**P**	13 39 58.0	+0.7		
	comp=Z,92nm,0.9s,baz=6.4,slow=6.4,SNR=837									
ASAR				PKPPKP	**P'P'df**		**14 08 13.1**	**+3.0**		
	comp=Z,2.5nm,1.0s,baz=175,slow=2.8,SNR=6.4									
MBWA	**Marble Bar**	68.11	201	*eP*		**P**	13 39 57.8	+0.3		
	comp=Z,125nm,0.9s									
MBWA	**Marble Bar**	68.11	201	*eP*		**P**	13 39 57.8	+0.3		
AKASG	**Malin Array Be**	68.28	321	P		**P**	13 39 58.2	-0.1		
	comp=Z,6.0nm,0.5s,baz=43,slow=6.9,SNR=46									
AKBB	**Malin Array Si**	68.28	321	*eP*		**P**	13 39 57.5	-0.8		
	comp=Z,31nm,0.8s									
KIEV	**Kiev**	68.29	321	*eP*		**P**	13 39 57.4	-0.9		
	comp=Z,30nm,0.8s									
KIEV	**Kiev**	68.29	321	*i* P		**P**	13 39 58.2	-0.1		
	SNR=16									
KIEV	**Kiev**	68.29	321	*c iP*		**P**	13 39 58.4	+0.1		
KIEV				pmax	pmax					
	comp=Z,33nm,1.1s									
ORV	**Oroville**	68.30	56	*eP*		**P**	13 39 58.1	-0.5		
	comp=Z,8.4nm,0.6s									
AK11	**Malin Array Si**	68.32	321	*eP*		**P**	13 39 57.7	-0.8		
FOO	**Floro**	68.47	339	*eP*		**P**	13 39 59.5	+0.3		
SUW	**Suwalki**	68.50	326	*eP*		**P**	13 39 59.5	-0.1		
SUW	**Suwalki**	68.50	326	*eP*		**P**	13 39 58.8	-0.8		
	comp=Z,68nm,1.1s									
SUW	**Suwalki**	68.50	326	*eP*		**P**	13 39 59.5	-0.1		
MNCY	**Minicoy**	68.51	260	*eP*		**P**	13 39 59.7	-0.5		
HYA	**Hoyanger**	68.53	338	*eP*		**P**	13 39 59.7	+0.1		
SFJD	**Kangerlussuaq**	68.53	5	*eP*		**P**	13 39 58.9	-0.7		
	comp=Z,34nm,1.1s									
SFJD	**Kangerlussuaq**	68.53	5	*i* P		**P**	13 39 59.2	-0.3		
SFJD	**Kangerlussuaq**	68.53	5	*i* P		**P**	13 39 59.2	-0.3		
SFJD	**Kangerlussuaq**	68.53	5	*eP*		**P**	13 39 59.9	+0.4		
BANOM	**Banah**	68.68	286	*i* P		**P**	13 40 02.0	+0.8		
	SNR=15									
BANOM	**Banah**	68.68	286	P		**P**	13 40 02.7	+1.5		
	SNR=7.0									
BEKR	**Beckworth**	68.76	55	*eP*		**P**	13 40 01.8	0.0		
	comp=Z,13nm,0.7s									
WSAR	**Wadi Sarin**	68.78	282	P		**P**	13 40 03.0	+1.2		
	SNR=5.9									
HRY	**Holter Researc**	68.87	45	*eP*		**P**	13 40 02.6	+0.4		
JLN	**Jalan Bani Buh**	68.94	281	P		**P**	13 40 04.1	+1.3		
	SNR=12									
WBK	**Wadi Bani Khal**	68.95	281	P		**P**	13 40 04.7	+1.8		
	SNR=5.9									
BIDO	**Bidbid**	68.95	283	P		**P**	13 40 04.6	+1.7		
	SNR=11									
MFID	**Camas Ranch**	68.99	49	*eP*		**P**	13 40 03.4	+0.4		
	comp=Z,15nm,0.7s									
AFDM	**Forest Hills D**	69.00	56	*eP*		**P**	13 40 02.5	-0.5		
	comp=Z,16nm,1.3s									
SUE	**Sulen**	69.00	339	*eP*		**P**	13 40 02.8	+0.3		
EGMT	**Eagleton**	69.00	43	*eP*		**P**	13 40 03.1	+0.2		
	comp=Z,56nm,1.4s									
EGMT	**Eagleton**	69.00	43	P		**P**	13 40 03.2	+0.3		
	baz=314,SNR=18									
COCO	**West Island**	69.12	227	*i* P		**P**	13 40 06.0	+2.2		
KLNR	**Kaliningrad**	69.23	328⇑	*eP*		**P**	13 40 03.7	-0.3		
KLNR				pmax	pmax					
	comp=Z,81nm,1.1s									
UOSS	**Minazif**	69.37	285	*eP*		**P**	13 40 05.2	-0.3		
	comp=Z,49nm,1.0s									
UOSS	**Minazif**	69.37	285	*i* P		**P**	13 40 05.1	-0.3		
	SNR=5.8									
UOSS	**Minazif**	69.37	285	P		**P**	13 40 05.6	+0.1		
	SNR=13									
ASK	**Askoy**	69.37	338	*eP*		**P**	13 40 05.4	+0.6		
DLMT	**Dillon**	69.40	46	*eP*		**P**	13 40 05.6	+0.1		
	comp=Z,26nm,0.6s									
BER	**Bergen**	69.42	338	*eP*		**P**	13 40 05.7	+0.6		
PAHR	**Pah Rah Range**	69.44	54	*eP*		**P**	13 40 05.9	+0.1		
	comp=Z,64nm,1.5s									
ODD1	**Odda**	69.47	337	*eP*		**P**	13 40 05.6	+0.1		
HATD	**Hatta, Dubai**	69.50	285	*i* P		**P**	13 40 06.8	+0.6		
	SNR=20									
HATD	**Hatta, Dubai**	69.50	285	P		**P**	13 40 07.3	+1.1		
	SNR=16									
VCNR	**Virginia City**	69.55	55	*eP*		**P**	13 40 07.0	+0.4		
	comp=Z,9.3nm,0.7s									
MCMT	**McKenzie Canyo**	69.63	47	*eP*		**P**	13 40 06.8	-0.2		
ASHO	**Ashiyiah**	69.64	285	*i* P		**P**	13 40 07.2	+0.1		
	SNR=19									
ASHO	**Ashiyiah**	69.64	285	P		**P**	13 40 07.8	+0.7		
	SNR=20									
HLID	**Hailey**	69.66	49	*eP*		**P**	13 40 07.3	+0.2		
	comp=Z,13nm,1.3s									
HLID	**Hailey**	69.66	49	P		**P**	13 40 08.0	+0.9		
	baz=312,SNR=9.0									
SOHO	**SOHO**	69.67	284	P		**P**	13 40 07.8	+0.6		
	SNR=8.7									
NAZ	**Nazwa, Dubai**	69.72	285	P		**P**	13 40 08.0	+0.4		
PNTR	**Pine Nut**	69.72	55	*eP*		**P**	13 40 07.8	+0.2		
	comp=Z,14nm,0.6s									
BOZ	**Bozeman (W)**	69.74	46	P		**P**	13 40 08.0	+0.5		
	baz=313,SNR=7.6									
FAQ	**Al Faqa, Dubai**	69.92	285	*i* P		**P**	13 40 08.9	+0.1		
	SNR=8.9									
BLS5	**Blasjo**	69.93	337	*eP*		**P**	13 40 08.5	+0.2		
CMB	**Columbia Colle**	69.94	56	*eP*		**P**	13 40 08.8	+0.1		
	comp=Z,42nm,1.5s									
CMB	**Columbia Colle**	69.94	56	*eP*		**P**	13 40 08.9	+0.1		
CMB				pmax	pmax					
	comp=Z,42nm,1.5s									
YERR	**Yerington**	70.00	55	*eP*		**P**	13 40 09.4	+0.1		
	comp=Z,25nm,0.6s									
EIDS	**Eidsvold**	70.09	170	*eP*		**P**	13 40 09.7	+0.1		
	comp=Z,44nm,0.9s									
BSY	**Bisya**	70.10	283	P		**P**	13 40 11.7	+1.7		
	SNR=9.5									
SAO	**San Andreas Ge**	70.14	58	*eP*		**P**	13 40 10.0	+0.1		
	comp=Z,20nm,1.5s									
SAO	**San Andreas Ge**	70.14	58	*eP*		**P**	13 40 10.0	+0.1		
SAO				pmax	pmax					
	comp=Z,20nm,1.5s									
ASUD	**Al Ashush, Dub**	70.18	285	*i* P		**P**	13 40 10.9	+0.5		
	SNR=9.3									
ASUD	**Al Ashush, Dub**	70.18	285	P		**P**	13 40 11.2	+0.8		
	SNR=6.7									
DZM	**Mont Dzumac**	70.19	155	P		**P**	13 40 12.0	+1.7		
	comp=Z,78nm,1.0s,baz=46,slow=9.1,SNR=27									
DZM	**Mont Dzumac**	70.19	155	*eP*		**P**	13 40 11.6	+1.3		
	comp=Z,198nm,1.3s									
WAKR	**Walker**	70.20	55	*eP*		**P**	13 40 11.1	+0.6		
	comp=Z,8.8nm,0.7s									
QLMT	**Earthquake Lak**	70.37	46	*eP*		**P**	13 40 11.9	+0.5		
YHB	**Horse Butte**	70.54	46	*eP*		**P**	13 40 12.4	-0.1		
	comp=Z,20nm,1.0s									
MSVF	**Nonsavu**	70.54	142	*eP*		**P**	13 40 14.8	+2.3		
	comp=Z,148nm,0.8s									
GCMT	**Greycliff**	70.60	44	*eP*		**P**	13 40 13.1	+0.4		
KVN	**Kaiserville**	70.62	54	*eP*		**P**	13 40 13.7	+0.7		
	comp=Z,30nm,0.6s									
KVN	**Kaiserville**	70.62	54	*eP*		**P**	13 40 13.7	+0.7		
KVN				pmax	pmax					
	comp=Z,30nm,0.6s									
RYN	**Ryan**	70.65	55	*eP*		**P**	13 40 13.8	+0.6		
	comp=Z,45nm,1.7s									
MHTO	**MHTO**	70.71	281	P		**P**	13 40 14.5	+1.0		
	SNR=36									
YMR	**Madison River**	70.72	46	*eP*		**P**	13 40 14.2	+0.6		
	comp=Z,10nm,0.7s									
BSD	**Bornholm Skovb**	70.78	331	*i* P		**P**	13 40 13.7	+0.3		
	comp=Z,6.0nm,0.3s									
BSD	**Bornholm Skovb**	70.78	331	*i* P		**P**	13 40 13.7	+0.3		
BSD				pmax	pmax					
	comp=Z,6.0nm,0.3s									
YNR	**Norris Junctio**	70.83	46	*eP*		**P**	13 40 15.6	+1.3		
	comp=Z,19nm,1.5s									
NV01	**Mina Array Sit**	70.91	55	*eP*		**P**	13 40 15.1	+0.3		
NVAR	**Mina Array Bea**	70.91	55	P		**P**	13 40 15.7	+0.9		
	comp=Z,13nm,0.6s,baz=301,slow=6.0,SNR=124									
YFT	**Old Faithful**	70.93	46	*eP*		**P**	13 40 16.4	+1.5		
	comp=Z,19nm,1.1s									
MDPB	**Devils Postpil**	70.99	56	*eP*		**P**	13 40 15.1	-0.3		
	comp=Z,5.8nm,0.7s									
YPP	**Pitchstone Pla**	71.08	46	*eP*		**P**	13 40 16.2	+0.4		
	comp=Z,10nm,1.1s									
KIS	**Kishinev**	71.09	318	*eP*		**P**	13 40 14.0	-1.4		
KIS	**Kishinev**	71.09	318	*eP*		**P**	13 40 14.0	-1.4		
BEL	**Belsk**	71.09	325	*eP*		**P**	13 40 16.2	+0.9		
BEL	**Belsk**	71.09	325	*eP*		**P**	13 40 16.2	+0.9		
H17A	**Grant Village**	71.11	46	*eP*		**P**	13 40 16.9	+0.9		
	comp=Z,56nm,1.5s									
H17A	**Grant Village**	71.11	46	P		**P**	13 40 18.1	+2.1		
	baz=314,SNR=13									
ELK	**Elko**	71.11	51	*eP*		**P**	13 40 16.2	+0.2		
	comp=Z,5.3nm,0.6s									
ELK	**Elko**	71.11	51	*eP*		**P**	13 40 16.2	+0.2		
ELK				pmax	pmax					
	comp=Z,5.0nm,0.6s									
MLAC	**Mammoth, Mammo**	71.13	56	P		**P**	13 40 17.0	+0.8		
	baz=312									
LVV	**L'vov**	71.23	322	*eP*		**P**	13 40 16.8	+0.5		
FLWY	**Flagg Ranch**	71.26	46	*eP*		**P**	13 40 17.5	+0.7		
	comp=Z,52nm,1.6s									
RLMT	**Red Lodge**	71.27	45	*eP*		**P**	13 40 17.2	+0.4		
	comp=Z,14nm,0.7s									
RLMT	**Red Lodge**	71.27	45	P		**P**	13 40 17.0	+0.2		
	baz=315,SNR=22									
IMW	**Indian Meadow**	71.27	47	*eP*		**P**	13 40 17.5	+0.5		
	comp=Z,9.6nm,0.6s									
DGMT	**Dagmar**	71.31	40	*eP*		**P**	13 40 16.8	0.0		
	comp=Z,36nm,0.6s									
DGMT	**Dagmar**	71.31	40	P		**P**	13 40 17.1	+0.3		
	baz=317,SNR=11									
GKP	**Gorka Klasztor**	71.38	328	*eP*		**P**	13 40 17.2	+0.2		
GKP	**Gorka Klasztor**	71.38	328	*eP*		**P**	13 40 17.2	+0.2		
FXWY	**Fox Creek**	71.40	47	*eP*		**P**	13 40 18.3	+0.6		
	comp=Z,34nm,1.5s									
MOOW	**Moose Ponds**	71.47	47	*eP*		**P**	13 40 18.6	+0.5		
	comp=Z,20nm,1.1s									
TPAW	**Teton Pass**	71.54	47	*eP*		**P**	13 40 19.2	+0.6		
	comp=Z,32nm,1.3s									
PAGB	**Antelope Grade**	71.55	58	*eP*		**P**	13 40 18.9	+0.4		
	comp=Z,49nm,1.4s									
MUD	**Monsted U'grnd**	71.61	334	*i* P		**P**	13 40 18.3	0.0		
	comp=Z,88nm,1.3s									
MUD	**Monsted U'grnd**	71.61	334	*i* P		**P**	13 40 18.3	0.0		
MUD				pmax	pmax					
	comp=Z,88nm,1.3s									
LOHW	**Long Hollow**	71.64	47	*eP*		**P**	13 40 19.3	+0.2		
	comp=Z,12nm,1.1s									
LAO	**LASA Array**	71.65	42	*eP*		**P**	13 40 19.1	+0.2		
	comp=Z,67nm,1.6s									
LAO	**LASA Array**	71.65	42	P		**P**	13 40 19.3	+0.4		
	baz=312,SNR=12									
SNOW	**Snow King Moun**	71.66	47	*eP*		**P**	13 40 19.4	+0.1		
	comp=Z,44nm,1.5s									
REDW	**Red Top Meadow**	71.68	47	*eP*		**P**	13 40 19.4	0.0		
	comp=Z,16nm,0.9s									
DQM	**DQM**	71.71	280	P		**P**	13 40 20.1	+0.5		
HVU	**Hansel Valley**	71.76	49	*eP*		**P**	13 40 20.0	+0.2		
	comp=Z,7.2nm,0.7s									
HVU	**Hansel Valley**	71.76	49	*eP*		**P**	13 40 20.0	+0.2		
HVU				pmax	pmax					
	comp=Z,7.0nm,0.7s									
RGN	**Rugen**	71.79	331	*eP*		**P**	13 40 20.5	+1.1		
	comp=Z,287nm,1.2s,baz=34,slow=5.7									
TIN	**Tinemaha, Big**	71.88	56	P		**P**	13 40 21.0	+0.5		
	baz=312									
SMMC	**Simmler**	71.98	58	P		**P**	13 40 21.9	+0.9		
	baz=312									
VES	**Vestal, Richgr**	72.18	57	P		**P**	13 40 22.2	0.0		
	baz=312									
BGU	**Big Grassy Mou**	72.21	50	*eP*		**P**	13 40 22.8	+0.3		
	comp=Z,4.9nm,0.8s									
SPUT	**South Promonto**	72.26	49	*eP*		**P**	13 40 23.1	+0.3		
	comp=Z,45nm,1.6s									
BUR08	**Bucovina Ar. S**	72.31	320	*eP*		**P**	13 40 22.9	0.0		
BUR04	**Bucovina Ar. S**	72.33	320	*eP*		**P**	13 40 22.5	-0.4		
BURAR	**Bucovina Array**	72.33	320⇑	*iP*		**P**	13 40 24.1	+1.1		
PKM	**Mcpherson Peak**	72.38	58	P		**P**	13 40 24.3	+0.8		
	baz=312,SNR=13									
CWC	**Cottonwood Cre**	72.38	56	P		**P**	13 40 23.9	+0.4		
	baz=313									
BIZ	**Bicaz**	72.41	319⇑	*iP*		**P**	13 40 24.8	+1.4		
GRAC	**Grapevine Rang**	72.42	55	P		**P**	13 40 24.4	+0.8		
	baz=313									
R11A	**Troy Canyon, C**	72.54	53	*eP*		**P**	13 40 24.5	+0.1		
	comp=Z,8.4nm,0.6s									
R11A	**Troy Canyon, C**	72.54	53	P		**P**	13 40 24.9	+0.5		
	baz=313,SNR=33									
CFR	**Carcaliu**	72.72	317⇓	*iP*		**P**	13 40 25.9	+0.8		
CFR	**Carcaliu**	72.72	317	⇓P		**P**	13 40 25.9	+0.8		
OJC	**Ojcow**	72.73	325	*eP*		**P**	13 40 25.9	+0.8		
OJC	**Ojcow**	72.73	325	*eP*		**P**	13 40 25.2	+0.1		
	comp=Z,46nm,0.8s									
OJC	**Ojcow**	72.73	325	*eP*		**P**	13 40 25.9	+0.8		
SBC	**Santa Barbara**	72.73	59	P		**P**	13 40 26.4	+1.0		
	baz=312									
ILGA	**Ilgaz**	72.77	311	*eP*		**P**	13 40 26.7	+0.8		
	comp=Z,48nm,1.0s									
BW06	**Boulder Array**	72.78	47	*eP*		**P**	13 40 25.9	0.0		
	comp=Z,24nm,0.6s									
BW06	**Boulder Array**	72.78	47	P		**P**	13 40 26.1	+0.2		
	baz=315,SNR=44									
DAC	**Darwin (Calif)**	72.78	56	*eP*		**P**	13 40 25.8	-0.1		
	comp=Z,8.1nm,0.6s									
DAC	**Darwin (Calif)**	72.78	56	*eP*		**P**	13 40 25.8	-0.1		
DAC				pmax	pmax					
	comp=Z,8.0nm,0.6s									
PD31	**Pinedale Array**	72.78	47	*eP*		**P**	13 40 25.9	+0.1		
PDAR	**Pinedale Array**	72.78	47	P		**P**	13 40 26.1	+0.2		
	comp=Z,24nm,0.7s,baz=270,slow=1.7,SNR=301									
PDAR	**Pinedale Array**	72.78	47	*eP*		**P**	13 40 25.7	-0.1		
ARVC	**Arvin**	72.81	58	P		**P**	13 40 26.2	+0.3		
	baz=313									
DUG	**Dugway, Tooele**	72.83	50	*eP*		**P**	13 40 26.4	+0.3		
	comp=Z,54nm,1.6s									
DUG	**Dugway, Tooele**	72.83	50	*eP*		**P**	13 40 26.4	+0.3		
DUG				pmax	pmax					
	comp=Z,54nm,1.6s									
DUG	**Dugway, Tooele**	72.83	50	P		**P**	13 40 26.9	+0.8		
	baz=314,SNR=21									
VRI	**Vrincioaia**	72.90	318⇑	*iP*		**P**	13 40 27.5	+1.2		
VRI	**Vrincioaia**	72.90	318	⇑P		**P**	13 40 27.5	+1.2		
PLOR	**Plostina**	72.95	318	⇓*iP*		**P**	13 40 28.1	+1.5		
PLOR	**Plostina**	72.95	318	⇓P		**P**	13 40 28.1	+1.5		
TCUT	**Toone Canyon**	72.95	49	*eP*		**P**	13 40 27.1	+0.2		
	comp=Z,82nm,1.4s									
MPMC	**Manual Prospec**	72.99	56	P		**P**	13 40 27.7	+0.5		
	baz=313,SNR=20									
CTU

baz=317,SNR=6.0
SCI2 San Clemente I 74.44 59 P P 13 40 35.4 +0.1
baz=313
PSZ Piszkesteto 74.46 323 *e*P P 13 40 35.3 0.0
comp=Z,41nm,1.3s
PSZ Piszkesteto 74.46 323 *e*P P 13 40 36.0 +0.7
VYHS Vyhne 74.46 324 *e*P P 13 40 36.1 +0.9
VYHS pmax pmax
comp=Z,48nm,2.0s
VYHS Vyhne 74.46 324 *e*P P 13 40 36.1 +0.9
P17A Butcher Ranch, 74.48 50 *e*P P 13 40 35.5 -0.2
comp=Z,75nm,1.6s
SZCU Shurtz Canyon 74.49 52 *e*P P 13 40 35.7 -0.1
comp=Z,23nm,1.6s
HEC Hector,Ludlow 74.51 56 P P 13 40 36.3 +0.5
baz=314,SNR=20
CLL Collm 74.52 329 *e*P P 13 40 35.1 -0.4
comp=Z,24nm,0.8s
CLL Collm 74.52 329 *e*P P 13 40 36.1 +0.6
comp=Z,29nm,0.9s,baz=34,slow=5.7
CLL Collm 74.52 329 *i* P P 13 40 35.6 +0.1
comp=Z,29nm,0.9s
CLL *e*pP P 13 40 32.0 -3.5
CLL *i* P(2) 13 40 39.5
comp=Z,28nm,0.9s
CLL *e*PcP PcP 13 40 49.0 +0.2
CLL *i* pP(2) 13 41 38.0
comp=Z,31nm,1.5s
CLL Collm 74.52 329 *i* P P 13 40 35.6 +0.1
CLL pmax pmax
comp=Z,29nm,0.9s
BRG Berggiesshubel 74.53 328 *e*P P 13 40 35.8 +0.3
comp=Z,63nm,2.0s
BRG Berggiesshubel 74.53 328 *e*P P 13 40 36.3 +0.8
comp=Z,63nm,2.0s,baz=34,slow=5.7
BRG Berggiesshubel 74.53 328 *e*P P 13 40 35.8 +0.3
BRG pmax pmax
comp=Z,63nm,2.0s
BBRC Big Bear Solar 74.55 57 P P 13 40 36.4 +0.1
baz=314,SNR=5.6
RSSD Black Hills 74.57 43 *e*P P 13 40 35.7 -0.5
comp=Z,15nm,0.7s
RSSD Black Hills 74.57 43 *e*P P 13 40 35.7 -0.5
RSSD pmax pmax
comp=Z,15nm,0.7s
RSSD Black Hills 74.57 43 P P 13 40 36.2 -0.1
baz=318
NRDL Niedersach Rie 74.58 331 *e*P P 13 40 36.7 +1.0
comp=Z,32nm,1.4s,baz=34,slow=5.7
Q16A Castle Valley 74.63 50 *e*P P 13 40 36.6 0.0
comp=Z,15nm,1.0s
RETH Rethem/Aller, 74.63 332 *e*P P 13 40 37.0 +1.0
comp=Z,88nm,1.4s,baz=34,slow=5.7
JAVC Velka Javorina 74.66 325 *e*P P 13 40 38.4 +2.0
MTPU Mount Pierson 74.69 52 *e*P P 13 40 38.0 +0.8
comp=Z,8.2nm,0.7s
FBE Freiberg 74.71 329 *e*P P 13 40 37.6 +1.1
comp=Z,137nm,2.1s,baz=34,slow=5.7
VRAC Vranov 74.74 326 ⇑*i*P P 13 40 38.5 +1.7
VRAC Vranov 74.74 326 ⇑P P 13 40 38.5 +1.7
VRAC Vranov 74.74 326 *e*P P 13 40 37.8 +1.0
RWWY Rawlins 74.77 46 *e*P P 13 40 37.5 0.0
comp=Z,64nm,1.4s
LCMT Little Creek M 74.81 53 *e*P P 13 40 38.1 +0.5
comp=Z,7.7nm,0.7s
MURC Murrieta 74.84 58 P P 13 40 37.6 -0.1
baz=314,SNR=6.3
SRU San Rafael Swe 74.85 50 *e*P P 13 40 37.8 -0.1
comp=Z,16nm,0.7s
SRU San Rafael Swe 74.85 50 *e*P P 13 40 37.8 -0.1
SRU pmax pmax
comp=Z,16nm,0.7s
GMRC Granite Mounta 74.95 56 P P 13 40 38.9 +0.5
baz=314,SNR=18
GOPC GO Pecny, Ondr 74.97 327 *e*P P 13 40 39.3 +1.1
GOPC GO Pecny, Ondr 74.97 327 *e*P P 13 40 39.3 +1.1
PRU Pruhonice 75.01 327 *e*P P 13 40 39.1 +0.8
PRU Pruhonice 75.01 327 *e*P P 13 40 39.1 +0.8
KRUC Moravsky 75.02 326 *e*P P 13 40 39.2 +0.8
CLZ Clausthal 75.03 331 *e*P P 13 40 39.6 +1.2
comp=Z,103nm,1.7s,baz=34,slow=5.7
PKCU Pink Cliffs 75.03 52 *e*P P 13 40 39.5 +0.4
comp=Z,13nm,0.8s
KNB Kanab 75.04 53 *e*P P 13 40 39.7 +0.7
comp=Z,50nm,1.6s
KNB Kanab 75.04 53 *e*P P 13 40 39.7 +0.7
KNB pmax pmax
comp=Z,50nm,1.6s
NEUB Neuenburg 75.05 330 *e*P P 13 40 39.2 +0.7
comp=Z,42nm,1.1s,baz=34,slow=5.7
GZR Gura Zlata 75.11 320 ⇑*i*P P 13 40 39.9 +0.8
GZR Gura Zlata 75.11 320 ⇑P P 13 40 39.9 +0.8
ARMA Armidale 75.14 170 *e*P P 13 40 39.8 +0.5
comp=Z,58nm,0.8s
SZH Strazhica 75.20 317 P P 13 40 40.0 +0.5
MODS Modra-Piesok 75.20 325 *e*P P 13 40 41.1 +1.6
MODS pmax pmax
comp=Z,43nm,1.3s
MODS Modra-Piesok 75.20 325 *e*P P 13 40 41.1 +1.6
PFO Pinyon Flats O 75.28 57 *e*P P 13 40 40.0 -0.3
comp=Z,32nm,1.2s
PFO Pinyon Flats O 75.28 57 *e*P P 13 40 40.0 -0.3
PFO pmax pmax
comp=Z,31nm,1.2s
PFO Pinyon Flats O 75.28 57 P P 13 40 40.4 0.0
baz=314,SNR=16
XPFO Pion Flat 75.28 57 *e*P P 13 40 40.0 -0.4
comp=Z,37nm,1.3s
BELC Belle Mtn. Jos 75.28 57 P P 13 40 40.2 -0.1
baz=314,SNR=12
O20A White River Ci 75.35 48 *e*P P 13 40 40.3 -0.4
comp=Z,13nm,0.6s
O20A White River Ci 75.35 48 P P 13 40 40.9 +0.2
baz=316,SNR=12
109C Camp Elliot, M 75.38 58 P P 13 40 41.0 +0.2
baz=314
CPE Camp Elliot 75.38 58 *e*P P 13 40 40.3 -0.5
comp=Z,58nm,1.5s
VLAD Vladila 75.40 318 ⇓*i*P P 13 40 41.6 +1.0
GTTG Gvttingen 75.42 331 *e*P P 13 40 41.6 +1.0
comp=Z,117nm,1.7s,baz=34,slow=5.7
TANN Tannenbergstha 75.45 329 *e*P P 13 40 41.8 +0.9
comp=Z,55nm,1.5s,baz=34,slow=5.7
BZS Buzias 75.47 321 ⇓*i*P P 13 40 41.4 +0.4
BZS Buzias 75.47 321 ⇓P P 13 40 41.4 +0.4
PLN Plauen 75.50 329 *e*P P 13 40 42.2 +1.0
comp=Z,39nm,1.6s,baz=34,slow=5.7
GUNZ Gunzen 75.54 329 *e*P P 13 40 42.5 +1.1
comp=Z,51nm,1.6s,baz=34,slow=5.7
GUNZ *e*pP pP 13 41 38.5 +1.7
MOX Moxa 75.57 329 *e*P P 13 40 42.6 +1.0
comp=Z,63nm,1.8s,baz=34,slow=5.7
MOX *e*pP pP 13 41 38.9 +2.0
NEE2 Needles Airpor 75.57 55 P P 13 40 42.1 +0.3
baz=314
WERN Wernitzgruen 75.58 329 *e*P P 13 40 42.7 +1.0
comp=Z,33nm,1.4s,baz=34,slow=5.7
WERN *e*pP pP 13 41 39.8 +2.8
HERR Herculane 75.66 320 ⇑*i*P P 13 40 42.9 +0.8
IRM Iron Mountain 75.69 56 P P 13 40 43.1 +0.6
baz=314,SNR=19
U15A North Rim 75.76 53 *e*P P 13 40 43.5 +0.3
comp=Z,67nm,1.5s
W13A Hualapai Mount 75.77 55 *e*P P 13 40 43.1 -0.1
comp=Z,6.9nm,0.8s
FORT Forrest 75.79 191 *e*P P 13 40 43.0 +0.2
comp=Z,210nm,0.7s
BAR Barrett 75.79 58 *e*P P 13 40 42.7 -0.4
comp=Z,12nm,0.8s
MONP2 Monument Peak 75.80 58 P P 13 40 43.6 +0.2
baz=314,SNR=12
BC3 Big Chuckawall 75.85 57 P P 13 40 43.8 +0.2
baz=314,SNR=9.8
MANZ Manzenberg 75.93 329 *e*P P 13 40 44.6 +1.0
baz=34,slow=5.7
PHWY Pilot Hill 75.95 45 *e*P P 13 40 43.8 -0.4
comp=Z,6.5nm,0.9s
STKA Stephens Creek 75.96 179 P P 13 40 44.8 +1.0
comp=Z,31nm,0.7s,baz=344,slow=6.6,SNR=63
STKA Stephens Creek 75.96 179 *e*P P 13 40 44.3 +0.6
comp=Z,12nm,0.8s
N23A Red Feather La 76.00 46 *e*P P 13 40 44.3 -0.1
comp=Z,56nm,1.6s
N23A Red Feather La 76.00 46 P P 13 40 44.9 +0.5
baz=317,SNR=6.8
UBBA Unterbreizbach 76.01 330 *e*P P 13 40 44.6 +0.8
comp=Z,43nm,1.8s,baz=34,slow=5.7

SOP Sopron 76.05 325 ⇓*e*P P 13 40 45.0 +0.8
PV09 Paradox Valley 76.05 49 *e*P P 13 40 44.7 -0.1
MDVR Moldovita 76.06 320 ⇑*i*P P 13 40 44.3 -0.2
KHC Kasperske Hory 76.07 327 *e*P P 13 40 44.5 0.0
comp=Z,34nm,1.6s
KHC Kasperske Hory 76.07 327 *e*P P 13 40 45.3 +0.9
KHC Kasperske Hory 76.07 327 *e*P P 13 40 45.3 +0.9
ROTZ Rotzenmuhle 76.07 329 *e*P P 13 40 45.7 +1.3
comp=Z,70nm,1.8s,baz=34,slow=5.7
PV21 Cone Mtn., Par 76.09 49 *e*P P 13 40 45.0 0.0
comp=Z,22nm,0.7s
CONA Conrad Observa 76.14 325 *i* P P 13 40 46.2 +1.4
comp=Z,26nm,1.2s,SNR=8.6
SWSC Sam W. Stewart 76.14 57 P P 13 40 45.0 0.0
baz=314,SNR=9.4
PV23 Carpenter Ridg 76.15 49 *e*P P 13 40 45.5 +0.1
comp=Z,94nm,1.4s
IKP In-Ko-Pah, Jac 76.15 58 P P 13 40 45.6 +0.4
baz=314,SNR=20
PDMCI Parker Dam,Lak 76.18 55 P P 13 40 45.8 +0.6
baz=315,SNR=13
PV10 Paradox Valley 76.19 50 *e*P P 13 40 45.7 +0.2
PV14 Lion Creek, Pa 76.20 50 *e*P P 13 40 45.1 -0.5
comp=Z,115nm,1.5s
PV20 West Nyswonger 76.25 49 *e*P P 13 40 45.9 +0.1
comp=Z,135nm,1.6s
GEC2 GERESS Array S 76.26 327 *e*P P 13 40 45.2 -0.3
comp=Z,37nm,1.6s
GEC2 GERESS Array S 76.26 327 *e*P P 13 40 46.4 +0.9
comp=Z,36nm,1.6s,baz=34,slow=5.7
GEC2 *e*pP pP 13 41 41.4 +0.4
GEC2 GERESS Array S 76.26 327 *e*P P 13 40 45.2 -0.3
GEC2 pmax pmax
comp=Z,37nm,1.6s
GERES GERESS Array B 76.26 327 P P 13 40 45.9 +0.3
comp=Z,2.7nm,0.5s,baz=35,slow=6.1,SNR=18
GEA0 GERESS Array S 76.26 327 *e*P P 13 40 45.5 -0.1
PV19 Morning Glory 76.27 50 *e*P P 13 40 46.1 +0.1
comp=Z,57nm,1.4s
PV17 East Wray Mesa 76.30 50 *e*P P 13 40 46.2 +0.1
comp=Z,124nm,1.5s
PV16 Nyswonger Mesa 76.30 49 *e*P P 13 40 45.9 -0.3
comp=Z,30nm,1.3s
MORH Mrgy, Hungar 76.32 323 *e*P P 13 40 45.8 0.0
MORH Mrgy, Hungar 76.32 323 *e*P P 13 40 45.1 -0.7
WET Wettzell 76.33 328 *e*P P 13 40 47.2 +1.4
comp=Z,52nm,1.6s,baz=34,slow=5.7
WET *e*pP pP 13 41 42.3 +0.9
PV11 David Mesa, Pa 76.33 49 *e*P P 13 40 45.8 -0.5
comp=Z,23nm,0.7s
Y12C Blythe 76.34 56 *e*P P 13 40 46.2 0.0
comp=Z,75nm,1.5s
Y12C Blythe 76.34 56 P P 13 40 46.9 +0.7
baz=315,SNR=15
PV12 Saucer Basin, 76.36 49 *e*P P 13 40 46.7 +0.2
comp=Z,45nm,1.6s
PV05 Paradox Valley 76.37 50 *e*P P 13 40 46.7 +0.2
PV03 Paradox Valley 76.38 49 *e*P P 13 40 46.5 -0.1
PV13 Radium Mtn., P 76.46 50 *e*P P 13 40 46.8 -0.2
comp=Z,26nm,1.0s
PV02 Paox Valley 76.47 49 *e*P P 13 40 47.0 -0.2
comp=Z,10nm,0.7s
GRA1 Grafenberg Arr 76.50 329 *e*P P 13 40 47.0 +0.2
comp=Z,100nm,1.5s
GRF Grafenberg Arr 76.50 329 *e*P P 13 40 48.1 +1.3
comp=Z,128nm,1.7s,baz=34,slow=5.7
GRF Grafenberg Arr 76.50 329 *e*P P 13 40 47.0 +0.2
GRF pmax pmax
comp=Z,100nm,1.5s
GRFO Grafenberg 76.50 329 *e*P P 13 40 46.9 +0.1
comp=Z,108nm,1.6s
GRFO Grafenberg 76.50 329 *e*P P 13 40 46.9 +0.1
GRFO pmax pmax
comp=Z,108nm,1.6s
PGB Panagyurishte 76.60 317 P P 13 40 48.6 +1.1
PV01 Paradox Valley 76.62 49 *e*P P 13 40 48.0 +0.1
MORW Morawa 76.62 202 *e*P P 13 40 47.5 0.0
comp=Z,74nm,0.8s
FRGS Fruska Gora 76.63 322 ⇓*i*P P 13 40 48.1 +0.5
GLA Glamis 76.65 57 *e*P P 13 40 48.2 +0.3
comp=Z,107nm,1.6s
GLA Glamis 76.65 57 *e*P P 13 40 48.2 +0.3
GLA pmax pmax
comp=Z,107nm,1.6s
GLA Glamis 76.65 57 P P 13 40 48.5 +0.5
baz=315,SNR=7.9
SMCO Snowmass 76.72 48 *e*P P 13 40 48.5 -0.2
comp=Z,12nm,0.7s
SUSD Miller 76.72 40 P P 13 40 48.0 -0.1
baz=321,SNR=7.4
ARSA Arzberg 76.81 325 *e*P P 13 40 49.6 +1.0
comp=Z,16nm,1.2s
MOA Molln 76.84 326 *e*P P 13 40 49.5 +0.8
comp=Z,11nm,1.0s
ALN Alexandroupoli 76.91 315 *e*P P 13 40 49.6 +0.5
comp=Z,37nm,1.3s
ALN Alexandroupoli 76.91 315 *e*P P 13 40 49.7 +0.5
ALN pmax pmax
comp=Z,37nm,1.3s
WUAZ Wupatki 76.93 53 *e*P P 13 40 49.9 +0.3
comp=Z,18nm,1.1s
WUAZ Wupatki 76.93 53 P P 13 40 50.5 +0.9
baz=316,SNR=11
ISCO Idaho Springs 76.97 47 *e*P P 13 40 49.8 -0.2
comp=Z,13nm,1.1s
ISCO Idaho Springs 76.97 47 *e*P P 13 40 49.8 -0.2
ISCO pmax pmax
comp=Z,13nm,1.1s
ISCO Idaho Springs 76.97 47 P P 13 40 50.2 +0.2
baz=318,SNR=7.8
BBOO Buckeboo 77.02 184 *e*P P 13 40 50.1 +0.5
comp=Z,90nm,1.2s
VTS Vitosha 77.03 318 *e*P P 13 40 50.2 +0.2
comp=Z,40nm,1.1s
VTS Vitosha 77.03 318 ⇓*i*P P 13 40 51.0 +1.0
VTS Vitosha 77.03 318 *e*P P 13 40 50.2 +0.2
VTS pmax pmax
comp=Z,40nm,1.1s
VTS Vitosha 77.03 318 P P 13 40 50.8 +0.8
TNS Taunus Mts 77.05 331 *e*P P 13 40 50.7 +0.8
comp=Z,42nm,1.6s,baz=34,slow=5.7
Y14A Wickenburg 77.11 55 *e*P P 13 40 50.2 -0.3
comp=Z,10nm,0.7s
EYMN Ely 77.11 33 *e*P P 13 40 49.4 -0.8
comp=Z,24nm,0.8s
EYMN Ely 77.11 33 P P 13 40 49.7 -0.5
baz=324,SNR=7.1
AHRW Bad Neuenahr-A 77.25 332 *e*P P 13 40 51.8 +0.9
comp=Z,36nm,1.3s,baz=34,slow=5.7
CSS Mathiatis 77.28 307 *e*P P 13 40 51.4 0.0
comp=Z,79nm,1.4s
MVCO Mesa Verde 77.32 50 *e*P P 13 40 51.8 -0.1
comp=Z,64nm,1.6s
MVCO Mesa Verde 77.32 50 P P 13 40 52.4 +0.5
baz=317,SNR=15
DIVS Divibare 77.38 321 *e*P P 13 40 51.5 -0.3
comp=Z,39nm,1.3s
DIVS Divibare 77.38 321 ⇓*i*P P 13 40 52.0 +0.2
MANT Manisa 77.38 312 *e*P P 13 40 53.1 +1.0
comp=Z,143nm,1.2s
SOKA Soboth 77.47 325 *e*P P 13 40 53.1 +0.8
comp=Z,42nm,1.3s,SNR=9.1
RJOB Jochberg 77.51 327 *e*P P 13 40 53.9 +1.4
comp=Z,24nm,1.1s,baz=34,slow=5.7
MMB Musomiste 77.54 317 P P 13 40 53.8 +1.1
MEM Membach 77.55 332 ⇓P P 13 40 52.7 +0.2
RAYN Ar Rayn 77.61 291 *e*P P 13 40 53.2 -0.2
comp=Z,102nm,1.6s
RAYN Ar Rayn 77.61 291 *e*P P 13 40 53.2 -0.2
RAYN pmax pmax
comp=Z,102nm,1.6s
X16A Lo Mia Camp, P 77.67 54 *e*P P 13 40 54.0 +0.1
comp=Z,38nm,1.5s
FUR Furstenfeldbru 77.74 328 *e*P P 13 40 54.9 +1.2
comp=Z,97nm,1.4s,baz=34,slow=5.7
OBKA Obir 77.81 325 *e*P P 13 40 54.1 -0.1
comp=Z,19nm,1.2s
BBLS Lazići 77.82 321 ⇓*i*P P 13 40 54.9 +0.6
KBA Koelnbreinsper 77.83 326 *e*P P 13 40 55.9 +1.4
comp=Z,38nm,1.1s,SNR=9.1
Q24A Divide 77.83 47 *e*P P 13 40 54.1 -0.7
comp=Z,9.1nm,0.8s
Q24A Divide 77.83 47 P P 13 40 54.8 +0.1
baz=318,SNR=8.9
S22A 4UR Ranch, Cre 77.84 49 *e*P P 13 40 55.3 +0.5
comp=Z,29nm,1.4s
S22A 4UR Ranch, Cre 77.84 49 P P 13 40 55.5 +0.7

baz=317,SNR=13
HAPS Han Pijesak,Bl 77.85 321 *e*P P 13 40 54.8 +0.3
OGNE Ogallala 77.93 44 *e*P P 13 40 54.4 -0.6
comp=Z,50nm,1.0s
OGNE Ogallala 77.93 44 P P 13 40 55.0 0.0
baz=319,SNR=7.5
CRES Cresnjev 77.98 324 ⇓*i*P P 13 40 54.9 -0.2
STU Stuttgart 78.00 330 *e*P P 13 40 55.3 +0.2
comp=Z,30nm,0.8s
STU Stuttgart 78.00 330 *e*P P 13 40 55.9 +0.8
comp=Z,45nm,1.2s,baz=34,slow=5.7
STU Stuttgart 78.00 330 *e*P P 13 40 55.3 +0.2
STU pmax pmax
comp=Z,30nm,0.8s
MYKA Terra Mystica 78.08 326 *e*P P 13 40 56.1 +0.4
comp=Z,39nm,1.4s,SNR=6.9
W18A Petrified Fore 78.15 52 P P 13 40 56.0 -0.4
baz=316
E38A The Farm, Brul 78.18 34 *e*P P 13 40 54.9 -1.2
comp=Z,26nm,0.8s
E38A The Farm, Brul 78.18 34 P P 13 40 55.6 -0.5
baz=325
LJU Ljubljana 78.19 325 *e*P P 13 40 56.2 0.0
SNF Seneffe 78.20 333 ⇑P P 13 40 56.5 +0.4
WATA Walderalm 78.31 328 *e*P P 13 40 57.6 +0.6
comp=Z,9.4nm,0.6s
WLF Walferdange 78.31 332 ⇑P P 13 40 57.0 +0.2
SCHQ Schefferville 78.31 16 P P 13 40 56.6 -0.1
comp=Z,11nm,0.5s,baz=349,slow=4.8,SNR=26
SCHQ Schefferville 78.31 16 *e*P P 13 40 56.0 -0.7
comp=Z,20nm,0.9s
ECSD EROS Data Cent 78.33 39 *e*P P 13 40 56.4 -0.6
comp=Z,17nm,0.6s
ECSD EROS Data Cent 78.33 39 P P 13 40 56.8 -0.3
baz=322,SNR=21
ABTA Abfaltersbach 78.43 327 *e*P P 13 40 57.5 -0.1
comp=Z,14nm,1.1s
X18A Snowflake 78.45 53 *e*P P 13 40 58.0 -0.1
comp=Z,22nm,1.3s
DOU Dourbes 78.46 333 ⇑P P 13 40 55.8 -1.7
F37A Hinrichs Farm, 78.46 35 P P 13 40 56.9 -0.7
baz=324
CEY Cerknica 78.48 325 *e*P P 13 40 58.0 +0.2
MOTA Moosalm 78.48 328 *e*P P 13 40 59.7 +1.8
comp=Z,41nm,1.0s,SNR=13
RETA Reutte 78.50 328 *e*P P 13 40 58.8 +0.9
comp=Z,41nm,1.2s,SNR=9.4
SQTA Sankt Quirin 78.55 328 *e*P P 13 40 59.1 +0.8
comp=Z,33nm,1.1s,SNR=9.2
SDCO Great Sand Dun 78.55 48 *e*P P 13 40 58.4 -0.3
comp=Z,5.8nm,0.8s
SDCO Great Sand Dun 78.55 48 P P 13 40 59.0 +0.4
baz=318,SNR=12
UPM Unac-Piva 78.57 321 *e*P P 13 40 59.2 +0.7
F38A Pierce - Schro 78.57 35 P P 13 40 58.2 -0.1
baz=324,SNR=12
214A Organ Pipe Nat 78.62 56 P P 13 40 59.4 +0.5
baz=316,SNR=14
BFO Black Forest 78.69 330 *e*P P 13 40 59.1 +0.2
comp=Z,40nm,1.3s
BFO Black Forest 78.69 330 *e*P P 13 40 59.6 +0.7
comp=Z,51nm,1.5s,baz=34,slow=5.7
BFO Black Forest 78.69 330 *i* P P 13 40 59.7 +0.8
E39A Mellen 78.76 34 P P 13 40 58.8 -0.5
baz=325,SNR=9.8
SPMN Marine on St. 78.79 36 *e*P P 13 40 59.2 -0.2
comp=Z,31nm,1.3s
SPMN Marine on St. 78.79 36 P P 13 40 58.9 -0.5
baz=324
FETA Feichten 78.90 328 *e*P P 13 41 00.9 +0.7
comp=Z,26nm,1.1s,SNR=6.0
D41A Chassel 78.97 32 P P 13 40 59.9 -0.5
baz=326
BRY Bratogost 78.97 321 *e*P P 13 41 00.1 -0.6
DAVA Damuels 79.00 328 *e*P P 13 41 01.3 +0.5
comp=Z,30nm,0.9s,SNR=5.6
F39A Loretta 79.00 34 P P 13 41 00.1 -0.5
baz=325,SNR=5.2
PDG Podgorica 79.01 320 ⇑*i*P P 13 41 00.8 +0.1
PDG Podgorica 79.01 320 *e*P P 13 41 01.2 +0.5
TTG Podgorica 79.01 320 *e*P P 13 41 00.6 -0.1
comp=Z,40nm,1.0s
TTG Podgorica 79.01 320 *e*P P 13 41 00.6 -0.1
TTG pmax pmax
comp=Z,40nm,1.0s
KSCO Kaye Shedlock' 79.10 45 *e*P P 13 41 01.0 -0.4
comp=Z,70nm,1.6s
KSCO Kaye Shedlock' 79.10 45 P P 13 41 01.0 -0.4
baz=319
ECH Echery 79.20 331 *e*P P 13 41 01.7 0.0
comp=Z,21nm,1.0s
ECH Echery 79.20 331 *e*P P 13 41 01.7 0.0
ECH pmax pmax
comp=Z,21nm,1.0s
G38A Ridgeland 79.23 35 P P 13 41 00.8 -1.0
baz=325
DRME Dracevica, Mon 79.24 320 *e*P P 13 41 02.7 +0.8
F40A Park Falls 79.31 34 P P 13 41 01.8 -0.5
baz=326,SNR=5.3
E41A Kenton 79.31 33 P P 13 41 01.9 -0.4
baz=326,SNR=7.9
FUORN Ofenpass-Fuorn 79.41 328 *e*P P 13 41 02.9 -0.2
comp=Z,76nm,1.3s
G39A Holcombe 79.41 35 P P 13 41 01.7 -1.2
baz=325
BGNE Belgrade 79.45 41 *e*P P 13 41 02.4 -0.8
comp=Z,65nm,1.1s
BGNE Belgrade 79.45 41 P P 13 41 02.8 -0.4
baz=321
H38A Maiden Rock 79.45 36 P P 13 41 02.3 -0.7
baz=324
TUC Tucson 79.57 55 *e*P P 13 41 03.9 -0.1
comp=Z,19nm,1.2s
TUC Tucson 79.57 55 *e*P P 13 41 03.9 -0.1
TUC pmax pmax
comp=Z,19nm,1.2s
TUC Tucson 79.57 55 P P 13 41 04.4 +0.4
baz=316
T25A Trinidad 79.58 48 *e*P P 13 41 04.0 -0.2
comp=Z,13nm,0.7s
T25A Trinidad 79.58 48 P P 13 41 04.4 +0.2
baz=319,SNR=11
CAN Canberra 79.73 173 *e*P P 13 41 04.7 +0.2
comp=Z,161nm,1.5s
CAN Canberra 79.73 173 *e*P P 13 41 04.7 +0.2
CAN pmax pmax
comp=Z,161nm,1.5s
E42A Champion 79.74 32 P P 13 41 04.0 -0.6
baz=327
G40A Rib Lake 79.82 34 *e*P P 13 41 04.5 -0.5
comp=Z,37nm,1.1s
G40A Rib Lake 79.82 34 P P 13 41 04.5 -0.5
baz=326
F41A Three Lakes 79.86 33 *e*P P 13 41 04.8 -0.4
comp=Z,44nm,1.0s
F41A Three Lakes 79.86 33 P P 13 41 04.9 -0.4
baz=326,SNR=8.6
H39A Augusta 79.86 35 P P 13 41 04.3 -0.9
baz=325
TUE Stuetta 79.88 328 *e*P P 13 41 05.4 -0.1
comp=Z,14nm,0.7s
NWAO Narrogin (SRO) 79.98 200 *e*P P 13 41 05.6 -0.2
comp=Z,148nm,1.2s
NWAO Narrogin (SRO) 79.98 200 *e*P P 13 41 05.6 -0.2
NWAO pmax pmax
comp=Z,148nm,1.2s
ANMO Albuquerque 80.11 50 *e*P P 13 41 06.7 -0.3
comp=Z,10nm,0.8s
ANMO Albuquerque 80.11 50 *de*P P 13 41 08.0 +1.0
ANMO pmax pmax
comp=Z,14nm,0.9s
ANMO Albuquerque 80.11 50 P P 13 41 07.6 +0.6
baz=318
LAZ Ladron 80.13 51 *e*P P 13 41 08.0 +0.9
E43A Lone Tree Farm 80.13 31 P P 13 41 06.0 -0.7
baz=327
DGAR Diego Garcia 80.15 249 *e*P P 13 41 07.2 0.0
comp=Z,211nm,0.9s
DGAR Diego Garcia 80.15 249 ⇑*i*P P 13 41 07.5 +0.3
DGAR pmax pmax
comp=Z,267nm,1.1s
F42A Maple Grove Fa 80.22 32 P P 13 41 06.5 -0.6
baz=327
G41A Antigo 80.27 33 P P 13 41 06.8 -0.6
baz=326
H40A Chili 80.27 34 P P 13 41 06.7 -0.7
baz=326

LENM	Lemitar	80.39	51	eP		P	13 41 08.1	-0.4
I39A	Houston	80.44	36	eP		P	13 41 07.1	-1.3
	comp=Z,19nm,0.6s							
I39A	Houston	80.44	36	P		P	13 41 07.5	-0.9
	baz=325,SNR=6.1							
F43A	Flat Rock, Esc	80.53	32	P		P	13 41 07.8	-1.0
	baz=327							
G42A	Mountain	80.54	33	P		P	13 41 08.4	-0.4
	baz=327							
H41A	Junction City	80.57	34	P		P	13 41 08.4	-0.7
	baz=326							
BNM	Barren Site	80.60	51	eP		P	13 41 10.0	+0.3
F44A	Big Bay de Noc	80.69	31	P		P	13 41 08.2	-1.4
	baz=328							
CBKS	Cedar Bluff	80.70	44	P		P	13 41 09.0	-0.8
	baz=321							
SENIN	Lac Senin/Sane	80.73	329	eP		P	13 41 10.2	+0.1
	comp=Z,9.9nm,0.8s							
D46A	Sault St. Mari	80.77	29	P		P	13 41 08.9	-1.1
	baz=329							
I40A	Norwalk	80.78	35	P		P	13 41 09.0	-1.2
	baz=326							
J39A	Decorah	80.78	36	P		P	13 41 09.1	-1.1
	baz=325							
G43A	Wallace	80.81	32	P		P	13 41 09.8	-0.5
	baz=327							
E45A	Wooded Hills,	80.82	30	P		P	13 41 09.1	-1.2
	baz=329							
I41A	Arkdale	80.95	34	P		P	13 41 10.3	-0.7
	baz=326							
E46A	Sault Ste Mari	81.12	30	P		P	13 41 11.0	-0.9
	baz=329							
J40A	Soldiers Grove	81.14	35	P		P	13 41 11.0	-1.0
	baz=325							
121A	Cookes Peak, D	81.14	53	P		P	13 41 13.5	+1.0
	baz=318,SNR=13							
K39A	Oelwein	81.22	36	P		P	13 41 11.4	-1.1
	baz=325							
F45A	CMU Biological	81.27	31	P		P	13 41 11.9	-0.7
	baz=328							
D48A	Paudash Townsh	81.29	28	P		P	13 41 12.6	-0.2
	baz=331							
SCIA	State Center	81.30	38	eP		P	13 41 12.4	-0.5
	comp=Z,67nm,1.4s							
SCIA	State Center	81.30	38	P		P	13 41 12.5	-0.5
	baz=324							
D49A	Beulah Townshi	81.36	28	P		P	13 41 12.4	-0.7
	baz=331							
E47A	Iron Bridge	81.41	29	P		P	13 41 12.7	-0.7
	baz=330							
H43A	Windswept, Lux	81.44	33	P		P	13 41 12.9	-0.7
	baz=327							
J41A	Loganville	81.46	35	P		P	13 41 13.1	-0.7
	baz=326							
F46A	Macinaw City C	81.47	30	P		P	13 41 13.2	-0.5
	baz=329,SNR=9.1							
I42A	Draeger Farm,	81.47	34	P		P	13 41 13.1	-0.7
	baz=326							
K40A	Colesburg	81.54	36	P		P	13 41 13.4	-0.8
	baz=325							
L39A	Vinton	81.65	37	P		P	13 41 13.9	-0.9
	baz=325							
IDI	Anoyia	81.72	312	eP		P	13 41 14.4	-0.9
	comp=Z,37nm,1.0s							
IDI	Anoyia	81.72	312	⇑i	P	P	13 41 15.0	-0.3
JFWS	Jewell Farm	81.74	35	eP		P	13 41 14.4	-0.8
JFWS	Jewell Farm	81.74	35	eP		P	13 41 14.4	-0.8
JFWS	Jewell Farm	81.74	35	P		P	13 41 14.4	-0.8
	baz=326							
TOO	Toolangi	81.75	176	eP		P	13 41 15.9	+0.8
	comp=Z,118nm,1.4s							
TOO	Toolangi	81.75	176	eP		P	13 41 15.9	+0.8
TOO				pmax		pmax		
	comp=Z,118nm,1.4s							
G45A	Suttons Bay	81.76	31	P		P	13 41 14.3	-1.0
	baz=328							
E48A	Lockeyer	81.77	28	P		P	13 41 14.4	-0.9
	baz=330							
I43A	Langenfeld Bro	81.78	34	P		P	13 41 14.9	-0.5
	baz=327							
ITM	Ithomi	81.81	315	eP		P	13 41 14.8	-0.9
	comp=Z,43nm,0.6s							
G46A	Petoskey	81.82	31	P		P	13 41 14.9	-0.7
	baz=329,SNR=8.6							
HSIG		81.85	57	eP		P	13 41 15.7	-0.3
	comp=Z,19nm,1.1s							
VLDQ	Val d'Or	81.85	25	eP		P	13 41 14.4	-1.3
	comp=Z,43nm,0.6s							
J42A	Columbus	81.86	34	P		P	13 41 15.1	-0.8
	baz=326							
D50A	G1974 Best Tow	81.94	27	P		P	13 41 15.3	-0.9
	baz=332							
K41A	Shullsburg	81.97	36	P		P	13 41 15.6	-0.8
	baz=326							
H45A	Beulah	81.97	32	P		P	13 41 15.7	-0.7
	baz=328							
KSU1	Kansas State U	81.99	42	eP		P	13 41 15.2	-1.4
	comp=Z,48nm,1.4s							
KSU1	Kansas State U	81.99	42	P		P	13 41 15.7	-0.9
	baz=322							
L40A	Anamosa	82.03	36	P		P	13 41 16.3	-0.4
	baz=325							
BNI	Bardonecchia	82.07	329	eP		P	13 41 16.9	-0.2
	comp=Z,14nm,0.9s							
BNI	Bardonecchia	82.07	329	eP		P	13 41 16.9	-0.2
BNI				pmax		pmax		
	comp=Z,14nm,0.9s							
J43A	Natural Harves	82.09	34	P		P	13 41 16.3	-0.8
	baz=327							
M39A	Webster	82.10	37	P		P	13 41 16.6	-0.5
	baz=325,SNR=7.3							
F48A	Evansville	82.18	29	P		P	13 41 16.3	-1.1
	baz=330							
K42A	Prairie Point,	82.22	35	P		P	13 41 16.6	-1.1
	baz=326							
E50A	Wahnapitae	82.30	28	P		P	13 41 17.2	-0.9
	baz=331							
G47A	Hillman	82.31	30	P		P	13 41 17.4	-0.7
	baz=330							
L41A	Preston	82.33	36	P		P	13 41 17.5	-0.7
	baz=326							
GLMI	Grayling	82.33	31	P		P	13 41 17.6	-0.7
	baz=329							
H46A	Fife Lake	82.36	31	P		P	13 41 17.5	-0.9
	baz=329							
I45A	Fountain	82.40	32	P		P	13 41 18.1	-0.5
	baz=328							
F49A	Sandfield	82.44	29	P		P	13 41 17.8	-1.0
	baz=331							
M40A	Post Highland	82.44	37	P		P	13 41 17.8	-1.0
	baz=325							
E51A	G1948 Merrick	82.61	27	P		P	13 41 18.7	-1.0
	baz=332							
H47A	Mio	82.68	31	P		P	13 41 19.5	-0.6
	baz=329							
D53A	Lac Vacive, Po	82.70	25	P		P	13 41 19.3	-0.8
	baz=333							
K43A	Burlington	82.70	34	P		P	13 41 19.4	-0.8
	baz=327							
AMTX	Amarillo	82.73	47	eP		P	13 41 20.4	-0.1
	comp=Z,46nm,1.3s							
AMTX	Amarillo	82.73	47	P		P	13 41 20.7	+0.1
	baz=320							
L42A	Oliver, Polo	82.73	35	P		P	13 41 19.6	-0.8
	baz=326							
TIP	Timpagrande	82.74	320	eP		P	13 41 20.9	+0.4
	comp=Z,78nm,1.3s							
TIP	Timpagrande	82.74	320	⇓i	P	P	13 41 19.5	-1.1
I46A	Reed City	82.78	32	P		P	13 41 20.1	-0.5
	baz=329							
N40A	Mertquake, Sal	82.84	37	P		P	13 41 20.6	-0.3
	baz=325							
MSTX	Muleshoe	82.84	49	eP		P	13 41 20.6	-0.6
	comp=Z,16nm,1.3s							
MSTX	Muleshoe	82.84	49	P		P	13 41 20.8	-0.4
	baz=320							
M41A	Milan	82.88	36	P		P	13 41 20.0	-1.2
	baz=326							
H48A	Harrisville	82.91	30	P		P	13 41 20.6	-0.6
	baz=330							
D54A	Lac Fusel, La	82.95	25	P		P	13 41 20.4	-0.9
	baz=334							
L43A	Garden Prairie	82.96	35	P		P	13 41 20.3	-1.2
	baz=327							
F51A	Arnstein	83.01	27	P		P	13 41 20.8	-0.9
	baz=332							
E52A	Mattawa	83.10	26	P		P	13 41 21.0	-1.2
	baz=333							
MNTX	Cornudas Mount	83.12	52	eP		P	13 41 22.7	+0.1
	comp=Z,26nm,1.1s							
MNTX	Cornudas Mount	83.12	52	P		P	13 41 23.0	+0.4
	baz=319,SNR=31							
M42A	Sheffield	83.15	36	P		P	13 41 21.8	-0.7
	baz=326							
J46A	Howard City	83.21	32	P		P	13 41 22.5	-0.2
	baz=328							
I48A	Sherman Twp	83.22	31	P		P	13 41 21.8	-0.9
	baz=330							
N41A	Harden Midland	83.30	37	eP		P	13 41 22.7	-0.5
	comp=Z,88nm,1.4s							
N41A	Harden Midland	83.30	37	P		P	13 41 23.0	-0.3
	baz=326,SNR=5.3							
L44A	Lake County Fo	83.31	34	P		P	13 41 22.5	-0.8
	baz=327							
GDL2	Guadalupe Moun	83.31	51	eP		P	13 41 24.1	+0.4
F52A	Sundridge	83.32	27	P		P	13 41 22.6	-0.7
	baz=332							
E53A	Dumoine, Ponti	83.33	26	P		P	13 41 22.5	-0.8
	baz=333							
E54A	Lac Daplat, Po	83.43	25	P		P	13 41 23.0	-0.8
	baz=334							
M43A	Waltham Townsh	83.50	35	P		P	13 41 23.9	-0.4
	baz=327							
N42A	Yates City	83.55	36	P		P	13 41 24.0	-0.5
	baz=326,SNR=8.3							
J47A	Sumner	83.61	32	P		P	13 41 25.1	+0.3
	baz=329,SNR=6.7							
K46A	Dorr	83.72	33	P		P	13 41 24.9	-0.5
	baz=328							
I49A	Point Hope	83.75	30	P		P	13 41 24.9	-0.6
	baz=330							
O41A	Passleys Farm,	83.78	37	P		P	13 41 25.5	-0.2
	baz=326,SNR=5.9							
N43A	Stutzman Famil	83.82	36	P		P	13 41 25.6	-0.4
	baz=327							
M44A	Midewin, Midew	83.92	35	P		P	13 41 25.8	-0.6
	baz=327							
J48A	Bridge Port	83.95	31	P		P	13 41 27.9	+1.4
	baz=330							
K47A	Vermontville	84.03	32	P		P	13 41 26.7	-0.2
	baz=329							
O42A	Bath	84.06	37	P		P	13 41 26.6	-0.5
	baz=326							
P41A	Barry, Barry	84.06	38	P		P	13 41 27.1	-0.1
	baz=326,SNR=6.6							
L46A	Eue Claire	84.09	33	P		P	13 41 26.9	-0.4
	baz=328							
HDIL	Hopedale	84.09	36	eP		P	13 41 26.5	-0.8
	comp=Z,61nm,1.1s							
HDIL	Hopedale	84.09	36	P		P	13 41 26.8	-0.5
	baz=326							
J49A	Marlette	84.14	31	P		P	13 41 26.9	-0.6
	baz=330							
G53A	Haliburton	84.15	27	P		P	13 41 26.9	-0.5
	baz=333							
F55A	Otter Lake	84.23	25	P		P	13 41 26.9	-0.9
	baz=334							
K48A	Perry	84.25	32	P		P	13 41 27.8	-0.3
	baz=330,SNR=8.1							
O43A	Sugar Creek Fa	84.31	36	P		P	13 41 27.9	-0.4
	baz=326							
WMOK	Wichita Mounta	84.35	46	eP		P	13 41 28.8	+0.1
	comp=Z,39nm,1.4s							
WMOK	Wichita Mounta	84.35	46	eP		P	13 41 28.8	+0.1
WMOK				pmax		pmax		
	comp=Z,39nm,1.4s							
WMOK	Wichita Mounta	84.35	46	P		P	13 41 28.6	-0.1
	baz=322,SNR=16							
N44A	Piper City	84.38	35	P		P	13 41 28.3	-0.4
	baz=327							
TRQ	Mont Tremblant	84.41	24	eP		P	13 41 28.3	-0.6
P42A	Winchester	84.45	37	eP		P	13 41 28.4	-0.6
	comp=Z,24nm,0.6s							
P42A	Winchester	84.45	37	P		P	13 41 28.5	-0.6
	baz=326,SNR=10							
I51A	Listowel	84.50	29	P		P	13 41 29.0	-0.3
	baz=331							
K49A	Clarkson	84.52	31	P		P	13 41 29.1	-0.3
	baz=330							
DAMY	Dhamar	84.53	285	eP		P	13 41 32.0	+1.7
	comp=Z,91nm,1.1s							
L47A	Shorewood	84.55	33	P		P	13 41 29.3	-0.2
	baz=329,SNR=5.9							
I52A	Shelburne	84.56	28	P		P	13 41 28.8	-0.8
	baz=332							
Q41A	Truxton	84.58	38	P		P	13 41 29.7	-0.1
	baz=326,SNR=18							
M46A	Old House Fiel	84.58	34	P		P	13 41 29.2	-0.5
	baz=328							
N45A	Kentland	84.59	35	P		P	13 41 29.2	-0.6
	baz=328							
G55A	Calabogie	84.64	26	P		P	13 41 29.1	-0.8
	baz=334							
OUZ	Omahuta	84.66	154	eP		P	13 41 33.8	+4.0
	comp=Z,59nm,1.1s							
P43A	Skaggs, Pawnee	84.75	37	P		P	13 41 30.3	-0.3
	baz=326							
O44A	Mansfield	84.78	36	P		P	13 41 30.2	-0.6
	baz=327							
AAM	Ann Arbor	84.86	32	P		P	13 41 30.6	-0.5
	baz=330							
N46A	Monticello	84.86	34	P		P	13 41 30.5	-0.6
	baz=328							
L48A	N Adams	84.87	32	P		P	13 41 31.2	+0.1
	baz=329,SNR=6.5							
M47A	Cromwell	84.91	33	P		P	13 41 31.2	-0.2
	baz=329							
TUL1	Leonard	84.92	43	eP		P	13 41 31.4	-0.1
	comp=Z,164nm,1.6s							
TUL1	Leonard	84.92	43	P		P	13 41 31.8	+0.3
	baz=323,SNR=6.3							
Q42A	Golden Eagle	84.92	38	P		P	13 41 31.3	-0.1
	baz=326,SNR=9.0							
I53A	Kortright Cn E	84.98	28	P		P	13 41 31.3	-0.3
	baz=332							
L49A	Milan	84.98	32	P		P	13 41 31.4	-0.3
	baz=330							
O45A	Potomac	85.00	35	P		P	13 41 31.7	-0.1
	baz=327,SNR=9.7							
R41A	Rosebud	85.05	39	P		P	13 41 31.8	-0.3
	baz=325,SNR=8.2							
H55A	Tweed	85.12	26	P		P	13 41 31.7	-0.6
	baz=334							
SFIN	Lafayette	85.15	35	eP		P	13 41 32.2	-0.4
	comp=Z,18nm,0.6s							
SFIN	Lafayette	85.15	35	P		P	13 41 32.3	-0.2
	baz=328							
M48A	Edgerton	85.16	33	eP		P	13 41 32.1	-0.5
	comp=Z,79nm,1.3s							
M48A	Edgerton	85.16	33	P		P	13 41 32.1	-0.5
	baz=329							
J52A	Paris	85.19	29	P		P	13 41 32.4	-0.3
	baz=332							
I55A	Frankford	85.26	27	P		P	13 41 32.2	-0.8
	baz=333							
Q43A	New Douglas	85.26	37	P		P	13 41 32.8	-0.3
	baz=326							
K51A	Iona Station	85.28	30	P		P	13 41 32.6	-0.6
	baz=331							
P44A	Sand Creek, Wi	85.28	36	P		P	13 41 33.2	-0.1
	baz=327,SNR=5.4							
N47A	Urbana	85.29	34	P		P	13 41 32.8	-0.5
	baz=329							
CCM	Cathedral Cave	85.31	39	eP		P	13 41 32.8	-0.6
	comp=Z,20nm,0.8s							
CCM	Cathedral Cave	85.31	39	eP		P	13 41 32.8	-0.6
CCM				pmax		pmax		
	comp=Z,20nm,0.8s							
CCM	Cathedral Cave	85.31	39	P		P	13 41 33.0	-0.5
	baz=326							
R42A	Luebbering	85.33	38	P		P	13 41 33.4	-0.1
	baz=326,SNR=7.0							
H56A	Elgin	85.37	26	P		P	13 41 32.9	-0.7
	baz=334							
L50A	Kingsville	85.40	31	P		P	13 41 33.3	-0.5
	baz=330							
M49A	Liberty Center	85.45	32	P		P	13 41 33.5	-0.5
	baz=330							
S41A	Jillco Farms,	85.47	39	P		P	13 41 33.9	-0.4
	baz=325,SNR=12							
K52A	Tillsonburg	85.51	29	P		P	13 41 33.5	-0.8
	baz=332							
HHAR	Hobbs	85.51	42	eP		P	13 41 34.0	-0.5
	comp=Z,26nm,1.2s							
ABTX	Abilene, Hawle	85.55	48	eP		P	13 41 34.0	-0.7
	comp=Z,29nm,1.3s							
ABTX	Abilene, Hawle	85.55	48	P		P	13 41 34.8	0.0
	baz=321,SNR=5.5							
N48A	Decatur	85.57	33	P		P	13 41 34.1	-0.5
	baz=329							
Q44A	Meyer Farm, Va	85.59	37	eP		P	13 41 33.7	-1.0
	comp=Z,100nm,1.6s							
Q44A	Meyer Farm, Va	85.59	37	P		P	13 41 34.0	-0.8
	baz=327							
P45A	Graceland, Par	85.60	36	eP		P	13 41 34.6	-0.2
	comp=Z,35nm,1.3s							
P45A	Graceland, Par	85.60	36	P		P	13 41 34.1	-0.7
	baz=328							
BATG	Bathurst New B	85.61	18	eP		P	13 41 34.1	-0.6
	comp=Z,26nm,0.8s							
O47A	Sheridan	85.65	34	P		P	13 41 34.4	-0.6
	baz=328							
R43A	Red Bud	85.71	38	P		P	13 41 35.0	-0.4
	baz=326							
S42A	Caledonia	85.75	39	P		P	13 41 35.6	0.0
	baz=326,SNR=10							
P46A	Rosedale	85.75	35	P		P	13 41 35.5	0.0
	baz=328,SNR=9.3							
N49A	Columbus Grove	85.85	33	eP		P	13 41 35.9	-0.1
	comp=Z,107nm,1.5s							
N49A	Columbus Grove	85.85	33	P		P	13 41 35.9	-0.1
	baz=330,SNR=5.4							
LONY	Lake Ozonia	85.86	25	P		P	13 41 36.0	0.0
	baz=335							
M50A	Fremont	85.86	32	P		P	13 41 35.7	-0.3
	baz=330							
TX31	Lajitas Ar. Si	85.87	52	eP		P	13 41 36.5	0.0
TXAR	Lajitas Array	85.87	52	P		P	13 41 36.8	+0.3
	comp=Z,4.9nm,0.5s,baz=294,slow=2.9,SNR=127							
TXAR				PKiKP		PKiKP	13 46 43.6	-0.2
	comp=Z,0.2nm,0.5s,baz=190,slow=0.8,SNR=4.1							
TXAR				PKKPbc		PKKPbc	13 59 35.2	+1.5
	comp=Z,1.1nm,0.8s,baz=154,slow=5.5,SNR=13							
MOQ	Mont Orford	85.89	23	eP		P	13 41 35.8	-0.5
Q45A	Warren Harvey,	85.96	36	P		P	13 41 36.6	0.0
	baz=327,SNR=5.8							
U40A	Yellville	85.96	41	P		P	13 41 36.5	-0.2
	baz=325,SNR=36							
O48A	Farmland	86.04	34	P		P	13 41 36.2	-0.7
	baz=329							
J55A	Hilton	86.06	27	P		P	13 41 36.4	-0.6
	baz=333							
R44A	Waltonville	86.11	37	P		P	13 41 37.3	0.0
	baz=327							
OLIL	Olney	86.12	36	eP		P	13 41 37.3	-0.1
	comp=Z,93nm,1.5s							
Q46A	CEJHS Indians,	86.19	36	P		P	13 41 37.3	-0.4
	baz=328							
T42A	Van Buren	86.22	39	eP		P	13 41 37.3	-0.5
	comp=Z,44nm,1.0s							
T42A	Van Buren	86.22	39	P		P	13 41 37.9	0.0
	baz=326,SNR=16							
S43A	Fulton Ridge,	86.23	38	P		P	13 41 37.6	-0.4
	baz=326,SNR=11							
P47A	Martinsville	86.24	35	P		P	13 41 38.0	0.0
	baz=328,SNR=5.1							
M51A	Elyria	86.25	31	P		P	13 41 37.1	-0.8
	baz=331							
ERPA	Erie	86.35	29	P		P	13 41 37.6	-0.8
	baz=332							
N50A	Nevada	86.37	32	P		P	13 41 38.1	-0.5
	baz=330							
U41A	Viola	86.41	40	P		P	13 41 38.1	-0.7
	baz=325							
R45A	Skylar, Fairfi	86.41	37	P		P	13 41 38.5	-0.3
	baz=327							
O49A	Covington	86.42	33	P		P	13 41 38.3	-0.5
	baz=329							
K55A	Perry	86.46	28	P		P	13 41 38.2	-0.7
	baz=333							
W39A	Magazine	86.46	42	eP		P	13 41 38.5	-0.6
	comp=Z,24nm,1.1s							
W39A	Magazine	86.46	42	P		P	13 41 39.0	-0.1
	baz=324,SNR=5.1							
SIUC	Southern Illin	86.49	38	eP		P	13 41 39.0	-0.1
	comp=Z,185nm,1.4s							
S44A	Carbondale	86.49	38	P		P	13 41 39.2	0.0
	baz=327,SNR=14							
HPIG		86.53	55	eP		P	13 41 39.5	-0.3
	comp=Z,47nm,1.4s							
N51A	Ashland	86.53	31	P		P	13 41 38.9	-0.4
	baz=331							
T43A	Greenville	86.54	39	P		P	13 41 39.2	-0.2
	baz=326,SNR=9.3							
P48A	Milroy	86.61	34	P		P	13 41 39.5	-0.3
	baz=329							
Q47A	Bedord North L	86.65	35	P		P	13 41 40.2	+0.3
	baz=328,SNR=12							
M53A	WI Miller and	86.70	30	P		P	13 41 40.1	-0.1
	baz=332							
U42A	Revenden	86.71	40	P		P	13 41 39.9	-0.4
	baz=326							
PKME	Peaks-Kenny Pk	86.73	21	P		P	13 41 39.6	-0.6
	baz=339							
O50A	Cable	86.73	33	P		P	13 41 40.2	-0.1
	baz=330							
V41A	Mountainview	86.75	41	P		P	13 41 40.0	-0.5
	baz=325,SNR=15							
S45A	Carrier Mills	86.80	37	P		P	13 41 40.6	0.0
	baz=327							
R46A	Gibon Southern	86.81	36	P		P	13 41 40.5	-0.2
	baz=328							
P49A	Miami Univ. Ec	86.83	34	P		P	13 41 40.5	-0.3
	baz=329,SNR=6.7							
N52A	McGinn's Farm,	86.88	31	P		P	13 41 41.4	+0.3
	baz=331							
ACSO	Alum Creek Sta	86.90	32	eP		P	13 41 40.9	-0.2
	comp=Z,96nm,1.5s							
ACSO	Alum Creek Sta	86.90	32	P		P	13 41 41.0	-0.2
	baz=330							
Q48A	North Vernon	86.94	35	P		P	13 41 41.4	+0.1
	baz=329,SNR=6.3							
LBNH	Lisbon	86.97	23	P		P	13 41 41.0	-0.4
	baz=337							
M54A	Oil Creek Stat	87.00	29	P		P	13 41 41.3	-0.3
	baz=332							
U43A	Rector	87.08	39	P		P	13 41 41.8	-0.2
	baz=326,SNR=5.4							
MIAR	Mount Ida	87.09	42	eP		P	13 41 41.2	-0.9
	comp=Z,72nm,1.4s							
MIAR	Mount Ida	87.09	42	eP		P	13 41 41.3	-0.9
MIAR				pmax		pmax		
	comp=Z,72nm,1.4s							
MIAR	Mount Ida	87.09	42	P		P	13 41 42.3	+0.2
	baz=324,SNR=14							
V42A	Cord	87.09	40	P		P	13 41 41.7	-0.4
	baz=326,SNR=9.7							
WHAR	Wooly Hollow	87.10	41	eP		P	13 41 41.9	-0.3
	comp=Z,125nm,1.4s							
O51A	Pataskala	87.12	32	P		P	13 41 41.8	-0.4
	baz=330							
P50A	Jamestown	87.12	33	P		P	13 41 42.2	-0.1
	baz=330,SNR=5.5							
JCT	Junction City	87.13	49	eP		P	13 41 41.8	-0.7
	comp=Z,63nm,1.5s							
JCT	Junction City	87.13	49	eP		P	13 41 41.8	-0.7
JCT				pmax		pmax		
	comp=Z,63nm,1.5s							
JCT	Junction City	87.13	49	P		P	13 41 42.4	-0.1
	baz=321,SNR=5.7							
R47A	Wooly Knot Far	87.15	35	P		P	13 41 42.3	-0.1
	baz=328,SNR=5.4							
S46A	Don Dixon Farm	87.16	37	P		P	13 41 42.2	-0.2
	baz=328							
WHTX	Lake Whitney,	87.19	46	P		P	13 41 42.5	-0.2
	baz=322							
N53A	Lisbon	87.20	30	P		P	13 41 41.9	-0.7
	baz=332							
Q49A	Aurora	87.21	34	P		P	13 41 42.4	-0.2
	baz=329							
W41B	Gary Mavity, V	87.21	41	eP		P	13 41 42.0	-0.7
	comp=Z,49nm,1.3s							
W41B	Gary Mavity, V	87.21	41	P		P	13 41 42.6	-0.1
	baz=325,SNR=9.6							
U44A	Portageville	87.29	39	P		P	13 41 42.9	-0.2
	baz=326							
WCI	Wy

	baz=327									
R48A	Northridge Ran	87.33	35	P		P		13 41 43.2	-0.1	
	baz=329									
N54A	Moraine State	87.37	30	eP		P		13 41 43.3	-0.1	
	comp=Z,45nm,1.2s									
N54A	Moraine State	87.37	30	P		P		13 41 43.0	-0.4	
	baz=332									
O52A	Adamsville	87.44	31	eP		P		13 41 43.4	-0.3	
	comp=Z,127nm,1.6s									
O52A	Adamsville	87.44	31	P		P		13 41 43.5	-0.1	
	baz=331,SNR=6.0									
W42A	Bald Knob	87.47	41	P		P		13 41 43.8	-0.1	
	baz=326									
X40A	Basin Creek Fa	87.49	42	eP		P		13 41 44.3	+0.2	
	comp=Z,70nm,1.5s									
X40A	Basin Creek Fa	87.49	42	P		P		13 41 44.0	-0.1	
	baz=325,SNR=7.4									
V43A	Jonesboro	87.50	40	P		P		13 41 43.9	-0.1	
	baz=326									
P51A	Williamsport	87.52	33	eP		P		13 41 43.5	-0.5	
	comp=Z,27nm,0.8s									
P51A	Williamsport	87.52	33	P		P		13 41 43.9	-0.1	
	baz=330									
O53A	New Philadelph	87.55	31	P		P		13 41 44.0	-0.2	
	baz=331,SNR=5.4									
U44B	Burton Farm, H	87.58	38	P		P		13 41 44.3	-0.1	
	baz=327									
BINY	Binghamton	87.61	27	P		P		13 41 44.1	-0.4	
	baz=335									
T46A	Princeton	87.63	37	P		P		13 41 45.0	+0.3	
	baz=328,SNR=11									
X41A	Kaden, Bauxite	87.64	42	P		P		13 41 44.7	0.0	
	baz=325									
R49A	Shelbyville	87.71	35	P		P		13 41 45.0	0.0	
	baz=329									
Q50A	Georgetown	87.71	33	P		P		13 41 45.1	0.0	
	baz=330,SNR=5.0									
P52A	Corning	87.74	32	P		P		13 41 44.8	-0.3	
	baz=331									
V44A	Blytheville	87.76	39	P		P		13 41 45.4	+0.1	
	baz=326									
Q51A	Peebles	87.81	33	eP		P		13 41 45.1	-0.4	
	comp=Z,44nm,0.6s									
Q51A	Peebles	87.81	33	P		P		13 41 45.5	0.0	
	baz=330,SNR=16									
U45A	Rockin P Farm,	87.83	38	P		P		13 41 45.6	+0.1	
	baz=327									
N55A	Marion Center	87.88	29	P		P		13 41 46.1	+0.3	
	baz=333,SNR=6.8									
S48A	Wiedeman Farm,	87.89	36	P		P		13 41 45.8	-0.1	
	baz=328,SNR=8.5									
O54A	Avella	87.91	30	P		P		13 41 46.1	+0.1	
	baz=332									
W43A	Forest City	88.00	40	P		P		13 41 46.6	+0.2	
	baz=326									
T47A	Sharon Grove	88.01	37	eP		P		13 41 46.0	-0.5	
	comp=Z,90nm,1.5s									
T47A	Sharon Grove	88.01	37	P		P		13 41 46.5	0.0	
	baz=328									
X42A	Stuttgart	88.01	41	P		P		13 41 46.9	+0.4	
	baz=325									
R50A	Paris	88.06	34	P		P		13 41 46.8	+0.1	
	baz=330,SNR=6.6									
435B	Jarrell	88.08	47	P		P		13 41 46.8	-0.1	
	baz=322									
U46A	Springville	88.08	38	P		P		13 41 46.9	+0.2	
	baz=327									
HIZ	Hauiti	88.08	154	eP		P		13 41 48.5	+2.1	
	comp=Z,253nm,1.1s									
Y41A	Eaglette Beard	88.09	42	P		P		13 41 46.9	+0.1	
	baz=325									
S49A	Springfield	88.09	35	P		P		13 41 47.0	+0.2	
	baz=329,SNR=7.2									
P53A	Whipple	88.15	31	eP		P		13 41 45.5	-1.5	
	comp=Z,147nm,1.5s									
P53A	Whipple	88.15	31	P		P		13 41 47.2	+0.2	
	baz=331,SNR=8.2									
T48A	Bowling Green	88.21	36	P		P		13 41 47.2	-0.2	
	baz=328									
V45A	Humboldt	88.25	39	P		P		13 41 47.3	-0.2	
	baz=327									
O55A	Ligonier	88.28	30	P		P		13 41 47.7	0.0	
	baz=332,SNR=6.1									
Q52A	Bidwell	88.28	32	P		P		13 41 47.5	-0.1	
	baz=331									
R51A	Hillsboro	88.34	34	P		P		13 41 48.2	+0.2	
	baz=330,SNR=5.5									
W44A	Shelby Farms P	88.36	39	P		P		13 41 48.1	0.0	
	baz=326									
SSPA	Standing Stone	88.39	29	eP		P		13 41 47.5	-0.6	
	comp=Z,52nm,1.4s									
SSPA	Standing Stone	88.39	29	P		P		13 41 48.3	+0.2	
	baz=333									
X43A	Marvell	88.39	40	P		P		13 41 48.5	+0.2	
	baz=326									
U47A	Clarksville	88.39	37	P		P		13 41 48.5	+0.3	
	baz=328,SNR=6.8									
WVT	Waverly	88.42	38	eP		P		13 41 48.0	-0.3	
	comp=Z,69nm,1.5s									
WVT	Waverly	88.42	38	eP		P		13 41 48.1	-0.3	
WVT				pmax		pmax				
	comp=Z,69nm,1.5s									
WVT	Waverly	88.42	38	P		P		13 41 48.6	+0.2	
	baz=328									
O56A	Blue Knob Stat	88.48	29	eP		P		13 41 48.7	0.0	
	comp=Z,33nm,0.8s									
O56A	Blue Knob Stat	88.48	29	P		P		13 41 49.0	+0.4	
	baz=333,SNR=9.4									
Z41A	Richland Creek	88.51	43	P		P		13 41 49.1	+0.3	
	baz=325									
Y42A	Garnett, Star	88.52	41	P		P		13 41 49.3	+0.4	
	baz=325									
S50A	Richmond	88.55	34	P		P		13 41 49.2	+0.3	
	baz=330,SNR=8.0									
MCWV	Mont Chateau	88.57	30	P		P		13 41 49.8	+0.8	
	baz=332,SNR=5.0									
V46A	Holladay	88.57	38	P		P		13 41 49.1	0.0	
	baz=327,SNR=7.0									
T49A	Edmonton	88.57	35	eP		P		13 41 48.6	-0.5	
	comp=Z,67nm,1.4s									
T49A	Edmonton	88.57	35	P		P		13 41 49.2	+0.1	
	baz=329,SNR=8.9									
URZ	Urewera	88.58	152	P		P		13 41 48.5	-0.2	
	comp=Z,30nm,0.8s,baz=332,slow=5.1,SNR=15									
URZ	Urewera	88.58	152	eP		P		13 41 48.4	-0.2	
	comp=Z,60nm,1.0s									
W45A	Hickory Valley	88.64	39	P		P		13 41 49.3	-0.1	
	baz=327									
U48A	Cassie Pea, Po	88.66	36	P		P		13 41 49.3	-0.2	
	baz=328,SNR=7.0									
HRV	Adam Dziewonsk	88.67	23	P		P		13 41 49.5	+0.1	
	baz=337									
R52A	Catlettsburg	88.67	33	P		P		13 41 49.4	-0.2	
	baz=330									
P55A	Reedsville	88.71	30	P		P		13 41 50.2	+0.5	
	baz=332,SNR=9.6									
X44A	Crenshaw	88.74	40	P		P		13 41 49.8	-0.1	
	baz=326									
NATX	Nacogdoches	88.80	45	eP		P		13 41 50.8	+0.5	
NATX	Nacogdoches	88.80	45	P		P		13 41 50.7	+0.5	
	baz=324									
V47A	Nunnelly	88.81	37	P		P		13 41 50.5	+0.2	
	baz=328,SNR=12									
N59A	State Game Lan	88.84	27	eP		P		13 41 49.9	-0.5	
	comp=Z,101nm,1.5s									
N59A	State Game Lan	88.84	27	P		P		13 41 50.4	+0.1	
	baz=335,SNR=5.5									
S51A	Beattyville	88.91	34	P		P		13 41 50.6	0.0	
	baz=330									
KEST	Kesra	88.92	323	P		P		13 41 50.2	-0.6	
	comp=Z,7.2nm,0.9s,baz=248,slow=5.5,SNR=4.4									
KEST	Kesra	88.92	323	eP		P		13 41 50.6	-0.2	
	comp=Z,18nm,1.1s									
T50A	Nancy	88.93	35	P		P		13 41 50.9	+0.1	
	baz=329,SNR=11									
R53A	Hurricane	88.95	32	P		P		13 41 50.4	-0.5	
	baz=331									
U49A	Red Boiling Sp	88.98	36	P		P		13 41 51.1	+0.1	
	baz=329,SNR=15									
W46A	Michie	89.02	38	P		P		13 41 50.8	-0.4	
	baz=327									
Q55A	Buckhannon	89.07	31	P		P		13 41 51.7	+0.3	
	baz=332,SNR=6.1									
OXF	Oxford	89.07	39	eP		P		13 41 51.5	+0.1	
	comp=Z,72nm,1.1s									
OXF	Oxford	89.07	39	eP		P		13 41 51.5	+0.1	
OXF				pmax		pmax				
	comp=Z,72nm,1.1s									
OXF	Oxford	89.07	39	P		P		13 41 51.2	-0.2	
	baz=327									
S52A	Salyersville	89.08	33	P		P		13 41 51.0	-0.5	
	baz=330									
PAGS	Pennsylvania G	89.15	28	eP		P		13 41 51.5	-0.2	
	comp=Z,36nm,1.1s									
X45A	UM Field Stati	89.15	40	P		P		13 41 51.5	-0.4	
	baz=327									
Y44A	Strider, Charl	89.16	40	P		P		13 41 51.8	-0.1	
	baz=326									
V48A	Smith Brothers	89.19	37	eP		P		13 41 51.6	-0.4	
	comp=Z,24nm,0.9s									
V48A	Smith Brothers	89.19	37	P		P		13 41 52.0	0.0	
	baz=328,SNR=9.5									
BKZ	Black Stump Fm	89.20	153	eP		P		13 41 51.7	0.0	
	comp=Z,84nm,1.2s									
W47A	Westpoint	89.26	38	P		P		13 41 52.3	-0.1	
	baz=328,SNR=5.7									
T51A	Gray	89.34	34	P		P		13 41 52.4	-0.3	
	baz=330									
PAL	Palisades	89.35	26	P		P		13 41 52.4	-0.2	
	baz=336									
X46A	Booneville	89.41	39	P		P		13 41 52.8	-0.2	
	baz=327									
R54A	Victor	89.44	32	P		P		13 41 52.9	-0.3	
	baz=332									
U50A	Jamestown	89.45	35	P		P		13 41 53.3	+0.1	
	baz=329,SNR=8.1									
Y45A	Yeager Farm, C	89.55	40	P		P		13 41 54.0	+0.3	
	baz=327,SNR=5.7									
V49A	McMinnville	89.56	36	P		P		13 41 53.6	-0.2	
	baz=329,SNR=6.4									
T52A	Hallie	89.61	34	P		P		13 41 53.8	-0.1	
	baz=330									
W48A	Pulaski	89.65	37	P		P		13 41 54.0	-0.1	
	baz=328,SNR=9.4									
X47A	Russelville	89.77	38	P		P		13 41 54.3	-0.4	
	baz=328									
U51A	La Follette	89.82	35	P		P		13 41 54.4	-0.5	
	baz=330									
Y46A	Houston	89.85	39	P		P		13 41 55.1	+0.1	
	baz=327,SNR=5.8									
TZTN	Tazewell	89.87	34	P		P		13 41 54.9	-0.2	
	baz=330									
Z45A	Winona	89.89	40	P		P		13 41 55.0	-0.3	
	baz=326									
W49A	Belvidere	89.95	37	P		P		13 41 55.3	-0.3	
	baz=328,SNR=9.6									
V50A	Pikevile	89.98	36	P		P		13 41 55.3	-0.4	
	baz=329,SNR=5.4									
SWET	Sewanee	90.02	37	eP		P		13 41 55.4	-0.5	
	comp=Z,24nm,0.9s									
U52A	Thorn Hill	90.07	34	P		P		13 41 56.0	-0.2	
	baz=330									
V51A	Loudon	90.18	35	eP		P		13 41 56.2	-0.4	
	comp=Z,29nm,1.1s									
V51A	Loudon	90.18	35	P		P		13 41 56.4	-0.2	
	baz=330									
X48A	Hartselle	90.18	38	eP		P		13 41 54.9	-1.8	
	comp=Z,53nm,1.5s									
X48A	Hartselle	90.18	38	P		P		13 41 56.0	-0.6	
	baz=328									
Y47A	Ulco, Winfie	90.28	39	P		P		13 41 56.9	-0.2	
	baz=328,SNR=6.1									
W50A	Signal Mountai	90.29	36	eP		P		13 41 56.1	-1.1	
	comp=Z,34nm,1.3s									
W50A	Signal Mountai	90.29	36	P		P		13 41 56.9	-0.3	
	baz=329									
CPCT	Cooper Cave	90.41	36	eP		P		13 41 57.3	-0.4	
	comp=Z,32nm,1.2s									
U53A	Fall Branch	90.41	34	P		P		13 41 57.6	-0.1	
	baz=331									
145A	Houston Renfro	90.42	41	P		P		13 41 57.8	0.0	
	baz=326									
X49A	Woodville	90.44	37	P		P		13 41 57.3	-0.5	
	baz=328									
ES19	SONSECA Array	90.44	334	eP		P		13 41 57.3	-0.5	
V52A	Sevierville	90.46	35	eP		P		13 41 57.5	-0.3	
	comp=Z,46nm,1.4s									
V52A	Sevierville	90.46	35	P		P		13 41 57.6	-0.3	
	baz=330									
VBMS	Vicksburg	90.46	42	P		P		13 41 57.9	0.0	
	baz=326									
THZ	Tophouse	90.49	157	eP		P		13 41 57.9	+0.3	
	comp=Z,39nm,0.8s									
ESDC	Sonseca Array	90.49	334	P		P		13 41 57.5	-0.5	
	comp=Z,7.8nm,0.9s,baz=11,slow=3.7,SNR=19									
BFZ	Birch Farm	90.50	154	eP		P		13 41 58.5	+0.9	
	comp=Z,64nm,0.9s									
BLA	Blacksburg	90.51	32	P		P		13 41 58.1	-0.1	
	baz=332									
244A	Avery, Jackson	90.52	42	P		P		13 41 58.4	+0.2	
	baz=326									
TKL	Tuckaleechee C	90.54	35	eP		P		13 41 57.6	-0.7	
	comp=Z,28nm,1.3s									
TKL	Tuckaleechee C	90.54	35	eP		P		13 41 57.6	-0.7	
TKL				pmax		pmax				
	comp=Z,28nm,1.3s									
W51A	Cleveland	90.56	36	P		P		13 41 58.2	-0.2	
	baz=329									
Y48A	Jasper	90.58	38	P		P		13 41 58.1	-0.4	
	baz=328									
SNZO	South Karori	90.59	155	eP		P		13 41 58.7	+0.7	
R58B	Mineral	90.78	30	P		P		13 41 59.3	-0.1	
	baz=333									
Z47A	Carrollton	90.78	39	P		P		13 41 59.2	-0.2	
	baz=327									
X50B	Fort Payne	90.78	37	P		P		13 41 59.4	-0.1	
	baz=329									
Z48A	Northport	90.86	39	P		P		13 41 59.4	-0.4	
	baz=328									
V53A	Saluda	90.92	34	P		P		13 41 59.5	-0.6	
	baz=330									
Y49A	Blount Mountai	90.96	38	P		P		13 42 00.2	-0.1	
	baz=328									
W52A	Murphy	90.96	35	P		P		13 41 59.6	-0.7	
	baz=330									
X51A	Calhoun	91.03	36	P		P		13 42 00.4	-0.2	
	baz=329									
147A	Livingston	91.12	40	eP		P		13 42 01.0	0.0	
	comp=Z,110nm,1.5s									
147A	Livingston	91.12	40	P		P		13 42 01.2	+0.2	
	baz=327									
W53A	Cullowhee	91.21	35	P		P		13 42 01.0	-0.6	
	baz=330									
LTZ	Lake Taylor	91.25	157	eP		P		13 42 01.5	+0.4	
	comp=Z,32nm,1.0s									
FOZ	Fox Glacier	91.31	159	eP		P		13 42 02.5	+1.3	
	comp=Z,51nm,1.0s									
LRAL	Lakeview Retre	91.40	39	P		P		13 42 01.8	-0.5	
	baz=328									
X52A	Dahlonega	91.40	36	P		P		13 42 01.6	-0.7	
	baz=330									
148A	Greensboro	91.47	39	P		P		13 42 02.5	-0.1	
	baz=328									
Z49A	Columbiana	91.47	38	P		P		13 42 02.0	-0.6	
	baz=328									
ZAIG	Zacatecas	91.51	56	eP		P		13 42 03.0	-0.3	
	comp=Z,16nm,1.2s									
Y51A	Rockmart	91.51	37	P		P		13 42 02.4	-0.4	
	baz=329,SNR=5.7									
LNIG	Linares	91.66	52	eP		P		13 42 02.7	-0.9	
	comp=Z,14nm,1.2s									
OXZ	Oxford	91.69	158	eP		P		13 42 03.5	+0.4	
	comp=Z,95nm,0.8s									
X53A	Estanollee	91.73	35	P		P		13 42 04.3	+0.5	
	baz=330,SNR=5.9									
RPZ	Rata Peaks	91.80	159	P		P		13 42 04.4	+0.8	
	comp=Z,20nm,0.7s,baz=15,slow=2.2,SNR=10									
RPZ	Rata Peaks	91.80	159	eP		P		13 42 04.2	+0.7	
	comp=Z,22nm,0.8s									
248A	Dixon Mills	91.86	40	P		P		13 42 04.2	-0.3	
	baz=328									
149A	Jones	91.86	39	P		P		13 42 04.6	+0.2	
	baz=328									
544A	White Castle	91.88	43	P		P		13 42 04.4	-0.2	
	baz=326									
Z51A	Franklin	91.96	37	P		P		13 42 04.5	-0.4	
	baz=329									
Y52A	Lilburn	91.97	36	P		P		13 42 04.5	-0.4	
	baz=330									
Y53A	Monroe	92.17	36	P		P		13 42 05.6	-0.3	
	baz=330									
150A	Eclectic	92.19	38	P		P		13 42 06.0	0.0	
	baz=328									
LBZ	Lake Benmore	92.20	159	eP		P		13 42 07.2	+1.7	
	comp=Z,95nm,1.1s									
249A	Camden	92.23	39	P		P		13 42 06.6	+0.5	
	baz=328									
Z52A	Williamson	92.39	37	P		P		13 42 06.3	-0.6	
	baz=330									
Y54A	Tignall	92.54	35	P		P		13 42 08.1	+0.6	
	baz=330,SNR=5.3									
151A	Opelika	92.57	38	P		P		13 42 07.1	-0.6	
	baz=329									
Z53A	Monticello	92.67	36	P		P		13 42 07.7	-0.5	
	baz=330									
152A	Waverly Hall	92.71	37	P		P		13 42 08.1	-0.3	
	baz=329									
251A	Midway	92.90	38	P		P		13 42 08.9	-0.3	
	baz=329									
353A	Camilla	94.06	37	P		P		13 42 14.9	+0.3	
	baz=330									
KMBO	Kilima Mbogo	100.55	279	P		Pdif		13 42 45.0	+0.7	
	comp=Z,1.4nm,0.5s,baz=36,slow=6.9,SNR=5.3									
TORD	Torodi Ar. Bea	111.77	317	PKiKP		PKiKP		13 47 29.1	-0.9	
	comp=Z,1.4nm,0.5s,baz=2.7,slow=3.2,SNR=9.6									
TORD				PKKPbc		PKKPbc		13 58 21.7	-0.1	
	comp=Z,3.3nm,0.6s,baz=221,slow=1.1,SNR=19									
LSZ	Lusaka	116.75	275	ePKPdf		PKPdf		13 47 39.3	-0.3	
LSZ	Lusaka	116.75	275	ePKIKP		PKPdf		13 47 39.3	-0.3	
SDV	Santo Domingo	119.73	37	ePKPdf		PKPdf		13 47 44.2	-1.4	
SDV	Santo Domingo	119.73	37	eP		PKPdf		13 47 44.1	-1.5	
SDV	Santo Domingo	119.73	37	eP		PKPdf		13 47 44.1	-1.5	
MATP	Matopo	119.91	270	i P		PKPdf		13 47 45.5	-0.1	
MATP	Matopo	119.91	270	i P		PKPdf		13 47 45.5	-0.1	
PTBC	PUERTO BERRIO	120.07	42	eP		PKPdf		13 47 44.8	-1.3	
PTBC	PUERTO BERRIO	120.07	42	eP		PKPdf		13 47 44.8	-1.3	
DBIC	Dimbokro	120.52	320	PKP		PKPdf		13 47 45.6	-1.2	
	comp=Z,5.3nm,0.6s,baz=339,slow=2.2,SNR=9.0									
DBIC				PP		PP		13 49 20.3	+4.0	
	comp=Z,2.7nm,0.8s,baz=37,slow=8.3,SNR=3.2									
DBIC				SKP				13 50 58.9		
	comp=Z,4.1nm,0.7s,baz=329,slow=2.7,SNR=4.8									
DBIC				PKKPab		PKKPbc		13 57 53.1	+1.6	
	comp=Z,5.2nm,0.8s,baz=190,slow=5.9,SNR=6.6									
TIC	Toumodi	120.62	320	ePKP1		PKPdf		13 47 46.2	-0.9	
TIC	Toumodi	120.62	320	ePKP1		PKKPbc		13 57 53.1	+2.0	
KIC	Kosan Boka	120.74	319	ePKP1		PKPdf		13 47 45.9	-1.4	
	comp=Z,38nm,1.2s									
KIC	Kosan Boka	120.74	319	ePKP1		PKKPbc		13 57 52.6	+1.9	
	comp=Z,19nm,0.9s									
LIC	Lamto	120.99	320	ePKP1		PKPdf		13 47 46.9	-0.9	
	comp=Z,15nm,0.5s									
LIC	Lamto	120.99	320	ePKP1		PKKPbc		13 57 51.7	+2.0	
	comp=Z,45nm,1.6s									
RUSC	La Rusia	121.29	41	eP		PKPdf		13 47 48.6	-0.4	
RUSC	La Rusia	121.29	41	eP		PKPdf		13 47 48.6	-0.4	
TAMC	Tame, Arauca	121.40	39	eP		PKiKP		13 47 53.6	+4.8	
TAMC	Tame, Arauca	121.40	39	eP		PKiKP		13 47 53.6	+4.8	
CTAB	Cerro Tablazo,	121.53	42	eP		PKiKP		13 47 49.6	+0.1	
CTAB	Cerro Tablazo,	121.53	42	eP		PKiKP		13 47 49.6	+0.1	
ROSC	El Rosal	121.62	42	PKP		PKiKP		13 47 49.9	+0.2	
	comp=Z,5.4nm,0.5s,baz=200,slow=12,SNR=5.3									
CHIC	Chingaza	122.08	42	eP		PKPdf		13 47 49.9	-0.5	
CHIC	Chingaza	122.08	42	eP		PKPdf		13 47 49.9	-0.5	
VNDA	Vanda	122.39	175	PKP		PKPdf		13 47 48.3	-0.2	
	comp=Z,17nm,0.8s,baz=318,slow=4.7,SNR=50									
VNDA	Vanda	122.39	175	ePKPdf		PKPdf		13 47 48.5	0.0	
VNDA	Vanda	122.39	175	ePKIKP		PKPdf		13 47 48.5	0.0	
PCON	Cinco Dias	122.74	46	eP		PKPdf		13 47 50.1	-1.8	
PCON	Cinco Dias	122.74	46	eP		PKPdf		13 47 50.1	-1.8	
SOTA	Rioblanco	122.79	46	eP		PKPdf		13 47 50.9	-0.9	
SOTA	Rioblanco	122.79	46	eP		PKPdf		13 47 50.9	-0.9	
OTAV	Otavalo	123.41	49	eP		PKiKP		13 47 53.2	0.0	
GUVC	San Jose del G	124.43	42	eP		PKPpre		13 47 48.4		
GUVC	San Jose del G	124.43	42	eP		PKPpre		13 47 48.4		
LBTB	Lobatse	124.86	268	ePKPdf		PKPdf		13 47 54.7	-0.2	
LBTB	Lobatse	124.86	268	ePKIKP		PKPdf		13 47 54.7	-0.2	
MAW	Mawson	126.01	208	PKP		PKiKP		13 47 55.9	-0.2	
	comp=Z,28nm,0.8s,baz=67,slow=1.9,SNR=9.2									
TSUM	Tsumeb	126.90	279	eP		PKPdf		13 47 58.6	-0.4	
BOSA	Boshof	127.26	265	i P		PKPpre		13 47 54.6		
BOSA	Boshof	127.26	265	PKP		PKPdf		13 47 59.1	-0.4	
	comp=Z,8.3nm,0.8s,baz=146,slow=0.5,SNR=7.9									
BOSA	Boshof	127.26	265	ePKPdf		PKPdf		13 47 59.5	0.0	
BOSA	Boshof	127.26	265	ePKIKP		PKPdf		13 47 59.5	0.0	
BOSA	Boshof	127.26	265	i P		PKPpre		13 47 54.6		
PTGA	Pitinga	132.68	29	ePKPdf		PKPdf		13 48 09.8	-0.3	
QSPA	South Pole Qui	134.18	180	PKP		PKPdf		13 48 11.1	-0.2	
	comp=Z,43nm,1.0s,baz=15,slow=0.3,SNR=33									
QSPA				SKPbc		SKPbc		13 51 17.3	-0.7	
	comp=Z,54nm,1.0s,baz=359,slow=1.2,SNR=13									
NNA	Nana	134.26	57	i PKiKP		PKiKP		13 48 15.0	+0.6	
NBMO	Morrinhos-CE	139.02	1	eP		PKPdf		13 48 22.5	+0.7	
LPAZ	La Paz	142.72	50	PKP		PKPdf		13 48 26.4	-2.7	
	comp=Z,3.6nm,0.4s,baz=30,slow=3.1,SNR=22									
LPAZ				SKPbc		SKPbc		13 51 44.0	-0.4	
	comp=Z,5.3nm,0.9s,baz=338,slow=5.7,SNR=6.0									
LPAZ	La Paz	142.72	50	ePKPpre		PKPpre		13 48 23.5		
LPAZ				SKPbc		SKPbc		13 51 44.0	-0.4	
LPAZ	La Paz	142.72	50	eP		PKPdf		13 48 28.6	-0.5	
PB01

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.47**	**313**	*e*Pn	**Pn**	**13 40 31.0**	**+1.4**
MSVF	**Nonsavu**	**6.47**	**313**	*e*PcP	**Pn**	**13 40 31.3**	**+1.6**
RAO	**Raoul Island**	**7.05**	**187**	S	**Sn**	**13 41 59.5**	**+2.3**
	60nm,0.3s,baz=108,slow=20,SNR=2.8						
RAO	**Raoul Island**	**7.05**	**187**	*e*Pn	**Pn**	**13 40 38.0**	**+0.9**
RAO				*e*Sn	**Sn**	**13 41 59.5**	**+2.3**
GLKZ	**Green Lake**	**7.06**	**187**	P	**Pn**	**13 40 35.4**	**-1.8**
GLKZ				S	**Sn**	**13 41 56.9**	**-0.5**
NIUE	**Niue**	**7.30**	**66**	*e*Pn	Pn	13 40 36.7	-3.6
MARNC	**Mare, Loyalty**	**13.95**	**270**	*e*P	**Pn**	**13 42 05.8**	**+0.2**
FUNA	**Funafuti**	**14.11**	**344**	*e*Pn	**Pn**	**13 42 06.8**	**-0.7**
ONTNC	**Ouen Toro**	**15.35**	**267**	*e*Pn	**Pn**	**13 42 21.8**	**-0.9**
	35nm,1.2s						
OUZ	**Omahuta**	**15.36**	**210**	*e*Pn	**P**	**13 42 25.6**	**+2.6**
	27nm,0.8s						
OUZ	**Omahuta**	**15.36**	**210**	P	**P**	**13 42 25.3**	**+2.4**
DZM	**Mont Dzumac**	**15.37**	**267**	P	**P**	**13 42 24.5**	**+1.2**
	1.1nm,0.3s,baz=72,slow=20,SNR=8.1						
DZM	**Mont Dzumac**	**15.37**	**267**	*e*Pn	**P**	**13 42 25.9**	**+2.5**
	41nm,1.6s						
GRZ	**Great Barrier**	**15.45**	**204**	P	**P**	**13 42 25.3**	**+1.3**
WCZ	**Waipu Caves**	**15.62**	**207**	P	**P**	**13 42 28.4**	**+2.6**
KUZ	**Kuaotunu**	**15.80**	**202**	P	**Pn**	**13 42 31.0**	**+3.0**
MXZ	**Matakaoa Point**	**15.82**	**194**	*e*P	**P**	**13 42 27.8**	**-0.3**
	72nm,1.0s						
RAR	**Rarotonga**	**16.01**	**90**	*e*P	**P**	**13 42 31.3**	**+1.0**
	196nm,1.8s						
WMGZ	**Waiomatatini S**	**16.05**	**193**	P	**P**	**13 42 28.4**	**-2.1**
WIAZ	**Waiheke Island**	**16.05**	**204**	P	**Pn**	**13 42 32.3**	**+1.2**
HAZ	**Te Kaha**	**16.13**	**195**	P	**P**	**13 42 29.5**	**-1.9**
HAZ				S	S	13 45 19.0	-11
PKGZ	**Pakihiroa**	**16.19**	**194**	P	**P**	**13 42 26.0**	**-6.1**
ETAZ	**East Tamaki Re**	**16.27**	**204**	P	**Pn**	**13 42 34.8**	**+1.1**
MKAZ	**Moumakai**	**16.32**	**203**	P	**Pn**	**13 42 35.3**	**+1.1**
PUZ	**Puketiti**	**16.32**	**194**	P	**P**	**13 42 28.3**	**-5.2**
PUZ				S	S	13 45 18.9	-15
RUGZ	**Raukumara Rang**	**16.36**	**195**	P	**P**	**13 42 32.1**	**-1.9**
RUGZ				S	S	13 45 21.6	-14
WTAZ	**Waiatarua**	**16.39**	**205**	P	**Pn**	**13 42 36.6**	**+1.5**
TWGZ	**Tauwhareparae**	**16.49**	**194**	P	**P**	**13 42 34.6**	**-0.8**
TWGZ				S	S	13 45 24.1	-14
OPRZ	**Ohinepanea**	**16.54**	**198**	P	**P**	**13 42 33.5**	**-2.5**
CNGZ	**Carnagh Statio**	**16.73**	**193**	P	**P**	**13 42 38.2**	**+0.2**
MWZ	**Matawai**	**16.74**	**195**	P	**P**	**13 42 36.9**	**-1.3**
MWZ				S	S	13 45 30.8	-12
TKGZ	**Te Karaka**	**16.77**	**194**	P	**P**	**13 42 37.1**	**-1.3**
TKGZ				S	S	13 45 31.9	-11
URZ	**Urewera**	**16.78**	**196**	P	**P**	**13 42 38.1**	**-0.4**
	10nm,0.3s,baz=307,slow=2.6,SNR=51						
URZ				S	S	13 45 32.4	-11
	5.2nm,0.3s,baz=268,slow=23,SNR=14						
URZ	**Urewera**	**16.78**	**196**	*e*P	**P**	**13 42 38.1**	**-0.4**
	50nm,0.5s						
URZ				*e*S	S	13 45 32.4	-11
URZ	**Urewera**	**16.78**	**196**	P	**P**	**13 42 36.1**	**-2.4**
KARZ	**Kaharoa**	**16.80**	**199**	P	**Pn**	**13 42 41.0**	**+1.0**
OMRZ	**Omania**	**16.84**	**198**	P	**Pn**	**13 42 41.4**	**+0.9**
TARZ	**Mount Tarawera**	**16.92**	**198**	P	**P**	**13 42 41.1**	**+0.9**
RAGZ	**Rawiri**	**16.92**	**195**	P	**P**	**13 42 40.8**	**+0.6**
RIGZ	**Rimuhau**	**17.04**	**194**	P	**P**	**13 42 41.1**	**-0.4**
MUGZ	**Murupara**	**17.07**	**197**	P	**P**	**13 42 41.0**	**-0.8**
HRRZ	**Handcock Road**	**17.13**	**198**	P	**P**	**13 42 43.2**	**+0.7**
RTZ	**Ruatahuna**	**17.15**	**196**	P	**P**	**13 42 42.8**	**+0.1**
SNGZ	**Shannon Statio**	**17.21**	**195**	P	**P**	**13 42 42.4**	**-0.9**
PRGZ	**Paritu Road**	**17.22**	**194**	P	**Pn**	**13 42 45.2**	**+0.2**
WPRZ	**Whakapapatarin**	**17.28**	**198**	P	**P**	**13 42 44.8**	**+0.7**
KNZ	**Kokohu**	**17.36**	**194**	P	**P**	**13 42 43.8**	**-1.2**
RAHZ	**Arahi**	**17.40**	**196**	P	**P**	**13 42 44.8**	**-0.6**
MHGZ	**Mahia Peninsul**	**17.44**	**193**	P	**P**	**13 42 44.9**	**-0.9**
WHHZ	**Waihua**	**17.52**	**195**	P	**P**	**13 42 45.9**	**-0.7**
NMHZ	**Naumai**	**17.64**	**196**	P	**P**	**13 42 47.5**	**-0.6**
HATZ	**Hinemaiaia**	**17.65**	**198**	P	**P**	**13 42 47.7**	**-0.4**
HIZ	**Hauiti**	**17.69**	**202**	*e*P	**P**	**13 42 49.6**	**+1.1**
	202nm,1.8s						
ARHZ	**Aropaoanui**	**17.75**	**196**	P	**P**	**13 42 48.6**	**-0.6**
BKZ	**Black Stump Fm**	**17.79**	**197**	*e*P	**P**	**13 42 47.2**	**-2.4**
	66nm,1.7s						
BKZ	**Black Stump Fm**	**17.79**	**197**	P	**P**	**13 42 47.4**	**-2.3**
KWHZ	**Kaweka Forest**	**18.05**	**197**	P	**P**	**13 42 51.1**	**-1.5**
BFZ	**Birch Farm**	**19.28**	**196**	*e*P	**P**	**13 43 03.5**	**-2.3**
	100nm,1.4s						
LTZ	**Lake Taylor**	**22.38**	**201**	*e*P	**P**	**13 43 35.3**	**-2.6**
	38nm,1.3s						
OXZ	**Oxford**	**22.95**	**201**	*e*P	**P**	**13 43 40.2**	**-2.7**
	24nm,0.7s						
RPZ	**Rata Peaks**	**23.62**	**202**	P	**P**	**13 43 49.9**	**+0.8**
	14nm,0.7s,baz=53,slow=4.1,SNR=9.1						
RPZ				S	**S**	**13 47 45.5**	**-3.1**
	4.8nm,0.8s,baz=6.3,slow=9.2,SNR=2.1						
RPZ	**Rata Peaks**	**23.62**	**202**	*e*P	**P**	**13 43 49.9**	**+0.8**
	15nm,0.8s						
RPZ				*e*S	**S**	**13 47 45.5**	**-3.1**
CTA	**Charters Tower**	**34.31**	**267**	P	**P**	**13 45 24.4**	**+0.5**
	17nm,0.7s,baz=92,slow=10,SNR=18						
STKA	**Stephens Creek**	**37.94**	**246**	P	**P**	**13 45 54.7**	**+0.1**
	7.1nm,0.5s,baz=95,slow=11,SNR=28						
STKA	**Stephens Creek**	**37.94**	**246**	*e*P	**P**	**13 45 51.0**	**-3.5**
	1.6nm,0.6s						
AS31	**Alice Springs**	**45.09**	**258**	*e*P	**P**	**13 46 49.3**	**-3.4**
	2.5nm,0.8s						
ASAR	**Alice Springs**	**45.09**	**258**	P	**P**	**13 46 52.3**	**-0.4**
	7.7nm,0.7s,baz=90,slow=7.0,SNR=36						
WB2	**Warramunga Arr**	**45.33**	**263**	*e*P	**P**	**13 46 52.1**	**-2.5**
WRAB	**Tennant Creek**	**45.33**	**264**	*e*P	P	13 46 50.7	-3.9
	17nm,1.1s						
WR1	**Warramunga Arr**	**45.34**	**263**	*e*P	**P**	**13 46 53.9**	**-0.8**
	41nm,1.4s						
WR1				*e*ScP	**ScP**	**13 52 02.7**	**-1.8**
WRA	**Warramunga Arr**	**45.34**	**263**	P	**P**	**13 46 53.9**	**-0.8**
	6.4nm,0.7s,baz=96,slow=8.4,SNR=42						
WRA				ScP	**ScP**	**13 52 02.7**	**-1.8**
	0.6nm,0.8s,baz=99,slow=3.8,SNR=2.8						
FITZ	**Fitzroy Crossi**	**53.77**	**263**	P	**P**	**13 47 57.0**	**-1.3**
	3.6nm,0.5s,baz=73,slow=4.7,SNR=17						
FITZ	**Fitzroy Crossi**	**53.77**	**263**	*e*P	**P**	**13 47 55.1**	**-3.2**
	8.6nm,0.8s						
QSPA	**South Pole Qui**	**67.86**	**180**	P	**P**	**13 49 34.6**	**+1.9**
	15nm,0.8s,baz=58,slow=0.7,SNR=9.6						
QSPA	**South Pole Qui**	**67.86**	**180**	*e*P	**P**	**13 49 32.8**	**+0.1**
	58nm,1.0s						
PETK	**Petropavlovsk-**	**78.17**	**345**	P	**P**	**13 50 31.9**	**-1.1**
	2.6nm,0.9s,baz=125,slow=7.4,SNR=5.0						
PEA1	**Petropavlovsk-**	**78.18**	**345**	*e*P	**P**	**13 50 31.9**	**-1.1**
MAW	**Mawson**	**80.28**	**200**	P	**P**	**13 50 45.2**	**+0.9**
	23nm,1.0s,baz=157,slow=8.5,SNR=4.0						
MAW	**Mawson**	**80.28**	**200**	*e*P	**P**	**13 50 44.1**	**-0.2**
	101nm,1.9s						
NV01	**Mina Array Sit**	**81.62**	**43**	*e*P	**P**	**13 50 51.8**	**-0.3**
NVAR	**Mina Array Bea**	**81.62**	**43**	P	**P**	**13 50 53.1**	**+1.0**
	0.9nm,0.6s,baz=224,slow=7.0,SNR=9.1						
Y14A	**Wickenburg**	**82.58**	**49**	*e*P	**P**	**13 50 56.9**	**-0.1**
	4.1nm,0.6s						
X16A	**Lo Mia Camp, P**	**83.93**	**49**	*e*P	**P**	**13 51 04.7**	**+0.6**
	3.1nm,0.7s						
U15A	**North Rim**	**84.41**	**47**	*e*P	**P**	**13 51 07.1**	**+0.5**
	3.6nm,0.8s						
SYO	**Syowa Base**	**85.26**	**192**	*i*P	**P**	**13 51 10.0**	**+0.1**
SYO	**Syowa Base**	**85.26**	**192**	*i*P	P	13 51 18.6	+8.7
TMUT	**Trail Mountain**	**86.67**	**45**	*e*P	**P**	**13 51 16.9**	**-0.8**
	3.7nm,0.6s						
LTX	**Lajitas**	**87.18**	**57**	*e*P	**P**	**13 51 21.5**	**+1.4**
TX31	**Lajitas Ar. Si**	**87.18**	**57**	*e*P	**P**	**13 51 19.9**	**-0.2**
TXAR	**Lajitas Array**	**87.18**	**57**	P	**P**	**13 51 21.5**	**+1.4**
	2.4nm,0.9s,baz=218,slow=7.1,SNR=17						
TRF	**Thorofare Moun**	**87.93**	**12**	*e*P	**P**	**13 51 21.3**	**-1.6**
	15nm,1.0s						
RND	**Reindeer**	**88.16**	**12**	*e*P	**P**	**13 51 23.0**	**-0.9**
	13nm,0.6s						
WRH	**Wood River Hil**	**89.27**	**12**	*e*P	**P**	**13 51 28.1**	**-0.9**
	10nm,0.9s						
MLY	**Manley**	**89.29**	**11**	*e*P	**P**	**13 51 27.7**	**-1.4**
	15nm,1.4s						
HDA	**Harding Lake**	**89.44**	**13**	*e*P	**P**	**13 51 28.9**	**-0.9**
	9.2nm,0.5s						
PD31	**Pinedale Array**	**89.56**	**43**	*e*P	**P**	**13 51 30.5**	**-0.7**
PDAR	**Pinedale Array**	**89.56**	**43**	P	**P**	**13 51 31.0**	**-0.2**
	0.4nm,0.8s,baz=142,slow=5.1,SNR=4.0						
COLA	**College**	**89.68**	**12**	*e*P	**P**	**13 51 29.7**	**-1.1**
	11nm,0.6s						
MDM	**Murphy Dome**	**89.68**	**12**	*e*P	**P**	**13 51 29.9**	**-1.0**
	6.1nm,0.8s						
IM3	**Indian Mountai**	**89.69**	**9**	*e*P	**P**	**13 51 30.5**	**-0.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**89.78**	**12**	P	**P**	**13 51 30.4**	**-0.9**
	2.0nm,0.5s,baz=221,slow=5.3,SNR=48						
ILB	**Eielson Array**	**89.78**	**12**	*e*P	**P**	**13 51 30.0**	**-1.3**
IL1	**Eielson Array**	**89.78**	**12**	*e*P	**P**	**13 51 30.3**	**-1.0**
BOZ	**Bozeman (W)**	**89.79**	**40**	*e*P	**P**	**13 51 30.7**	**-1.3**
	10nm,0.6s						
DAWY	**Dawson**	**90.85**	**16**	*e*P	**P**	**13 51 36.7**	**+0.3**
	32nm,1.9s						
EGAK	**Eagle**	**91.02**	**15**	*e*P	**P**	**13 51 37.2**	**+0.1**
	5.8nm,0.9s						
CM01	**Chiang Mai Arr**	**91.56**	**289**	*e*P	**P**	**13 51 38.7**	**-2.0**
CMAR	**Chiang Mai Arr**	**91.59**	**289**	P	**P**	**13 51 40.1**	**-0.8**
	0.6nm,0.6s,baz=130,slow=2.5,SNR=5.4						
YKA	**Yellowknife Ar**	**97.67**	**25**	P	**P**	**13 52 07.2**	**-0.3**
	0.2nm,0.5s,baz=247,slow=4.3,SNR=4.0						
MK32	**Makanchi Array**	**113.07**	**313**	*e*PKiKP	**PKiKP**	**13 57 08.3**	**-1.2**
MKAR	**Makanchi Array**	**113.07**	**313**	PKiKP	**PKiKP**	**13 57 08.3**	**-1.2**
	0.7nm,0.6s,baz=186,slow=0.6,SNR=7.1						
BOSA	**Boshof**	**125.10**	**204**	PKP	**PKPdf**	**13 57 33.0**	**-0.4**
	1.3nm,0.4s,baz=45,slow=1.4,SNR=3.2						
ARA0	**ARCESS Array S**	**130.78**	**350**	*e*PKPdf	**PKPdf**	**13 57 43.0**	**+0.2**
ARCES	**ARCESS Array B**	**130.78**	**350**	PKP	**PKPdf**	**13 57 43.0**	**+0.2**
	2.7nm,0.4s,baz=18,slow=1.4,SNR=26						
FIA0	**FINESS Array S**	**137.69**	**344**	*e*PKPdf	**PKPdf**	**13 57 56.6**	**+0.8**
FIA0				*e*SKPbc	**SKPbc**	**14 01 09.8**	**-0.9**
FINES	**FINESS Array B**	**137.69**	**344**	PKP	**PKPdf**	**13 57 56.6**	**+0.8**
	1.2nm,0.5s,baz=36,slow=3.5,SNR=4.0						
FINES				SKPbc	**SKPbc**	**14 01 09.8**	**-0.9**
	0.8nm,0.5s,baz=45,slow=3.8,SNR=7.6						
NB200	**NORSAR Array S**	**140.79**	**354**	*e*PKPdf	**PKPdf**	**13 58 02.9**	**+1.3**
NOA	**NORSAR Array B**	**140.79**	**354**	PKP	**PKPdf**	**13 58 02.9**	**+1.3**
	0.4nm,0.5s,baz=13,slow=4.1,SNR=3.8						
AKASG	**Malin Array Be**	**144.98**	**331**	PKP	**PKPbc**	**13 58 07.7**	**-1.3**
	2.5nm,0.5s,baz=44,slow=4.2,SNR=9.1						
AKBB	**Malin Array Si**	**144.98**	**331**	*e*PKPbc	**PKPbc**	**13 58 08.0**	**-1.0**
KIEV	**Kiev**	**144.99**	**331**	*i*P	**PKPbc**	**13 58 08.4**	**-0.6**
BR101	**Keskin Array S**	**148.69**	**311**	*e*PKPbc	**PKPdf**	**13 58 19.2**	**+3.1**
BRTR	**Keskin Array B**	**148.69**	**311**	PKPbc	**PKPdf**	**13 58 19.2**	**+3.1**
	1.2nm,0.6s,baz=133,slow=3.6,SNR=6.4						
BURAR	**Bucovina Array**	**149.03**	**330**	*i*P	**PKPbc**	**13 58 21.4**	**+0.8**
BIZ	**Bicaz**	**149.09**	**328**	*i*P	**PKPbc**	**13 58 21.4**	**+0.8**
TRPA	**Tarpa**	**149.80**	**334**	*i*P	**PKPdf**	**13 58 21.3**	**+4.0**
CLL	**Collm**	**149.94**	**347**	*i* PKPbc	**PKPbc**	**13 58 22.7**	**+0.2**
	comp=Z,8.0nm,0.7s						
DPC	**Dobruska-Polom**	**150.05**	**343**	*e*PKP	**PKPbc**	**13 58 22.6**	**-0.3**
DOPR	**Dopca**	**150.13**	**328**	*i*P	**PKPbc**	**13 58 23.7**	**+0.5**
BRG	**Berggiesshubel**	**150.16**	**346**	*e*PKP	**PKPbc**	**13 58 23.3**	**+0.2**
	comp=Z,5.7nm,0.6s						
KRLC	**Kraliky**	**150.17**	**342**	*e*PKP	**PKPbc**	**13 58 23.5**	**+0.3**
MLR	**Muntele Rosu**	**150.18**	**327**	*i*P	**PKPbc**	**13 58 23.4**	**-0.1**
MORC	**Moravsky Berou**	**150.21**	**341**	*i*P	**PKPbc**	**13 58 23.5**	**+0.2**
VOIR		**150.67**	**327**	*i*P	**PKPdf**	**13 58 23.1**	**+4.2**
PRU	**Pruhonice**	**150.84**	**345**	*e*PKP	**PKPbc**	**13 58 24.6**	**-0.1**
GOPC	**GO Pecny, Ondr**	**150.85**	**344**	*e*PKP	**PKPbc**	**13 58 24.9**	**+0.1**
ARR	**Arges**	**150.93**	**328**	*i*P	**PKPbc**	**13 58 25.9**	**+0.7**
GZR	**Gura Zlata**	**151.80**	**330**	*i*P	**PKPbc**	**13 58 26.5**	**-0.7**
KHC	**Kasperske Hory**	**151.87**	**345**	*e*PKP	**PKPbc**	**13 58 27.3**	**+0.1**
GERES	**GERESS Array B**	**152.11**	**345**	PKPbc	**PKPbc**	**13 58 27.4**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=42,slow=2.2,SNR=16						
BZS	**Buzias**	**152.16**	**331**	*i*P	**PKPbc**	**13 58 26.4**	**-1.5**
HERR	**Herculane**	**152.36**	**329**	*i*P	**PKPdf**	**13 58 25.4**	**+4.1**
TORD	**Torodi Ar. Bea**	**170.89**	**172**	PKPab	**PKPab**	**14 00 00.7**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=197,slow=3.1,SNR=14						
TOA1	**Torodi Ar. Sit**	**170.89**	**172**	*e*PKPab	**PKPab**	**14 00 00.7**	**+0.2**

NEIC ***22*** *13:42:16.8±0.5, 3.70S×149.93E, h10km, mb4.2/2, Error ellipse: s-maj=19.4km s-min=12.3km az=141.0*
IDC ***22*** *13:42:16.1±1.2, 3.49S×149.68E, h0km, mb3.9/6, mb1 4.2/7, mb1mx3.9/33, mbtmp3.9/7, ML1.5/1, MS3.7/2, Ms1 3.7/2, ms1mx3.0/28, Error ellipse: s-maj=65.6km s-min=22.2km az=120.0*

ISC 22 13:42:17.9±0.8, 3.7S±0.1×150.2E±0.1, h19km, n17, σ1§41/14, mb3.8/8, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.06**	**105**	*e*Pn	**Pb**	**13 42 54.3**	**-0.4**
MANU	**Manus Island**	**3.23**	**300**	*e*Pn	Pn	13 42 58.8	-8.8
PMG	**Port Moresby**	**6.45**	**208**	Pn	**Pn**	**13 43 53.6**	**+1.7**
	0.7nm,0.3s,baz=13,slow=12,SNR=2.9						
PMG				LR	LR	13 46 35.6	
	comp=Z,323nm,19.7s,baz=31,slow=41						
WR1	**Warramunga Arr**	**22.37**	**222**	*e*P	**P**	**13 47 14.3**	**-0.9**
	41nm,1.4s						
WRA	**Warramunga Arr**	**22.37**	**222**	P	**P**	**13 47 14.3**	**-0.9**
	6.3nm,1.1s,baz=47,slow=9.7,SNR=8.7						
AS31	**Alice Springs**	**25.35**	**217**	*e*P	**P**	**13 47 41.0**	**-3.0**
	1.6nm,0.9s						
ASAR	**Alice Springs**	**25.35**	**217**	P	**P**	**13 47 42.0**	**-2.0**
	6.1nm,0.3s,baz=72,slow=8.1,SNR=6.2						
PPT	**Papeete**	**60.57**	**108**	LR	LR	14 14 41.0	
	comp=Z,132nm,21.0s,baz=283,slow=32						
MK32	**Makanchi Array**	**77.75**	**319**	*e*P	**P**	**13 54 13.2**	**-0.6**
MKAR	**Makanchi Array**	**77.75**	**319**	P	**P**	**13 54 13.2**	**-0.6**
	1.0nm,1.1s,baz=75,slow=5.5,SNR=3.8						
ILAR	**Eielson Array**	**82.11**	**23**	P	**P**	**13 54 37.0**	**0.0**
	0.4nm,0.8s,baz=238,slow=5.2,SNR=3.7						
NV01	**Mina Array Sit**	**93.45**	**52**	*e*P	**P**	**13 55 33.1**	**+0.2**
NVAR	**Mina Array Bea**	**93.45**	**52**	P	P	13 55 37.0	+4.2
	0.1nm,0.3s,baz=268,slow=5.3,SNR=2.5						
YKA	**Yellowknife Ar**	**95.64**	**28**	P	**P**	**13 55 43.4**	**+1.4**
	0.3nm,0.7s,baz=278,slow=4.6,SNR=5.1						
YKB5	**Yellowknife Ar**	**95.64**	**28**	*e*P	**P**	**13 55 43.0**	**+1.0**
TORD	**Torodi Ar. Bea**	**147.46**	**289**	PKPbc	**PKPbc**	**14 02 01.8**	**0.0**
	0.7nm,0.8s,baz=44,slow=4.4,SNR=3.1						
TOA1	**Torodi Ar. Sit**	**147.46**	**289**	*e*PKPbc	**PKPbc**	**14 02 01.8**	**0.0**

IDC 22 13:50:06.7±2.5, 26.32S×69.87E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.7/43, mbtmp3.7/7, MS3.7/9, Ms1 3.7/9, ms1mx3.4/42, Error ellipse: s-maj=77.6km s-min=28.2km az=43.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**18.74**	**8**	T	T	14 13 20.8	
	baz=187,slow=76,SNR=36						
H08S2	**Diego Garcia H**	**18.74**	**8**	T	T	14 13 21.1	
	baz=187,slow=76,SNR=45						
H08S3	**Diego Garcia H**	**18.75**	**8**	T	T	14 13 22.2	
	baz=187,slow=76,SNR=37						
PALK	**Pallekele**	**35.01**	**19**	LR	LR	14 09 05.3	
	comp=Z,163nm,19.1s,baz=316,slow=32						
H01W2	**Cape Leeuwin H**	**38.79**	**114**	T	T	14 38 39.6	
	baz=271						
H01W3	**Cape Leeuwin H**	**38.79**	**114**	T	T	14 38 42.2	
	baz=271						
H01W1	**Cape Leeuwin H**	**38.80**	**114**	T	T	14 38 42.0	
	baz=271						
BOSA	**Boshof**	**39.48**	**256**	LR	LR	14 11 29.6	
	comp=Z,195nm,18.8s,baz=98,slow=32						
PSI	**Prapat**	**40.34**	**49**	LR	LR	14 10 07.7	
	comp=Z,139nm,21.3s,baz=94,slow=30						
LEM	**Lembang**	**40.82**	**68**	LR	LR	14 10 39.1	
	comp=Z,65nm,21.0s,baz=104,slow=30						
MAW	**Mawson**	**41.52**	**184**	LR	LR	14 11 48.9	
	comp=Z,166nm,21.2s,baz=306,slow=31						
CMAR	**Chiang Mai Arr**	**52.71**	**35**	P	P	13 59 23.8	+0.5
	1.7nm,1.0s,baz=227,slow=7.4,SNR=14						
CMAR				LR	LR	14 19 40.3	
	comp=Z,35nm,19.1s,baz=196,slow=34						
BATI	**Baumata**	**53.16**	**83**	LR	LR	14 21 56.9	
	comp=Z,55nm,18.3s,baz=242,slow=36						
ASAR	**Alice Springs**	**57.56**	**102**	P	P	13 59 58.6	0.0
	0.3nm,0.6s,baz=255,slow=6.6,SNR=9.0						
WRA	**Warramunga Arr**	**59.11**	**98**	P	P	14 00 09.4	0.0
	1.7nm,1.1s,baz=253,slow=7.0,SNR=3.6						
WRA				LR	LR	14 24 11.9	
	comp=Z,57nm,18.0s,baz=135,slow=35						
MKAR	**Makanchi Array**	**73.63**	**9**	P	P	14 01 42.5	+0.7
	0.6nm,1.0s,baz=190,slow=6.2,SNR=5.1						
BRTR	**Keskin Array B**	**73.88**	**332**	P	P	14 01 44.3	+0.8
	0.7nm,0.9s,baz=157,slow=6.7,SNR=4.6						
SONM	**Songino Array**	**80.79**	**24**	P	P	14 02 21.6	-0.5
	0.3nm,0.6s,baz=224,slow=4.0,SNR=3.3						
ZALV	**Zalesovo Beam**	**80.97**	**9**	P	P	14 02 21.3	-1.4
	0.2nm,0.3s,baz=207,slow=5.9,SNR=2.4						
KSRS	**Korea Array**	**83.63**	**43**	LR	LR	14 38 04.9	
	comp=Z,34nm,19.3s,baz=295,slow=34						

DDA ***22*** *14:22:01.7, 40.74N×41.24E, h7km±2km, ML2.5*
ISK ***22*** *14:22:01.8, 40.73N×41.31E, h8km, ML2.6/4*
ISCJB ***22*** *14:22:02.1±0.8, 40.70N±0.04×41.26E±0.05, h4km±11km, Error ellipse: s-maj=7.2km s-min=6.0km az=155.6*

ISC 22 14:22:01.7±1.3, 40.73N±0.04×41.26E±0.03, h9km±13km, n13, σ0§37/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDEM	**Demirkent**	**0.40**	**67**	IAML_P		**14 22 10.8**	**-0.4**
	comp=Z,2μm,0.2s						
DDEM				*i* P	**Pb**	**14 22 17.3**	**-0.2**
DDEM				*i* S	**Sb**	**14 22 12.0**	**+0.3**
DBAD	**Bademkaya**	**0.43**	**49**	*i* P	**Pb**	**14 22 12.0**	**+0.3**
DBAD				*i* S	**Sb**	**14 22 18.1**	**-0.3**
CHOM	**Cayeli-Rize**	**0.53**	**314**	PG	**Pb**	**14 22 13.1**	**-0.1**
CHOM				SG	**Sb**	**14 22 21.3**	**+0.3**
DAGI	**Agillar**	**0.60**	**55**	IAML_P			
	comp=Z,1μm,0.1s						
DAGI				*i* P	**Pb**	**14 22 15.0**	**+0.4**
DAGI				*i* S	**Sb**	**14 22 22.5**	**-0.7**
ARTV	**Artvin**	**0.68**	**48**	IAML_P			
	comp=Z,2μm,0.2s						
ARTV				*i* P	**Pg**	**14 22 15.1**	**+0.2**
DBOC	**Borcka**	**0.68**	**26**	*i* P	**Pb**	**14 22 15.8**	**-0.1**
DBOC				*i* S	**Sb**	**14 22 25.7**	**+0.1**
BCA	**Borcka**	**0.76**	**21**	PG	**Pb**	**14 22 16.9**	**-0.3**
BCA				SG	**Sb**	**14 22 27.9**	**+0.1**
KOPR	**Koprukoy-ERZUR**	**0.87**	**148**	PG	**Pg**	**14 22 18.6**	**+0.2**
BAYB	**BAYBURT**	**0.90**	**239**	*i* P	**Pg**	**14 22 19.0**	**-0.1**
BAYB				*i* S	**Sg**	**14 22 30.7**	**-0.1**
BAYT	**Aydıntepe-Bayb**	**0.92**	**249**	PG	**Pb**	**14 22 20.0**	**0.0**
KOPT	**Kop Dagi**	**0.92**	**220**	IAML_P			
	comp=Z,748nm,0.2s						
KOPT				*i* P	**Pb**	**14 22 20.1**	**0.0**
KOPT				*i* S	**Sn**	**14 22 35.0**	**+0.2**
MACK	**Trabzon**	**1.15**	**281**	*i* P	**Pg**	**14 22 24.0**	**+0.1**
MACK				*i* S	**Sb**	**14 22 39.6**	**+0.6**
ESPY	**Espiye-Giresun**	**1.93**	**276**	PN	**Pb**	**14 22 36.4**	**-0.8**

ISCJB ***22*** *14:22:03.2±0.8, 33.16S±0.05×138.98E±0.06, h10km, Error ellipse: s-maj=7.5km s-min=6.4km az=149.0*
IDC ***22*** *14:22:05.5±10.0, 33.06S×138.63E, h0km, mb1 4.0/2, mb1mx3.5/24, mbtmp3.7/2, ML2.6/3, Error ellipse: s-maj=139.5km s-min=33.9km az=14.0*
AUST ***22*** *14:22:05.4±0.0, 33.22S×138.80E, h0km, Error ellipse: s-maj=0.5km s-min=0.1km az=38.0*

**ISC 22 14:22:03

CHOS			S	**Sg**	**14 33 33.4**	**+0.6**
OUR	**Ouranopolis**	**1.38 299**	PN	**Pn**	**14 33 14.1**	**-0.3**
AOS	**Alonnisos**	**1.40 249**	PN	**Pn**	**14 33 15.1**	**+0.4**
RDO	**Rodhopi**	**1.46 359**	PN	**Pg**	**14 33 16.8**	**-0.6**
RDO	**Rodhopi**	**1.46 359**	P	**Pg**	**14 33 16.7**	**-0.6**
RDO			S	**Sg**	**14 33 36.5**	**+0.2**
KRBG	**Karabiga-Canak**	**1.51 61**	PN	**Pn**	**14 33 16.5**	**+0.3**
KAVA	**Kavala**	**1.54 329**	P	**Pn**	**14 33 16.9**	**+0.4**
URLA	**Izmir**	**1.55 148**	PN	**Pn**	**14 33 16.4**	**-0.3**
GONE	**Gonen-Balikesi**	**1.67 77**	PN	**Pn**	**14 33 18.9**	**+0.5**
MRMT	**Marmara Adasi**	**1.81 59**	PN	**Pn**	**14 33 20.9**	**+0.5**
SBT4	**Kumbag-Tekirda**	**1.89 52**	PN	**Pn**	**14 33 21.7**	**+0.4**
EDRB	**Edirne**	**2.34 22**	PN	**Pn**	**14 33 28.8**	**+1.2**

IDC ***22*** *14:37:13.2±1.4, 11˚.44S×165˚.77E, h0km, mb4.0/9, mb1 4.2/11,mb1mx4.0/37,mbtmp4.1/11, ML4.4/2, MS3.4/7, Ms1 3.4/7, ms1mx3.1/37, Error ellipse: s-maj=36.9km s-min=22.1km az=121.0*

NEIC ***22*** *14:37:15.8±0.8, 11˚.35S×165˚.58E, h10km, mb4.4/4, Error ellipse: s-maj=17.7km s-min=9.1km az=65.0*

ISC 22 14:37:17.9±1.0, 11˚.4S±0˚.1×165˚.6E±0˚.1, h24km, n24, σ1§15/23, mb4.0/10, MS3.4/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**5.88**	**289**	Pn		**Pn**	**14 38 44.7**	**+1.2**
	10.0nm,0.3s,baz=196,slow=9.5,SNR=4.7							
HNR				Sn		**Sn**	**14 39 48.5**	**-1.7**
	5.3nm,0.3s,baz=9.0,slow=19,SNR=2.7							
HNR				LR		LR	14 41 19.4	
	comp=Z,240nm,19.3s,baz=96,slow=41							
MARNC	**Mare, Loyalty**	**10.32**	**167**	*e*Pn		**Pn**	**14 39 44.7**	**+0.2**
DZM	**Mont Dzumac**	**10.67**	**176**	Pn		**Pn**	**14 39 48.1**	**-1.3**
	2.9nm,0.3s,baz=332,slow=14,SNR=33							
DZM				LR		LR	14 43 42.2	
	comp=Z,113nm,18.4s,baz=228,slow=37							
DZM	**Mont Dzumac**	**10.67**	**176**	*e*Pn		**Pn**	**14 39 49.2**	**-0.2**
ONTNC	**Ouen Toro**	**10.90**	**176**	*e*Pn		**Pn**	**14 39 53.1**	**+0.6**
OUENC	**Ouen Island, N**	**11.05**	**174**	*e*Pn		**Pn**	**14 39 55.3**	**+0.8**
PINNC	**Pines Island,**	**11.31**	**171**	*e*Pn		**Pn**	**14 39 58.1**	**-0.1**
PMG	**Port Moresby**	**18.23**	**274**	LR		LR	14 48 29.7	
	comp=Z,142nm,18.6s,baz=57,slow=37							
CTA	**Charters Tower**	**20.51**	**243**	P		**P**	**14 41 56.3**	**+1.8**
	5.0nm,0.8s,baz=69,slow=19,SNR=3.6							
STKA	**Stephens Creek**	**30.10**	**224**	P		**P**	**14 43 26.0**	**+0.3**
	1.6nm,0.6s,baz=77,slow=8.5,SNR=5.4							
STKA				LR		LR	14 53 11.3	
	comp=Z,55nm,21.8s,baz=29,slow=32							
STKA	**Stephens Creek**	**30.10**	**224**	*e*P		**P**	**14 43 24.7**	**-1.0**
	4.5nm,1.8s							
WR1	**Warramunga Arr**	**31.23**	**250**	*e*P		**P**	**14 43 35.1**	**-0.7**
	57nm,2.0s							
WRA	**Warramunga Arr**	**31.23**	**250**	P		**P**	**14 43 35.1**	**-0.8**
	2.4nm,0.7s,baz=82,slow=9.0,SNR=13							
WRA				LR		LR	14 56 29.5	
	comp=Z,73nm,18.2s,baz=105,slow=37							
AS31	**Alice Springs**	**32.51**	**244**	*e*P		**P**	**14 43 45.8**	**-1.3**
	4.1nm,1.8s							
ASAR	**Alice Springs**	**32.51**	**244**	P		**P**	**14 43 45.4**	**-1.7**
	7.4nm,0.5s,baz=72,slow=9.6,SNR=7.7							
FITZ	**Fitzroy Crossi**	**39.15**	**255**	P		**P**	**14 44 43.3**	**-0.7**
	3.0nm,0.8s,baz=124,slow=7.3,SNR=3.3							
FITZ				LR		LR	14 59 25.5	
	comp=Z,54nm,19.6s,baz=100,slow=34							
FITZ	**Fitzroy Crossi**	**39.15**	**255**	*e*P		**P**	**14 44 42.6**	**-1.4**
	35nm,1.8s							
NWAO	**Narrogin (SRO)**	**49.15**	**236**	LR		LR	15 06 12.6	
	comp=Z,97nm,20.4s,baz=128,slow=35							
CMAR	**Chiang Mai Arr**	**72.10**	**294**	P		**P**	**14 48 42.0**	**+1.2**
	0.2nm,0.3s,baz=145,slow=3.3,SNR=3.6							
SONA0	**Songino Array**	**78.84**	**324**	*e*P		**P**	**14 49 20.0**	**+0.9**
SONM	**Songino Array**	**78.84**	**324**	P		**P**	**14 49 20.0**	**+0.9**
	0.4nm,0.7s,baz=116,slow=3.4,SNR=2.7							
ILAR	**Eielson Array**	**83.87**	**19**	P		**P**	**14 49 43.3**	**-1.9**
	0.5nm,0.7s,baz=238,slow=4.7,SNR=8.9							
MK32	**Makanchi Array**	**93.66**	**317**	*e*P		**P**	**14 50 33.0**	**+0.5**
MKAR	**Makanchi Array**	**93.66**	**317**	P		**P**	**14 50 33.0**	**+0.5**
	0.3nm,0.6s,baz=114,slow=6.5,SNR=3.4							

ISCJB ***22*** *14:58:57.8±1.1, 17˚.8S±0˚.3×178˚.3W±0˚.2, h600km, mb3.8/11, Error ellipse: s-maj=44.2km s-min=13.4km az=147.3*

IDC ***22*** *14:58:59.5±2.7, 17˚.86S×178˚.28W, h607km±32km, mb3.3/11,mb1 3.5/12,mb1mx3.2/43,mbtmp4.2/12, Error ellipse: s-maj=37.8km s-min=13.2km az=148.0*

ISC 22 14:58:58.8±1.2, 17˚.8S±0˚.3×178˚.3W±0˚.2, h600km, n13, σ0§93/16, mb3.7/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**15.00**	**251**	P		**P**	**15 02 07.8**	**+0.8**
	0.6nm,0.3s,baz=83,slow=21,SNR=7.1							
STKA	**Stephens Creek**	**38.80**	**241**	P		**P**	**15 05 33.5**	**-0.1**
	7.6nm,0.5s,baz=93,slow=10,SNR=26							
WRA	**Warramunga Arr**	**44.80**	**259**	P		**P**	**15 06 20.4**	**-0.5**
	5.5nm,0.4s,baz=94,slow=7.1,SNR=170							
WRA				PcP		**PcP**	**15 07 49.0**	**-0.7**
	0.6nm,0.4s,baz=87,slow=3.6,SNR=4.0							
ASAR	**Alice Springs**	**44.96**	**254**	P		**P**	**15 06 21.9**	**-0.2**
	15nm,0.4s,baz=91,slow=8.1,SNR=385							
ASAR				PcP		**PcP**	**15 07 50.0**	**-0.2**
	1.6nm,0.4s,baz=98,slow=3.7,SNR=6.6							
ASAR				S		**S**	**15 12 17.4**	**-0.6**
	1.8nm,0.8s,baz=90,slow=15,SNR=12							
FITZ	**Fitzroy Crossi**	**53.19**	**260**	P		**P**	**15 07 22.6**	**0.0**
	1.1nm,0.3s,baz=74,slow=8.1,SNR=11							
MJAR	**Matsushiro Arr**	**67.94**	**323**	P		**P**	**15 08 59.3**	**+0.2**
	0.7nm,0.4s,baz=166,slow=6.4,SNR=6.5							
PETK	**Petropavlovsk-**	**73.65**	**345**	P		**P**	**15 09 32.5**	**+0.4**
	4.3nm,0.9s,baz=130,slow=8.8,SNR=4.7							
ILAR	**Eielson Array**	**85.79**	**13**	P		**P**	**15 10 34.3**	**-0.9**
	0.4nm,0.4s,baz=218,slow=4.7,SNR=9.6							
TXAR	**Lajitas Array**	**85.83**	**58**	P		**P**	**15 10 36.1**	**-0.3**
	0.3nm,0.8s,baz=256,slow=3.6,SNR=3.1							
PDAR	**Pinedale Array**	**87.20**	**43**	P		**P**	**15 10 44.8**	**+2.1**
	0.4nm,1.0s,baz=244,slow=4.5,SNR=2.9							
CMAR	**Chiang Mai Arr**	**89.01**	**290**	P		**P**	**15 10 52.3**	**+0.9**
	1.1nm,0.8s,baz=99,slow=3.0,SNR=7.5							
YKA	**Yellowknife Ar**	**94.20**	**25**	P		**P**	**15 11 12.4**	**-1.8**
	0.1nm,0.4s,baz=245,slow=4.5,SNR=3.3							
MMAI	**Mount Meron Ar**	**146.24**	**303**	PKPbc		**PKPbc**	**15 17 33.7**	**+0.1**
	2.2nm,0.5s,baz=67,slow=6.5,SNR=6.6							

IDC ***22*** *15:09:15.6±0.4, 36˚.17N×68˚.84E, h0km, mb4.9/35, mb1 5.0/41,mb1mx5.0/48,mbtmp5.0/41, ML5.0/6, MS4.5/29, Ms1 4.5/29,ms1mx4.4/41, Error ellipse: s-maj=10.7km s-min=8.9km az=2.0*

ISCJB ***22*** *15:09:18.5±0.6, 36˚.40N±0˚.02×68˚.88E±0˚.02, h26km±4km, mb5.1/210, MS4.7/54, Error ellipse: s-maj=2.7km s-min=2.2km az=24.1*

MOS ***22*** *15:09:19.7±1.3, 36˚.44N×68˚.82E, h33km, mb5.4/82, MS4.7/31, Error ellipse: s-maj=4.5km s-min=3.1km az=80.2*

NNC ***22*** *15:09:20.8±1.4, 36˚.85N×68˚.40E, h0km, mb5.8, mpv5.5, Error ellipse: s-maj=15.0km s-min=7.3km az=160.0*

NEIC ***22*** *15:09:22.9±0.5, 36˚.34N×68˚.85E, h52km±4km, mb5.2/100, Error ellipse: s-maj=3.7km s-min=2.9km az=199.0*

NEIC Felt [IV] at Kunduz and [III] at Kabul and Mazar-e Sharif. Also felt at Baghrami, Hak Gabbar, Jalalabad, Khanabad, Mahmud-e Raqi and Pol-e Khomri. Felt at Karategin, Tajikistan.

GCMT ***22*** *15:09:22.9±0.2, 36˚.50N±0˚.01×68˚.71E±0˚.01, h26km, MW5.2/110, Moment Tensor Solution. s54,c66; s110,c191; Duration: 1§0 Moment tensor: Scale 10^16 Nm; Mrr 1.79±.18; Mθθ -2.47±.14; Mϕϕ 0.68±.13; Mrθ 2.26±.29; Mrϕ -5.05±.12; Mθϕ -5.32±.38; Best double couple: M◦7.71200×10^16 NP1:ϕ◦192.00000°, δ74.00000°, λ39.00000°. NP2:ϕ◦90.00000°, δ52.00000°, λ160.00000°. Principal axes: T 8.9130, Plg39.0000°, Azm58.0000°; N -2.3980, Plg48.0000°, Azm211.0000°; P -6.5120, Plg14.0000°, Azm316.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***22*** *15:09:23.3, 36˚.57N×69˚.08E, h52km, mb5.2/72, mB5.2/55, ML5.5/1, Ms5.1/75, Ms7 4.8/69*

ISC 22 15:09:20.7±0.4, 36˚.46N±0˚.03×68˚.76E±0˚.03, h31km±2km,

2013 JAN

h31km:pP-P, n653, σ2§02/706, mb5.2/217, MS4.8/56, 81C-40D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KBL	**Kabul**	**1.93**	**173**	*e*Pn		**Pn**	**15 09 52.9**	**+1.3**
KBL				*e*Sn		**Sn**	**15 10 16.4**	**+1.6**
KBL	**Kabul**	**1.93**	**173**	*e*PN		**Pn**	**15 09 52.9**	**+1.3**
KBL				*e*			15 10 16.4	
CEP	**Cherat**	**3.68**	**135**	P		**Pn**	**15 10 18.5**	**+2.8**
BTK	**Batken**	**3.94**	**24**	*e*Pn		Pb	15 10 24.0	-5.5
BTK	**Batken**	**3.94**	**24**	*e*PN		Pb	15 10 24.0	-5.5
THW	**Thamme Wali**	**4.41**	**145**	P		**Pn**	**15 10 26.6**	**+1.1**
NIL	**Nilore**	**4.63**	**126**	*e*Pn		**Pn**	**15 10 30.9**	**+2.3**
NIL	**Nilore**	**4.63**	**126**	*e*PN		**Pn**	**15 10 30.9**	**+2.3**
CHCP	**Chirah Chowk**	**4.63**	**126**	P		**Pn**	**15 10 31.0**	**+2.4**
SFK	**Sufi-Kurgan**	**5.15**	**45**	⇑Pn		**Pn**	**15 10 39.0**	**+3.1**
	244nm,0.5s							
SFK				⇑Sn		**Sn**	**15 11 39.8**	**+5.3**
	792nm,0.6s							
SFK				⇑Lg		Lg	15 12 06.6	
	1μm,0.6s							
SFK	**Sufi-Kurgan**	**5.15**	**45**	PN		**Pn**	**15 10 39.0**	**+3.1**
SFK							15 11 39.8	
SFK				pmax		pmax		
	comp=Z,244nm,0.5s							
SFK				smax		smax		
	comp=E,792nm,0.6s							
SRNI	**Srinagar**	**5.51**	**113**	*e*P		**Pn**	**15 10 41.0**	**+0.4**
SRNI				*ex*		x	15 11 25.0	
SARP	**Sargodha**	**5.57**	**143**	P		**Pn**	**15 10 42.0**	**+0.6**
IUG	**Iuzhnay**	**5.77**	**9**	*e*PN		**Pn**	**15 10 46.4**	**+2.1**
IUG				pmax		pmax		
	comp=Z,3μm,0.7s							
IUG				MLR		MLR		
	comp=Z,1μm,5.0s							
IUG	**Iuzhnay**	**5.77**	**9**	*e*P		**Pn**	**15 10 46.4**	**+2.1**
	comp=Z,3μm,0.7s							
IUG				⇑*i*S		**Sn**	**15 11 49.6**	**+0.2**
	comp=Z,35μm,1.1s							
IUG				*e*LRM		MLR	15 13 20.5	
	comp=Z,1μm,5.4s							
ARSB	**Arslanbob**	**5.87**	**33**	*e*Pn		**Pn**	**15 10 47.7**	**+2.0**
CHM	**Chimkent**	**5.89**	**6**	*e*PN		**Pn**	**15 10 48.6**	**+2.8**
CHM				pmax		pmax		
	comp=Z,2μm,0.8s							
CHM				MLR		MLR		
	comp=Z,1μm,9.0s							
CHM	**Chimkent**	**5.89**	**6**	*e*P		**Pn**	**15 10 48.7**	**+2.8**
	comp=Z,2μm,0.8s							
CHM				⇑*i*S		**Sn**	**15 11 53.3**	**+0.9**
	comp=Z,54μm,0.9s							
CHM				*e*LRM		MLR	15 13 34.5	
	comp=Z,1μm,8.5s							
JMU	**Jammu**	**6.29**	**125**	*e*P		**Pn**	**15 10 53.0**	**+1.7**
JMU				*e*S		Sn	15 11 55.5	-6.7
KSH	**Kashi**	**6.46**	**60**	P		**Pn**	**15 10 51.8**	**-2.1**
KSH				sP		Pb	15 11 03.1	-9.4
KSH				S		**Sn**	**15 11 59.8**	**-6.8**
KSH				pmax		pmax		
	comp=Z,280nm,0.6s							
KSH				LR		LR		
	comp=Z,23μm,5.6s							
KSH				LR		LR		
	comp=Z,26μm,6.6s							
KSH				LR		LR		
	comp=Z,30μm,9.4s							
MNAS	**Manas**	**6.68**	**25**	⇓Pn		**Pn**	**15 10 59.2**	**+2.3**
	comp=Z,208nm,0.5s							
MNAS				⇓Sn		**Sn**	**15 12 12.6**	**+0.6**
	comp=Z,915nm,0.8s							
MNAS				⇓Lg		Lg	15 12 44.7	
	comp=Z,2μm,1.3s							
MNAS	**Manas**	**6.68**	**25**	PN		**Pn**	**15 10 59.1**	**+2.3**
MNAS							15 12 14.0	
MNAS				pmax		pmax		
	comp=Z,208nm,0.5s							
MNAS				smax		smax		
	comp=E,545nm,0.5s							
DZA	**Taraz**	**6.73**	**16**	*e*PN		**Pn**	**15 10 58.7**	**+1.4**
DZA				pmax		pmax		
	comp=Z,14μm,0.7s							
DZA				MLR		MLR		
	comp=Z,2μm,12.0s							
DZA	**Taraz**	**6.73**	**16**	*e*P		**Pn**	**15 10 58.8**	**+1.4**
DZA				*e*S		**Sn**	**15 12 13.8**	**+0.9**
	comp=Z,14μm,0.7s							
DZA				*e*LRM		MLR	15 14 04.7	
	comp=Z,2μm,11.8s							
KK31	**Karatay Array**	**6.77**	**11**	*e*Pn		**Pn**	**15 11 00.3**	**+2.4**
KK31	**Karatay Array**	**6.77**	**11**	⇑Pn		**Pn**	**15 11 00.7**	**+2.7**
	comp=Z,30nm,0.3s,baz=206,slow=16,SNR=731							
KK31				⇑Sn		**Sn**	**15 12 13.9**	**-0.1**
	comp=Z,209nm,0.5s							
KK31				⇓Lg		Lg	15 12 44.2	
	comp=Z,754nm,0.8s,baz=196,slow=28,SNR=6.3							
KK31	**Karatay Array**	**6.77**	**11**	*e*PN		**Pn**	**15 11 00.4**	**+2.4**
AML	**Almayashu**	**6.84**	**33**	P		**Pn**	**15 11 01.4**	**+2.2**
	SNR=1969							
UCH	**Uchtor**	**7.29**	**36**	P		**Pn**	**15 11 07.9**	**+2.4**
	SNR=1183							
EKS2	**Erkin-Say**	**7.31**	**30**	P		**Pn**	**15 11 08.0**	**+2.6**
	SNR=156							
DHRM	**DHARAMSHALA**	**7.52**	**122**	*e*P		**Pn**	**15 11 09.6**	**+1.2**
DHRM				*e*S		Sn	15 12 24.3	-8.4
DHRM				IAML			15 13 17.2	
	comp=N,6μm,0.9s							
DHRM				IAML			15 13 17.2	
	comp=E,3μm,0.8s							
NRN	**Naryn**	**7.52**	**46**	*e*Pn		**Pn**	**15 11 09.3**	**+0.8**
NRN	**Naryn**	**7.52**	**46**	*e*P		**Pn**	**15 11 09.3**	**+0.8**
KZA	**Kyzart**	**7.54**	**40**	P		**Pn**	**15 11 10.7**	**+1.8**
	SNR=883							
AAK	**Ala-Archa**	**7.60**	**34**	Pn		**Pn**	**15 11 12.0**	**+2.5**
	comp=E,124nm,0.3s,baz=204,slow=10,SNR=795							
AAK				Sn		**Sn**	**15 12 36.6**	**+2.1**
	comp=E,56nm,0.3s,baz=125,slow=22,SNR=5.8							
AAK				Lg		Lg	15 13 22.6	
	comp=E,21nm,0.3s,baz=3.4,slow=19,SNR=2.3							
AAK	**Ala-Archa**	**7.60**	**34**	P		**Pn**	**15 11 11.9**	**+2.5**
	SNR=566							
AAK	**Ala-Archa**	**7.60**	**34**	⇑Pn		**Pn**	**15 11 11.4**	**+1.9**
	comp=E,314nm,0.5s							
AAK				Sn		**Sn**	**15 12 36.8**	**+2.3**
	comp=E,564nm,0.8s							
AAK	**Ala-Archa**	**7.60**	**34**	*c* *i*P		**Pn**	**15 11 11.8**	**+2.4**
AAK				pmax		pmax		
	comp=Z,314nm,0.5s							
AAK	**Ala-Archa**	**7.60**	**34**	P		**Pn**	**15 11 11.8**	**+2.4**
	SNR=192							
AAK				S		**Sn**	**15 12 35.9**	**+1.4**
FRU1	**Bishkek**	**7.79**	**34**	*e*Pn		**Pn**	**15 11 14.8**	**+2.8**
FRU1	**Bishkek**	**7.79**	**34**	*e*P		**Pn**	**15 11 14.9**	**+2.8**
FRU	**Bishkek**	**7.81**	**34**	⇑*i*P		**Pn**	**15 11 14.0**	**+1.8**
FRU				*i* S		**Sn**	**15 12 40.0**	**+0.5**
FRU				pmax		pmax		
	comp=Z,1μm,2.0s							
FRU				smax		smax		
	comp=N,2μm,2.0s							
FRU				MLR		MLR		
	comp=E,18μm,6.5s							
KBK	**Karagaybulak**	**7.82**	**36**	P		**Pn**	**15 11 15.5**	**+3.0**
	SNR=598							
CHMS	**Chumysh**	**8.00**	**33**	P		**Pn**	**15 11 16.9**	**+2.1**
	SNR=484							
USP	**Ospenovka**	**8.11**	**31**	P		**Pn**	**15 11 18.0**	**+1.7**
	SNR=276							
ULHL	**Ulahol**	**8.18**	**43**	P		**Pn**	**15 11 19.3**	**+1.7**
	SNR=518							
TKM2	**Tokmak 2**	**8.33**	**37**	P		**Pn**	**15 11 21.5**	**+2.0**
	SNR=436							
TKM2	**Tokmak 2**	**8.33**	**37**	⇑Pn		**Pn**	**15 11 21.6**	**+2.0**
	comp=E,197nm,0.6s							
TKM2				⇓Sn		**Sn**	**15 12 54.2**	**+1.6**
	comp=E,492nm,1.4s							
TKM2	**Tokmak 2**	**8.33**	**37**	P		**Pn**	**15 11 21.5**	**+2.0**
TKM2				pmax		pmax		
	comp=Z,106nm,0.5s							
GEYT	**Alibeck**	**8.62**	**283**	Pn		**Pn**	**15 11 21.3**	**-2.0**
	comp=Z,26nm,0.3s,baz=116,slow=9.7,SNR=154							
GEYT				Sn		**Sn**	**15 12 55.6**	**-3.9**
	comp=Z,37nm,0.3s,baz=120,slow=13,SNR=4.9							
GEYT				LR		LR	15 15 49.0	
	comp=Z,4μm,18.0s,baz=120,slow=45							
GYA0B	**ALIBECK ARRAY**	**8.62**	**283**	*e*Pn		**Pn**	**15 11 20.7**	**-2.6**
GYA0B	**ALIBECK ARRAY**	**8.62**	**283**	⇓Pn		**Pn**	**15 11 21.3**	**-2.0**
	comp=Z,180nm,0.6s							
GYA0B				⇑Sn		**Sn**	**15 12 57.2**	**-2.4**
	comp=Z,920nm,0.6s							
GYA0B				⇑Lg		Lg	15 13 42.5	
	comp=Z,2μm,1.1s							
SMLA	**Simla**	**8.79**	**125**	*e*P		**Pn**	**15 11 25.4**	**-0.2**
SMLA				*e*S		Sn	15 12 54.4	-9.1
SMLA				IAML			15 14 08.6	
	comp=N,1μm,0.8s							
SMLA				IAML			15 14 08.7	
	comp=E,1μm,0.5s							
AAA	**Alma-Ata**	**9.21**	**40**	*e*P		**Pn**	**15 11 31.8**	**+0.4**
AAA				pmax		pmax		
	comp=Z,263nm,1.8s							
AAA				MLR		MLR		
	comp=Z,2μm,15.0s							
AAA	**Alma-Ata**	**9.21**	**40**	⇓*e*P		**Pn**	**15 11 31.9**	**+0.4**
	comp=Z,263nm,1.8s							
AAA				*e*LRM		MLR	15 15 20.1	
	comp=Z,2μm,14.8s							
KNDC	**Almaty**	**9.24**	**41**	⇑Pn		**Pn**	**15 11 33.9**	**+2.1**
	comp=Z,576nm,1.1s							
KNDC				⇑Lg		Lg	15 14 15.0	
	comp=Z,1μm,1.4s							
MDOK	**Medeo**	**9.24**	**41**	Pn		**Pn**	**15 11 34.1**	**+2.1**
	comp=Z,380nm,1.0s							
MDOK				Lg		Lg	15 14 12.7	
	comp=Z,217nm,0.8s							
MDOK	**Medeo**	**9.24**	**41**	*de*P		**Pn**	**15 11 31.3**	**-0.7**
MDOK				pmax		pmax		
	comp=Z,3μm,1.4s							
MDOK				MLR		MLR		
	comp=Z,4μm,17.0s							
MDOK	**Medeo**	**9.24**	**41**	⇓*e*P		**Pn**	**15 11 31.3**	**-0.7**
	comp=Z,3μm,1.4s							
MDOK				*e*LRM		MLR	15 15 16.8	
	comp=Z,4μm,17.1s							
KUU	**Kurty**	**9.42**	**36**	*ce*P		**Pn**	**15 11 33.6**	**-0.7**
KUU				*i* S		**Sn**	**15 13 14.9**	**-4.2**
KUU				pmax		pmax		
	comp=Z,538nm,1.0s							
KUU				MLR		MLR		
	comp=Z,2μm,11.0s							
KUU	**Kurty**	**9.42**	**36**	⇑*e*P		**Pn**	**15 11 33.6**	**-0.7**
	comp=Z,538nm,1.0s							
KUU				⇓*i*S		**Sn**	**15 13 14.9**	**-4.2**
	comp=Z,2μm,2.2s							
KUU				*e*LRM		MLR	15 15 27.0	
	comp=Z,2μm,11.0s							
PRZ	**Przheval'sk**	**9.58**	**48**	*e*Pn		**Pn**	**15 11 38.0**	**+1.4**
PRZ	**Przheval'sk**	**9.58**	**48**	*e*P		**Pn**	**15 11 38.0**	**+1.4**
CHKK	**Chushkaly**	**9.70**	**38**	*c* *i*P		**Pn**	**15 11 38.7**	**+0.5**
CHKK				pmax		pmax		
	comp=Z,125nm,0.4s							
CHKK	**Chushkaly**	**9.70**	**38**	⇑*i*P		**Pn**	**15 11 38.8**	**+0.5**
	comp=Z,125nm,0.4s							
DDI	**Dehra Dun**	**9.89**	**126**	*e*P		**Pn**	**15 11 40.3**	**-0.5**
DDI				*e*S		Sn	15 13 20.8	-10
DDI				IAML			15 14 37.4	
	comp=E,772nm,0.6s							
DDI				IAML			15 14 41.5	
	comp=N,761nm,0.3s							
SATY	**Saty**	**9.93**	**45**	*de*P		**Pn**	**15 11 39.9**	**-1.4**
SATY				pmax		pmax		
	comp=Z,904nm,1.5s							
SATY				MLR		MLR		
	comp=Z,5μm,15.0s							
SATY	**Saty**	**9.93**	**45**	⇓*e*P		**Pn**	**15 11 40.0**	**-1.4**
	comp=Z,904nm,1.5s							
SATY				*e*LRM		MLR	15 15 44.7	
	comp=Z,5μm,14.6s							
UZB	**Uzynbulak**	**10.34**	**47**	*de*P		**Pn**	**15 11 45.5**	**-1.5**
UZB				pmax		pmax		
	comp=Z,701nm,1.1s							
UZB				MLR		MLR		
	comp=Z,4μm,17.0s							
UZB	**Uzynbulak**	**10.34**	**47**	⇓*e*P		**Pn**	**15 11 45.5**	**-1.5**
	comp=Z,701nm,1.1s							
UZB				*e*LRM		MLR	15 15 58.4	
	comp=Z,4μm,17.5s							
KUDL	**Kundal**	**10.55**	**140**	*e*P		**Pn**	**15 11 48.0**	**-1.9**
KUDL				*e*S		Sn	15 13 38.3	-8.6
PDGK	**Podgornoye**	**10.72**	**47**	⇑Pn		**Pn**	**15 11 52.6**	**+0.3**
	comp=Z,171nm,1.0s							
PDGK				⇑Lg		Lg	15 14 59.8	
	comp=Z,211nm,1.0s							
PDGK	**Podgornoye**	**10.72**	**47**	P		**Pn**	**15 11 52.5**	**+0.3**
PDGK				pmax		pmax		
	comp=Z,171nm,1.0s							
JOSI	**Joshimath**	**10.76**	**120**	*e*P		**Pn**	**15 11 53.0**	**+0.1**
JOSI				*e*S		Sn	15 13 43.7	-8.8
JOSI				IAML			15 14 21.3	
	comp=E,1μm,0.2s							
SONA	**Sohna**	**10.79**	**137**	*e*P		**Pn**	**15 11 51.9**	**-1.1**
SONA				*e*S		Sn	15 13 41.6	-11
TDK	**Taldyqorghan**	**11.24**	**38**	*de*P		**Pn**	**15 11 58.2**	**-0.9**
TDK				pmax		pmax		
	comp=Z,4μm,1.6s							
TDK				MLR		MLR		
	comp=Z,7μm,14.0s							
TDK	**Taldyqorghan**	**11.24**	**38**	⇓*e*P		**Pn**	**15 11 58.2**	**-0.9**
	comp=Z,4μm,1.6s							
TDK				*e*LRM		MLR	15 16 35.9	
	comp=Z,7μm,14.2s							
OTUK	**Ortayu**	**12.07**	**

	SNR=9.9									
UMQ	**Umm Al-Quwin**	**15.63**	**229**		P		**P**	**15 13 04.7**	**+2.0**	
UOSS	**Minazif**	**15.74**	**227**	*e*	Pn		**Pn**	**15 13 01.0**	**+0.8**	
	comp=Z,164nm,1.9s									
UOSS	**Minazif**	**15.74**	**227**	*i*	P		**P**	**15 13 04.9**	**+1.1**	
	SNR=13									
UOSS	**Minazif**	**15.74**	**227**		P		**P**	**15 13 03.7**	**-0.1**	
	SNR=11									
KURBB	**Kurchatov Arra**	**15.81**	**23**		Pn		**Pn**	**15 12 58.9**	**-2.1**	
	comp=Z,0.6nm,0.3s,baz=213,slow=12,SNR=174									
KURBB					Sn		**S**	**15 16 09.4**	**+0.5**	
	comp=Z,0.3nm,0.3s,baz=212,slow=28,SNR=5.1									
KURBB					Lg		Lg	15 17 46.5		
	comp=Z,0.2nm,0.3s,baz=212,slow=30,SNR=3.7									
KURBB	**Kurchatov Arra**	**15.81**	**23**	⇑	P		**Pn**	**15 12 58.4**	**-2.6**	
	comp=Z,229nm,0.8s									
WSAR	**Wadi Sarin**	**15.82**	**216**		Pn		**Pn**	**15 13 03.3**	**+2.1**	
	comp=Z,0.2nm,0.3s,baz=47,slow=14,SNR=3.9									
WSAR					LR		LR	15 20 15.0		
	comp=Z,2μm,21.1s,baz=72,slow=42									
WSAR	**Wadi Sarin**	**15.82**	**216**		P		**P**	**15 13 06.1**	**+1.4**	
	SNR=13									
BIDO	**Bidbid**	**15.83**	**218**		P		**P**	**15 13 06.7**	**+1.9**	
	SNR=12									
HATD	**Hatta, Dubai**	**15.87**	**227**	*i*	P		**P**	**15 13 06.7**	**+1.3**	
	SNR=14									
HATD	**Hatta, Dubai**	**15.87**	**227**		P		**P**	**15 13 05.2**	**-0.2**	
	SNR=11									
KURK	**Kurchatov**	**15.92**	**23**	*e*	Pn		**Pn**	**15 12 59.5**	**-2.8**	
	comp=Z,251nm,1.1s									
KURK					Sn		**S**	**15 16 09.4**	**-1.8**	
KURK					Lg		Lg	15 17 46.5		
KURK	**Kurchatov**	**15.92**	**23**	⇑	P		**Pn**	**15 12 59.5**	**-2.8**	
	comp=Z,257nm,1.1s									
KURK	**Kurchatov**	**15.92**	**23**	*e*	P		**Pn**	**15 12 59.5**	**-2.8**	
KURK					pmax		pmax			
	comp=Z,251nm,1.1s									
AKTO	**Aktyubinsk**	**15.98**	**334**		Pn		**Pn**	**15 13 02.0**	**-1.1**	
	comp=Z,11nm,0.3s,baz=142,slow=14,SNR=168									
AKTO					Sn		**Sn**	**15 15 50.7**	**-8.5**	
	comp=Z,3.7nm,0.3s,baz=1.6,slow=17,SNR=3.3									
AKTO					Lg		Lg	15 17 55.0		
	baz=44,slow=18,SNR=2.6									
AKTO					LR		LR	15 19 11.0		
	comp=Z,693nm,18.8s,baz=147,slow=37									
AKTO	**Aktyubinsk**	**15.98**	**334**	⇑	Pn		**Pn**	**15 13 01.6**	**-1.5**	
	comp=Z,66nm,0.8s									
AKTO				⇑	Sn		**Sn**	**15 15 51.9**	**-7.2**	
	comp=Z,210nm,0.9s									
AKTO	**Aktyubinsk**	**15.98**	**334**		P		**Pn**	**15 13 01.6**	**-1.5**	
AKTO								15 15 51.8		
AKTO					pmax		pmax			
	comp=Z,66nm,0.8s									
AKTO					smax		smax			
	comp=E,210nm,0.9s									
ASHO	**Ashiyiah**	**16.02**	**226**	*i*	P		**P**	**15 13 09.8**	**+2.8**	
	SNR=16									
ASHO	**Ashiyiah**	**16.02**	**226**		P		**P**	**15 13 10.5**	**+3.4**	
	SNR=33									
NAZ	**Nazwa, Dubai**	**16.03**	**228**	*i*	P		**P**	**15 13 09.8**	**+2.8**	
	SNR=8.1									
NAZ	**Nazwa, Dubai**	**16.03**	**228**		P		**P**	**15 13 09.8**	**+2.8**	
	SNR=14									
SOHO	**SOHO**	**16.18**	**224**		P		**Pn**	**15 13 08.8**	**+3.0**	
	SNR=14									
ZSN	**Zaisan**	**16.22**	**42**	*ce*	P		**Pn**	**15 13 02.2**	**-4.0**	
ZSN					pmax		pmax			
	comp=Z,158nm,1.5s									
ZSN					MLR		MLR			
	comp=Z,1μm,17.0s									
ZSN	**Zaisan**	**16.22**	**42**	⇑	*e*	P	**Pn**	**15 13 02.3**	**-4.0**	
	comp=Z,158nm,1.5s									
ZSN					*e*	LRM	MLR	15 19 46.7		
	comp=Z,1μm,16.6s									
WMQ	**Urumqi**	**16.22**	**57**	*e*	P		**P**	**15 13 08.5**	**-0.7**	
WMQ					sS		S	15 16 19.1	+1.5	
WMQ					SS		**SnSn**	**15 16 24.8**	**+6.5**	
WMQ					LR		LR			
	comp=Z,10μm,9.5s									
WMQ					LR		LR			
	comp=Z,7μm,5.1s									
WMQ					LR		LR			
	comp=Z,6μm,21.3s									
WMQ	**Urumqi**	**16.22**	**57**	*e*	Pn		**Pn**	**15 13 04.7**	**-1.6**	
	comp=Z,194nm,1.1s									
WMQ	**Urumqi**	**16.22**	**57**	*e*	P		**Pn**	**15 13 04.7**	**-1.6**	
WMQ					pmax		pmax			
	comp=Z,194nm,1.1s									
SEM	**Semipalatinsk**	**16.22**	**27**	*d*	*i*	P	**Pn**	**15 13 01.8**	**-4.6**	
SEM					*e*	S	**S**	**15 16 12.9**	**-4.8**	
SEM					pmax		pmax			
	comp=Z,512nm,1.5s									
SEM					MLR		MLR			
	comp=Z,3μm,12.0s									
SEM	**Semipalatinsk**	**16.22**	**27**	⇓	*i*	P	**Pn**	**15 13 01.8**	**-4.6**	
	comp=Z,512nm,1.5s									
SEM				⇓	*e*	S	**S**	**15 16 13.0**	**-4.8**	
	comp=Z,4μm,2.5s									
SEM					*e*	LRM	MLR	15 19 48.2		
	comp=Z,3μm,11.7s									
FAQ	**Al Faqa, Dubai**	**16.25**	**228**	*i*	P		**P**	**15 13 12.1**	**+2.6**	
	SNR=11									
FAQ	**Al Faqa, Dubai**	**16.25**	**228**		P		**P**	**15 13 12.6**	**+3.1**	
	SNR=8.8									
SMDO	**Samad**	**16.25**	**218**		P		**P**	**15 13 13.5**	**+3.8**	
	SNR=14									
JLN	**Jalan Bani Buh**	**16.41**	**212**		P		**P**	**15 13 13.6**	**+2.3**	
	SNR=22									
DMN	**Daman**	**16.41**	**118**	*e*	P		Pn	15 13 04.2	-4.9	
	comp=Z,335nm,0.7s									
DMN				*e*	S		Sn	15 15 59.6	-11	
JBP	**Jabalpur**	**16.42**	**141**	⇑	*e*	P	**Pn**	**15 13 08.4**	**-0.5**	
JBP				*ex*			x	15 16 03.1		
KKN	**Kakani**	**16.43**	**117**	*e*	P		**Pn**	**15 13 06.0**	**-3.3**	
	comp=Z,662nm,0.6s									
BVA0	**Borovoye Array**	**16.61**	**3**	⇓	Pn		**Pn**	**15 13 09.9**	**-1.1**	
	comp=Z,48nm,0.8s,baz=172,slow=12,SNR=253									
BVA0				⇑	Sn		**Sn**	**15 16 15.5**	**+1.1**	
	comp=Z,334nm,1.4s,baz=201,slow=24,SNR=4.3									
BVA0	**Borovoye Array**	**16.61**	**3**	*i*	P		**Pn**	**15 13 09.1**	**-2.0**	
BVA0				*i*				15 16 15.4		
BVA0					pmax		pmax			
	comp=Z,48nm,0.8s									
BVA0					smax		smax			
	comp=N,335nm,1.4s									
BVAR	**Borovoye Array**	**16.61**	**3**		Pn		**Pn**	**15 13 09.7**	**-1.3**	
	comp=N,5.4nm,0.3s,baz=172,slow=12,SNR=171									
BVAR					Sn		**Sn**	**15 16 06.3**	**-8.1**	
	comp=N,0.9nm,0.3s,baz=198,slow=27,SNR=3.2									
BVAR					LR		LR	15 19 09.1		
	comp=N,906nm,21.1s,baz=188,slow=35									
BRVK	**Borovoye**	**16.63**	**3**	*e*	Pn		**Pn**	**15 13 09.6**	**-1.9**	
	comp=N,111nm,0.9s									
BRVK	**Borovoye**	**16.63**	**3**	⇑	Pn		**Pn**	**15 13 09.9**	**-1.5**	
	comp=N,112nm,1.2s									
BRVK				⇑	Sn		**Sn**	**15 16 08.2**	**-6.8**	
	comp=N,227nm,1.1s									
BRVK	**Borovoye**	**16.63**	**3**	*i*	P		**Pn**	**15 13 10.5**	**-0.9**	
PKIN	**Phulchoki**	**16.64**	**117**	*e*	P		**Pn**	**15 13 07.3**	**-4.6**	
	comp=N,1μm,1.0s									
ALNE	**Al Ain**	**16.68**	**226**	*i*	P		**P**	**15 13 17.2**	**+2.9**	
	SNR=9.0									
GUN	**Gumba**	**16.80**	**116**	*e*	P		**Pn**	**15 13 10.1**	**-3.9**	
	comp=N,518nm,0.6s									
JMDO	**Jabal Madar**	**16.81**	**216**		P		**P**	**15 13 20.1**	**+4.3**	
	SNR=11									
ARQ	**Araqi**	**16.82**	**222**		P		**P**	**15 13 20.5**	**+4.6**	
	SNR=13									
BSY	**Bisya**	**16.94**	**219**		P		**P**	**15 13 22.2**	**+5.0**	
	SNR=12									
JIRN	**Jiri**	**17.16**	**116**	*e*	P		**Pn**	**15 13 14.7**	**-3.9**	
	comp=N,746nm,0.5s									
JIRN				*e*	S		Sn	15 16 18.3	-10	
MAK	**Makhachkala**	**17.57**	**298**	*e*	P		**Pn**	**15 13 21.5**	**-1.7**	
MAK				*e*	S		**Sn**	**15 16 33.1**	**-4.8**	
MAK					pmax		pmax			
	comp=Z,108nm,0.8s									
MAK					MLR		MLR			
	comp=Z,6μm,14.0s									
NGP	**Nagpur**	**17.70**	**147**	⇑	*e*	P	**Pn**	**15 13 22.7**	**-2.2**	
NGP				*ex*			x	15 13 30.6		
	comp=Z,177nm,1.2s									
NGP				*ex*			x	15 16 27.0		
BOM	**Bombay**	**17.86**	**167**	*e*	P		**Pn**	**15 13 25.6**	**-1.2**	
BOM				*ex*			x	15 18 25.2		
RAMN	**Ramite**	**17.87**	**117**	*e*	P		**Pn**	**15 13 22.9**	**-4.4**	
	comp=Z,218nm,0.5s									
RAMN				*e*	S		Sn	15 16 34.1	-12	
MHTO	**MHTO**	**18.07**	**214**		P		**P**	**15 13 35.6**	**+6.0**	
	SNR=23									
POO	**Poona**	**18.41**	**165**	*e*	P		**P**	**15 13 33.0**	**-0.5**	
DVE	**Vedeno**	**18.56**	**297**	*d*	*i*	P	**Pn**	**15 13 34.9**	**-0.4**	
MZR	**Muzera**	**18.83**	**229**	*i*	P		**Pn**	**15 13 42.1**	**+3.4**	
	SNR=8.8									
MZR	**Muzera**	**18.83**	**229**		P		**Pn**	**15 13 41.8**	**+3.1**	
	SNR=12									
GROC	**Groznyy**	**18.85**	**298**	*c*	*i*	P	**Pn**	**15 13 39.2**	**+0.4**	
DGZ	**Jazzator, Alta**	**18.94**	**40**	*c*	*i*	P	**P**	**15 13 38.3**	**-0.9**	
DGZ						pmax	pmax			
	comp=Z,100nm,0.9s									
DQM	**DQM**	**19.18**	**214**		P		**Pn**	**15 13 47.9**	**+4.9**	
GNI	**Garni**	**19.19**	**288**	*e*	P		**Pn**	**15 13 43.9**	**+0.8**	
GNI	**Garni**	**19.19**	**288**		P		**Pn**	**15 13 45.3**	**+2.2**	
	comp=Z,1.9nm,0.3s,baz=347,slow=2.2,SNR=34									
GNI					S		**Sn**	**15 17 12.1**	**-5.2**	
	comp=Z,0.5nm,0.3s,baz=90,slow=20,SNR=1.8									
GNI					LR		LR	15 23 28.7		
	comp=Z,889nm,20.2s,baz=99,slow=44									
GNI	**Garni**	**19.19**	**288**	*e*	P		**P**	**15 13 41.7**	**-0.4**	
	comp=Z,271nm,1.0s									
GNI					S		**Sn**	**15 17 12.1**	**-5.2**	
GNI	**Garni**	**19.19**	**288**	*i*	P		**Pn**	**15 13 43.4**	**+0.3**	
	SNR=9.1									
GNI	**Garni**	**19.19**	**288**	*de*	P		**Pn**	**15 13 44.1**	**+1.0**	
GNI	**Garni**	**19.19**	**288**		P		**Pn**	**15 13 44.4**	**+1.3**	
	SNR=9.7									
TBLG	**Delisi**	**19.35**	**293**	*e*	P		**P**	**15 13 43.7**	**+0.1**	
TBLG	**Delisi**	**19.35**	**293**	*e*	P		**Pn**	**15 13 43.9**	**-1.0**	
	comp=Z,121nm,1.1s									
TBLG	**Delisi**	**19.35**	**293**	*e*	P		**Pn**	**15 13 43.9**	**-1.0**	
TBLG						pmax	pmax			
	comp=Z,121nm,1.1s									
TASB	**TASBURUN-IGDIR**	**19.57**	**288**	*e*	P		**Pn**	**15 13 48.8**	**+1.3**	
CLDR	**Caldiran**	**19.80**	**285**	*e*	P		**Pn**	**15 13 51.0**	**+0.6**	
LSA	**Lhasa**	**19.91**	**103**		P		**P**	**15 13 51.8**	**+1.4**	
LSA						pmax	pmax			
	comp=Z,77nm,1.3s									
LSA	**Lhasa**	**19.91**	**103**	*e*	P		**P**	**15 13 51.0**	**+0.6**	
	comp=Z,102nm,0.8s									
LSA	**Lhasa**	**19.91**	**103**		P		**P**	**15 13 51.2**	**+0.9**	
LSA	**Lhasa**	**19.91**	**103**	*e*	P		**P**	**15 13 51.0**	**+0.6**	
LSA						pmax	pmax			
	comp=Z,102nm,0.8s									
ZEI	**Tsey**	**20.13**	**296**	*e*	P		**P**	**15 13 51.4**	**-0.9**	
ZEI						pmax	pmax			
	comp=Z,30nm,0.8s									
CUKT	**Cukurca**	**20.13**	**280**	*e*	P		**Pn**	**15 13 54.5**	**+0.2**	
VANB	**Van**	**20.22**	**284**	*e*	P		**Pn**	**15 13 59.2**	**+3.9**	
NCK	**Nalchik**	**20.48**	**298**	⇓	*e*	P	Pn	15 13 56.6	-1.6	
NCK						pmax	pmax			
	comp=Z,122nm,0.8s									
KARS	**Kars**	**20.49**	**290**	*e*	P		**P**	**15 13 56.9**	**+0.7**	
AGRB	**Hanur-Agry**	**20.52**	**287**	*e*	P		Pn	15 13 59.4	+0.6	
AKDM	**Akdamar-Van**	**20.55**	**283**	*e*	P		Pn	15 13 59.2	0.0	
ZAA0	**Zalesovo Array**	**20.75**	**27**	*e*	P		**P**	**15 13 58.6**	**0.0**	
	comp=Z,169nm,1.0s									
ZALV	**Zalesovo Beam**	**20.75**	**27**		P		**P**	**15 13 59.1**	**+0.5**	
	comp=Z,68nm,0.5s,baz=225,slow=11,SNR=240									
ZALV					S		**S**	**15 17 48.9**	**+0.4**	
	comp=Z,18nm,1.0s,baz=216,slow=20,SNR=3.9									
ZALV					Lg		Lg	15 20 28.5		
	comp=Z,11nm,0.8s,baz=216,slow=19,SNR=3.1									
ZALV	**Zalesovo Beam**	**20.75**	**27**	*e*	P		**P**	**15 13 58.1**	**-0.5**	
ZALV					S		**S**	**15 17 48.9**	**+0.4**	
ZALV					Lg		Lg	15 20 28.5		
ZALV	**Zalesovo Beam**	**20.75**	**27**	*e*	P		**P**	**15 13 58.1**	**-0.5**	
ZALV					S		**S**	**15 17 48.9**	**+0.4**	
HYB	**Hyderabad**	**20.85**	**153**	*i*	P		**P**	**15 14 01.0**	**+0.9**	
HYB				*e*				15 14 20.0		
HYB					*e*S		**S**	**15 17 52.0**	**+0.8**	
NVS	**Novosibirsk**	**20.91**	**24**	⇓	*i*	P	Pn	15 14 01.7	-1.3	
NVS					*i*	S	Sn	15 17 54.2	-4.0	
NVS					pmax		pmax			
	comp=Z,194nm,1.0s									
NVS					pmax		pmax			
	comp=N,150nm,1.3s									
NVS					pmax		pmax			
	comp=E,42nm,1.3s									
NVS					smax		smax			
	comp=N,97nm,1.2s									
NVS					smax		smax			
	comp=E,115nm,1.2s									
KBZ	**Khabaz**	**21.02**	**298**		P		**P**	**15 14 02.0**	**+0.3**	
	comp=E,20nm,0.9s,baz=121,slow=6.8,SNR=41									
KBZ					S		**S**	**15 17 54.3**	**+0.2**	
	comp=E,14nm,0.9s,baz=110,slow=17,SNR=3.1									
KBZ					LR		LR	15 24 57.9		
	comp=E,1μm,19.3s,baz=104,slow=44									
SIRT	**Sirnak**	**21.03**	**281**	*e*	P		**P**	**15 14 03.6**	**+1.6**	
NEY	**Neytrino**	**21.06**	**297**	*ce*	P		**P**	**15 14 04.7**	**+2.4**	
NEY						pmax	pmax			
	comp=Z,3.0nm,0.8s									
SVE	**Sverdlovsk**	**21.10**	**348**	*e*	P		**P**	**15 14 04.1**	**+1.7**	
SVE					*e*S		**S**	**15 17 49.4**	**-6.0**	
SVE					pmax		pmax			
	comp=Z,106nm,1.1s									
SVE					MLR		MLR			
	comp=Z,4μm,13.0s									
ARU	**Arti**	**21.13**	**344**	*e*	P		**P**	**15 14 03.2**	**+0.4**	
	comp=Z,158nm,1.2s									
ARU	**Arti**	**21.13**	**344**	*c*	*i*	P	**P**	**15 14 04.5**	**+1.7**	
ARU						*PP	**sP**	**15 14 14.6**	**-0.6**	
ARU								15 14 23.5		
ARU					*e*S		Sn	15 17 59.3	-4.2	
ARU					SS		**SnSn**	**15 18 23.7**	**+5.1**	
ARU					pmax		pmax			
	comp=Z,104nm,1.4s									
ARU					MLR		MLR			
	comp=Z,2μm,12.0s									
KVAR	**Kislovodsk Arr**	**21.21**	**299**		P		**P**	**15 14 05.5**	**+1.6**	
	comp=Z,13nm,0.7s,baz=252,slow=19,SNR=19									
KVAR					S		**S**	**15 17 55.7**	**-2.4**	
	comp=Z,64nm,0.8s,baz=195,slow=10,SNR=5.5									
KIV	**Kislovodsk**	**21.22**	**299**	*e*	P		**P**	**15 14 02.6**	**-1.3**	
KIV	**Kislovodsk**	**21.22**	**299**	*e*	P		**P**	**15 14 04.3**	**+0.4**	
	comp=Z,117nm,0.9s									
KIV	**Kislovodsk**	**21.22**	**299**	*i*	P		**P**	**15 14 03.3**	**-0.6**	
	SNR=28									
KIV	**Kislovodsk**	**21.22**	**299**	*e*	P		**P**	**15 14 04.0**	**+0.1**	
KIV				*e*	S		**S**	**15 17 58.6**	**+0.4**	
KIV					pmax		pmax			
	comp=Z,117nm,1.0s									
KIV					MLR		MLR			
	comp=Z,2μm,14.0s									
KIV	**Kislovodsk**	**21.22**	**299**		P		**P**	**15 14 03.4**	**-0.6**	
	SNR=30									
GOF	**Gofitskoye**	**21.22**	**302**	⇑	*i*	P	**P**	**15 14 05.1**	**+1.2**	
GOF					*e*	S	**S**	**15 17 56.7**	**-1.4**	
GOF					pmax		pmax			
	comp=Z,440nm,1.5s									
GOF					smax		smax			
	comp=E,310nm,1.5s									
GURO	**Guroymak-BITLI**	**21.28**	**284**	*e*	P		**P**	**15 14 07.3**	**+2.5**	
BCA	**Borcka**	**21.64**	**292**	*e*	P		**P**	**15 14 10.3**	**+1.8**	
SHL	**Shillong**	**22.54**	**112**	*e*	P		**P**	**15 14 16.9**	**-1.5**	
	comp=E,357nm,1.0s									
SHL	**Shillong**	**22.54**	**112**	*e*	P		**P**	**15 14 16.9**	**-1.5**	
SHL					pmax		pmax			
	comp=Z,357nm,1.0s									
SHL	**Shillong**	**22.54**	**112**	*i*	P		**P**	**15 14 17.5**	**-0.9**	
SHL				*e*	S		**S**	**15 18 22.0**	**-1.9**	
SOC	**Sochi**	**23.27**	**297**	*e*	P		**P**	**15 14 27.2**	**+1.6**	
SOC				*e*				15 14 53.3		
SOC				*e*	S		**S**	**15 18 35.4**	**-0.4**	
SOC				*e*	SS		**SnSn**	**15 19 15.0**	**+3.8**	
SOC					pmax		pmax			
	comp=Z,93nm,1.2s									
SOC					MLR		MLR			
	comp=Z,2μm,14.0s									
PTK	**Pertek**	**23.33**	**285**	*e*	P		**P**	**15 14 28.0**	**+1.6**	
ABTO	**Aybut**	**23.44**	**220**		P		**P**	**15 14 27.6**	**+0.1**	
	SNR=6.5									
ESPY	**Espiye-Giresun**	**23.80**	**290**	*e*	P		**P**	**15 14 32.9**	**+2.2**	
RAYN	**Ar Rayn**	**23.84**	**244**	*e*	P		**P**	**15 14 31.7**	**+0.4**	
	comp=Z,55nm,1.1s									
RAYN	**Ar Rayn**	**23.84**	**244**	*i*	P		**P**	**15 14 31.2**	**-0.1**	
	SNR=44									
RAYN	**Ar Rayn**	**23.84**	**244**	*e*	P		**P**	**15 14 31.7**	**+0.4**	
RAYN					pmax		pmax			
	comp=Z,55nm,1.1s									
BRDH	**Bariadhala**	**24.10**	**118**		P		**P**	**15 14 34.5**	**+0.9**	
	comp=Z,159nm,0.4s,baz=65,slow=10,SNR=9.1									
BRDH					S		**S**	**15 18 47.9**	**-1.5**	
	comp=Z,80nm,0.4s,baz=75,slow=20,SNR=2.0									
VRH	**Novokhopyorsk**	**24.27**	**316**	*e*	P		**P**	**15 14 35.4**	**+0.5**	
VRH				*e*	S		**S**	**15 18 53.1**	**+1.5**	
VRH					pmax		pmax			
	comp=Z,120nm,0.7s									
VRH					smax		smax			
	comp=E,1μm,4.5s									
VRH					MLR		MLR			
	comp=Z,2μm,14.0s									
GTA	**Gaotai**	**24.61**	**74**	⇑	P		**P**	**15 14 39.3**	**+0.9**	
GTA					pP		pP	15 14 46.3	-1.3	
GTA					S		**S**	**15 18 54.8**	**-2.9**	
GTA					sS		sS	15 19 09.8	-3.1	
GTA					pmax		pmax			
	comp=Z,46nm,1.4s									
GTA					pmax		pmax			
	comp=Z,440nm,4.0s									
GTA					LR		LR			
	comp=Z,3μm,18.2s									
GTA					LR		LR			
	comp=Z,2μm,16.8s									
GTA					LR		LR			
	comp=Z,3μm,16.1s									
ANN	**Anapa**	**25.07**	**299**	*e*	P		**P**	**15 14 41.6**	**-0.7**	
ANN				*e*	*PP		**sP**	**15 14 52.4**	**-2.8**	
ANN				*e*	S		**S**	**15 19 01.0**	**-3.7**	
ANN					pmax		pmax			
	comp=Z,102nm,1.2s									
ANN					MLR		MLR			
	comp=Z,4μm,17.0s									
VSR	**Storozhevoye**	**25.73**	**314**	*de*	P		**P**	**15 14 48.5**	**+0.3**	
VSR					pmax		pmax			
	comp=Z,69nm,0.7s									
VORR	**Voronezh**	**25.89**	**315**	*e*	P		**P**	**15 14 50.0**	**+0.4**	
VORR					pmax		pmax			
	comp=Z,250nm,1.6s									
LPSR	**Galich'ya Gora**	**26.44**	**317**	*e*	P		**P**	**15 14 55.6**	**+1.0**	
LPSR					pmax		pmax			
	comp=Z,90nm,0.8s									
MOY	**Mondy**	**27.43**	**46**	*e*	P		**P**	**15 15 06.2**	**+2.5**	
MOY					pmax		pmax			
	comp=Z,105nm,2.4s									
MMAI	**Mount Meron Ar**	**27.55**	**273**		P		**P**	**15 15 08.8**	**+3.9**	
	comp=Z,4.2nm,0.9s,baz=46,slow=12,SNR=2.9									
MMAI					PcP		**PcP**	**15 18 23.8**	**+1.5**	
	comp=Z,7.1nm,0.8s,baz=76,slow=3.5,SNR=4.9									
ILGA	**Ilgaz**	**27.59**	**290**	*e*	P		**P**	**15 15 06.6**	**+1.2**	
	comp=Z,68nm,1.1s									
BR131	**Keskin Array S**	**27.73**	**288**	*e*	P		**P**	**15 15 07.6**	**+1.1**	
BR131	**Keskin Array S**	**27.73**	**288**		P		**P**	**15 15 07.8**	**+1.3**	
	SNR=9.8									
BRTR	**Keskin Array B**	**27.73**	**288**		P		**P**	**15 15 08.4**	**+1.9**	
	comp=Z,8.2nm,0.8s,baz=113,slow=8.3,SNR=26									
BRTR	**Keskin Array B**	**27.73**	**288**	*ce*	P		**P**	**15 15 10.3**	**+3.8**	
BRTR					pmax		pmax			
	comp=Z,8.0nm,0.8s									
LZH	**Lanzhou**	**28.20**	**80**	⇑	P		**P**	**15 15 11.9**	**+1.1**	
LZH					pP		sP	15 15 25.0	+1.1	
LZH					sP		pP	15 15 31.3	+11	
LZH					PP		**PnPn**	**15 16 03.6**	**+4.3**	
LZH				*e*	S		**S**	**15 19 52.4**	**-2.2**	
LZH					sS		sS	15 20 15.3	+5.4	
LZH					SS		**SnSn**	**15 21 16.9**	**+5.0**	
LZH					pmax		pmax			
	comp=Z,65nm,1.1s									
LZH					pmax		pmax			
	comp=Z,360nm,4.9s									
LZH					LR		LR			
	comp=Z,3μm,13.9s									
LZH					LR		LR			
	comp=Z,3μm,13.7s									
LZH					LR		LR			
	comp=Z,3μm,16.8s									
ZAK	**Zakamensk**	**28.39**	**50**	*e*	P		**P**	**15 15 13.5**	**+1.2**	
ZAK					pmax		pmax			
	comp=Z,31nm,1.0s									
MOS	**Moscow**	**28.57**	**322**	*e*	P		**P**	**15 15 13.9**	**+0.2**	
MOS				*e*	S		**S**	**15 19 58.0**	**-1.7**	
MOS					pmax		pmax			
	comp=Z,105nm,1.3s									
MOS					MLR		MLR			
	comp=Z,2μm,17.0s									
OBN	**Obninsk**	**28.81**	**321**		P		**P**	**15 15 17.6**	**+1.9**	
	comp=Z,16nm,0.9s,baz=355,slow=3.7,SNR=14									
OBN					LR		LR	15 28 54.7		
	comp=Z,418nm,19.8s,baz=118,slow=41									
OBN	**Obninsk**	**28.81**	**321**	*e*	P		**P**	**15 15 17.0**	**+1.3**

KIS *e* 15 18 37.0
KIS MLR MLR
comp=Z,2µm,18.0s
KIS MLR MLR
comp=N,400nm,15.0s
AKASG Malin Array Be 31.57 309 P **P 15 15 41.2 +1.0**
comp=N,29nm,0.7s,baz=85,slow=7.4,SNR=130
AKASG LR LR 15 31 18.4
comp=N,2µm,19.2s,baz=100,slow=42
AKBB Malin Array Si 31.57 309 *e*P **P 15 15 41.0 +0.7**
comp=N,28nm,0.8s
KIEV Kiev 31.58 309 *e*P **P 15 15 40.9 +0.6**
comp=N,26nm,0.7s
KIEV Kiev 31.58 309⇑ *i*P **P 15 15 41.7 +1.4**
KIEV Kiev 31.58 309 *ce*P **P 15 15 41.5 +1.2**
KIEV pmax pmax
comp=Z,29nm,1.0s
AK11 Malin Array Si 31.60 309 *e*P **P 15 15 40.5 0.0**
MANT Manisa 31.80 286 *e*P **P 15 15 43.7 +1.1**
comp=Z,80nm,1.2s
CHTO Chiang Mai 31.81 115 *e*P **P 15 15 40.5 -2.2**
comp=Z,50nm,1.6s
CHTO Chiang Mai 31.81 115 *e*P **P 15 15 40.5 -2.2**
CHTO pmax pmax
comp=Z,50nm,1.6s
CHTO Chiang Mai 31.81 115 P **P 15 15 42.7 0.0**
SNR=11
CHTO Chiang Mai 31.81 115 P **P 15 15 42.7 0.0**
comp=Z,65nm,1.0s,comp=Z,1µm
CMMT Chiang Mai 31.82 115 P **P 15 15 42.6 -0.2**
comp=Z,14nm,1.0s,comp=Z,324nm
CM31 Chiang Mai Arr 32.04 116 *e*P **P 15 15 42.8 -1.9**
CM31 Chiang Mai Arr 32.04 116 P **P 15 15 44.3 -0.5**
SNR=23
CMAR Chiang Mai Arr 32.04 116 P **P 15 15 44.3 -0.4**
comp=Z,50nm,1.2s,baz=297,slow=8.0,SNR=106
CMAR LR LR 15 32 38.2
comp=Z,672nm,18.4s,baz=310,slow=44
CM01 Chiang Mai Arr 32.08 116 *e*P **P 15 15 43.9 -1.1**
BTO Baotou 32.33 70 *e*P **P 15 15 46.8 -0.4**
VRI Vrincioaia 32.68 300⇓ *i*P **P 15 15 53.3 +3.2**
XAN Xi'an 32.73 82 P **P 15 15 50.4 -0.3**
XAN pP sP 15 16 02.5 -1.3
XAN sP pP 15 16 08.9 +9.0
XAN S S 15 20 55.9 -9.4
XAN pmax pmax
comp=Z,42nm,1.1s
XAN pmax pmax
comp=Z,230nm,7.4s
XAN LR LR
comp=Z,850nm,17.2s
XAN LR LR
comp=Z,1µm,17.6s
XAN LR LR
comp=Z,1µm,18.8s
XAN Xi'an 32.73 82 *e*P **P 15 15 49.8 -0.9**
comp=Z,152nm,0.9s
XAN Xi'an 32.73 82 *e*P **P 15 15 49.8 -0.9**
XAN pmax pmax
comp=Z,153nm,0.9s
PLOR Plostina 32.74 300⇑ *i*P **P 15 15 54.0 +3.4**
ISR Istrita 32.80 299⇑ *i*P **P 15 15 54.3 +3.1**
NANT Nan 33.11 113 P **P 15 15 52.4 -1.7**
comp=Z,15nm,1.0s,comp=Z,138nm
SUKH Sukhothai 33.17 116 P **P 15 15 54.8 +0.2**
comp=Z,17nm,0.9s
MLR Muntele Rosu 33.22 299 *e*P **P 15 15 57.3 +2.3**
comp=Z,68nm,1.1s
MLR Muntele Rosu 33.22 299⇑ *i*P **P 15 15 58.5 +3.5**
MLR Muntele Rosu 33.22 299 *e*P **P 15 15 57.3 +2.3**
MLR pmax pmax
comp=Z,68nm,1.1s
MICGM Minsk 33.27 316⇑ *e*P **P 15 15 55.0 0.0**
MICGM PM 15 15 56.0
comp=Z,0.2nm,1.0s
MICGM *e*LR LR 15 32 00.0
MNK Minsk 33.27 316⇑ *e*P **P 15 15 55.0 0.0**
UMPA Umpang Tak 33.47 119 P **P 15 15 58.5 +1.3**
comp=Z,20nm,0.9s
HHC Hu-ho-hao-te 33.47 69 *e*P **P 15 15 58.8 +1.7**
HHC pP sP 15 16 10.8 +0.8
HHC sP pP 15 16 16.1 +10
HHC S **S** **15 21 15.8 -1.1**
HHC pmax pmax
comp=Z,35nm,1.3s
HHC pmax pmax
comp=Z,160nm,5.4s
HHC LR LR
comp=Z,560nm,12.4s
HHC LR LR
comp=Z,1µm,17.7s
HHC LR LR
comp=Z,620nm,18.4s
DOPR Dopca 33.62 300⇓ *i*P **P 15 16 00.2 +1.9**
GYA Guiyang 33.65 96⇑ *i*P **P 15 15 58.4 -0.5**
GYA pP sP 15 16 13.3 +1.4
GYA PP **PnPn** **15 17 13.0 +1.9**
GYA S **S** **15 21 17.8 -2.1**
GYA sS sS 15 21 40.6 +5.3
GYA SS **SnSn** **15 23 22.8 -1.9**
GYA pmax pmax
comp=Z,60nm,0.8s
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=Z,560nm,17.2s
GYA LR LR
comp=Z,540nm,17.0s
GYA LR LR
comp=Z,580nm,17.3s
UTTA Uttaradit 33.67 115 P **P 15 15 58.7 -0.2**
comp=Z,24nm,1.0s,comp=Z,229nm
BURAR Bucovina Array 33.79 303⇑ *i*P **P 15 16 02.1 +2.2**
BUR04 Bucovina Ar. S 33.80 303 *e*P **P 15 16 01.1 +1.2**
BUR08 Bucovina Ar. S 33.80 303 *e*P **P 15 16 01.1 +1.1**
VOIR 33.85 299⇑ *i*P **P 15 16 02.5 +2.1**
NACGM Naroch 33.99 316 *e* **P 15 16 03.0 +1.7**
NACGM eLQ LQ 15 28 40.0
NACGM eLR LR 15 31 22.0
IDID Didziasalis 34.12 317 *e*P **P 15 16 05.0 +2.5**
IDID IAmb IAmb 15 16 06.2
comp=Z,26nm,0.9s
ARR Arges 34.15 299⇑ *i*P **P 15 16 05.5 +2.6**
RZN Rozhen 34.30 292 P **P 15 16 06.0 +1.5**
UTHA Uthaitani 34.32 119 P **P 15 16 05.0 +0.4**
comp=Z,16nm,0.9s,comp=Z,136nm
ENH Enshi 34.38 88 *e*P **P 15 16 04.4 -0.7**
comp=Z,99nm,1.1s
IIGN Ignalina 34.42 317 *e*P **P 15 16 07.4 +2.3**
IIGN IAmb IAmb 15 16 08.0
comp=Z,27nm,0.7s
IZAR Zarasai 34.51 318 *e*P **P 15 16 08.0 +2.2**
IZAR IAmb IAmb 15 16 09.6
comp=Z,21nm,0.9s
ISAL Salakas 34.53 317 *e*P **P 15 16 08.0 +2.0**
ISAL IAmb IAmb 15 16 09.9
comp=Z,22nm,1.0s
TIY Taiyuan 34.63 75 *e*P **P 15 16 08.8 +1.6**
TIY pmax pmax
comp=Z,26nm,0.8s
TIY LR LR
comp=Z,500nm,11.8s
TIY LR LR
comp=Z,1µm,13.9s
TIY LR LR
comp=Z,2µm,19.4s
PBKT Sadao Pong 34.73 116 *e*P **P 15 16 07.7 -0.4**
comp=Z,120nm,1.1s
PBKT Sadao Pong 34.73 116 P **P 15 16 08.3 +0.2**
comp=Z,103nm,1.1s,comp=Z,1µm
LVV L'vov 34.74 307 *e*P **P 15 16 09.7 +1.8**
SRDT SRDT 34.92 121 P **P 15 16 09.9 +0.1**
comp=Z,87nm,0.9s
CIT Chita 35.05 49 *e*P **P 15 16 12.1 +1.5**
CIT *e* 15 16 27.3
CIT pmax pmax
comp=Z,160nm,1.4s
VSU Vasula 35.10 322⇑ *e*P **P 15 16 11.7 +0.8**
VSU pmax pmax
comp=Z,193nm,1.3s
VSU Vasula 35.10 322 *e*P **P 15 16 12.3 +1.4**
VSU IAmb IAmb 15 16 20.2
comp=Z,198nm,1.2s
VTS Vitosha 35.33 294 *e*P **P 15 16 14.2 +0.9**
comp=Z,19nm,0.9s
VTS Vitosha 35.33 294⇑ *i*P **P 15 16 14.9 +1.6**
VTS Vitosha 35.33 294 *e*P **P 15 16 14.2 +0.9**
VTS pmax pmax
comp=Z,19nm,0.9s
VTS Vitosha 35.33 294 P **P 15 16 13.0 -0.3**
NONG Nongkai 35.39 112 P **P 15 16 12.9 -0.9**
comp=Z,3.2nm,1.0s,comp=Z,149nm
GZR Gura Zlata 35.46 299⇑ *i*P **P 15 16 16.7 +2.5**
DRGR 35.48 302⇑ *i*P **P 15 16 17.4 +3.0**
KKB Krupnik 35.50 293 P P 15 16 09.0 -5.6
TRPA Tarpa 35.62 304⇑ *i*P **P 15 16 17.4 +2.0**
TRPA Tarpa 35.62 304 *e*P **P 15 16 18.0 +2.6**
PABE Paberze 35.70 317 *e*P **P 15 16 16.4 +0.3**
PABE IAmb IAmb 15 16 18.7
comp=Z,72nm,0.9s
UZH Uzhgorod 35.80 305 *e*P **P 15 16 19.8 +2.8**
UZH *e* 15 16 28.5
SUW Suwalki 35.84 314 *e*P **P 15 16 18.0 +0.7**
SUW Suwalki 35.84 314 *e*P **P 15 16 17.7 +0.4**
comp=Z,54nm,1.0s
SUW Suwalki 35.84 314 *e*P **P 15 16 17.7 +0.4**
SUW pmax pmax
comp=Z,55nm,1.0s
STIP Stip 36.18 293 *i* P **P 15 16 20.8 +0.4**
MDVR Moldovita 36.24 298⇑ *i*P **P 15 16 24.0 +3.1**
BZS Buzias 36.26 300⇑ *i*P **P 15 16 23.6 +2.6**
PHET Kaeng Krachan 36.29 122 P **P 15 16 21.7 +0.2**
comp=Z,22nm,0.8s,comp=Z,204nm
FIA1 FINESS Array S 36.52 327 *e*P **P 15 16 23.4 +0.4**
comp=Z,46nm,1.1s
FINES FINESS Array B 36.52 327 P **P 15 16 24.8 +1.7**
comp=Z,8.0nm,0.6s,baz=116,slow=9.7,SNR=36
FINES LR LR 15 33 00.1
comp=Z,2µm,18.4s,baz=114,slow=39
SKNT Sakolnakorn 36.69 112 P **P 15 16 24.1 -0.8**
comp=Z,63nm,1.1s,comp=Z,606nm
KRUS Krusevo 36.93 293 *i* P **P 15 16 28.6 +1.7**
PBUR Paburg 36.94 317 *e*P **P 15 16 26.1 -0.5**
PBUR IAmb IAmb 15 16 29.2
comp=Z,58nm,0.9s
APA Apatity 37.00 338⇓ *i*P **P 15 16 28.4 +1.4**
APA pmax pmax
comp=Z,11nm,0.7s
APA MLR MLR
comp=Z,2µm,15.0s
BJT Baijiatuan 37.07 70 *e*P **P 15 16 28.4 +0.4**
comp=Z,25nm,0.8s
BJT Baijiatuan 37.07 70 *e*P **P 15 16 28.4 +0.4**
BJT pmax pmax
comp=Z,25nm,0.8s
BJI Beijing 37.07 70⇑ *e*P **P 15 16 29.3 +1.4**
BJI pmax pmax
comp=Z,22nm,0.8s
SLIT Slitere, Latvi 37.11 320 *e*P **P 15 16 28.9 +0.8**
SLIT IAmb IAmb 15 16 29.9
comp=Z,171nm,0.9s
NIE Niedzica 37.14 306 *e*P **P 15 16 30.8 +2.3**
NIE Niedzica 37.14 306 *e*P **P 15 16 30.8 +2.3**
SRAK Srakaew 37.20 118 P **P 15 16 33.5 +4.2**
comp=Z,132nm,1.1s,comp=Z,1µm
PSZ Piszkesteto 37.39 303 *e*P **P 15 16 31.9 +1.3**
comp=Z,112nm,1.9s
PSZ Piszkesteto 37.39 303⇑ *i*P **P 15 16 33.5 +2.8**
PSZ Piszkesteto 37.39 303 *e*P **P 15 16 32.0 +1.3**
PSZ pmax pmax
comp=Z,112nm,1.9s
PSZ Piszkesteto 37.39 303 *e*P **P 15 16 31.1 +0.4**
OJC Ojcow 37.49 307 *e*P **P 15 16 33.5 +2.1**
OJC Ojcow 37.49 307 *e*P **P 15 16 32.5 +1.0**
comp=Z,26nm,0.9s
OJC Ojcow 37.49 307 *e*P **P 15 16 32.5 +1.0**
OJC pmax pmax
comp=Z,26nm,0.9s
DIVS Divibare 37.52 297 *e*P **P 15 16 33.0 +1.1**
comp=Z,31nm,1.0s
KLNR Kaliningrad 37.66 314⇑ *e*P **P 15 16 32.7 0.0**
KLNR pmax pmax
comp=Z,95nm,1.6s
LANS Liptovska Anna 37.67 305 *e*P P 15 16 39.6 +6.5
LANS Liptovska Anna 37.67 305 *e*P P 15 16 39.6 +6.5
VYHS Vyhne 38.09 304 *e*P **P 15 16 38.7 +2.1**
VYHS pmax pmax
comp=Z,12nm,1.6s
VYHS Vyhne 38.09 304 *e*P **P 15 16 38.7 +2.1**
VYHS *e*PP **PnPn** **15 18 11.7 +6.3**
WHN Wuhan 38.20 85⇑ *i*P **P 15 16 37.8 +0.2**
WHN pP **pP** **15 16 46.9 -0.1**
WHN pmax pmax
comp=Z,170nm,1.1s
MORH Mrgy, Hungar 38.30 301 *e*P **P 15 16 39.1 +0.7**
SRO Srobarova 38.45 303 *e* P 15 16 49.8 +10
TIA Tai'an 38.63 76 P **P 15 16 42.3 +1.0**
TIA pmax pmax
comp=Z,16nm,0.9s
HIA Hailar 38.79 54 *e*P **P 15 16 42.5 +0.1**
comp=Z,14nm,0.8s
HIA Hailar 38.79 54 *e*P **P 15 16 42.5 +0.1**
HIA pmax pmax
comp=Z,14nm,0.8s
MORC Moravsky Berou 38.94 306 *e*P **P 15 16 44.3 +0.6**
comp=Z,18nm,1.1s
MORC Moravsky Berou 38.94 306⇑ *i*P **P 15 16 45.7 +2.0**
MORC Moravsky Berou 38.94 306 *e*P **P 15 16 44.3 +0.6**
MORC pmax pmax
comp=Z,18nm,1.1s
MORC Moravsky Berou 38.94 306 *e*P **P 15 16 45.4 +1.7**
KRLC Kraliky 39.43 307 *e*P **P 15 16 51.6 +3.8**
KRLC Kraliky 39.43 307 *e*P **P 15 16 51.6 +3.8**
VRAC Vranov 39.56 306 *e*P **P 15 16 51.0 +2.2**
KRUC Moravsky 39.69 305 *e*P **P 15 16 52.0 +2.0**
DPC Dobruska-Polom 39.72 307 *e*P P 15 16 55.6 +5.4
DPC Dobruska-Polom 39.72 307 *e*P P 15 16 55.6 +5.4
UPC Upice 39.92 308 *e*P P 15 16 58.0 +6.2
UPC Upice 39.92 308 *e*P P 15 16 58.0 +6.2
QIZ Qiongzhong 39.95 104 P **P 15 16 51.4 -1.0**
QIZ S **S** **15 22 53.0 -2.8**
QIZ pmax pmax
comp=Z,110nm,4.5s
QIZ LR LR
comp=Z,500nm,14.7s
QIZ LR LR
comp=Z,410nm,13.7s
QIZ LR LR
comp=Z,670nm,14.5s
TRTT Trang 40.07 128 P **P 15 16 53.2 -0.2**
comp=Z,20nm,1.1s
CONA Conrad Observa 40.10 304 P **P 15 16 53.5 +0.1**
comp=Z,27nm,1.0s
KEV Kevo 40.18 339 *e*P **P 15 16 54.8 +1.1**
KEV Kevo 40.18 339 *e*P **P 15 16 54.8 +1.1**
ARSA Arzberg 40.37 303 P **P 15 16 55.9 +0.3**
comp=Z,8.7nm,1.1s
ARCES ARCESS Array B 40.51 338 P **P 15 16 58.3 +1.9**
comp=Z,16nm,0.7s,baz=127,slow=9.2,SNR=46
ARCES LR LR 15 34 45.2
comp=Z,1µm,20.9s,baz=136,slow=38
ARE0 ARCESS Array S 40.51 338 *e*P **P 15 16 58.2 +1.8**
GZH Guangzhou 40.59 97 P **P 15 16 56.3 -1.3**
GZH S **S** **15 23 04.9 -0.3**
GZH LR LR
comp=Z,800nm,16.1s
GZH LR LR
comp=Z,1µm,15.7s
GOPC GO Pecny, Ondr 40.72 307 *e*P P 15 16 52.7 -5.7
SOKA Soboth 40.76 302 *e*P **P 15 17 00.2 +1.3**
comp=Z,25nm,1.1s
PRU Pruhonice 40.87 307 *e*P P 15 17 05.6 +5.9
PRU Pruhonice 40.87 307 *e*P P 15 17 05.6 +5.9
OBKA Obir 41.11 302 *e*P **P 15 17 01.1 -0.7**
comp=Z,12nm,0.9s
MOA Molln 41.18 304 P **P 15 17 02.0 -0.2**
comp=Z,19nm,0.9s
BRG Berggiesshubel 41.23 308 *e*P **P 15 17 05.0 +2.4**
comp=Z,15nm,1.2s
BRG *i* 15 17 11.2
comp=Z,21nm,0.9s
BRG *e*SCP **ScP** **15 22 48.5 -0.2**
comp=Z,13nm,1.7s
comp=N,2µm,29.3s
comp=E,1µm,21.7s
comp=Z,2µm,24.8s
BRG Berggiesshubel 41.23 308 *e*P **P 15 17 05.0 +2.4**
BRG *i* 15 17 11.2
BRG pmax pmax
comp=Z,15nm,1.2s
BRG pmax pmax
comp=Z,21nm,0.9s
BRG pmax pmax
comp=N,13nm,1.7s
BRG MLR MLR
comp=N,2µm,29.3s
BRG MLR MLR
comp=E,1µm,21.7s
BRG MLR MLR
comp=Z,2µm,24.8s
NJ2 Nanjing 41.27 81 *e*P **P 15 17 03.3 +0.2**
NJ2 pmax pmax
comp=Z,41nm,0.9s
NJ2 LR LR
comp=Z,1µm,17.3s
NJ2 LR LR
comp=Z,1µm,17.3s
NJ2 LR LR
comp=Z,2µm,16.3s
DL2 Dalian 41.43 70 P **P 15 17 05.4 +1.0**
DL2 pP sP 15 17 19.4 +1.8
DL2 S **S** **15 23 16.4 -1.1**
DL2 pmax pmax
comp=Z,67nm,0.8s
DL2 pmax pmax
comp=Z,220nm,4.6s
DL2 LR LR
comp=Z,1µm,17.3s
DL2 LR LR
comp=Z,1µm,18.0s
DL2 LR LR
comp=Z,2µm,18.6s
GERES GERESS Array B 41.48 305 P **P 15 17 06.2 +1.4**
comp=Z,1.6nm,0.7s,baz=103,slow=9.7,SNR=8.5
GERES PcP **PcP** **15 19 02.7 +0.7**
comp=Z,2.8nm,0.7s,baz=95,slow=4.6,SNR=5.1
GERES LR LR 15 36 32.4
comp=Z,609nm,20.3s,baz=89,slow=39
GEA0 GERESS Array S 41.48 305 *e*P **P 15 17 05.2 +0.4**
KHC Kasperske Hory 41.54 306 *e*P P 15 17 11.3 +6.1
KHC *ex* x 15 17 33.5
KHC Kasperske Hory 41.54 306 *e*P P 15 17 11.3 +6.1
HAMF Hammerfest 41.62 339 *e*P **P 15 17 07.7 +2.2**
MYKA Terra Mystica 41.72 302 P **P 15 17 07.7 +1.0**
comp=Z,12nm,1.1s
CLL Collm 41.81 309 *e*P **P 15 17 08.0 +0.6**
comp=Z,11nm,0.9s
CLL Collm 41.81 309 *i* P **P 15 17 09.2 +1.8**
comp=Z,9.0nm,0.8s
CLL *i* (pP) **sP** **15 17 24.4 +3.9**
CLL *i* PP **PnPn** **15 18 48.2 -1.1**
comp=Z,75nm,1.8s
CLL Collm 41.81 309 *i* P **P 15 17 09.2 +1.8**
CLL *i* 15 18 48.2
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLL pmax pmax
comp=Z,75nm,1.8s
CLL MLR MLR
comp=Z,1µm,15.9s
KBA Koelnbreinsper 41.87 303 P **P 15 17 06.5 -1.7**
comp=Z,11nm,0.8s
SNY Shenyang 42.25 65 P **P 15 17 11.0 0.0**
SNY sP **sP** **15 17 28.0 +3.9**
SNY S **S** **15 23 30.0 +0.5**
SNY pmax pmax
comp=Z,33nm,0.7s
SNY pmax pmax
comp=Z,180nm,3.9s
SNY LR LR
comp=Z,930nm,17.5s
SNY LR LR
comp=Z,2µm,16.7s
SNY LR LR
comp=Z,2µm,17.6s
KCSI Kotacane, Aceh 42.28 134 P P 15 17 08.9 -2.7
comp=Z,24nm,0.7s,comp=Z,411nm
SNSI Sinabang, Aceh 42.38 137 P **P 15 17 11.4 -0.9**
comp=Z,126nm,0.9s
ABTA Abfaltersbach 42.47 302 *e*P **P 15 17 13.8 +0.8**
comp=Z,11nm,1.0s
KULM Kulim 42.62 129 P **P 15 17 13.9 -0.4**
MOR8 Moi Rana 42.97 331 *e*P **P 15 17 16.8 +0.1**
GRF Grafenberg Arr 43.04 307 *e*P **P 15 17 20.4 +3.0**
comp=Z,29nm,1.8s,baz=96,slow=7.4
GRF *e*pP **sP** **15 17 27.4 -3.2**
GRF *e*L L 15 37 56.2
comp=Z,535nm,21.2s
NC405 NORSAR Array S 43.10 323 *e*P **P 15 17 18.1 +0.4**
NC602 NORSAR Array S 43.13 323 *e*P **P 15 17 18.4 +0.4**
STEI Steigen 43.20 334 *e*P **P 15 17 20.5 +2.1**
CN2 Changchun 43.23 62 *e*P P 15 17 14.6 -4.4
CN2 *e*S S 15 23 36.3 -7.6
CN2 LR LR
comp=Z,600nm,17.0s
CN2 LR LR
comp=Z,2µm,17.0s
CN2 LR LR
comp=Z,2µm,18.0s
NC303 NORSAR Array S 43.28 324 *e*P **P 15 17 20.4 +1.2**
NB201 NORSAR Array S 43.29 323 *e*P **P 15 17 20.2 +0.9**
SQTA Sankt Quirin 43.30 303 *e*P **P 15 17 19.5 -0.2**
comp=Z,9.8nm,1.3s
NB2 NORSAR Subarra 43.33 323 P **P 15 17 20.4 +0.8**
comp=Z,5.2nm,0.5s,baz=99,slow=8.6
NB2 NORSAR Subarra 43.33 323 P **P 15 17 20.4 +0.8**
baz=99,slow=8.6
NOA NORSAR Array B 43.33 323 P **P 15 17 20.6 +1.0**
comp=Z,6.9nm,0.6s,baz=99,slow=8.0,SNR=57
NOA LR LR 15 38 54.1
comp=Z,1µm,18.6s,baz=110,slow=41
MOTA Moosalm 43.36 303 *e*P **P 15 17 18.3 -1.9**
comp=Z,5.2nm,0.6s
ZEA Zeya 43.43 47 *e*P **P 15 17 22.6 +2.1**
ZEA pmax pmax
comp=N,22nm,0.9s
ZEA pmax pmax
comp=E,22nm,0.9s
ZEA pmax pmax
comp=Z,58nm,1.0s
ZEA MLR MLR
comp=E,800nm,12.0s
ZEA MLR MLR
comp=Z,1µm,12.0s
ZEA MLR MLR
comp=N,900nm,15.0s
IPM Ipoh 43.49 129 *e*P **P 15 17 20.0 -1.3**
comp=N,63nm,0.8s
IPM Ipoh 43.49 129 P **P 15 17 20.7 -0.7**
PSI Prapat 43.54 133 P **P 15 17 19.8 -2.1**
comp=N,43nm,0.8s,baz=180,slow=6.3,SNR=7.3
PSI S **S** **15 23 46.4 -2.8**
comp=N,1.6nm,0.4s,baz=180,slow=16,SNR=5.9
PSI Prapat 43.54 133 *e*P **P 15 17 19.9 -2.1**
comp=N,37nm,0.8s
PSI S **S** **15 23 46.4 -2.8**
NBO00 NORSAR Array S 43.54 323 *e*P **P 15 17 21.7 +0.4**
RETA Reutte 43.57 303 P **P 15 17 22.7 +0.9**
comp=N,9.1nm,0.9s
KONS Konsvik 43.58 331 *e*P **P 15 17 23.1 +1.7**
NC204 NORSAR Array S 43.58 324 *e*P **P 15 17 22.6 +1.0**
NSS Namsos 43.58 328 *e*P **P 15 17 22.3 +0.8**
FETA Feichten 43.65 303 P **P 15 17 23.4 +0.8**
comp=N,15nm,1.9s
GSI Gunungsitoli 43.98 136 *e*P **P 15 17 24.7 -0.6**
comp=N,52nm,0.8s
GSI Gunungsitoli 43.98 136 P **P 15 17 24.4 -0.9**
comp=N,83nm,0.9s
KONO Kongsberg 43.98 321 *e*P **P 15 17 25.8 +1.0**
comp=N,41nm,1.2s
KONO Kongsberg 43.98 321⇑ *e*P **P 15 17 26.1 +1.3**
KONO pmax pmax
comp=Z,28nm,1.8s
KTGM Kuala Trenggan 44.18 126 P **P 15 17 26.9 0.0**
DAVA Damuels 44.19 303 P **P 15 17 27.8 +0.9**
comp=Z,10nm,1.0s
YAK Yakutsk 45.05 36*c* *i*P **P 15 17 34.3 +1.0**
YAK *e**PP sP 15 17 47.4 +1.0
YAK *e*S **S** **15 24 12.8 +2.9**
YAK *e**SS **sS** **15 24 22.6 -2.7**
YAK *e*SSS SSS 15 28 24.2
YAK pmax pmax
comp=Z,134nm,0.8s
YAK pmax pmax
comp=N,20nm,1.0s
YAK pmax pmax

comp=E,6nm,1.1s
YAK pmax pmax
comp=Z,105nm,3.0s
YAK pmax pmax
comp=N,32nm,2.2s
YAK pmax pmax
comp=E,91nm,2.7s
YAK smax smax
comp=N,48nm,1.6s
YAK smax smax
comp=E,62nm,1.2s
YAK MLR MLR
comp=Z,1µm,13.0s
YAK MLR MLR
comp=N,420nm,14.0s
YAK MLR MLR
comp=E,1µm,14.0s
BFO Black Forest 45.08 305 *e*P **P 15 17 35.1 +1.3**
BFO Black Forest 45.08 305 *e*P **P 15 17 35.1 +1.3**
MNSI Mandailing Nat 45.54 134 P **P 15 17 36.8 -0.9**
ECH Echery 45.87 305 *e*P **P 15 17 39.4 -0.7**
comp=E,59nm,2.0s
ECH Echery 45.87 305 *e*P **P 15 17 39.4 -0.7**
ECH pmax pmax
comp=Z,59nm,2.0s
MDJ Mudanjiang 45.99 60 P **P 15 17 41.5 +0.5**
MDJ pmax pmax
comp=Z,21nm,2.2s
MDJ pmax pmax
comp=Z,340nm,4.0s
MDJ Mudanjiang 45.99 60 *e*P **P 15 17 41.1 +0.1**
comp=Z,18nm,1.1s
SENIN Lac Senin/Sane 46.09 302 *e*P **P 15 17 42.1 +0.1**
comp=Z,75nm,1.8s
MEM Membach 46.28 308 ⇓P P 15 17 48.6 +5.4
WLF Walferdange 46.31 307 ⇑P P 15 17 50.1 +6.7
comp=Z,22nm,1.4s
SSLB Suanglung 46.37 91 *e*P **P 15 17 43.7 -0.6**
comp=Z,55nm,1.0s
TIXI Tiksi 46.49 22 *e*P **P 15 17 45.0 +0.5**
comp=Z,110nm,1.0s
TIXI Tiksi 46.49 22*c i*P **P 15 17 45.8 +1.2**
TIXI pmax pmax
comp=Z,120nm,1.0s
KS01 Wonju Array Si 46.57 70 *e*P **P 15 17 44.7 -1.0**
KS15 Wonju Array Si 46.57 70 *e*P **P 15 17 45.3 -0.4**
KSAR Wonju Array Be 46.57 70 P **P 15 17 45.8 +0.1**
KSRS Korea Array 46.60 70 P **P 15 17 45.8 0.0**
comp=Z,24nm,1.0s,baz=282,slow=6.2,SNR=39
KSRS LR LR 15 40 19.2
comp=Z,1µm,18.9s,baz=286,slow=40
KLR Kul'dur 46.62 53*c i*P **P 15 17 46.6 +0.7**
BKNI Bangkinang 46.77 133 *e*P **P 15 17 44.9 -2.5**
comp=Z,131nm,0.7s
BKNI Bangkinang 46.77 133 P **P 15 17 46.1 -1.3**
KGM Kluang 46.83 129 P **P 15 17 47.8 -0.1**
YULB Yu-li 46.84 91 *e*P **P 15 17 47.5 -0.4**
comp=Z,54nm,1.1s
TWG Pinlang 46.93 92 *e*P **P 15 17 49.3 +0.7**
comp=Z,335nm,1.1s
SPA0 Spitsbergen Ar 47.13 347 *e*P **P 15 17 52.1 +2.6**
KEST Kesra 47.33 288 P **P 15 17 52.9 +1.2**
comp=Z,9.5nm,1.0s,baz=258,slow=2.7,SNR=5.2
KEST LR LR 15 43 06.9
comp=Z,370nm,19.6s,baz=17,slow=43
KEST Kesra 47.33 288 *e*P **P 15 17 52.9 +1.2**
comp=Z,34nm,1.1s
MYKOM Kota Tinggi 47.34 129 *e*P **P 15 17 49.3 -2.5**
comp=Z,36nm,0.8s
PDSI Padang 47.43 134 P **P 15 17 51.2 -1.4**
MSHR Mys Shultsa 47.57 62*de*P **P 15 17 55.2 +1.9**
USA0B Ussuriysk Arra 47.76 60 *e*P **P 15 17 54.4 -0.4**
comp=Z,9.6nm,0.9s
USRK Ussuriysk Ar. 47.76 60 P **P 15 17 54.9 0.0**
comp=Z,8.4nm,0.8s,baz=274,slow=7.5,SNR=18
USRK LR LR 15 40 28.0
comp=Z,2µm,20.4s,baz=272,slow=39
VLA Vladivostok 47.95 62*ce*P **P 15 17 56.8 +0.5**
VLA pmax pmax
comp=Z,65nm,1.0s
KBS Kingsbay 48.26 347 *e*P **P 15 18 00.5 +2.3**
comp=Z,58nm,0.9s
KBS Kingsbay 48.26 347⇓*e*P **P 15 18 01.0 +2.8**
KBS pmax pmax
comp=Z,276nm,1.7s
KRJI Kerinci 48.97 134 P **P 15 18 03.6 -0.9**
GRNR Gornyy 49.34 51 *e*P **P 15 18 07.4 +0.5**
GRNR pmax pmax
comp=Z,29nm,1.0s
DSRI Dabo 49.55 130 P **P 15 18 08.1 -0.8**
MASI Maura Aman, Be 50.27 134 P **P 15 18 13.3 -1.1**
comp=Z,221nm,0.8s
JNU Nakatsue 50.35 74 P **P 15 18 14.9 +0.1**
comp=Z,33nm,0.8s,baz=315,slow=3.6,SNR=12
JNU Nakatsue 50.35 74 *e*P **P 15 18 15.0 +0.1**
comp=Z,49nm,0.9s
JOW Kunigami 50.87 83 P **P 15 18 17.1 -1.8**
comp=Z,31nm,0.8s,baz=297,slow=6.7,SNR=4.1
MBAR Mbarara 51.03 232⇓*e*P **P 15 18 20.3 0.0**
MBAR pmax pmax
comp=Z,3.0nm,0.9s
NKL Nikolayevsk 51.47 47 *i* P **P 15 18 24.0 +1.1**
NKL pmax pmax
comp=E,30nm,1.0s
NKL pmax pmax
comp=Z,150nm,1.0s
NKL MLR MLR
comp=E,1µm,14.0s
NKL MLR MLR
comp=Z,2µm,14.0s
TGY Tagaytay City 51.47 102 P **P 15 18 24.4 +0.9**
comp=Z,83nm,0.4s,baz=66,slow=18,SNR=3.3
LHSI Lahat 51.57 133 P **P 15 18 22.3 -1.8**
comp=Z,24nm,1.2s
PPBI Pangkal Pinang 51.83 129 P **P 15 18 30.1 +4.0**
SBUM Sibu 52.43 120 *e*P **P 15 18 29.2 -1.3**
comp=Z,19nm,1.0s
SBUM Sibu 52.43 120 P **P 15 18 30.8 +0.2**
MDSI Maura Dua 52.48 133 P P 15 18 25.5 -5.4
KKM Kota Kinabalu 52.84 113 *e*P **P 15 18 33.3 -0.4**
comp=Z,94nm,1.0s
KKM Kota Kinabalu 52.84 113 P **P 15 18 34.2 +0.4**
TYV Tymovskoe 53.18 50 *e*P **P 15 18 36.5 +0.9**
TYV *e* 15 26 03.6
TYV pmax pmax
comp=Z,17nm,0.8s
TYV MLR MLR
comp=E,2µm,15.0s
TYV MLR MLR
comp=Z,1µm,15.0s
STKI Sintang 53.63 123 P **P 15 18 39.9 +0.5**
comp=Z,32nm,0.8s
SDKM Sandakan 53.84 113 P **P 15 18 40.5 -0.5**
DAG Danmarks Havn 54.26 344⇑*i*P **P 15 18 45.0 +1.8**
comp=Z,23nm,0.9s
DAG Danmarks Havn 54.26 344⇑*i*P **P 15 18 45.0 +1.8**
DAG pmax pmax
comp=Z,19nm,0.9s
YSS Yuzh-Sakhalins 54.32 54 *e*P **P 15 18 44.5 +0.4**
YSS *e* 15 20 49.3
YSS *e*S **S 15 26 19.6 -0.2**
YSS pmax pmax
comp=Z,60nm,0.9s
YSS pmax pmax
comp=E,20nm,0.8s
YSS MLR MLR
comp=Z,900nm,15.0s
YSS MLR MLR
comp=N,300nm,13.0s
YSS MLR MLR
comp=E,800nm,15.0s
MJB9 Matsu-Tunnel 54.64 68 *e*P **P 15 18 45.7 -0.9**
MAJO Matsushiro 54.64 68 *e*P **P 15 18 45.8 -0.9**
comp=E,41nm,0.9s
MAJO Matsushiro 54.64 68*d i*P **P 15 18 46.3 -0.3**
MAJO pmax pmax
comp=Z,39nm,1.0s
MAT Matsushiro 54.64 68 P **P 15 18 46.2 -0.4**
MJAR Matsushiro Arr 54.65 68 P **P 15 18 46.7 0.0**
comp=Z,38nm,1.0s,baz=286,slow=9.8,SNR=39
MJAR LR LR 15 44 14.5
comp=Z,403nm,18.0s,baz=290,slow=38
MJAR Matsushiro Arr 54.65 68 P **P 15 18 46.7 0.0**
MJAR pmax pmax
comp=Z,34nm,1.0s
MJAR MLR MLR
comp=Z,403nm,18.0s
ASAJ Asahikawa 55.11 58 *e*P **P 15 18 48.6 -1.2**
comp=Z,30nm,1.2s
TSM Tawau 55.23 113 P **P 15 18 50.5 -0.5**
SEY Seymchan 55.45 34 P **P 15 18 53.9 +1.8**
comp=Z,30nm,1.1s,baz=273,slow=8.5,SNR=52
SEY Seymchan 55.45 34⇑*e*P **P 15 18 53.6 +1.6**
MA2 Magadan 55.51 38 P **P 15 18 53.5 +1.1**
comp=Z,24nm,1.1s,baz=276,slow=6.4,SNR=14
MA2 Magadan 55.51 38*c i*P **P 15 18 53.3 +0.8**
MA2 pmax pmax
comp=Z,65nm,1.7s
TAM Tamanrasset 55.74 274 *e*P **P 15 18 55.5 +0.6**
comp=Z,10nm,0.8s
TAM Tamanrasset 55.74 274 *e*P **P 15 18 55.5 +0.6**
TAM pmax pmax
comp=Z,10.0nm,0.8s
ES19 SONSECA Array 55.82 297 *e*P **P 15 18 56.1 +1.0**
ESDC Sonseca Array 55.87 297 P **P 15 18 56.8 +1.2**
comp=Z,4.5nm,0.6s,baz=54,slow=8.0,SNR=17
ESDC LR LR 15 48 14.7
comp=Z,182nm,18.1s,baz=305,slow=42
YUK Yuzh-Kuril'sk 57.34 57 *e*P **P 15 19 08.6 +2.8**
YUK *e**PP **sP 15 19 15.8 -3.2**
YUK *e* 15 21 13.5
YUK *e*S **S 15 27 03.8 +3.6**
YUK *e**SS **sS 15 27 19.5 +3.6**
YUK *e*SS **SS 15 30 53.4 +4.0**
YUK MLR MLR
comp=Z,1µm,20.0s
OPO Ambohidratompo 58.41 204 P **P 15 19 12.8 -0.8**
comp=Z,3.0nm,0.6s,baz=350,slow=6.1,SNR=3.8
KBKI Kotabaru 59.28 121 P **P 15 19 19.8 +0.2**
comp=Z,26nm,1.2s,comp=Z,275nm
BILL Bilibino 59.43 26 *e*P **P 15 19 21.1 +1.1**
comp=Z,56nm,1.0s
BILL Bilibino 59.43 26*c i*P **P 15 19 21.8 +1.8**
BILL pmax pmax
comp=Z,49nm,1.0s
BILL MLR MLR
comp=Z,785nm,15.0s
PCI Palu 60.19 116 P **P 15 19 26.1 +0.2**
comp=Z,91nm,1.2s,comp=Z,1µm
SUMG Summit 60.51 341 *e*P **P 15 19 29.5 +1.7**
comp=Z,37nm,1.3s
SUMG Summit 60.51 341 *i* P **P 15 19 30.0 +2.2**
comp=Z,30nm,0.7s
SUMG Summit 60.51 341 *e*P **P 15 19 29.5 +1.7**
SUMG pmax pmax
comp=Z,37nm,1.3s
PETK Petropavlovsk- 61.25 43 P **P 15 19 32.5 -0.1**
comp=Z,9.3nm,0.8s,baz=227,slow=5.1,SNR=9.8
PETK LR LR 15 47 51.1
comp=Z,558nm,18.4s,baz=291,slow=38
SKR Severo-Kuril's 61.31 46 *e*P **P 15 19 34.3 +1.3**
SKR *e*SSS SSS 15 31 55.8
SKR pmax pmax
comp=Z,1µm,3.6s
SKR MLR MLR
comp=Z,1µm,17.0s
SKR MLR MLR
comp=Z,2µm,17.0s
TTSI Tana Toraja 61.66 118 P **P 15 19 36.1 +0.2**
comp=Z,36nm,1.1s
KULLO Kullorsuaq 63.68 346 *i* P **P 15 19 50.2 +1.7**
comp=Z,17nm,0.9s
KULLO Kullorsuaq 63.68 346 *i* P **P 15 19 50.2 +1.7**
KULLO pmax pmax
comp=Z,17nm,0.9s
TOA0 Toyoda Ar. Sit 63.91 267 P **P 15 19 50.4 -0.5**
SNR=9.0
TORD Torodi Ar. Bea 63.91 267 P **P 15 19 49.1 -1.8**
comp=Z,3.7nm,0.6s,baz=55,slow=6.0,SNR=27
LSZ Lusaka 64.14 224 *e*P **P 15 19 51.5 -1.0**
comp=Z,14nm,1.0s
LSZ Lusaka 64.14 224 *e*P **P 15 19 51.5 -1.0**
LSZ pmax pmax
comp=Z,14nm,1.0s
TULEG Thule 64.17 350 *e*P **P 15 19 52.9 +1.2**
comp=Z,137nm,1.9s
TNTI Ternate 64.67 109 *e*P **P 15 19 53.8 -2.1**
comp=Z,144nm,1.2s
TNTI Ternate 64.67 109 P **P 15 19 55.3 -0.6**
comp=Z,105nm,1.2s
SANI Sanana 65.48 113 P **P 15 19 59.4 -1.7**
comp=Z,42nm,0.8s
ILULI Ilulissat 65.84 340 *i* P **P 15 20 04.3 +1.7**
comp=Z,22nm,0.7s
ILULI Ilulissat 65.84 340 *i* P **P 15 20 04.3 +1.7**
ILULI pmax pmax
comp=Z,22nm,0.7s
SFJD Kangerlussuaq 67.13 338 *i* P **P 15 20 12.3 +1.3**
comp=Z,11nm,0.8s
SFJD Kangerlussuaq 67.13 338 *i* P **P 15 20 12.3 +1.3**
SFJD pmax pmax
comp=Z,11nm,0.8s
RDOG Red Dog Mine 68.88 18 *e*P **P 15 20 22.6 +0.7**
comp=Z,71nm,1.4s
GAMB Gambell 69.30 24 *e*P **P 15 20 25.7 +1.2**
comp=Z,22nm,1.1s
BATI Baumata 69.38 121 P **P 15 20 23.8 -2.1**
comp=Z,50nm,0.8s,baz=302,slow=3.4,SNR=7.8
BATI Baumata 69.38 121 P P 15 20 35.0 +9.2
SOEI Soe 69.49 120 P P 15 20 37.3 +11
ANM Nome 70.75 22 *e*P **P 15 20 35.0 +1.5**
comp=Z,42nm,1.1s
ANM Nome 70.75 22 *e*P **P 15 20 35.0 +1.5**
ANM pmax pmax
comp=Z,42nm,1.1s
FAKI Fak Fak 70.76 109 *e*P **P 15 20 32.1 -2.3**
comp=Z,41nm,1.0s
FAKI Fak Fak 70.76 109 P **P 15 20 33.4 -0.9**
comp=Z,42nm,1.2s
COLD Coldfoot 72.49 15 *e*P **P 15 20 45.1 +1.2**
comp=Z,29nm,1.0s
IM3 Indian Mountai 72.75 17 *e*P **P 15 20 45.8 +0.3**
DBIC Dimbokro 72.89 266 P **P 15 20 47.0 -0.1**
comp=Z,4.3nm,0.7s,baz=48,slow=8.0,SNR=6.2
DBIC LR LR 15 56 26.9
comp=Z,328nm,18.1s,baz=29,slow=39
DBIC Dimbokro 72.89 266 *e*P **P 15 20 47.2 0.0**
comp=Z,12nm,0.9s
DBIC Dimbokro 72.89 266 *e*P **P 15 20 47.2 0.0**
DBIC pmax pmax
comp=Z,12nm,0.9s
KIC Kosan Boka 72.98 265 *e*P **P 15 20 47.3 -0.4**
comp=Z,67nm,1.2s
TIC Toumodi 73.04 266 *e*P **P 15 20 47.6 -0.5**
LIC Lamto 73.29 265 *e*P **P 15 20 49.1 -0.4**
comp=Z,65nm,1.3s
LBTB Lobatse 73.46 220 *e*P **P 15 20 49.1 -1.2**
comp=Z,17nm,0.9s
LBTB Lobatse 73.46 220 *e*P **P 15 20 49.1 -1.2**
LBTB pmax pmax
comp=Z,17nm,0.9s
TSUM Tsumeb 73.49 230 *e*P **P 15 20 49.8 -0.8**
comp=Z,23nm,1.4s
INK Inuvik 74.22 8 *e*P **P 15 20 55.2 +1.1**
comp=Z,49nm,1.3s
INK Inuvik 74.22 8 *e*P **P 15 20 55.2 +1.1**
INK pmax pmax
comp=Z,49nm,1.3s
MLY Manley 74.24 16 *e*P **P 15 20 54.8 +0.5**
comp=Z,33nm,1.2s
MBWA Marble Bar 74.84 131 *e*P **P 15 20 57.1 -1.2**
MDM Murphy Dome 74.85 15 *e*P **P 15 20 58.6 +0.7**
comp=Z,51nm,1.1s
COLA College 75.01 15 *e*P **P 15 20 59.8 +1.1**
comp=Z,50nm,1.0s
COLA College 75.01 15*c i*P **P 15 20 59.9 +1.2**
COLA pmax pmax
comp=Z,40nm,1.0s
CAST Castle Rocks 75.28 18 *e*P **P 15 21 01.2 +0.8**
comp=Z,72nm,1.0s
IL1 Eielson Array 75.30 15 *e*P **P 15 21 00.3 -0.1**
ILAR Eielson Array 75.30 15 P **P 15 21 00.9 +0.5**
comp=Z,12nm,1.0s,baz=320,slow=4.7,SNR=67
ILAR LR LR 16 01 02.0
comp=Z,258nm,18.3s,baz=316,slow=41
ILB Eielson Array 75.30 15 *e*P **P 15 21 00.1 -0.4**
WRH Wood River Hil 75.31 16 *e*P **P 15 21 00.5 0.0**
comp=Z,9.9nm,1.0s
HDA Harding Lake 75.61 15 *e*P **P 15 21 01.9 -0.3**
comp=Z,15nm,1.2s
TRF Thorofare Moun 75.69 17 *e*P **P 15 21 02.6 -0.3**
comp=Z,17nm,1.1s
PPLA Purkeypile 75.70 18 *e*P **P 15 21 03.2 +0.3**
comp=Z,146nm,1.9s
MCK McKinley 75.76 16 *e*P **P 15 21 03.6 +0.6**
comp=Z,46nm,1.6s
MCK McKinley 75.76 16 *e*P **P 15 21 03.7 +0.6**
MCK pmax pmax
comp=Z,46nm,1.6s
RND Reindeer 76.06 16 *e*P **P 15 21 04.7 -0.2**
comp=Z,28nm,1.0s
RND Reindeer 76.06 16 *e*P **P 15 21 04.7 -0.2**
RND pmax pmax
comp=Z,28nm,1.0s
FITZ Fitzroy Crossi 76.33 125 *e*P **P 15 21 04.6 -2.3**
comp=Z,21nm,1.1s
EGAK Eagle 76.40 13 *e*P **P 15 21 07.6 +1.0**
comp=Z,17nm,1.0s
BOSA Boshof 76.57 218 P **P 15 21 07.3 -0.9**
comp=Z,9.4nm,0.9s,baz=32,slow=7.5,SNR=9.3
BOSA LR LR 15 54 56.4
comp=Z,97nm,19.2s,baz=20,slow=36
BOSA Boshof 76.57 218 *e*P **P 15 21 07.4 -0.9**
comp=Z,15nm,0.9s
SCRK Sand Creek 76.59 14 *e*P **P 15 21 08.8 +0.8**
comp=Z,78nm,1.7s
PAX Paxson 77.19 15 *e*P **P 15 21 11.8 +0.5**
comp=Z,17nm,0.9s
PAX Paxson 77.19 15 *e*P **P 15 21 11.8 +0.5**
PAX pmax pmax
comp=Z,17nm,0.9s
SUA Susitna One 77.28 18 *e*P **P 15 21 12.0 +0.2**
comp=Z,60nm,1.5s
DAWY Dawson 77.36 12 *e*P **P 15 21 12.8 +0.6**
comp=Z,23nm,1.0s
PMR Palmer 77.56 18 *e*P **P 15 21 13.4 +0.1**
comp=Z,16nm,0.9s
PMR Palmer 77.56 18 *e*P **P 15 21 13.4 +0.1**
PMR pmax pmax
comp=Z,16nm,0.9s
RSO Redoubt South 77.60 20 *e*P **P 15 21 13.7 0.0**
HARP HAARP 77.76 15 *e*P **P 15 21 15.6 +1.2**
comp=Z,96nm,1.0s
SCM Sheep Creek Mo 77.78 17 *e*P **P 15 21 14.6 0.0**
comp=Z,195nm,1.9s
SCM Sheep Creek Mo 77.78 17 *e*P **P 15 21 14.6 0.0**
SCM pmax pmax
comp=Z,195nm,1.9s
KNK Knik Glacier 77.88 17 *e*P **P 15 21 15.7 +0.6**
comp=Z,54nm,1.0s
KLU Klutina 78.40 16 *e*P **P 15 21 18.0 0.0**
comp=Z,22nm,0.8s
DIV Divide 78.76 16 *e*P **P 15 21 19.9 -0.1**
comp=Z,23nm,0.8s
BALM Baldy 79.58 15 *e*P **P 15 21 25.2 +0.6**
comp=Z,20nm,1.0s
BALM Baldy 79.58 15 *e*P **P 15 21 25.2 +0.6**
BALM pmax pmax
comp=Z,20nm,1.0s
HYT Haines Junctio 80.71 13 *e*P **P 15 21 31.8 +1.1**
comp=Z,18nm,1.1s
YKW3 Yellowknife Ar 81.29 2 *e*P **P 15 21 33.5 0.0**
comp=Z,20nm,1.2s
YKA Yellowknife Ar 81.35 2 P **P 15 21 34.7 +0.8**
comp=Z,7.2nm,0.9s,baz=350,slow=5.4,SNR=96
YKA PKPPKP **P'P'df 15 48 13.8 -4.6**
comp=Z,0.1nm,0.3s,baz=261,slow=20,SNR=3.7
YKA LR LR 16 00 27.1
comp=Z,35nm,21.0s,baz=358,slow=38
YKB5 Yellowknife Ar 81.35 2 *e*P **P 15 21 34.0 +0.2**
SCHQ Schefferville 81.41 336 P **P 15 21 36.8 +2.4**
comp=Z,5.8nm,0.8s,baz=75,slow=5.6,SNR=4.7
SCHQ LR LR 16 01 05.4
comp=Z,117nm,18.3s,baz=14,slow=38
SKAG Skagway 82.37 12 *e*P **P 15 21 40.1 +0.8**
comp=Z,30nm,1.1s
WRA Warramunga Arr 83.52 120 P **P 15 21 43.3 -2.5**
comp=Z,13nm,0.8s,baz=324,slow=5.1,SNR=76
WRA PP **PP 15 24 57.0 -1.6**
comp=Z,3.4nm,1.1s,baz=325,slow=6.5,SNR=4.9
WRAB Tennant Creek 83.52 120 *e*P **P 15 21 43.0 -2.7**
comp=Z,20nm,0.8s
WRAB Tennant Creek 83.52 120⇑*e*P **P 15 21 43.4 -2.4**
WRAB pmax pmax
comp=Z,23nm,0.9s
WB2 Warramunga Arr 83.52 120 *e*P **P 15 21 43.1 -2.7**
FCC Fort Churchill 84.06 351 *e*P **P 15 21 48.8 +0.8**
comp=Z,21nm,1.0s
FCC Fort Churchill 84.06 351 *e*P **P 15 21 48.8 +0.8**
FCC pmax pmax
comp=Z,21nm,1.0s
AS31 Alice Springs 85.72 123 *e*P **P 15 21 54.4 -2.5**
comp=Z,5µm,0.5s
ASAR Alice Springs 85.72 123 P P 15 21 53.7 -3.2
comp=Z,8.0nm,0.6s,baz=310,slow=4.9,SNR=80
FFC Flin Flon 88.83 355 *e*P **P 15 22 11.9 +0.4**
comp=Z,18nm,1.1s
FFC Flin Flon 88.83 355 *i* P **P 15 22 12.8 +1.3**
ULM Lac du Bonnet 92.61 350 P **P 15 22 29.6 +0.5**
comp=Z,4.4nm,0.7s,baz=358,slow=5.6,SNR=7.9
ULM LR LR 16 08 50.7
comp=Z,184nm,18.3s,baz=27,slow=38
NEW Newport 95.49 4 *e*P **P 15 22 42.9 +0.4**
comp=Z,8.1nm,1.3s
NEW Newport 95.49 4 *e*P **P 15 22 42.9 +0.4**
NEW pmax pmax
comp=Z,8.0nm,1.3s
STKA Stephens Creek 96.23 125 P **P 15 22 43.8 -2.1**
comp=Z,1.5nm,0.4s,baz=331,slow=9.2,SNR=3.3
STKA LR LR 16 14 26.9
comp=Z,97nm,18.4s,baz=357,slow=41
NVAR Mina Array Bea 105.20 6 PKiKP **PKiKP 15 27 41.2 +0.8**
comp=Z,0.7nm,0.6s,baz=19,slow=3.8,SNR=4.1
S22A 4UR Ranch, Cre 106.05 356 *e*Pdif **Pdif 15 23 29.4 -0.9**
DZM Mont Dzumac 108.73 104 *e*LR LR 15 59 38.9
comp=Z,192nm,23.7s
TXAR Lajitas Array 114.17 353 PKP **PKiKP 15 27 57.4 0.0**
comp=Z,0.5nm,0.8s,baz=338,slow=1.9,SNR=5.2
TXAR PP **PP 15 28 49.1 -2.0**
comp=Z,1.0nm,1.0s,baz=353,slow=4.2,SNR=4.5
TXAR PKKPbc **PKKPbc 15 38 36.8 -0.5**
comp=Z,0.4nm,0.8s,baz=231,slow=2.9,SNR=3.3
TXAR PKKPab **PKKPab 15 38 46.0 -1.6**
comp=Z,0.8nm,1.0s,baz=181,slow=9.9,SNR=3.8
TXAR PKKP **PKKPdf 15 38 58.1 -0.2**
comp=Z,0.3nm,0.7s,baz=178,slow=6.3,SNR=4.0
VNA2 Neumayer--Watz 119.69 202 PKiKP **PKPdf 15 28 07.0 +0.6**
VNA3 Neumayer Olymp 120.50 202 PKiKP **PKPdf 15 28 07.7 -0.3**
QSPA South Pole Qui 126.26 180 *e*PKPdf **PKPdf 15 28 18.7 -0.6**
ROSC El Rosal 126.35 312 PKP **PKiKP 15 28 22.8 +0.8**
comp=Z,9.2nm,0.3s,baz=192,slow=3.0,SNR=7.0
CPUP Villa Florida 133.41 267 PKP **PKPdf 15 28 33.2 -0.7**
comp=Z,1.9nm,0.6s,baz=47,slow=1.6,SNR=7.0
LPAZ La Paz 136.90 286 PKP **PKPdf 15 28 41.8 +0.3**
comp=Z,2.0nm,0.8s,baz=88,slow=5.8,SNR=6.9
LPAZ La Paz 136.90 286 *e*PKPdf **PKPdf 15 28 40.1 -1.5**
PPT2 Papeete2 141.34 71 *e*LR LR 16 15 00.8
comp=Z,174nm,22.8s
TAOE Nuku Hiva Isla 141.99 51 *e*LR LR 16 15 20.0
comp=Z,342nm,23.9s
ACLC CERRO LA CRUZ 142.43 268 *e*P **PKPdf 15 28 46.6 -4.2**
APLL PUNTA DE LOS L 142.45 266 *e*P **PKPdf 15 28 46.8 -3.8**
MRA San Martin 142.50 262 *e*P **PKPdf 15 28 48.5 -2.1**
AGUA GUANDACOL 143.70 268 *e*P PKPab 15 28 50.6 +0.9
AMOG MOGNA 144.23 266 *e*P **PKPab 15 28 52.3 +0.7**
CFA Coronel Fontan 144.25 265 *e*P **PKPab 15 28 52.0 +0.4**
RTCV Cerro Valdivia 144.58 265 *e*P **PKPab 15 28 53.1 +0.3**
TBI Tubuai 144.62 79 *e*LR LR 16 16 19.0
comp=Z,260nm,23.8s
RTLS Leoncito 145.17 265 *e*P **PKPbc 15 28 55.6 +0.3**
LCO Las Campanas 145.29 270 *e*PKPbc **PKPbc 15 28 55.0 -0.7**
LCO Las Campanas 145.29 270 *e*P **PKPbc 15 28 55.1 -0.6**
LCO Las Campanas 145.29 270 *e*PKIKP **PKPbc 15 28 55.0 -0.7**
AUSP Uspallata 145.38 265 *e*P **PKPbc 15 28 56.3 +0.4**
GO04 Tololo Observa 145.81 269 *e*PKPdf **PKPdf 15 28 57.0 +0.3**
GO04 Tololo Observa 145.81 269 *e*P **PKPdf 15 28 56.8 +0.1**
PEL Peldehue 146.70 264 *e*PKPbc **PKPdf 15 28 58.8 +0.9**
PEL Peldehue 146.70 264 *e*P **PKPdf 15 28 59.7 +1.8**
PEL Peldehue 146.70 264 *e*PKP2 **PKPdf 15 28 58.8 +0.9**
ROC1 El Roble 146.92 264 *e*PKPdf **PKPdf 15 28 59.2 +0.7**
ROC1 El Roble 146.92 264 *e*P **PKPdf 15 29 00.2 +1.7**
PLCA Paso Flores 148.12 250 PKPbc **PKPdf 15 29 02.8 +2.8**
comp=Z,1.0nm,0.9s,baz=120,slow=2.7,SNR=30
PLCA Paso Flores 148.12 250 *e*PKPbc **PKPbc 15 29 03.1 -0.1**
GO05 Huala 148.20 261 *e*PKPbc **PKPdf 15 29 02.7 +2.5**
GO05 Huala 148.20 261 *e*P **PKPbc 15 29 03.5 -0.1**
GO06 Curarrehue 148.69 252 *e*PKPbc **PKPdf 15 29 04.0 +3.0**

IDC ***22*** *15:31:52.5±2.9,31°.60S×179°.63W, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.7/23, mbtmp3.7/3, ML4.0/1, Error ellipse: s-maj=63.0km s-min=44.2km az=106.0*

ISCJB ***22*** *15:32:07.7±0.7, 32°.56S±0°.06×179°.6W±0°.2, h150km, mb3.3/2, Error ellipse: s-maj=24.3km s-min=6.1km az=16.6*

WEL ***22*** *15:32:09.5±0.7, 33°S±14'×17°9W±3°.8, h33km, ML4.6/18*

ISC 22 15:32:08.4±1.3, 32°.62S±0°.10×179°.5W±0°.2, h150km, n29, σ1§61/35, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.61**	**22**	S	**Sn**	**15 33 45.0**	**-1.4**
MXZ	**Matakaoa Point**	**5.25**	**200**	P	**Pn**	**15 33 25.0**	**0.0**
WMGZ	**Waiomatatini S**	**5.46**	**198**	P	**Pn**	**15 33 29.7**	**+1.9**
WMGZ				S	**Sn**	**15 34 29.5**	**-0.4**
HAZ	**Te Kaha**	**5.59**	**203**	P	**Pn**	**15 33 30.7**	**+1.2**
HAZ				S	**Sn**	**15 34 34.5**	**+1.6**
PKGZ	**Pakihiroa**	**5.62**	**200**	P	**Pn**	**15 33 29.8**	**-0.2**
PKGZ				S	**Sn**	**15 34 32.3**	**-1.4**
PUZ	**Puketiti**	**5.74**	**198**	P	**Pn**	**15 33 31.8**	**+0.2**
PUZ				S	**Sn**	**15 34 34.5**	**-2.2**
RUGZ	**Raukumara Rang**	**5.81**	**203**	P	**Pn**	**15 33 33.8**	**+1.2**
TWGZ	**Tauwhareparae**	**5.91**	**200**	P	**Pn**	**15 33 35.4**	**+1.5**
OPRZ	**Ohinepanea**	**6.13**	**211**	P	**Pn**	**15 33 39.5**	**+2.7**
CNGZ	**Carnagh Statio**	**6.14**	**197**	P	**Pn**	**15 33 37.6**	**+0.7**
MWZ	**Matawai**	**6.20**	**202**	P	**Pn**	**15 33 37.0**	**-0.6**
MWZ				S	**Sn**	**15 34 46.4**	**-1.2**
TKGZ	**Te Karaka**	**6.20**	**200**	P	**Pn**	**15 33 39.8**	**+2.2**
MARZ	**Manawahe**	**6.20**	**209**	P	**Pn**	**15 33 41.1**	**+3.4**
URZ	**Urewera**	**6.27**	**205**	Pn	**Pn**	**15 33 38.1**	**-0.5**
	2.3nm,0.3s,baz=287,slow=3.7,SNR=29						
URZ				Sn	**Sn**	**15 34 46.0**	**-3.3**
	3.3nm,0.3s,baz=111,slow=20,SNR=7.0						
URZ	**Urewera**	**6.27**	**205**	P	**Pn**	**15 33 39.3**	**+0.7**
RIGZ	**Rimuhau**	**6.47**	**199**	P	**Pn**	**15 33 42.6**	**+1.3**
MUGZ	**Murupara**	**6.59**	**207**	P	**Pn**	**15 33 44.6**	**+1.8**
RTZ	**Ruatahuna**	**6.63**	**205**	P	**Pn**	**15 33 44.3**	**+0.8**
SNGZ	**Shannon Statio**	**6.67**	**202**	P	**Pn**	**15 33 44.8**	**+1.0**
MHGZ	**Mahia Peninsul**	**6.85**	**197**	P	**Pn**	**15 33 49.0**	**+2.7**
RAHZ	**Arahi**	**6.87**	**203**	P	**Pn**	**15 33 47.3**	**+0.7**
MTHZ	**Maungataniwha**	**6.89**	**205**	P	**Pn**	**15 33 48.6**	**+1.6**
WHHZ	**Waihua**	**6.97**	**202**	P	**Pn**	**15 33 48.8**	**+1.0**
ARHZ	**Aropaoanui**	**7.21**	**202**	P	**Pn**	**15 33 50.7**	**-0.5**
BKZ	**Black Stump Fm**	**7.30**	**205**	P	**Pn**	**15 33 51.6**	**-0.8**
KWHZ	**Kaweka Forest**	**7.55**	**205**	P	**Pn**	**15 33 55.7**	**0.0**
ASAR	**Alice Springs**	**41.78**	**270**	P	**P**	**15 39 42.6**	**-0.6**
	0.2nm,0.4s,baz=108,slow=7.5,SNR=5.8						
WRA	**Warramunga Arr**	**42.98**	**275**	P	**P**	**15 39 52.1**	**-0.8**
	0.5nm,0.3s,baz=113,slow=8.0,SNR=14						
FINES	**FINESS Array B**	**146.76**	**338**	PKPbc	**PKPdf**	**15 51 32.1**	**+2.2**
	1.1nm,0.5s,baz=46,slow=5.5,SNR=7.1						

IDC ***22*** *15:49:18.4±0.7, 34°.30N×80°.52E, h0km, mb3.8/15, mb1 4.0/20, mb1mx3.9/44, mbtmp3.8/20, ML3.2/5, MS3.4/4, Ms1 3.4/4, ms1mx3.0/50, Error ellipse: s-maj=19.6km s-min=13.5km az=52.0*

ISCJB ***22*** *15:49:22.1±0.4, 34°.30N±0°.05×80°.30E±0°.06, h33km, mb3.8/19, MS3.7/3, Error ellipse: s-maj=8.9km s-min=5.7km az=136.7*

BJI ***22*** *15:49:23.7, 34°.35N×80°.30E, h40km, mb4.3/16, mB4.4/5, ML3.8/1, Ms3.9/6, Ms7 3.6/6*

NEIC ***22*** *15:49:24.0±0.8, 34°.21N×80°.31E, h38km±8km, mb4.0/1, Error ellipse: s-maj=9.2km s-min=6.9km az=218.0*

ISC 22 15:49:24.2±0.6, 34°.38N±0°.07×80°.36E±0°.07, h35km, n47, σ1§97/45, **mb3.7**/19, **MS3.8**/3, **Xizang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIL	**Nilore**	**5.95**	**265**	*e*Pn	**Pn**	**15 50 47.1**	**-2.7**
KSH	**Kashi**	**6.22**	**327**	P	**Pn**	**15 50 55.9**	**+2.3**
KSH				sP		15 51 09.0	
KSH				S	**Sn**	**15 52 06.3**	**+2.8**
KSH				pmax	pmax		
	comp=Z,15nm,0.9s						
KSH				LR	LR		
	comp=N,490nm,6.9s						
KSH				LR	LR		
	comp=E,720nm,5.5s						
KSH				LR	LR		
	comp=Z,840nm,11.1s						
NRN	**Naryn**	**7.84**	**335**	*e*Pn	**Pn**	**15 51 19.4**	**+3.4**
PRZ	**Przheval'sk**	**8.24**	**350**	*e*Pn	**Pn**	**15 51 24.4**	**+3.0**
ARSB	**Arslanbob**	**9.06**	**322**	*e*Pn	**Pn**	**15 51 34.7**	**+2.1**
KBL	**Kabul**	**9.35**	**274**	*e*Pn	**Pn**	**15 51 34.5**	**-2.1**
AAK	**Ala-Archa**	**9.44**	**333**	Pn	**Pn**	**15 51 40.2**	**+2.4**
	0.2nm,0.3s,baz=132,slow=10,SNR=10						
AAK				Sn	Sn	15 53 32.2	+9.5
	baz=342,slow=20,SNR=1.4						
AAK				Lg	Lg	15 54 24.2	
	0.1nm,0.3s,baz=264,slow=19,SNR=2.1						
AAK				LR	LR	15 55 21.0	
	comp=Z,55nm,20.6s,baz=66,slow=38						
BTK	**Batken**	**9.49**	**309**	*e*Pn	**Pn**	**15 51 38.3**	**-0.1**
LSA	**Lhasa**	**10.27**	**114**	*e*Pn	**Pn**	**15 51 49.8**	**+0.2**
WMQ	**Urumqi**	**11.01**	**29**	*e*P	Pn	15 52 05.3	+6.0
WMQ				LR	LR		
	comp=N,210nm,16.5s						
WMQ				LR	LR		
	comp=E,240nm,22.3s						
WMQ				LR	LR		
	comp=Z,200nm,15.5s						
KK31	**Karatay Array**	**11.61**	**322**	*e*Pn	**Pn**	**15 52 07.1**	**-0.3**
MK01	**Makanchi Array**	**12.47**	**6**	*e*Pn	**Pn**	**15 52 17.6**	**-1.5**
MAKZ	**Makanchi**	**12.48**	**5**	*e*Pn	**Pn**	**15 52 17.9**	**-1.3**
MK31	**Makanchi Array**	**12.49**	**6**	*e*Pn	**Pn**	**15 52 18.0**	**-1.4**
MKAR	**Makanchi Array**	**12.49**	**6**	Pn	**Pn**	**15 52 18.4**	**-1.0**
	0.7nm,0.3s,baz=180,slow=12,SNR=37						
MKAR				Sn	**Sn**	**15 54 33.0**	**-4.3**
	0.0nm,0.3s,baz=202,slow=23,SNR=2.5						
KURBB	**Kurchatov Arra**	**16.29**	**356**	Pn	**Pn**	**15 53 05.7**	**-4.5**
	0.0nm,0.3s,baz=178,slow=12,SNR=4.1						
GTA	**Gaotai**	**16.35**	**66**	*e*P	P	15 53 21.0	+7.3
GTA				pP	pP	15 53 26.3	+1.9
GTA				sP	sP	15 53 29.0	-0.5
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KURK	**Kurchatov**	**16.38**	**356**	*e*Pn	**P**	**15 53 12.6**	**-1.2**
GEYT	**Alibeck**	**18.30**	**288**	P	**Pn**	**15 53 35.8**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=54,slow=7.3,SNR=3.0						
ZALV	**Zalesovo Beam**	**19.82**	**8**	P	**P**	**15 53 51.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=185,slow=13,SNR=8.6						
BVAR	**Borovoye Array**	**19.95**	**342**	P	**P**	**15 53 53.4**	**+0.3**
	comp=Z,3.4nm,0.6s,baz=154,slow=12,SNR=23						
BRVK	**Borovoye**	**20.01**	**342**	*e*P	**P**	**15 53 53.6**	**-0.1**
	comp=Z,4.4nm,0.6s						
WSAR	**Wadi Sarin**	**21.99**	**245**	P	**P**	**15 54 15.5**	**+0.2**
	comp=Z,3.3nm,1.1s,baz=63,slow=11,SNR=2.4						
CHTO	**Chiang Mai**	**22.66**	**128**	P	**P**	**15 54 25.5**	**+3.0**
	comp=Z,16nm,1.7s						
CMMT	**Chiang Mai**	**22.67**	**128**	P	**P**	**15 54 25.4**	**+2.8**
	comp=Z,2.3nm,1.6s						
AKTO	**Aktyubinsk**	**22.88**	**321**	P	**P**	**15 54 24.6**	**+0.1**
	comp=Z,5.0nm,0.7s,baz=126,slow=9.4,SNR=22						
CMAR	**Chiang Mai Arr**	**22.92**	**129**	P	**P**	**15 54 23.3**	**-2.0**
	comp=Z,1.5nm,0.8s,baz=313,slow=12,SNR=13						
CM01	**Chiang Mai Arr**	**22.96**	**129**	*e*P	**P**	**15 54 24.4**	**-1.2**
SONM	**Songino Array**	**23.65**	**48**	P	**P**	**15 54 33.9**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=233,slow=12,SNR=3.4						
UTTA	**Uttaradit**	**24.49**	**127**	P	**P**	**15 54 44.5**	**+4.3**
	comp=Z,1.7nm,0.8s						
UTHA	**Uthaitani**	**25.42**	**133**	P	**P**	**15 54 51.1**	**+2.5**
HHC	**Hu-ho-hao-te**	**25.46**	**66**	*e*P	**P**	**15 54 50.8**	**+1.8**
HHC				pmax	pmax		
	comp=Z,13nm,1.1s						
BRTR	**Keskin Array B**	**37.34**	**292**	P	**P**	**15 56 35.2**	**+1.8**
	comp=Z,0.5nm,0.8s,baz=98,slow=10,SNR=3.0						
AKASG	**Malin Array Be**	**40.20**	**310**	P	**P**	**15 56 57.3**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=78,slow=8.0,SNR=12						
FINES	**FINESS Array B**	**43.54**	**326**	P	**P**	**15 57 24.9**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=108,slow=10,SNR=6.1						
JHJ	**Hachijo jima 2**	**48.80**	**74**	LR	LR	16 18 09.4	
	comp=Z,109nm,21.2s,baz=273,slow=36						
GERES	**GERESS Array B**	**50.33**	**308**	P	**P**	**15 58 18.2**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=32,slow=5.8,SNR=4.3						
GERES				LR	LR	16 20 08.7	
	comp=Z,35nm,21.1s,baz=316,slow=37						
NB2	**NORSAR Subarra**	**50.63**	**324**	P	**P**	**15 58 19.6**	**0.0**
	comp=Z,2.1nm,0.8s,baz=88,slow=7.9						
NOA	**NORSAR Array B**	**50.63**	**324**	P	**P**	**15 58 19.6**	**0.0**
	comp=Z,0.9nm,0.7s,baz=90,slow=7.5,SNR=3.8						
BATI	**Baumata**	**60.42**	**129**	LR	LR	16 28 23.5	
	comp=Z,78nm,19.1s,baz=48,slow=39						
TOA0	**Torodi Ar. Sit**	**73.42**	**275**	*e*P	**P**	**16 00 52.0**	**-1.1**
TORD	**Torodi Ar. Bea**	**73.42**	**275**	P	**P**	**16 00 52.6**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=38,slow=5.6,SNR=10						
ILAR	**Eielson Array**	**74.50**	**19**	P	**P**	**16 00 58.5**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=315,slow=5.0,SNR=17						
WRA	**Warramunga Arr**	**74.51**	**128**	P	**P**	**16 00 58.0**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=340,slow=8.4,SNR=3.8						
ASAR	**Alice Springs**	**76.92**	**131**	P	**P**	**16 01 12.5**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=318,slow=5.8,SNR=5.7						
BOSA	**Boshof**	**81.47**	**227**	P	**P**	**16 01 37.1**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=28,slow=6.8,SNR=4.0						
YKA	**Yellowknife Ar**	**82.72**	**7**	P	**P**	**16 01 43.5**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=344,slow=5.0,SNR=12						

MEX 22 16:08:08.1±0.3, 17°.98N×101°.66W, h27km±19km, MD3.6,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.41**	**154**	*i* P	Pb	16 08 15.6	-1.5
ZIIG				*e*S	Sb	16 08 21.3	-1.8
ARIG	**Puente Sto Nin**	**1.28**	**76**	*e*P	Pn	16 08 27.7	-2.6
ARIG				*i* S	Sn	16 08 43.3	-3.2
CAIG	**El Cayaco**	**1.62**	**125**	*e*P	Pn	16 08 31.9	-3.0
CAIG				*e*S	Sn	16 08 52.2	-2.7
PLIG	**Platanillo**	**2.09**	**78**	*e*P	Pn	16 08 39.8	-1.6
PLIG				*e*S	Sn	16 09 03.4	-3.2

ISCJB ***22*** *16:18:00.6±0.7, 36°.67S±0°.05×177°.26E±0°.09, h293km±5km, mb3.7/3, Error ellipse: s-maj=11.5km s-min=8.3km az=164.1*

IDC ***22*** *16:18:00.6±1.6, 36°.95S×177°.53E, h301km±15km, mb3.5/3, mb1 3.7/4, mb1mx3.3/33, mbtmp4.2/4, Error ellipse: s-maj=50.3km s-min=31.0km az=131.0*

WEL ***22*** *16:18:03.6±1.7, 37°S±48'×17°7E±4°.0, h283km±40km*

ISC 22 16:18:01.7±1.1, 36°.70S±0°.07×177°.18E±0°.08, h285km±7km,
n117, σ1§17/128, **mb3.7**/3, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**1.16**	**156**	P	**Pn**	**16 18 40.2**	**-1.0**
HAZ				S	**S**	**16 19 10.2**	**-2.4**
MXZ	**Matakaoa Point**	**1.25**	**134**	P	**Pn**	**16 18 40.6**	**-1.1**
MXZ				S	**S**	**16 19 11.0**	**-2.4**
TGRZ	**Tauranga**	**1.27**	**215**	P	**Pn**	**16 18 42.7**	**+0.9**
RUGZ	**Raukumara Rang**	**1.33**	**163**	P	**Pn**	**16 18 41.2**	**-1.1**
RUGZ				S	**S**	**16 19 11.3**	**-3.3**
MARZ	**Manawahe**	**1.35**	**197**	P	**Pn**	**16 18 43.2**	**+0.9**
PKGZ	**Pakihiroa**	**1.39**	**149**	P	**Pn**	**16 18 42.4**	**-0.3**
GRZ	**Great Barrier**	**1.46**	**287**	P	**Pn**	**16 18 41.2**	**-1.9**
WMGZ	**Waiomatatini S**	**1.49**	**139**	P	**Pn**	**16 18 42.7**	**-0.5**
WMGZ				S	**S**	**16 19 14.8**	**-1.4**
KARZ	**Kaharoa**	**1.52**	**209**	P	**Pn**	**16 18 44.8**	**+1.4**
OMRZ	**Omania**	**1.55**	**204**	P	**Pn**	**16 18 46.1**	**+2.4**
URZ	**Urewera**	**1.56**	**182**	P	**Pn**	**16 18 43.6**	**-0.1**
	16nm,0.3s,baz=282,slow=2.2,SNR=82						
URZ				S	**S**	**16 19 16.5**	**-0.5**
	20nm,0.3s,baz=265,slow=4.7,SNR=21						
URZ	**Urewera**	**1.56**	**182**	P	**Pn**	**16 18 43.6**	**-0.1**
TWGZ	**Tauwhareparae**	**1.61**	**157**	P	**Pn**	**16 18 44.5**	**+0.4**
TWGZ				S	**S**	**16 19 17.9**	**+0.1**
PUZ	**Puketiti**	**1.62**	**148**	P	**Pn**	**16 18 43.7**	**-0.4**
TARZ	**Mount Tarawera**	**1.63**	**199**	P	**Pn**	**16 18 45.2**	**+0.9**
WIAZ	**Waiheke Island**	**1.65**	**266**	P	**Pn**	**16 18 43.9**	**-0.4**
MWZ	**Matawai**	**1.66**	**171**	P	**Pn**	**16 18 44.5**	**+0.1**
MKAZ	**Moumakai**	**1.67**	**255**	P	**Pn**	**16 18 44.7**	**+0.2**
TOZ	**Tahuroa Road**	**1.69**	**232**	P	**Pn**	**16 18 45.7**	**+1.1**
RRRZ	**Republican Roa**	**1.73**	**198**	P	**Pn**	**16 18 45.4**	**+0.5**
RAGZ	**Rawiri**	**1.81**	**174**	P	**Pn**	**16 18 46.2**	**+0.6**
TKGZ	**Te Karaka**	**1.82**	**163**	P	**Pn**	**16 18 45.9**	**+0.4**
ETAZ	**East Tamaki Re**	**1.83**	**261**	P	**Pn**	**16 18 46.0**	**+0.3**
MBAZ	**Motutapu North**	**1.84**	**267**	P	**Pn**	**16 18 45.5**	**-0.3**
PRRZ	**Plateau Road**	**1.91**	**199**	P	**Pn**	**16 18 47.3**	**+1.0**
RTZ	**Ruatahuna**	**1.92**	**185**	P	**Pn**	**16 18 46.7**	**+0.2**
CNGZ	**Carnagh Statio**	**1.96**	**156**	P	**Pn**	**16 18 47.3**	**+0.6**
RIGZ	**Rimuhau**	**2.06**	**167**	P	**Pn**	**16 18 48.1**	**+0.6**
RIGZ	**Rimuhau**	**2.06**	**167**	P	**Pn**	**16 18 48.3**	**+0.7**
RIGZ				S	**S**	**16 19 24.3**	**+0.2**
AWAZ	**Awhitu Peninsu**	**2.07**	**259**	P	**Pn**	**16 18 47.7**	**+0.1**
SNGZ	**Shannon Statio**	**2.09**	**177**	P	**Pn**	**16 18 48.3**	**+0.5**
SNGZ	**Shannon Statio**	**2.09**	**177**	P	**Pn**	**16 18 48.5**	**+0.7**
SNGZ				S	**S**	**16 19 24.4**	**-0.1**
TLZ	**Tolley Road**	**2.09**	**218**	P	**Pn**	**16 18 50.1**	**+2.3**
KUTZ	**Kaahu Road**	**2.09**	**211**	P	**Pn**	**16 18 50.6**	**+2.7**
MTHZ	**Maungataniwha**	**2.17**	**187**	P	**Pn**	**16 18 49.1**	**+0.5**
MRHZ	**Matea Rd**	**2.22**	**196**	P	**Pn**	**16 18 49.7**	**+0.7**
RAHZ	**Arahi**	**2.22**	**182**	P	**Pn**	**16 18 49.9**	**+1.0**
RAHZ	**Arahi**	**2.22**	**182**	P	**Pn**	**16 18 50.2**	**+1.2**
RAHZ				S	**S**	**16 19 27.6**	**+1.1**
PRGZ	**Paritu Road**	**2.29**	**166**	P	**Pn**	**16 18 50.6**	**+1.0**
PRGZ	**Paritu Road**	**2.29**	**166**	P	**Pn**	**16 18 50.1**	**+0.5**
PRGZ				S	**S**	**16 19 27.1**	**-0.6**
WATZ	**Wairara**	**2.31**	**209**	P	**Pn**	**16 18 51.7**	**+1.9**
KNZ	**Kokohu**	**2.35**	**171**	P	**Pn**	**16 18 50.4**	**+0.4**
KNZ	**Kokohu**	**2.35**	**171**	P	**Pn**	**16 18 51.1**	**+1.0**
HATZ	**Hinemaiaia**	**2.36**	**201**	P	**Pn**	**16 18 50.9**	**+0.8**
WHHZ	**Waihua**	**2.38**	**179**	P	**Pn**	**16 18 51.5**	**+1.2**
WHHZ	**Waihua**	**2.38**	**179**	P	**Pn**	**16 18 51.2**	**+0.9**
WCZ	**Waipu Caves**	**2.41**	**287**	P	**Pn**	**16 18 49.3**	**-1.4**
RATZ	**Rangitukua**	**2.44**	**207**	P	**Pn**	**16 18 52.0**	**+1.1**
MHGZ	**Mahia Peninsul**	**2.52**	**167**	P	**Pn**	**16 18 52.7**	**+1.1**
BKZ	**Black Stump Fm**	**2.53**	**192**	P	**Pn**	**16 18 52.1**	**+0.3**
ARHZ	**Aropaoanui**	**2.57**	**183**	P	**Pn**	**16 18 53.3**	**+1.2**
HIZ	**Hauiti**	**2.59**	**225**	P	**Pn**	**16 18 55.5**	**+3.2**
KRVZ	**Karewarewa**	**2.69**	**206**	P	**Pn**	**16 18 54.7**	**+1.4**
WTVZ	**West Tongariro**	**2.72**	**207**	P	**Pn**	**16 18 55.0**	**+1.3**
MCHZ	**McNeill Hill**	**2.77**	**188**	P	**Pn**	**16 18 55.1**	**+1.1**
NGZ	**Ngauruhoe**	**2.77**	**206**	P	**Pn**	**16 18 55.5**	**+1.2**
KWHZ	**Kaweka Forest**	**2.79**	**192**	P	**Pn**	**16 18 55.2**	**+1.0**
KWHZ	**Kaweka Forest**	**2.79**	**192**	P	**Pn**	**16 18 55.5**	**+1.2**
COVZ	**Chateau Observ**	**2.82**	**207**	P	**Pn**	**16 18 55.8**	**+1.2**
TUVZ	**Tukino**	**2.84**	**205**	P	**Pn**	**16 18 56.0**	**+1.2**
FWVZ	**Far West T-bar**	**2.86**	**206**	P	**Pn**	**16 18 56.5**	**+1.3**
BHHZ	**Black Hill Sta**	**2.93**	**197**	P	**Pn**	**16 18 56.3**	**+0.6**
CKHZ	**Cape Kidnapper**	**2.96**	**182**	P	**Pn**	**16 18 56.8**	**+1.0**
CKHZ	**Cape Kidnapper**	**2.96**	**182**	P	**Pn**	**16 18 56.5**	**+0.7**
PKVZ	**Pokaka**	**2.97**	**209**	P	**Pn**	**16 18 57.5**	**+1.5**
VRZ	**Vera Road**	**3.09**	**218**	P	**Pn**	**16 18 59.6**	**+2.4**
KAHZ	**Kahuranaki**	**3.10**	**184**	P	**Pn**	**16 18 58.3**	**+0.9**
KAHZ	**Kahuranaki**	**3.10**	**184**	P	**Pn**	**16 18 58.1**	**+0.7**
PXZ	**Pawanui**	**3.34**	**184**	P	**Pn**	**16 19 00.3**	**+0.5**
PXZ	**Pawanui**	**3.34**	**184**	P	**S**	**16 19 43.7**	**-2.5**
WPHZ	**Waipukurau**	**3.41**	**190**	P	**Pn**	**16 19 01.4**	**+0.8**
WPHZ	**Waipukurau**	**3.41**	**190**	P	**S**	**16 19 48.6**	**+0.9**
TSZ	**Takapari Road**	**3.49**	**196**	P	**Pn**	**16 19 01.7**	**+0.2**
WAZ	**Wanganui**	**3.51**	**209**	P	**Pn**	**16 19 02.7**	**+1.0**
PRHZ	**Porangahau**	**3.59**	**187**	P	**Pn**	**16 19 03.1**	**+0.6**
PRHZ	**Porangahau**	**3.59**	**187**	P	**S**	**16 19 47.6**	**-3.5**
DVHZ	**Dannevirke**	**3.69**	**192**	P	**Pn**	**16 19 03.8**	**+0.2**
DVHZ	**Dannevirke**	**3.69**	**192**	P	**S**	**16 19 52.1**	**-0.9**
ANWZ	**Angora Road**	**3.80**	**188**	P	**Pn**	**16 19 05.7**	**+1.0**
ANWZ	**Angora Road**	**3.80**	**188**	P	**S**	**16 19 53.8**	**-1.5**
POWZ	**Post Office Ro**	**3.85**	**196**	P	**Pn**	**16 19 05.8**	**+0.4**
POWZ	**Post Office Ro**	**3.85**	**196**	P	**S**	**16 19 58.3**	**+1.9**
PRWZ	**Pori Road**	**3.97**	**193**	P	**Pn**	**16 19 07.4**	**+0.8**
BFZ	**Birch Farm**	**4.05**	**190**	P	**Pn**	**16 19 07.9**	**+0.4**
MRZ	**Mangatainoka R**	**4.15**	**197**	P	**Pn**	**16 19 08.6**	**-0.1**
HOWZ	**Holdsworth Sta**	**4.39**	**197**	P	**Pn**	**16 19 11.5**	**0.0**
OGWZ	**Otaki Gorge**	**4.41**	**200**	P	**Pn**	**16 19 11.6**	**0.0**
TMWZ	**Te Maipa**	**4.52**	**192**	P	**Pn**	**16 19 13.2**	**+0.3**
KIW	**Kapiti Island**	**4.52**	**202**	P	**Pn**	**16 19 13.1**	**+0.1**
MTW	**Mount Morrison**	**4.64**	**196**	P	**Pn**	**16 19 14.5**	**+0.2**
CAW	**Cannon Point**	**4.70**	**200**	P	**Pn**	**16 19 13.7**	**-1.3**
DUWZ	**D'Urville Isla**	**4.83**	**211**	P	**Pn**	**16 19 16.3**	**-0.3**
MSWZ	**Moikau Station**	**4.95**	**197**	P	**Pn**	**16 19 18.1**	**+0.2**
BHW	**Baring Head**	**5.04**	**200**	P	**Pn**	**16 19 19.0**	**0.0**
TCW	**Tory Channel**	**5.04**	**206**	P	**Pn**	**16 19 19.1**	**+0.1**
PLWZ	**Palliser**	**5.09**	**197**	P	**Pn**	**16 19 19.4**	**-0.3**
TUWZ	**Tuamarina**	**5.36**	**207**	P	**Pn**	**16 19 22.8**	**0.0**
NNZ	**Nelson**	**5.40**	**212**	P	**Pn**	**16 19 23.3**	**0.0**
QRZ	**Quartz Range**	**5.50**	**220**	P	**Pn**	**16 19 24.3**	**-0.1**
BSWZ	**Blackbirch Sta**	**5.63**	**206**	P	**Pn**	**16 19 26.4**	**+0.4**
THZ	**Tophouse**	**6.05**	**212**	P	**Pn**	**16 19 30.7**	**-0.5**
KHZ	**Kahutara**	**6.37**	**205**	P	**Pn**	**16 19 35.1**	**+0.2**
DSZ	**Denniston Nort**	**6.54**	**218**	P	**Pn**	**16 19 37.5**	**+0.4**
LTZ	**Lake Taylor**	**7.16**	**210**	P	**Pn**	**16 19 44.6**	**-0.1**
INZ	**Inchbonnie**	**7.47**	**215**	P	**Pn**	**16 19 48.2**	**-0.2**
OKCZ	**Okains Bay**	**7.70**	**203**	P	**Pn**	**16 19 51.7**	**+0.4**
OXZ	**Oxford**	**7.71**	**209**	P	**Pn**	**16 19 50.8**	**-0.6**
MQZ	**McQueen's Vall**	**7.81**	**205**	P	**Pn**	**16 19 52.0**	**-0.6**
RPZ	**Rata Peaks**	**8.43**	**212**	P	**Pn**	**16 20 00.1**	**-0.3**
	0.8nm,0.3s,baz=194,slow=4.2,SNR=4.4						
RPZ				S	**S**	**16 21 32.7**	**-3.9**
	1.2nm,0.3s,baz=107,slow=23,SNR=8.6						
RPZ	**Rata Peaks**	**8.43**	**212**	P	**Pn**	**16 19 59.9**	**-0.4**
FOZ	**Fox Glacier**	**8.86**	**217**	P	**Pn**	**16 20 05.4**	**-0.2**
ODZ	**Otahua Downs**	**9.70**	**209**	P	**Pn**	**16 20 16.7**	**+0.7**
WKZ	**Wanaka**	**10.21**	**215**	P	**Pn**	**16 20 21.2**	**-1.2**
ASAR	**Alice Springs**	**39.28**	**277**	P	**P**	**16 25 03.6**	**0.0**
	2.2nm,0.5s,baz=120,slow=8.2,SNR=75						
WRA	**Warramunga Arr**	**40.87**	**282**	P	**P**	**16 25 15.9**	**-0.6**
	2.1nm,0.5s,baz=122,slow=7.2,SNR=50						
FITZ	**Fitzroy Crossi**	**48.76**	**278**	P	**P**	**16 26 19.0**	**+0.6**
	1.9nm,0.8s,baz=104,slow=8.3,SNR=1.8						
FINES	**FINESS Array B**	**149.31**	**333**	PKPbc	**PKPdf**	**16 37 13.1**	**+1.9**
	2.5nm,0.9s,baz=50,slow=3.2,SNR=3.7						

NIED ***22*** *16:18:00, 41°.60N×142°.10E, h56km, Mw3.8 Best double couple: M0 5.29000×10^14 NP1:φs167.00000°, δ33.00000°, λ53.00000°. NP2:φs29.00000°, δ64.00000°, λ112.00000°.*

ISCJB ***22*** *16:18:16.2±0.4, 41°.55N±0°.03×142°.06E±0°.04, h68km±3km, mb3.6/12, Error ellipse: s-maj=6.3km s-min=3.9km az=37.0*

JMA ***22*** *16:18:16.4±0.1, 41°.56N×142°.06E, h67km±2km, M3.5 Broadband fault plane solution: P waves. NP1: φs16.00000°, δ81.00000°, λ100.00000°. NP2: φs149.00000°, δ13.00000°, λ43.00000°. Principal axes: T Plg53.0000°, Azm298.0000°; N Plg10.0000°, Azm195.0000°; P Plg35.0000°, Azm98.0000°;*

JMA Felt I J1.

IDC ***22*** *16:18:17.4±1.8, 41°.59N×142°.16E, h66km±15km, mb3.4/12, mb1 3.5/16, mb1mx3.4/58, mbtmp3.7/16, MS3.0/2, Ms1 3.0/2, ms1mx2.4/38 Error ellipse: s-maj=20.6km s-min=11.6km az=111.0*

ISC 22 16:18:17.3±0.8, 41°.55N±0°.04×142°.06E±0°.04, h61km±7km, **n45,** σ0§78/53, **mb3.8**/16, **2C-9D, Hokkaido region**

| Code | Station

σ1ᵍ93/46, **mb3.6/5**, **Off coast of southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	**Craig**	**1.12**	**94**	P	**Pg**	**16 39 06.5**	**-0.9**
CRAG				S	**Sg**	**16 39 21.4**	**-0.5**
SIT	**Sitka**	**1.51**	**355**	P	**Pn**	**16 39 10.4**	**-2.5**
SIT				S	**Sn**	**16 39 28.9**	**-3.8**
WRAK	**Wrangell Islan**	**1.77**	**60**	P	**Pn**	**16 39 15.3**	**-1.2**
WRAK				S	**Sn**	**16 39 38.7**	**-0.4**
NDB	**Naden**	**2.03**	**141**	P	**Pn**	**16 39 20.3**	**0.0**
MASB	**Masset**	**2.36**	**130**	P	**Pn**	**16 39 24.2**	**-0.4**
JIS	**Juneau Island**	**2.75**	**8**	P	**Pn**	**16 39 28.3**	**-1.8**
H02S1	**DAWSON INLET T**	**2.81**	**146**	Pn	**Pn**	**16 39 31.1**	**+0.2**
H02S1				Sn	**Sn**	**16 40 03.2**	**-1.6**
H02S1				Lg	Lg	16 40 14.2	
BESE	**Bessie Mountai**	**3.03**	**2**	P	**Pn**	**16 39 32.4**	**-1.6**
BNB	**Barry Inlet**	**3.58**	**145**	P	**Pn**	**16 39 41.4**	**-0.1**
SKAG	**Skagway**	**3.92**	**358**	P	**Pn**	**16 39 44.1**	**-1.9**
PLBC	**Pleasant Camp**	**3.97**	**351**	P	**Pn**	**16 39 45.8**	**-0.9**
DLBC	**Dease Lake**	**4.00**	**42**	Pn	**Pn**	**16 39 47.0**	**-0.3**
	2.2nm,0.3s,baz=236,slow=6.3,SNR=50						
DLBC				Pg	**Pb**	**16 39 55.0**	**-1.4**
	6.8nm,0.3s,baz=227,slow=16,SNR=17						
DLBC				Sn	**Sn**	**16 40 32.3**	**-1.9**
	8.4nm,0.3s,baz=207,slow=11,SNR=3.6						
DLBC				Lg	Lg	16 40 48.2	
	18nm,0.3s,baz=291,slow=26,SNR=6.1						
DLBC	**Dease Lake**	**4.00**	**42**	P	**Pn**	**16 39 47.0**	**-0.3**
PNL	**Peninsula**	**4.73**	**332**	P	**Pn**	**16 39 56.2**	**-1.0**
WHY	**Whitehorse**	**5.12**	**1**	P	**Pn**	**16 40 01.8**	**-0.8**
PCA	**Pinnacle**	**5.32**	**331**	P	**Pn**	**16 40 05.3**	**-0.1**
BBB	**Bella Bella**	**5.33**	**126**	Pn	**Pn**	**16 40 05.2**	**-0.3**
	1.4nm,0.3s,baz=300,slow=9.7,SNR=17						
BBB				Sn	**Sn**	**16 40 59.8**	**-7.2**
	1.9nm,0.3s,baz=332,slow=23,SNR=3.8						
BBB				Lg	Lg	16 41 35.3	
	1.9nm,0.3s,baz=198,slow=20,SNR=2.1						
HYT	**Haines Junctio**	**5.43**	**347**	P	**Pn**	**16 40 07.1**	**+0.1**
SAMH	**Samovar Hills**	**5.50**	**329**	P	**Pn**	**16 40 06.9**	**-1.0**
YUK5	**Granite Creek**	**5.78**	**347**	P	**Pn**	**16 40 11.8**	**+0.1**
MESA	**MESA**	**5.90**	**325**	P	**Pn**	**16 40 13.0**	**-0.5**
YUK4	**Talbot Arm**	**6.09**	**344**	P	**Pn**	**16 40 17.1**	**+0.9**
BARK	**Barkley Ridge**	**6.25**	**324**	P	**Pn**	**16 40 17.4**	**-0.8**
KIAG	**Kiagna River**	**6.61**	**328**	P	**Pn**	**16 40 22.5**	**-0.6**
BALM	**Baldy**	**6.69**	**328**	P	**Pn**	**16 40 24.0**	**-0.3**
BMRM	**Bremner River**	**7.38**	**321**	P	**Pn**	**16 40 32.5**	**-1.2**
PWL	**Port Wells**	**8.77**	**313**	P	**Pn**	**16 40 50.9**	**-1.8**
DAWY	**Dawson**	**8.80**	**348**	P	**Pn**	**16 40 52.1**	**-1.0**
KDAK	**Kodiak Island**	**9.88**	**290**	Pn	**Pn**	**16 41 06.2**	**-1.6**
	1.8nm,0.3s,baz=77,slow=7.6,SNR=17						
KDAK				Sn	**Sn**	**16 42 54.7**	**-4.0**
	0.2nm,0.3s,baz=58,slow=19,SNR=1.1						
ILAR	**Eielson Array**	**10.93**	**332**	Pn	**Pn**	**16 41 22.4**	**+0.3**
	0.1nm,0.3s,baz=155,slow=13,SNR=13						
ILAR				Lg	Lg	16 44 33.7	
	0.0nm,0.3s,baz=114,slow=28,SNR=2.6						
YKA	**Yellowknife Ar**	**12.59**	**48**	Pn	**Pn**	**16 41 44.0**	**-0.8**
	0.2nm,0.3s,baz=240,slow=12,SNR=15						
YKA				Lg	Lg	16 45 17.0	
	0.0nm,0.3s,baz=243,slow=24,SNR=3.5						
PDAR	**Pinedale Array**	**20.89**	**117**	P	**P**	**16 43 30.6**	**+2.2**
	0.7nm,0.7s,baz=304,slow=6.4,SNR=2.8						
TXAR	**Lajitas Array**	**34.47**	**126**	P	**P**	**16 45 33.8**	**-0.1**
	0.3nm,0.8s,baz=324,slow=10,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**55.97**	**255**	T	T	17 49 07.8	
	baz=35,slow=76,SNR=526						
H11N3	**WAKE ISLAND Hy**	**55.97**	**255**	T	T	17 49 05.4	
	baz=35,slow=76,SNR=582						
H11N1	**WAKE ISLAND Hy**	**55.98**	**255**	T	T	17 49 10.1	
	baz=35,slow=76,SNR=464						
H11S1	**WAKE ISLAND Hy**	**57.06**	**254**	T	T	17 50 30.5	
	baz=35,slow=74,SNR=236						
H11S2	**WAKE ISLAND Hy**	**57.08**	**254**	T	T	17 50 32.4	
	baz=35,slow=74,SNR=140						
H11S3	**WAKE ISLAND Hy**	**57.08**	**254**	T	T	17 50 32.8	
	baz=35,slow=74,SNR=148						
NOA	**NORSAR Array B**	**60.74**	**18**	P	**P**	**16 49 00.4**	**+3.2**
	0.8nm,0.8s,baz=341,slow=6.5,SNR=3.2						
ZALV	**Zalesovo Beam**	**66.04**	**335**	P	**P**	**16 49 36.2**	**+3.9**
	0.4nm,0.3s,baz=35,slow=8.8,SNR=1.8						
MKAR	**Makanchi Array**	**73.28**	**334**	P	**P**	**16 50 18.1**	**+1.0**
	0.2nm,0.6s,baz=35,slow=5.3,SNR=1.9						
AKASG	**Malin Array Be**	**73.31**	**10**	P	**P**	**16 50 18.6**	**+1.5**
	0.2nm,0.3s,baz=352,slow=6.0,SNR=1.3						
QSPA	**South Pole Qui**	**145.37**	**180**	PKPbc	**PKPab**	**16 58 24.3**	**+1.7**
	1.9nm,0.9s,baz=107,slow=1.4,SNR=5.1						

*IDC **22** 16:51:52.1±0.5,30.°85S×177.°32W, h0ᵏᵐ, mb4.5/15, mb1 4.7/15, mb1mx4.5/28, mbtmp4.4/15, MS4.0/13, Ms1 4.0/13, ms1mx3.8/23, Error ellipse: s-maj=18.0km s-min=17.7km az=69.0*

*ISCJB **22** 16:51:53.6±0.3,31.°29S±0.°05×177.°46W±0.°09, h27ᵏᵐ, mb4.7/31, MS4.0/11, Error ellipse: s-maj=11.9km s-min=4.5km az=28.0*

*NEIC **22** 16:51:53.1±3.8,31.°31S×177.°25W, h16ᵏᵐ±23ᵏᵐ, mb4.8/25, Error ellipse: s-maj=10.0km s-min=8.7km az=179.0*

ISC 22 16:51:55.7±0.5,31.°04S±0.°05×177.°48W±0.°10, h27ᵏᵐ, n101, σ1ᵍ87/95, mb4.7/30, MS3.9/11, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.82**	**348**	Pn	**Pn**	**16 52 23.1**	**-2.2**
	418nm,0.3s,baz=253,slow=22,SNR=10						
RAO				Sn	**Sn**	**16 52 45.4**	**-2.1**
	367nm,0.3s,baz=289,slow=23,SNR=8.9						
RAO				LR	LR	16 52 57.7	
	comp=Z,583nm,20.4s,baz=152,slow=39						
RAO	**Raoul Island**	**1.82**	**348**	*e*Pn	**Pn**	**16 52 22.4**	**-2.9**
RAO				Sn	**Sn**	**16 52 45.4**	**-2.1**
MXZ	**Matakaoa Point**	**7.38**	**207**	*e*Pn	**Pn**	**16 53 40.4**	**-1.3**
URZ	**Urewera**	**8.47**	**210**	Pn	**Pn**	**16 53 54.3**	**-2.3**
	1.4nm,0.3s,baz=279,slow=4.3,SNR=10						
URZ				Sn	**Sn**	**16 55 29.7**	**-1.5**
	6.0nm,0.3s,baz=242,slow=18,SNR=6.9						
BKZ	**Black Stump Fm**	**9.49**	**210**	*e*Pn	**Pn**	**16 54 08.3**	**-2.3**
HIZ	**Hauiti**	**9.76**	**218**	*e*Pn	**Pn**	**16 54 11.4**	**-2.9**
BFZ	**Birch Farm**	**10.88**	**206**	*e*Pn	**Pn**	**16 54 25.4**	**-4.3**
SNZO	**South Karori**	**12.03**	**209**	*e*Pn	**Pn**	**16 54 41.6**	**-3.8**
THZ	**Tophouse**	**13.20**	**213**	*e*Pn	**Pn**	**16 54 58.4**	**-3.0**
KHZ	**Kahutara**	**13.44**	**210**	*e*Pn	Pn	16 54 58.7	-5.8
MSVF	**Nonsavu**	**13.86**	**342**	*e*Pn	**Pn**	**16 55 11.2**	**+0.6**
LTZ	**Lake Taylor**	**14.29**	**212**	*e*Pn	**Pn**	**16 55 14.0**	**-2.3**
CRLZ	**Canterbury Las**	**14.77**	**209**	*e*Pn	**Pn**	**16 55 20.3**	**-2.4**
OXZ	**Oxford**	**14.82**	**211**	*e*Pn	**Pn**	**16 55 20.5**	**-3.0**
MQZ	**McQueen's Vall**	**14.86**	**209**	*e*Pn	**Pn**	**16 55 20.0**	**-4.0**
	198nm,2.0s						
RPZ	**Rata Peaks**	**15.57**	**212**	Pn	**Pn**	**16 55 29.4**	**-4.0**
	2.1nm,0.3s,baz=8.7,slow=0.8,SNR=11						
RPZ				Sn	Sn	16 58 12.9	-12
	0.9nm,0.3s,baz=242,slow=15,SNR=3.1						
RPZ	**Rata Peaks**	**15.57**	**212**	*e*Pn	**Pn**	**16 55 29.1**	**-4.3**
	19nm,0.6s						
RPZ				Sn	Sn	16 58 12.9	-12
FOZ	**Fox Glacier**	**16.03**	**215**	*e*Pn	**Pn**	**16 55 35.7**	**-3.5**
	17nm,0.9s						
LBZ	**Lake Benmore**	**16.49**	**213**	*e*Pn	**Pn**	**16 55 43.5**	**-1.6**
	32nm,1.4s						
ODZ	**Otahua Downs**	**16.80**	**210**	*e*Pn	**Pn**	**16 55 46.5**	**-2.5**
	24nm,0.8s						
DZM	**Mont Dzumac**	**16.92**	**298**	*e*P	**P**	**16 55 55.3**	**+2.8**
	85nm,1.4s						
DZM				*e*LR	LR	16 59 51.3	
	comp=Z,783nm,25.6s						
DZM	**Mont Dzumac**	**16.92**	**298**	LR	LR	17 01 16.0	
	comp=Z,508nm,18.0s,baz=196,slow=33						
DZM	**Mont Dzumac**	**16.92**	**298**	*e*Pn	**P**	**16 55 52.5**	**-0.1**
	25nm,1.0s						
WKZ	**Wanaka**	**17.37**	**214**	*e*Pn	**Pn**	**16 55 51.6**	**-4.6**
	172nm,1.9s						
MLZ	**Mavora Lakes**	**18.20**	**214**	*e*P	**Pn**	**16 56 02.2**	**-4.2**
	110nm,1.9s						
RAR	**Rarotonga**	**18.64**	**63**	LR	LR	17 01 48.0	
	comp=Z,454nm,20.2s,baz=94,slow=32						
WHZ	**Wether Hill Ro**	**18.67**	**213**	*e*P	**P**	**16 56 08.4**	**-3.2**
	55nm,1.4s						
DCZ	**Deep Cove**	**18.74**	**215**	*e*P	**P**	**16 56 10.8**	**-1.5**
	97nm,1.6s						
TBI	**Tubuai**	**26.02**	**80**	*e*LR	LR	17 03 52.2	
	comp=Z,359nm,21.2s						
PPT2	**Papeete2**	**28.64**	**69**	*e*LQ	LQ	17 03 43.5	
	804nm,20.8s						
PPT2				*e*LR	LR	17 05 09.7	
	comp=Z,263nm,21.0s						
PPT	**Papeete**	**28.65**	**69**	LR	LR	17 07 06.7	
	comp=Z,285nm,18.6s,baz=250,slow=32						
HNR	**Honiara**	**30.06**	**311**	LR	LR	17 07 50.4	
	comp=Z,98nm,18.8s,baz=131,slow=32						
CTA	**Charters Tower**	**34.35**	**280**	P	**P**	**16 58 42.0**	**+1.6**
	14nm,0.7s,baz=111,slow=10,SNR=14						
CTAO	**Charters Tower**	**34.35**	**280**	*e*P	**P**	**16 58 42.1**	**+1.6**
	118nm,1.9s						
STKA	**Stephens Creek**	**34.78**	**258**	P	**P**	**16 58 46.9**	**+2.8**
	13nm,0.9s,baz=102,slow=12,SNR=18						
STKA				LR	LR	17 12 46.6	
	comp=Z,224nm,18.6s,baz=42,slow=36						
STKA	**Stephens Creek**	**34.78**	**258**	*e*P	**P**	**16 58 46.0**	**+1.9**
	3.2nm,1.0s						
RKT	**Rikitea**	**38.47**	**89**	*e*LR	LR	17 09 35.2	
	comp=Z,490nm,22.8s						
TAOE	**Nuku Hiva Isla**	**41.15**	**66**	*e*LR	LR	17 10 58.3	
	comp=Z,203nm,21.5s						
ASAR	**Alice Springs**	**43.53**	**267**	P	**P**	**16 59 58.1**	**+0.9**
	5.4nm,0.6s,baz=105,slow=7.1,SNR=94						
ASAR				PcP	**PcP**	**17 01 45.8**	**+0.8**
	2.6nm,0.7s,baz=135,slow=4.5,SNR=5.4						
ASAR				ScP	**ScP**	**17 05 38.6**	**+4.0**
	0.6nm,0.7s,baz=112,slow=4.5,SNR=4.0						
WRA	**Warramunga Arr**	**44.57**	**273**	P	**P**	**17 00 06.0**	**+0.4**
	8.9nm,0.8s,baz=111,slow=8.0,SNR=71						
WRA				PcP	**PcP**	**17 01 48.8**	**+0.3**
	3.5nm,0.9s,baz=113,slow=3.8,SNR=6.2						
WRA				LR	LR	17 18 02.1	
	comp=Z,115nm,18.1s,baz=105,slow=35						
VNDA	**Vanda**	**47.51**	**186**	LR	LR	17 18 51.5	
	comp=Z,117nm,19.0s,baz=42,slow=34						
QSPA	**South Pole Qui**	**59.07**	**180**	P	**P**	**17 01 56.0**	**+2.6**
	11nm,0.9s,baz=36,slow=1.5,SNR=30						
QSPA	**South Pole Qui**	**59.07**	**180**	*e*P	**P**	**17 01 54.5**	**+1.2**
	18nm,0.8s						
SNAA	**Sanae**	**77.50**	**178**	P	**P**	**17 03 49.7**	**+1.2**
SNAA	**Sanae**	**77.50**	**178**	*e*P	**P**	**17 03 49.2**	**+0.6**
	5.9nm,0.9s						
VNA3	**Neumayer Olymp**	**77.64**	**176**	P	**P**	**17 03 50.2**	**+1.0**
VNA2	**Neumayer--Watz**	**78.08**	**177**	P	**P**	**17 03 53.3**	**+1.7**
	baz=176,slow=4.4						
MJAR	**Matsushiro Arr**	**79.02**	**325**	P	**P**	**17 03 54.2**	**-3.0**
	9.3nm,1.2s,baz=171,slow=5.8,SNR=5.3						
MJAR				LR	LR	17 35 10.3	
	comp=Z,29nm,20.3s,baz=20,slow=33						
PLCA	**Paso Flores**	**81.74**	**133**	P	**P**	**17 04 13.3**	**+1.1**
	1.4nm,0.8s,baz=113,slow=6.9,SNR=3.2						
PLCA				LR	LR	17 33 12.4	
	comp=Z,113nm,18.6s,baz=300,slow=30						
LPIG	**La Paz**	**84.49**	**58**	P	**P**	**17 04 25.4**	**-0.9**
	17nm,0.3s,baz=229,slow=9.3,SNR=2.6						
KSRS	**Korea Array**	**85.12**	**319**	P	**P**	**17 04 29.9**	**+0.7**
	2.0nm,0.9s,baz=126,slow=4.4,SNR=5.1						
KSAR	**Wonju Array Be**	**85.14**	**319**	P	**P**	**17 04 29.9**	**+0.6**
PETK	**Petropavlovsk-**	**86.54**	**345**	P	**P**	**17 04 36.2**	**+0.4**
	4.2nm,0.8s,baz=151,slow=9.7,SNR=5.1						
AFDM	**Forest Hills D**	**87.24**	**41**	*e*P	**P**	**17 04 39.7**	**+0.1**
	5.5nm,1.1s						
USRK	**Ussuriysk Ar.**	**87.94**	**326**	P	**P**	**17 04 43.8**	**+1.0**
	3.1nm,0.8s,baz=120,slow=3.5,SNR=8.9						
NV01	**Mina Array Sit**	**88.40**	**42**	*e*P	**P**	**17 04 44.5**	**-0.9**
NVAR	**Mina Array Bea**	**88.40**	**42**	P	**P**	**17 04 45.8**	**+0.3**
	3.4nm,0.9s,baz=219,slow=8.2,SNR=13						
MOD	**Modoc Plateau**	**89.66**	**39**	*e*P	**P**	**17 04 50.3**	**-0.9**
	9.4nm,1.5s						
PINE	**Pine Mountain**	**90.64**	**37**	*e*P	**P**	**17 04 55.3**	**-0.5**
	11nm,1.0s						
U15A	**North Rim**	**90.73**	**47**	*e*P	**P**	**17 04 56.3**	**-0.2**
	6.3nm,1.0s						
WUAZ	**Wupatki**	**90.75**	**48**	*e*P	**P**	**17 04 55.9**	**-0.6**
	6.4nm,1.1s						
CN2	**Changchun**	**90.92**	**323**	*e*P	**P**	**17 04 55.5**	**-1.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
I07A	**Izee**	**91.58**	**38**	*e*P	**P**	**17 05 00.1**	**0.0**
	comp=Z,14nm,1.5s						
G06A	**Carlson Farm,**	**91.80**	**36**	*e*P	**P**	**17 05 00.7**	**-0.3**
	comp=Z,7.8nm,1.0s						
KLR	**Kul'dur**	**91.81**	**329**	P	**P**	**17 05 01.9**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=83,slow=4.4,SNR=4.9						
ENH	**Enshi**	**92.33**	**304**	*e*P	**P**	**17 05 05.0**	**+1.2**
	comp=Z,13nm,1.1s						
TXAR	**Lajitas Array**	**92.36**	**57**	P	**P**	**17 05 03.9**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=224,slow=3.5,SNR=4.5						
TXAR				LR	LR	17 41 13.8	
	comp=Z,108nm,18.3s,baz=0.0,slow=32						
G08A	**Pilot Rock**	**92.69**	**37**	*e*P	**P**	**17 05 05.3**	**+0.1**
	comp=Z,8.1nm,1.1s						
MFID	**Camas Ranch**	**93.12**	**40**	*e*P	**P**	**17 05 06.8**	**-0.4**
	comp=Z,4.7nm,0.9s						
HVU	**Hansel Valley**	**93.80**	**43**	*e*P	**P**	**17 05 09.9**	**-0.5**
	comp=Z,5.2nm,1.2s						
HLID	**Hailey**	**94.00**	**41**	*e*P	**P**	**17 05 11.1**	**-0.2**
	comp=Z,2.3nm,0.8s						
CM01	**Chiang Mai Arr**	**94.00**	**289**	*e*P	**P**	**17 05 12.9**	**+1.2**
CMAR	**Chiang Mai Arr**	**94.03**	**289**	P	**P**	**17 05 13.8**	**+1.9**
	comp=Z,1.2nm,1.0s,baz=138,slow=2.3,SNR=6.5						
PDAR	**Pinedale Array**	**96.29**	**43**	P	**P**	**17 05 20.8**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=207,slow=6.3,SNR=3.8						
PDAR				LR	LR	17 43 58.2	
	comp=Z,138nm,18.1s,baz=304,slow=32						
CD2	**Chengdu**	**96.81**	**302**	*e*P	**P**	**17 05 25.0**	**+0.7**
LPAZ	**La Paz**	**97.47**	**114**	LR	LR	17 42 44.0	
	comp=Z,43nm,18.3s,baz=302,slow=31						
ILAR	**Eielson Array**	**98.45**	**13**	P	Pdif	17 05 30.6	-0.2
	comp=Z,1.2nm,1.2s,baz=210,slow=6.2,SNR=3.8						
CPUP	**Villa Florida**	**99.24**	**128**	LR	LR	17 46 31.8	
	comp=Z,71nm,18.9s,baz=229,slow=33						
BOSA	**Boshof**	**116.84**	**202**	PKP	**PKPdf**	**17 10 37.8**	**-0.5**
	comp=Z,2.8nm,0.9s,baz=326,slow=6.0,SNR=3.3						
MK01	**Makanchi Array**	**118.51**	**310**	*e*PKPdf	**PKPdf**	**17 10 39.8**	**-0.9**
MKAR	**Makanchi Array**	**118.53**	**310**	PKP	**PKPdf**	**17 10 40.2**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=72,slow=4.0,SNR=6.0						
MAKZ	**Makanchi**	**118.74**	**310**	*e*PKPdf	**PKPdf**	**17 10 40.0**	**-1.1**
ARCES	**ARCESS Array B**	**139.31**	**348**	PKP	**PKPdf**	**17 11 20.4**	**+1.0**
	comp=Z,3.7nm,1.0s,baz=11,slow=1.9,SNR=4.2						
KBZ	**Khabaz**	**145.84**	**303**	PKPbc	**PKPab**	**17 11 33.2**	**+0.4**
	comp=Z,9.7nm,1.1s,baz=228,slow=3.5,SNR=8.6						
FIA1	**FINESS Array S**	**145.90**	**340**	*e*PKPdf	**PKPbc**	**17 11 31.1**	**-0.9**
FINES	**FINESS Array B**	**145.90**	**340**	PKPbc	**PKPab**	**17 11 31.3**	**-1.1**
	comp=Z,15nm,0.8s,baz=71,slow=2.8,SNR=40						
OBN	**Obninsk**	**145.95**	**325**	PKPbc	**PKPab**	**17 11 31.8**	**-1.0**
	comp=Z,3.8nm,0.5s,baz=328,slow=3.2,SNR=5.7						
KIV	**Kislovodsk**	**145.96**	**304**	*e*PKPdf	**PKPdf**	**17 11 31.2**	**-0.9**
NC303	**NORSAR Array S**	**149.25**	**352**	*e*PKPbc	**PKPbc**	**17 11 40.8**	**-0.4**
NB2	**NORSAR Subarra**	**149.45**	**352**	PKP	**PKPbc**	**17 11 41.3**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=10,slow=2.6						
NOA	**NORSAR Array B**	**149.45**	**352**	PKPbc	**PKPbc**	**17 11 41.3**	**-0.4**
	comp=Z,4.3nm,0.9s,baz=14,slow=4.2,SNR=12						
AKASG	**Malin Array Be**	**152.08**	**322**	PKPbc	**PKPbc**	**17 11 48.0**	**-0.1**
	comp=Z,7.0nm,0.8s,baz=49,slow=3.2,SNR=6.4						
AKBB	**Malin Array Si**	**152.08**	**322**	*e*PKPbc	**PKPbc**	**17 11 47.5**	**-0.7**
KIEV	**Kiev**	**152.09**	**322**	*e*PKPbc	**PKPbc**	**17 11 47.7**	**-0.5**
AK11	**Malin Array Si**	**152.12**	**322**	*e*PKPbc	**PKPbc**	**17 11 47.5**	**-0.7**
BRTR	**Keskin Array B**	**153.30**	**298**	PKPbc	**PKPbc**	**17 11 51.6**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=147,slow=2.9,SNR=6.8						
BRTR				PKPab	**PKPab**	**17 12 03.2**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=127,slow=4.5,SNR=6.8						
BUR04	**Bucovina Ar. S**	**156.01**	**320**	*e*PKPab	**PKPab**	**17 12 14.9**	**+0.2**
CLL	**Collm**	**158.31**	**342**	*e*PKPab	**PKPab**	**17 12 24.0**	**-0.3**
KHC	**Kasperske Hory**	**160.09**	**338**	*e*PKPAB	**PKPab**	**17 12 32.8**	**+0.7**
GERES	**GERESS Array B**	**160.30**	**338**	PKPab	**PKPab**	**17 12 33.1**	**-0.1**
	comp=Z,3.3nm,0.6s,baz=35,slow=4.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**162.18**	**177**	PKPab	**PKPab**	**17 12 43.0**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=175,slow=3.0,SNR=3.2						

*IDC **22** 16:59:03.2±1.6,8.°81S×157.°53E, h0ᵏᵐ, mb3.6/3, mb1 3.8/4, mb1mx3.5/24, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=47.8km s-min=28.5km az=176.0*

*ISCJB **22** 16:59:04.6±1.3,8.°9S±0.°3×157.°5E±0.°1, h17ᵏᵐ, mb3.5/3, Error ellipse: s-maj=43.0km s-min=16.8km az=177.2*

ISC 22 16:59:05.8±1.4,8.°9S±0.°3×157.°55E±0.°09, h17ᵏᵐ, n5, σ1ᵍ17/7, mb3.7/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.43**	**103**	Pn	**Pn**	**16 59 44.7**	**-0.1**
	25nm,0.3s,baz=193,slow=11,SNR=20						
HNR				Sn	**Sg**	**17 00 25.9**	**+1.8**
	baz=259,slow=18						
HNR	**Honiara**	**2.43**	**103**	*e*P	**Pn**	**16 59 44.0**	**-0.8**
HNR				*e*S	**Sg**	**17 00 23.0**	**-1.1**
WRA	**Warramunga Arr**	**24.98**	**241**	P	**P**	**17 04 29.4**	**+0.5**
	1.5nm,0.8s,baz=67,slow=9.5,SNR=6.3						
ASAR	**Alice Springs**	**26.97**	**234**	P	**P**	**17 04 46.5**	**-0.3**
	0.7nm,1.0s,baz=61,slow=10,SNR=2.4						
MKAR	**Makanchi Array**	**86.49**	**318**	P	**P**	**17 11 48.0**	**+0.1**
	0.3nm,0.6s,baz=92,slow=6.6,SNR=3.1						

*IDC **22** 17:00:43.7±2.6,5.°98N×126.°38E, h0ᵏᵐ, mb3.3/3, mb1 3.5/3, mb1mx3.3/32, mbtmp3.3/3, Error ellipse: s-maj=213.0km s-min=29.5km az=66.0*

*ISCJB **22** 17:00:50.5±0.9,5.°98N±0.°06×126.°75E±0.°07, h71ᵏᵐ, mb3.2/3, Error ellipse: s-maj=10.8km s-min=7.5km az=150.0*

*MAN **22** 17:00:51.5,6.°09N×126.°27E, h177ᵏᵐ, mb4.7, ML3.6, MS3.5*

ISC 22 17:00:51.9±1.3,5.°94N±0.°08×126.°75E±0.°10, h71ᵏᵐ, n11, σ2ᵇ19/17, mb3.2/3, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.04**	**279**	*e*P	**Pn**	**17 01 10.4**	**-0.5**
MATI	**Mati**	**1.11**	**334**	*e*P	**Pn**	**17 01 08.8**	**-3.1**
DMPH	**Davao City--Mi**	**1.68**	**313**	*e*P	**Pn**	**17 01 21.9**	**+2.6**
DMPH				*e*S	**Sn**	**17 01 45.5**	**+5.6**
GSPH	**General Santos**	**1.79**	**275**	*i*P	**Pn**	**17 01 19.4**	**-1.4**
GSPH				*i* S	**Sn**	**17 01 40.5**	**-2.4**
SKMP	**Bagumbayan, Su**	**2.27**	**285**	*e*P	**Pn**	**17 01 27.1**	**0.0**
SKMP				*e*S	**Sn**	**17 01 54.3**	**+0.2**
BUKP	**Musuan**	**2.55**	**319**	*e*P	**Pn**	**17 01 30.2**	**-0.9**
BUKP				*e*S	**Sn**	**17 02 00.4**	**-0.7**
BUTP	**Butuan**	**3.21**	**340**	*e*P	**Pn**	**17 01 39.6**	**-0.4**
BUTP				*e*S	**Sn**	**17 02 17.3**	**+0.2**
CGP	**Cagayan de Oro**	**3.22**	**321**	*e*P	**Pn**	**17 01 40.0**	**-0.1**
CGP				*e*S	**Sn**	**17 02 15.8**	**-1.6**
WRA	**Warramunga Arr**	**26.78**	**164**	P	**P**	**17 06 27.8**	**+2.5**
	0.3nm,0.4s,baz=344,slow=10,SNR=1.4						
ASAR	**Alice Springs**	**30.24**	**167**	P	**P**	**17 06 56.6**	**+0.5**
	0.5nm,0.9s,baz=339,slow=7.1,SNR=1.9						
MKAR	**Makanchi Array**	**55.77**	**324**	P	**P**	**17 10 20.7**	**-0.8**
	0.1nm,0.4s,baz=124,slow=7.7,SNR=4.1						

*ISCJB **22** 17:07:15.3±0.4,20.°01S±0.°02×69.°29W±0.°06, h107ᵏᵐ±4ᵏᵐ, mb3.6/3, Error ellipse: s-maj=9.6km s-min=4.0km az=175.7*

*GUC **22** 17:07:16.7±0.6,20.°04S×69.°29W, h93ᵏᵐ±2ᵏᵐ, ML4.2*

*NEIC **22** 17:07:17.0±0.0,20.°09S×69.°35W, h84ᵏᵐ, mb4.1/4, ML4.1(GUC), After GUC.*

NEIC Felt [II] at Camina and Pica.

*IDC **22** 17:07:17.3±1.8,20.°07S×69.°26W, h114ᵏᵐ±17ᵏᵐ, mb3.5/5, mb1 3.8/8, mb1mx3.5/32, mbtmp4.1/8, Error ellipse: s-maj=34.8km s-min=14.8km az=

YKA	**Yellowknife Ar**	**89.67**	**341**	P		**P**	**17 20 01.9**	**-2.6**
	comp=Z,0.2nm,0.7s,baz=132,slow=4.7,SNR=4.8							
H11S2	**WAKE ISLAND Hy**	**127.35**	**278**	T		T	19 45 51.5	
	baz=101,slow=75,SNR=107							
H11S1	**WAKE ISLAND Hy**	**127.36**	**278**	T		T	19 46 01.1	
	baz=101,slow=75,SNR=41							
H11S3	**WAKE ISLAND Hy**	**127.37**	**278**	T		T	19 45 54.4	
	baz=101,slow=75,SNR=52							
H11N3	**WAKE ISLAND Hy**	**127.39**	**280**	T		T	19 45 54.8	
	baz=100,slow=75,SNR=19							
H11N2	**WAKE ISLAND Hy**	**127.41**	**280**	T		T	19 45 53.6	
	baz=100,slow=75,SNR=25							
H11N1	**WAKE ISLAND Hy**	**127.41**	**280**	T		T	19 45 53.5	
	baz=100,slow=75,SNR=15							
KSH	**Kashi**	**144.40**	**49**	PKP		**PKPdf**	**17 26 42.6**	**-0.7**
KSH				pPKP		pPKPdf	17 27 06.3	-1.2
KSH				sPKP			17 27 20.0	
KSH				PP		**PP**	**17 30 05.3**	**+5.6**
KSH				AMB		AMB		
	comp=Z,170nm,4.5s							
MKAR	**Makanchi Array**	**144.60**	**34**	PKP		**PKPab**	**17 26 41.0**	**-1.1**
	comp=Z,0.1nm,0.4s,baz=287,slow=2.4,SNR=2.7							
HHC	**Hu-ho-hao-te**	**159.21**	**358**	*e*P		**PKPdf**	**17 27 04.4**	**-0.9**
HHC				pmax		pmax		
	comp=Z,12nm,1.2s							
LZH	**Lanzhou**	**162.87**	**19**	*e*PKP		**PKPdf**	**17 27 11.0**	**+1.6**
LZH				pPKP		pPKPdf	17 27 35.3	+1.5
LZH				sPKP			17 27 45.0	
LZH				PKP		**PKPab**	**17 28 03.5**	**+4.7**
NJ2	**Nanjing**	**165.97**	**330**	*e*P		**PKPdf**	**17 27 13.0**	**+1.0**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.7s							

NIED ***22*** *17:22:00,37.˚10N×141.˚10E,h41km,Mw3.5 Best double couple: M0 2.36000×10^14 NP1:φs66.00000°,δ35.00000°, λ-55.00000°. NP2:φs206.00000°,δ62.00000°, λ-112.00000°.*
JMA ***22*** *17:22:39.5±0.1,37.˚12N×141.˚13E,h30km±1km,M3.6*
JMA Felt II J1.
IDC ***22*** *17:22:40.0±1.6,36.˚39N×141.˚13E,h0km,mb3.2/3, mb1 3.4/4,mb1mx3.2/33,mbtmp3.1/4,ML2.2/1,Error ellipse: s-maj=37.5km s-min=27.7km az=173.0*

ISC 22 17:22:37.0±1.9,37.˚12N±0.˚05×141.˚27E±0.˚08,h9km±10km, n20,σ0s73/23,mb3.4/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.38**	**268**	P	**Pb**	**17 22 46.4**	**+0.5**
ONAJ				*e*S	**Sb**	**17 22 51.1**	**-0.8**
JFK	**Kawauchi**	**0.40**	**308**	P	**Pb**	**17 22 47.1**	**+0.7**
JFK				*e*S	**Sb**	**17 22 52.1**	**-0.6**
JFFD	**Fukushimafurud**	**0.57**	**268**	P	**Pb**	**17 22 49.1**	**-0.1**
JFFD				S	**Sg**	**17 22 55.4**	**-0.1**
JHO	**Hitachi**	**0.76**	**228**	P	**Pg**	**17 22 51.9**	**+0.3**
JHO				S	**Sg**	**17 23 01.2**	**-0.3**
JMM	**Marumori**	**0.84**	**333**	P	**Pb**	**17 22 53.9**	**+0.1**
JMM				S	**Sg**	**17 23 04.3**	**+0.2**
JFT	**Otama**	**0.85**	**299**	P	**Pb**	**17 22 54.2**	**+0.3**
JFT				S	**Sg**	**17 23 04.2**	**-0.2**
JSB	**Shiboa**	**1.09**	**263**	P	**Pn**	**17 22 58.3**	**-0.2**
JSB				S	**Sg**	**17 23 11.6**	**-0.6**
JFY	**Yanaizu**	**1.28**	**284**	P	**Pn**	**17 23 00.8**	**-0.3**
JFY				S	**Sb**	**17 23 16.3**	**-1.7**
JOU	**Okura**	**1.34**	**339**	P	**Pb**	**17 23 02.2**	**-0.1**
JOU				S	**Sb**	**17 23 19.3**	**-0.2**
MJAR	**Matsushiro Arr**	**2.52**	**258**	Pn	**Pn**	**17 23 19.0**	**+0.8**
	0.5nm,0.3s,baz=77,slow=17,SNR=35						
MJAR				Sn	**Sn**	**17 23 50.1**	**+1.0**
	0.6nm,0.3s,baz=201,slow=28,SNR=6.2						
MAT	**Matsushiro**	**2.52**	**258**	P	**Pn**	**17 23 19.0**	**+0.8**
MAT				S	**Sn**	**17 23 50.5**	**+1.4**
H11N2	**WAKE ISLAND Hy**	**28.29**	**121**	T	T	17 58 21.2	
	baz=314,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**28.30**	**121**	T	T	17 58 21.0	
	baz=314,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**28.30**	**121**	T	T	17 58 39.0	
	baz=314,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**29.00**	**123**	T	T	17 59 02.6	
	baz=315,slow=76,SNR=9.0						
H11S3	**WAKE ISLAND Hy**	**29.00**	**123**	T	T	17 59 02.5	
	baz=315,slow=76,SNR=6.3						
H11S2	**WAKE ISLAND Hy**	**29.02**	**123**	T	T	17 59 06.4	
	baz=315,slow=76,SNR=7.2						
MKAR	**Makanchi Array**	**43.98**	**302**	P	P	17 30 51.7	+7.2
	0.2nm,0.7s,baz=90,slow=13,SNR=2.3						
ILAR	**Eielson Array**	**49.48**	**32**	P	P	17 31 36.5	+9.1
	0.3nm,0.8s,baz=280,slow=5.6,SNR=4.0						
WRA	**Warramunga Arr**	**57.13**	**188**	P	**P**	**17 32 23.2**	**-0.8**
	0.3nm,0.7s,baz=4.2,slow=7.4,SNR=1.8						

NSSP ***22*** *17:28:27.4,41.˚67N×45.˚00E,h10km,Ms3.2*
NORS ***22*** *17:28:28.9±0.0,41.˚72N×44.˚87E,h5km,MPVA4.3*
DDA ***22*** *17:28:28.7,41.˚66N×44.˚96E,h9km±1km,ML3.2*
ISK ***22*** *17:28:29.0,41.˚79N×44.˚95E,h7km,ML3.1/7*
MOS ***22*** *17:28:29.2±0.0,41.˚85N×44.˚95E,h11km,MPVA4.1*
AZER ***22*** *17:28:29.8±0.0,41.˚57N×45.˚14E,h2km,ml3.1/21,Error ellipse: s-maj=1.4km s-min=0.7km az=308.0*
TIF ***22*** *17:28:29.0,41.˚77N×44.˚88E,h16km*
ISCJB ***22*** *17:28:30.2±0.2,41.˚80N±0.˚01×44.˚89E±0.˚02,h10km, mb3.4/1,Error ellipse: s-maj=1.8km s-min=1.4km az=146.0*
DRS ***22*** *17:28:33.3±0.0,41.˚85N×44.˚98E,h17km*

ISC 22 17:28:29.4±0.7,41.˚79N±0.˚01×44.˚92E±0.˚01,h10km,n105, σ1s66/190,32C-25D,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SEAG	**Tbilisi Sea**	**0.09**	**254**	P	**Pg**	**17 28 32.4**	**+0.5**
SEAG				S	**Sg**	**17 28 34.7**	**+1.0**
TBLG	**Delisi**	**0.15**	**247**	PG	**Pg**	**17 28 33.0**	**+0.3**
TBLG				SG	**Sg**	**17 28 35.8**	**+0.7**
TBLG	**Delisi**	**0.15**	**247**	P	**Pg**	**17 28 33.0**	**+0.3**
TBLG				S	**Sg**	**17 28 35.8**	**+0.7**
TBLG	**Delisi**	**0.15**	**247**	⇑*i*PG	**Pg**	**17 28 33.0**	**+0.3**
TBLG				*i* S	**Sg**	**17 28 35.7**	**+0.7**
TBLG	**Delisi**	**0.15**	**247**	*i* P	**Pg**	**17 28 33.1**	**+0.3**
TRLG	**Trialeti**	**0.66**	**248**	P	**Pg**	**17 28 41.8**	**-0.4**
QZX	**Qazax, Azerbai**	**0.81**	**155**	⇓P	**Pg**	**17 28 44.3**	**-0.7**
	SNR=328						
QZX				⇑S	**Sg**	**17 28 54.4**	**-1.1**
STEZ	**Stepenevan**	**0.88**	**207**	⇓*i*P	**Pg**	**17 28 44.0**	**-2.4**
STEZ				⇓S	**Sg**	**17 28 56.0**	**-1.8**
LGD	**Lagodekhi**	**0.99**	**87**	P	**Pn**	**17 28 48.8**	**-0.6**
LGD	**Lagodekhi**	**0.99**	**87**	*e*PG	**Pn**	**17 28 48.7**	**-0.6**
BGD	**Bogdanovka**	**1.12**	**243**	P	**Pb**	**17 28 50.8**	**-0.2**
LACR	**Lac**	**1.14**	**336**	*i* Pg	**Pn**	**17 28 50.9**	**-0.6**
LACR				*e*S	**Sn**	**17 29 07.8**	**+0.6**
LACR				pmax	pmax		
	comp=Z,486nm,0.3s						
LACR				smax	smax		
	comp=N,515nm,0.4s						
LACR	**Lac**	**1.14**	**336**	*i* Pg	**Pn**	**17 28 50.7**	**-0.8**
LACR				*e*Sg	**Sn**	**17 29 07.6**	**+0.4**
GDB	**GEDABAY**	**1.24**	**149**	⇑P	**Pn**	**17 28 51.2**	**-1.8**
	SNR=105						
GDB				⇓S	**Sb**	**17 29 07.6**	**-1.5**
ZEI	**Tsey**	**1.25**	**323**	*i* PG	**Pg**	**17 28 52.9**	**-0.5**
ZEI				*e*S	**Sn**	**17 29 10.0**	**-0.2**
ZEI				pmax	pmax		
	comp=Z,349nm,0.2s						
ZEI				smax	smax		
	comp=E,664nm,0.3s						
ZEI	**Tsey**	**1.25**	**323**	*i* Pg	**Pg**	**17 28 53.0**	**-0.5**
ZEI				*e*Sg	**Sn**	**17 29 09.9**	**-0.2**
KMGR	**Komgaron**	**1.27**	**358**	*i* Pg	**Pg**	**17 28 53.5**	**-0.3**
KMGR				*e*Sg	**Sn**	**17 29 12.9**	**+2.5**
VLKR	**Vladikavkaz**	**1.27**	**352**	⇓*i*PG	**Pg**	**17 28 54.3**	**+0.5**
VLKR				*e*S	**Sn**	**17 29 12.9**	**+2.5**
VLKR	**Vladikavkaz**	**1.27**	**352**	*e*Pg	**Pg**	**17 28 54.1**	**+0.3**
VLKR				*e*Sg	**Sn**	**17 29 11.5**	**+1.1**
ZKTA	**Zakatala**	**1.28**	**96**	⇓P	**Pg**	**17 28 53.8**	**-0.2**
ZKTA				⇑S	**Sn**	**17 29 12.7**	**+2.0**
BTLR	**Botlikh**	**1.30**	**47**	*e*PG	**Pg**	**17 28 54.2**	**-0.2**
BTLR				*e*S	**Sn**	**17 29 12.5**	**+1.2**
BTLR				pmax	pmax		
	comp=Z,159nm,0.5s						
BTLR	**Botlikh**	**1.30**	**47**	*e*Pg	**Pg**	**17 28 54.0**	**-0.4**
BTLR				*e*Sg	**Sn**	**17 29 12.6**	**+1.4**
KORR	**Kora**	**1.44**	**334**	*i* PG	**Pg**	**17 28 56.9**	**-0.1**
KORR				*e*S	**Sg**	**17 29 19.1**	**+3.4**
KORR				pmax	pmax		
	comp=Z,132nm,0.3s						
KORR				smax	smax		
	comp=E,649nm,0.4s						
KORR	**Kora**	**1.44**	**334**	*e*Pg	**Pg**	**17 28 56.6**	**-0.4**
KORR				*e*Sg	**Sg**	**17 29 18.0**	**+2.3**
ARNR	**Ardon**	**1.47**	**342**	⇓*i*PG	**Pg**	**17 28 58.2**	**+0.7**
ARNR				*e*S	**Sg**	**17 29 19.7**	**+3.1**
ARNR	**Ardon**	**1.47**	**342**	*i* Pg	**Pg**	**17 28 57.6**	**+0.1**
ARNR				*i* Sg	**Sg**	**17 29 19.4**	**+2.8**
DVE	**Vedeno**	**1.47**	**37**	*d* PG	**Pg**	**17 28 57.1**	**-0.5**
DVE				*e*S	**Sg**	**17 29 17.6**	**+0.9**
DVE				pmax	pmax		
	comp=Z,80nm,0.3s						
DVE				smax	smax		
	comp=N,264nm,0.6s						
DVE	**Vedeno**	**1.47**	**37**	*i* Pg	**Pg**	**17 28 57.1**	**-0.5**
DVE				*i* Sg	**Sg**	**17 29 17.6**	**+0.9**
EAK	**Akyaka**	**1.48**	**222**	IAML_P			
	comp=Z,2μm,0.2s						
EAK				*i* P	**Pn**	**17 28 56.1**	**-0.2**
EAK				*i* S	**Sn**	**17 29 15.8**	**0.0**
DIGR	**Digorskoe uzhe**	**1.49**	**319**	⇓ePG	**Pb**	**17 28 56.7**	**-0.5**
DIGR				*e*S	**Sg**	**17 29 17.4**	**+0.1**
DIGR	**Digorskoe uzhe**	**1.49**	**319**	*e*Pg	**Pb**	**17 28 56.7**	**-0.5**
DIGR				*e*Sg	**Sg**	**17 29 17.0**	**-0.3**
XNZR	**Khunzakh**	**1.53**	**60**	*e*PN	**Pg**	**17 28 59.0**	**+0.3**
XNZR				*e*S	**Sg**	**17 29 20.0**	**+1.5**
XNZR	**Khunzakh**	**1.53**	**60**	*e*Pg	**Pg**	**17 28 59.0**	**+0.3**
XNZR				*e*Sg	**Sg**	**17 29 20.0**	**+1.5**
GROC	**Groznyy**	**1.55**	**24**	*d* iPN	**Pg**	**17 28 59.9**	**+0.7**
GROC				*e*S	**Sg**	**17 29 23.1**	**+3.7**
GROC				pmax	pmax		
	comp=Z,58nm,0.2s						
GROC				smax	smax		
	comp=E,314nm,0.4s						
GROC	**Groznyy**	**1.55**	**24**	*e*Pg	**Pg**	**17 28 59.8**	**+0.6**
GROC				*e*Sg	**Sg**	**17 29 21.2**	**+1.8**
GANJ	**Ganja**	**1.56**	**137**	⇓P	**Pn**	**17 28 56.4**	**-0.8**
GANJ				⇑S	**Sn**	**17 29 16.7**	**-0.7**
BTKR	**Batakoyurt**	**1.61**	**350**	⇑*i*PN	**Pg**	**17 29 00.6**	**+0.4**
BTKR				*e*S	**Sg**	**17 29 23.3**	**+2.3**
BTKR	**Batakoyurt**	**1.61**	**350**	*e*Pg	**Pg**	**17 29 00.1**	**-0.1**
BTKR				*e*Sg	**Sg**	**17 29 22.0**	**+1.0**
GNBR	**Gunib**	**1.64**	**68**	*e*PN	**Pg**	**17 29 00.2**	**-0.5**
GNBR				*e*S	**Sg**	**17 29 22.3**	**+0.3**
GNBR				pmax	pmax		
	comp=E,46nm,0.7s						
GNBR	**Gunib**	**1.64**	**68**	*e*Pg	**Pg**	**17 29 00.3**	**-0.5**
GNBR				*e*Sg	**Sg**	**17 29 21.7**	**-0.3**
GNI	**Garni**	**1.64**	**185**	PN	**Pn**	**17 29 59.0**	**+0.5**
GNI				SN	**Sn**	**17 29 21.0**	**+1.2**
GNI	**Garni**	**1.64**	**185**	*d* iPG	**Pn**	**17 28 58.7**	**+0.3**
GNI	**Garni**	**1.64**	**185**	⇓*i*P	**Pn**	**17 28 58.8**	**+0.3**
GNI				⇑*i*S	**Sn**	**17 29 21.2**	**+1.4**
KMKR	**Kumukh**	**1.66**	**77**	PN	**Pg**	**17 29 00.0**	**-1.3**
KMKR				*e*S	**Sg**	**17 29 23.5**	**+0.7**
KMKR				pmax	pmax		
	comp=E,35nm,0.2s						
KMKR	**Kumukh**	**1.66**	**77**	*e*Pg	**Pg**	**17 29 00.0**	**-1.3**
KMKR				*e*Sg	**Sg**	**17 29 23.5**	**+0.7**
UNCR	**Uncukul**	**1.67**	**56**	PN	**Pg**	**17 29 01.0**	**-0.4**
UNCR				pmax	pmax		
	comp=Z,43nm,0.2s						
UNCR	**Uncukul**	**1.67**	**56**	*e*Pg	**Pg**	**17 29 01.0**	**-0.4**
UNCR				*e*Sg	**Sn**	**17 29 19.0**	**-1.3**
LSNR	**Lesken**	**1.69**	**332**	⇑*i*PN	**Pg**	**17 29 01.2**	**-0.7**
LSNR				*e*S	**Sg**	**17 29 25.1**	**+1.3**
LSNR	**Lesken**	**1.69**	**332**	*e*Pg	**Pg**	**17 29 01.0**	**-0.8**
LSNR				*e*Sg	**Sg**	**17 29 25.4**	**+1.5**
STDR	**Stavd-Durt**	**1.70**	**338**	*e*PN	**Pg**	**17 29 01.6**	**-0.4**
STDR				*e*S	**Sg**	**17 29 26.2**	**+2.1**
STDR	**Stavd-Durt**	**1.70**	**338**	*e*Pg	**Pg**	**17 29 01.3**	**-0.7**
STDR				*e*Sg	**Sg**	**17 29 25.0**	**+0.9**
VADZ	**Vardenis**	**1.73**	**159**	*i* P	**Pn**	**17 28 59.9**	**+0.1**
VADZ				*i* S	**Sn**	**17 29 22.3**	**+0.3**
ARKR	**Arakani**	**1.74**	**62**	*e*PN	**Pg**	**17 29 02.5**	**-0.3**
ARKR				*e*S	**Sg**	**17 29 29.0**	**+3.6**
ARKR	**Arakani**	**1.74**	**62**	*e*Pg	**Pg**	**17 29 02.5**	**-0.3**
ARKR				*e*Sg	**Sg**	**17 29 29.0**	**+3.6**
DLMR	**Dylym**	**1.80**	**44**	PN	**Pg**	**17 29 03.5**	**-0.4**
DLMR				*e*S	**Sg**	**17 29 31.0**	**+3.7**
DLMR				pmax	pmax		
	comp=Z,55nm,0.3s						
DLMR	**Dylym**	**1.80**	**44**	*e*Pg	**Pg**	**17 29 03.5**	**-0.4**
DLMR				*e*Sg	**Sg**	**17 29 31.0**	**+3.7**
DIGO	**Kars**	**1.80**	**221**	IAML_P			
	comp=Z,3μm,0.2s						
DIGO				*i* P	**Pn**	**17 29 01.9**	**+1.1**
DIGO				*i* S	**Sn**	**17 29 25.4**	**+1.6**
KRNR	**Karanay**	**1.80**	**54**	*e*PN	**Pg**	**17 29 03.0**	**-1.0**
KRNR				pmax	pmax		
	comp=Z,19nm,0.3s						
KRNR	**Karanay**	**1.80**	**54**	*e*Pg	**Pg**	**17 29 03.0**	**-1.0**
KRNR				*e*Sg	**Sg**	**17 29 26.0**	**-1.3**
SEKA	**Sheki**	**1.81**	**108**	⇑P	**Pb**	**17 29 01.7**	**-0.9**
SEKA				⇑S	**Sg**	**17 29 27.0**	**-0.5**
KARS	**Kars**	**1.81**	**231**	PN	**Pn**	**17 29 01.8**	**+1.1**
TASB	**TASBURUN-IGDIR**	**1.88**	**196**	PN	**Pn**	**17 29 02.8**	**+1.2**
MNGR	**Mingechevir, A**	**1.92**	**121**	⇑P	**Pb**	**17 29 04.3**	**-0.2**
MNGR				⇓S	**Sg**	**17 29 30.3**	**-0.8**
NCK	**Nalchik**	**1.96**	**331**	⇑ePN	**Pb**	**17 29 05.0**	**-0.3**
NCK	**Nalchik**	**1.96**	**331**	*e*Pg	**Pg**	**17 29 06.0**	**-1.1**
NCK				*e*Sg	**Sg**	**17 29 32.2**	**-0.3**
HYR	**Heyderabad**	**2.07**	**181**	⇑P	**Pn**	**17 29 05.5**	**+1.3**
HYR				⇑S	**Sb**	**17 29 33.5**	**+0.6**
NEY	**Neytrino**	**2.18**	**313**	*e*PN	**Pb**	**17 29 09.2**	**+0.1**
NEY				*e*S	**Sg**	**17 29 38.5**	**-1.0**
NEY	**Neytrino**	**2.18**	**313**	*e*Pg	**Pb**	**17 29 09.4**	**+0.3**
NEY				*e*Sg	**Sg**	**17 29 38.1**	**-1.4**
BRDA	**Brd**	**2.29**	**131**	⇓P	**Pn**	**17 29 07.9**	**+0.7**
BRDA				⇑S	**Sb**	**17 29 38.0**	**-1.1**
ARTV	**Artvin**	**2.33**	**256**	IAML_P			
	comp=Z,1μm,0.1s						
ARTV				*i* P	**Pn**	**17 29 09.1**	**+1.1**
ARTV				*i* S	**Sb**	**17 29 42.0**	**+1.6**
QBL	**Gabala**	**2.35**	**110**	⇑P	**Pb**	**17 29 09.8**	**-2.1**
QBL				⇓S	**Sb**	**17 29 39.8**	**-1.2**
DAGI	**Agillar**	**2.37**	**254**	IAML_P			
	comp=Z,254nm,0.2s						
DAGI				*i* P	**Pn**	**17 29 09.9**	**+1.5**
DAGI				*i* S	**Sb**	**17 29 43.9**	**+2.4**
SBZ	**Shahbuz**	**2.44**	**168**	⇓P	**Pn**	**17 29 11.9**	**+2.6**
SBZ				⇑S	**Sn**	**17 29 42.3**	**+3.0**
DBDC	**Borcka**	**2.48**	**261**	*i* P	**Pn**	**17 29 11.2**	**+1.3**
DBDC				*i* S	**Sb**	**17 29 45.5**	**+1.8**
BCA	**Borcka**	**2.50**	**263**	PN	**Pn**	**17 29 11.7**	**+1.6**
XNQ	**Khinaliq**	**2.50**	**103**	⇑P	**Pb**	**17 29 12.4**	**-2.1**
XNQ				⇓S	**Sb**	**17 29 45.1**	**-0.3**
QSAR	**Qusar**	**2.52**	**95**	⇑P	**Pb**	**17 29 13.0**	**-1.7**
QSAR				⇑S	**Sb**	**17 29 46.4**	**+0.6**
DBAD	**Bademkaya**	**2.54**	**253**	IAML_P			
	comp=Z,274nm,0.3s						
DBAD				*i* P	**Pn**	**17 29 12.8**	**+2.0**
DRN	**Derbent**	**2.56**	**83**	*e*Pn	**Pn**	**17 29 10.6**	**-0.2**
DRN				*i* Sn	**Sb**	**17 29 43.9**	**-2.9**
SHA1	**Shidzhatmaz**	**2.56**	**320**	*e*PN	**Pb**	**17 29 13.1**	**-2.5**
SHA1				*e*S	**Sb**	**17 29 44.3**	**-2.9**
SHA1	**Shidzhatmaz**	**2.56**	**320**	*e*Pn	**Pb**	**17 29 15.6**	**0.0**
SHA1				*e*Sn	**Sg**	**17 29 48.5**	**-3.2**
ZRD	**Zardab**	**2.58**	**125**	⇓P	**Pn**	**17 29 12.6**	**+1.5**
ZRD				⇑S	**Sn**	**17 29 45.2**	**+2.6**
PYA1	**Pyatigorsk**	**2.64**	**330**	*e*PN	**Pn**	**17 29 13.5**	**+1.5**
PYA1				*e*S	**Sb**	**17 29 45.7**	**-3.5**
PYA1	**Pyatigorsk**	**2.64**	**330**	*i* Pn	**Pn**	**17 29 12.6**	**+0.6**
PYA1				*e*Sn	**Sb**	**17 29 46.0**	**-3.2**
NAX	**Nakhchivan**	**2.65**	**170**	⇑P	**Pb**	**17 29 16.4**	**-0.5**
NAX				⇑S	**Sn**	**17 29 46.2**	**+1.8**
AGRB	**Hanur-Agry**	**2.65**	**214**	PN	**Pn**	**17 29 13.4**	**+1.0**
IML	**Ismayilli**	**2.65**	**111**	⇑P	**Pb**	**17 29 14.5**	**-2.5**
IML				⇓S	**Sb**	**17 29 46.9**	**-2.7**
BEYR	**Belyy Ugol+**	**2.71**	**326**	*e*PN	**Pb**	**17 29 16.0**	**-1.9**
BEYR				*e*S	**Sb**	**17 29 48.0**	**-3.1**
BEYR	**Belyy Ugol+**	**2.71**	**326**	*e*Pn	**Pb**	**17 29 16.0**	**-1.9**
BEYR				*e*Sn	**Sb**	**17 29 48.0**	**-3.1**
KIV0	**Kislovodsk Arr**	**2.71**	**324**	*e*Pn	**Pn**	**17 29 14.8**	**+1.7**
KIV0				*e*Sn	**Sb**	**17 29 48.8**	**-2.6**
KIV	**Kislovodsk**	**2.72**	**324**	PN	**Pn**	**17 29 14.4**	**+1.2**
KIV	**Kislovodsk**	**2.72**	**324**	*e*PN	**Pn**	**17 29 14.9**	**+1.7**
KIV				*e*S	**Sb**	**17 29 49.4**	**-2.1**
DOMR	**Dombai**	**2.86**	**303**	*e*PN	**Pn**	**17 29 17.1**	**+1.9**
DOMR				*e*S	**Sb**	**17 29 53.1**	**-2.6**
DOMR	**Dombai**	**2.86**	**303**	*i* Pn	**Pb**	**17 29 17.9**	**-2.7**
DOMR				*e*Sn	**Sb**	**17 29 53.2**	**-2.6**
PQL	**Pirkuli**	**2.94**	**109**	⇑P	**Pn**	**17 29 18.6**	**+2.2**
PQL				⇓S	**Sb**	**17 29 55.3**	**-2.8**
ORD	**Ordubad**	**2.97**	**164**	⇓P	**Pb**	**17 29 21.1**	**-1.4**
ORD				⇑S	**Sn**	**17 29 54.2**	**+1.7**
SIZA	**Siyzn**	**3.08**	**102**	⇑P	**Pn**	**17 29 19.8**	**+1.7**
SIZA				⇑S	**Sb**	**17 29 59.5**	**-2.4**
ATGJ	**Altiaghaj**	**3.17**	**106**	⇓P	**Pn**	**17 29 21.9**	**+2.5**
ATGJ				⇓S	**Sn**	**17 30 00.3**	**+3.0**
CHOM	**Cayeli-Rize**	**3.20**	**259**	PN	**Pn**	**17 29 21.9**	**+2.1**
GBS	**Qobustan**	**3.29**	**111**	⇓P	**Pn**	**17 29 23.0**	**+2.0**
GBS				⇑S	**Sn**	**17 30 02.5**	**+2.4**
ALER	**Alexandrovskoy**	**3.31**	**334**	*e*Pn	**Pn**	**17 29 19.7**	**-1.6**
ALER				*e*Sn	**Sn**	**17 30 01.0**	**+0.2**
LRK	**Lerik**	**4.09**	**139**	⇑P	**Pn**	**17 29 33.9**	**+1.8**
LZRR	**Lazarevskoye**	**4.60**	**300**	*e*Pn	Pb	17 29 44.4	-5.8
LZRR				*i* Sn	**Sb**	**17 30 39.3**	**-6.3**
AAK	**Ala-Archa**	**21.88**	**78**	⇑*e*P	**P**	**17 33 23.0**	**+0.5**
KURK	**Kurchatov**	**24.77**	**57**	⇑*e*P	**P**	**17 33 51.7**	**+0.6**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.9s						

ISCJB ***22*** *17:34:53.6±0.7,10.˚7S±0.˚1×166.˚0E±0.˚1,h155km, mb3.9/13,Error ellipse: s-maj=17.1km s-min=14.6km az=12.8*
IDC ***22*** *17:34:55.9±2.9,10.˚72S×165.˚94E,h159km±26km, mb3.7/13,mb1 3.9/15,mb1mx3.7/32,mbtmp4.2/15,Error ellipse: s-maj=20.2km s-min=16.2km az=87.0*

ISC 22 17:34:55.5±0.8,10.˚7S±0.˚1×166.˚0E±0.˚1,h155km,n23, σ0s83/18,mb3.9/13,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.05**	**281**	P	**Pn**	**17 36 22.9**	**-0.1**
	14nm,0.3s,baz=169,slow=2.2,SNR=25						
HNR	**Honiara**	**6.05**	**281**	*e*P	**Pn**	**17 36 23.0**	**0.0**
DZM	**Mont Dzumac**	**11.36**	**178**	P	**Pn**	**17 37 34.2**	**+0.9**
	2.1nm,0.3s,baz=321,slow=23,SNR=4.4						
DZM				S	Sn	17 39 28.1	-11
	0.1nm,0.3s,baz=143,slow=20,SNR=2.2						
H11S2	**WAKE ISLAND Hy**	**28.98**	**1**	T	T	18 11 25.8	
	baz=181,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**28.98**	**1**	T	T	18 11 26.1	
	baz=181,slow=76,SNR=5.2						
H11S1	**WAKE ISLAND Hy**	**28.99**	**1**	T	T	18 11 27.1	
	baz=181,slow=76,SNR=9.9						
URZ	**Urewera**	**29.24**	**162**	P	**P**	**17 40 42.1**	**-0.7**
	6.2nm,0.7s,baz=3.2,slow=18,SNR=3.3						
H11N1	**WAKE ISLAND Hy**	**30.20**	**2**	T	T	18 12 58.1	
	baz=182,slow=76,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	**30.20**	**2**	T	T	18 12 57.7	
	baz=182,slow=76,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**30.21**	**2**	T	T	18 12 59.5	
	baz=182,slow=76,SNR=6.8						
STKA	**Stephens Creek**	**30.87**	**223**	P	**P**	**17 40 57.9**	**+0.6**
	1.7nm,0.6s,baz=55,slow=11,SNR=4.4						
WRA	**Warramunga Arr**	**31.82**	**249**	P	**P**	**17 41 04.9**	**-0.9**
	1.5nm,0.6s,baz=80,slow=9.0,SNR=14						
ASAR	**Alice Springs**	**33.16**	**243**	P	**P**	**17 41 16.4**	**-1.1**
	1.8nm,0.7s,baz=69,slow=10,SNR=27						
ASAR				PcP	**PcP**	**17 43 57.0**	**0.0**
	0.6nm,0.7s,baz=69,slow=2.8,SNR=5.9						
FITZ	**Fitzroy Crossi**	**39.69**	**255**	P	**P**	**17

comp=Z,48nm,19.7s,baz=21,slow=37
STKA Stephens Creek 36.76 148 *e*P **P 18 05 34.3 +1.5**
7.1nm,2.0s
SHL Shillong 37.90 317 *e*P **P 18 05 42.5 -0.3**
9.3nm,0.4s
KSRS Korea Array 39.41 10 LR LR 18 22 59.7
comp=Z,21nm,21.7s,baz=200,slow=37
SONA0 Songino Array 50.35 348 *e*P **P 18 07 25.6 +3.3**
SONM Songino Array 50.35 348 P **P 18 07 25.6 +3.3**
1.8nm,0.7s,baz=164,slow=9.0,SNR=6.3
SONA1 Songino Array 50.37 348 *e*P **P 18 07 21.2 -1.2**
MK32 Makanchi Array 58.07 331 *e*P **P 18 08 18.0 -0.4**
MKAR Makanchi Array 58.07 331 P **P 18 08 18.0 -0.4**
0.7nm,0.7s,baz=134,slow=7.0,SNR=3.9
ZALV Zalesovo Beam 62.22 338 P **P 18 08 46.9 +0.1**
0.4nm,0.6s,baz=123,slow=10,SNR=2.2
ZAA1 Zalesovo Array 62.23 338 *e*P **P 18 08 46.9 +0.1**
KURK Kurchatov 62.53 332 *e*P **P 18 08 48.1 -0.8**
5.4nm,1.0s
TIXI Tiksi 73.16 3 *e*P **P 18 09 54.9 -0.5**
8.5nm,1.0s
BR101 Keskin Array S 87.75 310 *e*P **P 18 11 15.5 +0.8**
BRTR Keskin Array B 87.75 310 P **P 18 11 15.5 +0.8**
1.3nm,0.8s,baz=130,slow=5.1,SNR=8.8

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*ISCJB **22** 18:24:06.8±0.6, 42°.44N±0°.03×41°.11E±0°.04, h2km±9km, Error ellipse: s-maj=5.5km s-min=4.2km az=33.2*
*TIF **22** 18:24:08.6, 42°.36N×41°.03E, h26km±3km*
*ISK **22** 18:24:09.1, 42°.25N×40°.98E, h5km, ML3.0/4*
*DDA **22** 18:24:09.5, 42°.20N×40°.93E, h7km±2km, ML3.5*
*MOS **22** 18:24:09.7±0.0, 42°.46N×41°.12E, h12km, MPVA3.5*
*NORS **22** 18:24:10.7±0.0, 42°.54N×41°.16E, h6km, MPVA3.6*
ISC 22 18:24:07.7±1.2, 42°.35N±0°.02×41°.03E±0°.03, h6km±11km, n19, σ0s45/37, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BATM	**Batumi**	**0.89**	**146**	P		**Pn**	**18 24 27.2**	**+0.4**
BATM				S		**Sn**	**18 24 40.5**	**+0.4**
BCA	**Borcka**	**1.01**	**154**	PG		**Pn**	**18 24 28.1**	**-0.3**
BCA				SG		**Sn**	**18 24 42.5**	**-0.3**
DOMR	**Dombai**	**1.04**	**25**	*i* Pg		**Pb**	**18 24 28.3**	**+0.1**
DOMR				*i* Sg		**Sg**	**18 24 41.1**	**0.0**
DBOC	**Borcka**	**1.11**	**154**	IAML_P				
	comp=Z,9μm,0.1s							
DBOC				*i* P		**Pn**	**18 24 30.6**	**+0.8**
DBOC				*i* S		**Sn**	**18 24 45.2**	**-0.2**
CHOM	**Cayeli-Rize**	**1.27**	**189**	PN		**Pg**	**18 24 32.4**	**+0.4**
CHOM				SN		**Sn**	**18 24 49.7**	**+0.4**
ARTV	**Artvin**	**1.34**	**150**	IAML_P				
	comp=Z,7μm,0.1s							
ARTV				*i* P		**Pg**	**18 24 33.7**	**+0.2**
DBAD	**Bademkaya**	**1.42**	**159**	IAML_P				
	comp=Z,2μm,0.1s							
DBAD				*i* P		**Pb**	**18 24 35.0**	**+0.3**
DBAD				*i* S		**Sg**	**18 24 53.5**	**+0.1**
DAGI	**Agillar**	**1.43**	**152**	IAML_P				
	comp=Z,595nm,0.1s							
DAGI				*i* P		**Pg**	**18 24 35.4**	**+0.2**
DAGI				*i* S		**Sg**	**18 24 54.0**	**+0.2**
RPOR	**Krasnaya Polya**	**1.46**	**338**	*i* Pg		**Pb**	**18 24 35.5**	**+0.2**
RPOR				*i* Sg		**Sg**	**18 24 54.9**	**+0.2**
NEY	**Neytrino**	**1.54**	**54**	*e*Pg		**Pn**	**18 24 36.0**	**+0.3**
NEY				*e*Sg		**Sn**	**18 24 55.2**	**-0.9**
DDEM	**Demirkent**	**1.55**	**159**	IAML_P				
	comp=Z,3μm,0.1s							
DDEM				*i* P		**Pg**	**18 24 37.6**	**+0.1**
DDEM				*i* S		**Sg**	**18 24 57.5**	**-0.1**
SOC	**Sochi**	**1.56**	**322**	*i* Pg		**Pb**	**18 24 37.1**	**0.0**
SOC				*i* Sg		**Sb**	**18 24 57.1**	**0.0**
SHA1	**Shidzhatmaz**	**1.83**	**40**	*e*Pg		**Pb**	**18 24 41.4**	**-0.3**
SHA1				*i* Sg		**Sn**	**18 25 03.5**	**+0.1**
LZRR	**Lazarevskoye**	**1.99**	**323**	*i* Pg		**Pb**	**18 24 44.7**	**+0.4**
LZRR				*e*Pg		**Pg**	**18 24 45.7**	**-0.2**
LZRR				*e*Sg		**Sb**	**18 25 09.6**	**+0.2**
LZRR				*e*Sg		**Sg**	**18 25 11.1**	**-0.6**
KIV0	**Kislovodsk Arr**	**2.02**	**37**	*e*Pg		**Pb**	**18 24 44.8**	**0.0**
KIV0				*e*Sg		**Sb**	**18 25 09.9**	**-0.2**
BAYT	**Aydıntepe-Bayb**	**2.07**	**199**	PN		**Pb**	**18 24 44.7**	**-1.0**
BEYR	**Belyy Ugol+**	**2.11**	**38**	*e*Pg		**Pb**	**18 24 46.4**	**0.0**
BEYR				*e*Sg		**Sb**	**18 25 12.8**	**-0.1**
ZEI	**Tsey**	**2.17**	**77**	*e*Pg		**Pb**	**18 24 46.3**	**-1.1**
ZEI				*e*Sg		**Sb**	**18 25 14.9**	**+0.3**
ESPY	**Espiye-Giresun**	**2.24**	**231**	PN		**Pb**	**18 24 47.7**	**-0.9**

IDC 22 18:28:29.6±7.8, 16°.11S×174°.13W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/53, mbtmp3.7/2, Error ellipse: s-maj=334.7km s-min=67.5km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**49.00**	**257**	P		P	18 37 18.1	-0.4
	0.8nm,1.0s,baz=93,slow=6.7,SNR=8.7							
ASAR	**Alice Springs**	**49.23**	**252**	P		P	18 37 20.2	0.0
	0.8nm,0.5s,baz=89,slow=7.9,SNR=23							
BRTR	**Keskin Array B**	**146.25**	**320**	PKPbc		PKPdf	18 48 11.9	+0.4
	0.3nm,0.6s,baz=42,slow=1.2,SNR=1.8							

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*IDC **22** 18:29:49.8±0.7, 20°.96N×106°.11W, h0km, mb4.5/18, mb1 4.6/22, mb1mx4.4/47, mbtmp4.5/22, ML4.0/4, MS4.0/26, Ms1 4.0/26, ms1mx4.0/31, Error ellipse: s-maj=24.2km s-min=13.3km az=52.0*
*ISCJB **22** 18:29:50.3±0.2, 20°.88N±0°.03×106°.09W±0°.02, h10km, mb4.7/146, MS4.1/24, Error ellipse: s-maj=4.1km s-min=2.0km az=24.2*
*MEX **22** 18:29:52.2±0.6, 21°.01N×106°.20W, h8km±10km, MD4.7*
*NEIC **22** 18:29:52.9±0.0, 21°.00N×106°.23W, h16km, mb4.7/230, MD4.7(MEX), After MEX.*
NEIC Felt [III] at Bahia de Banderas, Bucerias, Compostela and La Penita de Jaltemba; [II] at Puerto Vallarta. Also felt at Las Jarretaderas and Valle de Banderas.
*BJI **22** 18:29:58.0, 21°.00N×106°.10W, h50km, mB5.2/1, Ms4.8/2, Ms7 4.6/2*
ISC 22 18:29:51.3±0.4, 20°.94N±0°.05×106°.19W±0°.05, h10km, n621, σ1s19/584, mb4.8/144, MS4.0/24, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PUVA	**Puert Vallarta**	**0.96**	**109**	*e*P		**Pg**	**18 30 09.8**	**+0.1**
PUVA				*e*S		**Sg**	**18 30 21.8**	**-0.4**
ANIG	**Ahuacatlan**	**1.56**	**86**	*e*Pn		**Pn**	**18 30 16.8**	**-2.4**
ANIG	**Ahuacatlan**	**1.56**	**86**	*e*P		**Pn**	**18 30 16.8**	**-2.4**
ANIG				*i* S		**Sn**	**18 30 37.7**	**-1.9**
CJM	**Chamela**	**1.79**	**143**	*e*Pn		**Pn**	**18 30 20.8**	**-1.5**
CJM	**Chamela**	**1.79**	**143**	*e*P		**Pn**	**18 30 20.8**	**-1.5**
CJM				*i* S		**Sn**	**18 30 43.6**	**-1.5**
MAIG	**Mazatlaan**	**2.25**	**354**	*e*Pn		**Pn**	**18 30 25.5**	**-3.1**
MAIG	**Mazatlaan**	**2.25**	**354**	*i* P		**Pn**	**18 30 25.5**	**-3.1**
ZAIG	**Zacatecas**	**3.82**	**61**	*e*Pn		**Pn**	**18 30 49.9**	**-0.7**
SLBS	**Sierra La Lagu**	**4.42**	**309**	*e*Pn		**Pn**	**18 30 59.4**	**+0.8**
MOIG	**Morelia**	**4.86**	**104**	*e*Pn		**Pn**	**18 31 07.5**	**+2.7**
LPIG	**La Paz**	**4.94**	**310**	Pn		**Pn**	**18 31 06.2**	**+0.5**
	4.9nm,0.3s,baz=212,slow=3.9,SNR=3.2							
LPIG				Pg		**Pb**	**18 31 20.5**	**+2.5**
	3.5nm,0.3s,baz=60,slow=14,SNR=7.1							
H06E1	**SOCORRO T-PHAS**	**4.95**	**245**	Pn		**Pn**	**18 31 04.1**	**-1.7**
H06E1				T		T	18 36 23.3	
	SNR=1171							
H06N1	**SOCORRO T-PHAS**	**4.97**	**246**	T		T	18 36 23.6	
	SNR=11							
H06S1	**SOCORRO T**	**5.00**	**245**	T		T	18 36 30.4	
	SNR=74							
HPIG		**5.99**	**4**	*e*Pn		**Pn**	**18 31 20.6**	**+0.4**
UNM	**Universidad Na**	**6.78**	**102**	*e*Pn		**Pn**	**18 31 35.3**	**+4.1**
LNIG	**Linares**	**7.34**	**56**	*e*Pn		**Pn**	**18 31 39.0**	**+0.3**
SRIG	**Santa Rosalia**	**8.42**	**320**	*e*Pn		**Pn**	**18 31 54.5**	**+1.1**
LTX	**Lajitas**	**8.66**	**15**	*e*Pn		**Pn**	**18 31 57.5**	**+0.6**
LTX				*e*Lg		Lg	18 34 16.3	
LTX				*e*			18 35 30.4	
TX31	**Lajitas Ar. Si**	**8.66**	**15**	*e*Pn		**Pn**	**18 31 56.9**	**0.0**
TXAR	**Lajitas Array**	**8.66**	**15**	Pn		**Pn**	**18 31 57.5**	**+0.6**
	2.0nm,0.3s,baz=196,slow=14,SNR=106							
TXAR				Lg		Lg	18 34 16.3	
	0.6nm,0.3s,baz=216,slow=29,SNR=4.5							
TXAR				LR		LR	18 35 30.4	
	comp=Z,2μm,18.7s,baz=0.0,slow=40							
HSIG		**9.13**	**333**	*e*Pn		**Pn**	**18 32 05.0**	**+1.8**
LVIG	**Laguna Verde**	**9.24**	**96**	*e*Pn		**Pn**	**18 32 08.6**	**+3.8**
833A	**Chaparral WMA,**	**9.60**	**39**	P		**Pn**	**18 32 08.8**	**-0.9**
	baz=222							
MNTX	**Cornudas Mount**	**10.74**	**4**	*e*Pn		**Pn**	**18 32 25.9**	**+0.7**
MNTX	**Cornudas Mount**	**10.74**	**4**	P		**Pn**	**18 32 26.3**	**+1.1**
	baz=184,SNR=17							
JCT	**Junction City**	**11.10**	**30**	*e*Pn		**Pn**	**18 32 31.8**	**+1.6**
JCT	**Junction City**	**11.10**	**30**	P		**Pn**	**18 32 31.3**	**+1.0**
	baz=213,SNR=6.2							
GDL2	**Guadalupe Moun**	**11.33**	**8**	*e*Pn		**Pn**	**18 32 33.0**	**-0.5**
CMIG	**Matias Romero**	**11.35**	**108**	Pn		**Pn**	**18 32 36.4**	**+2.6**
	1.1nm,0.3s,baz=286,slow=11,SNR=18							
CMIG				Lg		Lg	18 35 44.7	
	0.1nm,0.3s,baz=78,slow=4.9,SNR=4.0							
TUC	**Tucson**	**12.04**	**341**	*e*Pn		**Pn**	**18 32 47.5**	**+4.3**
TUC	**Tucson**	**12.04**	**341**	P		**Pn**	**18 32 46.2**	**+3.0**
	baz=159							
CPRX	**Cap Rock**	**12.22**	**9**	*e*Pn		**Pn**	**18 32 48.7**	**+3.1**
214A	**Organ Pipe Nat**	**12.47**	**333**	P		**Pn**	**18 32 52.0**	**+3.0**
	baz=150,SNR=5.7							
435B	**Jarrell**	**12.48**	**37**	*e*Pn		**Pn**	**18 32 49.5**	**+0.4**
435B	**Jarrell**	**12.48**	**37**	P		**Pn**	**18 32 51.2**	**+2.1**
	baz=220							
ABTX	**Abilene, Hawle**	**13.02**	**25**	*e*Pn		**Pn**	**18 32 58.7**	**+2.3**
ABTX	**Abilene, Hawle**	**13.02**	**25**	P		**Pn**	**18 32 58.0**	**+1.6**
	baz=208							
BNM	**Barren Site**	**13.16**	**358**	*e*Pn		**Pn**	**18 33 00.2**	**+1.5**
LENM	**Lemitar**	**13.19**	**357**	*e*Pn		**Pn**	**18 33 02.2**	**+3.2**
LPM	**Los Pinos Moun**	**13.32**	**358**	*e*Pn		**Pn**	**18 33 04.0**	**+3.2**
MSTX	**Muleshoe**	**13.32**	**12**	*e*Pn		**Pn**	**18 33 02.9**	**+2.1**
MSTX	**Muleshoe**	**13.32**	**12**	P		**Pn**	**18 33 02.7**	**+1.9**
	baz=194,SNR=10							
LAZ	**Ladron**	**13.44**	**357**	*e*Pn		**Pn**	**18 33 05.7**	**+3.4**
WHTX	**Lake Whitney,**	**13.49**	**34**	*e*Pn		**Pn**	**18 33 05.1**	**+2.3**
WHTX	**Lake Whitney,**	**13.49**	**34**	P		**Pn**	**18 33 04.9**	**+2.0**
	baz=218							
X18A	**Snowflake**	**13.94**	**347**	*e*Pn		**Pn**	**18 33 13.2**	**+4.1**
ANMO	**Albuquerque**	**13.95**	**359**	Pn		**Pn**	**18 33 12.4**	**+3.0**
	0.2nm,0.3s,baz=177,slow=12,SNR=8.5							
ANMO				Lg		Lg	18 37 12.5	
	0.1nm,0.3s,baz=240,slow=11,SNR=3.9							
ANMO				LR		LR	18 38 48.6	
	comp=Z,838nm,20.8s,baz=176,slow=39							
ANMO	**Albuquerque**	**13.95**	**359**	P		**Pn**	**18 33 12.1**	**+2.7**
	baz=179							
CCIG	**Comitan**	**14.10**	**107**	*e*Pn		**Pn**	**18 33 15.2**	**+3.7**
X16A	**Lo Mia Camp, P**	**14.20**	**342**	*e*Pn		**Pn**	**18 33 16.1**	**+3.3**
Y14A	**Wickenburg**	**14.29**	**336**	*e*Pn		**Pn**	**18 33 17.2**	**+3.5**
GLA	**Glamis**	**14.30**	**329**	*e*Pn		**P**	**18 33 18.0**	**-3.2**
GLA	**Glamis**	**14.30**	**329**	P		**Pn**	**18 33 16.9**	**+2.9**
	baz=146,SNR=5.5							
AMTX	**Amarillo**	**14.45**	**15**	*e*Pn		**Pn**	**18 33 17.4**	**+1.4**
AMTX	**Amarillo**	**14.45**	**15**	P		**Pn**	**18 33 17.9**	**+1.9**
	baz=197							
W18A	**Petrified Fore**	**14.46**	**348**	*e*Pn		**P**	**18 33 19.8**	**-3.4**
W18A	**Petrified Fore**	**14.46**	**348**	P		**P**	**18 33 19.9**	**-3.4**
	baz=167,SNR=16							
IKP	**In-Ko-Pah, Jac**	**14.63**	**325**	P		**Pn**	**18 33 21.7**	**+3.1**
	baz=140							
Y12C	**Blythe**	**14.74**	**332**	*e*Pn		**Pn**	**18 33 23.1**	**+3.0**
Y12C	**Blythe**	**14.74**	**332**	P		**P**	**18 33 23.3**	**-2.8**
	baz=148							
NATX	**Nacogdoches**	**14.91**	**41**	*e*Pn		**Pn**	**18 33 24.4**	**+2.1**
BAR	**Barrett**	**14.96**	**324**	*e*Pn		**P**	**18 33 26.5**	**-2.1**
MONP2	**Monument Peak**	**14.99**	**325**	P		**Pn**	**18 33 25.8**	**+2.3**
	baz=140,SNR=9.7							
PDMCI	**Parker Dam,Lak**	**15.05**	**334**	P		**Pn**	**18 33 26.5**	**+2.4**
	baz=150,SNR=14							
BC3	**Big Chuckawall**	**15.10**	**329**	P		**P**	**18 33 27.6**	**-2.5**
	baz=145,SNR=5.7							
WMOK	**Wichita Mounta**	**15.22**	**24**	*e*Pn		**Pn**	**18 33 26.8**	**+0.4**
	31nm,1.4s							
WMOK	**Wichita Mounta**	**15.22**	**24**	P		**Pn**	**18 33 27.7**	**+1.3**
	baz=208,SNR=15							
WUAZ	**Wupatki**	**15.22**	**344**	*e*Pn		**P**	**18 33 29.9**	**-1.6**
	59nm,1.1s							
WUAZ	**Wupatki**	**15.22**	**344**	P		**Pn**	**18 33 28.3**	**+1.7**
	baz=161,SNR=25							
109C	**Camp Elliot, M**	**15.36**	**323**	P		**P**	**18 33 32.3**	**-0.7**
	baz=138							
CPE	**Camp Elliot**	**15.36**	**323**	*e*Pn		**P**	**18 33 30.8**	**-2.2**
	83nm,1.7s							
IRM	**Iron Mountain**	**15.36**	**331**	P		**P**	**18 33 31.0**	**-2.1**
	baz=147,SNR=21							
MYIG	**Mrida**	**15.37**	**87**	*e*Pn		**Pn**	**18 33 29.9**	**+1.5**
	280nm,1.7s							
XPFO	**Pion Flat**	**15.56**	**326**	*e*Pn		**Pn**	**18 33 33.1**	**+2.1**
	66nm,1.4s							
PFO	**Pinyon Flats O**	**15.56**	**326**	Pn		**P**	**18 33 34.2**	**-1.1**
	0.1nm,0.3s,baz=142,slow=11,SNR=12							
PFO				LR		LR	18 39 19.0	
	comp=Z,424nm,18.3s,baz=182,slow=36							
PFO	**Pinyon Flats O**	**15.56**	**326**	*e*Pn		**Pn**	**18 33 32.5**	**+1.4**
PFO	**Pinyon Flats O**	**15.56**	**326**	P		**P**	**18 33 33.6**	**-1.8**
	baz=142,SNR=20							
BELC	**Belle Mtn. Jos**	**15.64**	**328**	P		**P**	**18 33 34.4**	**-1.8**
	baz=144,SNR=9.2							
W13A	**Hualapai Mount**	**15.65**	**336**	*e*Pn		**P**	**18 33 35.0**	**-1.4**
	58nm,1.5s							
NEE2	**Needles Airpor**	**15.65**	**333**	P		**P**	**18 33 34.5**	**-1.7**
	baz=150							
MURC	**Murrieta**	**15.95**	**325**	P		**P**	**18 33 38.4**	**-1.2**
	baz=140							
APG	**El Apazote**	**16.07**	**109**	Pn		**Pn**	**18 33 37.1**	**-0.8**
	0.2nm,0.3s,baz=300,slow=14,SNR=2.1							
APG				Lg		Lg	18 38 15.8	
	0.3nm,0.3s,baz=8.5,slow=17,SNR=2.1							
APG				LR		LR	18 39 14.0	
	comp=Z,1μm,18.3s,baz=282,slow=35							
GMRC	**Granite Mounta**	**16.12**	**331**	P		**P**	**18 33 40.8**	**-0.8**
	baz=146,SNR=14							
LDFC	**Landfair**	**16.12**	**333**	*e*Pn		**P**	**18 33 42.0**	**+0.5**
	103nm,1.3s							
T25A	**Trinidad**	**16.21**	**5**	*e*Pn		**P**	**18 33 41.9**	**-0.7**
	66nm,1.4s							
T25A	**Trinidad**	**16.21**	**5**	P		**P**	**18 33 41.8**	**-0.9**
	baz=186,SNR=14							
BBRC	**Big Bear Solar**	**16.31**	**327**	P		**P**	**18 33 42.8**	**-0.9**
	baz=142							
U15A	**North Rim**	**16.33**	**342**	*e*Pn		**P**	**18 33 43.7**	**-0.3**
	52nm,1.4s							
MVCO	**Mesa Verde**	**16.34**	**353**	*e*Pn		**P**	**18 33 43.6**	**-0.4**
	52nm,1.2s							
MVCO	**Mesa Verde**	**16.34**	**353**	P		**P**	**18 33 43.5**	**-0.5**
	baz=172,SNR=6.6							
HEC	**Hector,Ludlow**	**16.47**	**329**	P		**P**	**18 33 45.2**	**-0.2**
	baz=145,SNR=18							
CIS	**Catalina Islan**	**16.49**	**321**	P		**P**	**18 33 45.8**	**+0.3**
	baz=136							
X37A	**Clayton**	**16.61**	**33**	*e*Pn		**Pn**	**18 33 45.5**	**+1.1**
	92nm,1.3s							
U32A	**Winter Ranch,**	**16.61**	**21**	*e*Pn		**Pn**	**18 33 45.4**	**+0.9**
	139nm,1.0s							
FMP	**Fort Macarthur**	**16.64**	**322**	P		**P**	**18 33 47.5**	**+0.3**
	baz=137							
BFSC	**Mount Baldy Ra**	**16.68**	**325**	P		**P**	**18 33 48.1**	**+0.3**
	baz=140							
S22A	**4UR Ranch, Cre**	**16.76**	**358**	*e*Pn		**P**	**18 33 49.8**	**+1.0**
	62nm,1.3s							
S22A	**4UR Ranch, Cre**	**16.76**	**358**	P		**P**	**18 33 49.6**	**+0.9**
	baz=178,SNR=28							
SDCO	**Great Sand Dun**	**16.76**	**2**	*e*Pn		**P**	**18 33 49.3**	**+0.5**
	54nm,1.0s							
SDCO	**Great Sand Dun**	**16.76**	**2**	P		**P**	**18 33 49.2**	**+0.4**
	baz=182,SNR=81							
TUQ	**Turquoise Moun**	**16.78**	**331**	P		**P**	**18 33 49.4**	**+0.5**
	baz=147,SNR=24							
MWC	**Mont Wilson**	**16.89**	**324**	*e*Pn		**P**	**18 33 49.9**	**-0.2**
	38nm,1.5s							
PASC	**Pasadena Art C**	**16.92**	**324**	*e*Pn		**P**	**18 33 50.7**	**+0.5**
	26nm,1.1s							
KNB	**Kanab**	**17.03**	**342**	*e*Pn		**P**	**18 33 52.8**	**+1.2**
	41nm,1.2s							
Z41A	**Richland Creek**	**17.08**	**41**	*e*Pn		**Pn**	**18 33 51.2**	**+1.0**
	173nm,1.4s							
Z41A	**Richland Creek**	**17.08**	**41**	P		**Pn**	**18 33 50.9**	**+0.6**
	baz=228							
GSC	**Goldstone, Bar**	**17.08**	**329**	*e*Pn		**P**	**18 33 52.7**	**+0.5**
	114nm,1.8s							
GSC	**Goldstone, Bar**	**17.08**	**329**	P		**P**	**18 33 53.1**	**+0.9**
	baz=144,SNR=12							
LCMT	**Little Creek M**	**17.15**	**341**	*e*Pn		**P**	**18 33 54.3**	**+1.3**
	64nm,1.5s							
PKCU	**Pink Cliffs**	**17.28**	**343**	*e*Pn		**P**	**18 33 55.9**	**+1.3**
	79nm,1.5s							
PV13	**Radium Mtn., P**	**17.31**	**353**	*e*Pn		**P**	**18 33 55.7**	**+0.9**
	26nm,1.2s							
PV02	**Paradox Valley**	**17.35**	**353**	*e*Pn		**P**	**18 33 55.2**	**-0.1**
	59nm,1.7s							
EDW2	**Edwards Air Fo**	**17.35**	**326**	P		**P**	**18 33 55.9**	**+0.8**
	baz=140,SNR=5.6							
SHPR	**Sheep Range**	**17.38**	**335**	*e*Pn		**P**	**18 33 56.0**	**+0.6**
	19nm,1.2s							
PV17	**East Wray Mesa**	**17.45**	**353**	*e*Pn		**P**	**18 33 56.7**	**+0.4**
	40nm,1.2s							
PV11	**David Mesa, Pa**	**17.45**	**353**	*e*Pn		**P**	**18 33 56.8**	**+0.4**
	58nm,1.1s							
PV12	**Saucer Basin,**	**17.46**	**353**	*e*Pn		**P**	**18 33 57.7**	**+1.2**
	69nm,1.3s							
PV16	**Nyswonger Mesa**	**17.47**	**353**	*e*Pn		**P**	**18 33 57.1**	**+0.5**
	66nm,1.4s							
TUL1	**Leonard**	**17.47**	**29**	*e*Pn		**Pn**	**18 33 55.0**	**-0.2**
	65nm,1.3s							
TUL1	**Leonard**	**17.47**	**29**	P		**Pn**	**18 33 54.9**	**-0.2**
	baz=214,SNR=8.0							
PV19	**Morning Glory**	**17.48**	**353**	*e*Pn		**P**	**18 33 57.8**	**+1.1**
	48nm,1.5s							
PV20	**West Nyswonger**	**17.51**	**353**	*e*Pn		**P**	**18 33 57.0**	**+0.1**
	54nm,1.4s							
MIAR	**Mount Ida**	**17.53**	**37**	*e*Pn		**Pn**	**18 33 55.6**	**-0.3**
	85nm,1.9s							
MIAR	**Mount Ida**	**17.53**	**37**	P		**Pn**	**18 33 56.1**	**+0.2**
	baz=223,SNR=5.3							
OSI	**Osito Audit: C**	**17.54**	**324**	*e*Pn		**P**	**18 33 58.9**	**+1.7**
	93nm,1.7s							
PV14	**Lion Creek, Pa**	**17.54**	**353**	*e*Pn		**P**	**18 33 57.9**	**+0.5**
	109nm,1.9s							
PV23	**Carpenter Ridg**	**17.62**	**353**	*e*Pn		**P**	**18 33 59.5**	**+1.2**
	28nm,1.1s							
SZCU	**Shurtz Canyon**	**17.64**	**342**	*e*Pn		**P**	**18 33 59.4**	**+0.9**
	74nm,1.9s							
LRMC	**Laurel Mtn Rad**	**17.65**	**328**	P		**P**	**18 33 59.7**	**+1.2**
	baz=142							
PV09	**Paradox Valley**	**17.68**	**352**	*e*Pn		**P**	**18 34 00.3**	**+1.3**
CCUT	**Cedar City**	**17.68**	**341**	*e*Pn		**P**	**18 34 01.5**	**+2.5**
	9.8nm,1.0s							
PV21	**Cone Mtn., Par**	**17.72**	**353**	*e*Pn		**P**	**18 34 01.1**	**+1.7**
	21nm,1.0s							
MTPU	**Mount Pierson**	**17.81**	**344**	*e*Pn		**P**	**18 34 02.7**	**+2.1**
	31nm,1.4s							
W39A	**Magazine**	**17.90**	**35**	*e*Pn		**P**	**18 34 01.1**	**0.0**
	78nm,1.3s							
W39A	**Magazine**	**17.90**	**35**	P		**P**	**18 34 01.5**	**+0.3**
	baz=221,SNR=10							
X40A	**Basin Creek Fa**	**17.91**	**38**	*e*Pn		**Pn**	**18 33 59.6**	**-1.1**
	178nm,1.9s							
X40A	**Basin Creek Fa**	**17.91**	**38**	P		**P**	**18 34 01.4**	**+0.2**
	baz=225							
VBMS	**Vicksburg**	**17.93**	**48**	*e*Pn		**Pn**	**18 34 01.0**	**+0.1**
	146nm,1.6s							
ARVC	**Arvin**	**17.98**	**324**	P		**P**	**18 34 03.6**	**+1.6**
	baz=139							
Q24A	**Divide**	**17.98**	**3**	*e*Pn		**P**	**18 34 03.1**	**+0.8**
	13nm,0.9s							
MPMC	**Manual Prospec**	**18.02**	**329**	P		**P**	**18 34 04.4**	**+1.7**
	baz=144,SNR=16							
FURC	**Furnace Creek,**	**18.06**	**331**	P		**P**	**18 34 04.9**	**+2.1**
	baz=146							
CCAR	**Cane Creek**	**18.16**	**42**	*e*Pn		**Pn**	**18 34 03.6**	**0.0**
	65nm,0.6s							
SMCO	**Snowmass**	**18.19**	**358**	*e*Pn		**P**	**18 34 05.2**	**+0.5**
	34nm,1.1s							
TPNV	**Topopah Spring**	**18.20**	**333**	*e*Pn		**P**	**18 34 06.8**	**+2.2**
	18nm,0.9s							
TPNV	**Topopah Spring**	**18.20**	**333**	P		**P**	**18 34 07.0**	**+2.4**
	baz=149,SNR=26							
346A	**Big Creek Wild**	**18.24**	**52**	*e*Pn		**Pn**	**18 34 05.0**	**+0.3**
	432nm,1.8s							
346A	**Big Creek Wild**	**18.24**	**52**	P		**P**	**18 34 05.5**	**+0.7**
	baz=239							
DAC	**Darwin (Calif)**	**18.25**	**329**	*e*Pn		**P**	**18 34 06.4**	**+1.3**
	46nm,1.5s							
MSU	**Marysvale**	**18.26**	**345**	*e*Pn		**P**	**18 34 06.9**	**+1.7**
KSCO	**Kaye Shedlock'**	**18.27**	**

N23A	Red Feather La baz=181,SNR=9.2	19.89	1	P	P	18 34 24.0	+0.8
MLAC	Mammoth, Mammo	19.92	329	P	Pn	18 34 25.3	+0.1
	baz=143						
349A	Repton baz=243	19.93	55	P	P	18 34 23.3	-0.1
HBAR	Harrisburg 79nm,0.9s	19.94	40	eP	P	18 34 24.3	+0.9
BRAL	Brewton 69nm,0.4s	19.95	55	eP	P	18 34 24.0	+0.4
OMMB	Old Mammoth Mi 50nm,1.7s	19.99	329	eP	Pn	18 34 26.3	+0.2
X45A	UM Field Stati baz=232	20.00	44	P	P	18 34 24.5	+0.4
DUG	Dugway, Tooele 84nm,1.9s	20.01	345	eP	Pn	18 34 25.9	-0.2
DUG	Dugway, Tooele baz=162,SNR=11	20.01	345	P	Pn	18 34 25.5	-0.6
Y46A	Houston baz=234,SNR=15	20.03	46	P	P	18 34 24.3	-0.2
MDPB	Devils Postpil 36nm,1.6s	20.04	329	eP	Pn	18 34 27.0	+0.4
OXF	Oxford 66nm,1.4s	20.04	44	eP	P	18 34 25.0	+0.4
OXF	Oxford baz=232	20.04	44	P	P	18 34 25.3	+0.7
MET	Memphis--Engin 172nm,0.5s	20.09	42	eP	Pn	18 34 27.5	+0.6
JLU	Jordanelle 70nm,1.7s	20.11	348	eP	Pn	18 34 27.5	+0.2
U42A	Revenden baz=224,SNR=22	20.15	37	P	P	18 34 26.7	+0.9
Z47A	Carrollton baz=237,SNR=7.7	20.19	49	P	P	18 34 26.8	+0.6
CTU	Camp Tracy 46nm,1.3s	20.25	348	eP	Pn	18 34 29.5	+0.5
OGNE	Ogallala 134nm,1.0s	20.25	9	eP	Pn	18 34 28.3	-0.5
OGNE	Ogallala baz=191,SNR=7.1	20.25	9	P	Pn	18 34 28.7	-0.2
148A	Greensboro baz=240	20.26	51	P	P	18 34 28.0	+1.0
249A	Camden baz=242	20.27	53	P	P	18 34 27.7	+0.7
PHWY	Pilot Hill 40nm,1.4s	20.31	2	eP	P	18 34 28.8	+1.0
NV01	Mina Array Sit	20.33	332	eP	Pn	18 34 29.9	0.0
NVAR	Mina Array Bea 14nm,1.0s,baz=156,slow=11,SNR=32	20.33	332	P	Pn	18 34 30.6	+0.6
T41A	Mountain View baz=222,SNR=9.2	20.37	35	P	P	18 34 28.7	+0.5
RYN	Ryan 54nm,1.6s	20.59	332	eP	Pn	18 34 33.0	+0.1
W45A	Hickory Valley baz=231	20.59	43	P	P	18 34 31.3	+0.8
TCUT	Toone Canyon 38nm,0.8s	20.60	349	eP	Pn	18 34 32.8	-0.3
GNAR	Gosnell 92nm,0.9s	20.60	40	eP	P	18 34 30.2	-0.5
X46A	Booneville baz=234	20.61	45	P	P	18 34 31.6	+0.8
350A	Dozier baz=244	20.61	56	P	P	18 34 31.6	+0.7
SAO	San Andreas Ge 17nm,1.4s	20.62	323	eP	Pn	18 34 33.1	-0.1
Z48A	Northport baz=238,SNR=6.7	20.65	49	P	P	18 34 31.3	0.0
RWWY	Rawlins 92nm,1.6s	20.70	358	eP	P	18 34 33.1	+1.1
T42A	Van Buren 29nm,1.1s	20.72	36	eP	P	18 34 33.0	+1.0
T42A	Van Buren baz=224,SNR=12	20.72	36	P	P	18 34 32.6	+0.6
451A	Vernon 218nm,1.4s	20.75	58	eP	P	18 34 33.2	+0.9
BGU	Big Grassy Mou 87nm,1.9s	20.75	345	eP	Pn	18 34 34.3	-0.6
KVN	Kaiserville 58nm,1.6s	20.75	333	eP	Pn	18 34 34.0	-0.9
S41A	Jillco Farms, baz=221,SNR=9.1	20.79	34	P	P	18 34 33.7	+1.1
149A	Jones baz=241	20.81	52	P	P	18 34 32.9	-0.1
LRAL	Lakeview Retre 123nm,1.8s	20.88	51	eP	Pn	18 34 35.7	-0.5
LRAL	Lakeview Retre baz=240,SNR=9.9	20.88	51	P	P	18 34 34.5	+0.8
WAKR	Walker 61nm,1.3s	20.91	330	eP	Pn	18 34 36.2	-0.5
250A	Grady 454nm,1.9s	20.91	54	eP	P	18 34 34.6	+0.5
250A	Grady baz=243	20.91	54	P	P	18 34 35.3	+1.2
HALT	Halls 58nm,0.6s	20.97	41	eP	P	18 34 36.0	+1.3
SPUT	South Promonto 46nm,1.3s	20.99	347	eP	Pn	18 34 36.5	-1.1
CMB	Columbia Colle 36nm,1.8s	21.00	327	eP	P	18 34 36.2	+1.1
X47A	Russelville baz=235,SNR=8.5	21.07	46	P	P	18 34 36.7	+0.9
W46A	Michie baz=233	21.09	44	P	P	18 34 37.1	+1.1
351A	Pinckard baz=246	21.12	57	P	P	18 34 36.3	0.0
ELK	Elko 13nm,1.0s,baz=170,slow=7.6,SNR=28	21.19	341	P	P	18 34 39.5	+2.2
ELK				LR	LR	18 42 53.5	
	comp=Z,431nm,19.0s,baz=170,slow=37						
ELK	Elko 23nm,1.1s	21.19	341	eP	P	18 34 39.2	+1.9
PLAL	Pickwick Lake 20nm,0.8s	21.20	45	eP	P	18 34 36.8	-0.4
YERR	Yerington 34nm,1.4s	21.20	331	eP	P	18 34 38.9	+1.5
T43A	Greenville baz=225	21.21	37	P	P	18 34 38.3	+1.0
Y48A	Jasper baz=237,SNR=5.2	21.21	48	P	P	18 34 38.0	+0.7
PARMO	Parma 48nm,0.7s	21.23	39	eP	P	18 34 37.9	+0.5
U44B	Burton Farm, H baz=228	21.25	40	P	P	18 34 37.5	-0.2
Z49A	Columbiana baz=240,SNR=6.0	21.29	51	P	P	18 34 38.3	+0.1
150A	Eclectic baz=242,SNR=8.5	21.39	53	P	P	18 34 39.4	+0.3
CCM	Cathedral Cave 20nm,1.0s	21.40	34	eP	P	18 34 38.9	-0.3
S42A	Caledonia baz=223,SNR=13	21.43	35	P	P	18 34 39.9	+0.3
PNTR	Pine Nut 31nm,1.0s	21.45	330	eP	P	18 34 42.5	+2.4
HVU	Hansel Valley 63nm,1.6s	21.51	346	eP	P	18 34 42.5	+1.9
BGNE	Belgrade 272nm,1.1s	21.51	17	eP	P	18 34 41.7	+1.3
BGNE	Belgrade baz=201,SNR=11	21.51	17	P	P	18 34 41.4	+0.9
R41A	Rosebud baz=221	21.51	33	P	P	18 34 41.0	+0.5
UTMT	University of 107nm,0.6s	21.55	41	eP	P	18 34 42.0	+1.2
BMN	Battle Mountai	21.59	337	eP	P	18 34 43.0	+1.6
X48A	Hartselle 91nm,1.4s	21.59	47	eP	P	18 34 42.7	+1.3
X48A	Hartselle baz=236,SNR=14	21.59	47	P	P	18 34 41.8	+0.5
251A	Midway baz=244	21.62	55	P	P	18 34 41.7	+0.1
VCNR	Virginia City 36nm,1.6s	21.64	331	eP	P	18 34 43.0	+0.9
K22A	Casper 122nm,1.5s	21.65	359	eP	P	18 34 43.9	+1.8
K22A	Casper baz=179,SNR=5.7	21.65	359	P	P	18 34 43.6	+1.5
V46A	Holladay baz=232,SNR=14	21.67	43	P	P	18 34 42.4	+0.2
S43A	Fulton Ridge, baz=225,SNR=14	21.68	37	P	P	18 34 42.7	+0.5
W47A	Westpoint baz=234,SNR=6.7	21.68	45	P	P	18 34 42.1	-0.2
RUBR	Rubicon Trail 124nm,1.8s	21.68	329	eP	P	18 34 43.0	+0.5
Y49A	Blount Mountai 30nm,1.0s	21.72	50	eP	P	18 34 44.5	+1.7
Y49A	Blount Mountai baz=239	21.72	50	P	P	18 34 43.8	+1.0
352A	Blakely 159nm,1.7s	21.73	57	eP	P	18 34 45.0	+2.1
FVM	French Village 163nm,1.5s	21.78	35	eP	P	18 34 45.7	+2.3
R42A	Luebbering baz=222	21.80	34	P	P	18 34 44.2	+0.6
PAHR	Pah Rah Range 44nm,1.5s	21.85	332	eP	P	18 34 46.4	+2.1
151A	Opelika baz=243	21.87	54	P	P	18 34 44.5	+0.1
PDAR	Pinedale Array 0.1nm,0.3s,baz=43,slow=17,SNR=2.3	21.95	353	Lg	Lg	18 41 35.2	
PDAR				LR	LR	18 43 49.2	
	comp=Z,364nm,20.4s,baz=188,slow=38						
453A	Whigham baz=249	21.97	59	P	P	18 34 46.1	+0.6
AFDM	Forest Hills D 21nm,1.5s	22.00	328	eP	P	18 34 48.0	+2.3
W48A	Pulaski baz=235,SNR=7.7	22.05	46	P	P	18 34 46.9	+0.5
WVT	Waverly 12nm,0.9s	22.06	43	eP	P	18 34 47.0	+0.7
WVT	Waverly baz=232	22.06	43	P	P	18 34 47.2	+0.8
V47A	Nunnelly baz=233,SNR=13	22.07	44	P	P	18 34 47.3	+0.8
Q41A	Truxton baz=220,SNR=8.7	22.09	32	P	P	18 34 47.3	+0.7
252A	Lumpkin baz=245	22.09	56	P	P	18 34 46.9	+0.2
X49A	Woodville baz=238	22.12	48	P	P	18 34 47.9	+0.8
AHID	Auburn Hatcher 33nm,1.4s	22.15	350	eP	P	18 34 48.4	+0.9
Y50A	Piedmont baz=240	22.22	50	P	P	18 34 49.2	+1.1
S44A	Carbondale baz=226	22.22	38	P	P	18 34 49.1	+1.0
R43A	Red Bud baz=224	22.26	36	P	P	18 34 49.1	+0.6
SIUC	Southern Illin 36nm,1.0s	22.26	38	eP	P	18 34 48.9	+0.4
Z51A	Franklin baz=242	22.35	52	P	P	18 34 49.6	+0.1
SLM	Saint Louis 31nm,1.1s	22.36	34	eP	P	18 34 49.2	-0.4
152A	Waverly Hall 98nm,1.8s	22.39	54	eP	P	18 34 49.0	-0.9
152A	Waverly Hall baz=244	22.39	54	P	P	18 34 49.8	-0.2
Q42A	Golden Eagle baz=222	22.41	34	P	P	18 34 50.8	+0.7
BEKR	Beckworth 18nm,1.1s	22.42	330	eP	P	18 34 53.0	+2.5
V48A	Smith Brothers 66nm,1.4s	22.47	45	eP	P	18 34 52.1	+1.3
V48A	Smith Brothers baz=234,SNR=6.0	22.47	45	P	P	18 34 51.6	+0.8
454A	Quitman baz=250	22.48	60	P	P	18 34 51.6	+0.7
W49A	Belvidere baz=236,SNR=9.5	22.50	47	P	P	18 34 51.5	+0.5
X50B	Fort Payne baz=239,SNR=7.3	22.57	49	P	P	18 34 51.8	-0.1
253A	Americus 144nm,1.3s	22.59	56	eP	P	18 34 52.2	+0.1
253A	Americus baz=246	22.59	56	P	P	18 34 53.0	+1.0
S45A	Carrier Mills baz=227	22.60	39	P	P	18 34 53.6	+1.4
REDW	Red Top Meadow 52nm,1.3s	22.70	351	eP	P	18 34 54.8	+1.5
Y51A	Roxana baz=241,SNR=6.8	22.71	51	P	P	18 34 53.4	+0.1
R44A	Waltonville baz=226,SNR=9.1	22.71	37	P	P	18 34 53.4	+0.1
ORV	Oroville 24nm,1.3s	22.72	328	eP	P	18 34 55.7	+2.2
P41A	Barry, Barry baz=219,SNR=6.4	22.72	31	P	P	18 34 53.7	+0.3
TIGA	Tifton 242nm,1.7s	22.77	58	eP	P	18 34 54.5	+0.5
TIGA	Tifton baz=248	22.77	58	P	P	18 34 54.7	+0.7
SWET	Sewanee 98nm,1.9s	22.78	47	eP	P	18 34 55.0	+0.9
SNOW	Snow King Moun 51nm,1.1s	22.78	351	eP	P	18 34 54.9	+0.6
TPAW	Teton Pass 48nm,1.2s	22.83	351	eP	P	18 34 55.6	+0.8
GDXM	Geyser 21nm,1.3s	22.84	325	eP	P	18 34 56.2	+1.5
Z52A	Williamson baz=243	22.85	53	P	P	18 34 54.7	-0.1
Q43A	New Douglas baz=223,SNR=6.8	22.87	35	P	P	18 34 55.1	+0.2
LOHW	Long Hollow 38nm,1.2s	22.91	352	eP	P	18 34 55.8	+0.3
656A	Willston 119nm,1.3s	22.96	64	eP	P	18 34 56.4	+0.4
455A	Stateville baz=250	22.98	60	P	P	18 34 56.0	-0.2
FXWY	Fox Creek 29nm,1.3s	22.99	351	eP	P	18 34 57.4	+0.9
JTS	JuntasAbangare 2.8nm,0.4s,baz=41,slow=20,SNR=3.5	23.00	114	P	P	18 34 57.6	+1.1
JTS				LR	LR	18 43 05.5	
	comp=Z,498nm,21.3s,baz=7.5,slow=35						
JTS	JuntasAbangare	23.00	114	eP	P	18 34 58.0	+1.4
P42A	Winchester 23nm,1.0s	23.01	33	eP	P	18 34 55.7	-0.8
P42A	Winchester baz=221	23.01	33	P	P	18 34 56.6	+0.2
T47A	Sharon Grove 18nm,0.8s	23.05	42	eP	P	18 34 57.8	+0.9
MOOW	Moose Ponds 39nm,1.5s	23.06	352	eP	P	18 34 58.0	+0.8
V49A	McMinnville baz=236,SNR=7.4	23.10	46	P	P	18 34 57.2	-0.2
U48A	Cassie Pea, Po baz=233	23.11	44	P	P	18 34 57.8	+0.3
O41A	Passleys Farm, baz=219,SNR=9.2	23.15	31	P	P	18 34 58.3	+0.4
RSSD	Black Hills 8.5nm,0.8s	23.18	4	eP	P	18 35 00.2	+1.7
X51A	Calhoun 125nm,1.9s	23.18	50	eP	P	18 34 57.6	-0.7
X51A	Calhoun baz=240	23.18	50	P	P	18 34 58.2	-0.1
R45A	Skylar, Fairfi baz=227	23.19	38	P	P	18 34 58.4	+0.1
W50A	Signal Mountai 72nm,1.4s	23.19	48	eP	P	18 34 58.6	+0.2
W50A	Signal Mountai baz=238,SNR=6.1	23.19	48	P	P	18 34 58.4	-0.1
254A	Abbeville baz=248,SNR=5.8	23.20	57	P	P	18 34 58.2	-0.2
Q44A	Meyer Farm, Va 186nm,1.8s	23.21	36	eP	P	18 34 58.7	+0.2
Q44A	Meyer Farm, Va baz=224,SNR=6.3	23.21	36	P	P	18 34 58.6	+0.2
IMW	Indian Meadow 16nm,1.3s	23.23	351	eP	P	18 34 59.7	+0.7
WBCY	West Bay, Gran 262nm,1.3s	23.32	89	eP	P	18 35 01.8	+2.0
USIN	University of 64nm,1.0s	23.33	39	eP	P	18 35 00.3	+0.5
FLWY	Flagg Ranch 13nm,0.9s	23.38	352	eP	P	18 35 00.5	+0.1
Y52A	Lilburn 38nm,1.3s	23.42	52	eP	P	18 35 01.1	+0.4
Y52A	Lilburn baz=242	23.42	52	P	P	18 35 00.1	-0.6
N40A	Mertquake, Sal baz=216	23.43	29	P	P	18 35 01.0	+0.3
O03E	Payne Creek baz=141	23.44	329	P	P	18 35 02.3	+1.4
P43A	Skaggs, Pawnee baz=222	23.47	34	P	P	18 35 01.6	+0.5
Z53A	Monticello baz=244	23.53	54	P	P	18 35 01.5	-0.2
W51A	Cleveland baz=239	23.56	48	P	P	18 35 02.0	0.0
S47A	Hartford baz=231	23.57	41	P	P	18 35 02.2	+0.1
T48A	Bowling Green baz=232,SNR=11	23.57	43	P	P	18 35 02.0	-0.1
YPP	Pitchstone Pla	23.58	352	eP	P	18 35 04.9	+2.4
HLID	Hailey 32nm,1.6s	23.58	345	eP	P	18 35 03.6	+1.3
HLID	Hailey baz=161	23.58	345	P	P	18 35 03.4	+1.1
R46A	Gibon Southern baz=228	23.59	39	P	P	18 35 02.1	-0.2
V50A	Pikeville baz=237,SNR=16	23.59	47	P	P	18 35 02.2	-0.2
SCIA	State Center 197nm,1.9s	23.60	25	eP	P	18 35 03.3	+0.9
SCIA	State Center baz=212	23.60	25	P	P	18 35 03.4	+1.1
OLIL	Olney 189nm,1.8s	23.60	37	eP	P	18 35 01.9	-0.5
154A	Montrose 283nm,1.5s	23.60	56	eP	P	18 35 03.0	+0.5
154A	Montrose baz=246	23.60	56	P	P	18 35 02.6	+0.2
O42A	Bath baz=220	23.61	32	P	P	18 35 02.8	+0.3
U49A	Red Boiling Sp baz=234	23.61	45	P	P	18 35 02.5	0.0
N41A	Harden Midland 24nm,0.9s	23.63	30	eP	P	18 35 02.5	-0.2
N41A	Harden Midland baz=218	23.63	30	P	P	18 35 02.8	+0.1
059A	Moore Haven 264nm,1.6s	23.64	70	eP	P	18 35 02.7	-0.2
059A	Moore Haven baz=261	23.64	70	P	P	18 35 02.8	0.0
GOGA	Godfrey 62nm,1.5s	23.66	54	eP	P	18 35 02.3	-0.7
GOGA	Godfrey baz=244	23.66	54	P	P	18 35 02.0	-1.1
H17A	Grant Village 16nm,1.3s	23.67	352	eP	P	18 35 03.6	+0.3
H17A	Grant Village baz=170	23.67	352	P	P	18 35 03.6	+0.3
Q45A	Warren Harvey, baz=226	23.68	37	P	P	18 35 03.2	0.0
YFT	Old Faithful 36nm,1.5s	23.76	352	eP	P	18 35 04.5	+0.3
Y53A	Monroe baz=243	23.77	53	P	P	18 35 04.1	0.0
456A	Hilliard 87nm,0.6s	23.79	61	eP	P	18 35 04.0	-0.2
MFID	Camas Ranch 16nm,1.4s	23.81	342	eP	P	18 35 06.1	+1.5
LKWY	Lake 50nm,1.9s	23.82	353	eP	P	18 35 05.8	+1.1
P44A	Sand Creek, Wi baz=224	23.83	35	P	P	18 35 04.6	0.0
255A	Hazlehurst 97nm,1.1s	23.83	58	eP	P	18 35 04.2	-0.5
255A	Hazlehurst baz=249	23.83	58	P	P	18 35 04.5	-0.2
WVOR	Wild Horse Val 19nm,1.3s	23.85	337	eP	P	18 35 05.3	+0.3
CPCT	Cooper Cave 39nm,1.3s	23.87	48	eP	P	18 35 04.8	-0.3
X52A	Dahlonega baz=241,SNR=10	23.89	51	P	P	18 35 04.8	-0.5
YMR	Madison River 15nm,0.8s	23.99	352	eP	P	18 35 08.1	+1.8
YNR	Norris Junctio 50nm,1.7s	24.00	352	eP	P	18 35 07.3	+0.8
WDC	Whiskeytown Da 4.9nm,0.9s	24.02	328	eP	P	18 35 06.4	0.0
MOD	Modoc Plateau 67nm,1.9s	24.06	333	eP	P	18 35 07.2	+0.3
O43A	Sugar Creek Fa baz=222	24.06	33	P	P	18 35 06.6	-0.2
Z54A	Sparta baz=245	24.06	55	P	P	18 35 06.0	-0.9
ECSD	EROS Data Cent 15nm,1.1s	24.09	17	eP	P	18 35 07.0	0.0
ECSD	EROS Data Cent baz=202	24.09	17	P	P	18 35 08.3	+1.3
155A	Kite baz=247	24.10	56	P	P	18 35 06.8	-0.4
YHB	Horse Butte 43nm,1.8s	24.11	351	eP	P	18 35 07.7	+0.2
W52A	Murphy 90nm,1.5s	24.11	49	eP	P	18 35 06.2	-1.2
W52A	Murphy baz=240	24.11	49	P	P	18 35 07.1	-0.2
S48A	Wiedeman Farm, baz=232,SNR=9.6	24.12	42	P	P	18 35 07.3	0.0
T49A	Edmonton 89nm,1.7s	24.12	44	eP	P	18 35 07.2	-0.2
V51A	Loudon 36nm,1.0s	24.18	48	eP	P	18 35 07.6	-0.4
V51A	Loudon baz=238	24.18	48	P	P	18 35 07.2	-0.8
QLMT	Earthquake Lak	24.22	351	eP	P	18 35 08.7	+0.2
R47A	Wooly Knot Far baz=230	24.23	40	P	P	18 35 08.4	0.0
RLMT	Red Lodge 11nm,0.9s	24.25	355	eP	P	18 35 08.7	-0.1
RLMT	Red Lodge baz=173	24.25	355	P	P	18 35 09.5	+0.7
L39A	Vinton baz=214,SNR=5.3	24.27	26	P	P	18 35 09.3	+0.6
HDIL	Hopedale 42nm,0.9s	24.27	33	eP	P	18 35 08.3	-0.4
HDIL	Hopedale baz=221	24.27	33	P	P	18 35 08.9	+0.2
X53A	Estanollee baz=242	24.28	51	P	P	18 35 09.0	+0.1
256A	Glennville baz=249	24.32	58	P	P	18 35 09.1	-0.1
WCI	Wyandotte Cave 66nm,1.6s	24.33	41	eP	P	18 35 09.1	-0.2
P45A	Graceland, Par 40nm,1.1s	24.35	36	eP	P	18 35 09.7	+0.2
P45A	Graceland, Par baz=226	24.35	36	P	P	18 35 10.1	+0.6
Y54A	Tignall baz=244,SNR=5.2	24.44	53	P	P	18 35 10.2	-0.2
MCMT	McKenzie Canyo	24.45	348	eP	P	18 35 11.4	+0.8
TKL	Tuckaleechee C comp=Z,281nm,20.4s,baz=237,slow=37	24.50	48	LR	LR	18 44 49.5	
T50A	Nancy baz=235	24.52	45	P	P	18 35 10.2	-0.9
L40A	Anamosa 26nm,1.2s	24.55	28	eP	P	18 35 11.2	0.0
L40A	Anamosa baz=216	24.55	28	P	P	18 35 11.8	+0.6
J08A	Circle Bar Ran 19nm,1.1s	24.60	338	eP	P	18 35 12.7	+0.9
N43A	Stutzman Famil baz=221	24.62	32	P	P	18 35 12.0	+0.1
M04C	Macdoel baz=143,SNR=7.9	24.63	331	P	P	18 35 13.5	+1.3
S49A	Springfield baz=233	24.68	43	P	P	18 35 12.8	+0.3
W53A	Cullowhee baz=241	24.69	50	P	P	18 35 12.4	-0.4
Q47A	Bedord North L baz=229	24.70	39	P	P	18 35 13.5	+0.8
P46A	Rosedale baz=227	24.71	37	P	P	18 35 13.2	+0.5
U51A	La Follette baz=238	24.71	47	P	P	18 35 12.5	-0.3
V52A	Sevierville 22nm,1.2s	24.72	48	eP	P	18 35 12.1	-0.9
V52A	Sevierville baz=239	24.72	48	P	P	18 35 12.6	-0.3
BG3	Lake Jocassee	24.78	51	eP	P	18 35 13.2	-0.2
M02C	Callahan baz=140	24.80	329	P	P	18 35 14.2	+0.6
K39A	Oelwein baz=213	24.80	26	P	P	18 35 13.6	+0.1
BLO	Bloomington 126nm,2.0s	24.80	39	eP	P	18 35 14.2	+0.6
O45A	Potomac baz=225	24.87	35	P	P	18 35 14.2	0.0
L41A	Preston baz=217	24.88	29	P	P	18 35 14.3	+0.1
DLMT	Dillon 21nm,1.4s	24.92	349	eP	P	18 35 14.9	+0.1
HODGE	Hodges 15nm,1.0s	24.92	53	eP	P	18 35 14.6	-0.1
YBH	Yreka Blue Hor 0.7nm,0.3s,baz=180,slow=6.1,SNR=3.6	24.99	330	P	P	18 35 15.8	+0.5
YBH				LR	LR	18 45 28.4	
	comp=Z,103nm,21.5s,baz=155,slow=38						

YBH	Yreka Blue Hor	24.99	330	*e*P	P	18 35 15.4	+0.1
	14nm,1.6s						
BOZ	Bozeman (W)	25.00	351	*e*P	P	18 35 16.1	+0.7
	5.6nm,0.8s						
BOZ	Bozeman (W)	25.00	351	P	P	18 35 17.0	+1.6
	baz=168						
257A	Skidaway Islan	25.00	59	*e*P	P	18 35 16.2	+0.8
	146nm,0.8s						
N44A	Piper City	25.04	34	P	P	18 35 16.1	+0.3
	baz=223						
T51A	Gray	25.08	46	P	P	18 35 16.0	-0.1
	baz=237						
M43A	Waltham Townsh	25.10	32	P	P	18 35 16.6	+0.4
	baz=221						
Q48A	North Vernon	25.11	40	P	P	18 35 16.6	+0.2
	baz=230						
TZTN	Tazewell	25.12	47	P	P	18 35 16.7	+0.2
	baz=238						
P47A	Martinsville	25.16	38	P	P	18 35 17.6	+0.8
	baz=229						
U52A	Thorn Hill	25.16	47	P	P	18 35 17.6	+0.7
	baz=239						
L04D	Klamath Falls	25.18	331	P	P	18 35 18.7	+1.5
	baz=142						
V53A	Saluda	25.19	49	*e*P	P	18 35 16.6	-0.6
	24nm,1.1s						
V53A	Saluda	25.19	49	P	P	18 35 17.4	+0.3
	baz=241						
L42A	Oliver, Polo	25.20	30	*e*P	P	18 35 17.1	0.0
	63nm,1.4s						
L42A	Oliver, Polo	25.20	30	P	P	18 35 18.2	+1.0
	baz=219						
SFIN	Lafayette	25.30	36	*e*P	P	18 35 17.3	-0.7
	63nm,1.1s						
SFIN	Lafayette	25.30	36	P	P	18 35 18.3	+0.2
	baz=226,SNR=7.4						
K41A	Shullsburg	25.39	28	P	P	18 35 19.1	+0.2
	baz=217						
N45A	Kentland	25.41	34	P	P	18 35 19.0	-0.1
	baz=224						
PAULI	Pauline	25.51	52	*e*P	P	18 35 19.6	-0.4
	20nm,1.1s						
BMO	Blue Mountains	25.56	341	*e*P	P	18 35 20.8	+0.3
	20nm,1.8s						
J05D	Fort Rock, OR	25.59	334	P	P	18 35 21.9	+1.1
	baz=146,SNR=8.2						
I07A	Izee	25.59	337	*e*P	P	18 35 22.4	+1.6
	14nm,1.1s						
JFWS	Jewell Farm	25.66	28	*e*P	P	18 35 20.5	-0.8
	33nm,1.2s						
JFWS	Jewell Farm	25.66	28	P	P	18 35 21.4	+0.1
	baz=216						
LAO	LASA Array	25.68	360	*e*P	P	18 35 20.8	-0.7
	42nm,1.4s						
LAO	LASA Array	25.68	360	P	P	18 35 22.0	+0.4
	baz=180						
S51A	Beattyville	25.69	45	*e*P	P	18 35 22.0	+0.4
	49nm,1.5s						
JSC	Jenkinsville	25.69	54	*e*P	P	18 35 22.4	+0.7
O47A	Sheridan	25.71	37	P	P	18 35 22.0	+0.2
	baz=228,SNR=5.3						
HUMO	Hull Mountain	25.79	331	*e*P	P	18 35 23.2	+0.7
	5.1nm,1.2s						
PINE	Pine Mountain	25.89	335	*e*P	P	18 35 24.5	+0.8
	17nm,1.3s						
I39A	Houston	25.91	25	*e*P	P	18 35 22.9	-0.7
	30nm,1.4s						
J04D	Umpqua Nationa	25.92	333	P	P	18 35 24.8	+0.9
	baz=144						
RGRS	Roger Stewart	25.98	57	*e*P	P	18 35 24.5	+0.1
	623nm,0.4s						
KMSC	Kings Mountain	26.01	52	*e*P	P	18 35 23.6	-1.0
	15nm,0.9s						
KMSC	Kings Mountain	26.01	52	P	P	18 35 24.3	-0.3
	baz=244						
NHSC	New Hope	26.07	57	*e*P	P	18 35 25.4	+0.3
	101nm,1.0s						
NHSC	New Hope	26.07	57	P	P	18 35 25.2	0.0
	baz=249						
CSU	Charleston Sou	26.11	57	*e*P	P	18 35 26.2	+0.7
HRY	Holter Researc	26.11	351	*e*P	P	18 35 24.6	-0.9
K02D	Willamette Mer	26.18	330	P	P	18 35 27.2	+1.1
	baz=141						
I40A	Norwalk	26.30	26	P	P	18 35 27.8	+0.7
	baz=214						
O48A	Farmland	26.31	38	P	P	18 35 26.7	-0.6
	baz=229						
H38A	Maiden Rock	26.32	23	P	P	18 35 28.0	+0.7
	baz=210						
N47A	Urbana	26.42	37	P	P	18 35 28.4	+0.2
	baz=227						
G08A	Pilot Rock	26.47	340	*e*P	P	18 35 29.2	+0.4
	16nm,1.5s						
J42A	Columbus	26.48	29	P	P	18 35 29.0	+0.3
	baz=218						
I04A	Tendick Farm,	26.49	333	P	P	18 35 30.2	+1.2
	baz=144						
I05D	Terrebonne, OR	26.50	335	P	P	18 35 29.4	+0.4
	baz=147						
MSO	Missoula	26.59	348	P	P	18 35 29.8	0.0
	baz=164						
Q51A	Peebles	26.64	42	P	P	18 35 29.6	-0.7
	baz=234						
J01E	Myrtle Point	26.67	330	P	P	18 35 31.9	+1.4
	baz=141						
P50A	Jamestown	26.71	41	P	P	18 35 30.1	-0.8
	baz=232						
O49A	Covington	26.75	39	P	P	18 35 31.3	+0.1
	baz=231						
H04A	Detroit Lake	27.13	334	*e*P	P	18 35 34.6	-0.1
	14nm,1.3s						
R53A	Hurricane	27.15	45	P	P	18 35 34.1	-0.8
	baz=237						
G39A	Holcombe	27.25	24	P	P	18 35 34.5	-1.2
	baz=212						
I02D	Swisshome	27.37	332	P	P	18 35 37.6	+0.9
	baz=142						
E39A	Mellen	28.40	23	P	P	18 35 45.5	-0.5
	baz=212						
NEW	Newport	28.65	345	LR	LR	18 47 59.4	
	comp=Z,452nm,18.1s,baz=172,slow=38						
E41A	Kenton	29.08	25	P	P	18 35 51.1	-0.9
	baz=215						
P55A	Reedsville	29.18	45	P	P	18 35 51.5	-1.5
	baz=238						
B08A	Colville Reser	29.33	342	*e*P	P	18 35 54.7	+0.5
	4.7nm,0.8s						
ULM	Lac du Bonnet	30.36	13	P	P	18 36 02.8	-0.5
	5.3nm,0.9s,baz=208,slow=8.8,SNR=7.0						
ULM	Lac du Bonnet	30.36	13	*e*P	P	18 36 02.2	-1.0
	32nm,1.6s						
N55A	Marion Center	30.40	43	P	P	18 36 04.6	+0.8
	baz=238						
SADO	Sadowa	32.60	37	P	P	18 36 21.6	-1.5
	13nm,1.0s,baz=89,slow=3.1,SNR=3.6						
SADO	Sadowa	32.60	37	*e*P	P	18 36 21.9	-1.2
	37nm,1.2s						
FFC	Flin Flon	33.88	4	*e*P	P	18 36 33.6	-0.5
	12nm,1.1s						
PTBC	PUERTO BERRIO,	33.89	110	*e*P	P	18 36 35.8	+1.1
PTBC	PUERTO BERRIO,	33.89	110	*e*P	P	18 36 35.8	+1.1
G55A	Calabogie	34.27	38	P	P	18 36 36.5	-1.2
	baz=235						
SOTA	Rioblanco	34.36	119	*e*P	P	18 36 35.0	-4.3
SOTA	Rioblanco	34.36	119	*e*P	P	18 36 35.0	-4.3
MARP	Paez Belalcaza	34.50	117	*e*P	P	18 36 42.0	+1.8
MARP	Paez Belalcaza	34.50	117	*e*P	P	18 36 42.0	+1.8
E54A	Lac Daplat, Po	34.71	36	P	P	18 36 41.5	+0.1
	baz=233						
ROSC	El Rosal	34.83	113	LR	LR	18 53 34.9	
	comp=Z,184nm,18.0s,baz=356,slow=41						
ROSC	El Rosal	34.83	113	*e*P	P	18 36 41.5	-1.8
	6.3nm,0.6s						
CTAB	Cerro Tablazo,	34.84	113	*e*P	P	18 36 44.5	+1.1
CTAB	Cerro Tablazo,	34.84	113	*e*P	P	18 36 44.5	+1.1
BARC	Barichara	34.98	109	*e*P	P	18 36 45.7	+1.3
BARC	Barichara	34.98	109	*e*P	P	18 36 45.7	+1.3
PAMC	Pamplona, Colo	35.08	108	*e*P	P	18 36 46.5	+1.0
PAMC	Pamplona, Colo	35.08	108	*e*P	P	18 36 46.5	+1.0
RUSC	La Rusia	35.40	110	*e*P	P	18 36 47.9	-0.3
RUSC	La Rusia	35.40	110	*e*P	P	18 36 47.9	-0.3
SDV	Santo Domingo	36.29	104	*e*P	P	18 36 54.8	-0.8
	9.5nm,0.8s						
MTP	Monte Pirata	38.33	87	*e*P	P	18 37 11.5	-1.2
	39nm,1.2s						
FCC	Fort Churchill	38.78	10	*e*P	P	18 37 15.1	-0.8
	21nm,1.4s						
DLBC	Dease Lake	41.24	341	P	P	18 37 37.4	+0.9
	11nm,0.9s,baz=169,slow=7.3,SNR=8.0						
DLBC	Dease Lake	41.24	341	*e*P	P	18 37 36.7	+0.2
	19nm,1.0s						
YKA	Yellowknife Ar	41.92	354	P	P	18 37 41.7	-0.2
	3.1nm,0.8s,baz=167,slow=7.9,SNR=41						
YKA				LR	LR	18 54 51.3	
	comp=Z,48nm,19.7s,baz=166,slow=36						
YKB5	Yellowknife Ar	41.92	354	*e*P	P	18 37 40.7	-1.1
YKW3	Yellowknife Ar	41.99	354	*e*P	P	18 37 41.7	-0.7
	27nm,1.9s						
TAOE	Nuku Hiva Isla	44.62	232	*e*LR	LR	18 50 24.4	
	comp=Z,622nm,25.1s						
SCHQ	Schefferville	44.93	31	P	P	18 38 05.4	-0.9
	7.9nm,1.0s,baz=243,slow=13,SNR=3.8						
SCHQ				LR	LR	18 57 44.1	
	comp=Z,282nm,18.6s,baz=292,slow=37						
SCHQ	Schefferville	44.93	31	*e*P	P	18 38 06.0	-0.3
	63nm,1.8s						
RPN	Rapa Nui	47.88	184	LR	LR	18 54 10.7	
	comp=Z,274nm,19.0s,baz=357,slow=30						
DAWY	Dawson	48.47	341	*e*P	P	18 38 34.3	+0.4
	10.0nm,1.1s						
EPYK	Eagle Plains	49.48	344	*e*P	P	18 38 42.4	+0.8
	38nm,1.7s						
EPYK	Eagle Plains	49.48	344	P	P	18 38 42.3	+0.7
	baz=141						
EGAK	Eagle	49.52	341	*e*P	P	18 38 42.6	+0.7
	17nm,1.2s						
FRB	Frobisher Bay	49.65	21	P	P	18 38 41.4	-1.5
	4.1nm,0.5s,baz=226,slow=12,SNR=7.4						
PTGA	Pitinga	50.05	110	*e*P	P	18 38 46.5	-0.2
	16nm,1.5s						
INK	Inuvik	50.31	347	P	P	18 38 49.0	+1.1
	11nm,1.0s,baz=140,slow=8.3,SNR=15						
INK	Inuvik	50.31	347	*e*P	P	18 38 47.8	-0.1
	20nm,1.2s						
RND	Reindeer	51.20	337	*e*P	P	18 38 55.7	+1.0
	23nm,1.3s						
IL1	Eielson Array	51.34	339	*e*P	P	18 38 56.0	+0.3
ILAR	Eielson Array	51.34	339	P	P	18 38 56.5	+0.8
	6.8nm,1.0s,baz=146,slow=6.1,SNR=39						
ILAR				LR	LR	19 00 19.5	
	comp=Z,186nm,18.8s,baz=142,slow=36						
ILB	Eielson Array	51.34	339	*e*P	P	18 38 55.6	-0.1
POKR	Poker Plat Res	51.73	339	P	P	18 38 58.0	-0.6
	baz=128						
TRF	Thorofare Moun	51.75	337	*e*P	P	18 38 58.7	-0.3
	106nm,2.0s						
RKT	Rikitea	52.01	214	*e*T	T	19 34 53.6	
	7.5nm,0.3s						
LPAZ	La Paz	52.57	132	P	P	18 39 05.7	-0.5
	1.7nm,0.6s,baz=308,slow=5.9,SNR=6.8						
LPAZ				LR	LR	18 59 11.7	
	comp=Z,138nm,20.2s,baz=318,slow=34						
LPAZ	La Paz	52.57	132	*e*P	P	18 39 05.1	-1.0
LPAZ				*es*P	P	18 39 05.4	-0.7
MLY	Manley	52.81	338	*e*P	P	18 39 07.0	+0.3
	29nm,1.9s						
MNMC	Minye Minye	53.57	136	*e*P	P	18 39 13.2	+0.1
	12nm,1.1s						
PB11	IPOC Station P	53.98	136	*e*P	P	18 39 15.5	-0.6
	15nm,1.2s						
IM3	Indian Mountai	54.38	338	*e*P	P	18 39 17.3	-0.9
PB01	IPOC Station P	55.02	137	*e*P	P	18 39 23.4	-0.1
	13nm,1.3s						
PPT2	Papeete2	57.24	231	*e*LR	LR	18 56 16.5	
	comp=Z,555nm,26.2s						
ANM	Nome	58.18	334	*e*P	P	18 39 45.9	+0.6
	11nm,1.3s						
RDOG	Red Dog Mine	58.53	338	*e*P	P	18 39 48.2	+0.5
	18nm,1.3s						
TBI	Tubuai	60.96	226	*e*LR	LR	18 57 54.2	
	comp=Z,447nm,27.2s						
SUMG	Summit	63.54	18	*i* P	P	18 40 21.5	-0.6
CPUP	Villa Florida	66.72	133	P	P	18 40 42.6	-0.3
	0.8nm,0.4s,baz=344,slow=7.5,SNR=3.4						
CPUP				LR	LR	19 08 15.5	
	comp=Z,53nm,19.6s,baz=4.0,slow=35						
CPUP	Villa Florida	66.72	133	*e*P	P	18 40 42.2	-0.7
	16nm,1.7s						
BDFB	Brasilia	67.68	118	P	P	18 40 49.8	+0.4
	7.3nm,0.9s,baz=329,slow=8.2,SNR=6.6						
DAG	Danmarks Havn	69.20	14	*i* P	P	18 40 56.6	-1.2
	7.0nm,0.8s						
PLCA	Paso Flores	69.74	152	P	P	18 40 57.7	-3.9
	0.8nm,0.6s,baz=270,slow=12,SNR=2.1						
PLCA				LR	LR	19 07 15.4	
	comp=Z,73nm,18.1s,baz=352,slow=32						
PLCA	Paso Flores	69.74	152	*e*P	P	18 41 01.2	-0.4
	6.4nm,1.1s						
BILL	Bilibino	69.86	336	*e*P	P	18 41 01.7	-0.3
	6.9nm,1.3s						
SEY	Seymchan	76.63	333	P	P	18 41 42.5	+0.4
	5.5nm,1.0s,baz=105,slow=4.5,SNR=11						
PEA1	Petropavlovsk-	77.09	322	*e*P	P	18 41 45.2	+0.4
PETK	Petropavlovsk-	77.09	322	P	P	18 41 45.2	+0.4
	5.4nm,1.0s,baz=83,slow=9.6,SNR=3.7						
PETK				LR	LR	19 12 40.2	
	comp=Z,45nm,18.8s,baz=80,slow=33						
PETK	Petropavlovsk-	77.09	322	*e*P	P	18 41 43.1	-1.8
TIXI	Tiksi	80.36	345	P	P	18 42 01.5	-1.0
	6.1nm,0.8s,baz=26,slow=5.4,SNR=18						
TIXI	Tiksi	80.36	345	*e*P	P	18 42 01.4	-1.1
	10nm,1.0s						
H11N3	WAKE ISLAND Hy	80.40	287	T	T	20 10 41.3	
	baz=64,slow=74,SNR=9.3						
H11N2	WAKE ISLAND Hy	80.41	287	T	T	20 10 39.4	
	baz=64,slow=74,SNR=12						
H11N1	WAKE ISLAND Hy	80.42	287	T	T	20 10 37.4	
	baz=64,slow=74,SNR=13						
H11S1	WAKE ISLAND Hy	80.98	286	T	T	20 11 33.6	
	baz=68						
H11S2	WAKE ISLAND Hy	80.98	286	T	T	20 11 33.8	
	baz=68						
H11S3	WAKE ISLAND Hy	81.00	286	T	T	20 11 34.8	
	baz=68						
ARA0	ARCESS Array S	83.46	15	*e*P	P	18 42 19.1	+0.2
ARCES	ARCESS Array B	83.46	15	P	P	18 42 19.1	+0.2
	12nm,1.0s,baz=348,slow=5.3,SNR=5.2						
ARCES	ARCESS Array B	83.46	15	*e*P	P	18 42 18.2	-0.6
ARE0	ARCESS Array S	83.46	15	*e*P	P	18 42 18.4	-0.5
	9.5nm,1.7s						
NB2	NORSAR Subarra	84.20	26	P	P	18 42 22.5	-0.4
	comp=Z,1.1nm,0.9s,baz=305,slow=5.3						
NB200	NORSAR Array S	84.20	26	*e*P	P	18 42 21.9	-0.9
NOA	NORSAR Array B	84.20	26	P	P	18 42 22.0	-0.9
	comp=Z,2.6nm,0.9s,baz=305,slow=5.1,SNR=5.1						
NOA				LR	LR	19 20 20.6	
	comp=Z,85nm,18.7s,baz=305,slow=36						
FINES	FINESS Array B	89.45	21	LR	LR	19 22 44.9	
	comp=Z,338nm,18.8s,baz=288,slow=36						
GERES	GERESS Array B	92.35	35	LR	LR	19 23 39.2	
	comp=Z,288nm,18.9s,baz=299,slow=35						
DZM	Mont Dzumac	95.33	249	*e*LR	LR	19 14 10.6	
	comp=Z,389nm,29.6s						
MJAR	Matsushiro Arr	96.58	313	LR	LR	19 17 54.4	
	comp=Z,30nm,21.7s,baz=85,slow=30						
KEST	Kesra	96.96	48	LR	LR	19 26 58.1	
	comp=Z,109nm,18.2s,baz=299,slow=35						
DBIC	Dimbokro	98.13	80	LR	LR	19 24 35.5	
	comp=Z,48nm,21.7s,baz=306,slow=34						
AKASG	Malin Array Be	98.57	27	LR	LR	19 28 03.1	
	comp=Z,129nm,19.2s,baz=275,slow=36						
HHC	Hu-ho-hao-te	109.22	331	*e*P	Pdif	18 44 20.9	+2.7
HHC				pmax	pmax		
	comp=Z,10.0nm,1.2s						
WMQ	Urumqi	114.31	349	*e*PKP	PKiKP	18 48 31.3	-0.3
WMQ				LR	LR		
	comp=Z,120nm,19.3s						
WMQ				LR	LR		
	comp=Z,200nm,23.1s						
LZH	Lanzhou	116.56	333	*e*PKP	PKPdf	18 48 34.8	-1.5
LZH				sPKP		18 48 57.6	
LZH				LR	LR		
	comp=Z,98nm,17.8s						
LZH				LR	LR		
	comp=Z,100nm,18.2s						
LZH				LR	LR		
	comp=Z,140nm,20.1s						
WB2	Warramunga Arr	123.57	259	*e*PKPdf	PKPdf	18 48 48.6	-1.3
WR1	Warramunga Arr	123.58	259	*e*PKPdf	PKPdf	18 48 49.0	-1.0
WRA	Warramunga Arr	123.58	259	PKP	PKPdf	18 48 49.0	-1.0
	comp=Z,1.2nm,0.7s,baz=78,slow=2.1,SNR=13						
AS31	Alice Springs	124.69	255	*e*PKPdf	PKPdf	18 48 50.5	-1.5
ASAR	Alice Springs	124.69	255	PKP	PKPdf	18 48 50.8	-1.2
	comp=Z,1.0nm,0.7s,baz=83,slow=2.1,SNR=10						
CMAR	Chiang Mai Arr	133.75	326	PKP	PKiKP	18 49 10.8	+0.1
	comp=Z,0.5nm,0.8s,baz=323,slow=2.1,SNR=4.7						
CM01	Chiang Mai Arr	133.77	326	*e*PKPdf	PKiKP	18 49 11.2	+0.5
PSI	Prapat	145.91	311	PKPbc	PKPdf	18 49 32.0	+0.4
	comp=Z,2.4nm,0.4s,baz=180,slow=5.3,SNR=3.3						
PSI	Prapat	145.91	311	*e*PKPdf	PKPdf	18 49 31.8	+0.2

IDC 22 18:37:05.8±13.0, 3.09N×128.47E, h115km±135km, mb3.4/7, mb1 3.5/7, mb1mx3.3/49, mbtmp3.8/7, Error ellipse: s-maj=60.4km s-min=18.0km az=84.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	21.23	187	P	P	18 41 42.6	-0.2
	2.1nm,0.7s,baz=18,slow=7.0,SNR=6.6						
WRA	Warramunga Arr	23.60	166	P	P	18 42 06.4	0.0
	0.6nm,0.3s,baz=344,slow=11,SNR=20						
ASAR	Alice Springs	27.11	169	P	P	18 42 38.2	+0.1
	0.4nm,0.4s,baz=351,slow=7.0,SNR=12						
KSRS	Korea Array	34.21	359	P	P	18 43 41.2	+0.9
	0.8nm,0.5s,baz=174,slow=9.6,SNR=4.2						
MJAR	Matsushiro Arr	34.48	14	P	P	18 43 41.9	-0.9
	2.0nm,0.8s,baz=191,slow=10,SNR=4.5						
STKA	Stephens Creek	36.94	161	P	P	18 44 03.8	0.0
	0.6nm,0.3s,baz=346,slow=8.3,SNR=4.0						
MKAR	Makanchi Array	59.08	325	P	P	18 46 53.7	-0.3
	1.0nm,0.6s,baz=114,slow=7.2,SNR=3.1						

*MOS **22** 18:40:11.8±2.4, 51.72N×95.96E, h10km, mb4.1/7, Error ellipse: s-maj=11.0km s-min=7.8km az=168.6*
*ASRS **22** 18:40:11.4±1.0, 51.77N×95.83E, h15km, Ms3.5/2*
*NNC **22** 18:40:21.3±5.1, 51.69N×95.19E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=49.1km s-min=40.8km az=78.0*
*IDC **22** 18:40:21.1±1.5, 52.05N×94.83E, h0km, mb3.6/6, mb1 3.6/10, mb1mx3.4/51, mbtmp3.5/10, ML3.2/4, MS2.8/2, Ms1 2.8/2, ms1mx2.5/43, Error ellipse: s-maj=27.0km s-min=16.6km az=141.0*

ISC 22 18:40:11.7±0.6, 51.80N±0.05×95.81E±0.03, h10km, n48, σ2s97/45, mb3.6/8, 14C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZLR	Kyzyl	0.85	264	*e*Pg	Pb	18 40 28.7	+0.1
KZLR	Kyzyl	0.85	264	⇑*i*Pg	Pn	18 40 29.4	-0.4
KZLR				*e*S	Sn	18 40 41.2	-1.1
ERNS	Erzin	1.59	195	⇓*i*P*	Pn	18 40 39.4	-0.6
ERNS				*e*S	Sn	18 40 59.4	-1.3
ORL	Orlik	2.57	72	*e*PN	Pb	18 40 57.6	-0.4
ORL				*e*		18 41 28.5	
ORL				pmax	pmax		
	comp=Z,557nm,0.4s						
ORL				smax	smax		
	comp=N,890nm,0.5s						
CERR	Cheremushki	2.90	293	*e*Pg	Pb	18 41 01.7	-1.8
CERR	Cheremushki	2.90	293	*e*PN	Pb	18 41 05.1	+1.6
CERR				*e*S	Sg	18 41 44.2	-0.5
MOY	Mondy	3.22	90	*e*PN	Pb	18 41 07.0	-2.1
MOY				*e*		18 41 48.6	
MOY				pmax	pmax		
	comp=Z,262nm,0.7s						
MOY				smax	smax		
	comp=N,746nm,1.0s						
MINR	Mina	3.26	343	*e*Pg	Pb	18 41 09.1	-0.5
ARS	Arshan	4.10	86	*e*PN	Pn	18 41 15.5	+1.0
ARS				*e*		18 41 23.7	
ARS				*e*		18 42 17.3	
ARS				pmax	pmax		
	comp=Z,310nm,0.4s						
ARS				smax	smax		
	comp=E,1μm,0.4s						
TLY	Talaya	4.87	88	*e*PN	Pb	18 41 37.0	0.0
TLY				*e*		18 42 39.2	
TLY				pmax	pmax		
	comp=Z,58nm,0.5s						
TLY				smax	smax		
	comp=N,300nm,0.8s						
ZAK	Zakamensk	4.92	104	*e*PN	Pb	18 41 36.7	-1.2
ZAK				pmax	pmax		
	comp=Z,64nm,0.5s						
TASR	Tashtagol	4.96	284	*e*Pg	Pg	18 41 44.0	-2.7
TASR				*e*Sg	Sg	18 42 46.6	-4.4
IRK	Irkutsk	5.24	82	*e*PN	Pb	18 41 43.4	0.0
IRK				*e*		18 42 48.7	
IRK				pmax	pmax		
	comp=Z,81nm,0.8s						
IRK				smax	smax		
	comp=N,744nm,1.4s						
DGZ	Jazzator, Alta	5.72	252	*ce*PN	Pn	18 41 40.8	+4.0
ELT	Eltsovka	6.03	288	*e*Pg	Pb	18 42 01.8	+5.1
ELT				*e*Sg	Sg	18 43 17.4	-7.6
TRG	Tyrgan	6.54	77	*e*PN	Pn	18 41 48.7	+0.8
TRG				*e*		18 42 08.7	
TRG				*e*S	Sn	18 43 00.8	-1.7
TRG				*e*		18 43 31.9	
TRG				pmax	pmax		
	comp=Z,30nm,0.9s						
TRG				smax	smax		
	comp=N,289nm,1.2s						
UKR	Ust'-Kan	6.97	267	*e*Pg	Pb	18 42 17.4	+4.6
UKR				*e*Sg	Sg	18 43 48.4	-6.8
ZAA0	Zalesovo Array	7.00	292	⇓Pn	Pn	18 41 59.9	+5.8
	comp=N,2.0nm,0.5s						
ZAA0				⇑Lg	Lg	18 43 49.9	
	comp=N,55nm,1.0s						
ZALV	Zalesovo Beam	7.00	292	Pn	Pn	18 41 58.7	+4.6
	comp=N,0.7nm,0.3s,baz=101,slow=13,SNR=9.4						
ZALV				Pg	Pb	18 42 17.3	+4.1
	comp=N,1.8nm,0.3s,baz=104,slow=14,SNR=9.5						
ZALV				Sn	Sn	18 43 24.2	+11
	comp=N,1.4nm,0.3s,baz=100,slow=15,SNR=3.1						
ZALV				Lg	Lg	18 43 51.8	
	comp=N,4.3nm,0.3s,baz=110,slow=32,SNR=10						
ZALV				LR	LR	18 44 40.9	
	comp=N,45nm,21.6s,baz=246,slow=41						
OGRR	Ongureny	7.39	71	*e*P	Pn	18 42 00.2	+0.6
OGRR				pmax	pmax		
	comp=Z,13nm,0.5s						
SONM	Songino Array	7.91	116	Pn	Pb	18 42 27.9	-1.0
	comp=Z,1.2nm,0.3s,baz=309,slow=15,SNR=20						
SONM				Sn	Sb	18 44 13.3	+10
	comp=Z,1.8nm,0.3s,baz=299,slow=25,SNR=6.2						
NVS	Novosibirsk	8.12	297	*e*Pg	Pg	18 42 41.3	-5.8
NVS				*e*Sg	Sg	18 44 24.5	-7.7
ULN	Ulaanbaatar	8.26	114	⇑*e*P	Pn	18 42 09.6	-2.1
NIZ	Nizh Angarsk

comp=Z,0.1nm,0.3s,baz=97,slow=8.1,SNR=2.7
AAK Lg Lg 18 49 11.9
comp=Z,0.1nm,0.3s,baz=266,slow=17,SNR=2.7
AAK Ala-Archa 17.08 246 eP P 18 44 12.7 +0.3
AAK pmax pmax
comp=Z,1.0nm,1.0s
ARU Arti 22.13 297 c iP P 18 45 07.7 +0.6
ARU S S 18 49 14.6 +3.9
ARU pmax pmax
comp=Z,7.0nm,1.3s
KLR Kul'dur 22.85 82 eP P 18 45 12.6 -2.3
AKTO Aktyubinsk 23.59 282 P P 18 45 25.8 +3.4
comp=Z,1.0nm,0.5s,baz=83,slow=17,SNR=5.7
TIXI Tiksi 24.73 24 LR LR 18 55 56.3
comp=Z,44nm,18.4s,baz=8.0,slow=38
TIXI Tiksi 24.73 24 eP P 18 45 33.9 +1.2
TIXI pmax pmax
comp=Z,3.0nm,1.0s
SEY Seymchan 31.41 47 eP P 18 46 32.9 +0.4
FINES FINESS Array B 37.74 313 P P 18 47 33.2 +6.0
comp=Z,1.3nm,0.8s,baz=64,slow=3.2,SNR=3.8
AKASG Malin Array Be 40.38 296 P P 18 47 55.4 +6.0
comp=Z,0.5nm,0.5s,baz=56,slow=8.8,SNR=3.9
BRTR Keskin Array B 43.74 279 P P 18 48 23.8 +6.7
comp=Z,0.8nm,0.7s,baz=73,slow=5.9,SNR=5.5
NOA NORSAR Array B 44.51 316 P P 18 48 27.7 +4.8
comp=Z,0.2nm,0.5s,baz=63,slow=7.9,SNR=2.6
TORD Torodi Ar. Bea 82.32 281 P P 18 52 40.2 +6.5
comp=Z,0.3nm,0.7s,baz=28,slow=6.5,SNR=2.4

ISCJB ***22*** *19:03:12.6±0.5, 6˚.00N±0˚.05×126˚.01E±0˚.08, h156km±4km, mb3.7/10, Error ellipse: s-maj=12.8km s-min=7.6km az=7.5*
MAN ***22*** *19:03:13.8, 5˚.98N×126˚.01E, h133km, mb4.4, ML3.3, MS3.1*
IDC ***22*** *19:03:14.5±0.6, 6˚.08N×126˚.03E, h159km±6km, mb3.5/10, mb1 3.7/10, mb1mx3.3/39, mbtmp4.0/10, Error ellipse: s-maj=35.3km s-min=10.8km az=81.0*
ISC 22 19:03:13.5±0.8, 5˚.97N±0˚.06×126˚.03E±0˚.08, h151km±6km, n23, σ1§62/36, mb3.8/10, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.34**	**293**	*eP*		**Pn**	**19 03 33.7**	**-0.7**
DDMP				*eS*		**Sn**	**19 03 49.6**	**-0.6**
MATI	**Mati**	**1.00**	**13**	*eP*		**Pn**	**19 03 37.3**	**-1.1**
MATI				*eS*		**Sn**	**19 03 55.1**	**-2.4**
GSPH	**General Santos**	**1.08**	**276**	*i P*		**Pn**	**19 03 38.8**	**-0.4**
GSPH				*i S*		**Sn**	**19 03 57.9**	**-1.0**
DAV	**Davao City (W)**	**1.18**	**338**	P		**Pn**	**19 03 39.8**	**-0.2**
	75nm,0.3s,baz=238,slow=5.6,SNR=7.0							
DAV				S		**Sn**	**19 04 01.3**	**+0.9**
	286nm,0.3s,baz=322,slow=2.3,SNR=25							
DMPH	**Davao City--Mi**	**1.22**	**335**	*eP*		**Pn**	**19 03 43.4**	**+3.0**
DMPH				*eS*		**Sn**	**19 04 06.7**	**+5.6**
SKMP	**Bagumbayan, Su**	**1.57**	**290**	*eP*		**Pn**	**19 03 43.0**	**-1.0**
SKMP				*eS*		**Sn**	**19 04 06.7**	**-0.7**
BUKP	**Musuan**	**2.13**	**333**	*eP*		**Pn**	**19 03 50.0**	**-0.3**
BUKP				*eS*		**Sn**	**19 04 17.7**	**-1.0**
CTBH	**Cotabato--PC H**	**2.16**	**305**	*eP*		**Pn**	**19 03 50.0**	**-0.6**
CTBH				*i S*		Sn	19 03 54.5	-25
BIPH	**Bislig**	**2.23**	**9**	*i P*		**Pn**	**19 03 52.5**	**+1.1**
BIPH				*i S*		**Sn**	**19 04 20.7**	**0.0**
CGP	**Cagayan de Oro**	**2.80**	**332**	*eP*		**Pn**	**19 04 00.8**	**+2.3**
CGP				*eS*		**Sn**	**19 04 34.8**	**+1.5**
BUTP	**Butuan**	**3.01**	**352**	*eP*		**Pn**	**19 04 01.0**	**-0.1**
BUTP				*eS*		**Sn**	**19 04 36.7**	**-1.2**
BATI	**Baumata**	**16.24**	**188**	P		**P**	**19 06 56.1**	**+2.6**
	5.9nm,0.3s,baz=122,slow=2.4,SNR=13							
FITZ	**Fitzroy Crossi**	**23.92**	**181**	P		**P**	**19 08 15.1**	**+1.5**
	1.5nm,0.5s,baz=6.4,slow=11,SNR=7.6							
WRA	**Warramunga Arr**	**27.02**	**163**	P		**P**	**19 08 42.3**	**+0.7**
	0.5nm,0.5s,baz=332,slow=11,SNR=14							
WRA				PcP		**PcP**	**19 12 00.1**	**+0.7**
	0.5nm,0.9s,baz=328,slow=2.9,SNR=3.5							
ASAR	**Alice Springs**	**30.44**	**166**	P		**P**	**19 09 13.2**	**+1.2**
	1.1nm,0.4s,baz=345,slow=7.1,SNR=27							
ASAR				PcP		**PcP**	**19 12 08.9**	**+1.0**
	0.3nm,0.5s,baz=353,slow=2.4,SNR=4.6							
STKA	**Stephens Creek**	**40.46**	**159**	P		**P**	**19 10 38.4**	**+1.0**
	2.6nm,0.6s,baz=327,slow=7.5,SNR=9.6							
ASAJ	**Asahikawa**	**40.68**	**18**	P		**P**	**19 10 39.3**	**+0.2**
	2.6nm,0.8s,baz=235,slow=12,SNR=3.1							
MKAR	**Makanchi Array**	**55.33**	**325**	P		**P**	**19 12 30.8**	**-0.8**
	0.3nm,0.4s,baz=116,slow=7.3,SNR=9.5							
MKAR				PcP		**PcP**	**19 13 29.9**	**-0.4**
	0.1nm,0.5s,baz=116,slow=4.8,SNR=4.2							
TIXI	**Tiksi**	**65.63**	**1**	P		**P**	**19 13 40.5**	**-0.4**
	0.3nm,0.3s,baz=209,slow=3.1,SNR=2.1							
ILAR	**Eielson Array**	**83.40**	**26**	P		**P**	**19 15 22.8**	**-0.8**
	0.8nm,0.6s,baz=251,slow=5.2,SNR=9.3							
FINES	**FINESS Array B**	**89.54**	**332**	P		**P**	**19 15 52.3**	**-1.2**
	2.3nm,0.9s,baz=88,slow=9.9,SNR=3.8							
YKA	**Yellowknife Ar**	**97.76**	**24**	P		**P**	**19 16 29.2**	**-2.0**
	0.1nm,0.5s,baz=296,slow=5.0,SNR=4.0							
TORD	**Torodi Ar. Bea**	**121.54**	**289**	PKP		**PKPdf**	**19 21 50.4**	**+0.2**
	0.3nm,0.6s,baz=85,slow=1.3,SNR=3.8							

IDC ***22*** *19:05:52.0±2.7, 52˚.93N×169˚.46W, h57km±23km, mb3.8/17, mb1 4.0/20, mb1mx3.8/43, mbtmp4.1/20, ML3.9/3, MS3.1/3, Ms1 3.1/3, ms1mx2.8/32, Error ellipse: s-maj=21.7km s-min=12.0km az=3.0*
AEIC ***22*** *19:05:52.9±0.0, 52˚.68N×169˚.21W, h60km*
ISCJB ***22*** *19:05:53.4±0.2, 53˚.04N±0˚.03×169˚.43W±0˚.03, h81km, mb4.4/109, Error ellipse: s-maj=4.7km s-min=2.2km az=164.0*
NEIC ***22*** *19:05:54.6±0.3, 53˚.03N×169˚.37W, h77km±3km, mb4.4/120, ML4.2(AEIC), Error ellipse: s-maj=5.1km s-min=2.6km az=163.0*
NEIC Felt at Nikolski.
ISC 22 19:05:54.5±0.5, 52˚.91N±0˚.06×169˚.25W±0˚.04, h81km, n236, σ1§57/245, mb4.5/109, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s	ISC
OKSP	**Okmok Steeple**	**0.67**	**59**	P		**Pn**	**19 06 08.8**	**-1.2**
MGOD	**Makushin Gods**	**1.68**	**57**	*ePn*		**Pn**	**19 06 22.3**	**+0.1**
MGOD				*eSn*		**Sn**	**19 06 43.8**	**+0.6**
MRKP	**Makushin Rep't**	**1.75**	**58**	P		**Pn**	**19 06 23.2**	**+0.1**
MCIR	**Makushin Cirqu**	**1.75**	**53**	*ePn*		**Pn**	**19 06 23.6**	**+0.4**
MTBL	**Makushin Table**	**1.87**	**54**	*ePn*		**Pn**	**19 06 25.1**	**+0.3**
UNV	**Unalaska Valle**	**1.90**	**59**	*ePn*		**Pn**	**19 06 25.2**	**+0.2**
AKRB	**Akutan Reef Bi**	**2.26**	**56**	*ePn*		**Pn**	**19 06 30.5**	**+0.7**
AKMO	**Akutan Morgan**	**2.27**	**57**	*ePn*		**Pn**	**19 06 30.5**	**+0.6**
AKMO				*eSn*		**Sn**	**19 07 00.1**	**+3.0**
AKLV	**Akutan Long Va**	**2.33**	**56**	*ePn*		**Pn**	**19 06 31.3**	**+0.5**
AKGG	**Akutan Green G**	**2.33**	**55**	P		**Pn**	**19 06 31.6**	**+0.8**
AKUT	**Akutan**	**2.41**	**58**	*ePn*		**Pn**	**19 06 32.8**	**+0.9**
ATKA	**Atka Island**	**3.10**	**259**	*ePn*		**Pn**	**19 06 39.9**	**-1.2**
SSBA	**Shishaldin**	**3.56**	**56**	P		**Pn**	**19 06 48.3**	**+0.8**
SSLN	**Shishaldin Nor**	**3.65**	**56**	*ePn*		**Pn**	**19 06 50.3**	**+1.7**
FALS	**False Pass**	**3.97**	**58**	*ePn*		**Pn**	**19 06 53.3**	**+0.5**
GSTR	**Great Sitkin T**	**4.24**	**262**	*ePn*		**Pn**	**19 06 56.3**	**-0.4**
GSTR				*eSn*		**Sn**	**19 07 43.7**	**-1.2**
GSMY	**Great Sitkin M**	**4.25**	**261**	*ePn*		**Pn**	**19 06 55.8**	**-1.0**
GSTD	**Great Sitkin T**	**4.30**	**261**	*ePn*		**Pn**	**19 06 56.8**	**-0.7**
GSTD				*eSn*		**Sn**	**19 07 46.5**	**0.0**
GSSP	**Great Sitkin S**	**4.31**	**262**	P		**Pn**	**19 06 57.8**	**+0.2**
SPIA	**Saint Paul Isl**	**4.32**	**353**	*ePn*		**Pn**	**19 06 59.3**	**+1.7**
SPIA				*eSn*		**Sn**	**19 07 48.0**	**+1.3**
ADAG	**Mount Adagdak**	**4.59**	**261**	*ePn*		**Pn**	**19 07 00.9**	**-0.6**
DT1	**Dutton Round H**	**4.66**	**59**	*ePn*		**Pn**	**19 07 02.9**	**+0.5**
ADK	**Adak**	**4.67**	**260**	*ePn*		**Pn**	**19 07 01.4**	**-1.1**
ADK				*eSn*		**Sn**	**19 07 54.1**	**-1.1**
DOL	**Dolgoi Island**	**4.90**	**60**	P		**Pn**	**19 07 06.1**	**+0.5**
KIWB	**Kanaga Island**	**4.95**	**261**	*ePn*		**Pn**	**19 07 05.1**	**-1.3**
KIWB				*eSn*		**Sn**	**19 08 01.6**	**-0.7**
PS4A	**Pavlof South-4**	**4.99**	**58**	P		**Pn**	**19 07 07.8**	**+1.1**
KIMD	**Kanaga Island**	**5.03**	**260**	P		**Pn**	**19 07 06.7**	**-0.7**
TAPA	**Tanaga Point A**	**5.36**	**262**	*ePn*		**Pn**	**19 07 11.0**	**-0.9**
TAFP	**Tanaga Falls P**	**5.44**	**263**	*ePn*		**Pn**	**19 07 12.1**	**-0.9**
TASE	**Tanaga Southea**	**5.49**	**262**	*ePn*		**Pn**	**19 07 12.9**	**-0.8**
SDPT	**Sand Point**	**5.71**	**61**	*ePn*		**Pn**	**19 07 16.5**	**-0.1**
SDPT				*eSn*		**Sn**	**19 08 26.0**	**+5.4**
GAEA	**Gareloi East**	**5.93**	**263**	*ePn*		**Pn**	**19 07 18.5**	**-1.2**
VNSS	**Veniaminof 8**	**6.59**	**56**	P		**Pn**	**19 07 30.3**	**+1.5**
CHGN	**Chignik**	**7.15**	**57**	*ePn*		**Pn**	**19 07 36.1**	**-0.2**
OHAK	**Old Harbor**	**10.12**	**58**	*ePn*		**Pn**	**19 08 13.8**	**-2.9**
KDAK	**Kodiak Island**	**10.66**	**56**	P		**Pn**	**19 08 21.9**	**-2.2**
	2.7nm,0.3s,baz=245,slow=7.2,SNR=13							
KDAK				S		**Sn**	**19 10 14.7**	**-6.7**
	0.5nm,0.3s,baz=25,slow=22,SNR=2.4							
KDAK				LR		LR	19 12 50.1	
	comp=Z,94nm,18.8s,baz=168,slow=39							
KDAK	**Kodiak Island**	**10.66**	**56**	*ePn*		**Pn**	**19 08 21.0**	**-3.1**
KDAK				S		**Sn**	**19 10 14.7**	**-6.7**
KDAK				*e*			19 12 50.1	
GAMB	**Gambell**	**10.97**	**354**	*ePn*		**Pn**	**19 08 28.7**	**+0.4**
RSO	**Redoubt South**	**11.78**	**44**	*ePn*		**Pn**	**19 08 38.0**	**-1.5**
ANM	**Nome**	**11.86**	**8**	*ePn*		**Pn**	**19 08 41.9**	**+1.6**
BRLK	**Bradley Lake**	**12.26**	**49**	*ePn*		**Pn**	**19 08 44.6**	**-1.2**
SPU	**Mount Spurr**	**12.47**	**42**	*ePn*		**Pn**	**19 08 47.9**	**-0.8**
SEW	**Seward**	**13.06**	**49**	*ePn*		**Pn**	**19 08 54.7**	**-1.7**
SUA	**Susitna One**	**13.15**	**42**	*ePn*		**Pn**	**19 08 56.9**	**-0.9**
RC01	**Rabbit Creek A**	**13.38**	**45**	*ePn*		**Pn**	**19 08 59.0**	**-1.7**
PPLA	**Purkeypile**	**13.46**	**35**	*ePn*		**Pn**	**19 09 02.8**	**+0.9**
CAST	**Castle Rocks**	**13.84**	**34**	*ePn*		**Pn**	**19 09 05.6**	**-1.1**
PMR	**Palmer**	**13.88**	**43**	*ePn*		**Pn**	**19 09 06.4**	**-0.9**
KNK	**Knik Glacier**	**14.08**	**45**	*ePn*		**Pn**	**19 09 06.8**	**-3.1**
SML	**Sawmill**	**14.32**	**43**	*ePn*		**Pn**	**19 09 11.8**	**-1.3**
GLI	**Glacier Island**	**14.44**	**48**	*ePn*		**Pn**	**19 09 11.5**	**-3.1**
TRF	**Thorofare Moun**	**14.48**	**36**	*ePn*		**Pn**	**19 09 15.0**	**-0.2**
BPAW	**Bear Paw Mtn.**	**14.65**	**33**	*ePn*		**Pn**	**19 09 19.8**	**+2.4**
SCM	**Sheep Creek Mo**	**14.75**	**44**	*ePn*		**Pn**	**19 09 15.7**	**-3.0**
RND	**Reindeer**	**14.97**	**37**	*ePn*		**Pn**	**19 09 19.5**	**-1.9**
MCK	**McKinley**	**15.13**	**36**	*ePn*		**Pn**	**19 09 24.6**	**+1.1**
	33nm,1.4s							
DIV	**Divide**	**15.13**	**48**	*ePn*		**Pn**	**19 09 19.1**	**-4.5**
	47nm,1.6s							
KLU	**Klutina**	**15.21**	**46**	*ePn*		**Pn**	**19 09 21.4**	**-3.1**
	16nm,0.7s							
IM3	**Indian Mountai**	**15.23**	**25**	*ePn*		**Pn**	**19 09 25.8**	**+1.1**
DHY	**Denali Highway**	**15.35**	**40**	*ePn*		**Pn**	**19 09 26.3**	**0.0**
	69nm,2.0s							
MLY	**Manley**	**15.36**	**31**	*ePn*		**Pn**	**19 09 26.0**	**-0.4**
	23nm,1.5s							
RAGM	**Ragged Mountai**	**15.38**	**51**	*ePn*		**Pn**	**19 09 24.9**	**-1.7**
	34nm,0.9s							
RDOG	**Red Dog Mine**	**15.50**	**9**	*eP*		**P**	**19 09 29.9**	**-0.9**
	6.0nm,0.7s							
HMT	**Hamilton**	**15.56**	**52**	*ePn*		**Pn**	**19 09 26.5**	**-2.4**
	96nm,1.4s							
WRH	**Wood River Hil**	**15.87**	**35**	*ePn*		**Pn**	**19 09 32.1**	**-0.7**
	27nm,1.0s							
HARP	**HAARP**	**15.92**	**44**	*ePn*		**Pn**	**19 09 32.4**	**-1.1**
	115nm,1.6s							
PAX	**Paxson**	**16.05**	**42**	*ePn*		**Pn**	**19 09 33.6**	**-1.5**
	12nm,1.0s							
MDM	**Murphy Dome**	**16.12**	**33**	*ePn*		**Pn**	**19 09 35.5**	**-0.4**
	9.4nm,1.0s							
HDA	**Harding Lake**	**16.23**	**36**	*ePn*		**Pn**	**19 09 37.6**	**+0.3**
	26nm,1.5s							
IL1	**Eielson Array**	**16.47**	**35**	*ePn*		**Pn**	**19 09 39.1**	**-1.1**
ILAR	**Eielson Array**	**16.47**	**35**	P		**Pn**	**19 09 38.4**	**-1.8**
	0.5nm,0.3s,baz=236,slow=11,SNR=27							
ILAR				S		**Sn**	**19 12 42.9**	**+0.7**
	0.0nm,0.3s,baz=228,slow=19,SNR=2.8							
ILB	**Eielson Array**	**16.47**	**35**	*ePn*		**Pn**	**19 09 39.6**	**-0.6**
RIDG	**Independ'e Rid**	**16.66**	**40**	*ePn*		**P**	**19 09 45.5**	**+1.8**
	14nm,0.8s							
BALM	**Baldy**	**16.67**	**50**	*ePn*		**Pn**	**19 09 40.6**	**-2.2**
	29nm,1.4s							
DOT	**Dot Lake**	**16.93**	**41**	*ePn*		**Pn**	**19 09 45.9**	**-0.1**
	24nm,1.2s							
COLD	**Coldfoot**	**17.09**	**26**	*ePn*		**P**	**19 09 49.9**	**+1.4**
	18nm,1.6s							
SCRK	**Sand Creek**	**17.11**	**40**	*ePn*		**Pn**	**19 09 46.1**	**-2.1**
	8.6nm,0.9s							
PRP	**Porcupine Dome**	**17.37**	**34**	*ePn*		**Pn**	**19 09 48.4**	**-3.0**
	6.3nm,0.6s							
YKU2	**Yakutat**	**17.62**	**56**	*eP*		**P**	**19 09 52.3**	**-1.9**
	973nm,0.8s							
FYU	**Fort Yukon**	**18.09**	**32**	*eP*		**P**	**19 09 56.8**	**-2.6**
	16nm,1.0s							
EGAK	**Eagle**	**18.57**	**39**	*eP*		**P**	**19 10 03.9**	**-0.8**
	14nm,1.1s							
HYT	**Haines Junctio**	**18.91**	**53**	*eP*		**P**	**19 10 10.3**	**+1.7**
	41nm,0.6s							
DAWY	**Dawson**	**18.98**	**42**	*eP*		**P**	**19 10 08.2**	**-1.0**
	9.7nm,1.3s							
BILL	**Bilibino**	**19.16**	**332**	*eP*		**Pn**	**19 10 12.6**	**-0.1**
	11nm,1.2s							
SIT	**Sitka**	**19.77**	**64**	*eP*		**P**	**19 10 19.3**	**+1.5**
	64nm,1.2s							
PEA0B	**Petropavlovsk-**	**19.80**	**284**	*eP*		**P**	**19 10 17.8**	**-0.3**
	51nm,1.4s							
PEA1	**Petropavlovsk-**	**19.80**	**284**	*eP*		**P**	**19 10 16.3**	**-1.8**
PETK	**Petropavlovsk-**	**19.80**	**284**	P		**P**	**19 10 16.3**	**-1.8**
	0.4nm,0.3s,baz=93,slow=14,SNR=8.5							
PETK	**Petropavlovsk-**	**19.80**	**284**	*eP*		**P**	**19 10 18.4**	**+0.3**
SKAG	**Skagway**	**19.81**	**57**	*eP*		**P**	**19 10 19.5**	**+1.3**
	34nm,0.6s							
BESE	**Besie Mountai**	**20.01**	**60**	*eP*		**P**	**19 10 21.2**	**+0.7**
	29nm,1.2s							
WHY	**Whitehorse**	**20.16**	**54**	*eP*		**P**	**19 10 23.5**	**+1.4**
	12nm,0.8s							
JIS	**Juneau Island**	**20.26**	**61**	*eP*		**P**	**19 10 24.2**	**+1.2**
	15nm,0.8s							
EPYK	**Eagle Plains**	**20.93**	**37**	*eP*		**P**	**19 10 28.8**	**-1.4**
	15nm,0.8s							
CRAG	**Craig**	**21.14**	**69**	*eP*		**P**	**19 10 33.8**	**+1.2**
	244nm,2.0s							
DIB	**Dawson Inlet,**	**21.95**	**74**	*eP*		**P**	**19 10 41.5**	**+0.3**
	51nm,1.1s							
SEY	**Seymchan**	**22.36**	**312**	P		**P**	**19 10 44.9**	**-0.6**
	1.9nm,0.6s,baz=111,slow=8.4,SNR=11							
DLBC	**Dease Lake**	**22.55**	**60**	P		**P**	**19 10 49.2**	**+1.5**
	15nm,0.8s,baz=275,slow=10,SNR=12							
DLBC	**Dease Lake**	**22.55**	**60**	*eP*		**P**	**19 10 49.6**	**+2.0**
	46nm,1.3s							
INK	**Inuvik**	**22.86**	**34**	P		**P**	**19 10 48.7**	**-1.9**
	2.5nm,0.4s,baz=242,slow=7.2,SNR=18							
INK	**Inuvik**	**22.86**	**34**	*eP*		**P**	**19 10 48.5**	**-2.1**
	18nm,1.5s							
BBB	**Bella Bella**	**24.79**	**75**	*eP*		**P**	**19 11 10.1**	**+1.6**
	99nm,1.4s							
YKW3	**Yellowknife Ar**	**29.82**	**49**	*eP*		**P**	**19 11 52.5**	**-0.9**
	8.4nm,1.6s							
YKA	**Yellowknife Ar**	**29.83**	**50**	P		**P**	**19 11 54.4**	**+0.9**
	0.9nm,0.6s,baz=271,slow=7.4,SNR=27							
YKA				PcP		**PcP**	**19 14 55.5**	**+0.8**
	0.2nm,0.6s,baz=285,slow=2.3,SNR=3.3							
YKA				ScP		**ScP**	**19 18 31.6**	**+2.5**
	0.2nm,0.7s,baz=277,slow=2.9,SNR=3.7							
YKA				LR		LR	19 23 06.4	
	comp=Z,9.6nm,21.5s,baz=238,slow=35							
YKB5	**Yellowknife Ar**	**29.83**	**50**	*eP*		**P**	**19 11 53.2**	**-0.3**
B08A	**Colville Reser**	**31.46**	**78**	*eP*		**P**	**19 12 09.3**	**+1.2**
	5.8nm,0.6s							
H04A	**Detroit Lake**	**31.58**	**86**	*eP*		**P**	**19 12 11.9**	**+2.7**
	7.6nm,0.9s							
HAWA	**Hanford**	**32.29**	**81**	*eP*		**P**	**19 12 16.8**	**+1.4**
	3.6nm,0.6s							
TIXI	**Tiksi**	**32.31**	**328**	P		**P**	**19 12 14.7**	**-0.5**
	0.7nm,0.3s,baz=85,slow=0.9,SNR=4.1							
TIXI				PcP		**PcP**	**19 15 01.0**	**-0.1**
	0.8nm,0.3s,baz=300,slow=2.8,SNR=3.6							
OPA	**Opana**	**32.34**	**160**	*eP*		**P**	**19 12 17.6**	**+1.7**
	483nm,1.8s							
NEW	**Newport**	**32.81**	**77**	*eP*		**P**	**19 12 20.7**	**+0.8**
	4.6nm,0.7s							
I07A	**Izee**	**33.52**	**85**	*eP*		**P**	**19 12 27.6**	**+1.4**
	7.6nm,1.3s							
MOD	**Modoc Plateau**	**34.27**	**89**	*eP*		**P**	**19 12 34.9**	**+2.2**
	2.3nm,0.7s							
WALA	**Waterton Lakes**	**34.32**	**74**	*eP*		**P**	**19 12 34.1**	**+1.0**
	4.2nm,0.8s							
J08A	**Circle Bar Ran**	**34.54**	**85**	*eP*		**P**	**19 12 37.0**	**+2.0**
	4.3nm,1.0s							
WVOR	**Wild Horse Val**	**34.97**	**87**	*eP*		**P**	**19 12 39.5**	**+0.7**
	7.2nm,1.0s							
PAHR	**Pah Rah Range**	**36.15**	**91**	*eP*		**P**	**19 12 50.6**	**+1.7**
	7.2nm,1.1s							
PNTR	**Pine Nut**	**36.40**	**92**	*eP*		**P**	**19 12 53.0**	**+1.8**
	7.2nm,0.7s							
YERR	**Yerington**	**36.69**	**92**	*eP*		**P**	**19 12 55.8**	**+2.2**
	5.1nm,0.9s							
WAKR	**Walker**	**36.87**	**93**	*eP*		**P**	**19 12 57.6**	**+2.5**
	5.2nm,1.2s							
HLID	**Hailey**	**36.87**	**82**	*eP*		**P**	**19 12 56.0**	**+1.0**
	14nm,1.9s							
DLMT	**Dillon**	**36.96**	**78**	*eP*		**P**	**19 12 58.6**	**+2.8**
	12nm,1.6s							
BMN	**Battle Mountai**	**37.01**	**88**	*eP*		**P**	**19 12 57.9**	**+1.6**
	3.6nm,0.8s							
MCMT	**McKenzie Canyo**	**37.10**	**79**	*eP*		**P**	**19 12 58.0**	**+0.9**
KVN	**Kaiserville**	**37.34**	**91**	*eP*		**P**	**19 13 00.8**	**+1.7**
	12nm,1.7s							
RYN	**Ryan**	**37.34**	**92**	*eP*		**P**	**19 13 00.7**	**+1.6**
	2.6nm,0.8s							
BOZ	**Bozeman (W)**	**37.41**	**77**	*eP*		**P**	**19 13 00.1**	**+0.5**
	4.3nm,0.5s							
NV01	**Mina Array Sit**	**37.60**	**92**	*eP*		**P**	**19 13 03.1**	**+1.8**
NVAR	**Mina Array Bea**	**37.60**	**92**	P		**P**	**19 13 03.3**	**+2.0**
	3.4nm,0.8s,baz=298,slow=8.5,SNR=15							
MDPB	**Devils Postpil**	**37.65**	**93**	*eP*		**P**	**19 13 03.9**	**+2.1**
	4.4nm,1.1s							
OMMB	**Old Mammoth Mi**	**37.71**	**93**	*eP*		**P**	**19 13 05.0**	**+2.6**
	4.4nm,1.2s							
H11N2	**WAKE ISLAND Hy**	**37.92**	**218**	T		T	19 54 17.9	
	baz=24,slow=76,SNR=107							
H11N3	**WAKE ISLAND Hy**	**37.93**	**218**	T		T	19 54 06.2	
	baz=24,slow=76,SNR=106							
H11N1	**WAKE ISLAND Hy**	**37.94**	**218**	T		T	19 54 11.6	
	baz=24,slow=76,SNR=73							
QLMT	**Earthquake Lak**	**37.94**	**78**	*eP*		**P**	**19 13 05.6**	**+1.5**
ELK	**Elko**	**38.02**	**86**	*eP*		**P**	**19 13 06.4**	**+1.5**
	3.6nm,0.9s							
YHB	**Horse Butte**	**38.13**	**78**	*eP*		**P**	**19 13 06.6**	**+0.9**
	4.9nm,0.7s							
YMR	**Madison River**	**38.31**	**78**	*eP*		**P**	**19 13 08.6**	**+1.3**
	5.5nm,0.7s							
YHH	**Holmes Hill**	**38.31**	**78**	*eP*		**P**	**19 13 07.8**	**+0.4**
	6.3nm,0.7s							
YNR	**Norris Junctio**	**38.45**	**78**	*eP*		**P**	**19 13 09.5**	**+1.0**
	5.2nm,0.9s							
H17A	**Grant Village**	**38.69**	**78**	*eP*		**P**	**19 13 12.3**	**+1.9**
	2.7nm,0.7s							
LKWY	**Lake**	**38.70**	**78**	*eP*		**P**	**19 13 12.4**	**+1.8**
	6.1nm,0.8s							
IMW	**Indian Meadow**	**38.76**	**79**	*eP*		**P**	**19 13 12.5**	**+1.4**
	3.0nm,0.8s							
FLWY	**Flagg Ranch**	**38.80**	**79**	*eP*		**P**	**19 13 13.5**	**+2.2**
	20nm,1.8s							
FXWY	**Fox Creek**	**38.85**	**80**	*eP*		**P**	**19 13 13.5**	**+1.7**
	7.6nm,1.9s							
HVU	**Hansel Valley**	**38.89**	**83**	*eP*		**P**	**19 13 13.2**	**+1.1**
	16nm,2.0s							
TPAW	**Teton Pass**	**38.98**	**80**	*eP*		**P**	**19 13 15.0**	**+2.1**
	12nm,1.9s							
RLMT	**Red Lodge**	**39.06**	**77**	*eP*		**P**	**19 13 15.5**	**+2.0**
	7.3nm,1.2s							
H11S1	**WAKE ISLAND Hy**	**39.11**	**218**	T		T	19 55 11.2	
	baz=23,slow=76,SNR=265							
LOHW	**Long Hollow**	**39.12**	**79**	*eP*		**P**	**19 13 15.4**	**+1.3**
	11nm,1.8s							
H11S2	**WAKE ISLAND Hy**	**39.13**	**218**	T		T	19 55 15.7	
	baz=23,slow=76,SNR=219							
H11S3	**WAKE ISLAND Hy**	**39.13**	**218**	T		T	19 55 17.0	
	baz=23,slow=76,SNR=307							
R11A	**Troy Canyon, C**	**39.30**	**90**	*eP*		**P**	**19 13 17.2**	**+1.7**
	3.2nm,0.8s							
HWUT	**Hardware Ranch**	**39.72**	**83**	*eP*		**P**	**19 13 19.8**	**+0.8**

8.0nm,1.0s
HHC Hu-ho-hao-te 52.80 291 *e*P **P** **19 15 03.3 +2.0**
HHC pmax pmax
comp=Z,13nm,1.2s
ZAA1 Zalesovo Array 57.07 317 *e*P **P** **19 15 32.5 +0.7**
ZALV Zalesovo Beam 57.07 317 P **P** **19 15 32.5 +0.7**
comp=Z,0.4nm,0.4s,baz=30,slow=9.0,SNR=2.5
LZH Lanzhou 60.45 292 *e*P **P** **19 15 54.8 -0.9**
LZH pP pP 19 16 05.0 -11
LZH sP sP 19 16 23.5 -1.8
LZH *e*PP **PP** **19 18 10.0 +0.6**
LZH pmax pmax
comp=Z,16nm,1.3s
LZH pmax pmax
comp=Z,49nm,7.2s
LZH LR LR
comp=N,56nm,15.0s
LZH LR LR
comp=E,62nm,15.3s
LZH LR LR
comp=Z,89nm,18.6s
WMQ Urumqi 63.26 308 *e*P **P** **19 16 17.4 +3.1**
WMQ LR LR
comp=N,210nm,24.3s
WMQ LR LR
comp=E,210nm,16.3s
WMQ LR LR
comp=Z,220nm,22.7s
MK32 Makanchi Array 63.49 313 *e*P **P** **19 16 14.7 -1.0**
MKAR Makanchi Array 63.49 313 P **P** **19 16 14.7 -1.0**
comp=Z,0.1nm,0.3s,baz=48,slow=7.8,SNR=4.0
FIA0 FINESS Array S 65.34 352 *e*P **P** **19 16 27.6 +0.1**
FIA0 *e* 19 49 55.9
FINES FINESS Array B 65.34 352 P **P** **19 16 27.6 +0.1**
comp=Z,2.3nm,0.9s,baz=12,slow=7.1,SNR=3.1
FINES LR LR 19 49 55.9
comp=Z,71nm,18.8s,baz=258,slow=40
NB200 NORSAR Array S 66.40 360 *e*P **P** **19 16 34.4 0.0**
NOA NORSAR Array B 66.40 360 P **P** **19 16 34.4 0.0**
comp=Z,0.6nm,1.0s,baz=332,slow=7.6,SNR=2.3
KSH Kashi 72.06 312 P **P** **19 17 14.3 +4.5**
KSH pP pP 19 17 35.1 +4.2
KSH PP PP 19 20 00.9 +11
KSH S **S** **19 26 26.3 +1.1**
KSH sS SKSac 19 27 05.6 -1.0
KSH Kashi 72.06 312 SS SS 19 31 12.8 +10
KSH pmax pmax
comp=Z,6.0nm,0.4s
KSH pmax pmax
comp=Z,230nm,7.4s
KSH LR LR
comp=N,110nm,4.0s
KSH LR LR
comp=E,40nm,7.1s
KSH LR LR
comp=Z,690nm,5.9s
AKASG Malin Array Be 75.59 348 P **P** **19 17 29.1 -0.9**
comp=Z,0.2nm,0.3s,baz=8.6,slow=5.4,SNR=3.9
CMAR Chiang Mai Arr 76.57 283 P **P** **19 17 35.7 -0.4**
comp=Z,0.6nm,0.7s,baz=26,slow=6.6,SNR=5.2
WR1 Warramunga Arr 87.40 232 *e*P **P** **19 18 31.6 -1.0**
comp=Z,66nm,1.9s
WRA Warramunga Arr 87.40 232 P **P** **19 18 31.6 -1.0**
comp=Z,0.4nm,0.6s,baz=33,slow=6.0,SNR=4.7
PSI Prapat 88.89 273 P **P** **19 18 39.3 -0.8**
comp=Z,2.7nm,0.4s,baz=360,slow=3.0,SNR=5.6
PSI Prapat 88.89 273 *e*P **P** **19 18 39.3 -0.8**
comp=Z,6.6nm,0.9s
ASAR Alice Springs 90.80 230 P **P** **19 18 48.0 -0.5**
comp=Z,0.7nm,0.7s,baz=26,slow=4.4,SNR=11

*ISCJB **22** 19:15:07.3±0.4, 47.6°N±0.03°×92.61°W±0.04, h0km, Error ellipse: s-maj=4.1km s-min=3.0km az=41.1*
*NEIC **22** 19:15:08.9±0.6, 47.59°N×92.61°W, h0km, MN2.5, Error ellipse: s-maj=9.0km s-min=6.4km az=202.0, Suspected Mining explosion.*
NEIC 9 km [6 miles] NW of Virginia.
*IDC **22** 19:15:09.1±3.0, 47.62°N×92.39°W, h0km, mb2.9/1, mb1 3.2/4, mb1mx3.1/32, mbtmp2.8/4, ML2.1/2, Error ellipse: s-maj=37.2km s-min=16.1km az=81.0*
*ANF **22** 19:15:09.6±0.7, 47.59°N×92.51°W, h3km±4km, ML3.5/23, Error ellipse: s-maj=4.9km s-min=4.4km az=88.0*
ISC 22 19:15:08.8±0.7, 47.56N±0.03°×92.56W±0.03, h0km, n55, σ1§25/81, Minnesota

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EYMN	**Ely**	**0.82**	**61**	*e*Pg		**Pg**	**19 15 24.0**	**-0.4**
EYMN				*e*Pn		**Sg**	**19 15 34.5**	**-0.5**
EYMN	**Ely**	**0.82**	**61**	P		**Pg**	**19 15 23.8**	**-0.7**
baz=245								
EYMN				Sb		**Sb**	**19 15 36.2**	**-1.3**
baz=245								
E38A	**The Farm, Brul**	**1.18**	**144**	*e*Pg		**Pg**	**19 15 30.9**	**-0.4**
E38A				*e*Sn		**Sn**	**19 15 49.3**	**0.0**
E38A	**The Farm, Brul**	**1.18**	**144**	P		**Pg**	**19 15 31.0**	**-0.4**
baz=324,SNR=12								
E38A				S		**Sb**	**19 15 48.3**	**+0.5**
baz=324								
F38A	**Pierce - Schro**	**1.67**	**163**	P		**Pn**	**19 15 39.6**	**+0.3**
baz=343,SNR=34								
F38A				S		**Sn**	**19 16 01.6**	**+0.2**
baz=343								
E39A	**Mellen**	**1.81**	**130**	P		**Pn**	**19 15 41.4**	**+0.1**
baz=312,SNR=12								
E39A				S		**Sn**	**19 16 05.3**	**+0.4**
baz=312								
F37A	**Hinrichs Farm,**	**1.84**	**181**	P		**Pn**	**19 15 42.4**	**+0.8**
baz=0.4,SNR=8.5								
F37A				S		**Sb**	**19 16 06.6**	**-0.1**
baz=0.4								
F39A	**Loretta**	**2.00**	**145**	P		**Pn**	**19 15 44.9**	**+1.1**
baz=326,SNR=18								
F39A				S		**Sb**	**19 16 11.1**	**-0.3**
baz=326								
E40A	**Wakefield**	**2.14**	**120**	P		**Pn**	**19 15 45.8**	**+0.1**
baz=303								
SPMN	**Marine on St.**	**2.34**	**184**	*e*Pn		**Pn**	**19 15 49.6**	**+1.1**
SPMN				*e*Sn		**Sb**	**19 16 20.2**	**-1.1**
SPMN	**Marine on St.**	**2.34**	**184**	P		**Pn**	**19 15 49.8**	**+1.3**
baz=3.2,SNR=9.6								
SPMN				S		**Sb**	**19 16 20.6**	**-0.7**
baz=3.2								
F40A	**Park Falls**	**2.35**	**133**	P		**Pn**	**19 15 49.5**	**+0.9**
baz=315								
F40A				S		**Sn**	**19 16 19.7**	**+1.5**
baz=315								
G38A	**Ridgeland**	**2.44**	**168**	P		**Pn**	**19 15 51.6**	**+1.7**
baz=348,SNR=31								
G38A				S		**Sb**	**19 16 22.8**	**-1.4**
baz=348								
G39A	**Holcombe**	**2.47**	**157**	P		**Pn**	**19 15 52.0**	**+1.7**
baz=337,SNR=27								
G39A				S		**Sn**	**19 16 23.2**	**+2.1**
baz=337								
E41A	**Kenton**	**2.70**	**113**	S		**Sn**	**19 16 28.1**	**+1.4**
baz=296								
D41A	**Chassel**	**2.77**	**99**	*e*Pn		**Pn**	**19 15 55.4**	**+1.1**
D41A				*e*Sn		**Sn**	**19 16 28.6**	**+0.2**
COWI	**Conover**	**2.77**	**121**	*e*Pn		**Pn**	**19 15 56.1**	**+1.7**
COWI				*e*Sn		**Sn**	**19 16 30.1**	**+1.5**
G40A	**Rib Lake**	**2.82**	**144**	*e*Pn		**Pn**	**19 15 56.7**	**+1.7**
G40A				*e*Sn		**Sn**	**19 16 30.4**	**+0.8**
F41A	**Three Lakes**	**3.00**	**126**	*e*Pn		**Pn**	**19 15 59.0**	**+1.4**
F41A				*e*Sn		**Sb**	**19 16 38.5**	**-1.8**
H39A	**Augusta**	**3.02**	**162**	S		**Sn**	**19 16 37.2**	**+2.6**
baz=343								
H40A	**Chili**	**3.31**	**152**	S		**Sn**	**19 16 43.6**	**+1.9**
baz=333								
G41A	**Antigo**	**3.32**	**134**	S		**Sn**	**19 16 43.6**	**+1.6**
baz=316								
ULM	**Lac du Bonnet**	**3.47**	**322**	Pn		**Pn**	**19 16 04.0**	**0.0**
0.4nm,0.3s,baz=146,slow=11,SNR=10								
ULM				Pg		**Pb**	**19 16 11.4**	**+0.4**
0.9nm,0.3s,baz=142,slow=16,SNR=10								
ULM				Lg		Lg	19 16 56.3	
4.4nm,0.3s,baz=64,slow=16,SNR=15								
ULM	**Lac du Bonnet**	**3.47**	**322**	*e*Pn		**Pn**	**19 16 03.9**	**0.0**
ULM				Pg		**Pb**	**19 16 11.4**	**+0.4**
ULM				*e*Sn		**Sn**	**19 16 45.6**	**-0.1**
ULM				*e*Sg		**Sb**	**19 16 56.3**	**+2.7**
I10CA	**LAC DU BONNET**	**3.49**	**320**	*i*			19 38 20.0	
baz=135,slow=335,SNR=2.3								
F42A	**Maple Grove Fa**	**3.54**	**119**	S		**Sn**	**19 16 48.6**	**+1.0**
baz=302								
H41A	**Junction City**	**3.57**	**144**	*e*Pn		**Pn**	**19 16 07.0**	**+1.5**
H41A	**Junction City**	**3.57**	**144**	S		**Sn**	**19 16 50.8**	**+2.4**
baz=326								
G42A	**Mountain**	**3.68**	**128**	*e*Pn		**Pn**	**19 16 06.5**	**-0.4**
G42A				*e*Sn		**Sn**	**19 16 50.6**	**-0.5**
G42A	**Mountain**	**3.68**	**128**	S		**Sn**	**19 16 52.3**	**+1.2**
baz=311								
I39A	**Houston**	**3.78**	**168**	*e*Pn		**Pn**	**19 16 09.3**	**+1.1**
E43A	**Lone Tree Farm**	**3.99**	**105**	*e*Pn		**Pn**	**19 16 11.5**	**+0.3**
G43A	**Wallace**	**4.08**	**123**	*e*Pn		**Pn**	**19 16 14.1**	**+1.7**
G43A	**Wallace**	**4.08**	**123**	S		**Sn**	**19 17 01.6**	**+0.6**
baz=306								
H42A	**Shiocton**	**4.15**	**136**	*e*Pn		**Pn**	**19 16 11.4**	**-1.9**
J39A	**Decorah**	**4.27**	**172**	S		**Sn**	**19 17 06.3**	**+0.8**
baz=352								
I42A	**Draeger Farm,**	**4.47**	**144**	*e*Pn		**Pn**	**19 16 17.2**	**-0.6**
I42A				*e*Sb		**Sb**	**19 17 26.2**	**+3.6**
H43A	**Windswept, Lux**	**4.55**	**131**	*e*Pn		**Pn**	**19 16 19.3**	**+0.4**
H43A	**Windswept, Lux**	**4.55**	**131**	S		**Sn**	**19 17 11.9**	**-0.5**
baz=315								
J41A	**Loganville**	**4.56**	**156**	S		**Sn**	**19 17 13.9**	**+1.1**
baz=338								
E44A	**Grand Marais A**	**4.63**	**99**	*e*Pn		**Pn**	**19 16 20.6**	**+0.5**
MDND	**Maddock**	**4.76**	**276**	*e*Pn		**Pn**	**19 16 21.5**	**-0.3**
MDND	**Maddock**	**4.76**	**276**	S		**Sn**	**19 17 16.8**	**-0.9**
baz=90								
ECSD	**EROS Data Cent**	**4.76**	**218**	*e*Pn		**Pn**	**19 16 19.8**	**-2.1**
ECSD				*e*Sn		**Sb**	**19 17 30.1**	**-0.9**
I43A	**Langenfeld Bro**	**4.80**	**138**	S		**Sn**	**19 17 18.3**	**-0.4**
baz=322								
JFWS	**Jewell Farm**	**4.92**	**160**	*e*Pn		**Pn**	**19 16 22.5**	**-1.5**
JFWS				*e*Sn		**Sb**	**19 17 34.4**	**-1.2**
K40A	**Colesburg**	**4.96**	**168**	S		**Sn**	**19 17 21.9**	**-0.7**
baz=348								
J43A	**Natural Harves**	**5.10**	**144**	S		**Sn**	**19 17 24.8**	**-1.1**
baz=327								
L40A	**Anamosa**	**5.58**	**170**	*e*Pn		**Pn**	**19 16 34.2**	**+1.2**
K43A	**Burlington**	**5.70**	**147**	*e*Pn		**Pn**	**19 16 36.0**	**+1.3**
K43A				*e*Sn		**Sn**	**19 17 40.0**	**-0.8**
L42A	**Oliver, Polo**	**5.93**	**159**	*e*Pn		**Pn**	**19 16 38.6**	**+0.9**
L42A				*e*Sn		**Sn**	**19 17 44.9**	**-1.5**
GLMI	**Grayling**	**6.16**	**113**	*e*Pn		**Pn**	**19 16 39.6**	**-1.3**
PDAR	**Pinedale Array**	**12.91**	**254**	Pn		**Pn**	**19 18 13.0**	**-0.7**
0.1nm,0.3s,baz=69,slow=9.9,SNR=2.6								
YKA	**Yellowknife Ar**	**19.42**	**328**	P		**P**	**19 19 34.8**	**-1.5**
0.1nm,0.3s,baz=130,slow=12,SNR=4.1								
NVAR	**Mina Array Bea**	**20.84**	**253**	P		**P**	**19 19 53.5**	**+1.3**
0.2nm,0.3s,baz=57,slow=12,SNR=2.7								

MEX 22 19:53:19.6±0.6, 16.57N×98.92W, h15km±7km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PNIG	**Pinotepa**	**0.78**	**103**	*e*P		Pg	19 53 32.2	-2.6
PNIG				*e*S		Sg	19 53 42.3	-2.8
ACP2	**Acapulco**	**0.97**	**288**	*e*P		Pb	19 53 35.1	-3.2
ACP2				*i* S		Sb	19 53 45.9	-5.0
CAIG	**El Cayaco**	**1.38**	**290**	*e*P		Pn	19 53 40.2	-4.1
CAIG				*i* S		Sn	19 53 56.4	-5.9
MEIG	**Mezcala**	**1.50**	**334**	*e*P		Pn	19 53 42.6	-3.5
MEIG				*e*S		Sn	19 54 00.4	-5.1
PLIG	**Platanillo**	**1.90**	**343**	*e*P		Pn	19 53 48.6	-2.9
PLIG				*e*S		Sn	19 54 10.9	-4.3
ARIG	**Puente Sto Nin**	**2.18**	**321**	*e*P		Pn	19 53 52.8	-2.5
ARIG				*e*S		Sn	19 54 17.9	-4.5
ZIIG	**Zihuatanejo**	**2.64**	**293**	*e*P		Pn	19 53 59.1	-2.6
ZIIG				*i* S		Sn	19 54 28.8	-4.8

*IDC **22** 19:58:21.7±0.6, 39.96°S×74.94°W, h0km, mb4.3/13, mb1 4.5/14, mb1mx4.4/23, mbtmp4.3/14, ML4.6/1, MS3.7/11, Ms1 3.6/11, ms1mx3.6/22, Error ellipse: s-maj=21.6km s-min=16.5km az=82.0*
*GUC **22** 19:58:23.4±0.5, 39.79°S×75.00°W, h20km, ML4.0*
*NEIC **22** 19:58:23.9±2.8, 39.87°S×74.86°W, h15km±17km, mb4.7/26, ML4.1(GUC), Error ellipse: s-maj=12.1km s-min=5.8km az=84.0*
*ISCJB **22** 19:58:24.3±0.3, 39.84°S±0.03°×74.83°W±0.06, h25km, mb4.6/30, MS3.6/8, Error ellipse: s-maj=6.7km s-min=4.5km az=179.8*
ISC 22 19:58:25.6±0.4, 39.82S±0.04°×74.92W±0.06, h25km, n110, σ1§53/124, mb4.7/30, MS3.6/8, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TMU	**Temuco**	**2.10**	**60**	*e*P		**Pn**	**19 58 59.0**	**-0.2**
TMU				*e*S		**Sn**	**19 59 26.2**	**+1.7**
TMU				IAML			19 59 27.9	
comp=E,851nm,0.3s								
GO06	**Curarrehue**	**2.67**	**86**	*e*Pn		**Pn**	**19 59 07.2**	**+0.1**
GO06	**Curarrehue**	**2.67**	**86**	*e*P		**Pn**	**19 59 06.0**	**-1.1**
GO06				*e*S		**Sb**	**19 59 45.1**	**0.0**
GO06	**Curarrehue**	**2.67**	**86**	⇑*i*P		**Pn**	**19 59 07.1**	**+0.1**
GO06				*e*S		**Sn**	**19 59 40.0**	**+1.2**
GO06				IAML			19 59 42.5	
comp=E,519nm,0.3s								
GO07	**Milladeo Hill,**	**3.42**	**164**	*e*Pn		**Pn**	**19 59 14.7**	**-2.6**
GO07	**Milladeo Hill,**	**3.42**	**164**	*e*P		Pn	19 59 11.4	-5.9
GO07				*e*S		**Sn**	**19 59 56.2**	**-0.9**
GO07	**Milladeo Hill,**	**3.42**	**164**	*e*P		**Pn**	**19 59 14.8**	**-2.5**
PLCA	**Paso Flores**	**3.46**	**107**	Pn		**Pn**	**19 59 17.7**	**-0.3**
comp=E,14nm,0.3s,baz=313,slow=9.3,SNR=151								
PLCA				Sn		**Sn**	**20 00 02.4**	**+4.2**
comp=E,27nm,0.3s,baz=53,slow=22,SNR=8.6								
PLCA				LR		LR	20 00 47.5	
comp=E,2μm,18.9s,baz=314,slow=42								
PLCA	**Paso Flores**	**3.46**	**107**	*e*Pn		**Pn**	**19 59 17.5**	**-0.5**
PLCA				*e*Sn		**Sn**	**19 59 59.2**	**+0.9**
PLCA	**Paso Flores**	**3.46**	**107**	*e*P		**Pn**	**19 59 16.6**	**-1.3**
PLCA				*e*S		**Sb**	**20 00 04.9**	**-3.0**
PLCA				IAML			20 00 09.2	
comp=Z,173nm,0.6s								
PLCA	**Paso Flores**	**3.46**	**107**	⇑*i*P		**Pn**	**19 59 17.5**	**-0.5**
PLCA				*i* S		**Sn**	**19 59 59.2**	**+0.9**
CANA	**Caviahue**	**3.58**	**59**	*e*P		**Pn**	**19 59 16.4**	**-3.2**
CANA				*e*S		**Sn**	**20 00 04.9**	**+3.7**
CCHI	**Chillan**	**3.91**	**36**	*e*P		Pn	19 59 18.2	-5.9
CCHI				*e*S		**Sn**	**20 00 08.5**	**-0.7**
GO05	**Huala**	**5.36**	**27**	*e*Pn		**Sn**	**19 59 42.1**	**-1.9**
GO05				*e*Sn		**Sn**	**20 00 42.5**	**-2.4**
GO05	**Huala**	**5.36**	**27**	*e*P		**Pn**	**19 59 42.2**	**-1.8**
PEL	**Peldehue**	**7.48**	**28**	*e*Pn		**Pn**	**20 00 11.9**	**-1.3**
PEL				*e*Sn		**Sn**	**20 01 34.3**	**-3.0**
ROC1	**El Roble**	**7.52**	**26**	*e*Pn		**Pn**	**20 00 11.3**	**-2.5**
ROC1				*e*Sn		**Sn**	**20 01 35.8**	**-2.6**
GO04	**Tololo Observa**	**10.20**	**21**	*e*Pn		**Pn**	**20 00 48.1**	**-2.5**
LCO	**Las Campanas**	**11.33**	**19**	*e*Pn		**Pn**	**20 01 03.6**	**-2.5**
GO09	**Cerro Castillo**	**11.59**	**172**	*e*Pn		**Pn**	**20 01 09.6**	**+0.3**
GO02	**Mina Guanaco**	**15.29**	**19**	*e*Pn		**Pn**	**20 02 00.3**	**+0.4**
comp=Z,7.1nm,0.6s								
USHA	**Ushuaia**	**15.64**	**166**	Pn		**P**	**20 02 05.7**	**-2.4**
comp=Z,0.4nm,0.3s,baz=340,slow=12,SNR=2.9								
USHA				LR		LR	20 08 17.2	
comp=Z,459nm,18.1s,baz=349,slow=38								
EFI	**East Falkland**	**16.65**	**141**	*e*Pn		**Pn**	**20 02 16.4**	**-0.7**
comp=Z,45nm,1.1s								
PB10	**IPOC Station P**	**16.67**	**14**	*e*Pn		**Pn**	**20 02 17.1**	**-0.4**
comp=Z,116nm,1.7s								
PB04	**IPOC Station P**	**17.90**	**15**	*e*Pn		**Pn**	**20 02 31.2**	**-1.8**
comp=Z,24nm,0.9s								
LVC	**Limon Verde**	**17.90**	**18**	P		**P**	**20 02 37.7**	**+4.1**
comp=Z,0.6nm,0.3s,baz=180,slow=5.5,SNR=3.3								
LVC				LR		LR	20 09 25.3	
comp=Z,108nm,19.2s,baz=216,slow=37								
LVC	**Limon Verde**	**17.90**	**18**	*e*Pn		**P**	**20 02 34.0**	**+0.3**
comp=Z,5.9nm,1.0s								
PB01	**IPOC Station P**	**19.28**	**16**	*e*P		**Pn**	**20 02 49.7**	**-0.1**
comp=Z,20nm,1.1s								
CPUP	**Villa Florida**	**19.91**	**53**	P		**Pn**	**20 02 56.6**	**-0.4**
comp=Z,3.3nm,0.6s,baz=230,slow=12,SNR=9.6								
CPUP	**Villa Florida**	**19.91**	**53**	*e*P		**Pn**	**20 02 56.4**	**-0.6**
comp=Z,5.8nm,1.0s								
PB11	**IPOC Station P**	**20.50**	**14**	*e*P		Pn	20 03 03.5	-0.6
comp=Z,22nm,0.9s								
MNMC	**Minye Minye**	**21.12**	**14**	*e*P		**P**	**20 03 10.8**	**+2.0**
comp=Z,42nm,0.8s								
LPAZ	**La Paz**	**24.18**	**16**	P		**P**	**20 03 43.0**	**+2.3**
comp=Z,1.9nm,0.7s,baz=176,slow=7.4,SNR=6.1								
LPAZ	**La Paz**	**24.18**	**16**	*e*P		**P**	**20 03 42.7**	**+2.0**
comp=Z,56nm,1.8s								
PMSA	**Palmer Station**	**25.79**	**169**	P		**P**	**20 03 54.0**	**-0.1**
comp=Z,21nm,1.1s,baz=69,slow=3.5,SNR=2.1								
PMSA				LR		LR	20 13 33.4	
comp=Z,161nm,18.4s,baz=306,slow=36								
NNA	**Nana**	**27.77**	**356**	LR		LR	20 12 41.8	
comp=Z,103nm,18.8s,baz=190,slow=31								
BDFB	**Brasilia**	**33.63**	**52**	P		**P**	**20 05 04.6**	**+0.2**
comp=Z,4.8nm,0.7s,baz=189,slow=8.7,SNR=5.6								
BDFB				LR		LR	20 18 42.0	
comp=Z,62nm,18.2s,baz=128,slow=36								
BDFB	**Brasilia**	**33.63**	**52**	*e*P		**P**	**20 05 04.5**	**+0.1**
comp=Z,6.0nm,0.7s								
OTAV	**Otavalo**	**40.00**	**355**	*e*P		**P**	**20 06 01.6**	**+2.7**
comp=Z,15nm,1.3s								
ROSC	**El Rosal**	**44.44**	**1**	LR		LR	20 24 28.0	
comp=Z,72nm,18.4s,baz=224,slow=35								
VNA3	**Neumayer Olymp**	**44.94**	**155**	P		**P**	**20 06 37.9**	**-0.1**
VNA1	**Neumayer--Stat**	**45.33**	**155**	P		**P**	**20 06 41.1**	**+0.1**
VNA2	**Neumayer--Watz**	**45.64**	**155**	P		**P**	**20 06 43.4**	**-0.1**
baz=277,slow=9.1								
SNAA	**Sanae**	**47.16**	**156**	P		**P**	**20 06 55.4**	**0.0**
SNAA	**Sanae**	**47.16**	**156**	P		**P**	**20 06 54.7**	**-0.8**
comp=Z,17nm,0.8s,baz=275,slow=6.7,SNR=50								
SNAA	**Sanae**	**47.16**	**156**	*e*P		**P**	**20 06 54.9**	**-0.6**
comp=Z,30nm,1.0s								
QSPA	**South Pole Qui**	**50.43**	**180**	P		**P**	**20 07 20.3**	**-0.5**
comp=Z,11nm,0.9s,baz=149,slow=3.1,SNR=23								
LTX	**Lajitas**	**73.81**	**334**	*e*P		**P**	**20 09 58.5**	**+0.6**
TXAR	**Lajitas Array**	**73.81**	**334**	P		**P**	**20 09 58.5**	**+0.6**
comp=Z,0.6nm,0.5s,baz=158,slow=9.8,SNR=6.8								
TXAR				LR		LR	20 35 43.4	
comp=Z,54nm,21.3s,baz=0.0,slow=30								
CASY	**Casey**	**74.15**	**182**	*e*P		**P**	**20 09 58.9**	**-0.4**
comp=Z,5.1nm,0.8s								
T42A	**Van Buren**	**77.91**	**347**	*e*P		**P**	**20 10 20.3**	**-0.6**
comp=Z,12nm,1.4s								
LIC	**Lamto**	**78.78**	**72**	*e*P		**P**	**20 10 26.9**	**+0.5**
comp=Z,21nm,0.6s								
CCM	**Cathedral Cave**	**78.93**	**347**	*e*P		**P**	**20 10 24.5**	**-2.1**
comp=Z,17nm,0.8s								
TIC	**Toumodi**	**79.07**	**72**	*e*P		**P**	**20 10 28.4**	**+0.4**
KIC	**Kosan Boka**	**79.08**	**72**	*e*P		**P**	**20 10 28.6**	**+0.6**
comp=Z,19nm,0.9s								
DBIC	**Dimbokro**	**79.21**	**72**	P		**P**	**20 10 29.1**	**+0.4**
comp=Z,5.2nm,0.6s,baz=201,slow=5.2,SNR=12								
DBIC				LR		LR	20 42 07.0	
comp=Z,38nm,18.8s,baz=304,slow=33								
DBIC	**Dimbokro**	**79.21**	**72**	*e*P		**P**	**20 10 28.6**	**0.0**
comp=Z,7.3nm,0.8s								
BOSA	**Boshof**	**79.38**	**118**	P		**P**	**20 10 29.0**	**-0.8**
comp=Z,4.8nm,0.9s,baz=214,slow=4.7,SNR=11								
BOSA				LR		LR	20 42 58.6	
comp=Z,28nm,19.2s,baz=212,slow=34								
T25A	**Trinidad**	**81.24**	**337**	*e*P		**P**	**20 10 40.8**	**+1.5**
comp=Z,5.5nm,0.8s								
SMCO	**Snowmass**	**83.91**	**335**	*e*P		**P**	**20 10 55.4**	**+1.9**
comp=Z,9.2nm,1.4s								
CCUT	**Cedar City**	**84.70**	**330**	*e*P		**P**	**20 10 57.4**	**+0.1**
comp=Z,4.1nm,1.0s								
ECSD	**EROS Data Cent**	**85.45**	**344**	*e*P		**P**	**20 11 01.0**	**+0.4**
comp=Z,6.0nm,0.8s								
LMN	**Caledonia Moun**	**85.77**	**7**	*e*P		**P**	**20 11 02.7**	**+0.5**
comp=Z,99nm,1.9s								
DUG	**Dugway, Tooele**	**86.82**	**332**	*e*P		**P**	**20 11 08.8**	**+1.2**
comp=Z,6.6nm,1.0s								
NV01	**Mina Array Sit**	**87.43**	**327**	*e*P		**P**	**20 11 11.7**	**+0.9**
NVAR	**Mina Array Bea**	**87.43**	**327**	P		**P**	**20 11 12.3**	**+1.6**
comp=Z,0.8nm,0.7s,baz=165,slow=5.3,SNR=5.2								
HWUT	**Hardware Ranch**	**87.62**	**333**	*e*P		**P**	**20 11 12.3**	**+0.8**
comp=Z,4.2nm,0.7s								
PD31	**Pinedale Array**	**87.99**	**335**	*e*P		**P**	**20 11 13.8**	**+0.4**
PDAR	**Pinedale Array**	**87.99**	**335**	P		**P**	**20 11 14.3**	**+1.0**
comp=Z,0.8nm,0.8s,baz=142,slow=5.3,SNR=5.5								
PDAR	**Pinedale Array**	**87.99**	**335**	*e*P		**P**	**20 11 13.4**	**0.0**
HVU	**Hansel Valley**	**88.20**	**333**	*e*P		**P**	**20 11 15.2**	**+1.0**
comp=Z,5.4nm,0.8s								
TOA0	**Torodi Ar. Sit**	**88.31**	**71**	*e*P		**P**	**20 11 13.9**	**-1.3**
TORD	**Torodi Ar. Bea**	**88.31**	**71**	P		**P**	**20 11 15.2**	**-0.1**
comp=Z,1.6nm,1.0s,baz=209,slow=2.7,SNR=6.8								
TORD				LR		LR	20 48 00.8	
comp=Z,51nm,18.3s,baz=295,slow=34								
TOA1	**Torodi Ar. Sit**	**88.31**	**71**	*e*P		**P**	**20 11 15.2**	**-0.1**
REDW	**Red Top Meadow**	**88.94**	**335**	*e*P		**P**	**20 11 18.8**	**+0.9**
comp=Z,0.9nm,0.9s								
IMW	**Indian Meadow**	**89.45**	**335**	*e*P		**P**	**20 11 19.1**	**-1.1**
comp=Z,4.0nm,0.9s								
YHH	**Holmes Hill**	**90.21**	**335**	*e*P		**P**	**20 11 24.4**	**+0.6**
comp=Z,4.4nm,1.0s								
ULM	**Lac du Bonnet**	**91.56**	**347**	P		**P**	**20 11 30.8**	**+1.2**
comp=Z,1.0nm,0.6s,baz=153,slow=9.0,SNR=1.9								
WR1	**Warramunga Arr**	**114.57**	**210**	*e*PKiKP		**PKiKP**	**20 17 02.4**	**-1.5**
WRA	**Warramunga Arr**	**114.57**	**210**	PKP		**PKiKP**	**20 17 02.4**	**-1.5**
comp=Z,0.6nm,0.9s,baz=146,slow=1.4,SNR=3.8								
GERES	**GERESS Array B**	**117.81**	**48**	PKP		**PKPdf**	**20 17 08.9**	**-0.4**
comp=Z,0.1nm,0.3s,baz=238,slow=5.6

ISC 22 20:04:41.6±0.8, 38°61'N×0°02'×43°21'E±0°02, h15km±5km, n98, σ1°68/112, mb3.8/12, 16C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.14**	**94**	PG	**Pg**	**20 04 44.5**	**-1.0**
VANB				SG	**Sg**	**20 04 48.5**	**+0.4**
TVAN	**Van**	**0.17**	**116**	*i* P	**Pg**	**20 04 45.3**	**-0.7**
GEVA	**Gevas**	**0.32**	**202**	IAML_P			
	comp=Z,284μm,0.4s						
GEVA				*i* P	**Pg**	**20 04 47.6**	**-0.6**
GEVA				*i* S	**Sb**	**20 04 55.6**	**+1.6**
AKDM	**Akdamar-Van**	**0.33**	**213**	PG	**Pg**	**20 04 47.0**	**-1.5**
ERCV	**ERCIS-VAN**	**0.43**	**14**	PG	**Pg**	**20 04 48.6**	**-1.7**
ADCV	**BITLIS_Adilcev**	**0.43**	**298**	IAML_P			
	comp=Z,32μm,0.1s						
ADCV				*i* P	**Pg**	**20 04 49.1**	**-1.2**
ADCV				*i* S	**Sb**	**20 04 57.7**	**+0.4**
VMUR	**Van-Muradiye**	**0.48**	**36**	IAML_P			
	comp=Z,62μm,0.3s						
VMUR				*i* P	**Pg**	**20 04 50.9**	**-0.3**
VMUR				*i* S	**Sb**	**20 04 59.0**	**+0.2**
MLAZ	**Malazgirt-MUS**	**0.74**	**316**	PG	**Pg**	**20 04 54.3**	**-1.8**
CLDR	**Caldiran**	**0.77**	**46**	PG	**Pg**	**20 04 54.8**	**-1.9**
CLDR				SG	**Sg**	**20 05 06.5**	**-0.4**
CLDR	**Caldiran**	**0.77**	**46**	IAML_P			
	comp=Z,39μm,0.2s						
CLDR				*i* P	**Pg**	**20 04 55.5**	**-1.1**
CLDR				*i* S	**Sb**	**20 05 07.9**	**+0.7**
BASK	**Baskale_VAN**	**0.83**	**131**	IAML_P			
	comp=Z,27μm,0.2s						
BASK				*i* P	**Pg**	**20 04 56.2**	**-1.6**
BASK				*i* S	**Sb**	**20 05 10.1**	**+1.1**
TUTA	**Tutak**	**0.85**	**339**	*i* P	**Pg**	**20 04 56.3**	**-1.9**
GURO	**Guroymak-BITLI**	**0.92**	**267**	PG	**Pg**	**20 04 57.3**	**-2.2**
GURO				SG	**Sg**	**20 05 11.0**	**-0.6**
AGRB	**Hanur-Agry**	**0.98**	**350**	PG	**Pg**	**20 04 58.2**	**-2.5**
DYDN	**Diyadin**	**1.01**	**22**	IAML_P			
	comp=Z,7μm,0.3s						
DYDN				*i* P	**Pg**	**20 04 59.5**	**-1.7**
SRTM	**Siirt_Merkez**	**1.18**	**239**	IAML_P			
	comp=Z,8μm,0.3s						
SRTM				*i* P	**Pn**	**20 05 03.2**	**-0.4**
SIRT	**Sirnak**	**1.26**	**209**	PN	**Pn**	**20 05 04.2**	**-0.5**
SIRT	**Sirnak**	**1.26**	**209**	*e*Pn	**Pn**	**20 05 04.2**	**-0.5**
SIRN	**Sirnak**	**1.27**	**210**	*i* P	**Pn**	**20 05 05.6**	**+0.8**
YOVA	**Hakkari_Yksek**	**1.33**	**140**	*i* P	**Pn**	**20 05 05.6**	**-0.1**
CUKT	**Cukurca**	**1.39**	**167**	PN	**Pn**	**20 05 06.7**	**+0.2**
CUKT	**Cukurca**	**1.39**	**167**	*i* P	**Pn**	**20 05 07.2**	**+0.6**
IGDI	**IGDIR**	**1.43**	**28**	IAML_P			
	comp=Z,3μm,0.3s						
IGDI				*i* P	**Pn**	**20 05 07.3**	**+0.2**
IGDI				*i* S	**Sg**	**20 05 30.3**	**+2.5**
TASB	**TASBURUN-IGDIR**	**1.59**	**30**	PN	**Pn**	**20 05 09.2**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.64**	**255**	PN	**Pn**	**20 05 10.4**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.64**	**255**	*i* P	**Pb**	**20 05 11.9**	**+0.4**
SVAN				*i* S	**Sg**	**20 05 35.2**	**+0.7**
BTMN	**Batman**	**1.68**	**246**	IAML_P			
	comp=Z,3μm,0.3s						
BTMN				*i* P	**Pb**	**20 05 12.8**	**+0.5**
BTMN				*i* S	**Sg**	**20 05 37.5**	**+1.7**
HYR	**Heyderabad**	**1.69**	**48**	⇓P	**Pn**	**20 05 11.5**	**+0.8**
HYR				⇑S	**Sn**	**20 05 29.8**	**-2.4**
KOPR	**Koprukoy-ERZUR**	**1.74**	**323**	PN	**Pn**	**20 05 11.3**	**-0.1**
HOMI	**Horasan**	**1.76**	**325**	IAML_P			
	comp=Z,5μm,0.3s						
HOMI				*i* P	**Pb**	**20 05 13.6**	**-0.1**
DIGO	**Kars**	**1.81**	**4**	IAML_P			
	comp=Z,9μm,0.3s						
DIGO				*i* P	**Pb**	**20 05 14.2**	**-0.4**
NAX	**Nakhchivan**	**1.87**	**72**	⇑P	**Pb**	**20 05 15.0**	**-0.5**
	SNR=46						
NAX				⇑S	**Sb**	**20 05 38.2**	**-0.6**
GNI	**Garni**	**1.95**	**37**	PN	**Pn**	**20 05 14.2**	**0.0**
GNI	**Garni**	**1.95**	**37**	*e*Pn	**Pn**	**20 05 15.7**	**+1.5**
GNI	**Garni**	**1.95**	**37**	⇑*i*P	**Pn**	**20 05 15.8**	**+1.5**
GNI				⇑*i*S	**Sb**	**20 05 41.6**	**+0.6**
SBZ	**Shahbuz**	**1.99**	**66**	⇓P	**Pb**	**20 05 16.9**	**-0.6**
SBZ				⇓S	**Sb**	**20 05 41.4**	**-0.8**
ECAT	**Cat-ERZURUM**	**2.00**	**301**	*i* P	**Pn**	**20 05 16.6**	**+1.5**
BGOL	**Bingol**	**2.02**	**282**	IAML_P			
	comp=Z,881nm,0.3s						
BGOL				*i* P	**Pn**	**20 05 17.4**	**+2.2**
KARS	**Kars**	**2.02**	**357**	PN	**Pn**	**20 05 15.3**	**0.0**
KARS	**Kars**	**2.02**	**357**	*e*Pn	**Pn**	**20 05 16.2**	**+1.0**
EAK	**Akyaka**	**2.10**	**8**	IAML_P			
	comp=Z,3μm,0.5s						
EAK				*i* P	**Pb**	**20 05 20.5**	**+1.0**
ORD	**Ordubad**	**2.20**	**81**	⇓P	**Pn**	**20 05 19.1**	**+1.5**
HANI	**Diyarbakir_Han**	**2.21**	**266**	*i* P	**Pn**	**20 05 19.8**	**+2.0**
BGD	**Bogdanovka**	**2.67**	**6**	P	**Pg**	**20 05 32.8**	**0.0**
GDB	**GEDABAY**	**2.89**	**42**	⇑P	**Pn**	**20 05 28.6**	**+1.4**
	SNR=5.0						
QZX	**Qazax, Azerbai**	**2.96**	**34**	⇑Pg	**Pb**	**20 05 35.7**	**+1.6**
BAYT	**Aydıntepe-Bayb**	**2.97**	**308**	PN	**Pn**	**20 05 29.2**	**+0.9**
BCA	**Borcka**	**3.09**	**337**	PN	**Pn**	**20 05 30.4**	**+0.6**
GANJ	**Ganja**	**3.15**	**49**	⇓P	**Pn**	**20 05 31.5**	**+0.8**
	SNR=17						
TBLG	**Delisi**	**3.33**	**20**	P	**Pb**	**20 05 41.9**	**+1.5**
TBLG	**Delisi**	**3.33**	**20**	*e*Pn	**Pb**	**20 05 37.8**	**-2.6**
BRDA	**Brd**	**3.49**	**60**	⇓P	**Pn**	**20 05 37.3**	**+2.0**
URFA	**Urfa**	**3.65**	**253**	PN	**Pn**	**20 05 38.9**	**+1.3**
ZRD	**Zardab**	**3.85**	**63**	⇑Pg	**Pg**	**20 05 54.7**	**-0.6**
ZKTA	**Zakatala**	**4.00**	**40**	⇑P	**Pn**	**20 05 43.3**	**+0.9**
LRK	**Lerik**	**4.02**	**88**	⇑P	**Pn**	**20 05 45.3**	**+2.5**
SEKA	**Sheki**	**4.02**	**48**	⇑P	**Pn**	**20 05 44.6**	**+1.9**
GLBA	**Clilabad**	**4.09**	**79**	⇓P	**Pn**	**20 05 47.8**	**+4.2**
QBL	**Gabala**	**4.26**	**55**	⇓P	**Pn**	**20 05 47.8**	**+1.8**
LKRN	**Lenkeran, Azer**	**4.36**	**87**	⇑P	**Pn**	**20 05 49.5**	**+2.2**
ASTR	**Astara**	**4.38**	**89**	⇑P	**Pn**	**20 05 50.7**	**+3.2**
DARE	**Darende-Malaty**	**4.49**	**271**	PN	**Pn**	**20 05 50.6**	**+1.5**
XNQ	**Khinaliq**	**4.58**	**54**	⇑P	**Pn**	**20 05 52.4**	**+1.9**
GAZ	**Gaziantep**	**4.95**	**255**	PN	**Pn**	**20 05 57.7**	**+2.2**
KMRS	**Kahramanmaras**	**5.10**	**260**	PN	**Pn**	**20 05 59.3**	**+1.9**
KBZ	**Khabaz**	**5.12**	**357**	Pn	**Pb**	**20 06 07.2**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=171,slow=13,SNR=2.7						
KBZ				LR	LR	20 08 20.0	
	comp=Z,196nm,18.2s,baz=136,slow=40						
KIV	**Kislovodsk**	**5.36**	**356**	*e*Pn	**Pn**	**20 06 02.6**	**+1.5**
BRTR	**Keskin Array B**	**7.52**	**282**	Pn	**Pn**	**20 06 33.2**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=104,slow=12,SNR=2.9						
MLR	**Muntele Rosu**	**14.54**	**304**	*e*Pn	**Pn**	**20 08 09.2**	**+2.3**
MLR	**Muntele Rosu**	**14.54**	**304**	⇑*i*P	P	20 08 18.3	+5.0
VOIR		**15.11**	**303**	⇑*i*P	**P**	**20 08 23.7**	**+4.1**
RAYN	**Ar Rayn**	**15.16**	**172**	*e*Pn	**Pn**	**20 08 08.9**	**-6.4**
	comp=Z,18nm,1.9s						
AKASG	**Malin Array Be**	**15.63**	**325**	Pn	**P**	**20 08 24.1**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=137,slow=11,SNR=4.6						
BUR04	**Bucovina Ar. S**	**15.90**	**310**	*e*Pn	**Pn**	**20 08 20.9**	**-3.9**
VYHS	**Vyhne**	**20.16**	**307**	*e*P	Pn	20 09 19.6	+2.5
WSAR	**Wadi Sarin**	**20.20**	**135**	LR	LR	20 17 13.6	
	comp=Z,37nm,20.1s,baz=314,slow=38						
ARU	**Arti**	**20.54**	**25**	*e*P	**P**	**20 09 19.8**	**+0.5**
	comp=Z,25nm,1.8s						
TIP	**Timpagrande**	**20.58**	**280**	*e*P	**P**	**20 09 21.0**	**+1.2**
	comp=Z,45nm,1.5s						
KBL	**Kabul**	**21.12**	**93**	*e*P	**P**	**20 09 24.5**	**-1.4**
	comp=Z,4.1nm,1.1s						
BTK	**Batken**	**21.38**	**77**	*e*P	**P**	**20 09 30.2**	**+1.7**
	comp=Z,7.2nm,1.4s						
GEA0	**GERESS Array S**	**23.51**	**305**	*e*P	**P**	**20 09 50.2**	**-0.7**
GERES	**GERESS Array B**	**23.52**	**305**	P	**P**	**20 09 51.7**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=120,slow=5.8,SNR=3.6						
AAK	**Ala-Archa**	**24.01**	**70**	P	**P**	**20 09 57.6**	**+1.8**
	comp=Z,0.8nm,1.0s,baz=229,slow=14,SNR=3.1						
AAK	**Ala-Archa**	**24.01**	**70**	*e*P	**P**	**20 09 57.2**	**+1.3**
	comp=Z,3.3nm,1.2s						
NRN	**Naryn**	**25.19**	**73**	*e*P	**P**	**20 10 07.3**	**+0.5**
	comp=Z,1.9nm,0.8s						
FINES	**FINESS Array B**	**25.21**	**341**	P	**P**	**20 10 07.6**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=150,slow=11,SNR=5.6						
KSH	**Kashi**	**25.39**	**78**	P	**P**	**20 10 08.9**	**+0.6**
KSH				PP	**PnPn**	**20 10 44.0**	**+0.7**
KSH				S	**S**	**20 14 32.3**	**-2.1**
KSH				PcS	**PcS**	**20 17 20.6**	**-0.4**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,440nm,5.2s						
KSH				LR	LR		
	comp=N,130nm,8.7s						
KSH				LR	LR		
	comp=E,440nm,5.5s						
KSH				LR	LR		
	comp=Z,120nm,10.5s						
KURBB	**Kurchatov Arra**	**27.60**	**53**	P	**P**	**20 10 29.3**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=262,slow=9.0,SNR=6.2						
HFS	**Hagfors**	**28.45**	**329**	P	**P**	**20 10 36.4**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=143,slow=12,SNR=2.7						
MK31	**Makanchi Array**	**29.62**	**61**	*e*P	**P**	**20 10 46.1**	**+0.1**
MKAR	**Makanchi Array**	**29.62**	**61**	P	**P**	**20 10 47.0**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=264,slow=5.3,SNR=5.5						
MK01	**Makanchi Array**	**29.62**	**61**	*e*P	**P**	**20 10 46.2**	**+0.1**
NAO01	**NORSAR Array S**	**30.00**	**328**	*e*P	**P**	**20 10 52.8**	**+3.5**
PALK	**Pallekele**	**45.98**	**123**	LR	LR	20 33 56.2	
	comp=Z,42nm,18.5s,baz=296,slow=38						
CHTO	**Chiang Mai**	**51.90**	**96**	*e*P	**P**	**20 13 49.8**	**+0.1**
	comp=Z,2.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**52.10**	**96**	P	**P**	**20 13 51.6**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=299,slow=8.3,SNR=16						
CM01	**Chiang Mai Arr**	**52.13**	**96**	*e*P	**P**	**20 13 51.1**	**-0.3**
PBKT	**Sadao Pong**	**54.77**	**97**	*e*P	**P**	**20 14 11.8**	**+1.0**

DJA 22 20:10:23.1±1.5, 5°N±6°×96°E±°, h10km, M3.5/3, MLv3.5/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**1.13**	**81**	P	Pb	20 10 43.1	-1.6
LHMI				S	Sg	20 10 59.5	0.0
TPTI		**2.23**	**143**	P	Pn	20 10 59.9	-0.2
TPTI				S	Sn	20 11 26.7	-1.1
KCSI	**Kotacane, Aceh**	**2.46**	**128**	P	Pn	20 11 05.0	+1.7
KCSI				S	Sb	20 11 35.7	-2.2

IDC 22 20:20:50.0±4.2, 4°21S×101°60E, h0km, mb3.2/4, mb1 3.5/4, mb1mx3.3/36, mbtmp3.2/4, Error ellipse: s-maj=174.6km s-min=22.7km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**22.67**	**353**	P	P	20 25 54.5	+1.4
	0.2nm,0.5s,baz=185,slow=9.9,SNR=4.1						
WRA	**Warramunga Arr**	**35.52**	**119**	P	P	20 27 47.9	-1.1
	0.4nm,0.8s,baz=302,slow=10,SNR=3.5						
ASAR	**Alice Springs**	**36.68**	**125**	P	P	20 27 59.8	+0.9
	0.4nm,0.4s,baz=299,slow=7.6,SNR=9.0						
MKAR	**Makanchi Array**	**53.58**	**344**	P	P	20 30 11.9	-0.9
	0.1nm,0.6s,baz=157,slow=7.9,SNR=3.4						

ISK 22 20:36:08.6, 38°67N×42°98E, h5km, ML2.0/7
DDA 22 20:36:10.0, 38°70N×43°02E, h7km±5km, ML2.8

ISC 22 20:36:09.5±1.2, 38°68N±0°03×43°00E±0°03, h9km±11km, n13, σ0°68/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ADCV	**BITLIS_Adilcev**	**0.25**	**302**	IAML_P			
	comp=Z,2μm,0.1s						
ADCV				*i* P	**Pg**	**20 36 15.1**	**+0.5**
VANB	**Van**	**0.32**	**104**	PG	**Pg**	**20 36 16.2**	**+0.3**
VANB				SG	**Sb**	**20 36 22.4**	**-0.5**
AKDM	**Akdamar-Van**	**0.35**	**182**	PG	**Pg**	**20 36 15.6**	**-0.8**
TVAN	**Van**	**0.35**	**114**	IAML_P			
	comp=Z,2μm,0.1s						
TVAN				*i* P	**Pg**	**20 36 17.1**	**+0.5**
TVAN				*i* S	**Sb**	**20 36 23.2**	**-0.8**
VMUR	**Van-Muradiye**	**0.55**	**55**	IAML_P			
	comp=Z,373nm,0.1s						
VMUR				*i* P	**Pg**	**20 36 20.2**	**0.0**
VMUR				*i* S	**Sb**	**20 36 29.9**	**+0.3**
MLAZ	**Malazgirt-MUS**	**0.58**	**323**	PG	**Pg**	**20 36 20.6**	**-0.2**
TUTA	**Tutak**	**0.74**	**349**	IAML_P			
	comp=Z,3μm,0.1s						
TUTA				*i* P	**Pb**	**20 36 24.3**	**-0.5**
TUTA				*i* S	**Sb**	**20 36 34.5**	**-0.6**
GURO	**Guroymak-BITLI**	**0.76**	**261**	PG	**Pg**	**20 36 23.7**	**-0.6**
GURO				SG	**Sg**	**20 36 34.7**	**+0.5**
CLDR	**Caldiran**	**0.86**	**57**	PG	**Pg**	**20 36 25.7**	**-0.4**
CLDR	**Caldiran**	**0.86**	**57**	*i* P	**Pn**	**20 36 28.0**	**-0.1**
AGRB	**Hanur-Agry**	**0.90**	**360**	PG	**Pg**	**20 36 26.4**	**-0.5**
AGRB				SG	**Sb**	**20 36 39.3**	**-0.4**
SRTM	**Siirt_Merkez**	**1.08**	**231**	*i* P	**Pb**	**20 36 30.8**	**+0.2**
SRTM				*i* S	**Sn**	**20 36 48.1**	**+1.7**
SIRT	**Sirnak**	**1.25**	**201**	PN	**Pg**	**20 36 32.9**	**-0.7**

ISCJB 22 20:38:29.0±0.5, 32°13N±0°03×115°11W±0°03, h17km±6km, Error ellipse: s-maj=4.9km s-min=4.4km az=179.7
PAS 22 20:38:29.4±0.0, 32°10N×115°16W, h10km
NEIC 22 20:38:30.2±0.0, 32°12N×115°13W, h8km, ML2.7(ECX), ML2.7(PAS), After ECX.
ECX 22 20:38:30.2±0.5, 32°12N×115°13W, h8km, MD2.5, ML2.7
MEX 22 20:38:30.9±0.8, 32°14N×115°04W, h9km±111km, MD3.8

ISC 22 20:38:29.2±1.0, 32°12N±0°03×115°15W±0°03, h22km±4km, n33, σ1°41/49, 2C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.29**	**352**	*e*Pg	**Pn**	**20 38 36.5**	**-1.7**
MBIG				*e*Sg	**Sb**	**20 38 40.6**	**+0.2**
MBIG	**Mexicali**	**0.29**	**352**	*i* P	**Pn**	**20 38 36.5**	**-1.7**
MBIG				*e*S	**Sb**	**20 38 40.6**	**+0.2**
CPBX	**Cerro Prieto**	**0.32**	**336**	*e*P	**Pb**	**20 38 35.9**	**-0.4**
CPBX				*e*S	**Sb**	**20 38 40.9**	**-0.4**
CPBX				IAML		20 38 42.2	
	comp=E,2μm,0.2s						
CPBX				*e*		20 38 42.2	
CPBX				⇑*e*		20 38 44.0	
CPBX				IAML		20 38 44.0	
	comp=N,3μm,0.1s						
ECBX	**El Chinero**	**0.65**	**173**	*e*P	**Pb**	**20 38 41.5**	**-0.5**
ECBX				*e*S	**Sb**	**20 38 50.7**	**+0.1**
RMX	**La Rumorosa**	**0.92**	**302**	*e*P	**Pb**	**20 38 45.8**	**-0.8**
RMX				*e*S	**Sb**	**20 38 57.3**	**-1.2**
GLA	**Glamis**	**0.97**	**16**	*e*Pg	**Pn**	**20 38 46.4**	**-1.2**
GLA				*e*Sg	**Sn**	**20 38 59.2**	**-1.4**
IKP	**In-Ko-Pah, Jac**	**0.97**	**303**	*e*P	**Pn**	**20 38 47.6**	**0.0**
SPX	**San Pedro Mart**	**1.11**	**194**	*e*Pg	**Pn**	**20 38 48.9**	**-0.8**
SPX				*e*Sg	**Sb**	**20 39 04.1**	**+0.1**
SPX	**San Pedro Mart**	**1.11**	**194**	*i* P	**Pn**	**20 38 48.9**	**-0.8**
SPX				*e*S	**Sb**	**20 39 04.1**	**+0.1**
SPX	**San Pedro Mart**	**1.11**	**194**	*e*P	**Pn**	**20 38 49.0**	**-0.8**
SPX				*e*S	**Sn**	**20 39 04.8**	**+0.3**
SPX				IAML		20 39 05.4	
	comp=N,97nm,0.4s						
SPX				⇓*e*		20 39 05.4	
ZAX	**El Zacaton**	**1.13**	**238**	⇓*e*	**Sg**	**20 39 06.0**	**+1.6**
ZAX				IAML		20 39 06.0	
	comp=E,239nm,0.5s						
CBX	**Cerro Bola**	**1.30**	**279**	*e*Pn	**Pb**	**20 38 53.1**	**+0.1**
CBX				*e*Sn	**Sb**	**20 39 09.3**	**0.0**
CBX	**Cerro Bola**	**1.30**	**279**	*e*P	**Pb**	**20 38 53.1**	**+0.1**
CBX				*e*S	**Sb**	**20 39 09.3**	**0.0**
CBX	**Cerro Bola**	**1.30**	**279**	*e*P	**Pb**	**20 38 53.2**	**+0.1**
CBX				*e*S	**Sb**	**20 39 10.5**	**+1.2**
CBX				IAML		20 39 12.6	
	comp=N,218nm,0.3s						
TJIG	**Tijuana**	**1.33**	**284**	*i* P	**Pb**	**20 38 54.0**	**+0.5**
TJIG				*e*S	**Sb**	**20 39 10.0**	**-0.1**
BAR	**Barrett**	**1.40**	**294**	*e*Pn	**Pb**	**20 38 55.1**	**+0.4**
BAR				*e*Sn	**Sb**	**20 39 13.1**	**+0.8**
BAR	**Barrett**	**1.40**	**294**	*e*P	**Pb**	**20 38 54.9**	**+0.1**
Y12C	**Blythe**	**1.71**	**18**	*e*Pn	**Pb**	**20 38 59.7**	**-0.2**
CPE	**Camp Elliot**	**1.82**	**295**	*e*Pn	**Pb**	**20 39 00.0**	**-1.8**
CPE				*e*Sn	**Sb**	**20 39 25.4**	**+1.2**
XPFO	**Pion Flat**	**1.85**	**324**	*e*Pn	**Pb**	**20 39 00.7**	**-1.7**
PFO	**Pinyon Flats O**	**1.85**	**324**	*e*Pn	**Pb**	**20 39 00.6**	**-1.9**
Y14A	**Wickenburg**	**2.56**	**44**	*e*Pn	**Pb**	**20 39 10.9**	**-3.5**
LDFC	**Landfair**	**2.95**	**1**	*e*Pn	**Pn**	**20 39 16.9**	**+2.0**
W13A	**Hualapai Mount**	**3.15**	**19**	*e*Pn	**Pn**	**20 39 18.0**	**+0.2**
W13A				*e*Sg	**Sb**	**20 40 07.6**	**+4.8**
MWC	**Mount Wilson**	**3.22**	**311**	*e*Pn	**Pn**	**20 39 15.7**	**-2.9**
PASC	**Pasadena Art C**	**3.27**	**310**	*e*Pn	**Pn**	**20 39 20.2**	**+1.1**
GSC	**Goldstone, Bar**	**3.46**	**337**	*e*Pn	**Pn**	**20 39 22.5**	**+0.6**
X16A	**Lo Mia Camp, P**	**3.86**	**53**	*e*Pn	**Pn**	**20 39 28.5**	**+1.1**
TPNV	**Topopah Spring**	**4.90**	**350**	*e*Pn	**Pn**	**20 39 43.1**	**+1.4**
U15A	**North Rim**	**4.90**	**28**	*e*Pn	**Pn**	**20 39 42.6**	**+0.7**
X18A	**Snowflake**	**4.97**	**60**	*e*Pn	**Pn**	**20 39 44.3**	**+1.6**
KNB	**Kanab**	**5.25**	**21**	*e*Pn	**Pn**	**20 39 48.4**	**+1.9**
W18A	**Petrified Fore**	**5.42**	**55**	*e*Pn	**Pn**	**20 39 49.2**	**+0.3**

IDC 22 20:42:37.4±1.0, 30°78S×177°22W, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.1/26, mbtmp4.2/6, MS3.8/2, Ms1 3.8/2, ms1mx3.1/33, Error ellipse: s-maj=26.2km s-min=23.9km az=141.0
NEIC 22 20:42:41.8±2.2, 31°28S×177°22W, h38km±17km, mb4.7/15, Error ellipse: s-maj=20.3km s-min=15.3km az=57.0

ISC 22 20:42:40.0±0.8, 30°93S±0°06×177°4W±0°1, h27km, n47, σ2°28/50, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.74**	**344**	Pn	**Pn**	**20 43 08.1**	**-0.4**
	204nm,0.3s,baz=73,slow=20,SNR=5.4						
RAO				Sn	**Sn**	**20 43 28.6**	**-1.3**
	223nm,0.3s,baz=300,slow=21,SNR=3.9						
RAO	**Raoul Island**	**1.74**	**344**	*e*Pn	**Pn**	**20 43 06.9**	**-1.6**
MXZ	**Matakaoa Point**	**7.52**	**207**	*e*Pn	**Pn**	**20 44 25.8**	**-2.0**
MXZ				*e*Sn	**Sn**	**20 45 50.2**	**-2.0**
URZ	**Urewera**	**8.61**	**210**	Pn	**Pn**	**20 44 41.9**	**-0.9**
	1.0nm,0.3s,baz=318,slow=12,SNR=4.5						
URZ				Sn	**Sn**	**20 46 19.0**	**+0.1**
	2.3nm,0.3s,baz=220,slow=13,SNR=6.1						
URZ	**Urewera**	**8.61**	**210**	*e*Pn	**Pn**	**20 44 39.9**	**-2.9**
URZ				*e*Sn	Sn	20 46 08.6	-10
OUZ	**Omahuta**	**8.71**	**238**	*e*Pn	**Pn**	**20 44 42.7**	**-1.4**
BKZ	**Black Stump Fm**	**9.63**	**210**	*e*Pn	**Pn**	**20 44 53.8**	**-3.1**
HIZ	**Hauiti**	**9.90**	**218**	*e*Pn	**Pn**	**20 45 00.6**	**0.0**
BFZ	**Birch Farm**	**11.02**	**206**	*e*Pn	**Pn**	**20 45 14.5**	**-1.3**
SNZO	**South Karori**	**12.17**	**210**	*e*Pn	**Pn**	**20 45 30.6**	**-0.9**
THZ	**Tophouse**	**13.34**	**213**	*e*Pn	**Pn**	**20 45 46.6**	**-1.0**
LTZ	**Lake Taylor**	**14.43**	**212**	*e*Pn	**Pn**	**20 46 01.3**	**-1.1**
RPZ	**Rata Peaks**	**15.71**	**213**	Pn	**Pn**	**20 46 15.7**	**-3.8**
	0.9nm,0.3s,baz=234,slow=2.7,SNR=4.5						
FOZ	**Fox Glacier**	**16.17**	**215**	*e*Pn	**Pn**	**20 46 21.2**	**-4.1**
	40nm,1.3s						
OUENC	**Ouen Island, N**	**16.45**	**297**	*e*Pn	**P**	**20 46 32.2**	**+0.7**
	39nm,1.2s						
LBZ	**Lake Benmore**	**16.63**	**213**	*e*Pn	**Pn**	**20 46 30.6**	**-0.5**
	106nm,1.8s						
ONTNC	**Ouen Toro**	**16.81**	**297**	*e*Pn	**Pn**	**20 46 28.8**	**-4.8**
	36nm,1.0s						
ODZ	**Otahua Downs**	**16.93**	**210**	*e*Pn	**Pn**	**20 46 29.2**	**-5.8**
	107nm,1.9s						
WKZ	**Wanaka**	**17.51**	**214**	*e*Pn	**Pn**	**20 46 37.7**	**-4.5**
	202nm,1.7s						
MLZ	**Mavora Lakes**	**18.34**	**214**	*e*P	**P**	**20 46 50.4**	**-1.9**
	99nm,1.8s						
WHZ	**Wether Hill Ro**	**18.81**	**213**	*e*P	**P**	**20 46 53.9**	**-3.5**
	153nm,2.0s						
CTA	**Charters Tower**	**34.42**	**280**	P	**P**	**20 49 28.9**	**+3.5**
	4.7nm,0.6s,baz=107,slow=8.2						
CTAO	**Charters Tower**	**34.42**	**280**	*e*P	**P**	**20 49 28.9**	**+3.5**
	171nm,2.0s						
STKA	**Stephens Creek**	**34.89**	**258**	P	**P**	**20 49 33.2**	**+3.9**
	1.3nm,0.5s,baz=97,slow=12,SNR=6.2						
STKA	**Stephens Creek**	**34.89**	**258**	*e*P	**P**	**20 49 32.1**	**+2.8**
	2.1nm,1.4s						
RABL	**Rabaul**	**39.12**	**307**	*e*P	**P**	**20 50 05.4**	**0.0**
	41nm,0.7s						
BBOO	**Buckleboo**	**39.35**	**255**	*e*P	**P**	**20 50 07.9**	**+0.7**
	60nm,1.8s						
KWAJ	**Kwajalein Atol**	**42.05**	**338**	*e*P	**P**	**20 50 27.9**	**-1.6**
	953nm,1.7s						
AS01	**Alice Springs**	**43.59**	**267**	*e*P	**P**	**20 50

RPZ	**Rata Peaks**	**15.57**	**212**	Pn	**Pn**	**20 53 30.7**	**-2.4**
	0.6nm,0.3s,baz=37,slow=5.1,SNR=3.2						
RPZ	**Rata Peaks**	**15.57**	**212**	*e*Pn	**Pn**	**20 53 29.1**	**-4.0**
	52nm,1.6s						
FOZ	**Fox Glacier**	**16.02**	**215**	*e*Pn	**Pn**	**20 53 36.0**	**-2.8**
	77nm,1.6s						
LBZ	**Lake Benmore**	**16.49**	**212**	*e*Pn	**Pn**	**20 53 42.2**	**-2.6**
	123nm,2.0s						
ODZ	**Otahua Downs**	**16.79**	**210**	*e*Pn	**P**	**20 53 46.7**	**-4.0**
	93nm,2.0s						
DZM	**Mont Dzumac**	**16.86**	**298**	LR	LR	20 59 24.8	
	comp=Z,132nm,18.7s,baz=194,slow=34						
WKZ	**Wanaka**	**17.37**	**214**	*e*Pn	**P**	**20 53 54.1**	**-3.0**
	198nm,1.8s						
MLZ	**Mavora Lakes**	**18.19**	**214**	*e*Pn	**Pn**	**20 54 02.8**	**-3.2**
	104nm,1.9s						
DCZ	**Deep Cove**	**18.74**	**215**	*e*P	**P**	**20 54 07.4**	**-4.7**
	49nm,1.4s						
CTA	**Charters Tower**	**34.29**	**280**	P	**P**	**20 56 41.0**	**+1.3**
	3.6nm,0.6s,baz=117,slow=4.5,SNR=3.1						
CTAO	**Charters Tower**	**34.29**	**280**	*e*P	**P**	**20 56 39.5**	**-0.2**
	66nm,1.5s						
STKA	**Stephens Creek**	**34.73**	**258**	P	**P**	**20 56 45.7**	**+2.4**
	1.5nm,0.5s,baz=88,slow=10,SNR=6.6						
STKA	**Stephens Creek**	**34.73**	**258**	*e*P	**P**	**20 56 44.7**	**+1.3**
	2.1nm,1.3s						
XMAS	**Kiritimati**	**38.03**	**34**	*e*P	**P**	**20 57 09.0**	**-2.6**
	128nm,1.3s						
BBOO	**Buckleboo**	**39.19**	**255**	*e*P	**P**	**20 57 23.4**	**+2.1**
	53nm,1.8s						
AS01	**Alice Springs**	**43.43**	**267**	*e*P	**P**	**20 57 58.2**	**+1.9**
AS31	**Alice Springs**	**43.47**	**267**	*e*P	**P**	**20 57 58.1**	**+1.5**
	2.3nm,1.3s						
AS31				*e*PP	**PcP**	**20 59 46.2**	**+1.7**
ASAR	**Alice Springs**	**43.47**	**267**	P	**P**	**20 57 58.9**	**+2.2**
	1.4nm,0.6s,baz=106,slow=7.5,SNR=22						
ASAR				PcP	**PcP**	**20 59 46.2**	**+1.7**
	0.7nm,0.7s,baz=118,slow=4.0,SNR=4.3						
WC3	**Warramunga Arr**	**44.48**	**273**	*e*P	**P**	**20 58 06.4**	**+1.6**
	63nm,1.9s						
WB2	**Warramunga Arr**	**44.51**	**273**	*e*P	**P**	**20 58 06.7**	**+1.8**
	60nm,1.8s						
WRAB	**Tennant Creek**	**44.51**	**273**	*e*P	**P**	**20 58 04.3**	**-0.7**
	40nm,1.9s						
WR1	**Warramunga Arr**	**44.52**	**273**	*e*P	**P**	**20 58 06.6**	**+1.6**
	68nm,1.9s						
WR1				*e*PcP	**PP**	**20 59 49.9**	**+0.8**
WRA	**Warramunga Arr**	**44.52**	**273**	P	**P**	**20 58 06.6**	**+1.6**
	1.9nm,0.5s,baz=111,slow=8.0,SNR=26						
WRA				PcP	**PP**	**20 59 49.9**	**+0.8**
	1.0nm,1.0s,baz=114,slow=3.1,SNR=2.6						
FORT	**Forrest**	**46.28**	**256**	*e*P	**P**	**20 58 20.7**	**+1.9**
	32nm,1.0s						
NV01	**Mina Array Sit**	**88.42**	**42**	*e*P	**P**	**21 02 48.1**	**+2.8**
NVAR	**Mina Array Bea**	**88.42**	**42**	P	**P**	**21 02 48.1**	**+2.8**
	0.2nm,0.5s,baz=224,slow=8.8,SNR=3.7						
N23A	**Red Feather La**	**97.40**	**46**	*e*P	Pdif	21 03 30.8	+3.9
	30nm,0.6s						
KBZ	**Khabaz**	**145.78**	**303**	PKPbc	**PKPab**	**21 09 32.8**	**+0.5**
	1.6nm,0.9s,baz=91,slow=15,SNR=3.5						
FIA0	**FINESS Array S**	**145.85**	**340**	*e*PKPdf	**PKPab**	**21 09 31.9**	**-0.1**
FINES	**FINESS Array B**	**145.85**	**340**	PKPbc	**PKPab**	**21 09 31.9**	**-0.1**
	1.9nm,0.4s,baz=58,slow=2.7,SNR=22						
NB200	**NORSAR Array S**	**149.41**	**352**	*e*PKPbc	**PKPbc**	**21 09 41.9**	**+0.5**
NOA	**NORSAR Array B**	**149.41**	**352**	PKPbc	**PKPbc**	**21 09 41.9**	**+0.5**
	0.6nm,0.8s,baz=16,slow=4.4,SNR=3.4						
AKASG	**Malin Array Be**	**152.02**	**322**	PKPbc	**PKPbc**	**21 09 48.8**	**+1.0**
	0.3nm,0.4s,baz=56,slow=3.2,SNR=4.6						
AKBB	**Malin Array Si**	**152.02**	**322**	*e*PKPbc	**PKPbc**	**21 09 48.8**	**+1.0**
BR101	**Keskin Array S**	**153.23**	**298**	*e*PKPab	**PKPab**	**21 10 04.2**	**+1.2**
BRTR	**Keskin Array B**	**153.23**	**298**	PKPab	**PKPab**	**21 10 04.2**	**+1.2**
	0.3nm,0.5s,baz=108,slow=4.0,SNR=3.5						

IDC 22 20:51:41.7±7.2, 5.30S×151.20E, h167km±44km, mb3.5/4, mb1 3.6/5, mb1mx3.2/34, mbtmp4.0/5, MS3.5/1, Ms1 3.5/1, ms1mx2.7/24, Error ellipse: s-maj=63.7km s-min=57.8km az=162.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.72**	**224**	P	Pn	20 53 04.5	-0.4
	2.1nm,0.3s,baz=9.5,slow=6.1,SNR=4.6						
PMG				S	Sn	20 54 11.2	+1.0
	2.7nm,0.3s,baz=223,slow=20,SNR=5.9						
WRA	**Warramunga Arr**	**21.93**	**227**	P	P	20 56 21.9	-0.2
	0.5nm,0.3s,baz=51,slow=10.0,SNR=19						
ASAR	**Alice Springs**	**24.72**	**221**	P	P	20 56 48.4	+0.6
	1.0nm,0.4s,baz=53,slow=9.0,SNR=16						
STKA	**Stephens Creek**	**27.93**	**198**	P	P	20 57 15.9	-0.5
	1.5nm,0.7s,baz=31,slow=12,SNR=2.9						
FITZ	**Fitzroy Crossi**	**28.02**	**241**	P	P	20 57 17.3	-0.1
	3.6nm,1.1s,baz=52,slow=6.3,SNR=6.3						
RPZ	**Rata Peaks**	**42.07**	**158**	LR	LR	21 16 58.0	
	comp=Z,56nm,19.3s,baz=270,slow=36						

NIED 22 21:03:00, 38.20N×144.50E, h5km, Mw3.7 Best double couple: M0 4.41000×10^14 NP1:φ=28.00000°, δ=29.00000°, λ=-80.00000°. NP2:φ=196.00000°, δ=61.00000°, λ=-95.00000°.

IDC 22 21:03:38.6±0.8, 38.04N×144.68E, h0km, mb3.7/9, mb1 3.9/12, mb1mx3.7/50, mbtmp3.8/12, ML3.7/3, MS3.2/2, Ms1 3.2/2, ms1mx2.5/54, Error ellipse: s-maj=24.5km s-min=15.6km az=133.0

ISCJB 22 21:03:42.2±0.5, 38.26N±0.03×144.56E±0.04, h33km, mb3.7/9, MS4.0/1, Error ellipse: s-maj=5.1km s-min=4.4km az=145.5

JMA 22 21:03:43.1±0.1, 38.19N×144.50E, h49km, M4.3

ISC 22 21:03:43.8±0.7, 38.20N±0.05×144.57E±0.07, h35km, n39, σ1=83/58, mb3.6/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.44**	**292**	P	**Pn**	**21 04 21.1**	**0.0**
OFUJ				S	**Sn**	**21 04 49.1**	**-0.6**
JIKH	**Ishinomakikobu**	**2.45**	**274**	P	**Pn**	**21 04 20.8**	**-0.4**
JIKH				S	**Sn**	**21 04 48.5**	**-1.4**
JKMT	**Kesennumamotoy**	**2.50**	**285**	P	**Pn**	**21 04 21.8**	**-0.2**
JKMT				S	**Sn**	**21 04 50.8**	**-0.5**
JIO	**Ouri**	**2.55**	**277**	P	**Pn**	**21 04 22.4**	**-0.2**
JIO				S	**Sn**	**21 04 51.5**	**-0.8**
MIYJ	**Miyakonagasawa**	**2.55**	**304**	P	**Pn**	**21 04 22.3**	**-0.3**
MIYJ				S	**Sn**	**21 04 51.6**	**-0.9**
JMK	**Ichinoseki**	**2.73**	**287**	P	**Pn**	**21 04 25.3**	**+0.2**
JMK				S	**Sn**	**21 04 56.7**	**-0.2**
JOM	**Ohasama**	**2.86**	**297**	P	**Pn**	**21 04 27.1**	**+0.2**
JOM				S	**Sn**	**21 04 59.2**	**-0.9**
JANG	**Nango**	**3.21**	**313**	P	**Pn**	**21 04 31.6**	**-0.2**
JANG				*e*S	**Sn**	**21 05 07.1**	**-1.8**
JYK	**Kaneyama**	**3.38**	**284**	P	**Pn**	**21 04 34.8**	**+0.8**
JYK				*e*S	**Sn**	**21 05 13.3**	**+0.4**
JFT	**Otama**	**3.42**	**260**	P	**Pn**	**21 04 35.2**	**+0.6**
JFT				S	**Sn**	**21 05 13.6**	**-0.3**
JOT	**Ohata**	**4.18**	**321**	P	**Pn**	**21 04 45.5**	**+0.5**
JOT				*e*S	**Sn**	**21 05 30.5**	**-2.1**
JCH	**Churui**	**4.51**	**349**	P	**Pn**	**21 04 48.6**	**-0.9**
JCH				*e*S	**Sn**	**21 05 37.4**	**-3.3**
BSO1	**Boso 1**	**4.57**	**220**	P	**Pn**	**21 04 49.6**	**-0.3**
BSO1				*e*S	**Sn**	**21 05 38.3**	**-3.2**
JKB	**Kayabe**	**4.58**	**325**	P	**Pn**	**21 04 51.7**	**+1.2**
JKB				*e*S	**Sn**	**21 05 39.8**	**-2.6**
JRY	**Ryogami san**	**5.03**	**246**	P	**Pn**	**21 04 56.3**	**-0.4**
JRY				S	**Sn**	**21 05 30.5**	**-3.1**
NEM2	**Nemuro 2**	**5.24**	**9**	P	**Pn**	**21 04 56.4**	**-3.2**
NEM2				S	**Sn**	**21 05 52.2**	**-6.5**
JOD2	**Odawara 2**	**5.29**	**238**	P	**Pn**	**21 04 59.5**	**-0.8**
JOD2				*e*S	**Sn**	**21 05 55.7**	**-4.3**
MJAR	**Matsushiro Arr**	**5.33**	**254**	Pn	**Pn**	**21 04 59.1**	**-1.7**
	0.3nm,0.3s,baz=327,slow=14,SNR=11						
MJAR				Sn	**Sn**	**21 06 01.2**	**+0.2**
	0.3nm,0.3s,baz=102,slow=15,SNR=4.9						
MJAR				LR	LR	21 07 06.8	
	comp=Z,50nm,19.7s,baz=340,slow=39						
MAT	**Matsushiro**	**5.33**	**254**	P	Pn	21 05 03.8	+2.9
MAT				S	**Sn**	**21 05 58.0**	**-3.1**
JOSM	**Okushiri--Mats**	**5.50**	**316**	P	**Pn**	**21 05 04.0**	**+0.8**
JOSM				*e*S	**Sn**	**21 06 05.0**	**-0.2**
JTKR	**Abashiri--Toko**	**5.79**	**355**	P	**Pn**	**21 05 05.9**	**-1.2**
JTKR				S	**Sn**	**21 06 08.2**	**-4.1**
JHR	**Hokuryu**	**5.94**	**340**	P	**Pn**	**21 05 10.0**	**+0.7**
JHR				*e*S	**Sn**	**21 06 15.4**	**-0.7**
ASAJ	**Asahikawa**	**6.10**	**347**	Pn	**Pn**	**21 05 10.9**	**-0.5**
	2.1nm,0.3s,baz=174,slow=7.8,SNR=12						
ASAJ				Sn	**Sn**	**21 06 18.2**	**-1.7**
	1.0nm,0.3s,baz=112,slow=32,SNR=4.3						
JHJ	**Hachijo jima 2**	**6.39**	**219**	Pn	**Pn**	**21 05 12.3**	**-3.1**
	28nm,0.3s,baz=94,slow=21,SNR=2.8						
USRK	**Ussuriysk Ar.**	**11.21**	**306**	Pn	Pn	21 06 25.5	+4.1
	0.2nm,0.3s,baz=104,slow=13,SNR=3.6						
SEY	**Seymchan**	**25.22**	**8**	P	**P**	**21 09 07.9**	**+1.9**
	1.8nm,0.7s,baz=203,slow=8.7,SNR=7.7						
H11N2	**WAKE ISLAND Hy**	**26.72**	**127**	T	T	21 37 03.5	
	baz=318,slow=74						
H11N1	**WAKE ISLAND Hy**	**26.73**	**127**	T	T	21 37 06.4	
	baz=318,slow=74						
H11N3	**WAKE ISLAND Hy**	**26.74**	**127**	T	T	21 37 12.1	
	baz=318						
ZALV	**Zalesovo Beam**	**43.00**	**312**	P	**P**	**21 11 41.4**	**+1.9**
	0.5nm,0.4s,baz=98,slow=8.9,SNR=2.7						
ZALV				PcP	**PcP**	**21 13 30.4**	**+1.2**
	0.6nm,0.5s,baz=65,slow=3.8,SNR=3.1						
CMAR	**Chiang Mai Arr**	**44.21**	**257**	P	**P**	**21 11 49.4**	**-0.2**
	0.2nm,0.3s,baz=40,slow=9.9,SNR=3.2						
KDAK	**Kodiak Island**	**44.55**	**43**	P	**P**	**21 11 52.0**	**+0.1**
	6.9nm,0.6s,baz=320,slow=7.9,SNR=4.1						
MKAR	**Makanchi Array**	**45.63**	**302**	P	**P**	**21 12 02.3**	**+1.6**
	0.5nm,0.7s,baz=85,slow=8.5,SNR=6.9						
ILAR	**Eielson Array**	**47.16**	**33**	P	**P**	**21 12 13.1**	**+0.7**
	0.4nm,0.9s,baz=270,slow=5.3,SNR=3.2						
WRA	**Warramunga Arr**	**58.62**	**191**	P	**P**	**21 13 36.4**	**-1.0**
	1.0nm,0.7s,baz=8.5,slow=6.9,SNR=7.4						
WRA				PcP	**PcP**	**21 14 28.0**	**+0.7**
	1.0nm,1.0s,baz=4.2,slow=4.3,SNR=3.9						
YKA	**Yellowknife Ar**	**61.53**	**31**	P	**P**	**21 13 56.3**	**-0.6**
	0.2nm,0.5s,baz=294,slow=6.3,SNR=3.8						
DZM	**Mont Dzumac**	**63.37**	**157**	LR	LR	21 39 45.3	
	comp=Z,102nm,19.2s,baz=320,slow=34						
PDAR	**Pinedale Array**	**75.05**	**47**	P	**P**	**21 15 22.7**	**+0.6**
	0.6nm,0.6s,baz=302,slow=2.4,SNR=6.5						
TORD	**Torodi Ar. Bea**	**118.21**	**318**	PKP	**PKPdf**	**21 22 27.7**	**0.0**
	0.1nm,0.4s,baz=338,slow=1.6,SNR=2.9						

IDC 22 21:23:44.2±2.2, 3.90N×94.95E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/34, mbtmp3.4/5, ML3.5/2, Error ellipse: s-maj=66.4km s-min=24.7km az=53.0

ISCJB 22 21:23:46.6±1.3, 3.8N±0.1×94.8E±0.1, h37km, Error ellipse: s-maj=24.2km s-min=11.7km az=42.4

ISC 22 21:23:47.9±1.7, 3.8N±0.2×94.8E±0.2, h37km, n9, σ2=01/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**4.24**	**103**	Pn	**Pn**	**21 24 47.9**	**-2.0**
	1.5nm,0.3s,baz=360,slow=17,SNR=7.4						
PSI				Sn	**Sn**	**21 25 40.6**	**+2.3**
	1.5nm,0.3s,baz=358,slow=2.5,SNR=2.4						
CMAR	**Chiang Mai Arr**	**15.14**	**15**	Pn	**Pn**	**21 27 18.8**	**-0.4**
	0.1nm,0.3s,baz=198,slow=11,SNR=5.2						
LEM	**Lembang**	**16.58**	**129**	Pn	**P**	**21 27 38.4**	**-1.5**
	5.2nm,0.3s,baz=306,slow=19,SNR=2.7						
H08S2	**Diego Garcia H**	**24.98**	**243**	T	T	21 56 26.6	
	baz=62,slow=76,SNR=7.3						
H08S3	**Diego Garcia H**	**24.98**	**243**	T	T	21 56 31.2	
	baz=62,slow=76,SNR=5.8						
H08S1	**Diego Garcia H**	**25.00**	**243**	T	T	21 56 28.0	
	baz=62,slow=76,SNR=5.0						
MKAR	**Makanchi Array**	**44.20**	**348**	P	**P**	**21 31 54.0**	**+0.7**
	0.1nm,0.4s,baz=156,slow=7.3,SNR=3.4						
WRA	**Warramunga Arr**	**45.44**	**123**	P	**P**	**21 32 04.0**	**+0.5**
	0.6nm,0.8s,baz=303,slow=9.3,SNR=4.9						
ASAR	**Alice Springs**	**46.86**	**128**	P	**P**	**21 32 16.5**	**+1.8**
	0.8nm,0.6s,baz=298,slow=7.6,SNR=9.2						

NEIC 22 21:29:35.8±2.4, 9.72N×83.90W, h17km±12km, mb4.2/3, MD4.1(UCR), Error ellipse: s-maj=30.7km s-min=11.0km az=200.0

NEIC Felt [III] at Cartago, Escazu and Piedades. Also felt at Alajuelita, Atenas, Bahia Ballena, La Virgen, Pozos, San Isidro, San Jose, Santa Rosa and Ulloa.

ISCJB 22 21:29:36.1±0.4, 9.74N±0.03×83.88W±0.03, h20km±4km, mb3.9/1, Error ellipse: s-maj=6.8km s-min=3.6km az=42.3

UCR 22 21:29:36.3±1.4, 9.74N×83.91W, h6km±4km, MD3.6, mb4.2(NEIC)

ISC 22 21:29:35.5±1.0, 9.73N±0.04×83.91W±0.04, h14km±7km, n32, σ1=06/46, 3C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCR2	**La Lucha 2**	**0.10**	**277**	*i* P	**Pg**	**21 29 39.3**	**+0.5**
CVTR	**Volcan Turrial**	**0.32**	**27**	*i* P	**Pb**	**21 29 43.1**	**-0.2**
CVTR				*e*S	**Sb**	**21 29 48.4**	**-0.2**
HDC	**Heredia**	**0.34**	**323**	*e*Pg	**Pb**	**21 29 43.3**	**-0.2**
HDC				*e*Sg	**Sb**	**21 29 48.3**	**-0.5**
HDC	**Heredia**	**0.34**	**323**	*e*P	**Pb**	**21 29 42.9**	**-0.6**
HDC				*e*S	**Sb**	**21 29 48.7**	**-0.1**
EDDO	**Dominical**	**0.47**	**175**	*i* P	**Pb**	**21 29 45.5**	**-0.2**
EDDO				*e*S	**Sb**	**21 29 52.7**	**+0.1**
SRA1	**San Ramn**	**0.67**	**302**	*i* P	**Pb**	**21 29 48.4**	**-0.6**
SRA1				*e*S	**Sb**	**21 29 58.0**	**-0.3**
EDPN	**Palmar Norte**	**0.88**	**150**	*e*P	**Pb**	**21 29 52.6**	**0.0**
FORC	**Fortuna**	**1.05**	**314**	*i* P	**Pb**	**21 29 55.3**	**-0.2**
FORC				*i* S	**Sb**	**21 30 10.2**	**+1.0**
ARE1	**Arenal 1**	**1.08**	**312**	*i* P	**Pb**	**21 29 56.0**	**-0.1**
CEDE	**Laguna Cedeo**	**1.09**	**314**	*i* P	**Pb**	**21 29 56.2**	**0.0**
CEDE				*i* S	**Sb**	**21 30 11.1**	**+0.8**
JTS	**JuntasAbangare**	**1.17**	**298**	*e*Pn	**Pg**	**21 29 57.0**	**-1.1**
JTS				*e*Sn	**Sg**	**21 30 12.5**	**-0.9**
ACAL	**Aguas Claras**	**1.43**	**309**	*i* P	**Pn**	**21 30 01.5**	**+0.3**
BRU2	**Volcan**	**1.52**	**128**	*e*P	**Pb**	**21 30 02.9**	**-0.7**
BRU2				*e*S	**Sg**	**21 30 24.3**	**-0.2**
CUI	**Cuipilapa**	**1.54**	**307**	*e*P	**Pn**	**21 30 03.5**	**+0.7**
PLVR	**Palo Verde**	**1.55**	**293**	*i* eP	**Pn**	**21 30 03.2**	**+0.2**
HORNC	**Hornillas**	**1.59**	**308**	*i* P	**Pb**	**21 30 04.6**	**-0.2**
HORNC				*i* S	**Sg**	**21 30 25.9**	**-0.9**
MESS	**Mesas**	**1.62**	**308**	*e*P	**Pn**	**21 30 04.6**	**+0.8**
GUAB	**Guayabo de Bag**	**1.63**	**307**	*i* P	**Pb**	**21 30 04.9**	**-0.5**
GB1A	**Borinquen Arri**	**1.82**	**306**	*e*P	**Pb**	**21 30 08.1**	**-0.7**
NY14	**Universidad de**	**1.84**	**300**	*i* P	**Pb**	**21 30 08.2**	**-0.8**
ESPN	**Las Esperanzas**	**2.48**	**351**	*e*Pn	**Pn**	**21 30 13.4**	**-2.2**
ESPN				*e*Sn	**Sb**	**21 30 50.8**	**+0.4**
BOAB	**BOACO BROADBAN**	**8.21**	**328**	*e*Pn	**Pn**	**21 30 26.6**	**+1.0**
BOAB				*e*Sn	**Sn**	**21 31 05.8**	**+2.2**
BCIP	**Isla Barro Col**	**4.05**	**98**	*e*Pn	**Pn**	**21 30 37.2**	**0.0**
BCIP				*e*Sn	**Sn**	**21 31 22.1**	**-2.4**
BCIP	**Isla Barro Col**	**4.05**	**98**	*e*P	**Pn**	**21 30 37.6**	**+0.4**
AZU	**Azuero**	**4.07**	**118**	*e*P	**Pn**	**21 30 39.6**	**+2.2**
AZU				*e*S	**Sn**	**21 31 26.6**	**+1.5**
ESTN	**Estel**	**4.13**	**324**	*e*Pn	**Pn**	**21 30 38.7**	**+0.3**
CCIG	**Comitan**	**10.33**	**310**	*e*Pn	**Pn**	**21 32 04.8**	**+1.2**
MTDJ	**Mount Denham**	**10.46**	**35**	*e*Pn	**Pn**	**21 32 08.4**	**+3.0**
060A	**Indiantown**	**17.54**	**11**	*e*Pn	**P**	**21 33 41.8**	**+1.0**
	258nm,1.1s						
SJG	**San Juan**	**19.13**	**62**	*e*P	**P**	**21 33 58.5**	**+0.1**
	17nm,1.0s						
MTP	**Monte Pirata**	**19.65**	**63**	*e*P	**P**	**21 34 03.0**	**-1.1**
	16nm,1.1s						
X37A	**Clayton**	**26.88**	**339**	*e*P	**P**	**21 35 15.1**	**-1.0**
	3.2nm,0.8s						

ISCJB 22 21:30:25.8±0.5, 55.51N±0.04×135.58W±0.09, h10km, mb3.4/6, Error ellipse: s-maj=7.6km s-min=4.6km az=150.3

IDC 22 21:30:27.4±1.0, 55.48N×135.27W, h0km, mb3.4/7, mb1 3.6/13, mb1mx3.5/46, mbtmp3.5/13, ML3.0/4, Error ellipse: s-maj=13.9km s-min=9.6km az=57.0

NEIC 22 21:30:28.2±0.0, 55.59N×135.59W, h18km, ML3.3(AEIC), After AEIC.

ISC 22 21:30:27.5±0.7, 55.55N±0.04×135.47W±0.05, h10km, n33, σ2=19/38, mb3.5/6, Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIT	**Sitka**	**1.52**	**3**	P	**Pn**	**21 30 54.1**	**-0.5**
SIT				S	**Sn**	**21 31 12.9**	**-1.4**
WRAK	**Wrangell Islan**	**1.96**	**62**	P	**Pn**	**21 31 01.2**	**+0.5**
WRAK				S	**Sb**	**21 31 27.0**	**-0.6**
MASB	**Masset**	**2.52**	**126**	P	**Pn**	**21 31 10.1**	**+1.7**
JIS	**Juneau Island**	**2.80**	**12**	P	**Pn**	**21 31 13.1**	**+0.8**
H02S1	**DAWSON INLET T**	**2.93**	**142**	Pn	**Pn**	**21 31 13.6**	**-0.4**
H02S1				Sn	**Sn**	**21 31 45.7**	**-3.5**
BESE	**Bessie Mountai**	**3.06**	**6**	P	**Pn**	**21 31 15.5**	**-0.4**
BNB	**Barry Inlet**	**3.69**	**142**	P	**Pn**	**21 31 25.3**	**+0.7**
PLBC	**Pleasant Camp**	**3.95**	**353**	P	**Pn**	**21 31 28.4**	**+0.3**
DLBC	**Dease Lake**	**4.15**	**44**	Pn	**Pn**	**21 31 32.3**	**+1.4**
	0.4nm,0.3s,baz=206,slow=8.5,SNR=11						
DLBC				Sn	**Sn**	**21 32 20.8**	**+1.3**
	2.5nm,0.3s,baz=173,slow=18,SNR=5.1						
DLBC				Lg	Lg	21 32 40.2	
	8.8nm,0.3s,baz=44,slow=4.1,SNR=9.8						
DLBC	**Dease Lake**	**4.15**	**44**	*e*Pn	**Pn**	**21 31 32.6**	**+1.7**
DLBC				*e*Pg	**Pg**	**21 31 47.3**	**+0.4**
DLBC				*e*S	**Sg**	**21 32 39.7**	**-1.0**
PNL	**Peninsula**	**4.64**	**335**	P	**Pn**	**21 31 37.7**	**+0.1**
SAMH	**Samovar Hills**	**5.40**	**330**	P	**Pn**	**21 31 47.9**	**-0.1**
BBB	**Bella Bella**	**5.50**	**125**	Pn	**Pn**	**21 31 48.7**	**-0.6**
	0.2nm,0.3s,baz=294,slow=11,SNR=4.8						
BBB				Sn	**Sn**	**21 32 50.2**	**-2.4**
	1.2nm,0.3s,baz=184,slow=22,SNR=3.4						
BBB				Lg	Lg	21 33 19.8	
	0.9nm,0.3s,baz=225,slow=17,SNR=2.5						
YUK4	**Talbot Arm**	**6.05**	**345**	P	**Pn**	**21 31 58.2**	**+1.2**
KIAG	**Kiagna River**	**6.50**	**329**	P	**Pn**	**21 32 02.6**	**-0.7**
KDAK	**Kodiak Island**	**9.68**	**290**	Pn	**Pn**	**21 32 47.6**	**+0.9**
	0.5nm,0.3s,baz=80,slow=11,SNR=2.8						
KDAK				Sn	**Sn**	**21 34 28.8**	**-6.5**
	0.1nm,0.3s,baz=305,slow=14,SNR=1.7						
KDAK	**Kodiak Island**	**9.68**	**290**	*e*Pn	**Pn**	**21 32 45.4**	**-1.2**
ILAR	**Eielson Array**	**10.84**	**333**	Pn	**Pn**	**21 33 05.1**	**+2.6**
	baz=150,slow=13,SNR=4.6						
ILAR				Sn	**Sn**	**21 35 04.3**	**+0.6**
	0.0nm,0.3s,baz=178,slow=26,SNR=2.9						
YKA	**Yellowknife Ar**	**12.76**	**48**	Pn	**Pn**	**21 33 26.5**	**-2.1**
	baz=267,slow=15,SNR=2.2						
YKA				Sn	**Sn**	**21 35 44.1**	**-6.4**
	0.0nm,0.3s,baz=74,slow=5.2,SNR=2.9						
INK	**Inuvik**	**12.84**	**3**	Pn	**Pn**	**21 33 32.0**	**+2.3**
	0.1nm,0.3s,baz=155,slow=14,SNR=3.6						
INK				Sn	**Sn**	**21 35 49.9**	**-2.6**
	0.2nm,0.3s,baz=124,slow=22,SNR=3.7						
NVAR	**Mina Array Bea**	**20.64**	**139**	P	**P**	**21 35 07.5**	**+0.3**
	0.2nm,0.3s,baz=286,slow=13,SNR=2.4						
PDAR	**Pinedale Array**	**21.07**	**117**	P	**P**	**21 35 11.1**	**-0.8**
	0.5nm,0.9s,baz=40,slow=6.0,SNR=2.6						
RES	**Resolute Bay**	**24.78**	**24**	P	**P**	**21 35 51.6**	**+2.8**
	1.7nm,0.9s,baz=258,slow=10,SNR=4.5						
TXAR	**Lajitas Array**	**34.63**	**126**	P	**P**	**21 37 16.8**	**0.0**
	0.5nm,0.9s,baz=330,slow=10,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**55.76**	**254**	T	T	22 40 55.5	
	baz=35,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**55.76**	**254**	T	T	22 40 53.2	
	baz=35,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**55.77**	**254**	T	T	22 41 00.3	
	baz=35,slow=75,SNR=8.7						
H11S1	**WAKE ISLAND Hy**	**56.86**	**254**	T	T	22 42 19.7	
	baz=35,slow=75,SNR=6.1						
H11S2	**WAKE ISLAND Hy**	**56.87**	**254**	T	T	22 42 18.1	
	baz=35,slow=75,SNR=4.5						
H11S3	**WAKE ISLAND Hy**	**56.88**	**254**	T	T	22 42 22.9	
	baz=35,slow=75,SNR=6.5						
MKAR	**Makanchi Array**	**73.19**	**334**	P	**P**	**21 42 00.7**	**+2.6**
	0.3nm,0.8s,baz=47,slow=4.1,SNR=4.3						
AKASG	**Malin Array Be**	**73.36**	**10**	P	**P**	**21 42 01.1**	**+2.1**
	0.2nm,0.3s,baz=349,slow=6.4,SNR=4.0						
BRTR	**Keskin Array B**	**84.64**	**8**	P	**P**	**21 43 03.0**	**+1.8**
	1.0nm,1.0s,baz=338,slow=1.6,SNR=2.8				

OGNE	**Ogallala**	**4.25**	**147**	*e*Pn	**Pn**	**21 38 55.9**	**-2.2**
OGNE				*e*Pg	**Pg**	**21 39 13.2**	**-0.3**
EGMT	**Eagleton**	**4.75**	**319**	*e*Pn	**Pn**	**21 39 05.9**	**+1.0**
EGMT				*e*Pg	**Pg**	**21 39 24.4**	**+1.5**
EGMT				*e*S	**Sn**	**21 39 57.9**	**-2.8**
BOZ	**Bozeman (W)**	**4.76**	**285**	*e*Pn	**Pn**	**21 39 03.3**	**-1.8**
BOZ				*e*Pg	**Pb**	**21 39 17.4**	**+1.0**
BOZ				*e*S	**Sb**	**21 40 15.1**	**+0.9**
ISCO	**Idaho Springs**	**4.77**	**185**	*e*Pn	**Pn**	**21 39 04.2**	**-1.3**
ISCO				*e*S	**Sb**	**21 40 15.6**	**+0.8**
I10CA	**LAC DU BONNET**	**8.34**	**44**	*i*		22 32 50.0	
	baz=224,slow=332,SNR=1.0						
ULM	**Lac du Bonnet**	**8.44**	**44**	Pn	**Pn**	**21 39 59.5**	**+4.0**
	0.9nm,0.3s,baz=231,slow=12,SNR=10.0						
ULM				Lg	Lg	21 42 26.1	
	0.2nm,0.3s,baz=149,slow=20,SNR=6.2						

MEX 22 21:44:46.3±0.3, 21°14N×106°43W, h14km±89km, MD4.0, Off coast of central Mexico

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANIG	**Ahuacatlan**	**1.78**	**93**	*e*P	Pn	21 45 13.9	-2.8
ANIG				*i* S	Sn	21 45 35.2	-4.0
CJM	**Chamela**	**2.09**	**141**	*i* P	Pn	21 45 17.6	-3.2
CJM				*e*S	Sn	21 45 42.1	-4.5
R15V		**3.02**	**130**	*e*P	Pn	21 45 31.3	-2.4
R15V				*i* S	Sn	21 46 05.9	-3.8
EZ5V		**3.12**	**122**	*i* P	Pn	21 45 32.1	-3.3
EZ5V				*i* S	Sn	21 46 08.8	-3.8

*SJA **22** 21:50:33.2±0.8, 33°61S×70°15W, h143km±3km, ML2.8, MW3.0*
*ISCJB **22** 21:50:34.5±0.8, 33°58S±0°05×70°17W±0°05, h131km±5km, Error ellipse: s-maj=9.8km s-min=6.0km az=149.5*
*GUC **22** 21:50:36.0±0.5, 33°53S×70°14W, h122km±2km, ML3.8*
ISC 22 21:50:35.7±1.6, 33°58S±0°05×70°16W±0°05, h123km±9km, n23, σ0°90/36, 1C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FCH	**Farellones**	**0.27**	**336**	⇓*i* P	**Pn**	**21 50 52.9**	**-0.5**
FCH				*e*S	**Sn**	**21 51 05.5**	**-1.0**
FCH				IAML		21 51 06.1	
	comp=N,2μm,0.4s						
LMEL	**Las Melosas**	**0.27**	**188**	⇓*i* P	**Pn**	**21 50 53.0**	**-0.1**
LMEL				*e*S	**Sn**	**21 51 05.7**	**-0.6**
CLCH	**Cerro Calan**	**0.36**	**300**	⇓*e*P	**Pn**	**21 50 53.0**	**-0.3**
CLCH				*e*S	**Sn**	**21 51 05.9**	**-0.8**
CLCH				IAML		21 51 07.7	
	comp=E,3μm,0.3s						
PEL	**Peldehue**	**0.62**	**314**	*e*P	**Pn**	**21 50 55.0**	**+0.2**
PEL				*e*S	**Sn**	**21 51 11.4**	**+2.2**
PEL	**Peldehue**	**0.62**	**314**	*e*P	**Pn**	**21 50 54.3**	**-0.5**
PEL				*e*S	**Sn**	**21 51 08.2**	**-1.0**
PEL				IAML		21 51 09.2	
	comp=N,4μm,0.2s						
ROCH	**El Roble**	**0.93**	**310**	⇑*i* P	**Pn**	**21 50 57.7**	**+0.1**
ROCH				*e*S	**Sn**	**21 51 13.7**	**-0.5**
ROCH				IAML		21 51 14.4	
	comp=N,7μm,0.3s						
AAGR	**Agrelo**	**1.22**	**67**	*e*P	**Pn**	**21 51 00.0**	**-0.3**
AAGR				*e*S	**Sn**	**21 51 20.2**	**+1.2**
ARCO	**CERRO ARCO**	**1.26**	**55**	*e*P	**Pn**	**21 51 00.6**	**-0.2**
ARCO				IAML		21 51 20.6	
	comp=Z,109nm,0.5s						
ARCO				*e*S	**Sn**	**21 51 21.2**	**+1.3**
AVIZ	**Vizcaderas**	**1.38**	**86**	*e*P	**Pn**	**21 51 01.9**	**0.0**
AVIZ				*e*S	**Sn**	**21 51 22.9**	**+0.9**
ASAL	**Salagasta**	**1.48**	**49**	*e*P	**Pn**	**21 51 03.2**	**0.0**
ASAL				*e*S	**Sn**	**21 51 25.4**	**+1.3**
AUSP	**Uspallata**	**1.50**	**26**	*e*P	**Pn**	**21 51 03.7**	**+0.1**
RTLS	**Leoncito**	**1.92**	**23**	*e*P	**Pn**	**21 51 09.4**	**+0.9**
RTLS				*e*S	**Sn**	**21 51 34.9**	**+1.3**
RTLS				IAML		21 51 35.9	
	comp=Z,40nm,0.3s						
GO05	**Huala**	**2.05**	**225**	*e*P	**Pn**	**21 51 09.1**	**-0.7**
GO05	**Huala**	**2.05**	**225**	*e*P	**Pn**	**21 51 10.5**	**+0.7**
GO05				*e*S	**Sn**	**21 51 37.3**	**+1.3**
RTCV	**Cerro Valdivia**	**2.19**	**39**	*e*P	**Pn**	**21 51 11.1**	**-0.6**
RTCV				*e*S	**Sn**	**21 51 39.5**	**+0.2**
CMCH	**Combarbala**	**2.50**	**343**	*e*P	**Pn**	**21 51 15.6**	**-0.1**
RTLL	**Cerro Villicun**	**2.66**	**33**	*e*P	**Pn**	**21 51 16.7**	**-1.0**
ACAN	**Cantantal**	**2.82**	**63**	*e*P	**Pn**	**21 51 19.3**	**-0.4**
AMOG	**MOGNA**	**2.99**	**29**	*e*P	**Pn**	**21 51 22.2**	**+0.2**
MRA	**San Martin**	**3.91**	**74**	*e*P	**Pn**	**21 51 32.9**	**-1.2**
MRA				IAML		21 51 34.0	
	comp=Z,13nm,0.3s						
AGUA	**GUANDACOL**	**4.32**	**20**	*e*P	**Pn**	**21 51 38.7**	**-1.0**
APLL	**PUNTA DE LOS L**	**4.43**	**45**	*e*P	**Pn**	**21 51 39.8**	**-1.2**
APLL				IAML		21 52 29.8	
	comp=Z,8nm,0.3s						
ACLC	**CERRO LA CRUZ**	**4.96**	**34**	*e*P	**Pn**	**21 51 47.3**	**-1.1**

*NNC **22** 21:51:13.0±2.6, 37°70N×71°93E, h191km±26km, mb2.5, mpv3.5, Error ellipse: s-maj=33.9km s-min=23.1km az=94.0*
ISC 22 21:51:14.0±3.1, 37°8N±0°2×71°9E±0°1, h200km, n11, σ1°23/16, 5C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.56**	**29**	⇓P	**Pn**	**21 51 57.5**	**-1.3**
	12nm,0.3s						
SFK				⇓S	**Sn**	**21 52 33.4**	**-0.4**
	34nm,0.5s						
AML	**Almayashu**	**4.56**	**17**	P	**Pn**	**21 52 23.4**	**+0.3**
	SNR=38						
MNAS	**Manas**	**4.73**	**6**	⇑P	**Pn**	**21 52 25.1**	**+0.2**
	4.7nm,0.4s						
MNAS				⇑S	**Sn**	**21 53 22.1**	**+1.1**
	15nm,0.9s						
UCH	**Uchtor**	**4.88**	**24**	P	**Pn**	**21 52 27.4**	**+0.2**
	SNR=17						
KZA	**Kyzart**	**5.01**	**30**	P	**Pn**	**21 52 28.1**	**-0.7**
	SNR=15						
EKS2	**Erkin-Say**	**5.09**	**16**	P	**Pn**	**21 52 30.8**	**+1.2**
	SNR=17						
AAK	**Ala-Archa**	**5.25**	**22**	P	**Pn**	**21 52 32.5**	**+0.9**
	SNR=10.0						
AAK	**Ala-Archa**	**5.25**	**22**	⇑P	**Pn**	**21 52 31.7**	**+0.1**
	2.2nm,0.3s						
AAK				⇑S	**Sn**	**21 53 33.2**	**+0.2**
	2.7nm,0.5s						
USP	**Ospenovka**	**5.83**	**19**	P	**Pn**	**21 52 40.2**	**+1.2**
	SNR=6.8						
TKM2	**Tokmak 2**	**5.87**	**28**	⇓P	**Pn**	**21 52 38.8**	**-0.8**
	2.3nm,0.8s						
TKM2				⇓S	**Sn**	**21 53 47.9**	**+0.5**
	0.6nm,0.6s						
AB31	**Akbulak array**	**14.36**	**327**	⇑P	**P**	**21 54 30.8**	**+1.3**
	1.6nm,1.1s,baz=134,slow=13,SNR=5.2						
AB31				⇓S	**S**	**21 57 04.5**	**-3.1**
	0.5nm,0.7s,baz=138,slow=24,SNR=5.1						

MEX 22 22:11:40.4±0.8, 13°88N×92°11W, h105km±21km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.04**	**352**	*i* P	Pn	22 12 00.6	-1.0
THIG				*i* S	Sn	22 12 15.1	-2.5
PCIG		**2.11**	**330**	*e*P	Pn	22 12 13.4	-1.2
PCIG				*i* S	Sn	22 12 39.6	-1.2
CCIG	**Comitan**	**2.39**	**359**	*i* P	Pn	22 12 16.5	-2.0
CCIG				*i* S	Sn	22 12 46.8	-0.8

*SJA **22** 22:15:49.8±0.6, 22°78S×68°30W, h130km±4km, ML3.5, MW3.1*
*IDC **22** 22:15:49.5±0.8, 22°59S×68°01W, h104km±8km, mb3.8/10, mb1 3.9/12, mb1mx3.8/27, mbtmp4.1/12, Error ellipse: s-maj=20.3km s-min=15.8km az=35.0*
*NEIC **22** 22:15:50.0±0.0, 22°69S×68°31W, h122km, ML4.1(GUC), After GUC.*
*ISCJB **22** 22:15:50.2±0.3, 22°75S±0°03×68°29W±0°03, h130km±3km, Error ellipse: s-maj=5.7km s-min=5.0km az=41.6*
*GUC **22** 22:15:50.5±0.7, 22°73S×68°26W, h130km±4km, ML4.2*

*VAO **22** 22:15:51.2±0.5, 22°61S×68°26W, h122km, mb4.2*
ISC 22 22:15:50.7±0.6, 22°79S±0°04×68°25W±0°05, h122km±6km, n79, σ1°25/101, 10C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.64**	**287**	P	**Pn**	**22 16 10.4**	**+0.2**
	531nm,0.3s,baz=99,slow=3.5,SNR=4271						
LVC				S	**Sn**	**22 16 24.1**	**-0.7**
	886nm,0.3s,baz=185,slow=22,SNR=143						
LVC	**Limon Verde**	**0.64**	**287**	*e*Pn	**Pn**	**22 16 10.2**	**+0.1**
LVC				*e*Sn	**Sn**	**22 16 24.2**	**-0.6**
LVC	**Limon Verde**	**0.64**	**287**	*e*P	**Pn**	**22 16 10.4**	**+0.2**
LVC				*e*S	**Sn**	**22 16 25.7**	**+0.8**
LVC	**Limon Verde**	**0.64**	**287**	⇑*i*P	**Pn**	**22 16 10.3**	**+0.1**
LVC				*e*S	**Sn**	**22 16 24.7**	**-0.1**
LVC	**Limon Verde**	**0.64**	**287**	*e*P	**Pn**	**22 16 10.4**	**+0.2**
PB06	**IPOC Station P**	**1.22**	**274**	*e*P	**Pn**	**22 16 15.8**	**+0.5**
PB06				*e*S	**Sn**	**22 16 34.5**	**+0.5**
PB06	**IPOC Station P**	**1.22**	**274**	⇑*i*P	**Pn**	**22 16 15.8**	**+0.5**
PB06				*e*S	**Sn**	**22 16 34.5**	**+0.5**
PB06				IAML		22 16 37.8	
	comp=N,5μm,0.4s						
PB09	**IPOC Station P**	**1.35**	**317**	*e*P	**Pn**	**22 16 16.9**	**+0.1**
PB09				*e*S	**Sn**	**22 16 36.7**	**+0.2**
PB09	**IPOC Station P**	**1.35**	**317**	⇑*i*P	**Pn**	**22 16 16.8**	**+0.1**
PB09				*e*S	**Sn**	**22 16 36.0**	**-0.5**
PB03	**IPOC Station P**	**1.57**	**298**	*e*P	**Pn**	**22 16 19.1**	**-0.2**
PB03				*e*S	**Sn**	**22 16 40.9**	**-0.1**
PB03	**IPOC Station P**	**1.57**	**298**	⇑*i*P	**Pn**	**22 16 19.1**	**-0.2**
PB03				*e*S	**Sn**	**22 16 40.4**	**-0.7**
PB03				IAML		22 16 41.5	
	comp=E,3μm,0.5s						
PB05	**IPOC Station P**	**1.80**	**268**	*e*P	**Pn**	**22 16 21.9**	**0.0**
PB05				*e*S	**Sn**	**22 16 45.6**	**-0.2**
PB05	**IPOC Station P**	**1.80**	**268**	⇑*i*P	**Pn**	**22 16 22.1**	**+0.2**
PB05				*e*S	**Sn**	**22 16 46.4**	**+0.6**
PB05				IAML		22 16 53.1	
	comp=E,2μm,0.2s						
PB04	**IPOC Station P**	**1.81**	**284**	*e*Pn	**Pn**	**22 16 21.9**	**-0.2**
PB04				*e*Sn	**Sn**	**22 16 45.8**	**-0.3**
PB04	**IPOC Station P**	**1.81**	**284**	*e*P	**Pn**	**22 16 21.9**	**-0.2**
PB04	**IPOC Station P**	**1.81**	**284**	⇑*i*P	**Pn**	**22 16 22.1**	**-0.1**
PB04				*e*S	**Sn**	**22 16 46.0**	**-0.1**
PB04				IAML		22 16 51.9	
	comp=N,3μm,0.7s						
PB07	**IPOC Station P**	**1.85**	**305**	*e*P	**Pn**	**22 16 22.5**	**-0.1**
PB07				*e*S	**Sn**	**22 16 46.4**	**-0.5**
PB07	**IPOC Station P**	**1.85**	**305**	⇑*i*P	**Pn**	**22 16 22.3**	**-0.3**
PB07				*e*S	**Sn**	**22 16 46.1**	**-0.8**
PB07				IAML		22 16 47.6	
	comp=E,3μm,0.5s						
PB01	**IPOC Station P**	**2.08**	**326**	*e*Pn	**Pn**	**22 16 24.8**	**-0.6**
PB01				*e*Sn	**Sn**	**22 16 50.3**	**-1.7**
PB01	**IPOC Station P**	**2.08**	**326**	*e*P	**Pn**	**22 16 25.0**	**-0.5**
PB01	**IPOC Station P**	**2.08**	**326**	⇑*i*P	**Pn**	**22 16 24.9**	**-0.5**
PB01				*e*S	**Sn**	**22 16 50.9**	**-1.1**
PB01				IAML		22 16 54.1	
	comp=E,1μm,0.5s						
PB10	**IPOC Station P**	**2.24**	**251**	*e*Pn	**Pn**	**22 16 27.3**	**+0.1**
PB10				*e*Sn	**Sn**	**22 16 53.5**	**-1.7**
PB10	**IPOC Station P**	**2.24**	**251**	*e*P	**Pn**	**22 16 27.1**	**-0.1**
PB10	**IPOC Station P**	**2.24**	**251**	⇑*i*P	**Pn**	**22 16 27.3**	**+0.1**
YJA	**Yavi**	**2.60**	**77**	*e*P	**Pn**	**22 16 33.9**	**+1.6**
YJA				IAML		22 16 34.5	
	comp=Z,124nm,0.6s						
HJA	**Humahuaca**	**2.65**	**100**	*e*P	**Pn**	**22 16 34.8**	**+1.9**
HJA				IAML		22 16 35.6	
	comp=Z,280nm,0.4s						
GO02	**Mina Guanaco**	**2.66**	**207**	*e*Pn	**Pn**	**22 16 34.1**	**+1.3**
GO02	**Mina Guanaco**	**2.66**	**207**	⇑*i*P	**Pn**	**22 16 34.2**	**+1.3**
GO02				*i* S	**Sn**	**22 17 07.3**	**+2.0**
PB14	**IPOC Station P**	**2.69**	**227**	*e*S	**Sn**	**22 16 33.5**	**+0.2**
PB08	**IPOC Station P**	**2.77**	**342**	*e*P	**Pn**	**22 16 34.9**	**+0.5**
SLA	**San Lorenzo**	**3.17**	**128**	*e*P	**Pn**	**22 16 41.0**	**+1.6**
SLA				IAML		22 16 43.1	
	comp=Z,60nm,0.6s						
AZAP	**Zapla**	**3.25**	**117**	*e*P	**Pn**	**22 16 41.7**	**+1.1**
PB11	**IPOC Station P**	**3.29**	**336**	*e*Pn	**Pn**	**22 16 39.5**	**-1.5**
PB11	**IPOC Station P**	**3.29**	**336**	*e*P	**Pn**	**22 16 39.7**	**-1.4**
MNMC	**Minye Minye**	**3.85**	**341**	*e*Pn	**Pn**	**22 16 47.6**	**-1.1**
ALOL	**LOMAS DE OLMED**	**4.05**	**105**	*e*P	**Pn**	**22 16 51.6**	**+0.5**
GO03	**Copiap**	**5.11**	**200**	*e*Pn	**Pn**	**22 17 04.3**	**-0.8**
LPAZ	**La Paz**	**6.47**	**1**	P	**Pn**	**22 17 24.4**	**+0.3**
	comp=Z,8.5nm,0.3s,baz=252,slow=10,SNR=219						
LCO	**Las Campanas**	**6.57**	**199**	*e*Pn	**Pn**	**22 17 22.7**	**-2.5**
LCO				*e*Sn	**Sn**	**22 18 34.1**	**-4.7**
GO04	**Tololo Observa**	**7.70**	**197**	*e*Pn	**Pn**	**22 17 37.5**	**-2.8**
GO04				*e*Sn	**Sn**	**22 19 01.9**	**-4.1**
ROC1	**El Roble**	**10.44**	**193**	*e*Pn	**Pn**	**22 18 16.9**	**-0.3**
CPUP	**Villa Florida**	**10.55**	**112**	P	**Pn**	**22 18 16.7**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=279,slow=12,SNR=4.9						
CPUP	**Villa Florida**	**10.55**	**112**	*e*Pn	**Pn**	**22 18 17.1**	**-1.4**
CPUP	**Villa Florida**	**10.55**	**112**	*e*P	**Pn**	**22 18 20.3**	**+1.8**
AQDB	**Aquidauana**	**11.90**	**81**	*e*P	**Pn**	**22 18 35.8**	**-0.7**
TRCB	**Terra Rica**	**14.40**	**93**	*e*P	**Pn**	**22 19 09.2**	**+0.1**
PTGB	**Pitanga**	**14.95**	**101**	*e*P	**P**	**22 19 17.2**	**-1.2**
C2SB	**Chapadao do Su**	**14.96**	**77**	*e*P	**Pn**	**22 19 16.6**	**+0.6**
CPSB	**Cacapava Do Su**	**15.26**	**123**	*e*P	**P**	**22 19 21.8**	**+0.1**
ITAB	**Concordia**	**15.27**	**110**	*e*P	**Pn**	**22 19 20.6**	**+0.9**
ITRB	**Iturama**	**16.96**	**83**	*e*P	**Pn**	**22 19 40.9**	**+0.2**
FRTB	**Fartura**	**17.21**	**95**	*e*P	**Pn**	**22 19 44.3**	**+0.5**
TIJ01	**Guaruva-PR**	**17.76**	**102**	*e*P	**Pn**	**22 19 50.8**	**+0.4**
PLCA	**Paso Flores**	**17.99**	**186**	P	**Pn**	**22 19 53.5**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=26,slow=14,SNR=3.0						
BDFB	**Brasilia**	**20.38**	**73**	P	**P**	**22 20 15.4**	**-2.6**
	comp=Z,3.9nm,0.4s,baz=240,slow=11,SNR=7.1						
PTGA	**Pitinga**	**23.36**	**21**	P	**P**	**22 20 45.1**	**-3.4**
	comp=Z,1.7nm,0.2s,baz=147,slow=23,SNR=4.9						
PTGA	**Pitinga**	**23.36**	**21**	*e*P	**P**	**22 20 47.9**	**-0.6**
SDV	**Santo Domingo**	**31.57**	**356**	*e*P	**P**	**22 22 00.8**	**-1.2**
VNA3	**Neumayer Olymp**	**58.66**	**161**	P	**P**	**22 25 36.5**	**+1.7**
VNA1	**Neumayer--Stat**	**58.87**	**160**	P	**P**	**22 25 38.4**	**+2.2**
VNA2	**Neumayer--Watz**	**59.23**	**160**	P	**P**	**22 25 40.4**	**+1.6**
	baz=293,slow=6.9						
SNAA	**Sanae**	**60.86**	**161**	P	**P**	**22 25 51.6**	**+1.6**
SNAA	**Sanae**	**60.86**	**161**	P	**P**	**22 25 51.4**	**+1.4**
	comp=Z,1.7nm,0.6s,baz=282,slow=9.1,SNR=12						
TXAR	**Lajitas Array**	**62.03**	**325**	P	**P**	**22 25 58.7**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=149,slow=7.2,SNR=4.0						
QSPA	**South Pole Qui**	**67.41**	**180**	*e*P	**P**	**22 26 34.9**	**+2.1**
DBIC	**Dimbokro**	**68.53**	**73**	P	**P**	**22 26 39.7**	**-0.8**
	comp=Z,2.2nm,0.6s,baz=232,slow=4.2,SNR=9.1						
DBIC	**Dimbokro**	**68.53**	**73**	*e*P	**P**	**22 26 40.5**	**-0.1**
PDAR	**Pinedale Array**	**75.53**	**330**	P	**P**	**22 27 22.6**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=77,slow=6.7,SNR=4.2						
ULM	**Lac du Bonnet**	**76.73**	**342**	P	**P**	**22 27 28.1**	**-0.2**
	comp=Z,4.0nm,0.6s,baz=140,slow=7.4,SNR=7.9						
NVAR	**Mina Array Bea**	**76.88**	**322**	P	**P**	**22 27 31.4**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=178,slow=7.1,SNR=4.8						
TORD	**Torodi Ar. Bea**	**77.22**	**70**	P	**P**	**22 27 30.6**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=62,slow=16,SNR=53						
YKA	**Yellowknife Ar**	**92.60**	**340**	P	**P**	**22 28 48.4**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=133,slow=4.6,SNR=24						
ASAR	**Alice Springs**	**129.04**	**206**	PKP	**PKiKP**	**22 34 46.0**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=141,slow=3.3,SNR=6.7						
WRA	**Warramunga Arr**	**132.14**	**209**	PKP	**PKiKP**	**22 34 51.9**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=151,slow=1.7,SNR=11						
MBWA	**Marble Bar**	**135.63**	**191**	*e*P	**PKPdf**	**22 34 58.1**	**+0.7**
KURK	**Kurchatov**	**142.06**	**34**	PKP	**PKPdf**	**22 35 09.0**	**+0.9**
KURBB	**Kurchatov Arra**	**142.06**	**35**	PKP	**PKPdf**	**22 35 09.0**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=314,slow=2.8,SNR=3.2						
ZALV	**Zalesovo Beam**	**142.85**	**26**	PKP	**PKPdf**	**22 35 11.0**	**+1.5**
	comp=Z,1.3nm,0.8s,baz=17,slow=1.5,SNR=6.0						
MKAR	**Makanchi Array**	**146.30**	**38**	PKPbc	**PKPbc**	**22 35 16.7**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=312,slow=2.6,SNR=16						

MEX 22 22:23:54.6±0.4, 16°28N×98°11W, h13km±3km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.12**	**351**	*i* P	Pg	22 23 57.0	-0.8
PNIG				*i* S	Sg	22 23 59.5	-0.6
VHO	**Vista Hermosa**	**1.54**	**59**	*i* P	Pn	22 24 18.4	-3.5
VHO				*i* S	Sn	22 24 36.2	-5.7
HUIG	**Huatulco**	**1.99**	**104**	*i* S	Sn	22 24 47.4	-5.4

*ISCJB **22** 22:27:44.8±0.4, 39°68N±0°02×25°56E±0°03, h7km±4km, Error ellipse: s-maj=3.8km s-min=3.0km az=43.5*
*DDA **22** 22:27:44.4, 39°73N×25°55E, h7km±3km, ML3.1*

*ATH **22** 22:27:44.6, 39°68N×25°56E, h28km±1km, ML2.2/5, Error ellipse: s-maj=1.8km s-min=1.0km az=235.0*
*ISK **22** 22:27:44.4, 39°67N×25°58E, h10km, ML2.5/22*
*THE **22** 22:27:45.3, 39°68N×25°57E, h2km±3km, ML1.9/7, Error ellipse: s-maj=3.3km s-min=0.8km az=199.0*
ISC 22 22:27:45.0±0.9, 39°68N±0°02×25°56E±0°02, h13km±8km, n51, σ0°42/75, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.37**	**307**	P	**Pg**	**22 27 52.5**	**+0.2**
LIA				S	**Sb**	**22 27 59.1**	**+0.2**
LIA				AML	AML	22 27 59.7	
	comp=N,578μm,0.3s						
LIA				AML	AML	22 28 02.3	
	comp=E,473μm,0.4s						
LIA	**Limnos Island**	**0.37**	**307**	P	**Pg**	**22 27 52.4**	**+0.1**
LIA				S	**Sg**	**22 27 57.6**	**+0.3**
BOZC	**Bozcaada**	**0.41**	**66**	PG	**Pg**	**22 27 53.1**	**-0.1**
BOZC	**Bozcaada**	**0.41**	**66**	IAML_P			
	comp=Z,8μm,0.2s						
BOZC				*i* P	**Pb**	**22 27 53.5**	**-0.6**
EFSA	**Agios Efstrati**	**0.46**	**253**	P	**Pb**	**22 27 55.2**	**+0.2**
EFSA				S	**Sb**	**22 28 01.5**	**-0.2**
EFSA				AML	AML	22 28 04.9	
	comp=E,1363μm,0.7s						
EFSA				AML	AML	22 28 06.3	
	comp=N,747μm,0.6s						
SIGR	**SIGRI**	**0.52**	**154**	PG	**Pg**	**22 27 54.9**	**-0.2**
SIGR				SG	**Sg**	**22 28 02.3**	**+0.3**
SIGR	**SIGRI**	**0.52**	**154**	P	**Pg**	**22 27 54.8**	**-0.4**
SIGR				S	**Sg**	**22 28 02.4**	**+0.4**
SIGR				AML	AML	22 28 02.5	
	comp=E,730μm,0.5s						
SIGR				AML	AML	22 28 03.0	
	comp=N,1031μm,0.6s						
SIGR	**SIGRI**	**0.52**	**154**	P	**Pg**	**22 27 54.7**	**-0.4**
SIGR				S	**Sg**	**22 28 02.4**	**+0.4**
GADA	**Gvkgeada**	**0.57**	**27**	PG	**Pb**	**22 27 56.2**	**-0.7**
GADA	**Gvkgeada**	**0.57**	**27**	P	**Pb**	**22 27 56.2**	**-0.7**
EZN	**Ezine**	**0.61**	**76**	PG	**Pg**	**22 27 56.6**	**-0.2**
EZN				SG	**Sg**	**22 28 04.9**	**+0.1**
EZN	**Ezine**	**0.61**	**76**	P	**Pg**	**22 27 56.6**	**-0.2**
EZN				S	**Sg**	**22 28 04.9**	**+0.1**
PRK	**Paraskevi**	**0.70**	**128**	P	**Pb**	**22 27 59.3**	**+0.3**
PRK				S	**Sb**	**22 28 09.0**	**+0.5**
PRK				AML	AML	22 28 14.0	
	comp=E,653μm,0.4s						
PRK				AML	AML	22 28 14.8	
	comp=N,437μm,0.3s						
PRK	**Paraskevi**	**0.70**	**128**	P	**Pb**	**22 27 59.4**	**+0.4**
PRK				S	**Sb**	**22 28 08.4**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**0.76**	**85**	IAML_P			
	comp=Z,3μm,0.1s						
BAYC				*i* P	**Pb**	**22 28 00.1**	**+0.1**
BAYC				*i* S	**Sb**	**22 28 10.1**	**-0.2**
SMTH	**Samothraki Isl**	**0.79**	**358**	P	**Pb**	**22 28 00.8**	**+0.2**
SMTH				S	**Sb**	**22 28 11.6**	**+0.3**
SMTH				AML	AML	22 28 13.2	
	comp=E,212μm,0.5s						
SMTH				AML	AML	22 28 13.2	
	comp=N,178μm,0.4s						
SMTH	**Samothraki Isl**	**0.79**	**358**	P	**Pb**	**22 28 00.5**	**-0.1**
SMTH				S	**Sb**	**22 28 12.1**	**+0.8**
AYVA	**Ayvalik**	**0.95**	**113**	*i* P	**Pn**	**22 28 03.7**	**-0.3**
AYVA				*i* S	**Sn**	**22 28 18.0**	**+0.7**
GELI	**Tayfur-Gelibol**	**1.00**	**44**	PG	**Pg**	**22 28 03.6**	**-0.7**
THAS	**Thassos island**	**1.13**	**325**	P	**Pb**	**22 28 06.0**	**-0.3**
THAS				S	**Sn**	**22 28 21.7**	**-0.1**
THAS	**Thassos island**	**1.13**	**325**	P	**Pn**	**22 28 06.5**	**0.0**
THAS				S	**Sn**	**22 28 21.8**	**-0.1**
ENEZ	**Enez**	**1.15**	**23**	PN	**Pn**	**22 28 06.7**	**0.0**
LPK	**Lapseki**	**1.15**	**53**	PN	**Pb**	**22 28 06.5**	**-0.2**
DKL	**Dikili**	**1.20**	**120**	PN	**Pb**	**22 28 07.4**	**-0.2**
ERIK	**Erikli-Kesan**	**1.23**	**36**	PN	**Pb**	**22 28 07.9**	**-0.2**
ALN	**Alexandroupoli**	**1.27**	**17**	PN	**Pb**	**22 28 08.7**	**-0.1**
ALN	**Alexandroupoli**	**1.27**	**17**	P	**Pn**	**22 28 08.3**	**-0.1**

n14, σ0.960/22, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.15**	**145**	PG	**Pg**	**23 03 04.5**	**-0.1**
GAZ				SG	**Sg**	**23 03 07.1**	**+0.3**
KMRS	**Kahramanmaras**	**0.27**	**322**	PG	**Pg**	**23 03 06.7**	**-0.1**
KMRS				SG	**Sg**	**23 03 10.3**	**-0.1**
GZT	**Gaziantep**	**0.37**	**81**	*i* P	**Pg**	**23 03 09.0**	**+0.2**
KUZU	**Kuzuini**	**0.52**	**183**	*i* P	**Pb**	**23 03 12.2**	**-0.7**
KUZU				*i* S	**Sn**	**23 03 24.8**	**+0.5**
KUZU				IAML_P			
	comp=Z,3μm,0.1s						
ANDN	**Andirin**	**0.67**	**295**	*i* P	**Pb**	**23 03 14.9**	**-0.6**
ANDN				IAML_P			
	comp=Z,666nm,0.1s						
ATAB	**Bozova**	**0.96**	**79**	*i* P	**Pb**	**23 03 20.3**	**-0.1**
ATAB				*i* S	**Sn**	**23 03 33.8**	**-1.4**
ATAB				IAML_P			
	comp=Z,3μm,0.2s						
KOZT	**Kozan**	**1.03**	**281**	PG	**Pg**	**23 03 21.3**	**0.0**
SAIM	**ADANA**	**1.06**	**310**	*i* P	**Pn**	**23 03 23.1**	**+0.4**
SAIM				*i* S	**Sn**	**23 03 37.5**	**-0.2**
SAIM				IAML_P			
	comp=Z,230nm,0.1s						
TAHT	**Tahtakopru-Hat**	**1.18**	**219**	PN	**Pb**	**23 03 24.1**	**+0.1**
AKCD	**Akcadag**	**1.19**	**33**	*i* P	**Pn**	**23 03 25.7**	**+1.2**
AKCD				*i* S	**Sn**	**23 03 41.4**	**+0.5**
AKCD				IAML_P			
	comp=Z,244nm,0.1s						
SURC	**SANLIURFA_SURC**	**1.27**	**109**	*i* P	**Pb**	**23 03 25.4**	**-0.3**
SURC				*i* S	**Sg**	**23 03 41.6**	**-0.8**
SURC				IAML_P			
	comp=Z,158nm,0.1s						
DARE	**Darende-Malaty**	**1.31**	**13**	PN	**Pn**	**23 03 25.9**	**-0.2**
URFA	**Urfa**	**1.38**	**83**	PN	**Pb**	**23 03 26.9**	**-0.5**
SANL	**SANLIURFA_Merk**	**1.51**	**94**	*i* P	**Pg**	**23 03 30.3**	**-0.1**
SANL				*i* S	**Sg**	**23 03 50.7**	**+0.8**
SANL				IAML_P			
	comp=Z,480nm,0.1s						

IDC 22 23:21:12.8±2.4, 5.72S×127.00E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.3/22, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=327.9km s-min=29.3km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.84**	**154**	Pn	Pn	23 24 59.3	+1.9
	0.1nm,0.3s,baz=332,slow=13,SNR=3.6						
ASAR	**Alice Springs**	**19.04**	**160**	P	P	23 25 35.9	-0.9
	0.1nm,0.3s,baz=344,slow=11,SNR=5.3						
MKAR	**Makanchi Array**	**65.55**	**328**	P	P	23 31 58.4	0.0
	0.2nm,0.3s,baz=113,slow=8.1,SNR=8.1						

IDC 22 23:28:54.0±3.8, 3.01S×136.56E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.3/24, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=156.0km s-min=33.8km az=81.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.97**	**187**	Pn	Pn	23 32 52.8	-0.3
	0.1nm,0.3s,baz=4.7,slow=13,SNR=5.6						
WRA				Sn	Sn	23 35 59.4	-3.1
	0.1nm,0.3s,baz=12,slow=24,SNR=4.6						
ASAR	**Alice Springs**	**20.70**	**187**	P	P	23 33 36.0	+0.1
	0.3nm,0.3s,baz=24,slow=8.8,SNR=2.4						
MKAR	**Makanchi Array**	**68.72**	**323**	P	P	23 39 59.7	0.0
	0.2nm,0.6s,baz=114,slow=6.0,SNR=1.8						

NEIC 22 23:36:56.4±0.0, 36.07N×120.65W, h4km, MD3.5, MD2.7(NCEDC), After NCEDC., Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAGB	**Antelope Grade**	**0.47**	**136**	*e*Pg	Pg	23 37 05.8	+0.4
SAO	**San Andreas Ge**	**0.95**	**317**	*e*Pg	Pg	23 37 13.9	-0.7
CMB	**Columbia Colle**	**1.97**	**6**	*e*Pn	Pn	23 37 30.2	-0.4
CMB				*e*Sn	Sn	23 37 56.0	+0.1
MDPB	**Devils Postpil**	**2.00**	**38**	*e*Pn	Pn	23 37 30.9	-0.4
OMMB	**Old Mammoth Mi**	**2.03**	**40**	*e*Pn	Pn	23 37 31.7	0.0
OMMB				*e*Sn	Sn	23 37 56.7	-0.9
DAC	**Darwin (Calif)**	**2.48**	**84**	*e*Pn	Pn	23 37 37.5	-0.2
WAKR	**Walker**	**2.61**	**21**	*e*Pn	Pn	23 37 39.6	0.0
AFDM	**Forest Hills D**	**2.88**	**355**	*e*Pn	Pn	23 37 43.4	+0.3
AFDM				*e*Sn	Sn	23 38 17.5	-0.8
RUBR	**Rubicon Trail**	**3.00**	**7**	*e*Pn	Pn	23 37 44.6	-0.4
RUBR				*e*Sn	Sn	23 38 19.9	-1.5
NV01	**Mina Array Sit**	**3.01**	**38**	*e*Pn	Pn	23 37 44.2	-0.8
RYN	**Ryan**	**3.06**	**33**	*e*Pn	Pn	23 37 45.9	+0.2
YERR	**Yerington**	**3.12**	**21**	*e*Pn	Pn	23 37 46.3	-0.2
PNTR	**Pine Nut**	**3.12**	**15**	*e*Pn	Pn	23 37 46.0	-0.7
KVN	**Kaiserville**	**3.60**	**33**	*e*Pn	Pn	23 37 53.1	0.0
TPNV	**Topopah Spring**	**3.65**	**75**	*e*Pn	Pn	23 37 53.3	-0.5
BEKR	**Beckworth**	**3.80**	**3**	*e*Pg	Pb	23 38 06.5	+2.4

*DDA **22** 23:48:45.8, 39.99N×43.09E, h7km±2km, ML2.9*
*ISK **22** 23:48:45.7, 39.98N×43.12E, h8km, ML2.2/8*
ISC 22 23:48:46.1±1.2, 39.98N±0.03×43.09E±0.03, h4km±11km, n18, σ1.913/27, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGRB	**Hanur-Agry**	**0.41**	**191**	PG	**Pg**	**23 48 54.0**	**-0.1**
AGRB				SG	**Sb**	**23 49 01.1**	**-1.6**
DIGO	**Kars**	**0.49**	**26**	*i* P	**Pg**	**23 48 55.6**	**0.0**
DIGO				IAML_P			
	comp=Z,7μm,0.1s						
TUTA	**Tutak**	**0.61**	**201**	*i* P	**Pg**	**23 48 58.1**	**+0.2**
TUTA				*i* S	**Sb**	**23 49 08.7**	**+0.1**
TUTA				IAML_P			
	comp=Z,5μm,0.1s						
DYDN	**Diyadin**	**0.63**	**133**	*i* P	**Pg**	**23 48 58.5**	**+0.2**
DYDN				*i* S	**Sb**	**23 49 08.8**	**-0.4**
DYDN				IAML_P			
	comp=Z,2μm,0.1s						
KARS	**Kars**	**0.65**	**359**	PG	**Pg**	**23 48 58.3**	**-0.3**
KARS				SG	**Sg**	**23 49 07.7**	**+0.6**
IGDI	**IGDIR**	**0.77**	**98**	*i* P	**Pb**	**23 49 01.9**	**-0.2**
IGDI				*i* S	**Sn**	**23 49 19.8**	**+4.0**
EAK	**Akyaka**	**0.81**	**29**	*i* P	**Pb**	**23 49 02.5**	**-0.4**
EAK				*i* S	**Sn**	**23 49 16.0**	**-1.1**
EAK				IAML_P			
	comp=Z,694nm,0.3s						
TASB	**TASBURUN-IGDIR**	**0.88**	**89**	PG	**Pg**	**23 49 02.8**	**-0.2**
MLAZ	**Malazgirt-MUS**	**0.94**	**207**	PG	**Pg**	**23 49 04.2**	**+0.1**
KOPR	**Koprukoy-ERZUR**	**0.95**	**271**	PG	**Pg**	**23 49 04.6**	**+0.2**
CLDR	**Caldiran**	**1.05**	**142**	PG	**Pg**	**23 49 05.1**	**-1.2**
CLDR	**Caldiran**	**1.05**	**142**	*i* S	**Sb**	**23 49 21.6**	**+0.4**
VMUR	**Van-Muradiye**	**1.05**	**159**	*i* P	**Pg**	**23 49 06.2**	**-0.2**
VMUR				*i* S	**Sn**	**23 49 22.9**	**-0.2**
VMUR				IAML_P			
	comp=Z,161nm,0.1s						
ADCV	**BITLIS_Adilcev**	**1.20**	**194**	*i* P	**Pg**	**23 49 07.9**	**-1.3**
ADCV				*i* S	**Sn**	**23 49 27.9**	**+1.1**
GNI	**Garni**	**1.28**	**82**	PN	**Pn**	**23 49 10.2**	**-0.7**
DAGI	**Agillar**	**1.42**	**321**	*i* P	**Pn**	**23 49 11.9**	**-0.9**
DAGI				*i* S	**Sg**	**23 49 33.3**	**+1.6**
GURO	**Guroymak-BITLI**	**1.65**	**210**	PN	**Pn**	**23 49 15.9**	**-0.1**
AKDM	**Akdamar-Van**	**1.65**	**183**	PN	**Pn**	**23 49 15.9**	**-0.1**

*KRNET **22** 23:52:22.3±0.1, 41.35N×76.73E, h18km, mb3.3*
*NNC **22** 23:52:23.2±0.8, 41.35N×76.78E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=6.2km s-min=4.3km az=145.0*
*SOME **22** 23:52:23.1, 41.38N×76.75E, h20km*
*KNET **22** 23:52:24.1±0.7, 41.44N×76.63E, h0km, ml2.8, Error ellipse: s-maj=6.6km s-min=3.4km az=91.0*
ISC 22 23:52:19.1±1.3, 41.26N±0.04×76.76E±0.02, h2km±11km, n77, σ1.905/122, 46C-24D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**0.60**	**287**	⇑*i* P	**Pb**	**23 52 33.0**	**+0.4**
	baz=78						
NRN				⇑*e*S	**Sb**	**23 52 41.2**	**-0.5**
	baz=78						
KDJ	**Kajisay**	**0.93**	**20**	⇑*i* P	**Pn**	**23 52 39.0**	**-0.4**
	baz=24						
KDJ				⇑*i* S	**Sb**	**23 52 50.2**	**-0.7**
	baz=24						
ULHL	**Ulahol**	**1.06**	**339**	⇓P	**Pn**	**23 52 40.6**	**-0.7**
	19nm,0.1s,SNR=117						
ULHL				⇑S	**Sg**	**23 52 53.9**	**+0.7**
	76nm,0.1s						
ULHL	**Ulahol**	**1.06**	**339**	⇑*i* P	**Pn**	**23 52 40.6**	**-0.7**
	baz=38						
ULHL				⇑*i* S	**Sb**	**23 52 54.1**	**-0.7**
	baz=38						
BOOM	**Boomskoye usch**	**1.38**	**334**	⇑*i* P	**Pg**	**23 52 46.3**	**+0.8**
	baz=33						
BOOM				⇑*i* S	**Sn**	**23 53 03.4**	**-1.0**
	baz=33						
KZA	**Kyzart**	**1.40**	**306**	⇑P	**Pg**	**23 52 47.0**	**+1.0**
	54nm,0.2s,SNR=151						
KZA				⇓S	**Sg**	**23 53 06.5**	**+2.4**
	60nm,0.2s						
KZA	**Kyzart**	**1.40**	**306**	⇑*i* P	**Pg**	**23 52 47.0**	**+1.0**
	baz=4.0						
KZA				⇑*i* S	**Sg**	**23 53 05.3**	**+1.2**
	baz=4.0						
PRZ	**Przheval'sk**	**1.73**	**44**	⇓*e*P	**Pg**	**23 52 53.2**	**+0.9**
	baz=47						
PRZ				⇓*i* S	**Sg**	**23 53 15.7**	**+1.0**
	baz=47						
TNSS	**Tian-Shan**	**1.78**	**4**	P	**Pg**	**23 52 54.1**	**+0.7**
	53nm,0.8s						
TNSS				S	**Sg**	**23 53 16.9**	**+0.5**
	155nm,0.6s						
TNSS	**Tian-Shan**	**1.78**	**4**	*e*P	**Pg**	**23 52 54.0**	**+0.7**
	29nm,0.6s						
TNSS				*e*S	**Sg**	**23 53 16.6**	**+0.1**
	155nm,0.6s						
TKM2	**Tokmak 2**	**1.88**	**333**	⇓P	**Pg**	**23 52 55.6**	**+0.6**
	57nm,0.3s,SNR=75						
TKM2				⇓S	**Sg**	**23 53 20.0**	**+0.6**
	28nm,0.1s						
TKM2	**Tokmak 2**	**1.88**	**333**	⇓P	**Pg**	**23 52 56.0**	**+0.9**
	38nm,0.6s						
TKM2				⇑S	**Sg**	**23 53 19.3**	**-0.1**
	14nm,0.4s						
TKM2	**Tokmak 2**	**1.88**	**333**	⇑*i* P	**Pg**	**23 52 55.5**	**+0.4**
	baz=32						
TKM2				⇑*i* S	**Sb**	**23 53 18.5**	**+0.3**
	baz=32						
KST	**Kastek**	**1.88**	**342**	P	**Pg**	**23 52 55.7**	**+0.5**
	51nm,0.3s						
KST				S	**Sg**	**23 53 19.4**	**-0.2**
	66nm,0.4s						
KST	**Kastek**	**1.88**	**342**	*e*P	**Pg**	**23 52 55.7**	**+0.5**
	14nm,0.3s						
KST				*e*S	**Sg**	**23 53 19.4**	**-0.2**
	66nm,0.4s						
MTBS	**Maitube**	**1.89**	**353**	P	**Pg**	**23 52 55.5**	**+0.2**
	42nm,0.7s						
MTBS				S	**Sg**	**23 53 19.6**	**-0.2**
	130nm,0.3s						
MTBS	**Maitube**	**1.89**	**353**	*e*P	**Pg**	**23 52 55.8**	**+0.4**
	21nm,0.4s						
MTBS				*e*S	**Sg**	**23 53 19.4**	**-0.4**
	130nm,0.3s						
MDOK	**Medeo**	**1.92**	**6**	P	**Pg**	**23 52 55.8**	**-0.1**
	24nm,0.6s						
MDOK				S	**Sg**	**23 53 21.0**	**+0.3**
	73nm,0.4s						
MDOK	**Medeo**	**1.92**	**6**	Pg	**Pg**	**23 52 56.3**	**+0.4**
	24nm,0.5s						
MDOK				Lg	Lg	23 53 20.3	
	124nm,0.4s						
MDOK	**Medeo**	**1.92**	**6**	*e*P	**Pg**	**23 52 56.3**	**+0.4**
	24nm,0.5s						
MDOK				*e*S	**Sg**	**23 53 20.3**	**-0.4**
	124nm,0.4s						
ARLS	**Aral**	**1.93**	**289**	⇑*i* P	**Pg**	**23 52 56.4**	**+0.3**
	baz=87						
ARLS				⇑*i* S	**Sg**	**23 53 21.3**	**+0.2**
	baz=87						
UCH	**Uchtor**	**1.94**	**301**	⇓P	**Pg**	**23 52 57.3**	**+0.9**
	16nm,0.2s,SNR=29						
UCH	**Uchtor**	**1.94**	**301**	⇑*i* P	**Pg**	**23 52 57.1**	**+0.7**
	baz=99						
UCH				⇑*i* S	**Sg**	**23 53 21.6**	**0.0**
	baz=99						
KBK	**Karagaybulak**	**1.95**	**316**	⇓P	**Pg**	**23 52 57.4**	**+0.9**
	26nm,0.1s,SNR=56						
KBK	**Karagaybulak**	**1.95**	**316**	⇑*i* P	**Pg**	**23 52 56.2**	**-0.2**
	baz=15						
KBK				⇑*i* S	**Sb**	**23 53 20.8**	**+0.6**
	baz=15						
KNDC	**Almaty**	**1.96**	**4**	⇓P	**Pg**	**23 52 57.3**	**+0.5**
	26nm,0.5s						
KNDC				⇑S	**Sg**	**23 53 23.2**	**+0.9**
	244nm,0.5s						
KOTS	**Kotyrbulak**	**1.99**	**7**	P	**Pg**	**23 52 57.8**	**+0.5**
	27nm,0.5s						
KOTS				S	**Sg**	**23 53 22.7**	**-0.4**
	261nm,0.5s						
KOTS	**Kotyrbulak**	**1.99**	**7**	*e*P	**Pg**	**23 52 57.8**	**+0.5**
	27nm,0.5s						
KOTS				*e*S	**Sg**	**23 53 22.7**	**-0.4**
	261nm,0.5s						
DGS	**Degeres**	**2.12**	**340**	Pg	**Pg**	**23 53 01.2**	**+1.4**
	91nm,0.6s						
DGS				Lg	Lg	23 53 28.5	
	49nm,0.5s						
DGS	**Degeres**	**2.12**	**340**	*e*P	**Pg**	**23 53 01.1**	**+1.4**
	91nm,0.6s						
DGS				*e*S	**Sg**	**23 53 28.5**	**+1.4**
	49nm,0.5s						
SATY	**Saty**	**2.17**	**34**	Pg	**Pg**	**23 53 01.0**	**+0.1**
	62nm,0.7s						
SATY				Lg	Lg	23 53 28.1	
	132nm,0.5s						
SATY	**Saty**	**2.17**	**34**	*e*P	**Pg**	**23 53 01.0**	**+0.1**
	62nm,0.7s						
SATY				*e*S	**Sg**	**23 53 28.1**	**-0.9**
	132nm,0.5s						
AAK	**Ala-Archa**	**2.18**	**310**	⇑P	**Pg**	**23 53 01.5**	**+0.5**
	44nm,0.2s,SNR=46						
AAK	**Ala-Archa**	**2.18**	**310**	⇓Pn	**Pg**	**23 53 01.2**	**+0.2**
	17nm,0.3s						
AAK				⇑Sn	**Sg**	**23 53 29.7**	**+0.4**
	38nm,0.5s						
AAK	**Ala-Archa**	**2.18**	**310**	⇑*i* P	**Pb**	**23 52 59.8**	**+0.3**
	baz=8.0						
AAK				⇑*i* S	**Sb**	**23 53 27.2**	**+0.2**
	baz=8.0						
FRU1	**Bishkek**	**2.22**	**315**	⇑*i* P	**Pb**	**23 53 00.3**	**+0.2**
	baz=14						
FRU1				⇑*i* S	**Sb**	**23 53 28.0**	**0.0**
	baz=14						
CHMS	**Chumysh**	**2.29**	**320**	⇓P	**Pg**	**23 53 02.8**	**-0.3**
	60nm,0.4s,SNR=74						
CHMS	**Chumysh**	**2.29**	**320**	⇑*i* P	**Pb**	**23 53 01.4**	**+0.1**
	baz=19						
CHMS				⇑*i* S	**Sb**	**23 53 29.6**	**-0.5**
	baz=19						
KTBS	**Karatobe**	**2.45**	**359**	Pg	**Pg**	**23 53 05.7**	**-0.5**
	36nm,0.5s						
KTBS				Lg	Lg	23 53 36.2	
	66nm,0.4s						
KTBS	**Karatobe**	**2.45**	**359**	*e*P	**Pg**	**23 53 05.7**	**-0.5**
	36nm,0.5s						
KTBS				*e*S	**Sb**	**23 53 36.2**	**+1.5**
	66nm,0.4s						
AML	**Almayashu**	**2.46**	**292**	⇓P	**Pg**	**23 53 06.5**	**+0.2**
	SNR=38						
AML	**Almayashu**	**2.46**	**292**	⇑*i* P	**Pb**	**23 53 03.8**	**-0.5**
	baz=90						
AML				⇑*i* S	**Sb**	**23 53 35.0**	**-0.2**
	baz=90						
KURS	**Kuram**	**2.46**	**25**	Pg	**Pg**	**23 53 05.6**	**-0.7**
	39nm,0.8s						
KURS				Lg	Lg	23 53 36.3	
	32nm,1.0s						
KURS	**Kuram**	**2.46**	**25**	*e*P	**Pg**	**23 53 05.6**	**-0.7**
	39nm,0.8s						
KURS				*e*S	**Sb**	**23 53 36.3**	**+1.4**
	32nm,1.0s						
UZB	**Uzynbulak**	**2.52**	**41**	Pg	**Pg**	**23 53 06.7**	**-0.8**
	18nm,0.4s						
UZB				Lg	Lg	23 53 38.0	
	45nm,0.5s						
UZB	**Uzynbulak**	**2.52**	**41**	*e*P	**Pg**	**23 53 06.7**	**-0.8**
	18nm,0.4s						
UZB				*e*S	**Sb**	**23 53 38.0**	**+1.1**
	45nm,0.5s						
CHKK	**Chushkaly**	**2.60**	**4**	Pg	**Pb**	**23 53 07.2**	**+0.7**
	35nm,0.5s						
CHKK				Lg	Lg	23 53 39.4	
	174nm,0.4s						
CHKK	**Chushkaly**	**2.60**	**4**	*e*P	**Pb**	**23 53 07.2**	**+0.7**
	35nm,0.5s						
CHKK				*e*S	**Sb**	**23 53 39.3**	**+0.5**
	198nm,0.3s						
USP	**Ospenovka**	**2.62**	**321**	⇓*i* P	**Pb**	**23 53 05.6**	**-1.2**
	baz=20						
USP				⇓*i* S	**Sb**	**23 53 36.9**	**-2.5**
	baz=20						
EKS2	**Erkin-Say**	**2.63**	**303**	⇑P	**Pg**	**23 53 08.8**	**-0.8**
	8.3nm,0.2s,SNR=34						
EKS2	**Erkin-Say**	**2.63**	**303**	⇑*i* P	**Pb**	**23 53 06.0**	**-1.1**
	baz=2.0						
EKS2				⇑*i* S	**Sb**	**23 53 37.6**	**-2.3**
	baz=2.0						
KUU	**Kurty**	**2.65**	**353**	Pg	**Pb**	**23 53 07.9**	**+0.5**
	5.4nm,0.4s						
KUU				Lg	Lg	23 53 40.1	
	95nm,0.4s						
KUU	**Kurty**	**2.65**	**353**	*e*P	**Pb**	**23 53 07.9**	**+0.5**
	5.4nm,0.3s						
KUU				*e*S	**Sb**	**23 53 40.1**	**-0.3**
	95nm,0.4s						
SGDS	**Sogindy**	**2.70**	**325**	Pg	**Pg**	**23 53 09.8**	**-1.1**
	33nm,0.6s						
SGDS				Lg	Lg	23 53 43.3	
	27nm,0.7s						
SFK	**Sufi-Kurgan**	**2.78**	**244**	⇓Pn	**Pb**	**23 53 09.8**	**+0.1**
	0.8nm,0.5s						
SFK				⇓Lg	Lg	23 53 52.6	
	13nm,0.5s						
SFK	**Sufi-Kurgan**	**2.78**	**244**	Pg	**Pg**	**23 53 13.2**	**+0.9**
	1.1nm,0.5s						
SFK				Lg	Lg	23 53 49.1	
	6.0nm,0.5s						
SFK	**Sufi-Kurgan**	**2.78**	**244**	⇑*e*P	**Pb**	**23 53 09.1**	**-0.5**
	baz=43						
SFK				⇑*i* S	**Sb**	**23 53 43.5**	**-0.7**
	baz=43						
ARSB	**Arslanbob**	**2.85**	**273**	⇑*i* P	**Pb**	**23 53 09.6**	**-1.2**
	baz=71						
ARSB				⇑*i* S	**Sb**	**23 53 44.4**	**-1.8**
	baz=71						
PDGK	**Podgornoye**	**2.89**	**43**	Pg	**Pb**	**23 53 11.9**	**+0.4**
	4.7nm,0.7s						
PDGK				Lg	Lg	23 53 46.9	
	29nm,0.7s						
PDGK	**Podgornoye**	**2.89**	**43**	⇓Pn	**Pb**	**23 53 11.8**	**+0.2**
	9.5nm,0.7s						
PDGK				⇓Lg	Lg	23 53 50.4	
	59nm,0.7s						
PDGK	**Podgornoye**	**2.89**	**43**	⇑*i* P	**Pb**	**23 53 09.9**	**-1.6**
	baz=45						
PDGK				⇑*i* S	**Sb**	**23 53 44.9**	**-2.5**
	baz=45						
MRKS	**Merke**	**3.03**	**301**	Pg	**Pg**	**23 53 16.8**	**-0.3**
	9.8nm,0.3s						
MRKS				Lg	Lg	23 53 55.5	
	17nm,0.5s						
MRKS	**Merke**	**3.03**	**301**	*e*P	**Pg**	**23 53 16.9**	**-0.3**
	9.8nm,0.3s						
MRKS				*e*S	**Sg**	**23 53 55.4**	**-0.9**
	17nm,0.5s						
ARXS	**Arharly**	**3.06**	**14**	Pg	**Pb**	**23 53 13.3**	**-1.0**
	7.1nm,0.7s						
ARXS				Lg	Lg	23 53 49.3	
	61nm,0.6s						
ARXS	**Arharly**	**3.06**	**14**	*e*P	**Pb**	**23 53 13.3**	**-1.0**
	7.1nm,0.7s						
ARXS				*e*S	**Sb**	**23 53 49.4**	**-2.7**
	61nm,0.6s						
MNAS	**Manas**	**3.41**	**293**	⇑Pg	**Pg**	**23 53 22.9**	**-1.6**
	2.7nm,0.6s						
MNAS				⇑Lg	Lg	23 54 08.6	
	3.9nm,0.3s						
MNAS	**Manas**	**3.41**	**293**	⇓*i* P	**Pb**	**23 53 17.2**	**-3.2**
	baz=91						
MNAS				⇓*i* S	**Sn**	**23 53 56.8**	**+2.2**
	baz=91						
DJR	**Jarkent**	**3.79**	**35**	Pg	**Pg**	**23 53 32.0**	**+0.2**
	2.0nm,0.6s						
DJR				Lg	Lg	23 54 21.8	
	4.8nm,0.8s						
DJR	**Jarkent**	**3.79**	**35**	*e*P	**Pg**	**23 53 32.0**	**+0.2**
	1.7nm,0.5s						
DJR				*e*S	**Sg**	**23 54 21.8**	**+0.8**
	4.9nm,0.4s						
TDK	**Taldyqorghan**	**3.93**	**17**	Pg	**Pg**	**23 53 33.8**	**-0.6**
	27nm,0.5s						
TDK				Lg	Lg	23 54 24.6	
	33nm,0.7s						
TDK	**Taldyqorghan**	**3.93**	**17**	*e*P	**Pg**	**23 53 33.8**	**-0.6**
	14nm,0.3s						
TDK				*e*S	**Sg**	**23 54 24.6**	**-0.8**
	34nm,0.9s						
KAPS	**Kapalarasan**	**4.45**	**24**	Pg	**Pg**	**23 53 42.7**	**-1.7**
	6.9nm,0.6s						
KAPS				Lg	Lg	23 54 40.0	
	7.1nm,0.5s						
KAPS	**Kapalarasan**	**4.45**	**24**	*e*P	**Pg**	**23 53 42.6**	**-1.7**
	6.9nm,0.6s						
KAPS				*e*S	**Sg**	**23 54 39.9**	**-2.1**
	6.8nm,0.6s						
MAKZ	**Makanchi**	**6.70**	**32**	⇑Pn	**Pn**	**23 54 02.4**	**+3.9**
	1.1nm,1.1s						
MAKZ				⇑Lg	Lg	23 55 55.6	
	1.0nm,0.6s						
MK31	**Makanchi Array**	**6.82**	**34**	⇑Pn	Pn	23 54 04.1	+4.0
	0.3nm,0.5s,baz=211,slow=15,SNR=6.8						
MK31				⇓Lg	Lg	23 55 56.0	
	1.6nm,0.8s,baz=213,slow=29,SNR=4.4						
KURBB	**Kurchatov Arra**	**9.45**	**7**	⇓Lg	Lg	23 57 22.9	
	3.2nm,0.6s						
KURK	**Kurchatov**	**9.55**	**7**	⇓Lg	Lg	23 57 23.4	
	5.5nm,1.2s						

*BJI **22** 23:54:24.1, 7.02N×93.45E, h29km, mb4.7/38, mB4.8/16, Ms4.4/7, Ms7.4.2/7*
*NEIC **22** 23:54:30.6±0.8, 7.37N×93.61E, h48km±7km, mb4.5/16, Error ellipse: s-maj=7.9km s-min=5.4km az=52.0*
*ISCJB **22** 23:54:32.4±0.5, 7.35N±0.04×93.55E±0.04, h79km±4km, mb4.4/56, Error ellipse: s-maj=7.2km s-min=5.2km az=42.4*
*IDC **22** 23:54:32.4±2.5, 7.44N×93.55E, h57km±22km, mb4.1/28, mb1 4.2/31, mb1mx4.2/48, mbtmp4.4/31, ML4.1/3, MS2.9/3, Ms1 3.0/3, ms1mx2.8/34, Error ellipse: s-maj=14.5km s-min=10.3km az=51.0*
*NDI **22** 23:54:33.2±2.7, 7.41N×93.41E, h48km, ML4.6, mb4.5(NEIC)*
ISC 22 23:54:32.9±0.8, 7.38N±0.06×93.57E±0.06, h65km±7km, n159, σ1.930/168, mb4.5/64, 8C-4D, Nicobar Islands region

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

comp=N,6.8nm,0.8s,comp=N,76nmcomp=N,0.0nm
UMPA Umpang Tak 10.19 30 P **Pn** **23 56 56.9 +0.5**
comp=N,21nm,0.6s,comp=N,0.1nm
SRAK Srakaew 10.62 51 P Pn 23 57 11.5 +9.2
PBKT Sadao Pong 11.65 38 P **Pn** **23 57 19.6 +3.2**
comp=N,13nm,0.6s,comp=N,0.1nm
CMAR Chiang Mai Arr 12.19 25 P **Pn** **23 57 23.7 0.0**
comp=N,1.4nm,0.3s,baz=208,slow=17,SNR=5.1
CMAR LR LR 00 03 07.9
comp=N,40nm,18.2s,baz=210,slow=42
UTTA Uttaradit 12.35 33 P **Pn** **23 57 29.5 +3.6**
comp=N,2.2nm,0.9s
CHTO Chiang Mai 12.51 24 *e*Pn **Pn** **23 57 25.2 -2.9**
CHTO Chiang Mai 12.51 24 P **Pn** **23 57 31.9 +3.8**
comp=N,91nm,0.7s
CMMT Chiang Mai 12.51 24 P **Pn** **23 57 31.8 +3.6**
comp=N,20nm,0.7s,comp=N,266nm
PALK Pallekele 12.76 270 P **Pn** **23 57 31.6 0.0**
comp=N,0.4nm,0.3s,baz=116,slow=16,SNR=3.7
PALK S Sn 23 59 35.7 -16
comp=N,1.0nm,0.3s,baz=296,slow=5.3,SNR=10
PALK Pallekele 12.76 270 *e*Pn **Pn** **23 57 30.2 -1.4**
PALK S Sn 23 59 35.7 -16
PALK *e*Sn Sn 23 59 41.3 -11
VIS Vishakhapatnam 14.33 317 *i* P **Pn** **23 57 50.6 -1.8**
VIS *i* S **Sn** **00 00 29.5 -0.5**
HYB Hyderabad 17.72 306 *i* P **P** **23 58 36.0 +0.6**
HYB *e*S **Sn** **00 01 50.0 -2.3**
BOK Bokaro 17.91 337 *e*P **P** **23 58 36.5 -0.9**
SHL Shillong 18.16 355 *e*Pn **P** **23 58 38.0 -2.3**
comp=N,22nm,0.6s
SHL Shillong 18.16 355 *e*P **Pn** **23 58 41.8 +1.0**
NGP Nagpur 19.60 316 *e*P **Pn** **23 58 57.0 -0.9**
NGP *ex* x 00 02 28.2
KMI Kunming 19.70 25 P **Pn** **23 59 00.0 +0.8**
KMI pP P 23 59 04.0 +6.7
KMI sP pP 23 59 06.6 -4.0
KMI pmax pmax
comp=N,13nm,1.1s
KMI pmax pmax
comp=N,100nm,4.4s
RAMN Ramite 20.56 342 *e*P **P** **23 59 07.4 +0.8**
comp=N,37nm,0.5s
JIRN Jiri 21.35 342 *e*P **P** **23 59 15.0 -0.2**
comp=N,165nm,0.9s
PKIN Phulchoki 21.53 340 *e*P **P** **23 59 16.2 -0.8**
comp=N,86nm,0.5s
DMN Daman 21.66 339 *e*P **P** **23 59 19.0 +0.6**
comp=N,108nm,0.7s
GUN Gumba 21.68 341 *e*P **P** **23 59 18.1 -0.6**
comp=N,44nm,0.6s
KKN Kakani 21.77 340 *e*P **P** **23 59 19.8 +0.3**
comp=N,52nm,0.6s
LSA Lhasa 22.32 354 *e*P **P** **23 59 24.2 -1.5**
comp=N,23nm,0.6s
KOLN Koldanda 22.37 336 *e*P **P** **23 59 25.8 -0.2**
comp=N,68nm,0.5s
DANN Dangsing 22.83 337 *e*P **P** **23 59 30.5 -0.4**
comp=N,34nm,0.3s
PYUN Piuthan 22.91 335 *e*P **P** **23 59 32.4 +0.7**
comp=N,78nm,0.5s
CD2 Chengdu 25.28 21 *e*P **P** **23 59 53.0 -0.3**
H08S3 Diego Garcia H 25.77 235 T T 00 26 37.3
baz=54,slow=75,SNR=433
H08S2 Diego Garcia H 25.77 235 T T 00 26 43.2
baz=54,slow=75,SNR=504
H08S1 Diego Garcia H 25.79 235 T T 00 26 44.3
baz=54,slow=75,SNR=375
SMLA Simla 28.17 329 *e*P **P** **00 00 19.1 -0.1**
SMLA IAmb IAmb 00 00 20.1
DHRM DHARAMSHALA 29.51 329 *e*P **P** **00 00 31.3 0.0**
LZH Lanzhou 30.08 17 *e*P **P** **00 00 36.5 +0.2**
LZH pP pP 00 00 47.3 -4.5
LZH sP sP 00 00 51.6 -7.8
LZH *e*PP **PnPn** **00 01 34.8 -1.1**
LZH pmax pmax
comp=N,18nm,1.1s
LZH pmax pmax
comp=N,59nm,5.0s
LZH LR LR
comp=N,320nm,12.8s
LZH LR LR
comp=N,330nm,13.3s
LZH LR LR
comp=N,400nm,16.6s
XAN Xi'an 30.08 26 P **P** **00 00 35.5 -0.7**
XAN pP pP 00 00 41.9 -10
XAN pmax pmax
comp=N,11nm,0.7s
XAN Xi'an 30.08 26 *e*P **P** **00 00 34.5 -1.7**
comp=N,43nm,0.8s
NIL Nilore 32.20 327 *e*P **P** **00 00 54.9 +0.1**
GTA Gaotai 32.38 9 P **P** **00 00 56.1 -0.4**
GTA pP pP 00 01 04.1 -8.1
GTA sP sP 00 01 08.3 -11
GTA pmax pmax
comp=N,4.0nm,1.2s
KSH Kashi 35.69 336 P **P** **00 01 23.8 -1.3**
KSH pP pP 00 01 35.4 -5.7
KSH sP sP 00 01 40.3 -8.4
KSH pmax pmax
comp=N,15nm,0.6s
WMQ Urumqi 36.66 353 *e*P **P** **00 01 34.1 +0.8**
WMQ LR LR
comp=N,220nm,18.5s
WMQ LR LR
comp=N,210nm,18.5s
WMQ LR LR
comp=N,160nm,23.9s
HHC Hu-ho-hao-te 36.99 23 *e*P **P** **00 01 38.3 +2.1**
HHC pmax pmax
comp=N,14nm,1.1s
NRN Naryn 37.33 338 *e*P **P** **00 01 39.7 +0.4**
comp=N,3.2nm,0.6s
NRN *e*S **S** **00 07 27.1 +4.4**
BJT Baijiatuau 38.29 28 *e*P **P** **00 01 46.7 -0.3**
comp=N,13nm,0.7s
UCH Uchtor 38.58 337 P **P** **00 01 50.5 +0.5**
SNR=7.1
TKM2 Tokmak 2 38.78 339 P **P** **00 01 51.6 +0.2**
SNR=7.3
KBK Karagaybulak 38.78 338 P **P** **00 01 52.2 +0.8**
SNR=20
AML Almayashu 38.82 336 P **P** **00 01 52.7 +0.8**
SNR=27
AAK Ala-Archa 38.94 337 P **P** **00 01 51.6 -1.0**
SNR=5.7
AAK Ala-Archa 38.94 337 *e*P **P** **00 01 51.0 -1.6**
comp=N,5.2nm,0.7s
CHMS Chumysh 39.15 338 P **P** **00 01 54.6 +0.3**
SNR=5.4
EKS2 Erkin-Say 39.24 337 P **P** **00 01 56.1 +1.1**
SNR=8.8
USP Ospenovka 39.48 338 P **P** **00 01 57.2 +0.3**
SNR=18
MK01 Makanchi Array 40.42 348 *e*P **P** **00 02 04.0 -0.8**
MK31 Makanchi Array 40.45 348 *e*P **P** **00 02 04.2 -0.8**
MKAR Makanchi Array 40.45 348 P **P** **00 02 04.5 -0.5**
comp=N,2.2nm,0.4s,baz=167,slow=8.0,SNR=92
MKAR PcP **PcP** **00 04 07.5 +0.7**
comp=N,0.6nm,0.4s,baz=206,slow=3.9,SNR=4.8
MAKZ Makanchi 40.53 348 *e*P **P** **00 02 05.2 -0.4**
comp=N,5.9nm,1.3s
FITZ Fitzroy Crossi 40.54 129 P **P** **00 02 05.5 -0.5**
comp=N,2.3nm,0.8s,baz=337,slow=13,SNR=11
FITZ PcP **PcP** **00 04 08.1 +0.6**
comp=N,3.5nm,1.1s,baz=259,slow=5.2,SNR=4.6
SONM Songino Array 41.77 13 P **P** **00 02 15.6 -0.3**
comp=N,3.0nm,0.8s,baz=196,slow=8.6,SNR=22
SONM PcP **PcP** **00 04 12.3 +1.2**
comp=N,1.6nm,0.6s,baz=200,slow=3.6,SNR=9.6
SONA1 Songino Array 41.78 13 *e*P **P** **00 02 14.9 -1.1**
ULN Ulaanbaatar 41.95 14 *e*P **P** **00 02 16.2 -1.2**
comp=N,2.6nm,0.6s
JNU Nakatsue 43.00 48 P **P** **00 02 27.1 +1.0**
comp=N,6.9nm,0.7s,baz=243,slow=4.5,SNR=4.8
KSAR Wonju Array Be 43.18 41 P **P** **00 02 27.4 +0.1**
KSRS Korea Array 43.21 41 P **P** **00 02 27.4 -0.1**
comp=N,1.9nm,0.6s,baz=246,slow=8.7,SNR=5.6
KSRS LR LR 00 20 54.2
comp=N,22nm,19.0s,baz=205,slow=37
GEYT Alibeck 44.19 319 P **P** **00 02 36.8 +1.3**
comp=N,7.3nm,0.6s,baz=148,slow=8.7,SNR=15
GYA0B ALIBECK ARRAY 44.19 319 *e*P **P** **00 02 36.8 +1.3**
KURBB Kurchatov Arra 44.89 346 PcP **PcP** **00 04 22.5 +1.1**
comp=N,2.7nm,0.7s,baz=169,slow=3.3,SNR=8.5
KURK Kurchatov 44.95 347 *e*P **P** **00 02 40.6 -0.7**
KURK PcP **PcP** **00 04 22.5 +0.9**
CN2 Changchun 45.75 32 *e*P **P** **00 02 48.1 +0.3**
ZAA0 Zalesovo Array 46.97 353 *e*P **P** **00 02 57.1 0.0**
comp=N,8.2nm,0.6s
ZALV Zalesovo Beam 46.97 353 P **P** **00 02 57.3 +0.1**
comp=N,6.5nm,0.4s,baz=185,slow=8.1,SNR=40
ZALV PcP **PcP** **00 04 28.5 -0.1**
comp=N,1.3nm,0.4s,baz=166,slow=3.1,SNR=3.8
ZALV Zalesovo Beam 46.97 353 *e*P **P** **00 02 56.8 -0.4**
ZALV PcP **PcP** **00 04 28.5 -0.1**
HIA Hailar 47.20 23 *e*P **P** **00 02 57.9 -1.1**
WRA Warramunga Arr 48.44 125 P **P** **00 03 08.8 -0.3**
comp=N,4.0nm,0.4s,baz=304,slow=8.6,SNR=83
WRA PcP **PcP** **00 04 35.1 +0.5**
comp=N,0.9nm,0.5s,baz=313,slow=2.8,SNR=6.3
WRAB Tennant Creek 48.45 125 *e*P **P** **00 03 08.4 -0.7**
comp=N,3.5nm,0.4s
WB2 Warramunga Arr 48.45 125 *e*P **P** **00 03 07.7 -1.5**
RAYN Ar Rayn 48.77 295 *e*P **P** **00 03 13.4 +1.7**
comp=N,9.8nm,1.2s
BRVK Borovoye 49.34 342 *e*P **P** **00 03 14.6 -0.8**
comp=N,4.3nm,1.0s
USRK Ussuriysk Ar. 49.64 36 P **P** **00 03 18.3 +0.4**
comp=N,1.5nm,0.4s,baz=242,slow=9.0,SNR=5.4
MJAR Matsushiro Arr 49.91 48 P **P** **00 03 20.6 +0.4**
comp=N,2.9nm,0.7s,baz=236,slow=6.7,SNR=6.7
MJAR PcP **PcP** **00 04 40.1 +0.4**
comp=N,3.9nm,0.7s,baz=234,slow=3.7,SNR=7.8
ASAR Alice Springs 50.04 129 P **P** **00 03 21.9 +0.6**
comp=N,3.5nm,0.6s,baz=307,slow=7.1,SNR=26
ASAR PcP **PcP** **00 04 41.2 +0.8**
comp=N,1.8nm,0.6s,baz=308,slow=3.2,SNR=9.2
AS01 Alice Springs 50.08 129 *e*P **P** **00 03 18.0 -3.5**
KLR Kul'dur 52.60 31 P **P** **00 03 40.5 +0.6**
comp=N,2.4nm,0.7s,baz=252,slow=6.1,SNR=10
PMG Port Moresby 55.93 107 *e*P **P** **00 04 01.4 -3.4**
comp=N,365nm,0.6s
ARU Arti 56.12 337 *e*P **P** **00 04 04.7 -0.7**
KBZ Khabaz 57.07 318 P **P** **00 04 12.1 -0.3**
comp=N,2.5nm,0.9s,baz=119,slow=13,SNR=5.3
KIV Kislovodsk 57.30 318 *e*P **P** **00 04 13.3 -0.9**
comp=N,4.0nm,0.7s
STKA Stephens Creek 60.18 133 P **P** **00 04 35.0 +0.8**
comp=N,3.2nm,0.5s,baz=290,slow=11,SNR=6.6
BR131 Keskin Array S 62.32 311 *e*P **P** **00 04 47.6 -1.2**
BRTR Keskin Array B 62.32 311 P **P** **00 04 47.6 -1.2**
comp=N,2.6nm,0.6s,baz=132,slow=7.4,SNR=22
KLMR Klimovskoe 66.65 334 *i* P **P** **00 05 15.0 -1.4**
TIRR Tirgusor 67.20 315 *i* P **P** **00 05 21.3 +1.1**
MA2 Magadan 67.46 28 P **P** **00 05 21.9 +0.3**
comp=N,5.5nm,0.5s,baz=274,slow=3.9,SNR=9.2
MA2 Magadan 67.46 28 *e*P **P** **00 05 21.5 -0.2**
MILM Milestii Mici 67.49 318 *i* P **P** **00 05 21.4 -0.6**
TIXI Tiksi 67.83 11 P **P** **00 05 22.9 -0.7**
comp=N,16nm,0.5s,baz=210,slow=4.1,SNR=40
TIXI Tiksi 67.83 11 *e*P **P** **00 05 22.2 -1.4**
AKASG Malin Array Be 68.19 322 P **P** **00 05 24.6 -1.7**
comp=N,0.5nm,0.4s,baz=90,slow=5.0,SNR=5.8
VRI Vrincioaia 68.66 316 *i* P **P** **00 05 29.8 +0.4**
PLOR Plostina 68.71 316 *i* P **P** **00 05 30.2 +0.4**
MLR Muntele Rosu 69.13 316 *e*P **P** **00 05 32.7 +0.3**
comp=N,25nm,1.7s
MLR Muntele Rosu 69.13 316 *i* P **P** **00 05 33.4 +0.9**
BIZ Bicaz 69.30 317 *i* P **P** **00 05 33.0 -0.4**
SEY Seymchan 69.61 25 P **P** **00 05 34.5 -0.4**
comp=N,1.7nm,0.5s,baz=243,slow=5.1,SNR=5.1
VOIR 69.74 316 *i* P **P** **00 05 35.7 -0.5**
ARR Arges 70.01 316 *i* P **P** **00 05 37.3 -0.5**
BUR4R Bucovina Array 70.03 318 *i* P **P** **00 05 37.4 -0.6**
BUR04 Bucovina Ar. S 70.03 318 *e*P **P** **00 05 37.0 -0.9**
BUR08 Bucovina Ar. S 70.05 318 *e*P **P** **00 05 37.3 -0.8**
VTS Vitosha 70.60 312 *e*P **P** **00 05 40.8 -0.8**
comp=N,5.0nm,1.0s
VTS Vitosha 70.60 312 *i* P **P** **00 05 40.3 -1.3**
DRGR 71.57 317 *i* P **P** **00 05 46.8 -0.5**
TRPA Tarpa 71.90 318 *i* P **P** **00 05 48.4 -0.7**
FIA1 FINESS Array S 72.88 332 *e*P **P** **00 05 53.8 -0.8**
FINES FINESS Array B 72.88 332 P **P** **00 05 54.3 -0.4**
comp=N,2.1nm,0.5s,baz=108,slow=6.4,SNR=20
BOSA Boshof 74.84 238 P **P** **00 06 09.1 +2.2**
comp=N,2.1nm,0.7s,baz=61,slow=5.8,SNR=6.0
ARCES ARCESS Array B 75.54 340 P **P** **00 06 10.2 +0.2**
comp=N,5.8nm,0.7s,baz=101,slow=5.6,SNR=15
DPC Dobruska-Polom 76.22 320 *e*P **P** **00 06 15.2 +0.9**
CONA Conrad Observa 76.32 317 *e*P **P** **00 06 13.8 -1.3**
comp=N,6.8nm,1.5s
BILL Bilibino 76.75 22 *e*P **P** **00 06 16.4 -0.5**
comp=N,2.4nm,0.4s
GEA0 GERESS Array S 77.81 318 *e*P **P** **00 06 22.8 -0.6**
GEC2 GERESS Array S 77.81 318 *e*P **P** **00 06 23.0 -0.5**
comp=N,5.5nm,1.0s
GERES GERESS Array B 77.81 318 P **P** **00 06 23.6 +0.2**
comp=N,3.2nm,0.7s,baz=85,slow=5.6,SNR=25
KHC Kasperske Hory 77.91 319 *e*P **P** **00 06 23.8 -0.1**
ABTA Abfaltersbach 78.54 316 *e*P **P** **00 06 27.1 -0.3**
comp=N,7.5nm,1.5s
SQTA Sankt Quirin 79.44 317 *i* P **P** **00 06 32.1 -0.3**
comp=N,7.6nm,0.7s,SNR=7.6
MOTA Moosalm 79.51 317 *i* P **P** **00 06 32.9 0.0**
comp=N,6.5nm,0.9s,SNR=6.3
NC405 NORSAR Array S 79.64 331 *e*P **P** **00 06 32.5 -0.5**
NC602 NORSAR Array S 79.70 330 *e*P **P** **00 06 32.2 -1.2**
RETA Reutte 79.75 317 *i* P **P** **00 06 33.7 -0.3**
comp=N,6.1nm,0.7s,SNR=7.2
FETA Feichten 79.77 316 *e*P **P** **00 06 33.8 -0.5**
comp=N,6.5nm,1.0s
NB201 NORSAR Array S 79.84 331 *e*P **P** **00 06 32.5 -1.7**
NB2 NORSAR Subarra 79.88 331 P **P** **00 06 33.7 -0.7**
comp=Z,0.9nm,0.4s,baz=91,slow=5.9
NOA NORSAR Array B 79.88 331 P **P** **00 06 33.7 -0.7**
comp=Z,0.8nm,0.4s,baz=94,slow=5.5,SNR=10
DAVA Damuels 80.34 317 *e*P **P** **00 06 37.4 0.0**
comp=Z,7.1nm,1.1s
KEST Kesra 81.06 305 P **P** **00 06 42.0 +0.7**
comp=Z,3.8nm,0.8s,baz=287,slow=3.0,SNR=5.4
TAM Tamanrasset 85.39 292 *e*P **P** **00 07 04.1 +0.1**
comp=Z,2.9nm,1.0s
TORD Torodi Ar. Bea 90.16 283 P **P** **00 07 26.9 +0.1**
comp=Z,0.6nm,0.9s,baz=108,slow=5.9,SNR=4.6
ESDC Sonseca Array 91.10 310 P **P** **00 07 31.4 +0.6**
comp=Z,1.2nm,0.5s,baz=67,slow=4.0,SNR=5.3
IM3 Indian Mountai 92.30 22 *e*P **P** **00 07 35.6 0.0**
VNDA Vanda 92.56 168 P **P** **00 07 37.5 +0.9**
comp=Z,1.5nm,0.8s,baz=214,slow=3.6,SNR=3.1
ULM Lac du Bonnet 122.21 PKP **PKPdf** **00 13 19.9 -0.1**
comp=Z,1.8nm,0.5s,baz=46,slow=2.0,SNR=6.4
NVAR Mina Array Bea 125.63 31 PKP **PKiKP** **00 13 29.3 +1.3**
comp=Z,0.6nm,0.5s,baz=299,slow=1.9,SNR=4.8
PDAR Pinedale Array 125.83 21 PKP **PKiKP** **00 13 28.3 0.0**
comp=Z,0.4nm,0.6s,baz=44,slow=2.1,SNR=5.8
TXAR Lajitas Array 139.91 24 PKhKP PKPpre 00 13 47.4
comp=Z,0.1nm,0.4s,baz=315,slow=0.1,SNR=3.6
TXAR PKP **PKPdf** **00 13 55.6 +1.1**
comp=Z,0.4nm,0.5s,baz=354,slow=0.6,SNR=9.3
PLCA Paso Flores 143.89 201 PKP **PKPdf** **00 14 01.4 +0.1**
comp=Z,1.3nm,0.8s,baz=172,slow=4.5,SNR=3.2
CPUP Villa Florida 146.51 232 PKPbc **PKPbc** **00 14 07.8 +0.3**
comp=Z,2.3nm,0.8s,baz=60,slow=1.5,SNR=4.1
LVC Limon Verde 157.33 226 *e*PKPdf **PKPdf** **00 14 20.0 -2.8**

*IDC **22** 23:58:07.3±0.6, 65.°11N×133.°43W, h0km, mb3.4/7, mb1 3.7/11, mb1mx3.5/45, mbtmpg3.5/11, ML3.3/4, Error ellipse: s-maj=14.4km s-min=10.4km az=41.0*
*PGC **22** 23:58:08.6±0.0, 64.°87N×133.°62W, h1km, ML3.8/9, 288km Sse of Fort McPherson, Nt Southern Yukon Territory, Canada*
ISC 22 23:58:06.9±0.5, 64.°97N±0.°03×133.°31W±0.°03, h9km, n39, σ3°15/77, mb3.7/8, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAWY	**Dawson**	**2.78**	**254**	Pn	**Pn**	**23 58 50.9**	**-0.8**
DAWY				Sn	**Sn**	**23 59 23.8**	**-1.5**
INK	**Inuvik**	**3.35**	**359**	Pn	**Pn**	**23 59 01.3**	**+1.9**
	1.1nm,0.3s,baz=163,slow=20,SNR=20						
INK				Pg	**Pg**	**23 59 09.9**	**-1.2**
	5.7nm,0.3s,baz=176,slow=14,SNR=21						
INK				Lg	Lg	23 59 52.6	
	24nm,0.3s,baz=78,slow=28,SNR=9.0						
INK	**Inuvik**	**3.35**	**359**	Pn	**Pn**	**23 59 01.2**	**+1.9**
INK				Sn	**Sn**	**23 59 41.2**	**+1.9**
BVCY	**Beaver Creek**	**4.23**	**236**	Pn	**Pn**	**23 59 10.7**	**-0.9**
BVCY				Sn	**Sn**	**23 59 57.5**	**-3.4**
BVCY				Sg	**Sb**	**00 00 14.7**	**+2.2**
YUK5	**Granite Creek**	**4.38**	**210**	Pn	**Pn**	**23 59 13.2**	**-0.4**
YUK5				Pg	**Pb**	**23 59 24.8**	**+0.8**
YUK5				Sn	**Sn**	**00 00 01.8**	**-3.0**
YUK5				Sg	**Sb**	**00 00 17.9**	**+1.0**
WHY	**Whitehorse**	**4.39**	**190**	Pn	**Pn**	**23 59 14.1**	**+0.3**
WHY				Pg	**Pb**	**23 59 26.7**	**+2.6**
WHY				Sg	**Sb**	**00 00 19.5**	**+2.3**
YUK3	**Moose Creek**	**4.54**	**228**	Pn	**Pn**	**23 59 15.3**	**-0.7**
YUK3				Pg	**Pb**	**23 59 26.9**	**0.0**
YUK3				Sn	**Sn**	**00 00 05.2**	**-3.8**
YUK3				Sg	**Sb**	**00 00 22.3**	**+0.5**
HYT	**Haines Junctio**	**4.58**	**207**	Pn	**Pn**	**23 59 16.4**	**-0.1**
HYT				Sn	**Sn**	**00 00 06.1**	**-3.7**
HYT				Sg	**Sb**	**00 00 24.6**	**+1.8**
YUK6	**Outpost Mounta**	**4.66**	**212**	Pn	**Pn**	**23 59 17.2**	**-0.4**
YUK6				Sg	**Sb**	**00 00 27.8**	**+2.9**
YUK2	**White River**	**4.66**	**230**	Pn	**Pn**	**23 59 16.6**	**-0.9**
YUK2				Pg	**Pb**	**23 59 30.1**	**+1.3**
YUK2				Sn	**Sn**	**00 00 08.4**	**-3.3**
YUK2				Sg	**Sb**	**00 00 26.6**	**+1.6**
DOT	**Dot Lake**	**4.87**	**259**	Pn	**Pn**	**23 59 19.8**	**-0.5**
DOT				Pg	**Pb**	**23 59 34.4**	**+2.1**
DOT				Sg	**Sb**	**00 00 35.0**	**+4.1**
YUK7	**Dusty Glacier**	**4.98**	**209**	Pn	**Pn**	**23 59 22.1**	**+0.1**
YUK7				Sn	**Sn**	**00 00 17.0**	**-2.7**
YUK7				Sg	**Sb**	**00 00 38.0**	**+3.8**
PLBC	**Pleasant Camp**	**5.72**	**196**	Pn	**Pn**	**23 59 32.6**	**+0.7**
PLBC				Sn	**Sn**	**00 00 34.0**	**-3.5**
PLBC				Sg	**Sb**	**00 01 00.9**	**+5.6**
PAX	**Paxson**	**5.72**	**255**	Sg	**Sb**	**00 00 56.5**	**+1.1**
ILAR	**Eielson Array**	**5.79**	**274**	Pn	**Pn**	**23 59 33.2**	**+0.3**
	0.4nm,0.3s,baz=74,slow=12,SNR=14						
ILAR				Lg	Lg	00 01 00.5	
	4.0nm,0.3s,baz=88,slow=30,SNR=8.6						
PCA	**Pinnacle**	**5.85**	**216**	Pn	**Pn**	**23 59 34.6**	**+0.8**
PCA				Sn	**Sn**	**00 00 38.5**	**-2.5**
PCA				Sg	**Sb**	**00 01 06.7**	**+7.4**
HARP	**HAARP**	**5.86**	**249**	Pn	**Pn**	**23 59 33.9**	**-0.1**
HARP				Sg	**Sg**	**00 01 08.8**	**-6.2**
PNL	**Peninsula**	**6.03**	**211**	Pn	**Pn**	**23 59 37.0**	**+0.8**
PNL				Pg	Pb	23 59 57.0	+5.0
BESE	**Bessie Mountai**	**6.46**	**187**	Pn	**Pn**	**23 59 42.6**	**+0.5**
BESE				Sn	**Sn**	**00 00 52.1**	**-3.7**
BESE				Sg	**Sb**	**00 01 24.0**	**+7.4**
DLBC	**Dease Lake**	**6.74**	**165**	Pn	**Pn**	**23 59 47.6**	**+1.6**
	9.1nm,0.3s,baz=4.9,slow=9.5,SNR=139						
DLBC				Sn	Sn	00 00 54.4	-8.4
	1.3nm,0.3s,baz=170,slow=19,SNR=1.9						
DLBC				Lg	Lg	00 01 32.5	
	0.8nm,0.3s,baz=120,slow=22,SNR=5.5						
DLBC	**Dease Lake**	**6.74**	**165**	Pn	**Pn**	**23 59 47.4**	**+1.4**
DLBC				Sg	**Sg**	**00 01 37.1**	**-5.9**
DIV	**Divide**	**6.85**	**241**	Pn	**Pn**	**23 59 48.3**	**+0.8**
COLD	**Coldfoot**	**7.22**	**296**	Pn	**Pn**	**23 59 53.8**	**+1.2**
COLD				Sn	**Sn**	**00 01 10.5**	**-4.0**
FNBB	**Fort Nelson**	**7.79**	**137**	Pn	**Pn**	**00 00 01.6**	**+1.2**
KUKN	**Kugluktuk,NWT**	**7.84**	**60**	Pn	**Pn**	**00 00 03.6**	**+2.7**
KUKN				Sn	**Sn**	**00 01 30.6**	**+0.9**
YKW3	**Yellowknife Ar**	**8.62**	**98**	Pn	**Pn**	**00 00 13.3**	**+1.7**
YKW3				Sn	**Sn**	**00 01 46.5**	**-2.3**
YKA	**Yellowknife Ar**	**8.65**	**98**	Pn	**Pn**	**00 00 12.6**	**+0.5**
	0.7nm,0.3s,baz=289,slow=12,SNR=30						
YKA				Sn	**Sn**	**00 01 42.0**	**-7.5**
	0.4nm,0.3s,baz=290,slow=22,SNR=6.2						
YKA				Lg	Lg	00 02 36.1	
	baz=290,slow=28,SNR=2.4						
YKW1	**Yellowknife Ar**	**8.69**	**98**	Pn	**Pn**	**00 00 14.1**	**+1.5**
YKW1				Sn	**Sn**	**00 01 47.6**	**-2.9**
FSMA	**Fort Smith**	**11.09**	**107**	Sn	**Sn**	**00 02 43.1**	**-6.2**
RES	**Resolute Bay**	**16.04**	**37**	Pn	**Pn**	**00 01 52.4**	**0.0**
	0.4nm,0.3s,baz=247,slow=12,SNR=14						
RES				Sn	**Sn**	**00 04 43.9**	**-6.1**
	0.2nm,0.3s,baz=135,slow=20,SNR=4.1						
RES	**Resolute Bay**	**16.04**	**37**	Pn	**Pn**	**00 01 53.0**	**+0.7**
RES				Sn	**Sn**	**00 04 40.2**	**-10**
PDAR	**Pinedale Array**	**25.97**	**137**	P	**P**	**00 03 42.9**	**+3.1**
	0.3nm,0.8s,baz=348,slow=4.0,SNR=2.9						
NVAR	**Mina Array Bea**	**28.00**	**154**	P	**P**	**00 04 01.2**	**+3.1**
	0.3nm,0.6s,baz=333,slow=9.1,SNR=3.5						
TXAR	**Lajitas Array**	**40.19**	**138**	P	**P**	**00 05 46.1**	**+2.7**
	0.3nm,0.9s,baz=7.6,slow=7.5,SNR=3.9						
FINES	**FINESS Array B**	**52.96**	**12**	P	**P**	**00 07 23.0**	**0.0**
	2.4nm,0.9s,baz=12,slow=9.0,SNR=2.7						
ZALV	**Zalesovo Beam**	**57.85**	**334**	P	**P**	**00 08 01.9**	**+3.6**
	0.4nm,0.5s,baz=10,slow=9.1,SNR=2.3						
KURBB	**Kurchatov Arra**	**62.13**	**338**	P	**P**	**00 08 27.0**	**-0.7**
	0.2nm,0.3s,baz=9.7,slow=6.6,SNR=2.1						
AKASG	**Malin Array Be**	**63.87**	**12**	P	**P**	**00 08 39.1**	**-0.1**
	0.2nm,0.3s,baz=340,slow=7.9,SNR=2.5						
MKAR	**Makanchi Array**	**65.17**	**334**	P	**P**	**00 08 50.3**	**+2.4**
	0.3nm,0.7s,baz=16,slow=4.6,SNR=4.3						

*ISCJB **22** 23:58:07.6±1.0, 0.°93N±0.°03×79.°18W±0.°04, h5km±7km, Error ellipse: s-maj=7.2km s-min=4.3km az=10.0*
*IGQ **22** 23:58:09.6±0.6, 1.°1N±5.°×79.°9W±.°, h10km, MLv3.5*
*RSNC **22** 23:58:09.2±0.7, 0.°88N×79.°14W, h6km±5km, ML2.6, Mw3.0*
ISC 22 23:58:07.9±1.4, 0.°91N±0.°03×79.°18W±0.°05, h6km±10km, n33, σ0°85/48, 2D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAC1	**Pacto, Paraso**	**0.75**	**149**	P	**Pg**	**23 58 22.4**	**+0.2**
PAC1				S	**Sb**	**23 58 33.2**	**-0.7**
LITE1	**Lita**	**0.82**	**98**	P	**Pb**	**23 58 26.1**	**+1.3**
CUSE	**Cuicocha Este**	**0.98**	**128**	P	**Pg**	**23 58 26.4**	**-0.3**
CUSE				S	**Sb**	**23 58 40.3**	**-0.7**
OTAV	**Otavalo**	**0.98**	**133**	*i*P	**Pg**	**23 58 26.3**	**-0.5**
OTAV				*e*S	**Sg**	**23 58 39.4**	**-0.3**
OTAV				*i*		23 58 41.3	
	comp=Z,148nm,0.3s						
OTAV	**Otavalo**	**0.98**	**133**	P	**Pg**	**23 58 26.4**	**-0.5**
OTAV				S	**Sg**	**23 58 39.8**	**+0.1**
CUIC	**Cuicocha-Domo**	**1.01**	**126**	P	**Pg**	**23 58 27.0**	**-0.4**
CUIC				S	**Sb**	**23 58 41.2**	**-0.6**
TUMC	**Tumaco**	**1.01**	**26**	*e*P	**Pg**	**23 58 26.8**	**-0.5**
TUMC				*e*S	**Sg**	**23 58 41.4**	**+0.9**
TUMC				*i*		23 59 00.8	
	comp=Z,334nm,0.6s						
COTA	**Cotacachi**	**1.01**	**124**	P	**Pg**	**23 58 27.4**	**0.0**
URCU	**Urcuqui**	**1.03**	**117**	P	**Pg**	**23 58 27.3**	**-0.4**
URCU				S	**Sb**	**23 58 42.5**	**+0.1**
MAG1	**Magdalena**	**1.14**	**212**	P	**Pg**	**23 58 28.5**	**-1.3**
IMBA	**Imbabura, San**	**1.16**	**123**	P	**Pg**	**23 58 29.1**	**-1.1**
YANA	**Yana**	**1.19**	**149**	P	**Pg**	**23 58 30.0**	**-0.7**
GGPC	**Guagua Pichinc**	**1.23**	**152**	P	**Pg**	**23 58 30.5**	**-1.0**
GGPC				S	**Sb**	**23 58 48.0**	**-0.1**
CMBC	**Cumbal**	**1.35**	**89**	*e*P	**Pn**	**23 58 32.1**	**-1.6**
CMBC				*e*S	**Sg**	**23 58 50.9**	**-0.5**
CMBC				*i*		23 58 57.8	
	comp=Z,59nm,0.4s						
PITA	**Cotopaxi Volc**	**1.64**	**153**	P	**Pn**	**23 58 37.8**	**+0.2**
ILLI	**Illinizas Sur**	**1.67**	**164**	P	**Pn**	**23 58 36.8**	**-1.4**
ILLI				S	**Sn**	**23 58 58.6**	**-1.7**
ANTG	**Antisana-Guama**	**1.68**	**147**	P	**Pn**	**23 58 38.3**	**0.0**
ANTG				S	**Sn**	**23 59 00.0**	**-0.5**
ANTI	**Antisana**	**1.69**	**143**	P	**Pn**	**23 58 39

PCON	**Cinco Dias**	**3.12**	**63**	*e*P	**Pn**	**23 58 58.7**	**+0.6**
PCON				*i*		23 59 43.1	
	comp=Z,17nm,0.4s						
COHC	**Cochancay**	**3.35**	**181**	P	**Pn**	**23 59 01.9**	**+1.0**
MARP	**Paez Belalcaza**	**3.75**	**59**	*e*P	**Pn**	**23 59 06.8**	**+0.3**

*IDC **22** 23:59:55.1±3.5, 11°.43N×125°.63E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.7/41, mbtmp4.0/7, Error ellipse: s-maj=157.0km s-min=79.9km az=65.0*
*ISCJB **23** 00:00:04.4±0.7, 11°.90N±0°.05×125°.38E±0°.07, h57km±5km, mb4.0/7, Error ellipse: s-maj=10.9km s-min=8.3km az=172.6*
*MAN **23** 00:00:05.2, 11°.86N×125°.30E, h29km, mb4.2, ML3.0, MS2.7*
ISC 23 00:00:05.5±0.9,**11°.87N**±0°.05×**125°.37E**±0°.08,**h50**km±8km, **n26**,σ2i**17**/28,**mb4.2**/12,**1C-1D,Samar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.28**	**166**	*e*P	**Pn**	**00 00 14.1**	**-0.3**
BESP				*e*S	**Sn**	**00 00 20.8**	**0.0**
PLP	**Palo**	**0.80**	**209**	*e*P	**Pn**	**00 00 19.5**	**-1.1**
PLP				*e*S	**Sn**	**00 00 31.5**	**0.0**
CNP	**Catarman**	**0.94**	**313**	*e*P	**Pn**	**00 00 21.9**	**-0.5**
CNP				*e*S	**Sn**	**00 00 34.6**	**-0.1**
MSLP	**Maasin**	**1.80**	**196**	*e*P	**Pn**	**00 00 36.6**	**+2.5**
MSLP				*e*S	**Sn**	**00 01 01.5**	**+5.8**
LLP	**Lapu-Lapu**	**2.07**	**222**	*e*P	**Pn**	**00 00 38.0**	**+0.2**
LLP				*e*S	**Sn**	**00 01 03.7**	**+1.2**
PVCP	**Virac**	**2.08**	**325**	*e*P	**Pn**	**00 00 38.0**	**+0.1**
PVCP				*e*S	**Sn**	**00 01 10.7**	**+7.9**
RCP	**Roxas**	**2.59**	**263**	*e*P	**Pn**	**00 00 45.4**	**+0.4**
RCP				*e*S	**Sn**	**00 01 14.6**	**-0.7**
OTRP	**Odiongan**	**3.31**	**279**	*e*P	**Pn**	**00 00 55.0**	**+0.2**
SONM	**Songino Array**	**39.22**	**340**	P	**P**	**00 07 29.1**	**+0.1**
	0.5nm,0.4s,baz=154,slow=10,SNR=4.1						
RAMN	**Ramite**	**39.34**	**298**	*e*P	**P**	**00 07 29.9**	**-0.6**
	8.6nm,0.8s						
JIRN	**Jiri**	**39.88**	**299**	*e*P	**P**	**00 07 34.5**	**-0.6**
	17nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**40.34**	**75**	T	T	00 50 39.9	
	baz=275,slow=74,SNR=8.4						
H11S1	**WAKE ISLAND Hy**	**40.36**	**75**	T	T	00 50 42.2	
	baz=275						
H11S2	**WAKE ISLAND Hy**	**40.36**	**75**	T	T	00 50 40.4	
	baz=275,slow=74,SNR=3.8						
H11N1	**WAKE ISLAND Hy**	**40.62**	**74**	T	T	00 51 05.5	
	baz=266,slow=75,SNR=24						
H11N2	**WAKE ISLAND Hy**	**40.63**	**74**	T	T	00 50 57.6	
	baz=266,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**40.64**	**74**	T	T	00 50 59.6	
	baz=266,slow=75,SNR=20						
KOLN	**Koldanda**	**42.13**	**298**	*e*P	**P**	**00 07 52.8**	**-0.6**
	7.8nm,0.8s						
DANN	**Dangsing**	**42.13**	**299**	*e*P	**P**	**00 07 52.6**	**-0.9**
	7.9nm,0.6s						
PYUN	**Piuthan**	**42.73**	**299**	*e*P	**P**	**00 07 57.3**	**-1.0**
	3.1nm,0.5s						
MKAR	**Makanchi Array**	**50.23**	**322**	P	**P**	**00 08 57.2**	**+0.6**
	1.0nm,0.7s,baz=119,slow=8.6,SNR=12						
MKAR				PcP	**PcP**	**00 10 14.2**	**-0.9**
	0.2nm,0.6s,baz=129,slow=4.4,SNR=2.6						
ZALV	**Zalesovo Beam**	**52.80**	**331**	P	**P**	**00 09 15.6**	**-0.1**
	0.4nm,0.4s,baz=101,slow=7.7,SNR=4.3						
KURBB	**Kurchatov Arra**	**54.26**	**325**	P	**P**	**00 09 26.4**	**0.0**
	2.1nm,0.7s,baz=127,slow=7.1,SNR=18						
ARCES	**ARCESS Array B**	**82.39**	**340**	P	**P**	**00 12 21.9**	**0.0**
	4.0nm,0.8s,baz=74,slow=6.7,SNR=4.6						
FINES	**FINESS Array B**	**84.07**	**332**	P	**P**	**00 12 29.8**	**-0.9**
	2.0nm,0.9s,baz=96,slow=11,SNR=3.1						
AKASG	**Malin Array Be**	**84.77**	**321**	P	**P**	**00 12 33.1**	**-1.3**
	0.4nm,0.4s,baz=64,slow=3.8,SNR=3.9						

*DDA **23** 00:24:00.6, 38°.55N×43°.25E, h7km±3km, ML2.6*
*ISK **23** 00:24:00.1, 38°.64N×43°.19E, h5km, ML2.0/6*
ISC 23 00:24:01.7±1.0,**38°.63N**±0°.04×**43°.21E**±0°.04,**h17**km±9km, **n14**,σ1**901**/21,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.14**	**104**	PG	**Pg**	**00 00 24 05.5**	**-0.3**
VANB				SG	**Sb**	**00 00 24 09.4**	**+0.5**
TVAN	**Van**	**0.18**	**124**	*i* P	**Pg**	**00 00 24 05.8**	**-0.6**
TVAN				*i* S	**Sb**	**00 00 24 10.5**	**+0.3**
GEVA	**Gevas**	**0.34**	**201**	*i* P	**Pg**	**00 00 24 07.7**	**-1.2**
GEVA				*i* S	**Sb**	**00 00 24 16.1**	**+1.5**
AKDM	**Akdamar-Van**	**0.35**	**211**	PG	**Pg**	**00 00 24 08.4**	**-0.7**
ERCV	**ERCIS-VAN**	**0.40**	**14**	PG	**Pg**	**00 00 24 09.1**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.42**	**295**	*i* P	**Pb**	**00 00 24 10.6**	**-0.1**
VMUR	**Van-Muradiye**	**0.46**	**38**	IAML_P			
	comp=Z,654nm,0.2s						
VMUR				*i* P	**Pb**	**00 00 24 11.4**	**0.0**
VMUR				*i* S	**Sb**	**00 00 24 19.7**	**+1.8**
MLAZ	**Malazgirt-MUS**	**0.72**	**315**	PG	**Pb**	**00 00 24 15.2**	**-0.8**
CLDR	**Caldiran**	**0.75**	**47**	PG	**Pb**	**00 00 24 15.8**	**-0.7**
CLDR				SG	**Sg**	**00 00 24 27.5**	**+1.0**
CLDR	**Caldiran**	**0.75**	**47**	*i* P	**Pb**	**00 00 24 16.0**	**-0.5**
CLDR				*i* S	**Sn**	**00 00 24 28.2**	**-0.7**
GURO	**Guroymak-BITLI**	**0.93**	**265**	PG	**Pb**	**00 00 24 18.5**	**-0.9**
AGRB	**Hanur-Agry**	**0.96**	**350**	PG	**Pb**	**00 00 24 19.2**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.65**	**254**	PN	**Pb**	**00 00 24 31.1**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.65**	**254**	*i* P	**Pb**	**00 00 24 31.3**	**-0.4**
SVAN				*i* S	**Sg**	**00 00 24 56.9**	**+1.9**

*IDC **23** 00:34:49.8±1.5, 34°.24N×61°.60E, h0km, mb3.4/6, mb1 3.5/9, mb1mx3.4/41, mbtmp3.5/9, ML3.3/3, MS3.0/1, Ms1 3.2/1, ms1mx2.5/25, Error ellipse: s-maj=26.4km s-min=19.5km az=23.0*
ISC 23 00:34:51.0±1.0,**34°.26N**±0°.10×**61°.5E**±0°.1,**h10**km,**n10**, σ2i**37**/10,**mb3.5**/5,**Northwestern Afghanistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GEYT	**Alibeck**	**4.57**	**324**	Pn	**Pn**	**00 36 03.2**	**+3.0**
	0.9nm,0.3s,baz=123,slow=16,SNR=9.5						
GEYT				Pg	**Pg**	**00 36 15.2**	**-3.2**
	2.1nm,0.3s,baz=147,slow=19,SNR=12						
GEYT				Lg	Lg	00 37 17.2	
	0.5nm,0.3s,baz=149,slow=17,SNR=2.2						
WSAR	**Wadi Sarin**	**11.27**	**194**	Pn	**Pn**	**00 37 30.4**	**-1.6**
	0.2nm,0.3s,baz=35,slow=16,SNR=3.9						
AKTO	**Aktyubinsk**	**16.36**	**352**	Pn	**Pn**	**00 38 38.2**	**-2.5**
	0.2nm,0.3s,baz=166,slow=16,SNR=4.3						
MKAR	**Makanchi Array**	**20.09**	**45**	P	**P**	**00 39 22.9**	**-1.8**
	0.3nm,0.7s,baz=229,slow=9.4,SNR=4.4						
BRTR	**Keskin Array B**	**22.86**	**292**	P	**P**	**00 39 56.1**	**+1.5**
	0.7nm,0.9s,baz=139,slow=9.5,SNR=3.4						
ZALV	**Zalesovo Beam**	**25.64**	**33**	P	**P**	**00 40 19.9**	**-0.6**
	0.9nm,0.7s,baz=240,slow=10.0,SNR=5.2						
AKASG	**Malin Array Be**	**28.62**	**315**	P	**P**	**00 40 48.7**	**+1.4**
	0.2nm,0.3s,baz=108,slow=8.5,SNR=4.0						
FINES	**FINESS Array B**	**35.33**	**331**	P	**P**	**00 41 46.7**	**+0.6**
	0.7nm,0.5s,baz=129,slow=11,SNR=6.8						
SONM	**Songino Array**	**35.97**	**54**	P	**P**	**00 41 53.6**	**+1.7**
	0.4nm,0.6s,baz=267,slow=7.9,SNR=2.4						
CMAR	**Chiang Mai Arr**	**36.83**	**106**	LR	LR	01 01 26.4	
	comp=Z,20nm,18.6s,baz=160,slow=44						

*ISCJB **23** 00:42:41.6±1.1, 5°.0S±0°.2×154°.0E±0°.2, h105km, mb3.6/6, Error ellipse: s-maj=34.8km s-min=12.0km az=42.5*
*IDC **23** 00:42:43.3±6.1, 4°.97S×154°.02E, h109km±49km, mb3.5/6, mb1 3.8/7, mb1mx3.5/31, mbtmp4.0/7, Error ellipse: s-maj=51.3km s-min=24.1km az=102.0*
ISC 23 00:42:42.9±1.3,**5°.0S**±0°.2×**154°.0E**±0°.2,**h105**km,**n8**, σ1i**02**/9,**mb3.6**/6,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.11**	**237**	P	**Pn**	**00 44 39.1**	**+1.2**
	12nm,0.3s,baz=10,slow=4.4,SNR=9.4						
PMG				S	**Sn**	**00 46 06.3**	**-1.6**
	3.1nm,0.3s,baz=357,slow=18,SNR=2.5						
WRA	**Warramunga Arr**	**24.26**	**230**	P	**P**	**00 47 51.0**	**+0.6**
	4.7nm,0.7s,baz=52,slow=9.6,SNR=22						
ASAR	**Alice Springs**	**26.86**	**224**	P	**P**	**00 48 13.8**	**-0.2**
	0.7nm,0.4s,baz=56,slow=8.8,SNR=9.8						
STKA	**Stephens Creek**	**29.20**	**202**	P	**P**	**00 48 34.9**	**+0.2**
	3.1nm,0.7s,baz=30,slow=12,SNR=7.3						
SONM	**Songino Array**	**67.11**	**327**	P	**P**	**00 53 26.1**	**+0.7**
	0.3nm,0.4s,baz=134,slow=5.3,SNR=3.5						
MKAR	**Makanchi Array**	**81.24**	**319**	P	**P**	**00 54 47.4**	**0.0**
	0.2nm,0.5s,baz=98,slow=7.6,SNR=6.2						
ILAR	**Eielson Array**	**81.86**	**22**	P	**P**	**00 54 49.5**	**-0.7**
	0.4nm,0.7s,baz=241,slow=4.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**151.50**	**288**	PKPbc	**PKPbc**	**01 02 24.9**	**-0.9**
	0.4nm,0.3s,baz=71,slow=1.8,SNR=12						

*IDC **23** 01:05:10.0±1.0, 4°.74N×95°.83E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/29, mbtmp3.8/8, ML3.6/1, Error ellipse: s-maj=46.4km s-min=16.8km az=44.0*
*ISCJB **23** 01:05:13.1±0.9, 4°.8N±0°.2×95°.8E±0°.2, h31km, mb3.8/7, Error ellipse: s-maj=37.1km s-min=9.0km az=39.3*
ISC 23 01:05:14.9±1.0,**4°.8N**±0°.2×**95°.8E**±0°.2,**h31**km,**n11**,σ1i**17**/9, **mb3.9**/7,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.70**	**122**	Pn	**Pn**	**01 06 10.4**	**+0.3**
	4.7nm,0.3s,baz=359,slow=7.6,SNR=23						
PSI				Sn	**Sn**	**01 06 54.1**	**+1.2**
	2.0nm,0.3s,baz=180,slow=9.7,SNR=4.4						
H08S2	**Diego Garcia H**	**26.32**	**242**	T	T	01 38 04.7	
	baz=61,slow=75,SNR=16						
H08S3	**Diego Garcia H**	**26.32**	**242**	T	T	01 38 02.0	
	baz=61,slow=75,SNR=12						
H08S1	**Diego Garcia H**	**26.33**	**242**	T	T	01 38 02.4	
	baz=61,slow=75,SNR=11						
MKAR	**Makanchi Array**	**43.44**	**347**	P	**P**	**01 13 14.1**	**-1.0**
	0.2nm,0.4s,baz=173,slow=7.9,SNR=4.7						
SONM	**Songino Array**	**43.84**	**10**	P	**P**	**01 13 18.6**	**+0.3**
	0.2nm,0.4s,baz=191,slow=6.6,SNR=3.0						
WRA	**Warramunga Arr**	**45.17**	**124**	P	**P**	**01 13 27.9**	**-1.3**
	0.5nm,0.5s,baz=302,slow=9.1,SNR=5.1						
ASAR	**Alice Springs**	**46.70**	**129**	P	**P**	**01 13 40.0**	**-1.4**
	2.1nm,1.0s,baz=306,slow=7.7,SNR=9.0						
GEYT	**Alibeck**	**47.58**	**319**	P	**P**	**01 13 49.3**	**+1.3**
	2.9nm,0.6s,baz=138,slow=11,SNR=8.3						
BRTR	**Keskin Array B**	**65.68**	**312**	P	**P**	**01 15 56.6**	**-0.1**
	0.7nm,0.6s,baz=130,slow=8.0,SNR=5.9						
TORD	**Torodi Ar. Bea**	**92.89**	**283**	P	**P**	**01 18 26.0**	**+0.4**
	0.5nm,0.8s,baz=110,slow=6.6,SNR=3.3						

*IDC **23** 01:49:16.6±0.8, 11°.88N×87°.02W, h0km, mb4.2/11, mb1 4.4/14, mb1mx4.1/39, mbtmp4.2/14, ML3.2/4, MS3.6/4, Ms1 3.6/4, ms1mx3.0/35, Error ellipse: s-maj=31.1km s-min=14.2km az=48.0*
*ISCJB **23** 01:49:18.7±0.3, 11°.74N±0°.04×87°.20W±0°.03, h23km, mb4.5/91, MS3.7/5, Error ellipse: s-maj=6.6km s-min=2.9km az=36.5*
*UCR **23** 01:49:18.3±2.6, 11°.44N×87°.42W, h18km±11km, MD4.5, ML3.7, mb4.6(NEIC)*
*NEIC **23** 01:49:22.6±0.8, 11°.58N×87°.20W, h49km±7km, mb4.6/95, Error ellipse: s-maj=8.5km s-min=5.5km az=222.0*
ISC 23 01:49:19.6±1.1,**11°.57N**±0°.05×**87°.33W**±0°.04,**h23**km±7km, **n429**,σ1i**41**/428,**mb4.6**/93,**MS3.8**/5,**1C**,**Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.94**	**50**	*e*P	**Pb**	**01 49 36.2**	**-1.1**
CNGN	**Cerro Negro**	**1.11**	**34**	*i*P	**Pb**	**01 49 40.7**	**+0.5**
CNGN				*e*P	**Pb**	**01 49 40.7**	**+0.5**
MOMN	**Momotombo**	**1.13**	**43**	*e*P	**Pb**	**01 49 40.7**	**+0.2**
XAVN	**Gruta Xavier**	**1.14**	**60**	*e*P	**Pb**	**01 49 41.5**	**+0.9**
CRIN	**San Cristobal**	**1.15**	**14**	*e*P	**Pb**	**01 49 41.6**	**+0.7**
CRIN				IAML		01 50 08.2	
	comp=N,3μm,0.5s						
MGAN	**Managua**	**1.20**	**62**	*e*P	**Pb**	**01 49 41.6**	**-0.1**
MGAN				*e*S	**Sb**	**01 50 03.6**	**+6.7**
CONN	**Concepcion**	**1.67**	**90**	*e*P	**Pn**	**01 49 46.9**	**-0.6**
CNCH	**Conchagua**	**1.76**	**344**	*e*P	**Pn**	**01 49 49.5**	**+0.7**
ESTN	**Estel**	**1.79**	**32**	*e*Pn	**Pn**	**01 49 50.0**	**+0.9**
ESTN	**Estel**	**1.79**	**32**	*e*P	**Pb**	**01 49 50.4**	**-1.3**
LCND	**La Caada**	**1.81**	**342**	*e*P	**Pn**	**01 49 49.9**	**+0.6**
LCND				*e*S	**Sb**	**01 50 13.4**	**-0.9**
LCND				IAML		01 50 21.2	
	comp=Z,1μm,0.4s						
BOAB	**BOACO BROADBAN**	**.85**	**62**	*e*Pn	**Pn**	**01 49 49.0**	**-0.8**
BOAB	**BOACO BROADBAN**	**.85**	**62**	*e*P	**Pn**	**01 49 49.2**	**-0.6**
MATN	**Matagalpa**	**1.92**	**45**	*e*P	**Pn**	**01 49 51.9**	**+0.9**
NY14	**Universidad de**	**1.99**	**117**	*i* P	**Pn**	**01 49 51.7**	**0.0**
GBS3	**Finca Las Img**	**2.00**	**113**	*i* P	**Pn**	**01 49 52.1**	**+0.2**
VSM	**San Miguel**	**2.06**	**334**	*e*P	**Pb**	**01 49 55.2**	**-1.3**
PACA	**Pacayal**	**2.12**	**333**	*e*P	**Pn**	**01 49 54.3**	**+0.6**
ACON	**Acoyapa**	**2.15**	**79**	*e*P	**Pn**	**01 49 53.2**	**-0.8**
TECA	**Tecapa**	**2.23**	**329**	*e*P	**Pn**	**01 49 55.7**	**+0.5**
MESS	**Mesas**	**2.25**	**111**	*i* P	**Pn**	**01 49 56.2**	**+0.8**
CUI	**Cuipilapa**	**2.31**	**113**	*i* P	**Pn**	**01 49 56.9**	**+0.6**
CUI				*i* S	**Sn**	**01 50 22.6**	**-1.4**
CAHU	**Cacacuatique**	**2.35**	**339**	*e*P	**Pn**	**01 49 58.3**	**+1.4**
PTEN	**Parque Tenorio**	**2.45**	**110**	*i* P	**Pn**	**01 49 58.2**	**0.0**
PAVA	**Las Pavas**	**2.64**	**324**	*e*P	**Pn**	**01 50 01.2**	**+0.3**
LFRS	**El Faro**	**2.65**	**321**	*e*P	**Pn**	**01 50 01.2**	**+0.3**
JTS	**JuntasAbangare**	**2.66**	**118**	Pn	**Pn**	**01 50 01.6**	**+0.5**
	comp=Z,8.3nm,0.3s,baz=26,slow=16,SNR=18						
JTS				Sn	**Sn**	**01 50 31.0**	**-1.6**
	comp=Z,40nm,0.3s,baz=277,slow=2.3,SNR=9.7						
JTS	**JuntasAbangare**	**2.66**	**118**	*e*Pn	**Pn**	**01 50 01.8**	**+0.7**
JTS				*e*Sn	**Sn**	**01 50 30.3**	**-2.3**
BOQS	**Boqueron**	**2.87**	**319**	*e*P	**Pn**	**01 50 04.7**	**+0.6**
ESPN	**Las Esperanzas**	**3.03**	**78**	*e*Pn	**Pn**	**01 50 06.8**	**+0.7**
ESPN	**Las Esperanzas**	**3.03**	**78**	*e*P	**Pn**	**01 50 07.2**	**+1.2**
CEVE	**Cerro Verde**	**3.17**	**315**	*e*S	**Sn**	**01 50 47.3**	**+1.8**
SBLS	**San Blas**	**3.17**	**315**	*e*P	**Pn**	**01 50 08.4**	**+0.1**
HDC	**Heredia**	**3.52**	**116**	*e*Pn	**Pn**	**01 50 12.2**	**-0.8**
APG	**El Apazote**	**4.58**	**319**	Pn	**Pn**	**01 50 27.1**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=300,slow=20,SNR=3.4						
CCIG	**Comitan**	**6.61**	**316**	*e*Pn	Pn	01 51 03.9	+8.4
CMIG	**Matias Romero**	**9.15**	**308**	Pn	**Pn**	**01 51 31.8**	**+1.6**
	comp=Z,1.0nm,0.3s,baz=149,slow=8.7,SNR=8.8						
ANIL	**Santa Ana**	**13.74**	**120**	*e*P	**P**	**01 52 45.0**	**+3.2**
ANIL	**Santa Ana**	**13.74**	**120**	*e*P	**P**	**01 52 45.0**	**+3.2**
POPC	**Popayan, Colom**	**13.86**	**130**	*e*P	**P**	**01 52 43.2**	**+0.1**
POPC	**Popayan, Colom**	**13.86**	**130**	*e*P	**P**	**01 52 43.2**	**+0.1**
SOTA	**Rioblanco**	**14.18**	**131**	*e*P	**P**	**01 52 49.8**	**+3.0**
SOTA	**Rioblanco**	**14.18**	**131**	*e*P	**P**	**01 52 49.8**	**+3.0**
MARP	**Paez Belalcaza**	**14.22**	**127**	*e*P	**P**	**01 52 50.7**	**+3.5**
MARP	**Paez Belalcaza**	**14.22**	**127**	*e*P	**P**	**01 52 50.7**	**+3.5**
PAMC	**Pamplona, Colo**	**15.03**	**105**	*e*P	**Pn**	**01 52 53.2**	**+2.1**
PAMC	**Pamplona, Colo**	**15.03**	**105**	*e*P	**Pn**	**01 52 53.2**	**+2.1**
CHIC	**Chingaza**	**15.12**	**116**	*e*P	**P**	**01 52 58.8**	**+1.5**
CHIC	**Chingaza**	**15.12**	**116**	*e*P	**P**	**01 52 58.8**	**+1.5**
RUSC	**La Rusia**	**15.17**	**111**	*e*P	**Pn**	**01 52 54.8**	**+1.9**
RUSC	**La Rusia**	**15.17**	**111**	*e*P	**Pn**	**01 52 54.8**	**+1.9**
FLOC	**Florencia**	**15.26**	**130**	*e*P	**P**	**01 52 59.9**	**+1.5**
FLOC	**Florencia**	**15.26**	**130**	*e*P	**P**	**01 52 59.9**	**+1.5**
JRQG	**Juriquilla Cam**	**15.52**	**307**	*e*Pn	**Pn**	**01 52 57.1**	**-0.2**
	comp=Z,41nm,0.9s						
MOIG	**Morelia**	**15.58**	**303**	*e*Pn	**P**	**01 53 01.2**	**-1.0**
	comp=Z,42nm,1.0s						
TAMC	**Tame, Arauca**	**16.17**	**107**	*e*P	**P**	**01 53 07.3**	**-1.2**
TAMC	**Tame, Arauca**	**16.17**	**107**	*e*P	**P**	**01 53 07.3**	**-1.2**
SDV	**Santo Domingo**	**16.65**	**98**	Pn	**Pn**	**01 53 10.5**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=322,slow=4.3,SNR=6.4						
SDV	**Santo Domingo**	**16.65**	**98**	*e*Pn	**P**	**01 53 13.4**	**-0.6**
	comp=Z,7.8nm,0.9s						
GUVC	**San Jose del G**	**17.11**	**121**	*e*P	**P**	**01 53 20.8**	**+1.7**
GUVC	**San Jose del G**	**17.11**	**121**	*e*P	**P**	**01 53 20.8**	**+1.7**
857A	**Zephyrhills**	**17.28**	**15**	P	**P**	**01 53 20.4**	**-0.3**
	baz=197						
859A	**Kempfer Cattle**	**17.47**	**19**	P	**Pn**	**01 53 21.7**	**-0.1**
	baz=201						
LNIG	**Linares**	**17.55**	**321**	*e*Pn	**P**	**01 53 24.3**	**+0.6**
	comp=Z,20nm,1.3s						
757A	**Oxford**	**17.97**	**15**	P	**P**	**01 53 28.3**	**0.0**
	baz=196						
SDD	**Santo Domingo**	**18.15**	**66**	*e*Pn	**Pn**	**01 53 24.8**	**-5.5**
	comp=Z,239nm,1.2s						
ZAIG	**Zacatecas**	**18.31**	**309**	*e*P	**P**	**01 53 34.9**	**+2.5**
	comp=Z,12nm,1.4s						
KVTX	**Kingsville**	**18.73**	**330**	*e*P	**Pn**	**01 53 38.3**	**+1.1**
	comp=Z,134nm,1.5s						
555A	**McAlpin**	**18.90**	**12**	P	**Pn**	**01 53 39.3**	**+0.1**
	baz=193						
454A	**Quitman**	**19.36**	**10**	P	**P**	**01 53 42.4**	**-1.1**
	baz=191						
453A	**Whigham**	**19.39**	**8**	P	**P**	**01 53 43.8**	**-0.1**
	baz=188						
455A	**Stateville**	**19.49**	**11**	P	**P**	**01 53 44.7**	**-0.3**
	baz=192						
351A	**Pinckard**	**19.67**	**4**	P	**Pn**	**01 53 48.6**	**+0.1**
	baz=185						
349A	**Repton**	**19.68**	**0**	P	**Pn**	**01 53 49.2**	**+0.5**
	baz=180						
348A	**Jackson**	**19.75**	**359**	*e*P	**P**	**01 53 47.1**	**-0.8**
	comp=Z,30nm,0.8s						
348A	**Jackson**	**19.75**	**359**	P	**Pn**	**01 53 49.1**	**-0.3**
	baz=178						
353A	**Camilla**	**19.89**	**8**	P	**Pn**	**01 53 50.8**	**-0.3**
	baz=189						
352A	**Blakely**	**19.93**	**6**	*e*P	**Pn**	**01 53 52.4**	**+0.8**
	comp=Z,33nm,0.8s						
352A	**Blakely**	**19.93**	**6**	P	**P**	**01 53 50.2**	**+0.3**
	baz=186						
TIGA	**Tifton**	**20.07**	**9**	P	**P**	**01 53 51.5**	**+0.1**
	baz=190						
249A	**Camden**	**20.31**	**1**	P	Pn	01 53 55.4	-0.6
	baz=180						
248A	**Dixon Mills**	**20.43**	**359**	P	**P**	**01 53 56.0**	**+0.8**
	baz=178						
252A	**Lumpkin**	**20.47**	**6**	P	Pn	01 53 56.9	-1.0
	baz=187						
251A	**Midway**	**20.50**	**5**	P	Pn	01 53 57.1	-1.2
	baz=185,SNR=9.0						
ATAH	**Atahualpa**	**20.60**	**154**	LR	LR	02 00 55.3	
	comp=Z,195nm,19.3s,baz=356,slow=34						
254A	**Abbeville**	**20.61**	**10**	P	Pn	01 53 58.6	-1.0
	baz=191						
255A	**Hazlehurst**	**20.75**	**12**	P	**P**	**01 53 59.4**	**+0.8**
	baz=193						
VBMS	**Vicksburg**	**20.76**	**352**	P	Pn	01 54 00.2	-1.0
	baz=171						
149A	**Jones**	**20.93**	**1**	P	**P**	**01 54 01.8**	**+1.1**
	baz=181						
151A	**Opelika**	**20.94**	**5**	P	**P**	**01 54 01.8**	**+1.0**
	baz=185						
150A	**Eclectic**	**20.97**	**3**	P	Pn	01 54 02.6	-1.1
	baz=183,SNR=12						
148A	**Greensboro**	**20.98**	**359**	P	**P**	**01 54 02.0**	**+0.9**
	baz=179,SNR=12						
147A	**Livingston**	**21.02**	**358**	*e*P	**P**	**01 54 02.5**	**+0.9**
	comp=Z,42nm,0.8s						
147A	**Livingston**	**21.02**	**358**	P	**P**	**01 54 02.2**	**+0.6**
	baz=177,SNR=7.0						
146A	**Union**	**21.02**	**356**	P	**P**	**01 54 02.6**	**+0.9**
	baz=175						
152A	**Waverly Hall**	**21.13**	**6**	*e*P	**P**	**01 54 04.6**	**+1.8**
	comp=Z,32nm,0.9s						
152A	**Waverly Hall**	**21.13**	**6**	P	**P**	**01 54 03.3**	**+0.5**
	baz=187,SNR=11						
NATX	**Nacogdoches**	**21.20**	**343**	*e*P	**P**	**01 54 03.5**	**0.0**
	comp=Z,29nm,0.8s						
NATX	**Nacogdoches**	**21.20**	**343**	P	**P**	**01 54 04.8**	**+1.2**
	baz=180						
153A	**Fort Valley**	**21.22**	**8**	P	**P**	**01 54 03.9**	**+0.1**
	baz=189						
154A	**Montrose**	**21.30**	**10**	P	**P**	**01 54 04.8**	**+0.2**
	baz=191						
435B	**Jarrell**	**21.35**	**335**	P	**P**	**01 54 06.6**	**+1.4**
	baz=151						
LRAL	**Lakeview Retre**	**21.36**	**1**	*e*P	**P**	**01 54 07.4**	**+2.1**
	comp=Z,19nm,0.8s						
LRAL	**Lakeview Retre**	**21.36**	**1**	P	**P**	**01 54 06.6**	**+1.3**
	baz=180,SNR=7.0						
155A	**Kite**	**21.42**	**11**	P	**P**	**01 54 06.2**	**+0.3**
	baz=193						
Z49A	**Columbiana**	**21.53**	**2**	P	**P**	**01 54 07.1**	**0.0**
	baz=182						
Z47A	**Carrollton**	**21.54**	**358**	P	**P**	**01 54 06.8**	**-0.4**
	baz=178						
Z46A	**Louisville**	**21.57**	**356**	P	**P**	**01 54 07.9**	**+0.3**

UALR	**University of** comp=Z,24nm,1.0s	23.54	350	eP		P	01 54 28.2	0.0
MIAR	**Mount Ida** comp=Z,14nm,0.8s	23.57	347	eP		P	01 54 28.1	-0.3
MIAR	**Mount Ida** baz=164,SNR=12	23.57	347	P		P	01 54 28.2	-0.3
SWET	**Sewanee** comp=Z,27nm,1.2s	23.57	3	eP		P	01 54 29.4	+0.9
W47A	**Westpoint** baz=179,SNR=7.9	23.57	359	P		P	01 54 27.4	-1.1
W50A	**Signal Mountai** comp=Z,22nm,0.9s	23.59	4	eP		P	01 54 29.6	+0.8
W50A	**Signal Mountai** baz=185,SNR=8.0	23.59	4	P		P	01 54 28.4	-0.4
W51A	**Cleveland** baz=186,SNR=10.0	23.60	5	P		P	01 54 27.8	-0.9
W52A	**Murphy** comp=Z,20nm,0.8s	23.62	7	eP		P	01 54 29.4	+0.5
W52A	**Murphy** baz=188,SNR=8.6	23.62	7	P		P	01 54 28.2	-0.8
BG3	**Lake Jocassee** comp=Z,21nm,0.7s	23.66	9	eP		P	01 54 29.9	+0.6
PAULI	**Pauline** comp=Z,11nm,0.9s	23.68	11	eP		P	01 54 30.5	+1.0
W53A	**Cullowhee** baz=190	23.79	8	P		P	01 54 29.5	-1.3
ABTX	**Abilene, Hawle** comp=Z,24nm,1.4s	23.81	334	eP		P	01 54 33.4	+2.5
ABTX	**Abilene, Hawle** baz=149	23.81	334	P		P	01 54 31.0	+0.1
CPCT	**Cooper Cave** comp=Z,45nm,1.3s	23.91	6	eP		P	01 54 31.8	+0.1
W41B	**Gary Mavity, V** comp=Z,21nm,1.1s	23.92	350	eP		P	01 54 31.5	-0.2
W41B	**Gary Mavity, V** baz=168,SNR=5.4	23.92	350	P		P	01 54 31.3	-0.4
WHAR	**Wooly Hollow** comp=Z,12nm,0.8s	24.04	350	eP		P	01 54 32.5	-0.4
X37A	**Clayton** comp=Z,48nm,0.9s	24.05	344	eP		P	01 54 33.6	+0.6
V48A	**Smith Brothers** comp=Z,11nm,0.8s	24.07	1	eP		P	01 54 32.8	-0.4
V48A	**Smith Brothers** baz=181,SNR=6.2	24.07	1	P		P	01 54 32.2	-1.0
V50A	**Pikevile** baz=185,SNR=7.0	24.08	4	P		P	01 54 32.4	-0.8
KMSC	**Kings Mountain** baz=194	24.09	12	P		P	01 54 32.2	-1.2
V49A	**McMinnville** baz=183,SNR=7.4	24.12	3	P		P	01 54 32.7	-1.0
V46A	**Holladay** baz=178	24.13	358	P		P	01 54 32.0	-1.8
V47A	**Nunnelly** baz=179	24.15	360	P		P	01 54 32.6	-1.3
TKL	**Tuckaleechee C** comp=Z,16nm,0.9s,baz=184,slow=10,SNR=11	24.19	7	P		P	01 54 33.1	-1.2
TKL	**Tuckaleechee C** comp=Z,17nm,0.9s	24.19	7	eP		P	01 54 34.9	+0.5
W39A	**Magazine** comp=Z,4.7nm,0.9s	24.24	347	eP		P	01 54 35.0	+0.3
W39A	**Magazine** baz=164	24.24	347	P		P	01 54 34.5	-0.2
V51A	**Loudon** comp=Z,16nm,0.8s	24.27	6	eP		P	01 54 35.6	+0.5
V51A	**Loudon** baz=187	24.27	6	P		P	01 54 33.7	-1.4
V53A	**Saluda** comp=Z,12nm,0.6s	24.34	9	eP		P	01 54 36.4	+0.6
V53A	**Saluda** baz=190	24.34	9	P		P	01 54 34.6	-1.1
V52A	**Sevierville** baz=188	24.40	7	P		P	01 54 34.5	-1.7
V42A	**Cord** baz=170	24.41	352	P		P	01 54 35.2	-1.0
WVT	**Waverly** baz=178	24.45	359	P		P	01 54 35.5	-1.2
V41A	**Mountainview** baz=168,SNR=13	24.50	351	P		P	01 54 35.6	-1.5
U46A	**Springville** baz=178,SNR=14	24.69	358	P		P	01 54 37.3	-1.6
U44B	**Burton Farm, H** baz=175	24.73	356	P		P	01 54 37.2	-2.0
U47A	**Clarksville** baz=180,SNR=5.6	24.76	0	P		P	01 54 37.8	-1.6
U50A	**Jamestown** baz=186	24.84	5	P		P	01 54 39.1	-1.2
U48A	**Cassie Pea, Po** baz=182	24.84	2	P		P	01 54 38.6	-1.6
U43A	**Rector** baz=172	24.84	354	P		P	01 54 39.2	-1.0
U49A	**Red Boiling Sp** baz=183,SNR=6.8	24.87	3	P		P	01 54 39.1	-1.4
U51A	**La Follette** baz=187	24.88	6	P		P	01 54 38.4	-2.2
U42A	**Revenden** baz=171,SNR=7.7	24.92	352	P		P	01 54 39.5	-1.4
U52A	**Thorn Hill** baz=189	24.97	8	P		P	01 54 40.1	-1.4
U41A	**Viola** baz=169	25.01	351	P		P	01 54 40.6	-1.2
U53A	**Fall Branch** baz=191,SNR=5.4	25.05	9	P		P	01 54 40.2	-2.0
TZTN	**Tazewell** baz=188	25.10	7	P		P	01 54 41.3	-1.2
U40A	**Yellville** baz=167,SNR=10	25.18	349	P		P	01 54 42.6	-0.6
WMOK	**Wichita Mounta** comp=Z,18nm,1.1s	25.31	338	eP		P	01 54 44.6	+0.1
WMOK	**Wichita Mounta** baz=153,SNR=13	25.31	338	P		P	01 54 44.2	-0.3
HHAR	**Hobbs** comp=Z,6.6nm,0.8s	25.32	347	eP		P	01 54 44.3	-0.2
T46A	**Princeton** baz=178	25.36	359	P		P	01 54 43.5	-1.4
TUL1	**Leonard** comp=Z,55nm,0.8s	25.41	344	eP		P	01 54 45.2	-0.2
TUL1	**Leonard** baz=160,SNR=19	25.41	344	P		P	01 54 45.0	-0.4
T50A	**Nancy** baz=185	25.44	5	P		P	01 54 44.1	-1.5
T51A	**Gray** baz=187,SNR=6.0	25.47	6	P		P	01 54 44.8	-1.1
T49A	**Edmonton** comp=Z,27nm,1.3s	25.47	3	eP		P	01 54 45.8	-0.2
T49A	**Edmonton** baz=184	25.47	3	P		P	01 54 44.9	-1.0
T43A	**Greenville** baz=173,SNR=6.4	25.54	355	P		P	01 54 45.0	-1.5
T42A	**Van Buren** comp=Z,12nm,0.8s	25.57	353	eP		P	01 54 45.8	-1.0
T42A	**Van Buren** baz=171,SNR=6.3	25.57	353	P		P	01 54 45.6	-1.3
T41A	**Mountain View** baz=170,SNR=7.8	25.67	352	P		P	01 54 46.4	-1.4
MNTX	**Cornudas Mount** comp=Z,8.5nm,1.3s	26.05	323	eP		P	01 54 54.1	+2.8
MNTX	**Cornudas Mount** baz=136	26.05	323	P		P	01 54 51.8	+0.5
S44A	**Carbondale** baz=175	26.07	357	P		P	01 54 49.9	-1.4
S49A	**Springfield** baz=184	26.17	4	P		P	01 54 50.6	-1.6
S51A	**Beattyville** comp=Z,13nm,0.7s	26.17	7	eP		P	01 54 52.4	+0.1
S51A	**Beattyville** baz=188	26.17	7	P		P	01 54 51.9	-0.3
S41A	**Jillco Farms,** baz=170	26.21	352	P		P	01 54 51.1	-1.5
S42A	**Caledonia** baz=172	26.27	354	P		P	01 54 51.3	-1.9
WCI	**Wyandotte Cave** comp=Z,14nm,0.9s	26.56	2	eP		P	01 54 55.1	-0.6
WCI	**Wyandotte Cave** baz=182	26.56	2	P		P	01 54 54.7	-1.1
CCM	**Cathedral Cave** comp=Z,25nm,1.2s	26.60	353	eP		P	01 54 55.0	-1.1
CCM	**Cathedral Cave** baz=171	26.60	353	P		P	01 54 55.2	-1.0
R44A	**Waltonville** baz=176	26.61	357	P		P	01 54 55.1	-1.1
AMTX	**Amarillo** comp=Z,21nm,1.3s	26.62	333	eP		P	01 54 58.8	+2.2
AMTX	**Amarillo** baz=147	26.62	333	P		P	01 54 56.8	+0.3
R49A	**Shelbyville** baz=184	26.68	4	P		P	01 54 55.5	-1.4
R43A	**Red Bud** baz=174	26.69	355	P		P	01 54 55.9	-1.0
R50A	**Paris** baz=186	26.73	5	P		P	01 54 55.6	-1.8
R51A	**Hillsboro** baz=188	26.83	7	P		P	01 54 57.1	-1.1
U32A	**Winter Ranch,** comp=Z,27nm,1.1s	26.85	339	eP		P	01 54 59.4	+0.9
R41A	**Rosebud** baz=171	26.86	353	P		P	01 54 58.1	-0.4
R53A	**Hurricane** baz=191	27.08	9	P		P	01 54 59.3	-1.1
R54A	**Victor** baz=193	27.10	11	P		P	01 54 59.3	-1.4
Q45A	**Warren Harvey,** baz=178	27.22	359	P		P	01 55 00.2	-1.5
Q44A	**Meyer Farm, Va** comp=Z,19nm,0.9s	27.26	357	eP		P	01 55 01.3	-0.8
Q44A	**Meyer Farm, Va** baz=176	27.26	357	P		P	01 55 01.0	-1.1
Q47A	**Bedord North L** baz=182	27.26	2	P		P	01 55 00.7	-1.4
Q48A	**North Vernon** baz=183	27.28	3	P		P	01 55 01.0	-1.3
Q43A	**New Douglas** baz=175	27.34	356	P		P	01 55 01.7	-1.0
Q49A	**Aurora** baz=185	27.41	4	P		P	01 55 02.9	-0.5
Q51A	**Peebles** comp=Z,32nm,0.6s	27.57	7	eP		P	01 55 04.4	-0.5
Q51A	**Peebles** baz=188,SNR=13	27.57	7	P		P	01 55 03.4	-1.5
Q52A	**Bidwell** baz=190	27.65	9	P		P	01 55 04.9	-0.7
P44A	**Sand Creek, Wi** baz=177	27.80	358	P		P	01 55 06.1	-0.8
P47A	**Martinsville** baz=182	27.82	2	P		P	01 55 05.8	-1.3
P48A	**Milroy** baz=184	27.83	3	P		P	01 55 05.5	-1.6
P45A	**Graceland, Par** baz=179	27.84	359	P		P	01 55 05.8	-1.5
P43A	**Skaggs, Pawnee** baz=175	28.02	356	P		P	01 55 08.1	-0.8
P51A	**Williamsport** baz=189	28.05	7	P		P	01 55 08.3	-0.9
P53A	**Whipple** comp=Z,14nm,0.8s	28.30	10	eP		P	01 55 11.9	+0.5
P53A	**Whipple** baz=192	28.30	10	P		P	01 55 11.0	-0.4
P52A	**Corning** baz=190	28.32	8	P		P	01 55 10.7	-0.9
O47A	**Sheridan** baz=182	28.57	2	P		P	01 55 12.5	-1.3
KSU1	**Kansas State U** baz=161	28.63	345	P		P	01 55 13.6	-0.8
O48A	**Farmland** baz=184	28.64	3	P		P	01 55 13.0	-1.3
O50A	**Cable** baz=187,SNR=10	28.65	6	P		P	01 55 13.3	-1.2
O51A	**Pataskala** baz=189	28.77	8	P		P	01 55 14.3	-1.2
ACSO	**Alum Creek Sta** baz=189	28.80	7	P		P	01 55 15.3	-0.6
O52A	**Adamsville** baz=191	28.84	9	P		P	01 55 15.5	-0.7
HDIL	**Hopedale** baz=176	28.92	357	P		P	01 55 15.8	-1.1
O53A	**New Philadelph** baz=192	29.07	10	P		P	01 55 17.5	-0.7
O54A	**Avella** baz=194	29.15	11	P		P	01 55 17.9	-1.1
N45A	**Kentland** baz=179	29.16	360	P		P	01 55 17.3	-1.7
N41A	**Harden Midland** baz=173	29.19	354	P		P	01 55 17.3	-1.9
N46A	**Monticello** baz=181	29.21	1	P		P	01 55 17.9	-1.5
N47A	**Urbana** baz=183	29.23	3	P		P	01 55 18.0	-1.6
N48A	**Decatur** baz=184	29.24	4	P		P	01 55 18.1	-1.7
N49A	**Columbus Grove** comp=Z,21nm,1.0s	29.36	5	eP		P	01 55 20.0	-0.8
N49A	**Columbus Grove** baz=186	29.36	5	P		P	01 55 19.7	-1.1
N53A	**Lisbon** baz=193	29.68	10	P		P	01 55 22.8	-0.7
PTGA	**Pitinga** comp=Z,39nm,20.6s,baz=288,slow=39	29.81	112	LR		LR	02 08 32.8	
M41A	**Milan** baz=173	29.82	355	P		P	01 55 24.1	-0.7
M49A	**Liberty Center** baz=186	29.93	5	P		P	01 55 24.6	-1.2
M50A	**Fremont** baz=188	29.95	6	P		P	01 55 24.1	-1.9
SSPA	**Standing Stone** baz=198	30.12	14	P		P	01 55 27.2	-0.4
L42A	**Oliver, Polo** baz=175	30.38	357	P		P	01 55 28.5	-1.4
L41A	**Preston** baz=174	30.51	355	P		P	01 55 29.3	-1.6
L49A	**Milan** baz=187	30.58	5	P		P	01 55 30.7	-0.9
SDCO	**Great Sand Dun** comp=Z,2.5nm,0.9s	30.73	331	eP		P	01 55 34.8	+1.5
SDCO	**Great Sand Dun** baz=143	30.73	331	P		P	01 55 34.0	+0.7
N59A	**State Game Lan** baz=202	30.95	17	P		P	01 55 34.4	-0.5
K41A	**Shullsburg** baz=174	31.03	356	P		P	01 55 34.8	-0.7
K48A	**Perry** baz=186	31.24	5	P		P	01 55 36.3	-1.1
K39A	**Oelwein** baz=171	31.27	354	P		P	01 55 36.1	-1.6
JFWS	**Jewell Farm** baz=174	31.33	356	P		P	01 55 37.1	-1.0
J42A	**Columbus** baz=176	31.67	358	P		P	01 55 39.4	-1.7
J48A	**Bridge Port** baz=188	31.76	5	P		P	01 55 40.7	-1.2
J41A	**Loganville** baz=175	31.76	356	P		P	01 55 40.6	-1.4
MVCO	**Mesa Verde** comp=Z,5.3nm,1.0s	31.83	327	eP		P	01 55 49.1	+6.1
J40A	**Soldiers Grove** baz=173	31.84	355	P		P	01 55 41.7	-1.0
J39A	**Decorah** baz=172	31.87	354	P		P	01 55 41.7	-1.3
BINY	**Binghamton** comp=Z,23nm,0.8s	32.08	16	eP		P	01 55 45.4	+0.6
BINY	**Binghamton** baz=201	32.08	16	P		P	01 55 43.9	-0.9
I43A	**Langenfeld Bro** baz=178	32.20	359	P		P	01 55 44.7	-1.2
I42A	**Draeger Farm,** baz=177	32.23	358	P		P	01 55 44.5	-1.6
I39A	**Houston** baz=172	32.37	354	P		P	01 55 44.8	-2.5
I41A	**Arkdale** baz=175	32.44	357	P		P	01 55 46.0	-2.0
SMCO	**Snowmass** comp=Z,10nm,1.3s	32.57	331	eP		P	01 55 51.0	+1.4
PV13	**Radium Mtn., P** comp=Z,4.3nm,0.8s	32.71	328	eP		P	01 55 57.0	+6.4
PV03	**Paradox Valley**	32.80	328	eP		P	01 55 51.9	+0.5
PV12	**Saucer Basin,** comp=Z,12nm,0.9s	32.82	328	eP		P	01 55 53.0	+1.4
H42A	**Shiocton** baz=178	32.84	358	P		P	01 55 49.9	-1.4
PV11	**David Mesa, Pa** comp=Z,24nm,1.4s	32.84	328	eP		P	01 55 51.1	-0.6
PV17	**East Wray Mesa** comp=Z,9.4nm,0.8s	32.87	328	eP		P	01 55 53.1	+1.0
PV16	**Nyswonger Mesa** comp=Z,5.0nm,0.8s	32.87	328	eP		P	01 55 58.4	+6.3
H46A	**Fife Lake** baz=184	32.90	3	P		P	01 55 49.9	-2.0
PV14	**Lion Creek, Pa** comp=Z,6.4nm,0.9s	32.98	328	eP		P	01 55 58.3	+5.3
PV10	**Paradox Valley**	32.99	328	eP		P	01 55 53.7	+0.6
H41A	**Junction City** baz=176	32.99	357	P		P	01 55 49.5	-3.2
PV23	**Carpenter Ridg** comp=Z,6.7nm,0.9s	33.03	328	eP		P	01 55 59.7	+6.2
ECSD	**EROS Data Cent** comp=Z,10.0nm,1.0s	33.03	348	eP		P	01 55 51.7	-1.5
ECSD	**EROS Data Cent** baz=163,SNR=6.3	33.03	348	P		P	01 55 51.2	-1.9
H40A	**Chili** baz=174	33.04	356	P		P	01 55 51.5	-1.7
G42A	**Mountain** baz=178	33.56	359	P		P	01 55 55.7	-2.1
G43A	**Wallace** baz=179	33.57	360	P		P	01 55 55.7	-2.1
G40A	**Rib Lake** baz=175	33.67	356	P		P	01 55 56.9	-1.7
G38A	**Ridgeland** baz=172	33.70	354	P		P	01 55 57.3	-1.6
G39A	**Holcombe** baz=173	33.76	355	P		P	01 55 57.4	-2.0
SADO	**Sadowa** comp=Z,12nm,0.8s,baz=211,slow=7.4,SNR=8.8	33.82	11	P		P	01 55 58.6	-1.3
SADO	**Sadowa** comp=Z,58nm,1.4s	33.82	11	eP		P	01 55 58.6	-1.3
SPMN	**Marine on St.** comp=Z,32nm,1.3s	33.86	353	eP		P	01 55 58.6	-1.6
SPMN	**Marine on St.** baz=170	33.86	353	P		P	01 55 58.7	-1.6
O20A	**White River Ci** comp=Z,10nm,1.1s	33.92	331	eP		P	01 56 02.4	+1.2
O20A	**White River Ci** baz=141	33.92	331	P		P	01 56 01.5	+0.3
F41A	**Three Lakes** baz=177	34.08	358	P		P	01 55 59.9	-2.4
F43A	**Flat Rock, Esc** baz=180	34.14	0	P		P	01 56 01.2	-1.5
SUSD	**Miller** baz=159	34.25	345	P		P	01 56 01.9	-1.8
H56A	**Elgin** baz=199	34.25	14	P		P	01 56 02.8	-0.9
G53A	**Haliburton** baz=195	34.26	11	P		P	01 56 02.2	-1.5
F44A	**Big Bay de Noc** baz=181	34.29	1	P		P	01 56 02.2	-1.9
F40A	**Park Falls** baz=175	34.31	357	P		P	01 56 02.5	-1.7
F39A	**Loretta** baz=174	34.36	356	P		P	01 56 01.5	-3.2
LCMT	**Little Creek M** comp=Z,2.2nm,0.8s	34.41	322	eP		P	01 56 10.6	+5.2
MTPU	**Mount Pierson** comp=Z,6.0nm,0.9s	34.48	324	eP		P	01 56 10.7	+4.6
F38A	**Pierce - Schro** baz=172	34.49	354	P		P	01 56 03.5	-2.2
Q16A	**Castle Valley** comp=Z,3.6nm,0.9s	34.52	326	eP		P	01 56 13.3	+6.9
E43A	**Lone Tree Farm** baz=180	34.69	0	P		P	01 56 05.3	-2.2
P17A	**Butcher Ranch,** comp=Z,9.4nm,0.9s	34.69	327	eP		P	01 56 09.2	+1.4
LONY	**Lake Ozonia** baz=202	34.71	16	P		P	01 56 06.0	-1.7
G55A	**Calabogie** baz=198	34.77	13	P		P	01 56 06.0	-2.2
F52A	**Sundridge** baz=194	34.78	10	P		P	01 56 06.6	-1.7
E39A	**Mellen** baz=174	34.80	356	P		P	01 56 07.0	-1.4
E47A	**Iron Bridge** baz=187	34.94	5	P		P	01 56 08.1	-1.5
E38A	**The Farm, Brul** comp=Z,30nm,1.2s	35.10	355	eP		P	01 56 09.4	-1.6
E38A	**The Farm, Brul** baz=173	35.10	355	P		P	01 56 09.3	-1.7
E50A	**Wahnapitae** baz=191	35.18	8	P		P	01 56 09.7	-2.0
E52A	**Mattawa** baz=194	35.37	10	P		P	01 56 11.5	-1.8
F55A	**Otter Lake** baz=198	35.40	13	P		P	01 56 12.0	-1.6
E51A	**G1948 Merrick** baz=193	35.47	9	P		P	01 56 12.7	-1.5
MPU	**Maple Canyon** comp=Z,8.0nm,1.1s	35.56	327	eP		P	01 56 16.7	+1.4
E53A	**Dumoine, Ponti** baz=196	35.65	12	P		P	01 56 13.6	-2.1
PSUT	**Pine Spring** comp=Z,3.7nm,0.8s	35.78	323	eP		P	01 56 22.3	+5.1
D48A	**Paudash Townsh** baz=189	35.79	6	P		P	01 56 15.6	-1.3
E54A	**Lac Daplat, Po** baz=197	35.80	12	P		P	01 56 15.8	-1.2
CTU	**Camp Tracy** comp=Z,7.0nm,1.1s	36.11	328	eP		P	01 56 25.8	+5.8
TCUT	**Toone Canyon** comp=Z,5.3nm,0.7s	36.24	329	eP		P	01 56 26.1	+4.9
TCUT					epP	sP	01 56 35.0	+4.2
EDW2	**Edwards Air Fo** baz=122	36.25	315	P		P	01 56 21.0	-0.1
DUG	**Dugway, Tooele** comp=Z,5.8nm,1.3s	36.32	326	eP		P	01 56 22.5	+0.8
DUG	**Dugway, Tooele** baz=134	36.32	326	P		P	01 56 21.9	+0.1
EYMN	**Ely** baz=173	36.43	355	P		P	01 56 20.9	-1.4
D54A	**Lac Fusel, La** baz=198	36.59	12	P		P	01 56 22.0	-1.8
BW06	**Boulder Array** comp=Z,2.6nm,0.8s	36.60	332	eP		P	01 56 24.1	-0.1
BW06	**Boulder Array** baz=141	36.60	332	P		P	01 56 23.9	-0.4
PD31	**Pinedale Array**	36.60	332	eP		P	01 56 24.4	+0.2
PD31					ePcP	PcP	01 58 47.6	+0.4
PDAR	**Pinedale Array** comp=Z,0.9nm,0.6s,baz=125,slow=8.8,SNR=12	36.60	332	P		P	01 56 24.2	0.0
PDAR					PcP	PcP	01 58 47.6	+0.4
PDAR	**Pinedale Array** comp=Z,0.9nm,0.8s,baz=127,slow=4.3,SNR=6.3	36.60	332	eP		P	01 56 24.0	-0.2
SPUT	**South Promonto**	36.92	328	eP		P	01 56 33.2	+6.3
SPUT					epP	sP	01 56 40.0	+3.4
HVU	**Hansel Valley** comp=Z,4.1nm,0.9s	37.43	328	eP		P	01 56 32.4	+1.2
MDND	**Maddock** comp=Z,35nm,0.9s	37.60	346	eP		P	01 56 32.2	-0.2
MDND	**Maddock** baz=160	37.60	346	P		P	01 56 31.7	-0.6
REDW	**Red Top Meadow** comp=Z,15nm,1.0s	37.66	332	eP		P	01 56 33.9	+0.7
SNOW	**Snow King Moun**	37.69	332	eP		P	01 56 34.4	+0.8
LOHW	**Long Hollow** comp=Z,4.1nm,1.0s	37.74	332	eP		P	01 56 34.3	+0.5
TPAW	**Teton Pass** comp=Z,12nm,1.3s	37.80	332	eP		P	01 56 35.0	+0.5
MOOW	**Moose Ponds** comp=Z,4.8nm,0.9s	37.91	332	eP		P	01 56 35.6	+0.3
FXWY	**Fox Creek** comp=Z,0.9nm,1.1s	37.95	332	eP		P	01 56 36.1	+0.4
FXWY					ePcP	PcP	01 58 52.5	+1.1
ELK	**Elko** comp=Z,3.9nm,0.9s	38.04	325	eP		P	01 56 43.1	+6.6
IMW	**Indian Meadow** comp=Z,3.3nm,0.8s	38.11	332	eP		P	01 56 40.6	+3.5
IMW					ePcP	PcP	01 58 53.2	+1.3
FLWY	**Flagg Ranch** comp=Z,4.4nm,0.8s	38.14	332	eP		P	01 56 38.0	+0.7
NV01	**Mina Array Sit**	38.44	319	eP		P	01 56 42.7	+2.9
NV01					ePcP	PcP	01 58 54.5	+1.5
NVAR	**Mina Array Bea** comp=Z,0.9nm,0.7s,baz=136,slow=7.0,SNR=5.8	38.44	319	P		P	01 56 39.8	0.0
NVAR					PcP	PcP	01 58 54.8	+1.8
YMR	**Madison River** comp=Z,5.8nm,1.1s	38.72	333	eP		P	01 56 43.0	+0.9
YMR					epP	pP	01 56 48.2	-0.8
ULM	**Lac du Bonnet** comp=Z,8.3nm,0.8s,baz=165,slow=7.6,SNR=17	39.20	351	P		P	01 56 42.8	-3.0
ULM	**Lac du Bonnet** comp=Z,12nm,0.9s	39.20	351	eP		P	01 56 43.7	-2.1
DGMT	**Dagmar** baz=153	39.39	342	P		P	01 56 47.3	-0.1
HLID	**Hailey**	39.55	329	eP		P	01 56 49.5	+0.5
HLID	**Hailey** baz=135	39.55	329	P		P	01 56 49.3	+0.3
MCMT	**McKenzie Canyo**	39.71	331	eP		P	01 56 51.9	+1.5
WVOR	**Wild Horse Val** comp=Z,4.3nm,0.8s	41.08	324	eP		P	01 57 06.7	+5.0
BMO	**Blue Mountains**	41.94	328	eP		P	01 57 13.5	+4.9
D08A	**Wollman Farm,** comp=Z,7.1nm,1.2s	44.26	329	eP		P	01 57 27.4	+0.1
SCHQ	**Schefferville** comp=Z,7.1nm,0.8s,baz=234,slow=4.7,SNR=6.1	46.08	16	P		P	01 57 38.8	-2.8
SCHQ	**Schefferville** comp=Z,20nm,1.4s	46.08	16	eP		P	01 57 38.8	-2.8
BDFB	**Brasilia** comp=Z,6.3nm,0.6s,baz=285,slow=7.8,SNR=12	47.39	124	P		P	01 57 51.6	-0.9
BDFB					LR	LR	02 18 27.6	

comp=Z,115nm,18.5s,baz=255,slow=37
YKA **Yellowknife Ar** 54.48 345 P **P** 01 58 43.5 -1.6
comp=Z,0.8nm,0.7s,baz=138,slow=7.5,SNR=20
YKA PcP **PcP** 01 59 47.4 -0.9
comp=Z,0.6nm,0.7s,baz=143,slow=4.2,SNR=8.5
YKA ScP **ScP** 02 03 48.4 +3.0
comp=Z,0.3nm,0.7s,baz=140,slow=4.4,SNR=5.1
YKB5 **Yellowknife Ar** 54.48 345 *e*P **P** 01 58 43.5 -1.6
YKB5 *e*PcP **PcP** 01 59 47.4 -0.9
YKB5 *e*ScP **ScP** 02 03 48.4 +3.0
RES **Resolute Bay** 63.24 358 P **P** 01 59 43.4 -2.3
comp=Z,1.5nm,0.7s,baz=180,slow=6.8,SNR=8.3
ILAR **Eielson Array** 66.87 336 P **P** 02 00 08.9 -0.5
comp=Z,0.4nm,0.8s,baz=151,slow=4.4,SNR=7.1
ILB **Eielson Array** 66.87 336 *e*P **P** 02 00 08.9 -0.5
MA2 **Magadan** 95.28 334 LR LR 02 52 44.1
comp=Z,27nm,18.1s,baz=64,slow=40
SONA0 **Songino Array** 119.61 349 *e*PKPdf **PKPdf** 02 08 07.8 -0.1
SONM **Songino Array** 119.61 349 PKP **PKPdf** 02 08 07.8 -0.1
comp=Z,0.7nm,0.7s,baz=292,slow=0.7,SNR=6.1
KSRS **Korea Array** 121.07 328 PKP **PKiKP** 02 08 11.8 +1.0
comp=Z,1.1nm,0.5s,baz=21,slow=1.7,SNR=4.8
GEYT **Alibeck** 121.08 32 PKP **PKPdf** 02 08 10.6 -0.3
comp=Z,8.7nm,0.8s,baz=257,slow=5.9,SNR=6.5
KS15 **Wonju Array Si** 121.10 328 *e*PKPdf **PKiKP** 02 08 11.8 +0.9
KSAR **Wonju Array Be** 121.10 328 PKP **PKiKP** 02 08 11.8 +0.9
MK32 **Makanchi Array** 121.16 8 *e*PKPdf **PKPdf** 02 08 09.5 -1.3
MKAR **Makanchi Array** 121.16 8 PKP **PKPdf** 02 08 09.5 -1.3
comp=Z,0.4nm,0.6s,baz=301,slow=3.0,SNR=5.2
WMQ **Urumqi** 124.69 4 *e*P **PKPdf** 02 08 17.5 -0.2
KSH **Kashi** 126.85 16 PKP **PKiKP** 02 08 22.9 +0.4
KSH sPKP 02 08 41.4
KSH PP **PP** 02 10 25.6 +7.5
KSH AMB AMB
comp=Z,300nm,5.2s
LZH **Lanzhou** 131.44 348 *e*PKP **PKPdf** 02 08 29.3 -1.6
LZH pPKP sPKPdf 02 08 43.5 +2.1
LZH sPKP 02 08 49.0
LZH LR LR
comp=N,75nm,18.0s
LZH LR LR
comp=E,82nm,18.1s
LZH LR LR
comp=Z,110nm,20.2s
AS31 **Alice Springs** 139.05 247 *e*PKPdf **PKPdf** 02 08 45.2 0.0
ASAR **Alice Springs** 139.05 247 PKP **PKPdf** 02 08 45.2 0.0
comp=Z,1.0nm,0.6s,baz=96,slow=2.4,SNR=4.1
WR1 **Warramunga Arr** 139.13 253 *e*PKPdf **PKPdf** 02 08 44.4 -1.1
WRA **Warramunga Arr** 139.13 253 PKP **PKPdf** 02 08 44.4 -1.1
comp=Z,0.4nm,0.7s,baz=88,slow=2.6,SNR=3.1
CM31 **Chiang Mai Arr** 149.53 348 *e*PKPdf **PKPdf** 02 09 03.8 +0.3
CM31 *e*PKPbc **PKPbc** 02 09 08.3 +0.3
CMAR **Chiang Mai Arr** 149.53 348 PKP **PKPdf** 02 09 03.8 +0.3
comp=Z,6.0nm,0.9s,baz=311,slow=2.6,SNR=5.3
CMAR PKPbc **PKPbc** 02 09 08.3 +0.3
comp=Z,5.5nm,0.7s,baz=348,slow=3.9,SNR=23

NIED ***23*** *02:00:00,37.°30N×141.°60E,h50km,Mw3.7 Best double couple: M₀3.63000×10¹⁴ NP1:ϕs247.00000°,δ33.00000°, λ140.00000°. NP2:ϕs12.00000°,δ70.00000°,λ64.00000°.*
IDC ***23*** *02:00:49.8±2.2,37.°36N×142.°05E,h0km,mb3.6/3, mb1 3.7/4,mb1mx3.4/29,mbtmp3.6/4,ML2.9/1,Error ellipse: s-maj=45.6km s-min=29.9km az=57.0*
JMA ***23*** *02:00:57.2±0.1,37.°34N×141.°56E,h46km±2km,M3.7*
JMA Felt I J1.
ISC 23 02:00:53.3±2.0,37°31N±0.°05×141°76E±0.°08,h15km±10km, n15,σ0§94/25,mb3.6/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.71**	**275**	P		**Pn**	**02 01 08.8**	**0.0**
JFK				S		**Sg**	**02 01 16.7**	**+0.1**
ONAJ	**Iwakimizuishiy**	**0.80**	**255**	P		**Pn**	**02 01 10.1**	**+0.1**
ONAJ				S		**Sg**	**02 01 19.1**	**-0.3**
JMM	**Marumori**	**0.95**	**306**	P		**Pn**	**02 01 12.2**	**+0.2**
JMM				*e*S		**Sb**	**02 01 23.4**	**-0.4**
JFFD	**Fukushimafurud**	**0.98**	**257**	P		**Pn**	**02 01 12.6**	**0.0**
JFFD				S		**Sb**	**02 01 23.5**	**-1.3**
JHO	**Hitachi**	**1.19**	**234**	P		**Pb**	**02 01 15.4**	**0.0**
JHO				S		**Sb**	**02 01 29.1**	**-1.5**
JIO	**Ouri**	**1.19**	**344**	P		**Pg**	**02 01 16.4**	**+0.2**
JIO				S		**Sb**	**02 01 29.8**	**-0.8**
JOU	**Okura**	**1.36**	**321**	P		**Pb**	**02 01 18.6**	**+0.1**
JOU				S		**Sn**	**02 01 35.0**	**-0.6**
JYS	**Shirataka**	**1.62**	**304**	P		**Pn**	**02 01 22.1**	**+0.8**
JFY	**Yanaizu**	**1.64**	**274**	P		**Pn**	**02 01 22.2**	**+0.6**
JMK	**Ichinoseki**	**1.69**	**345**	P		**Pb**	**02 01 24.0**	**-0.1**
JMK				*e*S		**Sn**	**02 01 43.6**	**0.0**
MJAR	**Matsushiro Arr**	**2.95**	**256**	Pn		**Pn**	**02 01 41.3**	**+1.7**
	1.3nm,0.3s,baz=78,slow=16,SNR=23							
MJAR				Sn		**Sb**	**02 02 19.8**	**-1.6**
	0.7nm,0.3s,baz=311,slow=6.8,SNR=6.1							
MAT	**Matsushiro**	**2.95**	**256**	P		**Pn**	**02 01 40.3**	**+0.7**
MAT				*e*S		**Sn**	**02 02 17.2**	**+2.4**
SONM	**Songino Array**	**27.86**	**303**	P		**P**	**02 06 42.5**	**+0.2**
	0.5nm,0.5s,baz=100,slow=9.0,SNR=4.3							
MKAR	**Makanchi Array**	**44.21**	**302**	P		**P**	**02 09 01.7**	**+0.1**
	0.7nm,0.6s,baz=86,slow=9.4,SNR=11							
WRA	**Warramunga Arr**	**57.38**	**188**	P		**P**	**02 10 40.5**	**-0.4**
	0.6nm,0.9s,baz=6.1,slow=7.2,SNR=3.7							

SOME ***23*** *02:12:12.8,39.°00N×76.°45E,h0km*
NNC ***23*** *02:12:23.6±2.7,39.°27N×75.°80E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=20.5km s-min=11.6km az=151.0*
ISC 23 02:12:20.6±2.5,39°1N±0.°1×76°06E±0.°07,h10km,n17, σ1§62/20,7C-4D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.16**	**295**	⇓Pn		**Pn**	**02 12 56.4**	**-0.4**
	6.9nm,0.2s							
SFK				⇓Lg		Lg	02 13 27.2	
	18nm,0.3s							
AAK	**Ala-Archa**	**3.69**	**342**	⇑Pg		**Pb**	**02 13 25.4**	**-0.5**
	1.4nm,0.4s							
AAK				⇑Lg		Lg	02 14 14.5	
	5.6nm,0.7s							
TKM2	**Tokmak 2**	**3.79**	**355**	⇑Pg		**Pb**	**02 13 26.3**	**-1.4**
	1.9nm,0.6s							
TKM2				⇑Lg		Lg	02 14 19.5	
	8.1nm,0.8s							
KST	**Kastek**	**3.90**	**359**	Pg		**Pg**	**02 13 34.1**	**-1.1**
	3.4nm,0.4s							
KST				Lg		Lg	02 14 22.0	
	5.6nm,0.5s							
IZV	**Izvestkoviy**	**3.91**	**6**	Pg		**Pg**	**02 13 35.8**	**+0.3**
	1.3nm,0.1s							
IZV				Lg		Lg	02 14 25.4	
	5.0nm,0.5s							
TNSS	**Tian-Shan**	**3.95**	**9**	*e*P		**Pb**	**02 13 29.7**	**-0.7**
	1.0nm,0.1s							
TNSS				*e*S		**Sg**	**02 14 26.3**	**-1.0**
	4.9nm,0.3s							
MDOK	**Medeo**	**4.08**	**10**	Pg		**Pg**	**02 13 38.0**	**-0.8**
	3.2nm,0.5s							
MDOK				Lg		Lg	02 14 28.6	
	10.0nm,0.7s							
DGS	**Degeres**	**4.10**	**357**	Pg		**Pb**	**02 13 36.0**	**+3.1**
	2.8nm,0.5s							
DGS				Lg		Lg	02 14 25.8	
	3.7nm,0.6s							
KOTS	**Kotyrbulak**	**4.16**	**11**	Pg		**Pg**	**02 13 41.0**	**+0.7**
	2.7nm,0.3s							
KOTS				Lg		Lg	02 14 34.0	
	25nm,0.5s							
MRKS	**Merke**	**4.19**	**330**	Pg		**Pg**	**02 13 40.7**	**-0.1**
	3.0nm,0.5s							
MRKS				Lg		Lg	02 14 33.4	
	3.1nm,0.8s							
MRKS	**Merke**	**4.19**	**330**	*e*P		**Pb**	**02 13 36.3**	**+1.9**
	1.0nm,0.2s							
MRKS				*e*S		**Sg**	**02 14 38.1**	**+3.0**
	2.5nm,0.2s							
MNAS	**Manas**	**4.29**	**322**	⇓Pg		**Pb**	**02 13 38.3**	**+2.1**
	5.2nm,1.5s							
MNAS				⇑Lg		Lg	02 14 33.1	
	3.1nm,0.9s							
MNAS	**Manas**	**4.29**	**322**	Pg		**Pg**	**02 13 40.9**	**-1.9**
	0.4nm,0.2s							
MNAS				Lg		Lg	02 14 33.7	
	0.5nm,0.2s							
SATY	**Saty**	**4.29**	**24**	Pg		**Pg**	**02 13 44.7**	**+1.9**
	4.3nm,0.5s							
SATY				Lg		Lg	02 14 39.9	
	5.2nm,0.5s							
KUU	**Kurty**	**4.75**	**2**	Pg		**Pg**	**02 13 49.8**	**-1.7**
	1.5nm,0.5s							
KUU				Lg		Lg	02 14 48.9	
	10nm,0.8s							
PDGK	**Podgornoye**	**4.92**	**31**	Pg		**Pg**	**02 13 54.5**	**-0.2**
	2.0nm,1.4s							
PDGK				Lg		Lg	02 14 56.8	
	1.9nm,0.7s							
KK31	**Karatay Array**	**5.76**	**315**	⇑Pn		**Pn**	**02 13 45.3**	**-0.8**
	0.8nm,0.7s,baz=127,slow=12,SNR=5.8							
KK31				⇑Sn		**Sn**	**02 14 51.3**	**-1.0**
	0.5nm,0.5s							
KK31				⇓Lg		Lg	02 15 21.5	
	0.4nm,0.4s,baz=127,slow=30							

ISCJB ***23*** *02:19:10.4±0.7,51.°44N±0.°03×16.°16E±0.°04,h0km, Error ellipse: s-maj=4.8km s-min=3.5km az=36.6*
VIE ***23*** *02:19:11.5±0.7,51.°44N×16.°09E,h0km,mb2.3/2,ml2.5/5, Error ellipse: s-maj=7.4km s-min=4.3km az=4.0 75 km WNW of Wroclaw Suspected Mining induced.*
PRU ***23*** *02:19:12.5±0.0,51.°43N×16.°19E,h0km*
ISC 23 02:19:10.3±1.0,51°53N±0.°04×16°25E±0.°04,h0km,n21, σ0§66/47,Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**178**	*e*Pg		**Pg**	**02 19 23.6**	**+0.3**
KSP				*e*Sg		**Sg**	**02 19 31.4**	**-0.8**
UPC	**Upice**	**1.03**	**189**	*e*PG		**Pg**	**02 19 30.0**	**0.0**
UPC				*e*SG		**Sg**	**02 19 42.9**	**-0.4**
	comp=Z,51nm,0.4s							
DPC	**Dobruska-Polom**	**1.18**	**178**	*e*PG		**Pg**	**02 19 32.7**	**-0.1**
DPC				*e*SG		**Sg**	**02 19 47.4**	**-0.6**
	comp=Z,19nm,0.5s							
PVCC	**Panska Ves**	**1.46**	**227**	*e*PG		**Pg**	**02 19 38.2**	**0.0**
PVCC				*e*SG		**Sb**	**02 19 57.2**	**-0.1**
	comp=Z,80nm,0.2s							
KRLC	**Kraliky**	**1.49**	**167**	*e*PG		**Pg**	**02 19 38.8**	**0.0**
KRLC				*e*SG		**Sg**	**02 19 57.1**	**-1.0**
	comp=Z,3.0nm,0.3s							
BRG	**Berggiesshubel**	**1.59**	**247**	PG		**Pg**	**02 19 40.9**	**+0.1**
BRG				SG		**Sg**	**02 20 01.3**	**0.0**
	22nm,0.4s							
PRA	**Prague**	**1.86**	**219**	*e*PN		**Pn**	**02 19 43.9**	**+0.6**
PRA				*e*PG		**Pb**	**02 19 45.0**	**-0.1**
PRA				*e*SG		**Sb**	**02 20 08.1**	**-0.7**
GOPC	**GO Pecny, Ondr**	**1.86**	**211**	*e*PG		**Pb**	**02 19 45.2**	**0.0**
GOPC				*e*SG		**Sb**	**02 20 08.2**	**-0.8**
	comp=Z,9.0nm,0.3s							
PRU	**Pruhonice**	**1.88**	**216**	*e*PG		**Pb**	**02 19 45.3**	**-0.2**
PRU				*e*SG		**Sb**	**02 20 08.9**	**-0.6**
	comp=Z,7.3nm,0.2s							
MORC	**Moravsky Berou**	**1.93**	**154**	*e*PN		**Pn**	**02 19 44.4**	**0.0**
MORC				*e*SG		**Sn**	**02 20 10.0**	**+0.6**
CLL	**Collm**	**2.05**	**265**	*i* Pn		**Pn**	**02 19 46.2**	**+0.3**
CLL				*i* Pg		**Pb**	**02 19 48.8**	**+0.5**
CLL				*i*			02 19 52.4	
CLL				*i* Sg		**Sg**	**02 20 15.7**	**-0.2**
	comp=Z,8.0nm,0.3s							
CLL				Lm		MLR	03 51 00.0	
	comp=N,100nm,19.5s							
CLL				Lm		MLR	03 51 00.0	
	comp=E,300nm,19.6s							
CLL				Lm		MLR	03 51 00.0	
	comp=Z,300nm,19.4s							
OKC	**Ostrava-Krasne**	**2.08**	**144**	*e*PG		**Pg**	**02 19 50.0**	**0.0**
OKC				*e*SG		**Sb**	**02 20 14.4**	**-0.7**
TREC	**Trest**	**2.29**	**193**	*e*PN		**Pn**	**02 19 49.7**	**+0.5**
TREC				*e*PG		**Pb**	**02 19 52.6**	**+0.2**
TREC				*e*SG		**Sb**	**02 20 21.4**	**+0.2**
	comp=Z,8.9nm,0.3s							
KRUC	**Moravsky**	**2.47**	**178**	*e*PN		**Pn**	**02 19 52.6**	**+0.9**
KRUC				*e*SG		**Sb**	**02 20 27.2**	**+0.8**
NKC	**Novy Kostel**	**2.73**	**243**	*e*PN		**Pn**	**02 19 56.1**	**+0.7**
NKC				*e*PG		**Pg**	**02 20 02.2**	**-0.4**
NKC				*e*SG		**Sg**	**02 20 37.3**	**-0.7**
	comp=Z,9.3nm,0.3s							
KHC	**Kasperske Hory**	**2.95**	**217**	*e*PN		**Pn**	**02 19 58.6**	**+0.3**
KHC				*e*PG		**Pb**	**02 20 04.4**	**+0.8**
KHC				*e*SN		**Sn**	**02 20 33.4**	**-1.0**
KHC				*e*SG		**Sb**	**02 20 41.7**	**+1.5**
CONA	**Conrad Observa**	**3.61**	**184**	*e*Pn		**Pn**	**02 20 07.7**	**+0.2**
	comp=Z,0.5nm,0.4s							
CONA				Sn		**Sn**	**02 20 50.7**	**-0.2**
	comp=Z,0.5nm,0.2s							
BSD	**Bornholm Skovb**	**3.68**	**348**	*i* P		**Pn**	**02 20 09.2**	**+0.8**
BSD				*i* S		**Sn**	**02 20 51.1**	**-1.4**
MOA	**Molln**	**3.90**	**200**	*i* Pn		**Pn**	**02 20 11.8**	**+0.4**
	comp=Z,0.6nm,0.2s							
MOA				*e*Sn		**Sn**	**02 20 59.0**	**+1.1**
	comp=Z,0.8nm,0.3s							
ARSA	**Arzberg**	**4.30**	**187**	Sg		**Sb**	**02 21 20.3**	**+1.1**
	comp=Z,3.1nm,0.5s							
KBA	**Koelnbreinsper**	**4.84**	**204**	*e*Pn		**Pn**	**02 20 23.9**	**-0.6**
	comp=Z,0.2nm,0.2s							
KBA				*e*Sn		**Sn**	**02 21 20.2**	**-1.1**
	comp=Z,1.1nm,0.4s							

ISCJB ***23*** *02:23:08.9±0.4,35.°88S±0.°04×71.°39W±0.°07,h109km±5km, Error ellipse: s-maj=11.1km s-min=4.8km az=27.6*
GUC ***23*** *02:23:10.3±0.7,35.°82S×71.°55W,h112km±5km,ML3.7*
SJA ***23*** *02:23:10.0±0.8,35.°77S×71.°34W,h103km±7km,ML3.1, MW3.8*
IDC ***23*** *02:23:14.3±2.9,36.°26S×71.°50W,h148km±30km,mb3.3/4, mb1 3.5/6,mb1mx3.3/33,mbtmp3.8/6,Error ellipse: s-maj=43.7km s-min=21.6km az=74.0*
ISC 23 02:23:09.9±0.8,35°88S±0.°05×71°41W±0.°07,h103km±8km, n31,σ1§03/41,1C,Central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.90**	**217**	*e*P		**Pn**	**02 23 30.0**	**+0.4**
CCHI				*i* S		**Sn**	**02 23 45.2**	**+0.8**
CCHI				IAML			02 23 46.6	
	comp=E,4μm,0.6s							
GO05	**Huala**	**0.97**	**334**	*e*P		**Pn**	**02 23 30.3**	**-0.1**
GO05				*e*S		**Sn**	**02 23 45.5**	**-0.2**
GO05	**Huala**	**0.97**	**334**	*e*P		**Pn**	**02 23 30.3**	**-0.1**
GO05				*i* S		**Sn**	**02 23 45.2**	**-0.5**
GO05				IAML			02 23 50.6	
	comp=E,1μm,0.3s							
CCSP	**San Pedro de C**	**1.68**	**235**	*e*P		**Pn**	**02 23 38.8**	**+0.2**
CCSP				*i* S		**Sn**	**02 23 59.5**	**-0.7**
CCSP				IAML			02 24 04.6	
	comp=N,1μm,0.4s							
LMEL	**Las Melosas**	**2.26**	**26**	*e*P		**Pn**	**02 23 47.0**	**+0.8**
LMEL				*e*S		**Sn**	**02 24 14.8**	**+1.0**
LMEL				IAML			02 24 18.8	
	comp=N,357nm,0.2s							
CLCH	**Cerro Calan**	**2.58**	**16**	*e*P		**Pn**	**02 23 50.5**	**+0.2**
CLCH				*i* S		**Sn**	**02 24 21.0**	**-0.3**
CLCH				IAML			02 24 25.0	
	comp=E,443nm,0.5s							
RFA	**San Rafael**	**2.65**	**66**	*e*P		**Pn**	**02 23 51.4**	**+0.2**
RFA				*e*S		**Sn**	**02 24 21.5**	**-1.4**
RFA				IAML			02 24 25.1	
	comp=Z,66nm,0.6s							
FCH	**Farellones**	**2.71**	**20**	*i* P		**Pn**	**02 23 52.8**	**+0.5**
FCH				*i* S		**Sn**	**02 24 25.2**	**+0.5**
FCH				IAML			02 24 27.2	
	comp=E,260nm,0.2s							
PEL	**Peldehue**	**2.80**	**12**	*e*P		**Pn**	**02 23 52.9**	**-0.2**
PEL				*e*S		**Sn**	**02 24 24.7**	**-1.7**
PEL	**Peldehue**	**2.80**	**12**	⇑P		**Pn**	**02 23 53.0**	**-0.2**
PEL				*i* S		**Sn**	**02 24 25.2**	**-1.1**
PEL				IAML			02 24 27.6	
	comp=N,304nm,0.6s							
ROC1	**El Roble**	**2.92**	**6**	*e*P		**Pn**	**02 23 54.5**	**-0.4**
AUSP	**Uspallata**	**4.02**	**25**	*e*P		**Pn**	**02 24 10.2**	**+0.5**
RTLS	**Leoncito**	**4.44**	**24**	*e*P		**Pn**	**02 24 16.2**	**+0.8**
RTLS				IAML			02 25 20.5	
	comp=Z,20nm,0.5s							
RTCV	**Cerro Valdivia**	**4.67**	**32**	*e*P		**Pn**	**02 24 17.5**	**-0.7**
ZON	**Zonda**	**4.89**	**28**	*e*P		**Pn**	**02 24 21.1**	**-0.1**
PLCA	**Paso Flores**	**4.89**	**172**	P		**Pn**	**02 24 21.4**	**+0.2**
	comp=Z,2.1nm,0.3s,baz=352,slow=12,SNR=68							
CFA	**Coronel Fontan**	**5.02**	**33**	*e*P		**Pn**	**02 24 22.4**	**-0.6**
RTLL	**Cerro Villicun**	**5.16**	**29**	*e*P		**Pn**	**02 24 24.2**	**-0.7**
AMOG	**MOGNA**	**5.50**	**27**	*e*P		**Pn**	**02 24 28.8**	**-0.7**
GO04	**Tololo Observa**	**5.72**	**5**	*e*P		**Pn**	**02 24 31.6**	**-1.0**
MRA	**San Martin**	**5.85**	**55**	*e*P		**Pn**	**02 24 34.3**	**0.0**
AGUA	**GUANDACOL**	**6.83**	**22**	*e*P		**Pn**	**02 24 46.4**	**-1.3**
USHA	**Ushuaia**	**19.06**	**175**	P		**P**	**02 27 20.7**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=352,slow=7.1,SNR=3.0							
LPAZ	**La Paz**	**19.73**	**9**	P		**Pn**	**02 27 37.5**	**+3.0**
	comp=Z,0.7nm,0.6s,baz=196,slow=12,SNR=3.2							
VNA3	**Neumayer Olymp**	**47.42**	**157**	P		**P**	**02 31 33.2**	**-0.4**
VNA1	**Neumayer--Stat**	**47.74**	**156**	P		**P**	**02 31 37.4**	**+1.5**
VNA2	**Neumayer--Watz**	**48.08**	**157**	P		**P**	**02 31 39.2**	**+0.6**
	baz=278,slow=9.0							
SNAA	**Sanae**	**49.65**	**157**	P		**P**	**02 31 50.2**	**-0.4**
TXAR	**Lajitas Array**	**71.63**	**331**	P		**P**	**02 34 21.5**	**+1.2**
	comp=Z,1.2nm,1.0s,baz=148,slow=8.6,SNR=9.6							
BOSA	**Boshof**	**78.74**	**117**	P		**P**	**02 35 00.7**	**-0.7**
	comp=Z,4.3nm,1.1s,baz=243,slow=2.3,SNR=4.1							
TORD	**Torodi Ar. Bea**	**84.37**	**69**	P		**P**	**02 35 30.7**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=237,slow=5.0,SNR=2.2							

MAN 23 02:31:37.0,11°94N×121°41E,h9km,mb4.1,ML2.9,MS2.5, 1C,Panay

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.59**	**331**	*e*P		Pg	02 31 48.7	+0.2
SJMP				*e*S		Sg	02 31 54.4	-1.9
OTRP	**Odiongan**	**0.73**	**55**	*e*P		Pg	02 31 51.0	-0.1
OTRP				*e*S		Sg	02 32 00.4	-0.2
CUYO	**Cuyo Island**	**1.15**	**200**	*e*P		Pb	02 31 58.3	-0.9
CUYO				*e*S		Sn	02 32 15.5	+0.3
BUSP	**Coron**	**1.19**	**273**	*e*P		Pb	02 31 59.0	-0.7
BUSP				*e*S		Sg	02 32 15.7	+0.4
RCP	**Roxas**	**1.36**	**106**	⇑*e*P		Pn	02 32 01.0	-1.3
RCP				*e*S		Sb	02 32 10.5	-10
LUBP	**Lubang**	**2.11**	**328**	*e*P		Pn	02 32 13.2	+0.7

SJA ***23*** *02:47:35.4±0.8,31.°69S×72.°08W,h63km±9km,ML5.1, MW5.0*
GUC ***23*** *02:47:37.3±0.9,31.°70S×71.°61W,h35km±5km,ML5.2*
ISCJB ***23*** *02:47:37.1±0.1,31.°54S±0.°02×71.°45W±0.°03,h29km, mb4.9/190,MS4.5/16,Error ellipse: s-maj=3.9km s-min=2.3km az=156.4*
NEIC ***23*** *02:47:38.7±0.1,31.°70S×71.°44W,mb5.0/180,MW4.9, ML5.2(GUC),Error ellipse: s-maj=5.1km s-min=2.7km az=78.0,Moment Tensor Solution. s17 Moment tensor: Scale 10¹⁶Nm; Mrr2.30; Mθθ-0.57; Mϕϕ-1.73; Mrθ0.05; Mθϕ0.20; Mϕr-1.81; Best double couple: M₀2.80000×10¹⁶ NP1:ϕs176.00000°,δ66.00000°,λ93.00000°. NP2: ϕs349.00000°,δ24.00000°,λ84.00000°. Principal axes: T 2.9900, Plg69.0000°, Azm91.0000°; N -0.5500, Plg3.0000°, Azm354.0000°; P -2.4400, Plg21.0000°, Azm263.0000°;*
NEIC Felt [IV] at Melipilla; [III] at Coquimbo, La Serena, Los Vilos, Santiago, Valparaiso and Zapallar; [II] at Canela, Colina, El Tabo, Illapel, Los Andes, Navidad, Paiguano, Quillota and Villa Alemana. Also felt at Maipu, Nunoa, Pudahuel, Rancagua, Renca, Vina del Mar and Vitacura.
IDC ***23*** *02:47:38.6±0.6,31.°64S×71.°54W,h30km±3km,mb4.7/14, mb1 4.8/18,mb1mx4.7/24,mbtmp4.8/18,ML4.5/4,MS4.4/16, Ms1 4.4/16,ms1mx4.3/21 Error ellipse: s-maj=18.6km s-min=13.3km az=86.0*
MOS ***23*** *02:47:38.2±1.0,31.°65S×71.°50W,h33km,mb5.2/48,Error ellipse: s-maj=14.3km s-min=6.1km az=98.1*
VAO ***23*** *02:47:40.7±1.1,31.°72S×71.°24W,h32km±8km,mb5.2*
GCMT ***23*** *02:47:43.7±0.3,31.°82S±0.°02×71.°62W±0.°03,h30km±1km, MW5.1/65,Moment Tensor Solution. s43,c60; s65,c85; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.78±.22; Mθθ-0.36±.14; Mϕϕ-4.42±.16; Mrθ-0.15±.22; Mθϕ1.12±.09; Mϕr-4.37±.27; Best double couple: M₀6.44900×10¹⁶ NP1:ϕs176.00000°,δ66.00000°,λ99.00000°. NP2: ϕs336.00000°,δ25.00000°,λ71.00000°. Principal axes: T 6.5700, Plg67.0000°, Azm102.0000°; N -0.2410, Plg8.0000°, Azm353.0000°; P -6.3270, Plg21.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 23 02:47:38.3±0.4,31°69S±0.°02×71°61W±0.°04,h31km±2km, h31km:pP-P,n854,σ1§19/906,mb5.0/189,MS4.5/16, 12C-11D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.73**	**45**	⇑*i*P		**Pn**	**02 47 52.7**	**+0.1**
CMCH				*i* S		**Sn**	**02 48 03.3**	**+0.5**
ROCH	**El Roble**	**1.37**	**158**	⇓*i*P		**Pn**	**02 48 02.0**	**+0.5**
ROCH				*i* S		**Sb**	**02 48 21.3**	**+0.5**
ROCH				IAML			02 48 24.4	
	comp=N,65μm,0.3s							
ROC1	**El Roble**	**1.37**	**159**	*e*Pn		**Pn**	**02 48 01.6**	**0.0**
ROC1				*e*Sn		**Sn**	**02 48 18.7**	**-0.2**
ROC1	**El Roble**	**1.37**	**159**	*e*P		**Pn**	**02 48 02.5**	**+0.9**
ROC1				*e*S		**Sb**	**02 48 23.0**	**+2.2**
PEL	**Peldehue**	**1.64**	**152**	*e*Pn		**Pn**	**02 48 06.5**	**+1.4**
PEL				*e*Sn		**Sn**	**02 48 23.9**	**-1.4**
PEL	**Peldehue**	**1.64**	**152**	*e*P		**Pn**	**02 48 06.7**	**+1.6**
PEL				*e*S		**Sb**	**02 48 30.4**	**+2.0**
PEL	**Peldehue**	**1.64**	**152**	*e*P		**Pn**	**02 48 06.5**	**+1.4**
PEL				*e*			02 48 23.9	
PEL	**Peldehue**	**1.64**	**152**	⇓*i*P		**Pn**	**02 48 06.4**	**+1.2**
PEL				*i* S		**Sb**	**02 48 27.7**	**-0.7**
PEL				IAML			02 48 29.9	
	comp=E,39μm,0.5s							
GO04	**Tololo Observa**	**1.67**	**25**	*e*Pn		**Pn**	**02 48 06.8**	**+1.1**
GO04				*e*Sn		**Sn**	**02 48 27.8**	**+1.7**
GO04	**Tololo Observa**	**1.

GO05 **Huala** 3.32 185 ⇓*i*P P 02 48 27.5 -0.7
AGUA **GUANDACOL** 3.47 52 *e*P P 02 48 35.6 -3.5
ACAN **Cantantal** 3.80 100 *e*P P 02 48 38.6 +3.8
RFA **San Rafael** 4.04 140 *e*P P 02 48 41.3 +3.1
RFA *i*S S 02 49 23.9 -0.7
RFA IAML 02 49 54.4
comp=Z,2μm,0.5s
GO03 **Copiap** 4.26 17 *e*Pn Pn 02 48 41.9 +0.8
GO03 *e*Sn Sn 02 49 33.7 +3.9
GO03 **Copiap** 4.26 17 *e*P P 02 48 41.4 +0.3
APLL **PUNTA DE LOS L** 4.55 75 *e*P P 02 48 49.6 +4.5
APLL IAML 02 49 50.5
comp=Z,1μm,0.5s
ACLC **CERRO LA CRUZ** 4.61 62 *e*P P 02 48 49.9 +3.9
MRA **San Martin** 5.05 100 *e*P P 02 48 54.8 +2.7
CYA **Choya** 5.99 59 *e*P P 02 49 08.0 +3.1
CYA IAML 02 50 28.9
comp=Z,709nm,0.6s
GO02 **Mina Guanaco** 6.75 16 *e*Pn Pn 02 49 14.8 -0.7
GO02 *e*Sn Sn 02 50 27.9 -3.6
FSA **Cafayete** 7.43 43 *e*P P 02 49 27.8 +2.9
GO06 **Curarrehue** 7.88 179 *e*Pn Pn 02 49 31.7 +0.9
PB10 **IPOC Station P** 8.20 7 *e*Pn Pn 02 49 38.0 +2.8
PB10 *e*Sn Sn 02 51 10.9 +4.0
PLCA **Paso Flores** 9.06 175 Pn Pn 02 49 48.3 +1.3
comp=Z,3.5nm,0.3s,baz=358,slow=11,SNR=102
PLCA Lg Lg 02 52 12.8
comp=Z,1.2nm,0.3s,baz=315,slow=17,SNR=2.3
PLCA LR LR 02 53 19.3
comp=Z,2μm,19.2s,baz=6.5,slow=37
PLCA **Paso Flores** 9.06 175 *e*P Pn 02 49 48.5 +1.4
LVC **Limon Verde** 9.36 16 Pn Pn 02 49 49.0 -2.5
comp=Z,0.9nm,0.3s,baz=163,slow=8.2,SNR=10
LVC Sn Sn 02 51 44.1 +8.2
comp=Z,4.8nm,0.3s,baz=182,slow=15,SNR=3.3
LVC LR LR 02 53 36.8
comp=Z,3μm,21.2s,baz=216,slow=39
LVC **Limon Verde** 9.36 16 *e*Pn Pn 02 49 51.8 +0.4
LVC *e*Sn Sn 02 51 36.1 +0.3
LVC **Limon Verde** 9.36 16 *e*P Pn 02 49 51.8 +0.4
LVC *e* 02 51 36.2
PB04 **IPOC Station P** 9.41 8 *e*Pn Pn 02 49 54.5 +2.5
PB01 **IPOC Station P** 10.78 11 *e*Pn Pn 02 50 10.8 +0.2
PB01 *e*Sn Sn 02 52 11.4 +1.1
GO07 **Milladeo Hill,** 11.52 188 *e*Pn Pn 02 50 17.9 -2.7
PB11 **IPOC Station P** 12.01 9 *e*Pn Pn 02 50 32.9 +5.3
MNMC **Minye Minye** 12.64 9 *e*Pn Pn 02 50 40.1 +3.8
CPUP **Villa Florida** 13.59 70 Pn Pn 02 50 47.9 -1.1
comp=Z,0.9nm,0.3s,baz=247,slow=12,SNR=21
CPUP Sn Sn 02 53 15.3 -3.6
comp=Z,1.4nm,0.3s,baz=228,slow=12,SNR=2.6
CPUP LR LR 02 56 31.2
comp=Z,3μm,18.2s,baz=248,slow=39
CPUP **Villa Florida** 13.59 70 *e*P Pn 02 50 48.2 -0.7
PLTB **Pedras Altas** 15.33 95 *e*P Pn 02 51 09.6 -2.8
CPSB **Cacapava Do Su** 15.63 90 *e*P Pn 02 51 13.8 -2.5
LPAZ **La Paz** 15.66 12 Pn Pn 02 51 18.7 +1.3
comp=Z,0.4nm,0.3s,baz=192,slow=8.6,SNR=50
LPAZ **La Paz** 15.66 12 *e*Pn Pn 02 51 18.7 +1.3
comp=Z,27nm,0.7s
LPAZ **La Paz** 15.66 12 *e*P Pn 02 51 18.7 +1.3
ITAB **Concordia** 17.53 80 *e*P Pn 02 51 39.2 -1.2
CNLB **Canela** 18.04 88 *e*P Pn 02 51 44.2 -2.6
AQDB **Aquidauana** 18.11 56 *e*P Pn 02 51 46.9 -0.7
PTGB **Pitanga** 18.56 73 *e*P Pn 02 51 53.6 +0.5
TRCB **Terra Rica** 19.04 67 *e*P P 02 51 57.8 -0.2
GO09 **Cerro Castillo** 19.57 181 *e*P Pn 02 52 06.0 +1.0
comp=Z,56nm,0.9s
TER01 **Tubaro-SC** 19.70 87 *e*P P 02 52 03.7 -1.4
NNA **Nana** 20.20 345 P P 02 52 10.0 -0.6
comp=Z,13nm,0.8s,baz=213,slow=11,SNR=6.3
NNA **Nana** 20.20 345 *e*P Pn 02 52 14.1 +1.4
NNA **Nana** 20.20 345 *e*P Pn 02 52 14.1 +1.4
TIJ01 **Guaruva-PR** 20.84 78 *e*P P 02 52 15.1 -2.5
FRTB **Fartura** 21.22 72 *e*P P 02 52 20.9 -0.8
SALV **Santo Antonio** 21.39 46 *e*P P 02 52 22.4 -1.0
GO10 **Punta Arenas** 21.45 179 *e*P P 02 52 26.6 +2.7
comp=Z,158nm,0.9s
EFI **East Falkland** 22.31 157 *e*P P 02 52 34.2 +1.1
comp=Z,163nm,1.3s
EFI **East Falkland** 22.31 157 *de*P P 02 52 32.9 -0.2
EFI pmax pmax
comp=Z,72nm,0.9s
ITRB **Iturama** 22.52 63 *e*P P 02 52 34.8 -0.8
SPB **Sao Paulo** 22.85 75 *e*P P 02 52 40.0 +0.9
comp=Z,131nm,0.9s
BB19B **Bebedouro** 23.18 68 *e*P P 02 52 42.5 0.0
USHA **Ushuaia** 23.24 175 P P 02 52 43.8 +1.1
comp=Z,90nm,1.0s,baz=4.9,slow=6.2,SNR=20
RCLB **Rio Claro- Sao** 23.31 73 *e*P P 02 52 43.8 0.0
IPMB **Ipameri, GO** 25.17 63 *e*P P 02 53 00.2 -0.9
PMNB **Patos De Minas** 26.21 66 *e*P P 02 53 10.5 -0.1
BSCB **Bom Sucesso** 26.24 73 *e*P P 02 53 10.4 -0.4
BDFB **Brasilia** 26.79 59 P P 02 53 15.6 -0.2
comp=Z,54nm,0.9s,baz=233,slow=8.3,SNR=47
BDFB LR LR 03 05 03.3
comp=Z,4μm,18.1s,baz=239,slow=39
BDFB **Brasilia** 26.79 59 *e*P P 02 53 15.6 -0.2
comp=Z,94nm,1.0s
BDFB **Brasilia** 26.79 59 P P 02 53 15.6 -0.2
BDFB pmax pmax
comp=Z,54nm,0.9s
BDFB MLR MLR
comp=Z,4μm,18.1s
MCI6 **Montes Claros** 29.18 66 *e*P P 02 53 36.8 -0.4
MCI9 **Montes Claros** 29.25 66 *e*P P 02 53 37.1 -0.6
MCI8 **Montes Claros** 29.25 66 *e*P P 02 53 36.9 -0.9
JANB **Januaria** 29.91 63 *e*P P 02 53 43.3 -0.3
SJMB **Sao Joao De Ma** 30.30 72 *e*P P 02 53 46.9 -0.2
BSFB **Barra de Sao F** 30.51 73 *e*P P 02 53 48.6 -0.3
RIB01 **Linhares ES** 30.64 74 *e*P P 02 53 48.4 -1.5
PTLC **Puerto Leguiza** 31.84 354 *e*P P 02 53 58.6 -1.9
PTLC **Puerto Leguiza** 31.84 354 *e*P P 02 53 58.6 -1.9
OTAV **Otavalo** 32.41 347 *e*P P 02 54 09.3 +3.2
comp=Z,17nm,1.3s
OTAV **Otavalo** 32.41 347 *e*P P 02 54 09.7 +3.7
OTAV **Otavalo** 32.41 347 *e*P P 02 54 09.3 +3.2
OTAV pmax pmax
comp=Z,17nm,1.3s
OTAV **Otavalo** 32.41 347 *e*P P 02 54 09.7 +3.7
OTAV **Otavalo** 32.41 347 *e*P P 02 54 08.7 +2.6
PTGA **Pitinga** 32.70 22 *e*P P 02 54 08.0 -0.1
comp=Z,30nm,1.0s
PTGA **Pitinga** 32.70 22 *e*P P 02 54 07.9 -0.3
CMBC **Cumbal** 32.99 349 *e*P P 02 54 12.2 +1.1
CMBC **Cumbal** 32.99 349 *e*P P 02 54 12.2 +1.1
PMSA **Palmer Station** 33.44 174 P P 02 54 15.4 +1.5
comp=Z,15nm,0.8s,baz=16,slow=8.5,SNR=3.2
PMSA **Palmer Station** 33.44 174 *e*P P 02 54 16.1 +2.2
PMSA **Palmer Station** 33.44 174 *e*P P 02 54 15.5 +1.5
HOPE **Hope Point** 33.66 143 *e*P P 02 54 17.0 +1.0
comp=Z,48nm,1.0s
SOTA **Rioblanco** 33.98 351 *e*P P 02 54 21.4 +1.6
SOTA **Rioblanco** 33.98 351 *e*P P 02 54 21.4 +1.6
POPC **Popayan, Colom** 34.38 351 *e*P P 02 54 23.9 +0.9
POPC **Popayan, Colom** 34.38 351 *e*P P 02 54 23.9 +0.9
VILC **Villavicencio,** 35.66 356 *e*P P 02 54 34.6 +0.8
VILC **Villavicencio,** 35.66 356 *e*P P 02 54 34.6 +0.8
CHIC **Chingaza** 36.18 356 *e*P P 02 54 38.8 +0.2
CHIC **Chingaza** 36.18 356 *e*P P 02 54 38.8 +0.2
PLMC **San Jos del P** 36.67 352 *e*P P 02 54 39.6 -2.8
PLMC **San Jos del P** 36.67 352 *e*P P 02 54 39.6 -2.8
RUSC **La Rusia** 37.40 358 *e*P P 02 54 49.6 +0.5
RUSC **La Rusia** 37.40 358 *e*P P 02 54 49.6 +0.5
HELC **Santa Helena** 37.86 354 *e*P P 02 54 52.9 +0.1
HELC **Santa Helena** 37.86 354 *e*P P 02 54 52.9 +0.1
BARC **Barichara** 38.10 357 *e*P P 02 54 59.6 +4.8
BARC **Barichara** 38.10 357 *e*P P 02 54 59.6 +4.8
PTBC **PUERTO BERRIO,** 38.11 355 *e*P P 02 54 53.8 -0.9
PTBC **PUERTO BERRIO,** 38.11 355 *e*P P 02 54 53.8 -0.9
ZARC **Zaragoza, Cauc** 39.09 355 *e*P P 02 55 01.2 -1.5
ZARC **Zaragoza, Cauc** 39.09 355 *e*P P 02 55 01.2 -1.5
SDV **Santo Domingo** 40.36 1 *e*P P 02 55 14.0 +0.5
comp=Z,11nm,1.0s
RCBR **Riachuelo** 42.15 60 *e*P P 02 55 27.9 -0.3
OBIP **Obispado Ponce** 49.68 6 *e*P P 02 56 27.2 -0.2
comp=Z,35nm,1.0s
SJG **San Juan** 49.80 7 *e*P P 02 56 27.9 -0.3
comp=Z,27nm,1.0s
SJG **San Juan** 49.80 7 *e*P P 02 56 27.9 -0.3
SJG pmax pmax
comp=Z,27nm,1.0s
VNA3 **Neumayer Olymp** 51.36 159 P P 02 56 40.5 +0.9
VNA1 **Neumayer--Stat** 51.66 158 P P 02 56 43.0 +1.3
VNA2 **Neumayer--Watz** 52.00 158 P P 02 56 45.1 +0.8
baz=287,slow=8.5
SNAA **Sanae** 53.59 159 P P 02 56 56.9 +0.8
SNAA **Sanae** 53.59 159 *e*P P 02 56 56.5 +0.4
comp=Z,30nm,0.8s
SNAA **Sanae** 53.59 159 *c i*P P 02 56 56.5 +0.4
SNAA pmax pmax
comp=Z,2μm,1.1s
RKT **Rikitea** 56.22 262 *e*S S 03 05 16.1 +12
comp=Z,442nm,26.0s
RKT *e*LR LR 03 13 43.6
comp=Z,337nm,24.2s
RKT **Rikitea** 56.22 262 *e*T T 03 57 57.3
comp=Z,9.3nm,0.2s
NVL **N'lazarevskaya** 58.30 157 *e*P P 02 57 28.7 -1.0
NVL *e*S S 03 05 28.9 -0.7
NVL pmax pmax
comp=Z,17nm,1.1s
QSPA **South Pole Qui** 58.54 180 *e*P P 02 57 32.6 +1.0
comp=Z,33nm,0.9s
556A **Lake Butler** 62.21 349 P P 02 57 56.8 0.0
baz=170
555A **McAlpin** 62.41 349 P P 02 57 58.2 0.0
baz=169
454A **Quitman** 63.11 348 P P 02 58 03.1 +0.3
baz=168
452A **Marianna** 63.52 347 P P 02 58 05.8 +0.2
baz=167
TIGA **Tifton** 63.81 349 P P 02 58 07.7 +0.2
baz=168
353A **Camilla** 63.83 348 P P 02 58 07.5 0.0
baz=168
351A **Pinckard** 64.02 347 P P 02 58 08.9 +0.1
baz=167
352A **Blakely** 64.08 347 *e*P P 02 58 09.5 +0.3
comp=Z,30nm,1.0s
352A **Blakely** 64.08 347 P P 02 58 08.8 -0.4
baz=167
254A **Abbeville** 64.25 349 P P 02 58 10.1 -0.3
baz=169
252A **Lumpkin** 64.55 348 P P 02 58 11.9 -0.4
baz=168
251A **Midway** 64.77 347 P P 02 58 13.6 -0.2
baz=167
155A **Kite** 64.79 350 P P 02 58 13.7 -0.1
baz=170
154A **Montrose** 64.88 349 *e*P P 02 58 14.9 +0.5
comp=Z,55nm,1.0s
154A **Montrose** 64.88 349 P P 02 58 14.3 -0.2
baz=169
NHSC **New Hope** 64.96 352 P P 02 58 15.4 +0.5
baz=172
249A **Camden** 65.00 345 P P 02 58 15.1 -0.2
baz=165
151A **Opelika** 65.18 347 P P 02 58 15.6 -0.8
baz=167,SNR=5.5
152A **Waverly Hall** 65.20 348 *e*P P 02 58 16.5 -0.1
comp=Z,12nm,0.8s
152A **Waverly Hall** 65.20 348 P P 02 58 16.0 -0.6
baz=168
248A **Dixon Mills** 65.25 345 P P 02 58 16.8 -0.1
baz=165
Z55A **Blythe** 65.33 350 P P 02 58 17.2 -0.2
baz=170
150A **Eclectic** 65.39 347 P P 02 58 16.9 -0.9
baz=166,SNR=6.4
Z54A **Sparta** 65.45 350 P P 02 58 17.5 -0.6
baz=169
149A **Jones** 65.54 346 P P 02 58 18.0 -0.7
baz=166
Z53A **Monticello** 65.60 349 P P 02 58 18.9 -0.2
baz=169
Z52A **Williamson** 65.66 348 P P 02 58 19.2 -0.3
baz=168
GOGA **Godfrey** 65.72 349 *e*P P 02 58 19.9 +0.1
comp=Z,16nm,1.0s
GOGA **Godfrey** 65.72 349 *e*P P 02 58 20.0 +0.1
GOGA pmax pmax
comp=Z,16nm,1.0s
GOGA **Godfrey** 65.72 349 P P 02 58 19.3 -0.5
baz=169
148A **Greensboro** 65.75 345 P P 02 58 19.9 -0.2
baz=165
147A **Livingston** 65.93 345 P P 02 58 21.2 0.0
baz=164
Z50A **Ashland** 66.00 347 *e*P P 02 58 21.9 +0.2
comp=Z,14nm,0.9s
Z50A **Ashland** 66.00 347 P P 02 58 21.0 -0.7
baz=167,SNR=6.1
LRAL **Lakeview Retre** 66.00 346 P P 02 58 21.5 -0.2
baz=166
Y54A **Tignall** 66.04 350 P P 02 58 21.4 -0.5
baz=170
Z49A **Columbiana** 66.06 346 P P 02 58 21.7 -0.3
baz=166
146A **Union** 66.08 344 *e*P P 02 58 23.4 +1.3
comp=Z,34nm,1.0s
146A **Union** 66.08 344 P P 02 58 22.5 +0.3
baz=164
Y53A **Monroe** 66.17 349 P P 02 58 22.4 -0.4
baz=169,SNR=5.7
JSC **Jemsville** 66.25 351 *e*P P 02 58 24.1 +0.8
comp=Z,9.7nm,0.9s
JSC **Jenkinsville** 66.25 351 *e*P P 02 58 24.1 +0.8
JSC pmax pmax
comp=Z,10.0nm,0.9s
145A **Houston Renfro** 66.25 343 P P 02 58 23.7 +0.4
baz=163
Y52A **Lilburn** 66.26 349 *e*P P 02 58 23.6 +0.3
comp=Z,20nm,0.9s
Y52A **Lilburn** 66.26 349 P P 02 58 22.9 -0.5
baz=168,SNR=6.7
Z47A **Carrollton** 66.39 345 P P 02 58 24.2 +0.1
baz=165
VNDA **Vanda** 66.43 191 P P 02 58 25.2 +1.2
comp=Z,3.1nm,0.9s,baz=143,slow=5.9,SNR=4.3
VNDA LR LR 03 23 54.9
comp=Z,101nm,18.2s,baz=144,slow=33
VNDA **Vanda** 66.43 191 P P 02 58 25.2 +1.2
VNDA pmax pmax
comp=Z,4.0nm,1.0s
Z48A **Northport** 66.45 345 P P 02 58 24.0 -0.5
baz=165
Y51A **Rockmart** 66.46 348 P P 02 58 24.4 -0.3
baz=167,SNR=6.0
Y50A **Piedmont** 66.58 347 P P 02 58 24.9 -0.5
baz=167,SNR=7.1
Z46A **Louisville** 66.58 344 P P 02 58 25.5 +0.1
baz=164
Y49A **Blount Mountai** 66.68 347 P P 02 58 25.5 -0.6
baz=166
HPIG 66.74 327 *e*P P 02 58 27.4 +0.5
comp=Z,11nm,1.2s
X53A **Estanollee** 66.76 350 P P 02 58 26.4 -0.2
baz=169,SNR=6.4
CNNC **Cliffs of the** 66.84 354 P P 02 58 27.2 +0.2
baz=174
Y48A **Jasper** 66.89 346 P P 02 58 27.0 -0.3
baz=166
Z45A **Winona** 66.93 344 *e*P P 02 58 29.1 +1.4
comp=Z,36nm,0.8s
Z45A **Winona** 66.93 344 P P 02 58 28.0 +0.4
baz=163
X52A **Dahlonega** 66.95 349 P P 02 58 27.7 -0.1
baz=168,SNR=8.9
X51A **Calhoun** 67.08 348 *e*P P 02 58 29.1 +0.5
comp=Z,37nm,0.9s
X51A **Calhoun** 67.08 348 P P 02 58 28.5 -0.1
baz=168,SNR=8.3
KMSC **Kings Mountain** 67.11 351 *e*P P 02 58 29.1 +0.4
comp=Z,16nm,1.0s
KMSC **Kings Mountain** 67.11 351 P P 02 58 28.5 -0.2
baz=171
X50B **Fort Payne** 67.12 347 P P 02 58 28.5 -0.4
baz=167,SNR=6.6
TAOE **Nuku Hiva Isla** 67.16 274 *e*S S 03 07 31.9 +9.4
comp=Z,198nm,25.4s
TAOE **Nuku Hiva Isla** 67.16 274 *e*LR LR 03 18 49.1
comp=Z,288nm,26.7s
BG3 **Lake Jocassee** 67.18 350 *e*P P 02 58 29.9 +0.7
comp=Z,19nm,0.9s
Y46A **Houston** 67.22 344 P P 02 58 29.5 0.0
baz=164,SNR=8.3
X49A **Woodville** 67.30 347 P P 02 58 29.7 -0.2
baz=166
Y45A **Yeager Farm, C** 67.37 344 P P 02 58 31.2 +0.8
baz=163,SNR=6.5
JCT **Junction City** 67.37 334 *e*P P 02 58 31.8 +1.2
comp=Z,20nm,0.9s
JCT **Junction City** 67.37 334 *e*P P 02 58 31.8 +1.2
JCT pmax pmax
comp=Z,20nm,0.9s
JCT **Junction City** 67.37 334 P P 02 58 31.0 +0.5
baz=154,SNR=6.5
X48A **Hartselle** 67.38 346 *e*P P 02 58 31.1 +0.6
comp=Z,23nm,0.8s
X48A **Hartselle** 67.38 346 P P 02 58 30.7 +0.2
baz=166,SNR=13
W53A **Cullowhee** 67.39 350 P P 02 58 30.7 +0.1
baz=169,SNR=9.7
W52A **Murphy** 67.44 349 *e*P P 02 58 31.3 +0.4
comp=Z,20nm,0.9s
W52A **Murphy** 67.44 349 P P 02 58 30.7 -0.1
baz=168,SNR=5.3
X47A **Russelville** 67.61 346 P P 02 58 31.5 -0.5
baz=165,SNR=6.7
W51A **Cleveland** 67.64 348 P P 02 58 32.1 0.0
baz=168,SNR=6.0
Y43A **Makayla and Ka** 67.75 343 P P 02 58 32.7 -0.1
baz=162
W50A **Signal Mountai** 67.78 348 *e*P P 02 58 33.6 +0.5
comp=Z,27nm,0.9s
W50A **Signal Mountai** 67.78 348 P P 02 58 33.0 0.0
baz=167,SNR=7.6
X46A **Booneville** 67.81 345 P P 02 58 32.6 -0.5
baz=164
V53A **Saluda** 67.83 350 *e*P P 02 58 33.5 +0.1
comp=Z,19nm,0.9s
V53A **Saluda** 67.83 350 P P 02 58 33.0 -0.3
baz=170,SNR=6.4
X45A **UM Field Stati** 67.86 344 P P 02 58 33.5 0.0
baz=164,SNR=6.9
W49A **Belvidere** 67.87 347 P P 02 58 33.2 -0.4
baz=166
SYO **Syowa Base** 67.88 159 ⇑*i*P P 02 58 33.0 -0.3
CPCT **Cooper Cave** 67.88 349 *e*P P 02 58 34.1 +0.5
comp=Z,29nm,1.0s
WHTX **Lake Whitney,** 67.90 336 P P 02 58 33.9 +0.1
baz=156
SWET **Sewanee** 67.90 347 *e*P P 02 58 34.1 +0.3
comp=Z,33nm,1.0s
LTX **Lajitas** 67.91 330 *e*P P 02 58 34.8 +0.7
TX31 **Lajitas Ar. Si** 67.91 330 *e*P P 02 58 35.2 +1.1
TXAR **Lajitas Array** 67.91 330 P P 02 58 34.8 +0.7
comp=Z,3.0nm,0.8s,baz=148,slow=8.1,SNR=36
TXAR LR LR 03 23 57.0
comp=Z,242nm,19.3s,baz=0.0,slow=32
OXF **Oxford** 67.95 344 *e*P P 02 58 34.8 +0.7
comp=Z,55nm,0.9s
OXF **Oxford** 67.95 344 *e*P P 02 58 34.8 +0.7
OXF pmax pmax
comp=Z,55nm,0.9s
OXF **Oxford** 67.95 344 P P 02 58 33.7 -0.4
baz=164
TKL **Tuckaleechee C** 67.96 349 *e*P P 02 58 34.3 +0.1
comp=Z,24nm,0.9s
TKL **Tuckaleechee C** 67.96 349 *e*P P 02 58 34.3 +0.1
TKL pmax pmax
comp=Z,24nm,0.9s
W48A **Pulaski** 68.02 346 P P 02 58 34.5 0.0
baz=166,SNR=6.1
V52A **Sevierville** 68.12 350 *e*P P 02 58 35.0 -0.1
comp=Z,22nm,0.9s
V52A **Sevierville** 68.12 350 P P 02 58 34.8 -0.3
baz=169,SNR=6.7
X44A **Crenshaw** 68.12 344 P P 02 58 34.9 -0.2
baz=163
V50A **Pikevile** 68.20 348 P P 02 58 35.6 0.0
baz=168,SNR=12
V51A **Loudon** 68.20 349 *e*P P 02 58 35.9 +0.3
comp=Z,24nm,0.9s
V51A **Loudon** 68.20 349 P P 02 58 35.5 -0.1
baz=168,SNR=6.5
TBI **Tubuai** 68.23 255 *e*S S 03 07 47.3 +12
comp=Z,183nm,26.8s
TBI **Tubuai** 68.23 255 *e*LR LR 03 19 21.3
comp=Z,577nm,25.8s
TBI **Tubuai** 68.23 255 *e*T T 04 12 58.4
comp=Z,15nm,0.2s
W47A **Westpoint** 68.27 346 P P 02 58 35.8 -0.3
baz=165,SNR=5.4
V49A **McMinnville** 68.43 348 P P 02 58 36.8 -0.3
baz=167,SNR=14
U53A **Fall Branch** 68.48 350 P P 02 58 37.0 -0.4
baz=170
V48A **Smith Brothers** 68.58 347 *e*P P 02 58 38.3 +0.3
comp=Z,32nm,1.0s
V48A **Smith Brothers** 68.58 347 P P 02 58 38.0 0.0
baz=166,SNR=15
U52A **Thorn Hill** 68.62 350 P P 02 58 37.6 -0.7
baz=169
U51A **La Follette** 68.71 349 P P 02 58 38.5 -0.3
baz=169,SNR=7.6
TZTN **Tazewell** 68.80 350 P P 02 58 38.8 -0.5
baz=169
V47A **Nunnelly** 68.81 346 P P 02 58 38.9 -0.5
baz=165,SNR=6.2
W43A **Forest City** 68.81 343 P P 02 58 39.2 -0.2
baz=162
U50A **Jamestown** 68.88 349 P P 02 58 39.5 -0.4
baz=168,SNR=8.1
V46A **Holladay** 68.90 346 P P 02 58 39.6 -0.4
baz=165,SNR=6.2
V45A **Humboldt** 69.03 345 P P 02 58 40.4 -0.4
baz=164
BLA **Blacksburg** 69.04 352 P P 02 58 40.7 -0.2
baz=172
MIAR **Mount Ida** 69.06 341 *e*P P 02 58 41.7 +0.7
comp=Z,4.6nm,0.9s
MIAR **Mount Ida** 69.06 341 P P 02 58 41.3 +0.3
baz=160
U49A **Red Boiling Sp** 69.14 348 P P 02 58 41.1 -0.3
baz=167,SNR=5.4
WVT **Waverly** 69.16 346 *e*P P 02 58 41.4 -0.2
comp=Z,38nm,0.8s
WVT **Waverly** 69.16 346 *e*P P 02 58 41.4 -0.2
WVT pmax pmax
comp=Z,38nm,0.8s
WVT **Waverly** 69.16 346 P P 02 58 41.7 +0.1
baz=165
ABTX **Abilene, Hawle** 69.24 335 *e*P P 02 58 43.2 +1.0
comp=Z,24nm,1.0s
ABTX **Abilene, Hawle** 69.24 335 P P 02 58 42.3 +0.1
baz=155,SNR=7.6
T51A **Gray** 69.27 349 P P 02 58 41.9 -0.3
baz=169,SNR=6.1
U48A **Cassie Pea, Po** 69.28 347 P P 02 58 42.2 -0.2
baz=166,SNR=8.3
W41B **Gary Mavity, V** 69.29 342 P P 02 58 42.4 +0.1
baz=161
U47A **Clarksville** 69.35 347 P P 02 58 42.7 0.0
baz=166,SNR=20
U46A **Springville** 69.45 346 P P 02 58 43.1 -0.3
baz=165,SNR=16
U45A **Rockin P Farm,** 69.57 345 P P 02 58 44.2 0.0
baz=164,SNR=5.1
T49A **Edmton** 69.67 348 *e*P P 02 58 44.9 +0.2
comp=Z,21nm,1.0s
T49A *ep*P pP 02 58 54.0 -0.3
T49A **Edmonton** 69.67 348 P P 02 58 44.1 -0.6
baz=167,SNR=5.9
U44B **Burton Farm, H** 69.69 345 P P 02 58 45.2 +0.4
baz=164
W39A **Magazine** 69.72 341 *e*P P 02 58 46.4 +1.3
comp=Z,22nm,0.9s
W39A **Magazine** 69.72 341 P P 02 58 45.8 +0.7
baz=160,SNR=8.5
T48A **Bowling Green** 69.83 347 P P 02 58 45.5 -0.2
baz=166
V41A **Mountainview** 69.84 342 P P 02 58 45.6 -0.3
baz=161
S51A **Beattyville** 69.88 350 *e*P P 02 58 46.2 +0.2
comp=Z,15nm,0.8s
S51A **Beattyville** 69.88 350 P P 02 58 45.8 -0.2
baz=169
U43A **Rector** 69.96 344 P P 02 58 46.7 +0.2
baz=163
S50A **Richmond** 70.04 349 P P 02 58 46.8 -0.2
baz=168
T46A **Princeton** 70.06 346 P P 02 58 46.9 -0.1
baz=165,SNR=13
R54A **Victor** 70.06 352 P P 02 58 46.9 -0.2
baz=171
U42A **Revenden** 70.14 343 P P 02 58 47.2 -0.4
baz=162,SNR=6.6

S49A	Springfield	baz=168	70.29	349	P	P	02 58 47.5	-1.0
S48A	Wiedeman Farm,	baz=167,SNR=6.5	70.30	348	P	P	02 58 47.7	-0.9
R53A	Hurricane	baz=170	70.33	351	P	P	02 58 48.3	-0.5
S47A	Hartford	baz=166	70.39	347	P	P	02 58 49.2	+0.1
R52A	Catlettsburg	baz=170	70.43	351	P	P	02 58 48.7	-0.6
R51A	Hillsboro	baz=169	70.52	350	P	P	02 58 49.4	-0.5
U40A	Yellville	baz=161,SNR=7.4	70.56	342	P	P	02 58 50.1	-0.1
TVO	Taravao	comp=Z,1.5nm,0.2s	70.58	261	eT	T	04 15 53.3	
T43A	Greenville	baz=163,SNR=8.0	70.62	344	P	P	02 58 50.2	-0.3
R50A	Paris	baz=168	70.62	349	P	P	02 58 49.8	-0.8
S46A	Don Dixon Farm	baz=165,SNR=5.4	70.64	347	P	P	02 58 50.0	-0.6
MNTX	Cornudas Mount	comp=Z,8.8nm,0.8s	70.69	330	eP	P	02 58 51.2	+0.1
MNTX	Cornudas Mount	baz=150,SNR=14	70.69	330	P	P	02 58 50.5	-0.7
T42A	Van Buren	comp=Z,9.9nm,1.4s	70.75	344	eP	P	02 58 51.6	+0.2
T42A	Van Buren	baz=162	70.75	344	P	P	02 58 51.2	-0.2
R49A	Shelbyville	baz=168	70.77	349	P	P	02 58 50.9	-0.5
Q55A	Buckhannon	baz=172	70.77	353	P	P	02 58 51.5	0.0
HHAR	Hobbs	comp=Z,12nm,0.9s	70.79	341	eP	P	02 58 52.1	+0.5
S45A	Carrier Mills	baz=165	70.81	346	P	P	02 58 52.1	+0.4
WMOK	Wichita Mounta	comp=Z,13nm,1.3s	70.85	337	eP	P	02 58 52.3	+0.2
WMOK	Wichita Mounta	baz=156,SNR=5.8	70.85	337	P	P	02 58 52.0	-0.1
WCI	Wyandotte Cave	comp=Z,15nm,0.9s	70.90	348	eP	P	02 58 52.0	-0.2
WCI	Wyandotte Cave		70.90	348	eP	P	02 58 52.0	-0.2
WCI		comp=Z,15nm,0.9s			pmax	pmax		
WCI	Wyandotte Cave	baz=167	70.90	348	P	P	02 58 51.4	-0.8
USIN	University of	comp=Z,42nm,0.9s	70.90	347	eP	P	02 58 52.7	+0.5
T41A	Mountain View	baz=162,SNR=5.5	70.93	343	P	P	02 58 52.5	0.0
PPT2	Papeete2	comp=Z,149nm,25.8s	70.94	261	eS	S	03 08 18.5	+11
PPT2	Papeete2	comp=Z,208nm,24.0s	70.94	261	eLR	LR	03 20 31.3	
PPT	Papeete	comp=Z,49nm,20.3s,baz=76,slow=28	70.95	261	LR	LR	03 20 48.4	
S44A	Carbondale	baz=164	70.97	345	P	P	02 58 52.2	-0.5
TUL1	Leonard	comp=Z,13nm,0.9s	70.97	339	eP	P	02 58 53.2	+0.5
TUL1	Leonard	baz=158	70.97	339	P	P	02 58 52.5	-0.2
SIUC	Southern Illin	comp=Z,23nm,0.9s	70.98	345	eP	P	02 58 53.1	+0.4
R48A	Northridge Ran	baz=167	70.99	348	P	P	02 58 52.6	-0.2
Q52A	Bidwell	baz=170	70.99	351	P	P	02 58 52.6	-0.2
R47A	Wooly Knot Far	baz=166	71.00	348	P	P	02 58 52.4	-0.5
S43A	Fulton Ridge,	baz=163,SNR=10	71.03	345	P	P	02 58 52.8	-0.2
R46A	Gibon Southern	baz=166	71.11	347	P	P	02 58 52.9	-0.6
Q50A	Georgetown	baz=169	71.11	350	P	P	02 58 52.9	-0.6
Q51A	Peebles	comp=Z,18nm,0.8s	71.20	350	eP	P	02 58 54.0	0.0
Q51A	Peebles	baz=169	71.20	350	P	P	02 58 53.4	-0.7
P55A	Reedsville	baz=172	71.25	353	P	P	02 58 53.2	-1.1
R45A	Skylar, Fairfi	baz=165	71.34	346	P	P	02 58 54.5	-0.3
S42A	Caledonia	baz=163	71.39	344	P	P	02 58 55.0	-0.2
P53A	Whipple	baz=171	71.40	352	P	P	02 58 55.0	-0.2
MCWV	Mont Chateau	baz=172	71.40	353	P	P	02 58 55.0	-0.2
Q49A	Aurora	baz=168,SNR=6.1	71.42	349	P	P	02 58 55.1	-0.2
S41A	Jillco Farms,	baz=162,SNR=6.6	71.44	343	P	P	02 58 55.6	0.0
Q48A	North Vernon	baz=167	71.48	348	P	P	02 58 55.5	-0.2
P51A	Williamsport	comp=Z,29nm,1.0s	71.61	351	eP	P	02 58 56.6	+0.2
P51A	Williamsport	baz=170	71.61	351	P	P	02 58 56.1	-0.3
Q47A	Bedord North L	baz=167	71.61	348	P	P	02 58 55.9	-0.6
MSTX	Muleshoe	comp=Z,30nm,0.9s	71.61	333	eP	P	02 58 57.5	+0.7
MSTX	Muleshoe	baz=152,SNR=20	71.61	333	P	P	02 58 56.7	-0.1
P52A	Corning	baz=170	71.64	351	P	P	02 58 56.5	-0.2
R43A	Red Bud	baz=164	71.68	345	P	P	02 58 56.7	-0.2
CCM	Cathedral Cave	comp=Z,25nm,0.9s	71.77	344	eP	P	02 58 58.0	+0.5
CCM	Cathedral Cave		71.77	344	eP	P	02 58 58.0	+0.5
CCM		comp=Z,25nm,0.9s			pmax	pmax		
CCM	Cathedral Cave	baz=162	71.77	344	P	P	02 58 57.6	+0.1
P50A	Jamestown	baz=169	71.84	350	P	P	02 58 58.0	+0.1
BLO	Bloomington	comp=Z,15nm,0.9s	71.86	348	eP	P	02 58 58.3	+0.3
BLO	Bloomington		71.86	348	eP	P	02 58 58.3	+0.3
BLO		comp=Z,15nm,0.9s			pmax	pmax		
R42A	Luebbering	baz=163	71.88	344	P	P	02 58 58.2	+0.1
O56A	Blue Knob Stat	baz=174	71.89	354	P	P	02 58 58.8	+0.5
O55A	Ligonier	baz=173	71.89	354	P	P	02 58 58.3	+0.1
Q45A	Warren Harvey,	baz=165	71.90	346	P	P	02 58 57.7	-0.5
P49A	Miami Univ. Ec	baz=168	71.91	349	P	P	02 58 58.1	-0.2
P48A	Milroy	baz=168,SNR=5.0	71.95	349	P	P	02 58 57.7	-0.8
O54A	Avella	baz=172	71.97	353	P	P	02 58 57.9	-0.8
AMTX	Amarillo	comp=Z,32nm,1.1s	72.01	334	eP	P	02 59 00.0	+0.9
AMTX	Amarillo	baz=153	72.01	334	P	P	02 58 59.5	+0.4
R41A	Rosebud	baz=162,SNR=6.8	72.03	344	P	P	02 58 59.3	+0.2
O52A	Adamsville	comp=Z,19nm,0.8s	72.07	352	eP	P	02 58 59.5	+0.2
O52A	Adamsville	baz=171	72.07	352	P	P	02 58 59.0	-0.3
Q44A	Meyer Farm, Va	baz=164	72.08	346	P	P	02 58 59.4	+0.1
P47A	Martinsville	baz=167	72.12	348	P	P	02 58 58.9	-0.7
O53A	New Philadelph	baz=171	72.13	352	P	P	02 58 59.1	-0.5
SSPA	Standing Stone	baz=174	72.20	355	P	P	02 59 00.4	+0.4
O51A	Pataskala	baz=170,SNR=7.1	72.20	351	P	P	02 58 59.8	-0.2
Q43A	New Douglas	baz=164,SNR=6.4	72.26	345	P	P	02 59 00.3	-0.1
ACSO	Alum Creek Sta	comp=Z,41nm,0.9s	72.34	351	eP	P	02 59 00.5	-0.3
ACSO	Alum Creek Sta	baz=170,SNR=9.3	72.34	351	P	P	02 59 00.5	-0.3
O50A	Cable	baz=169	72.34	350	P	P	02 59 01.6	+0.7
N59A	State Game Lan	comp=Z,24nm,1.0s	72.35	357	eP	P	02 59 02.6	+1.6
N59A	State Game Lan	baz=176	72.35	357	P	P	02 59 01.2	+0.3
P46A	Rosedale	baz=166	72.41	347	P	P	02 59 00.7	-0.6
Q42A	Golden Eagle	baz=163,SNR=6.7	72.42	345	P	P	02 59 01.2	-0.1
U32A	Winter Ranch,	comp=Z,23nm,0.8s	72.42	337	eP	P	02 59 03.0	+1.5
P45A	Graceland, Par	baz=166	72.43	347	P	P	02 59 00.7	-0.7
N55A	Marion Center	baz=173	72.43	354	P	P	02 59 01.8	+0.4
121A	Cookes Peak, D	baz=148,SNR=8.4	72.46	328	P	P	02 59 02.7	+0.8
O49A	Covington	comp=Z,20nm,0.9s	72.49	350	eP	P	02 59 01.8	+0.1
O49A	Covington	baz=168,SNR=5.3	72.49	350	P	P	02 59 01.4	-0.3
P44A	Sand Creek, Wi	baz=165	72.54	346	P	P	02 59 01.5	-0.6
Q41A	Truxton	baz=162,SNR=12	72.62	344	P	P	02 59 02.5	0.0
N53A	Lisbon	baz=172	72.64	353	P	P	02 59 02.7	+0.1
N54A	Moraine State	baz=172	72.71	353	P	P	02 59 03.1	+0.1
N52A	McGinn's Farm,	baz=171	72.74	352	P	P	02 59 02.5	-0.8
O47A	Sheridan	baz=167	72.83	348	P	P	02 59 02.9	-0.9
N50A	Nevada	baz=170,SNR=8.1	72.89	351	P	P	02 59 04.0	-0.1
P43A	Skaggs, Pawnee	baz=164,SNR=5.4	72.90	346	P	P	02 59 03.8	-0.4
N51A	Ashland	baz=170	72.93	351	P	P	02 59 03.9	-0.5
P42A	Winchester	comp=Z,19nm,1.0s	73.02	345	eP	P	02 59 05.0	+0.1
P42A	Winchester	baz=163,SNR=6.2	73.02	345	P	P	02 59 04.5	-0.4
O45A	Potomac	baz=166	73.12	347	P	P	02 59 04.7	-0.8
O44A	Mansfield	baz=165	73.17	347	P	P	02 59 05.0	-0.8
N49A	Columbus Grove	comp=Z,35nm,0.8s	73.18	350	eP	P	02 59 06.1	+0.3
N49A	Columbus Grove	baz=169,SNR=6.7	73.18	350	P	P	02 59 05.5	-0.3
M54A	Oil Creek Stat	baz=173	73.22	354	P	P	02 59 06.3	+0.3
N48A	Detar	baz=168	73.25	349	P	P	02 59 06.1	-0.2
P41A	Barry, Barry	baz=163	73.27	344	P	P	02 59 06.8	+0.4
M51A	Elyria	baz=170	73.32	352	P	P	02 59 07.2	+0.5
N47A	Urbana	baz=167	73.38	349	P	P	02 59 06.2	-0.8
O43A	Sugar Creek Fa	baz=164	73.47	346	P	P	02 59 07.1	-0.5
LENM	Lemitar		73.49	330	eP	P	02 59 10.5	+2.4
M50A	Fremont	baz=170	73.50	351	P	P	02 59 07.5	-0.2
O42A	Bath	baz=164	73.55	345	P	P	02 59 07.8	-0.2
N46A	Monticello	baz=166	73.57	348	P	P	02 59 07.3	-0.8
BINY	Binghamton	baz=176	73.64	357	P	P	02 59 08.9	+0.4
O41A	Paseys Farm,	baz=163	73.65	345	P	P	02 59 08.2	-0.4
TUC	Tucson	comp=Z,5.7nm,1.3s	73.65	326	eP	P	02 59 10.2	+1.3
TUC	Tucson		73.65	326	eP	P	02 59 10.2	+1.3
TUC		comp=Z,6.0nm,1.3s			pmax	pmax		
TUC	Tucson	baz=146	73.65	326	P	P	02 59 08.9	-0.1
N45A	Kentland	baz=167	73.66	347	P	P	02 59 07.9	-0.8
M49A	Liberty Center	baz=169	73.69	350	P	P	02 59 08.4	-0.5
LIC	Lamto	comp=Z,84nm,0.8s	73.71	72	eP	P	02 59 09.6	0.0
HDIL	Hopedale	baz=164	73.73	346	P	P	02 59 08.6	-0.5
N44A	Piper City	baz=165	73.73	347	P	P	02 59 08.3	-0.8
LAZ	Ladron		73.77	330	eP	P	02 59 11.7	+2.0
M48A	Edgerton	comp=Z,39nm,1.0s	73.81	350	eP	P	02 59 09.6	0.0
M48A	Edgerton	baz=168,SNR=5.4	73.81	350	P	P	02 59 09.0	-0.5
ANMO	Albuquerque	comp=Z,256nm,20.3s,baz=149,slow=32	73.94	331	LR	LR	03 27 15.0	
ANMO	Albuquerque	comp=Z,8.0nm,1.2s	73.94	331	eP	P	02 59 12.3	+1.6
ANMO	Albuquerque		73.94	331	eP	P	02 59 11.3	+0.6
ANMO		comp=Z,6.0nm,1.3s			pmax	pmax		
ANMO	Albuquerque	baz=150	73.94	331	P	P	02 59 11.6	+0.9
TIC	Toumodi		73.96	72	eP	P	02 59 11.0	-0.1
KIC	Kosan Boka	comp=Z,100nm,0.9s	74.02	72	eP	P	02 59 11.6	+0.2
N43A	Stutzman Famil	baz=164,SNR=7.1	74.07	346	P	P	02 59 10.7	-0.4
DBIC	Dimbokro	comp=Z,38nm,0.8s,baz=211,slow=6.3,SNR=54	74.11	72	P	P	02 59 12.2	+0.2
DBIC		comp=Z,28nm,0.8s,baz=203,slow=5.3,SNR=12			pP	pP	02 59 21.8	+0.3
DBIC		comp=Z,405nm,21.8s,baz=210,slow=33			LR	LR	03 28 16.4	
DBIC	Dimbokro	comp=Z,52nm,0.9s	74.11	72	eP	P	02 59 12.1	+0.2
DBIC					epP	pP	02 59 21.8	+0.3
DBIC	Dimbokro		74.11	72	eP	P	02 59 12.3	+0.4
N42A	Yates City	baz=164	74.14	346	P	P	02 59 11.6	+0.1
N41A	Harden Midland	comp=Z,26nm,0.9s	74.21	345	eP	P	02 59 12.0	+0.1
N41A	Harden Midland	baz=163	74.21	345	P	P	02 59 11.3	-0.6
L48A	N Adams	baz=169	74.22	350	P	P	02 59 11.3	-0.6
M44A	Midewin, Midew	baz=165	74.28	347	P	P	02 59 11.5	-0.7
L49A	Milan	baz=169	74.29	351	P	P	02 59 12.0	-0.3
K55A	Perry	baz=174	74.30	355	P	P	02 59 12.4	0.0
214A	Organ Pipe Nat	baz=144	74.35	324	P	P	02 59 13.4	+0.5
L47A	Sherwood	baz=168	74.37	350	P	P	02 59 12.2	-0.6
M43A	Waltham Townsh	baz=165	74.51	347	P	P	02 59 13.1	-0.5
N40A	Mertquake, Sal	baz=162	74.54	344	P	P	02 59 13.3	-0.5
K52A	Tillsonburg	baz=172	74.58	353	P	P	02 59 13.6	-0.3
L46A	Eue Claire	baz=167	74.58	349	P	P	02 59 13.4	-0.6
M41A	Milan	baz=163	74.78	345	P	P	02 59 14.7	-0.4
CBKS	Cedar Bluff	comp=Z,21nm,0.9s	74.87	338	eP	P	02 59 16.7	+0.8
CBKS	Cedar Bluff		74.87	338	eP	P	02 59 16.7	+0.8
CBKS		comp=Z,21nm,0.9s			pmax	pmax		
CBKS	Cedar Bluff	baz=155,SNR=5.9	74.87	338	P	P	02 59 16.3	+0.5
K47A	Vermontville	baz=168	75.02	350	P	P	02 59 16.3	-0.2
M40A	Post Highland	baz=162	75.02	345	P	P	02 59 16.1	-0.5
L44A	Lake County Fo	baz=166	75.03	348	P	P	02 59 16.2	-0.3
T25A	Trinidad	comp=Z,21nm,0.9s	75.03	333	eP	P	02 59 18.9	+1.8
T25A	Trinidad	baz=151,SNR=13	75.03	333	P	P	02 59 18.4	+1.4
L43A	Garden Prairie	baz=165	75.19	347	P	P	02 59 17.2	-0.3
L42A	Oliver, Polo	baz=164	75.20	346	P	P	02 59 17.5	0.0
M39A	Webster	baz=162	75.24	344	P	P	02 59 17.6	-0.2
MAW	Mawson	comp=Z,378nm,18.1s,baz=228,slow=38	75.28	164	LR	LR	03 35 48.9	
L41A	Preston	baz=163,SNR=6.5	75.44	346	P	P	02 59 18.8	-0.1
J48A	Bridge Port	baz=170	75.46	351	P	P	02 59 18.7	-0.4
J47A	Sunmer	baz=168	75.55	350	P	P	02 59 19.1	-0.5
LBNH	Lisbon	baz=180	75.57	360	P	P	02 59 18.8	-0.8
L40A	Anamosa	comp=Z,37nm,0.9s	75.58	345	eP	P	02 59 20.0	+0.2
L40A	Anamosa	baz=163,SNR=9.0	75.58	345	P	P	02 59 19.4	-0.4
K43A	Burlington	baz=165	75.61	347	P	P	02 59 19.1	-0.8
I51A	Listowel	baz=172	75.62	353	P	P	02 59 18.6	-1.4
X16A	Lo Mia Camp, P	comp=Z,12nm,1.1s	75.70	327	eP	P	02 59 22.4	+1.6
I55A	Frankford	baz=174	75.75	355	P	P	02 59 20.2	-0.5
J46A	Howard City	baz=168	75.78	349	P	P	02 59 20.9	+0.1
L39A	Vinton	baz=162	75.81	344	P	P	02 59 20.7	-0.4
K42A	Prairie Point,	baz=164,SNR=5.4	75.88	347	P	P	02 59 21.4	0.0
SCIA	State Center	comp=Z,14nm,0.8s	75.89	344	eP	P	02 59 22.1	+0.5
SCIA	State Center	baz=161	75.89	344	P	P	02 59 21.6	0.0
K41A	Shullsburg	baz=164,SNR=8.4	75.91	346	P	P	02 59 21.5	-0.1
SDCO	Great Sand Dun	comp=Z,4.2nm,0.9s	75.98	333	eP	P	02 59 24.1	+1.6
SDCO	Great Sand Dun	baz=151,SNR=7.4	75.98	333	P	P	02 59 23.5	+0.9
LONY	Lake Ozonia	baz=177	76.00	358	P	P	02 59 22.8	+0.7
KSCO	Kaye Shedlock'	comp=Z,25nm,1.3s	76.03	336	eP	P	02 59 24.2	+1.6
H56A	Elgin	baz=176	76.04	357	P	P	02 59 22.7	+0.4
Y14A	Wickenburg	comp=Z,6.0nm,1.0s	76.05	325	eP	P	02 59 24.3	+1.6
K40A	Colesburg	baz=163,SNR=6.5	76.17	345	P	P	02 59 23.0	-0.1
FRNY	Flat Rock	comp=Z,18nm,0.9s	76.19	359	eP	P	02 59 24.3	+1.1
JFWS	Jewell Farm	comp=Z,36nm,1.2s	76.19	346	eP	P	02 59 23.8	+0.5
JFWS	Jewell Farm		76.19	346	eP	P	02 59 23.8	+0.5
JFWS		comp=Z,36nm,1.2s			pmax	pmax		
JFWS	Jewell Farm	baz=164	76.19	346	P	P	02 59 23.2	0.0
GLA	Glamis	baz=143	76.23	324	P	P	02 59 23.9	+0.1
I47A	Gladwin	baz=169	76.27	350	P	P	02 59 23.0	-0.6
K39A	Oelwein	baz=162,SNR=5.4	76.34	345	P	P	02 59 24.1	-0.1
H52A	Wyevale	baz=173	76.34	354	P	P	02 59 23.9	-0.2
J42A	Columbus	baz=165	76.35	347	P	P	02 59 24.3	+0.1
S22A	4UR Ranch, Cre	comp=Z,12nm,1.4s	76.51	332	eP	P	02 59 27.1	+1.6
S22A	4UR Ranch, Cre	baz=150	76.51	332	P	P	02 59 26.5	+1.0
IKP	In-Ko-Pah, Jac	baz=142	76.57	323	P	P	02 59 26.6	+0.8
J41A	Loganville	baz=164	76.58	346	P	P	02 59 25.5	+0.1
WUAZ	Wupatki	comp=Z,12nm,1.0s	76.58	328	eP	P	02 59 27.8	+1.9
WUAZ	Wupatki	baz=146,SNR=5.9	76.58	328	P	P	02 59 27.3	+1.5
PKME	Peaks-Kenny Pk	baz=182	76.62	2	P	P	02 59 27.2	+1.6
Y12C	Blythe	baz=143	76.64	324	P	P	02 59 27.5	+1.5
G53A	Haliburton	baz=174	76.72	355	P	P	02 59 26.4	+0.2
I43A	Langenfeld Bro	baz=166	76.72	348	P	P	02 59 26.3	+0.1
MVCO	Mesa Verde	comp=Z,12nm,1.1s	76.73	331	eP	P	02 59 28.3	+1.6
MVCO	Mesa Verde	baz=148,SNR=5.9	76.73	331	P	P	02 59 28.1	+1.3
BGNE	Belgrade	baz=157	76.75	340	P	P	02 59 27.1	+0.6
J40A	Soldiers Grove	baz=163,SNR=9.0	76.75	346	P	P	02 59 26.0	-0.4
I42A	Draeger Farm,	baz=165	76.87	347	P	P	02 59 26.9	-0.1
H46A	Fife Lake	baz=168	76.88	350	P	P	02 59 27.2	+0.1
BAR	Barrett	comp=Z,7.6nm,0.9s	76.89	322	eP	P	02 59 29.3	+1.8
PDMCI	Parker Dam,Lak	baz=144	76.90	325	P	P	02 59 28.7	+1.2
J39A	Decorah	baz=162,SNR=7.5	76.90	345	P	P	02 59 26.8	-0.4
Q24A	Divide	comp=Z,18nm,0.9s	76.91	334	eP	P	02 59 29.5	+1.7
Q24A	Divide	baz=151,SNR=8.9	76.91	334	P	P	02 59 28.9	+1.1
MONP2	Monument Peak	baz=142,SNR=5.4	76.92	322	P	P	02 59 29.3	+1.4
BC3	Big Chuckawall	baz=143	77.03	324	P	P	02 59 29.0	+0.7
I40A	Norwalk	baz=163	77.20	346	P	P	02 59 28.4	-0.5
I41A	Arkdale	comp=Z,40nm,1.3s	77.21	347	eP	P	02 59 29.3	+0.3
I41A	Arkdale	baz=164	77.21	347	P	P	02 59 29.1	+0.1
IRM	Iron Mountain	baz=143,SNR=7.0	77.28	324	P	P	02 59 30.3	+0.6
F55A	Otter Lake	baz=176	77.28	357	P	P	02 59 30.0	+0.7
I39A	Houston	comp=Z,32nm,0.8s	77.36	345	eP	P	02 59 30.2	+0.4
I39A	Houston	baz=163	77.36	345	P	P	02 59 30.2	+0.4
W13A	Hualapai Mount	comp=Z,4.5nm,0.8s	77.41	326	eP	P	02 59 32.5	+1.9
F52A	Sundridge	baz=173	77.44	354	P	P	02 59 30.3	+0.1
XPFO	Pion Flat	comp=Z,12nm,1.0s	77.51	323	eP	P	02 59 33.1	+2.0
PFO	Pinyon Flats O	comp=Z,240nm,18.1s,baz=148,slow=31	77.51	323	LR	LR	03 27 20.2	
PFO	Pinyon Flats O	comp=Z,10nm,1.0s	77.51	323	eP	P	02 59 33.1	+2.0
PFO	Pinyon Flats O		77.51	323	eP	P	02 59 33.1	+2.0
PFO		comp=Z,10.0nm,1.0s			pmax	pmax		
PFO	Pinyon Flats O	baz=142,SNR=8.4	77.51	323	P	P	02 59 32.1	+1.0
OGNE	Ogallala	baz=154	77.55	337	P	P	02 59 32.0	+0.9
BELC	Belle Mtn. Jos	baz=142	77.58	323	P	P	02 59 32.2	+0.7
TRQ	Mont Tremblant		77.60	358	eP	P	02 59 31.8	+0.6
PV13	Radium Mtn., P	comp=Z,13nm,1.2s	77.67	331	eP	P	02 59 33.5	+1.5
H41A	Junction City	comp=Z,18nm,1.0s	77.71	347	eP	P	02 59 32.2	+0.5
H41A	Junction City	baz=164	77.71	347	P	P	02 59 32.2	+0.5
U15A	North Rim	comp=Z,7.7nm,0.9s	77.75	327	eP	P	02 59 34.5	+2.0
SMCO	Snowmass	comp=Z,18nm,1.1s	77.80	333	eP	P	02 59 34.9	+2.0
PV12	Saucer Basin,	comp=Z,9.3nm,1.1s	77.80	331	eP	P	02 59 34.4	+1.7
F48A	Evansville	baz=170	77.80	352	P	P	02 59 32.9	+0.7
PV11	David Mesa, Pa	comp=Z,12nm,1.2s	77.81	331	eP	P	02 59 34.2	+1.5
ISCO	Idaho Springs	comp=Z,3.7nm,0.9s	77.81	334	eP	P	02 59 34.4	+1.5

ISCO	**Idaho Springs**	**77.81**	**334**	*e*P		**P**		**02 59 34.4**	**+1.5**
ISCO	comp=Z,4.0nm,0.9s			pmax		pmax			
ISCO	**Idaho Springs**	**77.81**	**334**	P		**P**		**02 59 33.9**	**+1.0**
PV17	baz=151 **East Wray Mesa**	**77.83**	**331**	*e*P		**P**		**02 59 34.8**	**+1.9**
H40A	comp=Z,5.0nm,0.9s **Chili**	**77.86**	**346**	P		**P**		**02 59 32.7**	**+0.1**
MURC	baz=164 **Murrieta**	**77.88**	**322**	P		**P**		**02 59 34.4**	**+1.4**
E53A	baz=142 **Dumoine, Ponti**	**77.90**	**356**	P		**P**		**02 59 33.5**	**+0.7**
E54A	baz=175 **Lac Daplat, Po**	**77.93**	**356**	P		**P**		**02 59 33.6**	**+0.7**
PV14	baz=175 **Lion Creek, Pa**	**77.94**	**331**	*e*P		**P**		**02 59 35.3**	**+1.8**
PV10	comp=Z,11nm,1.1s **Paradox Valley**	**77.95**	**331**	*e*P		**P**		**02 59 34.8**	**+1.3**
G43A	**Wallace**	**77.97**	**348**	P		**P**		**02 59 33.6**	**+0.4**
LDFC	baz=166 **Landfair**	**77.99**	**325**	*e*P		**P**		**02 59 35.9**	**+2.2**
F46A	comp=Z,12nm,1.0s **Macinaw City C**	**78.02**	**351**	P		**P**		**02 59 33.0**	**-0.5**
GMRC	baz=168 **Granite Mounta**	**78.03**	**324**	P		**P**		**02 59 34.9**	**+1.0**
G42A	baz=143,SNR=8.0 **Mountain**	**78.08**	**348**	*e*P		**P**		**02 59 34.4**	**+0.5**
G42A	comp=Z,25nm,0.9s **Mountain**	**78.08**	**348**	P		**P**		**02 59 33.9**	**+0.1**
PV09	baz=165 **Paradox Valley**	**78.09**	**331**	*e*P		**P**		**02 59 36.4**	**+2.0**
E51A	**G1948 Merrick**	**78.19**	**354**	P		**P**		**02 59 35.0**	**+0.7**
E50A	baz=173 **Wahnapitae**	**78.19**	**354**	P		**P**		**02 59 33.6**	**-0.7**
G41A	baz=172 **Antigo**	**78.19**	**347**	P		**P**		**02 59 34.2**	**-0.2**
BBRC	baz=165 **Big Bear Solar**	**78.26**	**323**	P		**P**		**02 59 36.0**	**+0.7**
CIS	baz=142 **Catalina Islan**	**78.37**	**321**	P		**P**		**02 59 37.1**	**+1.4**
E48A	baz=141 **Lockeyer**	**78.39**	**353**	P		**P**		**02 59 35.9**	**+0.4**
HEC	baz=171 **Hector,Ludlow**	**78.41**	**324**	P		**P**		**02 59 37.0**	**+1.1**
G40A	baz=142 **Rib Lake**	**78.44**	**347**	P		**P**		**02 59 35.6**	**-0.2**
F44A	baz=164 **Big Bay de Noc**	**78.46**	**350**	P		**P**		**02 59 35.7**	**-0.2**
KNB	baz=167 **Kanab**	**78.47**	**327**	*e*P		**P**		**02 59 38.4**	**+2.0**
KNB	comp=Z,14nm,1.1s **Kanab**	**78.47**	**327**	*e*P		**P**		**02 59 38.4**	**+2.0**
KNB	comp=Z,14nm,1.1s			pmax		pmax			
ECSD	**EROS Data Cent**	**78.47**	**342**	*e*P		**P**		**02 59 36.3**	**+0.3**
ECSD	comp=Z,20nm,0.9s **EROS Data Cent**	**78.47**	**342**	P		**P**		**02 59 36.0**	**0.0**
E47A	baz=158,SNR=18 **Iron Bridge**	**78.50**	**352**	P		**P**		**02 59 36.2**	**+0.1**
E46A	baz=170 **Sault Ste Mari**	**78.54**	**351**	P		**P**		**02 59 36.1**	**-0.2**
D54A	baz=169 **Lac Fusel, La**	**78.61**	**356**	P		**P**		**02 59 37.1**	**+0.4**
BFSC	baz=176 **Mount Baldy Ra**	**78.62**	**323**	P		**P**		**02 59 38.2**	**+0.9**
G39A	baz=141,SNR=5.8 **Holcombe**	**78.65**	**346**	P		**P**		**02 59 36.7**	**-0.2**
LCMT	baz=163 **Little Creek M**	**78.66**	**327**	*e*P		**P**		**02 59 39.1**	**+1.7**
TUQ	comp=Z,5.2nm,1.1s **Turquoise Moun**	**78.68**	**324**	P		**P**		**02 59 38.6**	**+1.1**
G38A	baz=143,SNR=12 **Ridgeland**	**78.68**	**346**	P		**P**		**02 59 37.2**	**+0.1**
F41A	baz=162 **Three Lakes**	**78.69**	**348**	P		**P**		**02 59 36.0**	**-1.2**
D50A	baz=165 **G1974 Best Tow**	**78.85**	**354**	P		**P**		**02 59 37.8**	**-0.2**
N23A	baz=173 **Red Feather La**	**78.89**	**334**	P		**P**		**02 59 39.8**	**+1.1**
E43A	baz=151 **Lone Tree Farm**	**78.94**	**349**	P		**P**		**02 59 39.5**	**+1.0**
SPMN	baz=167 **Marine on St.**	**78.94**	**345**	P		**P**		**02 59 38.6**	**+0.1**
GSC	baz=162 **Goldstone, Bar**	**79.01**	**324**	*e*P		**P**		**02 59 41.0**	**+1.7**
GSC	comp=Z,7.7nm,0.9s **Goldstone, Bar**	**79.01**	**324**	*e*P		**P**		**02 59 41.0**	**+1.7**
GSC	comp=Z,8.0nm,0.9s			pmax		pmax			
GSC	**Goldstone, Bar**	**79.01**	**324**	P		**P**		**02 59 40.4**	**+1.1**
D46A	baz=142,SNR=6.4 **Sault St. Mari**	**79.02**	**351**	P		**P**		**02 59 39.6**	**+0.7**
MTPU	baz=169 **Mount Pierson**	**79.02**	**328**	*e*P		**P**		**02 59 41.0**	**+1.4**
D48A	comp=Z,9.4nm,1.2s **Paudash Townsh**	**79.04**	**353**	P		**P**		**02 59 38.8**	**-0.2**
F40A	baz=171 **Park Falls**	**79.05**	**347**	P		**P**		**02 59 39.2**	**+0.1**
SZCU	baz=164 **Shurtz Canyon**	**79.07**	**328**	*e*P		**P**		**02 59 41.7**	**+2.0**
SZCU	comp=Z,7.8nm,1.1s			*e*pP		**sP**		**02 59 51.4**	**-1.6**
PHWY	**Pilot Hill**	**79.07**	**335**	*e*P		**P**		**02 59 41.0**	**+1.2**
D47A	comp=Z,6.7nm,0.9s **Chapleau**	**79.07**	**352**	P		**P**		**02 59 39.6**	**+0.4**
O20A	baz=170 **White River Ci**	**79.12**	**332**	*e*P		**P**		**02 59 41.5**	**+1.6**
O20A	comp=Z,13nm,1.2s **White River Ci**	**79.12**	**332**	P		**P**		**02 59 40.4**	**+0.5**
CCUT	baz=149 **Cedar City**	**79.16**	**327**	*e*P		**P**		**02 59 42.5**	**+2.3**
SHPR	comp=Z,9.9nm,1.0s **Sheep Range**	**79.16**	**326**	*e*P		**P**		**02 59 42.1**	**+2.0**
SRU	comp=Z,6.7nm,1.0s **San Rafael Swe**	**79.19**	**330**	*e*P		**P**		**02 59 41.4**	**+1.1**
SRU	comp=Z,9.9nm,1.0s **San Rafael Swe**	**79.19**	**330**	*e*P		**P**		**02 59 41.4**	**+1.1**
SRU	comp=Z,10.0nm,1.0s			pmax		pmax			
F39A	**Loretta**	**79.20**	**346**	P		**P**		**02 59 40.0**	**+0.1**
EDW2	baz=163 **Edwards Air Fo**	**79.29**	**323**	P		**P**		**02 59 41.5**	**+0.7**
Q16A	baz=141,SNR=10.0 **Castle Valley**	**79.31**	**330**	*e*P		**P**		**02 59 42.8**	**+1.8**
F37A	comp=Z,10nm,1.0s **Hinrichs Farm,**	**79.38**	**345**	P		**P**		**02 59 41.0**	**+0.1**
MSU	baz=162 **Marysvale**	**79.41**	**329**	*e*P		**P**		**02 59 43.3**	**+1.7**
MSU	**Marysvale**	**79.41**	**329**	*e*P		**P**		**02 59 43.3**	**+1.7**
F38A	**Pierce - Schro**	**79.44**	**346**	P		**P**		**02 59 41.4**	**+0.1**
SCZ2	baz=162,SNR=5.9 **Santa Cruz Isl**	**79.47**	**321**	P		**P**		**02 59 43.1**	**+1.3**
TSUM	baz=140 **Tsumeb**	**79.50**	**106**	*e*P		**P**		**02 59 43.3**	**+0.8**
E39A	comp=Z,17nm,0.9s **Mellen**	**79.58**	**347**	P		**P**		**02 59 41.8**	**-0.2**
P17A	baz=164 **Butcher Ranch,**	**79.58**	**330**	*e*P		**P**		**02 59 43.7**	**+1.3**
LRMC	comp=Z,15nm,1.2s **Laurel Mtn Rad**	**79.60**	**323**	P		**P**		**02 59 43.7**	**+1.1**
VLDQ	baz=141,SNR=8.6 **Val d'Or**	**79.61**	**356**	*e*P		**P**		**02 59 42.5**	**+0.3**
TMUT	comp=Z,19nm,0.9s **Trail Mountain**	**79.64**	**330**	*e*P		**P**		**02 59 44.7**	**+1.8**
D41A	comp=Z,4.4nm,1.0s **Chassel**	**79.87**	**348**	P		**P**		**02 59 43.6**	**+0.1**
MPMC	baz=165 **Manual Prospec**	**79.95**	**324**	P		**P**		**02 59 45.2**	**+0.7**
FURC	baz=142,SNR=6.2 **Furnace Creek,**	**79.96**	**324**	P		**P**		**02 59 45.6**	**+1.4**
TPNV	baz=142,SNR=6.3 **Topopah Spring**	**80.04**	**325**	*e*P		**P**		**02 59 47.0**	**+2.1**
TPNV	comp=Z,9.9nm,1.0s **Topopah Spring**	**80.04**	**325**	*e*P		**P**		**02 59 47.0**	**+2.1**
TPNV	comp=Z,10.0nm,1.0s			pmax		pmax			
TPNV	**Topopah Spring**	**80.04**	**325**	P		**P**		**02 59 46.3**	**+1.3**
DAC	baz=143,SNR=9.6 **Darwin (Calif)**	**80.17**	**324**	*e*P		**P**		**02 59 47.5**	**+1.8**
DAC	comp=Z,11nm,0.9s **Darwin (Calif)**	**80.17**	**324**	*e*P		**P**		**02 59 47.5**	**+1.8**
DAC	comp=Z,11nm,0.9s			pmax		pmax			
PSUT	**Pine Spring**	**80.18**	**328**	*e*P		**P**		**02 59 47.5**	**+1.8**
PKM	comp=Z,5.7nm,1.0s **Mcpherson Peak**	**80.25**	**322**	P		**P**		**02 59 47.5**	**+1.3**
MPU	baz=140,SNR=15 **Maple Canyon**	**80.42**	**330**	*e*P		**P**		**02 59 48.3**	**+1.4**
	comp=Z,6.5nm,0.9s								
CWC	**Cottonwood Cre**	**80.55**	**324**	P		**P**		**02 59 49.2**	**+1.5**
NLU	baz=141 **North Lily Min**	**80.56**	**330**	*e*P		**P**		**02 59 49.3**	**+1.6**
VES	comp=Z,11nm,1.4s **Vestal, Richgr**	**80.60**	**323**	P		**P**		**02 59 48.9**	**+1.1**
GRAC	baz=140,SNR=8.0 **Grapevine Rang**	**80.62**	**324**	P		**P**		**02 59 49.3**	**+1.4**
K22A	baz=142 **Casper**	**80.63**	**335**	*e*P		**P**		**02 59 49.2**	**+1.2**
K22A	comp=Z,16nm,1.1s **Casper**	**80.63**	**335**	P		**P**		**02 59 48.7**	**+0.7**
BOSA	baz=150 **Boshof**	**80.82**	**118**	P		**P**		**02 59 49.9**	**+0.3**
BOSA	comp=Z,21nm,0.8s,baz=241,slow=4.9,SNR=28			LR		LR		03 33 54.1	
	comp=Z,183nm,18.1s,baz=230,slow=34								
BOSA	**Boshof**	**80.82**	**118**	*e*P		**P**		**02 59 50.0**	**+0.5**
JLU	**Jordanelle**	**80.83**	**330**	*e*P		**P**		**02 59 50.4**	**+1.2**
R11A	comp=Z,6.9nm,1.0s **Troy Canyon, C**	**80.83**	**326**	*e*P		**P**		**02 59 51.0**	**+1.8**
R11A	comp=Z,7.1nm,1.0s **Troy Canyon, C**	**80.83**	**326**	P		**P**		**02 59 50.5**	**+1.3**
RSSD	baz=143,SNR=12 **Black Hills**	**81.05**	**337**	*e*P		**P**		**02 59 51.2**	**+0.9**
RSSD	comp=Z,7.2nm,0.9s **Black Hills**	**81.05**	**337**	*e*P		**P**		**02 59 51.2**	**+0.9**
RSSD	comp=Z,7.0nm,0.9s			pmax		pmax			
RSSD	**Black Hills**	**81.05**	**337**	P		**P**		**02 59 50.8**	**+0.5**
DUG	baz=152 **Dugway, Tooele**	**81.07**	**329**	*e*P		**P**		**02 59 51.8**	**+1.4**
DUG	comp=Z,10.0nm,1.2s **Dugway, Tooele**	**81.07**	**329**	*e*P		**P**		**02 59 51.8**	**+1.4**
DUG	comp=Z,10.0nm,1.2s			pmax		pmax			
DUG	**Dugway, Tooele**	**81.07**	**329**	P		**P**		**02 59 51.2**	**+0.8**
TIN	baz=145,SNR=6.4 **Tinemaha, Big**	**81.10**	**324**	P		**P**		**02 59 52.2**	**+1.6**
PAGB	baz=141 **Antelope Grade**	**81.12**	**322**	*e*P		**P**		**02 59 52.7**	**+2.1**
TCUT	comp=Z,9.5nm,1.0s **Toone Canyon**	**81.24**	**331**	*e*P		**P**		**02 59 52.6**	**+1.2**
BGU	comp=Z,13nm,1.2s **Big Grassy Mou**	**81.77**	**330**	*e*P		**P**		**02 59 55.3**	**+1.3**
BGU	comp=Z,11nm,1.4s			*e*pP		**PcP**		**03 00 01.5**	**+1.7**
SPUT	**South Promonto**	**81.83**	**330**	*e*P		**P**		**02 59 55.5**	**+1.0**
MLAC	comp=Z,9.7nm,1.0s **Mammoth, Mammo**	**81.85**	**324**	P		**P**		**02 59 56.1**	**+1.4**
BW06	baz=141,SNR=5.3 **Boulder Array**	**81.88**	**333**	P		**P**		**02 59 54.7**	**0.0**
PD31	baz=148 **Pinedale Array**	**81.88**	**333**	*e*P		**P**		**02 59 55.1**	**+0.4**
PDAR	**Pinedale Array**	**81.88**	**333**	P		**P**		**02 59 54.6**	**-0.1**
PDAR	comp=Z,1.0nm,0.7s,baz=131,slow=5.7,SNR=9.7			LR		LR		03 34 00.2	
	comp=Z,124nm,18.3s,baz=144,slow=34								
OMMB	**Old Mammoth Mi**	**81.92**	**324**	*e*P		**P**		**02 59 56.7**	**+1.5**
MDPB	comp=Z,8.8nm,0.9s **Devils Postpil**	**81.97**	**324**	*e*P		**P**		**02 59 56.9**	**+1.5**
NV01	comp=Z,5.0nm,0.9s **Mina Array Sit**	**82.21**	**325**	*e*P		**P**		**02 59 57.4**	**+0.9**
NVAR	**Mina Array Bea**	**82.21**	**325**	P		**P**		**02 59 58.0**	**+1.5**
CASY	comp=Z,6.9nm,0.8s,baz=157,slow=6.1,SNR=44 **Casy**	**82.33**	**181**	*e*P		**P**		**02 59 57.9**	**+1.3**
HVU	comp=Z,19nm,1.0s **Hansel Valley**	**82.36**	**330**	*e*P		**P**		**02 59 57.9**	**+0.7**
HVU	comp=Z,7.4nm,0.9s **Hansel Valley**	**82.36**	**330**	*e*P		**P**		**02 59 57.9**	**+0.7**
HVU	comp=Z,7.0nm,0.9s			pmax		pmax			
RYN	**Ryan**	**82.47**	**325**	*e*P		**P**		**02 59 59.4**	**+1.6**
KVN	comp=Z,7.8nm,1.0s **Kaiserville**	**82.59**	**325**	*e*P		**P**		**02 59 59.7**	**+1.2**
KVN	comp=Z,7.7nm,0.9s **Kaiserville**	**82.59**	**325**	*e*P		**P**		**02 59 59.7**	**+1.2**
KVN	comp=Z,8.0nm,0.9s			pmax		pmax			
ELK	**Elko**	**82.59**	**328**	LR		LR		03 33 15.3	
ELK	comp=Z,152nm,18.7s,baz=150,slow=33 **Elko**	**82.59**	**328**	*e*P		**P**		**02 59 59.6**	**+1.1**
ELK	comp=Z,7.2nm,0.9s **Elko**	**82.59**	**328**	*e*P		**P**		**02 59 59.6**	**+1.1**
ELK	comp=Z,7.0nm,0.9s			pmax		pmax			
WAKR	**Walker**	**82.83**	**324**	*e*P		**P**		**03 00 01.8**	**+2.1**
REDW	comp=Z,9.7nm,1.1s **Red Top Meadow**	**82.89**	**332**	*e*P		**P**		**03 00 00.7**	**+0.7**
LBTB	comp=Z,8.7nm,1.3s **Lobatse**	**82.94**	**115**	*e*P		**P**		**03 00 01.0**	**+0.3**
CMB	comp=Z,26nm,0.8s **Columbia Colle**	**82.95**	**323**	*e*P		**P**		**03 00 01.0**	**+0.8**
CMB	comp=Z,3.0nm,0.9s **Columbia Colle**	**82.95**	**323**	*e*P		**P**		**03 00 01.0**	**+0.8**
CMB	comp=Z,3.0nm,0.9s			pmax		pmax			
LOHW	**Long Hollow**	**83.00**	**333**	*e*P		**P**		**03 00 01.2**	**+0.7**
TPAW	comp=Z,2.9nm,0.9s **Teton Pass**	**83.03**	**332**	*e*P		**P**		**03 00 01.6**	**+0.8**
MDND	comp=Z,4.1nm,0.9s **Maddock**	**83.07**	**341**	*e*P		**P**		**03 00 01.9**	**+1.4**
MDND	comp=Z,81nm,1.4s **Maddock**	**83.07**	**341**	P		**P**		**03 00 00.8**	**+0.2**
TOA0	baz=156 **Torodi Ar. Sit**	**83.08**	**70**	*e*P		**P**		**03 00 01.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**83.08**	**70**	P		**P**		**02 59 59.8**	**-1.5**
TORD	comp=Z,21nm,0.9s,baz=281,slow=3.8,SNR=73			LR		LR		03 33 41.4	
	comp=Z,299nm,21.5s,baz=285,slow=33								
TOA1	**Torodi Ar. Sit**	**83.09**	**70**	*e*P		**P**		**02 59 59.8**	**-1.5**
YERR	**Yerington**	**83.10**	**325**	*e*P		**P**		**03 00 03.0**	**+1.8**
PNTR	comp=Z,12nm,1.0s **Pine Nut**	**83.36**	**324**	*e*P		**P**		**03 00 04.4**	**+1.9**
IMW	comp=Z,16nm,0.9s **Indian Meadow**	**83.37**	**333**	*e*P		**P**		**03 00 03.4**	**+0.8**
FLWY	comp=Z,4.3nm,0.9s **Flagg Ranch**	**83.43**	**333**	*e*P		**P**		**03 00 03.9**	**+1.2**
VCNR	comp=Z,4.7nm,0.8s **Virginia City**	**83.54**	**324**	*e*P		**P**		**03 00 05.2**	**+1.7**
PAHR	comp=Z,6.0nm,1.0s **Pah Rah Range**	**83.73**	**325**	*e*P		**P**		**03 00 06.0**	**+1.8**
RLMT	comp=Z,10nm,0.9s **Red Lodge**	**83.77**	**334**	*e*P		**P**		**03 00 05.3**	**+0.8**
RLMT	comp=Z,4.9nm,0.8s **Red Lodge**	**83.77**	**334**	P		**P**		**03 00 04.7**	**+0.3**
AFDM	baz=148,SNR=5.6 **Forest Hills D**	**83.94**	**323**	*e*P		**P**		**03 00 06.4**	**+1.2**
YMR	comp=Z,7.7nm,1.0s **Madison River**	**84.03**	**333**	*e*P		**P**		**03 00 07.3**	**+1.5**
LAO	comp=Z,13nm,1.1s **LASA Array**	**84.05**	**337**	P		**P**		**03 00 05.3**	**-0.4**
BEKR	baz=151 **Beckworth**	**84.33**	**324**	*e*P		**P**		**03 00 08.8**	**+1.4**
ULM	comp=Z,6.6nm,1.0s **Lac du Bonnet**	**84.37**	**345**	P		**P**		**03 00 06.5**	**-0.6**
ULM	comp=Z,7.5nm,0.9s,baz=158,slow=3.3,SNR=15 **Lac du Bonnet**	**84.37**	**345**	*e*P		**P**		**03 00 06.7**	**-0.4**
ULM	comp=Z,15nm,1.0s			*e*pP		**pP**		**03 00 16.7**	**-0.1**
ULM	**Lac du Bonnet**	**84.37**	**345**	*e*P		**P**		**03 00 06.7**	**-0.4**
ULM				*e**PP		**pP**		**03 00 16.7**	**-0.1**
ULM	comp=Z,15nm,1.0s			pmax		pmax			
HLID	**Hailey**	**84.51**	**330**	*e*P		**P**		**03 00 09.6**	**+1.4**
HLID	comp=Z,6.9nm,1.0s **Hailey**	**84.51**	**330**	P		**P**		**03 00 09.1**	**+0.9**
ORV	baz=144,SNR=13 **Oroville**	**84.67**	**324**	*e*P		**P**		**03 00 10.4**	**+1.5**
ORV	comp=Z,12nm,1.1s **Oroville**	**84.67**	**324**	*e*P		**P**		**03 00 10.4**	**+1.5**
ORV	comp=Z,12nm,1.1s			pmax		pmax			
MCMT	**McKenzie Canyo**	**84.91**	**332**	*e*P		**P**		**03 00 11.7**	**+1.4**
DGMT	**Dagmar**	**84.96**	**339**	*e*P		**P**		**03 00 11.3**	**+1.1**
DGMT	comp=Z,29nm,0.9s **Dagmar**	**84.96**	**339**	P		**P**		**03 00 10.6**	**+0.4**
MFID	baz=152 **Camas Ranch**	**85.00**	**329**	*e*P		**P**		**03 00 11.6**	**+1.0**
DLMT	comp=Z,12nm,1.4s **Dillon**	**85.25**	**332**	*e*P		**P**		**03 00 12.9**	**+1.1**
O03E	comp=Z,10nm,1.2s **Paynes Creek**	**85.38**	**324**	P		**P**		**03 00 12.1**	**-0.4**
WVOR	baz=139 **Wild Horse Val**	**85.49**	**327**	*e*P		**P**		**03 00 14.8**	**+1.7**
	comp=Z,6.9nm,1.1s								
WVOR	**Wild Horse Val**	**85.49**	**327**	*e*P		**P**		**03 00 14.8**	**+1.7**
WVOR	comp=Z,7.0nm,1.1s			pmax		pmax			
O02D	**Mt. Diablo Mer**	**85.79**	**323**	P		**P**		**03 00 14.6**	**0.0**
MOD	baz=138 **Modoc Plateau**	**85.86**	**326**	*e*P		**P**		**03 00 16.1**	**+1.1**
J08A	comp=Z,8.7nm,1.0s **Circle Bar Ran**	**86.13**	**328**	*e*P		**P**		**03 00 17.6**	**+1.3**
SCHQ	comp=Z,20nm,0.9s **Schefferville**	**86.27**	**3**	P		**P**		**03 00 16.4**	**-0.1**
SCHQ	comp=Z,12nm,1.0s,baz=179,slow=4.2,SNR=4.7 **Schefferville**	**86.27**	**3**	*e*P		**P**		**03 00 16.7**	**+0.2**
N02D	comp=Z,21nm,1.1s **Trinity Center**	**86.34**	**324**	P		**P**		**03 00 17.1**	**-0.1**
EGMT	baz=138 **Eagleton**	**86.41**	**335**	*e*P		**P**		**03 00 17.7**	**+0.3**
EGMT	comp=Z,8.0nm,1.1s **Eagleton**	**86.41**	**335**	P		**P**		**03 00 17.2**	**-0.2**
M04C	baz=148 **Macdoel**	**86.52**	**325**	P		**P**		**03 00 18.4**	**+0.2**
M02C	baz=139 **Callahan**	**86.72**	**324**	P		**P**		**03 00 19.5**	**+0.3**
BMO	baz=138 **Blue Mountains**	**86.79**	**329**	*e*P		**P**		**03 00 20.1**	**+0.7**
YBH	comp=Z,4.3nm,1.0s **Yreka Blue Hor**	**86.91**	**324**	*e*P		**P**		**03 00 19.8**	**-0.2**
YBH	comp=Z,4.1nm,0.9s **Yreka Blue Hor**	**86.91**	**324**	*e*P		**P**		**03 00 19.8**	**-0.2**
YBH	comp=Z,4.0nm,0.9s			pmax		pmax			
MSO	**Missoula**	**86.98**	**332**	P		**P**		**03 00 20.5**	**+0.2**
L04D	baz=145 **Klamath Falls**	**87.07**	**325**	P		**P**		**03 00 21.0**	**+0.1**
I07A	baz=139 **Izee**	**87.17**	**328**	*e*P		**P**		**03 00 22.7**	**+1.4**
J05D	comp=Z,9.6nm,1.0s **Fort Rock, OR**	**87.36**	**326**	P		**P**		**03 00 23.1**	**+0.8**
PINE	baz=139 **Pine Mountain**	**87.61**	**327**	*e*P		**P**		**03 00 25.3**	**+1.7**
L02E	comp=Z,13nm,0.9s **Cave Junction**	**87.67**	**324**	P		**P**		**03 00 24.2**	**+0.6**
K02D	baz=138 **Willamette Mer**	**88.10**	**324**	P		**P**		**03 00 26.4**	**+0.7**
I05D	baz=138 **Terrebonne, OR**	**88.21**	**327**	P		**P**		**03 00 26.9**	**+0.7**
I04A	baz=139 **Tendick Farm,**	**88.31**	**326**	P		**P**		**03 00 27.9**	**+1.2**
HAWA	baz=139 **Hanford**	**88.97**	**329**	*e*P		**P**		**03 00 30.9**	**+1.2**
D08A	comp=Z,8.8nm,1.0s **Wollman Farm,**	**89.22**	**330**	*e*P		**P**		**03 00 31.5**	**+0.7**
I02D	comp=Z,5.3nm,0.9s **Swisshome**	**89.23**	**325**	P		**P**		**03 00 32.5**	**+1.6**
NEW	baz=138 **Newport**	**89.42**	**332**	*e*P		**P**		**03 00 31.6**	**-0.2**
NEW	comp=Z,2.5nm,0.8s **Newport**	**89.42**	**332**	*e*P		**P**		**03 00 31.6**	**-0.2**
NEW	comp=Z,3.0nm,0.8s			pmax		pmax			
NEW	**Newport**	**89.42**	**332**	P		**P**		**03 00 31.3**	**-0.4**
C09A	baz=142 **Chrisman Ranch**	**89.53**	**331**	*e*P		**P**		**03 00 33.1**	**+0.8**
FFC	comp=Z,9.1nm,0.8s **Flin Flon**	**89.95**	**343**	*e*P		**P**		**03 00 34.1**	**+0.1**
LSZ	comp=Z,6.5nm,1.1s **Lusaka**	**90.18**	**108**	*e*P		**P**		**03 00 33.9**	**-2.4**
LSZ	comp=Z,17nm,0.9s			*e*pP		**sP**		**03 00 49.0**	**-0.7**
LSZ	**Lusaka**	**90.18**	**108**	*e*P		**P**		**03 00 33.9**	**-2.4**
LSZ				*e**PP		**sP**		**03 00 49.0**	**-0.7**
LSZ	comp=Z,17nm,0.9s			pmax		pmax			
LON	**Longmire**	**90.25**	**328**	*e*P		**P**		**03 00 36.0**	**+0.4**
LON	comp=Z,3.6nm,0.9s **Longmire**	**90.25**	**328**	*e*P		**P**		**03 00 36.1**	**+0.4**
LON	comp=Z,4.0nm,0.9s			pmax		pmax			
TAM	**Tamanrasset**	**91.50**	**64**	*e*P		**P**		**03 00 42.9**	**+0.7**
TAM	comp=Z,5.0nm,1.1s			*e*pP		**pP**		**03 00 52.8**	**+0.8**
TAM	**Tamanrasset**	**91.50**	**64**	*e*P		**P**		**03 00 42.9**	**+0.7**
TAM				*e**PP		**pP**		**03 00 52.8**	**+0.8**
TAM	comp=Z,5.0nm,1.1s			pmax		pmax			
FCC	**Fort Churchill**	**92.05**	**348**	*e*P		**P**		**03 00 44.2**	**+0.7**
FCC	comp=Z,6.6nm,1.0s **Fort Churchill**	**92.05**	**348**	*e*P		**P**		**03 00 44.3**	**+0.7**
FCC	comp=Z,7.0nm,1.0s			pmax		pmax			
ESDC	**Sonseca Array**	**94.72**	**46**	LR		LR		03 42 40.8	
YKA	comp=Z,153nm,19.4s,baz=270,slow=35 **Yellowknife Ar**	**100.00**	**341**	P		**Pdif**		**03 01 19.1**	**-0.5**
YKA	comp=Z,0.7nm,0.7s,baz=141,slow=4.3,SNR=15			PKKPbc		**PKKPbc**		**03 17 36.6**	**-4.0**
YKB5	comp=Z,0.2nm,0.4s,baz=319,slow=3.5,SNR=5.6 **Yellowknife Ar**	**100.00**	**341**	*e*Pdif		**Pdif**		**03 01 19.1**	**-0.5**
YKB5				*e*PKKPbc		**PKKPbc**		**03 17 36.6**	**-4.0**
DZM	**Mont Dzumac**	**102.89**	**234**	*e*LR		LR		03 35 18.3	
KHC	comp=Z,314nm,24.8s **Kasperske Hory**	**110.32**	**44**	*e*PDIF		**Pdif**		**03 02 00.0**	**-6.0**
KHC	**Kasperske Hory**	**110.32**	**44**	*i* P		**Pdif**		**03 02 00.0**	**-6.0**
AS01	**Alice Springs**	**119.77**	**207**	*e*PKPdf		**PKPdf**		**03 06 24.9**	**-1.1**
ASAR	**Alice Springs**	**119.78**	**207**	PKP		**PKPdf**		**03 06 24.9**	**-1.1**
ASAR	comp=Z,2.5nm,0.8s,baz=141,slow=2.1,SNR=20			pPKP		**pPKPdf**		**03 06 34.9**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=132,slow=1.9,SNR=4.9			PKKPbc		**PKKPbc**		**03 16 34.9**	**-0.5**
ASAR	comp=Z,0.6nm,0.7s,baz=342,slow=4.4,SNR=5.5								
AS31	**Alice Springs**	**119.78**	**207**	*e*PKPdf		**PKPdf**		**03 06 24.9**	**-1.1**
AS31				*ep*PKPdf		**pPKPdf**		**03 06 34.9**	**-1.2**
AS31				*e*PKKPbc		**PKKPbc**		**03 16 34.9**	**-0.5**
AK11	**Malin Array Si**	**120.32**	**46**	*e*PKPdf		**PKPdf**		**03 06 25.4**	**-0.5**
KIEV	**Kiev**	**120.34**	**46**	⇑*i*PKIKP		**PKPdf**		**03 06 25.6**	**-0.4**
AKASG	**Malin Array Be**	**120.36**	**46**	PKP		**PKPdf**		**03 06 24.9**	**-1.1**
AKASG	comp=Z,2.6nm,0.8s,baz=269,slow=2.6,SNR=12			pPKP		**pPKPdf**		**03 06 35.5**	**-0.5**
	comp=Z,2.8nm,0.

KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,122nm,23.0s
KBZ Khabaz 128.06 57 PKP **PKiKP 03 06 42.2 +0.6**
comp=Z,3.2nm,0.9s,baz=64,slow=3.3,SNR=5.3
VRH Novokhopyorsk 128.23 47 *e*PKiKP **PKPdf 03 06 40.3 -0.8**
VRH pmax pmax
comp=Z,9.0nm,1.2s
PRGR Permogore 130.22 34 *e*PKiKP **PKPdf 03 06 45.0 +0.5**
PRGR pmax pmax
comp=Z,22nm,1.1s
BILL Bilibino 130.91 335 *i*PKiKP **PKPdf 03 06 45.8 +0.1**
BILL *e* 03 06 56.5
BILL *e* 03 09 14.9
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL MLR MLR
comp=Z,98nm,16.0s
ARU Arti 137.75 39 *e*PKPdf **PKPdf 03 06 59.9 +1.1**
ARU Arti 137.75 39 *i* PKiKP **PKPdf 03 06 59.3 +0.5**
SEY Seymchan 138.20 332 *i*PKiKP **PKiKP 03 07 00.9 -0.6**
TIXI Tiksi 138.49 350 *e*PKiKP **PKPdf 03 06 59.8 0.0**
GEYT Alibeck 138.66 67 PKP **PKPdf 03 07 01.5 +0.3**
comp=Z,3.0nm,0.9s,baz=115,slow=2.4,SNR=4.3
PEA1 Petropavlovsk- 138.78 316 *e*PKPdf **PKPdf 03 07 00.9 0.0**
PETK Petropavlovsk- 138.78 316 PKP **PKPdf 03 07 00.9 0.0**
comp=Z,6.7nm,1.1s,baz=199,slow=7.7,SNR=3.5
MDSI Maura Dua 143.80 173 PKP PKPbc 03 07 08.7 0.0
LUWI Luwuk 144.70 205 PKP **PKiKP 03 07 16.0 -0.4**
BRVK Borovoye 145.25 41 *e*PKPbc **PKPdf 03 07 12.7 +0.3**
BRVK Borovoye 145.25 41 *c i*PKiKP **PKPdf 03 07 12.7 +0.3**
YAK Yakutsk 146.67 342 *e*PKP2 **PKPbc 03 07 15.6 -0.6**
YAK pmax pmax
comp=Z,75nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=E,11nm,1.0s
PDSI Padang 146.71 165 PKP **PKPbc 03 07 17.8 0.0**
KBL Kabul 147.06 74 *e*PKPdf **PKPbc 03 07 18.1 -0.4**
KBL Kabul 147.06 74 *e*PKP2 **PKPbc 03 07 18.1 -0.4**
GSI Gunungsitoli 148.09 159 *e*PKPbc **PKPbc 03 07 22.6 +1.0**
GSI Gunungsitoli 148.09 159 PKP **PKiKP 03 07 23.8 +0.4**
MNSI Mandailing Nat 148.16 163 PKP **PKPbc 03 07 21.8 0.0**
NKL Nikolayevsk 148.36 322 *e*PKiKP **PKPbc 03 07 20.0 -1.1**
STKI Sintang 148.41 186 PKP **PKiKP 03 07 23.9 -0.2**
HYB Hyderabad 149.49 111 *i* PKP **PKPbc 03 07 25.0 -0.1**
HYB *e* 03 07 35.5
TPTI 149.81 157 PKP **PKPbc 03 07 25.3 -0.7**
TPTI PKP **PKiKP 03 07 25.7 -1.2**
NIL Nilore 150.44 77 *e*PKPbc **PKPbc 03 07 27.1 +0.2**
SBUM Sibu 150.69 188 *e*PKPbc **PKiKP 03 07 28.7 0.0**
NVS Novosibirsk 150.78 30 *i*PKiKP **PKiKP 03 07 28.0 +0.4**
NVS *e* 03 07 38.2
NVS pmax pmax
comp=N,7.0nm,1.1s
NVS pmax pmax
comp=Z,64nm,1.1s
NVS pmax pmax
comp=E,12nm,1.3s
KURK Kurchatov 150.92 41 *e*PKPbc **PKPbc 03 07 27.8 +0.3**
KURK Kurchatov 150.92 41 *i*PKiKP **PKPbc 03 07 27.5 0.0**
KURK pmax pmax
comp=Z,27nm,1.0s
AAK Ala-Archa 151.04 58 *e*PKPdf **PKPdf 03 07 23.6 +1.1**
FRU Bishkek 151.09 58 *e*PKiKP **PKPbc 03 07 27.0 -1.2**
FRU pmax pmax
comp=Z,60nm,1.6s
IPM Ipoh 152.06 164 *e*PKPbc **PKPbc 03 07 30.5 -0.8**
ZAA1 Zalesovo Array 152.07 30 *e*PKPdf **PKPdf 03 07 23.4 0.0**
ZAA1 *e*PKPbc **PKiKP 03 07 30.3 0.0**
ZAA1 *e*PKPab **pPKPbc 03 07 40.6 +0.6**
ZAA0 Zalesovo Array 152.07 30 *e*PKPdf **PKPdf 03 07 24.2 +0.8**
ZALV Zalesovo Beam 152.07 30 PKP **PKPdf 03 07 23.4 0.0**
comp=Z,1.8nm,0.7s,baz=306,slow=3.5,SNR=10.0
ZALV PKPbc **PKiKP 03 07 30.3 0.0**
comp=Z,42nm,0.7s,baz=298,slow=3.2,SNR=93
ZALV PKPab **pPKPbc 03 07 40.6 +0.6**
comp=Z,62nm,0.8s,baz=302,slow=3.0,SNR=21
ZALV Zalesovo Beam 152.07 30 *e*PKPdf **PKPdf 03 07 23.0 -0.4**
ZALV PKPbc **PKiKP 03 07 30.3 0.0**
ZALV PKPab **pPKPbc 03 07 40.6 +0.6**
ZALV Zalesovo Beam 152.07 30 *e*PKiKP **PKPdf 03 07 23.0 -0.4**
ZALV 03 07 30.3
NRN Naryn 152.37 60 *e*PKPdf **PKPdf 03 07 25.4 +0.7**
NRN *e*PKPbc **PKiKP 03 07 32.0 +0.2**
NRN Naryn 152.37 60 *e*PKiKP **PKPdf 03 07 25.4 +0.7**
NRN *e* 03 07 32.0
KSH Kashi 152.62 64 PKPbc **PKiKP 03 07 32.4 +0.3**
KSH pPKP sPKPdf 03 07 37.8 -0.5
KSH PKS **PKSdf 03 10 56.9 -2.5**
KSH PP **PP 03 11 16.8 +1.0**
KSH SKS **SKSdf 03 14 20.8 -9.2**
KULM Kulim 152.75 163 *e*PKPbc **PKPbc 03 07 32.6 -0.2**
BOD Bodaibo 153.59 353 *e*PKiKP **PKPbc 03 07 32.2 -1.0**
BOD pmax pmax
comp=Z,20nm,1.0s
TARG Taragay, Kyrgy 153.63 59 *e*PKPbc **PKiKP 03 07 35.2 +0.7**
ZEA Zeya 154.13 334 *e*PKiKP **PKPdf 03 07 25.2 -1.2**
MAKZ Makanchi 154.74 46 *e*PKPdf **PKPdf 03 07 28.0 +0.5**
MAJO Matsushiro 154.90 289 *e*P **PKPbc 03 07 32.7 -4.1**
MK31 Makanchi Array 154.94 46 *e*PKPdf **PKPdf 03 07 27.7 -0.1**
MK31 Makanchi Array 154.94 46 *e*PKiKP **PKPdf 03 07 27.7 -0.1**
MK32 Makanchi Array 154.94 46 *e*PKPdf **PKPdf 03 07 27.7 -0.1**
MK32 *e*PKPbc **PKiKP 03 07 36.9 +0.4**
MK32 *e*PKPab **pPKPab 03 07 53.0 +1.0**
MK32 *ep*PKPab **pPKPab 03 08 02.6 +0.7**
MKAR Makanchi Array 154.94 46 PKP **PKPdf 03 07 27.7 -0.1**
comp=Z,1.0nm,0.8s,baz=325,slow=1.5,SNR=9.2
MKAR PKPbc **PKiKP 03 07 36.9 +0.4**
comp=Z,4.1nm,0.8s,baz=318,slow=1.6,SNR=20
MKAR pPKPbc **pPKPbc 03 07 47.4 +0.8**
comp=Z,4.9nm,0.8s,baz=336,slow=2.7,SNR=12
MKAR PKPab **PKPab 03 07 53.0 +1.0**
comp=Z,6.4nm,0.8s,baz=292,slow=3.8,SNR=13
MKAR pPKPab **pPKPab 03 08 02.6 +0.7**
comp=Z,8.4nm,0.7s,baz=297,slow=4.0,SNR=9.7
MK01 Makanchi Array 154.95 46 *e*PKPdf **PKPdf 03 07 27.3 -0.5**
WMQ Urumqi 159.71 48 *e*PKP **PKPdf 03 07 34.6 +0.6**
WMQ LR LR
comp=Z,290nm,20.9s
WMQ LR LR
comp=Z,230nm,21.5s
WMQ LR LR
comp=Z,290nm,20.7s
KSRS Korea Array 162.93 295 PKP **PKPdf 03 07 37.5 +0.1**
comp=Z,1.5nm,0.8s,baz=38,slow=1.4,SNR=5.8
KS01 Wonju Array Si 162.94 295 *e*PKPdf **PKPdf 03 07 36.8 -0.6**
KS15 Wonju Array Si 162.96 295 *e*PKPdf **PKPdf 03 07 37.5 0.0**
KSAR Wonju Array Be 162.96 295 PKP **PKPdf 03 07 37.5 0.0**
KSAR Wonju Array Be 162.96 295 PKiKP **PKPdf 03 07 37.5 0.0**
SONA1 Songino Array 163.79 5 *e*PKPdf **PKPdf 03 07 39.9 +1.7**
SONA1 *e*PKPab **PKPab 03 08 30.8 +0.3**
SONA0 Songino Array 163.81 5 *e*PKPdf **PKPdf 03 07 38.4 +0.2**
SONA0 *e*PKPab **PKPab 03 08 30.4 -0.1**
SONM Songino Array 163.81 5 PKP **PKPdf 03 07 38.4 +0.2**
comp=Z,1.3nm,1.1s,baz=306,slow=1.1,SNR=5.1
SONM PKPab **PKPab 03 08 30.4 -0.1**
comp=Z,3.2nm,1.0s,baz=336,slow=2.9,SNR=10
ULN Ulaanbaatar 163.81 3 *e*PKPab **PKPab 03 08 31.7 +1.2**
CM01 Chiang Mai Arr 164.28 145 *e*PKPdf **PKPdf 03 07 39.3 +0.1**
CM01 *e*PKPab **PKPab 03 08 32.7 -0.5**
CM31 Chiang Mai Arr 164.30 145 *e*PKPdf **PKPdf 03 07 39.4 +0.1**
CM31 *e*PKPab **PKPab 03 08 33.0 -0.3**
CM31 *ep*PKPab **pPKPab 03 08 42.9 -0.3**
CMAR Chiang Mai Arr 164.30 145 PKP **PKPdf 03 07 39.4 +0.1**
comp=Z,0.9nm,0.4s,baz=244,slow=1.6,SNR=8.3
CMAR PKPab **PKPab 03 08 33.0 -0.3**
comp=Z,3.4nm,0.8s,baz=227,slow=5.2,SNR=9.9
CMAR pPKPab **pPKPab 03 08 42.9 -0.3**
comp=Z,2.0nm,0.3s,baz=193,slow=5.7,SNR=3.7
GTA Gaotai 169.61 40 PKP **PKPdf 03 07 43.1 +0.3**
GTA pPKP pPKPdf 03 07 52.9 +0.1
GTA sPKP 03 07 57.9
GTA PKPab **PKPab 03 08 56.9 +0.4**
HHC Hu-ho-hao-te 170.51 345 *e*PKP **PKPdf 03 07 41.6 -1.7**
NJ2 Nanjing 171.09 275 *e*PKP **PKPdf 03 07 44.6 +0.9**
KMI Kunming 171.78 141 PKP **PKPdf 03 07 44.6 +0.1**
LZH Lanzhou 174.21 40 *e*PKP **PKPdf 03 07 47.5 +2.4**
LZH pPKP sPKPdf 03 07 57.6 -1.0
LZH sPKP 03 08 01.0
LZH PKPab **PKPab 03 09 20.6 +3.6**
LZH LR LR
comp=Z,140nm,18.0s
LZH LR LR
comp=Z,160nm,18.3s
LZH LR LR
comp=Z,200nm,20.2s
GYA Guiyang 174.57 163 *e*PKP **PKPdf 03 07 45.4 -0.1**
GYA PKPab **PKPab 03 09 20.0 +1.4**
GYA PKS **PKSdf 03 11 16.8 -1.1**
GYA PP **PP 03 13 15.3 +5.4**
GYA AMB AMB
comp=Z,120nm,8.3s
CD2 Chengdu 175.96 100 PKP **PKPdf 03 07 45.0 -0.6**

*UCR **23** 03:21:53.0±1.3,9.°93N×85.°66W,h18km±4km,MD4.0, ML4.4,mb4.6(NEIC)*
*ISCJB **23** 03:21:57.0±0.3, 10.°22N±0.°03×85.°34W±0.°03,h67km±1km, mb4.5/171,Error ellipse: s-maj=5.6km s-min=3.6km az=41.7*
*NEIC **23** 03:21:57.7±0.7, 10.°18N×85.°37W,h55km±6km,mb4.6/160, MW4.7(UCR),Error ellipse: s-maj=8.1km s-min=5.3km az=214.0*
NEIC Felt at Abangares, Bagaces, Cabo Velas, Cuajiniquil, Grecia, La Tigra, Nicoya, Nosara, Paquera, Punta Pelada, Puntarenas, Samara, San Jose, San Ramon, Sardinal, Tamarindo, Tilaran, Veintisiete de Abril and Zarcero.
*IDC **23** 03:21:57.3±0.8, 10.°56N×85.°11W,h43km±9km,mb4.1/21, mb1 4.3/23,mb1mx4.1/46,mbtmp4.3/23,ML3.9/2,MS3.7/8, Ms1 3.7/8,ms1mx3.4/28,Error ellipse: s-maj=23.5km s-min=11.2km az=50.0*
ISC 23 03:21:56.1±0.8, 10.°13N±0.°05×85.°53W±0.°05, h43km±6km, n594,σ1§46/626,mb4.5/171,MS4.0/8,1C-10D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
PLVR	**Palo Verde**	**0.28**	**40**	*e*P	**Pn**	**03 22 02.8**	**-1.8**
PLVR				*e*S	**Sn**	**03 22 10.6**	**+0.1**
JTS	**JuntasAbangare**	**0.59**	**75**	P	**Pn**	**03 22 07.2**	**-1.0**
	baz=304,slow=11						
JTS				S	**Sn**	**03 22 18.2**	**+1.4**
	2μm,0.3s,baz=288,slow=20,SNR=38						
JTS	**JuntasAbangare**	**0.59**	**75**	*e*Pn	**Pn**	**03 22 07.2**	**-1.0**
JTS				*e*Sn	**Sn**	**03 22 18.8**	**+2.0**
JTS	**JuntasAbangare**	**0.59**	**75**	*e*P	**Pn**	**03 22 06.7**	**-1.5**
JTS				*e*S	**Sn**	**03 22 17.8**	**+1.0**
COLC	**Colonia**	**0.62**	**32**	*i*P	**Pn**	**03 22 08.7**	**+0.1**
LIM1	**Limonal**	**0.63**	**26**	*i* P	**Pn**	**03 22 08.6**	**-0.1**
LIM1				*i* S	**Sn**	**03 22 20.7**	**+3.0**
CUI	**Cuipilapa**	**0.64**	**35**	*e*P	**Pn**	**03 22 08.9**	**+0.1**
CUI				*i* S	**Sn**	**03 22 21.1**	**+3.3**
LAPC	**Finca la Perla**	**0.64**	**9**	*i* P	**Pn**	**03 22 08.5**	**-0.3**
LAPC				*i* S	**Sn**	**03 22 20.2**	**+2.3**
GPS3	**Bodega del ICE**	**0.64**	**15**	*i* S	**Sn**	**03 22 20.8**	**+2.8**
GPS2	**Hotel Rincn d**	**0.64**	**16**	*i* P	**Pn**	**03 22 09.0**	**+0.1**
GUAB	**Guayabo de Bag**	**0.65**	**28**	*i*P	**Pn**	**03 22 09.1**	**+0.1**
GUAB				*i* S	**Sn**	**03 22 21.2**	**+3.1**
GBS3	**Finca Las Img**	**0.65**	**7**	*i*P	**Pn**	**03 22 08.8**	**-0.2**
MICM	**Guayabo**	**0.65**	**30**	*i* P	**Pn**	**03 22 09.3**	**+0.3**
MICM				*i* S	**Sn**	**03 22 21.5**	**+3.2**
GPS1	**Guardaparques**	**0.66**	**16**	*i* P	**Pn**	**03 22 09.2**	**0.0**
BUEV	**Buena Vista**	**0.67**	**11**	*i*P	**Pn**	**03 22 09.3**	**0.0**
HORNC	**Hornillas**	**0.67**	**31**	*i* P	**Pn**	**03 22 09.4**	**+0.1**
MESS	**Mesas**	**0.69**	**29**	*i*P	**Pn**	**03 22 09.8**	**+0.3**
MESS				*e*P	**Pn**	**03 22 09.8**	**+0.3**
MESS				*i* S	**Sn**	**03 22 23.0**	**+3.8**
MESS				*e*S		03 22 23.2	
GB1A	**Borinquen Arri**	**0.69**	**11**	*i*P	**Pn**	**03 22 09.8**	**+0.1**
ACAL	**Aguas Claras**	**0.70**	**45**	*i*P	**Pn**	**03 22 09.9**	**+0.3**
ACAL				*i* S	**Sn**	**03 22 23.1**	**+3.7**
AMAS	**Alto Masis**	**0.71**	**48**	*i*P	**Pn**	**03 22 10.0**	**+0.1**
AMAS				*i* S	**Sn**	**03 22 22.9**	**+3.1**
BUAI	**Buenos Aires**	**0.77**	**15**	*i* P	**Pn**	**03 22 10.9**	**+0.3**
PTEN	**Parque Tenorio**	**0.79**	**43**	*i*P	**Pn**	**03 22 11.5**	**+0.6**
CASO	**Castillo**	**0.84**	**69**	*i* P	**Pn**	**03 22 11.8**	**+0.2**
ARE1	**Arenal 1**	**0.87**	**68**	*e*P	**Pn**	**03 22 12.5**	**+0.6**
CEDE	**Laguna Cedeo**	**0.89**	**67**	*e*P	**Pn**	**03 22 12.9**	**+0.6**
CEDE				*e*S	**Sn**	**03 22 28.3**	**+4.2**
FORC	**Fortuna**	**0.91**	**69**	*i*P	**Pn**	**03 22 12.9**	**+0.4**
SRA1	**San Ramn**	**1.04**	**93**	*e*P	**Pn**	**03 22 13.5**	**-0.8**
HDC	**Heredia**	**1.40**	**95**	*e*Pn	**Pn**	**03 22 19.1**	**-0.2**
HDC				*e*Sn	**Sn**	**03 22 38.6**	**+1.8**
HDC	**Heredia**	**1.40**	**95**	*e*P	**Pn**	**03 22 19.1**	**-0.2**
HDC				*e*S	**Sn**	**03 22 40.6**	**+3.8**
CONN	**Concepcion**	**1.43**	**356**	*e*P	**Pn**	**03 22 20.3**	**+0.8**
SJS	**Escuela Geolog**	**1.47**	**97**	*e*P	**Pn**	**03 22 20.5**	**+0.2**
LCR2	**La Lucha 2**	**1.56**	**104**	*e*P	**Pn**	**03 22 20.3**	**-1.2**
CVTR	**Volcan Turrial**	**1.75**	**94**	*e*P	**Pn**	**03 22 24.8**	**+0.4**
ACON	**Acoyapa**	**1.86**	**11**	*e*P	**Pn**	**03 22 26.5**	**+1.0**
ACON				IAML		03 22 57.0	
	comp=E,2μm,0.5s						
EDDO	**Dominical**	**1.86**	**118**	*e*P	**Pn**	**03 22 26.2**	**+0.7**
MASN	**Masaya**	**1.94**	**342**	*e*P	**Pn**	**03 22 26.3**	**-0.3**
MASN				*e*P		03 22 26.9	
EDLM	**Las Mercedes**	**2.10**	**114**	*e*P	**Pn**	**03 22 30.9**	**+2.1**
MGAN	**Managua**	**2.12**	**341**	*e*P	**Pn**	**03 22 29.8**	**+0.7**
BOAB	**BOACO BROADBAN**	**2.31**	**357**	*e*Pn	**Pn**	**03 22 32.5**	**+0.8**
BOAB				*e*Sn	**Sn**	**03 23 03.8**	**+5.0**
BOAB	**BOACO BROADBAN**	**2.31**	**357**	*e*P	**Pn**	**03 22 32.4**	**+0.8**
ESPN	**Las Esperanzas**	**2.38**	**30**	*e*Pn	**Pn**	**03 22 33.9**	**+1.3**
ESPN				*e*Sn	**Sn**	**03 22 56.5**	**-4.1**
ESPN	**Las Esperanzas**	**2.38**	**30**	*e*P	**Pn**	**03 22 34.1**	**+1.5**
ESPN				IAML		03 23 12.3	
	comp=N,5μm,1.2s						
EDBA	**Buenos Aires**	**2.43**	**113**	*e*P	**Pn**	**03 22 31.9**	**-1.4**
CNGN	**Cerro Negro**	**2.62**	**334**	*e*P	**Pn**	**03 22 36.2**	**+0.2**
PTJ1	**Puerto Jimnez**	**2.71**	**126**	*e*P	**Pn**	**03 22 36.8**	**-0.4**
MATN	**Matagalpa**	**2.81**	**352**	*e*P	**Pn**	**03 22 39.7**	**+1.1**
CRIN	**San Cristobal**	**2.95**	**330**	*e*P	**Pn**	**03 22 40.8**	**+0.2**
ESTN	**Estel**	**3.06**	**345**	*e*Pn	**Pn**	**03 22 43.4**	**+1.3**
ESTN				*e*Sn	**Sn**	**03 23 16.1**	**-1.5**
ESTN	**Estel**	**3.06**	**345**	*e*P	**Pn**	**03 22 43.1**	**+1.0**
BRU2	**Volcan**	**3.10**	**115**	*e*P	**Pn**	**03 22 41.4**	**-1.4**
PRVC	**Isla de Provid**	**5.20**	**51**	*e*P	Pn	03 23 29.0	+18
PRVC	**Isla de Provid**	**5.20**	**51**	*e*P	Pn	03 23 29.0	+18
SBLS	**San Blas**	**5.44**	**313**	*e*P	**Pn**	**03 23 14.9**	**0.0**
AZU	**Azuero**	**5.69**	**114**	*e*P	Pn	03 23 24.1	+5.9
AZU	**Azuero**	**5.69**	**114**	*e*P	Pn	03 23 24.1	+5.9
BCIP	**Isla Barro Col**	**5.70**	**99**	*e*Pn	**Pn**	**03 23 16.8**	**-1.5**
BCIP	**Isla Barro Col**	**5.70**	**99**	*e*P	Pn	03 23 24.1	+5.8
BCIP	**Isla Barro Col**	**5.70**	**99**	*e*P	Pn	03 23 24.1	+5.8
ZANG	**Zanguenga, Cho**	**5.71**	**101**	*e*P	**Pn**	**03 23 17.3**	**-1.2**
APG	**El Apazote**	**6.83**	**316**	P	**Pn**	**03 23 36.6**	**+2.7**
	comp=N,1.9nm,0.3s,baz=108,slow=5.6,SNR=28						
SOLC	**Bahia Solano**	**8.93**	**115**	*e*P	**Pn**	**03 24 05.6**	**+3.0**
SOLC	**Bahia Solano**	**8.93**	**115**	*e*P	**Pn**	**03 24 05.6**	**+3.0**
UREC	**San Jos de Ur**	**10.16**	**103**	*e*P	**Pn**	**03 24 18.0**	**-1.5**
UREC	**San Jos de Ur**	**10.16**	**103**	*e*P	**Pn**	**03 24 18.0**	**-1.5**
ZARC	**Zaragoza, Cauc**	**10.87**	**103**	*e*P	**Pn**	**03 24 28.0**	**-1.2**
ZARC	**Zaragoza, Cauc**	**10.87**	**103**	*e*P	**Pn**	**03 24 28.0**	**-1.2**
RREF	**El Recreo**	**11.36**	**116**	*e*P	Pn	03 24 43.0	+6.5
RREF	**El Recreo**	**11.36**	**116**	*e*P	Pn	03 24 43.0	+6.5
CMIG	**Matias Romero**	**11.42**	**308**	P	**Pn**	**03 24 37.5**	**+0.8**
	comp=N,0.8nm,0.3s,baz=133,slow=7.7,SNR=11						
CMIG				LR	LR	03 29 07.8	
	comp=N,175nm,20.5s,baz=130,slow=38						
SOTA	**Rioblanco**	**11.91**	**131**	*e*P	**Pn**	**03 24 45.5**	**+1.6**
SOTA	**Rioblanco**	**11.91**	**131**	*e*P	**Pn**	**03 24 45.5**	**+1.6**
ROSC	**El Rosal**	**12.30**	**115**	LR	LR	03 29 15.0	
	comp=N,264nm,19.0s,baz=296,slow=36						
TAMC	**Tame, Arauca**	**14.09**	**104**	*e*P	**P**	**03 25 18.7**	**-1.3**
TAMC	**Tame, Arauca**	**14.09**	**104**	*e*P	**P**	**03 25 18.7**	**-1.3**
SDV	**Santo Domingo**	**14.75**	**94**	P	**Pn**	**03 25 20.5**	**-1.7**
	comp=N,1.5nm,0.3s,baz=311,slow=18,SNR=7.4						
SDV	**Santo Domingo**	**14.75**	**94**	*e*Pn	**Pn**	**03 25 21.1**	**-1.1**
757A	**Oxford**	**18.99**	**9**	P	**P**	**03 26 14.9**	**+0.7**
	baz=190						
656A	**Willston**	**19.34**	**8**	*e*P	**P**	**03 26 19.0**	**+1.0**
	comp=N,45nm,1.0s						
656A	**Willston**	**19.34**	**8**	P	**P**	**03 26 19.0**	**+1.0**
	baz=188						
657A	**Interlachen**	**19.66**	**10**	P	**P**	**03 26 22.2**	**+0.8**
	baz=190						
LNIG	**Linares**	**19.77**	**320**	*e*P	**P**	**03 26 22.6**	**-0.2**
	comp=N,26nm,1.0s						
553A	**Crawfordville**	**19.98**	**3**	P	**P**	**03 26 26.1**	**+1.1**
	baz=183						
556A	**Lake Butler**	**19.98**	**8**	P	**P**	**03 26 25.5**	**+0.5**
	baz=188						
555A	**McAlpin**	**20.03**	**7**	P	**P**	**03 26 26.3**	**+0.8**
	baz=187						
557A	**Orange Park**	**20.10**	**10**	P	**P**	**03 26 27.0**	**+0.8**
	baz=190						
451A	**Vernon**	**20.38**	**359**	*e*P	Pn	03 26 35.5	+3.8
	comp=N,115nm,0.9s						
451A	**Vernon**	**20.38**	**359**	P	**P**	**03 26 30.5**	**+1.2**
	baz=179						
454A	**Quitman**	**20.56**	**5**	P	**P**	**03 26 30.0**	**-1.2**
	baz=185						
ZAIG	**Zacatecas**	**20.58**	**310**	*e*P	Pn	03 26 35.5	+1.1
	comp=N,5.9nm,0.7s						
449A	**Pace**	**20.58**	**356**	P	**P**	**03 26 32.7**	**+1.2**
	baz=175						
450A	**Crestview**	**20.59**	**357**	P	Pn	03 26 33.9	-0.2
	baz=177						
452A	**Marianna**	**20.62**	**1**	P	**P**	**03 26 32.7**	**+0.9**
	baz=180						
453A	**Whigham**	**20.65**	**3**	P	**P**	**03 26 33.4**	**+1.2**
	baz=183						
BRAL	**Brewton**	**20.98**	**356**	P	**P**	**03 26 37.0**	**+1.2**
	baz=175						
351A	**Pinckard**	**21.04**	**360**	P	**P**	**03 26 39.0**	**+2.7**
	baz=179,SNR=9.3						
353A	**Camilla**	**21.15**	**3**	P	**P**	**03 26 38.7**	**+1.2**
	baz=183						
349A	**Repton**	**21.17**	**356**	P	**P**	**03 26 38.7**	**+0.9**
	baz=175						
350A	**Dozier**	**21.20**	**358**	P	**P**	**03 26 39.0**	**+0.9**
	baz=177						
352A	**Blakely**	**21.25**	**1**	*e*P	**P**	**03 26 37.4**	**-1.3**
	comp=N,36nm,1.1s						
352A	**Blakely**	**21.25**	**1**	P	**P**	**03 26 39.0**	**+0.3**
	baz=181						
TIGA	**Tifton**	**21.28**	**5**	*e*P	**P**	**03 26 42.5**	**+3.5**
	comp=N,44nm,1.3s						
TIGA	**Tifton**	**21.28**	**5**	P	**P**	**03 26 40.1**	**+1.2**
	baz=185						
348A	**Jackson**	**21.29**	**354**	P	**P**	**03 26 40.9**	**+1.8**
	baz=173						
346A	**Big Creek Wild**	**21.46**	**351**	P	**P**	**03 26 41.6**	**+0.7**
	baz=169						
250A	**Grady**	**21.75**	**358**	*e*P	**P**	**03 26 47.9**	**+3.9**
	comp=N,86nm,1.5s						
250A	**Grady**	**21.75**	**358**	P	**P**	**03 26 46.4**	**+2.4**
	baz=178						
252A	**Lumpkin**	**21.77**	**2**	P	**P**	**03 26 45.4**	**+1.2**
	baz=182,SNR=8.5						
249A	**Camden**	**21.79**	**356**	P	**P**	**03 26 45.7**	**+1.3**
	baz=175						
254A	**Abbeville**	**21.81**	**5**	P	**P**	**03 26 44.9**	**+0.3**
	baz=186						
251A	**Midway**	**21.85**	**0**	P	**P**	**03 26 45.8**	**+0.7**
	baz=180,SNR=8.0						
253A	**Americus**	**21.86**	**3**	P	**P**	**03 26 47.9**	**+2.7**
	baz=183						
255A	**Hazlehurst**	**21.87**	**7**	*e*P	**P**	**03 26 44.8**	**-0.6**
	comp=N,84nm,1.4s						
255A	**Hazlehurst**	**21.87**	**7**	P	**P**	**03 26 45.0**	**-0.3**
	baz=188						
248A	**Dixon Mills**	**21.95**	**355**	P	**P**	**03 26 47.1**	**+1.0**
	baz=174						
256A	**Glennville**	**22.00**	**8**	P	**P**	**03 26 47.9**	**+1.2**
	baz=189						
151A	**Opelika**	**22.29**	**0**	P	**P**	**03 26 50.4**	**+0.6**
	baz=180						
ECON	**Eclectic**	**22.37**	**359**	P	**P**	**03 26 51.3**	**+0.6**
	baz=178,SNR=13						
149A	**Jones**	**22.39**	**357**	P	**P**	**03 26 52.4**	**+1.5**
	baz=176,SNR=12						
152A	**Waverly Hall**	**22.44**	**2**	*e*P	**P**	**03 26 52.7**	**+1.2**
	comp=N,51nm,0.8s						
152A	**Waverly Hall**	**22.44**	**2**	P	**P**	**03 26 52.9**	**+1.5**
	baz=182,SNR=23						
VBMS	**Vicksburg**	**22.46**	**349**	P	**P**	**03 26 52.8**	**+1.2**
	baz=167						
153A	**Fort Valley**	**22.46**	**4**	P	**P**	**03 26 53.7**	**+2.0**
	baz=184						
154A	**Montrose**	**22.48**	**5**	*e*P	**P**	**03 26 54.2**	**+2.3**
	comp=N,60nm,0.9s						
154A	**Montrose**	**22.48**	**5**	P	**P**	**03 26 53.0**	**+1.1**
	baz=186,SNR=5.1						
148A	**Greensboro**	**22.48**	**356**	P	**P**	**03 26 52.5**	**+0.6**
	baz=174,SNR=6.4						
155A	**Kite**	**22.56**	**7**	P	**P**	**03 26 54.1**	**+1.4**
	baz=187						
147A	**Livingston**	**22.57**	**354**	*e*P	**P**	**03 26 55.2**	**+2.3**
	comp=N,32nm,0.8s						
147A	**Livingston**	**22.57**	**354**	P	**P**	**03 26 54.9**	**+2.1**
	baz=173						
146A	**Union**	**22.63**	**352**	*e*P	**P**	**03 26 54.5**	**+1.1**
	comp=N,52nm,0.9s						
146A	**Union**	**22.63**	**352**	P	**P**	**03 26 53.8**	**+0.3**
	baz=171,SNR=7.2						
145A	**Houston Renfro**	**22.73**	**350**	P	**P**	**03 26 54.2**	**-0.2**
	baz=168						
LRAL	**Lakeview Retre**	**22.83**	**357**	*e*P	**P**	**03 26 57.1**	**+1.5**
	comp=N,30nm,1.0s						
LRAL	**Lakeview Retre**	**22.83**	**357**	P	**P**	**03 26 56.5**	**+0.9**
	baz=176,SNR=13						
Z49A	**Columbiana**	**22.97**	**358**	P	**P**	**03 26 57.4**	**+0.4**
	baz=177,SNR=24						
Z52A	**Williamson**	**22.97**	**2**	P	**P**	**03 26 57.1**	**+0.1**
	baz=182						
Z50A	**Ashland**	**23.01**	**359**	*e*P	**P**	**03 26 57.7**	**+0.3**
	comp=N,31nm,0.9s						
Z50A	**Ashland**	**23.01**	**359**	P	**P**	**03 26 57.3**	**-0.2**
	baz=179,SNR=20						
Z47A	**Carrollton**	**23.07**	**355**	P	**P**	**03 26 57.9**	**-0.1**
	baz=173						
Z51A	**Franklin**	**23.08**	**1**	P	**P**	**03 26 58.2**	**+0.1**
	baz=180,SNR=5.5						
Z53A	**Monticello**	**23.11**	**4**	P	**P**	**03 26 58.8**	**+0.4**
	baz=184,SNR=7.7						
NATX	**Nacogdoches**	**23.12**	**340**	*e

Y43A Makayla and Ka 24.18 349 P P 03 27 07.8 -0.7
baz=167
X50B Fort Payne 24.22 360 P P 03 27 07.5 -1.4
baz=179
JCT Junction City 24.22 329 eP P 03 27 09.2 +0.3
comp=N,18nm,0.8s
JCT Junction City 24.22 329 P P 03 27 08.0 -1.0
baz=144,SNR=7.5
X48A Hartselle 24.25 357 eP P 03 27 09.5 +0.4
comp=N,13nm,0.8s
X48A Hartselle 24.25 357 P P 03 27 08.7 -0.4
baz=176,SNR=5.4
X49A Woodville 24.28 358 P P 03 27 09.3 -0.2
baz=178,SNR=6.9
Y42A Garnett, Star 24.28 347 P P 03 27 09.0 -0.4
baz=164
X51A Calhoun 24.33 1 eP P 03 27 10.9 +1.0
comp=N,29nm,0.8s
X51A Calhoun 24.33 1 P P 03 27 10.0 +0.1
baz=181,SNR=6.3
X53A Estanollee 24.34 4 P P 03 27 10.1 +0.1
baz=185
JSC Jenkinsville 24.35 9 eP P 03 27 10.8 +0.7
comp=N,20nm,0.7s
CCAR Cane Creek 24.36 347 eP P 03 27 11.1 +0.9
comp=N,32nm,1.1s
CCAR eS S 03 31 29.8 +3.1
X47A Russelville 24.36 355 P P 03 27 10.7 +0.5
baz=174,SNR=24
WHTX Lake Whitney, 24.39 335 P P 03 27 10.2 -0.3
baz=150
X52A Dahlonega 24.40 3 P P 03 27 10.0 -0.6
baz=184
X45A UM Field Stati 24.43 352 P P 03 27 10.1 -0.8
baz=170
X46A Booneville 24.47 354 P P 03 27 10.1 -1.1
baz=172
Y41A Eaglette Beard 24.51 346 P P 03 27 11.4 -0.2
baz=163
OXF Oxford 24.52 352 eP P 03 27 11.5 -0.1
comp=N,36nm,0.9s
PAULI Pauline 24.81 7 eP P 03 27 15.3 +1.1
comp=N,24nm,0.9s
BG3 Lake Jocassee 24.86 5 eP P 03 27 16.2 +1.5
comp=N,36nm,0.9s
W49A Belvidere 24.88 359 P P 03 27 14.1 -0.8
baz=178,SNR=7.7
W52A Murphy 24.89 3 eP P 03 27 16.5 +1.5
comp=N,18nm,0.8s
W52A Murphy 24.89 3 P P 03 27 15.4 +0.4
baz=183,SNR=5.1
W51A Cleveland 24.92 2 P P 03 27 16.4 +1.1
baz=181,SNR=7.6
W48A Pulaski 24.92 357 P P 03 27 15.4 +0.2
baz=176,SNR=26
W50A Signal Mountai 24.95 0 eP P 03 27 16.4 +0.8
comp=N,32nm,1.3s
W50A Signal Mountai 24.95 0 P P 03 27 15.1 -0.5
baz=180,SNR=6.5
SWET Sewanee 24.97 359 eP P 03 27 16.1 +0.4
comp=N,17nm,0.8s
W53A Cullowhee 25.02 5 P P 03 27 16.9 +0.6
baz=185
W47A Westpoint 25.07 356 P P 03 27 16.5 -0.2
baz=175,SNR=17
W45A Hickory Valley 25.13 353 P P 03 27 16.1 -1.1
baz=171
X40A Basin Creek Fa 25.15 346 eP P 03 27 18.4 +1.1
comp=N,11nm,1.0s
X40A Basin Creek Fa 25.15 346 P P 03 27 16.5 -0.8
baz=162
KMSC Kings Mountain 25.19 8 eP P 03 27 19.1 +1.4
comp=N,21nm,0.8s
KMSC Kings Mountain 25.19 8 P P 03 27 18.4 +0.7
baz=189,SNR=6.8
CPCT Cooper Cave 25.22 2 eP P 03 27 19.2 +1.3
comp=N,13nm,1.0s
UALR University of 25.31 347 eP P 03 27 18.1 -0.7
comp=N,18nm,0.9s
MIAR Mount Ida 25.39 344 eP P 03 27 18.6 -0.9
comp=N,24nm,0.8s
MIAR Mount Ida 25.39 344 P P 03 27 18.7 -0.8
baz=161,SNR=13
V50A Pikevile 25.43 1 P P 03 27 20.0 +0.2
baz=181
TKL Tuckaleechee C 25.46 3 P P 03 27 17.1 -3.0
comp=N,4.3nm,0.7s,baz=80,slow=6.1,SNR=2.2
TKL LR LR 03 36 27.0
comp=N,205nm,21.7s,baz=170,slow=35
TKL Tuckaleechee C 25.46 3 eP P 03 27 21.3 +1.1
comp=N,15nm,0.8s
V48A Smith Brothers 25.52 358 eP P 03 27 20.6 -0.1
comp=N,17nm,1.0s
V48A Smith Brothers 25.52 358 P P 03 27 19.3 -1.4
baz=177,SNR=5.8
V49A McMinnville 25.52 359 P P 03 27 20.5 -0.2
baz=179,SNR=7.1
V53A Saluda 25.54 5 eP P 03 27 21.8 +0.9
comp=N,13nm,0.8s
V53A Saluda 25.54 5 P P 03 27 20.7 -0.3
baz=186
LTX Lajitas 25.55 321 eP P 03 27 21.6 +0.5
LTX ePcP PcP 03 30 53.9 +2.1
TXAR Lajitas Array 25.55 321 P P 03 27 21.6 +0.5
comp=N,17nm,0.9s,baz=131,slow=6.0,SNR=53
TXAR PcP PcP 03 30 53.9 +2.1
comp=N,0.7nm,0.7s,baz=147,slow=4.7,SNR=4.4
TXAR LR LR 03 38 40.0
comp=N,73nm,20.6s,baz=0.0,slow=39
TX31 Lajitas Ar. Si 25.55 321 eP P 03 27 21.7 +0.5
V51A Loudon 25.58 2 eP P 03 27 22.4 +1.2
comp=N,20nm,0.9s
V51A Loudon 25.58 2 P P 03 27 21.1 -0.2
baz=182
V47A Nunnelly 25.64 356 P P 03 27 20.7 -1.1
baz=175,SNR=7.6
V52A Sevierville 25.65 4 eP P 03 27 24.9 +3.0
comp=N,8.7nm,0.7s
V52A Sevierville 25.65 4 P P 03 27 22.4 +0.4
baz=184
V46A Holladay 25.66 355 P P 03 27 20.3 -1.7
baz=174
W41B Gary Mavity, V 25.67 347 eP P 03 27 21.2 -0.8
comp=N,18nm,1.0s
W41B ePcP PcP 03 30 53.8 +2.0
W41B Gary Mavity, V 25.67 347 P P 03 27 20.6 -1.4
baz=164
WHAR Wooly Hollow 25.79 347 eP P 03 27 22.5 -0.6
comp=N,12nm,1.1s
ABTX Abilene, Hawle 25.89 332 eP P 03 27 24.0 -0.2
comp=N,14nm,1.0s
ABTX Abilene, Hawle 25.89 332 P P 03 27 23.2 -1.0
baz=146
X37A Clayton 25.95 341 eP P 03 27 24.5 -0.1
comp=N,14nm,0.9s
WVT Waverly 25.96 356 eP P 03 27 23.9 -0.8
comp=N,6.3nm,0.8s
WVT ePcP PcP 03 30 52.9 +0.5
WVT Waverly 25.96 356 P P 03 27 23.3 -1.4
baz=174
W39A Magazine 26.06 344 eP P 03 27 25.6 0.0
comp=N,8.6nm,0.8s
W39A Magazine 26.06 344 P P 03 27 24.5 -1.1
baz=161
U50A Jamestown 26.17 1 P P 03 27 26.1 -0.5
baz=181
U52A Thorn Hill 26.22 4 P P 03 27 26.8 -0.2
baz=184
U46A Springville 26.22 355 P P 03 27 26.0 -1.0
baz=174,SNR=6.7
V41A Mountainview 26.24 348 P P 03 27 27.1 -0.2
baz=165,SNR=8.9
U47A Clarksville 26.24 357 P P 03 27 26.5 -0.7
baz=176
U53A Fall Branch 26.25 5 P P 03 27 27.5 +0.1
baz=186,SNR=6.2
U45A Rockin P Farm, 26.26 354 P P 03 27 26.4 -1.0
baz=172
U49A Red Boiling Sp 26.26 360 P P 03 27 26.3 -1.1
baz=179
U48A Cassie Pea, Po 26.28 358 P P 03 27 27.1 -0.4
baz=177
TZTN Tazewell 26.36 4 eP P 03 27 32.4 +4.1
comp=N,12nm,0.9s
U43A Rector 26.49 351 P P 03 27 28.7 -0.7
baz=169
U42A Revenden 26.61 350 P P 03 27 29.2 -1.4
baz=167
U41A Viola 26.73 348 P P 03 27 32.8 +1.1
baz=166
T51A Gray 26.75 3 P P 03 27 34.5 +2.7
baz=183
T50A Nancy 26.78 1 P P 03 27 31.9 -0.1
baz=181
T49A Edmonton 26.85 0 P P 03 27 32.0 -0.8
baz=180
T46A Princeton 26.88 356 P P 03 27 31.9 -1.0
baz=174
U40A Yellville 26.94 347 P P 03 27 33.1 -0.5
baz=164
T43A Greenville 27.17 352 P P 03 27 34.9 -0.7
baz=169
T42A Van Buren 27.25 350 eP P 03 27 35.5 -0.7
comp=N,6.8nm,0.6s
T42A ePcP PcP 03 30 56.4 +0.9
T42A Van Buren 27.25 350 P P 03 27 35.5 -0.7
baz=168,SNR=5.4
TUL1 Leonard 27.30 342 P P 03 27 35.4 -1.4
baz=157
WMOK Wichita Mounta 27.32 336 eP P 03 27 36.4 -0.6
comp=N,8.2nm,0.8s
WMOK Wichita Mounta 27.32 336 P P 03 27 37.1 +0.1
baz=150,SNR=5.8
BLA Blacksburg 27.35 9 P P 03 27 37.0 -0.3
baz=191
T41A Mountain View 27.38 349 P P 03 27 36.4 -1.1
baz=166
S48A Wiedeman Farm, 27.41 359 P P 03 27 42.6 +4.9
baz=178
S51A Beattyville 27.44 3 eP P 03 27 38.6 +0.6
comp=N,16nm,0.8s
S51A Beattyville 27.44 3 P P 03 27 37.6 -0.5
baz=184
S49A Springfield 27.53 0 P P 03 27 37.8 -1.0
baz=180
S43A Fulton Ridge, 27.62 352 P P 03 27 37.7 -2.0
baz=170
PTGA Pitinga 27.64 112 P P 03 27 41.0 +1.0
comp=N,3.8nm,0.8s,baz=309,slow=13,SNR=8.7
PTGA Pitinga 27.64 112 eP P 03 27 41.6 +1.5
comp=N,4.4nm,0.9s
S44A Carbondale 27.64 354 P P 03 27 37.5 -2.3
baz=172
S41A Jillco Farms, 27.90 349 P P 03 27 39.2 -2.9
baz=166
S42A Caledonia 27.92 351 P P 03 27 40.3 -2.0
baz=169
WCI Wyandotte Cave 27.98 359 eP P 03 27 43.0 +0.1
comp=N,20nm,1.2s
WCI ePcP PcP 03 30 58.3 +1.1
WCI Wyandotte Cave 27.98 359 P P 03 27 41.5 -1.3
baz=178
R46A Gibon Southern 28.02 357 P P 03 27 41.5 -1.6
baz=176
R49A Shelbyville 28.04 1 P P 03 27 42.6 -0.7
baz=180
R50A Paris 28.05 2 P P 03 27 43.0 -0.4
baz=182
R51A Hillsboro 28.10 3 P P 03 27 43.8 -0.1
baz=184,SNR=6.4
R45A Skylar, Fairfi 28.15 355 P P 03 27 42.7 -1.6
baz=174
R48A Northridge Ran 28.15 359 P P 03 27 43.0 -1.3
baz=179
R44A Waltonville 28.18 354 P P 03 27 43.2 -1.3
baz=172
R52A Catlettsburg 28.20 5 P P 03 27 44.4 -0.5
baz=186
R54A Victor 28.23 8 P P 03 27 45.5 +0.4
baz=189
MNTX Cornudas Mount 28.26 322 eP P 03 27 45.6 +0.1
comp=N,2.6nm,0.8s
MNTX Cornudas Mount 28.26 322 P P 03 27 45.3 -0.2
baz=135,SNR=5.5
R53A Hurricane 28.26 6 P P 03 27 44.5 -0.8
baz=187
CCM Cathedral Cave 28.27 350 eP P 03 27 44.7 -0.7
comp=N,9.3nm,0.8s
CCM ePcP PcP 03 30 59.0 +1.1
CCM Cathedral Cave 28.27 350 P P 03 27 44.4 -1.0
baz=168
R43A Red Bud 28.30 353 P P 03 27 44.0 -1.6
baz=170
MSTX Muleshoe 28.51 329 eP P 03 27 47.2 -0.6
comp=N,6.9nm,0.9s
MSTX Muleshoe 28.51 329 P P 03 27 46.3 -1.4
baz=142
R41A Rosebud 28.53 350 P P 03 27 47.0 -0.7
baz=168
Q47A Bedord North L 28.69 359 P P 03 27 47.5 -1.6
baz=178
AMTX Amarillo 28.71 332 P P 03 27 48.5 -1.0
baz=145
Q45A Warren Harvey, 28.74 356 P P 03 27 48.2 -1.3
baz=174
Q49A Aurora 28.76 1 P P 03 27 49.0 -0.7
baz=181
Q44A Meyer Farm, Va 28.82 354 P P 03 27 49.3 -1.0
baz=173
Q51A Peebles 28.84 4 eP P 03 27 51.1 +0.7
comp=N,33nm,0.8s
Q51A Peebles 28.84 4 P P 03 27 50.7 +0.2
baz=184,SNR=7.9
Q41A Truxton 29.15 351 P P 03 27 51.9 -1.3
baz=168
Q55A Buckhannon 29.15 9 P P 03 27 54.0 +0.7
baz=191
P48A Milroy 29.21 0 P P 03 27 51.7 -2.0
baz=180
P51A Williamsport 29.31 4 P P 03 27 53.0 -1.7
baz=185
P45A Graceland, Par 29.34 357 P P 03 27 53.9 -1.0
baz=175
P53A Whipple 29.46 7 eP P 03 27 56.0 0.0
comp=N,29nm,0.9s
P53A Whipple 29.46 7 P P 03 27 55.9 -0.1
baz=188,SNR=5.6
P52A Corning 29.53 5 P P 03 27 56.8 +0.2
baz=186,SNR=6.0
P43A Skaggs, Pawnee 29.60 354 P P 03 27 56.5 -0.7
baz=172
P55A Reedsville 29.69 9 P P 03 27 58.2 +0.1
baz=191
MCWV Mont Chateau 29.84 9 P P 03 27 58.2 -1.1
baz=191
O50A Cable 29.94 3 P P 03 27 59.8 -0.4
baz=183
O49A Covington 29.95 2 P P 03 27 58.7 -1.6
baz=182
O48A Farmland 30.00 1 P P 03 27 59.4 -1.3
baz=180
O51A Pataskala 30.00 4 P P 03 28 00.0 -0.7
baz=185
O44A Mansfield 30.01 356 P P 03 28 00.5 -0.4
baz=174
O52A Adamsville 30.04 6 eP P 03 28 01.4 +0.3
comp=N,20nm,0.8s
O52A Adamsville 30.04 6 P P 03 27 59.7 -1.4
baz=187
O45A Potomac 30.06 357 P P 03 27 59.6 -1.6
baz=175
ACSO Alum Creek Sta 30.06 4 P P 03 28 00.9 -0.4
baz=185
SFIN Lafayette 30.16 358 P P 03 28 00.8 -1.3
baz=177
O43A Sugar Creek Fa 30.22 354 P P 03 28 01.0 -1.6
baz=172
O53A New Philadelph 30.24 7 P P 03 28 02.4 -0.4
baz=188,SNR=5.5
O54A Avella 30.27 8 P P 03 28 02.4 -0.8
baz=190
O55A Ligonier 30.46 9 P P 03 28 04.6 -0.2
baz=192
HDIL Hopedale 30.48 354 P P 03 28 04.0 -1.0
baz=172
KSU1 Kansas State U 30.50 343 eP P 03 28 04.7 -0.5
comp=N,11nm,1.0s
O56A Blue Knob Stat 30.64 10 P P 03 28 06.3 -0.2
baz=193
N49A Columbus Grove 30.69 2 P P 03 28 06.4 -0.4
baz=182
N52A McGinn's Farm, 30.75 6 P P 03 28 04.4 -2.9
baz=187
N41A Harden Midland 30.81 352 P P 03 28 06.0 -1.9
baz=169
N42A Yates City 30.83 353 P P 03 28 06.8 -1.3
baz=171
N53A Lisbon 30.83 7 P P 03 28 07.0 -1.1
baz=189
PAGS Pennsylvania G 30.98 13 eP P 03 28 10.7 +1.4
comp=N,17nm,0.8s
N55A Marion Center 31.07 10 P P 03 28 10.3 +0.1
baz=192
SSPA Standing Stone 31.13 11 eP P 03 28 11.5 +0.8
comp=N,6.0nm,0.8s
SSPA Standing Stone 31.13 11 P P 03 28 10.8 +0.1
baz=194
ANMO Albuquerque 31.22 326 P P 03 28 12.9 +1.0
comp=N,1.6nm,0.8s,baz=142,slow=7.3,SNR=6.7
ANMO Albuquerque 31.22 326 eP P 03 28 13.1 +1.3
comp=N,3.6nm,1.0s
ANMO Albuquerque 31.22 326 P P 03 28 12.5 +0.6
baz=137
M49A Liberty Center 31.25 2 P P 03 28 10.4 -1.3
baz=183
CBKS Cedar Bluff 31.26 338 eP P 03 28 11.5 -0.5
comp=N,14nm,1.1s
CBKS Cedar Bluff 31.26 338 P P 03 28 11.1 -0.8
baz=152
LPAZ La Paz 31.40 147 LR LR 03 41 49.1
comp=N,264nm,18.8s,baz=336,slow=38
M53A WI Miller and 31.48 7 P P 03 28 13.3 -0.4
baz=189
M39A Webster 31.77 351 P P 03 28 13.7 -2.6
baz=167
T25A Trinidad 31.83 331 eP P 03 28 18.1 +0.9
comp=N,7.4nm,1.1s
T25A Trinidad 31.83 331 P P 03 28 17.0 -0.2
baz=143
N59A State Game Lan 31.85 14 eP P 03 28 18.3 +1.2
comp=N,16nm,0.8s
N59A State Game Lan 31.85 14 P P 03 28 17.2 +0.1
baz=198
L42A Oliver, Polo 31.95 354 eP P 03 28 16.6 -1.4
comp=N,17nm,0.8s
L42A Oliver, Polo 31.95 354 P P 03 28 15.7 -2.2
baz=172
TUC Tucson 32.11 317 eP P 03 28 21.7 +2.2
comp=N,5.5nm,0.9s
TUC epP pP 03 28 29.6 -1.5
L41A Preston 32.12 353 P P 03 28 17.4 -1.9
baz=170
L40A Anamosa 32.20 352 P P 03 28 17.8 -2.2
baz=169
ERPA Erie 32.23 8 P P 03 28 19.9 -0.4
baz=190
KSCO Kaye Shedlock' 32.56 335 P P 03 28 22.5 -1.0
baz=147
K41A Shullsburg 32.62 353 P P 03 28 21.5 -2.2
baz=171
K42A Prairie Point, 32.69 355 P P 03 28 22.2 -2.2
baz=173
K40A Colesburg 32.81 352 P P 03 28 23.2 -2.2
baz=170
SDCO Great Sand Dun 32.84 330 eP P 03 28 26.6 +0.4
comp=N,5.0nm,0.8s
SDCO Great Sand Dun 32.84 330 P P 03 28 25.8 -0.3
baz=142,SNR=9.3
JFWS Jewell Farm 32.91 354 P P 03 28 24.4 -1.9
baz=171
K39A Oelwein 32.92 351 P P 03 28 23.8 -2.6
baz=168
X18A Snowflake 32.98 321 eP P 03 28 30.0 +2.7
comp=N,5.8nm,0.9s
BINY Binghamton 33.02 13 P P 03 28 26.8 -0.6
baz=197
K55A Perry 33.12 10 P P 03 28 26.7 -1.5
baz=193
J42A Columbus 33.21 355 P P 03 28 27.0 -1.9
baz=173
W18A Petrified Fore 33.25 322 eP P 03 28 31.6 +2.0
comp=N,8.8nm,0.8s
W18A Petrified Fore 33.25 322 P P 03 28 30.1 +0.5
baz=132,SNR=5.5
214A Organ Pipe Nat 33.28 315 P P 03 28 29.1 -0.7
baz=124
J41A Loganville 33.34 354 P P 03 28 28.7 -1.3
baz=172
J40A Soldiers Grove 33.45 353 P P 03 28 29.0 -1.9
baz=170
S22A 4UR Ranch, Cre 33.51 329 eP P 03 28 32.0 0.0
comp=N,3.7nm,1.0s
S22A ePcP PcP 03 31 14.7 +2.5
S22A 4UR Ranch, Cre 33.51 329 P P 03 28 30.7 -1.3
baz=139
I46A Reed City 33.68 0 P P 03 28 30.1 -2.9
baz=180
I43A Langenfeld Bro 33.70 357 P P 03 28 30.3 -2.9
baz=175
I42A Draeger Farm, 33.76 356 P P 03 28 31.4 -2.3
baz=174
X16A Lo Mia Camp, P 33.85 320 eP P 03 28 36.5 +1.7
comp=N,6.6nm,0.8s
I40A Norwalk 33.92 353 P P 03 28 32.8 -2.3
baz=171
OGNE Ogallala 33.98 337 eP P 03 28 35.8 0.0
comp=N,15nm,0.9s
I39A Houston 34.00 352 eP P 03 28 33.9 -1.9
comp=N,11nm,0.8s
I39A Houston 34.00 352 P P 03 28 33.2 -2.6
baz=169
MVCO Mesa Verde 34.00 326 eP P 03 28 36.8 +0.6
comp=N,5.8nm,1.0s
MVCO ePcP PcP 03 31 15.1 +1.5
I41A Arkdale 34.01 354 P P 03 28 33.3 -2.6
baz=172
WUAZ Wupatki 34.51 321 eP P 03 28 42.6 +2.1
comp=N,12nm,1.4s
WUAZ Wupatki 34.51 321 P P 03 28 40.1 -0.4
baz=131
ISCO Idaho Springs 34.53 332 eP P 03 28 41.5 +0.7
comp=N,3.8nm,1.0s
ISCO Idaho Springs 34.53 332 P P 03 28 39.5 -1.3
baz=143
Y14A Wickenburg 34.57 317 eP P 03 28 42.8 +1.8
comp=N,4.4nm,0.8s
H40A Chili 34.62 354 P P 03 28 38.9 -2.3
baz=171
SMCO Snowmass 34.68 330 eP P 03 28 43.4 +1.1
comp=N,3.7nm,0.9s
H39A Augusta 34.78 353 P P 03 28 40.2 -2.3
baz=170
ECSD EROS Data Cent 34.83 346 eP P 03 28 41.0 -2.1
comp=N,12nm,1.3s
ECSD EROS Data Cent 34.83 346 P P 03 28 39.1 -3.9
baz=160
PV13 Radium Mtn., P 34.87 327 eP P 03 28 45.0 +1.3
comp=N,6.6nm,1.1s
SADO Sadowa 34.95 8 P P 03 28 42.5 -1.5
comp=N,16nm,0.7s,baz=206,slow=8.6,SNR=11
SADO Sadowa 34.95 8 eP P 03 28 42.5 -1.5
comp=N,19nm,0.8s
PV03 Paradox Valley 34.95 327 eP P 03 28 45.2 +0.8
PV12 Saucer Basin, 34.97 327 eP P 03 28 45.6 +1.0
comp=N,16nm,1.3s
PV11 David Mesa, Pa 35.00 327 eP P 03 28 46.1 +1.3
comp=N,5.7nm,0.8s
PV16 Nyswonger Mesa 35.03 327 eP P 03 28 46.3 +1.2
comp=N,5.4nm,0.9s
PV17 East Wray Mesa 35.03 327 eP P 03 28 45.6 +0.5
comp=N,7.1nm,0.7s
H55A Tweed 35.04 10 P P 03 28 43.4 -1.4
baz=194
G41A Antigo 35.09 356 P P 03 28 43.0 -2.3
baz=174
PV14 Lion Creek, Pa 35.13 327 eP P 03 28 47.0 +1.0
comp=N,3.9nm,0.8s
PV14 ePcP PcP 03 31 18.6 +1.7
PV10 Paradox Valley 35.14 327 eP P 03 28 46.6 +0.5
PV23 Carpenter Ridg 35.18 327 eP P 03 28 47.6 +1.2
comp=N,5.2nm,0.9s
G40A Rib Lake 35.24 354 P P 03 28 43.9 -2.6
baz=172
H56A Elgin 35.26 12 P P 03 28 45.5 -1.1
baz=196
G39A Holcombe 35.36 353 P P 03 28 45.6 -2.0
baz=170,SNR=6.1
G53A Haliburton 35.37 8 P P 03 28 45.5 -2.1
baz=192
SPMN Marine on St. 35.52 351 eP P 03 28 46.8 -2.1
comp=N,13nm,1.0s
SPMN Marine on St. 35.52 351 P P 03 28 46.6 -2.3
baz=167
PDMCI Parker Dam,Lak 35.55 317 P P 03 28 51.2 +1.9

baz=126,SNR=10
N23A **Red Feather La** 35.56 333 *e*P P 03 28 50.0 +0.4
comp=N,5.2nm,0.8s
N23A **Red Feather La** 35.56 333 P P 03 28 49.3 -0.3
baz=144
F43A **Flat Rock, Esc** 35.60 358 P P 03 28 46.7 -2.9
baz=177
LONY **Lake Ozonia** 35.64 13 P P 03 28 47.5 -2.5
baz=198
U15A **North Rim** 35.67 321 *e*P P 03 28 52.8 +2.1
comp=N,2.7nm,0.8s
PHWY **Pilot Hill** 35.67 334 *e*P P 03 28 50.9 +0.3
comp=N,3.2nm,0.8s
G55A **Calabogie** 35.81 11 P P 03 28 49.6 -1.8
baz=195
W13A **Hualapai Mount** 35.85 318 *e*P P 03 28 54.5 +2.4
comp=N,8.0nm,0.8s
F37A **Hinrichs Farm,** 35.98 352 P P 03 28 50.9 -2.0
baz=168
O20A **White River Ci** 36.04 330 *e*P P 03 28 54.3 +0.6
comp=N,9.7nm,1.0s
O20A **White River Ci** 36.04 330 P P 03 28 52.8 -0.9
baz=140
BC3 **Big Chuckawall** 36.08 315 P P 03 28 55.0 +1.0
baz=123
SUSD **Miller** 36.10 344 P P 03 28 52.2 -1.7
baz=157
F38A **Pierce - Schro** 36.11 352 P P 03 28 51.7 -2.3
baz=169
PKCU **Pink Cliffs** 36.35 323 *e*P P 03 28 58.8 +2.3
comp=N,20nm,1.1s
MONP2 **Monument Peak** 36.35 313 P P 03 28 58.6 +2.1
baz=121,SNR=5.2
KNB **Kanab** 36.38 322 *e*P P 03 28 58.7 +2.2
comp=N,7.1nm,0.9s
F55A **Otter Lake** 36.44 11 P P 03 28 55.3 -1.4
baz=195
SRU **San Rafael Swe** 36.48 326 *e*P P 03 28 58.0 +0.6
comp=N,6.3nm,1.0s
E52A **Mattawa** 36.50 8 P P 03 28 55.5 -1.7
baz=191
E51A **G1948 Merrick** 36.64 7 P P 03 28 57.0 -1.4
baz=190
BELC **Belle Mtn. Jos** 36.65 315 P P 03 28 59.6 +0.7
baz=123
LDFC **Landfair** 36.65 317 *e*P P 03 29 01.9 +3.1
comp=N,7.7nm,0.6s
MTPU **Mount Pierson** 36.67 324 *e*P P 03 29 01.2 +1.9
comp=N,4.2nm,0.8s
E53A **Dumoine, Ponti** 36.74 9 P P 03 28 58.2 -1.1
baz=193
XPFO **Pion Flat** 36.76 314 *e*P P 03 29 01.9 +2.1
comp=N,5.4nm,0.8s
PFO **Pinyon Flats O** 36.76 314 P P 03 29 01.9 +2.0
comp=N,5.6nm,0.9s,baz=116,slow=8.4,SNR=11
PFO **Pinyon Flats O** 36.76 314 *e*P P 03 29 00.2 +0.4
comp=N,5.0nm,0.8s
PFO **Pinyon Flats O** 36.76 314 P P 03 29 01.5 +1.6
baz=122,SNR=6.7
GMRC **Granite Mounta** 36.85 316 P P 03 29 01.9 +1.4
baz=124
P17A **Butcher Ranch,** 36.85 327 *e*P P 03 29 01.2 +0.6
comp=N,5.5nm,0.9s
SZCU **Shurtz Canyon** 36.91 322 *e*P P 03 29 03.6 +2.4
comp=N,5.1nm,1.1s
MSU **Marysvale** 36.98 324 *e*P P 03 29 04.0 +2.2
CCUT **Cedar City** 37.05 322 *e*P P 03 29 04.5 +2.2
comp=N,2.3nm,0.8s
D50A **G1974 Best Tow** 37.22 6 P P 03 29 03.3 -0.1
baz=189
K22A **Casper** 37.23 334 P P 03 29 02.0 -1.8
baz=144
MURC **Murrieta** 37.27 314 P P 03 29 05.2 +1.1
baz=121,SNR=5.4
TUQ **Turquoise Moun** 37.40 317 P P 03 29 05.3 +0.1
baz=125
RSSD **Black Hills** 37.47 338 P P 03 29 05.6 -0.2
baz=149
SHPR **Sheep Range** 37.52 319 *e*P P 03 29 08.9 +2.6
comp=N,1.9nm,0.8s
D54A **Lac Fusel, La** 37.66 10 P P 03 29 05.0 -2.1
baz=194
MPU **Maple Canyon** 37.72 326 *e*P P 03 29 08.7 +0.8
comp=N,3.9nm,1.0s
SHOC **Shoshone, Teco** 37.90 317 P P 03 29 11.1 +1.8
baz=125
GSC **Goldstone, Bar** 37.92 316 P P 03 29 11.0 +1.4
baz=124
BFSC **Mount Baldy Ra** 37.94 314 P P 03 29 09.8 0.0
baz=122
PSUT **Pine Spring** 37.98 323 *e*P P 03 29 11.8 +1.5
comp=N,6.1nm,0.7s
PSUT *e*PcP PcP 03 31 28.1 +2.7
CIS **Catalina Islan** 38.05 313 P P 03 29 12.0 +1.4
baz=120,SNR=7.6
TPNV **Topopah Spring** 38.49 319 *e*P P 03 29 16.8 +2.3
comp=N,12nm,0.8s
TPNV **Topopah Spring** 38.49 319 P P 03 29 16.4 +2.0
baz=126,SNR=17
DUG **Dugway, Tooele** 38.49 326 *e*P P 03 29 15.9 +1.4
comp=N,6.9nm,1.3s
DUG **Dugway, Tooele** 38.49 326 P P 03 29 14.7 +0.3
baz=133
EDW2 **Edwards Air Fo** 38.51 315 P P 03 29 15.9 +1.4
baz=122,SNR=6.0
FURC **Furnace Creek,** 38.61 318 P P 03 29 16.5 +1.3
baz=125,SNR=14
LRMC **Laurel Mtn Rad** 38.61 316 P P 03 29 17.1 +1.6
baz=123
PD31 **Pinedale Array** 38.69 331 *e*P P 03 29 15.6 -0.6
PD31 *e*PcP PcP 03 31 27.7 +0.2
PDAR **Pinedale Array** 38.69 331 P P 03 29 15.2 -0.9
comp=N,1.8nm,0.8s,baz=125,slow=8.1,SNR=15
PDAR PcP PcP 03 31 27.7 +0.2
comp=N,1.0nm,0.7s,baz=139,slow=5.0,SNR=6.9
PDAR **Pinedale Array** 38.69 331 *e*P P 03 29 14.7 -1.4
BW06 **Boulder Array** 38.69 331 *e*P P 03 29 15.6 -0.6
comp=N,4.6nm,1.0s
BW06 **Boulder Array** 38.69 331 P P 03 29 14.3 -1.9
baz=140
MPMC **Manual Prospec** 38.80 317 P P 03 29 18.7 +1.6
baz=124,SNR=12
R11A **Troy Canyon, C** 38.91 321 *e*P P 03 29 19.4 +1.3
comp=N,2.5nm,0.9s
R11A **Troy Canyon, C** 38.91 321 P P 03 29 18.8 +0.8
baz=128
DAC **Darwin (Calif)** 38.99 317 *e*P P 03 29 21.5 +2.7
comp=N,3.7nm,1.0s
SPUT **South Promonto** 39.07 327 *e*P P 03 29 19.9 +0.6
comp=N,3.0nm,0.9s
SCZ2 **Santa Cruz Isl** 39.23 313 P P 03 29 21.9 +1.4
baz=119
GRAC **Grapevine Rang** 39.24 318 P P 03 29 22.1 +1.5
baz=125,SNR=8.5
CWC **Cottonwood Cre** 39.41 317 P P 03 29 24.4 +2.2
baz=123
MDND **Maddock** 39.42 345 *e*P P 03 29 20.9 -1.0
comp=N,17nm,0.8s
HVU **Hansel Valley** 39.58 327 *e*P P 03 29 23.8 +0.3
comp=N,2.0nm,1.0s
REDW **Red Top Meadow** 39.76 331 *e*P P 03 29 24.8 -0.2
comp=N,10.0nm,1.0s
SNOW **Snow King Moun** 39.79 331 *e*P P 03 29 26.0 +0.6
comp=N,8.7nm,0.9s
PKM **Mcpherson Peak** 39.80 314 P P 03 29 26.3 +0.9
baz=120,SNR=7.1
LOHW **Long Hollow** 39.83 331 *e*P P 03 29 25.6 0.0
comp=N,6.1nm,1.3s
TPAW **Teton Pass** 39.91 331 *e*P P 03 29 26.3 0.0
comp=N,4.4nm,0.8s
MOOW **Moose Ponds** 40.00 331 *e*P P 03 29 26.8 -0.3
comp=N,2.7nm,1.0s
ELK **Elko** 40.23 324 P P 03 29 29.4 +0.3
comp=N,2.6nm,0.8s,baz=130,slow=8.4,SNR=14
ELK PcP PcP 03 31 33.9 +1.5
comp=N,1.9nm,0.8s,baz=134,slow=2.0,SNR=7.0
ELK **Elko** 40.23 324 *e*P P 03 29 30.1 +1.1
comp=N,3.3nm,0.8s
ELK *e*PcP PcP 03 31 34.1 +1.7
FLWY **Flagg Ranch** 40.23 332 *e*P P 03 29 29.1 +0.1
comp=N,10nm,1.3s
RLMT **Red Lodge** 40.40 334 *e*P P 03 29 29.7 -0.6
comp=N,3.7nm,1.0s
RLMT **Red Lodge** 40.40 334 P P 03 29 28.5 -1.8
baz=142
PAGB **Antelope Grade** 40.53 315 *e*P P 03 29 32.4 +1.2
comp=N,18nm,1.1s
OMMB **Old Mammoth Mi** 40.67 318 *e*P P 03 29 35.4 +2.6
comp=N,5.5nm,0.9s
NV01 **Mina Array Sit** 40.67 319 *e*P P 03 29 34.3 +1.6
NV01 *e*PcP PcP 03 31 35.6 +1.8
NVAR **Mina Array Bea** 40.67 319 P P 03 29 34.7 +2.0
comp=N,15nm,0.7s,baz=129,slow=7.4,SNR=89
NVAR PcP PcP 03 31 35.7 +1.8
comp=N,3.2nm,0.8s,baz=139,slow=4.2,SNR=6.3
MDPB **Devils Postpil** 40.73 318 *e*P P 03 29 36.0 +2.7
comp=N,10nm,0.8s
YMR **Madison River** 40.80 332 *e*P P 03 29 34.6 +1.0
comp=N,5.8nm,1.0s
ULM **Lac du Bonnet** 40.90 350 P P 03 29 30.8 -3.3
comp=N,3.2nm,0.6s,baz=164,slow=7.3,SNR=6.2
ULM PcP PcP 03 31 34.0 -0.1
comp=N,3.8nm,0.7s,baz=102,slow=3.8,SNR=6.5
KVN **Kaiserville** 40.91 320 *e*P P 03 29 36.1 +1.5
comp=N,7.4nm,0.8s
RYN **Ryan** 40.93 319 *e*P P 03 29 36.9 +2.2
comp=N,7.8nm,0.8s
BMN **Battle Mountai** 41.20 322 *e*P P 03 29 38.3 +1.4
comp=N,16nm,1.5s
WAKR **Walker** 41.45 319 *e*P P 03 29 41.4 +2.3
comp=N,12nm,0.8s
YERR **Yerington** 41.59 319 *e*P P 03 29 42.0 +1.8
comp=N,10nm,0.8s
HLID **Hailey** 41.69 328 *e*P P 03 29 40.9 0.0
comp=N,3.2nm,0.8s
HLID **Hailey** 41.69 328 P P 03 29 40.6 -0.4
baz=134
MCMT **McKenzie Canyo** 41.81 331 *e*P P 03 29 42.1 +0.2
CMB **Columbia Colle** 41.82 317 *e*P P 03 29 43.8 +1.9
comp=N,3.7nm,0.9s
PNTR **Pine Nut** 41.88 319 *e*P P 03 29 44.9 +2.2
comp=N,15nm,0.8s
VCNR **Virginia City** 42.03 319 *e*P P 03 29 46.3 +2.5
comp=N,3.6nm,0.7s
PAHR **Rah Range** 42.10 320 *e*P P 03 29 46.6 +2.3
comp=N,4.0nm,0.7s
AFDM **Forest Hills D** 42.70 318 *e*P P 03 29 51.1 +2.1
comp=N,3.5nm,1.1s
BEKR **Beckworth** 42.80 320 *e*P P 03 29 51.9 +1.8
comp=N,3.7nm,0.8s
EGMT **Eagleton** 42.92 336 P P 03 29 50.0 -0.7
baz=143
WVOR **Wild Horse Val** 43.27 324 *e*P P 03 29 54.0 +0.2
comp=N,7.6nm,0.8s
ORV **Oroville** 43.37 319 *e*P P 03 29 56.7 +2.3
comp=N,6.5nm,0.8s
J08A **Circle Bar Ran** 43.76 325 *e*P P 03 29 57.6 0.0
comp=N,7.1nm,1.4s
MSO **Missoula** 43.80 332 P P 03 29 56.1 -1.8
baz=137
O03E **Paynes Creek** 43.96 319 P P 03 29 59.4 +0.2
baz=123
BMO **Blue Mountains** 44.09 327 *e*P P 03 29 59.2 -1.0
comp=N,3.4nm,0.9s
O02D **Mt. Diablo Mer** 44.54 319 P P 03 30 04.3 +0.5
baz=122
M04C **Macdoel** 44.81 321 P P 03 30 06.2 +0.1
baz=124
N02D **Trinity Center** 44.91 320 P P 03 30 06.4 -0.5
baz=122
BDFB **Brasilia** 45.13 124 P P 03 30 08.4 -0.5
comp=N,2.1nm,0.6s,baz=240,slow=6.0,SNR=5.6
M02C **Callahan** 45.23 320 P P 03 30 10.2 +0.8
baz=123
K04D **Chiloquin, OR** 45.23 322 P P 03 30 08.3 -1.1
baz=125
YBH **Yreka Blue Hor** 45.32 321 P P 03 30 09.3 -0.8
comp=N,1.5nm,0.5s,baz=70,slow=4.1,SNR=6.2
L04D **Klamath Falls** 45.34 321 P P 03 30 09.5 -0.8
baz=124
CPUP **Villa Florida** 45.45 143 LR LR 03 49 58.2
comp=N,74nm,19.1s,baz=334,slow=37
J04D **Umpqua Nationa** 45.80 323 P P 03 30 14.1 +0.1
baz=125
HAWA **Hanford** 46.28 328 *e*P P 03 30 17.1 -0.4
comp=N,4.7nm,0.8s
I04A **Tendick Farm,** 46.30 323 P P 03 30 18.0 +0.3
baz=125
FFC **Flin Flon** 46.36 347 *e*P P 03 30 16.9 -1.0
comp=N,2.9nm,0.8s
G05D **Wamic, OR** 46.53 325 P P 03 30 19.8 +0.4
baz=127
H04A **Detroit Lake** 46.69 324 *e*P P 03 30 20.8 0.0
comp=N,5.9nm,0.6s
I03D **Drain, OR** 46.80 322 P P 03 30 20.1 -1.5
baz=124
J01E **Myrtle Point** 46.86 321 P P 03 30 22.7 +0.6
baz=123
H04D **Lebanon** 46.91 324 P P 03 30 22.2 -0.3
baz=125
SCHQ **Schefferville** 46.99 15 P P 03 30 19.6 -3.3
comp=N,6.1nm,0.5s,baz=204,slow=6.1,SNR=9.8
SCHQ LR LR 03 50 57.3
comp=N,228nm,18.4s,baz=252,slow=37
SCHQ **Schefferville** 46.99 15 *e*P P 03 30 19.6 -3.3
comp=N,29nm,1.4s
F05D **White Salmon** 47.00 326 P P 03 30 22.9 -0.2
baz=128
G03D **McMinnville, O** 47.62 324 P P 03 30 28.0 +0.1
baz=125
D03D **Eldon** 48.89 327 P P 03 30 36.3 -1.5
baz=127
A04D **Lummi Island** 49.42 328 P P 03 30 40.3 -1.4
baz=128
PLCA **Paso Flores** 52.47 166 P P 03 31 06.4 +1.6
comp=N,1.6nm,0.8s,baz=24,slow=5.5,SNR=3.1
PLCA **Paso Flores** 52.47 166 *e*P P 03 31 06.4 +1.6
comp=N,9.3nm,1.4s
FRB **Frobisher Bay** 54.88 9 P P 03 31 19.0 -3.0
comp=N,0.8nm,0.4s,baz=206,slow=6.2,SNR=8.9
YKA **Yellowknife Ar** 56.33 344 P P 03 31 30.5 -2.0
comp=N,1.3nm,0.4s,baz=132,slow=8.2,SNR=55
YKA PcP PcP 03 32 29.5 +0.2
comp=N,0.7nm,0.8s,baz=141,slow=4.3,SNR=4.2
YKB5 **Yellowknife Ar** 56.33 344 *e*P P 03 31 30.5 -2.0
YKB5 *e*PcP PcP 03 32 29.6 +0.2
YKW3 **Yellowknife Ar** 56.39 344 *e*P P 03 31 30.4 -2.5
comp=N,4.3nm,1.0s
DLBC **Dease Lake** 58.80 334 P P 03 31 49.9 -0.2
comp=N,6.2nm,0.9s,baz=229,slow=0.4,SNR=7.6
DLBC **Dease Lake** 58.80 334 *e*P P 03 31 49.9 -0.2
comp=N,20nm,1.4s
RES **Resolute Bay** 64.74 357 P P 03 32 27.4 -2.3
comp=N,1.4nm,0.7s,baz=174,slow=13,SNR=5.9
EPYK **Eagle Plains** 65.88 340 *e*P P 03 32 36.8 -0.4
comp=N,6.2nm,0.8s
EPYK **Eagle Plains** 65.88 340 P P 03 32 36.0 -1.2
baz=123
INK **Inuvik** 65.97 342 P P 03 32 36.2 -1.4
comp=N,5.6nm,0.9s,baz=110,slow=6.4,SNR=13
INK **Inuvik** 65.97 342 *e*P P 03 32 37.0 -0.6
comp=N,5.8nm,0.8s
RIDG **Independ'e Rid** 67.66 336 *e*P P 03 32 49.1 +0.5
comp=N,12nm,0.9s
HDA **Harding Lake** 68.77 336 *e*P P 03 32 54.9 -0.6
comp=N,8.0nm,0.9s
HDA **Harding Lake** 68.77 336 P P 03 32 54.0 -1.5
baz=112,SNR=5.3
IL1 **Eielson Array** 68.89 336 *e*P P 03 32 54.0 -2.2
ILAR **Eielson Array** 68.89 336 P P 03 32 55.4 -0.9
comp=N,3.5nm,0.7s,baz=129,slow=4.4,SNR=38
ILB **Eielson Array** 68.89 336 *e*P P 03 32 55.6 -0.6
RND **Reindeer** 69.20 335 *e*P P 03 32 58.5 +0.3
comp=N,22nm,0.8s
POKR **Poker Plat Res** 69.23 336 P P 03 32 57.4 -0.9
baz=112
SUA **Susitna One** 69.42 332 *e*P P 03 32 59.8 +0.1
comp=N,12nm,0.8s
MLY **Manley** 70.52 336 *e*P P 03 33 06.0 -0.3
comp=N,6.0nm,0.7s
SVW2 **Sparrevohn** 71.58 331 *e*P P 03 33 15.2 +2.5
comp=N,49nm,0.6s
ESDC **Sonseca Array** 77.14 52 P P 03 33 43.6 -2.1
comp=N,0.8nm,0.7s,baz=288,slow=6.3,SNR=3.4
ADK **Adak** 82.82 321 *e*P P 03 34 17.5 +1.5
comp=N,60nm,0.8s
WLF **Walferdange** 83.45 41 ⇓P P 03 34 20.5 +1.2
comp=Z,20nm,2.3s
GERES **GERESS Array B** 88.46 41 LR LR 04 07 51.8
comp=Z,88nm,21.4s,baz=297,slow=31
TIXI **Tiksi** 95.25 350 *e*P P 03 35 17.4 +2.5
comp=Z,10.0nm,0.2s
SONA0 **Songino Array** 121.33 351 *e*PKPdf PKPdf 03 40 44.9 -0.1
SONM **Songino Array** 121.33 351 PKP PKPdf 03 40 44.9 -0.1
comp=Z,1.3nm,0.8s,baz=348,slow=1.0,SNR=8.9
MK32 **Makanchi Array** 122.30 10 *e*PKPdf PKPdf 03 40 45.8 -1.0
comp=Z,0.6nm,0.7s,baz=327,slow=2.0,SNR=7.1
MKAR **Makanchi Array** 122.30 10 PKP PKPdf 03 40 45.8 -1.0
comp=Z,0.6nm,0.7s,baz=327,slow=2.0,SNR=7.1
KSRS **Korea Array** 123.22 328 PKP PKPdf 03 40 49.4 +0.7
comp=Z,4.8nm,0.7s,baz=355,slow=1.8,SNR=20
KS15 **Wonju Array Si** 123.25 328 *e*PKPdf PKPdf 03 40 49.4 +0.6
KSAR **Wonju Array Be** 123.25 328 PKP PKPdf 03 40 49.4 +0.6
WMQ **Urumqi** 125.95 6 *e*PKP PKPdf 03 40 54.8 +0.9
HHC **Hu-ho-hao-te** 126.87 344 *e*PKP PKPdf 03 40 55.5 -0.3
KSH **Kashi** 127.70 18 PKP PKPdf 03 40 57.8 +0.3
KSH sPKP 03 41 12.5
KSH PP PP 03 43 01.9 +4.1
KSH PKS PKSdf 03 44 32.6 -1.6
KSH SKS SKSdf 03 48 02.9 -3.3
KSH SKKS SKKSac 03 49 50.4 -3.0
KSH LR LR
comp=Z,170nm,10.6s
GTA **Gaotai** 130.46 355 *e*PKP PKPdf 03 41 03.4 +0.7
GTA sPKP 03 41 15.4
NJ2 **Nanjing** 132.00 332 *e*PKP PKPdf 03 41 06.6 +0.9
LZH **Lanzhou** 133.19 350 *e*PKP PKPdf 03 41 07.3 -0.7
LZH sPKP 03 41 20.1
LZH LR LR
comp=Z,74nm,17.9s
LZH LR LR
comp=Z,80nm,18.1s
LZH LR LR
comp=Z,110nm,20.0s
AS31 **Alice Springs** 140.08 245 *e*PKPdf PKPdf 03 41 20.8 -0.1
ASAR **Alice Springs** 140.08 245 PKP PKPdf 03 41 20.8 -0.1
comp=Z,0.5nm,0.8s,baz=102,slow=2.9,SNR=3.8
WR1 **Warramunga Arr** 140.37 251 *e*PKPdf PKPdf 03 41 21.9 +0.4
WRA **Warramunga Arr** 140.37 251 PKP PKPdf 03 41 21.9 +0.4
comp=Z,1.0nm,0.8s,baz=92,slow=2.4,SNR=5.9
CM31 **Chiang Mai Arr** 151.25 351 *e*PKPdf PKPdf 03 41 40.0 0.0
CM31 *e*PKPbc PKPbc 03 41 46.2 +0.3
CMAR **Chiang Mai Arr** 151.25 351 PKP PKPdf 03 41 40.0 0.0
comp=Z,1.2nm,0.4s,baz=307,slow=3.0,SNR=8.6
CMAR PKPbc PKPbc 03 41 46.2 +0.3
comp=Z,9.8nm,0.8s,baz=340,slow=3.2,SNR=35

*ISCJB **23** 03:23:08.6±0.5, 18.00N±0.09×68.51W±0.03, h88km±14km, Error ellipse: s-maj=14.4km s-min=4.0km az=3.0*
*NEIC **23** 03:23:10.6±0.0, 18.10N×68.48W, h79km, MD3.6(RSPR), After RSPR.*
*RSPR **23** 03:23:10.6, 18.10N×68.48W, h79km±2km, MD3.5/19*

ISC 23 03:23:09.7±1.1, 18.01N±0.10×68.51W±0.03, h74km±18km, n66, σ0.55/89, 21C-15D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
DR12	**Loma Pena Alta**	**1.14**	**313**	⇓*e*P		Pn	**03 23 29.7**	**-0.5**
DR12				*e*S		Sn	**03 23 45.4**	**-0.1**
DR12	**Loma Pena Alta**	**1.14**	**313**	⇓*e*P		Pn	**03 23 29.7**	**-0.5**
DR12				*e*S		Sn	**03 23 45.4**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.33**	**90**	⇓*i*P		Pn	**03 23 32.6**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.33**	**90**	*e*S		Sn	**03 23 49.9**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.33**	**90**	⇓*i*P		Pn	**03 23 32.6**	**+0.1**
CRPR				*e*S		Sn	**03 23 49.9**	**+0.1**
LSP	**Las Mesas**	**1.36**	**83**	⇓*i*P		Pn	**03 23 33.2**	**+0.1**
LSP	**Las Mesas**	**1.36**	**83**	*e*S		Sn	**03 23 51.0**	**+0.4**
LSP	**Las Mesas**	**1.36**	**83**	⇓*i*P		Pn	**03 23 33.2**	**+0.1**
LSP				*e*S		Sn	**03 23 51.0**	**+0.4**
AGPR	**Aguadilla, PR**	**1.41**	**71**	⇑*e*P		Pn	**03 23 33.8**	**+0.3**
AGPR	**Aguadilla, PR**	**1.41**	**71**	*e*S		Sn	**03 23 52.0**	**+0.5**
AGPR	**Aguadilla, PR**	**1.41**	**71**	⇑*e*P		Pn	**03 23 33.8**	**+0.3**
AGPR				*e*S		Sn	**03 23 52.0**	**+0.5**
GBPR	**Guanica, Bosqu**	**1.55**	**91**	⇓*e*P		Pn	**03 23 35.6**	**+0.2**
GBPR	**Guanica, Bosqu**	**1.55**	**91**	*e*S		Sn	**03 23 55.4**	**+0.5**
GBPR	**Guanica, Bosqu**	**1.55**	**91**	⇓*e*P		Pn	**03 23 35.6**	**+0.2**
GBPR				*e*S		Sn	**03 23 55.4**	**+0.5**
OBIP	**Obispado Ponce**	**1.81**	**89**	⇑*e*P		Pn	**03 23 39.1**	**+0.2**
OBIP	**Obispado Ponce**	**1.81**	**89**	*e*S		Sn	**03 24 01.4**	**+0.3**
OBIP	**Obispado Ponce**	**1.81**	**89**	⇑*e*P		Pn	**03 23 39.1**	**+0.2**
OBIP				*e*S		Sn	**03 24 01.4**	**+0.3**
CELP	**Cerrillos**	**1.84**	**88**	⇑*e*P		Pn	**03 23 39.2**	**-0.1**
CELP				*e*S		Sn	**03 24 01.5**	**-0.2**
CELP	**Cerrillos**	**1.84**	**88**	⇑*e*P		Pn	**03 23 39.2**	**-0.1**
CELP				*e*S		Sn	**03 24 01.5**	**-0.2**
ICMP	**Isla Caja de M**	**1.89**	**93**	⇑*e*P		Pn	**03 23 40.1**	**+0.1**
ICMP	**Isla Caja de M**	**1.89**	**93**	*e*S		Sn	**03 24 03.2**	**+0.2**
ICMP	**Isla Caja de M**	**1.89**	**93**	⇑*e*P		Pn	**03 23 40.1**	**+0.1**
ICMP				*e*S		Sn	**03 24 03.2**	**+0.2**
EMPR	**Esperanza - Ma**	**1.94**	**76**	⇑*e*P		Pn	**03 23 40.8**	**+0.2**
EMPR	**Esperanza - Ma**	**1.94**	**76**	*e*S		Sn	**03 24 04.3**	**+0.2**
EMPR	**Esperanza - Ma**	**1.94**	**76**	⇑*e*P		Pn	**03 23 40.8**	**+0.2**
EMPR				*e*S		Sn	**03 24 04.3**	**+0.2**
SJG	**San Juan**	**2.25**	**87**	⇓*e*P		Pn	**03 23 44.2**	**-0.5**
SJG	**San Juan**	**2.25**	**87**	*e*S		Sn	**03 24 12.0**	**+0.5**
SJG	**San Juan**	**2.25**	**87**	⇓*e*P		Pn	**03 23 44.2**	**-0.5**
SJG				*e*S		Sn	**03 24 12.0**	**+0.5**
SJG	**San Juan**	**2.25**	**87**	*e*P		Pn	**03 23 44.0**	**-0.7**
SJG	**San Juan**	**2.25**	**87**	*e*P		Pn	**03 23 44.0**	**-0.7**
HUMP	**Col San Antoni**	**2.53**	**87**	⇑*e*P		Pn	**03 23 48.8**	**+0.2**
HUMP	**Col San Antoni**	**2.53**	**87**	⇓*e*P		Pn	**03 23 49.6**	**+1.0**
HUMP				*e*S		Sn	**03 24 18.3**	**-0.2**
HUMP	**Col San Antoni**	**2.53**	**87**	⇑*e*P		Pn	**03 23 48.8**	**+0.2**
HUMP				*e*S		Sn	**03 24 18.2**	**-0.2**
CBYP	**Canovanas**	**2.54**	**84**	⇓*e*P		Pn	**03 23 48.8**	**+0.1**
CBYP	**Canovanas**	**2.54**	**84**	⇑*e*P		Pn	**03 23 48.9**	**+0.1**
CBYP				*e*S		Sn	**03 24 18.8**	**+0.1**
CBYP	**Canovanas**	**2.54**	**84**	*e*S		Sn	**03 24 17.9**	**-0.8**
CBYP	**Canovanas**	**2.54**	**84**	⇓*e*P		Pn	**03 23 48.8**	**+0.1**
CBYP				*e*S		Sn	**03 24 18.8**	**+0.1**
SDDR	**Presa de Saban**	**2.81**	**291**	*e*Pn		Pn	**03 23 53.9**	**+1.5**
SDDR				*e*Sn		Sn	**03 24 25.9**	**+0.6**
MTP	**Monte Pirata**	**2.81**	**88**	⇑*e*P		Pn	**03 23 53.0**	**+0.5**
MTP	**Monte Pirata**	**2.81**	**88**	*e*S		Sn	**03 24 25.6**	**+0.2**
MTP	**Monte Pirata**	**2.81**	**88**	⇑*e*P		Pn	**03 23 53.0**	**+0.5**
MTP				*e*S		Sn	**03 24 25.6**	**+0.2**
CUPR	**Culebra, Puert**	**3.08**	**84**	⇑*e*P		Pn	**03 23 56.0**	**-0.1**
CUPR	**Culebra, Puert**	**3.08**	**84**	*e*S		Sn	**03 24 32.2**	**+0.4**
CUPR	**Culebra, Puert**	**3.08**	**84**	⇑*e*P		Pn	**03 23 56.0**	**-0.1**
CUPR				*e*S		Sn	**03 24 32.2**	**+0.4**
STVI	**Saint Thomas**	**3.40**	**84**	⇑*e*P		Pn	**03 24 00.5**	**+0.2**
STVI	**Saint Thomas**	**3.40**	**84**	*e*S		Sn	**03 24 39.1**	**-0.4**
STVI	**Saint Thomas**	**3.40**	**84**	⇑*e*P		Pn	**03 24 00.5**	**+0.2**
STVI				*e*S		Sn	**03 24 39.1**	**-0.4**
CDVI	**St. Croix**	**3.57**	**93**	⇑*e*P		Pn	**03 24 02.5**	**-0.3**
CDVI	**St. Croix**	**3.57**	**93**	*e*S		Sn	**03 24 44.1**	**+0.3**
CDVI	**St. Croix**	**3.57**	**93**	⇑*e*P		Pn	**03 24 02.5**	**-0.3**
CDVI				*e*S		Sn	**03 24 44.1**	**+0.3**
TBVI	**Tortola**	**3.72**	**83**	⇓*e*P		Pn	**03 24 04.7**	**-0.1**
TBVI				*e*S		Sn	**03 24 47.9**	**+0.5**
TBVI	**Tortola**	**3.72**	**83**	⇓*e*P		Pn	**03 24 04.7**	**-0.1**
TBVI				*e*S		Sn	**03 24 47.9**	**+0.5**
OCAC	**Ocana**	**10.78**	**206**	*e*P		Pn	**03 25 41.1**	**-0.2**
OCAC	**Ocana**	**10.78**	**206**	*e*P		Pn	**03 25 41.1**	**-0.2**
PAMC	**Pamplona, Colo**	**11.36**	**202**	*e*P		Pn	**03 25 50.2**	**+0.6**
PAMC	**Pamplona, Colo**	**11.36**	**202**	*e*P		Pn	**03 25 50.2**	**+0.6**
BRRC	**Barranca, Sant**	**11.96**	**206**	*e*P		Pn	**03 25 56.0**	**-1.3**
BRRC	**Barranca, Sant**	**11.96**	**206**	*e*P		Pn	**03 25 56.0**	**-1.3**
BARC	**Barichara**	**12.23**	**202**	*e*P		Pn	**03 26 01.0**	**-0.2**
BARC	**Barichara**	**12.23**	**202**	*e*P		Pn	**03 26 01.0**	**-0.2**
PTBC	**PUERTO BERRIO,**	**12.79**	**208**	*e*P		Pn	**03 26 06.8**	**-1.8**
PTBC	**PUERTO BERRIO,**	**12.79**	**208**	*e*P		Pn	**03 26 06.8**	**-1.8**
RUSC	**La Rusia**	**12.84**	**201**	*e*P		Pn	**03 26 11.0**	**+1.2**
RUSC	**La Rusia**	**12.84**	**201**	*e*P		Pn	**03 26 11.0**	**+1.2**
CHIC	**Chingaza**	**14.24**	**202**	*e*P		Pn	**03 26 27.6**	**-0.6**
CHIC	**Chingaza**	**14.24**	**202**	*e*P		Pn	**03 26 27.6**	**-0.6**

*NNC **23** 03:48:37.7±3.4, 36.07N×69.10E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=30.5km s-min=21.7km az=155.0*
*ISCJB **23** 03:48:58.1±1.6, 37.5N±0.1×70.01E±0.10, h10km, mb3.2/3, Error ellipse: s-maj=18.5km s-min=11.0km az=9.0*
*IDC **23** 03:48:58.4±2.3, 37.51N×70.12E, h0km, mb3.4/3, mb1 3.7/8, mb1mx3.4/41, mbtmp3.6/8, ML3.2/5, Error ellipse: s-maj=40.7km s-min=21.9km az=151.0*

ISC 23 03:48:57.9±1.4, 37.4N±0.1×70.11E±0.08, h10km, n23, σ2.907/27, mb3.3/3, 7C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.74**	**44**	⇑P		Pb	**03 50 00.4**	**-3.8**
	18nm,0.5s							
SFK				⇓S		Sg	**03 50 58.6**	**+0.5**
	46nm,0.5s							
MNAS	**Manas**	**5.43**	**19**	⇑P		Pn	**03 50 19.0**	**0.0**

	2.1nm,0.3s								
MNAS					⇑S		**Sb**	**03 51 41.4**	**+3.3**
	11nm,0.6s								
AML	**Almayashu**	**5.50**	**29**	P			**Pn**	**03 50 21.4**	**+1.2**
	SNR=8.9								
KK31	**Karatay Array**	**5.73**	**3**	⇓P			**Pn**	**03 50 21.9**	**-1.2**
	1.8nm,0.4s,baz=199,slow=16,SNR=23								
KK31					⇓S		**Sb**	**03 51 47.0**	**+0.4**
	8.5nm,0.5s,baz=186,slow=30,SNR=8.2								
UCH	**Uchtor**	**5.92**	**34**	P			**Pn**	**03 50 27.4**	**+1.4**
	SNR=8.7								
EKS2	**Erkin-Say**	**5.98**	**27**	P			**Pn**	**03 50 29.3**	**+2.7**
	SNR=5.2								
KZA	**Kyzart**	**6.14**	**39**	P			**Pn**	**03 50 32.3**	**+3.2**
	SNR=8.8								
AAK	**Ala-Archa**	**6.24**	**31**	Pn			**Pn**	**03 50 32.2**	**+2.0**
	3.0nm,0.3s,baz=157,slow=3.5,SNR=34								
AAK					Lg		Lg	03 52 11.3	
	0.5nm,0.3s,baz=345,slow=20,SNR=3.3								
AAK	**Ala-Archa**	**6.24**	**31**	P			**Pn**	**03 50 32.8**	**+2.6**
	SNR=10								
AAK	**Ala-Archa**	**6.24**	**31**	⇓P			**Pn**	**03 50 32.1**	**+1.8**
	4.5nm,0.5s								
AAK					⇑S		**Sb**	**03 52 03.2**	**+1.7**
	10nm,0.7s								
CHMS	**Chumysh**	**6.65**	**31**	P			**Pn**	**03 50 38.0**	**+2.3**
	SNR=8.7								
TKM2	**Tokmak 2**	**6.95**	**36**	P			**Pn**	**03 50 41.1**	**+1.1**
	SNR=6.7								
TKM2	**Tokmak 2**	**6.95**	**36**	⇓P			**Pn**	**03 50 40.8**	**+0.8**
	3.7nm,0.6s								
TKM2					⇑S		**Sb**	**03 52 21.1**	**-0.9**
	7.4nm,0.8s								
MKAR	**Makanchi Array**	**13.04**	**40**	Pn			**Pn**	**03 52 04.2**	**+1.0**
	0.1nm,0.3s,baz=233,slow=12,SNR=18								
AB31	**Akbulak array**	**13.97**	**331**	⇓P			Pn	03 52 09.7	-6.2
	0.7nm,0.5s,baz=148,slow=12,SNR=4.2								
AB31					⇑S		**Sn**	**03 54 52.0**	**+1.0**
	0.6nm,0.5s,baz=158,slow=22,SNR=4.7								
KURBB	**Kurchatov Arra**	**14.55**	**22**	Pn			**Pn**	**03 52 20.6**	**-3.1**
	0.1nm,0.3s,baz=213,slow=12,SNR=3.1								
BVAR	**Borovoye Array**	**15.65**	**1**	Pn			**Pn**	**03 52 36.0**	**-2.5**
	0.2nm,0.3s,baz=166,slow=12,SNR=4.4								
AKTO	**Aktyubinsk**	**15.66**	**330**	Pn			**P**	**03 52 40.9**	**-1.9**
	0.4nm,0.3s,baz=139,slow=7.8,SNR=16								
AKTO	**Aktyubinsk**	**15.66**	**330**	⇑P			Pn	03 52 28.7	-10
	6.8nm,0.8s								
ZALV	**Zalesovo Beam**	**19.44**	**27**	P			**P**	**03 53 23.1**	**-1.3**
	0.2nm,0.3s,baz=228,slow=12,SNR=8.5								
KBZ	**Khabaz**	**21.57**	**296**	P			**P**	**03 53 48.5**	**+1.0**
	1.7nm,0.8s,baz=204,slow=20,SNR=4.1								
SONM	**Songino Array**	**28.44**	**57**	P			**P**	**03 54 55.3**	**+2.3**
	0.2nm,0.5s,baz=262,slow=9.9,SNR=3.2								
YKA	**Yellowknife Ar**	**80.40**	**2**	P			**P**	**04 01 10.0**	**+0.8**
	0.3nm,0.8s,baz=351,slow=5.7,SNR=5.2								

MEX 23 04:13:06.0±0.6, 16°.57N×99°.05W, h17km±999km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.90**	**101**	*i*	P	Pb	04 13 20.1	-3.1
PNIG				*e*	S	Sb	04 13 31.0	-3.9

*ANF **23** 04:16:18.5±1.1, 32°.82N×97°.01W, h5km±8km, ML3.8/11, Error ellipse: s-maj=5.1km s-min=3.5km az=153.0*
*NEIC **23** 04:16:18.9±0.5, 32°.89N×97°.00W, h5km, MN3.0, Error ellipse: s-maj=8.2km s-min=4.7km az=160.0*
NEIC Felt [III] at Carrollton, Dallas, Euless, Fort Worth, Grand Prairie, Grapevine and Irving; [II] at Bedford, Colleyville, Coppell, Flower Mound, Lewisville, Roanoke and Southlake. Also felt at Arlington, Garland, Hurst, Plano, Richardson, Springtown, Waxahachie and Wylie.

ISC 23 04:16:17.6±1.3, 32°.87N±0°.03×96°.98W±0°.03, h1km±10km, n40, σ1°973/55, Central Texas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WHTX	**Lake Whitney,**	**0.97**	**205**	P		**Pg**	**04 16 36.5**	**+0.3**
	baz=24							
WHTX				S		**Sg**	**04 16 48.4**	**-0.4**
	baz=24							
435B	**Jarrell**	**2.15**	**194**	*e*Pn		**Pn**	**04 16 55.1**	**+0.6**
435B				*e*Sn		**Sb**	**04 17 23.8**	**-0.6**
435B	**Jarrell**	**2.15**	**194**	Sb		**Sb**	**04 17 25.8**	**+1.3**
	baz=13							
X37A	**Clayton**	**2.17**	**38**	*e*Pn		**Pb**	**04 16 56.7**	**-1.0**
X37A				*e*Pg		**Pn**	**04 16 57.4**	**+2.5**
X37A				*e*Sn		**Sn**	**04 17 20.8**	**-1.6**
NATX	**Nacogdoches**	**2.25**	**119**	*e*Pn		**Pn**	**04 16 57.2**	**+1.2**
ABTX	**Abilene, Hawle**	**2.26**	**264**	*e*Pn		**Pb**	**04 16 58.0**	**-1.3**
ABTX				*e*Sn		**Sn**	**04 17 25.4**	**+0.7**
ABTX	**Abilene, Hawle**	**2.26**	**264**	P		**Pn**	**04 16 56.4**	**+0.2**
	baz=84							
ABTX				Sb		**Sb**	**04 17 27.9**	**+0.2**
	baz=84							
WMOK	**Wichita Mounta**	**2.39**	**322**	*e*Pn		**Pn**	**04 16 58.0**	**+0.1**
WMOK				*e*Sn		**Sn**	**04 17 27.9**	**0.0**
WMOK	**Wichita Mounta**	**2.39**	**322**	P		**Pn**	**04 16 59.1**	**+1.2**
	baz=142							
WMOK				S		**Sb**	**04 17 31.3**	**-0.2**
	baz=142							
TUL1	**Leonard**	**3.18**	**18**	*e*Pn		**Pn**	**04 17 08.6**	**-0.2**
TUL1				*e*Sn		**Sn**	**04 17 47.2**	**-0.2**
MIAR	**Mount Ida**	**3.29**	**59**	*e*Pn		**Pn**	**04 17 11.1**	**+0.9**
MIAR				*e*Sn		**Sn**	**04 17 50.7**	**+0.7**
MIAR	**Mount Ida**	**3.29**	**59**	P		**Pn**	**04 17 11.0**	**+0.7**
	baz=240							
JCT	**Junction City**	**3.39**	**226**	*e*Pn		**Pn**	**04 17 11.9**	**+0.2**
JCT				*e*Sn		**Sn**	**04 17 53.6**	**+1.0**
JCT	**Junction City**	**3.39**	**226**	P		**Pn**	**04 17 11.8**	**+0.1**
	baz=45							
W39A	**Magazine**	**3.52**	**48**	*e*Pn		**Pn**	**04 17 16.2**	**+2.8**
Z41A	**Richland Creek**	**3.52**	**83**	P		**Pn**	**04 17 14.6**	**+1.1**
	baz=264							
Y41A	**Eaglette Beard**	**3.79**	**73**	P		**Pn**	**04 17 18.1**	**+1.0**
	baz=255							
Y41A				S		**Sn**	**04 18 01.1**	**-1.2**
	baz=255							
X40A	**Basin Creek Fa**	**3.81**	**64**	*e*Sg		**Sg**	**04 18 21.5**	**+1.4**
U32A	**Winter Ranch,**	**3.88**	**335**	*e*Pg		**Pb**	**04 17 28.9**	**+2.1**
X41A	**Kaden, Bauxite**	**4.06**	**65**	P		**Pn**	**04 17 21.9**	**+1.1**
	baz=247							
HHAR	**Hobbs**	**4.22**	**36**	*e*Pg		**Pb**	**04 17 33.5**	**+0.9**
Z42A	**Norrel Spur, H**	**4.24**	**83**	S		**Sn**	**04 18 12.3**	**-1.2**
	baz=265							
AMTX	**Amarillo**	**4.40**	**298**	*e*Pn		**Pn**	**04 17 25.2**	**-0.4**
AMTX				*e*Sn		**Sn**	**04 18 15.6**	**-1.9**
CCAR	**Cane Creek**	**4.48**	**75**	*e*Pn		**Pn**	**04 17 28.1**	**+1.5**
W41B	**Gary Mavity, V**	**4.55**	**58**	*e*Sn		**Sn**	**04 18 23.4**	**+2.4**
W41B	**Gary Mavity, V**	**4.55**	**58**	P		**Pn**	**04 17 28.8**	**+1.3**
	baz=241							
U40A	**Yellville**	**4.86**	**43**	P		**Pn**	**04 17 33.9**	**+2.1**
	baz=225							
MSTX	**Muleshoe**	**4.97**	**284**	*e*Pn		**Pn**	**04 17 34.2**	**+0.8**
833A	**Chaparral WMA,**	**4.99**	**205**	*e*Pn		**Pn**	**04 17 36.7**	**+3.0**
KSU1	**Kansas State U**	**6.22**	**3**	*e*Pn		**Pn**	**04 17 53.1**	**+2.6**
GDL2	**Guadalupe Moun**	**6.28**	**266**	*e*Pn		**Pn**	**04 17 53.9**	**+2.4**
CBKS	**Cedar Bluff**	**6.34**	**340**	*e*Pn		**Pn**	**04 17 52.0**	**-0.2**
T42A	**Van Buren**	**6.37**	**48**	*e*Pn		**Pn**	**04 17 54.0**	**+1.5**
T42A				*e*Sn		**Sn**	**04 19 03.9**	**-2.0**
TX31	**Lajitas Ar. Si**	**6.74**	**240**	*e*Pn		**Pn**	**04 17 59.5**	**+1.7**
TX31				*e*Sn		**Sn**	**04 19 14.7**	**-0.4**
MNTX	**Cornudas Mount**	**7.21**	**263**	*e*Pn		**Pn**	**04 18 06.9**	**+2.7**
T25A	**Trinidad**	**7.44**	**307**	*e*Pg		**Pb**	**04 18 31.8**	**+4.3**
T25A				*e*Sg		**Sg**	**04 20 11.0**	**-5.5**
ANMO	**Albuquerque**	**8.15**	**287**	*e*Pn		**Pn**	**04 18 16.3**	**-0.9**
BNM	**Barren Site**	**8.16**	**282**	*e*Pg		Pg	04 18 47.3	-6.7
WVT	**Waverly**	**8.22**	**64**	*e*Pn		**Pn**	**04 18 18.2**	**+0.2**
M48A	**Edgerton**	**13.00**	**45**	*e*Sn		**Sn**	**04 21 46.4**	**-2.4**

MAN 23 04:17:57.4, 6°.82N×126°.19E, h19km, mb4.6, ML3.4, MS3.3, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MATI	**Mati**	**0.14**	**28**	*e*P		Pg	04 18 02.2	+0.6
MATI				*e*S		Sg	04 18 10.0	+5.5
DMPH	**Davao City--Mi**	**0.72**	**291**	⇓*e*P		Pg	04 18 11.9	+0.2
DMPH				*e*S		Sn	04 18 23.3	+0.1
DDMP	**Don Marcelino,**	**0.86**	**214**	*e*P		Pb	04 18 07.4	-6.3
BIPH	**Bislig**	**1.36**	**7**	⇓*i*P		Pb	04 18 22.6	+0.3
BIPH				*i*S		Sg	04 18 40.7	-0.9

*IDC **23** 04:18:15.2±0.5, 41°.50N×123°.14E, h0km, mb4.5/31, mb1 4.6/38, mb1mx4.6/50, mbtmp4.5/38, ML3.4/6, MS4.5/22, Ms1 4.5/22, ms1mx4.3/33, Error ellipse: s-maj=12.0km s-min=10.1km az=17.0*
*BJI **23** 04:18:15.1, 41°.50N×123°.20E, h10km, mb4.8/47, mB4.8/39, ML5.3/23, Ms5.1/63, Ms7 4.9/59*
*ISCJB **23** 04:18:17.0±0.1, 41°.65N±0°.02×122°.96E±0°.02, h12km, mb4.7/195, MS4.8/38, Error ellipse: s-maj=3.6km s-min=2.2km az=156.0*
*GCMT **23** 04:18:16.8±0.3, 41°.54N±0°.02×123°.14E±0°.02, h16km±1km, MW4.9/78, Moment Tensor Solution. s21,c28; s78,c118; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.06±.10; Mθθ 1.37±.09; Mϕϕ -1.31±.09; Mrθ 0.22±.28; Mϕϕ 2.01±.09; Mϕr 0.41±.27; Best double couple: M0 2.45900×10^16 NP1: ϕs 107.00000°, δ79.00000°, λ2.00000°. Principal axes: T 2.5040, Plg9.0000°, Azm331.0000°; N -0.0900, Plg79.0000°, Azm188.0000°; P -2.4140, Plg6.0000°, Azm62.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **23** 04:18:17.9±0.2, 41°.53N×122°.98E, h10km, mb4.8/147 Error ellipse: s-maj=6.9km s-min=4.7km az=155.0*
NEIC Felt [III] at Anshan and Shenyang. Also felt at Gaizhou, Liaoyang, Meihekou and Panshan.
*MOS **23** 04:18:18.3±1.3, 41°.50N×123°.12E, h33km, mb4.9/74, MS4.6/23, Error ellipse: s-maj=6.0km s-min=4.4km az=112.4*

ISC 23 04:18:17.9±0.6, 41°.65N±0°.03×123°.08E±0°.03, h11km±3km, n447, σ1°986/494, mb4.8/204, MS4.8/38, 32C-23D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SNY	**Shenyang**	**0.42**	**64**	⇓Pg		**Pg**	**04 18 23.9**	**-2.2**
SNY				Sg		**Sg**	**04 18 30.1**	**-1.5**
SNY				smax		smax		
	comp=N,113μm,0.3s							
SNY				smax		smax		
	comp=E,55μm,0.6s							
SNY	**Shenyang**	**0.42**	**64**	⇓Pg		**Pg**	**04 18 23.9**	**-2.2**
SNY				Sg		**Sg**	**04 18 30.1**	**-1.5**
CN2	**Changchun**	**2.77**	**38**	Pn		**Pn**	**04 19 01.0**	**-1.3**
CN2				Pg		**Pb**	**04 19 06.8**	**-0.7**
CN2	**Changchun**	**2.77**	**38**	Pn		**Pn**	**04 19 01.0**	**-1.3**
CN2				Pg		**Pb**	**04 19 06.8**	**-0.7**
DL2	**Dalian**	**2.95**	**203**	Pn		**Pn**	**04 19 01.3**	**-3.4**
DL2				Pg		**Pb**	**04 19 07.6**	**-2.9**
DL2				Sg		**Sb**	**04 19 44.4**	**-2.2**
DL2				smax		smax		
	comp=N,19μm,0.7s							
DL2				smax		smax		
	comp=E,29μm,0.7s							
DL2	**Dalian**	**2.95**	**203**	Pn		**Pn**	**04 19 01.3**	**-3.4**
DL2				Pg		**Pb**	**04 19 07.6**	**-2.9**
DL2				Sg		**Sb**	**04 19 44.4**	**-2.2**
BJI	**Beijing**	**5.48**	**255**	Pn		**Pn**	**04 19 38.3**	**-1.1**
BJI				Pg		**Pb**	**04 19 55.4**	**+1.9**
BJI				Sg		**Sg**	**04 21 12.4**	**-1.2**
BJI				smax		smax		
	comp=N,1μm,0.7s							
BJI				smax		smax		
	comp=E,2μm,0.8s							
BJT	**Baijiatuan**	**5.49**	**255**	*e*Pn		**Pn**	**04 19 38.3**	**-1.3**
BJT				*e*Pg		**Pg**	**04 19 59.8**	**-3.1**
BJT				*e*Sn		**Sn**	**04 20 41.6**	**-1.1**
KS01	**Wonju Array Si**	**5.58**	**137**	*e*Pn		**Pn**	**04 19 36.2**	**-4.6**
KS15	**Wonju Array Si**	**5.60**	**137**	*e*Pn		**Pn**	**04 19 37.8**	**-3.4**
KSAR	**Wonju Array Be**	**5.60**	**137**	Pn		**Pn**	**04 19 37.1**	**-4.0**
KSAR				Pg		**Pb**	**04 19 55.0**	**-0.7**
KSAR	**Wonju Array Be**	**5.60**	**137**	P		**Pn**	**04 19 37.2**	**-4.0**
KSRS	**Korea Array**	**5.61**	**137**	Pn		**Pn**	**04 19 37.1**	**-4.1**
	5.7nm,0.3s,baz=321,slow=13,SNR=71							
KSRS				Pg		**Pb**	**04 19 55.0**	**-0.9**
	29nm,0.3s,baz=315,slow=17,SNR=67							
KSRS				Lg		Lg	04 21 02.9	
	37nm,0.3s,baz=334,slow=16,SNR=6.4							
KSRS				LR		LR	04 22 06.1	
	comp=Z,3μm,18.1s,baz=315,slow=42							
MDJ	**Mudanjiang**	**5.62**	**56**	Pn		**Pn**	**04 19 42.0**	**+0.7**
MDJ				Sn		**Sn**	**04 20 49.5**	**+3.7**
MDJ				LR		LR		
	comp=N,20μm,3.8s							
MDJ				LR		LR		
	comp=E,12μm,3.8s							
MDJ				LR		LR		
	comp=Z,23μm,10.8s							
MDJ	**Mudanjiang**	**5.62**	**56**	*e*Pn		**Pn**	**04 19 41.2**	**-0.1**
MSHR	**Mys Shultsa**	**6.08**	**78**	*i*P		**Pn**	**04 19 46.9**	**-0.8**
VLA	**Vladivostok**	**6.69**	**74**	*i*P		**Pn**	**04 19 54.6**	**-1.4**
USA0B	**Ussuriysk Arra**	**7.02**	**66**	*e*Pn		**Pn**	**04 19 58.9**	**-1.7**
USA0B				*e*Pb		Pb	04 20 24.8	+5.0
USA0B				*e*Pg		**Pg**	**04 20 32.1**	**-0.1**
USRK	**Ussuriysk Ar.**	**7.02**	**66**	Pn		**Pn**	**04 19 59.3**	**-1.3**
	9.2nm,0.3s,baz=265,slow=12,SNR=122							
USRK				Pg		**Pb**	**04 20 24.1**	**+4.3**
	10nm,0.3s,baz=241,slow=16,SNR=27							
USRK				Lg		Lg	04 21 56.8	
	20nm,0.3s,baz=250,slow=13,SNR=6.1							
USRK				LR		LR	04 22 55.8	
	comp=Z,3μm,19.8s,baz=231,slow=40							
TIA	**Tai'an**	**7.14**	**222**	Pn		**Pn**	**04 19 59.0**	**-3.3**
TIA				smax		smax		
	comp=N,260nm,1.6s							
TIA				smax		smax		
	comp=E,190nm,1.2s							
HIA	**Hailar**	**7.97**	**344**	*e*Pn		**Pn**	**04 20 13.8**	**+0.1**
HIA				*e*Sn		**Sn**	**04 21 45.1**	**+1.2**
HIA	**Hailar**	**7.97**	**344**	*e*P		**Pn**	**04 20 13.8**	**+0.1**
HIA				*e*			04 21 45.1	
HHC	**Hu-ho-hao-te**	**8.71**	**269**	*e*P		**Pn**	**04 20 24.6**	**+0.7**
HHC				sP		sP	04 20 33.9	
HHC				S		**Sn**	**04 21 59.9**	**-2.3**
HHC				pmax		pmax		
	comp=Z,12nm,0.6s							
HHC				pmax		pmax		
	comp=Z,97nm,4.2s							
HHC				LR		LR		
	comp=N,7μm,5.3s							
HHC				LR		LR		
	comp=E,6μm,6.7s							
HHC				LR		LR		
	comp=Z,3μm,6.5s							
TIY	**Taiyuan**	**9.10**	**248**	*e*P		**Pn**	**04 20 29.4**	**+0.2**
TIY				S		**Sn**	**04 22 07.5**	**-4.1**
TIY				pmax		pmax		
	comp=Z,49nm,0.5s							
TIY				LR		LR		
	comp=N,4μm,8.3s							
TIY				LR		LR		
	comp=E,3μm,4.7s							
TIY				LR		LR		
	comp=Z,4μm,18.9s							
KLR	**Kul'dur**	**9.72**	**36**	Pn		**Pn**	**04 20 38.1**	**+0.4**
	1.1nm,0.3s,baz=232,slow=12,SNR=24							
KLR				Lg		Lg	04 23 23.6	
	4.3nm,0.3s,baz=150,slow=22,SNR=10							
KLR	**Kul'dur**	**9.72**	**36**	⇑*e*P		**Pn**	**04 20 38.8**	**+1.1**
BTO	**Baotou**	**9.91**	**268**	*e*P		**Pn**	**04 20 42.8**	**+2.5**
NJ2	**Nanjing**	**10.15**	**201**	*e*P		**Pn**	**04 20 42.9**	**-0.7**
NJ2				pP			04 20 45.3	
NJ2				S		**Sn**	**04 22 41.0**	**+3.6**
NJ2				SS		**SnSn**	**04 22 51.3**	**+2.1**
NJ2				pmax		pmax		
	comp=Z,21nm,0.7s							
NJ2				LR		LR		
	comp=N,5μm,6.8s							
NJ2				LR		LR		
	comp=E,9μm,7.6s							
NJ2				LR		LR		
	comp=Z,5μm,9.8s							
TEY	**Ternei**	**10.42**	**66**	⇑*e*P		Pn	04 20 35.7	-11
TEY				pmax		pmax		
	comp=Z,10.0nm,1.0s							
TEY				MLR		MLR		
	comp=E,5μm,19.0s							
TEY				MLR		MLR		
	comp=Z,5μm,13.0s							
JNU	**Nakatsue**	**10.52**	**141**	Pn		**Pn**	**04 20 47.0**	**-1.7**
	comp=Z,0.9nm,0.3s,baz=16,slow=11,SNR=7.1							
JNU				Lg		Lg	04 23 40.3	
	comp=Z,2.0nm,0.3s,baz=271,slow=13,SNR=12							
JNU				LR		LR	04 25 09.7	
	comp=Z,2μm,18.2s,baz=318,slow=40							
JNU	**Nakatsue**	**10.52**	**141**	*e*Pn		**Pn**	**04 20 48.1**	**-0.6**
JNU				*e*Sn		**Sn**	**04 22 43.9**	**-2.7**
SSE	**Sheshan**	**10.64**	**189**	P		**Pn**	**04 20 52.6**	**+2.4**
SSE				S		**Sn**	**04 22 55.4**	**+6.1**
SSE				pmax		pmax		
	comp=Z,16nm,0.9s							
SSE				pmax		pmax		
	comp=Z,150nm,4.5s							
SSE				LR		LR		
	comp=Z,1μm,14.4s							
SSE				LR		LR		
	comp=Z,4μm,13.8s							
SSE				LR		LR		
	comp=Z,1μm,9.2s							
SSE	**Sheshan**	**10.64**	**189**	*e*Pn		**Pn**	**04 20 47.7**	**-2.5**
ZEA	**Zeya**	**12.42**	**12**	*e*P		**Pn**	**04 21 14.8**	**+0.3**
ZEA				pmax		pmax		
	comp=Z,23nm,1.0s							
ZEA				MLR		MLR		
	comp=Z,8μm,10.0s							
ZEA				MLR		MLR		
	comp=E,4μm,9.0s							
ZEA				MLR		MLR		
	comp=N,7μm,10.0s							
MJB9	**Matsu-Tunnel**	**12.80**	**108**	*e*Pn		**Pn**	**04 21 18.9**	**-0.9**
MAJO	**Matsushiro**	**12.80**	**109**	*e*Pn		**Pn**	**04 21 19.6**	**-0.3**
MAJO	**Matsushiro**	**12.80**	**109**	⇑*e*P		**Pn**	**04 21 19.3**	**-0.6**
MAT	**Matsushiro**	**12.80**	**109**	P		**Pn**	**04 21 21.7**	**+1.8**
MAT				S		**Sn**	**04 23 45.8**	**+3.4**
MJAR	**Matsushiro Arr**	**12.81**	**109**	Pn		**Pn**	**04 21 19.6**	**-0.3**
	baz=299,slow=13,SNR=3.4							
MJAR				LR		LR	04 25 25.1	
	comp=N,126nm,18.6s,baz=300,slow=34							
ULN	**Ulaanbaatar**	**12.97**	**304**	*e*Pn		**Pn**	**04 21 23.2**	**+1.0**
ULN	**Ulaanbaatar**	**12.97**	**304**	*de*P		**Pn**	**04 21 23.9**	**+1.7**
ULN				pmax		pmax		
	comp=Z,12nm,1.3s							
ULN	**Ulaanbaatar**	**12.97**	**304**	P		**Pn**	**04 21 24.1**	**+1.9**
	SNR=5.6							
GRNR	**Gornyy**	**12.97**	**41**	*e*P		**Pn**	**04 21 25.8**	**+3.8**
GRNR				*e*			04 23 53.4	
GRNR				pmax		pmax		
	comp=Z,11nm,1.0s							
GRNR				smax		smax		
	comp=N,100nm,1.0s							
WHN	**Wuhan**	**13.12**	**215**	⇓P		**Pn**	**04 21 25.1**	**+0.9**
WHN				S		**Sn**	**04 23 53.3**	**+3.1**
WHN				LR		LR		
	comp=N,9μm,7.0s							
WHN				LR		LR		
	comp=N,10μm,7.9s							
WHN				LR		LR		
	comp=N,8μm,7.5s							
SONA1	**Songino Array**	**13.37**	**303**	*e*Pn		**Pn**	**04 21 28.6**	**+1.0**
SONA0	**Songino Array**	**13.37**	**303**	*e*Pn		**Pn**	**04 21 27.6**	**0.0**
SONM	**Songino Array**	**13.37**	**303**	Pn		**Pn**	**04 21 27.6**	**0.0**
	comp=N,0.0nm,0.3s,baz=119,slow=11,SNR=20							
SONM				Lg		Lg	04 25 18.3	
	comp=N,0.6nm,0.3s,baz=115,slow=17,SNR=5.5							
SONM				LR		LR	04 27 14.7	
	comp=N,2μm,18.5s,baz=112,slow=40							
SONM	**Songino Array**	**13.37**	**303**	P		**Pn**	**04 21 27.6**	**0.0**
SONM				MLR		MLR		
	comp=Z,2μm,18.5s							
XAN	**Xi'an**	**13.51**	**240**	P		**Pn**	**04 21 29.8**	**+0.3**
XAN				pP		P	04 21 38.6	-0.2
XAN				pmax		pmax		
	comp=Z,8.0nm,1.3s							
XAN				pmax		pmax		
	comp=Z,140nm,6.7s							
XAN				LR		LR		
	comp=Z,5μm,13.9s							
XAN				LR		LR		
	comp=Z,5μm,12.6s							
XAN				LR		LR		
	comp=Z,6μm,13.7s							
XAN	**Xi'an**	**13.51**	**240**	*e*Pn		**Pn**	**04 21 29.9**	**+0.3**
XAN	**Xi'an**	**13.51**	**240**	*e*P		**Pn**	**04 21 29.9**	**+0.4**
ASAJ	**Asahikawa**	**14.52**	**74**	Pn		**Pn**	**04 21 44.0**	**+0.8**
	comp=Z,0.0nm,0.3s,baz=267,slow=16,SNR=12							
ASAJ				LR		LR	04 27 04.9	
	comp=Z,2μm,19.3s,baz=309,slow=36							
ASAJ	**Asahikawa**	**14.52**	**74**	*e*Pn		**Pn**	**04 21 45.6**	**+2.3**
YSS	**Yuzh-Sakhalins**	**15.04**	**63**	*e*Pn		**P**	**04 21 53.7**	**-1.9**
	comp=Z,90nm,0.9s							
YSS	**Yuzh-Sakhalins**	**15.04**	**63**	*e*P		**Pn**	**04 21 48.6**	**-1.7**
YSS				*e*S		**Sn**	**04 24 37.6**	**+0.8**
YSS				pmax		pmax		
	comp=Z,300nm,4.9s							
YSS				pmax		pmax		
	comp=N,200nm,6.1s							
YSS				pmax		pmax		
	comp=E,200nm,6.6s							
YSS				pmax		pmax		
	comp=Z,60nm,1.1s							
YSS				pmax		pmax		
	comp=N,30nm,0.7s							
YSS				pmax		pmax		
	comp=E,30nm,0.8s							
YSS				MLR		MLR		
	comp=Z,3μm,12.0s							
YSS				MLR		MLR		
	comp=N,2μm,15.0s							
YSS				MLR		MLR		
	comp=E,5μm,11.0s							
UGL	**Uglegorsk**	**15.25**	**54**	*e*P		**P**	**04 21 55.7**	**-2.3**
UGL				S		**Sn**	**04 24 43.6**	**+1.8**
UGL				pmax		pmax		
	comp=Z,140nm,1.0s							
UGL				pmax		pmax		
	comp=E,106nm,0.7s							
UGL				pmax		pmax		
	comp=Z,600nm,3.5s							
UGL				MLR		MLR		
	comp=E,5μm,9.0s							
UGL				MLR		MLR

comp=Z,71nm,2.2s
YHNB Yeheng 16.99 185 *e*Pn **P 04 22 17.8 +0.3**
comp=Z,51nm,1.1s
BOD Bodaibo 17.19 343 *e*P **Pn 04 22 17.0 -0.9**
GTA Gaotai 17.82 271 P **P 04 22 26.6 0.0**
GTA pP sP 04 22 31.0 -0.1
GTA sP pP 04 22 33.6 +3.9
GTA S **S 04 25 50.5 -0.9**
GTA sS sS 04 25 56.8 +0.5
GTA pmax pmax
comp=Z,170nm,5.7s
GTA LR LR
comp=Z,6μm,14.0s
GTA LR LR
comp=Z,3μm,11.6s
GTA LR LR
comp=Z,3μm,12.7s
OKH Okha 17.85 41||*e*P **P 04 22 31.6 +4.9**
OKH pmax pmax
comp=Z,100nm,11.7s
SSLB Suanglung 17.90 186 *e*Pn **P 04 22 28.3 +0.8**
comp=Z,26nm,1.0s
MOY Mondy 18.11 311 *e*P **P 04 22 30.7 +1.0**
MOY pmax pmax
comp=Z,35nm,1.6s
CD2 Chengdu 18.86 242 P **P 04 22 37.9 -0.2**
CD2 pP pP 04 22 41.0 -0.2
CD2 sP sP 04 22 42.4 -0.2
CD2 S **Sn 04 26 09.9 +0.1**
CD2 sS sS 04 26 18.1 +0.7
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,290nm,6.0s
CD2 LR LR
comp=Z,3μm,12.5s
CD2 LR LR
comp=Z,5μm,16.1s
GYA Guiyang 20.30 227⇑*i*P **P 04 22 53.3 -0.6**
GYA PP **PnPn 04 23 15.4 +4.7**
GYA S **S 04 26 39.6 -2.0**
GYA SS **SnSn 04 27 05.3 +6.1**
GYA ScP **ScP 04 30 44.0 +0.5**
GYA pmax pmax
comp=Z,50nm,0.9s
GYA pmax pmax
comp=Z,100nm,5.1s
GYA LR LR
comp=Z,1μm,13.9s
GYA LR LR
comp=Z,1μm,13.9s
GYA LR LR
comp=Z,1μm,17.7s
YAK Yakutsk 20.80 9 *e*P **P 04 22 57.5 -1.4**
YAK *e* 04 23 16.2
YAK *e*S **S 04 26 49.1 -1.5**
YAK *e**SS **pS 04 26 58.4 -0.6**
YAK *e* 04 27 07.5
YAK *e*SSS SSS 04 27 35.8
YAK pmax pmax
comp=Z,27nm,0.9s
YAK pmax pmax
comp=N,11nm,1.0s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,28nm,0.8s
YAK smax smax
comp=N,85nm,20.0s
YAK smax smax
comp=E,458nm,18.1s
YAK MLR MLR
comp=Z,579nm,14.0s
YAK MLR MLR
comp=N,538nm,16.0s
KMI Kunming 23.57 232 P **P 04 23 26.8 -1.9**
KMI pP pP 04 23 30.5 -1.5
KMI sP sP 04 23 34.3 +1.0
KMI PP **PnPn 04 23 55.8 +0.3**
KMI S **S 04 27 34.5 -8.5**
KMI sS pS 04 27 45.4 -1.6
KMI SS **SnSn 04 28 20.4 +1.0**
KMI pmax pmax
comp=N,21nm,0.9s
KMI pmax pmax
comp=N,180nm,5.0s
KMI LR LR
comp=N,2μm,14.6s
KMI LR LR
comp=N,2μm,13.5s
KMI LR LR
comp=N,3μm,13.7s
MA2 Magadan 24.82 34 P **P 04 23 39.9 0.0**
comp=N,32nm,0.9s,baz=246,slow=7.3,SNR=13
MA2 LR LR 04 32 60.0
comp=N,416nm,19.7s,baz=238,slow=36
MA2 Magadan 24.82 34 *e*P **P 04 23 39.7 -0.1**
comp=N,30nm,0.9s
MA2 Magadan 24.82 34*de*P **P 04 23 39.4 -0.4**
MA2 pmax pmax
comp=Z,55nm,1.3s
QIZ Qiongzhong 25.21 211 P **P 04 23 46.9 +3.2**
QIZ S **S 04 28 10.1 +1.2**
QIZ pmax pmax
comp=Z,200nm,3.3s
QIZ LR LR
comp=Z,2μm,11.8s
QIZ LR LR
comp=Z,3μm,14.1s
QIZ LR LR
comp=Z,1μm,13.7s
PEA1 Petropavlovsk- 25.84 52 *e*P **P 04 23 49.4 +0.2**
PETK Petropavlovsk- 25.84 52 P **P 04 23 49.4 +0.2**
comp=Z,5.6nm,0.8s,baz=224,slow=8.3,SNR=4.6
PETK LR LR 04 34 54.7
comp=Z,1μm,18.3s,baz=256,slow=39
PETK Petropavlovsk- 25.84 52 *e*P **P 04 23 50.4 +1.3**
PETK Petropavlovsk- 25.84 52 P **P 04 23 49.4 +0.2**
PETK pmax pmax
comp=Z,5.0nm,0.8s
PETK MLR MLR
comp=Z,1μm,18.3s
WMQ Urumqi 25.96 287 P **P 04 23 52.8 +2.4**
WMQ sP sP 04 23 59.1 +4.0
WMQ PP **PnPn 04 24 32.6 +4.7**
WMQ *e*S **S 04 28 16.3 -4.5**
WMQ pmax pmax
comp=Z,57nm,1.3s
WMQ pmax pmax
comp=Z,370nm,6.7s
WMQ LR LR
comp=Z,10μm,18.1s
WMQ LR LR
comp=Z,2μm,23.3s
WMQ LR LR
comp=Z,2μm,18.1s
WMQ Urumqi 25.96 287 *e*P **P 04 23 52.3 +1.9**
comp=Z,22nm,0.9s
DGZ Jazzator, Alta 25.98 300*c i*P **P 04 23 51.7 +1.0**
DGZ pmax pmax
comp=Z,9.0nm,0.9s
SEY Seymchan 27.42 29 P **P 04 24 03.0 -0.2**
comp=Z,9.3nm,0.8s,baz=230,slow=6.7,SNR=30
SEY Seymchan 27.42 29||*e*P **P 04 24 05.1 +1.9**
ZAA0 Zalesovo Array 28.13 309 *e*P **P 04 24 09.7 -0.1**
comp=Z,4.6nm,0.8s
ZALV Zalesovo Beam 28.13 309 P **P 04 24 09.7 0.0**
comp=Z,4.7nm,0.6s,baz=100,slow=8.7,SNR=24
ZALV PcP **PcP 04 27 23.7 +0.2**
comp=Z,3.0nm,0.9s,baz=119,slow=1.9,SNR=4.1
ZALV Lg Lg 04 33 08.5
comp=Z,0.2nm,0.3s,baz=96,slow=25,SNR=3.3
ZALV LR LR 04 36 01.8
comp=Z,1μm,19.4s,baz=80,slow=38
ZALV Zalesovo Beam 28.13 309 *e*P **P 04 24 09.4 -0.3**
ZALV *e*PcP **PcP 04 27 23.2 -0.3**
ZAA1 Zalesovo Array 28.14 309 *e*P **P 04 24 09.7 0.0**
ZAA1 *e*PcP **PcP 04 27 23.7 +0.2**
LSA Lhasa 28.38 255 *e*P **P 04 24 12.3 -0.5**
comp=Z,6.1nm,0.8s
LSA Lhasa 28.38 255 *e*P **P 04 24 12.3 -0.5**
LSA pmax pmax
comp=Z,6.0nm,0.8s
NVS Novosibirsk 29.20 311 *e*P **P 04 24 16.3 -2.9**
NVS pmax pmax
comp=Z,10.0nm,0.8s
NVS pmax pmax
comp=N,3.0nm,0.8s
NVS pmax pmax
comp=E,8.0nm,0.9s
MK01 Makanchi Array 29.43 294 *e*P **P 04 24 21.4 0.0**
MK31 Makanchi Array 29.44 294 *e*P **P 04 24 22.0 +0.5**
MK31 Makanchi Array 29.44 294 *i* P **P 04 24 21.6 +0.1**
MK31 pmax pmax
comp=Z,8.0nm,0.8s
MK32 Makanchi Array 29.44 294 *e*P **P 04 24 22.1 +0.6**
MKAR Makanchi Array 29.44 294 P **P 04 24 22.1 +0.6**
comp=Z,6.1nm,0.8s,baz=92,slow=10,SNR=62
MKAR LR LR 04 36 36.5
comp=Z,600nm,19.0s,baz=90,slow=37
MAKZ Makanchi 29.65 294 *e*P **P 04 24 24.1 +0.7**
comp=Z,7.7nm,0.8s
MAKZ Makanchi 29.65 294 *e*P **P 04 24 24.1 +0.7**
MAKZ pmax pmax
comp=Z,8.0nm,0.8s
TIXI Tiksi 30.22 4 P **P 04 24 27.5 -0.6**
comp=Z,24nm,1.1s,baz=174,slow=5.2,SNR=22
SHL Shillong 30.32 248 *e*P **P 04 24 28.0 -1.6**
comp=Z,7.4nm,0.8s
SHL Shillong 30.32 248 *e*P **P 04 24 26.0 -3.7**
CHTO Chiang Mai 30.67 229 *e*P **P 04 24 29.3 -3.3**
comp=Z,3.0nm,0.8s
CHTO Chiang Mai 30.67 229 *e*P **P 04 24 29.3 -3.3**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CM31 Chiang Mai Arr 30.96 229 *e*P **P 04 24 33.3 -1.8**
CMAR Chiang Mai Arr 30.96 229 P **P 04 24 33.3 -1.8**
comp=Z,1.4nm,0.4s,baz=30,slow=8.2,SNR=7.5
CMAR LR LR 04 38 32.4
comp=Z,495nm,20.0s,baz=40,slow=39
CM01 Chiang Mai Arr 30.98 229 *e*P **P 04 24 32.5 -2.8**
KURK Kurchatov 31.67 302 *e*P **P 04 24 41.5 +0.4**
comp=Z,17nm,0.8s
KURK Kurchatov 31.67 302*c i*P **P 04 24 41.0 -0.1**
KURK pmax pmax
comp=Z,27nm,1.7s
KURBB Kurchatov Arra 31.73 302 P **P 04 24 42.0 +0.4**
comp=Z,15nm,0.7s,baz=90,slow=9.5,SNR=91
PDGK Podgornoye 31.92 288 P **P 04 24 42.7 -0.8**
PDGK pmax pmax
comp=Z,15nm,1.1s
UTHA Uthaitani 33.04 225 P **P 04 24 52.5 -0.9**
comp=Z,5.5nm,0.7s,comp=Z,147nm
JIRN Jiri 33.13 257 *e*P **P 04 24 54.4 -0.2**
comp=Z,24nm,0.6s
GUN Gumba 33.22 258 *e*P **P 04 24 54.7 -0.6**
comp=Z,27nm,0.7s
RAMN Ramite 33.24 255 *e*P **P 04 24 54.9 -0.5**
comp=Z,27nm,0.9s
TARG Taragay, Kyrgy 33.51 286 *e*P **P 04 24 59.9 +2.1**
comp=Z,11nm,1.0s
KKN Kakani 33.73 258 *e*P **P 04 24 59.5 -0.1**
comp=Z,11nm,0.5s
PKIN Phulchoki 33.76 258 *e*P **P 04 24 58.8 -1.1**
comp=Z,13nm,0.6s
DMN Daman 33.95 258 *e*P **P 04 25 01.0 -0.6**
comp=Z,21nm,0.9s
DANN Dangsing 34.53 260 *e*P **P 04 25 06.4 -0.3**
comp=Z,56nm,0.7s
TKM2 Tokmak 2 34.79 288 P **P 04 25 10.3 +1.7**
SNR=18
TKM2 Tokmak 2 34.79 288 P **P 04 25 10.3 +1.7**
TKM2 pmax pmax
comp=Z,17nm,1.1s
NRN Naryn 34.89 286 *e*P **P 04 25 11.6 +1.9**
comp=Z,6.3nm,0.8s
NRN Naryn 34.89 286 *e*P **P 04 25 11.6 +1.9**
NRN pmax pmax
comp=Z,6.0nm,0.8s
KOLN Koldanda 34.97 259 *e*P **P 04 25 09.9 -0.5**
comp=Z,28nm,1.2s
BILL Bilibino 35.02 27*de*P **P 04 25 09.7 -0.4**
BILL *e* 04 26 25.9
BILL pmax pmax
comp=Z,5.0nm,0.9s
BILL MLR MLR
comp=Z,904nm,15.0s
PYUN Piuthan 35.24 260 *e*P **P 04 25 12.5 -0.2**
comp=Z,108nm,1.1s
KZA Kyzart 35.26 287 P **P 04 25 15.6 +2.7**
SNR=10
KBK Karagaybulak 35.32 288 P **P 04 25 14.7 +1.5**
SNR=7.9
USP Ospenovka 35.48 289 P **P 04 25 15.4 +1.0**
SNR=7.8
KSH Kashi 35.49 283 P **P 04 25 17.3 +2.6**
KSH pP sP 04 25 26.0 +6.6
KSH PcP **PcP 04 27 42.5 -1.4**
KSH S **S 04 30 53.3 +3.4**
KSH sS sS 04 31 09.6 +14
KSH pmax pmax
comp=Z,27nm,0.6s
KSH pmax pmax
comp=Z,220nm,5.0s
KSH LR LR
comp=N,2μm,11.1s
KSH LR LR
comp=E,2μm,7.5s
KSH LR LR
comp=Z,2μm,12.6s
KSH Kashi 35.49 283 P P 04 25 20.8 +6.1
KSH pP sP 04 25 23.5 +4.1
KSH PP **PP 04 26 44.6 +9.5**
KSH PcP **PcP 04 27 47.1 +3.2**
KSH S S 04 30 59.0 +9.1
KSH sS sS 04 31 07.6 +12
KSH SS **SS 04 33 18.3 -5.8**
KSH pmax pmax
comp=Z,9.0nm,0.3s
KSH pmax pmax
comp=Z,320nm,5.9s
KSH LR LR
comp=Z,530nm,9.1s
KSH LR LR
comp=Z,540nm,9.4s
KSH LR LR
comp=Z,2μm,10.1s
FRU Bishkek 35.51 289 *e*P **P 04 25 14.0 -0.6**
FRU *e* 04 25 23.0
AAK Ala-Archa 35.65 288 P **P 04 25 16.5 +0.5**
comp=Z,6.0nm,0.7s,baz=104,slow=5.9,SNR=22
AAK Ala-Archa 35.65 288 P **P 04 25 16.7 +0.7**
SNR=6.4
AAK Ala-Archa 35.65 288 *e*P **P 04 25 16.9 +1.0**
comp=Z,6.6nm,0.8s
AAK Ala-Archa 35.65 288||*e*P **P 04 25 17.3 +1.3**
AAK pmax pmax
comp=Z,12nm,1.3s
UCH Uchtor 35.74 288 P **P 04 25 19.2 +2.1**
SNR=9.8
AML Almayashu 36.35 288 P **P 04 25 23.9 +1.6**
SNR=10
BVA0 Borovoye Array 36.68 306 *i* P **P 04 25 23.9 -0.6**
BVA0 pmax pmax
comp=Z,7.0nm,1.2s
BVAR Borovoye Array 36.68 306 P **P 04 25 24.6 +0.1**
comp=Z,3.7nm,0.7s,baz=90,slow=10,SNR=19
BVAR PcP **PcP 04 27 46.7 -0.3**
comp=Z,2.8nm,0.8s,baz=82,slow=3.1,SNR=5.3
BRVK Borovoye 36.74 307 *e*P **P 04 25 25.5 +0.5**
comp=Z,9.5nm,1.0s
BRVK Borovoye 36.74 307||*e*P **P 04 25 25.3 +0.3**
BRVK pmax pmax
comp=Z,11nm,1.0s
ARSB Arslanbob 37.10 287 *e*P **P 04 25 30.1 +1.8**
comp=Z,8.8nm,1.0s
MNAS Manas 37.10 289 P **P 04 25 29.2 +0.8**
MNAS pmax pmax
comp=Z,13nm,1.1s
SFK Sufi-Kurgan 37.13 284 P **P 04 25 28.0 -0.8**
SFK pmax pmax
comp=Z,7.0nm,0.8s
BTK Batken 39.06 286 *e*P **P 04 25 47.4 +2.5**
comp=Z,14nm,1.0s
BTK Batken 39.06 286 *e*P **P 04 25 47.4 +2.5**
BTK pmax pmax
comp=Z,14nm,1.0s
NIL Nilore 39.79 275 *e*P **P 04 25 52.2 +1.2**
comp=Z,25nm,0.9s
NIL Nilore 39.79 275 *e*P **P 04 25 52.2 +1.2**
NIL pmax pmax
comp=Z,25nm,0.9s
SBUM Sibu 40.23 197 *e*P **P 04 25 53.3 -1.3**
comp=Z,5.6nm,0.9s
GAMB Gambell 42.89 36 *e*P **P 04 26 15.9 0.0**
comp=Z,12nm,1.2s
ARU Arti 43.15 313 *e*P **P 04 26 18.3 +0.1**
comp=Z,13nm,0.9s
ARU Arti 43.15 313*c i*P **P 04 26 17.8 -0.4**
ARU 04 27 54.7
ARU S **S 04 32 46.7 +2.5**
ARU pmax pmax
comp=Z,12nm,0.8s
ARU MLR MLR
comp=Z,862nm,16.0s
AB31 Akbulak array 43.78 302 *i* P **P 04 26 22.8 -0.5**
AB31 pmax pmax
comp=Z,7.0nm,1.2s
AKTO Aktyubinsk 44.68 304 P **P 04 26 30.3 -0.3**
comp=Z,1.8nm,0.9s,baz=78,slow=10,SNR=4.1
AKTO Aktyubinsk 44.68 304 P **P 04 26 28.1 -2.5**
AKTO pmax pmax
comp=Z,7.0nm,1.2s
ANM Nome 45.61 35 *e*P **P 04 26 38.0 +0.3**
comp=Z,11nm,0.9s
ANM Nome 45.61 35 *e*P **P 04 26 38.0 +0.3**
ANM pmax pmax
comp=Z,11nm,0.9s
RDOG Red Dog Mine 46.29 30 *e*P **P 04 26 43.1 0.0**
comp=Z,6.9nm,1.0s
PRGR Permogore 48.74 322 *e*P **P 04 27 01.5 -0.7**
PRGR pmax pmax
comp=Z,14nm,0.6s
GEYT Alibeck 49.00 288 P **P 04 27 05.3 +0.7**
comp=Z,5.8nm,0.5s,baz=46,slow=4.3,SNR=7.2
GEYT LR LR 04 49 14.3
comp=Z,449nm,18.6s,baz=50,slow=38
IM3 Indian Mountai 50.17 32 *e*P **P 04 27 12.1 -1.0**
CAST Castle Rocks 51.57 35 *e*P **P 04 27 24.4 +0.8**
comp=Z,8.7nm,0.7s
KLMR Klimovskoe 51.80 322 *e*P **P 04 27 24.2 -1.1**
KLMR pmax pmax
comp=Z,10.0nm,0.8s
KLMR Klimovskoe 51.80 322 *e*P **P 04 27 24.2 -1.1**
KLMR AMP 04 27 25.9
comp=Z,10.0nm,0.8s
RSO Redoubt South 52.21 39 *e*P **P 04 27 30.6 +1.9**
MDM Murphy Dome 52.67 32 *e*P **P 04 27 32.8 +0.9**
comp=Z,8.9nm,1.0s
SUA Susitna One 52.79 37 *e*P **P 04 27 33.7 +0.8**
comp=Z,10nm,0.8s
MCK McKinley 52.80 34 *e*P **P 04 27 33.8 +1.0**
comp=Z,5.3nm,0.8s
COLA College 52.85 32 *e*P **P 04 27 32.8 -0.3**
comp=Z,19nm,1.0s
COLA College 52.85 32||*e*P **P 04 27 33.2 +0.1**
COLA pmax pmax
comp=Z,15nm,1.0s
SPITS Spitsbergen Ar 52.89 346 P **P 04 27 33.6 +0.3**
comp=Z,8.5nm,0.8s,baz=97,slow=12,SNR=5.3
WRH Wood River Hil 52.90 33 *e*P **P 04 27 33.6 +0.1**
comp=Z,13nm,0.8s
ILAR Eielson Array 53.28 32 P **P 04 27 35.5 -0.8**
comp=Z,7.9nm,0.8s,baz=283,slow=6.4,SNR=51
ILB Eielson Array 53.28 32 *e*P **P 04 27 35.5 -0.8**
IL1 Eielson Array 53.28 32 *e*P **P 04 27 35.1 -1.2**
HDA Harding Lake 53.38 33 *e*P **P 04 27 36.1 -1.0**
comp=Z,12nm,0.9s
DHY Denali Highway 53.69 34 *e*P **P 04 27 38.9 -0.6**
comp=Z,8.8nm,0.9s
VRH Novokhopyorsk 54.17 310 *e*P **P 04 27 40.8 -2.1**
VRH pmax pmax
comp=Z,10.0nm,0.9s
SCM Sheep Creek Mo 54.18 36 *e*P **P 04 27 43.4 +0.4**
comp=Z,19nm,0.9s
SCM Sheep Creek Mo 54.18 36 *e*P **P 04 27 43.4 +0.4**
SCM pmax pmax
comp=Z,19nm,0.9s
ARA0 ARCESS Array S 54.20 335 *e*P **P 04 27 44.0 +1.0**
ARCES ARCESS Array B 54.20 335 P **P 04 27 44.0 +1.0**
comp=Z,3.7nm,0.8s,baz=61,slow=7.5,SNR=4.3
ARCES LR LR 04 56 21.7
comp=Z,467nm,19.4s,baz=88,slow=42
ARCES ARCESS Array B 54.20 335 P **P 04 27 44.0 +1.0**
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES MLR MLR
comp=Z,467nm,19.4s
RIDG Independ'e Rid 54.49 33 *e*P **P 04 27 44.3 -1.0**
comp=Z,8.6nm,0.8s
DOT Dot Lake 54.85 33 *e*P **P 04 27 46.8 -1.0**
comp=Z,6.8nm,0.8s
HARP HAARP 54.89 35 *e*P **P 04 27 49.0 +0.8**
comp=Z,25nm,1.0s
LPSR Galich'ya Gora 55.17 312 *e*P **P 04 27 47.6 -2.6**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 55.38 316⇑*e*P **P 04 27 56.2 +4.5**
OBN *e* 04 28 52.6
OBN *e* 04 30 01.2
OBN *e*S S 04 35 57.2 +21
OBN pmax pmax
comp=Z,5.0nm,0.7s
OBN MLR MLR
comp=Z,1μm,16.0s
VSR Storozhevoye 55.62 311||*e*P **P 04 27 52.4 -1.1**
VSR pmax pmax
comp=Z,100nm,4.3s
EPYK Eagle Plains 56.47 28 *e*P **P 04 27 59.1 -0.3**
comp=Z,7.1nm,0.9s
INK Inuvik 56.63 26 *e*P **P 04 28 00.1 -0.4**
comp=Z,6.7nm,0.9s
INK Inuvik 56.63 26 *e*P **P 04 28 00.1 -0.4**
INK pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 56.73 301 P **P 04 28 00.6 -0.9**
comp=Z,2.2nm,0.9s,baz=270,slow=0.8,SNR=4.0
KBZ LR LR 04 53 59.0
comp=Z,691nm,19.3s,baz=76,slow=38
KIV Kislovodsk 56.75 302 *e*P **P 04 28 02.0 +0.2**
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,686nm,17.0s
FIA1 FINESS Array S 57.54 326 *e*P **P 04 28 07.1 +0.2**
FIA0 FINESS Array S 57.54 326 *e*P **P 04 28 06.9 -0.1**
FIA0 FINESS Array S 57.54 326 *e*P **P 04 28 06.9 -0.1**
FINES FINESS Array B 57.54 326 P **P 04 28 06.9 -0.1**
comp=Z,15nm,0.8s,baz=70,slow=8.3,SNR=30
FINES LR LR 04 55 18.3
comp=Z,887nm,21.4s,baz=60,slow=38
FINES FINESS Array B 57.54 326 P **P 04 28 06.9 -0.1**
FINES pmax pmax
comp=Z,16nm,0.8s
FINES MLR MLR
comp=Z,887nm,21.4s
VSU Vasula 58.69 322⇑*e*P **P 04 28 15.5 +0.4**
VSU pmax pmax
comp=Z,35nm,1.1s
SOC Sochi 58.82 302 *e*P P 04 28 10.4 -5.8
SOC *e* 04 30 22.4
SOC *e*PPP PPP 04 31 57.8
SOC *e*S **S 04 36 17.2 -4.2**
SOC MLR MLR
comp=Z,718nm,16.0s
DAG Danmarks Havn 59.42 350 *i* P **P 04 28 19.2 -0.7**
DAG Danmarks Havn 59.42 350 *i* P **P 04 28 19.2 -0.7**
SIRT Sirnak 60.12 295 *e*P **P 04 28 26.6 +1.2**
comp=Z,27nm,1.1s
RES Resolute Bay 61.24 11 *e*P **P 04 28 31.7 -0.6**
comp=Z,14nm,0.9s
RES Resolute Bay 61.24 11 *e*P **P 04 28 31.7 -0.6**
RES pmax pmax
comp=Z,14nm,0.9s
AKASG Malin Array Be 61.39 314 P **P 04 28 32.8 -1.0**
comp=Z,4.6nm,0.8s,baz=52,slow=7.3,SNR=17
AKASG LR LR 04 57 14.0
comp=Z,486nm,19.9s,baz=55,slow=38
AKBB Malin Array Si 61.39 314 *e*P **P 04 28 33.1 -0.6**
comp=Z,5.7nm,1.0s
KIEV Kiev 61.40 314 *e*P **P 04 28 32.6 -1.2**
comp=Z,5.5nm,1.0s
KIEV Kiev 61.40 314⇑*i*P **P 04 28 32.8 -1.0**
KIEV Kiev 61.40 314||*e*P **P 04 28 32.5 -1.3**
KIEV pmax pmax
comp=Z,5.0nm,0.9s
WR1 Warramunga Arr 62.16 168 *e*P **P 04 28 35.9 -3.2**
comp=Z,6.9nm,0.9s

WRA	**Warramunga Arr**	**62.16**	**168**	P		**P**	**04 28 35.9**	**-3.2**	
	comp=Z,3.6nm,0.9s,baz=79,slow=16,SNR=5.7								
WRA	**Warramunga Arr**	**62.16**	**168**	P		**P**	**04 28 35.9**	**-3.2**	
WRA				pmax	pmax				
	comp=Z,1.0nm,1.0s								
WB2	**Warramunga Arr**	**62.16**	**168**	*e*P		**P**	**04 28 35.9**	**-3.2**	
DLBC	**Dease Lake**	**63.35**	**34**	*e*P		**P**	**04 28 48.2**	**+1.3**	
	comp=Z,5.7nm,0.9s								
NC405	**NORSAR Array S**	**63.50**	**330**	*e*P		**P**	**04 28 47.8**	**0.0**	
NB201	**NORSAR Array S**	**63.70**	**330**	*e*P		**P**	**04 28 49.0**	**0.0**	
NB2	**NORSAR Subarra**	**63.74**	**330**	P		**P**	**04 28 48.4**	**-0.9**	
	comp=Z,5.0nm,0.8s,baz=51,slow=6.9								
NB200	**NORSAR Array S**	**63.74**	**330**	*e*P		**P**	**04 28 48.7**	**-0.6**	
NOA	**NORSAR Array B**	**63.74**	**330**	P		**P**	**04 28 48.7**	**-0.6**	
	comp=Z,5.3nm,0.9s,baz=51,slow=6.5,SNR=12								
NOA				LR	LR		04 59 04.7		
	comp=Z,247nm,18.4s,baz=55,slow=38								
KLNR	**Kaliningrad**	**63.81**	**321**	⇓*e*P		**P**	**04 28 50.5**	**+0.7**	
KLNR				pmax	pmax				
	comp=Z,105nm,1.7s								
BR101	**Keskin Array S**	**64.72**	**301**	*e*P		**P**	**04 28 55.9**	**-0.4**	
BR131	**Keskin Array S**	**64.72**	**301**	*e*P		**P**	**04 28 57.0**	**+0.8**	
BRTR	**Keskin Array B**	**64.72**	**301**	P		**P**	**04 28 55.9**	**-0.4**	
	comp=Z,2.1nm,0.7s,baz=77,slow=3.3,SNR=17								
BRTR				LR	LR		05 00 31.9		
	comp=Z,272nm,18.9s,baz=42,slow=39								
BUR08	**Bucovina Ar. S**	**65.28**	**312**	*e*P		**P**	**04 28 59.6**	**-0.1**	
BURAR	**Bucovina Array**	**65.28**	**312**	⇑*i*P		**P**	**04 28 59.2**	**-0.5**	
BURAR	**Bucovina Array**	**65.28**	**312**	⇑P		**P**	**04 28 59.2**	**-0.5**	
BUR04	**Bucovina Ar. S**	**65.28**	**312**	*e*P		**P**	**04 28 59.1**	**-0.6**	
SUMG	**Summit**	**65.35**	**354**	*e*P		**P**	**04 29 00.4**	**+0.3**	
SUMG	**Summit**	**65.35**	**354**	*i*P		**P**	**04 29 00.3**	**+0.2**	
SUMG	**Summit**	**65.35**	**354**	*i*P		**P**	**04 29 00.3**	**+0.2**	
TLB	**Topalu**	**65.41**	**308**	⇑*i*P		**P**	**04 28 59.8**	**-0.6**	
TLB	**Topalu**	**65.41**	**308**	P		**P**	**04 28 59.8**	**-0.6**	
VRI	**Vrincioaia**	**65.44**	**310**	⇑*i*P		**P**	**04 29 00.3**	**-0.4**	
VRI	**Vrincioaia**	**65.44**	**310**	⇑P		**P**	**04 29 00.4**	**-0.3**	
PLOR	**Plostina**	**65.49**	**310**	⇓*i*P		**P**	**04 29 00.8**	**-0.2**	
PLOR	**Plostina**	**65.49**	**310**	⇓P		**P**	**04 29 00.8**	**-0.2**	
AS31	**Alice Springs**	**65.75**	**169**	*e*P		**P**	**04 29 00.2**	**-2.6**	
	comp=Z,1.8nm,0.4s								
ASAR	**Alice Springs**	**65.75**	**169**	P		**P**	**04 29 00.2**	**-2.6**	
	comp=Z,3.7nm,1.0s,baz=356,slow=5.6,SNR=17								
AS01	**Alice Springs**	**65.75**	**169**	*e*P		**P**	**04 29 00.0**	**-2.7**	
MLR	**Muntele Rosu**	**66.10**	**310**	⇓*i*P		**P**	**04 29 04.7**	**-0.4**	
MLR	**Muntele Rosu**	**66.10**	**310**	⇓P		**P**	**04 29 04.7**	**-0.4**	
DOPR	**Dopca**	**66.14**	**311**	⇑P		**P**	**04 29 05.7**	**+0.5**	
YKW3	**Yellowknife Ar**	**66.35**	**25**	*e*P		**P**	**04 29 05.4**	**-0.7**	
	comp=Z,7.1nm,0.8s								
YKA	**Yellowknife Ar**	**66.40**	**25**	P		**P**	**04 29 05.6**	**-0.9**	
	comp=Z,6.4nm,0.8s,baz=314,slow=6.6,SNR=88								
YKA				LR	LR		05 01 24.9		
	comp=Z,18nm,21.4s,baz=326,slow=39								
YKA	**Yellowknife Ar**	**66.40**	**25**	P		**P**	**04 29 05.6**	**-0.9**	
YKA				pmax	pmax				
	comp=Z,7.0nm,0.8s								
YKA				MLR	MLR				
	comp=Z,18nm,21.4s								
YKB5	**Yellowknife Ar**	**66.40**	**25**	*e*P		**P**	**04 29 05.0**	**-1.5**	
TRPA	**Tarpa**	**66.44**	**314**	⇑*i*P		**P**	**04 29 06.3**	**-0.7**	
OJC	**Ojcow**	**66.62**	**317**	*e*P		**P**	**04 29 08.7**	**+0.5**	
OJC	**Ojcow**	**66.62**	**317**	*e*P		**P**	**04 29 08.7**	**+0.5**	
	comp=Z,20nm,1.1s								
OJC	**Ojcow**	**66.62**	**317**	*e*P		**P**	**04 29 08.7**	**+0.5**	
VOIR		**66.65**	**311**	⇑*i*P		**P**	**04 29 08.5**	**0.0**	
VOIR		**66.65**	**311**	⇑P		**P**	**04 29 08.5**	**0.0**	
ARR	**Arges**	**66.92**	**311**	⇓*i*P		**P**	**04 29 10.8**	**+0.5**	
DRGR		**67.15**	**313**	⇑*i*P		**P**	**04 29 11.8**	**+0.1**	
DRGR		**67.15**	**313**	⇑P		**P**	**04 29 11.8**	**+0.1**	
GZR	**Gura Zlata**	**67.96**	**312**	⇑*i*P		**P**	**04 29 16.6**	**-0.2**	
GZR	**Gura Zlata**	**67.96**	**312**	⇑P		**P**	**04 29 16.6**	**-0.2**	
PSZ	**Piszkesteto**	**67.98**	**315**	⇑*i*P		**P**	**04 29 16.7**	**-0.2**	
PSZ	**Piszkesteto**	**67.98**	**315**	⇑P		**P**	**04 29 16.7**	**-0.2**	
MORC	**Moravsky Berou**	**68.04**	**318**	⇓*i*P		**P**	**04 29 17.8**	**+0.6**	
MORC	**Moravsky Berou**	**68.04**	**318**	⇓P		**P**	**04 29 17.8**	**+0.6**	
MORC	**Moravsky Berou**	**68.04**	**318**	*e*P		**P**	**04 29 17.2**	**0.0**	
VYHS	**Vyhne**	**68.18**	**316**	*e*P		**P**	**04 29 18.5**	**+0.4**	
VYHS	**Vyhne**	**68.18**	**316**	*e*P		**P**	**04 29 18.5**	**+0.4**	
DPC	**Dobruska-Polom**	**68.29**	**319**	*e*P		**P**	**04 29 19.4**	**+0.6**	
DPC				AMS	AMS		05 02 30.0		
	comp=Z,2µm,11.6s								
DPC	**Dobruska-Polom**	**68.29**	**319**	*e*P		**P**	**04 29 19.4**	**+0.6**	
DPC				MLR	MLR				
	comp=Z,2µm,11.6s								
UPC	**Upice**	**68.34**	**319**	AMS		AMS	05 02 30.0		
	comp=Z,2µm,18.5s								
BZS	**Buzias**	**68.47**	**312**	⇑*i*P		**P**	**04 29 19.6**	**-0.3**	
BZS	**Buzias**	**68.47**	**312**	⇑P		**P**	**04 29 19.6**	**-0.3**	
VRAC	**Vranov**	**68.82**	**318**	⇑*i*P		**P**	**04 29 22.6**	**+0.6**	
VRAC	**Vranov**	**68.82**	**318**	P		**P**	**04 29 22.6**	**+0.6**	
VRAC	**Vranov**	**68.82**	**318**	*e*P		**P**	**04 29 22.7**	**+0.7**	
PVCC	**Panska Ves**	**69.04**	**320**	*e*P		**P**	**04 29 24.4**	**+1.0**	
PVCC				AMS	AMS		05 03 00.0		
	comp=Z,2µm,16.1s								
PVCC	**Panska Ves**	**69.04**	**320**	*e*P		**P**	**04 29 24.4**	**+1.0**	
PVCC				MLR	MLR				
	comp=Z,2µm,16.1s								
KRUC	**Moravsky**	**69.08**	**318**	*e*P		**P**	**04 29 23.6**	**0.0**	
BRG	**Berggiesshubel**	**69.11**	**320**	*e*P		**P**	**04 29 24.1**	**+0.3**	
	comp=Z,14nm,1.5s								
	comp=N,1µm,16.5s								
	comp=E,1µm,14.5s								
	comp=Z,2µm,15.2s								
BRG	**Berggiesshubel**	**69.11**	**320**	*e*P		**P**	**04 29 24.1**	**+0.3**	
BRG				pmax	pmax				
	comp=Z,14nm,1.5s								
BRG				MLR	MLR				
	comp=N,1µm,16.5s								
BRG				MLR	MLR				
	comp=E,1µm,14.5s								
BRG				MLR	MLR				
	comp=Z,2µm,15.2s								
CLL	**Collm**	**69.28**	**321**	*e*P		**P**	**04 29 25.1**	**+0.2**	
	comp=Z,7.7nm,0.9s								
CLL	**Collm**	**69.28**	**321**	*i*P		**P**	**04 29 25.0**	**+0.2**	
	comp=Z,26nm,1.6s								
CLL				*i*pP		**pP**	**04 29 28.4**	**+0.1**	
CLL	**Collm**	**69.28**	**321**	*i*P		**P**	**04 29 25.0**	**+0.2**	
CLL				pmax	pmax				
	comp=Z,26nm,1.6s								
CLL				MLR	MLR				
	comp=Z,2µm,17.0s								
GOPC	**GO Pecny, Ondr**	**69.33**	**319**	AMS		AMS	05 03 10.0		
	comp=Z,2µm,14.4s								
TREC	**Trest**	**69.38**	**318**	AMS		AMS	05 03 00.0		
	comp=Z,1µm,13.5s								
PRA	**Prague**	**69.40**	**319**	AMS		AMS	05 03 10.0		
	comp=Z,2µm,12.2s								
PRU	**Pruhonice**	**69.40**	**319**	AMS		AMS	05 03 00.0		
	comp=Z,2µm,18.5s								
VTS	**Vitosha**	**69.42**	**309**	*e*P		**P**	**04 29 25.9**	**-0.2**	
	comp=Z,13nm,1.1s								
VTS	**Vitosha**	**69.42**	**309**	⇓*i*P		**P**	**04 29 26.1**	**0.0**	
VTS	**Vitosha**	**69.42**	**309**	⇓P		**P**	**04 29 26.2**	**+0.1**	
CONA	**Conrad Observa**	**70.08**	**317**	P		**P**	**04 29 30.0**	**+0.1**	
	comp=Z,11nm,1.4s								
NKC	**Novy Kostel**	**70.25**	**320**	AMS		AMS	05 03 40.0		
	comp=Z,3µm,12.7s								
KHC	**Kasperske Hory**	**70.44**	**319**	*e*P		**P**	**04 29 32.6**	**+0.5**	
	comp=Z,1.9nm,0.9s								
KHC	**Kasperske Hory**	**70.44**	**319**	*e*P		**P**	**04 29 32.2**	**+0.1**	
KHC				*e*pP		**sP**	**04 29 37.5**	**+0.6**	
KHC				AMS	AMS		05 03 50.0		
	comp=Z,2µm,12.5s								
KHC	**Kasperske Hory**	**70.44**	**319**	*e*P		**P**	**04 29 32.2**	**+0.1**	
KHC				*e*			04 29 37.5		
KHC				MLR	MLR				
	comp=Z,2µm,12.5s								
GERES	**GERESS Array B**	**70.57**	**319**	P		**P**	**04 29 33.3**	**+0.3**	
	comp=Z,0.9nm,0.7s,baz=46,slow=5.8,SNR=7.1								
GERES				LR	LR		05 04 41.2		
	comp=Z,632nm,20.8s,baz=61,slow=39								
GRA1	**Grafenberg Arr**	**71.20**	**320**	*e*P		**P**	**04 29 37.3**	**+0.6**	
	comp=Z,16nm,1.1s								
GRF	**Grafenberg Arr**	**71.20**	**320**	*e*P		**P**	**04 29 37.3**	**+0.6**	
GRF				pmax	pmax				
	comp=Z,16nm,1.1s								
GRFO	**Grafenberg**	**71.20**	**320**	*e*P		**P**	**04 29 36.6**	**-0.1**	
	comp=Z,21nm,1.3s								
GRFO	**Grafenberg**	**71.20**	**320**	*e*P		**P**	**04 29 36.6**	**-0.1**	
GRFO				pmax	pmax				
	comp=Z,21nm,1.3s								
SOKA	**Soboth**	**71.32**	**316**	P		**P**	**04 29 37.1**	**-0.5**	
	comp=Z,7.9nm,1.2s								
OBKA	**Obir**	**71.69**	**316**	*e*P		**P**	**04 29 39.5**	**-0.2**	
	comp=Z,6.9nm,0.9s								
KBA	**Koelnbreinsper**	**71.92**	**317**	P		**P**	**04 29 41.1**	**-0.1**	
	comp=Z,9.1nm,1.0s								
MEM	**Membach**	**72.97**	**324**	⇑P		**P**	**04 29 46.7**	**-0.5**	
EKA	**Eskdalemuir Ar**	**73.13**	**331**	P		**P**	**04 29 47.8**	**-0.3**	
	comp=Z,2.8nm,0.7s,baz=55,slow=6.2,SNR=7.5								
DAVA	**Damuels**	**73.51**	**319**	P		**P**	**04 29 50.7**	**0.0**	
	comp=Z,1.3nm,1.1s								
BFO	**Black Forest**	**73.52**	**321**	*i*P		**P**	**04 29 53.2**	**+2.6**	
WLF	**Walferdange**	**73.58**	**323**	⇓sP		**P**	**04 29 55.2**	**+4.4**	
DOU	**Dourbes**	**73.97**	**324**	⇑P		**P**	**04 29 52.5**	**-0.6**	
LON	**Longmire**	**74.81**	**40**	*e*P		**P**	**04 29 59.7**	**+1.5**	
	comp=Z,4.4nm,0.8s								
B08A	**Colville Reser**	**74.83**	**38**	*e*P		**P**	**04 29 59.4**	**+1.2**	
	comp=Z,9.2nm,1.0s								
LTY	**Liberty**	**75.00**	**39**	*e*P		**P**	**04 30 00.1**	**+0.8**	
	comp=Z,6.9nm,0.9s								
STKA	**Stephens Creek**	**75.12**	**164**	P		**P**	**04 29 58.3**	**-1.5**	
	comp=Z,7.0nm,0.6s,baz=348,slow=6.0,SNR=18								
STKA	**Stephens Creek**	**75.12**	**164**	*e*P		**P**	**04 29 58.3**	**-1.5**	
	comp=Z,1.3nm,0.6s								
FCC	**Fort Churchill**	**75.30**	**19**	*e*P		**P**	**04 30 00.2**	**-0.4**	
	comp=Z,14nm,0.8s								
FCC	**Fort Churchill**	**75.30**	**19**	*e*P		**P**	**04 30 00.2**	**-0.4**	
FCC				pmax	pmax				
	comp=Z,14nm,0.8s								
C09A	**Chrisman Ranch**	**75.72**	**38**	*e*P		**P**	**04 30 04.5**	**+1.2**	
E07A	**Sunnyside**	**75.89**	**39**	*e*P		**P**	**04 30 08.3**	**+4.0**	
	comp=Z,12nm,0.8s								
NEW	**Newport**	**75.90**	**37**	*e*P		**P**	**04 30 05.0**	**+0.6**	
	comp=Z,7.1nm,0.9s								
NEW	**Newport**	**75.90**	**37**	*e*P		**P**	**04 30 05.0**	**+0.6**	
NEW				pmax	pmax				
	comp=Z,7.0nm,0.9s								
D08A	**Wollman Farm,**	**75.96**	**38**	*e*P		**P**	**04 30 06.2**	**+1.4**	
	comp=Z,12nm,1.1s								
HAWA	**Hanford**	**76.16**	**39**	*e*P		**P**	**04 30 06.7**	**+0.8**	
	comp=Z,9.6nm,0.9s								
F07A	**Phinney Hill Vi**	**76.33**	**40**	*e*P		**P**	**04 30 08.5**	**+1.7**	
ARMA	**Armidale**	**76.40**	**155**	*e*P		**P**	**04 30 07.5**	**+0.2**	
	comp=Z,13nm,1.0s								
FFC	**Flin Flon**	**76.58**	**25**	*e*P		**P**	**04 30 07.2**	**-0.8**	
	comp=Z,7.7nm,0.8s								
FFC	**Flin Flon**	**76.58**	**25**	*e*P		**P**	**04 30 07.2**	**-0.8**	
FFC				pmax	pmax				
	comp=Z,8.0nm,0.8s								
WALA	**Waterton Lakes**	**76.70**	**35**	*e*P		**P**	**04 30 08.8**	**-0.2**	
	comp=Z,11nm,0.9s								
E09A	**Wood Farm, Sta**	**76.72**	**38**	*e*P		**P**	**04 30 10.6**	**+1.6**	
	comp=Z,5.9nm,0.9s								
PINE	**Pine Mountain**	**77.36**	**42**	*e*P		**P**	**04 30 14.3**	**+1.3**	
	comp=Z,9.2nm,0.9s								
I07A	**Izee**	**77.86**	**41**	*e*P		**P**	**04 30 17.6**	**+1.9**	
	comp=Z,9.3nm,1.0s								
BMO	**Blue Mountains**	**78.35**	**39**	*e*P		**P**	**04 30 19.1**	**+0.8**	
	comp=Z,12nm,1.1s								
BMO	**Blue Mountains**	**78.35**	**39**	*e*P		**P**	**04 30 19.1**	**+0.8**	
BMO				pmax	pmax				
	comp=Z,12nm,1.1s								
MSO	**Missoula**	**78.39**	**36**	*e*P		**P**	**04 30 19.7**	**+1.2**	
	comp=Z,23nm,1.1s								
J08A	**Circle Bar Ran**	**78.90**	**41**	*e*P		**P**	**04 30 23.1**	**+1.7**	
	comp=Z,7.1nm,0.9s								
MOD	**Modoc Plateau**	**79.06**	**43**	*e*P		**P**	**04 30 23.0**	**+0.7**	
	comp=Z,5.4nm,1.1s								
EGMT	**Eagleton**	**79.24**	**33**	*e*P		**P**	**04 30 23.5**	**+0.4**	
	comp=Z,14nm,0.9s								
HRY	**Holt Research**	**79.40**	**35**	*e*P		**P**	**04 30 25.2**	**+1.2**	
WVOR	**Wild Horse Val**	**79.51**	**42**	*e*P		**P**	**04 30 26.9**	**+2.3**	
	comp=Z,4.1nm,0.9s								
WVOR	**Wild Horse Val**	**79.51**	**42**	*e*P		**P**	**04 30 27.0**	**+2.3**	
WVOR				pmax	pmax				
	comp=Z,4.0nm,0.9s								
DLMT	**Dillon**	**80.12**	**36**	*e*P		**P**	**04 30 29.1**	**+1.0**	
	comp=Z,13nm,0.7s								
MFID	**Camas Ranch**	**80.14**	**39**	*e*P		**P**	**04 30 30.1**	**+2.0**	
	comp=Z,14nm,0.9s								
ORV	**Oroville**	**80.14**	**45**	*e*P		**P**	**04 30 28.9**	**+0.8**	
	comp=Z,2.5nm,0.8s								
ORV	**Oroville**	**80.14**	**45**	*e*P		**P**	**04 30 28.9**	**+0.8**	
ORV				pmax	pmax				
	comp=Z,3.0nm,0.8s								
BOZ	**Bozeman (W)**	**80.36**	**36**	*e*P		**P**	**04 30 29.4**	**+0.1**	
	comp=Z,7.1nm,0.8s								
BOZ	**Bozeman (W)**	**80.36**	**36**	*e*P		**P**	**04 30 29.4**	**+0.1**	
BOZ				pmax	pmax				
	comp=Z,7.0nm,0.8s								
MCMT	**McKenzie Canyo**	**80.42**	**37**	*e*P		**P**	**04 30 30.9**	**+1.1**	
BEKR	**Beckworth**	**80.52**	**44**	*e*P		**P**	**04 30 31.2**	**+0.9**	
	comp=Z,5.1nm,1.0s								
HLID	**Hailey**	**80.69**	**38**	*e*P		**P**	**04 30 32.6**	**+1.4**	
	comp=Z,16nm,0.9s								
AFDM	**Forest Hills D**	**80.87**	**45**	*e*P		**P**	**04 30 34.3**	**+2.3**	
	comp=Z,3.7nm,1.1s								
DGMT	**Dagmar**	**81.04**	**30**	*e*P		**P**	**04 30 33.0**	**+0.3**	
	comp=Z,21nm,0.8s								
GCMT	**Greycliff**	**81.05**	**34**	*e*P		**P**	**04 30 35.7**	**+2.7**	
PAHR	**Pah Rah Range**	**81.14**	**44**	*e*P		**P**	**04 30 35.1**	**+1.5**	
	comp=Z,6.9nm,1.0s								
YHB	**Horse Butte**	**81.22**	**36**	*e*P		**P**	**04 30 33.5**	**-0.5**	
	comp=Z,14nm,1.1s								
VCNR	**Virginia City**	**81.31**	**44**	*e*P		**P**	**04 30 36.5**	**+1.9**	
	comp=Z,4.6nm,0.9s								
PNTR	**Pine Nut**	**81.49**	**44**	*e*P		**P**	**04 30 37.5**	**+1.9**	
	comp=Z,4.4nm,0.8s								
BMN	**Battle Mountai**	**81.71**	**42**	*e*P		**P**	**04 30 38.8**	**+2.2**	
LAO	**LASA Array**	**81.73**	**32**	*e*P		**P**	**04 30 38.0**	**+1.4**	
	comp=Z,8.2nm,0.9s								
YERR	**Yerington**	**81.75**	**44**	*e*P		**P**	**04 30 37.5**	**+0.5**	
	comp=Z,6.3nm,0.9s								
RLMT	**Red Lodge**	**81.76**	**34**	*e*P		**P**	**04 30 37.6**	**+0.8**	
	comp=Z,5.0nm,1.0s								
YPP	**Pitchstone Pla**	**81.77**	**36**	*e*P		**P**	**04 30 39.7**	**+2.7**	
	comp=Z,10nm,1.1s								
H17A	**Grant Village**	**81.77**	**36**	*e*P		**P**	**04 30 39.4**	**+2.4**	
	comp=Z,8.8nm,0.8s								
CMB	**Columbia Colle**	**81.85**	**46**	*e*P		**P**	**04 30 38.4**	**+1.2**	
	comp=Z,8.0nm,1.1s								
CMB	**Columbia Colle**	**81.85**	**46**	*e*P		**P**	**04 30 38.4**	**+1.2**	
CMB				pmax	pmax				
	comp=Z,8.0nm,1.1s								
FLWY	**Flagg Ranch**	**81.96**	**36**	*e*P		**P**	**04 30 40.2**	**+2.2**	
	comp=Z,9.4nm,1.0s								
KEST	**Kesra**	**81.98**	**311**	P		**P**	**04 30 38.0**	**-0.1**	
	comp=Z,3.5nm,0.9s,baz=316,slow=12,SNR=3.4								
KEST	**Kesra**	**81.98**	**311**	*e*P		**P**	**04 30 38.0**	**-0.1**	
	comp=Z,5.8nm,1.0s								
IMW	**Indian Meadow**	**82.00**	**36**	*e*P		**P**	**04 30 40.3**	**+2.0**	
	comp=Z,18nm,1.1s								
WAKR	**Walker**	**82.01**	**45**	*e*P		**P**	**04 30 40.6**	**+2.4**	
	comp=Z,3.4nm,1.0s								
FXWY	**Fox Creek**	**82.17**	**36**	*e*P		**P**	**04 30 41.0**	**+1.9**	
	comp=Z,9.9nm,1.0s								
MOOW	**Moose Ponds**	**82.21**	**36**	*e*P		**P**	**04 30 40.6**	**+1.3**	
	comp=Z,13nm,1.1s								
KVN	**Kaiserville**	**82.30**	**44**	*e*P		**P**	**04 30 41.6**	**+1.9**	
	comp=Z,3.0nm,0.8s								
TPAW	**Teton Pass**	**82.32**	**36**	*e*P		**P**	**04 30 41.7**	**+1.8**	
	comp=Z,7.7nm,1.1s								
ULM	**Lac du Bonnet**	**82.33**	**24**	P		**P**	**04 30 38.0**	**-1.4**	
	comp=Z,7.1nm,0.8s,baz=340,slow=5.2,SNR=13								
ULM				LR	LR		05 09 52.9		
	comp=Z,151nm,20.2s,baz=4.5,slow=38								
ULM	**Lac du Bonnet**	**82.33**	**24**	*e*P		**P**	**04 30 38.5**	**-1.0**	
	comp=Z,9.6nm,1.0s								
ULM	**Lac du Bonnet**	**82.33**	**24**	*e*P		**P**	**04 30 38.5**	**-1.0**	
ULM				pmax	pmax				
	comp=Z,10.0nm,1.0s								
LOHW	**Long Hollow**	**82.38**	**36**	*e*P		**P**	**04 30 41.8**	**+1.7**	
	comp=Z,5.6nm,1.1s								
RYN	**Ryan**	**82.39**	**44**	*e*P		**P**	**04 30 42.2**	**+2.0**	
	comp=Z,5.0nm,0.9s								
ELK	**Elko**	**82.45**	**41**	*e*P		**P**	**04 30 42.1**	**+1.5**	
	comp=Z,6.6nm,1.0s								
ELK	**Elko**	**82.45**	**41**	*e*P		**P**	**04 30 42.1**	**+1.5**	
ELK				pmax	pmax				
	comp=Z,7.0nm,1.0s								
REDW	**Red Top Meadow**	**82.47**	**36**	*e*P		**P**	**04 30 42.7**	**+2.1**	
	comp=Z,5.2nm,0.9s								
NV01	**Mina Array Sit**	**82.66**	**44**	*e*P		**P**	**04 30 42.7**	**+1.0**	
NVAR	**Mina Array Bea**	**82.66**	**44**	P		**P**	**04 30 43.1**	**+1.4**	
	comp=Z,5.9nm,0.9s,baz=290,slow=4.5,SNR=17								
HVU	**Hansel Valley**	**82.83**	**39**	*e*P		**P**	**04 30 45.5**	**+3.0**	
	comp=Z,4.4nm,0.9s								
HVU	**Hansel Valley**	**82.83**	**39**	*e*P		**P**	**04 30 45.5**	**+3.0**	
HVU				pmax	pmax				
	comp=Z,4.0nm,0.9s								
SPUT	**South Promonto**	**83.35**	**39**	*e*P		**P**	**04 30 48.1**	**+2.9**	
	comp=Z,6.9nm,1.0s								
BGU	**Big Grassy Mou**	**83.38**	**39**	*e*P		**P**	**04 30 48.3**	**+3.0**	
	comp=Z,6.6nm,1.1s								
BW06	**Boulder Array**	**83.52**	**36**	*e*P		**P**	**04 30 46.5**	**+0.5**	
	comp=Z,4.1nm,1.0s								
PD31	**Pinedale Array**	**83.52**	**36**	*e*P		**P**	**04 30 46.5**	**+0.5**	
PDAR	**Pinedale Array**	**83.52**	**36**	P		**P**	**04 30 46.0**	**0.0**	
	comp=Z,2.6nm,0.8s,baz=22,slow=2.1,SNR=18								
PDAR				LR		LR	05 13 09.2		
	comp=Z,194nm,18.1s,baz=336,slow=39								
PDAR	**Pinedale Array**	**83.52**	**36**	*e*P		**P**	**04 30 45.6**	**-0.5**	
PAGB	**Antelope Grade**	**83.62**	**47**	*e*P		**P**	**04 30 48.8**	**+2.3**	
	comp=Z,8.0nm,1.0s								
TCUT	**Toone Canyon**	**83.99**	**38**	*e*P		**P**	**04 30 51.1**	**+2.5**	
	comp=Z,23nm,1.0s								
DUG	**Dugway, Tooele**	**84.05**	**40**	*e*P		**P**	**04 30 51.8**	**+3.1**	
	comp=Z,6.3nm,1.0s								
DUG	**Dugway, Tooele**	**84.05**	**40**	*e*P		**P**	**04 30 51.8**	**+3.1**	
DUG				pmax	pmax				
	comp=Z,6.0nm,1.0s								
R11A	**Troy Canyon, C**	**84.11**	**42**	*e*P		**P**	**04 30 50.4**	**+1.3**	
	comp=Z,1.7nm,0.8s								
CTU	**Camp Tracy**	**84.16**	**39**	*e*P		**P**	**04 30 53.1**	**+3.8**	
	comp=Z,7.1nm,1.1s								
JLU	**Jordanelle**	**84.38**	**39**	*e*P		**P**	**04 30 54.9**	**+4.3**	
	comp=Z,5.4nm,0.9s								
NLU	**North Lily Min**	**84.59**	**39**	*e*P		**P**	**04 30 54.6**	**+3.1**	
	comp=Z,11nm,1.2s								
RSSD	**Black Hills**	**84.72**	**32**	*e*P		**P**	**04 30 52.7**	**+0.5**	
	comp=Z,8.7nm,0.9s								
RSSD	**Black Hills**	**84.72**	**32**	*e*P		**P**	**04 30 52.7**	**+0.5**	
RSSD				pmax	pmax				
	comp=Z,9.0nm,0.9s								
MPU	**Maple Canyon**	**84.75**	**39**	*e*P		**P**	**04 30 55.7**	**+3.3**	
	comp=Z,3.3nm,1.0s								
PSUT	**Pine Spring**	**84.84**	**41**	*e*P		**P**	**04 30 55.0**	**+2.1**	
	comp=Z,5.4nm,0.9s								
TPNV	**Topopah Spring**	**84.84**	**44**	*e*P		**P**	**04 30 55.5**	**+2.7**	
	comp=Z,4.2nm,0.9s								
TPNV	**Topopah Spring**	**84.84**	**44**	*e*P		**P**	**04 30 55.5**	**+2.7**	
TPNV				pmax	pmax				
	comp=Z,4.0nm,0.9s								
P17A	**Butcher Ranch,**	**85.60**	**39**	*e*P		**P**	**04 30 59.5**	**+3.0**	
	comp=Z,10nm,0.9s								
MSU	**Marysvale**	**85.67**	**40**	*e*P		**P**	**04 31 00.2**	**+3.1**	
SHPR	**Sheep Range**	**85.74**	**43**	*e

64nm,0.8s
GO06 Curarrehue 30.25 111 *e*P P 04 35 49.5 +1.0
18nm,1.2s
GO05 Huala 30.39 102 *e*P P 04 35 49.9 +0.3
35nm,1.2s
PLCA Paso Flores 30.92 113 P P 04 35 54.3 0.0
12nm,1.2s,baz=286,slow=12,SNR=6.0
PLCA LR LR 04 44 38.4
comp=Z,199nm,20.3s,baz=300,slow=29
GO09 Cerro Castillo 31.23 134 *e*P P 04 35 58.3 +1.6
59nm,1.2s
PEL Peldehue 31.78 98 *e*P P 04 36 02.8 +0.9
36nm,1.1s
PEL Peldehue 31.78 98 *e*P P 04 36 02.8 +0.9
PEL pmax pmax
comp=Z,36nm,1.1s
GO04 Tololo Observa 32.49 93 *e*P P 04 36 09.2 +0.8
comp=Z,71nm,1.3s
GO10 Punta Arenas 32.58 136 *e*P P 04 36 09.3 +0.7
comp=Z,334nm,1.8s
LCO Las Campanas 32.95 91 *e*P P 04 36 13.1 +0.7
comp=Z,27nm,1.3s
LCO Las Campanas 32.95 91 *ce*P P 04 36 14.4 +2.0
LCO Las Campanas 32.95 91 *e*P P 04 36 13.6 +1.2
GO03 Copiap 33.83 89 *e*P P 04 36 18.6 -1.3
comp=Z,38nm,1.4s
GO02 Mina Guanaco 35.32 85 *e*P P 04 36 34.0 +0.9
comp=Z,86nm,1.7s
TBI Tubuai 36.84 277 *e*S S 04 42 30.7 +0.4
comp=Z,125nm,26.8s
TBI *e*LR LR 04 46 38.3
comp=Z,3µm,26.2s,baz=115
NNA Nana 36.93 60 LR LR 04 48 20.3
comp=Z,1µm,18.6s,baz=246,slow=30
LVC Limon Verde 37.01 82 P P 04 36 48.3 +0.7
comp=Z,8.2nm,1.1s,baz=209,slow=13,SNR=9.4
LVC Limon Verde 37.01 82 *e*P P 04 36 49.6 +2.1
LVC Limon Verde 37.01 82 *ce*P P 04 36 49.7 +2.1
LVC pmax pmax
comp=Z,36nm,1.7s
PB01 IPOC Station P 37.29 79 *e*P P 04 36 50.9 +1.2
comp=Z,20nm,1.0s
PB11 IPOC Station P 37.80 77 *e*P P 04 36 55.1 +1.0
comp=Z,37nm,1.1s
PB11 *es*P pwP 04 36 59.9 -1.1
MNMC Minye Minye 38.18 77 *e*P P 04 36 58.2 +0.8
comp=Z,36nm,1.0s
TAOE Nuku Hiva Isla 38.31 305 *e*LR LR 04 47 25.9
comp=Z,706nm,26.2s,baz=156
TVO Taravao 39.45 285 *e*T T 05 18 43.2
comp=Z,1.7nm,0.3s
PPT2 Papeete2 39.82 285 *e*S S 04 43 16.2 +0.7
comp=Z,122nm,26.8s
PPT2 *e*LQ LQ 04 46 17.4
comp=Z,957nm,26.8s
PPT2 *e*LR LR 04 47 52.8
comp=Z,2µm,25.5s,baz=113
PPT Papeete 39.83 285 LR LR 04 48 47.2
comp=Z,1µm,21.8s,baz=112,slow=29
EFI East Falkland 40.05 131 *i* P P 04 37 12.4 0.0
EFI pmax pmax
comp=Z,12nm,1.5s
LPAZ La Paz 40.90 74 P P 04 37 22.0 +1.5
comp=Z,6.0nm,0.7s,baz=259,slow=4.6,SNR=26
LPAZ LR LR 04 50 21.8
comp=Z,670nm,18.3s,baz=230,slow=30
CPUP Villa Florida 44.95 94 P P 04 37 51.9 -0.7
comp=Z,9.4nm,1.2s,baz=261,slow=9.6,SNR=7.0
CPUP LR LR 04 53 59.7
comp=Z,810nm,18.1s,baz=258,slow=32
CPUP Villa Florida 44.95 94 *e*P P 04 37 51.9 -0.7
comp=Z,14nm,1.2s
CPUP Villa Florida 44.95 94 *e*P P 04 37 51.9 -0.7
CPUP pmax pmax
comp=Z,14nm,1.2s
OTAV Otavalo 44.97 46 *e*P P 04 37 55.0 +1.6
comp=Z,29nm,1.7s
OTAV Otavalo 44.97 46 *ce*P P 04 37 54.9 +1.6
OTAV pmax pmax
comp=Z,18nm,1.7s
OTAV Otavalo 44.97 46 *e*P P 04 37 54.5 +1.1
CMBC Cumbal 45.91 46 *e*P P 04 38 08.0 +7.3
CMBC Cumbal 45.91 46 *e*P P 04 38 08.0 +7.3
PLTB Pedras Altas 46.02 103 *e*P P 04 38 00.6 -0.5
POPC Popayan, Colom 47.87 46 *e*P P 04 38 16.3 +0.5
POPC Popayan, Colom 47.87 46 *e*P P 04 38 16.3 +0.5
AQDB Aquidauana 48.86 88 *e*P P 04 38 23.1 -0.2
ITAB Concordia 48.86 98 *e*P P 04 38 22.5 -0.7
YOTC Yotoco, Valle 49.22 45 *e*P P 04 38 25.9 -0.2
YOTC Yotoco, Valle 49.22 45 *e*P P 04 38 25.9 -0.2
PTGB Pitanga 49.95 95 *e*P P 04 38 31.2 -0.4
JTS JuntasAbangare 50.17 32 *i* P P 04 38 34.8 +1.6
JTS pmax pmax
comp=Z,17nm,1.2s
ANIL Santa Ana 50.18 46 *e*P P 04 38 33.0 -0.7
ANIL Santa Ana 50.18 46 *e*P P 04 38 33.0 -0.7
TRCB Terra Rica 50.32 92 *e*P P 04 38 34.0 -0.4
ROSC El Rosal 51.11 47 P P 04 38 40.5 -0.3
comp=Z,7.5nm,0.8s,baz=119,slow=2.1,SNR=11
ROSC LR LR 04 56 17.7
comp=Z,466nm,21.6s,baz=239,slow=31
ROSC El Rosal 51.11 47 *e*P P 04 38 45.1 +4.4
comp=Z,25nm,1.1s
ROSC El Rosal 51.11 47 *e*P P 04 38 41.3 +0.5
ROSC El Rosal 51.11 47 *e*P P 04 38 41.3 +0.5
SALV Santo Antonio 51.15 83 *e*P P 04 38 40.4 -0.2
CHIC Chingaza 51.30 48 *e*P P 04 38 43.4 +1.2
CHIC Chingaza 51.30 48 *e*P P 04 38 43.4 +1.2
C2SB Chapadao do Su 52.04 88 *e*P P 04 38 48.8 +1.5
TIJ01 Guaruva-PR 52.20 97 *e*P P 04 38 48.0 -0.6
PTBC PUERTO BERRIO, 52.38 45 *e*P P 04 38 50.0 +0.2
PTBC PUERTO BERRIO, 52.38 45 *e*P P 04 38 50.0 +0.2
FRTB Fartura 52.60 94 *e*P P 04 38 52.8 +1.3
RUSC La Rusia 52.68 47 *e*P P 04 38 52.1 -0.5
RUSC La Rusia 52.68 47 *e*P P 04 38 52.1 -0.5
ZARC Zaragoza, Cauc 52.91 44 *e*P P 04 38 53.3 -0.4
ZARC Zaragoza, Cauc 52.91 44 *e*P P 04 38 53.3 -0.4
HOPE Hope Point 52.94 135 *e*P P 04 38 55.8 +2.4
comp=Z,83nm,1.1s
BRRC Barranca, Sant 53.27 46 *e*P P 04 38 55.8 -0.6
BRRC Barranca, Sant 53.27 46 *e*P P 04 38 55.8 -0.6
ITRB Iturama 53.63 90 *e*P P 04 38 58.4 -0.7
PAMC Pamplona, Colo 54.06 47 *e*P P 04 39 01.6 -1.1
PAMC Pamplona, Colo 54.06 47 *e*P P 04 39 01.6 -1.1
BB19B Bebedouro 54.49 92 *e*P P 04 39 06.5 +1.1
RCLB Rio Claro- Sao 54.69 94 *e*P P 04 39 08.2 +1.3
QSPA South Pole Qui 55.59 180 *e*P P 04 39 14.7 +1.9
comp=Z,20nm,1.2s
IPMB Ipameri, GO 56.24 89 *e*P P 04 39 18.0 -0.1
VNDA Vanda 56.31 195 LR LR 04 57 58.2
comp=Z,474nm,21.9s,baz=94,slow=30
SDV Santo Domingo 56.52 47 LR LR 05 02 36.9
comp=Z,501nm,18.3s,baz=299,slow=35
SDV Santo Domingo 56.52 47 *e*P P 04 39 21.6 +1.4
comp=Z,12nm,1.1s
SDV Santo Domingo 56.52 47 *e*P P 04 39 21.6 +1.4
SDV *ep*P PcP 04 40 16.1 -0.7
PTGA Pitinga 56.84 65 *e*P P 04 39 21.3 -1.0
comp=Z,21nm,1.1s
PMNB Patos De Minas 57.43 91 *e*P P 04 39 26.9 +0.4
BDFB Brasilia 57.59 87 P P 04 39 27.7 0.0
comp=Z,13nm,1.2s,baz=243,slow=6.8,SNR=7.0
BDFB LR LR 05 02 06.5
comp=Z,818nm,18.3s,baz=245,slow=34
BSCB Bom Sucesso 57.62 94 *e*P P 04 39 27.2 -0.6
BKZ Black Stump Fm 58.15 242 *e*P P 04 39 32.3 +1.0
comp=Z,48nm,1.4s
LNIG Linares 59.88 10 *e*P P 04 39 43.0 -0.2
comp=Z,19nm,1.3s
MCI8 Montes Claros 60.45 90 *e*P P 04 39 48.2 +0.8
MCI9 Montes Claros 60.45 91 *e*P P 04 39 47.7 +0.2
VNA3 Neumayer Olymp 60.57 159 P P 04 39 48.0 +0.5
JANB Januaria 60.94 89 *e*P P 04 39 51.9 +1.0
VNA1 Neumayer--Stat 61.22 158 P P 04 39 51.9 +0.1
VNA2 Neumayer--Watz 61.38 158 P P 04 39 53.6 +0.7
baz=250,slow=6.0
SJMB Sao Joao De Ma 61.68 94 *e*P P 04 39 56.6 +0.9
BSFB Barra de Sao F 61.89 94 *e*P P 04 39 58.4 +1.2
RIB01 Linhares ES 62.03 95 *e*P P 04 39 59.1 +1.1
SNAA Sanae 62.40 160 P P 04 39 59.8 -0.1
SNAA Sanae 62.40 160 *e*P P 04 39 60.0 +0.1
comp=Z,27nm,1.2s
SNAA Sanae 62.40 160 *d i*P P 04 39 58.4 -1.5
TXAR Lajitas Array 63.80 5 P P 04 40 10.0 +0.3
comp=Z,1.3nm,1.0s,baz=179,slow=8.8,SNR=8.2
LTX Lajitas 63.80 5 *e*P P 04 40 10.0 +0.3
LTX Lajitas 63.80 5 *e*P P 04 40 10.0 +0.3
JCT Junction City 65.33 9 *e*P P 04 40 19.9 +0.3
comp=Z,17nm,0.9s
JCT Junction City 65.33 9 *e*P P 04 40 19.9 +0.3
JCT pmax pmax
comp=Z,17nm,0.9s
JCT Junction City 65.33 9 P P 04 40 19.7 +0.1
baz=188
061Z Ochoppi 65.81 28 P P 04 40 22.8 +0.2
baz=205
435B Jarrell 65.94 11 *e*P P 04 40 24.4 +0.9
comp=Z,50nm,1.4s
435B Jarrell 65.94 11 P P 04 40 23.9 +0.5
baz=190
MNTX Cornudas Mount 66.05 3 *e*P P 04 40 23.8 -0.3
comp=Z,8.3nm,1.2s
MNTX Cornudas Mount 66.05 3 P P 04 40 23.4 -0.7
baz=183
MDP Montagnes des 66.15 65 LR LR 05 06 17.9
comp=Z,1µm,19.2s,baz=237,slow=33
214A Organ Pipe Nat 66.31 357 P P 04 40 25.9 +0.1
baz=177
TUC Tucson 66.58 358 *e*P P 04 40 28.3 +0.7
comp=Z,9.2nm,1.2s
TUC Tucson 66.58 358 *e*P P 04 40 28.3 +0.7
TUC pmax pmax
comp=Z,9.0nm,1.2s
TUC Tucson 66.58 358 P P 04 40 27.7 +0.1
baz=178
121A Cookes Peak, D 66.80 1 P P 04 40 29.3 +0.2
baz=181
NVL N'lazarevskaya 66.86 162 *e*P P 04 40 29.8 +0.9
NVL *e*S PnS 04 49 42.9 +1.2
NVL pmax pmax
comp=Z,13nm,1.0s
WHTX Lake Whitney, 67.14 11 *e*P P 04 40 31.0 -0.1
comp=Z,30nm,1.1s
WHTX Lake Whitney, 67.14 11 P P 04 40 31.0 -0.1
baz=190
IKP In-Ko-Pah, Jac 67.23 354 P P 04 40 32.3 +0.6
baz=174,SNR=11
BAR Barrett 67.31 353 *e*P P 04 40 32.6 +0.4
comp=Z,32nm,1.4s
NATX Nacogdoches 67.40 13 *e*P P 04 40 33.7 +1.0
comp=Z,27nm,0.7s
NATX Nacogdoches 67.40 13 P P 04 40 33.2 +0.5
baz=193
SWSC Sam W. Stewart 67.49 354 P P 04 40 33.7 +0.5
baz=174
MONP2 Monument Peak 67.50 353 P P 04 40 34.1 +0.5
baz=174,SNR=12
DWPF Disney Wildern 67.64 26 P P 04 40 34.6 +0.3
baz=204
DWPF Disney Wildern 67.64 26 *e*P P 04 40 37.3 +3.0
859A Kempfer Cattle 67.79 27 P P 04 40 35.5 +0.2
baz=205
BC3 Big Chuckawall 68.17 354 P P 04 40 38.1 +0.4
baz=174,SNR=11
Y12C Blythe 68.19 355 P P 04 40 38.4 +0.7
baz=175
449A Pace 68.21 20 P P 04 40 38.1 +0.3
baz=199
XPFO Pion Flat 68.21 353 *e*P P 04 40 38.5 +0.5
comp=Z,25nm,1.3s
PFO Pinyon Flats O 68.22 353 *e*P P 04 40 38.5 +0.5
comp=Z,22nm,1.2s
PFO Pinyon Flats O 68.22 353 *e*P P 04 40 38.5 +0.5
PFO pmax pmax
comp=Z,22nm,1.2s
PFO Pinyon Flats O 68.22 353 P P 04 40 38.4 +0.5
baz=174,SNR=12
CIS Catalina Islan 68.22 352 P P 04 40 38.1 +0.2
baz=172
MURC Murrieta 68.28 353 P P 04 40 38.7 +0.4
baz=173
Y14A Wickenburg 68.29 356 *e*P P 04 40 39.0 +0.7
comp=Z,22nm,1.4s
LENM Lemitar 68.44 2 *e*P P 04 40 40.1 +0.6
BELC Belle Mtn. Jos 68.56 354 P P 04 40 40.5 +0.4
baz=174,SNR=11
IRM Iron Mountain 68.64 355 P P 04 40 40.7 +0.2
baz=175,SNR=6.2
LAZ Ladron 68.67 2 *e*P P 04 40 41.9 +1.0
X16A Lo Mia Camp, P 68.70 358 *e*P P 04 40 41.8 +0.7
comp=Z,14nm,1.4s
PDMCI Parker Dam,Lak 68.72 356 P P 04 40 41.4 +0.5
baz=176
X18A Snowflake 68.78 359 *e*P P 04 40 42.2 +0.6
comp=Z,42nm,1.6s
BBRC Big Bear Solar 68.91 353 P P 04 40 43.1 +0.7
baz=173
BFSC Mount Baldy Ra 68.96 352 P P 04 40 43.0 +0.3
baz=172,SNR=8.3
MWC Mount Wilson 68.99 352 *e*P P 04 40 43.5 +0.6
comp=Z,24nm,1.4s
MWC Mount Wilson 68.99 352 *e*P P 04 40 43.5 +0.6
MWC pmax pmax
comp=Z,24nm,1.4s
556A Lake Butler 69.02 25 P P 04 40 42.9 0.0
baz=203
350A Dozier 69.08 21 P P 04 40 43.6 +0.4
baz=200
351A Pinckard 69.16 21 P P 04 40 43.9 +0.1
baz=200
Z41A Richland Creek 69.22 15 *e*P P 04 40 44.7 +0.7
comp=Z,21nm,1.0s
Z41A Richland Creek 69.22 15 P P 04 40 44.2 +0.1
baz=194
145A Houston Renfro 69.24 17 P P 04 40 44.5 +0.3
baz=197
ANMO Albuquerque 69.24 2 *e*P P 04 40 45.4 +1.0
comp=Z,7.2nm,1.4s
ANMO Albuquerque 69.24 2 ⇑ *i*P P 04 40 44.4 0.0
ANMO pmax pmax
comp=Z,13nm,2.9s
ANMO Albuquerque 69.24 2 P P 04 40 44.7 +0.3
baz=182
GMRC Granite Mounta 69.31 354 P P 04 40 45.3 +0.5
baz=174
248A Dixon Mills 69.32 19 P P 04 40 45.2 +0.5
baz=199
249A Camden 69.38 20 P P 04 40 45.4 +0.3
baz=199
W13A Hualapai Mount 69.49 356 *e*P P 04 40 46.5 +0.5
comp=Z,22nm,1.7s
LDFC Landfair 69.56 355 *e*P P 04 40 48.1 +1.8
comp=Z,61nm,1.2s
352A Blakely 69.56 22 P P 04 40 46.2 -0.1
baz=201
WLAR White Oak Lake 69.57 14 *e*P P 04 40 46.8 +0.6
comp=Z,28nm,1.1s
EDW2 Edwards Air Fo 69.63 352 P P 04 40 46.4 -0.3
baz=172,SNR=8.5
WMOK Wichita Mounta 69.66 9 P P 04 40 45.8 -1.0
baz=189
147A Livingston 69.72 19 P P 04 40 47.2 0.0
baz=198
WUAZ Wupatki 69.80 358 *e*P P 04 40 48.6 +0.7
comp=Z,37nm,1.8s
WUAZ Wupatki 69.80 358 P P 04 40 48.1 +0.3
baz=176
Y41A Eaglette Beard 69.86 15 P P 04 40 48.0 0.0
baz=194
PKM Mcpherson Peak 69.86 351 P P 04 40 48.4 +0.1
baz=171,SNR=5.4
GSC Goldstone, Bar 69.92 353 *e*P P 04 40 49.4 +0.9
comp=Z,42nm,1.4s
GSC Goldstone, Bar 69.92 353 *e*P P 04 40 49.4 +0.9
GSC pmax pmax
comp=Z,42nm,1.4s
GSC Goldstone, Bar 69.92 353 P P 04 40 49.1 +0.6
baz=173,SNR=12
TUQ Turquoise Moun 69.98 354 P P 04 40 49.7 +0.8
baz=174,SNR=11
251A Midway 69.98 21 P P 04 40 48.4 -0.5
baz=201
X37A Clayton 70.02 12 *e*P P 04 40 48.5 -0.6
comp=Z,73nm,1.8s
Z46A Louisville 70.05 18 P P 04 40 49.6 +0.4
baz=198
149A Jones 70.06 20 P P 04 40 49.1 -0.2
baz=199
LRMC Laurel Mtn Rad 70.19 353 P P 04 40 50.5 +0.3
baz=172,SNR=14
Y43A Makayla and Ka 70.25 16 P P 04 40 50.4 0.0
baz=196
Z47A Carrollton 70.28 19 P P 04 40 50.5 -0.1
baz=198
150A Eclectic 70.28 21 P P 04 40 50.3 -0.4
baz=200
MIAR Mount Ida 70.31 14 *e*P P 04 40 50.7 -0.1
comp=Z,13nm,1.3s
MIAR Mount Ida 70.31 14 *e*P P 04 40 50.7 -0.1
MIAR pmax pmax
comp=Z,13nm,1.3s
MIAR Mount Ida 70.31 14 P P 04 40 50.3 -0.4
baz=194
X40A Basin Creek Fa 70.40 14 P P 04 40 51.0 -0.4
baz=194
LRAL Lakeview Retre 70.41 20 *e*P P 04 40 51.5 0.0
comp=Z,20nm,1.3s
LRAL Lakeview Retre 70.41 20 P P 04 40 51.2 -0.2
baz=199
151A Opelika 70.41 21 P P 04 40 50.6 -0.9
baz=201
X41A Kaden, Bauxite 70.47 14 P P 04 40 51.6 -0.2
baz=194
Y45A Yeager Farm, C 70.54 17 P P 04 40 51.7 -0.5
baz=197
Z49A Columbiana 70.69 20 P P 04 40 52.6 -0.6
baz=200
VES Vestal, Richgr 70.71 351 P P 04 40 53.0 -0.2
baz=171
Y46A Houston 70.72 18 P P 04 40 52.6 -0.7
baz=198
152A Waverly Hall 70.73 22 *e*P P 04 40 53.8 +0.4
comp=Z,23nm,1.2s
152A Waverly Hall 70.73 22 P P 04 40 53.2 -0.1
baz=201
U15A North Rim 70.74 357 *e*P P 04 40 53.8 +0.1
comp=Z,23nm,1.3s
MPMC Manual Prospec 70.74 353 P P 04 40 53.9 +0.2
baz=173,SNR=33
PAGB Antelope Grade 70.75 350 *e*P P 04 40 54.4 +0.9
comp=Z,29nm,1.5s
UALR University of 70.78 15 *e*P P 04 40 54.9 +1.3
comp=Z,12nm,1.0s
W39A Magazine 70.90 13 *e*P P 04 40 54.7 +0.3
comp=Z,17nm,1.1s
W39A Magazine 70.90 13 P P 04 40 54.6 +0.3
baz=193,SNR=5.7
Z50A Ashland 70.92 20 P P 04 40 54.3 -0.2
baz=200
DAC Darwin (Calif) 70.97 353 *e*P P 04 40 55.6 +0.6
comp=Z,42nm,1.4s
DAC Darwin (Calif) 70.97 353 *e*P P 04 40 55.6 +0.6
DAC pmax pmax
comp=Z,42nm,1.4s
SHPR Sheep Range 70.98 355 *e*P P 04 40 56.2 +1.1
comp=Z,39nm,1.5s
256A Glennville 71.00 24 P P 04 40 55.1 +0.1
baz=203
FURC Furnace Creek, 71.08 353 P P 04 40 55.9 +0.4
baz=173,SNR=9.3
X45A UM Field Stati 71.11 17 P P 04 40 54.8 -0.8
baz=197
154A Montrose 71.18 23 P P 04 40 56.0 -0.1
baz=202
CWC Cottonwood Cre 71.18 352 P P 04 40 56.6 +0.3
baz=172
W41B Gary Mavity, V 71.18 15 *e*P P 04 40 56.2 +0.1
comp=Z,34nm,1.3s
W41B Gary Mavity, V 71.18 15 P P 04 40 56.0 -0.1
baz=195,SNR=7.8
OXF Oxford 71.19 17 P P 04 40 56.1 0.0
baz=197
Y48A Jasper 71.19 19 P P 04 40 55.7 -0.5
baz=199
Z51A Franklin 71.20 21 P P 04 40 55.4 -0.8
baz=201
TUL1 Leonard 71.24 11 *e*P P 04 40 56.3 -0.2
comp=Z,23nm,1.0s
TUL1 Leonard 71.24 11 P P 04 40 56.0 -0.4
baz=192,SNR=8.3
WHAR Wooly Hollow 71.29 14 *e*P P 04 40 56.7 0.0
comp=Z,51nm,1.6s
257A Skidaway Islan 71.29 25 *e*P P 04 40 55.8 -1.0
comp=Z,221nm,1.4s
Z52A Williamson 71.30 22 P P 04 40 55.7 -1.1
baz=201
KNB Kanab 71.35 357 *e*P P 04 40 58.0 +0.7
comp=Z,28nm,1.4s
KNB Kanab 71.35 357 *e*P P 04 40 58.0 +0.7
KNB pmax pmax
comp=Z,28nm,1.4s
Y49A Blount Mountai 71.35 20 P P 04 40 56.9 -0.2
baz=200
LCMT Little Creek M 71.36 356 *e*P P 04 40 57.9 +0.6
comp=Z,7.9nm,1.2s
155A Kite 71.40 24 P P 04 40 57.6 +0.2
baz=203
X46A Booneville 71.43 18 P P 04 40 56.9 -0.7
baz=198
MVCO Mesa Verde 71.46 0 *e*P P 04 40 58.3 +0.3
comp=Z,28nm,1.3s
MVCO Mesa Verde 71.46 0 P P 04 40 57.7 -0.3
baz=180,SNR=6.8
TPNV Topopah Spring 71.50 354 *e*P P 04 40 59.0 +0.9
comp=Z,29nm,1.3s
TPNV Topopah Spring 71.50 354 *e*P P 04 40 59.1 +0.9
TPNV pmax pmax
comp=Z,29nm,1.3s
TPNV Topopah Spring 71.50 354 P P 04 40 59.2 +0.9
baz=174,SNR=12
T25A Trinidad 71.51 4 *e*P P 04 40 57.5 -0.9
comp=Z,23nm,1.4s
T25A Trinidad 71.51 4 P P 04 40 58.9 +0.6
baz=184
Y50A Piedmont 71.57 20 P P 04 40 57.9 -0.5
baz=200
X47A Russelville 71.58 18 P P 04 40 57.8 -0.7
baz=198
Z53A Monticello 71.65 22 P P 04 40 58.4 -0.6
baz=202
GRAC Grapevine Rang 71.66 353 P P 04 40 58.5 -0.5
baz=173
PKCU Pink Cliffs 71.75 357 *e*P P 04 41 01.0 +1.1
comp=Z,42nm,1.3s
Y51A Rockmart 71.77 21 P P 04 40 59.4 -0.3
baz=201
V41A Mountainview 71.79 14 P P 04 41 00.3 +0.5
baz=195
GOGA Godfrey 71.80 22 P P 04 40 59.4 -0.5
baz=202
TIN Tinemaha, Big 71.81 352 P P 04 41 00.8 +0.8
baz=172,SNR=6.7
Z54A Sparta 71.84 23 P P 04 40 59.5 -0.6
baz=202
W45A Hickory Valley 71.85 17 P P 04 40 59.3 -0.8
baz=197
CCUT Cedar City 71.90 356 *e*P P 04 41 01.8 +1.1
comp=Z,29nm,1.2s
HHAR Hobbs 71.93 13 *e*P P 04 41 00.6 0.0
comp=Z,18nm,1.0s
SZCU Shurtz Canyon 71.94 357 *e*P P 04 41 01.9 +1.1
comp=Z,35nm,1.6s
SAO San Andreas Ge 71.94 350 *e*P P 04 41 01.3 +0.7
comp=Z,11nm,1.1s
SAO San Andreas Ge 71.94 350 *e*P P 04 41 01.3 +0.7
SAO pmax pmax
comp=Z,11nm,1.1s
V42A Cord 71.97 15 P P 04 41 00.4 -0.4
baz=195
S22A 4UR Ranch, Cre 72.02 2 *e*P P 04 41 02.0 +0.6
comp=Z,26nm,1.5s
S22A 4UR Ranch, Cre 72.02 2 P P 04 41 01.7 +0.3
baz=182,SNR=5.7
Y52A Lilburn 72.04 22 *e*P P 04 41 01.6 +0.3
comp=Z,15nm,1.0s
Y52A Lilburn 72.04 22 P P 04 41 01.2 -0.1
baz=201
SDCO Great Sand Dun 72.06 3 *e*P P 04 41 01.7 0.0
comp=Z,10.0nm,1.3s
SDCO Great Sand Dun 72.06 3 P P 04 41 01.9 +0.1
baz=183,SNR=5.8
X50B Fort Payne 72.13 20 P P 04 41 01.3 -0.6
baz=200
Y53A Monroe 72.18 22 P P 04 41 01.4 -0.7
baz=202
U40A Yellville 72.20 14 P P 04 41 01.7 -0.5
baz=194,SNR=5.5
PV05 Paradox Valley 72.32 360 *e*P P 04 41 03.4 +0.3
MTPU Mount Pierson 72.34 357 *e*P P 04 41 04.3 +0.8
comp=Z,20nm,1.7s
PV01 Paradox Valley 72.38 0 *e*P P 04 41 03.8 +0.3

PV13	Radium Mtn., P	72.40	0	eP		P	04 41 04.4	+0.8
	comp=Z,36nm,1.8s								
W48A	Pulaski	72.41	19	P		P	04 41 02.6	-0.8
	baz=199								
GNAR	Gosnell	72.43	16	eP		P	04 41 02.6	-1.0
	comp=Z,193nm,1.9s								
OMMB	Old Mammoth Mi	72.45	352	eP		P	04 41 04.6	+0.6
	comp=Z,12nm,1.3s								
PV02	Paradox Valley	72.45	0	eP		P	04 41 04.2	+0.2
	comp=Z,29nm,1.6s								
X51A	Calhoun	72.45	21	P		P	04 41 03.6	-0.2
	baz=201								
Y54A	Tignall	72.47	23	P		P	04 41 03.4	-0.4
	baz=202								
MDPB	Devils Postpil	72.47	352	eP		P	04 41 04.5	+0.4
	comp=Z,9.8nm,1.2s								
PV03	Paradox Valley	72.50	0	eP		P	04 41 04.5	+0.3
PV17	East Wray Mesa	72.52	0	eP		P	04 41 04.5	+0.1
	comp=Z,26nm,1.5s								
U42A	Revenden	72.53	15	P		P	04 41 04.0	-0.2
	baz=195								
PV11	David Mesa, Pa	72.54	0	eP		P	04 41 05.2	+0.8
	comp=Z,19nm,1.3s								
PV19	Morning Glory	72.55	0	eP		P	04 41 03.7	-0.8
	comp=Z,19nm,1.5s								
PV16	Nyswonger Mesa	72.55	0	eP		P	04 41 05.3	+0.8
	comp=Z,26nm,1.5s								
PV12	Saucer Basin,	72.56	0	eP		P	04 41 05.4	+0.8
	comp=Z,29nm,1.3s								
W49A	Belvidere	72.57	19	P		P	04 41 04.0	-0.4
	baz=200								
PV20	West Nyswonger	72.58	0	eP		P	04 41 03.2	-1.5
	comp=Z,15nm,1.3s								
PV14	Lion Creek, Pa	72.61	0	eP		P	04 41 05.3	+0.4
	comp=Z,31nm,1.5s								
PV10	Paradox Valley	72.62	0	eP		P	04 41 04.5	-0.4
PV23	Carpenter Ridg	72.69	0	eP		P	04 41 06.0	+0.6
	comp=Z,43nm,1.8s								
V46A	Holladay	72.73	18	P		P	04 41 04.5	-0.9
	baz=198								
PV09	Paradox Valley	72.74	360	eP		P	04 41 06.4	+0.7
SWET	Sewanee	72.76	20	eP		P	04 41 05.3	-0.3
	comp=Z,18nm,1.2s								
PV21	Cone Mtn., Par	72.80	0	eP		P	04 41 06.5	+0.5
	comp=Z,18nm,1.3s								
MSU	Marysvale	72.81	357	eP		P	04 41 06.8	+0.7
MSU	Marysvale	72.81	357	eP		P	04 41 06.8	+0.7
R11A	Troy Canyon, C	72.84	355	eP		P	04 41 06.9	+0.7
	comp=Z,25nm,1.4s								
R11A	Troy Canyon, C	72.84	355	P		P	04 41 06.1	-0.1
	baz=174,SNR=15								
X53A	Estanollee	72.86	22	P		P	04 41 05.8	-0.4
	baz=202								
RCBR	Riachuelo	72.87	85	eP		P	04 41 06.1	-0.7
RCBR				epP		PcP	04 42 05.1	+41
V47A	Nunnelly	72.91	18	P		P	04 41 05.5	-0.9
	baz=198								
PSUT	Pine Spring	72.91	356	eP		P	04 41 07.5	+0.8
	comp=Z,24nm,1.4s								
TCRU	Three Creeks R	72.92	357	eP		P	04 41 07.2	+0.5
	comp=Z,21nm,1.3s								
V48A	Smith Brothers	73.01	19	eP		P	04 41 06.0	-1.0
	comp=Z,29nm,1.5s								
V48A	Smith Brothers	73.01	19	P		P	04 41 05.8	-1.2
	baz=199								
CMB	Columbia Colle	73.04	351	eP		P	04 41 07.9	+0.7
	comp=Z,22nm,1.3s								
W51A	Cleveland	73.04	21	P		P	04 41 05.9	-1.3
	baz=201								
T41A	Mountain View	73.09	14	P		P	04 41 07.6	+0.1
	baz=195,SNR=6.8								
U45A	Rockin P Farm,	73.09	17	P		P	04 41 06.9	-0.6
	baz=197								
WVT	Waverly	73.11	18	eP		P	04 41 07.3	-0.3
	comp=Z,25nm,1.8s								
WVT	Waverly	73.11	18	eP		P	04 41 07.3	-0.3
WVT				pmax		pmax			
	comp=Z,25nm,1.8s								
WVT	Waverly	73.11	18	P		P	04 41 08.0	+0.4
	baz=198								
NV01	Mina Array Sit	73.17	352	eP		P	04 41 09.0	+0.8
NV01				ePP		PP	04 43 52.0	+0.4
NVAR	Mina Array Bea	73.17	352	P		P	04 41 09.0	+0.8
	comp=Z,16nm,0.9s,baz=185,slow=7.9,SNR=79								
NVAR				PP		PP	04 43 52.0	+0.4
	comp=Z,1.1nm,0.8s,baz=180,slow=6.3,SNR=5.8								
Q16A	Castle Valley	73.18	358	eP		P	04 41 08.8	+0.6
	comp=Z,35nm,1.3s								
T42A	Van Buren	73.21	15	eP		P	04 41 08.0	-0.2
	comp=Z,20nm,1.4s								
T42A	Van Buren	73.21	15	P		P	04 41 07.2	-1.0
	baz=195								
W52A	Murphy	73.22	21	eP		P	04 41 08.0	-0.4
	comp=Z,16nm,1.1s								
W52A	Murphy	73.22	21	P		P	04 41 08.3	0.0
	baz=201								
V49A	McMinnville	73.28	20	P		P	04 41 07.8	-0.9
	baz=200								
SRU	San Rafael Swe	73.36	359	eP		P	04 41 09.3	0.0
	comp=Z,25nm,1.3s								
SRU	San Rafael Swe	73.36	359	eP		P	04 41 09.3	0.0
SRU				pmax		pmax			
	comp=Z,25nm,1.3s								
WAKR	Walker	73.38	352	eP		P	04 41 10.5	+1.1
	comp=Z,61nm,1.8s								
RYN	Ryan	73.39	352	eP		P	04 41 10.2	+0.8
	comp=Z,29nm,1.3s								
V50A	Pikevile	73.42	20	P		P	04 41 09.0	-0.4
	baz=200								
BG3	Lake Jocassee	73.43	22	eP		P	04 41 10.7	+1.1
	comp=Z,22nm,1.2s								
T43A	Greenville	73.44	16	P		P	04 41 08.8	-0.8
	baz=196								
SMCO	Snowmass	73.44	2	eP		P	04 41 10.7	+0.7
	comp=Z,19nm,1.3s								
DZM	Mont Dzumac	73.45	254	eLR		LR	05 03 40.3		
	comp=Z,971nm,30.7s								
DZM	Mont Dzumac	73.45	254	eP		P	04 41 09.1	-1.2
	comp=Z,17nm,1.1s								
KSCO	Kaye Shedlock'	73.50	5	eP		P	04 41 08.4	-1.6
	comp=Z,26nm,1.1s								
W53A	Cullowhee	73.52	22	P		P	04 41 09.1	-1.1
	baz=202								
U47A	Clarksville	73.55	18	P		P	04 41 09.1	-1.1
	baz=199								
TMUT	Trail Mountain	73.56	358	eP		P	04 41 11.1	+0.4
	comp=Z,19nm,1.1s								
CBKS	Cedar Bluff	73.57	8	eP		P	04 41 10.9	+0.6
	comp=Z,43nm,1.6s								
CBKS	Cedar Bluff	73.57	8	eP		P	04 41 10.9	+0.6
CBKS				pmax		pmax			
	comp=Z,43nm,1.6s								
CBKS	Cedar Bluff	73.57	8	P		P	04 41 09.8	-0.5
	baz=188								
S41A	Jillco Farms,	73.62	14	P		P	04 41 10.0	-0.6
	baz=195								
PAULI	Pauline	73.63	23	eP		P	04 41 11.9	+1.2
	comp=Z,19nm,1.0s								
P17A	Butcher Ranch,	73.73	359	eP		P	04 41 11.7	+0.2
	comp=Z,26nm,1.4s								
V51A	Loudon	73.76	21	eP		P	04 41 10.2	-1.2
	comp=Z,17nm,1.4s								
KVN	Kaiserville	73.77	353	eP		P	04 41 12.4	+0.7
	comp=Z,38nm,1.1s								
KVN	Kaiserville	73.77	353	eP		P	04 41 12.4	+0.7
KVN				pmax		pmax			
	comp=Z,38nm,1.1s								
U48A	Cassie Pea, Po	73.81	19	P		P	04 41 11.0	-0.8
	baz=199								
YERR	Yerington	73.83	352	eP		P	04 41 12.8	+0.8
	comp=Z,48nm,1.5s								
S43A	Fulton Ridge,	73.96	16	P		P	04 41 12.4	-0.2
	baz=196								
T46A	Princeton	73.96	18	P		P	04 41 11.6	-1.0
	baz=198								
PNTR	Pine Nut	73.97	351	eP		P	04 41 14.1	+1.1
	comp=Z,18nm,1.0s								
S42A	Caledonia	73.99	15	P		P	04 41 11.3	-1.4
	baz=196								
RUBR	Rubicon Trail	74.01	351	eP		P	04 41 14.3	+1.2
	comp=Z,77nm,1.5s								
AFDM	Forest Hills D	74.01	350	eP		P	04 41 13.5	+0.6
	comp=Z,29nm,1.4s								
U49A	Red Boiling Sp	74.02	19	P		P	04 41 11.6	-1.3
	baz=200								
KMSC	Kings Mountain	74.08	23	eP		P	04 41 13.9	+0.6
	comp=Z,26nm,1.2s								
KMSC	Kings Mountain	74.08	23	P		P	04 41 11.9	-1.4
	baz=204								
V53A	Saluda	74.09	22	eP		P	04 41 13.6	+0.1
	comp=Z,23nm,1.3s								
V53A	Saluda	74.09	22	P		P	04 41 12.6	-0.9
	baz=202								
ISCO	Idaho Springs	74.11	3	eP		P	04 41 14.3	+0.5
	comp=Z,17nm,1.4s								
ISCO	Idaho Springs	74.11	3	P		P	04 41 13.8	0.0
	baz=183								
SYO	Syowa Base	74.13	169	eP		P	04 41 11.8	-1.5
SYO	Syowa Base	74.13	169	‖	/pP	P	04 41 14.0	+0.7
CCM	Cathedral Cave	74.17	15	eP		P	04 41 13.5	-0.3
	comp=Z,22nm,1.5s								
CCM	Cathedral Cave	74.17	15	eP		P	04 41 13.5	-0.3
CCM					pmax	pmax			
	comp=Z,22nm,1.5s								
CCM	Cathedral Cave	74.17	15	P		P	04 41 13.3	-0.5
	baz=195								
VCNR	Virginia City	74.18	351	eP		P	04 41 15.2	+1.0
	comp=Z,19nm,1.3s								
U50A	Jamestown	74.19	20	P		P	04 41 13.2	-0.8
	baz=201								
NLU	North Lily Min	74.25	358	eP		P	04 41 15.2	+0.7
	comp=Z,27nm,1.2s								
S44A	Carbondale	74.26	16	P		P	04 41 13.3	-1.0
	baz=197								
SIUC	Southern Illin	74.29	16	eP		P	04 41 14.5	0.0
	comp=Z,12nm,0.9s								
MPU	Maple Canyon	74.29	358	eP		P	04 41 15.2	+0.5
	comp=Z,22nm,1.5s								
O20A	White River Ci	74.38	1	eP		P	04 41 16.0	+0.7
	comp=Z,18nm,1.2s								
O20A	White River Ci	74.38	1	P		P	04 41 15.0	-0.3
	baz=181								
U51A	La Follette	74.39	21	P		P	04 41 14.7	-0.5
	baz=201								
T48A	Bowling Green	74.41	19	P		P	04 41 14.7	-0.6
	baz=199								
R42A	Luebbering	74.48	15	P		P	04 41 15.2	-0.4
	baz=196								
DUG	Dugway, Tooele	74.51	357	eP		P	04 41 16.2	+0.2
	comp=Z,18nm,1.3s								
DUG	Dugway, Tooele	74.51	357	eP		P	04 41 16.2	+0.2
DUG				pmax		pmax			
	comp=Z,18nm,1.3s								
DUG	Dugway, Tooele	74.51	357	P		P	04 41 16.1	+0.1
	baz=177,SNR=6.4								
PAHR	Pah Rah Range	74.56	352	eP		P	04 41 17.3	+1.1
	comp=Z,24nm,1.3s								
U52A	Thorn Hill	74.59	21	P		P	04 41 16.2	-0.2
	baz=202								
T49A	Edmonton	74.64	19	P		P	04 41 16.3	-0.3
	baz=200								
ORV	Oroville	74.68	350	eP		P	04 41 17.5	+0.7
	comp=Z,27nm,1.8s								
ORV	Oroville	74.68	350	eP		P	04 41 17.5	+0.7
ORV				pmax		pmax			
	comp=Z,27nm,1.8s								
S47A	Hartford	74.74	18	P		P	04 41 16.2	-0.9
	baz=199								
T50A	Nancy	74.75	20	P		P	04 41 17.2	0.0
	baz=200								
U53A	Fall Branch	74.81	22	P		P	04 41 16.1	-1.5
	baz=202								
BEKR	Beckworth	74.84	351	eP		P	04 41 18.7	+0.9
	comp=Z,26nm,1.4s								
JLU	Jordanelle	74.87	358	eP		P	04 41 18.6	+0.4
	comp=Z,62nm,1.8s								
T51A	Gray	74.96	21	P		P	04 41 17.9	-0.5
	baz=201								
CTU	Camp Tracy	74.97	358	eP		P	04 41 19.0	+0.4
	comp=Z,18nm,1.3s								
S48A	Wiedeman Farm,	75.02	19	P		P	04 41 18.1	-0.7
	baz=200								
Q41A	Truxton	75.04	14	P		P	04 41 18.2	-0.6
	baz=195								
Q42A	Golden Eagle	75.14	15	P		P	04 41 19.4	0.0
	baz=196								
R46A	Gibon Southern	75.17	17	P		P	04 41 19.0	-0.5
	baz=198								
N23A	Red Feather La	75.19	2	eP		P	04 41 20.8	+0.8
	comp=Z,33nm,1.4s								
N23A	Red Feather La	75.19	2	P		P	04 41 20.0	0.0
	baz=183								
ELK	Elko	75.20	355	eP		P	04 41 20.5	+0.5
	comp=Z,44nm,1.9s								
ELK	Elko	75.20	355	eP		P	04 41 20.5	+0.5
ELK				pmax		pmax			
	comp=Z,44nm,1.9s								
BGU	Big Grassy Mou	75.25	357	eP		P	04 41 20.4	+0.1
	comp=Z,27nm,1.7s								
S49A	Springfield	75.34	19	P		P	04 41 19.8	-0.8
	baz=200								
TCUT	Toone Canyon	75.39	358	eP		P	04 41 21.4	+0.3
	comp=Z,30nm,1.4s								
O03E	Paynes Creek	75.45	350	P		P	04 41 20.8	-0.5
	baz=169								
Q44A	Meyer Farm, Va	75.47	16	eP		P	04 41 21.6	+0.3
	comp=Z,75nm,1.5s								
Q44A	Meyer Farm, Va	75.47	16	P		P	04 41 21.1	-0.2
	baz=197								
O02D	Mt. Diablo Mer	75.48	349	P		P	04 41 21.5	+0.1
	baz=168								
S50A	Richmond	75.49	20	P		P	04 41 20.7	-0.8
	baz=201								
SPUT	South Promonto	75.61	357	eP		P	04 41 22.5	+0.2
	comp=Z,16nm,1.4s								
PHWY	Pilot Hill	75.61	3	eP		P	04 41 23.0	+0.5
PHWY					ePcP	PcP	04 41 33.2	-2.1
Q45A	Warren Harvey,	75.66	17	P		P	04 41 21.4	-0.9
	baz=198								
S51A	Beattyville	75.68	21	P		P	04 41 21.9	-0.7
	baz=201								
P41A	Barry, Barry	75.77	14	P		P	04 41 22.4	-0.6
	baz=195								
P42A	Winchester	75.83	15	eP		P	04 41 23.3	0.0
	comp=Z,14nm,1.1s								
P42A	Winchester	75.83	15	P		P	04 41 22.7	-0.7
	baz=196								
WDC	Whiskeytown Da	75.84	349	eP		P	04 41 23.5	+0.1
	comp=Z,29nm,1.3s								
WDC	Whiskeytown Da	75.84	349	eP		P	04 41 23.5	+0.1
WDC				pmax		pmax			
	comp=Z,29nm,1.3s								
R50A	Paris	76.07	20	P		P	04 41 24.0	-0.8
	baz=201								
HVU	Hansel Valley	76.09	357	eP		P	04 41 25.3	+0.3
	comp=Z,18nm,1.5s								
HVU	Hansel Valley	76.09	357	eP		P	04 41 25.3	+0.3
HVU				pmax		pmax			
	comp=Z,19nm,1.5s								
P44A	Sand Creek, Wi	76.10	16	P		P	04 41 24.6	-0.3
	baz=197								
O41A	Passleys Farm,	76.23	14	P		P	04 41 24.8	-0.8
	baz=195								
N02D	Trinity Center	76.25	349	P		P	04 41 24.8	-1.0
	baz=168								
R51A	Hillsboro	76.30	20	P		P	04 41 25.2	-0.9
	baz=201								
KHMM	Horse Mountain	76.32	349	eP		P	04 41 27.1	+0.8
	comp=Z,49nm,1.2s								
P45A	Groveland, Par	76.36	17	P		P	04 41 25.8	-0.5
	baz=198								
P46A	Rosedale	76.58	17	P		P	04 41 27.0	-0.6
	baz=198								
M02C	Callahan	76.68	349	P		P	04 41 28.3	+0.1
	baz=168								
N40A	Mertquake, Sal	76.83	14	P		P	04 41 28.8	-0.2
	baz=195								
MOD	Modoc Plateau	76.83	351	eP		P	04 41 30.1	+0.9
	comp=Z,40nm,1.4s								
M04C	Macdoel	76.92	350	P		P	04 41 29.7	0.0
	baz=169								
K22A	Casper	76.92	2	eP		P	04 41 30.4	+0.6
	comp=Z,37nm,1.3s								
K22A	Casper	76.92	2	P		P	04 41 29.6	-0.1
	baz=182,SNR=5.2								
HDIL	Hopedale	76.99	15	P		P	04 41 29.3	-0.6
	baz=197								
YBH	Yreka Blue Hor	77.00	350	eP		P	04 41 29.9	-0.1
	comp=Z,12nm,1.1s								
YBH	Yreka Blue Hor	77.00	350	eP		P	04 41 29.9	-0.1
YBH				pmax		pmax			
	comp=Z,12nm,1.1s								
BW06	Boulder Array	77.00	360	eP		P	04 41 29.5	-0.7
	comp=Z,24nm,1.1s								
BW06	Boulder Array	77.00	360	P		P	04 41 29.3	-1.0
	baz=180								
PD31	Pinedale Array	77.00	360	eP		P	04 41 29.1	-1.1
PDAR	Pinedale Array	77.00	360	P		P	04 41 29.1	-1.1
	comp=Z,8.7nm,1.0s,baz=160,slow=4.7,SNR=45								
Q51A	Peebles	77.04	20	eP		P	04 41 32.7	+2.4
	comp=Z,15nm,0.9s								
Q51A	Peebles	77.04	20	P		P	04 41 29.6	-0.7
	baz=202								
N42A	Yates City	77.09	15	P		P	04 41 30.1	-0.3
	baz=196								
P49A	Miami Univ. Ec	77.14	19	P		P	04 41 30.2	-0.6
	baz=200								
WVOR	Wild Horse Val	77.17	353	eP		P	04 41 31.7	+0.6
	comp=Z,30nm,1.2s								
WVOR	Wild Horse Val	77.17	353	eP		P	04 41 31.7	+0.6
WVOR				pmax		pmax			
	comp=Z,30nm,1.2s								
M39A	Webster	77.29	13	P		P	04 41 31.0	-0.6
	baz=194								
Q52A	Bidwell	77.30	21	P		P	04 41 30.6	-1.1
	baz=202								
M40A	Post Highland	77.35	13	P		P	04 41 31.1	-0.8
	baz=195								
L04D	Klamath Falls	77.41	350	P		P	04 41 31.4	-1.0
	baz=169								
N44A	Piper City	77.47	16	P		P	04 41 31.9	-0.7
	baz=198								
REDW	Red Top Meadow	77.62	359	eP		P	04 41 33.6	-0.1
	comp=Z,23nm,1.4s								
SNOW	Snow King Moun	77.71	359	eP		P	04 41 34.3	+0.1
	comp=Z,49nm,1.8s								
TPAW	Teton Pass	77.75	359	eP		P	04 41 34.5	+0.1
	comp=Z,17nm,1.0s								
LOHW	Long Hollow	77.86	359	eP		P	04 41 34.9	-0.2
	comp=Z,24nm,1.4s								
HUMO	Hull Mountain	77.89	350	eP		P	04 41 35.5	+0.6
	comp=Z,20nm,1.1s								
FXWY	Fox Creek	77.89	359	eP		P	04 41 35.3	0.0
	comp=Z,15nm,1.3s								
N46A	Monticello	77.90	17	P		P	04 41 34.4	-0.6
	baz=199								
HLID	Hailey	77.95	356	eP		P	04 41 35.7	+0.2
	comp=Z,30nm,1.1s								
HLID	Hailey	77.95	356	P		P	04 41 35.8	+0.4
	baz=176								
L39A	Vinton	77.95	13	P		P	04 41 34.9	-0.3
	baz=194								
P52A	Corning	77.96	21	P		P	04 41 34.9	-0.5
	baz=202								
MOOW	Moose Ponds	78.00	359	eP		P	04 41 35.5	-0.3
	comp=Z,24nm,1.6s								
Q55A	Buckhannon	78.00	23	P		P	04 41 35.1	-0.6
	baz=204								
O50A	Cable	78.01	20	P		P	04 41 34.6	-1.0
	baz=201								
L40A	Anamosa	78.04	13	eP		P	04 41 36.9	+1.1
	comp=Z,31nm,1.4s								
L40A	Anamosa	78.04	13	P		P	04 41 34.8	-0.9
	baz=195								
J08A	Circle Bar Ran	78.07	353	eP		P	04 41 37.2	+1.2
	comp=Z,47nm,1.4s								
K02D	Willamette Mer	78.08	349	P		P	04 41 36.0	0.0
	baz=168								
IMW	Indian Meadow	78.15	359	eP		P	04 41 36.9	+0.2
	comp=Z,20nm,1.3s								
N48A	Decatur	78.30	18	P		P	04 41 36.4	-0.7
	baz=200								
O51A	Pataskala	78.30	20	P		P	04 41 37.0	-0.2
	baz=202								
J05D	Fort Rock, OR	78.31	351	P		P	04 41 37.8	+0.3
	baz=170								
FLWY	Flagg Ranch	78.33	359	eP		P	04 41 37.6	0.0
	comp=Z,24nm,1.2s								
O52A	Adamsville	78.49	21	eP		P	04 41 39.0	+0.7
	comp=Z,43nm,1.1s								
O52A	Adamsville	78.49	21	P		P	04 41 37.8	-0.5
	baz=203								
RSSD	Black Hills	78.49	4	eP		P	04 41 38.7	+0.2
	comp=Z,18nm,1.1s								
RSSD	Black Hills	78.49	4	eP		P	04 41 38.7	+0.2
RSSD				pmax		pmax			
	comp=Z,19nm,1.1s								
RSSD	Black Hills	78.49	4	P		P	04 41 38.0	-0.5
	baz=184								
K39A	Oelwein	78.53	13	P		P	04 41 38.8	+0.3
	baz=194								
N49A	Columbus Grove	78.58	19	P		P	04 41 37.1	-1.7
	baz=201								
N50A	Nevada	78.72	20	P		P	04 41 38.7	-0.9
	baz=202								
PINE	Pine Mountain	78.78	351	eP		P	04 41 40.5	+0.5
	comp=Z,42nm,1.1s								
ECSD	EROS Data Cent	78.79	9	eP		P	04 41 39.9	-0.1
	comp=Z,20nm,1.3s								
ECSD	EROS Data Cent	78.79	9	P		P	04 41 39.4	-0.5
	baz=190								
O53A	New Philadelph	78.80	21	P		P	04 41 39.4	-0.6
	baz=203								
L44A	Lake County Fo	78.84	16	P		P	04 41 39.9	-0.3
	baz=198								
I07A	Izee	78.89	352	eP		P	04 41 41.4	+0.8
	comp=Z,43nm,1.1s								
YMR	Madison River	78.92	359	eP		P	04 41 41.9	+1.0
	comp=Z,40nm,1.5s								
I04A	Tendick Farm,	78.97	350	P		P	04 41 40.5	-0.4
	baz=169								
YHB	Horse Butte	79.01	358	eP		P	04 41 41.4	+0.1
	comp=Z,11nm,1.1s								
I03D	Drain, OR	79.01	350	P		P	04 41 40.9	-0.1
	baz=168								
N51A	Ashland	79.08	20	P		P	04 41 41.5	0.0
	baz=202								
QLMT	Earthquake Lak	79.10	358	eP		P	04 41 42.9	+1.1
K42A	Prairie Point,	79.10	15	P		P	04 41 41.7	+0.1
	baz=196								
MCMT	McKenzie Canyo	79.14	357	eP		P	04 41 42.4	+0.3
M49A	Liberty Center	79.15	19	P		P	04 41 41.4	-0.4
	baz=201								
J39A	Decorah	79.18	13	P		P	04 41 41.5	-0.5
	baz=194								
L47A	Sherwood	79.30	18	P		P	04 41 42.5	-0.2
	baz=200								
M50A	Fremont	79.34	20	P		P	04 41 42.8	-0.1
	baz=202								
RLMT	Red Lodge	79.36	360	eP		P	04 41 43.5	+0.3
	comp=Z,17nm,1.3s								
RLMT	Red Lodge	79.36	360	P		P	04 41 43.2	-0.1
	baz=180								
I05D	Terrebonne, OR	79.36	351	P		P	04 41 43.1	0.0
	baz=170								
N53A	Lisbon	79.42	21	P		P	04 41 43.6	+0.2
	baz=203								
BMO	Blue Mountains	79.44	354	eP		P	04 41 43.6	+0.1
	comp=Z,15nm,1.1s								
BMO	Blue Mountains	79.44	354	eP		P	04 41 43.6	+0.1
BMO				pmax		pmax			
	comp=Z,15nm,1.1s								
DLMT	Dillon	79.66	357	eP		P	04 41 45.2	+0.5
	comp=Z,24nm,1.5s								
H04A	Detroit Lake	79.81	351	eP		P	04 41 45.5	0.0

	baz=170									
G38A	**Ridgeland**	80.93	12	P		P		04 41 51.8	+0.4	
	baz=194									
LAO	**LASA Array**	80.97	2	*e*P		P		04 41 52.2	+0.6	
	comp=Z,76nm,1.8s									
LAO	**LASA Array**	80.97	2	P		P		04 41 51.7	0.0	
	baz=182									
HRY	**Holter Researc**	80.99	358	*e*P		P		04 41 52.7	+0.9	
E09A	**Wood Farm, Sta**	81.16	354	*e*P		P		04 41 52.6	-0.1	
	comp=Z,12nm,1.1s									
G39A	**Holcombe**	81.16	13	P		P		04 41 52.6	-0.1	
	baz=195									
HAWA	**Hanford**	81.18	353	*e*P		P		04 41 53.2	+0.5	
	comp=Z,21nm,1.2s									
MSO	**Missoula**	81.18	357	*e*P		P		04 41 53.6	+0.7	
	comp=Z,29nm,1.5s									
MSO	**Missoula**	81.18	357	P		P		04 41 52.3	-0.6	
	baz=176									
E04D	**Cinebar**	81.70	351	P		P		04 41 55.1	-0.3	
	baz=169									
D08A	**Wollman Farm,**	81.78	353	*e*P		P		04 41 56.3	+0.4	
	comp=Z,11nm,1.2s									
LON	**Longmire**	81.80	351	*e*P		P		04 41 55.9	-0.2	
	comp=Z,7.4nm,1.0s									
LON	**Longmire**	81.80	351	*e*P		P		04 41 55.9	-0.2	
LON				pmax		pmax				
	comp=Z,7.0nm,1.0s									
D05A	**Enumclaw**	82.25	351	*e*P		P		04 42 02.6	+4.3	
	comp=Z,45nm,1.4s									
EGMT	**Eagleton**	82.26	360	*e*P		P		04 41 59.5	+1.0	
EGMT	**Eagleton**	82.26	360	P		P		04 41 59.2	+0.7	
	baz=180									
C09A	**Chrisman Ranch**	82.45	354	*e*P		P		04 42 00.0	+0.6	
	comp=Z,62nm,1.6s									
D03D	**Eldon**	82.73	350	P		P		04 42 00.7	-0.1	
	baz=168									
NEW	**Newport**	82.81	355	*e*P		P		04 42 01.7	+0.3	
	comp=Z,30nm,1.3s									
NEW	**Newport**	82.81	355	*e*P		P		04 42 01.7	+0.3	
NEW				pmax		pmax				
	comp=Z,30nm,1.3s									
NEW	**Newport**	82.81	355	P		P		04 42 01.8	+0.5	
	baz=173									
DGMT	**Dagmar**	82.82	3	*e*P		P		04 42 02.0	+0.7	
	comp=Z,92nm,1.9s									
DGMT	**Dagmar**	82.82	3	P		P		04 42 01.7	+0.4	
	baz=184									
B08A	**Colville Reser**	83.10	353	*e*P		P		04 42 02.5	-0.3	
	comp=Z,19nm,1.4s									
B05A	**Bryant**	83.32	351	P		P		04 42 04.8	+1.0	
	baz=169									
F49A	**Sandfield**	83.65	19	P		P		04 42 06.6	+0.9	
	baz=202									
A04D	**Lummi Island**	83.84	351	P		P		04 42 07.1	+0.6	
	baz=169									
PGC	**Sidney**	83.88	350	*e*P		P		04 42 07.1	+0.4	
	comp=Z,190nm,1.9s									
D48A	**Paudash Townsh**	85.02	18	P		P		04 42 13.9	+1.4	
	baz=202									
ULM	**Lac du Bonnet**	85.29	8	P		P		04 42 13.1	-0.8	
	comp=Z,5.6nm,1.0s,baz=213,slow=4.3,SNR=5.4									
STKA	**Stephens Creek**	86.28	234	LR		LR		05 14 23.7		
	comp=Z,384nm,19.4s,baz=119,slow=31									
H11S2	**WAKE ISLAND Hy**	95.70	288	T		T		06 29 20.6		
	baz=126,slow=75,SNR=6.3									
H11S1	**WAKE ISLAND Hy**	95.72	288	T		T		06 29 18.7		
	baz=126,slow=75,SNR=6.4									
H11S3	**WAKE ISLAND Hy**	95.72	288	T		T		06 29 19.3		
	baz=126,slow=75,SNR=5.9									
SCHQ	**Schefferville**	96.19	23	LR		LR		05 21 35.4		
	comp=Z,231nm,20.8s,baz=286,slow=32									
ASAR	**Alice Springs**	96.77	235	LR		LR		05 20 34.3		
	comp=Z,180nm,20.4s,baz=142,slow=32									
YKA	**Yellowknife Ar**	96.87	357	P		P		04 43 06.6	-1.2	
	comp=Z,1.4nm,1.0s,baz=167,slow=4.2,SNR=14									
YKB5	**Yellowknife Ar**	96.87	357	*e*P		P		04 43 06.1	-1.7	
WRAB	**Tennant Creek**	98.95	238	⇑*i*P		P		04 43 15.5	-2.9	
WRAB				pmax		pmax				
	comp=Z,5.0nm,1.0s									
WRA	**Warramunga Arr**	98.95	238	LR		LR		05 24 48.4		
	comp=Z,439nm,18.1s,baz=145,slow=34									
TORD	**Torodi Ar. Bea**	114.38	91	PP		PP		04 49 11.8	-2.2	
	comp=Z,3.0nm,1.1s,baz=256,slow=5.6,SNR=6.4									
TOA1	**Torodi Ar. Sit**	114.38	91	*e*PP		PP		04 49 11.8	-2.2	
MOTA	**Moosalm**	134.15	55	*e*PKPdf		PKiKP		04 48 55.9	-0.4	
	comp=Z,5.0nm,0.8s									
SQTA	**Sankt Quirin**	134.21	55	*e*PKPdf		PKPdf		04 48 54.5	-0.4	
	comp=Z,14nm,1.4s									
MDJ	**Mudanjiang**	134.59	301	PKP		PKiKP		04 48 56.8	-0.2	
MDJ				AMB		AMB				
	comp=Z,290nm,6.1s									
ABTA	**Abfaltersbach**	135.04	56	*e*PKiKP		PKiKP		04 48 57.8	-0.2	
	comp=Z,11nm,1.3s									
CLL	**Collm**	135.65	50	*e*PKPdf		PKPdf		04 48 58.0	+0.7	
GEA0	**GERESS Array S**	136.01	53	*e*PKPdf		PKiKP		04 48 59.2	-0.6	
GERES	**GERESS Array B**	136.01	53	PKP		PKPdf		04 48 57.7	-0.5	
	comp=Z,1.5nm,1.0s,baz=96,slow=1.3,SNR=7.2									
BRG	**Berggiesshubel**	136.24	50	*e*PKP		PKPdf		04 48 59.1	+0.6	
	comp=Z,6.4nm,0.9s									
BRG	**Berggiesshubel**	136.24	50	*e*PKIKP		PKPdf		04 48 59.1	+0.6	
BRG				pmax		pmax				
	comp=Z,6.0nm,0.9s									
ZEA	**Zeya**	136.59	314	*e*PKIKP		PKiKP		04 49 04.0	+3.2	
ZEA				pmax		pmax				
	comp=Z,32nm,1.8s									
SOKA	**Soboth**	136.76	56	*e*PKiKP		PKiKP		04 49 03.0	+1.5	
	comp=Z,4.6nm,0.7s									
TREC	**Trest**	137.20	53	*e*PDiF		Pdif		04 46 02.1	-5.6	
TREC	**Trest**	137.20	53	*i* P		Pdif		04 46 02.1	-5.6	
NJ2	**Nanjing**	140.16	280	*e*PKP		PKPdf		04 49 05.6	-0.7	
DRGR		142.04	56	⇑*i*P		PKPdf		04 49 10.3	+1.0	
DRGR		142.04	56	⇑PKiKP		PKPdf		04 49 10.3	+1.0	
GZR	**Gura Zlata**	142.09	59	⇑PKiKP		PKiKP		04 49 11.7	-0.7	
VTS	**Vitosha**	142.28	63	⇑PKiKP		PKiKP		04 49 13.6	+0.6	
BOD	**Bodaibo**	143.13	322	*e*PKHKP		PKPpre		04 49 04.1		
BOD				pmax		pmax				
	comp=Z,31nm,1.5s									
VOIR		143.69	59	⇑PKiKP		PKPdf		04 49 13.9	+1.6	
BURAR	**Bucovina Array**	143.71	55	⇑PKiKP		PKPbc		04 49 09.7	-0.1	
MLR	**Muntele Rosu**	144.32	58	*e*PKPdf		PKPab		04 49 10.9	-0.6	
MLR	**Muntele Rosu**	144.32	58	⇓PKiKP		PKPab		04 49 10.6	-0.9	
PLOR	**Plostina**	144.80	58	⇑PKiKP		PKPab		04 49 12.3	-0.8	
VRI	**Vrincioaia**	144.85	58	⇑PKP2		PKPab		04 49 10.6	-2.7	
CIT	**Chita**	145.04	313	*e*PKIKP		PKPbc		04 49 10.7	-3.1	
CIT				pmax		pmax				
	comp=Z,250nm,1.4s									
TLB	**Topalu**	145.83	60	⇑PKiKP		PKPdf		04 49 13.6	-2.3	
AK11	**Malin Array Si**	145.86	49	*e*PKPdf		PKPab		04 49 16.8	0.0	
LEOM	**Leova**	145.87	57	⇑PKP2		PKPab		04 49 17.6	+0.7	
CFR	**Carcaliu**	145.88	59	⇑PKP2		PKPdf		04 49 15.4	-0.5	
KIEV	**Kiev**	145.88	49	*e*PKPdf		PKPbc		04 49 16.1	-0.3	
KIEV	**Kiev**	145.88	49	⇑PKiKP		PKPdf		04 49 14.1	-1.6	
AKASG	**Malin Array Be**	145.89	49	PKPbc		PKPdf		04 49 13.2	-2.6	
	comp=Z,2.8nm,0.8s,baz=284,slow=2.8,SNR=14									
AKBB	**Malin Array Si**	145.89	49	*e*PKPdf		PKPbc		04 49 16.6	+0.2	
AKBB	**Malin Array Si**	145.89	49	*e*PKP2		PKPbc		04 49 16.6	+0.2	
TIRR	**Tirgusor**	146.10	60	*e*PKPdf		PKPab		04 49 18.7	+0.8	
TIRR	**Tirgusor**	146.10	60	*e*PKP2		PKPab		04 49 18.7	+0.8	
KIS	**Kishinev**	146.21	56	⇓*i*PKP2		PKPab		04 49 19.0	+0.8	
TLCR		146.35	59	⇑PKP2		PKPab		04 49 18.9	+0.1	
KLMR	**Klimovskoe**	146.89	28	*e*PKP2		PKPdf		04 49 17.1	0.0	
KLMR				pmax		pmax				
	comp=Z,48nm,1.2s									
KLMR	**Klimovskoe**	146.89	28	*e*PKPdf		PKPdf		04 49 17.2	+0.1	
KLMR				AMP				04 49 21.0		
	comp=Z,48nm,1.2s									
ENH	**Enshi**	147.30	273	*e*PKPdf		PKPbc		04 49 20.6	-0.7	
HHC	**Hu-ho-hao-te**	147.48	293	*e*PKPbc		PKPdf		04 49 19.0	+0.1	
PBKT	**Sadao Pong**	147.67	244	*e*PKPdf		PKPbc		04 49 21.7	-0.8	
GYA	**Guiyang**	148.29	265	*e*PKPbc		PKPdf		04 49 20.0	-0.7	
GYA				PKPab		PKPab		04 49 28.3	+1.1	
GYA				PKS		PP		04 52 53.8	+0.6	
GYA				PP		PP		04 52 55.6	+2.4	
GYA				AMB		AMB				
	comp=Z,120nm,8.2s									
PRGR	**Permogore**	148.53	23	*e*PKP2		PKPbc		04 49 22.5	-0.9	
PRGR				pmax		pmax				
	comp=Z,20nm,1.2s									
BTO	**Baotou**	148.64	293	*e*PKPbc		PKPbc		04 49 23.1	-1.5	
OBN	**Obninsk**	148.65	39	⇑*e*PKIKP		PKPdf		04 49 20.6	+0.4	
OBN				*e*				04 49 28.9		
OBN				*e*				04 52 51.7		
OBN				pmax		pmax				
	comp=Z,29nm,1.2s									
UTTA	**Uttaradit**	148.71	245	P		PKPbc		04 49 25.5	+0.3	
XAN	**Xi'an**	148.73	280	PKPbc		PKPbc		04 49 24.0	-0.9	
XAN				pPKP		PKPab		04 49 29.8	+1.1	
XAN	**Xi'an**	148.73	280	*e*PKPdf		PKPbc		04 49 24.1	-0.9	
MOS	**Moscow**	148.89	37	*e*PKP2		PKPbc		04 49 22.7	-1.9	
UMPA	**Umpang Tak**	148.97	241	P		PKiKP		04 49 27.4	+0.1	
SUKH	**Sukhothai**	149.23	244	P		PKPbc		04 49 27.0	+0.4	
BR231	**Keskin MP Arra**	149.34	69	*e*PKPbc		PKPbc		04 49 26.6	+0.2	
ANTO	**Ankara**	149.36	69	*e*PKPbc		PKPbc		04 49 26.2	-0.2	
BR101	**Keskin Array S**	150.00	69	*e*PKPdf		PKPdf		04 49 22.8	-0.3	
BR101				*e*PKPbc		PKPbc		04 49 27.1	-0.9	
BR131	**Keskin Array S**	150.00	69	*e*PKPbc		PKPbc		04 49 27.8	-0.3	
BRTR	**Keskin Array B**	150.00	69	PKP		PKPdf		04 49 22.8	-0.3	
	comp=Z,1.3nm,0.8s,baz=250,slow=3.8,SNR=4.3									
BRTR				PKPbc		PKPbc		04 49 27.1	-0.9	
	comp=Z,7.2nm,1.1s,baz=222,slow=1.7,SNR=16									
ULN	**Ulaanbaatar**	150.06	307	*e*PKPdf		PKPbc		04 49 26.5	-1.5	
ULN	**Ulaanbaatar**	150.06	307	*e*PKP2		PKPbc		04 49 26.5	-1.5	
ILGA	**Ilgaz**	150.08	66	*e*PKPbc		PKiKP		04 49 29.9	+0.7	
CM31	**Chiang Mai Arr**	150.35	244	*ep*PKPdf		PKPbc		04 49 28.4	-0.9	
CMAR	**Chiang Mai Arr**	150.35	244	PKPbc		PKPbc		04 49 28.4	-0.9	
	comp=Z,2.6nm,0.3s,baz=180,slow=1.3,SNR=38									
IRK	**Irkutsk**	150.40	317	*e*PKIKP		PKPbc		04 49 27.5	-0.9	
IRK				pmax		pmax				
	comp=Z,72nm,2.1s									
SONA0	**Songino Array**	150.50	307	*ep*PKPdf		PKPbc		04 49 27.4	-1.5	
SONM	**Songino Array**	150.50	307	PKPbc		PKPbc		04 49 27.4	-1.5	
	comp=Z,6.9nm,1.0s,baz=142,slow=1.8,SNR=19									
CMMT	**Chiang Mai**	150.56	245	P		PKPbc		04 49 29.1	-0.8	
	comp=Z,24nm,1.3s									
CHTO	**Chiang Mai**	150.57	245	*ep*PKPdf		PKPbc		04 49 29.1	-0.8	
CHTO	**Chiang Mai**	150.57	245	*e*PKIKP		PKPbc		04 49 29.1	-0.8	
CHTO	**Chiang Mai**	150.57	245	P		PKPbc		04 49 29.2	-0.6	
	comp=Z,107nm,1.4s,comp=Z,2μm									
CHTO	**Chiang Mai**	150.57	245	*e*P		PKPab		04 49 36.0	-0.5	
KMI	**Kunming**	150.94	260	PKPbc		PKPdf		04 49 24.3	-0.8	
KMI				AMB		AMB				
	comp=Z,190nm,4.7s									
LPSR	**Galich'ya Gora**	151.01	42	*e*PKIKP		PKPbc		04 49 28.3	-1.5	
LPSR				pmax		pmax				
	comp=Z,20nm,1.0s									
PALK	**Pallekele**	151.34	201	*e*PKPbc		PKPbc		04 49 31.4	-0.5	
PALK	**Pallekele**	151.34	201	*e*PKIKP		PKPbc		04 49 31.4	-0.5	
ZAK	**Zakamensk**	151.69	314	*e*PKIKP		PKPbc		04 49 30.0	-1.6	
ZAK				pmax		pmax				
	comp=Z,16nm,1.3s									
VSR	**Storozhevoye**	151.72	44	*e*PKIKP		PKPbc		04 49 29.0	-2.5	
VSR				pmax		pmax				
	comp=Z,10.0nm,0.9s									
CD2	**Chengdu**	152.21	272	PKPbc		PKPdf		04 49 26.0	-0.7	
LZH	**Lanzhou**	153.17	283	*e*PKPbc		PKPdf		04 49 26.4	-1.7	
LZH				pPKP		sPKPdf		04 49 31.0	-0.1	
LZH				sPKP				04 49 32.3		
LZH				*e*PP		PP		04 53 22.5	+1.2	
LZH				SKKS				05 00 06.4		
LZH				AMB		AMB				
	comp=Z,400nm,9.5s									
LZH				LR		LR				
	comp=Z,310nm,20.2s									
VRH	**Novokhopyorsk**	153.18	43	*e*PKIKP		PKPbc		04 49 31.7	-3.1	
VRH				pmax		pmax				
	comp=Z,10.0nm,0.6s									
GTA	**Gaotai**	156.49	290	PKP		PKPdf		04 49 33.5	+1.0	
GTA				PKPab		PKPab		04 50 00.4	-0.9	
GTA				PP		PP		04 53 40.8	+1.1	
GTA				LR		LR				
	comp=Z,150nm,21.0s									
GTA				LR		LR				
	comp=Z,140nm,19.9s									
GTA				LR		LR				
	comp=Z,170nm,18.2s									
ARU	**Arti**	156.59	17	PKP2		PKPab		04 50 00.3	-0.6	
NVS	**Novosibirsk**	158.02	341	*e*PKIKP		PKPdf		04 49 31.1	-2.6	
NVS				*e*				04 50 06.6		
NVS				pmax		pmax				
	comp=Z,6.0nm,1.2s									
ZAA1	**Zalesovo Array**	158.33	337	*e*PKPdf		PKPdf		04 49 31.1	-3.0	
ZAA1				*e*PKPab		PKPab		04 50 07.8	-0.6	
ZAA1				*e*PP		PP		04 53 46.4	-1.9	
ZAA0	**Zalesovo Array**	158.33	337	*e*PKPdf		PKPdf		04 49 33.7	-0.4	
ZAA0				*e*PKPab		PKPab		04 50 08.0	-0.4	
ZALV	**Zalesovo Beam**	158.33	337	PKP		PKPdf		04 49 31.1	-3.0	
	comp=Z,1.7nm,0.8s,baz=211,slow=0.9,SNR=6.9									
ZALV				PKPab		PKPab		04 50 07.8	-0.6	
	comp=Z,4.3nm,0.9s,baz=20,slow=4.7,SNR=6.4									
ZALV				PP		PP		04 53 46.4	-2.0	
	comp=Z,0.5nm,0.5s,baz=38,slow=5.4,SNR=3.3									
ZALV	**Zalesovo Beam**	158.33	337	*e*PKPdf		PKPdf		04 49 31.5	-2.6	
ZALV				*e*PKPab		PKPab		04 50 07.9	-0.6	
ZALV	**Zalesovo Beam**	158.33	337	*e*PKIKP		PKPdf		04 49 31.5	-2.6	
ZALV				*e*				04 50 07.9		
WMQ	**Urumqi**	164.10	310	*e*PKP		PKPdf		04 49 40.5	-0.2	
WMQ				AMB		AMB				
	comp=Z,680nm,5.3s									
WMQ				LR		LR				
	comp=Z,240nm,23.9s									
WMQ				LR		LR				
	comp=Z,200nm,21.3s									
WMQ				LR		LR				
	comp=Z,200nm,23.9s									
MK31	**Makanchi Array**	165.10	328	*e*PKPdf		PKPdf		04 49 39.5	-1.8	
MK31				*e*PKPab		PKPab		04 50 38.0	-0.4	
MK31	**Makanchi Array**	165.10	328	*e*PKIKP		PKPdf		04 49 39.6	-1.8	
MK32	**Makanchi Array**	165.10	328	*e*PKPdf		PKPdf		04 49 38.9	-2.5	
MK32				*e*PKPab		PKPab		04 50 37.4	-1.0	
MK32				*e*PP		PP		04 54 21.0	-3.8	
MKAR	**Makanchi Array**	165.10	328	PKP		PKPdf		04 49 38.9	-2.5	
	comp=Z,1.2nm,1.1s,baz=31,slow=2.8,SNR=5.6									
MKAR				PKPab		PKPab		04 50 37.4	-1.0	
	comp=Z,1.3nm,1.0s,baz=44,slow=5.4,SNR=6.1									
MKAR				PP		PP		04 54 21.0	-3.8	
	comp=Z,1.0nm,1.0s,baz=35,slow=4.4,SNR=3.9									
MK01	**Makanchi Array**	165.12	328	*e*PKPdf		PKPdf		04 49 38.7	-2.7	
MK01				*e*PKPab		PKPab		04 50 37.1	-1.4	
MAKZ	**Makanchi**	165.23	329	*e*PKPab		PKPab		04 50 38.2	-0.7	
AAK	**Ala-Archa**	171.51	342	*e*PKPdf		PKPdf		04 49 47.0	+1.0	
AAK	**Ala-Archa**	171.51	342	*e*PKIKP		PKPdf		04 49 47.0	+1.0	
NRN	**Naryn**	172.10	331	*e*PKPab		PKPab		04 51 09.6	-0.2	
NRN	**Naryn**	172.10	331	*e*PKP2		PKPab		04 51 09.6	-0.2	
KSH	**Kashi**	173.65	322	PKP		PKPdf		04 49 49.5	+2.5	
KSH				PKS		PKSdf		04 53 21.3	+2.0	
KSH				PP		PP		04 55 15.9	+7.6	
KSH				SKS		SKSdf		04 56 50.9	+0.6	
KSH				SKKS		SKKSac		05 02 01.0	+5.9	
KSH				SS		SS		05 16 33.0	+7.8	
KSH				AMB		AMB				
	comp=Z,350nm,6.0s									
KSH				LR		LR				
	comp=Z,150nm,6.2s									
KSH				LR		LR				
	comp=Z,150nm,7.5s									
KSH				LR		LR				
	comp=Z,330nm,9.8s									

*ISK **23** 04:32:39.2, 38°.70N×38°.16E, h5km, ML1.9/4*
*DDA **23** 04:32:40.7, 38°.76N×38°.05E, h7km±3km, ML2.7*

ISC 23 04:32:41.1±1.2, 38.71N±0°.03×38.10E±0°.03, h8km±11km, n14, σ1s54/25, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
AKCD	**Akcadag**	**0.44**	**198**	IAML_P						
	comp=Z,3μm,0.1s									
AKCD				*i* P		**Pb**	**04**	**32**	**49.7**	**-1.5**
DARE	**Darende-Malaty**	**0.50**	**254**	PG		**Pb**	**04**	**32**	**50.9**	**-1.3**
DARE				SG		**Sb**	**04**	**32**	**59.7**	**0.0**
KEMA	**Kemaliye**	**0.64**	**29**	*i* P		**Pg**	**04**	**32**	**52.5**	**-0.9**
KEMA				*i* S		**Sb**	**04**	**33**	**02.2**	**-1.4**
CUKAN	**kangal_SIVAS**	**0.78**	**321**	*i* P		**Pb**	**04**	**32**	**55.6**	**-1.4**
CUKAN				*i* S		**Sn**	**04**	**33**	**09.2**	**-1.2**
ELBS	**KAHRAMANMARAS**	**0.85**	**243**	IAML_P						
	comp=Z,291nm,0.2s									
ELBS				*i* P		**Pb**	**04**	**32**	**57.1**	**-1.1**
ELBS				*i* S		**Sn**	**04**	**33**	**12.0**	**-0.2**
PTK	**Pertek**	**1.03**	**80**	PG		**Pg**	**04**	**32**	**59.2**	**-1.6**
PTK				SG		**Sb**	**04**	**33**	**13.7**	**-1.2**
TNCL	**Tunceli-Merkez**	**1.20**	**70**	IAML_P						
	comp=Z,96nm,0.3s									
TNCL				*i* P		**Pn**	**04**	**33**	**05.0**	**+0.8**
TNCL				*i* S		**Sn**	**04**	**33**	**22.2**	**+1.5**
CUZAR	**Zara_SIVAS**	**1.20**	**348**	*i* P		**Pn**	**04**	**33**	**05.1**	**+0.8**
CUZAR				*i* S		**Sn**	**04**	**33**	**24.2**	**+3.3**
ATAB	**Bozova**	**1.25**	**173**	*i* P		**Pb**	**04**	**33**	**05.4**	**+0.4**
URFA	**Urfa**	**1.39**	**156**	PN		**Pn**	**04**	**33**	**06.2**	**-0.7**
URFA				SN		**Sg**	**04**	**33**	**26.1**	**+0.3**
GZT	**Gaziantep**	**1.42**	**197**	IAML_P						
	comp=Z,555nm,0.1s									
GZT				*i* P		**Pg**	**04**	**33**	**08.4**	**+0.1**
GZT				*i* S		**Sg**	**04**	**33**	**29.6**	**+2.9**
SVSK	**Karacayir**	**1.48**	**325**	PN		**Pg**	**04**	**33**	**08.5**	**-0.9**
SVSK				SN		**Sg**	**04**	**33**	**30.2**	**+1.7**
KMRS	**Kahramanmaras**	**1.53**	**218**	PN		**Pb**	**04**	**33**	**08.9**	**-0.8**
KELT	**Kelkit**	**1.69**	**32**	*i* P		**Pg**	**04**	**33**	**12.9**	**-0.6**
KELT				*i* S		**Sg**	**04**	**33**	**38.0**	**+2.5**

NNC 23 04:40:55.2±10.0, 37°.12N×70°.50E, h0km, mb3.7, mpv3.3, 2C-4D, Error ellipse: s-maj=79.2km s-min=64.1km az=178.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
SFK	**Sufi-Kurgan**	**3.73**	**38**	⇑Pn		Pn	04	41	54.3	0.0
	1.6nm,0.3s									
SFK				⇓Sn		Sn	04	42	39.2	+0.1
	9.9nm,0.4s									
MNAS	**Manas**	**5.58**	**15**	⇓Pn		Pn	04	42	19.9	+0.2
	2.6nm,0.8s									
MNAS				⇓Sn		Sn	04	43	26.0	+1.4
	2.2nm,0.5s									
KK31	**Karatay Array**	**5.98**	**0**	⇑Pn		Pn	04	42	26.6	+1.5
	1.7nm,0.3s,baz=179,slow=13,SNR=36									
KK31				⇓Sn		Sn	04	43	36.7	+2.4
	0.5nm,0.3s,baz=189,slow=24,SNR=3.7									

*IDC **23** 04:42:51.8±0.7, 8°.14N×86°.30W, h0km, mb4.1/19, mb1 4.3/20, mb1mx4.3/34, mbtmp4.2/20, ML5.0/1, MS3.7/5, Ms1 3.7/5, ms1mx3.2/35, Error ellipse: s-maj=23.9km s-min=11.7km az=58.0*
*NEIC **23** 04:42:54.5±0.4, 8°.14N×86°.25W, h10km, mb4.6/119, Error ellipse: s-maj=8.7km s-min=5.7km az=214.0*
NEIC Felt at Nosara.
*ISCJB **23** 04:42:55.1±0.2, 8°.39N±0°.02×86°.17W±0°.02, h10km, mb4.4/124, Error ellipse: s-maj=3.8km s-min=2.6km az=28.2*
*UCR **23** 04:42:55.0±1.9, 8°.31N×86°.18W, h12km±11km, MD4.2, ML4.5*

ISC 23 04:42:55.2±0.5, 8°.25N±0°.05×86°.20W±0°.05, h10km, n257, σ2s28/273, mb4.5/126, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
PLVR	**Palo Verde**	**2.25**	**22**	*e*P		**Pn**	**04**	**43**	**29.9**	**-2.7**
PLVR				*e*S		**Sn**	**04**	**43**	**58.9**	**-1.7**
JTS	**JuntasAbangare**	**2.38**	**31**	*e*Pn		**Pn**	**04**	**43**	**32.1**	**-2.1**
JTS				*e*Sn		**Sn**	**04**	**44**	**01.7**	**-1.9**
JTS	**JuntasAbangare**	**2.38**	**31**	*e*P		**Pn**	**04**	**43**	**31.7**	**-2.6**
JTS				*e*P		**Pn**	**04**	**43**	**31.7**	**-2.6**
SRA1	**San Ramn**	**2.50**	**43**	*e*P	

POPC	Popayan, Colom	11.05	120	*e*P		Pn	04 45 35.8	+2.2	
POPC	Popayan, Colom	11.05	120	*e*P		Pn	04 45 35.8	+2.2	
CMBC	Cumbal	11.06	131	*e*P		Pn	04 45 32.3	-1.7	
CMBC	Cumbal	11.06	131	*e*P		Pn	04 45 32.3	-1.7	
OTAV	Otavalo	11.09	135	*e*Pn		Pn	04 45 35.3	+1.0	
OTAV	Otavalo	11.09	135	*e*P		Pn	04 45 34.7	+0.3	
OTAV	Otavalo	11.09	135	*e*P		Pn	04 45 34.7	+0.3	
GCUF	Volcan Galeras	11.24	128	*e*P		Pn	04 45 39.0	+2.5	
GCUF	Volcan Galeras	11.24	128	*e*P		Pn	04 45 39.0	+2.5	
ZARC	Zaragoza, Cauc	11.26	93	*e*P		Pn	04 45 36.6	+0.3	
ZARC	Zaragoza, Cauc	11.26	93	*e*P		Pn	04 45 36.6	+0.3	
RREF	El Recreo	11.28	106	*e*P		Pn	04 45 43.7	+6.5	
RREF	El Recreo	11.28	106	*e*P		Pn	04 45 43.7	+6.5	
CRUC	La Cruz	11.35	125	*e*P		Pn	04 45 41.7	+3.8	
CRUC	La Cruz	11.35	125	*e*P		Pn	04 45 41.7	+3.8	
PTBC	PUERTO BERRIO,	11.77	98	*e*P		Pn	04 45 46.1	+2.7	
PTBC	PUERTO BERRIO,	11.77	98	*e*P		Pn	04 45 46.1	+2.7	
TEIG	Tepich	12.08	351	*e*Pn		Pn	04 45 48.8	+1.3	
CMIG	Matias Romero	12.20	317	Pn		Pn	04 45 47.3	-1.9	
	comp=Z,8.5nm,0.3s,baz=156,slow=13,SNR=119								
CMIG				Sn		Sn	04 47 58.9	-6.6	
	comp=Z,0.5nm,0.3s,baz=40,slow=17,SNR=1.2								
CMIG				LR		LR	04 49 46.3		
	comp=Z,155nm,18.7s,baz=178,slow=34								
CHIC	Chingaza	12.90	105	*e*P		Pn	04 46 03.3	+4.1	
CHIC	Chingaza	12.90	105	*e*P		Pn	04 46 03.3	+4.1	
RUSC	La Rusia	13.23	99	*e*P		Pn	04 46 05.8	+2.1	
RUSC	La Rusia	13.23	99	*e*P		Pn	04 46 05.8	+2.1	
LVIG	Laguna Verde	15.10	320	*e*Pn		Pn	04 46 25.9	-2.9	
	comp=Z,38nm,1.3s								
SDV	Santo Domingo	15.41	86	Pn		Pn	04 46 33.6	+0.5	
	baz=254,slow=8.3								
SDV				LR		LR	04 53 41.3		
	comp=Z,215nm,19.5s,baz=240,slow=42								
SDV	Santo Domingo	15.41	86	*e*Pn		Pn	04 46 34.0	+0.9	
	comp=Z,35nm,0.8s								
SDV	Santo Domingo	15.41	86	*e*P		Pn	04 46 33.5	+0.5	
SDV	Santo Domingo	15.41	86	*e*P		Pn	04 46 33.5	+0.5	
GTBY	Guantanamo Bay	15.82	42	*e*Pn		P	04 46 40.5	-1.5	
	comp=Z,116nm,1.2s								
MEIG	Mezcala	16.22	308	P		P	04 46 49.6	+3.1	
CAIG	El Cayaco	16.27	304	P		P	04 46 48.6	+1.7	
PLIG	Platanillo	16.39	309	P		P	04 46 51.5	+3.0	
ARIG	Puente Sto Nin	16.99	307	P		P	04 47 00.5	+5.5	
ATAH	Atahualpa	17.15	153	P		Pn	04 46 54.2	-1.3	
	baz=352,slow=7.6								
ZIIG	Zihuatanejo	17.53	304	P		P	04 47 07.3	+6.3	
SDDR	Presa de Saban	17.98	52	*e*Pn		P	04 47 07.8	+1.7	
	comp=Z,28nm,1.1s								
MOIG	Morelia	18.44	310	*e*P		P	04 47 10.2	-1.0	
	comp=Z,144nm,0.6s								
JRQG	Juriquilla Cam	18.52	313	*e*P		P	04 47 10.8	-1.2	
JRQG				*e*Pn		Pn	04 47 18.4	+6.2	
LNIG	Linares	20.84	324	*e*P		P	04 47 35.4	-1.9	
	comp=Z,45nm,1.1s								
CRPR	Cabo Rojo, PR	20.95	61	*e*P		Pn	04 47 40.3	-0.7	
	comp=Z,58nm,0.8s								
MPR	Mayaguez	21.01	60	*e*P		P	04 47 40.0	+0.9	
	comp=Z,44nm,0.9s								
AGP	Aguadilla	21.10	59	*e*P		P	04 47 43.5	+3.5	
	comp=Z,251nm,1.3s								
ZAIG	Zacatecas	21.35	314	*e*P		P	04 47 46.0	+3.0	
	comp=Z,11nm,1.1s								
PCRV	Puerto La Cruz	21.37	83	P		P	04 47 44.4	+1.3	
	comp=Z,10nm,0.5s,baz=259,slow=4.1,SNR=8.7								
OBIP	Obispado Ponce	21.40	61	*e*P		P	04 47 45.4	+2.0	
	comp=Z,72nm,1.0s								
ICMP	Isla Caja de M	21.41	61	*e*P		P	04 47 46.0	+2.6	
	comp=Z,208nm,1.2s								
SJG	San Juan	21.82	61	P		P	04 47 48.9	+1.1	
	comp=Z,26nm,0.8s,baz=264,slow=9.5,SNR=9.2								
SJG				LR		LR	04 55 21.6		
	comp=Z,89nm,21.3s,baz=274,slow=34								
SJG	San Juan	21.82	61	*e*P		P	04 47 49.0	+1.1	
	comp=Z,211nm,1.4s								
HUMP	Col San Antoni	22.10	62	*e*P		P	04 47 54.4	+3.6	
	comp=Z,54nm,0.9s								
NNA	Nana	22.15	155	P		P	04 47 48.0	-3.5	
	comp=Z,18nm,1.0s,baz=292,slow=13,SNR=3.7								
NNA	Nana	22.15	155	*e*P		P	04 47 50.2	-1.2	
KVTX	Kingsville	22.16	332	*e*P		P	04 47 50.5	-0.8	
	comp=Z,137nm,1.5s								
451A	Vernon	22.26	1	*e*P		P	04 47 53.2	+0.8	
	comp=Z,105nm,1.3s								
MTP	Monte Pirata	22.34	62	*e*P		P	04 47 54.0	+0.6	
	comp=Z,28nm,0.9s								
CDVI	St. Croix	22.90	64	*e*P		P	04 48 00.8	+1.5	
	comp=Z,115nm,0.8s								
352A	Blakely	23.15	3	*e*P		P	04 48 03.4	+1.6	
	comp=Z,48nm,1.4s								
152A	Waverly Hall	24.34	3	*e*P		P	04 48 12.8	-0.6	
	comp=Z,40nm,1.4s								
NATX	Nacogdoches	24.69	343	*e*P		P	04 48 16.4	0.0	
	comp=Z,34nm,0.9s								
435B	Jarrell	24.82	336	*e*P		P	04 48 17.2	-0.4	
	comp=Z,17nm,0.8s								
Z50A	Ashland	24.89	1	*e*P		P	04 48 18.7	+0.5	
	comp=Z,15nm,1.1s								
Y49A	Blount Mountai	25.49	360	*e*P		P	04 48 26.4	+2.7	
	comp=Z,14nm,1.0s								
JCT	Junction City	25.52	332	*e*P		P	04 48 22.3	-1.7	
	comp=Z,18nm,1.1s								
Y52A	Lilburn	25.57	4	*e*P		P	04 48 28.2	+3.8	
	comp=Z,15nm,0.9s								
WHTX	Lake Whitney,	25.84	338	*e*P		P	04 48 26.3	-0.6	
	comp=Z,18nm,0.9s								
WLAR	White Oak Lake	26.11	347	*e*P		P	04 48 31.0	+1.7	
	comp=Z,18nm,1.0s								
HODGE	Hodges	26.11	7	*e*P		P	04 48 30.9	+1.6	
	comp=Z,9.7nm,0.9s								
H06E1	SOCORRO T-PHAS	26.18	296	T		T	05 15 23.8		
	SNR=6.5								
TXAR	Lajitas Array	26.64	324	P		P	04 48 32.9	-1.4	
	comp=Z,3.4nm,1.0s,baz=140,slow=8.8,SNR=17								
LTX	Lajitas	26.64	324	*e*P		P	04 48 32.9	-1.4	
BG3	Lake Jocassee	26.79	6	*e*P		P	04 48 39.8	+4.4	
	comp=Z,14nm,0.8s								
X40A	Basin Creek Fa	26.82	348	*e*P		P	04 48 38.0	+2.2	
	comp=Z,12nm,1.3s								
MIAR	Mount Ida	27.04	347	*e*P		P	04 48 39.2	+1.5	
	comp=Z,18nm,0.9s								
ABTX	Abilene, Hawle	27.27	335	*e*P		P	04 48 39.2	-0.7	
	comp=Z,20nm,0.8s								
W41B	Gary Mavity, V	27.37	349	*e*P		P	04 48 42.0	+1.3	
	comp=Z,17nm,1.3s								
WMOK	Wichita Mounta	28.79	338	*e*P		P	04 48 51.0	-2.4	
	comp=Z,17nm,1.3s								
MNTX	Cornudas Mount	29.38	325	*e*P		P	04 48 59.9	+1.2	
	comp=Z,6.1nm,1.4s								
MSTX	Muleshoe	29.81	332	*e*P		P	04 49 03.5	+0.9	
	comp=Z,9.3nm,1.0s								
AMTX	Amarillo	30.08	334	*e*P		P	04 49 04.5	-0.5	
	comp=Z,20nm,1.0s								
LPAZ	La Paz	30.24	144	P		P	04 49 05.8	-1.3	
	comp=Z,1.2nm,0.9s,baz=18,slow=7.7,SNR=4.0								
Q51A	Peebles	30.75	4	*e*P		P	04 49 14.1	+3.3	
	comp=Z,9.7nm,0.6s								
MNMC	Minye Minye	31.75	149	*e*P		P	04 49 20.2	+0.2	
	comp=Z,20nm,1.3s								
KSU1	Kansas State U	32.11	345	P		P	04 49 23.8	+1.1	
	comp=Z,6.7nm,0.8s								
ANMO	Albuquerque	32.43	328	P		P	04 49 26.2	+0.4	
	comp=Z,1.3nm,0.9s,baz=147,slow=7.5,SNR=4.9								
ANMO	Albuquerque	32.43	328	*e*P		P	04 49 26.2	+0.4	
	comp=Z,2.1nm,1.3s								
L42A	Oliver, Polo	33.76	355	*e*P		P	04 49 39.3	+2.2	
	comp=Z,25nm,1.0s								
L40A	Anamosa	33.97	353	*e*P		P	04 49 41.2	+2.3	
	comp=Z,36nm,1.3s								
X18A	Snowflake	34.07	324	*e*P		P	04 49 40.4	+0.3	
	comp=Z,4.6nm,1.1s								
SDCO	Great Sand Dun	34.17	332	*e*P		P	04 49 45.2	+4.2	
	comp=Z,7.9nm,1.2s								
W18A	Petrified Fore	34.36	325	*e*P		P	04 49 43.1	+0.5	
	comp=Z,15nm,1.1s								
S22A	4UR Ranch, Cre	34.80	331	*e*P		P	04 49 46.5	+0.1	
	comp=Z,3.2nm,0.8s								
X16A	Lo Mia Camp, P	34.88	322	*e*P		P	04 49 47.4	+0.2	
	comp=Z,4.2nm,0.9s								
LVC	Limon Verde	35.03	151	P		P	04 49 47.3	-1.4	
	comp=Z,6.4nm,0.9s,baz=330,slow=6.8,SNR=4.2								
MVCO	Mesa Verde	35.22	328	*e*P		P	04 49 50.6	+0.5	
	comp=Z,12nm,1.0s								
Y14A	Wickenburg	35.55	320	*e*P		P	04 49 56.2	+3.5	
	comp=Z,3.0nm,0.9s								
WUAZ	Wupatki	35.59	323	*e*P		P	04 49 51.8	-1.4	
	comp=Z,11nm,1.0s								
ISCO	Idaho Springs	35.90	334	*e*P		P	04 49 58.7	+2.7	
	comp=Z,3.0nm,0.8s								
SMCO	Snowmass	36.00	332	*e*P		P	04 49 57.0	0.0	
	comp=Z,5.7nm,0.9s								
PV13	Radium Mtn., P	36.11	329	*e*P		P	04 49 59.6	+1.9	
	comp=Z,10nm,1.2s								
PV03	Paradox Valley	36.19	329	*e*P		P	04 50 01.0	+2.6	
PV12	Saucer Basin,	36.22	329	*e*P		P	04 49 58.3	-0.3	
	comp=Z,24nm,1.1s								
PV17	East Wray Mesa	36.27	329	*e*P		P	04 50 01.3	+2.2	
	comp=Z,6.9nm,0.8s								
PV16	Nyswonger Mesa	36.27	329	*e*P		P	04 50 01.2	+2.2	
	comp=Z,7.4nm,1.1s								
PV14	Lion Creek, Pa	36.37	329	*e*P		P	04 50 02.5	+2.5	
	comp=Z,11nm,1.3s								
PV23	Carpenter Ridg	36.43	329	*e*P		P	04 50 03.5	+3.0	
	comp=Z,8.3nm,0.9s								
U15A	North Rim	36.76	324	*e*P		P	04 50 03.5	+0.2	
	comp=Z,7.4nm,0.9s								
W13A	Hualapai Mount	36.84	321	*e*P		P	04 50 05.4	+1.4	
	comp=Z,5.0nm,0.8s								
SADO	Sadowa	36.90	8	P		P	04 50 02.7	-1.3	
	comp=Z,8.8nm,0.9s,baz=243,slow=8.6,SNR=4.0								
SADO	Sadowa	36.90	8	*e*P		P	04 50 02.7	-1.3	
	comp=Z,18nm,1.0s								
PHWY	Pilot Hill	37.09	336	*e*P		P	04 50 09.4	+3.4	
	comp=Z,6.0nm,0.9s								
SPMN	Mane on St.	37.28	352	*e*P		P	04 50 08.7	+1.4	
	comp=Z,16nm,0.9s								
O20A	White River Ci	37.36	332	*e*P		P	04 50 09.4	+1.2	
	comp=Z,6.7nm,1.0s								
KNB	Kanab	37.47	324	*e*P		P	04 50 09.7	+0.5	
	comp=Z,8.9nm,1.0s								
PKCU	Pink Cliffs	37.47	325	*e*P		P	04 50 10.6	+1.1	
	comp=Z,19nm,1.2s								
SRU	San Rafael Swe	37.70	328	*e*P		P	04 50 11.2	0.0	
	comp=Z,14nm,1.3s								
LCMT	Little Creek M	37.71	323	*e*P		P	04 50 15.3	+4.0	
	comp=Z,2.5nm,0.8s								
MTPU	Mount Pierson	37.82	326	*e*P		P	04 50 13.4	+1.0	
	comp=Z,3.7nm,0.8s								
SZCU	Shurtz Canyon	38.02	324	*e*P		P	04 50 18.2	+4.3	
	comp=Z,4.1nm,0.9s								
P17A	Butcher Ranch,	38.08	329	*e*P		P	04 50 18.1	+3.7	
	comp=Z,9.4nm,1.2s								
CCUT	Cedar City	38.15	324	*e*P		P	04 50 19.5	+4.5	
	comp=Z,6.1nm,1.2s								
E38A	The Farm, Brul	38.50	354	*e*P		P	04 50 21.5	+3.9	
	comp=Z,22nm,1.0s								
MPU	Maple Canyon	38.94	328	*e*P		P	04 50 25.3	+3.6	
	comp=Z,3.7nm,0.8s								
RSSD	Black Hills	38.97	339	*e*P		P	04 50 22.1	+0.3	
	comp=Z,9.8nm,0.9s								
MWC	Mount Wilson	39.07	316	*e*P		P	04 50 25.3	+2.5	
	comp=Z,14nm,1.4s								
PSUT	Pine Spring	39.10	325	*e*P		P	04 50 23.2	+0.2	
	comp=Z,3.3nm,0.9s								
TPNV	Topopah Spring	39.50	321	*e*P		P	04 50 31.1	+4.8	
	comp=Z,5.6nm,1.2s								
R11A	Troy Canyon, C	39.99	323	*e*P		P	04 50 33.7	+3.3	
	comp=Z,2.6nm,1.1s								
PD31	Pinedale Array	40.04	333	*e*P		P	04 50 28.6	-2.2	
PDAR	Pinedale Array	40.04	333	P		P	04 50 28.6	-2.2	
	comp=Z,0.6nm,0.6s,baz=112,slow=7.2,SNR=2.5								
BW06	Boulder Array	40.04	333	*e*P		P	04 50 33.2	+2.4	
	comp=Z,5.7nm,1.4s								
SPUT	South Promonto	40.32	329	*e*P		P	04 50 34.9	+1.9	
	comp=Z,3.2nm,0.8s								
BGU	Big Grassy Mou	40.34	328	*e*P		P	04 50 36.7	+3.5	
	comp=Z,4.4nm,1.1s								
HVU	Hansel Valley	40.83	329	*e*P		P	04 50 37.2	0.0	
	comp=Z,4.3nm,0.9s								
REDW	Red Top Meadow	41.10	332	*e*P		P	04 50 39.0	-0.6	
	comp=Z,3.3nm,1.0s								
SNOW	Snow King Moun	41.13	333	*e*P		P	04 50 40.0	+0.2	
	comp=Z,18nm,1.3s								
LOHW	Long Hollow	41.18	333	*e*P		P	04 50 42.9	+2.6	
	comp=Z,4.3nm,1.1s								
TPAW	Teton Pass	41.24	332	*e*P		P	04 50 42.9	+2.1	
	comp=Z,6.8nm,1.1s								
MOOW	Moose Ponds	41.35	333	*e*P		P	04 50 46.7	+5.1	
	comp=Z,4.5nm,1.1s								
ELK	Elko	41.40	326	*e*P		P	04 50 42.0	-0.1	
	comp=Z,4.6nm,0.9s								
OMMB	Old Mammoth Mi	41.64	320	*e*P		P	04 50 47.0	+2.8	
	comp=Z,9.9nm,1.4s								
NV01	Mina Array Sit	41.69	321	*e*P		P	04 50 44.1	-0.3	
NVAR	Mina Array Bea	41.69	321	P		P	04 50 44.1	-0.3	
	comp=Z,3.0nm,0.8s,baz=120,slow=8.8,SNR=9.6								
MDPB	Devils Postpil	41.70	320	*e*P		P	04 50 44.6	0.0	
	comp=Z,7.1nm,1.1s								
KVN	Kaiserville	41.95	322	*e*P		P	04 50 49.8	+3.2	
	comp=Z,2.6nm,0.8s								
RYN	Ryan	41.95	321	*e*P		P	04 50 49.7	+3.2	
	comp=Z,3.9nm,1.1s								
LAO	LASA Array	41.97	339	*e*P		P	04 50 50.9	+4.5	
	comp=Z,11nm,1.0s								
YMR	Madison River	42.17	334	*e*P		P	04 50 47.5	-0.8	
	comp=Z,8.2nm,1.1s								
YERR	Yerington	42.61	321	*e*P		P	04 50 55.2	+3.2	
	comp=Z,4.4nm,1.0s								
ULM	Lac du Bonnet	42.64	351	P		P	04 50 50.9	-0.8	
	comp=Z,2.0nm,0.6s,baz=140,slow=7.3,SNR=3.9								
DGMT	Dagmar	42.87	342	*e*P		P	04 50 51.9	-1.8	
	comp=Z,16nm,0.9s								
PNTR	Pine Nut	42.90	321	*e*P		P	04 50 58.0	+3.7	
	comp=Z,4.6nm,0.8s								
HLID	Hailey	42.95	330	*e*P		P	04 50 55.6	+1.0	
	comp=Z,4.0nm,1.0s								
MCMT	McKenzie Canyo	43.14	332	*e*P		P	04 51 00.1	+3.8	
DLMT	Dillon	43.44	333	*e*P		P	04 51 02.8	+4.3	
	comp=Z,12nm,1.5s								
BEKR	Beckworth	43.83	321	*e*P		P	04 51 05.1	+3.3	
	comp=Z,5.6nm,1.2s								
HRY	Holter Researc	44.15	335	*e*P		P	04 51 03.6	-0.6	
CPUP	Villa Florida	44.36	142	P		P	04 51 02.8	-3.1	
	comp=Z,3.2nm,1.1s,baz=348,slow=12,SNR=3.8								
CPUP	Villa Florida	44.36	142	*e*P		P	04 51 02.8	-3.1	
	comp=Z,7.4nm,1.4s								
ORV	Oroville	44.36	320	*e*P		P	04 51 08.7	+2.8	
	comp=Z,7.1nm,1.4s								
EGMT	Eagleton	44.38	337	*e*P		P	04 51 08.8	+2.8	
	comp=Z,8.9nm,1.3s								
WVOR	Wild Horse Val	44.42	325	*e*P		P	04 51 05.8	-0.6	
	comp=Z,8.1nm,1.1s								
MSO	Missoula	45.16	333	*e*P		P	04 51 11.4	-0.9	
	comp=Z,9.8nm,1.0s								
F10A	Beach Ranch, E	46.08	330	*e*P		P	04 51 21.2	+1.7	
	comp=Z,9.4nm,0.9s								
E09A	Wood Farm, Sta	46.91	330	*e*P		P	04 51 28.5	+2.6	
HAWA	Hanford	47.53	329	*e*P		P	04 51 33.2	+2.5	
	comp=Z,5.2nm,0.7s								
D08A	Wollman Farm,	47.67	330	*e*P		P	04 51 34.6	+2.8	
	comp=Z,9.0nm,1.1s								
C09A	Chrisman Ranch	47.88	331	*e*P		P	04 51 38.0	+4.6	
	comp=Z,4.9nm,0.9s								
FFC	Flin Flon	48.04	348	*e*P		P	04 51 37.0	+2.4	
	comp=Z,8.2nm,1.1s								
B08A	Colville Reser	48.78	331	*e*P		P	04 51 43.3	+2.9	
	comp=Z,5.2nm,1.1s								
SCHQ	Schefferville	48.97	15	P		P	04 51 39.9	-1.8	
	comp=Z,7.5nm,0.8s,baz=222,slow=7.3,SNR=5.3								
PLCA	Paso Flores	50.83	165	P		P	04 51 53.4	-2.7	
	comp=Z,3.3nm,0.9s,baz=9.0,slow=7.3,SNR=6.9								
PLCA	Paso Flores	50.83	165	*e*P		P	04 51 53.4	-2.7	
	comp=Z,6.0nm,1.1s								
YKA	Yellowknife Ar	57.97	345	P		P	04 52 46.2	-1.4	
	comp=Z,1.1nm,0.7s,baz=142,slow=6.9,SNR=14								
YKB5	Yellowknife Ar	57.97	345	*e*P		P	04 52 46.2	-1.4	
YKW3	Yellowknife Ar	58.02	345	*e*P		P	04 52 54.5	+6.5	
	comp=Z,4.7nm,0.7s								
INK	Inuvik	67.56	343	*e*P		P	04 53 55.0	+3.6	
	comp=Z,13nm,1.3s								
HDA	Harding Lake	70.22	336	*e*P		P	04 54 11.5	+3.4	
	comp=Z,12nm,1.2s								
IL1	Eielson Array	70.34	337	*e*P		P	04 54 11.3	+2.4	
ILAR	Eielson Array	70.34	337	P		P	04 54 06.0	-2.9	
	comp=Z,0.1nm,0.4s,baz=142,slow=4.6,SNR=3.1								
ILB	Eielson Array	70.34	337	*e*P		P	04 54 06.0	-2.9	
RND	Reindeer	70.62	335	*e*P		P	04 54 15.2	+4.5	
	comp=Z,13nm,1.1s								
ESDC	Sonseca Array	78.83	51	P		P	04 54 56.1	-2.6	
	comp=Z,1.6nm,0.8s,baz=268,slow=6.5,SNR=4.8								
TOA1	Torodi Ar. Sit	86.12	77	*e*P		P	04 55 35.2	-2.0	
TORD	Torodi Ar. Bea	86.12	77	P		P	04 55 35.2	-2.0	
	comp=Z,0.4nm,0.9s,baz=260,slow=4.2,SNR=3.3								
TORD				LR		LR	05 30 46.6		
	comp=Z,232nm,21.8s,baz=315,slow=33								
NB200	NORSAR Array S	86.43	29	*e*P		P	04 55 37.0	-0.8	
NOA	NORSAR Array B	86.43	29	P		P	04 55 37.0	-0.8	
	comp=Z,1.2nm,0.9s,baz=281,slow=4.6,SNR=3.7								
KSH	Kashi	129.69	18	PKP		PKiKP	05 02 10.8	+4.7	
KSH				PP		PP	05 04 25.4	+11	
KSH				PKS		PKSdf	05 05 48.6	+6.6	
KSH				SKS		SKSdf	05 09 19.6	+2.2	
KSH				AMB		AMB			
	comp=Z,450nm,6.8s								
LZH	Lanzhou	134.90	348	*e*PKP		PKiKP	05 02 18.0	+1.3	
LZH				pPKP		sPKPdf	05 02 22.6	+4.1	
LZH				sPKP			05 02 24.0		
LZH				LR		LR			
	comp=N,72nm,18.0s								
LZH				LR		LR			
	comp=E,79nm,18.1s								
LZH				LR		LR			
	comp=Z,100nm,20.2s								

DJA 23 04:46:03.7±1.1, 5°N±6°×9°6E±°, h10km, M3.6/4, MLv3.6/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	Lhok Sumawe	1.10	73	P	Pb	04 46 23.7	-1.1
TPTI		2.08	142	P	Pn	04 46 37.8	-0.9
TPTI				S	Sn	04 47 04.6	-0.1
KCSI	Kotacane, Aceh	2.33	126	P	Pn	04 46 43.7	+1.6
KCSI				S	Sn	04 47 12.3	+1.5
SNSI	Sinabang, Aceh	2.52	170	P	Pn	04 46 44.9	+0.1

NNC 23 05:27:05.6±2.4, 54°41N×87°46E, h0km, mb3.5, mpv3.2, 7C-4D, Error ellipse: s-maj=23.8km s-min=13.0km az=0.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	Zalesovo Array	1.62	254	⇑P	Pn	05 27 34.4	-1.0
	2.5nm,0.3s						
ZAA0				⇑S	Sb	05 27 57.3	-0.1
	14nm,0.9s						
KURK	Kurchatov	6.54	239	⇑Pn	Pn	05 28 44.5	+1.6
	3.8nm,0.9s						
KURK				⇑Sn	Sn	05 29 57.2	-1.0
	1.7nm,0.7s						
KURK				⇓Lg	Lg	05 30 34.6	
	4.1nm,1.2s						
KURBB	Kurchatov Arra	6.64	239	⇓Pn	Pn	05 28 47.0	+2.7
	2.6nm,0.5s						
KURBB				⇑Sn	Sn	05 30 00.8	+0.2
	6.0nm,0.7s						
KURBB				⇑Lg	Lg	05 30 36.3	
	4.2nm,0.5s						
MK31	Makanchi Array	8.30	205	⇑Pn	Pn	05 29 06.7	-0.5
	0.4nm,0.6s,baz=17,slow=13,SNR=8.8						
MK31				⇓Sn	Sn	05 30 43.6	+1.9
	0.4nm,0.5s,baz=20,slow=26,SNR=6.0						
MK31				⇓Lg	Lg	05 31 30.3	
	1.7nm,0.9s,baz=27,slow=29,SNR=3.9						

ISK 23 05:45:15.5, 38.64N×43.20E, h1km, ML3.7/18
NSSP 23 05:45:15.3, 38.55N×43.23E, h10km, Ms3.6
DDA 23 05:45:16.5, 38.64N×43.19E, h5km±3km, ML3.9
ISCJB 23 05:45:17.2±0.4, 38.64N±0.02×43.17E±0.02, h4km±3km, Error ellipse: s-maj=3.6km s-min=2.8km az=146.9
AZER 23 05:45:18.8±1.3, 38.67N×43.23E, h5km, ml3.3/12, Error ellipse: s-maj=14.1km s-min=9.7km az=121.0

ISC 23 05:45:17.8±1.0, 38.63N±0.02×43.18E±0.02, h4km±9km, n54, σ1s00/77, 16C-7D, Turkey

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

PTK	**Pertek**	**2.98**	**276**	PN	**Pn**	**05 46 06.1**	**+0.2**
BCA	**Borcka**	**3.06**	**337**	PN	**Pn**	**05 46 06.8**	**0.0**
CHOM	**Cayeli-Rize**	**3.09**	**324**	PN	**Pn**	**05 46 07.5**	**+0.2**
GANJ	**Ganja**	**3.15**	**49**	⇑P	**Pn**	**05 46 08.5**	**+0.4**
GANJ				⇑S	**Sn**	**05 46 47.3**	**+1.1**
URFA	**Urfa**	**3.64**	**252**	PN	**Pn**	**05 46 15.5**	**+0.6**
LGD	**Lagodekhi**	**3.97**	**35**	P	**Pg**	**05 46 33.6**	**-0.1**
SEKA	**Sheki**	**4.02**	**49**	⇑P	**Pn**	**05 46 20.7**	**+0.5**
SEKA				⇓S	**Sn**	**05 47 10.0**	**+2.3**
LRK	**Lerik**	**4.04**	**88**	⇑P	**Pn**	**05 46 20.5**	**0.0**
GLBA	**Clilabad**	**4.11**	**80**	⇑P	**Pn**	**05 46 21.1**	**-0.1**
ASTR	**Astara**	**4.39**	**89**	⇑S	**Sn**	**05 47 17.8**	**+1.1**
XNQ	**Khinaliq**	**4.58**	**55**	⇑P	**Pn**	**05 46 28.4**	**+0.4**
XNQ				⇑S	**Sn**	**05 47 22.4**	**+0.8**
GAZ	**Gaziantep**	**4.94**	**255**	PN	**Pn**	**05 46 34.1**	**+1.3**

*NNC **23** 05:45:52.1±2.8, 36°.80N×68°.40E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=21.6km s-min=17.4km az=175.0*

ISC 23 05:45:51.8±3.4, 36°.6N±0°.2×68°.4E±0°.1, h24km, n14, σ0s97/19, 5C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**5.32**	**48**	⇑Pn	**Pn**	**05 47 10.1**	**+0.2**
	5.0nm,0.5s						
SFK				⇓Sn	**Sn**	**05 48 12.4**	**+1.9**
	5.7nm,0.2s						
MNAS	**Manas**	**6.74**	**27**	⇓Pn	**Pn**	**05 47 30.0**	**+0.7**
	4.3nm,0.3s						
MNAS				⇓Sn	**Sn**	**05 48 44.6**	**-0.8**
	8.2nm,0.5s						
MNAS				⇑Lg	Lg	05 49 21.3	
	11nm,1.5s						
KK31	**Karatay Array**	**6.75**	**13**	⇑Pn	**Pn**	**05 47 31.2**	**+1.8**
	0.8nm,0.3s,baz=197,slow=15,SNR=28						
KK31				⇓Sn	**Sn**	**05 48 45.1**	**-0.4**
	1.1nm,0.2s,baz=14,slow=20,SNR=4.8						
KK31				⇑Lg	Lg	05 49 20.1	
	9.3nm,0.7s,baz=190,slow=24,SNR=6.6						
AML	**Almayashu**	**6.94**	**35**	P	**Pn**	**05 47 32.4**	**+0.1**
	SNR=39						
EKS2	**Erkin-Say**	**7.40**	**33**	P	**Pn**	**05 47 39.0**	**+0.6**
	SNR=12						
UCH	**Uchtor**	**7.40**	**38**	P	**Pn**	**05 47 38.7**	**-0.1**
	SNR=12						
KZA	**Kyzart**	**7.68**	**42**	P	**Pn**	**05 47 41.9**	**-0.5**
	SNR=13						
AAK	**Ala-Archa**	**7.70**	**36**	P	**Pn**	**05 47 42.9**	**+0.3**
	SNR=5.5						
KBK	**Karagaybulak**	**7.94**	**38**	P	**Pn**	**05 47 47.1**	**+1.3**
	SNR=9.3						
CHMS	**Chumysh**	**8.10**	**35**	P	**Pn**	**05 47 48.1**	**+0.2**
	SNR=7.8						
USP	**Ospenovka**	**8.20**	**33**	P	**Pn**	**05 47 48.8**	**-0.4**
	SNR=5.7						
TKM2	**Tokmak 2**	**8.46**	**39**	P	**Pn**	**05 47 52.2**	**-0.8**
	SNR=7.4						
TKM2	**Tokmak 2**	**8.46**	**39**	⇓Pn	**Pn**	**05 47 51.2**	**-1.7**
	2.6nm,0.5s						
TKM2				⇓Sn	**Sn**	**05 49 27.5**	**-0.2**
	5.2nm,1.1s						
AB31	**Akbulak array**	**14.11**	**337**	⇑Pn	**Pn**	**05 49 09.9**	**-0.1**
	1.0nm,0.4s,baz=158,slow=12,SNR=44						
AB31				⇓Sn	**Sn**	**05 51 44.9**	**-0.8**
	0.8nm,0.5s,baz=157,slow=24,SNR=5.3						

*IDC **23** 06:06:32.2±1.2, 7°.14S×155°.58E, h0km, mb4.0/9, mb1 4.2/9, mb1mx4.0/29, mbtmp4.0/9, MS3.3/2, Ms1 3.2/2, ms1mx2.8/22, Error ellipse: s-maj=43.6km s-min=20.1km az=122.0*

*ISCJB **23** 06:06:37.8±1.1, 7°.2S±0°.2×155°.5E±0°.2, h50km, mb3.9/9, MS3.2/1, Error ellipse: s-maj=38.4km s-min=16.5km az=31.3*

ISC 23 06:06:39.3±1.3, 7°.2S±0°.2×155°.6E±0°.3, h50km, n14, σ0s97/10, mb3.9/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**18.15**	**146**	LR	LR	06 16 35.8	
	comp=Z,84nm,20.4s,baz=29,slow=33						
WRA	**Warramunga Arr**	**24.18**	**236**	P	**P**	**06 11 50.4**	**-0.8**
	3.0nm,0.8s,baz=59,slow=9.8,SNR=7.3						
ASAR	**Alice Springs**	**26.47**	**229**	P	**P**	**06 12 10.3**	**-1.7**
	0.9nm,0.7s,baz=60,slow=10.0,SNR=7.3						
H11S3	**WAKE ISLAND Hy**	**27.78**	**23**	T	T	06 40 53.2	
	baz=202,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**27.78**	**23**	T	T	06 40 54.9	
	baz=202,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**27.79**	**23**	T	T	06 40 59.4	
	baz=202,slow=75,SNR=7.0						
STKA	**Stephens Creek**	**27.81**	**206**	P	**P**	**06 12 23.9**	**+0.1**
	2.5nm,0.7s,baz=14,slow=14,SNR=3.1						
STKA				LR	LR	06 22 49.9	
	comp=Z,55nm,18.1s,baz=22,slow=35						
FITZ	**Fitzroy Crossi**	**31.09**	**247**	P	**P**	**06 12 54.6**	**+1.5**
	1.5nm,0.7s,baz=49,slow=11,SNR=3.0						
CMAR	**Chiang Mai Arr**	**61.37**	**295**	P	**P**	**06 16 50.8**	**+0.2**
	1.7nm,0.3s,baz=114,slow=4.3,SNR=8.4						
SONM	**Songino Array**	**69.80**	**327**	P	**P**	**06 17 44.2**	**-0.4**
	1.1nm,0.8s,baz=145,slow=6.0,SNR=6.2						
ILAR	**Eielson Array**	**83.34**	**21**	P	**P**	**06 19 00.8**	**+0.1**
	0.6nm,0.4s,baz=247,slow=5.3,SNR=15						
MKAR	**Makanchi Array**	**83.92**	**319**	P	**P**	**06 19 03.3**	**-0.7**
	0.3nm,0.6s,baz=104,slow=6.4,SNR=6.0						
YKA	**Yellowknife Ar**	**96.24**	**28**	P	**P**	**06 20 02.3**	**+0.4**
	0.6nm,0.8s,baz=265,slow=4.4,SNR=12						
TORD	**Torodi Ar. Bea**	**153.62**	**285**	PKPbc	**PKPbc**	**06 26 33.7**	**+0.1**
	0.4nm,0.8s,baz=50,slow=51,SNR=2.7						

IDC 23 06:14:44.4±3.4, 15°.92S×174°.43W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/27, mbtmp3.9/4, MS3.5/4, Ms1 3.5/4, ms1mx3.2/28, Error ellipse: s-maj=189.7km s-min=30.5km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.08**	**248**	*e*LR	LR	06 24 08.7	
	comp=Z,144nm,29.9s						
PAE	**Paea**	**23.85**	**98**	*e*T	T	06 44 41.6	
	4.2nm,0.3s						
PPT2	**Papeete2**	**23.86**	**98**	*e*T	T	06 44 42.3	
	6.1nm,0.3s						
PPT	**Papeete**	**23.86**	**97**	LR	LR	06 27 59.3	
	comp=Z,147nm,18.1s,baz=130,slow=33						
TVO	**Taravao**	**24.17**	**98**	*e*T	T	06 45 06.0	
	2.2nm,0.3s						
TBI	**Tubuai**	**24.63**	**111**	*e*LR	LR	06 26 22.6	
	comp=Z,166nm,28.5s						
TBI	**Tubuai**	**24.63**	**111**	*e*T	T	06 46 14.0	
	12nm,0.3s						
VAH	**Vaihoa**	**25.83**	**92**	*e*T	T	06 46 54.3	
	5.0nm,0.2s						
RKT	**Rikitea**	**37.79**	**107**	*e*T	T	07 02 27.7	
	5.9nm,0.3s						
ASAR	**Alice Springs**	**49.00**	**252**	P	P	06 23 33.4	0.0
	1.7nm,0.9s,baz=83,slow=8.2,SNR=16						
MJAR	**Matsushiro Arr**	**68.70**	**321**	LR	LR	06 50 18.0	
	comp=Z,27nm,21.6s,baz=55,slow=31						
NVAR	**Mina Array Bea**	**75.38**	**42**	P	P	06 26 30.2	-0.1
	0.8nm,0.8s,baz=240,slow=9.0,SNR=6.6						
KSRS	**Korea Array**	**75.83**	**316**	LR	LR	06 55 27.7	
	comp=Z,22nm,18.9s,baz=356,slow=32						
ILAR	**Eielson Array**	**83.15**	**12**	P	P	06 27 12.2	+0.4
	1.0nm,1.0s,baz=201,slow=4.8,SNR=4.1						
YKA	**Yellowknife Ar**	**90.97**	**24**	P	P	06 27 49.8	-0.1
	0.5nm,1.0s,baz=244,slow=4.1,SNR=5.2						
CMAR	**Chiang Mai Arr**	**91.83**	**289**	LR	LR	07 07 39.5	
	comp=Z,16nm,18.2s,baz=119,slow=35						
BRTR	**Keskin Array B**	**145.92**	**320**	PKPbc	PKPdf	06 34 24.1	-1.7
	1.0nm,0.8s,baz=20,slow=4.7,SNR=5.9						
GERES	**GERESS Array B**	**146.49**	**350**	PKPbc	PKPab	06 34 28.3	-0.3
	0.6nm,0.8s,baz=90,slow=1.0,SNR=3.5						

DJA 23 06:16:33.7±0.6, 8°S±5°×10°8E±°, h10km, M3.9/8, MLv3.9/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.73**	**46**	P	Pb	06 16 49.2	+0.6
CMJI				S	Sb	06 16 58.2	-0.5
CISI	**Cisompet, Garu**	**0.75**	**352**	P	Pg	06 16 48.3	+0.1
KPJI	**Karang Pucung**	**1.39**	**46**	P	Pn	06 16 58.1	-1.0
KPJI				S	Sg	06 17 19.7	+1.3
LEM	**Lembang**	**1.49**	**348**	P	Pn	06 16 59.6	-1.2
SKJI	**Sukabumi**	**1.87**	**313**	P	Pg	06 17 09.3	-0.2
UGM	**Wanagama**	**2.61**	**82**	P	Pn	06 17 16.0	0.0
PCJI	**Pacitan**	**3.23**	**88**	P	Pn	06 17 25.0	+0.6
PWJI	**Pagerwojo**	**3.85**	**86**	P	Pn	06 17 33.3	+0.2

*ISK **23** 06:25:51.8, 40°.19N×35°.49E, h3km, ML1.9/4*
*DDA **23** 06:25:52.4, 40°.14N×35°.47E, h7km±2km, ML2.6*

ISC 23 06:25:53.2±1.1, 40°.18N±0°.03×35°.52E±0°.03, h7km±11km, n13, σ0s86/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COAL	**Corum-Alaca**	**0.42**	**281**	*i* P	**Pg**	**06 26 00.4**	**-0.9**
COAL				*i* S	**Sg**	**06 26 07.1**	**+0.4**
YOZ	**Yozgat**	**0.56**	**196**	PG	**Pg**	**06 26 03.7**	**-0.2**
CORM	**Corum**	**0.68**	**270**	PG	**Pg**	**06 26 05.3**	**-1.0**
CORM				SG	**Sg**	**06 26 15.2**	**0.0**
CTAK	**Corum_Osmancik**	**0.73**	**311**	*i* P	**Pg**	**06 26 06.5**	**-0.6**
HAVZ	**Havza**	**0.91**	**10**	IAML_P			
	comp=Z,756nm,0.2s						
HAVZ				*i* P	**Pb**	**06 26 11.9**	**+0.6**
HAVZ				*i* S	**Sn**	**06 26 25.4**	**-0.5**
CUSAR	**Sarkisla-SIVAS**	**0.94**	**143**	*i* P	**Pg**	**06 26 10.6**	**-0.6**
CUSAR				*i* S	**Sb**	**06 26 24.8**	**+0.2**
KVT	**Kavak**	**0.99**	**24**	PG	**Pg**	**06 26 11.5**	**-0.6**
KVT				SG	**Sg**	**06 26 25.9**	**+0.9**
CDAG	**Cicekdag**	**1.04**	**238**	IAML_P			
	comp=Z,277nm,0.1s						
CDAG				*i* P	**Pg**	**06 26 12.8**	**-0.4**
CDAG				*i* S	**Sn**	**06 26 30.2**	**+1.0**
SVSK	**Karacayir**	**1.16**	**102**	PN	**Pb**	**06 26 15.4**	**-0.2**
SVSK				SN	**Sn**	**06 26 32.3**	**+0.2**
DELI	**KIRIKKALE**	**1.24**	**262**	*i* P	**Pn**	**06 26 15.7**	**-1.4**
BNN	**Bunyan**	**1.35**	**169**	PN	**Pb**	**06 26 18.6**	**-0.2**
BNN				SN	**Sg**	**06 26 38.2**	**+1.8**
ILGA	**Ilgaz**	**1.63**	**303**	*i* P	**Pg**	**06 26 25.5**	**+1.1**
ILGA				*i* S	**Sg**	**06 26 46.6**	**+1.1**
YAYX	**Yaylak**	**1.81**	**227**	PN	**Pn**	**06 26 24.9**	**0.0**

*IDC **23** 06:36:58.3±3.2, 30°.04N×50°.35E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.5/43, mbtmp3.9/5, ML3.8/1, Error ellipse: s-maj=168.0km s-min=24.3km az=150.0*

*ISCJB **23** 06:37:01.7±0.8, 30°.13N±0°.04×50°.46E±0°.09, h25km, mb3.6/4, Error ellipse: s-maj=11.5km s-min=5.7km az=162.5*

*TEH **23** 06:37:02.6, 30°.26N×50°.53E, h25km, ML3.6*
*THR **23** 06:37:02.7, 30°.38N×50°.61E, h14km, ML3.5*

ISC 23 06:37:03.3±1.1, 30°.21N±0°.08×50°.46E±0°.09, h25km, n34, σ1s24/34, mb3.5/4, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLNJ	**Kolanjah**	**1.26**	**51**	*e*Pg	**Pn**	**06 37 24.3**	**-1.3**
KLNJ				IAMB	IAmb	06 37 48.7	
	comp=Z,0.0nm,0.2s						
IKAZ	**Kazeroun**	**1.27**	**109**	*e*Pg	**Pn**	**06 37 26.3**	**+0.5**
IKAZ				IAMB	IAmb	06 37 49.3	
	comp=Z,33μm,0.5s						
ZNGN	**Zangian**	**1.93**	**10**	*e*Pn	**Pn**	**06 37 35.7**	**+0.9**
ROKH	**ROKH**	**2.18**	**13**	*e*Pn	**Pn**	**06 37 39.1**	**+0.9**
ROKH				IAMB	IAmb	06 38 09.5	
	comp=Z,0.0nm,0.5s						
IRAM	**Ramesheh**	**2.29**	**46**	*e*Pn	**Pn**	**06 37 41.1**	**+1.3**
IRAM				IAMB	IAmb	06 38 14.7	
	comp=Z,3μm,0.4s						
SHGR	**Shooshtar-Gavs**	**2.36**	**323**	*e*Pn	**Pn**	**06 37 42.4**	**+1.9**
SHGR	**Shooshtar-Gavs**	**2.36**	**323**	*e*Pn	**Pn**	**06 37 42.4**	**+1.9**
IPIR	**Pirpir**	**2.49**	**8**	*e*Pn	**Pn**	**06 37 43.6**	**+1.0**
IPIR				IAMB	IAmb	06 38 20.7	
	comp=Z,2μm,0.7s						
IGAR	**Gharneh**	**2.57**	**31**	*e*Pn	**Pn**	**06 37 44.5**	**+0.9**
IGAR				IAMB	IAmb	06 38 26.3	
	comp=Z,2μm,0.2s						
GHIR	**Ghir-Karzin**	**2.93**	**130**	*e*Pn	**Pn**	**06 37 51.1**	**+2.7**
GHIR	**Ghir-Karzin**	**2.93**	**130**	*e*Pn	**Pn**	**06 37 51.1**	**+2.7**
IZEF	**Zefreh**	**3.12**	**30**	*e*Pn	**Pn**	**06 37 52.0**	**+0.9**
IZEF				IAMB	IAmb	06 38 01.2	
	comp=Z,654nm,0.2s						
IKLH	**Kolahrood**	**3.24**	**17**	*e*Pn	**Pn**	**06 37 53.7**	**+0.9**
IKLH				IAMB	IAmb	06 38 50.2	
	comp=E,1μm,0.4s						
KHMZ	**Khomeyn**	**3.54**	**353**	*e*Pn	**Pn**	**06 37 57.1**	**+0.2**
KHMZ	**Khomeyn**	**3.54**	**353**	*e*Pn	**Pn**	**06 37 57.1**	**+0.2**
ICHK	**Chekchek**	**3.94**	**58**	*e*Pn	**Pn**	**06 38 03.9**	**+1.5**
ICHK				IAMB	IAmb	06 38 52.4	
	comp=E,834nm,0.4s						
KRSH	**Karshahi**	**4.01**	**20**	*e*Pn	**Pn**	**06 38 04.0**	**+0.7**
ANAR	**Anarak**	**4.07**	**42**	*e*Pn	**Pn**	**06 38 05.2**	**+1.1**
TPRV	**Parvadeh(Tabas**	**6.01**	**61**	*e*Pn	**Pn**	**06 38 31.1**	**+0.4**
IALA	**Alasht**	**6.18**	**18**	*e*Pn	**Pn**	**06 38 33.9**	**+0.7**
IALA				IAMB	IAmb	06 38 38.5	
	comp=Z,288nm,0.3s						
TNSJ	**Nastanj**	**6.42**	**53**	*e*Pn	**Pn**	**06 38 37.1**	**+0.7**
SHME	**Shamm**	**6.51**	**128**	*e*Pn	**Pn**	**06 38 35.7**	**-1.9**
TABS	**Tabas**	**6.62**	**57**	*e*Pn	**Pn**	**06 38 39.3**	**+0.2**
TABS	**Tabas**	**6.62**	**57**	*e*Pn	**Pn**	**06 38 39.3**	**+0.2**
NAZ	**Nazwa, Dubai**	**6.96**	**137**	*e*Pn	**Pn**	**06 38 44.4**	**+0.7**
MSFE	**Esma-Masafi**	**6.99**	**132**	*e*Pn	**Pn**	**06 38 44.3**	**+0.1**
UOSS	**Minazif**	**7.32**	**134**	*e*Pn	**Pn**	**06 38 49.4**	**+0.8**
HATD	**Hatta, Dubai**	**7.36**	**135**	*e*Pn	**Pn**	**06 38 50.2**	**+1.0**
ASHO	**Ashiyiah**	**7.42**	**137**	*e*Pn	**Pn**	**06 38 51.0**	**+0.9**
GEYT	**Alibeck**	**9.97**	**37**	Pn	**Pn**	**06 39 25.3**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=235,slow=17,SNR=4.9						
KURBB	**Kurchatov Arra**	**29.25**	**38**	P	**P**	**06 43 03.7**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=238,slow=9.3,SNR=3.5						
MKAR	**Makanchi Array**	**29.65**	**47**	P	**P**	**06 43 07.2**	**+0.5**
	comp=Z,0.9nm,1.0s,baz=243,slow=9.4,SNR=5.1						
SONM	**Songino Array**	**45.84**	**51**	P	**P**	**06 45 23.4**	**0.0**
	comp=Z,0.6nm,0.9s,baz=266,slow=10.0,SNR=4.0						
TORD	**Torodi Ar. Bea**	**48.01**	**260**	P	**P**	**06 45 38.4**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=57,slow=7.9,SNR=8.3						

DJA 23 06:38:34.1±0.5, 7°S±9°×12°9E±°, h112km±47km, M4.5/7, mB4.9/4, mb4.4/7, MLv4.5/7, Mw(mB)4.2/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**5.33**	**32**	P	Pn	06 39 50.4	-1.1
FAKI				S	Sn	06 40 46.4	-5.4
SOEI	**Soe**	**5.57**	**246**	P	Pn	06 39 55.8	+1.0
SOEI				S	Sn	06 40 57.0	-0.7
BATI	**Baumata**	**6.30**	**244**	P	Pn	06 40 05.7	+1.1
BATI				S	Sn	06 41 14.8	-0.4
RKPI	**Ransiki, Papua**	**7.59**	**39**	P	Pn	06 40 23.0	+0.9
EDFI	**Ende, Flores**	**7.75**	**260**	P	Pn	06 40 24.5	+0.2
PLAI	**Plampang**	**11.60**	**263**	P	Pn	06 41 10.5	-5.8

MEX 23 06:40:53.3±0.3, 17°.27N×101°.37W, h18km±29km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.35**	**345**	*e*P	Pg	06 40 59.6	-1.1
ZIIG				*e*S	Sg	06 41 04.4	-1.3
CAIG	**El Cayaco**	**1.08**	**102**	*e*P	Pb	06 41 09.9	-3.5
CAIG				*i* S	Sb	06 41 23.1	-4.1
ARIG	**Puente Sto Nin**	**1.40**	**44**	*i* P	Pn	06 41 14.5	-3.5
ARIG				*i* S	Sn	06 41 31.6	-4.5
MEIG	**Mezcala**	**1.79**	**68**	*e*P	Pn	06 41 20.5	-2.9
MEIG				*i* S	Sn	06 41 42.1	-3.7
PLIG	**Platanillo**	**2.10**	**58**	*e*P	Pn	06 41 25.0	-2.7
PLIG				*i* S	Sn	06 41 48.6	-4.8

MEX 23 06:47:46.1±0.3, 16°.27N×98°.17W, h13km±2km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.13**	**18**	*i* P	Pg	06 47 48.9	-0.7
PNIG				*i* S	Sg	06 47 51.5	-0.5
VHO	**Vista Hermosa**	**1.59**	**60**	*e*P	Pn	06 48 11.0	-3.2
VHO				*e*S	Sn	06 48 30.2	-4.5
HUIG	**Huatulco**	**2.04**	**104**	*i* P	Pn	06 48 17.3	-2.8
HUIG				*i* S	Sn	06 48 41.0	-4.5

*IDC **23** 07:17:18.9±3.1, 55°.88N×159°.88E, h149km±41km, mb3.2/8, mb1 3.4/10, mb1mx3.1/40, mbtmp3.6/10, Error ellipse: s-maj=45.9km s-min=15.8km az=177.0*

*KRSC **23** 07:17:19.2±1.1, 55°.45N×160°.24E, h204km±10km, ML4.0*

*ISCJB **23** 07:17:20.3±0.3, 55°.47N±0°.03×160°.1E±0°.1, h199km±2km, mb3.2/9, Error ellipse: s-maj=10.5km s-min=3.4km az=23.7*

*MOS **23** 07:17:20.1±0.6, 55°.51N×160°.07E, h201km, mb4.0/2, Error ellipse: s-maj=24.5km s-min=5.6km az=77.8*

ISC 23 07:17:21.7±0.7, 55°.43N±0°.03×160°.25E±0°.05, h196km±5km, n85, σ1s39/139, mb3.4/9, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.16**	**201**	*i* P	**Pn**	**07 17 47.6**	**-0.1**
TUMR				*e*S	**Sn**	**07 18 07.9**	**+0.3**
TUMR	**Tumrok**	**0.16**	**201**	PN	**Pn**	**07 17 47.4**	**-0.3**
TUMR				S	**Sn**	**07 18 07.4**	**-0.2**
TUMD	**Tumrok D**	**0.25**	**159**	*i* P	**Pn**	**07 17 47.4**	**-0.3**
TUMD				*e*S	**Sn**	**07 18 07.4**	**-0.3**
KZV	**Kizimen**	**0.32**	**175**	*e*P	**Pn**	**07 17 47.6**	**-0.4**
KZV				*e*S	**Sn**	**07 18 08.1**	**-0.2**
KZV	**Kizimen**	**0.32**	**175**	PN	**Pn**	**07 17 47.6**	**-0.4**
KZV				S	**Sn**	**07 18 08.1**	**-0.2**
BZMR	**Bezymyannaya**	**0.52**	**15**	*e*P	**Pn**	**07 17 48.1**	**-0.5**
BZMR	**Bezymyannaya**	**0.52**	**15**	PN	**Pn**	**07 17 48.1**	**-0.5**
KPT	**Kopyto**	**0.53**	**359**	*e*P	**Pn**	**07 17 47.8**	**-0.7**
KPT	**Kopyto**	**0.53**	**359**	PN	**Pn**	**07 17 47.8**	**-0.7**
BZWR	**Bezymyannyi-We**	**0.55**	**15**	*e*P	**Pn**	**07 17 47.9**	**-0.8**
BZWR				*e*S	**Sn**	**07 18 09.5**	**-0.3**
BZWR	**Bezymyannyi-We**	**0.55**	**15**	PN	**Pn**	**07 17 47.9**	**-0.8**
BZWR				S	**Sn**	**07 18 09.5**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**0.57**	**27**	*e*P	**Pn**	**07 17 48.6**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**0.57**	**27**	PN	**Pn**	**07 17 48.6**	**-0.1**
KOZ	**Kozyrevsk**	**0.66**	**342**	*e*P	**Pn**	**07 17 47.9**	**-1.1**
KOZ	**Kozyrevsk**	**0.66**	**342**	PN	**Pn**	**07 17 47.9**	**-1.1**
ZLN	**Zelenaya**	**0.66**	**28**	*e*P	**Pn**	**07 17 49.2**	**+0.1**
ZLN				*e*S	**Sn**	**07 18 11.1**	**+0.6**
ZLN	**Zelenaya**	**0.66**	**28**	PN	**Pn**	**07 17 49.2**	**+0.1**
ZLN				S	**Sn**	**07 18 11.1**	**+0.6**
CIRR	**Tsirk**	**0.74**	**22**	*e*P	**Pn**	**07 17 49.1**	**-0.5**
CIRR				*e*S	**Sn**	**07 18 11.6**	**+0.3**
CIRR	**Tsirk**	**0.74**	**22**	PN	**Pn**	**07 17 49.1**	**-0.5**
CIRR				S	**Sn**	**07 18 11.6**	**+0.3**
KRSR	**Krestovskiy**	**0.81**	**13**	*e*P	**Pn**	**07 17 49.3**	**-0.6**
KRSR				*e*S	**Sn**	**07 18 11.7**	**-0.2**
KRSR	**Krestovskiy**	**0.81**	**13**	PN	**Pn**	**07 17 49.3**	**-0.6**
KRSR				S	**Sn**	**07 18 11.7**	**-0.2**
KLY	**Klyuchi**	**0.91**	**14**	*e*P	**Pn**	**07 17 49.7**	**-0.6**
KLY				*e*S	**Sn**	**07 18 12.8**	**0.0**
KLY	**Klyuchi**	**0.91**	**14**	PN	**Pn**	**07 17 49.7**	**-0.6**
KLY				S	**Sn**	**07 18 12.8**	**0.0**
SRDR	**Sredinnyy**	**0.93**	**342**	*e*P	**Pn**	**07 17 49.5**	**-1.1**
SRDR				*e*S	**Sn**	**07 18 11.6**	**-1.9**
SRDR	**Sredinnyy**	**0.93**	**342**	PN	**Pn**	**07 17 49.5**	**-1.1**
SRDR				S	**Sn**	**07 18 11.3**	**-1.9**
ESO	**Esso**	**1.00**	**300**	*e*P	**Pn**	**07 17 49.7**	**-1.3**
ESO				*e*S	**Sn**	**07 18 12.0**	**-1.9**
ESO	**Esso**	**1.00**	**300**	PN	**Pn**	**07 17 49.7**	**-1.3**
ESO				S	**Sn**	**07 18 12.0**	**-1.9**
BDR	**Baidarnaya**	**1.26**	**25**	*e*P	**Pn**	**07 17 52.7**	**-0.3**
BDR				*e*S	**Sn**	**07 18 16.9**	**-0.6**
BDR	**Baidarnaya**	**1.26**	**25**	PN	**Pn**	**07 17 52.7**	**-0.3**
BDR				S	**Sn**	**07 18 16.9**	**-0.6**
SRKR	**Sorokina**	**1.33**	**23**	*e*P	**Pn**	**07 17 52.8**	**-0.7**
SRKR				*e*S	**Sn**	**07 18 17.1**	**-1.3**
SRKR	**Sorokina**	**1.33**	**23**	PN	**Pn**	**07 17 52.8**	**-0.7**
SRKR				S	**Sn**	**07 18 17.1**	**-1.3**
SMKR	**Semkarok**	**1.34**	**30**	*e*P	**Pn**	**07 17 53.1**	**-0.6**
SMKR				*e*S	**Sn**	**07 18 17.4**	**-1.2**
SMKR	**Semkarok**	**1.34**	**30**	PN	**Pn**	**07 17 53.1**	**-0.6**
SMKR				S	**Sn**	**07 18 17.4**	**-1.2**
KBG	**Krutoberegovo**	**1.61**	**58**	*e*P	**Pn**	**07 17 55.4**	**-0.5**
KBG				*e*S	**Sn**	**07 18 21.2**	**-1.5**
KBG	**Krutoberegovo**	**1.61**	**58**	PN	**Pn**	**07 17 55.4**	**-0.5**
KBG				S	**Sn**	**07 18 21.2**	**-1.5**
KBTR	**Krutoberegovo**	**1.65**	**61**	*e*P	**Pn**	**07 17 55.4**	**-0.9**
KBTR				*e*S	**Sn**	**07 18 21.0**	**-2.3**
KBTR	**Krutoberegovo**	**1.65**	**61**	PN	**Pn**	**07 17 55.4**

KURBB **Kurchatov Arra** 46.71 300 P P 07 25 28.5 -1.9
comp=Z,0.9nm,0.5s,baz=55,slow=7.7,SNR=4.1
MKAR **Makanchi Array** 47.25 294 P P 07 25 33.6 -1.1
comp=Z,0.3nm,0.9s,baz=55,slow=5.6,SNR=4.2
BVAR **Borovoye Array** 49.03 307 P P 07 25 46.6 -1.5
comp=Z,0.9nm,0.5s,baz=59,slow=7.4,SNR=6.8
PDAR **Pinedale Array** 56.33 62 P P 07 26 44.1 +2.1
comp=Z,0.3nm,0.4s,baz=348,slow=2.3,SNR=4.9
FINES **FINESS Array B** 58.01 336 P P 07 26 52.1 -1.1
comp=Z,2.2nm,0.9s,baz=35,slow=12,SNR=4.5
FINES **FINESS Array B** 58.01 336 P P 07 26 52.1 -1.1
FINES pmax pmax
comp=Z,4.0nm,1.1s
TXAR **Lajitas Array** 69.65 68 P P 07 28 11.9 +2.1
comp=Z,0.1nm,0.5s,baz=325,slow=4.5,SNR=2.5

ISK ***23*** *07:18:18.4, 37.˚33N×37.˚15E, h11km, ML2.2/5*
ISCJB ***23*** *07:18:19.5±0.6, 37.˚28N±0.˙03×37.˚10E±0.˙03, h5km±5km, Error ellipse: s-maj=5.4km s-min=3.9km az=43.2*
DDA ***23*** *07:18:19.1, 37.˚27N×37.˚14E, h7km±2km, ML2.9*
ISC 23 07:18:19.1±0.9, 37.˚30N±0.˙03×37.˚14E±0.˙03, h10km±7km, n16, σ0°70/27, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.14**	**157**	PG	**Pg**	**07 18 22.5**	**+0.1**
GAZ				SG	**Sg**	**07 18 25.5**	**+0.7**
KMRS	**Kahramanmaras**	**0.28**	**316**	PG	**Pg**	**07 18 24.5**	**-0.3**
KMRS				SG	**Sg**	**07 18 28.5**	**-0.1**
GZT	**Gaziantep**	**0.34**	**81**	IAML_P			
	comp=Z,3μm,0.1s						
GZT				*i* P	**Pb**	**07 18 26.5**	**-0.9**
KUZU	**Kuzuini**	**0.53**	**186**	IAML_P			
	comp=Z,3μm,0.1s						
KUZU				*i* P	**Pb**	**07 18 30.6**	**+0.1**
KUZU				*i* S	**Sb**	**07 18 37.7**	**-0.6**
ANDN	**Andirin**	**0.69**	**294**	IAML_P			
	comp=Z,1μm,0.1s						
ANDN				*i* P	**Pb**	**07 18 33.5**	**+0.2**
ANDN				*i* S	**Sg**	**07 18 41.8**	**+0.2**
ATAB	**Bozova**	**0.93**	**79**	*i* P	**Pn**	**07 18 38.9**	**+0.5**
ATAB				*i* S	**Sn**	**07 18 51.4**	**-0.4**
ELBS	**KAHRAMANMARAS**	**1.02**	**360**	*i* P	**Pn**	**07 18 39.7**	**+0.1**
ELBS				*i* S	**Sn**	**07 18 55.3**	**+1.2**
KOZT	**Kozan**	**1.06**	**280**	PG	**Pg**	**07 18 39.1**	**-0.5**
SAIM	**ADANA**	**1.08**	**309**	IAML_P			
	comp=Z,861nm,0.2s						
SAIM				*i* P	**Pn**	**07 18 40.2**	**-0.2**
SAIM				*i* S	**Sn**	**07 18 56.2**	**+0.8**
AKCD	**Akcadag**	**1.17**	**32**	IAML_P			
	comp=Z,682nm,0.1s						
AKCD				*i* P	**Pn**	**07 18 42.6**	**+0.9**
AKCD				*i* S	**Sn**	**07 18 59.5**	**+1.8**
TAHT	**Tahtakopru-Hat**	**1.20**	**220**	PN	**Pg**	**07 18 41.9**	**-0.4**
TAHT				SN	**Sn**	**07 18 59.0**	**+0.6**
SURC	**SANLIURFA_SURC**	**1.25**	**109**	IAML_P			
	comp=Z,379nm,0.1s						
SURC				*i* P	**Pg**	**07 18 43.1**	**-0.1**
SURC				*i* S	**Sn**	**07 19 00.3**	**+0.7**
DARE	**Darende-Malaty**	**1.29**	**12**	PN	**Pn**	**07 18 42.6**	**-0.8**
URFA	**Urfa**	**1.34**	**84**	PN	**Pn**	**07 18 43.4**	**-0.7**
SANL	**SANLIURFA_Merk**	**1.48**	**95**	*i* P	**Pg**	**07 18 47.2**	**-0.4**
SANL				*i* S	**Sg**	**07 19 06.8**	**+0.1**
BNN	**Bunyan**	**1.85**	**327**	PN	**Pn**	**07 18 50.5**	**-0.6**

MEX 23 07:41:50.9±0.2, 21.˚11N×106.˚31W, h14km±76km, MD4.1, Off coast of central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANIG	**Ahuacatlan**	**1.67**	**92**	*e*P	Pn	07 42 17.0	-2.9
ANIG				*i* S	Sn	07 42 37.1	-4.0
CJM	**Chamela**	**2.00**	**143**	*i* P	Pn	07 42 20.8	-3.4
CJM				*e*S	Sn	07 42 44.7	-4.3
R15V		**2.92**	**131**	*e*P	Pn	07 42 34.4	-2.5
R15V				*i* S	Sn	07 43 07.9	-3.9
EZ5V		**3.02**	**122**	*i* P	Pn	07 42 35.6	-2.9
EZ5V				*i* S	Sn	07 43 10.8	-3.8

IDC ***23*** *07:42:56.1±0.6, 44.˚67S×79.˚51W, h0km, mb4.5/16, mb1 4.7/18, mb1mx4.6/28, mbtmp4.5/18, ML5.3/1, MS4.7/25, Ms1 4.7/25, ms1mx4.6/30, Error ellipse: s-maj=18.8km s-min=12.9km az=106.0*
NEIC ***23*** *07:42:59.0±0.9, 44.˚62S×79.˚08W, h12km±5km, mb5.1/53, MW5.4, Error ellipse: s-maj=7.9km s-min=6.3km az=92.0, Moment Tensor Solution. s23 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.31; $M_{\theta\theta}$0.62; $M_{\phi\phi}$-0.32; $M_{r\theta}$0.37; $M_{\theta\phi}$-1.20; $M_{\phi r}$0.81; Best double couple: $M_0$1.60000×10^{17} NP1: ϕ_s264.00000°, δ63.00000°, λ-160.00000°. NP2: ϕ_s165.00000°, δ72.00000°, λ-28.00000°. Principal axes: T 1.4600, Plg6.0000°, Azm216.0000°; N 0.2400, Plg57.0000°, Azm316.0000°; P -1.6900, Plg32.0000°, Azm122.0000°;*
GCMT ***23*** *07:42:59.0±0.1, 44.˚71S±0.˙01×79.˚68W±0.˙01, h25km, MW5.5/121, Moment Tensor Solution. s95,c158; s121,c222; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.22±.03; $M_{\theta\theta}$1.00±.03; $M_{\phi\phi}$-0.77±.04; $M_{r\theta}$-0.25±.06; $M_{\theta\phi}$-1.99±.03; $M_{\phi r}$0.16±.07; Best double couple: $M_0$2.19700×10^{17} NP1:ϕ_s258.00000°, δ85.00000°, λ175.00000°. NP2:ϕ_s348.00000°, δ85.00000°, λ5.00000°. Principal axes: T 2.3250, Plg7.0000°, Azm213.0000°; N -0.2570, Plg83.0000°, Azm33.0000°; P -2.0690, Plg0.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
MOS ***23*** *07:43:01.1±1.4, 44.˚66S×79.˚05W, h33km, mb5.2/22, MS4.9/4 Error ellipse: s-maj=17.9km s-min=9.4km az=85.8*
ISCJB ***23*** *07:43:02.0±0.3, 44.˚51S±0.˙04×78.˚95W±0.˙05, h33km, mb4.9/57, MS4.7/26, Error ellipse: s-maj=5.4km s-min=4.7km az=140.5*
VAO ***23*** *07:43:08.3±1.4, 43.˚74S×78.˚93W, h10km, mb5.1*
ISC 23 07:43:03.7±0.3, 44.˚60S±0.˙05×79.˚14W±0.˙05, h35km, n320, σ2°40/317, mb5.0/57, MS4.7/26, 8C-4D, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO07	**Milladeo Hill,**	**4.23**	**71**	*e*Pn	**Pn**	**07 44 04.5**	**-1.1**
GO07				*e*Sn	**Sn**	**07 44 57.4**	**+3.7**
GO07	**Milladeo Hill,**	**4.23**	**71**	⇓*e*P	**Pn**	**07 44 03.2**	**-2.4**
GO07				*e*S	**Sn**	**07 44 56.5**	**+2.8**
PLCA	**Paso Flores**	**7.41**	**62**	Pn	**Pn**	**07 44 48.4**	**-1.1**
	10nm,0.3s,baz=256,slow=9.6,SNR=261						
PLCA				Sn	**Sn**	**07 46 14.0**	**+1.7**
	baz=27,slow=9.0,SNR=0.8						
PLCA				LR	LR	07 47 32.4	
	comp=Z,14μm,18.9s,baz=260,slow=36						
PLCA	**Paso Flores**	**7.41**	**62**	*e*Pn	**Pn**	**07 44 48.3**	**-1.1**
PLCA				*e*Sn	**Sn**	**07 46 11.5**	**-0.8**
PLCA	**Paso Flores**	**7.41**	**62**	*e*P	**Pn**	**07 44 48.6**	**-0.8**
PLCA	**Paso Flores**	**7.41**	**62**	*e*P	**Pn**	**07 44 48.3**	**-1.1**
PLCA				*e*		07 46 11.5	
PLCA	**Paso Flores**	**7.41**	**62**	*e*P	**Pn**	**07 44 47.8**	**-1.6**
PLCA	**Paso Flores**	**7.41**	**62**	*e*P	**Pn**	**07 44 48.3**	**-1.1**
GO06	**Curarrehue**	**7.59**	**51**	*e*Pn	**Pn**	**07 44 50.1**	**-1.7**
GO06	**Curarrehue**	**7.59**	**51**	*e*P	**Pn**	**07 44 50.7**	**-1.2**
GO06	**Curarrehue**	**7.59**	**51**	*e*P	**Pn**	**07 44 50.3**	**-1.6**
TMU	**Temuco**	**7.63**	**42**	*e*P	**Pn**	**07 44 50.1**	**-2.2**
GO09	**Cerro Castillo**	**8.08**	**148**	*e*Pn	**Pn**	**07 44 57.6**	**-0.9**
CANA	**Caviahue**	**9.05**	**45**	*e*P	**Pn**	**07 45 09.8**	**-2.2**
CCHI	**Chillan**	**9.62**	**36**	*e*P	**Pn**	**07 45 17.6**	**-2.0**
CCHI	**Chillan**	**9.62**	**36**	*e*P	**Pn**	**07 45 17.4**	**-2.2**
GO05	**Huala**	**11.06**	**32**	*e*Pn	**Pn**	**07 45 35.4**	**-4.1**
GO05	**Huala**	**11.06**	**32**	*e*P	**Pn**	**07 45 35.3**	**-4.1**
GO05	**Huala**	**11.06**	**32**	*e*P	**Pn**	**07 45 35.1**	**-4.3**
USHA	**Ushuaia**	**12.35**	**150**	Pn	**Pn**	**07 45 53.4**	**-3.4**
	0.6nm,0.3s,baz=336,slow=12,SNR=8.4						
USHA				Sn	**Sn**	**07 48 16.9**	**+3.9**
	0.1nm,0.3s,baz=143,slow=20,SNR=2.0						
USHA				LR	LR	07 50 34.9	
	comp=Z,3μm,18.3s,baz=313,slow=37						
LMEL	**Las Melosas**	**12.77**	**36**	*e*P	**Pn**	**07 46 00.4**	**-2.4**
RFA	**San Rafael**	**12.79**	**44**	*e*P	**Pn**	**07 46 02.4**	**-0.7**
CLCH	**Cerro Calan**	**13.02**	**34**	*e*P	**Pn**	**07 46 02.9**	**-3.4**
PEL	**Peldehue**	**13.19**	**33**	*e*Pn	**Pn**	**07 46 03.8**	**-4.7**
PEL	**Peldehue**	**13.19**	**33**	*e*P	**Pn**	**07 46 04.5**	**-3.9**
PEL	**Peldehue**	**13.19**	**33**	*e*P	**Pn**	**07 46 03.8**	**-4.7**
PEL	**Peldehue**	**13.19**	**33**	*e*P	**Pn**	**07 46 04.6**	**-3.9**
ROC1	**El Roble**	**13.21**	**31**	*e*Pn	**Pn**	**07 46 04.7**	**-4.3**
ROC1	**El Roble**	**13.21**	**31**	*e*P	**Pn**	**07 46 04.5**	**-4.5**
ROCH	**El Roble**	**13.22**	**31**	*e*P	**Pn**	**07 46 04.8**	**-4.3**
AUSP	**Uspallata**	**14.51**	**35**	*e*P	**Pn**	**07 46 24.5**	**-2.3**
RTLS	**Leoncito**	**14.92**	**34**	*e*P	**Pn**	**07 46 28.6**	**-3.7**
RTCV	**Cerro Valdivia**	**15.18**	**37**	*e*P	**Pn**	**07 46 31.6**	**-3.9**
ZON	**Zonda**	**15.40**	**36**	*e*P	**Pn**	**07 46 36.0**	**-2.3**
ACAN	**Cantantal**	**15.44**	**41**	*e*P	**Pn**	**07 46 38.1**	**-0.8**
CFA	**Coronel Fontan**	**15.53**	**37**	*e*P	**Pn**	**07 46 37.1**	**-3.0**
RTLL	**Cerro Villicun**	**15.67**	**36**	*e*P	**Pn**	**07 46 38.2**	**-3.6**
EFI	**East Falkland**	**15.71**	**124**	*e*Pn	**Pn**	**07 46 40.4**	**-1.8**
	443nm,1.9s						
EFI	**East Falkland**	**15.71**	**124**	*e*P	**Pn**	**07 46 40.4**	**-1.8**
EFI				pmax	pmax		
	comp=Z,443nm,1.9s						
GO04	**Tololo Observa**	**15.84**	**27**	*e*Pn	**Pn**	**07 46 40.5**	**-3.8**
	comp=Z,383nm,1.0s						
GO04	**Tololo Observa**	**15.84**	**27**	*e*P	**Pn**	**07 46 40.4**	**-3.8**
GO04	**Tololo Observa**	**15.84**	**27**	*e*P	**Pn**	**07 46 40.3**	**-3.9**
AMOG	**MOGNA**	**16.00**	**35**	*e*P	**Pn**	**07 46 41.7**	**-4.5**
MRA	**San Martin**	**16.04**	**45**	*e*P	**Pn**	**07 46 44.7**	**-2.0**
LCO	**Las Campanas**	**16.95**	**26**	*e*Pn	**Pn**	**07 46 55.5**	**-2.8**
	comp=Z,256nm,1.4s						
LCO	**Las Campanas**	**16.95**	**26**	*e*P	**Pn**	**07 46 56.9**	**-1.3**
LCO	**Las Campanas**	**16.95**	**26**	*c*e*e*P	**Pn**	**07 46 58.2**	**-0.1**
LCO	**Las Campanas**	**16.95**	**26**	*e*P	**Pn**	**07 46 55.4**	**-2.9**
AGUA	**GUANDACOL**	**17.29**	**33**	*e*P	**Pn**	**07 47 01.5**	**-0.9**
APLL	**PUNTA DE LOS L**	**17.32**	**39**	*e*P	**Pn**	**07 46 58.6**	**-4.2**
TCA	**Tanti**	**17.48**	**46**	*e*P	**Pn**	**07 47 02.5**	**-2.2**
ACLC	**CERRO LA CRUZ**	**17.97**	**37**	*e*P	**P**	**07 47 10.8**	**-0.4**
GO03	**Copiap**	**18.41**	**26**	*e*P	**P**	**07 47 14.9**	**-1.0**
	comp=Z,195nm,0.9s						
GO03	**Copiap**	**18.41**	**26**	*e*P	**P**	**07 47 15.4**	**-0.5**
LPA	**La Plata**	**18.91**	**67**	*c*e*e*P	**Pn**	**07 47 27.0**	**+4.9**
LPA				sP	**pwP**	**07 47 39.0**	**+5.3**
LPA				PP	**PnPn**	**07 47 42.0**	**+7.3**
LPA				S	**S**	**07 47 56.0**	**+1.8**
LPA				S(2)		07 51 04.0	
LPA				PS	PcP	07 51 15.0	-31
LPA				SSS	SSS	07 52 28.0	
LPA				PKIKP	**PKiKP**	**07 59 38.0**	**+1.5**
CYA	**Choya**	**19.32**	**38**	*e*P	**P**	**07 47 25.1**	**-0.7**
GO02	**Mina Guanaco**	**20.89**	**25**	*e*P	**P**	**07 47 42.4**	**-0.7**
	comp=Z,251nm,1.0s						
PB14	**IPOC Station P**	**21.16**	**23**	*e*P	**P**	**07 47 45.6**	**-0.5**
PB10	**IPOC Station P**	**22.18**	**21**	*e*P	**P**	**07 47 55.4**	**-1.3**
	comp=Z,294nm,1.2s						
PB10	**IPOC Station P**	**22.18**	**21**	⇓*e*P	**P**	**07 47 56.6**	**-0.1**
SLA	**San Lorenzo**	**22.72**	**34**	*e*P	**P**	**07 48 03.3**	**+0.6**
PB05	**IPOC Station P**	**22.90**	**22**	*e*P	**P**	**07 48 02.1**	**-2.4**
PB06	**IPOC Station P**	**23.21**	**23**	*e*P	**P**	**07 48 08.2**	**+1.1**
AZAP	**Zapla**	**23.34**	**34**	*e*P	**P**	**07 48 08.9**	**-0.2**
PB04	**IPOC Station P**	**23.41**	**21**	*e*P	**P**	**07 48 08.4**	**-1.3**
	comp=Z,174nm,1.1s						
PB04	**IPOC Station P**	**23.41**	**21**	*e*P	**P**	**07 48 09.6**	**-0.1**
LVC	**Limon Verde**	**23.49**	**24**	P	**P**	**07 48 09.5**	**-1.2**
	comp=Z,16nm,0.8s,baz=201,slow=7.7,SNR=15						
LVC				S	**S**	**07 52 23.2**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=293,slow=13,SNR=1.9						
LVC				LR	LR	07 56 01.2	
	comp=Z,1μm,18.0s,baz=224,slow=33						
LVC	**Limon Verde**	**23.49**	**24**	*e*P	**P**	**07 48 09.5**	**-1.2**
LVC				*e*P	**P**	**07 48 10.9**	**+0.2**
LVC				*e*S	**S**	**07 52 23.2**	**+1.0**
LVC	**Limon Verde**	**23.49**	**24**	*e*P	**P**	**07 48 09.9**	**-0.8**
LVC	**Limon Verde**	**23.49**	**24**	*c*e*e*P	**P**	**07 48 11.4**	**+0.7**
LVC				pmax	pmax		
	comp=Z,213nm,1.7s						
LVC	**Limon Verde**	**23.49**	**24**	*e*P	**P**	**07 48 10.1**	**-0.6**
PB03	**IPOC Station P**	**23.79**	**22**	*e*P	**P**	**07 48 13.2**	**0.0**
PB07	**IPOC Station P**	**24.06**	**22**	*e*P	**P**	**07 48 15.7**	**-0.1**
HJA	**Humahuaca**	**24.12**	**32**	*e*P	**P**	**07 48 17.1**	**+0.4**
ALOL	**LOMAS DE OLMED**	**24.15**	**36**	*e*P	**P**	**07 48 16.6**	**0.0**
PB09	**IPOC Station P**	**24.16**	**23**	*e*P	**P**	**07 48 17.4**	**+0.6**
PB02	**IPOC Station P**	**24.44**	**21**	*e*P	**P**	**07 48 19.3**	**0.0**
PB01	**IPOC Station P**	**24.82**	**22**	*e*P	**P**	**07 48 21.3**	**-1.4**
	comp=Z,166nm,1.3s						
YJA	**Yavi**	**25.02**	**31**	*e*P	**P**	**07 48 25.7**	**+0.8**
CPUP	**Villa Florida**	**25.32**	**51**	P	**P**	**07 48 26.5**	**-0.5**
	comp=Z,197nm,1.2s,baz=230,slow=8.3,SNR=55						
CPUP				S	**S**	**07 52 57.3**	**+6.5**
	comp=Z,2.0nm,1.0s,baz=120,slow=20,SNR=1.7						
CPUP				LR	LR	07 58 48.6	
	comp=Z,4μm,18.2s,baz=212,slow=37						
CPUP	**Villa Florida**	**25.32**	**51**	*e*P	**P**	**07 48 26.7**	**-0.4**
	comp=Z,248nm,1.2s						
CPUP				S	**S**	**07 52 57.3**	**+6.5**
PB08	**IPOC Station P**	**25.76**	**22**	*e*P	**P**	**07 48 30.1**	**-1.5**
PB11	**IPOC Station P**	**26.00**	**21**	*e*P	**P**	**07 48 32.5**	**-0.9**
	comp=Z,77nm,1.2s						
PB11	**IPOC Station P**	**26.00**	**21**	*e*P	**P**	**07 48 33.1**	**-0.4**
MNMC	**Minye Minye**	**26.62**	**20**	*e*P	**P**	**07 48 39.0**	**-0.2**
	comp=Z,53nm,1.0s						
MNMCX	**Minye Minye**	**26.62**	**20**	*e*P	**P**	**07 48 39.2**	**+0.1**
PB12	**IPOC Station P**	**26.94**	**19**	*e*P	**P**	**07 48 39.7**	**-2.2**
CNLB	**Canela**	**27.09**	**65**	*e*P	**P**	**07 48 46.9**	**+3.7**
ITAB	**Concordia**	**27.72**	**60**	*e*P	**P**	**07 48 50.6**	**+1.9**
TER01	**Tubaro-SC**	**28.74**	**66**	*e*P	**P**	**07 49 02.1**	**+4.3**
PTGB	**Pitanga**	**29.60**	**57**	*e*P	**P**	**07 49 08.7**	**+3.1**
LPAZ	**La Paz**	**29.72**	**22**	P	**P**	**07 49 06.7**	**-0.5**
	comp=Z,8.6nm,0.9s,baz=185,slow=6.3,SNR=20						
LPAZ	**La Paz**	**29.72**	**22**	*e*P	**P**	**07 49 06.7**	**-0.5**
	comp=Z,81nm,1.8s						
LPAZ	**La Paz**	**29.72**	**22**	*e*P	**P**	**07 49 07.6**	**+0.4**
LPAZ	**La Paz**	**29.72**	**22**	*e*P	**P**	**07 49 06.9**	**-0.3**
RPN	**Rapa Nui**	**29.81**	**296**	LR	LR	07 57 40.2	
	comp=Z,3μm,22.0s,baz=146,slow=30						
TRCB	**Terra Rica**	**30.73**	**54**	*e*P	**P**	**07 49 18.1**	**+2.5**
TIJ01	**Guaruva-PR**	**31.04**	**62**	*e*P	**P**	**07 49 22.3**	**+4.0**
FRTB	**Fartura**	**32.14**	**59**	*e*P	**P**	**07 49 31.9**	**+4.0**
SIV	**San Ignacio**	**32.35**	**34**	P	**P**	**07 49 27.9**	**-1.9**
	comp=Z,20nm,1.0s,baz=232,slow=10,SNR=26						
SIV				LR	LR	08 02 37.7	
	comp=Z,834nm,19.2s,baz=234,slow=36						
NNA	**Nana**	**32.56**	**4**	P	**P**	**07 49 28.9**	**-2.7**
	comp=Z,19nm,0.8s,baz=189,slow=9.1,SNR=9.2						
NNA				LR	LR	07 59 02.9	
	comp=Z,2μm,20.0s,baz=184,slow=30						
NNA	**Nana**	**32.56**	**4**	*e*P	**P**	**07 49 28.9**	**-2.7**
NNA				*e*P	**P**	**07 49 30.2**	**-1.4**
NNA	**Nana**	**32.56**	**4**	*c*e*e*P	**P**	**07 49 31.1**	**-0.5**
NNA				pmax	pmax		
	comp=Z,68nm,1.0s						
SPB	**Sao Paulo**	**33.27**	**61**	*e*P	**P**	**07 49 37.1**	**-0.7**
	comp=Z,82nm,1.5s						
RCLB	**Rio Claro- Sao**	**34.07**	**60**	*e*P	**P**	**07 49 48.2**	**+3.4**
ITRB	**Iturama**	**34.47**	**53**	*e*P	**P**	**07 49 51.0**	**+2.8**
BB19B	**Bebedouro**	**34.48**	**57**	*e*P	**P**	**07 49 51.8**	**+3.4**
SALV	**Santo Antonio**	**34.80**	**42**	*e*P	**P**	**07 49 51.3**	**+0.2**
PMNB	**Patos De Minas**	**37.67**	**57**	*e*P	**P**	**07 50 17.8**	**+2.1**
BDFB	**Brasilia**	**39.04**	**52**	P	**P**	**07 50 28.5**	**+1.2**
	comp=Z,27nm,1.1s,baz=224,slow=7.6,SNR=20						
BDFB				LR	LR	08 07 15.1	
	comp=Z,2μm,19.6s,baz=212,slow=37						
BDFB	**Brasilia**	**39.04**	**52**	*e*P	**P**	**07 50 23.6**	**-3.7**
	comp=Z,45nm,1.2s						
BDFB				*e*P	**P**	**07 50 28.5**	**+1.2**
BDFB	**Brasilia**	**39.04**	**52**	*e*P	**P**	**07 50 23.6**	**-3.7**
BDFB				pmax	pmax		
	comp=Z,45nm,1.2s						
JANB	**Januaria**	**41.65**	**56**	*e*P	**P**	**07 50 51.8**	**+3.0**
VNA3	**Neumayer Olymp**	**42.00**	**153**	P	**P**	**07 50 53.0**	**+2.0**
VNA1	**Neumayer--Stat**	**42.46**	**152**	P	**P**	**07 50 55.8**	**+1.1**
VNA2	**Neumayer--Watz**	**42.74**	**153**	P	**P**	07 50 49.2	-7.9
	baz=274,slow=9.1						
SNAA	**Sanae**	**44.16**	**154**	P	**P**	**07 51 06.8**	**-1.7**
SNAA	**Sanae**	**44.16**	**154**	P	**P**	**07 51 06.5**	**-2.1**
	comp=Z,4.4nm,0.9s,baz=284,slow=6.8,SNR=8.0						
SNAA	**Sanae**	**44.16**	**154**	*e*P	**P**	**07 51 06.8**	**-1.7**
	comp=Z,14nm,1.1s						
SNAA	**Sanae**	**44.16**	**154**	⇑*i*P	**P**	**07 51 07.9**	**-0.7**
OTAV	**Otavalo**	**44.65**	**1**	*e*P	**P**	**07 51 10.5**	**-2.9**
	comp=Z,18nm,1.1s						
OTAV	**Otavalo**	**44.65**	**1**	*c*e*e*P	**P**	**07 51 14.3**	**+0.9**
OTAV				pmax	pmax		
	comp=Z,28nm,1.7s						
OTAV	**Otavalo**	**44.65**	**1**	*e*P	**P**	**07 51 13.6**	**+0.1**
PTLC	**Puerto Leguiza**	**44.74**	**6**	*e*P	**P**	07 51 07.7	-6.0
PTLC	**Puerto Leguiza**	**44.74**	**6**	*e*P	**P**	07 51 07.7	-6.0
CMBC	**Cumbal**	**45.36**	**2**	*e*P	**P**	**07 51 17.7**	**-1.4**
CMBC	**Cumbal**	**45.36**	**2**	*e*P	**P**	**07 51 17.7**	**-1.4**
QSPA	**South Pole Qui**	**45.65**	**180**	P	**P**	**07 51 17.3**	**-3.2**
	comp=Z,2.3nm,0.9s,baz=140,slow=5.6,SNR=6.1						
QSPA	**South Pole Qui**	**45.65**	**180**	*e*P	**P**	**07 51 17.3**	**-3.2**
QSPA				*e*P	**P**	**07 51 18.3**	**-2.3**
GCUF	**Volcan Galeras**	**45.65**	**3**	*e*P	**P**	**07 51 20.2**	**-1.3**
GCUF	**Volcan Galeras**	**45.65**	**3**	*e*P	**P**	**07 51 20.2**	**-1.3**
FLOC	**Florencia**	**46.09**	**5**	*e*P	**P**	**07 51 22.7**	**-1.6**
FLOC	**Florencia**	**46.09**	**5**	*e*P	**P**	**07 51 22.7**	**-1.6**
SOTA	**Rioblanco**	**46.58**	**3**	*e*P	**P**	**07 51 29.4**	**+0.6**
SOTA	**Rioblanco**	**46.58**	**3**	*e*P	**P**	**07 51 29.4**	**+0.6**
PTGA	**Pitinga**	**46.88**	**27**	P	**P**	**07 51 28.6**	**-1.9**
	comp=Z,18nm,1.0s,baz=209,slow=8.4,SNR=16						
PTGA	**Pitinga**	**46.88**	**27**	*e*P	**P**	**07 51 28.3**	**-2.2**
	comp=Z,38nm,1.2s						
PTGA	**Pitinga**	**46.88**	**27**	*e*P	**P**	**07 51 31.4**	**+0.8**
POPC	**Popayan, Colom**	**46.98**	**3**	*e*P	**P**	**07 51 30.2**	**-1.4**
POPC	**Popayan, Colom**	**46.98**	**3**	*e*P	**P**	**07 51 30.2**	**-1.4**
YOTC	**Yotoco, Valle**	**48.43**	**4**	*e*P	**P**	**07 51 38.6**	**-4.1**
YOTC	**Yotoco, Valle**	**48.43**	**4**	*e*P	**P**	**07 51 38.6**	**-4.1**
CHIC	**Chingaza**	**49.25**	**7**	*e*P	**P**	**07 51 47.8**	**-1.5**
CHIC	**Chingaza**	**49.25**	**7**	*e*P	**P**	**07 51 47.8**	**-1.5**
RREF	**El Recreo**	**49.39**	**5**	*e*P	**P**	**07 51 51.1**	**+0.5**
RREF	**El Recreo**	**49.39**	**5**	*e*P	**P**	**07 51 51.1**	**+0.5**
ROSC	**El Rosal**	**49.41**	**6**	LR	LR	08 10 16.2	
	comp=Z,2μm,20.5s,baz=202,slow=33						
ROSC	**El Rosal**	**49.41**	**6**	*e*P	**P**	**07 51 50.1**	**-0.3**
	comp=Z,44nm,1.8s						
RKT	**Rikitea**	**50.02**	**276**	*e*S	**S**	**07 59 09.7**	**+6.5**
	comp=Z,418nm,32.8s						
RKT				*e*LQ	LQ	08 04 01.5	
	comp=Z,1μm,33.0s						
RKT				*e*LR	LR	08 06 03.6	
	comp=Z,984nm,26.0s						
RUSC	**La Rusia**	**50.55**	**8**	*e*P	**P**	**07 51 58.6**	**-0.7**
RUSC	**La Rusia**	**50.55**	**8**	*e*P	**P**	**07 51 58.6**	**-0.7**
HELC	**Santa Helena**	**50.66**	**5**	*e*P	**P**	**07 51 57.0**	**-3.0**
HELC	**Santa Helena**	**50.66**	**5**	*e*P	**P**	**07 51 57.0**	**-3.0**
PTBC	**PUERTO BERRIO,**	**51.08**	**6**	*e*P	**P**	**07 51 59.5**	**-3.2**
PTBC	**PUERTO BERRIO,**	**51.08**	**6**	*e*P	**P**	**07 51 59.5**	**-3.2**
TAMC	**Tame, Arauca**	**51.23**	**9**	*e*P	**P**	**07 52 00.3**	**-3.5**
TAMC	**Tame, Arauca**	**51.23**	**9**	*e*P	**P**	**07 52 00.3**	**-3.5**
BARC	**Barichara**	**51.24**	**8**	*e*P	**P**	**07 51 59.5**	**-4.7**
BARC	**Barichara**	**51.24**	**8**	*e*P	**P**	**07 51 59.5**	**-4.7**
ZARC	**Zaragoza, Cauc**	**51.99**	**5**	*e*P	**P**	**07 52 05.3**	**-4.2**
ZARC	**Zaragoza, Cauc**	**51.99**	**5**	*e*P	**P**	**07 52 05.3**	**-4.2**
VNDA	**Vanda**	**52.58**	**194**	P	**P**	**07 52 10.9**	**-2.3**
	comp=Z,3.3nm,1.0s,baz=130,slow=6.4,SNR=3.7						
VNDA				LR	LR	08 10 15.9	
	comp=Z,425nm,20.1s,baz=130,slow=31						
SDV	**Santo Domingo**	**53.79**	**10**	P	**P**	**07 52 21.6**	**-1.3**
	comp=Z,7.8nm,0.8s,baz=194,slow=8.4,SNR=12						
SDV				LR	LR	08 13 42.2	
	comp=Z,509nm,21.7s,baz=212,slow=34						
SDV	**Santo Domingo**	**53.

CCM					pmax	pmax			
	comp=Z,19nm,0.9s								
CCM	**Cathedral Cave**	**83.00**	**350**		P	**P**	**07 55 23.8**	**-1.0**	
	baz=171								
DBIC	**Dimbokro**	**83.60**	**74**		P	**P**	**07 55 29.1**	**+0.6**	
	comp=Z,4.6nm,0.8s,baz=193,slow=10,SNR=4.5								
DBIC					LR	LR	08 29 54.8		
	comp=Z,360nm,18.6s,baz=200,slow=34								
DBIC	**Dimbokro**	**83.60**	**74**	*e*	P	**P**	**07 55 27.4**	**-1.1**	
	comp=Z,19nm,1.4s								
DBIC	**Dimbokro**	**83.60**	**74**	*e*	P	**P**	**07 55 27.4**	**-1.1**	
DBIC					pmax	pmax			
	comp=Z,19nm,1.4s								
P53A	**Whipple**	**83.73**	**358**		P	**P**	**07 55 26.4**	**-2.1**	
	baz=178								
IKP	**In-Ko-Pah, Jac**	**83.93**	**329**		P	**P**	**07 55 30.0**	**+0.2**	
	baz=154								
X16A	**Lo Mia Camp, P**	**83.95**	**334**	*e*	P	**P**	**07 55 28.7**	**-1.3**	
	comp=Z,6.3nm,1.3s								
BAR	**Barrett**	**84.16**	**329**	*e*	P	**P**	**07 55 31.1**	**+0.1**	
	comp=Z,5.9nm,1.0s								
MONP2	**Monument Peak**	**84.26**	**329**		P	**P**	**07 55 31.8**	**+0.1**	
	baz=154								
O53A	**New Philadelph**	**84.49**	**358**		P	**P**	**07 55 32.1**	**-0.3**	
	baz=178								
T25A	**Trinidad**	**84.52**	**340**		P	**P**	**07 55 32.7**	**-0.2**	
	baz=162								
TPFO	**Pinon Flats**	**84.91**	**329**		P	**P**	**07 55 34.7**	**-0.2**	
	baz=154								
XPFO	**Pion Flat**	**84.92**	**329**	*e*	P	**P**	**07 55 34.2**	**-0.7**	
	comp=Z,14nm,1.4s								
PFO	**Pinyon Flats O**	**84.92**	**329**	*e*	P	**P**	**07 55 33.9**	**-1.0**	
	comp=Z,14nm,1.4s								
PFO	**Pinyon Flats O**	**84.92**	**329**	*e*	P	**P**	**07 55 33.9**	**-1.0**	
PFO					pmax	pmax			
	comp=Z,14nm,1.4s								
PFO	**Pinyon Flats O**	**84.92**	**329**		P	**P**	**07 55 34.8**	**-0.2**	
	baz=154								
BELC	**Belle Mtn. Jos**	**85.10**	**330**		P	**P**	**07 55 36.0**	**+0.1**	
	baz=155								
MURC	**Murrieta**	**85.18**	**329**		P	**P**	**07 55 36.7**	**+0.6**	
	baz=154								
BFSC	**Mount Baldy Ra**	**85.92**	**329**		P	**P**	**07 55 39.8**	**-0.1**	
	baz=154								
TUQ	**Turquoise Moun**	**86.37**	**331**		P	**P**	**07 55 41.6**	**-0.5**	
	baz=155								
GSC	**Goldstone, Bar**	**86.56**	**330**	*e*	P	**P**	**07 55 42.8**	**-0.2**	
	comp=Z,10.0nm,1.4s								
GSC	**Goldstone, Bar**	**86.56**	**330**	*e*	P	**P**	**07 55 42.8**	**-0.2**	
GSC					pmax	pmax			
	comp=Z,10.0nm,1.4s								
GSC	**Goldstone, Bar**	**86.56**	**330**		P	**P**	**07 55 43.1**	**+0.1**	
	baz=154								
EDW2	**Edwards Air Fo**	**86.62**	**329**		P	**P**	**07 55 41.9**	**-1.3**	
	baz=153								
KNB	**Kanab**	**86.77**	**334**	*e*	P	**P**	**07 55 43.1**	**-1.0**	
	comp=Z,23nm,1.7s								
KNB	**Kanab**	**86.77**	**334**	*e*	P	**P**	**07 55 43.1**	**-1.0**	
KNB					pmax	pmax			
	comp=Z,23nm,1.7s								
SHPR	**Sheep Range**	**87.07**	**332**	*e*	P	**P**	**07 55 44.8**	**-0.7**	
	comp=Z,23nm,1.9s								
SZCU	**Shurtz Canyon**	**87.39**	**334**	*e*	P	**P**	**07 55 46.4**	**-0.7**	
	comp=Z,31nm,1.8s								
CCUT	**Cedar City**	**87.43**	**333**	*e*	P	**P**	**07 55 46.6**	**-0.8**	
	comp=Z,19nm,1.8s								
MPMC	**Manual Prospec**	**87.48**	**330**		P	**P**	**07 55 47.7**	**+0.1**	
	baz=154								
FURC	**Furnace Creek,**	**87.63**	**330**		P	**P**	**07 55 48.5**	**+0.5**	
	baz=154								
JFWS	**Jewell Farm**	**87.69**	**352**	*e*	P	**P**	**07 55 47.0**	**-1.1**	
	comp=Z,44nm,1.3s								
JFWS	**Jewell Farm**	**87.69**	**352**		P	**P**	**07 55 47.1**	**-1.0**	
	baz=172								
DAC	**Darwin (Calif)**	**87.72**	**330**	*e*	P	**P**	**07 55 46.7**	**-2.0**	
	comp=Z,20nm,2.0s								
DAC	**Darwin (Calif)**	**87.72**	**330**	*e*	P	**P**	**07 55 46.7**	**-2.0**	
DAC					pmax	pmax			
	comp=Z,20nm,2.0s								
MSU	**Marysvale**	**87.94**	**335**	*e*	P	**P**	**07 55 50.0**	**+0.2**	
MSU	**Marysvale**	**87.94**	**335**	*e*	P	**P**	**07 55 50.0**	**+0.2**	
Q16A	**Castle Valley**	**88.02**	**336**	*e*	P	**P**	**07 55 50.3**	**+0.3**	
	comp=Z,43nm,2.0s								
TMUT	**Trail Mountain**	**88.38**	**336**	*e*	P	**P**	**07 55 50.8**	**-1.1**	
	comp=Z,17nm,1.7s								
PSUT	**Pine Spring**	**88.49**	**333**	*e*	P	**P**	**07 55 52.4**	**+0.1**	
	comp=Z,7.1nm,1.2s								
I39A	**Houston**	**88.76**	**351**	*e*	P	**P**	**07 55 53.3**	**+0.1**	
	comp=Z,23nm,1.1s								
R11A	**Troy Canyon, C**	**88.89**	**332**	*e*	P	**P**	**07 55 54.4**	**+0.2**	
	comp=Z,8.3nm,1.6s								
R11A	**Troy Canyon, C**	**88.89**	**332**		P	**P**	**07 55 54.4**	**+0.2**	
	baz=155								
MPU	**Maple Canyon**	**89.17**	**336**	*e*	P	**P**	**07 55 55.1**	**-0.4**	
	comp=Z,13nm,1.3s								
NLU	**North Lily Min**	**89.24**	**335**	*e*	P	**P**	**07 55 55.4**	**-0.4**	
	comp=Z,12nm,1.3s								
OMMB	**Old Mammoth Mi**	**89.42**	**329**	*e*	P	**P**	**07 55 56.4**	**-0.5**	
	comp=Z,12nm,1.7s								
DUG	**Dugway, Tooele**	**89.68**	**335**	*e*	P	**P**	**07 55 57.5**	**-0.3**	
	comp=Z,9.7nm,1.1s								
DUG	**Dugway, Tooele**	**89.68**	**335**	*e*	P	**P**	**07 55 57.5**	**-0.3**	
DUG					pmax	pmax			
	comp=Z,10.0nm,1.1s								
DUG	**Dugway, Tooele**	**89.68**	**335**		P	**P**	**07 55 57.0**	**-0.8**	
	baz=157								
NV01	**Mina Array Sit**	**89.89**	**330**	*e*	P	**P**	**07 55 58.5**	**-0.4**	
NVAR	**Mina Array Bea**	**89.89**	**330**		P	**P**	**07 55 58.0**	**-1.0**	
	comp=Z,1.0nm,0.8s,baz=153,slow=6.9,SNR=6.3								
TCUT	**Toone Canyon**	**90.12**	**336**	*e*	P	**P**	**07 55 59.4**	**-0.6**	
	comp=Z,28nm,1.6s								
WAKR	**Walker**	**90.37**	**330**	*e*	P	**P**	**07 56 01.9**	**+0.8**	
	comp=Z,30nm,2.0s								
SPUT	**South Promonto**	**90.60**	**336**	*e*	P	**P**	**07 56 01.4**	**-0.7**	
	comp=Z,12nm,1.3s								
DZM	**Mont Dzumac**	**90.72**	**238**	*e*	PS	PS	08 08 16.0	+7.8	
	comp=Z,134nm,27.6s								
DZM	**Mont Dzumac**	**90.72**	**238**	*e*	LR	LR	08 25 01.5		
	comp=Z,641nm,30.3s								
PD31	**Pinedale Array**	**91.13**	**338**	*e*	P	**P**	**07 56 02.9**	**-1.7**	
	comp=Z,17nm,2.0s								
PDAR	**Pinedale Array**	**91.13**	**338**		P	**P**	**07 56 01.4**	**-3.2**	
	comp=Z,0.2nm,0.6s,baz=160,slow=8.6,SNR=3.2								
PDAR					LR	LR	08 32 15.8		
	comp=Z,244nm,18.5s,baz=159,slow=32								
ORV	**Oroville**	**92.05**	**329**	*e*	P	**P**	**07 56 08.6**	**0.0**	
	comp=Z,12nm,1.5s								
ORV	**Oroville**	**92.05**	**329**	*e*	P	**P**	**07 56 08.6**	**0.0**	
ORV					pmax	pmax			
	comp=Z,12nm,1.5s								
TOA0	**Torodi Ar. Sit**	**92.71**	**74**	*e*	P	**P**	**07 56 11.7**	**-0.6**	
TORD	**Torodi Ar. Bea**	**92.71**	**74**		P	**P**	**07 56 10.5**	**-1.8**	
	comp=Z,1.9nm,1.0s,baz=276,slow=4.3,SNR=6.5								
TORD					LR	LR	08 34 17.4		
	comp=Z,293nm,19.4s,baz=305,slow=33								
TOA1	**Torodi Ar. Sit**	**92.71**	**74**	*e*	P	**P**	**07 56 10.5**	**-1.8**	
STKA	**Stephens Creek**	**95.33**	**214**		LR	LR	08 30 51.4		
	comp=Z,717nm,20.2s,baz=138,slow=30								
SCHQ	**Schefferville**	**99.61**	**7**		LR	LR	08 39 32.6		
	comp=Z,111nm,21.1s,baz=239,slow=34								
H11S2	**WAKE ISLAND Hyl**	**119.87**	**267**		T	T	10 12 35.4		
	baz=143								
H11S1	**WAKE ISLAND Hyl**	**119.89**	**267**		T	T	10 12 38.0		
	baz=143								
H11S3	**WAKE ISLAND Hyl**	**119.89**	**267**		T	T	10 12 36.8		
	baz=143								
H11N3	**WAKE ISLAND Hyl**	**120.53**	**268**		T	T	10 13 25.2		
	baz=130,slow=76,SNR=9.1								
H11N1	**WAKE ISLAND Hyl**	**120.54**	**268**		T	T	10 13 24.6		
	baz=130,slow=76,SNR=15								
H11N2	**WAKE ISLAND Hyl**	**120.54**	**268**		T	T	10 13 26.3		
	baz=130,slow=76,SNR=8.6								
ILAR	**Eielson Array**	**121.08**	**332**		PKP	**PKPdf**	**08 01 49.0**	**-2.4**	
	comp=Z,0.6nm,0.9s,baz=141,slow=1.6,SNR=5.2								
GEC2	**GERESS Array S**	**123.28**	**52**	*e*	PKPdf	**PKPdf**	**08 01 52.9**	**-3.3**	
GEC2	**GERESS Array S**	**123.28**	**52**	*e*	PKIKP	**PKPdf**	**08 01 52.9**	**-3.3**	
GERES	**GERESS Array B**	**123.28**	**52**		PKP	**PKPdf**	**08 01 52.9**	**-3.3**	
	comp=Z,0.5nm,0.5s,baz=298,slow=2.1,SNR=5.1								
CLL	**Collm**	**124.16**	**49**	*e*	PS	PS	08 13 48.0	+6.5	
CLL				*e*	(SS)		08 21 12.0		
CLL				*e*	SSS	SSS	08 25 12.0		
CLL					LmH		08 50 00.0		
	comp=N,200nm,21.7s								
CLL					LmH		08 50 00.0		
	comp=E,400nm,21.3s								
CLL					LmV		08 53 00.0		
	comp=Z,400nm,21.3s								

KIEV	**Kiev**	**133.08**	**56**	*e*	PKIKP	**PKPdf**	**08 02 14.0**	**-0.6**	
AKASG	**Malin Array Be**	**133.09**	**56**		PKP	**PKPdf**	**08 02 11.6**	**-3.1**	
	comp=Z,0.2nm,0.2s,baz=258,slow=3.4,SNR=2.7								
OBN	**Obninsk**	**138.66**	**52**	*i*	PKIKP	**PKiKP**	**08 02 28.0**	**+1.0**	
OBN				*e*			08 05 14.5		
OBN					pmax	pmax			
	comp=Z,4.0nm,0.5s								
OBN					MLR	MLR			
	comp=Z,385nm,21.0s								
KIV	**Kislovodsk**	**139.12**	**70**	*i*	PKIKP	**PKPdf**	**08 02 27.1**	**+0.9**	
KIV					pmax	pmax			
	comp=Z,7.0nm,1.0s								
KIV					MLR	MLR			
	comp=Z,148nm,24.0s								
BILL	**Bilibino**	**139.48**	**328**	*e*	PKIKP	**PKPdf**	**08 02 26.9**	**+0.9**	
BILL				*e*			08 05 21.5		
BILL					pmax	pmax			
	comp=Z,3.0nm,1.3s								
BILL					MLR	MLR			
	comp=Z,607nm,21.0s								
KLMR	**Klimovskoe**	**141.07**	**43**	*e*	PKPdf	PKiKP	08 02 40.9	+9.1	
KLMR					AMP		08 02 43.6		
	comp=Z,19nm,1.5s								
PRGR	**Permogore**	**144.03**	**42**	*e*	PKIKP	PKPab	08 02 30.3	-1.5	
PRGR					pmax	pmax			
	comp=Z,39nm,1.5s								
SEY	**Seymchan**	**145.65**	**321**		PKPbc	**PKPdf**	**08 02 35.3**	**-1.8**	
	comp=Z,12nm,1.0s,baz=102,slow=3.3,SNR=21								
HYB	**Hyderabad**	**147.05**	**138**	*i*	PKP	**PKiKP**	**08 02 45.0**	**-0.5**	
GEYT	**Alibeck**	**147.48**	**87**		PKPbc	**PKPdf**	**08 02 41.5**	**+0.5**	
	comp=Z,2.1nm,0.4s,baz=280,slow=8.4,SNR=5.3								
TIXI	**Tiksi**	**149.71**	**343**		PKPbc	**PKPbc**	**08 02 46.0**	**-2.3**	
	comp=Z,3.5nm,1.0s,baz=51,slow=3.8,SNR=7.3								
YSS	**Yuzh-Sakhalins**	**150.94**	**290**	*e*	PKIKP	**PKPdf**	**08 02 48.8**	**+2.6**	
YSS				*e*			08 02 59.3		
YSS					pmax	pmax			
	comp=Z,10.0nm,1.2s								
ARU	**Arti**	**151.09**	**51**	*e*	pPKPdf	**PKPbc**	**08 02 48.9**	**-3.1**	
ARU	**Arti**	**151.09**	**51**	*i*	PKIKP	**PKPbc**	**08 02 52.0**	**0.0**	
ARU							08 06 31.8		
CMAR	**Chiang Mai Arr**	**153.88**	**176**		PKP	**PKPdf**	**08 02 52.2**	**+0.8**	
	comp=Z,1.7nm,0.4s,baz=103,slow=4.0,SNR=4.8								
CMAR	**Chiang Mai Arr**	**153.88**	**176**		PKIKP	**PKPdf**	**08 02 52.3**	**+0.8**	
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.3s								
KMI	**Kunming**	**160.51**	**185**		PKP	**PKPdf**	**08 02 59.4**	**-0.6**	
KMI					AMB	AMB			
	comp=Z,150nm,4.6s								
NVS	**Novosibirsk**	**164.72**	**42**	*e*	PKIKP	**PKPdf**	**08 03 03.1**	**+0.3**	
ZAA1	**Zalesovo Array**	**165.99**	**42**	*e*	PKPdf	**PKPdf**	**08 03 01.8**	**-2.1**	
ZAA1				*e*	PKPab	**PKPab**	**08 04 04.7**	**+0.3**	
ZALV	**Zalesovo Beam**	**165.99**	**42**		PKP	**PKPdf**	**08 03 01.8**	**-2.1**	
	comp=Z,0.7nm,0.3s,baz=54,slow=2.5,SNR=2.6								
ZALV					PKPab	**PKPab**	**08 04 04.7**	**+0.3**	
	comp=Z,0.7nm,0.3s,baz=305,slow=5.1,SNR=2.1								
ZALV	**Zalesovo Beam**	**165.99**	**42**	*e*	PKPdf	**PKPdf**	**08 03 03.8**	**-0.2**	
ZALV					PKPab	**PKPab**	**08 04 04.7**	**+0.3**	
ZALV	**Zalesovo Beam**	**165.99**	**42**		PKIKP	**PKPdf**	**08 03 01.8**	**-2.1**	
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.3s								
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.3s								
CD2	**Chengdu**	**166.15**	**190**		PKP	**PKPdf**	**08 03 04.8**	**-0.1**	
MK32	**Makanchi Array**	**166.83**	**74**	*e*	PKPab	**PKPab**	**08 04 06.5**	**-2.0**	
MKAR	**Makanchi Array**	**166.83**	**74**		PKPab	**PKPab**	**08 04 06.5**	**-2.0**	
	comp=Z,4.0nm,1.0s,baz=268,slow=4.7,SNR=7.4								
WMQ	**Urumqi**	**170.51**	**90**	*e*	PKP	**PKPdf**	**08 03 08.1**	**+0.7**	
WMQ					AMB	AMB			
	comp=Z,690nm,5.5s								
WMQ					LR	LR			
	comp=Z,280nm,18.7s								
WMQ					LR	LR			
	comp=Z,330nm,18.7s								
WMQ					LR	LR			
	comp=Z,350nm,21.7s								
LZH	**Lanzhou**	**171.20**	**196**	*e*	PKP	**PKPdf**	**08 03 06.5**	**-1.7**	
LZH					pPKP	pPKPdf	08 03 15.3	-3.2	
LZH					sPKP		08 03 18.1		
LZH				*e*	PP	**PP**	**08 08 20.3**	**+2.1**	
LZH					SKKS		08 15 03.0		
LZH					AMB	AMB			
	comp=Z,350nm,9.3s								
HHC	**Hu-ho-hao-te**	**171.28**	**248**	*e*	PKP	**PKPdf**	**08 03 06.0**	**-2.0**	
GTA	**Gaotai**	**174.76**	**171**		PKP	**PKPdf**	**08 03 08.3**	**-1.2**	
GTA					pPKP	pPKPdf	08 03 18.8	-0.9	
GTA					sPKP		08 03 22.5		
GTA					LR	LR			
	comp=Z,180nm,19.2s								
GTA					LR	LR			
	comp=Z,140nm,19.6s								
GTA					LR	LR			
	comp=Z,270nm,20.6s								

IDC ***23*** *08:08:34.6±2.0, 14.°17N×92.°66W, h0km, mb3.7/3, mb1 3.9/6, mb1mx3.6/34, mbtmp3.5/6, ML3.0/3, Error ellipse: s-maj=36.5km s-min=16.2km az=7.0*
MEX ***23*** *08:08:38.0±0.7, 14.°06N×92.°73W, h18km±921km, MD3.8*
ISC 23 08:08:39.7±1.4, 14.°2N±0.°1×92.°68W±0.°08, h35km, n10, σ1§33/13, mb3.7/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
THIG		**0.79**	**30**	*e*P		**Pn**	**08 08 53.3**	**-1.1**
THIG				*i* S		**Sn**	**08 09 03.8**	**-1.2**
PCIG		**1.56**	**341**	*e*P		**Pn**	**08 09 03.4**	**-1.6**
PCIG				*i* S		**Sn**	**08 09 23.6**	**-0.4**
CCIG	**Comitan**	**2.11**	**14**	*e*P		**Pn**	**08 09 12.5**	**-0.3**
CCIG				*i* S		**Sn**	**08 09 39.3**	**+1.4**
APG	**El Apazote**	**2.28**	**70**	Pn		**Pn**	**08 09 13.7**	**-1.4**
	2.8nm,0.3s,baz=244,slow=12,SNR=46							
APG				Lg		Lg	08 09 47.8	
	8.4nm,0.3s,baz=102,slow=14,SNR=4.1							
CMIG	**Matias Romero**	**3.55**	**324**	Pn		**Pn**	**08 09 30.6**	**-1.9**
	0.7nm,0.3s,baz=142,slow=12,SNR=15							
CMIG				Lg		Lg	08 10 29.1	
	4.1nm,0.3s,baz=86,slow=11,SNR=4.8							
TXAR	**Lajitas Array**	**18.15**	**328**	P		**P**	**08 12 50.7**	**+1.4**
	0.0nm,0.3s,baz=134,slow=11,SNR=4.7							
NVAR	**Mina Array Bea**	**33.09**	**322**	P		**P**	**08 15 13.6**	**+1.1**
	0.4nm,0.5s,baz=139,slow=8.4,SNR=3.4							
YKA	**Yellowknife Ar**	**50.66**	**347**	P		**P**	**08 17 34.3**	**-1.0**
	1.7nm,0.7s,baz=150,slow=7.4,SNR=30							
ILAR	**Eielson Array**	**62.38**	**337**	P		**P**	**08 18 59.5**	**+0.9**
	0.5nm,0.8s,baz=134,slow=5.2,SNR=4.1							
CMAR	**Chiang Mai Arr**	**145.56**	**340**	PKPbc		**PKPdf**	**08 28 15.4**	**+0.2**
	0.8nm,0.4s,baz=335,slow=4.0,SNR=5.8							

IDC ***23*** *08:22:55.6±0.4, 3.°02S×130.°15E, h0km, mb4.7/27, mb1 4.7/32, mb1mx4.7/45, mbtmp4.7/32, ML4.5/4, MS4.0/8, Ms1 4.0/8, ms1mx3.6/43, Error ellipse: s-maj=16.2km s-min=10.3km az=77.0*
NEIC ***23*** *08:22:57.1±1.9, 3.°02S×130.°16E, h10km±12km, mb5.1/37, Error ellipse: s-maj=5.8km s-min=3.9km az=53.0*
ISCJB ***23*** *08:22:59.0±0.5, 3.°00S±0.°02×130.°24E±0.°02, h36km±4km, mb4.9/105, MS4.5/14, Error ellipse: s-maj=4.0km s-min=3.7km az=8.6*
GCMT ***23*** *08:22:58.1±0.4, 2.°71S±0.°02×130.°17E±0.°03, h31km±1km, MW5.0/61, Moment Tensor Solution. s19,c23; s61,c83; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.92±.37; $M_{\theta\theta}$-2.71±.21; $M_{\phi\phi}$-0.21±.21; $M_{r\theta}$-1.48±.21; $M_{\phi\theta}$1.50±.10; $M_{\theta f}$1.40±.27; Best double couple: M_o3.77500×10^{16} NP1:γ_{θ}306.00000°, δ62.00000°, λ102.00000°. NP2: ϕ_s103.00000°, δ30.00000°, λ70.00000°. Principal axes: T 3.5870, Plg71.0000°, Azm242.0000°; N 0.3750, Plg10.0000°, Azm120.0000°; P -3.9640, Plg16.0000°, Azm27.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
MOS ***23*** *08:22:58.6±1.1, 3.°00S×130.°16E, h33km, mb5.1/53, MS4.3/5 Error ellipse: s-maj=10.1km s-min=5.5km az=116.2*
BJI ***23*** *08:22:58.3, 2.°95S×130.°24E, h30km, mb5.0/50, mB5.2/34, Ms4.7/17, Ms7 4.5/17*
DJA ***23*** *08:23:00.6±1.0, 3.°S±3.°×13.°0E±.°, h27km±10km, M4.9/20, mb5.1/20, mB5.3/11, MLv5.0/9, Mw(mB)4.8/11*
ISC 23 08:23:01.1±0.4, 3.°03S±0.°04×130.°21E±0.°04, h38km±1km, n282, σ1§51/319, mb5.0/114, MS4.5/14, 13C-4D, Seram

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.52**	**192**	P		**Pn**	**08 23 27.2**	**+1.5**
FAKI	**Fak Fak**	**2.04**	**87**	*e*Pn		**Pn**	**08 23 32.4**	**-0.6**
FAKI	**Fak Fak**	**2.04**	**87**	P		**Pn**	**08 23 32.3**	**-0.6**
SIJI	**Sorong**	**2.39**	**26**	Pn		**Pn**	**08 23 35.9**	**-1.9**
	21nm,0.3s,baz=283,slow=0.8,SNR=118							
SIJI					Sn	**Sn**	**08 24 03.8**	**-2.0**
	93nm,0.3s,baz=225,slow=19,SNR=19							
SWI	**Sorong**	**2.39**	**26**	P		**Pn**	**08 23 35.7**	**-2.1**
NLAI	**Namlea**	**3.11**	**266**	P		**Pn**	**08 23 48.2**	**+0.5**
RKPI	**Ransiki, Papua**	**4.24**	**69**	P		**Pn**	**08 24 02.9**	**-0.3**
RKPI				S		**Sn**	**08 24 52.1**	**+0.6**
SANI	**Sanana**	**4.33**	**283**	P		**Pn**	**08 24 01.2**	**-3.2**
TNTI	**Ternate**	**4.73**	**323**	*e*Pn		**Pn**	**08 24 09.1**	**-0.8**
SAUI	**Saumlaki**	**5.04**	**168**	*e*Pn		**Pn**	**08 24 15.7**	**+1.5**
BAKI	**Biak**	**6.17**	**73**	P		**Pn**	**08 24 29.5**	**-0.2**
KDI	**Kendari**	**7.63**	**263**	P		**Pn**	**08 24 50.0**	**+0.1**
LUWI	**Luwuk**	**7.69**	**285**	*e*Pn		**Pn**	**08 24 48.8**	**-1.9**
BBSI	**Bau Bau**	**8.00**	**252**	P		**Pn**	**08 24 57.8**	**+2.9**
SOEI	**Soe**	**8.92**	**221**	*e*Pn		**Pn**	**08 25 11.8**	**+4.2**
SOEI	**Soe**	**8.92**	**221**	P		**Pn**	**08 25 11.2**	**+3.6**
BATI	**Baumata**	**9.65**	**222**	Pn		**Pn**	**08 25 20.4**	**+2.8**
	5.8nm,0.3s,baz=64,slow=3.2,SNR=6.2							
BATI					Sn	**Sn**	**08 27 09.8**	**+5.0**
	0.9nm,0.3s,baz=66,slow=18,SNR=1.4							
BATI					LR	LR	08 29 24.6	
	comp=Z,2μm,18.8s,baz=44,slow=40							
MTN	**Manton Dam**	**9.79**	**175**	*e*Pn		**Pn**	**08 25 20.1**	**+0.6**
KDU	**Kakadu**	**9.85**	**167**	P		**Pn**	**08 25 17.1**	**-3.2**
	baz=9.9,SNR=10.0							
BNSI	**Bone**	**10.18**	**262**	P		**Pn**	**08 25 27.3**	**+2.6**
	110nm,0.7s							
EDFI	**Ende, Flores**	**10.20**	**236**	P		**Pn**	**08 25 28.3**	**+3.1**
BKSI	**Bulukumba**	**10.32**	**257**	P		**Pn**	**08 25 28.2**	**+1.5**
	67nm,1.1s,984nm							
TTSI	**Tana Toraja**	**10.38**	**270**	P		**Pn**	**08 25 29.1**	**+1.6**
	43nm,0.8s							
SPSI	**Sidrap Palu**	**10.46**	**265**	P		**Pn**	**08 25 29.0**	**+0.3**
JAY	**Jayapura**	**10.49**	**87**	Pn		**Pn**	**08 25 28.4**	**-0.7**
	1.6nm,0.3s,baz=216,slow=17,SNR=2.7							
PCI	**Palu**	**10.58**	**281**	P		**Pn**	**08 25 31.0**	**+0.7**
KNRA	**Kununurra**	**12.65**	**186**	P		**Pn**	**08 25 56.8**	**-1.8**
	baz=13,SNR=5.8							
PLAI	**Plampang**	**13.64**	**244**	P		**Pn**	**08 26 14.2**	**+2.1**
MTKI	**Muara Teweh, K**	**15.45**	**277**	P		**P**	**08 26 41.5**	**+1.0**
FITZ	**Fitzroy Crossi**	**15.63**	**196**	Pn		**Pn**	**08 26 35.6**	**-3.1**
	4.7nm,0.3s,baz=21,slow=9.1,SNR=26							
FITZ					Sn	**Sn**	**08 29 26.9**	**-4.1**
	0.7nm,0.3s,baz=131,slow=20,SNR=2.6							
FITZ					LR	LR	08 33 38.5	
	comp=Z,508nm,20.6s,baz=22,slow=41							
FITZ	**Fitzroy Crossi**	**15.63**	**196**	P		**Pn**	**08 26 39.5**	**+0.8**
	baz=16,SNR=24							
FITZ	**Fitzroy Crossi**	**15.63**	**196**	*e*Pn		**Pn**	**08 26 38.1**	**-0.6**
	70nm,1.3s							
FITZ				*e*Sn		**Sn**	**08 29 26.9**	**-4.1**
KKM	**Kota Kinabalu**	**16.63**	**303**	*e*Pn		**Pn**	**08 26 47.9**	**-3.7**
	46nm,1.0s							
COEN	**Coen**	**16.79**	**131**	P		**Pn**	**08 26 53.9**	**+0.3**
	baz=17,SNR=5.7							
COEN	**Coen**	**16.79**	**131**	*e*Pn		**Pn**	**08 26 52.6**	**-0.9**
	98nm,0.8s							
JAGI	**Jajag, Banyuwa**	**16.86**	**251**	*e*Pn		**Pn**	**08 26 52.5**	**-2.0**
	71nm,1.0s							
WRAB	**Tennant Creek**	**17.28**	**167**	*e*Pn		**Pn**	**08 26 57.4**	**-2.2**
	45nm,1.0s							
WRAB	**Tennant Creek**	**17.28**	**167**	*d*P		**Pn**	**08 26 59.6**	**-0.1**
WRAB					pmax	pmax		
	comp=Z,18nm,1.0s							
WR1	**Warramunga Arr**	**17.29**	**167**	*e*Pn		**Pn**	**08 26 57.2**	**-2.5**
	comp=Z,49nm,1.0s							
WR1				*e*Sn		Sn

STKA **Stephens Creek** 30.63 161 P **P** 08 29 12.0 +0.1
comp=N,2.8nm,0.4s,baz=338,slow=7.6,SNR=11
STKA **Stephens Creek** 30.63 161 P **P** 08 29 12.2 +0.3
baz=31,SNR=8.0
STKA **Stephens Creek** 30.63 161 *e*P **P** 08 29 12.2 +0.3
comp=N,2.0nm,0.9s
KULM **Kulim** 30.66 286 *e*P **P** 08 29 11.6 -0.8
comp=N,26nm,0.9s
KULM **Kulim** 30.66 286 P **P** 08 29 12.7 +0.2
KLBR **Kellerberrin** 30.74 201 P **P** 08 29 11.7 -1.2
baz=31,SNR=13
HTT **Hallett** 31.32 166 P **P** 08 29 18.7 +0.7
baz=32,SNR=3.7
PSI **Prapat** 31.81 280 *e*P **P** 08 29 21.7 -1.0
comp=N,46nm,0.8s
PSI **Prapat** 31.81 280 *e*P **P** 08 29 21.7 -1.0
PSI pmax pmax
comp=Z,46nm,0.8s
CMSA **Cobar Meteorol** 31.89 154 P **P** 08 29 23.6 +0.6
baz=32,SNR=13
NWAO **Narrogin (SRO)** 32.13 201 P **P** 08 29 24.4 -0.7
comp=Z,12nm,0.7s,baz=258,slow=7.9,SNR=6.7
NWAO **Narrogin (SRO)** 32.13 201 P **P** 08 29 24.9 -0.2
baz=32,SNR=5.0
TRTT **Trang** 32.30 290 P **P** 08 29 27.5 +0.6
comp=Z,18nm,1.1s
SKNT **Sakolnakorn** 32.65 308 P **P** 08 29 30.0 +0.2
comp=Z,11nm,0.8s,comp=Z,971nm
SRAK **Srakaew** 32.66 302 P **P** 08 29 25.5 -4.5
KRAB **Krabi** 32.89 290 P **P** 08 29 32.6 +0.6
comp=Z,42nm,0.7s
GSI **Gunungsitoli** 32.91 277 *e*P **P** 08 29 30.4 -1.8
comp=Z,39nm,0.7s
CHAI **Chaiyaphum** 33.66 305 P **P** 08 29 38.7 0.0
comp=Z,41nm,0.8s,comp=Z,294nm
PHET **Kaeng Krachan** 34.25 298 P **P** 08 29 44.6 +0.8
comp=Z,8.5nm,1.0s
PBKT **Sadao Pong** 34.84 305 P **P** 08 29 49.1 +0.2
comp=Z,20nm,1.1s,comp=Z,1µm
ARPS **Mount Arapiles** 35.24 164 P **P** 08 29 53.8 +1.7
baz=35,SNR=8.3
SRDT **SRDT** 35.32 300 P **P** 08 29 54.7 +1.6
UTHA **Uthaitani** 35.61 302 P **P** 08 29 55.9 +0.4
comp=Z,20nm,0.8s,comp=Z,136nm
UTTA **Uttaradit** 35.79 306 P **P** 08 29 57.5 +0.4
comp=Z,21nm,0.8s,comp=Z,158nm
SUKH **Sukhothai** 36.41 305 P **P** 08 30 03.1 +0.8
comp=Z,17nm,0.9s
UMPA **Umpang Tak** 36.41 303 P **P** 08 30 02.7 +0.3
comp=Z,9.6nm,1.0s,comp=Z,1µm
NJ2 **Nanjing** 36.52 344 *e*P **P** 08 30 02.8 -0.2
NJ2 pmax pmax
comp=Z,12nm,0.5s
CAN **Canberra** 36.55 154 P **P** 08 30 05.4 +2.0
baz=37
CM31 **Chiang Mai Arr** 37.47 306 *e*P **P** 08 30 12.2 +0.8
CM31 *e*PcP **PcP** 08 32 31.2 +1.7
CM31 **Chiang Mai Arr** 37.47 306 P **P** 08 30 11.8 +0.4
SNR=10
CMAR **Chiang Mai Arr** 37.47 306 P **P** 08 30 12.1 +0.8
comp=Z,21nm,0.9s,baz=137,slow=7.3,SNR=64
CMAR PcP **PcP** 08 32 31.2 +1.7
comp=Z,1.5nm,0.5s,baz=163,slow=2.2,SNR=5.3
CMMT **Chiang Mai** 37.65 306 P **P** 08 30 13.3 +0.4
comp=Z,78nm,0.9s,comp=Z,830nm
CHTO **Chiang Mai** 37.66 306 *e*P **P** 08 30 13.5 +0.6
comp=Z,59nm,0.8s
CHTO **Chiang Mai** 37.66 306 *e*P **P** 08 30 13.5 +0.6
CHTO pmax pmax
comp=Z,59nm,0.8s
CHTO **Chiang Mai** 37.66 306 P **P** 08 30 13.8 +0.8
SNR=19
CHTO P **P** 08 30 13.8 +0.8
SNR=19
CHTO **Chiang Mai** 37.66 306 P **P** 08 30 13.4 +0.4
comp=Z,348nm,1.0s,comp=Z,3µm
KMI **Kunming** 38.65 318 P **P** 08 30 22.5 +1.0
KMI pmax pmax
comp=Z,40nm,1.0s
KMI pmax pmax
comp=Z,110nm,4.8s
MJAR **Matsushiro Arr** 40.07 10 P **P** 08 30 31.5 -1.4
comp=Z,2.7nm,0.8s,baz=189,slow=10,SNR=5.7
MAJO **Matsushiro** 40.07 10 *e*P **P** 08 30 31.5 -1.4
MAJO **Matsushiro** 40.07 10 *i*P **P** 08 30 31.3 -1.6
MAJO pmax pmax
comp=Z,6.0nm,0.9s
KS15 **Wonju Array Si** 40.32 357 *e*P **P** 08 30 34.6 -0.3
KS15 *e*PcP **PcP** 08 32 39.2 +1.1
KSAR **Wonju Array Be** 40.32 357 P **P** 08 30 34.6 -0.3
KSAR PcP **PcP** 08 32 39.2 +1.1
KSAR **Wonju Array Be** 40.32 357 P **P** 08 30 34.7 -0.3
KSAR 08 32 39.2
KSRS **Korea Array** 40.33 357 P **P** 08 30 34.6 -0.4
comp=Z,2.6nm,0.8s,baz=176,slow=9.9,SNR=11
KSRS PcP **PcP** 08 32 39.2 +1.1
comp=Z,0.7nm,0.6s,baz=158,slow=1.3,SNR=5.0
KSRS LR LR 08 47 54.7
comp=Z,74nm,19.0s,baz=160,slow=37
XAN **Xi'an** 41.98 333 P **P** 08 30 47.5 -1.2
XAN pP pP 08 30 54.9 -4.4
XAN pmax pmax
comp=Z,19nm,0.9s
XAN **Xi'an** 41.98 333 *e*P **P** 08 30 46.8 -1.9
comp=Z,60nm,0.8s
XAN **Xi'an** 41.98 333 *e*P **P** 08 30 46.8 -1.9
XAN pmax pmax
comp=Z,60nm,0.8s
CD2 **Chengdu** 42.13 325 *e*P **P** 08 30 50.8 +0.8
CD2 pmax pmax
comp=Z,10.0nm,0.5s
BJI **Beijing** 44.75 345 P **P** 08 31 10.1 -0.8
BJI pmax pmax
comp=Z,14nm,1.0s
MSHR **Mys Shultsa** 45.41 1 *i*P **P** 08 31 15.2 -0.9
LZH **Lanzhou** 46.06 330 *e*P **P** 08 31 21.6 0.0
LZH pP pP 08 31 31.3 -1.2
LZH sP sP 08 31 35.1 -1.4
LZH *e*PP **PP** 08 33 14.3 +4.2
LZH *e*S **S** 08 38 04.4 -0.3
LZH pmax pmax
comp=Z,60nm,1.0s
LZH pmax pmax
comp=Z,270nm,6.4s
LZH LR LR
comp=Z,440nm,14.2s
LZH LR LR
comp=Z,580nm,14.3s
LZH LR LR
comp=Z,790nm,17.2s
SHL **Shillong** 46.76 310 *e*P **P** 08 31 25.0 -2.3
HHC **Hu-ho-hao-te** 46.88 341 *e*P **P** 08 31 27.3 -0.5
HHC pP pP 08 31 34.6 -4.2
HHC sP sP 08 31 44.5 +1.8
HHC S **S** 08 38 12.4 -3.8
HHC pmax pmax
comp=Z,20nm,1.0s
HHC pmax pmax
comp=Z,160nm,5.2s
HHC LR LR
comp=Z,270nm,13.6s
HHC LR LR
comp=Z,230nm,14.0s
HHC LR LR
comp=Z,530nm,13.7s
USRK **Ussuriysk Ar.** 47.04 2 P **P** 08 31 28.9 0.0
comp=Z,5.8nm,0.9s,baz=188,slow=7.2,SNR=11
MDJ **Mudanjiang** 47.44 359 P **P** 08 31 34.3 +2.3
MDJ pmax pmax
comp=Z,9.0nm,1.0s
MDJ pmax pmax
comp=Z,220nm,6.0s
LSA **Lhasa** 49.55 314 *e*P **P** 08 31 48.6 -0.5
comp=Z,13nm,1.0s
LSA **Lhasa** 49.55 314 *e*P **P** 08 31 48.6 -0.5
LSA pmax pmax
comp=Z,13nm,1.0s
GTA **Gaotai** 50.65 330 ⇑P **P** 08 31 56.5 -0.4
GTA PcP **PcP** 08 33 15.5 +1.5
GTA S **S** 08 39 06.8 -2.6
GTA sS sS 08 39 26.4 +0.1
GTA pmax pmax
comp=Z,21nm,1.1s
GTA pmax pmax
comp=Z,88nm,6.3s
GTA LR LR
comp=Z,140nm,20.6s
GTA LR LR
comp=Z,130nm,20.3s
YSS **Yuzh-Sakhalins** 50.98 11 *e*P **P** 08 32 02.4 +3.3
YSS *e* 08 32 13.5
YSS *e* 08 32 20.1
YSS MLR MLR
comp=Z,400nm,15.0s
YSS MLR MLR
comp=N,300nm,18.0s
KLR **Kul'dur** 52.06 1 P **P** 08 32 07.2 0.0
comp=N,4.1nm,1.0s,baz=192,slow=5.4,SNR=11
KLR **Kul'dur** 52.06 1 *i*P **P** 08 32 06.1 -1.0
JIRN **Jiri** 52.22 309 *e*P **P** 08 32 08.2 -0.9
comp=N,46nm,1.0s
GUN **Gumba** 52.58 309 *e*P **P** 08 32 11.4 -0.4
comp=N,42nm,0.8s
PKI **Pulchoki** 52.78 308 *e*P **P** 08 32 12.2 -1.1
comp=N,14nm,0.8s
PKIN **Pulchoki** 52.80 308 *e*P **P** 08 32 11.8 -1.5
comp=N,7.8nm,0.6s
KKN **Kakani** 52.99 308 *e*P **P** 08 32 14.2 -0.4
comp=N,32nm,0.8s
DMN **Daman** 53.04 308 *e*P **P** 08 32 14.7 -0.4
comp=N,46nm,0.9s
KOLN **Koldanda** 54.30 308 *e*P **P** 08 32 23.7 -0.6
comp=N,108nm,0.9s
DANN **Dangsing** 54.44 308 *e*P **P** 08 32 24.6 -0.7
comp=N,76nm,0.8s
ULN **Ulaanbaatar** 54.59 341 *e*P **P** 08 32 26.0 +0.1
comp=N,23nm,1.0s
ULN **Ulaanbaatar** 54.59 341 *ce*P **P** 08 32 26.1 +0.1
ULN pmax pmax
comp=Z,24nm,1.0s
ULN **Ulaanbaatar** 54.59 341 P **P** 08 32 26.0 +0.1
SNR=12
ULN P **P** 08 32 26.0 +0.1
SNR=12
SONA0 **Songino Array** 54.78 341 *e*P **P** 08 32 27.4 +0.1
SONM **Songino Array** 54.78 341 P **P** 08 32 27.4 +0.1
comp=Z,9.5nm,0.9s,baz=148,slow=8.0,SNR=45
HYB **Hyderabad** 54.84 294 *i*P **P** 08 32 27.0 -1.1
PYUN **Piuthan** 54.93 308 *e*P **P** 08 32 28.4 -0.4
comp=Z,100nm,0.9s
URZ **Urewera** 55.28 136 LR LR 08 58 28.8
comp=Z,110nm,18.1s,baz=316,slow=39
ZEA **Zeya** 56.62 358 *e*P **P** 08 32 39.0 -1.1
ZEA pmax pmax
comp=Z,28nm,1.2s
NKL **Nikolayevsk** 56.66 8 *e*P **P** 08 32 40.3 -0.1
ZAK **Zakamensk** 58.02 340 *e*P **P** 08 32 49.9 -0.3
ZAK pmax pmax
comp=Z,5.0nm,1.1s
POO **Poona** 59.45 293 *ex* P **P** 08 32 58.0 -2.7
MOY **Mondy** 59.88 339 *e*P **P** 08 33 03.4 +0.2
MOY pmax pmax
comp=Z,27nm,1.9s
WMQ **Urumqi** 60.23 326 P **P** 08 33 05.8 +0.1
WMQ pP pP 08 33 11.8 -5.0
WMQ sP sP 08 33 21.5 +0.9
WMQ pmax pmax
comp=Z,27nm,1.3s
WMQ pmax pmax
comp=Z,400nm,6.1s
WMQ LR LR
comp=Z,620nm,24.9s
WMQ LR LR
comp=Z,380nm,23.5s
WMQ LR LR
comp=Z,220nm,29.3s
PETK **Petropavlovsk-** 60.51 19 P **P** 08 33 08.6 +1.3
comp=Z,3.2nm,0.7s,baz=175,slow=5.5,SNR=5.4
PEA1 **Petropavlovsk-** 60.52 19 *e*P **P** 08 33 08.6 +1.3
BOD **Bodaibo** 62.04 350 *e*P **P** 08 33 14.9 -2.6
BOD pmax pmax
comp=Z,13nm,1.2s
DGZ **Jazzator, Alta** 64.15 331 *c i*P **P** 08 33 31.8 -0.1
DGZ pmax pmax
comp=Z,9.0nm,1.1s
MA2 **Magadan** 64.49 11 *e*P **P** 08 33 34.1 +0.3
comp=Z,22nm,1.4s
MA2 **Magadan** 64.49 11 *ce*P **P** 08 33 33.8 +0.1
MA2 pmax pmax
comp=Z,10.0nm,1.3s
PDGK **Podgornoye** 64.82 321 P **P** 08 33 35.2 -1.2
PDGK pmax pmax
comp=Z,12nm,0.9s
NIL **Nilore** 64.83 309 *e*P **P** 08 33 36.0 -0.6
comp=Z,10nm,0.8s
NIL **Nilore** 64.83 309 *e*P **P** 08 33 36.0 -0.6
NIL pmax pmax
comp=Z,10.0nm,0.8s
YAK **Yakutsk** 64.88 360 *e*P **P** 08 33 35.8 -0.4
YAK pmax pmax
comp=Z,28nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.0s
MK31 **Makanchi Array** 65.06 326 *i*P **P** 08 33 37.3 -0.5
MK31 pmax pmax
comp=Z,14nm,0.9s
MK32 **Makanchi Array** 65.06 326 *e*P **P** 08 33 37.5 -0.3
MKAR **Makanchi Array** 65.06 326 P **P** 08 33 37.5 -0.3
comp=Z,10nm,0.9s,baz=122,slow=7.9,SNR=63
PRZ **Przheval'sk** 65.08 320 *e*P **P** 08 33 38.7 +0.5
comp=Z,25nm,1.1s
TARG **Taragay, Kyrgy** 65.09 319 *e*P **P** 08 33 39.1 +0.6
comp=Z,14nm,1.2s
MAKZ **Makanchi** 65.24 326 *e*P **P** 08 33 38.6 -0.3
comp=Z,17nm,1.0s
MAKZ **Makanchi** 65.24 326 P **P** 08 33 37.5 -1.5
MAKZ pmax pmax
comp=Z,19nm,1.2s
KSH **Kashi** 65.28 316 P **P** 08 33 40.3 +0.8
KSH pP pP 08 33 52.1 +1.2
KSH PP **PP** 08 36 07.9 +4.4
KSH S **S** 08 42 16.0 -4.8
KSH sS pS 08 42 35.3 +0.9
KSH ScS **SKSac** 08 43 26.1 -6.0
KSH SS **SS** 08 46 31.5 -2.8
KSH pmax pmax
comp=Z,27nm,0.6s
KSH pmax pmax
comp=Z,220nm,5.0s
KSH LR LR
comp=Z,260nm,9.3s
KSH LR LR
comp=Z,280nm,9.3s
KSH LR LR
comp=Z,530nm,10.8s
NRN **Naryn** 66.14 318 *e*P **P** 08 33 45.2 -0.1
comp=Z,9.4nm,0.9s
NRN **Naryn** 66.14 318 *e*P **P** 08 33 45.2 -0.1
NRN pmax pmax
comp=Z,9.0nm,0.9s
KZA **Kyzart** 66.93 319 P **P** 08 33 50.8 +0.4
SNR=21
TKM2 **Tokmak 2** 67.10 319 P **P** 08 33 51.2 0.0
SNR=15
TKM2 **Tokmak 2** 67.10 319 P **P** 08 33 50.0 -1.2
TKM2 pmax pmax
comp=Z,12nm,0.8s
SFK **Sufi-Kurgan** 67.21 316 P **P** 08 33 51.7 -0.3
SFK pmax pmax
comp=Z,11nm,0.9s
KBK **Karagaybulak** 67.40 319 P **P** 08 33 53.3 +0.3
SNR=6.6
UCH **Uchtor** 67.49 318 P **P** 08 33 54.3 +0.3
SNR=19
AAK **Ala-Archa** 67.69 319 P **P** 08 33 54.7 -0.2
comp=Z,5.2nm,0.8s,baz=118,slow=5.8,SNR=12
AAK **Ala-Archa** 67.69 319 P **P** 08 33 54.6 -0.3
SNR=6.0
AAK **Ala-Archa** 67.69 319 *e*P **P** 08 33 54.7 -0.2
AAK *e*P **P** 08 33 55.1 +0.2
AAK **Ala-Archa** 67.69 319 P **P** 08 33 54.9 0.0
AAK pmax pmax
comp=Z,9.0nm,1.0s
SEY **Seymchan** 67.89 11 *ce*P **P** 08 33 55.5 0.0
USP **Ospenovka** 67.97 319 P **P** 08 33 56.5 0.0
SNR=17
AML **Almayashu** 67.99 318 P **P** 08 33 57.4 +0.3
SNR=23
ARSB **Arslanbob** 68.12 317 *e*P **P** 08 33 57.6 0.0
comp=Z,24nm,0.9s
ZALV **Zalesovo Beam** 68.15 333 P **P** 08 33 56.6 -0.6
comp=Z,5.3nm,0.8s,baz=106,slow=5.3,SNR=15
ZAA1 **Zalesovo Array** 68.15 333 *e*P **P** 08 33 56.6 -0.7
EKS2 **Erkin-Say** 68.17 319 P **P** 08 33 58.2 +0.3
SNR=17
KBL **Kabul** 68.41 309 *e*P **P** 08 33 59.1 -0.5
KBL **Kabul** 68.41 309 *e*P **P** 08 33 59.1 -0.5
MNAS **Manas** 68.94 318 P **P** 08 34 01.8 -0.9
MNAS pmax pmax
comp=Z,19nm,1.0s
BTK **Batken** 69.11 315 *e*P **P** 08 34 04.2 +0.5
comp=Z,8.7nm,0.8s
KURBB **Kurchatov Arra** 69.27 328 P **P** 08 34 04.2 -0.2
comp=Z,21nm,0.8s,baz=128,slow=5.7,SNR=114
KURK **Kurchatov** 69.27 328 *e*P **P** 08 34 04.2 -0.2
KURK **Kurchatov** 69.27 328 *ce*P **P** 08 34 04.0 -0.4
KURK pmax pmax
comp=Z,40nm,0.8s
KURK **Kurchatov** 69.27 328 P **P** 08 34 04.3 0.0
SNR=12
KURK P **P** 08 34 04.3 0.0
SNR=12
NVS **Novosibirsk** 69.43 333 *e*P **P** 08 34 04.0 -1.3
NVS pmax pmax
comp=Z,28nm,1.6s
NVS pmax pmax
comp=N,13nm,1.5s
NVS pmax pmax
comp=E,12nm,1.4s
KK31 **Karatay Array** 70.53 318 *i*P **P** 08 34 11.8 -0.5
KK31 pmax pmax
comp=Z,10.0nm,0.9s
WSAR **Wadi Sarin** 74.36 295 P **P** 08 34 35.7 +0.2
SNR=6.3
TIXI **Tiksi** 74.55 360 P **P** 08 34 35.2 -0.4
comp=Z,6.3nm,0.7s,baz=159,slow=2.9,SNR=19
TIXI LR LR 09 07 59.4
comp=Z,102nm,20.4s,baz=354,slow=36
TIXI **Tiksi** 74.55 360 *e*P **P** 08 34 34.8 -0.8
comp=Z,14nm,0.6s
TIXI *e*P **P** 08 34 35.2 -0.4
TIXI **Tiksi** 74.55 360 *ce*P **P** 08 34 34.0 -1.6
TIXI pmax pmax
comp=Z,10.0nm,1.0s
MHTO **MHTO** 74.58 293 P **P** 08 34 36.5 -0.3
MHTO P **P** 08 34 36.5 -0.3
BVA0 **Borovoye Array** 74.85 327 P **P** 08 34 37.1 -0.6
BVA0 pmax pmax
comp=Z,16nm,1.0s
BVAR **Borovoye Array** 74.85 327 P **P** 08 34 37.8 +0.1
comp=Z,12nm,0.9s,baz=116,slow=6.8,SNR=48
BIDO **Bidbid** 74.86 295 P **P** 08 34 38.8 +0.3
SNR=9.2
BRVK **Borovoye** 74.92 327 *e*P **P** 08 34 38.1 0.0
comp=Z,18nm,0.9s
BRVK **Borovoye** 74.92 327 *c i*P **P** 08 34 37.7 -0.4
BRVK pmax pmax
comp=Z,18nm,1.0s
BRVK **Borovoye** 74.92 327 P **P** 08 34 38.3 +0.1
SNR=6.1
BRVK P **P** 08 34 38.3 +0.1
SNR=6.1
BILL **Bilibino** 75.22 13 ⇓*e*P **P** 08 34 40.3 +0.7
BILL *e* 08 34 56.0
BILL *e* 08 37 26.1
BILL *e*S **PnS** 08 45 00.1 +5.1
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,483nm,22.0s
VNDA **Vanda** 76.34 173 P **P** 08 34 45.6 -0.2
comp=Z,1.9nm,0.8s,baz=328,slow=5.9,SNR=6.4
VNDA LR LR 09 10 15.9
comp=Z,92nm,18.1s,baz=327,slow=37
UOSS **Minazif** 76.84 296 *e*P **P** 08 34 47.6 -2.0
comp=Z,6.6nm,0.8s
UOSS **Minazif** 76.84 296 P **P** 08 34 49.4 -0.2
UOSS P **P** 08 34 49.4 -0.2
GEYT **Alibeck** 77.84 310 P **P** 08 34 55.2 +0.1
comp=Z,12nm,0.8s,baz=150,slow=3.3,SNR=17
MAW **Mawson** 78.70 201 P **P** 08 34 59.1 0.0
comp=Z,17nm,0.8s,baz=73,slow=11,SNR=4.5
AB31 **Akbulak array** 79.56 321 *i*P **P** 08 35 03.7 -0.5
AB31 pmax pmax
comp=Z,13nm,0.8s
AKTO **Aktyubinsk** 81.09 322 P **P** 08 35 12.7 +0.2
comp=Z,10nm,0.8s,baz=115,slow=6.6,SNR=28
SVE **Sverdlovsk** 81.50 329 ⇑*e*P **P** 08 35 14.8 +0.3
SVE pmax pmax
comp=Z,23nm,1.0s
ARU **Arti** 82.47 328 *e*P **P** 08 35 19.4 -0.2
comp=Z,15nm,0.8s
ARU **Arti** 82.47 328 *c i*P **P** 08 35 19.4 -0.2
ARU 08 38 29.3
ARU S **S** 08 45 36.3 +2.9
ARU SS **SS** 08 50 57.3 +2.3
ARU pmax pmax
comp=Z,17nm,0.9s
KDAK **Kodiak Island** 85.75 32 P **P** 08 35 34.9 -1.3
comp=Z,11nm,0.9s,baz=299,slow=18,SNR=2.4
RAYN **Ar Rayn** 86.35 294 *e*P **P** 08 35 40.4 +0.4
comp=Z,39nm,0.8s
RAYN **Ar Rayn** 86.35 294 *e*P **P** 08 35 40.4 +0.4
RAYN pmax pmax
comp=Z,39nm,0.8s
QSPA **South Pole Qui** 86.92 180 *e*P **P** 08 35 42.2 +0.2
comp=Z,11nm,1.0s
SYO **Syowa Base** 87.42 201 ⇑*e*P **P** 08 35 43.6 -0.6
SYO **Syowa Base** 87.42 201 ⇓*ep*P pP 08 35 54.4 -1.6
GNI **Garni** 88.47 310 *e*P **P** 08 35 51.3 +1.2
comp=Z,66nm,1.4s
GNI **Garni** 88.47 310 *ce*P **P** 08 35 50.5 +0.5
GNI pmax pmax
comp=Z,358nm,1.7s
ZEI **Tsey** 89.33 313 *e*P **P** 08 35 53.5 -0.6
ZEI pmax pmax
comp=Z,7.0nm,0.9s
NCK **Nalchik** 89.61 313 *i*P **P** 08 35 53.9 -1.2
NCK pmax pmax
comp=Z,9.0nm,0.7s
ILAR **Eielson Array** 89.69 25 P **P** 08 35 54.4 -0.6
comp=Z,0.5nm,0.6s,baz=247,slow=4.5,SNR=8.5
ILB **Eielson Array** 89.69 25 *e*P **P** 08 35 54.4 -0.6
SIRT **Sirnak** 90.05 307 *e*P **P** 08 35 56.4 -1.1
comp=Z,77nm,0.8s
KBZ **Khabaz** 90.13 314 P **P** 08 35 57.4 0.0
comp=Z,1.4nm,0.7s,baz=96,slow=7.4,SNR=4.5
NEY **Neytrino** 90.22 313 *i*P **P** 08 35 58.1 -0.1
NEY pmax pmax
comp=Z,1.0nm,0.9s
KIV **Kislovodsk** 90.30 314 *e*P **P** 08 35 54.9 -3.5
KIV pmax pmax
comp=Z,5.0nm,1.1s
KMBO **Kilima Mbogo** 92.90 269 P **P** 08 36 12.3 +0.9
comp=Z,4.0nm,0.9s,baz=43,slow=7.7,SNR=6.3
VSR **Storozhevoye** 93.00 321 *e*P **P** 08 36 14.4 +3.8
VSR pmax pmax
comp=Z,5.0nm,1.1s
LPSR **Galich'ya Gora** 93.17 322 *e*P **P** 08 36 13.3 +1.9
LPSR pmax pmax
comp=Z,10.0nm,1.0s
OBN **Obninsk** 94.56 325 ⇓*e*P **P** 08 36 17.0 -0.7
OBN *e* 08 40 02.4
OBN *e*S **SKSac** 08 46 53.1 +3.1
OBN pmax pmax
comp=Z,6.0nm,0.8s
OBN MLR MLR
comp=Z,157nm,19.0s
APA **Apatity** 95.39 337 ⇑*i*P **P** 08 36 22.5 +1.3
APA pmax pmax
comp=Z,8.0nm,2.0s
APA MLR MLR
comp=Z,3µm,16.0s
BR101 **Keskin Array S** 96.98 309 *e*P **P** 08 36 28.7 -0.7
BRTR **Keskin Array B** 96.98 309 P **P** 08 36 28.7 -0.7
comp=Z,1.0nm,0.9s,baz=144,slow=7.0,SNR=3.8
AKASG **Malin Array Be** 99.30 321 *i*P **Pdif** 08 36 39.9 +0.6
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KIEV **Kiev** 99.31 321 *i*P **Pdif** 08 36 36.6 -2.7
KIEV pmax pmax
comp=Z,3.0nm,1.4s
BOSA **Boshof** 101.63 240 P **Pdif** 08 36 50.6 +0.2
comp=Z,3.9nm,0.8s,baz=124,slow=4.5,SNR=6.7
YKA **Yellowknife Ar** 104.11 26 Pdiff **Pdif** 08 37 02.0 +1.6
comp=Z,0.2nm,0.6s,baz=291,slow=4.6,SNR=3.1
YKA PKiKP **PP** 08 41 18.0 -0.2
comp=Z,0.2nm,0.7s,baz=296,slow=1.4,SNR=3.3

YKB5	**Yellowknife Ar**	**104.11**	**26**	*e*Pdif	**Pdif**	08 37 02.0	+1.6
YKB5				*e*PKiKP	**PP**	08 41 18.0	-0.2
NVAR	**Mina Array Bea**	**108.65**	**50**	PKKPbc	PKKPbc	08 52 37.2	+0.2
	comp=Z,0.4nm,0.7s,baz=97,slow=7.4,SNR=3.2						
PD31	**Pinedale Array**	**113.94**	**44**	*e*PKiKP	**PKiKP**	08 41 37.2	+0.4
PDAR	**Pinedale Array**	**113.94**	**44**	PKiKP	**PKiKP**	08 41 37.2	+0.4
	comp=Z,0.3nm,0.7s,baz=288,slow=1.4,SNR=3.0						
PDAR				PKKPbc	**PKKPbc**	08 52 18.5	-1.4
	comp=Z,0.3nm,0.6s,baz=60,slow=5.5,SNR=3.1						
ULM	**Lac du Bonnet**	**119.00**	**32**	PKP	**PKPdf**	08 41 45.8	-0.1
	comp=Z,1.9nm,0.8s,baz=25,slow=3.0,SNR=3.2						
LTX	**Lajitas**	**122.66**	**57**	*e*PKPdf	**PKiKP**	08 41 54.5	+0.6
LTX	**Lajitas**	**122.66**	**57**	*e*PKiKP	**PKiKP**	08 41 54.5	+0.6
TXAR	**Lajitas Array**	**122.66**	**57**	PKP	**PKiKP**	08 41 54.5	+0.5
	comp=Z,0.4nm,0.7s,baz=217,slow=1.5,SNR=6.6						
TXAR				PKKPbc	**PKKPbc**	08 51 47.9	+0.1
	comp=Z,0.5nm,0.7s,baz=110,slow=7.3,SNR=8.4						
JCT	**Junction City**	**125.48**	**54**	*e*PKPdf	**PKPdf**	08 41 57.5	-1.5
JCT	**Junction City**	**125.48**	**54**	*e*PKiKP	**PKPdf**	08 41 57.5	-1.5
TORD	**Torodi Ar. Bea**	**128.15**	**284**	PKP	**PKiKP**	08 42 05.1	0.0
	comp=Z,1.3nm,0.8s,baz=38,slow=2.8,SNR=8.1						
TOA1	**Torodi Ar. Sit**	**128.15**	**284**	*e*PKPdf	**PKiKP**	08 42 05.1	0.0
PLCA	**Paso Flores**	**132.49**	**159**	PKP	**PKiKP**	08 42 14.4	+1.2
	comp=Z,1.9nm,0.8s,baz=219,slow=4.6,SNR=5.2						
GO02	**Mina Guanaco**	**146.02**	**147**	*e*PKPdf	**PKPab**	08 42 39.6	+0.9
LVC	**Limon Verde**	**148.41**	**145**	*e*PKPdf	**PKPbc**	08 42 44.6	-0.4
LVC	**Limon Verde**	**148.41**	**145**	*e*PKP2	**PKPbc**	08 42 44.6	-0.4
CPUP	**Villa Florida**	**149.92**	**166**	PKPbc	**PKiKP**	08 42 49.4	+0.2
	comp=Z,6.4nm,0.8s,baz=206,slow=2.8,SNR=16						
CPUP	**Villa Florida**	**149.92**	**166**	*e*PKPbc	**PKPbc**	08 42 48.2	-0.1
PB11	**IPOC Station P**	**150.10**	**140**	*e*PKPbc	**PKPbc**	08 42 48.7	-0.3
MNMC	**Minye Minye**	**150.60**	**139**	*e*PKPbc	**PKiKP**	08 42 51.6	+0.5
LPAZ	**La Paz**	**153.60**	**137**	PKPbc	**PKiKP**	08 42 58.9	+1.1
	comp=Z,3.6nm,0.9s,baz=91,slow=3.2,SNR=13						
LPAZ	**La Paz**	**153.60**	**137**	*e*PKPbc	**PKiKP**	08 42 58.2	+0.5
SDV	**Santo Domingo**	**158.47**	**73**	*e*PKPdf	**PKPdf**	08 42 56.8	+0.9

*NNC **23** 08:26:27.7±2.5, 53.59N×87.82E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=18.1km s-min=15.7km az=29.0, Suspected Mining explosion.*

KRAR 23 08:26:19.6±0.1, 53.57N×87.75E, M2.4, 8C-4D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**6.30**	**247**	⇑Pn	Pb	08 28 02.2	-7.9
	3.1nm,0.9s						
KURK				⇑Sn	Sb	08 29 17.4	-8.7
	1.1nm,0.5s						
KURK				⇑Lg	Lg	08 29 48.7	
	9.2nm,0.9s						
KURBB	**Kurchatov Arra**	**6.40**	**246**	⇓Pn	Pn	08 28 02.7	+7.7
	4.2nm,0.4s						
KURBB				⇑Sn	Sb	08 29 19.2	-10
	3.4nm,0.5s						
KURBB				⇑Lg	Lg	08 29 51.5	
	7.9nm,0.7s						
MK31	**Makanchi Array**	**7.63**	**209**	⇑Pn	Pn	08 28 21.6	+10
	0.2nm,0.3s,baz=30,slow=12,SNR=19						
MK31				⇓Sn	Sn	08 29 50.2	+11
	0.8nm,0.7s,baz=34,slow=27,SNR=2.7						
MK31				⇓Lg	Lg	08 30 29.0	
	2.8nm,0.8s,baz=40,slow=29,SNR=3.8						
MAKZ	**Makanchi**	**7.71**	**211**	⇓Pn	Pn	08 28 21.9	+8.8
	1.9nm,1.0s						
MAKZ				⇑Sn	Sn	08 29 50.1	+9.0
	1.3nm,0.5s						
MAKZ				⇑Lg	Lg	08 30 34.0	
	5.6nm,1.4s						

*ISCJB **23** 08:34:08.3±0.5, 41.50N±0.03×20.25E±0.03, h7km±3km, Error ellipse: s-maj=4.4km s-min=4.2km az=173.8*
*TIR **23** 08:34:08.3, 41.50N×20.16E, h6km, Md2.8/5*
*BEO **23** 08:34:08.1±0.5, 41.39N×20.25E, h15km±3km, ML2.0/9*

ISC 23 08:34:08.6±1.1, 41.48N±0.03×20.23E±0.02, h8km±9km, n18, σ0.85/35, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.26**	**38**	*i* Pg	**Pg**	08 34 14.0	+0.2
PHP				*i* SG	**Sg**	08 34 18.6	+1.4
TIR	**Tirane**	**0.30**	**244**	*e*Pg	**Pg**	08 34 14.1	-0.5
TIR				*e*Sg	**Sb**	08 34 19.7	-1.8
TIR	**Tirane**	**0.30**	**244**	*i* Pg	**Pg**	08 34 14.3	-0.3
TIR				*i* SG	**Sg**	08 34 18.5	-0.1
PUK	**Puka**	**0.61**	**336**	*i* Pg	**Pg**	08 34 20.3	-0.2
PUK				*i* SG	**Sg**	08 34 28.6	+0.1
KRUS	**Krusevo**	**0.78**	**98**	*i* Pg	**Pg**	08 34 22.5	-1.1
KRUS				*i* Sg	**Sg**	08 34 33.9	+0.2
BCI	**Bajram Curri**	**0.89**	**352**	*i* PG	**Pg**	08 34 25.4	-0.4
BCI				*i* SG	**Sg**	08 34 38.1	+0.7
SKO	**Skopje**	**1.03**	**61**	*e*Pg	**Pg**	08 34 27.8	-0.6
SKO				*e*Sg	**Sg**	08 34 41.8	0.0
SKO	**Skopje**	**1.03**	**61**	*i* Pg	**Pg**	08 34 28.5	+0.1
SKO				*i* Sg	**Sg**	08 34 41.6	-0.2
PDG	**Podgorica**	**1.19**	**323**	*e*Pg	**Pg**	08 34 31.8	+0.3
PDG				*e*Sg	**Sn**	08 34 49.5	+1.4
TPE	**Tepelena**	**1.20**	**188**	*i* PN	**Pg**	08 34 31.8	+0.2
TPE				*i* SN	**Sn**	08 34 50.4	+2.2
STIP	**Stip**	**1.48**	**81**	*i* Pn	**Pg**	08 34 38.7	+1.6
BARS	**Barje**	**1.78**	**41**	*e*Pn	**Pn**	08 34 39.0	-0.8
BARS				*e*Sn	**Sn**	08 35 02.6	0.0
SELS	**Selova**	**1.86**	**21**	*e*Pn	**Pn**	08 34 39.8	-1.0
SELS				*e*Sn	**Sn**	08 35 04.2	-0.3
TREB	**Trebinje**	**1.86**	**312**	*e*Pn	**Pn**	08 34 41.2	+0.3
TREB				*e*Sg	**Sg**	08 35 09.5	+0.9
IVAS	**Ivanjica**	**2.10**	**359**	*e*Pn	**Pn**	08 34 43.8	-0.3
IVAS				*e*Sn	**Sn**	08 35 10.5	+0.1
BOVS	**Bovan**	**2.41**	**26**	*e*Pn	**Pn**	08 34 48.2	-0.2
BOVS				*e*Sn	**Sn**	08 35 17.7	-0.5
ZAPS	**Zavoj**	**2.53**	**44**	*e*Pn	**Pn**	08 34 50.5	+0.5
ZAPS				*e*Sn	**Sn**	08 35 20.8	-0.2
DIVS	**Divibare**	**2.62**	**356**	*e*Pn	**Pn**	08 34 51.3	-0.1
DIVS				*e*Sn	**Sn**	08 35 24.6	+1.2

*ISCJB **23** 08:42:33.8±0.9, 8.62S±0.08×35.7E±0.2, h10km, mb3.4/3, Error ellipse: s-maj=29.3km s-min=7.4km az=178.7*
*IDC **23** 08:42:34.5±1.8, 8.86S×36.40E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/37, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=55.6km s-min=27.6km az=112.0*

ISC 23 08:42:35.5±1.0, 8.54S±0.08×35.6E±0.1, h10km, n13, σ1.70/15, mb3.7/3, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIBA	**Kibaya**	**3.35**	**17**	*i* P	**Pn**	08 43 30.0	+1.9
KIBA				*i* S	**Sn**	08 44 07.8	-0.2
KOND	**Kondoa**	**3.61**	**3**	*i* P	**Pn**	08 43 33.3	+1.6
KMBO	**Kilima Mbogo**	**7.54**	**13**	*i* P	**Pn**	08 44 26.8	+1.0
KMBO	**Kilima Mbogo**	**7.54**	**13**	Pn	**Pn**	08 44 26.5	+0.7
	1.8nm,0.3s,baz=196,slow=18,SNR=13						
KMBO				Sn	**Sn**	08 45 48.3	-3.3
	3.4nm,0.3s,baz=221,slow=20,SNR=7.0						
KMBO				Lg	Lg	08 46 30.2	
	3.1nm,0.3s,baz=241,slow=11,SNR=7.1						
KMBO	**Kilima Mbogo**	**7.54**	**13**	*i* P	**Pn**	08 44 26.8	+1.0
MBAR	**Mbarara**	**9.26**	**328**	*e*P	**Pn**	08 44 51.6	+2.3
MBAR				*e*S	**Sn**	08 46 31.6	-2.1
BLWY	**Bulawayo**	**13.38**	**210**	*i* P	**Pn**	08 45 45.6	-0.1
BLWY	**Bulawayo**	**13.38**	**210**	*i* P	**Pn**	08 45 45.6	-0.1
MATP	**Matopo**	**13.67**	**209**	*i* P	**Pn**	08 45 48.1	-1.7
MATP	**Matopo**	**13.67**	**209**	*i* P	**Pn**	08 45 48.1	-1.7
BOSA	**Boshof**	**22.23**	**205**	P	**P**	08 47 32.9	+0.3
	1.9nm,0.6s,baz=35,slow=11,SNR=6.9						
TORD	**Torodi Ar. Bea**	**39.99**	**302**	P	P	08 50 18.7	+8.0
	0.3nm,0.7s,baz=106,slow=9.1,SNR=1.4						
MKAR	**Makanchi Array**	**68.96**	**32**	P	**P**	08 53 41.3	+0.3
	0.3nm,0.6s,baz=222,slow=6.1,SNR=3.7						

IDC 23 08:45:47.2±55.0, 19.90S×179.80W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.7/30, mbtmp4.1/3, Error ellipse: s-maj=991.1km s-min=147.7km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.54**	**243**	P	P	08 52 54.5	-0.3
	1.9nm,0.7s,baz=79,slow=10,SNR=5.5						
WRA	**Warramunga Arr**	**43.01**	**262**	P	P	08 53 48.9	+0.1
	0.6nm,0.3s,baz=97,slow=7.6,SNR=19						
ASAR	**Alice Springs**	**43.02**	**256**	P	P	08 53 48.6	-0.2
	3.0nm,0.8s,baz=94,slow=7.7,SNR=27						

*NNC **23** 08:59:32.5±2.2, 53.26N×90.13E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=18.2km s-min=13.5km az=83.0, Suspected Mining explosion.*

ASRS 23 08:59:18.2, 53.76N×91.03E, M3.3, 7C-7D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**3.68**	**275**	⇓Pn	Pb	09 00 25.6	+1.6
	19nm,0.8s						
ZAA0				⇓Lg	Lg	09 01 16.1	
	97nm,1.0s						
KURK	**Kurchatov**	**8.20**	**253**	⇑Pn	Pn	09 01 22.3	+4.0
	7.1nm,1.1s						
KURK				⇓Sn	Sn	09 02 50.0	-1.7
	28nm,0.8s						
KURK				⇑Lg	Lg	09 03 34.3	
	42nm,0.9s						
KURBB	**Kurchatov Arra**	**8.30**	**253**	⇓Pn	Pn	09 01 22.8	+3.3
	9.3nm,1.1s						
KURBB				⇑Sn	Sn	09 02 52.9	-1.0
	68nm,0.8s						
KURBB				⇑Lg	Lg	09 03 33.9	
	129nm,1.1s						
MK31	**Makanchi Array**	**8.93**	**222**	⇑Pn	Pn	09 01 32.7	+4.3
	0.3nm,0.3s,baz=33,slow=12,SNR=53						
MK31				⇑Sn	Sn	09 03 09.7	0.0
	7.9nm,1.0s,baz=42,slow=26,SNR=4.1						
MK31				⇑Lg	Lg	09 03 53.6	
	16nm,0.9s,baz=32,slow=29,SNR=3.9						
MAKZ	**Makanchi**	**9.05**	**223**	⇓Pn	Pn	09 01 33.7	+3.7
	3.1nm,0.9s						
MAKZ				⇓Sn	Sn	09 03 10.8	-1.7
	8.2nm,0.9s						
MAKZ				⇓Lg	Lg	09 03 58.2	
	16nm,1.1s						

MAN 23 09:04:43.1, 8.42N×126.43E, h88km, mb4.2, ML3.0, MS2.7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.24**	**197**	⇑*i* P	Pn	09 04 59.3	+3.3
BIPH				*i* S	Sn	09 05 08.0	+2.4
BUTP	**Butuan**	**0.97**	**305**	*e*P	Pn	09 05 02.2	-0.1
BUTP				*e*S	Sn	09 05 18.4	+1.6
BUKP	**Musuan**	**1.46**	**249**	*e*P	Pn	09 05 08.7	+0.4
BUKP				*e*S	Sn	09 05 28.2	+0.9
TBP	**Tagbilaran**	**2.83**	**297**	*e*P	Pn	09 05 25.9	-0.5
TBP				*i* S	Sn	09 05 60.0	+0.2
PAGZ	**Pagadian**	**3.07**	**260**	*e*P	Pn	09 05 30.9	+1.3

IDC 23 09:06:57.8±14.0, 18.76N×143.42E, h462km±160km, mb2.6/4, mb1 2.8/4, mb1mx2.5/53, mbtmp3.5/4, Error ellipse: s-maj=243.4km s-min=23.2km az=77.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**39.48**	**194**	P	P	09 13 47.1	-0.2
	0.4nm,0.4s,baz=14,slow=8.7,SNR=9.9						
SONM	**Songino Array**	**41.76**	**322**	P	P	09 14 05.2	-0.2
	0.2nm,0.4s,baz=134,slow=6.5,SNR=3.2						
MKAR	**Makanchi Array**	**56.86**	**314**	P	P	09 15 57.6	+0.2
	0.2nm,0.6s,baz=98,slow=8.5,SNR=3.3						
BVAR	**Borovoye Array**	**65.05**	**320**	P	P	09 16 51.0	-0.3
	0.4nm,0.5s,baz=83,slow=4.6,SNR=3.6						

MEX 23 09:10:35.3±0.8, 13.86N×91.88W, h28km±15km, MD4.0, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.11**	**340**	*e*P	Pn	09 10 51.9	-3.1
THIG				*e*S	Sn	09 11 06.2	-3.1
PCIG		**2.25**	**325**	*i* P	Pn	09 11 09.3	-1.3
PCIG				*i* S	Sn	09 11 34.2	-3.2
CCIG	**Comitan**	**2.42**	**354**	*e*P	Pn	09 11 11.4	-1.9
CCIG				*i* S	Sn	09 11 39.3	-2.7

*UPP **23** 09:17:21.4±0.8, 63.31N×23.20E, h0km, ML1.6, Suspected explosion*

HEL 23 09:17:18.5±0.1, 63.22N×23.60E, h0km, ML1.5, ML1.6(UPP), Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAF	**Ylistaro**	**0.46**	**248**	*e*P	Pg	09 17 26.4	-0.8
	baz=66						
VAF				*e*S	Sg	09 17 32.3	-0.8
KEF	**Keuruu**	**1.21**	**150**	*e*PN	Pb	09 17 41.9	-0.3
KEF				*e*SN	Sb	09 17 58.5	+0.3
OUF	**Merijarvi**	**1.26**	**23**	*e*PB	Pg	09 17 41.9	-0.7
OUF				MSG		09 17 55.7	
	comp=Z,3.0nm,0.2s						
OUF				*e*SB	Sg	09 17 58.9	0.0
SUF	**Sumiainen**	**1.27**	**112**	*e*PN	Pg	09 17 42.6	-0.2
SUF				MSG		09 17 56.5	
	comp=Z,2.8nm,0.2s						
UMAU	**Umeaa**	**1.47**	**298**	P	Pn	09 17 44.9	-1.3
UMAU				S	Sg	09 18 03.4	-2.3
UMAU	**Umeaa**	**1.47**	**298**	*e*P	Pn	09 17 44.7	-1.4
UMAU				*e*S	Sg	09 18 03.4	-2.2
KAF	**Kangasniemi**	**1.67**	**130**	*e*PN	Pb	09 17 49.7	-0.4
	baz=310						
KAF				MSG		09 18 08.4	
	comp=Z,4.4nm,0.2s						
KAF				*e*SN	Sg	09 18 12.8	+0.8
ODEU	**Stanfors**	**1.75**	**314**	P	Pn	09 17 49.6	-0.5
ODEU				S	Sn	09 18 11.6	-1.5
ODEU	**Stanfors**	**1.75**	**314**	*e*P	Pn	09 17 49.6	-0.5
ODEU				*e*S	Sn	09 18 11.6	-1.5
HUSU	**Husum**	**1.98**	**276**	P	Pn	09 17 54.0	+0.7
HUSU	**Husum**	**1.98**	**276**	*e*P	Pn	09 17 54.0	+0.7
FIA0	**FINESS Array S**	**2.12**	**146**	*e*PG	Pb	09 17 57.0	-0.8
	baz=333						
FIA0				*e*SG	Sb	09 18 24.6	0.0
OUL	**Oulu**	**2.13**	**27**	*e*PG	Pn	09 17 56.3	+1.0
OUL				*e*SG	Sb	09 18 24.2	-0.6
SVAU	**Svanoeiden**	**2.20**	**308**	P	Pn	09 17 56.4	+0.3
SVAU				S	Sn	09 18 24.5	+0.5
SVAU	**Svanoeiden**	**2.20**	**308**	*e*P	Pn	09 17 56.4	+0.3
SVAU				*e*S	Sn	09 18 24.5	+0.5
RAF	**Rauma**	**2.36**	**202**	MSG		09 18 28.6	
	comp=Z,2.3nm,0.2s						
RAF				*e*SG	Sb	09 18 31.1	-0.4
SJUU	**Sjulsmark**	**2.46**	**340**	P	Pn	09 18 01.4	+1.6
SJUU	**Sjulsmark**	**2.46**	**340**	*e*P	Pn	09 18 01.4	+1.6
HEMU	**Hemsoen**	**2.60**	**260**	P	Pn	09 18 02.5	+0.8
HEMU	**Hemsoen**	**2.60**	**260**	*e*PB	Pn	09 18 03.2	+1.5
HEMU				*e*SB	Sn	09 18 35.7	+1.8
LILU	**Lilltraesk**	**2.65**	**323**	P	Pn	09 18 02.7	+0.3
LILU	**Lilltraesk**	**2.65**	**323**	*e*P	Pn	09 18 02.7	+0.3
KALU	**Kalix**	**2.66**	**358**	*e*PB	Pb	09 18 05.2	-1.7
PVF	**Pernaja**	**2.89**	**157**	*e*P	Pn	09 18 02.9	-2.8
PVF				MSG		09 18 43.6	
	comp=Z,1.4nm,0.2s						
TOF	**Tornio**	**2.89**	**6**	*e*S	Sn	09 18 40.5	-0.7
TOF				MSG		09 18 42.6	
	comp=Z,1.0nm,0.2s						
VJF	**Virojoki**	**3.27**	**143**	*e*P	Pn	09 18 10.9	-0.1

*KOLA **23** 09:17:35.4, 67.72N×34.18E, M2.0, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*HEL **23** 09:17:35.1±0.6, 67.67N×34.23E, h0km, ML2.6, Explosion*
*NAO **23** 09:17:36.4±1.2, 67.72N×34.00E, ML2.8*
*IDC **23** 09:17:38.0±1.9, 67.72N×33.74E, h0km, mb1 3.5/5, mb1mx3.1/42, mbtmp3.5/5, ML2.8/5, Error ellipse: s-maj=21.9km s-min=9.5km az=81.0*

ISC 23 09:17:32.8±1.5, 67.61N±0.04×34.37E±0.08, h0km, n34, σ1.61/56, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.37**	**264**	P	**Pb**	09 17 41.3	-1.0
APA				S	**Sg**	09 17 45.6	+0.9
APA0	**Apatity Array**	**0.53**	**270**	Pg	**Pg**	09 17 43.7	+0.8
	baz=88,slow=16						
APA0				Lg	Lg	09 17 50.3	
	baz=69,slow=37						
APA0				Rg	Rg	09 17 52.6	
	baz=67,slow=37						
APA0	**Apatity Array**	**0.53**	**270**	P	**Pg**	09 17 43.7	+0.8
APA0				S	**Sg**	09 17 49.8	+0.1
APA0	**Apatity Array**	**0.53**	**270**	Pg	**Pg**	09 17 43.7	+0.8
	baz=88,slow=16						
APA0				Sg	**Sg**	09 17 50.3	+0.6
	baz=69,slow=37						
APA0				Rg	Rg	09 17 52.6	
	baz=67,slow=37						
VRF	**Varrio**	**1.82**	**277**	*e*P	**Pb**	09 18 06.3	-0.7
VRF				*e*S	**Sn**	09 18 28.3	-0.9
KU6	**Riekki**	**2.38**	**230**	*e*PB	**Pb**	09 18 16.9	+0.4
KU6				*e*SG	**Sg**	09 18 48.1	-1.1
KU6				MSG		09 18 51.5	
	comp=Z,18nm,0.3s						
MSF	**Maaselka**	**2.71**	**234**	*e*PB	**Pb**	09 18 21.2	-1.0
MSF				*e*S	**Sb**	09 18 56.7	+0.7
MSF	**Maaselka**	**2.71**	**234**	*e*PB	**Pb**	09 18 21.3	-0.9
MSF				*e*SB	**Sb**	09 18 56.6	+0.6
SGF	**Sodankyl**	**3.02**	**270**	*e*P	**Pn**	09 18 24.1	+2.3
SGF	**Sodankyl**	**3.02**	**270**	*e*PG	**Pb**	09 18 28.1	+0.8
SGF				*e*SB	**Sb**	09 19 04.4	-0.3
RNF	**Rovaniemi**	**3.42**	**257**	*e*SG	**Sn**	09 19 09.9	+1.5
RNF	**Rovaniemi**	**3.42**	**257**	*e*P	**Pn**	09 18 29.1	+1.8
RNF				*e*S	**Sn**	09 19 09.9	+1.5
KEV	**Kevo**	**3.45**	**312**	Pn	**Pn**	09 18 29.2	+1.5
KEV				Sn	**Sn**	09 19 09.1	0.0
KEV				Lg	Lg	09 19 18.8	
KEV	**Kevo**	**3.45**	**312**	Sn	**Sn**	09 19 09.1	0.0
KEV				Sg	**Sb**	09 19 18.8	+1.8
KEV	**Kevo**	**3.45**	**312**	MSG		09 19 21.1	
	comp=Z,31nm,0.2s						
ARA0	**ARCESS Array S**	**3.78**	**305**	Pn	**Pn**	09 18 33.1	+0.7
	baz=122,slow=16						
ARA0				Pg	**Pb**	09 18 41.2	+0.8
	baz=119,slow=16						
ARA0				Sn	**Sn**	09 19 15.8	-1.7
	baz=121,slow=28						
ARA0				Lg	Lg	09 19 27.4	
	baz=118,slow=37						
ARA0	**ARCESS Array S**	**3.78**	**305**	Pn	**Pn**	09 18 33.1	+0.7
	baz=122,slow=16						
ARA0				Pg	**Pb**	09 18 41.2	+0.8
	baz=119,slow=16						
ARA0				Sn	**Sn**	09 19 15.8	-1.7
	baz=121,slow=28						
ARA0				Sg	**Sb**	09 19 27.4	+0.7
	baz=118,slow=37						
ARCES	**ARCESS Array B**	**3.78**	**305**	Pn	**Pn**	09 18 33.2	+0.9
	comp=Z,2.1nm,0.3s,baz=115,slow=15,SNR=34						
ARCES				Pg	**Pb**	09 18 41.1	+0.7
	comp=Z,1.9nm,0.3s,baz=120,slow=15,SNR=18						
ARCES				Sn	**Sn**	09 19 16.1	-1.4
	comp=Z,3.9nm,0.3s,baz=121,slow=24,SNR=9.8						
ARCES				Lg	Lg	09 19 26.8	
	comp=Z,2.4nm,0.3s,baz=115,slow=37,SNR=3.6						
HEF	**Hetta**	**4.11**	**286**	MSG		09 19 39.7	
	comp=Z,16nm,0.2s						
KIF	**Kilpisjarvi**	**5.22**	**292**	Pn	**Pn**	09 18 52.9	+0.8
KIF				Sn	**Sn**	09 19 50.7	-2.2
KIF				Lg	Lg	09 20 10.3	
KIF	**Kilpisjarvi**	**5.22**	**292**	Pn	**Pn**	09 18 52.9	+0.8
KIF				Sn	**Sn**	09 19 50.7	-2.2
KIF				Sg	**Sb**	09 20 10.3	+2.3
FIA0	**FINESS Array S**	**7.14**	**214**	Pn	**Pn**	09 19 20.1	+1.7
	baz=19,slow=14						
FIA0				Sn	**Sn**	09 20 38.8	-1.3
	baz=36,slow=22						
FIA0				Lg	Lg	09 21 12.8	
	baz=27,slow=37						
FIA0	**FINESS Array S**	**7.14**	**214**	Pn	**Pn**	09 19 20.1	+1.7
	baz=19,slow=14						
FIA0				Sn	**Sn**	09 20 38.8	-1.3
	baz=36,slow=22						
FIA0				Sg	Sg	09 21 12.8	-9.1
	baz=27,slow=37						
FINES	**FINESS Array B**	**7.14**	**214**	Pn	**Pn**	09 19 21.3	+3.0
	comp=Z,0.2nm,0.3s,baz=26,slow=13,SNR=5.1						
FINES				Sn	**Sn**	09 20 38.9	-1.2
	comp=Z,0.6nm,0.3s,baz=36,slow=22,SNR=6.6						
FINES				Lg	Lg	09 21 15.0	
	comp=Z,0.8nm,0.3s,baz=37,slow=26,SNR=5.1						
STEI	**Steigen**	**7.26**	**281**	*e*S	**Sn**	09 20 35.6	-7.2
STEI				IAML		09 20 59.6	
	comp=Z,3.2nm,0.5s						
HFS	**Hagfors**	**11.74**	**240**	Pn	**Pn**	09 20 20.7	-0.6
	comp=Z,0.2nm,0.3s,baz=26,slow=14,SNR=5.1						
HFS				Lg	Lg	09 23 45.6	
	comp=Z,0.3nm,0.3s,baz=49,slow=29,SNR=4.3						
HFS	**Hagfors**	**11.74**	**240**	Pn	**Pn**	09 20 20.8	-0.6
	baz=36,slow=18						
HFS	**Hagfors**	**11.74**	**240**	Pn	**Pn**	09 20 20.8	-0.6
	baz=36,slow=18						
SPA0	**Spitsbergen Ar**

	4.0nm,1.4s				
MAKZ		⇑Sn	Sn	09 30 23.4	+6.7
	3.1nm,0.9s				
MAKZ		⇓Lg	Lg	09 31 05.3	
	7.1nm,0.8s				

IDC ***23*** *09:44:48.0±7.2, 37°.23N×13°.72E, h0km, mb3.9/5, mb1 3.8/6, mb1mx3.5/38, mbtmp3.8/6, ML4.2/1, Error ellipse: s-maj=133.7km s-min=68.1km az=54.0*

ISCJB ***23*** *09:45:11.6±0.4, 38°.21N±0°.05×14°.87E±0°.05, h124km±3km, mb3.8/5, Error ellipse: s-maj=8.3km s-min=5.6km az=152.7*

ROM ***23*** *09:45:12.4±0.2, 38°.21N±0°.01×14°.86E±0°.01, h118km±1km, ML3.0/25*

ISC 23 09:45:12.5±1.2, 38°.20N±0°.05×14°.85E±0°.04, h117km±8km, n38, σ0°59/42, mb3.8/5, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
VPL	**Vulcano Piano**	**0.21**	**30**	P	**Pn**		**09 45 28.9**	**0.0**
VPL				S	**Sn**		**09 45 41.1**	**0.0**
MNO	**Monte Soro**	**0.29**	**205**	P	**Pn**		**09 45 30.4**	**+1.0**
MILZ	**Milazzo**	**0.31**	**76**	P	**Pn**		**09 45 28.8**	**-0.3**
MILZ				S	**Sn**		**09 45 40.9**	**-0.7**
MPNC	**Port Mandanici**	**0.40**	**97**	P	**Pn**		**09 45 29.6**	**0.0**
MPNC				S	**Sn**		**09 45 42.3**	**-0.1**
MPNC				AML	AML			
	comp=E,1075μm,0.5s							
MPNC				AML	AML			
	comp=N,1016μm,0.5s							
MPNC				AML	AML			
	comp=E,1076μm,0.5s							
MPNC				AML	AML			
	comp=N,1016μm,0.5s							
MPNC				AML	AML			
	comp=E,1076μm,0.5s							
MPNC				AML	AML			
	comp=N,1016μm,0.5s							
MPNC				AML	AML			
	comp=E,1076μm,0.5s							
MPNC				AML	AML			
	comp=N,1016μm,0.5s							
IFIL	**Filicudi I Eol**	**0.43**	**329**	P	**Pn**		**09 45 29.9**	**+0.2**
IACL	**Alicudi**	**0.51**	**311**	P	**Pn**		**09 45 30.6**	**+0.4**
MSRU	**Castanea**	**0.52**	**83**	P	**Pn**		**09 45 29.9**	**-0.4**
MSRU				S	**Sn**		**09 45 43.1**	**-0.6**
MSRU				AML	AML			
	comp=E,666μm,1.2s							
MSRU				AML	AML			
	comp=N,620μm,1.5s							
MSRU				AML	AML			
	comp=E,666μm,1.2s							
MSRU				AML	AML			
	comp=N,620μm,1.5s							
MSRU				AML	AML			
	comp=E,666μm,1.2s							
MSRU				AML	AML			
	comp=N,620μm,1.5s							
GALF	**Gagliano Caste**	**0.54**	**205**	P	**Pn**		**09 45 31.4**	**+1.0**
GALF				AML	AML			
	comp=E,656μm,0.6s							
GALF				AML	AML			
	comp=N,837μm,1.1s							
GALF				AML	AML			
	comp=E,656μm,0.6s							
GALF				AML	AML			
	comp=N,836μm,1.1s							
GALF				AML	AML			
	comp=E,656μm,0.6s							
GALF				AML	AML			
	comp=N,836μm,1.1s							
GALF				AML	AML			
	comp=E,656μm,0.6s							
ECNV	**Catenanuova**	**0.61**	**190**	P	**Pn**		**09 45 32.1**	**+1.2**
ECNV				AML	AML			
	comp=E,744μm,0.6s							
ECNV				AML	AML			
	comp=N,550μm,0.9s							
ECNV				AML	AML			
	comp=E,744μm,0.6s							
ECNV				AML	AML			
	comp=N,550μm,0.9s							
ECNV				AML	AML			
	comp=N,550μm,0.9s							
ECNV				AML	AML			
	comp=E,744μm,0.6s							
CAGR	**Agira**	**0.64**	**206**	AML	AML			
	comp=E,1415μm,1.0s							
CAGR				AML	AML			
	comp=N,2755μm,0.4s							
CAGR				AML	AML			
	comp=E,1415μm,1.0s							
CAGR				AML	AML			
	comp=N,2755μm,0.4s							
CAGR				AML	AML			
	comp=N,2755μm,0.4s							
CAGR				AML	AML			
	comp=E,1415μm,1.0s							
GIB	**Gibilmanna**	**0.68**	**253**	P	**Pn**		**09 45 31.3**	**-0.2**
GIB				S	**Sn**		**09 45 46.2**	**+0.4**
GIB				AML	AML			
	comp=E,474μm,1.3s							
GIB				AML	AML			
	comp=N,666μm,0.6s							
GIB				AML	AML			
	comp=E,474μm,1.3s							
GIB				AML	AML			
	comp=N,666μm,0.6s							
GIB				AML	AML			
	comp=E,474μm,1.3s							
GIB				AML	AML			
	comp=N,666μm,0.6s							
GIB				AML	AML			
	comp=N,666μm,0.6s							
GIB				AML	AML			
	comp=E,474μm,1.3s							
MTTG	**Motta San Giov**	**0.69**	**106**	P	**Pn**		**09 45 32.4**	**+0.9**
MTTG				AML	AML			
	comp=E,796μm,0.8s							
MTTG				AML	AML			
	comp=N,793μm,0.7s							
MTTG				AML	AML			
	comp=E,796μm,0.8s							
MTTG				AML	AML			
	comp=N,793μm,0.7s							
MTTG				AML	AML			
	comp=E,796μm,0.8s							
MTTG				AML	AML			
	comp=N,793μm,0.7s							
MTTG				AML	AML			
	comp=E,796μm,0.8s							
MTTG				AML	AML			
	comp=N,793μm,0.7s							
JOPP	**Joppolo**	**0.91**	**63**	P	**Pn**		**09 45 33.4**	**0.0**
JOPP				S	**Sn**		**09 45 48.7**	**-0.6**
JOPP				AML	AML			
	comp=E,409μm,1.2s							
JOPP				AML	AML			
	comp=N,384μm,0.4s							
JOPP				AML	AML			
	comp=E,409μm,1.2s							
JOPP				AML	AML			
	comp=N,384μm,0.4s							
JOPP				AML	AML			
	comp=N,384μm,0.4s							
JOPP				AML	AML			
	comp=E,409μm,1.2s							
HCRL	**Carlentini**	**0.92**	**171**	P	**Pn**		**09 45 33.5**	**-0.1**
HCRL				AML	AML			
	comp=E,359μm,0.7s							
HCRL				AML	AML			
	comp=N,258μm,0.4s							
HCRL				AML	AML			
	comp=E,359μm,0.7s							
HCRL				AML	AML			
	comp=N,258μm,0.4s							
HCRL				AML	AML			
	comp=N,258μm,0.4s							
HCRL				AML	AML			
	comp=E,359μm,0.7s							
MPAZ	**Palizzi**	**0.94**	**105**	P	**Pn**		**09 45 34.2**	**+0.4**
MPAZ				S	**Sn**		**09 45 50.0**	**+0.2**
MPAZ				AML	AML			
	comp=E,302μm,0.4s							
MPAZ				AML	AML			
	comp=N,325μm,0.7s							
MPAZ				AML	AML			
	comp=E,302μm,0.4s							
MPAZ				AML	AML			
	comp=N,325μm,0.7s							
MPAZ				AML	AML			
	comp=E,302μm,0.4s							
MPAZ				AML	AML			
	comp=N,325μm,0.7s							
SOI	**Samo**	**0.96**	**97**	P	**Pn**		**09 45 34.2**	**+0.3**
SOI				S	**Sn**		**09 45 49.8**	**-0.2**
SOI				AML	AML			
	comp=E,392μm,0.4s							
SOI				AML	AML			
	comp=N,280μm,0.9s							
SOI				AML	AML			
	comp=E,392μm,0.4s							
SOI				AML	AML			
	comp=N,280μm,0.9s							
SOI				AML	AML			
	comp=E,392μm,0.4s							
SOI				AML	AML			
	comp=N,280μm,0.9s							
SOLUN	**Solunto**	**1.04**	**265**	P	**Pn**		**09 45 34.6**	**-0.1**
SOLUN				S	**Sn**		**09 45 51.4**	**-0.1**
SOLUN				AML	AML			
	comp=E,185μm,0.8s							
SOLUN				AML	AML			
	comp=N,152μm,0.6s							
SOLUN				AML	AML			
	comp=E,185μm,0.8s							
SOLUN				AML	AML			
	comp=N,152μm,0.6s							
SOLUN				AML	AML			
	comp=N,152μm,0.6s							
SOLUN				AML	AML			
	comp=E,185μm,0.8s							
RAFF	**Raffo Rosso**	**1.05**	**202**	P	**Pn**		**09 45 35.4**	**+0.6**
RAFF				AML	AML			
	comp=E,270μm,0.3s							
RAFF				AML	AML			
	comp=N,362μm,0.3s							
RAFF				AML	AML			
	comp=E,270μm,0.3s							
RAFF				AML	AML			
	comp=N,362μm,0.3s							
RAFF				AML	AML			
	comp=E,270μm,0.3s							
RAFF				AML	AML			
	comp=N,362μm,0.3s							
SSY	**Sortino**	**1.06**	**170**	P	**Pn**		**09 45 34.7**	**-0.2**
SSY				AML	AML			
	comp=E,323μm,0.8s							
SSY				AML	AML			
	comp=N,707μm,0.4s							
SSY				AML	AML			
	comp=E,323μm,0.8s							
SSY				AML	AML			
	comp=N,707μm,0.4s							
SSY				AML	AML			
	comp=E,323μm,0.8s							
SSY				AML	AML			
	comp=N,707μm,0.4s							
MEU	**Monte Lauro**	**1.10**	**177**	P	**Pn**		**09 45 35.4**	**0.0**
MEU				S	**Sn**		**09 45 53.1**	**+0.5**
MEU				AML	AML			
	comp=E,534μm,0.5s							
MEU				AML	AML			
	comp=N,1006μm,0.2s							
MEU				AML	AML			
	comp=E,534μm,0.5s							
MEU				AML	AML			
	comp=N,1006μm,0.2s							
MEU				AML	AML			
	comp=N,1006μm,0.2s							
MEU				AML	AML			
	comp=E,534μm,0.5s							
MPG	**Monte Pellegri**	**1.18**	**269**	P	**Pn**		**09 45 36.2**	**+0.1**
HMDC	**Modica**	**1.24**	**183**	P	**Pn**		**09 45 37.0**	**+0.1**
HMDC				AML	AML			
	comp=E,333μm,0.2s							
HMDC				AML	AML			
	comp=N,480μm,0.9s							
HMDC				AML	AML			
	comp=E,333μm,0.2s							
HMDC				AML	AML			
	comp=N,480μm,0.9s							
HMDC				AML	AML			
	comp=N,480μm,0.9s							
HMDC				AML	AML			
	comp=E,333μm,0.2s							
HAVL	**Avola**	**1.25**	**170**	P	**Pn**		**09 45 36.8**	**-0.2**
HAVL				AML	AML			
	comp=E,503μm,1.0s							
HAVL				AML	AML			
	comp=N,564μm,0.3s							
HAVL				AML	AML			
	comp=E,503μm,1.0s							
HAVL				AML	AML			
	comp=N,564μm,0.3s							
HAVL				AML	AML			
	comp=N,564μm,0.3s							
HAVL				AML	AML			
	comp=E,503μm,1.0s							
CORL	**Corleone**	**1.26**	**257**	P	**Pn**		**09 45 37.4**	**+0.4**
PLAC	**Placanica**	**1.27**	**78**	P	**Pn**		**09 45 37.6**	**+0.4**
PLAC				AML	AML			
	comp=E,417μm,0.4s							
PLAC				AML	AML			
	comp=N,191μm,0.3s							
PLAC				AML	AML			
	comp=E,417μm,0.4s							
PLAC				AML	AML			
	comp=N,191μm,0.3s							
PLAC				AML	AML			
	comp=N,191μm,0.3s							
PLAC				AML	AML			
	comp=E,417μm,0.4s							
CAR1	**CAROLEI**	**1.50**	**45**	P	**Pn**		**09 45 39.8**	**+0.1**
CAR1				AML	AML			
	comp=E,214μm,0.5s							
CAR1				AML	AML			
	comp=N,154μm,1.5s							
CAR1				AML	AML			
	comp=E,214μm,0.5s							
CAR1				AML	AML			
	comp=N,154μm,1.5s							
CAR1				AML	AML			
	comp=E,214μm,0.5s							
CAR1				AML	AML			
	comp=N,154μm,1.5s							
MMGO	**Monte Magaggia**	**1.57**	**251**	P	**Pn**		**09 45 40.8**	**+0.2**
SERS	**Sersale**	**1.67**	**59**	P	**Pn**		**09 45 42.4**	**+0.6**
SERS				AML	AML			
	comp=E,80μm,1.2s							
SERS				AML	AML			
	comp=N,58μm,1.0s							
SERS				AML	AML			
	comp=N,58μm,1.0s							
SERS				AML	AML			
	comp=E,80μm,1.2s							
TIP	**Timpagrande**	**1.79**	**56**	P	**Pn**		**09 45 44.0**	**+0.7**
TIP				AML	AML			
	comp=E,60μm,1.0s							
TIP				AML	AML			
	comp=N,59μm,1.6s							
TIP				AML	AML			
	comp=E,60μm,1.0s							
TIP				AML	AML			
	comp=N,59μm,1.6s							
TIP				AML	AML			
	comp=N,59μm,1.6s							
TIP				AML	AML			
	comp=E,60μm,1.0s							
MGR	**Morigerati**	**2.01**	**16**	P	**Pn**		**09 45 46.8**	**+0.8**
SALB	**San Lorenzo Be**	**2.04**	**34**	P	**Pn**		**09 45 47.3**	**+0.8**
SALB				AML	AML			
	comp=E,83μm,0.8s							
SALB				AML	AML			
	comp=N,52μm,1.0s							
SALB				AML	AML			
	comp=E,83μm,0.8s							
SALB				AML	AML			
	comp=N,52μm,1.0s							
AMUR	**Altamura**	**3.03**	**26**	AML	AML			
	comp=N,186μm,0.7s							
AMUR				AML	AML			
	comp=E,178μm,1.1s							
AMUR				AML	AML			
	comp=N,186μm,0.7s							
AMUR				AML	AML			
	comp=E,178μm,1.1s							
AKASG	**Malin Array Be**	**16.14**	**35**	P	**Pn**		**09 48 53.3**	**+1.0**
	comp=E,0.8nm,0.3s,baz=227,slow=11,SNR=3.6							
FINES	**FINESS Array B**	**24.30**	**13**	P	**P**		**09 50 17.0**	**-1.6**
	comp=E,2.7nm,0.7s,baz=184,slow=8.4,SNR=8.4							
AKTO	**Aktyubinsk**	**32.76**	**54**	P	P		09 51 33.0	-1.0
	comp=E,0.6nm,0.3s,baz=259,slow=16,SNR=2.9							
ZALV	**Zalesovo Beam**	**48.99**	**47**	P	P		09 53 45.7	-1.2
	comp=E,1.3nm,0.4s,baz=284,slow=6.5,SNR=2.5							
MKAR	**Makanchi Array**	**49.07**	**57**	P	P		09 53 46.6	-1.1
	comp=E,0.8nm,0.4s,baz=283,slow=7.0,SNR=16							
SONM	**Songino Array**	**63.85**	**49**	P	P		09 55 31.4	-1.1
	comp=E,0.3nm,0.4s,baz=318,slow=4.1,SNR=2.9							

BJI ***23*** *09:51:21.3, 10°.32S×119°.45E, h36km, mb4.7/33, mB5.2/23, Ms4.6/8, Ms7 4.4/8*

IDC ***23*** *09:51:22.4±0.6, 9°.69S×119°.09E, h0km, mb4.5/17, mb1 4.6/22, mb1mx4.5/37, mbtmp4.5/22, ML4.3/5, MS3.6/10, Ms1 3.6/10, ms1mx3.3/32, Error ellipse: s-maj=18.7km s-min=12.8km az=49.0*

ISCJB ***23*** *09:51:24.8±0.2, 9°.88S±0°.04×119°.01E±0°.03, h33km, mb4.6/40, MS3.8/7, Error ellipse: s-maj=5.8km s-min=3.4km az=22.8*

NEIC ***23*** *09:51:24.4±2.8, 9°.79S×119°.04E, h16km±18km, mb4.6/17, Error ellipse: s-maj=7.8km s-min=5.9km az=210.0*

NEIC Felt [II] at Waingapu.

DJA ***23*** *09:51:28.6±0.2, 10°S±3°×11°9E±°, h60km±4km, M4.7/18, mb4.9/17, mB5.2/13, MLv5.1/18, Mw(mB)4.5/13*

ISC 23 09:51:26.3±0.4, 9°.92S±0°.05×119°.06E±0°.04, h33km, n128, σ1°96/123, mb4.8/52, MS3.6/7, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WSI	**Waingapu**	**1.24**	**78**	P	**Pn**		**09 51 46.9**	**-0.5**
BASI	**Baing, Sumba**	**1.52**	**101**	P	**Pn**		**09 51 52.2**	**+1.0**
PLAI	**Plampang**	**1.67**	**311**	P	**Pn**		**09 51 53.7**	**+0.4**
EDFI	**Ende, Flores**	**2.84**	**66**	P	**Pn**		**09 52 08.2**	**-1.3**
MMRI	**Maumere**	**3.38**	**68**	*e*Pn	**Pn**		**09 52 17.5**	**+0.7**
MMRI	**Maumere**	**3.38**	**68**	P	**Pn**		**09 52 18.7**	**+1.8**
DNP	**Denpasar**	**4.00**	**288**	P	**Pn**		**09 52 29.6**	**+4.3**
IGBI	**Denpasar**	**4.02**	**286**	P	**Pn**		**09 52 27.6**	**+2.0**
SRBI	**Singaraja**	**4.22**	**295**	P	**Pn**		**09 52 31.1**	**+2.7**
BATI	**Baumata**	**4.54**	**94**	Pn	**Pn**		**09 52 34.1**	**+1.3**
	106nm,0.3s,baz=122,slow=2.0,SNR=32							
BATI				Sn	**Sn**		**09 53 26.4**	**+2.0**
	55nm,0.3s,baz=36,slow=23,SNR=12							
BATI	**Baumata**	**4.54**	**94**	P	**Pn**		**09 52 35.3**	**+2.5**
BKSI	**Bulukumba**	**4.69**	**13**	P	**Pn**		**09 52 35.9**	**+1.1**
JAGI	**Jajag, Banyuwa**	**5.06**	**286**	*e*Pn	**Pn**		**09 52 41.0**	**+1.0**
JAGI	**Jajag, Banyuwa**	**5.06**	**286**	P	**Pn**		**09 52 40.7**	**+0.8**
SOEI	**Soe**	**5.13**	**89**	*e*Pn	**Pn**		**09 52 43.6**	**+2.6**
SOEI	**Soe**	**5.13**	**89**	P	**Pn**		**09 52 43.6**	**+2.6**
ABJI	**Asem Bagus**	**5.22**	**294**	P	**Pn**		**09 52 45.0**	**+2.9**
BNSI	**Bone**	**5.58**	**11**	P	**Pn**		**09 52 49.7**	**+2.6**
BBSI	**Bau Bau**	**5.61**	**39**	P	Pn		09 52 54.4	+6.9
GMJI	**Gumukmas**	**5.79**	**286**	P	**Pn**		**09 52 51.0**	**+1.1**
SPSI	**Sidrap Palu**	**5.96**	**7**	P	**Pn**		**09 52 54.1**	**+1.8**
TTSI	**Tana Toraja**	**6.88**	**6**	P	Pn		09 53 09.6	+4.7
PWJI	**Pagerwojo**	**7.42**	**284**	P	Pn		09 53 21.6	+9.3
PCI	**Palu**	**8.99**	**5**	P	Pn		09 53 48.2	+14
FITZ	**Fitzroy Crossi**	**10.33**	**143**	Pn	**Pn**		**09 53 52.8**	**+0.5**
	0.8nm,0.3s,baz=333,slow=8.0,SNR=25							
FITZ				Sn	**Sn**		**09 55 41.9**	**-5.1**
	1.9nm,0.3s,baz=192,slow=18,SNR=6.5							
FITZ				LR	LR		09 58 00.9	
	comp=Z,370nm,21.3s,baz=324,slow=38							
NLAI	**Namlea**	**10.38**	**51**	P	Pn		09 54 00.1	+7.1
MBWA	**Marble Bar**	**11.19**	**177**	*e*Pn	**Pn**		**09 54 07.0**	**+2.9**
MBWA				*e*Sn	**Sn**		**09 56 01.7**	**-6.3**
CISI	**Cisompet, Garu**	**11.37**	**281**	*e*Pn	**Pn**		**09 54 04.8**	**-1.7**
CISI				*e*Sn	**Sn**		**09 56 09.9**	**-2.6**
GIRL	**Giralia**	**13.47**	**200**	*e*Pn	**Pn**		**09 54 36.3**	**+1.1**
FAKI	**Fak Fak**	**14.83**	**63**	*e*Pn	**Pn**		**09 54 51.5**	**-2.2**
FAKI	**Fak Fak**	**14.83**	**63**	P	**Pn**		**09 54 51.7**	**-2.1**
SWI	**Sorong**	**15.11**	**54**	P	**P**		**09 55 02.7**	**+0.4**
SIJI	**Sorong**	**15.11**	**54**	Pn	**Pn**		**09 54 56.3**	**-1.2**
	2.4nm,0.3s,baz=230,slow=19,SNR=4.9							
SIJI				LR	LR		10 00 51.1	
	comp=Z,313nm,20.0s,slow=38							
MDSI	**Maura Dua**	**15.72**	**289**	P	**P**		**09 55 13.6**	**+4.5**
LHSI	**Lahat**	**16.57**	**290**	P	**P**		**09 55 22.0**	**+3.4**
MNAI	**Manna**	**16.91**	**288**	*e*Pn	**Pn**		**09 55 18.4**	**-2.2**
	138nm,0.5s							
WRA	**Warramunga Arr**	**17.79**	**126**	P	**Pn**		**09 55 31.2**	**-0.4**
	0.6nm,0.3s,baz=303,slow=13,SNR=27							
WRA				S	Sn		09 58 36.0	-13
	0.5nm,0.3s,baz=295,slow=22,SNR=7.0							
WRA				LR	LR		10 03 45.6	
	comp=Z,116nm,18.3s,baz=285,slow=42							
WRAB	**Tennant Creek**	**17.79**	**126**	*e*Pn	**Pn**		**09 55 31.6**	**0.0**
	6.5nm,0.6s							
WRAB				*e*Sn	Sn		09 58 39.5	-10
WB2	**Warramunga Arr**	**17.80**	**126**	*e*Pn	**Pn**		**09 55 31.8**	**+0.2**
	7.1nm,0.7s							
WB2				*e*Sn	Sn		09 58 39.6	-10
DAV	**Davao City (W)**	**18.09**	**21**	LR	LR		10 03 04.2	
	comp=Z,107nm,20.4s,baz=84,slow=39							
KRJI	**Kerinci**	**19.14**	**293**	P	**Pn**		**09 55 49.7**	**+1.6**
MORW	**Morawa**	**19.26**	**188**	*e*P	**Pn**		**09 55 52.1**	**+2.8**
	11nm,0.7s							
AS31	**Alice Springs**	**19.68**	**136**	*e*P	**Pn**		**09 55 55.1**	**+0.6**
	2.6nm,0.6s							
ASAR	**Alice Springs**	**19.68**	**136**	P	**Pn**		**09 55 55.1**	**+0.7**
	0.7nm,0.3s,baz=317,slow=11,SNR=33							
ASAR				S	S		09 59 20.4	-13
	0.1nm,0.3s,baz=310,slow=23,SNR=3.1							
ASAR				LR	LR		10 04 19.0	
	comp=Z,203nm,18.0s,baz=309,slow=39							
AS01	**Alice Springs**	**19.72**	**136**	*e*P	**Pn**		**09 55 55.4**	**+0.6**
PDSI	**Padang**	**20.55**	**295**	P	**P**		**09 56 01.2**	**-1.2**
SISI	**Saibi**	**21.62**	**292**	P	**P**		**09 56 12.2**	**-1.6**
NWAO	**Narrogin (SRO)**	**22.95**	**184**	P	**P**		**09 56 31.1**	**+3.2**
	8.6nm,0.8s,baz=235,slow=12,SNR=2.9							
NWAO				S	**S**		**10 00 36.0**	**0.0**
	11nm,0.4s,baz=107,slow=11,SNR=7.2							
NWAO				LR	LR		10 05 16.7	
	comp=Z,120nm,21.2s,baz=206,slow=36							
NWAO	**Narrogin (SRO)**	**22.95**	**184**	*e*P	**P**		**09 56 26.7**	**-1.2**
	12nm,0.9s							
NWAO				*e*S	**S**		**10 00 37.9**	**+1.9**
PSI	**Prapat**	**23.71**	**301**	P	**P**		**09 56 34.9**	**-0.8**
	12nm,0.3s,baz=359,slow=23,SNR=20							
PSI	**Prapat**	**23.71**	**301**	*e*P	**P**		**09 56 34.9**	**-0.8**
	35nm,1.0s							
COEN	**Coen**	**23.92**	**102**	*e*P	**P**		**09 56 36.4**	**-1.2**
	13nm,0.9s							
TGY	**Tagaytay City**	**23.94**	**4**	P	**P**		**09 56 39.4**	**+1.7**
	160nm,0.3s,baz=171,slow=6.4,SNR=5.9							
GSI	**Gunungsitoli**	**24.13**	**296**	*e*P	**P**		**09 56 38.9**	**-0.6**
	13nm,0.6s							
KCSI	**Kotacane, Aceh**	**25.07**	**301**	P	**P**		**09 56 46.3**	**-1.7**
TPTI		**25.43**	**300**	P	**P**		**09 56 49.9**	**-1.4**
PMG	**Port Moresby**	**27.70**	**91**	LR	LR		10 09 16.7	
	comp=Z,108nm,19.6s,baz=280,slow=39							
SRAK	**Srakaew**	**29.17**	**324**	P	**P**		**09 57 21.8**	**-3.0**
STKA	**Stephens Creek**	**30.21**	**140**	P	**P**		**09 57 36.7**	**+2.8**
	1.8nm,0.9s,baz=274,slow=15,SNR=2.5							
SKNT	**Sakolnakorn**	**30.61**	**331**	P	**P**		**09 57 38.3**	**+0.8**
	7.1nm,1.3s,806nm							
CHAI	**Chaiyaphum**	**30.73**	**326**	P	**P**		**09 57 39.6**	**+1.0**
	7.8nm,0.7s							
UTHA	**Uthaitani**	**31.92**	**322**	P	**P**		**09 57 49.8**	**+0.7**
	3.7nm,0.8s,86nm							
NONG	**Nongkai**	**31.94**	**330**	P	**P**		**09 57 50.1**	**+0.8**
	0.4nm,1.0s,84nm							
UTTA	**Uttaradit**	**33.02**	**326**	P	**P**		**09 57 59.3**	**+0.6**
	7.1nm,0.7s							
SUKH	**Sukhothai**	**33.32**	**325**	P	**P**		**09 58 02.2**	**+0.9**
	8.8nm,0.6s							
CMAR	**Chiang Mai Arr**	**34.49**	**325**	P	**P**		**09 58 11.8**	**+0.2**
	5.8nm,0.6s,baz=154,slow=6.4,SNR=16							
CMAR				PcP	**PcP**		**10 00 48.5**	**+2.2**
	0.6nm,0.3s,baz=170,slow=3.2,SNR=4.3							
CMAR				LR	LR		10 13 26.6	
	comp=Z,119nm,19.9s,baz=151,slow=39							
CHTO	**Chiang Mai**	**34.77**	**325**	*e*P	**P**		**09 58 12.8**	**-1.2**
	4.5nm,0.6s							

KMI	**Kunming**	**38.30**	**336**	P	**P**	**09 58 46.8**	**+2.6**
KMI				pmax	pmax		
	comp=Z,12nm,0.5s						
KMI				pmax	pmax		
	comp=Z,83nm,4.2s						
NJ2	**Nanjing**	**41.74**	**360**	*e*P	**P**	**09 59 12.8**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PALK	**Pallekele**	**41.85**	**293**	P	**P**	**09 59 14.1**	**+0.4**
	3.2nm,0.4s,baz=114,slow=5.4,SNR=2.9						
CD2	**Chengdu**	**43.18**	**341**	*e*P	**P**	**09 59 24.0**	**-0.2**
H08S2	**Diego Garcia H**	**46.05**	**269**	T	T	10 49 06.0	
	baz=96,slow=76,SNR=18						
H08S3	**Diego Garcia H**	**46.06**	**269**	T	T	10 49 05.8	
	baz=96,slow=76,SNR=21						
H08S1	**Diego Garcia H**	**46.07**	**269**	T	T	10 49 06.8	
	baz=96,slow=76,SNR=96						
H08N1	**Diego Garcia H**	**47.67**	**270**	T	T	10 51 30.2	
	baz=160,slow=79,SNR=11						
H08N2	**Diego Garcia H**	**47.68**	**270**	T	T	10 51 23.1	
	baz=160,slow=79,SNR=9.2						
H08N3	**Diego Garcia H**	**47.69**	**270**	T	T	10 51 28.2	
	baz=160,slow=79,SNR=12						
ODAN	**Odare**	**47.77**	**321**	*e*P	**P**	**10 00 00.2**	**-0.7**
	12nm,0.4s						
KSAR	**Wonju Array Be**	**47.84**	**9**	P	**P**	**10 00 00.5**	**-0.4**
KSRS	**Korea Array**	**47.85**	**10**	P	**P**	**10 00 00.5**	**-0.5**
	2.0nm,0.8s,baz=188,slow=8.1,SNR=8.5						
TAPN	**Taplejung**	**47.92**	**321**	*e*P	**P**	**10 00 01.5**	**-0.6**
	17nm,0.5s						
LZH	**Lanzhou**	**47.96**	**343**	*e*P	**P**	**09 59 58.9**	**-3.2**
LZH				pP	pP	10 00 09.5	-2.5
LZH				sP	sP	10 00 13.8	-2.1
LZH				*e*PP	**PP**	**10 01 51.5**	**-3.0**
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
LZH				pmax	pmax		
	comp=Z,62nm,7.5s						
LZH				LR	LR		
	comp=N,200nm,14.2s						
LZH				LR	LR		
	comp=E,210nm,14.5s						
LZH				LR	LR		
	comp=Z,310nm,18.2s						
RAMN	**Ramite**	**48.33**	**320**	*e*P	**P**	**10 00 04.8**	**-0.4**
	26nm,0.5s						
JIRN	**Jiri**	**49.09**	**320**	*e*P	**P**	**10 00 10.3**	**-0.9**
	44nm,0.5s						
GUN	**Gumba**	**49.46**	**320**	*e*P	**P**	**10 00 13.1**	**-0.9**
	40nm,0.6s						
PKI	**Pulchoki**	**49.52**	**320**	*e*P	**P**	**10 00 13.2**	**-1.3**
	18nm,0.7s						
PKIN	**Phulchoki**	**49.53**	**320**	*e*P	**P**	**10 00 12.8**	**-1.7**
	11nm,0.4s						
MJAR	**Matsushiro Arr**	**49.60**	**20**	P	**P**	**10 00 12.3**	**-2.2**
	1.8nm,0.6s,baz=198,slow=7.5,SNR=6.2						
MJAR				LR	LR	10 21 23.5	
	comp=Z,33nm,19.4s,baz=80,slow=36						
DMN	**Daman**	**49.74**	**319**	*e*P	**P**	**10 00 14.9**	**-1.1**
	25nm,0.7s						
KKN	**Kakani**	**49.76**	**320**	*e*P	**P**	**10 00 15.3**	**-0.8**
	17nm,0.7s						
KOLN	**Koldanda**	**50.82**	**318**	*e*P	**P**	**10 00 23.0**	**-1.2**
	32nm,0.7s						
HHC	**Hu-ho-hao-te**	**50.99**	**353**	*e*P	P	10 00 30.5	+5.4
HHC				pmax	pmax		
	comp=Z,17nm,1.2s						
HHC				pmax	pmax		
	comp=Z,270nm,6.9s						
DANN	**Dangsing**	**51.11**	**319**	*e*P	**P**	**10 00 25.0**	**-1.4**
	57nm,0.7s						
PYUN	**Piuthan**	**51.45**	**318**	*e*P	**P**	**10 00 27.9**	**-0.9**
	31nm,0.7s						
GTA	**Gaotai**	**52.24**	**341**	P	**P**	**10 00 35.1**	**+0.6**
GTA				pP	pP	10 00 44.3	-0.2
GTA				sP	sP	10 00 48.3	-0.1
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
USA0B	**Ussuriysk Arra**	**55.13**	**11**	*e*P	**P**	**10 00 54.6**	**-0.8**
	6.8nm,0.7s						
USRK	**Ussuriysk Ar.**	**55.13**	**11**	P	**P**	**10 00 54.3**	**-1.1**
	7.1nm,0.6s,baz=195,slow=6.6,SNR=28						
SONM	**Songino Array**	**58.59**	**350**	P	**P**	**10 01 19.7**	**-0.3**
	3.1nm,0.5s,baz=169,slow=8.7,SNR=9.4						
WMQ	**Urumqi**	**60.61**	**334**	*e*P	**P**	**10 01 34.5**	**+0.5**
WMQ				LR	LR		
	comp=N,210nm,19.5s						
WMQ				LR	LR		
	comp=E,210nm,24.1s						
WMQ				LR	LR		
	comp=Z,130nm,17.1s						
KSH	**Kashi**	**63.38**	**324**	P	**P**	**10 01 52.3**	**-0.5**
KSH				sP	sP	10 02 11.0	+4.2
KSH				PP	**PP**	**10 04 13.8**	**+1.2**
KSH				S	**S**	**10 10 16.3**	**-7.0**
KSH				ScS	**SKSac**	**10 11 36.3**	**-7.4**
KSH				pmax	pmax		
	comp=Z,25nm,0.6s						
KSH				pmax	pmax		
	comp=Z,220nm,6.5s						
KSH				LR	LR		
	comp=N,200nm,8.2s						
KSH				LR	LR		
	comp=E,130nm,8.1s						
KSH				LR	LR		
	comp=Z,220nm,7.6s						
TARG	**Taragay, Kyrgy**	**63.84**	**327**	*e*P	**P**	**10 01 56.1**	**0.0**
	4.1nm,1.0s						
KBL	**Kabul**	**64.79**	**316**	*e*P	**P**	**10 02 01.2**	**-1.0**
	9.5nm,0.6s						
MK01	**Makanchi Array**	**65.28**	**333**	*e*P	**P**	**10 02 04.0**	**-0.9**
MK31	**Makanchi Array**	**65.30**	**333**	*e*P	**P**	**10 02 04.8**	**-0.2**
MKAR	**Makanchi Array**	**65.30**	**333**	P	**P**	**10 02 04.6**	**-0.5**
	9.2nm,0.8s,baz=147,slow=7.5,SNR=79						
MAKZ	**Makanchi**	**65.45**	**333**	*e*P	**P**	**10 02 05.6**	**-0.4**
	3.5nm,0.8s						
KZA	**Kyzart**	**65.48**	**325**	P	**P**	**10 02 06.8**	**0.0**
	SNR=8.5						
TKM2	**Tokmak 2**	**65.85**	**326**	P	**P**	**10 02 08.1**	**-0.8**
	SNR=6.3						
KBK	**Karagaybulak**	**66.03**	**326**	P	**P**	**10 02 10.3**	**+0.2**
	SNR=7.7						
AAK	**Ala-Archa**	**66.27**	**326**	P	**P**	**10 02 11.6**	**0.0**
	SNR=7.3						
AAK	**Ala-Archa**	**66.27**	**326**	*e*P	**P**	**10 02 11.4**	**-0.1**
	8.0nm,0.8s						
AML	**Almayashu**	**66.40**	**325**	P	**P**	**10 02 12.4**	**-0.3**
	SNR=7.2						
USP	**Ospenovka**	**66.68**	**326**	P	**P**	**10 02 13.3**	**-0.7**
	SNR=5.1						
EKS2	**Erkin-Say**	**66.69**	**325**	P	**P**	**10 02 13.5**	**-0.7**
	SNR=9.8						
WSAR	**Wadi Sarin**	**67.67**	**300**	P	**P**	**10 02 20.7**	**+0.1**
	3.3nm,0.5s,baz=137,slow=5.9,SNR=9.3						
OPO	**Ambohidratompo**	**69.82**	**254**	LR	LR	10 26 53.0	
	comp=Z,106nm,21.1s,baz=185,slow=30						
KURK	**Kurchatov**	**69.85**	**334**	*e*P	**P**	**10 02 33.2**	**-0.4**
	4.6nm,1.0s						
ZALV	**Zalesovo Beam**	**69.92**	**339**	P	**P**	**10 02 33.1**	**-0.8**
	5.0nm,0.5s,baz=138,slow=5.3,SNR=12						
PETK	**Petropavlovsk-**	**70.89**	**23**	P	**P**	**10 02 40.2**	**+0.2**
	1.4nm,0.6s,baz=203,slow=6.7,SNR=4.3						
GEYT	**Alibeck**	**74.12**	**314**	P	**P**	**10 02 59.6**	**0.0**
	1.9nm,0.6s,baz=147,slow=8.6,SNR=4.2						
RAYN	**Ar Rayn**	**79.17**	**296**	*e*P	**P**	**10 03 29.3**	**+0.9**
	4.9nm,0.8s						
KBZ	**Khabaz**	**86.97**	**315**	P	**P**	**10 04 09.4**	**+1.2**
	3.3nm,0.8s,baz=136,slow=4.0,SNR=8.3						
BOSA	**Boshof**	**88.62**	**241**	P	**P**	**10 04 18.6**	**+1.8**
	1.5nm,0.7s,baz=322,slow=18,SNR=2.4						
BRTR	**Keskin Array B**	**92.77**	**310**	P	**P**	**10 04 37.0**	**+1.2**
	0.8nm,0.8s,baz=128,slow=5.3,SNR=3.9						
YKA	**Yellowknife Ar**	**115.00**	**24**	PKP	PKPdf	10 10 04.4	+0.8
	0.2nm,0.3s,baz=295,slow=1.9,SNR=6.5						
TORD	**Torodi Ar. Bea**	**118.68**	**280**	PKP	**PKPdf**	**10 10 12.9**	**+0.9**
	0.9nm,0.5s,baz=88,slow=1.6,SNR=8.7						
TXAR	**Lajitas Array**	**135.67**	**58**	PKP	**PKPdf**	**10 10 45.9**	**+1.7**
	0.1nm,0.5s,baz=45,slow=0.3,SNR=2.6						
CPUP	**Villa Florida**	**143.79**	**185**	PKP	**PKPdf**	**10 11 00.9**	**+2.0**
	0.8nm,0.5s,baz=5.7,slow=10,SNR=2.2						

*MOS **23** 09:58:21.2±1.0,52.58N×99.71E,h10km,mb4.1/3,Error ellipse: s-maj=18.2km s-min=11.0km az=36.3*
MOS Felt (II) at Orlik.
BYKL 23 09:58:19.0±0.2,52.72N×99.59E,6C,FELT I=II MSK at

Orlik,Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORL	**Orlik**	**0.23**	**143**	⇑*i*Pg	Pg	09 58 23.5	+0.2
ORL				*e*Sg	Sg	09 58 26.8	+0.6
ORL				Pmax			
	776nm,0.1s						
ORL				Smax			
	10μm,0.2s						
ORL	**Orlik**	**0.23**	**143**	⇑*i*PG	Pg	09 58 23.5	+0.2
ORL				*e*		09 58 26.8	
ORL				pmax	pmax		
	comp=Z,848nm,0.1s						
ORL				smax	smax		
	comp=N,1μm,0.2s						
MOY	**Mondy**	**1.36**	**140**	⇑*i*Pg	Pg	09 58 43.8	-1.3
MOY				*e*Sg	Sg	09 59 01.4	-1.4
MOY				Pmax			
	comp=N,129nm,0.4s						
MOY				Smax			
	comp=N,309nm,0.6s						
MOY	**Mondy**	**1.36**	**140**	⇑*i*PG	Pg	09 58 43.8	-1.3
MOY				*e*		09 59 01.5	
MOY				pmax	pmax		
	comp=Z,138nm,0.5s						
MOY				smax	smax		
	comp=E,326nm,0.5s						
ARS	**Arshan**	**1.92**	**114**	⇑*i*Pg	Pn	09 58 53.3	+0.4
ARS				*e*		09 58 55.2	
ARS				*e*		09 58 58.0	
ARS				*e*Sg	Sn	09 59 18.0	+0.2
ARS				max			
	comp=E,342nm,0.2s						
ARS				Smax			
	comp=E,826nm,0.4s						
ARS	**Arshan**	**1.92**	**114**	⇑*i*PN	Pn	09 58 53.3	+0.4
ARS				*e*		09 59 17.9	
ARS				pmax	pmax		
	comp=Z,312nm,0.3s						
ARS				smax	smax		
	comp=E,818nm,0.5s						
TDJR	**Todzha**	**2.15**	**263**	*e*Pg	Pn	09 58 57.5	+1.3
TDJR				*e*Sg	Sb	09 59 25.4	-0.8
TDJR				Pmax			
	comp=E,56nm,0.4s						
TDJR				Smax			
	comp=E,184nm,0.3s						
KNGR	**Kungurtug, Tuv**	**2.48**	**212**	*e*Pg	Pb	09 59 04.1	-0.4
KNGR				*e*Sg	Sb	09 59 36.8	+1.2
KNGR				Pmax			
	comp=E,39nm,0.4s						
KNGR				Smax			
	comp=E,285nm,0.4s						
TLY	**Talaya**	**2.70**	**111**	*e*Pg	Pb	09 59 06.7	-1.5
TLY				*e*Sn	Sn	09 59 37.0	-0.1
TLY				*e*Sg	Sb	09 59 42.2	+0.3
TLY				Pmax			
	comp=E,64nm,0.5s						
TLY				Smax			
	comp=E,153nm,0.3s						
TLY	**Talaya**	**2.70**	**111**	*e*PN	Pb	09 59 06.7	-1.5
IRK	**Irkutsk**	**2.90**	**98**	*e*Pg	Pb	09 59 11.1	-0.5
IRK				*e*Sn	Sn	09 59 43.1	+1.1
IRK				*e*Sg	Sb	09 59 48.8	+1.2
IRK				Pmax			
	comp=E,195nm,0.1s						
IRK				Smax			
	comp=E,373nm,0.4s						
IRK	**Irkutsk**	**2.90**	**98**	*e*PN	Pb	09 59 09.3	-2.3
IRK				*e*		09 59 46.4	
IRK				pmax	pmax		
	comp=Z,195nm,0.1s						
IRK				smax	smax		
	comp=N,381nm,0.4s						
IVK	**Ivanovka**	**3.10**	**105**	*e*Pn	Pn	09 59 10.8	+1.6
IVK				*e*Pg	Pb	09 59 13.8	-1.2
IVK				*e*Sn	Sn	09 59 45.4	-1.6
IVK				*e*Sg	Sb	09 59 53.5	+0.1
IVK				Pmax			
	comp=N,50nm,0.2s						
IVK				Smax			
	comp=N,156nm,0.5s						
ZAK	**Zakamensk**	**3.28**	**134**	*e*Pg	Pb	09 59 17.5	-0.7
ZAK				*e*Sg	Sb	10 00 01.2	+2.5
ZAK				*e*SgSg	SgSg	10 00 07.9	+3.4
ZAK				Pmax			
	comp=N,37nm,0.4s						
ZAK				max			
	comp=N,123nm,0.6s						
ZAK	**Zakamensk**	**3.28**	**134**	*e*PN	Pb	09 59 17.1	-1.1
ZAK				*e*		10 00 00.8	
ZAK				pmax	pmax		
	comp=Z,36nm,0.4s						
ZAK				smax	smax		
	comp=E,126nm,0.6s						
KZLR	**Kyzyl**	**3.32**	**254**	*e*Pg	Pb	09 59 18.0	-0.7
KZLR				*e*Sg	Sb	10 00 00.9	+1.3
KZLR				Pmax			
	comp=E,18nm,0.1s						
KZLR				Smax			
	comp=E,67nm,0.3s						
LSTR	**Listvyanka**	**3.33**	**103**	*e*Pn	Pn	09 59 13.6	+1.3
LSTR				*e*Pg	Pb	09 59 19.0	+0.1
LSTR				*e*Sg	Sb	10 00 02.0	+2.1
LSTR				Pmax			
	comp=E,47nm,0.3s						
LSTR				Smax			
	comp=E,120nm,0.5s						
BGT	**Bolshoye Golou**	**3.63**	**98**	*e*Pn	Pn	09 59 17.3	+0.9
BGT				*e*Pg	Pb	09 59 23.3	-0.7
BGT				*e*Sn	Sn	10 00 01.5	+1.6
BGT				*e*Sg	Sb	10 00 11.3	+2.8
BGT				Pmax			
	comp=E,39nm,0.3s						
BGT				Smax			
	comp=E,94nm,0.3s						
ERNS	**Erzin**	**3.71**	**230**	*e*Sg	Sb	10 00 13.3	+2.5
TRG	**Tyrgan**	**4.11**	**87**	*e*Pn	Pn	09 59 23.7	+0.7
TRG				*e*Pg	Pb	09 59 33.7	+1.5
TRG				*e*		09 59 38.8	
TRG				*e*Sn	Sn	10 00 12.6	+0.8
TRG				*e*Sg	Sb	10 00 26.4	+4.1
TRG				Pmax			
	comp=E,22nm,0.4s						
TRG				Smax			
	comp=E,100nm,0.4s						
TRG	**Tyrgan**	**4.11**	**87**	*e*PN	Pn	09 59 23.4	+0.4
TRG				*e*		09 59 33.4	
TRG				*e*S	Sn	10 00 10.3	-1.5
TRG				*e*		10 00 25.6	
TRG				pmax	pmax		
	comp=Z,22nm,0.2s						
TRG				smax	smax		
	comp=N,102nm,0.4s						
KAB	**Kabansk**	**4.38**	**96**	*e*Pn	Pn	09 59 28.9	+2.2
KAB				*e*Sg	Sg	10 00 34.9	-4.7
KAB				Smax			
	comp=N,412nm,0.6s						
ZRHB	**Zarechye**	**4.61**	**89**	*e*Pn	Pn	09 59 30.9	+1.0
ZRHB				*e*Pg	Pb	09 59 41.8	+1.1
ZRHB				*e*Sn	Sn	10 00 24.5	+0.4
ZRHB				*e*Sg	Sb	10 00 41.3	+4.6
ZRHB				Pmax			
	comp=N,25nm,0.5s						
ZRHB				Smax			
	comp=N,340nm,1.0s						
HRMR	**Khuramsha**	**4.66**	**101**	*e*Pn	Pn	09 59 32.2	+1.6
HRMR				*e*Pg	Pb	09 59 42.9	+1.3
HRMR				*e*Sn	Sn	10 00 25.2	-0.3
HRMR				*e*Sg	Sb	10 00 42.8	+4.5
HRMR				Pmax			
	comp=N,55nm,0.4s						
HRMR				Smax			
	comp=N,296nm,0.4s						
OGRR	**Ongureny**	**4.90**	**76**	*e*Pn	Pn	09 59 34.9	+1.0
OGRR				*e*Pg	Pb	09 59 47.7	+2.0
OGRR				*e*Sn	Sn	10 00 30.4	-0.9
OGRR				*e*Sg	Sg	10 00 51.1	-5.3
OGRR				Pmax			
	comp=N,18nm,0.4s						
OGRR				Smax			
	comp=N,241nm,0.5s						
OGRR	**Ongureny**	**4.90**	**76**	*e*PN	Pn	09 59 34.9	+1.0
OGRR				*e*		09 59 48.5	
OGRR				*e*S	Sn	10 00 30.4	-0.9
OGRR				*e*		10 00 51.0	
OGRR				pmax	pmax		
	comp=Z,17nm,0.4s						
OGRR				smax	smax		
	comp=E,242nm,0.5s						
UUDB	**Ulan-Yde**	**5.03**	**97**	*e*Pn	Pn	09 59 37.0	+1.3
UUDB				*e*Pg	Pb	09 59 49.4	+1.6
UUDB				*e*Sn	Sn	10 00 34.1	-0.3
UUDB				*e*Sg	Sb	10 00 53.9	+5.1
UUDB				Pmax			
	comp=E,46nm,0.6s						
UUDB				Smax			
	comp=E,96nm,0.9s						
MXMB	**Maximikha**	**5.56**	**81**	*e*Pn	Pn	09 59 43.7	+0.8
MXMB				*e*Pg	Pb	09 59 59.6	+2.8
MXMB				*e*Sn	Sn	10 00 46.8	-0.6
MXMB				*e*		10 01 04.2	
MXMB				*e*Sg	Sg	10 01 10.7	-6.7
SYVR	**Suvo**	**6.33**	**77**	*e*Pn	Pn	09 59 54.2	+0.7
SYVR				*e*Pg	Pb	10 00 12.9	+3.0
SYVR				*e*Sn	Sn	10 01 04.5	-1.9
SYVR				*e*Sg	Sg	10 01 34.6	-7.5
SYVR				*e*		10 01 45.6	
SYVR				Pmax			
	comp=E,7.0nm,0.4s						
SYVR				Smax			
	comp=E,47nm,1.5s						
NIZ	**Nizh Angarsk**	**6.58**	**58**	*e*Pn	Pn	09 59 57.4	+0.4
NIZ				*e*Pg	Pb	10 00 18.0	+3.7
NIZ				*e*Sn	Sn	10 01 10.9	-1.8
NIZ				*e*Sg	Sg	10 01 43.2	-7.1
NIZ				Pmax			
	comp=E,6.0nm,0.3s						
NIZ				Smax			
	comp=E,69nm,0.9s						
ULN	**Ulaanbaatar**	**6.81**	**133**	*i* PN	Pn	10 00 02.0	+1.7
YLYR	**Ulyunkhan**	**7.19**	**68**	*e*Pn	Pn	10 00 06.0	+0.7
YLYR				*e*Sn	Sn	10 01 25.1	-2.4
YLYR				*e*Sg	Sg	10 02 00.6	-9.0
YLYR				Smax			
	comp=E,56nm,1.4s						
KMO	**Kumora**	**7.50**	**60**	*e*Pn	Pn	10 00 10.4	+0.9
KMO				*e*Sn	Sn	10 01 31.9	-3.2
KMO				*e*Sg	Sg	10 02 10.9	-8.6
KMO				Smax			
	comp=E,64nm,1.3s						
YOA	**Uoyan**	**7.86**	**59**	*e*Sn	Sn	10 01 40.9	-3.1
YOA				*e*Sg	Sg	10 02 22.8	-8.3
YOA				Smax			
	comp=E,212nm,1.3s						
KPC	**Khapcheranga**	**8.58**	**106**	*e*Pg	Pg	10 00 53.2	-10
KPC				*e*Sg	Sg	10 02 44.6	-10
KPC				Pmax			
	comp=E,1.0nm,0.1s						
KPC				Smax			
	comp=E,15nm,1.3s						
UKT	**Uakit**	**8.70**	**66**	*e*Pn	Pn	10 00 26.9	+0.8
UKT				*e*Pg	Pg	10 00 55.1	-10
UKT				*e*Sn	Sn	10 02 02.4	-2.5
UKT				*e*Sg	Sg	10 02 47.3	-11
UKT				Pmax			
	comp=E,5.0nm,1.0s						
UKT				Smax			
	comp=E,29nm,1.1s						
KURK	**Kurchatov**	**13.15**	**270**	*i* P	Pn	10 01 31.6	+4.8
BRVK	**Borovoye**	**17.64**	**283**	*i* P	P	10 02 29.3	+2.3
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
KLR	**Kul'dur**	**20.45**	**87**	*i* P	Pn	10 03 01.0	+1.1
TIXI	**Tiksi**	**22.94**	**23**	*i* P	P	10 03 28.2	+3.9
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BILL	**Bilibino**	**34.31**	**38**	*i* P	P	10 05 09.1	+2.5
BILL				pmax	pmax		
	comp=Z,2.0nm,1.5s						
KIV	**Kislovodsk**	**37.92**	**280**	*e*P	P	10 05 40.3	+2.4
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						

*ATH **23** 10:05:19.6,39.68N×25.54E,h27km±1km,ML3.1/18,Error ellipse: s-maj=2.0km s-min=0.8km az=64.0*
*ISK **23** 10:05:19.5,39.69N×25.61E,h5km,ML3.5/37*
*DDA **23** 10:05:19.6,39.67N×25.63E,h26km±1km,ML3.5*
*ISCJB **23** 10:05:19.6±0.4,39.69N±0.02×25.56E±0.02,h8km±3km, Error ellipse: s-maj=2.8km s-min=2.4km az=136.0*
*THE **23** 10:05:20.5,39.66N×25.54E,h14km±1km,ML3.1/11,Error ellipse: s-maj=1.2km s-min=0.6km az=71.0*
*SOF **23** 10:05:26.5,40.01N×25.32E,h6km*
ISC 23 10:05:19.7±1.0,39.67N±0.02×25.54E±0.02,h10km±9km, n121,σ0.96/147,15C-5D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.36**	**310**	P	**Pb**	**10 05 27.9**	**-0.3**
LIA				S	**Sb**	**10 05 33.3**	**-0.7**
LIA				AML	AML	10 05 33.8	
	comp=E,5962μm,0.3s						
LIA				AML	AML	10 05 34.0	
	comp=N,6131μm,0.2s						
LIA	**Limnos Island**	**0.36**	**310**	P	**Pb**	**10 05 27.9**	**-0.3**
LIA				S	**Sb**	**10 05 33.2**	**-0.7**
BOZC	**Bozcaada**	**0.43**	**66**	PG	**Pg**	**10 05 27.4**	**-0.7**
BOZC				SG	**Sg**	**10 05 33.1**	**-0.7**
BOZC	**Bozcaada**	**0.43**	**66**	IAML_P			
	comp=Z,40μm,0.2s						
BOZC				*i* P	**Pb**	**10 05 28.8**	**-0.6**
SIGR	**SIGRI**	**0.51**	**152**	P	**Pg**	**10 05 30.0**	**+0.4**
SIGR				S	**Sb**	**10 05 37.7**	**-0.6**
SIGR				AML	AML	10 05 38.0	
	comp=E,21409μm,0.3s						
SIGR				AML	AML	10 05 38.4	
	comp=N,21448μm,0.4s						
SIGR	**SIGRI**	**0.51**	**152**	P	**Pg**	**10 05 29.9**	**+0.3**
SIGR				S	**Sb**	**10 05 37.7**	**-0.6**
GADA	**Gvkgeada**	**0.59**	**27**	PG	**Pg**	**10 05 30.9**	**-0.2**
GADA				SG	**Sg**	**10 05 38.9**	**0.0**
EZN	**Ezine**	**0.62**	**75**	PG	**Pg**	**10 05 31.2**	**-0.5**
EZN				SG	**Sg**	**10 05 39.4**	**-0.5**
PRK	**Paraskevi**	**0.70**	**126**	P	**Pb**	**10 05 34.4**	**+0.4**
PRK				S	**Sb**	**10 05 44.2**	**+0.5**
PRK				AML	AML	10 05 47.9	
	comp=N,9941μm,0.4s						
PRK				AML	AML	10 05 48.5	
	comp=E,8637μm,0.4s						
PRK	**Paraskevi**	**0.70**	**126**	P	**Pb**	**10 05 34.4**	**+0.4**
PRK				S	**Sb**	**10 05 44.2**	**+0.5**
BAYC	**CANAKKALE_Bayr**	**0.78**	**84**	*i* P	**Pg**	**10 05 34.4**	**-0.2**
BAYC				*i* S	**Sg**	**10 05 45.1**	**+0.3**
SMTH	**Samothraki Isl**	**0.81**	**359**	P	**Pg**	**10 05 35.4**	**+0.3**
SMTH				S	**Sb**	**10 05 46.2**	**-0.5**
SMTH				AML	AML	10 05 48.7	
	comp=E,2264μm,0.4s						
SMTH				AML	AML	10 05 48.8	
	comp=N,2825μm,0.3s						
SMTH	**Samothraki Isl**	**0.81**	**359**	P	**Pg**	**10 05 35.5**	**+0.3**
SMTH				S	**Sb**	**10 05 47.1**	**+0.4**
AYVA	**Ayvalik**	**0.96**	**112**	*i* P	**Pb**	**10 05 38.3**	**0.0**
AYVA				*i* S	**Sn**	**10 05 52.4**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.02**	**44**	PG	**Pg**	**10 05 38.7**	**-0.6**
GELI				SG	**Sg**	**10 05 52.7**	**+0.1**
SKY	**Skiros Island**	**1.10**	**225**	P	**Pg**	**10 05 40.9**	**+0.1**
SKY				AML	AML	10 05 58.0	
	comp=N,3594μm,0.2s						
SKY				AML	AML	10 05 58.5	
	comp=E,3636μm,0.2s						
PSRA	**Psara**	**1.12**	**179**	P	**Pn**	**10 05 42.0**	**+0.6**
THAS	**Thassos island**	**1.13**	**326**	P	**Pb**	**10 05 41.1**	**-0.2**
THAS				S	**Sg**	**10 05 56.6**	**+0.4**
THAS				AML	AML	10 05 58.0	
	comp=N,2312μm,0.2s						
THAS				AML	AML	10 05 58.5	
	comp=E,3559μm,0.3s						
THAS	**Thassos island**	**1.13**	**326**	P	**Pb**	**10 05 41.1**	**-0.2**
THAS				S	**Sg**	**10 05 56.5**	**+0.4**
ENEZ	**Enez**	**1

	comp=N,950µm,0.3s						
ALN				AML	AML	10 06 08.5	
	comp=E,863µm,0.4s						
ALN	**Alexandroupoli**	**1.29**	**17**	P	**Pn**	**10 05 43.6**	**-0.1**
ALN				S	**Sb**	**10 06 00.7**	**+0.1**
FOCM	**Foa**	**1.32**	**136**	PN	**Pb**	**10 05 44.7**	**+0.1**
CHOS	**Chios island**	**1.34**	**163**	P	**Pn**	**10 05 44.1**	**-0.3**
CHOS				S	**Sg**	**10 06 02.8**	**+0.1**
CHOS				AML	AML	10 06 06.7	
	comp=E,4473µm,0.3s						
CHOS				AML	AML	10 06 08.0	
	comp=N,2369µm,0.4s						
CHOS	**Chios island**	**1.34**	**163**	P	**Pn**	**10 05 44.2**	**-0.3**
CHOS				S	**Sb**	**10 06 01.2**	**-0.9**
OUR	**Ouranopolis**	**1.37**	**300**	P	**Pn**	**10 05 45.0**	**+0.1**
OUR				S	**Sb**	**10 06 02.9**	**-0.1**
AOS	**Alonnisos**	**1.38**	**250**	P	**Pn**	**10 05 45.1**	**+0.1**
AOS				AML	AML	10 06 07.3	
	comp=E,783µm,0.4s						
AOS				AML	AML	10 06 14.2	
	comp=N,897µm,0.7s						
AOS	**Alonnisos**	**1.38**	**250**	P	**Pn**	**10 05 44.9**	**-0.1**
AOS				S	**Sn**	**10 06 03.5**	**+0.2**
KESN	**Edirne-Kesan**	**1.45**	**37**	IAML_P			
	comp=Z,1µm,0.2s						
KESN				*i* P	**Pb**	**10 05 46.8**	**-0.2**
KESN				*i* S	**Sn**	**10 06 04.0**	**-1.5**
PAIG	**Paliouri**	**1.46**	**281**	P	**Pn**	**10 05 46.3**	**+0.3**
PAIG				AML	AML	10 06 17.9	
	comp=N,357µm,0.7s						
PAIG				AML	AML	10 06 23.1	
	comp=E,309µm,0.9s						
RDO	**Rodhopi**	**1.48**	**360**	P	**Pn**	**10 05 46.2**	**-0.1**
RDO				AML	AML	10 06 07.4	
	comp=N,660µm,0.8s						
RDO				AML	AML	10 06 14.2	
	comp=E,550µm,0.4s						
RDO	**Rodhopi**	**1.48**	**360**	P	**Pn**	**10 05 46.1**	**-0.2**
KRBG	**Karabiga-Canak**	**1.53**	**61**	PN	**Pn**	**10 05 47.1**	**+0.1**
URLA	**Izmir**	**1.54**	**148**	PN	**Pn**	**10 05 47.4**	**+0.2**
URLA	**Izmir**	**1.54**	**148**	IAML_P			
	comp=Z,4µm,0.2s						
URLA				*i* P	**Pn**	**10 05 47.4**	**+0.2**
KAVA	**Kavala**	**1.55**	**330**	P	**Pn**	**10 05 47.0**	**-0.3**
KAVA				AML	AML	10 06 11.4	
	comp=E,1080µm,0.4s						
KAVA				AML	AML	10 06 12.4	
	comp=N,967µm,0.3s						
KAVA	**Kavala**	**1.55**	**330**	P	**Pb**	**10 05 47.8**	**-0.6**
KAVA				S	**Sn**	**10 06 06.7**	**-0.7**
KVLA	**Kavala**	**1.55**	**325**	P	**Pn**	**10 05 47.3**	**0.0**
KNL	**Balıkesir**	**1.64**	**68**	IAML_P			
	comp=Z,6µm,0.4s						
KNL				*i* P	**Pb**	**10 05 49.5**	**-0.5**
KNL				*i* S	**Sb**	**10 06 11.4**	**+0.7**
SKIA	**Skiathos**	**1.69**	**253**	P	**Pn**	**10 05 49.2**	**0.0**
SKIA				AML	AML	10 06 18.7	
	comp=N,1377µm,0.5s						
SKIA				AML	AML	10 06 18.8	
	comp=E,1349µm,0.3s						
SKIA	**Skiathos**	**1.69**	**253**	P	**Pn**	**10 05 48.9**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.71**	**99**	*i* P	**Pb**	**10 05 50.6**	**-0.5**
BLCB	**Balcova**	**1.73**	**137**	PN	**Pn**	**10 05 50.6**	**+0.8**
PLG	**Polygyros**	**1.76**	**294**	P	**Pn**	**10 05 50.7**	**+0.4**
PLG				AML	AML	10 06 19.2	
	comp=E,306µm,0.6s						
PLG				AML	AML	10 06 21.1	
	comp=N,341µm,0.6s						
PLG	**Polygyros**	**1.76**	**294**	P	**Pn**	**10 05 50.6**	**+0.3**
PLG				S	**Sn**	**10 06 11.6**	**-1.2**
EREA	**Eretria**	**1.77**	**226**	P	**Pn**	**10 05 49.9**	**-0.4**
EREA				AML	AML	10 06 18.8	
	comp=N,640µm,0.5s						
EREA				AML	AML	10 06 21.0	
	comp=E,770µm,0.4s						
EREA	**Eretria**	**1.77**	**226**	P	**Pn**	**10 05 49.9**	**-0.4**
BALB	**Balikesir**	**1.80**	**90**	PN	**Pn**	**10 05 50.9**	**+0.1**
MRMT	**Marmara Adasi**	**1.83**	**59**	PN	**Pn**	**10 05 51.9**	**+0.6**
EDC	**Edincik**	**1.91**	**68**	PN	**Pn**	**10 05 52.7**	**+0.5**
SBT4	**Kumbag-Tekirda**	**1.92**	**52**	PN	**Pn**	**10 05 52.7**	**+0.5**
DGB	**zmir**	**1.92**	**147**	IAML_P			
	comp=Z,546nm,0.1s						
DGB				*i* P	**Pn**	**10 05 53.2**	**+0.8**
AKHS	**Akhisar**	**1.93**	**113**	IAML_P			
	comp=Z,4µm,0.2s						
AKHS				*i* P	**Pn**	**10 05 53.4**	**+0.8**
SMIA	**Simia**	**1.98**	**247**	P	**Pn**	**10 05 53.3**	**+0.1**
KDZ	**Kurdzhali**	**1.98**	**357**	*i* P	**Pg**	**10 05 59.0**	**+1.3**
SRS	**Serrai**	**2.08**	**315**	P	**Pn**	**10 05 55.1**	**+0.5**
SRS				AML	AML	10 06 34.9	
	comp=E,461µm,0.6s						
SRS				AML	AML	10 06 35.2	
	comp=N,429µm,0.7s						
SRS	**Serrai**	**2.08**	**315**	P	**Pn**	**10 05 55.1**	**+0.5**
NVR	**Nevrokopi**	**2.12**	**323**	P	**Pn**	**10 05 55.3**	**+0.1**
NVR				AML	AML	10 06 31.7	
	comp=E,271µm,0.2s						
NVR				AML	AML	10 06 31.7	
	comp=N,301µm,0.3s						
NVR	**Nevrokopi**	**2.12**	**323**	P	**Pn**	**10 05 55.4**	**+0.2**
RZN	**Rozhen**	**2.12**	**343**	P	**Pn**	**10 05 56.3**	**+1.0**
SMG	**Samos**	**2.20**	**152**	P	**Pn**	**10 05 56.1**	**-0.2**
SMG				AML	AML	10 06 33.0	
	comp=E,786µm,0.5s						
SMG				AML	AML	10 06 33.5	
	comp=N,720µm,1.0s						
SMG	**Samos**	**2.20**	**152**	P	**Pn**	**10 05 56.2**	**-0.1**
KCTX	**Karacabey (Bur**	**2.24**	**74**	PN	**Pn**	**10 05 57.1**	**+0.2**
DURS	**Dursunbey**	**2.26**	**91**	IAML_P			
	comp=Z,2µm,0.3s						
DURS				*i* P	**Pn**	**10 05 58.2**	**+0.9**
EDRB	**Edirne**	**2.36**	**22**	PN	**Pn**	**10 05 59.6**	**+1.1**
GCAM	**G?zelcaml?**	**2.37**	**146**	PN	**Pn**	**10 05 59.9**	**+1.4**
DST	**Dursunbey**	**2.38**	**91**	PN	**Pn**	**10 05 59.2**	**+0.5**
DIM	**Dimitrovgrad**	**2.38**	**360**	*i* P	**Pb**	**10 06 02.0**	**-0.6**
PHSR	**Pinarhisar**	**2.47**	**37**	PN	**Pn**	**10 06 00.7**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**2.51**	**132**	PN	**Pn**	**10 06 00.7**	**0.0**
PLD	**Plovdiv**	**2.52**	**346**	*e*P	**Pb**	**10 06 04.7**	**-0.3**
DEMI	**Demirci**	**2.54**	**103**	*i* P	**Pn**	**10 06 02.2**	**+1.2**
SLVT	**Silivri**	**2.56**	**52**	PN	**Pn**	**10 06 02.2**	**+0.9**
APE	**Apeiranthos**	**2.59**	**180**	⇑*i*P	**Pn**	**10 06 02.7**	**+1.0**
APE	**Apeiranthos**	**2.59**	**180**	S	**Sb**	**10 06 36.7**	**-1.5**
MDNY	**Mudanya-Bursa**	**2.66**	**74**	PN	**Pn**	**10 06 03.2**	**+0.6**
KULA	**Kula-Manisa**	**2.68**	**114**	PN	**Pn**	**10 06 03.7**	**+0.7**
AYDN	**Tasoluk**	**2.71**	**137**	IAML_P			
	comp=Z,554nm,0.2s						
AYDN				*i* P	**Pn**	**10 06 04.8**	**+1.5**
SBT5	**Esenkoy-Cinarc**	**2.73**	**68**	PN	**Pn**	**10 06 04.6**	**+1.1**
CTKS	**Kestanelik-??a**	**2.75**	**54**	PN	**Pn**	**10 06 04.4**	**+0.6**
CTYL	**Yalikoy Yolu**	**2.76**	**48**	PN	**Pn**	**10 06 05.0**	**+1.0**
VAY	**Valandovo**	**2.81**	**307**	*i* Pn	**Pb**	**10 06 08.8**	**-1.1**
VAY				*i* Sn	**Sg**	**10 06 50.5**	**+0.7**
KKB	**Krupnik**	**2.89**	**320**	P	**Pn**	**10 06 07.9**	**+2.2**
BGKT	**Bogazkoy**	**2.89**	**57**	PN	**Pn**	**10 06 06.6**	**+0.8**
GEMT	**Gemlik**	**2.90**	**73**	PN	**Pn**	**10 06 06.8**	**+0.9**
SHAP	**Saphane-Kutahy**	**2.92**	**102**	PN	**Pn**	**10 06 07.3**	**+1.0**
MLSB	**Milas**	**2.94**	**143**	PN	**Pn**	**10 06 08.2**	**+1.7**
BODT	**Bodrum**	**2.95**	**151**	PN	**Pn**	**10 06 08.0**	**+1.4**
ISK	**Istanbul-Kandi**	**3.03**	**61**	PN	**Pn**	**10 06 08.7**	**+1.1**
KAVV	**Kandilli-Istan**	**3.03**	**61**	PN	**Pn**	**10 06 08.7**	**+1.1**
GEDZ	**Gediz**	**3.06**	**100**	PN	**Pn**	**10 06 08.8**	**+0.6**
YLV	**Yalova**	**3.07**	**72**	PN	**Pn**	**10 06 08.7**	**+0.4**
KLYT	**Kilyos**	**3.10**	**58**	PN	**Pn**	**10 06 09.9**	**+1.2**
STIP	**Stip**	**3.26**	**310**	*i* Pn	**Pn**	**10 06 11.2**	**+0.3**
CAVI	**Cavuskoy**	**3.35**	**79**	PN	**Pn**	**10 06 13.0**	**+0.9**
VTS	**Vitosha**	**3.41**	**330**	⇓*i*P	**Pb**	**10 06 17.2**	**-3.1**
VTS	**Vitosha**	**3.41**	**330**	P	**Sg**	**10 07 12.4**	**+3.1**
VTS	**Vitosha**	**3.41**	**330**	P	**Pb**	**10 06 17.4**	**-2.9**
SILT	**Sile**	**3.46**	**63**	PN	**Pn**	**10 06 14.4**	**+0.8**
KRUS	**Krusevo**	**3.69**	**299**	*i* Pn	**Pn**	**10 06 18.1**	**+1.2**
TIRR	**Tirgusor**	**5.24**	**23**	⇑*i*P	**Pn**	**10 06 37.5**	**-0.6**
TIRR	**Tirgusor**	**5.24**	**23**	⇑P	**Pn**	**10 06 37.5**	**-0.6**
TLB	**Topalu**	**5.25**	**20**	⇑*i*P	**Pn**	**10 06 38.1**	**-0.1**
TLB	**Topalu**	**5.25**	**20**	⇑P	**Pn**	**10 06 38.1**	**-0.1**
HERR	**Herculane**	**5.71**	**337**	⇑*i*P	**Pn**	**10 06 47.9**	**+3.5**
ARR	**Arges**	**5.74**	**354**	⇑*i*P	**Pn**	**10 06 46.6**	**+1.6**
VOIR		**5.78**	**357**	⇓*i*P	**Pn**	**10 06 46.8**	**+1.3**
VOIR		**5.78**	**357**	⇓P	**Pn**	**10 06 46.8**	**+1.3**
MLR	**Muntele Rosu**	**5.83**	**3**	⇑*i*P	**Pn**	**10 06 48.0**	**+1.7**
MLR	**Muntele Rosu**	**5.83**	**3**	⇑P	**Pn**	**10 06 48.0**	**+1.7**
CFR	**Carcaliu**	**5.83**	**18**	⇑*i*P	**Pn**	**10 06 46.3**	**+0.1**
CFR	**Carcaliu**	**5.83**	**18**	⇑P	**Pn**	**10 06 46.3**	**+0.1**
GZR	**Gura Zlata**	**6.08**	**341**	⇑*i*P	**Pn**	**10 06 51.9**	**+2.3**
PLOR	**Plostina**	**6.24**	**7**	⇑*i*P	**Pn**	**10 06 53.4**	**+1.6**
PLOR	**Plostina**	**6.24**	**7**	⇑P	**Pn**	**10 06 53.4**	**+1.6**
VRI	**Vrincioaia**	**6.26**	**8**	⇓*i*P	**Pn**	**10 06 53.9**	**+1.9**
VRI	**Vrincioaia**	**6.26**	**8**	⇓P	**Pn**	**10 06 53.9**	**+1.9**
DOPR	**Dopca**	**6.30**	**359**	⇑*i*P	**Pn**	**10 06 54.5**	**+1.9**

IDC 23 10:09:00.6±1.2, 45°.11S×37°.79E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/29, mbtmp3.9/3, MS3.8/3, Ms1 3.8/3, ms1mx3.2/30, Error ellipse: s-maj=99.5km s-min=31.4km az=29.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBTB	**Lobatse**	**22.35**	**330**	LR	LR	10 20 20.2	
	comp=Z,78nm,20.5s,baz=157,slow=30						
MATP	**Matopo**	**25.79**	**340**	LR	LR	10 22 47.1	
	comp=Z,83nm,19.8s,baz=160,slow=32						
H10S2	**ASCENSION HYDR**	**57.60**	**292**	T	T	11 20 40.2	
	baz=138,slow=75,SNR=31						
H10S1	**ASCENSION HYDR**	**57.62**	**292**	T	T	11 20 42.2	
	baz=138,slow=75,SNR=27						
H10S3	**ASCENSION HYDR**	**57.62**	**292**	T	T	11 20 42.2	
	baz=138,slow=75,SNR=26						
TORD	**Torodi Ar. Bea**	**66.56**	**321**	P	P	10 19 52.5	**+0.1**
	0.6nm,0.9s,baz=147,slow=5.3,SNR=4.5						
ASAR	**Alice Springs**	**77.72**	**111**	P	P	10 20 59.8	**+0.3**
	1.4nm,0.8s,baz=226,slow=5.9,SNR=17						
WRA	**Warramunga Arr**	**80.59**	**109**	P	P	10 21 14.9	**-0.3**
	0.6nm,0.8s,baz=217,slow=4.1,SNR=7.8						
DZM	**Mont Dzumac**	**98.42**	**133**	LR	LR	10 58 54.1	
	comp=Z,438nm,19.9s,baz=20,slow=30						
TXAR	**Lajitas Array**	**145.87**	**256**	PKPbc	PKPdf	10 28 40.9	**-0.4**
	1.5nm,0.9s,baz=140,slow=5.8,SNR=14						

IDC 23 10:10:34.1±3.5, 6°.09S×110°.21E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/34, mbtmp3.4/3, Error ellipse: s-maj=218.7km s-min=26.4km az=50.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.19**	**123**	P	P	10 16 20.1	**+0.4**
	0.3nm,0.3s,baz=301,slow=9.8,SNR=5.8						
ASAR	**Alice Springs**	**28.72**	**130**	P	P	10 16 33.0	**-0.4**
	0.3nm,0.4s,baz=308,slow=7.6,SNR=3.1						
MKAR	**Makanchi Array**	**58.19**	**338**	P	P	10 20 29.9	**0.0**
	0.3nm,0.6s,baz=153,slow=7.1,SNR=3.3						

*ISK **23** 10:15:29.8, 42°.40N×41°.06E, h17km, ML3.1/6*
*ISCJB **23** 10:15:29.8±0.3, 42°.40N±0°.02×40°.93E±0°.03, h10km, mb3.4/1, Error ellipse: s-maj=3.3km s-min=2.3km az=166.1*
*TIF **23** 10:15:31.1, 42°.37N×41°.01E, h39km±1km*
*NORS **23** 10:15:32.8±0.0, 42°.52N×41°.30E, h10km, MPVA3.8*
*MOS **23** 10:15:32.0±0.0, 42°.45N×41°.02E, h9km, MPVA3.8*
*DDA **23** 10:15:46.6, 41°.56N×41°.66E, h7km±4km, ML3.0*

ISC 23 10:15:30.9±0.7, 42°.37N±0°.02×40°.95E±0°.02, h10km, n56, σ1s57/93, 2C, Black Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DOMR	**Dombai**	**1.04**	**28**	*i* PG	**Pb**	**10 15 50.6**	**-0.5**
DOMR	**Dombai**	**1.04**	**28**	*e*Pg	**Pb**	**10 15 50.7**	**-0.5**
DOMR				*e*Sg	**Sb**	**10 16 03.4**	**-1.6**
BCA	**Borcka**	**1.05**	**151**	PG	**Pb**	**10 15 50.2**	**-1.0**
BCA				SG	**Sg**	**10 16 04.7**	**-0.1**
DBOC	**Borcka**	**1.16**	**152**	IAML_P			
	comp=Z,11µm,0.1s						
DBOC				*i* P	**Pb**	**10 15 52.0**	**-1.0**
ARXR	**Arkhyz**	**1.21**	**11**	*e*Pg	**Pb**	**10 15 53.8**	**-0.2**
ARXR				*e*Sg	**Sb**	**10 16 08.7**	**-1.1**
CHOM	**Cayeli-Rize**	**1.28**	**186**	PN	**Pn**	**10 15 54.0**	**-0.9**
CHOM				SN	**Sb**	**10 16 11.7**	**0.0**
ARTV	**Artvin**	**1.39**	**148**	IAML_P			
	comp=Z,8µm,0.1s						
ARTV				*i* P	**Pn**	**10 15 56.0**	**-0.6**
ARTV				*i* S	**Sn**	**10 16 12.2**	**-3.0**
RPOR	**Krasnaya Polya**	**1.42**	**339**	*i* PG	**Pb**	**10 15 57.5**	**0.0**
RPOR	**Krasnaya Polya**	**1.42**	**339**	*e*Pg	**Pn**	**10 15 57.1**	**+0.3**
RPOR				*e*Sg	**Sg**	**10 16 16.6**	**+0.1**
DBAD	**Bademkaya**	**1.46**	**157**	IAML_P			
	comp=Z,4µm,0.1s						
DBAD				*i* P	**Pn**	**10 15 57.3**	**-0.1**
DAGI	**Agillar**	**1.48**	**151**	*i* P	**Pn**	**10 15 57.9**	**+0.2**
SOC	**Sochi**	**1.51**	**324**	*e*PG	**Pb**	**10 15 59.4**	**+0.4**
SOC				*e*		10 16 19.7	
SOC				pmax	pmax		
	comp=Z,62nm,0.3s						
SOC				smax	smax		
	comp=E,458nm,0.3s						
SOC				smax	smax		
	comp=N,229nm,0.2s						
SOC	**Sochi**	**1.51**	**324**	*e*Pg	**Pb**	**10 15 59.2**	**+0.2**
SOC				*i* Sg	**Sg**	**10 16 19.7**	**+0.3**
NEY	**Neytrino**	**1.57**	**56**	⇑*i*PG	**Pn**	**10 15 58.5**	**-0.5**
NEY				*e*S	**Sn**	**10 16 17.2**	**-2.3**
NEY	**Neytrino**	**1.57**	**56**	*e*Pg	**Pn**	**10 15 58.0**	**-1.0**
NEY				*e*Sg	**Sn**	**10 16 16.2**	**-3.3**
DDEM	**Demirkent**	**1.60**	**158**	*i* P	**Pn**	**10 15 59.9**	**+0.7**
DDEM				*i* S	**Sn**	**10 16 19.2**	**-0.8**
GUZR	**Guzeripl'**	**1.73**	**340**	*e*Pg	**Pb**	**10 16 02.6**	**-0.2**
GUZR				*e*Sg	**Sb**	**10 16 25.0**	**+0.3**
SHA1	**Shidzhatmaz**	**1.85**	**42**	*e*PN	**Pb**	**10 16 04.0**	**-0.9**
SHA1				*e*S	**Sb**	**10 16 26.1**	**-2.1**
SHA1	**Shidzhatmaz**	**1.85**	**42**	*e*Pg	**Pb**	**10 16 03.8**	**-1.2**
SHA1				*e*Sg	**Sn**	**10 16 25.8**	**-0.6**
LZRR	**Lazarevskoye**	**1.94**	**324**	*e*Pg	**Pg**	**10 16 08.5**	**+0.4**
LZRR				*e*Sg	**Sg**	**10 16 32.6**	**-0.6**
DIGR	**Digorskoe uzhe**	**2.01**	**74**	*e*PN	**Pn**	**10 16 05.6**	**+0.5**
DIGR				*e*S	**Sn**	**10 16 30.6**	**+0.3**
DIGR	**Digorskoe uzhe**	**2.01**	**74**	*e*Pg	**Pn**	**10 16 05.1**	**0.0**
DIGR				*e*Sg	**Sn**	**10 16 30.7**	**+0.3**
KIV	**Kislovodsk**	**2.03**	**38**	PN	**Pn**	**10 16 03.1**	**-2.1**
KIV				SN	**Sn**	**10 16 27.5**	**-3.2**
KIV	**Kislovodsk**	**2.03**	**38**	⇑*i*P	**Pn**	**10 16 06.2**	**+1.0**
KIV	**Kislovodsk**	**2.03**	**38**	*e*PN	**Pb**	**10 16 07.2**	**-0.7**
KIV				*e*S	**Sb**	**10 16 32.3**	**-0.9**
KIV0	**Kislovodsk Arr**	**2.03**	**38**	*e*Pg	**Pb**	**10 16 06.9**	**-1.1**
KIV0				*e*Sg	**Sb**	**10 16 31.6**	**-1.7**
BAYT	**Aydıntepe-Bayb**	**2.07**	**197**	PN	**Pn**	**10 16 05.6**	**-0.3**
BAYT				SN	**Sn**	**10 16 31.5**	**-0.3**
BEYR	**Belyy Ugol+**	**2.13**	**39**	*e*PN	**Pb**	**10 16 08.9**	**-0.7**
BEYR				*e*S	**Sb**	**10 16 35.3**	**-0.9**
BEYR	**Belyy Ugol+**	**2.13**	**39**	*e*Pg	**Pb**	**10 16 08.9**	**-0.7**
BEYR				*e*Sg	**Sb**	**10 16 35.3**	**-0.9**
ESPY	**Espiye-Giresun**	**2.21**	**230**	PN	**Pn**	**10 16 07.7**	**0.0**
ZEI	**Tsey**	**2.22**	**78**	*e*PN	**Pn**	**10 16 09.0**	**+1.1**
ZEI				*e*S	**Sb**	**10 16 37.0**	**-1.8**
ZEI	**Tsey**	**2.22**	**78**	*e*Pg	**Pn**	**10 16 08.7**	**+0.8**
ZEI				*e*Sg	**Sn**	**10 16 36.5**	**+1.0**
BGD	**Bogdanovka**	**2.27**	**118**	P	**Pn**	**10 16 09.8**	**+1.2**
BGD				S	**Sn**	**10 16 36.3**	**-0.4**
LSNR	**Lesken**	**2.30**	**66**	*e*Pg	**Pb**	**10 16 11.5**	**-1.0**
LSNR				*e*Sg	**Sb**	**10 16 40.4**	**-0.6**
PYA1	**Pyatigorsk**	**2.30**	**42**	PN	**Pn**	**10 16 09.6**	**+0.6**
PYA1	**Pyatigorsk**	**2.30**	**42**	*e*Pg	**Pb**	**10 16 12.1**	**-0.5**
PYA1				*e*Sg	**Sb**	**10 16 40.5**	**-0.6**
KBTC	**Kuba-Taba**	**2.31**	**50**	*e*PN	**Pn**	**10 16 09.0**	**0.0**
KBTC				*e*S	**Sn**	**10 16 37.7**	**+0.2**
KBTC	**Kuba-Taba**	**2.31**	**50**	*e*Pg	**Pb**	**10 16 11.2**	**-1.4**
KBTC				*e*Sg	**Sb**	**10 16 39.4**	**-1.8**
KORR	**Kora**	**2.40**	**72**	*e*PN	**Pn**	**10 16 10.9**	**+0.6**
KORR	**Kora**	**2.40**	**72**	*e*Pn	**Pb**	**10 16 14.9**	**+0.6**
KORR				*e*Sn	**Sg**	**10 16 45.4**	**-2.7**
KOPR	**Koprukoy-ERZUR**	**2.48**	**164**	PN	**Pn**	**10 16 10.9**	**-0.5**
TRLG	**Trialeti**	**2.49**	**108**	P	**Pn**	**10 16 13.4**	**+1.7**
TRLG				S	**Sn**	**10 16 42.0**	**-0.3**
LACR	**Lac**	**2.51**	**78**	*e*PN	**Pn**	**10 16 14.0**	**+2.1**
LACR				*e*S	**Sb**	**10 16 44.5**	**-2.7**
LACR	**Lac**	**2.51**	**78**	*e*Pn	**Pn**	**10 16 13.5**	**+1.6**
LACR				*e*Sn	**Sn**	**10 16 43.8**	**+1.2**
KELT	**Kelkit**	**2.56**	**210**	*i* P	**Pn**	**10 16 14.9**	**+2.2**
ALER	**Alexandrovskoy**	**2.78**	**30**	*i* Pn	**Pg**	**10 16 24.6**	**+0.4**
ALER				*e*Sn	**Sg**	**10 16 57.0**	**-3.3**
BTKR	**Batakoyurt**	**2.82**	**68**	*e*Pn	**Pg**	**10 16 28.8**	**+3.8**
BTKR				*i* Sn	**Sg**	**10 17 02.8**	**+1.3**
TBLG	**Delisi**	**2.89**	**102**	PN	**Pn**	**10 16 14.9**	**-2.1**
GOF	**Gofitskoye**	**3.08**	**29**	*e*PN	**Pg**	**10 16 33.8**	**+3.9**
GOF				*e*S	**Sg**	**10 17 15.1**	**+5.2**
GOF				pmax	pmax		
	comp=Z,50nm,0.4s						
GOF				smax	smax		
	comp=E,30nm,0.4s						
ANN	**Anapa**	**3.52**	**315**	*e*PN	**Pb**	**10 16 30.6**	**-2.7**
ANN				*e*		10 17 14.0	
ANN				pmax	pmax		
	comp=Z,28nm,0.6s						
ANN				smax	smax		
	comp=N,27nm,0.8s						
ANN				smax	smax		
	comp=N,38nm,1.3s						
ANN	**Anapa**	**3.52**	**315**	*e*Pn	**Pb**	**10 16 30.7**	**-2.6**
ANN				*e*Sn	**Sb**	**10 17 14.0**	**-2.1**
GROC	**Groznyy**	**3.66**	**75**	*i* PN	**Pn**	**10 16 25.7**	**-1.9**
MAK	**Makhachkala**	**4.87**	**81**	PN	**Pn**	**10 16 42.1**	**-2.0**
AKASG	**Malin Array Be**	**11.59**	**320**	*i* P	**Pn**	**10 18 18.7**	**+2.5**
BRVK	**Borovoye**	**22.29**	**51**	*i* P	**P**	**10 20 28.2**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.4s						
AAK	**Ala-Archa**	**24.64**	**78**	*i* P	**P**	**10 20 50.5**	**-1.2**

*NEIC **23** 10:16:26.4±0.0, 19°.16N×67°.96W, h60km, MD3.0(RSPR), After RSPR.*

RSPR 23 10:16:26.4, 19°.16N×67°.96W, h60km±5km, MD3.0/3, 5C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**1.06**	**130**	⇑*e*P	Pn	10 16 44.4	-0.9
AGPR	**Aguadilla, PR**	**1.06**	**130**	⇓*e*P	Pn	10 16 44.4	-0.9
AGPR				*e*S	Sn	10 16 58.6	-0.7
AGP	**Aguadilla**	**1.08**	**134**	*e*Pn	Pn	10 16 43.2	-2.1
AGP				*e*Sn	Sn	10 16 56.4	-3.4
MPR	**Mayaguez**	**1.23**	**140**	*e*Pn	Pn	10 16 48.4	+0.9
MPR				*e*Sn	Sn	10 17 04.1	+0.9
LSP	**Las Mesas**	**1.29**	**140**	⇑*e*P	Pn	10 16 47.6	-0.7
LSP	**Las Mesas**	**1.29**	**140**	*e*S	Sn	10 17 04.0	-0.7
LSP	**Las Mesas**	**1.29**	**140**	*e*Pn	Pn	10 16 47.6	-0.7
LSP				*e*Sn	Sn	10 17 04.0	-0.7
CRPR	**Cabo Rojo, PR**	**1.41**	**145**	⇓*e*P	Pn	10 16 49.2	-0.7
CRPR	**Cabo Rojo, PR**	**1.41**	**145**	*e*S	Sn	10 17 06.7	-0.8
CRPR	**Cabo Rojo, PR**	**1.41**	**145**	*e*Pn	Pn	10 16 50.0	+0.1
CRPR				*e*Sn	Sn	10 17 06.7	-0.8
EMPR	**Esperanza - Ma**	**1.52**	**116**	⇓*e*P	Pn	10 16 50.7	-0.7
EMPR	**Esperanza - Ma**	**1.52**	**116**	*e*S	Sn	10 17 09.5	-0.7
EMPR	**Esperanza - Ma**	**1.52**	**116**	*e*Pn	Pn	10 16 50.7	-0.7
EMPR				*e*Sn	Sn	10 17 09.5	-0.7
CELP	**Cerrillos**	**1.70**	**129**	⇑*e*P	Pn	10 16 52.6	-1.2
CELP	**Cerrillos**	**1.70**	**129**	*e*Pn	Pn	10 16 52.6	-1.2
OBIP	**Obispado Ponce**	**1.70**	**131**	⇑*e*P	Pn	10 16 53.0	-0.9
OBIP	**Obispado Ponce**	**1.70**	**131**	*e*Pn	Pn	10 16 53.5	-0.4
OBIP				*e*Sn	Sn	10 17 14.5	-0.2
CBYP	**Canovanas**	**2.19**	**114**	*e*Pn	Pn	10 17 00.5	0.0
HUMP	**Col San Antoni**	**2.25**	**117**	*e*Pn	Pn	10 17 00.9	-0.3
MTP	**Monte Pirata**	**2.52**	**114**	*e*Pn	Pn	10 17 04.4	-0.6

*NEIC **23** 10:16:54.8±0.0, 19°.54N×64°.48W, h11km, MD2.5(RSPR), After RSPR.*

RSPR 23 10:16:54.8, 19°.54N×64°.48W, h11km±15km, MD2.5/3, 3C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	IS

SURC				*i* S		**Sn**	**11 06 17.7**	**-0.2**
ANDN	**Andirin**	**1.30**	**255**	IAML_P				
	comp=Z,452nm,0.2s							
ANDN				*i* P		**Pg**	**11 06 03.2**	**+0.8**
KUZU	**Kuzuini**	**1.33**	**211**	*i* P		**Pg**	**11 06 04.5**	**+1.4**
KUZU				*i* S		**Sn**	**11 06 23.8**	**+2.2**
KEMA	**Kemaliye**	**1.42**	**18**	*i* P		**Pg**	**11 06 05.1**	**+0.3**
KEMA				*i* S		**Sg**	**11 06 25.0**	**+1.7**
PTK	**Pertek**	**1.51**	**49**	PN		**Pb**	**11 06 06.2**	**-0.3**
PTK				SN		**Sg**	**11 06 26.2**	**+0.1**

*KRNET **23** 11:05:45.0±0.1, 43°.30N×74°.46E, h16km, mb2.7*
*KNET **23** 11:05:44.8±0.4, 43°.31N×74°.48E, h4km±4km, ml1.8, Error ellipse: s-maj=2.8km s-min=1.7km az=7.0*
*NNC **23** 11:05:44.8±0.5, 43°.29N×74°.47E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=3.3km s-min=2.1km az=146.0*
*SOME **23** 11:05:45.3, 43°.32N×74°.45E, h15km*

ISC 23 11:05:44.6±0.8, 43°.31N±0°.02×74°.46E±0°.02, h8km±5km, n75, σ1s01/139, 51C-22D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
USP	**Ospenovka**	**0.05**	**144**	⇑S	**Sg**	**11 05 47.2**	**-0.6**
	4µm,0.4s						
USP	**Ospenovka**	**0.05**	**144**	⇓*i*P	**Pg**	**11 05 46.0**	**-0.4**
	baz=38						
USP				⇓*i*S	**Sg**	**11 05 47.1**	**-0.6**
	baz=38						
SGDS	**Sogindy**	**0.19**	**40**	P	**Pg**	**11 05 49.3**	**+0.7**
	47nm,0.4s						
SGDS				S	**Sg**	**11 05 52.4**	**+1.1**
	288nm,0.5s						
CHMS	**Chumysh**	**0.37**	**145**	⇑P	**Pg**	**11 05 52.3**	**+0.4**
	7.0nm,0.1s,SNR=16						
CHMS				⇑S	**Sg**	**11 05 57.7**	**+0.8**
	70nm,0.4s						
CHMS	**Chumysh**	**0.37**	**145**	⇑*i*P	**Pg**	**11 05 52.2**	**+0.3**
	baz=45						
CHMS				⇑*i*S	**Sg**	**11 05 57.5**	**+0.6**
	baz=45						
AAK	**Ala-Archa**	**0.67**	**178**	⇑P	**Pg**	**11 05 57.9**	**+0.4**
	5.2nm,0.3s						
AAK				⇑S	**Sg**	**11 06 07.4**	**+1.2**
	22nm,0.4s						
AAK	**Ala-Archa**	**0.67**	**178**	⇑P	**Pg**	**11 05 57.9**	**+0.4**
	2.9nm,0.4s						
AAK				⇑S	**Sg**	**11 06 07.3**	**+1.0**
	10nm,0.6s						
AAK	**Ala-Archa**	**0.67**	**178**	⇓*i*P	**Pg**	**11 05 57.8**	**+0.3**
	baz=78						
AAK				⇓*i*S	**Sg**	**11 06 07.1**	**+0.8**
	baz=78						
KBK	**Karagaybulak**	**0.74**	**151**	⇑P	**Pg**	**11 05 59.4**	**+0.6**
	3.2nm,0.2s,SNR=9.1						
KBK	**Karagaybulak**	**0.74**	**151**	⇑*i*P	**Pg**	**11 05 59.3**	**+0.4**
	baz=51						
KBK				⇑*i*S	**Sg**	**11 06 09.6**	**+1.0**
	baz=51						
EKS2	**Erkin-Say**	**0.82**	**218**	⇑P	**Pg**	**11 06 00.7**	**+0.4**
	3.9nm,0.1s,SNR=9.8						
EKS2	**Erkin-Say**	**0.82**	**218**	⇑*i*P	**Pg**	**11 06 00.5**	**+0.2**
	baz=19						
EKS2				⇑*i*S	**Sb**	**11 06 12.0**	**-0.3**
	baz=19						
TKM2	**Tokmak 2**	**0.92**	**114**	⇑P	**Pb**	**11 06 02.0**	**-0.8**
	1.3nm,0.1s,SNR=13						
TKM2				⇑S	**Sg**	**11 06 15.5**	**+1.3**
	9.4nm,0.1s						
TKM2	**Tokmak 2**	**0.92**	**114**	⇑P	**Pb**	**11 06 01.6**	**-1.2**
	1.8nm,0.5s						
TKM2				⇓S	**Sb**	**11 06 14.7**	**-0.6**
	68nm,1.4s						
TKM2	**Tokmak 2**	**0.92**	**114**	⇑*i*P	**Pb**	**11 06 02.0**	**-0.8**
	baz=14						
TKM2				⇑*i*S	**Sg**	**11 06 15.2**	**+1.0**
	baz=14						
DGS	**Degeres**	**0.96**	**93**	P	**Pb**	**11 06 03.2**	**-0.3**
	8.4nm,0.4s						
DGS				S	**Sb**	**11 06 15.6**	**-0.8**
	26nm,0.6s						
DGS	**Degeres**	**0.96**	**93**	⇓*e*P	**Pb**	**11 06 03.2**	**-0.3**
	baz=93						
DGS				⇓*e*S	**Sb**	**11 06 15.6**	**-0.8**
	baz=93						
DGS	**Degeres**	**0.96**	**93**	⇓*e*P	**Pb**	**11 06 03.2**	**-0.3**
	8.4nm,0.4s						
DGS				*e*S	**Sb**	**11 06 15.6**	**-0.8**
	26nm,0.6s						
MRKS	**Merke**	**1.06**	**239**	P	**Pb**	**11 06 05.1**	**-0.3**
	3.2nm,0.2s						
MRKS				S	**Sb**	**11 06 19.4**	**0.0**
	9.1nm,0.3s						
MRKS	**Merke**	**1.06**	**239**	⇑*e*P	**Pb**	**11 06 05.0**	**-0.3**
	baz=39						
MRKS				⇑*e*S	**Sb**	**11 06 19.4**	**0.0**
	baz=39						
MRKS	**Merke**	**1.06**	**239**	⇑*e*P	**Pb**	**11 06 05.0**	**-0.3**
	3.2nm,0.2s						
MRKS				*e*S	**Sb**	**11 06 19.4**	**0.0**
	9.1nm,0.3s						
UCH	**Uchtor**	**1.08**	**178**	⇓*i*P	**Pb**	**11 06 05.1**	**-0.6**
	baz=78						
UCH				⇓*i*S	**Sg**	**11 06 20.1**	**+0.7**
	baz=78						
KST	**Kastek**	**1.13**	**103**	P	**Pb**	**11 06 06.2**	**-0.3**
	12nm,0.7s						
KST				S	**Sb**	**11 06 20.6**	**-0.7**
	20nm,0.5s						
KST	**Kastek**	**1.13**	**103**	⇑*e*P	**Pb**	**11 06 06.3**	**-0.2**
	baz=2.0						
KST				⇑*e*S	**Sb**	**11 06 20.7**	**-0.7**
	baz=2.0						
KST	**Kastek**	**1.13**	**103**	⇑*e*P	**Pb**	**11 06 06.3**	**-0.2**
	12nm,0.7s						
KST				*e*S	**Sb**	**11 06 20.6**	**-0.7**
	20nm,0.5s						
AML	**Almayashu**	**1.30**	**206**	⇑*i*P	**Pn**	**11 06 09.1**	**-0.3**
	baz=6.0						
AML				⇑*i*S	**Sn**	**11 06 26.7**	**-0.5**
	baz=6.0						
KZA	**Kyzart**	**1.36**	**154**	⇑*i*P	**Pb**	**11 06 10.2**	**-0.3**
	baz=54						
KZA				⇑*i*S	**Sg**	**11 06 28.5**	**+0.2**
	baz=54						
BOOM	**Boomskoye usch**	**1.36**	**126**	⇑*i*P	**Pb**	**11 06 10.2**	**-0.2**
	baz=26						
BOOM				⇑*i*S	**Sb**	**11 06 28.1**	**+0.2**
	baz=26						
MTBS	**Maitube**	**1.45**	**96**	P	**Pg**	**11 06 14.2**	**+1.8**
	8.8nm,0.3s						
MTBS				S	**Sg**	**11 06 33.9**	**+2.7**
	26nm,0.5s						
MTBS	**Maitube**	**1.45**	**96**	*e*P	**Pg**	**11 06 12.5**	**+0.1**
	baz=96						
MTBS				*e*S	**Sg**	**11 06 31.5**	**+0.3**
	baz=96						
MTBS	**Maitube**	**1.45**	**96**	*e*P	**Pg**	**11 06 12.5**	**+0.1**
	8.8nm,0.3s						
MTBS				*e*S	**Sg**	**11 06 31.5**	**+0.3**
	26nm,0.5s						
KUU	**Kurty**	**1.49**	**66**	P	**Pg**	**11 06 13.0**	**-0.1**
	8.8nm,0.5s						
KUU				S	**Sg**	**11 06 32.3**	**0.0**
	22nm,0.5s						
KUU	**Kurty**	**1.49**	**66**	⇓*e*P	**Pg**	**11 06 12.8**	**-0.3**
	baz=66						
KUU				⇓*e*S	**Sg**	**11 06 32.3**	**0.0**
	baz=66						
KUU	**Kurty**	**1.49**	**66**	⇓*e*P	**Pg**	**11 06 12.8**	**-0.3**
	8.8nm,0.5s						
KUU				*e*S	**Sg**	**11 06 32.3**	**0.0**
	22nm,0.5s						
IZV	**Izvestkoviy**	**1.60**	**99**	P	**Pg**	**11 06 15.1**	**-0.2**
	4.9nm,0.3s						
IZV				S	**Sg**	**11 06 36.3**	**+0.3**
	28nm,0.4s						
IZV	**Izvestkoviy**	**1.60**	**99**	⇑*e*P	**Pg**	**11 06 15.2**	**0.0**
	baz=99						
IZV				⇑*e*S	**Sg**	**11 06 36.3**	**+0.3**
	baz=99						
IZV	**Izvestkoviy**	**1.60**	**99**	⇑*e*P	**Pg**	**11 06 15.2**	**0.0**
	4.9nm,0.3s						
IZV				*e*S	**Sg**	**11 06 36.3**	**+0.3**
	28nm,0.4s						
MNAS	**Manas**	**1.65**	**241**	⇓P	**Pb**	**11 06 14.9**	**-0.5**
	2.1nm,1.0s						
MNAS				⇑S	**Sb**	**11 06 36.4**	**0.0**
	4.5nm,0.5s						
MNAS	**Manas**	**1.65**	**241**	P	**Pg**	**11 06 16.3**	**0.0**
	0.5nm,0.4s						
MNAS				S	**Sg**	**11 06 38.1**	**+0.4**
	5.2nm,0.2s						
MNAS	**Manas**	**1.65**	**241**	⇑*i*P	**Pb**	**11 06 15.3**	**-0.1**
	baz=41						
MNAS				⇑*i*S	**Sg**	**11 06 37.4**	**-0.4**
	baz=41						
KTBS	**Karatobe**	**1.67**	**75**	P	**Pb**	**11 06 15.6**	**+0.1**
	8.1nm,0.6s						
KTBS				S	**Sb**	**11 06 36.9**	**+0.2**
	25nm,0.4s						
KTBS	**Karatobe**	**1.67**	**75**	⇑*e*P	**Pb**	**11 06 15.8**	**+0.3**
	baz=73						
KTBS				⇑*e*S	**Sb**	**11 06 36.9**	**+0.2**
	baz=73						
KTBS	**Karatobe**	**1.67**	**75**	⇑*e*P	**Pb**	**11 06 15.8**	**+0.3**
	8.1nm,0.6s						
KTBS				*e*S	**Sb**	**11 06 36.9**	**+0.2**
	25nm,0.4s						
ULHL	**Ulahol**	**1.69**	**128**	⇑*i*P	**Pb**	**11 06 16.0**	**0.0**
	baz=28						
ULHL				⇑*i*S	**Sg**	**11 06 38.4**	**-0.4**
	baz=28						
BTLS	**Baital**	**1.76**	**350**	⇑*e*P	**Pg**	**11 06 17.9**	**-0.4**
	baz=50						
BTLS				⇑*e*S	**Sg**	**11 06 40.9**	**-0.2**
	baz=50						
BTLS	**Baital**	**1.76**	**350**	⇑*e*P	**Pg**	**11 06 17.9**	**-0.4**
	2.7nm,0.6s						
BTLS				*e*S	**Sg**	**11 06 40.9**	**-0.2**
	11nm,0.5s						
TNSS	**Tian-Shan**	**1.84**	**98**	P	**Pb**	**11 06 19.2**	**+0.6**
	6.2nm,0.4s						
TNSS				S	**Sg**	**11 06 43.4**	**-0.3**
	18nm,0.5s						
TNSS	**Tian-Shan**	**1.84**	**98**	*e*P	**Pb**	**11 06 19.3**	**+0.6**
	baz=97						
TNSS				*e*S	**Sg**	**11 06 43.5**	**-0.2**
	baz=97						
TNSS	**Tian-Shan**	**1.84**	**98**	*e*P	**Pb**	**11 06 19.2**	**+0.6**
	6.2nm,0.4s						
TNSS				*e*S	**Sg**	**11 06 43.4**	**-0.3**
	18nm,0.5s						
MDOK	**Medeo**	**1.90**	**93**	Pg	**Pb**	**11 06 19.7**	**+0.2**
	10.0nm,0.4s						
MDOK				Lg	Lg	11 06 43.9	
	17nm,0.5s						
MDOK	**Medeo**	**1.90**	**93**	*e*P	**Pb**	**11 06 19.7**	**+0.2**
	baz=93						
MDOK				*e*S	**Sb**	**11 06 43.9**	**+0.5**
	baz=93						
MDOK	**Medeo**	**1.90**	**93**	*e*P	**Pb**	**11 06 19.7**	**+0.2**
	10.0nm,0.4s						
MDOK				*e*S	**Sb**	**11 06 43.9**	**+0.5**
	17nm,0.5s						
CHKK	**Chushkaly**	**1.92**	**73**	⇑*i*P	**Pg**	**11 06 20.8**	**-0.5**
	baz=72						
CHKK				⇑*e*S	**Sg**	**11 06 45.9**	**-0.3**
	baz=72						
CHKK	**Chushkaly**	**1.92**	**73**	⇑*i*P	**Pg**	**11 06 20.8**	**-0.5**
	7.6nm,0.8s						
CHKK				*e*S	**Sg**	**11 06 45.9**	**-0.3**
	24nm,0.4s						
KOTS	**Kotyrbulak**	**1.94**	**91**	P	**Pb**	**11 06 20.4**	**+0.2**
	9.0nm,0.5s						
KOTS				S	**Sb**	**11 06 45.0**	**+0.4**
	13nm,0.4s						
KOTS	**Kotyrbulak**	**1.94**	**91**	*e*P	**Pb**	**11 06 20.4**	**+0.2**
	baz=91						
KOTS				*e*S	**Sb**	**11 06 45.0**	**+0.4**
	baz=91						
KOTS	**Kotyrbulak**	**1.94**	**91**	*e*P	**Pb**	**11 06 20.4**	**+0.2**
	9.0nm,0.5s						
KOTS				*e*S	**Sb**	**11 06 45.0**	**+0.4**
	13nm,0.4s						
NRN	**Naryn**	**2.19**	**148**	⇓*i*P	**Pb**	**11 06 23.8**	**-0.8**
	baz=49						
NRN				⇓*i*S	**Sb**	**11 06 51.6**	**-0.5**
	baz=49						
KDJ	**Kajisay**	**2.32**	**119**	⇓*i*P	**Pb**	**11 06 25.7**	**-1.1**
	baz=19						
KDJ				⇓*i*S	**Sb**	**11 06 55.0**	**-0.7**
	baz=19						
ARXS	**Arharly**	**2.60**	**68**	Pg	**Pg**	**11 06 33.1**	**-1.3**
	3.0nm,0.3s						
ARXS				Lg	Lg	11 07 06.9	
	11nm,0.5s						
ARXS	**Arharly**	**2.60**	**68**	*e*P	**Pg**	**11 06 33.1**	**-1.3**
	3.0nm,0.3s						
ARXS				*e*S	**Sg**	**11 07 06.9**	**-1.3**
	11nm,0.5s						
KURS	**Kuram**	**2.71**	**85**	⇓*i*P	**Pb**	**11 06 34.9**	**+1.6**
	baz=85						
KURS				⇓*i*S	**Sg**	**11 07 10.0**	**-1.6**
	baz=85						
KURS	**Kuram**	**2.71**	**85**	⇓*i*P	**Pb**	**11 06 34.9**	**+1.6**
	2.3nm,0.5s						
KURS				⇓*i*S	**Sg**	**11 07 10.0**	**-1.6**
	5.4nm,1.0s						
KK31	**Karatay Array**	**2.89**	**267**	⇑Pg	**Pb**	**11 06 37.1**	**+0.7**
	0.4nm,0.5s,baz=74,slow=17,SNR=6.7						
KK31				⇑Lg	Lg	11 07 14.0	
	2.1nm,0.5s,baz=82,slow=29,SNR=12						
SATY	**Saty**	**2.90**	**94**	Pg	**Pb**	**11 06 37.4**	**+0.9**
	3.4nm,0.3s						
SATY				Lg	Lg	11 07 14.3	
	8.0nm,0.3s						
SATY	**Saty**	**2.90**	**94**	*e*P	**Pb**	**11 06 37.4**	**+0.9**
	3.4nm,0.3s						
SATY				*e*S	**Sb**	**11 07 14.3**	**+2.2**
	8.0nm,0.3s						
MNBS	**Baschi**	**2.96**	**74**	Pg	**Pb**	**11 06 38.5**	**+0.8**
	1.7nm,0.4s						
MNBS				Lg	Lg	11 07 16.3	
	3.3nm,0.2s						
MNBS	**Baschi**	**2.96**	**74**	*e*P	**Pb**	**11 06 38.5**	**+0.8**
	baz=76						
MNBS				*e*S	**Sb**	**11 07 16.4**	**+2.4**
	baz=76						
MNBS	**Baschi**	**2.96**	**74**	*e*P	**Pb**	**11 06 38.5**	**+0.8**
	1.7nm,0.4s						
MNBS				*e*S	**Sb**	**11 07 16.4**	**+2.4**
	7.3nm,0.3s						
UZB	**Uzynbulak**	**3.34**	**91**	Pg	**Pb**	**11 06 45.3**	**+1.2**
	1.5nm,0.4s						
UZB				Lg	Lg	11 07 27.9	
	3.5nm,0.6s						
UZB	**Uzynbulak**	**3.34**	**91**	*e*P	**Pb**	**11 06 45.7**	**+1.6**
	baz=91						
UZB				*e*S	**Sg**	**11 07 28.4**	**-3.4**
	baz=91						
UZB	**Uzynbulak**	**3.34**	**91**	*e*P	**Pb**	**11 06 45.7**	**+1.6**
	1.5nm,0.4s						
UZB				*e*S	**Sg**	**11 07 28.4**	**-3.4**
	3.5nm,0.6s						
PDGK	**Podgornoye**	**3.67**	**88**	Pg	**Pb**	**11 06 51.9**	**+2.2**
	1.6nm,0.5s						
PDGK				Lg	Lg	11 07 39.1	
	1.5nm,0.7s						
KAPS	**Kapalarasan**	**4.03**	**59**	Pg	**Pb**	**11 06 58.5**	**+2.6**
	3.0nm,0.4s						
KAPS				Lg	Lg	11 07 50.4	
	3.7nm,0.4s						
KAPS	**Kapalarasan**	**4.03**	**59**	*e*P	**Pb**	**11 06 58.5**	**+2.6**
	3.0nm,0.4s						
KAPS				*e*S	**Sg**	**11 07 50.4**	**-3.7**
	3.7nm,0.4s						

*IDC **23** 11:07:04.4±1.2, 37°.18N×69°.27E, h0km, mb3.5/5, mb1 3.9/10, mb1mx3.6/41, mbtmp3.8/10, ML3.7/6, MS3.3/1, Ms1 3.3/1, ms1mx2.6/32, Error ellipse: s-maj=25.8km s-min=16.1km az=150.0*
*ISCJB **23** 11:07:08.8±0.4, 37°.59N±0°.03×68°.99E±0°.04, h29km, mb3.6/4, Error ellipse: s-maj=5.0km s-min=4.3km az=149.7*
*NNC **23** 11:07:10.5±1.6, 37°.79N×69°.05E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=12.4km s-min=8.5km az=6.0*

ISC 23 11:07:10.8±0.6, 37°.54N±0°.05×69°.03E±0°.05, h29km, n31, σ1s97/46, mb3.6/4, 13C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.28**	**53**	⇑Pn	**Pn**	**11 08 14.7**	**+0.5**
	3.2nm,0.2s						
SFK				⇑Pg	**Pb**	**11 08 26.7**	**+1.2**
	61nm,0.7s						
SFK				⇑Sn	**Sn**	**11 09 05.2**	**+1.9**
	41nm,0.4s						
SFK				⇓Lg	Lg	11 09 23.6	
	64nm,0.7s						
CEP	**Cherat**	**4.39**	**147**	P	**Pn**	**11 08 17.9**	**+2.3**
CEP				S	**Sb**	**11 09 21.0**	**+1.3**
THW	**Thamme Wali**	**5.23**	**154**	P	**Pn**	**11 08 29.2**	**+2.1**
MNAS	**Manas**	**5.62**	**27**	⇑Pn	**Pn**	**11 08 32.6**	**+0.1**
	4.8nm,0.5s						
MNAS				⇑Pg	**Pb**	**11 08 48.3**	**+0.1**
	14nm,0.9s						
MNAS				⇓Sn	**Sn**	**11 09 35.9**	**-0.2**
	17nm,0.5s						
MNAS				⇑Lg	Lg	11 10 03.8	
	43nm,1.0s						
KK31	**Karatay Array**	**5.67**	**11**	⇓Pn	**Pn**	**11 08 33.9**	**+0.8**
	1.1nm,0.3s,baz=198,slow=14,SNR=33						
KK31				⇓Pg	**Pb**	**11 08 49.6**	**+0.6**
	2.1nm,0.3s,baz=192,slow=20,SNR=4.7						
KK31				⇑Sn	**Sn**	**11 09 38.0**	**+0.8**
	5.0nm,0.3s,baz=0.0,slow=0.1,SNR=4.0						
KK31				⇓Lg	Lg	11 10 02.6	
	34nm,0.7s,baz=194,slow=29,SNR=5.7						
AAK	**Ala-Archa**	**6.59**	**38**	Pn	**Pn**	**11 08 47.1**	**+1.3**
	5.5nm,0.3s,baz=180,slow=5.3,SNR=12						
AAK				Sn	**Sn**	**11 10 01.7**	**+1.6**
	1.4nm,0.3s,baz=328,slow=23,SNR=1.7						
AAK				Lg	Lg	11 10 33.3	
	1.0nm,0.3s,baz=20,slow=17,SNR=1.4						
AAK	**Ala-Archa**	**6.59**	**38**	⇑Pn	**Pn**	**11 08 47.2**	**+1.3**
	7.8nm,0.4s						
AAK				⇑Sn	**Sn**	**11 10 00.9**	**+0.7**
	15nm,0.8s						
AAK				⇑Lg	Lg	11 10 32.9	
	41nm,1.0s						
TKM2	**Tokmak 2**	**7.36**	**41**	⇑Pn	**Pn**	**11 08 56.1**	**-0.3**
	15nm,0.8s						
TKM2				⇓Sn	**Sn**	**11 10 18.3**	**-0.7**
	12nm,1.1s						
TKM2				⇑Lg	Lg	11 11 00.1	
	12nm,0.8s						
GEYT	**Alibeck**	**8.65**	**276**	Pn	**Pn**	**11 09 14.7**	**+0.6**
	2.6nm,0.3s,baz=96,slow=15,SNR=7.2						
GEYT				Sn	**Sn**	**11 10 50.7**	**0.0**
	0.9nm,0.3s,baz=95,slow=14,SNR=2.9						
GEYT				Lg	Lg	11 12 04.4	
	baz=91,slow=22,SNR=2.7						
GEYT				LR	LR	11 14 04.5	
	comp=Z,168nm,18.6s,baz=80,slow=47						
AB31	**Akbulak array**	**13.43**	**334**	Pn	**Pn**	**11 10 17.5**	**-1.8**
	0.5nm,0.2s,baz=156,slow=11,SNR=88						
AB31				⇑Sn	**Sn**	**11 12 47.5**	**0.0**
	2.3nm,0.7s,baz=149,slow=24,SNR=3.4						
MKAR	**Makanchi Array**	**13.48**	**43**	Pn	**Pn**	**11 10 18.4**	**-1.6**
	0.1nm,0.3s,baz=231,slow=14,SNR=28						
MKAR				Sn	**Sn**	**11 12 41.6**	**-7.3**
	0.2nm,0.3s,baz=256,slow=29,SNR=10.0						
KURBB	**Kurchatov Arra**	**14.74**	**24**	Pn	**Pn**	**11 10 33.1**	**-3.9**
	0.1nm,0.3s,baz=214,slow=11,SNR=4.4						
KURBB				Lg	Lg	11 14 43.0	
	0.2nm,0.3s,baz=206,slow=41,SNR=3.7						
PYUN	**Piuthan**	**15.03**	**125**	*e*P	**Pn**	**11 10 41.1**	**-0.3**
	19nm,0.5s						
AKTO	**Aktyubinsk**	**15.11**	**332**	Pn	**Pn**	**11 10 40.6**	**-1.5**
	0.5nm,0.3s,baz=148,slow=14,SNR=5.5						
AKTO	**Aktyubinsk**	**15.11**	**332**	⇓Pn	**Pn**	**11 10 43.7**	**+1.6**
	7.9nm,0.8s						
AKTO				⇓Sn	**Sn**	**11 13 28.3**	**-0.1**
	12nm,1.2s						
DANN	**Dangsing**	**15.38**	**122**	*e*P	**Pn**	**11 10 46.0**	**0.0**
	16nm,0.6s						
BVAR	**Borovoye Array**	**15.52**	**3**	Pn	**P**	**11 10 50.3**	**-1.2**
	0.3nm,0.3s,baz=168,slow=9.2,SNR=6.7						
BVAR				Sn	**Sn**	**11 13 44.5**	**+6.3**
	0.1nm,0.3s,baz=136,slow=25,SNR=1.5						
KOLN	**Koldanda**	**15.65**	**124**	*e*P	**Pn**	**11 10 49.4**	**-0.1**
	20nm,0.7s						
DMN	**Daman**	**16.76**	**122**	*e*P	**Pn**	**11 11 03.9**	**+0.2**
	26nm,0.8s						
KKN	**Kakani**	**16.77**	**121**	*e*P	**Pn**	**11 11 03.4**	**-0.3**
	25nm,0.6s						
PKI	**Pulchoki**	**16.99**	**121**	*e*P	**Pn**	**11 11 06.7**	**0.0**
	15nm,0.6s						
JIRN	**Jiri**	**17.47**	**119**	*e*P	**Pn**	**11 11 12.8**	**+0.1**
	29nm,0.5s						
RAMN	**Ramite**	**18.20**	**120**	*e*P	**Pn**	**11 11 21.2**	**-0.4**
	11nm,0.5s						
TAPN	**Taplejung**	**18.73**	**117**	*e*P	**P**	**11 11 27.3**	**-0.2**
	25nm,0.8s						
ZALV	**Zalesovo Beam**	**19.69**	**29**	P	**P**	**11 11 36.8**	**-0.6**
	0.7nm,0.3s,baz=221,slow=10,SNR=11						
KBZ	**Khabaz**	**20.73**	**296**	P	**P**	**11 11 50.1**	**+1.3**
	2.5nm,0.9s,baz=103,slow=9.0,SNR=4.2						
NB2	**NORSAR Subarra**	**42.60**	**323**	P	**P**	**11 15 05.2**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=95,slow=8.6						
NOA	**NORSAR Array B**	**42.60**	**323**	P	**P**	**11 15 04.6**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=97,slow=8.1,SNR=2.4						
TORD	**Torodi Ar. Bea**	**64.18**	**267**	P	**P**	**11 17 42.3**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=38,slow=7.3,SNR=2.3						
YKA	**Yellowknife Ar**	**80.27**	**2**	P	**P**	**11 19 19.5**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=350,slow=5.6,SNR=12						
WRA	**Warramunga Arr**	**83.88**	**121**	P	**P**	**11 19 34.0**	**-4.0**
	comp=Z,0.7nm,1.1s,baz=314,slow=7.1,SNR=2.7						

*IDC **23** 11:10:22.9±2.0, 10°.20S×107°.48E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/31, mbtmp3.6/6, ML3.6/1, Error ellipse: s-maj=71.9km s-min=19.3km az=60.0*
*ISCJB **23** 11:10:24.5±1.1, 10°.03S±0°.07×107°.5E±0°.1, h23km, mb3.5/5, Error ellipse: s-maj=17.7km s-min=10.3km az=176.6*
*DJA **23** 11:10:27.7±1.5, 10°S±12°×10°8E±1°.4, h10km, M3.7/4, MLv3.7/4*

ISC 23 11:10:26.4±1.2, 9°.90S±0°.08×107°.5E±0°.1, h23km, n13, σ1s55/15, mb3.5/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**2.30**	**24**	P	**Pn**	**11 11 03.1**	**+0.1**
CMJI				S	**Sn**	**11 11 30.8**	**+0.2**
CISI	**Cisompet, Garu**	**2.35**	**7**	P	**Pn**	**11 11 04.7**	**+1.0**
KPJI	**Karang Pucung**	**2.92**	**29**	P	**Pn**	**11 11 11.9**	**+0.5**
LEM	**Lembang**	**3.06**	**2**	Pn	**Pb**	**11 11 18.3**	**-2.0**
	6.2nm,0.3s,baz=197,slow=19,SNR=9.3						
LEM				Sn	**Sb**	**11 11 56.9**	**-0.4**
	12nm,0.3s,baz=316,slow=16,SNR=14						
UGM	**Wanagama**	**3.58**	**57**	P	**Pn**	**11 11 23.2**	**+2.6**
PCJI	**Pacitan**	**4.00**	**65**

RTLL				*e*S		**Sn**	12 01 20.8	+0.3
RTLL				IAML			12 01 21.6	
	comp=Z,1μm,0.3s							
CFA	**Coronel Fontan**	**0.63**	**99**	*e*P		**Pn**	**12 01 09.4**	**-0.3**
CFA				*e*S		**Sn**	**12 01 22.4**	**-0.2**
ASAL	**Salagasta**	**1.08**	**174**	*e*P		**Pn**	**12 01 13.9**	**-0.3**
ARCO	**CERRO ARCO**	**1.32**	**179**	*e*P		**Pn**	**12 01 16.9**	**-0.2**
ARCO				IAML			12 01 37.9	
	comp=Z,441nm,0.5s							
AAGR	**Agrelo**	**1.57**	**176**	*e*P		**Pn**	**12 01 19.7**	**-0.3**
CMCH	**Combarbala**	**1.77**	**280**	*i* P		**Pn**	**12 01 22.7**	**+0.2**
CMCH				*i* S		**Sn**	**12 01 45.8**	**+0.5**
CMCH				IAML			12 01 47.1	
	comp=E,288nm,0.4s							
GO04	**Tololo Observa**	**2.07**	**310**	*e*P		**Pn**	**12 01 26.8**	**+0.4**
GO04	**Tololo Observa**	**2.07**	**310**	*e*P		**Pn**	**12 01 26.4**	**0.0**
GO04				*e*S		**Sn**	**12 01 53.3**	**+1.1**
GO04				IAML			12 01 55.8	
	comp=N,893nm,0.4s							
FCH	**Farellones**	**2.13**	**211**	*e*P		**Pn**	**12 01 28.4**	**+1.1**
FCH				*i* S		**Sn**	**12 01 56.2**	**+2.5**
FCH				IAML			12 02 00.3	
	comp=E,75nm,0.2s							
PEL	**Peldehue**	**2.18**	**221**	*e*P		**Pn**	**12 01 27.6**	**-0.2**
PEL				*i* S		**Sn**	**12 01 54.6**	**+0.1**
PEL				IAML			12 01 55.1	
	comp=N,86nm,0.5s							
ROCH	**El Roble**	**2.26**	**229**	*e*P		**Pn**	**12 01 28.2**	**-0.7**
ROCH				*i* S		**Sn**	**12 01 55.8**	**-0.9**
ROCH				IAML			12 02 01.7	
	comp=N,122nm,0.3s							
ROC1	**El Roble**	**2.27**	**229**	*e*P		**Pn**	**12 01 28.2**	**-0.8**
APLL	**PUNTA DE LOS L**	**2.37**	**63**	*e*P		**Pn**	**12 01 30.7**	**+0.5**
LSCH	**La Serena**	**2.53**	**309**	*e*P		**Pn**	**12 01 31.4**	**-0.8**
LSCH				*i* S		**Sn**	**12 02 01.5**	**-1.1**
LSCH				IAML			12 02 02.1	
	comp=N,86nm,0.3s							
LMEL	**Las Melosas**	**2.55**	**204**	*e*P		**Pn**	**12 01 33.5**	**+0.9**
LMEL				IAML			12 02 13.7	
	comp=N,68nm,0.2s							
ACLC	**CERRO LA CRUZ**	**2.71**	**40**	*e*P		**Pn**	**12 01 35.4**	**+0.6**
MRA	**San Martin**	**2.91**	**109**	*e*P		**Pn**	**12 01 37.0**	**-0.3**
RFA	**San Rafael**	**3.28**	**173**	*e*P		**Pn**	**12 01 40.5**	**-1.6**
TCA	**Tanti**	**3.74**	**88**	*e*P		**Pn**	**12 01 48.3**	**-0.2**
GO03	**Copiap**	**4.06**	**344**	*e*P		**Pn**	**12 01 52.6**	**-0.1**
GO03				*e*S		**Sn**	**12 02 38.3**	**-1.0**
CYA	**Choya**	**4.11**	**43**	*e*P		**Pn**	**12 01 53.8**	**+0.3**

*NNC **23** 12:20:06.3±2.8, 40°.85N×69°.67E, h0km, mb3.3, mpv2.8, Error ellipse: s-maj=20.9km s-min=11.7km az=45.0*
*SOME **23** 12:20:08.1, 40°.88N×69°.68E, h10km*
*KRNET **23** 12:20:08.6±0.1, 41°.11N×69°.49E, mb2.4*
ISC 23 12:20:10.2±2.0, **41°.07N**±0°.04×**69.72E**±0°.09, **h5**km±14km, **n13**, σ1§45/21, **9C-10D**, **Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**1.10**	**12**	*e*P	**Pb**	**12 20 31.2**	**-0.5**
	12nm,0.1s						
IUG				*e*S	**Sn**	**12 20 48.2**	**+0.2**
	33nm,0.9s						
BTK	**Batken**	**1.31**	**140**	⇑*i*P	**Pg**	**12 20 35.1**	**-0.3**
	baz=36						
BTK				⇑*i*S	**Sg**	**12 20 54.9**	**+2.5**
	baz=36						
ARK	**Arkit**	**1.83**	**66**	⇓*i*P	**Pb**	**12 20 43.8**	**-0.5**
	baz=69						
ARK				⇓*i*S	**Sg**	**12 21 09.6**	**+0.4**
	baz=69						
KK31	**Karatay Array**	**2.11**	**16**	⇓Pg	**Pb**	**12 20 49.4**	**+0.4**
	2.9nm,0.5s,baz=203,slow=15,SNR=6.0						
KK31				⇑Lg	Lg	12 21 19.7	
	7.9nm,0.4s,baz=196,slow=29						
DRK	**Karamyk**	**2.25**	**134**	⇑*i*P	**Pb**	**12 20 49.7**	**-1.8**
	baz=32						
DRK				⇑*i*S	**Sb**	**12 21 19.1**	**-0.7**
	baz=32						
ARSB	**Arslanbob**	**2.47**	**83**	⇓*i*P	**Pn**	**12 20 52.3**	**+1.0**
	baz=84						
ARSB				⇓*i*S	**Sb**	**12 21 25.0**	**-1.1**
	baz=84						
MNAS	**Manas**	**2.52**	**55**	⇑Pg	**Pb**	**12 20 55.6**	**-0.4**
	2.9nm,0.7s						
MNAS				⇓Lg	Lg	12 21 29.9	
	3.6nm,0.6s						
MNAS	**Manas**	**2.52**	**55**	⇓*i*P	**Pn**	**12 20 53.0**	**+1.1**
	baz=57						
MNAS				⇓*i*S	**Sb**	**12 21 25.0**	**-2.3**
	baz=57						
SFK	**Sufi-Kurgan**	**3.07**	**109**	⇑Pg	**Pb**	**12 21 04.6**	**-0.8**
	0.3nm,0.2s						
SFK				⇑Lg	Lg	12 21 44.0	
	1.3nm,0.3s						
MRKS	**Merke**	**3.10**	**56**	*e*P	**Pb**	**12 21 06.7**	**+0.7**
	3.7nm,0.3s						
MRKS				*e*S	**Sg**	**12 21 49.3**	**-0.6**
	4.8nm,0.4s						
AAK	**Ala-Archa**	**3.89**	**65**	⇑Pg	**Pb**	**12 21 21.2**	**+1.7**
	2.4nm,0.7s						
AAK				Lg	Lg	12 22 15.7	
	2.8nm,0.8s						
TKM2	**Tokmak 2**	**4.75**	**65**	⇓Pg	**Pb**	**12 21 36.1**	**+2.0**
	2.5nm,0.9s						
TKM2				⇓Lg	Lg	12 22 40.3	
	1.3nm,0.5s						
BTLS	**Baital**	**5.08**	**37**	*e*P	**Pg**	**12 21 45.5**	**-2.0**
BTLS				*e*S	**Sg**	**12 22 55.1**	**+2.0**

*IDC **23** 12:21:07.6±0.6, 18°.94N×64°.23W, h0km, mb3.9/13, mb1 4.1/17, mb1mx4.0/40, mbtmp3.9/17, ML3.4/4, MS3.4/8, Ms1 3.4/8, ms1mx3.0/52, Error ellipse: s-maj=18.0km s-min=13.3km az=81.0*
*TRN **23** 12:21:11.5, 19°.03N×64°.35W, h30km*
*ISCJB **23** 12:21:12.9±0.4, 18°.99N±0°.04×64°.33W±0°.02, h43km±4km, mb4.2/29, MS3.5/6, Error ellipse: s-maj=6.3km s-min=2.8km az=12.9*
*NEIC **23** 12:21:14.0±0.0, 18°.92N×64°.25W, h37km, mb4.4/15, MD4.0(RSPR), After RSPR.*
*RSPR **23** 12:21:14.0, 18°.92N×64°.25W, h37km±2km, MD4.0/16*
ISC 23 12:21:13.3±1.5, **18°.96N**±0°.05×**64°.34W**±0°.03, **h36**km±10km, **n146**, σ1§49/176, **mb4.2**/29, **MS3.5**/6, **24C-26D**, **Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABV	**Anegada**	**0.23**	**178**	⇑*e*P	**Pn**	**12 21 20.1**	**-1.2**
ABV	**Anegada**	**0.23**	**178**	*e*S	**Sn**	**12 21 25.5**	**-2.5**
ABV	**Anegada**	**0.23**	**178**	⇑*e*P	**Pn**	**12 21 20.1**	**-1.2**
ABV				*e*S	**Sn**	**12 21 25.5**	**-2.5**
ABVI	**Anegada Island**	**0.23**	**178**	⇑*e*P	**Pn**	**12 21 20.1**	**-1.2**
ABVI				*e*S	**Sn**	**12 21 25.5**	**-2.5**
TBVI	**Tortola**	**0.60**	**206**	⇑*e*P	**Pn**	**12 21 25.0**	**-0.3**
TBVI	**Tortola**	**0.60**	**206**	⇑*e*P	**Pn**	**12 21 25.0**	**-0.3**
TBVI	**Tortola**	**0.60**	**206**	⇑*e*P	**Pn**	**12 21 25.0**	**-0.3**
STVI	**Saint Thomas**	**0.84**	**224**	⇓*e*P	**Pn**	**12 21 28.8**	**+0.2**
STVI	**Saint Thomas**	**0.84**	**224**	⇓*e*P	**Pn**	**12 21 28.9**	**+0.2**
STVI	**Saint Thomas**	**0.84**	**224**	*e*S	**Sn**	**12 21 39.9**	**+0.2**
STVI	**Saint Thomas**	**0.84**	**224**	⇓*e*P	**Pn**	**12 21 28.8**	**+0.2**
STVI	**Saint Thomas**	**0.84**	**224**	⇓*e*P	**Pn**	**12 21 28.8**	**+0.2**
STVI				*e*S	**Sn**	**12 21 39.9**	**+0.2**
CUPR	**Culebra, Puert**	**1.10**	**234**	⇓*e*P	**Pn**	**12 21 32.9**	**+0.7**
CUPR	**Culebra, Puert**	**1.10**	**234**	⇓*e*P	**Pn**	**12 21 32.9**	**+0.7**
CUPR				*e*S	**Sn**	**12 21 46.5**	**+0.3**
CDVI	**St. Croix**	**1.26**	**199**	*e*Pn	**Pn**	**12 21 35.8**	**+1.3**
CDVI				*e*Sn	**Sn**	**12 21 54.0**	**+3.8**
MTP	**Monte Pirata**	**1.43**	**234**	⇓*e*P	**Pn**	**12 21 37.5**	**+0.8**
MTP	**Monte Pirata**	**1.43**	**234**	⇓*e*P	**Pn**	**12 21 37.5**	**+0.8**
MTP				*e*S	**Sn**	**12 21 55.2**	**+0.8**
MTP	**Monte Pirata**	**1.43**	**234**	⇓*e*P	**Pn**	**12 21 37.5**	**+0.8**
MTP				*e*S	**Sn**	**12 21 55.2**	**+0.8**
SMRT	**St. Maarten**	**1.50**	**127**	*e*Pn	**Pn**	**12 21 37.8**	**+0.1**
SMRT				*e*Sn	**Sn**	**12 21 56.1**	**0.0**
SMRT	**St. Maarten**	**1.50**	**127**	*e*P	**Pn**	**12 21 37.9**	**+0.1**
SMRT				*e*S	**Sn**	**12 21 57.7**	**+1.5**
CBYP	**Canovanas**	**1.59**	**245**	⇓*e*P	**Pn**	**12 21 39.4**	**+0.4**
CBYP	**Canovanas**	**1.59**	**245**	⇓*e*P	**Pn**	**12 21 39.4**	**+0.4**
CBYP	**Canovanas**	**1.59**	**245**	⇓*e*P	**Pn**	**12 21 39.4**	**+0.4**
HUMP	**Col San Antoni**	**1.64**	**241**	⇑*e*P	**Pn**	**12 21 40.6**	**+0.9**
HUMP	**Col San Antoni**	**1.64**	**241**	⇑*e*P	**Pn**	**12 21 40.6**	**+0.9**
HUMP	**Col San Antoni**	**1.64**	**241**	*e*S	**Sn**	**12 22 00.4**	**+0.9**
HUMP	**Col San Antoni**	**1.64**	**241**	⇑*e*P	**Pn**	**12 21 40.6**	**+0.9**
HUMP				*e*S	**Sn**	**12 22 00.4**	**+0.9**
SABA	**Saba**	**1.69**	**142**	*e*Pn	**Pn**	**12 21 41.1**	**+0.7**
SABA	**Saba**	**1.69**	**142**	*e*P	**Pn**	**12 21 40.9**	**+0.6**
SABA				*e*S	**Sn**	**12 22 02.4**	**+1.7**
SJG	**San Juan**	**1.91**	**244**	⇓*e*P	**Pn**	**12 21 44.1**	**+0.8**
SJG	**San Juan**	**1.91**	**244**	Pn	**Pn**	**12 21 44.1**	**+0.8**
	101nm,0.3s,baz=72,slow=13,SNR=42						
SJG				Sn	**Sn**	**12 22 06.3**	**+0.1**
	122nm,0.3s,baz=224,slow=19,SNR=7.4						
SJG				LR	LR	12 22 40.0	
	comp=Z,808nm,18.3s,baz=358,slow=46						
SJG	**San Juan**	**1.91**	**244**	⇓*e*P	**Pn**	**12 21 44.1**	**+0.8**
SJG				*e*S	**Sn**	**12 22 07.0**	**+0.8**
SJG	**San Juan**	**1.91**	**244**	⇓*e*P	**Pn**	**12 21 44.1**	**+0.8**
SJG				*e*S	**Sn**	**12 22 07.0**	**+0.8**
SEUS	**St. Eustatius**	**1.95**	**138**	*e*P	**Pn**	**12 21 44.4**	**+0.5**
SEUS				*e*S	**Sn**	**12 22 07.5**	**+0.4**
EMPR	**Esperanza - Ma**	**2.13**	**257**	⇑*e*P	**Pn**	**12 21 47.8**	**+1.4**
EMPR	**Esperanza - Ma**	**2.13**	**257**	⇑*e*P	**Pn**	**12 21 47.8**	**+1.4**
EMPR				*e*S	**Sn**	**12 22 13.5**	**+2.0**
CELP	**Cerrillos**	**2.30**	**248**	⇓*e*P	**Pn**	**12 21 49.8**	**+1.1**
CELP				*e*S	**Sn**	**12 22 17.8**	**+2.1**
CELP	**Cerrillos**	**2.30**	**248**	⇓*e*P	**Pn**	**12 21 49.8**	**+1.1**
CELP				*e*S	**Sn**	**12 22 17.8**	**+2.1**
CELP	**Cerrillos**	**2.30**	**248**	⇓*e*P	**Pn**	**12 21 49.8**	**+1.1**
CELP				*e*S	**Sn**	**12 22 17.8**	**+2.1**
ICMP	**Isla Caja de M**	**2.33**	**243**	⇓*e*P	**Pn**	**12 21 51.4**	**+2.3**
ICMP	**Isla Caja de M**	**2.33**	**243**	⇓*e*P	**Pn**	**12 21 51.4**	**+2.3**
ICMP				*e*S	**Sn**	**12 22 17.6**	**+1.1**
OBIP	**Obispado Ponce**	**2.33**	**247**	⇑*e*P	**Pn**	**12 21 50.5**	**+1.4**
OBIP	**Obispado Ponce**	**2.33**	**247**	⇑*e*P	**Pn**	**12 21 50.5**	**+1.4**
OBIP				*e*S	**Sn**	**12 22 17.5**	**+0.9**
OBIP	**Obispado Ponce**	**2.33**	**247**	⇑*e*P	**Pn**	**12 21 50.5**	**+1.4**
OBIP				*e*S	**Sn**	**12 22 17.5**	**+0.9**
NEV	**Hard Times**	**2.47**	**137**	*e*P	**Pn**	**12 21 52.0**	**+0.9**
GBPR	**Guanica, Bosqu**	**2.60**	**248**	⇑*e*P	**Pn**	**12 21 55.3**	**+2.5**
GBPR	**Guanica, Bosqu**	**2.60**	**248**	⇑*e*P	**Pn**	**12 21 55.3**	**+2.5**
GBPR	**Guanica, Bosqu**	**2.60**	**248**	⇑*e*P	**Pn**	**12 21 55.3**	**+2.5**
AGPR	**Aguadilla, PR**	**2.67**	**260**	⇑*e*P	**Pn**	**12 21 54.5**	**+0.7**
AGPR	**Aguadilla, PR**	**2.67**	**260**	*e*S	**Sn**	**12 22 25.6**	**+0.6**
AGPR	**Aguadilla, PR**	**2.67**	**260**	⇑*e*P	**Pn**	**12 21 54.5**	**+0.7**
AGPR				*e*S	**Sn**	**12 22 25.6**	**+0.6**
AGPR	**Aguadilla, PR**	**2.67**	**260**	⇑*e*P	**Pn**	**12 21 54.5**	**+0.7**
AGPR				*e*S	**Sn**	**12 22 25.6**	**+0.6**
AGP	**Aguadilla**	**2.71**	**259**	*e*Pn	**Pn**	**12 21 54.4**	**+0.1**
LSP	**Las Mesas**	**2.72**	**254**	⇑*e*P	**Pn**	**12 21 56.1**	**+1.6**
LSP	**Las Mesas**	**2.72**	**254**	⇑*e*P	**Pn**	**12 21 56.1**	**+1.6**
LSP	**Las Mesas**	**2.72**	**254**	⇑*e*P	**Pn**	**12 21 56.1**	**+1.6**
ANWB	**Willy Bob**	**2.75**	**117**	*e*Pn	**Pn**	**12 21 53.2**	**-1.6**
ANWB	**Willy Bob**	**2.75**	**117**	*e*P	**Pn**	**12 21 53.3**	**-1.5**
ANWB				*e*S	**Sn**	**12 22 27.1**	**+0.3**
MPR	**Mayaguez**	**2.75**	**255**	*e*Pn	**Pn**	**12 21 56.6**	**+1.6**
CRPR	**Cabo Rojo, PR**	**2.79**	**251**	⇓*e*P	**Pn**	**12 21 57.0**	**+1.6**
CRPR	**Cabo Rojo, PR**	**2.79**	**251**	⇓*e*P	**Pn**	**12 21 57.0**	**+1.6**
CRPR				*e*S	**Sn**	**12 22 30.3**	**+2.4**
CRPR	**Cabo Rojo, PR**	**2.79**	**251**	⇓*e*P	**Pn**	**12 21 57.0**	**+1.6**
CRPR				*e*S	**Sn**	**12 22 30.3**	**+2.4**
IDE	**Isla Desecheo**	**3.02**	**260**	⇓*e*P	**Pn**	**12 21 59.3**	**+0.7**
IDE	**Isla Desecheo**	**3.02**	**260**	⇓*e*P	**Pn**	**12 21 59.3**	**+0.7**
IDE	**Isla Desecheo**	**3.02**	**260**	⇓*e*P	**Pn**	**12 21 59.3**	**+0.7**
MLYT	**Lee's Yard**	**3.02**	**137**	*e*P	**Pn**	**12 22 00.7**	**+2.0**
MLYT				*e*S	**Sn**	**12 22 36.8**	**+3.1**
BPA	**Boggy Peak**	**3.03**	**128**	*e*P	**Pn**	**12 21 59.6**	**+0.8**
BPA				*e*S	**Sn**	**12 22 37.5**	**+3.6**
DEG	**La Desirade**	**4.09**	**130**	*e*P	**Pn**	**12 22 14.3**	**+0.9**
MDPV	**Dominica, Penn**	**4.33**	**139**	*e*P	**Pn**	**12 22 19.3**	**+2.6**
MDPV	**Dominica, Penn**	**4.33**	**139**	*e*S	**Sn**	**12 23 07.2**	**+1.2**
MDPO	**Dominica; Chan**	**4.35**	**140**	*e*P	**Pn**	**12 22 18.3**	**+1.4**
MDPO	**Dominica; Chan**	**4.35**	**140**	*e*S	**Sn**	**12 23 09.4**	**+3.0**
FDF	**Fort de France**	**5.19**	**143**	*e*P	**Pn**	**12 22 31.2**	**+2.6**
FDF	**Fort de France**	**5.19**	**143**	*e*S	**Sn**	**12 23 31.2**	**+3.9**
SVV	**Soufriere Volc**	**6.36**	**151**	*e*P	**Pn**	**12 22 47.8**	**+3.2**
SSV	**Crater Summit**	**6.36**	**151**	*e*P	**Pn**	**12 22 47.4**	**+2.7**
SVB	**Belmont**	**6.38**	**152**	*e*Pn	**Pn**	**12 22 43.9**	**-1.0**
SVB	**Belmont**	**6.38**	**152**	*e*P	**Pn**	**12 22 46.3**	**+1.4**
SDDR	**Presa de Saban**	**6.57**	**271**	*e*Pn	**Pn**	**12 22 48.7**	**+1.2**
GRTK	**Grand Turk**	**6.86**	**293**	*e*Pn	**Pn**	**12 22 50.3**	**-1.2**
PCRV	**Puerto La Cruz**	**8.73**	**182**	Pn	**Pn**	**12 23 16.3**	**-0.9**
	0.9nm,0.3s,baz=341,slow=10,SNR=5.1						
PCRV				Sn	**Sn**	**12 24 51.3**	**-3.2**
	1.1nm,0.3s,baz=206,slow=22,SNR=1.7						
SDV	**Santo Domingo**	**11.72**	**212**	Pn	**Pn**	**12 23 57.8**	**-0.5**
	0.5nm,0.3s,baz=7.1,slow=8.1,SNR=4.8						
SDV				Sn	**Sn**	**12 26 01.0**	**-7.0**
	1.2nm,0.3s,baz=344,slow=21,SNR=2.2						
SDV	**Santo Domingo**	**11.72**	**212**	*e*P	**Pn**	**12 23 58.9**	**+0.6**
SDV	**Santo Domingo**	**11.72**	**212**	*e*P	**Pn**	**12 23 58.9**	**+0.6**
RUSC	**La Rusia**	**15.53**	**214**	*e*P	**Pn**	**12 24 51.7**	**+1.5**
RUSC	**La Rusia**	**15.53**	**214**	*e*P	**Pn**	**12 24 51.7**	**+1.5**
HELC	**Santa Helena**	**16.73**	**222**	*e*P	**P**	**12 25 06.5**	**-0.9**
HELC	**Santa Helena**	**16.73**	**222**	*e*P	**P**	**12 25 06.5**	**-0.9**
CTAB	**Cerro Tablazo,**	**16.87**	**216**	*e*P	**P**	**12 25 10.1**	**+1.0**
CTAB	**Cerro Tablazo,**	**16.87**	**216**	*e*P	**P**	**12 25 10.1**	**+1.0**
CHIC	**Chingaza**	**16.94**	**214**	*e*P	**Pn**	**12 25 08.5**	**+0.5**
CHIC	**Chingaza**	**16.94**	**214**	*e*P	**Pn**	**12 25 08.5**	**+0.5**
ROSC	**El Rosal**	**17.08**	**216**	P	**Pn**	**12 25 08.7**	**-1.1**
	1.6nm,0.3s,baz=142,slow=22,SNR=1.6						
ROSC				LR	LR	12 32 14.6	
	comp=Z,134nm,20.5s,baz=34,slow=39						
MDP	**Montagnes des**	**17.89**	**139**	LR	LR	12 33 18.1	
	comp=Z,55nm,19.0s,baz=357,slow=41						
ANIL	**Santa Ana**	**17.98**	**218**	*e*P	**P**	**12 25 21.6**	**+0.5**
ANIL	**Santa Ana**	**17.98**	**218**	*e*P	**P**	**12 25 21.6**	**+0.5**
PTGA	**Pitinga**	**20.03**	**167**	P	**P**	**12 25 41.6**	**-1.7**
	0.4nm,0.3s,baz=333,slow=12,SNR=5.5						
PTGA				LR	LR	12 34 38.4	
	comp=Z,48nm,19.1s,baz=108,slow=41						
POPC	**Popayan, Colom**	**20.30**	**218**	*e*P	**P**	**12 25 45.2**	**-1.3**
POPC	**Popayan, Colom**	**20.30**	**218**	*e*P	**P**	**12 25 45.2**	**-1.3**
PCON	**Cinco Dias**	**20.31**	**217**	*e*P	**P**	**12 25 47.9**	**+1.0**
PCON	**Cinco Dias**	**20.31**	**217**	*e*P	**P**	**12 25 47.9**	**+1.0**
SOTA	**Rioblanco**	**20.59**	**217**	*e*P	**P**	**12 25 50.4**	**+0.5**
SOTA	**Rioblanco**	**20.59**	**217**	*e*P	**P**	**12 25 50.4**	**+0.5**
CRUC	**La Cruz**	**21.25**	**217**	*e*P	**P**	**12 25 57.7**	**+0.8**
CRUC	**La Cruz**	**21.25**	**217**	*e*P	**P**	**12 25 57.7**	**+0.8**
TKL	**Tuckaleechee C**	**23.90**	**318**	P	P	12 26 43.0	+19
	10nm,0.8s,baz=133,slow=16,SNR=7.3						
TKL				S	Sn	12 30 54.4	-7.9
	7.6nm,0.9s,baz=258,slow=8.6,SNR=3.6						
CMIG	**Matias Romero**	**29.09**	**271**	P	**P**	**12 27 11.6**	**+0.9**
	2.8nm,0.8s,baz=59,slow=12,SNR=2.3						
ATAH	**Atahualpa**	**29.40**	**209**	P	**P**	**12 27 13.3**	**-0.6**
	1.3nm,0.5s,baz=94,slow=14,SNR=1.7						
ATAH				LR	LR	12 41 14.3	
	comp=Z,86nm,18.6s,baz=324,slow=41						
LPAZ	**La Paz**	**35.22**	**186**	P	**P**	**12 28 03.9**	**-1.2**
	0.6nm,0.5s,baz=8.6,slow=8.8,SNR=2.4						
ECSD	**EROS Data Cent**	**36.63**	**320**	*e*P	**P**	**12 28 16.8**	**+0.5**
	11nm,1.5s						
ROSA	**Rosais**	**36.93**	**50**	*e*P	**P**	**12 28 18.1**	**-0.9**
	195nm,1.1s						
TXAR	**Lajitas Array**	**37.19**	**294**	P	**P**	**12 28 21.8**	**+0.5**
	1.6nm,0.6s,baz=121,slow=9.7,SNR=28						
TXAR				PcP	**PcP**	**12 30 41.6**	**+0.6**
	0.5nm,0.6s,baz=110,slow=4.8,SNR=4.8						
TX31	**Lajitas Ar. Si**	**37.19**	**294**	*e*P	**P**	**12 28 22.3**	**+1.0**
ULM	**Lac du Bonnet**	**40.05**	**329**	P	**P**	**12 28 43.8**	**-1.2**
	0.7nm,0.3s,baz=132,slow=9.8,SNR=3.6						
ULM	**Lac du Bonnet**	**40.05**	**329**	*e*P	**P**	**12 28 44.1**	**-0.8**
	40nm,1.9s						
SDCO	**Great Sand Dun**	**40.39**	**306**	*e*P	**P**	**12 28 49.3**	**+1.0**
	4.9nm,1.0s						
LVC	**Limon Verde**	**41.55**	**186**	LR	LR	12 47 23.8	
	comp=Z,31nm,19.3s,baz=319,slow=38						
PV13	**Radium Mtn., P**	**43.03**	**306**	*e*P	**P**	**12 29 11.7**	**+1.8**
	5.1nm,0.9s						
PV12	**Saucer Basin,**	**43.05**	**306**	*e*P	**P**	**12 29 11.9**	**+1.9**
	5.3nm,0.9s						
PV03	**Paradox Valley**	**43.07**	**306**	*e*P	**P**	**12 29 12.0**	**+1.8**
PV11	**David Mesa, Pa**	**43.10**	**306**	*e*P	**P**	**12 29 10.6**	**+0.2**
	5.8nm,0.7s						
PV16	**Nysw onger Mesa**	**43.14**	**306**	*e*P	**P**	**12 29 10.9**	**+0.2**
	3.3nm,0.7s						
BW06	**Boulder Array**	**44.81**	**312**	*e*P	**P**	**12 29 25.6**	**+1.5**
	2.5nm,0.6s						
PD31	**Pinedale Array**	**44.81**	**312**	*e*P	**P**	**12 29 25.7**	**+1.6**
PDAR	**Pinedale Array**	**44.81**	**312**	P	**P**	**12 29 24.9**	**+0.8**
	1.9nm,0.6s,baz=110,slow=8.8,SNR=26						
PDAR				PcP	**PcP**	**12 31 05.9**	**+0.2**
	0.2nm,0.4s,baz=104,slow=6.7,SNR=4.2						
PDAR	**Pinedale Array**	**44.81**	**312**	*e*P	**P**	**12 29 25.5**	**+1.4**
PDAR				PcP	**PcP**	**12 31 05.8**	**+0.2**
FCC	**Fort Churchill**	**45.27**	**339**	*e*P	**P**	**12 29 26.5**	**-0.6**
	15nm,1.6s						
CPUP	**Villa Florida**	**45.53**	**171**	P	**P**	**12 29 28.4**	**-1.1**
	1.6nm,0.7s,baz=354,slow=4.8,SNR=5.1						
AHID	**Auburn Hatcher**	**45.90**	**312**	*e*P	**P**	**12 29 33.8**	**+1.1**
	7.1nm,1.4s						
TPAW	**Teton Pass**	**46.00**	**313**	*e*P	**P**	**12 29 34.8**	**+1.2**
	14nm,1.9s						
ELK	**Elko**	**48.43**	**308**	*e*P	**P**	**12 29 53.5**	**+1.0**
	5.5nm,1.3s						
TPNV	**Topopah Spring**	**48.62**	**303**	*e*P	**P**	**12 29 56.3**	**+2.4**
	2.3nm,0.9s						
NVAR	**Mina Array Bea**	**50.42**	**305**	P	**P**	**12 30 08.7**	**+1.1**
	0.8nm,0.7s,baz=89,slow=7.8,SNR=3.6						
NVAR				PcP	**PcP**	**12 31 26.7**	**+1.0**
	0.3nm,0.5s,baz=116,slow=4.1,SNR=2.3						
J08A	**Circle Bar Ran**	**51.29**	**311**	*e*P	**P**	**12 30 15.2**	**+1.1**
	4.7nm,0.9s						
NEW	**Newport**	**51.48**	**317**	LR	LR	12 53 55.4	
	comp=Z,79nm,18.4s,baz=254,slow=38						
YKA	**Yellowknife Ar**	**55.47**	**334**	P	**P**	**12 30 43.1**	**-1.1**
	0.6nm,0.6s,baz=108,slow=7.5,SNR=9.1						
PLCA	**Paso Flores**	**59.66**	**185**	P	**P**	**12 31 13.4**	**-0.6**
	0.5nm,0.5s,baz=9.5,slow=12.5,SNR=2.8						
TORD	**Torodi Ar. Bea**	**63.42**	**84**	P	**P**	**12 31 39.2**	**-0.7**
	0.4nm,0.9s,baz=293,slow=7.5,SNR=2.6						
TORD				LR	LR	12 56 20.0	
	comp=Z,46nm,20.7s,baz=320,slow=33						
GERES	**GERESS Array B**	**68.17**	**44**	P	**P**	**12 32 10.7**	**+0.6**
	0.3nm,0.3s,baz=280,slow=5.7,SNR=3.6						
ILAR	**Eielson Array**	**69.86**	**333**	P	**P**	**12 32 19.6**	**-0.6**
	0.5nm,0.6s,baz=103,slow=4.0,SNR=8.2						
FIA1	**FINESS Array S**	**73.75**	**30**	*e*P	**P**	**12 32 43.4**	**-0.1**
	30nm,1.2s						
BVAR	**Borovoye Array**	**98.34**	**26**	LR	LR	13 16 37.9	
	comp=Z,38nm,18.2s,baz=310,slow=34						
WMQ	**Urumqi**	**112.47**	**22**	*e*P	**PKiKP**	**12 39 46.4**	**+0.4**
WRA	**Warramunga Arr**	**162.35**	**264**	PKPab	**PKPab**	**12 41 58.6**	**-1.0**
	0.4nm,0.7s,baz=86,slow=4.0,SNR=4.3						
ASAR	**Alice Springs**	**162.37**	**251**	PKPab	**PKPab**	**12 41 59.1**	**-0.5**

SLIT	**Slitere, Latvi**	**3.31**	**242**	*e*SB	**Sn**	**12 25 27.8**	**+4.8**
RAF	**Rauma**	**3.44**	**303**	*e*S	**Sn**	**12 25 22.1**	**-3.9**
RAF				AML	AML	12 25 39.2	
	comp=N,5.0nm,0.5s						
RAF				AML	AML	12 25 44.1	
	comp=E,7.5nm,0.6s						
RAF				AML	AML	12 25 45.4	
	comp=Z,5.2nm,0.7s						
RAF	**Rauma**	**3.44**	**303**	*e*P	**Pn**	**12 24 45.6**	**+1.0**
AAL	**Aland**	**4.00**	**286**	*e*SG	**Sb**	**12 25 53.0**	**+2.8**

*ISCJB **23** 12:25:29.1±0.5,31.75N×104.52E±0.06,h15km, mb3.5/7,Error ellipse: s-maj=7.4km s-min=5.0km az=20.4*
*IDC **23** 12:25:29.1±0.9,31.75N×104.33E,h0km,mb3.5/8, mb1 3.7/10,mb1mx3.5/58,mbtmp3.5/10,ML3.3/1,Error ellipse: s-maj=33.6km s-min=17.1km az=59.0*
*BJI **23** 12:25:31.5,31.84N×104.33E,h17km,ML3.6/13*

ISC 23 12:25:30.9±0.6,31.84N±0.04×104.28E±0.06,h15km,n15, σ2§48/23,mb3.6/7,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.03**	**206**	Pg	**Pn**	**12 25 51.3**	**+0.4**
CD2				Sg	**Sn**	**12 26 05.3**	**+0.2**
CD2				smax	smax		
	comp=N,2μm,0.7s						
CD2				smax	smax		
	comp=E,3μm,0.6s						
LZH	**Lanzhou**	**4.25**	**355**	*e*Pg	**Pg**	**12 26 49.6**	**-2.7**
LZH				Sg	**Sg**	**12 27 47.0**	**-0.4**
LZH				smax	smax		
	comp=N,100nm,1.1s						
LZH				smax	smax		
	comp=E,270nm,1.0s						
XAN	**Xi'an**	**4.48**	**59**	Pn	**Pn**	**12 26 37.9**	**-0.4**
XAN				Pg	**Pb**	**12 26 52.3**	**+3.0**
XAN				Sn	**Sn**	**12 27 25.8**	**-4.4**
XAN				Sg	**Sb**	**12 27 46.4**	**+3.3**
XAN				smax	smax		
	comp=N,190nm,0.6s						
XAN				smax	smax		
	comp=E,160nm,0.8s						
GYA	**Guiyang**	**5.76**	**158**	Pn	**Pn**	**12 26 55.1**	**-0.9**
GYA				Pg	**Pg**	**12 27 16.8**	**-4.4**
GYA				Sn	**Sn**	**12 28 08.3**	**+6.5**
GYA				Sg	**Sg**	**12 28 34.8**	**-1.0**
GYA				smax	smax		
	comp=N,40nm,0.7s						
GYA				smax	smax		
	comp=E,50nm,0.8s						
CMAR	**Chiang Mai Arr**	**14.17**	**201**	Pn	**Pn**	**12 28 49.7**	**-1.5**
	baz=14,slow=11,SNR=4.8						
SONM	**Songino Array**	**16.05**	**5**	Pn	**Pn**	**12 29 17.3**	**+1.1**
	0.1nm,0.3s,baz=184,slow=14,SNR=4.3						
WMQ	**Urumqi**	**17.70**	**317**	*e*P	**Pn**	**12 29 37.0**	**+0.1**
KSRS	**Korea Array**	**20.22**	**67**	P	**P**	**12 30 05.7**	**+0.3**
	0.8nm,0.5s,baz=266,slow=9.9,SNR=4.4						
MKAR	**Makanchi Array**	**22.52**	**318**	P	**P**	**12 30 32.2**	**+2.0**
	0.2nm,0.3s,baz=115,slow=11,SNR=5.2						
ZALV	**Zalesovo Beam**	**26.12**	**333**	P	**P**	**12 31 05.8**	**+1.7**
	0.8nm,0.3s,baz=151,slow=9.2,SNR=2.6						
KURBB	**Kurchatov Arra**	**26.74**	**322**	P	**P**	**12 31 11.2**	**+1.4**
	0.5nm,0.7s,baz=126,slow=8.1,SNR=9.3						
FINES	**FINESS Array B**	**57.04**	**326**	P	**P**	**12 35 16.6**	**+0.7**
	1.1nm,0.7s,baz=107,slow=9.0,SNR=3.0						
WRA	**Warramunga Arr**	**59.01**	**147**	P	**P**	**12 35 30.4**	**+0.2**
	0.5nm,0.5s,baz=339,slow=7.3,SNR=5.2						
ASAR	**Alice Springs**	**62.05**	**149**	P	**P**	**12 35 50.6**	**-0.4**
	0.2nm,0.4s,baz=336,slow=6.9,SNR=2.8						
YKA	**Yellowknife Ar**	**80.94**	**17**	P	**P**	**12 37 44.8**	**+0.4**
	0.1nm,0.4s,baz=335,slow=5.8,SNR=3.2						

*IDC **23** 12:26:50.0±1.7,7.47S×129.42E,h0km,mb3.6/2, mb1 3.7/6,mb1mx3.5/44,mbtmp3.6/6,ML3.5/4,Error ellipse: s-maj=49.3km s-min=25.5km az=83.0*
*ISCJB **23** 12:26:60.0±1.1,7.99S±0.07×128.99E±0.08,h100km, mb3.4/2,Error ellipse: s-maj=12.0km s-min=9.8km az=146.9*

ISC 23 12:27:00.9±1.4,8.05S±0.10×129.1E±0.1,h100km,n6, σ1§56/10,Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.80**	**248**	Pn	**Pn**	**12 28 25.3**	**+0.8**
	1.9nm,0.3s,baz=63,slow=9.0,SNR=3.4						
BATI				Sn	**Sn**	**12 29 28.1**	**-1.7**
	5.1nm,0.3s,baz=235,slow=23,SNR=2.2						
FITZ	**Fitzroy Crossi**	**10.54**	**198**	Pn	**Pn**	**12 29 30.4**	**+1.3**
	0.1nm,0.3s,baz=26,slow=11,SNR=5.3						
FITZ				Sn	**Sn**	**12 31 25.2**	**0.0**
	1.3nm,0.3s,baz=163,slow=15,SNR=9.4						
WRA	**Warramunga Arr**	**12.85**	**157**	Pn	**Pn**	**12 30 00.4**	**+0.5**
	0.4nm,0.3s,baz=340,slow=12,SNR=21						
WRA				Sn	**Sn**	**12 32 18.4**	**-2.9**
	0.7nm,0.3s,baz=333,slow=21,SNR=12						
ASAR	**Alice Springs**	**16.19**	**164**	Pn	**P**	**12 30 45.4**	**+1.5**
	0.1nm,0.3s,baz=348,slow=11,SNR=5.3						
ASAR				Sn	**Sn**	**12 33 41.5**	**-0.5**
	0.2nm,0.3s,baz=347,slow=26,SNR=5.1						
MKAR	**Makanchi Array**	**68.63**	**327**	P	**P**	**12 37 52.6**	**-0.7**
	0.3nm,0.5s,baz=116,slow=6.7,SNR=4.9						
KURBB	**Kurchatov Arra**	**72.95**	**329**	P	**P**	**12 38 19.4**	**+0.1**
	0.2nm,0.3s,baz=114,slow=4.8,SNR=3.3						

*ISCJB **23** 12:31:11.4±0.7,1.32S±0.04×119.40E±0.07,h10km, mb3.5/4,Error ellipse: s-maj=11.2km s-min=5.5km az=19.7*
*DJA **23** 12:31:12.5±0.4,1°S±3°×11°9E±°,h10km,M4.3/8,mb4.6/2, MLv4.1/8*
*IDC **23** 12:31:12.5±1.5,0.92S×120.57E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.5/47,mbtmp3.6/4,MS2.7/1,Ms1 2.7/1, ms1mx2.4/29,Error ellipse: s-maj=155.2km s-min=22.0km az=63.0*

ISC 23 12:31:13.5±1.0,1.33S±0.05×119.6E±0.2,h10km,n12, σ1§17/13,mb3.6/4,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCI	**Palu**	**0.48**	**29**	P	**Pg**	**12 31 22.7**	**-0.2**
PCI				S	**Sb**	**12 31 32.5**	**+1.3**
TTSI	**Tana Toraja**	**1.72**	**173**	P	**Pn**	**12 31 42.7**	**-0.8**
TTSI				S	**Sn**	**12 32 06.1**	**+0.5**
SPSI	**Sidrap Palu**	**2.62**	**176**	P	**Pn**	**12 31 55.5**	**-0.5**
SPSI				S	**Sn**	**12 32 28.5**	**+0.6**
BNSI	**Bone**	**3.09**	**171**	P	**Pn**	**12 32 01.7**	**-0.8**
BNSI				S	**Sg**	**12 32 54.8**	**+1.8**
KBKI	**Kotabaru**	**3.95**	**240**	P	Pn	12 32 11.3	-3.0
BKSI	**Bulukumba**	**4.00**	**173**	P	**Pn**	**12 32 14.5**	**-0.5**
PLAI	**Plampang**	**7.67**	**194**	P	Pn	12 33 03.7	-1.7
DAV	**Davao City (W)**	**10.25**	**35**	LR	LR	12 38 06.1	
	comp=Z,46nm,18.6s,baz=130,slow=44						
WRA	**Warramunga Arr**	**23.45**	**143**	P	**P**	**12 36 21.8**	**-1.6**
	1.6nm,0.6s,baz=325,slow=10,SNR=8.1						
ASAR	**Alice Springs**	**26.18**	**149**	P	**P**	**12 36 47.2**	**-1.3**
	0.5nm,0.7s,baz=317,slow=7.4,SNR=4.0						
SONM	**Songino Array**	**50.30**	**348**	P	**P**	**12 40 09.7**	**-0.7**
	0.7nm,0.7s,baz=168,slow=9.0,SNR=2.8						
MKAR	**Makanchi Array**	**58.02**	**331**	P	**P**	**12 41 08.0**	**+1.3**
	0.3nm,0.6s,baz=147,slow=6.9,SNR=4.4						

*IDC **23** 12:33:26.1±1.5,51.57N×178.77W,h0km,mb3.6/6, mb1 4.0/7,mb1mx3.5/64,mbtmp3.7/7,ML4.2/1,Error ellipse: s-maj=52.5km s-min=21.9km az=174.0*
*ISCJB **23** 12:33:38.7±0.9,51.8N±0.2×178.3W±0.1,h94km±5km, mb3.5/5,Error ellipse: s-maj=34.9km s-min=10.3km az=174.8*
*NEIC **23** 12:33:39.8±0.0,51.74N×178.16W,h83km,ML3.7(AEIC), After AEIC.*

ISC 23 12:33:38.5±0.9,52.0N±0.2×178.39W±0.08,h86km±8km, n38,σ1§59/40,mb3.5/5,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TASE	**Tanaga Southea**	**0.25**	**116**	P	**Pn**	**12 33 52.2**	**+0.9**
TAFP	**Tanaga Falls P**	**0.26**	**100**	P	**Pn**	**12 33 52.3**	**+1.1**
TAFP				S	**Sn**	**12 34 02.1**	**+1.4**
GALAA	**Gareloi Lava P**	**0.30**	**232**	P	**Pn**	**12 33 53.1**	**+1.6**
TAPA	**Tanaga Point A**	**0.38**	**110**	P	**Pn**	**12 33 52.7**	**+0.7**
TAPA				S	**Sn**	**12 34 02.8**	**+0.7**
KIMD	**Kanaga Island**	**0.74**	**104**	P	**Pn**	**12 33 54.8**	**-0.2**
KIMD				S	**Sn**	**12 34 06.6**	**-0.8**
KIKV	**Kanaga Island**	**0.76**	**95**	P	**Pn**	**12 33 55.6**	**+0.3**
KIRH	**Kanaga Island**	**0.81**	**93**	P	**Pn**	**12 33 56.1**	**+0.3**
ADK	**Adak**	**1.06**	**93**	P	**Pn**	**12 33 58.7**	**+0.1**
ADK				S	**Sn**	**12 34 13.0**	**-0.6**
ADAG	**Mount Adagdak**	**1.11**	**88**	P	**Pn**	**12 33 59.5**	**+0.3**
ETKA	**Kagalaska Isla**	**1.23**	**93**	P	**Pn**	**12 34 00.5**	**-0.2**
GSSP	**Great Sitkin S**	**1.38**	**83**	P	**Pn**	**12 34 02.9**	**+0.4**
GSTD	**Great Sitkin T**	**1.40**	**85**	P	**Pn**	**12 34 03.0**	**+0.2**
GSTD				S	**Sn**	**12 34 20.8**	**-0.3**
GSMY	**Great Sitkin M**	**1.45**	**85**	P	**Pn**	**12 34 03.7**	**+0.3**
GSTR	**Great Sitkin T**	**1.45**	**83**	P	**Pn**	**12 34 04.0**	**+0.6**
GSIG	**Igitkin Island**	**1.53**	**87**	P	**Pn**	**12 34 04.7**	**+0.3**
ATKA	**Atka Island**	**2.60**	**83**	P	**Pn**	**12 34 19.1**	**+0.6**
KOKL	**Mount Kliuchef**	**2.61**	**80**	P	**Pn**	**12 34 19.6**	**+0.9**
KOFP	**Korovin Flat P**	**2.67**	**81**	P	**Pn**	**12 34 20.5**	**+1.0**
KOSE	**Korovin Southe**	**2.71**	**80**	P	**Pn**	**12 34 21.1**	**+1.1**
MSW	**Makushin Switc**	**7.29**	**70**	P	**Pn**	**12 35 24.5**	**+2.3**
UNV	**Unalaska Valle**	**7.44**	**71**	P	**Pn**	**12 35 26.3**	**+2.1**
AKLV	**Akutan Long Va**	**7.82**	**69**	P	**Pn**	**12 35 31.8**	**+2.4**
WESE	**West Dahl East**	**8.67**	**68**	P	**Pn**	**12 35 43.4**	**+2.4**
FALS	**False Pass**	**9.41**	**66**	P	**Pn**	**12 35 54.1**	**+3.1**
KDAK	**Kodiak Island**	**15.91**	**58**	Pn	**Pn**	**12 37 14.8**	**-2.1**
	1.0nm,0.3s,baz=258,slow=5.0,SNR=10.0						
KDAK				Sn	**Sn**	**12 40 07.2**	**-5.3**
	0.2nm,0.3s,baz=219,slow=18,SNR=1.5						
ILAR	**Eielson Array**	**20.64**	**39**	P	**P**	**12 38 12.0**	**+1.3**
	0.4nm,0.5s,baz=256,slow=11,SNR=8.8						
ILAR				PcP	**PcP**	**12 42 17.3**	**0.0**
	0.2nm,0.4s,baz=257,slow=3.5,SNR=4.2						
KLR	**Kul'dur**	**31.27**	**285**	P	**P**	**12 39 46.8**	**-3.1**
	0.7nm,0.7s,baz=82,slow=7.1,SNR=1.9						
H11N2	**WAKE ISLAND Hy**	**34.15**	**205**	T	T	13 17 01.7	
	baz=18,slow=76,SNR=80						
H11N3	**WAKE ISLAND Hy**	**34.16**	**205**	T	T	13 17 02.5	
	baz=18,slow=76,SNR=69						
H11N1	**WAKE ISLAND Hy**	**34.17**	**205**	T	T	13 16 58.8	
	baz=18,slow=76,SNR=77						
YKA	**Yellowknife Ar**	**34.66**	**47**	P	**P**	**12 40 20.2**	**+1.0**
	0.4nm,0.6s,baz=282,slow=8.3,SNR=5.7						
YKA				PcP	**PcP**	**12 42 51.5**	**+0.3**
	0.3nm,0.6s,baz=291,slow=3.3,SNR=4.6						
H11S1	**WAKE ISLAND Hy**	**35.37**	**205**	T	T	13 18 07.9	
	baz=16,slow=76,SNR=91						
H11S2	**WAKE ISLAND Hy**	**35.39**	**205**	T	T	13 17 43.1	
	baz=16,slow=76,SNR=52						
H11S3	**WAKE ISLAND Hy**	**35.39**	**205**	T	T	13 17 43.4	
	baz=16,slow=76,SNR=39						
PDAR	**Pinedale Array**	**45.90**	**73**	P	**P**	**12 41 53.3**	**+0.9**
	1.1nm,0.5s,baz=333,slow=2.4,SNR=17						
TXAR	**Lajitas Array**	**58.32**	**82**	P	**P**	**12 43 24.9**	**+0.5**
	0.2nm,0.4s,baz=316,slow=5.1,SNR=5.0						
AKASG	**Malin Array Be**	**75.08**	**342**	P	**P**	**12 45 11.0**	**+0.5**
	0.2nm,0.3s,baz=34,slow=5.7,SNR=2.3						
TORD	**Torodi Ar. Bea**	**115.18**	**360**	PKP	**PKiKP**	**12 52 09.6**	**-0.3**
	0.2nm,0.3s,baz=343,slow=4.5,SNR=3.4						

*UCR **23** 12:36:51.1±0.8,13.56N×92.82W,h34km±365km,MD4.1, ML3.9,mb4.5(NEIC)*
*MEX **23** 12:36:53.3±0.4,13.97N×92.76W,h74km±35km,MD4.7*
*NEIC **23** 12:36:55.2±2.1,14.10N×92.53W,h28km±14km,mb4.5/97, MD4.7(MEX),Error ellipse: s-maj=9.9km s-min=5.3km az=217.0*
*ISCJB **23** 12:36:57.3±0.6,14.24N±0.03×92.37W±0.03,h64km±5km, mb4.5/105,Error ellipse: s-maj=5.9km s-min=3.6km az=43.0*
*IDC **23** 12:37:01.5±2.4,14.37N×92.18W,h83km±19km,mb4.0/22, mb1 4.1/25,mb1mx4.1/44,mbtmp4.3/25,MS3.8/12, Ms1 3.8/12,ms1mx3.6/29,Error ellipse: s-maj=25.8km s-min=10.4km az=50.0*

ISC 23 12:36:57.1±1.1,14.17N±0.07×92.50W±0.06,h52km±10km, n426,σ1§50/424,mb4.5/107,MS3.9/12,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**1.63**	**80**	*e*P	**Pn**	**12 37 24.0**	**+0.4**
PCIG		**1.68**	**336**	*e*P	**Pn**	**12 37 21.1**	**-3.0**
PCIG				*e*S	**Sn**	**12 37 42.8**	**-1.7**
PCIG		**1.68**	**336**	*e*P	**Pn**	**12 37 21.1**	**-3.0**
PCIG				*e*S	**Sn**	**12 37 42.5**	**-2.0**
PCG	**Pacaya**	**1.85**	**83**	*e*P	**Pn**	**12 37 27.6**	**+1.0**
IXG	**Ixpaco**	**1.98**	**90**	*e*P	**Pn**	**12 37 27.9**	**-0.5**
NBG	**Las Nubes**	**2.13**	**78**	*e*P	**Pn**	**12 37 31.7**	**+1.3**
NBG				*e*S	Sn	12 38 08.8	+1.0
CCIG	**Comitan**	**2.13**	**9**	*e*Pn	**Pn**	**12 37 32.5**	**+2.0**
CCIG				*e*S	**Sn**	**12 37 55.6**	**-0.2**
CCIG	**Comitan**	**2.13**	**9**	*i* P	**Pn**	**12 37 30.2**	**-0.2**
CCIG				*e*P	**Pn**	**12 37 32.6**	**+2.1**
CCIG				*i* S	**Sn**	**12 37 57.2**	**+1.3**
APG	**El Apazote**	**2.14**	**67**	P	**Pn**	**12 37 31.9**	**+1.3**
	23nm,0.3s,baz=231,slow=11,SNR=327						
APG				Lg	Lg	12 38 03.9	
	48nm,0.3s,baz=130,slow=18,SNR=3.6						
APG				LR	LR	12 38 33.9	
	comp=Z,2μm,18.2s,baz=187,slow=52						
CEVE	**Cerro Verde**	**2.81**	**97**	*e*P	**Pn**	**12 37 38.4**	**-1.5**
CEVE				IAML		12 38 37.0	
	comp=Z,1μm,0.5s						
SBLS	**San Blas**	**2.81**	**96**	*e*P	**Pn**	**12 37 38.8**	**-1.0**
SBLS				*e*S	**Sn**	**12 38 15.7**	**+3.1**
SNJE	**San Jose**	**2.82**	**96**	*e*P	**Pn**	**12 37 38.7**	**-1.2**
BOQS	**Boqueron**	**3.15**	**97**	*e*P	**Pn**	**12 37 43.1**	**-1.4**
LFRS	**El Faro**	**3.38**	**99**	*e*P	**Pn**	**12 37 45.5**	**-2.1**
PAVA	**Las Pavas**	**3.49**	**97**	*e*P	**Pn**	**12 37 48.2**	**-0.8**
CMIG	**Matias Romero**	**3.71**	**322**	P	**Pn**	**12 37 48.8**	**-3.1**
	comp=Z,4.8nm,0.3s,baz=141,slow=10,SNR=57						
CMIG				S	**Sn**	**12 38 43.2**	**+8.9**
	comp=Z,40nm,0.3s,baz=101,slow=23,SNR=4.8						
CMIG				LR	LR	12 39 07.7	
	comp=Z,294nm,19.1s,baz=150,slow=34						
CMIG	**Matias Romero**	**3.71**	**322**	*e*P	Pn	12 37 47.6	-4.3
CMIG				*e*S	**Sn**	**12 38 29.4**	**-4.9**
CMIG				S	**Sn**	**12 38 43.2**	**+8.9**
CMIG	**Matias Romero**	**3.71**	**322**	*e*P	Pn	12 37 47.6	-4.3
CMIG				*e*S	**Sn**	**12 38 29.3**	**-4.9**
HUIG	**Huatulco**	**3.83**	**295**	*e*P	Pn	12 37 46.8	-6.9
HUIG	**Huatulco**	**3.83**	**295**	*e*P	Pn	12 37 46.8	-6.9
HUIG				*i* S	Sn	12 38 28.3	-9.2
LCND	**La Caada**	**4.56**	**100**	*e*P	**Pn**	**12 38 01.5**	**-2.1**
LCND				IAML		12 38 11.5	
	comp=Z,124nm,0.5s						
ESTN	**Estel**	**6.05**	**99**	*e*Pn	**Pn**	**12 38 27.1**	**+2.9**
LVIG	**Laguna Verde**	**6.68**	**326**	*e*Pn	**Pn**	**12 38 29.3**	**-3.3**
LVIG				*e*Sn	**Sn**	**12 39 48.2**	**+0.8**
TEIG	**Tepich**	**7.25**	**33**	*e*Pn	**Pn**	**12 38 42.3**	**+1.8**
JTS	**JuntasAbangare**	**8.32**	**117**	P	**Pn**	**12 38 56.3**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=342,slow=18,SNR=3.8						
JTS				Lg	Lg	12 41 04.6	
	baz=300,slow=22,SNR=4.6						
JTS	**JuntasAbangare**	**8.32**	**117**	*e*Pn	**Pn**	**12 38 53.9**	**-1.3**
JTS				Lg	Lg	12 41 04.6	
MOIG	**Morelia**	**9.96**	**305**	*e*Pn	**Pn**	**12 39 18.4**	**+0.6**
MOIG				*e*Sn	**Sn**	**12 41 09.0**	**+0.7**
JCT	**Junction City**	**17.57**	**339**	P	**P**	**12 40 59.3**	**+0.4**
	baz=156						
VBMS	**Vicksburg**	**18.06**	**5**	P	**Pn**	**12 41 05.3**	**+1.0**
	baz=186						
657A	**Interlachen**	**18.22**	**31**	P	**Pn**	**12 41 06.4**	**0.0**
	baz=215						
TXAR	**Lajitas Array**	**18.29**	**327**	P	**Pn**	**12 41 08.0**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=149,slow=12,SNR=34						
TX31	**Lajitas Ar. Si**	**18.29**	**327**	*e*P	**Pn**	**12 41 09.1**	**+1.8**
454A	**Quitman**	**18.38**	**25**	P	**Pn**	**12 41 08.1**	**-0.1**
	baz=208						
ZARC	**Zaragoza, Cauc**	**18.54**	**109**	*e*P	Pn	12 41 18.6	+8.2
ZARC	**Zaragoza, Cauc**	**18.54**	**109**	*e*P	Pn	12 41 18.6	+8.2
352A	**Blakely**	**18.58**	**21**	P	**Pn**	**12 41 10.8**	**+0.2**
	baz=204						
353A	**Camilla**	**18.71**	**23**	P	**Pn**	**12 41 12.5**	**+0.3**
	baz=206						
147A	**Livingston**	**18.82**	**11**	P	**Pn**	**12 41 13.3**	**-0.3**
	baz=193						
YOTC	**Yotoco, Valle**	**18.87**	**121**	*e*P	**Pn**	**12 41 16.6**	**+2.2**
YOTC	**Yotoco, Valle**	**18.87**	**121**	*e*P	**Pn**	**12 41 16.6**	**+2.2**
148A	**Greensboro**	**18.94**	**13**	P	**P**	**12 41 14.5**	**+0.6**
	baz=195						
251A	**Midway**	**18.98**	**19**	P	**P**	**12 41 14.7**	**+0.4**
	baz=202						
TIGA	**Tifton**	**19.03**	**24**	P	**Pn**	**12 41 15.7**	**-0.4**
	baz=207						
149A	**Jones**	**19.07**	**15**	P	**Pn**	**12 41 16.8**	**+0.3**
	baz=197						
252A	**Lumpkin**	**19.11**	**21**	P	**P**	**12 41 16.4**	**+0.6**
	baz=204						
150A	**Eclectic**	**19.28**	**17**	P	**P**	**12 41 18.4**	**+0.8**
	baz=199						
PTBC	**PUERTO BERRIO,**	**19.29**	**111**	*e*P	**P**	**12 41 17.6**	**-0.3**
PTBC	**PUERTO BERRIO,**	**19.29**	**111**	*e*P	**P**	**12 41 17.6**	**-0.3**
Z47A	**Carrollton**	**19.37**	**11**	P	**P**	**12 41 19.3**	**+0.7**
	baz=193						
ANIL	**Santa Ana**	**19.40**	**118**	*e*P	Pn	12 41 29.3	+8.4
ANIL	**Santa Ana**	**19.40**	**118**	*e*P	Pn	12 41 29.3	+8.4
151A	**Opelika**	**19.41**	**18**	P	**P**	**12 41 19.8**	**+0.7**
	baz=201						
POPC	**Popayan, Colom**	**19.43**	**125**	*e*P	**P**	**12 41 20.0**	**+0.3**
POPC	**Popayan, Colom**	**19.43**	**125**	*e*P	**P**	**12 41 20.0**	**+0.3**
ABTX	**Abilene, Hawle**	**19.50**	**342**	*e*P	**Pn**	**12 41 21.6**	**0.0**
	comp=Z,26nm,1.0s						
ABTX	**Abilene, Hawle**	**19.50**	**342**	P	**Pn**	**12 41 21.1**	**-0.6**
	baz=159,SNR=12						
254A	**Abbeville**	**19.60**	**24**	P	**P**	**12 41 21.9**	**+0.8**
	baz=207						
Y41A	**Eaglette Beard**	**19.63**	**360**	P	**Pn**	**12 41 22.6**	**-0.6**
	baz=180						
Z48A	**Northport**	**19.64**	**12**	P	**P**	**12 41 21.3**	**-0.3**
	baz=194						
Z49A	**Columbiana**	**19.70**	**15**	P	**P**	**12 41 23.1**	**+0.9**
	baz=197						
Y43A	**Makayla and Ka**	**19.71**	**4**	P	**Pn**	**12 41 24.6**	**+0.5**
	baz=185						
SOTA	**Rioblanco**	**19.73**	**126**	*e*P	**Pn**	**12 41 27.2**	**+2.2**
SOTA	**Rioblanco**	**19.73**	**126**	*e*P	**Pn**	**12 41 27.2**	**+2.2**
152A	**Waverly Hall**	**19.74**	**20**	P	**Pn**	**12 41 24.2**	**-0.3**
	baz=203,SNR=5.5						
PCON	**Cinco Dias**	**19.78**	**125**	*e*P	**Pn**	**12 41 25.4**	**-0.4**
PCON	**Cinco Dias**	**19.78**	**125**	*e*P	**Pn**	**12 41 25.4**	**-0.4**
Y45A	**Yeager Farm, C**	**19.79**	**7**	P	**Pn**	**12 41 25.0**	**-0.1**
	baz=188						
MARP	**Paez Belalcaza**	**19.84**	**123**	*e*P	**P**	**12 41 21.5**	**-2.6**
MARP	**Paez Belalcaza**	**19.84**	**123**	*e*P	**P**	**12 41 21.5**	**-2.6**
Y46A	**Houston**	**19.90**	**9**	P	**Pn**	**12 41 27.4**	**+1.0**
	baz=190,SNR=5.1						
Z50A	**Ashland**	**19.92**	**16**	P	**P**	**12 41 25.1**	**+0.5**
	baz=199,SNR=6.1						
Y47A	**UCPARC, Winfie**	**20.09**	**11**	P	**P**	**12 41 27.5**	**+1.1**
	baz=193						
ROSC	**El Rosal**	**20.16**	**116**	P	**P**	**12 41 27.9**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=40,slow=2.8,SNR=10						
ROSC	**El Rosal**	**20.16**	**116**	*e*P	**P**	**12 41 25.8**	**-2.1**
ROSC	**El Rosal**	**20.16**	**116**	*e*P	**P**	**12 41 25.8**	**-2.1**
CTAB	**Cerro Tablazo,**	**20.19**	**115**	*e*P	**P**	**12 41 27.3**	**-0.9**
CTAB	**Cerro Tablazo,**	**20.19**	**115**	*e*P	**P**	**12 41 27.3**	**-0.9**
256A	**Glennville**	**20.21**	**27**	P	**P**	**12 41 28.5**	**+0.7**
	baz=211						
X40A	**Basin Creek Fa**	**20.23**	**359**	P	Pn	12 41 30.1	-0.1
	baz=179						
X41A	**Kaden, Bauxite**	**20.24**	**360**	P	Pn	12 41 29.5	-0.8
	baz=180						
Y48A	**Jasper**	**20.24**	**13**	P	**P**	**12 41 28.8**	**+0.7**
	baz=195						
154A	**Montrose**	**20.26**	**23**	P	Pn	12 41 31.4	+0.7
	baz=207,SNR=5.2						
MIAR	**Mount Ida**	**20.31**	**357**	*e*P	**P**	**12 41 29.9**	**+1.1**
	comp=Z,23nm,0.8s						
MIAR	**Mount Ida**	**20.31**	**357**	P	**P**	**12 41 30.1**	**+1.3**
	baz=177,SNR=12						
Z52A	**Williamson**	**20.31**	**20**	P	Pn	12 41 30.2	-1.1
	baz=203						
X45A	**UM Field Stati**	**20.36**	**7**	P	**P**	**12 41 30.6**	**+1.2**
	baz=189						
Y49A	**Blount Mountai**	**20.37**	**15**	*e*P	Pn	12 41 30.9	-1.0
	comp=Z,10.0nm,1.0s						
Y49A	**Blount Mountai**	**20.37**	**15**	P	**P**	**12 41 29.4**	**-0.1**
	baz=197						
OXF	**Oxford**	**20.45**	**7**	P	**P**	**12 41 31.2**	**+0.9**
	baz=189						
X37A	**Clayton**	**20.50**	**353**	*e*P	**P**	**12 41 32.0**	**+1.2**
	comp=Z,12nm,0.7s						
155A	**Kite**	**20.52**	**25**	P	Pn	12 41 33.8	+0.1
	baz=209						
Y50A	**Piedmont**	**20.57**	**16**	P	**P**	**12 41 31.6**	**-0.1**
	baz=199						
PAMC	**Pamplona, Colo**	**20.59**	**107**	*e*P	**P**	**12 41 31.5**	**-1.0**
PAMC	**Pamplona, Colo**	**20.59**	**107**	*e*P	**P**	**12 41 31.5**	**-1.0**
Z53A	**Monticello**	**20.69**	**22**	P	**P**	**12 41 32.0**	**-0.9**
	baz=205						
X47A

NHSC **New Hope** 21.94 29 P P 12 41 45.4 -0.9
baz=214
HODGE **Hodges** 22.02 23 eP P 12 41 48.6 +1.4
comp=Z,7.2nm,0.8s
V47A **Nunnelly** 22.03 11 P P 12 41 46.8 -0.4
baz=193
W51A **Cleveland** 22.04 17 P P 12 41 47.6 +0.2
baz=200
SDV **Santo Domingo** 22.05 101 P P 12 41 47.3 -0.6
comp=Z,12nm,0.8s,baz=284,slow=3.8,SNR=13
SDV **Santo Domingo** 22.05 101 eP P 12 41 48.1 +0.2
comp=Z,10nm,0.7s
SDV **Santo Domingo** 22.05 101 eP P 12 41 48.5 +0.5
SDV **Santo Domingo** 22.05 101 eP P 12 41 48.5 +0.5
HHAR **Hobbs** 22.06 357 eP P 12 41 48.0 +0.4
comp=Z,12nm,0.7s
V48A **Smith Brothers** 22.08 12 eP P 12 41 47.2 -0.6
comp=Z,15nm,0.9s
V48A **Smith Brothers** 22.08 12 P P 12 41 46.4 -1.4
baz=195
U41A **Viola** 22.09 1 P P 12 41 47.9 0.0
baz=182,SNR=7.9
U40A **Yellville** 22.10 359 P P 12 41 48.1 0.0
baz=179,SNR=11
U42A **Revenden** 22.12 3 P P 12 41 48.2 -0.1
baz=183,SNR=7.3
W52A **Murphy** 22.22 19 P P 12 41 49.2 -0.2
baz=202
AMTX **Amarillo** 22.23 340 eP P 12 41 49.6 +0.1
comp=Z,60nm,0.8s
AMTX **Amarillo** 22.23 340 P P 12 41 50.0 +0.5
baz=156
WVT **Waverly** 22.27 10 eP P 12 41 49.8 0.0
comp=Z,8.3nm,0.8s
WVT **Waverly** 22.27 10 P P 12 41 49.4 -0.4
baz=192
V49A **McMinnville** 22.31 14 P P 12 41 50.0 -0.3
baz=197,SNR=6.7
CPCT **Cooper Cave** 22.37 17 eP P 12 41 51.2 +0.2
comp=Z,9.5nm,0.9s
V50A **Pikeville** 22.42 16 P P 12 41 50.8 -0.7
baz=199
U46A **Springville** 22.43 9 P P 12 41 51.6 -0.1
baz=191,SNR=5.0
U47A **Clarksville** 22.67 11 P P 12 41 52.4 -1.7
baz=193
TKL **Tuckaleechee C** 22.79 19 P P 12 41 55.4 -0.1
comp=Z,15nm,1.0s,baz=188,slow=10,SNR=7.7
TKL LR LR 12 52 08.2
comp=Z,445nm,19.7s,baz=206,slow=40
TKL **Tuckaleechee C** 22.79 19 eP P 12 41 56.3 +0.9
comp=Z,13nm,1.0s
T42A **Van Buren** 22.80 3 eP P 12 41 54.9 -0.6
comp=Z,5.4nm,0.6s
T42A **Van Buren** 22.80 3 P P 12 41 54.5 -1.1
baz=184
U32A **Winter Ranch,** 22.87 346 eP P 12 41 56.6 +0.3
comp=Z,32nm,0.9s
U48A **Cassie Pea, Po** 22.88 12 P P 12 41 55.2 -1.1
baz=195
T43A **Greenville** 22.91 5 P P 12 41 55.5 -1.1
baz=186
121A **Cookes Peak, D** 23.00 325 P P 12 41 58.7 +1.0
baz=139,SNR=9.3
V52A **Sevierville** 23.02 19 P P 12 41 56.7 -1.0
baz=202,SNR=7.3
U49A **Red Boiling Sp** 23.05 14 P P 12 41 57.3 -0.8
baz=197
V53A **Saluda** 23.11 20 eP P 12 42 00.2 +1.5
comp=Z,8.5nm,0.8s
V53A **Saluda** 23.11 20 P P 12 41 59.5 +0.8
baz=204
T46A **Princeton** 23.15 9 P P 12 41 58.5 -0.5
baz=191
KMSC **Kings Mountain** 23.18 24 P P 12 41 59.2 -0.2
baz=208,SNR=5.8
U50A **Jamestown** 23.19 16 P P 12 41 58.4 -1.1
baz=199,SNR=6.6
T47A **Sharon Grove** 23.23 11 P P 12 41 59.3 -0.5
baz=193
S41A **Jillco Farms,** 23.34 2 P P 12 41 59.2 -1.7
baz=182
U51A **La Follette** 23.39 17 P P 12 42 00.3 -1.0
baz=201,SNR=13
S43A **Fulton Ridge,** 23.41 5 P P 12 41 59.8 -1.8
baz=186
S42A **Caledonia** 23.56 3 P P 12 42 00.2 -2.7
baz=184
U52A **Thorn Hill** 23.59 19 P P 12 42 02.6 -0.8
baz=203
S44A **Carbondale** 23.61 6 P P 12 42 02.5 -0.9
baz=188,SNR=12
SIUC **Southern Illin** 23.63 7 eP P 12 42 02.4 -1.2
comp=Z,27nm,0.8s
S45A **Carrier Mills** 23.67 8 P P 12 42 03.7 -0.3
baz=190
T49A **Edmonton** 23.67 14 P P 12 42 03.8 -0.3
baz=197
TZTN **Tazewell** 23.68 18 eP P 12 42 04.9 +0.9
comp=Z,13nm,0.9s
TZTN **Tazewell** 23.68 18 P P 12 42 03.3 -0.7
baz=202
T50A **Nancy** 23.76 15 P P 12 42 03.9 -0.9
baz=199,SNR=7.6
S46A **Don Dixon Farm** 23.80 9 P P 12 42 04.5 -0.7
baz=192
CCM **Cathedral Cave** 23.82 2 P P 12 42 03.9 -1.4
baz=183
U53A **Fall Branch** 23.82 20 P P 12 42 04.0 -1.5
baz=204
LENM **Lemitar** 23.84 329 eP P 12 42 08.1 +2.3
T51A **Gray** 23.95 17 P P 12 42 06.2 -0.4
baz=201,SNR=5.4
R41A **Rosebud** 24.05 2 P P 12 42 05.8 -1.7
baz=183,SNR=6.8
R42A **Luebbering** 24.06 3 P P 12 42 06.8 -0.8
baz=184
S48A **Wiedeman Farm,** 24.09 13 P P 12 42 07.3 -0.5
baz=195
R43A **Red Bud** 24.12 5 P P 12 42 07.2 -0.9
baz=186,SNR=5.6
R44A **Waltonville** 24.17 7 P P 12 42 07.7 -0.9
baz=188
ANMO **Albuquerque** 24.22 331 P P 12 42 09.9 +0.7
comp=Z,2.9nm,0.7s,baz=148,slow=11,SNR=17
ANMO **Albuquerque** 24.22 331 eP P 12 42 10.7 +1.4
comp=Z,4.4nm,1.0s
ANMO **Albuquerque** 24.22 331 P P 12 42 10.2 +0.9
baz=146
R45A **Skylar, Fairfi** 24.32 8 P P 12 42 09.6 -0.3
baz=190
R46A **Gibon Southern** 24.35 10 P P 12 42 10.5 +0.2
baz=192
T52A **Hallie** 24.37 19 P P 12 42 10.6 +0.2
baz=203
S49A **Springfield** 24.38 14 P P 12 42 09.9 -0.6
baz=197
S50A **Richmond** 24.50 16 P P 12 42 11.9 +0.3
baz=199
WCI **Wyandotte Cave** 24.59 12 P P 12 42 11.3 -1.1
baz=195
TUC **Tucson** 24.60 320 eP P 12 42 14.5 +1.8
comp=Z,4.7nm,0.8s
TUC **Tucson** 24.60 320 P P 12 42 13.8 +1.2
baz=133
R47A **Wooly Knot Far** 24.61 11 P P 12 42 11.8 -0.8
baz=194
S51A **Beattyville** 24.68 17 eP P 12 42 13.7 +0.5
comp=Z,19nm,0.9s
S51A **Beattyville** 24.68 17 P P 12 42 12.5 -0.7
baz=201,SNR=5.6
Q42A **Golden Eagle** 24.71 4 P P 12 42 14.5 +1.1
baz=185
Q41A **Truxton** 24.71 2 P P 12 42 13.4 -0.1
baz=183,SNR=9.6
OLIL **Olney** 24.78 8 eP P 12 42 15.0 +0.9
comp=Z,39nm,0.8s
Q43A **New Douglas** 24.80 5 P P 12 42 13.1 -1.2
baz=186
Q44A **Meyer Farm, Va** 24.83 6 P P 12 42 13.3 -1.2
baz=188
R49A **Shelbyville** 24.89 14 P P 12 42 13.9 -1.2
baz=197
Q45A **Warren Harvey,** 24.93 8 P P 12 42 15.1 -0.3
baz=190
R50A **Paris** 25.09 15 P P 12 42 16.6 -0.3
baz=199
KSU1 **Kansas State U** 25.10 352 eP P 12 42 17.5 +0.5
comp=Z,18nm,0.7s
KSU1 **Kansas State U** 25.10 352 P P 12 42 16.8 -0.2
baz=171
T25A **Trinidad** 25.22 337 eP P 12 42 21.0 +2.6
comp=Z,31nm,1.1s
T25A **Trinidad** 25.22 337 P P 12 42 21.1 +2.7
baz=152,SNR=22
R51A **Hillsboro** 25.30 17 P P 12 42 18.2 -0.6
baz=200
BLA **Blacksburg** 25.35 23 eP P 12 42 19.5 +0.1
comp=Z,8.8nm,0.8s
BLA **Blacksburg** 25.35 23 P P 12 42 18.1 -1.3
baz=208
CBKS **Cedar Bluff** 25.37 347 eP P 12 42 19.6 +0.1
comp=Z,49nm,0.8s
CBKS **Cedar Bluff** 25.37 347 P P 12 42 19.8 +0.2
baz=164,SNR=16
Q48A **North Vernon** 25.38 12 P P 12 42 19.1 -0.5
baz=195
P42A **Winchester** 25.39 4 eP P 12 42 20.2 +0.5
comp=Z,7.2nm,0.7s
P42A **Winchester** 25.39 4 P P 12 42 19.1 -0.5
baz=185
P44A **Sand Creek, Wi** 25.43 7 P P 12 42 20.7 +0.7
baz=189
P41A **Barry, Barry** 25.44 3 P P 12 42 18.7 -1.4
baz=183
P45A **Graceland, Par** 25.61 9 P P 12 42 20.6 -0.9
baz=191
Q49A **Aurora** 25.63 14 P P 12 42 20.7 -1.1
baz=197
214A **Organ Pipe Nat** 25.66 317 P P 12 42 22.3 0.0
baz=129
Q50A **Georgetown** 25.71 15 P P 12 42 21.9 -0.6
baz=199
P46A **Rosedale** 25.78 9 P P 12 42 22.5 -0.7
baz=192
P47A **Martinsville** 25.81 11 P P 12 42 23.0 -0.4
baz=194
R53A **Hurricane** 25.82 19 P P 12 42 22.2 -1.4
baz=204
O41A **Passleys Farm,** 25.89 3 P P 12 42 24.3 +0.2
baz=184
P48A **Milroy** 25.95 13 P P 12 42 23.3 -1.4
baz=196
R54A **Victor** 26.00 21 P P 12 42 23.5 -1.8
baz=206
W18A **Petrified Fore** 26.01 326 P P 12 42 26.2 +0.7
baz=139
Q51A **Peebles** 26.05 16 eP P 12 42 25.3 -0.3
comp=Z,14nm,0.8s
Q51A **Peebles** 26.05 16 P P 12 42 25.3 -0.3
baz=200
SDCO **Great Sand Dun** 26.17 336 eP P 12 42 29.6 +2.5
comp=Z,5.7nm,1.1s
SDCO **Great Sand Dun** 26.17 336 P P 12 42 28.2 +1.1
baz=151,SNR=18
Q52A **Bidwell** 26.30 18 P P 12 42 27.2 -0.7
baz=203
KSCO **Kaye Shedlock'** 26.31 342 P P 12 42 29.0 +0.9
baz=158
O45A **Potomac** 26.32 8 P P 12 42 28.0 0.0
baz=190
X16A **Lo Mia Camp, P** 26.45 323 eP P 12 42 31.2 +1.7
comp=Z,3.0nm,0.9s
P50A **Jamestown** 26.47 15 P P 12 42 28.9 -0.6
baz=199
SFIN **Lafayette** 26.54 9 P P 12 42 27.5 -2.5
baz=192
P51A **Williamsport** 26.55 16 P P 12 42 29.5 -0.6
baz=201
O47A **Sheridan** 26.55 11 P P 12 42 26.9 -3.2
baz=194
S22A **4UR Ranch, Cre** 26.71 334 eP P 12 42 34.2 +2.2
comp=Z,9.3nm,0.9s
S22A **4UR Ranch, Cre** 26.71 334 P P 12 42 34.4 +2.4
baz=148,SNR=11
MVCO **Mesa Verde** 27.02 331 eP P 12 42 37.1 +2.4
comp=Z,12nm,0.8s
MVCO **Mesa Verde** 27.02 331 P P 12 42 36.2 +1.5
baz=144
WUAZ **Wupatki** 27.20 325 P P 12 42 37.9 +1.7
baz=137
M39A **Webster** 27.21 1 P P 12 42 36.3 +0.3
baz=181
ACSO **Alum Creek Sta** 27.27 16 P P 12 42 35.7 -0.9
baz=200
O51A **Pataskala** 27.30 17 P P 12 42 35.6 -1.2
baz=201
N48A **Decatur** 27.38 12 P P 12 42 36.2 -1.4
baz=196
O52A **Adamsville** 27.49 18 eP P 12 42 38.4 -0.2
comp=Z,9.1nm,0.7s
O52A **Adamsville** 27.49 18 P P 12 42 37.3 -1.3
baz=203
L40A **Anamosa** 27.82 2 P P 12 42 41.7 +0.3
baz=183
Y12C **Blythe** 27.91 318 P P 12 42 43.1 +0.7
baz=129
O54A **Avella** 28.01 20 P P 12 42 41.9 -1.4
baz=206
ISCO **Idaho Springs** 28.01 338 P P 12 42 44.4 +0.7
baz=152
PDMCI **Parker Dam,Lak** 28.02 319 P P 12 42 44.3 +1.0
baz=131
PV12 **Saucer Basin,** 28.06 332 eP P 12 42 46.1 +2.2
comp=Z,33nm,1.1s
IKP **In-o-Pah, Jac** 28.31 315 P P 12 42 46.7 +0.6
baz=125
O55A **Ligonier** 28.40 22 P P 12 42 45.6 -1.1
baz=208
K40A **Colesburg** 28.45 2 P P 12 42 45.8 -1.3
baz=183
BC3 **Big Chuckawall** 28.46 317 P P 12 42 48.0 +0.5
baz=128
L48A **N Adams** 28.55 13 P P 12 42 46.0 -2.0
baz=196
IRM **Iron Mountain** 28.57 318 P P 12 42 49.2 +0.9
baz=129
MONP2 **Monument Peak** 28.67 315 P P 12 42 49.2 -0.2
baz=125
O56A **Blue Knob Stat** 28.72 23 P P 12 42 49.4 -0.2
baz=209
N54A **Moraine State** 28.84 20 P P 12 42 48.3 -2.3
baz=206
N55A **Marion Center** 29.02 21 P P 12 42 49.5 -2.7
baz=208
BELC **Belle Mtn. Jos** 29.03 317 P P 12 42 52.7 +0.2
baz=127
KNB **Kanab** 29.09 325 eP P 12 42 55.1 +2.0
comp=Z,4.4nm,0.9s
PFO **Pinyon Flats O** 29.11 316 P P 12 42 53.4 +0.2
baz=126
GMRC **Granite Mounta** 29.29 319 P P 12 42 54.7 -0.1
baz=129
SSPA **Standing Stone** 29.30 23 P P 12 42 53.5 -1.1
baz=210
Q16A **Castle Valley** 29.66 330 eP P 12 43 00.3 +2.2
comp=Z,4.0nm,0.9s
SZCU **Shurtz Canyon** 29.66 326 eP P 12 43 00.4 +2.2
comp=Z,4.3nm,1.0s
ECSD **EROS Data Cent** 29.68 354 eP P 12 42 57.6 -0.4
comp=Z,5.1nm,0.8s
ECSD **EROS Data Cent** 29.68 354 P P 12 42 56.9 -1.1
baz=172
CCUT **Cedar City** 29.78 325 eP P 12 43 01.7 +2.4
comp=Z,4.1nm,1.0s
TMUT **Trail Mountain** 29.97 330 eP P 12 43 02.8 +1.8
comp=Z,3.2nm,1.0s
MPU **Maple Canyon** 30.73 330 eP P 12 43 10.0 +2.4
comp=Z,5.1nm,1.2s
PSUT **Pine Spring** 30.75 326 eP P 12 43 10.0 +2.1
K22A **Casper** 30.86 340 eP P 12 43 09.3 +0.7
comp=Z,7.0nm,0.8s
K22A **Casper** 30.86 340 P P 12 43 09.5 +0.9
baz=153
G38A **Ridgeland** 30.91 1 P P 12 43 09.1 +0.3
baz=181
SPMN **Marine on St.** 30.96 360 eP P 12 43 10.1 +0.9
comp=Z,9.8nm,0.8s
SPMN **Marine on St.** 30.96 360 P P 12 43 09.0 -0.3
baz=180
LRMC **Laurel Mtn Rad** 31.02 318 P P 12 43 11.3 +1.1
baz=127
TPNV **Topopah Spring** 31.04 321 P P 12 43 11.4 +1.1
baz=131
FURC **Furnace Creek,** 31.11 320 P P 12 43 10.7 0.0
baz=130
MPMC **Manual Prospec** 31.25 319 P P 12 43 12.9 +0.7
baz=128
BINY **Binghamton** 31.37 24 P P 12 43 12.1 -0.9
baz=212
RSSD **Black Hills** 31.44 344 eP P 12 43 14.8 +1.0
comp=Z,6.8nm,0.8s
RSSD **Black Hills** 31.44 344 P P 12 43 14.6 +0.8
baz=158
TCUT **Toone Canyon** 31.50 332 eP P 12 43 16.7 +2.2
comp=Z,17nm,1.0s
R11A **Troy Canyon, C** 31.59 324 P P 12 43 16.8 +1.6
baz=134
F38A **Pierce - Schro** 31.69 1 P P 12 43 16.4 +0.6
baz=181
F40A **Park Falls** 31.71 3 P P 12 43 16.8 +0.9
baz=184
GRAC **Grapevine Rang** 31.75 320 P P 12 43 17.3 +0.9
baz=129
CWC **Cottonwood Cre** 31.86 319 P P 12 43 17.3 -0.2
baz=128
PD31 **Pinedale Array** 32.07 336 eP P 12 43 20.8 +1.4
PDAR **Pinedale Array** 32.07 336 P P 12 43 19.7 +0.3
comp=Z,2.2nm,0.9s,baz=132,slow=8.2,SNR=13
PDAR PcP PcP 12 46 10.2 +2.3
comp=Z,0.7nm,0.6s,baz=143,slow=4.3,SNR=5.8
PDAR LR LR 12 59 21.2
comp=Z,117nm,18.0s,baz=165,slow=42
BW06 **Boulder Array** 32.07 336 eP P 12 43 20.8 +1.4
comp=Z,3.3nm,1.0s
BW06 **Boulder Array** 32.07 336 P P 12 43 20.5 +1.2
baz=148
VES **Vestal, Richgr** 32.16 317 P P 12 43 20.3 +0.3
baz=126
HVU **Hansel Valley** 32.65 331 eP P 12 43 26.5 +2.1
comp=Z,6.3nm,0.9s
REDW **Red Top Meadow** 33.09 335 eP P 12 43 29.7 +1.4
comp=Z,30nm,1.1s
ELK **Elko** 33.09 327 P P 12 43 29.5 +1.2
comp=Z,1.0nm,0.6s,baz=161,slow=3.8,SNR=3.9
ELK PcP PcP 12 46 10.7 -0.1
comp=Z,0.5nm,0.7s,baz=50,slow=9.4,SNR=2.4
E47A **Iron Bridge** 33.11 12 P P 12 43 25.8 -2.2
baz=196
SNOW **Snow King Moun** 33.13 335 eP P 12 43 30.3 +1.6
comp=Z,30nm,0.8s
LOHW **Long Hollow** 33.20 336 eP P 12 43 30.5 +1.3
comp=Z,12nm,1.0s
MDPB **Devils Postpil** 33.22 320 eP P 12 43 31.3 +1.8
comp=Z,3.7nm,0.9s
TPAW **Teton Pass** 33.23 335 eP P 12 43 31.4 +1.8
comp=Z,26nm,1.1s
NV01 **Mina Array Sit** 33.24 321 eP P 12 43 31.1 +1.4
NVAR **Mina Array Bea** 33.24 321 P P 12 43 31.3 +1.7
comp=Z,5.9nm,0.8s,baz=138,slow=8.9,SNR=43
NVAR PcP PcP 12 46 11.9 +0.7
comp=Z,0.8nm,0.7s,baz=126,slow=4.6,SNR=4.2
MOOW **Moose Ponds** 33.37 336 eP P 12 43 31.9 +1.2
comp=Z,12nm,1.1s
FXWY **Fox Creek** 33.39 335 eP P 12 43 32.0 +1.1
comp=Z,6.0nm,0.9s
KVN **Kaiserville** 33.52 322 eP P 12 43 33.8 +1.8
comp=Z,3.3nm,0.9s
IMW **Indian Meadow** 33.57 336 eP P 12 43 34.1 +1.6
comp=Z,11nm,1.1s
FLWY **Flagg Ranch** 33.63 336 eP P 12 43 35.3 +2.4
comp=Z,9.9nm,0.9s
H17A **Grant Village** 33.84 336 eP P 12 43 37.4 +2.5
comp=Z,9.8nm,1.1s
LONY **Lake Ozonia** 33.97 23 P P 12 43 33.2 -2.4
baz=212
RLMT **Red Lodge** 33.97 339 P P 12 43 35.5 -0.5
baz=150
YFT **Old Faithful** 33.99 336 eP P 12 43 39.2 +3.1
comp=Z,10.0nm,1.0s
E51A **G1948 Merrick** 34.06 16 P P 12 43 33.7 -2.8
baz=203
MDND **Maddock** 34.10 351 eP P 12 43 36.9 +0.2
comp=Z,46nm,0.8s
MDND **Maddock** 34.10 351 P P 12 43 36.3 -0.4
baz=168,SNR=5.2
YERR **Yerington** 34.16 321 eP P 12 43 39.2 +1.6
comp=Z,3.4nm,0.9s
YMR **Madison River** 34.22 336 eP P 12 43 40.6 +2.5
comp=Z,23nm,1.1s
F55A **Otter Lake** 34.38 20 P P 12 43 37.5 -1.7
baz=208
PNTR **Pine Nut** 34.44 321 eP P 12 43 42.6 +2.5
comp=Z,4.4nm,0.8s
QLMT **Earthquake Lak** 34.54 336 eP P 12 43 44.0 +3.1
E54A **Lac Daplat, Po** 34.64 19 P P 12 43 39.2 -2.2
baz=207
HLID **Hailey** 34.80 332 eP P 12 43 44.7 +1.7
comp=Z,5.8nm,1.0s
HLID **Hailey** 34.80 332 P P 12 43 43.7 +0.6
baz=141,SNR=8.7
MCMT **McKenzie Canyo** 35.11 335 eP P 12 43 48.5 +2.7
DLMT **Dillon** 35.44 335 eP P 12 43 50.5 +1.9
comp=Z,16nm,1.0s
D54A **Lac Fusel, La** 35.45 19 P P 12 43 45.5 -2.9
baz=207
PTGA **Pitinga** 35.45 112 eP P 12 43 48.3 -0.5
comp=Z,15nm,0.8s
DGMT **Dagmar** 35.55 347 eP P 12 43 49.9 +0.7
comp=Z,19nm,0.9s
DGMT **Dagmar** 35.55 347 P P 12 43 48.6 -0.7
baz=160
WVOR **Wild Horse Val** 36.08 326 eP P 12 43 55.5 +1.5
ULM **Lac du Bonnet** 36.09 356 P P 12 43 52.0 -1.8
comp=Z,6.4nm,0.8s,baz=194,slow=6.7,SNR=12
ULM PcP PcP 12 46 18.9 0.0
comp=Z,3.4nm,0.8s,baz=157,slow=3.3,SNR=5.2
ULM LR LR 13 01 30.8
comp=Z,72nm,18.8s,baz=260,slow=41
ULM **Lac du Bonnet** 36.09 356 eP P 12 43 52.8 -1.0
comp=Z,8.4nm,0.9s
ULM PcP PcP 12 46 18.9 0.0
J08A **Circle Bar Ran** 36.64 328 eP P 12 44 00.4 +1.6
comp=Z,8.8nm,0.9s
EGMT **Eagleton** 36.67 341 eP P 12 43 59.6 +0.7
comp=Z,9.1nm,1.0s
EGMT **Eagleton** 36.67 341 P P 12 43 58.6 -0.3
baz=151
MSO **Missoula** 37.18 335 eP P 12 44 04.6 +1.3
comp=Z,7.2nm,0.9s
MSO **Missoula** 37.18 335 P P 12 44 02.4 -1.0
baz=144,SNR=5.7
F10A **Beach Ranch, E** 37.93 332 eP P 12 44 10.6 +1.0
comp=Z,16nm,0.8s
YBH **Yreka Blue Hor** 37.94 322 P P 12 44 08.5 -1.3
comp=Z,1.4nm,0.8s,baz=70,slow=8.7,SNR=2.8
LPAZ **La Paz** 38.67 141 P P 12 44 17.2 +0.5
comp=Z,1.8nm,0.8s,baz=343,slow=12,SNR=5.8
LPAZ LR LR 13 01 02.4
comp=Z,48nm,19.0s,baz=312,slow=37
LPAZ **La Paz** 38.67 141 eP P 12 44 19.2 +2.4
comp=Z,1.9nm,0.8s
I04A **Tendick Farm,** 39.05 325 P P 12 44 18.2 -0.9
baz=130
NEW **Newport** 39.63 334 P P 12 44 25.0 +1.2
comp=Z,2.7nm,0.8s,baz=135,slow=13,SNR=3.0
NEW **Newport** 39.63 334 P P 12 44 23.9 0.0
baz=141
C09A **Chrisman Ranch** 39.78 333 eP P 12 44 26.2 +1.2
comp=Z,6.6nm,0.6s
MNMC **Minye Minye** 40.05 145 eP P 12 44 26.9 -0.9
comp=Z,16nm,1.0s
B05A **Bryant** 41.88 330 P P 12 44 41.1 -1.1
baz=134
A04D **Lummi Island** 42.49 330 P P 12 44 47.7 +0.5
baz=134
SCHQ **Schefferville** 45.23 21 P P 12 45 07.3 -1.9
comp=Z,11nm,0.9s,baz=207,slow=6.4,SNR=6.2
SCHQ LR LR 13 05 14.2
comp=Z,340nm,19.0s,baz=284,slow=38
SCHQ **Schefferville** 45.23 21 eP P 12 45 07.7 -1.5
comp=Z,12nm,0.8s
YKA **Yellowknife Ar** 50.75 347 P P 12 45 52.1 +0.5
comp=Z,22nm,0.7s,baz=150,slow=7.5,SNR=285
YKA PcP PcP 12 47 07.9 -0.1
comp=Z,1.4nm,0.8s,baz=150,slow=3.6,SNR=5.9
YKB5 **Yellowknife Ar** 50.75 347 eP P 12 45 51.4 -0.2
YKW3 **Yellowknife Ar** 50.81 347 eP P 12 45 52.4 +0.3
comp=Z,25nm,0.8s
FRB **Frobisher Bay** 52.26 13 P P 12 46 00.8 -2.1
comp=Z,6.5nm,0.7s,baz=201,slow=7.9,SNR=9.0
DLBC **Dease Lake** 52.30 336 P P 12 46 05.6 +2.2
comp=Z,6.5nm,0.8s,baz=162,slow=8.1,SNR=8.2
DLBC **Dease Lake** 52.30 336 eP P 12 46 06.0 +2.6

comp=Z,15nm,1.1s
CPUP Villa Florida 52.82 140 P **P 12 46 07.0 -0.6**
comp=Z,2.7nm,0.9s,baz=308,slow=7.3,SNR=4.0
BDFB Brasilia 53.02 122 P **P 12 46 09.8 +0.5**
comp=Z,1.4nm,0.5s,baz=128,slow=22,SNR=4.7
BDFB LR LR 13 10 49.2
comp=Z,88nm,18.7s,baz=178,slow=38
PLCA Paso Flores 58.29 160 LR LR 13 06 48.0
comp=Z,62nm,19.5s,baz=314,slow=31
DAWY Dawson 59.34 338 *e*P **P 12 46 55.9 +2.2**
comp=Z,2.5nm,0.8s
INK Inuvik 60.14 344 P **P 12 46 59.5 +0.5**
comp=Z,9.1nm,0.8s,baz=117,slow=7.2,SNR=32
INK Inuvik 60.14 344 *e*P **P 12 46 59.7 +0.7**
comp=Z,10nm,0.8s
RES Resolute Bay 60.53 359 P **P 12 47 00.8 -0.8**
comp=Z,1.3nm,0.7s,baz=191,slow=6.4,SNR=7.2
DOT Dot Lake 60.87 336 *e*P **P 12 47 05.5 +1.3**
comp=Z,8.2nm,0.8s
HDA Harding Lake 62.35 336 *e*P **P 12 47 14.7 +0.6**
comp=Z,2.9nm,1.0s
HDA Harding Lake 62.35 336 P **P 12 47 13.6 -0.5**
baz=117
IL1 Eielson Array 62.49 337 *e*P **P 12 47 15.1 +0.1**
ILAR Eielson Array 62.50 337 P **P 12 47 15.5 +0.5**
comp=Z,8.0nm,1.0s,baz=144,slow=3.7,SNR=33
ILB Eielson Array 62.50 337 *e*P **P 12 47 15.9 +0.8**
RND Reindeer 62.67 335 *e*P **P 12 47 17.5 +1.2**
comp=Z,18nm,0.8s
POKR Poker Plat Res 62.86 337 P **P 12 47 18.8 +1.4**
baz=117
TCOL CIGO, UAF Yank 62.91 337 P **P 12 47 19.8 +2.0**
baz=116
RSO Redoubt South 63.27 331 *e*P **P 12 47 24.1 +3.6**
TRF Thorofare Moun 63.28 335 *e*P **P 12 47 23.6 +3.2**
comp=Z,17nm,1.0s
MLY Manley 64.09 336 *e*P **P 12 47 25.9 +0.3**
comp=Z,11nm,0.7s
COLD Coldfoot 64.80 339 *e*P **P 12 47 32.6 +2.4**
comp=Z,5.0nm,1.0s
IM3 Indian Mountai 65.61 337 *e*P **P 12 47 37.0 +1.6**
ANM Nome 69.96 334 *e*P **P 12 48 06.2 +3.4**
comp=Z,2.9nm,0.8s
ESDC Sonseca Array 79.99 52 P **P 12 49 00.1 -1.2**
comp=Z,0.6nm,0.5s,baz=297,slow=4.7,SNR=5.1
ES19 SONSECA Array 80.03 52 *e*P **P 12 48 59.9 -1.6**
BILL Bilibino 81.12 338 *e*P **P 12 49 06.9 +0.2**
comp=Z,9.9nm,0.9s
NOA NORSAR Array B 84.23 28 P **P 12 49 23.0 0.0**
comp=Z,0.6nm,0.7s,baz=287,slow=5.1,SNR=3.4
NOA LR LR 13 25 32.9
comp=Z,48nm,21.9s,baz=10.0,slow=35
DBIC Dimbokro 86.12 84 P **P 12 49 31.8 -1.5**
comp=Z,3.3nm,0.9s,baz=259,slow=8.2,SNR=2.4
SEY Seymchan 88.40 336 P **P 12 49 44.0 +0.7**
baz=134,slow=6.7
GERES GERESS Array B 89.78 39 LR LR 13 28 53.4
comp=Z,74nm,19.6s,baz=302,slow=35
TIXI Tiksi 89.99 348 *e*P **P 12 49 50.5 -0.1**
comp=Z,2.9nm,0.8s
FINES FINESS Array B 90.55 25 P **P 12 49 52.6 -0.9**
comp=Z,1.5nm,0.7s,baz=270,slow=1.9,SNR=4.1
FINES LR LR 13 32 25.0
comp=Z,105nm,18.4s,baz=324,slow=37
TORD Torodi Ar. Bea 90.81 76 P **P 12 49 53.8 -1.8**
comp=Z,0.6nm,0.9s,baz=284,slow=5.8,SNR=2.6
AKASG Malin Array Be 97.85 33 LR LR 13 35 42.4
comp=Z,66nm,19.3s,baz=300,slow=36
SONM Songino Array 116.01 346 PKP **PKPdf 12 55 37.1 +2.4**
comp=Z,0.2nm,0.3s,baz=38,slow=1.7,SNR=3.0
MKAR Makanchi Array 119.14 4 PKP **PKiKP 12 55 41.2 +0.6**
comp=Z,0.5nm,0.8s,baz=0.0,slow=1.4,SNR=4.4
LZH Lanzhou 127.68 343 *e*PKP **PKiKP 12 55 57.9 -0.1**
LZH pPKP pPKPdf 12 56 09.5 -3.4
LZH sPKP 12 56 13.0
LZH LR LR
comp=N,65nm,17.8s
LZH LR LR
comp=E,70nm,18.3s
LZH LR LR
comp=Z,91nm,20.2s
WRA Warramunga Arr 134.97 256 PKP **PKPdf 12 56 11.7 +0.4**
comp=Z,0.5nm,0.8s,baz=81,slow=2.7,SNR=3.6
ASAR Alice Springs 135.26 251 PKP **PKPdf 12 56 10.6 -1.2**
comp=Z,0.5nm,0.9s,baz=108,slow=2.1,SNR=3.7
CMAR Chiang Mai Arr 145.68 340 PKPbc **PKPbc 12 56 31.1 0.0**
comp=Z,12nm,0.8s,baz=342,slow=3.9,SNR=54

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*IDC **23** 12:39:29.4±0.6,14°.68S×168°.10E,h0^{km},mb4.5/19, mb1 4.6/21,mb1mx4.5/38,mbtmp4.5/21,ML4.6/2,MS3.6/12, Ms1 3.6/12,ms1mx3.5/18,Error ellipse: s-maj=18.7km s-min=15.3km az=107.0*
*ISCJB **23** 12:39:34.0±0.2,14°.76S±0°.04×167°.86E±0°.05,h36^{km}, mb4.7/60,MS3.9/14,Error ellipse: s-maj=6.6km s-min=6.0km az=2.4*
*MOS **23** 12:39:34.7±1.1,14°.65S×167°.87E,h42^{km},mb5.0/21,Error ellipse: s-maj=12.0km s-min=9.6km az=36.2*
*NEIC **23** 12:39:38.4±1.2,14°.76S×167°.91E,h62^{km}±11^{km},mb4.8/27, Error ellipse: s-maj=7.5km s-min=7.1km az=203.0*
*BJI **23** 12:39:41.7,14°.11S×167°.96E,h83^{km},mb4.7/38,mBS.2/26, Ms4.9/7,Ms7 4.6/7*

ISC 23 12:39:34.9±0.4,14°.77S±0°.05×168°.07E±0°.07,h36^{km},n125, σ1^{s}58/121,mb4.7/59,MS3.8/14,3C-1D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.43**	**192**	*e*Pn	**Pn**	**12 41 22.3**	**+1.5**
	19nm,0.3s						
DZM				*e*Sn	**Sn**	**12 42 39.5**	**-4.4**
	5.2nm,0.3s						
DZM				*e*LR	LR	12 43 04.1	
	comp=Z,312nm,29.9s						
DZM	**Mont Dzumac**	**7.43**	**192**	Pn	**Pn**	**12 41 21.6**	**+0.8**
	6.3nm,0.3s,baz=177,slow=9.2,SNR=60						
DZM				Sn	**Sn**	**12 42 43.9**	**0.0**
	1.2nm,0.3s,baz=19,slow=24,SNR=4.6						
DZM				LR	LR	12 43 17.8	
	comp=Z,94nm,19.9s,baz=92,slow=30						
DZM	**Mont Dzumac**	**7.43**	**192**	*e*Pn	**Pn**	**12 41 22.5**	**+1.7**
DZM				*e*Sn	**Sn**	**12 42 44.4**	**+0.5**
HNR	**Honiara**	**9.55**	**303**	Pn	**Pn**	**12 41 49.6**	**-0.3**
	7.8nm,0.3s,baz=352,slow=14,SNR=6.3						
HNR				Sn	**Sn**	**12 43 32.3**	**-3.8**
	7.1nm,0.3s,baz=139,slow=22,SNR=7.1						
HNR				LR	LR	12 45 24.1	
	comp=Z,467nm,19.8s,baz=134,slow=37						
HNR	**Honiara**	**9.55**	**303**	*e*P	**Pn**	**12 41 50.0**	**+0.1**
HNR	**Honiara**	**9.55**	**303**	*e*P	**Sn**	**12 43 37.0**	**+0.9**
HNR	**Honiara**	**9.55**	**303**	*e*Pn	**Pn**	**12 41 52.1**	**+2.2**
HNR				*e*Sn	**Sn**	**12 43 36.2**	**+0.1**
EIDS	**Eidsvold**	**19.11**	**234**	*e*P	**Pn**	**12 43 55.2**	**-0.5**
	27nm,1.1s						
OUZ	**Omahuta**	**20.96**	**167**	*e*P	Pn	12 44 16.8	-0.7
	82nm,1.5s						
PMG	**Port Moresby**	**21.13**	**282**	P	**P**	**12 44 17.1**	**+0.3**
	23nm,0.8s,baz=102,slow=7.6,SNR=5.3						
PMG	**Port Moresby**	**21.13**	**282**	*i* P	**P**	**12 44 15.4**	**-1.4**
PMG				pmax	pmax		
	comp=Z,135nm,1.1s						
CTA	**Charters Tower**	**21.47**	**253**	P	**P**	**12 44 20.6**	**+0.2**
	comp=Z,19nm,0.9s,baz=73,slow=11,SNR=6.4						
CTAO	**Charters Tower**	**21.47**	**253**	*e*P	**P**	**12 44 22.0**	**+1.5**
	comp=Z,80nm,1.6s						
CTAO	**Charters Tower**	**21.47**	**253**	*e*P	**P**	**12 44 22.0**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,80nm,1.6s						
URZ	**Urewera**	**24.73**	**163**	P	**P**	**12 44 53.4**	**+0.5**
	comp=Z,16nm,0.9s,baz=350,slow=7.2,SNR=5.9						
URZ	**Urewera**	**24.73**	**163**	*e*P	**P**	**12 44 54.9**	**+2.1**
	comp=Z,26nm,1.1s						
BKZ	**Black Stump Fm**	**25.41**	**165**	*e*P	**P**	**12 45 00.8**	**+1.8**
	comp=Z,14nm,0.8s						
STKA	**Stephens Creek**	**29.56**	**230**	P	**P**	**12 45 37.5**	**+1.1**
	comp=Z,20nm,0.8s,baz=51,slow=8.0,SNR=30						
STKA				LR	LR	12 57 03.9	
	comp=Z,57nm,18.3s,baz=35,slow=36						
STKA	**Stephens Creek**	**29.56**	**230**	*e*P	**P**	**12 45 37.0**	**+0.6**
	comp=Z,5.8nm,0.9s						
STKA	**Stephens Creek**	**29.56**	**230**	*e*P	**P**	**12 45 37.0**	**+0.6**
STKA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WB2	**Warramunga Arr**	**32.56**	**256**	*e*P	**P**	**12 46 01.2**	**-1.8**
WRA	**Warramunga Arr**	**32.57**	**256**	P	**P**	**12 46 01.7**	**-1.4**
	comp=Z,3.7nm,0.9s,baz=86,slow=8.5,SNR=14						
WRA				LR	LR	12 58 54.1	
	comp=Z,386nm,18.2s,baz=95,slow=36						
AS01	**Alice Springs**	**33.34**	**249**	*e*P	**P**	**12 46 08.7**	**-1.1**
AS31	**Alice Springs**	**33.39**	**249**	*e*P	**P**	**12 46 09.5**	**-0.7**
	comp=Z,4.6nm,0.8s						
ASAR	**Alice Springs**	**33.39**	**249**	P	**P**	**12 46 09.3**	**-0.9**
	comp=Z,15nm,0.9s,baz=80,slow=9.0,SNR=82						
ASAR				LR	LR	12 58 56.3	
	comp=Z,335nm,19.8s,baz=86,slow=35						
BBOO	**Buckleboo**	**34.17**	**233**	*e*P	**P**	**12 46 18.1**	**+1.2**
	comp=Z,50nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**34.28**	**358**	T	T	13 22 29.9	
	baz=177						
H11N3	**WAKE ISLAND Hy**	**34.29**	**358**	T	T	13 22 23.9	
	baz=177						
H11N2	**WAKE ISLAND Hy**	**34.30**	**358**	T	T	13 22 30.9	
	baz=177						
PPT2	**Papeete2**	**40.71**	**100**	*e*LR	LR	12 58 40.0	
	comp=Z,344nm,25.8s						
TBI	**Tubuai**	**40.91**	**109**	*e*LR	LR	12 58 44.6	
	comp=Z,303nm,28.0s						
TAOE	**Nuku Hiva Isla**	**50.93**	**89**	*e*LR	LR	13 03 15.8	
	comp=Z,147nm,30.9s						
MJAR	**Matsushiro Arr**	**58.30**	**332**	P	**P**	**12 49 25.3**	**-0.9**
	comp=Z,2.2nm,0.9s,baz=167,slow=8.6,SNR=6.7						
MJAR				LR	LR	13 12 49.7	
	comp=Z,26nm,20.5s,baz=90,slow=34						
MAJO	**Matsushiro**	**58.30**	**332**	*i* P	**P**	**12 49 24.8**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
VNDA	**Vanda**	**62.84**	**182**	P	**P**	**12 49 57.0**	**+0.4**
	comp=Z,1.5nm,0.9s,baz=33,slow=5.0,SNR=3.0						
VNDA				LR	LR	13 14 38.7	
	comp=Z,65nm,18.0s,baz=200,slow=34						
ASAJ	**Asahikawa**	**63.04**	**340**	P	**P**	**12 49 57.8**	**-0.5**
	comp=Z,4.7nm,0.9s,baz=207,slow=13,SNR=5.8						
KSRS	**Korea Array**	**64.21**	**325**	P	**P**	**12 50 05.8**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=141,slow=6.4,SNR=8.9						
KSRS				LR	LR	13 15 02.2	
	comp=Z,21nm,20.6s,baz=25,slow=33						
KSAR	**Wonju Array Be**	**64.22**	**325**	P	**P**	**12 50 05.8**	**-0.4**
KSAR	**Wonju Array Be**	**64.22**	**325**	P	**P**	**12 50 05.9**	**-0.4**
KS01	**Wonju Array Si**	**64.24**	**325**	*e*P	**P**	**12 50 06.0**	**-0.4**
YSS	**Yuzh-Sakhalins**	**65.51**	**341**	*e*P	**P**	**12 50 15.0**	**+0.6**
YSS				*e*		12 50 24.2	
YSS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NJ2	**Nanjing**	**66.25**	**315**	*e*P	**P**	**12 50 20.5**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MSHR	**Mys Shultsa**	**66.39**	**331**	*i* P	**P**	**12 50 20.8**	**+0.6**
USRK	**Ussuriysk Ar.**	**67.27**	**333**	P	**P**	**12 50 26.0**	**+0.3**
	comp=Z,5.5nm,1.1s,baz=134,slow=5.5,SNR=8.8						
PETK	**Petropavlovsk-**	**68.19**	**353**	LR	LR	13 14 43.1	
	comp=Z,35nm,20.5s,baz=89,slow=31						
PSI	**Prapat**	**70.63**	**278**	*e*P	**P**	**12 50 46.7**	**-0.8**
	comp=Z,10nm,1.0s						
PSI	**Prapat**	**70.63**	**278**	*e*P	**P**	**12 50 46.7**	**-0.8**
PSI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SKNT	**Sakolnakorn**	**70.67**	**294**	P	**P**	**12 50 48.0**	**+0.5**
	comp=Z,5.3nm,1.1s						
KLR	**Kul'dur**	**71.36**	**336**	*c i* P	**P**	**12 50 51.2**	**+0.3**
GSI	**Gunungsitoli**	**71.51**	**276**	*e*P	**P**	**12 50 49.4**	**-3.2**
	comp=Z,32nm,1.0s						
NKL	**Nikolayevsk**	**71.63**	**343**	*e*P	**P**	**12 50 52.0**	**-0.4**
UTTA	**Uttaradit**	**73.99**	**294**	P	**P**	**12 51 09.0**	**+1.8**
	comp=Z,2.4nm,1.0s						
KMI	**Kunming**	**74.99**	**301**	P	**P**	**12 51 14.3**	**+1.1**
KMI				pmax	pmax		
	comp=Z,13nm,0.7s						
KMI				pmax	pmax		
	comp=Z,110nm,5.4s						
QSPA	**South Pole Qui**	**75.26**	**180**	*e*P	**P**	**12 51 14.1**	**+0.1**
	comp=Z,26nm,1.1s						
CM01	**Chiang Mai Arr**	**75.65**	**294**	*e*P	**P**	**12 51 18.2**	**+1.3**
CMAR	**Chiang Mai Arr**	**75.68**	**294**	P	**P**	**12 51 17.8**	**+0.8**
	comp=Z,1.9nm,0.4s,baz=120,slow=4.7,SNR=23						
CMAR				LR	LR	13 25 30.9	
	comp=Z,10nm,18.0s,baz=186,slow=36						
CHTO	**Chiang Mai**	**75.80**	**294**	*e*P	**P**	**12 51 18.7**	**+0.9**
	comp=Z,3.6nm,0.6s						
CHTO	**Chiang Mai**	**75.80**	**294**	*e*P	**P**	**12 51 18.7**	**+0.9**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CHTO	**Chiang Mai**	**75.80**	**294**	P	**P**	**12 51 19.2**	**+1.5**
	comp=Z,22nm,1.7s						
HHC	**Hu-ho-hao-te**	**76.12**	**319**	*e*P	**P**	**12 51 19.8**	**+0.6**
HHC				S	S	13 00 49.6	-11
HHC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,250nm,5.1s						
HHC				LR	LR		
	comp=Z,200nm,15.1s						
HHC				LR	LR		
	comp=Z,330nm,14.4s						
HHC				LR	LR		
	comp=Z,530nm,13.8s						
CD2	**Chengdu**	**76.65**	**307**	*e*P	**P**	**12 51 23.0**	**+0.6**
LZH	**Lanzhou**	**78.92**	**312**	*e*P	**P**	**12 51 35.0**	**-0.1**
LZH				pP	sP	12 51 58.5	+8.8
LZH				sP	pwP	12 52 08.0	+20
LZH				*e*PP	**PP**	**12 54 37.3**	**+3.0**
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				pmax	pmax		
	comp=Z,78nm,7.9s						
LZH				LR	LR		
	comp=Z,190nm,16.5s						
LZH				LR	LR		
	comp=Z,200nm,17.0s						
LZH				LR	LR		
	comp=Z,270nm,19.2s						
BILL	**Bilibino**	**82.59**	**359**	*e*P	**P**	**12 51 52.6**	**-1.1**
BILL				*e*		12 52 08.3	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ULN	**Ulaanbaatar**	**82.63**	**324**	*e*P	**P**	**12 51 55.3**	**+0.7**
	comp=Z,13nm,1.1s						
ULN	**Ulaanbaatar**	**82.63**	**324**	*i* P	**P**	**12 51 54.4**	**-0.2**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
SONM	**Songino Array**	**82.99**	**323**	P	**P**	**12 51 56.6**	**+0.2**
	comp=Z,3.9nm,1.0s,baz=138,slow=5.3,SNR=22						
SONA1	**Songino Array**	**82.99**	**323**	*e*P	**P**	**12 51 56.4**	**-0.1**
GTA	**Gaotai**	**83.26**	**314**	⇓P	**P**	**12 51 59.0**	**+1.0**
GTA				pP	sP	12 52 18.9	+6.6
GTA				sP	pwP	12 52 27.4	+16
GTA				pmax	pmax		
	comp=Z,8.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,98nm,5.1s						
GTA				LR	LR		
	comp=Z,81nm,17.5s						
GTA				LR	LR		
	comp=Z,72nm,17.2s						
GTA				LR	LR		
	comp=Z,150nm,15.8s						
SHL	**Shillong**	**84.27**	**298**	*e*P	**P**	**12 52 04.2**	**+0.6**
	comp=Z,19nm,1.0s						
SHL	**Shillong**	**84.27**	**298**	*e*P	**P**	**12 52 04.2**	**+0.6**
SHL				pmax	pmax		
	comp=Z,19nm,1.0s						
ORV	**Oroville**	**84.84**	**47**	*e*P	**P**	**12 52 07.2**	**+1.3**
	comp=Z,7.1nm,1.4s						
ORV	**Oroville**	**84.84**	**47**	*e*P	**P**	**12 52 07.2**	**+1.3**
ORV				pmax	pmax		
	comp=Z,7.0nm,1.4s						
BOD	**Bodaibo**	**84.85**	**334**	*e*P	P	12 51 59.9	-5.6
BOD				pmax	pmax		
	comp=Z,7.0nm,1.5s						
BEKR	**Beckworth**	**85.77**	**47**	*e*P	**P**	**12 52 12.6**	**+1.8**
	comp=Z,12nm,1.4s						
MDPB	**Devils Postpil**	**85.84**	**50**	*e*P	**P**	**12 52 12.4**	**+1.1**
	comp=Z,8.3nm,1.2s						
ZAK	**Zakamensk**	**86.03**	**325**	*e*P	**P**	**12 52 10.8**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
COLA	**College**	**86.12**	**17**	*i* P	**P**	**12 52 12.8**	**+1.2**
COLA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
IL1	**Eielson Array**	**86.32**	**18**	*e*P	**P**	**12 52 11.4**	**-1.3**
ILAR	**Eielson Array**	**86.32**	**18**	P	**P**	**12 52 11.5**	**-1.2**
	comp=Z,1.7nm,0.6s,baz=237,slow=5.0,SNR=25						
ILB	**Eielson Array**	**86.32**	**18**	*e*P	**P**	**12 52 11.6**	**-1.1**
PAHR	**Pah Rah Range**	**86.40**	**48**	*e*P	**P**	**12 52 15.6**	**+1.7**
	comp=Z,10nm,1.4s						
NV01	**Mina Array Sit**	**86.71**	**49**	*e*P	**P**	**12 52 16.3**	**+0.8**
NVAR	**Mina Array Bea**	**86.71**	**49**	P	**P**	**12 52 16.5**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=235,slow=6.1,SNR=7.8						
KVN	**Kaiserville**	**87.08**	**48**	*e*P	**P**	**12 52 19.0**	**+1.7**
	comp=Z,8.4nm,1.5s						
KVN	**Kaiserville**	**87.08**	**48**	*e*P	**P**	**12 52 19.0**	**+1.7**
KVN				pmax	pmax		
	comp=Z,8.0nm,1.5s						
LDFC	**Landfair**	**87.93**	**53**	*e*P	**P**	**12 52 23.1**	**+1.7**
	comp=Z,21nm,1.4s						
SHPR	**Sheep Range**	**88.37**	**52**	*e*P	**P**	**12 52 25.1**	**+1.6**
	comp=Z,8.4nm,1.3s						
J08A	**Circle Bar Ran**	**88.41**	**44**	*e*P	**P**	**12 52 25.1**	**+1.7**
	comp=Z,20nm,1.9s						
W13A	**Hualapai Mount**	**88.89**	**53**	*e*P	**P**	**12 52 27.6**	**+1.6**
	comp=Z,4.9nm,1.3s						
SYO	**Syowa Base**	**88.89**	**196**	⇑P	**P**	**12 52 24.4**	**-0.7**
LCMT	**Little Creek M**	**89.99**	**52**	*e*P	**P**	**12 52 32.7**	**+1.7**
	comp=Z,6.9nm,1.1s						
CCUT	**Cedar City**	**90.07**	**51**	*e*P	**P**	**12 52 33.4**	**+1.8**
	comp=Z,8.2nm,1.3s						
TIXI	**Tiksi**	**90.16**	**348**	*i* P	**P**	**12 52 30.4**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.4s						
KNB	**Kanab**	**90.31**	**52**	*e*P	**P**	**12 52 35.4**	**+2.8**
	comp=Z,12nm,1.4s						
KNB	**Kanab**	**90.31**	**52**	*e*P	**P**	**12 52 35.4**	**+2.8**
KNB				pmax	pmax		
	comp=Z,12nm,1.4s						
U15A	**North Rim**	**90.54**	**53**	*e*P	**P**	**12 52 35.3**	**+1.5**
	comp=Z,6.9nm,0.9s						
X16A	**Lo Mia Camp, P**	**90.59**	**55**	*e*P	**P**	**12 52 35.8**	**+1.8**
	comp=Z,2.7nm,0.9s						
PKCU	**Pink Cliffs**	**90.83**	**52**	*e*P	**P**	**12 52 37.2**	**+2.0**
	comp=Z,24nm,1.7s						
NVL	**N'lazarevskaya**	**93.12**	**188**	*e*P	P	12 52 37.4	-7.3
NVL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WMQ	**Urumqi**	**93.31**	**314**	*e*P	**P**	**12 52 46.3**	**+0.1**
WMQ				sP	sP	12 53 17.6	+17
WMQ				pmax	pmax		
	comp=Z,11nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,270nm,5.7s						
WMQ				LR	LR		
	comp=Z,100nm,17.5s						
WMQ				LR	LR		
	comp=Z,80nm,17.5s						
WMQ				LR	LR		
	comp=Z,80nm,17.5s						
SNAA	**Sanae**	**93.55**	**183**	*i* P	**P**	**12 52 45.8**	**-1.0**
PDAR	**Pinedale Array**	**94.40**	**47**	LR	LR	13 33 58.3	
	comp=Z,32nm,18.6s,baz=308,slow=35						
ANMO	**Albuquerque**	**94.68**	**55**	*i* P	**P**	**12 52 50.5**	**-2.4**
ANMO				pmax	pmax		
	comp=Z,1.0nm,1.2s						
TXAR	**Lajitas Array**	**95.61**	**61**	P	**P**	**12 52 57.1**	**0.0**
	comp=Z,0.4nm,0.7s,baz=218,slow=5.5,SNR=5.3						
TXAR				LR	LR	13 28 29.0	
	comp=Z,34nm,20.6s,baz=0.0,slow=31						
YKA	**Yellowknife Ar**	**97.22**	**27**	P	**P**	**12 53 02.4**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=255,slow=4.8,SNR=18						
YKB5	**Yellowknife Ar**	**97.22**	**27**	*e*P	**P**	**12 53 02.2**	**-1.3**
MK01	**Makanchi Array**	**97.76**	**316**	*e*P	**P**	**12 53 05.9**	**-0.4**
MK31	**Makanchi Array**	**97.77**	**316**	*e*P	**P**	**12 53 06.2**	**-0.2**
MKAR	**Makanchi Array**	**97.77**	**316**	P	Pdif	12 53 06.3	-0.1
	comp=Z,4.9nm,0.8s,baz=98,slow=6.4,SNR=34						
ZALV	**Zalesovo Beam**	**97.88**	**324**	P	**P**	**12 53 05.8**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=96,slow=4.5,SNR=4.6						
MAKZ	**Makanchi**	**97.98**	**316**	*e*P	Pdif	12 53 07.5	+0.1
	comp=Z,6.3nm,1.0s						
MAKZ	**Makanchi**	**97.98**	**316**	*e*P	Pdif	12 53 07.5	+0.1
MAKZ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KSH	**Kashi**	**100.83**	**308**	P	**Pdif**	**12 53 23.1**	**+2.7**
KSH				PP	**PP**	**12 57 35.0**	**+6.3**
KSH				S	**Sdif**	**13 04 49.4**	**-6.6**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KSH				pmax	pmax		
	comp=Z,360nm,6.1s						
KSH				LR	LR		
	comp=Z,34nm,9.6s						
KSH				LR	LR		
	comp=Z,68nm,5.7s						
KSH				LR	LR		
	comp=Z,310nm,8.0s						
ARU	**Arti**	**112.96**	**325**	*i* PKIKP	**PKiKP**	**12 58 06.7**	**-1.2**
KLMR	**Klimovskoe**	**121.07**	**333**	*e*PKIKP	**PKPdf**	**12 58 21.3**	**-2.0**
KLMR				pmax	pmax		
	comp=Z,17nm,1.5s						
KLMR	**Klimovskoe**	**121.07**	**333**	*e*PKPdf	**PKPdf**	**12 58 21.3**	**-2.0**
KLMR				AMP		12 58 24.2	
	comp=Z,17nm,1.5s						
KBZ	**Khabaz**	**125.34**	**313**	PKP	**PKiKP**	**12 58 32.9**	**+0.5**
	comp=Z,1.7nm,1.0s,baz=145,slow=2.4,SNR=3.9						
KIV	**Kislovodsk**	**125.44**	**314**	*e*PKIKP	**PKPdf**	**12 58 31.3**	**-1.1**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
AKASG	**Malin Array Be**	**131.20**	**326**	PKP	**PKPdf**	**12 58 42.8**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=44,slow=2.8,SNR=2.3						
KIEV	**Kiev**	**131.21**	**326**	*i* PKIKP	**PKiKP**	**12 58 43.9**	**0.0**
BRTR	**Keskin Array B**	**133.12**	**311**	PKP	**PKPdf**	**12 58 46.3**	**-0.9**
	comp=Z,1.1nm,1.0s,baz=46,slow=1.8,SNR=4.1						
BRTR	**Keskin Array B**	**133.12**	**311**	*i* PKIKP	**PKiKP**	**12 58 47.9**	**-0.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KEST	**Kesra**	**151.73**	**321**	PKPbc	**PKPbc**	**12 59 25.9**	**-0.2**
	comp=Z,17nm,1.0s,baz=316,slow=2.6,SNR=8.3						
TOA0	**Torodi Ar. Sit**	**166.68**	**265**	*e*PKPdf	**PKPdf**	**12 59 37.5**	**0.0**
TOA0				*e*PKPab	**PKPab**	**13 00 39.5**	**-0.8**
TORD	**Torodi Ar. Bea**	**166.68**	**265**	PKP	**PKPdf**	**12 59 36.7**	**-0.8**
	comp=Z,1.5nm,1.0s,baz=326,slow=2.1,SNR=5.2						
TORD				PKPab	**PKPab**	**13 00 39.5**	**-0.8**
	comp=Z,2.0nm,0.9s,baz=98,slow=3.9,SNR=8.2						

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*ISCJB **23** 13:24:21.0±1.5,37°.13N±0°.06×71°.6E±0°.2,h200^{km},Error ellipse: s-maj=24.4km s-min=7.4km az=168.8*
*NNC **23** 13:24:23.3±3.5,37°.52N×71°.07E,h0^{km},mb3.7,mpv3.3, Error ellipse: s-maj

*ISCJB **23** 13:33:58.5±0.6, 7.24N±0.04×77.78W±0.05, h13km, mb3.6/4, MS2.9/1, Error ellipse: s-maj=7.7km s-min=4.9km az=154.4*
*RSNC **23** 13:34:00.3±1.1, 7.23N×77.72W, h4km±8km, ML3.1, Mw3.4*
*IDC **23** 13:34:06.3±4.0, 7.46N×77.62W, h72km±36km, mb3.3/4, mb1 3.6/7, mb1mx3.3/28, mbtmp3.7/7, ML3.0/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/20, Error ellipse: s-maj=30.6km s-min=21.2km az=84.0*
ISC 23 13:33:58.8±0.7, 7.24N±0.04×77.75W±0.05, h13km, n25, σ1§58/32, mb3.5/4, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOLC	**Bahia Solano**	**1.06**	**161**	*e*P	**Pb**	**13 34 18.1**	**-1.0**
SOLC				*e*S	**Sg**	**13 34 33.3**	**+0.2**
UPD2	**Meteti**	**1.33**	**349**	*e*P	**Pn**	**13 34 23.2**	**+0.1**
UPD2				*e*S	**Sg**	**13 34 42.0**	**+0.3**
DBBC	**Dabeiba**	**1.54**	**98**	*i* Pg	**Pn**	**13 34 26.2**	**+0.1**
DBBC				*i* Pn	**Pn**	**13 34 26.3**	**+0.1**
DBBC				*i*		13 34 48.4	
	comp=Z,294nm,0.4s						
UREC	**San Jos de Ur**	**2.25**	**77**	*e*P	**Pn**	**13 34 36.3**	**+0.5**
UREC				*e*S	**Sn**	**13 35 04.5**	**+1.0**
UREC				*i*		13 35 13.1	
	comp=Z,75nm,0.7s						
HELC	**Santa Helena**	**2.44**	**115**	*e*P	**Pn**	**13 34 39.9**	**+1.2**
HELC				*e*S	**Sn**	**13 35 10.1**	**+1.5**
HELC				*i*		13 35 14.7	
	comp=Z,80nm,0.4s						
UPA	**Univ. de Panam**	**2.47**	**315**	*e*P	**Pn**	**13 34 40.4**	**+1.5**
UPA				*i*		13 35 28.5	
	comp=Z,69nm,0.8s						
PLMC	**San Jos del P**	**2.74**	**148**	*e*P	**Pn**	**13 34 42.5**	**-0.1**
ZARC	**Zaragoza, Cauc**	**2.88**	**85**	*e*P	**Pn**	**13 34 45.3**	**+0.9**
ZARC				*e*Pg	**Pb**	**13 34 48.7**	**-1.4**
ZARC				*i*		13 35 22.9	
	comp=Z,185nm,0.4s						
NORC	**Norcasia**	**3.31**	**120**	*e*P	**Pn**	**13 34 53.0**	**+2.6**
NORC				*i*		13 35 36.0	
	comp=Z,38nm,0.4s						
PTBC	**PUERTO BERRIO,**	**3.34**	**102**	*e*P	**Pn**	**13 34 52.2**	**+1.4**
YOTC	**Yotoco, Valle**	**3.52**	**157**	*e*P	**Pn**	**13 34 53.2**	**-0.2**
TOLC	**Tolima**	**3.58**	**137**	*e*P	**Pn**	**13 34 56.1**	**+1.7**
SJCC	**San Jacinto, C**	**3.66**	**44**	*e*P	**Pn**	**13 34 56.4**	**+1.1**
ROSC	**El Rosal**	**4.16**	**125**	P	**Pn**	**13 35 06.4**	**+4.0**
	comp=Z,2.7nm,0.3s,baz=333,slow=14,SNR=5.8						
ROSC				S	**Sb**	**13 35 58.7**	**-3.8**
	comp=Z,2.3nm,0.3s,baz=240,slow=20,SNR=4.4						
RUSC	**La Rusia**	**4.82**	**106**	*e*P	**Pn**	**13 35 14.0**	**+2.3**
RUSC				*i*		13 36 33.5	
	comp=Z,15nm,0.7s						
PAMC	**Pamplona, Colo**	**5.01**	**89**	*e*P	**Pn**	**13 35 16.5**	**+2.3**
PAMC				*i*		13 36 21.3	
	comp=Z,17nm,0.5s						
SDV	**Santo Domingo**	**7.23**	**76**	P	**Pn**	**13 35 46.2**	**+1.7**
	comp=Z,5.7nm,0.3s,baz=295,slow=13,SNR=15						
SDV				S	**Sn**	**13 37 06.3**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=304,slow=5.1,SNR=3.4						
PTGA	**Pitinga**	**19.43**	**113**	P	**P**	**13 38 25.6**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=288,slow=20,SNR=3.3						
MDP	**Montagnes des**	**25.05**	**93**	LR	LR	13 49 44.7	
	comp=Z,36nm,19.5s,baz=222,slow=38						
PLCA	**Paso Flores**	**48.19**	**173**	P	**P**	**13 42 40.5**	**+1.3**
	comp=Z,2.1nm,0.8s,baz=11,slow=15,SNR=3.6						
YKA	**Yellowknife Ar**	**61.35**	**341**	P	**P**	**13 44 13.6**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=129,slow=7.3,SNR=5.7						
ILAR	**Eielson Array**	**74.66**	**335**	P	**P**	**13 45 37.9**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=286,slow=5.7,SNR=2.7						
TORD	**Torodi Ar. Bea**	**78.15**	**78**	P	**P**	**13 45 57.7**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=119,slow=5.6,SNR=4.1						
ASAR	**Alice Springs**	**145.52**	**238**	PKPbc	**PKPbc**	**13 53 37.2**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=112,slow=3.7,SNR=6.8						
WRA	**Warramunga Arr**	**146.43**	**245**	PKPbc	**PKPdf**	**13 53 39.5**	**+0.2**
	comp=Z,0.4nm,0.9s,baz=100,slow=3.2,SNR=2.4						

*IDC **23** 13:42:57.9±2.6, 1.09S×98.20E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/31, mbtmp3.4/5, ML3.6/2, Error ellipse: s-maj=88.8km s-min=22.1km az=63.0*
*ISCJB **23** 13:42:58.9±1.1, 1.15S±0.06×98.07E±0.08, h26km, mb3.3/3, Error ellipse: s-maj=13.5km s-min=6.1km az=151.1*
*DJA **23** 13:43:00.8±2.3, 1°S±6°×9°8E±°, h20km±19km, M3.3/6, MLv3.3/6*
ISC 23 13:43:01.0±1.3, 1.09S±0.08×98.2E±0.1, h26km, n17, σ0§55/14, mb3.3/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SISI	**Saibi**	**0.95**	**104**	P	**Pb**	**13 43 18.9**	**+0.1**
SISI				S	**Sn**	**13 43 31.3**	**-0.1**
PBSI	**Pulau Batu**	**1.04**	**6**	P	**Pn**	**13 43 19.3**	**-0.6**
PBSI				S	**Sn**	**13 43 34.1**	**+0.5**
PDSI	**Padang**	**2.30**	**85**	P	**Pn**	**13 43 36.6**	**-0.7**
MNSI	**Mandailing Nat**	**2.35**	**37**	P	**Pn**	**13 43 38.6**	**+0.6**
PPSI	**Pulau Pagai**	**2.48**	**132**	P	**Pn**	**13 43 39.8**	**+0.1**
PPSI				S	**Sn**	**13 44 08.4**	**-0.7**
PSI	**Prapat**	**3.94**	**11**	Pn	**Pn**	**13 43 59.1**	**-0.9**
	2.7nm,0.3s,baz=181,slow=3.6,SNR=12						
CMAR	**Chiang Mai Arr**	**19.44**	**2**	P	**Pn**	**13 47 27.0**	**-0.1**
	0.1nm,0.3s,baz=188,slow=11,SNR=4.7						
H08S2	**Diego Garcia H**	**26.40**	**255**	T	T	14 15 54.5	
	baz=76,slow=75,SNR=205						
H08S3	**Diego Garcia H**	**26.41**	**255**	T	T	14 15 54.9	
	baz=76,slow=75,SNR=272						
H08S1	**Diego Carcia H**	**26.42**	**255**	T	T	14 15 55.9	
	baz=76,slow=75,SNR=209						
H01W3	**Cape Leeuwin H**	**36.77**	**158**	T	T	14 28 58.0	
	baz=334,slow=76,SNR=9.1						
H01W2	**Cape Leeuwin H**	**36.78**	**158**	T	T	14 28 58.9	
	baz=334,slow=76,SNR=16						
H01W1	**Cape Leeuwin H**	**36.78**	**158**	T	T	14 29 08.4	
	baz=334,slow=76,SNR=8.6						
WRA	**Warramunga Arr**	**40.03**	**120**	P	**P**	**13 50 34.4**	**+0.2**
	0.5nm,0.6s,baz=303,slow=8.9,SNR=11						
ASAR	**Alice Springs**	**41.26**	**126**	P	**P**	**13 50 45.0**	**+0.6**
	0.3nm,0.6s,baz=296,slow=7.7,SNR=6.2						
MKAR	**Makanchi Array**	**49.69**	**346**	P	**P**	**13 51 50.7**	**-0.1**
	0.2nm,0.7s,baz=161,slow=9.2,SNR=3.7						
TXAR	**Lajitas Array**	**145.05**	**35**	PKPbc	**PKPdf**	**14 02 37.3**	**+0.3**
	0.2nm,0.7s,baz=287,slow=1.9,SNR=3.5						

*IDC **23** 13:50:09.0±2.5, 1.19S×98.03E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/32, mbtmp3.3/4, ML3.5/1, Error ellipse: s-maj=90.7km s-min=24.6km az=61.0*
*ISCJB **23** 13:50:10.3±1.0, 1.18S±0.06×98.01E±0.07, h26km, mb3.2/3, Error ellipse: s-maj=11.8km s-min=6.2km az=142.4*
*DJA **23** 13:50:11.3±0.8, 1°S±5°×9°8E±°, h50km±32km, M3.2/5, MLv3.2/5*
ISC 23 13:50:11.9±1.3, 1.15S±0.07×98.03E±0.10, h26km, n16, σ1§02/14, mb3.3/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SISI	**Saibi**	**1.07**	**100**	P	**Pn**	**13 50 30.8**	**-0.4**
SISI				S	**Sn**	**13 50 44.5**	**-0.8**
PBSI	**Pulau Batu**	**1.11**	**13**	P	**Pn**	**13 50 31.4**	**-0.4**
PBSI				S	**Sb**	**13 50 46.7**	**+0.2**
PDSI	**Padang**	**2.44**	**85**	P	**Pn**	**13 50 49.7**	**-0.4**
PDSI				S	**Sn**	**13 51 18.7**	**-0.4**
GSI	**Gunungsitoli**	**2.48**	**349**	P	**Pn**	**13 50 48.8**	**-1.8**
PPSI	**Pulau Pagai**	**2.55**	**129**	P	**Pn**	**13 50 50.6**	**-1.0**
PPSI				S	**Sn**	**13 51 20.3**	**-1.4**
PSI	**Prapat**	**4.02**	**13**	Pn	**Pn**	**13 51 11.0**	**-0.9**
	3.1nm,0.3s,baz=180,slow=3.0,SNR=15						
H08S2	**Diego Garcia H**	**26.26**	**255**	T	T	14 23 06.4	
	baz=76,slow=75,SNR=205						
H08S3	**Diego Garcia H**	**26.26**	**255**	T	T	14 23 12.6	
	baz=76,slow=75,SNR=296						
H08S1	**Diego Carcia H**	**26.28**	**255**	T	T	14 23 09.1	
	baz=76,slow=75,SNR=187						
H01W3	**Cape Leeuwin H**	**36.77**	**158**	T	T	14 36 09.9	
	baz=334,slow=76,SNR=7.6						
H01W2	**Cape Leeuwin H**	**36.79**	**158**	T	T	14 36 13.0	
	baz=334,slow=76,SNR=8.4						
H01W1	**Cape Leeuwin H**	**36.79**	**158**	T	T	14 36 16.7	
	baz=334,slow=76,SNR=8.6						
WRA	**Warramunga Arr**	**40.12**	**120**	P	**P**	**13 57 46.3**	**+0.4**
	0.3nm,0.5s,baz=295,slow=8.9,SNR=5.6						
ASAR	**Alice Springs**	**41.34**	**126**	P	**P**	**13 57 57.0**	**+1.0**
	0.4nm,1.0s,baz=296,slow=8.0,SNR=3.9						
MKAR	**Makanchi Array**	**49.70**	**346**	P	**P**	**13 59 03.1**	**+1.3**
	0.2nm,0.6s,baz=147,slow=8.6,SNR=3.5						
TXAR	**Lajitas Array**	**145.17**	**34**	PKPbc	**PKPdf**	**14 09 48.1**	**0.0**
	0.1nm,0.5s,baz=299,slow=2.2,SNR=2.3						

*IDC **23** 14:02:07.7±2.9, 3.99S×101.95E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/39, mbtmp3.5/3, Error ellipse: s-maj=153.6km s-min=27.3km az=52.0*
*ISCJB **23** 14:02:17.7±0.8, 3.94S±0.07×102.00E±0.07, h58km, mb3.5/3, Error ellipse: s-maj=13.0km s-min=5.8km az=40.8*
*DJA **23** 14:02:19.2±0.7, 4°S±5°×10°2E±°, h40km±17km, M4.0/8, mb4.2/1, MLv4.0/8*
ISC 23 14:02:17.1±1.0, 3.91S±0.08×102.05E±0.07, h58km, n18, σ2§08/18, mb3.6/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**0.78**	**14**	P	**Pn**	**14 02 33.5**	**+1.2**
MASI				S	**Sn**	**14 02 45.6**	**+2.2**
MNAI	**Manna**	**1.01**	**117**	P	**Pn**	**14 02 37.0**	**+1.9**
MNAI				S	**Sn**	**14 02 50.9**	**+2.4**
LHSI	**Lahat**	**1.47**	**87**	P	**Pn**	**14 02 42.5**	**+1.2**
KRJI	**Kerinci**	**1.90**	**342**	P	**Pn**	**14 02 49.7**	**+2.5**
MDSI	**Maura Dua**	**2.20**	**105**	P	**Pn**	**14 02 52.9**	**+1.7**
LWLI	**Liwa**	**2.29**	**119**	P	**Pn**	**14 02 55.2**	**+2.7**
PPSI	**Pulau Pagai**	**2.33**	**299**	P	**Pn**	**14 02 56.0**	**+2.9**
KASI	**Kota Agung**	**2.92**	**123**	P	**Pn**	**14 03 03.0**	**+2.0**
PDSI	**Padang**	**3.37**	**332**	P	**Pn**	**14 03 08.8**	**+1.5**
SISI	**Saibi**	**3.92**	**311**	P	**Pn**	**14 03 16.3**	**+1.6**
PBSI	**Pulau Batu**	**5.37**	**315**	P	**Pn**	**14 03 35.6**	**+0.9**
H08S2	**Diego Garcia H**	**29.64**	**261**	T	T	14 38 30.3	
	baz=84,slow=75,SNR=4.2						
H08S3	**Diego Garcia H**	**29.64**	**261**	T	T	14 38 23.6	
	baz=84,slow=75,SNR=4.6						
H08S1	**Diego Carcia H**	**29.66**	**261**	T	T	14 38 26.7	
	baz=84,slow=75,SNR=4.0						
WRA	**Warramunga Arr**	**35.27**	**120**	P	**P**	**14 09 05.2**	**-1.4**
	0.4nm,0.6s,baz=297,slow=8.8,SNR=11						
ASAR	**Alice Springs**	**36.48**	**126**	P	**P**	**14 09 15.4**	**-1.5**
	0.3nm,0.3s,baz=299,slow=7.7,SNR=16						
ASAR				PcP	**PcP**	**14 11 37.9**	**-2.1**
	0.4nm,0.9s,baz=291,slow=2.2,SNR=2.8						
MKAR	**Makanchi Array**	**53.42**	**343**	P	**P**	**14 11 30.5**	**-0.5**
	0.2nm,0.4s,baz=156,slow=9.1,SNR=4.8						
TXAR	**Lajitas Array**	**144.87**	**41**	PKPbc	**PKPab**	**14 21 45.4**	**-2.2**
	0.2nm,0.5s,baz=188,slow=0.6,SNR=4.4						

*ISCJB **23** 14:12:11.7±0.5, 24.43N±0.04×122.84E±0.02, h64km±6km, Error ellipse: s-maj=7.0km s-min=3.1km az=177.7*
*JMA **23** 14:12:11.7±0.1, 24.43N×122.84E, h66km±2km, M2.3*
*TAP **23** 14:12:11.9, 24.43N×122.80E, h62km, ML3.0, C*
ISC 23 14:12:11.8±1.4, 24.45N±0.06×122.85E±0.03, h65km±8km, n52, σ0§59/85, Taiwan Region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.09**	**91**	P	**Pn**	**14 12 21.3**	**-0.2**
JYNG				S	**Sn**	**14 12 28.3**	**-0.2**
YOJ	**Yonaguni jima**	**0.15**	**87**	*i* P	**Pn**	**14 12 21.9**	**+0.2**
	baz=78						
YOJ				S	**Sn**	**14 12 29.0**	**+0.2**
	baz=78						
YOJ	**Yonaguni jima**	**0.15**	**87**	P	**Pn**	**14 12 21.9**	**+0.2**
YOJ				S	**Sn**	**14 12 28.9**	**+0.1**
EOS1	**EOS1**	**0.66**	**278**	*i* P	**Pn**	**14 12 26.0**	**+0.1**
	baz=280						
EOS1				*e*S	**Sn**	**14 12 36.3**	**0.0**
	baz=280						
IRIF	**Iriomote-Funau**	**0.81**	**98**	P	**Pn**	**14 12 27.7**	**-0.1**
IRIF				S	**Sn**	**14 12 39.9**	**+0.4**
TWC	**Suao**	**0.92**	**280**	*i* P	**Pn**	**14 12 28.6**	**-0.4**
	baz=281						
TWC				*e*S	**Sn**	**14 12 41.3**	**-0.6**
	baz=281						
HATJ	**Hateruma jima**	**0.96**	**114**	P	**Pn**	**14 12 30.2**	**+0.6**
ENA	**Nanau**	**1.01**	**269**	*e*P	**Pn**	**14 12 30.2**	**+0.1**
	baz=269						
ENA				*e*S	**Sn**	**14 12 43.5**	**-0.3**
	baz=269						
NTC	**Toucheng**	**1.01**	**294**	*e*P	**Pn**	**14 12 29.9**	**-0.2**
	baz=295						
TIPB	**Shuangxi**	**1.06**	**299**	*e*P	**Pn**	**14 12 31.5**	**+0.5**
	baz=301						
JKRS	**Kuro-shima**	**1.08**	**101**	P	**Pn**	**14 12 31.5**	**+0.3**
JKRS				S	**Sn**	**14 12 45.7**	**+0.2**
TWE	**Neicheng**	**1.11**	**284**	*e*P	**Pn**	**14 12 31.3**	**-0.2**
	baz=285						
TWE				*e*S	**Sn**	**14 12 45.5**	**-0.6**
	baz=285						
SLBB	**Yuanshan**	**1.14**	**285**	*e*P	**Pn**	**14 12 32.1**	**+0.1**
	baz=286						
SLBB				*e*S	**Sn**	**14 12 46.9**	**-0.1**
	baz=286						
NWF	**Wu-fen Shan**	**1.15**	**303**	*e*P	**Pn**	**14 12 32.1**	**0.0**
	baz=304						
NACB	**Ninganchiao**	**1.18**	**257**	*e*P	**Pn**	**14 12 32.0**	**-0.4**
	baz=256						
NACB				*e*S	**Sn**	**14 12 47.9**	**+0.2**
	baz=256						
ENTT	**Nioudou**	**1.18**	**279**	*e*P	**Pn**	**14 12 33.0**	**+0.5**
	baz=280						
ENTT				*e*S	**Sn**	**14 12 47.4**	**-0.5**
	baz=280						
JIJ	**Ishigaki jima**	**1.19**	**94**	P	**Pn**	**14 12 32.3**	**-0.2**
JIJ				*e*S	**Sn**	**14 12 48.2**	**+0.3**
TWD	**Chiawan**	**1.20**	**252**	*e*P	**Pn**	**14 12 32.4**	**-0.3**
	baz=252						
TWD				*e*S	**Sn**	**14 12 48.0**	**-0.3**
	baz=252						
ENLB	**Shoufeng**	**1.26**	**245**	*e*P	**Pn**	**14 12 33.6**	**+0.1**
	baz=244						
ENLB				*e*S	**Sn**	**14 12 50.0**	**+0.3**
	baz=244						
NWLT	**Wulai**	**1.26**	**285**	P	**Pn**	**14 12 33.9**	**+0.4**
	baz=286						
NNSB	**Datong**	**1.33**	**269**	*e*P	**Pn**	**14 12 34.7**	**+0.1**
	baz=269						
TATO	**Taipei**	**1.34**	**293**	*e*P	**Pn**	**14 12 34.6**	**0.0**
	baz=294						
JISG	**Ishigakijimahi**	**1.34**	**84**	P	**Pn**	**14 12 34.1**	**-0.4**
JISG				*e*S	**Sn**	**14 12 50.1**	**-1.5**
NNS	**Nan Shan**	**1.34**	**270**	*e*P	**Pn**	**14 12 34.8**	**+0.1**
	baz=270						
NNS				*e*S	**Sn**	**14 12 51.5**	**-0.3**
	baz=270						
YHNB	**Yeheng**	**1.36**	**279**	P	**Pn**	**14 12 35.5**	**+0.7**
	baz=280						
YHNB				*e*S	**Sn**	**14 12 52.1**	**0.0**
	baz=280						
NSK	**Sanguang**	**1.37**	**280**	*e*P	**Pn**	**14 12 35.7**	**+0.6**
	baz=280						
ESL	**Shilin**	**1.44**	**244**	*e*P	**Pn**	**14 12 35.5**	**-0.3**
	baz=243						
ESL				*e*S	**Sn**	**14 12 53.9**	**-0.1**
	baz=243						
WHF	**Hehuan Shan**	**1.48**	**258**	*e*P	**Pn**	**14 12 36.2**	**-0.5**
	baz=258						
WHF				*e*S	**Sn**	**14 12 54.7**	**-0.7**
	baz=258						
TWT	**Tachien**	**1.54**	**263**	*e*P	**Pn**	**14 12 37.9**	**+0.5**
	baz=263						
TDCB	**Techi**	**1.55**	**263**	*e*P	**Pn**	**14 12 37.9**	**+0.3**
	baz=263						
TDCB				*e*S	**Sn**	**14 12 56.7**	**-0.1**
	baz=263						
CHGB	**Renai**	**1.57**	**256**	*e*P	**Pn**	**14 12 38.2**	**+0.3**
	baz=256						
CHGB				*e*S	**Sn**	**14 12 57.2**	**-0.3**
	baz=256						
HGSD	**Ruisui**	**1.61**	**234**	*e*P	**Pn**	**14 12 38.2**	**0.0**
	baz=233						
HGSD				*e*S	**Sn**	**14 12 57.5**	**-0.6**
	baz=233						
LIOB	**Emei**	**1.68**	**277**	*e*P	**Pn**	**14 12 39.7**	**+0.6**
	baz=277						
EHY	**Hungye**	**1.68**	**236**	*e*P	**Pn**	**14 12 39.0**	**-0.1**
	baz=235						
EHY				*e*S	**Sn**	**14 12 59.0**	**-0.8**
	baz=235						
NSTT	**Nanjuang**	**1.69**	**276**	*e*P	**Pn**	**14 12 39.6**	**+0.4**
	baz=276						
VWDT	**VWDT**	**1.71**	**246**	*e*P	**Pn**	**14 12 39.6**	**+0.2**
	baz=245						
VWDT				*e*S	**Sn**	**14 12 59.9**	**-0.4**
	baz=245						
YULB	**Yu-li**	**1.77**	**234**	*e*P	**Pn**	**14 12 39.9**	**-0.4**
	baz=233						
YULB				*e*S	**Sn**	**14 13 01.2**	**-0.6**
	baz=233						
TWF1	**Yuli**	**1.79**	**233**	*e*P	**Pn**	**14 12 40.3**	**-0.3**
	baz=231						
TWF1				*e*S	**Sn**	**14 13 01.4**	**-1.0**
	baz=231						
SSLB	**Suanglung**	**1.85**	**249**	*e*P	**Pn**	**14 12 41.6**	**+0.2**
	baz=249						
SSLB				*e*S	**Sn**	**14 13 03.6**	**-0.3**
	baz=249						
SMLT	**Sun Moon Lake**	**1.87**	**253**	*e*P	**Pn**	**14 12 42.0**	**+0.3**
	baz=252						
SMLT				*e*S	**Sn**	**14 13 04.3**	**0.0**
	baz=252						
TWQ1	**Liyutan**	**1.89**	**267**	*e*P	**Pn**	**14 12 42.7**	**+0.7**
	baz=267						
TYC	**Yuchr**	**1.90**	**254**	*e*P	**Pn**	**14 12 42.4**	**+0.4**
	baz=253						
TYC				*e*S	**Sn**	**14 13 04.9**	**0.0**
	baz=253						
WJS	**Zhushan**	**2.03**	**252**	*e*P	**Pn**	**14 12 44.8**	**+0.9**
	baz=252						
ALS	**Alishan**	**2.09**	**244**	*e*P	**Pn**	**14 12 44.9**	**0.0**
	baz=243						
ALS				*e*S	**Sn**	**14 13 09.1**	**-0.9**
	baz=243						
ELDTW	**Lidau**	**2.10**	**233**	*e*P	**Pn**	**14 12 44.5**	**-0.3**
	baz=232						
CHN5	**Tsauling**	**2.16**	**247**	*e*P	**Pn**	**14 12 46.3**	**+0.7**
	baz=246						
STYT	**Tauyuan**	**2.30**	**237**	*e*P	**Pn**	**14 12 48.6**	**+1.0**
	baz=235						
TPUB	**Ta-pu**	**2.33**	**241**	*e*P	**Pn**	**14 12 49.3**	**+1.4**
	baz=240						
TPUB				*e*S	**Sn**	**14 13 14.2**	**-1.3**
	baz=240						
CHN4	**Tsaushan**	**2.33**	**242**	*e*P	**Pn**	**14 12 49.8**	**+1.9**
	baz=241						
WTP	**Ta-pu**	**2.37**	**240**	*e*P	**Pn**	**14 12 49.2**	**+0.7**
	baz=239						
WTP				*e*S	**Sn**	**14 13 16.0**	**-0.5**
	baz=239						
CHN1	**Nanshi**	**2.47**	**240**	*e*P	**Pn**	**14 12 50.4**	**+0.6**
	baz=239						
SLGT	**Liugui**	**2.48**	**235**	*e*P	**Pn**	**14 12 52.1**	**+2.1**
	baz=234						

*IDC **23** 14:26:37.7±2.4, 10.85S×112.42E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.6/28, mbtmp3.6/5, ML2.8/1, Error ellipse: s-maj=113.3km s-min=19.8km az=46.0*
*ISCJB **23** 14:26:40.9±0.9, 10.79S±0.06×112.29E±0.06, h33km, mb3.5/4, Error ellipse: s-maj=10.0km s-min=6.7km az=38.6*
*DJA **23** 14:26:43.0±0.9, 11°S±7°×11°2E±°, h10km, M3.8/6, MLv3.8/6*
ISC 23 14:26:42.8±1.4, 10.8S±0.1×112.28E±0.07, h35km, n15, σ1§17/16, mb3.6/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**2.74**	**25**	P	**Pn**	**14 27 23.8**	**-0.5**
GMJI				S	**Sn**	**14 27 56.2**	**0.0**
PWJI	**Pagerwojo**	**2.78**	**350**	P	**Pn**	**14 27 23.7**	**-1.1**
PWJI				S	**Sn**	**14 27 55.5**	**-1.7**
PCJI	**Pacitan**	**2.79**	**337**	P	**Pn**	**14 27 23.8**	**-1.2**
PCJI				S	**Sn**	**14 27 57.1**	**-0.3**
JAGI	**Jajag, Banyuwa**	**2.94**	**39**	P	**Pn**	**14 27 27.4**	**+0.3**
UGM	**Wanagama**	**3.33**	**328**	P	**Pn**	**14 27 32.4**	**-0.1**
UGM				S	**Sn**	**14 28 12.0**	**+1.1**
IGBI	**Denpasar**	**3.43**	**56**	P	**Pn**	**14 27 33.9**	**+0.1**
IGBI				S	**Sn**	**14 28 12.5**	**-0.7**
SRBI	**Singaraja**	**3.94**	**47**	P	**Pn**	**14 27 41.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**14.84**	**121**	Pn	Pn	14 30 05.0	-5.1
	0.0nm,0.3s,baz=296,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**23.11**	**116**	P	**P**	**14 31 43.9**	**-2.1**
	1.3nm,0.5s,baz=289,slow=11,SNR=13						
ASAR	**Alice Springs**	**24.26**	**125**	P	**P**	**14 31 56.0**	**-0.9**
	1.1nm,0.7s,baz=300,slow=9.2,SNR=17						
CMAR	**Chiang Mai Arr**	**31.89**	**336**	P	**P**	**14 33 07.2**	**+2.2**
	0.4nm,0.4s,baz=153,slow=6.1,SNR=3.4						
H08S2	**Diego Garcia H**	**39.38**	**271**	T	T	15 16 46.7	
	baz=96						
H08S3	**Diego Garcia H**	**39.39**	**271**	T	T	15 16 29.0	
	baz=96						
H08S1	**Diego Carcia H**	**39.40**	**271**	T	T	15 16 39.3	
	baz=96						
MKAR	**Makanchi Array**	**63.27**	**337**	P	**P**	**14 37 08.1**	**+0.2**
	0.2nm,0.7s,baz=145,slow=5.2,SNR=3.1						

*ISCJB **23** 14:53:30.6±0.5, 17.85S±0.05×70.08W±0.07, h124km±5km, Error ellipse: s-maj=11.2km s-min=6.7km az=22.7*
*GUC **23** 14:53:31.3±0.6, 17.81S×70.32W, h109km±6km, ML4.0*
*NEIC **23** 14:53:31.9±0.8, 17.87S×69.97W, h116km±9km, mb4.5/3, ML4.3(ARE), Error ellipse: s-maj=12.7km s-min=8.1km az=119.0*
NEIC Felt [II] at Tacna.
*ARE **23** 14:53:32.0±0.0, 17.98S×70.59W, h84km*
*IDC **23** 14:53:33.5±1.9, 17.81S×69.86W, h123km±17km, mb3.9/6, mb1 4.0/10, mb1mx3.8/30, mbtmp4.4/10, MS2.2/1, Ms1 2.3/1, ms1mx2.1/22, Error ellipse: s-maj=21.1km s-min=17.6km az=89.0*
ISC 23 14:53:31.3±0.9, 17.82S±0.06×70.06W±0.08, h111km±8km, n47, σ1§45/50, 2C-3D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB12	**IPOC Station P**	**0.83**	**198**	⇑*i*P	**Pn**	**14 53 50.0**	**-1.0**
PB12				*e*S	**Sn**	**14 54 04.3**	**-1.5**
PB12				IAML

BDFB	**Brasilia**	**21.22**	**87**	P	**P**	**14 58 07.2**	**-1.4**
	comp=E,1.7nm,0.4s,baz=239,slow=7.6,SNR=3.7						
PLCA	**Paso Flores**	**22.84**	**181**	P	**P**	**14 58 27.1**	**+2.1**
	comp=E,3.3nm,0.7s,baz=26,slow=11,SNR=9.0						
PLCA	**Paso Flores**	**22.84**	**181**	*e*P	**P**	**14 58 26.3**	**+1.2**
	comp=E,16nm,1.4s						
KMSC	**Kings Mountain**	**53.75**	**349**	*e*P	**P**	**15 02 41.8**	**-0.3**
	comp=E,17nm,0.4s						
SWET	**Sewanee**	**54.85**	**344**	*e*P	**P**	**15 02 48.2**	**-2.0**
	comp=E,19nm,0.5s						
V48A	**Smith Brothers**	**55.59**	**343**	*e*P	**P**	**15 02 55.2**	**-0.2**
	comp=E,16nm,0.8s						
WVT	**Waverly**	**56.23**	**343**	*e*P	**P**	**15 02 58.4**	**-1.6**
	comp=E,35nm,1.0s						
LTX	**Lajitas**	**57.01**	**325**	*e*P	**P**	**15 03 07.2**	**+1.5**
TXAR	**Lajitas Array**	**57.01**	**325**	P	**P**	**15 03 07.2**	**+1.5**
	comp=E,0.2nm,0.7s,baz=134,slow=11,SNR=2.6						
LIC	**Lamto**	**68.47**	**76**	*e*PKP2	**P**	**15 04 23.0**	**+0.9**
	comp=E,46nm,1.3s						
TIC	**Toumodi**	**68.63**	**75**	*e*PKP2	**P**	**15 04 24.0**	**+0.9**
KIC	**Kosan Boka**	**68.78**	**76**	*e*PKP2	**P**	**15 04 24.3**	**+0.3**
	comp=E,11nm,0.4s						
DBIC	**Dimbokro**	**68.79**	**75**	P	**P**	**15 04 24.2**	**+0.1**
	comp=E,4.1nm,0.4s,baz=232,slow=6.8,SNR=13						
DBIC	**Dimbokro**	**68.79**	**75**	*e*P	**P**	**15 04 23.9**	**-0.1**
	comp=E,17nm,1.4s						
ULM	**Lac du Bonnet**	**71.50**	**343**	P	**P**	**15 04 40.7**	**+0.9**
	comp=E,1.9nm,0.3s,baz=156,slow=7.4,SNR=11						
TOA0	**Torodi Ar. Sit**	**77.19**	**72**	*e*P	**P**	**15 05 12.9**	**-0.6**
TOA1	**Torodi Ar. Sit**	**77.19**	**72**	*e*P	**P**	**15 05 13.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**77.19**	**72**	P	**P**	**15 05 13.1**	**-0.5**
	comp=E,2.3nm,0.8s,baz=250,slow=5.5,SNR=20						
YKA	**Yellowknife Ar**	**87.37**	**341**	P	**P**	**15 06 06.2**	**+0.7**
	comp=E,0.7nm,0.6s,baz=133,slow=4.8,SNR=17						
YKB5	**Yellowknife Ar**	**87.37**	**341**	*e*P	**P**	**15 06 06.3**	**+0.8**
H11N3	**WAKE ISLAND Hyl**	**26.24**	**282**	T	T	17 30 38.2	
	baz=99,slow=74,SNR=4.4						
H11S2	**WAKE ISLAND Hyl**	**26.25**	**280**	T	T	17 30 24.8	
	baz=99,slow=75,SNR=9.6						
H11N2	**WAKE ISLAND Hyl**	**26.26**	**282**	T	T	17 30 34.4	
	baz=99,slow=74,SNR=4.7						
H11N1	**WAKE ISLAND Hyl**	**26.26**	**282**	T	T	17 30 29.6	
	baz=99,slow=74,SNR=3.4						
H11S1	**WAKE ISLAND Hyl**	**26.26**	**280**	T	T	17 30 25.0	
	baz=99,slow=75,SNR=3.7						
H11S3	**WAKE ISLAND Hyl**	**26.27**	**280**	T	T	17 30 33.1	
	baz=99,slow=75,SNR=4.5						
SONA0	**Songino Array**	**149.92**	**5**	*e*PKPbc	**PKiKP**	**15 13 10.3**	**+0.6**
SONM	**Songino Array**	**149.92**	**5**	PKPbc	**PKiKP**	**15 13 10.3**	**+0.6**
	comp=E,0.2nm,0.4s,baz=328,slow=1.2,SNR=2.7						

NSSC ***23*** *15:00:20.2±0.8, 33.95N×35.78E, h4km±352km, ML1.4*
ISCJB ***23*** *15:00:21.6±2.0, 33.88N±0.05×35.8E±0.1, h21km±25km, Error ellipse: s-maj=15.7km s-min=8.5km az=168.1*
GRAL ***23*** *15:00:22.7±0.3, 33.86N×35.80E, h10km±7km, MD2.7*

ISC 23 15:00:21.8±1.2, 33.89N±0.06×35.80E±0.07, h15km±14km, n7, ∘0950/12, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BHL	**Bhannes**	**0.12**	**278**	*e*P	**Pg**	**15 00 25.6**	**+0.2**
DQRL	**Deir Qamar**	**0.26**	**227**	*e*P	**Pg**	**15 00 27.5**	**0.0**
DQRL				*e*S	**Sg**	**15 00 31.0**	**-0.3**
RCY	**Rachaya**	**0.39**	**176**	*e*P	**Pg**	**15 00 29.5**	**-0.2**
RCY				*e*S	**Sg**	**15 00 34.6**	**-0.5**
HWQ	**Hawqa**	**0.41**	**17**	*e*P	**Pb**	**15 00 30.6**	**-0.2**
BRBR	**Barbar**	**0.49**	**165**	*e*P	**Pg**	**15 00 31.3**	**-0.3**
BRBR				*e*S	**Sg**	**15 00 38.9**	**+0.8**
BRBR				AML	AML	15 00 40.3	
	comp=N,24nm,0.3s						
BRBR				AML	AML	15 00 42.5	
QASN	**Qassioun**	**0.53**	**132**	*e*P	**Pg**	**15 00 31.6**	**-0.7**
QASN				*e*S	**Sg**	**15 00 39.7**	**+0.3**
QASN				AML	AML	15 00 43.0	
	comp=E,72nm,0.3s						
QASN				AML	AML	15 00 45.5	
	comp=N,43nm,0.3s						
TOTH	**TOTAH**	**0.74**	**135**	*e*P	**Pg**	**15 00 36.5**	**+0.3**
TOTH				*e*S	**Sb**	**15 00 46.9**	**+0.5**
TOTH				AML	AML	15 00 56.4	
	comp=N,6.4nm,0.6s						
TOTH				AML	AML	15 00 59.8	
	comp=E,5.4nm,0.3s						

MEX 23 15:06:25.4±0.8, 16.59N×98.32W, h15km±13km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.27**	**137**	*i* P	Pg	15 06 30.0	-1.2
PNIG				*i* S	Sg	15 06 35.6	+0.5
CAIG	**El Cayaco**	**1.92**	**284**	*e*P	Pn	15 06 54.9	-2.8
CAIG				*i* S	Sn	15 07 16.0	-5.6

IDC ***23*** *15:06:58.3±0.9, 4.62S×152.27E, h82km±5km, mb3.7/9, mb1 3.8/9, mb1mx3.5/34, mbtmp4.0/9, MS3.0/1, Ms1 3.0/1, ms1mx2.5/23, Error ellipse: s-maj=20.1km s-min=17.6km az=55.0*
ISCJB ***23*** *15:06:59.3±0.9, 4.7S±0.1×152.19E±0.10, h100km, mb3.8/9, Error ellipse: s-maj=17.6km s-min=12.1km az=147.4*

ISC 23 15:06:59.7±0.8, 4.7S±0.1×152.2E±0.1, h100km, n14, ∘2917/22, mb3.9/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.85**	**227**	P	**Pn**	**15 08 40.0**	**+2.4**
	2.0nm,0.3s,baz=42,slow=7.6,SNR=9.9						
PMG				S	**Sn**	**15 09 55.2**	**+1.0**
	1.6nm,0.3s,baz=18,slow=20,SNR=3.6						
HNR	**Honiara**	**8.98**	**122**	LR	LR	15 12 22.2	
	comp=Z,91nm,20.9s,baz=67,slow=36						
DZM	**Mont Dzumac**	**22.08**	**143**	P	**P**	**15 11 47.7**	**+0.8**
	13nm,0.5s,baz=298,slow=6.2,SNR=24						
WRA	**Warramunga Arr**	**23.07**	**227**	P	**P**	**15 11 57.8**	**+0.9**
	2.7nm,0.5s,baz=52,slow=10,SNR=35						
WRA				pP	**pP**	**15 12 15.7**	**-1.5**
	4.1nm,0.8s,baz=53,slow=10,SNR=7.3						
WRA				sP	**sP**	**15 12 25.9**	**-3.9**
	6.9nm,0.7s,baz=52,slow=9.9,SNR=9.3						
WRA				PcP	**PcP**	**15 15 43.9**	**+0.8**
	0.5nm,0.8s,baz=52,slow=1.8,SNR=4.5						
ASAR	**Alice Springs**	**25.83**	**221**	P	**P**	**15 12 22.7**	**+0.8**
	0.5nm,0.4s,baz=54,slow=9.1,SNR=34						
ASAR				pP	**pP**	**15 12 43.0**	**-1.6**
	2.8nm,0.7s,baz=59,slow=9.0,SNR=12						
STKA	**Stephens Creek**	**28.80**	**199**	P	**P**	**15 12 49.2**	**+0.8**
	1.9nm,0.7s,baz=36,slow=13,SNR=7.2						
STKA				sP	**sP**	**15 13 18.0**	**-4.7**
	1.8nm,0.7s,baz=27,slow=12,SNR=2.7						
FITZ	**Fitzroy Crossi**	**29.20**	**241**	P	**P**	**15 12 52.8**	**+0.7**
	1.7nm,0.5s,baz=41,slow=7.0,SNR=7.5						
FITZ				pP	**pP**	**15 13 11.9**	**-2.7**
	1.5nm,0.6s,baz=77,slow=14,SNR=1.7						
URZ	**Urewera**	**40.35**	**149**	P	**P**	**15 14 29.3**	**+1.7**
	4.7nm,0.8s,baz=327,slow=17,SNR=3.4						
CMAR	**Chiang Mai Arr**	**57.32**	**295**	P	**P**	**15 16 39.1**	**+1.4**
	0.2nm,0.3s,baz=131,slow=5.2,SNR=4.0						
VNDA	**Vanda**	**72.94**	**178**	P	**P**	**15 18 18.5**	**+0.8**
	1.2nm,0.8s,baz=27,slow=2.3,SNR=3.3						
MKAR	**Makanchi Array**	**79.89**	**319**	P	**P**	**15 18 58.6**	**+1.1**
	0.2nm,0.6s,baz=102,slow=7.4,SNR=2.5						
GERES	**GERESS Array B**	**123.68**	**328**	PKP	**PKiKP**	**15 25 46.2**	**-0.1**
	0.4nm,0.7s,baz=76,slow=4.1,SNR=2.2						
TORD	**Torodi Ar. Bea**	**149.73**	**288**	PKPbc	**PKiKP**	**15 26 38.5**	**-1.5**
	2.0nm,0.7s,baz=62,slow=2.9,SNR=14						
TORD				pPKPbc	**pPKPdf**	**15 27 01.8**	**-0.4**
	0.6nm,0.7s,baz=64,slow=3.4,SNR=2.3						
BDFB	**Brasilia**	**151.53**	**136**	PKPbc	**PKiKP**	**15 26 43.8**	**0.0**
	1.1nm,0.3s,baz=289,slow=4.3,SNR=4.2						
BDFB				pPKPbc	**pPKPbc**	**15 27 06.5**	**-4.4**
	2.0nm,0.6s,baz=312,slow=5.9,SNR=1.7						

MEX 23 15:22:24.1±0.3, 14.97N×93.59W, h16km±30km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.81**	**26**	*e*P	Pb	15 22 36.7	-3.1
PCIG				*i* S	Sb	15 22 46.8	-3.7
THIG		**1.28**	**93**	*i* P	Pn	15 22 44.0	-3.4
THIG				*i* S	Sb	15 22 58.6	-5.6
CCIG	**Comitan**	**1.91**	**47**	*e*P	Pn	15 22 52.7	-3.5
CCIG				*i* S	Sn	15 23 15.6	-4.5

ISCJB ***23*** *15:33:04.3±0.2, 44.43N±0.02×7.28E±0.03, h21km±3km, Error ellipse: s-maj=3.2km s-min=2.3km az=153.7*
ROM ***23*** *15:33:04.2±0.1, 44.38N±0.01×7.22E±0.02, h12km±1km, ML2.1/4*
GEN ***23*** *15:33:04.7, 44.41N×7.25E, h12km±1km, Ml1.8*
LDG ***23*** *15:33:04.7±0.1, 44.42N×7.28E, h12km, Md2.5/2, Ml2.4/20, Error ellipse: s-maj=1.5km s-min=1.0km az=54.0*
STR ***23*** *15:33:05.2±0.4, 44.4°N±2°×7.6°E±2°, h10km, M2.5/6, MLv2.5/6*

ISC 23 15:33:04.2±0.8, 44.42N±0.02×7.26E±0.02, h18km±4km, n59, ∘0984/106, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PZZ	**Stroppo**	**0.14**	**312**	P	**Pg**	**15 33 08.4**	**+0.1**
PZZ				S	**Sg**	**15 33 10.8**	**-0.3**
PZZ	**Stroppo**	**0.14**	**312**	P	**Pg**	**15 33 08.3**	**+0.1**
PZZ				S	**Sg**	**15 33 10.8**	**-0.3**
PZZ				AML	AML		
	comp=E,1510μm,1.1s						
PZZ				AML	AML		
	comp=N,1250μm,0.4s						
STV	**Sant Anna di V**	**0.18**	**164**	P	**Pg**	**15 33 08.7**	**-0.1**
STV				S	**Sg**	**15 33 11.3**	**-0.6**
STV	**Sant Anna di V**	**0.18**	**164**	P	**Pg**	**15 33 08.7**	**-0.1**
STV				S	**Sg**	**15 33 11.3**	**-0.6**
STV				AML	AML		
	comp=E,887μm,0.3s						
STV				AML	AML		
	comp=N,1036μm,0.1s						
STV				AML	AML		
	comp=E,888μm,0.3s						
STV				AML	AML		
	comp=N,1036μm,0.1s						
STV				AML	AML		
	comp=N,1036μm,0.1s						
STV				AML	AML		
	comp=E,888μm,0.3s						
ENR	**Entracque**	**0.22**	**148**	P	**Pg**	**15 33 09.5**	**0.0**
ENR				S	**Sg**	**15 33 12.6**	**-0.5**
ENR	**Entracque**	**0.22**	**148**	P	**Pg**	**15 33 09.5**	**0.0**
ENR				S	**Sg**	**15 33 12.6**	**-0.5**
ENR				AML	AML		
	comp=E,2410μm,0.1s						
ENR				AML	AML		
	comp=N,2180μm,0.1s						
ENR				AML	AML		
	comp=E,2410μm,0.1s						
ENR				AML	AML		
	comp=N,2180μm,0.1s						
ENR				AML	AML		
	comp=N,2180μm,0.1s						
ENR				AML	AML		
	comp=E,2410μm,0.1s						
ISO	**Isola**	**0.28**	**213**	Pg	**Pg**	**15 33 10.1**	**-0.2**
ISO				Sg	**Sg**	**15 33 13.5**	**-1.0**
SURF	**Saint Ours**	**0.32**	**282**	Pg	**Pg**	**15 33 11.2**	**+0.1**
SURF				Sg	**Sg**	**15 33 15.9**	**-0.1**
BHB	**Bricherasio**	**0.42**	**1**	P	**Pg**	**15 33 12.7**	**-0.2**
BHB				S	**Sg**	**15 33 18.4**	**-0.4**
BHB	**Bricherasio**	**0.42**	**1**	P	**Pg**	**15 33 12.7**	**-0.2**
BHB				AML	AML		
	comp=E,221μm,1.0s						
BHB				AML	AML		
	comp=N,198μm,0.6s						
BHB				AML	AML		
	comp=E,221μm,1.0s						
BHB				AML	AML		
	comp=N,198μm,0.6s						
BHB				AML	AML		
	comp=N,198μm,0.6s						
BHB				AML	AML		
	comp=E,221μm,1.0s						
GBOS	**Grotte di Boss**	**0.45**	**112**	P	**Pg**	**15 33 13.6**	**+0.2**
GBOS				S	**Sg**	**15 33 19.8**	**+0.2**
MBDF	**Montbardon**	**0.47**	**312**	*e*Pg	**Pg**	**15 33 13.8**	**+0.2**
MBDF				*e*Sg	**Sg**	**15 33 20.5**	**+0.5**
	comp=E,74nm,0.2s,SNR=1.0						
SAOF	**Saorge**	**0.48**	**153**	P	**Pg**	**15 33 13.9**	**0.0**
SAOF				S	**Sg**	**15 33 20.3**	**-0.1**
OGAG	**Argentiere**	**0.51**	**275**	Pg	**Pn**	**15 33 16.9**	**+0.1**
OGAG				Sg	**Sn**	**15 33 25.4**	**+0.1**
SBF	**Sospel**	**0.57**	**167**	*e*Pg	**Pg**	**15 33 15.8**	**+0.3**
SBF				*e*Sg	**Sg**	**15 33 23.1**	**0.0**
	comp=E,81nm,0.2s,SNR=1.0						
ESCA	**l'Escarene**	**0.59**	**172**	Pg	**Pg**	**15 33 16.0**	**+0.1**
ESCA				Sg	**Sg**	**15 33 23.7**	**-0.1**
RRL	**Rocca Remolon**	**0.60**	**327**	P	**Pg**	**15 33 16.2**	**0.0**
RRL				S	**Sg**	**15 33 24.5**	**+0.2**
RRL	**Rocca Remolon**	**0.60**	**327**	P	**Pg**	**15 33 16.4**	**+0.1**
RRL				S	**Sg**	**15 33 24.6**	**+0.3**
NEGI	**Seborga**	**0.65**	**150**	P	**Pg**	**15 33 17.1**	**0.0**
RORO	**Rocca Rossa**	**0.66**	**117**	P	**Pg**	**15 33 17.1**	**0.0**
RORO				S	**Sg**	**15 33 25.5**	**-0.3**
RORO	**Rocca Rossa**	**0.66**	**117**	P	**Pg**	**15 33 17.1**	**0.0**
RORO				S	**Sg**	**15 33 25.9**	**0.0**
REVF	**Revere**	**0.68**	**173**	Pg	**Pg**	**15 33 17.7**	**+0.1**
REVF				Sg	**Sg**	**15 33 27.0**	**+0.4**
IMI	**Imperia**	**0.68**	**138**	P	**Pg**	**15 33 17.4**	**-0.2**
IMI				S	**Sg**	**15 33 26.3**	**-0.3**
IMI	**Imperia**	**0.68**	**138**	P	**Pg**	**15 33 17.4**	**-0.2**
IMI				S	**Sg**	**15 33 26.3**	**-0.3**
CALF	**Calern**	**0.71**	**200**	Pg	**Pg**	**15 33 18.1**	**+0.1**
CALF				Sg	**Sg**	**15 33 26.9**	**-0.5**
RSP	**Reno Superiore**	**0.73**	**0**	P	**Pg**	**15 33 17.3**	**-1.2**
RSP				S	**Sg**	**15 33 26.6**	**-1.7**
RSP	**Reno Superiore**	**0.73**	**0**	P	**Pg**	**15 33 17.7**	**-0.8**
OGDI	**Digne**	**0.75**	**246**	Pg	**Pn**	**15 33 20.4**	**+0.4**
FINB	**Finale Ligure**	**0.80**	**107**	P	**Pg**	**15 33 19.8**	**0.0**
ROTM	**Rocchetta Tana**	**0.89**	**61**	P	**Pn**	**15 33 22.9**	**+1.0**
PCP	**Piancastagn**	**0.93**	**82**	P	**Pg**	**15 33 21.9**	**-0.3**
PCP				S	**Sg**	**15 33 34.7**	**+0.2**
PCP	**Piancastagn**	**0.93**	**82**	P	**Pg**	**15 33 22.2**	**-0.1**
PCP				S	**Sg**	**15 33 35.0**	**+0.4**
FRF	**La Foret Royal**	**0.96**	**207**	*e*Pg	**Pg**	**15 33 22.7**	**-0.1**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**15 33 34.8**	**-0.7**
	comp=E,72nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.10**	**298**	*e*Pn	**Pb**	**15 33 25.1**	**+0.3**
	SNR=1.0						
ORIF				*e*Sn	**Sb**	**15 33 39.2**	**+0.3**
	comp=E,22nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.10**	**298**	Pg	**Pb**	**15 33 25.4**	**+0.6**
GDM	**Grand'Maison**	**1.13**	**315**	Pg	**Pb**	**15 33 26.0**	**+0.7**
LPG	**La Plagne**	**1.14**	**342**	*e*Pn	**Pb**	**15 33 25.4**	**-0.1**
	SNR=1.0						
LPG	**La Plagne**	**1.14**	**342**	*e*Pg	**Pb**	**15 33 26.6**	**+1.1**
LPG				*e*Sn	**Sb**	**15 33 39.9**	**-0.2**
	comp=E,11nm,0.3s						
MLYF	**Mely**	**1.15**	**249**	Pg	**Pg**	**15 33 26.7**	**+0.2**
MLYF				Sg	**Sn**	**15 33 42.6**	**+1.7**
LPL	**La Plagne**	**1.16**	**341**	*e*Pn	**Pb**	**15 33 25.6**	**-0.3**
	SNR=1.0						
LPL	**La Plagne**	**1.16**	**341**	*e*Pg	**Pb**	**15 33 26.6**	**+0.7**
LPL				*e*Sn	**Sb**	**15 33 40.5**	**-0.2**
LPL				*e*Sg	**Sg**	**15 33 42.1**	**+0.2**
	comp=E,4.4nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**1.21**	**207**	*e*Pn	**Pn**	**15 33 26.6**	**+0.4**
	SNR=1.0						
LMR	**La Mourre**	**1.21**	**207**	*e*Pg	**Pg**	**15 33 27.8**	**+0.3**
LMR				*e*Sn	**Sb**	**15 33 41.7**	**-0.1**
	comp=E,39nm,0.2s,SNR=1.0						
BSTF	**la Bastide-des**	**1.28**	**246**	Pg	**Pg**	**15 33 29.2**	**+0.4**
BSTF				Sg	**Sg**	**15 33 47.2**	**+1.7**
SMRF	**Simiane la Rot**	**1.29**	**251**	*e*Pg	**Pg**	**15 33 29.3**	**+0.3**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**15 33 46.8**	**+1.0**
	comp=E,20nm,0.2s,SNR=1.0						
ARTF	**Artigues**	**1.34**	**232**	Pg	**Pb**	**15 33 29.5**	**+0.8**
ARTF				Sg	**Sg**	**15 33 47.1**	**-0.3**
RSL	**Roselend**	**1.35**	**341**	Pg	**Pg**	**15 33 31.3**	**+1.1**
VIVF	**Saint-Julien-l**	**1.90**	**284**	*e*Pn	**Pn**	**15 33 36.1**	**+0.4**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**15 33 58.2**	**-1.0**
	comp=E,4.0nm,0.3s,SNR=1.0						
VIVF				*e*Sg	**Sg**	**15 34 05.3**	**+0.1**
	comp=E,3.6nm,0.3s						
PGF	**Pioggiola**	**2.26**	**145**	*e*Pn	**Pn**	**15 33 40.3**	**-0.4**
PGF				*e*Sn	**Sn**	**15 34 06.3**	**-1.9**
	comp=E,2.2nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**2.34**	**340**	*e*Pn	**Pn**	**15 33 43.1**	**+1.2**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**15 34 18.3**	**-1.2**
	comp=E,2.1nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**2.47**	**263**	*e*Pn	**Pn**	**15 33 43.5**	**0.0**
LASF				*e*Sn	**Sn**	**15 34 11.9**	**-1.3**
	comp=E,0.9nm,0.2s						
SMF	**Signal de Mont**	**3.28**	**314**	*e*Pn	**Pn**	**15 33 55.6**	**+1.0**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**15 34 33.0**	**-0.2**
	comp=E,1.2nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**3.63**	**312**	*e*Pn	**Pn**	**15 33 59.7**	**+0.3**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**15 34 40.0**	**-1.8**
	comp=E,2.5nm,0.6s,SNR=1.0						
HAU	**Haudompre**	**3.65**	**350**	*e*Pn	**Pn**	**15 34 00.5**	**+0.8**
HAU	**Haudompre**	**3.65**	**350**	*e*Pg	**Pb**	**15 34 11.8**	**+3.7**
HAU				*e*Sn	**Sn**	**15 34 41.3**	**-1.0**
	comp=E,2.6nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**3.80**	**255**	*e*Pn	**Pn**	**15 34 01.6**	**-0.2**
MTLF				*e*Sn	**Sn**	**15 34 43.6**	**-2.5**
	comp=E,0.3nm,0.2s						
TCF	**Toulx Ste Croi**	**4.02**	**300**	*e*Pn	**Pn**	**15 34 04.7**	**-0.2**
TCF	**Toulx Ste Croi**	**4.02**	**300**	*e*Pg	**Pg**	**15 34 19.2**	**-1.9**
TCF				*e*Sn	**Sn**	**15 34 50.2**	**-1.4**
	comp=E,0.4nm,0.2s						
MFF	**Saint Martin d**	**5.64**	**295**	*e*Pn	**Pn**	**15 34 27.3**	**+0.2**
MFF				*e*Sn	**Sn**	**15 35 28.7**	**-2.8**
	comp=E,0.3nm,0.2s						

MEX 23 15:40:49.9±0.8, 16.30N×97.42W, h31km±12km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.69**	**278**	*e*P	Pb	15 41 01.1	-2.4
PNIG				*i* S	Sb	15 41 10.6	-2.2
VHO	**Vista Hermosa**	**1.01**	**40**	*e*P	Pn	15 41 06.0	-2.3
VHO				*e*S	Sn	15 41 18.7	-2.9

IDC 23 15:46:24.7±2.0, 1.28N×126.83E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/32, mbtmp3.4/3, MS3.3/2, Ms1 3.3/2, ms1mx2.7/25, Error ellipse: s-maj=175.6km s-min=23.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang**	**20.79**	**247**	LR	LR	15 59 11.9	
	comp=Z,158nm,18.2s,baz=252,slow=37						
WRA	**Warramunga Arr**	**22.34**	**161**	P	P	15 51 23.8	-0.6
	0.4nm,0.4s,baz=340,slow=11,SNR=19						
JOW	**Kunigami**	**25.45**	**3**	LR		16 01 15.9	
	comp=Z,38nm,20.8s,baz=72,slow=35						
ASAR	**Alice Springs**	**25.73**	**165**	P	P	15 51 57.5	+0.5
	0.1nm,0.4s,baz=342,slow=10,SNR=9.8						
MKAR	**Makanchi Array**	**59.62**	**326**	P	P	15 56 30.6	-0.1
	0.4nm,0.4s,baz=118,slow=8.0,SNR=13						

NEIC ***23*** *15:49:06.2±0.0, 16.89N×95.08W, h114km, MD4.0(MEX), After MEX.*

MEX 23 15:49:05.6±0.7, 16.90N×95.08W, h119km±7km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.27**	**45**	*i* P	Pn	15 49 21.1	-1.2
CMIG				*i* S	Sn	15 49 32.7	-2.3
CMIG	**Matias Romero**	**0.27**	**45**	*i* P	Pn	15 49 21.1	-1.2
CMIG				*i* S	Sn	15 49 32.7	-2.3
HUIG	**Huatulco**	**1.50**	**221**	*e*P	Pn	15 49 31.5	-1.4
HUIG				*e*S	Sn	15 49 52.6	-1.1
HUIG	**Huatulco**	**1.50**	**221**	*e*P	Pn	15 49 31.4	-1.6
HUIG				*e*S	Sn	15 49 52.6	-1.2
VHO	**Vista Hermosa**	**1.59**	**276**	*e*P	Pn	15 49 33.9	-0.4
VHO				*e*S	Sn	15 49 54.2	-1.8
VHO	**Vista Hermosa**	**1.59**	**276**	*e*P	Pn	15 49 33.4	-0.9
VHO				*e*S	Sn	15 49 54.2	-1.8
PCIG		**2.15**	**123**	*i* P	Pn	15 49 41.6	+0.7
PCIG		**2.15**	**123**	*i* P	Pn	15 49 40.3	-0.6
PCIG				*i* S	Sn	15 50 06.8	-1.1
PNIG	**Pinotepa**	**2.96**	**261**	*i* P	Pn	15 49 49.2	-2.2
PNIG				*e*S	Sn	15 50 19.1	-7.7
PNIG	**Pinotepa**	**2.96**	**261**	*i* P	Pn	15 49 49.3	-2.1
PNIG				*i* S	Sn	15 50 25.1	-1.7

IDC ***23*** *16:10:48.3±2.9, 34.70S×179.57W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.7/20, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=69.2km s-min=44.4km az=126.0*
ISCJB ***23*** *16:10:52.5±1.2, 34.95S±0.06×179.5W±0.1, h43km, mb3.5/2, Error ellipse: s-maj=15.9km s-min=8.2km az=3.7*
WEL ***23*** *16:10:55.4±1.1, 35.5S±8.1°×180W±1.2, h33km, ML4.1/21*

ISC 23 16:10:53.1±1.8, 34.94S±0.09×179.4W±0.1, h43km, n70, ∘1925/74, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.19**	**214**	P	**Pn**	**16 11 41.0**	**+0.3**
MXZ	**Matakaoa Point**	**3.19**	**214**	P	**Pn**	**16 11 40.9**	**+0.2**
WMGZ	**Waiomatatini S**	**3.36**	**211**	P	**Pn**	**16 11 44.6**	**+1.6**
WMGZ	**Waiomatatini S**	**3.36

MCHZ	**McNeill Hill**	**5.45**	**213**	P	**Pn**	**16 12 11.6**	**-0.2**
RATZ	**Rangitukua**	**5.49**	**223**	P	Pn	16 12 18.0	+5.7
RATZ	**Rangitukua**	**5.49**	**223**	P	**Pn**	**16 12 12.8**	**+0.5**
OUZ	**Omahuta**	**5.73**	**265**	P	**Pn**	**16 12 14.8**	**-0.8**
OTVZ	**Oturere**	**5.76**	**222**	P	**Pn**	**16 12 18.0**	**+1.9**
BHHZ	**Black Hill Sta**	**5.79**	**217**	P	**Pn**	**16 12 18.3**	**+1.8**
NGZ	**Ngauruhoe**	**5.80**	**222**	P	**Pn**	**16 12 18.3**	**+1.6**
HIZ	**Hauiti**	**5.81**	**231**	P	**Pn**	**16 12 17.5**	**+0.8**
TWVZ	**Taurewa**	**5.82**	**223**	P	**Pn**	**16 12 19.2**	**+2.3**
FWVZ	**Far West T-bar**	**5.88**	**222**	P	Pn	16 12 27.4	+9.5
WNVZ	**Wahianoa**	**5.91**	**221**	P	**Pn**	**16 12 20.0**	**+1.7**
TSZ	**Takapari Road**	**6.28**	**214**	P	**Pn**	**16 12 22.8**	**-0.5**
TSZ	**Takapari Road**	**6.28**	**214**	P	**Pn**	**16 12 22.5**	**-0.8**
MRZ	**Mangatainoka R**	**6.94**	**215**	P	**Pn**	**16 12 29.9**	**-2.3**
ASAR	**Alice Springs**	**41.88**	**273**	P	**P**	**16 18 39.6**	**+0.2**
	0.7nm,0.7s,baz=116,slow=7.3,SNR=13						
WRA	**Warramunga Arr**	**43.29**	**278**	P	**P**	**16 18 50.5**	**-0.3**
	0.6nm,0.5s,baz=117,slow=7.8,SNR=10						
FINES	**FINESS Array B**	**148.91**	**336**	PKPbc	**PKPbc**	**16 30 35.9**	**+0.6**
	2.0nm,1.0s,baz=8.1,slow=4.8,SNR=3.1						

*ISCJB **23** 16:23:18.5±0.6,30.°94N±0.°07×99.°30E±0.°07,h10km, mb3.7/8,MS4.2/1,Error ellipse: s-maj=10.9km s-min=7.5km az=142.7*

*IDC **23** 16:23:19.4±0.9,31.°08N×99.°54E,h0km,mb3.7/9, mb1 3.8/11,mb1mx3.6/47,mbtmp3.7/11,ML3.5/2,MS3.5/2, Ms1 3.5/2,ms1mx2.8/43,Error ellipse: s-maj=31.0km s-min=16.6km az=57.0*

*BJI **23** 16:23:20.9,30.°94N×99.°50E,h9km,ML3.6/5*

ISC 23 16:23:20.3±0.7,31.°02N±0.°09×99.°53E±0.°06,h10km,n24, σ2ᵉ21/23,mb3.7/8,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CD2	**Chengdu**	**3.64**	**91**	Pg		**Pb**	**16 24 25.5**	**+0.8**
CD2				Sg		**Sg**	**16 25 12.6**	**-4.5**
CD2				smax		smax		
	comp=N,130nm,0.6s							
CD2				smax		smax		
	comp=E,150nm,0.8s							
GTA	**Gaotai**	**8.38**	**2**	*e*P		**Pn**	**16 25 23.8**	**+2.0**
GTA				pP		pP	16 25 31.8	
GTA				sP		sP	16 25 35.6	
RAMN	**Ramite**	**12.02**	**254**	*e*P		**Pn**	**16 26 11.0**	**-0.9**
	28nm,0.5s							
JIRN	**Jiri**	**12.11**	**257**	*e*P		**Pn**	**16 26 11.9**	**-1.3**
	20nm,0.4s							
GUN	**Gumba**	**12.29**	**259**	*e*P		**Pn**	**16 26 13.8**	**-1.9**
	19nm,0.5s							
CMAR	**Chiang Mai Arr**	**12.52**	**183**	Pn		**Pn**	**16 26 20.3**	**+1.8**
	0.1nm,0.3s,baz=354,slow=11,SNR=11							
CMAR				LR		LR	16 31 22.8	
	comp=Z,46nm,20.0s,baz=7.5,slow=38							
PKI	**Pulchoki**	**12.79**	**258**	*e*P		**Pn**	**16 26 20.1**	**-2.4**
	16nm,0.5s							
KKN	**Kakani**	**12.83**	**259**	*e*P		**Pn**	**16 26 20.9**	**-2.1**
	10nm,0.4s							
DMN	**Daman**	**13.03**	**259**	*e*P		**Pn**	**16 26 23.5**	**-2.3**
	12nm,0.5s							
DANN	**Dangsing**	**13.96**	**263**	*e*P		**Pn**	**16 26 34.4**	**-4.1**
	6.8nm,0.3s							
KOLN	**Koldanda**	**14.26**	**261**	*e*P		**Pn**	**16 26 38.9**	**-3.5**
	12nm,0.7s							
PYUN	**Piuthan**	**14.68**	**263**	*e*P		**Pn**	**16 26 44.5**	**-3.8**
WMQ	**Urumqi**	**15.84**	**327**	*e*P		**Pn**	**16 27 03.6**	**+0.2**
SONM	**Songino Array**	**17.60**	**15**	P		**P**	**16 27 26.2**	**-0.4**
	0.1nm,0.3s,baz=206,slow=12,SNR=14							
MKAR	**Makanchi Array**	**20.62**	**325**	P		Pn	16 28 00.2	-1.7
	2.3nm,0.5s,baz=127,slow=12,SNR=26							
KSRS	**Korea Array**	**24.28**	**67**	P		**P**	**16 28 38.0**	**+0.3**
	1.7nm,0.8s,baz=259,slow=9.5,SNR=7.3							
KURBB	**Kurchatov Arra**	**25.06**	**327**	P		**P**	**16 28 45.1**	**+0.4**
	3.8nm,0.7s,baz=138,slow=9.5,SNR=41							
ZALV	**Zalesovo Beam**	**25.25**	**339**	P		**P**	**16 28 47.1**	**+0.8**
	2.8nm,0.5s,baz=149,slow=9.7,SNR=12							
AKASG	**Malin Array Be**	**54.57**	**313**	P		**P**	**16 32 48.3**	**-0.2**
	0.1nm,0.3s,baz=74,slow=6.8,SNR=2.4							
FINES	**FINESS Array B**	**55.44**	**326**	P		**P**	**16 32 54.9**	**+0.2**
	1.1nm,0.6s,baz=93,slow=7.3,SNR=5.7							
WRA	**Warramunga Arr**	**60.71**	**142**	P		**P**	**16 33 32.6**	**+0.5**
	0.3nm,0.5s,baz=335,slow=7.4,SNR=7.3							
ASAR	**Alice Springs**	**63.58**	**145**	P		**P**	**16 33 53.1**	**+1.9**
	0.3nm,0.6s,baz=326,slow=6.7,SNR=4.6							
ILAR	**Eielson Array**	**71.57**	**24**	P		**P**	**16 34 41.0**	**-0.3**
	0.3nm,0.8s,baz=309,slow=5.7,SNR=3.6							
ULM	**Lac du Bonnet**	**97.94**	**10**	LR		LR	17 26 04.2	
	comp=Z,81nm,19.2s,baz=332,slow=38							

*NEIC **23** 16:33:27.1±1.1,20.°89S×169.°81E,h68km±9km,mb4.4/4, Error ellipse: s-maj=20.4km s-min=9.4km az=142.0*

*IDC **23** 16:33:28.4±2.6,20.°88S×169.°73E,h75km±17km,mb4.0/12, mb1 4.2/13,mb1mx4.0/39,mbtmp4.4/13,MS2.9/2, Ms1 2.9/2,ms1mx2.7/23,Error ellipse: s-maj=37.4km s-min=20.7km az=141.0*

ISC 23 16:33:29.2±0.6,20.°99S±0.°09×169.°68E±0.°08,h90km,n59, σ1ᵉ50/67,mb4.2/15,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MARNC	**Mare, Loyalty**	**1.62**	**252**	*e*Pn		**Pn**	**16 33 55.1**	**-1.3**
MARNC				*e*Sn		**Sn**	**16 34 13.5**	**-3.5**
PINNC	**Pines Island,**	**2.63**	**232**	*e*Pn		**Pn**	**16 34 09.5**	**-0.2**
OUENC	**Ouen Island, N**	**3.00**	**241**	*e*Pn		**Pn**	**16 34 14.9**	**+0.2**
OUENC				*e*Sn		**Sn**	**16 34 44.7**	**-5.1**
DZM	**Mont Dzumac**	**3.20**	**250**	P		**Pn**	**16 34 17.4**	**-0.1**
	96nm,0.3s,baz=122,slow=14,SNR=1450							
DZM				S		**Sn**	**16 34 52.7**	**-2.1**
	129nm,0.3s,baz=84,slow=19,SNR=16							
DZM				LR		LR	16 35 06.1	
	comp=Z,118nm,18.9s,baz=9.5,slow=30							
DZM	**Mont Dzumac**	**3.20**	**250**	*e*Pn		**Pn**	**16 34 17.1**	**-0.4**
DZM				S		**Sn**	**16 34 52.7**	**-2.1**
LHI	**Lord Howe Isla**	**14.16**	**220**	*e*Pn		**Pn**	**16 36 45.5**	**0.0**
OUZ	**Omahuta**	**14.59**	**167**	*e*Pn		**P**	**16 36 56.0**	**+1.1**
HNR	**Honiara**	**14.83**	**319**	*e*Pn		**P**	**16 36 58.8**	**+1.0**
FUNA	**Funafuti**	**15.42**	**38**	*e*Pn		**Pn**	**16 36 58.6**	**-3.2**
	236nm,1.6s							
EIDS	**Eidsvold**	**17.65**	**252**	*e*P		**P**	**16 37 29.0**	**+0.1**
	62nm,1.8s							
ARMA	**Armidale**	**18.76**	**236**	*e*P		**Pn**	**16 37 45.4**	**+2.7**
	21nm,0.9s							
PMG	**Port Moresby**	**24.56**	**295**	P		**P**	**16 38 41.9**	**+1.1**
	19nm,1.0s,baz=159,slow=14,SNR=2.5							
STKA	**Stephens Creek**	**27.31**	**241**	P		**P**	**16 39 07.3**	**+1.8**
	2.5nm,0.6s,baz=78,slow=11,SNR=7.2							
STKA				LR		LR	16 48 47.8	
	comp=Z,44nm,21.6s,baz=28,slow=34							
STKA	**Stephens Creek**	**27.31**	**241**	*e*P		**P**	**16 39 07.0**	**+1.5**
	1.8nm,1.3s							
WB2	**Warramunga Arr**	**33.08**	**265**	*e*P		**P**	**16 39 56.6**	**0.0**
WR1	**Warramunga Arr**	**33.09**	**265**	*e*P		**P**	**16 39 56.5**	**-0.1**
	48nm,2.0s							
WRA	**Warramunga Arr**	**33.09**	**265**	P		**P**	**16 39 56.5**	**-0.1**
	1.7nm,0.8s,baz=99,slow=8.6,SNR=16							
AS01	**Alice Springs**	**33.11**	**259**	*e*P		**P**	**16 39 56.8**	**0.0**
AS31	**Alice Springs**	**33.15**	**259**	*e*P		**P**	**16 39 58.0**	**+0.8**
	4.3nm,0.6s							
ASAR	**Alice Springs**	**33.15**	**259**	P		**P**	**16 39 58.1**	**+0.9**
	8.9nm,0.6s,baz=92,slow=9.4,SNR=97							
MJAR	**Matsushiro Arr**	**64.49**	**332**	P		**P**	**16 43 55.8**	**-0.5**
	3.5nm,0.8s,baz=171,slow=7.4,SNR=8.2							
MAJO	**Matsushiro**	**64.49**	**332**	*e*P		**P**	**16 43 55.8**	**-0.5**
JNU	**Nakatsue**	**65.33**	**325**	P		**P**	**16 44 02.2**	**+0.3**
	3.6nm,0.5s,baz=70,slow=3.7,SNR=7.3							
JNU	**Nakatsue**	**65.33**	**325**	*e*P		**P**	**16 44 02.2**	**+0.3**
	63nm,1.5s							
COCO	**West Island**	**69.87**	**264**	*e*P		**P**	**16 44 31.8**	**+0.9**
	235nm,0.5s							
USRK	**Ussuriysk Ar.**	**73.48**	**333**	P		**P**	**16 44 52.7**	**+0.9**
	3.5nm,0.9s,baz=168,slow=4.6,SNR=6.1							
KLR	**Kul'dur**	**77.63**	**336**	P		**P**	**16 45 16.6**	**+1.2**
	1.9nm,0.6s,baz=122,slow=2.6,SNR=9.9							
CM01	**Chiang Mai Arr**	**79.57**	**294**	*e*P		**P**	**16 45 28.6**	**+1.8**
CMAR	**Chiang Mai Arr**	**79.60**	**294**	P		**P**	**16 45 29.6**	**+2.6**
	1.0nm,0.5s,baz=134,slow=4.4,SNR=12							
CMMT	**Chiang Mai**	**79.75**	**295**	P		**P**	**16 45 30.5**	**+2.7**
CHTO	**Chiang Mai**	**79.76**	**295**	P		**P**	**16 45 30.6**	**+2.8**
SONA0	**Songino Array**	**88.86**	**323**	*e*P		**P**	**16 46 13.0**	**-0.3**
SONM	**Songino Array**	**88.86**	**323**	P		**P**	**16 46 13.0**	**-0.3**
	0.8nm,0.5s,baz=138,slow=4.8,SNR=8.7							
NV01	**Mina Array Sit**	**89.64**	**48**	*e*P		**P**	**16 46 15.9**	**-1.5**
NVAR	**Mina Array Bea**	**89.64**	**48**	P		**P**	**16 46 18.9**	**+1.6**
	1.2nm,0.7s,baz=226,slow=8.7,SNR=9.7							
ILAR	**Eielson Array**	**91.77**	**17**	P		**P**	**16 46 25.1**	**-1.2**
	0.5nm,0.7s,baz=218,slow=6.6,SNR=4.5							
ILB	**Eielson Array**	**91.77**	**17**	*e*P		**P**	**16 46 25.7**	**-0.6**
YKA	**Yellowknife Ar**	**102.02**	**27**	PP		**PKiKP**	**16 51 31.6**	**-3.2**
	0.4nm,1.1s,baz=266,slow=7.9,SNR=4.2							
MK32	**Makanchi Array**	**103.27**	**315**	*e*Pdif		**Pdif**	**16 47 21.1**	**+2.4**
MKAR	**Makanchi Array**	**103.27**	**315**	Pdiff		**Pdif**	**16 47 21.1**	**+2.4**
	0.2nm,0.5s,baz=86,slow=6.4,SNR=2.7							
ARA0	**ARCESS Array S**	**126.86**	**345**	*e*PKPdf		**PKPdf**	**16 52 20.8**	**-1.0**
ARCES	**ARCESS Array B**	**126.86**	**345**	PKP		**PKPdf**	**16 52 20.8**	**-1.0**
	4.8nm,0.9s,baz=357,slow=3.8,SNR=5.3							
FIA0	**FINESS Array S**	**132.36**	**337**	*e*PKPdf		**PKPdf**	**16 52 32.4**	**0.0**
FIA0				*e*SKPbc		**SKPab**	**16 55 51.9**	**-0.4**
FINES	**FINESS Array B**	**132.36**	**337**	PKP		**PKPdf**	**16 52 32.4**	**0.0**
	2.4nm,1.1s,baz=66,slow=2.3,SNR=5.5							
FINES				SKPbc		**SKPab**	**16 55 51.9**	**-0.4**
	3.0nm,0.9s,baz=79,slow=3.0,SNR=4.1							
AKASG	**Malin Array Be**	**137.15**	**323**	PKP		**PKiKP**	**16 52 43.2**	**-0.3**
	0.1nm,0.3s,baz=54,slow=2.5,SNR=3.0							
AKASG				SKPbc		**SKPbc**	**16 56 08.0**	**+1.2**
	0.4nm,0.5s,baz=45,slow=2.9,SNR=4.9							
BRG	**Berggiesshubel**	**144.62**	**333**	*i* PKP		**PKPdf**	**16 52 54.6**	**-0.5**
	8.0nm,0.8s							
CLL	**Collm**	**144.67**	**335**	*e*PKPdf		**PKPdf**	**16 52 54.4**	**-0.7**
CLL	**Collm**	**144.67**	**335**	*i* PKPdf		**PKPdf**	**16 52 54.5**	**-0.7**
	comp=Z,8.0nm,0.7s							
CONA	**Conrad Observa**	**145.85**	**328**	*i* PKPab		**PKPab**	**16 52 58.2**	**-0.4**
	comp=Z,4.8nm,0.7s							
GEC2	**GERESS Array S**	**146.22**	**331**	*e*PKPdf		**PKPab**	**16 52 59.4**	**-0.7**
GEC2				*e*PKPbc		**PKPbc**	**16 52 59.6**	**+0.3**
GERES	**GERESS Array B**	**146.22**	**331**	PKPbc		**PKPab**	**16 52 59.9**	**-0.2**
	comp=Z,3.4nm,0.6s,baz=35,slow=3.3,SNR=30							
GEA0	**GERESS Array S**	**146.23**	**331**	*e*PKPdf		**PKPab**	**16 52 59.4**	**-0.7**
MYKA	**Terra Mystica**	**147.84**	**328**	*i* PKPbc		**PKPbc**	**16 53 04.2**	**+0.3**
	comp=Z,4.0nm,0.5s							
ABTA	**Abfaltersbach**	**148.30**	**329**	*i* PKPbc		**PKPbc**	**16 53 04.8**	**-0.3**
	comp=Z,3.3nm,0.7s							
MOTA	**Moosalm**	**148.50**	**332**	*i* PKiKP		**PKiKP**	**16 53 07.4**	**+0.3**
	comp=Z,3.4nm,0.6s							
RETA	**Reutte**	**148.54**	**332**	*e*PKPbc		**PKiKP**	**16 53 06.0**	**-1.2**
	comp=Z,1.8nm,0.5s							
SQTA	**Sankt Quirin**	**148.55**	**331**	*i* PKPbc		**PKiKP**	**16 53 06.3**	**-0.9**
	comp=Z,6.3nm,0.6s							
FETA	**Feichten**	**148.91**	**332**	*i* PKiKP		**PKiKP**	**16 53 07.4**	**-0.7**
	comp=Z,4.3nm,0.6s							
DAVA	**Damuels**	**149.08**	**333**	*e*PKPbc		**PKiKP**	**16 53 07.4**	**-1.0**
	comp=Z,4.4nm,0.7s							

IDC 23 16:41:33.2±2.2,6.°50S×129.°56E,h0km,mb3.2/1, mb1 3.3/3,mb1mx3.1/36,mbtmp3.2/3,ML2.8/2,Error ellipse: s-maj=140.9km s-min=31.5km az=68.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**14.14**	**161**	Pn		Pn	16 44 54.8	-0.2
	0.0nm,0.3s,baz=340,slow=12,SNR=4.1							
WRA				Sn		Sn	16 47 18.6	-14
	0.0nm,0.3s,baz=342,slow=22,SNR=3.7							
ASAR	**Alice Springs**	**17.57**	**167**	P		Pn	16 45 39.8	0.0
	0.1nm,0.3s,baz=344,slow=11,SNR=5.3							
MKAR	**Makanchi Array**	**67.57**	**327**	P		P	16 52 31.7	0.0
	0.1nm,0.5s,baz=124,slow=7.8,SNR=2.5							

*IDC **23** 16:46:06.0±2.5,4.°11N×95.°32E,h0km,mb3.4/3,mb1 3.7/5, mb1mx3.3/41,mbtmp3.4/5,ML3.2/1,Error ellipse: s-maj=87.4km s-min=24.1km az=57.0*

*ISCJB **23** 16:46:08.8±1.2,4.°94N±0.°07×95.°88E±0.°07,h10km,Error ellipse: s-maj=10.7km s-min=9.3km az=17.9*

*DJA **23** 16:46:08.4±0.8,5.°1N±4.°9×9.°6E±.°,h10km,M3.9/6,MLv3.9/6*

ISC 23 16:46:09.2±1.4,4.°94N±0.°08×95.°87E±0.°09,h10km,n14, σ1ᵉ93/14,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LHMI	**Lhok Sumawe**	**1.11**	**75**	P		**Pb**	**16 46 28.7**	**-1.8**
LHMI				S		**Sg**	**16 46 43.2**	**-1.8**
TPTI		**2.12**	**142**	P		**Pn**	**16 46 43.4**	**-1.3**
TPTI				S		**Sn**	**16 47 12.3**	**+1.3**
KCSI	**Kotacane, Aceh**	**2.36**	**126**	P		**Pn**	**16 46 49.2**	**+1.2**
KCSI				S		**Sb**	**16 47 19.9**	**-1.1**
SNSI	**Sinabang, Aceh**	**2.55**	**170**	P		**Pn**	**16 46 50.4**	**-0.3**
TSI	**Tuntungan**	**3.04**	**118**	P		**Pg**	**16 47 11.1**	**+3.6**
PSI	**Prapat**	**3.71**	**125**	Pn		**Pn**	**16 47 07.4**	**+0.6**
	1.9nm,0.3s,baz=360,slow=12,SNR=6.5							
PSI				Sn		**Sn**	**16 47 51.2**	**+0.6**
	2.6nm,0.3s,baz=0.0,slow=20,SNR=4.8							
GSI	**Gunungsitoli**	**3.99**	**155**	P		**Pn**	**16 47 09.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**13.77**	**12**	Pn		**P**	**16 49 35.4**	**+2.1**
	baz=200,slow=12,SNR=5.6							
H08S2	**Diego Garcia H**	**26.46**	**242**	T		T	17 18 47.1	
	baz=61,slow=75,SNR=9.6							
H08S3	**Diego Garcia H**	**26.46**	**242**	T		T	17 18 55.1	
	baz=61,slow=75,SNR=8.6							
H08S1	**Diego Garcia H**	**26.48**	**242**	T		T	17 18 52.9	
	baz=61,slow=75,SNR=8.4							
MKAR	**Makanchi Array**	**43.32**	**346**	P		P	16 54 15.0	+3.6
	0.2nm,0.6s,baz=168,slow=7.4,SNR=2.7							
WRA	**Warramunga Arr**	**45.18**	**124**	P		**P**	**16 54 24.1**	**-2.6**
	0.2nm,0.4s,baz=302,slow=9.4,SNR=5.3							
ASAR	**Alice Springs**	**46.73**	**129**	P		**P**	**16 54 37.1**	**-1.8**
	0.6nm,0.3s,baz=301,slow=7.3,SNR=27							

ROM 23 16:50:22.5±0.1,42.°866N±0.°003×12.°709E±0.°005, h6km,ML1.3/4,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CESX	**Cesi**	**0.27**	**200**	P		Pg	16 50 28.7	+0.9
CESX				S		Sg	16 50 33.0	+1.6
ARRO	**Arrone**	**0.29**	**172**	P		Pb	16 50 29.3	-0.8
NRCA	**Norcia**	**0.30**	**96**	P		Pg	16 50 29.3	+0.9
NRCA				S		Sb	16 50 34.3	-1.3
NRCA				AML		AML		
	comp=E,98μm,0.1s							
NRCA				AML		AML		
	comp=N,90μm,0.7s							
NRCA				AML		AML		
	comp=E,98μm,0.1s							
NRCA				AML		AML		
	comp=N,90μm,0.7s							
ATCC	**AVT- Casa Cast**	**0.32**	**351**	P		Pb	16 50 29.9	-0.8
ATCC				S		Sb	16 50 35.0	-1.2
ATCC				AML		AML		
	comp=E,110μm,1.4s							
ATCC				AML		AML		
	comp=N,88μm,1.4s							
ATCC				AML		AML		
	comp=E,110μm,1.4s							
ATCC				AML		AML		
	comp=N,89μm,1.4s							
ATCC				AML		AML		
	comp=E,110μm,1.4s							
ATCC				AML		AML		
	comp=N,89μm,1.4s							
FDMO	**Fiordimonte**	**0.33**	**58**	P		Pg	16 50 29.8	+0.9
FDMO				S		Sb	16 50 35.0	-1.3
LNSS	**Leonessa**	**0.36**	**137**	P		Pb	16 50 30.6	-0.7
LNSS				S		Sb	16 50 36.2	-1.1
LNSS				AML		AML		
	comp=E,69μm,1.6s							
LNSS				AML		AML		
	comp=N,66μm,1.6s							
LNSS				AML		AML		
	comp=E,69μm,1.6s							
LNSS				AML		AML		
	comp=N,66μm,1.6s							
LNSS				AML		AML		
	comp=N,66μm,1.6s							
LNSS				AML		AML		
	comp=E,69μm,1.6s							
SNTG	**Esanatoglia**	**0.42**	**24**	P		Pb	16 50 31.7	-0.8
SNTG				S		Sb	16 50 38.5	-0.6
EL6	**Elcito**	**0.55**	**32**	P		Pg	16 50 33.7	+0.7
EL6				S		Sb	16 50 42.6	-0.1
PIEI	**Pieia**	**0.68**	**349**	AML		AML		
	comp=E,29μm,1.6s							
PIEI				AML		AML		
	comp=E,29μm,1.6s							
PIEI				AML		AML		
	comp=N,30μm,1.6s							
PIEI				AML		AML		

*BJI **23** 17:05:13.0,3.°73S×136.°80E,h54km,mb4.9/31,mB5.1/15, Ms4.7/3,Ms7 4.4/3*

*MOS **23** 17:05:16.3±1.0,3.°49S×136.°34E,h69km,mb4.8/19,Error ellipse: s-maj=12.6km s-min=6.7km az=110.0*

*NEIC **23** 17:05:18.4±0.8,3.°39S×136.°35E,h61km±8km,mb4.8/20, Error ellipse: s-maj=7.0km s-min=5.8km az=217.0*

NEIC Felt [III] at Nabire.

*IDC **23** 17:05:18.9±2.1,3.°33S×136.°39E,h66km±20km,mb4.1/11, mb1 4.4/15,mb1mx4.3/23,mbtmp4.5/15,MS3.5/10, Ms1 3.5/10,ms1mx3.2/28,Error ellipse: s-maj=20.1km s-min=13.6km az=67.0*

*DJA **23** 17:05:18.7±0.2,3.°5±3.°×13.°6E±.°,h98km±5km,M5.2/13, mB5.4/8,mb5.2/13,MLv5.6/8,Mw(mB)4.8/8*

*ISCJB **23** 17:05:19.4±0.2,3.°55S±0.°03×136.°42E±0.°03,h100km, mb4.5/47,Error ellipse: s-maj=4.9km s-min=4.2km az=39.9*

ISC 23 17:05:20.2±0.4,3.°55S±0.°05×136.°40E±0.°04,h100km,n131, σ2ᵉ32/123,mb4.7/54,7C-3D,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SRPI	**Serui, Papua**	**1.67**	**355**	P		**Pn**	**17 05 44.3**	**-4.4**
SRPI				S		**Sn**	**17 06 03.2**	**-7.1**
BAKI	**Biak**	**2.36**	**353**	P		**Pn**	**17 05 54.1**	**-3.4**
RKPI	**Ransiki, Papua**	**3.00**	**312**	P		**Pn**	**17 06 03.2**	**-2.8**
RKPI				S		**Sn**	**17 06 37.0**	**-4.3**
GENI	**Genyem**	**3.88**	**76**	P		**Pn**	**17 06 17.2**	**-0.7**
FAKI	**Fak Fak**	**4.19**	**278**	*e*Pn		**Pn**	**17 06 21.0**	**-1.0**
FAKI	**Fak Fak**	**4.19**	**278**	P		**Pn**	**17 06 21.1**	**-0.9**
FAKI				S		**Sn**	**17 07 05.6**	**-4.3**
JAY	**Jayapura**	**4.42**	**77**	P		**Pn**	**17 06 23.8**	**-1.4**
	42nm,0.3s,baz=248,slow=9.8,SNR=42							
JAY				S		**Sn**	**17 07 11.4**	**-4.2**
	42nm,0.3s,baz=180,slow=20,SNR=6.3							
JAY	**Jayapura**	**4.42**	**77**	P		**Pn**	**17 06 24.1**	**-1.1**
SIJI	**Sorong**	**5.78**	**297**	P		**Pn**	**17 06 41.6**	**-1.9**
	76nm,0.3s,baz=116,slow=8.4,SNR=150							
SIJI				S		**Sn**	**17 07 40.0**	**-8.5**
	baz=127,slow=20,SNR=2.3							
SWI	**Sorong**	**5.78**	**297**	P		**Pn**	**17 06 41.8**	**-1.8**
	296nm,0.5s,4μm1.8nm							
SWI				S		**Sn**	**17 07 45.6**	**-3.1**
	296nm,0.5s,4μm1.8nm							
MMPI	**Merauke**	**6.29**	**141**	P		**Pn**	**17 06 51.2**	**+0.7**
	1μm,0.5s,22μm5.5nm							
MMPI				S		**Sn**	**17 08 02.1**	**+1.1**
	1μm,0.5s,22μm5.5nm							
BNDI	**Bandanaira**	**6.55**	**261**	P		**Pn**	**17 06 55.6**	**+1.6**
	499nm,0.6s,8μm5.8nm							
BNDI				S		**Sn**	**17 08 08.3**	**+1.0**
	499nm,0.6s,8μm5.8nm							
NLAI	**Namlea**	**9.29**	**272**	P		**Pn**	**17 07 31.5**	**+0.2**
	62nm,0.5s,1μm							
SANI	**Sanana**	**10.50**	**278**	P		**Pn**	**17 07 45.6**	**-2.2**
	103nm,0.8s,1μm							
PMG	**Port Moresby**	**12.17**	**119**	P		**Pn**	**17 08 09.2**	**-1.1**
	17nm,0.3s,baz=4.5,slow=3.1,SNR=61							
PMG				S		**Sn**	**17 10 17.3**	**-6.9**
	0.1nm,0.3s,baz=232,slow=19,SNR=2.4							
PMG				LR		LR	17 13 48.8	
	comp=Z,428nm,19.6s,baz=304,slow=42							
PMG	**Port Moresby**	**12.17**	**119**	*e*Pn		**Pn**	**17 08 11.4**	**+1.1**
PMG				S		**Sn**	**17 10 17.3**	**-6.9**
PMG	**Port Moresby**	**12.17**	**119**	*ce*P		**Pn**	**17 08 10.0**	**-0.3**
PMG				pmax		pmax		
	comp=Z,486nm,1.7s							
COEN	**Coen**	**12.32**	**148**	*e*Pn		**Pn**	**17 08 10.6**	**-1.6**
SOEI	**Soe**	**13.53**	**242**	*e*Pn		**Pn**	**17 08 27.9**	**-0.3**
SOEI	**Soe**	**13.53**	**242**	P		**Pn**	**17 08 28.0**	**-0.3**
	comp=Z,201nm,1.6s,comp=Z,2μm							
KDI	**Kendari**	**13.75**	**268**	P		**P**	**17 08 33.4**	**-2.8**
	comp=Z,54nm,1.3s							
LUWI	**Luwuk**	**13.84**	**280**	*e*Pn		**Pn**	**17 08 29.2**	**-3.0**
BATI	**Baumata**	**14.26**	**242**	P		**Pn**	**17 08 37.9**	**+0.2**
	comp=Z

comp=Z,25nm,0.9s
CM01 Chiang Mai Arr 42.85 302 *e*P **P 17 13 10.2 +1.4**
CM31 Chiang Mai Arr 42.88 302 *e*P **P 17 13 11.1 +1.9**
CMAR Chiang Mai Arr 42.88 302 P **P 17 13 10.7 +1.6**
comp=Z,12nm,0.8s,baz=123,slow=6.6,SNR=112
CMAR LR LR 17 31 32.7
comp=Z,13nm,20.1s,baz=105,slow=37
CMMT Chiang Mai 43.04 302 P **P 17 13 11.6 +1.2**
comp=Z,22nm,0.8s
CHTO Chiang Mai 43.04 302 *e*P **P 17 13 11.8 +1.4**
comp=Z,16nm,0.8s
CHTO Chiang Mai 43.04 302 *e*P **P 17 13 11.8 +1.4**
CHTO pmax pmax
comp=Z,16nm,0.8s
CHTO Chiang Mai 43.04 302 P **P 17 13 11.6 +1.2**
comp=Z,99nm,0.9s
XAN Xi'an 45.48 328 P **P 17 13 30.8 +1.1**
XAN pmax pmax
comp=Z,16nm,1.2s
XAN Xi'an 45.48 328 *e*P **P 17 13 31.0 +1.3**
comp=Z,120nm,1.4s
XAN Xi'an 45.48 328 *e*P **P 17 13 31.0 +1.3**
XAN pmax pmax
comp=Z,120nm,1.4s
MSHR Mys Shultsa 46.16 355 *i*P **P 17 13 35.8 +1.0**
CD2 Chengdu 46.29 320 *e*P P 17 13 38.0 +1.9
VLA Vladivostok 46.63 355 *i*P **P 17 13 39.7 +1.3**
VLA pmax pmax
comp=Z,19nm,1.2s
USA0B Ussuriysk Arra 47.70 356 *e*P **P 17 13 48.4 +1.7**
comp=Z,7.1nm,0.7s
USRK Ussuriysk Ar. 47.70 356 P **P 17 13 48.1 +1.4**
comp=Z,8.1nm,0.7s,baz=181,slow=6.7,SNR=24
MDJ Mudanjiang 48.34 353 *e*P **P 17 13 53.1 +1.4**
comp=Z,12nm,0.8s
URZ Urewera 50.69 138 LR LR 17 34 24.4
comp=Z,136nm,19.7s,baz=312,slow=34
KLR Kul'dur 52.72 356 *c i*P **P 17 14 25.5 +1.0**
GRNR Gornyy 54.10 0 *e*P **P 17 14 34.8 +0.1**
GRNR pmax pmax
comp=Z,13nm,1.0s
GTA Gaotai 54.41 325 *e*P P 17 14 39.4 +2.2
GTA pP pP 17 14 57.6 -4.0
GTA pmax pmax
comp=Z,11nm,1.2s
RAMN Ramite 56.81 305 *e*P P 17 14 57.0 +2.2
comp=Z,46nm,0.7s
ULN Ulaanbaatar 57.29 337 *c e*P **P 17 14 58.6 +0.9**
ULN pmax pmax
comp=Z,9.0nm,2.5s
JIRN Jiri 57.44 306 *e*P **P 17 15 01.3 +1.9**
SONM Songino Array 57.52 336 P **P 17 14 59.4 0.0**
comp=Z,0.8nm,0.8s,baz=132,slow=10,SNR=6.5
SONM LR LR 17 39 02.6
comp=Z,62nm,21.2s,baz=185,slow=35
ZEA Zeya 57.59 354 *e*P **P 17 15 00.5 +1.0**
ZEA pmax pmax
comp=Z,24nm,1.6s
GUN Gumba 57.79 306 *e*P **P 17 15 03.7 +1.9**
comp=Z,50nm,0.8s
PKI Pulchoki 58.03 306 *e*P **P 17 15 05.0 +1.5**
comp=Z,16nm,0.8s
KKN Kakani 58.23 306 *e*P **P 17 15 06.5 +1.8**
comp=Z,44nm,0.9s
DMN Daman 58.29 306 *e*P **P 17 15 07.1 +1.9**
comp=Z,26nm,0.6s
PETK Petropavlovsk- 59.23 15 P **P 17 15 12.6 +1.7**
comp=Z,2.4nm,0.8s,baz=120,slow=5.9,SNR=7.2
KOLN Koldanda 59.58 305 *e*P **P 17 15 16.2 +2.1**
DANN Dangsing 59.68 306 *e*P **P 17 15 16.7 +1.8**
comp=Z,24nm,0.8s
PYUN Piuthan 60.21 305 *e*P P 17 15 20.5 +2.1
comp=Z,114nm,1.0s
ZAK Zakamensk 60.79 336 *e*P **P 17 15 22.5 +0.7**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
MOY Mondy 62.70 336 *e*P **P 17 15 35.8 +1.2**
MOY pmax pmax
comp=Z,11nm,2.7s
WMQ Urumqi 64.25 323 *e*P P 17 15 47.2 +2.3
comp=Z,14nm,0.9s
WMQ Urumqi 64.25 323 *e*P P 17 15 47.2 +2.3
WMQ pmax pmax
comp=Z,14nm,0.9s
YAK Yakutsk 65.60 357 *e*P **P 17 15 52.2 -0.9**
YAK pmax pmax
comp=Z,9.0nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.2s
SEY Seymchan 67.40 8 *c e*P **P 17 16 05.2 +0.6**
DGZ Jazzator, Alta 67.75 328 *d i*P **P 17 16 07.8 +0.5**
DGZ pmax pmax
comp=Z,3.0nm,1.1s
MKAR Makanchi Array 69.06 323 P **P 17 16 16.8 +1.4**
comp=Z,4.6nm,0.7s,baz=115,slow=8.1,SNR=26
MKAR Makanchi Array 69.06 323 *i*P **P 17 16 17.0 +1.6**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
ZALV Zalesovo Beam 71.51 331 P **P 17 16 30.1 -0.1**
comp=Z,1.8nm,0.5s,baz=96,slow=2.9,SNR=7.3
ZALV Zalesovo Beam 71.51 331 *i*P **P 17 16 30.5 +0.4**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
AAK Ala-Archa 72.22 317 *c e*P **P 17 16 36.4 +1.6**
AAK pmax pmax
comp=Z,5.0nm,1.7s
ARSB Arslanbob 72.78 315 *e*P P 17 16 41.0 +2.8
comp=Z,7.9nm,0.9s
NVS Novosibirsk 72.78 331 *e*P **P 17 16 37.0 -0.7**
NVS *e* 17 17 07.3
NVS pmax pmax
comp=E,8.0nm,1.4s
NVS pmax pmax
comp=Z,6.0nm,1.4s
KURK Kurchatov 73.09 326 *e*P **P 17 16 40.8 +1.3**
comp=Z,8.8nm,1.2s
KURK Kurchatov 73.09 326 *c e*P **P 17 16 40.4 +0.8**
KURK pmax pmax
comp=Z,6.0nm,1.3s
PPT Papeete 73.71 107 LR LR 17 45 18.3
comp=Z,73nm,20.0s,baz=77,slow=32
GAR Garm 73.93 312 *e*P **P 17 16 45.7 +0.7**
comp=Z,11nm,1.0s
GAR Garm 73.93 312 *e*P **P 17 16 45.7 +0.7**
GAR pmax pmax
comp=Z,11nm,1.0s
BILL Bilibino 74.42 11 *i*P **P 17 16 48.8 +1.8**
BILL pmax pmax
comp=Z,2.0nm,1.2s
VNDA Vanda 75.16 174 LR LR 17 48 58.5
comp=Z,63nm,19.5s,baz=226,slow=35
TIXI Tiksi 75.22 358 *i*P **P 17 16 51.6 +0.1**
TIXI pmax pmax
comp=Z,2.0nm,1.5s
BRVK Borovoye 78.76 326 *e*P **P 17 17 12.9 +1.2**
comp=Z,6.0nm,0.9s
BRVK Borovoye 78.76 326 *d i*P **P 17 17 12.2 +0.4**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
MLY Manley 86.03 24 *e*P P 17 17 51.8 +2.4
comp=Z,27nm,2.0s
IL1 Eielson Array 87.55 25 *e*P **P 17 17 57.5 +0.8**
ILAR Eielson Array 87.55 25 P **P 17 17 57.5 +0.7**
comp=Z,1.2nm,0.6s,baz=265,slow=4.4,SNR=17
SYO Syowa Base 89.16 201‖ *e*pP pP 17 18 24.8 -6.3
GNI Garni 93.53 310 *i*P **P 17 18 25.9 +0.5**
GNI pmax pmax
comp=Z,47nm,1.1s
LANS Liptovska Anna 110.07 321 *e*P **Pdif 17 19 38.2 -0.9**
VYHS Vyhne 110.68 321 *e*P **Pdif 17 19 48.5 +6.8**
ACSO Alum Creek Sta 129.06 39 *e*PKPdf **PKiKP 17 24 22.4 +4.7**
TORD Torodi Ar. Bea 134.25 285 PKP **PKiKP 17 24 28.8 0.0**
comp=Z,0.4nm,0.7s,baz=129,slow=1.4,SNR=2.4
PB11 IPOC Station P 145.47 133 *e*PKPdf **PKiKP 17 24 51.2 -0.6**
MNMC Minye Minye 145.91 132 *e*PKPdf **PKiKP 17 24 53.4 +0.5**
CPUP Villa Florida 147.46 157 PKPbc **PKPab 17 24 56.9 +1.3**
comp=Z,2.8nm,0.6s,baz=241,slow=3.1,SNR=7.1
LPAZ La Paz 148.75 130 PKPbc **PKPab 17 25 01.3 -0.5**
comp=Z,2.4nm,1.0s,baz=298,slow=3.0,SNR=5.4
LPAZ La Paz 148.75 130 *e*PKPbc **PKPab 17 25 02.8 +1.0**
LPAZ La Paz 148.75 130 *e*PKP2 **PKPab 17 25 02.8 +1.0**

MEX 23 17:22:54.5±0.3, 24°.86N×110°.34W, h10km, MD3.8, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**0.75**	**178**	*e*P	Pg	17 23 07.1	-1.9
	baz=358,slow=4.1						
LPIG				*i*S	Sg	17 23 17.0	-1.8
SLBS	**Sierra La Lagu**	**1.22**	**163**	*e*P	Pn	17 23 15.5	-2.2
SLBS				*e*S	Sb	17 23 31.6	-2.0

JMA 23 17:23:58.8±0.1, 38°.63N×142°.10E, h35km±1km, M3.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKMT	**Kesennumamotoy**	**0.52**	**290**	P	Pn	17 24 09.6	-0.2
JKMT				S	Sn	17 24 16.9	-0.5
OFUJ	**Ofunato**	**0.56**	**323**	P	Pn	17 24 10.3	0.0
OFUJ				S	Sn	17 24 17.9	-0.5
JIKH	**Ishinomakikobu**	**0.59**	**238**	P	Pn	17 24 10.5	-0.2
JIKH				S	Sn	17 24 18.5	-0.6
JIO	**Ouri**	**0.61**	**254**	P	Pn	17 24 10.8	-0.2
JIO				S	Sn	17 24 18.9	-0.8
JMK	**Ichinoseki**	**0.76**	**295**	P	Pn	17 24 13.1	+0.1
JMK				S	Sn	17 24 23.2	0.0
JOM	**Ohasama**	**1.05**	**323**	P	Pn	17 24 17.5	+0.5
JOM				S	Sn	17 24 30.9	+0.4
JOU	**Okura**	**1.16**	**257**	P	Pn	17 24 19.1	+0.6
JOU				S	Sn	17 24 34.1	+1.0
JMM	**Marumori**	**1.28**	**234**	P	Pn	17 24 20.1	-0.1
JMM				*e*S	Sn	17 24 36.1	0.0
JTH	**Tanohata**	**1.32**	**352**	P	Pn	17 24 20.9	+0.2
JRG	**Rokugo**	**1.38**	**304**	P	Pn	17 24 22.6	+1.1
JYK	**Kaneyama**	**1.39**	**282**	P	Pn	17 24 22.6	+0.9
MAT	**Matsushiro**	**3.73**	**237**	P	Pn	17 24 56.1	+2.2

*ISCJB **23** 17:36:03.6±1.0, 12°.9N±0°.1×93°.3E±0°.1, h10km, mb3.5/6, Error ellipse: s-maj=18.7km s-min=13.3km az=35.8*
*IDC **23** 17:36:03.5±1.3, 12°.83N×93°.16E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.5/33, mbtmp3.5/7, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/36, Error ellipse: s-maj=42.6km s-min=20.2km az=61.0*
ISC 23 17:36:04.9±1.2, 12°.8N±0°.1×93°.3E±0°.1, h10km, n11, σ2§25/11, mb3.4/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDT	**SRDT**	**5.92**	**74**	P	**Sb**	**17 38 57.0**	**-2.3**
	19nm,0.8s						
CMAR	**Chiang Mai Arr**	**7.88**	**43**	Pn	**Pn**	**17 38 00.6**	**+0.9**
	0.3nm,0.3s,baz=236,slow=15,SNR=20						
CMAR				Sn	**Sn**	**17 39 26.2**	**-2.8**
	0.2nm,0.3s,baz=236,slow=30,SNR=6.6						
CHTO	**Chiang Mai**	**8.14**	**42**	P	**Sn**	**17 39 38.8**	**+3.4**
	23nm,0.9s						
CMMT	**Chiang Mai**	**8.14**	**42**	P	**Sn**	**17 39 38.7**	**+3.3**
BRDH	**Bariadhala**	**9.98**	**351**	LR	LR	17 42 58.9	
	comp=Z,96nm,18.2s,baz=212,slow=42						
MKAR	**Makanchi Array**	**35.16**	**347**	P	**P**	**17 42 57.9**	**-1.1**
	1.0nm,0.8s,baz=166,slow=8.0,SNR=13						
SONM	**Songino Array**	**36.65**	**15**	P	**P**	**17 43 11.2**	**-0.7**
	0.3nm,0.6s,baz=205,slow=6.4,SNR=2.9						
ZALV	**Zalesovo Beam**	**41.63**	**352**	P	**P**	**17 43 52.4**	**-0.8**
	0.7nm,0.3s,baz=176,slow=9.5,SNR=2.5						
WRA	**Warramunga Arr**	**51.87**	**128**	P	**P**	**17 45 15.0**	**+1.1**
	0.2nm,0.6s,baz=309,slow=8.0,SNR=2.8						
ASAR	**Alice Springs**	**53.76**	**132**	P	**P**	**17 45 28.6**	**+0.7**
	0.2nm,0.7s,baz=310,slow=6.7,SNR=2.7						
GERES	**GERESS Array B**	**73.64**	**317**	P	**P**	**17 47 38.8**	**-0.1**
	0.3nm,0.5s,baz=71,slow=7.0,SNR=3.2						

*ISCJB **23** 17:37:21.1±0.8, 20°.6S±0°.2×178°.3W±0°.2, h587km, mb3.5/8, Error ellipse: s-maj=26.9km s-min=15.0km az=147.5*
*IDC **23** 17:37:22.3±3.9, 20°.65S×178°.33W, h592km±47km, mb3.0/8, mb1 3.3/10, mb1mx3.1/27, mbtmp4.0/10, Error ellipse: s-maj=36.7km s-min=22.0km az=167.0*
ISC 23 17:37:22.0±0.9, 20°.6S±0°.2×178°.4W±0°.2, h587km, n14, σ1§12/15, mb3.6/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.21**	**261**	P	**P**	**17 40 23.5**	**+0.2**
	0.4nm,0.3s,baz=53,slow=19,SNR=3.3						
URZ	**Urewera**	**18.01**	**192**	P	**P**	**17 40 57.8**	**-0.3**
	0.5nm,0.3s,baz=326,slow=3.6,SNR=3.2						
CTA	**Charters Tower**	**33.12**	**265**	P	**P**	**17 43 11.5**	**+0.3**
	8.0nm,1.1s,baz=87,slow=12,SNR=3.4						
STKA	**Stephens Creek**	**37.41**	**244**	P	**P**	**17 43 47.2**	**+0.7**
	1.1nm,0.5s,baz=90,slow=12,SNR=4.5						
ASAR	**Alice Springs**	**44.14**	**257**	P	**P**	**17 44 40.0**	**0.0**
	1.2nm,0.5s,baz=89,slow=8.6,SNR=45						
ASAR				PcP	**PcP**	**17 46 11.8**	**-0.1**
	0.3nm,0.6s,baz=100,slow=4.6,SNR=4.8						
ASAR				S	**S**	**17 50 29.1**	**-2.2**
	0.9nm,0.9s,baz=100,slow=16,SNR=5.6						
WRA	**Warramunga Arr**	**44.23**	**262**	P	**P**	**17 44 40.4**	**-0.2**
	0.5nm,0.3s,baz=96,slow=7.7,SNR=54						
NVAR	**Mina Array Bea**	**81.36**	**44**	P	**P**	**17 48 38.7**	**+0.1**
	0.4nm,0.6s,baz=232,slow=6.7,SNR=2.5						
ILAR	**Eielson Array**	**88.51**	**13**	P	**P**	**17 49 11.5**	**-0.9**
	0.5nm,0.9s,baz=229,slow=6.0,SNR=4.6						
PDAR	**Pinedale Array**	**89.30**	**43**	P	**P**	**17 49 16.7**	**-0.1**
	0.2nm,0.5s,baz=226,slow=4.9,SNR=3.8						
CMAR	**Chiang Mai Arr**	**89.81**	**290**	P	**P**	**17 49 21.1**	**+1.6**
	0.3nm,0.3s,baz=104,slow=3.8,SNR=2.5						
MKAR	**Makanchi Array**	**111.02**	**313**	PKiKP	**PKiKP**	**17 54 47.5**	**-1.9**
	0.1nm,0.4s,baz=116,slow=1.4,SNR=3.1						
AKASG	**Malin Array Be**	**142.94**	**331**	PKhKP	PKPpre	17 55 46.1	
	1.3nm,0.4s,baz=43,slow=4.3,SNR=14						
BRTR	**Keskin Array B**	**146.65**	**312**	PKPbc	**PKPdf**	**17 55 57.9**	**+1.6**
	0.4nm,0.6s,baz=138,slow=5.4,SNR=3.2						
GERES	**GERESS Array B**	**150.21**	**344**	PKPbc	**PKPbc**	**17 56 07.2**	**-0.4**
	0.4nm,0.6s,baz=44,slow=3.0,SNR=4.5						

*ISCJB **23** 17:58:27.5±0.7, 38°.44N±0°.05×57°.26E±0°.07, h10km, Error ellipse: s-maj=7.9km s-min=6.5km az=21.5*
*TEH **23** 17:58:28.4, 38°.33N×57°.39E, h10km, ML3.5*
*THR **23** 17:58:30.4, 38°.28N×57°.26E, h14km, ML2.9*
ISC 23 17:58:27.5±0.9, 38°.42N±0°.05×57°.40E±0°.05, h10km, n20, σ1§76/24, 4C, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJRD	**Bojnurd**	**0.72**	**180**	*e*AML	AML	17 58 53.7	
	comp=E,673nm,0.3s						
BJRD				*e*Pg	**Pb**	**17 58 41.9**	**-0.3**
BJRD				*e*Sg	**Sb**	**17 58 50.3**	**-1.9**
MRVT	**Maraveh tapeh**	**1.29**	**234**	*e*Pg	**Pn**	**17 58 51.0**	**-0.6**
MRVT	**Maraveh tapeh**	**1.29**	**234**	*e*Pg	**Pn**	**17 58 51.0**	**-0.6**
MRVT				*e*Sg	**Sb**	**17 59 06.3**	**-2.1**
IEMG	**Emamgholi**	**1.41**	**135**	*e*Pg	**Pn**	**17 58 53.0**	**-0.5**
IEMG				IAMB	IAmb	17 59 21.3	
	comp=Z,9μm,0.4s						
ISFR	**Sfrayin**	**1.44**	**161**	*e*Pg	**Pn**	**17 58 53.6**	**-0.4**
ISFR				IAMB	IAmb	17 59 20.0	
	comp=Z,16μm,0.5s						
IKRD	**Kardeh**	**1.86**	**151**	IAMB	IAmb	17 59 52.5	
	comp=Z,3μm,0.3s						
IKRD				*e*Pn	Pg	17 59 09.0	+5.7
SBZV	**Sabzevar**	**2.03**	**175**	IAMB	IAmb	17 59 05.2	
	comp=Z,0.0nm,0.5s						
SBZV				*e*Pn	**Pb**	**17 59 03.7**	**-1.0**
IAKL	**Akhelmad**	**2.11**	**149**	*e*Pn	**Pb**	**17 59 05.2**	**-0.8**
IAKL				IAMB	IAmb	17 59 51.9	
	comp=Z,3μm,0.4s						
IPAY	**Payeh**	**2.34**	**147**	IAMB	IAmb	17 59 46.2	
	comp=Z,3μm,0.4s						
IPAY				*e*Pn	**Pb**	**17 59 08.9**	**-1.0**
SHRO	**Shahrood**	**2.67**	**205**	*e*Pn	**Pn**	**17 59 12.4**	**+1.7**
SHRO	**Shahrood**	**2.67**	**205**	*e*Pn	**Pn**	**17 59 12.4**	**+1.7**
SHRO				*e*Sg	**Sb**	**17 59 47.9**	**-0.5**
IMYA	**Miami**	**2.99**	**133**	*e*Pn	**Pn**	**17 59 17.1**	**+2.0**
IMYA				IAMB	IAmb	18 00 08.8	
	comp=Z,2μm,0.6s						
IANJ	**Anjilo**	**4.06**	**225**	*e*Pn	**Pn**	**17 59 32.4**	**+2.5**
IANJ				IAMB	IAmb	18 00 42.1	
	comp=Z,373nm,0.6s						
IALA	**Alasht**	**4.34**	**239**	*e*Pn	**Pn**	**17 59 35.9**	**+2.0**
IALA				IAMB	IAmb	18 00 34.0	
	comp=Z,479nm,0.4s						
TNSJ	**Nastanj**	**4.49**	**188**	*e*Pn	**Pn**	**17 59 37.5**	**+1.7**
TKDS	**Koohdasht(Taba**	**4.80**	**183**	*e*Pn	**Pn**	**17 59 41.2**	**+1.2**
TPRV	**Parvadeh(Tabas**	**5.41**	**186**	*e*Pn	**Pn**	**17 59 49.7**	**+1.3**
IMON	**Monand**	**5.53**	**160**	*e*Pn	**Pn**	**17 59 52.7**	**+2.6**
IMON				IAMB	IAmb	18 00 20.5	
	comp=E,341nm,0.6s						
AB31	**Akbulak array**	**10.99**	**9**	⇑Pn	**Pn**	**18 01 06.6**	**+2.0**
	comp=E,0.3nm,0.4s,baz=188,slow=12,SNR=14						
AB31				⇑Sn	**Sn**	**18 03 04.1**	**-3.4**
	comp=E,1.3nm,0.5s,baz=198,slow=24,SNR=4.4						
AKTO	**Aktyubinsk**	**12.02**	**2**	⇑Pn	**Pn**	**18 01 20.5**	**+1.7**
	comp=E,3.4nm,0.8s						
AKTO				⇑Sn	**Sn**	**18 03 31.6**	**-1.3**
	comp=E,3.4nm,0.6s						

*ISCJB **23** 18:01:52.4±0.3, 37°.72N±0°.04×118°.71E±0°.03, h10km, mb4.4/33, MS3.3/2, Error ellipse: s-maj=5.6km s-min=3.3km az=159.2*
*IDC **23** 18:01:52.6±0.7, 37°.69N×118°.67E, h0km, mb4.1/15, mb1 4.1/22, mb1mx4.1/46, mbtmp4.0/22, ML3.2/7, MS3.2/7, Ms1 3.2/7, ms1mx2.9/34, Error ellipse: s-maj=18.3km s-min=12.3km az=2.0*
*BJI **23** 18:01:52.6, 37°.61N×118°.61E, h7km, mb4.2/21, mB4.5/15, ML4.2/22, Ms3.9/19, Ms7 3.7/18*
*NEIC **23** 18:01:54.5±0.4, 37°.75N×118°.68E, h10km, mb4.6/15, ML4.2(BJI), Error ellipse: s-maj=9.2km s-min=6.6km az=167.0*
ISC 23 18:01:53.4±0.4, 37°.58N±0°.03×118°.71E±0°.03, h10km, n80, σ2§21/99, mb4.4/33, 4D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIA	**Tai'an**	**1.86**	**223**	Pn	**Pn**	**18 02 24.3**	**-1.1**
TIA				Pg	**Pb**	**18 02 26.3**	**-1.3**
TIA				Sg	**Sg**	**18 02 51.8**	**-1.5**
TIA				smax	smax		
	comp=N,220nm,0.4s						
TIA				smax	smax		
	comp=E,400nm,0.8s						
TIA	**Tai'an**	**1.86**	**223**	Pn	**Pn**	**18 02 24.3**	**-1.1**
TIA				Pg	**Pb**	**18 02 26.3**	**-1.3**
TIA				Sg	**Sg**	**18 02 51.8**	**-1.5**
DL2	**Dalian**	**2.66**	**59**	‖Pn	**Pn**	**18 02 37.6**	**+1.3**
DL2				Pg	**Pg**	**18 02 43.4**	**-0.9**
DL2				Sn	**Sn**	**18 03 08.5**	**0.0**
DL2				Sg	**Sg**	**18 03 18.4**	**-0.3**
DL2				smax	smax		
	comp=N,1μm,0.6s						
DL2				smax	smax		
	comp=E,2μm,0.6s						
DL2	**Dalian**	**2.66**	**59**	‖Pn	**Pn**	**18 02 37.6**	**+1.3**
DL2				Pg	**Pg**	**18 02 43.4**	**-0.9**
DL2				Sn	**Sn**	**18 03 08.5**	**0.0**
DL2				Sg	**Sg**	**18 03 18.4**	**-0.3**
BJT	**Baijiatuau**	**3.14**	**322**	*e*Pn	**Pn**	**18 02 41.2**	**-1.8**
BJI	**Beijing**	**3.15**	**322**	Pn	**Pn**	**18 02 41.1**	**-2.0**
BJI				Pg	**Pb**	**18 02 47.3**	**-2.3**
BJI				Sg	**Sb**	**18 03 27.8**	**-0.3**
BJI				smax	smax		
	comp=N,2μm,0.5s						
BJI				smax	smax		
	comp=E,900nm,0.6s						
TIY	**Taiyuan**	**4.98**	**273**	Pn	**Pn**	**18 03 10.6**	**+2.3**
TIY				Sg	**Sg**	**18 04 28.9**	**-4.4**
TIY				smax	smax		
	comp=N,260nm,0.8s						
TIY				smax	smax		
	comp=E,150nm,0.5s						
NJ2	**Nanjing**	**5.52**	**179**	Pg	**Pg**	**18 03 38.1**	**-1.0**
NJ2				Sn	**Sb**	**18 04 29.3**	**-6.8**
NJ2				Sg	**Sg**	**18 04 54.8**	**+4.3**
NJ2				smax	smax		
	comp=N,130nm,0.7s						
NJ2				smax	smax		
	comp=E,280nm,0.9s						
SNY	**Shenyang**	**5.67**	**40**	‖Pg	**Pg**	**18 03 41.3**	**-0.6**
SNY				Sg	**Sg**	**18 04 52.8**	**-2.5**
SNY				smax	smax		
	comp=N,230nm,0.8s						
SNY				smax	smax		
	comp=E,180nm,0.7s						
KS15	**Wonju Array Si**	**7.30**	**88**	*e*Pn	**Pn**	**18 03 40.4**	**+0.4**
KS01	**Wonju Array Si**	**7.30**	**88**	*e*Pn	**Pn**	**18 03 40.9**	**+0.7**
KSRS	**Korea Array**	**7.33**	**88**	Pn	**Pn**	**18 03 41.3**	**+0.8**
	comp=E,1.4nm,0.3s,baz=272,slow=14,SNR=15						
KSRS				Sn	**Sn**	**18 04 56.8**	**-6.9**
	comp=E,1.5nm,0.3s,baz=265,slow=13,SNR=4.2						
KSRS				Lg	Lg	18 05 44.4	
	comp=E,5.6nm,0.3s,baz=268,slow=29,SNR=13						
KSRS				LR	LR	18 06 48.9	
	comp=E,206nm,18.7s,baz=284,slow=40						
BTO	**Baotou**	**7.40**	**297**	*e*Pg	Pg	18 04 06.5	-8.6
BTO				Sg	**Sb**	**18 05 35.4**	**+5.1**
WHN	**Wuhan**	**7.89**	**209**	‖P	Pn	18 03 53.4	+5.1
WHN				S	**Sn**	**18 05 22.4**	**+4.8**
WHN				LR	LR		
	comp=E,1μm,3.8s						
WHN				LR	LR		
	comp=E,720nm,6.7s						
WHN				LR	LR		
	comp=E,890nm,5.6s						
CN2	**Changchun**	**8.05**	**37**	P	**Pn**	**18 03 51.1**	**+0.7**
CN2				smax	smax		
	comp=E,70nm,0.9s						
CN2				smax	smax		
	comp=E,70nm,0.9s						
XAN	**Xi'an**	**8.70**	**249**	P	**Pn**	**18 03 59.4**	**+0.1**
XAN				pP	Pg	18 04 04.6	-35
XAN				pmax	pmax		
	comp=E,8.0nm,0.7s						
XAN				pmax	pmax		
	comp=E,150nm,6.5s						
XAN				LR	LR		
	comp=E,310nm,9.5s						
XAN				LR	LR		
	comp=E,270nm,8.2s						
XAN				LR	LR		
	comp=E,220nm,12.0s						
XAN	**Xi'an**	**8.70**	**249**	*e*Pn	**Pn**	**18 03 59.7**	**+0.4**
JNU	**Nakatsue**	**10.89**	**110**	Pn	**Pn**	**18 04 30.8**	**+1.4**
	comp=E,0.2nm,0.3s,baz=208,slow=14,SNR=2.1						
JNU				Lg	Lg	18 07 39.0	
	comp=E,0.2nm,0.3s,baz=331,slow=19,SNR=2.2						
JNU				LR	LR	18 09 02.3	
	comp=E,181nm,19.3s,baz=295,slow=39						
USRK	**Ussuriysk Ar.**	**12.03**	**52**	Pn	**Pn**	**18 04 44.9**	**+0.1**
	comp=E,0.3nm,0.3s,baz=249,slow=15,SNR=7.4						
USRK				Lg	Lg	18 08 11.7	
	comp=E,0.4nm,0.3s,baz=244,slow=25,SNR=5.0						
ULN	**Ulaanbaatar**	**13.36**	**324**	*e*Pn	**Pn**	**18 05 01.2**	**-2.0**
SONA0	**Songino Array**	**13.65**	**323**	*e*Pn	**Pn**	**18 05 05.1**	**-2.1**
SONA0				*e*		18 08 54.6	
SONM	**Songino Array**	**13.65**	**323**	Pn	**Pn**	**18 05 05.1**	**-2.1**
	comp=E,0.2nm,0.3s,baz=135,slow=13,SNR=12						
SONM				Lg	Lg	18 08 54.6	
	comp=E,0.2nm,0.3s,baz=155,slow=18,SNR=6.2						
SONM				LR	LR	18 10 19.8	
	comp=E,48nm,18.0s,baz=164,slow=37						
CD2	**Chengdu**	**14.03**	**246**	*e*P	**Pn**	**18 05 12.0**	**-0.4**
CD2				S	**Sn**	**18 07 48.5**	**+0.3**
CD2				pmax	pmax		
	comp=E,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=E,120nm,4.6s						
CD2				LR	LR		
	comp=E,460nm,9.9s						
CD2				LR	LR		
	comp=E,280nm,9.3s						
CD2				LR	LR		
	comp=E,280nm,8.0s						
GTA	**Gaotai**	**14.91**	**283**	*e*P	**Pn**	**18 05 23.3**	**-1.1**
GTA				pP	P	18 05 28.8	-1.3
GTA				sP		18 05 31.6	
GTA				pmax	pmax		
	comp=E,2.0nm,1.0s						
GTA				pmax	pmax		
	comp=E,110nm,5.8s						
GTA				LR	LR		
	comp=E,190nm,11.7s						
GTA				LR	LR		
	comp=E,260nm,16.2s						
KLR	**Kul'dur**	**14.99**	**35**	Pn	**Pn**	**18 05 25.9**	**+0.6**
	comp=E,0.1nm,0.3s,baz=233,slow=12,SNR=13						
KLR				Lg	Lg	18 09 49.4	
	comp=E,0.1nm,0.3s,baz=

GYA	**Guiyang**	**15.06**	**226**	P	**P**	**18 05 32.4**	**+0.6**
GYA				PP	sP	18 05 44.3	+8.4
GYA				S	**S**	**18 08 21.6**	**-9.3**
GYA				pmax	pmax		
	comp=E,10.0nm,0.7s						
GYA				pmax	pmax		
	comp=E,90nm,4.5s						
GYA				LR	LR		
	comp=E,460nm,12.0s						
GYA				LR	LR		
	comp=E,420nm,12.9s						
GYA				LR	LR		
	comp=E,410nm,12.7s						
MAJO	**Matsushiro**	**15.61**	**88**	*e*Pn	**Pn**	**18 05 33.1**	**-0.4**
MJAR	**Matsushiro Arr**	**15.61**	**88**	Pn	**Pn**	**18 05 33.1**	**-0.4**
	comp=E,0.0nm,0.3s,baz=288,slow=14,SNR=2.6						
MJAR				LR	LR	18 10 46.8	
	comp=E,72nm,21.1s,baz=310,slow=34						
KMI	**Kunming**	**18.41**	**232**	P	**P**	**18 06 14.8**	**+5.8**
KMI				pP	sP	18 06 17.0	+3.8
KMI				sP	pP	18 06 18.8	+6.9
KMI				pmax	pmax		
	comp=E,13nm,0.6s						
KMI				pmax	pmax		
	comp=E,69nm,3.8s						
KMI				LR	LR		
	comp=E,300nm,16.7s						
KMI				LR	LR		
	comp=E,250nm,16.1s						
KMI				LR	LR		
	comp=E,140nm,14.9s						
ASAJ	**Asahikawa**	**19.18**	**63**	P	**Pn**	**18 06 18.1**	**+0.1**
	comp=E,0.3nm,0.3s,baz=277,slow=10,SNR=8.0						
ASAJ				LR	LR	18 13 44.3	
	comp=E,51nm,18.4s,baz=202,slow=37						
LSA	**Lhasa**	**24.19**	**259**	*e*P	**P**	**18 07 12.4**	**+1.7**
	comp=E,7.7nm,0.8s						
WMQ	**Urumqi**	**24.23**	**295**	*e*P	**P**	**18 07 11.3**	**+0.8**
CMMT	**Chiang Mai**	**25.46**	**228**	P	**P**	**18 07 25.8**	**+4.2**
	comp=E,3.6nm,0.9s						
CHTO	**Chiang Mai**	**25.46**	**228**	*e*P	**P**	**18 07 24.9**	**+3.2**
	comp=E,2.4nm,0.8s						
CHTO	**Chiang Mai**	**25.46**	**228**	P	**P**	**18 07 25.8**	**+4.1**
	comp=E,16nm,0.9s						
SHL	**Shillong**	**25.71**	**250**	*e*P	**P**	**18 07 25.6**	**+1.6**
	comp=E,24nm,1.1s						
CM31	**Chiang Mai Arr**	**25.74**	**228**	*e*P	**P**	**18 07 27.4**	**+3.2**
CMAR	**Chiang Mai Arr**	**25.74**	**228**	P	**P**	**18 07 26.4**	**+2.2**
	comp=E,3.1nm,0.7s,baz=31,slow=8.2,SNR=34						
CM01	**Chiang Mai Arr**	**25.75**	**228**	*e*P	**P**	**18 07 26.9**	**+2.5**
BRDH	**Bariadhala**	**27.60**	**245**	LR	LR	18 19 54.2	
	comp=E,90nm,18.6s,baz=80,slow=39						
MK01	**Makanchi Array**	**28.29**	**301**	*e*P	**P**	**18 07 47.4**	**+0.5**
MK31	**Makanchi Array**	**28.29**	**301**	*e*P	**P**	**18 07 47.5**	**+0.4**
MK32	**Makanchi Array**	**28.29**	**301**	*e*P	**P**	**18 07 48.0**	**+0.9**
MK32				*e*PcP	**PcP**	**18 10 59.6**	**-0.2**
MKAR	**Makanchi Array**	**28.29**	**301**	P	**P**	**18 07 48.0**	**+0.9**
	comp=E,1.7nm,0.7s,baz=97,slow=11,SNR=19						
MKAR				PcP	**PcP**	**18 10 59.6**	**-0.2**
	comp=E,0.4nm,0.5s,baz=108,slow=1.2,SNR=6.6						
ZALV	**Zalesovo Beam**	**28.40**	**316**	P	**P**	**18 07 47.4**	**-0.4**
	comp=E,0.6nm,0.5s,baz=93,slow=13,SNR=3.1						
ZAA1	**Zalesovo Array**	**28.40**	**316**	*e*P	**P**	**18 07 47.4**	**-0.4**
MAKZ	**Makanchi**	**28.51**	**301**	*e*P	**P**	**18 07 50.0**	**+1.1**
	comp=E,3.3nm,1.0s						
KURK	**Kurchatov**	**31.22**	**308**	*e*P	**P**	**18 08 14.0**	**+1.2**
KURBB	**Kurchatov Arra**	**31.26**	**308**	P	**P**	**18 08 14.0**	**+0.8**
	comp=E,2.5nm,0.7s,baz=100,slow=9.3,SNR=10						
TARG	**Taragay, Kyrgy**	**31.55**	**291**	*e*P	**P**	**18 08 18.1**	**+1.8**
	comp=E,5.1nm,1.1s						
AAK	**Ala-Archa**	**33.89**	**293**	P	**P**	**18 08 36.7**	**+0.1**
	comp=E,1.8nm,0.8s,baz=144,slow=7.6,SNR=6.6						
TIXI	**Tiksi**	**34.54**	**6**	P	**P**	**18 08 42.3**	**+0.7**
	comp=E,1.3nm,0.3s,baz=162,slow=3.2,SNR=9.7						
BRVK	**Borovoye**	**36.64**	**311**	*e*P	**P**	**18 09 01.0**	**+1.2**
	comp=E,3.1nm,0.9s						
CHGR	**Chuyangaron**	**38.61**	**287**	*e*P	**P**	**18 09 17.8**	**+1.0**
	comp=E,17nm,0.8s						
CISI	**Cisompet, Garu**	**46.04**	**195**	*e*P	P	18 10 22.1	+4.7
	comp=E,51nm,0.7s						
KBZ	**Khabaz**	**55.98**	**302**	P	**P**	**18 11 31.6**	**-0.3**
	comp=E,3.0nm,0.8s,baz=78,slow=2.8,SNR=9.4						
KIV	**Kislovodsk**	**56.04**	**302**	*e*P	**P**	**18 11 33.2**	**+0.8**
	comp=E,14nm,0.8s						
FIA0	**FINESS Array S**	**59.00**	**326**	*e*P	**P**	**18 11 51.6**	**-1.2**
FINES	**FINESS Array B**	**59.00**	**326**	P	**P**	**18 11 51.6**	**-1.2**
	comp=E,3.8nm,0.9s,baz=56,slow=7.8,SNR=7.9						
RIDG	**Independ'e Rid**	**59.72**	**31**	*e*P	**P**	**18 11 56.7**	**-1.3**
	comp=E,38nm,0.6s						
DOT	**Dot Lake**	**60.08**	**31**	*e*P	**P**	**18 11 59.0**	**-1.4**
	comp=E,28nm,0.8s						
AKASG	**Malin Array Be**	**61.75**	**314**	P	**P**	**18 12 10.9**	**-1.0**
	comp=E,1.0nm,0.6s,baz=57,slow=6.7,SNR=6.8						
AKBB	**Malin Array Si**	**61.75**	**314**	*e*P	**P**	**18 12 10.7**	**-1.2**
	comp=E,9.9nm,1.5s						
ASAR	**Alice Springs**	**62.58**	**164**	P	**P**	**18 12 18.9**	**+1.3**
	comp=E,1.6nm,0.7s,baz=338,slow=7.3,SNR=3.6						
BR101	**Keskin Array S**	**63.94**	**301**	*e*P	**P**	**18 12 27.3**	**+0.4**
BRTR	**Keskin Array B**	**63.94**	**301**	P	**P**	**18 12 27.3**	**+0.4**
	comp=E,1.5nm,0.7s,baz=100,slow=3.8,SNR=7.7						
BRTR				LR	LR	18 46 19.5	
	comp=E,15nm,18.2s,baz=286,slow=42						
BUR04	**Bucovina Ar. S**	**65.52**	**312**	*e*P	**P**	**18 12 37.0**	**+0.1**
NB2	**NORSAR Subarra**	**65.53**	**329**	P	**P**	**18 12 36.3**	**-0.5**
	comp=Z,7.9nm,1.0s,baz=57,slow=6.9						
NB200	**NORSAR Array S**	**65.53**	**329**	*e*P	**P**	**18 12 36.2**	**-0.5**
NOA	**NORSAR Array B**	**65.53**	**329**	P	**P**	**18 12 36.2**	**-0.5**
	comp=E,2.0nm,0.7s,baz=56,slow=6.4,SNR=12						
VTS	**Vitosha**	**69.31**	**308**	*e*P	**P**	**18 13 00.3**	**-0.8**
	comp=Z,5.4nm,0.9s						
CLL	**Collm**	**70.26**	**320**	*e*P	**P**	**18 13 07.0**	**+0.4**
GERES	**GERESS Array B**	**71.33**	**318**	P	**P**	**18 13 13.8**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=65,slow=7.7,SNR=3.2						
YKW3	**Yellowknife Ar**	**71.44**	**23**	*e*P	**P**	**18 13 14.1**	**+0.5**
	comp=Z,3.0nm,0.8s						
YKA	**Yellowknife Ar**	**71.49**	**23**	P	**P**	**18 13 14.5**	**+0.7**
	comp=Z,2.8nm,0.8s,baz=320,slow=5.7,SNR=40						
YKB5	**Yellowknife Ar**	**71.49**	**23**	*e*P	**P**	**18 13 13.0**	**-0.9**
NRS	**Narsarsuaq**	**80.76**	**352**	*e*P	**P**	**18 14 07.0**	**+0.4**
	comp=Z,119nm,1.1s						
HLID	**Hailey**	**85.96**	**36**	*e*P	**P**	**18 14 36.4**	**+2.3**
	comp=Z,2.2nm,0.8s						
PDAR	**Pinedale Array**	**88.77**	**33**	P	**P**	**18 14 48.6**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=335,slow=4.0,SNR=3.0						
RSSD	**Black Hills**	**89.94**	**29**	*e*P	**P**	**18 14 54.9**	**+1.8**
	comp=Z,10.0nm,1.1s						

IDC ***23*** *18:03:42.8±1.9, 7.59S×127.54E, h130km±17km, mb3.4/5, mb1 3.6/7, mb1mx3.4/31, mbtmp4.0/7, Error ellipse: s-maj=17.4km s-min=16.2km az=84.0*

ISC 23 18:03:43.6±0.6, 7.64S±0.09×127.60E±0.09, h150km, n21, σ1s71/23, mb4.1/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BATI	**Baumata**	**4.65**	**236**	P		**Pn**	**18 04 52.6**	**+0.1**
	181nm,0.3s,baz=118,slow=3.4,SNR=324							
BATI				S		**Sn**	**18 05 43.9**	**-2.2**
	20nm,0.3s,baz=72,slow=16,SNR=4.3							
SIJI	**Sorong**	**7.65**	**29**	P		**Pn**	**18 05 30.5**	**-2.0**
	4.7nm,0.3s,baz=228,slow=23,SNR=28							
FITZ	**Fitzroy Crossi**	**10.57**	**190**	P		Pn	18 06 05.0	-6.2
	0.9nm,0.3s,baz=5.8,slow=10,SNR=47							
FITZ				S		Sn	18 07 56.4	-12
	1.4nm,0.3s,baz=90,slow=16,SNR=3.6							
WRA	**Warramunga Arr**	**13.87**	**153**	P		Pn	18 06 47.8	-6.2
	1.0nm,0.3s,baz=325,slow=12,SNR=46							
WRA				S		Sn	18 09 11.7	-16
	2.9nm,0.3s,baz=330,slow=23,SNR=10							
ASAR	**Alice Springs**	**17.05**	**160**	P		**P**	**18 07 30.9**	**-1.7**
	0.5nm,0.3s,baz=334,slow=11,SNR=44							
ASAR				S		S	18 10 29.2	-14
	0.4nm,0.3s,baz=328,slow=16,SNR=5.3							
PMG	**Port Moresby**	**19.43**	**97**	P		**Pn**	**18 08 01.1**	**-0.2**
	0.7nm,0.3s,baz=119,slow=9.3,SNR=4.3							
STKA	**Stephens Creek**	**27.42**	**153**	P		**P**	**18 09 15.8**	**+0.5**
	2.6nm,0.7s,baz=334,slow=9.1,SNR=6.8							
CMAR	**Chiang Mai Arr**	**38.36**	**313**	P		**P**	**18 10 51.0**	**+0.6**
	0.6nm,0.6s,baz=140,slow=6.9,SNR=7.0							
CMAR				PcP		**PcP**	**18 13 02.3**	**+1.2**
	0.5nm,0.8s,baz=176,slow=4.1,SNR=4.3							
RAMN	**Ramite**	**52.53**	**312**	*e*P		**P**	**18 12 43.6**	**+1.5**
	5.8nm,0.5s							
JIRN	**Jiri**	**53.24**	**313**	*e*P		**P**	**18 12 48.7**	**+1.3**
GUN	**Gumba**	**53.61**	**313**	*e*P		**P**	**18 12 51.1**	**+1.0**
PKI	**Pulchoki**	**53.76**	**312**	*e*P		**P**	**18 12 52.7**	**+1.6**
	4.8nm,0.6s							
KOLN	**Koldanda**	**55.20**	**311**	*e*P		**P**	**18 13 02.3**	**+0.9**
	6.9nm,0.7s							
DANN	**Dangsing**	**55.40**	**312**	*e*P		**P**	**18 13 03.6**	**+0.7**
	7.1nm,0.7s							
PYUN	**Piuthan**	**55.83**	**311**	*e*P		**P**	**18 13 06.8**	**+0.9**
	7.6nm,0.7s							
SONM	**Songino Array**	**58.33**	**343**	P		**P**	**18 13 23.5**	**+0.5**
	0.2nm,0.5s,baz=165,slow=6.0,SNR=3.0							
MKAR	**Makanchi Array**	**67.47**	**328**	P		**P**	**18 14 24.7**	**+1.3**
	0.6nm,0.6s,baz=130,slow=8.5,SNR=7.8							
MKAR				pP		**pP**	**18 14 52.8**	**-5.2**
	0.2nm,0.5s,baz=128,slow=8.5,SNR=3.4							
ZALV	**Zalesovo Beam**	**71.12**	**335**	P		**P**	**18 14 45.9**	**+0.3**
	0.4nm,0.3s,baz=157,slow=4.1,SNR=4.1							
TORD	**Torodi Ar. Bea**	**126.59**	**281**	PKP		**PKiKP**	**18 22 30.8**	**+0.2**
	0.4nm,0.6s,baz=85,slow=3.0,SNR=2.8							
CPUP	**Villa Florida**	**145.90**	**172**	PKPbc		**PKPab**	**18 23 07.4**	**+0.6**
	1.0nm,0.5s,baz=44,slow=4.7,SNR=3.5							
LPAZ	**La Paz**	**151.59**	**147**	PKPbc		**PKiKP**	**18 23 23.3**	**+1.0**
	0.6nm,0.5s,baz=74,slow=14,SNR=3.8							
LPAZ				PKPab		**PKPab**	**18 23 33.1**	**+2.3**
	2.0nm,0.6s,baz=220,slow=1.9,SNR=8.7							

SJA ***23*** *18:05:12.8±0.7, 21.38S×66.70W, h246km±5km, ML3.1, MW3.0*

IDC ***23*** *18:05:13.0±1.1, 21.49S×66.53W, h204km±12km, mb3.3/2, mb1 3.4/5, mb1mx3.2/26, mbtmp3.7/5, MS2.5/1, Ms1 2.7/1, ms1mx2.4/10, Error ellipse: s-maj=25.5km s-min=11.9km az=124.0*

ISCJB ***23*** *18:05:14.5±0.4, 21.37S±0.04×66.70W±0.04, h219km, mb3.4/2, Error ellipse: s-maj=6.6km s-min=5.4km az=34.7*

ISC 23 18:05:14.4±0.8, 21.36S±0.05×66.71W±0.05, h219km, n25, σ1s23/33, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YJA	**Yavi**	**1.37**	**127**	*e*P		**Pn**	**18 05 51.0**	**+1.7**
YJA				IAML			18 06 17.6	
	comp=Z,71nm,0.2s							
YJA				*e*S		**S**	**18 06 18.9**	**+2.6**
HJA	**Humahuaca**	**2.20**	**147**	*e*P		**Pn**	**18 05 58.2**	**+1.5**
LVC	**Limon Verde**	**2.40**	**238**	P		**Pn**	**18 05 59.0**	**+0.3**
	comp=Z,2.0nm,0.3s,baz=50,slow=9.1,SNR=16							
LVC				S		**S**	**18 06 31.5**	**-1.7**
	comp=Z,6.6nm,0.3s,baz=135,slow=17,SNR=30							
LVC	**Limon Verde**	**2.40**	**238**	*e*P		**Pn**	**18 05 59.5**	**+0.7**
LVC				*e*S		**S**	**18 06 34.0**	**+0.8**
PB09	**IPOC Station P**	**2.40**	**259**	*e*P		**Pn**	**18 05 59.4**	**+0.8**
PB09				*e*S		**S**	**18 06 33.8**	**+0.8**
PB08	**IPOC Station P**	**2.59**	**297**	*e*P		**Pn**	**18 06 01.9**	**+0.9**
PB01	**IPOC Station P**	**2.62**	**276**	*e*P		**Pn**	**18 06 01.3**	**+0.4**
PB03	**IPOC Station P**	**2.92**	**256**	*e*P		**Pn**	**18 06 04.7**	**+0.5**
PB06	**IPOC Station P**	**2.98**	**243**	*e*P		**Pn**	**18 06 05.4**	**+0.4**
PB07	**IPOC Station P**	**2.98**	**262**	*e*P		**Pn**	**18 06 05.3**	**+0.3**
PB11	**IPOC Station P**	**3.19**	**299**	*e*P		**Pn**	**18 06 08.0**	**+0.5**
AZAP	**Zapla**	**3.23**	**152**	*e*P		**Pn**	**18 06 08.2**	**+0.2**
AZAP				*e*S		**S**	**18 06 49.1**	**-0.6**
AZAP				IAML			18 06 54.3	
	comp=Z,26nm,0.4s							
PB04	**IPOC Station P**	**3.34**	**252**	*e*P		**Pn**	**18 06 09.0**	**-0.2**
MNMCX	**Minye Minye**	**3.50**	**309**	*e*P		**Pn**	**18 06 12.1**	**+0.9**
ALOL	**LOMAS DE OLMED**	**3.51**	**135**	*e*P		**Pn**	**18 06 11.0**	**0.0**
PB05	**IPOC Station P**	**3.57**	**245**	*e*P		**Pn**	**18 06 11.8**	**0.0**
PSGCX	**Pisagua**	**3.65**	**298**	*e*P		**Pn**	**18 06 12.5**	**-0.4**
PSGCX				*e*S		**S**	**18 06 57.5**	**-1.0**
PB10	**IPOC Station P**	**4.16**	**238**	*e*P		**Pn**	**18 06 18.7**	**-0.1**
PB12	**IPOC Station P**	**4.37**	**308**	*e*P		**Pn**	**18 06 21.2**	**-0.3**
LPAZ	**La Paz**	**5.22**	**345**	P		**Pn**	**18 06 34.9**	**+2.2**
	comp=Z,3.6nm,0.3s,baz=139,slow=7.3,SNR=56							
LPAZ				S		**S**	**18 07 35.9**	**+1.4**
	baz=325,slow=16,SNR=4.6							
LPAZ				LR		LR	18 08 46.9	
	comp=Z,47nm,18.1s,baz=242,slow=40							
SIV	**San Ignacio**	**7.55**	**46**	P		**Pn**	**18 07 01.8**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=254,slow=10.0,SNR=10							
SIV				S		**S**	**18 08 23.9**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=180,slow=20,SNR=3.4							
TORD	**Torodi Ar. Bea**	**75.38**	**69**	P		**P**	**18 16 33.5**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=263,slow=5.5,SNR=8.6							
YKA	**Yellowknife Ar**	**91.75**	**340**	P		**P**	**18 17 57.4**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=121,slow=5.8,SNR=3.9							
WRA	**Warramunga Arr**	**134.08**	**208**	PKP		**PKPdf**	**18 24 07.7**	**+1.2**
	comp=Z,0.6nm,1.1s,baz=152,slow=1.9,SNR=7.0							
MKAR	**Makanchi Array**	**144.29**	**37**	PKP		**PKPdf**	**18 24 24.3**	**0.0**
	comp=Z,0.5nm,0.6s,baz=322,slow=3.4,SNR=7.7							

NIED ***23*** *18:28:00, 35.90N×141.00E, h20km, Mw3.4 Best double couple: M0 1.36000×10^14 NP1:ϕs 141.00000°, δ44.00000°, λ140.00000°. NP2:ϕs 262.00000°, δ63.00000°, λ53.00000°.*

JMA 23 18:28:53.4±0.2, 35.92N×141.05E, h18km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHOJ	**Chosi**	**0.27**	**216**	P		Pg	18 28 59.3	-0.1
CHOJ				S		Sg	18 29 03.5	+0.1
JIHU	**Itakohorinouch**	**0.43**	**276**	P		Pb	18 29 02.4	0.0
JIHU				S		Sb	18 29 08.8	+0.2
JSMT	**Sammumatsuo**	**0.56**	**241**	P		Pb	18 29 05.1	+0.4
JSMT				S		Sb	18 29 12.5	+0.2
JHYU	**Hitachinakayam**	**0.56**	**318**	P		Pb	18 29 04.8	+0.1
JHYU				S		Sb	18 29 12.8	+0.4
JYT	**Yasato**	**0.76**	**294**	P		Pb	18 29 07.4	-0.7
JHO	**Hitachi**	**0.79**	**331**	P		Pb	18 29 08.2	-0.4
JHO				S		Sb	18 29 19.2	+0.2
MAT	**Matsushiro**	**2.38**	**286**	P		Pn	18 29 31.6	0.0
MAT				S		Sn	18 29 59.7	-0.6

IDC 23 18:34:55.5±1.9, 7.88S×129.11E, h0km, mb3.5/1, mb1 3.6/5, mb1mx3.4/26, mbtmp3.5/5, ML3.4/4, Error ellipse: s-maj=47.5km s-min=27.7km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BATI	**Baumata**	**5.86**	**246**	Pn		Pn	18 36 24.4	+0.6
	1.8nm,0.3s,baz=37,slow=15,SNR=2.4							
BATI				Sn		Sn	18 37 26.6	-5.0
	0.9nm,0.3s,baz=158,slow=11,SNR=1.9							
FITZ	**Fitzroy Crossi**	**10.71**	**198**	Pn		Pn	18 37 30.0	-0.2
	0.1nm,0.3s,baz=20,slow=11,SNR=8.7							
FITZ				Sn		Sn	18 39 20.1	-11
	0.5nm,0.3s,baz=104,slow=4.2,SNR=7.7							
WRA	**Warramunga Arr**	**13.02**	**158**	Pn		Pn	18 38 01.9	0.0
	0.2nm,0.3s,baz=336,slow=13,SNR=17							
WRA				Sn		Sn	18 40 18.4	-9.2
	0.5nm,0.3s,baz=333,slow=23,SNR=9.0							
ASAR	**Alice Springs**	**16.36**	**164**	Pn		Pn	18 38 46.7	0.0
	0.2nm,0.3s,baz=339,slow=9.1,SNR=6.1							
ASAR				Sn		Sn	18 41 39.2	-10
	0.1nm,0.3s,baz=325,slow=16,SNR=3.7							
MKAR	**Makanchi Array**	**68.48**	**327**	P		P	18 45 59.6	-0.1
	0.4nm,0.7s,baz=128,slow=6.3,SNR=3.4							

SJA ***23*** *18:55:54.8±0.7, 29.89S×71.31W, h93km±4km, ML3.6, MW3.6*

ISCJB ***23*** *18:55:55.4±1.0, 29.91S±0.04×71.36W±0.07, h93km±7km, Error ellipse: s-maj=10.8km s-min=6.2km az=176.2*

GUC ***23*** *18:55:56.0±0.8, 29.94S×71.05W, h85km±4km, ML3.7*

ISC 23 18:55:56.4±1.7, 29.90S±0.04×71.34W±0.09, h87km±9km, n18, σ0s61/31, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LSCH	**La Serena**	**0.08**	**93**	*e*P		**Pn**	**18 56 09.1**	**+0.5**
LSCH				*e*S		**Sn**	**18 56 18.1**	**+0.4**
GO04	**Tololo Observa**	**0.54**	**120**	*e*P		**Pn**	**18 56 11.0**	**-0.4**
GO04				*e*S		**Sn**	**18 56 23.1**	**+0.6**
GO04	**Tololo Observa**	**0.54**	**120**	*i*P		**Pn**	**18 56 10.8**	**-0.6**
GO04				*e*S		**Sn**	**18 56 21.3**	**-1.2**
GO04				IAML			18 56 25.3	
	comp=N,7μm,0.5s							
LCO	**Las Campanas**	**1.05**	**32**	*e*P		**Pn**	**18 56 16.8**	**+0.1**
LCO				*e*S		**Sn**	**18 56 32.1**	**+0.2**
LCO	**Las Campanas**	**1.05**	**32**	*e*P		**Pn**	**18 56 16.9**	**+0.2**
LCO				*e*S		**Sn**	**18 56 32.0**	**+0.2**
LCO				IAML			18 56 33.7	
	comp=E,3μm,0.3s							
CMCH	**Combarbala**	**1.30**	**167**	*e*P		**Pn**	**18 56 19.3**	**-0.3**
CMCH				*e*S		**Sn**	**18 56 36.4**	**-0.6**
CMCH				IAML			18 56 37.9	
	comp=N,3μm,0.8s							
ACDV	**Cuesta del Vie**	**1.94**	**98**	*e*P		**Pn**	**18 56 27.9**	**+0.1**
ACDV				*e*S		**Sn**	**18 56 52.1**	**+0.3**
ACCO	**Cerro Coronel**	**2.08**	**110**	*e*P		**Pn**	**18 56 30.0**	**+0.2**
ACCO				*e*S		**Sn**	**18 56 56.3**	**+1.0**
GO03	**Copiap**	**2.50**	**23**	*e*P		**Pn**	**18 56 34.9**	**-0.2**
GO03				*e*S		**Sn**	**18 57 04.2**	**-0.6**
GO03	**Copiap**	**2.50**	**23**	*e*P		**Pn**	**18 56 35.3**	**+0.1**
GO03				*i* S		**Sn**	**18 57 05.0**	**+0.1**
GO03				IAML			18 57 07.2	
	comp=E,251nm,0.6s							
RTLS	**Leoncito**	**2.58**	**138**	*e*P		**Pn**	**18 56 37.1**	**+0.7**
RTLS				*e*S		**Sn**	**18 57 07.9**	**+0.8**
RTLS				IAML			18 57 11.3	
	comp=Z,229nm,0.5s							
RTLL	**Cerro Villicun**	**2.85**	**121**	*e*P		**Pn**	**18 56 39.7**	**-0.1**
RTLL				*e*S		**Sn**	**18 57 12.5**	**-0.8**
RTLL				IAML			18 57 16.4	
	comp=E,418nm,0.4s							
ROC1	**El Roble**	**3.08**	**175**	*e*P		**Pn**	**18 56 42.6**	**-0.5**
CFA	**Coronel Fontan**	**3.16**	**123**	*e*P		**Pn**	**18 56 43.9**	**-0.1**
CFA				*e*S		**Sn**	**18 57 20.0**	**-0.8**
ASAL	**Salagasta**	**3.43**	**142**	*e*P		**Pn**	**18 56 48.2**	**+0.5**
ARCO	**CERRO ARCO**	**3.58**	**146**	*e*P		**Pn**	**18 56 51.3**	**+1.5**
ARCO				IAML			18 57 36.3	
	comp=Z,60nm,0.5s							
AAGR	**Agrelo**	**3.83**	**147**	*e*P		**Pn**	**18 56 53.2**	**+0.1**
ACLC	**CERRO LA CRUZ**	**3.85**	**84**	*e*P		**Pn**	**18 56 52.9**	**-0.6**

IDC ***23*** *19:14:00.2±2.5, 31.34S×68.58W, h78km±21km, mb3.4/3, mb1 3.7/7, mb1mx3.5/30, mbtmp3.8/7, Error ellipse: s-maj=31.7km s-min=20.9km az=88.0*

ISCJB ***23*** *19:14:03.1±0.4, 31.39S±0.03×68.64W±0.04, h119km±3km, mb3.5/3, Error ellipse: s-maj=6.2km s-min=4.4km az=9.3*

SJA ***23*** *19:14:03.3±0.6, 31.38S×68.66W, h108km±2km, ML3.9, MW3.5*

ISC 23 19:14:03.2±0.7, 31.35S±0.04×68.65W±0.04, h107km±6km, n31, σ1s78/48, mb3.4/3, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RTLL	**Cerro Villicun**	**0.15**	**83**	*e*P		**Pn**	**19 14 19.1**	**+0.9**
RTLL				*e*S		**Sn**	**19 14 30.7**	**+1.2**
RTLL				IAML			19 14 31.1	
	comp=E,13μm,0.4s							
ZON	**Zonda**	**0.20**	**188**	*e*P		**Pn**	**19 14 19.1**	**+0.7**
ZON				*e*S		**Sn**	**19 14 30.6**	**+0.9**
CFA	**Coronel Fontan**	**0.43**	**126**	*e*P		**Pn**	**19 14 20.4**	**+1.0**
CFA				*e*S		**Sn**	**19 14 32.6**	**+1.0**
RTLS	**Leoncito**	**0.71**	**231**	*e*P		**Pn**	**19 14 22.5**	**+0.7**
RTLS				IAML			19 14 22.6	
	comp=Z,5μm,0.1s							
RTLS				*e*S		**Sn**	**19 14 37.2**	**+1.4**
ACO	**Cerro Coronel**	**0.84**	**334**	*e*P		**Pn**	**19 14 24.6**	**+1.6**
ACCO				*e*S		**Sn**	**19 14 40.1**	**+2.2**
ACDV	**Cuesta del Vie**	**1.24**	**341**	*e*P		**Pn**	**19 14 28.9**	**+1.8**
ACDV				*e*S		**Sn**	**19 14 47.6**	**+2.5**
ASAL	**Salagasta**	**1.25**	**187**	*e*P		**Pn**	**19 14 28.0**	**+0.9**
ASAL				*e*S		**Sn**	**19 14 45.7**	**+0.6**
AROD	**Rodeo**	**1.38**	**329**	*e*P		**Pn**	**19 14 30.6**	**+1.8**
AROD				*e*S		**Sn**	**19 14 50.7**	**+2.6**
ARCO	**CERRO ARCO**	**1.51**	**189**	*e*P		**Pn**	**19 14 31.0**	**+0.9**
ARCO				*e*S		**Sn**	**19 14 51.2**	**+0.7**
ARCO				IAML			19 14 53.6	
	comp=Z,1μm,0.5s							
AAGR	**Agrelo**	**1.74**	**185**	*e*P		**Pn**	**19 14 33.8**	**+0.9**
AAGR				*e*S		**Sn**	**19

1.2nm,0.9s,baz=320,slow=11,SNR=6.3
ASAR Alice Springs 26.77 150 P **P** **19 29 02.8 -0.1**
1.3nm,0.8s,baz=344,slow=14,SNR=6.3
CMAR Chiang Mai Arr 27.87 314 P **P** **19 29 12.5 -0.2**
0.1nm,0.4s,baz=126,slow=9.1,SNR=2.8
STKA Stephens Creek 37.38 149 P **P** **19 30 34.5 -1.2**
2.1nm,1.0s,baz=318,slow=14,SNR=2.9
SONM Songino Array 49.55 348 P **P** **19 32 14.1 +0.4**
0.4nm,0.6s,baz=173,slow=8.3,SNR=2.8
MKAR Makanchi Array 57.42 330 P **P** **19 33 11.8 +0.3**
0.2nm,0.6s,baz=142,slow=6.0,SNR=3.6
ZALV Zalesovo Beam 61.51 337 P **P** **19 33 39.4 -0.1**
0.6nm,0.3s,baz=123,slow=5.3,SNR=6.4

*ISCJB **23** 19:38:50.5±0.3,24.08N±0.02×122.29E±0.02,h15km±4km, Error ellipse: s-maj=3.1km s-min=2.1km az=150.1*
*JMA **23** 19:38:50.5±0.1,24.00N×122.26E,h29km±3km,M2.1*
*TAP **23** 19:38:50.0,24.12N×122.25E,h9km±1km,ML2.6,C*
ISC 23 19:38:50.3±1.0,24.07N±0.02×122.25E±0.02,h19km±2km, n62,σ0s63/122,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EOS1	**EOS1**	**0.49**	**347**	*e*P		**Pg**	**19 38 60.0**	**-0.3**
	baz=346							
EOS1				*e*S		**Sg**	**19 39 06.9**	**-0.1**
	baz=346							
ENA	**Nanau**	**0.59**	**308**	*e*P		**Pg**	**19 39 02.3**	**+0.3**
	baz=304							
ENA				S		**Sb**	**19 39 09.9**	**+0.2**
	baz=304							
TWD	**Chiawan**	**0.60**	**271**	*e*P		**Pg**	**19 39 02.2**	**0.0**
	baz=266							
TWD				*e*S		**Sg**	**19 39 11.2**	**+0.9**
	baz=266							
NACB	**Ninganchiao**	**0.61**	**280**	*e*P		**Pg**	**19 39 02.5**	**+0.1**
	baz=275							
NACB				*e*S		**Sg**	**19 39 11.9**	**+1.3**
	baz=275							
TWC	**Suao**	**0.65**	**326**	*e*P		**Pb**	**19 39 02.1**	**-0.9**
	baz=324							
TWC				S		**Sb**	**19 39 10.6**	**-1.1**
	baz=324							
JYNG	**Yonaguni jima**	**0.74**	**59**	P		**Pg**	**19 39 05.1**	**+0.2**
JYNG				S		**Sg**	**19 39 15.1**	**+0.4**
ESL	**Shilin**	**0.79**	**252**	P		**Pb**	**19 39 04.8**	**-0.6**
	baz=247							
ESL				*e*S		**Sg**	**19 39 16.5**	**+0.3**
	baz=247							
YOJ	**Yonaguni jima**	**0.80**	**60**	*e*P		**Pg**	**19 39 05.8**	**-0.1**
	baz=63							
YOJ				*e*S		**Sg**	**19 39 17.0**	**+0.4**
	baz=63							
YOJ	**Yonaguni jima**	**0.80**	**60**	P		**Pb**	**19 39 05.6**	**+0.1**
YOJ				*e*S		**Sg**	**19 39 17.1**	**+0.6**
EGS		**0.83**	**340**	*e*P		**Pb**	**19 39 05.5**	**-0.6**
	baz=339							
EGS				S		**Sb**	**19 39 16.5**	**-0.3**
	baz=339							
ILA	**Ilan**	**0.83**	**327**	P		**Pb**	**19 39 05.8**	**-0.3**
	baz=325							
ILA				*e*S		**Sb**	**19 39 16.7**	**-0.2**
	baz=325							
TWE	**Neicheng**	**0.84**	**321**	P		**Pb**	**19 39 06.2**	**-0.1**
	baz=319							
TWE				S		**Sb**	**19 39 17.5**	**+0.3**
	baz=319							
ENTT	**Nioudou**	**0.84**	**313**	P		**Pb**	**19 39 06.4**	**0.0**
	baz=310							
ENTT				S		**Sb**	**19 39 17.1**	**-0.3**
	baz=310							
NNSB	**Datong**	**0.87**	**295**	*e*P		**Pb**	**19 39 07.0**	**+0.2**
	baz=291							
NNSB				*e*S		**Sg**	**19 39 19.1**	**+0.2**
	baz=291							
NTC	**Toucheng**	**0.87**	**334**	*e*P		**Pb**	**19 39 06.3**	**-0.5**
	baz=332							
NTC				*e*S		**Sb**	**19 39 18.5**	**+0.4**
	baz=332							
NNS	**Nan Shan**	**0.88**	**295**	*e*P		**Pb**	**19 39 07.2**	**+0.1**
	baz=291							
NNS				S		**Sg**	**19 39 19.6**	**+0.3**
	baz=291							
WHF	**Hehuan Shan**	**0.90**	**275**	P		**Pb**	**19 39 07.6**	**0.0**
	baz=271							
WHF				*e*S		**Sg**	**19 39 20.1**	**0.0**
	baz=271							
HGSD	**Ruisui**	**0.95**	**233**	*e*P		**Pg**	**19 39 09.2**	**+0.5**
	baz=230							
HGSD				*e*S		**Sn**	**19 39 23.6**	**+2.0**
	baz=230							
TWB1	**Santiao Chiao**	**0.97**	**346**	*e*P		**Pb**	**19 39 07.7**	**-0.8**
	baz=345							
TWB1				S		**Sb**	**19 39 20.4**	**-0.5**
	baz=345							
TIPB	**Shuangxi**	**0.98**	**337**	P		**Pb**	**19 39 08.6**	**-0.1**
	baz=335							
TIPB				*e*S		**Sb**	**19 39 21.4**	**+0.1**
	baz=335							
NWLT	**Wulai**	**0.98**	**316**	*e*P		**Pb**	**19 39 08.9**	**+0.2**
	baz=314							
NWLT				*e*S		**Sg**	**19 39 22.2**	**-0.1**
	baz=314							
CHGB	**Renai**	**0.98**	**270**	*e*P		**Pb**	**19 39 08.7**	**-0.2**
	baz=266							
CHGB				*e*S		**Sg**	**19 39 22.4**	**-0.1**
	baz=266							
YHNB	**Yeheng**	**1.00**	**307**	*e*P		**Pb**	**19 39 09.1**	**+0.1**
	baz=304							
YHNB				*e*S		**Sg**	**19 39 23.2**	**+0.3**
	baz=304							
TWT	**Tachien**	**1.00**	**281**	*e*P		**Pb**	**19 39 09.2**	**+0.1**
	baz=277							
TWT				*e*S		**Sn**	**19 39 23.4**	**+0.3**
	baz=277							
NSK	**Sanguang**	**1.01**	**307**	P		**Pg**	**19 39 10.1**	**0.0**
	baz=304							
NSK				S		**Sn**	**19 39 23.3**	**-0.1**
	baz=304							
EHY	**Hungye**	**1.02**	**237**	*e*P		**Pg**	**19 39 10.6**	**+0.5**
	baz=233							
EHY				*e*S		**Sg**	**19 39 25.1**	**+1.6**
	baz=233							
VWDT	**VWDT**	**1.06**	**253**	*e*P		**Pb**	**19 39 09.8**	**-0.3**
	baz=250							
VWDT				*e*S		**Sg**	**19 39 26.0**	**+1.1**
	baz=250							
NWF	**Wu-fen Shan**	**1.09**	**337**	*e*P		**Pb**	**19 39 09.8**	**-0.8**
	baz=336							
NWF				*e*S		**Sb**	**19 39 24.2**	**-0.2**
	baz=336							
WFSB	**Wu-fen Shan**	**1.09**	**337**	*e*P		**Pn**	**19 39 09.8**	**-0.7**
	baz=335							
WFSB				*e*S		**Sb**	**19 39 24.4**	**+0.1**
	baz=335							
TWA	**Mucha**	**1.09**	**326**	*e*P		**Pb**	**19 39 10.9**	**+0.3**
	baz=325							
YULB	**Yu-li**	**1.10**	**233**	*e*P		**Pn**	**19 39 09.6**	**-1.1**
	baz=230							
YULB				*e*S		**Sn**	**19 39 25.1**	**-0.3**
	baz=230							
TWF1	**Yuli**	**1.13**	**231**	*e*P		**Pn**	**19 39 10.2**	**-0.9**
	baz=228							
TWF1				*e*S		**Sb**	**19 39 25.5**	**+0.1**
	baz=228							
TATO	**Taipei**	**1.14**	**323**	*e*P		**Pg**	**19 39 12.2**	**-0.2**
	baz=321							
TATO				*e*S		**Sn**	**19 39 26.8**	**+0.4**
	baz=321							
SSLB	**Suanglung**	**1.22**	**257**	*e*P		**Pn**	**19 39 11.9**	**-0.4**
	baz=254							
SSLB				*e*S		**Sg**	**19 39 29.8**	**-0.1**
	baz=254							
YM01	**YM01**	**1.24**	**330**	*e*P		**Pb**	**19 39 13.4**	**+0.3**
	baz=329							
YM01				*e*S		**Sg**	**19 39 30.4**	**-0.2**
	baz=329							
SMLT	**Sun Moon Lake**	**1.25**	**262**	*e*P		**Pn**	**19 39 11.6**	**-1.2**
	baz=259							
SMLT				*e*S		**Sg**	**19 39 30.4**	**-0.5**
	baz=259							
YM11	**YM11**	**1.25**	**331**	*e*P		**Pb**	**19 39 13.4**	**0.0**
	baz=329							
YM11				*e*S		**Sn**	**19 39 30.2**	**+0.9**
	baz=329							
YM05	**YM05**	**1.26**	**330**	*e*P		**Pn**	**19 39 12.9**	**-0.1**
	baz=329							
YM05				*e*S		**Sn**	**19 39 30.4**	**+1.0**
	baz=329							
YM04	**YM04**	**1.26**	**329**	*e*P		**Pn**	**19 39 13.1**	**+0.2**
	baz=327							
YM04				*e*S		**Sb**	**19 39 30.1**	**+0.7**
	baz=327							
LIOB	**Emei**	**1.27**	**297**	*e*P		**Pb**	**19 39 13.8**	**+0.3**
	baz=295							
LIOB				*e*S		**Sg**	**19 39 31.7**	**+0.4**
	baz=295							
NSTT	**Nanjuang**	**1.27**	**296**	*e*P		**Pg**	**19 39 14.4**	**-0.5**
	baz=294							
NSTT				*e*S		**Sg**	**19 39 30.9**	**-0.6**
	baz=294							
TYC	**Yuchr**	**1.28**	**263**	*e*P		**Pb**	**19 39 13.5**	**-0.3**
	baz=260							
TYC				*e*S		**Sb**	**19 39 30.7**	**+0.7**
	baz=260							
TWY	**Chenhua**	**1.34**	**334**	*e*P		**Pn**	**19 39 14.4**	**+0.4**
	baz=333							
TWY				*e*S		**Sb**	**19 39 32.3**	**+0.7**
	baz=333							
IRIF	**Iriomote-Funau**	**1.38**	**79**	P		**Pb**	**19 39 14.9**	**-0.5**
IRIF				*e*S		**Sb**	**19 39 32.9**	**+0.3**
TWQ1	**Liyutan**	**1.38**	**282**	*e*P		**Pb**	**19 39 15.1**	**-0.4**
	baz=279							
TWQ1				*e*S		**Sg**	**19 39 34.1**	**-0.8**
	baz=279							
WJS	**Zhushan**	**1.41**	**260**	*e*P		**Pb**	**19 39 15.8**	**-0.3**
	baz=257							
WJS				*e*S		**Sg**	**19 39 35.4**	**-0.7**
	baz=257							
HATJ	**Hateruma jima**	**1.42**	**90**	P		**Pb**	**19 39 16.6**	**+0.4**
HATJ				S		**Sn**	**19 39 33.2**	**-0.1**
ELDTW	**Lidau**	**1.43**	**233**	*e*P		**Pn**	**19 39 15.0**	**-0.3**
	baz=230							
ELDTW				*e*S		**Sn**	**19 39 32.9**	**-0.7**
	baz=230							
WNT	**Mingjian**	**1.45**	**263**	*e*P		**Pb**	**19 39 16.6**	**0.0**
	baz=260							
WNT				S		**Sg**	**19 39 36.0**	**-1.0**
	baz=260							
CHN5	**Tsauling**	**1.51**	**252**	*e*P		**Pb**	**19 39 17.5**	**-0.3**
	baz=250							
CHN5				*e*S		**Sb**	**19 39 37.3**	**+0.6**
	baz=250							
JKRS	**Kuro-shima**	**1.62**	**84**	P		**Pn**	**19 39 18.3**	**+0.5**
JKRS				*e*S		**Sb**	**19 39 39.7**	**+0.2**
TPUB	**Ta-pu**	**1.67**	**243**	*e*P		**Pn**	**19 39 19.3**	**+0.7**
	baz=241							
TPUB				*e*S		**Sg**	**19 39 42.7**	**-1.5**
	baz=241							
CHN4	**Tsaushan**	**1.68**	**245**	*e*P		**Pb**	**19 39 20.1**	**-0.5**
	baz=243							
CHN4				*e*S		**Sb**	**19 39 42.4**	**+1.1**
	baz=243							
WTP	**Ta-pu**	**1.71**	**242**	P		**Pn**	**19 39 19.8**	**+0.7**
	baz=239							
WTP				S		**Sb**	**19 39 43.5**	**+1.2**
	baz=239							
RLNB	**Erlin**	**1.74**	**265**	*e*S		**Sb**	**19 39 44.0**	**+1.0**
	baz=262							
JIJ	**Ishigaki jima**	**1.75**	**80**	P		**Pn**	**19 39 19.3**	**-0.4**
JIJ				*e*S		**Sn**	**19 39 41.4**	**-0.1**
CHN1	**Nanshi**	**1.81**	**241**	*e*P		**Pb**	**19 39 21.6**	**-1.2**
	baz=239							
CHN1				*e*S		**Sb**	**19 39 45.8**	**+0.7**
	baz=239							
SLGT	**Liugui**	**1.82**	**234**	*e*P		**Pn**	**19 39 21.6**	**+1.0**
	baz=232							
SLGT				*e*S		**Sb**	**19 39 45.8**	**+0.4**
	baz=232							
JISG	**Ishigakijimahi**	**1.95**	**74**	P		**Pn**	**19 39 22.0**	**-0.4**
JISG				*e*S		**Sn**	**19 39 45.9**	**-0.4**
SSD	**Sandimen**	**1.98**	**229**	*e*P		**Pb**	**19 39 24.7**	**-1.1**
	baz=227							
SSD				*e*S		**Sb**	**19 39 49.9**	**-0.2**
	baz=227							
MASBT	**Mashibuluo**	**2.08**	**226**	*e*P		**Pb**	**19 39 26.5**	**-0.9**
	baz=224							
MASBT				*e*S		**Sb**	**19 39 52.6**	**-0.2**
	baz=224							
EAST	**Anshuo**	**2.12**	**218**	*e*P		**Pb**	**19 39 26.5**	**-1.6**
	baz=216							
EAST				*e*S		**Sb**	**19 39 53.7**	**-0.2**
	baz=216							

*NIED **23** 19:41:00,38.30N×142.20E,h8km,Mw3.6 Best double couple: Mo2.69000×10^14 NP1:φs172.00000°,δ36.00000°, λ128.00000°. NP2:φs307.00000°,δ63.00000°,λ66.00000°.*
JMA 23 19:41:50.8±0.1,38.27N×142.21E,h36km±2km,M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.59**	**274**	P		Pn	19 42 02.5	-0.2
JIKH				S		Sn	19 42 10.3	-0.7
JIO	**Ouri**	**0.70**	**285**	P		Pn	19 42 04.3	+0.1
JIO				S		Sn	19 42 13.0	-0.2
JKMT	**Kesennumamotoy**	**0.79**	**313**	P		Pn	19 42 05.8	+0.4
JKMT				S		Sn	19 42 16.2	+0.2
OFUJ	**Ofunato**	**0.91**	**333**	P		Pn	19 42 07.2	+0.1
OFUJ				*e*S		Sn	19 42 18.9	-0.1
JMK	**Ichinoseki**	**1.03**	**312**	P		Pn	19 42 09.3	+0.6
JMM	**Marumori**	**1.19**	**251**	P		Pn	19 42 10.8	-0.1
JMM				S		Sn	19 42 25.2	-0.6
JOU	**Okura**	**1.22**	**275**	P		Pn	19 42 12.3	+1.0
JOU				*e*S		Sn	19 42 27.9	+1.3
JFK	**Kawauchi**	**1.39**	**230**	P		Pn	19 42 13.1	-0.6
JOM	**Ohasama**	**1.40**	**329**	P		Pn	19 42 14.8	+1.0
JOM				*e*S		Sn	19 42 32.4	+1.4
JYK	**Kaneyama**	**1.59**	**295**	P		Pn	19 42 17.8	+1.4
JFT	**Otama**	**1.66**	**244**	P		Pn	19 42 18.3	+0.9
JFT				*e*S		Sn	19 42 38.7	+1.2
JRG	**Rokugo**	**1.67**	**313**	P		Pn	19 42 19.3	+1.9
JYS	**Shirataka**	**1.69**	**269**	P		Pn	19 42 18.7	+0.9

*ISCJB **23** 19:52:28.1±0.4,12.21N±0.07×86.89W±0.06,h113km±5km, mb3.6/3,Error ellipse: s-maj=13.9km s-min=3.8km az=38.0*
*UCR **23** 19:52:28.8±1.5,12.19N×86.93W,h102km±6km,ML4.0*
*IDC **23** 19:52:28.1±1.3,12.27N×86.76W,h114km±16km,mb3.3/3, mb1 3.6/7,mb1mx3.3/50,mbtmp3.9/7,MS2.7/2,Ms1 2.7/2, ms1mx2.4/20,Error ellipse: s-maj=63.5km s-min=12.0km az=44.0*
ISC 23 19:52:27.9±0.7,12.23N±0.07×86.92W±0.06,h113km±6km, n43,σ1s45/55,mb3.6/3,3D,Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CNGN	**Cerro Negro**	**0.34**	**39**	*e*P		**Pn**	**19 52 44.3**	**+0.1**
CNGN				*e*S		**Sn**	**19 52 57.1**	**+0.6**
CNGN				IAML			19 53 03.1	
	comp=N,2μm,0.3s							
MOMN	**Momotombo**	**0.41**	**65**	*e*P		**Pn**	**19 52 44.5**	**0.0**
MOMN				*e*S		**Sn**	**19 52 56.9**	**-0.2**
MOMN				IAML			19 53 00.5	
	comp=Z,931nm,0.3s							
CRIN	**San Cristobal**	**0.48**	**345**	*e*P		**Pn**	**19 52 45.6**	**+0.6**
CRIN				*e*S		**Sn**	**19 52 58.4**	**+0.5**
XAVN	**Gruta Xavier**	**0.59**	**98**	*e*P		**Pn**	**19 52 45.8**	**+0.2**
MGAN	**Managua**	**0.67**	**97**	*e*P		**Pn**	**19 52 46.3**	**+0.1**
MGAN				*e*S		**Sn**	**19 53 00.2**	**+0.2**
MGAN				IAML			19 53 01.4	
	comp=N,1μm,0.3s							
MASN	**Masaya**	**0.79**	**108**	*e*P		**Pn**	**19 52 47.5**	**+0.1**
MASN				*e*S		**Sn**	**19 53 01.2**	**-0.8**
ESTN	**Estel**	**1.02**	**32**	*e*P		**Pn**	**19 52 51.1**	**+1.4**
MATN	**Matagalpa**	**1.20**	**54**	*e*P		**Pn**	**19 52 52.2**	**+0.8**
BOAB	**BOACO BROADBAN**	**1.25**	**80**	*e*P		**Pn**	**19 52 52.5**	**+0.6**
CNCH	**Conchagua**	**1.37**	**320**	*e*P		**Pn**	**19 52 54.1**	**+0.7**
CNCH				*e*S		**Sn**	**19 53 13.9**	**+1.1**
LCND	**La Caada**	**1.43**	**319**	*e*P		**Pn**	**19 52 54.7**	**+0.7**
LCND				*e*S		**Sn**	**19 53 14.2**	**+0.4**
LCND				IAML			19 53 18.0	
	comp=Z,3μm,0.3s							
CONN	**Concepcion**	**1.43**	**117**	*e*P		**Pn**	**19 52 54.2**	**+0.1**
ACON	**Acoyapa**	**1.73**	**99**	*e*P		**Pn**	**19 52 58.0**	**+0.3**
ACON				*e*S		**Sn**	**19 53 19.9**	**-0.4**
LCY	**Lacayo**	**1.79**	**312**	*e*P		**Pn**	**19 52 59.4**	**+0.9**
PACA	**Pacayal**	**1.84**	**312**	*e*P		**Pn**	**19 53 00.1**	**+1.0**
TGUH	**Tegucigalpa,Un**	**1.85**	**349**	*e*P		**Pn**	**19 53 00.5**	**+1.4**
TGUH				*i*P			19 53 00.7	
CAHU	**Cacauatique**	**1.98**	**321**	*e*P		**Pn**	**19 53 02.1**	**+1.2**
TECA	**Tecapa**	**1.99**	**309**	*e*P		**Pn**	**19 53 02.2**	**+1.1**
VICT	**Victoria**	**2.40**	**316**	*e*P		**Pn**	**19 53 07.4**	**+1.2**
PLVR	**Palo Verde**	**2.42**	**140**	*e*P		**Pn**	**19 53 07.9**	**+1.2**
PLVR				*e*S		**Sn**	**19 53 36.5**	**+0.2**
LFRS	**El Faro**	**2.50**	**304**	*e*P		**Pn**	**19 53 09.1**	**+1.5**
ESPN	**Las Esperanzas**	**2.56**	**91**	*e*P		**Pn**	**19 53 09.3**	**+1.1**
JTS	**JuntasAbangare**	**2.73**	**135**	P		**Pn**	**19 53 11.2**	**+0.7**
	comp=Z,41nm,0.3s,baz=16,slow=20,SNR=49							
JTS				S		**Sn**	**19 53 41.7**	**-1.5**
	comp=Z,34nm,0.3s,baz=0.2,slow=23,SNR=9.5							
JTS	**JuntasAbangare**	**2.73**	**135**	*e*P		**Pn**	**19 53 10.5**	**0.0**
BOQS	**Boqueron**	**2.74**	**303**	*e*P		**Pn**	**19 53 12.6**	**+1.8**
ARE1	**Arenal 1**	**2.79**	**129**	*e*P		**Pn**	**19 53 12.1**	**+0.8**
CEVE	**Cerro Verde**	**3.07**	**301**	*e*P		**Pn**	**19 53 17.2**	**+2.0**
CEVE				IAML			19 53 55.7	
	comp=Z,2μm,0.3s							
SBLS	**San Blas**	**3.08**	**302**	*e*P		**Pn**	**19 53 16.9**	**+1.6**
SBLS				*e*P			19 53 17.0	
HDC	**Heredia**	**3.54**	**129**	*e*P		**Pn**	**19 53 23.4**	**+2.2**
LCR2	**La Lucha 2**	**3.79**	**131**	*e*P		**Pn**	**19 53 26.2**	**+1.5**
CVTR	**Volcan Turrial**	**3.80**	**125**	*e*P		**Pn**	**19 53 25.2**	**+0.1**
EDDO	**Dominical**	**4.22**	**134**	*e*P		**Pn**	**19 53 32.2**	**+2.0**
APG	**El Apazote**	**4.41**	**309**	P		**Pn**	**19 53 35.0**	**+2.0**
	comp=Z,1.4nm,0.3s,baz=108,slow=16,SNR=8.9							
APG				S		Sn	19 54 10.1	-14
	comp=Z,1.7nm,0.3s,baz=112,slow=11,SNR=3.7							
CMIG	**Matias Romero**	**9.09**	**303**	P		**Pn**	**19 54 37.3**	**+1.1**
	comp=Z,1.6nm,0.3s,baz=160,slow=10.0,SNR=28							
CMIG				S		**Sn**	**19 56 09.8**	**-7.0**
	comp=Z,0.3nm,0.3s,baz=184,slow=14,SNR=4.1							
CMIG				LR		LR	19 57 56.8	
	comp=Z,45nm,20.9s,baz=188,slow=36							
SDV	**Santo Domingo**	**16.35**	**100**	P		**P**	**19 56 11.4**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=248,slow=9.7,SNR=3.9							
SDV				LR		LR	20 04 27.6	
	comp=Z,34nm,19.8s,baz=226,slow=44							
TXAR	**Lajitas Array**	**23.07**	**320**	P		**P**	**19 57 24.9**	**+1.0**
	comp=Z,1.0nm,0.4s,baz=138,slow=10.0,SNR=26							
TXAR				pP		**pP**	**19 57 47.6**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=136,slow=8.9,SNR=4.9							
SIV	**San Ignacio**	**37.95**	**137**	P		**P**	**19 59 33.8**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=321,slow=10,SNR=5.6							
NVAR	**Mina Array Bea**	**38.21**	**319**	PcP		**PcP**	**20 01 50.3**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=164,slow=3.6,SNR=3.1							
YKA	**Yellowknife Ar**	**53.96**	**345**	P		**P**	**20 01 38.5**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=139,slow=7.8,SNR=6.6							
MKAR	**Makanchi Array**	**120.45**	**9**	PKP		**PKPdf**	**20 11 07.0**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=9.5,slow=1.8,SNR=2.9							
ASAR	**Alice Springs**	**139.66**	**248**	PKhKP		PKPpre	20 11 36.0	
	comp=Z,0.4nm,0.8s,baz=111,slow=3.1,SNR=2.9							
ASAR				PKP		**PKPdf**	**20 11 42.6**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=109,slow=2.8,SNR=4.6							
WRA	**Warramunga Arr**	**139.70**	**254**	PKP		**PKPdf**	**20 11 43.7**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=91,slow=2.5,SNR=7.3							
CMAR	**Chiang Mai Arr**	**148.96**	**349**	PKPbc		**PKPbc**	**20 12 03.1**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=38,slow=1.6,SNR=4.7							

*ISCJB **23** 19:58:37.5±0.3,60.35N±0.03×152.31W±0.06, h102km±3km,mb3.6/4,Error ellipse: s-maj=5.5km s-min=4.1km az=32.7*
*IDC **23** 19:58:37.4±1.7,60.39N×152.35W,h79km±29km,mb3.3/4, mb1 3.3/7,mb1mx3.1/51,mbtmp3.5/7,Error ellipse: s-maj=43.8km s-min=10.0km az=109.0*
*NEIC **23** 19:58:40.2±0.0,60.35N×152.30W,h80km,ML3.2(AEIC), After AEIC.*
ISC 23 19:58:38.7±0.8,60.35N±0.03×152.32W±0.04,h93km±5km, n78,σ0s72/87,mb3.8/4,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RED	**Redoubt Volcan**	**0.23**	**287**	P		**Pn**	**19 58 52.0**	**-0.2**
RED				S		**Sn**	**19 59 01.6**	**-0.8**
REF	**Redoubt East F**	**0.23**	**307**	P		**Pn**	**19 58 52.0**	**-0.3**
REF				S		**Sn**	**19 59 01.9**	**-0.6**
RSO	**Redoubt South**	**0.24**	**298**	*e*Pn		**Pn**	**19 58 52.3**	**-0.1**
RDN	**Redoubt North**	**0.27**	**307**	P		**Pn**	**19 58 52.2**	**-0.2**
RDWB	**Redoubt West**	**0.29**	**298**	P		**Pn**	**19 58 52.1**	**-0.5**
RDWB				S		**Sn**	**19 59 02.1**	**-0.8**
DFR	**Drift River**	**0.30**	**324**	P		**Pn**	**19 58 52.2**	**-0.3**
RDJH	**Redoubt Jeurge**	**0.34**	**316**	P		**Pn**	**19 58 52.3**	**-0.5**
IVE	**Iliamna Volcan**	**0.48**	**226**	P		**Pn**	**19 58 53.4**	**-0.3**
ILW	**Iliamna West**	**0.50**	**235**	P		**Pn**	**19 58 53.8**	**-0.1**
ILS	**Iliamna Low So**	**0.54**	**224**	P		**Pn**	**19 58 54.1**	**0.0**
NKA	**Nikishka**	**0.67**	**53**	P		**Pn**	**19 58 56.9**	**+1.8**
HOM	**Homer**	**0.77**	**154**	P		**Pn**	**19 58 56.9**	**+0.8**
OKT	**Bend**	**0.85**	**4**	P		**Pn**	**19 58 56.9**	**-0.2**
SPCR	**Spurr Chakacha**	**0.85**	**4**	P		**Pn**	**19 58 56.9**	**+0.1**
SPCR				S		**Sn**	**19 59 11.0**	**+0.2**
BRLK	**Bradley Lake**	**0.93**	**129**	P		**Pn**	**19 58 58.1**	**+0.3**
BRLK				S		**Sn**	**19 59 13.1**	**+0.9**
SPWE	**Spurr West**	**0.93**	**353**	P		**Pn**	**19 58 58.2**	**+0.3**
SPNN	**North Nagishla**	**1.04**	**350**	P		**Pn**	**19 58 59.1**	**-0.1**
AUL	**Augustine Lava**	**1.12**	**211**	P		**Pn**	**19 59 00.6**	**+0.7**
AUP	**Augustine Pinn**	**1.14**	**210**	P		**Pn**	**19 59 00.8**	**+0.6**
AUW	**Augustine West**	**1.14**	**211**	P		**Pn**	**19 59 00.8**	**+0.7**
AUI	**Augustine Isla**	**1.16**	**209**	P		**Pn**	**19 59 01.0**	**+0.6**
SUA	**Susitna One**	**1.36**	**34**	P		**Pn**	**19 59 03.4**	**+0.5**
SUA				S		**Sn**	**19 59 22.5**	**+1.3**
SEW	**Seward**	**1.46**	**99**	P		**Pn**	**19 59 03.8**	**-0.1**
RC01	**Rabbit Creek A**	**1.47**	**59**	P		**Pn**	**19 59 04.6**	**+0.5**
PTE	**Portage**	**1.71**	**71**	P		**Pn**	**19 59 07.3**	**+0.2**
SVW2	**Sparrevohn**	**1.77**	**296**	P		**Pn**	**19 59 07.6**	**-0.4**
PMR	**Palmer**	**1.99**	**50**	P		**Pn**

0.8nm,0.4s,baz=65,slow=6.8,SNR=2.9
FIA0 FINESS Array S 58.53 1 *e*P **P 20 08 24.0 -0.6**
FINES FINESS Array B 58.53 1 P **P 20 08 24.0 -0.6**
0.5nm,0.6s,baz=9.2,slow=11,SNR=3.0
MK32 Makanchi Array 64.37 322 *e*P **P 20 09 02.9 -1.3**
MKAR Makanchi Array 64.37 322 P **P 20 09 02.9 -1.3**
0.1nm,0.4s,baz=19,slow=6.1,SNR=2.7

IDC 23 20:12:37.9±324.0, 37°82.N × 118°03.W, h0km, Error ellipse: s-maj=152.5km s-min=84.1km az=161.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea**	**0.64**	**341**	*i*		Pn		20 12 59.3	+4.8
	5.0nm,0.3s,baz=215,slow=10.0,SNR=34								
I57US	**PINON FLAT INF**	**4.40**	**163**	*i*				20 43 10.0	
	baz=341,slow=377,SNR=2.0								
I56US	**NEWPORT INFRAS**	**10.46**	**3**	*i*				21 19 08.9	
	baz=181,slow=384,SNR=3.2								
I10CA	**LAC DU BONNET**	**20.00**	**45**	*i*				22 15 57.4	
	baz=235,slow=341,SNR=0.6								

MEX 23 20:28:15.1±0.6, 16°30N × 97°40W, h44km±9km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.70**	**278**	*e*P			Pn	20 28 27.1	-1.6
PNIG				*e*S			Sn	20 28 36.6	-1.8
VHO	**Vista Hermosa**	**1.00**	**40**	*i* P			Pn	20 28 31.5	-1.4
VHO				*e*S			Sn	20 28 44.4	-1.6

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*ISCJB **23** 20:28:41.9±0.7, 37°31N±0°03 × 37°14E±0°04, h5km±5km, Error ellipse: s-maj=6.0km s-min=4.9km az=35.8*
*DDA **23** 20:28:41.6, 37°33N × 37°16E, h7km±4km, ML2.5*
*ISK **23** 20:28:41.5, 37°32N × 37°13E, h5km, ML1.9/6*
ISC 23 20:28:41.7±0.9, 37°32N±0°03 × 37°14E±0°03, h12km±7km, n16, σ1s08/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.16**	**158**	PG		**Pg**		**20 28 45.4**	**0.0**
GAZ				SG		**Sg**		**20 28 48.2**	**+0.2**
KMRS	**Kahramanmaras**	**0.27**	**315**	PG		**Pg**		**20 28 47.2**	**0.0**
KMRS				SG		**Sg**		**20 28 51.1**	**+0.1**
GZT	**Gaziantep**	**0.34**	**84**	IAML_P					
	comp=Z,2μm,0.1s								
GZT				*i* P		**Pg**		**20 28 49.0**	**+0.3**
KUZU	**Kuzuini**	**0.55**	**185**	IAML_P					
	comp=Z,2μm,0.1s								
KUZU				*i* P		**Pb**		**20 28 53.1**	**-0.1**
ANDN	**Andirin**	**0.68**	**293**	IAML_P					
	comp=Z,618nm,0.1s								
ANDN				*i* P		**Pg**		**20 28 55.1**	**+0.1**
ATAB	**Bozova**	**0.94**	**80**	IAML_P					
	comp=Z,2μm,0.2s								
ATAB				*i* P		**Pg**		**20 28 59.6**	**-0.1**
ATAB				*i* S		**Sg**		**20 29 11.6**	**-0.3**
ELBS	**KAHRAMANMARAS**	**1.00**	**360**	IAML_P					
	comp=Z,178nm,0.1s								
ELBS				*i* P		**Pg**		**20 28 59.3**	**-1.8**
KOZT	**Kozan**	**1.06**	**279**	PG		**Pb**		**20 29 01.9**	**0.0**
KOZT				SG		**Sn**		**20 29 17.0**	**+0.1**
SAIM	**ADANA**	**1.06**	**308**	IAML_P					
	comp=Z,356nm,0.2s								
SAIM				*i* P		**Pg**		**20 29 01.1**	**-1.1**
SAIM				*i* S		**Sn**		**20 29 18.6**	**+1.3**
AKCD	**Akcadag**	**1.16**	**32**	IAML_P					
	comp=Z,461nm,0.2s								
AKCD				*i* P		**Pn**		**20 29 04.2**	**+0.4**
AKCD				*i* S		**Sn**		**20 29 20.5**	**+0.8**
TAHT	**Tahtakopru-Hat**	**1.21**	**219**	PN		**Pg**		**20 29 05.0**	**0.0**
TAHT				SN		**Sn**		**20 29 22.3**	**+1.6**
SURC	**SANLIURFA_SURC**	**1.26**	**110**	*i* P		**Pn**		**20 29 02.1**	**-3.0**
DARE	**Darende-Malaty**	**1.28**	**12**	PN		**Pg**		**20 29 06.4**	**+0.1**
DARE				SN		**Sg**		**20 29 24.4**	**+1.4**
URFA	**Urfa**	**1.35**	**84**	PN		**Pg**		**20 29 07.6**	**0.0**
BNN	**Bunyan**	**1.84**	**327**	PN		**Pb**		**20 29 14.5**	**-0.8**
PTK	**Pertek**	**2.37**	**48**	PN		**Pn**		**20 29 22.0**	**+1.4**

IDC 23 20:30:43.2±29.0, 19°43S × 176°50W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/31, mbtmp4.0/4, Error ellipse: s-maj=560.5km s-min=141.5km az=88.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.53**	**243**	P		P		20 38 15.4	-0.5
	2.3nm,0.9s,baz=90,slow=19,SNR=2.7								
ASAR	**Alice Springs**	**46.14**	**256**	P		P		20 39 09.9	+0.1
	1.4nm,0.5s,baz=94,slow=7.8,SNR=27								
WRA	**Warramunga Arr**	**46.16**	**261**	P		P		20 39 10.1	+0.1
	0.6nm,0.3s,baz=96,slow=7.4,SNR=38								
FITZ	**Fitzroy Crossi**	**54.58**	**261**	P		P		20 40 13.4	-0.3
	1.0nm,0.8s,baz=90,slow=7.1,SNR=4.0								

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*IDC **23** 20:30:48.7±2.6, 40°61N × 20°70E, h0km, mb3.0/5, mb1 3.3/8, mb1mx3.2/36, mbtmp3.2/8, ML3.2/3, MS3.3/1, Ms1 3.3/1, ms1mx2.3/23, Error ellipse: s-maj=34.8km s-min=17.6km az=172.0*
*TIR **23** 20:30:52.2, 40°86N × 20°75E, h3km, Md3.5/7*
*SKO **23** 20:30:53.0, 40°80N × 20°64E, h17km, ML3.2*
*ATH **23** 20:30:53.6, 40°89N × 20°69E, h22km±1km, ML3.1/11, Error ellipse: s-maj=1.3km s-min=0.9km az=226.0*
*PRU **23** 20:30:54.9±0.0, 40°83N × 20°82E, h0km*
*PDG **23** 20:30:54.9±0.7, 40°96N × 20°70E, h12km±1km, ML3.3/10, Error ellipse: s-maj=0.6km s-min=1.1km az=0.0*
*BEO **23** 20:30:54.8±0.5, 40°84N × 20°70E, h15km±3km, ML2.9/13*
*THE **23** 20:30:54.1, 40°88N × 20°70E, h0km±1km, MD3.1/22, Error ellipse: s-maj=1.6km s-min=0.6km az=299.0*
ISC 23 20:30:54.8±1.0, 40°85N±0°01 × 20°68E±0°02, h24km±10km, n216, σ1s67/309, mb3.2/3, 18C-20D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BIA	**Bitola**	**0.51**	**71**	P			**Pb**	**20 31 04.9**	**-0.3**
BIA				S			**Sb**	**20 31 11.1**	**-1.2**
BIA	**Bitola**	**0.51**	**71**	⇑*i*Pg			**Pb**	**20 31 05.0**	**-0.3**
BIA				*i* Sg			**Sn**	**20 31 13.6**	**-1.1**
BIA				*e*Lg		Lg		20 31 14.8	
	comp=N,1μm,0.3s								
NEST	**Nestorio**	**0.52**	**147**	P			**Pb**	**20 31 04.4**	**-0.9**
NEST				S			**Sb**	**20 31 12.9**	**+0.4**
NEST				AML		AML		20 31 14.5	
	comp=E,8227μm,0.3s								
NEST				AML		AML		20 31 15.4	
	comp=N,6935μm,0.3s								
NEST	**Nestorio**	**0.52**	**147**	P			**Pb**	**20 31 04.4**	**-0.9**
NEST				S			**Sb**	**20 31 13.2**	**+0.7**
KRUS	**Krusevo**	**0.67**	**40**	⇓*i*Pg			**Pb**	**20 31 07.0**	**-0.9**
KRUS				*i* Sg			**Sb**	**20 31 17.6**	**+0.7**
KRUS				*e*Lg		Lg		20 31 19.8	
	comp=N,467nm,0.3s								
PENT	**Pentalofos**	**0.74**	**152**	P			**Pb**	**20 31 08.4**	**-0.7**
PENT				S			**Sb**	**20 31 19.2**	**+0.3**
PENT	**Pentalofos**	**0.74**	**152**	P			**Pb**	**20 31 08.3**	**-0.8**
PENT				S			**Sn**	**20 31 19.5**	**-0.9**
TPE	**Tepelena**	**0.76**	**223**	P			**Pb**	**20 31 07.4**	**-1.8**
TPE	**Tepelena**	**0.76**	**223**	*i* PG			**Pb**	**20 31 07.5**	**-1.8**
TPE				*i* SG			**Sn**	**20 31 21.0**	**+0.4**
TIR	**Tirane**	**0.79**	**309**	*e*Pg			**Pb**	**20 31 08.9**	**-0.9**
TIR				*e*Sg			**Sn**	**20 31 22.6**	**+1.1**
TIR	**Tirane**	**0.79**	**309**	P			**Pb**	**20 31 08.5**	**-1.3**
TIR	**Tirane**	**0.79**	**309**	⇑*i*P			**Pb**	**20 31 08.9**	**-0.9**
TIR				S			**Sb**	**20 31 17.7**	**-2.4**
TIR	**Tirane**	**0.79**	**309**	P			**Pb**	**20 31 09.0**	**-0.9**
TIR				S			**Sn**	**20 31 21.4**	**-0.1**
TIR	**Tirane**	**0.79**	**309**	*i* Pg			**Pb**	**20 31 09.0**	**-0.9**
TIR	**Tirane**	**0.79**	**309**	*i* PG			**Pb**	**20 31 08.9**	**-0.9**
TIR				*i* SG			**Sn**	**20 31 22.8**	**+1.3**
PHP	**Peshkopia**	**0.85**	**348**	P			**Pb**	**20 31 09.5**	**-1.4**
PHP				S			**Sn**	**20 31 22.8**	**-0.2**
PHP	**Peshkopia**	**0.85**	**348**	*i* PG			**Pb**	**20 31 09.3**	**-1.7**
PHP				*i* SG			**Sn**	**20 31 22.9**	**-0.2**
VLO	**Vlora**	**0.98**	**247**	P			**Pn**	**20 31 12.9**	**-0.1**
VLO				S			**Sn**	**20 31 27.2**	**+1.1**
VLO	**Vlora**	**0.98**	**247**	*i* PG			**Pn**	**20 31 13.2**	**+0.2**
VLO				*i* SG			**Sn**	**20 31 28.9**	**+2.8**
KZN	**Kozani**	**0.99**	**123**	P			**Pb**	**20 31 12.9**	**-0.4**
KZN				S			**Sn**	**20 31 27.9**	**+1.3**
KZN				AML		AML		20 31 31.6	
	comp=E,3767μm,0.3s								
KZN				AML		AML		20 31 34.5	
	comp=N,4028μm,0.4s								
KZN	**Kozani**	**0.99**	**123**	P			**Pb**	**20 31 12.9**	**-0.4**
KZN				S			**Sn**	**20 31 28.6**	**+2.0**
KPRO	**Kipourio**	**1.04**	**150**	P			**Pn**	**20 31 13.8**	**-0.1**
KPRO				S			**Sn**	**20 31 27.9**	**+0.3**
KPRO				AML		AML		20 31 33.0	
	comp=E,2714μm,0.6s								
KPRO				AML		AML		20 31 34.9	
	comp=N,2994μm,0.5s								
KPRO	**Kipourio**	**1.04**	**150**	P			**Pn**	**20 31 13.8**	**-0.1**
KPRO				S			**Sn**	**20 31 30.7**	**+3.1**
SRN	**Sarande**	**1.10**	**208**	P			**Pb**	**20 31 15.1**	**0.0**
SRN				S			**Sn**	**20 31 32.6**	**+3.5**
SRN	**Sarande**	**1.10**	**208**	*i* PN			**Pn**	**20 31 14.4**	**-0.3**
SRN				*i* SN			**Sn**	**20 31 33.4**	**+4.3**
JAN	**Janina**	**1.20**	**174**	P			**Pb**	**20 31 17.3**	**+0.5**
JAN				S			**Sn**	**20 31 35.0**	**+3.4**
JAN				AML		AML		20 31 41.2	
	comp=E,2789μm,0.4s								
JAN				AML		AML		20 31 41.3	
	comp=N,2368μm,0.4s								
JAN	**Janina**	**1.20**	**174**	P			**Pn**	**20 31 16.2**	**+0.1**
JAN				S			**Sn**	**20 31 36.0**	**+4.4**
KASA	**Kassiopi**	**1.24**	**208**	P			**Pb**	**20 31 17.1**	**-0.5**
SKO	**Skopje**	**1.25**	**27**	*e*Pg			**Pb**	**20 31 17.7**	**-0.1**
SKO				*e*Sg			**Sb**	**20 31 34.2**	**+0.7**
SKO	**Skopje**	**1.25**	**27**	P			**Pb**	**20 31 17.5**	**-0.3**
SKO				S			**Sb**	**20 31 35.6**	**+2.1**
SKO	**Skopje**	**1.25**	**27**	*i* Pg			**Pb**	**20 31 18.2**	**+0.5**
SKO				*i* Sg			**Sb**	**20 31 36.1**	**+2.6**
SKO				*e*Lg		Lg		20 31 37.1	
	comp=N,95nm,0.4s								
GRG	**Griva**	**1.31**	**85**	P			**Pb**	**20 31 18.4**	**-0.2**
GRG				AML		AML		20 31 43.4	
	comp=N,1730μm,0.5s								
GRG				AML		AML		20 31 43.6	
	comp=E,1632μm,0.7s								
GRG	**Griva**	**1.31**	**85**	P			**Pb**	**20 31 18.4**	**-0.2**
GRG				S			**Sb**	**20 31 37.5**	**+2.5**
GRG	**Griva**	**1.31**	**85**	*i* Pg			**Pb**	**20 31 19.0**	**+0.3**
GRG				*i* Sg			**Sb**	**20 31 37.3**	**+2.3**
KEK	**Kerkira**	**1.32**	**211**	P			**Pb**	**20 31 19.3**	**+0.4**
KEK				S			**Sb**	**20 31 38.1**	**+2.7**
KEK				AML		AML		20 31 41.2	
	comp=N,962μm,0.3s								
KEK				AML		AML		20 31 42.3	
	comp=E,1529μm,0.6s								
KEK	**Kerkira**	**1.32**	**211**	P			**Pb**	**20 31 19.9**	**+1.0**
KEK				S			**Sb**	**20 31 39.5**	**+4.1**
PUK	**Puka**	**1.33**	**334**	*i* PN			**Pb**	**20 31 19.1**	**+0.1**
PUK				*i* SN			**Sb**	**20 31 40.2**	**+4.5**
IGT	**Igoumenitsa**	**1.35**	**192**	P			**Pb**	**20 31 19.4**	**+0.1**
IGT				S			**Sb**	**20 31 38.9**	**+2.8**
IGT				AML		AML		20 31 43.3	
	comp=N,1426μm,0.6s								
IGT				AML		AML		20 31 43.7	
	comp=E,1399μm,0.9s								
IGT	**Igoumenitsa**	**1.35**	**192**	P			**Pb**	**20 31 19.7**	**+0.4**
IGT				S			**Sb**	**20 31 40.1**	**+4.0**
STIP	**Stip**	**1.41**	**53**	*i* Pg			**Pb**	**20 31 22.8**	**+2.3**
STIP				*i* Sg			**Sb**	**20 31 46.5**	**+8.5**
STIP				*e*Lg		Lg		20 31 47.9	
	comp=N,64nm,0.3s								
VAY	**Valandovo**	**1.50**	**71**	*e*Pg			**Pb**	**20 31 21.5**	**-0.5**
VAY				*e*Sg			**Sb**	**20 31 43.1**	**+2.5**
VAY	**Valandovo**	**1.50**	**71**	P			**Pb**	**20 31 21.4**	**-0.5**
VAY				S			**Sb**	**20 31 43.0**	**+2.5**
VAY	**Valandovo**	**1.50**	**71**	⇓*i*Pg			**Pb**	**20 31 21.4**	**-0.5**
VAY				*i* Sg			**Sb**	**20 31 42.8**	**+2.3**
VAY				*e*Lg		Lg		20 31 49.1	
	comp=N,325nm,0.7s								
ULC	**Ulcinj**	**1.55**	**316**	⇓*i*Pg			**Pb**	**20 31 22.4**	**-0.4**
ULC				*e*Sg			**Sb**	**20 31 44.5**	**+2.5**
LIT	**Litokhoron**	**1.57**	**118**	P			**Pb**	**20 31 22.8**	**-0.3**
LIT	**Litokhoron**	**1.57**	**118**	P			**Pb**	**20 31 22.8**	**-0.3**
LIT				S			**Sb**	**20 31 44.9**	**+2.3**
BCI	**Bajram Curri**	**1.58**	**343**	*i* PN			**Pb**	**20 31 23.2**	**-0.1**
BCI				*i* SN			**Sb**	**20 31 47.6**	**+4.8**
THL	**Klokotos Trika**	**1.64**	**141**	P			**Pb**	**20 31 23.9**	**-0.4**
THL				S			**Sb**	**20 31 44.8**	**+0.2**
THL				AML		AML		20 31 51.8	
	comp=E,716μm,0.4s								
THL				AML		AML		20 31 53.6	
	comp=N,932μm,0.5s								
THL	**Klokotos Trika**	**1.64**	**141**	P			**Pb**	**20 31 24.0**	**-0.4**
THL				S			**Sb**	**20 31 46.1**	**+1.5**
KNT	**Kendrikon**	**1.71**	**79**	P			**Pb**	**20 31 24.3**	**-1.1**
KNT	**Kendrikon**	**1.71**	**79**	P			**Pb**	**20 31 24.4**	**-1.1**
KNT				S			**Sb**	**20 31 47.5**	**+1.0**
KNT	**Kendrikon**	**1.71**	**79**	⇓*i*Pg			**Pb**	**20 31 24.4**	**-1.1**
KNT				*i* Sg			**Sb**	**20 31 47.4**	**+0.9**
DRME	**Dracevica, Mon**	**1.74**	**320**	⇑*i*Pn			**Pb**	**20 31 25.5**	**-0.6**
DRME				*e*Sn			**Sb**	**20 31 49.3**	**+1.8**
DRME	**Dracevica, Mon**	**1.74**	**320**	*e*Pn			**Pb**	**20 31 25.5**	**-0.6**
THE	**Thessaloniki**	**1.75**	**97**	P			**Pn**	**20 31 23.8**	**+0.3**
THE	**Thessaloniki**	**1.75**	**97**	*i* Pg			**Pb**	**20 31 24.8**	**-1.3**
PVY	**Plav**	**1.82**	**343**	⇑*i*Pn			**Pb**	**20 31 26.7**	**-0.8**
PVY				*e*Sn			**Sb**	**20 31 50.6**	**+0.7**
HORT	**Hortiatis**	**1.86**	**97**	P			**Pn**	**20 31 25.9**	**+0.8**
HORT	**Hortiatis**	**1.86**	**97**	P			**Pn**	**20 31 26.0**	**+0.8**
HORT				S			**Sb**	**20 31 50.1**	**-0.7**
PDG	**Podgorica**	**1.90**	**326**	*e*Pn			**Pb**	**20 31 27.9**	**-0.9**
PDG				*e*Sn			**Sb**	**20 31 51.0**	**-1.1**
PDG	**Podgorica**	**1.90**	**326**	⇑*i*P			**Pb**	**20 31 27.7**	**-1.1**
PDG	**Podgorica**	**1.90**	**326**	S			**Sn**	**20 31 49.5**	**+0.6**
PDG	**Podgorica**	**1.90**	**326**	*i* Pg			**Pb**	**20 31 28.1**	**-0.7**
PDG	**Podgorica**	**1.90**	**326**	*e*Pn			**Pb**	**20 31 27.9**	**-0.9**
TTG	**Podgorica**	**1.90**	**326**	⇑*i*Pn			**Pb**	**20 31 27.9**	**-0.9**
TTG				*e*Sn			**Sb**	**20 31 52.8**	**+0.7**
BUM	**Brajici-Budva**	**1.97**	**318**	⇓*i*Pn			**Pn**	**20 31 28.1**	**+1.4**
BUM				*e*Sn			**Sb**	**20 31 54.7**	**+0.5**
SOH	**Sokhos**	**2.03**	**90**	P			**Pn**	**20 31 28.8**	**+1.3**
SOH	**Sokhos**	**2.03**	**90**	P			**Pn**	**20 31 28.8**	**+1.3**
SOH	**Sokhos**	**2.03**	**90**	*i* Pn			**Pn**	**20 31 28.6**	**+1.2**
LKD2	**Lefkada island**	**2.06**	**181**	P			**Pb**	**20 31 31.0**	**-0.5**
LKD2	**Lefkada island**	**2.06**	**181**	P			**Pb**	**20 31 31.0**	**-0.5**
KKB	**Krupnik**	**2.07**	**60**	*i* Pn			**Pb**	**20 31 29.6**	**+1.6**
IVA	**Berane**	**2.10**	**344**	⇓*i*Pn			**Pb**	**20 31 30.6**	**-1.6**
IVA				*e*Sn			**Sb**	**20 31 57.3**	**-0.6**
EVR	**Evrytania**	**2.12**	**155**	P			**Pb**	**20 31 31.4**	**-1.2**
EVR	**Evrytania**	**2.12**	**155**	P			**Pb**	**20 31 32.4**	**-0.1**
EVR				S			**Sb**	**20 32 00.0**	**+1.6**
BARS	**Barje**	**2.14**	**23**	*e*Pn			**Pn**	**20 31 30.0**	**+1.1**
BARS	**Barje**	**2.14**	**23**	*e*Pn			Pb	20 31 46.2	+13
BARS				*e*Sn			**Sn**	**20 31 56.5**	**+1.8**
MAKR	**Makrakomi, Fth**	**2.15**	**148**	P			**Pb**	**20 31 31.3**	**-1.7**
MAKR	**Makrakomi, Fth**	**2.15**	**148**	P			**Pb**	**20 31 31.3**	**-1.7**
PLG	**Polygyros**	**2.16**	**102**	P			**Pn**	**20 31 30.7**	**+1.5**
PLG	**Polygyros**	**2.16**	**102**	P			**Pn**	**20 31 30.7**	**+1.5**
PLG				S			**Sb**	**20 31 58.4**	**-1.1**
KOME	**Kolasin**	**2.18**	**337**	⇓*i*Pn			**Pb**	**20 31 31.5**	**-2.0**
KOME				*e*Sn			**Sb**	**20 31 59.4**	**-0.7**
SRS	**Serrai**	**2.22**	**82**	P			**Pn**	**20 31 31.2**	**+1.1**
SRS				AML		AML		20 32 12.2	
	comp=E,199μm,0.7s								
SRS				AML		AML		20 32 17.7	
	comp=N,165μm,0.6s								
SRS	**Serrai**	**2.22**	**82**	P			**Pn**	**20 31 31.2**	**+1.1**
SRS				S			**Sb**	**20 31 59.3**	**-1.9**
SRS	**Serrai**	**2.22**	**82**	*i* Pn			**Pn**	**20 31 31.1**	**+1.0**
AGG	**Agios Georgios**	**2.23**	**145**	P			**Pn**	**20 31 31.7**	**+1.6**
AGG				S			**Sb**	**20 31 59.6**	**-1.8**
AGG				AML		AML		20 32 08.1	
	comp=E,426μm,0.5s								
AGG				AML		AML		20 32 08.2	
	comp=N,455μm,0.4s								
AGG	**Agios Georgios**	**2.23**	**145**	P			**Pn**	**20 31 31.6**	**+1.4**
AGG				S			**Sb**	**20 32 00.8**	**-0.6**
EVGI	**Lefkada island**	**2.23**	**181**	P			**Pb**	**20 31 32.6**	**-1.7**
EVGI	**Lefkada island**	**2.23**	**181**	P			**Pb**	**20 31 32.7**	**-1.7**
FYTO	**Fytoko, Volos**	**2.25**	**129**	P			**Pn**	**20 31 31.7**	**+1.1**
FYTO	**Fytoko, Volos**	**2.25**	**129**	P			**Pn**	**20 31 31.6**	**+1.1**
PDO	**Prodromos**	**2.29**	**170**	P			**Pb**	**20 31 34.0**	**-1.3**
PDO	**Prodromos**	**2.29**	**170**	P			**Pb**	**20 31 34.5**	**-0.8**
HCY	**Herceg Novi**	**2.29**	**315**	⇑*i*Pn			**Pn**	**20 31 32.5**	**+1.5**
HCY				*e*Sn			**Sb**	**20 32 02.3**	**-0.8**
HCY	**Herceg Novi**	**2.29**	**315**	*e*Pn			**Pn**	**20 31 32.1**	**+1.1**
NKME	**Niksic**	**2.31**	**327**	⇓*i*Pn			**Pn**	**20 31 33.1**	**+1.8**
NKME				*e*Sn			**Sb**	**20 32 02.6**	**-1.2**
PVO	**Paravola**	**2.33**	**163**	P			**Pb**	**20 31 34.8**	**-1.2**
NKY	**Niksic**	**2.33**	**328**	⇓*i*Pn			**Pn**	**20 31 33.4**	**+1.7**
NKY				*e*Sn			**Sb**	**20 32 03.0**	**-1.5**
SELS	**Selova**	**2.39**	**8**	*e*Pn			**Pn**	**20 31 33.5**	**+1.1**
SELS				*e*Sn			**Sn**	**20 32 03.3**	**+2.4**
MMB	**Musomiste**	**2.41**	**71**	⇓*i*Pn			**Pn**	**20 31 34.1**	**+1.4**
XOR	**Xorichti**	**2.43**	**127**	P			**Pn**	**20 31 33.9**	**+0.9**
XOR	**Xorichti**	**2.43**	**127**	P			**Pn**	**20 31 33.9**	**+0.9**
XOR				S			**Sn**	**20 32 04.0**	**+2.0**
CGL1	**Ceglie Messapi**	**2.44**	**266**	*e*Pn			**Pn**	**20 31 33.2**	**+0.1**
ANX	**Ano Chora**	**2.45**	**157**	P			**Pn**	**20 31 36.7**	**-1.4**
NVR	**Nevrokopi**	**2.45**	**77**	P			**Pn**	**20 31 34.9**	**+1.6**
NVR				S			**Sb**	**20 32 05.1**	**-2.9**
NVR				AML		AML		20 32 23.3	
	comp=Z,120μm,0.9s								
NVR				AML		AML		20 32 23.9	
	comp=N,184μm,1.2s								
NVR	**Nevrokopi**	**2.45**	**77**	P			**Pn**	**20 31 34.9**	**+1.6**
PAIG	**Paliouri**	**2.47**	**111**	P			**Pn**	**20 31 34.4**	**+0.9**
PAIG	**Paliouri**	**2.47**	**111**	P			**Pn**	**20 31 34.4**	**+0.9**
PAIG				S			**Sn**	**20 32 04.5**	**+1.6**
NEO	**Neokhori**	**2.49**	**128**	P			**Pn**	**20 31 34.8**	**+1.0**
NEO	**Neokhori**	**2.49**	**128**	P			**Pn**	**20 31 34.7**	**+1.0**
NEO				S			**Sb**	**20 32 06.0**	**-3.0**
TREB	**Trebinje**	**2.55**	**318**	*e*Pn			**Pn**	**20 31 36.1**	**+1.5**
TREB				*e*Sn			**Sn**	**20 32 06.7**	**+1.8**
TREB	**Trebinje**	**2.55**	**318**	*e*Pn			**Pn**	**20 31 35.9**	**+1.3**
VTS	**Vitosha**	**2.57**	**47**	*e*Pn			**Pn**	**20 31 36.9**	**+1.9**
VTS				*e*Sn			**Sn**	**20 32 06.7**	**+1.2**
VTS	**Vitosha**	**2.57**	**47**	⇑*i*P			**Pb**	**20 31 37.6**	**-2.6**
VTS	**Vitosha**	**2.57**	**47**	S			**Sb**	**20 32 08.9**	**-2.5**
BRY	**Bratogost**	**2.60**	**323**	⇓*i*Pn			**Pn**	**20 31 37.4**	**+2.0**
BRY				*e*Sn			**Sb**	**20 32 09.5**	**-2.7**
BRY	**Bratogost**	**2.60**	**323**	*e*Pn			**Pn**	**20 31 37.3**	**+1.9**
EFP	**Efpalio**	**2.60**	**158**	P			**Pn**	**20 31 37.4**	**+2.1**
TAR1	**Taranto**	**2.60**	**264**	*e*Pn			**Pn**	**20 31 35.6**	**+0.3**
PLE	**Pljevlja**	**2.66**	**339**	⇑*i*Pn			**Pn**	**20 31 38.1**	**+1.9**
PLE				*e*Sn			**Sb**	**20 32 10.7**	**-3.2**
SERG	**Sergoula**	**2.66**	**156**	P			**Pn**	**20 31 37.8**	**+1.7**
VLS	**Valsamata**	**2.67**	**182**	P			**Pn**	**20 31 38.4**	**+2.2**
UPM	**Unac-Piva**	**2.69**	**331**	⇑*i*Pn			**Pn**	**20 31 38.4**	**+1.6**
UPM				*e*Sn			**Sn**	**20 32 11.6**	**+2.9**
UPM	**Unac-Piva**	**2.69**	**331**	*e*Pn			**Pb**	**20 31 40.0**	**-2.4**
MASS	**Massafra**	**2.70**	**266**	*e*Pn			**Pn**	**20 31 36.4**	**-0.2**
KALE	**Kalithea**	**2.70**	**155**	P			**Pb**	**20 31 40.1**	**-2.4**
SKIA	**Skiathos**	**2.72**	**127**	P			**Pn**	**20 31 37.8**	**+0.8**
IVAS	**Ivanjica**	**2.75**	**352**	*e*Pn			**Pn**	**20 31 38.3**	**+0.9**
IVAS				*e*Sn			**Sn**	**20 32 11.4**	**+1.5**
SMIA	**Simia**	**2.77**	**135**	P			**Pn**	**20 31 38.8**	**+1.1**
ATAL	**Atalanti**	**2.81**	**139**	P			**Pn**	**20 31 39.6**	**+1.4**
ZAPS	**Zavoj**	**2.82**	**30**	*e*Pn			**Pn**	**20 31 40.1**	**+1.7**
ZAPS				*e*Sn			**Sn**	**20 32 13.4**	**+1.8**
DSF	**Desfina**	**2.83**	**149**	P			**Pn**	**20 31 40.1**	**+1.6**
RLS	**Riolos of Patr**	**2.86**	**167**	P			**Pb**	**20 31 42.0**	**-3.0**
BOVS	**Bovan**	**2.88**	**15**	*e*Pn			**Pn**	**20 31 40.1**	**+

SQTA				*e*Sn		**Sn**	**20 34 52.1**	**+0.2**
	comp=N,1.7nm,0.3s								
GERES	**GERESS Array B**	**9.40**	**331**	Pn		**Pn**	**20 33 09.5**	**+0.8**
	comp=N,0.2nm,0.3s,baz=153,slow=15,SNR=5.6								
GERES				Sn		**Sn**	**20 34 52.2**	**-1.4**
	comp=N,0.1nm,0.3s,baz=148,slow=27,SNR=3.2								
FETA	**Feichten**	**9.46**	**314**	*e*Pn		**Pn**	**20 33 12.2**	**+2.6**
	comp=N,2.1nm,0.6s								
FETA				*e*Sn		**Sn**	**20 34 55.3**	**+0.2**
	comp=N,2.0nm,0.6s								
MOTA	**Moosalm**	**9.46**	**316**	*e*Pn		**Pn**	**20 33 12.6**	**+3.0**
	comp=N,1.2nm,0.3s								
MOTA				*e*Sn		**Sn**	**20 34 57.7**	**+2.5**
	comp=N,2.1nm,0.4s								
KHC	**Kasperske Hory**	**9.68**	**331**	*e*PN		**Pn**	**20 33 15.2**	**+2.7**
RETA	**Reutte**	**9.73**	**316**	Pn		**Pn**	**20 33 15.3**	**+2.1**
	comp=N,0.9nm,0.4s								
RETA				*e*Sn		**Sn**	**20 35 03.6**	**+1.9**
	comp=N,3.5nm,0.5s								
DAVOX	**Davos/Dischmat**	**9.80**	**311**	Pn		**Pn**	**20 33 13.5**	**-0.7**
	comp=N,0.3nm,0.3s,baz=128,slow=19,SNR=3.9								
HFS	**Hagfors**	**19.79**	**350**	P		**P**	**20 35 22.6**	**-0.4**
	comp=N,0.7nm,0.5s,baz=170,slow=12,SNR=7.3								
FINES	**FINESS Array B**	**20.88**	**7**	P		**P**	**20 35 33.8**	**-1.0**
	comp=N,0.2nm,0.3s,baz=205,slow=15,SNR=2.5								
NB2	**NORSAR Subarra**	**21.03**	**347**	P		**P**	**20 35 36.6**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=156,slow=11								
NOA	**NORSAR Array B**	**21.03**	**347**	P		**P**	**20 35 36.7**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=161,slow=11,SNR=3.3								
EKA	**Eskdalemuir Ar**	**21.38**	**321**	P		**P**	**20 35 39.3**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=112,slow=8.8,SNR=3.9								
AKTO	**Aktyubinsk**	**27.55**	**57**	LR		LR	20 50 34.3		
	comp=Z,58nm,18.5s,baz=359,slow=43								
MKAR	**Makanchi Array**	**43.84**	**61**	P		**P**	**20 38 56.3**	**-2.5**
	comp=Z,0.1nm,0.2s,baz=291,slow=6.7,SNR=2.8								

MEX 23 20:32:48.5±0.8, 18°25N×100°54W, h56 km±7 km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ARIG	**Puente Sto Nin**	**0.19**	**82**	*e*P		Pn	20 32 55.7	-1.8
ARIG				*i* S		Sn	20 33 02.3	-1.6
MEIG	**Mezcala**	**0.94**	**110**	*e*P		Pn	20 33 04.3	-1.3
MEIG				*e*S		Sn	20 33 16.3	-1.9
PLIG	**Platanillo**	**1.00**	**82**	*i* P		Pn	20 33 05.3	-1.1
PLIG				*e*S		Sn	20 33 17.5	-2.2
ZIIG	**Zihuatanejo**	**1.09**	**234**	*i* P		Pn	20 33 05.3	-2.3
ZIIG				*i* S		Sn	20 33 20.0	-1.8

*IDC **23** 20:35:18.8±1.8, 17.°43S×167.°38E, h0km, mb4.0/7, mb1 4.2/8, mb1mx3.9/31, mbtmp4.0/8, ML4.1/1, MS3.1/4, Ms1 3.1/4, ms1mx2.8/30, Error ellipse: s-maj=41.6km s-min=26.2km az=117.0*
*ISCJB **23** 20:35:21.0±0.7, 17.°46S±0.°06×167.°2E±0.°1, h19km, mb4.4/12, MS3.3/3, Error ellipse: s-maj=16.2km s-min=9.3km az=4.5*
*NEIC **23** 20:35:25.9±4.6, 17.°51S×167.°28E, h48km±47km, mb4.6/2, Error ellipse: s-maj=49.1km s-min=14.0km az=169.0*
ISC 23 20:35:22.7±0.9, 17°44S±0.°09×167°2E±0.°2, h19km, n17, σ1§40/16, mb4.3/12, MS3.3/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**4.66**	**189**	Pn		**Pn**	**20 36 33.0**	**+0.7**
	7.8nm,0.3s,baz=31,slow=18,SNR=58							
DZM				Sn		**Sn**	**20 37 24.6**	**-1.4**
	6.2nm,0.3s,baz=319,slow=19,SNR=7.5							
DZM				LR		LR	20 37 55.2	
	comp=Z,47nm,18.7s,baz=286,slow=33							
ONTNC	**Ouen Toro**	**4.89**	**188**	*e*Pn		**Pn**	**20 36 36.3**	**+1.0**
CTA	**Charters Tower**	**20.00**	**259**	P		**Pn**	**20 39 55.9**	**-0.3**
	13nm,1.1s,baz=78,slow=14,SNR=2.5							
STKA	**Stephens Creek**	**27.25**	**233**	P		**P**	**20 41 05.8**	**0.0**
	4.0nm,1.0s,baz=74,slow=8.7,SNR=4.6							
STKA				LR		LR	20 51 38.8	
	comp=Z,50nm,18.0s,baz=24,slow=36							
WRAB	**Tennant Creek**	**31.18**	**260**	P		**P**	**20 41 41.8**	**+0.9**
	13nm,1.4s							
WR1	**Warramunga Arr**	**31.19**	**260**	*e*P		**P**	**20 41 40.7**	**-0.3**
	21nm,1.4s							
WRA	**Warramunga Arr**	**31.19**	**260**	P		**P**	**20 41 40.7**	**-0.3**
	0.3nm,0.6s,baz=81,slow=7.9,SNR=7.2							
ASAR	**Alice Springs**	**31.73**	**253**	P		**P**	**20 41 45.9**	**+0.2**
	1.1nm,0.5s,baz=78,slow=8.6,SNR=18							
FITZ	**Fitzroy Crossi**	**39.51**	**263**	P		**P**	**20 42 53.3**	**+0.7**
	3.2nm,1.0s,baz=85,slow=12,SNR=2.7							
BATI	**Baumata**	**42.80**	**274**	LR		LR	21 00 28.0	
	comp=Z,37nm,19.5s,baz=275,slow=35							
NWAO	**Narrogin (SRO)**	**47.34**	**241**	LR		LR	21 03 43.0	
	comp=Z,55nm,18.4s,baz=302,slow=36							
CMAR	**Chiang Mai Arr**	**75.99**	**295**	P		**P**	**20 47 10.3**	**+1.2**
	0.3nm,0.4s,baz=123,slow=3.6,SNR=4.7							
BEKR	**Beckworth**	**88.20**	**47**	*e*P		**P**	**20 48 11.6**	**-1.3**
	13nm,0.8s							
ILAR	**Eielson Array**	**89.11**	**18**	P		**P**	**20 48 14.8**	**-1.6**
	1.1nm,1.1s,baz=211,slow=5.1,SNR=2.9							
G08A	**Pilot Rock**	**91.35**	**43**	*e*P		**P**	**20 48 30.9**	**+3.4**
	4.1nm,0.6s							
WMQ	**Urumqi**	**94.56**	**314**	*e*P		**P**	**20 48 40.7**	**-1.6**
	9.2nm,0.8s							
YHB	**Horse Butte**	**96.30**	**45**	*e*P		**P**	**20 48 51.2**	**+0.8**
	6.0nm,0.9s							

*ISK **23** 20:41:26.9, 39.°58N×33.°92E, h9km, ML2.1/7*
*DDA **23** 20:41:27.4, 39.°58N±33.°91E, h7km±2km, ML2.8*
ISC 23 20:41:27.7±1.3, 39°57N±0.°03×33°93E±0.°03, h11 km±12km, n16, σ0§81/25, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CDAG	**Cicekdag**	**0.35**	**81**	IAML_P				
	comp=Z,3μm,0.1s							
CDAG				*i* P		**Pb**	**20 41 35.1**	**-0.9**
DELI	**KIRIKKALE**	**0.43**	**360**	*i* P		**Pb**	**20 41 36.5**	**-0.9**
DELI				*i* S		**Sb**	**20 41 42.7**	**-1.2**
BBAL	**Bala**	**0.62**	**268**	IAML_P				
	comp=Z,2μm,0.2s							
BBAL				*i* P		**Pb**	**20 41 40.3**	**-0.4**
BBAL				*i* S		**Sb**	**20 41 48.8**	**-0.6**
YAYX	**Yaylak**	**0.64**	**188**	PG		**Pg**	**20 41 39.5**	**-0.5**
YAYX				SG		**Sb**	**20 41 49.5**	**-0.3**
AFSR	**Afar-Bala (An**	**0.67**	**260**	PG		**Pg**	**20 41 40.3**	**-0.4**
AFSR				SG		**Sb**	**20 41 50.0**	**-0.9**
SERE	**Sereflikochisa**	**0.68**	**204**	PG		**Pg**	**20 41 40.8**	**-0.1**
SERE				SG		**Sb**	**20 41 50.9**	**-0.2**
KULU	**Kulu**	**0.89**	**234**	PG		**Pg**	**20 41 44.9**	**-0.3**
KULU				SG		**Sb**	**20 41 57.5**	**+0.4**
ANTO	**Ankara**	**0.92**	**289**	PG		**Pg**	**20 41 44.7**	**-0.8**
AKSY	**AKSARAY - Alti**	**0.93**	**188**	IAML_P				
	comp=Z,126nm,0.1s							
AKSY				*i* P		**Pg**	**20 41 45.1**	**-0.4**
AVNS	**Nevsehir-Avano**	**1.04**	**136**	IAML_P				
	comp=Z,634nm,0.1s							
AVNS				*i* P		**Pn**	**20 41 50.6**	**+2.2**
AVNS				*i* S		**Sn**	**20 42 02.8**	**-0.3**
COAL	**Corum-Alaca**	**1.07**	**50**	*i* P		**Pn**	**20 41 49.0**	**+0.3**
COAL				*i* S		**Sb**	**20 42 02.6**	**+0.4**
YOZ	**Yozgat**	**1.08**	**86**	PN		**Pb**	**20 41 48.4**	**-0.1**
SULT	**Sultanhani-AKS**	**1.40**	**193**	PN		**Pn**	**20 41 53.5**	**+0.2**
CMDR	**Camlidere-ANKA**	**1.45**	**310**	*i* P		**Pg**	**20 41 56.7**	**+1.2**
CMDR				*i* S		**Sg**	**20 42 15.4**	**+1.1**
BNN	**Bunyan**	**1.66**	**115**	PN		**Pn**	**20 41 56.9**	**+0.1**
CUSAR	**Sarkisla-SIVAS**	**1.80**	**94**	*i* P		**Pg**	**20 42 02.0**	**-0.2**

*ISCJB **23** 20:52:40.6±0.4, 27.°15N±0.°05×140.°40E±0.°07, h450km, mb3.6/19, Error ellipse: s-maj=8.2km s-min=7.0km az=164.8*
*IDC **23** 20:52:41.7±1.0, 27.°14N×140.°33E, h451km±10km, mb3.3/18, mb1 3.4/21, mb1mx3.3/46, mbtmp4.1/21, Error ellipse: s-maj=15.0km s-min=11.3km az=91.0*
*JMA **23** 20:52:42.8±0.3, 27.°44N×140.°96E, h456km±3km, M3.7*
ISC 23 20:52:41.5±0.6, 27°19N±0.°08×140°47E±0.°09, h450km, n49, σ1§18/58, mb3.8/24, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CBIJ	**Chichi jima**	**1.53**	**93**	P		**P**	**20 53 40.3**	**+0.6**
CBIJ				*e*S		**S**	**20 54 25.7**	**-1.1**
JCJ	**Chichijima**	**1.53**	**93**	P		**P**	**20 53 39.6**	**-0.1**
	47nm,0.3s,baz=336,slow=23,SNR=7.3							
JCJ				S		**S**	**20 54 24.7**	**-2.1**
	61nm,0.3s,baz=180,slow=20,SNR=5.3							
JHHJ	**Haha-jima-NKT**	**1.62**	**110**	P		**P**	**20 53 41.3**	**+1.2**
JHHJ				*e*S		**S**	**20 54 27.8**	**+0.3**
BSO1	**Boso 1**	**7.46**	**3**	P		**P**	**20 54 30.5**	**+0.2**
JIE	**Ise**	**7.88**	**337**	P		**P**	**20 54 38.2**	**+2.7**
JKN2	**Miekihoku**	**7.91**	**334**	P		**P**	**20 54 38.0**	**+2.3**
JWY	**Kouya**	**8.17**	**330**	P		**P**	**20 54 41.8**	**+3.1**
JAI	**Aioi**	**8.39**	**323**	P		**P**	**20 54 44.1**	**+3.1**
JHU	**Hanno**	**8.70**	**354**	P		**P**	**20 54 45.0**	**+0.7**
JRY	**Ryogami san**	**8.90**	**352**	P		**P**	**20 54 48.0**	**+1.4**
JYT	**Yasato**	**9.02**	**359**	P		**P**	**20 54 48.5**	**+0.8**
JAG	**Ashikaga**	**9.25**	**355**	P		**P**	**20 54 50.6**	**+0.3**
JHO	**Hitachi**	**9.40**	**0**	P		**P**	**20 54 52.8**	**+0.9**
MJAR	**Matsushiro Arr**	**9.52**	**349**	P		**P**	**20 54 52.8**	**-0.5**
	0.4nm,0.3s,baz=185,slow=12,SNR=14							
MAT	**Matsushiro**	**9.53**	**349**	P		**P**	**20 54 53.5**	**+0.2**
MAT				*e*S		**S**	**20 56 39.1**	**-2.7**
JFK	**Kawauchi**	**10.16**	**2**	P		**P**	**20 55 01.9**	**+1.7**
JOW	**Kunigami**	**10.89**	**271**	P		**P**	**20 55 09.1**	**+0.8**
	1.7nm,0.3s,baz=126,slow=14,SNR=3.7							
KSRS	**Korea Array**	**14.73**	**317**	P		P	20 55 55.4	+5.8
	0.2nm,0.3s,baz=133,slow=8.3,SNR=7.0							
USRK	**Ussuriysk Ar.**	**18.30**	**340**	P		**P**	**20 56 28.1**	**+1.1**
	0.5nm,0.3s,baz=170,slow=9.3,SNR=16							
KLR	**Kul'dur**	**23.02**	**345**	P		**P**	**20 57 10.4**	**+0.4**
	0.9nm,0.5s,baz=168,slow=8.3,SNR=9.0							
SONM	**Songino Array**	**33.60**	**317**	P		**P**	**20 58 41.6**	**-1.2**
	0.6nm,0.7s,baz=139,slow=7.9,SNR=5.8							
SONM				PcP		**PcP**	**21 01 10.9**	**+0.3**
	0.3nm,0.5s,baz=118,slow=4.0,SNR=4.3							
SONM				ScP		**ScP**	**21 04 11.7**	**-0.3**
	0.4nm,0.8s,baz=137,slow=3.1,SNR=3.6							
SEY	**Seymchan**	**36.60**	**9**	P		**P**	**20 59 09.2**	**+1.7**
	1.8nm,0.6s,baz=172,slow=9.1,SNR=5.3							
CMAR	**Chiang Mai Arr**	**39.11**	**266**	P		**P**	**20 59 27.5**	**-1.3**
	0.7nm,0.6s,baz=56,slow=8.2,SNR=7.4							
TIXI	**Tiksi**	**44.97**	**355**	P		**P**	**21 00 14.9**	**+0.4**
	1.4nm,0.3s,baz=154,slow=3.3,SNR=5.4							
WRA	**Warramunga Arr**	**47.23**	**188**	P		**P**	**21 00 31.8**	**-0.6**
	1.0nm,0.4s,baz=4.1,slow=7.6,SNR=35							
WRA				pP		**pP**	**21 01 59.7**	**+1.5**
	0.9nm,1.0s,baz=10,slow=8.5,SNR=2.9							
WRA				ScP		**ScP**	**21 05 04.9**	**-0.8**
	0.8nm,0.8s,baz=5.6,slow=4.5,SNR=3.6							
RAMN	**Ramite**	**47.65**	**283**	*e*P		**P**	**21 00 35.7**	**-0.3**
	8.2nm,0.7s							
JIRN	**Jiri**	**47.85**	**284**	*e*P		**P**	**21 00 37.9**	**+0.2**
	19nm,0.7s							
GUN	**Gumba**	**48.06**	**284**	*e*P		**P**	**21 00 39.3**	**+0.1**
ZALV	**Zalesovo Beam**	**48.42**	**319**	P		**P**	**21 00 40.6**	**-0.5**
	2.6nm,0.3s,baz=105,slow=7.2,SNR=13							
ZALV				PcP		**PcP**	**21 01 58.6**	**-0.5**
	1.2nm,0.3s,baz=104,slow=5.0,SNR=5.6							
PKI	**Pulchoki**	**48.54**	**284**	*e*P		**P**	**21 00 42.2**	**-0.6**
DMN	**Daman**	**48.80**	**284**	*e*P		**P**	**21 00 44.2**	**-0.4**
MKAR	**Makanchi Array**	**49.24**	**310**	P		**P**	**21 00 47.2**	**-0.2**
	2.1nm,0.8s,baz=89,slow=9.8,SNR=20							
MKAR				PcP		**PcP**	**21 02 02.2**	**-0.1**
	0.8nm,0.7s,baz=98,slow=4.9,SNR=6.3							
MKAR				ScP		**ScP**	**21 05 12.5**	**-1.5**
	0.5nm,0.5s,baz=75,slow=5.0,SNR=6.0							
DANN	**Dangsing**	**49.79**	**285**	*e*P		**P**	**21 00 52.1**	**0.0**
	15nm,0.8s							
KOLN	**Koldanda**	**50.06**	**285**	*e*P		**P**	**21 00 53.7**	**-0.3**
	13nm,1.0s							
PYUN	**Piuthan**	**50.51**	**285**	*e*P		**P**	**21 00 57.1**	**-0.2**
	7.3nm,0.4s							
ASAR	**Alice Springs**	**50.95**	**188**	P		**P**	**21 01 00.4**	**+0.2**
	0.2nm,0.3s,baz=352,slow=3.4,SNR=4.8							
ILAR	**Eielson Array**	**58.37**	**29**	P		**P**	**21 01 52.0**	**+0.1**
	0.8nm,0.8s,baz=250,slow=5.5,SNR=5.7							
YKA	**Yellowknife Ar**	**72.78**	**28**	P		**P**	**21 03 23.8**	**+1.2**
	1.6nm,0.7s,baz=295,slow=5.8,SNR=13							
ARCES	**ARCESS Array B**	**72.95**	**341**	P		**P**	**21 03 24.1**	**+0.5**
	3.1nm,0.6s,baz=71,slow=8.3,SNR=17							
KBZ	**Khabaz**	**76.83**	**312**	P		**P**	**21 03 46.1**	**+0.2**
	3.9nm,0.8s,baz=112,slow=2.3,SNR=14							
FINES	**FINESS Array B**	**77.19**	**333**	P		**P**	**21 03 47.4**	**-0.1**
	8.2nm,0.4s,baz=70,slow=5.0,SNR=89							
AKASG	**Malin Array Be**	**81.64**	**323**	P		**P**	**21 04 10.8**	**-0.5**
	3.2nm,0.6s,baz=51,slow=5.4,SNR=16							
NVAR	**Mina Array Bea**	**81.65**	**51**	P		**P**	**21 04 12.9**	**+0.9**
	0.3nm,0.5s,baz=294,slow=6.8,SNR=3.0							
NB2	**NORSAR Subarra**	**82.95**	**338**	P		**P**	**21 04 17.1**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=48,slow=4.6							
NOA	**NORSAR Array B**	**82.95**	**338**	P		**P**	**21 04 17.3**	**-0.6**
	comp=Z,2.7nm,0.7s,baz=46,slow=4.9,SNR=19							
BRTR	**Keskin Array B**	**84.82**	**312**	P		**P**	**21 04 26.4**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=67,slow=4.0,SNR=4.8							
VYHS	**Vyhne**	**88.37**	**325**	*e*P		**P**	**21 04 44.5**	**+0.2**
GERES	**GERESS Array B**	**90.64**	**328**	P		**P**	**21 04 53.8**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=38,slow=5.0,SNR=7.1							
TORD	**Torodi Ar. Bea**	**123.36**	**310**	PKhKP	PKPpre		21 10 41.6	
	comp=Z,0.2nm,0.7s,baz=9.0,slow=2.1,SNR=2.9							

*NEIC **23** 20:54:11.5±0.7, 52.°02N×174.°66E, h10km, mb4.5/4, Error ellipse: s-maj=18.3km s-min=8.4km az=177.0*
*IDC **23** 20:54:11.4±1.2, 52.°46N×174.°59E, h0km, mb3.8/14, mb1 4.0/16, mb1mx3.9/54, mbtmp3.9/16, ML3.6/2, MS3.1/4, Ms1 3.1/4, ms1mx2.7/45, Error ellipse: s-maj=42.5km s-min=13.5km az=173.0*
*ISCJB **23** 20:54:15.0±0.7, 52.°5N±0.°2×174.°55E±0.°09, h38km, mb4.0/19, MS3.1/3, Error ellipse: s-maj=26.4km s-min=7.3km az=172.5*
ISC 23 20:54:16.8±0.9, 52.°4N±0.°2×174.°46E±0.°06, h38km, n44, σ1§52/41, mb4.0/22, MS3.0/3, Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SMY	**Shemya**	**0.43**	**330**	*e*Pn		**Pn**	**20 54 28.8**	**+2.5**
PEA1	**Petropavlovsk-**	**10.20**	**281**	*e*Pn		**Pn**	**20 56 41.9**	**+1.5**
PEA1				*e*Sn		**Sn**	**20 58 28.4**	**-4.9**
PETK	**Petropavlovsk-**	**10.20**	**281**	Pn		**Pn**	**20 56 41.9**	**+1.5**
	0.3nm,0.3s,baz=90,slow=18,SNR=7.5							
PETK				Sn		**Sn**	**20 58 28.4**	**-4.9**
	0.7nm,0.3s,baz=94,slow=16,SNR=4.5							
PETK				LR		LR	21 00 34.9	
	comp=Z,64nm,20.6s,baz=99,slow=37							
KDAK	**Kodiak Island**	**19.51**	**61**	P		**P**	**20 58 38.6**	**-1.7**
	1.3nm,0.3s,baz=286,slow=10.0,SNR=7.0							
COLA	**College**	**22.86**	**42**	*e*P		**P**	**20 59 18.8**	**+2.4**
	108nm,0.3s							
COLA				*e*S		**S**	**21 03 21.7**	**-1.3**
ILAR	**Eielson Array**	**23.24**	**43**	P		**P**	**20 59 18.0**	**-2.2**
	0.8nm,0.6s,baz=250,slow=8.6,SNR=12							
DAWY	**Dawson**	**26.34**	**46**	*e*P		**P**	**20 59 49.8**	**+1.1**
	1.9nm,0.6s							
KLR	**Kul'dur**	**26.89**	**281**	P		**P**	**20 59 54.2**	**+0.5**
	0.8nm,0.5s,baz=51,slow=6.1,SNR=6.2							
KLR				LR		LR	21 11 11.4	
	comp=Z,43nm,19.0s,baz=68,slow=38							
H11N2	**WAKE ISLAND Hy**	**33.09**	**193**	T		T	21 35 51.5	
	baz=8.5,slow=76,SNR=40							
H11N3	**WAKE ISLAND Hy**	**33.10**	**193**	T		T	21 35 52.8	
	baz=8.5,slow=76,SNR=48							
H11N1	**WAKE ISLAND Hy**	**33.11**	**193**	T		T	21 35 52.8	
	baz=8.5,slow=76,SNR=44							
H11S1	**WAKE ISLAND Hy**	**34.32**	**193**	T		T	21 37 24.1	
	baz=8.2,slow=76,SNR=51							
H11S3	**WAKE ISLAND Hy**	**34.34**	**193**	T		T	21 37 25.2	
	baz=8.2,slow=76,SNR=38							
H11S2	**WAKE ISLAND Hy**	**34.34**	**193**	T		T	21 37 24.4	
	baz=8.2,slow=76,SNR=22							
KSRS	**Korea Array**	**35.51**	**264**	P		**P**	**21 01 11.2**	**+1.6**
	1.6nm,0.8s,baz=46,slow=10,SNR=3.6							
KSRS				LR		LR	21 15 47.9	
	comp=Z,26nm,18.9s,baz=42,slow=36							
KSAR	**Wonju Array Be**	**35.54**	**264**	P		**P**	**21 01 11.2**	**+1.3**
YKA	**Yellowknife Ar**	**37.58**	**46**	P		**P**	**21 01 26.2**	**-0.8**
	0.4nm,0.4s,baz=287,slow=7.6,SNR=4.5							
SONA0	**Songino Array**	**42.44**	**292**	*e*P		**P**	**21 02 08.4**	**+0.8**
SONM	**Songino Array**	**42.44**	**292**	P		**P**	**21 02 08.4**	**+0.8**
	1.3nm,0.6s,baz=60,slow=8.0,SNR=13							
SONM				LR		LR	21 22 04.9	
	comp=Z,42nm,18.2s,baz=334,slow=39							
NVAR	**Mina Array Bea**	**47.53**	**79**	P		**P**	**21 02 47.9**	**-0.4**
	0.3nm,0.4s,baz=294,slow=6.8,SNR=3.0							
PDAR	**Pinedale Array**	**49.93**	**69**	P		**P**	**21 03 06.3**	**-0.4**
	0.6nm,0.6s,baz=280,slow=3.1,SNR=6.0							
ULM	**Lac du Bonnet**	**52.57**	**54**	P		**P**	**21 03 25.1**	**-1.0**
	1.5nm,0.5s,baz=10,slow=18,SNR=4.0							
KURK	**Kurchatov**	**55.25**	**310**	*e*P		**P**	**21 03 45.8**	**+0.2**
	7.7nm,0.8s							
MK31	**Makanchi Array**	**56.09**	**304**	*e*P		**P**	**21 03 51.2**	**-0.5**
MK32	**Makanchi Array**	**56.09**	**304**	*e*P		**P**	**21 03 51.2**	**-0.5**
MKAR	**Makanchi Array**	**56.09**	**304**	P		**P**	**21 03 51.2**	**-0.5**
	1.2nm,0.5s,baz=54,slow=6.1,SNR=27							
MK01	**Makanchi Array**	**56.10**	**304**	*e*P		**P**	**21 03 51.3**	**-0.6**
MAKZ	**Makanchi**	**56.23**	**304**	*e*P		**P**	**21 03 52.5**	**-0.3**
	2.6nm,0.7s							
LTX	**Lajitas**	**62.57**	**77**	*e*P		**P**	**21 04 36.4**	**-0.5**
TXAR	**Lajitas Array**	**62.57**	**77**	P		**P**	**21 04 36.4**	**-0.5**
	0.0nm,0.7s,baz=298,slow=5.1,SNR=11							
NB2	**NORSAR Subarra**	**66.16**	**351**	P		**P**	**21 05 00.0**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=10,slow=6.5							
NB200	**NORSAR Array S**	**66.16**	**351**	*e*P		**P**	**21 04 59.8**	**0.0**
NOA	**NORSAR Array B**	**66.16**	**351**	P		**P**	**21 04 59.8**	**0.0**
	comp=Z,0.7nm,0.7s,baz=12,slow=6.4,SNR=3.7							
CMAR	**Chiang Mai Arr**	**66.78**	**270**	P		**P**	**21 05 04.5**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=36,slow=7.2,SNR=5.4							
GUN	**Gumba**	**67.59**	**287**	*e*P		**P**	**21 05 10.0**	**+0.2**
JIRN	**Jiri**	**67.59**	**286**	*e*P		**P**	**21 05 10.4**	**+0.6**
	comp=Z,7.7nm,0.5s							
RAMN	**Ramite**	**67.88**	**286**	*e*P		**P**	**21 05 11.7**	**+0.2**
	comp=Z,6.6nm,0.5s							
PKI	**Pulchoki**	**68.12**	**287**	*e*P		**P**	**21 05 13.2**	**+0.1**
	comp=Z,4.0nm,0.6s							
DANN	**Dangsing**	**68.50**	**289**	*e*P		**P**	**21 05 16.3**	**+0.9**
KOLN	**Koldanda**	**69.03**	**288**	*e*P		**P**	**21 05 18.6**	**0.0**
KBL	**Kabul**	**71.87**	**303**	*e*P		**P**	**21 05 34.6**	**-1.3**
	comp=Z,3.8nm,0.6s							
AKASG	**Malin Array Be**	**73.19**	**338**	P		**P**	**21 05 43.2**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=26,slow=6.8,SNR=3.7							
BR101	**Keskin Array S**	**82.18**	**331**	*e*P		**P**	**21 06 34.4**	**+0.8**
BRTR	**Keskin Array B**	**82.18**	**331**	P		**P**	**21 06 34.4**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=46,slow=3.5,SNR=6.0							

*IDC **23** 21:05:05.2±0.9, 22.°65S×171.°83E, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.3/24, mbtmp4.2/13, ML4.1/1, MS3.3/4, Ms1 3.3/4, ms1mx3.1/30, Error ellipse: s-maj=32.4km s-min=19.7km az=161.0*
*ISCJB **23** 21:05:09.8±0.5, 22.°7S±0.°1×171.°76E±0.°05, h40km, mb4.2/18, MS3.2/3, Error ellipse: s-maj=17.5km s-min=6.5km az=178.5*
*NEIC **23** 21:05:11.8±2.1, 22.°71S×171.°75E, h46km±15km, mb4.3/4, Error ellipse: s-maj=22.1km s-min=14.5km az=143.0*
ISC 23 21:05:11.3±0.6, 22.°7S±0.°2×171.°78E±0.°07, h40km, n60, σ1§42/58, mb4.3/18, MS3.2/3, 9C-5D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MARNC	**Mare, Loyalty**	**3.68**	**288**	*e*Pn		**Pn**	**21 06 05.8**	**+0.2**
MARNC				*e*Sn		**Sn**	**21 06 47.8**	**0.0**
PINNC	**Pines Island,**	**4.00**	**270**	*e*Pn		**Pn**	**21 06 10.0**	**-0.1**
PINNC				*e*Sn		**Sn**	**21 06 55.6**	**-0.2**
ONTNC	**Ouen Toro**	**4.94**	**273**	*e*Pn		**Pn**	**21 06 25.0**	**+2.0**
ONTNC				*e*Sn		**Sn**	**21 07 15.2**	**-3.6**
DZM	**Mont Dzumac**	**4.97**	**276**	Pn		**Pn**	**21 06 23.0**	**-0.6**

couple: M₀1.47000×10¹⁶ NP1:φ₀203.00000°, δ18.00000°, λ94.00000°. NP2:φ₀19.00000°, δ72.00000°, λ89.00000°.

BJI ***23*** *21:31:01.9, 37.71N×141.89E, h36km, mb5.0/67, mB5.0/48, Ms4.4/53, Ms7 4.1/46*

MOS ***23*** *21:31:06.8±0.9, 38.02N×141.50E, h42km, mb5.2/60, Error ellipse: s-maj=6.5km s-min=4.2km az=110.1*

JMA ***23*** *21:31:07.5, 37.78N×141.63E, h47km±1km, M4.8 Broadband fault plane solution: P waves. NP1: φ₀5.00000°, δ67.00000°, λ84.00000°. NP2:φ₀201.00000°, δ23.00000°, λ105.00000°. Principal axes: T Plg67.0000°, Azm264.0000°; N Plg6.0000°, Azm8.0000°; P Plg22.0000°, Azm100.0000°;*

JMA Felt III J1.

ISCJB ***23*** *21:31:07.3±0.3, 37.80N±0.02×141.53E±0.03, h54km±2km, mb4.8/152, MS4.3/12 Error ellipse: s-maj=4.2km s-min=3.0km az=35.2*

IDC ***23*** *21:31:08.2±0.4, 37.79N×141.68E, h53km±3km, mb4.4/25, mb1 4.6/35, mb1mx4.5/45, mbtmp4.7/35, MS4.1/4, Ms1 4.1/4, ms1mx3.5/37, Error ellipse: s-maj=10.1km s-min=6.8km az=121.0*

NEIC ***23*** *21:31:09.7±0.5, 37.81N×141.50E, h62km±4km, mb4.8/78, Error ellipse: s-maj=4.9km s-min=3.6km az=130.0*

NEIC Felt at Sendai, Iwaki and Hitachi. Recorded [3 JMA] in Fukushima and Miyagi.

ISC 23 21:31:07.7±0.4, 37.81N±0.03×141.67E±0.04, h50km±3km, h50km;pP-P, n504, σ1§39/551, mb4.9/161, MS4.3/13, 45C-37D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.52**	**342**		P		**Pn**	**21 31 19.2**	**-0.1**
JIKH					*i* S		**Sn**	**21 31 27.1**	**-0.4**
JIO	**Ouri**	**0.69**	**339**	⇓	P		**Pn**	**21 31 21.3**	**0.0**
JIO					S		**Sn**	**21 31 30.6**	**-0.6**
JMM	**Marumori**	**0.69**	**275**	⇓	P		**Pn**	**21 31 20.7**	**-0.7**
JMM					S		**Sn**	**21 31 30.0**	**-1.3**
JFK	**Kawauchi**	**0.77**	**235**	⇓	P		**Pn**	**21 31 21.4**	**-1.0**
JFK					S		**Sn**	**21 31 31.0**	**-2.1**
JOU	**Okura**	**0.96**	**305**	⇓	P		**Pn**	**21 31 24.7**	**-0.3**
JOU					*e*S		**Sn**	**21 31 37.4**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.99**	**224**	⇓	P		**Pn**	**21 31 24.3**	**-1.1**
ONAJ					*e*S		**Sn**	**21 31 36.2**	**-2.2**
JKMT	**Kesennumamotoy**	**1.01**	**351**		P		**Pn**	**21 31 25.6**	**0.0**
JKMT					S		**Sn**	**21 31 38.0**	**-0.7**
JFT	**Otama**	**1.09**	**255**	⇓	P		**Pn**	**21 31 26.6**	**-0.1**
JFT					S		**Sn**	**21 31 40.7**	**-0.1**
JMK	**Ichinoseki**	**1.19**	**343**	⇓	P		**Pn**	**21 31 28.4**	**+0.4**
JMK					S		**Sn**	**21 31 43.0**	**-0.1**
JYS	**Shirataka**	**1.33**	**288**	⇓	P		**Pn**	**21 31 29.7**	**-0.2**
JYK	**Kaneyama**	**1.51**	**317**	⇓	P		**Pn**	**21 31 32.6**	**+0.3**
JFY	**Yanaizu**	**1.61**	**256**	⇓	P		**Pn**	**21 31 33.5**	**-0.2**
MJAR	**Matsushiro Arr**	**3.04**	**246**		P		**Pn**	**21 31 53.3**	**0.0**
	6.4nm,0.3s,baz=71,slow=13,SNR=205								
MJAR					S		**Sn**	**21 32 32.7**	**+4.2**
	8.8nm,0.3s,baz=92,slow=26,SNR=4.6								
MAJO	**Matsushiro**	**3.04**	**246**	*e*	Pn		**Pn**	**21 31 54.3**	**+0.9**
MAJO	**Matsushiro**	**3.04**	**246**	*c i*	P		**Pn**	**21 31 53.3**	**0.0**
MAJO					pmax		pmax		
	comp=Z,291nm,0.6s								
MAT	**Matsushiro**	**3.04**	**246**		P		**Pn**	**21 31 54.0**	**+0.7**
MAT					S		**Sn**	**21 32 33.7**	**+5.2**
MJB9	**Matsu-Tunnel**	**3.04**	**246**	*e*	Pn		**Pn**	**21 31 54.3**	**+0.9**
ERM	**Erimo**	**4.35**	**15**	*e*	Pn		**Pn**	**21 32 11.2**	**-0.1**
ERM	**Erimo**	**4.35**	**15**	*i*	P		**Pn**	**21 32 11.1**	**-0.1**
INU	**Inuyama**	**4.48**	**238**	*e*	Pn		**Pn**	**21 32 14.8**	**+1.7**
JHJ2	**Mitsune**	**4.93**	**198**	*e*	Pn		**Pn**	**21 32 21.1**	**+1.8**
JHJ2				*e*	Sn		**Sn**	**21 33 14.2**	**-0.7**
JHJ	**Hachijo jima 2**	**4.93**	**199**		P		**Pn**	**21 32 18.6**	**-0.6**
	comp=Z,52nm,0.3s,baz=342,slow=14,SNR=8.9								
JHJ					S		**Sn**	**21 33 11.8**	**-3.1**
	comp=Z,492nm,0.3s,baz=252,slow=23,SNR=14								
JHJ					LR		LR	21 34 35.1	
	comp=Z,698nm,19.2s,baz=60,slow=42								
ASAJ	**Asahikawa**	**6.34**	**6**		P		**Pn**	**21 32 38.6**	**+0.1**
	comp=Z,9.1nm,0.3s,baz=208,slow=12,SNR=20								
ASAJ					S		**Sn**	**21 33 50.0**	**+0.5**
	comp=Z,8.8nm,0.3s,baz=139,slow=32,SNR=4.0								
YUK	**Yuzh-Kuril'sk**	**6.98**	**26**	*d i*	P		**Pn**	**21 32 46.3**	**-1.0**
YUK				*e*	S		**Sn**	**21 33 59.2**	**-6.1**
YUK					pmax		pmax		
	comp=Z,209nm,0.3s								
YUK					pmax		pmax		
	comp=E,31nm,0.1s								
YUK					pmax		pmax		
	comp=N,72nm,0.2s								
SHO	**Shikotan**	**7.21**	**31**	*d i*	P		**Pn**	**21 32 49.4**	**-1.0**
SHO					*e*S		**Sn**	**21 34 03.6**	**-7.2**
SHO					pmax		pmax		
	comp=Z,59nm,0.6s								
SHO					pmax		pmax		
	comp=E,40nm,0.4s								
SHO					pmax		pmax		
	comp=N,35nm,0.3s								
TEY	**Ternei**	**8.16**	**334**	⇑	*e*P		Pn	21 33 08.1	+4.7
TEY					*e*S		**Sn**	**21 34 39.6**	**+5.5**
TEY					pmax		pmax		
	comp=Z,40nm,1.0s								
TEY					pmax		pmax		
	comp=E,30nm,0.7s								
TEY					pmax		pmax		
	comp=N,80nm,0.9s								
TEY					MLR		MLR		
	comp=E,3μm,23.0s								
TEY					MLR		MLR		
	comp=Z,3μm,22.0s								
KUR	**Kuril'sk**	**8.75**	**30**		P		**Pn**	**21 33 11.8**	**+0.3**
KUR					*e*S		**Sn**	**21 34 44.3**	**-4.4**
KUR					pmax		pmax		
	comp=Z,81nm,0.4s								
KUR					smax		smax		
	comp=E,199nm,0.4s								
KUR					smax		smax		
	comp=N,65nm,0.3s								
KUR					smax		smax		
	comp=N,600nm,1.4s								
KUR					smax		smax		
	comp=E,300nm,1.1s								
VLA	**Vladivostok**	**9.14**	**308**	*i*	P		**Pn**	**21 33 16.1**	**-0.8**
YSS	**Yuzh-Sakhalins**	**9.17**	**5**	*e*	Pn		**Pn**	**21 33 16.9**	**-0.3**
YSS	**Yuzh-Sakhalins**	**9.17**	**5**	*e*	P		**Pn**	**21 33 16.7**	**-0.6**
YSS					pmax		pmax		
	comp=Z,30nm,0.6s								
USA0B	**Ussuriysk Arra**	**9.70**	**314**	*e*	Pn		**Pn**	**21 33 25.2**	**+0.6**
USRK	**Ussuriysk Ar.**	**9.70**	**314**		P		**Pn**	**21 33 25.5**	**+1.0**
	comp=Z,3.4nm,0.3s,baz=129,slow=12,SNR=80								
JNU	**Nakatsue**	**9.96**	**245**		P		**Pn**	**21 33 29.8**	**+1.5**
	comp=Z,0.9nm,0.3s,baz=74,slow=5.4,SNR=16								
CBIJ	**Chichi jima**	**10.70**	**178**		P		**Pn**	**21 33 38.6**	**+0.4**
CBIJ					S		Sn	21 35 25.8	-11
JCJ	**Chichijima**	**10.70**	**178**		P		**Pn**	**21 33 38.6**	**+0.4**
	comp=Z,19nm,0.3s,baz=72,slow=20,SNR=4.1								
JCJ					S		Sn	21 35 25.8	-11
	comp=Z,34nm,0.3s,baz=18,slow=23,SNR=5.8								
KSRS	**Korea Array**	**10.91**	**272**		P		**Pn**	**21 33 43.4**	**+2.4**
	comp=Z,1.1nm,0.3s,baz=84,slow=14,SNR=30								
KS01	**Wonju Array Si**	**10.93**	**272**	*e*	Pn		**Pn**	**21 33 43.5**	**+2.1**
KS15	**Wonju Array Si**	**10.94**	**272**	*e*	Pn		**Pn**	**21 33 43.6**	**+2.1**
KSAR	**Wonju Array Be**	**10.94**	**272**		P		**Pn**	**21 33 43.4**	**+1.9**
KSAR	**Wonju Array Be**	**10.94**	**272**		P		**Pn**	**21 33 43.4**	**+1.9**
MDJ	**Mudanjiang**	**11.35**	**311**		P		**Pn**	**21 33 50.4**	**+3.4**
MDJ					pP			21 33 57.9	
MDJ					sP			21 34 03.1	
MDJ					S		**Sn**	**21 35 51.4**	**-0.9**
MDJ					sS			21 36 03.8	
MDJ					SS		**SnSn**	**21 36 05.1**	**+0.6**
MDJ					pmax		pmax		
	comp=Z,78nm,1.0s								
MDJ					pmax		pmax		
	comp=Z,350nm,5.7s								
MDJ					LR		LR		
	comp=Z,530nm,19.1s								
MDJ					LR		LR		
	comp=Z,590nm,14.7s								
MDJ					LR		LR		
	comp=Z,1μm,15.9s								
MDJ	**Mudanjiang**	**11.35**	**311**	*e*	Pn		**Pn**	**21 33 50.5**	**+3.5**
TJN	**Taejon**	**11.51**	**267**	*i*	P		**Pn**	**21 33 47.9**	**-1.5**
KLR	**Kul'dur**	**13.48**	**331**		P		**Pn**	**21 34 16.9**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=159,slow=12,SNR=11								
KLR	**Kul'dur**	**13.48**	**331**	*i*	P		**Pn**	**21 34 14.2**	**-1.9**
GRNR	**Gornyy**	**13.48**	**346**	*e*	P		**Pn**	**21 34 14.9**	**-1.3**
GRNR					pmax		pmax		
	comp=Z,11nm,1.0s								
GRNR					pmax		pmax		
	comp=Z,23nm,1.0s								
NKL	**Nikolayevsk**	**15.35**	**358**	*e*	P		**P**	**21 34 45.0**	**+0.2**
JOW	**Kunigami**	**15.73**	**230**		P		**Pn**	**21 34 46.7**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=50,slow=17,SNR=3.5								
DL2	**Dalian**	**15.76**	**280**		P		**P**	**21 34 49.4**	**0.0**
DL2				*e*	S		**S**	**21 37 47.8**	**-4.5**
DL2					pmax		pmax		
	comp=Z,96nm,0.9s								
DL2					LR		LR		
	comp=Z,690nm,17.4s								
DL2					LR		LR		
	comp=Z,930nm,20.9s								
DL2					LR		LR		
	comp=Z,630nm,20.9s								
SSE	**Sheshan**	**18.15**	**254**	*e*	Pn		**P**	**21 35 14.5**	**-1.3**
	comp=Z,64nm,0.8s								
ZEA	**Zeya**	**18.77**	**333**	*e*	P		**P**	**21 35 21.2**	**-1.3**
ZEA					pmax		pmax		
	comp=Z,35nm,1.0s								
ZEA					MLR		MLR		
	comp=Z,800nm,12.0s								
ZEA					MLR		MLR		
	comp=E,200nm,8.0s								
ZEA					MLR		MLR		
	comp=N,400nm,9.0s								
PETK	**Petropavlovsk-**	**18.92**	**31**		P		**Pn**	**21 35 25.2**	**0.0**
	comp=N,0.1nm,0.3s,baz=218,slow=9.1,SNR=2.6								
NJ2	**Nanjing**	**19.55**	**260**	*e*	P		**P**	**21 35 29.8**	**-1.4**
NJ2					pmax		pmax		
	comp=N,14nm,0.8s								
NJ2					LR		LR		
	comp=N,470nm,9.8s								
NJ2					LR		LR		
	comp=N,680nm,10.3s								
NJ2					LR		LR		
	comp=N,770nm,17.3s								
TIA	**Tai'an**	**19.65**	**273**		P		**P**	**21 35 29.9**	**-2.4**
TIA					pmax		pmax		
	comp=N,22nm,1.2s								
BJI	**Beijing**	**19.94**	**284**		P		**P**	**21 35 34.3**	**-1.1**
BJI					S		**Sn**	**21 39 20.6**	**-0.1**
BJI					pmax		pmax		
	comp=N,14nm,0.6s								
BJI					LR		LR		
	comp=N,540nm,16.3s								
BJI					LR		LR		
	comp=N,350nm,24.1s								
BJI					LR		LR		
	comp=N,670nm,31.4s								
BJT	**Baijiatuan**	**19.95**	**284**	*e*	P		**P**	**21 35 33.8**	**-1.7**
	comp=N,39nm,1.1s								
BJT	**Baijiatuan**	**19.95**	**284**	*e*	P		**P**	**21 35 33.8**	**-1.7**
BJT					pmax		pmax		
	comp=Z,39nm,1.1s								
MA2	**Magadan**	**22.55**	**12**		P		**P**	**21 36 03.2**	**-0.1**
	comp=Z,27nm,0.7s,baz=190,slow=8.0,SNR=22								
MA2	**Magadan**	**22.55**	**12**	*e*	P		**P**	**21 36 03.2**	**-0.1**
	comp=Z,29nm,0.7s								
SSLB	**Suanglung**	**22.56**	**238**	*e*	P		**P**	**21 36 03.1**	**-0.6**
	comp=Z,21nm,0.8s								
YULB	**Yu-li**	**22.60**	**236**	*e*	P		**P**	**21 36 03.8**	**-0.4**
	comp=Z,24nm,1.1s								
TPUB	**Ta-pu**	**23.11**	**237**	*e*	P		**P**	**21 36 06.5**	**-2.9**
	comp=Z,35nm,0.9s								
HHC	**Hu-ho-hao-te**	**23.43**	**287**	*e*	P		**P**	**21 36 09.6**	**-2.8**
HHC					pP		pP	21 36 18.3	-6.3
HHC					sP		sP	21 36 27.3	-3.5
HHC					PP		**PnPn**	**21 36 38.9**	**-1.6**
HHC					S		**S**	**21 40 21.9**	**-0.2**
HHC					pmax		pmax		
	comp=Z,22nm,0.8s								
HHC					pmax		pmax		
	comp=Z,140nm,4.5s								
HHC					LR		LR		
	comp=Z,330nm,11.4s								
HHC					LR		LR		
	comp=Z,300nm,8.8s								
HHC					LR		LR		
	comp=Z,320nm,12.4s								
WHN	**Wuhan**	**23.68**	**260**		P		**P**	**21 36 13.9**	**-0.8**
WHN					S		**S**	**21 40 20.4**	**-5.6**
WHN					LR		LR		
	comp=Z,560nm,4.2s								
WHN					LR		LR		
	comp=Z,810nm,11.5s								
WHN					LR		LR		
	comp=Z,940nm,21.0s								
CIT	**Chita**	**24.26**	**315**	*e*	P		**P**	**21 36 18.9**	**-1.1**
CIT				*e*				21 36 28.3	
CIT				*e*				21 36 50.9	
CIT					pmax		pmax		
	comp=Z,191nm,1.2s								
YAK	**Yakutsk**	**25.36**	**347**	*e*	P		**P**	**21 36 28.3**	**-1.4**
YAK				*e*	*PP		**pP**	**21 36 43.6**	**+1.1**
YAK				*e*				21 37 10.2	
YAK					pmax		pmax		
	comp=E,5.0nm,0.9s								
YAK					pmax		pmax		
	comp=N,18nm,1.2s								
YAK					pmax		pmax		
	comp=Z,27nm,0.9s								
SEY	**Seymchan**	**25.99**	**11**	*i*	P		**P**	**21 36 34.7**	**-0.7**
XAN	**Xi'an**	**26.70**	**272**		P		**P**	**21 36 41.0**	**-1.4**
XAN					pmax		pmax		
	comp=Z,11nm,0.8s								
XAN					pmax		pmax		
	comp=Z,180nm,5.5s								
XAN	**Xi'an**	**26.70**	**272**	*e*	P		**P**	**21 36 40.9**	**-1.4**
	comp=Z,102nm,0.6s								
XAN	**Xi'an**	**26.70**	**272**	*e*	P		**P**	**21 36 40.9**	**-1.4**
XAN					pmax		pmax		
	comp=Z,102nm,0.6s								
BOD	**Bodaibo**	**26.98**	**327**	*e*	P		**P**	**21 36 43.7**	**-0.8**
BOD					pmax		pmax		
	comp=Z,26nm,1.1s								
ULN	**Ulaanbaatar**	**27.09**	**303**	*e*	P		**P**	**21 36 44.6**	**-1.2**
	comp=Z,11nm,0.8s								
ULN	**Ulaanbaatar**	**27.09**	**303**	*i*	P		**P**	**21 36 44.9**	**-0.9**
ULN					pmax		pmax		
	comp=Z,11nm,0.9s								
SONA1	**Songino Array**	**27.52**	**303**	*e*	P		**P**	**21 36 49.2**	**-0.4**
SONM	**Songino Array**	**27.53**	**303**		P		**P**	**21 36 48.9**	**-0.7**
	comp=Z,10nm,0.8s,baz=99,slow=8.2,SNR=57								
ENH	**Enshi**	**27.61**	**264**	*e*	P		**P**	**21 36 49.3**	**-1.1**
	comp=Z,110nm,0.9s								
GZH	**Guangzhou**	**28.35**	**247**	*e*	P		**P**	**21 36 53.8**	**-3.2**
H11N2	**WAKE ISLAND Hy**	**28.38**	**122**		T		T	22 06 31.2	
	baz=318,slow=75								
H11N1	**WAKE ISLAND Hy**	**28.39**	**122**		T		T	22 06 38.5	
	baz=318,slow=75								
H11N3	**WAKE ISLAND Hy**	**28.40**	**122**		T		T	22 06 37.5	
	baz=318,slow=75								
H11S1	**WAKE ISLAND Hy**	**29.12**	**124**		T		T	22 07 28.3	
	baz=318,slow=74								
H11S3	**WAKE ISLAND Hy**	**29.12**	**124**		T		T	22 07 29.4	
	baz=318,slow=74								
H11S2	**WAKE ISLAND Hy**	**29.14**	**124**		T		T	22 07 32.7	
	baz=318								
ZAK	**Zakamensk**	**29.95**	**307**	*e*	P		**P**	**21 37 10.9**	**-0.2**
ZAK					pmax		pmax		
	comp=Z,9.0nm,1.1s								
LZH	**Lanzhou**	**30.14**	**278**	*e*	P		**P**	**21 37 16.3**	**+3.3**
LZH					pP		pP	21 37 27.5	+1.5
LZH					sP		sP	21 37 31.6	-0.3
LZH				*e*	PP		**PnPn**	**21 38 14.0**	**+2.2**
LZH					pmax		pmax		
	comp=Z,22nm,1.1s								
LZH					pmax		pmax		
	comp=Z,91nm,4.9s								
LZH					LR		LR		
	comp=Z,380nm,12.9s								
LZH					LR		LR		
	comp=Z,410nm,13.2s								
LZH					LR		LR		
	comp=Z,520nm,16.5s								
GYA	**Guiyang**	**31.56**	**259**	⇑	*i* P		**P**	**21 37 24.3**	**-1.2**
GYA					pP		pP	21 37 36.8	-1.7
GYA					PP		**PnPn**	**21 38 31.0**	**+0.7**
GYA					S		**S**	**21 42 30.6**	**-0.1**
GYA					sS		sS	21 42 48.3	-4.3
GYA					SS		**SnSn**	**21 44 19.0**	**-0.7**
GYA					pmax		pmax		
	comp=Z,20nm,0.8s								
GYA					pmax		pmax		
	comp=Z,120nm,4.6s								
GYA					LR		LR		
	comp=Z,560nm,17.2s								
GYA					LR		LR		
	comp=Z,520nm,17.8s								
GYA					LR		LR		
	comp=Z,510nm,17.7s								
MOY	**Mondy**	**31.60**	**309**	*e*	P		**P**	**21 37 25.5**	**-0.1**
CD2	**Chengdu**	**31.88**	**269**		P		**P**	**21 37 26.8**	**-1.4**
CD2					pmax		pmax		
	comp=Z,30nm,0.7s								
CD2					pmax		pmax		
	comp=Z,220nm,5.0s								
GTA	**Gaotai**	**32.53**	**286**	⇑	P		**P**	**21 37 32.5**	**-1.5**
GTA					PcP		**PcP**	**21 40 20.8**	**+1.1**
GTA					S		**S**	**21 42 40.6**	**-5.2**
GTA					ScS		**ScS**	**21 47 53.4**	**-5.5**
GTA					pmax		pmax		
	comp=Z,6.0nm,0.8s								
GTA					pmax		pmax		
	comp=Z,89nm,5.5s								
GTA					LR		LR		
	comp=Z,330nm,20.6s								
GTA					LR		LR		
	comp=Z,310nm,19.6s								
GTA					LR		LR		
	comp=Z,330nm,19.6s								
BILL	**Bilibino**	**33.23**	**17**	*e*	P		**P**	**21 37 39.9**	**+0.4**
	comp=Z,2.2nm,0.7s								
BILL	**Bilibino**	**33.23**	**17**	⇑ *e*	P		**P**	**21 37 38.9**	**-0.6**
BILL				*e*				21 37 52.0	
BILL				*e*				21 37 59.4	
BILL				*e*				21 38 51.1	
BILL					pmax		pmax		
	comp=Z,5.0nm,1.0s								
BILL					MLR		MLR		
	comp=Z,723nm,22.0s								
QIZ	**Qiongzhong**	**33.44**	**245**		P		**P**	**21 37 42.4**	**+0.5**
QIZ					S		**S**	**21 43 02.8**	**+3.0**
KNGR	**Kungurtug, Tuv**	**33.63**	**307**	*i*	P		**P**	**21 37 42.3**	**-1.1**
TIXI	**Tiksi**	**34.54**	**353**		P		**P**	**21 37 50.6**	**-0.3**
	comp=Z,3.7nm,0.5s,baz=142,slow=6.3,SNR=22								
TIXI	**Tiksi**	**34.54**	**353**	*e*	P		**P**	**21 37 50.3**	**-0.6**
	comp=Z,4.7nm,0.6s								
TIXI	**Tiksi**	**34.54**	**353**	⇑ *i*	P		**P**	**21 37 49.4**	**-1.5**
TIXI					pmax		pmax		
	comp=Z,3.0nm,0.8s								
KMI	**Kunming**	**35.28**	**260**		P		**P**	**21 37 57.6**	**-0.5**
KMI					pmax		pmax		
	comp=Z,59nm,0.8s								
KMI					pmax		pmax		
	comp=Z,150nm,5.9s								
KMI					LR		LR		
	comp=Z,200nm,14.9s								
KMI					LR		LR		
	comp=Z,230nm,18.4s								
KMI					LR		LR		
	comp=Z,280nm,24.9s								
KRAR	**Krasnoyarsk**	**37.05**	**315**	*i*	P		P	21 38 18.4	+5.9
DGZ	**Jazzator, Alta**	**40.10**	**305**	*c i*	P		**P**	**21 38 39.0**	**+0.6**
DGZ					pmax		pmax		
	comp=Z,35nm,0.9s								
WMQ	**Urumqi**	**40.67**	**296**		P		**P**	**21 38 44.3**	**+1.2**
WMQ					pP		pP	21 38 53.8	-2.6
WMQ					sP		sP	21 39 01.8	-0.5
WMQ					pmax		pmax		
	comp=Z,98nm,0.9s								
WMQ					pmax		pmax		
	comp=Z,200nm,3.7s								
WMQ					LR		LR		
	comp=Z,600nm,27.1s								
WMQ					LR		LR		
	comp=Z,790nm,28.5s								
WMQ					LR		LR		
	comp=Z,700nm,27.1s								
WMQ	**Urumqi**	**40.67**	**296**	*e*	P		**P**	**21 38 44.1**	**+1.0**
	comp=Z,32nm,0.8s								
WMQ	**Urumqi**	**40.67**	**296**	*e*	P		**P**	**21 38 44.1**	**+1.0**
WMQ					pmax		pmax		
	comp=Z,32nm,0.8s								
ANM	**Nome**	**40.83**	**32**	*e*	P		**P**	**21 38 46.4**	**+2.4**
	comp=Z,4.0nm,0.9s								
ANM	**Nome**	**40.83**	**32**	*e*	P		**P**	**21 38 46.4**	**+2.4**
ANM					pmax		pmax		
	comp=Z,4.0nm,0.9s								
PBKT	**Sadao Pong**	**41.50**	**251**	*e*	P		**P**	**21 38 50.2**	**+0.2**
	comp=Z,11nm,0.9s								
ZAA0	**Zalesovo Array**	**41.54**	**312**	*e*	P		**P**	**21 38 49.8**	**-0.2**
	comp=Z,23nm,0.8s								
ZALV	**Zalesovo Beam**	**41.54**	**312**		P		**P**	**21 38 49.7**	**-0.3**
	comp=Z,22nm,0.7s,baz=91,slow=7.2,SNR=90								
ZALV					PcP		**PcP**	**21 40 46.6**	**+0.1**
	comp=Z,3.4nm,0.6s,baz=79,slow=1.5,SNR=3.9								
ZALV	**Zalesovo Beam**	**41.54**	**312**	*ce*	P		**P**	**21 38 50.2**	**+0.2**
CHTO	**Chiang Mai**	**41.68**	**255**	*e*	P		**P**	**21 38 50.9**	**-0.7**
	comp=Z,6.1nm,0.7s								
CHTO	**Chiang Mai**	**41.68**	**255**	*e*	P		**P**	**21 38 50.9**	**-0.7**
CHTO					pmax		pmax		
	comp=Z,6.0nm,0.7s								
CM31	**Chiang Mai Arr**	**41.89**	**255**	*e*	P		**P**	**21 38 53.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**41.89**	**255**		P		**P**	**21 38 53.1**	**-0.2**
	comp=Z,3.8nm,0.6s,baz=48,slow=6.9,SNR=38								
CM01	**Chiang Mai Arr**	**41.90**	**255**	*e*	P		**P**	**21 38 53.0**	**-0.4**
SANI	**Sanana**	**42.24**	**204**		P		**P**	**21 38 55.7**	**-0.3**
LSA	**Lhasa**	**42.34**	**274**	*e*	P		**P**	**21 38 58.2**	**+0.8**
	comp=Z,6.9nm,0.8s								
LSA	**Lhasa**	**42.34**	**274**	*i*	P		**P**	**21 38 58.1**	**+0.8**
	SNR=8.0								
LSA	**Lhasa**	**42.34**	**274**	*e*	P		**P**	**21 38 58.2**	**+0.8**
LSA					pmax		pmax		
	comp=Z,7.0nm,0.8s								
NVS	**Novosibirsk**	**42.45**	**313**	*e*	P		**P**	**21 38 57.6**	**+0.2**
NVS				*e*				21 39 15.6	
NVS					pmax		pmax		
	comp=E,14nm,1.1s								
NVS					pmax		pmax		
	comp=Z,23nm,1.1s								
RDOG	**Red Dog Mine**	**42.72**	**27**	*e*	P		**P**	**21 39 01.6**	**+2.1**
	comp=Z,7.0nm,1.0s								
SHL	**Shillong**	**43.62**	**269**	*e*	P		**P**	**21 39 06.8**	**-0.7**
	comp=Z,24nm,0.6s								
SHL	**Shillong**	**43.62**	**269**	*e*	P		**P**	**21 39 06.8**	**-0.7**
SHL					pmax		pmax		
	comp=Z,24nm,0.6s								
MK01	**Makanchi Array**	**43.88**	**301**	*e*	P		**P**	**21 39 08.6**	**-0.5**
MK31	**Makanch

ULHL Ulahol 49.19 297 P P 21 39 42.5 -8.5
SNR=5.9

TKM2 Tokmak 2 49.44 298 P P 21 39 53.7 +0.8
SNR=18

PYUN Piuthan 49.47 277 *eP* P 21 39 53.4 +0.1
comp=Z,205nm,1.1s

KZA Kyzart 49.95 297 P P 21 39 58.2 +1.2
SNR=22

KBK Karagaybulak 49.98 298 P P 21 39 57.5 +0.6
SNR=47

CHMS Chumysh 50.01 298 P P 21 39 57.2 +0.2
SNR=8.2

SCRK Sand Creek 50.05 34 *eP* P 21 39 58.5 +1.4
comp=Z,6.1nm,1.1s

USP Ospenovka 50.10 299 P P 21 39 57.9 +0.2
SNR=20

FRU1 Bishkek 50.15 298 *eP* P 21 39 58.6 +0.5
comp=Z,25nm,0.9s

FRU1 Bishkek 50.15 298 *eP* P 21 39 58.6 +0.5
FRU1 pmax pmax
comp=Z,25nm,0.9s

BRVK Borovoye 50.26 312 *i* P P 21 39 58.1 -0.6
BRVK pmax pmax
comp=Z,7.0nm,1.0s

KSH Kashi 50.27 294 P P 21 40 03.8 +4.6
KSH pP pP 21 40 13.1 +0.3
KSH sP sP 21 40 17.0 -1.6
KSH PcP **PcP** **21 41 19.8 +2.3**
KSH PP **PP** **21 42 00.8 +6.1**
KSH PcS **PcS** **21 45 17.3 +2.5**
KSH S **S** **21 47 12.5 +4.3**
KSH pmax pmax
comp=Z,18nm,0.6s
KSH pmax pmax
comp=Z,500nm,5.6s
KSH LR LR
comp=Z,220nm,6.9s
KSH LR LR
comp=Z,210nm,6.0s
KSH LR LR
comp=Z,740nm,14.3s

AAK Ala-Archa 50.30 298 P P 21 39 59.6 +0.2
SNR=16

AAK Ala-Archa 50.30 298 *eP* P 21 39 59.5 +0.2
comp=Z,16nm,0.8s

AAK Ala-Archa 50.30 298 *i* P P 21 39 58.6 -0.8
SNR=34

AAK Ala-Archa 50.30 298 *c i* P P 21 39 59.1 -0.3
AAK pmax pmax
comp=Z,15nm,0.9s

UCH Uchtor 50.42 297 P P 21 40 01.6 +1.0
SNR=9.7

EKS2 Erkin-Say 50.79 298 P P 21 40 03.2 +0.2
SNR=23

AML Almayashu 51.02 298 P P 21 40 05.7 +0.6
SNR=36

KK31 Karatay Array 52.91 300 *eP* P 21 40 18.7 0.0

KK31 Karatay Array 52.91 300 *eP* P 21 40 18.7 0.0

HYT Haines Junctio 53.56 37 *eP* P 21 40 26.9 +3.6
comp=Z,9.0nm,0.9s

INK Inuvik 53.60 27 *eP* P 21 40 24.4 +1.1
comp=Z,6.0nm,0.8s

INK Inuvik 53.60 27 *eP* P 21 40 24.4 +1.1
INK pmax pmax
comp=Z,6.0nm,0.8s

JBP Jabalpur 54.23 273 *eP* P 21 40 25.7 -2.8

GSI Gunungsitoli 54.37 239 *eP* P 21 40 29.3 -0.3
comp=Z,38nm,0.8s

GSI Gunungsitoli 54.37 239 P P 21 40 29.6 0.0

NIL Nilore 54.56 288 *eP* P 21 40 31.3 +0.4
comp=Z,12nm,0.8s

NIL Nilore 54.56 288 *eP* P 21 40 31.3 +0.4
NIL pmax pmax
comp=Z,12nm,0.8s

SVE Sverdlovsk 54.70 318 *d i* P P 21 40 31.9 +0.4
SVE pmax pmax
comp=Z,41nm,1.0s

ARU Arti 55.91 318 *eP* P 21 40 40.1 -0.2
comp=Z,35nm,1.0s

ARU Arti 55.91 318 *c i* P P 21 40 40.0 -0.2
ARU *PP **pP** 21 40 51.1 -2.9
ARU 21 41 37.4
ARU 21 42 42.0
ARU S **S** **21 48 26.7 +2.7**
ARU SS **SS** **21 52 03.9 -5.9**
ARU pmax pmax
comp=Z,37nm,1.0s

KBL Kabul 57.33 291 *eP* P 21 40 50.3 -0.6
comp=Z,30nm,1.0s

KBL Kabul 57.33 291 *eP* P 21 40 50.3 -0.6
KBL pmax pmax
comp=Z,30nm,1.0s

FITZ Fitzroy Crossi 57.62 198 *eP* P 21 40 53.4 +0.8
comp=Z,12nm,1.0s

WRAB Tennant Creek 57.85 188 *eP* P 21 40 54.0 -0.3
comp=Z,19nm,0.9s

WRAB Tennant Creek 57.85 188 *i* P P 21 40 53.3 -0.9
WRAB pmax pmax
comp=Z,16nm,0.9s

WB2 Warramunga Arr 57.86 188 *eP* P 21 40 54.0 -0.3

WRA Warramunga Arr 57.86 188 P P 21 40 54.0 -0.3
comp=Z,15nm,0.8s,baz=5.4,slow=7.3,SNR=71
WRA pP **pP** **21 41 07.7 -0.5**
comp=Z,11nm,0.6s,baz=6.2,slow=7.4,SNR=16

WRA Warramunga Arr 57.86 188 P P 21 40 54.0 -0.3
WRA *PP **pP** **21 41 07.7 -0.5**
WRA pmax pmax
comp=Z,14nm,0.8s
WRA pmax pmax
comp=Z,11nm,0.6s

HYB Hyderabad 58.43 268 *i* P P 21 40 58.0 -0.6

PRGR Permogore 60.22 327 *eP* P 21 41 08.5 -1.7
PRGR pmax pmax
comp=Z,31nm,1.0s

AS01 Alice Springs 61.58 188 *eP* P 21 41 19.7 -0.2

AS31 Alice Springs 61.58 188 *eP* P 21 41 20.2 +0.3
comp=Z,1.9nm,0.9s

ASAR Alice Springs 61.59 188 P P 21 41 19.9 0.0
comp=Z,6.8nm,0.9s,baz=9.8,slow=6.4,SNR=36
ASAR pP **pP** **21 41 34.7 +0.9**
comp=Z,6.7nm,0.8s,baz=8.9,slow=5.9,SNR=11

RES Resolute Bay 61.80 15 *eP* P 21 41 21.3 +0.6
comp=Z,8.4nm,0.9s

RES Resolute Bay 61.80 15 *eP* P 21 41 21.3 +0.6
RES pmax pmax
comp=Z,8.0nm,0.9s

MBWA Marble Bar 62.18 203 *eP* P 21 41 23.5 -0.4
comp=Z,43nm,0.6s

PALK Pallekele 62.73 257 LR LR 22 10 20.8
comp=Z,44nm,20.5s,baz=119,slow=38

YKA Yellowknife Ar 63.04 30 P P 21 41 29.9 +0.7
comp=Z,2.0nm,0.7s,baz=301,slow=6.6,SNR=32
YKA pP **pP** **21 41 43.9 +0.7**
comp=Z,4.1nm,0.8s,baz=302,slow=6.4,SNR=17

YKB5 Yellowknife Ar 63.04 30 *eP* P 21 41 28.8 -0.3

KLMR Klimovskoe 63.21 328 *eP* P 21 41 28.9 -1.4
KLMR *e* 21 43 46.9
KLMR pmax pmax
comp=Z,33nm,1.5s

KLMR Klimovskoe 63.21 328 *eP* P 21 41 28.9 -1.4
KLMR AMP 21 41 32.5
comp=Z,33nm,1.6s
KLMR *ePP **PP** **21 43 47.0 -2.3**

ARCES ARCESS Array B 63.34 339 P P 21 41 31.4 +0.3
comp=Z,5.2nm,0.8s,baz=46,slow=6.9,SNR=11

GEYT Alibeck 63.64 299 P P 21 41 33.9 +0.2
comp=Z,52nm,1.1s,baz=29,slow=3.4,SNR=22

GYA0B ALIBECK ARRAY 63.64 299 *eP* P 21 41 34.0 +0.4
comp=Z,9.5nm,0.7s

MOS Moscow 66.75 323 *eP* P 21 41 52.4 -1.0
MOS pmax pmax
comp=Z,57nm,1.1s

VRH Novokhopyorsk 67.14 318 *eP* P 21 41 55.1 -0.9
VRH pmax pmax
comp=Z,60nm,1.3s

OBN Obninsk 67.59 323⇑ *eP* P 21 41 58.1 -0.7
OBN *e* 21 42 15.6
OBN *e* 21 42 25.9
OBN *i* 21 44 27.5
OBN *eSS SS 21 55 09.3 -2.8
OBN pmax pmax
comp=Z,24nm,1.3s
OBN MLR MLR
comp=Z,370nm,22.0s

PUL Pulkovo 67.63 329 *i* P P 21 41 59.0 +0.1
PUL pmax pmax
comp=Z,34nm,0.7s

LPSR Galich'ya Gora 67.83 320 *eP* P 21 42 00.0 -0.3
LPSR pmax pmax
comp=Z,30nm,0.6s

FIA1 FINESS Array S 68.22 332 *eP* P 21 42 02.7 +0.1

FINES FINESS Array B 68.22 332 P P 21 42 02.6 0.0
comp=Z,19nm,0.7s,baz=54,slow=9.7,SNR=54
FINES pP **pP** **21 42 18.1 +1.3**
comp=Z,7.7nm,0.7s,baz=64,slow=8.7,SNR=6.1

FINES FINESS Array B 68.22 332 *i* P P 21 42 02.5 -0.1
FINES pmax pmax
comp=Z,20nm,0.7s

VSR Storozhevoye 68.48 319 *d i* P P 21 42 03.1 -1.3
VSR pmax pmax
comp=Z,28nm,0.8s

STKA Stephens Creek 69.33 180 P P 21 42 10.0 +0.3
comp=Z,1.4nm,0.5s,baz=352,slow=7.1,SNR=5.3
STKA pP **pP** **21 42 24.6 +0.7**
comp=Z,7.8nm,0.8s,baz=350,slow=7.8,SNR=8.2

NEW Newport 69.43 44 P P 21 42 11.9 +1.5
baz=304

GOF Gofitskoye 69.72 312⇑ *i* P P 21 42 12.7 +0.4
GOF pmax pmax
comp=Z,40nm,0.9s

VSU Vasula 69.89 329 *c eP* P 21 42 12.7 -0.3
VSU pmax pmax
comp=Z,47nm,1.0s

ZEI Tsey 70.46 309 *eP* P 21 42 13.5 -3.6
ZEI pmax pmax
comp=Z,11nm,0.7s

TBLG Delisi 70.53 308 *eP* P 21 42 18.0 +0.7
comp=Z,22nm,1.1s

KBZ Khabaz 70.55 311 P P 21 42 17.7 +0.4
comp=Z,21nm,0.9s,baz=49,slow=4.0,SNR=41

KIV Kislovodsk 70.55 311 *eP* P 21 42 18.0 +0.5
comp=Z,48nm,0.8s

KIV Kislovodsk 70.55 311⇑ *i* P P 21 42 17.2 -0.3

KIV Kislovodsk 70.55 311 *i* P P 21 42 16.9 -0.6
SNR=23

KIV Kislovodsk 70.55 311 *eP* P 21 42 17.9 +0.5
KIV pmax pmax
comp=Z,71nm,1.1s

NEY Neytrino 70.92 310 *i* P P 21 42 20.7 +0.9
NEY pmax pmax
comp=Z,2.0nm,0.8s

GNI Garni 71.40 307 *eP* P 21 42 23.2 +0.4
comp=Z,18nm,1.1s

GNI Garni 71.40 307 *i* P P 21 42 23.8 +1.0
GNI pmax pmax
comp=Z,93nm,1.1s

UOSS Minazif 71.76 288 *eP* P 21 42 25.1 +0.1
comp=Z,13nm,0.8s

UOSS Minazif 71.76 288 P P 21 42 24.2 -0.8

HATD Hatta, Dubai 71.88 288 *i* P P 21 42 26.0 +0.3
SNR=6.7

MSO Missoula 72.02 44 P P 21 42 26.7 +0.3
baz=306

KARS Kars 72.18 308 *eP* P 21 42 28.7 +1.3
comp=Z,57nm,1.2s

KARS Kars 72.18 308 *eP* P 21 42 28.7 +1.3
KARS pmax pmax
comp=Z,57nm,1.2s

NACGM Naroch 72.19 327 *e* P 21 42 26.0 -1.0

FAQ Al Faqa, Dubai 72.33 288 P P 21 42 28.0 -0.4

ASUD Al Ashush, Dub 72.60 288 P P 21 42 30.1 +0.2

FFC Flin Flon 72.94 33 *eP* P 21 42 32.2 +0.7
comp=Z,1.0nm,0.8s

FFC Flin Flon 72.94 33 *ce* P P 21 42 33.0 +1.5
FFC pmax pmax
comp=Z,51nm,2.5s

FCC Fort Churchill 73.22 27 *eP* P 21 42 33.6 +0.7
comp=Z,13nm,1.1s

FCC Fort Churchill 73.22 27 *eP* P 21 42 33.7 +0.7
FCC pmax pmax
comp=Z,13nm,1.1s

HRY Holter Researc 73.25 44 *eP* P 21 42 35.6 +2.0

NC405 NORSAR Array S 73.34 337 *eP* P 21 42 34.0 +0.3

NC303 NORSAR Array S 73.36 337 *eP* P 21 42 34.5 +0.6

LRM Limekiln Ridge 73.45 45 *eP* P 21 42 36.8 +1.8

NC204 NORSAR Array S 73.50 338 *eP* P 21 42 35.2 +0.5

NB201 NORSAR Array S 73.52 337 *eP* P 21 42 35.5 +0.6

NB2 NORSAR Subarra 73.55 337 P P 21 42 35.2 +0.2
comp=Z,15nm,0.8s,baz=39,slow=6.2
NOA NORSAR Array B 73.55 337 P P 21 42 35.1 +0.2
comp=Z,11nm,0.8s,baz=39,slow=5.9,SNR=47
NOA pP **pP** **21 42 49.2 -0.1**
comp=Z,0.7nm,0.4s,baz=34,slow=2.8,SNR=4.9

EGMT Eagleton 73.56 42 *eP* P 21 42 36.8 +1.4
comp=Z,7.2nm,0.8s

EGMT Eagleton 73.56 42 P P 21 42 35.9 +0.6
baz=309

DLMT Dillon 73.65 45 *eP* P 21 42 38.1 +2.1
comp=Z,5.1nm,0.9s

NC602 NORSAR Array S 73.68 337 *eP* P 21 42 35.9 +0.2

NBO00 NORSAR Array S 73.69 337 *eP* P 21 42 36.4 +0.6

HLID Hailey 73.70 47 P P 21 42 37.8 +1.4
baz=307

NAO01 NORSAR Array S 73.80 337 *eP* P 21 42 36.9 +0.4

AKASG Malin Array Be 73.81 322 P P 21 42 36.5 -0.1
comp=Z,12nm,0.5s,baz=46,slow=6.1,SNR=64
AKASG pP **PcP** **21 42 51.7 -0.3**
comp=Z,2.7nm,0.5s,baz=46,slow=6.0,SNR=4.8

AKBB Malin Array Si 73.81 322 *eP* P 21 42 36.5 -0.1
comp=Z,18nm,0.8s

KIEV Kiev 73.82 322 *eP* P 21 42 36.1 -0.5
comp=Z,18nm,0.8s

KIEV Kiev 73.82 322⇓ *i* P P 21 42 36.8 +0.1

KIEV Kiev 73.82 322 *i* P P 21 42 36.6 -0.1
SNR=11

KIEV Kiev 73.82 322 *c i* P P 21 42 36.5 -0.2
KIEV pmax pmax
comp=Z,22nm,1.1s

AK11 Malin Array Si 73.85 322 *eP* P 21 42 36.8 -0.1

KVN Kaiserville 74.13 53 *eP* P 21 42 41.1 +2.1
comp=Z,3.6nm,0.9s

SUW Suwalki 74.34 327 *eP* P 21 42 39.6 -0.1
comp=Z,30nm,1.0s

SUW Suwalki 74.34 327 *eP* P 21 42 39.6 -0.1
SUW pmax pmax
comp=Z,31nm,1.0s

NV01 Mina Array Sit 74.36 53 *eP* P 21 42 42.1 +1.7

NVAR Mina Array Bea 74.36 53 P P 21 42 42.1 +1.7
comp=Z,1.9nm,0.7s,baz=292,slow=4.9,SNR=12
NVAR pP **PcP** **21 42 56.3 +1.3**
comp=Z,5.0nm,0.9s,baz=292,slow=6.7,SNR=8.9

SIM Simferopol' 74.91 315 *eP* P 21 42 41.4 -1.8
SIM pmax pmax
comp=Z,24nm,0.9s

KONO Kongsberg 75.14 337 *ce* P P 21 42 45.7 +1.5
KONO pmax pmax
comp=Z,13nm,1.7s

YFT Old Faithful 75.20 45 *eP* P 21 42 49.2 +4.0
comp=Z,5.0nm,0.7s

YPP Pitchstone Pla 75.33 45 *eP* P 21 42 49.5 +3.5
comp=Z,2.5nm,0.7s

H17A Grant Village 75.38 45 *eP* P 21 42 50.0 +3.8
comp=Z,5.9nm,0.7s

H17A Grant Village 75.38 45 P P 21 42 49.5 +3.3
baz=309

PKM Mcpherson Peak 75.45 57 P P 21 42 47.7 +1.0
baz=306

IMW Indian Meadow 75.48 45 *eP* P 21 42 49.6 +2.7
comp=Z,4.7nm,0.7s

FXWY Fox Creek 75.60 46 *eP* P 21 42 50.0 +2.5
comp=Z,4.1nm,1.0s

RLMT Red Lodge 75.64 44 P P 21 42 48.8 +1.1
baz=310

CWC Cottonwood Cre 75.68 55 P P 21 42 48.6 +0.6
baz=307

MOOW Moose Ponds 75.69 45 *eP* P 21 42 50.4 +2.5
comp=Z,2.6nm,0.9s

TPAW Teton Pass 75.73 46 *eP* P 21 42 50.9 +2.6
comp=Z,3.0nm,0.7s

DGMT Dagmar 76.11 39 P P 21 42 50.4 +0.4
baz=312

R11A Troy Canyon, C 76.13 52 *eP* P 21 42 52.5 +2.0
comp=Z,1.8nm,0.6s

R11A Troy Canyon, C 76.13 52 P P 21 42 51.6 +1.1
baz=308

MPMC Manual Prospec 76.29 55 P P 21 42 52.5 +1.0
baz=307,SNR=5.4

FURC Furnace Creek, 76.45 54 P P 21 42 53.5 +1.5
baz=307

LRMC Laurel Mtn Rad 76.51 56 P P 21 42 53.8 +1.1
baz=307,SNR=6.0

TPNV Topopah Spring 76.55 54 *eP* P 21 42 54.9 +1.9
comp=Z,5.2nm,1.0s

TPNV Topopah Spring 76.55 54 *eP* P 21 42 54.9 +1.9
TPNV pmax pmax
comp=Z,5.0nm,1.0s

TPNV Topopah Spring 76.55 54 P P 21 42 54.2 +1.3
baz=307,SNR=5.3

EDW2 Edwards Air Fo 76.66 56 P P 21 42 54.7 +1.2
baz=307,SNR=6.6

RAO Raoul Island 76.69 144 LR LR 22 12 58.4
comp=Z,478nm,19.0s,baz=18,slow=33

DUG Dugway, Tooele 76.69 49 P P 21 42 55.1 +1.5
baz=309

LVV L'vov 76.87 324 *eP* P 21 42 54.5 +0.2

BEL Belsk 76.91 327 *eP* P 21 42 55.5 +1.1

BEL Belsk 76.91 327 *eP* P 21 42 55.5 +1.1

BW06 Boulder Array 76.98 46 *eP* P 21 42 56.3 +1.0
comp=Z,2.7nm,0.8s

BW06 Boulder Array 76.98 46 P P 21 42 56.3 +1.0
baz=310

PD31 Pinedale Array 76.98 46 *eP* P 21 42 56.7 +1.3
PD31 *ePcP **PcP** **21 43 04.5 -1.7**

PDAR Pinedale Array 76.98 46 P P 21 42 56.4 +1.1
comp=Z,2.3nm,0.6s,baz=270,slow=2.5,SNR=22
PDAR pP **pP** **21 43 10.5 +0.8**
comp=Z,1.6nm,0.5s,baz=267,slow=1.3,SNR=9.8

LEOM Leova 77.08 319⇓ *i* P P 21 42 56.0 +0.6

LEOM Leova 77.08 319⇓ P P 21 42 56.0 +0.6

GSC Goldstone, Bar 77.19 55 P P 21 42 58.0 +1.5
baz=308

KWP Kalwaria Pacla 77.61 324 *eP* P 21 42 59.5 +1.0

KWP Kalwaria Pacla 77.61 324 *eP* P 21 42 59.5 +1.0

TUQ Turquoise Moun 77.68 55 P P 21 43 00.5 +1.2
baz=308

HEC Hector,Ludlow 77.78 55 P P 21 43 01.4 +1.7
baz=308,SNR=5.2

BUR08 Bucovina Ar. S 77.81 322 *eP* P 21 43 00.4 +0.6

BUR04 Bucovina Ar. S 77.83 322 *eP* P 21 43 00.2 +0.4

BURAR Bucovina Array 77.83 322⇑ *i* P P 21 43 00.4 +0.6

BURAR Bucovina Array 77.83 322 ⇑P P 21 43 00.4 +0.6

BIZ Bicaz 77.85 321⇓ *i* P P 21 43 00.7 +0.9

CFR Carcaliu 78.00 318⇑ *i* P P 21 43 00.7 +0.1

CFR Carcaliu 78.00 318 ⇑P P 21 43 00.7 +0.1

PETR Petresti 78.10 319⇑ *i* P P 21 42 03.3 +1.1

GMRC Granite Mounta 78.25 55 P P 21 43 03.4 +1.0
baz=308

VRI Vrincioaia 78.26 320⇓ *i* P P 21 43 02.9 +0.8

VRI Vrincioaia 78.26 320⇓ P P 21 43 02.9 +0.8

PLOR Plostina 78.31 320⇓ *i* P P 21 43 02.8 +0.4

PLOR Plostina 78.31 320⇓ P P 21 43 02.8 +0.4

TIRR Tirgusor 78.33 318⇓ *i* P P 21 43 03.0 +0.5

TIRR Tirgusor 78.33 318⇓ P P 21 43 03.0 +0.5

TLB Topalu 78.44 318⇑ *i* P P 21 43 03.3 +0.2

TLB Topalu 78.44 318 ⇑P P 21 43 03.4 +0.3

BR131 Keskin Array S 78.49 312 *eP* P 21 43 04.2 +0.6

BRTR Keskin Array B 78.49 312 P P 21 43 03.9 +0.2
comp=Z,4.3nm,0.6s,baz=81,slow=3.8,SNR=27

OJC Ojcow 78.51 326 *eP* P 21 43 04.0 +0.7

OJC Ojcow 78.51 326 *eP* P 21 43 03.5 +0.1
comp=Z,29nm,1.1s

OJC Ojcow 78.51 326 *eP* P 21 43 03.5 +0.1
OJC pmax pmax
comp=Z,29nm,1.1s

BELC Belle Mtn. Jos 78.51 56 P P 21 43 05.2 +1.4
baz=308

OZUR 78.59 320⇑ *i* P P 21 43 05.2 +1.3

ARCR ARCALIA 78.62 322⇓ *i* P P 21 43 05.6 +1.6

MANR Mangalia 78.67 317⇓ *i* P P 21 43 04.9 +0.6

ULM Lac du Bonnet 78.74 34 P P 21 43 04.9 +0.3
comp=Z,1.3nm,0.5s,baz=338,slow=6.4,SNR=5.0
ULM pP **pP** **21 43 20.0 +1.0**
comp=Z,1.6nm,0.4s,baz=314,slow=7.0,SNR=3.7

TRPA Tarpa 78.75 323⇑ *i* P P 21 43 05.7 +1.0

MDND Maddock 78.77 37 P P 21 43 05.8 +0.9
baz=315

PGOR Pogoanele 78.78 319⇓ *i* P P 21 43 06.4 +1.4

NIE Niedzica 78.86 325 *eP* P 21 43 06.4 +1.0

NIE Niedzica 78.86 325 *eP* P 21 43 06.4 +1.0

ISR Istrita 78.87 319⇓ *i* P P 21 43 06.9 +1.4

ISR Istrita 78.87 319 ⇓P P 21 43 06.9 +1.4

DOPR Dopca 78.88 320⇑ *i* P P 21 43 06.7 +1.2

ICOR Ion Corvin 78.89 318⇑ *i* P P 21 43 06.5 +0.9

ANTO Ankara 78.89 312 *eP* P 21 43 06.5 +0.7
comp=Z,17nm,0.8s

ANTO Ankara 78.89 312⇑ *i* P P 21 43 06.5 +0.7

ANTO Ankara 78.89 312 ⇑P P 21 43 06.5 +0.7

MONP2 Monument Peak 78.91 57 P P 21 43 06.9 +0.7
baz=308

MLR Muntele Rosu 78.92 320⇓ *i* P P 21 43 06.6 +0.7

MLR Muntele Rosu 78.92 320 ⇓P P 21 43 06.6 +0.7

IRM Iron Mountain 78.97 55 P P 21 43 07.4 +1.1
baz=308

BC3 Big Chuckawall 79.08 56 P P 21 43 08.3 +1.4
baz=308

RSSD Black Hills 79.12 42 *eP* P 21 43 07.9 +0.8
comp=Z,3.7nm,0.8s

RSSD Black Hills 79.12 42 *eP* P 21 43 07.9 +0.8
RSSD pmax pmax
comp=Z,4.0nm,0.8s

RSSD Black Hills 79.12 42 P P 21 43 07.7 +0.6
baz=313

CJR Cluj-Napoca 79.25 322⇓ *i* P P 21 43 09.0 +1.4

CJR Cluj-Napoca 79.25 322 ⇓P P 21 43 09.0 +1.4

IKP In-Ko-Pah, Jac 79.26 57 P P 21 43 09.3 +1.3
baz=308,SNR=5.2

LANS Liptovska Anna 79.43 326 *eP* P 21 43 09.8 +1.3

LANS Liptovska Anna 79.43 326 *eP* P 21 43 09.8 +1.3

BSEG Bad Segeberg 79.46 333 *eP* P 21 43 08.7 +0.3
comp=Z,11nm,0.9s,baz=36,slow=5.5

KSP Ksiaz 79.55 328 *eP* P 21 43 09.8 +0.8

KSP Ksiaz 79.55 328 *eP* P 21 43 09.8 +0.8

DRGR 79.62 322⇓ *i* P P 21 43 10.4 +0.8

DRGR 79.62 322 ⇓P P 21 43 10.4 +0.8

ARR Arges 79.67 320⇑ *i* P P 21 43 11.0 +1.1

MORC Moravsky Berou 79.82 327 *eP* P 21 43 11.2 +0.6
comp=Z,18nm,1.0s

MORC Moravsky Berou 79.82 327 *eP* P 21 43 11.2 +0.6
MORC pmax pmax
comp=Z,18nm,1.0s

MORC Moravsky Berou 79.82 327 *eP* P 21 43 11.2 +0.6

DPC Dobruska-Polom 79.91 328 *eP* P 21 43 12.0 +0.9

DPC Dobruska-Polom 79.91 328 *eP* P 21 43 12.0 +0.9

UPC Upice 79.92 328 *eP* P 21 43 11.8 +0.7

UPC Upice 79.92 328 *eP* P 21 43 11.8 +0.7

PV10 Paradox Valley 80.11 49 *eP* P 21 43 15.2 +2.6

PSZ Piszkesteto 80.14 325 *eP* P 21 43 13.7 +1.2
comp=Z,24nm,1.1s

PSZ Piszkesteto 80.14 325⇑ *i* P P 21 43 13.6 +1.2

PSZ Piszkesteto 80.14 325 *eP* P 21 43 13.7 +1.2
PSZ pmax pmax
comp=Z,24nm,1.1s

VYHS Vyhne 80.20 325 *eP* P 21 43 13.5 +0.9
VYHS pmax pmax
comp=Z,6.0nm,1.1s

VYHS Vyhne 80.20 325 *eP* P 21 43 13.5 +0.9

N23A Red Feather La 80.25 45 P P 21 43 14.6 +1.2
baz=312

JAVC Velka Javorina 80.45 326 *eP* P 21 43 15.6 +1.6

BRG Berggiesshubel 80.48 329 *eP* P 21 43 14.6 +0.5
comp=Z,14nm,1.1s

BRG Berggiesshubel 80.48 329 *eP* P 21 43 14.9 +0.8
comp=Z,7.1nm,0.9s,baz=36,slow=5.5

BRG Berggiesshubel 80.48 329 *eP* P 21 43 14.6 +0.5
BRG pmax pmax
comp=Z,14nm,1.1s

PVCC Panska Ves 80.50 329 *eP* P 21 43 15.1 +0.9

PVCC Panska Ves 80.50 329 *eP* P 21 43 15.1 +0.9

CLL Collm 80.52 330 *eP* P 21 43 14.4 +0.2
comp=Z,20nm,1.0s

CLL Collm 80.52 330 *eP* P 21 43 14.7 +0.5
comp=Z,12nm,0.8s,baz=36,slow=5.5

CLL Collm 80.52 330 *i* P P 21 43 14.5 +0.2
comp=Z,19nm,1.0s
CLL *i* pP **sP** **21 43 32.7 -1.6**

CLL Collm 80.52 330 *i* P P 21 43 14.5 +0.2
CLL pmax pmax
comp=Z,19nm,1.0s

WUAZ Wupatki 80.53 52 P P 21 43 16.5 +1.7
baz=310

RAYN Ar Rayn 80.55 292 *eP* P 21 43 14.8 -0.2
comp=Z,8.3nm,1.0s

RAYN Ar Rayn 80.55 292 *i* P P 21 43 14.3 -0.7
SNR=10

VRAC Vranov 80.58 327⇑ *i* P P 21 43 15.6 +0.9

VRAC Vranov 80.58 327 ⇑P P 21 43 15.6 +0.9

VRAC Vranov 80.58 327 *eP* P 21 43 15.4 +0.7

GZR	**Gura Zlata**	**80.58**	**321**	⇑	*i*	P	**P**	**21 43 15.2**	**+0.4**
GZR	**Gura Zlata**	**80.58**	**321**	⇑		P	**P**	**21 43 15.2**	**+0.4**
FBE	**Freiberg**	**80.68**	**330**		*e*	P	**P**	**21 43 16.2**	**+1.1**
	comp=Z,13nm,0.9s,baz=36,slow=5.5								
KRUC	**Moravsky**	**80.85**	**327**		*e*	P	**P**	**21 43 16.6**	**+0.5**
GOPC	**GO Pecny, Ondr**	**80.88**	**328**		*e*	P	**P**	**21 43 17.2**	**+0.9**
GOPC	**GO Pecny, Ondr**	**80.88**	**328**		*e*	P	**P**	**21 43 17.2**	**+0.9**
PRU	**Pruhonice**	**80.92**	**329**		*e*	P	**P**	**21 43 17.6**	**+1.1**
PRU	**Pruhonice**	**80.92**	**329**		*e*	P	**P**	**21 43 17.6**	**+1.1**
MODS	**Modra-Piesok**	**80.98**	**326**		*e*	P	**P**	**21 43 17.9**	**+1.1**
MODS						pmax	pmax		
	comp=Z,25nm,1.3s								
MODS	**Modra-Piesok**	**80.98**	**326**		*e*	P	**P**	**21 43 17.9**	**+1.1**
BZS	**Buzias**	**80.99**	**322**	⇑	*i*	P	**P**	**21 43 17.2**	**+0.3**
BZS	**Buzias**	**80.99**	**322**	⇑		P	**P**	**21 43 17.2**	**+0.3**
TREC	**Trest**	**81.06**	**328**		*e*	P	**P**	**21 43 18.4**	**+1.2**
TREC	**Trest**	**81.06**	**328**		*e*	P	**P**	**21 43 18.4**	**+1.2**
NEUB	**Neuenburg**	**81.08**	**331**		*e*	P	**P**	**21 43 18.0**	**+0.7**
	comp=Z,19nm,1.1s,baz=36,slow=5.5								
HERR	**Herculane**	**81.13**	**321**	⇓	*i*	P	**P**	**21 43 18.2**	**+0.5**
PUNG	**Punghina**	**81.30**	**320**	⇑	*i*	P	**P**	**21 43 19.7**	**+1.1**
TANN	**Tannenbergstha**	**81.43**	**330**		*e*	P	**P**	**21 43 19.9**	**+0.6**
	comp=Z,3.7nm,0.9s,baz=36,slow=5.5								
GTTG	**Gvttingen**	**81.50**	**332**		*e*	P	**P**	**21 43 20.4**	**+0.9**
	comp=Z,17nm,1.0s,baz=36,slow=5.5								
GTTG						epP	**sP**	**21 43 38.3**	**-1.2**
GUNZ	**Gunzen**	**81.53**	**330**		*e*	P	**P**	**21 43 20.4**	**+0.7**
	comp=Z,5.1nm,0.8s,baz=36,slow=5.5								
MDVR	**Moldovita**	**81.55**	**321**	⇓	*i*	P	**P**	**21 43 20.3**	**+0.3**
WERN	**Wernitzgruen**	**81.57**	**330**		*e*	P	**P**	**21 43 20.8**	**+0.9**
	comp=Z,6.0nm,0.9s,baz=36,slow=5.5								
MOX	**Moxa**	**81.59**	**330**		*e*	P	**P**	**21 43 20.5**	**+0.5**
	comp=Z,3.3nm,0.8s,baz=36,slow=5.5								
CSS	**Mathiatis**	**81.74**	**308**		*e*	P	**P**	**21 43 21.1**	**0.0**
	comp=Z,10nm,0.7s								
S22A	**4UR Ranch, Cre**	**81.84**	**48**			P	**P**	**21 43 23.4**	**+1.5**
	baz=312								
CONA	**Conrad Observa**	**81.94**	**327**		*e*	P	**P**	**21 43 23.1**	**+1.1**
	comp=Z,8.6nm,0.9s								
KHC	**Kasperske Hory**	**81.98**	**329**		*e*	P	**P**	**21 43 22.8**	**+0.6**
	comp=Z,5.2nm,0.9s								
KHC	**Kasperske Hory**	**81.98**	**329**		*e*	P	**P**	**21 43 22.6**	**+0.4**
KHC	**Kasperske Hory**	**81.98**	**329**		*e*	P	**P**	**21 43 22.6**	**+0.4**
GEC2	**GERESS Array S**	**82.16**	**328**		*e*	P	**P**	**21 43 23.6**	**+0.5**
	comp=Z,5.8nm,0.8s								
GEC2	**GERESS Array S**	**82.16**	**328**		*e*	P	**P**	**21 43 23.6**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=36,slow=5.5								
GEC2	**GERESS Array S**	**82.16**	**328**		*e*	P	**P**	**21 43 23.7**	**+0.5**
GEC2						pmax	pmax		
	comp=Z,6.0nm,0.8s								
GERES	**GERESS Array B**	**82.16**	**328**			P	**P**	**21 43 23.2**	**+0.1**
	comp=Z,4.1nm,0.7s,baz=32,slow=5.5,SNR=31								
GEA0	**GERESS Array S**	**82.16**	**328**		*e*	P	**P**	**21 43 23.2**	**0.0**
WET	**Wettzell**	**82.26**	**329**		*e*	P	**P**	**21 43 24.6**	**+1.0**
	comp=Z,5.3nm,0.9s,baz=36,slow=5.5								
MANT	**Manisa**	**82.27**	**313**		*e*	P	**P**	**21 43 25.0**	**+0.9**
	comp=Z,30nm,0.9s								
VTS	**Vitosha**	**82.36**	**319**		*e*	P	**P**	**21 43 25.1**	**+0.7**
	comp=Z,13nm,0.8s								
VTS	**Vitosha**	**82.36**	**319**	⇑	*i*	P	**P**	**21 43 25.1**	**+0.7**
VTS	**Vitosha**	**82.36**	**319**	⇑		P	**P**	**21 43 25.1**	**+0.7**
GRA1	**Grafenberg Arr**	**82.50**	**330**		*e*	P	**P**	**21 43 25.5**	**+0.7**
	comp=Z,20nm,1.0s								
GRF	**Grafenberg Arr**	**82.50**	**330**		*e*	P	**P**	**21 43 26.0**	**+1.2**
	comp=Z,12nm,0.9s,baz=36,slow=5.5								
GRF	**Grafenberg Arr**	**82.50**	**330**		*e*	P	**P**	**21 43 25.5**	**+0.7**
GRF						pmax	pmax		
	comp=Z,20nm,1.0s								
GRFO	**Grafenberg**	**82.50**	**330**		*e*	P	**P**	**21 43 25.4**	**+0.6**
	comp=Z,15nm,0.9s								
GRFO	**Grafenberg**	**82.50**	**330**		*e*	P	**P**	**21 43 25.4**	**+0.6**
GRFO						pmax	pmax		
	comp=Z,15nm,0.9s								
BUG	**Bochum--Univer**	**82.57**	**333**		*e*	pP	pP	21 43 44.0	+4.5
ARSA	**Arzberg**	**82.61**	**326**		*i*	P	**P**	**21 43 25.0**	**-0.4**
	comp=Z,5.6nm,1.2s								
SDCO	**Great Sand Dun**	**82.62**	**47**			P	**P**	**21 43 27.0**	**+1.0**
	baz=313								
MOA	**Molln**	**82.69**	**327**		*i*	PcP	**P**	**21 43 27.5**	**+1.6**
	comp=Z,14nm,1.3s								
ECSD	**EROS Data Cent**	**83.18**	**38**			P	**P**	**21 43 29.1**	**+0.7**
	baz=318								
SOKA	**Soboth**	**83.26**	**326**		*i*	P	**P**	**21 43 29.1**	**+0.2**
	comp=Z,14nm,0.8s,SNR=9.7								
E38A	**The Farm, Brul**	**83.38**	**34**			P	**P**	**21 43 29.8**	**+0.4**
	baz=320								
RJOB	**Jochberg**	**83.40**	**328**		*e*	P	**P**	**21 43 30.6**	**+1.0**
	comp=Z,12nm,0.8s,baz=36,slow=5.5								
T25A	**Trinidad**	**83.66**	**47**			P	**P**	**21 43 32.4**	**+1.1**
	baz=313								
KBA	**Koelnbreinsper**	**83.68**	**327**		*i*	PcP	**P**	**21 43 31.9**	**+0.7**
	comp=Z,10nm,0.8s								
FUR	**Furstenfeldbru**	**83.69**	**329**		*e*	P	**P**	**21 43 32.1**	**+1.1**
	comp=Z,19nm,0.7s,baz=36,slow=5.5								
FUR						epP	**sP**	**21 43 50.8**	**-0.3**
MEM	**Membach**	**83.71**	**333**	⇑		P	**P**	**21 43 30.9**	**-0.1**
F38A	**Pierce - Schro**	**83.73**	**34**			P	**P**	**21 43 32.3**	**+1.1**
	baz=320								
MYKA	**Terra Mystica**	**83.91**	**327**		*i*	P	**P**	**21 43 31.9**	**-0.3**
	comp=Z,10.0nm,0.8s								
ANMO	**Albuquerque**	**83.93**	**50**		*i*	P	**P**	**21 43 32.7**	**0.0**
ANMO						pmax	pmax		
	comp=Z,2.0nm,1.0s								
E39A	**Mellen**	**84.00**	**33**			P	**P**	**21 43 33.1**	**+0.5**
	baz=321								
F39A	**Loretta**	**84.19**	**34**			P	**P**	**21 43 34.5**	**+1.0**
	baz=321								
WATA	**Walderalm**	**84.22**	**328**		*i*	P	**P**	**21 43 34.0**	**+0.1**
	comp=Z,5.6nm,1.0s								
E40A	**Wakefield**	**84.23**	**33**			P	**P**	**21 43 34.8**	**+1.1**
	baz=322								
ABTA	**Abfaltersbach**	**84.30**	**328**		*i*	P	**P**	**21 43 34.2**	**0.0**
	comp=Z,13nm,1.2s								
MOTA	**Moosalm**	**84.41**	**329**		*i*	PcP	**P**	**21 43 36.0**	**+1.2**
	comp=Z,6.5nm,0.9s								
RETA	**Reutte**	**84.44**	**329**		*i*	P	**P**	**21 43 35.1**	**+0.2**
	comp=Z,13nm,0.8s								
SQTA	**Sankt Quirin**	**84.47**	**329**		*i*	P	**P**	**21 43 35.1**	**0.0**
	comp=Z,3.5nm,0.5s								
LIT	**Litokhoron**	**84.52**	**318**		*e*	P	**P**	**21 43 35.4**	**+0.1**
	comp=Z,27nm,0.8s								
LIT	**Litokhoron**	**84.52**	**318**		*e*	P	**P**	**21 43 35.4**	**+0.1**
LIT						pmax	pmax		
	comp=Z,27nm,0.8s								
SCHQ	**Schefferville**	**84.53**	**16**			P	**P**	**21 43 35.6**	**+0.4**
	comp=Z,4.2nm,0.6s,baz=357,slow=7.2,SNR=5.2								
SCHQ						LR	LR	22 22 35.8	
	comp=Z,249nm,21.8s,baz=314,slow=36								
DOU	**Dourbes**	**84.63**	**334**	⇑		P	**P**	**21 43 35.3**	**-0.4**
BFO	**Black Forest**	**84.72**	**331**		*e*	P	**P**	**21 43 35.9**	**-0.3**
	comp=Z,17nm,0.9s								
BFO	**Black Forest**	**84.72**	**331**		*e*	P	**P**	**21 43 36.8**	**+0.6**
	comp=Z,14nm,0.9s,baz=36,slow=5.5								
BFO	**Black Forest**	**84.72**	**331**		*c*	P	**P**	**21 43 36.7**	**+0.5**
BFO						pmax	pmax		
	comp=Z,6.0nm,1.7s								
FETA	**Feichten**	**84.83**	**329**		*i*	P	**P**	**21 43 37.1**	**+0.1**
	comp=Z,9.6nm,0.8s								
DAVA	**Damuels**	**84.96**	**329**		*i*	PcP	**P**	**21 43 38.0**	**+0.4**
	comp=Z,22nm,1.0s								
G40A	**Rib Lake**	**85.02**	**34**			P	**P**	**21 43 38.2**	**+0.5**
	baz=322								
E42A	**Champion**	**85.08**	**32**			P	**P**	**21 43 38.5**	**+0.5**
	baz=323								
ECH	**Echery**	**85.27**	**331**		*e*	P	**P**	**21 43 39.1**	**+0.1**
	comp=Z,12nm,0.9s								
ECH	**Echery**	**85.27**	**331**		*e*	P	**P**	**21 43 39.1**	**+0.1**
ECH						pmax	pmax		
	comp=Z,12nm,0.9s								
FUORN	**Ofenpass-Fuorn**	**85.34**	**329**		*e*	P	**P**	**21 43 40.5**	**+0.8**
	comp=Z,22nm,0.8s								
MATQ	**Matagami**	**86.14**	**24**			P	**P**	**21 43 44.7**	**+1.4**
	baz=330								
D46A	**Sault St. Mari**	**86.28**	**29**			P	**P**	**21 43 44.3**	**+0.3**
	baz=326								
K40A	**Colesburg**	**86.59**	**36**			P	**P**	**21 43 46.3**	**+0.8**
	baz=321								
ITM	**Ithomi**	**86.93**	**316**		*e*	P	**P**	**21 43 47.0**	**-0.4**
	comp=Z,27nm,0.7s								
J42A	**Columbus**	**87.02**	**34**			P	**P**	**21 43 48.2**	**+0.5**
	baz=322								
CHGQ	**Chibougamau**	**87.04**	**22**			P	**P**	**21 43 48.1**	**+0.5**
	baz=332								
J43A	**Natural Harves**	**87.29**	**34**			P	**P**	**21 43 49.6**	**+0.6**
	baz=323								
O41A	**Passleys Farm,**	**88.71**	**38**			P	**P**	**21 43 56.7**	**+0.9**
	baz=321								
D54A	**Lac Fusel, La**	**88.73**	**25**			P	**P**	**21 43 56.2**	**+0.5**
	baz=331								
TX31	**Lajitas Ar. Si**	**89.49**	**53**		*e*	P	**P**	**21 44 01.1**	**+1.4**
TXAR	**Lajitas Array**	**89.49**	**53**			P	**P**	**21 44 00.9**	**+1.1**
	comp=Z,1.7nm,0.5s,baz=300,slow=3.0,SNR=30								
TXAR						pP	**pP**	**21 44 15.0**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=304,slow=2.7,SNR=12								
P43A	**Skaggs, Pawnee**	**89.73**	**37**			P	**P**	**21 44 01.1**	**+0.5**
	baz=322								
G53A	**Haliburton**	**89.80**	**27**			P	**P**	**21 44 01.1**	**+0.3**
	baz=329								
O44A	**Mansfield**	**89.83**	**36**			P	**P**	**21 44 02.1**	**+1.1**
	baz=323								
M47A	**Cromwell**	**90.15**	**34**			P	**P**	**21 44 03.0**	**+0.6**
	baz=325								
N47A	**Urbana**	**90.50**	**34**			P	**P**	**21 44 04.8**	**+0.7**
	baz=325								
U40A	**Yellville**	**90.62**	**41**			P	**P**	**21 44 05.2**	**+0.4**
	baz=320								
ALFO	**Alfred**	**90.66**	**25**			P	**P**	**21 44 05.0**	**+0.3**
	baz=332								
M49A	**Liberty Center**	**90.76**	**33**			P	**P**	**21 44 05.6**	**+0.2**
	baz=326								
L50A	**Kingsville**	**90.78**	**31**			P	**P**	**21 44 05.8**	**+0.4**
	baz=326								
WHTX	**Lake Whitney,**	**91.35**	**47**			P	**P**	**21 44 09.4**	**+1.2**
	baz=317								
MIAR	**Mount Ida**	**91.61**	**43**			P	**P**	**21 44 10.4**	**+1.0**
	baz=320								
ESDC	**Sonseca Array**	**96.68**	**334**			P	**P**	**21 44 30.9**	**-1.7**
	comp=Z,1.1nm,0.7s,baz=20,slow=4.7,SNR=4.0								
TORD	**Torodi Ar. Bea**	**116.92**	**315**			PKP	**PKPdf**	**21 49 44.8**	**-2.5**
	comp=Z,0.6nm,0.9s,baz=18,slow=1.5,SNR=3.2								
DBIC	**Dimbokro**	**125.86**	**317**			PKP	**PKPdf**	**21 50 03.6**	**-0.9**
	comp=Z,2.4nm,0.7s,baz=304,slow=3.6,SNR=4.4								
BOSA	**Boshof**	**126.91**	**260**			PKP	**PKPdf**	**21 50 05.5**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=333,slow=2.3								
LPAZ	**La Paz**	**146.12**	**59**			PKPbc	**PKPbc**	**21 50 43.8**	**+0.4**
	comp=Z,3.2nm,0.7s,baz=283,slow=2.7,SNR=14								
LPAZ						pPKPbc	pPKPab	21 50 59.1	+0.1
	comp=Z,9.0nm,0.6s,baz=0.9,slow=1.6,SNR=12								
MNMC	**Minye Minye**	**147.03**	**64**		*e*	PKPdf	**PKPbc**	**21 50 46.0**	**+0.4**
PB11	**IPOC Station P**	**147.40**	**65**		*e*	PKPbc	**PKPab**	**21 50 47.5**	**-0.9**
GO02	**Mina Guanaco**	**150.66**	**74**		*e*	PKPbc	**PKiKP**	**21 50 56.4**	**+0.9**
LCO	**Las Campanas**	**151.70**	**82**		*e*	PKPbc	**PKiKP**	**21 50 57.6**	**+0.1**
LCO	**Las Campanas**	**151.70**	**82**		*e*	PKIKP	**PKiKP**	**21 50 57.6**	**+0.1**
GO04	**Tololo Observa**	**152.13**	**84**		*e*	PKPbc	**PKiKP**	**21 50 58.6**	**+0.4**

NIED ***23*** *21:34:00.43˝N×145˚80.80E, h65km, Mw5.2 Best double couple: M₀6.43000×10¹⁶ NP1:φs176.00000°, δ18.00000°, λ27.00000°. NP2:φs61.00000°, δ82.00000°, λ106.00000°.*

BJI ***23*** *21:34:29.5, 43˚17N×145˚87E, h60km, mb5.3/76, mB5.3/49, Ms4.5/62, Ms7 4.3/58*

ISCJB ***23*** *21:34:31.3±0.2, 43˚03N±0˚02×145˚77E±0˚02, h69km± 1km, mb5.2/349, Error ellipse: s-maj=3.0km s-min=1.8km az=154.8*

MOS ***23*** *21:34:31.0± 1.0, 43˚03N×145˚77E, h72km, mb5.8/80, MS4.4/22, Error ellipse: s-maj=6.5km s-min=5.1km az=95.5*

MOS Felt (IV) at Yuzhno-Kuril'sk; (III) at Malokuril'skoe.

SKHL ***23*** *21:34:32.6±0.6, 43˚08N×145˚87E, h79km±4km, mb5.9/20, Ms4.5/3*

SKHL Felt (IV) at Yushno-Kuril'sk, (III) at Malokuril'skoe.

JMA ***23*** *21:34:32.5±0.1, 43˚04N×145˚82E, h65km± 1km, M5.2*

JMA Felt IV J1.

GCMT ***23*** *21:34:33.6±0.2, 43˚08N±0˚01×145˚89E±0˚02, h74km±2km, MW5.2/107, Moment Tensor Solution. s64,c96; s107,c187; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.55±.20; Mθθ-0.43±.17; Mφφ-2.11±.17; Mrθ5.44±.11; Mθφ-3.21±.15; Mφr3.04±.11; Best double couple: M₀7.32400×10¹⁶ NP1:φs61.00000°, δ77.00000°, λ109.00000°. NP2:φs184.00000°, δ22.00000°, λ35.00000°. Principal axes: T 6.7300, Plg54.0000°, Azm354.0000°; N 1.1940, Plg18.0000°, Azm237.0000°; P -7.9190, Plg30.0000°, Azm136.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***23*** *21:34:33.6±0.4, 43˚09N×145˚68E, h74km±3km, mb5.3/210 Error ellipse: s-maj=3.2km s-min=2.1km az=157.0*

NEIC Recorded [4 JMA] in eastern Hokkaido.

IDC ***23*** *21:34:33.2±1.2, 43˚09N×145˚76E, h73km±9km, mb5.0/30, mb1 5.1/37, mb1mx5.0/44, mbtmp5.3/37, MS4.1/19, Ms1 4.1/19, ms1mx3.9/32, Error ellipse: s-maj=9.6km s-min=8.3km az=43.0*

ISC 23 21:34:32.6±0.3, 43˚14N±0˚03×145˚80E±0˚03, h66km±2km, h66km;pP-P,n1554,σ1s21/1646, mb5.3/381, 153C-69D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.23**	**349**	⇓	P	**Pn**	**21 34 43.4**	**+0.5**
NEM2					*e*S	**Sn**	**21 34 51.1**	**+0.7**
JKHN	**Kushirohamanak**	**0.47**	**264**		P	**Pn**	**21 34 45.1**	**+0.3**
JKHN					*e*S	**Sn**	**21 34 54.4**	**+0.7**
GLVR	**Golovnino**	**0.64**	**341**	⇓	*i*P	**Pn**	**21 34 47.0**	**+0.5**
GLVR					AMB	AMB	21 34 48.0	
	28μm,0.4s							
GLVR					AMB	AMB	21 34 48.0	
	11μm,0.4s							
GLVR					AMB	AMB	21 34 48.0	
	154μm,0.4s							
GLVR					*e*S	**Sn**	**21 34 58.0**	**+1.3**
GLVR					A	A	21 34 59.0	
	249μm,0.4s							
GLVR					A	A	21 34 59.0	
	188μm,0.4s							
GLVR	**Golovnino**	**0.64**	**341**	*d*	*i*PN	**Pn**	**21 34 47.7**	**+1.2**
GLVR					*e*S	**Sn**	**21 34 58.5**	**+1.8**
GLVR					pmax	pmax		
	comp=Z,154μm,0.4s							
GLVR					pmax	pmax		
	comp=E,11μm,0.2s							
GLVR					pmax	pmax		
	comp=N,28μm,0.4s							
GLVR					smax	smax		
	comp=N,249μm,0.3s							
GLVR					smax	smax		
	comp=E,188μm,0.3s							
JAK	**Akkeshi**	**0.82**	**261**	⇓	P	**Pn**	**21 34 48.5**	**-0.1**
JAK					*e*S	**Sn**	**21 35 00.2**	**-0.3**
GRPR	**Tuman**	**0.86**	**359**	⇓	*i*P	**Pn**	**21 34 49.0**	**-0.1**
GRPR					AMB	AMB	21 34 50.0	
	comp=E,8μm,0.3s							
GRPR					AMB	AMB	21 34 50.0	
	comp=E,11μm,0.3s							
GRPR					AMB	AMB	21 34 50.0	
	comp=E,75μm,0.3s							
GRPR					*e*S	**Sn**	**21 35 02.0**	**+0.7**
GRPR					A	A	21 35 03.0	
	comp=E,239μm,0.4s							
GRPR					A	A	21 35 03.0	
	comp=E,272μm,0.4s							
GRPR	**Tuman**	**0.86**	**359**	*d*	*i*PN	**Pn**	**21 34 49.8**	**+0.7**
GRPR					*e*S	**Sn**	**21 35 02.5**	**+1.2**
GRPR					pmax	pmax		
	comp=E,11μm,0.2s							
GRPR					pmax	pmax		
	comp=Z,75μm,0.2s							
GRPR					pmax	pmax		
	comp=N,8μm,0.3s							
GRPR					smax	smax		
	comp=E,272μm,0.3s							
GRPR					smax	smax		
	comp=N,239μm,0.2s							
YUK	**Yuzh-Kuril'sk**	**0.90**	**3**	⇓	*i*P	**Pn**	**21 34 50.7**	**+1.1**
YUK					AMB	AMB	21 34 51.0	
	comp=N,4μm,0.2s							
YUK					AMB	AMB	21 34 51.0	
	comp=N,16μm,0.2s							
YUK					AMB	AMB	21 34 51.0	
	comp=N,52μm,0.2s							
YUK					*i*S	**Sn**	**21 35 04.2**	**+2.0**
YUK					A	A	21 35 05.0	
	comp=N,85μm,0.4s							
YUK					A	A	21 35 05.0	
	comp=N,71μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**0.90**	**3**	*d*	*i*PN	**Pn**	**21 34 50.3**	**+0.7**
YUK					*i*S	**Sn**	**21 35 02.9**	**+0.7**
YUK					pmax	pmax		
	comp=N,4μm,0.2s							
YUK					pmax	pmax		
	comp=Z,52μm,0.2s							
YUK					pmax	pmax		
	comp=E,16μm,0.1s							
YUK					smax	smax		
	comp=E,71μm,0.3s							
YUK					smax	smax		
	comp=N,85μm,0.4s							
JNK	**Nakash**	**0.91**	**300**	⇓	P	**Pn**	**21 34 50.2**	**+0.5**
JNK					*e*S	**Sn**	**21 35 03.2**	**+0.7**
JRA	**Rausu**	**0.94**	**329**	⇓	P	**Pn**	**21 34 51.4**	**+1.3**
JRA					*e*S	**Sn**	**21 35 05.3**	**+2.1**
SHO	**Shikotan**	**1.05**	**45**	⇓	*i*P	**Pn**	**21 34 51.7**	**+0.2**
SHO					AMB	AMB	21 34 51.9	
	comp=N,840nm,0.2s							
SHO					AMB	AMB	21 34 51.9	
	comp=N,1μm,0.2s							
SHO					AMB	AMB	21 34 51.9	
	comp=N,3μm,0.2s							
SHO					*i*S	**Sn**	**21 35 05.4**	**-0.1**
SHO					A	A	21 35 05.8	
	comp=N,58μm,0.4s							
SHO					A	A	21 35 05.8	
	comp=N,25μm,0.4s							
SHO	**Shikotan**	**1.05**	**45**	*d*	*i*PN	**Pn**	**21 34 51.6**	**+0.1**
SHO					*e*S	**Sn**	**21 35 05.2**	**-0.3**
SHO					pmax	pmax		
	comp=N,838nm,0.2s							
SHO					pmax	pmax		
	comp=E,1μm,0.2s							
SHO					pmax	pmax		
	comp=Z,3μm,0.2s							
SHO					smax	smax		
	comp=N,58μm,0.3s							
SHO					smax	smax		
	comp=E,25μm,0.4s							
JOB	**Onbets**	**1.46**	**262**	⇓	P	**Pn**	**21 34 57.0**	**+0.1**
JOB					*e*S	**Sn**	**21 35 14.9**	**-0.3**
JAR	**Ashorobuto**	**1.50**	**277**	⇓	P	**Pn**	**21 34 58.0**	**+0.7**
JAR					*e*S	**Sn**	**21 35 16.9**	**+0.9**
JTKR	**Abashiri--Toko**	**1.61**	**302**	⇓	P	**Pn**	**21 35 00.4**	**+1.5**
JTKR					*e*S	**Sn**	**21 35 21.5**	**+2.8**
JCH	**Churui**	**1.87**	**255**	⇓	P	**Pn**	**21 35 02.0**	**-0.3**
JCH					*e*S	**Sn**	**21 35 23.8**	**-1.1**
ERM	**Erimo**	**2.25**	**241**		*e*Pn	**Pn**	**21 35 08.6**	**+1.0**
ERM					*e*Sn	**Sn**	**21 35 29.9**	**-4.4**
ERM	**Erimo**	**2.25**	**241**	⇑	*i*P	**Pn**	**21 35 08.5**	**+1.0**
ERM	**Erimo**	**2.25**	**241**	*c*	*i*PN	**Pn**	**21 35 08.5**	**+1.0**
JKA	**Kamikawa-asahi**	**2.52**	**294**		*e*P	**Pn**	**21 35 12.8**	**+1.6**
ASAJ	**Asahikawa**	**2.53**	**294**		P	**Pn**	**21 35 12.8**	**+1.6**
	comp=E,380nm,0.3s,baz=124,slow=9.8,SNR=137							
ASAJ					S	**Sn**	**21 35 41.8**	**+0.9**
	comp=E,211nm,0.3s,baz=316,slow=16,SNR=7.7							
ASAJ	**Asahikawa**	**2.53**	**294**		*e*Pn	**Pn**	**21 35 13.7**	**+2.4**
ASAJ					S	**Sn**	**21 35 41.8**	**+0.9**
KUR	**Kuril'sk**	**2.57**	**35**	⇓	*i*P	**Pn**	**21 35 12.7**	**+0.9**
KUR					AMB	AMB	21 35 14.0	
	comp=E,740nm,0.3s							
KUR					AMB	AMB	21 35 14.0	
	comp=E,460nm,0.3s							
KUR					AMB	AMB	21 35 14.0	
	comp=E,3μm,0.3s							
KUR					AMB	AMB	21 35 14.6	
	comp=E,8μm,1.0s							
KUR					*e*S	**Sn**	**21 35 42.7**	**+0.7**
KUR					A	A	21 35 45.0	
	comp=E,3μm,0.5s							
KUR					A	A	21 35 45.0	
	comp=E,10μm,0.5s							
KUR					A	A	21 35 46.9	
	comp=E,23μm,1.5s							
KUR					A	A	21 35 46.9	
	comp=E,15μm,1.5s							
KUR	**Kuril'sk**	**2.57**	**35**	*c*	*i*PN	**Pn**	**21 35 13.5**	**+1.7**
KUR					*i*S	**Sn**	**21 35 43.9**	**+1.9**
KUR					pmax	pmax		
	comp=Z,3μm,0.7s							
KUR					pmax	pmax		
	comp=N,749nm,0.3s							
KUR					pmax	pmax		
	comp=E,459nm,0.3s							
KUR					pmax	pmax		
	comp=Z,8μm,1.1s							
KUR					smax	smax		
	comp=E,10μm,0.6s							
KUR					smax	smax		
	comp=N,2μm,0.2s							
KUR					smax	smax		
	comp=N,23μm,1.3s							
KUR					smax	smax		
	comp=E,15μm,1.5s							
JTH	**Tanohata**	**4.35**	**224**		P	**Pn**	**21 35 33.0**	**-3.2**
YSS	**Yuzh-Sakhalins**	**4.39**	**332**		*e*Pn	**Pn**	**21 35 38.9**	**+2.4**
YSS					*e*Sn	**Sn**	**21 36 29.9**	**+3.5**
YSS	**Yuzh-Sakhalins**	**4.39**	**332**	⇓	*i*P	**Pn**	**21 35 39.0**	**+2.4**
YSS					AMB	AMB	21 35 39.7	
	comp=E,930nm,0.5s							
YSS					AMB	AMB	21 35 39.7	
	comp=E,690nm,0.5s							
YSS					AMB	AMB	21 35 39.7	
	comp=E,2μm,0.5s							
YSS					*e*S	**Sn**	**21 36 27.4**	**+1.0**
YSS					A	A	21 36 29.5	
	comp=E,1μm,0.9s							
YSS					A	A	21 36 29.5	
	comp=E,1μm,0.9s							
YSS					AMS	AMS	21 37 31.0	
	comp

TYV					AMB	AMB	21 36 29.8		
	comp=N,600nm,2.5s								
TYV					AMB	AMB	21 36 31.0		
	comp=N,900nm,0.4s								
TYV					*e*S	**Sn**	**21 37 56.1**	**+0.6**	
TYV					A	A	21 38 02.3		
	comp=N,90nm,0.7s								
TYV					A	A	21 38 02.3		
	comp=N,70nm,0.7s								
TYV					A	A	21 38 02.4		
	comp=N,1μm,5.0s								
TYV					AMS	AMS	21 39 43.5		
	comp=N,2μm,22.0s								
TYV	**Tymovskoe**	**8.02**	**346**	*e*PN	**Pn**	**21 36 28.8**	**+2.5**		
TYV				*e*S	**Sn**	**21 38 01.7**	**+6.2**		
TYV				pmax	pmax				
	comp=Z,600nm,2.6s								
TYV				pmax	pmax				
	comp=Z,133nm,0.9s								
TYV				smax	smax				
	comp=N,87nm,1.3s								
TYV				smax	smax				
	comp=E,1μm,4.9s								
JAG	**Ashikaga**	**8.29**	**218**	P	**Pn**	**21 36 27.5**	**-2.6**		
MJAR	**Matsushiro Arr**	**8.80**	**224**	P	**Pn**	**21 36 35.0**	**-2.0**		
	comp=E,2.1nm,0.3s,baz=25,slow=13,SNR=15								
MJAR				S	**Sn**	**21 38 14.5**	**-0.1**		
	comp=E,1.0nm,0.3s,baz=53,slow=24,SNR=3.0								
MJB9	**Matsu-Tunnel**	**8.80**	**224**	*e*Pn	**Pn**	**21 36 35.5**	**-1.5**		
MAJO	**Matsushiro**	**8.80**	**224**	*e*Pn	**Pn**	**21 36 35.2**	**-1.8**		
MAJO	**Matsushiro**	**8.80**	**224**	*e*P	**Pn**	**21 36 35.2**	**-1.8**		
MAJO	**Matsushiro**	**8.80**	**224**	*i* PN	**Pn**	**21 36 34.5**	**-2.5**		
MAJO	**Matsushiro**	**8.80**	**224**	*e*P	**PcP**	**21 42 52.7**	**-5.6**		
MAJO	**Matsushiro**	**8.80**	**224**	*e*P	**Pn**	**21 36 35.3**	**-1.8**		
MAT	**Matsushiro**	**8.80**	**224**	P	**Pn**	**21 36 35.0**	**-2.0**		
MAT				*e*S	**Sn**	**21 38 16.9**	**+2.3**		
MAT	**Matsushiro**	**8.80**	**224**	P	**Pn**	**21 36 35.0**	**-2.0**		
JRY	**Ryogami san**	**8.88**	**219**	P	**Pn**	**21 36 36.0**	**-2.2**		
JNG	**Nsakai**	**8.96**	**224**	P	**Pn**	**21 36 37.8**	**-1.5**		
JTT	**Ttatey**	**9.21**	**228**	P	**Pn**	**21 36 41.6**	**-1.0**		
JYN	**Shimob**	**9.47**	**219**	P	**Pn**	**21 36 44.1**	**-2.2**		
JGN	**Niukaw**	**9.51**	**226**	P	**Pn**	**21 36 45.3**	**-1.4**		
JNY	**Yasuok**	**9.91**	**221**	P	**Pn**	**21 36 50.5**	**-1.7**		
GRNR	**Gornyy**	**9.96**	**323**	⇑*i*P	**Pn**	**21 36 54.2**	**+1.3**		
GRNR				AMB	AMB	21 36 57.0			
	comp=E,140nm,0.7s								
USRK	**Ussuriysk Ar.**	**10.07**	**281**	P	**Pn**	**21 36 55.1**	**+0.8**		
	comp=E,1.7nm,0.3s,baz=84,slow=15,SNR=16								
USRK				LR	LR	21 41 02.7			
	comp=E,850nm,18.2s,baz=89,slow=39								
VLA	**Vladivostok**	**10.18**	**275**	*e*P	**Pn**	**21 36 54.6**	**-1.2**		
VLA	**Vladivostok**	**10.18**	**275**	*i* PN	**Pn**	**21 36 54.6**	**-1.2**		
SKR	**Severo-Kuril's**	**10.33**	**39**	*e*P	**Pn**	**21 36 58.5**	**+0.8**		
SKR				AMB	AMB	21 37 05.7			
	comp=E,350nm,1.0s								
SKR				*e*S	**Sn**	**21 38 48.3**	**-3.4**		
SKR				AMS	AMS	21 40 40.5			
	comp=E,2μm,20.0s								
SKR	**Severo-Kuril's**	**10.33**	**39**	*e*PN	**Pn**	**21 36 57.7**	**0.0**		
SKR				pmax	pmax				
	comp=Z,324nm,1.3s								
SKR				MLR	MLR				
	comp=Z,800nm,20.0s								
INU	**Inuyama**	**10.33**	**224**	*e*Pn	**Pn**	**21 36 56.7**	**-1.3**		
NKL	**Nikolayevsk**	**10.59**	**343**	⇑*i*P	**Pn**	**21 37 03.0**	**+1.7**		
NKL				AMB	AMB	21 37 04.0			
	comp=Z,1μm,1.5s								
NKL				AMB	AMB	21 37 05.0			
	comp=Z,140nm,0.8s								
NKL				AMS	AMS	21 41 26.0			
	comp=Z,1μm,16.0s								
NKL				AMS	AMS	21 41 26.0			
	comp=Z,2μm,16.0s								
NKL	**Nikolayevsk**	**10.59**	**343**	*e*PN	**Pn**	**21 37 02.0**	**+0.7**		
NKL				pmax	pmax				
	comp=N,90nm,1.1s								
NKL				pmax	pmax				
	comp=Z,300nm,1.1s								
NKL				MLR	MLR				
	comp=N,800nm,8.0s								
NKL				MLR	MLR				
	comp=E,1μm,8.0s								
NKL				MLR	MLR				
	comp=Z,1μm,8.0s								
OKH	**Okha**	**10.60**	**351**	⇓*e*P	**Pn**	**21 37 03.1**	**+1.7**		
OKH				AMB	AMB	21 37 05.9			
	comp=Z,300nm,4.5s								
OKH				*e*S	**Sn**	**21 38 59.5**	**+1.2**		
OKH				A	A	21 39 12.8			
	comp=Z,200nm,7.0s								
OKH				AMS	AMS	21 41 52.0			
	comp=Z,1μm,17.0s								
OKH	**Okha**	**10.60**	**351**	⇓*e*PN	**Pn**	**21 36 57.6**	**-3.8**		
OKH				pmax	pmax				
	comp=Z,300nm,4.6s								
MSHR	**Mys Shultsa**	**10.77**	**272**	*i* PN	**Pn**	**21 37 03.1**	**-0.8**		
JHJ	**Hachijo jima 2**	**11.06**	**207**	S	Sn	21 38 57.6	-12		
	comp=Z,146nm,0.3s,baz=75,slow=23,SNR=13								
KLR	**Kul'dur**	**11.48**	**307**	P	**Pn**	**21 37 14.6**	**+1.0**		
	comp=Z,0.9nm,0.3s,baz=112,slow=16,SNR=19								
KLR				LR	LR	21 42 06.4			
	comp=Z,2μm,19.4s,baz=134,slow=39								
KLR	**Kul'dur**	**11.48**	**307**	⇑*i*P	**Pn**	**21 37 15.1**	**+1.5**		
KLR	**Kul'dur**	**11.48**	**307**	*c i* PN	**Pn**	**21 37 15.1**	**+1.5**		
MDJ	**Mudanjiang**	**11.80**	**283**	P	**Pn**	**21 37 18.3**	**+0.4**		
MDJ				sP		21 37 35.8			
MDJ				S	**Sn**	**21 39 28.5**	**+0.8**		
MDJ				PcP	**PcP**	**21 43 03.9**	**+2.9**		
MDJ				ScP	**ScP**	**21 46 31.3**	**+3.4**		
MDJ				PcS	**PcS**	**21 46 37.8**	**+2.9**		
MDJ				ScS	**ScS**	**21 50 06.9**	**+3.4**		
MDJ				pmax	pmax				
	comp=Z,110nm,0.9s								
MDJ				pmax	pmax				
	comp=Z,560nm,6.1s								
MDJ				LR	LR				
	comp=Z,500nm,11.1s								
MDJ				LR	LR				
	comp=Z,1μm,21.5s								
MDJ				LR	LR				
	comp=Z,2μm,26.7s								
MDJ	**Mudanjiang**	**11.80**	**283**	*e*Pn	**Pn**	**21 37 18.4**	**+0.5**		
PEA0B	**Petropavlovsk-**	**12.74**	**34**	*e*Pn	**Pn**	**21 37 28.6**	**-2.1**		
PETK	**Petropavlovsk-**	**12.74**	**34**	P	**Pn**	**21 37 28.4**	**-2.3**		
	comp=Z,4.2nm,0.3s,baz=194,slow=12,SNR=55								
PETK	**Petropavlovsk-**	**12.74**	**34**	*e*Pn	**Pn**	**21 37 28.5**	**-2.1**		
PETK	**Petropavlovsk-**	**12.74**	**34**	*e*PN	**Pn**	**21 37 28.5**	**-2.1**		
PET	**Petropavlovsk**	**13.08**	**36**	*e*Pn	**Pn**	**21 37 38.3**	**+3.1**		
PET	**Petropavlovsk**	**13.08**	**36**	⇓*e*P	**Pn**	**21 37 34.7**	**-0.6**		
PET				AMB	AMB	21 37 46.0			
	comp=Z,90nm,1.0s								
PET				*e*S	**Sn**	**21 39 52.0**	**-6.9**		
PET	**Petropavlovsk**	**13.08**	**36**	*e*PN	**P**	**21 37 43.4**	**+0.2**		
PET				*e*S	S	21 40 09.7	-11		
PET				pmax	pmax				
	comp=Z,95nm,1.2s								
PET				MLR	MLR				
	comp=Z,900nm,10.0s								
PET				MLR	MLR				
	comp=Z,1μm,9.0s								
EKMR	**Ekimchan**	**13.12**	**324**	⇑*i*P	**Pn**	**21 37 35.9**	**+0.1**		
EKMR				AMB	AMB	21 37 42.2			
	comp=Z,60nm,0.9s								
KSRS	**Korea Array**	**14.77**	**253**	P	**Pn**	**21 37 56.6**	**-1.1**		
	comp=Z,0.4nm,0.3s,baz=60,slow=12,SNR=16								
KSRS				S	**Sn**	**21 40 42.3**	**+2.3**		
	comp=Z,1.0nm,0.3s,baz=66,slow=24,SNR=8.4								
KSRS				LR	LR	21 43 21.7			
	comp=Z,312nm,19.1s,baz=68,slow=36								
CN2	**Changchun**	**14.80**	**280**	*e*P	**Pn**	**21 37 56.4**	**-1.6**		
CN2				*e*S	Sn	21 40 30.3	-10		
CN2				pmax	pmax				
	comp=Z,110nm,0.7s								
CN2				pmax	pmax				
	comp=Z,200nm,5.0s								
CN2				LR	LR				
	comp=Z,1μm,20.0s								
CN2				LR	LR				
	comp=Z,840nm,20.0s								
CN2				LR	LR				
	comp=Z,880nm,21.0s								
KS15	**Wonju Array Si**	**14.80**	**253**	*e*Pn	**P**	**21 38 04.2**	**+1.7**		
KSAR	**Wonju Array Be**	**14.80**	**253**	P	**Pn**	**21 37 56.6**	**-1.5**		
KSAR				S	**Sn**	**21 40 42.3**	**+1.5**		
KSAR	**Wonju Array Be**	**14.80**	**253**	P	**Pn**	**21 37 56.6**	**-1.5**		
KSAR				S	**Sn**	**21 40 42.3**	**+1.5**		
JNU	**Nakatsue**	**15.40**	**234**	P	**Pn**	**21 38 04.0**	**-1.9**		
	comp=Z,0.4nm,0.3s,baz=49,slow=8.8,SNR=3.7								
TJN	**Taejon**	**15.69**	**251**	*c e*P	**Pn**	**21 38 07.7**	**-1.8**		
BMKR	**Bomnak**	**16.02**	**322**	⇑*e*P	**Pn**	**21 38 11.6**	**-2.0**		
BMKR				AMB	AMB	21 38 19.5			
	comp=Z,100nm,0.8s								
ZEA	**Zeya**	**16.20**	**317**	*e*P	**Pn**	**21 38 14.3**	**-1.5**		
ZEA				AMB	AMB	21 38 19.0			
	comp=Z,200nm,0.7s								
ZEA				AMS	AMS	21 45 09.0			
	comp=Z,900nm,15.0s								
ZEA				AMS	AMS	21 45 09.0			
	comp=Z,1μm,15.0s								
ZEA	**Zeya**	**16.20**	**317**	*e*P	**Pn**	**21 38 16.8**	**+1.0**		
ZEA				pmax	pmax				
	comp=N,150nm,0.8s								
ZEA				pmax	pmax				
	comp=E,120nm,1.0s								
ZEA				pmax	pmax				
	comp=Z,230nm,1.0s								
ZEA				MLR	MLR				
	comp=N,900nm,15.0s								
ZEA				MLR	MLR				
	comp=E,900nm,15.0s								
ZEA				MLR	MLR				
	comp=Z,1μm,15.0s								
CBIJ	**Chichi jima**	**16.27**	**192**	*e*Pn	**Pn**	**21 38 15.4**	**-1.5**		
CBIJ				*e*Sn	Sn	21 41 01.1	-15		
JCJ	**Chichijima**	**16.27**	**192**	P	**Pn**	**21 38 14.6**	**-2.3**		
	comp=Z,38nm,0.3s,baz=351,slow=21,SNR=4.9								
JCJ				S	Sn	21 40 58.0	-19		
	comp=Z,46nm,0.3s,baz=186,slow=23,SNR=5.2								
SNY	**Shenyang**	**16.44**	**273**	⇑P	**P**	**21 38 21.8**	**+1.2**		
SNY				pmax	pmax				
	comp=E,85nm,1.0s								
MA2	**Magadan**	**16.75**	**9**	P	**Pn**	**21 38 21.5**	**-1.0**		
	comp=Z,1.3nm,0.3s,baz=197,slow=12,SNR=12								
MA2	**Magadan**	**16.75**	**9**	*e*Pn	**Pn**	**21 38 21.3**	**-1.3**		
	comp=Z,39nm,0.5s								
MA2	**Magadan**	**16.75**	**9**	*i* P	**Pn**	**21 38 21.1**	**-1.4**		
MA2				AMB	AMB	21 38 25.8			
	comp=Z,30nm,0.9s								
MA2	**Magadan**	**16.75**	**9**	*c i*P	**Pn**	**21 38 21.1**	**-1.4**		
MA2				pmax	pmax				
	comp=Z,31nm,0.9s								
DL2	**Dalian**	**18.70**	**265**	P	**P**	**21 38 45.6**	**+0.1**		
DL2				*e*S	**S**	**21 42 09.6**	**-5.1**		
DL2				pmax	pmax				
	comp=Z,160nm,1.1s								
DL2				LR	LR				
	comp=Z,740nm,22.1s								
DL2				LR	LR				
	comp=Z,810nm,23.3s								
DL2				LR	LR				
	comp=Z,590nm,24.3s								
HIA	**Hailar**	**19.00**	**298**	*e*Pn	**P**	**21 38 47.1**	**-1.6**		
	comp=Z,73nm,0.9s								
HIA	**Hailar**	**19.00**	**298**	*e*P	**P**	**21 38 47.1**	**-1.6**		
HIA				pmax	pmax				
	comp=Z,73nm,0.9s								
SEY	**Seymchan**	**20.20**	**9**	*c e*P	**P**	**21 38 59.1**	**-2.5**		
SMY	**Shemya**	**21.12**	**53**	*e*P	**P**	**21 39 13.8**	**+2.2**		
	comp=Z,249nm,1.1s								
SMY	**Shemya**	**21.12**	**53**	*e*P	**P**	**21 39 13.8**	**+2.2**		
SMY	**Shemya**	**21.12**	**53**	*e*P	**P**	**21 39 13.8**	**+2.2**		
SMY				pmax	pmax				
	comp=Z,249nm,1.1s								
YAK	**Yakutsk**	**21.20**	**339**	*e*P	**P**	**21 39 08.8**	**-3.5**		
YAK				*e*S	**S**	**21 42 54.8**	**-9.2**		
YAK				*e**SS	Sn	21 43 10.7	-3.8		
YAK				*e*		21 50 25.1			
YAK				pmax	pmax				
	comp=Z,57nm,0.9s								
YAK				pmax	pmax				
	comp=E,9.0nm,0.8s								
YAK				pmax	pmax				
	comp=N,20nm,1.0s								
YAK				pmax	pmax				
	comp=Z,311nm,1.4s								
YAK				pmax	pmax				
	comp=N,368nm,1.6s								
YAK				pmax	pmax				
	comp=E,229nm,1.6s								
YAK				smax	smax				
	comp=N,136nm,1.5s								
YAK				smax	smax				
	comp=E,85nm,1.3s								
JOW	**Kunigami**	**21.63**	**227**	P	**P**	**21 39 17.0**	**-0.2**		
	comp=E,74nm,0.8s,baz=13,slow=9.0,SNR=10								
JOW				LR	LR	21 47 47.2			
	comp=E,412nm,21.2s,baz=47,slow=37								
JOW	**Kunigami**	**21.63**	**227**	*e*P	**P**	**21 39 18.0**	**+0.8**		
BJI	**Beijing**	**22.32**	**272**	P	**P**	**21 39 23.3**	**-1.3**		
BJI				S	**S**	**21 43 27.5**	**+1.8**		
BJI				pmax	pmax				
	comp=E,130nm,1.1s								
BJI				LR	LR				
	comp=E,500nm,13.1s								
BJI				LR	LR				
	comp=E,380nm,20.2s								
BJI				LR	LR				
	comp=E,670nm,34.3s								
BJT	**Baijiatuau**	**22.33**	**272**	*e*P	**P**	**21 39 23.2**	**-1.5**		
	comp=E,178nm,1.1s								
BJT	**Baijiatuau**	**22.33**	**272**	*e*P	**P**	**21 39 23.2**	**-1.5**		
BJT	**Baijiatuau**	**22.33**	**272**	*e*P	**P**	**21 39 23.2**	**-1.5**		
BJT				pmax	pmax				
	comp=Z,178nm,1.1s								
SSE	**Sheshan**	**22.93**	**247**	*e*P	**P**	**21 39 31.3**	**+0.3**		
	comp=Z,210nm,1.1s								
TIA	**Tai'an**	**23.06**	**262**	P	**P**	**21 39 31.3**	**-1.0**		
TIA				pmax	pmax				
	comp=Z,66nm,0.9s								
CIT	**Chita**	**23.34**	**304**	*e*P	**P**	**21 39 31.8**	**-3.1**		
CIT				*e*		21 39 49.0			
CIT				*e*		21 40 01.9			
CIT				*e*		21 40 13.0			
CIT				pmax	pmax				
	comp=Z,191nm,1.3s								
NJ2	**Nanjing**	**23.95**	**251**	*e*P	**P**	**21 39 41.5**	**+1.0**		
NJ2				pP	**pP**	**21 39 56.8**	**+0.7**		
NJ2				sP	**sP**	**21 40 05.6**	**+1.6**		
NJ2				PP	**PnPn**	**21 40 14.0**	**+1.8**		
NJ2				S	**S**	**21 43 56.3**	**+3.9**		
NJ2				pmax	pmax				
	comp=Z,110nm,1.2s								
NJ2				pmax	pmax				
	comp=Z,390nm,3.8s								
NJ2				LR	LR				
	comp=Z,520nm,13.6s								
NJ2				LR	LR				
	comp=Z,410nm,13.0s								
NJ2				LR	LR				
	comp=Z,720nm,14.6s								
BOD	**Bodaibo**	**24.71**	**318**	*e*P	**P**	**21 39 43.4**	**-3.8**		
BOD				pmax	pmax				
	comp=Z,30nm,1.4s								
HHC	**Hu-ho-hao-te**	**25.45**	**277**	*e*P	**P**	**21 39 54.5**	**+0.2**		
HHC				pP	pP	21 40 08.0	-2.0		
HHC				sP	sP	21 40 15.5	-2.4		
HHC				PP	**PnPn**	**21 40 31.5**	**-1.2**		
HHC				S	**S**	**21 44 13.3**	**-3.2**		
HHC				pmax	pmax				
	comp=Z,120nm,0.8s								
HHC				pmax	pmax				
	comp=Z,620nm,3.9s								
HHC				LR	LR				
	comp=Z,290nm,10.9s								
HHC				LR	LR				
	comp=Z,440nm,13.7s								
HHC				LR	LR				
	comp=Z,680nm,11.8s								
TIY	**Taiyuan**	**25.86**	**269**	*e*P	**P**	**21 39 59.4**	**+1.4**		
TIY				S	**S**	**21 44 29.8**	**+6.7**		
TIY				pmax	pmax				
	comp=Z,120nm,1.0s								
BTO	**Baotou**	**26.64**	**277**	*e*P	**P**	**21 40 03.4**	**-1.6**		
BILL	**Bilibino**	**27.23**	**17**	*e*P	**P**	**21 40 06.2**	**-3.6**		
	comp=Z,18nm,1.0s								
BILL	**Bilibino**	**27.23**	**17**	*c e*P	**P**	**21 40 06.2**	**-3.6**		
BILL				*e*		21 40 59.2			
BILL				*e*		21 43 31.9			
BILL				pmax	pmax				
	comp=Z,21nm,1.1s								
BILL				MLR	MLR				
	comp=Z,723nm,22.0s								
ULN	**Ulaanbaatar**	**27.36**	**294**	*e*P	**P**	**21 40 12.2**	**+0.7**		
	comp=Z,144nm,0.8s								
ULN	**Ulaanbaatar**	**27.36**	**294**	*e*P	**P**	**21 40 12.1**	**+0.6**		
ULN	**Ulaanbaatar**	**27.36**	**294**	*c i*P	**P**	**21 40 12.1**	**+0.6**		
ULN				pmax	pmax				
	comp=Z,179nm,0.9s								
ULN	**Ulaanbaatar**	**27.36**	**294**	P	**P**	**21 40 12.3**	**+0.7**		
	SNR=65								
SONA1	**Songino Array**	**27.80**	**294**	*e*P	**P**	**21 40 15.1**	**-0.3**		
SONM	**Songino Array**	**27.81**	**294**	P	**P**	**21 40 16.2**	**+0.7**		
	comp=Z,238nm,0.7s,baz=85,slow=8.4,SNR=468								
SONM				ScP	**ScP**	**21 47 03.7**	**-1.1**		
	comp=Z,2.0nm,1.0s,baz=95,slow=3.5,SNR=3.6								
SONM				LR	LR	21 52 22.6			
	comp=Z,988nm,19.4s,baz=84,slow=38								
WHN	**Wuhan**	**27.96**	**254**	⇓P	**P**	**21 40 17.8**	**+1.0**		
WHN				S	**S**	**21 44 52.9**	**-3.2**		
WHN				pmax	pmax				
	comp=Z,170nm,1.0s								
WHN				LR	LR				
	comp=Z,880nm,23.2s								
IRK	**Irkutsk**	**29.05**	**303**	*e*P	**P**	**21 40 25.9**	**-0.4**		
IRK	**Irkutsk**	**29.05**	**303**	*e*P	**P**	**21 40 25.9**	**-0.4**		
IRK				pmax	pmax				
	comp=Z,96nm,1.2s								
H11N2	**WAKE ISLAND Hy**	**29.31**	**136**	T	T	22 11 28.0			
	baz=328,slow=75,SNR=640								
H11N1	**WAKE ISLAND Hy**	**29.32**	**136**	T	T	22 11 33.4			
	baz=328,slow=75,SNR=301								
H11N3	**WAKE ISLAND Hy**	**29.32**	**136**	T	T	22 11 32.2			
	baz=328,slow=75,SNR=389								
GUMO	**Guam**	**29.45**	**182**	LR	LR	21 51 16.5			
	comp=Z,253nm,20.4s,baz=20,slow=34								
ZAK	**Zakamensk**	**29.69**	**299**	*e*P	**P**	**21 40 32.5**	**+0.4**		
ZAK	**Zakamensk**	**29.69**	**299**	*e*P	**P**	**21 40 32.5**	**+0.4**		
ZAK				pmax	pmax				
	comp=Z,101nm,1.1s								
TIXI	**Tiksi**	**29.77**	**349**	P	**P**	**21 40 28.3**	**-4.1**		
	comp=Z,4.4nm,0.7s,baz=140,slow=7.4,SNR=6.2								
TIXI	**Tiksi**	**29.77**	**349**	*e*P	**P**	**21 40 28.0**	**-4.5**		
	comp=Z,7.8nm,0.8s								
TIXI	**Tiksi**	**29.77**	**349**	*c e*P	**P**	**21 40 27.8**	**-4.6**		
XAN	**Xi'an**	**30.02**	**265**	P	**P**	**21 40 35.3**	**+0.2**		
XAN				pmax	pmax				
	comp=Z,47nm,0.9s								
XAN				pmax	pmax				
	comp=Z,150nm,3.6s								
XAN				LR	LR				
	comp=Z,250nm,8.2s								
XAN				LR	LR				
	comp=Z,280nm,13.4s								
XAN				LR	LR				
	comp=Z,350nm,36.5s								
XAN	**Xi'an**	**30.02**	**265**	*e*P	**P**	**21 40 35.0**	**-0.2**		
	comp=Z,412nm,1.1s								
XAN	**Xi'an**	**30.02**	**265**	*e*P	**P**	**21 40 35.0**	**-0.2**		
XAN				pmax	pmax				
	comp=Z,412nm,1.1s								
H11S1	**WAKE ISLAND Hy**	**30.24**	**138**	T	T	22 12 36.1			
	baz=329,slow=76,SNR=3080								
H11S3	**WAKE ISLAND Hy**	**30.25**	**138**	T	T	22 12 37.0			
	baz=329,slow=76,SNR=492								
H11S2	**WAKE ISLAND Hy**	**30.26**	**138**	T	T	22 12 37.2			
	baz=329,slow=76,SNR=442								
MOY	**Mondy**	**31.08**	**302**	*e*P	**P**	**21 40 44.8**	**+0.5**		
MOY	**Mondy**	**31.08**	**302**	*e*P	**P**	**21 40 44.8**	**+0.5**		
MOY				pmax	pmax				
	comp=Z,116nm,1.9s								
ENH	**Enshi**	**31.57**	**258**	*e*P	**P**	**21 40 48.2**	**-0.5**		
GAMB	**Gambell**	**31.77**	**35**	*e*P	**P**	**21 40 50.8**	**+0.7**		
	comp=Z,42nm,1.0s								
LZH	**Lanzhou**	**32.81**	**272**	⇑P	**P**	**21 41 00.5**	**+0.7**		
LZH				pP	pP	21 41 15.6	-0.2		
LZH				sP	sP	21 41 22.8	-0.8		
LZH				PP	**PnPn**	**21 42 08.8**	**-1.5**		
LZH				pmax	pmax				
	comp=Z,160nm,1.1s								
LZH				pmax	pmax				
	comp=Z,560nm,5.4s								
LZH				LR	LR				
	comp=Z,530nm,12.7s								
LZH				LR	LR				
	comp=Z,650nm,13.0s								
KNGR	**Kungurtug, Tuv**	**33.34**	**300**	*c i*P	**P**	**21 41 04.2**	**+0.1**		
GTA	**Gaotai**	**34.43**	**280**	⇑P	**P**	**21 41 13.8**	**0.0**		
GTA				pP	pP	21 41 29.0	-0.9		
GTA				sP	sP	21 41 35.8	-1.8		
GTA				PcP	**PcP**	**21 43 48.6**	**+0.8**		
GTA				S	**S**	**21 46 36.8**	**-0.4**		
GTA				sS	sS	21 47 02.6	-2.0		
GTA				ScP	**ScP**	**21 47 27.5**	**+0.4**		
GTA				PcS	**PcS**	**21 47 35.3**	**+0.9**		
GTA				SS	**SnSn**	**21 48 54.3**	**+1.1**		
GTA				ScS	**ScS**	**21 51 29.3**	**-0.7**		
GTA				pmax	pmax				
	comp=Z,34nm,1.4s								
GTA				pmax	pmax				
	comp=Z,100nm,5.4s								
GTA				LR	LR				
	comp=Z,240nm,18.2s								
GTA				LR	LR				
	comp=Z,260nm,16.2s								
GTA				LR	LR				
	comp=Z,380nm,20.3s								
ANM	**Nome**	**34.66**	**35**	*e*P	**P**	**21 41 16.5**	**+1.3**		
	comp=Z,120nm,1.1s								
ANM	**Nome**	**34.66**	**35**	*e*P	**P**	**21 41 16.5**	**+1.3**		
ANM				pmax	pmax				
	comp=Z,120nm,1.1s								
CD2	**Chengdu**	**35.37**	**264**	P	**P**	**21 41 21.8**	**0.0**		
CD2				S	**S**	**21 46 51.8**	**+0.3**		
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CD2				pmax	pmax				
	comp=Z,140nm,4.8s								
CD2				LR	LR				
	comp=Z,370nm,15.4s								
CD2				LR	LR				
	comp=Z,420nm,13.4s								
CD2				LR	LR				
	comp=Z,480nm,17.4s								
GYA	**Guiyang**	**35.82**	**255**	⇑*i*P	**P**	**21 41 25.6**	**-0.2**		
GYA				pP	pP	21 41 43.3	+1.3		
GYA				sP	sP	21 41 50.0	+0.3		
GYA				PP	**PP**	**21 42 49.8**	**+1.6**		
GYA				S	**S**	**21 46 56.4**	**-2.2**	

IM3 Indian Mountai 39.70 34 *e*P **P 21 41 58.0 0.0**
DGZ Jazzator, Alta 39.88 300*c i*P **P 21 42 00.9 +1.1**
DGZ pmax pmax
comp=Z,66nm,1.1s
OHAK Old Harbor 40.07 48 *e*P **P 21 42 01.2 +0.2**
comp=Z,32nm,0.7s
RSO Redoubt South 40.08 43 *e*P **P 21 42 02.6 +1.2**
PPLA Purkeypile 40.27 39 *e*P **P 21 42 04.8 +1.9**
comp=Z,128nm,1.2s
CAST Castle Rocks 40.32 38 *e*P **P 21 42 04.9 +1.8**
comp=Z,97nm,0.8s
KDAK Kodiak Island 40.39 47 *e*P **P 21 42 03.4 -0.2**
comp=Z,109nm,0.8s
KDAK Kodiak Island 40.39 47 *i* P **P 21 42 03.5 -0.2**
ZAA0 Zalesovo Array 40.59 307 *e*P **P 21 42 05.3 0.0**
comp=Z,102nm,1.0s
ZALV Zalesovo Beam 40.59 307 P **P 21 42 05.3 -0.1**
comp=Z,57nm,0.8s,baz=91,slow=8.3,SNR=60
ZALV PcP **PcP 21 44 06.6 +0.4**
comp=Z,40nm,0.8s,baz=100,slow=2.9,SNR=13
ZALV LR LR 22 00 08.8
comp=Z,664nm,19.5s,baz=99,slow=38
BPAW Bear Paw Mtn. 40.80 37 *e*P **P 21 42 08.7 +1.6**
comp=Z,52nm,0.8s
MLY Manley 40.91 35 *e*P **P 21 42 09.3 +1.3**
comp=Z,93nm,1.0s
SUA Susitna One 41.00 41 *e*P **P 21 42 09.4 +0.5**
comp=Z,39nm,0.7s
TRF Thorofare Moun 41.12 38 *e*P **P 21 42 10.7 +0.8**
comp=Z,48nm,0.8s
COLD Coldfoot 41.20 32 *e*P **P 21 42 11.6 +1.4**
comp=Z,26nm,1.0s
NVS Novosibirsk 41.34 309⇓ *i*P **P 21 42 11.9 +0.4**
NVS Novosibirsk 41.34 309⇓ *i*P **P 21 42 11.9 +0.4**
NVS *e*S **S 21 48 17.8 -3.2**
NVS pmax pmax
comp=Z,111nm,1.4s
NVS pmax pmax
comp=N,17nm,1.0s
NVS pmax pmax
comp=E,78nm,1.4s
NVS smax smax
comp=N,29nm,1.7s
NVS smax smax
comp=E,22nm,1.2s
WMQ Urumqi 41.41 292 P **P 21 42 13.1 +0.7**
WMQ pP pP 21 42 30.1 +1.2
WMQ S S **21 48 19.5 -3.0**
WMQ SS SS **21 51 28.3 -0.1**
WMQ pmax pmax
comp=E,190nm,1.1s
WMQ pmax pmax
comp=E,760nm,3.8s
WMQ LR LR
comp=E,800nm,18.9s
WMQ LR LR
comp=E,640nm,27.7s
WMQ LR LR
comp=E,760nm,27.7s
WMQ Urumqi 41.41 292 *e*P **P 21 42 13.1 +0.7**
comp=E,81nm,0.9s
WMQ Urumqi 41.41 292 *e*P **P 21 42 13.1 +0.7**
WMQ pmax pmax
comp=Z,81nm,0.9s
TOLK Toolik Lake Re 41.51 30 *e*P **P 21 42 13.2 +0.3**
comp=Z,37nm,0.9s
TOLK Toolik Lake Re 41.51 30 P **P 21 42 12.9 0.0**
baz=266,SNR=26
RC01 Rabbit Creek A 41.52 41 *e*P **P 21 42 13.7 +0.7**
comp=Z,65nm,0.8s
MCK McKinley 41.72 37 *e*P **P 21 42 15.3 +0.7**
comp=Z,100nm,1.0s
MCK McKinley 41.72 37 *e*P **P 21 42 15.3 +0.7**
MCK McKinley 41.72 37 *e*P **P 21 42 15.3 +0.7**
MCK pmax pmax
comp=Z,100nm,1.0s
SEW Seward 41.75 43 *e*P **P 21 42 15.1 +0.3**
comp=Z,57nm,0.9s
PMR Palmer 41.76 41 *e*P **P 21 42 15.4 +0.5**
comp=Z,30nm,0.9s
RND Reindeer 41.77 38 *e*P **P 21 42 15.4 +0.3**
comp=Z,71nm,0.9s
RND Reindeer 41.77 38 *e*P **P 21 42 15.4 +0.3**
RND pmax pmax
comp=Z,71nm,0.9s
MDM Murphy Dome 41.98 36 *e*P **P 21 42 17.9 +1.2**
comp=Z,142nm,0.9s
WRH Wood River Hil 42.06 36 *e*P **P 21 42 18.1 +0.8**
comp=Z,78nm,1.2s
KNK Knik Glacier 42.10 41 *e*P **P 21 42 18.3 +0.5**
comp=Z,54nm,0.8s
TCOL CIGO, UAF Yank 42.14 36 P **P 21 42 19.1 +1.1**
baz=272,SNR=34
COLA College 42.15 36 *e*P **P 21 42 19.2 +1.3**
comp=Z,267nm,0.9s
COLA College 42.15 36⇑ *i*P **P 21 42 19.1 +1.1**
COLA College 42.15 36*c i*P **P 21 42 19.1 +1.1**
COLA pmax pmax
comp=Z,258nm,0.9s
COLA College 42.15 36 *e*P **P 21 42 19.3 +1.3**
COLA College 42.15 36 *e*P **P 21 42 19.4 +1.4**
POKR Poker Plat Res 42.31 35 P **P 21 42 20.9 +1.5**
baz=272,SNR=68
HDA Harding Lake 42.56 36 *e*P **P 21 42 21.4 0.0**
comp=Z,68nm,0.9s
HDA Harding Lake 42.56 36 P **P 21 42 21.2 -0.2**
baz=274,SNR=37
IL1 Eielson Array 42.56 36 *e*P **P 21 42 20.7 -0.7**
ILAR Eielson Array 42.56 36 P **P 21 42 21.6 +0.3**
comp=Z,93nm,1.0s,baz=256,slow=6.4,SNR=85
ILB Eielson Array 42.56 36 *e*P **P 21 42 21.7 +0.3**
SCM Sheep Creek Mo 42.60 40 *e*P **P 21 42 22.7 +0.9**
comp=Z,68nm,1.0s
SCM Sheep Creek Mo 42.60 40 *e*P **P 21 42 22.7 +0.9**
SCM pmax pmax
comp=Z,68nm,1.0s
GLI Glacier Island 42.82 42 *e*P **P 21 42 24.1 +0.5**
comp=Z,55nm,0.9s
PRP Porcupine Dome 43.09 35 *e*P **P 21 42 26.6 +0.7**
comp=Z,208nm,0.8s
KLU Klutina 43.30 41 *e*P **P 21 42 28.4 +0.9**
comp=Z,64nm,1.0s
PAX Paxson 43.34 38 *e*P **P 21 42 29.2 +1.4**
comp=Z,21nm,1.0s
PAX Paxson 43.34 38 *e*P **P 21 42 29.2 +1.4**
PAX pmax pmax
comp=Z,21nm,1.0s
DIV Divide 43.42 41 *e*P **P 21 42 29.9 +1.4**
comp=Z,75nm,1.0s
RIDG Independ'e Rid 43.53 37 *e*P **P 21 42 29.3 0.0**
comp=Z,56nm,0.8s
HARP HAARP 43.55 39 *e*P **P 21 42 31.2 +1.8**
comp=Z,87nm,0.8s
NONG Nongkai 43.77 249 P **P 21 42 32.9 +1.2**
comp=Z,0.7nm,1.0s
SCRK Sand Creek 43.89 37 *e*P **P 21 42 32.4 +0.2**
comp=Z,92nm,0.9s
DOT Dot Lake 43.89 37 *e*P **P 21 42 32.3 +0.1**
comp=Z,30nm,0.6s
SKNT Sakolnakorn 43.97 247 P **P 21 42 35.2 +1.9**
comp=Z,12nm,1.2s
MKAR Makanchi Array 44.00 298 P **P 21 42 33.6 +0.4**
comp=Z,159nm,1.0s,baz=75,slow=9.2,SNR=139
MKAR PcP **PP 21 44 14.4 -2.2**
comp=Z,10nm,0.9s,baz=70,slow=3.8,SNR=1.9
MKAR S **S 21 49 00.0 -0.3**
comp=Z,6.1nm,1.1s,baz=76,slow=20,SNR=6.7
MKAR LR LR 22 02 05.5
comp=Z,461nm,19.2s,baz=62,slow=38
MK01 Makanchi Array 44.00 298 *e*P **P 21 42 33.9 +0.6**
EGAK Eagle 45.00 35 *e*P **P 21 42 41.1 +0.2**
comp=Z,204nm,1.1s
KURK Kurchatov 45.06 304 *e*P **P 21 42 41.8 +0.2**
KURK Kurchatov 45.06 304⇑ *i*P **P 21 42 41.8 +0.2**
KURK Kurchatov 45.06 304*c i*P **P 21 42 41.8 +0.2**
KURK pmax pmax
comp=Z,333nm,0.8s
KURK Kurchatov 45.06 304 P **P 21 42 41.6 0.0**
KURK P P **21 42 41.6 0.0**
SNR=84
LSA Lhasa 45.23 271 *e*P **P 21 42 44.4 +0.6**
LSA Lhasa 45.23 271 *i* P **P 21 42 44.5 +0.8**
SNR=13
LSA Lhasa 45.23 271 *e*P **P 21 42 44.4 +0.6**
JAY Jayapura 45.67 187 LR LR 22 00 43.5
comp=Z,69nm,20.6s,baz=334,slow=34

UTTA Uttaradit 45.77 251 P **P 21 42 48.7 +1.1**
comp=Z,7.2nm,0.8s,comp=Z,56nm
DAWY Dawson 45.88 36 *e*P **P 21 42 48.6 +0.7**
comp=Z,21nm,0.7s
DAWY *e*PP **PP 21 44 36.6 +0.4**
CHAI Chaiyaphum 46.07 248 P **P 21 42 51.3 +1.3**
comp=Z,8.0nm,0.9s,comp=Z,71nm
CMMT Chiang Mai 46.17 253 P **P 21 42 51.3 +0.6**
comp=Z,20nm,1.0s,comp=Z,380nm
CHTO Chiang Mai 46.17 253 *e*P **P 21 42 51.2 +0.4**
comp=Z,14nm,0.9s
CHTO Chiang Mai 46.17 253 *e*P **P 21 42 51.2 +0.4**
CHTO pmax pmax
comp=Z,14nm,0.9s
CHTO Chiang Mai 46.17 253 P **P 21 42 51.1 +0.4**
SNR=11
CHTO P **P 21 42 51.1 +0.4**
SNR=11
CHTO Chiang Mai 46.17 253 P **P 21 42 51.4 +0.7**
comp=Z,87nm,0.9s,comp=Z,2μm
CHTO Chiang Mai 46.17 253 *e*P **P 21 42 51.5 +0.7**
PBKT Sadao Pong 46.30 249 *e*P **P 21 42 52.6 +1.0**
comp=Z,4.5nm,0.8s
PBKT Sadao Pong 46.30 249 P **P 21 42 53.3 +1.6**
comp=Z,7.5nm,0.6s
CM31 Chiang Mai Arr 46.41 253 P **P 21 42 53.6 +0.9**
SNR=5.4
CMAR Chiang Mai Arr 46.41 253 P **P 21 42 52.0 -0.6**
comp=Z,3.2nm,0.6s,baz=36,slow=8.0,SNR=18
CMAR LR LR 22 03 47.1
comp=Z,136nm,20.9s,baz=53,slow=38
CMAR Chiang Mai Arr 46.41 253 *i* P **P 21 42 53.7 +1.1**
CMAR Chiang Mai Arr 46.41 253 *i* P **P 21 42 53.7 +1.1**
CM01 Chiang Mai Arr 46.42 253 *e*P **P 21 42 52.5 -0.2**
SHL Shillong 47.02 266 *e*P **P 21 42 57.3 -0.2**
comp=Z,17nm,1.0s
SHL Shillong 47.02 266 *e*P **P 21 42 57.3 -0.2**
SHL pmax pmax
comp=Z,17nm,1.0s
SHL Shillong 47.02 266 *e*P **P 21 42 55.0 -2.5**
SRAK Srakaew 47.38 246 P **P 21 42 58.6 -1.6**
comp=Z,49nm,0.9s,comp=Z,459nm
INK Inuvik 47.43 30 *e*P **P 21 43 00.8 +0.9**
comp=Z,134nm,1.1s
INK Inuvik 47.43 30 *e*P **P 21 43 00.8 +0.9**
INK Inuvik 47.43 30 *e*P **P 21 43 00.8 +0.9**
INK pmax pmax
comp=Z,134nm,1.1s
HYT Haines Junctio 47.43 40 *e*P **P 21 43 02.4 +2.2**
comp=Z,174nm,0.9s
FAKI Fak Fak 47.45 199 *e*P **P 21 42 59.9 -0.7**
comp=Z,68nm,1.1s
RABL Rabaul 47.46 171 *e*P **P 21 43 01.5 +0.8**
comp=Z,146nm,1.0s
UMPA Umpang Tak 48.00 251 P **P 21 43 08.4 +3.4**
comp=Z,7.2nm,1.1s,comp=Z,81nm
UTHA Uthaitani 48.05 250 P **P 21 43 07.3 +2.0**
comp=Z,4.9nm,0.8s,comp=Z,61nm
WHY Whitehorse 48.72 40 *e*P **P 21 43 11.9 +1.8**
comp=Z,27nm,0.8s
SKAG Skagway 48.86 42 *e*P **P 21 43 13.3 +2.2**
comp=Z,46nm,1.2s
SRDT SRDT 49.12 249 P **P 21 43 15.0 +1.4**
comp=Z,23nm,1.2s
BRVK Borovoye 49.18 309 *e*P **P 21 43 14.1 +0.4**
comp=Z,97nm,0.9s
BRVK Borovoye 49.18 309*c i*P **P 21 43 12.1 -1.5**
BRVK pmax pmax
comp=Z,94nm,1.1s
BRVK Borovoye 49.18 309 P **P 21 43 14.0 +0.4**
SNR=38
BRVK P **P 21 43 14.0 +0.4**
SNR=38
ULHL Ulahol 49.75 294 P **P 21 43 18.7 +0.3**
SNR=22
PHET Kaeng Krachan 49.80 247 P **P 21 43 20.6 +1.9**
comp=Z,20nm,0.8s,comp=Z,168nm
TKM2 Tokmak 2 49.88 295 P **P 21 43 20.3 +0.9**
SNR=82
TKM2 Tokmak 2 49.88 295 *i* P **P 21 43 20.0 +0.6**
TKM2 pmax pmax
comp=Z,149nm,0.9s
JIRN Jiri 49.98 272 *e*P **P 21 43 20.9 +0.4**
comp=Z,305nm,1.3s
GUN Gumba 50.07 273 *e*P **P 21 43 21.3 +0.2**
comp=Z,250nm,1.0s
RAMN Ramite 50.08 271 *e*P **P 21 43 21.2 +0.1**
comp=Z,46nm,0.4s
SBUM Sibu 50.34 226 P **P 21 43 21.8 -1.0**
CHMS Chumysh 50.41 296 P **P 21 43 23.5 +0.4**
SNR=26
KBK Karagaybulak 50.43 295 P **P 21 43 24.2 +0.8**
SNR=89
USP Ospenovka 50.45 296 P **P 21 43 24.1 +0.6**
SNR=79
KZA Kyzart 50.48 294 P **P 21 43 25.6 +1.4**
SNR=54
FRU Bishkek 50.57 296⇑ *i*P **P 21 43 24.0 -0.4**
FRU Bishkek 50.57 296⇑ *i*P **P 21 43 24.0 -0.4**
FRU *e* 21 43 40.0
FRU pmax pmax
comp=Z,160nm,2.0s
KKN Kakani 50.57 273 *e*P **P 21 43 24.8 0.0**
PKI Pulchoki 50.60 273 *e*P **P 21 43 25.1 -0.1**
comp=Z,187nm,1.3s
AAK Ala-Archa 50.74 295 P **P 21 43 26.3 +0.4**
SNR=26
AAK Ala-Archa 50.74 295 *e*P **P 21 43 26.2 +0.4**
comp=Z,32nm,0.8s
AAK Ala-Archa 50.74 295⇑ *i*P **P 21 43 26.2 +0.4**
AAK Ala-Archa 50.74 295 *i* P **P 21 43 25.9 +0.1**
SNR=6.8
AAK Ala-Archa 50.74 295*c i*P **P 21 43 26.2 +0.4**
AAK pmax pmax
comp=Z,78nm,1.6s
AAK Ala-Archa 50.74 295 P **P 21 43 25.7 -0.1**
SNR=19
AAK P **P 21 43 25.7 -0.1**
SNR=19
DMN Daman 50.80 273 *e*P **P 21 43 26.9 +0.3**
comp=Z,246nm,1.3s
UCH Uchtor 50.91 295 P **P 21 43 28.1 +0.7**
SNR=10
KSH Kashi 51.17 291 P **P 21 43 33.3 +4.3**
KSH pP pP 21 43 47.3 +1.3
KSH sP sP 21 43 54.0 +0.5
KSH PcP **PcP 21 44 46.8 +3.1**
KSH PP **PP 21 45 33.3 +7.2**
KSH PcS **PcS 21 48 44.3 +2.8**
KSH S **S 21 50 44.8 +2.5**
KSH ScS **ScS 21 53 16.5 +3.1**
KSH pmax pmax
comp=Z,95nm,0.9s
KSH pmax pmax
comp=Z,690nm,6.0s
KSH LR LR
comp=Z,310nm,6.1s
KSH LR LR
comp=Z,310nm,6.5s
KSH LR LR
comp=Z,430nm,11.2s
EKS2 Erkin-Say 51.20 296 P **P 21 43 29.9 +0.7**
SNR=7.3
DANN Dangsing 51.37 275 *e*P **P 21 43 31.6 +0.7**
comp=Z,749nm,0.9s
AML Almayashu 51.49 295 P **P 21 43 32.7 +1.0**
SNR=47
DLBC Dease Lake 51.79 42 *e*P **P 21 43 35.4 +2.1**
comp=Z,25nm,1.0s
KOLN Koldanda 51.81 274 *e*P **P 21 43 34.6 +0.5**
PYUN Piuthan 52.07 275 *e*P **P 21 43 36.5 +0.5**
comp=Z,463nm,1.0s
MNAS Manas 52.12 296 *i* P **P 21 43 36.3 +0.2**
MNAS pmax pmax
comp=Z,150nm,0.8s
SFK Sufi-Kurgan 52.61 293 *i* P **P 21 43 38.5 -1.4**
SFK pmax pmax
comp=Z,127nm,1.1s
SVE Sverdlovsk 52.91 317⇓ *i*P **P 21 43 41.9 +0.3**
SVE Sverdlovsk 52.91 317*d i*P **P 21 43 41.9 +0.3**
SVE *e*S **S 21 51 05.2 -0.3**
SVE pmax pmax
comp=Z,210nm,0.9s
KK31 Karatay Array 53.13 298 *e*P **P 21 43 43.5 +0.1**
KK31 Karatay Array 53.13 298 *e*P **P 21 43 43.5 +0.1**
HNR Honiara 53.88 163 P **P 21 43 48.9 -0.2**
comp=Z,35nm,0.4s,baz=198,slow=6.4,SNR=4.5
ARU Arti 54.12 317 *e*P **P 21 43 50.1 -0.2**
comp=Z,189nm,0.8s
ARU Arti 54.12 317⇑ *i*P **P 21 43 50.2 -0.2**
ARU Arti 54.12 317*c i*P **P 21 43 50.2 -0.2**
ARU pmax pmax
comp=Z,26nm,0.8s
KULM Kulim 54.80 240 *e*P **P 21 43 56.8 +1.0**
comp=Z,18nm,0.8s
KULM Kulim 54.80 240 P **P 21 43 57.2 +1.4**
IPM Ipoh 55.19 239 P **P 21 43 59.1 +0.5**
SPA0 Spitsbergen Ar 55.20 349 *e*P **P 21 43 58.1 +0.2**
KBS Kingsbay 55.23 350*ce*P **P 21 43 58.0 -0.1**
KBS pmax pmax
comp=Z,304nm,1.0s
RES Resolute Bay 55.84 16 *e*P **P 21 44 02.6 +0.1**
comp=Z,440nm,0.8s
RES Resolute Bay 55.84 16 *e*P **P 21 44 02.6 +0.1**
RES Resolute Bay 55.84 16 *e*P **P 21 44 02.6 +0.1**
RES pmax pmax
comp=Z,440nm,0.8s
NDI New Delhi 55.94 279 *e*P **P 21 44 03.0 -0.9**
NIL Nilore 56.02 286 *e*P **P 21 44 05.2 +0.7**
NIL Nilore 56.02 286 *e*P **P 21 44 05.2 +0.7**
YKA Yellowknife Ar 56.86 33 P **P 21 44 10.3 +0.5**
comp=Z,18nm,0.8s,baz=301,slow=6.7,SNR=70
COEN Coen 56.86 183 *e*P **P 21 44 10.6 +0.1**
comp=Z,100nm,1.1s
JBP Jabalpur 57.15 272 *e*S pP 21 44 25.7 -4.1
PRGR Permogore 57.53 326⇑ *i*P **P 21 44 14.4 -0.3**
PRGR pmax pmax
comp=Z,219nm,0.9s
LVZ Lovozero 57.95 335 *e*P **P 21 44 17.2 -0.4**
comp=Z,88nm,0.8s
LVZ Lovozero 57.95 335*c i*P **P 21 44 17.2 -0.4**
LVZ pmax pmax
comp=Z,12nm,0.8s
KBL Kabul 58.47 289 *e*P **P 21 44 21.0 -0.9**
comp=Z,80nm,0.8s
KBL Kabul 58.47 289 *e*P **P 21 44 21.0 -0.9**
KBL pmax pmax
comp=Z,80nm,0.8s
APA Apatity 58.53 335⇑ *i*P **P 21 44 20.6 -1.0**
APA Apatity 58.53 335⇑ *i*P **P 21 44 20.6 -1.0**
APA pmax pmax
comp=Z,160nm,0.8s
TULEG Thule 58.59 9 *e*P **P 21 44 21.2 -0.7**
comp=Z,172nm,1.0s
KEV Kevo 58.94 339 *e*P **P 21 44 24.4 0.0**
comp=Z,102nm,0.9s
KEV Kevo 58.94 339 *e*P **P 21 44 24.4 0.0**
KEV pmax pmax
comp=Z,102nm,0.9s
KEV Kevo 58.94 339 *e*P **P 21 44 24.2 -0.2**
HAMF Hammerfest 59.17 341 *e*P **P 21 44 23.9 -2.1**
ARCES ARCESS Array B 59.48 339 P **P 21 44 28.1 -0.1**
comp=Z,56nm,0.8s,baz=52,slow=7.9,SNR=43
ARCES LR LR 22 15 38.2
comp=Z,324nm,18.5s,baz=322,slow=41
ARCES ARCESS Array B 59.48 339 *e*P **P 21 44 28.2 +0.1**
ARCES ARCESS Array B 59.48 339 *e*P **P 21 44 28.2 +0.1**
ARE0 ARCESS Array S 59.48 339 *e*P **P 21 44 28.2 0.0**
comp=Z,3.6nm,0.9s
ARE0 ARCESS Array S 59.48 339 *e*P **P 21 44 28.4 +0.2**
DAG Danmarks Havn 59.97 356 *i* P **P 21 44 30.8 -0.5**
comp=Z,109nm,0.9s
DAG Danmarks Havn 59.97 356 *i* P **P 21 44 30.8 -0.5**
DAG pmax pmax
comp=Z,92nm,0.9s
KLMR Klimovskoe 60.42 327 *e*P **P 21 44 31.7 -2.9**
KLMR pmax pmax
comp=Z,139nm,0.9s
KLMR Klimovskoe 60.42 327 *e*P **P 21 44 31.8 -2.9**
KLMR AMP 21 44 35.5
comp=Z,139nm,0.9s
D03D Eldon 60.56 51 P **P 21 44 37.0 +1.1**
baz=303,SNR=6.1
B05A Bryant 60.73 50 P **P 21 44 37.8 +0.8**
baz=303,SNR=5.4
B06A Marblemount 60.93 49 *e*P **P 21 44 39.0 +0.7**
comp=Z,27nm,0.9s
D04E Lakebay 60.94 51 P **P 21 44 38.4 0.0**
baz=303
TRO Tromso 61.03 341 *e*P **P 21 44 38.9 +0.2**
E04D Cinebar 61.40 52 P **P 21 44 42.8 +1.2**
baz=304,SNR=5.8
KULLO Kullorsuaq 61.56 7⇑ *i*P **P 21 44 41.7 -0.5**
comp=Z,189nm,1.2s
KULLO Kullorsuaq 61.56 7⇑ *i*P **P 21 44 41.7 -0.5**
KULLO pmax pmax
comp=Z,190nm,1.2s
LON Longmire 61.73 51 *e*P **P 21 44 45.0 +1.1**
comp=Z,7.4nm,0.8s
LON Longmire 61.73 51 *e*P **P 21 44 45.0 +1.1**
LON pmax pmax
comp=Z,7.0nm,0.8s
G03D McMinnville, O 61.74 53 P **P 21 44 44.8 +0.9**
baz=304
HYB Hyderabad 61.77 268 *i* P **P 21 44 44.0 -0.5**
LTY Liberty 62.09 50 *e*P **P 21 44 46.9 +0.6**
comp=Z,11nm,0.8s
B08A Colville Reser 62.21 49 *e*P **P 21 44 47.6 +0.6**
comp=Z,14nm,0.8s
F05D White Salmon 62.41 52 P **P 21 44 49.4 +1.0**
baz=304
H04D Lebanon 62.44 54 P **P 21 44 49.9 +1.4**
baz=304
J01E Myrtle Point 62.49 56 P **P 21 44 50.2 +1.3**
baz=304
I03D Drain, OR 62.54 55 P **P 21 44 50.1 +0.8**
baz=304
H04A Detroit Lake 62.67 53 *e*P **P 21 44 51.4 +1.2**
comp=Z,40nm,0.9s
G05D Wamic, OR 62.86 52 P **P 21 44 51.6 +0.2**
baz=305,SNR=8.4
K02D Willamette Mer 62.92 56 P **P 21 44 52.5 +0.6**
baz=305
I04A Tendick Farm, 63.04 54 P **P 21 44 53.9 +1.2**
baz=305
C09A Chrisman Ranch 63.11 49 *e*P **P 21 44 53.8 +0.7**
comp=Z,27nm,0.9s
STEI Steigen 63.20 341 *e*P **P 21 44 53.1 -0.1**
HAWA Hanford 63.22 51 *e*P **P 21 44 54.6 +0.8**
comp=Z,20nm,0.9s
L02E Cave Junction 63.26 56 P **P 21 44 55.5 +1.4**
baz=305
F07A Phinny Hill Vi 63.29 51 *e*P **P 21 44 55.5 +1.4**
comp=Z,44nm,0.8s
I05D Terrebonne, OR 63.37 53 P **P 21 44 55.5 +0.7**
baz=305,SNR=6.1
LOF Lofoten 63.44 342 *e*P **P 21 44 54.3 -0.5**
NEW Newport 63.47 48 *e*P **P 21 44 55.9 +0.5**
comp=Z,26nm,1.0s
NEW Newport 63.47 48 *e*P **P 21 44 55.9 +0.5**
NEW Newport 63.47 48 *e*P **P 21 44 55.9 +0.5**
NEW pmax pmax
comp=Z,26nm,1.0s
NEW Newport 63.47 48 P **P 21 44 56.0 +0.5**
baz=306,SNR=12
J04D Umpqua Nationa 63.54 55 P **P 21 44 57.2 +1.0**
baz=305
WRAB Tennant Creek 63.63 192 *e*P **P 21 44 55.7 -0.9**
comp=Z,17nm,1.0s
WRAB Tennant Creek 63.63 192*c i*P **P 21 44 55.5 -1.1**
WRAB pmax pmax
comp=Z,46nm,1.4s
WB2 Warramunga Arr 63.64 192 *e*P **P 21 44 55.8 -0.9**
WRA Warramunga Arr 63.64 192 P **P 21 44 55.4 -1.3**
comp=Z,19nm,1.1s,baz=11,slow=6.8,SNR=19
WRA LR LR 22 11 15.6
comp=Z,49nm,21.9s,baz=340,slow=35
WRA PKP2bc 22 13 56.4
comp=Z,0.5nm,0.8s,baz=205,slow=2.8,SNR=5.8
WRA Warramunga Arr 63.64 192 P **P 21 44 55.4 -1.3**
WRA pmax pmax
comp=Z,18nm,1.1s
WRA MLR MLR
comp=Z,49nm,22.0s
FITZ Fitzroy Crossi 63.69 201 *e*P **P 21 44 57.1 +0.1**
comp=Z,16nm,1.0s
GEYT Alibeck 63.87 298 P **P 21 44 58.5 +0.3**
comp=Z,48nm,0.8s,baz=2.4,slow=3.6,SNR=74
GEYT LR LR 22 15 13.6
comp=Z,774nm,18.3s,baz=50,slow=38
L04D Klamath Falls 64.02 56 P **P 21 45 00.5 +1.3**
baz=306,SNR=12

J05D	**Fort Rock, OR**	**64.04**	**54**	P		**P**	**21 45 00.5**	**+1.2**
	baz=306								
YBH	**Yreka Blue Hor**	**64.05**	**56**	*e*P		**P**	**21 45 01.1**	**+1.7**
	comp=Z,23nm,0.8s								
YBH	**Yreka Blue Hor**	**64.05**	**56**	*e*P		**P**	**21 45 01.1**	**+1.7**
YBH					pmax	pmax			
	comp=Z,23nm,0.8s								
K04D	**Chiloquin, OR**	**64.11**	**55**	P		**P**	**21 45 00.5**	**+0.7**
	baz=306								
M02C	**Callahan**	**64.16**	**57**	P		**P**	**21 45 01.6**	**+1.5**
	baz=306,SNR=6.1								
G08A	**Pilot Rock**	**64.19**	**51**	*e*P		**P**	**21 45 01.2**	**+0.9**
	comp=Z,9.8nm,0.8s								
MOS	**Moscow**	**64.36**	**323**	*e*P		**P**	**21 44 58.4**	**-2.6**
MOS				*e**PP		**pP**	**21 45 17.9**	**-0.7**
MOS				*e*S		**S**	**21 53 31.3**	**-2.6**
MOS					pmax	pmax			
	comp=Z,250nm,1.5s								
MOS					pmax	pmax			
	comp=N,110nm,1.2s								
MOS					pmax	pmax			
	comp=E,105nm,1.2s								
MOS					pmax	pmax			
	comp=Z,400nm,1.7s								
N02D	**Trinity Center**	**64.50**	**57**	P		**P**	**21 45 03.9**	**+1.6**
	baz=306,SNR=10.0								
M04C	**Macdoel**	**64.55**	**56**	P		**P**	**21 45 04.0**	**+1.3**
	baz=306,SNR=9.4								
SUMG	**Summit**	**64.55**	**1**	*e*P		**P**	**21 45 03.3**	**+0.7**
	comp=Z,320nm,1.0s								
SUMG	**Summit**	**64.55**	**1⇑**	*i*P		**P**	**21 45 03.4**	**+0.9**
	comp=Z,831nm,1.0s								
SUMG	**Summit**	**64.55**	**1⇑**	*i*P		**P**	**21 45 03.4**	**+0.9**
I07A	**Izee**	**64.59**	**53**	*e*P		**P**	**21 45 04.3**	**+1.4**
	comp=Z,13nm,1.0s								
PUL	**Pulkovo**	**64.65**	**330⇑**	*e*P		**P**	**21 45 02.5**	**-0.3**
PUL	**Pulkovo**	**64.65**	**330**	*ce*P		**P**	**21 45 02.5**	**-0.3**
PUL					pmax	pmax			
	comp=Z,426nm,1.7s								
PUL	**Pulkovo**	**64.65**	**330⇑**	*e*P		**P**	**21 45 02.6**	**-0.3**
PUL					IAmb	IAmb	21 45 03.4		
	comp=Z,234nm,0.7s								
F10A	**Beach Ranch, E**	**64.77**	**50**	*e*P		**P**	**21 45 05.2**	**+1.2**
	comp=Z,9.3nm,1.0s								
MOR8	**Moi Rana**	**64.79**	**340**	*e*P		**P**	**21 45 02.4**	**-1.3**
WDC	**Whiskeytown Da**	**64.83**	**57**	*e*P		**P**	**21 45 05.5**	**+1.1**
	comp=Z,26nm,0.9s								
KONS	**Konsvik**	**64.84**	**341**	*e*P		**P**	**21 45 03.6**	**-0.4**
O02D	**Mt. Diablo Mer**	**64.91**	**58**	P		**P**	**21 45 06.6**	**+1.5**
	baz=306,SNR=5.1								
FINES	**FINESS Array B**	**64.97**	**333**	P		**P**	**21 45 04.9**	**0.0**
	comp=Z,133nm,0.6s,baz=45,slow=7.4,SNR=324								
OBN	**Obninsk**	**65.22**	**323**	*e*P		**P**	**21 45 06.6**	**-0.1**
	comp=Z,119nm,0.8s								
OBN	**Obninsk**	**65.22**	**323⇑**	*i*P		**P**	**21 45 06.5**	**-0.1**
OBN	**Obninsk**	**65.22**	**323⇑**	*i*P		**P**	**21 45 06.4**	**-0.2**
OBN	**Obninsk**	**65.22**	**323**	*c i*P		**P**	**21 45 06.4**	**-0.2**
OBN				*e*			21 45 25.6		
OBN				*e*			21 45 37.5		
OBN				*e*S		**S**	**21 53 47.4**	**+2.9**
OBN					pmax	pmax			
	comp=Z,339nm,1.5s								
OBN					MLR	MLR			
	comp=Z,370nm,22.0s								
VRH	**Novokhopyorsk**	**65.32**	**318**	*e*P		**P**	**21 45 07.0**	**-0.4**
VRH					pmax	pmax			
	comp=Z,240nm,0.8s								
BMO	**Blue Mountains**	**65.39**	**51**	*e*P		**P**	**21 45 08.9**	**+0.8**
	comp=Z,15nm,0.9s								
BMO	**Blue Mountains**	**65.39**	**51**	*e*P		**P**	**21 45 08.9**	**+0.8**
BMO					pmax	pmax			
	comp=Z,15nm,0.9s								
MOD	**Modoc Plateau**	**65.41**	**55**	*e*P		**P**	**21 45 09.2**	**+0.9**
	comp=Z,17nm,0.8s								
O03E	**Paynes Creek**	**65.45**	**57**	P		**P**	**21 45 08.8**	**+0.3**
	baz=307,SNR=17								
J08A	**Circle Bar Ran**	**65.62**	**53**	*e*P		**P**	**21 45 10.8**	**+1.2**
	comp=Z,28nm,1.0s								
LPSR	**Galich'ya Gora**	**65.78**	**320**	*e*P		**P**	**21 45 10.1**	**-0.2**
LPSR					pmax	pmax			
	comp=Z,240nm,0.8s								
MSO	**Missoula**	**66.06**	**48**	*e*P		**P**	**21 45 12.9**	**+0.6**
	comp=Z,24nm,1.1s								
MSO	**Missoula**	**66.06**	**48**	P		**P**	**21 45 12.8**	**+0.4**
	baz=308,SNR=17								
ORV	**Oroville**	**66.08**	**58**	*e*P		**P**	**21 45 12.9**	**+0.4**
	comp=Z,25nm,0.8s								
ORV	**Oroville**	**66.08**	**58**	*e*P		**P**	**21 45 12.9**	**+0.4**
ORV					pmax	pmax			
	comp=Z,25nm,0.8s								
WVOR	**Wild Horse Val**	**66.08**	**54**	*e*P		**P**	**21 45 13.3**	**+0.7**
	comp=Z,28nm,1.1s								
WVOR	**Wild Horse Val**	**66.08**	**54**	*e*P		**P**	**21 45 13.3**	**+0.7**
WVOR					pmax	pmax			
	comp=Z,28nm,1.1s								
VORR	**Voronezh**	**66.24**	**319**	P		**P**	**21 45 11.0**	**-2.3**
VORR					pmax	pmax			
	comp=Z,350nm,1.4s								
SCO	**Scoresbysund**	**66.35**	**356**	*e*P		**P**	**21 45 14.0**	**+0.4**
	comp=Z,128nm,1.1s								
SCO	**Scoresbysund**	**66.35**	**356**	*i*P		**P**	**21 45 14.4**	**+0.8**
	comp=Z,122nm,1.1s								
SCO	**Scoresbysund**	**66.35**	**356**	*i*P		**P**	**21 45 14.4**	**+0.8**
SCO					pmax	pmax			
	comp=Z,120nm,1.1s								
VSR	**Storozhevoye**	**66.56**	**319**	*e*P		**P**	**21 45 15.0**	**-0.3**
VSR					pmax	pmax			
	comp=Z,210nm,1.0s								
BEKR	**Beckworth**	**66.59**	**57**	*e*P		**P**	**21 45 16.8**	**+0.8**
	comp=Z,48nm,0.9s								
NSS	**Namsos**	**66.73**	**340**	*e*P		**P**	**21 45 15.9**	**-0.2**
AFDM	**Forest Hills D**	**66.77**	**58**	*e*P		**P**	**21 45 18.0**	**+1.1**
	comp=Z,26nm,1.2s								
FFC	**Flin Flon**	**66.78**	**36**	*e*P		**P**	**21 45 16.7**	**0.0**
	comp=Z,48nm,1.0s								
FFC	**Flin Flon**	**66.78**	**36**	*i*P		**P**	**21 45 17.1**	**+0.5**
FFC	**Flin Flon**	**66.78**	**36**	*i*P		**P**	**21 45 17.1**	**+0.5**
VSU	**Vasula**	**66.88**	**330**	*ce*P		**P**	**21 45 17.3**	**+0.1**
VSU					pmax	pmax			
	comp=Z,385nm,0.9s								
VSU	**Vasula**	**66.88**	**330⇑**	*e*P		**P**	**21 45 17.5**	**+0.3**
VSU					IAmb	IAmb	21 45 19.3		
	comp=Z,446nm,0.7s								
FCC	**Fort Churchill**	**67.04**	**29**	*e*P		**P**	**21 45 18.2**	**0.0**
	comp=Z,59nm,1.1s								
FCC	**Fort Churchill**	**67.04**	**29**	*e*P		**P**	**21 45 18.2**	**0.0**
FCC	**Fort Churchill**	**67.04**	**29**	*e*P		**P**	**21 45 18.2**	**0.0**
FCC					pmax	pmax			
	comp=Z,59nm,1.1s								
MFID	**Camas Ranch**	**67.11**	**51**	*e*P		**P**	**21 45 20.1**	**+0.9**
	comp=Z,15nm,0.8s								
HRY	**Holter Researc**	**67.27**	**47**	*e*P		**P**	**21 45 21.0**	**+1.0**
ILULI	**Ilulissat**	**67.27**	**6**	*i*P		**P**	**21 45 19.8**	**+0.3**
	comp=Z,91nm,0.9s								
ILULI	**Ilulissat**	**67.27**	**6**	*i*P		**P**	**21 45 19.8**	**+0.3**
ILULI					pmax	pmax			
	comp=Z,91nm,0.9s								
PAHR	**Pah Rah Range**	**67.29**	**56**	*e*P		**P**	**21 45 21.3**	**+0.9**
	comp=Z,42nm,0.9s								
ASAR	**Alice Springs**	**67.37**	**192**	P		**P**	**21 45 20.2**	**-0.4**
	comp=Z,13nm,0.8s,baz=8.8,slow=5.3,SNR=65								
ASAR					PKP2ab		22 13 48.4		
	comp=Z,1.7nm,1.0s,baz=177,slow=2.8,SNR=5.9								
ASAR					LR	LR	22 13 53.4		
	comp=Z,29nm,21.8s,baz=24,slow=35								
VCNR	**Virginia City**	**67.38**	**57**	*e*P		**P**	**21 45 22.6**	**+1.6**
	comp=Z,34nm,0.8s								
EGMT	**Eagleton**	**67.52**	**45**	*e*P		**P**	**21 45 22.0**	**+0.5**
EGMT	**Eagleton**	**67.52**	**45**	P		**P**	**21 45 22.1**	**+0.6**
	baz=310,SNR=5.9								
PNTR	**Pine Nut**	**67.53**	**57**	*e*P		**P**	**21 45 23.6**	**+1.6**
	comp=Z,44nm,0.8s								
DZM	**Mont Dzumac**	**67.61**	**159**	*e*P		**P**	**21 45 23.0**	**+0.7**
	comp=Z,79nm,1.2s								
DZM	**Mont Dzumac**	**67.61**	**159**	*e*LR		LR	22 05 27.3		
	comp=Z,727nm,28.8s								
DZM	**Mont Dzumac**	**67.61**	**159**	P		**P**	**21 45 22.3**	**0.0**
	comp=Z,21nm,0.9s,baz=47,slow=9.2,SNR=8.3								
CMB	**Columbia Colle**	**67.69**	**58**	*e*P		**P**	**21 45 23.6**	**+0.8**
	comp=Z,26nm,0.8s								
CMB	**Columbia Colle**	**67.69**	**58**	*e*P		**P**	**21 45 23.6**	**+0.8**
CMB					pmax	pmax			
	comp=Z,26nm,0.8s								
DLMT	**Dillon**	**67.70**	**48**	*e*P		**P**	**21 45 23.9**	**+1.0**
	comp=Z,26nm,0.9s								
YERR	**Yerington**	**67.82**	**57**	*e*P		**P**	**21 45 24.9**	**+1.2**
	comp=Z,66nm,0.9s								
HLID	**Hailey**	**67.83**	**51**	*e*P		**P**	**21 45 24.3**	**+0.6**
	comp=Z,18nm,1.0s								
HLID	**Hailey**	**67.83**	**51**	P		**P**	**21 45 24.7**	**+1.0**
	baz=309,SNR=19								
MCMT	**McKenzie Canyo**	**67.91**	**49**	*e*P		**P**	**21 45 24.9**	**+0.7**
WAKR	**Walker**	**67.99**	**57**	*e*P		**P**	**21 45 26.2**	**+1.3**
	comp=Z,27nm,0.9s								
BOZ	**Bozeman (W)**	**68.08**	**48**	P		**P**	**21 45 26.1**	**+0.9**
	baz=310,SNR=14								
GROC	**Groznyy**	**68.18**	**309**	*e*P		**P**	**21 45 24.6**	**-1.1**
GROC				*e**PP		**pP**	**21 45 43.4**	**0.0**
GROC				*e*			21 45 47.1		
GROC				*e*			21 47 55.1		
GROC				*e*S		**S**	**21 54 14.8**	**-5.8**
GROC				*e*			21 54 40.4		
GROC				*e**SS		**sS**	**21 54 51.9**	**+1.2**
GROC					pmax	pmax			
	comp=Z,44nm,1.0s								
TBLU	**Trondheim**	**68.22**	**340**	*e*P		**P**	**21 45 24.6**	**-1.0**
EIDS	**Eidsvold**	**68.34**	**175**	*e*P		**P**	**21 45 27.4**	**+0.8**
	comp=Z,16nm,1.0s								
KVN	**Kaiserville**	**68.47**	**56**	*e*P		**P**	**21 45 29.0**	**+1.1**
	comp=Z,55nm,0.8s								
KVN	**Kaiserville**	**68.47**	**56**	*e*P		**P**	**21 45 29.0**	**+1.1**
KVN					pmax	pmax			
	comp=Z,55nm,0.8s								
RYN	**Ryan**	**68.48**	**57**	*e*P		**P**	**21 45 29.1**	**+1.2**
	comp=Z,36nm,0.8s								
GOF	**Gofitskoye**	**68.53**	**312⇑**	*i*P		**P**	**21 45 28.7**	**+0.8**
GOF				*e*S		**S**	**21 54 26.5**	**+1.7**
GOF					pmax	pmax			
	comp=Z,210nm,0.8s								
GOF					smax	smax			
	comp=E,130nm,1.4s								
QLMT	**Earthquake Lak**	**68.68**	**48**	*e*P		**P**	**21 45 30.1**	**+1.0**
NV01	**Mina Array Sit**	**68.74**	**57**	*e*P		**P**	**21 45 30.5**	**+1.0**
NVAR	**Mina Array Bea**	**68.74**	**57**	P		**P**	**21 45 30.7**	**+1.1**
	comp=E,39nm,0.7s,baz=288,slow=6.5,SNR=129								
OMMB	**Old Mammoth Mi**	**68.81**	**58**	*e*P		**P**	**21 45 31.8**	**+1.6**
	comp=E,11nm,1.0s								
MLAC	**Mammoth, Mammo**	**68.91**	**58**	P		**P**	**21 45 31.9**	**+1.2**
	baz=309								
GCMT	**Greycliff**	**69.01**	**47**	*e*P		**P**	**21 45 32.0**	**+1.0**
IZAR	**Zarasai**	**69.04**	**328⇑**	*e*P		**P**	**21 45 31.1**	**+0.3**
IZAR					IAmb	IAmb	21 45 31.7		
	comp=Z,34nm,0.6s								
YMR	**Madison River**	**69.04**	**48**	*e*P		**P**	**21 45 32.6**	**+1.3**
	comp=Z,25nm,0.9s								
SLIT	**Slitere, Latvi**	**69.09**	**331⇑**	*e*P		**P**	**21 45 30.8**	**-0.3**
SLIT					IAmb	IAmb	21 45 31.4		
	comp=Z,662nm,0.9s								
ELK	**Elko**	**69.12**	**53**	*e*P		**P**	**21 45 32.8**	**+0.9**
	comp=Z,7.6nm,0.8s								
ELK	**Elko**	**69.12**	**53**	*e*P		**P**	**21 45 32.8**	**+0.9**
ELK					pmax	pmax			
	comp=Z,8.0nm,0.8s								
YNR	**Norris Junctio**	**69.16**	**48**	*e*P		**P**	**21 45 34.2**	**+2.0**
	comp=Z,15nm,1.0s								
IDID	**Didziasalis**	**69.16**	**328⇑**	*e*P		**P**	**21 45 32.1**	**+0.6**
IDID					IAmb	IAmb	21 45 33.5		
	comp=Z,71nm,0.9s								
PAGB	**Antelope Grade**	**69.20**	**60**	*e*P		**P**	**21 45 33.8**	**+1.6**
	comp=Z,35nm,1.0s								
ISAL	**Salakas**	**69.22**	**328⇑**	*e*P		**P**	**21 45 32.5**	**+0.6**
ISAL					IAmb	IAmb	21 45 33.9		
	comp=Z,100nm,1.0s								
NCK	**Nalchik**	**69.23**	**310**	*c i*P		**P**	**21 45 32.6**	**+0.3**
NCK					pmax	pmax			
	comp=Z,73nm,1.0s								
YFT	**Old Faithful**	**69.25**	**48**	*e*P		**P**	**21 45 35.4**	**+2.7**
	comp=Z,31nm,1.1s								
MICGM	**Minsk**	**69.30**	**327⇑**	*e*P		**P**	**21 45 32.0**	**-0.4**
MICGM					PM		21 45 33.0		
	comp=Z,0.8nm,1.0s								
MNK	**Minsk**	**69.30**	**327⇑**	*e*P		**P**	**21 45 32.0**	**-0.4**
YPP	**Pitchstone Pla**	**69.38**	**48**	*e*P		**P**	**21 45 35.6**	**+2.0**
	comp=Z,8.3nm,0.9s								
LKWY	**Lake**	**69.41**	**48**	*e*P		**P**	**21 45 35.9**	**+2.2**
	comp=Z,30nm,1.1s								
H17A	**Grant Village**	**69.43**	**48**	*e*P		**P**	**21 45 36.2**	**+2.5**
	comp=Z,44nm,1.0s								
H17A	**Grant Village**	**69.43**	**48**	P		**P**	**21 45 36.1**	**+2.3**
	baz=311,SNR=36								
KIV	**Kislovodsk**	**69.44**	**311**	*e*P		**P**	**21 45 34.6**	**+1.0**
	comp=Z,177nm,0.9s								
KIV	**Kislovodsk**	**69.44**	**311⇑**	*i*P		**P**	**21 45 34.0**	**+0.3**
KIV	**Kislovodsk**	**69.44**	**311**	*i*P		**P**	**21 45 34.0**	**+0.3**
	SNR=62								
KIV	**Kislovodsk**	**69.44**	**311**	*e*P		**P**	**21 45 34.9**	**+1.3**
KIV				*e*S		**S**	**21 54 37.5**	**+1.8**
KIV					pmax	pmax			
	comp=Z,216nm,1.1s								
KIV					pmax	pmax			
	comp=Z,137nm,4.2s								
KIV					MLR	MLR			
	comp=Z,276nm,17.0s								
KIV	**Kislovodsk**	**69.44**	**311**	P		**P**	**21 45 33.9**	**+0.2**
	SNR=29								
KIV				P		**P**	**21 45 33.9**	**+0.2**
	SNR=29								
NACGM	**Naroch**	**69.45**	**327**	*e*P		**P**	**21 45 32.0**	**-1.3**
NACGM					PM		21 45 34.0		
	comp=Z,0.9nm,1.0s								
MOL	**Molde**	**69.46**	**341**	*e*P		**P**	**21 45 33.9**	**+0.6**
KBZ	**Khabaz**	**69.47**	**311**	P		**P**	**21 45 34.7**	**+1.1**
	comp=Z,83nm,0.8s,baz=53,slow=3.9,SNR=91								
KBZ					LR	LR	22 18 32.3		
	comp=Z,239nm,20.1s,baz=36,slow=38								
SFJD	**Kangerlussuaq**	**69.48**	**7**	*e*P		**P**	**21 45 33.1**	**-0.2**
	comp=Z,100nm,1.0s								
SFJD	**Kangerlussuaq**	**69.48**	**7**	*i*P		**P**	**21 45 33.1**	**-0.2**
	comp=Z,66nm,0.9s								
SFJD	**Kangerlussuaq**	**69.48**	**7**	*i*P		**P**	**21 45 33.1**	**-0.2**
SFJD					pmax	pmax			
	comp=Z,66nm,0.9s								
SFJD	**Kangerlussuaq**	**69.48**	**7**	*e*P		**P**	**21 45 33.3**	**-0.1**
ZEI	**Tsey**	**69.52**	**310**	*e*P		**P**	**21 45 31.1**	**-3.2**
ZEI					pmax	pmax			
	comp=Z,70nm,0.9s								
DOMB	**Dombas**	**69.53**	**340**	*e*P		**P**	**21 45 33.9**	**0.0**
IMW	**Indian Meadow**	**69.55**	**49**	*e*P		**P**	**21 45 36.2**	**+1.6**
	comp=Z,29nm,0.9s								
FLWY	**Flagg Ranch**	**69.56**	**48**	*e*P		**P**	**21 45 36.3**	**+1.7**
	comp=Z,15nm,0.9s								
SMMC	**Simmler**	**69.62**	**60**	P		**P**	**21 45 35.7**	**+0.9**
	baz=309								
TIN	**Tinemaha, Big**	**69.64**	**58**	P		**P**	**21 45 36.2**	**+1.2**
	baz=309,SNR=6.7								
RLMT	**Red Lodge**	**69.66**	**47**	*e*P		**P**	**21 45 36.2**	**+1.0**
	comp=Z,14nm,0.8s								
RLMT	**Red Lodge**	**69.66**	**47**	P		**P**	**21 45 36.1**	**+1.0**
	baz=311,SNR=9.5								
FXWY	**Fox Creek**	**69.67**	**49**	*e*P		**P**	**21 45 36.8**	**+1.5**
	comp=Z,29nm,1.0s								
MOOW	**Moose Ponds**	**69.76**	**49**	*e*P		**P**	**21 45 37.1**	**+1.4**
	comp=Z,34nm,1.0s								
TPAW	**Teton Pass**	**69.81**	**49**	*e*P		**P**	**21 45 37.8**	**+1.6**
	comp=Z,42nm,0.9s								
NB2	**NORSAR Subarra**	**69.82**	**338**	P		**P**	**21 45 35.4**	**-0.2**
	comp=Z,110nm,0.8s,baz=34,slow=6.5								
NB2	**NORSAR Subarra**	**69.82**	**338**	P		**P**	**21 45 35.4**	**-0.2**
	baz=34,slow=6.5								
NOA	**NORSAR Array B**	**69.82**	**338**	P		**P**	**21 45 35.6**	**0.0**
	comp=Z,55nm,0.6s,baz=34,slow=6.1,SNR=326								
NOA	**NORSAR Array B**	**69.82**	**338**	P		**P**	**21 45 35.6**	**0.0**
NOA					pmax	pmax			
	comp=Z,54nm,0.6s								
VES	**Vestal, Richgr**	**69.87**	**60**	P		**P**	**21 45 36.4**	**+0.1**
	baz=309								
NEY	**Neytrino**	**69.88**	**311**	*d i*P		**P**	**21 45 38.3**	**+1.9**
NEY					pmax	pmax			
	comp=Z,9.0nm,0.8s								
HVU	**Hansel Valley**	**69.89**	**51**	*e*P		**P**	**21 45 37.6**	**+1.1**
	comp=Z,21nm,1.0s								
HVU	**Hansel Valley**	**69.89**	**51**	*e*P		**P**	**21 45 37.7**	**+1.1**
HVU					pmax	pmax			
	comp=Z,21nm,1.0s								
LOHW	**Long Hollow**	**69.92**	**49**	*e*P		**P**	**21 45 38.1**	**+1.4**
	comp=Z,13nm,0.9s								
AKN	**Aaknes**	**69.93**	**341**	*e*P		**P**	**21 45 36.8**	**+0.6**
SNOW	**Snow King Moun**	**69.94**	**49**	*e*P		**P**	**21 45 38.9**	**+2.0**
	comp=Z,32nm,1.0s								
REDW	**Red Top Meadow**	**69.95**	**49**	*e*P		**P**	**21 45 38.4**	**+1.4**
	comp=Z,37nm,1.1s								
NC602	**NORSAR Array S**	**69.98**	**338**	*e*P		**P**	**21 45 36.2**	**-0.3**
	comp=Z,18nm,1.0s								
PKM	**Mcpherson Peak**	**70.01**	**61**	P		**P**	**21 45 38.2**	**+0.8**
	baz=309,SNR=5.3								
DGMT	**Dagmar**	**70.01**	**42**	*e*P		**P**	**21 45 37.5**	**+0.5**
	comp=Z,41nm,0.8s								
DGMT	**Dagmar**	**70.01**	**42**	P		**P**	**21 45 37.2**	**+0.2**
	baz=313,SNR=6.0								
PABE	**Paberze**	**70.09**	**329⇑**	*e*P		**P**	**21 45 37.5**	**+0.2**
PABE					IAmb	IAmb	21 45 39.0		
	comp=Z,333nm,1.1s								
CWC	**Cottonwood Cre**	**70.12**	**58**	P		**P**	**21 45 38.4**	**+0.3**
	baz=309								
LAO	**LASA Array**	**70.21**	**44**	*e*P		**P**	**21 45 39.4**	**+1.1**
	comp=Z,41nm,1.1s								
LAO	**LASA Array**	**70.21**	**44**	P		**P**	**21 45 39.1**	**+0.8**
	baz=312								
GRAC	**Grapevine Rang**	**70.22**	**58**	P		**P**	**21 45 39.7**	**+1.2**
	baz=310,SNR=31								
BGU	**Big Grassy Mou**	**70.30**	**52**	*e*P		**P**	**21 45 40.3**	**+1.3**
	comp=Z,8.1nm,1.1s								
SPUT	**South Promonto**	**70.38**	**52**	*e*P		**P**	**21 45 40.7**	**+1.1**
	comp=Z,23nm,1.1s								
R11A	**Troy Canyon, C**	**70.44**	**56**	*e*P		**P**	**21 45 40.8**	**+0.8**
	comp=Z,25nm,1.0s								
R11A	**Troy Canyon, C**	**70.44**	**56**	P		**P**	**21 45 40.8**	**+0.8**
	baz=310,SNR=30								
PBUR	**Paburg**	**70.45**	**330⇑**	*e*P		**P**	**21 45 39.5**	**+0.1**
PBUR					IAmb	IAmb	21 45 41.0		
	comp=Z,254nm,1.1s								
ARVC	**Arvin**	**70.48**	**60**	P		**P**	**21 45 40.6**	**+0.6**
	baz=310								
DAC	**Darwin (Calif)**	**70.53**	**58**	*e*P		**P**	**21 45 41.3**	**+0.7**
	comp=Z,12nm,0.7s								
DAC	**Darwin (Calif)**	**70.53**	**58**	*e*P		**P**	**21 45 41.3**	**+0.7**
DAC					pmax	pmax			
	comp=Z,12nm,0.7s								
SCZ2	**Santa Cruz Isl**	**70.68**	**61**	P		**P**	**21 45 41.9**	**+0.6**
	baz=310								
HWUT	**Hardware Ranch**	**70.69**	**51**	*e*P		**P**	**21 45 42.3**	**+0.8**
	comp=Z,11nm,0.9s								
MPMC	**Manual Prospec**	**70.73**	**58**	P		**P**	**21 45 42.5**	**+0.6**
	baz=310,SNR=28								
GNI	**Garni**	**70.74**	**307**	*e*P		**P**	**21 45 43.5**	**+1.7**
	comp=Z,54nm,1.0s								
GNI	**Garni**	**70.74**	**307**	*i*P		**P**	**21 45 43.4**	**+1.7**
	SNR=10								
GNI	**Garni**	**70.74**	**307**	*c i*P		**P**	**21 45 43.5**	**+1.7**
GNI					pmax	pmax			
	comp=Z,507nm,1.5s								
FURC	**Furnace Creek,**	**70.86**	**58**	P		**P**	**21 45 43.1**	**+0.8**
	baz=310,SNR=27								
OSI	**Osito Audit: C**	**70.87**	**60**	*e*P		**P**	**21 45 44.0**	**+1.5**
	comp=Z,42nm,0.8s								
OSI	**Osito Audit: C**	**70.87**	**60**	P		**P**	**21 45 43.3**	**+0.7**
	baz=310								
DUG	**Dugway, Tooele**	**70.90**	**53**	*e*P		**P**	**21 45 43.8**	**+1.1**
	comp=Z,43nm,1.1s								
DUG	**Dugway, Tooele**	**70.90**	**53**	*e*P		**P**	**21 45 43.8**	**+1.1**
DUG	**Dugway, Tooele**	**70.90**	**53**	*e*P		**P**	**21 45 43.8**	**+1.1**
DUG					pmax	pmax			
	comp=Z,43nm,1.1s								
DUG	**Dugway, Tooele**	**70.90**	**53**	P		**P**	**21 45 43.7**	**+1.1**
	baz=311,SNR=26								
FOO	**Floro**	**70.90**	**341**	*e*P		**P**	**21 45 42.5**	**+0.4**
TPNV	**Topopah Spring**	**70.93**	**57**	*e*P		**P**	**21 45 43.9**	**+0.9**
	comp=Z,46nm,0.9s								
TPNV	**Topopah Spring**	**70.93**	**57**	*e*P		**P**	**21 45 43.9**	**+0.9**
TPNV					pmax	pmax			
	comp=Z,46nm,0.9s								
TPNV	**Topopah Spring**	**70.93**	**57**	P		**P**	**21 45 43.9**	**+0.9**
	baz=310,SNR=44								
BLG	**Laguna Peak, P**	**70.98**	**61**	P		**P**	**21 45 43.6**	**+0.5**
	baz=310								
LRMC	**Laurel Mtn Rad**	**70.98**	**59**	P		**P**	**21 45 43.5**	**+0.3**
	baz=310,SNR=14								
HYA	**Hoyanger**	**71.00**	**341**	*e*P		**P**	**21 45 43.4**	**+0.7**
BW06	**Boulder Array**	**71.05**	**49**	*e*P		**P**	**21 45 44.0**	**+0.3**
	comp=Z,18nm,0.7s								
BW06	**Boulder Array**	**71.05**	**49**	P		**P**	**21 45 44.1**	**+0.4**
	baz=312,SNR=37								
PD31	**Pinedale Array**	**71.05**	**49**	*e*P		**P**	**21 45 44.2**	**+0.5**
PDAR	**Pinedale Array**	**71.05**	**49**	P		**P**	**21 45 44

KLNR pmax pmax
comp=Z,232nm,1.2s
BBRC Big Bear Solar 72.24 60 P **P** 21 45 51.3 +0.3
baz=310
HEC Hector,Ludlow 72.24 59 P **P** 21 45 51.6 +0.8
baz=311,SNR=26
CCUT Cedar City 72.30 55 *e*P **P** 21 45 52.4 +1.2
comp=Z,17nm,0.9s
MSU Marysvale 72.37 54 *e*P **P** 21 45 53.0 +1.3
TMUT Trail Mountain 72.42 52 *e*P **P** 21 45 53.1 +1.0
comp=Z,16nm,1.1s
BANOM Banah 72.43 289 *i* P **P** 21 45 51.8 -0.1
SNR=14
BANOM Banah 72.43 289 P **P** 21 45 52.7 +0.8
SNR=6.2
SZCU Shurtz Canyon 72.43 55 *e*P **P** 21 45 53.3 +1.2
comp=Z,15nm,0.9s
BLS5 Blasjo 72.45 340 *e*P **P** 21 45 52.1 +0.6
SHME Shamm 72.46 289 *i* P **P** 21 45 52.2 0.0
SNR=15
MURC Murrieta 72.50 60 P **P** 21 45 52.9 +0.6
baz=310,SNR=6.0
WSAR Wadi Sarin 72.51 286 P **P** 21 45 52.9 +0.4
comp=Z,9.2nm,0.7s,baz=69,slow=5.4,SNR=7.6
WSAR Wadi Sarin 72.51 286 P **P** 21 45 53.4 +0.9
SNR=6.0
P17A Butcher Ranch, 72.57 52 *e*P **P** 21 45 53.9 +1.1
comp=Z,30nm,1.0s
ULM Lac du Bonnet 72.58 36 P **P** 21 45 51.5 -0.9
comp=Z,12nm,0.8s,baz=310,slow=7.3,SNR=20
MDND Maddock 72.64 40 *e*P **P** 21 45 53.8 +1.0
comp=Z,62nm,0.8s
MDND Maddock 72.64 40 P **P** 21 45 53.3 +0.5
baz=316,SNR=5.1
JLN Jalan Bani Buh 72.66 284 P **P** 21 45 53.8 +0.4
SNR=10
WBK Wadi Bani Khal 72.67 285 P **P** 21 45 54.6 +1.1
SNR=5.8
MTPU Mount Pierson 72.68 54 *e*P **P** 21 45 55.2 +1.6
comp=Z,20nm,0.8s
BIDO Bidbid 72.69 286 P **P** 21 45 55.0 +1.5
SNR=15
Q16A Castle Valley 72.69 53 *e*P **P** 21 45 55.0 +1.4
comp=Z,24nm,1.0s
GMRC Granite Mounta 72.70 58 P **P** 21 45 54.4 +0.8
baz=311,SNR=17
LCMT Little Creek M 72.72 55 *e*P **P** 21 45 55.0 +1.3
comp=Z,33nm,0.9s
K22A Casper 72.79 47 *e*P **P** 21 45 54.8 +0.7
K22A Casper 72.79 47 P **P** 21 45 54.1 +0.1
baz=313,SNR=5.3
MDH Madha 72.83 289 P **P** 21 45 53.9 -0.3
LDFC Landfair 72.85 58 *e*P **P** 21 45 55.6 +1.2
comp=Z,58nm,0.9s
MSFE Esma-Masafi 72.88 289 *i* P **P** 21 45 55.0 +0.3
SNR=11
KMY Karmoy 72.94 340 *e*P **P** 21 45 55.2 +0.9
SRU San Rafael Swe 72.94 52 *e*P **P** 21 45 55.8 +0.8
comp=Z,41nm,1.0s
PFO Pinyon Flats O 72.95 60 *e*P **P** 21 45 55.2 +0.1
PFO Pinyon Flats O 72.95 60 *e*P **P** 21 45 55.2 +0.1
PFO Pinyon Flats O 72.95 60 P **P** 21 45 55.5 +0.4
baz=311,SNR=9.4
XPFO Pion Flat 72.96 60 *e*P **P** 21 45 55.5 +0.4
comp=Z,18nm,0.9s
KNB Kanab 72.97 55 *e*P **P** 21 45 56.6 +1.4
comp=Z,30nm,0.9s
BELC Belle Mtn. Jos 72.99 59 P **P** 21 45 55.6 +0.3
baz=311,SNR=13
PKCU Pink Cliffs 73.00 55 *e*P **P** 21 45 57.5 +2.0
comp=Z,12nm,0.9s
109C Camp Elliot, M 73.01 61 P **P** 21 45 55.9 +0.6
baz=311
CPE Camp Elliot 73.01 61 *e*P **P** 21 45 56.4 +1.1
comp=Z,37nm,1.0s
RWWY Rawlins 73.07 48 *e*P **P** 21 45 56.7 +0.9
comp=Z,37nm,0.9s
RSSD Black Hills 73.09 45 *e*P **P** 21 45 56.0 +0.2
comp=Z,23nm,0.9s
RSSD Black Hills 73.09 45 *e*P **P** 21 45 56.0 +0.2
RSSD pmax pmax
comp=Z,23nm,0.9s
RSSD Black Hills 73.09 45 P **P** 21 45 55.8 -0.1
baz=314
UOSS Minazif 73.12 288 *e*P **P** 21 45 56.3 +0.3
comp=Z,68nm,0.8s
UOSS Minazif 73.12 288 *i* P **P** 21 45 55.8 -0.3
SNR=21
SNART Snartemo 73.19 339 *e*P **P** 21 45 56.4 +0.6
HATD Hatta, Dubai 73.25 288 *i* P **P** 21 45 57.1 +0.3
SNR=25
HATD Hatta, Dubai 73.25 288 P **P** 21 45 57.4 +0.6
SNR=18
SIM Simferopol' 73.29 316 *e*P **P** 21 45 57.0 +0.3
SIM pmax pmax
comp=Z,61nm,1.0s
SIM MLR MLR
comp=Z,152nm,15.5s
NEE2 Needles Airpor 73.35 58 P **P** 21 45 57.3 0.0
baz=311
ASHO Ashiyiah 73.39 288 *i* P **P** 21 45 57.6 -0.1
SNR=20
ASHO Ashiyiah 73.39 288 P **P** 21 45 57.8 +0.1
SNR=12
ARMA Armidale 73.39 175 *e*P **P** 21 45 58.7 +1.3
comp=Z,26nm,1.1s
SOHO SOHO 73.41 288 P **P** 21 45 57.7 0.0
SNR=9.7
BAR Barrett 73.43 61 *e*P **P** 21 45 58.3 +0.6
comp=Z,16nm,0.8s
IRM Iron Mountain 73.43 59 P **P** 21 45 58.4 +0.6
baz=311,SNR=20
MONP2 Monument Peak 73.45 60 P **P** 21 45 58.5 +0.4
baz=311,SNR=13
NAZ Nazwa, Dubai 73.47 289 *i* P **P** 21 45 58.0 0.0
SNR=7.6
O20A White River Ci 73.55 50 *e*P **P** 21 45 59.0 +0.4
comp=Z,14nm,0.6s
O20A White River Ci 73.55 50 P **P** 21 45 58.6 0.0
baz=313,SNR=12
BC3 Big Chuckawall 73.56 59 P **P** 21 45 58.8 +0.2
baz=311,SNR=13
LRW Lerwick 73.58 343 *e*P **P** 21 45 58.2 +0.1
LRW IAmb IAmb 21 46 01.2
comp=Z,60nm,0.8s
BSD Bornholm Skovb 73.60 333⇑ *i*P **P** 21 45 58.1 -0.2
comp=Z,108nm,1.0s
BSD Bornholm Skovb 73.60 333⇑ *i*P **P** 21 45 58.1 -0.2
BSD pmax pmax
comp=Z,110nm,1.0s
FAQ Al Faqa, Dubai 73.67 289 *i* P **P** 21 45 59.1 -0.2
SNR=13
IKP In-Ko-Pah, Jac 73.81 60 P **P** 21 46 00.6 +0.6
baz=311,SNR=11
BSY Bisya 73.84 286 P **P** 21 46 01.5 +1.2
SNR=9.2
ASUD Al Ashush, Dub 73.93 289 *i* P **P** 21 46 01.2 +0.5
SNR=12
COP Copenhagen 73.93 335 *i* P **P** 21 46 00.6 +0.4
comp=Z,51nm,0.9s
COP Copenhagen 73.93 335 *i* P **P** 21 46 00.6 +0.4
COP pmax pmax
comp=Z,51nm,0.9s
PDMCI Parker Dam,Lak 73.96 58 P **P** 21 46 01.6 +0.8
baz=312,SNR=12
ALNE Al Ain 74.00 288 *i* P **P** 21 46 01.3 +0.1
SNR=36
Y12C Blythe 74.08 59 P **P** 21 46 02.4 +0.9
baz=312,SNR=7.1
BEL Belsk 74.12 328 *e*P **P** 21 46 02.4 +1.0
BEL Belsk 74.12 328 *e*P **P** 21 46 02.4 +1.0
PV09 Paradox Valley 74.15 52 *e*P **P** 21 46 03.4 +1.1
PV21 Cone Mtn., Par 74.20 52 *e*P **P** 21 46 03.7 +1.2
comp=Z,29nm,0.9s
PV23 Carpenter Ridg 74.26 52 *e*P **P** 21 46 04.0 +1.2
comp=Z,28nm,1.0s
MUD Monsted U'grnd 74.26 337⇑ *i*P **P** 21 46 02.6 +0.5
comp=Z,44nm,1.0s
MUD Monsted U'grnd 74.26 337⇑ *i*P **P** 21 46 02.6 +0.5
MUD pmax pmax
comp=Z,44nm,1.0s
PHWY Pilot Hill 74.29 48 *e*P **P** 21 46 03.7 +0.7
comp=Z,5.2nm,1.0s
PV10 Paradox Valley 74.29 52 *e*P **P** 21 46 04.4 +1.4
GKP Gorka Klasztor 74.30 331 *e*P **P** 21 46 02.8 +0.4
GKP Gorka Klasztor 74.30 331 *e*P **P** 21 46 02.8 +0.4
PV14 Lion Creek, Pa 74.30 52 *e*P **P** 21 46 03.9 +0.8
comp=Z,28nm,0.9s
N23A Red Feather La 74.31 48 P **P** 21 46 04.0 +0.9
baz=314,SNR=11
PV20 West Nyswonger 74.36 52 *e*P **P** 21 46 04.4 +1.1
comp=Z,30nm,0.8s
PV19 Morning Glory 74.37 52 *e*P **P** 21 46 04.5 +1.1
comp=Z,29nm,1.0s
LVV L'vov 74.37 325 *e*P **P** 21 46 03.2 +0.3
KIS Kishinev 74.38 321 *e*P **P** 21 46 01.0 -2.0
comp=Z,250nm,2.0s
KIS *e*pP **pP** 21 46 20.0 -0.9
KIS *e*L L 22 13 56.0
KIS *e*LR LR 22 17 38.0
comp=Z,600nm,20.0s
KIS Kishinev 74.38 321 *e*P **P** 21 46 01.0 -2.0
KIS *e* 21 46 20.0
KIS *i* 21 46 22.0
KIS pmax pmax
comp=Z,250nm,2.0s
KIS MLR MLR
comp=Z,600nm,20.0s
PV17 East Wray Mesa 74.40 52 *e*P **P** 21 46 04.5 +0.9
comp=Z,86nm,1.2s
PV16 Nyswonger Mesa 74.41 52 *e*P **P** 21 46 04.5 +0.9
comp=Z,49nm,1.2s
MHTO MHTO 74.43 284 P **P** 21 46 05.0 +1.3
SNR=23
MHTO P **P** 21 46 05.0 +1.3
SNR=23
PV11 David Mesa, Pa 74.44 52 *e*P **P** 21 46 05.0 +1.2
comp=Z,36nm,0.9s
PV05 Paradox Valley 74.46 52 *e*P **P** 21 46 04.9 +0.9
PV12 Saucer Basin, 74.47 52 *e*P **P** 21 46 05.2 +1.1
comp=Z,31nm,1.1s
PV03 Paradox Valley 74.48 52 *e*P **P** 21 46 04.8 +0.7
PV13 Radium Mtn., P 74.56 52 *e*P **P** 21 46 05.7 +1.2
comp=Z,43nm,1.0s
PV02 Paradox Valley 74.58 52 *e*P **P** 21 46 05.7 +1.0
comp=Z,19nm,1.0s
PV01 Paradox Valley 74.73 52 *e*P **P** 21 46 06.5 +1.0
STKA Stephens Creek 74.75 184 P **P** 21 46 04.8 -0.3
comp=Z,9.4nm,0.8s,baz=356,slow=6.0,SNR=12
STKA LR LR 22 16 53.5
comp=Z,42nm,20.9s,baz=22,slow=34
IAS Iasi 74.81 321⇑ *i*P **P** 21 46 05.8 +0.3
IAS Iasi 74.81 321⇑ P **P** 21 46 05.8 +0.3
WUAZ Wupatki 74.84 55 *e*P **P** 21 46 07.1 +1.0
comp=Z,26nm,0.9s
WUAZ Wupatki 74.84 55 P **P** 21 46 07.2 +1.0
baz=312,SNR=16
SMCO Snowmass 74.92 50 *e*P **P** 21 46 07.6 +0.8
comp=Z,24nm,1.1s
LEOM Leova 75.03 321⇑ *i*P **P** 21 46 07.0 +0.2
LEOM Leova 75.03 321⇑ P **P** 21 46 07.0 +0.2
KWP Kalwaria Pacla 75.07 326 *e*P **P** 21 46 07.9 +0.9
KWP Kalwaria Pacla 75.07 326 *e*P **P** 21 46 07.9 +0.9
ISCO Idaho Springs 75.25 49 *e*P **P** 21 46 09.2 +0.6
ISCO Idaho Springs 75.25 49 *e*P **P** 21 46 09.2 +0.6
ISCO Idaho Springs 75.25 49 P **P** 21 46 09.4 +0.8
baz=314,SNR=16
PRAR RASCA 75.29 322⇑ *i*P **P** 21 46 09.0 +0.7
MVCO Mesa Verde 75.40 53 *e*P **P** 21 46 09.7 +0.3
comp=Z,16nm,0.8s
MVCO Mesa Verde 75.40 53 P **P** 21 46 10.2 +0.8
baz=313,SNR=10
SUSD Miller 75.42 42 P **P** 21 46 09.2 +0.1
baz=317
BIR Birlad 75.47 321⇑ *i*P **P** 21 46 10.8 +1.5
BIR Birlad 75.47 321⇑ P **P** 21 46 10.8 +1.5
BUR08 Bucovina Ar. S 75.53 323 *e*P **P** 21 46 10.4 +0.6
BURAR Bucovina Array 75.54 323⇑ *i*P **P** 21 46 10.3 +0.4
BURAR Bucovina Array 75.54 323⇑ P **P** 21 46 10.3 +0.4
BIZ Bicaz 75.66 322⇑ *i*P **P** 21 46 11.0 +0.6
TLCR 75.72 319⇓ *i*P **P** 21 46 11.4 +0.7
TLCR 75.72 319⇓ P **P** 21 46 11.4 +0.7
OJC Ojcow 75.78 328 *e*P **P** 21 46 11.8 +0.7
OJC Ojcow 75.78 328 *e*P **P** 21 46 11.1 +0.1
comp=Z,141nm,1.0s
OJC Ojcow 75.78 328 *e*P **P** 21 46 11.1 +0.1
OJC Ojcow 75.78 328 *e*P **P** 21 46 11.1 +0.1
OJC pmax pmax
comp=Z,141nm,1.0s
S22A 4UR Ranch, Cre 75.99 51 P **P** 21 46 14.0 +1.2
baz=314,SNR=15
UZH Uzhgorod 76.02 325⇓ *i*P **P** 21 46 13.3 +0.9
UZH Uzhgorod 76.02 325 *e*P **P** 21 46 13.3 +0.9
UZH *e* 21 46 20.5
RSC Scourie 76.03 345 *e*P **P** 21 46 12.7 +0.4
CFR Carcaliu 76.04 320⇑ *i*P **P** 21 46 12.9 +0.3
CFR Carcaliu 76.04 320⇑ P **P** 21 46 12.9 +0.3
PETR Petresti 76.06 321⇑ *i*P **P** 21 46 14.6 +1.9
BSEG Bad Segeberg 76.07 335 *e*P **P** 21 46 13.6 +1.0
comp=Z,51nm,0.9s,baz=32,slow=5.5
Q24A Divide 76.09 49 P **P** 21 46 14.0 +0.6
baz=315,SNR=5.7
W18A Petrified Fore 76.10 55 P **P** 21 46 14.3 +0.9
baz=313
BBOO Bukeboo 76.10 188 *e*P **P** 21 46 13.2 +0.3
comp=Z,19nm,0.9s
ODBI Odobesti 76.11 321⇓ *i*P **P** 21 46 15.3 +2.3
RUE Ruedersdorf 76.16 332 *e*P **P** 21 46 14.2 +1.1
comp=Z,44nm,0.9s,baz=32,slow=5.5
RUE Ruedersdorf 76.16 332⇑ *e*P **P** 21 46 13.3 +0.2
RUE IAmb IAmb 21 46 15.1
comp=Z,76nm,1.1s
VRI Vrincioaia 76.18 321⇓ *i*P **P** 21 46 14.5 +1.1
VRI Vrincioaia 76.18 321⇓ P **P** 21 46 14.5 +1.1
EYMN Ely 76.21 36 *e*P **P** 21 46 13.2 -0.3
comp=Z,28nm,0.8s
EYMN Ely 76.21 36 P **P** 21 46 13.4 -0.1
baz=321,SNR=5.2
NIE Niedzica 76.21 327 *e*P **P** 21 46 14.6 +1.0
NIE Niedzica 76.21 327 *e*P **P** 21 46 14.6 +1.0
PLOR Plostina 76.23 321⇓ *i*P **P** 21 46 14.8 +1.1
PLOR Plostina 76.23 321⇓ P **P** 21 46 14.8 +1.1
BMR Baia Mare 76.25 324⇑ *i*P **P** 21 46 15.2 +1.5
BMR Baia Mare 76.25 324⇑ P **P** 21 46 15.2 +1.5
ILGA Ilgaz 76.26 314 *e*P **P** 21 46 16.2 +2.0
comp=Z,79nm,1.0s
TRPA Tarpa 76.30 325⇑ *i*P **P** 21 46 15.0 +1.0
TRPA Tarpa 76.30 325⇑ *e*P **P** 21 46 14.1 +0.1
ARCR ARCALIA 76.33 323⇓ *i*P **P** 21 46 15.7 +1.5
214A Organ Pipe Nat 76.35 59 P **P** 21 46 15.4 +0.8
baz=312,SNR=9.5
OGNE Ogallala 76.38 46 *e*P **P** 21 46 15.0 +0.3
comp=Z,67nm,0.8s
OGNE Ogallala 76.38 46 P **P** 21 46 15.0 +0.3
baz=316,SNR=14
OZUR 76.44 322⇑ *i*P **P** 21 46 16.3 +1.4
TIRR Tirgusor 76.45 319⇓ *i*P **P** 21 46 15.8 +0.9
TIRR Tirgusor 76.45 319⇓ P **P** 21 46 15.8 +0.9
HARR Harsova 76.50 320⇓ *i*P **P** 21 46 16.0 +0.8
HARR Harsova 76.50 320⇓ P **P** 21 46 16.0 +0.8
TLB Topalu 76.53 319⇑ *i*P **P** 21 46 16.0 +0.7
TLB Topalu 76.53 319⇑ P **P** 21 46 16.0 +0.7
KSP Ksiaz 76.61 330 *e*P **P** 21 46 16.4 +0.6
KSP Ksiaz 76.61 330 *e*P **P** 21 46 16.4 +0.6
MFTR Murfatlar 76.65 319⇑ *i*P **P** 21 46 17.4 +1.3
DOPR Dopca 76.72 322⇑ *i*P **P** 21 46 17.8 +1.3
MDO Dochfour 76.72 344 *e*P **P** 21 46 16.2 0.0
RRH Rhenigidale 76.72 345 *e*P **P** 21 46 16.4 +0.2
OKC Ostrava-Krasne 76.72 328 *e*P **P** 21 46 17.3 +0.9
OKC Ostrava-Krasne 76.72 328 *e*P **P** 21 46 17.3 +0.9
SDCO Great Sand Dun 76.75 50 *e*P **P** 21 46 17.5 +0.4
comp=Z,5.2nm,0.8s
SDCO Great Sand Dun 76.75 50 P **P** 21 46 17.7 +0.6
baz=315,SNR=7.4
LANS Liptovska Anna 76.76 327 *e*P **P** 21 46 18.1 +1.4
LANS *e* 21 46 30.1
LANS Liptovska Anna 76.76 327 *e*P **P** 21 46 18.1 +1.4
LANS *e*PCP **PcP** 21 46 30.1 +2.4
PGOR Pogoanele 76.79 320⇓ *i*P **P** 21 46 18.4 +1.6
DRUM Mains of Drumt 76.82 343 *e*P **P** 21 46 16.3 -0.5
DRUM IAmb IAmb 21 46 18.0
comp=Z,144nm,1.2s
MLR Muntele Rosu 76.83 321 *e*P **P** 21 46 18.1 +0.9
MLR Muntele Rosu 76.83 321⇓ *i*P **P** 21 46 18.1 +0.9
MLR Muntele Rosu 76.83 321⇓ P **P** 21 46 18.1 +0.9
ISR Istrita 76.83 321⇓ *i*P **P** 21 46 18.5 +1.3
ISR Istrita 76.83 321⇓ P **P** 21 46 18.5 +1.3
AMRR Amara 76.84 320⇑ *i*P **P** 21 46 18.3 +1.2
AMRR Amara 76.84 320⇑ P **P** 21 46 18.3 +1.2
KAC Achnashellach 76.85 344 *e*P **P** 21 46 17.2 +0.3
CJR Cluj-Napoca 76.94 323⇓ *i*P **P** 21 46 18.9 +1.1
CJR Cluj-Napoca 76.94 323⇓ P **P** 21 46 18.9 +1.1
UPC Upice 76.99 330 *e*P **P** 21 46 18.8 +0.9
UPC AMS AMS 22 21 20.0
comp=Z,700nm,19.9s
UPC Upice 76.99 330 *e*P **P** 21 46 18.8 +0.9
UPC MLR MLR
comp=Z,700nm,19.9s
ICOR Ion Corvin 76.99 319⇑ *i*P **P** 21 46 19.5 +1.5
DPC Dobruska-Polom 77.00 330 *e*P **P** 21 46 19.2 +1.2
DPC AMS AMS 22 22 40.0
comp=Z,500nm,19.2s
DPC Dobruska-Polom 77.00 330 *e*P **P** 21 46 19.2 +1.2
DPC MLR MLR
comp=Z,500nm,19.2s
MORC Moravsky Berou 77.01 329 *e*P **P** 21 46 18.8 +0.7
comp=Z,59nm,1.0s
MORC Moravsky Berou 77.01 329⇓ *i*P **P** 21 46 18.6 +0.5
MORC Moravsky Berou 77.01 329⇓ P **P** 21 46 18.6 +0.5
MORC Moravsky Berou 77.01 329⇑ P **P** 21 46 18.7 +0.7
KRLC Kraliky 77.05 329 *e*P **P** 21 46 19.2 +0.9
KRLC Kraliky 77.05 329 *e*P **P** 21 46 19.2 +0.9
KPL Plockton 77.07 345 *e*P **P** 21 46 18.6 +0.4
KPL IAmb IAmb 21 46 19.5
comp=Z,75nm,1.0s
ECSD EROS Data Cent 77.08 41 *e*P **P** 21 46 18.4 -0.1
comp=Z,19nm,0.8s
ECSD EROS Data Cent 77.08 41 P **P** 21 46 18.2 -0.3
baz=318,SNR=14
SECR 77.12 321⇑ *i*P **P** 21 46 19.5 +0.8
LTVH Ltavrtes, Hu 77.15 325 *e*P **P** 21 46 20.0 +1.2
LEHL Lehliu 77.19 320⇓ *i*P **P** 21 46 20.4 +1.3
E38A The Farm, Brul 77.22 37 P **P** 21 46 18.7 -0.5
baz=321
RASA Rasa 77.23 320⇓ *i*P **P** 21 46 20.6 +1.3
BR131 Keskin Array S 77.25 313 P **P** 21 46 20.3 +0.5
SNR=12
BRTR Keskin Array B 77.25 313 P **P** 21 46 20.1 +0.4
comp=Z,14nm,0.8s,baz=81,slow=3.6,SNR=60
DRGR 77.27 324⇓ *i*P **P** 21 46 20.1 +0.5
DRGR 77.27 324⇓ P **P** 21 46 20.1 +0.5
SULR 77.30 320⇓ *i*P **P** 21 46 20.6 +0.9
NRDL Niedersach Rie 77.36 334 *e*P **P** 21 46 20.6 +0.8
comp=Z,12nm,0.9s,baz=32,slow=5.5
TUC Tucson 77.37 58 *e*P **P** 21 46 21.5 +1.0
comp=Z,17nm,1.0s
TUC Tucson 77.37 58 *e*P **P** 21 46 21.5 +1.0
TUC pmax pmax
comp=Z,17nm,1.0s
TUC Tucson 77.37 58 P **P** 21 46 21.3 +0.8
baz=313
CLL Collm 77.40 332 *e*P **P** 21 46 20.5 +0.4
comp=Z,52nm,0.9s,baz=32,slow=5.5
CLL Collm 77.40 332⇑ *i*P **P** 21 46 20.1 0.0
comp=Z,83nm,1.0s
CLL *i* sP **sP** 21 46 51.4 +6.0
CLL Collm 77.40 332⇑ *i*P **P** 21 46 20.1 0.0
CLL Collm 77.40 332⇑ P **P** 21 46 20.1 0.0
CLL pmax pmax
comp=Z,83nm,1.0s
F37A Hinrichs Farm, 77.43 38 P **P** 21 46 20.2 -0.2
baz=320
BRG Berggiesshubel 77.43 331 *i* P **P** 21 46 20.4 +0.1
comp=Z,32nm,1.1s
BRG *i* 21 46 37.6
comp=Z,6.7nm,0.8s
BRG Berggiesshubel 77.43 331 *e*P **P** 21 46 20.9 +0.6
comp=Z,20nm,1.0s,baz=32,slow=5.5
BRG Berggiesshubel 77.43 331 *i* P **P** 21 46 20.4 +0.1
BRG Berggiesshubel 77.43 331 *i* P **P** 21 46 20.4 +0.1
BRG *i* 21 46 37.6
BRG pmax pmax
comp=Z,32nm,1.1s
KSCO Kaye Shedlock' 77.44 48 P **P** 21 46 20.8 0.0
baz=316
ASSE Asse, Remlinge 77.49 334 *e*P **P** 21 46 21.3 +0.8
comp=Z,21nm,1.0s,baz=32,slow=5.5
PVCC Panska Ves 77.50 331 *e*P **P** 21 46 21.4 +0.7
PVCC AMS AMS 22 21 40.0
comp=Z,600nm,22.7s
PVCC Panska Ves 77.50 331 *e*P **P** 21 46 21.4 +0.7
PVCC MLR MLR
comp=Z,600nm,22.7s
ARR Arges 77.52 322⇓ *i*P **P** 21 46 22.5 +1.5
VYHS Vyhne 77.53 327 *e*P **P** 21 46 21.8 +0.8
VYHS pmax pmax
comp=Z,29nm,1.3s
VYHS Vyhne 77.53 327 *e*P **P** 21 46 21.8 +0.8
PSZ Piszkesteto 77.57 326 *e*P **P** 21 46 22.1 +0.8
PSZ Piszkesteto 77.57 326⇑ *i*P **P** 21 46 22.4 +1.1
PSZ Piszkesteto 77.57 326⇑ P **P** 21 46 22.4 +1.1
PSZ Piszkesteto 77.57 326⇑ *e*P **P** 21 46 21.1 -0.2
F38A Pierce - Schro 77.58 37 P **P** 21 46 21.2 -0.1
baz=321,SNR=6.8
ANTO Ankara 77.60 314 *e*P **P** 21 46 22.1 +0.5
comp=Z,76nm,0.8s
ANTO Ankara 77.60 314⇑ *i*P **P** 21 46 22.3 +0.7
ANTO Ankara 77.60 314⇑ P **P** 21 46 22.3 +0.7
ANTO Ankara 77.60 314 P **P** 21 46 22.8 +1.2
SNR=8.6
ANTO Ankara 77.60 314 *e*P **P** 21 46 22.1 +0.5
FBE Freiberg 77.60 331 *e*P **P** 21 46 22.1 +0.8
comp=Z,39nm,1.1s,baz=32,slow=5.5
KOLL Kolacno 77.64 327 *e*P **P** 21 46 22.4 +0.9
KOLL Kolacno 77.64 327 *e*P **P** 21 46 22.4 +0.9
JAVC Velka Javorina 77.70 328⇑ *i*P **P** 21 46 23.6 +1.6
SPMN Marine on St. 77.73 38 P **P** 21 46 21.7 -0.4
baz=320
VRAC Vranov 77.75 329⇑ *i*P **P** 21 46 23.0 +0.8
VRAC Vranov 77.75 329⇑ P **P** 21 46 23.0 +0.8
VRAC Vranov 77.75 329⇑ *i*P **P** 21 46 23.0 +0.8
ESY Stoneypath 77.76 342 *e*P **P** 21 46 22.2 +0.2
SGRR Singureni 77.78 320⇑ *i*P **P** 21 46 22.2 -0.2
T25A Trinidad 77.79 50 P **P** 21 46 23.5 +0.6
baz=315,SNR=7.2
E39A Mellen 77.83 36 P **P** 21 46 22.4 -0.2
baz=322,SNR=5.6
CLZ Clausthal 77.83 334 *e*P **P** 21 46 23.6 +1.0
comp=Z,92nm,1.3s,baz=32,slow=5.5
LOT Lotru 77.85 322⇑ *i*P **P** 21 46 23.2 +0.3
DEV Deva 77.89 323⇑ *i*P **P** 21 46 24.4 +1.4
DEV Deva 77.89 323⇑ P **P** 21 46 24.4 +1.4
NEUB Neuenburg 77.90 332 *e*P **P** 21 46 23.5 +0.6
comp=Z,43nm,0.9s,baz=32,slow=5.5
PRA Prague 77.92 330 *e*P **P** 21 46 24.1 +1.0
PRA Prague 77.92 330 *e*P **P** 21 46 24.1 +1.0
GOPC GO Pecny, Ondr 77.92 330 *e*P **P** 21 46 24.0 +0.9
GOPC AMS AMS 22 22 00.0
comp=Z,700nm,20.5s
GOPC GO Pecny, Ondr 77.92 330 *e*P **P** 21 46 24.0 +0.9
GOPC MLR MLR
comp=Z,700nm,20.5s
PRU Pruhonice 77.95 330 *e*P **P** 21 46 23.9 +0.6
PRU AMS AMS 22 21 40.0
comp=Z,800nm,17.5s
PRU Pruhonice 77.95 330 *e*P **P** 21 46 23.9 +0.6
PRU Pruhonice 77.95 330 *e*P **P** 21 46 23.9 +0.6
PRU MLR MLR
comp=Z,800nm,17.5s
HUMR Humele 78.00 321⇓ *i*P **P** 21 46 22.6 -1.0
KRUC Moravsky 78.03 329⇑ *i*P **P** 21 46 24.3 +0.6
LAWE Loch Awe, Argy 78.03 344 *e*P **P** 21 46 23.7 +0.1
LAWE IAmb IAmb 21 46 24.9
comp=Z,67nm,1.1s
F39A Loretta 78.03 37 P **P** 21 46 24.1 +0.3
baz=321
BGNE Belgrade 78.05 44 P **P** 21 46 23.3 -0.7
baz=318
E40A Wakefield 78.06 36 P **P** 21 46 23.9 0.0
baz=322,SNR=10
SMOL Smolenice 78.07 328 *e*P **P** 21 46 25.3 +1.3
SMOL Smolenice 78.07 328 *e*P **P** 21 46 25.3 +1.3
SIRR Siria 78.13 324⇑ *i*P **P** 21 46 25.2 +0.9
D41A Chassel 78.13 35 P **P** 21 46 23.9 -0.4
baz=323
LAZ Ladron 78.14 54 *e*P **P** 21 46 26.2 +1.3
ANMO Albuquerque 78.16 53 *e*P **P** 21 46 26.1 +1.2
ANMO Albuquerque 78.16 53 *c*e*P **P** 21 46 25.9 +1.0
ANMO pmax pmax
comp=Z,11nm,1.0s
ANMO Albuquerque 78.16 53 P **P** 21 46 25.9 +1.0
baz=315
TREC Trest 78.18 329 *e*P **P** 21 46 25.5 +1.0
TREC AMS AMS 22 23 00.0
comp=Z,900nm,18.4s
TREC Trest 78.18 329 *e*P **P** 21 46 25.5 +1.0

TREC MLR MLR
comp=Z,900nm,18.4s
G38A Ridgeland 78.20 38 P **P 21 46 24.1 -0.6**
baz=321
GTTG Gyttingen 78.22 334 *eP* **P 21 46 25.5 +0.8**
comp=Z,47nm,0.9s,baz=32,slow=5.5
MODS Modra-Piesok 78.25 328 *eP* **P 21 46 26.0 +1.1**
MODS *e* 21 46 48.4
MODS pmax pmax
comp=Z,58nm,1.1s
MODS Modra-Piesok 78.25 328 *eP* **P 21 46 26.0 +1.1**
MODS *esP* **sP 21 46 48.4 -1.9**
IBBN Ibbenburen 78.26 335 *eP* **P 21 46 25.5 +0.6**
comp=Z,47nm,0.9s,baz=32,slow=5.5
PGBU Glenifferbraes 78.26 343 *eP* **P 21 46 25.4 +0.5**
PGBU IAmb IAmb 21 46 26.4
comp=Z,154nm,1.1s
BUD Budapest 78.27 326⇑ *eP* **P 21 46 25.1 0.0**
GZR Gura Zlata 78.33 323⇑ *iP* **P 21 46 25.9 +0.4**
GZR Gura Zlata 78.33 323 ⇑P **P 21 46 25.9 +0.4**
TANN Tannenbergstha 78.34 332 *eP* **P 21 46 26.0 +0.5**
comp=Z,11nm,0.9s,baz=32,slow=5.5
F40A Park Falls 78.38 36 P **P 21 46 26.3 +0.6**
baz=322
H38A Maiden Rock 78.39 38 P **P 21 46 25.3 -0.5**
baz=321
LENM Lemitar 78.40 54 *eP* **P 21 46 27.4 +1.2**
G39A Holcombe 78.41 37 P **P 21 46 24.7 -1.2**
baz=321
GUNZ Gunzen 78.42 332 *eP* **P 21 46 26.6 +0.7**
comp=Z,8.9nm,0.8s,baz=32,slow=5.5
MOX Moxa 78.43 332 *eP* **P 21 46 26.5 +0.6**
comp=Z,10nm,0.9s,baz=32,slow=5.5
E41A Kenton 78.44 35 P **P 21 46 25.6 -0.5**
baz=322,SNR=6.7
ESK Eskdalemuir 78.45 343 *eP* **P 21 46 26.3 +0.4**
comp=Z,52nm,1.0s
ESK Eskdalemuir 78.45 343 *eP* **P 21 46 26.1 +0.2**
ESK Eskdalemuir 78.45 343 *iP* **P 21 46 27.0 +1.1**
WERN Wernitzgruen 78.47 332 *eP* **P 21 46 27.0 +0.8**
comp=Z,11nm,0.8s,baz=32,slow=5.5
ZIMR 78.49 320⇑ *iP* **P 21 46 27.1 +0.8**
ZIMR 78.49 320 ⇑P **P 21 46 27.2 +0.9**
SCHQ Schefferville 78.52 19 P **P 21 46 26.1 -0.3**
comp=Z,25nm,0.8s,baz=354,slow=6.0,SNR=15
BNM Barren Site 78.61 54 *eP* **P 21 46 29.0 +1.5**
EDMD Edmundbyers 78.61 342 *eP* **P 21 46 26.7 -0.1**
EDMD IAmb IAmb 21 46 28.4
comp=Z,44nm,1.1s
BHH Howats Hill 78.66 342 *eP* **P 21 46 27.3 +0.3**
BZS Buzias 78.66 324⇓ *iP* **P 21 46 27.2 0.0**
BZS Buzias 78.66 324 ⇓P **P 21 46 27.2 0.0**
VLAD Vladila 78.68 321⇑ *iP* **P 21 46 27.6 +0.3**
SRE Strehaia 78.71 322⇑ *iP* **P 21 46 30.0 +2.5**
SRE Strehaia 78.71 322 ⇑P **P 21 46 30.0 +2.5**
MANZ Manzenberg 78.82 332 *eP* **P 21 46 28.7 +0.6**
comp=Z,179nm,1.1s,baz=32,slow=5.5
MANZ *epP* **pP 21 46 47.4 +1.3**
UBBA Unterbreizbach 78.83 333 *eP* **P 21 46 28.4 +0.5**
comp=Z,5.8nm,0.8s,baz=32,slow=5.5
H39A Augusta 78.84 38 P **P 21 46 27.1 -1.1**
baz=321
WTSB Winterswijk 78.85 336 *eP* **P 21 46 28.0 -0.1**
comp=Z,68nm,1.0s
G40A Rib Lake 78.85 37 P **P 21 46 27.8 -0.6**
baz=322
HERR Herculane 78.89 323⇑ *iP* **P 21 46 28.7 +0.2**
E42A Champion 78.91 35 P **P 21 46 28.4 -0.3**
baz=323
F41A Three Lakes 78.96 36 P **P 21 46 28.7 -0.2**
baz=322,SNR=5.7
ROTZ Rotzenmuhle 78.97 331 *eP* **P 21 46 29.8 +0.9**
comp=Z,15nm,1.0s,baz=32,slow=5.5
KHC Kasperske Hory 79.02 330 *eP* **P 21 46 29.7 +0.5**
KHC *epP* **pP 21 46 49.8 +2.5**
KHC AMS AMS 22 20 50.0
comp=Z,900nm,26.5s
KHC Kasperske Hory 79.02 330 *eP* **P 21 46 29.7 +0.5**
KHC Kasperske Hory 79.02 330 *eP* **P 21 46 29.7 +0.5**
KHC *e* 21 46 49.8
KHC MLR MLR
comp=Z,900nm,26.5s
121A Cookes Peak, D 79.05 56 P **P 21 46 31.1 +1.2**
baz=314,SNR=22
BANR Banloc 79.06 324⇑ *iP* **P 21 46 30.5 +1.1**
SOP Sopron 79.09 328⇑ *eP* **P 21 46 30.1 +0.5**
KESW Keswick, Cumbr 79.10 342 *eP* **P 21 46 30.1 +0.7**
KESW IAmb IAmb 21 46 31.2
comp=Z,161nm,1.1s
PUNG Punghina 79.13 322⇓ *iP* **P 21 46 29.9 +0.1**
CBKS Cedar Bluff 79.14 46 *eP* **P 21 46 29.1 -0.9**
comp=Z,31nm,1.0s
CBKS Cedar Bluff 79.14 46 *eP* **P 21 46 29.1 -0.9**
CBKS pmax pmax
comp=Z,31nm,1.0s
CBKS Cedar Bluff 79.14 46 P **P 21 46 29.1 -0.9**
baz=317,SNR=6.8
CONA Conrad Observa 79.16 328 *iP* **P 21 46 31.1 +1.1**
comp=Z,14nm,0.8s,SNR=12
BUG Bochum--Univer 79.16 335 *eP* **P 21 46 30.4 +0.5**
comp=Z,36nm,1.0s,baz=32,slow=5.5
GAL1 Galloway 79.19 343 *eP* **P 21 46 30.3 +0.4**
GAL1 IAmb IAmb 21 46 31.1
comp=Z,46nm,1.2s
TIH Tihany 79.20 327⇑ *eP* **P 21 46 30.0 -0.1**
GEC2 GERESS Array S 79.21 330 *eP* **P 21 46 30.8 +0.5**
comp=Z,14nm,1.0s,baz=32,slow=5.5
GERES GERESS Array B 79.21 330 P **P 21 46 30.4 +0.1**
comp=Z,8.3nm,0.8s,baz=34,slow=5.0,SNR=34
WET Wettzell 79.26 331 *eP* **P 21 46 31.5 +1.0**
comp=Z,28nm,1.0s,baz=32,slow=5.5
WET *epP* **pP 21 46 50.4 +1.8**
CLGH Cloghs, Cushen 79.28 344 *eP* **P 21 46 29.8 -0.6**
CLGH IAmb IAmb 21 46 31.9
comp=Z,129nm,1.2s
MDVR Moldovita 79.28 323⇓ *iP* **P 21 46 30.7 0.0**
H40A Chili 79.28 37 P **P 21 46 30.4 -0.2**
baz=322
E43A Lone Tree Farm 79.33 34 P **P 21 46 30.6 -0.3**
baz=324
HPK Haverah Park 79.34 341 *eP* **P 21 46 31.2 +0.4**
HPK IAmb IAmb 21 46 32.4
comp=Z,149nm,1.1s
F42A Maple Grove Fa 79.35 35 P **P 21 46 30.9 -0.1**
baz=323
I39A Houston 79.37 38 P **P 21 46 30.5 -0.7**
baz=321
GRF Grafenberg Arr 79.38 332 *eP* **P 21 46 32.2 +1.1**
comp=Z,31nm,0.9s,baz=32,slow=5.5
GRFO Grafenberg 79.38 332 *eP* **P 21 46 31.7 +0.6**
comp=Z,64nm,1.3s
GRFO Grafenberg 79.38 332 *eP* **P 21 46 31.7 +0.6**
GRFO pmax pmax
comp=Z,64nm,1.3s
MORH Mrgy, Hungar 79.44 326 *eP* **P 21 46 31.3 -0.2**
MORH Mrgy, Hungar 79.44 326⇑ *eP* **P 21 46 31.0 -0.4**
IDGL Inch Island, C 79.56 345 *eP* **P 21 46 31.9 -0.1**
E44A Grand Marais A 79.57 33 P **P 21 46 32.0 -0.2**
baz=324
H41A Junction City 79.61 37 P **P 21 46 32.0 -0.4**
baz=322
G42A Mountain 79.64 36 P **P 21 46 32.0 -0.6**
baz=323
DIM Dimitrovgrad 79.64 319 *iP* **P 21 46 33.9 +1.2**
J39A Decorah 79.69 39 P **P 21 46 31.9 -1.0**
baz=321
F43A Flat Rock, Esc 79.70 35 P **P 21 46 32.8 -0.1**
baz=324
IOMK Kirk Michael 79.72 343 *eP* **P 21 46 33.1 +0.2**
IOMK IAmb IAmb 21 46 34.2
comp=Z,63nm,1.1s
I40A Norwalk 79.75 38 P **P 21 46 32.7 -0.6**
baz=322
FRGS Fruska Gora 79.80 324 *eP* **P 21 46 33.6 +0.1**
MOA Molln 79.83 329 *iP* **P 21 46 34.0 +0.4**
comp=Z,16nm,0.8s
ARSA Arzberg 79.84 328 *iP* **P 21 46 33.2 -0.5**
comp=Z,7.2nm,0.8s,SNR=6.2
TNS Taunus Mts 79.85 334 *eP* **P 21 46 34.3 +0.6**
comp=Z,11nm,0.8s,baz=32,slow=5.5
LBWR Ladybower, Pea 79.87 341 *eP* **P 21 46 34.1 +0.4**
LBWR IAmb IAmb 21 46 35.3
comp=Z,253nm,1.1s
F44A Big Bay de Noc 79.89 34 P **P 21 46 33.3 -0.7**
baz=324
G43A Wallace 79.94 35 P **P 21 46 33.2 -1.0**
baz=323,SNR=5.2
I41A Arkdale 79.95 37 P **P 21 46 33.4 -0.9**
baz=322
MATQ Matagami 79.99 27 P **P 21 46 34.2 -0.2**
baz=329,SNR=6.9
PLD Plovdiv 80.00 320 *iP* P 21 46 23.7 -11
AHRW Bad Neuenahr-A 80.01 335 *eP* **P 21 46 35.0 +0.6**
comp=Z,15nm,0.9s,baz=32,slow=5.5
E45A Wooded Hills, 80.08 33 P **P 21 46 34.2 -0.8**
baz=325
SCIA State Center 80.09 41 *eP* **P 21 46 35.3 +0.2**
comp=Z,64nm,0.7s
SCIA State Center 80.09 41 P **P 21 46 34.7 -0.4**
baz=321
D46A Sault St. Mari 80.10 32 P **P 21 46 34.3 -0.7**
baz=326
K39A Oelwein 80.10 39 P **P 21 46 34.3 -0.9**
baz=321
HGN Heimansgroeve 80.17 335 *eP* **P 21 46 35.3 0.0**
comp=Z,275nm,2.4s
BEBN Eben Emael 80.21 336 ⇑P **P 21 46 35.5 -0.1**
BEBN ⇓*pP* **pP 21 46 52.2 -1.4**
ALN Alexandroupoli 80.28 318 P **P 21 46 36.6 +0.5**
ALN Alexandroupoli 80.28 318 P **P 21 46 36.6 +0.5**
ALN Alexandroupoli 80.28 318 P **P 21 46 36.6 +0.5**
MEM Membach 80.28 335 ⇑P **P 21 46 35.8 -0.1**
comp=Z,25nm,1.2s
MEM ⇓*pP* **pP 21 46 52.5 -1.5**
RZN Rozhen 80.31 319 *iP* **P 21 46 37.3 +0.8**
VTS Vitosha 80.32 321 P **P 21 46 36.9 +0.4**
VTS Vitosha 80.32 321⇑ *iP* **P 21 46 37.1 +0.6**
VTS Vitosha 80.32 321 P **P 21 46 36.9 +0.4**
VTS Vitosha 80.32 321 ⇑P **P 21 46 37.1 +0.6**
VTS Vitosha 80.32 321 *iP* **P 21 46 36.9 +0.4**
RDO Rodhopi 80.33 319 P **P 21 46 37.0 +0.6**
RDO Rodhopi 80.33 319 P **P 21 46 37.0 +0.6**
CWF Charnwood Fore 80.38 340 *eP* **P 21 46 36.1 -0.3**
CWF IAmb IAmb 21 46 37.6
comp=Z,29nm,1.0s
E46A Sault Ste Mari 80.42 33 P **P 21 46 36.1 -0.7**
baz=325
J41A Loganville 80.43 38 P **P 21 46 36.0 -0.9**
baz=322
K40A Colesburg 80.45 39 P **P 21 46 36.4 -0.6**
baz=322
RJOB Jochberg 80.47 330 *eP* **P 21 46 38.2 +1.1**
comp=Z,28nm,0.8s,baz=32,slow=5.5
F45A CMU Biological 80.50 34 P **P 21 46 36.6 -0.6**
baz=325
L39A Vinton 80.50 40 P **P 21 46 36.7 -0.6**
baz=321
I42A Draeger Farm, 80.50 37 P **P 21 46 36.4 -0.9**
baz=323
SOKA Soboth 80.51 328 *iP* **P 21 46 37.8 +0.4**
comp=Z,26nm,0.8s,SNR=18
PERS Pernice 80.51 328 *iP* **P 21 46 37.7 +0.4**
H43A Windswept, Lux 80.54 36 P **P 21 46 36.7 -0.8**
baz=324
KSU1 Kansas State U 80.55 44 P **P 21 46 36.8 -0.8**
baz=319
DIVS Divibare 80.57 324⇑ *iP* **P 21 46 37.7 0.0**
FUR Furstenfeldbru 80.65 331 *eP* **P 21 46 38.9 +0.8**
comp=Z,28nm,0.8s,baz=32,slow=5.5
FUR *epP* **pP 21 46 57.4 +1.2**
JFWS Jewell Farm 80.68 38 P **P 21 46 37.5 -0.8**
baz=322
FOEL Foel Wylfa 80.69 342 *eP* **P 21 46 39.0 +0.9**
FOEL IAmb IAmb 21 46 39.8
comp=Z,126nm,1.0s
D48A Paudash Townsh 80.71 31 P **P 21 46 37.1 -1.2**
baz=327
F46A Macinaw City C 80.73 33 P **P 21 46 38.2 -0.2**
baz=325
E47A Iron Bridge 80.75 32 P **P 21 46 37.8 -0.7**
baz=326
KBA Koelnbreinsper 80.82 329 *iP* **P 21 46 40.2 +1.1**
comp=Z,18nm,0.6s,SNR=14
OBKA Obir 80.83 328 *iP* **P 21 46 39.3 +0.2**
comp=Z,14nm,0.8s
LLW Llanuwchllyn 80.84 342 *eP* **P 21 46 38.9 0.0**
I43A Langenfeld Bro 80.84 36 P **P 21 46 38.7 -0.4**
baz=323
STU Stutgart 80.85 333 *eP* **P 21 46 39.8 +0.8**
comp=Z,27nm,0.8s,baz=32,slow=5.5
STU *epP* **pP 21 46 58.2 +1.0**
MMB Musomiste 80.86 320 *iP* **P 21 46 40.3 +1.0**
CSS Mathiatis 80.86 310 P **P 21 46 39.7 +0.3**
CSS Mathiatis 80.86 310 P **P 21 46 39.7 +0.3**
J42A Columbus 80.87 37 P **P 21 46 38.5 -0.8**
baz=323
CHGQ Chibougamau 80.90 25 P **P 21 46 38.8 -0.5**
baz=332,SNR=12
K41A Shullsburg 80.90 38 P **P 21 46 38.9 -0.5**
baz=322
L40A Anamosa 80.91 39 P **P 21 46 38.6 -0.8**
baz=322
M39A Webster 80.92 40 P **P 21 46 39.2 -0.3**
baz=321,SNR=8.6
KKB Krupnik 80.94 320 *iP* **P 21 46 40.7 +1.0**
AMTX Amarillo 80.94 50 P **P 21 46 40.3 +0.4**
baz=317
HLM1 Long Mynd 80.96 341 *eP* **P 21 46 40.0 +0.4**
HLM1 IAmb IAmb 21 46 40.5
comp=Z,17nm,1.1s
NVR Nevrokopi 80.98 320 P **P 21 46 40.4 +0.5**
NVR Nevrokopi 80.98 320 P **P 21 46 40.4 +0.5**
MSTX Muleshoe 80.99 52 P **P 21 46 40.3 +0.1**
baz=316
BBLS Lazići 81.01 324⇑ *iP* **P 21 46 40.7 +0.6**
HAPS Han Pijesak,Bl 81.03 324⇑ *iP* **P 21 46 40.0 -0.2**
CRES Cresnjev 81.05 327 *iP* **P 21 46 40.1 -0.1**
CRES Cresnjev 81.05 327⇑ *iP* **P 21 46 40.0 -0.1**
DSB Dublin 81.06 344 *eP* **P 21 46 38.8 -1.2**
G46A Petoskey 81.06 34 P **P 21 46 40.3 +0.1**
baz=325
WLF Walferdange 81.06 335 *eP* **P 21 46 42.0 +1.9**
comp=Z,23nm,0.9s,baz=32,slow=5.5
WLF Walferdange 81.06 335 ⇑P **P 21 46 40.6 +0.5**
MMAI Mount Meron Ar 81.08 307 P **P 21 46 41.4 +0.7**
baz=48,slow=6.6
MYKA Terra Mystica 81.08 329 *iP* **P 21 46 40.1 -0.3**
comp=Z,12nm,0.7s,SNR=6.0
MNTX Cornudas Mount 81.08 55 *eP* **P 21 46 41.3 +0.7**
comp=Z,28nm,0.9s
MNTX Cornudas Mount 81.08 55 P **P 21 46 41.4 +0.8**
baz=316,SNR=35
J43A Natural Harves 81.13 37 P **P 21 46 40.1 -0.6**
baz=323
E48A Lockeyer 81.16 31 P **P 21 46 39.9 -0.8**
baz=327
DOU Dourbes 81.16 336 ⇑P **P 21 46 40.4 -0.2**
DOU ⇑*PcP* **PcP 21 46 46.0 -0.7**
DOU ⇑*pP* **pP 21 46 59.6 +0.8**
K42A Prairie Point, 81.20 38 P **P 21 46 40.3 -0.7**
baz=323
LJU Ljubljana 81.23 328 *iP* **P 21 46 40.8 -0.3**
LJU Ljubljana 81.23 328 *eP* **P 21 46 40.6 -0.5**
L41A Preston 81.23 39 P **P 21 46 40.6 -0.5**
baz=322,SNR=5.4
BLY Banja Luka 81.23 326⇑ *iP* **P 21 46 42.6 +1.5**
BLY Banja Luka 81.23 326 *eP* **P 21 46 40.4 -0.7**
WATA Walderalm 81.25 330 *iP* **P 21 46 41.8 +0.4**
comp=Z,11nm,0.6s,SNR=15
M40A Post Highland 81.29 40 P **P 21 46 41.2 -0.3**
baz=322,SNR=5.6
SRS Serrai 81.29 320 P **P 21 46 41.6 +0.1**
SRS Serrai 81.29 320 P **P 21 46 41.6 +0.1**
SRS Serrai 81.29 320 P **P 21 46 41.6 +0.1**
RAYN Ar Rayn 81.36 294 *eP* **P 21 46 42.1 -0.1**
comp=Z,58nm,1.2s
RAYN *ePP* **PP 21 49 47.0 -1.5**
RAYN Ar Rayn 81.36 294 *iP* **P 21 46 42.1 -0.1**
SNR=19
RAYN Ar Rayn 81.36 294 *eP* **P 21 46 42.1 -0.1**
RAYN *e* 21 49 47.0
RAYN pmax pmax
comp=Z,59nm,1.2s
CADS Cadrg 81.38 329 *eP* **P 21 46 40.8 -1.2**
ABTA Abfaltersbach 81.41 330 *iP* **P 21 46 41.7 -0.5**
comp=Z,10nm,0.9s
MOTA Moosalm 81.41 331 *iP* **P 21 46 43.6 +1.4**
comp=Z,20nm,0.7s,SNR=19
RETA Reutte 81.41 331 *iP* **P 21 46 42.6 +0.4**
comp=Z,7.0nm,0.5s,SNR=6.7
D50A G1974 Best Tow 81.44 30 P **P 21 46 41.3 -0.9**
baz=328
MCH1 Michaelchurch 81.47 341 *eP* **P 21 46 42.6 +0.4**
MCH1 IAmb IAmb 21 46 43.6
comp=Z,65nm,0.9s
STRD Stroud 81.47 341 *eP* **P 21 46 42.7 +0.4**
STRD IAmb IAmb 21 46 43.2
comp=Z,90nm,0.9s
UBR Ueberruh 81.48 331 *eP* **P 21 46 42.7 +0.2**
comp=Z,5.6nm,0.8s,baz=32,slow=5.5
SQTA Sankt Quirin 81.48 331 *iP* **P 21 46 43.1 +0.5**
comp=Z,20nm,0.8s,SNR=9.9
STIP Stip 81.49 321 *iP* **P 21 46 42.2 -0.4**
CEY Cerknica 81.52 328⇑ *iP* **P 21 46 42.1 -0.6**
BFO Black Forest 81.53 333 *eP* **P 21 46 42.5 -0.2**
comp=Z,3.7nm,1.0s
BFO Black Forest 81.53 333 *eP* **P 21 46 43.1 +0.4**
comp=Z,12nm,0.9s,baz=32,slow=5.5
BFO Black Forest 81.53 333 *iP* **P 21 46 43.4 +0.7**
F48A Evansville 81.53 32 P **P 21 46 42.1 -0.6**
baz=326
H46A Fife Lake 81.56 34 P **P 21 46 42.5 -0.4**
baz=325
KNT Kendrikon 81.58 320 P **P 21 46 43.4 +0.3**
KNT Kendrikon 81.58 320 P **P 21 46 43.4 +0.3**
KNT Kendrikon 81.58 320 P **P 21 46 43.4 +0.3**
G47A Hillman 81.58 33 P **P 21 46 42.4 -0.6**
baz=326
VAY Valandovo 81.61 320 P **P 21 46 43.8 +0.6**
VAY Valandovo 81.61 320 P **P 21 46 43.8 +0.6**
VAY Valandovo 81.61 320 *iP* **P 21 46 44.0 +0.8**
VAY Valandovo 81.61 320 P **P 21 46 43.8 +0.6**
SKO Skopje 81.62 322 P **P 21 46 44.2 +1.0**
SKO Skopje 81.62 322 P **P 21 46 44.2 +1.0**
SKO Skopje 81.62 322 *iP* **P 21 46 44.2 +1.2**
SWN1 Swindon 81.63 340 *eP* **P 21 46 43.7 +0.7**
SWN1 IAmb IAmb 21 46 44.2
comp=Z,157nm,1.0s
N40A Mertquake, Sal 81.66 40 P **P 21 46 43.2 -0.3**
baz=322,SNR=5.4
L42A Oliver, Polo 81.67 38 P **P 21 46 42.6 -0.9**
baz=323
K43A Burlington 81.71 37 P **P 21 46 43.0 -0.7**
baz=323
OUR Ouranopolis 81.71 319 P **P 21 46 43.9 +0.2**
OUR Ouranopolis 81.71 319 P **P 21 46 43.9 +0.2**
OUR Ouranopolis 81.71 319 P **P 21 46 43.9 +0.2**
UPM Unac-Piva 81.76 324 *eP* **P 21 46 44.0 -0.2**
M41A Milan 81.76 39 P **P 21 46 43.5 -0.5**
baz=322
F49A Sandfield 81.80 32 P **P 21 46 43.6 -0.5**
baz=327
FETA Feichten 81.82 331 *iP* **P 21 46 44.8 +0.3**
comp=Z,11nm,0.9s,SNR=6.8
DAVA Damuels 81.89 331 *iP* **P 21 46 45.0 +0.2**
comp=Z,12nm,0.6s,SNR=6.4
RSBS Rosebush, Pemb 81.92 342 *eP* **P 21 46 44.2 -0.4**
RSBS IAmb IAmb 21 46 45.9
comp=Z,38nm,1.2s
PLG Polygyros 81.94 319 P **P 21 46 45.0 0.0**
PLG Polygyros 81.94 319 P **P 21 46 45.0 0.0**
PLG Polygyros 81.94 319 P **P 21 46 45.0 0.0**
L43A Garden Prairie 81.94 38 P **P 21 46 44.1 -0.9**
baz=323
I46A Reed City 81.95 35 P **P 21 46 44.9 0.0**
baz=325
M42A Sheffield 82.06 39 P **P 21 46 45.0 -0.5**
baz=323
E51A G1948 Merrick 82.11 30 P **P 21 46 45.0 -0.8**
baz=328
N41A Harden Midland 82.14 40 P **P 21 46 45.7 -0.3**
baz=322
BRY Bratogost 82.16 324 *eP* **P 21 46 46.0 -0.2**
PAIG Paliouri 82.17 319 P **P 21 46 46.1 -0.1**
PAIG Paliouri 82.17 319 P **P 21 46 46.1 -0.1**
PAIG Paliouri 82.17 319 P **P 21 46 46.1 -0.1**
KRUS Krusevo 82.18 321 *iP* **P 21 46 46.9 +0.6**
PDG Podgorica 82.23 323⇑ *iP* **P 21 46 46.8 +0.4**
PDG Podgorica 82.23 323⇑ *iP* **P 21 46 46.5 +0.1**
I47A Gladwin 82.27 34 P **P 21 46 47.3 +0.7**
baz=326
PHP Peshkopia 82.30 322 P **P 21 46 46.6 -0.3**
PHP Peshkopia 82.30 322 P **P 21 46 46.6 -0.3**
PHP Peshkopia 82.30 322 P **P 21 46 46.6 -0.3**
L44A Lake County Fo 82.31 37 P **P 21 46 46.7 -0.2**
baz=324
J46A Howard City 82.35 35 P **P 21 46 47.5 +0.4**
baz=325
TREB Trebinje 82.39 324 *eP* **P 21 46 46.6 -0.7**
BIA Bitola 82.42 321 *iP* **P 21 46 48.1 +0.5**
N42A Yates City 82.43 39 P **P 21 46 47.1 -0.4**
baz=322,SNR=5.4
M43A Waltham Townsh 82.44 38 P **P 21 46 47.3 -0.2**
baz=323,SNR=5.3
TOBO Tobermory, Bru 82.45 32 P **P 21 46 46.7 -0.8**
baz=327
DRME Dracevica, Mon 82.45 323⇑ *iP* **P 21 46 47.8 +0.2**
I48A Sherman Twp 82.46 33 P **P 21 46 47.5 -0.1**
baz=326
BODT Bodrum 82.56 315 P **P 21 46 46.9 -1.4**
BODT Bodrum 82.56 315 P **P 21 46 46.9 -1.4**
D54A Lac Fusel, La 82.57 28 P **P 21 46 47.3 -0.8**
baz=330,SNR=5.0
O41A Passleys Farm, 82.59 40 P **P 21 46 48.4 +0.1**
baz=322,SNR=5.7
LIT Litokhoron 82.60 320 P **P 21 46 47.9 -0.6**
LIT Litokhoron 82.60 320 P **P 21 46 47.9 -0.6**
LIT Litokhoron 82.60 320 P **P 21 46 47.9 -0.6**
E52A Mattawa 82.62 29 P **P 21 46 47.6 -0.7**
baz=329
WMOK Wichita Mounta 82.66 49 *eP* **P 21 46 48.8 -0.1**
comp=Z,14nm,1.0s
WMOK Wichita Mounta 82.66 49 *eP* **P 21 46 48.8 -0.1**
WMOK pmax pmax
comp=Z,14nm,1.0s
WMOK Wichita Mounta 82.66 49 P **P 21 46 49.2 +0.4**
baz=318,SNR=11
N43A Stutzman Famil 82.74 39 P **P 21 46 48.9 -0.2**
baz=323
KZN Kozani 82.78 320 P **P 21 46 49.0 -0.4**
KZN Kozani 82.78 320 P **P 21 46 49.0 -0.4**
KZN Kozani 82.78 320 P **P 21 46 49.0 -0.4**
J47A Sunmer 82.78 35 P **P 21 46 49.3 0.0**
baz=325
F52A Sundridge 82.80 30 P **P 21 46 48.5 -0.9**
baz=329
K46A Dorr 82.83 36 P **P 21 46 48.9 -0.7**
baz=325
XOR Xorichti 82.84 319 P **P 21 46 49.3 -0.4**
XOR Xorichti 82.84 319 P **P 21 46 49.3 -0.4**
P41A Barry, Barry 82.86 41 P **P 21 46 49.8 +0.1**
baz=322,SNR=7.5
NEO Neokhori 82.88 319 P **P 21 46 49.1 -0.8**
NEO Neokhori 82.88 319 P **P 21 46 49.1 -0.8**
M44A Midewin, Midew 82.89 38 P **P 21 46 49.7 -0.2**
baz=324,SNR=7.1
O42A Bath 82.91 40 P **P 21 46 49.6 -0.4**
baz=322
FYTO Fytoko, Volos 82.93 319 P **P 21 46 49.9 -0.2**
FYTO Fytoko, Volos 82.93 319 P **P 21 46 49.9 -0.2**
HDIL Hopedale 82.99 39 *eP* **P 21 46 50.5 +0.2**
comp=Z,24nm,0.6s
HDIL Hopedale 82.99 39 P **P 21 46 50.3 -0.1**
baz=323
E54A Lac Daplat, Po 83.01 28 P **P 21 46 49.3 -1.1**
baz=330
I49A Point Hope 83.02 33 P **P 21 46 49.9 -0.6**
baz=326
NEST Nestorio 83.03 321 P **P 21 46 50.8 0.0**
BMRO Meriville Lake 83.10 32 P **P 21 46 50.3 -0.6**
baz=328
L46A Eue Claire 83.16 36 P **P 21 46 50.6 -0.7**
baz=325
J48A Bridge Port 83.16 34 P **P 21 46 51.5 +0.3**
baz=327
PENT Pentalofos 83.16 321 P **P 21 46 51.0 -0.5**
K47A Vermontville 83.17 35 P **P 21 46 50.9 -0.5**
baz=325
EREA Eretria 83.22 318 P **P 21 46 51.3 -0.4**
P42A Winchester 83.27 40 P **P 21 46 51.7 -0.2**
baz=322,SNR=5.2
BRCO Bruce Peninsul 83.31 32 P **P 21 46 51.8 -0.2**
baz=327
N44A Piper City 83.33 38 P **P 21 46 51.8 -0.3**
baz=324
Q41A Truxton 83.34 41 P **P 21 46 52.4 +0.2**
baz=322,SNR=14

J49A	Marlette baz=326	83.37	34	P		P	21 46 52.3	0.0
TUL1	Leonard baz=320,SNR=6.0	83.39	46	P		P	21 46 52.8	+0.2
BASO	Ashfield baz=327	83.42	32	P		P	21 46 52.8	+0.3
K48A	Perry baz=326	83.43	35	P		P	21 46 52.9	+0.2
ATAL	Atalanti	83.45	319	P		P	21 46 52.3	-0.6
ATAL	Atalanti	83.45	319	P		P	21 46 52.3	-0.6
APE	Apeiranthos	83.47	316	⇑*i*P		P	21 46 52.7	-0.3
APE	Apeiranthos	83.47	316	⇑P		P	21 46 52.7	-0.3
LKR	Lokris	83.50	319	P		P	21 46 51.0	-2.1
LKR	Lokris	83.50	319	P		P	21 46 51.0	-2.1
N45A	Kentland baz=324	83.56	38	P		P	21 46 51.8	-1.5
H52A	Wyevale baz=328	83.57	31	P		P	21 46 52.8	-0.5
P43A	Skaggs, Pawnee baz=323	83.61	40	P		P	21 46 53.0	-0.6
M46A	Old House Fiel baz=325	83.62	37	P		P	21 46 53.1	-0.6
G53A	Haliburton baz=329	83.63	30	P		P	21 46 52.6	-1.0
LATQ	La Tuque baz=333	83.63	25	P		P	21 46 52.8	-0.8
MAKR	Makrakomi, Fth	83.63	319	P		P	21 46 52.6	-1.2
MAKR	Makrakomi, Fth	83.63	319	P		P	21 46 52.6	-1.2
PEMO	Pembroke baz=330	83.64	29	P		P	21 46 52.5	-1.2
L47A	Sherwood baz=325	83.66	36	P		P	21 46 53.4	-0.5
O44A	Mansfield baz=323	83.69	39	P		P	21 46 53.7	-0.3
Q42A	Golden Eagle baz=322,SNR=7.9	83.71	41	P		P	21 46 54.2	+0.1
K49A	Clarkson baz=326	83.72	34	P		P	21 46 54.1	0.0
JAN	Janina	83.72	320	P		P	21 46 54.4	+0.1
JAN	Janina	83.72	320	P		P	21 46 54.4	+0.1
JAN	Janina	83.72	320	P		P	21 46 54.4	+0.1
VILL	Villia	83.73	318	P		P	21 46 53.0	-1.3
VLY	Voula,Athens	83.73	318	P		P	21 46 53.0	-1.3
VLY	Voula,Athens	83.73	318	P		P	21 46 53.0	-1.3
PMOR	Pomariorio Ree comp=Z,240nm,0.2s	83.74	117	*e*T		T	23 19 15.5	
ABTX	Abilene, Hawle baz=318	83.75	51	P		P	21 46 54.9	+0.4
EIL	Elat comp=Z,36nm,0.8s,baz=354,slow=7.9,SNR=7.1	83.76	305	P		P	21 46 55.5	+1.0
R41A	Rosebud baz=322,SNR=9.9	83.78	42	P		P	21 46 54.4	-0.2
TXAR	Lajitas Array comp=Z,18nm,0.8s,baz=296,slow=3.7,SNR=92	83.81	55	P		P	21 46 55.6	+0.6
F55A	Otter Lake baz=330	83.82	28	P		P	21 46 53.9	-0.6
I51A	Listowel baz=328	83.84	32	P		P	21 46 55.6	+0.8
N46A	Monticello baz=324	83.87	37	P		P	21 46 54.4	-0.5
DSF	Desfina	83.92	319	P		P	21 46 53.9	-1.4
DSF	Desfina	83.92	319	P		P	21 46 53.9	-1.4
O45A	Potomac baz=324	83.95	38	P		P	21 46 55.3	-0.1
BANO	Bancroft baz=330	83.97	30	P		P	21 46 55.0	-0.3
M47A	Cromwell baz=325	83.98	36	P		P	21 46 55.4	-0.1
LTK	Loutraki	84.01	318	P		P	21 46 53.8	-1.9
LTK	Loutraki	84.01	318	P		P	21 46 53.8	-1.9
L48A	N Adams baz=326,SNR=6.5	84.01	35	P		P	21 46 55.6	0.0
CCM	Cathedral Cave	84.04	42	*e*P		P	21 46 55.7	-0.2
CCM	Cathedral Cave	84.04	42	*e*P		P	21 46 55.7	-0.2
CCM	Cathedral Cave baz=322	84.04	42	P		P	21 46 55.7	-0.2
ANX	Ano Chora	84.06	319	P		P	21 46 55.2	-0.9
R42A	Luebbering baz=322,SNR=5.5	84.08	41	P		P	21 46 55.9	-0.2
Q43A	New Douglas baz=323	84.08	40	P		P	21 46 56.1	+0.1
KALE	Kalithea	84.12	319	P		P	21 46 54.9	-1.4
KALE	Kalithea	84.12	319	P		P	21 46 54.9	-1.4
SFIN	Lafayette baz=324	84.13	38	P		P	21 46 56.0	-0.2
SERG	Sergoula	84.14	319	P		P	21 46 55.4	-1.0
L49A	Milan baz=326	84.15	35	P		P	21 46 56.4	+0.1
S41A	Jillco Farms, baz=322	84.16	42	P		P	21 46 56.0	-0.5
P44A	Sand Creek, Wi baz=323,SNR=7.5	84.17	39	P		P	21 46 56.5	0.0
TRIZ	Trizonia	84.17	319	P		P	21 46 55.4	-1.1
G55A	Calabogie baz=330	84.19	29	P		P	21 46 55.7	-0.8
EFP	Efpalio	84.20	319	P		P	21 46 56.4	-0.2
ELFO	Elginfield baz=328	84.24	33	P		P	21 46 56.7	-0.1
PLVO	Plevna baz=330	84.25	29	P		P	21 46 56.0	-0.8
M48A	Edgerton baz=326	84.27	36	P		P	21 46 56.7	-0.2
LAKA	Lakka	84.31	319	P		P	21 46 56.3	-1.0
LAKA	Lakka	84.31	319	P		P	21 46 56.3	-1.0
N47A	Urbana baz=325	84.34	37	P		P	21 46 56.9	-0.4
ACTO	Acton baz=328	84.38	32	P		P	21 46 56.8	-0.6
GUR	Goura	84.38	318	P		P	21 46 57.1	-0.6
GUR	Goura	84.38	318	P		P	21 46 57.1	-0.6
KLV	Kalavryta, Ach	84.39	319	P		P	21 46 56.7	-1.0
KLV	Kalavryta, Ach	84.39	319	P		P	21 46 56.7	-1.0
PDO	Prodromos	84.41	320	P		P	21 46 57.6	-0.1
Q44A	Meyer Farm, Va baz=323	84.43	40	P		P	21 46 57.6	-0.2
ORIO	Orleans, Innes baz=331	84.44	28	P		P	21 46 57.0	-0.7
PKRO	Pickering baz=329	84.45	31	P		P	21 46 57.3	-0.5
S42A	Caledonia baz=322,SNR=13	84.48	42	P		P	21 46 58.1	0.0
ALFO	Alfred baz=332	84.50	27	P		P	21 46 57.1	-0.8
R43A	Red Bud baz=323	84.50	41	P		P	21 46 58.0	-0.2
LKD2	Lefkada island	84.51	320	P		P	21 46 57.8	-0.4
LKD2	Lefkada island	84.51	320	P		P	21 46 57.8	-0.4
DELO	Deloro Mine baz=330	84.51	30	P		P	21 46 57.8	-0.3
P45A	Graceland, Par baz=324	84.52	39	P		P	21 46 57.8	-0.4
J52A	Paris baz=328	84.53	32	P		P	21 46 58.3	+0.1
PPT	Papeete comp=Z,198nm,21.3s,baz=296,slow=30	84.55	120	LR		LR	22 16 43.9	
K51A	Iona Station baz=327	84.56	33	P		P	21 46 58.2	-0.1
U40A	Yellville baz=321,SNR=20	84.56	44	P		P	21 46 58.3	-0.3
PPT2	Papeete2 comp=Z,2µm,32.8s,baz=313	84.57	120	*e*LR		LR	22 13 11.2	
PPT2	Papeete2 comp=Z,10nm,0.2s	84.57	120	*e*T		T	23 20 18.7	
TAOE	Nuku Hiva Isla comp=Z,511nm,24.2s	84.57	107	*e*LR		LR	22 13 29.5	
T41A	Mountain View baz=322,SNR=13	84.58	43	P		P	21 46 58.2	-0.4
M49A	Liberty Center baz=326	84.59	35	P		P	21 46 58.1	-0.5
L50A	Kingsville baz=327	84.60	34	P		P	21 46 58.4	-0.2
ZKR	Zakros	84.62	314	P		P	21 46 59.1	+0.3
ZKR	Zakros	84.62	314	P		P	21 46 59.1	+0.3
H55A	Tweed baz=330	84.64	29	P		P	21 46 58.3	-0.4
EVGl	Lefkada island	84.64	320	P		P	21 46 58.6	-0.3
N48A	Decatur baz=325	84.65	36	P		P	21 46 58.6	-0.2
O47A	Sheridan baz=325	84.66	37	P		P	21 46 58.5	-0.4
DRWO	Darlington Wes baz=329	84.66	31	P		P	21 46 58.5	-0.4
DRO	Drossia	84.67	319	P		P	21 46 59.1	0.0
TIAR	Tiarei comp=Z,5.6nm,0.3s	84.69	120	*e*T		T	23 20 27.3	
P46A	Rosedale	84.69	38	P		P	21 46 59.2	0.0
	baz=324							
RLS	Riolos of Patr	84.70	319	P		P	21 46 59.4	+0.2
RLS	Riolos of Patr	84.70	319	P		P	21 46 59.4	+0.2
WLVO	Wesleyville baz=329	84.74	30	P		P	21 46 58.9	-0.4
AQU	L'Aquila	84.76	327	*e*P		P	21 46 59.8	+0.3
MATE	Matera	84.79	324	⇑*i*P		P	21 46 59.4	-0.1
K52A	Tillsonburg baz=328	84.83	32	P		P	21 46 59.9	+0.2
Q45A	Warren Harvey, baz=324	84.84	39	P		P	21 47 00.1	+0.3
TYNO	Tyneside baz=328	84.89	32	P		P	21 46 59.9	-0.2
T42A	Van Buren baz=322,SNR=11	84.92	42	P		P	21 47 00.0	-0.3
R44A	Waltonville baz=323	84.93	40	P		P	21 47 00.0	-0.3
H56A	Elgin baz=331	84.93	29	P		P	21 46 59.5	-0.7
N49A	Columbus Grove baz=326	84.96	36	P		P	21 47 00.2	-0.2
LAST	Lasithi	84.97	315	P		P	21 47 01.0	+0.3
LAST	Lasithi	84.97	315	P		P	21 47 01.0	+0.3
W39A	Magazine baz=321,SNR=6.5	84.99	45	P		P	21 47 00.7	0.0
S43A	Fulton Ridge, baz=323,SNR=8.1	84.99	41	P		P	21 47 00.5	-0.2
AMT	Artemida-Makis	85.00	319	P		P	21 46 59.8	-1.0
VLS	Valsamata	85.03	320	P		P	21 47 00.4	-0.5
VLS	Valsamata	85.03	320	P		P	21 47 00.4	-0.5
VLS	Valsamata	85.03	320	P		P	21 47 00.4	-0.5
M50A	Fremont baz=327	85.04	35	P		P	21 47 00.6	-0.2
U41A	Viola baz=322	85.05	43	P		P	21 47 00.6	-0.4
STCO	Saint Catharin baz=329	85.06	31	P		P	21 47 00.8	0.0
O48A	Farmland baz=325,SNR=5.6	85.09	37	P		P	21 47 00.5	-0.6
IDI	Anoyia	85.17	315	⇓*i*P		P	21 47 00.9	-0.8
ITM	Ithomi	85.18	318	P		P	21 47 00.8	-0.8
ITM	Ithomi	85.18	318	P		P	21 47 00.8	-0.8
P47A	Martinsville baz=325	85.22	38	P		P	21 47 01.5	-0.3
JCT	Junction City comp=Z,27nm,1.0s	85.25	52	*e*P		P	21 47 02.5	+0.4
JCT JCT	Junction City comp=Z,27nm,1.0s	85.25	52	*e*P pmax		P pmax	21 47 02.5	+0.4
JCT	Junction City baz=318,SNR=5.7	85.25	52	P		P	21 47 02.4	+0.3
R45A	Skylar, Fairfi baz=324	85.27	40	P		P	21 47 01.5	-0.5
T43A	Greenville baz=323,SNR=7.8	85.27	42	P		P	21 47 01.8	-0.3
S44A	Carbondale baz=323,SNR=12	85.28	41	P		P	21 47 02.1	0.0
V41A	Mountainview baz=322,SNR=10	85.36	44	P		P	21 47 02.2	-0.4
MEDO	Medina baz=329	85.37	31	P		P	21 47 01.9	-0.5
U42A	Revenden baz=322	85.38	43	P		P	21 47 02.3	-0.3
SIVA	Sivas	85.42	315	P		P	21 47 02.9	+0.1
SIVA	Sivas	85.42	315	P		P	21 47 02.9	+0.1
VAM	Vamos	85.44	316	P		P	21 47 02.7	-0.2
VAM	Vamos	85.44	316	P		P	21 47 02.7	-0.2
VAM	Vamos	85.44	316	P		P	21 47 02.7	-0.2
WHTX	Lake Whitney, baz=319,SNR=6.4	85.45	50	P		P	21 47 03.6	+0.5
M51A	Elyria baz=327	85.45	34	P		P	21 47 02.3	-0.6
PYL	PYLOS	85.49	318	P		P	21 47 01.9	-1.3
PYL	PYLOS	85.49	318	P		P	21 47 01.9	-1.3
O49A	Covington baz=326	85.50	36	P		P	21 47 02.7	-0.5
IMMV	Iera Moni Meta	85.50	316	P		P	21 47 03.2	-0.1
J55A	Hilton baz=330	85.52	30	P		P	21 47 03.0	-0.2
N50A	Nevada baz=326	85.52	35	P		P	21 47 03.3	+0.1
MIAR	Mount Ida comp=Z,32nm,0.9s	85.60	45	*e*P		P	21 47 03.8	+0.1
MIAR MIAR	Mount Ida comp=Z,32nm,0.9s	85.60	45	*e*P pmax		P pmax	21 47 03.8	+0.1
MIAR	Mount Ida baz=321,SNR=18	85.60	45	P		P	21 47 03.8	+0.1
Q47A	Bedord North L baz=325,SNR=9.5	85.60	38	P		P	21 47 03.9	+0.2
S45A	Carrier Mills baz=324	85.62	40	P		P	21 47 03.8	+0.1
P48A	Milroy baz=325	85.62	37	P		P	21 47 03.2	-0.6
ERPA	Erie baz=328	85.67	32	P		P	21 47 03.5	-0.5
R46A	Gibon Southern baz=324	85.69	39	P		P	21 47 04.2	0.0
N51A	Ashland baz=327	85.72	34	P		P	21 47 03.9	-0.4
V42A	Cord baz=322,SNR=5.3	85.73	43	P		P	21 47 03.8	-0.6
U43A	Rector baz=323,SNR=6.0	85.78	42	P		P	21 47 04.5	0.0
W41B	Gary Mavity, V baz=322,SNR=10	85.79	44	P		P	21 47 04.4	-0.2
O50A	Cable baz=326,SNR=6.0	85.84	36	P		P	21 47 04.7	-0.2
URZ	Urewera comp=Z,143nm,20.1s,baz=4.0,slow=31	85.86	156	LR		LR	22 18 57.6	
P49A	Miami Univ. Ec baz=326,SNR=5.3	85.87	37	P		P	21 47 04.6	-0.5
K55A	Perry baz=330	85.89	31	P		P	21 47 04.5	-0.6
Q48A	North Vernon baz=325	85.92	38	P		P	21 47 04.0	-1.2
TIP	Timpagrande	85.97	323	⇓*i*P		P	21 47 05.5	-0.1
M53A	WI Miller and baz=328	85.98	33	P		P	21 47 04.9	-0.6
S46A	Don Dixon Farm baz=324	86.02	40	P		P	21 47 05.4	-0.4
X40A	Basin Creek Fa baz=321,SNR=6.0	86.03	45	P		P	21 47 05.9	0.0
ACSO	Alum Creek Sta baz=327	86.04	35	P		P	21 47 05.2	-0.6
R47A	Wooly Knot Far baz=325	86.08	39	P		P	21 47 06.2	+0.1
W42A	Bald Knob baz=322	86.08	44	P		P	21 47 06.1	0.0
N52A	McGinn's Farm, baz=327	86.09	34	P		P	21 47 04.9	-1.2
V43A	Jonesboro baz=322	86.17	43	P		P	21 47 06.7	+0.2
P50A	Jamestown baz=326	86.21	36	P		P	21 47 06.4	-0.2
Q49A	Aurora baz=326	86.23	37	P		P	21 47 07.0	+0.2
WCI	Wyandotte Cave baz=325	86.24	39	P		P	21 47 06.7	-0.1
R48A	Northridge Ran baz=325	86.29	38	P		P	21 47 07.1	0.0
435B	Jarrell baz=319	86.29	50	P		P	21 47 07.7	+0.4
U44B	Burton Farm, H baz=323	86.32	42	P		P	21 47 07.4	+0.2
M54A	Oil Creek Stat baz=329	86.32	32	P		P	21 47 06.6	-0.7
N53A	Lisbon baz=328	86.45	34	P		P	21 47 07.5	-0.3
T46A	Princeton baz=324,SNR=9.9	86.45	40	P		P	21 47 08.3	+0.4
S47A	Hartford baz=324	86.48	39	P		P	21 47 08.0	-0.1
U45A	Rockin P Farm, baz=324	86.59	41	P		P	21 47 08.5	-0.2
O52A	Adamsville baz=327	86.62	35	P		P	21 47 08.5	-0.2
P51A	Williamsport baz=327	86.63	36	P		P	21 47 08.3	-0.5
N54A	Moraine State baz=328,SNR=5.4	86.66	33	P		P	21 47 09.2	+0.4
O53A	New Philadelph baz=328	86.76	34	P		P	21 47 09.3	0.0
Q50A	Georgetown baz=326	86.77	37	P		P	21 47 09.3	-0.1
S48A	Wiedeman Farm, baz=325,SNR=6.6	86.81	39	P		P	21 47 09.5	-0.1
T47A	Sharon Grove baz=324	86.87	40	P		P	21 47 09.5	-0.4
Q51A	Peebles baz=326,SNR=9.5	86.89	36	P		P	21 47 10.1	+0.1
P52A	Corning baz=327	86.90	35	P		P	21 47 09.6	-0.5
V45A	Humboldt baz=323	86.99	42	P		P	21 47 10.3	-0.3
Z41A	Richland Creek baz=321	87.00	46	P		P	21 47 10.9	+0.3
X43A	Marvell baz=322	87.00	44	P		P	21 47 10.7	+0.1
S49A	Springfield baz=325,SNR=6.9	87.06	38	P		P	21 47 10.9	+0.1
R50A	Paris baz=326,SNR=5.6	87.08	37	P		P	21 47 11.0	+0.1
Y42A	Garnett, Star baz=322	87.08	45	P		P	21 47 11.6	+0.6
BINY	Binghamton baz=331	87.11	30	P		P	21 47 10.9	-0.1
O54A	Avella baz=328	87.16	34	P		P	21 47 11.5	+0.2
NATX	Nacogdoches	87.17	48	*e*P		P	21 47 12.4	+0.9
NATX	Nacogdoches baz=320	87.17	48	P		P	21 47 11.6	+0.2
N55A	Marion Center baz=329,SNR=6.0	87.21	32	P		P	21 47 11.5	0.0
WVT	Waverly baz=324	87.22	41	P		P	21 47 11.8	+0.2
U47A	Clarksville baz=324,SNR=5.8	87.22	40	P		P	21 47 11.7	+0.1
P53A	Whipple baz=328	87.33	35	P		P	21 47 12.0	-0.1
V46A	Holladay baz=324,SNR=8.4	87.35	41	P		P	21 47 12.0	-0.3
R51A	Hillsboro baz=326,SNR=5.6	87.39	37	P		P	21 47 12.4	0.0
Q52A	Bidwell baz=327	87.41	35	P		P	21 47 12.4	-0.1
Y43A	Makayla and Ka baz=322	87.46	44	P		P	21 47 12.9	+0.1
T49A	Edmonton baz=325,SNR=8.7	87.50	39	P		P	21 47 13.0	0.0
U48A	Cassie Pea, Po baz=325,SNR=5.8	87.52	40	P		P	21 47 13.2	+0.1
S50A	Richmond baz=326,SNR=6.4	87.54	38	P		P	21 47 13.4	+0.2
O55A	Ligonier baz=329,SNR=6.4	87.57	33	P		P	21 47 13.3	0.0
V47A	Nunnelly baz=324,SNR=11	87.61	41	P		P	21 47 13.5	-0.1
OXF	Oxford comp=Z,45nm,1.0s	87.75	43	*e*P		P	21 47 14.2	0.0
OXF OXF	Oxford comp=Z,45nm,1.0s	87.75	43	*e*P pmax		P pmax	21 47 14.2	0.0
OXF	Oxford baz=323	87.75	43	P		P	21 47 14.1	-0.1
SSPA	Standing Stone baz=330	87.76	32	P		P	21 47 14.3	+0.2
R52A	Catlettsburg baz=327	87.77	36	P		P	21 47 14.0	-0.2
Y44A	Strider, Charl baz=323,SNR=5.1	87.78	44	P		P	21 47 14.7	+0.3
O56A	Blue Knob Stat baz=329,SNR=9.1	87.81	32	P		P	21 47 14.7	+0.2
MCWV	Mont Chateau baz=329	87.82	34	P		P	21 47 15.0	+0.5
X45A	UM Field Stati baz=323	87.82	43	P		P	21 47 14.3	-0.2
U49A	Red Boiling Sp baz=325,SNR=13	87.87	39	P		P	21 47 14.9	+0.1
T50A	Nancy baz=326,SNR=19	87.89	38	P		P	21 47 15.1	+0.2
S51A	Beattyville baz=326	87.93	37	P		P	21 47 15.3	+0.2
P55A	Reedsville baz=329,SNR=10	87.96	34	P		P	21 47 15.6	+0.5
V48A	Smith Brothers baz=325,SNR=8.5	88.01	40	P		P	21 47 15.4	-0.1
W47A	Westpoint baz=324,SNR=5.2	88.04	41	P		P	21 47 15.5	-0.1
R53A	Hurricane baz=327	88.07	36	P		P	21 47 16.3	+0.7
X46A	Booneville baz=324	88.12	42	P		P	21 47 15.5	-0.5
S52A	Salyersville baz=327,SNR=5.5	88.13	37	P		P	21 47 16.1	+0.1
Y45A	Yeager Farm, C baz=323,SNR=5.9	88.19	43	P		P	21 47 16.5	+0.2
Q55A	Buckhannon baz=328	88.29	34	P		P	21 47 16.9	+0.1
N59A	State Game Lan baz=331	88.31	30	P		P	21 47 17.1	+0.3
T51A	Gray baz=326	88.33	38	P		P	21 47 16.9	-0.1
U50A	Jamestown baz=326,SNR=7.9	88.38	39	P		P	21 47 17.4	+0.2
V49A	McMinnville baz=325,SNR=6.6	88.42	40	P		P	21 47 17.4	0.0
W48A	Pulaski baz=324,SNR=16	88.45	41	P		P	21 47 17.6	0.0
X47A	Russelville baz=324	88.50	42	P		P	21 47 17.8	0.0
Z45A	Winona baz=323	88.51	44	P		P	21 47 18.2	+0.3
Y46A	Houston baz=324,SNR=7.6	88.52	43	P		P	21 47 17.8	0.0
R54A	Victor baz=328	88.60	35	P		P	21 47 18.1	-0.2
T52A	Hallie baz=327	88.64	37	P		P	21 47 18.3	-0.2
W49A	Belvidere baz=325,SNR=10	88.78	40	P		P	21 47 19.0	-0.1
U51A	La Follette baz=326	88.79	38	P		P	21 47 18.9	-0.3
TZTN	Tazewell baz=326	88.86	38	P		P	21 47 19.7	+0.2
V50A	Pikeville baz=326	88.88	39	P		P	21 47 19.3	-0.2
PAL	Palisades baz=332	88.91	29	P		P	21 47 19.2	-0.3
TBI	Tubuai comp=Z,484nm,35.2s,baz=324	88.93	124	*e*LR		LR	22 14 54.8	
TBI	Tubuai comp=Z,24nm,0.2s	88.93	124	*e*T		T	23 25 45.9	
X48A	Hartselle baz=324	88.95	41	P		P	21 47 19.4	-0.5
145A	Houston Renfro baz=323	89.00	44	P		P	21 47 20.6	+0.5
U52A	Thorn Hill baz=326,SNR=10	89.07	38	P		P	21 47 20.6	+0.2
V51A	Loudon baz=326,SNR=5.3	89.11	39	P		P	21 47 20.4	-0.2
W50A	Signal Mountai baz=325,SNR=5.2	89.16	40	P		P	21 47 20.9	0.0
X49A	Woodville baz=325,SNR=5.6	89.25	41	P		P	21 47 21.1	-0.2
Y48A	Jasper baz=324,SNR=5.2	89.33	42	P		P	21 47 21.0	-0.6
146A	Union baz=323	89.42	44	P		P	21 47 22.4	+0.3
V52A	Sevierville baz=326,SNR=6.0	89.42	38	P		P	21 47 22.3	+0.2
U53A	Fall Branch baz=327,SNR=6.9	89.44	37	P		P	21 47 22.2	-0.1
W51A	Cleveland baz=326	89.45	39	P		P	21 47 21.6	-0.7
Z47A	Carrollton baz=324	89.46	43	P		P	21 47 22.3	0.0
TKL	Tuckaleechee C comp=Z,20nm,21.2s,baz=332,slow=36	89.49	38	LR		LR	22 28 40.4	
Z48A	Northport baz=324	89.57	42	P		P	21 47 22.1	-0.7
X50B	Fort Payne baz=325	89.61	40	P		P	21 47 22.9	-0.1
BLA	Blacksburg baz=328	89.66	35	P		P	21 47 23.3	0.0
Y49A	Blount Mountai baz=325	89.74	41	P		P	21 47 23.8	+0.1
147A	Livingston baz=324	89.78	43	P		P	21 47 24.2	+0.4
W52A	Murphy baz=326	89.89	39	P		P	21 47 24.3	0.0
X51A	Calhoun baz=326	89.90	40	P		P	21 47 24.5	+0.1
V53A	Saluda baz=327	89.92	38	P		P	21 47 24.9	+0.4

Y50A	**Piedmont** baz=325	**90.04**	**41**	P	**P**	**21 47 24.7**	**-0.3**
R58B	**Mineral** baz=330	**90.06**	**33**	P	**P**	**21 47 24.8**	**-0.3**
LRAL	**Lakeview Retre** baz=324	**90.12**	**42**	P	**P**	**21 47 25.1**	**-0.3**
148A	**Greensboro** baz=324	**90.15**	**43**	P	**P**	**21 47 25.3**	**-0.2**
W53A	**Cullowhee** baz=327,SNR=6.6	**90.18**	**38**	P	**P**	**21 47 26.1**	**+0.3**
Z49A	**Columbiana** baz=325	**90.22**	**42**	P	**P**	**21 47 25.4**	**-0.5**
X52A	**Dahlonega** baz=326	**90.31**	**39**	P	**P**	**21 47 26.8**	**+0.5**
Y51A	**Rockmart** baz=326,SNR=8.1	**90.35**	**40**	P	**P**	**21 47 26.2**	**-0.2**
Z50A	**Ashland** baz=325,SNR=12	**90.47**	**41**	P	**P**	**21 47 26.9**	**-0.1**
X53A	**Estanollee** baz=327,SNR=8.9	**90.67**	**39**	P	**P**	**21 47 28.1**	**+0.2**
Z51A	**Franklin** baz=326	**90.77**	**41**	P	**P**	**21 47 27.8**	**-0.7**
Y52A	**Lilburn** baz=326	**90.85**	**40**	P	**P**	**21 47 28.9**	**+0.1**
249A	**Camden** baz=324	**90.92**	**43**	P	**P**	**21 47 29.2**	**+0.1**
150A	**Eclectic** baz=325	**90.95**	**42**	P	**P**	**21 47 29.4**	**+0.2**
KMSC	**Kings Mountain** baz=328	**91.02**	**37**	P	**P**	**21 47 29.5**	**0.0**
Y53A	**Monroe** baz=326	**91.08**	**39**	P	**P**	**21 47 30.2**	**+0.3**
Z52A	**Williamson** baz=326	**91.24**	**40**	P	**P**	**21 47 30.8**	**+0.2**
ATD	**Arta Tunnel** comp=Z,13nm,0.9s,baz=246,slow=6.7,SNR=4.2	**91.46**	**287**	P	**P**	**21 47 31.7**	**-0.3**
Y54A	**Tignall** baz=327,SNR=8.8	**91.48**	**39**	P	**P**	**21 47 32.0**	**+0.3**
152A	**Waverly Hall** baz=326	**91.52**	**41**	P	**P**	**21 47 31.8**	**-0.1**
Z53A	**Monticello** baz=326	**91.56**	**39**	P	**P**	**21 47 31.9**	**-0.2**
KEST	**Kesra** comp=Z,12nm,0.8s,baz=355,slow=5.0,SNR=8.2	**92.04**	**326**	P	**P**	**21 47 34.1**	**-0.3**
351A	**Pinckard** baz=325	**92.24**	**42**	P	**P**	**21 47 35.5**	**+0.3**
155A	**Kite** baz=327	**92.62**	**39**	P	**P**	**21 47 37.4**	**+0.5**
ESDC	**Sonseca Array** comp=Z,6.7nm,0.7s,baz=21,slow=4.0,SNR=27	**93.15**	**337**	P	**P**	**21 47 39.1**	**-0.3**
RKT	**Rikitea** comp=Z,546nm,25.8s	**98.05**	**114**	*e*LR	LR	22 19 43.0	
060Z	**West Palm Beac** baz=328	**98.73**	**41**	P	**P**	**21 48 04.7**	**-0.1**
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,0.7s,baz=33,slow=2.2,SNR=5.7	**115.07**	**321**	PKP	**PKiKP**	**21 53 05.3**	**-1.2**
TORD				PP	**PP**	**21 53 59.2**	**-6.6**
	comp=Z,2.6nm,0.9s,baz=17,slow=9.0,SNR=4.3						
TORD				PKKP	**PKKPdf**	**22 04 01.4**	**-2.0**
	comp=Z,0.7nm,0.7s,baz=188,slow=1.7,SNR=4.2						
LSZ	**Lusaka** comp=Z,2.0nm,0.8s,baz=82,slow=1.4,SNR=4.9	**120.39**	**278**	PKP	**PKPdf**	**21 53 16.3**	**-0.5**
VNDA	**Vanda** comp=Z,1.4nm,0.6s,baz=338,slow=2.2,SNR=9.1	**120.79**	**176**	PKP	**PKPdf**	**21 53 15.1**	**-0.5**
OTAV	**Otavalo**	**121.43**	**55**	*e*P	**PKiKP**	**21 53 20.3**	**+0.8**
MATP	**Matopo** comp=Z,3.9nm,0.9s,baz=241,slow=1.2,SNR=6.7	**123.45**	**273**	PKP	**PKPdf**	**21 53 22.3**	**-0.3**
MATP				PP	**PP**	**21 55 01.6**	**-3.2**
	comp=Z,3.0nm,0.8s,baz=30,slow=6.4,SNR=5.3						
DBIC	**Dimbokro** comp=Z,7.3nm,0.9s,baz=170,slow=4.2,SNR=4.9	**123.73**	**324**	PKP	**PKPdf**	**21 53 21.2**	**-1.9**
DBIC				PP	**PP**	**21 55 01.8**	**-3.6**
	comp=Z,10.0nm,0.9s,baz=357,slow=10,SNR=5.3						
DBIC	**Dimbokro**	**123.73**	**324**	*e*P	**PKiKP**	**21 53 25.0**	**+1.6**
SYO	**Syowa Base**	**135.16**	**209**	*e*PP	PP	21 56 21.0	+0.9
LPAZ	**La Paz** comp=Z,3.9nm,1.0s,baz=12,slow=5.9,SNR=4.6	**140.64**	**58**	PKP	**PKPdf**	**21 53 56.2**	**+0.6**
LPAZ	**La Paz** comp=Z,3.0nm,0.8s	**140.64**	**58**	PKIKP pmax	**PKPdf** pmax	**21 53 56.2**	**+0.6**
PB06	**IPOC Station P**	**144.35**	**67**	*e*P	PKPbc	21 54 00.4	+0.4
LVC	**Limon Verde**	**144.73**	**66**	*e*PKPdf	**PKPdf**	**21 54 02.2**	**-0.1**
LVC	**Limon Verde**	**144.73**	**66**	*e*P	**PKPdf**	**21 54 03.9**	**+1.5**
LVC	**Limon Verde**	**144.73**	**66**	*e*PKIKP	**PKPdf**	**21 54 02.3**	**-0.1**
LVC	**Limon Verde**	**144.73**	**66**	*e*P	**PKPdf**	**21 54 02.3**	**-0.1**
YJA	**Yavi**	**146.65**	**61**	*e*P	**PKPbc**	**21 54 06.8**	**-0.6**
GO03	**Copiap**	**147.06**	**74**	*e*P	**PKPbc**	**21 54 08.6**	**+0.6**
HJA	**Humahuaca**	**147.45**	**62**	*e*P	**PKPbc**	**21 54 08.9**	**-0.7**
SNAA	**Sanae**	**147.57**	**198**	PKP	**PKPbc**	**21 54 08.0**	**0.0**
LCO	**Las Campanas**	**147.58**	**76**	*e*PKPbc	**PKPbc**	**21 54 09.6**	**0.0**
LCO	**Las Campanas**	**147.58**	**76**	*e*PKP2	**PKPbc**	**21 54 09.6**	**0.0**
LCO	**Las Campanas**	**147.58**	**76**	*e*P	**PKPdf**	**21 54 07.7**	**+0.9**
GO04	**Tololo Observa**	**148.17**	**78**	*e*P	**PKPbc**	**21 54 10.2**	**-0.9**
AZAP	**Zapla**	**148.39**	**63**	*e*P	**PKPbc**	**21 54 10.7**	**-1.2**
SLA	**San Lorenzo**	**148.44**	**65**	*e*P	**PKPbc**	**21 54 11.1**	**-0.8**
ALOL	**LOMAS DE OLMED**	**148.81**	**61**	*e*P	**PKiKP**	**21 54 13.6**	**-0.4**
AROD	**Rodeo**	**149.11**	**77**	*e*P	**PKPbc**	**21 54 12.3**	**-1.3**
VNA3	**Neumayer Olymp**	**149.32**	**195**	PKP	**PKPbc**	**21 54 12.8**	**+0.2**
VNA1	**Neumayer--Stat**	**149.51**	**197**	PKP	**PKPbc**	**21 54 13.4**	**+0.5**
ACCO	**Cerro Coronel**	**149.64**	**77**	*e*P	**PKiKP**	**21 54 15.6**	**-0.4**
PEL	**Peldehue**	**149.82**	**83**	*e*P	**PKPdf**	**21 54 12.1**	**+2.0**
RTLS	**Leoncito**	**150.14**	**80**	*e*P	**PKiKP**	**21 54 16.8**	**-0.1**
BDFB	**Brasilia** comp=Z,18nm,0.9s,baz=45,slow=1.0,SNR=18	**150.16**	**28**	PKPbc SKPbc	**PKPbc**	**21 54 16.5**	**+0.2**
BDFB						21 57 49.0	
	comp=Z,6.0nm,1.0s,baz=16,slow=5.3,SNR=3.5						
ZON	**Zonda**	**150.44**	**78**	*e*P	**PKPbc**	**21 54 14.1**	**-2.4**
ACLC	**CERRO LA CRUZ**	**150.47**	**73**	*e*P	**PKPbc**	**21 54 14.7**	**-2.1**
CYA	**Choya**	**150.67**	**70**	*e*P	**PKiKP**	**21 54 17.5**	**-0.3**
JANB	**Januaria**	**150.71**	**20**	*e*P	**PKPdf**	**21 54 13.4**	**+1.4**
CFA	**Coronel Fontan**	**150.79**	**78**	*e*P	**PKPbc**	**21 54 17.2**	**-0.1**
ASAL	**Salagasta**	**150.88**	**80**	*e*P	**PKiKP**	**21 54 17.9**	**-0.2**
AAGR	**Agrelo**	**151.14**	**81**	*e*P	**PKPdf**	**21 54 14.3**	**+2.0**
APLL	**PUNTA DE LOS L**	**151.33**	**74**	*e*P	**PKPbc**	**21 54 18.5**	**-0.2**
MCI6	**Montes Claros**	**152.49**	**20**	*e*P	**PKPdf**	**21 54 16.1**	**+1.4**
PMSA	**Palmer Station**	**152.58**	**152**	*e*P	**PKPdf**	**21 54 16.2**	**+3.0**
ITRB	**Iturama**	**152.79**	**35**	*e*P	**PKPdf**	**21 54 17.0**	**+1.8**
PLCA	**Paso Flores** comp=Z,3.8nm,0.8s,baz=268,slow=3.3,SNR=8.3	**152.98**	**97**	PKPbc	**PKPbc**	**21 54 22.0**	**0.0**
PLCA	**Paso Flores**	**152.98**	**97**	*e*P	**PKPab**	**21 54 33.5**	**-0.2**
MRA	**San Martin**	**153.03**	**77**	*e*P	**PKPbc**	**21 54 22.1**	**-0.3**
TCA	**Tanti**	**153.23**	**74**	*e*P	**PKiKP**	**21 54 23.8**	**+0.7**
TRCB	**Terra Rica**	**154.60**	**43**	*e*P	**PKPab**	**21 54 48.0**	**+7.1**
CPUP	**Villa Florida** comp=Z,1.0nm,0.6s,baz=325,slow=7.7,SNR=3.3	**154.78**	**56**	PKPbc	**PKPbc**	**21 54 25.7**	**-0.5**
CPUP				PKPab	**PKPab**	**21 54 39.5**	**-2.0**
	comp=Z,4.7nm,0.9s,baz=325,slow=2.0,SNR=7.7						
CPUP	**Villa Florida**	**154.78**	**56**	*e*P	**PKPab**	**21 54 41.8**	**+0.3**
SJMB	**Sao Joao De Ma**	**154.94**	**16**	*e*P	**PKPdf**	**21 54 20.3**	**+2.3**
RIB01	**Linhares ES**	**155.68**	**14**	*e*P	**PKPdf**	**21 54 21.1**	**+2.0**
BSCB	**Bom Sucesso**	**156.22**	**25**	*e*P	**PKPdf**	**21 54 21.6**	**+1.9**
PTGB	**Pitanga**	**156.48**	**44**	*e*P	**PKPab**	**21 54 49.4**	**+0.5**
PTGB	**Pitanga**	**156.48**	**44**	*e*P	**PKPdf**	**21 54 22.6**	**+2.6**
FRTB	**Fartura**	**156.52**	**38**	*e*P	**PKPdf**	**21 54 22.0**	**+2.0**
RCLB	**Rio Claro- Sao**	**156.55**	**32**	*e*P	**PKPdf**	**21 54 22.8**	**+2.6**
ALF01	**Guarapari-ES**	**156.89**	**16**	*e*P	**PKPdf**	**21 54 23.6**	**+3.1**
VAS01	**Vassouras-RJ**	**157.82**	**23**	*e*P	**PKPdf**	**21 54 24.9**	**+3.2**
CPSB	**Cacapava Do Su**	**160.08**	**57**	*e*P	**PKPdf**	**21 54 26.3**	**+2.2**
TER01	**Tubaro-SC**	**161.10**	**44**	*e*P	PKPab	21 54 57.5	-11

*SKO **23** 21:43:39.2, 40.96N×21.05E, h21km, ML2.0*
*TIR **23** 21:43:39.3, 40.98N×21.19E, h7km, Md3.5/5*
*ATH **23** 21:43:40.3, 40.96N×21.11E, h19km±1km, ML2.1/5, Error ellipse: s-maj=2.9km s-min=1.1km az=135.0*

ISC 23 21:43:40.7±1.0, 40.95N±0.02×21.08E±0.02, h8km±9km, n32, σ1§17/49, 3C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BIA	**Bitola**	**0.19**	**70**	⇑*i*	Pg	**Pg**	**21 43 45.2**	**+0.6**
BIA				*i*	Sg	**Sg**	**21 43 48.9**	**+1.5**
BIA				*e*	Lg	Lg	21 43 49.0	
	comp=N,453nm,0.2s							
KRUS	**Krusevo**	**0.43**	**17**	⇑*i*	Pg	**Pg**	**21 43 48.6**	**-0.6**
KRUS				*i*	Sg	**Sg**	**21 43 55.0**	**+0.1**
KRUS				*e*	Lg	Lg	21 43 55.9	
	comp=N,97nm,0.2s							
NEST	**Nestorio**	**0.54**	**183**	P		**Pg**	**21 43 51.0**	**-0.2**
NEST				S		**Sg**	**21 43 58.4**	**+0.1**
NEST				AML		AML	21 44 01.1	
	comp=E,452μm,0.3s							
NEST				AML		AML	21 44 03.0	
	comp=N,407μm,0.2s							
PENT	**Pentalofos**	**0.76**	**177**	P		**Pg**	**21 43 55.5**	**+0.2**
KZN	**Kozani**	**0.83**	**141**	P		**Pg**	**21 43 56.2**	**-0.5**
KZN				S		**Sg**	**21 44 07.6**	**0.0**
KZN				AML		AML	21 44 13.1	
	comp=N,500μm,0.4s							
KZN				AML		AML	21 44 13.1	
	comp=E,348μm,0.4s							
PHP	**Peshkopia**	**0.88**	**327**	*i*	PG	**Pg**	**21 43 56.1**	**-1.4**
PHP				*i*	SG	**Sb**	**21 44 09.9**	**-0.3**
GRG	**Griva**	**1.00**	**89**	P		**Pb**	**21 43 58.9**	**-1.4**
GRG				S		**Sg**	**21 44 12.3**	**-0.6**
GRG				AML		AML	21 44 17.1	
	comp=N,170μm,0.3s							
GRG				AML		AML	21 44 18.0	
	comp=E,238μm,0.5s							
GRG	**Griva**	**1.00**	**89**	⇑*i*	Pg	**Pb**	**21 43 58.9**	**-1.4**
GRG				*i*	Sg	**Sb**	**21 44 13.2**	**-0.4**
TIR	**Tirane**	**1.00**	**294**	*e*	Pg	**Pb**	**21 43 58.6**	**-1.7**
TIR	**Tirane**	**1.00**	**294**	*i*	PG	**Pn**	**21 44 00.9**	**-0.2**
TIR				*i*	SG	**Sn**	**21 44 16.6**	**+1.2**
KPRO	**Kipourio**	**1.02**	**168**	P		**Pb**	**21 43 60.0**	**-0.7**
KPRO				AML		AML	21 44 22.4	
	comp=N,198μm,0.4s							
KPRO				AML		AML	21 44 22.5	
	comp=E,204μm,0.4s							
SKO	**Skopje**	**1.05**	**15**	*i*	Pg	**Pb**	**21 43 59.7**	**-1.5**
SKO				*i*	Sg	**Sg**	**21 44 14.8**	**+0.2**
SKO				*e*	Lg	Lg	21 44 16.3	
	comp=E,5.2nm,0.6s							
STIP	**Stip**	**1.11**	**48**	⇓*i*	Pg	**Pg**	**21 44 04.2**	**+2.1**
STIP				*i*	Sg	**Sn**	**21 44 22.5**	**+4.3**
STIP				*e*	Lg	Lg	21 44 24.6	
	comp=E,13nm,0.3s							
VAY	**Valandovo**	**1.18**	**71**	*i*	Pg	**Pb**	**21 44 02.2**	**-1.2**
VAY				*i*	Sg	**Sn**	**21 44 19.0**	**-0.9**
VAY				*e*	Lg	Lg	21 44 25.0	
	comp=E,38nm,0.9s							
LIT	**Litokhoron**	**1.37**	**128**	P		**Pb**	**21 44 06.1**	**-0.5**
LIT				AML		AML	21 44 32.0	
	comp=E,152μm,0.6s							
LIT				AML		AML	21 44 33.9	
	comp=N,141μm,0.5s							
LIT	**Litokhoron**	**1.37**	**128**	*i*	Pg	**Pn**	**21 44 05.2**	**-1.0**
KNT	**Kendrikon**	**1.39**	**81**	P		**Pn**	**21 44 05.9**	**-0.5**
KNT	**Kendrikon**	**1.39**	**81**	*i*	Pg	**Pn**	**21 44 05.9**	**-0.5**
KNT				*i*	Sg	**Sg**	**21 44 25.9**	**+0.5**
PUK	**Puka**	**1.41**	**321**	*i*	PN	**Pb**	**21 44 07.1**	**-0.2**
PUK				*i*	SN	**Sg**	**21 44 27.1**	**+1.2**
IGT	**Igoumenitsa**	**1.53**	**202**	P		**Pb**	**21 44 09.0**	**-0.4**
IGT				S		**Sg**	**21 44 29.5**	**-0.4**
IGT	**Igoumenitsa**	**1.53**	**202**	*i*	PN	**Pg**	**21 44 10.3**	**+0.2**
IGT				*i*	SN	**Sg**	**21 44 32.3**	**+2.4**
THL	**Klokotos Trika**	**1.56**	**153**	P		**Pb**	**21 44 08.9**	**-0.9**
THL				S		**Sg**	**21 44 30.3**	**-0.5**
HORT	**Hortiatis**	**1.57**	**102**	P		**Pn**	**21 44 08.7**	**-0.4**
BCI	**Bajram Curri**	**1.60**	**332**	*i*	PN	**Pg**	**21 44 11.2**	**-0.3**
BCI				*i*	SN	**Sg**	**21 44 33.9**	**+1.6**
SOH	**Sokhos**	**1.73**	**94**	P		**Pn**	**21 44 11.3**	**+0.1**
SOH	**Sokhos**	**1.73**	**94**	*i*	Pn	**Pn**	**21 44 11.3**	**+0.1**
KKB	**Krupnik**	**1.76**	**58**	*i*	Pn	**Pb**	**21 44 11.8**	**-1.5**
PLG	**Polygyros**	**1.89**	**107**	P		**Pn**	**21 44 13.3**	**-0.1**
SRS	**Serrai**	**1.91**	**84**	P		**Pn**	**21 44 13.0**	**-0.5**
SRS	**Serrai**	**1.91**	**84**	*i*	Pn	**Pn**	**21 44 13.1**	**-0.5**
MMB	**Musomiste**	**2.09**	**71**	*i*	Pn	**Pb**	**21 44 17.5**	**-1.4**
AGG	**Agios Georgios**	**2.15**	**153**	P		**Pn**	**21 44 17.7**	**+0.7**

IDC 23 21:48:06.6±7.7, 19.18S×170.75W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.7/47, mbtmp3.9/4, Error ellipse: s-maj=326.1km s-min=35.1km az=143.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower** 7.4nm,0.9s,baz=79,slow=10,SNR=2.8	**40.42**	**261**	P		P	21 55 47.9	+0.9
ASAR	**Alice Springs** 0.4nm,0.4s,baz=96,slow=7.9,SNR=8.4	**51.45**	**255**	P		P	21 57 14.4	+0.3
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=96,slow=8.1,SNR=11	**51.55**	**259**	P		P	21 57 13.3	-1.4
ILAR	**Eielson Array** 1.6nm,1.3s,baz=213,slow=6.5,SNR=3.4	**85.68**	**10**	P		P	22 00 46.8	0.0

IDC 23 21:50:19.0±6.3, 18.44S×172.53W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.8/47, mbtmp4.2/4, Error ellipse: s-maj=265.8km s-min=34.2km az=143.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower** 7.5nm,0.8s,baz=101,slow=10,SNR=3.5	**38.88**	**261**	P		P	21 57 46.5	+0.1
ASAR	**Alice Springs** 2.6nm,0.5s,baz=2,slow=8.2,SNR=43	**50.03**	**254**	P		P	21 59 15.5	-0.2
WRA	**Warramunga Arr** 1.0nm,0.3s,baz=95,slow=8.1,SNR=78	**50.03**	**259**	P		P	21 59 15.6	-0.1
ILAR	**Eielson Array** 0.2nm,0.7s,baz=193,slow=3.7,SNR=2.7	**85.26**	**11**	P		P	22 02 57.1	0.0

*ISCJB **23** 22:05:29.1±1.6, 50.16N±0.05×175.80W±0.07, h32km±15km, mb3.5/5, Error ellipse: s-maj=9.1km s-min=7.5km az=9.0*
*IDC **23** 22:05:29.3±7.5, 50.70N×175.87W, h0km, mb3.3/5, mb1 3.7/7, mb1mx3.5/61, mbtmp3.6/7, ML3.4/2, Error ellipse: s-maj=189.8km s-min=24.7km az=167.0*
*NEIC **23** 22:05:30.4±0.0, 50.26N×175.86W, h34km, ML3.1(AEIC), After AEIC.*

ISC 23 22:05:30.1±2.0, 50.3N±0.1×175.95W±0.06, h19km±10km, n29, σ0§83/36, mb3.5/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ETKA	**Kagalaska Isla**	**1.59**	**350**	P		**Pn**	**22 05 57.1**	**-0.1**
ETKA				S		**Sb**	**22 06 18.2**	**-0.2**
ADK	**Adak**	**1.65**	**344**	*e*	Pn	**Pn**	**22 05 57.9**	**-0.1**
ADK				*e*	S	**Sb**	**22 06 19.8**	**-0.5**
KIMD	**Kanaga Island**	**1.67**	**331**	P		**Pn**	**22 05 58.8**	**+0.5**
GSIG	**Igitkin Island**	**1.69**	**0**	P		**Pn**	**22 05 58.6**	**+0.1**
GSIG				S		**Sb**	**22 06 21.5**	**+0.2**
KIWB	**Kanaga Island**	**1.73**	**334**	P		**Pn**	**22 05 59.7**	**+0.6**
ADAG	**Mount Adagdak**	**1.73**	**346**	P		**Pn**	**22 05 59.8**	**+0.6**
GSMY	**Great Sitkin M**	**1.74**	**358**	P		**Pn**	**22 05 59.8**	**+0.5**
KIRH	**Kanaga Island**	**1.75**	**336**	P		**Pn**	**22 06 00.5**	**+1.0**
KIKV	**Kanaga Island**	**1.76**	**334**	P		**Pn**	**22 06 00.2**	**+0.7**
GSTD	**Great Sitkin T**	**1.76**	**356**	P		**Pn**	**22 06 00.2**	**+0.6**
GSTD				S		**Sb**	**22 06 23.8**	**+0.3**
GSTR	**Great Sitkin T**	**1.79**	**358**	P		**Pn**	**22 06 00.9**	**+0.9**
GSSP	**Great Sitkin S**	**1.80**	**356**	P		**Pn**	**22 06 00.5**	**+0.4**
GSSP				S		**Sb**	**22 06 25.3**	**+0.8**
TASE	**Tanaga Southea**	**2.02**	**320**	P		**Pn**	**22 06 04.2**	**+1.0**
TAFP	**Tanaga Falls P**	**2.05**	**322**	P		**Pn**	**22 06 04.7**	**+1.2**
TAFP				S		**Sb**	**22 06 30.8**	**-1.0**
ATKA	**Atka Island**	**2.20**	**29**	P		**Pn**	**22 06 05.3**	**-0.2**
ATKA				S		**Sn**	**22 06 32.1**	**-0.1**
KOFP	**Korovin Flat P**	**2.29**	**30**	P		**Pn**	**22 06 07.0**	**+0.1**
GALAA	**Gareloi Lava P**	**2.30**	**310**	P		**Pn**	**22 06 08.3**	**+1.2**
GAEA	**Gareloi East**	**2.31**	**311**	P		**Pn**	**22 06 08.2**	**+1.1**
AMKA	**Amchitka**	**3.20**	**291**	P		**Pn**	**22 06 18.8**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**5.79**	**55**	P		**Pn**	**22 06 56.4**	**+1.5**
MSW	**Makushin Switc**	**6.70**	**54**	P		**Pn**	**22 07 08.0**	**+0.5**
UNV	**Unalaska Valle**	**6.82**	**55**	P		**Pn**	**22 07 09.6**	**+0.7**
KDAK	**Kodiak Island** 0.4nm,0.3s,baz=277,slow=17,SNR=2.6	**15.57**	**52**	Pn		**Pn**	**22 09 06.8**	**-1.5**
PETK	**Petropavlovsk-** 0.3nm,0.3s,baz=89,slow=16,SNR=6.0	**16.54**	**290**	Pn		**P**	**22 09 22.9**	**-0.4**
ILAR	**Eielson Array** 0.5nm,0.6s,baz=232,slow=8.9,SNR=7.1	**21.01**	**35**	P		**P**	**22 10 10.1**	**-2.0**
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=276,slow=8.5,SNR=3.9	**34.67**	**46**	P		**P**	**22 12 18.4**	**+0.3**
SONM	**Songino Array** 0.2nm,0.4s,baz=74,slow=6.2,SNR=5.6	**48.75**	**299**	P		**P**	**22 14 13.9**	**+0.5**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=47,slow=8.5,SNR=2.8	**62.11**	**310**	P		**P**	**22 15 49.8**	**+0.3**
FINES	**FINESS Array B** 1.4nm,0.8s,baz=15,slow=5.8,SNR=1.8	**67.21**	**349**	P		**P**	**22 16 22.7**	**+0.3**

IDC 23 22:15:31.6±1.7, 3.09N×128.55E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/30, mbtmp3.7/5, Error ellipse: s-maj=91.1km s-min=22.4km az=69.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 1.4nm,0.6s,baz=19,slow=10,SNR=6.4	**21.25**	**188**	P		P	22 20 20.4	+1.0
WRA	**Warramunga Arr** 0.9nm,0.4s,baz=345,slow=10,SNR=19	**23.59**	**166**	P		P	22 20 44.0	-0.2
ASAR	**Alice Springs** 0.7nm,0.6s,baz=353,slow=8.3,SNR=13	**27.10**	**169**	P		P	22 21 16.3	-0.1
STKA	**Stephens Creek** 2.2nm,0.7s,baz=339,slow=8.6,SNR=3.4	**36.92**	**161**	P		P	22 22 41.6	-0.8
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=115,slow=7.7,SNR=3.8	**59.12**	**325**	P		P	22 25 34.3	+0.3

*ISCJB **23** 23:09:39.7±0.6, 29.05N±0.03×56.9E±0.1, h10km, Error ellipse: s-maj=13.8km s-min=4.2km az=179.2*
*TEH **23** 23:09:41.3, 29.10N×56.91E, h27km, ML3.2*
*DSN **23** 23:09:43.6±0.8, 28.93N×56.90E, h15km, ML3.5/8, Error ellipse: s-maj=26.7km s-min=7.1km az=102.0*
*OMAN **23** 23:09:45.6±0.5, 28.94N×56.87E, h44km±79km, ml3.7/9, Error ellipse: s-maj=27.8km s-min=9.3km az=270.0*

ISC 23 23:09:40.1±1.1, 29.08N±0.04×57.0E±0.1, h10km, n33, σ1§41/39, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TVBK	**TV Kerman** comp=Z,0.0nm,0.1s	**0.92**	**349**	IAMB		IAmb	23 10 01.7	
CHMN	**Cheshme madani**	**0.93**	**33**	*e*	Pg	**Pb**	**23 09 58.9**	**+0.3**
CHMN				IAMB		IAmb	23 09 59.1	
	comp=Z,0.0nm,0.1s							
KHGB	**Koh Gabri** comp=Z,0.0nm,0.3s	**1.36**	**342**	IAMB		IAmb	23 10 27.7	
KHGB				*e*	Pg	**Pn**	**23 10 05.5**	**+0.1**
NIAN	**Nian** comp=Z,0.0nm,0.2s	**1.52**	**184**	IAMB		IAmb	23 10 45.4	
NIAN				*e*	Pn	**Pg**	**23 10 09.6**	**+0.4**
GENO	**Geno**	**1.81**	**203**	*e*	Pn	**Pb**	**23 10 13.7**	**+0.3**
GENO				IAMB		IAmb	23 10 39.4	
	comp=Z,0.0nm,0.2s							
IMEH	**Mehriz**	**3.07**	**319**	*e*	Pn	**Pn**	**23 10 29.6**	**+0.6**
IMEH				IAMB		IAmb	23 10 57.4	
	comp=Z,246nm,0.4s							
SHME	**Shamm** SNR=19	**3.10**	**194**	*e*	P	**Pn**	**23 10 30.2**	**+1.0**
SHME				S		**Sn**	**23 11 06.3**	**-0.1**
SHME	**Shamm**	**3.10**	**194**	*e*	Pn	**Pn**	**23 10 30.2**	**+1.0**
BANOM	**Banah** SNR=54	**3.19**	**191**	*i*	P	**Pn**	**23 10 31.7**	**+1.2**
BANOM	**Banah** SNR=54	**3.19**	**191**	P		**Pn**	**23 10 31.4**	**+0.9**
BANOM				S		**Sn**	**23 11 09.2**	**+0.6**
MSFE	**Esma-Masafi**	**3.77**	**191**	P		**Pn**	**23 10 39.7**	**+1.4**
MSFE	**Esma-Masafi**	**3.77**	**191**	*e*	Pn	**Pn**	**23 10 40.2**	**+1.9**
MDH	**Madha**	**3.81**	**189**	P		**Pn**	**23 10 39.4**	**+0.5**
MDH	**Madha**	**3.81**	**189**	P		**Pn**	**23 10 39.7**	**+0.9**
MDH				P		**Sn**	**23 11 22.3**	**-1.4**
MDH				S		**Sn**	**23 11 22.3**	**-1.4**
MDH	**Madha**	**3.81**	**189**	*e*	Pn	**Pn**	**23 10 38.7**	**-0.1**
ISAD	**Sadrabad**	**4.00**	**316**	*e*	Pn	**Pn**	**23 10 42.9**	**+1.2**
ISAD				IAMB		IAmb	23 11 18.9	
	comp=Z,80nm,0.4s							
UOSS	**Minazif**	**4.17**	**189**	P		**Pn**	**23 10 44.0**	**+0.2**
UOSS	**Minazif**	**4.17**	**189**	*e*	Pn	**Pn**	**23 10 44.4**	**+0.6**
NAZ	**Nazwa, Dubai**	**4.23**	**196**	*e*	Pn	**Pn**	**23 10 45.0**	**+0.3**
HATD	**Hatta, Dubai**	**4.30**	**190**	*e*	Pn	**Pn**	**23 10 47.6**	**+2.0**
ASHO	**Ashiyiah** SNR=13	**4.45**	**191**	*i*	P	**Pn**	**23 10 48.7**	**+1.0**
ASHO	**Ashiyiah** SNR=13	**4.45**	**191**	P		**Pn**	**23 10 48.7**	**+1.0**
ASHO				S		**Sn**	**23 11 38.7**	**-0.9**
FAQ	**Al Faqa, Dubai** SNR=9.5	**4.48**	**196**	*i*	P	**Pn**	**23 10 49.3**	**+1.2**
FAQ	**Al Faqa, Dubai** SNR=9.5	**4.48**	**196**	P		**Pn**	**23 10 49.3**	**+1.2**
FAQ				S		**Sn**	**23 11 39.1**	**-1.2**
FAQ	**Al Faqa, Dubai**	**4.48**	**196**

ARG				S	**Sb**	**23 25 30.8**	**-0.1**	
ARG				AML	AML	23 25 33.4		
	comp=N,252μm,0.5s							
ARG				AML	AML	23 25 34.0		
	comp=E,290μm,0.4s							
GCAM	**G?zelcaml?**	**0.93**	**351**	*i* P	**Pn**	**23 25 22.5**	**-0.6**	
GCAM				*i* S	**Sg**	**23 25 33.8**	**+0.5**	
GCAM				IAML_P				
	comp=Z,2μm,0.2s							
AYDN	**Tasoluk**	**0.96**	**23**	*i* P	**Pg**	**23 25 21.2**	**-0.5**	
AYDN				*i* S	**Sb**	**23 25 35.1**	**-0.4**	
AYDN				IAML_P				
	comp=Z,1μm,0.2s							
TURN	**Turunc**	**0.96**	**84**	PG	Pg	23 25 15.7	-6.1	
TURN	**Turunc**	**0.96**	**84**	*i* P	Pg	23 25 15.9	-5.9	
TURN				IAML_P				
	comp=Z,1μm,0.1s							
DALY	**Dalyan (Mula)**	**1.00**	**87**	PG	**Pg**	**23 25 21.8**	**-0.7**	
DALY	**Dalyan (Mula)**	**1.00**	**87**	*i* P	**Pg**	**23 25 22.4**	**-0.1**	
DALY				*i* S	**Sb**	**23 25 37.0**	**+0.4**	
SMG	**Samos**	**1.04**	**334**	P	**Pg**	**23 25 23.2**	**-0.1**	
SMG				S	**Sb**	**23 25 37.5**	**-0.3**	
AMGA	**Amorgos Island**	**1.22**	**273**	P	**Pg**	**23 25 26.3**	**-0.4**	
AMGA				S	**Sn**	**23 25 44.3**	**+0.3**	
AYDB	**Zeytinkoy-Aydi**	**1.23**	**18**	PN	**Pg**	**23 25 26.8**	**-0.1**	
KARP	**Karpathos**	**1.24**	**189**	PN	**Pn**	**23 25 27.5**	**0.0**	
KARP	**Karpathos**	**1.24**	**189**	P	**Pg**	**23 25 26.8**	**-0.4**	
FETY	**Fethiye**	**1.35**	**96**	PN	**Pn**	**23 25 28.6**	**-0.3**	
FETY	**Fethiye**	**1.35**	**96**	*i* P	**Pg**	**23 25 30.3**	**+1.1**	
FETY				*i* S	**Sn**	**23 25 49.7**	**+2.4**	
FETY				IAML_P				
	comp=Z,241nm,0.1s							
TAVA	**DENIZLI_Tavas**	**1.38**	**60**	*i* P	**Pg**	**23 25 30.2**	**+0.3**	
TAVA				*i* S	**Sn**	**23 25 49.0**	**+0.8**	
TAVA				IAML_P				
	comp=Z,126nm,0.2s							
APE	**Apeiranthos**	**1.54**	**282**	PN	**Pg**	**23 25 32.9**	**+0.1**	
APE	**Apeiranthos**	**1.54**	**282**	P	**Pn**	**23 25 31.2**	**-0.3**	
APE				S	**Sg**	**23 25 52.9**	**+0.2**	
URLA	**Izmir**	**1.71**	**338**	PN	**Pn**	**23 25 34.3**	**+0.4**	
ELL	**Elmali**	**2.00**	**90**	PN	**Pn**	**23 25 37.6**	**-0.4**	

BUC 23 23:28:19.9±0.6, 45°33N×26°11E, h161$^{km}_{\pm 4km}$, MD3.0/3, 8C-7D, Error ellipse: s-maj=6.3km s-min=4.2km az=11.0, Romania

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.20**	**323**	*i* P		Pn	23 28 41.2	-0.4
MLR	**Muntele Rosu**	**0.20**	**323**	*i* P		Pn	23 28 41.2	-0.4
MLR				*i* S		Sn	23 28 57.4	-0.9
PLOR	**Plostina**	**0.64**	**36**	S		Sn	23 29 00.2	-1.0
PLOR	**Plostina**	**0.64**	**36**	S		Sn	23 28 58.8	-2.4
PLOR	**Plostina**	**0.64**	**36**	*i* P		Pn	23 28 41.6	-1.6
PLOR	**Plostina**	**0.64**	**36**	*i* S		Sn	23 29 00.2	-1.0
VRI	**Vrincioaia**	**0.69**	**39**	*i* P		Pn	23 28 43.4	0.0
VRI	**Vrincioaia**	**0.69**	**39**	S		Sn	23 28 59.0	-2.6
VRI	**Vrincioaia**	**0.69**	**39**	*i* P		Pn	23 28 43.4	0.0
VRI				*i* S		Sn	23 29 00.5	-1.1
ARR	**Arges**	**1.04**	**272**	*i* P		Pn	23 28 46.3	+0.2
ARR	**Arges**	**1.04**	**272**	*i* P		Pn	23 28 46.3	+0.2
ARR				*i* S		Sn	23 29 05.2	-1.0
BIR	**Birlad**	**1.41**	**48**	S		Sn	23 29 10.5	-1.5
BIR	**Birlad**	**1.41**	**48**	*i* S		Sn	23 29 10.5	-1.5
CFR	**Carcaliu**	**1.44**	**95**	*i* P		Pn	23 28 49.2	-0.4
CFR	**Carcaliu**	**1.44**	**95**	*i* P		Pn	23 28 49.2	-0.4
CFR				*i* S		Sn	23 29 10.5	-1.9
TLB	**Topalu**	**1.56**	**118**	*i* P		Pn	23 28 50.1	-0.7
TLB	**Topalu**	**1.56**	**118**	*i* P		Pn	23 28 50.1	-0.7
TLB				*i* S		Sn	23 29 13.5	-1.1
TIRR	**Tirgusor**	**1.85**	**117**	*i* P		Pn	23 28 54.2	+0.2
TIRR	**Tirgusor**	**1.85**	**117**	*i* P		Pn	23 28 54.2	+0.2
TIRR				*i* S		Sn	23 29 19.1	-1.1
MILM	**Milestii Mici**	**2.46**	**49**	*i* P		Pn	23 29 00.8	-0.1
MILM	**Milestii Mici**	**2.46**	**49**	*i* P		Pn	23 29 00.8	-0.1
MILM				*i* S		Sn	23 29 29.5	-3.3

ROM 23 23:40:40.5±0.1, 42°860N±0°003×13°084E±0°007, h9^{km}, Md0.8/2, ML2.0/11, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.04**	**140**	P		Pg	23 40 42.7	+0.4
NRCA				S		Sg	23 40 43.8	+0.1
NRCA				AML		AML		
	comp=E,7160μm,0.1s							
NRCA				AML		AML		
	comp=N,12900μm,0.1s							
NRCA				AML		AML		
	comp=E,7550μm,0.1s							
NRCA				AML		AML		
	comp=N,14000μm,0.2s							
NRCA				AML		AML		
	comp=E,7160μm,0.1s							
NRCA				AML		AML		
	comp=N,12900μm,0.1s							
NRCA				AML		AML		
	comp=E,7550μm,0.1s							
NRCA				AML		AML		
	comp=N,14000μm,0.2s							
NRCA				AML		AML		
	comp=N,14000μm,0.2s							
NRCA				AML		AML		
	comp=N,12900μm,0.1s							
NRCA				AML		AML		
	comp=E,7160μm,0.1s							
NRCA				AML		AML		
	comp=E,7550μm,0.1s							
NRCA				END				
NRCA				END				
FEMA	**Monte Fema**	**0.10**	**346**	P		Pg	23 40 43.7	+0.4
FEMA				S		Sg	23 40 45.4	+0.3
FEMA				END				
FEMA				END				
FDMO	**Fiordimonte**	**0.18**	**1**	P		Pg	23 40 45.0	+0.7
FDMO				AML		AML		
	comp=E,2120μm,0.3s							
FDMO				AML		AML		
	comp=N,1225μm,0.2s							
FDMO				AML		AML		
	comp=E,2120μm,0.3s							
FDMO				AML		AML		
	comp=N,1225μm,0.2s							
FDMO				AML		AML		
	comp=E,2120μm,0.3s							
FDMO				AML		AML		
	comp=N,1225μm,0.2s							
LNSS	**Leonessa**	**0.26**	**187**	P		Pb	23 40 46.7	-0.7
LNSS				AML		AML		
	comp=E,489μm,0.7s							
LNSS				AML		AML		
	comp=N,466μm,0.4s							
LNSS				AML		AML		
	comp=E,488μm,0.7s							
LNSS				AML		AML		
	comp=N,466μm,0.4s							
LNSS				AML		AML		
	comp=N,466μm,0.4s							
LNSS				AML		AML		
	comp=E,488μm,0.7s							
SMA1	**SAN MARTINO**	**0.29**	**141**	P		Pb	23 40 47.6	-0.5
SMA1				AML		AML		
	comp=E,241μm,0.5s							
SMA1				AML		AML		
	comp=N,309μm,1.6s							
SMA1				AML		AML		
	comp=N,309μm,1.6s							
SMA1				AML		AML		
	comp=E,241μm,0.5s							
ARRO	**Arrone**	**0.37**	**220**	P		Pb	23 40 48.5	-0.7
ARRO				AML		AML		
	comp=E,224μm,1.4s							
ARRO				AML		AML		
	comp=N,274μm,0.7s							
ARRO				AML		AML		
	comp=E,224μm,1.4s							
ARRO				AML		AML		
	comp=N,274μm,0.7s							
ARRO				AML		AML		
	comp=N,274μm,0.7s							
ARRO				AML		AML		
	comp=E,224μm,1.4s							
SNTG	**Esanatoglia**	**0.41**	**345**	P		Pg	23 40 49.2	+0.6
SNTG				AML		AML		
	comp=E,238μm,0.4s							
SNTG				AML		AML		
	comp=N,340μm,0.2s							
SNTG				AML		AML		
	comp=E,238μm,0.4s							
SNTG				AML		AML		
	comp=N,340μm,0.2s							
SNTG				AML		AML		
	comp=E,238μm,0.4s							
SNTG				AML		AML		
	comp=N,340μm,0.2s							
CESX	**Cesi**	**0.45**	**236**	P		Pg	23 40 49.8	+0.5
CESX				AML		AML		
	comp=E,294μm,0.4s							
CESX				AML		AML		
	comp=N,268μm,0.5s							
CESX				AML		AML		
	comp=N,268μm,0.5s							
CESX				AML		AML		
	comp=E,294μm,0.4s							
TERO	**Teramo**	**0.45**	**122**	P		Pg	23 40 49.9	+0.5
TERO				AML		AML		
	comp=E,53μm,0.3s							
TERO				AML		AML		
	comp=N,63μm,0.4s							
TERO				AML		AML		
	comp=E,53μm,0.3s							
TERO				AML		AML		
	comp=N,63μm,0.4s							
ATCC	**AVT- Casa Cast**	**0.46**	**315**	P		Pg	23 40 50.0	+0.5
ATCC				AML		AML		
	comp=E,276μm,1.4s							
ATCC				AML		AML		
	comp=N,172μm,0.5s							
ATCC				AML		AML		
	comp=E,275μm,1.4s							
ATCC				AML		AML		
	comp=N,172μm,0.5s							
ATCC				AML		AML		
	comp=N,172μm,0.5s							
ATCC				AML		AML		
	comp=E,275μm,1.4s							
EL6	**Elcito**	**0.47**	**2**	P		Pg	23 40 50.2	+0.5
CING	**Cingoli**	**0.52**	**9**	P		Pg	23 40 51.1	+0.4
CING				AML		AML		
	comp=E,207μm,0.6s							
CING				AML		AML		
	comp=N,168μm,1.1s							
CING				AML		AML		
	comp=N,168μm,1.1s							
CING				AML		AML		
	comp=E,207μm,0.6s							
MURB	**Monte Urbino**	**0.57**	**315**	AML		AML		
	comp=E,342μm,1.5s							
MURB				AML		AML		
	comp=E,342μm,1.5s							
MURB				AML		AML		
	comp=N,394μm,0.3s							
MURB				AML		AML		
	comp=N,394μm,0.3s							
GUMA	**Gualdo di Mace**	**0.66**	**72**	P		Pg	23 40 47.2	-6.1
GUMA				AML		AML		
	comp=E,663μm,0.9s							
GUMA				AML		AML		
	comp=N,688μm,0.5s							
GUMA				AML		AML		
	comp=E,663μm,0.9s							
GUMA				AML		AML		
	comp=N,688μm,0.5s							

ROM 23 23:40:44.8±0.1, 42°861N±0°002×13°070E±0°005, h8^{km}, ML2.0/10, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.04**	**131**	AML		AML		
	comp=E,7160μm,0.1s							
NRCA				AML		AML		
	comp=N,12900μm,0.1s							
NRCA				AML		AML		
	comp=E,7550μm,0.1s							
NRCA				AML		AML		
	comp=N,14000μm,0.2s							
NRCA				AML		AML		
	comp=E,7160μm,0.1s							
NRCA				AML		AML		
	comp=N,12900μm,0.1s							
NRCA				AML		AML		
	comp=E,7550μm,0.1s							
NRCA				AML		AML		
	comp=N,14000μm,0.2s							
NRCA				AML		AML		
	comp=E,7160μm,0.1s							
NRCA				AML		AML		
	comp=E,7550μm,0.1s							
NRCA				AML		AML		
	comp=N,14000μm,0.2s							
NRCA				AML		AML		
	comp=N,12900μm,0.1s							
FEMA	**Monte Fema**	**0.10**	**352**	P		Pg	23 40 47.8	+0.4
FEMA				S		Sg	23 40 49.5	+0.3
FDMO	**Fiordimonte**	**0.18**	**4**	P		Pg	23 40 49.2	+0.7
FDMO				S		Sg	23 40 51.9	+0.9
LNSS	**Leonessa**	**0.26**	**185**	P		Pg	23 40 50.8	+0.8
LNSS				S		Sb	23 40 55.4	-1.0
LNSS				AML		AML		
	comp=E,489μm,0.7s							
LNSS				AML		AML		
	comp=N,466μm,0.4s							
LNSS				AML		AML		
	comp=E,489μm,0.7s							
LNSS				AML		AML		
	comp=N,466μm,0.4s							
LNSS				AML		AML		
	comp=N,466μm,0.4s							
LNSS				AML		AML		
	comp=E,488μm,0.7s							
LNSS	**Leonessa**	**0.26**	**185**	S		Pg	23 40 50.6	+0.6
SMA1	**SAN MARTINO**	**0.30**	**140**	AML		AML		
	comp=E,241μm,0.5s							
SMA1				AML		AML		
	comp=E,241μm,0.5s							
SMA1				AML		AML		
	comp=N,308μm,1.6s							
SMA1				AML		AML		
	comp=E,241μm,0.5s							
SMA1				AML		AML		
	comp=N,308μm,1.6s							
SMA1				AML		AML		
	comp=N,309μm,1.6s							
ARRO	**Arrone**	**0.36**	**219**	P		Pg	23 40 52.5	+0.7
ARRO				S		Sb	23 40 58.6	-0.6
ARRO				AML		AML		
	comp=E,224μm,1.4s							
ARRO				AML		AML		
	comp=N,274μm,0.7s							
ARRO				AML		AML		
	comp=E,224μm,1.4s							
ARRO				AML		AML		
	comp=N,274μm,0.7s							
ARRO				AML		AML		
	comp=N,274μm,0.7s							
ARRO				AML		AML		
	comp=E,224μm,1.4s							
SNTG	**Esanatoglia**	**0.41**	**346**	P		Pb	23 40 53.5	-0.7
SNTG				S		Sb	23 40 59.9	-0.7
SNTG				AML		AML		
	comp=E,238μm,0.4s							
SNTG				AML		AML		
	comp=N,340μm,0.2s							
SNTG				AML		AML		
	comp=E,238μm,0.4s							
SNTG				AML		AML		
	comp=N,340μm,0.2s							
CESX	**Cesi**	**0.44**	**235**	P		Pg	23 40 53.7	+0.4
CESX				S		Sb	23 41 00.8	-0.7
CESX				AML		AML		
	comp=E,294μm,0.4s							
CESX				AML		AML		
	comp=N,268μm,0.5s							
CESX				AML		AML		
	comp=E,294μm,0.4s							
CESX				AML		AML		
	comp=N,268μm,0.5s							
CESX				AML		AML		
	comp=E,294μm,0.4s							
ATCC	**AVT- Casa Cast**	**0.45**	**316**	P		Pg	23 40 54.2	+0.6
ATCC				S		Sb	23 41 01.4	-0.5
ATCC				AML		AML		
	comp=E,275μm,1.4s							
ATCC				AML		AML		
	comp=N,172μm,0.5s							
ATCC				AML		AML		
	comp=E,276μm,1.4s							
ATCC				AML		AML		
	comp=N,172μm,0.5s							
ATCC				AML		AML		
	comp=N,172μm,0.5s							
ATCC				AML		AML		
	comp=E,275μm,1.4s							
TERO	**Teramo**	**0.46**	**121**	P		Pg	23 40 54.1	+0.4
TERO				S		Sb	23 41 01.3	-0.8
TERO				AML		AML		
	comp=E,53μm,0.3s							
TERO				AML		AML		
	comp=N,63μm,0.4s							
TERO				AML		AML		
	comp=E,53μm,0.3s							
TERO				AML		AML		
	comp=N,63μm,0.4s							
TERO				AML		AML		
	comp=E,53μm,0.3s							
TERO				AML		AML		
	comp=N,63μm,0.4s							
EL6	**Elcito**	**0.47**	**3**	P		Pg	23 40 54.2	+0.3
EL6				S		Sb	23 41 02.0	-0.4
CING	**Cingoli**	**0.52**	**10**	P		Pg	23 40 55.4	+0.5
CING				S		Sb	23 41 03.4	-0.6
CING				AML		AML		
	comp=E,207μm,0.6s							
CING				AML		AML		
	comp=N,168μm,1.1s							
CING				AML		AML		
	comp=N,168μm,1.1s							
CING				AML		AML		
	comp=E,207μm,0.6s							
MURB	**Monte Urbino**	**0.57**	**315**	AML		AML		
	comp=N,394μm,0.3s							
MURB				AML		AML		
	comp=E,342μm,1.5s							
MURB				AML		AML		
	comp=N,394μm,0.3s							
MURB				AML		AML		
	comp=E,342μm,1.5s							
MURB				AML		AML		
	comp=E,342μm,1.5s							
MURB				AML		AML		
	comp=N,394μm,0.3s							
GUMA	**Gualdo di Mace**	**0.67**	**72**	P		Pg	23 40 51.2	-6.4
GUMA				S		Sg	23 40 56.2	-10
GUMA				AML		AML		
	comp=E,663μm,0.9s							
GUMA				AML		AML		
	comp=N,688μm,0.5s							
GUMA				AML		AML		
	comp=E,663μm,0.9s							
GUMA				AML		AML		
	comp=N,688μm,0.5s							
GUMA	**Gualdo di Mace**	**0.67**	**72**	S		Pg	23 40 51.2	-6.4

RSNC 24 00:05:25.3±1.6, 6°56N×73°53W, h112$^{km}_{\pm 7km}$, ML3.3, Mw3.8, 4C-8D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.34**	**85**	*i* P		Pn	00 05 41.6	-0.1
BARC				*e*S		Sn	00 05 53.9	-0.2
BARC	**Barichara**	**0.34**	**85**	*i* P		Pn	00 05 41.6	-0.1
BARC				*e*S		Sn	00 05 53.9	-0.2
BRRC	**Barranca, Sant**	**0.57**	**341**	*i* P		Pn	00 05 42.5	-0.4
BRRC				*e*S		Sn	00 05 55.9	-0.2
BRRC				*i*			00 05 57.6	
	comp=E,596nm,0.1s							
BRRC	**Barranca, Sant**	**0.57**	**341**	*i* P		Pn	00 05 42.5	-0.4
BRRC				*e*S		Sn	00 05 55.9	-0.2
BRRC				*i*			00 05 57.6	
	comp=E,596nm,0.1s							
RUSC	**La Rusia**	**0.80**	**146**	*i* P		Pn	00 05 44.5	-0.7
RUSC				*e*S		Sn	00 05 59.7	-0.5
RUSC				*i*			00 06 01.1	
	comp=N,531nm,0.7s							
RUSC	**La Rusia**	**0.80**	**146**	*i* P		Pn	00 05 44.5	-0.7
RUSC				*e*S		Sn	00 05 59.7	-0.5
RUSC				*i*			00 06 01.1	
	comp=N,531nm,0.7s							
PTBC	**PUERTO BERRIO,**	**0.92**	**269**	*i* P		Pn	00 05 44.4	-1.5
PTBC				*e*S		Sn	00 05 59.2	-2.2
PTBC				*i*			00 06 00.2	
	comp=N,620nm,0.3s							
PTBC	**PUERTO BERRIO,**	**0.92**	**269**	*i* P		Pn	00 05 44.4	-1.5
PTBC				*i*			00 06 00.2	
	comp=N,620nm,0.3s							
PAMC	**Pamplona, Colo**	**1.13**	**47**	*i* P		Pn	00 05 48.0	-0.5
PAMC				*i*			00 05 50.1	
	comp=Z,178nm,0.2s							
PAMC				*e*S		Sn	00 06 06.2	+0.3
PAMC	**Pamplona, Colo**	**1.13**	**47**	*i* P		Pn	00 05 48.0	-0.5
PAMC				*i*			00 05 50.1	
	comp=Z,178nm,0.2s							
PAMC				*e*S		Sn	00 06 06.2	+0.3
CTAU	**Tausa, Cundina**	**1.45**	**201**	*e*P		Pn	00 05 57.8	+5.7
CTAU				*e*S		Sn	00 06 16.7	+4.3
CTAU	**Tausa, Cundina**	**1.45**	**201**	*e*P		Pn	00 05 57.8	+5.7
CTAU				*e*S		Sn	00 06 16.7	+4.3
ZARC	**Zaragoza, Cauc**	**1.61**	**305**	*e*P		Pn	00 05 53.5	-0.1
ZARC				*e*S		Sn	00 06 16.4	+1.3
ZARC				*i*			00 06 21.6	
	comp=E,503nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.61**	**305**	*e*P		Pn	00 05 53.5	-0.1
ZARC				*e*S		Sn	00 06 16.4	+1.3
ZARC				*i*			00 06 21.6	
	comp=E,503nm,0.2s							
OCAC	**Ocana**	**1.68**	**7**	*e*P		Pn	00 05 53.8	-0.8
OCAC				*e*S		Sn	00 06 16.8	0.0
OCAC	**Ocana**	**1.68**	**7**	*e*P		Pn	00 05 53.8	-0.8
OCAC				*e*S		Sn	00 06 16.8	0.0
CTAB	**Cerro Tablazo,**	**1.68**	**204**	*e*P		Pn	00 05 55.4	+0.5
CTAB				*e*S		Sn	00 06 17.5	+0.1
CTAB	**Cerro Tablazo,**	**1.68**	**204**	*e*P		Pn	00 05 55.4	+0.5
CTAB				*e*S		Sn	00 06 17.5	+0.1
TAMC	**Tame, Arauca**	**1.73**	**94**	*i* P		Pn	00 05 54.4	-0.6
TAMC				*i*			00 05 54.7	
	comp=Z,193nm,0.5s							
TAMC				*e*S		Sn	00 06 16.8	-0.9
TAMC	**Tame, Arauca**	**1.73**	**94**	*i* P		Pn	00 05 54.4	-0.6
TAMC				*i*			00 05 54.7	
	comp=Z,193nm,0.5s							
TAMC				*e*S		Sn	00 06 16.8	-0.9
ROSC	**El Rosal**	**1.89**	**205**	*i* P		Pn	00 05 57.8	+0.4
ROSC				*e*S		Sn	00 06 21.8	+0.1
ROSC				*i*			00 06 28.6	
	comp=Z,121nm,0.5s							
ROSC	**El Rosal**	**1.89**	**205**	*i* P		Pn	00 05 57.8	+0.4
ROSC				*e*S		Sn	00 06 21.8	+0.1
ROSC				*i*			00 06 28.6	
	comp=Z,121nm,0.5s							
CHIC	**Chingaza**	**1.93**	**186**	*e*P		Pn	00 05 56.8	-1.1
CHIC				*e*S		Sn	00 06 22.1	-0.7
CHIC				*i*			00 06 26.1	
	comp=N,131nm,0.2s							
CHIC	**Chingaza**	**1.93**	**186**	*e*P		Pn	00 05 56.8	-1.1
CHIC				*e*S		Sn	00 06 22.1	-0.7
CHIC				*i*			00 06 26.1	
	comp=N,131nm,0.2s							
HELC	**Santa Helena**	**2.02**	**260**	*e*P		Pn	00 05 58.9	-0.2
HELC				*e*S		Sn	00 06 23.8	-1.0
HELC				*i*			00 06 28.5	
	comp=N,106nm,0.2s							
HELC	**Santa Helena**	**2.02**	**260**	*e*P		Pn	00 05 58.9	-0.2
HELC				*e*S		Sn	00 06 23.8	-1.0
HELC				*i*			00 06 28.5	
	comp=N,106nm,0.2s							
UREC	**San Jos de Ur**	**2.31**	**301**	*e*P		Pn	00 06 01.4	-1.0
UREC				*e*S		Sn	00 06 28.8	-2.1
UREC	**San Jos de Ur**	**2.31**	**301**	*e*P		Pn	00 06 01.4	-1.0
UREC				*e*S		Sn	00 06 28.8	-2.1
VILC	**Villavicencio,**	**2.44**	**184**	*e*P		Pn	00 06 03.5	-0.7
VILC				*e*S		Sn	00 06 34.3	+0.3

VILC			*i*			00 06 41.2	
	comp=N,302nm,0.4s						
VILC	**Villavicencio,**	**2.44**	**184**	*e*P	Pn	00 06 03.5	-0.7
VILC				*e*S	Sn	00 06 34.3	+0.3
VILC				*i*		00 06 41.2	
	comp=N,302nm,0.4s						
RREF	**El Recreo**	**2.45**	**228**	*e*P	Pn	00 06 04.7	0.0
RREF				*e*S	Sn	00 06 34.5	-0.4
RREF				*i*		00 06 41.4	
	comp=Z,80nm,0.3s						
RREF	**El Recreo**	**2.45**	**228**	*e*P	Pn	00 06 04.7	0.0
RREF				*e*S	Sn	00 06 34.5	-0.4
RREF				*i*		00 06 41.4	
	comp=Z,80nm,0.3s						
TOLC	**Tolima**	**2.65**	**222**	*e*P	Pn	00 06 07.3	+0.2
TOLC				*i*		00 06 47.8	
	comp=Z,48nm,0.5s						
TOLC	**Tolima**	**2.65**	**222**	*e*P	Pn	00 06 07.3	+0.2
TOLC				*i*		00 06 47.8	
	comp=Z,48nm,0.5s						
DBBC	**Dabeiba**	**2.70**	**280**	*e*P	Pn	00 06 07.2	-0.3
DBBC				*i*		00 06 44.3	
	comp=Z,88nm,0.5s						
DBBC	**Dabeiba**	**2.70**	**280**	*e*P	Pn	00 06 07.2	-0.3
DBBC				*i*		00 06 44.3	
	comp=Z,88nm,0.5s						
ANIL	**Santa Ana**	**2.78**	**222**	*e*P	Pn	00 06 08.8	+0.1
ANIL				*e*S	Sn	00 06 41.8	-0.4
ANIL				*i*		00 06 50.9	
	comp=E,182nm,0.3s						
ANIL	**Santa Ana**	**2.78**	**222**	*e*P	Pn	00 06 08.8	+0.1
ANIL				*e*S	Sn	00 06 41.8	-0.4
ANIL				*i*		00 06 50.9	
	comp=E,182nm,0.3s						
PLMC	**San Jos del P**	**3.20**	**239**	*e*P	Pn	00 06 13.9	-0.2
PLMC	**San Jos del P**	**3.20**	**239**	*e*P	Pn	00 06 13.9	-0.2
SJAC	**San Juan de Ar**	**3.29**	**187**	*e*P	Pn	00 06 16.2	+0.8
SJAC				*e*S	Sn	00 06 53.3	-0.8
SJAC				*i*		00 07 02.0	
	comp=Z,181nm,0.4s						
SJAC	**San Juan de Ar**	**3.29**	**187**	*e*P	Pn	00 06 16.2	+0.8
SJAC				*e*S	Sn	00 06 53.3	-0.8
SJAC				*i*		00 07 02.0	
	comp=Z,181nm,0.4s						
SDV	**Santo Domingo**	**3.68**	**51**	*e*P	Pn	00 06 19.7	-1.0
SDV	**Santo Domingo**	**3.68**	**51**	*e*P	Pn	00 06 19.7	-1.0
SJCC	**San Jacinto, C**	**3.69**	**334**	*e*P	Pn	00 06 19.2	-1.5
SJCC	**San Jacinto, C**	**3.69**	**334**	*e*P	Pn	00 06 19.2	-1.5
YOTC	**Yotoco, Valle**	**3.80**	**228**	*e*P	Pn	00 06 20.4	-1.8
YOTC				*i*		00 07 14.6	
	comp=E,9.4nm,0.4s						
YOTC	**Yotoco, Valle**	**3.80**	**228**	*e*P	Pn	00 06 20.4	-1.8
YOTC				*i*		00 07 14.6	
	comp=E,9.4nm,0.4s						
SMRC	**Santa Marta, M**	**4.62**	**351**	*e*P	Pn	00 06 32.5	-0.6
SMRC	**Santa Marta, M**	**4.62**	**351**	*e*P	Pn	00 06 32.5	-0.6

MEX 24 00:36:25.6±0.4, 16°.47N × 98°.47W, h13 km ± 12 km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.34**	**103**	*e*P	Pg	00 36 32.0	-0.5
PNIG				*i* S	Sg	00 36 37.5	+0.3

*ISCJB **24** 00:37:24.5±1.1, 10°.64S±0°.08 × 165°.7E±0°.2, h155 km, mb3.8/6, Error ellipse: s-maj=25.2km s-min=11.0km az=171.7*

*IDC **24** 00:37:27.0±5.6, 10°.66S × 165°.78E, h168 km ± 54 km, mb3.6/7, mb1 3.7/8, mb1mx3.5/33, mbtmp4.1/8, Error ellipse: s-maj=40.1km s-min=25.7km az=143.0*

ISC 24 00:37:25.5±1.1, 10°.67S±0°.10 × 165°.8E±0°.2, h155 km, n9, σ 0 s 73/11, mb4.0/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.35**	**177**	P	**Pn**	**00 40 04.4**	**+1.1**
	2.8nm,0.3s,baz=94,slow=17,SNR=23						
DZM				S	**Sn**	**00 42 07.8**	**-1.2**
	0.4nm,0.3s,baz=294,slow=20,SNR=5.3						
CTA	**Charters Tower**	**21.05**	**241**	P	**P**	**00 41 57.9**	**+0.4**
	6.1nm,0.6s,baz=88,slow=12,SNR=5.6						
STKA	**Stephens Creek**	**30.77**	**223**	P	**P**	**00 43 26.7**	**+0.3**
	3.5nm,0.7s,baz=19,slow=7.9,SNR=6.4						
WRA	**Warramunga Arr**	**31.69**	**249**	P	**P**	**00 43 34.8**	**+0.1**
	1.9nm,0.7s,baz=78,slow=8.9,SNR=6.1						
ASAR	**Alice Springs**	**33.04**	**243**	P	**P**	**00 43 46.0**	**-0.4**
	2.6nm,0.7s,baz=72,slow=9.5,SNR=21						
ASAR				PcP	**PcP**	**00 46 26.5**	**-0.1**
	0.7nm,0.6s,baz=92,slow=3.0,SNR=4.2						
SONM	**Songino Array**	**78.41**	**324**	P	**P**	**00 49 08.7**	**-0.4**
	0.3nm,0.6s,baz=142,slow=4.7,SNR=3.3						
ILAR	**Eielson Array**	**83.13**	**18**	P	**P**	**00 49 34.0**	**+0.4**
	0.3nm,0.6s,baz=228,slow=6.3,SNR=3.7						
MKAR	**Makanchi Array**	**93.31**	**317**	P	**P**	**00 50 22.7**	**-0.1**
	0.9nm,0.8s,baz=96,slow=6.6,SNR=9.0						
BOSA	**Boshof**	**125.45**	**223**	PKP	**PKPdf**	**00 56 08.1**	**-0.9**
	1.5nm,0.8s,baz=92,slow=2.6,SNR=4.0						

*ISK **24** 00:51:50.8, 38°.92N × 43°.53E, h2 km, ML2.4/5*

*DDA **24** 00:51:51.2, 38°.94N × 43°.56E, h16 km, ML2.6*

*ISCJB **24** 00:51:52.2±0.5, 38°.97N±0°.03 × 43°.49E±0°.05, h9 km ± 5 km, Error ellipse: s-maj=7.8km s-min=4.5km az=33.5*

ISC 24 00:51:51.5±1.1, 38°.94N±0°.03 × 43°.53E±0°.03, h13 km ± 8 km, n20, σ 0 s 59/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.06**	**34**	*i* P	**Pg**	**00 51 54.3**	**0.0**
ERCV	**ERCIS-VAN**	**0.17**	**297**	PG	**Pg**	**00 51 55.7**	**+0.1**
CLDR	**Caldiran**	**0.36**	**56**	PG	**Pg**	**00 51 58.6**	**-0.3**
CLDR				SG	**Sb**	**00 52 05.7**	**+0.1**
CLDR	**Caldiran**	**0.36**	**56**	IAML_P			
	comp=Z,6μm,0.1s						
CLDR				*i* P	**Pb**	**00 51 59.4**	**-0.5**
CLDR				*i* S	**Sb**	**00 52 05.7**	**+0.1**
VANB	**Van**	**0.36**	**198**	PG	**Pb**	**00 52 00.1**	**+0.2**
VANB				SG	**Sb**	**00 52 07.2**	**+1.6**
TVAN	**Van**	**0.42**	**193**	IAML_P			
	comp=Z,4μm,0.1s						
TVAN				*i* P	**Pb**	**00 52 00.8**	**-0.3**
TVAN				*i* S	**Sb**	**00 52 07.1**	**-0.4**
DYDN	**Diyadin**	**0.61**	**11**	IAML_P			
	comp=Z,1μm,0.1s						
DYDN				*i* P	**Pg**	**00 52 03.5**	**-0.1**
DYDN				*i* S	**Sb**	**00 52 12.6**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.64**	**258**	IAML_P			
	comp=Z,626nm,0.2s						
ADCV				*i* P	**Pb**	**00 52 04.2**	**-0.5**
ADCV				*i* S	**Sb**	**00 52 14.6**	**+0.9**
TUTA	**Tutak**	**0.72**	**310**	IAML_P			
	comp=Z,2μm,0.1s						
TUTA				*i* P	**Pg**	**00 52 05.5**	**-0.1**
AKDM	**Akdamar-Van**	**0.75**	**215**	PG	**Pg**	**00 52 05.7**	**-0.4**
AGRB	**Hanur-Agry**	**0.76**	**327**	PG	**Pb**	**00 52 06.4**	**-0.3**
MLAZ	**Malazgirt-MUS**	**0.79**	**285**	PG	**Pb**	**00 52 06.9**	**-0.3**
IGDI	**IGDIR**	**1.02**	**24**	IAML_P			
	comp=Z,58nm,0.2s						
IGDI				*i* P	**Pb**	**00 52 11.2**	**+0.1**
TASB	**TASBURUN-IGDIR**	**1.17**	**28**	PN	**Pn**	**00 52 14.7**	**+1.0**
GURO	**Guroymak-BITLI**	**1.24**	**252**	PN	**Pn**	**00 52 14.5**	**-0.1**
GNI	**Garni**	**1.52**	**37**	PN	**Pg**	**00 52 20.3**	**-0.5**
SRTM	**Siirt_Merkez**	**1.58**	**234**	IAML_P			
	comp=Z,102nm,0.3s						
SRTM				*i* P	**Pg**	**00 52 21.9**	**0.0**
SIRT	**Sirnak**	**1.68**	**211**	PN	**Pb**	**00 52 21.9**	**-0.4**
CUKT	**Cukurca**	**1.69**	**178**	PN	**Pb**	**00 52 22.2**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.99**	**247**	PN	**Pb**	**00 52 26.5**	**-1.2**

TRN 24 01:19:58.7, 15°.04N × 60°.51W, h59 km, MD3.6, 3C-8D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAM	**Ilet Lapin Mar**	**0.44**	**233**	*e*P	Pn	01 20 10.7	+0.7
MVM	**Montagne Vaucl**	**0.61**	**218**	*e*P	Pn	01 20 12.8	+0.9
LPMF	**Morne Lapointe**	**0.64**	**224**	*e*P	Pn	01 20 13.1	+0.9
BAMF	**Morne Balai**	**0.66**	**250**	*e*P	Pn	01 20 14.0	+1.5
CXM	**Morne La Croix**	**0.68**	**251**	*e*P	Pn	01 20 14.4	+1.6
GBMF	**Grand Be**	**0.68**	**249**	*e*P	Pn	01 20 14.3	+1.5
ZAM	**Aeronautique**	**0.69**	**227**	*e*P	Pn	01 20 13.9	+1.2
FDF	**Fort de France**	**0.69**	**244**	*e*P	Pn	01 20 14.3	+1.4
FDF				*e*S	Sn	01 20 25.4	+2.1
PML	**Morne Lenard**	**0.70**	**249**	*e*P	Pn	01 20 14.7	+1.6
PCM	**Pelee Case Pet**	**0.72**	**252**	*e*P	Pn	01 20 14.8	+1.7
TRMF	**Trois Ilets**	**0.73**	**227**	*e*P	Pn	01 20 14.6	+1.3
BIM	**Bigot**	**0.75**	**226**	*e*P	Pn	01 20 15.1	+1.5
DLPL	**La Plaine**	**0.77**	**292**	*e*P	Pn	01 20 15.8	+1.9
DLPL				*e*S	Sn	01 20 28.1	+3.1
DWS	**Wesley**	**0.94**	**304**	*e*P	Pn	01 20 17.0	+1.1
DWS				*e*S	Sn	01 20 30.9	+2.3
MDPO	**Dominica; Chan**	**1.06**	**300**	*e*P	Pn	01 20 19.9	+2.4
MDPO				*e*S	Sn	01 20 34.2	+2.9
MDPV	**Dominica, Penn**	**1.06**	**304**	*e*P	Pn	01 20 19.1	+1.6
MDPV				*e*S	Sn	01 20 33.4	+1.9
SLW	**Petit Monier**	**1.10**	**202**	*e*P	Pn	01 20 19.8	+1.7
SLW				*e*S	Sn	01 20 34.7	+2.3
MAGL	**Barre de l'ile**	**1.17**	**320**	*e*P	Pn	01 20 19.9	+0.8
SLPA	**Patience**	**1.25**	**199**	*e*P	Pn	01 20 22.4	+2.4
SLPA				*e*S	Sn	01 20 37.5	+1.6
SLB	**Belfond**	**1.31**	**203**	*e*P	Pn	01 20 23.7	+2.7
SLB				*e*S	Sn	01 20 39.2	+1.7
SLDE	**Delcer**	**1.34**	**204**	*e*P	Pn	01 20 22.7	+1.4
SLDE				*e*S	Sn	01 20 39.7	+1.6
TDBA	**Terre de Bas,**	**1.35**	**307**	*e*P	Pn	01 20 23.1	+1.6
DEG	**La Desirade**	**1.37**	**337**	*e*P	Pn	01 20 23.2	+1.4
DEG				*e*S	Sn	01 20 41.0	+1.9
CBE	**Ff, Capester**	**1.48**	**314**	*e*P	Pn	01 20 24.8	+1.7
ABD	**La Joyeuse, An**	**1.71**	**327**	*e*P	Pn	01 20 28.1	+1.8
SFAN	**Fancy Village**	**1.77**	**202**	*e*P	Pn	01 20 29.2	+2.1
SSV	**Crater Summit**	**1.83**	**201**	*e*P	Pn	01 20 29.2	+1.3
SSV				*e*S	Sn	01 20 52.1	+2.0
SVV	**Soufriere Volc**	**1.84**	**202**	*e*P	Pn	01 20 30.1	+1.9
SVV				*e*S	Sn	01 20 52.5	+2.1
SVCV	**St. Vincent, C**	**1.86**	**200**	*e*P	Pn	01 20 30.4	+2.0
SVCV				*e*S	Sn	01 20 52.6	+1.8
SVB	**Belmont**	**1.90**	**202**	*e*P	Pn	01 20 31.2	+2.4
SVB				*e*S	Sn	01 20 53.4	+1.7
FCV	**Fort Charlotte**	**2.00**	**201**	*e*P	Pn	01 20 32.4	+2.1
FCV				*e*S	Sn	01 20 55.7	+1.4
MLYT	**Lee's Yard**	**2.33**	**316**	*e*P	Pn	01 20 36.3	+1.6
MLYT				*e*S	Sn	01 21 04.5	+2.3
BPA	**Boggy Peak**	**2.38**	**327**	*e*P	Pn	01 20 36.8	+1.4
BPA				*e*S	Sn	01 21 05.4	+1.9
NEV	**Hard Times**	**2.88**	**317**	*e*P	Pn	01 20 44.2	+2.1
NEV				*e*S	Sn	01 21 16.5	+0.9
ANWB	**Willy Bob**	**2.89**	**335**	*e*P	Pn	01 20 44.3	+2.0
ANWB				*e*S	Sn	01 21 17.0	+1.2
GRSS	**Sisters**	**2.93**	**202**	*e*P	Pn	01 20 44.0	+1.2
GRHS	**Sauteurs**	**3.01**	**202**	*e*P	Pn	01 20 45.0	+1.0
GRGR	**Grenville**	**3.10**	**201**	*e*P	Pn	01 20 47.3	+2.1
GRGR				*e*S	Sn	01 21 21.6	+0.5
BOT	**Bacolet**	**3.86**	**183**	*e*P	Pn	01 20 57.3	+1.7
TRN	**Trinidad (W)**	**4.45**	**191**	*e*P	Pn	01 21 05.8	+2.1

IDC 24 01:34:05.2±27.0, 19°.05S × 178°.74W, h283 km ± 189 km, mb2.9/2, mb1 3.3/2, mb1mx2.9/27, mbtmp3.5/2, Error ellipse: s-maj=444.0km s-min=53.5km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.13**	**261**	P	P	01 41 46.4	-0.1
	0.2nm,0.3s,baz=97,slow=7.4,SNR=5.3						
ILAR	**Eielson Array**	**87.06**	**13**	P	P	01 46 18.4	-0.1
	0.3nm,0.5s,baz=224,slow=5.5,SNR=4.2						
BRTR	**Keskin Array B**	**145.34**	**313**	PKPbc	PKPdf	01 53 09.4	-0.3
	0.4nm,0.5s,baz=83,slow=4.5,SNR=5.1						
MMAI	**Mount Meron Ar**	**146.48**	**301**	PKPbc	PKPdf	01 53 12.7	+0.9
	2.1nm,0.7s,baz=84,slow=5.2,SNR=4.1						
MLR	**Muntele Rosu**	**146.63**	**328**	PKPbc	PKPbc	01 53 13.4	-0.4
	1.5nm,0.6s,baz=284,slow=2.9,SNR=3.6						

*ISCJB **24** 01:39:04.9±0.4, 50°.31N±0°.03 × 18°.72E±0°.03, h0 km, Error ellipse: s-maj=4.0km s-min=2.3km az=11.7*

*IPEC **24** 01:39:06.2±0.1, 50°.32N × 18°.78E, h1 km, ML2.4/3, Error ellipse: s-maj=1.4km s-min=0.6km az=3.0*

*VIE **24** 01:39:07.0±2.7, 49°.70N × 19°.07E, h0 km, Error ellipse: s-maj=15.3km s-min=10.1km az=94.0 59 km NNE of Zilina Suspected Mining induced.*

*PRU **24** 01:39:07.7±0.0, 50°.21N × 18°.75E, h0 km*

*IDC **24** 01:39:07.4±1.3, 50°.09N × 18°.80E, h0 km, mb1 3.2/5, mb1mx3.0/41, mbtmp3.2/5, ML2.5/5, Error ellipse: s-maj=19.6km s-min=7.9km az=136.0*

ISC 24 01:39:06.0±0.7, 50°.30N±0°.03 × 18°.80E±0°.02, h0 km, n39, σ 1 s 56/67, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.12**	**96**	*e*Pg	**Pg**	**01 39 09.4**	**+1.1**
CHZP				*e*Sg	**Sg**	**01 39 11.0**	**+1.1**
OKC	**Ostrava-Krasne**	**0.63**	**222**	*e*PG	**Pg**	**01 39 18.7**	**+0.7**
OKC				*e*SG	**Sg**	**01 39 25.7**	**-0.5**
OJC	**Ojcow**	**0.65**	**97**	*e*Pg	**Pg**	**01 39 19.0**	**+0.6**
OJC				*e*Sg	**Sg**	**01 39 27.7**	**+1.0**
ANAC	**Anensky vrch**	**0.94**	**256**	*e*Pg	**Pg**	**01 39 24.4**	**+0.4**
	baz=74						
MORC	**Moravsky Berou**	**0.97**	**237**	*e*PG	**Pg**	**01 39 24.6**	**0.0**
MORC				*e*SG	**Sg**	**01 39 37.2**	**+0.1**
MORC	**Moravsky Berou**	**0.97**	**237**	*e*Pg	**Pg**	**01 39 24.5**	**0.0**
	baz=55						
MORC				*e*Sg	**Sg**	**01 39 37.2**	**+0.1**
	38nm,0.2s,baz=55						
LIPC	**Lipinka**	**1.22**	**248**	*e*Pg	**Pg**	**01 39 29.4**	**+0.1**
	baz=66						
LANS	**Liptovska Anna**	**1.23**	**159**	*e*PG	**Pg**	**01 39 30.0**	**+0.4**
LANS				*e*SG	**Sb**	**01 39 46.4**	**-0.2**
NIE	**Niedzica**	**1.31**	**132**	*e*Pg	**Pg**	**01 39 31.4**	**+0.3**
NIE				*e*Sg	**Sb**	**01 39 49.3**	**+0.4**
KRLC	**Kraliky**	**1.32**	**261**	*e*PG	**Pg**	**01 39 30.7**	**-0.5**
KRLC				*e*SG	**Sg**	**01 39 47.5**	**-0.8**
DPC	**Dobruska-Polom**	**1.59**	**273**	*e*PG	**Pn**	**01 39 35.3**	**-0.1**
DPC				*e*SG	**Sg**	**01 39 56.9**	**-0.1**
	comp=Z,24nm,0.4s						
JAVC	**Velka Javorina**	**1.62**	**207**	*e*PN	**Pn**	**01 39 36.0**	**+0.1**
JAVC	**Velka Javorina**	**1.62**	**207**	*e*Pn	**Pn**	**01 39 35.9**	**+0.1**
	baz=26						
KSP	**Ksiaz**	**1.69**	**290**	*e*Pb	**Pn**	**01 39 36.8**	**+0.1**
KSP				*i* Pg	**Pg**	**01 39 38.6**	**+0.3**
KSP				*e*Sg	**Sg**	**01 40 01.1**	**+0.9**
VRAC	**Vranov**	**1.74**	**236**	*e*Pg	**Pn**	**01 39 37.1**	**-0.4**
	5.1nm,0.3s,baz=58,slow=15,SNR=47						
VRAC				Lg	Lg	01 40 00.3	
	15nm,0.3s,baz=162,slow=11,SNR=22						
VRAC	**Vranov**	**1.74**	**236**	*e*PN	**Pn**	**01 39 37.0**	**-0.5**
VRAC				*e*SG	**Sn**	**01 40 00.6**	**+0.1**
VRAC	**Vranov**	**1.74**	**236**	*e*Pn	**Pn**	**01 39 37.0**	**-0.5**
	baz=54						
VRAC				*e*Sg	**Sn**	**01 40 00.5**	**+0.1**
	42nm,0.4s,baz=54						
UPC	**Upice**	**1.80**	**278**	*e*PG	**Pn**	**01 39 38.5**	**+0.3**
UPC				*e*SG	**Sg**	**01 40 03.9**	**+0.2**
	comp=Z,22nm,0.4s						
VYHS	**Vyhne**	**1.81**	**179**	*e*PN	**Pn**	**01 39 37.8**	**-0.7**
VYHS				*e*SN	**Sn**	**01 40 00.7**	**-1.4**
VYHS				*e*LG	Lg	01 40 05.1	
KRUC	**Moravsky**	**2.00**	**232**	*e*PN	**Pn**	**01 39 41.0**	**0.0**
KRUC				*e*SG	**Sb**	**01 40 08.2**	**-0.4**
KRUC	**Moravsky**	**2.00**	**232**	*e*Pn	**Pn**	**01 39 41.0**	**0.0**
	baz=50						
KRUC				*e*Sg	**Sb**	**01 40 08.1**	**-0.5**
	28nm,0.5s,baz=50						
TREC	**Trest**	**2.37**	**246**	*e*PG	**Pn**	**01 39 47.7**	**+1.5**
PSZ	**Piszkesteto**	**2.49**	**163**	*e*P	**Pg**	**01 39 54.1**	**+0.3**
GOPC	**GO Pecny, Ondr**	**2.61**	**263**	*e*PN	**Pn**	**01 39 48.7**	**-0.8**
GOPC				*e*PG	**Pb**	**01 39 53.1**	**-0.6**
PVCC	**Panska Ves**	**2.72**	**276**	*e*SG	**Sg**	**01 40 33.3**	**+0.1**
	comp=Z,18nm,0.4s						
PRU	**Pruhonice**	**2.76**	**265**	*e*PN	**Pn**	**01 39 51.2**	**-0.2**
PRU				*e*PG	**Pb**	**01 39 55.6**	**-0.5**
PRU				*e*SG	**Sb**	**01 40 31.5**	**+1.0**
	comp=Z,13nm,0.7s						
CONA	**Conrad Observa**	**3.06**	**220**	Pn	**Pn**	**01 39 55.3**	**-0.4**
	0.6nm,0.3s						
CONA				Sn	**Sn**	**01 40 32.0**	**-1.0**
	5.6nm,0.4s						
BRG	**Berggiesshubel**	**3.15**	**282**	PG	**Pb**	**01 40 03.5**	**+0.7**
BRG				SG	**Sg**	**01 40 46.4**	**-0.6**
	10.0nm,0.6s						
KHC	**Kasperske Hory**	**3.59**	**253**	*e*PN	**Pn**	**01 40 02.6**	**-0.3**
KHC				*e*PG	**Pb**	**01 40 11.8**	**+1.5**
KHC				*e*SG	**Sg**	**01 40 58.8**	**-2.4**
	comp=Z,12nm,0.6s						
GERES	**GERESS Array B**	**3.63**	**248**	Pn	**Pn**	**01 40 03.9**	**+0.4**
	0.2nm,0.3s,baz=71,slow=14,SNR=5.9						
GERES				Pg	**Pb**	**01 40 12.1**	**+1.1**
	0.9nm,0.3s,baz=65,slow=19,SNR=15						
GERES				Lg	Lg	01 41 00.5	
	2.7nm,0.3s,baz=65,slow=30,SNR=10.0						
CLL	**Collm**	**3.81**	**288**	*i* Pg	**Pg**	**01 40 20.0**	**+1.0**
CLL				*i* Sg	**Sg**	**01 41 17.3**	**+8.9**
	comp=Z,10.0nm,0.6s						
MOA	**Molln**	**3.86**	**232**	*i* Pg	**Pg**	**01 40 18.1**	**-1.8**
	comp=Z,0.5nm,0.2s						
MOA				*i* Sg	**Sb**	**01 41 05.9**	**+3.6**
	comp=Z,14nm,0.7s						
KBA	**Koelnbreinsper**	**4.84**	**230**	*i* Sg	**Sg**	**01 41 42.2**	**+0.7**
	comp=Z,5.3nm,0.7s						
BSD	**Bornholm Skovb**	**5.37**	**335**	*i* P	**Pn**	**01 40 27.1**	**-0.1**
BSD				*i* S	**Pb**	**01 40 36.3**	**-4.2**
AKASG	**Malin Array Be**	**6.66**	**83**	Pg	**Pb**	**01 41 04.0**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=273,slow=14,SNR=3.3						
AKASG				Lg	Lg	01 42 40.3	
	comp=Z,0.7nm,0.3s,baz=272,slow=26,SNR=4.9						
DAVOX	**Davos/Dischmat**	**6.89**	**243**	Pn	**Pn**	**01 40 48.9**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=39,slow=14,SNR=3.2						
HFS	**Hagfors**	**10.27**	**346**	Pn	**Pn**	**01 41 34.3**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=151,slow=12,SNR=3.4						
NOA	**NORSAR Array B**	**11.57**	**341**	Pn	**Pn**	**01 41 50.6**	**-1.7**
	comp=Z,0.0nm,0.3s,baz=147,slow=11,SNR=3.6						
FINES	**FINESS Array B**	**11.88**	**17**	Pn	**Pn**	**01 41 53.3**	**-3.1**
	comp=Z,0.2nm,0.3s,baz=203,slow=10,SNR=7.8						

IDC 24 01:39:41.5±1.3, 3.79N × 31°.32W, h0 km, mb3.5/5, mb1 3.8/5, mb1mx3.5/42, mbtmp3.5/5, MS3.6/8, Ms1 3.6/8, ms1mx3.3/22, Error ellipse: s-maj=44.0km s-min=29.7km az=166.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR**	**20.37**	**125**	T	T	02 05 26.4	
	baz=304						
H10N2	**ASCENSION HYDR**	**20.38**	**125**	T	T	02 05 31.3	
	baz=304						
H10N1	**ASCENSION HYDR**	**20.39**	**125**	T	T	02 05 28.0	
	baz=304						
H10S3	**ASCENSION HYDR**	**20.88**	**127**	T	T	02 06 06.2	
	baz=306,slow=74,SNR=15						
H10S1	**ASCENSION HYDR**	**20.88**	**127**	T	T	02 06 09.5	
	baz=306,slow=74,SNR=15						
H10S2	**ASCENSION HYDR**	**20.90**	**127**	T	T	02 06 09.6	
	baz=306,slow=74,SNR=12						
BDFB	**Brasilia**	**25.42**	**220**	LR	LR	01 53 48.8	
	comp=Z,108nm,19.4s,baz=274,slow=33						
DBIC	**Dimbokro**	**26.50**	**83**	LR	LR	01 53 43.8	
	comp=Z,148nm,19.4s,baz=259,slow=32						
TORD	**Torodi Ar. Bea**	**33.91**	**72**	P	P	01 46 26.7	+0.2
	0.8nm,0.6s,baz=275,slow=9.2,SNR=8.8						
TORD				LR	LR	01 57 57.2	
	comp=Z,105nm,20.4s,baz=300,slow=32						
CPUP	**Villa Florida**	**39.12**	**219**	P	P	01 47 10.5	-0.4
	0.9nm,0.6s,baz=18,slow=9.6,SNR=2.9						
CPUP				LR	LR	02 02 46.4	
	comp=Z,96nm,19.9s,baz=26,slow=35						
LPAZ	**La Paz**	**41.51**	**240**	LR	LR	02 03 57.9	
	comp=Z,60nm,20.2s,baz=358,slow=35						
ROSC	**El Rosal**	**42.89**	**273**	LR	LR	02 04 55.9	
	comp=Z,59nm,20.8s,baz=172,slow=35						
PLCA	**Paso Flores**	**57.00**	**215**	LR	LR	02 13 34.3	
	comp=Z,85nm,19.4s,baz=44,slow=36						
BRTR	**Keskin Array B**	**68.43**	**49**	LR	LR	02 22 33.8	
	comp=Z,21nm,18.0s,baz=266,slow=38						
TXAR	**Lajitas Array**	**72.77**	**299**	P	P	01 51 13.4	+1.1
	0.2nm,0.6s,baz=102,slow=6.5,SNR=2.4						
PDAR	**Pinedale Array**	**78.80**	**313**	P	P	01 51 46.5	-0.3
	0.2nm,0.6s,baz=84,slow=9.2,SNR=2.6						
YKA	**Yellowknife Ar**	**83.55**	**332**	P	P	01 52 10.3	-1.0
	0.2nm,0.7s,baz=94,slow=5.2,SNR=4.5						

*ISCJB **24** 01:48:31.7±0.6, 38°.41N±0°.05 × 104°.55E±0°.08, h10 km, mb3.5/5, MS3.3/5, Error ellipse: s-maj=9.3km s-min=7.1km az=144.6*

*IDC **24** 01:48:32.4±0.9, 38°.44N × 104°.48E, h0 km, mb3.6/7, mb1 3.8/9, mb1mx3.5/49, mbtmp3.6/9, ML3.3/2, MS3.3/6, Ms1 3.3/6, ms1mx2.9/40, Error ellipse: s-maj=32.9km s-min=16.6km az=69.0*

*BJI **24** 01

MA2	**Magadan**	**35.99**	**39**	LR	LR	02 11 40.0		
	comp=E,56nm,18.3s,baz=116,slow=39							
PETK	**Petropavlovsk-**	**38.97**	**50**	LR	LR	02 14 34.1		
	comp=E,66nm,20.6s,baz=42,slow=40							
NOA	**NORSAR Array B**	**58.74**	**325**	LR	LR	02 25 30.1		
	comp=E,30nm,20.0s,baz=220,slow=38							
WRA	**Warramunga Arr**	**64.47**	**149**	P	**P**	**01 59 11.6**	**+0.8**	
	comp=E,1.2nm,1.0s,baz=340,slow=7.1,SNR=3.9							
ASAR	**Alice Springs**	**67.65**	**151**	P	**P**	**01 59 30.9**	**-0.3**	
	comp=E,0.3nm,0.4s,baz=344,slow=7.0,SNR=4.7							
YKA	**Yellowknife Ar**	**74.61**	**18**	P	**P**	**02 00 12.6**	**-0.2**	
	comp=E,0.1nm,0.4s,baz=333,slow=5.5,SNR=3.4							

*IDC **24** 02:07:04.8±14.0, 51.67N×179.65E, h0km, mb3.3/5, mb1 3.8/5, mb1mx3.4/43, mbtmp3.3/5, Error ellipse: s-maj=284.9km s-min=61.9km az=82.0*
*ISCJB **24** 02:07:20.4±0.7, 52.1N±0.2×179.08E±0.07, h166km±6km, mb3.1/5, Error ellipse: s-maj=29.2km s-min=6.6km az=5.2*
*NEIC **24** 02:07:22.3±0.0, 51.90N×179.08E, h164km, ML2.9(AEIC), After AEIC.*

ISC 24 02:07:21.2±1.0, 52.0N±0.2×179.08E±0.05, h165km±8km, n21, σ0§60/28, mb3.1/5, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CETU	**Semis' Tuman**	**0.26**	**101**	P	**Pn**	**02 07 43.8**	**+0.4**
CEAP	**Semis' Anvil P**	**0.31**	**92**	P	**Pn**	**02 07 43.9**	**+0.4**
LSPA	**Little Sitkin**	**0.32**	**260**	P	**Pn**	**02 07 44.0**	**+0.4**
LSPA				S	**Sn**	**02 08 00.7**	**0.0**
CERB	**Semis' Cerberu**	**0.35**	**104**	P	**Pn**	**02 07 44.3**	**+0.6**
CERB				S	**Sn**	**02 08 01.1**	**+0.2**
LSNW	**Little Sitkin**	**0.35**	**263**	P	**Pn**	**02 07 44.0**	**+0.3**
LSSA	**Little Sitkin**	**0.36**	**260**	P	**Pn**	**02 07 44.1**	**+0.3**
AMKA	**Amchitka**	**0.65**	**168**	P	**Pn**	**02 07 44.9**	**-0.1**
AMKA				S	**Sn**	**02 08 02.2**	**-1.1**
TASE	**Tanaga Southea**	**1.79**	**95**	P	**Pn**	**02 07 55.2**	**+0.2**
TAFP	**Tanaga Falls P**	**1.82**	**92**	P	**Pn**	**02 07 55.5**	**+0.3**
TAFP				S	**Sn**	**02 08 20.6**	**-0.9**
TAPA	**Tanaga Point A**	**1.93**	**95**	P	**Pn**	**02 07 56.4**	**-0.1**
KIMD	**Kanaga Island**	**2.30**	**95**	P	**Pn**	**02 08 00.4**	**-0.2**
KIRH	**Kanaga Island**	**2.37**	**91**	P	**Pn**	**02 08 01.3**	**-0.1**
ADK	**Adak**	**2.62**	**91**	P	**Pn**	**02 08 04.9**	**+0.4**
ADK				S	**Sn**	**02 08 37.4**	**-0.7**
GSTD	**Great Sitkin T**	**2.95**	**87**	P	**Pn**	**02 08 08.3**	**-0.2**
GSTD				S	**Sn**	**02 08 44.8**	**-0.5**
GSMY	**Great Sitkin M**	**3.00**	**88**	P	**Pn**	**02 08 09.0**	**-0.1**
SMY	**Shemya**	**3.14**	**285**	P	**Pn**	**02 08 10.8**	**+0.1**
SMY				S	**Sn**	**02 08 47.9**	**-1.4**
ILAR	**Eielson Array**	**21.60**	**41**	P	**P**	**02 11 56.4**	**-1.2**
	0.5nm,0.7s,baz=242,slow=8.2,SNR=5.3						
YKA	**Yellowknife Ar**	**35.75**	**47**	P	**P**	**02 14 04.2**	**+0.6**
	0.2nm,0.5s,baz=282,slow=8.0,SNR=4.3						
NVAR	**Mina Array Bea**	**44.77**	**82**	P	**P**	**02 15 18.9**	**+0.6**
	0.6nm,0.7s,baz=305,slow=8.3,SNR=3.7						
PDAR	**Pinedale Array**	**47.36**	**72**	P	**P**	**02 15 38.8**	**+0.3**
	0.1nm,0.5s,baz=305,slow=6.5,SNR=3.5						
TXAR	**Lajitas Array**	**59.85**	**80**	P	**P**	**02 17 09.5**	**+0.2**
	0.3nm,0.5s,baz=302,slow=5.1,SNR=12						

*IDC **24** 02:17:01.3±0.7, 16.21S×177.88E, h0km, mb4.3/14, mb1 4.6/14, mb1mx4.5/24, mbtmp4.3/14, MS4.3/28, Ms1 4.3/28, ms1mx4.2/34, Error ellipse: s-maj=27.1km s-min=17.4km az=138.0*
*GCMT **24** 02:17:06.2±0.2, 16.22S±0.01×178.01E±0.01, h13km±1km, MW5.1/109, Moment Tensor Solution. s58,c85; s109,c171; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.68±.12; Mθθ-1.47±.12; Mφφ0.79±.11; Mrθ1.40±.30; Mθφ5.36±.12; Mφr-0.69±.27; Best double couple: M₀5.66200×10¹⁶ NP1:φs264.00000°, δ84.00000°, λ-12.00000°. NP2:φs355.00000°, δ78.00000°, λ-174.00000°. Principal axes: T 5.1690, Plg5.0000°, Azm310.0000°; N 0.9880, Plg77.0000°, Azm59.0000°; P -6.1550, Plg13.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*ISCJB **24** 02:17:06.3±0.2, 16.61S±0.05×177.58E±0.05, h24km, mb5.0/164, MS4.3/27 Error ellipse: s-maj=8.3km s-min=4.9km az=136.4*
*MOS **24** 02:17:08.3±1.9, 16.21S×177.49E, h33km, mb5.2/30, Error ellipse: s-maj=14.0km s-min=10.5km az=51.0*
*BJI **24** 02:17:08.0, 16.60S×177.70E, h34km, mb5.0/28, mB5.3/23, Ms5.0/13, Ms7 4.7/10*
*NEIC **24** 02:17:09.2±0.2, 16.51S×177.44E, h35km, mb5.1/135, Error ellipse: s-maj=10.1km s-min=5.9km az=130.0*

ISC 24 02:17:07.7±0.4, 16.51S±0.08×177.76E±0.09, h24km, n389, σ1§92/372, mb5.1/164, MS4.4/28, 6C-2D, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.03**	**241**	eLQ	LQ	02 22 11.8	
	4μm,25.1s						
DZM				eLR	LR	02 22 44.8	
	comp=Z,5μm,26.6s						
DZM	**Mont Dzumac**	**12.03**	**241**	LR	LR	02 23 59.1	
	comp=Z,3μm,21.6s,baz=46,slow=34						
RAO	**Raoul Island**	**13.29**	**163**	LR	LR	02 24 32.6	
	comp=Z,2μm,18.3s,baz=332,slow=33						
HNR	**Honiara**	**18.72**	**290**	LR	LR	02 27 37.4	
	comp=Z,595nm,18.1s,baz=123,slow=34						
OUZ	**Omahuta**	**19.01**	**191**	eP	**P**	**02 21 26.5**	**-1.2**
	30nm,1.4s						
URZ	**Urewera**	**21.68**	**181**	P	**P**	**02 21 56.0**	**-0.7**
	11nm,0.9s,baz=345,slow=5.0,SNR=6.6						
URZ				LR	LR	02 29 11.5	
	comp=Z,2μm,18.0s,baz=7.5,slow=33						
URZ	**Urewera**	**21.68**	**181**	eP	**P**	**02 21 55.4**	**-1.3**
	48nm,1.2s						
RAR	**Rarotonga**	**21.76**	**106**	LR	LR	02 28 41.7	
	comp=Z,272nm,20.7s,baz=280,slow=32						
HIZ	**Hauiti**	**22.07**	**186**	eP	**P**	**02 22 00.9**	**0.0**
	66nm,0.9s						
BKZ	**Black Stump Fm**	**22.60**	**183**	eP	**P**	**02 22 06.5**	**-0.2**
	21nm,1.2s						
LTZ	**Lake Taylor**	**26.61**	**189**	eP	**P**	**02 22 44.6**	**+0.3**
	36nm,0.9s						
RPZ	**Rata Peaks**	**27.71**	**190**	LR	LR	02 33 28.0	
	comp=Z,770nm,18.1s,baz=6.0,slow=35						
RPZ	**Rata Peaks**	**27.71**	**190**	eP	**P**	**02 22 51.1**	**-3.0**
	14nm,1.1s						
FOZ	**Fox Glacier**	**27.77**	**192**	eP	**P**	**02 22 54.4**	**-0.2**
	32nm,1.0s						
LBZ	**Lake Benmore**	**28.52**	**191**	eP	**P**	**02 23 00.7**	**-0.7**
	39nm,1.3s						
LBZ				epP	**pP**	**02 23 09.3**	**+1.0**
MLZ	**Mavora Lakes**	**29.89**	**194**	eP	**P**	**02 23 14.2**	**+0.7**
	116nm,1.3s						
WHZ	**Wether Hill Ro**	**30.43**	**194**	eP	**P**	**02 23 21.8**	**+3.6**
	69nm,1.1s						
PPT2	**Papeete2**	**31.22**	**97**	eS	S	02 28 19.0	-12
	357nm,23.2s						
PPT2				eLQ	LQ	02 30 02.8	
	2μm,26.0s						
PPT2				eLR	LR	02 31 19.2	
	comp=Z,1μm,29.0s,baz=264						
PPT	**Papeete**	**31.23**	**97**	LR	LR	02 33 10.2	
	comp=Z,224nm,21.6s,baz=262,slow=31						
TBI	**Tubuai**	**31.51**	**108**	eS	S	02 28 21.6	-13
	156nm,26.0s						
TBI				eLQ	LQ	02 30 08.0	
	2μm,25.2s						
TBI				eLR	LR	02 31 26.1	
	comp=Z,2μm,30.5s						
STKA	**Stephens Creek**	**36.17**	**238**	P	**P**	**02 24 08.5**	**0.0**
	8.9nm,0.8s,baz=67,slow=8.0,SNR=14						
STKA				LR	LR	02 38 01.3	
	comp=Z,664nm,19.2s,baz=63,slow=35						
STKA	**Stephens Creek**	**36.17**	**238**	eP	**P**	**02 24 08.9**	**+0.4**
	3.6nm,0.8s						
STKA	**Stephens Creek**	**36.17**	**238**	eP	**P**	**02 24 08.9**	**+0.4**
STKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**36.44**	**342**	T	T	03 02 27.7	
	baz=162,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**36.45**	**342**	T	T	03 02 28.3	
	baz=162,slow=76,SNR=32						
H11S1	**WAKE ISLAND Hy**	**36.46**	**342**	T	T	03 02 30.3	
	baz=162,slow=76,SNR=11						
BBOO	**Buckleboo**	**40.94**	**239**	eP	**P**	**02 24 48.8**	**+0.2**
	comp=Z,20nm,0.9s						
WB2	**Warramunga Arr**	**41.30**	**258**	eP	**P**	**02 24 49.7**	**-1.9**
WB2				ePcP	**PcP**	**02 26 53.5**	**+3.4**
WRAB	**Tennant Creek**	**41.30**	**258**	eP	**P**	**02 24 52.4**	**+0.7**
	comp=Z,18nm,1.4s						
WRAB	**Tennant Creek**	**41.30**	**258**	*i* P	**P**	**02 24 50.4**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,13nm,1.2s						
WR1	**Warramunga Arr**	**41.31**	**258**	eP	**P**	**02 24 49.0**	**-2.8**
	comp=Z,24nm,1.4s						
WRA	**Warramunga Arr**	**41.31**	**258**	P	**P**	**02 24 49.0**	**-2.8**
	comp=Z,4.3nm,1.1s,baz=94,slow=8.4,SNR=17						
WRA				LR	LR	02 39 52.9	
	comp=Z,354nm,20.6s,baz=100,slow=33						
WRA	**Warramunga Arr**	**41.31**	**258**	P	**P**	**02 24 49.0**	**-2.8**
AS01	**Alice Springs**	**41.63**	**253**	eP	**P**	**02 24 52.1**	**-2.3**
AS31	**Alice Springs**	**41.67**	**253**	eP	**P**	**02 24 52.8**	**-1.9**
	comp=Z,6.7nm,0.6s						
ASAR	**Alice Springs**	**41.68**	**253**	P	**P**	**02 24 52.8**	**-2.0**
	comp=Z,6.2nm,0.8s,baz=86,slow=9.3,SNR=44						
ASAR				LR	LR	02 40 37.6	
	comp=Z,643nm,21.5s,baz=90,slow=34						
TAOE	**Nuku Hiva Isla**	**41.69**	**85**	eLR	LR	02 36 12.0	
	comp=Z,912nm,27.0s						
RKT	**Rikitea**	**44.80**	**106**	eLQ	LQ	02 35 33.8	
	comp=Z,1μm,30.5s						
RKT				eLR	LR	02 37 35.9	
	comp=Z,688nm,29.5s						
FORT	**Forrest**	**47.33**	**243**	eP	**P**	**02 25 44.2**	**+4.3**
	comp=Z,50nm,0.8s						
FITZ	**Fitzroy Crossi**	**49.66**	**260**	eP	**P**	**02 25 57.0**	**-0.9**
	comp=Z,44nm,1.5s						
DAV	**Davao City (W)**	**56.69**	**290**	LR	LR	02 50 21.8	
	comp=Z,107nm,18.6s,baz=114,slow=35						
VNDA	**Vanda**	**61.56**	**184**	LR	LR	02 50 57.1	
	comp=Z,248nm,19.3s,baz=20,slow=33						
MJAR	**Matsushiro Arr**	**64.64**	**325**	P	**P**	**02 27 39.6**	**-3.9**
	comp=Z,4.8nm,0.9s,baz=165,slow=6.7,SNR=6.5						
MJAR				LR	LR	02 50 28.3	
	comp=Z,205nm,21.8s,baz=120,slow=31						
MAJO	**Matsushiro**	**64.64**	**325**	eP	**P**	**02 27 39.6**	**-3.9**
MAJO	**Matsushiro**	**64.64**	**325**	*i* P	**P**	**02 27 43.9**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ASAJ	**Asahikawa**	**68.35**	**333**	LR	LR	02 51 52.2	
	comp=Z,269nm,21.8s,baz=146,slow=31						
YSS	**Yuzh-Sakhalins**	**70.58**	**335**	eP	**P**	**02 28 20.8**	**+0.1**
KSRS	**Korea Array**	**71.25**	**320**	P	**P**	**02 28 22.7**	**-2.4**
	comp=Z,4.3nm,1.1s,baz=132,slow=7.1,SNR=4.6						
KSRS				LR	LR	02 54 30.2	
	comp=Z,225nm,21.0s,baz=114,slow=32						
KS15	**Wonju Array Si**	**71.27**	**320**	eP	**P**	**02 28 22.7**	**-2.5**
KSAR	**Wonju Array Be**	**71.27**	**320**	P	**P**	**02 28 22.7**	**-2.5**
KSAR	**Wonju Array Be**	**71.27**	**320**	P	**P**	**02 28 22.7**	**-2.5**
PETK	**Petropavlovsk-**	**71.46**	**347**	LR	LR	02 55 59.0	
	comp=Z,87nm,21.7s,baz=164,slow=33						
USRK	**Ussuriysk Ar.**	**73.44**	**327**	P	**P**	**02 28 34.8**	**-3.2**
	comp=Z,2.3nm,0.9s,baz=174,slow=2.9,SNR=3.2						
USRK				LR	LR	02 55 37.1	
	comp=Z,172nm,20.1s,baz=129,slow=32						
QSPA	**South Pole Qui**	**73.54**	**180**	eP	**P**	**02 28 37.4**	**-1.1**
	comp=Z,41nm,1.1s						
TYV	**Tymovskoe**	**73.81**	**338**	eP	**P**	**02 28 36.7**	**-3.3**
TYV				eS	**SKiKP**	**02 38 02.1**	**-5.8**
TYV				pmax	pmax		
	comp=Z,7.0nm,1.2s						
TYV				pmax	pmax		
	comp=Z,400nm,6.2s						
TYV				smax	smax		
	comp=E,600nm,6.7s						
NJ2	**Nanjing**	**74.25**	**311**	eP	**P**	**02 28 43.4**	**+0.4**
NJ2				pmax	pmax		
	comp=E,17nm,0.7s						
NKL	**Nikolayevsk**	**76.38**	**338**	eP	P	02 28 49.0	-5.7
NKL				pmax	pmax		
	comp=Z,22nm,1.0s						
CN2	**Changchun**	**76.71**	**324**	eP	**P**	**02 29 00.8**	**+3.9**
KLR	**Kul'dur**	**77.08**	**331**	*i* P	**P**	**02 28 56.3**	**-2.6**
KDAK	**Kodiak Island**	**77.99**	**16**	LR	LR	02 55 53.3	
	comp=Z,382nm,21.2s,baz=173,slow=30						
SAO	**San Andreas Ge**	**78.01**	**46**	eP	**P**	**02 29 06.4**	**+2.1**
	comp=Z,26nm,1.1s						
SAO	**San Andreas Ge**	**78.01**	**46**	eP	**P**	**02 29 06.4**	**+2.1**
SAO				pmax	pmax		
	comp=Z,26nm,1.1s						
O02D	**Mt. Diablo Mer**	**78.92**	**42**	P	**P**	**02 29 11.3**	**+1.9**
	baz=238						
ARVC	**Arvin**	**79.03**	**48**	P	**P**	**02 29 11.2**	**+1.2**
	baz=241						
VES	**Vestal, Richgr**	**79.20**	**48**	P	**P**	**02 29 11.6**	**+0.7**
	baz=241						
CMB	**Columbia Colle**	**79.39**	**45**	eP	**P**	**02 29 13.6**	**+1.7**
	comp=Z,14nm,1.1s						
N02D	**Trinity Center**	**79.40**	**42**	P	**P**	**02 29 13.7**	**+1.7**
	baz=237						
ORV	**Oroville**	**79.43**	**43**	eP	**P**	**02 29 10.0**	**-2.1**
	comp=Z,12nm,1.1s						
ORV	**Oroville**	**79.43**	**43**	eP	**P**	**02 29 10.0**	**-2.1**
ORV				pmax	pmax		
	comp=Z,12nm,1.1s						
BFSC	**Mount Baldy Ra**	**79.45**	**50**	P	**P**	**02 29 12.7**	**+0.2**
	baz=242						
AFDM	**Forest Hills D**	**79.46**	**44**	eP	**P**	**02 29 13.6**	**+1.3**
	comp=Z,16nm,1.2s						
MURC	**Murrieta**	**79.50**	**50**	P	**P**	**02 29 13.3**	**+0.7**
	baz=242						
EDW2	**Edwards Air Fo**	**79.52**	**49**	P	**P**	**02 29 13.1**	**+0.3**
	baz=242,SNR=8.1						
M02C	**Callahan**	**79.54**	**41**	P	**P**	**02 29 14.2**	**+1.4**
	baz=237						
O03E	**Paynes Creek**	**79.62**	**43**	P	**P**	**02 29 14.4**	**+1.2**
	baz=238						
MONP2	**Monument Peak**	**79.74**	**51**	P	**P**	**02 29 14.8**	**+0.6**
	baz=243,SNR=7.0						
YBH	**Yreka Blue Hor**	**79.81**	**41**	LR	LR	02 56 03.4	
	comp=Z,315nm,21.0s,baz=275,slow=30						
YBH	**Yreka Blue Hor**	**79.81**	**41**	eP	**P**	**02 29 16.6**	**+2.4**
	comp=Z,21nm,1.2s						
YBH	**Yreka Blue Hor**	**79.81**	**41**	eP	**P**	**02 29 16.6**	**+2.4**
YBH				pmax	pmax		
	comp=Z,21nm,1.2s						
IKP	**In-Ko-Pah, Jac**	**79.87**	**52**	P	**P**	**02 29 15.1**	**+0.4**
	baz=243,SNR=5.3						
SKNT	**Sakolnakorn**	**79.95**	**291**	P	**P**	**02 29 14.1**	**-1.3**
	comp=Z,8.7nm,0.9s,comp=Z,908nm						
LRMC	**Laurel Mtn Rad**	**80.02**	**48**	P	**P**	**02 29 15.8**	**+0.2**
	baz=242						
PFO	**Pinyon Flats O**	**80.05**	**51**	eP	**P**	**02 29 17.4**	**+1.7**
	comp=Z,9.8nm,1.2s						
PFO	**Pinyon Flats O**	**80.05**	**51**	eP	**P**	**02 29 17.4**	**+1.7**
PFO				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PFO	**Pinyon Flats O**	**80.05**	**51**	P	**P**	**02 29 16.1**	**+0.3**
	baz=243,SNR=5.4						
XPFO	**Pion Flat**	**80.05**	**51**	eP	**P**	**02 29 17.4**	**+1.6**
	comp=Z,12nm,1.3s						
MDPB	**Devils Postpil**	**80.08**	**46**	eP	**P**	**02 29 17.1**	**+1.1**
	comp=Z,16nm,1.1s						
PSI	**Prapat**	**80.11**	**276**	LR	LR	03 06 07.4	
	comp=Z,133nm,18.8s,baz=258,slow=37						
OMMB	**Old Mammoth Mi**	**80.13**	**46**	eP	**P**	**02 29 18.3**	**+1.9**
	comp=Z,17nm,1.2s						
CWC	**Cottonwood Cre**	**80.20**	**47**	P	**P**	**02 29 17.2**	**+0.6**
	baz=241						
SWSC	**Sam W. Stewart**	**80.23**	**51**	P	**P**	**02 29 16.9**	**+0.3**
	baz=243						
WAKR	**Walker**	**80.27**	**45**	eP	**P**	**02 29 19.8**	**+2.8**
	comp=Z,17nm,1.3s						
L04D	**Klamath Falls**	**80.33**	**41**	P	**P**	**02 29 18.0**	**+0.9**
	baz=238						
BEKR	**Beckworth**	**80.34**	**44**	eP	**P**	**02 29 19.2**	**+1.9**
	comp=Z,10nm,1.1s						
M04C	**Macdoel**	**80.39**	**41**	P	**P**	**02 29 18.7**	**+1.3**
	baz=238						
TIN	**Tinemaha, Big**	**80.39**	**47**	P	**P**	**02 29 18.2**	**+0.7**
	baz=241						
MPMC	**Manual Prospec**	**80.44**	**48**	P	**P**	**02 29 18.4**	**+0.6**
	baz=242,SNR=8.9						
DAC	**Darwin (Calif)**	**80.47**	**48**	eP	**P**	**02 29 19.9**	**+1.9**
	comp=Z,14nm,1.3s						
DAC	**Darwin (Calif)**	**80.47**	**48**	eP	**P**	**02 29 19.9**	**+1.9**
DAC				pmax	pmax		
	comp=Z,14nm,1.3s						
I03D	**Drain, OR**	**80.49**	**39**	P	**P**	**02 29 18.9**	**+1.2**
	baz=236						
BELC	**Belle Mtn. Jos**	**80.56**	**50**	P	**P**	**02 29 18.4**	**-0.1**
	baz=243						
GSC	**Goldstone, Bar**	**80.57**	**49**	P	**P**	**02 29 19.5**	**+1.1**
	baz=242,SNR=5.7						
HEC	**Hector,Ludlow**	**80.69**	**50**	P	**P**	**02 29 20.2**	**+1.0**
	baz=243						
BC3	**Big Chuckawall**	**80.81**	**51**	P	**P**	**02 29 21.0**	**+1.1**
	baz=243						
RYN	**Ryan**	**80.95**	**45**	eP	**P**	**02 29 23.1**	**+2.5**
	comp=Z,19nm,1.2s						
GRAC	**Grapevine Rang**	**80.97**	**47**	P	**P**	**02 29 22.1**	**+1.6**
	baz=242,SNR=5.3						
J04D	**Umpqua Nationa**	**81.00**	**40**	P	**P**	**02 29 21.6**	**+0.9**
	baz=238						
NV01	**Mina Array Sit**	**81.01**	**46**	eP	**P**	**02 29 17.1**	**-3.8**
NVAR	**Mina Array Bea**	**81.01**	**46**	P	**P**	**02 29 17.1**	**-3.8**
	comp=Z,3.2nm,0.8s,baz=226,slow=8.7,SNR=0.9						
GLA	**Glamis**	**81.01**	**52**	eP	**P**	**02 29 21.3**	**+0.5**
	comp=Z,17nm,1.4s						
GLA	**Glamis**	**81.01**	**52**	eP	**P**	**02 29 21.3**	**+0.5**
GLA				pmax	pmax		
	comp=Z,17nm,1.4s						
GLA	**Glamis**	**81.01**	**52**	P	**P**	**02 29 21.1**	**+0.3**
	baz=244						
FURC	**Furnace Creek,**	**81.08**	**48**	P	**P**	**02 29 21.9**	**+0.9**
	baz=242						
I04A	**Tendick Farm,**	**81.12**	**39**	P	**P**	**02 29 22.8**	**+1.7**
	baz=237						
GMRC	**Granite Mounta**	**81.17**	**50**	P	**P**	**02 29 22.7**	**+0.9**
	baz=243						
GYA	**Guiyang**	**81.17**	**301**	P	**P**	**02 29 24.3**	**+2.4**
GYA				pP	sP	02 29 35.4	+3.8
GYA				PP	**PP**	**02 32 31.0**	**+3.4**
GYA				S	**S**	**02 39 31.8**	**+0.8**
GYA				SKS	**SKSac**	**02 39 36.3**	**-3.7**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.8s						
IRM	**Iron Mountain**	**81.27**	**51**	P	**P**	**02 29 22.4**	**+0.2**
	baz=244,SNR=5.1						
TUQ	**Turquoise Moun**	**81.27**	**49**	P	**P**	**02 29 22.4**	**+0.2**
	baz=243,SNR=5.6						
H04D	**Lebanon**	**81.32**	**39**	P	**P**	**02 29 23.9**	**+1.8**
	baz=237						
G03D	**McMinnville, O**	**81.39**	**38**	P	**P**	**02 29 24.7**	**+2.2**
	baz=236						
MOD	**Modoc Plateau**	**81.43**	**42**	eP	**P**	**02 29 24.0**	**+1.0**
	comp=Z,24nm,1.2s						
KVN	**Kaiserville**	**81.45**	**45**	eP	**P**	**02 29 24.7**	**+1.5**
	comp=Z,15nm,1.1s						
KVN	**Kaiserville**	**81.45**	**45**	eP	**P**	**02 29 24.7**	**+1.5**
KVN				pmax	pmax		
	comp=Z,15nm,1.1s						
Y12C	**Blythe**	**81.55**	**51**	P	**P**	**02 29 24.0**	**+0.5**
	baz=244						
J05D	**Fort Rock, OR**	**81.56**	**40**	P	**P**	**02 29 24.4**	**+0.7**
	baz=238,SNR=12						
SEY	**Seymchan**	**81.64**	**349**	*i* P	**P**	**02 29 24.8**	**+1.4**
H04A	**Detroit Lake**	**81.73**	**39**	eP	**P**	**02 29 26.4**	**+2.1**
	comp=Z,32nm,1.3s						
TPNV	**Topopah Spring**	**81.74**	**48**	P	**P**	**02 29 25.5**	**+0.8**
	baz=242						
PINE	**Pine Mountain**	**82.01**	**40**	eP	**P**	**02 29 28.0**	**+1.9**
	comp=Z,25nm,1.0s						
I05D	**Terrebonne, OR**	**82.06**	**39**	P	**P**	**02 29 27.8**	**+1.7**
	baz=238						
214A	**Organ Pipe Nat**	**82.08**	**53**	P	**P**	**02 29 27.6**	**+1.1**
	baz=245						
PDMCI	**Parker Dam,Lak**	**82.08**	**51**	P	**P**	**02 29 27.6**	**+1.3**
	baz=244,SNR=7.4						
ZEA	**Zeya**	**82.23**	**332**	eP	**P**	**02 29 29.8**	**+3.1**
ZEA				pmax	pmax		
	comp=Z,12nm,1.0s						
SHPR	**Sheep Range**	**82.31**	**48**	eP	**P**	**02 29 26.5**	**-1.3**
	comp=Z,10nm,1.2s						
XAN	**Xi'an**	**82.52**	**309**	P	**P**	**02 29 26.8**	**-2.0**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
PBKT	**Sadao Pong**	**82.52**	**290**	P	P	02 29 34.1	+5.1
	comp=Z,5.1nm,1.2s						
E04D	**Cinebar**	**82.53**	**37**	P	**P**	**02 29 29.7**	**+1.2**
	baz=237						
G05D	**Wamic, OR**	**82.56**	**39**	P	**P**	**02 29 30.2**	**+1.5**
	baz=238						
W13A	**Hualapai Mount**	**82.61**	**50**	eP	**P**	**02 29 29.1**	**-0.4**
	comp=Z,7.7nm,1.1s						
BMN	**Battle Mountai**	**82.71**	**44**	eP	**P**	**02 29 31.5**	**+1.7**
BMN	**Battle Mountai**	**82.71**	**44**	eP	**P**	**02 29 31.5**	**+1.7**
WVOR	**Wild Horse Val**	**82.76**	**42**	eP	**P**	**02 29 31.5**	**+1.6**
	comp=Z,20nm,1.1s						
WVOR	**Wild Horse Val**	**82.76**	**42**	eP	**P**	**02 29 31.5**	**+1.6**
WVOR				pmax	pmax		
	comp=Z,19nm,1.1s						
Y14A	**Wickenburg**	**82.77**	**52**	eP	**P**	**02 29 27.3**	**-2.8**
	comp=Z,12nm,1.4s						
D03D	**Eldon**	**82.78**	**36**	P	**P**	**02 29 31.2**	**+1.4**
	baz=236						
F05D	**White Salmon**	**82.81**	**38**	P	**P**	**02 29 31.7**	**+1.7**
	baz=238						
R11A	**Troy Canyon, C**	**82.85**	**47**	P	**P**	**02 29 30.9**	**+0.4**
	baz=243						
CAST	**Castle Rocks**	**83.05**	**13**	eP	**P**	**02 29 28.7**	**-2.1**
	comp=Z,26nm,1.2s						
D05A	**Enumclaw**	**83.21**	**37**	eP	**P**	**02 29 36.2**	**+4.2**
	comp=Z,62nm,1.4s						
J08A	**Circle Bar Ran**	**83.33**	**41**	eP	**P**	**02 29 31.9**	**-1.0**
	comp=Z,15nm,1.0s						
TRF	**Thorofare Moun**	**83.48**	**14**	eP	**P**	**02 29 34.9**	**+1.6**
	comp=Z,35nm,1.4s					

comp=Z,18nm,1.0s
WUAZ Wupatki 84.65 51 *e*P **P 02 29 37.4 -2.5**
comp=Z,19nm,1.1s
WUAZ Wupatki 84.65 51 P **P 02 29 40.2 +0.3**
baz=246
BILL Bilibino 84.72 356⇑ *e*P **P 02 29 39.1 -0.1**
BILL *e* 02 32 52.4
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,425nm,24.0s
PKCU Pink Cliffs 84.77 49 *e*P **P 02 29 38.5 -2.1**
comp=Z,45nm,1.2s
BMO Blue Mountains 84.80 40 *e*P **P 02 29 41.4 +1.1**
comp=Z,10.0nm,1.1s
CM01 Chiang Mai Arr 84.94 291 *e*P **P 02 29 45.6 +4.1**
CM31 Chiang Mai Arr 84.97 291 *e*P **P 02 29 40.0 -1.6**
CMAR Chiang Mai Arr 84.97 291 P **P 02 29 40.0 -1.6**
comp=Z,1.1nm,0.3s,baz=98,slow=3.6,SNR=6.3
CMAR LR LR 03 06 07.8
comp=Z,75nm,19.9s,baz=138,slow=35
MFID Camas Ranch 85.04 42 *e*P **P 02 29 39.2 -2.4**
comp=Z,23nm,1.1s
RIDG Independ'e Rid 85.06 16 *e*P **P 02 29 42.4 +1.4**
comp=Z,21nm,1.1s
HDA Harding Lake 85.08 15 *e*P **P 02 29 40.9 -0.2**
comp=Z,31nm,1.4s
HDA Harding Lake 85.08 15 P **P 02 29 42.2 +1.1**
baz=214
CHTO Chiang Mai 85.08 291 P P 02 29 47.9 +5.7
E09A Wood Farm, Sta 85.11 39 *e*P **P 02 29 43.2 +1.6**
comp=Z,15nm,1.2s
MTPU Mount Pierson 85.12 48 *e*P **P 02 29 40.0 -2.4**
comp=Z,24nm,1.1s
CD2 Chengdu 85.25 304 *e*P **P 02 29 44.5 +1.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
TCOL CIGO, UAF Yank 85.25 14 P **P 02 29 43.0 +1.1**
baz=213
COLA College 85.26 14 *e*P **P 02 29 43.5 +1.6**
comp=Z,27nm,1.1s
COLA College 85.26 14 *i* P **P 02 29 43.2 +1.3**
COLA pmax pmax
comp=Z,22nm,1.1s
X18A Snowflake 85.32 52 *e*P **P 02 29 45.0 +1.7**
comp=Z,10nm,1.0s
MSU Marysvale 85.32 48 *e*P **P 02 29 41.1 -2.1**
MSU Marysvale 85.32 48 *e*P **P 02 29 41.1 -2.1**
B08A Colville Reser 85.35 37 *e*P **P 02 29 44.1 +1.2**
comp=Z,9.6nm,1.1s
ILAR Eielson Array 85.40 14 P P 02 29 37.4 -5.3
comp=Z,2.2nm,0.7s,baz=236,slow=5.9,SNR=23
ILB Eielson Array 85.40 14 *e*P P 02 29 38.4 -4.3
SCRK Sand Creek 85.47 16 *e*P **P 02 29 40.2 -3.0**
comp=Z,12nm,1.2s
POKR Poker Plat Res 85.56 14 P **P 02 29 44.3 +0.9**
baz=214
DUG Dugway, Tooele 85.60 46 *e*P **P 02 29 44.5 +0.1**
DUG Dugway, Tooele 85.60 46 *e*P **P 02 29 44.5 +0.1**
DUG Dugway, Tooele 85.60 46 P **P 02 29 45.0 +0.5**
baz=244
C09A Chrisman Ranch 85.68 37 *e*P **P 02 29 45.6 +1.2**
comp=Z,18nm,1.5s
W18A Petrified Fore 85.71 52 P **P 02 29 44.8 -0.4**
baz=247
BGU Big Grassy Mou 85.77 45 *e*P **P 02 29 46.8 +1.5**
comp=Z,8.1nm,1.1s
NLU North Lily Min 86.01 46 *e*P **P 02 29 45.9 -0.6**
comp=Z,7.8nm,1.3s
HLID Hailey 86.03 42 *e*P **P 02 29 43.4 -3.1**
comp=Z,13nm,1.0s
HLID Hailey 86.03 42 P **P 02 29 46.3 -0.2**
baz=243
DLBC Dease Lake 86.04 25 *e*P **P 02 29 48.2 +2.2**
comp=Z,27nm,1.4s
Q16A Castle Valley 86.20 48 *e*P **P 02 29 47.5 0.0**
comp=Z,22nm,1.4s
121A Cookes Peak, D 86.21 55 P **P 02 29 47.8 +0.1**
baz=248
HVU Hansel Valley 86.31 45 *e*P **P 02 29 44.9 -3.0**
comp=Z,26nm,1.2s
HVU Hansel Valley 86.31 45 *e*P **P 02 29 44.9 -3.0**
HVU pmax pmax
comp=Z,26nm,1.2s
SPUT South Promonto 86.33 45 *e*P **P 02 29 45.8 -2.3**
comp=Z,22nm,1.1s
TMUT Trail Mountain 86.34 47 *e*P **P 02 29 46.6 -1.7**
comp=Z,18nm,1.1s
MPU Maple Canyon 86.34 47 *e*P **P 02 29 44.8 -3.4**
comp=Z,12nm,1.1s
CTU Camp Tracy 86.55 46 *e*P **P 02 29 45.8 -3.4**
comp=Z,20nm,1.2s
NEW Newport 86.58 37 *e*P **P 02 29 49.9 +0.9**
comp=Z,7.2nm,1.1s
NEW Newport 86.58 37 *e*P **P 02 29 49.9 +0.9**
NEW pmax pmax
comp=Z,7.0nm,1.1s
NEW Newport 86.58 37 P **P 02 29 49.7 +0.8**
baz=241
JLU Jordanelle 86.71 46 *e*P **P 02 29 51.7 +1.6**
comp=Z,12nm,1.0s
P17A Butcher Ranch, 86.74 47 *e*P **P 02 29 50.6 +0.5**
comp=Z,5.7nm,0.9s
SRU San Rafael Swe 86.75 48 *e*P **P 02 29 50.8 +0.6**
comp=Z,11nm,1.1s
SRU San Rafael Swe 86.75 48 *e*P **P 02 29 50.8 +0.6**
SRU pmax pmax
comp=Z,11nm,1.1s
DAWY Dawson 86.81 17 *e*P **P 02 29 47.2 -2.5**
comp=Z,8.2nm,1.0s
EGAK Eagle 86.86 16 *e*P **P 02 29 51.5 +1.6**
comp=Z,13nm,1.2s
TCUT Toone Canyon 86.96 46 *e*P **P 02 29 48.8 -2.5**
comp=Z,39nm,1.2s
LZH Lanzhou 87.16 309 *e*P **P 02 29 50.8 -1.4**
LZH pP pP 02 30 01.5 +2.1
LZH sP sP 02 30 05.8 +3.9
LZH *e*PP **PP 02 33 18.0 +1.7**
LZH pmax pmax
comp=Z,25nm,1.4s
LZH pmax pmax
comp=Z,92nm,9.2s
LZH LR LR
comp=Z,210nm,17.3s
LZH LR LR
comp=Z,220nm,17.0s
LZH LR LR
comp=Z,320nm,19.5s
MVCO Mesa Verde 87.45 50 P **P 02 29 54.3 +0.6**
baz=247
PV09 Paradox Valley 87.49 49 *e*P **P 02 29 58.4 +4.4**
PV23 Carpenter Ridg 87.56 49 *e*P **P 02 29 57.9 +3.6**
comp=Z,11nm,1.1s
MCMT McKenzie Canyo 87.60 42 *e*P **P 02 29 56.1 +1.9**
PV21 Cone Mtn., Par 87.63 49 *e*P **P 02 29 56.6 +2.0**
comp=Z,16nm,1.4s
PV12 Saucer Basin, 87.66 49 *e*P **P 02 29 59.3 +4.6**
comp=Z,11nm,1.2s
MNTX Cornudas Mount 87.80 56 *e*P **P 02 29 53.8 -1.4**
comp=Z,9.9nm,1.4s
MNTX Cornudas Mount 87.80 56 P **P 02 29 55.0 -0.2**
baz=249
MSO Missoula 87.81 40 *e*P **P 02 29 56.7 +1.7**
comp=Z,12nm,1.4s
MSO Missoula 87.81 40 P **P 02 29 55.7 +0.7**
baz=243
DLMT Dillon 87.99 41 *e*P **P 02 29 52.7 -3.3**
comp=Z,25nm,1.1s
ANMO Albuquerque 88.13 53 *e*P **P 02 29 57.8 +0.8**
comp=Z,9.1nm,1.2s
ANMO Albuquerque 88.13 53 *i* P **P 02 29 57.3 +0.3**
ANMO pmax pmax
comp=Z,6.0nm,1.1s
ANMO Albuquerque 88.13 53 P **P 02 29 57.1 +0.1**
baz=249
TPAW Teton Pass 88.26 44 *e*P **P 02 29 57.6 +0.2**
comp=Z,15nm,1.2s
FXWY Fox Creek 88.27 43 *e*P **P 02 29 55.2 -2.3**
comp=Z,9.7nm,1.1s
REDW Red Top Meadow 88.27 44 *e*P **P 02 29 54.8 -2.6**
comp=Z,34nm,1.3s
LRM Limekiln Ridge 88.28 41 *e*P **P 02 29 58.9 +1.4**
TX31 Lajitas Ar. Si 88.37 59 *e*P **P 02 29 58.0 -0.2**
LTX Lajitas 88.37 59 *e*P **P 02 29 54.4 -3.7**
LTX Lajitas 88.37 59 *e*P **P 02 29 54.4 -3.7**
TXAR Lajitas Array 88.37 59 P **P 02 29 54.4 -3.7**
comp=Z,1.1nm,0.9s,baz=243,slow=3.0,SNR=12
TXAR LR LR 03 03 28.2
comp=Z,312nm,18.2s,baz=0.0,slow=32
SNOW Snow King Moun 88.38 44 *e*P **P 02 29 59.0 +1.0**
comp=Z,17nm,1.0s
IMW Indian Meadow 88.44 43 *e*P **P 02 29 57.3 -1.0**
comp=Z,19nm,1.1s
MOOW Moose Ponds 88.50 43 *e*P **P 02 29 58.7 +0.1**
comp=Z,12nm,1.2s
QLMT Earthquake Lak 88.51 42 *e*P **P 02 30 01.3 +2.7**
LOHW Long Hollow 88.54 44 *e*P **P 02 29 58.3 -0.5**
comp=Z,12nm,1.3s
YHB Horse Butte 88.63 42 *e*P **P 02 30 00.5 +1.4**
comp=Z,20nm,1.1s
FLWY Flagg Ranch 88.67 43 *e*P **P 02 30 01.7 +2.4**
comp=Z,22nm,1.3s
FLWY *e*pP **sP 02 30 11.6 +2.5**
BOZ Bozeman (W) 88.71 41 *e*P **P 02 29 57.0 -2.4**
comp=Z,13nm,0.6s
BOZ Bozeman (W) 88.71 41 *e*P **P 02 29 57.0 -2.4**
BOZ pmax pmax
comp=Z,13nm,0.6s
YFT Old Faithful 88.73 43 *e*P **P 02 30 03.3 +3.6**
comp=Z,14nm,1.2s
YMR Madison River 88.74 43 *e*P **P 02 30 02.2 +2.5**
comp=Z,16nm,1.1s
O20A White River Ci 88.77 47 *e*P **P 02 30 01.8 +1.9**
comp=Z,10nm,1.0s
O20A White River Ci 88.77 47 P **P 02 29 59.8 0.0**
baz=247
YHH Holmes Hill 88.87 42 *e*P **P 02 30 02.9 +2.6**
comp=Z,16nm,1.4s
H17A Grant Village 88.88 43 *e*P **P 02 30 01.7 +1.4**
comp=Z,15nm,1.2s
H17A Grant Village 88.88 43 P **P 02 30 01.3 +1.0**
baz=246
S22A 4UR Ranch, Cre 88.88 50 *e*P **P 02 29 57.4 -3.2**
comp=Z,12nm,1.5s
S22A 4UR Ranch, Cre 88.88 50 P **P 02 30 01.0 +0.5**
baz=248
BW06 Boulder Array 88.89 45 *e*P **P 02 29 59.8 -0.6**
comp=Z,13nm,1.1s
BW06 Boulder Array 88.89 45 P **P 02 30 00.8 +0.3**
baz=246
PD31 Pinedale Array 88.89 45 *e*P **P 02 30 00.5 +0.1**
PDAR Pinedale Array 88.89 45 P **P 02 29 56.6 -3.8**
comp=Z,3.2nm,0.9s,baz=241,slow=3.1,SNR=6.9
PDAR LR LR 03 04 06.3
comp=Z,258nm,18.4s,baz=249,slow=32
YNR Norris Junctio 88.95 43 *e*P **P 02 30 05.3 +4.6**
comp=Z,9.9nm,1.1s
HRY Holter Researc 89.06 40 *e*P **P 02 29 58.2 -2.7**
LKWY Lake 89.07 43 *e*P **P 02 30 01.5 +0.3**
comp=Z,18nm,1.0s
LKWY Lake 89.07 43 *e*P **P 02 30 01.5 +0.3**
LKWY pmax pmax
comp=Z,18nm,1.0s
SMCO Snowmass 89.31 49 *e*P **P 02 30 05.2 +2.5**
comp=Z,10.0nm,1.2s
SYO Syowa Base 89.67 194⇓ *e*pP 02 30 13.0 +1.9
SYO Syowa Base 89.67 194⇓ *e*sP sP 02 30 16.6 +2.7
ULN Ulaanbaatar 89.73 321 *e*P **P 02 30 06.1 +1.9**
comp=Z,6.9nm,1.1s
ULN Ulaanbaatar 89.73 321 *i* P **P 02 30 03.4 -0.8**
ULN pmax pmax
comp=Z,5.0nm,0.8s
SDCO Great Sand Dun 89.86 50 *e*P **P 02 30 07.3 +2.2**
comp=Z,9.7nm,1.4s
SDCO Great Sand Dun 89.86 50 P **P 02 30 05.0 -0.2**
baz=249
RLMT Red Lodge 90.03 43 *e*P **P 02 30 08.7 +3.0**
comp=Z,13nm,1.3s
RLMT Red Lodge 90.03 43 P **P 02 30 07.0 +1.4**
baz=247
GCMT Greycliff 90.04 42 *e*P **P 02 30 08.7 +3.1**
SONA0 Songino Array 90.12 320 *e*P **P 02 30 01.8 -4.2**
SONA1 Songino Array 90.12 320 *e*P **P 02 30 02.9 -3.0**
SONM Songino Array 90.12 320 P **P 02 30 01.8 -4.2**
comp=Z,1.4nm,0.8s,baz=126,slow=3.5,SNR=5.2
SONM LR LR 03 05 33.9
comp=Z,124nm,21.5s,baz=128,slow=32
T25A Trinidad 90.46 51 P **P 02 30 08.8 +0.9**
baz=250
LNIG Linares 90.49 64 *e*P **P 02 30 08.6 +0.6**
comp=Z,8.1nm,1.1s
ISCO Idaho Springs 90.52 49 *e*P **P 02 30 10.3 +2.1**
comp=Z,15nm,1.5s
ISCO Idaho Springs 90.52 49 *e*P **P 02 30 10.3 +2.1**
ISCO pmax pmax
comp=Z,15nm,1.5s
ISCO Idaho Springs 90.52 49 P **P 02 30 09.1 +0.9**
baz=249
Q24A Divide 90.56 49 *e*P **P 02 30 10.6 +2.1**
comp=Z,20nm,1.4s
Q24A Divide 90.56 49 P **P 02 30 08.7 +0.2**
baz=249
MSTX Muleshoe 90.64 55 *e*P **P 02 30 09.4 +0.7**
comp=Z,13nm,1.3s
MSTX Muleshoe 90.64 55 P **P 02 30 08.9 +0.3**
baz=251
BOD Bodaibo 90.66 331 *e*P **P 02 30 09.3 +1.3**
BOD pmax pmax
comp=Z,7.0nm,1.1s
N23A Red Feather La 90.68 47 *e*P **P 02 30 10.6 +1.7**
comp=Z,21nm,1.2s
N23A Red Feather La 90.68 47 P **P 02 30 09.8 +1.0**
baz=249
K22A Casper 90.91 46 *e*P **P 02 30 12.2 +2.4**
comp=Z,14nm,1.1s
K22A Casper 90.91 46 P **P 02 30 11.2 +1.4**
baz=248
PHWY Pilot Hill 91.17 47 *e*P **P 02 30 13.1 +1.9**
comp=Z,13nm,1.1s
GTA Gaotai 91.34 311 *e*P **P 02 30 09.0 -2.8**
GTA pP pP 02 30 17.1 -1.9
GTA sP sP 02 30 21.8 +0.3
GTA pmax pmax
comp=Z,3.0nm,1.1s
SNAA Sanae 92.04 180 P **P 02 30 14.2 -0.3**
SNAA Sanae 92.04 180 *e*P **P 02 30 17.4 +2.9**
comp=Z,16nm,1.4s
SNAA Sanae 92.04 180 *i* P **P 02 30 15.4 +0.9**
KSCO Kaye Shedlock' 92.42 50 *e*P **P 02 30 19.3 +2.5**
comp=Z,46nm,1.4s
KSCO Kaye Shedlock' 92.42 50 P **P 02 30 18.4 +1.6**
baz=251
LAO LASA Array 92.59 42 *e*P **P 02 30 20.3 +3.0**
comp=Z,35nm,1.3s
LAO LASA Array 92.59 42 P **P 02 30 17.6 +0.3**
baz=249
ABTX Abilene, Hawle 92.70 57 *e*P **P 02 30 19.4 +1.2**
comp=Z,22nm,1.2s
ABTX Abilene, Hawle 92.70 57 P **P 02 30 18.1 -0.1**
baz=252
VNA1 Neumayer--Stat 92.97 178 P P 02 30 27.1 +8.5
RSSD Black Hills 93.13 45 *e*P **P 02 30 19.6 -0.5**
comp=Z,19nm,1.1s
RSSD Black Hills 93.13 45 *e*P **P 02 30 19.6 -0.5**
RSSD pmax pmax
comp=Z,19nm,1.1s
RSSD Black Hills 93.13 45 P **P 02 30 19.9 -0.2**
baz=250
SHL Shillong 93.38 296 *e*P **P 02 30 21.3 -0.3**
comp=Z,23nm,0.4s
TIXI Tiksi 93.90 346 *i* P **P 02 30 23.0 +0.3**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
WMOK Wichita Mounta 94.02 55 *e*P **P 02 30 25.8 +1.6**
comp=Z,11nm,1.5s
WMOK Wichita Mounta 94.02 55 P **P 02 30 24.7 +0.5**
baz=253
YKA Yellowknife Ar 94.62 26 P **P 02 30 22.4 -3.8**
comp=Z,1.1nm,1.0s,baz=257,slow=4.0,SNR=4.9
YKA LR LR 03 09 01.9
comp=Z,24nm,18.4s,baz=237,slow=33
YKB5 Yellowknife Ar 94.62 26 *e*P **P 02 30 26.3 +0.1**
PLCA Paso Flores 94.92 135 LR LR 03 04 32.4
comp=Z,76nm,20.9s,baz=290,slow=30
TUL1 Leonard 96.69 55 *e*P **P 02 30 38.6 +2.3**
comp=Z,8.2nm,0.9s
TUL1 Leonard 96.69 55 P **P 02 30 35.5 -0.8**
baz=255
U41A Viola 99.84 55 P **Pdif 02 30 50.9 +0.5**
baz=257
T41A Mountain View 100.12 54 P **Pdif 02 30 51.2 -0.5**
baz=257
ULM Lac du Bonnet 100.22 41 LR LR 03 09 42.3
comp=Z,277nm,19.9s,baz=260,slow=32
S41A Jillco Farms, 100.25 54 P **Pdif 02 30 52.2 -0.1**
baz=257
WMQ Urumqi 101.28 312 *e*P **Pdif 02 30 58.8 +2.0**
WMQ LR LR
comp=Z,220nm,17.5s
WMQ LR LR
comp=Z,270nm,25.7s
WMQ LR LR
comp=Z,250nm,24.3s
KSH Kashi 109.30 307 Pdif **Pdif 02 31 35.3 +2.7**
KSH S **Sdif 02 43 40.6 -1.8**
KSH SS **SS 02 51 28.8 +2.8**
KSH AMB AMB
comp=Z,360nm,5.6s
KSH LR LR
comp=Z,100nm,8.4s
KSH LR LR
comp=Z,440nm,8.2s
BRVK Borovoye 113.52 321 *i* PKIKP **PKiKP 02 35 43.0 -0.7**
ARU Arti 119.66 326 *i* PKIKP **PKPdf 02 35 52.9 -2.5**
ARU 02 43 02.1
ABKAR Akbulak array 120.44 318 *e*PKPdf **PKiKP 02 35 58.0 +0.8**
GEYT Alibeck 123.23 305 PKP **PKPdf 02 35 59.5 -3.4**
comp=Z,78nm,1.2s,baz=204,slow=3.2,SNR=2.9
VRH Novokhopyorsk 130.84 325 *e*PKIKP **PKPdf 02 36 16.4 -0.5**
VRH pmax pmax
comp=Z,10.0nm,1.5s
OBN Obninsk 131.35 331⇑ *e*PKIKP **PKiKP 02 36 18.9 +0.2**
OBN *e* 02 38 40.0
OBN pmax pmax
comp=Z,37nm,1.6s
LPSR Galich'ya Gora 131.62 328 *e*PKIKP **PKiKP 02 36 20.5 +1.2**
LPSR pmax pmax
comp=Z,4.0nm,0.8s
VSR Storozhevoye 132.23 326 *i* PKIKP **PKiKP 02 36 21.5 +0.9**
KIV Kislovodsk 133.30 316 *i* PKIKP **PKPdf 02 36 20.8 -1.2**
KIV pmax pmax
comp=Z,6.0nm,1.1s
NEY Neytrino 133.53 315 *i* PKIKP **PKPdf 02 36 21.2 -1.3**
RAYN Ar Rayn 134.77 287 *e*PKPdf **PKiKP 02 36 28.8 +2.2**
AKASG Malin Array Be 137.59 331 PKP **PKPdf 02 36 28.1 -1.4**
comp=Z,0.3nm,0.4s,baz=42,slow=1.5,SNR=3.1
AKBB Malin Array Si 137.59 331 *e*PKIKP **PKPdf 02 36 28.1 -1.4**
AKBB Malin Array Si 137.59 331 *e*PKIKP **PKPdf 02 36 28.1 -1.4**
KIEV Kiev 137.60 331 *i* PKIKP **PKPdf 02 36 29.6 0.0**
BR101 Keskin Array S 141.19 314 *e*PKPdf **PKPdf 02 36 34.2 -2.5**
BRTR Keskin Array B 141.19 314 PKP **PKPdf 02 36 34.2 -2.5**
comp=Z,0.6nm,0.8s,baz=114,slow=6.0,SNR=4.3
VYHS Vyhne 143.74 336 *e*PKIKP **PKPdf 02 36 42.4 +1.6**
VYHS Vyhne 143.74 336 *e*PKP **PKPdf 02 36 42.4 +1.6**
MODS Modra-Piesok 144.42 337 *e*PKIKP **PKiKP 02 36 44.4 -1.2**
MODS Modra-Piesok 144.42 337 *e*PKP **PKiKP 02 36 44.4 -1.2**
KHC Kasperske Hory 145.00 342 *e*PKPbc **PKPdf 02 36 45.1 +2.1**
KHC Kasperske Hory 145.00 342 *e*PKP **PKPdf 02 36 45.1 +2.1**
KHC Kasperske Hory 145.00 342 *e*PKIKP **PKPdf 02 36 45.1 +2.1**
GEC2 GERESS Array S 145.22 341 *e*PKPbc **PKPdf 02 36 45.0 +1.5**
GERES GERESS Array B 145.22 341 PKP **PKPbc 02 36 39.8 -3.3**
comp=Z,1.7nm,0.9s,baz=40,slow=2.3,SNR=9.8
CONA Conrad Observa 145.31 338 *i* PKPbc **PKPbc 02 36 40.9 -2.5**
comp=Z,18nm,1.0s
MEM Membach 145.34 351 ⇑PKP **PKPbc 02 36 43.8 +0.5**
MOA Molln 145.92 340 *i* PKPdf **PKPdf 02 36 42.4 -2.2**
comp=Z,15nm,1.1s
ARSA Arzberg 146.01 338 *i* PKPdf **PKPdf 02 36 41.6 -3.1**
comp=Z,13nm,1.2s
DOU Dourbes 146.04 352 ⇑PKP **PKPab 02 36 47.2 +1.1**
VTS Vitosha 146.11 325 *e*PKPdf **PKPdf 02 36 44.5 -0.7**
VTS Vitosha 146.11 325 *e*PKP2 **PKPdf 02 36 44.5 -0.7**
WLF Walferdange 146.23 350 *e*PKPdf **PKPdf 02 36 44.6 -0.4**
WLF Walferdange 146.23 350 *e*PKP2 **PKPdf 02 36 44.6 -0.4**
WLF Walferdange 146.23 350 ⇑PKP **PKPdf 02 36 44.5 -0.6**
WLF ⇑PKiKP **PKPab 02 36 48.0 +1.2**
SOKA Soboth 146.67 338 *i* PKiKP **PKiKP 02 36 50.2 -0.2**
comp=Z,12nm,1.1s
DIVS Divibare 146.68 330 *e*PKPdf **PKPdf 02 36 44.7 -1.4**
KBA Koelnbreinsper 146.90 340 *i* PKPdf **PKPdf 02 36 45.4 -1.0**
comp=Z,10nm,1.4s
OBKA Obir 146.99 339 *i* PKiKP **PKiKP 02 36 52.7 +1.6**
comp=Z,20nm,1.5s
BFO Black Forest 147.10 347 *e*PKPbc **PKPab 02 36 50.6 +0.3**
BFO Black Forest 147.10 347 *e*PKP2 **PKPab 02 36 50.6 +0.3**
WATA Walderalm 147.20 343 *i* PKiKP **PKPab 02 36 51.5 +0.6**
comp=Z,9.6nm,1.2s
RETA Reutte 147.29 344 *i* PKiKP **PKiKP 02 36 52.2 +0.6**
comp=Z,13nm,1.0s
MOTA Moosalm 147.33 343 *i* PKiKP **PKiKP 02 36 53.1 +1.3**
comp=Z,17nm,1.2s
SQTA Sankt Quirin 147.41 343 *i* PKPbc **PKPdf 02 36 48.6 +1.4**
comp=Z,15nm,1.0s
ABTA Abfaltersbach 147.45 341 *i* PKiKP **PKPab 02 36 52.0 +0.2**
comp=Z,16nm,1.3s
DAVA Damuels 147.71 344 *i* PKiKP **PKiKP 02 36 52.5 -0.1**
comp=Z,20nm,1.1s
FETA Feichten 147.73 343 *i* PKiKP **PKiKP 02 36 52.6 -0.1**
comp=Z,18nm,1.1s
FUORN Ofenpass-Fuorn 148.22 344 *e*PKPdf **PKPdf 02 36 48.9 +0.1**
SANT Santorini 148.46 314 *e*PKPbc **PKiKP 02 36 54.3 0.0**
TOA0 Torodi Ar. Sit 174.94 229 *e*PKPdf **PKPdf 02 37 17.8 +1.2**
TOA0 *e*PKPab **PKPab 02 38 53.2 +1.9**
TORD Torodi Ar. Bea 174.94 229 PKP **PKPdf 02 37 16.0 -0.6**
comp=Z,1.7nm,1.1s,baz=112,slow=1.6,SNR=4.9
TORD PKPab **PKPab 02 38 51.2 -0.1**
comp=Z,2.4nm,1.2s,baz=90,slow=3.3,SNR=5.6
TOA1 Torodi Ar. Sit 174.95 229 *e*PKPdf **PKPdf 02 37 16.0 -0.6**
TOA1 *e*PKPab **PKPab 02 38 51.2 -0.1**

NIED ***24*** *02:32:00,38˚.30N×141˚.90E,h41km,Mw3.9 Best double couple: M0 7.92000×10^14 NP1:φ=238.00000°,δ16.00000°, λ128.00000°. NP2:φ=19.00000°,δ77.00000°,λ80.00000°.*
ISCJB ***24*** *02:32:09.2±0.8,38˚.25N±0˚.04×141˚.96E±0˚.08,h49km±5km, mb3.9/16,Error ellipse: s-maj=11.2km s-min=5.2km az=21.1*
IDC ***24*** *02:32:11.0±0.7,38˚.22N×141˚.93E,h53km±5km,mb3.6/16, mb1 3.8/20,mb1mx3.7/36,mbtmp3.9/20,MS2.8/3, Ms1 2.8/3,ms1mx2.6/39,Error ellipse: s-maj=15.7km s-min=14.0km az=105.0*
JMA ***24*** *02:32:10.1±0.1,38˚.28N×141˚.93E,h45km±1km,M3.7 JMA Felt II J1.*
ISC 24 02:32:10.8±0.7,38˚27N±0˚.05×141˚94E±0˚.07,h49km±5km, n50,σ1˚00/60,mb4.1/22,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobu**	**0.38**	**277**	P	**Pn**	**02 32 19.4**	**-1.2**
JIKH				S	**Sn**	**02 32 25.7**	**-1.9**
JIO	**Ouri**	**0.50**	**292**	P	**Pn**	**02 32 20.8**	**-1.2**
JIO				S	**Sn**	**02 32 28.3**	**-1.8**
JKMT	**Kesennumamotoy**	**0.66**	**326**	P	**Pn**	**02 32 22.9**	**-1.1**
JKMT				S	**Sn**	**02 32 31.8**	**-1.7**
OFUJ	**Ofunato**	**0.84**	**345**	P	**Pn**	**02 32 25.2**	**-1.2**
OFUJ				S	**Sn**	**02 32 36.0**	**-1.8**
JOFO	**Osakifurukawao**	**0.88**	**293**	P	**Pn**	**02 32 26.3**	**-0.6**
JOFO				*e*S	**Sn**	**02 32 38.4**	**-0.2**
JMK	**Ichinoseki**	**0.89**	**321**	P	**Pn**	**02 32 26.2**	**-0.8**
JMK				*e*S	**Sn**	**02 32 37.8**	**-1.1**
JMM	**Marumori**	**0.99**	**247**	P	**Pn**	**02 32 27.0**	**-1.4**
JMM				*e*S	**Sn**	**02 32 39.5**	**-1.8**
JOU	**Okura**	**1.01**	**276**	P	**Pn**	**02 32 28.0**	**-0.7**
JOU				*e*S	**Sn**	**02 32 41.0**	**-0.9**
JFK	**Kawauchi**	**1.23**	**224**	P	**Pn**	**02 32 30.3**	**-1.4**
JFK				*e*S	**Sn**	**02 32 45.2**	**-2.1**
JOM	**Ohasama**	**1.31**	**337**	P	**Pn**	**02 32 32.2**	**-0.5**
JOM				*e*S	**Sn**	**02 32 48.3**	**-0.8**
JYK	**Kaneyama**	**1.40**	**298**	P	**Pn**	**02 32 33.4**	**-0.6**
JFT	**Otama**	**1.47**	**240**	P	**Pn**	**02 32 34.4**	**-0.6**
JYS	**Shirataka**	**1.48**	**269**	P	**Pn**	**02 32 34.4**	**-0.7**
JRG	**Rokugo**	**1.52**	**318**	P	**Pn**	**02 32 35.3**	**-0.3**
MJAR	**Matsushiro Arr**	**3.44**	**241**	P	**Pn**	**02 33 02.4**	**+0.5**
MJAR	0.6nm,0.3s,baz=64,slow=10,SNR=24			LR	LR	02 34 45.1	
	comp=Z,87nm,20.9s,baz=50,slow=46						
MAT	**Matsushiro**	**3.44**	**241**	P	**Pn**	**02 33 02.8**	**+0.9**
MAT				S	**Sn**	**02 33 42.7**	**+1.3**
USRK	**Ussuriysk Ar.**	**9.55**	**311**	P	**Pn**	**02 34 26.3**	**+0.6**
	0.9nm,0.3s,baz=118,slow=12,SNR=12						
JNU	**Nakatsue**	**10.36**	**244**	LR	LR	02 39 05.5	
	comp=Z,89nm,19.3s,baz=115,slow=40						
KSRS	**Korea Array**	**11.12**	**270**	P	**Pn**	**02 34 48.8**	**+1.7**

0.2nm,0.3s,baz=79,slow=13,SNR=2.8
KSRS LR LR 02 38 34.0
comp=Z,67nm,22.0s,baz=12,slow=34
KLR Kul'dur 13.19 329 P **Pn 02 35 17.7 +2.4**
0.1nm,0.3s,baz=160,slow=16,SNR=2.4
MA2 Magadan 22.06 12 P **P 02 37 02.6 +1.3**
4.0nm,0.6s,baz=189,slow=22,SNR=3.9
SONM Songino Array 27.47 302 P **P 02 37 52.5 +0.1**
0.3nm,0.4s,baz=92,slow=10,SNR=4.3
H11N2 WAKE ISLAND Hy 28.45 123 T T 03 08 10.6
baz=316,slow=75,SNR=530
H11N1 WAKE ISLAND Hy 28.45 123 T T 03 08 11.9
baz=316,slow=75,SNR=631
H11N3 WAKE ISLAND Hy 28.46 123 T T 03 08 11.5
baz=316,slow=75,SNR=559
H11S1 WAKE ISLAND Hy 29.20 125 T T 03 09 08.3
baz=318,slow=76,SNR=262
H11S3 WAKE ISLAND Hy 29.20 126 T T 03 09 08.9
baz=318,slow=76,SNR=324
H11S2 WAKE ISLAND Hy 29.22 125 T T 03 09 09.5
baz=318,slow=76,SNR=68
ZALV Zalesovo Beam 41.41 311 P **P 02 39 52.0 -0.2**
1.6nm,0.4s,baz=86,slow=7.6,SNR=7.8
MKAR Makanchi Array 43.83 301 P **P 02 40 11.5 -0.5**
1.1nm,0.6s,baz=86,slow=11,SNR=11
JIRN Jiri 47.34 274 *e*P **P 02 40 40.4 +0.1**
16nm,0.8s
RAMN Ramite 47.34 273 *e*P **P 02 40 40.1 -0.2**
12nm,0.8s
GUN Gumba 47.46 275 *e*P **P 02 40 41.1 -0.2**
5.3nm,0.4s
ILAR Eielson Array 48.23 33 P **P 02 40 46.5 +0.1**
0.6nm,0.7s,baz=265,slow=6.5,SNR=7.7
ILAR pP **pP 02 41 00.9 +1.4**
0.6nm,0.8s,baz=260,slow=4.7,SNR=3.4
DANN Dangsing 48.92 276 *e*P **P 02 40 52.6 +0.1**
28nm,0.6s
KOLN Koldanda 49.31 276 *e*P **P 02 40 55.8 +0.4**
8.9nm,0.9s
PYUN Piuthan 49.64 277 *e*P **P 02 40 57.7 -0.2**
15nm,0.9s
WRA Warramunga Arr 58.34 188 P **P 02 42 00.2 -0.7**
1.0nm,0.6s,baz=5.9,slow=7.0,SNR=12
WRA pP **pP 02 42 13.9 -0.6**
1.0nm,0.8s,baz=3.0,slow=7.6,SNR=2.7
ASAR Alice Springs 62.06 188 P **P 02 42 25.9 -0.5**
0.8nm,0.7s,baz=6.8,slow=5.7,SNR=8.6
YKA Yellowknife Ar 62.53 31 P **P 02 42 29.0 -0.1**
0.2nm,0.6s,baz=303,slow=6.4,SNR=4.6
YKA pP **pP 02 42 43.4 +0.7**
0.3nm,0.7s,baz=297,slow=6.3,SNR=3.3
ARCES ARCESS Array B 62.99 339 P **P 02 42 31.6 -0.5**
4.2nm,1.0s,baz=62,slow=8.4,SNR=5.1
FINES FINESS Array B 67.92 332 P **P 02 43 03.5 -0.5**
2.9nm,0.7s,baz=40,slow=9.9,SNR=7.9
FINES pP **pP 02 43 18.7 +0.8**
0.5nm,0.4s,baz=52,slow=11,SNR=1.4
KBZ Khabaz 70.42 311 P **P 02 43 19.1 -0.6**
3.0nm,1.0s,baz=260,slow=2.1,SNR=3.9
NB2 NORSAR Subarra 73.21 337 P **P 02 43 35.6 -0.7**
comp=Z,0.9nm,0.6s,baz=37,slow=6.2
NOA NORSAR Array B 73.21 337 P **P 02 43 36.0 -0.3**
comp=Z,1.2nm,0.7s,baz=38,slow=5.8,SNR=9.6
AKASG Malin Array Be 73.58 322 P **P 02 43 38.1 -0.5**
comp=Z,0.9nm,0.4s,baz=47,slow=6.0,SNR=13
AKASG pP **PcP 02 43 54.0 -0.3**
comp=Z,0.7nm,0.5s,baz=45,slow=5.8,SNR=2.2
PDAR Pinedale Array 76.51 46 P **P 02 43 56.4 +0.4**
comp=Z,0.3nm,0.5s,baz=273,slow=1.5,SNR=5.4
PDAR pP **pP 02 44 10.1 +0.1**
comp=Z,0.5nm,0.5s,baz=298,slow=1.3,SNR=5.5
BRTR Keskin Array B 78.35 312 P **P 02 44 06.2 0.0**
comp=Z,0.3nm,0.4s,baz=191,slow=5.8,SNR=4.3
TXAR Lajitas Array 89.04 53 P **P 02 45 01.0 +0.1**
comp=Z,0.3nm,0.7s,baz=294,slow=2.1,SNR=4.9
LPAZ La Paz 145.70 59 PKPbc **PKPbc 02 51 45.2 -0.2**
comp=Z,1.4nm,0.9s,baz=219,slow=2.6,SNR=4.5

*IDC **24** 02:45:45.9±4.6, 19.°60S×177.°87W, h548km±48km, mb3.6/11, mb1 3.8/12, mb1mx3.5/37, mbtmp4.5/12, Error ellipse: s-maj=29.9km s-min=21.0km az=127.0*
ISC 24 02:45:45.8±0.8, 19.°6S±0.°2×177.°9W±0.°1, h550km, n45, σ0s69/46, 9C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.86**	**258**	P	**P**	**02 48 53.9**	**-0.1**
	1.4nm,0.3s,baz=275,slow=23,SNR=9.2						
STKA	**Stephens Creek**	**38.28**	**243**	P	**P**	**02 52 20.1**	**+0.5**
	6.5nm,0.6s,baz=89,slow=9.7,SNR=21						
JAY	**Jayapura**	**43.89**	**288**	P	**P**	**02 53 03.1**	**-1.2**
	30nm,0.8s,baz=171,slow=3.3,SNR=5.9						
ASAR	**Alice Springs**	**44.84**	**256**	P	**P**	**02 53 11.7**	**+0.1**
	51nm,0.7s,baz=91,slow=7.6,SNR=357						
ASAR				PcP	**PcP**	**02 54 41.0**	**-0.6**
	2.7nm,0.7s,baz=112,slow=4.1,SNR=4.9						
ASAR				S	**S**	**02 59 09.9**	**+0.4**
	0.7nm,0.6s,baz=92,slow=14,SNR=6.2						
WRA	**Warramunga Arr**	**44.85**	**261**	P	**P**	**02 53 11.4**	**-0.2**
	16nm,0.3s,baz=97,slow=8.4,SNR=132						
FITZ	**Fitzroy Crossi**	**59.27**	**262**	P	**P**	**02 54 14.2**	**+0.4**
	5.2nm,0.6s,baz=120,snr=2.6,SNR=13						
MJAR	**Matsushiro Arr**	**69.58**	**323**	P	**P**	**02 55 59.7**	**-0.2**
	1.4nm,0.5s,baz=165,slow=6.4,SNR=4.2						
PETK	**Petropavlovsk-**	**75.45**	**345**	P	**P**	**02 56 33.7**	**+0.3**
	1.2nm,0.6s,baz=128,slow=9.5,SNR=3.2						
TXAR	**Lajitas Array**	**86.48**	**57**	P	**P**	**02 57 32.1**	**+1.2**
	0.3nm,0.6s,baz=227,slow=6.7,SNR=5.1						
ILAR	**Eielson Array**	**87.43**	**13**	P	**P**	**02 57 33.2**	**-1.2**
	0.3nm,0.6s,baz=228,slow=4.7,SNR=4.1						
PDAR	**Pinedale Array**	**88.24**	**43**	P	**P**	**02 57 39.6**	**+0.5**
	0.2nm,0.6s,baz=132,slow=1.3,SNR=3.0						
CMAR	**Chiang Mai Arr**	**89.93**	**290**	P	**P**	**02 57 48.8**	**+1.7**
	1.2nm,0.4s,baz=133,slow=2.1,SNR=12						
ARCES	**ARCESS Array B**	**128.08**	**350**	PKP	**PKPdf**	**03 03 48.3**	**-0.6**
	4.3nm,0.8s,baz=49,slow=1.8,SNR=9.7						
FINES	**FINESS Array B**	**134.96**	**344**	PKP	**PKPdf**	**03 04 01.2**	**-0.9**
	1.4nm,0.7s,baz=43,slow=3.6,SNR=5.5						
NB2	**NORSAR Subarra**	**138.12**	**353**	PKP	PKPpre	03 03 59.6	
	comp=Z,0.2nm,0.5s,baz=15,slow=4.0						
NOA	**NORSAR Array B**	**138.12**	**353**	PKP	**PKPdf**	**03 04 08.4**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=14,slow=3.9,SNR=3.3						
AKASG	**Malin Array Be**	**142.30**	**332**	PKhKP	PKPpre	03 04 11.7	
	comp=Z,1.1nm,0.4s,baz=39,slow=3.9,SNR=11						
BRTR	**Keskin Array B**	**146.33**	**313**	PKPbc	**PKPbc**	**03 04 25.2**	**-0.4**
	comp=Z,2.2nm,0.5s,baz=144,slow=4.7,SNR=22						
BURAR	**Bucovina Array**	**146.35**	**331** ⇑	*i*P	**PKPbc**	**03 04 26.1**	**+0.8**
VRI	**Vrincioaia**	**146.89**	**328**	*i*P	**PKPbc**	**03 04 26.6**	**-0.1**
PLOR	**Plostina**	**146.94**	**328**	*i*P	**PKPbc**	**03 04 26.7**	**-0.2**
TRPA	**Tarpa**	**147.11**	**335** ⇓	*i*P	**PKPbc**	**03 04 27.1**	**0.0**
OZUR		**147.20**	**329**	*i*P	**PKPbc**	**03 04 27.7**	**+0.1**
CLL	**Collm**	**147.24**	**347**	*i* PKPbc	**PKPbc**	**03 04 27.4**	**0.0**
	comp=Z,7.0nm,0.8s						
DPC	**Dobruska-Polom**	**147.32**	**343**	*e*PKP	**PKPbc**	**03 04 28.0**	**+0.2**
DPC				*ex*	x	03 04 31.7	
DOPR	**Dopca**	**147.48**	**329** ⇑	*i*P	**PKiKP**	**03 04 29.1**	**-0.8**
MLR	**Muntele Rosu**	**147.55**	**328** ⇓	*i*P	**PKPbc**	**03 04 28.4**	**-0.2**
DRGR		**148.09**	**333** ⇑	*i*P	**PKPdf**	**03 04 27.6**	**+1.8**
PRU	**Pruhonice**	**148.12**	**345**	*e*PKP	**PKPbc**	**03 04 30.1**	**+0.4**
GOPC	**GO Pecny, Ondr**	**148.13**	**344**	*e*PKP	**PKPbc**	**03 04 30.2**	**+0.4**
ARR	**Arges**	**148.28**	**329** ⇑	*i*P	**PKiKP**	**03 04 31.5**	**-0.1**
NKC	**Novy Kostel**	**148.37**	**347**	*e*PKP	**PKPbc**	**03 04 30.7**	**+0.3**
TREC	**Trest**	**148.51**	**343**	*e*PKP	**PKPbc**	**03 04 30.6**	**-0.2**
SIRR	**Siria**	**148.95**	**333** ⇑	*i*P	**PKPbc**	**03 04 31.6**	**-0.3**
GZR	**Gura Zlata**	**149.13**	**331** ⇓	*i*P	**PKPbc**	**03 04 31.7**	**-0.8**
KHC	**Kasperske Hory**	**149.15**	**345**	*e*PKP	**PKiKP**	**03 04 32.9**	**-0.3**
KHC				*ex*	x	03 04 35.5	
GERES	**GERESS Array B**	**149.39**	**345**	PKPbc	**PKPbc**	**03 04 33.2**	**+0.2**
	comp=Z,3.6nm,0.8s,baz=29,slow=3.0,SNR=27						
BZS	**Buzias**	**149.48**	**333** ⇓	*i*P	**PKPbc**	**03 04 32.8**	**-0.4**
CONA	**Conrad Observa**	**149.64**	**342**	*i* PKPbc	**PKiKP**	**03 04 34.1**	**-0.3**
	comp=Z,5.1nm,0.6s						
VTS	**Vitosha**	**151.00**	**327** ⇑	*i*P	**PKPbc**	**03 04 37.0**	**0.0**
MOTA	**Moosalm**	**151.39**	**347**	*i* PKPbc	**PKiKP**	**03 04 38.5**	**+0.4**
	comp=Z,2.0nm,0.7s						
SQTA	**Sankt Quirin**	**151.49**	**347**	*i* PKPbc	**PKPbc**	**03 04 37.8**	**-0.2**
	comp=Z,6.1nm,0.8s						
ABTA	**Abfaltersbach**	**151.63**	**345**	*i* PKPbc	**PKPbc**	**03 04 37.5**	**-0.8**
	comp=Z,5.7nm,0.6s						
FETA	**Feichten**	**151.78**	**348**	*i* PKPbc	**PKPbc**	**03 04 37.9**	**-0.7**
	comp=Z,12nm,1.7s						
TORD	**Torodi Ar. Bea**	**173.55**	**176**	PKP	**PKPdf**	**03 04 51.3**	**-1.7**
	comp=Z,0.7nm,0.9s,baz=204,slow=3.2,SNR=2.9						
TORD				PKPab	**PKPab**	**03 06 25.1**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=168,slow=2.0,SNR=4.7						

IDC 24 02:46:47.0±2.0, 6.°97S×128.°94E, h0km, mb3.3/1, mb1 3.6/4, mb1mx3.4/31, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=88.0km s-min=27.5km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.52**	**196**	Pn	Pn	02 49 31.9	-0.9
	0.6nm,0.3s,baz=16,slow=8.7,SNR=25						
FITZ				Sn	Sn	02 51 27.4	-15
	0.3nm,0.3s,baz=322,slow=19,SNR=3.5						
WRA	**Warramunga Arr**	**13.92**	**158**	Pn	Pn	02 50 06.7	+0.9
	0.1nm,0.3s,baz=342,slow=13,SNR=13						
WRA				Sn	Sn	02 52 27.5	-14
	0.4nm,0.3s,baz=333,slow=22,SNR=9.4						
ASAR	**Alice Springs**	**17.27**	**165**	P	Pn	02 50 50.0	+0.1
	0.1nm,0.3s,baz=334,slow=8.2,SNR=2.7						
MKAR	**Makanchi Array**	**67.63**	**327**	P	P	02 57 45.8	0.0
	0.2nm,0.5s,baz=123,slow=5.3,SNR=2.9						

*NNC **24** 02:49:19.0±2.3, 36.°72N×68.°48E, h5km±16km, mb3.8, mpv3.5, Error ellipse: s-maj=19.4km s-min=14.4km az=7.0*
ISC 24 02:49:17.9±3.3, 36.°5N±0.°2×68.°4E±0.°1, h24km, n13, σ0s90/18, 6C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**5.33**	**47**	⇑Pn	**Pn**	**02 50 36.6**	**+0.3**
	2.0nm,0.4s						
SFK				⇓Sn	**Sn**	**02 51 38.3**	**+1.2**
	3.8nm,0.4s						
SFK				⇓Lg	Lg	02 52 00.7	
	4.1nm,0.4s						
MNAS	**Manas**	**6.77**	**27**	⇑Pn	**Pn**	**02 50 56.7**	**+0.8**
	2.4nm,0.3s						
MNAS				⇑Sn	**Sn**	**02 52 12.0**	**-0.3**
	4.0nm,0.6s						
KK31	**Karatay Array**	**6.79**	**13**	⇓Pn	**Pn**	**02 50 58.0**	**+1.9**
	0.3nm,0.2s,baz=197,slow=14,SNR=23						
KK31				⇑Sn	**Sn**	**02 52 13.1**	**+0.4**
	0.8nm,0.4s,baz=164,slow=14,SNR=3.9						
KK31				⇓Lg	Lg	02 52 48.2	
	2.5nm,0.5s,baz=191,slow=25,SNR=7.2						
AML	**Almayashu**	**6.96**	**35**	P	**Pn**	**02 50 59.0**	**+0.2**
	SNR=7.5						
UCH	**Uchtor**	**7.43**	**38**	P	**Pn**	**02 51 05.1**	**-0.1**
	SNR=6.2						
KZA	**Kyzart**	**7.70**	**42**	P	**Pn**	**02 51 08.8**	**-0.1**
	SNR=7.4						
AAK	**Ala-Archa**	**7.73**	**36**	P	**Pn**	**02 51 09.2**	**+0.1**
	SNR=6.6						
AAK	**Ala-Archa**	**7.73**	**36**	⇑Pn	**Pn**	**02 51 09.0**	**-0.1**
	2.3nm,0.4s						
AAK				⇑Sn	**Sn**	**02 52 35.5**	**-0.4**
	1.8nm,0.7s						
KBK	**Karagaybulak**	**7.96**	**37**	P	**Pn**	**02 51 13.7**	**+1.5**
	SNR=9.6						
CHMS	**Chumysh**	**8.13**	**35**	P	**Pn**	**02 51 14.6**	**+0.1**
	SNR=5.2						
ULHL	**Ulahol**	**8.36**	**44**	P	**Pn**	**02 51 17.2**	**-0.5**
	SNR=5.4						
TKM2	**Tokmak 2**	**8.48**	**39**	⇓Pn	**Pn**	**02 51 18.6**	**-0.8**
	1.3nm,0.5s						
AB31	**Akbulak array**	**14.16**	**337**	⇓Pn	**Pn**	**02 52 36.9**	**0.0**
	0.4nm,0.5s,baz=154,slow=13,SNR=10						
AB31				Sn	**Sn**	**02 55 11.5**	**-1.7**
	0.4nm,0.6s,baz=159,slow=23,SNR=6.0						

TIR 24 03:02:41.3, 41.°23N×20.°33E, h7km, Md2.8/3, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.37**	**289**	*i* PG	Pg	03 02 49.2	+0.7
TIR				*i* SG	Sb	03 02 55.2	-1.1
PHP	**Peshkopia**	**0.46**	**10**	*i* PG	Pg	03 02 50.7	+0.3
PHP				*i* SG	Sg	03 02 57.5	+1.1
BCI	**Bajram Curri**	**1.15**	**350**	*i* PG	Pn	03 03 04.2	+0.3
BCI				*i* SG	Sn	03 03 20.8	+0.9

*DDA **24** 03:18:44.4, 38.°93N×43.°65E, h8km±1km, ML2.5*
*ISK **24** 03:18:44.8, 38.°96N×43.°62E, h6km, ML2.4/6*
*ISCJB **24** 03:18:45.7±0.5, 39.°00N±0.°03×43.°63E±0.°06, h11km±5km, Error ellipse: s-maj=8.0km s-min=4.4km az=31.8*
ISC 24 03:18:45.0±1.0, 38.°95N±0.°03×43.°63E±0.°04, h12km±8km, n22, σ0s66/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.06**	**310**	IAML_P			
	comp=Z,14μm,0.2s						
VMUR				*i* P	**Pg**	**03 18 47.0**	**-0.5**
ERCV	**ERCIS-VAN**	**0.24**	**287**	PG	**Pg**	**03 18 50.3**	**+0.2**
CLDR	**Caldiran**	**0.29**	**49**	PG	**Pg**	**03 18 50.7**	**-0.4**
CLDR				SG	**Sg**	**03 18 56.0**	**+0.8**
CLDR	**Caldiran**	**0.29**	**49**	IAML_P			
	comp=Z,8μm,0.2s						
CLDR				*i* P	**Pb**	**03 18 51.6**	**-0.8**
CLDR				*i* S	**Sb**	**03 18 57.0**	**-0.4**
VANB	**Van**	**0.40**	**208**	PG	**Pb**	**03 18 53.8**	**-0.3**
VANB				SG	**Sb**	**03 19 02.1**	**+1.8**
TVAN	**Van**	**0.46**	**202**	IAML_P			
	comp=Z,2μm,0.2s						
TVAN				*i* P	**Pb**	**03 18 54.6**	**-0.5**
TVAN				*i* S	**Sb**	**03 19 02.7**	**+0.8**
DYDN	**Diyadin**	**0.59**	**5**	IAML_P			
	comp=Z,2μm,0.1s						
DYDN				*i* P	**Pb**	**03 18 57.1**	**-0.3**
DYDN				*i* S	**Sb**	**03 19 05.3**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.72**	**259**	IAML_P			
	comp=Z,271nm,0.2s						
ADCV				*i* P	**Pb**	**03 18 59.3**	**-0.3**
ADCV				*i* S	**Sb**	**03 19 09.7**	**+0.2**
TUTA	**Tutak**	**0.78**	**306**	IAML_P			
	comp=Z,3μm,0.2s						
TUTA				*i* P	**Pg**	**03 18 59.8**	**-0.2**
GEVA	**Gevas**	**0.78**	**215**	IAML_P			
	comp=Z,277nm,0.2s						
GEVA				*i* P	**Pg**	**03 18 59.7**	**-0.4**
AGRB	**Hanur-Agry**	**0.80**	**322**	PG	**Pg**	**03 18 59.7**	**-0.7**
AKDM	**Akdamar-Van**	**0.80**	**219**	PG	**Pb**	**03 19 00.5**	**-0.5**
MLAZ	**Malazgirt-MUS**	**0.86**	**283**	PG	**Pb**	**03 19 02.1**	**+0.1**
IGDI	**IGDIR**	**0.98**	**21**	IAML_P			
	comp=Z,108nm,0.2s						
IGDI				*i* P	**Pn**	**03 19 05.0**	**+0.3**
TASB	**TASBURUN-IGDIR**	**1.13**	**24**	PN	**Pb**	**03 19 06.7**	**+0.1**
GURO	**Guroymak-BITLI**	**1.31**	**253**	PN	**Pg**	**03 19 09.8**	**-0.4**
GNI	**Garni**	**1.47**	**35**	PN	**Pb**	**03 19 12.4**	**0.0**
SRTM	**Siirt_Merkez**	**1.65**	**235**	IAML_P			
	comp=Z,79nm,0.3s						
SRTM				*i* P	**Pg**	**03 19 16.0**	**-0.6**
CUKT	**Cukurca**	**1.70**	**181**	PN	**Pb**	**03 19 15.9**	**-0.4**
SIRT	**Sirnak**	**1.73**	**213**	PN	**Pb**	**03 19 16.4**	**-0.3**
EAK	**Akyaka**	**1.73**	**359**	IAML_P			
	comp=Z,84nm,0.3s						
EAK				*i* P	**Pg**	**03 19 18.9**	**+0.6**
SVAN	**Silvan-Diyarba**	**2.07**	**248**	PN	**Pb**	**03 19 21.2**	**-1.3**

*ISCJB **24** 03:31:45.6±0.9, 25.°49N±0.°08×109.°2W±0.°1, h11km, mb3.2/3, MS3.0/1, Error ellipse: s-maj=21.5km s-min=7.5km az=26.7*
*IDC **24** 03:31:45.4±1.6, 25.°54N×109.°37W, h0km, mb3.3/3, mb1 3.6/8, mb1mx3.5/36, mbtmp3.2/8, ML3.3/4, MS3.1/3, Ms1 3.1/3, ms1mx2.8/15, Error ellipse: s-maj=36.7km s-min=16.7km az=112.0*
ISC 24 03:31:47.0±1.1, 25.°53N±0.°09×109.°3W±0.°2, h11km, n11, σ0s88/10, mb3.5/3, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**1.67**	**212**	Pn	**Pn**	**03 32 16.1**	**0.0**
	3.8nm,0.3s,baz=191,slow=13,SNR=6.1						
LPIG				LR	LR	03 32 20.7	
	comp=Z,40nm,18.6s,baz=344,slow=21						
LPIG				Sn	**Sn**	**03 32 37.4**	**-0.2**
	22nm,0.3s,baz=185,slow=19,SNR=9.0						
TXAR	**Lajitas Array**	**6.31**	**52**	Pn	**Pn**	**03 33 20.2**	**+0.2**
	0.1nm,0.3s,baz=234,slow=13,SNR=9.0						
TXAR				Lg	Lg	03 35 12.3	
	0.7nm,0.3s,baz=249,slow=22,SNR=5.8						
TXAR				LR	LR	03 36 02.8	
	comp=Z,97nm,21.0s,baz=0.0,slow=41						
ANMO	**Albuquerque**	**9.71**	**14**	Pn	**Pn**	**03 34 06.3**	**-0.5**
	baz=211,slow=12,SNR=2.4						
ANMO				Lg	Lg	03 36 51.8	
	0.1nm,0.3s,baz=304,slow=20,SNR=3.7						
NVAR	**Mina Array Bea**	**14.93**	**332**	Pn	**Pn**	**03 35 18.7**	**+0.5**
	0.0nm,0.3s,baz=166,slow=15,SNR=3.4						
ELK	**Elko**	**15.95**	**343**	Pn	**P**	**03 35 34.1**	**-1.1**
	0.0nm,0.3s,baz=190,slow=9.4,SNR=4.2						
PDAR	**Pinedale Array**	**17.20**	**359**	P	**P**	**03 35 49.0**	**+0.1**
	0.0nm,0.3s,baz=169,slow=15,SNR=3.3						
YBH	**Yreka Blue Hor**	**19.58**	**329**	LR	LR	03 44 22.8	
	comp=Z,82nm,19.6s,baz=299,slow=39						
APG	**El Apazote**	**20.55**	**117**	LR	LR	03 45 08.2	
	comp=Z,67nm,18.4s,baz=82,slow=39						
NEW	**Newport**	**23.50**	**347**	P	**P**	**03 36 57.7**	**+0.8**
	1.1nm,0.6s,baz=184,slow=7.5,SNR=3.6						
YKA	**Yellowknife Ar**	**37.12**	**356**	P	**P**	**03 38 56.0**	**-1.2**
	0.1nm,0.7s,baz=174,slow=6.8,SNR=3.8						
ILAR	**Eielson Array**	**46.03**	**339**	P	**P**	**03 40 11.4**	**+1.2**
	0.5nm,1.0s,baz=138,slow=7.0,SNR=4.1						

JMA 24 03:53:44.1, 34.°76N×135.°81E, h10km±1km, M2.8, 1C-4D Broadband fault plane solution: P waves. NP1: ϕs173.00000°, δs49.00000°, λs70.00000°. **NP2:** ϕs22.00000°, δs45.00000°, λs111.00000°. **Principal axes:** T Plg75.0000°, Azm14.0000°; N Plg15.0000°, Azm186.0000°; P Plg2.0000°, Azm277.0000°; **Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHE	**Heguri**	**0.15**	**224**	⇑P	Pg	03 53 47.7	+0.3
JHE				S	Sg	03 53 50.0	+0.3
TSUJ	**Tsu 2**	**0.50**	**96**	⇓P	Pg	03 53 53.6	-0.3
TSUJ				S	Sg	03 54 00.4	-0.2
JWY	**Kouya**	**0.57**	**198**	P	Pg	03 53 55.2	0.0
JWY				S	Sg	03 54 02.7	0.0
JWT	**Wachi**	**0.62**	**327**	⇓P	Pg	03 53 56.2	+0.1
JWT				S	Sg	03 54 03.8	-0.5
JKN2	**Miekihoku**	**0.65**	**143**	⇓P	Pg	03 53 56.3	-0.3
JKN2				S	Sg	03 54 04.7	-0.4
JIE	**Ise**	**0.83**	**116**	P	Pg	03 53 59.0	-1.0
JIE				S	Sg	03 54 10.4	-0.4
JAJ2	**Tsuna**	**0.83**	**246**	⇓P	Pg	03 53 59.6	-0.6
JAJ2				S	Sg	03 54 10.9	-0.2
JTNC	**Tanabenakahech**	**0.95**	**190**	P	Pg	03 54 02.4	-0.1
JTNC				S	Sb	03 54 15.2	-0.2
JWM	**Minabe**	**0.98**	**203**	P	Pg	03 54 02.6	-0.4
MAT	**Matsushiro**	**2.64**	**47**	P	Pn	03 54 28.0	+1.2
MAT				S	Sn	03 55 00.4	+1.5

*IDC **24** 04:27:15.8±1.3, 39.°82N×76.°43E, h0km, mb3.8/10, mb1 4.0/16, mb1mx3.8/36, mbtmp3.8/16, ML3.5/6, MS3.2/2, Ms1 3.2/2, ms1mx2.6/55 Error ellipse: s-maj=23.9km s-min=15.9km az=144.0*
*BJI **24** 04:27:17.6, 40.°18N×76.°31E, h9km, mb3.6/4, ML3.7/9*
*KRNET **24** 04:27:19.4±0.1, 40.°12N×76.°37E, mb4.4*
*MOS **24** 04:27:21.2±1.4, 40.°05N×76.°33E, h33km, mb4.2/3, Error ellipse: s-maj=8.3km s-min=5.4km az=91.7*
*SOME **24** 04:27:22.7, 40.°20N×76.°32E, h15km*
*NNC **24** 04:27:22.1±0.8, 40.°20N×76.°32E, h0km±5km, mb4.7, mpv4.4, Error ellipse: s-maj=6.6km s-min=3.2km az=150.0*
*NEIC **24** 04:27:24.5±0.7, 40.°18N×76.°26E, h54km±6km, mb4.5/2, Error ellipse: s-maj=11.0km s-min=5.9km az=145.0*
ISC 24 04:27:20.8±0.8, 40.°18N±0.°03×76.°29E±0.°02, h19km±2km, n181, σ2s08/233, mb3.8/15, 45C-19D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**0.71**	**200**	Pg	Pn	04 27 40.4	+4.4
KSH				Sg	Sn	04 27 55.8	+9.4
KSH				smax	smax		
	comp=N,3μm,0.2s						
KSH				smax	smax		
	comp=E,4μm,0.3s						
KSH	**Kashi**	**0.71**	**200**	Pg	Pn	04 27 40.4	+4.4
KSH				Sg	Sn	04 27 55.8	+9.4
NRN	**Naryn**	**1.27**	**350**	*e*Pn	**Pg**	**04 27 44.6**	**-0.9**
NRN				*e*Sn	**Sn**	**04 28 02.6**	**+2.1**
NRN	**Naryn**	**1.27**	**350**	*e*PG	**Pg**	**04 27 44.6**	**-0.9**
NRN				*e*		04 28 02.6	
NRN	**Naryn**	**1.27**	**350**	*i*P	**Pg**	**04 27 44.0**	**-1.4**
	baz=47						
NRN				⇑*i*S	**Sn**	**04 28 02.8**	**+2.3**
	baz=47						
TARG	**Taragay, Kyrgy**	**1.92**	**36**	*e*Pn	**Pb**	**04 27 54.5**	**-1.0**
TARG				*e*Sn	**Sg**	**04 28 22.5**	**-0.4**
KZA	**Kyzart**	**2.05**	**338**	P	**Pg**	**04 27 58.4**	**-1.9**
	SNR=292						
KZA	**Kyzart**	**2.05**	**338**	⇑*i*P	**Pg**	**04 27 58.4**	**-1.9**
	baz=37						
KZA				⇑*i*S	**Sg**	**04 28 26.7**	**-0.2**
	baz=37						
KDJ	**Kajisay**	**2.06**	**19**	*e*Pn	**Pg**	**04 27 58.8**	**-1.6**
KDJ				*e*Sn	**Sb**	**04 28 22.1**	**-0.8**
KDJ	**Kajisay**	**2.06**	**19**	*e*PN	**Pg**	**04 27 58.8**	**-1.6**
KDJ				*e*		04 28 22.1	
KDJ	**Kajisay**	**2.06**	**19**	⇑*i*P	**Pb**	**04 27 57.6**	**-0.1**
	baz=17	

	195nm,0.5s								
TKM2	**Tokmak 2**	**2.78**	**349**	⇓*i*P		**Pb**	**04 28 08.7**	**-1.4**
	baz=49								
TKM2				⇓*i*S		**Sb**	**04 28 44.1**	**+0.2**
	baz=49								
PRZ	**Przheval'sk**	**2.79**	**34**	*e*Pn		**Pb**	**04 28 08.6**	**-1.6**
PRZ				*e*Sn		**Sn**	**04 28 39.2**	**+1.3**
PRZ	**Przheval'sk**	**2.79**	**34**	*e*PN		**Pb**	**04 28 08.6**	**-1.6**
PRZ	**Przheval'sk**	**2.79**	**34**	⇓*i*P		**Pb**	**04 28 07.5**	**-2.7**
	baz=32								
PRZ				⇓*i*S		**Sb**	**04 28 42.2**	**-1.9**
	baz=32								
AAK	**Ala-Archa**	**2.80**	**332**	Pn		**Pb**	**04 28 09.6**	**-0.6**
	33nm,0.3s,baz=140,slow=8.1,SNR=215								
AAK				Lg		Lg	04 28 50.7		
	55nm,0.3s,baz=71,slow=24,SNR=14								
AAK	**Ala-Archa**	**2.80**	**332**	P		**Pb**	**04 28 09.7**	**-0.6**
	SNR=110								
AAK	**Ala-Archa**	**2.80**	**332**	*e*Pn		**Pb**	**04 28 09.1**	**-1.2**
AAK				*e*Sn		**Sn**	**04 28 39.5**	**+1.5**
AAK				Lg		Lg	04 28 50.7		
AAK	**Ala-Archa**	**2.80**	**332**	⇑Pn		**Pb**	**04 28 09.2**	**-1.0**
	41nm,0.5s								
AAK				⇑Pg		**Pg**	**04 28 13.4**	**-1.2**
	198nm,0.6s								
AAK				Lg		Lg	04 28 50.7		
	652nm,0.9s								
AAK	**Ala-Archa**	**2.80**	**332**	*c i*PN		**Pb**	**04 28 09.3**	**-1.0**
AAK	**Ala-Archa**	**2.80**	**332**	⇑*i*P		**Pb**	**04 28 08.8**	**-1.5**
	baz=31								
AAK				⇑*i*S		**Sb**	**04 28 45.0**	**+0.8**
	baz=31								
IZV	**Izvestkoviy**	**2.86**	**5**	Pg		**Pg**	**04 28 14.8**	**-0.9**
	111nm,0.7s								
IZV				Lg		Lg	04 28 52.1		
	312nm,0.6s								
IZV	**Izvestkoviy**	**2.86**	**5**	*e*P		**Pg**	**04 28 14.8**	**-0.9**
	111nm,0.7s								
IZV				*e*S		**Sg**	**04 28 52.1**	**-0.7**
	312nm,0.6s								
KST	**Kastek**	**2.87**	**355**	Pg		**Pg**	**04 28 14.8**	**-1.0**
	189nm,0.4s								
KST				Lg		Lg	04 28 52.3		
	263nm,0.6s								
KST	**Kastek**	**2.87**	**355**	*e*P		**Pg**	**04 28 14.8**	**-1.0**
	189nm,0.4s								
KST				*e*S		**Sg**	**04 28 52.3**	**-0.7**
	263nm,0.6s								
TNSS	**Tian-Shan**	**2.89**	**10**	Pg		**Pg**	**04 28 15.4**	**-1.0**
	216nm,0.4s								
TNSS				Lg		Lg	04 28 53.2		
	264nm,0.6s								
TNSS	**Tian-Shan**	**2.89**	**10**	*e*P		**Pg**	**04 28 15.4**	**-1.0**
	216nm,0.4s								
TNSS				*e*S		**Sg**	**04 28 53.2**	**-0.7**
	264nm,0.6s								
FRU1	**Bishkek**	**2.91**	**335**	*e*Pn		**Pb**	**04 28 11.7**	**-0.4**
FRU1				*e*Sn		**Sn**	**04 28 43.7**	**+3.2**
FRU1	**Bishkek**	**2.91**	**335**	*e*PN		**Pb**	**04 28 11.7**	**-0.4**
FRU1				*e*			04 28 43.7		
FRU1	**Bishkek**	**2.91**	**335**	⇑*i*P		**Pb**	**04 28 10.0**	**-2.1**
	baz=35								
FRU1				⇑*i*S		**Sb**	**04 28 46.2**	**-1.0**
	baz=35								
MTBS	**Maitube**	**2.94**	**2**	Pg		**Pg**	**04 28 16.4**	**-1.0**
	110nm,0.3s								
MTBS				Lg		Lg	04 28 54.2		
	170nm,0.4s								
MTBS	**Maitube**	**2.94**	**2**	*e*P		**Pg**	**04 28 16.4**	**-1.0**
	110nm,0.3s								
MTBS				⇓*i*S		**Sg**	**04 28 54.2**	**-1.3**
	170nm,0.4s								
MDOK	**Medeo**	**3.03**	**11**	Pg		**Pg**	**04 28 17.6**	**-1.4**
	129nm,0.2s								
MDOK				Lg		Lg	04 28 56.9		
	451nm,0.7s								
MDOK	**Medeo**	**3.03**	**11**	*e*P		**Pg**	**04 28 17.6**	**-1.4**
	129nm,0.2s								
MDOK				*e*S		**Sg**	**04 28 56.9**	**-1.3**
	451nm,0.7s								
CHMS	**Chumysh**	**3.04**	**338**	P		**Pb**	**04 28 12.9**	**-1.4**
	SNR=51								
CHMS	**Chumysh**	**3.04**	**338**	⇑*i*P		**Pb**	**04 28 11.7**	**-2.6**
	baz=38								
CHMS				⇑*i*S		**Sb**	**04 28 49.7**	**-1.4**
	baz=38								
AAA	**Alma-Ata**	**3.06**	**9**	Pg		**Pg**	**04 28 18.7**	**-0.8**
	103nm,0.4s								
AAA				Lg		Lg	04 28 58.7		
	411nm,0.7s								
AAA	**Alma-Ata**	**3.06**	**9**	*e*PN		**Pg**	**04 28 18.6**	**-0.8**
AAA				*e*S		**Sg**	**04 28 58.6**	**-0.5**
AAA				pmax		pmax			
	comp=Z,103nm,0.4s								
AAA				smax		smax			
	comp=N,411nm,0.7s								
AAA	**Alma-Ata**	**3.06**	**9**	*e*P		**Pg**	**04 28 18.7**	**-0.8**
	comp=N,103nm,0.4s								
AAA				*e*S		**Sg**	**04 28 58.7**	**-0.5**
	comp=N,411nm,0.7s								
KNDC	**Almaty**	**3.07**	**9**	⇑Pn		**Pb**	**04 28 13.3**	**-1.6**
	comp=N,42nm,0.3s								
KNDC				⇑Pg		**Pg**	**04 28 18.1**	**-1.6**
	comp=N,84nm,0.4s								
KNDC				⇓Lg		Lg	04 28 58.8		
	comp=N,814nm,0.6s								
DGS	**Degeres**	**3.08**	**353**	Pg		**Pg**	**04 28 19.3**	**-0.6**
	comp=N,115nm,0.4s								
DGS				Lg		Lg	04 28 59.6		
	comp=N,612nm,0.8s								
DGS	**Degeres**	**3.08**	**353**	*e*P		**Pg**	**04 28 19.3**	**-0.6**
	comp=N,115nm,0.4s								
DGS				*e*S		**Sg**	**04 28 59.6**	**-0.3**
	comp=N,612nm,0.8s								
KOTS	**Kotyrbulak**	**3.11**	**11**	Pg		**Pg**	**04 28 19.2**	**-1.3**
KOTS				Lg		Lg	04 28 59.3		
KOTS	**Kotyrbulak**	**3.11**	**11**	*e*P		**Pg**	**04 28 19.2**	**-1.3**
	comp=N,98nm,0.3s								
KOTS				*e*S		**Sg**	**04 28 59.3**	**-1.4**
	comp=N,1μm,0.5s								
EKS2	**Erkin-Say**	**3.11**	**323**	P		**Pb**	**04 28 14.2**	**-1.4**
	SNR=122								
EKS2	**Erkin-Say**	**3.11**	**323**	⇑*i*P		**Pb**	**04 28 12.7**	**-3.0**
	baz=23								
EKS2				⇑*i*S		**Sb**	**04 28 51.7**	**-1.6**
	baz=23								
SATY	**Saty**	**3.28**	**28**	Pg		**Pg**	**04 28 22.0**	**-1.8**
	comp=N,230nm,0.4s								
SATY				Lg		Lg	04 29 04.5		
	comp=N,387nm,0.9s								
SATY	**Saty**	**3.28**	**28**	*e*P		**Pg**	**04 28 22.0**	**-1.8**
	comp=N,230nm,0.4s								
SATY				*e*S		**Sg**	**04 29 04.5**	**-1.7**
	comp=N,387nm,0.9s								
USP	**Ospenovka**	**3.36**	**337**	P		**Pb**	**04 28 16.9**	**-2.9**
	SNR=54								
USP	**Ospenovka**	**3.36**	**337**	⇑*i*P		**Pb**	**04 28 16.5**	**-3.3**
	baz=37								
USP				⇑*i*S		**Sb**	**04 28 57.7**	**-2.6**
	baz=37								
MRKS	**Merke**	**3.44**	**319**	Pg		**Pg**	**04 28 25.2**	**-1.6**
	comp=N,170nm,0.3s								
MRKS				Lg		Lg	04 29 09.5		
	comp=N,138nm,0.7s								
MRKS	**Merke**	**3.44**	**319**	*e*P		**Pg**	**04 28 25.2**	**-1.6**
	comp=N,170nm,0.3s								
MRKS				*e*S		**Sg**	**04 29 09.5**	**-2.0**
	comp=N,138nm,0.7s								
SGDS	**Sogindy**	**3.49**	**340**	Pg		**Pg**	**04 28 26.4**	**-1.4**
	comp=N,119nm,0.3s								
SGDS				Lg		Lg	04 29 11.9		
	comp=N,150nm,0.8s								
KTBS	**Karatobe**	**3.54**	**5**	Pg		**Pg**	**04 28 26.5**	**-2.1**
	comp=N,66nm,0.5s								
KTBS				Lg		Lg	04 29 11.9		
	comp=N,174nm,0.5s								
KTBS	**Karatobe**	**3.54**	**5**	*e*P		**Pg**	**04 28 26.5**	**-2.1**
	comp=N,66nm,0.5s								
KTBS				*e*S		**Sg**	**04 29 11.9**	**-2.6**
	comp=N,174nm,0.5s								
KURS	**Kuram**	**3.59**	**22**	Pg		**Pg**	**04 28 25.8**	**-3.7**
	comp=N,66nm,0.7s								
KURS				Lg		Lg	04 29 10.9		
	comp=N,114nm,0.9s								
KURS	**Kuram**	**3.59**	**22**	*e*P		**Pg**	**04 28 25.8**	**-3.7**
	comp=N,66nm,0.7s								
KURS				*e*S		**Sg**	**04 29 10.9**	**-5.2**
	comp=N,114nm,0.9s								
UZB	**Uzynbulak**	**3.60**	**34**	Pg		**Pg**	**04 28 27.3**	**-2.5**
	comp=N,50nm,0.4s								
UZB				Lg		Lg	04 29 13.3		
	comp=N,129nm,0.8s								
UZB	**Uzynbulak**	**3.60**	**34**	*e*P		**Pg**	**04 28 27.3**	**-2.5**
	comp=N,50nm,0.4s								
UZB				*e*S		**Sg**	**04 29 13.3**	**-3.1**
	comp=N,129nm,0.8s								
MNAS	**Manas**	**3.66**	**310**	⇑Pn		**Pb**	**04 28 20.3**	**-4.8**
	comp=N,9.7nm,0.3s								
MNAS				⇓Pg		**Pg**	**04 28 30.4**	**-0.7**
	comp=N,21nm,0.4s								
MNAS				⇑Lg		Lg	04 29 19.0		
	comp=N,93nm,0.7s								
MNAS	**Manas**	**3.66**	**310**	Pg		**Pg**	**04 28 29.4**	**-1.7**
	comp=N,19nm,0.5s								
MNAS				Lg		Lg	04 29 17.7		
	comp=N,42nm,0.6s								
MNAS	**Manas**	**3.66**	**310**	PN		**Pn**	**04 28 20.0**	**+3.4**
MNAS	**Manas**	**3.66**	**310**	⇑*i*P		**Pb**	**04 28 20.4**	**-4.6**
	baz=10.0								
MNAS				⇑*i*S		**Sb**	**04 29 05.1**	**-4.0**
	baz=10.0								
CHKK	**Chushkaly**	**3.70**	**8**	Pg		**Pg**	**04 28 29.6**	**-2.2**
	comp=N,62nm,0.6s								
CHKK				Lg		Lg	04 29 17.5		
	comp=N,228nm,0.4s								
CHKK	**Chushkaly**	**3.70**	**8**	*e*P		**Pg**	**04 28 29.6**	**-2.2**
	comp=N,62nm,0.6s								
CHKK				*e*S		**Sg**	**04 29 17.6**	**-2.2**
	comp=N,228nm,0.4s								
KUU	**Kurty**	**3.71**	**1**	Pg		**Pg**	**04 28 28.7**	**-3.2**
	comp=N,81nm,0.6s								
KUU				Lg		Lg	04 29 16.1		
	comp=N,152nm,0.1s								
KUU	**Kurty**	**3.71**	**1**	*e*P		**Pg**	**04 28 28.7**	**-3.2**
	comp=N,81nm,0.6s								
KUU				*e*S		**Sg**	**04 29 16.1**	**-3.7**
	comp=N,152nm,0.1s								
SHLS	**Shalkode**	**3.80**	**38**	Pg		**Pg**	**04 28 35.7**	**+2.0**
	comp=N,108nm,0.4s								
SHLS				Lg		Lg	04 29 27.8		
	comp=N,331nm,0.7s								
SHLS	**Shalkode**	**3.80**	**38**	*e*P		**Pg**	**04 28 35.7**	**+2.0**
	comp=N,108nm,0.4s								
SHLS				*e*S		**Sg**	**04 29 27.8**	**+4.8**
	comp=N,331nm,0.7s								
PDGK	**Podgornoye**	**3.95**	**36**	Pg		**Pg**	**04 28 32.9**	**-3.6**
	comp=N,32nm,0.6s								
PDGK				Lg		Lg	04 29 23.3		
	comp=N,103nm,0.6s								
PDGK	**Podgornoye**	**3.95**	**36**	⇑Pn		**Pn**	**04 28 22.8**	**+2.3**
	comp=N,5.4nm,0.4s								
PDGK				⇑Pg		**Pg**	**04 28 32.5**	**-4.0**
	comp=N,52nm,0.6s								
PDGK				⇓Lg		Lg	04 29 26.4		
	comp=N,226nm,0.7s								
PDGK	**Podgornoye**	**3.95**	**36**	PN		**Pn**	**04 28 22.0**	**+1.5**
ARXS	**Arharly**	**4.18**	**15**	Pg		**Pg**	**04 28 37.6**	**-3.4**
	comp=N,66nm,0.5s								
ARXS				Lg		Lg	04 29 31.4		
	comp=N,113nm,0.5s								
ARXS	**Arharly**	**4.18**	**15**	*e*P		**Pg**	**04 28 37.6**	**-3.4**
	comp=N,66nm,0.5s								
ARXS				*e*S		**Sg**	**04 29 31.4**	**-3.8**
	comp=N,113nm,0.5s								
MNBS	**Baschi**	**4.20**	**21**	Pg		**Pg**	**04 28 39.2**	**-2.0**
	comp=N,68nm,0.6s								
MNBS				Lg		Lg	04 29 34.0		
	comp=N,146nm,0.9s								
MNBS	**Baschi**	**4.20**	**21**	*e*P		**Pg**	**04 28 39.2**	**-2.0**
	comp=N,68nm,0.6s								
MNBS				*e*S		**Sg**	**04 29 34.0**	**-1.6**
	comp=N,146nm,0.9s								
BTK	**Batken**	**4.20**	**270**	*e*Pn		**Pn**	**04 28 25.1**	**+1.2**
BTK				*e*Sn		**Sn**	**04 29 09.0**	**-3.4**
BTK	**Batken**	**4.20**	**270**	*e*PN		**Pn**	**04 28 25.1**	**+1.2**
KTMS	**Ketmen**	**4.45**	**42**	Pg		**Pg**	**04 28 43.0**	**-3.1**
	comp=N,4.1nm,0.2s								
KTMS				Lg		Lg	04 29 40.5		
	comp=N,108nm,1.0s								
KTMS	**Ketmen**	**4.45**	**42**	*e*P		**Pg**	**04 28 43.0**	**-3.1**
	comp=N,4.1nm,0.2s								
KTMS				*e*S		**Sg**	**04 29 40.5**	**-3.3**
	comp=N,108nm,1.0s								
GAR	**Garm**	**4.76**	**258**	*e*Pn		**Pn**	**04 28 33.1**	**+1.5**
GAR				*e*Sn		**Sn**	**04 29 25.4**	**-1.0**
GAR	**Garm**	**4.76**	**258**	*e*PN		**Pn**	**04 28 33.2**	**+1.5**
DJR	**Jarkent**	**4.89**	**31**	Pg		**Pg**	**04 28 49.8**	**-4.7**
	comp=N,10nm,0.4s								
DJR				Lg		Lg	04 29 52.4		
	comp=N,32nm,0.7s								
DJR	**Jarkent**	**4.89**	**31**	*e*P		**Pg**	**04 28 49.8**	**-4.7**
	comp=N,10nm,0.4s								
DJR				*e*S		**Sg**	**04 29 52.4**	**-5.4**
	comp=N,32nm,0.7s								
TDK	**Taldyqorghan**	**5.06**	**17**	Pg		**Pg**	**04 28 54.2**	**-3.5**
	comp=N,127nm,0.3s								
TDK				Lg		Lg	04 30 00.1		
	comp=N,230nm,1.1s								
TDK	**Taldyqorghan**	**5.06**	**17**	*e*P		**Pg**	**04 28 54.2**	**-3.5**
	comp=N,127nm,0.3s								
TDK				*e*S		**Sg**	**04 30 00.1**	**-3.1**
	comp=N,230nm,1.1s								
IUG	**Iuzhnay**	**5.12**	**295**	*e*P		**Pg**	**04 28 57.5**	**-1.2**
	comp=N,37nm,0.6s								
IUG				*e*S		**Sg**	**04 30 05.3**	**+0.3**
	comp=N,129nm,0.9s								
KK31	**Karatay Array**	**5.22**	**306**	*e*Pn		**Pn**	**04 28 40.7**	**+2.8**
KK31				*e*Sn		**Sn**	**04 29 38.1**	**+0.6**
KK31	**Karatay Array**	**5.22**	**306**	⇓Pn		**Pn**	**04 28 40.3**	**+2.4**
	comp=N,1.8nm,0.3s,baz=123,slow=11,SNR=42								
KK31				⇑Pg		**Pg**	**04 28 57.2**	**-3.6**
	comp=N,8.2nm,0.5s,baz=117,slow=18,SNR=19								
KK31				⇑Lg		Lg	04 30 10.0		
	comp=N,13nm,0.5s,baz=122,slow=29,SNR=4.7								
KK31	**Karatay Array**	**5.22**	**306**	*e*PN		**Pn**	**04 28 40.7**	**+2.8**
KKAR	**Karatay Array**	**5.22**	**306**	*e*Pn		**Pn**	**04 28 40.7**	**+2.8**
KKAR				*e*Sn		**Sn**	**04 29 37.5**	**0.0**
KKAR	**Karatay Array**	**5.22**	**306**	*e*PN		**Pn**	**04 28 40.7**	**+2.8**
CHGR	**Chuyangaron**	**5.73**	**257**	*e*Pn		**Pn**	**04 28 45.6**	**+0.7**
CHGR				*e*Sn		**Sn**	**04 29 48.0**	**-2.2**
CHCP	**Chirah Chowk**	**6.95**	**201**	P		**Pn**	**04 29 03.6**	**+1.9**
CEP	**Cherat**	**7.25**	**210**	P		**Pn**	**04 29 07.3**	**+1.4**
CEP				S		**Sn**	**04 30 26.0**	**-1.8**
MAKZ	**Makanchi**	**7.80**	**30**	*e*Pn		**Pn**	**04 29 16.1**	**+2.8**
MAKZ	**Makanchi**	**7.80**	**30**	⇑Pn		**Pn**	**04 29 16.2**	**+2.9**
	comp=N,5.2nm,0.8s								
MAKZ				⇑Lg		Lg	04 31 31.7		
	comp=N,15nm,0.9s								
MAKZ	**Makanchi**	**7.80**	**30**	*e*P		**Pn**	**04 29 16.1**	**+2.8**
MK01	**Makanchi Array**	**7.90**	**32**	*e*Pn		**Pn**	**04 29 17.1**	**+2.4**
MK31	**Makanchi Array**	**7.91**	**31**	*e*Pn		**Pn**	**04 29 17.6**	**+2.7**
MK31	**Makanchi Array**	**7.91**	**31**	Pn		**Pn**	**04 29 17.1**	**+2.2**
	comp=N,1.2nm,0.4s,baz=210,slow=12,SNR=56								
MK31				⇓Lg		Lg	04 31 33.4		
	comp=N,8.7nm,0.7s,baz=217,slow=24,SNR=6.6								
MK31	**Makanchi Array**	**7.91**	**31**	*e*P		**Pn**	**04 29 17.6**	**+2.7**
MK32	**Makanchi Array**	**7.91**	**31**	*e*Pn		**Pn**	**04 29 17.5**	**+2.6**
MKAR	**Makanchi Array**	**7.91**	**31**	Pn		**Pn**	**04 29 17.5**	**+2.7**
	comp=N,0.5nm,0.3s,baz=215,slow=16,SNR=26								
MKAR				Lg		Lg	04 31 31.5		
	comp=N,0.8nm,0.3s,baz=217,slow=27,SNR=8.5								
MKAR				LR		LR	04 32 43.0		
	comp=N,102nm,21.0s,baz=236,slow=40								
MKAR	**Makanchi Array**	**7.91**	**31**	*e*Pn		**Pn**	**04 29 17.6**	**+2.7**
MKAR				*e*Sn		**Sn**	**04 30 47.6**	**+3.8**
MKAR				Lg		Lg	04 31 31.5		
MKAR	**Makanchi Array**	**7.91**	**31**	*e*P		**Pn**	**04 29 17.6**	**+2.7**
MKAR				*e*			04 30 47.6		
KBL	**Kabul**	**8.06**	**228**	*e*Pn		**Pn**	**04 29 18.1**	**+1.0**
KBL	**Kabul**	**8.06**	**228**	*e*P		**Pn**	**04 29 18.1**	**+1.0**
THW	**Thamme Wali**	**8.23**	**208**	P		**Pn**	**04 29 21.3**	**+2.0**
WMQ	**Urumqi**	**9.23**	**63**	*e*P		**Pn**	**04 29 33.8**	**+0.8**
WMQ				S		**Sn**	**04 31 16.9**	**+0.6**
WMQ				smax		smax			
	comp=N,33nm,0.9s								
WMQ				smax		smax			
	comp=N,32nm,1.1s								
KURBB	**Kurchatov Arra**	**10.56**	**8**	Pn		**Pn**	**04 29 51.5**	**+0.5**
	comp=N,0.1nm,0.3s,baz=193,slow=12,SNR=3.2								
KURBB				Lg		Lg	04 32 51.4		
	comp=N,0.1nm,0.3s,baz=192,slow=26,SNR=7.5								
KURK	**Kurchatov**	**10.66**	**8**	*e*Pn		**Pn**	**04 29 51.5**	**-0.9**
KURK				Lg		Lg	04 32 51.4		
KURK	**Kurchatov**	**10.66**	**8**	⇑Lg		Lg	04 33 01.5		
	comp=N,48nm,1.2s								
KURK	**Kurchatov**	**10.66**	**8**	*e*P		**Pn**	**04 29 51.5**	**-0.9**
DGZ	**Jazzator, Alta**	**12.35**	**36**	*i* P		**Pn**	**04 30 16.3**	**+0.7**
PYUN	**Piuthan**	**13.26**	**153**	*e*P		Pn	04 30 21.8	-6.5
	comp=N,18nm,0.4s								
DANN	**Dangsing**	**13.31**	**150**	*e*P		Pn	04 30 22.5	-6.6
	comp=N,14nm,0.3s								
BVA0	**Borovoye Array**	**13.46**	**345**	Pn		**Pn**	**04 30 31.8**	**+1.1**
	comp=N,3.3nm,0.7s,baz=164,slow=17,SNR=8.8								
BVA0				Lg		Lg	04 34 24.7		
	comp=N,20nm,1.0s,baz=138,slow=23,SNR=6.8								
BVAR	**Borovoye Array**	**13.46**	**345**	Pn		**Pn**	**04 30 31.2**	**+0.6**
	comp=N,0.3nm,0.3s,baz=155,slow=14,SNR=8.9								
BVAR				Lg		Lg	04 34 22.4		
	comp=N,0.2nm,0.3s,baz=152,slow=23,SNR=4.1								
BRVK	**Borovoye**	**13.52**	**344**	*e*Pn		**Pn**	**04 30 32.8**	**+1.4**
BRVK	**Borovoye**	**13.52**	**344**	*i* P		**Pn**	**04 30 32.2**	**+0.8**
BRVK				pmax		pmax			
	comp=Z,3.0nm,1.0s								
KOLN	**Koldanda**	**13.78**	**152**	*e*P		Pn	04 30 29.2	-6.1
	comp=Z,7.9nm,0.4s								
DMN	**Daman**	**14.51**	**147**	*e*P		Pn	04 30 38.7	-6.7
	comp=Z,7.4nm,0.4s								
GUN	**Gumba**	**14.58**	**144**	*e*P		Pn	04 30 40.1	-6.4
	comp=Z,9.8nm,0.4s								
PKI	**Pulchoki**	**14.67**	**146**	*e*P		Pn	04 30 40.6	-7.1
	comp=Z,16nm,0.6s								
ABKAR	**Akbulak array**	**14.71**	**313**	*e*Pn		**Pn**	**04 30 48.6**	**+0.8**
ZALV	**Zalesovo Beam**	**14.93**	**20**	Pn		**Pn**	**04 30 50.4**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=225,slow=17,SNR=5.8								
ZALV				Lg		Lg	04 35 16.1		
	comp=Z,0.2nm,0.3s,baz=211,slow=30,SNR=3.6								
ZAA1	**Zalesovo Array**	**14.93**	**20**	*e*Pn		**Pn**	**04 30 50.4**	**-0.3**
NVS	**Novosibirsk**	**15.38**	**15**	*i* P		**P**	**04 31 02.4**	**+1.2**
AKTO	**Aktyubinsk**	**16.40**	**315**	Pn		**Pn**	**04 31 09.9**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=116,slow=13,SNR=8.4								
AKTO	**Aktyubinsk**	**16.40**	**315**	P		**Pn**	**04 31 10.0**	**+0.2**
ARU	**Arti**	**19.98**	**330**	P		Pn	04 31 54.1	+0.5
ARU							04 32 07.8		
ARU				S		Sn	04 35 41.5	+3.9
ARU				SS		**SnSn**	**04 35 58.1**	**+6.1**
SONA0	**Songino Array**	**22.86**	**60**	*e*P		**P**	**04 32 22.0**	**-1.0**
SONM	**Songino Array**	**22.86**	**60**	P		**P**	**04 32 22.0**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=256,slow=11,SNR=7.7								
SONM	**Songino Array**	**22.86**	**60**	P		**P**	**04 32 22.0**	**-1.0**
ULN	**Ulaanbaatar**	**23.30**	**61**	*i* P		**P**	**04 32 29.1**	**+1.5**
ULN				pmax		pmax			
	comp=Z,1.0nm,0.8s								
SIRT	**Sirnak**	**26.41**	**275**	*e*P		**P**	**04 32 55.9**	**-0.3**
	comp=Z,7.3nm,0.9s								
KLMR	**Klimovskoe**	**30.59**	**325**	*e*P		**P**	**04 33 33.1**	**0.0**
KLMR				pmax		pmax			
	comp=Z,9.0nm,1.3s								
KLMR	**Klimovskoe**	**30.59**	**325**	*e*P		**P**	**04 33 33.1**	**0.0**
KLMR				AMP			04 33 34.3		
	comp=Z,9.0nm,1.2s								
BR101	**Keskin Array S**	**32.47**	**283**	*e*P		**P**	**04 33 50.6**	**+0.5**
BRTR	**Keskin Array B**	**32.47**	**283**	P		**P**	**04 33 50.6**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=99,slow=5.4,SNR=9.6								
CSS	**Mathiatis**	**34.20**	**275**	*e*P		**P**	**04 34 02.0**	**-3.0**
	comp=Z,16nm,1.4s								
FIA0	**FINESS Array S**	**36.94**	**322**	*e*P		**P**	**04 34 28.9**	**+0.6**
FIA0	**FINESS Array S**	**36.94**	**322**	*e*P		**P**	**04 34 28.9**	**+0.6**
FINES	**FINESS Array B**	**36.94**	**322**	P		**P**	**04 34 28.9**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=101,slow=7.2,SNR=4.2								
ARA0	**ARCESS Array S**	**39.47**	**335**	*e*P		**P**	**04 34 49.4**	**-0.1**
ARCES	**ARCESS Array B**	**39.47**	**335**	P		**P**	**04 34 49.4**	**-0.1**
	comp=Z,8.3nm,1.0s,baz=87,slow=4.1,SNR=7.5								
KLR	**Kul'dur**	**39.64**	**58**	*i* P		**P**	**04 34 52.8**	**+1.7**
IDI	**Anoyia**	**40.48**	**280**	*e*P		**P**	**04 34 56.1**	**-2.2**
IDI				*e*pP		**sP**	**04 35 09.2**	**+2.5**
TIXI	**Tiksi**	**40.79**	**23**	*i* P		**P**	**04 35 00.6**	**+0.2**
TIXI				pmax		pmax			
	comp=Z,1.0nm,0.9s								
NB200	**NORSAR Array S**	**44.06**	**321**	*e*P		**P**	**04 35 27.2**	**0.0**
NOA	**NORSAR Array B**	**44.06**	**321**	P		**P**	**04 35 27.2**	**0.0**
	comp=Z,0.5nm,0.7s,baz=89,slow=8.1,SNR=3.3								
GERES	**GERESS Array B**	**44.32**	**303**	P		**P**	**04 35 29.5**	**0.0**

PV20				Sg	Sg	04 46 40.9	-1.0	
PV17	**East Wray Mesa**	**0.05**	**138**	*e*Pg	**Pg**	04 46 40.7	-0.9	
PV17				Sg	**Sg**	04 46 41.7	-0.6	
PV14	**Lion Creek, Pa**	**0.06**	**344**	*e*Pg	**Pg**	04 46 40.9	-1.0	
PV14				Sg	**Sg**	04 46 41.9	-0.8	
PV10	**Paradox Valley**	**0.07**	**334**	Pg	**Pg**	04 46 40.8	-1.2	
PV16	**Nyswonger Mesa**	**0.07**	**94**	*e*Pg	**Pg**	04 46 40.9	-1.1	
PV11	**David Mesa, Pa**	**0.10**	**100**	*e*Pg	**Pg**	04 46 41.5	-1.1	
PV04	**Paradox Valley**	**0.11**	**45**	Pg	**Pg**	04 46 41.8	-0.9	
PV23	**Carpenter Ridg**	**0.14**	**357**	*e*Pg	**Pg**	04 46 42.6	-0.7	
PV03	**Paradox Valley**	**0.14**	**117**	Pg	**Pg**	04 46 41.9	-1.3	
PV12	**Saucer Basin,**	**0.16**	**90**	*e*Pg	**Pg**	04 46 42.7	-0.9	
PV09	**Paradox Valley**	**0.21**	**331**	*e*Pg	**Pg**	04 46 43.8	-0.8	
PV13	**Radium Mtn., P**	**0.21**	**138**	Pg	**Pg**	04 46 43.7	-1.0	
PV02	**Paradox Valley**	**0.23**	**118**	Pg	**Pg**	04 46 43.9	-1.2	
PV21	**Cone Mtn., Par**	**0.24**	**5**	*e*Pg	**Pg**	04 46 44.4	-0.9	
PV05	**Paradox Valley**	**0.25**	**198**	*e*Pg	**Pg**	04 46 43.0	-2.3	
PV07	**Paradox Valley**	**0.30**	**66**	Pg	**Pg**	04 46 45.2	-1.2	
PV01	**Paradox Valley**	**0.39**	**118**	*e*Pg	**Pg**	04 46 46.6	-1.4	
PV15	**Paradox Valley**	**0.41**	**86**	Pg	**Pg**	04 46 47.1	-1.3	
MVCO	**Mesa Verde**	**1.17**	**160**	*e*Pg	**Pg**	04 47 01.6	-1.5	
MVCO	**Mesa Verde**	**1.17**	**160**	P	**Pg**	04 47 01.5	-1.5	
	baz=341							
MVCO				S	**Sg**	04 47 17.1	-1.2	
	baz=341							
SRU	**San Rafael Swe**	**1.43**	**304**	*e*Pn	**Pn**	04 47 05.7	-2.1	
P17A	**Butcher Ranch,**	**1.78**	**311**	*e*Pn	**Pn**	04 47 11.9	-0.6	
Q16A	**Castle Valley**	**1.80**	**290**	*e*Pn	**Pn**	04 47 12.2	-0.7	
Q16A				*e*Sn	**Sn**	04 47 34.6	-1.8	
SMCO	**Snowmass**	**1.80**	**61**	*e*Pn	**Pn**	04 47 12.3	-0.7	
S22A	**4UR Ranch, Cre**	**1.81**	**108**	*e*Pn	**Pn**	04 47 12.6	-0.5	
S22A	**4UR Ranch, Cre**	**1.81**	**108**	P	**Pn**	04 47 12.6	-0.5	
	baz=289							
O20A	**White River Ci**	**1.91**	**18**	*e*Pn	**Pn**	04 47 14.3	0.0	
O20A	**White River Ci**	**1.91**	**18**	P	**Pn**	04 47 14.8	+0.4	
	baz=198							
O20A				S	**Sn**	04 47 39.0	-0.1	
	baz=198							
TMUT	**Trail Mountain**	**1.98**	**300**	*e*Pn	**Pn**	04 47 15.1	-0.4	
MSU	**Marysvale**	**2.50**	**275**	*e*Pn	**Pn**	04 47 22.4	-0.1	
MTPU	**Mount Pierson**	**2.52**	**265**	*e*Pn	**Pn**	04 47 23.5	+0.6	
MPU	**Maple Canyon**	**2.66**	**310**	*e*Pn	**Pn**	04 47 24.2	-0.4	
PKCU	**Pink Cliffs**	**2.76**	**253**	*e*Pn	**Pn**	04 47 26.6	+0.4	
SDCO	**Great Sand Dun**	**2.82**	**101**	*e*Pn	**Pn**	04 47 27.0	+0.1	
SDCO	**Great Sand Dun**	**2.82**	**101**	P	**Pn**	04 47 27.0	+0.1	
	baz=283							
SDCO				S	**Sn**	04 48 02.9	+1.2	
	baz=283							
NLU	**North Lily Min**	**2.90**	**305**	*e*Pn	**Pn**	04 47 27.3	-0.7	
JLU	**Jordanelle**	**2.97**	**321**	*e*Pn	**Pn**	04 47 28.9	0.0	
ISCO	**Idaho Springs**	**3.02**	**60**	*e*Pn	**Pn**	04 47 30.1	+0.3	
ISCO	**Idaho Springs**	**3.02**	**60**	P	**Pn**	04 47 30.1	+0.3	
	baz=242							
Q24A	**Divide**	**3.08**	**77**	*e*Pn	**Pn**	04 47 31.2	+0.6	
Q24A	**Divide**	**3.08**	**77**	P	**Pn**	04 47 30.9	+0.3	
	baz=259							
Q24A				Sb	**Sb**	04 48 15.4	+0.8	
	baz=259							
CTU	**Camp Tracy**	**3.19**	**319**	*e*Pn	**Pn**	04 47 31.5	-0.4	
U15A	**North Rim**	**3.23**	**235**	*e*Pn	**Pn**	04 47 33.1	+0.6	
W18A	**Petrified Fore**	**3.25**	**191**	*e*Pn	**Pn**	04 47 32.8	0.0	
W18A	**Petrified Fore**	**3.25**	**191**	P	**Pn**	04 47 32.6	-0.1	
	baz=10							
W18A				Sb	**Sb**	04 48 19.3	+0.2	
	baz=10							
KNB	**Kanab**	**3.30**	**248**	*e*Pn	**Pn**	04 47 33.6	+0.2	
SZCU	**Shurtz Canyon**	**3.31**	**259**	*e*Pn	**Pn**	04 47 34.5	+0.9	
TCUT	**Toone Canyon**	**3.36**	**327**	*e*Pn	**Pn**	04 47 34.3	0.0	
WUAZ	**Wupatki**	**3.38**	**215**	*e*Pn	**Pn**	04 47 34.6	0.0	
WUAZ	**Wupatki**	**3.38**	**215**	P	**Pn**	04 47 34.7	+0.2	
	baz=34							
N23A	**Red Feather La**	**3.49**	**42**	*e*Pn	**Pn**	04 47 37.4	+1.2	
N23A	**Red Feather La**	**3.49**	**42**	P	**Pn**	04 47 37.2	+1.0	
	baz=223							
N23A				Sb	**Sb**	04 48 26.3	-0.1	
	baz=223							
DUG	**Dugway, Tooele**	**3.50**	**304**	*e*Pn	**Pn**	04 47 35.1	-1.1	
DUG	**Dugway, Tooele**	**3.50**	**304**	P	**Pn**	04 47 34.9	-1.3	
	baz=121							
CCUT	**Cedar City**	**3.53**	**259**	*e*Pn	**Pn**	04 47 37.5	+0.8	
LCMT	**Little Creek M**	**3.61**	**250**	*e*Pn	**Pn**	04 47 38.0	+0.4	
RWWY	**Rawlins**	**3.64**	**22**	*e*Pn	**Pn**	04 47 39.0	+0.8	
PSUT	**Pine Spring**	**3.82**	**275**	*e*Pn	**Pn**	04 47 43.0	+2.4	
T25A	**Trinidad**	**3.83**	**106**	*e*Pn	**Pn**	04 47 41.0	+0.3	
T25A	**Trinidad**	**3.83**	**106**	P	**Pn**	04 47 41.0	+0.3	
	baz=290							
ANMO	**Albuquerque**	**3.94**	**148**	Pn	**Pn**	04 47 41.5	-0.7	
	1.3nm,0.3s,baz=342,slow=12,SNR=20							
ANMO				Pg	**Pb**	04 47 51.0	+0.2	
	24nm,0.3s,baz=337,slow=15,SNR=83							
ANMO				Lg	Lg	04 48 40.4		
	107nm,0.3s,baz=257,slow=22,SNR=18							
ANMO	**Albuquerque**	**3.94**	**148**	P	**Pn**	04 47 41.4	-0.8	
	baz=330							
ANMO				Sb	**Sb**	04 48 40.3	+1.3	
	baz=330							
SPUT	**South Promonto**	**4.00**	**319**	*e*Pn	**Pn**	04 47 42.0	-1.0	
PHWY	**Pilot Hill**	**4.04**	**41**	*e*Pn	**Pn**	04 47 44.2	+0.4	
BGU	**Big Grassy Mou**	**4.06**	**311**	*e*Pn	**Pn**	04 47 43.0	-0.9	
LAZ	**Ladron**	**4.19**	**158**	*e*Pn	**Pn**	04 47 44.8	-0.8	
X16A	**Lo Mia Camp, P**	**4.36**	**208**	*e*Pn	**Pn**	04 47 48.0	0.0	
LPM	**Los Pinos Moun**	**4.43**	**154**	*e*Pg	**Pb**	04 47 59.1	-0.1	
LENM	**Lemitar**	**4.46**	**158**	*e*Pn	**Pn**	04 47 48.3	-1.0	
BW06	**Boulder Array**	**4.47**	**355**	*e*Pn	**Pn**	04 47 47.9	-1.7	
BW06	**Boulder Array**	**4.47**	**355**	P	**Pn**	04 47 48.3	-1.2	
	baz=174							
BW06				S	**Sn**	04 48 41.2	-1.0	
	baz=174							
PDAR	**Pinedale Array**	**4.47**	**355**	Pn	**Pn**	04 47 48.2	-1.3	
	7.9nm,0.3s,baz=166,slow=12,SNR=152							
PDAR				Pg	**Pb**	04 47 59.8	0.0	
	18nm,0.3s,baz=170,slow=13,SNR=35							
PDAR				Sn	**Sn**	04 48 38.4	-3.8	
	24nm,0.3s,baz=152,slow=14,SNR=5.3							
PDAR				Lg	Lg	04 48 55.4		
	66nm,0.3s,baz=172,slow=26,SNR=11							
PDAR				LR	LR	04 49 20.4		
	comp=Z,150nm,21.5s,baz=38,slow=37							
HVU	**Hansel Valley**	**4.51**	**321**	*e*Pn	**Pn**	04 47 49.5	-0.5	
BNM	**Barren Site**	**4.58**	**155**	*e*Pn	**Pn**	04 47 50.2	-0.9	
AHID	**Auburn Hatcher**	**4.72**	**341**	*e*Pn	**Pn**	04 47 52.1	-0.9	
K22A	**Casper**	**4.72**	**23**	*e*Pn	**Pn**	04 47 53.1	+0.1	
K22A	**Casper**	**4.72**	**23**	P	**Pn**	04 47 53.1	+0.1	
	baz=204							
KSCO	**Kaye Shedlock'**	**5.04**	**80**	*e*Pn	**Pn**	04 47 58.6	+1.4	
W13A	**Hualapai Mount**	**5.07**	**232**	*e*Pn	**Pn**	04 47 57.9	+0.1	
R11A	**Troy Canyon, C**	**5.18**	**272**	*e*Pn	**Pn**	04 47 59.9	+0.6	
R11A	**Troy Canyon, C**	**5.18**	**272**	P	**Pn**	04 48 00.4	+1.1	
	baz=88							
SHPR	**Sheep Range**	**5.22**	**252**	*e*Pn	**Pn**	04 48 00.1	+0.2	
REDW	**Red Top Meadow**	**5.23**	**345**	*e*Pn	**Pn**	04 47 58.7	-1.3	
SNOW	**Snow King Moun**	**5.31**	**346**	*e*Pn	**Pn**	04 48 02.5	+1.4	
TPAW	**Teton Pass**	**5.38**	**345**	*e*Pn	**Pn**	04 48 01.2	-0.9	
ELK	**Elko**	**5.40**	**299**	Pn	**Pn**	04 48 03.7	+1.4	
	0.2nm,0.3s,baz=109,slow=13,SNR=5.0							
ELK				Pg	**Pb**	04 48 17.8	+2.1	
	1.4nm,0.3s,baz=110,slow=9.4,SNR=7.4							
ELK				Lg	Lg	04 49 27.3		
	1.8nm,0.3s,baz=18,slow=20,SNR=3.5							
ELK				LR	LR	04 50 27.2		
	comp=Z,320nm,21.9s,baz=114,slow=42							
ELK	**Elko**	**5.40**	**299**	*e*Pn	**Pn**	04 48 04.7	+2.4	
ELK				Pg	**Pb**	04 48 17.8	+2.1	
ELK				Lg	Lg	04 49 27.3		
LOHW	**Long Hollow**	**5.43**	**348**	*e*Pn	**Pn**	04 48 01.5	-1.2	
Y14A	**Wickenburg**	**5.44**	**218**	*e*Pn	**Pn**	04 48 03.4	+0.6	
FXWY	**Fox Creek**	**5.53**	**345**	*e*Pn	**Pn**	04 48 02.4	-1.8	
MOOW	**Moose Ponds**	**5.58**	**347**	*e*Pn	**Pn**	04 48 03.7	-1.2	
IMW	**Indian Meadow**	**5.76**	**346**	*e*Pn	**Pn**	04 48 06.6	-0.8	
LDFC	**Landfair**	**5.88**	**238**	*e*Pn	**Pn**	04 48 09.2	+0.4	
FLWY	**Flagg Ranch**	**5.90**	**348**	*e*Pn	**Pn**	04 48 08.3	-0.9	
TPNV	**Topopah Spring**	**5.91**	**259**	*e*Pn	**Pn**	04 48 09.6	+0.2	
OGNE	**Ogallala**	**5.99**	**62**	*e*Pn	**Pn**	04 48 09.3	-1.0	
	192nm,0.5s							
OGNE				*e*Sn	**Sn**	04 49 15.7	-3.8	
YPP	**Pitchstone Pla**	**6.10**	**348**	*e*Pn	**Pn**	04 48 12.4	+0.4	
TUC	**Tucson**	**6.17**	**194**	*e*Pn	**Pn**	04 48 12.5	-0.2	
YFT	**Old Faithful**	**6.28**	**348**	*e*Pn	**Pn**	04 48 17.5	+3.0	
LKWY	**Lake**	**6.33**	**351**	*e*Pn	**Pn**	04 48 14.4	-0.7	
	51nm,0.8s							
Y12C	**Blythe**	**6.38**	**226**	*e*Pn	**Pn**	04 48 16.7	+1.1	
YMR	**Madison River**	**6.51**	**348**	*e*Pn	**Pn**	04 48 17.7	0.0	
YNR	**Norris Junctio**	**6.52**	**349**	*e*Pn	**Pn**	04 48 20.9	+3.2	
YHB	**Horse Butte**	**6.64**	**346**	*e*Pn	**Pn**	04 48 20.5	+1.2	
MSTX	**Muleshoe**	**6.65**	**129**	*e*Pg	**Pb**	04 48 38.6	+1.7	
HLID	**Hailey**	**6.65**	**324**	*e*Pn	**Pn**	04 48 20.2	+0.8	
QLMT	**Earthquake Lak**	**6.76**	**345**	*e*Pn	**Pn**	04 48 21.9	+1.0	
RLMT	**Red Lodge**	**6.80**	**358**	*e*Pn	**Pn**	04 48 21.0	-0.6	
RLMT				*e*Sn	**Sn**	04 49 38.5	-1.3	
AMTX	**Amarillo**	**6.81**	**118**	*e*Pn	**Pn**	04 48 23.7	+2.1	
RSSD	**Black Hills**	**6.90**	**31**	*e*Pn	**Pn**	04 48 22.1	-0.9	
GSC	**Goldstone, Bar**	**6.95**	**247**	*e*Pn	**Pn**	04 48 23.7	+0.2	
MCMT	**McKenzie Canyo**	**7.12**	**337**	*e*Pn	**Pn**	04 48 29.8	+3.9	
DAC	**Darwin (Calif)**	**7.14**	**256**	*e*Pg	**Pg**	04 48 52.7	-4.7	
MNTX	**Cornudas Mount**	**7.24**	**155**	*e*Pn	**Pn**	04 48 27.6	+0.2	
MFID	**Camas Ranch**	**7.26**	**317**	*e*Pn	**Pn**	04 48 29.4	+1.7	
CBKS	**Cedar Bluff**	**7.28**	**83**	*e*Pn	**Pn**	04 48 28.3	+0.3	
NVAR	**Mina Array Bea**	**7.31**	**274**	Pn	**Pn**	04 48 29.8	+1.2	
	0.4nm,0.3s,baz=94,slow=14,SNR=7.4							
NVAR				Pg	**Pb**	04 48 49.6	+1.4	
	0.5nm,0.3s,baz=94,slow=14,SNR=4.5							
NVAR				Lg	Lg	04 50 28.7		
	0.6nm,0.3s,baz=81,slow=31,SNR=2.6							
RYN	**Ryan**	**7.48**	**275**	*e*Pn	**Pn**	04 48 33.4	+2.6	
GCMT	**Greycliff**	**7.49**	**356**	*e*Pn	**Pn**	04 48 30.9	0.0	
DLMT	**Dillon**	**7.53**	**340**	*e*Pn	**Pn**	04 48 34.1	+2.6	
XPFO	**Pion Flat**	**7.65**	**234**	*e*Pn	**Pn**	04 48 33.0	-0.1	
PFO	**Pinyon Flats O**	**7.65**	**234**	Pn	**Pn**	04 48 33.4	+0.2	
	0.3nm,0.3s,baz=49,slow=10,SNR=3.6							
PFO				Lg	Lg	04 50 41.5		
	0.9nm,0.3s,baz=7.7,slow=14,SNR=5.1							
PFO				LR	LR	04 51 37.7		
	comp=Z,182nm,20.4s,baz=46,slow=38							
PFO	**Pinyon Flats O**	**7.65**	**234**	*e*Pn	**Pn**	04 48 33.0	-0.2	
PFO				Lg	Lg	04 50 41.5		
OMMB	**Old Mammoth Mi**	**7.93**	**268**	*e*Pg	**Pg**	04 49 12.5	+0.1	
YERR	**Yerington**	**8.04**	**278**	*e*Pg	**Pg**	04 49 15.3	+0.8	
U32A	**Winter Ranch,**	**8.20**	**101**	*e*Pg	**Pb**	04 49 03.9	+0.6	
U32A				*e*Lg	Lg	04 51 07.1		
PAHR	**Pah Rah Range**	**8.20**	**283**	*e*Pn	**Pn**	04 48 43.6	+2.8	
BARR	**Barrett**	**8.41**	**230**	*e*Pn	**Pn**	04 48 44.3	+0.8	
WVOR	**Wild Horse Val**	**8.42**	**302**	*e*Pn	**Pn**	04 48 46.1	+2.4	
LAO	**LASA Array**	**8.61**	**13**	*e*Pn	**Pn**	04 48 46.1	-0.2	
HRY	**Holter Researc**	**8.64**	**347**	*e*Pn	**Pn**	04 48 48.9	+2.2	
OSI	**Osito Audit: C**	**8.66**	**248**	*e*Pg	**Pg**	04 49 22.4	-3.9	
OSI				*e*Sg	**Sg**	04 51 20.0	+1.6	
J08A	**Circle Bar Ran**	**8.77**	**308**	*e*Pn	**Pn**	04 48 51.0	+2.5	
BGNE	**Belgrade**	**8.90**	**66**	*e*Pn	**Pn**	04 48 50.7	+0.6	
BEKR	**Beckworth**	**8.97**	**283**	*e*Pn	**Pn**	04 48 54.3	+3.1	
BMO	**Blue Mountains**	**9.02**	**319**	*e*Pn	**Pn**	04 48 54.0	+2.1	
MSO	**Missoula**	**9.25**	**338**	*e*Pn	**Pn**	04 48 56.5	+1.5	
MOD	**Modoc Plateau**	**9.37**	**296**	*e*Pn	**Pn**	04 48 59.8	+3.1	
EGMT	**Eagleton**	**9.72**	**357**	*e*Pn	**Pn**	04 49 01.0	-0.4	
F10A	**Beach Ranch, E**	**9.79**	**324**	*e*Pn	**Pn**	04 49 04.8	+2.4	
TXAR	**Lajitas Array**	**9.99**	**152**	Pn	**Pn**	04 49 07.8	+2.5	
	0.1nm,0.3s,baz=344,slow=9.6,SNR=7.4							
TXAR				Pg		04 49 42.7		
	0.4nm,0.3s,baz=346,slow=15,SNR=9.7							
TXAR				Lg	Lg	04 51 51.5		
	1.2nm,0.3s,baz=336,slow=24,SNR=6.5							
TXAR				LR	LR	04 53 02.2		
	comp=Z,149nm,21.0s,baz=0.0,slow=38							
ECSD	**EROS Data Cent**	**10.81**	**56**	*e*Pn	**Pn**	04 49 18.1	+1.8	
TUL1	**Leonard**	**10.82**	**99**	*e*Pn	**Pn**	04 49 17.3	+0.8	
YBH	**Yreka Blue Hor**	**11.05**	**292**	LR	LR	04 52 58.4		
	comp=Z,97nm,21.2s,baz=96,slow=34							
NEW	**Newport**	**11.56**	**332**	Lg	Lg	04 52 45.6		
	0.2nm,0.3s,baz=58,slow=22,SNR=3.7							
NEW				LR	LR	04 54 23.8		
	comp=Z,163nm,21.0s,baz=148,slow=41							
435B	**Jarrell**	**12.04**	**125**	*e*Pn	**Pn**	04 49 35.1	+1.9	
HHAR	**Hobbs**	**12.17**	**95**	*e*Pn	**Pn**	04 49 34.0	-1.0	
MIAR	**Mount Ida**	**12.98**	**102**	*e*Pn	**Pn**	04 49 45.3	-0.7	
LPIG	**La Paz**	**14.21**	**185**	LR	LR	04 54 22.1		
	comp=Z,55nm,21.2s,baz=354,slow=32							
ULM	**Lac du Bonnet**	**15.16**	**34**	Pn	**Pn**	04 50 10.1	-5.6	
	0.1nm,0.3s,baz=216,slow=9.8,SNR=3.0							
ULM				Lg	Lg	04 54 25.9		
	0.1nm,0.3s,baz=305,slow=21,SNR=3.1							
ULM				LR	LR	04 56 27.6		
	comp=Z,113nm,18.6s,baz=218,slow=39							
FFC	**Flin Flon**	**17.09**	**14**	*e*Pn	**P**	04 50 42.7	+0.3	
YKA	**Yellowknife Ar**	**24.45**	**354**	P	**P**	04 51 59.1	-1.4	
	2.4nm,0.6s,baz=166,slow=9.8,SNR=44							
CMIG	**Matias Romero**	**24.50**	**146**	LR	LR	05 03 40.4		
	comp=Z,51nm,19.1s,baz=308,slow=42							
APG	**El Apazote**	**28.41**	**140**	LR	LR	05 05 30.2		
	comp=Z,55nm,18.5s,baz=107,slow=40							
ILAR	**Eielson Array**	**34.52**	**332**	P	**P**	04 53 28.8	-1.1	
	0.2nm,0.7s,baz=129,slow=8.5,SNR=2.7							

SKHL ***24*** *04:47:11.5±1.0, 48°.65N×154°.55E, h189km±2km, mb4.5/3, msh4.9/2*
KRSC ***24*** *04:47:13.3±1.1, 48°.71N×154°.74E, h194km±12km, ML4.1*
MOS ***24*** *04:47:13.3±0.9, 48°.71N×154°.74E, h194km, mb4.3/1, Error ellipse: s-maj=99.9km s-min=8.6km az=70.6*
ISC 24 04:47:12.3±1.9, 48.7N±0.2×154.6E±0.2, h200km, n35, σ1§41/52, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.25**	**25**	*e*P		Pn	**Pn**	04 47 54.1	+0.7
SKR				*e*S		Sn	**Sn**	04 48 25.4	-0.1
SKR	**Severo-Kuril's**	**2.25**	**25**	*e*P	↑	Pn	**Pn**	04 47 54.3	+0.9
SKR				AMB		AMB	AMB	04 47 59.5	
	100nm,0.8s								
SKR				*i* S		Sn	**Sn**	04 48 25.6	+0.1
SKR				A		A	A	04 48 35.4	
	110nm,0.5s								
SKR				A		A	A	04 48 35.4	
	220nm,1.0s								
SKR	**Severo-Kuril's**	**2.25**	**25**	PN		Pn	**Pn**	04 47 54.1	+0.7
SKR				S		Sn	**Sn**	04 48 25.4	-0.1
PAU	**Pauzhetka**	**3.15**	**26**	*e*P		Pn	**Pn**	04 48 04.3	+0.7
PAU				*e*S		Sn	**Sn**	04 48 42.7	-1.2
PAU	**Pauzhetka**	**3.15**	**26**	*i*P	↑	Pn	**Pn**	04 48 04.5	+0.9
PAU				AMB		AMB	AMB	04 48 08.3	
	100nm,1.0s								
PAU				*i* S		Sn	**Sn**	04 48 45.0	+1.1
PAU				A		A	A	04 49 11.4	
	210nm,1.0s								
PAU	**Pauzhetka**	**3.15**	**26**	PN		Pn	**Pn**	04 48 04.3	+0.7
PAU				S		Sn	**Sn**	04 48 42.7	-1.2
KDTR	**Khodutka, Kamc**	**3.86**	**34**	*e*P		Pn	**Pn**	04 48 12.5	+0.3
KDTR				*e*S		Sn	**Sn**	04 48 57.6	-1.8
KDTR	**Khodutka, Kamc**	**3.86**	**34**	PN		Pn	**Pn**	04 48 12.5	+0.3
KDTR				S		Sn	**Sn**	04 48 57.6	-1.8
MTVR	**Mutnovka**	**4.46**	**29**	*e*P		Pn	**Pn**	04 48 21.8	+2.0
MTVR				*e*S		Sn	**Sn**	04 49 12.9	-0.1
MTVR	**Mutnovka**	**4.46**	**29**	PN		Pn	**Pn**	04 48 21.8	+2.0
MTVR				S		Sn	**Sn**	04 49 12.9	-0.1
RUS	**Russkaya**	**4.53**	**32**	*e*P		Pn	**Pn**	04 48 21.6	+1.1
RUS				*e*S		Sn	**Sn**	04 49 12.8	-1.5
RUS	**Russkaya**	**4.53**	**32**	*e*P		Pn	**Pn**	04 48 21.6	+1.1
RUS				*e*S		Sn	**Sn**	04 49 12.8	-1.5
RUS	**Russkaya**	**4.53**	**32**	PN		Pn	**Pn**	04 48 21.6	+1.1
RUS				S		Sn	**Sn**	04 49 12.8	-1.5
APC	**Apacha**	**4.57**	**20**	*e*S		Sn	**Sn**	04 49 12.9	-2.5
KRMR	**Karymshinskiy**	**4.74**	**27**	*e*P		Pn	**Pn**	04 48 24.2	+1.0
KRMR				*e*S		Sn	**Sn**	04 49 17.9	-1.3
KRMR	**Karymshinskiy**	**4.74**	**27**	PN		Pn	**Pn**	04 48 24.2	+1.0
KRMR				S		Sn	**Sn**	04 49 17.9	-1.3
UGLR	**Uglovaya**	**5.28**	**29**	*e*P		Pn	**Pn**	04 48 31.9	+1.7
UGLR	**Uglovaya**	**5.28**	**29**	PN		Pn	**Pn**	04 48 31.9	+1.7
KOK	**Koryaka**	**5.29**	**27**	*e*P		Pn	**Pn**	04 48 31.5	+1.1
KOK	**Koryaka**	**5.29**	**27**	*e*P		Pn	**Pn**	04 48 31.5	+1.1
KOK	**Koryaka**	**5.29**	**27**	PN		Pn	**Pn**	04 48 31.5	+1.1
AVH	**Avacha**	**5.30**	**28**	*e*P		Pn	**Pn**	04 48 32.2	+1.7
AVH	**Avacha**	**5.30**	**28**	*e*P		Pn	**Pn**	04 48 32.2	+1.7
AVH	**Avacha**	**5.30**	**28**	PN		Pn	**Pn**	04 48 32.2	+1.7
NLC	**Nalytchevo**	**5.42**	**32**	*e*S		Sn	**Sn**	04 49 33.4	-1.5
GNL	**Ganaly**	**5.46**	**21**	*e*P		Pn	**Pn**	04 48 34.3	+1.7
GNL	**Ganaly**	**5.46**	**21**	PN		Pn	**Pn**	04 48 34.3	+1.7
SPN	**Mys Shipunski**	**5.61**	**36**	*e*P		Pn	**Pn**	04 48 35.8	+1.4
SPN				*e*S		Sn	**Sn**	04 49 37.6	-1.7
SPN	**Mys Shipunski**	**5.61**	**36**	*e*P		Pn	**Pn**	04 48 35.8	+1.4
SPN	**Mys Shipunski**	**5.61**	**36**	PN		Pn	**Pn**	04 48 35.8	+1.4
SPN				S		Sn	**Sn**	04 49 37.6	-1.7
KUR	**Kuril'sk**	**5.75**	**236**	*e*P		Pn	**Pn**	04 48 36.3	+0.1
KUR				AMB		AMB	AMB	04 48 40.9	
	40nm,1.0s								
YSS	**Yuzh-Sakhalins**	**8.17**	**262**	*e*P		Pn	**Pn**	04 49 06.4	-1.2
KBTR	**Krutoberegovo**	**9.07**	**30**	*e*P		Pn	**Pn**	04 49 21.8	+2.6
KBTR	**Krutoberegovo**	**9.07**	**30**	PN		Pn	**Pn**	04 49 21.8	+2.6
EKMR	**Ekimchan**	**14.36**	**296**	*e*P		Pn	**Pn**	04 50 26.3	-0.2
EKMR				AMB		AMB	AMB	04 50 27.0	
	4.0nm,0.6s								

BJI ***24*** *04:51:01.6, 27°.84N×56°.09E, h10km, mb4.6/38, mB5.0/27, Ms4.5/23, Ms7 4.3/23*
IDC ***24*** *04:51:03.5±0.5, 27°.74N×56°.50E, h0km, mb4.3/26, mb1 4.4/29, mb1mx4.4/51, mbtmp4.3/29, ML3.9/3, MS4.0/25, Ms1 4.0/25, ms1mx3.9/36, Error ellipse: s-maj=14.5km s-min=11.5km az=171.0*
DSN ***24*** *04:51:04.8±1.4, 28°.17N×56°.44E, h15km, ML4.8/13, Error ellipse: s-maj=19.6km s-min=10.5km az=66.0*
ISCJB ***24*** *04:51:05.0±0.1, 27°.92N±0°.02×56°.54E±0°.02, h10km, mb4.6/101, MS4.1/34, Error ellipse: s-maj=2.8km s-min=2.2km az=163.3*
OMAN ***24*** *04:51:06.1±0.1, 27°.92N×56°.62E, h10km, mb5.3/2, ml4.9/17, ms4.9/4, Error ellipse: s-maj=3.3km s-min=1.2km az=249.0*
NEIC ***24*** *04:51:07.3±0.0, 27°.86N×56°.56E, h18km, mb4.6/51, ML4.6(THR), MN4.6(TEH), After TEH.*
THR ***24*** *04:51:07.2, 27°.77N×56°.63E, h15km, ML4.6*
MOS ***24*** *04:51:07.9±1.0, 27°.92N×56°.54E, h33km, mb4.8/52, MS4.0/13, Error ellipse: s-maj=7.1km s-min=4.7km az=80.0*
TEH ***24*** *04:51:07.1, 27°.86N×56°.51E, h12km, ML4.6*
**ISC 24 04

comp=Z,5μm,1.0s
MZR Muzera 5.57 210 *i* P **Pn 04 52 31.6 +2.3**
SNR=15
MZR Muzera 5.57 210 *e*Pn **Pn 04 52 31.2 +1.9**
IDAH Dahanechah 5.65 30 Pn Pn 04 52 35.6 +5.0
IDAH Dahanechah 5.65 30 *e*Pn **Pn 04 52 33.3 +2.7**
IDAH IAMB IAmb 04 54 41.5
comp=Z,8μm,1.6s
JMDO Jabal Madar 5.67 165 P **Pn 04 52 32.8 +2.1**
SNR=15
WBK Wadi Bani Khal 5.70 156 P **Pn 04 52 32.7 +1.5**
SNR=24
TKDS Koohdasht(Taba 5.74 5 *e*Pn **Pn 04 52 34.3 +2.5**
TABS Tabas 5.78 5 *e*Pn **Pn 04 52 36.9 +4.7**
TABS Tabas 5.78 5 *e*Pn **Pn 04 52 36.9 +4.7**
TABS Tabas 5.78 5 *e*Pn **Pn 04 52 36.9 +4.7**
ANAR Anarak 5.81 336 *e*Pn **Pn 04 52 34.5 +1.8**
IGAR Gharneh 5.94 321 *e*Pn **Pn 04 52 36.4 +1.9**
IGAR IAMB IAmb 04 52 51.8
comp=Z,2μm,0.4s
TNSJ Nastanj 6.07 1 *e*Pn **Pn 04 52 38.5 +2.3**
IZEF Zefreh 6.16 325 *e*Pn **Pn 04 52 38.3 +0.6**
IZEF IAMB IAmb 04 52 48.7
comp=Z,844nm,0.6s
JLN Jalan Bani Buh 6.28 155 P **Pn 04 52 38.8 -0.3**
SNR=30
ZNGN Zangian 6.47 312 *e*Pn **Pn 04 52 44.0 +2.1**
ROKH ROKH 6.50 315 *e*Pn **Pn 04 52 44.3 +2.0**
IPIR Pirpir 6.82 316 *e*Pn **Pn 04 52 48.9 +2.2**
IPIR IAMB IAmb 04 54 14.5
comp=Z,1μm,0.5s
IKLH Kolahrood 6.88 323 *e*Pn **Pn 04 52 49.2 +1.6**
IKLH IAMB IAmb 04 52 59.7
comp=Z,984nm,0.5s
MHTO MHTO 6.99 169 P **Pn 04 52 49.7 +0.9**
SNR=25
MHTO S **Sn 04 54 05.6 -2.8**
SNR=6.4
KRSH Karshahi 7.13 329 *e*Pn **Pn 04 52 52.6 +1.7**
DQM DQM 7.97 173 P **Pn 04 53 02.1 -0.2**
SNR=28
GEYT Alibeck 10.11 7 Pn **Pn 04 53 35.5 +3.9**
comp=Z,1.7nm,0.3s,baz=203,slow=14,SNR=9.5
DMTO DMTO 10.22 188 P **Pn 04 53 31.5 -1.6**
SNR=23
WHFO Wadi Hawf 10.23 195 P **Pn 04 53 33.3 0.0**
SNR=12
RBK Rabkut 10.54 192 P **Pn 04 53 39.0 +1.4**
SNR=9.7
RAYN Ar Rayn 10.82 249 *e*Pn **Pn 04 53 39.0 -2.4**
RAYN *e*Sn Sn 04 55 31.3 -11
RAYN Ar Rayn 10.82 249 *i* P **Pn 04 53 38.5 -2.9**
SNR=44
RAYN Ar Rayn 10.82 249 *e*P **Pn 04 53 39.0 -2.4**
ABTO Aybut 10.88 196 P **Pn 04 53 41.4 -0.9**
SNR=11
THW Thamme Wali 14.04 66 P **Pn 04 54 26.9 +1.5**
CUKT Cukurca 14.32 314 *e*P **Pn 04 54 26.5 -2.8**
CEP Cherat 14.49 62 P **Pn 04 54 33.6 +1.9**
CHGR Chuyangaron 15.07 41 *e*Pn **Pn 04 54 34.5 -4.9**
comp=Z,8.6nm,1.2s
SIRT Sirnak 15.22 313 *e*P **Pn 04 54 40.5 -1.0**
SIRT Sirnak 15.22 313 *e*Pn **Pn 04 54 39.0 -2.5**
comp=Z,78nm,0.7s
SIRT *e*Sn **Sn 04 57 23.8 -6.4**
AKDM Akdamar-Van 15.38 316 *e*P **Pn 04 54 42.9 -0.7**
GNI Garni 15.63 325 *e*P **Pn 04 54 49.9 +3.1**
GNI Garni 15.63 325 *e*Pn **P 04 54 51.1 0.0**
comp=Z,25nm,0.9s
GNI Garni 15.63 325 *i* P **P 04 54 52.1 +1.0**
GAR Garm 15.98 43 *e*Pn **Pn 04 54 51.6 +0.3**
comp=Z,47nm,0.9s
GAR *e*Sn **Sn 04 57 44.9 -3.7**
GAR Garm 15.98 43 *e*P **Pn 04 54 51.6 +0.3**
GAR *e* 04 57 44.9
GAR pmax pmax
comp=Z,47nm,0.9s
AGRB Hanur-Agry 16.18 320 *e*P **Pn 04 54 55.5 +1.6**
SVAN Silvan-Diyarba 16.40 313 *e*P **Pn 04 54 53.6 -3.1**
MAZI Mazidag 16.53 309 *e*P **P 04 55 02.5 +1.4**
TBLG Delisi 16.84 328 *e*Pn **Pn 04 55 04.0 +1.8**
comp=Z,9.6nm,0.9s
TBLG Delisi 16.84 328 *e*P **Pn 04 55 04.0 +1.8**
TBLG pmax pmax
comp=Z,10.0nm,0.9s
KARS Kars 16.85 322 *e*Pn **P 04 55 04.7 +0.1**
comp=Z,48nm,1.2s
BTK Batken 16.96 41 *e*Pn **Pn 04 55 04.4 +0.6**
comp=Z,14nm,0.8s
BTK Batken 16.96 41 *e*P **Pn 04 55 04.4 +0.6**
BTK pmax pmax
comp=Z,14nm,0.8s
DAMY Dhamar 17.38 223 *e*Pn **Pn 04 55 08.0 -1.4**
comp=Z,52nm,0.9s
URFA Urfa 17.66 307 *e*P **P 04 55 14.3 +0.9**
PTK Pertek 17.99 312 *e*P **Pn 04 55 15.4 -1.3**
ZEI Tsey 18.05 329 *e*P **P 04 55 20.5 +2.6**
ZEI pmax pmax
comp=Z,19nm,0.8s
BCA Borcka 18.21 322 *e*P **Pn 04 55 19.9 +0.7**
BAYT Aydıntepe-Bayb 18.38 317 *e*P **P 04 55 25.7 +4.2**
SFK Sufi-Kurgan 18.55 45 P **P 04 55 23.0 -0.4**
SFK pmax pmax
comp=Z,93nm,1.2s
KK31 Karatay Array 18.96 33 *i* P **P 04 55 27.1 -0.5**
KK31 pmax pmax
comp=Z,13nm,0.9s
KKAR Karatay Array 18.96 33 *e*P **P 04 55 28.0 +0.3**
KKAR Karatay Array 18.96 33 *e*P **P 04 55 28.0 +0.3**
EIL Elat 18.98 281 P **P 04 55 28.0 0.0**
comp=Z,0.3nm,0.3s,baz=34,slow=9.3,SNR=5.0
EIL LR LR 05 04 51.0
comp=Z,568nm,18.4s,baz=96,slow=44
ARSB Arslanbob 19.03 41 *e*P **P 04 55 29.1 +0.4**
comp=Z,29nm,0.9s
KMRS Kahramanmaras 19.06 305 *e*P **Pn 04 55 32.7 +3.1**
DARE Darende-Malaty 19.12 309 *e*P **P 04 55 30.9 +1.4**
KBZ Khabaz 19.24 329 P **Pn 04 55 32.5 +0.9**
comp=Z,0.2nm,0.3s,baz=142,slow=9.8,SNR=12
KVAR Kislovodsk Arr 19.51 329 P **P 04 55 35.4 +1.6**
baz=108,slow=19,SNR=4.5
KIV Kislovodsk 19.51 329 *e*P **P 04 55 34.3 +0.5**
comp=Z,15nm,0.6s
KIV Kislovodsk 19.51 329 *e*P **Pn 04 55 35.7 +0.6**
KIV pmax pmax
comp=Z,23nm,1.0s
KIV MLR MLR
comp=Z,74nm,14.0s
MNAS Manas 19.53 38 P **P 04 55 33.2 -0.9**
MNAS pmax pmax
comp=Z,30nm,1.0s
KOZT Kozan 19.83 304 *e*P **Pn 04 55 43.4 +4.6**
KSH Kashi 19.88 49 P **P 04 55 34.5 -3.5**
KSH pP Pn 04 55 40.6 +1.0
KSH sP pP 04 55 42.3 +1.1
KSH S S 04 59 06.6 -15
KSH PcP **PcP 04 59 56.6 +1.5**
KSH pmax pmax
comp=Z,24nm,0.8s
KSH pmax pmax
comp=Z,450nm,5.1s
KSH LR LR
comp=Z,560nm,8.2s
KSH LR LR
comp=Z,2μm,15.1s
KSH LR LR
comp=Z,2μm,16.1s
AML Almayashu 19.96 40 P **P 04 55 38.7 -0.3**
SNR=14
SVSK Karacayir 20.11 312 *e*P Pn 04 55 42.3 +0.3
GOF Gofitskoye 20.23 332 ⇑ *i* P **P 04 55 43.4 +1.9**
GOF pmax pmax
comp=Z,40nm,0.7s
EKS2 Erkin-Say 20.35 39 P **P 04 55 43.5 +0.5**
SNR=22
BNN Bunyan 20.38 308 *e*P **P 04 55 43.8 +0.4**
UCH Uchtor 20.49 41 P **P 04 55 44.7 -0.2**
SNR=10
ATD Arta Tunnel 20.70 221 P **P 04 55 46.1 -0.7**
comp=Z,11nm,1.0s,baz=40,slow=11,SNR=2.9
ATD LR LR 05 05 22.5
comp=Z,1μm,18.2s,baz=22,slow=42
ATD Arta Tunnel 20.70 221 *e*P **P 04 55 47.9 +1.0**
comp=Z,40nm,1.1s
SOC Sochi 20.70 324 *e*P Pn 04 55 57.9 +8.9
SOC *e*S **S 04 59 39.1 +1.3**
SOC pmax pmax
comp=Z,52nm,0.8s
SOC MLR MLR
comp=Z,180nm,10.0s
AAK Ala-Archa 20.74 40 P **P 04 55 47.7 +0.4**
comp=Z,8.1nm,0.6s,baz=200,slow=5.7,SNR=24
AAK LR LR 05 05 01.2
comp=Z,958nm,19.1s,baz=230,slow=40
AAK Ala-Archa 20.74 40 P **P 04 55 47.8 +0.6**
SNR=9.6
AAK Ala-Archa 20.74 40 P **P 04 55 46.9 -0.4**
AAK pmax pmax
comp=Z,36nm,1.0s
AAK Ala-Archa 20.74 40 P **P 04 55 47.6 +0.3**
SNR=14
KZA Kyzart 20.83 42 P Pn 04 55 54.4 +3.4
SNR=7.3
NRN Naryn 20.92 45 *e*P **P 04 55 49.0 -0.4**
comp=Z,23nm,0.8s
NRN Naryn 20.92 45 *e*P **P 04 55 49.0 -0.4**
NRN pmax pmax
comp=Z,23nm,0.8s
FRU1 Bishkek 20.93 40 *e*P **P 04 55 50.6 +1.4**
comp=Z,25nm,0.4s
FRU1 Bishkek 20.93 40 *e*P **P 04 55 50.6 +1.4**
FRU1 pmax pmax
comp=Z,25nm,0.4s
FRU Bishkek 20.93 40 *e*P **P 04 55 48.0 -1.2**
FRU *e* 04 56 11.5
FRU pmax pmax
comp=Z,80nm,2.0s
CSS Mathiatis 20.97 295 *e*P Pn 04 55 53.4 +1.2
CSS Mathiatis 20.97 295 *e*P **P 04 55 51.3 +1.6**
comp=Z,16nm,1.0s
IKL Isikli 21.02 299 *e*P P 04 56 01.0 +11
KEBE Keben-Mersin 21.06 300 *e*P **P 04 55 53.8 +3.1**
YOZ Yozgat 21.10 309 *e*P **P 04 55 51.7 +0.5**
BERE Bereket-Mersin 21.41 299 *e*P **P 04 55 56.9 +2.4**
AB31 Akbulak array 21.51 6 *e*P **P 04 55 54.6 -0.7**
AB31 pmax pmax
comp=Z,21nm,0.8s
ABKAR Akbulak array 21.51 6 *e*P **P 04 55 55.1 -0.2**
ULHL Ulahol 21.53 43 P **P 04 55 57.4 +1.6**
SNR=6.4
TKM2 Tokmak 2 21.55 41 P **P 04 55 55.5 -0.5**
TKM2 pmax pmax
comp=Z,22nm,1.0s
SULT Sultanhani-AKS 21.79 304 *e*P **P 04 56 03.4 +4.8**
YAYX Yaylak 21.86 306 *e*P **P 04 56 00.4 +1.1**
KDJ Kajisay 22.04 44 *e*P **P 04 56 04.4 +3.2**
comp=Z,74nm,1.1s
KDJ Kajisay 22.04 44 *e*P **P 04 56 04.4 +3.2**
KDJ pmax pmax
comp=Z,74nm,1.1s
HDMB Hadim 22.16 300 *e*P **P 04 56 06.1 +3.5**
TARG Taragay, Kyrgy 22.21 46 *e*P **P 04 56 03.8 +0.4**
comp=Z,12nm,0.7s
BR101 Keskin Array S 22.30 308 *e*P **P 04 56 04.8 +0.7**
BR131 Keskin Array S 22.30 308 P **P 04 56 05.0 +0.9**
SNR=14
BRTR Keskin Array B 22.30 308 P **P 04 56 04.8 +0.7**
comp=Z,4.3nm,0.6s,baz=131,slow=12,SNR=31
BRTR LR LR 05 06 29.6
comp=Z,740nm,18.2s,baz=115,slow=41
SNOP Sinop 22.36 315 *e*P **P 04 56 03.7 -0.8**
SNOP Sinop 22.36 315 *e*P **P 04 56 04.4 -0.1**
comp=Z,16nm,0.8s
CHBY Cihanbeyli 22.39 305 *e*P **P 04 56 05.4 +0.4**
KULU Kulu 22.48 306 *e*P **P 04 56 08.0 +2.0**
AKTO Aktyubinsk 22.55 3 P **P 04 56 05.8 -0.7**
AKTO pmax pmax
comp=Z,70nm,1.1s
KONT Konya--Tatoy 22.56 303 *e*P **P 04 56 08.9 +2.2**
AFSR Afar-Bala (An 22.59 307 *e*P **P 04 56 08.7 +1.6**
HYB Hyderabad 22.82 112 *i* P **P 04 56 10.0 +0.3**
ANTO Ankara 22.96 307 *e*P **P 04 56 17.7 +6.7**
comp=Z,18nm,0.7s
ANTO Ankara 22.96 307 *e*P **P 04 56 17.7 +6.7**
ANTO pmax pmax
comp=Z,18nm,0.7s
PYUN Piuthan 23.38 83 *e*P **P 04 56 15.8 +0.3**
comp=Z,146nm,1.1s
KOLN Koldanda 23.95 84 *e*P **P 04 56 19.9 -1.2**
comp=Z,43nm,1.0s
DANN Dangsing 24.03 82 *e*P **P 04 56 22.4 +0.5**
comp=Z,203nm,1.0s
PDGK Podgornoye 24.12 44 P **P 04 56 21.0 -1.4**
PDGK pmax pmax
comp=Z,21nm,1.0s
FURI Furi 25.28 225 *e*P **P 04 56 36.7 +3.3**
comp=Z,23nm,0.4s
DMN Daman 25.30 84 *e*P **P 04 56 33.0 -0.4**
comp=Z,56nm,1.0s
KKN Kani 25.43 83 *e*P **P 04 56 34.8 +0.2**
comp=Z,37nm,0.5s
PKI Pulchoki 25.57 84 *e*P **P 04 56 36.1 +0.1**
comp=Z,50nm,0.7s
MANT Manisa 25.58 302 *e*P **P 04 56 36.9 +1.1**
comp=Z,26nm,0.8s
VRH Novokhopyorsk 25.84 338 *e*P **P 04 56 37.2 -0.5**
VRH pmax pmax
comp=Z,40nm,0.4s
GUN Gumba 25.94 83 *e*P **P 04 56 39.9 +0.5**
comp=Z,106nm,0.9s
KARP Karpathos 26.04 294 *e*P **P 04 56 41.3 +1.5**
comp=Z,64nm,0.9s
JIRN Jiri 26.24 83 *e*P **P 04 56 42.9 +0.7**
comp=Z,61nm,0.9s
RAMN Ramite 26.71 85 *e*P **P 04 56 45.8 -0.4**
comp=Z,26nm,0.8s
VSR Storozhevoye 26.73 335 *i* P **P 04 56 49.3 +3.4**
VSR pmax pmax
comp=Z,13nm,0.8s
BRVK Borovoye 27.15 18 *e*P **P 04 56 49.8 +0.2**
comp=Z,8.1nm,0.8s
BRVK Borovoye 27.15 18 *i* P **P 04 56 49.7 +0.1**
BRVK pmax pmax
comp=Z,7.0nm,0.9s
BRVK Borovoye 27.15 18 P **P 04 56 49.8 +0.2**
SNR=5.5
BRVK P **P 04 56 49.8 +0.2**
SNR=5.5
BVA0 Borovoye Array 27.15 19 *i* P **P 04 56 49.0 -0.7**
BVA0 pmax pmax
comp=Z,14nm,0.8s
ODAN Odare 27.42 85 *e*P **P 04 56 51.9 -0.7**
comp=Z,28nm,0.8s
MAKZ Makanchi 27.50 40 *e*P **P 04 56 52.7 -0.2**
comp=Z,17nm,1.0s
MAKZ Makanchi 27.50 40 P **P 04 56 52.3 -0.6**
MAKZ pmax pmax
comp=Z,29nm,1.4s
MK01 Makanchi Array 27.66 40 *e*P **P 04 56 54.1 -0.3**
MK31 Makanchi Array 27.67 40 *e*P **P 04 56 54.1 -0.3**
MK31 Makanchi Array 27.67 40 *e*P **P 04 56 53.6 -0.8**
MK31 pmax pmax
comp=Z,4.0nm,0.6s
MK32 Makanchi Array 27.67 40 *e*P **P 04 56 54.4 -0.1**
MK32 *e*ScP **ScP 05 03 54.3 +2.1**
MKAR Makanchi Array 27.67 40 P **P 04 56 54.4 -0.1**
comp=Z,3.3nm,0.6s,baz=227,slow=8.2,SNR=55
MKAR ScP **ScP 05 03 54.3 +2.1**
comp=Z,0.4nm,0.9s,baz=255,slow=2.8,SNR=2.8
MKAR LR LR 05 09 22.9
comp=Z,520nm,19.6s,baz=240,slow=40
MKAR Makanchi Array 27.67 40 *e*P **P 04 56 54.1 -0.3**
comp=Z,36nm,0.6s
IDI Anoyia 27.84 293 *e*P **P 04 56 56.0 -0.2**
comp=Z,18nm,1.1s
IDI Anoyia 27.84 293 ⇓ *i* P **P 04 56 59.6 +3.5**
LPSR Galich'ya Gora 27.95 337 *e*P **P 04 57 00.5 +3.7**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
TLB Topalu 28.18 314 ⇓ *i* P P 04 57 14.4 +16
KURBB Kurchatov Arra 28.20 30 P **P 04 56 59.2 +0.2**
comp=Z,6.0nm,0.7s,baz=230,slow=8.5,SNR=50
KURK Kurchatov 28.31 30 *e*P **P 04 57 00.3 +0.3**
KURK Kurchatov 28.31 30 P **P 04 56 59.5 -0.5**
KURK pmax pmax
comp=Z,29nm,1.3s
KURK Kurchatov 28.31 30 P **P 04 57 00.2 +0.3**
SNR=9.9
KURK P **P 04 57 00.2 +0.3**
SNR=9.9
CFR Carcaliu 28.39 315 ⇑ *i* P P 04 57 14.5 +14
CFR Carcaliu 28.39 315 ⇑ P P 04 57 14.5 +14
ARU Arti 28.57 2 *e*P **P 04 57 01.7 -0.5**
comp=Z,6.8nm,1.1s
ARU Arti 28.57 2 *d i* P **P 04 57 03.1 +0.8**
ARU 04 57 50.4
ARU S **S 05 01 52.1 +1.9**
ARU SS **SnSn 05 03 11.8 +2.3**
ARU pmax pmax
comp=Z,8.0nm,1.3s
ARU MLR MLR
comp=Z,265nm,12.0s
SVE Sverdlovsk 29.08 5 *e*P P 04 57 12.2 +5.4
VRI Vrincioaia 29.58 315 ⇑ *i* P P 04 57 22.4 +11
PLOR Plostina 29.62 315 ⇓ *i* P **P 04 57 15.2 +3.4**
PLOR Plostina 29.62 315 ⇓ P **P 04 57 15.2 +3.4**
WMQ Urumqi 29.65 49 *e*P P 04 57 17.5 +5.4
WMQ sP sP 04 57 24.5 +7.6
WMQ pmax pmax
comp=Z,31nm,1.1s
WMQ pmax pmax
comp=Z,290nm,3.7s
WMQ LR LR
comp=Z,660nm,16.1s
WMQ LR LR
comp=Z,1μm,20.3s
WMQ LR LR
comp=Z,1μm,21.9s
MLR Muntele Rosu 29.91 314 P **P 04 57 14.7 +0.3**
comp=Z,1.2nm,0.4s,baz=299,slow=6.1,SNR=4.3
MLR LR LR 05 11 17.8
comp=Z,149nm,20.4s,baz=138,slow=40
MLR Muntele Rosu 29.91 314 *e*P **P 04 57 14.7 +0.3**
comp=Z,2.7nm,0.8s
MLR Muntele Rosu 29.91 314 ⇑ *i* P **P 04 57 13.2 -1.2**
MLR Muntele Rosu 29.91 314 ⇑ P **P 04 57 13.2 -1.2**
OZUR 30.27 315 ⇓ *i* P **P** 04 57 25.0 +7.5
AGG Agios Georgios 30.44 300 *e*P **P 04 57 18.4 -0.7**
comp=Z,10nm,1.0s
AGG Agios Georgios 30.44 300 *e*P **P 04 57 18.4 -0.7**
AGG pmax pmax
comp=Z,10.0nm,1.0s
ITM Ithomi 30.45 297 *e*P **P 04 57 18.8 -0.5**
comp=Z,20nm,1.0s
DOPR Dopca 30.46 315 ⇓ *i* P **P 04 57 19.3 +0.1**
ARR Arges 30.70 313 ⇑ *i* P **P 04 57 21.7 +0.4**
PALK Pallekele 30.74 127 LR LR 05 10 07.1
comp=Z,259nm,18.0s,baz=296,slow=37
AKASG Malin Array Be 30.76 325 P **P 04 57 21.0 -0.7**
comp=Z,6.6nm,0.7s,baz=130,slow=8.5,SNR=46
AKASG PcP **PcP 05 00 16.1 -3.0**
comp=Z,0.4nm,0.5s,baz=107,slow=2.6,SNR=3.1
AKBB Malin Array Si 30.76 325 *e*P **P 04 57 21.1 -0.7**
comp=Z,14nm,0.7s
KIEV Kiev 30.76 325 *e*P **P 04 57 20.9 -0.8**
comp=Z,13nm,0.7s
KIEV Kiev 30.76 325 ⇑ *i* P **P 04 57 20.9 -0.8**
KIEV Kiev 30.76 325 ⇑ P **P 04 57 20.9 -0.8**
AK11 Malin Array Si 30.77 325 *e*P **P 04 57 20.9 -0.9**
OBN Obninsk 30.81 338 P **P 04 57 22.0 -0.1**
comp=Z,4.2nm,0.4s,baz=125,slow=2.7,SNR=7.1
OBN Obninsk 30.81 338 *e*P **P 04 57 22.0 -0.1**
comp=Z,21nm,0.4s
OBN Obninsk 30.81 338 ⇑ *e*P **P 04 57 23.1 +1.0**
OBN *e* 04 58 24.4
OBN pmax pmax
comp=Z,25nm,1.0s
OBN MLR MLR
comp=Z,123nm,21.0s
MOS Moscow 30.98 339 *e*P P 04 57 36.7 +13
MOS *e* 04 58 37.2
MOS pmax pmax
comp=Z,36nm,0.8s
BURAR Bucovina Array 31.31 317 ⇑ *i* P **P 04 57 26.5 -0.3**
BURAR Bucovina Array 31.31 317 ⇑ P **P 04 57 26.5 -0.3**
BUR04 Bucovina Ar. S 31.32 317 *e*P **P 04 57 27.4 +0.6**
BUR08 Bucovina Ar. S 31.33 318 *e*P **P 04 57 26.9 -0.1**
SHL Shillong 31.62 86 *e*P **P 04 57 28.9 -1.0**
comp=Z,9.7nm,0.9s
SHL Shillong 31.62 86 *e*P **P 04 57 28.9 -1.0**
SHL pmax pmax
comp=Z,10.0nm,0.9s
GZR Gura Zlata 31.91 312 ⇓ *i* P **P 04 57 31.0 -1.1**
GZR Gura Zlata 31.91 312 ⇓ P **P 04 57 31.0 -1.1**
DGZ Jazzator, Alta 32.13 39 *c i* P **P 04 57 34.1 +0.1**
DGZ pmax pmax
comp=Z,5.0nm,0.8s
MDVR Moldovita 32.40 311 ⇑ *i* P **P 04 57 36.5 +0.1**
DRGR 32.49 315 ⇑ *i* P **P 04 57 37.6 +0.5**
DRGR 32.49 315 ⇑ P **P 04 57 37.6 +0.5**
BZS Buzias 32.76 312 ⇓ *i* P **P 04 57 39.1 -0.2**
BZS Buzias 32.76 312 ⇓ P **P 04 57 39.1 -0.2**
SIRR Siria 32.96 313 ⇓ *i* P **P 04 57 42.0 +0.8**
NVS Novosibirsk 33.20 28 ⇓ *i* P **P 04 57 44.2 +1.1**
NVS *i* S **S 05 03 01.7 -1.0**
NVS pmax pmax
comp=Z,28nm,0.9s
NVS pmax pmax
comp=N,12nm,0.8s
NVS pmax pmax
comp=E,2.0nm,0.3s
NVS smax smax
comp=N,32nm,1.4s
NVS smax smax
comp=E,7.0nm,0.8s
ZAA0 Zalesovo Array 33.30 31 *e*P **P 04 57 43.7 -0.3**
comp=E,27nm,0.7s
ZALV Zalesovo Beam 33.30 31 P **P 04 57 43.6 -0.4**
comp=E,27nm,0.6s,baz=241,slow=9.5,SNR=96
ZALV LR LR 05 13 00.9
comp=E,647nm,18.5s,baz=308,slow=39
ZALV Zalesovo Beam 33.30 31 *e*P **P 04 57 43.1 -0.8**
ZAA1 Zalesovo Array 33.30 31 *e*P **P 04 57 43.6 -0.4**
PRGR Permogore 34.53 351 *e*P **P 04 57 54.0 -0.6**
PRGR pmax pmax
comp=Z,8.0nm,0.7s
TIP Timpagrande 34.74 299 *e*P **P 04 57 55.8 -1.0**
comp=Z,15nm,1.1s
IDID Didziasalis 34.82 330 *e*P **P 04 57 57.4 +0.2**
IDID IAmb IAmb 04 58 03.2
comp=Z,7.2nm,0.9s
KLMR Klimovskoe 34.91 346 *e*P **P 04 57 56.8 -1.1**
KLMR pmax pmax
comp=Z,21nm,1.2s
KLMR Klimovskoe 34.91 346 *e*P **P 04 57 56.8 -1.1**
KLMR AMP 04 58 15.5
comp=Z,21nm,1.2s
MORH Mrgy, Hungar 34.91 312 ⇑ *e*P P 04 58 11.0 +13
IIGN Ignalina 35.07 330 *e*P **P 04 57 59.5 +0.2**
IIGN IAmb IAmb 04 58 08.5
comp=Z,9.0nm,0.8s
ISAL Salakas 35.25 330 *e*P **P 04 58 01.1 +0.3**
ISAL IAmb IAmb 04 58 08.1
comp=Z,9.7nm,1.1s
VYHS Vyhne 35.57 316 *e*P **P 04 58 05.3 +1.6**
VYHS Vyhne 35.57 316 *e*P **P 04 58 05.3 +1.6**
OJC Ojcow 35.67 319 *e*P **P 04 58 04.9 +0.3**
OJC Ojcow 35.67 319 *e*P **P 04 58 04.9 +0.3**
comp=Z,8.2nm,1.0s
OJC Ojcow 35.67 319 *e*P **P 04 58 04.9 +0.3**
SUW Suwalki 35.70 326 *e*P **P 04 58 04.7 -0.1**
SUW Suwalki 35.70 326 *e*P **P 04 58 03.9 -0.9**
comp=Z,31nm,1.0s
SUW Suwalki 35.70 326 *e*P **P 04 58 03.9 -0.9**
SUW pmax pmax
comp=Z,31nm,1.0s
PABE Paberze 36.18 329 *e*P **P 04 58 08.1 -0.8**
PABE IAmb IAmb 04 58 09.9
comp=Z,22nm,0.8s
VSU Vasula 36.91 334 *i* P **P 04 58 18.7 +3.7**
VSU pmax pmax
comp=Z,20nm,1.0s
VSU Vasula 36.91 334 *e*P **P 04 58 14.9 -0.1**
BOJS Bojanci 36.99 310 *i* P **P 04 58 16.3 +0.4**
CONA Conrad Observa 37.25 314 *i* P **P 04 58 17.6 -0.6**
comp=Z,13nm,1.4s
ARSA Arzberg 37.27 312 *i* P **P 04 58 17.5 -0.8**
comp=Z,3.7nm,0.7s
PERS Pernice 37.37 311 *i* P P 04 58 25.5 +6.3
CLTB Caltabellotta 37.40 296 *e*P **P 04 58 17.6 -2.0**
comp=Z,112nm,0.9s
PBUR Paburg 37.42 328 *e*P **P 04 58 17.1 -2.3**
PBUR IAmb IAmb 04 58 27.9
comp=Z,31nm,0.8s
GTA Gaotai 37.52 61 *e*P **P 04 58 21.4 +0.7**
GTA pP sP 04 58 25.8 +0.2

GTA				sP	pP	04 58 28.6	+4.4
GTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GTA				LR	LR		
	comp=Z,210nm,14.8s						
GTA				LR	LR		
	comp=Z,190nm,18.2s						
GTA				LR	LR		
	comp=Z,250nm,15.8s						
MBAR	**Mbarara**	**37.59**	**225**	*i* P	P	04 58 27.1	+5.6
DPC	**Dobruska-Polom**	**37.77**	**318**	*e*P	**P**	**04 58 22.4**	**-0.2**
DPC	**Dobruska-Polom**	**37.77**	**318**	*e*P	**P**	**04 58 22.4**	**-0.2**
JAVS	**Javornik**	**37.89**	**310**	*i* P	**P**	**04 58 23.5**	**-0.2**
MOA	**Molln**	**38.26**	**313**	*i* P	**P**	**04 58 26.5**	**-0.1**
	comp=Z,6.6nm,1.0s						
KNGR	**Kungurtug, Tuv**	**38.36**	**42**	*i* P	**P**	**04 58 28.3**	**+0.7**
KBA	**Koelnbreinsper**	**38.66**	**312**	P	**P**	**04 58 28.9**	**-1.3**
	comp=Z,6.4nm,0.9s						
PRU	**Pruhonice**	**38.72**	**316**	*e*P	**P**	**04 58 28.8**	**-1.7**
PRU	**Pruhonice**	**38.72**	**316**	*e*P	**P**	**04 58 28.8**	**-1.7**
GERES	**GERESS Array B**	**38.90**	**314**	P	**P**	**04 58 31.1**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=108,slow=8.6,SNR=12						
GERES				PcP	**PcP**	**05 00 40.8**	**-2.1**
	comp=Z,0.2nm,0.5s,baz=123,slow=3.6,SNR=2.2						
GERES				LR	LR	05 17 38.1	
	comp=Z,119nm,20.7s,baz=118,slow=41						
KHC	**Kasperske Hory**	**39.06**	**315**	*e*P	**P**	**04 58 32.6**	**-0.8**
	comp=Z,2.7nm,0.8s						
KHC	**Kasperske Hory**	**39.06**	**315**	*e*P	**P**	**04 58 32.4**	**-1.0**
KHC	**Kasperske Hory**	**39.06**	**315**	*e*P	**P**	**04 58 32.4**	**-1.0**
FIA0	**FINESS Array S**	**39.22**	**337**	*e*P	**P**	**04 58 34.0**	**-0.5**
FIA0	**FINESS Array S**	**39.22**	**337**	*e*P	**P**	**04 58 34.0**	**-0.5**
FINES	**FINESS Array B**	**39.22**	**337**	P	**P**	**04 58 34.0**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=140,slow=9.1,SNR=18						
FINES				LR	LR	05 17 47.2	
	comp=Z,195nm,19.4s,baz=163,slow=41						
BRG	**Berggiesshubel**	**39.38**	**318**	*e*P	P	04 58 42.3	+6.3
	comp=Z,13nm,1.6s						
BRG	**Berggiesshubel**	**39.38**	**318**	*e*P	P	04 58 42.3	+6.3
BRG				pmax	pmax		
	comp=Z,13nm,1.7s						
WATA	**Walderalm**	**39.89**	**311**	*i* P	**P**	**04 58 39.3**	**-1.2**
	comp=Z,6.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**39.96**	**94**	LR	LR	05 19 36.3	
	comp=Z,121nm,18.6s,baz=291,slow=43						
CLL	**Collm**	**40.08**	**318**	*e*P	**P**	**04 58 42.0**	**+0.2**
CLL				*i* (sP)	**sP**	**04 58 52.4**	**+5.7**
CLL				*e*S	**S**	**05 04 43.0**	**-4.8**
CLL				LmH		05 17 00.0	
	comp=N,200nm,20.2s						
CLL				LmH		05 17 00.0	
	comp=E,100nm,19.5s						
CLL				LmV		05 18 00.0	
	comp=Z,100nm,20.9s						
CLL	**Collm**	**40.08**	**318**	*e*P	**P**	**04 58 42.0**	**+0.2**
CLL				*e*S	**S**	**05 04 43.0**	**-4.8**
SQTA	**Sankt Quirin**	**40.11**	**311**	*i* P	**P**	**04 58 41.2**	**-1.1**
	comp=Z,12nm,0.5s						
MOTA	**Moosalm**	**40.20**	**311**	*i* P	**P**	**04 58 43.1**	**0.0**
	comp=Z,6.7nm,0.8s						
FETA	**Feichten**	**40.39**	**311**	*i* P	**P**	**04 58 43.8**	**-0.8**
	comp=Z,8.9nm,0.8s						
BSD	**Bornholm Skovb**	**40.44**	**324**	*i* P	**P**	**04 58 43.2**	**-1.5**
	comp=Z,32nm,0.7s						
BSD	**Bornholm Skovb**	**40.44**	**324**	*i* P	**P**	**04 58 43.2**	**-1.5**
BSD				pmax	pmax		
	comp=Z,32nm,0.7s						
KEST	**Kesra**	**40.52**	**293**	LR	LR	05 19 22.9	
	comp=Z,99nm,19.8s,baz=322,slow=42						
FUORN	**Ofenpass-Fuorn**	**40.62**	**310**	*e*P	**P**	**04 58 47.4**	**+0.7**
FUORN	**Ofenpass-Fuorn**	**40.62**	**310**	*e*P	**P**	**04 58 47.4**	**+0.7**
	comp=Z,6.3nm,0.6s						
LZH	**Lanzhou**	**40.65**	**66**	*e*P	**P**	**04 58 45.6**	**-1.4**
LZH				pP	pP	04 58 49.0	-1.5
LZH				*e*PP	**PP**	**05 00 22.5**	**+2.0**
LZH				pmax	pmax		
	comp=Z,19nm,1.2s						
LZH				pmax	pmax		
	comp=Z,72nm,6.3s						
LZH				LR	LR		
	comp=Z,220nm,13.5s						
LZH				LR	LR		
	comp=Z,240nm,13.7s						
LZH				LR	LR		
	comp=Z,310nm,16.8s						
UMPA	**Umpang Tak**	**40.76**	**97**	P	**P**	**04 58 51.5**	**+3.6**
	comp=Z,5.1nm,0.9s,comp=Z,2μm						
MOY	**Mondy**	**40.78**	**42**	*e*P	**P**	**04 58 49.0**	**+1.2**
MOY				pmax	pmax		
	comp=Z,18nm,1.3s						
DAVA	**Damuels**	**41.01**	**311**	*i* P	**P**	**04 58 48.3**	**-1.5**
	comp=Z,15nm,0.5s						
KMI	**Kunming**	**41.29**	**83**	P	**P**	**04 58 52.9**	**+0.5**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,93nm,4.4s						
UTHA	**Uthaitani**	**41.53**	**98**	P	**P**	**04 58 56.9**	**+2.7**
	comp=Z,3.7nm,0.7s						
UTTA	**Uttaradit**	**41.65**	**94**	P	**P**	**04 58 57.3**	**+2.2**
	comp=Z,4.0nm,0.8s						
ZAK	**Zakamensk**	**41.80**	**44**	*e*P	**P**	**04 58 55.9**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SENIN	**Lac Senin/Sane**	**42.60**	**309**	*e*P	**P**	**04 59 02.1**	**-0.7**
	comp=Z,4.7nm,0.6s						
SONA0	**Songino Array**	**43.28**	**49**	*e*P	**P**	**04 59 08.3**	**+0.1**
SONM	**Songino Array**	**43.28**	**49**	P	**P**	**04 59 08.3**	**0.0**
	comp=Z,2.4nm,0.8s,baz=257,slow=9.2,SNR=15						
SONM				LR	LR	05 19 24.7	
	comp=Z,424nm,19.4s,baz=200,slow=39						
SONM	**Songino Array**	**43.28**	**49**	P	**P**	**04 59 08.3**	**0.0**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM				MLR	MLR		
	comp=Z,424nm,19.4s						
ULN	**Ulaanbaatar**	**43.73**	**49**	*e*P	**P**	**04 59 11.7**	**-0.2**
	comp=Z,3.3nm,0.7s						
ULN	**Ulaanbaatar**	**43.73**	**49**	*i* P	**P**	**04 59 11.6**	**-0.2**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NONG	**Nongkai**	**43.82**	**93**	P	**P**	**04 59 13.8**	**+1.0**
WLF	**Walferdange**	**43.90**	**314**	⇑sP	sP	04 59 16.9	-1.0
MUD	**Monsted U'grnd**	**43.95**	**324**	*i* P	P	04 59 18.8	+5.5
MUD	**Monsted U'grnd**	**43.95**	**324**	*e*P	P	04 59 18.8	+5.5
MEM	**Membach**	**44.17**	**315**	⇑P	**P**	**04 59 14.8**	**-0.3**
MEM				⇑sP	**pP**	**04 59 19.6**	**+0.9**
NC405	**NORSAR Array S**	**44.63**	**331**	*e*P	**P**	**04 59 18.1**	**-0.6**
NB2	**NORSAR Subarra**	**44.81**	**331**	P	**P**	**04 59 18.6**	**-1.6**
	comp=Z,2.1nm,0.7s,baz=115,slow=7.9						
NB200	**NORSAR Array S**	**44.81**	**331**	*e*P	**P**	**04 59 19.2**	**-1.0**
NOA	**NORSAR Array B**	**44.81**	**331**	P	**P**	**04 59 19.2**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=117,slow=7.9,SNR=23						
NOA				LR	LR	05 20 21.9	
	comp=Z,153nm,19.2s,baz=120,slow=39						
DOU	**Dourbes**	**44.96**	**314**	⇑P	**P**	**04 59 21.2**	**-0.3**
SKNT	**Sakolnakorn**	**44.97**	**94**	P	P	04 59 27.6	+5.6
NC204	**NORSAR Array S**	**45.11**	**331**	*e*P	**P**	**04 59 21.8**	**-0.9**
ARA0	**ARCESS Array S**	**45.39**	**345**	*e*P	**P**	**04 59 24.4**	**-0.2**
ARCES	**ARCESS Array B**	**45.39**	**345**	P	**P**	**04 59 24.4**	**-0.2**
	comp=Z,2.8nm,0.9s,baz=146,slow=8.4,SNR=7.5						
TAM	**Tamanrasset**	**46.09**	**276**	*e*P	**P**	**04 59 31.0**	**0.0**
	comp=Z,6.2nm,1.0s						
TAM	**Tamanrasset**	**46.09**	**276**	*e*P	**P**	**04 59 31.0**	**0.0**
TAM				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**46.55**	**59**	*e*P	**P**	**04 59 33.8**	**-0.6**
HHC				PP	**PP**	**05 01 22.8**	**-0.9**
HHC				S	**S**	**05 06 20.3**	**-2.9**
HHC				pmax	pmax		
	comp=Z,18nm,0.6s						
HHC				pmax	pmax		
	comp=Z,87nm,6.2s						
HHC				LR	LR		
	comp=Z,200nm,14.7s						
HHC				LR	LR		
	comp=Z,270nm,12.1s						
HHC				LR	LR		
	comp=Z,100nm,7.8s						
BOD	**Bodaibo**	**49.65**	**36**	*e*P	**P**	**04 59 57.0**	**-0.9**
BOD				pmax	pmax		
	comp=Z,23nm,1.5s						
ESDC	**Sonseca Array**	**50.76**	**300**	P	**P**	**05 00 06.0**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=72,slow=7.7,SNR=9.4						
ESDC				LR	LR	05 24 35.3	
	comp=Z,50nm,19.7s,baz=20,slow=40						
LSZ	**Lusaka**	**50.92**	**216**	*e*P	**P**	**05 00 09.4**	**+1.2**
	comp=Z,3.0nm,0.8s						
LSZ	**Lusaka**	**50.92**	**216**	*e*P	**P**	**05 00 09.4**	**+1.2**
LSZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TOA0	**Torodi Ar. Sit**	**52.98**	**266**	P	**P**	**05 00 22.1**	**-1.4**
	SNR=14						
TORD	**Torodi Ar. Bea**	**52.98**	**266**	P	**P**	**05 00 20.9**	**-2.6**
	comp=Z,5.5nm,0.5s,baz=47,slow=6.8,SNR=72						
TORD				LR	LR	05 25 46.3	
	comp=Z,360nm,18.8s,baz=25,slow=39						
TOA1	**Torodi Ar. Sit**	**52.98**	**266**	*e*P	**P**	**05 00 20.9**	**-2.6**
NJ2	**Nanjing**	**53.52**	**69**	*e*P	**P**	**05 00 29.4**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
ZEA	**Zeya**	**56.80**	**42**	*e*P	**P**	**05 00 50.8**	**+0.2**
ZEA				pmax	pmax		
	comp=Z,21nm,1.2s						
ZEA				MLR	MLR		
	comp=Z,400nm,16.0s						
ZEA				MLR	MLR		
	comp=E,300nm,14.0s						
TIXI	**Tiksi**	**58.26**	**21**	*i* P	**P**	**05 00 59.8**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.7s						
KS15	**Wonju Array Si**	**59.57**	**61**	*e*P	**P**	**05 01 09.1**	**-1.2**
KSAR	**Wonju Array Be**	**59.57**	**61**	P	**P**	**05 01 09.1**	**-1.2**
KSAR	**Wonju Array Be**	**59.57**	**61**	P	**P**	**05 01 09.1**	**-1.2**
KSRS	**Korea Array**	**59.59**	**61**	P	**P**	**05 01 09.1**	**-1.3**
	comp=Z,2.9nm,0.5s,baz=274,slow=6.9,SNR=11						
KSRS				LR	LR	05 30 06.8	
	comp=Z,84nm,19.5s,baz=282,slow=39						
KLR	**Kul'dur**	**60.06**	**47**	P	**P**	**05 01 12.6**	**-0.9**
	comp=Z,2.1nm,0.8s,baz=282,slow=8.2,SNR=8.9						
KLR	**Kul'dur**	**60.06**	**47**	*i* P	**P**	**05 01 12.1**	**-1.4**
TSUM	**Tsumeb**	**60.08**	**223**	*e*P	**P**	**05 01 14.3**	**+0.2**
	comp=Z,8.6nm,0.9s						
LBTB	**Lobatse**	**60.43**	**212**	*e*P	**P**	**05 01 16.9**	**+0.7**
	comp=Z,4.4nm,0.7s						
LBTB	**Lobatse**	**60.43**	**212**	*e*P	**P**	**05 01 17.0**	**+0.7**
LBTB				pmax	pmax		
	comp=Z,4.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**61.14**	**53**	P	**P**	**05 01 18.4**	**-2.4**
	comp=Z,2.1nm,0.6s,baz=280,slow=5.9,SNR=6.8						
USRK				LR	LR	05 31 20.9	
	comp=Z,118nm,18.2s,baz=283,slow=40						
DBIC	**Dimbokro**	**61.63**	**262**	P	**P**	**05 01 22.1**	**-2.5**
	comp=Z,2.0nm,0.4s,baz=40,slow=6.6,SNR=28						
DBIC				LR	LR	05 29 32.4	
	comp=Z,124nm,21.9s,baz=42,slow=38						
DBIC	**Dimbokro**	**61.63**	**262**	*e*P	**P**	**05 01 22.1**	**-2.5**
	comp=Z,7.8nm,1.0s						
BOSA	**Boshof**	**63.65**	**211**	P	**P**	**05 01 36.2**	**-1.7**
	comp=Z,3.6nm,0.7s,baz=36,slow=3.5,SNR=8.1						
BOSA				LR	LR	05 31 15.9	
	comp=Z,100nm,18.5s,baz=32,slow=38						
BOSA	**Boshof**	**63.65**	**211**	*e*P	**P**	**05 01 38.0**	**+0.1**
MAJO	**Matsushiro**	**67.75**	**59**	*e*P	**P**	**05 02 03.5**	**-0.9**
MAJO	**Matsushiro**	**67.75**	**59**	*e*P	**P**	**05 02 03.5**	**-0.9**
MJAR	**Matsushiro Arr**	**67.75**	**59**	P	**P**	**05 02 03.5**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=267,slow=11,SNR=3.6						
MJAR				LR	LR	05 34 26.2	
	comp=Z,68nm,18.1s,baz=10.0,slow=38						
MJAR	**Matsushiro Arr**	**67.75**	**59**	P	**P**	**05 02 03.5**	**-0.9**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MJAR				MLR	MLR		
	comp=Z,68nm,18.1s						
YSS	**Yuzh-Sakhalins**	**67.76**	**48**	*e*P	**P**	**05 02 00.9**	**-3.3**
YSS				*e*		05 02 07.8	
YSS				*e*		05 02 15.1	
YSS				MLR	MLR		
	comp=E,200nm,18.0s						
YSS				MLR	MLR		
	comp=Z,300nm,18.0s						
SEY	**Seymchan**	**68.15**	**29**	*i* P	**P**	**05 02 06.1**	**-0.3**
BILL	**Bilibino**	**71.44**	**22**	⇑*e*P	**P**	**05 02 27.1**	**+0.6**
BILL				*e*		05 05 01.1	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,269nm,16.0s						
PETK	**Petropavlovsk-**	**74.49**	**38**	LR	LR	05 38 21.7	
	comp=Z,161nm,19.4s,baz=294,slow=38						
FITZ	**Fitzroy Crossi**	**81.01**	**116**	P	**P**	**05 03 19.8**	**-1.9**
	comp=Z,2.6nm,0.9s,baz=282,slow=9.7,SNR=4.2						
FITZ	**Fitzroy Crossi**	**81.01**	**116**	*e*P	**P**	**05 03 19.8**	**-1.9**
	comp=Z,6.6nm,1.0s						
COLD	**Coldfoot**	**83.07**	**10**	*e*P	**P**	**05 03 33.0**	**+1.2**
	comp=Z,2.9nm,0.8s						
IM3	**Indian Mountai**	**83.60**	**12**	*e*P	**P**	**05 03 32.9**	**-1.6**
COLA	**College**	**85.62**	**10**	*i* P	**P**	**05 03 45.5**	**+0.8**
COLA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
ILAR	**Eielson Array**	**85.87**	**10**	P	**P**	**05 03 44.5**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=315,slow=4.4,SNR=6.1						
ILAR				LR	LR	05 50 03.3	
	comp=Z,88nm,18.1s,baz=305,slow=41						
ILB	**Eielson Array**	**85.87**	**10**	*e*P	**P**	**05 03 44.5**	**-1.5**
EGAK	**Eagle**	**86.63**	**7**	*e*P	**P**	**05 03 49.7**	**0.0**
	comp=Z,4.1nm,1.0s						
WR1	**Warramunga Arr**	**88.98**	**113**	*e*P	**P**	**05 04 00.8**	**-1.0**
	comp=Z,9.1nm,1.1s						
WRA	**Warramunga Arr**	**88.98**	**113**	P	**P**	**05 04 00.8**	**-1.0**
	comp=Z,3.0nm,0.9s,baz=310,slow=4.3,SNR=13						
WRA	**Warramunga Arr**	**88.98**	**113**	*i* P	**P**	**05 04 02.0**	**+0.2**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WB2	**Warramunga Arr**	**88.99**	**113**	*e*P	**P**	**05 04 02.2**	**+0.4**
YKA	**Yellowknife Ar**	**89.66**	**356**	P	**P**	**05 04 04.1**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=1.9,slow=5.2,SNR=24						
YKA				LR	LR	05 48 51.9	
	comp=Z,12nm,20.3s,baz=34,slow=39						
YKB5	**Yellowknife Ar**	**89.66**	**356**	*e*P	**P**	**05 04 04.1**	**-0.1**
AS31	**Alice Springs**	**90.50**	**117**	*e*P	**P**	**05 04 08.7**	**-0.1**
	comp=Z,0.8nm,0.8s						
ASAR	**Alice Springs**	**90.50**	**117**	P	**P**	**05 04 08.7**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=306,slow=4.7,SNR=9.2						
SADO	**Sadowa**	**97.14**	**330**	LR	LR	05 52 01.1	
	comp=Z,66nm,18.2s,baz=68,slow=38						
DLMT	**Dillon**	**106.44**	**352**	*e*Pdif	**Pdif**	**05 05 19.9**	**-0.8**
LTX	**Lajitas**	**120.03**	**340**	*e*PKPdf	**PKPdf**	**05 09 57.4**	**-0.5**
LTX	**Lajitas**	**120.03**	**340**	*e*PKIKP	**PKPdf**	**05 09 57.4**	**-0.5**
TXAR	**Lajitas Array**	**120.03**	**340**	PKP	**PKPdf**	**05 09 57.4**	**-0.5**
	comp=Z,0.2nm,0.8s,baz=47,slow=1.7,SNR=3.9						
LPAZ	**La Paz**	**127.79**	**271**	PKP	**PKPdf**	**05 10 12.8**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=270,slow=4.0,SNR=3.4						

*NIED **24** 04:52:00, 39°.50N×143°.60E, h23km, Mw3.7 Best double couple: M₀3.85000×10¹⁴ NP1:φs184.00000°, δ34.00000°, λ61.00000°. NP2:φs38.00000°, δ60.00000°, λ108.00000°.*
*ISCJB **24** 04:52:21.3±0.8, 39°.51N±0°.06×143°.59E±0°.07, h11km, mb3.7/6, Error ellipse: s-maj=9.2km s-min=7.9km az=152.8*
*IDC **24** 04:52:21.6±1.3, 39°.48N×143°.43E, h0km, mb3.8/6, mb1 3.8/9, mb1mx3.6/56, mbtmp3.7/9, ML3.0/3, Error ellipse: s-maj=28.6km s-min=23.4km az=91.0*
*JMA **24** 04:52:22.9±0.2, 39°.50N×143°.57E, h27km, M3.8*
ISC 24 04:52:23.2±1.1**, 39°.49N**±0°.07**×143°.47E**±0°.08**, h11km, n25, σ0ˢ.71**/26**, mb3.8**/6**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.28**	**274**	P	**Pn**	**04 52 46.6**	**-0.4**
MIYJ				*e*S	**Sb**	**04 53 03.7**	**-0.1**
JTH	**Tanohata**	**1.32**	**290**	P	**Pn**	**04 52 47.1**	**-0.4**
OFUJ	**Ofunato**	**1.46**	**254**	P	**Pn**	**04 52 49.1**	**-0.4**
JOM	**Ohasama**	**1.69**	**270**	P	**Pn**	**04 52 52.9**	**+0.3**
JANG	**Nango**	**1.74**	**301**	P	**Pn**	**04 52 52.7**	**-0.7**
JMK	**Ichinoseki**	**1.83**	**254**	P	**Pn**	**04 52 54.6**	**0.0**
JIO	**Ouri**	**1.96**	**239**	P	**Pn**	**04 52 55.8**	**-0.5**
JRG	**Rokugo**	**2.20**	**268**	P	**Pn**	**04 53 00.2**	**+0.5**
JRG				*e*S	**Sn**	**04 53 28.1**	**+1.2**
JTM	**Tenmabayashi**	**2.25**	**306**	P	**Pn**	**04 53 00.8**	**+0.5**
JTM				*e*S	**Sn**	**04 53 28.2**	**+0.1**
JAH	**Hinai**	**2.29**	**289**	P	**Pn**	**04 53 01.7**	**+0.8**
JOU	**Okura**	**2.46**	**244**	P	**Pn**	**04 53 03.5**	**+0.2**
JYK	**Kaneyama**	**2.49**	**258**	P	**Pn**	**04 53 04.3**	**+0.7**
ASAJ	**Asahikawa**	**4.67**	**352**	Pn	**Pn**	**04 53 33.5**	**-0.1**
	1.4nm,0.3s,baz=143,slow=20,SNR=3.6						
MAT	**Matsushiro**	**5.10**	**236**	P	**Pn**	**04 53 41.1**	**+1.6**
MAT				*e*S	**Sn**	**04 54 36.7**	**-1.6**
MJAR	**Matsushiro Arr**	**5.10**	**236**	Pn	**Pn**	**04 53 40.3**	**+0.8**
	0.2nm,0.3s,baz=41,slow=11,SNR=18						
USRK	**Ussuriysk Ar.**	**9.77**	**302**	Pn	**Pn**	**04 54 43.4**	**-0.2**
	0.3nm,0.3s,baz=99,slow=19,SNR=2.5						
SONM	**Songino Array**	**27.87**	**300**	P	**P**	**04 58 12.2**	**-0.7**
	0.5nm,0.6s,baz=104,slow=6.1,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**28.18**	**128**	T	T	05 27 49.4	
	baz=318,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**28.19**	**128**	T	T	05 27 49.4	
	baz=318,slow=75,SNR=4.1						
H11N3	**WAKE ISLAND Hy**	**28.20**	**128**	T	T	05 27 49.4	
	baz=318,slow=75,SNR=10.0						
ZALV	**Zalesovo Beam**	**41.51**	**310**	P	**P**	**05 00 10.0**	**-0.2**
	1.2nm,0.3s,baz=82,slow=10,SNR=3.7						
MKAR	**Makanchi Array**	**44.23**	**300**	P	**P**	**05 00 32.3**	**-0.1**
	1.1nm,0.9s,baz=92,slow=6.6,SNR=3.7						
KURBB	**Kurchatov Arra**	**45.81**	**306**	P	**P**	**05 00 44.6**	**-0.2**
	2.9nm,0.8s,baz=82,slow=8.1,SNR=7.8						
ILAR	**Eielson Array**	**46.55**	**34**	P	**P**	**05 00 51.2**	**+0.8**
	0.3nm,0.7s,baz=268,slow=9.9,SNR=3.5						
WRA	**Warramunga Arr**	**59.74**	**190**	P	**P**	**05 02 27.6**	**-0.4**
	1.1nm,1.2s,baz=7.5,slow=7.0,SNR=2.9						

SJA 24 05:04:29.3±0.8**, 31°.36S×65°.13W, h13km**±3km**, ML3.2, MW3.6, Cordoba Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCA	**Tanti**	**0.46**	**87**	*e*P	Pb	05 04 39.3	0.0
TCA				*e*S	Sb	05 04 45.6	-0.4
TCA				IAML		05 04 47.3	
	comp=Z,238nm,0.4s						
MRA	**San Martin**	**1.17**	**205**	*e*P	Pg	05 04 51.8	-0.1
MRA				*e*S	Sn	05 05 07.9	+0.6
APLL	**PUNTA DE LOS L**	**1.54**	**308**	*e*P	Pg	05 04 58.3	-0.5
APLL				*e*S	Sg	05 05 19.0	+0.1
APLL				IAML		05 05 22.1	
	comp=Z,500nm,0.3s						
SUCO	**SUCO**	**1.99**	**174**	*e*P	Pb	05 05 04.7	-0.7
SUCO				*e*S	Sb	05 05 30.9	+0.8
SUCO				IAML		05 05 36.0	
	comp=Z,548nm,0.5s						
ACLC	**CERRO LA CRUZ**	**2.49**	**320**	*e*P	Pb	05 05 12.3	-1.6
CFA	**Coronel Fontan**	**2.67**	**264**	*e*P	Pb	05 05 14.5	-2.4
RTLL	**Cerro Villicun**	**2.86**	**270**	*e*P	Pn	05 05 17.2	+2.5
CYA	**Choya**	**2.96**	**348**	*e*P	Pn	05 05 18.4	+2.3
ASAL	**Salagasta**	**3.38**	**248**	*e*P	Pb	05 05 26.5	-2.6
ACCO	**Cerro Coronel**	**3.47**	**282**	*e*P	Pn	05 05 26.6	+3.4
ARCO	**CERRO ARCO**	**3.55**	**244**	*e*P	Pb	05 05 29.1	-3.0
AAGR	**Agrelo**	**3.58**	**240**	*e*P	Pn	05 05 28.0	+3.5
RTLS	**Leoncito**	**3.58**	**262**	*e*P	Pn	05 05 28.0	+3.2
ACDV	**Cuesta del Vie**	**3.63**	**288**	*e*P	Pn	05 05 29.2	+3.8
ACDV				IAML		05 06 27.8	
	comp=Z,46nm,0.4s						
AROD	**Rodeo**	**3.92**	**287**	*e*P	Pn	05 05 33.4	+3.9
ROC1	**El Roble**	**5.25**	**251**	*e*P	Pn	05 05 51.2	+3.6

IDC 24 05:05:34.0±4.1**, 3°.68N×97°.22E, h0km, mb3.7**/3**, mb1 3.8**/3**, mb1mx3.5**/32**, mbtmp3.7**/3**, MS3.5**/1**, Ms1 3.5**/1**, ms1mx2.7**/42**, Error ellipse: s-maj=155.0km s-min=28.3km az=60.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.36**	**124**	P	P	05 13 38.4	-0.1
	1.0nm,0.6s,baz=301,slow=8.7,SNR=10						
JAY	**Jayapura**	**43.89**	**97**	LR	LR	05 34 38.2	
	comp=Z,52nm,18.8s,slow=40						
SONM	**Songino Array**	**44.69**	**9**	P	P	05 13 48.4	-0.5
	0.6nm,0.8s,baz=178,slow=9.9,SNR=3.2						
MKAR	**Makanchi Array**	**44.86**	**345**	P	P	05 13 50.3	+0.2
	0.4nm,0.4s,baz=164,slow=7.9,SNR=6.7						

IDC 24 05:15:01.3±2.7**, 30°.02S×138°.76E, h0km, mb1 3.0**/3**, mb1mx3.0**/23**, mbtmp2.8**/3**, ML2.4**/3**, Error ellipse: s-maj=76.1km s-min=14.8km az=46.0, South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.06**	**128**	Pn	Pn	05 15 50.4	-0.6
	0.3nm,0.3s,baz=307,slow=15,SNR=3.1						
STKA				Sn	Sn	05 16 27.6	-0.8
	0.8nm,0.3s,baz=316,slow=20,SNR=5.7						
STKA				Lg	Lg	05 16 40.0	
	1.3nm,0.3s,baz=201,slow=23,SNR=6.2						
ASAR	**Alice Springs**	**7.67**	**324**	Pn	Pn	05 16 54.9	+0.4
	0.1nm,0.3s,baz=149,slow=12,SNR=2.7						
ASAR				Sn	Sn	05 18 22.9	+0.8
	0.1nm,0.3s,baz=152,slow=22,SNR=5.1						
ASAR				Lg	Lg	05 19 06.5	
	baz=143,slow=25,SNR=3.3						
WRA	**Warramunga Arr**	**10.80**	**337**	Pn	Pn	05 17 36.7	-0.7
	0.0nm,0.3s,baz=153,slow=12,SNR=4.1						

KRSC 24 05:16:35.7±1.2**, 49°.22N×156°.54E, h7km**±19km**, ML3.8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.49**	**350**	*e*P	Pn	05 17 02.1	-0.7
SKR				*e*S	Sn	05 17 21.4	-1.1
PAU	**Pauzhetka**	**2.26**	**4**	*e*P	Pb	05 17 15.3	-1.4
PAU				*e*S	Sb	05 17 43.7	-1.1
KDTR	**Khodutka, Kamc**	**2.77**	**20**	*e*P	Pn	05 17 22.6	+2.2
KDTR				*e*S	Sb	05 17 58.1	-1.5
MTVR	**Mutnovka**	**3.43**	**17**	*e*P	Pn	05 17 32.8	+3.2
MTVR				*e*S	Sn	05 18 14.2	+3.6
RUS	**Russkaya**	**3.45**	**21**	*e*P	Pn	05 17 32.7	+2.9
RUS				*e*S	Sn	05 18 13.9	+3.0
KRMR	**Karymshinskiy**	**3.75**	**15**	*e*P	Pn	05 17 37.6	+3.7
KRMR				*e*S	Sn	05 18 22.4	+4.1
UGLR	**Uglovaya**	**4.25**	**19**	*e*P	Pn	05 17 44.7	+3.9
AVH	**Avacha**	**4.28**	**18**	*e*P	Pn	05 17 44.4	+3.1
KOK	**Koryaka**	**4.29**	**17**	*e*P	Pn	05 17 46.2	+4.9
SMAR	**Somma**	**4.29**	**18**	*e*P	Pn	05 17 44.6	+3.1
SPN	**Mys Shipunski**	**4.46**	**28**	*e*P	Pn	05 17 47.8	+4.2
SPN				*e*S	Sb	05 18 42.1	-6.1
GNL	**Ganaly**	**4.57**	**11**	*e*P	Pn	05 17 49.9	+4.7
KBTR	**Krutoberegovo**	**7.97**	**26**	*e*P	Pn	05 18 36.9	+5.1

KRSC 24 05:23:15.7±1.0**, 55°.06N×162°.33E, h47km**±18km**, ML3.8, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMD	**Tumrok D**	**1.11**	**278**	*i* P	Pn	05 23 36.3	+1.4
TUMD				*e*S	Sn	05 23 50.0	+0.8
KZV	**Kizimen**	**1.17**	**273**	*e*P	Pn	05 23 37.3	+1.5
KZV				*e*S	Sn	05 23 52.4	+1.7
KBTR	**Krutoberegovo**	**1.19**	**13**	*e*P	Pn	05 23 36.7	+0.8
TUMR	**Tumrok**	**1.27**	**281**	*e*P	Pn	05 23 39.3	+2.2
TUMR				*e*S	Sn	05 23 54.9	+1.8
ZLN	**Zelenaya**	**1.29**	**319**	*e*P	Pn	05 23 39.2	+1.8
ZLN				*e*S	Sn	05 23 54.7	+1.1
KLY	**Klyuchi**	**1.57**	**324**	*e*P	Pn	05 23 42.2	+1.1
SMKR	**Semkarok**	**1.60**	**343**	*e*P	Pn	05 23 43.8	+2.2
SMKR				*e*S	Sn	05 24 02.9	+1.8
SRKR	**Sorokina**	**1.73**	**338**	*e*P	Pn	05 23 45.2	+1.9
SRDR	**Sredinnyy**	**1.94**	**312**	*e*P	Pn	05 23 47.9	+1.6
KII	**Karymskiy**	**1.96**	**240**	*e*P	Pn	05 23 49.3	+2.7
KII				*e*S	Sn	05 24 13.1	+3.1
ESO	**Esso**	**2.24**	**294**	*e*P	Pn	05 23 52.7	+2.4
ESO				*e*S	Sn	05 24 20.6	+3.9
SPN	**Mys Shipunski**	**2.39**	**216**	*e*P	Pn	05 23 54.6	+2.3
SPN				*e*S	Sn	05 24 20.8	+0.5
NLC	**Nalytchevo**	**2.58**	**224**	*e*P	Pn	05 23 58.4	+3.5
NLC				*e*S	Sn	05 24 27.8	+2.8
SMAR	**Somma**	**2.74**	**230**	*e*P	Pn	05 24 01.0	+3.6
KRX	**Arik**	**2.75**	**233**	*e*P	Pn	05 24 01.6	+4.2
AVH	**Avacha**	**2.77**	**231**	*e*P	Pn	05 24 01.7	+4.1
AVH				*e*S	Sn	05 24 33.4	+3.5
UGLR	**Uglovaya**	**2.77**	**229**	*e*P	Pn	05 24 01.1	+3.4
KOK	**Koryaka**	**2.80**	**232**	*e*P	Pn	05 24 02.0	+4.0
KOK				*e*S	Sn	05 24 34.1	+3.5
GNL	**Ganaly**	**2.91**	**244**	*e*P	Pn	05 24 02.8	+3.3
DALK	**Dalny**	**2.93**	**227**	*e*P	Pn	05 24 03.5	+3.8
DALK				*e*S	Sn	05 24 36.6	+3.1
PET	**Petropavlovsk**	**2.97**	**228**	*e*P	Pn	05 24 04.2	+3.9
PET				*e*S	Sn	05 24 38.1	+3.4
KRMR	**Karymshinskiy**	**3.34**	**230**	*e*P	Pn	05 24 09.6	+4.3

KRMR			*e*S	Sn	05 24 48.5	+4.9
RUS	**Russkaya**	**3.47 222**	*e*P	Pn	05 24 10.2	+3.1
RUS			*e*S	Sn	05 24 50.1	+3.2
MTVR	**Mutnovka**	**3.56 225**	*e*P	Pn	05 24 12.8	+4.2
MTVR			*e*S	Sn	05 24 52.8	+3.3
APC	**Apacha**	**3.72 237**	*e*P	Pn	05 24 14.2	+3.6
APC			*e*S	Sn	05 24 58.6	+5.4
KDTR	**Khodutka, Kamc**	**4.13 220**	*e*P	Pn	05 24 19.3	+3.1
KDTR			*e*S	Sn	05 25 06.7	+3.6

IDC ***24*** *05:39:50.9±1.2, 53°.55N×34°.86W, h0km, mb3.5/8, mb1 3.7/8, mb1mx3.4/49, mbtmp3.5/8, MS3.1/2, Ms1 3.1/2, ms1mx2.6/63, Error ellipse: s-maj=39.0km s-min=21.9km az=24.0*

ISCJB ***24*** *05:39:51.4±1.1, 53°.6N±0°.2×34°.8W±0°.2, h12km, mb3.5/8, MS3.0/2, Error ellipse: s-maj=33.7km s-min=18.1km az=22.2*

ISC 24 05:39:53.1±1.1, **53°.6N**±0°.3×**34°.9W**±0°.2, **h12**km, **n12, σ1§30/10, mb3.5/8, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NOA	**NORSAR Array B**	**25.50**	**55**	LR	LR	05 53 10.8	
	comp=Z,27nm,18.6s,baz=20,slow=31						
AKASG	**Malin Array Be**	**38.25**	**67**	LR	LR	06 04 33.3	
	comp=Z,29nm,18.2s,baz=305,slow=39						
YKA	**Yellowknife Ar**	**40.52**	**315**	P	**P**	**05 47 31.4**	**-0.1**
	0.2nm,0.8s,baz=64,slow=9.0,SNR=3.7						
BRTR	**Keskin Array B**	**47.19**	**78**	P	**P**	**05 48 25.4**	**-0.2**
	0.7nm,0.8s,baz=319,slow=8.8,SNR=4.4						
PDAR	**Pinedale Array**	**48.78**	**289**	P	**P**	**05 48 37.3**	**-0.7**
	0.4nm,0.8s,baz=67,slow=5.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**49.60**	**130**	P	**P**	**05 48 44.6**	**+0.4**
	0.5nm,0.9s,baz=339,slow=7.3,SNR=2.5						
ILAR	**Eielson Array**	**50.99**	**329**	P	**P**	**05 48 55.4**	**+1.2**
	0.6nm,1.0s,baz=72,slow=8.6,SNR=3.7						
ZALV	**Zalesovo Beam**	**61.77**	**36**	P	**P**	**05 50 12.0**	**+0.9**
	0.3nm,0.3s,baz=342,slow=12,SNR=2.7						
MKAR	**Makanchi Array**	**66.65**	**42**	P	**P**	**05 50 42.7**	**-0.6**
	0.2nm,0.5s,baz=343,slow=6.7,SNR=4.8						
SONM	**Songino Array**	**73.75**	**26**	P	**P**	**05 51 26.4**	**-0.5**
	0.4nm,0.8s,baz=336,slow=4.5,SNR=3.4						
WRA	**Warramunga Arr**	**145.41**	**18**	PKPbc	**PKPbc**	**05 59 28.4**	**-2.4**
	0.5nm,0.7s,baz=337,slow=4.1,SNR=3.5						
ASAR	**Alice Springs**	**148.95**	**20**	PKPbc	**PKPdf**	**05 59 38.3**	**+1.6**
	0.5nm,0.6s,baz=345,slow=2.5,SNR=5.5						

IDC 24 05:40:46.4±36.0, **18°.14S×177°.98W, h423**km±314km, **mb3.3/2, mb1 3.5/2, mb1mx2.9/29, mbtmp4.1/2, Error ellipse: s-maj=262.0km s-min=95.6km az=115.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.99**	**260**	P	P	05 48 21.6	-0.8
	0.4nm,0.5s,baz=96,slow=7.7,SNR=16						
ASAR	**Alice Springs**	**45.12**	**254**	P	P	05 48 24.0	+0.6
	5.3nm,0.6s,baz=88,slow=8.1,SNR=64						
ASAR				PcP	PcP	05 49 54.8	-0.9
	0.4nm,0.4s,baz=91,slow=4.6,SNR=4.9						
BRTR	**Keskin Array B**	**145.24**	**315**	PKPbc	PKPdf	05 59 35.2	+0.1
	0.4nm,0.5s,baz=86,slow=3.3,SNR=3.4						
GERES	**GERESS Array B**	**147.94**	**345**	PKPbc	PKPbc	05 59 42.2	-0.7
	0.4nm,0.5s,baz=14,slow=4.4,SNR=4.2						

ISCJB ***24*** *06:37:18.4±1.0, 6°.42S±0°.09×128°.42E±0°.10, h334km, mb3.2/3, Error ellipse: s-maj=13.8km s-min=11.5km az=153.4*

IDC ***24*** *06:37:20.3±3.9, 6°.50S×128°.30E, h334km±42km, mb3.0/3, mb1 3.2/7, mb1mx3.0/28, mbtmp3.9/7, Error ellipse: s-maj=51.8km s-min=12.7km az=65.0*

ISC 24 06:37:20.1±1.1, **6°.50S**±0°.10×**128°.3E**±0°.1, **h334**km, **n7, σ0§99/10, mb3.4/3, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.91**	**231**	P	**Pn**	**06 38 49.5**	**+0.1**
	11nm,0.3s,baz=112,slow=3.2,SNR=6.7						
BATI				S	**S**	**06 40 01.3**	**-0.4**
	12nm,0.3s,baz=350,slow=21,SNR=11						
FITZ	**Fitzroy Crossi**	**11.82**	**193**	P	**Pn**	**06 40 00.1**	**+0.1**
	0.1nm,0.3s,baz=26,slow=12,SNR=4.7						
WRA	**Warramunga Arr**	**14.58**	**157**	P	**P**	**06 40 31.3**	**+0.3**
	0.8nm,0.3s,baz=334,slow=13,SNR=55						
WRA				S	**S**	**06 43 08.6**	**-0.8**
	0.1nm,0.3s,baz=338,slow=21,SNR=4.6						
ASAR	**Alice Springs**	**17.89**	**163**	P	**P**	**06 41 08.2**	**+1.3**
	0.6nm,0.3s,baz=345,slow=12,SNR=36						
ASAR				S	**S**	**06 44 16.6**	**+1.7**
	0.1nm,0.3s,baz=344,slow=19,SNR=4.7						
STKA	**Stephens Creek**	**28.13**	**156**	P	**P**	**06 42 41.3**	**-1.1**
	1.9nm,0.7s,baz=315,slow=10,SNR=2.9						
SONM	**Songino Array**	**57.46**	**343**	P	**P**	**06 46 35.3**	**+0.2**
	0.3nm,0.6s,baz=145,slow=5.3,SNR=2.6						
MKAR	**Makanchi Array**	**66.91**	**327**	P	**P**	**06 47 37.2**	**0.0**
	0.3nm,0.4s,baz=124,slow=7.4,SNR=6.3						

ISCJB ***24*** *06:41:38.4±0.7, 37°.10S±0°.06×70°.88W±0°.09, h148km, Error ellipse: s-maj=12.0km s-min=6.1km az=33.2*

GUC ***24*** *06:41:39.2±0.7, 37°.055×71°.18W, h172km±12km, ML2.9*

SJA ***24*** *06:41:40.6±0.7, 36°.82S×71°.03W, h179km±17km, ML3.1, MW2.8*

ISC 24 06:41:39.1±1.5, **37°.05S**±0°.07×**70°.93W**±0°.10, **h148**km, **n19, σ1§43/25, 2C-2D, Southern Argentina**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCHI	**Chillan**	**1.02**	**295**	⇑*i*P	**Pn**	**06 42 04.9**	**+1.0**
CCHI				*i* S	**Sn**	**06 42 24.0**	**+1.2**
CCHI				IAML		06 42 24.5	
	comp=E,271nm,0.3s						
TMU	**Temuco**	**2.14**	**218**	⇓*i*P	**Pn**	**06 42 15.6**	**-0.1**
TMU				*i* S	**Sn**	**06 42 42.9**	**-1.1**
TMU				IAML		06 42 44.3	
	comp=N,56nm,0.2s						
GO05	**Huala**	**2.19**	**338**	*e*P	**Pn**	**06 42 17.2**	**+0.8**
GO05				*e*S	**Sn**	**06 42 45.3**	**+0.2**
GO05	**Huala**	**2.19**	**338**	⇑*i*P	**Pn**	**06 42 17.2**	**+0.8**
GO05				*i* S	**Sn**	**06 42 45.5**	**+0.4**
GO05				IAML		06 42 51.8	
	comp=E,62nm,0.5s						
LMEL	**Las Melosas**	**3.25**	**11**	*i* P	**Pn**	**06 42 31.6**	**+1.9**
FCH	**Farellones**	**3.75**	**8**	*i* P	**Pn**	**06 42 36.9**	**+0.5**
FCH				*i* S	**Sn**	**06 43 22.3**	**+1.6**
ROC1	**El Roble**	**4.07**	**359**	*e*P	**Pn**	**06 42 41.0**	**+0.6**
ROC1				*e*S	**Sn**	**06 43 24.7**	**-3.3**
AAGR	**Agrelo**	**4.31**	**24**	*e*P	**Pn**	**06 42 44.5**	**+0.9**
ASAL	**Salagasta**	**4.77**	**22**	*e*P	**Pn**	**06 42 51.3**	**+1.7**
RTLS	**Leoncito**	**5.41**	**15**	*e*P	**Pn**	**06 42 58.4**	**+0.2**
RTLS				IAML		06 43 00.7	
	comp=Z,10nm,0.4s						
ZON	**Zonda**	**5.80**	**19**	*e*P	**Pn**	**06 43 03.9**	**+0.7**
CFA	**Coronel Fontan**	**5.87**	**23**	*e*P	**Pn**	**06 43 04.1**	**0.0**
RTLL	**Cerro Villicun**	**6.06**	**20**	*e*P	**Pn**	**06 43 06.9**	**+0.2**
MRA	**San Martin**	**6.30**	**44**	*e*P	**Pn**	**06 43 11.0**	**+1.0**
ACCO	**Cerro Coronel**	**6.63**	**14**	*e*P	**Pn**	**06 43 13.9**	**-0.6**
GO04	**Tololo Observa**	**6.86**	**1**	⇓*e*P	**Pn**	**06 43 16.7**	**-0.8**
AROD	**Rodeo**	**6.97**	**10**	*e*P	**Pn**	**06 43 15.3**	**-3.8**
ACDV	**Cuesta del Vie**	**7.02**	**13**	*e*P	**Pn**	**06 43 19.8**	**+0.1**
ACDV				IAML		06 43 22.4	
	comp=Z,2.3nm,0.3s						
APLL	**PUNTA DE LOS L**	**7.58**	**30**	*e*P	**Pn**	**06 43 25.8**	**-1.2**

ISCJB ***24*** *06:53:20.0±0.4, 51°.43N±0°.02×16°.08E±0°.03, h0km, mb3.2/2, Error ellipse: s-maj=3.4km s-min=2.1km az=19.2*

PRU ***24*** *06:53:21.8±0.0, 51°.48N×16°.09E, h0km*

IDC ***24*** *06:53:21.4±0.7, 51°.50N×15°.99E, h0km, mb3.4/2, mb1 3.5/9, mb1mx3.3/42, mbtmp3.3/9, ML3.0/6, Error ellipse: s-maj=14.4km s-min=7.5km az=109.0*

BGR ***24*** *06:53:22.2±0.4, 51°.47N×16°.08E, h1km, ML3.0/9, Error ellipse: s-maj=5.6km s-min=2.2km az=15.0*

ISC 24 06:53:19.8±0.7, **51°.56N**±0°.03×**16°.12E**±0°.02, **h0**km, **n59, σ1§01/105, Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.72**	**172**	*i* Pg	**Pg**	**06 53 34.2**	**+0.5**
KSP				*e*Sg	**Sg**	**06 53 43.0**	**-0.1**
KSP	**Ksiaz**	**0.72**	**172**	*e*Pg	**Pg**	**06 53 34.2**	**+0.5**
KSP				*e*Sg	**Sg**	**06 53 43.1**	**0.0**
UPC	**Upice**	**1.06**	**184**	*e*PG	**Pg**	**06 53 40.3**	**+0.3**
UPC				*e*SG	**Sg**	**06 53 53.5**	**-0.2**
DPC	**Dobruska-Polom**	**1.22**	**174**	*e*PG	**Pg**	**06 53 43.0**	**-0.1**
DPC				*e*SG	**Sg**	**06 53 57.9**	**-1.0**
	comp=Z,49nm,0.4s						
DPC	**Dobruska-Polom**	**1.22**	**174**	*e*Pg	**Pg**	**06 53 43.0**	**-0.1**
DPC				*e*Sg	**Sg**	**06 53 57.8**	**-1.1**
PVCC	**Panska Ves**	**1.43**	**224**	*e*PG	**Pn**	**06 53 47.2**	**+0.2**
PVCC				*e*SG	**Sb**	**06 54 05.9**	**0.0**
	comp=Z,204nm,0.2s						
BRG	**Berggiesshubel**	**1.53**	**244**	PN	**Pn**	**06 53 47.9**	**-0.6**
BRG				PG	**Pg**	**06 53 49.7**	**+0.5**
BRG				SG	**Sn**	**06 54 09.7**	**+0.6**
	77nm,0.4s						
BRG	**Berggiesshubel**	**1.53**	**244**	*e*Pn	**Pn**	**06 53 48.9**	**+0.5**
BRG				*e*Sg	**Sn**	**06 54 09.9**	**+0.8**
KRLC	**Kraliky**	**1.54**	**164**	*e*PG	**Pn**	**06 53 48.6**	**0.0**
KRLC				*e*SG	**Sg**	**06 54 08.1**	**-1.3**
	comp=Z,24nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.85**	**208**	*e*PN	**Pn**	**06 53 52.7**	**-0.2**
GOPC				*e*PG	**Pb**	**06 53 54.6**	**0.0**
FBE	**Freiberg**	**1.85**	**251**	*e*Sg	**Sg**	**06 54 19.7**	**+0.3**
PRU	**Pruhonice**	**1.87**	**213**	*e*PN	**Pn**	**06 53 52.1**	**-0.9**
PRU				*e*PG	**Pb**	**06 53 54.6**	**-0.2**
PRU				*e*SG	**Sb**	**06 54 18.6**	**-0.1**
	comp=Z,66nm,0.6s						
CLL	**Collm**	**1.97**	**264**	*i* Pn	**Pn**	**06 53 54.2**	**-0.3**
	comp=Z,7.0nm,0.7s						
CLL				*i* Pg	**Pb**	**06 53 57.4**	**+0.9**
CLL				*i*		06 54 01.8	
CLL				*i* Sg	**Sg**	**06 54 23.5**	**+0.4**
	comp=Z,29nm,0.5s						
CLL	**Collm**	**1.97**	**264**	*e*Pn	**Pn**	**06 53 54.3**	**-0.1**
CLL				*e*Pg	**Pb**	**06 53 57.5**	**+0.9**
MORC	**Moravsky Berou**	**2.00**	**153**	*e*PN	**Pn**	**06 53 54.7**	**-0.2**
MORC				*e*SG	**Sb**	**06 54 22.7**	**+0.1**
MORC	**Moravsky Berou**	**2.00**	**153**	*e*Pn	**Pn**	**06 53 54.9**	**0.0**
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*PG	**Pg**	**06 54 00.8**	**-0.2**
OKC				*e*SG	**Sg**	**06 54 27.7**	**-1.2**
	comp=Z,77nm,0.7s						
CHZP	**Chorzow**	**2.21**	**124**	*e*Pg	**Pg**	**06 54 03.1**	**+0.8**
CHZP				*e*Sg	**Sg**	**06 54 31.8**	**+0.8**
VRAC	**Vranov**	**2.27**	**172**	Pn	**Pn**	**06 53 59.8**	**+1.1**
	comp=Z,3.1nm,0.3s,baz=343,slow=17,SNR=7.9						
VRAC				Lg	Lg	06 54 31.9	
	comp=Z,10nm,0.3s,baz=94,slow=21,SNR=9.4						
VRAC	**Vranov**	**2.27**	**172**	*e*PN	**Pn**	**06 53 59.0**	**+0.4**
VRAC				*e*SG	**Sb**	**06 54 30.7**	**+0.3**
TREC	**Trest**	**2.30**	**190**	*e*PN	**Pn**	**06 54 00.5**	**+1.4**
TREC				*e*SG	**Sg**	**06 54 32.3**	**-1.5**
KRUC	**Moravsky**	**2.51**	**176**	*e*PN	**Pn**	**06 54 02.6**	**+0.8**
KRUC				*e*PG	**Pb**	**06 54 06.2**	**+0.5**
KRUC				*e*SG	**Sg**	**06 54 38.5**	**-1.8**
TANN	**Tannenbergstha**	**2.58**	**245**	*e*Pn	**Pn**	**06 54 03.6**	**+0.7**
TANN				*e*Sg	**Sb**	**06 54 41.1**	**+1.8**
NKC	**Novy Kostel**	**2.68**	**242**	*e*PN	**Pn**	**06 54 04.9**	**+0.7**
NKC				*e*PG	**Pg**	**06 54 11.2**	**0.0**
NKC				*e*SG	**Sg**	**06 54 45.7**	**-0.2**
	comp=Z,42nm,0.3s						
OJC	**Ojcow**	**2.69**	**119**	*e*Pn	**Pn**	**06 54 03.5**	**-0.8**
OJC				*e*Pg	**Pg**	**06 54 11.7**	**+0.4**
OJC				*e*Sg	**Sg**	**06 54 47.6**	**+1.5**
OJC	**Ojcow**	**2.69**	**119**	*e*Pn	**Pn**	**06 54 04.4**	**+0.1**
OJC				*e*Sg	**Sg**	**06 54 47.6**	**+1.5**
JAVC	**Velka Javorina**	**2.88**	**159**	*e*PN	**Pn**	**06 54 08.1**	**+1.1**
JAVC				*e*SG	**Sg**	**06 54 51.1**	**-1.2**
KHC	**Kasperske Hory**	**2.93**	**215**	*e*PN	**Pn**	**06 54 07.7**	**0.0**
KHC				*e*PG	**Pb**	**06 54 13.7**	**+0.8**
KHC				*e*SG	**Sg**	**06 54 52.7**	**-1.1**
	comp=Z,25nm,0.5s						
MOX	**Moxa**	**2.99**	**254**	*e*Pn	**Pn**	**06 54 08.8**	**+0.4**
MOX				*e*Pg	**Pg**	**06 54 16.7**	**-0.4**
MOX				*e*Sg	**Sg**	**06 54 55.4**	**-0.3**
MANZ	**Manzenberg**	**3.00**	**240**	*e*Pn	**Pn**	**06 54 09.2**	**+0.6**
ROTZ	**Rotzenmuhle**	**3.07**	**236**	*e*Pn	**Pn**	**06 54 10.1**	**+0.5**
ROTZ				*e*Sg	**Sg**	**06 54 57.4**	**-1.1**
GEC2	**GERESS Array S**	**3.13**	**211**	*e*Pn	**Pn**	**06 54 11.5**	**+1.0**
GERES	**GERESS Array B**	**3.13**	**211**	Pn	**Pn**	**06 54 10.7**	**+0.2**
	comp=Z,2.0nm,0.3s,baz=30,slow=12,SNR=44						
GERES				Pg	**Pb**	**06 54 17.1**	**+0.6**
	comp=Z,4.1nm,0.3s,baz=33,slow=16,SNR=26						
GERES				Lg	Lg	06 54 56.9	
	comp=Z,5.6nm,0.3s,baz=32,slow=26,SNR=6.6						
SMOL	**Smolenice**	**3.16**	**164**	*e*PG	**Pb**	**06 54 17.5**	**+0.6**
WET	**Wettzell**	**3.19**	**222**	*e*Pn	**Pn**	**06 54 11.4**	**+0.2**
LANS	**Liptovska Anna**	**3.23**	**137**	*e*	**Pn**	**06 54 12.6**	**+0.8**
LANS	**Liptovska Anna**	**3.23**	**137**	*e*PG	**Pb**	**06 54 19.3**	**+1.3**
LANS				*e*SG	**Sg**	**06 55 03.0**	**-0.4**
MODS	**Modra-Piesok**	**3.27**	**166**	*e*PG	**Pg**	**06 54 21.6**	**-1.0**
MODS				*e*SG	**Sg**	**06 55 03.9**	**-1.1**
MODS				*e*LG	Lg	06 55 08.5	
NIE	**Niedzica**	**3.42**	**127**	*e*P	**Pg**	**06 54 25.5**	**+0.1**
NIE				*e*S	**Sg**	**06 55 10.6**	**+0.9**
VYHS	**Vyhne**	**3.53**	**149**	*e*	**Pn**	**06 54 15.9**	**0.0**
VYHS	**Vyhne**	**3.53**	**149**	*e*PG	**Pg**	**06 54 27.0**	**-0.5**
VYHS				*e*SG	**Sg**	**06 55 11.7**	**-1.5**
VYHS				*e*LG	Lg	06 55 16.1	
CLZ	**Clausthal**	**3.59**	**277**	*e*Pn	**Pn**	**06 54 18.4**	**+1.6**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**06 54 18.2**	**+0.9**
BSD				*i* S	**Sn**	**06 54 58.0**	**-2.8**
GRF	**Grafenberg Arr**	**3.64**	**241**	*e*Sg	**Sg**	**06 55 15.5**	**-1.2**
CONA	**Conrad Observa**	**3.64**	**183**	*e*Pn	**Pn**	**06 54 18.6**	**+1.2**
	comp=Z,1.8nm,0.2s						
CONA				*i* Sg	**Sg**	**06 55 16.3**	**-0.4**
	comp=Z,27nm,0.5s						
MOA	**Molln**	**3.91**	**199**	*e*Pn	**Pn**	**06 54 21.8**	**+0.8**
	comp=Z,2.9nm,0.2s						
MOA				*e*Sg	**Sg**	**06 55 24.7**	**-0.6**
	comp=Z,15nm,0.3s						
ARSA	**Arzberg**	**4.33**	**185**	*e*Pn	**Pn**	**06 54 29.9**	**+3.0**
	comp=Z,2.3nm,0.2s						
ARSA				*i* Sg	**Sg**	**06 55 36.7**	**-2.2**
	comp=Z,15nm,0.6s						
KBA	**Koelnbriensper**	**4.84**	**203**	*e*Pn	**Pn**	**06 54 35.1**	**+1.1**
	comp=Z,0.5nm,0.1s						
KBA				Sg	**Sg**	**06 55 54.7**	**-0.5**
	comp=Z,7.0nm,0.4s						
OBKA	**Obir**	**5.16**	**192**	Sg	**Sb**	**06 55 53.0**	**-0.5**
	comp=Z,6.7nm,0.6s						
MOTA	**Moosalm**	**5.34**	**220**	*i* Pn	**Pn**	**06 54 42.6**	**+1.7**
	comp=Z,0.8nm,0.2s						
RETA	**Reutte**	**5.37**	**223**	*i* Pn	**Pn**	**06 54 41.7**	**+0.5**
	comp=Z,0.7nm,0.1s						
RETA				*i* Sg	**Sg**	**06 56 12.7**	**+0.5**
	comp=Z,4.9nm,0.5s						
SQTA	**Sankt Quirin**	**5.40**	**218**	*i* Pn	**Pn**	**06 54 43.5**	**+1.8**
	comp=Z,2.4nm,0.2s						
DAVOX	**Davos/Dischmat**	**6.29**	**223**	Pn	**Pn**	**06 54 54.7**	**+0.7**
	baz=24,slow=15						
DAVOX				Lg	Lg	06 56 37.5	
	comp=Z,0.1nm,0.3s,baz=355,slow=7.9,SNR=3.0						
AKASG	**Malin Array Be**	**8.29**	**91**	Pn	**Pn**	**06 55 19.9**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=281,slow=12,SNR=4.3						
HFS	**Hagfors**	**8.70**	**352**	Pn	**Pn**	**06 55 26.7**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=152,slow=16,SNR=4.3						
FINES	**FINESS Array B**	**11.31**	**25**	Pn	**Pn**	**06 56 01.4**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=206,slow=11,SNR=4.5						
ARCES	**ARCESS Array B**	**18.57**	**10**	Pn	**P**	**06 57 34.4**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=194,slow=12,SNR=5.1						
TORD	**Torodi Ar. Bea**	**40.05**	**202**	P	**P**	**07 00 57.0**	**+0.4**
	comp=Z,1.0nm,1.1s,baz=0.8,slow=10,SNR=3.1						
YKA	**Yellowknife Ar**	**59.82**	**336**	P	**P**	**07 03 27.7**	**+1.4**
	comp=Z,0.1nm,0.6s,baz=26,slow=6.1,SNR=3.2						

MOS ***24*** *07:08:15.2±1.1, 9°.98N×84°.41W, h70km, mb5.1/34, Error ellipse: s-maj=10.7km s-min=5.2km az=113.5*

IDC ***24*** *07:08:16.2±0.6, 10°.13N×84°.43W, h60km±6km, mb4.2/24, mb1 4.5/28, mb1mx4.4/33, mbtmp4.6/28, MS3.6/16, Ms1 3.6/16, ms1mx3.5/32, Error ellipse: s-maj=16.9km s-min=9.2km az=51.0*

ISCJB ***24*** *07:08:16.3±0.2, 9°.99N±0°.02×84°.41W±0°.02, h79km±1km, mb4.8/245, Error ellipse: s-maj=4.0km s-min=1.9km az=37.0*

UCR ***24*** *07:08:17.2±1.9, 9°.90N×84°.46W, h56km±5km, MD4.0, ML4.3, mb4.8(NEIC)*

NEIC ***24*** *07:08:17.5±0.4, 9°.91N×84°.50W, h77km±3km, mb4.8/228, ML5.3(UCR), Error ellipse: s-maj=4.6km s-min=3.2km az=215.0*

NEIC Felt [V] at San Jose and [IV] at Alajuela, Alajuelita, La Virgen, Piedades and Santa Ana. Felt throughout the Valle Central and as far as Nosara, Palmares, San Rafael and Turrialba.

GCMT ***24*** *07:08:20.5±0.3, 9°.94N±0°.02×84°.50W±0°.02, h68km±3km, MW4.9/82, Moment Tensor Solution. s22,c25; s82,c116; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.36±.14; Mθθ 1.03±.12; Mφφ-2.39±.10; Mrθ 1.57±.06; Mθφ 0.43±.10; Mφr 0.67±.07; Best double couple: M₀2.70100×10¹⁶ NP1:φ₁28.00000°, δ65.00000°, λ136.00000°. NP2: φ₂140.00000°, δ51.00000°, λ32.00000°. Principal axes: T 2.8890, Plg48.0000°, Azm347.0000°; N -0.3760, Plg41.0000°, Azm184.0000°; P -2.5130, Plg9.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 07:08:16.9±0.5, **9°.97N**±0°.04×**84°.42W**±0°.03, **h69**km±4km, **n986, σ1§21/1016, mb4.9/248, 10C-11D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRA1	**San Ramn**	**0.12**	**334**	*e*P	**Pn**	**07 08 26.1**	**-1.2**
HDC	**Heredia**	**0.31**	**85**	*e*Pn	**Pn**	**07 08 27.8**	**-0.4**
HDC				*e*Sn	**Sn**	**07 08 36.1**	**-0.3**
HDC	**Heredia**	**0.31**	**85**	⇓*i*P	**Pn**	**07 08 27.5**	**-0.7**
HDC				*e*S	**Sn**	**07 08 36.1**	**-0.3**
SJS	**Escuela Geolog**	**0.37**	**95**	*e*P	**Pn**	**07 08 29.0**	**+0.3**
LCR2	**La Lucha 2**	**0.47**	**119**	⇑*i*P	**Pn**	**07 08 28.4**	**-1.3**
LCR2				*e*S	**Sn**	**07 08 37.5**	**-1.5**
FORC	**Fortuna**	**0.55**	**334**	*i* P	**Pn**	**07 08 30.2**	**0.0**
FORC				*i* S	**Sn**	**07 08 41.1**	**+1.2**
CASO	**Castillo**	**0.55**	**326**	*i* P	**Pn**	**07 08 30.3**	**+0.1**
ARE1	**Arenal 1**	**0.56**	**329**	⇑*i*P	**Pn**	**07 08 30.6**	**+0.2**
CEDE	**Laguna Cedeo**	**0.58**	**332**	*i* P	**Pn**	**07 08 30.7**	**+0.2**
JTS	**JuntasAbangare**	**0.61**	**301**	P	**Pn**	**07 08 29.6**	**-1.1**
	3μm,0.3s,baz=342,slow=19						
JTS				S	**Sn**	**07 08 39.8**	**-1.1**
	5μm,0.3s,baz=30,slow=20,SNR=75						
JTS				LR	LR	07 08 48.3	
	comp=Z,2μm,21.6s,baz=305,slow=60						
JTS	**JuntasAbangare**	**0.61**	**301**	*e*Pn	**Pn**	**07 08 29.9**	**-0.9**
JTS				*e*Sn	**Sn**	**07 08 40.1**	**-0.8**
JTS	**JuntasAbangare**	**0.61**	**301**	*i* P	**Pn**	**07 08 29.9**	**-0.9**
JTS	**JuntasAbangare**	**0.61**	**301**	⇓*i*P	**Pn**	**07 08 29.7**	**-1.4**
JTS				*e*P	**Pn**	**07 08 29.4**	**-1.4**
JTS				*e*S	**Sn**	**07 08 39.9**	**-1.1**
CVTR	**Volcan Turrial**	**0.66**	**86**	⇓*i*P	**Pn**	**07 08 31.7**	**0.0**
CVTR				*e*S	**Sn**	**07 08 44.9**	**+2.3**
AMAS	**Alto Masis**	**0.85**	**319**	*i* P	**Pn**	**07 08 33.3**	**-0.3**
AMAS				*i* S	**Sn**	**07 08 46.8**	**+0.9**
EDDO	**Dominical**	**0.90**	**142**	⇑*e*P	**Pn**	**07 08 33.0**	**-1.2**
EDDO				*e*S	**Sn**	**07 08 46.2**	**-0.7**
PTEN	**Parque Tenorio**	**0.92**	**323**	*i* P	**Pn**	**07 08 34.6**	**+0.1**
PTEN				*i* S	**Sn**	**07 08 47.8**	**+0.3**
PLVR	**Palo Verde**	**0.98**	**292**	*e*P	**Pn**	**07 08 34.5**	**-0.9**
PLVR				*e*S	**Sn**	**07 08 48.1**	**-1.0**
CUI	**Cuipilapa**	**1.00**	**313**	*i* P	**Pn**	**07 08 35.4**	**0.0**
CUI				*i* S	**Sn**	**07 08 49.3**	**+0.2**
COLC	**Colonia**	**1.03**	**312**	*i* P	**Pn**	**07 08 35.7**	**-0.1**
HORNC	**Hornillas**	**1.04**	**315**	*i* P	**Pn**	**07 08 35.9**	**-0.2**
MICM	**Guayabo**	**1.05**	**314**	*i* P	**Pn**	**07 08 35.9**	**-0.2**
EDLM	**Las Mercedes**	**1.07**	**130**	⇑*i*P	**Pn**	**07 08 36.0**	**-0.4**
MESS	**Mesas**	**1.07**	**315**	*i* P	**Pn**	**07 08 36.4**	**0.0**
MESS				*i* S	**Sn**	**07 08 51.1**	**+0.2**
GUAB	**Guayabo de Bag**	**1.08**	**313**	*i* P	**Pn**	**07 08 36.2**	**-0.2**
GPS3	**Bodega del ICE**	**1.21**	**310**	*i* P	**Pn**	**07 08 37.9**	**-0.2**
GPS3				*i* S	**Sn**	**07 08 54.4**	**+0.5**
BUEV	**Buena Vista**	**1.27**	**310**	*i* P	**Pn**	**07 08 38.7**	**-0.2**
GB1A	**Borinquen Arri**	**1.27**	**311**	*i* P	**Pn

WBCY **West Bay, Gran** 9.79 17 *e*Pn **Pn** 07 10 36.8 +1.7
FSCY **Frank Sound, G** 9.80 18 *e*Pn **Pn** 07 10 37.2 +2.1
YOTC **Yotoco, Valle** 9.98 126 *e*P **Pn** 07 10 38.7 +1.0
YOTC **Yotoco, Valle** 9.98 126 *e*P **Pn** 07 10 38.7 +1.0
SMRC **Santa Marta, M** 10.10 82 *e*P **Pn** 07 10 35.4 -3.8
SMRC **Santa Marta, M** 10.10 82 *e*P **Pn** 07 10 35.4 -3.8
RREF **El Recreo** 10.31 119 *e*P **Pn** 07 10 46.3 +3.5
RREF **El Recreo** 10.31 119 *e*P **Pn** 07 10 46.3 +3.5
PTBC **PUERTO BERRIO,** 10.44 108 *e*P **Pn** 07 10 45.0 +1.2
PTBC **PUERTO BERRIO,** 10.44 108 *e*P **Pn** 07 10 45.0 +1.2
TOLC **Tolima** 10.50 120 *e*P **Pn** 07 10 46.3 +1.3
TOLC **Tolima** 10.50 120 *e*P **Pn** 07 10 46.3 +1.3
MTDJ **Mount Denham** 10.58 38 *e*Pn **Pn** 07 10 48.2 +2.3
POPC **Popayan, Colom** 10.67 133 *e*P **Pn** 07 10 48.6 +1.3
POPC **Popayan, Colom** 10.67 133 *e*P **Pn** 07 10 48.6 +1.3
TEIG **Tepich** 10.85 340 *e*Pn **Pn** 07 10 49.3 -0.1
BRRC **Barranca, Sant** 10.97 104 *e*P **Pn** 07 10 53.0 +1.9
BRRC **Barranca, Sant** 10.97 104 *e*P **Pn** 07 10 53.0 +1.9
SOTA **Rioblanco** 11.00 135 *e*P **Pn** 07 10 56.1 +4.1
SOTA **Rioblanco** 11.00 135 *e*P **Pn** 07 10 56.1 +4.1
OCAC **Ocana** 11.10 98 *e*P **Pn** 07 10 53.6 +0.5
OCAC **Ocana** 11.10 98 *e*P **Pn** 07 10 53.6 +0.5
CMBC **Cumbal** 11.12 143 *e*P **Pn** 07 10 55.6 +2.0
CMBC **Cumbal** 11.12 143 *e*P **Pn** 07 10 55.6 +2.0
GCUF **Volcan Galeras** 11.18 141 *e*P **Pn** 07 10 56.1 +1.6
GCUF **Volcan Galeras** 11.18 141 *e*P **Pn** 07 10 56.1 +1.6
ROSC **El Rosal** 11.24 116 P **Pn** 07 10 59.4 +4.2
comp=Z,0.6nm,0.3s,baz=273,slow=12,SNR=2.8
OTAV **Otavalo** 11.35 148 *e*Pn **Pn** 07 10 56.7 0.0
OTAV **Otavalo** 11.35 148 *e*P **Pn** 07 10 59.4 +2.7
OTAV **Otavalo** 11.35 148 *e*P **Pn** 07 10 56.7 0.0
OTAV **Otavalo** 11.35 148 *e*P **Pn** 07 10 59.4 +2.7
BARC **Barichara** 11.62 106 *e*P **Pn** 07 11 01.5 +1.3
BARC **Barichara** 11.62 106 *e*P **Pn** 07 11 01.5 +1.3
CHIC **Chingaza** 11.86 116 *e*P **Pn** 07 11 05.8 +2.2
CHIC **Chingaza** 11.86 116 *e*P **Pn** 07 11 05.8 +2.2
PAMC **Pamplona, Colo** 11.88 102 *e*P **Pn** 07 11 06.3 +2.3
PAMC **Pamplona, Colo** 11.88 102 *e*P **Pn** 07 11 06.3 +2.3
RUSC **La Rusia** 11.94 109 *e*P **Pn** 07 11 06.1 +1.2
RUSC **La Rusia** 11.94 109 *e*P **Pn** 07 11 06.1 +1.2
MYIG **Mrida** 12.06 336 *e*Pn **Pn** 07 11 06.0 0.0
VILC **Villavicencio,** 12.13 118 *e*P **P** 07 11 13.0 -4.3
VILC **Villavicencio,** 12.13 118 *e*P **P** 07 11 13.0 -4.3
CMIG **Matias Romero** 12.38 306 P **Pn** 07 11 09.9 -0.5
comp=Z,12nm,0.3s,baz=142,slow=8.6,SNR=177
CMIG S **Sn** 07 13 22.3 -4.4
comp=Z,0.3nm,0.3s,baz=108,slow=20,SNR=3.1
TAMC **Tame, Arauca** 12.99 105 *e*P **Pn** 07 11 20.3 +1.6
TAMC **Tame, Arauca** 12.99 105 *e*P **Pn** 07 11 20.3 +1.6
GTBY **Guantanamo Bay** 13.37 41 *e*Pn **Pn** 07 11 27.2 +3.5
SDV **Santo Domingo** 13.65 93 P **Pn** 07 11 28.6 +0.9
comp=Z,4.7nm,0.3s,baz=272,slow=7.6,SNR=71
SDV S **Sn** 07 13 56.8 -1.0
comp=Z,0.6nm,0.3s,baz=5.2,slow=19,SNR=2.2
SDV PcP **PcP** 07 16 49.2 +0.7
comp=Z,0.2nm,0.3s,baz=323,slow=1.7,SNR=4.9
SDV LR LR 07 17 49.5
comp=Z,250nm,21.2s,baz=249,slow=42
SDV **Santo Domingo** 13.65 93 *e*Pn **Pn** 07 11 29.1 +1.5
SDV *e*Sn **Sn** 07 13 56.9 -1.0
SDV **Santo Domingo** 13.65 93 *e*P **Pn** 07 11 28.0 +0.4
SDV **Santo Domingo** 13.65 93 *e*P **Pn** 07 11 28.0 +0.4
PTLC **Puerto Leguiza** 13.66 135 *e*P P 07 11 39.8 +5.7
PTLC **Puerto Leguiza** 13.66 135 *e*P P 07 11 39.8 +5.7
LGNH **Logne** 14.25 52 *e*Pn **P** 07 11 40.3 -0.4
LVIG **Laguna Verde** 15.10 311 *e*Pn **Pn** 07 11 45.5 -1.0
comp=Z,27nm,1.1s
957A **Wimauma** 17.72 6 P **Pn** 07 12 21.8 +2.6
baz=187
ATAH **Atahualpa** 18.03 160 P **Pn** 07 12 25.2 +1.9
comp=Z,0.2nm,0.3s,baz=339,slow=12,SNR=5.8
ATAH LR LR 07 18 34.7
comp=Z,518nm,21.4s,baz=354,slow=34
859A **Kempfer Cattle** 18.30 10 P **Pn** 07 12 27.0 +1.0
baz=191
857A **Zephyrhills** 18.32 6 P **Pn** 07 12 27.9 +1.6
baz=187
858A **St. Cloud** 18.37 9 P **Pn** 07 12 28.7 +1.7
baz=190
CRPR **Cabo Rojo, PR** 18.59 63 *e*P **Pn** 07 12 30.1 +0.4
comp=Z,37nm,1.0s
AGP **Aguadilla** 18.72 61 *e*P **Pn** 07 12 33.8 +2.5
comp=Z,127nm,1.1s
757A **Oxford** 19.00 6 P **Pn** 07 12 35.3 +0.9
baz=187
OBIP **Obispado Ponce** 19.05 63 *e*P **Pn** 07 12 36.0 +0.8
comp=Z,26nm,0.9s
656A **Willston** 19.38 5 *e*P **Pn** 07 12 40.1 +1.1
comp=Z,82nm,0.9s
656A **Willston** 19.38 5 P **Pn** 07 12 39.3 +0.3
baz=186
655A **Horseshoe Beac** 19.47 3 P **Pn** 07 12 39.6 -0.5
baz=184,SNR=6.1
SJG **San Juan** 19.47 63 P **P** 07 12 38.9 +0.5
comp=Z,0.9nm,0.3s,baz=260,slow=7.5,SNR=6.8
SJG LR LR 07 19 11.2
comp=Z,208nm,21.2s,baz=238,slow=34
SJG **San Juan** 19.47 63 *e*P **Pn** 07 12 40.6 +0.4
comp=Z,20nm,0.8s
SJG **San Juan** 19.47 63 *e*P **Pn** 07 12 40.6 +0.4
SJG pmax pmax
comp=Z,20nm,0.8s
PCRV **Puerto La Cruz** 19.48 88 P **Pn** 07 12 43.4 +3.0
comp=Z,2.7nm,0.3s,baz=237,slow=4.0,SNR=13
658A **Bunnell** 19.57 8 *e*P **Pn** 07 12 42.4 +1.1
comp=Z,71nm,0.9s
658A **Bunnell** 19.57 8 P **Pn** 07 12 41.5 +0.2
baz=190
657A **Interlachen** 19.66 7 P **Pn** 07 12 41.6 -0.6
baz=188
HUMP **Col San Antoni** 19.75 64 *e*P **P** 07 12 40.8 -0.6
comp=Z,21nm,0.9s
CBYP **Canovanas** 19.79 63 *e*P **Pn** 07 12 43.8 -0.3
comp=Z,22nm,0.9s
MTP **Monte Pirata** 20.00 64 *e*P Pn 07 12 45.5 -0.8
comp=Z,23nm,0.9s
556A **Lake Butler** 20.02 5 P Pn 07 12 46.1 -0.4
baz=186,SNR=6.8
552A **Lynn Haven** 20.07 358 P Pn 07 12 47.2 0.0
baz=178
555A **McAlpin** 20.09 4 *e*P Pn 07 12 47.5 +0.1
comp=Z,44nm,0.8s
555A **McAlpin** 20.09 4 P Pn 07 12 47.2 -0.2
baz=184
557A **Orange Park** 20.10 7 P Pn 07 12 47.1 -0.3
baz=188
553A **Crawfordville** 20.11 360 P Pn 07 12 47.3 -0.3
baz=180,SNR=6.9
451A **Vernon** 20.58 357 P Pn 07 12 52.5 -0.6
baz=176
LNIG **Linares** 20.61 318 *e*P **P** 07 12 51.6 +0.9
comp=Z,43nm,0.9s
STVI **Saint Thomas** 20.62 64 *e*P Pn 07 12 52.5 -1.1
comp=Z,23nm,1.0s
454A **Quitman** 20.65 2 P Pn 07 12 53.1 -0.9
baz=182,SNR=8.5
455A **Stateville** 20.71 3 P Pn 07 12 53.5 -1.1
baz=184
456A **Hilliard** 20.77 6 *e*P Pn 07 12 55.2 -0.1
comp=Z,106nm,1.1s
456A **Hilliard** 20.77 6 P Pn 07 12 54.6 -0.7
baz=187
453A **Whigham** 20.78 0 *e*P **P** 07 12 52.4 0.0
comp=Z,63nm,1.1s
453A **Whigham** 20.78 0 P Pn 07 12 54.3 -1.1
baz=180
452A **Marianna** 20.78 358 P Pn 07 12 54.6 -0.9
baz=178
450A **Crestview** 20.82 355 P Pn 07 12 55.1 -0.9
baz=174,SNR=5.3
449A **Pace** 20.84 353 P Pn 07 12 55.3 -0.9
baz=172,SNR=6.9
544A **White Castle** 21.00 344 P **P** 07 12 57.1 +2.3
baz=162
448A **Bay Minette** 21.10 352 P **P** 07 12 57.7 +1.9
baz=171
351A **Pinckard** 21.23 357 P **P** 07 12 59.0 +1.9
baz=177,SNR=14
BRAL **Brewton** 21.23 354 *e*P **P** 07 13 00.8 +3.6
comp=Z,171nm,1.0s
BRAL **Brewton** 21.23 354 P **P** 07 12 59.1 +1.8
baz=173,SNR=12
353A **Camilla** 21.27 0 P **P** 07 12 59.3 +1.6
baz=181,SNR=12
355A **Pearson** 21.32 4 P **P** 07 13 00.1 +2.0
baz=184
356A **Blackshear** 21.35 5 P **P** 07 13 00.1 +1.6
baz=186
TIGA **Tifton** 21.37 2 *e*P **P** 07 13 00.7 +1.9
comp=Z,74nm,1.0s
TIGA **Tifton** 21.37 2 P **P** 07 13 00.3 +1.6
baz=182,SNR=8.8
352A **Blakely** 21.41 359 *e*P **P** 07 13 01.3 +2.2
comp=Z,96nm,1.0s
352A **Blakely** 21.41 359 P **P** 07 13 00.7 +1.6
baz=179,SNR=11
350A **Dozier** 21.41 356 P **P** 07 13 01.1 +1.9
baz=175,SNR=6.6
349A **Repton** 21.43 354 P **P** 07 13 01.2 +1.8
baz=173,SNR=28
348A **Jackson** 21.58 352 *e*P **P** 07 13 02.8 +1.9
comp=Z,198nm,1.0s
348A **Jackson** 21.58 352 P **P** 07 13 03.1 +2.2
baz=171,SNR=14
KVTX **Kingsville** 21.60 326 *e*P **P** 07 13 02.1 +0.9
comp=Z,52nm,0.8s
346A **Big Creek Wild** 21.82 348 *e*P **P** 07 13 03.9 +0.4
comp=Z,28nm,0.6s
346A **Big Creek Wild** 21.82 348 P **P** 07 13 04.9 +1.4
baz=167
254A **Abbeville** 21.89 3 P **P** 07 13 05.4 +1.1
baz=183,SNR=11
252A **Lumpkin** 21.92 359 P **P** 07 13 05.6 +1.0
baz=179,SNR=24
255A **Hazlehurst** 21.92 4 *e*P **P** 07 13 05.6 +1.0
comp=Z,33nm,0.9s
255A **Hazlehurst** 21.92 4 P **P** 07 13 06.0 +1.5
baz=185,SNR=5.9
250A **Grady** 21.96 356 *e*P **P** 07 13 06.9 +1.8
comp=Z,123nm,1.1s
250A **Grady** 21.96 356 P **P** 07 13 06.4 +1.3
baz=175,SNR=14
253A **Americus** 21.98 1 P **P** 07 13 06.2 +1.0
baz=181,SNR=5.9
256A **Glennville** 22.02 6 P **P** 07 13 07.2 +1.4
baz=187,SNR=11
251A **Midway** 22.03 358 P **P** 07 13 08.2 +2.4
baz=178,SNR=23
249A **Camden** 22.04 354 P **P** 07 13 07.7 +1.8
baz=173,SNR=17
248A **Dixon Mills** 22.23 353 P **P** 07 13 09.6 +1.7
baz=172,SNR=5.9
246A **Jackson Lee, B** 22.36 349 P **P** 07 13 10.8 +1.4
baz=168
151A **Opelika** 22.46 358 P **P** 07 13 11.8 +1.4
baz=178,SNR=17
154A **Montrose** 22.56 3 *e*P **P** 07 13 11.1 -0.5
comp=Z,105nm,1.0s
154A **Montrose** 22.56 3 P **P** 07 13 12.8 +1.3
baz=184,SNR=11
150A **Eclectic** 22.57 356 P **P** 07 13 13.1 +1.4
baz=176,SNR=21
153A **Fort Valley** 22.57 1 P **P** 07 13 12.8 +1.1
baz=182,SNR=6.1
152A **Waverly Hall** 22.59 359 *e*P **P** 07 13 13.0 +1.2
comp=Z,50nm,0.9s
152A **Waverly Hall** 22.59 359 P **P** 07 13 13.6 +1.8
baz=179,SNR=14
155A **Kite** 22.61 4 P **P** 07 13 13.5 +1.4
baz=185,SNR=14
149A **Jones** 22.62 355 P **P** 07 13 13.5 +1.4
baz=174,SNR=36
156A **Sylvania** 22.73 6 P **P** 07 13 14.7 +1.4
baz=188
148A **Greensboro** 22.75 353 P **P** 07 13 14.8 +1.3
baz=172,SNR=32
VBMS **Vicksburg** 22.84 347 P **P** 07 13 15.3 +0.9
baz=165
147A **Livingston** 22.87 352 *e*P **P** 07 13 16.1 +1.4
comp=Z,150nm,0.9s
147A **Livingston** 22.87 352 P **P** 07 13 16.0 +1.2
baz=170,SNR=25
146A **Union** 22.96 350 *e*P **P** 07 13 16.7 +1.1
comp=Z,155nm,0.8s
146A **Union** 22.96 350 P **P** 07 13 16.6 +1.0
baz=168,SNR=17
LRAL **Lakeview Retre** 23.07 354 *e*P **P** 07 13 18.1 +1.3
comp=Z,82nm,1.0s
LRAL **Lakeview Retre** 23.07 354 P **P** 07 13 18.1 +1.3
baz=174,SNR=40
NNA **Nana** 23.08 161 P **P** 07 13 20.9 +3.9
comp=Z,7.3nm,0.8s,baz=276,slow=19,SNR=3.3
NNA LR LR 07 21 14.8
comp=Z,155nm,20.4s,baz=314,slow=34
145A **Houston Renfro** 23.09 348 P **P** 07 13 17.8 +0.9
baz=166,SNR=12
Z52A **Williamson** 23.11 0 P **P** 07 13 18.1 +1.0
baz=180,SNR=7.4
RGRS **Roger Stewart** 23.16 9 *e*P **P** 07 13 19.9 +2.4
comp=Z,524nm,0.7s
Z49A **Columbiana** 23.19 356 P **P** 07 13 19.1 +1.2
baz=175,SNR=19
Z54A **Sparta** 23.20 3 P **P** 07 13 18.7 +0.7
baz=184,SNR=12
Z53A **Monticello** 23.21 2 P **P** 07 13 18.7 +0.6
baz=182,SNR=21
Z50A **Ashland** 23.21 357 *e*P **P** 07 13 18.9 +0.8
comp=Z,28nm,0.8s
Z50A **Ashland** 23.21 357 P **P** 07 13 18.9 +0.8
baz=176,SNR=16
144A **Alexander Plac** 23.22 347 P **P** 07 13 18.9 +0.7
baz=165,SNR=11
Z55A **Blythe** 23.23 5 P **P** 07 13 19.1 +0.8
baz=186
Z51A **Franklin** 23.24 358 P **P** 07 13 19.3 +0.9
baz=178
GOGA **Godfrey** 23.34 2 *e*P **P** 07 13 20.2 +0.9
comp=Z,69nm,1.1s
GOGA **Godfrey** 23.34 2 *e*P **P** 07 13 20.2 +0.9
GOGA pmax pmax
comp=Z,69nm,1.1s
GOGA **Godfrey** 23.34 2 P **P** 07 13 20.2 +0.9
baz=182,SNR=21
NHSC **New Hope** 23.35 9 *e*P **P** 07 13 20.1 +0.7
comp=Z,98nm,0.8s
NHSC **New Hope** 23.35 9 P **P** 07 13 20.7 +1.3
baz=191,SNR=5.5
Z47A **Carrollton** 23.36 352 P **P** 07 13 20.1 +0.7
baz=171,SNR=31
Z48A **Northport** 23.47 353 P **P** 07 13 21.0 +0.5
baz=172,SNR=38
Z46A **Louisville** 23.48 350 P **P** 07 13 21.6 +1.0
baz=165,SNR=34
NATX **Nacogdoches** 23.66 338 P **P** 07 13 22.1 -0.2
baz=154
Y52A **Lilburn** 23.78 1 *e*P **P** 07 13 23.0 -0.3
comp=Z,67nm,1.0s
Y52A **Lilburn** 23.78 1 P **P** 07 13 24.6 +1.3
baz=181,SNR=19
Y53A **Monroe** 23.78 2 P **P** 07 13 24.2 +0.9
baz=182,SNR=21
Z45A **Winona** 23.79 349 *e*P **P** 07 13 24.2 +0.9
comp=Z,202nm,0.8s
Z45A **Winona** 23.79 349 P **P** 07 13 24.1 +0.7
baz=167,SNR=24
Y51A **Rockmart** 23.82 359 P **P** 07 13 24.5 +0.8
baz=179,SNR=22
Y54A **Tignall** 23.83 4 P **P** 07 13 24.4 +0.7
baz=184,SNR=9.4
Y50A **Piedmont** 23.84 357 P **P** 07 13 24.6 +0.8
baz=177,SNR=31
Y49A **Blount Mountai** 23.84 356 *e*P **P** 07 13 23.4 -0.4
comp=Z,25nm,0.9s
Y49A **Blount Mountai** 23.84 356 P **P** 07 13 24.4 +0.5
baz=175,SNR=9.0
Y48A **Jasper** 23.96 354 P **P** 07 13 25.4 +0.5
baz=174,SNR=19
Z43A **Armstrong Fami** 23.96 346 P **P** 07 13 25.1 +0.1
baz=164
Y47A **UCPARC, Winfie** 24.02 353 P **P** 07 13 26.0 +0.5
baz=172,SNR=25
435B **Jarrell** 24.06 331 *e*P **P** 07 13 27.1 +1.3
comp=Z,86nm,0.6s
435B **Jarrell** 24.06 331 P **P** 07 13 25.9 +0.1
baz=147,SNR=16
Y46A **Houston** 24.14 351 P **P** 07 13 27.0 +0.4
baz=170,SNR=44
HODGE **Hodges** 24.23 4 *e*P **P** 07 13 28.5 +1.2
comp=Z,83nm,1.0s
Y45A **Yeager Farm, C** 24.24 350 P **P** 07 13 28.2 +0.7
baz=168,SNR=20
X50B **Fort Payne** 24.40 358 P **P** 07 13 29.5 +0.6
baz=177,SNR=14
Z41A **Richland Creek** 24.42 343 *e*P **P** 07 13 29.9 +0.8
comp=Z,56nm,0.8s
Z41A **Richland Creek** 24.42 343 P **P** 07 13 30.2 +1.1
baz=160,SNR=14
X53A **Estanollee** 24.44 2 P **P** 07 13 30.0 +0.8
baz=183,SNR=13
Y44A **Strider, Charl** 24.46 348 P **P** 07 13 29.5 +0.1
baz=166
X51A **Calhoun** 24.48 359 *e*P **P** 07 13 30.6 +1.0
comp=Z,36nm,1.0s
X51A **Calhoun** 24.48 359 P **P** 07 13 30.3 +0.7
baz=179,SNR=8.1
X48A **Hartselle** 24.48 355 *e*P **P** 07 13 31.0 +1.3
comp=Z,30nm,1.0s
X48A **Hartselle** 24.48 355 P **P** 07 13 30.2 +0.5
baz=174,SNR=9.3
X49A **Woodville** 24.49 356 P **P** 07 13 30.4 +0.7
baz=176,SNR=8.2
X52A **Dahlonega** 24.52 1 P **P** 07 13 31.0 +1.0
baz=181,SNR=20
Y43A **Makayla and Ka** 24.56 347 P **P** 07 13 30.2 -0.1
baz=165,SNR=7.4
X47A **Russelville** 24.63 353 P **P** 07 13 31.2 +0.2
baz=172,SNR=30
Y42A **Garnett, Star** 24.70 345 P **P** 07 13 31.5 -0.1
baz=163
X45A **UM Field Stati** 24.76 350 P **P** 07 13 31.8 -0.4
baz=168,SNR=15
X46A **Booneville** 24.76 352 P **P** 07 13 32.3 +0.1
baz=170,SNR=9.1
CCAR **Cane Creek** 24.77 345 *e*P **P** 07 13 32.6 +0.3
comp=Z,57nm,0.9s
OXF **Oxford** 24.85 350 *e*P **P** 07 13 32.9 -0.1
comp=Z,75nm,0.7s
OXF **Oxford** 24.85 350 *e*P **P** 07 13 32.9 -0.1
OXF pmax pmax
comp=Z,75nm,0.7s
OXF **Oxford** 24.85 350 P **P** 07 13 32.4 -0.5
baz=168,SNR=15
JCT **Junction City** 24.93 327 *e*P **P** 07 13 36.1 +2.2
comp=Z,33nm,0.7s
JCT **Junction City** 24.93 327 *e*P **P** 07 13 36.1 +2.2
JCT pmax pmax
comp=Z,33nm,0.7s
JCT **Junction City** 24.93 327 P **P** 07 13 32.9 -0.9
baz=142,SNR=14
BG3 **Lake Jocassee** 24.94 3 *e*P **P** 07 13 35.5 +1.7
comp=Z,46nm,1.0s
Y41A **Eaglette Beard** 24.95 344 P **P** 07 13 33.7 -0.2
baz=161
X44A **Crenshaw** 24.97 349 P **P** 07 13 33.6 -0.5
baz=167
W52A **Murphy** 25.01 1 P **P** 07 13 35.7 +1.2
baz=181,SNR=13
WHTX **Lake Witney,** 25.01 333 *e*P **P** 07 13 33.0 -1.5
comp=Z,36nm,0.8s
WHTX **Lake Whitney,** 25.01 333 P **P** 07 13 35.3 +0.8
baz=149,SNR=11
W51A **Cleveland** 25.07 359 P **P** 07 13 36.0 +0.9
baz=179,SNR=9.0
W49A **Belvidere** 25.09 356 P **P** 07 13 35.5 +0.3
baz=176,SNR=8.1
W53A **Cullowhee** 25.11 2 P **P** 07 13 36.0 +0.5
baz=183,SNR=14
PLAL **Pickwick Lake** 25.12 353 *e*P **P** 07 13 36.4 +1.0
comp=Z,40nm,1.1s
W50A **Signal Mountai** 25.12 358 *e*P **P** 07 13 36.0 +0.4
comp=Z,38nm,0.8s
W50A **Signal Mountai** 25.12 358 P **P** 07 13 36.1 +0.6
baz=178,SNR=17
X43A **Marvell** 25.14 347 *e*P **P** 07 13 37.1 +1.5
comp=Z,42nm,1.0s
X43A **Marvell** 25.14 347 P **P** 07 13 36.4 +0.9
baz=165
W48A **Pulaski** 25.15 355 P **P** 07 13 36.4 +0.6
baz=174,SNR=20
SWET **Sewanee** 25.16 357 *e*P **P** 07 13 36.6 +0.7
comp=Z,35nm,1.0s
KMSC **Kings Mountain** 25.21 6 *e*P **P** 07 13 35.4 -0.9
comp=Z,48nm,1.0s
KMSC **Kings Mountain** 25.21 6 P **P** 07 13 37.2 +0.9
baz=187,SNR=13
W46A **Michie** 25.30 352 P **P** 07 13 36.9 -0.2
baz=171
W47A **Westpoint** 25.33 354 P **P** 07 13 37.5 +0.2
baz=173,SNR=28
X42A **Stuttgart** 25.34 346 P **P** 07 13 37.2 -0.2
baz=164
CPCT **Cooper Cave** 25.36 360 *e*P **P** 07 13 38.5 +0.9
comp=Z,22nm,1.2s
W45A **Hickory Valley** 25.44 351 P **P** 07 13 37.7 -0.6
baz=169,SNR=8.0
X41A **Kaden, Bauxite** 25.51 344 P **P** 07 13 38.4 -0.6
baz=162,SNR=8.9
W44A **Shelby Farms P** 25.53 350 P **P** 07 13 38.5 -0.7
baz=168
TKL **Tuckaleechee C** 25.57 1 P **P** 07 13 39.9 +0.3
comp=Z,32nm,1.1s,baz=166,slow=7.3,SNR=9.6
TKL **Tuckaleechee C** 25.57 1 *e*P **P** 07 13 38.0 -1.6
comp=Z,32nm,1.1s
TKL **Tuckaleechee C** 25.57 1 *e*P **P** 07 13 38.0 -1.6
TKL pmax pmax
comp=Z,32nm,1.1s
X40A **Basin Creek Fa** 25.59 344 *e*P **P** 07 13 39.9 +0.2
comp=Z,7.4nm,0.6s
X40A **Basin Creek Fa** 25.59 344 P **P** 07 13 39.1 -0.5
baz=161,SNR=5.9
V50A **Pikevile** 25.59 359 P **P** 07 13 40.4 +0.7
baz=179,SNR=9.6
V53A **Saluda** 25.62 3 *e*P **P** 07 13 40.0 0.0
comp=Z,18nm,0.8s
V53A **Saluda** 25.62 3 P **P** 07 13 41.2 +1.2
baz=184,SNR=7.8
W43A **Forest City** 25.65 348 P **P** 07 13 39.7 -0.5
baz=166
V49A **McMinnville** 25.71 357 P **P** 07 13 41.1 +0.3
baz=177,SNR=10.0
V51A **Loudon** 25.71 0 *e*P **P** 07 13 42.0 +1.2
comp=Z,38nm,1.0s
V51A **Loudon** 25.71 0 P **P** 07 13 41.3 +0.4
baz=180,SNR=13
UALR **University of** 25.73 345 *e*P **P** 07 13 40.7 -0.2
comp=Z,34nm,0.9s
V48A **Smith Brothers** 25.74 356 *e*P **P** 07 13 41.9 +0.8
comp=Z,47nm,1.1s
V48A **Smith Brothers** 25.74 356 P **P** 07 13 41.6 +0.5
baz=175,SNR=13
V52A **Sevierville** 25.76 2 *e*P **P** 07 13 42.7 +1.4
comp=Z,18nm,1.1s
V52A **Sevierville** 25.76 2 P **P** 07 13 42.2 +1.0
baz=182,SNR=8.2
CNNC **Cliffs of the** 25.85 12 *e*P **P** 07 13 43.2 +1.2
comp=Z,29nm,0.8s
CNNC **Cliffs of the** 25.85 12 P **P** 07 13 42.8 +0.8
baz=195
MIAR **Mount Ida** 25.85 342 *e*P **P** 07 13 42.1 0.0
comp=Z,35nm,0.8s
MIAR **Mount Ida** 25.85 342 *e*P **P** 07 13 42.1 0.0
MIAR pmax pmax
comp=Z,35nm,0.8s
MIAR **Mount Ida** 25.85 342 P **P** 07 13 42.9 +0.8
baz=159,SNR=22
V47A **Nunnelly** 25.89 354 P **P** 07 13 42.4 0.0
baz=173,SNR=18
V46A **Holladay** 25.93 353 P **P** 07 13 42.0 -0.7
baz=172,SNR=23
V45A **Humboldt** 25.98 352 P **P** 07 13 42.9 -0.3
baz=170,SNR=17
W42A **Bald Knob** 26.00 347 P **P** 07 13 42.9 -0.5
baz=164
W41B **Gary Mavity, V** 26.08 345 *e*P **P** 07 13 44.5 +0.3
comp=Z,15nm,1.1s
W41B **Gary Mavity, V** 26.08 345 P **P** 07 13 44.6 +0.4
baz=162,SNR=14
HBAR **Harrisburg** 26.09 348 *e*P **P** 07 13 45.3 +1.1
comp=Z,77nm,0.7s
WHAR **Wooly Hollow** 26.20 345 *e*P **P** 07 13 44.8 -0.4
comp=Z,50nm,1.1s
V44A **Blytheville** 26.21 350 P **P** 07 13 45.2 -0.1
baz=168
WVT **Waverly** 26.22 354 *e*P **P** 07 13 45.9 +0.5
comp=Z,27nm,0.9s
WVT **Waverly** 26.22 354 *e*P **P** 07 13 45.9 +0.5
WVT pmax pmax
comp=Z,27nm,0.9s
WVT **Waverly** 26.22 354 P **P** 07 13 45.2 -0.2
baz=173
U51A **La Follette** 26.29 1 P **P** 07 13 46.9 +0.8

baz=181
U52A **Thorn Hill** 26.32 2 P P 07 13 47.0 +0.7
baz=182,SNR=8.1
U53A **Fall Branch** 26.33 3 P P 07 13 47.0 +0.6
baz=184,SNR=13
U50A **Jamestown** 26.33 359 P P 07 13 46.9 +0.5
baz=179,SNR=6.9
LTX **Lajitas** 26.37 320 eP P 07 13 47.0 0.0
LTX **Lajitas** 26.37 320 eP P 07 13 47.0 0.0
TXAR **Lajitas Array** 26.37 320 P P 07 13 47.0 0.0
comp=Z,6.9nm,0.6s,baz=144,slow=7.3,SNR=69
TXAR PcP PcP 07 17 12.4 +1.0
comp=Z,1.2nm,0.8s,baz=163,slow=4.7,SNR=3.9
TXAR ScP ScP 07 20 49.1 +3.7
comp=Z,0.4nm,0.9s,baz=145,slow=3.3,SNR=3.7
TXAR LR LR 07 24 55.7
comp=Z,76nm,21.6s,baz=0.0,slow=38
TX31 **Lajitas Ar. Si** 26.37 320 eP P 07 13 47.4 +0.4
U49A **Red Boiling Sp** 26.45 358 P P 07 13 47.7 +0.2
baz=177,SNR=6.7
TZTN **Tazewell** 26.46 2 P P 07 13 48.2 +0.6
baz=182
X37A **Clayton** 26.47 339 eP P 07 13 48.4 +0.7
comp=Z,14nm,0.9s
U47A **Clarksville** 26.48 355 P P 07 13 47.5 -0.2
baz=174,SNR=6.0
V42A **Cord** 26.48 347 P P 07 13 46.9 -0.9
baz=165,SNR=11
U46A **Springville** 26.49 353 P P 07 13 47.1 -0.7
baz=172,SNR=12
U48A **Cassie Pea, Po** 26.49 356 P P 07 13 48.0 +0.2
baz=176,SNR=6.6
W39A **Magazine** 26.52 343 eP P 07 13 48.5 +0.3
comp=Z,11nm,0.8s
W39A **Magazine** 26.52 343 P P 07 13 47.9 -0.2
baz=159,SNR=9.5
U45A **Rockin P Farm,** 26.55 352 P P 07 13 48.0 -0.3
baz=171,SNR=7.6
ABTX **Abilene, Hawle** 26.56 330 P P 07 13 49.9 +1.3
baz=145,SNR=6.6
PTGA **Pitinga** 26.56 112 P P 07 13 50.5 +1.8
comp=Z,7.1nm,0.8s,baz=304,slow=12,SNR=9.1
PTGA LR LR 07 24 57.9
comp=Z,188nm,21.1s,baz=294,slow=38
PTGA **Pitinga** 26.56 112 eP P 07 13 51.1 +2.3
comp=Z,17nm,1.1s
U44B **Burton Farm, H** 26.63 351 P P 07 13 48.5 -0.5
baz=169
V41A **Mountainview** 26.64 346 P P 07 13 48.4 -0.9
baz=163,SNR=18
U43A **Rector** 26.83 349 P P 07 13 50.5 -0.4
baz=167,SNR=9.4
U44A **Portageville** 26.84 351 P P 07 13 51.0 0.0
baz=169,SNR=5.4
T51A **Gray** 26.88 1 P P 07 13 51.8 +0.4
baz=181,SNR=5.7
T50A **Nancy** 26.93 359 P P 07 13 51.9 +0.1
baz=179,SNR=6.4
U42A **Revenden** 26.98 348 P P 07 13 51.5 -0.7
baz=165,SNR=27
T47A **Sharon Grove** 27.00 355 P P 07 13 52.3 -0.2
baz=174
T49A **Edmonton** 27.03 358 eP P 07 13 53.1 +0.4
comp=Z,5.8nm,0.8s
T49A **Edmonton** 27.03 358 P P 07 13 52.5 -0.2
baz=178,SNR=8.3
T52A **Hallie** 27.05 3 P P 07 13 52.5 -0.4
baz=183
T48A **Bowling Green** 27.07 357 P P 07 13 52.9 -0.2
baz=176,SNR=5.7
U41A **Viola** 27.12 347 P P 07 13 52.5 -1.0
baz=164,SNR=7.9
T46A **Princeton** 27.13 354 P P 07 13 53.1 -0.4
baz=173,SNR=14
T45A **Paducah** 27.20 353 P P 07 13 53.4 -0.7
baz=171
U40A **Yellville** 27.36 345 P P 07 13 54.7 -1.0
baz=162,SNR=15
BLA **Blacksburg** 27.36 7 eP P 07 13 57.6 +1.9
comp=Z,29nm,1.1s
BLA **Blacksburg** 27.36 7 eP P 07 13 57.6 +1.9
BLA pmax pmax
comp=Z,29nm,1.1s
BLA **Blacksburg** 27.36 7 P P 07 13 56.6 +0.9
baz=189
T43A **Greenville** 27.51 350 P P 07 13 56.5 -0.5
baz=168,SNR=18
S51A **Beattyville** 27.55 1 eP P 07 13 58.5 +1.2
comp=Z,28nm,0.7s
S51A **Beattyville** 27.55 1 P P 07 13 57.8 +0.5
baz=182,SNR=14
HHAR **Hobbs** 27.58 343 eP P 07 13 57.3 -0.4
comp=Z,4.5nm,0.7s
S50A **Richmond** 27.59 0 P P 07 13 57.4 -0.3
baz=180,SNR=6.6
S47A **Hartford** 27.59 356 P P 07 13 57.5 -0.2
baz=175
S48A **Wiedeman Farm,** 27.60 357 P P 07 13 57.2 -0.6
baz=177,SNR=5.3
T42A **Van Buren** 27.60 348 eP P 07 13 57.3 -0.5
comp=Z,35nm,0.8s
T42A **Van Buren** 27.60 348 P P 07 13 57.0 -0.8
baz=166,SNR=27
S52A **Salyersville** 27.61 2 P P 07 13 58.3 +0.4
baz=183
S49A **Springfield** 27.70 359 P P 07 13 58.7 +0.1
baz=178,SNR=7.5
S46A **Don Dixon Farm** 27.75 354 P P 07 13 58.6 -0.5
baz=173
T41A **Mountain View** 27.76 347 P P 07 13 58.5 -0.7
baz=165,SNR=28
TUL1 **Leonard** 27.81 340 eP P 07 13 58.8 -0.9
comp=Z,15nm,1.1s
TUL1 **Leonard** 27.81 340 P P 07 13 58.2 -1.5
baz=156
S45A **Carrier Mills** 27.84 353 P P 07 13 58.8 -1.1
baz=171
SLBS **Sierra La Lagu** 27.91 302 eP P 07 14 03.8 +3.0
comp=Z,23nm,0.9s
WMOK **Wichita Mounta** 27.93 334 eP P 07 14 01.4 +0.6
comp=Z,9.7nm,0.8s
WMOK **Wichita Mounta** 27.93 334 eP P 07 14 01.4 +0.6
WMOK pmax pmax
comp=Z,10.0nm,0.8s
WMOK **Wichita Mounta** 27.93 334 P P 07 14 00.6 -0.2
baz=149,SNR=5.6
S44A **Carbondale** 27.94 352 P P 07 14 00.6 -0.2
baz=170,SNR=7.9
S43A **Fulton Ridge,** 27.95 350 P P 07 14 00.3 -0.6
baz=168,SNR=17
SIUC **Southern Illin** 27.96 352 eP P 07 14 01.9 +1.0
comp=Z,50nm,0.9s
WCI **Wyandotte Cave** 28.18 357 eP P 07 14 03.8 +0.8
comp=Z,60nm,1.0s
WCI **Wyandotte Cave** 28.18 357 eP P 07 14 03.8 +0.8
WCI pmax pmax
comp=Z,60nm,1.0s
WCI **Wyandotte Cave** 28.18 357 P P 07 14 02.7 -0.2
baz=176
R50A **Paris** 28.19 0 P P 07 14 03.7 +0.7
baz=180,SNR=9.7
R49A **Shelbyville** 28.20 359 P P 07 14 03.2 0.0
baz=179,SNR=10.0
R51A **Hillsboro** 28.21 1 P P 07 14 03.8 +0.6
baz=182,SNR=24
R46A **Gibon Southern** 28.25 355 P P 07 14 03.3 -0.3
baz=174,SNR=8.0
R54A **Victor** 28.25 6 P P 07 14 04.4 +0.7
baz=187,SNR=7.1
R47A **Wooly Knot Far** 28.26 357 P P 07 14 03.2 -0.5
baz=176,SNR=6.9
S42A **Caledonia** 28.26 349 P P 07 14 02.5 -1.2
baz=167,SNR=14
S41A **Jillco Farms,** 28.27 348 P P 07 14 02.9 -0.9
baz=165,SNR=8.4
R52A **Catlettsburg** 28.29 3 P P 07 14 04.1 +0.2
baz=184
R53A **Hurricane** 28.32 4 P P 07 14 04.7 +0.5
baz=185,SNR=5.1
R48A **Northridge Ran** 28.34 358 P P 07 14 04.2 -0.1
baz=177
LPIG **La Paz** 28.39 303 P P 07 14 06.9 +2.0
comp=Z,5.7nm,0.4s,baz=124,slow=3.6,SNR=4.1
R45A **Skylar, Fairfi** 28.41 354 P P 07 14 04.8 -0.2
baz=172,SNR=15
R44A **Waltonville** 28.46 352 P P 07 14 05.3 -0.2
baz=170,SNR=13
R58B **Mineral** 28.48 11 P P 07 14 06.1 +0.4
baz=194,SNR=5.1
R43A **Red Bud** 28.61 351 P P 07 14 06.2 -0.6
baz=169,SNR=16
CCM **Cathedral Cave** 28.63 349 eP P 07 14 06.5 -0.4
comp=Z,54nm,0.8s
CCM **Cathedral Cave** 28.63 349 eP P 07 14 06.5 -0.4
CCM pmax pmax
comp=Z,54nm,0.8s
CCM **Cathedral Cave** 28.63 349 P P 07 14 06.2 -0.7
baz=166
Q50A **Georgetown** 28.75 1 P P 07 14 08.1 +0.1
baz=181
R42A **Luebbering** 28.76 350 P P 07 14 07.4 -0.7
baz=167,SNR=16
CBN **Corbin Frederi** 28.82 12 eP P 07 14 10.2 +1.6
comp=Z,23nm,0.6s
CBN **Corbin Frederi** 28.82 12 P P 07 14 09.6 +1.0
baz=195
OLIL **Olney** 28.83 354 eP P 07 14 09.7 +1.0
comp=Z,63nm,0.9s
Q48A **North Vernon** 28.86 358 P P 07 14 08.6 -0.3
baz=178,SNR=6.9
R41A **Rosebud** 28.89 349 P P 07 14 08.1 -1.1
baz=166,SNR=18
Q47A **Bedord North L** 28.90 357 P P 07 14 09.0 -0.3
baz=176,SNR=11
Q49A **Aurora** 28.91 359 P P 07 14 09.1 -0.3
baz=179,SNR=7.1
Q52A **Bidwell** 28.93 3 P P 07 14 10.0 +0.4
baz=184,SNR=13
Q51A **Peebles** 28.95 2 eP P 07 14 10.5 +0.8
comp=Z,98nm,0.7s
Q51A **Peebles** 28.95 2 P P 07 14 10.2 +0.5
baz=182,SNR=32
Q45A **Warren Harvey,** 28.99 354 P P 07 14 09.8 -0.3
baz=173,SNR=14
SLM **Saint Louis** 29.01 351 eP P 07 14 10.8 +0.6
comp=Z,48nm,0.7s
SLM **Saint Louis** 29.01 351 eP P 07 14 10.9 +0.6
SLM pmax pmax
comp=Z,49nm,0.7s
Q46A **CEJHS Indians,** 29.05 355 P P 07 14 10.0 -0.6
baz=174
MNTX **Cornudas Mount** 29.06 321 eP P 07 14 09.7 -1.2
comp=Z,8.2nm,0.9s
MNTX **Cornudas Mount** 29.06 321 P P 07 14 10.1 -0.8
baz=134,SNR=15
Q44A **Meyer Farm, Va** 29.10 353 eP P 07 14 11.2 +0.1
comp=Z,50nm,0.9s
Q44A **Meyer Farm, Va** 29.10 353 P P 07 14 10.5 -0.5
baz=171,SNR=9.2
BLO **Bloomington** 29.14 357 eP P 07 14 12.3 +0.9
comp=Z,34nm,0.9s
BLO **Bloomington** 29.14 357 eP P 07 14 12.3 +0.9
BLO pmax pmax
comp=Z,35nm,0.9s
Q55A **Buckhannon** 29.16 7 P P 07 14 13.2 +1.5
baz=189,SNR=14
MSTX **Muleshoe** 29.22 328 eP P 07 14 12.2 -0.2
comp=Z,4.3nm,0.8s
Q43A **New Douglas** 29.23 352 P P 07 14 11.7 -0.6
baz=170,SNR=7.6
Q42A **Golden Eagle** 29.33 350 P P 07 14 12.7 -0.4
baz=168
P48A **Milroy** 29.38 358 P P 07 14 13.2 -0.4
baz=178,SNR=10
AMTX **Amarillo** 29.38 330 eP P 07 14 14.7 +0.9
comp=Z,6.3nm,0.8s
P51A **Williamsport** 29.41 2 eP P 07 14 14.9 +1.1
comp=Z,42nm,0.8s
P51A **Williamsport** 29.41 2 P P 07 14 13.8 0.0
baz=183,SNR=8.8
P47A **Martinsville** 29.44 357 P P 07 14 13.5 -0.6
baz=176,SNR=5.5
P49A **Miami Univ. Ec** 29.44 360 P P 07 14 13.5 -0.6
baz=180,SNR=6.1
Q41A **Truxton** 29.49 349 P P 07 14 13.9 -0.7
baz=166,SNR=25
P53A **Whipple** 29.52 5 eP P 07 14 16.0 +1.2
comp=Z,82nm,1.1s
P53A **Whipple** 29.52 5 P P 07 14 15.5 +0.8
baz=186,SNR=15
P50A **Jamestown** 29.52 1 P P 07 14 15.0 +0.2
baz=181,SNR=6.1
P45A **Graceland, Par** 29.58 355 eP P 07 14 15.6 +0.3
comp=Z,61nm,0.9s
P45A **Graceland, Par** 29.58 355 P P 07 14 15.0 -0.4
baz=174,SNR=8.9
P52A **Corning** 29.61 4 P P 07 14 15.8 +0.2
baz=185,SNR=11
P44A **Sand Creek, Wi** 29.61 353 P P 07 14 15.3 -0.3
baz=172,SNR=7.1
P46A **Rosedale** 29.62 356 P P 07 14 15.2 -0.5
baz=175,SNR=5.7
P55A **Reedsville** 29.70 7 P P 07 14 17.6 +1.2
baz=189,SNR=9.0
MCWV **Mont Chateau** 29.84 7 eP P 07 14 17.4 -0.3
comp=Z,22nm,1.0s
MCWV **Mont Chateau** 29.84 7 P P 07 14 18.6 +1.0
baz=189,SNR=7.3
P43A **Skaggs, Pawnee** 29.89 352 P P 07 14 17.6 -0.5
baz=170,SNR=6.3
P42A **Winchester** 29.96 351 eP P 07 14 18.4 -0.3
comp=Z,22nm,0.9s
P42A **Winchester** 29.96 351 P P 07 14 17.9 -0.8
baz=168,SNR=5.5
O50A **Cable** 30.06 1 P P 07 14 19.6 0.0
baz=182,SNR=14
O49A **Covington** 30.09 0 eP P 07 14 20.9 +1.0
comp=Z,23nm,0.8s
O49A **Covington** 30.09 0 P P 07 14 19.9 0.0
baz=180
O51A **Pataskala** 30.09 3 P P 07 14 19.9 0.0
baz=184,SNR=13
O52A **Adamsville** 30.11 4 eP P 07 14 20.8 +0.8
comp=Z,56nm,1.0s
O52A **Adamsville** 30.11 4 P P 07 14 20.3 +0.2
baz=185,SNR=9.4
ACSO **Alum Creek Sta** 30.16 2 eP P 07 14 20.6 +0.1
comp=Z,55nm,0.8s
ACSO **Alum Creek Sta** 30.16 2 P P 07 14 20.7 +0.1
baz=183,SNR=20
P41A **Barry, Barry** 30.16 350 P P 07 14 19.4 -1.1
baz=167,SNR=5.7
O48A **Farmland** 30.17 359 P P 07 14 20.0 -0.5
baz=179,SNR=7.2
O47A **Sheridan** 30.18 357 P P 07 14 19.9 -0.8
baz=177
O44A **Mansfield** 30.27 354 P P 07 14 20.7 -0.7
baz=172,SNR=7.6
O53A **New Philadelph** 30.29 5 P P 07 14 21.2 -0.4
baz=186,SNR=10
O45A **Potomac** 30.29 355 P P 07 14 20.9 -0.8
baz=174
O54A **Avella** 30.30 6 P P 07 14 21.7 0.0
baz=188
SFIN **Lafayette** 30.37 356 eP P 07 14 21.4 -0.9
comp=Z,50nm,0.6s
SFIN **Lafayette** 30.37 356 P P 07 14 21.7 -0.6
baz=175,SNR=6.3
O55A **Ligonier** 30.45 8 P P 07 14 23.5 +0.4
baz=190,SNR=11
O43A **Sugar Creek Fa** 30.50 353 P P 07 14 22.7 -0.7
baz=171,SNR=6.5
O41A **Passleys Farm,** 30.56 350 P P 07 14 22.8 -1.2
baz=168,SNR=10
O56A **Blue Knob Stat** 30.62 9 P P 07 14 25.7 +1.1
baz=192
LPAZ **La Paz** 30.67 148 P P 07 14 26.8 +0.8
comp=Z,1.0nm,0.8s,baz=329,slow=8.6,SNR=4.3
LPAZ PcP PcP 07 17 23.8 +0.9
comp=Z,1.5nm,0.9s,baz=307,slow=2.7,SNR=3.4
LPAZ LR LR 07 28 54.9
comp=Z,59nm,19.7s,baz=320,slow=40
LPAZ **La Paz** 30.67 148 eP P 07 14 25.0 -0.9
LPAZ **La Paz** 30.67 148 eP P 07 14 25.0 -0.9
N50A **Nevada** 30.69 2 P P 07 14 25.2 0.0
baz=183,SNR=5.5
MVL **Millersville** 30.75 12 eP P 07 14 25.7 0.0
comp=Z,23nm,1.0s
HDIL **Hopedale** 30.76 353 eP P 07 14 25.6 -0.2
comp=Z,98nm,0.8s
HDIL **Hopedale** 30.76 353 P P 07 14 25.3 -0.5
baz=171,SNR=11
N48A **Decatur** 30.77 359 P P 07 14 25.1 -0.8
baz=179,SNR=11
N47A **Urbana** 30.80 358 P P 07 14 26.6 +0.5
baz=178
N52A **McGinn's Farm,** 30.81 4 P P 07 14 26.1 -0.1
baz=185
N49A **Columbus Grove** 30.82 0 eP P 07 14 26.5 +0.2
comp=Z,36nm,0.8s
N49A **Columbus Grove** 30.82 0 P P 07 14 26.1 -0.2
baz=181,SNR=8.1
N46A **Monticello** 30.86 357 P P 07 14 25.9 -0.8
baz=176
N45A **Kentland** 30.87 355 P P 07 14 25.3 -1.4
baz=174,SNR=5.7
N44A **Piper City** 30.87 355 P P 07 14 25.4 -1.3
baz=173,SNR=5.7
N53A **Lisbon** 30.87 5 P P 07 14 26.1 -0.7
baz=187
N51A **Ashland** 30.87 3 eP P 07 14 27.9 +1.1
comp=Z,56nm,1.0s
N51A **Ashland** 30.87 3 P P 07 14 26.5 -0.2
baz=184,SNR=7.4
PAGS **Pennsylvania G** 30.90 12 eP P 07 14 27.3 +0.3
comp=Z,48nm,0.9s
KSU1 **Kansas State U** 30.98 341 P P 07 14 27.7 -0.1
baz=156
N55A **Marion Center** 31.06 8 P P 07 14 28.6 +0.2
baz=190,SNR=9.8
SSPA **Standing Stone** 31.08 10 eP P 07 14 29.0 +0.4
comp=Z,32nm,1.0s
SSPA **Standing Stone** 31.08 10 P P 07 14 29.3 +0.7
baz=193
N54A **Moraine State** 31.11 7 P P 07 14 29.6 +0.7
baz=189
N43A **Stutzman Famil** 31.13 353 P P 07 14 28.2 -0.8
baz=171,SNR=5.7
121A **Cookes Peak, D** 31.13 320 P P 07 14 30.2 +0.8
baz=131,SNR=11
N42A **Yates City** 31.13 352 P P 07 14 28.1 -0.9
baz=170,SNR=26
N41A **Harden Midland** 31.14 351 eP P 07 14 28.5 -0.6
comp=Z,62nm,0.7s
N41A **Harden Midland** 31.14 351 P P 07 14 27.9 -1.2
baz=168,SNR=10
M47A **Cromwell** 31.28 358 P P 07 14 29.0 -1.4
baz=178,SNR=5.5
M51A **Elyria** 31.30 3 P P 07 14 30.6 +0.1
baz=184
M50A **Fremont** 31.33 2 eP P 07 14 31.1 +0.4
comp=Z,50nm,0.9s
M50A **Fremont** 31.33 2 P P 07 14 30.2 -0.5
baz=183,SNR=5.8
M46A **Old House Fiel** 31.36 357 P P 07 14 29.9 -1.1
baz=176
M49A **Liberty Center** 31.38 1 P P 07 14 30.0 -1.2
baz=181,SNR=5.2
SRIG **Santa Rosalia** 31.38 307 eP P 07 14 32.2 +0.7
comp=Z,58nm,1.0s
M48A **Edgerton** 31.39 360 eP P 07 14 31.7 +0.4
comp=Z,30nm,0.8s
M48A **Edgerton** 31.39 360 P P 07 14 30.5 -0.8
baz=180
319A **Douglas** 31.39 316 eP P 07 14 32.3 +0.7
comp=Z,44nm,0.8s
M45A **Boilermakers S** 31.39 356 P P 07 14 30.2 -1.1
baz=175
N40A **Mertquake, Sal** 31.43 350 P P 07 14 30.6 -1.1
baz=167
M44A **Midewin, Midew** 31.45 355 P P 07 14 30.8 -1.0
baz=173
M53A **WI Miller and** 31.52 5 P P 07 14 32.7 +0.2
baz=187
M43A **Waltham Townsh** 31.59 353 P P 07 14 32.3 -0.8
baz=172
M54A **Oil Creek Stat** 31.69 7 P P 07 14 34.3 +0.3
baz=189
M42A **Sheffield** 31.71 352 P P 07 14 32.7 -1.4
baz=170
M41A **Milan** 31.74 351 P P 07 14 33.2 -1.2
baz=169,SNR=23
N59A **State Game Lan** 31.76 13 eP P 07 14 34.8 +0.3
comp=Z,36nm,0.8s
N59A **State Game Lan** 31.76 13 P P 07 14 35.1 +0.6
baz=196,SNR=8.6
CBKS **Cedar Bluff** 31.82 337 P P 07 14 35.9 +0.6
baz=151
L48A **N Adams** 31.84 360 P P 07 14 34.4 -0.9
baz=180
MDP **Montagnes des** 31.86 96 LR LR 07 30 05.1
comp=Z,58nm,18.3s,baz=278,slow=41
L47A **Sherwood** 31.88 359 P P 07 14 34.2 -1.5
baz=179
M40A **Post Highland** 31.93 350 P P 07 14 35.0 -1.0
baz=167,SNR=9.9
L46A **Eue Claire** 31.96 357 P P 07 14 35.5 -0.8
baz=177
L50A **Kingsville** 31.98 2 P P 07 14 36.5 0.0
baz=183
ANMO **Albuquerque** 31.98 324 eP P 07 14 37.0 +0.1
comp=Z,3.7nm,0.9s
ANMO **Albuquerque** 31.98 324 iP P 07 14 36.9 +0.1
ANMO pmax pmax
comp=Z,5.0nm,1.0s
ANMO **Albuquerque** 31.98 324 P P 07 14 34.9 -1.9
baz=136
L49A **Milan** 32.02 1 P P 07 14 36.4 -0.4
baz=181,SNR=5.6
M39A **Webster** 32.12 349 P P 07 14 36.6 -1.1
baz=166,SNR=14
L44A **Lake County Fo** 32.23 355 P P 07 14 37.3 -1.4
baz=174
L42A **Oliver, Polo** 32.24 353 eP P 07 14 37.9 -0.9
comp=Z,127nm,0.6s
L42A **Oliver, Polo** 32.24 353 P P 07 14 37.4 -1.3
baz=170,SNR=20
PAL **Palisades** 32.28 15 eP P 07 14 39.7 +0.6
comp=Z,53nm,1.1s
PAL **Palisades** 32.28 15 eP P 07 14 39.7 +0.6
PAL pmax pmax
comp=Z,53nm,1.1s
PAL **Palisades** 32.28 15 P P 07 14 39.8 +0.6
baz=200
L43A **Garden Prairie** 32.31 354 P P 07 14 38.0 -1.4
baz=172,SNR=7.6
KSPA **Keystone Colle** 32.37 12 eP P 07 14 40.5 +0.6
comp=Z,40nm,0.9s
MNMC **Minye Minye** 32.41 153 eP P 07 14 41.1 +0.4
comp=Z,6.5nm,0.8s
MNMC epP pP 07 14 57.3 -0.4
L41A **Preston** 32.42 352 P P 07 14 39.2 -1.1
baz=169,SNR=22
L40A **Anamosa** 32.52 351 eP P 07 14 40.6 -0.6
comp=Z,57nm,0.8s
L40A **Anamosa** 32.52 351 P P 07 14 40.0 -1.2
baz=168,SNR=18
K47A **Vermontville** 32.57 359 P P 07 14 40.5 -1.2
baz=179,SNR=6.3
K46A **Dorr** 32.61 358 P P 07 14 40.1 -1.9
baz=178
K49A **Clarkson** 32.70 1 P P 07 14 41.8 -0.9
baz=182
K48A **Perry** 32.70 0 P P 07 14 42.0 -0.8
baz=181
L39A **Vinton** 32.71 350 P P 07 14 41.5 -1.3
baz=166
SCIA **State Center** 32.73 348 eP P 07 14 42.0 -1.1
comp=Z,74nm,0.6s
SCIA **State Center** 32.73 348 P P 07 14 41.9 -1.1
baz=164,SNR=5.9
K52A **Tillsonburg** 32.84 5 P P 07 14 44.5 +0.5
baz=187
K41A **Shullsburg** 32.91 352 P P 07 14 43.6 -1.0
baz=170,SNR=16
BINY **Binghamton** 32.94 12 eP P 07 14 45.0 0.0
comp=Z,26nm,1.0s
BINY **Binghamton** 32.94 12 P P 07 14 44.7 -0.3
baz=196
K42A **Prairie Point,** 32.96 353 P P 07 14 43.4 -1.7
baz=171,SNR=9.5
TUC **Tucson** 32.97 316 eP P 07 14 45.3 -0.1
comp=Z,9.5nm,0.8s
TUC **Tucson** 32.97 316 eP P 07 14 45.3 -0.1
TUC pmax pmax
comp=Z,10.0nm,0.8s
TUC **Tucson** 32.97 316 P P 07 14 46.2 +0.8
baz=127
K55A **Perry** 33.10 9 P P 07 14 45.5 -0.8
baz=192
K40A **Colesburg** 33.13 351 P P 07 14 45.1 -1.4
baz=168,SNR=18
J47A **Sumner** 33.14 359 P P 07 14 45.3 -1.4
baz=179

J48A	**Bridge Port**	**33.20**	**1**	P		**P**	**07 14 47.4**	**+0.3**
	baz=183							
JFWS	**Jewell Farm**	**33.21**	**352**	*eP*		**P**	**07 14 46.1**	**-1.1**
	comp=Z,76nm,0.6s							
JFWS	**Jewell Farm**	**33.21**	**352**	*eP*		**P**	**07 14 46.1**	**-1.1**
JFWS				pmax		pmax		
	comp=Z,76nm,0.6s							
JFWS	**Jewell Farm**	**33.21**	**352**	P		**P**	**07 14 46.0**	**-1.2**
	baz=170,SNR=15							
TYNO	**Tyneside**	**33.23**	**6**	P		**P**	**07 14 48.5**	**+1.0**
	baz=188							
K39A	**Oelwein**	**33.25**	**350**	P		**P**	**07 14 46.2**	**-1.4**
	baz=167,SNR=11							
J46A	**Howard City**	**33.27**	**358**	P		**P**	**07 14 46.2**	**-1.5**
	baz=178							
J49A	**Marlette**	**33.28**	**2**	P		**P**	**07 14 47.6**	**-0.2**
	baz=182							
J52A	**Paris**	**33.32**	**5**	P		**P**	**07 14 47.8**	**-0.3**
	baz=187							
J43A	**Natural Harves**	**33.46**	**355**	P		**P**	**07 14 47.5**	**-2.0**
	baz=173							
J42A	**Columbus**	**33.47**	**354**	P		**P**	**07 14 48.5**	**-1.0**
	baz=172,SNR=7.1							
MEDO	**Medina**	**33.47**	**8**	P		**P**	**07 14 49.7**	**+0.2**
	baz=191							
SDCO	**Great Sand Dun**	**33.54**	**329**	*eP*		**P**	**07 14 49.8**	**-0.7**
	comp=Z,3.9nm,1.1s							
J41A	**Loganville**	**33.62**	**353**	P		**P**	**07 14 49.8**	**-1.0**
	baz=170,SNR=14							
ACTO	**Acton**	**33.72**	**6**	P		**P**	**07 14 51.5**	**-0.2**
	baz=188,SNR=6.4							
J40A	**Soldiers Grove**	**33.75**	**352**	P		**P**	**07 14 50.3**	**-1.6**
	baz=169,SNR=15							
I51A	**Listowel**	**33.83**	**4**	P		**P**	**07 14 52.1**	**-0.6**
	baz=186							
J39A	**Decorah**	**33.84**	**350**	P		**P**	**07 14 50.9**	**-1.8**
	baz=167,SNR=6.7							
I46A	**Reed City**	**33.85**	**359**	P		**P**	**07 14 50.9**	**-2.0**
	baz=178							
I47A	**Gladwin**	**33.92**	**360**	P		**P**	**07 14 52.8**	**-0.6**
	baz=180							
I43A	**Langenfeld Bro**	**33.94**	**355**	P		**P**	**07 14 52.1**	**-1.4**
	baz=174,SNR=8.0							
TRY	**Troy**	**33.96**	**14**	*eP*		**P**	**07 14 55.6**	**+1.9**
	comp=Z,26nm,0.9s							
I42A	**Draeger Farm,**	**34.02**	**354**	*eP*		**P**	**07 14 53.7**	**-0.5**
	comp=Z,98nm,0.8s							
I42A	**Draeger Farm,**	**34.02**	**354**	P		**P**	**07 14 53.0**	**-1.2**
	baz=172,SNR=9.7							
W18A	**Petrified Fore**	**34.05**	**321**	*eP*		**P**	**07 14 56.7**	**+1.8**
	comp=Z,9.5nm,0.9s							
W18A	**Petrified Fore**	**34.05**	**321**	P		**P**	**07 14 55.6**	**+0.7**
	baz=132							
BWLO	**Walkerton**	**34.14**	**4**	P		**P**	**07 14 55.5**	**+0.2**
	baz=186							
DRCO	**St. Marys Ceme**	**34.14**	**7**	P		**P**	**07 14 54.6**	**-0.7**
	baz=190							
214A	**Organ Pipe Nat**	**34.18**	**314**	P		**P**	**07 14 56.9**	**+1.1**
	baz=124							
I40A	**Norwalk**	**34.22**	**352**	P		**P**	**07 14 54.6**	**-1.4**
	baz=169,SNR=7.7							
S22A	**4UR Ranch, Cre**	**34.23**	**328**	*eP*		**P**	**07 14 57.1**	**+0.7**
	comp=Z,2.8nm,0.7s							
S22A	**4UR Ranch, Cre**	**34.23**	**328**	P		**P**	**07 14 56.5**	**+0.1**
	baz=138							
BRCO	**Bruce Peninsul**	**34.24**	**4**	P		**P**	**07 14 57.4**	**+1.3**
	baz=185							
I41A	**Arkdale**	**34.29**	**353**	P		**P**	**07 14 55.2**	**-1.4**
	baz=171,SNR=15							
I39A	**Houston**	**34.31**	**351**	P		**P**	**07 14 55.2**	**-1.6**
	baz=168							
H46A	**Fife Lake**	**34.45**	**359**	P		**P**	**07 14 56.4**	**-1.5**
	baz=179							
H43A	**Windswept, Lux**	**34.49**	**356**	P		**P**	**07 14 56.9**	**-1.4**
	baz=174,SNR=5.0							
OGNE	**Ogallala**	**34.55**	**336**	*eP*		**P**	**07 14 58.3**	**-0.8**
	comp=Z,24nm,0.8s							
OGNE	**Ogallala**	**34.55**	**336**	P		**P**	**07 14 59.2**	**+0.2**
	baz=149							
H42A	**Shiocton**	**34.59**	**355**	P		**P**	**07 14 57.9**	**-1.3**
	baz=173							
H48A	**Harrisville**	**34.61**	**1**	P		**P**	**07 14 59.1**	**-0.2**
	baz=182							
SIV	**San Ignacio**	**34.64**	**138**	P		**P**	**07 15 00.7**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=316,slow=10,SNR=8.7							
SIV				PcP		**PcP**	**07 17 34.2**	**+1.1**
	comp=Z,5.3nm,0.8s,baz=313,slow=2.6,SNR=10							
X16A	**Lo Mia Camp, P**	**34.68**	**319**	*eP*		**P**	**07 15 01.4**	**+1.0**
	comp=Z,18nm,0.8s							
MVCO	**Mesa Verde**	**34.75**	**325**	*eP*		**P**	**07 15 00.2**	**-0.8**
	comp=Z,7.6nm,0.7s							
MVCO	**Mesa Verde**	**34.75**	**325**	P		**P**	**07 15 00.3**	**-0.6**
	baz=136							
H52A	**Wyevale**	**34.76**	**6**	P		**P**	**07 15 00.8**	**+0.1**
	baz=188							
H41A	**Junction City**	**34.81**	**353**	*eP*		**P**	**07 15 00.2**	**-0.9**
	comp=Z,43nm,0.7s							
H41A	**Junction City**	**34.81**	**353**	P		**P**	**07 14 59.7**	**-1.4**
	baz=171,SNR=6.2							
H40A	**Chili**	**34.91**	**353**	P		**P**	**07 15 00.7**	**-1.2**
	baz=170,SNR=11							
H39A	**Augusta**	**35.08**	**351**	P		**P**	**07 15 02.0**	**-1.5**
	baz=168,SNR=15							
ISCO	**Idaho Springs**	**35.18**	**331**	P		**P**	**07 15 04.7**	**-0.1**
	baz=142							
H56A	**Elgin**	**35.21**	**10**	P		**P**	**07 15 04.6**	**+0.1**
	baz=194							
TOBO	**Tobermory, Bru**	**35.21**	**4**	P		**P**	**07 15 03.6**	**-0.9**
	baz=185							
H38A	**Maiden Rock**	**35.24**	**350**	P		**P**	**07 15 03.3**	**-1.4**
	baz=167,SNR=13							
ECSD	**EROS Data Cent**	**35.26**	**345**	*eP*		**P**	**07 15 03.4**	**-1.6**
	comp=Z,15nm,0.9s							
ECSD	**EROS Data Cent**	**35.26**	**345**	P		**P**	**07 15 03.0**	**-2.1**
	baz=159,SNR=16							
G43A	**Wallace**	**35.27**	**356**	P		**P**	**07 15 03.2**	**-1.8**
	baz=175							
G42A	**Mountain**	**35.31**	**355**	*eP*		**P**	**07 15 04.5**	**-0.9**
	comp=Z,51nm,0.7s							
G42A	**Mountain**	**35.31**	**355**	P		**P**	**07 15 03.7**	**-1.7**
	baz=173,SNR=5.1							
WUAZ	**Wupatki**	**35.33**	**320**	*eP*		**P**	**07 15 05.4**	**-0.5**
	comp=Z,20nm,1.1s							
WUAZ	**Wupatki**	**35.33**	**320**	P		**P**	**07 15 06.5**	**+0.7**
	baz=130							
G41A	**Antigo**	**35.35**	**354**	P		**P**	**07 15 04.5**	**-1.2**
	baz=172							
SMCO	**Snowmass**	**35.37**	**329**	*eP*		**P**	**07 15 04.6**	**-1.9**
	comp=Z,8.5nm,1.1s							
G53A	**Haliburton**	**35.38**	**7**	P		**P**	**07 15 05.8**	**-0.1**
	baz=190							
Y14A	**Wickenburg**	**35.43**	**317**	*eP*		**P**	**07 15 07.9**	**+1.2**
	comp=Z,15nm,0.9s							
PLVO	**Plevna**	**35.51**	**9**	*eP*		**P**	**07 15 06.1**	**-0.9**
	comp=Z,38nm,1.1s							
PLVO	**Plevna**	**35.51**	**9**	P		**P**	**07 15 06.6**	**-0.5**
	baz=193,SNR=6.2							
G40A	**Rib Lake**	**35.52**	**353**	*eP*		**P**	**07 15 06.1**	**-1.1**
	comp=Z,46nm,0.9s							
G40A	**Rib Lake**	**35.52**	**353**	P		**P**	**07 15 05.4**	**-1.7**
	baz=170,SNR=8.0							
LONY	**Lake Ozonia**	**35.55**	**12**	P		**P**	**07 15 07.5**	**0.0**
	baz=197							
PV13	**Radium Mtn., P**	**35.60**	**326**	*eP*		**P**	**07 15 07.8**	**-0.5**
	comp=Z,5.6nm,0.7s							
G38A	**Ridgeland**	**35.65**	**351**	P		**P**	**07 15 06.5**	**-1.8**
	baz=168,SNR=27							
G39A	**Holcombe**	**35.66**	**352**	P		**P**	**07 15 06.8**	**-1.6**
	baz=169,SNR=28							
F46A	**Macinaw City C**	**35.67**	**360**	P		**P**	**07 15 08.4**	**-0.1**
	baz=180							
PV03	**Paradox Valley**	**35.69**	**326**	*eP*		**P**	**07 15 09.5**	**+0.6**
PV05	**Paradox Valley**	**35.70**	**326**	*eP*		**P**	**07 15 09.4**	**+0.3**
PV12	**Saucer Basin,**	**35.70**	**326**	*eP*		**P**	**07 15 08.4**	**-0.7**
	comp=Z,16nm,0.7s							
F49A	**Sandfield**	**35.72**	**3**	P		**P**	**07 15 08.9**	**0.0**
	baz=184							
PV11	**David Mesa, Pa**	**35.73**	**326**	*eP*		**P**	**07 15 10.0**	**+0.7**
	comp=Z,15nm,0.7s							
F48A	**Evansville**	**35.76**	**2**	P		**P**	**07 15 08.3**	**-0.9**
	baz=183							
PV16	**Nyswonger Mesa**	**35.76**	**326**	*eP*		**P**	**07 15 10.2**	**+0.6**
	comp=Z,7.3nm,0.7s							
PV17	**East Wray Mesa**	**35.77**	**326**	*eP*		**P**	**07 15 10.2**	**+0.5**
	comp=Z,16nm,0.7s							
G55A	**Calabogie**	**35.77**	**9**	P		**P**	**07 15 08.9**	**-0.4**
	baz=193,SNR=7.0							
LVC	**Limon Verde**	**35.77**	**155**	P		**P**	**07 15 10.9**	**+0.9**
	comp=Z,1.3nm,0.5s,baz=343,slow=14,SNR=2.3							
LVC				LR		LR	07 30 17.3	
	comp=Z,66nm,21.4s,baz=310,slow=37							
PV19	**Morning Glory**	**35.80**	**326**	*eP*		**P**	**07 15 10.5**	**+0.5**
	comp=Z,6.9nm,0.7s							
F42A	**Maple Grove Fa**	**35.80**	**356**	P		**P**	**07 15 08.3**	**-1.3**
	baz=174							
F43A	**Flat Rock, Esc**	**35.81**	**357**	P		**P**	**07 15 08.0**	**-1.6**
	baz=176							
SPMN	**Marine on St.**	**35.86**	**350**	*eP*		**P**	**07 15 08.4**	**-1.7**
	comp=Z,68nm,0.6s							
SPMN	**Marine on St.**	**35.86**	**350**	P		**P**	**07 15 07.8**	**-2.3**
	baz=166,SNR=21							
F41A	**Three Lakes**	**35.86**	**354**	*eP*		**P**	**07 15 09.1**	**-1.1**
	comp=Z,72nm,1.1s							
F41A	**Three Lakes**	**35.86**	**354**	P		**P**	**07 15 08.3**	**-1.9**
	baz=172,SNR=6.8							
PV14	**Lion Creek, Pa**	**35.87**	**326**	*eP*		**P**	**07 15 10.7**	**+0.1**
	comp=Z,6.9nm,0.7s							
PV10	**Paradox Valley**	**35.88**	**326**	*eP*		**P**	**07 15 10.5**	**-0.2**
F44A	**Big Bay de Noc**	**35.91**	**358**	P		**P**	**07 15 10.3**	**-0.2**
	baz=177							
F52A	**Sundridge**	**35.96**	**6**	P		**P**	**07 15 10.3**	**-0.7**
	baz=189							
F51A	**Arnstein**	**36.04**	**5**	P		**P**	**07 15 10.7**	**-0.9**
	baz=188							
PEMO	**Pembroke**	**36.11**	**9**	P		**P**	**07 15 11.8**	**-0.3**
	baz=192							
F40A	**Park Falls**	**36.15**	**353**	P		**P**	**07 15 10.7**	**-1.9**
	baz=171,SNR=9.4							
ORIO	**Orleans, Innes**	**36.17**	**11**	P		**P**	**07 15 12.6**	**-0.1**
	baz=195							
GLA	**Glamis**	**36.20**	**314**	*eP*		**P**	**07 15 13.4**	**+0.2**
	comp=Z,14nm,0.8s							
GLA	**Glamis**	**36.20**	**314**	*eP*		**P**	**07 15 13.4**	**+0.2**
GLA				pmax		pmax		
	comp=Z,14nm,0.8s							
COWI	**Conover**	**36.23**	**354**	*eP*		**P**	**07 15 12.0**	**-1.2**
	comp=Z,42nm,0.8s							
F39A	**Loretta**	**36.24**	**352**	P		**P**	**07 15 11.2**	**-2.1**
	baz=169,SNR=6.8							
ALGO	**Algonquin Park**	**36.27**	**8**	P		**P**	**07 15 12.6**	**-0.9**
	baz=191,SNR=7.8							
F37A	**Hinrichs Farm,**	**36.31**	**350**	P		**P**	**07 15 12.0**	**-1.9**
	baz=166,SNR=6.7							
E43A	**Lone Tree Farm**	**36.34**	**357**	P		**P**	**07 15 13.2**	**-0.9**
	baz=176							
Y12C	**Blythe**	**36.37**	**315**	*eP*		**P**	**07 15 16.3**	**+1.7**
	comp=Z,12nm,1.0s							
E47A	**Iron Bridge**	**36.37**	**1**	P		**P**	**07 15 13.6**	**-0.8**
	baz=182							
F55A	**Otter Lake**	**36.40**	**10**	P		**P**	**07 15 14.2**	**-0.5**
	baz=194,SNR=5.5							
PDMCI	**Parker Dam,Lak**	**36.41**	**316**	P		**P**	**07 15 14.9**	**-0.1**
	baz=125,SNR=25							
F38A	**Pierce - Schro**	**36.42**	**351**	P		**P**	**07 15 13.2**	**-1.7**
	baz=168,SNR=26							
E48A	**Lockeyer**	**36.43**	**3**	P		**P**	**07 15 14.2**	**-0.8**
	baz=184,SNR=5.7							
E42A	**Champion**	**36.45**	**356**	P		**P**	**07 15 13.8**	**-1.3**
	baz=174							
E50A	**Wahnapitae**	**36.46**	**4**	P		**P**	**07 15 14.1**	**-1.0**
	baz=186							
ALFO	**Alfred**	**36.46**	**11**	P		**P**	**07 15 15.2**	**+0.1**
	baz=196,SNR=14							
U15A	**North Rim**	**36.48**	**321**	*eP*		**P**	**07 15 17.1**	**+1.2**
	comp=Z,7.8nm,1.1s							
E52A	**Mattawa**	**36.52**	**7**	P		**P**	**07 15 15.1**	**-0.6**
	baz=190							
E41A	**Kenton**	**36.57**	**355**	P		**P**	**07 15 14.2**	**-1.9**
	baz=173							
SUSD	**Miller**	**36.57**	**342**	P		**P**	**07 15 14.1**	**-2.1**
	baz=156							
E39A	**Mellen**	**36.65**	**353**	P		**P**	**07 15 15.4**	**-1.5**
	baz=170,SNR=11							
E51A	**G1948 Merrick**	**36.67**	**6**	P		**P**	**07 15 16.2**	**-0.9**
	baz=188,SNR=9.6							
W13A	**Hualapai Mount**	**36.70**	**318**	*eP*		**P**	**07 15 19.3**	**+1.6**
	comp=Z,14nm,0.8s							
E53A	**Dumoine, Ponti**	**36.73**	**8**	P		**P**	**07 15 17.1**	**-0.5**
	baz=191							
O20A	**White River Ci**	**36.74**	**329**	P		**P**	**07 15 17.7**	**-0.2**
	baz=139							
D46A	**Sault St. Mari**	**36.79**	**0**	P		**P**	**07 15 16.5**	**-1.5**
	baz=181							
SWSC	**Sam W. Stewart**	**36.84**	**313**	P		**P**	**07 15 19.7**	**+1.1**
	baz=122							
IKP	**In-Ko-Pah, Jac**	**36.91**	**312**	P		**P**	**07 15 20.9**	**+1.5**
	baz=121,SNR=9.3							
BC3	**Big Chuckawall**	**36.97**	**314**	P		**P**	**07 15 20.7**	**+0.8**
	baz=123,SNR=6.2							
D47A	**Napleau**	**36.97**	**2**	P		**P**	**07 15 17.6**	**-2.0**
	baz=182							
E38A	**The Farm, Brul**	**37.01**	**352**	*eP*		**P**	**07 15 18.7**	**-1.1**
	comp=Z,71nm,1.0s							
E38A	**The Farm, Brul**	**37.01**	**352**	P		**P**	**07 15 18.0**	**-1.9**
	baz=168,SNR=9.2							
IRM	**Iron Mountain**	**37.02**	**315**	P		**P**	**07 15 21.4**	**+1.2**
	baz=124							
TRQ	**Mont Tremblant**	**37.09**	**11**	*eP*		**P**	**07 15 20.8**	**+0.2**
D41A	**Chassel**	**37.13**	**355**	P		**P**	**07 15 19.6**	**-1.3**
	baz=173							
PKCU	**Pink Cliffs**	**37.14**	**322**	*eP*		**P**	**07 15 22.9**	**+1.3**
	comp=Z,11nm,0.9s							
D48A	**Paudash Townsh**	**37.14**	**3**	P		**P**	**07 15 21.0**	**0.0**
	baz=184,SNR=6.1							
KNB	**Kanab**	**37.18**	**321**	*eP*		**P**	**07 15 22.1**	**+0.4**
	comp=Z,10nm,0.9s							
SRU	**San Rafael Swe**	**37.22**	**326**	*eP*		**P**	**07 15 21.6**	**-0.4**
	comp=Z,9.3nm,0.7s							
SRU	**San Rafael Swe**	**37.22**	**326**	*eP*		**P**	**07 15 21.6**	**-0.4**
SRU				pmax		pmax		
	comp=Z,9.0nm,0.7s							
MONP2	**Monument Peak**	**37.26**	**313**	P		**P**	**07 15 23.5**	**+1.0**
	baz=121,SNR=6.6							
D50A	**G1974 Best Tow**	**37.27**	**5**	P		**P**	**07 15 21.8**	**-0.2**
	baz=188							
BAR	**Barrett**	**37.34**	**312**	*eP*		**P**	**07 15 22.7**	**-0.2**
	comp=Z,8.0nm,1.1s							
LCMT	**Little Creek M**	**37.44**	**321**	*eP*		**P**	**07 15 23.7**	**-0.1**
	comp=Z,3.8nm,1.1s							
Q16A	**Castle Valley**	**37.45**	**325**	*eP*		**P**	**07 15 25.8**	**+1.8**
	comp=Z,3.6nm,0.7s							
PKME	**Peaks-Kenny Pk**	**37.50**	**18**	P		**P**	**07 15 25.4**	**+1.4**
	baz=205							
LDFC	**Landfair**	**37.51**	**317**	*eP*		**P**	**07 15 24.8**	**+0.4**
	comp=Z,18nm,1.0s							
BELC	**Belle Mtn. Jos**	**37.53**	**314**	P		**P**	**07 15 25.1**	**+0.5**
	baz=122							
P17A	**Butcher Ranch,**	**37.59**	**326**	*eP*		**P**	**07 15 24.1**	**-1.0**
	comp=Z,7.0nm,1.0s							
D54A	**Lac Fusel, La**	**37.63**	**9**	P		**P**	**07 15 24.7**	**-0.4**
	baz=193,SNR=6.8							
XPFO	**Pion Flat**	**37.65**	**314**	*eP*		**P**	**07 15 27.5**	**+1.8**
	comp=Z,9.0nm,0.8s							
PFO	**Pinyon Flats O**	**37.66**	**314**	*eP*		**P**	**07 15 25.2**	**-0.5**
	comp=Z,8.8nm,0.8s							
PFO	**Pinyon Flats O**	**37.66**	**314**	*eP*		**P**	**07 15 25.2**	**-0.5**
PFO				pmax		pmax		
	comp=Z,9.0nm,0.8s							
PFO	**Pinyon Flats O**	**37.66**	**314**	P		**P**	**07 15 26.7**	**+1.0**
	baz=122,SNR=9.7							
GMRC	**Granite Mounta**	**37.72**	**316**	P		**P**	**07 15 27.3**	**+1.1**
	baz=124							
TMUT	**Trail Mountain**	**37.73**	**325**	*eP*		**P**	**07 15 26.0**	**-0.4**
	comp=Z,2.1nm,0.6s							
109C	**Camp Elliot, M**	**37.76**	**312**	P		**P**	**07 15 27.0**	**+0.6**
	baz=120							
CPE	**Camp Elliot**	**37.76**	**312**	*eP*		**P**	**07 15 26.4**	**0.0**
	comp=Z,21nm,1.0s							
CCUT	**Cedar City**	**37.85**	**321**	*eP*		**P**	**07 15 26.6**	**-0.8**
	comp=Z,3.7nm,1.2s							
RSSD	**Black Hills**	**38.03**	**337**	P		**P**	**07 15 29.2**	**+0.4**
	baz=148							
MURC	**Murrieta**	**38.18**	**313**	P		**P**	**07 15 31.9**	**+1.9**
	baz=121							
HEC	**Hector,Ludlow**	**38.21**	**315**	P		**P**	**07 15 31.2**	**+0.9**
	baz=123							
TUQ	**Turquoise Moun**	**38.26**	**316**	P		**P**	**07 15 31.5**	**+0.8**
	baz=124							
EYMN	**Ely**	**38.31**	**352**	*eP*		**P**	**07 15 28.9**	**-1.9**
	comp=Z,22nm,0.7s							
EYMN	**Ely**	**38.31**	**352**	P		**P**	**07 15 28.7**	**-2.2**
	baz=169							
BBRC	**Big Bear Solar**	**38.32**	**314**	P		**P**	**07 15 32.4**	**+1.0**
	baz=122							
SHPR	**Sheep Range**	**38.36**	**318**	*eP*		**P**	**07 15 31.9**	**+0.3**
	comp=Z,2.5nm,0.9s							
MPU	**Maple Canyon**	**38.46**	**326**	*eP*		**P**	**07 15 32.0**	**-0.5**
	comp=Z,3.1nm,0.7s							
LATQ	**La Tuque**	**38.57**	**13**	P		**P**	**07 15 33.3**	**+0.3**
	baz=199,SNR=8.1							
SHOC	**Shoshone, Teco**	**38.76**	**317**	P		**P**	**07 15 35.5**	**+0.7**
	baz=124							
JLU	**Jordanelle**	**38.77**	**326**	*eP*		**P**	**07 15 34.8**	**-0.3**
	comp=Z,3.7nm,1.0s							
PSUT	**Pine Spring**	**38.77**	**322**	*eP*		**P**	**07 15 35.0**	**-0.1**
	comp=Z,4.8nm,0.8s							
GSC	**Goldstone, Bar**	**38.79**	**316**	*eP*		**P**	**07 15 36.8**	**+1.6**
	comp=Z,4.8nm,0.8s							
GSC	**Goldstone, Bar**	**38.79**	**316**	*eP*		**P**	**07 15 36.8**	**+1.6**
GSC				pmax		pmax		
	comp=Z,5.0nm,0.8s							
GSC	**Goldstone, Bar**	**38.79**	**316**	P		**P**	**07 15 36.2**	**+1.0**
	baz=123,SNR=5.4							
CIS	**Catalina Islan**	**38.97**	**312**	P		**P**	**07 15 37.6**	**+1.0**
	baz=119,SNR=12							
MWC	**Mount Wilson**	**39.11**	**313**	*eP*		**P**	**07 15 37.9**	**-0.1**
	comp=Z,14nm,0.9s							
MWC	**Mount Wilson**	**39.11**	**313**	*eP*		**P**	**07 15 37.9**	**-0.1**
MWC				pmax		pmax		
	comp=Z,14nm,0.9s							
DUG	**Dugway, Tooele**	**39.25**	**325**	P		**P**	**07 15 39.1**	**+0.1**
	baz=132							
TPNV	**Topopah Spring**	**39.33**	**318**	*eP*		**P**	**07 15 39.1**	**-0.6**
	comp=Z,8.6nm,1.1s							
TPNV	**Topopah Spring**	**39.33**	**318**	*eP*		**P**	**07 15 39.2**	**-0.6**
TPNV				pmax		pmax		
	comp=Z,9.0nm,1.1s							
TPNV	**Topopah Spring**	**39.33**	**318**	P		**P**	**07 15 40.6**	**+0.8**
	baz=125,SNR=7.4							
BW06	**Boulder Array**	**39.36**	**330**	*eP*		**P**	**07 15 38.7**	**-1.2**
	comp=Z,1.7nm,0.8s							
BW06	**Boulder Array**	**39.36**	**330**	P		**P**	**07 15 38.8**	**-1.2**
	baz=139							
PD31	**Pinedale Array**	**39.36**	**330**	*eP*		**P**	**07 15 39.2**	**-0.8**
PDAR	**Pinedale Array**	**39.36**	**330**	P		**P**	**07 15 39.0**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=127,slow=9.3,SNR=8.8							
PDAR				PcP		**PcP**	**07 17 46.8**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=137,slow=5.3,SNR=4.8							
PDAR				LR		LR	07 35 08.2	
	comp=Z,59nm,19.9s,baz=130,slow=41							
PDAR	**Pinedale Array**	**39.36**	**330**	*eP*		**P**	**07 15 38.4**	**-1.6**
EDW2	**Edwards Air Fo**	**39.40**	**314**	P		**P**	**07 15 41.3**	**+1.0**
	baz=121,SNR=5.5							
FURC	**Furnace Creek,**	**39.47**	**317**	P		**P**	**07 15 41.5**	**+0.9**
	baz=124							
LRMC	**Laurel Mtn Rad**	**39.49**	**315**	P		**P**	**07 15 41.7**	**+0.6**
	baz=122,SNR=5.9							
MPMC	**Manual Prospec**	**39.67**	**316**	P		**P**	**07 15 43.1**	**+0.5**
	baz=123,SNR=6.3							
R11A	**Troy Canyon, C**	**39.73**	**320**	*eP*		**P**	**07 15 43.1**	**+0.1**
	comp=Z,3.2nm,1.1s							
R11A	**Troy Canyon, C**	**39.73**	**320**	P		**P**	**07 15 43.6**	**+0.6**
	baz=127							
SPUT	**South Promonto**	**39.80**	**326**	*eP*		**P**	**07 15 43.7**	**+0.1**
	comp=Z,2.2nm,0.8s							
DAC	**Darwin (Calif)**	**39.85**	**316**	*eP*		**P**	**07 15 45.8**	**+1.6**
	comp=Z,2.4nm,0.8s							
DAC	**Darwin (Calif)**	**39.85**	**316**	*eP*		**P**	**07 15 45.8**	**+1.6**
DAC				pmax		pmax		
	comp=Z,2.0nm,0.8s							
BGU	**Big Grassy Mou**	**39.86**	**326**	*eP*		**P**	**07 15 44.2**	**+0.1**
	comp=Z,4.2nm,1.1s							
MDND	**Maddock**	**39.87**	**344**	*eP*		**P**	**07 15 43.2**	**-0.6**
	comp=Z,121nm,1.1s							
MDND	**Maddock**	**39.87**	**344**	P		**P**	**07 15 42.3**	**-1.6**
	baz=156,SNR=7.4							
MATQ	**Matagami**	**40.06**	**7**	P		**P**	**07 15 44.4**	**-0.9**
	baz=190,SNR=11							
GRAC	**Grapevine Rang**	**40.10**	**317**	P		**P**	**07 15 46.8**	**+0.9**
	baz=124							
ARVC	**Arvin**	**40.11**	**314**	P		**P**	**07 15 48.0**	**+2.0**
	baz=120							
CWC	**Cottonwood Cre**	**40.27**	**316**	P		**P**	**07 15 48.1**	**+0.5**
	baz=123							
HVU	**Hansel Valley**	**40.30**	**327**	*eP*		**P**	**07 15 48.5**	**+0.7**
	comp=Z,1.9nm,0.7s							
HVU	**Hansel Valley**	**40.30**	**327**	*eP*		**P**	**07 15 48.5**	**+0.7**
HVU				pmax		pmax		
	comp=Z,2.0nm,0.7s							
BATG	**Bathurst New B**	**40.30**	**19**	*eP*		**P**	**07 15 47.6**	**+0.2**
	comp=Z,22nm,0.7s							
REDW	**Red Top Meadow**	**40.44**	**330**	*eP*		**P**	**07 15 48.3**	**-0.7**
	comp=Z,11nm,1.1s							
SNOW	**Snow King Moun**	**40.47**	**330**	*eP*		**P**	**07 15 49.4**	**+0.2**
	comp=Z,7.4nm,0.7s							
LOHW	**Long Hollow**	**40.50**	**330**	*eP*		**P**	**07 15 48.9**	**-0.6**
	comp

ORV	Oroville	44.21	318	*e*P		P	07 16 20.8	+1.4	
	comp=Z,7.6nm,1.1s								
ORV	Oroville	44.21	318	*e*P		P	07 16 20.8	+1.4	
ORV					pmax	pmax			
	comp=Z,8.0nm,1.1s								
CPUP	Villa Florida	44.67	144	P		P	07 16 23.2	+0.1	
	comp=Z,0.8nm,0.6s,baz=56,slow=2.0,SNR=3.6								
CPUP					LR	LR	07 37 37.8		
	comp=Z,70nm,20.5s,baz=327,slow=39								
CPUP	Villa Florida	44.67	144	*e*P		P	07 16 22.6	-0.5	
	comp=Z,2.8nm,1.1s								
CPUP	Villa Florida	44.67	144	*e*P		P	07 16 22.6	-0.5	
CPUP					pmax	pmax			
	comp=Z,3.0nm,1.1s								
O03E	Paynes Creek	44.80	319	P		P	07 16 22.6	-1.6	
	baz=122								
M04C	Macdoel	45.62	321	P		P	07 16 30.2	-0.5	
	baz=123								
L04D	Klamath Falls	46.15	321	P		P	07 16 34.4	-0.4	
	baz=123								
E09A	Wood Farm, Sta	46.35	328	*e*P		P	07 16 35.1	-1.1	
	comp=Z,3.7nm,0.9s								
J04D	Umpqua Nationa	46.59	322	P		P	07 16 37.9	-0.5	
	baz=124								
FFC	Flin Flon	46.77	346	*e*P		P	07 16 38.1	-1.2	
	comp=Z,7.7nm,0.8s								
FFC	Flin Flon	46.77	346	*i* P		P	07 16 38.4	-0.9	
SCHQ	Schefferville	46.87	14	P		P	07 16 38.7	-1.5	
	comp=Z,30nm,0.8s,baz=214,slow=6.7,SNR=28								
SCHQ					PcP	PcP	07 18 10.6	-1.3	
	comp=Z,3.4nm,0.8s,baz=217,slow=8.6,SNR=3.0								
SCHQ					LR	LR	07 36 44.9		
	comp=Z,175nm,19.2s,baz=284,slow=37								
SCHQ	Schefferville	46.87	14	*e*P		P	07 16 39.0	-1.2	
	comp=Z,35nm,0.8s								
I04A	Tendick Farm,	47.09	323	P		P	07 16 41.0	-1.1	
	baz=124								
G05D	Wamic, OR	47.28	325	P		P	07 16 43.5	-0.1	
	baz=127								
E04D	Cinebar	48.76	325	P		P	07 16 53.6	-1.2	
	baz=126								
FCC	Fort Churchill	49.24	353	*e*P		P	07 16 56.7	-1.5	
	comp=Z,23nm,1.1s								
FCC	Fort Churchill	49.24	353	*e*P		P	07 16 56.7	-1.5	
FCC					pmax	pmax			
	comp=Z,23nm,1.1s								
PLCA	Paso Flores	52.05	167	P		P	07 17 21.0	+1.2	
	comp=Z,3.5nm,0.8s,baz=8.8,slow=7.7,SNR=7.8								
PLCA					LR	LR	07 35 07.6		
	comp=Z,45nm,20.9s,baz=6.0,slow=31								
PLCA	Paso Flores	52.05	167	*e*P		P	07 17 19.5	-0.3	
	comp=Z,4.6nm,0.9s								
PLCA				*e*pP		pP	07 17 36.5	-1.0	
PLCA	Paso Flores	52.05	167	*e*P		P	07 17 19.5	-0.3	
PLCA				*e**PP		pP	07 17 36.5	-1.0	
PLCA					pmax	pmax			
	comp=Z,5.0nm,0.9s								
YKA	Yellowknife Ar	56.79	344	P		P	07 17 52.1	-1.6	
	comp=Z,10nm,0.6s,baz=141,slow=6.9,SNR=214								
YKA					PP	PP	07 19 56.0	-4.5	
	comp=Z,0.6nm,0.8s,baz=135,slow=10,SNR=4.0								
DLBC	Dease Lake	59.41	334	*e*P		P	07 18 11.9	-0.4	
	comp=Z,12nm,0.8s								
RES	Resolute Bay	64.96	357	*e*P		P	07 18 47.3	-1.7	
	comp=Z,13nm,0.9s								
RES	Resolute Bay	64.96	357	*e*P		P	07 18 47.3	-1.7	
RES					pmax	pmax			
	comp=Z,13nm,0.9s								
DAWY	Dawson	66.22	337	*e*P		P	07 18 56.3	-1.1	
	comp=Z,2.8nm,0.8s								
INK	Inuvik	66.45	342	LR		LR	07 48 41.8		
	comp=Z,71nm,21.4s,baz=128,slow=37								
INK	Inuvik	66.45	342	*e*P		P	07 18 57.9	-0.8	
	comp=Z,17nm,0.9s								
INK	Inuvik	66.45	342	*e*P		P	07 18 57.9	-0.8	
INK					pmax	pmax			
	comp=Z,17nm,0.9s								
EGAK	Eagle	67.23	337	*e*P		P	07 19 02.7	-1.0	
	comp=Z,4.6nm,1.0s								
DOT	Dot Lake	67.90	335	*e*P		P	07 19 07.7	-0.3	
	comp=Z,13nm,0.7s								
SCRK	Sand Creek	68.00	336	*e*P		P	07 19 08.7	-0.1	
	comp=Z,1.6nm,0.6s								
RIDG	Independ'e Rid	68.26	335	*e*P		P	07 19 10.0	-0.3	
	comp=Z,15nm,0.8s								
SUMG	Summit	68.26	13	*i* P		P	07 19 09.5	-1.1	
	comp=Z,114nm,1.1s								
SUMG	Summit	68.26	13	*i* P		P	07 19 09.5	-1.1	
SUMG					pmax	pmax			
	comp=Z,110nm,1.1s								
HDA	Harding Lake	69.37	336	*e*P		P	07 19 16.4	-0.7	
	comp=Z,9.9nm,0.7s								
HDA	Harding Lake	69.37	336	P		P	07 19 15.9	-1.2	
	baz=111,SNR=9.0								
IL1	Eielson Array	69.47	336	*e*P		P	07 19 16.7	-1.1	
ILAR	Eielson Array	69.47	336	P		P	07 19 16.6	-1.1	
	comp=Z,4.8nm,0.6s,baz=120,slow=4.2,SNR=86								
ILAR					PP	PP	07 21 49.3	-2.6	
	comp=Z,1.2nm,1.1s,baz=98,slow=4.9,SNR=4.6								
ILB	Eielson Array	69.47	336	*e*P		P	07 19 16.8	-1.0	
POKR	Poker Plat Res	69.81	336	P		P	07 19 18.9	-0.9	
	baz=111								
RND	Reindeer	69.82	334	*e*P		P	07 19 19.8	-0.2	
	comp=Z,25nm,0.8s								
RND	Reindeer	69.82	334	*e*P		P	07 19 19.8	-0.2	
RND					pmax	pmax			
	comp=Z,25nm,0.8s								
WRH	Wood River Hil	69.85	336	*e*P		P	07 19 18.9	-1.1	
	comp=Z,3.9nm,0.7s								
COLA	College	69.89	336	*i* P		P	07 19 18.8	-1.5	
COLA					pmax	pmax			
	comp=Z,3.0nm,0.5s								
MCK	McKinley	69.96	335	*e*P		P	07 19 20.3	-0.5	
	comp=Z,12nm,1.0s								
MCK	McKinley	69.96	335	*e*P		P	07 19 20.3	-0.5	
MCK					pmax	pmax			
	comp=Z,13nm,1.0s								
SUA	Susitna One	70.07	332	*e*P		P	07 19 21.1	-0.5	
	comp=Z,12nm,0.7s								
MDM	Murphy Dome	70.08	336	*e*P		P	07 19 21.1	-0.4	
	comp=Z,8.3nm,1.1s								
TRF	Thorofare Moun	70.44	334	*e*P		P	07 19 23.1	-0.9	
	comp=Z,10nm,1.0s								
RSO	Redoubt South	70.75	331	*e*P		P	07 19 25.5	-0.4	
BPAW	Bear Paw Mtn.	70.93	335	*e*P		P	07 19 26.0	-0.7	
	comp=Z,12nm,0.7s								
MLY	Manley	71.11	336	*e*P		P	07 19 27.1	-0.8	
	comp=Z,10nm,0.6s								
PPLA	Purkeypile	71.11	333	*e*P		P	07 19 27.1	-0.9	
	comp=Z,8.5nm,0.6s								
DAG	Danmarks Havn	74.90	13	*i* P		P	07 19 47.4	-2.5	
DAG	Danmarks Havn	74.90	13	*i* P		P	07 19 47.4	-2.5	
ESDC	Sonseca Array	76.38	52	P		P	07 19 59.8	+0.6	
	comp=Z,3.8nm,0.7s,baz=281,slow=5.8,SNR=17								
ES19	SONSECA Array	76.43	52	*e*P		P	07 19 59.2	-0.3	
ESK	Eskdalemuir	76.87	35	*i* P		P	07 20 02.4	+0.9	
TIC	Toumodi	78.48	85	*e*P		P	07 20 11.7	+0.4	
LIC	Lamto	78.54	86	*e*P		P	07 20 12.0	+0.4	
	comp=Z,138nm,0.9s								
DBIC	Dimbokro	78.64	85	P		P	07 20 12.9	+0.8	
	comp=Z,22nm,0.9s,baz=286,slow=4.6,SNR=22								
DBIC	Dimbokro	78.64	85	*e*P		P	07 20 11.8	-0.4	
	comp=Z,28nm,0.9s								
DBIC	Dimbokro	78.64	85	*e*P		P	07 20 11.8	-0.4	
DBIC					pmax	pmax			
	comp=Z,28nm,0.9s								
KIC	Kosan Boka	78.80	85	*e*P		P	07 20 13.5	+0.4	
	comp=Z,72nm,0.9s								
DOU	Dourbes	81.81	41	⇑P		P	07 20 27.6	-0.9	
MEM	Membach	82.65	40	⇓P		P	07 20 32.5	-0.5	
WLF	Walferdange	82.86	41	⇑P		P	07 20 34.0	0.0	
ADK	Adak	83.63	321	*e*P		P	07 20 38.0	+0.1	
	comp=Z,45nm,0.6s								
ADK	Adak	83.63	321	*e*P		P	07 20 38.0	+0.1	
ADK					pmax	pmax			
	comp=Z,45nm,0.6s								
NB000	NORSAR Array S	83.87	29	*e*P		P	07 20 38.1	-0.9	
TOA1	Torodi Ar. Sit	84.04	78	*e*P		P	07 20 39.9	-0.8	
TOA0	Torodi Ar. Sit	84.04	78	*e*P		P	07 20 40.3	-0.5	
	comp=Z,12nm,1.1s								
TORD	Torodi Ar. Bea	84.04	78	P		P	07 20 39.9	-0.8	
	comp=Z,5.5nm,1.0s,baz=309,slow=9.4,SNR=17								
NB2	NORSAR Subarra	84.08	29	P		P	07 20 39.0	-1.1	
	comp=Z,2.0nm,0.6s,baz=279,slow=5.1								
NB200	NORSAR Array S	84.08	29	*e*P		P	07 20 39.3	-0.8	
NOA	NORSAR Array B	84.08	29	P		P	07 20 39.3	-0.8	
	comp=Z,4.4nm,0.8s,baz=278,slow=4.9,SNR=15								
NB201	NORSAR Array S	84.11	29	*e*P		P	07 20 40.0	-0.3	
NC602	NORSAR Array S	84.29	29	*e*P		P	07 20 40.8	-0.3	
NC405	NORSAR Array S	84.30	29	*e*P		P	07 20 40.4	-0.8	
BFO	Black Forest	84.46	42	*i* P		P	07 20 42.5	+0.2	
DAVA	Damuels	85.66	43	*i* P		P	07 20 48.7	+0.2	
	comp=Z,31nm,1.4s								
RETA	Reutte	86.21	43	*i* P		P	07 20 51.1	0.0	
	comp=Z,21nm,1.4s								
FETA	Feichten	86.28	43	*i* P		P	07 20 51.8	+0.2	
	comp=Z,9.5nm,1.0s								
MOTA	Moosalm	86.47	43	*i* PcP		P	07 20 53.1	+0.6	
	comp=Z,2.9nm,0.6s								
SQTA	Sankt Quirin	86.56	43	*i* P		P	07 20 52.9	0.0	
	comp=Z,7.1nm,0.8s								
CLL	Collm	86.90	39	*e*P		P	07 20 53.9	-0.4	
	comp=Z,6.8nm,0.7s								
CLL	Collm	86.90	39	*i* P		P	07 20 53.7	-0.6	
	comp=Z,31nm,1.6s								
CLL	Collm	86.90	39	*i* P		P	07 20 53.7	-0.6	
CLL					pmax	pmax			
	comp=Z,31nm,1.6s								
KEST	Kesra	87.29	54	P		P	07 20 58.0	+1.4	
	comp=Z,10nm,0.8s,baz=293,slow=3.8,SNR=5.0								
KEST	Kesra	87.29	54	*e*P		P	07 20 56.0	-0.6	
	comp=Z,13nm,0.9s								
ABTA	Abfaltersbach	87.53	43	*i* P		P	07 20 57.4	-0.2	
	comp=Z,14nm,1.0s								
ARA0	ARCESS Array S	87.54	19	*e*P		P	07 20 56.0	-0.9	
ARCES	ARCESS Array B	87.54	19	P		P	07 20 56.0	-0.9	
	comp=Z,3.1nm,0.8s,baz=289,slow=3.7,SNR=9.4								
BRG	Berggiesshubel	87.58	39	*e*P		P	07 20 57.5	0.0	
	comp=Z,25nm,1.6s								
BRG	Berggiesshubel	87.58	39	*e*P		P	07 20 57.5	0.0	
BRG					pmax	pmax			
	comp=Z,25nm,1.6s								
KHC	Kasperske Hory	87.73	41	*e*P		P	07 20 58.0	-0.4	
KHC	Kasperske Hory	87.73	41	*e*P		P	07 20 58.0	-0.4	
GEC2	GERESS Array S	87.87	41	*e*P		P	07 20 58.4	-0.7	
	comp=Z,2.7nm,0.9s								
GEC2	GERESS Array S	87.87	41	*e*P		P	07 20 58.4	-0.7	
GEC2					pmax	pmax			
	comp=Z,3.0nm,0.9s								
GERES	GERESS Array B	87.87	41	P		P	07 20 58.7	-0.4	
	comp=Z,1.6nm,0.6s,baz=277,slow=3.5,SNR=17								
GEA0	GERESS Array S	87.87	41	*e*P		P	07 20 58.4	-0.7	
BILL	Bilibino	87.88	339⇑	*e*P		P	07 20 58.3	-0.4	
BILL				*e*			07 24 27.9		
BILL					pmax	pmax			
	comp=Z,8.0nm,1.3s								
BILL					MLR	MLR			
	comp=Z,2μm,15.0s								
KBA	Koelnbreinsper	88.02	43	*i* PcP		P	07 21 00.0	0.0	
	comp=Z,25nm,1.6s								
DPC	Dobruska-Polom	89.17	39	*e*P		P	07 21 05.2	0.0	
DPC	Dobruska-Polom	89.17	39	*e*P		P	07 21 05.2	0.0	
CONA	Conrad Observa	89.48	41	*i* PcP		P	07 21 06.9	+0.2	
	comp=Z,15nm,1.6s								
FIA0	FINESS Array S	90.85	27	*e*P		P	07 21 10.7	-2.0	
FIA0	FINESS Array S	90.85	27	*e*P		P	07 21 10.7	-2.0	
FINES	FINESS Array B	90.85	27	P		P	07 21 10.7	-2.0	
	comp=Z,1.1nm,0.5s,baz=264,slow=1.9,SNR=4.9								
TIXI	Tiksi	95.60	350	*i* P		P	07 21 32.4	-1.9	
TIXI					pmax	pmax			
	comp=Z,3.0nm,1.4s								
AKASG	Malin Array Be	96.80	36	P		P	07 21 39.1	-1.1	
	comp=Z,0.2nm,0.3s,baz=310,slow=7.6,SNR=2.7								
KLMR	Klimovskoe	96.85	24	*e*P		P	07 21 37.8	-2.4	
KLMR					pmax	pmax			
	comp=Z,7.0nm,0.9s								
KLMR	Klimovskoe	96.85	24	*e*P		P	07 21 37.9	-2.3	
KLMR					AMP		07 21 39.9		
	comp=Z,7.0nm,0.9s								
CN2	Changchun	119.99	335	*e*PKP		PKiKP	07 27 04.8	+4.7	
GEYT	Alibegk	120.86	34	PKP		PKPdf	07 27 01.4	-0.5	
	comp=Z,1.9nm,0.5s,baz=278,slow=4.2,SNR=3.7								
SONA0	Songino Array	121.65	351	*e*PKPdf		PKPdf	07 27 02.3	-1.0	
SONM	Songino Array	121.65	351	PKP		PKPdf	07 27 02.3	-1.0	
	comp=Z,0.7nm,0.9s,baz=90,slow=4.3,SNR=3.0								
MK32	Makanchi Array	122.25	11	*e*PKPdf		PKPdf	07 27 03.0	-1.3	
MKAR	Makanchi Array	122.25	11	PKP		PKPdf	07 27 03.0	-1.3	
	comp=Z,0.3nm,0.6s,baz=304,slow=4.1,SNR=4.3								
KSRS	Korea Array	123.92	329	PKP		PKPdf	07 27 07.0	-0.6	
	comp=Z,2.1nm,0.7s,baz=20,slow=2.5,SNR=5.4								
WMQ	Urumqi	125.98	7	*e*PKP		PKiKP	07 27 12.1	+0.1	
WMQ					LR	LR			
	comp=Z,450nm,19.5s								
WMQ					LR	LR			
	comp=Z,400nm,19.5s								
WMQ					LR	LR			
	comp=Z,390nm,18.1s								
HHC	Hu-ho-hao-te	127.32	345	*e*PKP		PKiKP	07 27 17.0	+2.2	
KSH	Kashi	127.50	19	PKP		PKiKP	07 27 20.6	+5.4	
KSH				PP		PP	07 29 20.3	+5.8	
KSH				SKS		SKSdf	07 34 23.9	+3.1	
KSH					LR	LR			
	comp=Z,160nm,9.1s								
KSH					LR	LR			
	comp=Z,120nm,6.9s								
KSH					LR	LR			
	comp=Z,380nm,9.5s								
STKA	Stephens Creek	132.25	236	PKP		PKiKP	07 27 25.5	+0.7	
	comp=Z,2.6nm,0.8s,baz=86,slow=1.9,SNR=8.0								
STKA	Stephens Creek	132.25	236	*e*PKPdf		PKPdf	07 27 23.9	+0.2	
STKA	Stephens Creek	132.25	236	*e*PKIKP		PKPdf	07 27 23.9	+0.2	
NJ2	Nanjing	132.65	333	*e*PKP		PKPdf	07 27 24.1	-0.4	
CD2	Chengdu	138.60	349	PKP		PKPdf	07 27 34.0	-1.7	
AS01	Alice Springs	140.97	245	*e*PKPdf		PKPdf	07 27 38.3	-1.8	
AS31	Alice Springs	141.01	245	*e*PKPdf		PKPdf	07 27 38.3	-1.9	
ASAR	Alice Springs	141.01	245	PKhKP		PKPpre	07 27 34.1		
	comp=Z,2.7nm,0.5s,baz=105,slow=3.4,SNR=26								
ASAR					PKP	PKPdf	07 27 41.4	+1.2	
	comp=Z,5.5nm,0.6s,baz=101,slow=2.0,SNR=26								
WB2	Warramunga Arr	141.34	251	*e*PKPdf		PKPdf	07 27 38.8	-2.0	
WRAB	Tennant Creek	141.34	251	*e*PKPdf		PKPdf	07 27 39.1	-1.7	
WRAB	Tennant Creek	141.34	251	*e*PKIKP		PKPdf	07 27 39.1	-1.7	
WR1	Warramunga Arr	141.35	251	*e*PKPpre		PKPpre	07 27 35.7		
WR1				*e*PKPdf		PKPdf	07 27 41.2	+0.3	
WRA	Warramunga Arr	141.35	251	PKhKP		PKPpre	07 27 35.7		
	comp=Z,3.7nm,0.8s,baz=92,slow=3.2,SNR=35								
WRA					PKP	PKPdf	07 27 41.2	+0.3	
	comp=Z,4.1nm,0.6s,baz=82,slow=1.9,SNR=38								
KMI	Kunming	144.42	349	PKP		PKPbc	07 27 45.4	+0.4	
HYB	Hyderabad	148.00	32	*i* PKP		PKPbc	07 27 56.0	+0.4	
FITZ	Fitzroy Crossi	149.77	251	*e*PKPdf		PKPdf	07 27 55.1	-0.1	
CMAR	Chiang Mai Arr	151.56	353	PKP		PKPdf	07 27 56.6	-1.4	
	comp=Z,0.6nm,0.4s,baz=306,slow=2.4,SNR=4.1								
CMAR					PKPbc	PKPbc	07 28 03.5	-0.8	
	comp=Z,1.3nm,0.3s,baz=324,slow=3.0,SNR=9.3								
CM01	Chiang Mai Arr	151.59	353	*e*PKPdf		PKPdf	07 27 58.0	-0.1	
CM01				*e*PKPbc		PKPbc	07 28 04.4	0.0	
PBKT	Sadao Pong	153.09	349	*e*PKPbc		PKiKP	07 28 08.0	+0.1	

IDC **24** *07:21:25.9±3.7, 35°.34N×141°.35E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.3/34, mbtmp3.4/3, ML2.2/1, MS2.8/2, Ms1 2.8/2, ms1mx2.6/38, Error ellipse: s-maj=107.6km s-min=29.3km az=59.0*

ISCJB **24** *07:21:29.3±1.3, 35°.47N±0°.08×141°.2E±0°.1, h33km, mb3.5/2, Error ellipse: s-maj=17.6km s-min=8.0km az=148.8*

JMA **24** *07:21:30.1±0.2, 35°.48N×141°.14E, h28km±2km, M3.1*

ISC 24 07:21:30.4±1.5**, 35°.45N**±0°.07×**141°.2E**±0°.1**, h33km, n19,** σ1§**58**/14**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	Chosi	0.37	313	P	Pb	07 21 37.5	-1.5
CHOJ				*e*S	Sb	07 21 42.3	-2.6
JSMT	Sammumatsuo	0.63	288	P	Pn	07 21 42.2	-0.8
JSMT				*e*S	Sb	07 21 50.2	-1.6
JIHU	Itakohorinouch	0.74	314	P	Pn	07 21 43.8	-0.8
BSO1	Boso 1	0.81	192	P	Pn	07 21 45.1	+0.1
BSO4	Boso 4	0.83	237	P	Pn	07 21 45.4	-0.3
BSO4				*e*X		07 21 55.3	
BSO3	Boso 3	0.85	221	P	Pn	07 21 45.6	-0.2
JAG	Ashikaga	1.71	305	P	Pn	07 21 58.8	+0.9
MJAR	Matsushiro Arr	2.65	295	Pn	Pn	07 22 11.7	+0.9
	0.4nm,0.3s,baz=112,slow=15,SNR=11						
MAT	Matsushiro	2.65	295	P	Pn	07 22 11.9	+1.1
MAT				*e*S	Sn	07 22 44.7	+2.8
KSRS	Korea Array	10.87	284	LR	LR	07 28 16.3	
	comp=Z,38nm,19.2s,baz=96,slow=37						
USRK	Ussuriysk Ar.	11.23	324	LR	LR	07 28 10.2	
	comp=Z,62nm,21.5s,baz=161,slow=36						
H11N2	WAKE ISLAND Hy 27.53	118		T	T	07 56 20.3	
	baz=310,slow=75,SNR=34						
H11N1	WAKE ISLAND Hy 27.54	118		T	T	07 56 13.3	
	baz=310,slow=75,SNR=24						
H11N3	WAKE ISLAND Hy 27.55	118		T	T	07 56 09.8	
	baz=310,slow=75,SNR=29						
H11S3	WAKE ISLAND Hy 28.19	120		T	T	07 57 00.7	
	baz=312,slow=75,SNR=137						
H11S1	WAKE ISLAND Hy 28.19	120		T	T	07 57 00.8	
	baz=312,slow=75,SNR=179						
H11S2	WAKE ISLAND Hy 28.20	120		T	T	07 57 03.3	
	baz=312,slow=75,SNR=72						
SONM	Songino Array	28.55	306	P	P	07 27 24.9	+1.8
	0.4nm,0.6s,baz=106,slow=8.0,SNR=3.0						
WRA	Warramunga Arr	55.47	188	P	P	07 31 01.7	-0.3
	0.4nm,0.6s,baz=5.4,slow=7.7,SNR=4.0						

IDC **24** *07:35:35.6±0.3, 49°.77N×87°.77E, h0km, mb5.0/53, mb1 5.1/58, mb1mx5.1/74, mbtmp5.1/58, ML5.4/6, MS4.7/32, Ms1 4.7/32, ms1mx4.6/35, Error ellipse: s-maj=8.4km s-min=5.7km az=173.0*

GCMT **24** *07:35:36.4±0.1, 49°.80N±0°.01×87°.75E±0°.01, h20km, MW5.2/111, Moment Tension Solution. s78, c98; s111, c204; Duration: 1§0 Moment tensor: Scale 10^16 Nm; Mrr 1.07±.15; Mθθ-6.64±.14; Mφφ 5.57±.13; Mrθ 2.02±.26; Mθφ-3.26±.10; Mφr 2.33±.29; Best double couple: M=7.56200×10^16 NP1:φs 32.00000°, δ 88.00000°, λ 24.00000°. NP2:φs 301.00000°, δ 66.00000°, λ 178.00000°. Principal axes: T 6.9610, Plg 18.0000°, Azm 259.0000°; N 1.2020, Plg 66.0000°, Azm 35.0000°; P -8.1630, Plg 16.0000°, Azm 164.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS **24** *07:35:36.2±1.1, 49°.74N×87°.61E, h13km, mb5.5/104, MS4.9/63 Error ellipse: s-maj=3.9km s-min=3.5km az=74.4*

MOS Felt (IV-V) at Aktash; (III) at Gorno-Altaisk; (II-III) at Novokuznetsk, Belovo, Zyryanovsk, Ridder.

ISCJB **24** *07:35:37.8±0.1, 49°.75N±0°.01×87°.62E±0°.02, h21km, mb5.2/382, MS5.0/78, Error ellipse: s-maj=1.8km s-min=1.4km az=149.2*

ASRS **24** *07:35:38.5±1.6, 49°.88N×87°.73E, h15km, Ms5.0/3*

BJI **24** *07:35:38.5, 49°.88N×87°.63E, h48km, mb5.0/67, mB5.2/42, ML5.8/6, Ms5.5/73, Ms7 5.4/68*

NEIC **24** *07:35:39.4±0.5, 49°.80N×87°.65E, h20km±3km, mb5.3/262, Error ellipse: s-maj=2.9km s-min=2.3km az=161.0*

NNC **24** *07:35:40.3±1.6, 49°.90N×87°.10E, h0km, mb6.0, mpv5.8, Error ellipse: s-maj=16.2km s-min=7.5km az=98.0*

SOME **24** *07:35:42.7, 49°.53N×86°.93E, h5km, MS5.4*

ISC 24 07:35:38.7±0.4**, 49°.78N**±0°.02×**87°.62E**±0°.02**, h18**km±2km**, h18**km**:pP-P, n1431,** σ1§**42**/1562**, mb5.3**/417**, MS5.0**/83**, 169C-61D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGZ	Jazzator, Alta	0.14	236	*c* iPG	Pg	07 35 39.8	-3.2
UKR	Ust'-Kan	2.16	304	*e*Pg	Pb	07 36 16.4	-0.9
UKR				*e*Sg	Sg	07 36 47.9	-0.2
UKR	Ust'-Kan	2.16	304	*e*PN	Pb	07 36 16.4	-0.9
UKR				*e*		07 36 47.9	
ZSN	Zaisan	2.96	219	Lg	Lg	07 37 07.8	
	20μm,1.4s						
ZSN	Zaisan	2.96	219	*d* iPN	Pn	07 36 27.6	+2.8
ZSN				*i*		07 36 33.2	
ZSN				*e*		07 37 05.9	
ZSN				pmax	pmax		
	comp=Z,8μm,0.7s						
ZSN				smax	smax		
	comp=E,34μm,1.9s						
ZSN	Zaisan	2.96	219	⇓*i* Pn	Pn	07 36 27.6	+2.8
ZSN				⇓*i* Pg	Pg	07 36 33.2	-2.2
	comp=E,8μm,0.7s						
ZSN				⇓*e* Sn	Sb	07 37 05.9	-0.9
	comp=E,34μm,1.9s						
ZSN	Zaisan	2.96	219	*e*P	Pb	07 36 32.2	+1.2
	comp=E,906nm,0.7s						
ZSN				*e*S	Sb	07 36 06.9	+0.1
	comp=E,20μm,1.0s						
TASR	Tashtagol	2.99	3	*e*Pn	Pn	07 36 27.9	+2.7
TASR				*e*Pg	Pb	07 36 28.7	-2.7
TASR				*e*Sg	Sb	07 37 09.0	+1.5
TASR	Tashtagol	2.99	3	*e*PN	Pn	07 36 27.9	+2.7
TASR				*e*		07 37 09.0	
ELT	Eltsovka

SEM ⇑*i*Lg Lg 07 38 06.2
comp=Z,84μm,2.3s
SEM Semipalatinsk 4.79 280 *e*P **Pb 07 37 05.7 +3.6**
comp=Z,973nm,0.9s
SEM *e*S **Sb 07 38 04.7 +5.3**
comp=Z,16μm,0.7s
MAKZ Makanchi 4.80 234 *e*Pn **Pn 07 36 53.4 +3.3**
MAKZ Makanchi 4.80 234 ⇑Pn **Pn 07 36 53.1 +3.0**
comp=Z,646nm,0.5s
MAKZ ⇓Pg **Pb 07 37 05.2 +3.0**
comp=Z,1μm,0.5s
MAKZ ⇑Sn **Sn 07 37 47.6 +2.4**
comp=Z,2μm,0.8s
MAKZ ⇑Lg Lg 07 38 08.4
comp=Z,4μm,0.5s
MAKZ Makanchi 4.80 234 *e*PN **Pn 07 36 53.4 +3.3**
NVS Novosibirsk 5.74 334 *e*Pn **Pn 07 37 03.7 +0.9**
NVS *e*Pg **Pb 07 37 21.8 +3.7**
NVS *e*Sn **Sn 07 38 10.0 +1.9**
NVS *e*Sg **Sg 07 38 35.9 -6.7**
NVS Novosibirsk 5.74 334 *e*PN **Pn 07 37 03.7 +0.9**
NVS *i* 07 37 21.8
NVS *e*S **Sn 07 38 10.0 +1.9**
NVS *i* 07 38 35.9
KURK Kurchatov 5.85 283 *e*Pn **Pn 07 37 06.2 +1.8**
KURK *e*Sn **Sn 07 38 13.7 +2.8**
KURK Kurchatov 5.85 283*c i*PN **Pn 07 37 06.1 +1.7**
KURK Kurchatov 5.85 283 P **Pn 07 37 06.2 +1.8**
SNR=934
KURBB Kurchatov Arra 5.90 282 Pn **Pn 07 37 06.8 +1.8**
comp=Z,78nm,0.3s,baz=91,slow=14,SNR=1644
KURBB Sn **Sn 07 38 14.9 +2.8**
comp=Z,79nm,0.3s,baz=88,slow=28,SNR=11
KURBB Lg Lg 07 38 44.9
comp=Z,86nm,0.3s,baz=96,slow=35,SNR=9.7
KURBB Kurchatov Arra 5.90 282 ⇑Pn **Pn 07 37 05.6 +0.5**
comp=Z,4μm,0.8s
KURBB ⇑Sn **Sn 07 38 09.2 -2.9**
comp=Z,5μm,0.7s
KURBB ⇓Lg Lg 07 38 36.2
comp=Z,14μm,0.7s
WMQ Urumqi 5.96 179 P **Pn 07 37 07.8 +1.7**
WMQ sP Pb 07 37 25.8 +3.7
WMQ S **Sn 07 38 14.4 +0.5**
WMQ pmax pmax
comp=Z,5μm,3.7s
WMQ smax smax
comp=Z,9μm,1.1s
WMQ smax smax
comp=Z,6μm,1.1s
WMQ LR LR
comp=Z,34μm,10.3s
WMQ LR LR
comp=Z,14μm,13.1s
WMQ Urumqi 5.96 179 *e*Pn **Pn 07 37 08.3 +2.2**
WMQ Urumqi 5.96 179 *e*PN **Pn 07 37 08.3 +2.2**
KNGR Kungurtug, Tuv 6.41 79*d i*PN **Pn 07 37 11.4 -0.9**
KAPS Kapalarasan 7.17 234 Lg Lg 07 38 48.4
comp=Z,2μm,0.4s
KAPS Kapalarasan 7.17 234 *e*P Pb 07 37 48.3 +5.6
comp=Z,492nm,0.8s
KAPS *e*S Sg 07 39 19.2 -10
comp=Z,1μm,1.3s
DJR Jarkent 7.63 227 Lg Lg 07 39 00.9
comp=Z,649nm,1.0s
DJR Jarkent 7.63 227 *e*P Pb 07 37 58.3 +7.8
comp=Z,162nm,0.8s
DJR *e*S Sb 07 39 37.2 +16
comp=Z,771nm,1.1s
TDK Taldyqorghan 7.87 236 Lg Lg 07 39 05.7
comp=Z,7μm,1.0s
TDK Taldyqorghan 7.87 236*c i*P **Pn 07 37 33.7 +1.5**
TDK *i* 07 39 03.0
TDK smax smax
comp=E,7μm,1.3s
TDK MLR MLR
comp=Z,26μm,11.0s
TDK Taldyqorghan 7.87 236 ⇑*i*Pn **Pn 07 37 33.7 +1.5**
comp=Z,15μm,0.4s
TDK ⇑*i*Sn **Sn 07 39 03.1 +2.4**
comp=Z,7μm,1.2s
TDK ⇑*i*Lg Lg 07 39 44.3
comp=Z,23μm,1.8s
TDK *e*LRM MLR 07 40 25.6
comp=Z,26μm,11.1s
TDK Taldyqorghan 7.87 236 *e*P **Pb 07 37 58.1 +3.7**
KTMS Ketmen 8.07 221 P **Pn 07 37 36.4 +1.3**
comp=Z,38nm,0.3s
MNBS Baschi 8.50 231 Lg Lg 07 39 19.8
comp=Z,1μm,1.0s
PDGK Podgornoye 8.54 224 Lg Lg 07 39 20.3
comp=Z,888nm,1.1s
PDGK Podgornoye 8.54 224 ⇑Pn **Pn 07 37 42.6 +1.1**
comp=Z,362nm,0.9s
PDGK ⇓Sn **Sn 07 39 20.6 +3.2**
comp=Z,654nm,0.7s
PDGK ⇑Lg Lg 07 40 08.4
comp=Z,2μm,0.9s
PDGK Podgornoye 8.54 224 P **Pn 07 37 41.8 +0.3**
PDGK 07 39 16.1
PDGK pmax pmax
comp=Z,362nm,0.9s
PDGK smax smax
comp=E,811nm,0.9s
SHLS Shalkode 8.69 223 P **Pn 07 37 41.9 -1.7**
SHLS Shalkode 8.69 223*c i*P **Pn 07 37 41.3 -2.2**
SHLS *i* S **Sn 07 39 16.3 -4.7**
SHLS pmax pmax
comp=Z,229nm,1.0s
SHLS smax smax
comp=E,5μm,1.6s
SHLS MLR MLR
comp=Z,3μm,12.0s
SHLS Shalkode 8.69 223 ⇑*i*P **Pn 07 37 41.3 -2.2**
comp=Z,229nm,1.0s
SHLS ⇑*i*S **Sn 07 39 16.4 -4.7**
comp=Z,5μm,1.6s
SHLS *e*LRM MLR 07 40 55.8
comp=Z,3μm,11.8s
SHLS Shalkode 8.69 223 *e*P Pn 07 38 12.3 +29
MOY Mondy 8.70 72 *e*P Pn 07 37 48.6 +5.0
MOY *e*S **Sn 07 39 29.7 +8.6**
ARXS Arharly 8.70 234 Lg Lg 07 39 23.0
comp=Z,2μm,1.1s
ARXS Arharly 8.70 234 *e*P Pn 07 38 16.8 +33
UZB Uzynbulak 8.90 225 P **Pn 07 37 46.8 +0.4**
UZB Uzynbulak 8.90 225*de*P **Pn 07 37 44.8 -1.6**
UZB *i* 07 39 24.2
UZB pmax pmax
comp=Z,18nm,0.7s
UZB smax smax
comp=E,11μm,1.8s
UZB MLR MLR
comp=Z,7μm,12.0s
UZB Uzynbulak 8.90 225 ⇓*e*Pn **Pn 07 37 44.8 -1.6**
comp=Z,18nm,0.7s
UZB ⇓*i*Sn **Sn 07 39 24.3 -1.9**
comp=Z,11μm,1.8s
UZB ⇓*i*Lg Lg 07 40 17.1
comp=Z,5μm,1.7s
UZB *e*LRM MLR 07 41 10.2
comp=Z,7μm,11.8s
UZB Uzynbulak 8.90 225 *e*P Pn 07 38 17.5 +31
KURS Kuram 9.04 229 P **Pn 07 37 49.3 +0.9**
comp=Z,289nm,0.5s
KURS Kuram 9.04 229 *e*P Pn 07 38 22.7 +34
ZHN Zhinishke 9.15 227*ce*P **Pn 07 37 49.2 -0.7**
ZHN *i* 07 39 31.5
ZHN pmax pmax
comp=Z,334nm,1.4s
ZHN MLR MLR
comp=Z,3μm,6.0s
ZHN Zhinishke 9.15 227 ⇑*e*Pn **Pn 07 37 49.2 -0.7**
comp=Z,334nm,1.4s
ZHN ⇓*i*Sn **Sn 07 39 31.5 -1.0**
comp=Z,755nm,2.0s
ZHN ⇑*i*Lg Lg 07 40 26.1
comp=Z,3μm,4.5s
ZHN *e*LRM MLR 07 41 18.2
comp=Z,3μm,6.4s
ZHN Zhinishke 9.15 227 *e*P Pn 07 38 22.6 +33
SATY Saty 9.25 227 P **Pn 07 37 52.0 +0.7**
comp=Z,248nm,0.5s
SATY Saty 9.25 227*de*P **Pn 07 37 51.1 -0.1**
SATY *i* S **Sn 07 39 34.1 -0.8**
SATY pmax pmax
comp=Z,318nm,0.4s
SATY smax smax
comp=E,8μm,1.1s
SATY MLR MLR
comp=Z,8μm,11.0s
SATY Saty 9.25 227 ⇓*e*P **Pn 07 37 51.2 -0.1**
comp=Z,318nm,0.4s
SATY ⇑*i*S **Sn 07 39 34.1 -0.8**
comp=Z,8μm,1.1s
SATY *e*LRM MLR 07 41 22.6
comp=Z,8μm,10.6s
SATY Saty 9.25 227 *e*P Pn 07 38 22.4 +31
CHKK Chushkaly 9.39 235 P **Pn 07 37 53.5 +0.5**
comp=Z,176nm,0.5s
CHKK Chushkaly 9.39 235 *e*P **Pn 07 37 52.5 -0.5**
CHKK *e*S **Sn 07 39 36.7 -1.4**
CHKK pmax pmax
comp=Z,391nm,0.7s
CHKK smax smax
comp=N,2μm,1.3s
CHKK Chushkaly 9.39 235 *e*P **Pn 07 37 52.5 -0.5**
comp=N,391nm,0.7s
CHKK ⇓*e*S **Sn 07 39 36.7 -1.4**
comp=N,2μm,1.3s
CHKK Chushkaly 9.39 235 *e*P Pn 07 38 26.4 +33
KTBS Karatobe 9.65 235 P **Pn 07 37 56.9 +0.3**
comp=N,145nm,0.6s
KTBS Karatobe 9.65 235 *e*P Pn 07 38 33.9 +37
BRZS Berezniki 9.65 277*ce*P **Pn 07 37 54.7 -1.8**
BRZS *i* S **Sn 07 39 42.8 -1.6**
BRZS pmax pmax
comp=Z,1μm,0.8s
BRZS MLR MLR
comp=Z,15μm,8.0s
BRZS Berezniki 9.65 277 ⇑*e*P **Pn 07 37 54.8 -1.8**
comp=Z,1μm,0.8s
BRZS ⇑*i*S **Sn 07 39 42.8 -1.6**
comp=Z,2μm,1.2s
BRZS *e*LRM MLR 07 41 15.2
comp=Z,15μm,7.6s
BRZS Berezniki 9.65 277 *e*P Pn 07 38 33.6 +37
PRZ Przheval'sk 9.70 225 *e*Pn **Pn 07 37 59.4 +1.9**
PRZ *e*Sn **Sn 07 39 48.7 +2.7**
PRZ Przheval'sk 9.70 225 *e*P **Pn 07 37 59.4 +1.9**
PRZ *e* 07 39 48.7
KUU Kurty 9.71 237 P **Pn 07 37 57.6 +0.2**
comp=Z,277nm,0.7s
KUU Kurty 9.71 237 *e*P **Pn 07 37 56.9 -0.5**
KUU *i* S **Sn 07 39 43.8 -2.2**
KUU pmax pmax
comp=Z,694nm,0.6s
KUU smax smax
comp=E,2μm,1.4s
KUU MLR MLR
comp=Z,5μm,11.0s
KUU Kurty 9.71 237 *e*P **Pn 07 37 57.0 -0.5**
comp=Z,694nm,0.6s
KUU ⇑*i*S **Sn 07 39 43.9 -2.2**
comp=Z,2μm,1.4s
KUU *e*LRM MLR 07 41 31.9
comp=Z,5μm,11.1s
KUU Kurty 9.71 237 *e*P Pn 07 38 34.4 +37
KOTS Kotyrbulak 9.76 232 P **Pn 07 37 59.0 +0.8**
comp=Z,167nm,0.7s
KOTS Kotyrbulak 9.76 232 *e*P Pn 07 38 36.6 +38
MDOK Medeo 9.84 232*ce*P **Pn 07 37 59.4 0.0**
MDOK *e*S **Sn 07 39 46.6 -2.8**
MDOK pmax pmax
comp=Z,374nm,0.6s
MDOK MLR MLR
comp=Z,9μm,11.0s
MDOK Medeo 9.84 232 ⇑*e*P **Pn 07 37 59.4 0.0**
comp=Z,374nm,0.6s
MDOK *e*S **Sn 07 39 46.6 -2.8**
comp=Z,2μm,3.4s
MDOK *e*LRM MLR 07 41 40.1
comp=Z,9μm,10.7s
MDOK Medeo 9.84 232 *e*P Pn 07 38 34.0 +35
KNDC Almaty 9.85 232 ⇑Pn **Pn 07 37 59.7 +0.3**
comp=Z,366nm,0.8s
KNDC ⇑Lg Lg 07 40 50.8
comp=Z,3μm,1.1s
AAA Alma-Ata 9.88 232 P **Pn 07 38 01.1 +1.4**
comp=Z,182nm,0.4s
AAA Alma-Ata 9.88 232*d i*P **Pn 07 38 00.1 +0.3**
AAA *i* S **Sn 07 39 48.2 -1.9**
AAA pmax pmax
comp=Z,350nm,0.8s
AAA MLR MLR
comp=Z,4μm,11.0s
AAA Alma-Ata 9.88 232 ⇓*i*P **Pn 07 38 00.2 +0.4**
comp=Z,350nm,0.8s
AAA ⇓*i*S **Sn 07 39 48.2 -1.9**
comp=Z,2μm,2.0s
AAA *e*LRM MLR 07 41 40.0
comp=Z,4μm,11.4s
AAA Alma-Ata 9.88 232 *e*P Pn 07 38 36.7 +37
ZAK Zakamensk 10.09 81 *e*P **Pn 07 38 04.5 +1.8**
ZAK pmax pmax
comp=Z,212nm,1.3s
IZV Izvestkoviy 10.15 233 P **Pn 07 38 04.3 +0.7**
comp=Z,116nm,0.7s
MTBS Maitube 10.18 233 P **Pn 07 38 04.6 +0.6**
comp=Z,110nm,0.4s
MTBS Maitube 10.18 233 *e*P **Pn 07 38 03.8 -0.1**
MTBS *e*S **Sn 07 39 56.8 -0.9**
MTBS pmax pmax
comp=Z,234nm,0.9s
MTBS smax smax
comp=E,430nm,0.6s
MTBS Maitube 10.18 233 *e*P **Pn 07 38 03.9 -0.1**
comp=E,234nm,0.9s
MTBS *e*S **Sn 07 39 56.9 -0.9**
comp=E,430nm,0.6s
MTBS Maitube 10.18 233 *e*P Pn 07 38 39.7 +36
BTLS Baital 10.35 248*de*P **Pn 07 38 06.2 +0.1**
BTLS *e*S **Sn 07 39 59.8 -1.7**
BTLS pmax pmax
comp=Z,200nm,0.4s
BTLS MLR MLR
comp=Z,3μm,9.0s
BTLS Baital 10.35 248 ⇓*e*P **Pn 07 38 06.2 +0.1**
comp=Z,200nm,0.4s
BTLS ⇓*e*S **Sn 07 39 59.9 -1.7**
comp=Z,295nm,1.9s
BTLS *e*LRM MLR 07 41 47.4
comp=Z,3μm,8.8s
BTLS Baital 10.35 248 *e*P Pn 07 38 45.2 +39
DGS Degeres 10.45 236 P **Pn 07 38 08.0 +0.3**
comp=Z,416nm,0.5s
DGS Degeres 10.45 236 *e*P Pn 07 38 44.7 +37
KST Kastek 10.49 234 P **Pn 07 38 08.5 +0.3**
comp=Z,320nm,0.6s
KST Kastek 10.49 234 *e*P Pn 07 38 48.1 +40
KDJ Kajisay 10.54 227 *e*Pn **Pn 07 38 11.5 +2.5**
KDJ Kajisay 10.54 227 *e*P **Pn 07 38 11.5 +2.5**
TARG Taragay, Kyrgy 10.57 224 *e*Pn **Pn 07 38 11.2 +1.7**
TARG *e*Sn **Sn 07 40 06.8 -0.8**
TKM2 Tokmak 2 10.77 235 P **Pn 07 38 13.4 +1.3**
SNR=30
TKM2 Tokmak 2 10.77 235 ⇑Pn **Pn 07 38 10.5 -1.6**
comp=Z,60nm,0.6s
TKM2 ⇓Lg Lg 07 41 18.9
comp=Z,946nm,1.3s
TKM2 Tokmak 2 10.77 235 P **Pn 07 38 11.8 -0.3**
TKM2 pmax pmax
comp=Z,60nm,0.6s
IRK Irkutsk 10.78 70 *e*P **Pn 07 38 12.8 +0.8**
IRK pmax pmax
comp=Z,148nm,0.2s
ULHL Ulahol 10.92 231 P **Pn 07 38 17.1 +2.9**
SNR=111
SGDS Sogindy 10.94 240 P **Pn 07 38 14.1 -0.3**
USP Ospenovka 11.13 239 P **Pn 07 38 16.8 -0.1**
SNR=315
CHMS Chumysh 11.17 237 P **Pn 07 38 17.4 -0.1**
SNR=72
BVA0 Borovoye Array 11.24 293 ⇓Pn **Pn 07 38 17.1 -1.2**
comp=Z,304nm,0.7s,baz=107,slow=14,SNR=1794
BVA0 ⇓Sn **Sn 07 40 18.7 -4.6**
comp=Z,451nm,0.8s
BVA0 ⇑Lg Lg 07 41 26.1
comp=Z,912nm,1.4s,baz=125,slow=40,SNR=6.1
BVA0 Borovoye Array 11.24 293 *i* P **Pn 07 38 17.1 -1.2**
BVA0 07 40 18.7
BVA0 pmax pmax
comp=Z,304nm,0.7s
BVA0 smax smax
comp=E,451nm,0.9s
BVAR Borovoye Array 11.24 293 Pn **Pn 07 38 17.5 -0.8**
comp=E,64nm,0.3s,baz=108,slow=15,SNR=794
BVAR Sn **Sn 07 40 20.7 -2.6**
comp=E,31nm,0.3s,baz=88,slow=23,SNR=6.8
BVAR LR LR 07 43 05.8
comp=E,4μm,21.6s,baz=100,slow=40
KBK Karagaybulak 11.30 236 P **Pn 07 38 19.8 +0.6**
SNR=223
BRVK Borovoye 11.31 293 *e*Pn **Pn 07 38 18.5 -0.7**
BRVK *e*Sn **Sn 07 40 23.2 -1.8**
BRVK Borovoye 11.31 293*c i*P **Pn 07 38 18.5 -0.7**
BRVK pmax pmax
comp=Z,135nm,1.1s
BRVK Borovoye 11.31 293 P **Pn 07 38 18.5 -0.7**
SNR=104
FRU Bishkek 11.35 237 *e*P **Pn 07 38 19.5 -0.5**
FRU pmax pmax
comp=Z,310nm,2.0s
FRU1 Bishkek 11.36 237 *e*Pn **Pn 07 38 20.0 -0.1**
FRU1 Bishkek 11.36 237 *e*P **Pn 07 38 20.0 -0.1**
KZA Kyzart 11.54 233 P **Pn 07 38 24.6 +1.7**
SNR=247
AAK Ala-Archa 11.55 237 Pn **Pn 07 38 22.9 +0.1**
comp=Z,13nm,0.3s,baz=62,slow=7.8,SNR=108
AAK Lg Lg 07 41 43.5
comp=Z,7.0nm,0.3s,baz=251,slow=20,SNR=4.6
AAK LR LR 07 43 07.3
comp=Z,7μm,19.9s,baz=31,slow=39
AAK Ala-Archa 11.55 237 P **Pn 07 38 23.0 +0.1**
SNR=99
AAK Ala-Archa 11.55 237 ⇑Pn **Pn 07 38 22.3 -0.5**
comp=Z,108nm,0.7s
AAK Lg Lg 07 41 41.2
comp=Z,1μm,1.4s
AAK Ala-Archa 11.55 237 *i* P **Pn 07 38 22.7 -0.1**
SNR=161
AAK Ala-Archa 11.55 237*ce*P **Pn 07 38 22.8 +0.1**
AAK pmax pmax
comp=Z,87nm,0.7s
AAK Ala-Archa 11.55 237 P **Pn 07 38 22.4 -0.4**
SNR=43
NRN Naryn 11.64 229 *e*Pn **Pn 07 38 26.4 +2.2**
NRN Naryn 11.64 229 *e*P **Pn 07 38 26.4 +2.2**
UCH Uchtor 11.82 235 P **Pn 07 38 28.4 +1.6**
SNR=82
EKS2 Erkin-Say 11.93 239 P **Pn 07 38 27.9 -0.1**
SNR=252
MRKS Merke 12.18 240 P **Pn 07 38 30.8 -0.5**
comp=Z,112nm,0.4s
AML Almayashu 12.33 237 P **Pn 07 38 34.5 +0.9**
SNR=138
SONA0 Songino Array 12.53 92 *e*Pn **Pn 07 38 34.4 -1.7**
SONA0 *e*Sn **Sn 07 40 53.8 -1.4**
SONM Songino Array 12.53 92 Pn **Pn 07 38 34.4 -1.7**
comp=Z,0.9nm,0.3s,baz=284,slow=14,SNR=94
SONM Sn **Sn 07 40 53.8 -1.4**
comp=Z,2.4nm,0.3s,baz=287,slow=20,SNR=4.0
SONM Lg Lg 07 42 09.7
comp=Z,8.2nm,0.3s,baz=290,slow=31,SNR=6.3
SONM LR LR 07 43 26.6
comp=Z,9μm,19.9s,baz=290,slow=38
SONA1 Songino Array 12.53 92 *e*Pn **Pn 07 38 36.7 +0.6**
MNAS Manas 12.76 241 ⇑Pn **Pn 07 38 38.7 -0.5**
comp=Z,88nm,1.1s
MNAS ⇓Lg Lg 07 42 21.0
comp=Z,601nm,1.1s
MNAS Manas 12.76 241 P **Pn 07 38 37.7 -1.5**
MNAS pmax pmax
comp=Z,89nm,1.1s
ULN Ulaanbaatar 12.95 91 *e*Pn **Pn 07 38 43.1 +1.3**
ULN Ulaanbaatar 12.95 91*d i*P **Pn 07 38 43.1 +1.3**
ULN pmax pmax
comp=Z,29nm,1.2s
ULN MLR MLR
comp=Z,8μm,16.0s
ULN Ulaanbaatar 12.95 91 P **Pn 07 38 43.2 +1.4**
SNR=15
KSH Kashi 13.18 223 P **P 07 38 52.5 -2.4**
KSH pP Pn 07 39 01.8 +17
KSH sP 07 39 07.5
KSH S **Sn 07 41 19.0 +8.0**
KSH pmax pmax
comp=Z,19nm,0.8s
KSH pmax pmax
comp=Z,1μm,3.2s
KSH LR LR
comp=Z,10μm,9.0s
KSH LR LR
comp=Z,31μm,12.3s
DZA Taraz 13.18 245*de*P **Pn 07 38 42.7 -2.1**
DZA pmax pmax
comp=Z,5μm,0.9s
DZA MLR MLR
comp=Z,2μm,10.0s
DZA Taraz 13.18 245 ⇓*e*P **Pn 07 38 42.8 -2.1**
comp=Z,5μm,0.9s
DZA *e*LRM MLR 07 43 31.9
comp=Z,2μm,9.7s
ARSB Arslanbob 13.28 236 *e*Pn **Pn 07 38 47.0 +0.7**
GTA Gaotai 13.51 136 *e*P **Pn 07 38 46.3 -3.2**
GTA pP P 07 38 54.3 -4.3
GTA S **Sn 07 41 11.3 -7.8**
GTA pmax pmax
comp=Z,150nm,11.7s
GTA LR LR
comp=Z,10μm,12.4s
GTA LR LR
comp=Z,16μm,9.3s
KK31 Karatay Array 13.54 247 *e*Pn **Pn 07 38 47.7 -2.1**
KK31 *e*Sn **Sn 07 41 21.9 +2.2**
KK31 Karatay Array 13.54 247 ⇓Pn **Pn 07 38 47.1 -2.7**
comp=Z,133nm,0.6s,baz=52,slow=16,SNR=1121
KK31 ⇓Sn **Sn 07 41 20.6 +0.9**
comp=Z,56nm,0.6s
KK31 ⇓Lg Lg 07 42 43.9
comp=Z,337nm,1.0s
KK31 Karatay Array 13.54 247 *i* P **Pn 07 38 47.0 -2.7**
KK31 *e* 07 41 16.8
KK31 pmax pmax
comp=Z,133nm,0.6s
KK31 smax smax
comp=N,88nm,0.7s
KKAR Karatay Array 13.54 247 *e*Pn **Pn 07 38 47.7 -2.1**
KKAR Karatay Array 13.54 247 *e*P **Pn 07 38 47.7 -2.1**
SFK Sufi-Kurgan 13.96 231 ⇓Pn **Pn 07 38 55.9 +0.1**
comp=N,172nm,1.1s
SFK ⇑Lg Lg 07 42 57.1
comp=N,208nm,1.4s
SFK Sufi-Kurgan 13.96 231 P **Pn 07 38 55.8 +0.1**
SFK pmax pmax
comp=Z,172nm,1.1s
IUG Iuzhnay 14.40 245*de*P **Pn 07 38 59.8 -1.8**
IUG *e*S **Sn 07 41 44.5 +3.8**
IUG pmax pmax
comp=Z,8μm,0.9s
IUG smax smax
comp=E,2μm,1.6s
IUG MLR MLR
comp=Z,2μm,10.0s
IUG Iuzhnay 14.40 245 ⇓*e*P **Pn 07 38 59.8 -1.8**
comp=Z,8μm,0.9s
IUG ⇑*e*S **Sn 07 41 44.5 +3.8**
comp=Z,2μm,1.6s
IUG *e*LRM MLR 07 44 15.2
comp=Z,2μm,10.3s
CHM Chimkent 14.54 246 *e*P **Pn 07 39 02.5 -1.0**
CHM pmax pmax
comp=Z,723nm,0.6s
CHM MLR MLR
comp=Z,2μm,10.0s
CHM Chimkent 14.54 246 *e*P **Pn 07 39 02.5 -1.0**
comp=Z,723nm,0.6s
CHM *e*LRM MLR 07 44 18.4
comp=Z,2μm,10.4s
BTK Batken 15.33 237 *e*Pn **Pn 07 39 13.2 -1.0**
comp=Z,143nm,0.8s
BTK Batken 15.33 237 *e*P **Pn 07 39 13.2 -1.0**
BTK pmax pmax
comp=Z,143nm,0.8s
GAR Garm 16.36 235 *e*Pn **Pn 07 39 27.0 -0.5**
comp=Z,337nm,0.7s
GAR *e*Sn **Sn 07 42 30.0 +1.5**
GAR Garm 16.36 235 *e*P **Pn 07 39 27.0 -0.5**

GAR *e* 07 42 30.0
GAR pmax pmax
comp=Z,337nm,0.7s
CIT Chita 16.48 72 *e*P **P 07 39 31.3 -0.2**
CIT pmax pmax
comp=Z,138nm,1.4s
CHGR Chuyangaron 17.23 237 *e*Pn **Pn 07 39 36.4 -2.0**
comp=Z,237nm,0.7s
CHGR *e*Sn **Sn 07 42 50.7 +1.0**
BOD Bodaibo 17.45 52 *e*P **Pn 07 39 38.0 -2.8**
SVE Sverdlovsk 17.52 304 *de*P **Pn 07 39 39.5 -2.2**
SVE pmax pmax
SVE MLR MLR
comp=Z,7μm,17.0s
AB31 Akbulak array 17.94 279 Pn **Pn 07 39 44.8 -2.3**
comp=Z,77nm,0.8s,baz=78,slow=12,SNR=1156
AB31 ⇓Lg Lg 07 45 01.5
comp=Z,53nm,0.9s,baz=76,slow=25,SNR=4.1
ABKAR Akbulak array 17.94 279 *e*Pn **Pn 07 39 44.8 -2.3**
LZH Lanzhou 18.07 133 ⇓P **Pn 07 39 47.6 -1.2**
LZH pP sP 07 39 56.5 -1.1
LZH PP **PnPn 07 40 03.6 +3.8**
LZH *e*S **Sn 07 43 04.5 -5.5**
LZH sS S 07 43 19.3 +3.6
LZH SS **SnSn 07 43 28.8 +5.3**
LZH pmax pmax
comp=Z,150nm,1.0s
LZH pmax pmax
comp=Z,930nm,4.9s
LZH LR LR
comp=Z,30μm,12.5s
LZH LR LR
comp=Z,33μm,10.3s
LZH LR LR
comp=Z,21μm,14.5s
ARU Arti 18.57 302 *e*P **P 07 39 52.9 -1.5**
comp=Z,178nm,0.6s
ARU *e*S **Sn 07 43 19.5 -2.1**
ARU Arti 18.57 302 *c i*P **P 07 39 52.9 -1.5**
ARU pmax pmax
comp=Z,141nm,1.7s
ARU MLR MLR
comp=Z,8μm,17.0s
AKTO Aktyubinsk 18.95 283 P **P 07 39 58.8 +0.2**
comp=Z,22nm,0.3s,baz=88,slow=11,SNR=634
AKTO S **Sn 07 43 23.2 -7.6**
comp=Z,0.7nm,0.3s,baz=202,slow=19,SNR=3.5
AKTO Lg Lg 07 45 37.9
comp=Z,0.5nm,0.3s,baz=336,slow=19,SNR=3.6
AKTO LR LR 07 47 31.0
comp=Z,5μm,19.1s,baz=84,slow=38
AKTO Aktyubinsk 18.95 283 ⇓Pn **P 07 39 58.5 0.0**
comp=Z,537nm,0.7s
AKTO ⇑Sn **Sn 07 43 28.3 -2.4**
AKTO ⇑Lg Lg 07 45 29.0
HHC Hu-ho-hao-te 19.00 109 *e*P **Pn 07 40 00.3 +0.3**
HHC PP **PnPn 07 40 17.8 +5.4**
HHC S **Sn 07 43 26.9 -5.3**
HHC pmax pmax
comp=Z,20nm,0.7s
HHC LR LR
comp=Z,12μm,7.8s
HHC LR LR
comp=Z,9μm,9.5s
HHC LR LR
comp=Z,7μm,6.9s
CHCP Chirah Chowk 19.29 219 P **P 07 40 02.6 +0.1**
CEP Cherat 19.72 222 P **P 07 40 06.6 -0.7**
CEP S **S 07 43 43.0 -5.9**
LSA Lhasa 20.23 171 P Pn 07 40 15.3 +0.1
LSA pP sP 07 40 22.6 +0.8
LSA S **S 07 43 58.6 -1.2**
LSA pmax pmax
comp=Z,19nm,0.9s
LSA LR LR
comp=Z,2μm,17.3s
LSA Lhasa 20.23 171 *e*P Pn 07 40 14.7 -0.5
comp=Z,71nm,1.0s
LSA Lhasa 20.23 171 *i* P Pn 07 40 15.6 +0.4
SNR=24
KBL Kabul 20.45 229 *e*P **P 07 40 14.7 -0.6**
comp=Z,84nm,0.9s
KBL Kabul 20.45 229 *e*P **P 07 40 14.7 -0.6**
KBL pmax pmax
comp=Z,84nm,0.9s
THW Thamme Wali 20.67 221 P **P 07 40 17.3 -0.2**
HIA Hailar 20.78 79 *e*P **P 07 40 19.3 +0.7**
comp=Z,89nm,0.9s
HIA Hailar 20.78 79 *e*P **P 07 40 19.3 +0.7**
HIA pmax pmax
comp=Z,89nm,0.9s
DANN Dangsing 21.60 189 *e*P **P 07 40 28.1 +0.2**
comp=Z,319nm,1.0s
GUN Gumba 21.88 184 *e*P **P 07 40 31.7 +0.8**
comp=Z,294nm,0.6s
PYUN Piuthan 21.94 191 *e*P **P 07 40 31.1 -0.3**
KKN Kakani 22.03 186 *e*P **P 07 40 32.6 +0.2**
comp=Z,177nm,0.6s
JIRN Jiri 22.12 183 *e*P **P 07 40 33.4 0.0**
comp=Z,184nm,0.7s
KOLN Koldanda 22.20 189 *e*P **P 07 40 34.3 +0.2**
comp=Z,205nm,1.1s
XAN Xi'an 22.22 127 P **P 07 40 33.6 -0.5**
XAN pP sP 07 40 43.3 +0.7
XAN PP **PnPn 07 40 57.3 +0.7**
XAN S **S 07 44 38.3 +0.4**
XAN sS Sn 07 44 53.6 +3.9
XAN pmax pmax
comp=Z,40nm,1.4s
XAN pmax pmax
comp=Z,320nm,3.6s
XAN LR LR
comp=Z,10μm,15.2s
XAN LR LR
comp=Z,15μm,14.3s
XAN LR LR
comp=Z,10μm,9.4s
XAN Xi'an 22.22 127 *e*P **P 07 40 33.6 -0.5**
comp=Z,386nm,1.1s
XAN Xi'an 22.22 127 *e*P **P 07 40 33.6 -0.5**
XAN pmax pmax
comp=Z,386nm,1.1s
DMN Daman 22.22 186 *e*P **P 07 40 34.0 -0.5**
comp=Z,150nm,0.8s
PKI Pulchoki 22.24 185 *e*P **P 07 40 35.0 +0.2**
comp=Z,436nm,1.2s
BJI Beijing 22.33 105 ⇑*i*P **P 07 40 36.3 +1.1**
BJI pmax pmax
comp=Z,130nm,0.8s
BJI LR LR
comp=Z,8μm,11.0s
BJI LR LR
comp=Z,820nm,12.1s
BJI LR LR
comp=Z,2μm,21.2s
BJT Baijiatuau 22.33 105 *e*P **P 07 40 35.8 +0.5**
comp=Z,131nm,0.7s
BJT Baijiatuau 22.33 105 *e*P **P 07 40 35.8 +0.5**
BJT pmax pmax
comp=Z,131nm,0.7s
CD2 Chengdu 22.42 141 ⇑P **P 07 40 37.3 +0.9**
CD2 pP sP 07 40 47.8 +3.0
CD2 sP pP 07 40 53.3 +11
CD2 S **S 07 44 41.6 -0.2**
CD2 pmax pmax
comp=Z,120nm,0.8s
CD2 pmax pmax
comp=Z,230nm,5.2s
CD2 LR LR
comp=Z,7μm,10.7s
CD2 LR LR
comp=Z,10μm,10.5s
RAMN Ramite 22.81 182 *e*P **P 07 40 39.9 -0.8**
comp=Z,186nm,0.7s
ODAN Odare 22.89 181 *e*P **P 07 40 41.6 +0.1**
comp=Z,227nm,1.1s
GEYT Alibeck 24.18 252 P **P 07 40 54.6 +0.6**
comp=Z,32nm,0.7s,baz=37,slow=7.9,SNR=30
GEYT LR LR 07 51 25.8
comp=Z,3μm,19.2s,baz=65,slow=39
GYA0B ALIBECK ARRAY 24.18 252 *e*P **P 07 40 54.8 +0.8**
comp=Z,85nm,0.8s
SHL Shillong 24.40 171 *e*P **P 07 40 56.1 -0.1**
comp=Z,97nm,0.8s
SHL Shillong 24.40 171 *e*P **P 07 40 56.1 -0.1**

SHL pmax pmax
comp=Z,97nm,0.8s
SHL Shillong 24.40 171 *e*P **P 07 40 55.0 -1.1**
SHL *e*S **S 07 45 10.0 -5.1**
ZEA Zeya 24.62 65 *e*P **P 07 40 59.0 +1.3**
ZEA *e*S **S 07 45 22.0 +4.1**
ZEA pmax pmax
comp=N,35nm,1.0s
ZEA pmax pmax
comp=E,59nm,1.0s
ZEA pmax pmax
comp=Z,100nm,1.0s
ZEA pmax pmax
comp=Z,500nm,6.0s
ZEA smax smax
comp=E,2μm,1.2s
ZEA MLR MLR
comp=E,3μm,9.0s
ZEA MLR MLR
comp=Z,4μm,9.0s
TIA Tai'an 25.30 111 P **P 07 41 05.3 +1.3**
TIA sP **sP 07 41 19.1 +6.2**
TIA pmax pmax
comp=Z,8.0nm,0.8s
TIA pmax pmax
comp=Z,59nm,3.7s
TIA LR LR
comp=Z,1μm,12.1s
TIA LR LR
comp=Z,1μm,11.4s
TIA LR LR
comp=Z,1μm,11.4s
ENH Enshi 25.53 132 *e*P **P 07 41 06.7 +0.5**
comp=Z,54nm,1.0s
PRGR Permogore 25.96 313 *e*P **P 07 41 08.9 -0.9**
PRGR pmax pmax
comp=Z,236nm,0.7s
YAK Yakutsk 26.05 46 *e*P **P 07 41 10.0 -0.6**
YAK *e**PP **sP 07 41 18.3 -1.2**
YAK *e* 07 41 52.8
YAK *e*PPP PPP 07 42 03.7
YAK *e*S **S 07 45 45.9 +5.4**
YAK *e* 07 52 04.5
YAK pmax pmax
comp=Z,49nm,0.9s
YAK pmax pmax
comp=E,24nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=Z,56nm,1.1s
YAK pmax pmax
comp=E,21nm,1.2s
YAK smax smax
comp=E,897nm,6.8s
YAK smax smax
comp=N,559nm,6.2s
YAK MLR MLR
comp=Z,3μm,10.0s
YAK MLR MLR
comp=N,2μm,8.0s
YAK MLR MLR
comp=E,2μm,8.0s
CN2 Changchun 26.37 88 *e*P **P 07 41 14.3 +0.6**
CN2 *e*pP sP 07 41 22.1 -0.5
CN2 *e*S **S 07 45 42.5 -3.4**
CN2 pmax pmax
comp=E,20nm,0.9s
CN2 LR LR
comp=E,4μm,12.0s
CN2 LR LR
comp=E,6μm,12.0s
CN2 LR LR
comp=E,8μm,14.0s
DL2 Dalian 26.42 101 *e*P **P 07 41 10.9 -3.3**
DL2 S **S 07 45 39.3 -7.5**
DL2 pmax pmax
comp=E,48nm,1.1s
DL2 pmax pmax
comp=E,250nm,3.6s
DL2 LR LR
comp=E,5μm,12.3s
DL2 LR LR
comp=E,5μm,11.2s
BRDH Bariadhala 27.24 172 LR LR 07 54 48.2
comp=E,1μm,18.7s,baz=322,slow=42
KMI Kunming 27.28 149 P **P 07 41 25.8 +3.6**
KMI pP sP 07 41 36.9 +5.8
KMI sP pP 07 41 40.8 +12
KMI PP **PnPn 07 42 13.0 +7.0**
KMI S **S 07 46 01.3 +0.4**
KMI sS sS 07 46 18.5 +7.2
KMI pmax pmax
comp=E,27nm,0.9s
KMI pmax pmax
comp=E,190nm,5.1s
KMI LR LR
comp=E,2μm,9.6s
KMI LR LR
comp=E,2μm,9.3s
KMI LR LR
comp=E,1μm,16.0s
KMI Kunming 27.28 149 *e*P **P 07 41 23.4 +1.2**
comp=E,22nm,0.8s
KMI Kunming 27.28 149 *e*P **P 07 41 23.4 +1.2**
KMI pmax pmax
comp=Z,22nm,0.8s
GYA Guiyang 27.54 141 ⇑*i*P **P 07 41 25.5 +1.1**
GYA pP sP 07 41 39.0 +5.7
GYA S **S 07 46 05.0 +0.3**
GYA sS sS 07 46 24.4 +9.3
GYA pmax pmax
comp=Z,50nm,0.8s
GYA pmax pmax
comp=Z,130nm,5.6s
GYA LR LR
comp=Z,5μm,13.0s
GYA LR LR
comp=Z,2μm,11.5s
GYA LR LR
comp=Z,7μm,12.5s
WHN Wuhan 27.81 124 P **P 07 41 29.8 +3.1**
WHN LR LR
comp=Z,13μm,10.1s
WHN LR LR
comp=Z,26μm,12.5s
WHN LR LR
comp=Z,15μm,12.1s
MAK Makhachkala 28.24 272 *e*P **P 07 41 33.0 +2.6**
MAK *e* 07 42 22.0
MAK *e*S **S 07 46 17.3 +2.0**
MAK *e*SS **SnSn 07 47 41.5 +10**
MAK pmax pmax
comp=Z,33nm,0.4s
MAK MLR MLR
comp=Z,4μm,15.0s
KLR Kul'dur 28.36 74 P **P 07 41 31.4 0.0**
comp=Z,12nm,0.8s,baz=288,slow=9.4,SNR=40
KLR Lg Lg 07 50 19.3
comp=Z,6.6nm,1.2s,baz=329,slow=14,SNR=3.6
KLR LR LR 07 53 16.7
comp=Z,4μm,18.5s,baz=280,slow=38
KLR Kul'dur 28.36 74 *i* P **P 07 41 30.8 -0.6**
MDJ Mudanjiang 28.70 84 P **P 07 41 35.3 +0.8**
MDJ pP sP 07 41 48.3 +4.8
MDJ sP pP 07 41 53.9 +13
MDJ S **S 07 46 20.9 -1.6**
MDJ pmax pmax
comp=Z,22nm,0.9s
MDJ LR LR
comp=Z,8μm,9.7s
MDJ LR LR
comp=Z,9μm,12.5s
MDJ LR LR
comp=Z,13μm,12.4s
MDJ Mudanjiang 28.70 84 *e*P **P 07 41 35.2 +0.7**
comp=Z,19nm,0.8s
TIXI Tiksi 28.76 26 P **P 07 41 34.2 -0.6**
comp=Z,7.4nm,0.6s,baz=277,slow=6.6,SNR=15
TIXI Lg Lg 07 50 29.4
comp=Z,15nm,1.1s,baz=307,slow=16,SNR=2.6
TIXI LR LR 07 53 26.6
comp=Z,2μm,19.9s,baz=234,slow=37
TIXI Tiksi 28.76 26 *e*P **P 07 41 34.1 -0.6**
comp=Z,24nm,0.8s
TIXI Tiksi 28.76 26 *ce*P **P 07 41 34.0 -0.8**

TIXI pmax pmax
comp=Z,11nm,0.8s
TIXI MLR MLR
comp=Z,2μm,18.0s
KLMR Klimovskoe 28.85 311 ⇑*i*P **P 07 41 35.8 +0.1**
KLMR pmax pmax
comp=Z,106nm,1.1s
KLMR Klimovskoe 28.85 311 ⇑*i*P **P 07 41 35.9 +0.2**
KLMR *e*P **P 07 41 35.9 +0.2**
KLMR *e*P **P 07 41 35.9 +0.2**
KLMR AMP 07 41 36.9
comp=Z,106nm,1.1s
KLMR *e*S S 07 47 20.3 +56
KLMR *e*S S 07 47 20.5 +56
VRH Novokhopyorsk 28.87 291 *e*P **P 07 41 36.0 0.0**
VRH pmax pmax
comp=Z,140nm,1.0s
VRH MLR MLR
comp=Z,3μm,10.0s
NJ2 Nanjing 29.21 116 *e*P **P 07 41 39.3 +0.1**
NJ2 sP sP 07 41 55.3 +7.2
NJ2 S **S 07 46 29.8 -1.0**
NJ2 pmax pmax
comp=Z,23nm,0.7s
NJ2 LR LR
comp=Z,7μm,16.3s
NJ2 LR LR
comp=Z,7μm,15.2s
NJ2 LR LR
comp=Z,5μm,13.6s
GROC Groznyy 29.23 273 *e*P **P 07 41 37.7 -1.6**
GROC *e* 07 42 28.7
GROC *e* 07 44 44.2
GROC *e*S **S 07 46 30.9 0.0**
GROC pmax pmax
comp=Z,25nm,0.5s
LPSR Galich'ya Gora 30.18 294 *e*P **P 07 41 47.5 -0.1**
LPSR pmax pmax
comp=Z,170nm,0.8s
LPSR MLR MLR
comp=Z,2μm,10.0s
VORR Voronezh 30.26 292 P **P 07 41 47.0 -1.3**
VORR pmax pmax
comp=Z,250nm,1.4s
MOS Moscow 30.27 301 *e*P **P 07 41 46.6 -1.7**
MOS *e*S **S 07 46 45.4 -1.6**
MOS *e*SS **ScP 07 48 26.9 -2.6**
MOS pmax pmax
comp=Z,145nm,0.8s
MOS MLR MLR
comp=N,2μm,9.0s
MOS MLR MLR
comp=E,3μm,9.0s
MOS MLR MLR
comp=Z,3μm,9.0s
VSR Storozhevoye 30.41 292 *c i*P **P 07 41 49.4 -0.2**
VSR pmax pmax
comp=Z,221nm,1.1s
VSR MLR MLR
comp=Z,3μm,10.0s
USA0B Ussuriysk Arra 30.43 83 *e*P **P 07 41 50.7 +0.9**
comp=Z,85nm,0.9s
USRK Ussuriysk Ar. 30.43 83 P **P 07 41 50.5 +0.7**
comp=Z,70nm,0.9s,baz=288,slow=7.8,SNR=61
USRK LR LR 07 54 56.7
comp=Z,4μm,20.1s,baz=287,slow=38
NCK Nalchik 30.52 275 ⇓*i*P **P 07 41 50.4 -0.3**
NCK pmax pmax
comp=Z,12nm,0.9s
NCK MLR MLR
comp=Z,1μm,13.0s
TBLG Delisi 30.63 271 *e*P **P 07 41 52.5 +0.8**
TBLG Delisi 30.63 271 *e*P **P 07 41 52.5 +0.8**
ZEI Tsey 30.65 274 *e*P **P 07 41 50.6 -1.5**
ZEI pmax pmax
comp=Z,16nm,0.7s
VLA Vladivostok 30.85 85 *i* P **P 07 41 54.0 +0.4**
VLA pmax pmax
comp=Z,40nm,1.1s
VLA MLR MLR
comp=Z,4μm,17.0s
KBZ Khabaz 30.86 276 P **P 07 41 54.5 +0.8**
comp=Z,7.7nm,0.7s,baz=68,slow=7.1,SNR=18
KBZ LR LR 07 55 57.8
comp=Z,2μm,18.8s,baz=46,slow=40
KVAR Kislovodsk Arr 30.89 277 P **P 07 41 55.8 +1.8**
comp=Z,5.0nm,0.4s,baz=72,slow=20,SNR=6.6
KIV Kislovodsk 30.90 277 *e*P **P 07 41 54.1 0.0**
comp=Z,58nm,0.9s
KIV Kislovodsk 30.90 277 P **P 07 41 55.0 +0.9**
KIV Kislovodsk 30.90 277 *e*P **P 07 41 54.7 +0.6**
KIV *e*S **S 07 46 59.6 +2.4**
KIV pmax pmax
comp=Z,30nm,1.0s
KIV MLR MLR
comp=Z,2μm,15.0s
KIV Kislovodsk 30.90 277 P **P 07 41 54.0 0.0**
SNR=5.6
KIV P **P 07 41 54.0 0.0**
SNR=5.6
OBN Obninsk 30.98 300 P **P 07 41 54.8 +0.2**
comp=Z,29nm,0.4s,baz=71,slow=5.0,SNR=35
OBN LR LR 07 54 36.2
comp=Z,487nm,18.0s,baz=56,slow=37
OBN Obninsk 30.98 300 *e*P **P 07 41 54.8 +0.2**
comp=Z,231nm,1.0s
OBN Obninsk 30.98 300 *c i*P **P 07 41 54.7 +0.2**
OBN *e* 07 42 53.4
OBN *e*S **S 07 46 59.8 +1.8**
OBN pmax pmax
comp=Z,387nm,1.7s
OBN MLR MLR
comp=Z,2μm,15.0s
NEY Neytrino 31.20 275 ⇓*i*P **P 07 41 58.0 +1.1**
NEY pmax pmax
comp=Z,12nm,0.7s
NEY MLR MLR
comp=Z,677nm,13.0s
KS01 Wonju Array Si 31.26 98 *e*P **P 07 41 56.5 -0.8**
KS15 Wonju Array Si 31.28 98 *e*P **P 07 41 58.0 +0.7**
KSRS Korea Array 31.30 98 P **P 07 41 57.4 -0.2**
comp=Z,20nm,0.9s,baz=299,slow=7.3,SNR=34
KSRS LR LR 07 55 28.5
comp=Z,5μm,18.0s,baz=304,slow=38
GNI Garni 31.44 269 P **P 07 42 00.2 +1.2**
GNI Garni 31.44 269 P **P 07 41 59.6 +0.6**
comp=Z,38nm,0.8s,baz=11,slow=5.0,SNR=19
GNI Garni 31.44 269 *i* P **P 07 42 00.7 +1.7**
SNR=12
GNI Garni 31.44 269 *c i*P **P 07 42 00.8 +1.7**
GNI pmax pmax
comp=Z,339nm,0.9s
GNI MLR MLR
comp=Z,8μm,15.0s
GNI Garni 31.44 269 P **P 07 42 00.9 +1.9**
SNR=9.1
LVZ Lovozero 31.51 325 *e*P **P 07 41 57.3 -1.9**
comp=Z,55nm,1.2s
LVZ Lovozero 31.51 325 ⇓*e*P **P 07 41 58.4 -0.8**
LVZ pmax pmax
comp=Z,4.0nm,0.8s
LVZ MLR MLR
comp=Z,8μm,15.0s
APA Apatity 31.94 324 ⇓*i*P **P 07 42 01.3 -1.6**
APA *i* 07 43 09.0
APA *i* 07 44 51.0
APA *i* S S 07 47 04.0 -8.8
APA pmax pmax
comp=Z,17nm,0.6s
APA MLR MLR
comp=Z,6μm,15.0s
CHTO Chiang Mai 32.20 160 *e*P **P 07 42 06.6 +1.0**
comp=Z,19nm,1.1s
CHTO Chiang Mai 32.20 160 *e*P **P 07 42 06.6 +1.0**
CHTO pmax pmax
comp=Z,19nm,1.1s
CHTO Chiang Mai 32.20 160 P **P 07 42 06.9 +1.2**
SNR=9.8
CHTO Chiang Mai 32.20 160 P **P 07 42 07.3 +1.6**
comp=Z,67nm,1.3s
CMMT Chiang Mai 32.21 160 P **P 07 42 07.2 +1.5**
comp=Z,15nm,1.5s,comp=Z,524nm
KARS Kars 32.27 271 *e*P **P 07 42 06.8 +0.5**
comp=Z,79nm,0.8s
KARS Kars 32.27 271 *e*P **P 07 42 06.8 +0.5**
KARS pmax pmax

comp=Z,79nm,0.8s
CLDR Caldiran 32.52 268 P **P** 07 42 09.7 +1.1
CM31 Chiang Mai Arr 32.55 160 *e*P **P** 07 42 08.9 +0.3
CMAR Chiang Mai Arr 32.55 160 P **P** 07 42 09.0 +0.3
comp=Z,7.5nm,0.8s,baz=343,slow=8.8,SNR=36
CMAR LR LR 07 56 36.8
comp=Z,585nm,19.7s,baz=346,slow=39
CMAR Chiang Mai Arr 32.55 160 *i* P **P** 07 42 09.6 +0.9
CMAR pmax pmax
comp=Z,7.0nm,0.8s
CM01 Chiang Mai Arr 32.59 160 *e*P **P** 07 42 09.9 +0.8
NKL Nikolayevsk 32.60 63 *e*P **P** 07 42 09.0 +0.2
NKL *e* 07 52 36.0
NKL pmax pmax
comp=Z,22nm,1.0s
NKL MLR MLR
comp=N,1μm,10.0s
NKL MLR MLR
comp=E,1μm,10.0s
NKL MLR MLR
comp=Z,2μm,10.0s
AGRB Hanur-Agry 32.89 269 P **P** 07 42 13.7 +2.0
SOC Sochi 32.98 278 *e*P **P** 07 42 11.5 -0.7
SOC *e*S **S** 07 47 32.2 +2.7
SOC *e*SS **SnSn** 07 49 21.6 -5.7
SOC pmax pmax
comp=Z,80nm,0.8s
SOC MLR MLR
comp=Z,2μm,15.0s
TEY Ternei 33.01 79⇑*e*P **P** 07 42 13.8 +1.3
TEY pmax pmax
comp=Z,50nm,1.4s
TEY pmax pmax
comp=N,30nm,1.3s
TEY MLR MLR
comp=E,500nm,9.0s
TEY MLR MLR
comp=N,200nm,13.0s
TEY MLR MLR
comp=Z,700nm,9.0s
HYB Hyderabad 33.10 196 *i* P **P** 07 42 15.0 +1.4
MLAZ Malazgirt-MUS 33.41 269 P **P** 07 42 19.0 +2.7
PUL Pulkovo 33.49 309*ce*P **P** 07 42 18.1 +1.6
PUL pmax pmax
comp=Z,231nm,0.6s
PUL MLR MLR
comp=Z,4μm,18.0s
AKDM Akdamar-Van 33.59 267 P **P** 07 42 19.8 +2.0
UTTA Uttaradit 33.62 157 P **P** 07 42 19.8 +1.8
comp=Z,6.8nm,1.0s,comp=Z,213nm
SUKH Sukhothai 33.65 159 P **P** 07 42 20.6 +2.4
comp=Z,6.1nm,1.0s
ANN Anapa 33.88 281 *e*P **P** 07 42 19.9 -0.2
ANN *e*S **S** 07 47 45.8 +2.4
ANN pmax pmax
comp=Z,245nm,1.5s
ANN MLR MLR
comp=N,4μm,15.0s
ANN MLR MLR
comp=E,346nm,15.0s
ANN MLR MLR
comp=Z,2μm,15.0s
SHME Shamm 33.91 237 *i* P **P** 07 42 21.2 +0.7
SNR=13
BANOM Banah 33.92 237 *i* P **P** 07 42 21.9 +1.2
SNR=22
BANOM Banah 33.92 237 P **P** 07 42 23.8 +3.1
SNR=6.4
BANOM P **P** 07 42 23.8 +3.1
SNR=6.4
NONG Nongkai 34.02 153 P **P** 07 42 23.3 +1.8
comp=Z,0.4nm,1.2s
GURO Guroymak-BITLI 34.08 268 P **P** 07 42 23.7 +1.7
SIRT Sirnak 34.41 267 P **P** 07 42 25.1 +0.2
SIRT Sirnak 34.41 267 *e*P **P** 07 42 25.8 +0.9
comp=Z,135nm,1.1s
MDH Madha 34.42 236 P **P** 07 42 26.6 +1.6
MSFE Esma-Masafi 34.45 237 *i* P **P** 07 42 26.4 +1.2
SNR=9.1
UMPA Umpang Tak 34.71 161 P **P** 07 42 30.4 +2.9
comp=Z,8.6nm,0.7s,comp=Z,2μm
UOSS Minazif 34.76 236 *e*P **P** 07 42 28.2 +0.4
comp=Z,12nm,0.8s
UOSS Minazif 34.76 236 *i* P **P** 07 42 27.9 0.0
SNR=6.5
SVAN Silvan-Diyarba 34.84 268 P **P** 07 42 30.3 +1.7
PBKT Sadao Pong 34.85 157 *e*P **P** 07 42 29.3 +0.6
comp=Z,31nm,1.3s
PBKT Sadao Pong 34.85 157 P **P** 07 42 30.1 +1.4
comp=Z,19nm,1.6s,comp=Z,2μm
WSAR Wadi Sarin 34.88 231 P **P** 07 42 30.2 +1.2
comp=Z,3.7nm,0.5s,baz=80,slow=6.5,SNR=6.7
WSAR PcP **PcP** 07 45 01.6 0.0
comp=Z,6.0nm,0.5s,baz=143,slow=5.1,SNR=7.3
WSAR Wadi Sarin 34.88 231 P **P** 07 42 31.3 +2.3
ARA0 ARCESS Array S 34.97 327 *e*P **P** 07 42 29.5 +0.2
ARA0 *e*PcP **PcP** 07 45 00.4 -0.7
ARCES ARCESS Array B 34.97 327 P **P** 07 42 29.5 +0.2
comp=Z,22nm,0.8s,baz=93,slow=12,SNR=39
ARCES PcP **PcP** 07 45 00.4 -0.7
comp=Z,11nm,0.6s,baz=97,slow=3.2,SNR=8.1
ARCES ARCESS Array B 34.97 327 *e*P **P** 07 42 29.7 +0.4
ARE0 ARCESS Array S 34.97 327 *e*P **P** 07 42 29.4 +0.1
comp=Z,1.9nm,0.9s
ARE0 ARCESS Array S 34.97 327 *e*P **P** 07 42 29.6 +0.3
NAZ Nazwa, Dubai 35.02 237 P **P** 07 42 31.1 +1.0
ASHO Ashiyiah 35.05 236 *i* P **P** 07 42 31.7 +1.2
SNR=22
ASHO Ashiyiah 35.05 236 P **P** 07 42 31.5 +1.1
SNR=6.8
FAQ Al Faqa, Dubai 35.25 237 *i* P **P** 07 42 33.2 +1.1
SNR=6.0
FIA1 FINESS Array S 35.29 313 *e*P **P** 07 42 32.5 +0.4
FIA0 FINESS Array S 35.29 313 *e*P **P** 07 42 32.5 +0.4
FIA0 *e*PcP **PcP** 07 45 01.8 -0.4
FIA0 FINESS Array S 35.29 313 *e*P **P** 07 42 32.5 +0.4
FIA0 *e* 07 45 01.8
FINES FINESS Array B 35.29 313 P **P** 07 42 32.5 +0.4
comp=Z,32nm,0.5s,baz=72,slow=9.3,SNR=183
FINES PcP **PcP** 07 45 01.8 -0.4
comp=Z,7.6nm,0.6s,baz=60,slow=3.5,SNR=5.5
SKNT Sakolnakorn 35.30 152 P **P** 07 42 33.8 +1.2
comp=Z,7.1nm,0.8s
UTHA Uthaitani 35.46 160 P **P** 07 42 35.9 +1.9
comp=Z,7.8nm,0.9s,comp=Z,111nm
QIZ Qiongzhong 35.47 142 P **P** 07 42 34.8 +0.8
QIZ S **S** 07 48 11.8 +3.5
QIZ pmax pmax
comp=Z,37nm,0.7s
QIZ pmax pmax
comp=Z,160nm,3.3s
QIZ LR LR
comp=Z,2μm,16.9s
QIZ LR LR
comp=Z,7μm,15.3s
QIZ LR LR
comp=Z,4μm,12.8s
QIZ Qiongzhong 35.47 142 *e*P **P** 07 42 34.8 +0.8
comp=Z,59nm,1.0s
ASUD Al Ashush, Dub 35.49 237 P **P** 07 42 35.7 +1.6
VSU Vasula 35.55 308*c* *i*P **P** 07 42 34.7 +0.3
VSU pmax pmax
comp=Z,337nm,0.7s
VSU MLR MLR
comp=Z,6μm,17.0s
VSU Vasula 35.55 308 *e*P **P** 07 42 34.5 +0.2
VSU IAmb IAmb 07 42 35.5
comp=Z,355nm,0.7s
PTK Pertek 35.60 271 P **P** 07 42 36.4 +1.2
HAMF Hammerfest 35.62 329 *e*P **P** 07 42 35.4 +0.5
ALNE Al Ain 35.72 236 *i* P **P** 07 42 37.2 +1.0
SNR=7.4
MAZI Mazidag 35.73 268 P **P** 07 42 36.7 +0.4
KTK1 Kautokeino 35.78 326 *e*P **P** 07 42 36.6 +0.4
SIM Simferopol' 35.91 283*ce*P **P** 07 42 38.1 +0.5
SIM *e*S **S** 07 48 07.0 -7.7
SIM pmax pmax
comp=Z,146nm,0.9s
SIM MLR MLR
comp=Z,1μm,14.0s
MICGM Minsk 35.99 301⇑*i*P **P** 07 42 38.0 -0.2
MICGM PM 07 42 39.0
comp=Z,0.4nm,1.5s
MICGM *e*S **S** 07 48 17.0 +1.2
MICGM *e*LR LR 07 54 35.0
MICGM LRM MLR 07 57 21.0
comp=Z,7.0nm,10.0s
MNK Minsk 35.99 301⇑*i*P **P** 07 42 38.0 -0.2
MNK *e*S **S** 07 48 17.0 +1.2
YSS Yuzh-Sakhalins 36.05 73 *e*P **P** 07 42 39.6 +0.9
comp=Z,40nm,1.1s
YSS Yuzh-Sakhalins 36.05 73⇓*i*P **P** 07 42 40.0 +1.3
YSS *e*S **S** 07 48 20.0 +3.3
YSS pmax pmax
comp=Z,30nm,0.9s
YSS MLR MLR
comp=N,700nm,16.0s
YSS MLR MLR
comp=Z,2μm,16.0s
YSS MLR MLR
comp=E,2μm,15.0s
IDID Didziasalis 36.38 303 *e*P **P** 07 42 42.1 +0.6
IDID IAmb IAmb 07 42 43.6
comp=Z,36nm,0.7s
MA2 Magadan 36.44 50 *e*P **P** 07 42 41.8 -0.2
comp=Z,63nm,1.6s
MA2 Magadan 36.44 50*ce*P **P** 07 42 42.1 +0.1
MA2 pmax pmax
comp=Z,33nm,1.3s
MA2 MLR MLR
comp=Z,2μm,16.0s
NACGM Naroch 36.48 302 *e*P **P** 07 42 41.0 -1.4
NACGM *e*LQ LQ 07 54 38.0
NACGM *e*LR LR 07 56 12.0
NACGM LRM MLR 07 57 42.0
comp=E,7.4nm,10.0s
AKASG Malin Array Be 36.52 294 P **P** 07 42 42.3 -0.4
comp=E,14nm,0.5s,baz=59,slow=8.8,SNR=5.3
AKASG PP **PnPn** 07 44 04.2 -1.2
comp=E,17nm,0.7s,baz=62,slow=11,SNR=6.0
AKBB Malin Array Si 36.52 294 *e*P **P** 07 42 42.9 +0.2
comp=E,345nm,1.8s
IZAR Zarasai 36.52 303 *e*P **P** 07 42 43.3 +0.6
IZAR IAmb IAmb 07 42 44.1
comp=Z,30nm,0.7s
KIEV Kiev 36.53 294 *e*P **P** 07 42 42.8 +0.1
comp=Z,363nm,1.8s
KIEV Kiev 36.53 294⇑*i*P **P** 07 42 42.9 +0.1
KIEV Kiev 36.53 294 *i* P **P** 07 42 42.9 +0.1
SNR=53
KIEV Kiev 36.53 294*d* *i*P **P** 07 42 42.9 +0.1
KIEV pmax pmax
comp=Z,129nm,1.4s
KIEV MLR MLR
comp=Z,2μm,19.0s
SEY Seymchan 36.53 44⇓*i*P **P** 07 42 42.3 -0.4
AK11 Malin Array Si 36.56 294 *e*P **P** 07 42 42.0 -1.0
SRDT SRDT 36.57 161 P **P** 07 42 44.5 +1.1
comp=Z,24nm,0.8s
SVSK Karacayir 36.59 274 P **P** 07 42 42.7 -0.7
CUKAN kangal_SIVAS 36.61 273 *i* P **P** 07 42 46.0 +2.2
SNOP Sinop 36.63 278 *e*P **P** 07 42 44.0 +0.2
comp=Z,40nm,0.7s
ISAL Salakas 36.64 303 *e*P **P** 07 42 44.4 +0.7
ISAL IAmb IAmb 07 42 45.2
comp=Z,32nm,0.7s
IIGN Ignalina 36.65 303 *e*P **P** 07 42 44.6 +0.8
IIGN IAmb IAmb 07 42 46.1
comp=Z,58nm,0.6s
TOKT Tokat 36.66 275 P **P** 07 42 45.5 +1.4
URFA Urfa 36.79 269 P **P** 07 42 46.8 +1.5
DARE Darende-Malaty 37.01 272 P **P** 07 42 48.4 +1.2
CUALT Altinyayla-SIV 37.09 273 *i* P **P** 07 42 50.7 +2.8
MHTO MHTO 37.10 230 P **P** 07 42 49.9 +2.0
SNR=6.7
MHTO P **P** 07 42 49.9 +2.0
SNR=6.7
ASAJ Asahikawa 37.23 77 P **P** 07 42 49.5 +0.5
comp=Z,19nm,0.8s,baz=280,slow=17,SNR=12
TRO Tromso 37.28 327 *e*P **P** 07 42 49.2 +0.3
CUSAR Sarkisla-SIVAS 37.34 274 *i* P **P** 07 42 51.9 +1.9
MZR Muzera 37.79 238 *i* P **P** 07 42 54.7 +0.9
SNR=7.9
PABE Paberze 37.82 304 *e*P **P** 07 42 54.3 +0.5
PABE IAmb IAmb 07 42 55.6
comp=Z,189nm,0.7s
GAZ Gaziantep 37.99 270 P **P** 07 42 57.1 +1.6
SPITS Spitsbergen Ar 38.00 342 P **P** 07 42 54.9 -0.1
comp=Z,9.5nm,0.7s,baz=98,slow=17,SNR=12
SPITS PcP **PcP** 07 45 09.9 -0.2
comp=Z,11nm,0.6s,baz=102,slow=12,SNR=5.2
KMRS Kahramanmaras 38.00 271 P **P** 07 42 52.7 -2.8
SLIT Slitere, Latvi 38.05 308 *e*P **P** 07 42 54.9 -0.7
SLIT IAmb IAmb 07 42 56.0
comp=Z,466nm,0.6s
PHET Kaeng Krachan 38.07 161 P **P** 07 42 57.9 +1.7
comp=Z,6.4nm,0.7s
ILGA Ilgaz 38.09 278 *e*P **P** 07 42 57.7 +1.2
comp=Z,61nm,0.9s
KIS Kishinev 38.28 289⇑*i*P **P** 07 42 56.0 -1.7
comp=Z,400nm,1.4s
KIS Kishinev 38.28 289 *e*PP PP 07 44 22.0 -3.2
KIS *e*SS SS 07 51 26.0 -13
KIS *e*SSS SSS 07 51 45.0
KIS *e*LQ LQ 07 56 02.0
comp=Z,4μm,14.0s
KIS *e*LR LR 07 58 15.0
comp=Z,2μm,16.0s
KIS Kishinev 38.28 289⇑*i*P **P** 07 42 56.0 -1.7
KIS *e* 07 43 00.0
KIS *i* 07 43 03.0
KIS *e* 07 44 22.0
KIS *e*SS SS 07 51 26.0 -13
KIS pmax pmax
comp=Z,400nm,1.4s
KIS MLR MLR
comp=Z,2μm,16.0s
MAJO Matsushiro 38.48 90 *e*P **P** 07 42 58.6 -0.9
MAJO Matsushiro 38.48 90 *i* P **P** 07 42 58.9 -0.6
MAJO MLR MLR
comp=Z,2μm,17.0s
MJAR Matsushiro Arr 38.48 90 P **P** 07 42 58.6 -0.9
comp=Z,2.4nm,0.6s,baz=302,slow=9.7,SNR=6.8
MJAR LR LR 07 59 12.3
comp=Z,2μm,20.0s,baz=310,slow=37
MJAR Matsushiro Arr 38.48 90 P **P** 07 42 58.6 -0.9
MJAR pmax pmax
comp=Z,6.0nm,1.1s
MJAR MLR MLR
comp=Z,2μm,20.0s
DELI KIRIKKALE 38.53 276 *i* P **P** 07 43 01.1 +1.1
ERM Erimo 38.64 80 *e*P **P** 07 43 02.8 +2.0
comp=Z,204nm,1.0s
ERM Erimo 38.64 80*ce*P **P** 07 43 02.0 +1.2
ERM pmax pmax
comp=Z,262nm,1.3s
ERM MLR MLR
comp=Z,2μm,16.0s
KOZT Kozan 38.71 272 P **P** 07 43 01.5 +0.1
PBUR Paburg 38.74 305 *e*P **P** 07 43 01.7 +0.2
PBUR IAmb IAmb 07 43 03.1
comp=Z,137nm,0.7s
SUW Suwalki 38.76 302 *e*P **P** 07 43 01.6 0.0
SUW Suwalki 38.76 302 *e*P **P** 07 43 01.3 -0.3
comp=Z,146nm,1.0s
SUW Suwalki 38.76 302 *e*P **P** 07 43 01.3 -0.3
SUW pmax pmax
comp=Z,146nm,1.0s
STEI Steigen 38.82 325 *e*P **P** 07 43 02.4 +0.4
BR101 Keskin Array S 38.86 276 *e*P **P** 07 43 03.8 +0.9
BR131 Keskin Array S 38.86 276 *e*P **P** 07 43 03.8 +0.9
BR131 Keskin Array S 38.86 276 P **P** 07 43 03.8 +0.9
SNR=38
BRTR Keskin Array B 38.86 276 P **P** 07 43 03.8 +0.9
comp=Z,55nm,0.6s,baz=79,slow=7.1,SNR=378
BRTR LR LR 07 59 22.5
comp=Z,737nm,22.0s,baz=27,slow=37
IAS Iasi 38.96 290⇑*i*P **P** 07 43 04.6 +1.2
TLCR 39.12 287⇑*i*P **P** 07 43 05.5 +0.7
ANTO Ankara 39.32 277 *e*P **P** 07 43 07.7 +1.1
comp=Z,74nm,0.6s
ANTO Ankara 39.32 277⇑*i*P **P** 07 43 07.9 +1.3
ANTO Ankara 39.32 277 *e*P **P** 07 43 07.7 +1.1
ANTO pmax pmax
comp=Z,74nm,0.6s
ANTO Ankara 39.32 277 P **P** 07 43 07.8 +1.1
SNR=15
ANTO P **P** 07 43 07.8 +1.1
SNR=15
YUK Yuzh-Kuril'sk 39.33 75 *e*P P 07 42 59.4 -7.1
YUK *e*S **S** 07 48 59.7 -6.9
YUK pmax pmax
comp=Z,227nm,0.7s
YUK pmax pmax
comp=N,90nm,0.3s
YUK pmax pmax
comp=E,167nm,0.2s
YUK MLR MLR
comp=Z,1μm,13.0s
YUK MLR MLR
comp=E,2μm,14.0s
YUK MLR MLR
comp=N,2μm,11.0s
BIR Birlad 39.35 289⇑*i*P **P** 07 43 08.3 +1.6
BR231 Keskin MP Arra 39.35 277 *e*P **P** 07 43 07.2 +0.3
AFSR Afar-Bala (An 39.38 276 P **P** 07 43 07.7 +0.6
LOF Lofoten 39.41 325 *e*P **P** 07 43 06.7 -0.2
MOR8 Moi Rana 39.47 322 *e*P **P** 07 43 06.7 -0.8
CFR Carcaliu 39.55 287⇑*i*P **P** 07 43 08.8 +0.5
PRAR RASCA 39.70 291⇑*i*P **P** 07 43 10.4 +0.8
TIRR Tirgusor 39.72 286 *e*P **P** 07 43 10.3 +0.5
comp=N,134nm,1.9s
TIRR Tirgusor 39.72 286⇑*i*P **P** 07 43 10.3 +0.5
TIRR Tirgusor 39.72 286 *e*P **P** 07 43 10.3 +0.5
TIRR pmax pmax
comp=Z,135nm,1.9s
PETR Petresti 39.84 288⇑*i*P **P** 07 43 12.5 +1.7
TLB Topalu 39.89 286⇑*i*P **P** 07 43 12.0 +0.8
HARR Harsova 39.91 286⇑*i*P **P** 07 43 12.1 +0.8
KONS Konsvik 39.91 323 *e*P **P** 07 43 11.7 +0.6
LVV L'vov 39.92 295*d* *i*P **P** 07 43 12.2 +0.8
LVV *e*S **S** 07 49 17.3 +1.9
LVV MLR MLR
comp=Z,1μm,11.0s
ODBI Odobesti 39.93 288⇑*i*P **P** 07 43 13.0 +1.5
BIZ Bicaz 39.97 290⇑*i*P **P** 07 43 13.0 +1.2
VRI Vrincioaia 40.09 289⇑*i*P **P** 07 43 14.1 +1.2
PLOR Plostina 40.14 289⇑*i*P **P** 07 43 14.6 +1.3
KLNR Kaliningrad 40.16 304*c* *i*P **P** 07 43 14.0 +0.7
KLNR pmax pmax
comp=Z,322nm,1.5s
KLNR MLR MLR
comp=Z,746nm,13.0s
GRER 40.17 288⇑*i*P **P** 07 43 16.5 +3.0
BUR08 Bucovina Ar. S 40.19 292 *e*P **P** 07 43 14.7 +0.9
BUR04 Bucovina Ar. S 40.19 292 *e*P **P** 07 43 13.8 0.0
PSN Preselentsi 40.25 285 *i* P **P** 07 43 15.2 +1.0
ICOR Ion Corvin 40.27 286⇑*i*P **P** 07 43 15.5 +1.1
AUSIV SIVRIHISAR 40.37 277 *i* P **P** 07 43 16.6 +1.3
OZUR 40.55 289⇑*i*P **P** 07 43 17.7 +0.9
ISR Istrita 40.56 288⇓*i*P **P** 07 43 18.2 +1.4
MLR Muntele Rosu 40.75 288 P **P** 07 43 19.6 +1.2
comp=Z,21nm,0.5s,baz=15,slow=2.4,SNR=59
MLR Muntele Rosu 40.75 288 *e*P **P** 07 43 17.6 -0.9
comp=Z,36nm,0.8s
MLR Muntele Rosu 40.75 288⇑*i*P **P** 07 43 19.7 +1.2
MLR Muntele Rosu 40.75 288 *e*P **P** 07 43 17.6 -0.9
MLR pmax pmax
comp=Z,36nm,0.8s
KWP Kalwaria Pacla 40.78 296 *e*P **P** 07 43 19.7 +1.2
KWP Kalwaria Pacla 40.78 296 *e*P **P** 07 43 20.1 +1.5
comp=Z,5μm,1.6s
KWP Kalwaria Pacla 40.78 296⇑*e*P **P** 07 43 19.7 +1.2
DOPR Dopca 40.86 289⇑*i*P **P** 07 43 20.9 +1.7
NSS Namsos 40.88 320 *e*P **P** 07 43 19.1 0.0
SECR 40.90 288⇑*i*P **P** 07 43 21.1 +1.6
BEL Belsk 40.94 299 *e*P **P** 07 43 20.7 +0.9
BEL Belsk 40.94 299 *e*P **P** 07 43 20.7 +0.9
ARCR ARCALIA 40.96 291⇑*i*P **P** 07 43 22.1 +2.1
PRD Provadia 40.99 285 *i* P P 07 43 29.1 +8.8
BILL Bilibino 41.11 34 *e*P **P** 07 43 21.5 +0.5
comp=Z,7.5nm,0.9s
BILL Bilibino 41.11 34⇑*e*P **P** 07 43 21.2 +0.2
BILL *e* 07 44 58.6
BILL *e*S **S** 07 49 38.0 +5.4
BILL *e*SS **SS** 07 52 32.2 -2.6
BILL pmax pmax
comp=Z,3.0nm,0.5s
BILL MLR MLR
comp=Z,1μm,14.0s
SGRR Singureni 41.36 287⇑*i*P **P** 07 43 25.1 +1.8
MTUR Matau 41.42 289⇑*i*P **P** 07 43 25.4 +1.5
UZH Uzhgorod 41.47 294 *e*P **P** 07 43 27.1 +2.9
HFS Hagfors 41.49 313 P **P** 07 43 24.3 +0.1
comp=Z,96nm,0.6s,baz=82,slow=11,SNR=221
HFS S **S** 07 49 44.0 +5.5
comp=Z,11nm,1.0s,baz=70,slow=19,SNR=2.9
TRPA Tarpa 41.56 294⇑*i*P **P** 07 43 26.1 +1.2
TRPA Tarpa 41.56 294⇑*e*P **P** 07 43 25.1 +0.2
CJR Cluj-Napoca 41.59 291⇓*i*P **P** 07 43 27.2 +1.9
GOLR 41.67 288⇓*i*P **P** 07 43 27.3 +1.4
MMAI Mount Meron Ar 41.70 267 P **P** 07 43 27.0 +0.6
comp=Z,8.0nm,0.7s,baz=48,slow=12,SNR=12
HUMR Humele 41.82 288⇑*i*P **P** 07 43 27.8 +0.7
CSS Mathiatis 41.83 270 *e*P **P** 07 43 28.2 +0.9
comp=Z,20nm,0.7s
CSS Mathiatis 41.83 270 P **P** 07 43 27.4 +0.1
comp=Z,6.8nm,0.6s
JMB Yambol 41.88 284 *i* P **P** 07 43 29.1 +1.4
ISP Isparta 41.94 276 *e*P **P** 07 43 28.6 +0.3
comp=Z,37nm,0.8s
ISP Isparta 41.94 276 *e*P **P** 07 43 28.6 +0.3
ISP pmax pmax
comp=Z,37nm,0.8s
RAYN Ar Rayn 41.97 247 *e*P **P** 07 43 29.2 +0.6
comp=Z,134nm,0.6s
RAYN Ar Rayn 41.97 247 *i* P **P** 07 43 28.7 +0.1
SNR=7.4
RAYN Ar Rayn 41.97 247 *e*P **P** 07 43 29.2 +0.6
RAYN pmax pmax
comp=Z,134nm,0.6s
ZIMR 42.02 286⇑*i*P **P** 07 43 29.6 +0.8
NC405 NORSAR Array S 42.07 315 *e*P **P** 07 43 29.4 +0.4
DRGR 42.09 292⇑*i*P **P** 07 43 30.0 +0.6
NC303 NORSAR Array S 42.19 316 *e*P **P** 07 43 30.3 +0.4
OJC Ojcow 42.20 298 *e*P **P** 07 43 30.7 +0.5
OJC Ojcow 42.20 298 *e*P **P** 07 43 31.1 +0.9
comp=Z,563nm,1.8s
OJC Ojcow 42.20 298 *e*P **P** 07 43 30.7 +0.5
PEA1 Petropavlovsk- 42.21 58 *e*P **P** 07 43 30.4 +0.1
PEA0B Petropavlovsk- 42.21 58 *e*P **P** 07 43 30.9 +0.7
comp=Z,39nm,0.8s
PETK Petropavlovsk- 42.21 58 P **P** 07 43 30.4 +0.1
comp=Z,32nm,0.8s,baz=260,slow=4.1,SNR=19
PETK LR LR 08 01 56.8
comp=Z,1μm,18.6s,baz=291,slow=38
PETK Petropavlovsk- 42.21 58 *e*P **P** 07 43 30.2 0.0
PETK Petropavlovsk- 42.21 58 P **P** 07 43 30.4 +0.1
PETK pmax pmax
comp=Z,38nm,0.8s
PETK MLR MLR
comp=Z,1μm,18.6s
PVL Pavlikeni 42.27 286 *i* P **P** 07 43 32.6 +1.8
NIE Niedzica 42.28 296 *e*P **P** 07 43 32.5 +1.6
NIE Niedzica 42.28 296⇑*e*P **P** 07 43 32.5 +1.6
NC602 NORSAR Array S 42.28 315 *e*P **P** 07 43 30.8 +0.1
NB201 NORSAR Array S 42.28 315 *e*P **P** 07 43 30.6 -0.2
LTVH Ltavrtes, Hu 42.29 293⇑*e*P **P** 07 43 32.1 +1.2
GKP Gorka Klasztor 42.31 303 *e*P **P** 07 43 32.5 +1.5
GKP Gorka Klasztor 42.31 303 *e*P **P** 07 43 32.5 +1.5
NB2 NORSAR Subarra 42.33 315 P **P** 07 43 30.9 -0.2
comp=Z,65nm,0.7s,baz=66,slow=7.9
NB2 NORSAR Subarra 42.33 315 P **P** 07 43 30.9 -0.2
baz=66,slow=7.9
NB200 NORSAR Array S 42.33 315 *e*P **P** 07 43 31.1 0.0
NOA NORSAR Array B 42.33 315 P **P** 07 43 31.1 0.0
comp=Z,33nm,0.7s,baz=65,slow=7.8,SNR=504
NOA PP **PP** 07 45 12.2 +3.3
comp=Z,6.6nm,0.9s,baz=75,slow=9.8,SNR=2.5
NOA LR LR 08 00 16.1
comp=Z,1μm,21.8s,baz=75,slow=35
DEV Deva 42.41 291⇑*i*P **P** 07 43 32.2 +0.3
NC204 NORSAR Array S 42.45 316 *e*P **P** 07 43 32.1 +0.1
VLAD Vladila 42.45 287⇑*i*P **P** 07 43 32.9 +0.7
NB000 NORSAR Array S 42.53 315 *e*P **P** 07 43 32.5 -0.1
KRAB Krabi 42.54 163 P **P** 07 43 35.3 +2.1
comp=Z,18nm,0.7s,comp=Z,9μm
NAO01 NORSAR Array S 42.54 315 *e*P **P** 07 43 32.7 -0.2
NAO01 NORSAR Array S 42.54 315 *e*P **P** 07 43 32.6 -0.3
GHAJ Ghor Haditha 42.70 264 P P 07 43 24.9 -9.5
comp=Z,58nm,0.4s
GZR Gura Zlata 42.74 290⇑*i*P **P** 07 43 35.9 +1.2
PET Petropavlovsk 42.77 57 *e*P **P** 07 43 35.4 +0.7
comp=Z,48nm,1.1s
PET Petropavlovsk 42.77 57 *e*P **P** 07 43 34.3 -0.4

PET eS S 07 49 54.9 -2.6
PET pmax pmax
comp=Z,48nm,1.2s
PET MLR MLR
comp=E,1µm,16.0s
BSD Bornholm Skovb 42.78 306⇑ *i*P P 07 43 34.6 -0.2
comp=E,57nm,0.7s
BSD Bornholm Skovb 42.78 306⇑ *i*P P 07 43 34.6 -0.2
BSD pmax pmax
comp=Z,57nm,0.7s
MANT Manisa 42.82 278 *e*P P 07 43 35.7 +0.1
comp=Z,175nm,1.6s
LANS Liptovska Anna 42.88 296 *e*P P 07 43 37.5 +1.7
LANS *e* 07 45 15.0
LANS Liptovska Anna 42.88 296 *e*P P 07 43 37.5 +1.7
LANS *e*PP PP 07 45 15.0 -0.2
DOMB Dombas 42.93 317 *e*P P 07 43 36.0 0.0
OSL Oslo 42.95 314 *e*P P 07 43 36.7 +0.6
SIRR Siria 42.98 292⇑ *i*P P 07 43 38.1 +1.6
HERR Herculane 43.22 290⇑ *i*P P 07 43 39.1 +0.6
PSZ Piszkesteto 43.22 295 *e*P P 07 43 39.9 +1.3
comp=Z,195nm,1.9s
PSZ Piszkesteto 43.22 295⇓ *i*P P 07 43 39.7 +1.1
PSZ Piszkesteto 43.22 295 *e*P P 07 43 39.9 +1.3
PSZ pmax pmax
comp=Z,195nm,1.9s
PSZ Piszkesteto 43.22 295⇑ *e*P P 07 43 39.1 +0.5
HSNJ Maan 43.31 263 P P 07 43 41.4 +1.8
OKC Ostrava-Krasne 43.33 298 *e*P P 07 43 41.3 +2.0
OKC AMS AMS 08 01 40.0
comp=Z,3µm,10.8s
OKC Ostrava-Krasne 43.33 298 *e*P P 07 43 41.3 +2.0
OKC MLR MLR
comp=Z,3µm,10.8s
BZS Buzias 43.33 291⇓ *i*P P 07 43 40.4 +1.0
PGB Panagyurishte 43.35 286 *i*P P 07 43 40.6 +0.9
MOL Molde 43.40 318 *e*P P 07 43 40.5 +0.9
VYHS Vyhne 43.56 296 *e*P P 07 43 42.6 +1.4
VYHS *e* 07 43 47.4
VYHS *e* 07 45 21.4
VYHS pmax pmax
comp=Z,106nm,2.0s
VYHS Vyhne 43.56 296 *e*P P 07 43 42.6 +1.4
VYHS *es*P pP 07 43 47.4 -0.2
VYHS *e*PP PP 07 45 21.4 -1.0
KONO Kongsberg 43.59 314 *e*P P 07 43 41.5 +0.3
comp=Z,175nm,1.6s
KONO Kongsberg 43.59 314*c* *i*P P 07 43 41.5 +0.3
KONO pmax pmax
comp=Z,110nm,1.8s
KONO MLR MLR
comp=Z,1µm,16.0s
KONO Kongsberg 43.59 314 *e*P P 07 43 41.5 +0.3
MDVR Moldovita 43.70 290⇑ *i*P P 07 43 43.2 +0.8
MORC Moravsky Berou 43.70 298 *e*P P 07 43 43.4 +1.0
comp=Z,228nm,1.9s
MORC Moravsky Berou 43.70 298⇑ *i*P P 07 43 43.3 +1.0
MORC Moravsky Berou 43.70 298 *e*P P 07 43 43.4 +1.0
MORC pmax pmax
comp=Z,228nm,1.9s
MORC Moravsky Berou 43.70 298⇑ *i*P P 07 43 43.4 +1.0
MORC *e* 07 45 21.3
AKN Aaknes 43.78 318 *e*P P 07 43 43.6 +0.8
KSP Ksiaz 43.91 300 *e*P P 07 43 45.0 +1.0
KSP Ksiaz 43.91 300⇑ *e*P P 07 43 44.9 +1.0
VTS Vitosha 43.93 286 *e*P P 07 43 45.2 +0.8
comp=Z,19nm,0.9s
VTS Vitosha 43.93 286⇑ *i*P P 07 43 45.1 +0.7
VTS Vitosha 43.93 286 *e*P P 07 43 45.2 +0.8
VTS pmax pmax
comp=Z,19nm,0.9s
BUD Budapest 43.95 295⇑ *e*P P 07 43 45.1 +0.8
KRLC Kraliky 43.99 299 *e*P P 07 43 45.6 +0.9
KRLC *ep*P pP 07 43 50.5 -0.6
KRLC *e*PP PP 07 45 26.7 -0.3
KRLC Kraliky 43.99 299 *e*P P 07 43 45.6 +0.9
KRLC *e* 07 43 50.5
KRLC *e* 07 45 26.7
JAVC Velka Javorina 44.06 297⇑ *i*P P 07 43 47.6 +2.3
DPC Dobruska-Polom 44.12 299 *e*P P 07 43 47.4 +1.6
DPC *e*PP PP 07 45 28.3 -0.1
DPC AMS AMS 08 02 40.0
comp=Z,2µm,10.4s
DPC Dobruska-Polom 44.12 299 *e*P P 07 43 47.4 +1.6
DPC *e* 07 45 28.3
DPC MLR MLR
comp=Z,2µm,10.4s
EIL Elat 44.18 263 P P 07 43 47.4 +1.0
comp=Z,8.6nm,0.7s,baz=70,slow=4.4,SNR=11
EIL Elat 44.18 263 P P 07 43 39.1 -7.3
UPC Upice 44.22 300 *e*P P 07 43 47.8 +1.3
UPC *ep*P pP 07 43 52.4 -0.5
UPC AMS AMS 08 02 20.0
comp=Z,3µm,9.9s
UPC Upice 44.22 300 *e*P P 07 43 47.8 +1.3
UPC *e* 07 43 52.4
UPC MLR MLR
comp=Z,3µm,9.9s
VRAC Vranov 44.47 298 P P 07 43 49.8 +1.3
comp=Z,13nm,0.4s,baz=68,slow=8.5,SNR=17
VRAC PP PcP 07 45 30.5 -1.2
comp=Z,9.1nm,0.7s,baz=87,slow=16,SNR=3.0
VRAC Vranov 44.47 298⇑ *i*P P 07 43 49.8 +1.3
VRAC Vranov 44.47 298⇑ *i*P P 07 43 49.8 +1.3
MODS Modra-Piesok 44.53 296 *e*P P 07 43 50.7 +1.7
MODS pmax pmax
comp=Z,110nm,1.6s
MODS Modra-Piesok 44.53 296 *e*P P 07 43 50.7 +1.7
MODS *e*L L 08 03 13.5
HYA Hoyanger 44.54 317 *e*P P 07 43 49.5 +0.7
RUE Ruedersdorf 44.54 303 *e*P P 07 43 50.4 +1.5
comp=Z,108nm,0.7s,baz=60,slow=7.8
RUE Ruedersdorf 44.54 303 *e*P P 07 43 49.6 +0.7
RUE lAmb lAmb 07 43 51.1
comp=Z,122nm,0.6s
FRGS Fruska Gora 44.66 291 *e*P P 07 43 50.5 +0.4
HOMB Homborsund 44.67 312 *e*P P 07 43 50.5 +0.6
KRUC Moravsky 44.70 298⇑ *i*P P 07 43 51.8 +1.5
ZST Bratislava 44.72 296 *e*P P 07 43 51.1 +0.6
ZST pmax pmax
comp=Z,10.0nm,1.7s
ZST Bratislava 44.72 296 *e*P P 07 43 51.1 +0.6
MORH Mrgy, Hungar 44.81 293⇑ *i*P P 07 43 51.9 +0.7
MORH Mrgy, Hungar 44.81 293⇑ *e*P P 07 43 52.0 +0.8
ODD1 Odda 44.86 315 *e*P P 07 43 52.1 +0.6
FOO Floro 44.86 318 *e*P P 07 43 51.6 +0.3
TIH Tihany 44.91 294⇑ *e*P P 07 43 52.0 +0.1
VAY Valandovo 45.02 285 *i*Pg P 07 43 53.9 +1.0
PVCC Panska Ves 45.02 300 *e*P P 07 43 54.3 +1.4
PVCC AMS AMS 08 03 00.0
comp=Z,3µm,11.3s
PVCC Panska Ves 45.02 300 *e*P P 07 43 54.3 +1.4
PVCC MLR MLR
comp=Z,3µm,11.3s
STIP Stip 45.05 286 *i*Pg P 07 43 52.3 -1.0
DIVS Divibare 45.10 290 *e*P P 07 43 54.1 +0.4
comp=Z,87nm,1.3s
DIVS Divibare 45.10 290⇑ *i*P P 07 43 53.9 +0.2
TREC Trest 45.11 298 *e*P P 07 43 55.0 +1.4
TREC AMS AMS 08 03 10.0
comp=Z,3µm,12.7s
TREC Trest 45.11 298 *e*P P 07 43 55.0 +1.4
TREC MLR MLR
comp=Z,3µm,12.7s
MUD Monsted U'grnd 45.14 310⇑ *i*P P 07 43 54.9 +1.3
comp=Z,104nm,0.6s
MUD Monsted U'grnd 45.14 310⇑ *i*P P 07 43 54.9 +1.3
MUD pmax pmax
comp=Z,100nm,0.6s
BLS5 Blasjo 45.14 315 *e*P P 07 43 54.6 +0.9
GOPC GO Pecny, Ondr 45.20 299 *e*P P 07 43 55.7 +1.4
GOPC *e*PP PP 07 45 39.0 -0.8
GOPC AMS AMS 08 03 20.0
comp=Z,2µm,15.7s
GOPC GO Pecny, Ondr 45.20 299 *e*P P 07 43 55.7 +1.4
GOPC *e* 07 45 39.0
GOPC MLR MLR
comp=Z,2µm,15.7s
BRG Berggiesshubel 45.21 301 *e*P P 07 43 55.0 +0.7
comp=Z,40nm,0.8s
BRG *e*PP PP 07 45 38.9 -1.0
comp=Z,39nm,1.3s
BRG S S 07 50 37.0 +3.9
BRG SS SS 07 53 53.0 -2.3
comp=N,2µm,11.6s
comp=E,2µm,12.3s
comp=Z,3µm,15.1s
BRG Berggiesshubel 45.21 301 *e*P P 07 43 55.1 +0.8
comp=Z,21nm,0.6s,baz=60,slow=7.8
BRG Berggiesshubel 45.21 301 *e*P P 07 43 55.0 +0.7
BRG *e* 07 45 38.9
BRG S S 07 50 37.0 +3.9
BRG SS SS 07 53 53.0 -2.3
BRG pmax pmax
comp=Z,40nm,0.8s
BRG pmax pmax
comp=Z,39nm,1.3s
BRG MLR MLR
comp=N,2µm,11.6s
BRG MLR MLR
comp=E,2µm,12.3s
BRG MLR MLR
comp=Z,3µm,15.1s
SUE Sulen 45.21 317 *e*P P 07 43 54.6 +0.4
BER Bergen 45.24 316 *e*P P 07 43 55.3 +0.8
SNART Snartemo 45.26 313 *e*P P 07 43 55.3 +0.7
ASK Askoy 45.26 316 *e*P P 07 43 55.2 +0.6
SOP Sopron 45.29 296⇑ *e*P P 07 43 56.1 +1.0
PRU Pruhonice 45.30 300 *e*P P 07 43 56.5 +1.4
PRU *ep*P pP 07 44 01.1 -0.4
PRU *e*PP PP 07 45 38.9 -2.0
PRU AMS AMS 08 03 20.0
comp=Z,2µm,12.6s
PRU Pruhonice 45.30 300 *e*P P 07 43 56.5 +1.4
PRU *e* 07 44 01.1
PRU *e* 07 45 38.9
PRU MLR MLR
comp=Z,2µm,12.6s
PRA Prague 45.32 300 AMS AMS 08 03 30.0
comp=Z,2µm,11.0s
FBE Freiberg 45.51 301 *e*P P 07 43 57.7 +1.0
comp=Z,28nm,0.8s,baz=60,slow=7.8
FBE *e*PP PP 07 45 42.0 -1.0
CLL Collm 45.52 302 *e*P P 07 43 57.7 +0.9
comp=Z,67nm,0.7s
CLL Collm 45.52 302 *e*P P 07 43 57.7 +0.9
comp=Z,62nm,0.7s,baz=60,slow=7.8
CLL Collm 45.52 302⇑ *i*P P 07 43 57.6 +0.9
comp=Z,76nm,0.7s
CLL *i*pP pP 07 44 02.3 -0.9
CLL *e*PP PP 07 45 42.0 -1.1
comp=Z,51nm,1.0s
CLL *e*S S 07 50 42.0 +4.5
CLL *e*SS SS 07 53 58.0 -2.8
CLL Collm 45.52 302⇑ *i*P P 07 43 57.6 +0.9
CLL *e*S S 07 50 42.0 +4.5
CLL pmax pmax
comp=Z,76nm,0.7s
CONA Conrad Observa 45.57 297 *i*P P 07 43 59.4 +2.0
SNR=21
BBLS Lazići 45.59 290 *e*P P 07 43 57.7 +0.2
APE Apeiranthos 45.59 278⇑ *i*P P 07 43 57.7 +0.1
DAG Danmarks Havn 45.64 342 *i*P P 07 43 57.1 -0.3
comp=Z,32nm,1.3s
DAG Danmarks Havn 45.64 342 *i*P P 07 43 57.1 -0.3
DAG pmax pmax
comp=Z,62nm,1.3s
KULM Kulim 45.68 162 *e*P P 07 43 59.4 +1.0
comp=Z,30nm,0.8s
KULM Kulim 45.68 162 P P 07 43 59.0 +0.6
BSEG Bad Segeberg 45.71 306 *e*P P 07 43 59.9 +1.8
comp=Z,66nm,0.7s,baz=60,slow=7.8
KMY Karmoy 45.79 315 *e*P P 07 43 59.8 +1.0
KRUS Krusevo 45.82 286 *i*Pg P 07 44 00.8 +1.4
SANT Santorini 46.06 278 *e*P P 07 44 01.5 +0.2
comp=Z,96nm,1.2s
ARSA Arzberg 46.12 296 *i*P P 07 44 01.8 +0.2
SNR=7.0
NEUB Neuenburg 46.24 302 *e*P P 07 44 03.3 +0.8
comp=Z,23nm,0.8s,baz=60,slow=7.8
TANN Tannenbergstha 46.25 301 *e*P P 07 44 03.7 +1.1
comp=Z,27nm,0.8s,baz=60,slow=7.8
TANN *e*PP PP 07 45 49.3 -1.7
KHC Kasperske Hory 46.27 299 *e*P P 07 44 04.0 +1.2
comp=Z,60nm,1.7s
KHC Kasperske Hory 46.27 299 *e*P P 07 44 03.8 +1.0
KHC *ep*P pP 07 44 08.3 -0.9
KHC *e*PP PP 07 45 49.2 -2.1
KHC AMS AMS 08 03 40.0
comp=Z,3µm,12.3s
KHC Kasperske Hory 46.27 299 *e*P P 07 44 03.8 +1.0
KHC *e* 07 44 08.3
KHC *e* 07 45 49.2
KHC MLR MLR
comp=Z,3µm,12.3s
GEC2 GERESS Array S 46.35 299 *e*P P 07 44 04.5 +1.0
comp=Z,67nm,1.6s
GEC2 GERESS Array S 46.35 299 *e*P P 07 44 04.5 +1.0
comp=Z,8.3nm,0.8s,baz=60,slow=7.8
GEC2 *e*PP PP 07 45 50.2 -1.9
GEC2 GERESS Array S 46.35 299 *e*P P 07 44 04.5 +1.0
GEC2 pmax pmax
comp=Z,67nm,1.6s
GERES GERESS Array B 46.35 299 P P 07 44 04.3 +0.8
comp=Z,5.9nm,0.6s,baz=73,slow=7.8,SNR=44
GERES PP PP 07 45 49.8 -2.3
comp=Z,6.7nm,0.7s,baz=46,slow=11,SNR=5.1
GERES LR LR 08 04 28.3
comp=Z,2µm,20.4s,baz=72,slow=37
GEA0 GERESS Array S 46.35 299 *e*P P 07 44 04.3 +0.8
GUNZ Gunzen 46.35 301 *e*P P 07 44 04.6 +1.2
comp=Z,23nm,0.8s,baz=60,slow=7.8
GUNZ *e*PP PP 07 45 50.9 -1.2
NKC Novy Kostel 46.35 301 *e*P P 07 44 04.7 +1.3
NKC *e*PP PP 07 45 51.0 -1.1
NKC Novy Kostel 46.35 301 *e*P P 07 44 04.7 +1.3
NKC *e* 07 45 51.0
WERN Wernitzgruen 46.37 301 *e*P P 07 44 04.8 +1.2
comp=Z,31nm,0.7s,baz=60,slow=7.8
ASSE Asse, Remlinge 46.38 304 *e*P P 07 44 04.8 +1.3
comp=Z,13nm,0.8s,baz=60,slow=7.8
ASSE *e*PP PP 07 45 51.2 -1.0
BLY Banja Luka 46.45 292 *e*P P 07 44 05.1 +0.9
PDG Podgorica 46.46 288 *e*P P 07 44 05.0 +0.7
AGG Agios Georgios 46.48 283 *e*P P 07 44 05.3 +0.7
comp=Z,188nm,2.0s
AGG Agios Georgios 46.48 283 *e*P P 07 44 05.3 +0.7
AGG pmax pmax
comp=Z,189nm,2.0s
NRDL Niedersach Rie 46.51 305 *e*P P 07 44 05.9 +1.5
comp=Z,26nm,0.9s,baz=60,slow=7.8
MOA Molln 46.54 297 *i*P P 07 44 06.4 +1.5
SNR=11
MOX Moxa 46.61 302 *e*P P 07 44 06.5 +1.1
comp=Z,23nm,0.8s,baz=60,slow=7.8
MOX *e*L L 08 04 25.9
comp=Z,917nm,19.8s
DRME Dracevica, Mon 46.64 288 *e*P P 07 44 06.2 +0.4
WET Wettzell 46.66 299 *e*P P 07 44 06.9 +1.0
comp=Z,11nm,0.7s,baz=60,slow=7.8
WET *e*PP PP 07 45 54.0 -1.3
MANZ Manzenberg 46.66 301 *e*P P 07 44 06.8 +0.9
comp=Z,75nm,0.8s,baz=60,slow=7.8
PERS Pernice 46.68 295 *i*P P 07 44 06.8 +0.7
CLZ Clausthal 46.69 304 *e*P P 07 44 07.1 +1.1
comp=Z,18nm,0.8s,baz=60,slow=7.8
CLZ *e*PP PP 07 45 54.5 -1.1
TIR Tirane 46.69 287⇑ *i*P P 07 44 06.9 +0.7
SOKA Soboth 46.70 295 *i*P P 07 44 07.2 +0.9
SNR=6.3
ROTZ Rotzenmuhle 46.72 300 *e*P P 07 44 07.6 +1.3
comp=Z,14nm,0.8s,baz=60,slow=7.8
CRES Cresnjev 46.91 294⇑ *i*P P 07 44 08.1 +0.3
OBKA Obir 47.08 296 *i*P P 07 44 10.3 +1.1
SNR=6.5
IDI Anoyia 47.09 277 *e*P P 07 44 08.0 -1.4
comp=Z,28nm,0.6s
BOJS Bojanci 47.20 294 *i*P P 07 44 10.8 +0.8
VISS Visnje 47.28 295 *i*P P 07 44 11.0 +0.3
GRA1 Grafenberg Arr 47.31 301 *e*P P 07 44 12.3 +1.4
comp=Z,298nm,1.8s
GRF Grafenberg Arr 47.31 301 *e*P P 07 44 12.3 +1.4
comp=Z,24nm,0.8s,baz=60,slow=7.8
GRF *e*PP PP 07 46 03.1 +1.3
GRF *e*L L 08 03 27.9
comp=Z,2µm,18.4s
GRF Grafenberg Arr 47.31 301 *e*P P 07 44 12.3 +1.4
GRF pmax pmax
comp=Z,298nm,1.8s
GRFO Grafenberg 47.31 301 *e*P P 07 44 12.3 +1.4
comp=Z,272nm,1.8s
GRFO Grafenberg 47.31 301 *e*P P 07 44 12.3 +1.4
GRFO pmax pmax
comp=Z,272nm,1.8s
UBBA Unterbreizbach 47.40 303 *e*P P 07 44 12.5 +1.0
comp=Z,8.4nm,0.9s,baz=60,slow=7.8
UBBA *e*PP PP 07 46 03.9 +1.4
RJOB Jochberg 47.44 298 *e*P P 07 44 13.5 +1.5
comp=Z,20nm,0.8s,baz=60,slow=7.8
KBA Koelnbreinsper 47.47 297 *i*P P 07 44 14.0 +1.6
SNR=10
CEY Cerknica 47.56 295⇑ *i*P P 07 44 13.0 +0.1
JAVS Javornik 47.69 295 *i*P P 07 44 13.8 -0.3
PSI Prapat 47.79 165 P P 07 44 14.2 -0.9
comp=Z,8.0nm,0.6s,baz=0.2,slow=18,SNR=8.4
ITM Ithomi 47.83 281 *e*P P 07 44 15.9 +0.8
comp=Z,170nm,1.6s
IBBN Ibbenburen 47.85 305 *e*P P 07 44 15.9 +0.9
comp=Z,52nm,0.6s,baz=60,slow=7.8
FRIM Kepong 47.88 161 P P 07 44 16.7 +1.1
FUR Furstenfeldbru 48.08 299 *e*P P 07 44 18.8 +1.9
comp=Z,49nm,0.7s,baz=60,slow=7.8
ABTA Abfaltersbach 48.13 297 *i*P P 07 44 18.2 +0.8
SNR=11
LRW Lerwick 48.24 318⇑ *e*P P 07 44 18.6 +0.7
LRW lAmb lAmb 07 44 19.4
comp=Z,38nm,0.9s
WTSB Winterswijk 48.53 305 *i*P P 07 44 21.2 +1.0
BUG Bochum--Univer 48.56 305 *e*P P 07 44 21.8 +1.3
comp=Z,29nm,0.8s,baz=60,slow=7.8
TNS Taunus Mts 48.56 303 *e*P P 07 44 21.6 +1.0
comp=Z,17nm,0.8s,baz=60,slow=7.8
TNS *e*PP PP 07 46 13.0 -0.2
MOTA Moosalm 48.62 298 *i*pP P 07 44 23.5 +2.3
SNR=11
SQTA Sankt Quirin 48.63 298 *i*P P 07 44 22.5 +1.2
SNR=18
RETA Reutte 48.74 299 *i*P P 07 44 23.4 +1.4
SNR=8.1
STU Stuttgart 48.92 301 *e*P P 07 44 24.2 +0.9
comp=Z,202nm,1.8s
STU Stuttgart 48.92 301 *e*P P 07 44 24.2 +0.9
comp=Z,20nm,0.8s,baz=60,slow=7.8
STU Stuttgart 48.92 301 *e*P P 07 44 24.2 +0.9
STU pmax pmax
comp=Z,202nm,1.8s
UBR Ueberruh 49.00 299 *e*P P 07 44 25.1 +1.0
comp=Z,14nm,0.6s,baz=60,slow=7.8
FETA Feichten 49.01 298 *i*P P 07 44 25.3 +1.1
SNR=15
GSI Gunungsitoli 49.04 167 *e*P P 07 44 25.7 +1.2
comp=Z,58nm,0.6s
AHRW Bad Neuenahr-A 49.14 304 *e*P P 07 44 26.3 +1.3
comp=Z,16nm,0.8s,baz=60,slow=7.8
AHRW *e*PP PP 07 46 20.0 +1.7
DAVA Damuels 49.35 299 *i*P P 07 44 27.9 +1.1
SNR=14
FUORN Ofenpass-Fuorn 49.50 298 *e*P P 07 44 29.1 +1.0
comp=Z,57nm,0.6s
DAVOX Davos/Dischmat 49.63 298 P P 07 44 29.9 +0.9
comp=Z,28nm,0.6s,baz=68,slow=5.0,SNR=50
DAVOX PP PP 07 46 22.6 -0.6
comp=Z,15nm,0.8s,baz=15,slow=9.1,SNR=4.6
DAMY Dhamar 49.63 241 *e*P P 07 44 30.5 +1.1
comp=Z,49nm,0.9s
HGN Heimansgroeve 49.63 304 *i*P P 07 44 29.4 +0.7
BFO Black Forest 49.65 301 *e*P P 07 44 29.5 +0.6
comp=Z,102nm,1.9s
BFO Black Forest 49.65 301 *e*P P 07 44 29.4 +0.4
comp=Z,9.5nm,0.7s,baz=60,slow=7.8
BFO *e*PP PP 07 46 25.6 +2.5
BFO Black Forest 49.65 301 *i*P P 07 44 29.8 +0.9
MEM Membach 49.67 304⇑ P P 07 44 29.1 0.0
comp=Z,24nm,1.2s
MEM ⇑PP PP 07 46 24.5 +1.3
SCO Scoresbysund 49.90 336 *e*P P 07 44 33.0 +2.6
comp=Z,125nm,1.6s
SCO Scoresbysund 49.90 336 *i*P P 07 44 32.2 +1.8
comp=Z,71nm,1.3s
SCO Scoresbysund 49.90 336 *i*P P 07 44 32.2 +1.8
SCO pmax pmax
comp=Z,71nm,1.3s
TUE Stuetta 50.10 298 *e*P P 07 44 33.5 +0.9
comp=Z,53nm,1.3s
WLF Walferdange 50.11 303 *e*P P 07 44 34.1 +1.7
comp=Z,691nm,2.0s
WLF Walferdange 50.11 303 *e*P P 07 44 34.2 +1.8
comp=Z,25nm,0.8s,baz=60,slow=7.8
WLF Walferdange 50.11 303 *e*P P 07 44 34.1 +1.7
WLF pmax pmax
comp=Z,691nm,2.0s
WLF Walferdange 50.11 303 ⇑P P 07 44 34.0 +1.6
WLF ⇓pP sP 07 44 43.0 +1.5
BIGH Upper Bighouse 50.29 317⇑ *e*P P 07 44 34.3 +0.7
BIGH lAmb lAmb 07 44 35.0
comp=Z,42nm,0.7s
ECH Echery 50.36 301 *e*P P 07 44 34.9 +0.5
comp=Z,128nm,1.8s
ECH Echery 50.36 301 *e*P P 07 44 34.9 +0.5
ECH pmax pmax
comp=Z,128nm,1.8s
UCC Uccle 50.45 305 *e*P P 07 44 36.1 +1.2
comp=Z,148nm,1.7s
UCC Uccle 50.45 305 *e*P P 07 44 36.1 +1.2
UCC pmax pmax
comp=Z,148nm,1.7s
UCC Uccle 50.45 305 ⇑P P 07 44 35.7 +0.8
MCD Coleburn Disti 50.49 316⇑ *e*P P 07 44 35.8 +0.7
SDKM Sandakan 50.55 140 P P 07 44 36.7 +0.6
SNF Seneffe 50.65 305 ⇑P P 07 44 37.3 +0.9
DOU Dourbes 50.71 304 ⇑P P 07 44 36.5 -0.4
DOU ⇑PcP PcP 07 45 53.6 -0.3
VLC Villacollemand 50.82 295 *e*P P 07 44 39.6 +1.7
comp=Z,232nm,1.7s
RSC Scourie 50.92 317⇑ *e*P P 07 44 39.1 +0.8
EDU Dundee 50.95 315⇑ *e*P P 07 44 39.0 +0.4
CEL Celeste 50.98 286 *e*P P 07 44 40.0 +0.9
comp=Z,73nm,0.9s
MDO Dochfour 51.07 316⇑ *e*P P 07 44 39.7 +0.2
GDLE Glaisdale, N Y 51.08 311⇑ *e*P P 07 44 39.7 +0.1
GDLE lAmb lAmb 07 44 40.8
comp=Z,65nm,0.9s
ESY Stoneypath 51.11 314⇑ *e*P P 07 44 40.0 +0.1
SENIN Lac Senin/Sane 51.33 299 *e*P P 07 44 42.5 +0.6
comp=Z,79nm,1.6s
EDI Edinburgh 51.37 314 *e*P P 07 44 41.8 0.0
EDMD Edmundbyers 51.41 312⇑ *e*P P 07 44 42.0 -0.1
EDMD lAmb lAmb 07 44 43.9
comp=Z,61nm,0.5s
KAC Achnashellach 51.45 316⇑ *e*P P 07 44 42.9 +0.5
RRR Rubha Reidh 51.48 317 *e*P P 07 44 43.9 +1.4
EKA Eskdalemuir Ar 51.69 313 P P 07 44 44.4 +0.2
comp=Z,32nm,0.5s,baz=68,slow=6.8,SNR=190
EKA PP PP 07 46 37.7 -3.8
comp=Z,4.2nm,0.8s,baz=59,slow=7.5,SNR=2.2
KPL Plockton 51.70 316⇑ *e*P P 07 44 44.5 +0.3
KPL lAmb lAmb 07 44 45.4
comp=Z,39nm,0.6s
ESK Eskdalemuir 51.72 313 *e*P P 07 44 44.8 +0.4
comp=Z,35nm,0.7s
ESK Eskdalemuir 51.72 313⇑ *e*P P 07 44 44.7 +0.2
ESK lAmb lAmb 07 44 45.1
comp=Z,82nm,1.3s
ESK Eskdalemuir 51.72 313 *i*P P 07 44 45.4 +1.0
HPK Haverah Park 51.73 311⇑ *e*P P 07 44 44.8 +0.2
HPK lAmb lAmb 07 44 46.0
comp=Z,84nm,0.7s
RRH Rhenigidale 51.83 317⇑ *e*P P 07 44 45.9 +0.7
BHH Howats Hill 51.86 313⇑ *e*P P 07 44 45.9 +0.5
PGBU Glenifferbraes 52.04 314⇑ *e*P P 07 44 47.4 +0.7
PGBU lAmb lAmb 07 44 48.2
comp=Z,94nm,0.7s
KESW Keswick, Cumbr 52.09 312⇑ *e*P P 07 44 47.3 +0.1
KESW lAmb lAmb 07 44 47.8
comp=Z,66nm,0.7s
LBWR Ladybower, Pea 52.10 311⇑ *e*P P 07 44 47.0 -0.2
LBWR lAmb lAmb 07 44 49.2
comp=Z,39nm,0.9s
LAWE Loch Awe, Argy 52.20 315⇑ *e*P P 07 44 48.5 +0.5
LAWE lAmb lAmb 07 44 49.1
comp=Z,73nm,0.7s
CWF Charnwood Fore 52.27 310 *e*P P 07 44 48.3 -0.2
SUMG Summit 52.33 342 *e*P P 07 44 49.9 +0.8
comp=Z,86nm,1.6s

SUMG	**Summit**	52.33	342	*i*	P		P	07 44 50.0	+0.8
SUMG	**Summit**	52.33	342	*i*	P		P	07 44 50.0	+0.8
BNI	**Bardonecchia**	52.45	298	*e*	P		P	07 44 50.5	+0.4
	comp=Z,216nm,1.6s								
BNI	**Bardonecchia**	52.45	298	*e*	P		P	07 44 50.6	+0.4
BNI					pmax	pmax			
	comp=Z,216nm,1.6s								
GAL1	**Galloway**	52.69	313⇑	*e*	P		P	07 44 52.1	+0.5
GAL1					IAmb	IAmb		07 44 52.9	
	comp=Z,46nm,0.6s								
ANM	**Nome**	52.78	31	*e*	P		P	07 44 52.7	+0.6
	comp=Z,9.1nm,0.7s								
ANM	**Nome**	52.78	31	*e*	P		P	07 44 52.7	+0.6
ANM					pmax	pmax			
	comp=Z,9.0nm,0.7s								
IOMK	**Kirk Michael**	52.98	313⇑	*e*	P		P	07 44 54.1	+0.4
IOMK					IAmb	IAmb		07 44 55.0	
	comp=Z,35nm,0.7s								
WIM	**Isle of Man**	53.09	313⇑	*e*	P		P	07 44 55.2	+0.5
FOEL	**Foel Wylfa**	53.12	311⇑	*e*	P		P	07 44 55.1	+0.3
FOEL					IAmb	IAmb		07 44 56.2	
	comp=Z,76nm,0.8s								
CLF	**Chambon-Foret**	53.16	303	*e*	P		P	07 44 55.9	+0.8
	comp=Z,396nm,1.8s								
HLM1	**Long Mynd**	53.18	310⇑	*e*	P		P	07 44 55.9	+0.6
HLM1					IAmb	IAmb		07 44 56.2	
	comp=Z,30nm,0.7s								
CLGH	**Cloghs, Cushen**	53.22	314⇑	*e*	P		P	07 44 55.8	+0.3
CLGH					IAmb	IAmb		07 44 58.3	
	comp=Z,32nm,0.7s								
STRD	**Stroud**	53.26	309⇑	*e*	P		P	07 44 56.1	+0.2
STRD					IAmb	IAmb		07 44 57.8	
	comp=Z,93nm,0.8s								
WME	**Myndd Eilian**	53.36	312⇑	*e*	P		P	07 44 56.8	+0.3
WLF1	**Llynfaes**	53.47	312⇑	*e*	P		P	07 44 57.7	+0.3
WLF1					IAmb	IAmb		07 44 58.0	
	comp=Z,104nm,1.0s								
SSB	**Saint Sauveur**	53.53	299	*e*	P		P	07 44 58.9	+0.9
	comp=Z,152nm,2.0s								
SSB	**Saint Sauveur**	53.53	299	*e*	P		P	07 44 58.9	+0.9
SSB					pmax	pmax			
	comp=Z,152nm,2.0s								
MCH1	**Michaelchurch**	53.55	310⇑	*e*	P		P	07 44 57.9	-0.1
YRC	**Rhoscolyn**	53.58	312	*e*	P		P	07 44 58.6	+0.5
GMM	**Mts of Mourne**	53.65	313⇑	*e*	P		P	07 44 58.9	+0.3
KULLO	**Kullorsuaq**	53.71	349	*i*	P		P	07 44 58.9	+0.1
	comp=Z,59nm,1.0s								
KULLO	**Kullorsuaq**	53.71	349	*i*	P		P	07 44 58.9	+0.1
KULLO					pmax	pmax			
	comp=Z,59nm,1.0s								
IDGL	**Inch Island, C**	53.87	315	*i*	P		P	07 45 01.0	+0.7
DSB	**Dublin**	54.45	313	*i*	P		P	07 45 04.9	+0.4
DSB	**Dublin**	54.45	313	*e*	P		P	07 45 04.8	+0.2
	comp=Z,37nm,0.7s								
JSA	**Saint Aubin**	54.81	307⇑	*e*	P		P	07 45 07.2	0.0
JSA					IAmb	IAmb		07 45 07.6	
	comp=Z,72nm,0.7s								
HTL	**Hartland**	54.89	309⇑	*e*	P		P	07 45 08.2	+0.4
HTL					IAmb	IAmb		07 45 08.8	
	comp=Z,76nm,0.7s								
DYA	**Yadsworthy**	54.96	309⇑	*e*	P		P	07 45 08.2	-0.1
IM3	**Indian Mountai**	55.42	26	*e*	P		P	07 45 11.0	-0.4
COLD	**Coldfoot**	55.46	24	*e*	P		P	07 45 11.7	0.0
	comp=Z,11nm,0.8s								
IGLA	**Glengowla, Co**	55.75	314	*i*	P		P	07 45 14.5	+0.6
RES	**Resolute Bay**	55.81	1	*e*	P		P	07 45 14.2	+0.2
	comp=Z,16nm,1.0s								
RES	**Resolute Bay**	55.81	1	*e*	P		P	07 45 14.2	+0.2
RES					pmax	pmax			
	comp=Z,16nm,1.0s								
KEST	**Kesra**	56.64	287		P		P	07 45 20.9	+0.3
	comp=Z,10nm,0.6s,baz=302,slow=1.3,SNR=11								
KEST					LR	LR		08 14 28.0	
	comp=Z,507nm,19.4s,baz=351,slow=41								
KEST	**Kesra**	56.64	287	*e*	P		P	07 45 21.6	+0.9
	comp=Z,29nm,0.9s								
MLY	**Manley**	56.97	26	*e*	P		P	07 45 22.5	-0.1
	comp=Z,10nm,0.8s								
VAL	**Valentia**	57.10	313	*e*	P		P	07 45 24.2	+0.6
ILULI	**Ilulissat**	57.50	344	*e*	P		P	07 45 26.5	+0.4
	comp=Z,167nm,1.3s								
ILULI	**Ilulissat**	57.50	344	*i*	P		P	07 45 26.1	0.0
ILULI	**Ilulissat**	57.50	344	*i*	P		P	07 45 26.1	0.0
BPAW	**Bear Paw Mtn.**	57.60	26	*e*	P		P	07 45 26.8	-0.2
	comp=Z,16nm,0.8s								
MDM	**Murphy Dome**	57.71	25	*e*	P		P	07 45 27.7	0.0
	comp=Z,23nm,1.0s								
CAST	**Castle Rocks**	57.80	27	*e*	P		P	07 45 29.1	+0.8
	comp=Z,15nm,0.8s								
POKR	**Poker Plat Res**	57.80	24		P		P	07 45 29.4	+1.1
	baz=321								
TCOL	**CIGO, UAF Yank**	57.88	25		P		P	07 45 28.8	-0.1
	baz=321								
COLA	**College**	57.88	25	*e*	P		P	07 45 29.4	+0.6
	comp=Z,20nm,1.0s								
COLA	**College**	57.88	25⇓	*i*	P		P	07 45 28.5	-0.3
COLA					pmax	pmax			
	comp=Z,9.0nm,0.7s								
COLA					MLR	MLR			
	comp=Z,577nm,17.0s								
BWN	**Browne**	57.98	26	*e*	P		P	07 45 30.3	+0.7
	comp=Z,53nm,0.8s								
PRP	**Porcupine Dome**	57.98	23	*e*	P		P	07 45 30.6	+0.8
	comp=Z,19nm,0.8s								
WRH	**Wood River Hil**	58.13	25	*e*	P		P	07 45 30.1	-0.5
	comp=Z,18nm,0.8s								
PPLA	**Purkeypile**	58.16	28	*e*	P		P	07 45 31.3	+0.2
	comp=Z,22nm,0.8s								
IL1	**Eielson Array**	58.22	24	*e*	P		P	07 45 30.5	-0.7
ILAR	**Eielson Array**	58.22	24		P		P	07 45 30.6	-0.6
	comp=Z,12nm,0.7s,baz=315,slow=4.5,SNR=79								
ILAR					PP		PP	07 47 37.7	-2.0
	comp=Z,4.2nm,0.8s,baz=313,slow=7.4,SNR=4.1								
ILAR					LR	LR		08 14 02.8	
	comp=Z,446nm,18.6s,baz=322,slow=40								
ILAR	**Eielson Array**	58.22	24		P		P	07 45 30.7	-0.6
ILAR								07 47 37.7	
ILAR					pmax	pmax			
	comp=Z,11nm,0.7s								
ILAR					pmax	pmax			
	comp=Z,4.0nm,0.8s								
ILAR					MLR	MLR			
	comp=Z,446nm,18.6s								
ILB	**Eielson Array**	58.22	24	*e*	P		P	07 45 30.4	-0.8
TRF	**Thorofare Moun**	58.30	27	*e*	P		P	07 45 32.4	+0.3
	comp=Z,17nm,1.0s								
INK	**Inuvik**	58.31	17		P		P	07 45 31.9	+0.1
	comp=Z,33nm,1.0s,baz=344,slow=9.1,SNR=73								
INK	**Inuvik**	58.31	17	*e*	P		P	07 45 31.9	+0.1
	comp=Z,37nm,1.0s								
HDA	**Harding Lake**	58.49	25	*e*	P		P	07 45 32.2	-1.0
	comp=Z,9.3nm,0.8s								
HDA	**Harding Lake**	58.49	25		P		P	07 45 32.3	-0.8
	baz=322								
SFJD	**Kangerlussuaq**	59.33	342	*e*	P		P	07 45 39.4	+0.6
	comp=Z,90nm,1.0s								
SFJD	**Kangerlussuaq**	59.33	342	*i*	P		P	07 45 39.0	+0.1
	comp=Z,68nm,0.9s								
SFJD	**Kangerlussuaq**	59.33	342	*i*	P		P	07 45 39.0	+0.1
SFJD					pmax	pmax			
	comp=Z,68nm,0.9s								
DHY	**Denali Highway**	59.42	26	*e*	P		P	07 45 39.0	-0.9
	comp=Z,24nm,0.8s								
RIDG	**Independ'e Rid**	59.59	24	*e*	P		P	07 45 39.8	-1.0
	comp=Z,19nm,0.8s								
SCRK	**Sand Creek**	59.62	24	*e*	P		P	07 45 40.4	-0.7
	comp=Z,9.2nm,0.9s								
EGAK	**Eagle**	59.67	22	*e*	P		P	07 45 41.8	+0.4
	comp=Z,18nm,1.0s								
SUA	**Susitna One**	59.69	28	*e*	P		P	07 45 41.9	+0.2
	comp=Z,30nm,0.8s								
DOT	**Dot Lake**	59.87	24	*e*	P		P	07 45 41.6	-1.1
	comp=Z,7.2nm,0.8s								
GHO	**Glory Hole Cre**	60.00	27	*e*	P		P	07 45 43.4	-0.4
	comp=Z,46nm,1.2s								
PAX	**Paxson**	60.04	25	*e*	P		P	07 45 43.0	-1.0
	comp=Z,13nm,1.0s								
PAX	**Paxson**	60.04	25	*e*	P		P	07 45 43.0	-1.0
PAX					pmax	pmax			
	comp=Z,13nm,1.0s								
SML	**Sawmill**	60.15	27	*e*	P		P	07 45 44.2	-0.5
	comp=Z,32nm,0.9s								
SML	**Sawmill**	60.15	27	*e*	P		P	07 45 44.2	-0.5
SML					pmax	pmax			
	comp=Z,32nm,0.9s								
RC01	**Rabbit Creek A**	60.29	28	*e*	P		P	07 45 45.2	-0.4
	comp=Z,20nm,0.8s								
SCM	**Sheep Creek Mo**	60.42	27	*e*	P		P	07 45 46.6	0.0
	comp=Z,40nm,0.7s								
SCM	**Sheep Creek Mo**	60.42	27	*e*	P		P	07 45 46.6	0.0
SCM					pmax	pmax			
	comp=Z,40nm,0.7s								
KNK	**Knik Glacier**	60.42	27	*e*	P		P	07 45 46.9	+0.3
	comp=Z,47nm,1.0s								
DAWY	**Dawson**	60.69	22	*e*	P		P	07 45 47.6	-0.8
	comp=Z,11nm,0.9s								
ES19	**SONSECA Array**	61.89	299	*e*	P		P	07 45 57.4	+0.5
KDAK	**Kodiak Island**	61.94	32	*i*	P		P	07 45 56.7	-0.1
ESDC	**Sonseca Array**	61.94	299		P		P	07 45 57.6	+0.3
	comp=Z,28nm,0.6s,baz=45,slow=6.8,SNR=168								
ESDC					LR	LR		08 11 41.8	
	comp=Z,565nm,19.7s,baz=30,slow=35								
ESLA	**Sonseca Array**	61.94	299	*e*	P		P	07 45 57.6	+0.4
	comp=Z,36nm,0.6s								
PBRG	**Braganca**	62.04	302	*e*	P		P	07 45 58.7	+0.8
	comp=Z,73nm,1.7s								
PAB	**San Pablo**	62.25	299	*e*	P		P	07 45 59.5	+0.3
	comp=Z,109nm,1.8s								
PAB	**San Pablo**	62.25	299	*e*	P		P	07 45 59.6	+0.3
PAB					pmax	pmax			
	comp=Z,109nm,1.8s								
MVO	**Moncorvo**	62.64	302	*e*	P		P	07 46 02.8	+0.9
	comp=Z,82nm,2.2s								
MVO	**Moncorvo**	62.64	302	*e*	LQ	LQ		08 07 12.6	
MVO					LR	LR		08 09 53.8	
	comp=Z,1μm,18.0s								
PGAV	**Gavieira, Arco**	62.76	303	*e*	LQ	LQ		08 06 16.8	
PGAV					LR	LR		08 08 56.0	
	comp=Z,843nm,20.0s								
PCAB	**Cabril**	62.81	303	*e*	P		P	07 46 04.3	+1.3
	comp=Z,156nm,1.8s								
PVRL	**Vila Real**	62.94	303	*e*	P		P	07 46 05.1	+1.3
MTE	**Manteigas**	63.45	302	*e*	P		P	07 46 08.0	+0.7
	comp=Z,74nm,1.3s								
MTE	**Manteigas**	63.45	302	*e*	LR	LR		08 10 29.7	
	comp=Z,1μm,18.0s								
PCBR	**Castelo Branco**	63.80	301	*e*	P		P	07 46 10.9	+1.4
	comp=Z,70nm,1.7s								
HYT	**Haines Junctio**	63.92	23	*e*	P		P	07 46 10.8	+0.6
	comp=Z,21nm,0.8s								
PMRV	**Marv??o**	64.03	301	*e*	P		P	07 46 11.4	+0.3
	comp=Z,61nm,2.2s								
PMRV	**Marv??o**	64.03	301	*e*	LQ	LQ		08 09 35.4	
PMRV					LR	LR		08 11 31.6	
	comp=Z,818nm,20.0s								
PCAS	**Casmilo, Conde**	64.21	302	*e*	P		P	07 46 13.4	+1.2
	comp=Z,126nm,1.6s								
PESTR	**Estremoz**	64.54	301	*e*	P		P	07 46 15.2	+0.8
	comp=Z,76nm,1.5s								
PESTR	**Estremoz**	64.54	301	*e*	P		P	07 46 15.7	+1.3
	comp=Z,77nm,1.7s								
PMTG	**Montargil**	64.75	301	*e*	P		P	07 46 16.4	+0.7
	comp=Z,73nm,1.5s								
PBEJ	**Beja**	65.28	300	*e*	P		P	07 46 21.3	+2.1
	comp=Z,81nm,1.5s								
PNCL	**Nicolau / Gran**	65.59	301	*e*	P		P	07 46 22.4	+1.2
MESJ	**Messejana**	65.61	300	*e*	P		P	07 46 22.3	+1.0
MESJ					AMS	AMS		08 13 07.1	
	comp=N,1μm,20.1s								
MESJ	**Messejana**	65.61	300	*e*	P		P	07 46 22.6	+1.3
	comp=N,87nm,1.6s								
MESJ	**Messejana**	65.61	300	*e*	P		P	07 46 22.3	+1.0
PVAQ	**Vaqueiros**	65.63	299	*e*	P		P	07 46 22.2	+0.7
PVAQ	**Vaqueiros**	65.63	299	*e*	LQ	LQ		08 06 49.2	
SKAG	**Skagway**	65.65	22	*e*	P		P	07 46 23.8	+2.6
	comp=N,21nm,1.1s								
PBDV	**Barranco-do-Ve**	65.87	300	*e*	P		P	07 46 24.2	+1.1
YKW3	**Yellowknife Ar**	66.62	11	*e*	P		P	07 46 26.8	-0.6
	comp=N,14nm,1.0s								
YKA	**Yellowknife Ar**	66.69	11		P		P	07 46 27.1	-0.7
	comp=N,10nm,0.7s,baz=340,slow=6.7,SNR=181								
YKA					LR	LR		08 18 10.6	
	comp=N,29nm,18.6s,baz=335,slow=38								
YKB5	**Yellowknife Ar**	66.69	11	*e*	P		P	07 46 26.5	-1.3
DLBC	**Dease Lake**	67.81	20		P		P	07 46 35.0	-0.1
	comp=N,37nm,1.0s,baz=328,slow=6.3								
TAM	**Tamanrasset**	67.94	280	*e*	P		P	07 46 37.0	+0.4
	comp=N,11nm,0.9s								
TAM	**Tamanrasset**	67.94	280	*e*	P		P	07 46 37.0	+0.4
TAM					pmax	pmax			
	comp=Z,11nm,0.9s								
MBAR	**Mbarara**	69.74	243	*e*	P		P	07 46 46.9	-1.0
	comp=Z,6.2nm,0.8s								
MBAR	**Mbarara**	69.74	243	*e*	P		P	07 46 46.9	-1.0
MBAR					pmax	pmax			
	comp=Z,6.0nm,0.8s								
FCC	**Fort Churchill**	71.81	1	*e*	P		P	07 46 58.8	-0.8
	comp=Z,17nm,0.9s								
FCC	**Fort Churchill**	71.81	1	*e*	P		P	07 46 58.8	-0.8
FCC					pmax	pmax			
	comp=Z,17nm,0.9s								
SCHQ	**Schefferville**	73.58	345		P		P	07 47 09.6	-0.7
	comp=Z,14nm,0.9s,baz=28,slow=6.2,SNR=29								
SCHQ					LR	LR		08 21 30.6	
	comp=Z,474nm,21.8s,baz=34,slow=37								
SCHQ	**Schefferville**	73.58	345	*e*	P		P	07 47 09.2	-1.0
	comp=Z,20nm,0.9s								
FITZ	**Fitzroy Crossi**	75.49	143		P		P	07 47 21.2	-0.4
	comp=Z,10nm,0.7s,baz=336,slow=4.7,SNR=21								
FITZ	**Fitzroy Crossi**	75.49	143	*e*	P		P	07 47 21.3	-0.3
	comp=Z,14nm,0.9s								
FFC	**Flin Flon**	75.55	6	*e*	P		P	07 47 21.5	-0.2
	comp=Z,26nm,1.4s								
FFC	**Flin Flon**	75.55	6	*i*	P		P	07 47 21.3	-0.4
LLLB	**Lillooet**	76.86	19	*e*	P		P	07 47 30.0	+0.7
	comp=Z,9.2nm,0.6s								
TOA1	**Torodi Ar. Sit**	77.47	276	*e*	P		P	07 47 32.0	-1.1
TOA0	**Torodi Ar. Sit**	77.47	276	*e*	P		P	07 47 32.6	-0.5
TORD	**Torodi Ar. Bea**	77.47	276		P		P	07 47 32.1	-1.1
	comp=Z,17nm,0.6s,baz=27,slow=4.6,SNR=104								
TORD					LR	LR		08 29 30.7	
	comp=Z,257nm,18.8s,baz=350,slow=42								
B05A	**Bryant**	79.03	20		P		P	07 47 40.9	-0.3
	baz=341								
CHGQ	**Chibougamau**	79.49	348		P		P	07 47 43.0	-0.8
	baz=12								
D03D	**Eldon**	79.50	21		P		P	07 47 44.6	+0.8
	baz=340								
B08A	**Colville Reser**	79.52	18	*e*	P		P	07 47 44.6	+0.6
	comp=Z,12nm,0.6s								
C06D	**Leavenworth**	79.61	19		P		P	07 47 44.6	+0.1
	baz=342								
NEW	**Newport**	80.03	16		P		P	07 47 46.8	0.0
	comp=Z,45nm,0.7s,baz=349,slow=6.1,SNR=11								
NEW	**Newport**	80.03	16	*e*	P		P	07 47 46.9	+0.1
	comp=Z,7.4nm,0.9s								
NEW	**Newport**	80.03	16		P		P	07 47 46.4	-0.5
	baz=344								
MATQ	**Matagami**	80.03	350		P		P	07 47 46.2	-0.5
	baz=9.6,SNR=11								
D05A	**Enumclaw**	80.07	20	*e*	P		P	07 47 48.2	+1.2
	comp=Z,59nm,1.5s								
C09A	**Chsman Ranch**	80.26	17	*e*	P		P	07 47 48.5	+0.5
	comp=Z,26nm,0.8s								
LTY	**Liberty**	80.29	19	*e*	P		P	07 47 48.4	+0.2
	comp=Z,46nm,1.8s								
ULM	**Lac du Bonnet**	80.30	2		P		P	07 47 46.1	-2.0
	comp=Z,5.7nm,0.9s,baz=13,slow=5.1,SNR=7.6								
ULM					LR	LR		08 26 39.3	
	comp=Z,175nm,18.3s,baz=7.5,slow=38								
ULM	**Lac du Bonnet**	80.30	2	*e*	P		P	07 47 46.9	-1.3
	comp=Z,7.8nm,0.9s								
ULM	**Lac du Bonnet**	80.30	2	*e*	P		P	07 47 46.9	-1.3
ULM					pmax	pmax			
	comp=Z,8.0nm,0.9s								
LON	**Longmire**	80.52	20	*e*	P		P	07 47 49.3	-0.2
	comp=Z,12nm,0.8s								
LON	**Longmire**	80.52	20	*e*	P		P	07 47 49.3	-0.2
LON					pmax	pmax			
	comp=Z,12nm,0.8s								
E04D	**Cinebar**	80.54	21		P		P	07 47 50.0	+0.6
	baz=341								
WRAB	**Tennant Creek**	80.80	136	*e*	P		P	07 47 50.3	-0.8
	comp=Z,114nm,1.8s								
WRAB	**Tennant Creek**	80.80	136	*e*	P		P	07 47 50.3	-0.8
WRAB					pmax	pmax			
	comp=Z,114nm,1.8s								
WR1	**Warramunga Arr**	80.80	136	*e*	P		P	07 47 49.8	-1.3
	comp=Z,19nm,0.8s								
WRA	**Warramunga Arr**	80.80	136		P		P	07 47 49.8	-1.3
	comp=Z,16nm,0.9s,baz=341,slow=5.8,SNR=44								
WRA					PKKPbc	PKKPbc		08 06 29.6	+0.8
	comp=Z,1.6nm,0.6s,baz=158,slow=2.0,SNR=29								
WRA					LR	LR		08 26 27.7	
	comp=Z,93nm,20.6s,baz=210,slow=38								
WRA	**Warramunga Arr**	80.80	136	*i*	P		P	07 47 50.2	-0.9
WRA					pmax	pmax			
	comp=Z,16nm,0.9s								
WB2	**Warramunga Arr**	80.80	136	*e*	P		P	07 47 50.4	-0.8
HAWA	**Hanford**	81.35	19	*e*	P		P	07 47 53.9	0.0
	comp=Z,5.0nm,0.8s								
F05D	**White Salmon**	81.42	20		P		P	07 47 55.0	+0.8
	baz=342								
EGMT	**Eagleton**	81.43	12	*e*	P		P	07 47 53.8	-0.6
	comp=Z,17nm,0.8s								
EGMT	**Eagleton**	81.43	12		P		P	07 47 53.5	-0.9
	baz=349								
E09A	**Wood Farm, Sta**	81.52	18	*e*	P		P	07 47 55.0	+0.3
	comp=Z,36nm,1.4s								
DGMT	**Dagmar**	81.60	8	*e*	P		P	07 47 55.6	+0.4
	comp=Z,26nm,0.9s								
DGMT	**Dagmar**	81.60	8		P		P	07 47 55.0	-0.1
	baz=352								
VLDQ	**Val d'Or**	81.64	350	*e*	P		P	07 47 54.8	-0.5
	comp=Z,31nm,1.1s								
LATQ	**La Tuque**	81.74	347		P		P	07 47 56.0	+0.2
	baz=13								
F07A	**Phinny Hill Vi**	81.74	19	*e*	P		P	07 47 57.1	+1.1
	comp=Z,18nm,0.9s								
MSO	**Missoula**	81.97	15	*e*	P		P	07 47 56.8	-0.4
	comp=Z,23nm,1.1s								
MSO	**Missoula**	81.97	15		P		P	07 47 57.2	-0.1
	baz=346								
G05D	**Wamic, OR**	82.06	20		P		P	07 47 58.3	+0.6
	baz=342								
F10A	**Beach Ranch, E**	82.21	17	*e*	P		P	07 47 59.1	+0.6
	comp=Z,39nm,1.3s								
H04A	**Detroit Lake**	82.39	21	*e*	P		P	07 47 59.7	+0.2
	comp=Z,56nm,1.5s								
H04D	**Lebanon**	82.42	21		P		P	07 47 59.8	+0.3
	baz=341								
HRY	**Holter Researc**	82.42	13	*e*	P		P	07 47 59.3	-0.3
D54A	**Lac Fusel, La**	82.49	349		P		P	07 47 59.5	-0.3
	baz=10								
G08A	**Pilot Rock**	82.52	19	*e*	P		P	07 48 00.9	+0.7
	comp=Z,6.0nm,0.8s								
EYMN	**Ely**	82.65	359		P		P	07 48 00.4	-0.2
	baz=0.6								
D50A	**G1974 Best Tow**	82.83	351		P		P	07 48 01.5	-0.1
	baz=8.1								
I05D	**Terrebonne, OR**	82.92	20		P		P	07 48 03.1	+0.9
	baz=342								
D48A	**Paudash Townsh**	82.99	353		P		P	07 48 03.1	+0.7
	baz=6.8								
I03D	**Drain, OR**	83.05	22		P		P	07 48 03.2	+0.5
	baz=340,SNR=5.9								
LSZ	**Lusaka**	83.18	237	*e*	P		P	07 48 04.3	+0.5
	comp=Z,78nm,1.8s								
LSZ	**Lusaka**	83.18	237		P		P	07 48 04.1	+0.3
	SNR=6.8								
LSZ					P		P	07 48 04.1	+0.3
	SNR=6.8								
I04A	**Tendick Farm,**	83.18	21		P		P	07 48 03.5	-0.1
	baz=341,SNR=7.6								
D47A	**Chapleau**	83.21	354		P		P	07 48 03.6	0.0
	baz=6.0								
PKME	**Peaks-Kenny Pk**	83.22	344		P		P	07 48 03.6	0.0
	baz=15								
BMO	**Blue Mountains**	83.28	18	*e*	P		P	07 48 03.7	-0.4
	comp=Z,8.8nm,0.7s								
BMO	**Blue Mountains**	83.28	18	*e*	P		P	07 48 03.7	-0.4
BMO					pmax	pmax			
	comp=Z,9.0nm,0.7s								
E53A	**Dumoine, Ponti**	83.37	350		P		P	07 48 04.5	+0.1
	baz=9.5								
E51A	**G1948 Merrick**	83.42	351		P		P	07 48 04.8	+0.1
	baz=8.3								
D46A	**Sault St. Mari**	83.44	354		P		P	07 48 04.4	-0.3
	baz=5.4								
PINE	**Pine Mountain**	83.52	20	*e*	P		P	07 48 07.0	+1.5
	comp=Z,22nm,0.9s								
BOZ	**Bozeman (W)**	83.54	13	*e*	P		P	07 48 04.9	-0.6
	comp=Z,12nm,0.8s								
BOZ	**Bozeman (W)**	83.54	13	*e*	P		P	07 48 04.9	-0.6
BOZ					pmax	pmax			
	comp=Z,12nm,0.8s								
BOZ	**Bozeman (W)**	83.54	13		P		P	07 48 05.1	-0.4
	baz=348								
I07A	**Izee**	83.56	19	*e*	P		P	07 48 06.9	+1.3
	comp=Z,45nm,1.4s								
E52A	**Mattawa**	83.58	350		P		P	07 48 05.5	0.0
	baz=8.8								
DLMT	**Dillon**	83.62	14	*e*	P		P	07 48 05.9	0.0

YFT **Old Faithful** 84.78 13 *e*P P 07 48 13.7 +1.7
comp=Z,13nm,1.0s
H17A **Grant Village** 84.87 13 *e*P P 07 48 13.9 +1.4
comp=Z,13nm,1.0s
H17A **Grant Village** 84.87 13 P P 07 48 13.1 +0.7
baz=348
YPP **Pitchstone Pla** 84.96 13 *e*P P 07 48 14.2 +1.3
comp=Z,17nm,1.3s
H56A **Elgin** 84.96 349 P P 07 48 12.9 +0.4
baz=10
YBH **Yreka Blue Hor** 85.06 22 P P 07 48 12.8 -0.4
comp=Z,5.2nm,0.8s,baz=49,slow=13,SNR=15
HLID **Hailey** 85.06 16 *e*P P 07 48 13.0 -0.2
comp=Z,4.1nm,0.8s
HLID **Hailey** 85.06 16 P P 07 48 13.1 -0.2
baz=346
H55A **Tweed** 85.12 349 P P 07 48 13.4 +0.2
baz=9.8
SADO **Sadowa** 85.13 351 P P 07 48 13.6 +0.2
comp=Z,6.9nm,0.7s,baz=45,slow=3.2,SNR=4.7
FLWY **Flagg Ranch** 85.16 13 *e*P P 07 48 14.1 +0.3
comp=Z,12nm,0.7s
DELO **Deloro Mine** 85.20 349 P P 07 48 13.9 +0.1
baz=9.5
M04C **Macdoel** 85.22 22 P P 07 48 14.6 +0.6
baz=341,SNR=9.2
IMW **Indian Meadow** 85.30 13 *e*P P 07 48 15.3 +0.7
comp=Z,15nm,0.9s
G39A **Holcombe** 85.31 359 P P 07 48 13.3 -0.9
baz=0.8
G40A **Rib Lake** 85.31 358 P P 07 48 14.3 0.0
baz=1.4
WVOR **Wild Horse Val** 85.33 19 *e*P P 07 48 14.9 +0.3
comp=Z,12nm,0.7s
WVOR **Wild Horse Val** 85.33 19 *e*P P 07 48 14.9 +0.3
WVOR pmax pmax
comp=Z,12nm,0.7s
H52A **Wyevale** 85.33 351 P P 07 48 14.5 +0.1
baz=8.0
M02C **Callahan** 85.34 23 P P 07 48 15.0 +0.5
baz=341
MOD **Modoc Plateau** 85.47 21 *e*P P 07 48 15.9 +0.6
comp=Z,25nm,0.7s
MOOW **Moose Ponds** 85.48 13 *e*P P 07 48 15.4 0.0
comp=Z,14nm,1.4s
FXWY **Fox Creek** 85.54 13 *e*P P 07 48 16.1 +0.3
comp=Z,14nm,1.0s
LOHW **Long Hollow** 85.63 13 *e*P P 07 48 16.3 +0.1
comp=Z,14nm,1.3s
TPAW **Teton Pass** 85.70 13 *e*P P 07 48 17.1 +0.5
comp=Z,14nm,1.2s
H47A **Mio** 85.73 354 P P 07 48 16.8 +0.5
baz=5.3
N02D **Trinity Center** 85.77 23 P P 07 48 17.3 +0.6
baz=341
REDW **Red Top Meadow** 85.84 13 *e*P P 07 48 17.7 +0.5
comp=Z,29nm,2.0s
H46A **Fife Lake** 85.85 355 P P 07 48 16.6 -0.3
baz=4.6
PKRO **Pickering** 85.91 350 P P 07 48 17.4 +0.1
baz=8.6
H39A **Augusta** 85.92 359 P P 07 48 16.6 -0.7
baz=0.7
RSSD **Black Hills** 85.93 8 *e*P P 07 48 17.3 -0.3
comp=Z,99nm,2.0s
RSSD **Black Hills** 85.93 8 *e*P P 07 48 17.3 -0.3
RSSD pmax pmax
comp=Z,99nm,2.0s
RSSD **Black Hills** 85.93 8 P P 07 48 17.5 -0.2
baz=352
SUSD **Miller** 85.98 5 P P 07 48 16.9 -0.7
baz=356
WDC **Whiskeytown Da** 86.19 23 *e*P P 07 48 19.2 +0.5
comp=Z,20nm,1.3s
WDC **Whiskeytown Da** 86.19 23 *e*P P 07 48 19.2 +0.5
WDC pmax pmax
comp=Z,20nm,1.3s
TORO **Toronto--Lesli** 86.29 351 P P 07 48 19.5 +0.4
baz=8.4
HRV **Adam Dziewonsk** 86.30 345 P P 07 48 19.6 +0.4
baz=13
I47A **Gladwin** 86.33 354 P P 07 48 19.7 +0.4
baz=5.1
O02D **Mt. Diablo Mer** 86.50 23 P P 07 48 20.7 +0.3
baz=341
I41A **Arkdale** 86.52 358 *e*P P 07 48 19.9 -0.4
comp=Z,33nm,1.2s
I41A **Arkdale** 86.52 358 P P 07 48 19.9 -0.4
baz=1.6
DBIC **Dimbokro** 86.56 276 P P 07 48 20.1 -0.7
comp=Z,13nm,0.6s,baz=18,slow=6.2,SNR=36
DBIC LR LR 08 32 16.7
comp=Z,275nm,18.3s,baz=11,slow=39
DBIC **Dimbokro** 86.56 276 *e*P P 07 48 20.7 -0.2
comp=Z,14nm,0.6s
DBIC **Dimbokro** 86.56 276 *e*P P 07 48 20.7 -0.2
DBIC pmax pmax
comp=Z,14nm,0.6s
BW06 **Boulder Array** 86.61 13 *e*P P 07 48 20.0 -1.0
comp=Z,3.0nm,0.9s
BW06 **Boulder Array** 86.61 13 P P 07 48 20.2 -0.8
baz=349
PD31 **Pinedale Array** 86.61 13 *e*P P 07 48 20.0 -1.1
PDAR **Pinedale Array** 86.61 13 P P 07 48 20.0 -1.1
comp=Z,2.2nm,0.5s,baz=40,slow=3.0,SNR=30
PDAR LR LR 08 30 01.3
comp=Z,201nm,18.9s,baz=355,slow=38
PDAR **Pinedale Array** 86.61 13 *e*P P 07 48 19.9 -1.1
MEDO **Medina** 86.64 350 P P 07 48 20.3 -0.5
baz=8.9
O03E **Paynes Creek** 86.64 22 P P 07 48 20.9 -0.1
baz=342
I42A **Draeger Farm,** 86.66 357 P P 07 48 21.1 +0.1
baz=2.2
TIC **Toumodi** 86.68 276 *e*P P 07 48 18.9 -2.6
I40A **Norwalk** 86.70 359 P P 07 48 21.0 -0.1
baz=1.1
KIC **Kosan Boka** 86.72 276 *e*P P 07 48 20.9 -0.8
comp=Z,22nm,0.6s
I39A **Houston** 86.74 359 *e*P P 07 48 21.0 -0.4
comp=Z,59nm,1.4s
I39A **Houston** 86.74 359 P P 07 48 20.9 -0.4
baz=0.5
J52A **Paris** 86.78 351 P P 07 48 21.7 +0.1
baz=7.7
ECSD **EROS Data Cent** 86.79 3 *e*P P 07 48 20.9 -0.7
comp=Z,24nm,1.1s
ECSD **EROS Data Cent** 86.79 3 P P 07 48 21.5 -0.1
baz=357
TYNO **Tyneside** 86.86 351 P P 07 48 21.7 -0.2
baz=8.0
BRYW **Bryant College** 86.87 345 *e*P P 07 48 22.4 +0.3
comp=Z,121nm,1.6s
MMNY **Mt. Morris Dam** 87.00 349 *e*P P 07 48 22.7 +0.1
comp=Z,31nm,0.6s
LIC **Lamto** 87.00 276 *e*P P 07 48 22.1 -1.0
comp=Z,33nm,1.1s
K55A **Perry** 87.02 349 P P 07 48 22.8 0.0
baz=9.2
HVU **Hansel Valley** 87.08 15 *e*P P 07 48 23.4 +0.1
comp=Z,13nm,0.9s
HVU **Hansel Valley** 87.08 15 *e*P P 07 48 23.4 +0.1
HVU pmax pmax
comp=Z,13nm,0.9s
K22A **Casper** 87.12 10 P P 07 48 22.8 -0.6
baz=351
J47A **Sunmer** 87.13 354 P P 07 48 22.8 -0.4
baz=4.9
J43A **Natural Harves** 87.16 357 P P 07 48 23.0 -0.3
baz=2.5
J40A **Soldiers Grove** 87.19 359 P P 07 48 23.1 -0.5
baz=1.0
J41A **Loganville** 87.21 358 P P 07 48 23.2 -0.5
baz=1.5
J42A **Columbus** 87.24 358 P P 07 48 23.8 0.0
baz=2.1
J39A **Decorah** 87.26 360 P P 07 48 23.7 -0.2
baz=0.4
BINY **Binghamton** 87.28 348 P P 07 48 23.9 -0.1
baz=10
BEKR **Beckworth** 87.39 21 *e*P P 07 48 25.3 +0.5
comp=Z,13nm,0.8s
ORV **Oroville** 87.41 22 *e*P P 07 48 24.9 +0.2
comp=Z,10nm,1.0s
ORV **Oroville** 87.41 22 *e*P P 07 48 24.9 +0.2
ORV pmax pmax
comp=Z,10.0nm,1.0s
BMN **Battle Mountai** 87.54 19 *e*P P 07 48 26.3 +0.8

SPUT **South Promonto** 87.59 15 *e*P P 07 48 25.9 +0.2
comp=Z,19nm,1.2s
ELK **Elko** 87.64 17 P P 07 48 26.7 +0.6
comp=Z,8.2nm,0.9s,baz=324,slow=5.4,SNR=29
ELK **Elko** 87.64 17 *e*P P 07 48 26.6 +0.6
comp=Z,11nm,1.0s
JFWS **Jewell Farm** 87.67 358 *e*P P 07 48 25.2 -0.6
comp=Z,78nm,1.1s
JFWS **Jewell Farm** 87.67 358 *e*P P 07 48 25.2 -0.6
JFWS pmax pmax
comp=Z,79nm,1.1s
JFWS **Jewell Farm** 87.67 358 P P 07 48 25.3 -0.6
baz=1.4
K47A **Vermontville** 87.70 355 P P 07 48 25.5 -0.5
baz=4.8
PAHR **Pah Rah Range** 87.77 21 *e*P P 07 48 26.9 +0.3
comp=Z,16nm,1.3s
K42A **Prairie Point,** 87.78 358 P P 07 48 26.1 -0.3
baz=1.9
K43A **Burlington** 87.83 357 P P 07 48 26.4 -0.2
baz=2.6
BGU **Big Grassy Mou** 87.86 16 *e*P P 07 48 27.8 +0.8
comp=Z,15nm,1.4s
K39A **Oelwein** 87.89 360 P P 07 48 26.4 -0.6
baz=0.3
K40A **Colesburg** 87.89 359 P P 07 48 26.6 -0.3
baz=0.8
TCUT **Toone Canyon** 87.95 14 *e*P P 07 48 28.2 +0.7
comp=Z,27nm,1.1s
K41A **Shullsburg** 87.97 358 P P 07 48 27.1 -0.2
baz=1.3
AAM **Ann Arbor** 87.98 354 P P 07 48 27.1 -0.2
baz=5.6
VCNR **Virginia City** 88.10 21 *e*P P 07 48 29.1 +0.8
comp=Z,6.3nm,0.8s
AFDM **Forest Hills D** 88.12 22 *e*P P 07 48 28.6 +0.5
comp=Z,8.2nm,0.9s
PAL **Palisades** 88.14 346 P P 07 48 28.1 0.0
baz=12
L50A **Kingsville** 88.17 353 P P 07 48 28.1 -0.2
baz=6.2
ODNJ **Ogdensburg** 88.17 347 *e*P P 07 48 28.5 +0.2
comp=Z,95nm,1.9s
PNTR **Pine Nut** 88.31 21 *e*P P 07 48 29.8 +0.5
comp=Z,25nm,0.7s
CTU **Camp Tracy** 88.31 15 *e*P P 07 48 29.3 +0.1
comp=Z,12nm,1.1s
L48A **N Adams** 88.39 354 P P 07 48 29.1 -0.2
baz=5.1
L47A **Sherwood** 88.41 355 P P 07 48 28.9 -0.4
baz=4.6
M54A **Oil Creek Stat** 88.41 350 P P 07 48 28.9 -0.6
baz=8.2
JLU **Jordanelle** 88.44 14 *e*P P 07 48 30.5 +0.5
comp=Z,22nm,1.3s
YERR **Yerington** 88.49 21 *e*P P 07 48 30.7 +0.6
comp=Z,5.8nm,0.8s
N59A **State Game Lan** 88.51 347 *e*P P 07 48 30.3 +0.4
comp=Z,86nm,1.9s
N59A **State Game Lan** 88.51 347 P P 07 48 30.0 +0.1
baz=11
L41A **Preston** 88.51 359 P P 07 48 29.5 -0.3
baz=1.2
L40A **Annosa** 88.53 359 P P 07 48 29.4 -0.5
baz=0.7
L42A **Oliver, Polo** 88.56 358 *e*P P 07 48 29.5 -0.6
comp=Z,30nm,1.1s
L42A **Oliver, Polo** 88.56 358 P P 07 48 29.5 -0.6
baz=1.7
PHWY **Pilot Hill** 88.57 10 *e*P P 07 48 31.3 +0.7
comp=Z,30nm,1.0s
M53A **Wt Miller and** 88.58 351 P P 07 48 29.9 -0.3
baz=7.5
DUG **Dugway, Tooele** 88.61 16 *e*P P 07 48 31.3 +0.7
comp=Z,34nm,1.0s
DUG **Dugway, Tooele** 88.61 16 *e*P P 07 48 31.3 +0.7
DUG pmax pmax
comp=Z,34nm,1.0s
DUG **Dugway, Tooele** 88.61 16 P P 07 48 31.1 +0.5
baz=347
KVN **Kaiserville** 88.68 20 *e*P P 07 48 31.4 +0.4
comp=Z,8.3nm,0.8s
KVN **Kaiserville** 88.68 20 *e*P P 07 48 31.4 +0.4
KVN pmax pmax
comp=Z,8.0nm,0.8s
M49A **Liberty Center** 88.83 354 P P 07 48 31.0 -0.3
baz=5.4
M50A **Fremont** 88.83 353 P P 07 48 32.2 +0.8
baz=6.0
WAKR **Walker** 88.90 21 *e*P P 07 48 33.1 +1.1
comp=Z,26nm,1.6s
N23A **Red Feather La** 88.92 10 *e*P P 07 48 32.6 +0.4
comp=Z,36nm,1.4s
N23A **Red Feather La** 88.92 10 P P 07 48 32.1 -0.1
baz=351
NLU **North Lily Min** 88.97 15 *e*P P 07 48 32.8 +0.4
comp=Z,24nm,0.9s
N54A **Moraine State** 88.98 351 P P 07 48 31.8 -0.3
baz=8.0
MPU **Maple Canyon** 88.99 15 *e*P P 07 48 32.6 +0.2
comp=Z,7.2nm,0.9s
RYN **Ryan** 88.99 20 *e*P P 07 48 33.2 +0.8
comp=Z,13nm,0.9s
BGNE **Belgrade** 89.05 4 *e*P P 07 48 32.4 -0.1
comp=Z,64nm,1.1s
BGNE **Belgrade** 89.05 4 P P 07 48 32.3 -0.1
baz=356
N55A **Marion Center** 89.05 350 P P 07 48 32.5 0.0
baz=8.6
SSPA **Standing Stone** 89.06 349 P P 07 48 32.3 -0.2
baz=9.3
M39A **Webster** 89.12 360 P P 07 48 32.3 -0.4
baz=0.1
CMB **Columbia Colle** 89.13 22 *e*P P 07 48 33.5 +0.6
comp=Z,6.5nm,1.0s
CMB **Columbia Colle** 89.13 22 *e*P P 07 48 33.5 +0.6
CMB pmax pmax
comp=Z,7.0nm,1.0s
M40A **Post Highland** 89.19 359 P P 07 48 32.4 -0.7
baz=0.5
N53A **Lisbon** 89.22 351 P P 07 48 32.6 -0.7
baz=7.4
NV01 **Mina Array Sit** 89.23 20 *e*P P 07 48 34.2 +0.6
NVAR **Mina Array Bea** 89.23 20 P P 07 48 34.4 +0.8
comp=Z,12nm,0.8s,baz=335,slow=3.7,SNR=60
N51A **Ashland** 89.25 352 P P 07 48 32.7 -0.7
baz=6.4
OGNE **Ogallala** 89.26 7 *e*P P 07 48 33.4 -0.1
comp=Z,43nm,1.0s
OGNE **Ogallala** 89.26 7 P P 07 48 33.2 -0.3
baz=354
N52A **McGinn's Farm,** 89.30 352 P P 07 48 33.3 -0.3
baz=6.9
O20A **White River Ci** 89.38 12 *e*P P 07 48 34.9 +0.6
comp=Z,28nm,1.0s
O20A **White River Ci** 89.38 12 P P 07 48 34.6 +0.3
baz=350
N49A **Columbus Grove** 89.39 354 P P 07 48 33.6 -0.4
baz=5.3
N50A **Nevada** 89.46 353 P P 07 48 34.2 -0.2
baz=5.9
N48A **Decatur** 89.51 354 P P 07 48 34.3 -0.3
baz=4.7
O56A **Blue Knob Stat** 89.51 349 P P 07 48 34.2 -0.5
baz=8.8
N47A **Urbana** 89.53 355 P P 07 48 33.8 -0.9
baz=4.3
N43A **Stutzman Famil** 89.61 358 P P 07 48 34.0 -1.1
baz=2.0
O55A **Ligonier** 89.65 350 P P 07 48 34.7 -0.6
baz=8.4
P17A **Butcher Ranch,** 89.66 14 *e*P P 07 48 36.4 +0.9
comp=Z,47nm,1.3s
N40A **Mertquake, Sal** 89.71 359 P P 07 48 35.0 -0.5
baz=0.5
N44A **Piper City** 89.73 357 P P 07 48 35.0 -0.5
baz=2.7
TMUT **Trail Mountain** 89.76 15 *e*P P 07 48 36.7 +0.5
comp=Z,24nm,1.2s
O54A **Avella** 89.79 351 P P 07 48 35.3 -0.7
baz=7.7
O53A **New Philadelph** 89.81 351 P P 07 48 35.7 -0.3
baz=7.2
MDPB **Devils Postpil** 89.82 21 *e*P P 07 48 37.6 +1.2
comp=Z,9.3nm,0.9s
OMMB **Old Mammoth Mi** 89.85 21 *e*P P 07 48 38.1 +1.4
comp=Z,7.7nm,1.0s
N41A **Harden Midland** 89.88 359 P P 07 48 35.8 -0.6
baz=1.0
R11A **Troy Canyon, C** 89.88 18 *e*P P 07 48 36.9 +0.3
comp=Z,10.0nm,0.8s
R11A **Troy Canyon, C** 89.88 18 P P 07 48 37.1 +0.5
baz=345
ACSO **Alum Creek Sta** 89.98 353 *e*P P 07 48 36.7 -0.1
comp=Z,18nm,0.8s
ACSO **Alum Creek Sta** 89.98 353 P P 07 48 36.7 -0.1
baz=6.0
O52A **Adamsville** 90.00 352 P P 07 48 36.5 -0.5
baz=6.8
ISCO **Idaho Springs** 90.04 10 *e*P P 07 48 37.9 +0.4
comp=Z,14nm,1.1s
ISCO **Idaho Springs** 90.04 10 P P 07 48 37.9 +0.4
baz=352
O51A **Pataskala** 90.04 353 P P 07 48 36.7 -0.3
baz=6.3
PSUT **Pine Spring** 90.04 17 *e*P P 07 48 38.1 +0.7
comp=Z,17nm,1.0s
SRU **San Rafael Swe** 90.05 14 *e*P P 07 48 37.7 +0.3
comp=Z,17nm,1.4s
SRU **San Rafael Swe** 90.05 14 *e*P P 07 48 37.7 +0.3
SRU pmax pmax
comp=Z,17nm,1.4s
O48A **Farmland** 90.11 354 P P 07 48 36.9 -0.6
baz=4.6
O50A **Cable** 90.12 353 P P 07 48 36.7 -0.8
baz=5.6
O49A **Covington** 90.13 354 P P 07 48 36.6 -0.9
baz=5.2
Q16A **Castle Valley** 90.14 15 *e*P P 07 48 38.6 +0.8
comp=Z,19nm,1.1s
O47A **Sheridan** 90.19 355 P P 07 48 37.5 -0.3
baz=4.0
MCWV **Mont Chateau** 90.26 350 P P 07 48 37.8 -0.3
baz=8.0
MSU **Marysvale** 90.36 15 *e*P P 07 48 40.2 +1.3
MSU **Marysvale** 90.36 15 *e*P P 07 48 40.2 +1.3
O44A **Mansfield** 90.38 357 P P 07 48 38.5 -0.1
baz=2.5
P55A **Reedsville** 90.40 350 P P 07 48 38.5 -0.4
baz=8.1
O41A **Passleys Farm,** 90.47 359 P P 07 48 38.4 -0.7
baz=0.9
SMCO **Snowmass** 90.49 11 *e*P P 07 48 40.3 +0.6
comp=Z,15nm,1.1s
P52A **Corning** 90.51 352 P P 07 48 38.5 -0.8
baz=6.6
P53A **Whipple** 90.58 352 P P 07 48 39.2 -0.4
baz=7.0
P50A **Jamestown** 90.67 353 P P 07 48 39.3 -0.7
baz=5.5
P49A **Miami Univ. Ec** 90.81 354 P P 07 48 40.0 -0.7
baz=4.9
GRAC **Grapevine Rang** 90.81 20 P P 07 48 41.5 +0.7
baz=344,SNR=16
MTPU **Mount Pierson** 90.82 16 *e*P P 07 48 42.9 +1.7
comp=Z,9.1nm,0.9s
PV21 **Cone Mtn., Par** 90.82 13 *e*P P 07 48 41.9 +0.9
comp=Z,26nm,1.4s
PV09 **Paradox Valley** 90.86 13 *e*P P 07 48 42.1 +0.8
P46A **Rosedale** 90.86 356 P P 07 48 40.7 -0.2
baz=3.3
P41A **Barry, Barry** 90.92 359 P P 07 48 41.0 -0.1
baz=0.8
Q24A **Divide** 90.92 10 P P 07 48 40.9 -0.7
baz=352
P43A **Skaggs, Pawnee** 90.92 358 P P 07 48 40.7 -0.4
baz=1.8
P48A **Milroy** 90.92 355 P P 07 48 40.6 -0.6
baz=4.5
Q55A **Buckhannon** 90.94 350 P P 07 48 41.1 -0.3
baz=7.9
P47A **Martinsville** 90.95 355 P P 07 48 41.1 -0.2
baz=3.9
P45A **Graceland, Par** 90.98 356 P P 07 48 41.1 -0.3
baz=3.0
P42A **Winchester** 90.99 358 P P 07 48 41.5 0.0
baz=1.3
PV14 **Lion Creek, Pa** 91.00 13 *e*P P 07 48 42.8 +0.9
comp=Z,19nm,1.4s
P44A **Sand Creek, Wi** 91.07 357 P P 07 48 41.4 -0.4
baz=2.4
PV16 **Nyswonger Mesa** 91.08 13 *e*P P 07 48 42.9 +0.7
comp=Z,35nm,1.8s
CCUT **Cedar City** 91.08 17 *e*P P 07 48 43.3 +1.0
comp=Z,10nm,1.2s
PV12 **Saucer Basin,** 91.09 13 *e*P P 07 48 43.0 +0.7
comp=Z,11nm,1.0s
SZCU **Shurtz Canyon** 91.09 16 *e*P P 07 48 41.2 -1.1
comp=Z,13nm,0.9s
PV11 **David Mesa, Pa** 91.09 13 *e*P P 07 48 43.1 +0.8
comp=Z,14nm,1.0s
TPNV **Topopah Spring** 91.10 19 *e*P P 07 48 42.7 +0.4
comp=Z,12nm,1.3s
TPNV **Topopah Spring** 91.10 19 *e*P P 07 48 42.7 +0.4
TPNV pmax pmax
comp=Z,12nm,1.3s
TPNV **Topopah Spring** 91.10 19 P P 07 48 42.2 0.0
baz=345,SNR=7.8
PV17 **East Wray Mesa** 91.10 13 *e*P P 07 48 43.0 +0.6
comp=Z,14nm,1.2s
KSCO **Kaye Shedlock'** 91.12 8 *e*P P 07 48 42.7 +0.3
comp=Z,34nm,1.3s
KSCO **Kaye Shedlock'** 91.12 8 P P 07 48 42.2 -0.2
baz=353
Q52A **Bidwell** 91.18 352 P P 07 48 41.9 -0.6
baz=6.5
CWC **Cottonwood Cre** 91.19 20 P P 07 48 42.7 0.0
baz=344
PV02 **Paradox Valley** 91.20 13 *e*P P 07 48 43.6 +0.8
comp=Z,44nm,1.9s
Q51A **Peebles** 91.21 353 P P 07 48 42.3 -0.2
baz=5.8
PV13 **Radium Mtn., P** 91.24 13 *e*P P 07 48 43.7 +0.7
comp=Z,20nm,1.4s
Q49A **Aurora** 91.34 354 P P 07 48 42.8 -0.3
baz=4.8
PKCU **Pink Cliffs** 91.38 16 *e*P P 07 48 45.5 +1.7
comp=Z,34nm,1.3s
KSU1 **Kansas State U** 91.42 3 *e*P P 07 48 43.6 +0.1
comp=Z,12nm,0.9s
KSU1 **Kansas State U** 91.42 3 P P 07 48 43.7 +0.2
baz=357
FURC **Furnace Creek,** 91.43 20 P P 07 48 43.7 +0.1
baz=344,SNR=12
Q50A **Georgetown** 91.44 353 P P 07 48 43.3 -0.3
baz=5.4
DAC **Darwin (Calif)** 91.45 20 *e*P P 07 48 45.0 +1.1
comp=Z,5.8nm,0.8s
Q48A **North Vernon** 91.47 355 P P 07 48 43.5 -0.2
baz=4.3
VES **Vestal, Richgr** 91.53 21 P P 07 48 44.0 0.0
baz=343
CBKS **Cedar Bluff** 91.54 6 *e*P P 07 48 44.2 +0.1
comp=Z,38nm,1.3s
CBKS **Cedar Bluff** 91.54 6 *e*P P 07 48 44.3 +0.1
CBKS pmax pmax
comp=Z,38nm,1.3s
CBKS **Cedar Bluff** 91.54 6 P P 07 48 44.3 +0.1
baz=355
Q45A **Warren Harvey,** 91.62 357 P P 07 48 44.6 +0.1
baz=2.7
LCMT **Little Creek M** 91.63 17 *e*P P 07 48 46.0 +1.2
comp=Z,6.3nm,0.9s
Q41A **Truxton** 91.64 359 P P 07 48 45.0 +0.5
baz=0.7
MPMC **Manual Prospec** 91.69 20 P P 07 48 45.6 +0.5
baz=344,SNR=11
R58B **Mineral** 91.69 349 P P 07 48 45.2 +0.4
baz=9.3
KNB **Kanab** 91.70 16 *e*P P 07 48 46.5 +1.4
comp=Z,8.1nm,1.0s
KNB **Kanab** 91.70 16 *e*P P 07 48 46.5 +1.4
KNB pmax pmax
comp=Z,8.0nm,1.0s
SHPR **Sheep Range** 91.75 18 *e*P P 07 48 46.7 +1.3
comp=Z,9.8nm,1.1s
R53A **Hurricane** 91.78 352 P P 07 48 44.7 -0.5
baz=6.7
SMMC **Simmler** 91.81 22 P P 07 48 45.9 +0.5
baz=343
S22A **4UR Ranch, Cre** 91.92 11 *e*P P 07 48 47.2 +1.0
comp=Z,13nm,1.3s
S22A **4UR Ranch, Cre** 91.92 11 P P 07 48 46.4 +0.2
baz=351
R48A **Northridge Ran** 92.01 355 P P 07 48 46.3 +0.1
baz=4.2

R50A	Paris	92.03	354	P		P	07 48 45.5	-0.8	
	baz=5.2								
R49A	Shelbyville	92.07	354	P		P	07 48 45.5	-1.0	
	baz=4.6								
SDCO	Great Sand Dun	92.08	10	eP		P	07 48 47.2	+0.2	
	comp=Z,9.4nm,1.0s								
SDCO	Great Sand Dun	92.08	10	P		P	07 48 47.5	+0.5	
	baz=352								
SHOC	Shoshone, Teco	92.10	19	P		P	07 48 47.1	+0.4	
	baz=345,SNR=6.2								
R47A	Wooly Knot Far	92.15	355	P		P	07 48 46.5	-0.3	
	baz=3.8								
LRMC	Laurel Mtn Rad	92.20	20	P		P	07 48 47.7	+0.3	
	baz=344,SNR=13								
WCI	Wyandotte Cave	92.20	355	eP		P	07 48 47.4	+0.2	
	comp=Z,16nm,0.8s								
WCI	Wyandotte Cave	92.20	355	eP		P	07 48 47.4	+0.2	
WCI				pmax		pmax			
	comp=Z,17nm,0.8s								
WCI	Wyandotte Cave	92.20	355	P		P	07 48 46.8	-0.3	
	baz=3.9								
MVCO	Mesa Verde	92.22	13	eP		P	07 48 47.6	0.0	
	comp=Z,21nm,1.7s								
MVCO	Mesa Verde	92.22	13	P		P	07 48 47.4	-0.2	
	baz=350								
R45A	Skylar, Fairfi	92.23	357	P		P	07 48 47.5	+0.2	
	baz=2.6								
R41A	Rosebud	92.29	359	P		P	07 48 47.1	-0.5	
	baz=0.6								
R43A	Red Bud	92.29	358	P		P	07 48 46.5	-1.0	
	baz=1.6								
R44A	Waltonville	92.30	357	P		P	07 48 47.6	0.0	
	baz=2.1								
R42A	Luebbering	92.30	359	P		P	07 48 47.5	-0.1	
	baz=1.0								
U15A	North Rim	92.37	16	eP		P	07 48 49.1	+0.7	
	comp=Z,4.4nm,0.8s								
GSC	Goldstone, Bar	92.56	20	eP		P	07 48 50.1	+1.1	
	comp=Z,7.1nm,1.0s								
GSC	Goldstone, Bar	92.56	20	eP		P	07 48 50.1	+1.1	
GSC				pmax		pmax			
	comp=Z,7.0nm,1.0s								
GSC	Goldstone, Bar	92.56	20	P		P	07 48 49.6	+0.6	
	baz=344								
S49A	Springfield	92.58	354	P		P	07 48 48.3	-0.6	
	baz=4.6								
S51A	Beattyville	92.61	353	P		P	07 48 48.4	-0.6	
	baz=5.7								
TUQ	Turquoise Moun	92.62	19	P		P	07 48 50.2	+0.9	
	baz=345,SNR=12								
S50A	Richmond	92.63	354	P		P	07 48 48.5	-0.6	
	baz=5.1								
EDW2	Edwards Air Fo	92.70	21	P		P	07 48 50.4	+0.8	
	baz=344								
S48A	Wiedeman Farm,	92.76	355	P		P	07 48 49.5	-0.2	
	baz=4.1								
T25A	Trinidad	92.80	10	eP		P	07 48 50.1	-0.1	
	comp=Z,8.1nm,0.9s								
T25A	Trinidad	92.80	10	P		P	07 48 49.6	-0.6	
	baz=352								
SIUC	Southern Illin	92.83	357	eP		P	07 48 50.1	0.0	
	comp=Z,13nm,0.9s								
S45A	Carrier Mills	92.85	357	P		P	07 48 50.0	-0.1	
	baz=2.4								
S44A	Carbondale	92.86	358	P		P	07 48 49.8	-0.3	
	baz=2.0								
S47A	Hartford	92.86	356	P		P	07 48 50.0	-0.2	
	baz=3.5								
S41A	Jillco Farms,	93.00	359	P		P	07 48 50.6	-0.3	
	baz=0.4								
T52A	Hallie	93.09	352	P		P	07 48 51.3	+0.1	
	baz=6.0								
HEC	Hector,Ludlow	93.12	20	P		P	07 48 52.1	+0.5	
	baz=345								
LDFC	Landfair	93.14	19	eP		P	07 48 52.8	+1.1	
	comp=Z,16nm,0.8s								
SCZ2	Santa Cruz Isl	93.15	22	P		P	07 48 52.1	+0.5	
	baz=343								
T49A	Edmonton	93.28	355	P		P	07 48 51.8	-0.4	
	baz=4.4								
T51A	Gray	93.31	353	P		P	07 48 51.2	-1.1	
	baz=5.4,SNR=6.4								
GMRC	Granite Mounta	93.31	19	P		P	07 48 52.9	+0.4	
	baz=345,SNR=7.0								
MWC	Mount Wilson	93.31	21	eP		P	07 48 53.9	+1.3	
	comp=Z,12nm,0.9s								
MWC	Mount Wilson	93.31	21	eP		P	07 48 53.9	+1.3	
MWC				pmax		pmax			
	comp=Z,12nm,0.9s								
T50A	Nancy	93.31	354	P		P	07 48 51.6	-0.7	
	baz=4.8								
T48A	Bowling Green	93.32	355	P		P	07 48 52.1	-0.3	
	baz=3.9								
W13A	Hualapai Mount	93.36	18	eP		P	07 48 54.0	+1.1	
	comp=Z,6.7nm,0.9s								
BFSC	Mount Baldy Ra	93.39	21	P		P	07 48 53.1	+0.2	
	baz=344								
WUAZ	Wupatki	93.42	15	eP		P	07 48 54.2	+1.2	
	comp=Z,16nm,0.8s								
WUAZ	Wupatki	93.42	15	P		P	07 48 53.4	+0.4	
	baz=348								
T46A	Princeton	93.46	356	P		P	07 48 53.2	+0.2	
	baz=2.9								
T44A	Benton	93.47	358	P		P	07 48 53.1	+0.1	
	baz=1.8								
T43A	Greenville	93.49	358	P		P	07 48 53.0	-0.1	
	baz=1.3								
T42A	Van Buren	93.56	359	eP		P	07 48 52.2	-1.2	
	comp=Z,13nm,1.2s								
T42A	Van Buren	93.56	359	P		P	07 48 52.7	-0.7	
	baz=0.8								
U52A	Thorn Hill	93.83	353	P		P	07 48 54.4	-0.3	
	baz=5.8								
U49A	Red Boiling Sp	93.88	355	P		P	07 48 54.2	-0.7	
	baz=4.2								
U51A	La Follette	93.89	353	P		P	07 48 54.4	-0.6	
	baz=5.4								
U50A	Jamestown	93.92	354	P		P	07 48 54.2	-0.9	
	baz=4.8,SNR=6.6								
U48A	Cassie Pea, Po	93.93	355	P		P	07 48 54.4	-0.7	
	baz=3.8								
BELC	Belle Mtn. Jos	93.99	19	P		P	07 48 55.8	+0.2	
	baz=345								
CIS	Catalina Islan	94.02	22	P		P	07 48 55.9	+0.2	
	baz=344								
IRM	Iron Mountain	94.02	19	P		P	07 48 56.2	+0.5	
	baz=346,SNR=11								
U47A	Clarksville	94.03	356	P		P	07 48 55.1	-0.5	
	baz=3.3								
PDMCI	Parker Dam,Lak	94.08	18	P		P	07 48 56.4	+0.5	
	baz=346								
MURC	Murrieta	94.11	21	P		P	07 48 55.8	-0.2	
	baz=344								
U40A	Yellville	94.23	0	P		P	07 48 55.9	-0.6	
	baz=360								
U41A	Viola	94.25	360	P		P	07 48 56.5	-0.1	
	baz=0.3								
PFO	Pinyon Flats O	94.26	20	P		P	07 48 56.6	-0.2	
	comp=Z,7.1nm,1.0s,baz=342,slow=2.3,SNR=8.0								
PFO	Pinyon Flats O	94.26	20	eP		P	07 48 57.5	+0.6	
	comp=Z,10nm,1.1s								
PFO	Pinyon Flats O	94.26	20	P		P	07 48 57.1	+0.2	
	baz=345								
XPFO	Pion Flat	94.27	20	eP		P	07 48 57.6	+0.7	
	comp=Z,12nm,1.1s								
STKA	Stephens Creek	94.35	136	P		P	07 48 54.4	-2.4	
	comp=Z,5.6nm,0.6s,baz=341,slow=5.1,SNR=18								
STKA				LR		LR	08 35 22.9		
	comp=Z,61nm,18.0s,baz=337,slow=38								
STKA	Stephens Creek	94.35	136	eP		P	07 48 55.4	-1.4	
	comp=Z,1.4nm,0.8s								
STKA	Stephens Creek	94.35	136	eP		P	07 48 55.4	-1.4	
STKA				pmax		pmax			
	comp=Z,1.0nm,0.8s								
WVT	Waverly	94.37	356	P		P	07 48 56.5	-0.6	
	baz=2.9								
SCI2	San Clemente I	94.39	22	P		P	07 48 56.9	-0.4	
	baz=343								
V52A	Sevierville	94.39	353	P		P	07 48 57.0	-0.3	
	baz=5.7								
BC3	Big Chuckawall	94.44	19	P		P	07 48 58.2	+0.6	
	baz=345								
X16A	Lo Mia Camp, P	94.48	16	eP		P	07 48 59.1	+1.1	
	comp=Z,3.8nm,0.8s								
V51A	Loudon	94.49	353	P		P	07 48 56.8	-1.0	
	baz=5.2								
V53A	Saluda	94.50	352	P		P	07 48 57.5	-0.4	
	baz=6.2								
Y12C	Blythe	94.54	18	P		P	07 48 58.2	+0.2	
	baz=346								
TKL	Tuckaleechee C	94.59	353	P		P	07 48 56.9	-1.3	
	comp=Z,4.7nm,0.7s,baz=142,slow=1.8,SNR=5.9								
TKL				LR		LR	08 32 36.5		
	comp=Z,436nm,21.6s,baz=348,slow=36								
TKL	Tuckaleechee C	94.59	353	eP		P	07 48 57.6	-0.6	
	comp=Z,32nm,1.8s								
TKL	Tuckaleechee C	94.59	353	eP		P	07 48 57.6	-0.6	
TKL				pmax		pmax			
	comp=Z,32nm,1.8s								
X18A	Snowflake	94.62	14	eP		P	07 48 59.8	+1.2	
	comp=Z,6.7nm,0.9s								
TUL1	Leonard	94.63	3	P		P	07 48 58.1	-0.3	
	baz=358								
V49A	McMinnville	94.63	355	P		P	07 48 57.5	-0.9	
	baz=4.2								
V47A	Nunnelly	94.65	356	P		P	07 48 57.7	-0.7	
	baz=3.1								
Y14A	Wickenburg	94.66	17	eP		P	07 48 59.1	+0.5	
	comp=Z,6.3nm,1.1s								
V50A	Pikevile	94.67	354	P		P	07 48 57.7	-0.9	
	baz=4.7								
V46A	Holladay	94.71	357	P		P	07 48 57.9	-0.8	
	baz=2.7								
V48A	Smith Brothers	94.71	355	P		P	07 48 58.0	-0.7	
	baz=3.6								
ANMO	Albuquerque	94.72	12	P		P	07 48 59.9	+0.9	
	comp=Z,5.6nm,0.8s,baz=359,slow=4.9,SNR=27								
ANMO	Albuquerque	94.72	12	eP		P	07 48 59.8	+0.7	
	comp=Z,7.9nm,0.9s								
ANMO	Albuquerque	94.72	12	eP		P	07 48 59.8	+0.7	
ANMO				pmax		pmax			
	comp=Z,8.0nm,0.9s								
ANMO	Albuquerque	94.72	12	P		P	07 48 59.7	+0.7	
	baz=351								
V42A	Cord	94.78	359	P		P	07 48 58.3	-0.7	
	baz=0.6								
V41A	Mountainview	94.81	360	P		P	07 48 58.5	-0.7	
	baz=0.1								
KMSC	Kings Mountain	94.88	351	P		P	07 48 59.0	-0.5	
	baz=7.1								
MONP2	Monument Peak	94.96	20	P		P	07 49 00.9	+0.7	
	baz=345								
SWSC	Sam W. Stewart	95.05	20	P		P	07 49 00.6	+0.3	
	baz=345								
BAR	Barrett	95.11	20	eP		P	07 49 01.5	+0.8	
	comp=Z,8.0nm,1.2s								
W51A	Cleveland	95.16	354	P		P	07 49 00.2	-0.6	
	baz=4.9								
W52A	Murphy	95.16	353	P		P	07 49 00.1	-0.8	
	baz=5.5								
LAZ	Ladron	95.17	12	eP		P	07 49 02.5	+1.4	
W47A	Westpoint	95.23	356	P		P	07 49 00.7	-0.4	
	baz=3.1								
IKP	In-Ko-Pah, Jac	95.27	20	P		P	07 49 01.9	+0.5	
	baz=345								
W49A	Belvidere	95.30	355	P		P	07 49 00.4	-1.0	
	baz=3.9								
AMTX	Amarillo	95.30	8	P		P	07 49 01.9	+0.3	
	baz=354								
W45A	Hickory Valley	95.39	357	P		P	07 49 01.5	-0.3	
	baz=2.0								
BOSA	Boshof	95.65	232	P		P	07 49 01.3	-1.7	
	comp=Z,1.5nm,0.6s,baz=152,slow=2.7,SNR=5.0								
BOSA				LR		LR	08 33 32.9		
	comp=Z,89nm,22.0s,baz=28,slow=36								
X52A	Dahlonega	95.65	353	P		P	07 49 02.2	-0.9	
	baz=5.5								
WMOK	Wichita Mounta	95.66	5	eP		P	07 49 03.3	+0.1	
	comp=Z,7.7nm,0.9s								
WMOK	Wichita Mounta	95.66	5	P		P	07 49 02.7	-0.5	
	baz=356								
X53A	Estollee	95.70	352	P		P	07 49 02.9	-0.4	
	baz=5.8								
JSC	Jenkinsville	95.72	351	eP		P	07 49 02.8	-0.6	
	comp=Z,27nm,0.9s								
JSC	Jenkinsville	95.72	351	eP		P	07 49 02.8	-0.6	
JSC				pmax		pmax			
	comp=Z,27nm,0.9s								
X47A	Russelville	95.97	356	P		P	07 49 03.3	-1.2	
	baz=2.9								
X48A	Hartselle	96.00	356	P		P	07 49 03.7	-1.0	
	baz=3.4								
MSTX	Muleshoe	96.11	9	eP		P	07 49 05.5	+0.3	
	comp=Z,8.4nm,1.0s								
MSTX	Muleshoe	96.11	9	P		P	07 49 05.1	-0.2	
	baz=353								
Y54A	Tignall	96.28	352	P		P	07 49 05.3	-0.7	
	baz=6.3								
Y53A	Monroe	96.36	353	P		P	07 49 05.2	-1.1	
	baz=5.7								
Y52A	Lilburn	96.39	353	P		P	07 49 05.9	-0.6	
	baz=5.4								
Y51A	Rockmart	96.43	354	P		P	07 49 06.1	-0.6	
	baz=4.7								
Y50A	Piedmont	96.49	354	P		P	07 49 06.3	-0.6	
	baz=4.3								
Y49A	Blount Mountai	96.56	355	P		P	07 49 06.2	-1.0	
	baz=3.9								
Y47A	UCPARC, Winfie	96.59	356	P		P	07 49 06.4	-0.9	
	baz=2.9								
214A	Organ Pipe Nat	96.62	17	P		P	07 49 07.8	+0.2	
	baz=347								
TUC	Tucson	96.65	16	P		P	07 49 08.3	+0.5	
	baz=348								
GOGA	Godfrey	96.80	352	P		P	07 49 07.5	-0.8	
	baz=5.8								
Z54A	Sparta	96.92	352	P		P	07 49 07.8	-1.0	
	baz=6.2								
Z52A	Williamson	97.09	353	P		P	07 49 08.9	-0.7	
	baz=5.2								
Z48A	Northport	97.10	356	P		P	07 49 08.9	-0.7	
	baz=3.1								
Z50A	Ashland	97.13	355	P		P	07 49 09.1	-0.7	
	baz=4.2								
Z47A	Carrollton	97.30	356	P		P	07 49 09.7	-0.8	
	baz=2.8								
155A	Kite	97.49	352	P		P	07 49 10.7	-0.7	
	baz=6.4								
151A	Opelika	97.82	354	P		P	07 49 12.3	-0.6	
	baz=4.6								
251A	Midway	98.25	354	P		P	07 49 14.7	-0.1	
	baz=4.5								
252A	Lumpkin	98.30	353	P		P	07 49 14.5	-0.6	
	baz=5.0								
DZM	Mont Dzumac	99.67	113	eLR		LR	08 22 00.3		
	comp=Z,459nm,26.4s								
LTX	Lajitas	100.60	10	ePdif		Pdif	07 49 25.3	-0.2	
LTX				ePP		PP	07 53 27.5	-3.9	
LTX	Lajitas	100.60	10	eP		Pdif	07 49 25.3	-0.2	
TX31	Lajitas Ar. Si	100.60	10	ePdif		Pdif	07 49 25.5	0.0	
TXAR	Lajitas Array	100.60	10	P		Pdif	07 49 25.3	-0.2	
	comp=Z,0.7nm,1.0s,baz=35,slow=3.3,SNR=4.3								
TXAR				PP		PP	07 53 27.5	-3.9	
	comp=Z,0.4nm,0.8s,baz=11,slow=7.3,SNR=2.3								
SDV	Santo Domingo	118.56	335	PKP		PKPdf	07 54 23.7	-2.2	
	comp=Z,4.1nm,0.7s,baz=296,slow=5.4,SNR=7.4								
SDV	Santo Domingo	118.56	335	ePKPdf		PKPdf	07 54 24.5	-1.4	
RUSC	La Rusia	122.07	337	eP		PKPdf	07 54 31.0	-2.0	
RUSC	La Rusia	122.07	337	eP		PKPdf	07 54 31.0	-2.0	
ROSC	El Rosal	123.39	338	PKP		PKPdf	07 54 35.2	-0.2	
	comp=Z,4.0nm,0.5s,baz=59,slow=23,SNR=4.7								
ROSC	El Rosal	123.39	338	ePKPdf		PKPdf	07 54 34.6	-0.7	
CHIC	Chingaza	123.45	338	eP		PKPdf	07 54 34.3	-1.2	
CHIC	Chingaza	123.45	338	eP		PKPdf	07 54 34.3	-1.2	
SYO	Syowa Base	123.65	199	||ePdiff	pPdif	07 51 23.5	+10	
PPT2	Papeete2	124.31	76	eLR		LR	08 33 22.8		
	comp=Z,479nm,23.5s								
YOTC	Yotoco, Valle	124.68	340	eP		PKPdf	07 54 36.8	-0.7	
YOTC	Yotoco, Valle	124.68	340	eP		PKPdf	07 54 36.8	-0.7	
POPC	Popayan, Colom	126.15	340	eP		PKPdf	07 54 40.2	-0.3	
POPC	Popayan, Colom	126.15	340	eP		PKPdf	07 54 40.2	-0.3	
PCON	Cinco Dias	126.30	340	eP		PKPdf	07 54 41.0	-0.2	
PCON	Cinco Dias	126.30	340	eP		PKPdf	07 54 41.0	-0.2	
SOTA	Rioblanco	126.53	340	eP		PKPdf	07 54 40.2	-1.4	
SOTA	Rioblanco	126.53	340	eP		PKPdf	07 54 40.2	-1.4	
FLOC	Florencia	126.85	339	eP		PKPdf	07 54 41.3	-0.3	
FLOC	Florencia	126.85	339	eP		PKPdf	07 54 41.3	-0.3	
TBI	Tubuai	128.60	81	eLR		LR	08 35 21.3		
	comp=Z,191nm,25.2s								
OTAV	Otavalo	128.76	342	ePKPpre		PKPpre	07 54 33.8		
OTAV	Otavalo	128.76	342	eP		PKPdf	07 54 43.5	-2.2	
OTAV	Otavalo	128.76	342	ePKHKP		PKPpre	07 54 33.8		
OTAV	Otavalo	128.76	342	eP		PKPdf	07 54 43.5	-2.2	
BDFB	Brasilia	130.58	298	SKPbc		SKPab	07 58 12.2	+1.0	
	comp=Z,4.4nm,0.9s,baz=56,slow=3.6,SNR=4.7								
NVL	N'lazarevskaya	131.73	205	ePKIKP		PKiKP	07 54 53.0	+3.1	
NVL				pmax		pmax			
	comp=Z,6.0nm,0.9s								
ATAH	Atahualpa	135.90	340	SKPbc		SKPbc	07 58 30.2	+0.5	
	comp=Z,5.3nm,0.9s,baz=130,slow=3.7,SNR=5.7								
SIV	San Ignacio	137.83	312	PKP		PKPdf	07 55 02.1	0.0	
	comp=Z,3.6nm,0.7s,baz=88,slow=3.7,SNR=22								
QSPA	South Pole Qui	139.55	180	ePKPpre		PKPpre	07 54 54.1		
NNA	Nana	140.19	336	PKP		PKPdf	07 55 04.7	-1.8	
	comp=Z,5.7nm,0.7s,baz=217,slow=5.1,SNR=3.2								
LPAZ	La Paz	141.25	321	PKhKP		PKPpre	07 55 02.9		
	comp=Z,1.3nm,0.5s,baz=348,slow=1.4,SNR=13								
LPAZ	La Paz	141.25	321	ePKPpre		PKPpre	07 54 59.6		
LPAZ	La Paz	141.25	321	ePKHKP		PKPpre	07 54 59.6		
PB12	IPOC Station P	144.23	322	eP		PKPab	07 55 10.4	-1.0	
CPUP	Villa Florida	144.31	298	PKP		PKPab	07 55 10.9	-0.5	
	comp=Z,31nm,0.6s,baz=50,slow=3.2,SNR=145								
MNMC	Minye Minye	144.40	321	ePKPdf		PKPab	07 55 12.2	-0.1	
PB11	IPOC Station P	144.99	321	ePKPbc		PKPab	07 55 14.0	-0.3	
PB11	IPOC Station P	144.99	321	eP		PKPab	07 55 13.9	-0.3	
PSGCX	Pisagua	145.03	321	eP		PKPbc	07 55 13.9	-0.4	
PB08	IPOC Station P	145.12	320	eP		PKPab	07 55 15.0	0.0	
YJA	Yavi	145.26	313	eP		PKPdf	07 55 15.9	+0.1	
PB01	IPOC Station P	146.06	319	ePKPdf		PKPdf	07 55 16.7	0.0	
HJA	Humahuaca	146.09	312	eP		PKPbc	07 55 17.7	-0.3	
PB02	IPOC Station P	146.48	320	eP		PKPdf	07 55 17.7	+0.2	
PB09	IPOC Station P	146.62	318	eP		PKPbc	07 55 19.4	+0.1	
AZAP	Zapla	146.77	310	eP		PKPdf	07 55 17.8	-0.2	
PB07	IPOC Station P	146.84	319	eP		PKPdf	07 55 18.5	+0.4	
PB03	IPOC Station P	147.06	319	eP		PKPdf	07 55 18.4	-0.1	
LVC	Limon Verde	147.19	317	PKPbc		PKPdf	07 55 19.2	+0.2	
	comp=Z,38nm,0.7s,baz=142,slow=1.1,SNR=30								
LVC	Limon Verde	147.19	317	ePKPdf		PKPdf	07 55 19.2	+0.2	
LVC				ePKPdf		PKPbc	07 55 20.0	-1.1	
LVC	Limon Verde	147.19	317	eP		PKPdf	07 55 19.7	+0.8	
SLA	San Lorenzo	147.41	310	eP		PKPdf	07 55 18.8	-0.2	
PB04	IPOC Station P	147.49	319	ePKPbc		PKPdf	07 55 21.8	+0.1	
PB04	IPOC Station P	147.49	319	eP		PKPdf	07 55 19.3	+0.1	
PB15	IPOC Station P	147.96	318	eP		PKPdf	07 55 20.7	+0.7	
PB05	IPOC Station P	147.97	319	eP		PKPdf	07 55 20.5	+0.6	
PB10	IPOC Station P	148.70	319	ePKPbc		PKPbc	07 55 24.8	+0.1	
GO02	Mina Guanaco	149.72	316	ePKPbc		PKPbc	07 55 27.9	+0.3	
ACLC	CERRO LA CRUZ	152.00	307	eP		PKPbc	07 55 32.2	-0.4	
GO03	Copiap	152.09	314	ePKPdf		PKPdf	07 55 25.4	-0.8	
GO03				ePKPbc		pPKPdf	07 55 32.6	-0.7	
APLL	PUNTA DE LOS L	152.54	305	eP		PKPdf	07 55 26.5	-0.2	
LCO	Las Campanas	153.51	313	ePKPdf		PKPdf	07 55 28.6	+0.1	
LCO				ePKPbc		PKiKP	07 55 36.2	0.0	
LCO	Las Campanas	153.51	313	ePKIKP		PKPdf	07 55 28.6	+0.1	
CFA	Coronel Fontan	154.40	306	eP		PKPdf	07 55 30.6	+1.2	
GO04	Tololo Observa	154.53	312	epPKPdf		pPKPdf	07 55 36.3	-0.7	
TRQA	Tornquist	155.34	287	ePKPdf		PKPdf	07 55 30.5	+0.1	
TRQA				ePKPab		PKPab	07 55 55.3	-0.5	
TRQA	Tornquist	155.34	287	ePKIKP		PKPdf	07 55 55.3	+0.1	
TRQA				e			07 55 55.3		
ASAL	Salagasta	155.48	306	eP		PKPdf	07 55 30.8	-0.1	
PLCA	Paso Flores	162.22	292	PKP		PKPdf	07 55 38.1	-0.5	
	comp=Z,3.8nm,0.9s,baz=60,slow=0.9,SNR=5.5								
PLCA				PKPab		PKPab	07 56 25.0	-0.7	
	comp=Z,3.6nm,0.6s,baz=69,slow=4.0,SNR=15								
PLCA	Paso Flores	162.22	292	ePKPdf		PKPdf	07 55 38.5	0.0	
PLCA				ePKPab		PKPab	07 56 24.9	-0.7	

MEX 24 07:58:41.5±0.4, 13°46N×92°31W, h32km±41km, MD3.9,
Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THIG		1.44	2	*i* P		Pn	07 59 03.9	-1.5
THIG				*i* S		Sn	07 59 20.8	-2.5
PCIG		2.40	339	eP		Pn	07 59 16.4	-2.2
PCIG				eS		Sn	07 59 44.2	-2.7
CCIG	Comitan	2.81	3	*i* P		Pn	07 59 23.4	-1.1
CCIG				*i* S		Sn	07 59 55.2	-2.1

IDC ***24*** *08:04:27.8±3.7, 13°.14N×87°.53W, h34km±45km, mb3.2/4, mb1 3.6/6, mb1mx3.4/32, mbtmp3.3/6, ML2.6/2, Error ellipse: s-maj=109.1km s-min=20.0km az=40.0*
ISC 24 08:04:25.9±0.7, 13°.3N±0°.2×87°.7W±0°.2, h10km, n8,
σ1s87/12, mb3.4/4, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
APG	El Apazote	3.21	302	Pn		Pn	08 05 18.3	+1.7
	0.3nm,0.3s,baz=146,slow=11,SNR=3.3							
JTS	JuntasAbangare	4.00	138	Pn		Pn	08 05 27.5	+0.2
	0.5nm,0.3s,baz=326,slow=16,SNR=4.4							
JTS				Pg		Pb	08 05 37.5	+0.9
	4.0nm,0.3s,baz=341,slow=9.8,SNR=16							
JTS				Sn		Sn	08 06 14.4	+0.1
	2.8nm,0.3s,baz=342,slow=19,SNR=2.9							
JTS				Lg		Lg	08 06 28.9	
	2.3nm,0.3s,baz=210,slow=18,SNR=7.5							
CMIG	Matias Romero	7.93	299

KVN	**Kaiserville**	**1.29**	**66**	*e*Pn		**Pn**	**08 22 11.9**	**-1.2**
KVN				*e*Sn		**Sb**	**08 22 29.3**	**-0.8**
BEKR	**Beckworth**	**1.45**	**337**	*e*Pn		**Pn**	**08 22 14.2**	**-1.0**
ORV	**Oroville**	**1.78**	**305**	*e*Pn		**Pn**	**08 22 19.4**	**-0.3**
ORV				*e*Sn		**Sn**	**08 22 40.5**	**-2.2**
TIN	**Tinemaha, Big**	**1.84**	**143**	P		**Pb**	**08 22 21.5**	**-0.9**
	baz=325							
TIN				Sb		**Sg**	**08 22 49.1**	**+1.7**
	baz=325							
VOG	**Valley Oaks Go**	**2.22**	**175**	Pb		**Pb**	**08 22 28.0**	**-0.7**
	baz=356							
VOG				Sb		**Sg**	**08 22 58.1**	**-1.4**
	baz=356							
SAO	**San Andreas Ge**	**2.29**	**220**	*e*Pn		**Pn**	**08 22 26.7**	**+0.2**
GRAC	**Grapevine Rang**	**2.36**	**130**	Pb		**Pg**	**08 22 32.4**	**-0.9**
	baz=312							
GRAC				Sb		**Sg**	**08 23 04.8**	**+1.0**
	baz=312							
CWC	**Cottonwood Cre**	**2.42**	**149**	Pb		**Pb**	**08 22 33.0**	**+0.7**
	baz=331							
CWC				Sb		**Sg**	**08 23 05.1**	**-0.9**
	baz=331							
O03E	**Paynes Creek**	**2.44**	**317**	P		**Pn**	**08 22 29.3**	**+0.6**
	baz=135,SNR=170							
O03E				Sb		**Sb**	**08 23 03.9**	**+0.9**
	baz=135							
GDXM	**Geysers**	**2.50**	**277**	*e*Pn		**Pn**	**08 22 29.9**	**+0.3**
MCCM	**Marconi Confer**	**2.59**	**262**	*e*Pn		**Pn**	**08 22 31.1**	**+0.4**
VES	**Vestal, Richgr**	**2.72**	**171**	Pb		**Pb**	**08 22 36.8**	**-0.5**
	baz=351							
VES				Sb		**Sb**	**08 23 12.6**	**+1.5**
	baz=351							
HOPS	**Hopland Field**	**2.74**	**281**	*e*Pn		**Pn**	**08 22 33.4**	**+0.6**
DAC	**Darwin (Calif)**	**2.77**	**144**	*e*Pn		**Pn**	**08 22 34.3**	**+0.9**
PAGB	**Antelope Grade**	**2.84**	**190**	*e*Pn		**Pn**	**08 22 35.2**	**+1.0**
O02D	**Mt. Diablo Mer**	**2.95**	**305**	P		**Pn**	**08 22 36.0**	**+0.2**
	baz=122,SNR=15							
O02D				Sb		**Sb**	**08 23 19.4**	**+1.6**
	baz=122							
MPMC	**Manual Prospec**	**3.00**	**145**	P		**Pn**	**08 22 37.2**	**+0.6**
	baz=327							
MPMC				Sb		**Sg**	**08 23 23.7**	**-0.8**
	baz=327							
FURC	**Furnace Creek,**	**3.01**	**132**	Pb		**Pb**	**08 22 43.9**	**+1.6**
	baz=315							
WDC	**Whiskeytown Da**	**3.04**	**313**	*e*Pn		**Pn**	**08 22 37.6**	**+0.6**
TPNV	**Topopah Spring**	**3.10**	**120**	*e*Pn		**Pn**	**08 22 38.4**	**+0.5**
TPNV	**Topopah Spring**	**3.10**	**120**	P		**Pn**	**08 22 38.0**	**0.0**
	baz=302							
R11A	**Troy Canyon, C**	**3.17**	**92**	*e*Pn		**Pn**	**08 22 38.4**	**-0.5**
R11A	**Troy Canyon, C**	**3.17**	**92**	P		**Pn**	**08 22 38.1**	**-0.9**
	baz=275							
R11A				Sb		**Sg**	**08 23 28.5**	**-1.5**
	baz=275							
SMMC	**Simmler**	**3.23**	**185**	P		**Pn**	**08 22 39.5**	**0.0**
	baz=5.3							
MOD	**Modoc Plateau**	**3.40**	**351**	*e*Pn		**Pn**	**08 22 42.7**	**+0.7**
N02D	**Trinity Center**	**3.40**	**317**	P		**Pn**	**08 22 40.8**	**-1.2**
	baz=134							
N02D				Sb		**Sb**	**08 23 32.6**	**+1.8**
	baz=134							
LRMC	**Laurel Mtn Rad**	**3.42**	**152**	Sb		**Sg**	**08 23 35.3**	**-2.8**
	baz=334							
ARVC	**Arvin**	**3.46**	**169**	Sb		**Sb**	**08 23 35.0**	**+2.7**
	baz=350							
KMRM	**Mail Ridge**	**3.59**	**299**	*e*Pn		**Pn**	**08 22 44.8**	**+0.2**
M04C	**Macdoel**	**3.66**	**333**	P		**Pn**	**08 22 45.1**	**-0.5**
	baz=151,SNR=8.9							
M04C				Sb		**Sb**	**08 23 41.1**	**+2.9**
	baz=151							
M02C	**Callahan**	**3.78**	**320**	P		**Pn**	**08 22 48.4**	**+1.2**
	baz=138,SNR=9.1							
M02C				Sb		**Sb**	**08 23 44.4**	**+2.7**
	baz=138							
EDW2	**Edwards Air Fo**	**3.87**	**160**	Sb		**Sg**	**08 23 48.8**	**-3.8**
	baz=341							
GSC	**Goldstone, Bar**	**3.94**	**144**	*e*Pn		**Pn**	**08 22 50.1**	**+0.8**
WVOR	**Wild Horse Val**	**3.96**	**11**	*e*Pn		**Pn**	**08 22 50.7**	**+1.0**
YBH	**Yreka Blue Hor**	**3.98**	**324**	*e*Pn		**Pn**	**08 22 50.2**	**+0.3**
OSI	**Osito Audit: C**	**3.98**	**169**	*e*Pn		**Pn**	**08 22 49.4**	**-0.5**
ELK	**Elko**	**4.04**	**56**	*e*Pn		**Pn**	**08 22 50.0**	**-0.8**
SHPR	**Sheep Range**	**4.08**	**118**	*e*Pn		**Pn**	**08 22 51.2**	**-0.2**
L04D	**Klamath Falls**	**4.21**	**332**	P		**Pn**	**08 22 54.9**	**+1.8**
	baz=150,SNR=20							
K04D	**Chiloquin, OR**	**4.39**	**339**	Sb		**Sb**	**08 24 03.8**	**+4.5**
	baz=157							
MWC	**Mount Wilson**	**4.48**	**163**	*e*Pn		**Pn**	**08 22 58.8**	**+1.9**
PASC	**Pasadena Art C**	**4.51**	**165**	*e*Pn		**Pn**	**08 22 58.6**	**+1.5**
PSUT	**Pine Spring**	**4.52**	**88**	*e*Pn		**Pn**	**08 22 56.9**	**-0.6**
HUMO	**Hull Mountain**	**4.79**	**329**	*e*Pn		**Pn**	**08 23 02.6**	**+1.5**
J08A	**Circle Bar Ran**	**4.89**	**10**	*e*Pn		**Pn**	**08 23 03.7**	**+1.2**
LDFC	**Landfair**	**5.00**	**132**	*e*Pn		**Pn**	**08 23 03.8**	**-0.1**
CCUT	**Cedar City**	**5.04**	**99**	*e*Pn		**Pn**	**08 23 04.5**	**0.0**
SZCU	**Shurtz Canyon**	**5.24**	**98**	*e*Pn		**Pn**	**08 23 08.3**	**+0.9**
LCMT	**Little Creek M**	**5.28**	**105**	*e*Pn		**Pn**	**08 23 07.9**	**+0.2**
PINE	**Pine Mountain**	**5.34**	**350**	*e*Pn		**Pn**	**08 23 09.4**	**+0.7**
DUG	**Dugway, Tooele**	**5.53**	**70**	*e*Pn		**Pn**	**08 23 11.5**	**+0.3**
DUG	**Dugway, Tooele**	**5.53**	**70**	P		**Pn**	**08 23 11.5**	**+0.3**
	baz=255							
PFO	**Pinyon Flats O**	**5.54**	**152**	Pn		**Pn**	**08 23 15.3**	**+3.9**
	1.1nm,0.3s,baz=348,slow=15,SNR=13							
PFO				Pg		**Pb**	**08 23 26.9**	**+1.4**
	1.1nm,0.3s,baz=325,slow=13,SNR=8.0							
PFO				Lg		Lg	08 24 42.9	
	0.9nm,0.3s,baz=52,slow=23,SNR=6.1							
PFO	**Pinyon Flats O**	**5.54**	**152**	*e*Pn		**Pn**	**08 23 12.7**	**+1.2**
I07A	**Izee**	**5.54**	**1**	*e*Pn		**Pn**	**08 23 12.6**	**+1.2**
XPFO	**Pion Flat**	**5.54**	**152**	*e*Pn		**Pn**	**08 23 12.8**	**+1.4**
KNB	**Kanab**	**5.59**	**104**	*e*Pn		**Pn**	**08 23 12.0**	**-0.2**
BGU	**Big Grassy Mou**	**5.61**	**63**	*e*Pn		**Pn**	**08 23 12.0**	**-0.4**
MSU	**Marysvale**	**5.84**	**88**	*e*Pn		**Pn**	**08 23 15.9**	**+0.3**
NLU	**North Lily Min**	**6.03**	**74**	*e*Pn		**Pn**	**08 23 18.1**	**0.0**
HVU	**Hansel Valley**	**6.16**	**56**	*e*Pn		**Pn**	**08 23 19.4**	**-0.6**
SPUT	**South Promonto**	**6.17**	**61**	*e*Pn		**Pn**	**08 23 19.6**	**-0.5**
SPUT				*e*Sn		Sn	08 24 39.8	+8.8
U15A	**North Rim**	**6.20**	**108**	*e*Pn		**Pn**	**08 23 21.4**	**+0.8**
Y12C	**Blythe**	**6.31**	**138**	*e*Pn		**Pn**	**08 23 24.7**	**+2.9**
BAR	**Barrett**	**6.32**	**157**	*e*Pn		**Pn**	**08 23 21.5**	**-0.5**
BMO	**Blue Mountains**	**6.54**	**15**	*e*Pn		**Pn**	**08 23 26.3**	**+1.2**
TMUT	**Trail Mountain**	**6.60**	**81**	*e*Pn		**Pn**	**08 23 26.4**	**+0.2**
G08A	**Pilot Rock**	**6.77**	**4**	*e*Pn		**Pn**	**08 23 29.5**	**+1.2**
TCUT	**Toone Canyon**	**6.83**	**65**	*e*Pn		**Pn**	**08 23 28.8**	**-0.4**
Y14A	**Wickenburg**	**7.04**	**129**	*e*Pn		**Pn**	**08 23 34.8**	**+2.8**
SRU	**San Rafael Swe**	**7.12**	**83**	*e*Pn		**Pn**	**08 23 33.8**	**+0.6**
X16A	**Lo Mia Camp, P**	**7.76**	**119**	*e*Pn		**Pn**	**08 23 44.8**	**+2.8**
PD31	**Pinedale Array**	**8.73**	**58**	*e*Pn		**Pn**	**08 23 55.7**	**+0.4**
PDAR	**Pinedale Array**	**8.73**	**58**	Pn		**Pn**	**08 23 56.8**	**+1.4**
	0.2nm,0.3s,baz=230,slow=14,SNR=7.2							
PDAR				Lg		Lg	08 26 20.6	
	0.1nm,0.3s,baz=251,slow=35,SNR=3.7							
TXAR	**Lajitas Array**	**16.09**	**120**	Pn		**P**	**08 25 37.8**	**-0.9**
	0.0nm,0.3s,baz=299,slow=9.2,SNR=3.4							
YKA	**Yellowknife Ar**	**24.18**	**6**	P		**P**	**08 27 05.8**	**+0.7**
	0.1nm,0.6s,baz=191,slow=6.2,SNR=3.0							

*IDC **24** 08:57:25.3±0.9, 4.°12N×127.°10E, h0km, mb3.9/11, mb1 4.0/11,mb1mx3.8/43,mbtmp3.9/11,MS2.7/2, Ms1 2.7/2,ms1mx2.4/42, Error ellipse: s-maj=57.1km s-min=14.1km az=70.0*

*ISCJB **24** 08:57:28.2±0.4, 4.°11N±0.°06×127.°1E±0.°1, h36km, mb4.0/16,MS2.5/1, Error ellipse: s-maj=18.5km s-min=6.2km az=160.2*

*NEIC **24** 08:57:30.2±1.0, 4.°10N×127.°12E, h36km±10km, mb4.3/10, Error ellipse: s-maj=13.9km s-min=5.6km az=66.0*

ISC 24 08:57:30.4±0.7, 4.°11N±0.°08×127.°1E±0.°1, h36km, n32, σ0s54/30, mb4.0/16, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**3.32**	**176**	*e*Pn		**Pn**	**08 58 19.6**	**-0.4**
LUWI	**Luwuk**	**6.71**	**220**	*e*Pn		**Pn**	**08 59 06.5**	**+0.1**
FAKI	**Fak Fak**	**8.66**	**144**	*e*Pn		**Pn**	**08 59 33.5**	**+0.2**
MTN	**Manton Dam**	**17.31**	**167**	*e*Pn		**Pn**	**09 01 27.9**	**-1.5**
	40nm,1.3s							
GUMO	**Guam**	**19.89**	**61**	LR		LR	09 08 42.2	
	comp=Z,26nm,19.5s,baz=24,slow=34							
TPUB	**Ta-pu**	**20.08**	**342**	*e*P		**P**	**09 02 00.6**	**-0.3**
	22nm,0.9s							
FITZ	**Fitzroy Crossi**	**22.11**	**184**	P		**P**	**09 02 23.1**	**+0.2**
	1.6nm,0.5s,baz=20,slow=9.8,SNR=9.3							
FITZ	**Fitzroy Crossi**	**22.11**	**184**	*e*P		**P**	**09 02 23.3**	**+0.5**
	10nm,1.3s							
WRAB	**Tennant Creek**	**24.93**	**164**	*e*P		**P**	**09 02 49.8**	**-0.7**
	16nm,1.4s							
WR1	**Warramunga Arr**	**24.93**	**164**	*e*P		**P**	**09 02 49.6**	**-0.8**
WRA	**Warramunga Arr**	**24.93**	**164**	P		**P**	**09 02 49.6**	**-0.9**
	0.7nm,0.4s,baz=343,slow=10,SNR=34							
WB2	**Warramunga Arr**	**24.94**	**164**	*e*P		**P**	**09 02 49.8**	**-0.8**
	5.3nm,0.9s							
AS31	**Alice Springs**	**28.39**	**167**	*e*P		**P**	**09 03 21.6**	**0.0**
	1.8nm,1.3s							
ASAR	**Alice Springs**	**28.39**	**167**	P		**P**	**09 03 21.5**	**-0.1**
	0.5nm,0.5s,baz=345,slow=6.3,SNR=14							
AS01	**Alice Springs**	**28.40**	**167**	*e*P		**P**	**09 03 22.0**	**+0.3**
CM31	**Chiang Mai Arr**	**31.02**	**300**	*e*P		**P**	**09 03 44.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**31.02**	**300**	P		**P**	**09 03 44.6**	**-0.3**
	0.4nm,0.3s,baz=113,slow=6.9,SNR=3.4							
KSRS	**Korea Array**	**33.20**	**1**	LR		LR	09 16 19.3	
	comp=Z,11nm,21.1s,baz=115,slow=34							
BBOO	**Buckleboo**	**37.68**	**168**	*e*P		**P**	**09 04 42.8**	**+0.3**
	25nm,1.5s							
STKA	**Stephens Creek**	**38.35**	**160**	P		**P**	**09 04 49.3**	**+1.2**
	1.2nm,0.4s,baz=339,slow=10,SNR=5.3							
STKA	**Stephens Creek**	**38.35**	**160**	*e*P		**P**	**09 04 48.1**	**0.0**
	4.4nm,1.4s							
SONA0	**Songino Array**	**47.07**	**341**	*e*P		**P**	**09 05 59.2**	**+0.4**
SONM	**Songino Array**	**47.07**	**341**	P		**P**	**09 05 59.2**	**+0.4**
	0.7nm,0.6s,baz=158,slow=7.9,SNR=6.1							
MK32	**Makanchi Array**	**57.47**	**325**	*e*P		**P**	**09 07 15.8**	**0.0**
MKAR	**Makanchi Array**	**57.47**	**325**	P		**P**	**09 07 15.8**	**0.0**
	0.7nm,0.6s,baz=108,slow=9.3,SNR=8.7							
MKAR	**Makanchi Array**	**57.47**	**325**	*e*P		**P**	**09 07 16.0**	**+0.1**
	8.6nm,0.8s							
ZALV	**Zalesovo Beam**	**60.43**	**333**	P		**P**	**09 07 36.0**	**-0.3**
	0.5nm,0.4s,baz=125,slow=9.0,SNR=2.2							
ZAA1	**Zalesovo Array**	**60.43**	**333**	*e*P		**P**	**09 07 36.0**	**-0.3**
KURBB	**Kurchatov Arra**	**61.63**	**327**	P		**P**	**09 07 44.7**	**+0.2**
	1.0nm,0.6s,baz=127,slow=6.6,SNR=8.6							
KURK	**Kurchatov**	**61.63**	**327**	*e*P		**P**	**09 07 44.1**	**-0.3**
	2.1nm,0.6s							
BVAR	**Borovoye Array**	**67.22**	**327**	P		**P**	**09 08 21.1**	**+0.2**
	0.6nm,0.5s,baz=104,slow=6.3,SNR=4.9							
TIXI	**Tiksi**	**67.46**	**1**	P		**P**	**09 08 22.2**	**0.0**
	0.6nm,0.4s,baz=185,slow=2.8,SNR=3.7							

*ISCJB **24** 09:19:19.0±0.8, 6.°65S±0.°06×129.°88E±0.°1, h146km, mb3.6/1, Error ellipse: s-maj=14.8km s-min=7.6km az=23.2*

*IDC **24** 09:19:21.4±2.1, 6.°68S×129.°95E, h157km±25km, mb3.5/1, mb1 3.4/6,mb1mx3.2/39,mbtmp3.9/6, Error ellipse: s-maj=37.0km s-min=19.5km az=95.0*

ISC 24 09:19:20.3±1.1, 6.°68S±0.°09×129.°9E±0.°1, h146km, n6, σ1s80/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.92**	**13**	P		**Pn**	**09 20 47.3**	**+1.3**
	1.3nm,0.3s,baz=22,slow=21,SNR=12							
SIJI				S		**Sn**	**09 21 51.0**	**-1.9**
	2.7nm,0.3s,baz=229,slow=19,SNR=6.5							
BATI	**Baumata**	**7.13**	**240**	P		**Pn**	**09 21 03.9**	**+1.7**
	7.8nm,0.3s,baz=101,slow=16,SNR=4.1							
BATI				S		**Sn**	**09 22 19.7**	**-2.3**
	2.6nm,0.3s,baz=131,slow=9.3,SNR=2.4							
FITZ	**Fitzroy Crossi**	**12.10**	**200**	P		**Pn**	**09 22 08.4**	**+0.3**
	0.2nm,0.3s,baz=30,slow=10,SNR=7.0							
FITZ				S		Sn	09 24 12.4	-9.4
	0.2nm,0.3s,baz=336,slow=20,SNR=3.3							
WRA	**Warramunga Ar**	**13.86**	**162**	P		**Pn**	**09 22 29.4**	**-1.3**
	0.4nm,0.3s,baz=343,slow=12,SNR=12							
WRA				S		Sn	09 24 54.4	-10
	0.2nm,0.3s,baz=333,slow=25,SNR=5.1							
ASAR	**Alice Springs**	**17.32**	**168**	P		**Pn**	**09 23 14.2**	**+0.9**
	0.4nm,0.3s,baz=345,slow=10,SNR=17							
MKAR	**Makanchi Array**	**67.22**	**327**	P		**P**	**09 30 03.1**	**-0.2**
	0.8nm,0.6s,baz=126,slow=7.3,SNR=9.2							

*IDC **24** 09:28:27.5±1.0, 27.°70N×56.°47E, h0km, mb4.0/16, mb1 4.1/18,mb1mx4.0/51,mbtmp4.0/18,ML3.7/2,MS3.1/3, Ms1 3.2/3,ms1mx2.8/36, Error ellipse: s-maj=24.1km s-min=15.5km az=144.0*

*DSN **24** 09:28:29.7±1.4, 28.°11N×56.°42E, h15km, ML4.2/12, Error ellipse: s-maj=18.4km s-min=9.9km az=64.0*

*NEIC **24** 09:28:29.9±0.4, 27.°79N×56.°40E, h10km, mb4.2/17, ML4.2(THR),MN4.2(TEH), Error ellipse: s-maj=8.9km s-min=5.4km az=151.0*

*MOS **24** 09:28:31.3±1.2, 27.°79N×56.°32E, h33km, mb4.3/15, Error ellipse: s-maj=10.4km s-min=7.6km az=77.7*

*ISCJB **24** 09:28:32.2±0.2, 27.°87N±0.°02×56.°52E±0.°03, h28km, mb4.1/26,MS3.5/4, Error ellipse: s-maj=4.2km s-min=2.7km az=176.0*

*THR **24** 09:28:32.3, 27.°78N×56.°65E, h15km, ML4.2*

*TEH **24** 09:28:32.7, 27.°86N×56.°56E, h26km, ML4.1*

*OMAN **24** 09:28:34.0±0.3, 27.°76N×56.°84E, h15km, ml4.3/15, Error ellipse: s-maj=5.5km s-min=5.0km az=357.0*

ISC 24 09:28:32.7±0.4, 27.°78N±0.°03×56.°40E±0.°04, h28km, n164, σ1s89/171, mb4.2/33, MS3.5/4, 1C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.43**	**208**	*e*Pg		**Pn**	**09 28 44.4**	**+1.2**
GENO				*e*Sg		**Sn**	**09 28 52.8**	**+2.5**
GENO				IAMB		IAmb	09 28 59.3	
	comp=Z,0.0nm,0.4s							
NIAN	**Nian**	**0.45**	**120**	*e*Pg		**Pb**	**09 28 40.7**	**-1.5**
NIAN				IAMB		IAmb	09 28 49.5	
	comp=Z,0.0nm,0.3s							
SHME	**Shamm**	**1.74**	**188**	*e*P		**Pb**	**09 29 03.7**	**-0.4**
	SNR=18							
SHME				S		**Sb**	**09 29 30.3**	**+4.8**
SHME	**Shamm**	**1.74**	**188**	*e*Pn		**Pb**	**09 29 04.0**	**-0.1**
BANOM	**Banah**	**1.85**	**183**	*e*P		**Pb**	**09 29 04.7**	**-1.3**
	SNR=88							
BANOM	**Banah**	**1.85**	**183**	P		**Pb**	**09 29 05.7**	**-0.3**
	SNR=88							
BANOM				P		Pn	09 29 09.7	+7.0
	SNR=21							
NGRK	**Negar Kerman**	**1.88**	**9**	IAMB		IAmb	09 29 35.0	
	comp=Z,0.0nm,0.2s							
NGRK				*e*Pg		**Pn**	**09 29 04.2**	**+0.8**
KRBR	**Kerman**	**2.22**	**8**	*e*AML		AML	09 29 43.5	
	comp=N,2μm,0.4s							
KRBR				*e*Pn		**Pb**	**09 29 10.2**	**-2.1**
TVBK	**TV Kerman**	**2.22**	**8**	IAMB		IAmb	09 29 44.7	
	comp=Z,0.0nm,0.4s							
TVBK				*e*Pn		**Pn**	**09 29 09.4**	**+1.4**
CHMN	**Cheshme madani**	**2.30**	**26**	*e*Pn		**Pn**	**09 29 10.4**	**+1.2**
CHMN				IAMB		IAmb	09 29 45.7	
	comp=Z,0.0nm,0.6s							
UMQ	**Umm Al-Quwin**	**2.34**	**196**	*e*Pn		**Pb**	**09 29 14.2**	**-0.1**
MSFE	**Esma-Masafi**	**2.42**	**185**	*e*P		**Pb**	**09 29 13.7**	**-1.9**
	SNR=69							
MSFE	**Esma-Masafi**	**2.42**	**185**	*e*Pn		**Pb**	**09 29 13.9**	**-1.8**
MDH	**Madha**	**2.47**	**182**	*e*P		**Pn**	**09 29 13.3**	**+2.1**
	SNR=14							
MDH	**Madha**	**2.47**	**182**	P		**Pn**	**09 29 12.3**	**+1.2**
	SNR=15							
MDH	**Madha**	**2.47**	**182**	*e*Pn		**Pn**	**09 29 12.4**	**+1.2**
KHGB	**Koh Gabri**	**2.59**	**2**	*e*Pn		**Pn**	**09 29 14.9**	**+1.9**
KHGB				IAMB		IAmb	09 30 05.1	
	comp=Z,0.0nm,0.8s							
UOSS	**Minazif**	**2.83**	**184**	*e*Pn		**Pn**	**09 29 17.8**	**+1.7**
UOSS	**Minazif**	**2.83**	**184**	*i* P		**Pn**	**09 29 18.1**	**+1.9**
	SNR=41							
UOSS	**Minazif**	**2.83**	**184**	P		**Pn**	**09 29 18.4**	**+2.3**
	SNR=70							
UOSS				S		**Sb**	**09 29 57.2**	**+0.4**
UOSS	**Minazif**	**2.83**	**184**	*e*Pn		**Pn**	**09 29 17.2**	**+1.1**
NAZ	**Nazwa, Dubai**	**2.86**	**194**	*i* P		**Pb**	**09 29 20.6**	**-2.5**
	SNR=23							
NAZ	**Nazwa, Dubai**	**2.86**	**194**	P		**Pb**	**09 29 20.5**	**-2.6**
	SNR=23							
NAZ	**Nazwa, Dubai**	**2.86**	**194**	*e*Pn		**Pn**	**09 29 17.2**	**+0.7**
HATD	**Hatta, Dubai**	**2.95**	**185**	*i* P		**Pn**	**09 29 20.8**	**+3.0**
	SNR=47							
HATD	**Hatta, Dubai**	**2.95**	**185**	P		**Pn**	**09 29 20.9**	**+3.1**
	SNR=47							
HATD	**Hatta, Dubai**	**2.95**	**185**	*e*Pn		**Pn**	**09 29 20.4**	**+2.6**
GHIR	**Ghir-Karzin**	**3.06**	**280**	*e*Pn		**Pb**	**09 29 25.9**	**-0.6**
GHIR	**Ghir-Karzin**	**3.06**	**280**	*e*Pn		**Pb**	**09 29 25.9**	**-0.6**
ASHO	**Ashiyiah**	**3.10**	**186**	*i* P		**Pn**	**09 29 23.1**	**+3.2**
	SNR=92							
ASHO	**Ashiyiah**	**3.10**	**186**	P		**Pn**	**09 29 23.4**	**+3.5**
	SNR=92							
ASHO	**Ashiyiah**	**3.10**	**186**	*e*Pn		**Pb**	**09 29 23.5**	**-3.7**
FAQ	**Al Faqa, Dubai**	**3.11**	**194**	*i* P		**Pn**	**09 29 23.5**	**+3.6**
	SNR=36							
FAQ	**Al Faqa, Dubai**	**3.11**	**194**	P		**Pb**	**09 29 23.8**	**-3.5**
	SNR=36							
FAQ				S		**Sb**	**09 30 03.0**	**-1.8**
FAQ	**Al Faqa, Dubai**	**3.11**	**194**	*e*Pn		**Pb**	**09 29 23.8**	**-3.5**
ASUD	**Al Ashush, Dub**	**3.29**	**197**	*i* P		**Pb**	**09 29 26.7**	**-3.7**
	SNR=88							
ASUD	**Al Ashush, Dub**	**3.29**	**197**	P		**Pb**	**09 29 26.9**	**-3.5**
	SNR=88							
ASUD	**Al Ashush, Dub**	**3.29**	**197**	*e*Pn		**Pb**	**09 29 26.9**	**-3.5**
ISRV	**Sarvestan**	**3.30**	**300**	*e*Pn		**Pn**	**09 29 25.8**	**+2.9**
ISRV				IAMB		IAmb	09 30 33.4	
	comp=Z,6μm,0.6s							
AJN	**Ajban**	**3.45**	**202**	*i* P		**Pn**	**09 29 28.4**	**+3.8**
	SNR=16							
AJN	**Ajban**	**3.45**	**202**	P		**Pn**	**09 29 28.7**	**+4.1**
	SNR=16							
AJN	**Ajban**	**3.45**	**202**	*e*Pn		**Pb**	**09 29 29.0**	**-4.1**
ALNE	**Al Ain**	**3.75**	**189**	*i* P		**Pn**	**09 29 32.1**	**+3.2**
	SNR=48							
ALNE	**Al Ain**	**3.75**	**189**	*e*Pn		**Pn**	**09 29 32.3**	**+3.4**
IMEH	**Mehriz**	**3.92**	**337**	*e*Pn		**Pn**	**09 29 33.3**	**+2.0**
IMEH				IAMB		IAmb	09 30 56.8	
	comp=Z,3μm,1.2s							
CHBR	**Chabahar**	**4.25**	**120**	*e*Pn		**Pn**	**09 29 35.9**	**+0.2**
CHBR	**Chabahar**	**4.25**	**120**	*e*Pn		**Pn**	**09 29 35.9**	**+0.2**
HOQ	**Hoqain**	**4.26**	**169**	P		**Pn**	**09 29 36.3**	**+0.5**
	SNR=17							
HOQ	**Hoqain**	**4.26**	**169**	*e*Pn		**Pn**	**09 29 37.1**	**+1.3**
ARQ	**Araqi**	**4.43**	**179**	P		**Pn**	**09 29 41.6**	**+3.5**
	SNR=16							
IKAZ	**Kazeroun**	**4.47**	**298**	*e*Pn		**Pn**	**09 29 41.6**	**+2.7**
IKAZ				IAMB		IAmb	09 30 39.4	
	comp=Z,3μm,0.3s							
BIDO	**Bidbid**	**4.52**	**159**	P		**Pn**	**09 29 39.7**	**+0.3**
	SNR=8.4							
BIDO				S		**Sn**	**09 30 32.2**	**+1.2**
BIDO	**Bidbid**	**4.52**	**159**	*e*Pn		**Pn**	**09 29 39.8**	**+0.4**
ISAD	**Sadrabad**	**4.74**	**331**	*e*Pn		**Pn**	**09 29 45.1**	**+2.4**
ISAD				IAMB		IAmb	09 31 20.6	
	comp=N,1μm,0.7s							
SMDO	**Samad**	**4.93**	**162**	P		**Pn**	**09 29 46.5**	**+1.3**
	SNR=17							
WSAR	**Wadi Sarin**	**4.95**	**155**	P		**Pn**	**09 29 46.3**	**+1.0**
	SNR=33							
WSAR				S		**Sn**	**09 30 41.5**	**-0.2**
BSY	**Bisya**	**5.07**	**172**	P		**Pn**	**09 29 50.0**	**+3.1**
	SNR=17							
TPRV	**Parvadeh(Tabas**	**5.24**	**3**	*e*Pn		**Pn**	**09 29 50.4**	**+1.1**
IRAM	**Ramesheh**	**5.32**	**320**	*e*Pn		**Pn**	**09 29 52.2**	**+1.7**
IRAM				IAMB		IAmb	09 30 55.3	
	comp=Z,748nm,0.5s							
MZR	**Muzera**	**5.44**	**210**	P		**Pn**	**09 29 54.9**	**+2.9**
MZR	**Muzera**	**5.44**	**210**	*e*Pn		**Pn**	**09 29 55.2**	**+3.2**
ITEG	**Tejag**	**5.49**	**21**	*e*Pn		**Pn**	**09 29 54.1**	**+1.3**
ITEG				IAMB		IAmb	09 31 34.6	
	comp=Z,847nm,0.6s							
ANAR	**Anarak**	**5.86**	**338**	*e*Pn		**Pn**

MK01	Makanchi Array	27.80	40	*e*P		P		09 34 17.8	-1.6
MK31	Makanchi Array	27.81	40	*e*P		P		09 34 18.7	-0.8
MK31	Makanchi Array	27.81	40	*e*P		P		09 34 18.7	-0.8
MK32	Makanchi Array	27.81	40	*e*P		P		09 34 17.4	-2.0
MKAR	Makanchi Array	27.81	40	*e*P		P		09 34 17.4	-2.0
	comp=Z,0.4nm,0.4s,baz=230,slow=8.2,SNR=12								
MKAR	Makanchi Array	27.81	40	*e*P		P		09 34 18.4	-1.1
	comp=Z,9.3nm,0.6s								
MKAR	Makanchi Array	27.81	40	*e*P		P		09 34 18.4	-1.1
MKAR				pmax		pmax			
	comp=Z,9.0nm,0.6s								
KURBB	Kurchatov Arra	28.33	30	P		P		09 34 22.9	-1.2
	comp=Z,0.5nm,0.3s,baz=230,slow=8.4,SNR=3.4								
KURK	Kurchatov	28.44	30	*e*P		P		09 34 22.9	-2.1
KURK	Kurchatov	28.44	30	*i* P		P		09 34 24.3	-0.7
KURK				pmax		pmax			
	comp=Z,6.0nm,2.0s								
WMQ	Urumqi	29.78	49	*e*P		P		09 34 39.3	+2.2
WMQ				LR		LR			
	comp=N,270nm,25.7s								
WMQ				LR		LR			
	comp=E,200nm,25.7s								
WMQ				LR		LR			
	comp=Z,170nm,22.1s								
AKASG	Malin Array Be	30.79	325	P		P		09 34 45.0	-0.7
	comp=Z,0.9nm,0.5s,baz=128,slow=8.4,SNR=6.8								
AKBB	Malin Array Si	30.79	325	*e*P		P		09 34 45.4	-0.4
	comp=Z,3.3nm,0.8s								
AKBB	Malin Array Si	30.79	325	*e*P		P		09 34 45.4	-0.4
AKBB				pmax		pmax			
	comp=Z,3.0nm,0.8s								
KIEV	Kiev	30.79	325	*e*P		P		09 34 45.3	-0.6
	comp=Z,3.2nm,0.8s								
KIEV	Kiev	30.79	325	*i* P		P		09 34 45.2	-0.6
KIEV				pmax		pmax			
	comp=Z,4.0nm,0.8s								
ZAA0	Zalesovo Array	33.43	31	*e*P		P		09 35 08.5	-0.4
	comp=Z,5.3nm,0.6s								
ZALV	Zalesovo Beam	33.43	31	P		P		09 35 07.8	-1.2
	comp=Z,4.1nm,0.4s,baz=241,slow=9.9,SNR=15								
ZALV	Zalesovo Beam	33.43	31	*e*P		P		09 35 08.0	-0.9
ZALV	Zalesovo Beam	33.43	31	*e*P		P		09 35 08.0	-0.9
ZAA1	Zalesovo Array	33.43	31	*e*P		P		09 35 07.8	-1.2
GTA	Gaotai	37.65	61	*e*P		P		09 35 48.3	+2.7
GTA				pP		pP		09 35 52.3	-2.0
GTA				sP		sP		09 35 55.6	-2.1
GTA				pmax		pmax			
	comp=Z,2.0nm,0.8s								
GEC2	GERESS Array S	38.90	314	*e*P		P		09 35 54.5	-1.4
	comp=Z,2.6nm,0.9s								
GEC2	GERESS Array S	38.90	314	*e*P		P		09 35 54.5	-1.4
GEC2				pmax		pmax			
	comp=Z,3.0nm,0.9s								
GERES	GERESS Array B	38.90	314	P		P		09 35 54.5	-1.4
	comp=Z,0.6nm,0.7s,baz=102,slow=9.1,SNR=3.5								
FIA0	FINESS Array S	39.27	337	*e*P		P		09 35 58.5	-0.2
FIA0	FINESS Array S	39.27	337	*e*P		P		09 35 58.6	-0.2
FINES	FINESS Array B	39.27	337	P		P		09 35 58.5	-0.2
	comp=Z,0.8nm,0.5s,baz=141,slow=12,SNR=7.3								
CMAR	Chiang Mai Arr	40.05	94	LR		LR		09 53 52.4	
	comp=Z,52nm,20.9s,baz=194,slow=38								
LZH	Lanzhou	40.78	66	*e*P		P		09 36 10.6	-1.2
LZH				pP		pP		09 36 13.8	-6.6
LZH				sP		sP		09 36 15.3	-8.6
LZH				*e*PP		PP		09 37 47.5	+1.6
LZH				pmax		pmax			
	comp=Z,15nm,1.1s								
LZH				pmax		pmax			
	comp=Z,42nm,5.4s								
LZH				LR		LR			
	comp=N,45nm,13.8s								
LZH				LR		LR			
	comp=E,51nm,13.7s								
LZH				LR		LR			
	comp=Z,69nm,17.0s								
SONA0	Songino Array	43.42	49	*e*P		P		09 36 32.1	-1.0
SONM	Songino Array	43.42	49	P		P		09 36 32.1	-1.0
	comp=Z,0.4nm,0.6s,baz=256,slow=9.0,SNR=2.8								
NB2	NORSAR Subarra	44.85	331	P		P		09 36 43.7	-0.6
	comp=Z,0.6nm,0.5s,baz=119,slow=7.9								
NB200	NORSAR Array S	44.85	331	*e*P		P		09 36 43.5	-0.8
NOA	NORSAR Array B	44.85	331	P		P		09 36 43.5	-0.8
	comp=Z,1.2nm,0.7s,baz=116,slow=7.9,SNR=7.3								
ARA0	ARCESS Array S	45.46	345	*e*P		P		09 36 48.6	-0.3
ARCES	ARCESS Array B	45.46	345	P		P		09 36 48.6	-0.3
	comp=Z,3.1nm,1.0s,baz=134,slow=7.7,SNR=3.0								
BOD	Bodaibo	49.78	36	*e*P		P		09 37 24.8	+2.1
BOD				pmax		pmax			
	comp=Z,5.0nm,1.2s								
TOA0	Torodi Ar. Sit	52.88	266	*e*P		P		09 37 45.3	-1.2
TOA0				*e*P		P		09 37 46.4	-0.1
TOA1	Torodi Ar. Sit	52.88	266	*e*P		P		09 37 45.0	-1.5
TORD	Torodi Ar. Bea	52.88	266	P		P		09 37 45.0	-1.5
	comp=Z,4.9nm,0.5s,baz=62,slow=6.4,SNR=53								
CN2	Changchun	56.69	54	*e*P		P		09 38 15.5	+1.8
KSRS	Korea Array	59.72	61	LR		LR		10 08 49.4	
	comp=Z,17nm,18.1s,baz=305,slow=41								
DBIC	Dimbokro	61.52	262	P		P		09 38 46.4	-1.2
	comp=Z,1.0nm,0.3s,baz=40,slow=5.3,SNR=9.5								
DBIC	Dimbokro	61.52	262	*e*P		P		09 38 46.1	-1.5
	comp=Z,2.4nm,1.0s								
DBIC	Dimbokro	61.52	262	*e*P		P		09 38 46.1	-1.5
DBIC				pmax		pmax			
	comp=Z,2.0nm,1.0s								
BOSA	Boshof	63.52	211	P		P		09 39 00.3	-0.4
	comp=Z,1.9nm,0.5s,baz=24,slow=6.7,SNR=9.4								
ILAR	Eielson Array	85.98	10	P		P		09 41 11.6	+1.5
	comp=Z,0.3nm,0.6s,baz=321,slow=4.7,SNR=4.3								
YKA	Yellowknife Ar	89.75	356	P		P		09 41 28.1	-0.1
	comp=Z,0.5nm,0.7s,baz=1.8,slow=5.3,SNR=9.0								
YKB5	Yellowknife Ar	89.75	356	*e*P		P		09 41 28.1	-0.1

BJI ***24*** *09:35:47.1, 4.˚88S × 123.˚29E, h643km, mb5.1/69, mB4.8/42*
MOS ***24*** *09:35:51.7 ± 0.9, 4.˚10S × 122.˚88E, h625km, mb4.8/46, Error ellipse: s-maj=11.2km s-min=5.6km az=116.0*
ISCJB ***24*** *09:35:53.3 ± 0.2, 4.˚22S ± 0.˚02 × 122.˚90E ± 0.˚03, h653km ± 2km, mb4.8/136, Error ellipse: s-maj=4.4km s-min=2.8km az=148.1*
IDC ***24*** *09:35:53.8 ± 0.6, 4.˚17S × 122.˚83E, h634km ± 7km, mb4.2/34, mb1 4.2/40, mb1mx4.2/48, mbtmp5.2/40, Error ellipse: s-maj=9.1km s-min=5.4km az=70.0*
DJA ***24*** *09:35:54.5 ± 0.1, 4.˚S ± 2.˚× 12.˚3E ± .˚, h636km ± 2km, M4.6/37, mB5.1/23, mb5.0/37, MLv5.3/21, Mw(mB)4.5/23*
KLM ***24*** *09:35:54.6, 4.˚21S × 122.˚88E, h636km, mb5.0*
NEIC ***24*** *09:35:54.1 ± 0.2, 4.˚20S × 122.˚85E, h640km ± 3km, mb4.9/77, Error ellipse: s-maj=4.8km s-min=2.9km az=61.0*

ISC 24 09:35:53.8±0.4, **4.˚21S**±0.˚03×**122.˚84E**±0.˚04, **h638**km±4km, **n377**, σ1**§57**/453, **mb4.9**/147, **16C-5D, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KDI	Kendari	0.33	318	P	P	P	09 37 08.9	+1.0
KDI				S	S	S	09 38 09.2	+1.1
BNSI	Bone	2.73	266	P	P	P	09 37 15.4	+0.6
BNSI				S	S	S	09 38 22.4	+1.7
BKSI	Bulukumba	2.93	248	P	P	P	09 37 15.9	+0.1
BKSI				S	S	S	09 38 22.4	-0.1
SPSI	Sidrap Palu	3.07	274	P	P	P	09 37 16.5	-0.1
SPSI				S	S	S	09 38 23.9	0.0
LUWI	Luwuk	3.14	359	*e*P	P	P	09 37 18.5	+1.5
LUWI	Luwuk	3.14	359	P	P	P	09 37 18.2	+1.2
TTSI	Tana Toraja	3.23	291	P	P	P	09 37 17.8	+0.4
SANI	Sanana	3.80	56	P	P	P	09 37 21.0	+0.1
NLAI	Namlea	4.36	77	P	P	P	09 37 24.9	+0.4
MMRI	Maumere	4.44	188	*e*P	P	P	09 37 25.4	+0.3
MMRI	Maumere	4.44	188	P	P	P	09 37 25.2	+0.1
PCI	Palu	4.44	317	P	P	P	09 37 26.8	+1.6
EDFI	Ende, Flores	4.66	194	P	P	P	09 37 26.0	-0.8
SOEI	Soe	5.69	166	*e*P	P	P	09 37 33.8	-0.8
SOEI				*e*S	S	S	09 38 54.1	-3.0
SOEI	Soe	5.69	166	P	P	P	09 37 33.9	-0.8
BATI	Baumata	6.02	172	P	P	P	09 37 36.8	-0.5
	523nm,0.3s,baz=333,slow=1.4,SNR=252							
BATI				S	S	S	09 38 59.6	-2.1
	50nm,0.3s,baz=345,slow=20,SNR=4.2							
BATI	Baumata	6.02	172	P	P	P	09 37 36.6	-0.6
SGKI	Sangatta, Kali	6.38	305	P	P	P	09 37 48.7	+8.5
BASI	Baing, Sumba	6.38	200	P	P	P	09 37 37.5	-2.7
BKB	Balikpapan	6.62	296	P	P	P	09 37 45.3	+3.0
TNTI	Ternate	6.70	43	*e*P	P	P	09 37 42.9	-0.1
TNTI				*e*S	S	S	09 39 16.3	+4.1
KBKI	Kotabaru	6.72	277	P	P	P	09 37 43.7	+0.6
	133nm,1.0s,0.5nm							
SMKI	Samarinda	6.75	303	P	P	P	09 37 46.3	+2.9
	607nm,1.0s,5μm2.0nm							
PLAI	Plampang	6.81	227	P	P	P	09 37 42.6	-1.3
MTKI	Muara Teweh, K	8.57	292	P	P	P	09 38 00.4	+0.5
SIJI	Sorong	9.04	69	P	P	P	09 38 02.9	-1.4
	6.9nm,0.3s,baz=306,slow=23,SNR=12							
SIJI				S	S	S	09 39 50.0	-1.3
	0.8nm,0.3s,baz=313,slow=19,SNR=1.5							
KMMI	Kalianget	9.27	252	P	P	P	09 38 09.6	+3.2
FAKI	Fak Fak	9.48	83	*e*P	P	P	09 38 08.9	+0.4
FAKI				*e*S	S	S	09 39 58.4	-0.4
FAKI	Fak Fak	9.48	83	P	P	P	09 38 08.8	+0.4
JAGI	Jajag, Banyuwa	9.62	243	*e*P	P	P	09 38 08.8	-0.9
JAGI				*e*S	S	S	09 39 57.4	-3.8
JAGI	Jajag, Banyuwa	9.62	243	P	P	P	09 38 09.0	-0.8
TSM	Tawau	9.79	329	P	P	P	09 38 12.7	+1.2
DDMP	Don Marcelino,	10.63	16	*e*P	P	P	09 38 19.6	0.0
PBKI	Pangkalan Bun	11.25	277	P	P	P	09 38 26.8	+1.2
SDKM	Sandakan	11.29	330	P	P	P	09 38 27.1	+1.1
DAV	Davao City (W)	11.53	14	P	P	P	09 38 28.2	0.0
	62nm,0.3s,baz=111,slow=1.5,SNR=4.0							
DAV				S	S	S	09 40 31.1	-3.3
	64nm,0.3s,baz=141,slow=4.4,SNR=2.0							
MATI	Mati	11.59	17	*e*P	P	P	09 38 18.6	-10
PWJI	Pagerwojo	11.61	250	P	P	P	09 38 29.2	+0.3
	61nm,1.1s							
NGJI	Ngawi	11.75	254	P	P	P	09 38 40.0	+10
MTN	Manton Dam	11.87	137	*e*P	P	P	09 38 30.4	-0.9
KKM	Kota Kinabalu	12.14	327	*e*P	P	P	09 38 34.7	+0.6
KKM	Kota Kinabalu	12.14	327	P	P	P	09 38 34.6	+0.6
BUKP	Musuan	12.21	10	*e*P	P	P	09 38 35.9	+1.3
BTM	Bintulu	12.21	307	P	P	P	09 38 37.1	+2.5
SBUM	Sibu	12.51	302	*e*P	P	P	09 38 39.4	+2.1
SBUM				*e*S	S	S	09 40 52.5	+1.4
SBUM	Sibu	12.51	302	P	P	P	09 38 39.5	+2.1
KDU	Kakadu	12.71	132	P	P	P	09 38 39.2	0.0
	baz=13,SNR=17							
DCPH	Dipolog City	12.71	2	*e*P	P	P	09 38 43.0	+3.7
KNRA	Kununurra	12.80	153	P	P	P	09 38 40.1	+0.1
	baz=13,SNR=152							
SRPI	Serui, Papua	13.58	81	P	P	P	09 38 49.5	+2.1
	486nm,0.6s,8μm							
KSM	Kuching	13.74	294	*e*P	P	P	09 38 49.9	+1.0
KSM	Kuching	13.74	294	P	P	P	09 38 50.6	+1.7
BATP	Bataraza	13.86	339	*e*P	P	P	09 38 51.8	+1.8
FITZ	Fitzroy Crossi	14.08	169	P	P	P	09 38 52.2	+0.3
	15nm,0.3s,baz=6.1,slow=9.6,SNR=516							
FITZ				S	S	S	09 41 18.6	+1.2
	2.2nm,0.3s,baz=4.9,slow=19,SNR=14							
FITZ	Fitzroy Crossi	14.08	169	P	P	P	09 38 52.3	+0.3
	baz=14,SNR=99							
FITZ	Fitzroy Crossi	14.08	169	*e*P	P	P	09 38 52.3	+0.3
FITZ				*e*S	S	S	09 41 17.1	-0.3
KPJI	Karang Pucung	14.18	257	P	P	P	09 38 53.7	+0.7
CISI	Cisompet, Garu	15.31	257	*e*P	P	P	09 39 03.2	-0.3
	85nm,0.8s							
CISI	Cisompet, Garu	15.31	257	P	P	P	09 39 03.3	-0.1
LEM	Lembang	15.38	260	P	P	P	09 39 05.6	+1.5
	5.1nm,0.3s,baz=52,slow=11,SNR=5.5							
MBWA	Marble Bar	17.12	190	*e*P	P	P	09 39 20.7	+1.0
	96nm,0.8s							
TGY	Tagaytay City	18.29	354	P	P	P	09 39 32.3	+1.8
	55nm,0.3s,baz=156,slow=4.5,SNR=10.0							
MDSI	Maura Dua	18.61	268	P	P	P	09 39 35.6	+2.2
	13nm,1.1s							
WRAB	Tennant Creek	19.24	145	*e*P	P	P	09 39 39.2	+0.1
	78nm,0.8s							
WRAB	Tennant Creek	19.24	145	*ce*P	P	P	09 39 38.2	-0.9
WRAB				pmax		pmax		
	comp=Z,131nm,1.3s							
WR1	Warramunga Arr	19.24	145	*e*P	P	P	09 39 38.7	-0.4
	comp=Z,79nm,0.9s							
WR1				*e*S	S	S	09 42 38.5	-2.5
WR1				*e*PKiKP	PKiKP	PKiKP	09 51 18.8	-1.0
WRA	Warramunga Arr	19.24	145	P	P	P	09 39 38.7	-0.4
	comp=Z,7.6nm,0.3s,baz=203,slow=14,SNR=543							
WRA				S	S	S	09 42 38.5	-2.5
	comp=Z,1.1nm,0.3s,baz=330,slow=14,SNR=8.0							
WRA				ScP	ScP	ScP	09 46 06.2	-0.9
	comp=Z,0.2nm,0.3s,baz=318,slow=2.3,SNR=4.6							
WRA				PKiKP	PKiKP	PKiKP	09 51 18.8	-1.0
	comp=Z,0.1nm,0.3s,baz=313,slow=1.2,SNR=5.0							
WB2	Warramunga Arr	19.25	145	*e*P	P	P	09 39 38.4	-0.8
WB2				*e*P	P	P	09 39 39.3	+0.2
MYKOM	Kota Tinggi	19.89	287	P	P	P	09 39 47.7	+2.7
WRKA	Warakurna	21.37	166	P	P	P	09 39 59.1	+1.0
	baz=22,SNR=67							
KTGM	Kuala Trenggan	21.84	296	P	P	P	09 40 04.8	+2.4
AS31	Alice Springs	22.10	152	*e*P	P	P	09 40 05.3	+0.7
	comp=Z,4.9nm,0.6s							
AS31				*e*S	S	S	09 43 24.6	-1.5
ASAR	Alice Springs	22.10	152	P	P	P	09 40 05.2	+0.6
	comp=Z,11nm,0.5s,baz=336,slow=12,SNR=144							
ASAR				S	S	S	09 43 24.0	-2.1
	comp=Z,28nm,0.8s,baz=340,slow=20,SNR=21							
ASAR				ScP	ScP	ScP	09 46 13.5	-0.7
	comp=Z,25nm,0.7s,baz=341,slow=2.4,SNR=34							
ASAR				PKiKP	PKiKP	PKiKP	09 51 19.8	-1.2
	comp=Z,0.7nm,0.9s,baz=352,slow=1.6,SNR=3.2							
AS01	Alice Springs	22.12	152	*e*P	P	P	09 40 05.2	+0.4
COEN	Coen	22.27	117	P	P	P	09 40 06.0	-0.2
	baz=22,SNR=17							
MEEK	Meekatharra	22.67	190	P	P	P	09 40 10.0	+0.4
	baz=23,SNR=6.3							
QIS	Mount Isa	23.03	136	P	P	P	09 40 12.9	0.0
	baz=23,SNR=23							
IPM	Ipoh	23.44	291	*e*P	P	P	09 40 16.2	-0.4
	comp=Z,15nm,0.8s							
IPM	Ipoh	23.44	291	P	P	P	09 40 18.4	+1.8
KULM	Kulim	24.09	293	*e*P	P	P	09 40 22.6	+0.3
	comp=Z,16nm,0.7s							
KULM	Kulim	24.09	293	P	P	P	09 40 24.0	+1.6
PMG	Port Moresby	24.68	103	P	P	P	09 40 27.5	0.0
	comp=Z,37nm,0.8s,baz=273,slow=6.6,SNR=7.7							
PMG	Port Moresby	24.68	103	*e*P	P	P	09 40 27.8	+0.2
	comp=Z,44nm,0.9s							
PMG	Port Moresby	24.68	103	*ce*P	P	P	09 40 27.1	-0.5
PMG				pmax		pmax		
	comp=Z,157nm,0.9s							
PSI	Prapat	24.89	286	P	P	P	09 40 29.6	0.0
	comp=Z,19nm,0.9s,baz=180,slow=1.8,SNR=9.6							
PSI				ScP	ScP	ScP	09 46 22.1	-0.1
	comp=Z,2.8nm,0.3s,baz=180,slow=4.8,SNR=6.8							
MTSU	Mount Surprise	25.16	125	P	P	P	09 40 32.4	+0.6
	baz=25,SNR=8.7							
GSI	Gunungsitoli	25.83	282	*e*P	P	P	09 40 36.7	-1.0
	comp=Z,22nm,0.9s							
TRTT	Trang	26.01	297	P	P	P	09 40 41.0	+1.8
	comp=Z,20nm,0.9s							
QIZ	Qiongzhong	26.40	331	P	P	P	09 40 43.3	+0.8
QIZ				S	S	S	09 44 32.4	-1.0
QIZ				pmax		pmax		
	comp=Z,30nm,0.9s							
QIZ	Qiongzhong	26.40	331	*e*P	P	P	09 40 42.5	0.0
	comp=Z,27nm,0.8s							
KRAB	Krabi	26.62	298	P	P	P	09 40 46.3	+1.8
	comp=Z,30nm,0.5s,comp=Z,6μm							
FORT	Forrest	26.89	170	P	P	P	09 40 47.7	+1.1
	baz=27,SNR=12							
FORT	Forrest	26.89	170	*e*P	P	P	09 40 46.9	+0.3
BLDU	Ballidu	26.90	192	P	P	P	09 40 46.9	+0.2
	baz=27,SNR=16							
TWG	Pinlang	26.92	356	*e*P	P	P	09 40 46.8	-0.2
	comp=Z,97nm,0.8s							
TPUB	Ta-pu	27.42	356	*e*P	P	P	09 40 51.3	-0.1
	comp=Z,50nm,1.0s							
SRAK	Srakaew	27.45	312	P	P	P	09 40 48.9	-2.8
YULB	Yu-li	27.47	357	*e*P	P	P	09 40 50.1	-1.7
	comp=Z,41nm,0.9s							
KLBR	Kellerberrin	27.66	189	P	P	P	09 40 53.7	+0.4
	baz=28,SNR=10							
PATY	Pattaya	27.68	308	P	P	P	09 40 55.6	+1.9
	comp=Z,19nm,0.8s							
CTA	Charters Tower	27.74	127	P	P	P	09 40 54.9	+0.7
	comp=Z,37nm,0.9s,baz=309,slow=12,SNR=15							
CTA				ScP	ScP	ScP	09 46 30.9	+0.4
	comp=Z,20nm,0.8s,baz=288,slow=5.1,SNR=7.6							
CTAO	Charters Tower	27.74	127	*e*P	P	P	09 40 54.8	+0.6
	comp=Z,38nm,0.8s							
CTAO	Charters Tower	27.74	127	*e*P	P	P	09 40 54.8	+0.6
CTAO				pmax		pmax		
	comp=Z,38nm,0.8s							
SSLB	Suanglung	27.88	356	*e*P	P	P	09 40 54.8	-0.6
	comp=Z,42nm,0.8s							
SKNT	Sakolnakorn	28.11	319	P	P	P	09 40 58.3	+0.9
	comp=Z,39nm,0.7s,comp=Z,510nm							
NACB	Ninganchiao	28.23	358	*e*P	P	P	09 40 57.7	-0.7
	comp=Z,52nm,0.9s							
MUN	Mundaring	28.32	192	P	P	P	09 40 59.9	+0.9
	baz=28,SNR=3.3							
YOJ	Yonaguni jima	28.50	0	*e*P	P	P	09 41 01.5	+0.9
	comp=Z,141nm,0.8s							
YOJ	Yonaguni jima	28.50	0	*e*P	P	P	09 41 01.5	+0.9
YOJ				pmax		pmax		
	comp=Z,141nm,0.8s							
PHET	Kaeng Krachan	28.65	307	P	P	P	09 41 03.7	+1.6
	comp=Z,16nm,0.8s							
CHAI	Chaiyaphum	28.72	315	P	P	P	09 41 04.0	+1.3
	comp=Z,26nm,0.8s,comp=Z,178nm							
YHNB	Yeheng	28.74	357	*e*P	P	P	09 41 02.4	-0.4
	comp=Z,55nm,0.9s							
NWAO	Narrogin (SRO)	29.05	190	P	P	P	09 41 06.0	+0.7
	comp=Z,22nm,0.8s,baz=280,slow=8.2,SNR=24							
NWAO	Narrogin (SRO)	29.05	190	P	P	P	09 41 05.9	+0.7
	baz=29,SNR=7.9							
NWAO	Narrogin (SRO)	29.05	190	*e*P	P	P	09 41 06.0	+0.7
	comp=Z,30nm,0.9s							
NWAO	Narrogin (SRO)	29.05	190	*e*P	P	P	09 41 06.0	+0.7
NWAO				pmax		pmax		
	comp=Z,30nm,0.9s							
RABL	Rabaul	29.24	91	*e*P	P	P	09 41 07.9	+0.6
	comp=Z,94nm,0.5s							
NONG	Nongkai	29.44	319	P	P	P	09 41 09.8	+0.9
	comp=Z,0.6nm,1.2s							
SRDT	SRDT	29.89	309	P	P	P	09 41 14.6	+1.9
	comp=Z,81nm,0.9s							
PBKT	Sadao Pong	29.89	314	*e*P	P	P	09 41 13.7	+1.0
	comp=Z,17nm,0.9s							
PBKT	Sadao Pong	29.89	314	P	P	P	09 41 13.9	+1.2
	comp=Z,25nm,0.9s,comp=Z,2μm							
QLP	Quilpie	30.23	140	P	P	P	09 41 16.8	+1.3
	baz=30,SNR=46							
UTHA	Uthaitani	30.37	311	P	P	P	09 41 18.1	+1.3
	comp=Z,26nm,0.9s,comp=Z,2μm							
RKGY	Rocky Gully	30.74	189	P	P	P	09 41 21.4	+1.7
	baz=31,SNR=12							
UTTA	Uttaradit	30.97	315	P	P	P	09 41 23.2	+1.3
	comp=Z,24nm,0.8s,comp=Z,198nm							
BBOO	Buckleboo	31.03	158	P	P	P	09 41 22.7	+0.5
	baz=31,SNR=79							
BBOO	Buckleboo	31.03	158	*e*P	P	P	09 41 22.8	+0.5
	comp=Z,56nm,0.8s							
BBOO				*e*S	S	S	09 45 44.8	+0.4
UMPA	Umpang Tak	31.21	311	P	P	P	09 41 24.6	+0.6
	comp=Z,28nm,0.7s,comp=Z,1μm							
SUKH	Sukhothai	31.45	314	P	P	P	09 41 27.9	+1.9
	comp=Z,18nm,0.9s							
CM01	Chiang Mai Arr	32.55	314	*e*P	P	P	09 41 36.4	+1.1
CM31	Chiang Mai Arr	32.59	314	*e*P	P	P	09 41 36.4	+0.8
	comp=Z,53nm,0.7s							
CMAR	Chiang Mai Arr	32.59	314	P	P	P	09 41 37.2	+1.6
	comp=Z,51nm,0.8s,baz=144,slow=6.7,SNR=174							
CMAR				ScP	ScP	ScP	09 46 48.6	+2.1
	comp=Z,15nm,0.9s,baz=166,slow=3.2,SNR=38							
STKA	Stephens Creek	32.68	150	P	P	P	09 41 37.1	+1.1
	comp=Z,104nm,0.7s,baz=322,slow=8.6,SNR=160							
STKA				S	S	S	09 46 02.6	-6.9
	comp=Z,7.5nm,0.9s,baz=309,slow=14,SNR=4.4							
STKA	Stephens Creek	32.68	150	P	P	P	09 41 37.2	+1.1
	baz=33,SNR=31							
STKA	Stephens Creek	32.68	150	*e*P	P	P	09 41 37.2	+1.1
	comp=Z,22nm,0.8s							
STKA				*e*S	S	S	09 46 03.6	-5.8
STKA	Stephens Creek	32.68	150	*e*P	P	P	09 41 37.3	+1.2
STKA				*e*S	S	S	09 46 03.7	-5.8
STKA				pmax		pmax		
	comp=Z,22nm,0.8s							
HTT	Hallett	32.72	155	P	P	P	09 41 37.8	+1.3
	baz=33,SNR=83							
CMMT	Chiang Mai	32.82	315	P	P	P	09 41 38.8	+1.3
	comp=Z,91nm,1.0s,comp=Z,940nm							
CHTO	Chiang Mai	32.82	315	*e*P	P	P	09 41 39.0	+1.4
	comp=Z,57nm,0.8s							
CHTO	Chi

KSAR ScP **ScP** **09 47 21.8 +1.1**
KSAR Wonju Array Be 41.70 6 P **P** **09 42 49.0 -0.1**
KSRS Korea Array 41.72 6 P **P** **09 42 49.0 -0.2**
comp=Z,12nm,0.8s,baz=181,slow=10.0,SNR=27
KSRS ScP **ScP** **09 47 21.8 +1.0**
comp=Z,3.1nm,0.8s,baz=194,slow=4.5,SNR=5.1
KS01 Wonju Array Si 41.73 6 *eP* **P** **09 42 49.9 +0.5**
SHL Shillong 42.16 316 *eP* **P** **09 42 53.0 -0.2**
comp=Z,38nm,0.8s
SHL Shillong 42.16 316 *eP* **P** **09 42 53.0 -0.2**
SHL pmax pmax
comp=Z,39nm,0.8s
MAJO Matsushiro 43.01 18 *eP* **P** **09 42 59.1 -0.3**
comp=Z,60nm,1.1s
MAJO Matsushiro 43.01 18 *i* P **P** **09 42 58.1 -1.2**
MAJO pmax pmax
comp=Z,21nm,0.5s
MAT Matsushiro 43.01 18 P **P** **09 42 58.7 -0.6**
MJAR Matsushiro Arr 43.01 18 P **P** **09 42 58.9 -0.4**
comp=Z,20nm,0.5s,baz=199,slow=9.7,SNR=69
MJAR ScP **ScP** **09 47 26.2 +0.1**
comp=Z,8.1nm,0.9s,baz=197,slow=5.4,SNR=12
MJB9 Matsu-Tunnel 43.01 18 *eP* **P** **09 42 59.1 -0.3**
comp=Z,64nm,1.1s
LZH Lanzhou 43.85 338 ⇑P **P** **09 43 07.8 +1.7**
LZH PP **PP** **09 45 04.3 +3.0**
LZH pmax pmax
comp=Z,150nm,1.2s
LZH pmax pmax
comp=Z,350nm,8.1s
BJT Baijiatuau 44.43 353 *eP* **P** **09 43 09.8 -0.4**
comp=Z,62nm,0.6s
BJT Baijiatuau 44.43 353 *eP* **P** **09 43 09.8 -0.4**
BJT pmax pmax
comp=Z,62nm,0.6s
BJI Beijing 44.45 353⇑ *i*P **P** **09 43 10.4 +0.1**
BJI pmax pmax
comp=Z,60nm,0.8s
LSA Lhasa 45.38 320 P **P** **09 43 19.8 +1.6**
LSA pmax pmax
comp=Z,61nm,0.9s
LSA Lhasa 45.38 320 *eP* **P** **09 43 18.0 -0.1**
comp=Z,53nm,0.7s
LSA Lhasa 45.38 320 *eP* **P** **09 43 18.0 -0.1**
LSA pmax pmax
comp=Z,53nm,0.7s
DZM Mont Dzumac 45.80 117 P **P** **09 43 22.5 +1.4**
comp=Z,23nm,0.7s,baz=301,slow=5.0,SNR=16
DZM Mont Dzumac 45.80 117 *eP* **P** **09 43 22.2 +1.2**
comp=Z,31nm,0.8s
ONTNC Ouen Toro 45.88 117 *eP* **P** **09 43 22.6 +1.1**
comp=Z,54nm,0.7s
HHC Hu-ho-hao-te 46.01 348 *eP* **P** **09 43 22.9 +0.6**
HHC pmax pmax
comp=Z,45nm,1.0s
HHC pmax pmax
comp=Z,42nm,6.0s
ODAN Odare 46.13 314 *eP* **P** **09 43 24.4 +0.8**
comp=Z,98nm,0.7s
TAPN Taplejung 46.19 315 *eP* **P** **09 43 25.0 +0.8**
comp=Z,90nm,0.5s
OUENC Ouen Island, N 46.25 117 *eP* **P** **09 43 26.2 +1.8**
comp=Z,50nm,0.7s
RAMN Ramite 46.75 314 *eP* **P** **09 43 29.4 +1.1**
comp=Z,196nm,0.6s
JIRN Jiri 47.46 314 *eP* **P** **09 43 34.5 +0.8**
comp=Z,172nm,0.7s
GUN Gumba 47.83 314 *eP* **P** **09 43 37.2 +0.8**
comp=Z,246nm,0.8s
CN2 Changchun 47.84 3 *eP* **P** **09 43 40.5 +4.7**
PKI Pulchoki 47.97 313 *eP* **P** **09 43 37.9 +0.4**
comp=Z,110nm,0.7s
KKN Kakani 48.19 314 *eP* **P** **09 43 39.4 +0.4**
comp=Z,89nm,0.8s
DMN Daman 48.21 313 *eP* **P** **09 43 40.0 +0.8**
comp=Z,137nm,0.8s
GTA Gaotai 48.32 336 ⇑P **P** **09 43 40.8 +1.3**
GTA pP pwP 09 45 36.8 +1.9
GTA sP sP 09 46 45.9 +3.0
GTA ScP **ScP** **09 47 50.0 +1.6**
GTA pmax pmax
comp=Z,50nm,0.8s
USA0B Ussuriysk Arra 48.88 9 *eP* **P** **09 43 43.8 +0.4**
comp=Z,48nm,0.6s
USRK Ussuriysk Ar. 48.88 9 P **P** **09 43 43.8 +0.4**
comp=Z,35nm,0.3s,baz=197,slow=6.5,SNR=287
USRK ScP **ScP** **09 47 51.8 +1.3**
comp=Z,8.6nm,0.9s,baz=188,slow=3.2,SNR=7.7
MDJ Mudanjiang 48.98 6 P **P** **09 43 44.8 +0.6**
MDJ pmax pmax
comp=Z,120nm,1.3s
MDJ Mudanjiang 48.98 6 *eP* **P** **09 43 44.7 +0.6**
comp=Z,91nm,0.9s
KOLN Koldanda 49.41 312 *eP* **P** **09 43 48.8 +0.9**
comp=Z,186nm,0.5s
DANN Dangsing 49.61 313 *eP* **P** **09 43 50.1 +0.6**
comp=Z,174nm,0.6s
PYUN Piuthan 50.04 312 *eP* **P** **09 43 53.3 +0.8**
comp=Z,202nm,0.7s
TEY Ternei 50.54 13⇑ *e*P **P** **09 43 56.0 +0.5**
TEY pmax pmax
comp=N,30nm,1.0s
TEY pmax pmax
comp=Z,60nm,1.0s
ASAJ Asahikawa 51.28 18 P **P** **09 44 01.6 +0.8**
comp=Z,47nm,0.9s,baz=223,slow=10,SNR=20
ASAJ Asahikawa 51.28 18 *eP* **P** **09 44 01.6 +0.8**
comp=Z,41nm,0.9s
ULN Ulaanbaatar 53.67 347 *eP* **P** **09 44 17.9 -0.1**
comp=Z,39nm,0.9s
ULN Ulaanbaatar 53.67 347 *i* P **P** **09 44 18.2 +0.3**
ULN pmax pmax
comp=Z,33nm,0.8s
KLR Kul'dur 53.78 7 P **P** **09 44 18.4 -0.1**
comp=Z,5.7nm,0.6s,baz=200,slow=4.7,SNR=27
KLR ScP **ScP** **09 48 11.8 +0.2**
comp=Z,3.5nm,1.0s,baz=243,slow=3.4,SNR=6.1
KLR Kul'dur 53.78 7 *i*P **P** **09 44 17.7 -0.7**
SONA0 Songino Array 53.80 346 *eP* **P** **09 44 19.3 +0.6**
SONA0 *e*PcP **PcP** **09 45 14.4 +0.4**
SONM Songino Array 53.80 346 P **P** **09 44 19.3 +0.6**
comp=Z,21nm,0.7s,baz=164,slow=8.2,SNR=189
SONM PcP **PcP** **09 45 14.4 +0.4**
comp=Z,2.1nm,0.6s,baz=164,slow=4.7,SNR=3.8
SONM ScP **ScP** **09 48 12.6 +0.7**
comp=Z,3.2nm,1.0s,baz=163,slow=4.7,SNR=6.6
SONA1 Songino Array 53.81 346 *eP* **P** **09 44 19.1 +0.2**
YSS Yuzh-Sakhalins 53.89 17 *eP* **P** **09 44 19.9 +0.7**
comp=Z,42nm,1.2s
YSS Yuzh-Sakhalins 53.89 17 *eP* **P** **09 44 19.9 +0.7**
YSS pmax pmax
comp=Z,42nm,1.2s
GRNR Gornyy 55.99 10 *eP* **P** **09 44 34.4 +0.6**
GRNR pmax pmax
comp=Z,39nm,1.0s
ZAK Zakamensk 56.93 345 *eP* **P** **09 44 40.1 -0.2**
ZAK pmax pmax
comp=Z,14nm,1.2s
ZAK pmax pmax
comp=Z,5.0nm,1.2s
WHZ Wether Hill Ro 57.06 144 *eP* **P** **09 44 41.3 +0.1**
comp=Z,21nm,0.9s
WMQ Urumqi 57.31 330 P **P** **09 44 44.1 +1.1**
WMQ pP pP 09 46 45.1 +2.5
WMQ pmax pmax
comp=Z,88nm,0.7s
WMQ pmax pmax
comp=Z,420nm,5.5s
WMQ Urumqi 57.31 330 *eP* **P** **09 44 43.4 +0.4**
comp=Z,28nm,0.8s
WMQ Urumqi 57.31 330 *eP* **P** **09 44 43.4 +0.4**
WMQ pmax pmax
comp=Z,28nm,0.8s
ZEA Zeya 57.85 3 *eP* **P** **09 44 46.8 +0.5**
ZEA pmax pmax
comp=N,35nm,1.0s
ZEA pmax pmax
comp=Z,46nm,1.0s
RPZ Rata Peaks 57.85 140 P **P** **09 44 47.3 +0.6**
comp=Z,83nm,0.8s,baz=305,slow=2.0,SNR=42
RPZ Rata Peaks 57.85 140 *eP* **P** **09 44 47.2 +0.6**
comp=Z,94nm,0.8s
THZ Tophouse 58.18 138 *eP* **P** **09 44 48.2 -0.7**
comp=Z,53nm,0.7s
OXZ Oxford 58.30 140 *eP* **P** **09 44 48.5 -1.1**
comp=Z,25nm,0.7s
MOY Mondy 58.70 344 *eP* **P** **09 44 53.0 +0.8**
MOY pmax pmax
comp=Z,10.0nm,1.3s
KHZ Kahutara 58.88 138 *eP* **P** **09 44 53.1 -0.4**
comp=Z,72nm,1.2s
NKL Nikolayevsk 59.09 12 *i* P **P** **09 44 55.3 +0.8**
NKL pmax pmax
comp=N,16nm,0.9s
NKL pmax pmax
comp=Z,100nm,0.9s
BKZ Black Stump Fm 59.65 133 *eP* **P** **09 44 58.8 +0.1**
comp=Z,39nm,1.0s
URZ Urewera 59.77 132 *eP* **P** **09 44 58.8 -0.6**
comp=Z,25nm,0.6s
NIL Nilore 60.06 313 *eP* **P** **09 45 01.9 +0.5**
comp=Z,40nm,0.5s
NIL Nilore 60.06 313 *eP* **P** **09 45 01.9 +0.5**
NIL pmax pmax
comp=Z,40nm,0.5s
KSH Kashi 61.23 320 P **P** **09 45 10.6 +1.5**
KSH PcP **PcP** **09 45 45.8 +1.9**
KSH pP pP 09 47 18.3 +6.9
KSH S **S** **09 52 37.0 -4.7**
KSH pmax pmax
comp=Z,81nm,0.6s
KSH pmax pmax
comp=Z,230nm,8.1s
RAO Raoul Island 61.24 121 *e*PcP **PcP** **09 45 49.7 +5.6**
TARG Taragay, Kyrgy 61.36 323 *eP* **P** **09 45 10.7 +0.4**
comp=Z,18nm,0.8s
PRZ Przheval'sk 61.46 324 *eP* **P** **09 45 12.2 +1.6**
comp=Z,31nm,0.5s
PRZ Przheval'sk 61.46 324 *eP* **P** **09 45 12.2 +1.6**
PRZ pmax pmax
comp=Z,31nm,0.5s
DGZ Jazzator, Alta 61.81 335⇑ *i*P **P** **09 45 12.0 -0.7**
DGZ pmax pmax
comp=Z,11nm,0.6s
KDJ Kajisay 61.98 323 *eP* **P** **09 45 14.7 +0.7**
comp=Z,24nm,0.6s
KDJ Kajisay 61.98 323 *eP* **P** **09 45 14.7 +0.7**
KDJ pmax pmax
comp=Z,24nm,0.6s
MK01 Makanchi Array 62.09 330 *eP* **P** **09 45 15.0 +0.6**
MK31 Makanchi Array 62.11 330 *eP* **P** **09 45 15.2 +0.7**
MK31 Makanchi Array 62.11 330 *eP* **P** **09 45 15.2 +0.7**
MK32 Makanchi Array 62.11 330 *eP* **P** **09 45 14.2 -0.3**
MK32 *e*PcP **PcP** **09 45 48.0 +0.8**
MK32 *e*S **S** **09 52 51.5 -0.5**
MKAR Makanchi Array 62.11 330 P **P** **09 45 14.2 -0.3**
comp=Z,48nm,0.7s,baz=131,slow=7.9,SNR=484
MKAR PcP **PcP** **09 45 48.0 +0.8**
comp=Z,4.7nm,0.7s,baz=132,slow=5.8,SNR=4.9
MKAR S **S** **09 52 51.5 -0.5**
comp=Z,1.0nm,0.9s,baz=134,slow=9.1,SNR=5.8
MKAR Makanchi Array 62.11 330 *eP* **P** **09 45 15.2 +0.7**
comp=Z,278nm,0.8s
MKAR PcP **PcP** **09 45 48.0 +0.8**
MKAR S **S** **09 52 51.5 -0.5**
MKAR Makanchi Array 62.11 330 *i* P **P** **09 45 15.1 +0.6**
MKAR pmax pmax
comp=Z,49nm,0.6s
BOD Bodaibo 62.23 355 *eP* **P** **09 45 15.1 +0.1**
BOD pmax pmax
comp=Z,33nm,1.3s
MAKZ Makanchi 62.28 329 *eP* **P** **09 45 15.4 -0.2**
comp=Z,27nm,0.8s
MAKZ Makanchi 62.28 329 *eP* **P** **09 45 15.4 -0.2**
MAKZ pmax pmax
comp=Z,27nm,0.8s
NRN Naryn 62.29 322 *eP* **P** **09 45 15.4 -0.8**
comp=Z,17nm,0.9s
NRN Naryn 62.29 322 *eP* **P** **09 45 15.4 -0.8**
NRN pmax pmax
comp=Z,17nm,0.9s
CASY Casey 62.56 186 *eP* **P** **09 45 16.9 -0.1**
comp=Z,24nm,0.9s
ULHL Ulahol 62.61 323 P **P** **09 45 19.0 +0.9**
SNR=5.3
KZA Kyzart 63.12 322 P **P** **09 45 22.9 +1.3**
SNR=7.5
TKM2 Tokmak 2 63.39 323 P **P** **09 45 23.9 +0.9**
SNR=30
KBL Kabul 63.57 312 *eP* **P** **09 45 24.7 +0.4**
comp=Z,44nm,0.7s
KBL Kabul 63.57 312 *eP* **P** **09 45 24.7 +0.4**
KBL pmax pmax
comp=Z,44nm,0.7s
KBK Karagaybulak 63.63 322 P **P** **09 45 25.8 +1.2**
SNR=15
UCH Uchtor 63.66 322 P **P** **09 45 26.2 +1.1**
SNR=17
AAK Ala-Archa 63.90 322 P **P** **09 45 27.4 +1.2**
comp=Z,28nm,0.8s,baz=132,slow=5.3,SNR=76
AAK S **S** **09 53 15.3 +1.3**
comp=Z,2.0nm,1.0s,baz=348,slow=20,SNR=6.3
AAK Ala-Archa 63.90 322 P **P** **09 45 27.4 +1.2**
SNR=21
AAK Ala-Archa 63.90 322 *eP* **P** **09 45 27.1 +0.9**
comp=Z,27nm,0.7s
AAK *eP* **P** **09 45 27.4 +1.2**
AAK *eS* **S** **09 53 15.3 +1.3**
AAK Ala-Archa 63.90 322 *ce*P **P** **09 45 26.7 +0.5**
AAK pmax pmax
comp=Z,18nm,0.5s
CHMS Chumysh 63.94 323 P **P** **09 45 27.2 +0.9**
SNR=6.8
AML Almayashu 64.11 321 P **P** **09 45 29.0 +1.1**
SNR=34
ARSB Arslanbob 64.13 320 *eP* **P** **09 45 28.0 +0.3**
comp=Z,36nm,0.8s
ARSB *eS* **S** **09 53 17.8 +1.1**
PETK Petropavlovsk- 64.20 23 P **P** **09 45 29.0 +1.4**
comp=Z,22nm,0.7s,baz=247,slow=4.3,SNR=46
PEA1 Petropavlovsk- 64.20 22 *eP* **P** **09 45 29.0 +1.3**
USP Ospenovka 64.25 323 P **P** **09 45 29.1 +0.8**
SNR=20
EKS2 Erkin-Say 64.35 322 P **P** **09 45 30.3 +1.3**
SNR=21
GAR Garm 64.71 317 *eP* **P** **09 45 31.8 +0.5**
comp=Z,45nm,0.8s
GAR Garm 64.71 317 *eP* **P** **09 45 31.8 +0.5**
GAR pmax pmax
comp=Z,45nm,0.8s
BTK Batken 64.89 318 *eP* **P** **09 45 33.8 +1.4**
comp=Z,11nm,0.9s
BTK Batken 64.89 318 *eP* **P** **09 45 33.8 +1.4**
BTK pmax pmax
comp=Z,11nm,0.9s
CHGR Chuyangaron 65.34 316 *eP* **P** **09 45 35.6 +0.3**
comp=Z,56nm,1.0s
ZAA0 Zalesovo Array 66.07 337 *eP* **P** **09 45 38.6 -0.6**
comp=Z,94nm,1.4s
ZALV Zalesovo Beam 66.07 337 P **P** **09 45 38.6 -0.6**
comp=Z,15nm,0.3s,baz=130,slow=4.3,SNR=60
ZALV S **S** **09 53 33.7 -5.1**
comp=Z,0.7nm,0.6s,baz=139,slow=9.9,SNR=3.7
ZALV Zalesovo Beam 66.07 337 *eP* **P** **09 45 37.9 -1.3**
ZALV S **S** **09 53 33.7 -5.1**
ZAA1 Zalesovo Array 66.07 337 *eP* **P** **09 45 38.6 -0.6**
ZAA1 *eS* **S** **09 53 33.7 -5.2**
YAK Yakutsk 66.26 4 *eP* **P** **09 45 40.3 +0.1**
YAK *e* 09 46 06.9
YAK *e* 09 48 13.5
YAK *eS* **S** **09 53 35.8 -4.9**
YAK *e* 09 54 27.5
YAK pmax pmax
comp=Z,65nm,0.9s
YAK pmax pmax
comp=N,28nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=Z,181nm,4.7s
YAK pmax pmax
comp=N,174nm,4.6s
YAK pmax pmax
comp=E,110nm,5.1s
YAK smax smax
comp=E,150nm,4.3s
YAK smax smax
comp=N,125nm,3.1s
KURBB Kurchatov Arra 66.52 331 P **P** **09 45 42.3 +0.2**
comp=N,18nm,0.7s,baz=138,slow=5.3,SNR=84
KURBB PP **PP** **09 48 14.3 -6.3**
comp=N,0.9nm,0.3s,baz=122,slow=8.8,SNR=4.0
KURK Kurchatov 66.54 331 *eP* **P** **09 45 42.3 +0.1**
KURK *e*PP **PP** **09 48 14.3 -6.5**
KURK Kurchatov 66.54 331 *eP* **P** **09 45 42.3 +0.1**
MA2 Magadan 67.31 15 P **P** **09 45 48.4 +1.7**
comp=N,23nm,0.8s,baz=203,slow=4.6,SNR=26
MA2 Magadan 67.31 15 *eP* **P** **09 45 47.1 +0.4**
comp=N,38nm,0.9s
MA2 Magadan 67.31 15 *ce*P **P** **09 45 47.3 +0.6**
MA2 pmax pmax
comp=Z,14nm,0.5s
NVS Novosibirsk 67.35 336⇓ *i*P **P** **09 45 46.7 -0.4**
SEY Seymchan 70.60 14 *ce*P **P** **09 46 06.7 +0.4**
BRVK Borovoye 72.07 330 *eP* **P** **09 46 14.5 -0.5**
comp=Z,43nm,1.4s
BRVK Borovoye 72.07 330 *c i*P **P** **09 46 15.0 0.0**
BRVK pmax pmax
comp=Z,36nm,1.4s
GEYT Alibeck 73.01 312 P **P** **09 46 21.6 +0.8**
comp=Z,20nm,0.8s,baz=168,slow=2.9,SNR=12
GYA0B ALIBECK ARRAY 73.01 312 *eP* **P** **09 46 21.2 +0.4**
comp=Z,10nm,0.8s
OPO Ambohidratompo 75.08 252 P **P** **09 46 33.7 +0.7**
comp=Z,7.5nm,0.7s,baz=53,slow=4.3,SNR=8.3
TIXI Tiksi 75.81 2 P **P** **09 46 35.6 -0.1**
comp=Z,14nm,0.3s,baz=189,slow=1.6,SNR=53
TIXI S **S** **09 55 23.1 -4.2**
comp=Z,0.3nm,0.3s,baz=293,slow=21,SNR=5.7
TIXI Tiksi 75.81 2 *eP* **P** **09 46 35.3 -0.4**
comp=Z,55nm,1.1s
TIXI *eP* **P** **09 46 35.6 -0.1**
TIXI *eS* **S** **09 55 23.1 -4.2**
TIXI Tiksi 75.81 2 *ce*P **P** **09 46 35.0 -0.7**
TIXI pmax pmax
comp=Z,48nm,0.9s
ABKAR Akbulak array 75.96 323 *eP* **P** **09 46 36.7 -0.2**
VNDA Vanda 76.13 172 P **P** **09 46 38.0 +0.6**
comp=Z,12nm,0.7s,baz=320,slow=5.9,SNR=34
VNDA Vanda 76.13 172 *eP* **P** **09 46 37.5 +0.1**
comp=Z,14nm,0.8s
VNDA Vanda 76.13 172 *eP* **P** **09 46 37.5 +0.1**
VNDA pmax pmax
comp=Z,14nm,0.8s
BILL Bilibino 78.17 15⇓ *e*P **P** **09 46 49.1 +0.6**
BILL *e* 09 49 56.7
BILL pmax pmax
comp=Z,11nm,2.0s
SVE Sverdlovsk 78.77 330 *eP* **P** **09 46 51.9 0.0**
SVE pmax pmax
comp=Z,18nm,0.8s
ARU Arti 79.64 329 *eP* **P** **09 46 56.3 -0.2**
comp=Z,12nm,0.9s
ARU Arti 79.64 329 P **P** **09 46 56.0 -0.5**
ARU 09 50 08.8
ARU S **S** **09 56 09.3 +1.6**
RAYN Ar Rayn 80.11 295 *eP* **P** **09 46 58.9 -0.9**
comp=Z,8.4nm,0.8s
RAYN Ar Rayn 80.11 295 *eP* **P** **09 46 58.9 -0.9**
RAYN pmax pmax
comp=Z,8.0nm,0.8s
SYO Syowa Base 83.67 201⇑ *e*P **P** **09 47 16.3 -0.4**
SYO Syowa Base 83.67 201⇓ *e*PcP **P** **09 47 18.0 +1.3**
ZEI Tsey 84.75 313 *eP* **P** **09 47 22.4 -0.4**
ZEI pmax pmax
comp=Z,10.0nm,0.9s
KBZ Khabaz 85.64 314 P **P** **09 47 27.4 +0.7**
comp=Z,6.6nm,0.8s,baz=125,slow=3.3,SNR=15
QSPA South Pole Qui 85.76 180 P **P** **09 47 27.4 +0.3**
comp=Z,14nm,0.6s,baz=297,slow=1.4,SNR=67
QSPA South Pole Qui 85.76 180 *eP* **P** **09 47 27.3 +0.3**
comp=Z,17nm,0.8s
KIV Kislovodsk 85.83 314 *eP* **P** **09 47 27.5 -0.3**
KIV pmax pmax
comp=Z,8.0nm,1.0s
PRGR Permogore 87.63 332 *eP* **P** **09 47 33.8 -1.8**
PRGR pmax pmax
comp=Z,8.0nm,0.6s
VRH Novokhopyorsk 87.69 322 *eP* **P** **09 47 35.5 -0.7**
VRH pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 89.28 321 *eP* **P** **09 47 42.1 -1.5**
VSR pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 89.61 323 *eP* **P** **09 47 44.5 -0.6**
LPSR pmax pmax
comp=Z,5.0nm,0.4s
KLMR Klimovskoe 90.39 331 *eP* **P** **09 47 46.5 -1.9**
KLMR pmax pmax
comp=Z,7.0nm,0.8s
KLMR Klimovskoe 90.39 331 *eP* **P** **09 47 46.6 -1.9**
KLMR AMP 09 47 48.1
comp=Z,7.0nm,0.8s
OBN Obninsk 91.28 325⇓ *e*P **P** **09 47 52.7 0.0**
OBN *e**PP **pP** **09 50 04.1 -5.3**
OBN *e* 09 51 40.7
OBN pmax pmax
comp=Z,9.0nm,0.9s
BR101 Keskin Array S 92.04 309 *eP* **P** **09 47 56.0 -0.9**
BR101 *e*PP **PP** **09 51 42.0 -6.6**
BRTR Keskin Array B 92.04 309 P **P** **09 47 56.0 -0.8**
comp=Z,1.3nm,0.8s,baz=116,slow=6.3,SNR=7.1
BRTR PP **PP** **09 51 42.0 -6.6**
comp=Z,0.4nm,0.7s,baz=128,slow=9.3,SNR=2.2
BRTR Keskin Array B 92.04 309 P **P** **09 47 56.0 -0.8**
LSZ Lusaka 93.38 254 *eP* **P** **09 48 03.4 0.0**
comp=Z,5.0nm,0.8s
LSZ Lusaka 93.38 254 *eP* **P** **09 48 03.4 0.0**
LSZ pmax pmax
comp=Z,5.0nm,0.8s
APA Apatity 93.64 337⇓ *i*P **P** **09 48 01.5 -1.7**
APA pmax pmax
comp=Z,4.0nm,0.7s
APA MLR MLR
comp=Z,1μm,24.0s
ILAR Eielson Array 93.89 25 PKKPbc PKKPbc 10 05 04.5 -2.4
comp=Z,0.7nm,0.8s,baz=107,slow=1.6,SNR=6.1
BOSA Boshof 94.65 241 P **P** **09 48 09.2 +0.2**
comp=Z,3.1nm,0.8s,baz=106,slow=3.7,SNR=5.1
AKASG Malin Array Se 95.52 320 P **P** **09 48 11.1 -1.0**
comp=Z,3.0nm,0.7s,baz=75,slow=4.9,SNR=9.4
AKASG PKKPbc **PKKPdf** **10 04 59.2 -2.1**
comp=Z,0.6nm,0.4s,baz=268,slow=3.6,SNR=6.4
AK11 Malin Array Si 95.56 320 *eP* **P** **09 48 11.7 -0.6**
ARA0 ARCESS Array S 96.49 339 *eP* **P** **09 48 15.0 -1.1**
ARCES ARCESS Array B 96.49 339 P **P** **09 48 15.0 -1.1**
comp=Z,4.0nm,0.9s,baz=82,slow=3.6,SNR=12
YKA Yellowknife Ar 108.28 24 PKiKP **PKiKP** **09 53 10.6 0.0**
comp=Z,0.2nm,0.4s,baz=314,slow=1.8,SNR=4.6
YKA SKiKP **SKiKP** **09 55 46.6 0.0**
comp=Z,0.6nm,0.8s,baz=303,slow=1.9,SNR=5.9
YKA PKKPbc **PKKPbc** **10 04 22.9 -3.0**
comp=Z,0.7nm,0.7s,baz=110,slow=2.6,SNR=9.4
NV01 Mina Array Sit 115.03 49 *e*PKPdf **PKiKP** **09 53 24.9 +0.4**
NVAR Mina Array Bea 115.03 49 PKP **PKiKP** **09 53 25.2 +0.7**
comp=Z,0.8nm,0.7s,baz=243,slow=1.4,SNR=5.8
NVAR SKP 09 56 02.3
comp=Z,1.1nm,0.7s,baz=246,slow=1.6,SNR=8.8
PDAR Pinedale Array 119.83 42 PKP **PKPdf** **09 53 33.5 -0.2**
comp=Z,0.2nm,0.5s,baz=34,slow=0.5,SNR=4.3
PDAR PKKPbc **PKKPab** **10 03 48.5 -1.0**
comp=Z,1.1nm,0.6s,baz=116,slow=6.3,SNR=13
TORD Torodi Ar. Bea 121.26 283 PKP **PKiKP** **09 53 37.1 +0.1**
comp=Z,1.8nm,0.6s,baz=77,slow=1.9,SNR=12
TORD SKP 09 56 12.1
comp=Z,1.3nm,0.9s,baz=328,slow=0.8,SNR=4.0
TOA1 Torodi Ar. Sit 121.27 283 *e*PKPdf **PKiKP** **09 53 37.1 +0.1**
NRS Narsarsuaq 122.49 353 *e*PKPdf **PKPdf** **09 53 36.7 -1.2**
NRS Narsarsuaq 122.49 353 *e*PKiKP **PKPdf** **09 53 36.7 -1.2**
RSSD Black Hills 122.79 39 *e*PKPdf **PKiKP** **09 53 39.8 +0.2**
RSSD Black Hills 122.79 39 *e*PKiKP **PKiKP** **09 53 39.8 +0.2**
ULM Lac du Bonnet 123.74 29 PKP **PKPdf** **09 53 40.7 +0.1**
comp=Z,1.9nm,0.7s,baz=227,slow=4.7,SNR=4.3
DBIC Dimbokro 127.89 275 PKP **PKiKP** **09 53 50.5 +0.3**
comp=Z,2.4nm,0.8s,baz=214,slow=2.6,SNR=3.2
SCHQ Schefferville 128.92 7 SKPbc SKiKP 09 56 13.8 -14
comp=Z,12nm,1.0s,baz=352,slow=5.6,SNR=5.3
LTX Lajitas 129.41 55 *e*PKPdf **PKiKP** **09 53 53.3 +0.2**
LTX Lajitas 129.41 55 *e*PKiKP **PKiKP** **09 53 53.3 +0.2**
TXAR Lajitas Array 129.41 55 PKP **PKiKP** **09 53 53.3 +0.2**
comp=Z,0.3nm,0.6s,baz=177,slow=1.1,SNR=5.0
TXAR SKPbc SKPbc 09 56 17.2 +1.4
comp=Z,6.0nm,1.0s,baz=256,slow=2.6,SNR=38
JCT Junction City 132.07 52 *e*PKPdf **PKiKP** **09 53 58.5 +0.2**
JCT Junction City 132.07 52 *e*PKiKP **PKiKP** **09 53 58.5 +0.2**
PLCA Paso Flores 133.63 166 PKP **PKiKP** **09 54 00.9 -0.3**
comp=Z,4.3nm,1.1s,baz=178,slow=4.5,SNR=4.5
PLCA SKPbc **SKPbc** **09 56 31.7 +1.6**
comp=Z,5.9nm,1.0s,baz=312,slow=3.9,SNR=6.5

ROC1	**El Roble**	**140.76**	**161**	*e*PKPpre	PKPpre	09 54 07.9		
GO04	**Tololo Observa**	**143.41**	**160**	*e*PKPbc	PKPab	09 54 16.9	+0.1	
LCO	**Las Campanas**	**144.50**	**159**	*e*PKPdf	**PKPab**	**09 54 21.0**	**-0.1**	
LCO	**Las Campanas**	**144.50**	**159**	*e*PKIKP	**PKPab**	**09 54 21.0**	**-0.1**	
APG	**El Apazote**	**145.51**	**70**	PKPbc	**PKPbc**	**09 54 23.8**	**+0.2**	
	comp=Z,12nm,0.9s,baz=321,slow=18,SNR=3.8							
GO02	**Mina Guanaco**	**148.41**	**158**	*e*PKPdf	**PKPdf**	**09 54 27.1**	**+0.3**	
PB10	**IPOC Station P**	**149.51**	**155**	*e*PKPdf	**PKPdf**	**09 54 29.2**	**+1.0**	
CPUP	**Villa Florida**	**149.65**	**180**	PKP	**PKPdf**	**09 54 29.4**	**+1.2**	
	comp=Z,13nm,1.0s,baz=62,slow=2.6,SNR=6.7							
CPUP				PKPbc	**PKiKP**	**09 54 34.5**	**+0.2**	
	comp=Z,27nm,0.7s,baz=126,slow=1.4,SNR=49							
CPUP	**Villa Florida**	**149.65**	**180**	*e*PKPdf	**PKPdf**	**09 54 29.4**	**+1.2**	
CPUP				*e*PKPbc	**PKiKP**	**09 54 34.9**	**+0.5**	
PB11	**IPOC Station P**	**153.20**	**153**	*e*PKPdf	**PKPdf**	**09 54 33.1**	**-0.8**	
PB11				*e*PKPbc	**PKPbc**	**09 54 41.4**	**-0.6**	
PB11				*e*PKPab	**PKPab**	**09 54 58.0**	**+1.0**	
MNMC	**Minye Minye**	**153.78**	**153**	*e*PKPdf	**PKPdf**	**09 54 34.0**	**-0.9**	
MNMC				*e*PKPbc	**PKiKP**	**09 54 44.9**	**+1.5**	
LPAZ	**La Paz**	**156.93**	**152**	PKP	**PKPdf**	**09 54 39.6**	**0.0**	
	comp=Z,1.1nm,0.7s,baz=202,slow=2.3,SNR=5.6							
LPAZ				PKPab	**PKPab**	**09 55 15.1**	**+1.4**	
	comp=Z,7.4nm,0.7s,baz=170,slow=3.5,SNR=18							
LPAZ	**La Paz**	**156.93**	**152**	*e*PKPdf	**PKPdf**	**09 54 41.3**	**+1.7**	
LPAZ				*e*PKPab	**PKPab**	**09 55 15.2**	**+1.5**	
LPAZ	**La Paz**	**156.93**	**152**	*e*PKIKP	**PKPdf**	**09 54 41.3**	**+1.7**	
BDFB	**Brasilia**	**158.30**	**204**	PKPab	**PKPab**	**09 55 18.1**	**-0.9**	
	comp=Z,2.6nm,0.5s,baz=185,slow=8.6,SNR=4.6							
SIV	**San Ignacio**	**159.56**	**169**	PKP	**PKPdf**	**09 54 41.7**	**-0.2**	
	comp=Z,1.8nm,1.0s,baz=196,slow=3.4,SNR=6.5							
SIV				PKPab	**PKPab**	**09 55 25.2**	**+0.8**	
	comp=Z,8.7nm,0.7s,baz=193,slow=4.1,SNR=34							

*NDI **24** 09:47:15.5±2.8,24˚.85N×95˚.30E,h16km±15km,ML3.3*
*ISCJB **24** 09:47:16.6±0.8,24˚.84N±0˚.04×95˚.18E±0˚.07,h132km±9km, mb3.4/3,Error ellipse: s-maj=10.6km s-min=7.2km az=10.3*
*IDC **24** 09:47:18.2±3.3,24˚.72N×95˚.26E,h152km±37km,mb3.1/3, mb1 3.3/5,mb1mx2.9/45,mbtmp3.6/5,Error ellipse: s-maj=36.3km s-min=19.3km az=50.0*

ISC 24 09:47:16.2±1.1,24˚.84N±0˚.05×95˚.24E±0˚.08,h123km±11km, n15,σ1s92/26,mb3.5/3,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**1.18**	**270**	*e*P	**Pn**	**09 47 38.0**	**-2.3**
IMP				*e*S	**Sn**	**09 47 55.2**	**-3.4**
IMP				IAML		09 48 03.4	
	comp=N,365nm,0.2s						
IMP				IAML		09 48 03.4	
	comp=E,101nm,0.3s						
KOHI	**KOHIMA**	**1.35**	**311**	*e*P	**Pn**	**09 47 44.4**	**+2.1**
KOHI				*e*S	**Sn**	**09 48 02.7**	**+0.6**
KOHI				IAML		09 48 07.5	
	comp=N,384nm,0.3s						
KOHI				IAML		09 48 07.7	
	comp=E,298nm,0.2s						
MOKO	**MOKOCHONG**	**1.62**	**336**	*e*P	**Pn**	**09 47 47.8**	**+2.5**
MOKO				*e*S	**Sn**	**09 48 09.3**	**+1.8**
AZL	**Aizawl**	**2.57**	**245**	*e*P	**Pn**	**09 47 58.5**	**+1.4**
AZL				*e*S	**Sn**	**09 48 28.1**	**-0.4**
AZL				IAML		09 48 32.8	
	comp=E,177nm,0.2s						
AZL				IAML		09 48 32.9	
	comp=N,296nm,0.2s						
TEZP	**TEZPUR**	**2.83**	**309**	*e*P	**Pn**	**09 48 01.4**	**+1.2**
TEZP				*e*S	**Sn**	**09 48 34.1**	**-0.2**
ZIRO	**ZIRO**	**2.96**	**335**	*e*P	**Pn**	**09 48 03.5**	**+1.3**
ZIRO				*e*S	**Sn**	**09 48 35.0**	**-2.7**
SAIH	**SAIHA**	**3.12**	**222**	*e*P	**Pn**	**09 48 06.0**	**+1.8**
SAIH				*e*S	**Sn**	**09 48 41.1**	**-0.2**
SAIH				IAML		09 48 46.2	
	comp=N,188nm,0.3s						
SAIH				IAML		09 48 47.1	
	comp=E,367nm,0.2s						
SHL	**Shillong**	**3.13**	**284**	*e*P	**Pn**	**09 48 05.4**	**+1.0**
SHL				*e*S	**Sn**	**09 48 41.4**	**-0.2**
SHL				IAML		09 48 43.5	
	comp=N,129nm,0.1s						
SHL				IAML		09 48 43.6	
	comp=E,86nm,0.1s						
BRDH	**Bariadhala**	**3.93**	**238**	P	**Pn**	**09 48 17.1**	**+2.2**
	comp=E,33nm,0.3s,baz=74,slow=18,SNR=2.0						
BRDH				S	**Sn**	**09 49 03.0**	**+2.6**
	comp=E,61nm,0.3s,baz=246,slow=20,SNR=13						
TURI	**Tura**	**4.50**	**280**	*e*P	**Pn**	**09 48 24.0**	**+1.6**
TURI				*e*S	**Sn**	**09 49 15.1**	**+1.1**
TURI				IAML		09 49 18.2	
	comp=E,213nm,0.1s						
TURI				IAML		09 49 18.5	
	comp=N,233nm,0.3s						
GTK	**Tadong**	**6.46**	**294**	*e*P	**Pn**	**09 48 50.3**	**+1.3**
GTK				*e*S	**Sn**	**09 49 58.7**	**-2.8**
GTK				IAML		09 50 04.9	
	comp=N,22nm,0.3s						
GTK				IAML		09 50 05.0	
	comp=E,18nm,0.2s						
CMAR	**Chiang Mai Arr**	**7.22**	**151**	P	**Pn**	**09 49 00.1**	**+1.0**
	comp=E,0.5nm,0.3s,baz=333,slow=14,SNR=6.2						
MKAR	**Makanchi Array**	**24.23**	**338**	P	**P**	**09 52 22.0**	**+0.5**
	comp=E,0.5nm,0.5s,baz=146,slow=9.4,SNR=11						
WRA	**Warramunga Arr**	**58.55**	**136**	P	**P**	**09 56 58.7**	**-1.4**
	comp=E,0.4nm,0.6s,baz=320,slow=7.6,SNR=6.4						
ASAR	**Alice Springs**	**61.07**	**139**	P	**P**	**09 57 15.2**	**-2.1**
	comp=E,0.3nm,0.5s,baz=323,slow=5.9,SNR=3.6						

*IDC **24** 10:08:03.8±1.2,3˚.45S×131˚.30E,h0km,mb3.8/4, mb1 3.9/8,mb1mx3.7/34,mbtmp3.8/8,ML3.7/3,Error ellipse: s-maj=40.6km s-min=19.5km az=81.0*
*ISCJB **24** 10:08:05.8±0.5,3˚.54S±0˚.04×131˚.05E±0˚.07,h30km, mb3.8/3,Error ellipse: s-maj=9.9km s-min=4.8km az=14.1*
*DJA **24** 10:08:08.9±0.3,3˚.S±3˚×13˚.1E±˚,h10km,M3.9/7,MLv3.9/7*

ISC 24 10:08:08.0±0.7,3˚.56S±0˚.05×131˚.24E±0˚.06,h30km,n12, σ2s15/20,mb3.9/3,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.19**	**58**	P	**Pb**	**10 08 30.6**	**+0.5**
FAKI				S	**Sb**	**10 08 48.0**	**+2.9**
BNDI	**Bandanaira**	**1.64**	**234**	P	**Pb**	**10 08 38.6**	**+1.0**
BNDI				S	**Sb**	**10 09 01.4**	**+3.5**
SIJI	**Sorong**	**2.67**	**1**	Pn	**Pn**	**10 08 46.8**	**-2.3**
	baz=306,slow=19						
SIJI				Sn	**Sn**	**10 09 18.4**	**-2.1**
	12nm,0.3s,baz=139,slow=19,SNR=4.5						
SWI	**Sorong**	**2.68**	**0**	P	**Pn**	**10 08 49.9**	**+0.8**
SWI				S	**Sn**	**10 09 17.7**	**-2.9**
RKPI	**Ransiki, Papua**	**3.57**	**55**	P	**Pn**	**10 09 03.6**	**+2.2**
RKPI				S	**Sn**	**10 09 44.1**	**+1.4**
JAY	**Jayapura**	**9.51**	**84**	Pn	**Pn**	**10 10 21.3**	**-1.7**
	1.5nm,0.3s,baz=143,slow=19,SNR=3.3						
FITZ	**Fitzroy Crossi**	**15.46**	**200**	Pn	**Pn**	**10 11 43.3**	**-0.7**
	0.3nm,0.3s,baz=24,slow=8.0,SNR=12						
FITZ				Sn	**Sn**	**10 14 32.2**	**-2.2**
	0.1nm,0.3s,baz=136,slow=19,SNR=2.5						
WRA	**Warramunga Arr**	**16.56**	**170**	Pn	**Pn**	**10 11 57.4**	**-0.8**
	0.2nm,0.3s,baz=353,slow=14,SNR=11						
WRA				Sn	**Sn**	**10 14 57.9**	**-3.4**
	0.2nm,0.3s,baz=305,slow=3.3,SNR=4.8						
ASAR	**Alice Springs**	**20.16**	**173**	P	**P**	**10 12 41.9**	**+1.8**
	1.5nm,0.4s,baz=352,slow=12,SNR=29						
ASAR				S	**S**	**10 16 22.6**	**-2.4**
	0.3nm,0.6s,baz=356,slow=27,SNR=3.6						
MKAR	**Makanchi Array**	**66.07**	**325**	P	**P**	**10 18 52.6**	**+0.4**
	0.6nm,0.5s,baz=114,slow=7.3,SNR=7.7						
ZALV	**Zalesovo Beam**	**69.08**	**333**	P	**P**	**10 19 09.9**	**-1.2**
	0.4nm,0.4s,baz=130,slow=6.6,SNR=2.9						
KURBB	**Kurchatov Arra**	**70.27**	**327**	P	**P**	**10 19 19.1**	**+0.7**
	0.9nm,0.5s,baz=127,slow=5.8,SNR=11						

*ISCJB **24** 10:39:52.0±0.3,38˚.66N±0˚.02×73˚.54E±0˚.03,h101km±3km, mb4.4/57,Error ellipse: s-maj=3.3km s-min=2.8km az=12.4*
*BJI **24** 10:39:53.9,38˚.76N×73˚.61E,h119km,mb4.7/31,mB4.8/22*
*SOME **24** 10:39:53.7,39˚.43N×72˚.92E,h5km*
*MOS **24** 10:39:53.1±1.3,38˚.73N×73˚.57E,h107km,mb4.5/31,Error ellipse: s-maj=6.3km s-min=4.2km az=89.2*
*IDC **24** 10:39:53.4±2.1,38˚.62N×73˚.57E,h100km±19km,mb4.0/22, mb1 4.3/26,mb1mx4.1/38,mbtmp4.5/26,MS3.0/5,*
Ms1 3.0/5,ms1mx2.7/47,Error ellipse: s-maj=14.2km s-min=10.4km az=7.0
*NEIC **24** 10:39:54.8±0.3,38˚.71N×73˚.55E,mb4.5/21,Error ellipse: s-maj=6.3km s-min=4.8km az=167.0*
*NNC **24** 10:39:55.6±2.4,38˚.96N×73˚.39E,h152km±33km,mb4.3, mpv5.1,Error ellipse: s-maj=24.8km s-min=11.7km az=178.0*

ISC 24 10:39:52.9±0.5,38˚.62N±0˚.04×73˚.53E±0˚.03,h102km±4km, h102km:pP-P,n256,σ1s82/282,mb4.5/57,29C-18D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.39**	**359**	PN	**Pn**	**10 40 18.4**	**+0.2**
KSH	**Kashi**	**2.10**	**64**	P	Pn	10 40 23.0	-4.0
KSH				S	Sn	10 40 44.4	-8.7
KSH				pmax	pmax		
	comp=Z,690nm,0.4s						
GAR	**Garm**	**2.54**	**280**	*e*Pn	**Pn**	**10 40 32.3**	**-0.3**
GAR	**Garm**	**2.54**	**280**	*e*PN	**Pn**	**10 40 32.3**	**-0.3**
BTK	**Batken**	**2.54**	**305**	*e*Pn	**Pn**	**10 40 34.4**	**+1.6**
BTK				*e*Sn	**Sn**	**10 41 04.6**	**+1.4**
ARSB	**Arslanbob**	**2.73**	**351**	*e*Pn	**Pn**	**10 40 34.9**	**-0.4**
ARSB				*e*Sn	**Sn**	**10 41 06.4**	**-1.4**
NRN	**Naryn**	**3.39**	**33**	*e*Pn	**Pn**	**10 40 44.1**	**-0.1**
NRN	**Naryn**	**3.39**	**33**	*e*PN	**Pn**	**10 40 44.1**	**-0.1**
CHGR	**Chuyangaron**	**3.42**	**272**	*e*Pn	**Pn**	**10 40 43.7**	**-0.8**
CHGR				*e*Sn	**Sn**	**10 41 22.8**	**-1.4**
AML	**Almayashu**	**3.51**	**2**	P	**Pn**	**10 40 45.9**	**+0.1**
	SNR=2823						
UCH	**Uchtor**	**3.68**	**12**	P	**Pn**	**10 40 48.8**	**+0.6**
	SNR=1369						
KZA	**Kyzart**	**3.69**	**20**	P	**Pn**	**10 40 48.6**	**+0.2**
	SNR=691						
MNAS	**Manas**	**3.94**	**349**	⇑P	**Pn**	**10 40 51.4**	**0.0**
	680nm,0.4s						
MNAS				⇓S	**Sn**	**10 41 34.0**	**-2.7**
	1μm,0.5s						
MNAS	**Manas**	**3.94**	**349**	PN	**Pn**	**10 40 51.4**	**0.0**
MNAS				pmax	pmax		
	comp=Z,680nm,0.4s						
EKS2	**Erkin-Say**	**4.04**	**3**	P	**Pn**	**10 40 53.4**	**+0.6**
	SNR=1365						
AAK	**Ala-Archa**	**4.08**	**10**	P	**Pn**	**10 40 54.3**	**+1.0**
	comp=Z,180nm,0.3s,baz=162,slow=6.8,SNR=1390						
AAK				S	**Sn**	**10 41 39.5**	**-0.6**
	comp=Z,28nm,0.3s,baz=194,slow=16,SNR=3.9						
AAK	**Ala-Archa**	**4.08**	**10**	P	**Pn**	**10 40 54.3**	**+1.0**
	SNR=675						
AAK	**Ala-Archa**	**4.08**	**10**	⇑P	**Pn**	**10 40 54.0**	**+0.7**
	comp=Z,213nm,0.4s						
AAK				⇑S	**Sn**	**10 41 39.5**	**-0.6**
	comp=Z,403nm,0.8s						
AAK	**Ala-Archa**	**4.08**	**10**	*i* Pn	**Pn**	**10 40 53.7**	**+0.4**
	SNR=565						
AAK	**Ala-Archa**	**4.08**	**10**	PN	**Pn**	**10 40 54.0**	**+0.7**
AAK						10 41 39.5	
AAK				pmax	pmax		
	comp=Z,213nm,0.4s						
AAK				smax	smax		
	comp=E,403nm,0.9s						
MRKS	**Merke**	**4.12**	**357**	*e*P	**Pn**	**10 40 54.2**	**+0.3**
	comp=E,684nm,0.3s						
MRKS				*e*S	**Sn**	**10 41 38.7**	**-2.4**
	comp=E,438nm,0.6s						
ULHL	**Ulahol**	**4.17**	**29**	P	**Pn**	**10 40 55.1**	**+0.5**
	SNR=339						
KBK	**Karagaybulak**	**4.17**	**15**	P	**Pn**	**10 40 55.5**	**+0.9**
	SNR=447						
FRU1	**Bishkek**	**4.27**	**11**	*e*Pn	**Pn**	**10 40 57.2**	**+1.4**
FRU1	**Bishkek**	**4.27**	**11**	*e*PN	**Pn**	**10 40 57.2**	**+1.4**
FRU	**Bishkek**	**4.29**	**11**	*e*PN	**Pn**	**10 40 56.0**	**0.0**
FRU				pmax	pmax		
	comp=Z,300nm,1.8s						
IUG	**Iuzhnay**	**4.42**	**324**	*e*P	**Pn**	**10 40 57.7**	**-0.1**
	comp=Z,312nm,0.3s						
IUG				*e*S	**Sn**	**10 41 45.1**	**-3.1**
	comp=Z,1μm,0.6s						
CHMS	**Chumysh**	**4.47**	**12**	P	**Pn**	**10 40 59.2**	**+0.8**
	SNR=77						
KDJ	**Kajisay**	**4.48**	**37**	*e*Pn	**Pn**	**10 41 00.2**	**+1.4**
KDJ	**Kajisay**	**4.48**	**37**	*e*PN	**Pn**	**10 41 00.2**	**+1.4**
TARG	**Taragay, Kyrgy**	**4.51**	**45**	*e*Pn	**Pn**	**10 41 00.2**	**+0.8**
TKM2	**Tokmak 2**	**4.57**	**19**	P	**Pn**	**10 41 00.7**	**+0.7**
	SNR=258						
TKM2	**Tokmak 2**	**4.57**	**19**	⇑P	**Pn**	**10 41 00.5**	**+0.4**
	comp=Z,222nm,0.8s						
TKM2				⇓S	**Sn**	**10 41 50.0**	**-2.1**
	comp=Z,136nm,0.6s						
TKM2	**Tokmak 2**	**4.57**	**19**	PN	**Pn**	**10 41 00.4**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,222nm,0.8s						
DZA	**Taraz**	**4.58**	**339**	*e*P	**Pn**	**10 41 00.4**	**+0.5**
	comp=Z,1μm,0.4s						
DZA				*e*S	**Sn**	**10 41 49.7**	**-2.3**
	comp=Z,2μm,0.5s						
USP	**Ospenovka**	**4.70**	**9**	P	**Pn**	**10 41 01.9**	**+0.3**
	SNR=161						
CHM	**Chimkent**	**4.75**	**322**	*e*P	**Pn**	**10 41 02.5**	**+0.2**
	comp=Z,704nm,0.2s						
CHM				*e*S	**Sn**	**10 41 53.2**	**-2.9**
	comp=Z,2μm,0.5s						
CHCP	**Chirah Chowk**	**4.96**	**183**	⇓P	**Pn**	**10 41 07.8**	**+2.6**
CEP	**Cherat**	**4.96**	**196**	⇓P	**Pn**	**10 41 07.5**	**+2.2**
CEP				S	**Sn**	**10 42 00.0**	**-1.6**
NIL	**Nilore**	**4.97**	**183**	*e*Pn	**Pn**	**10 41 07.9**	**+2.6**
NIL				*e*Sn	**Sn**	**10 42 03.6**	**+2.0**
NIL	**Nilore**	**4.97**	**183**	*e*PN	**Pn**	**10 41 07.9**	**+2.6**
KK31	**Karatay Array**	**5.03**	**334**	*e*Pn	**Pn**	**10 41 05.8**	**-0.2**
KK31				*e*Sn	**Sn**	**10 41 58.9**	**-4.0**
KK31	**Karatay Array**	**5.03**	**334**	⇑P	**Pn**	**10 41 05.6**	**-0.4**
	comp=Z,65nm,0.2s,baz=140,slow=12,SNR=1452						
KK31				⇓S	**Sn**	**10 41 57.7**	**-5.1**
	comp=Z,469nm,0.6s,baz=151,slow=22,SNR=14						
KK31	**Karatay Array**	**5.03**	**334**	*e*PN	**Pn**	**10 41 05.5**	**-0.4**
KK31				pmax	pmax		
	comp=Z,65nm,0.3s						
KKAR	**Karatay Array**	**5.03**	**334**	*e*Pn	**Pn**	**10 41 05.8**	**-0.2**
KKAR				*e*Sn	**Sn**	**10 41 59.4**	**-3.4**
KKAR	**Karatay Array**	**5.03**	**334**	*e*PN	**Pn**	**10 41 05.8**	**-0.2**
AAA	**Alma-Ata**	**5.25**	**28**	*e*PN	**Pn**	**10 41 10.8**	**+1.7**
AAA				*e*S	**Sn**	**10 42 07.8**	**-0.6**
AAA				pmax	pmax		
	comp=Z,175nm,0.6s						
AAA				smax	smax		
	comp=N,164nm,0.6s						
KNDC	**Almaty**	**5.28**	**28**	⇓P	**Pn**	**10 41 10.1**	**+0.7**
	comp=N,302nm,0.8s						
KNDC				⇓S	**Sn**	**10 42 05.8**	**-3.2**
	comp=N,315nm,0.7s						
PRZ	**Przheval'sk**	**5.35**	**42**	*e*Pn	**Pn**	**10 41 12.2**	**+1.6**
PRZ	**Przheval'sk**	**5.35**	**42**	*e*PN	**Pn**	**10 41 12.2**	**+1.6**
KBL	**Kabul**	**5.44**	**223**	*e*Pn	**Pn**	**10 41 13.9**	**+2.1**
KBL				*e*Sn	**Sn**	**10 42 13.6**	**+0.4**
KBL	**Kabul**	**5.44**	**223**	*e*PN	**Pn**	**10 41 13.9**	**+2.1**
THW	**Thamme Wali**	**5.99**	**195**	P	**Pn**	**10 41 20.2**	**+1.0**
PDGK	**Podgornoye**	**6.52**	**42**	⇓P	**Pn**	**10 41 25.9**	**-0.4**
	comp=N,35nm,0.7s						
PDGK				⇓S	**Sn**	**10 42 37.4**	**-1.8**
	comp=N,243nm,1.1s						
PDGK	**Podgornoye**	**6.52**	**42**	PN	**Pn**	**10 41 25.9**	**-0.4**
PDGK				pmax	pmax		
	comp=Z,35nm,0.7s						
SARP	**Sargodha**	**6.72**	**186**	P	**Pn**	**10 41 29.5**	**+0.4**
DHRM	**DHARAMSHALA**	**6.75**	**160**	*e*P	**Pn**	**10 41 29.8**	**+0.1**
DHRM				*e*S	**Sn**	**10 42 39.8**	**-5.3**
SMLA	**Simla**	**8.05**	**157**	*e*P	**Pn**	**10 41 47.8**	**+0.7**
SMLA				*e*S	Sn	10 43 08.5	-8.0
DDI	**Dehra Dun**	**9.08**	**154**	*e*P	**Pn**	**10 42 01.6**	**+0.4**
DDI				*ex*	x	10 43 33.1	
JOSI	**Joshimath**	**9.46**	**147**	*e*P	**Pn**	**10 42 05.3**	**-1.1**
JOSI				*e*S	Sn	10 43 41.6	-9.4
OTUK	**Ortayu**	**9.66**	**355**	⇓P	**Pn**	**10 42 07.4**	**-1.4**
	comp=Z,126nm,0.8s						
OTUK	**Ortayu**	**9.66**	**355**	P	**Pn**	**10 42 06.8**	**-2.0**
OTUK				pmax	pmax		
	comp=Z,125nm,0.8s						
MAKZ	**Makanchi**	**10.27**	**34**	*e*Pn	**Pn**	**10 42 16.5**	**-0.7**
MAKZ	**Makanchi**	**10.27**	**34**	*e*P	**Pn**	**10 42 16.5**	**-0.7**
MK01	**Makanchi Array**	**10.39**	**36**	*e*Pn	**Pn**	**10 42 17.9**	**-0.9**
MK31	**Makanchi Array**	**10.40**	**35**	*e*Pn	**Pn**	**10 42 18.5**	**-0.5**
MK31	**Makanchi Array**	**10.40**	**35**	P	**Pn**	**10 42 18.4**	**-0.5**
	comp=Z,26nm,0.9s,baz=215,slow=14,SNR=161						
MK31	**Makanchi Array**	**10.40**	**35**	*e*P	**Pn**	**10 42 18.5**	**-0.5**
MK32	**Makanchi Array**	**10.40**	**35**	*e*Pn	**Pn**	**10 42 18.6**	**-0.4**
MKAR	**Makanchi Array**	**10.40**	**35**	P	**Pn**	**10 42 18.6**	**-0.4**
	comp=Z,1.7nm,0.3s,baz=216,slow=14,SNR=84						
KHET	**Khetri**	**10.69**	**169**	*e*P	**Pn**	**10 42 19.7**	**-3.3**
KHET				*e*S	Sn	10 44 07.8	-13
KHET				IAML		10 44 13.7	
	comp=N,123nm,0.1s						
KHET				IAML		10 44 13.8	
	comp=E,116nm,0.4s						
SONA	**Sohna**	**10.76**	**163**	*e*P	**Pn**	**10 42 21.1**	**-2.8**
SONA				*e*S	Sn	10 44 09.9	-13
SONA				IAML		10 44 14.3	
	comp=N,153nm,0.4s						
SONA				IAML		10 44 16.2	
	comp=E,258nm,0.6s						
WMQ	**Urumqi**	**11.86**	**60**	P	**Pn**	**10 42 36.9**	**-1.8**
WMQ				sP	P	10 43 11.8	+24
WMQ				S	**Sn**	**10 44 47.3**	**-1.8**
WMQ				pmax	pmax		
	comp=E,60nm,0.9s						
WMQ				pmax	pmax		
	comp=E,680nm,5.1s						
WMQ	**Urumqi**	**11.86**	**60**	*e*Pn	**Pn**	**10 42 38.9**	**+0.2**
WMQ	**Urumqi**	**11.86**	**60**	*e*P	**Pn**	**10 42 38.9**	**+0.2**
GEYT	**Alibeck**	**12.13**	**272**	P	**Pn**	**10 42 38.3**	**-4.0**
	comp=E,12nm,0.3s,baz=97,slow=10.0,SNR=34						
GEYT				S	Sn	10 44 47.2	-8.4
	comp=E,5.6nm,0.3s,baz=115,slow=14,SNR=5.2						
GEYT				LR	LR	10 47 52.9	
	comp=E,24nm,19.3s,baz=355,slow=39						
GYA0B	**ALIBECK ARRAY**	**12.13**	**272**	*e*Pn	**Pn**	**10 42 38.3**	**-4.0**
GYA0B	**ALIBECK ARRAY**	**12.13**	**272**	⇑P	Pn	10 42 37.9	-4.4
	comp=E,13nm,0.4s						
GYA0B				⇓S	Sn	10 44 44.6	-11
	comp=E,67nm,0.7s						
KURBB	**Kurchatov Arra**	**12.51**	**15**	P	**Pn**	**10 42 44.3**	**-2.9**
	comp=E,0.6nm,0.3s,baz=207,slow=13,SNR=54						
KURBB	**Kurchatov Arra**	**12.51**	**15**	⇓P	**Pn**	**10 42 44.0**	**-3.1**
	comp=E,22nm,0.8s						
KURK	**Kurchatov**	**12.62**	**15**	*e*Pn	**Pn**	**10 42 44.3**	**-4.3**
KURK				*e*Pn	P	10 42 45.6	-10
KURK	**Kurchatov**	**12.62**	**15**	⇓P	**Pn**	**10 42 45.4**	**-3.1**
	comp=E,17nm,0.7s						
KURK	**Kurchatov**	**12.62**	**15**	*d* iP	**Pn**	**10 42 45.5**	**-3.1**
KURK				pmax	pmax		
	comp=Z,12nm,0.8s						
PYUN	**Piuthan**	**13.13**	**140**	*e*P	Pn	10 42 51.1	-4.6
	comp=Z,195nm,0.3s						
DANN	**Dangsing**	**13.33**	**137**	*e*P	Pn	10 42 53.2	-5.1
	comp=Z,424nm,0.4s						
KOLN	**Koldanda**	**13.71**	**139**	*e*P	Pn	10 42 58.7	-4.5
AB31	**Akbulak array**	**14.42**	**322**	⇑P	**Pn**	**10 43 08.0**	**-4.0**
	comp=Z,25nm,0.5s,baz=128,slow=13,SNR=532						
AB31	**Akbulak array**	**14.42**	**322**	*e*P	**Pn**	**10 43 08.0**	**-4.0**
AB31				pmax	pmax		
	comp=Z,25nm,0.5s						
ABKAR	**Akbulak array**	**14.42**	**322**	*e*Pn	**Pn**	**10 43 08.9**	**-3.1**
BVA0	**Borovoye Array**	**14.57**	**352**	P	**Pn**	**10 43 11.0**	**-2.9**
	comp=Z,20nm,0.8s,baz=159,slow=13,SNR=336						
KKN	**Kakani**	**14.60**	**134**	*e*P	Pn	10 43 09.3	-5.4
BRVK	**Borovoye**	**14.61**	**352**	*e*Pn	**Pn**	**10 43 12.3**	**-2.1**
BRVK	**Borovoye**	**14.61**	**352**	*c* iP	**Pn**	**10 43 12.3**	**-2.1**
BRVK				pmax	pmax		
	comp=Z,26nm,0.8s						
DMN	**Daman**	**14.64**	**135**	*e*P	Pn	10 43 10.4	-4.9
PKI	**Pulchoki**	**14.84**	**134**	*e*P	Pn	10 43 13.0	-4.8
GUN	**Gumba**	**14.85**	**132**	*e*P	**Pn**	**10 43 13.7**	**-4.3**
	comp=Z,103nm,0.3s						
DGZ	**Jazzator, Alta**	**14.88**	**37**	⇑*i*P	**Pn**	**10 43 17.5**	**-0.5**
DGZ				pmax	pmax		
	comp=Z,7.0nm,0.6s						
JIRN	**Jiri**	**15.22**	**132**	*e*P	**Pn**	**10 43 18.0**	**-4.7**
	comp=Z,389nm,0.3s						
BHJ	**Bhuj**	**15.67**	**193**	*e*P	**Pn**	**10 43 27.4**	**-0.6**
BHPL	**Bhopal**	**15.69**	**167**	*ex*	**Pn**	**10 43 26.0**	**-2.3**
BHPL				*ex*	x	10 46 05.9	
RAMN	**Ramite**	**15.99**	**133**	*e*P	**Pn**	**10 43 27.4**	**-4.8**
	comp=Z,119nm,0.3s						
AKTO	**Aktyubinsk**	**16.14**	**322**	P	**Pn**	**10 43 31.9**	**-1.7**
	comp=Z,3.9nm,0.3s,baz=122,slow=12,SNR=68						
AKTO				S	Sn	10 46 20

GNI	**Garni**	**22.26**	**283**	*ce*	P		**P**	**10 44 44.7**	**+3.0**
GNI					pmax		pmax		
	comp=Z,215nm,1.0s								
ZEI	**Tsey**	**22.78**	**290**	*e*	P		**P**	**10 44 48.0**	**+1.0**
ZEI					pmax		pmax		
	comp=Z,7.0nm,0.6s								
NCK	**Nalchik**	**23.02**	**292**	*i*	P		**P**	**10 44 49.4**	**+0.3**
NCK					pmax		pmax		
	comp=Z,17nm,0.9s								
GOA	**Goa**	**23.04**	**179**	*e*	P		**P**	**10 44 50.5**	**+1.0**
MOY	**Mondy**	**23.19**	**47**	*e*	P		**P**	**10 44 54.5**	**+3.7**
KBZ	**Khabaz**	**23.53**	**292**		P		**P**	**10 44 55.6**	**+1.8**
	comp=Z,0.7nm,0.5s,baz=102,slow=8.4,SNR=4.0								
NEY	**Neytrino**	**23.65**	**291**	*i*	P		**P**	**10 44 57.4**	**+2.3**
NEY					pmax		pmax		
	comp=Z,2.0nm,0.6s								
KVAR	**Kislovodsk Arr**	**23.69**	**293**		P		**P**	**10 44 57.5**	**+2.2**
	comp=Z,3.2nm,0.3s,baz=79,slow=8.1,SNR=2.8								
KIV	**Kislovodsk**	**23.70**	**293**	*e*	P		**P**	**10 44 57.2**	**+1.8**
	comp=Z,18nm,0.8s								
KIV	**Kislovodsk**	**23.70**	**293**	*e*	P		**P**	**10 44 57.7**	**+2.3**
KIV					eS		**S**	**10 49 00.1**	**-2.7**
KIV					pmax		pmax		
	comp=Z,13nm,1.0s								
ZAK	**Zakamensk**	**24.09**	**51**	*e*	P		**P**	**10 45 00.9**	**+2.0**
ZAK					pmax		pmax		
	comp=Z,5.0nm,1.0s								
LZH	**Lanzhou**	**24.18**	**87**	⇑	P		**P**	**10 45 02.1**	**+2.2**
LZH					pP		pP	10 45 27.0	+3.8
LZH					sP		sP	10 45 40.3	+4.1
LZH					pmax		pmax		
	comp=Z,35nm,1.0s								
LZH					pmax		pmax		
	comp=Z,93nm,4.7s								
SIRT	**Sirnak**	**24.45**	**277**	*e*	P		**P**	**10 45 03.3**	**+1.0**
	comp=Z,33nm,0.7s								
SONA0	**Songino Array**	**25.50**	**58**	*e*	P		**P**	**10 45 13.8**	**+2.0**
SONM	**Songino Array**	**25.50**	**58**		P		**P**	**10 45 13.8**	**+2.1**
	comp=Z,3.7nm,0.8s,baz=257,slow=10,SNR=16								
SONM	**Songino Array**	**25.50**	**58**		P		**P**	**10 45 13.8**	**+2.1**
SONM					pmax		pmax		
	comp=Z,3.0nm,0.8s								
SONA1	**Songino Array**	**25.50**	**58**	*e*	P		**P**	**10 45 13.5**	**+1.7**
VRH	**Novokhopyorsk**	**25.58**	**310**	*e*	P		**P**	**10 45 11.3**	**-0.9**
VRH					pmax		pmax		
	comp=Z,10.0nm,0.4s								
CD2	**Chengdu**	**25.92**	**98**	*e*	P		**P**	**10 45 15.0**	**-0.6**
CD2					pmax		pmax		
	comp=Z,10.0nm,0.5s								
CD2					pmax		pmax		
	comp=Z,140nm,4.8s								
ULN	**Ulaanbaatar**	**25.94**	**58**	*e*	P		**P**	**10 45 17.0**	**+1.2**
	comp=Z,2.7nm,0.9s								
ULN	**Ulaanbaatar**	**25.94**	**58**	*ce*	P		**P**	**10 45 16.9**	**+1.2**
ULN					pmax		pmax		
	comp=Z,1.0nm,0.4s								
VSR	**Storozhevoye**	**27.13**	**309**	*i*	P		**P**	**10 45 25.6**	**-0.6**
VSR					pmax		pmax		
	comp=Z,10.0nm,0.5s								
LPSR	**Galich'ya Gora**	**27.64**	**312**	*e*	P		**P**	**10 45 30.2**	**-0.5**
LPSR					pmax		pmax		
	comp=Z,10.0nm,0.7s								
KMI	**Kunming**	**28.09**	**110**		P		**P**	**10 45 36.9**	**+1.6**
KMI					pmax		pmax		
	comp=Z,8.0nm,0.5s								
KMI					pmax		pmax		
	comp=Z,210nm,5.1s								
PRGR	**Permogore**	**28.75**	**332**	*e*	P		**P**	**10 45 38.3**	**-2.1**
PRGR					pmax		pmax		
	comp=Z,23nm,0.7s								
XAN	**Xi'an**	**28.77**	**88**		P		**P**	**10 45 42.1**	**+1.1**
XAN					pmax		pmax		
	comp=Z,10.0nm,0.6s								
HHC	**Hu-ho-hao-te**	**29.19**	**73**	*e*	P		**P**	**10 45 46.3**	**+1.5**
HHC					pmax		pmax		
	comp=Z,11nm,0.6s								
HHC					pmax		pmax		
	comp=Z,130nm,5.7s								
OBN	**Obninsk**	**29.73**	**316**	⇑	*e*	P		**P**	**10 45 49.3**	**+0.1**
OBN					*e*				10 46 45.6	
OBN					*e*	SS		SS	10 52 23.5	-24
OBN					pmax		pmax			
	comp=Z,6.0nm,0.7s									
CMAR	**Chiang Mai Arr**	**29.87**	**125**		P		**P**	**10 45 52.2**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=318,slow=8.9,SNR=5.3									
KLMR	**Klimovskoe**	**30.69**	**328**	*e*	P		**P**	**10 45 57.1**	**-0.5**
KLMR					pmax		pmax			
	comp=Z,6.0nm,0.6s									
KLMR	**Klimovskoe**	**30.69**	**328**	*e*	P		**P**	**10 45 57.1**	**-0.5**
KLMR					AMP			10 45 58.8		
	comp=Z,6.0nm,0.6s									
BR101	**Keskin Array S**	**30.77**	**285**	*e*	P		**P**	**10 46 00.2**	**+1.5**
BR131	**Keskin Array S**	**30.77**	**285**	*e*	P		**P**	**10 45 59.8**	**+1.0**
	comp=Z,3.7nm,0.9s									
BR131					*e*	pP		**pP**	**10 46 26.1**	**+3.1**
BRTR	**Keskin Array B**	**30.77**	**285**		P		**P**	**10 46 00.2**	**+1.5**
	comp=Z,2.1nm,0.8s,baz=88,slow=7.4,SNR=14									
BRTR	**Keskin Array B**	**30.77**	**285**	*i*	P		**P**	**10 46 00.9**	**+2.1**
BRTR					pmax		pmax			
	comp=Z,2.0nm,0.8s									
BOD	**Bodaibo**	**32.44**	**40**	*e*	P		**P**	**10 46 14.2**	**+1.2**
BOD					pmax		pmax			
	comp=Z,8.0nm,1.6s									
PBKT	**Sadao Pong**	**32.56**	**125**	*e*	P		**P**	**10 46 12.5**	**-2.0**
	comp=Z,3.6nm,0.7s									
PBKT	**Sadao Pong**	**32.56**	**125**		P		**P**	**10 46 17.5**	**+3.0**
	comp=Z,5.9nm,0.8s									
AKASG	**Malin Array Be**	**33.25**	**306**		P		**P**	**10 46 20.6**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=70,slow=7.2,SNR=11									
AKASG	**Malin Array Be**	**33.25**	**306**	*i*	P		**P**	**10 46 20.8**	**+0.6**
AKASG					pmax		pmax			
	comp=Z,2.0nm,0.3s									
AKBB	**Malin Array Si**	**33.25**	**306**	*e*	P		**P**	**10 46 20.5**	**+0.3**
	comp=Z,4.7nm,0.4s									
KIEV	**Kiev**	**33.26**	**306**	*e*	P		**P**	**10 46 20.0**	**-0.2**
	comp=Z,4.2nm,0.5s									
KIEV	**Kiev**	**33.26**	**306**	⇑	*i*	P	**P**	**10 46 20.1**	**-0.2**
KIEV	**Kiev**	**33.26**	**306**	*i*	P		**P**	**10 46 20.5**	**+0.2**
KIEV					pmax		pmax			
	comp=Z,5.0nm,0.4s									
AK11	**Malin Array Si**	**33.29**	**306**	*e*	P		**P**	**10 46 21.2**	**+0.7**
SKNT	**Sakolnakorn**	**34.26**	**120**		P		**P**	**10 46 30.0**	**+0.8**
	comp=Z,7.4nm,0.8s									
VRI	**Vrincioaia**	**34.98**	**297**	⇑	*i*	P	**P**	**10 46 38.4**	**+3.2**
VRI	**Vrincioaia**	**34.98**	**297**	⇑	P		**P**	**10 46 38.4**	**+3.2**
PLOR	**Plostina**	**35.03**	**297**	⇑	*i*	P	**P**	**10 46 38.5**	**+2.8**
PLOR	**Plostina**	**35.03**	**297**	⇑	P		**P**	**10 46 38.5**	**+2.8**
MLR	**Muntele Rosu**	**35.56**	**297**		LR		LR	11 03 05.7	
	comp=Z,38nm,19.7s,baz=225,slow=39									
MLR	**Muntele Rosu**	**35.56**	**297**	*e*	P		**P**	**10 46 43.0**	**+2.7**
	comp=Z,5.8nm,0.8s									
MLR	**Muntele Rosu**	**35.56**	**297**	⇑	*i*	P	**P**	**10 46 43.0**	**+2.7**
MLR	**Muntele Rosu**	**35.56**	**297**	⇑	P		**P**	**10 46 43.0**	**+2.7**
BURAR	**Bucovina Array**	**35.88**	**300**	⇓	*i*	P	**P**	**10 46 44.6**	**+1.6**
BURAR	**Bucovina Array**	**35.88**	**300**	⇓	P		**P**	**10 46 44.6**	**+1.6**
BUR04	**Bucovina Ar. S**	**35.88**	**300**	*e*	P		**P**	**10 46 41.9**	**-1.1**
BUR08	**Bucovina Ar. S**	**35.89**	**301**	*e*	P		**P**	**10 46 44.0**	**+0.9**
DOPR	**Dopca**	**35.90**	**298**	⇑	*i*	P	**P**	**10 46 45.5**	**+2.4**
ARR	**Arges**	**36.49**	**297**	⇑	*i*	P	**P**	**10 46 51.2**	**+3.0**
FIA1	**FINESS Array S**	**36.90**	**324**	*e*	P		**P**	**10 46 51.2**	**-0.1**
FIA1					*e*	P		**P**	**10 46 51.8**	**+0.4**
FIA0	**FINESS Array S**	**36.90**	**324**	*e*	P		**P**	**10 46 52.3**	**+1.0**
FIA0	**FINESS Array S**	**36.90**	**324**	*e*	P		**P**	**10 46 52.3**	**+1.0**
FINES	**FINESS Array B**	**36.90**	**324**		P		**P**	**10 46 52.3**	**+1.0**
	comp=Z,5.6nm,0.3s,baz=112,slow=8.9,SNR=56									
NJ2	**Nanjing**	**37.26**	**86**	*e*	P		**P**	**10 46 54.8**	**+0.1**
NJ2					pmax		pmax			
	comp=Z,15nm,0.6s									
TRPA	**Tarpa**	**37.64**	**302**	⇑	*i*	P	**P**	**10 47 00.9**	**+3.1**
CN2	**Changchun**	**38.87**	**65**	*e*	P		**P**	**10 47 10.3**	**+2.1**
ARA0	**ARCESS Array S**	**39.99**	**336**	*e*	P		**P**	**10 47 18.2**	**+1.0**
ARCES	**ARCESS Array B**	**39.99**	**336**		P		**P**	**10 47 18.2**	**+1.0**
	comp=Z,16nm,0.5s,baz=111,slow=8.9,SNR=170									
DPC	**Dobruska-Polom**	**41.48**	**306**	*e*	P		**P**	**10 47 32.0**	**+2.3**
DPC					*ex*		x	10 47 38.4		
DPC					*e*	pP	**pP**	**10 47 54.4**	**-0.4**
DPC	**Dobruska-Polom**	**41.48**	**306**	*e*	P		**P**	**10 47 32.0**	**+2.3**
DPC					*e*			10 47 54.4		
KLR	**Kul'dur**	**42.28**	**56**	*i*	P		**P**	**10 47 37.1**	**+0.9**
KS01	**Wonju Array Si**	**42.30**	**74**	*e*	P		**P**	**10 47 37.5**	**+1.0**
KSAR	**Wonju Array Be**	**42.30**	**74**		P		**P**	**10 47 37.1**	**+0.7**
KSAR	**Wonju Array Be**	**42.30**	**74**		P		**P**	**10 47 37.2**	**+0.7**
KSRS	**Korea Array**	**42.33**	**74**		P		**P**	**10 47 37.1**	**+0.5**
	comp=Z,3.4nm,1.0s,baz=286,slow=6.4,SNR=4.8									
KSRS					LR		LR	11 07 37.4		

	comp=Z,20nm,19.3s,baz=165,slow=39								
BRG	**Berggiesshubel**	**42.93**	**307**	*e*	P		**P**	**10 47 42.9**	**+1.5**
	comp=Z,11nm,1.4s								
BRG					*e*	pP	**pP**	**10 48 08.1**	**+1.6**
	comp=Z,9.2nm,1.1s								
BRG					*e*			10 49 31.6	
	comp=Z,9.0nm,1.2s								
BRG	**Berggiesshubel**	**42.93**	**307**	*e*	P		**P**	**10 47 42.9**	**+1.5**
BRG					*e*	*PP	**pP**	**10 48 08.1**	**+1.6**
BRG					*e*			10 49 31.6	
BRG					pmax		pmax		
	comp=Z,11nm,1.4s								
BRG					pmax		pmax		
	comp=Z,9.0nm,1.1s								
BRG					pmax		pmax		
	comp=Z,9.0nm,1.2s								
TIXI	**Tiksi**	**43.05**	**22**	*e*	P		**P**	**10 47 42.0**	**0.0**
	comp=Z,10.0nm,1.1s								
TIXI	**Tiksi**	**43.05**	**22**	*ce*	P		**P**	**10 47 41.4**	**-0.7**
TIXI					pmax		pmax		
	comp=Z,5.0nm,0.9s								
GERES	**GERESS Array B**	**43.38**	**304**		P		**P**	**10 47 46.8**	**+1.6**
	comp=Z,1.0nm,0.5s,baz=58,slow=8.7,SNR=8.5								
GEA0	**GERESS Array S**	**43.38**	**304**	*e*	P		**P**	**10 47 44.9**	**-0.3**
GEA0					*e*	pP	**pP**	**10 48 11.2**	**+0.8**
KHC	**Kasperske Hory**	**43.41**	**304**	*e*	P		**P**	**10 47 47.3**	**+1.9**
KHC					*e*	pP	**pP**	**10 48 13.2**	**+2.6**
KHC	**Kasperske Hory**	**43.41**	**304**	*e*	P		**P**	**10 47 47.3**	**+1.9**
KHC					*e*			10 48 13.2	
CLL	**Collm**	**43.46**	**307**	*e*	P		**P**	**10 47 46.0**	**+0.4**
NC405	**NORSAR Array S**	**43.69**	**322**	*e*	P		**P**	**10 47 45.7**	**-1.7**
	comp=Z,11nm,1.0s								
NC303	**NORSAR Array S**	**43.86**	**322**	*e*	P		**P**	**10 47 49.8**	**+1.1**
NB201	**NORSAR Array S**	**43.89**	**322**	*e*	P		**P**	**10 47 49.2**	**+0.2**
	comp=Z,6.0nm,0.8s								
NB2	**NORSAR Subarra**	**43.93**	**322**		P		**P**	**10 47 49.6**	**+0.3**
	comp=Z,3.8nm,0.5s,baz=91,slow=7.9								
NB200	**NORSAR Array S**	**43.93**	**322**	*e*	P		**P**	**10 47 49.6**	**+0.3**
NOA	**NORSAR Array B**	**43.93**	**322**		P		**P**	**10 47 49.6**	**+0.3**
	comp=Z,3.7nm,0.5s,baz=92,slow=7.6,SNR=36								
NOA					LR		LR	11 08 51.9	
	comp=Z,34nm,21.5s,baz=290,slow=40								
NOA	**NORSAR Array B**	**43.93**	**322**		P		**P**	**10 47 49.6**	**+0.3**
NOA					pmax		pmax		
	comp=Z,6.0nm,0.6s								
NOA					MLR		MLR		
	comp=Z,34nm,21.5s								
NC204	**NORSAR Array S**	**44.15**	**322**	*e*	P		**P**	**10 47 51.7**	**+0.6**
SPITS	**Spitsbergen Ar**	**45.90**	**346**		P		**P**	**10 48 06.2**	**+1.5**
	comp=Z,4.5nm,0.6s,baz=109,slow=15,SNR=16								
MAJO	**Matsushiro**	**50.34**	**71**	*e*	P		**P**	**10 48 39.9**	**+0.5**
MAJO	**Matsushiro**	**50.34**	**71**	*e*	P		**P**	**10 48 39.9**	**+0.5**
MJAR	**Matsushiro Arr**	**50.34**	**71**		P		**P**	**10 48 39.9**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=293,slow=8.9,SNR=5.3								
MA2	**Magadan**	**51.45**	**39**	*ce*	P		**P**	**10 48 46.3**	**-1.1**
MA2					pmax		pmax		
	comp=Z,9.0nm,2.5s								
ESK	**Eskdalemuir**	**52.20**	**315**	*i*	P		**P**	**10 48 56.7**	**+3.7**
DAG	**Danmarks Havn**	**53.27**	**343**	*i*	P		**P**	**10 49 01.4**	**+0.9**
	comp=Z,2.0nm,0.4s								
DAG	**Danmarks Havn**	**53.27**	**343**	*i*	P		**P**	**10 49 01.4**	**+0.9**
DAG					pmax		pmax		
	comp=Z,2.0nm,0.4s								
ESDC	**Sonseca Array**	**58.25**	**298**		P		**P**	**10 49 37.4**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=57,slow=7.3,SNR=6.0								
TOA1	**Torodi Ar. Sit**	**67.76**	**269**	*e*	P		**P**	**10 50 39.0**	**-0.9**
TOA0	**Torodi Ar. Sit**	**67.76**	**269**	*e*	P		**P**	**10 50 38.4**	**-1.5**
TORD	**Torodi Ar. Bea**	**67.76**	**269**		P		**P**	**10 50 39.0**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=43,slow=5.8,SNR=27								
INK	**Inuvik**	**71.48**	**10**		P		**P**	**10 51 02.9**	**+1.0**
	comp=Z,8.3nm,0.5s,baz=348,slow=6.3,SNR=61								
INK	**Inuvik**	**71.48**	**10**	*e*	P		**P**	**10 51 01.9**	**0.0**
	comp=Z,8.6nm,0.7s								
INK	**Inuvik**	**71.48**	**10**	*e*	P		**P**	**10 51 01.9**	**0.0**
INK					pmax		pmax		
	comp=Z,9.0nm,0.7s								
IL1	**Eielson Array**	**72.18**	**17**	*e*	P		**P**	**10 51 05.9**	**-0.3**
ILAR	**Eielson Array**	**72.18**	**17**		P		**P**	**10 51 06.4**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=318,slow=4.8,SNR=19								
YKA	**Yellowknife Ar**	**79.02**	**4**		P		**P**	**10 51 46.3**	**+1.1**
	comp=Z,3.3nm,0.4s,baz=348,slow=5.7,SNR=98								
SCHQ	**Schefferville**	**80.91**	**338**		P		**P**	**10 51 55.7**	**+0.1**
	comp=Z,3.3nm,0.9s,baz=352,slow=7.1,SNR=2.8								
WR1	**Warramunga Arr**	**81.45**	**124**	*e*	P		**P**	**10 51 58.6**	**-0.3**
	comp=Z,6.6nm,0.8s								
WRA	**Warramunga Arr**	**81.45**	**124**		P		**P**	**10 51 58.6**	**-0.3**
	comp=Z,3.9nm,0.7s,baz=326,slow=5.1,SNR=46								
WRA	**Warramunga Arr**	**81.45**	**124**	*i*	P		**P**	**10 51 59.0**	**+0.1**
WRA					pmax		pmax		
	comp=Z,4.0nm,0.7s								
ASAR	**Alice Springs**	**83.87**	**127**		P		**P**	**10 52 11.5**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=318,slow=4.7,SNR=22								
FFC	**Flin Flon**	**86.94**	**357**	*i*	P		**P**	**10 52 28.1**	**+1.9**
BOZ	**Bozeman (W)**	**96.03**	**4**	*e*	P		**P**	**10 53 06.3**	**-2.6**
	comp=Z,7.5nm,0.6s								
BOZ	**Bozeman (W)**	**96.03**	**4**	*e*	P		**P**	**10 53 06.3**	**-2.6**
BOZ					pmax		pmax		
	comp=Z,8.0nm,0.6s								

*IDC **24** 11:00:31.2±1.3, 42.°83N×46.°16E, h35km±15km, mb3.4/10, mb1 3.7/15, mb1mx3.5/38, mbtmp3.7/15, ML3.8/5, Error ellipse: s-maj=9.4km s-min=8.3km az=13.0*

*ISCJB **24** 11:00:33.9±0.2, 42.°85N±0.°02×46.°18E±0.°02, h86km±2km, mb3.4/10, Error ellipse: s-maj=3.3km s-min=1.8km az=31.1*

*NEIC **24** 11:00:33.9±0.5, 42.°86N×46.°27E, h68km±6km, mb4.0/1, Error ellipse: s-maj=7.4km s-min=5.1km az=178.0*

*TIF **24** 11:00:33.8, 42.°88N×46.°14E, h65km±2km*

*NORS **24** 11:00:34.7±0.0, 42.°79N×46.°17E, h53km, MPVA4.6*

*DRS **24** 11:00:34.8±0.0, 42.°99N×45.°64E, h27km, ML3.8/3*

*MOS **24** 11:00:34.3±0.0, 42.°78N×46.°08E, h30km, MPVA4.5*

*AZER **24** 11:00:35.5±0.1, 42.°60N×46.°17E, h38km, ml3.5/20, Error ellipse: s-maj=10.0km s-min=1.6km az=349.0*

*NNC **24** 11:00:40.0±9.6, 42.°58N×48.°21E, h0km, mb4.1, Error ellipse: s-maj=117.6km s-min=73.2km az=109.0*

ISC 24 11:00:34.0±0.7, 42.°81N±0.°03×46.°14E±0.°02, h70km±6km, n149, σ1s93/167, mb3.5/10, 39C-32D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVE	**Vedeno**	**0.15**	**356**	*e*	P	11 00 45.1	+0.6
DVE				*i*	S	**11 00 51.8**	**-0.4**
DVE				pmax	pmax		
	comp=Z,2μm,0.3s						
DVE	**Vedeno**	**0.15**	**356**	*i*	Pg	11 00 45.2	+0.7
DVE				*e*	Sg	11 00 53.1	+0.9
BTLR	**Botlikh**	**0.15**	**157**	⇓	*e*	P	11 00 44.9	+0.4
BTLR					*i*		11 00 52.4	
BTLR				pmax	pmax			
	comp=Z,1μm,0.7s						
BTLR				smax	smax		
	comp=N,2μm,0.4s						
BTLR	**Botlikh**	**0.15**	**157**	⇓	*e*	Pg	Pn	11 00 45.0	+0.5
	comp=N,1μm,0.7s						
BTLR				⇑	*i*	Sg	Sn	11 00 52.5	+0.3
	comp=N,2μm,0.4s						
DLMR	**Dylym**	**0.45**	**54**	⇓	*i*	P	**Pn**	**11 00 46.0**	**-0.3**
DLMR					*e*	S	**Sn**	**11 00 55.0**	**-0.4**
DLMR				pmax	pmax		
	comp=Z,267nm,0.2s						
DLMR	**Dylym**	**0.45**	**54**	*i*	Pg	P	**Pn**	**11 00 46.0**	**-0.3**
DLMR				*e*	Sg	S	**Sn**	**11 00 55.0**	**-0.4**
GROC	**Groznyy**	**0.47**	**327**	*e*	P		Pn	11 00 48.2	+1.7
GROC				*e*				11 00 56.5	
GROC				pmax	pmax		
	comp=Z,549nm,0.2s						
GROC				smax	smax		
	comp=N,8μm,0.3s						
GROC	**Groznyy**	**0.47**	**327**	*i*	Pg		Pn	11 00 48.4	+1.9
GROC				*e*	Sg		Sn	11 00 59.0	+3.3
UNCR	**Uncukul**	**0.49**	**101**	*e*	P		Pn	11 00 47.7	+1.0
UNCR				*e*	S		**Sn**	**11 00 57.5**	**+1.4**
UNCR				pmax	pmax		
	comp=Z,411nm,0.3s						
UNCR	**Uncukul**	**0.49**	**101**	*e*	Pg		Pn	11 00 47.7	+1.0
UNCR				*e*	Sg		**Sn**	**11 00 57.5**	**+1.4**
XNZR	**Khunzakh**	**0.49**	**122**	⇓	*e*	P	Pn	11 00 47.9	+1.0
XNZR				*e*				11 00 58.3	
XNZR	**Khunzakh**	**0.49**	**122**	*e*	Pg		Pn	11 00 48.1	+1.2
XNZR				*e*	Sg		**Sn**	**11 00 57.5**	**+1.1**
DBC	**Dubki**	**0.55**	**67**	⇓	*i*	P	**Pn**	**11 00 47.7**	**+0.4**
DBC				*e*	S		**Sn**	**11 00 57.6**	**+0.4**
DBC	**Dubki**	**0.55**	**67**	*i*	Pg		**Pn**	**11 00 47.7**	**+0.4**
DBC				*i*	Pg			11 00 47.8	
DBC				*i*	Sg		**Sn**	**11 00 57.5**	**+0.4**
DBC				*e*	Sg		**Sn**	**11 00 57.6**	**+0.4**
KRNR	**Karanay**	**0.56**	**88**	*e*	P		**Pn**	**11 00 48.0**	**+0.5**
KRNR				*e*	S		**Sn**	**11 00 58.0**	**+0.5**
KRNR				pmax	pmax		
	comp=Z,155nm,0.2s						
KRNR	**Karanay**	**0.56**	**88**	*e*	Pg		**Pn**	**11 00 48.0**	**+0.5**
KRNR				*e*	Sg		**Sn**	**11 00 58.0**	**+0.5**
ARKR	**Arakani**	**0.66**	**108**	⇑	*i*	P	Pn	11 00 49.5	+1.0
ARKR				*e*	S		**Sn**	**11 01 00.5**	**+1.3**
ARKR				pmax	pmax		
	comp=Z,696nm,0.2s						
ARKR	**Arakani**	**0.66**	**108**	*i*	Pg		Pn	11 00 49.5	+1.0
ARKR				*e*	Sg		**Sn**	**11 01 00.5**	**+1.3**
BUJR	**Buynaksk**	**0.71**	**88**	*e*	P		Pn	11 00 51.0	+2.0
BUJR					S		**Sn**	**11 01 03.5**	**+3.4**
BUJR	**Buynaksk**	**0.71**	**88**	*e*	Pg		Pn	11 00 51.0	+2.0
BUJR				*e*	Sg		**Sn**	**11 01 03.5**	**+3.4**
GNBR	**Gunib**	**0.74**	**124**	⇑	*i*	P	Pn	11 00 50.5	+1.2
GNBR				*e*	S		**Sn**	**11 01 02.2**	**+1.5**
GNBR				pmax	pmax		
	comp=Z,1μm,0.5s						
GNBR	**Gunib**	**0.74**	**124**	⇑	*e*	Pg	Pn	11 00 50.5	+1.2
	comp=Z,1μm,0.6s						
GNBR				⇑	*e*	Sg	**Sn**	**11 01 02.2**	**+1.5**
	comp=Z,7μm,0.2s						
KMGR	**Komgaron**	**0.97**	**285**	*e*	P		Pn	11 00 54.5	+2.4
KMGR				*e*	S		Sn	11 01 09.6	+4.0
KMGR	**Komgaron**	**0.97**	**285**	*e*	Pg		Pn	11 00 54.5	+2.4
KMGR				*e*	Sg		**Sn**	**11 01 09.2**	**+3.5**
LGD	**Lagodekhi**	**0.97**	**176**		P		Pn	11 00 53.8	+1.6
LGD					S		Sn	11 01 09.0	+3.3
LGD	**Lagodekhi**	**0.97**	**176**	*e*	P		Pn	11 00 53.8	+1.6
LGD				*e*	S		Sn	11 01 09.0	+3.3
LGD	**Lagodekhi**	**0.97**	**176**	*e*	Pg		Pn	11 00 53.8	+1.6
LGD				*e*	Sg		Sn	11 01 09.0	+3.3
KMKR	**Kumukh**	**0.98**	**133**	⇑	*i*	P	Pn	11 00 54.0	+1.6
KMKR				*e*	S		**Sn**	**11 01 08.0**	**+1.9**
KMKR				pmax	pmax		
	comp=Z,496nm,0.3s						
KMKR	**Kumukh**	**0.98**	**133**	*i*	Pg		Pn	11 00 54.0	+1.6
KMKR				*e*	Sg		**Sn**	**11 01 08.0**	**+1.9**
MAK	**Makhachkala**	**1.01**	**81**	*e*	P		Pn	11 00 54.7	+2.1
MAK				*e*				11 01 11.0	
MAK				pmax	pmax		
	comp=Z,420nm,0.2s						
MAK				smax	smax		
	comp=N,4μm,0.4s						
MAK				smax	smax		
	comp=N,5μm,0.4s						
MAK	**Makhachkala**	**1.01**	**81**	*e*	Pg		Pn	11 00 55.2	+2.6
MAK				*e*	Sg		**Sn**	**11 01 11.2**	**+4.7**
VLKR	**Vladikavkaz**	**1.10**	**283**	*e*	P		Pn	11 00 56.2	+2.4
VLKR				*e*	S		**Sn**	**11 01 12.3**	**+3.7**
VLKR	**Vladikavkaz**	**1.10**	**283**	*e*	Pg		Pn	11 00 56.0	+2.2
VLKR				*e*	Sg		**Sn**	**11 01 12.6**	**+4.0**
SGKR	**Sergokala**	**1.17**	**107**	*e*	P		Pn	11 00 57.0	+2.3
SGKR				*i*	S		**Sn**	**11 01 14.5**	**+4.4**
SGKR				pmax	pmax		
	comp=Z,1μm,0.3s						
SGKR	**Sergokala**	**1.17**	**107**	*e*	Pg		Pn	11 00 57.0	+2.3
SGKR				*i*	Sg		**Sn**	**11 01 14.5**	**+4.4**
ZKTA

KBTC eSg Sn 11 01 36.2 +0.7
QBL Gabala 2.25 145 P Pn 11 01 10.6 +1.5
SNR=4.2
QBL ⇑S Sn **11 01 38.7 +2.9**
QUBA Quba, Azerbaij 2.27 129 ⇓P Pn 11 01 11.1 +1.8
SNR=5.9
QUBA ⇓S Sn **11 01 38.2 +1.8**
BGD Bogdanovka 2.44 232 P Pn 11 01 16.4 +4.6
BGD S Sn **11 01 44.6 +3.9**
IML Ismayilli 2.52 142 ⇑P Pn **11 01 13.8 +1.0**
IML ⇓S Sn **11 01 44.3 +1.8**
KBZ Khabaz 2.54 292 Pn Pn **11 01 13.5 +0.6**
comp=Z,6.5nm,0.3s,baz=111,slow=3.3,SNR=262
KBZ Sn Sn **11 01 40.8 -1.9**
comp=Z,29nm,0.3s,baz=116,slow=15,SNR=18
NEY Neytrino 2.55 281 *i* P Pn **11 01 14.5 +1.4**
NEY *i* S Sn **11 01 44.0 +0.8**
NEY Neytrino 2.55 281 *e*Pn Pn **11 01 14.3 +1.2**
NEY *e*Sn Sn **11 01 44.8 +1.6**
PYA1 Pyatigorsk 2.55 301 ⇑*i*P Pn **11 01 13.9 +0.8**
PYA1 *e*S Sn **11 01 42.2 -0.8**
PYA1 Pyatigorsk 2.55 301 *i* Pn Pn **11 01 13.9 +0.8**
PYA1 *e*Sn Sn **11 01 42.1 -1.0**
BRDA Brd 2.66 163 ⇓P Pn 11 01 16.0 +1.5
BRDA ⇑S Sn **11 01 49.3 +3.7**
SIZA Siyzn 2.69 129 ⇑P Pn **11 01 16.4 +1.4**
SIZA ⇑S Sn **11 01 48.0 +1.5**
BEYR Belyy Ugol+ 2.71 298⇑*e*P Pn **11 01 16.0 +0.8**
BEYR *e*S Sn **11 01 46.0 -0.8**
BEYR Belyy Ugol+ 2.71 298 *e*Pn Pn **11 01 16.0 +0.8**
BEYR *e*Sn Sn **11 01 46.0 -0.8**
SHA1 Shidzhatmaz 2.71 291 *e*P Pn **11 01 16.2 +0.8**
SHA1 *e*S Sn **11 01 47.8 +0.6**
SHA1 Shidzhatmaz 2.71 291 *e*Pn Pn **11 01 15.9 +0.5**
SHA1 *e*Sn Sn **11 01 47.4 +0.2**
PQL Pirkuli 2.73 137 ⇓P Pn **11 01 16.8 +1.2**
SNR=21
PQL ⇑S Sn **11 01 49.7 +2.2**
KIV0 Kislovodsk Arr 2.76 296 *i* Pn Pn **11 01 16.7 +0.7**
KIV0 *e*Sn Sn **11 01 47.6 -0.7**
KVAR Kislovodsk Arr 2.76 296 Pn Pn **11 01 16.4 +0.4**
baz=90,slow=20,SNR=77
KVAR Sn Sn **11 01 47.4 -1.0**
baz=211,slow=12,SNR=46
KIV Kislovodsk 2.77 296 *e*Pn Pn **11 01 16.4 +0.4**
KIV *e*Sn Sn **11 01 47.1 -1.3**
KIV Kislovodsk 2.77 296⇑*i*P Pn **11 01 16.9 +0.8**
KIV *e*S Sn **11 01 47.7 -0.7**
ATGJ Altiaghaj 2.85 132 ⇑P Pn **11 01 18.7 +1.4**
SNR=4.8
ATGJ ⇓S Sn **11 01 51.2 +0.6**
GNI Garni 2.86 202 Pn Pn 11 01 18.8 +1.5
comp=Z,1.4nm,0.3s,baz=360,slow=19,SNR=4.3
GNI Pg 11 01 26.7
comp=Z,4.0nm,0.3s,baz=357,slow=8.3,SNR=10
GNI Sn Sn **11 01 52.0 +1.3**
comp=Z,4.2nm,0.3s,baz=218,slow=20,SNR=3.3
GNI Garni 2.86 202 *e*Pn Pn 11 01 19.9 +2.5
GNI *e*Sn Sn **11 01 52.0 +1.3**
ALER Alexandrovskoy 3.05 311 *i* Pn Pn **11 01 21.2 +1.4**
ALER *e*Sn Sn **11 01 56.0 +0.9**
GBS Qobustan 3.09 136 ⇑S Sn **11 01 59.2 +2.9**
GOF Gofitskoye 3.17 316 ⇓*i*P Pn **11 01 22.8 +1.3**
GOF *e*S Sn **11 01 58.6 +0.4**
GOF pmax pmax
comp=Z,160nm,0.2s
GOF smax smax
comp=E,360nm,0.2s
DOMR Dombai 3.35 280 *e*Pn Pn **11 01 25.2 +1.2**
DOMR *e*Sn Sn **11 02 04.4 +1.7**
ALIB Äli-Bayra 3.57 142 ⇓P Pn **11 01 28.1 +1.2**
ALIB ⇑S Sn **11 02 10.1 +2.3**
ARXR Arkhyz 3.64 284 *e*Pn Pn **11 01 26.6 -1.4**
ARXR *e*Sn Sn **11 02 09.2 -0.5**
DBAD Bademkaya 3.77 243 *i* P Pn 11 01 32.5 +2.8
GLBA Clilabad 3.95 154 ⇑P Pn **11 01 32.7 +0.7**
SNR=15
GLBA ⇓S Sn **11 02 16.5 -0.6**
LRK Lerik 4.48 157 ⇓P Pn **11 01 40.1 +0.5**
SNR=42
LRK ⇑S Sn **11 02 28.9 -1.6**
LKRN Lenkeran, Azer 4.56 153 P Pn **11 01 40.7 +0.3**
LKRN Lenkeran, Azer 4.56 153 ⇑P Pn **11 01 40.8 +0.3**
LKRN ⇑S Sn **11 02 31.5 -0.5**
ASTR Astara 4.70 154 ⇓P Pn **11 01 42.7 +0.3**
SNR=4.4
ASTR ⇑S Sn **11 02 34.6 -0.9**
GEYT Alibeck 10.35 114 Pn Pn **11 02 57.0 -2.7**
comp=E,1.1nm,0.3s,baz=313,slow=16,SNR=5.1
AKTO Aktyubinsk 11.16 43 Pn Pn **11 03 07.9 -2.6**
comp=E,0.8nm,0.3s,baz=234,slow=5.5,SNR=20
AKTO Sn Sn 11 05 06.0 -7.6
comp=E,0.9nm,0.3s,baz=81,slow=21,SNR=9.6
AKTO Aktyubinsk 11.16 43 ⇑Pn Pn **11 03 08.9 -1.7**
comp=E,2.2nm,0.5s
AKTO ⇓Sn Sn 11 05 06.8 -6.7
comp=E,3.5nm,0.4s
AB31 Akbulak array 11.55 51 ⇑Pn Pn **11 03 14.8 -1.0**
comp=E,0.9nm,0.3s,baz=240,slow=12
AB31 ⇓Sn Sn 11 05 13.6 -9.3
comp=E,17nm,0.8s,baz=231,slow=26
ABKAR Akbulak array 11.55 51 *e*Pn Pn **11 03 14.5 -1.3**
OBN Obninsk 13.81 336⇓*e*P Pn **11 03 46.8 +0.6**
OBN pmax pmax
comp=Z,3.0nm,0.8s
OBN MLR MLR
comp=Z,118nm,19.0s
AKSAG Malin Array Be 14.01 310 Pn Pn **11 03 45.8 -3.1**
baz=114,slow=11,SNR=20
ARU Arti 15.79 26 P Pn **11 04 15.9 +4.0**
ARU S Sn **11 07 10.9 +5.0**
KK31 Karatay Array 17.83 81 ⇑Pn Pn **11 04 33.3 -4.0**
comp=Z,2.2nm,0.7s,baz=285,slow=12,SNR=19
KKAR Karatay Array 17.83 81 *e*Pn Pn **11 04 36.3 -1.0**
KKAR Karatay Array 17.83 81 *e*P Pn **11 04 36.3 -1.0**
BRVK Borovoye 19.06 49 *e*P P **11 04 49.6 -0.8**
comp=Z,5.8nm,0.6s
BRVK Borovoye 19.06 49 ⇓Pn P **11 04 49.9 -0.6**
comp=Z,4.6nm,0.6s
BRVK Borovoye 19.06 49 *i* P P **11 04 51.7 +1.3**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
BVAR Borovoye Array 19.11 49 P P **11 04 50.5 -0.4**
comp=Z,0.9nm,0.3s,baz=264,slow=10.0,SNR=16
AAK Ala-Archa 20.80 81 P P **11 05 08.9 -0.7**
comp=Z,1.2nm,0.5s,baz=224,slow=1.0,SNR=5.0
AAK Ala-Archa 20.80 81 *e*P P **11 05 13.3 +3.8**
AAK pmax pmax
comp=Z,2.0nm,0.9s
FIA0 FINESS Array S 22.19 334 *e*P P **11 05 24.9 +0.8**
FIA0 FINESS Array S 22.19 334 *e*P P **11 05 24.9 +0.8**
FINES FINESS Array B 22.19 334 P P **11 05 24.8 +0.8**
comp=Z,1.2nm,0.5s,baz=147,slow=13,SNR=7.0
KURBB Kurchatov Arra 23.40 59 P P **11 05 36.4 -0.1**
comp=Z,1.6nm,0.6s,baz=268,slow=9.2,SNR=12
KURK Kurchatov 23.46 59 *e*P P **11 05 36.4 -0.7**
KURK Kurchatov 23.46 59 P P **11 05 36.4 -0.7**
KURK pmax pmax
comp=Z,2.0nm,0.6s
MK32 Makanchi Array 25.81 69 *e*P P **11 05 57.9 -0.5**
MKAR Makanchi Array 25.81 69 P P **11 05 57.9 -0.5**
comp=Z,0.2nm,0.5s,baz=269,slow=10,SNR=3.5
HFS Hagfors 26.23 323 P P **11 06 02.3 +0.2**
comp=Z,1.2nm,0.7s,baz=130,slow=13,SNR=2.7
ARA0 ARCESS Array S 28.83 345 *e*P P **11 06 25.1 -0.1**
ARCES ARCESS Array B 28.83 345 P P **11 06 25.1 -0.1**
comp=Z,2.6nm,1.0s,baz=153,slow=10,SNR=4.7
SONA0 Songino Array 41.73 62 *e*P P 11 08 15.2 -0.8
SONM Songino Array 41.73 62 P P 11 08 15.2 -0.8
comp=Z,0.3nm,0.6s,baz=298,slow=7.5,SNR=2.3
TOA1 Torodi Ar. St 48.33 246 *e*P P **11 09 08.2 -0.4**
TORD Torodi Ar. Bea 48.33 246 P P **11 09 08.2 -0.4**
comp=Z,0.1nm,0.3s,baz=39,slow=9.3,SNR=3.2
CMAR Chiang Mai Arr 50.55 102 P P **11 09 25.2 -0.3**
comp=Z,0.9nm,0.5s,baz=294,slow=6.6,SNR=5.1
YKA Yellowknife Ar 73.91 351 P P **11 12 00.7 -0.3**
comp=Z,0.2nm,0.5s,baz=8.9,slow=5.8,SNR=5.9

*ISCJB **24** 11:15:50.7±0.9,30.8S±0.2×59.7E±0.2,h10km,mb4.0/7, MS3.4/4,Error ellipse: s-maj=29.1km s-min=17.6km az=136.7*
*IDC **24** 11:15:50.9±1.1,30.75S×59.71E,h0km,mb4.0/7,*

mb1 4.1/8,mb1mx3.8/59,mbtmp4.0/8,ML4.3/1,MS3.3/5, Ms1 3.3/5,ms1mx3.0/43,Error ellipse: s-maj=36.7km s-min=25.3km az=71.0
ISC 24 11:15:52.4±1.0,30.8S±0.2×59.7E±0.2,h10km,n16, σ0s34/9,mb4.0/7,MS3.5/4,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.60**	**314**	Pn	**Pn**	**11 19 45.6**	**+0.1**
	1.2nm,0.3s,baz=121,slow=15,SNR=6.1						
OPO				Sn	Sn	11 22 35.4	-15
	0.4nm,0.3s,baz=78,slow=19,SNR=3.7						
OPO				LR	LR	11 25 06.4	
	comp=Z,84nm,19.6s,baz=92,slow=33						
BOSA	**Boshof**	**29.93**	**265**	LR	LR	11 31 08.2	
	comp=Z,45nm,20.2s,baz=209,slow=31						
H01W2	**Cape Leeuwin H**	**45.47**	**110**	T	T	12 12 44.4	
	baz=260,slow=75,SNR=6.9						
H01W3	**Cape Leeuwin H**	**45.48**	**110**	T	T	12 12 44.7	
	baz=260,slow=75,SNR=6.5						
H01W1	**Cape Leeuwin H**	**45.49**	**110**	T	T	12 12 45.7	
	baz=260,slow=75,SNR=8.3						
PSI	**Prapat**	**50.10**	**55**	LR	LR	11 42 48.7	
	comp=Z,36nm,18.7s,baz=98,slow=32						
QSPA	**South Pole Qui**	**59.42**	**180**	P	**P**	**11 25 55.1**	**+0.1**
	1.1nm,0.8s,baz=284,slow=1.9,SNR=6.8						
CMAR	**Chiang Mai Arr**	**61.78**	**43**	P	**P**	**11 26 11.8**	**+0.2**
	1.9nm,0.5s,baz=232,slow=7.3,SNR=15						
ASAR	**Alice Springs**	**65.30**	**104**	P	**P**	**11 26 35.0**	**0.0**
	0.7nm,0.7s,baz=240,slow=6.0,SNR=12						
WRA	**Warramunga Arr**	**67.23**	**100**	P	**P**	**11 26 47.3**	**0.0**
	0.9nm,0.6s,baz=243,slow=5.6,SNR=14						
DBIC	**Dimbokro**	**72.01**	**289**	LR	LR	11 55 58.1	
	comp=Z,31nm,21.8s,baz=304,slow=33						
MKAR	**Makanchi Array**	**79.83**	**16**	P	**P**	**11 28 00.4**	**-0.4**
	0.6nm,0.8s,baz=220,slow=5.6,SNR=4.2						
KURBB	**Kurchatov Arra**	**82.71**	**12**	P	**P**	**11 28 16.2**	**+0.3**
	1.0nm,0.5s,baz=206,slow=6.1,SNR=4.3						
SONM	**Songino Array**	**88.75**	**29**	P	**P**	**11 28 46.2**	**+0.1**
	0.5nm,0.7s,baz=194,slow=5.3,SNR=2.3						
NOA	**NORSAR Array B**	**99.59**	**338**	LR	LR	12 14 47.0	
	comp=Z,14nm,18.2s,baz=285,slow=36						
YKA	**Yellowknife Ar**	**148.03**	**355**	PKPbc	**PKPbc**	**11 35 36.8**	**-0.6**
	1.8nm,0.6s,baz=358,slow=3.1,SNR=45						

*NIED **24** 11:21:00,33.20N×142.20E,h32km,Mw4.1 Best double couple: Mo1.43000×10^15 NP1:ϕs48.00000°,δ46.00000°, λ8.00000°. NP2:ϕs313.00000°,δ85.00000°,λ136.00000°.*
*IDC **24** 11:21:11.4±0.7,33.15N×142.26E,h0km,mb3.9/19, mb1 4.0/24,mb1mx3.9/54,mbtmp3.9/24,ML3.7/5,MS3.0/6, Ms1 3.0/6,ms1mx2.8/41,Error ellipse: s-maj=15.8km s-min=15.4km az=89.0*
*NEIC **24** 11:21:12.9±0.3,33.14N×142.34E,h10km,mb4.5/14,Error ellipse: s-maj=6.8km s-min=6.1km az=219.0*
*ISCJB **24** 11:21:15.1±0.4,33.19N±0.05×142.22E±0.04,h33km, mb4.1/32,MS3.1/3,Error ellipse: s-maj=7.1km s-min=4.1km az=28.5*
*JMA **24** 11:21:15.9±0.8,33.20N×142.15E,h58km,M4.1*
ISC 24 11:21:16.1±0.6,33.16N±0.07×142.30E±0.07,h33km,n74, σ1s18/77,mb4.2/32,MS3.3/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.85**	**324**	P	**Pn**	**11 21 44.6**	**-0.4**
JHJ2	**Mitsune**	**2.09**	**269**	*e*Pn	**Pn**	**11 21 47.5**	**-1.3**
JHJ2	**Mitsune**	**2.09**	**269**	P	**Pn**	**11 21 47.4**	**-1.3**
JHCJ	**Hachijojimakas**	**2.10**	**268**	P	**Pn**	**11 21 47.7**	**-1.3**
JHJ	**Hachijo jima 2**	**2.11**	**270**	Pn	**Pn**	**11 21 47.1**	**-2.0**
	38nm,0.3s,baz=151,slow=21,SNR=35						
JHJ				Sn	**Sn**	**11 22 12.9**	**-1.4**
	101nm,0.3s,baz=68,slow=22,SNR=7.2						
BSO3	**Boso 3**	**2.21**	**318**	P	**Pn**	**11 21 49.7**	**-0.5**
JMKN	**Mikurajimanish**	**2.28**	**289**	P	**Pn**	**11 21 52.0**	**-0.8**
BSO4	**Boso 4**	**2.45**	**319**	P	**Pn**	**11 21 54.2**	**+0.6**
JOD2	**Odawara 2**	**3.39**	**309**	P	**Pn**	**11 22 05.5**	**-1.2**
JOD2				*e*S	**Sn**	**11 22 43.2**	**-2.6**
JYN	**Shimob**	**3.88**	**308**	P	**Pn**	**11 22 13.3**	**-0.3**
JYN				*e*S	**Sn**	**11 22 56.7**	**-1.4**
JRY	**Ryogami san**	**4.00**	**316**	P	**Pn**	**11 22 14.7**	**-0.4**
JAG	**Ashikaga**	**4.01**	**325**	P	**Pn**	**11 22 15.0**	**-0.2**
MJAR	**Matsushiro Arr**	**4.76**	**316**	Pn	**Pn**	**11 22 24.6**	**-1.0**
	0.7nm,0.3s,baz=59,slow=22,SNR=39						
MJAR				Sn	**Sn**	**11 23 18.8**	**-0.8**
	1.2nm,0.3s,baz=124,slow=27,SNR=11						
MJAR				LR	LR	11 24 26.9	
	comp=Z,103nm,21.2s,baz=120,slow=42						
MAJO	**Matsushiro**	**4.76**	**316**	*e*Pn	**Pn**	**11 22 26.8**	**+1.1**
MAJO				*e*Sn	**Sn**	**11 23 18.6**	**-1.1**
MAJO				*e*Sg	**Sn**	**11 23 18.8**	**-0.9**
MAT	**Matsushiro**	**4.76**	**316**	P	**Pn**	**11 22 26.6**	**+1.0**
MAT				S	**Sn**	**11 23 19.9**	**+0.2**
MJB9	**Matsu-Tunnel**	**4.77**	**316**	*e*Pn	**Pn**	**11 22 26.7**	**+1.0**
MJB9				*e*Sn	**Sn**	**11 23 18.9**	**-0.9**
INU	**Inuyama**	**4.89**	**298**	*e*Pn	**Pn**	**11 22 28.5**	**+1.2**
CBIJ	**Chichi jima**	**6.05**	**181**	Pn	**Pn**	**11 22 41.1**	**-2.2**
JCJ	**Chichijima**	**6.05**	**181**	Pn	**Pn**	**11 22 41.1**	**-2.2**
	6.4nm,0.3s,baz=300,slow=18,SNR=4.9						
ERM	**Erimo**	**8.86**	**4**	*e*Pn	**Pn**	**11 23 18.9**	**-2.9**
ERM				*e*Sn	**Sn**	**11 24 56.5**	**-4.0**
ASAJ	**Asahikawa**	**10.94**	**1**	Pn	**Pn**	**11 23 48.4**	**-1.9**
	1.7nm,0.3s,baz=239,slow=11,SNR=12						
ASAJ	**Asahikawa**	**10.94**	**1**	*e*Pn	**Pn**	**11 23 48.7**	**-1.6**
KSRS	**Korea Array**	**12.50**	**294**	LR	LR	11 29 28.3	
	comp=Z,29nm,19.8s,baz=104,slow=40						
JOW	**Kunigami**	**13.69**	**246**	LR	LR	11 29 40.7	
	comp=Z,77nm,19.3s,baz=278,slow=37						
KLR	**Kul'dur**	**17.88**	**337**	P	**Pn**	**11 25 20.0**	**-2.1**
	0.1nm,0.3s,baz=148,slow=18,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**25.69**	**115**	T	T	11 53 26.7	
	baz=306						
H11N1	**WAKE ISLAND Hy**	**25.69**	**115**	T	T	11 53 25.8	
	baz=306						
H11N3	**WAKE ISLAND Hy**	**25.70**	**115**	T	T	11 53 41.4	
	baz=306						
MA2	**Magadan**	**27.01**	**9**	P	**P**	**11 26 54.7**	**-0.1**
	1.9nm,0.3s,baz=176,slow=14,SNR=4.1						
ULN	**Ulaanbaatar**	**30.26**	**310**	*e*P	**P**	**11 27 25.2**	**+1.2**
	3.0nm,1.0s						
SONA1	**Songino Array**	**30.67**	**309**	*e*P	**P**	**11 27 29.0**	**+1.3**
SONA0	**Songino Array**	**30.68**	**309**	*e*P	**P**	**11 27 29.2**	**+1.5**
SONM	**Songino Array**	**30.68**	**309**	P	**P**	**11 27 29.2**	**+1.5**
	0.5nm,0.5s,baz=112,slow=8.7,SNR=5.7						
BILL	**Bilibino**	**37.56**	**15**	*e*P	**P**	**11 28 28.0**	**+1.1**
	4.6nm,1.0s						
TIXI	**Tiksi**	**39.21**	**353**	P	**P**	**11 28 40.2**	**-0.6**
	1.6nm,0.3s,baz=121,slow=2.8,SNR=5.2						
CMAR	**Chiang Mai Arr**	**41.39**	**260**	LR	LR	11 46 16.3	
	comp=Z,11nm,19.2s,baz=29,slow=36						
ANM	**Nome**	**44.57**	**29**	*e*P	**P**	**11 29 24.8**	**+0.3**
	5.0nm,1.0s						
ZALV	**Zalesovo Beam**	**45.12**	**315**	LR	LR	11 48 45.1	
	comp=Z,34nm,18.4s,baz=66,slow=37						
MK01	**Makanchi Array**	**46.87**	**305**	*e*P	**P**	**11 29 42.6**	**-0.5**
MK31	**Makanchi Array**	**46.87**	**305**	*e*P	**P**	**11 29 43.2**	**+0.1**
	1.2nm,0.8s						
MK32	**Makanchi Array**	**46.87**	**305**	*e*P	**P**	**11 29 43.4**	**+0.3**
MKAR	**Makanchi Array**	**46.87**	**305**	P	**P**	**11 29 43.4**	**+0.3**
	1.5nm,0.7s,baz=87,slow=8.8,SNR=11						
MKAR				LR	LR	11 51 45.9	
	comp=Z,37nm,20.5s,baz=38,slow=39						
MKAR	**Makanchi Array**	**46.87**	**305**	*e*P	**P**	**11 29 42.9**	**-0.2**
	12nm,0.9s						
KURK	**Kurchatov**	**48.95**	**311**	*e*P	**P**	**11 29 59.5**	**+0.4**
	4.2nm,0.9s						
KURK				*e*P	**P**	**11 30 00.1**	**+1.0**
KURBB	**Kurchatov Arra**	**49.02**	**311**	P	**P**	**11 30 00.1**	**+0.5**
	1.1nm,0.5s,baz=85,slow=7.3,SNR=13						
ILAR	**Eielson Array**	**52.41**	**31**	P	**P**	**11 30 25.2**	**+0.3**
	1.0nm,0.8s,baz=266,slow=6.3,SNR=8.9						
WR1	**Warramunga Arr**	**53.35**	**189**	*e*P	**P**	**11 30 32.0**	**-0.3**
	2.8nm,0.6s						
WRA	**Warramunga Arr**	**53.35**	**189**	P	**P**	**11 30 32.0**	**-0.3**
	1.2nm,0.7s,baz=7.7,slow=7.7,SNR=17						
BVAR	**Borovoye Array**	**53.76**	**315**	P	**P**	**11 30 34.4**	**-0.7**
	0.5nm,0.7s,baz=98,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**57.08**	**189**	P	**P**	**11 30 59.7**	**+0.6**
	0.4nm,0.8s,baz=15,slow=12,SNR=4.6						
INK	**Inuvik**	**57.52**	**26**	P	**P**	**11 31 02.5**	**+0.8**
	0.9nm,0.8s,baz=304,slow=7.1,SNR=3.1						
CHGR	**Chuyangaron**	**58.05**	**298**	*e*P	**P**	**11 31 06.4**	**+0.3**
	8.8nm,0.8s						
ABKAR	**Akbulak array**	**61.03**	**312**	*e*P	**P**	**11 31 26.5**	**+0.2**
	2.6nm,1.1s						
AKTO	**Aktyubinsk**	**61.84**	**314**	P	**P**	**11 31 31.7**	**-0.1**
	1.3nm,0.9s,baz=70,slow=12,SNR=4.9						
YKA	**Yellowknife Ar**	**66.80**	**29**	P	**P**	**11 32 04.7**	**+0.7**
	1.0nm,0.9s,baz=293,slow=6.0,SNR=12						
YKB5	**Yellowknife Ar**	**66.80**	**29**	*e*P	**P**	**11 32 04.5**	**+0.5**
FIA0	**FINESS Array S**	**72.58**	**333**	*e*P	**P**	**11 32 40.0**	**+0.3**
FINES	**FINESS Array B**	**72.58**	**333**	P	**P**	**11 32 40.0**	**+0.3**
	2.8nm,0.9s,baz=32,slow=8.2,SNR=4.4						
NV01	**Mina Array Sit**	**76.73**	**53**	*e*P	**P**	**11 33 04.4**	**-0.1**
NVAR	**Mina Array Bea**	**76.73**	**53**	P	**P**	**11 33 05.2**	**+0.8**
	0.8nm,0.8s,baz=278,slow=6.3,SNR=7.5						
AKASG	**Malin Array Be**	**77.81**	**323**	P	**P**	**11 33 10.1**	**+0.1**
	0.3nm,0.4s,baz=54,slow=6.2,SNR=4.7						
NB2	**NORSAR Subarra**	**78.04**	**338**	P	**P**	**11 33 11.6**	**+0.5**
	comp=Z,3.0nm,0.9s,baz=40,slow=5.3						
NB200	**NORSAR Array S**	**78.04**	**338**	*e*P	**P**	**11 33 11.9**	**+0.8**
NOA	**NORSAR Array B**	**78.04**	**338**	P	**P**	**11 33 11.9**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=39,slow=5.5,SNR=4.7						
H17A	**Grant Village**	**78.31**	**44**	*e*P	**P**	**11 33 12.7**	**-0.6**
	comp=Z,2.4nm,0.8s						
PDAR	**Pinedale Array**	**79.86**	**45**	P	**P**	**11 33 23.0**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=302,slow=1.7,SNR=5.1						
SRU	**San Rafael Swe**	**81.41**	**49**	*e*P	**P**	**11 33 30.8**	**+0.7**
	comp=Z,4.3nm,0.8s						
BR101	**Keskin Array S**	**81.98**	**312**	*e*P	**P**	**11 33 33.9**	**+0.9**
BRTR	**Keskin Array B**	**81.98**	**312**	P	**P**	**11 33 33.9**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=93,slow=5.8,SNR=3.4						
PV14	**Lion Creek, Pa**	**82.79**	**49**	*e*P	**P**	**11 33 38.3**	**+0.9**
	comp=Z,8.2nm,0.8s						
PV16	**Nyswonger Mesa**	**82.90**	**49**	*e*P	**P**	**11 33 38.6**	**+0.8**
	comp=Z,3.2nm,0.7s						
PV13	**Radium Mtn., P**	**83.05**	**49**	*e*P	**P**	**11 33 41.0**	**+2.4**
	comp=Z,8.0nm,1.2s						
LTX	**Lajitas**	**91.89**	**53**	*e*P	**P**	**11 34 21.9**	**+0.4**
TXAR	**Lajitas Array**	**91.89**	**53**	P	**P**	**11 34 21.9**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=306,slow=3.0,SNR=4.8						

*IDC **24** 11:22:56.3±2.6,40.61N×125.38W,h0km,mb3.3/3, mb1 3.6/9,mb1mx3.5/53,mbtmp3.4/9,ML3.5/6,MS3.4/2, Ms1 3.4/2,ms1mx2.9/14,Error ellipse: s-maj=29.6km s-min=18.1km az=79.0*
*NCEDC **24** 11:22:57.0,40.44N×125.64W,h18km,ML3.5*
*NEIC **24** 11:22:57.0±0.0,40.44N×125.64W,h18km,MW4.0(BRK), After NCEDC.*
NEIC Felt at Petrolia.
*ANF **24** 11:23:00.9±2.1,40.69N×125.01W,ML3.5/16,Error ellipse: s-maj=25.6km s-min=8.7km az=72.0*
ISC 24 11:22:58.9±3.0,40.50N±0.05×125.37W±0.09, h17km±16km,n82,σ1s27/91,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek,**	**1.07**	**72**	*e*Pn	**Pb**	**11 23 17.9**	**-1.1**
JCC				*e*Sg	**Sg**	**11 23 33.1**	**-0.5**
KMRM	**Mail Ridge**	**1.30**	**102**	*e*Pn	**Pn**	**11 23 22.0**	**-0.4**
KMRM				*e*Sn	**Sb**	**11 23 40.1**	**+0.8**
O02D	**Mt. Diablo Mer**	**2.00**	**98**	P	**Pn**	**11 23 31.6**	**-0.4**
	baz=278,SNR=55						
N02D	**Trinity Center**	**2.08**	**76**	P	**Pn**	**11 23 32.4**	**-0.8**
	baz=258,SNR=344						
M02C	**Callahan**	**2.10**	**64**	P	**Pn**	**11 23 32.5**	**-1.0**
	baz=247,SNR=354						
L02E	**Cave Junction**	**2.13**	**38**	P	**Pn**	**11 23 32.6**	**-1.1**
	baz=222,SNR=54						
L02E				S	**Sn**	**11 23 57.2**	**-2.6**
	baz=222						
WDC	**Whiskeytown Da**	**2.16**	**87**	*e*Pn	**Pn**	**11 23 33.8**	**-0.3**
WDC				*e*Sn	**Sn**	**11 23 58.9**	**-1.5**
HOPS	**Hopland Field**	**2.32**	**130**	*e*Pn	**Pn**	**11 23 33.6**	**-2.7**
HOPS				*e*Sn	**Sn**	**11 24 03.5**	**-1.0**
YBH	**Yreka Blue Hor**	**2.36**	**58**	Pn	**Pn**	**11 23 36.3**	**-0.7**
	19nm,0.3s,baz=247,slow=14,SNR=277						
YBH				Sn	**Sn**	**11 24 06.2**	**+0.6**
	8.1nm,0.3s,baz=335,slow=18,SNR=6.6						
YBH	**Yreka Blue Hor**	**2.36**	**58**	*e*Pn	**Pn**	**11 23 36.7**	**-0.2**
YBH				*e*Sn	**Sn**	**11 24 05.7**	**+0.1**
KEBM	**Edson Butte**	**2.50**	**18**	*e*Pn	**Pn**	**11 23 37.3**	**-1.5**
K02D	**Willamette Mer**	**2.54**	**30**	P	**Pn**	**11 23 38.7**	**-0.8**
	baz=214,SNR=50						
K02D				S	**Sn**	**11 24 08.0**	**-2.1**
	baz=214						
GDXM	**Geysers**	**2.60**	**129**	*e*Pn	**Pn**	**11 23 40.1**	**-0.2**
O03E	**Paynes Creek**	**2.73**	**93**	P	**Pn**	**11 23 41.4**	**-0.7**
	baz=274,SNR=74						
HUMO	**Hull Mountain**	**2.78**	**40**	*e*Pn	**Pn**	**11 23 42.3**	**-0.4**
J01E	**Myrtle Point**	**2.87**	**21**	P	**Pn**	**11 23 42.8**	**-1.2**
	baz=206						
J01E				S	**Sn**	**11 24 16.1**	**-2.0**
	baz=206						
L04D	**Klamath Falls**	**2.88**	**52**	P	**Pn**	**11 23 46.1**	**+2.0**
	baz=236,SNR=655						
M04C	**Macdoel**	**2.96**	**63**	P	**Pn**	**11 23 46.6**	**+1.4**
	baz=246,SNR=53						
MCCM	**Marconi Confer**	**3.04**	**140**	*e*Pn	**Pn**	**11 23 44.1**	**-2.1**
ORV	**Oroville**	**3.11**	**106**	*e*Pn	**Pn**	**11 23 46.6**	**-0.6**
K04D	**Chiloquin, OR**	**3.45**	**51**	P	**Pn**	**11 23 53.2**	**+1.2**
	baz=234,SNR=28						
I03D	**Drain, OR**	**3.54**	**24**	P	**Pn**	**11 23 52.9**	**-0.2**
	baz=208,SNR=17						
I03D				S	**Sn**	**11 24 33.1**	**-1.4**
	baz=208						
J04D	**Umpqua Nationa**	**3.67**	**40**	P	**Pn**	**11 23 56.6**	**+1.5**
	baz=224,SNR=48						
AFDM	**Forest Hills D

SPUT	**South Promonto**	**9.82**	**81**	*e*Pn		**Pn**	**11 25 20.2**	**+0.8**
MCMT	**McKenzie Canyo**	**10.19**	**61**	*e*Pn		**Pn**	**11 25 25.6**	**+1.0**
MSU	**Marysvale**	**10.38**	**97**	*e*Pn		**Pn**	**11 25 27.4**	**+0.1**
MSO	**Missoula**	**10.42**	**49**	*e*Pn		**Pn**	**11 25 26.9**	**-0.6**
HRY	**Holter Researc**	**11.61**	**53**	*e*Pn		**Pn**	**11 25 42.8**	**-1.1**
PDAR	**Pinedale Array**	**12.05**	**74**	Pn		**Pn**	**11 25 52.1**	**+2.1**
	0.1nm,0.3s,baz=243,slow=16,SNR=2.9							
ANMO	**Albuquerque**	**15.95**	**104**	Pn		**Pn**	**11 26 44.6**	**+2.0**
	0.1nm,0.3s,baz=304,slow=15,SNR=3.9							
TXAR	**Lajitas Array**	**20.94**	**115**	P		**P**	**11 27 42.7**	**+1.7**
	1.3nm,0.9s,baz=296,slow=8.6,SNR=13							
ULM	**Lac du Bonnet**	**22.77**	**55**	P		**P**	**11 28 00.0**	**-0.3**
	3.3nm,0.8s,baz=255,slow=10,SNR=5.3							
YKA	**Yellowknife Ar**	**22.96**	**13**	P		**P**	**11 28 01.9**	**-0.3**
	0.3nm,0.7s,baz=202,slow=11,SNR=4.4							
MA2	**Magadan**	**53.25**	**321**	LR		LR	11 52 46.4	
	comp=Z,44nm,18.7s,baz=24,slow=34							

*NNC **24** 11:23:26.4±2.4,54°.45N×83°.78E,h20km±6km,mb3.6, mpv3.2,Error ellipse: s-maj=19.7km s-min=11.6km az=176.0,Suspected Mining explosion.*

IDC 24 11:23:20.6±1.6,54°.69N×83°.73E,h0km,mb1 2.9/3, mb1mx2.8/53,mbtmp2.9/3,ML2.7/3,7C-2D,Error ellipse: s-maj=14.3km s-min=8.8km az=17.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**139**	*i*		11 28 59.9	
	baz=316,slow=309,SNR=7.0						
ZALV	**Zalesovo Beam**	**0.98**	**139**	Pg	Pg	11 23 38.7	-0.7
	9.3nm,0.3s,baz=322,slow=18,SNR=60						
ZALV				Lg	Lg	11 23 53.0	
	7.4nm,0.3s,baz=319,slow=28,SNR=26						
KURK	**Kurchatov**	**5.05**	**220**	⇑Pg	Pg	11 24 55.4	-1.9
	6.0nm,0.9s						
KURK				⇑Sn	Sn	11 25 35.6	-0.9
	3.7nm,0.8s						
KURK				⇑Lg	Lg	11 26 01.5	
	8.3nm,0.6s						
KURBB	**Kurchatov Arra**	**5.16**	**220**	Pn	Pn	11 24 39.0	0.0
	0.1nm,0.3s,baz=41,slow=14,SNR=8.0						
KURBB				Pg	Pb	11 24 55.4	+3.8
	0.1nm,0.3s,baz=39,slow=16,SNR=17						
KURBB				Sn	Sn	11 25 38.0	-1.1
	0.1nm,0.3s,baz=33,slow=20,SNR=4.3						
KURBB				Lg	Lg	11 26 01.6	
	0.0nm,0.3s,baz=40,slow=31,SNR=4.3						
KURBB	**Kurchatov Arra**	**5.16**	**220**	⇓Pg	Pg	11 24 57.0	-2.3
	6.3nm,1.1s						
KURBB				⇓Sn	Sn	11 25 37.8	-1.4
	7.5nm,0.8s						
KURBB				⇑Lg	Lg	11 26 05.5	
	14nm,0.7s						
MK31	**Makanchi Array**	**7.96**	**187**	⇑Pn	Pn	11 25 17.9	+0.4
	0.2nm,0.4s,baz=16,slow=12,SNR=7.8						
MK31				⇑Sn	Sn	11 26 44.9	-3.2
	0.2nm,0.6s,baz=22,slow=28,SNR=2.9						
MK31				⇑Lg	Lg	11 27 33.3	
	1.7nm,0.8s,baz=22,slow=28,SNR=4.3						
MKAR	**Makanchi Array**	**7.96**	**187**	Pn	Pn	11 25 17.6	+0.1
	0.1nm,0.3s,baz=6.7,slow=12,SNR=7.6						
MKAR				Sn	Sn	11 26 49.0	+0.9
	0.1nm,0.3s,baz=4.4,slow=20,SNR=4.1						
MKAR				Lg	Lg	11 27 34.3	
	0.1nm,0.3s,baz=9.5,slow=27,SNR=5.7						
BVAR	**Borovoye Array**	**8.06**	**264**	Pn	Pn	11 25 17.6	-1.3
	0.4nm,0.3s,baz=71,slow=14,SNR=7.6						
BVAR				Sn	Sn	11 26 49.0	-1.7
	0.2nm,0.3s,baz=69,slow=28,SNR=3.1						

*NIED **24** 11:29:00,39°.60N×143°.70E,h23km,Mw3.5 Best double couple: M₀2.27000×10¹⁴ NP1:φs172.00000°,δ38.00000°, λ56.00000°. NP2:φs32.00000°,δ60.00000°,λ113.00000°.*
*ISCJB **24** 11:29:18.4±0.9,39°.60N±0°.04×143°.57E±0°.08,h11km, mb3.4/3,MS3.9/2,Error ellipse: s-maj=9.3km s-min=4.2km az=26.2*
*IDC **24** 11:29:18.6±12.0,39°.66N×143°.60E,h0km,mb3.6/3, mb1 3.4/5,mb1mx3.3/38,mbtmp3.5/5,ML2.8/2,MS3.5/3, Ms1 3.5/3,ms1mx2.7/41,Error ellipse: s-maj=228.2km s-min=32.6km az=109.0*
*JMA **24** 11:29:19.3±0.4,39°.57N×143°.67E,h34km,M3.6*

ISC 24 11:29:19.7±1.5,39°.58N±0°.06×143°.53E±0°.10,h11km,n28, σ1§10/30,mb3.4/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.32**	**270**	P	**Pn**	**11 29 43.7**	**-0.4**
JTH	**Tanohata**	**1.33**	**286**	P	**Pn**	**11 29 43.7**	**-0.6**
OFUJ	**Ofunato**	**1.53**	**252**	P	**Pn**	**11 29 46.5**	**-0.4**
OFUJ				*e*S	**Sn**	**11 30 06.6**	**-0.2**
JKEN	**Kujiedanarisaw**	**1.54**	**295**	P	**Pn**	**11 29 46.3**	**-0.7**
JKEN				*e*S	**Sn**	**11 30 06.6**	**-0.4**
JOM	**Ohasama**	**1.73**	**267**	P	**Pn**	**11 29 50.1**	**+0.3**
JOM				*e*S	**Sn**	**11 30 12.2**	**+0.3**
JANG	**Nango**	**1.74**	**298**	P	**Pn**	**11 29 49.3**	**-0.6**
JMK	**Ichinoseki**	**1.90**	**252**	P	**Pn**	**11 29 52.0**	**-0.1**
JMK				*e*S	**Sn**	**11 30 16.4**	**+0.4**
JIO	**Ouri**	**2.04**	**237**	P	**Pn**	**11 29 53.3**	**-0.6**
JIO				*e*S	**Sn**	**11 30 17.5**	**-1.8**
JYK	**Kaneyama**	**2.55**	**256**	P	**Pn**	**11 30 01.6**	**+0.6**
JOT	**Ohata**	**2.61**	**314**	P	**Pn**	**11 30 02.1**	**+0.2**
JOT				*e*S	**Sn**	**11 30 32.9**	**-0.7**
JNBK	**Urakawa-nobuka**	**2.76**	**348**	P	**Pn**	**11 30 04.8**	**+0.9**
JNBK				*e*S	**Sn**	**11 30 38.1**	**+0.8**
JCH	**Churui**	**3.04**	**358**	P	**Pn**	**11 30 07.2**	**-0.5**
JCH				*e*S	**Sn**	**11 30 41.9**	**-2.1**
JFT	**Otama**	**3.24**	**232**	P	**Pn**	**11 30 10.4**	**-0.1**
JFT				*e*S	**Sn**	**11 30 49.0**	**-0.1**
ASAJ	**Asahikawa**	**4.59**	**352**	Pn	**Pn**	**11 30 28.3**	**-0.7**
	0.4nm,0.3s,baz=139,slow=20,SNR=3.3						
ASAJ				Sn	**Sn**	**11 31 21.6**	**-0.7**
	0.7nm,0.3s,baz=315,slow=20,SNR=3.3						
MJAR	**Matsushiro Arr**	**5.18**	**236**	Pn	**Pn**	**11 30 38.1**	**+1.0**
	0.2nm,0.3s,baz=34,slow=14,SNR=13						
MAT	**Matsushiro**	**5.18**	**236**	P	**Pn**	**11 30 38.7**	**+1.5**
MAT				*e*S	**Sn**	**11 31 33.2**	**-3.7**
JNU	**Nakatsue**	**12.06**	**242**	LR	LR	11 37 26.7	
	comp=Z,50nm,20.2s,baz=281,slow=40						
SONM	**Songino Array**	**27.86**	**300**	P	**P**	**11 35 10.6**	**+1.2**
	0.3nm,0.5s,baz=97,slow=8.4,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**28.20**	**128**	T	T	12 04 46.3	
	baz=320						
H11N1	**WAKE ISLAND Hy**	**28.21**	**128**	T	T	12 04 42.4	
	baz=320,slow=74,SNR=4.9						
H11N3	**WAKE ISLAND Hy**	**28.22**	**128**	T	T	12 04 46.3	
	baz=320,slow=74,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**29.02**	**130**	T	T	12 05 51.6	
	baz=322						
H11S3	**WAKE ISLAND Hy**	**29.02**	**130**	T	T	12 05 46.2	
	baz=322						
H11S2	**WAKE ISLAND Hy**	**29.04**	**130**	T	T	12 05 52.4	
	baz=322						
ZALV	**Zalesovo Beam**	**41.49**	**310**	P	**P**	**11 37 06.9**	**+0.4**
	0.6nm,0.4s,baz=106,slow=9.2,SNR=2.7						
MKAR	**Makanchi Array**	**44.23**	**300**	P	**P**	**11 37 29.1**	**+0.2**
	0.4nm,0.6s,baz=88,slow=8.2,SNR=4.2						
KVAR	**Kislovodsk Arr**	**70.49**	**311**	LR	LR	12 12 33.6	
	comp=Z,153nm,21.9s,baz=110,slow=37						
GNI	**Garni**	**71.52**	**307**	LR	LR	12 13 10.3	
	comp=Z,35nm,19.9s,baz=300,slow=37						

*IDC **24** 11:36:03.8±1.2,33°.66N×141°.73E,h0km,mb3.4/5, mb1 3.6/6,mb1mx3.4/38,mbtmp3.4/6,ML2.3/1,MS3.1/1, Ms1 3.1/1,ms1mx2.3/28,Error ellipse: s-maj=24.1km s-min=20.4km az=74.0*
*ISCJB **24** 11:36:07.5±0.9,33°.71N±0°.05×141°.74E±0°.08,h41km, mb3.5/5,MS3.0/1,Error ellipse: s-maj=10.2km s-min=7.6km az=15.7*
*JMA **24** 11:36:11.8±0.4,33°.83N×141°.32E,h31km,M3.0*

ISC 24 11:36:10.1±1.1,33°.74N±0°.06×141°.56E±0°.10,h41km,n17, σ1§28/20,mb3.6/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.03**	**332**	P	**Pn**	**11 36 27.8**	**+0.2**
BSO3	**Boso 3**	**1.37**	**321**	P	**Pn**	**11 36 33.0**	**+0.5**
JHJ2	**Mitsune**	**1.59**	**247**	P	**Pn**	**11 36 36.6**	**+0.9**
BSO4	**Boso 4**	**1.61**	**321**	P	**Pn**	**11 36 36.6**	**+0.7**
JHJ	**Hachijo jima 2**	**1.61**	**248**	Pn	**Pn**	**11 36 34.9**	**-1.2**
	49nm,0.3s,baz=72,slow=19,SNR=9.3						
JHJ				Sn	**Sn**	**11 36 56.5**	**+1.0**
	67nm,0.3s,baz=231,slow=22,SNR=6.4						
JMKN	**Mikurajimanish**	**1.65**	**276**	P	**Pn**	**11 36 36.6**	**+0.1**
JMKN				*e*S	**Sn**	**11 36 53.9**	**-2.6**
JAOM	**Aogashimamukai**	**1.97**	**230**	*e*S	**Sn**	**11 37 06.2**	**+1.7**
KTJ3	**Kamata3**	**2.38**	**301**	P	**Pn**	**11 36 46.4**	**-0.2**
KTJ3				*e*S	**Sn**	**11 37 12.3**	**-2.3**
JIZS	**Izushimoda**	**2.43**	**294**	P	**Pn**	**11 36 47.9**	**+0.6**
JOD2	**Odawara 2**	**2.55**	**307**	P	**Pn**	**11 36 49.3**	**+0.4**
MJAR	**Matsushiro Arr**	**3.92**	**316**	Pn	**Pn**	**11 37 07.1**	**-0.7**
	0.2nm,0.3s,baz=143,slow=45,SNR=11						
MJAR				Sn	**Sn**	**11 37 54.5**	**+2.0**
	0.2nm,0.3s,baz=272,slow=31,SNR=5.4						
SONM	**Songino Array**	**29.83**	**309**	P	**P**	**11 42 14.7**	**+1.3**
	0.3nm,0.7s,baz=95,slow=8.7,SNR=3.1						
DAV	**Davao City (W)**	**30.38**	**213**	LR	LR	11 52 39.0	
	comp=Z,34nm,20.1s,baz=126,slow=33						
MKAR	**Makanchi Array**	**46.03**	**305**	P	**P**	**11 44 30.3**	**+0.7**
	0.6nm,0.8s,baz=88,slow=9.0,SNR=5.4						
ILAR	**Eielson Array**	**52.23**	**31**	P	**P**	**11 45 15.8**	**-0.9**
	0.6nm,0.8s,baz=260,slow=6.4,SNR=5.0						
WRA	**Warramunga Arr**	**53.82**	**188**	P	**P**	**11 45 27.6**	**-1.2**
	0.5nm,0.5s,baz=5.2,slow=7.6,SNR=9.6						
ASAR	**Alice Springs**	**57.55**	**188**	P	**P**	**11 45 55.0**	**-0.5**
	0.2nm,0.7s,baz=359,slow=6.3,SNR=3.6						

*ISCJB **24** 11:40:22.8±0.5,30°.71N±0°.03×57°.01E±0°.06,h10km, Error ellipse: s-maj=7.7km s-min=4.6km az=6.8*
*TEH **24** 11:40:22.4,30°.72N×57°.00E,h10km,ML3.5*
*THR **24** 11:40:23.1,30°.76N×56°.93E,h18km,ML3.2*

ISC 24 11:40:22.1±0.9,30°.77N±0°.04×57°.05E±0°.04,h10km,n24, σ1§99/25,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHGB	**Koh Gabri**	**0.63**	**231**	*e*Pg	**Pg**	**11 40 32.9**	**-1.5**
KHGB				IAMB	IAmb	11 40 40.9	
	comp=Z,0.0nm,0.2s						
TVBK	**TV Kerman**	**0.82**	**197**	*e*Pg	**Pg**	**11 40 37.5**	**-0.5**
TVBK				IAMB	IAmb	11 40 39.6	
	comp=Z,0.0nm,0.1s						
KRBR	**Kerman**	**0.83**	**197**	*e*Pg	**Pg**	**11 40 38.3**	**+0.2**
KRBR	**Kerman**	**0.83**	**197**	*e*AML	AML	11 40 56.0	
	comp=E,951nm,0.3s						
KRBR				*e*AML	AML	11 40 56.1	
	comp=N,993nm,0.4s						
KRBR	**Kerman**	**0.83**	**197**	*e*Pg	**Pg**	**11 40 38.3**	**+0.2**
KRBR				*e*Sg	**Sb**	**11 40 49.4**	**-0.7**
CHMN	**Cheshme madani**	**1.01**	**155**	*e*Pg	**Pg**	**11 40 40.6**	**-0.9**
CHMN				IAMB	IAmb	11 41 01.0	
	comp=Z,0.0nm,0.2s						
NGRK	**Negar Kerman**	**1.16**	**194**	*e*Pg	**Pg**	**11 40 43.7**	**-0.7**
NGRK				IAMB	IAmb	11 41 04.8	
	comp=Z,0.0nm,0.3s						
IMEH	**Mehriz**	**2.18**	**287**	*e*Pn	**Pb**	**11 41 00.3**	**-1.4**
IMEH				IAMB	IAmb	11 41 34.5	
	comp=Z,5μm,0.4s						
ITEG	**Tejag**	**2.56**	**34**	IAMB	IAmb	11 41 57.9	
	comp=Z,2μm,0.4s						
ITEG				*e*Pn	**Pb**	**11 41 06.2**	**-2.1**
YZKH	**Yazd**	**2.64**	**308**	*e*Pn	**Pn**	**11 41 06.2**	**+1.3**
YZKH	**Yazd**	**2.64**	**308**	*e*AML	AML	11 41 54.0	
	comp=E,106nm,0.5s						
YZKH				*e*AML	AML	11 41 55.8	
	comp=N,84nm,0.7s						
YZKH	**Yazd**	**2.64**	**308**	*e*Pn	**Pn**	**11 41 06.2**	**+1.3**
YZKH				*e*Sg	**Sb**	**11 41 43.9**	**+1.8**
ICHK	**Chekchek**	**2.69**	**304**	IAMB	IAmb	11 41 56.1	
	comp=Z,2μm,0.4s						
ICHK				*e*Pn	**Pb**	**11 41 08.4**	**-2.0**
TKDS	**Koohdasht(Taba**	**2.83**	**1**	*e*Pn	**Pn**	**11 41 09.4**	**+1.9**
TKDS				IAMB	IAmb	11 42 08.6	
	comp=Z,0.0nm,1.0s						
TABS	**Tabas**	**2.87**	**1**	*e*Pn	**Pn**	**11 41 09.9**	**+1.9**
TABS	**Tabas**	**2.87**	**1**	*e*Pn	**Pn**	**11 41 09.9**	**+1.9**
IDAH	**Dahanechah**	**3.10**	**50**	*e*Pn	**Pb**	**11 41 14.7**	**-2.8**
IDAH				IAMB	IAmb	11 42 15.4	
	comp=N,2μm,0.5s						
GENO	**Geno**	**3.45**	**193**	*e*Pn	**Pn**	**11 41 18.7**	**+2.7**
GENO				IAMB	IAmb	11 41 28.8	
	comp=Z,0.0nm,0.4s						
ANAR	**Anarak**	**3.71**	**311**	*e*Pn	**Pn**	**11 41 21.1**	**+1.5**
SHRT	**Shahrakht**	**3.97**	**43**	*e*Pn	**Pn**	**11 41 26.5**	**+3.4**
SHRT	**Shahrakht**	**3.97**	**43**	*e*Pn	**Pn**	**11 41 26.5**	**+3.4**
SHRT				*e*Sg	**Sg**	**11 42 29.0**	**-0.6**
IRAM	**Ramesheh**	**4.12**	**286**	*e*Pn	**Pn**	**11 41 27.5**	**+2.1**
IRAM				IAMB	IAmb	11 42 37.0	
	comp=Z,259nm,0.6s						
IZEF	**Zefreh**	**4.54**	**299**	*e*Pn	**Pn**	**11 41 32.9**	**+1.8**
IZEF				IAMB	IAmb	11 42 48.2	
	comp=Z,409nm,1.1s						
KRSH	**Karshahi**	**5.24**	**309**	*e*Pn	**Pn**	**11 41 43.0**	**+2.4**

*HLW **24** 11:46:10.3,29°.94N×36°.48E,h10km±13km,Ml3.5*
*ISCJB **24** 11:46:12.4±1.7,29°.92N±0°.09×36°.2E±0°.1,h3km,Error ellipse: s-maj=20.2km s-min=6.4km az=34.2*
*JSO **24** 11:46:15.5±1.0,30°.N±7°.×3°.6E±°,h10km,M3.0/12, Mjma3.0/12,ML3.1/2,MLv3.0/12*

ISC 24 11:46:11.5±1.9,29°.90N±0°.08×36°.3E±0°.1,h3km,n15, σ0§67/16,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HSNJ	**Maan**	**0.60**	**306**	P	**Pg**	**11 46 23.3**	**+0.2**
JDRJ	**Daraweish**	**0.97**	**329**	P	**Pb**	**11 46 30.5**	**-0.6**
AQBJ	**Aqaba**	**1.06**	**261**	P	**Pg**	**11 46 31.8**	**0.0**
HRFI	**Mount Harif**	**1.06**	**278**	P	**Pg**	**11 46 31.8**	**-0.1**
EIL	**Elat**	**1.15**	**259**	P	**Pg**	**11 46 34.0**	**+0.4**
SWQJ	**Swaqa**	**1.35**	**353**	P	**Pn**	**11 46 39.0**	**+1.6**
HBST	**Basata**	**1.49**	**243**	P	**Pn**	**11 46 39.1**	**-0.1**
	baz=246						
HBST				AMP		11 47 00.0	
	baz=246						
HBST				S	**Sn**	**11 47 00.2**	**+1.1**
	baz=246						
LISJ	**El Lisan**	**1.49**	**334**	P	**Pn**	**11 46 39.0**	**-0.2**
GHAJ	**Ghor Haditha**	**1.52**	**337**	P	**Pn**	**11 46 39.3**	**-0.3**
WALJ	**Wala**	**1.70**	**347**	P	**Pn**	**11 46 42.4**	**+0.3**
KZIT	**Kziot**	**1.89**	**303**	P	**Pn**	**11 46 44.6**	**-0.1**
HNKL	**Nakhl**	**1.97**	**271**	P	**Pn**	**11 46 45.7**	**-0.2**
	baz=271						
ASF	**Jabal al Asfar**	**2.33**	**14**	P	**Pb**	**11 46 53.3**	**-1.0**
HKAT	**Jabal Katrina**	**2.40**	**236**	P	**Pn**	**11 46 51.8**	**-0.1**
	baz=238						
SUZ	**Suez**	**2.97**	**270**	P	**Pn**	**11 47 00.1**	**+0.5**
	baz=270						

*EAF **24** 11:58:10.9±0.8,25°.64S×24°.73E,h0km±486km,MD3.6*

PRE 24 11:58:11.6±1.1,26°.42S×27°.32E,h2km,ML2.5,South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WDLM	**Western Deep L**	**0.10**	**92**	*e*P	Pg	11 58 13.7	+0.2
WDLM				*e*S	Sg	11 58 14.6	-0.2
WDLM				AML	AML	11 58 16.3	
	comp=Z,7μm,0.4s						
KLOF	**Kloof**	**0.27**	**75**	*e*P	Pg	11 58 17.1	+0.2
KLOF				*e*S	Sg	11 58 21.0	+0.6
KLOF				AML	AML	11 58 21.8	
	comp=Z,1μm,0.3s						
PRYS	**Parys**	**0.51**	**176**	*e*P	Pg	11 58 22.3	+0.9
PRYS				*e*S	Sg	11 58 28.8	+0.9
PRYS				AML	AML	11 58 29.2	
	comp=Z,208nm,0.3s						
ERPM	**east rand prop**	**0.83**	**85**	*e*P	Pg	11 58 27.9	+0.3
ERPM				*e*S	Sg	11 58 38.8	+0.4
ERPM				AML	AML	11 58 44.6	
	comp=Z,56nm,0.3s						
SLR	**Silverton**	**1.10**	**52**	*e*P	Pg	11 58 32.4	-0.4
SLR				*e*S	Sb	11 58 48.3	-0.1
SLR				AML	AML	11 58 53.3	
	comp=Z,71nm,0.2s						
SWZ	**Schweizer**	**1.93**	**246**	*e*P	Pn	11 58 46.1	+0.5
SWZ				*e*S	Sn	11 59 11.0	+0.5
SWZ				AML	AML	11 59 14.4	
	comp=Z,122nm,0.2s						
LBTB	**Lobatse**	**2.09**	**312**	*e*P	Pn	11 58 48.9	+1.2
LBTB				*e*S	Sn	11 59 14.7	+0.3
LBTB				AML	AML	11 59 19.0	
	comp=Z,121nm,0.7s						
BOSA	**Boshof**	**2.85**	**219**	*i* P	Pn	11 58 59.0	+0.7
BOSA				*i* S	Sn	11 59 35.0	+1.8
BOSA	**Boshof**	**2.85**	**219**	*e*P	Pn	11 58 58.0	-0.2
BOSA				*e*S	Sn	11 59 33.2	0.0
BOSA				AML	AML	11 59 40.1	
	comp=Z,22nm,0.3s						
BOSA	**Boshof**	**2.85**	**219**	*i* P	Pn	11 58 59.0	+0.7
BOSA				*i* S	Sn	11 59 35.0	+1.8
HVD	**Gariep Dam**	**4.47**	**201**	*e*P	Pn	11 59 20.9	+0.4
HVD				*e*S	Sn	12 00 11.2	-1.9
HVD				AML	AML	12 00 12.2	
	comp=Z,5.4nm,0.2s						
PKA	**Prieska**	**5.17**	**230**	*e*P	Pn	11 59 31.2	+1.1
PKA				*e*S	Sn	12 00 28.1	-2.3
PKA				AML	AML	12 00 53.5	
	comp=Z,3.3nm,0.3s						
MATP	**Matopo**	**6.07**	**11**	*i* P	Pn	11 59 43.9	+1.5
MATP				*i* S	Sn	12 00 50.7	-1.8
MATP	**Matopo**	**6.07**	**11**	*i* P	Pn	11 59 43.9	+1.5
MATP				*i* S	Sn	12 00 50.7	-1.8
BLWY	**Bulawayo**	**6.36**	**11**	*i* P	Pn	11 59 47.6	+1.0
BLWY	**Bulawayo**	**6.36**	**11**	*i* P	Pn	11 59 47.6	+1.0

*ISCJB **24** 12:00:26.7±0.5,24°.37N±0°.02×122°.27E±0°.02,h64km±6km, Error ellipse: s-maj=4.1km s-min=2.9km az=167.8*
*JMA **24** 12:00:26.6±0.1,24°.35N×122°.25E,h67km±2km,M1.8*
*TAP **24** 12:00:27.2,24°.37N×122°.22E,h62km±1km,ML2.5,C*

ISC 24 12:00:26.8±1.3,24°.38N±0°.04×122°.26E±0°.02,h66km±9km, n42,σ0§58/82,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.21**	**325**	*e*P	**Pn**	**12 00 37.6**	**+0.6**
	baz=334						
EOS1				*e*S	**Sn**	**12 00 44.5**	**+0.1**
	baz=334						
TWC	**Suao**	**0.44**	**302**	*e*P	**Pn**	**12 00 39.0**	**+0.2**
	baz=305						
TWC				*e*S	**Sn**	**12 00 47.5**	**0.0**
	baz=305						
ENA	**Nanau**	**0.48**	**276**	P	**Pn**	**12 00 39.3**	**+0.1**
	baz=277						
ENA				*e*S	**Sn**	**12 00 47.6**	**-0.5**
	baz=277						
JYNG	**Yonagunijimaku**	**0.63**	**83**	P	**Pn**	**12 00 40.8**	**+0.2**
JYNG				S	**Sn**	**12 00 50.9**	**+0.1**
NACB	**Ninganchiao**	**0.64**	**252**	*e*P	**Pn**	**12 00 40.7**	**-0.1**
	baz=251						
NACB				*e*S	**Sn**	**12 00 50.8**	**-0.3**
	baz=251						
TWE	**Neicheng**	**0.64**	**303**	*e*P	**Pn**	**12 00 41.3**	**+0.4**
	baz=305						
TWE				*e*S	**Sn**	**12 00 51.0**	**-0.1**
	baz=305						
TWD	**Chiawan**	**0.68**	**244**	*e*P	**Pn**	**12 00 41.2**	**0.0**
	baz=242						
TWD				*e*S	**Sn**	**12 00 51.6**	**-0.1**
	baz=242						
YOJ	**Yonaguni jima**	**0.69**	**83**	*e*P	**Pn**	**12 00 41.1**	**-0.2**
	baz=82						
YOJ				*e*S	**Sn**	**12 00 52.2**	**+0.1**
	baz=82						
YOJ	**Yonaguni jima**	**0.69**	**83**	P	**Pn**	**12 00 41.2**	**-0.2**
YOJ				*e*S	**Sn**	**12 00 52.1**	**+0.1**
ENTT	**Nioudou**	**0.69**	**293**	P	**Pn**	**12 00 41.9**	**+0.5**
	baz=294						
ENTT				*e*S	**Sn**	**12 00 52.5**	**+0.4**
	baz=294						
TIPB	**Shuangxi**	**0.71**	**326**	*e*P	**Pn**	**12 00 41.6**	**-0.2**
	baz=328						
TIPB				*e*S	**Sn**	**12 00 51.8**	**-0.8**
	baz=328						
ENLB	**Shoufeng**	**0.77**	**232**	*e*P	**Pn**	**12 00 42.5**	**+0.3**
	baz=230						
ENLB				*e*S	**Sn**	**12 00 53.7**	**+0.1**
	baz=230						
NNSB	**Datong**	**0.80**	**274**	*e*P	**Pn**	**12 00 42.9**	**+0.1**
	baz=274						
NNSB				*e*S	**Sn**	**12 00 54.6**	**0.0**
	baz=274						
NNS	**Nan Shan**	**0.81**	**275**	*e*P	**Pn**	**12 00 43.0**	**0.0**
	baz=274						
NNS				*e*S	**Sn**	**12 00 54.2**	**-0.6**
	baz=274						
NWF	**Wu-fen Shan**	**0.82**	**328**	*e*P	**Pn**	**12 00 43.4**	**+0.4**
	baz=330						
NWF				*e*S	**Sn**	**12 00 54.1**	**-0.8**
	baz=330						
WFSB	**Wu-fen Shan**	**0.82**	**328**	*e*P	**Pn**	**12 00 43.5**	**+0.5**
	baz=330						
WFSB				*e*S	**Sn**	**12 00 54.2**	**-0.6**
	baz=330						
YHNB	**Yeheng**	**0.86**	**290**	*e*P	**Pn**	**12 00 43.9**	**+0.4**
	baz=291						
YHNB				*e*S	**Sn**	**12 00 55.8**	**0.0**
	baz=291						
TWA	**Mucha**	**0.86**	**314**	*e*P	**Pn**	**12 00 43.5**	**0.0**
	baz=316						
TWA				*e*S	**Sn**	**12 00 55.4**	**-0.4**
	baz=316						
NSK	**Sanguang**	**0.88**	**290**	P	**Pn**	**12 00 44.1**	**+0.4**
	baz=291						
NSK				*e*S	**Sn**	**12 00 56.4**	**+0.2**
	baz=291						
WHF	**Hehuan Shan**	**0.94**	**256**	P	**Pn**	**12 00 45.2**	**+0.3**
	baz=255						

baz=220
SSLB Suanglung 1.33 244 *e*P Pn 12 00 50.0 +0.5
baz=243
SSLB *e*S Sn 12 01 06.8 +0.4
baz=243
IRIF Iriomote-Funau 1.34 91 P Pn 12 00 49.7 +0.2
IRIF S Sn 12 01 06.3 -0.3
TWF1 Yuli 1.35 221 P Pn 12 00 49.4 -0.3
baz=219
TWF1 *e*S Sn 12 01 06.2 -0.7
baz=219
JKRS Kuro-shima 1.60 95 P Pn 12 00 53.7 +0.7
JKRS S Sn 12 01 13.2 +0.4
JIJ Ishigaki jima 1.71 90 P Pn 12 00 54.8 +0.2
JIJ S Sn 12 01 14.6 -1.0
JISG Ishigakijimahi 1.88 83 P Pn 12 00 56.9 +0.2
JISG *e*S Sn 12 01 18.8 -0.7
JTJ Tarama 2.24 83 *e*S Sn 12 01 29.1 +0.9

IDC ***24*** *12:01:57.7±1.1,34.°69N×26.°17E, h0km, mb3.6/6, mb1 3.6/10, mb1mx3.5/34, mbtmp3.6/10, ML3.6/4, Error ellipse: s-maj=24.7km s-min=17.9km az=177.0*
ISCJB ***24*** *12:01:58.8±0.8, 34.°93N±0.°04×25.°93E±0.°02, h6km±4km, mb3.5/6, Error ellipse: s-maj=6.5km s-min=3.2km az=176.3*
ISK ***24*** *12:01:58.1, 35.°00N×25.°89E, h5km, ML3.5/18*
THE ***24*** *12:01:59.4, 34.°99N×25.°92E, h4km±1km, ML3.6/7, Error ellipse: s-maj=2.2km s-min=0.8km az=174.0*
ATH ***24*** *12:01:59.3, 35.°00N×25.°93E, h20km±1km, ML3.5/12, Error ellipse: s-maj=1.7km s-min=0.7km az=352.0*

ISC 24 12:01:59.2±1.1, **34.°94N**±0.°04×**25.°94E**±0.°02, **h10**km±7km, **n81**, σ1§**34**/101, **mb3.6**/6, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.29**	**52**	P	**Pg**	**12 02 05.2**	**+0.1**
ZKR				S	**Sg**	**12 02 09.8**	**+0.8**
ZKR				AML	AML	12 02 10.2	
	comp=N,30349μm,0.4s						
ZKR				AML	AML	12 02 10.5	
	comp=E,56158μm,0.5s						
ZKR	**Zakros**	**0.29**	**52**	P	**Pg**	**12 02 05.2**	**+0.1**
ZKR				S	**Sg**	**12 02 09.6**	**+0.6**
NPS	**Neapolis**	**0.42**	**321**	P	**Pg**	**12 02 06.8**	**-0.7**
NPS				S	**Sg**	**12 02 13.3**	**+0.3**
NPS				AML	AML	12 02 15.8	
	comp=E,18161μm,0.5s						
NPS				AML	AML	12 02 15.9	
	comp=N,13845μm,0.4s						
NPS	**Neapolis**	**0.42**	**321**	P	**Pg**	**12 02 06.8**	**-0.7**
NPS				S	**Sg**	**12 02 12.5**	**-0.5**
LAST	**Lasithi**	**0.44**	**301**	P	**Pg**	**12 02 07.3**	**-0.5**
LAST				S	**Sg**	**12 02 13.4**	**-0.2**
LAST				AML	AML	12 02 14.5	
	comp=E,17296μm,0.3s						
LAST				AML	AML	12 02 15.3	
	comp=N,9027μm,0.2s						
LAST	**Lasithi**	**0.44**	**301**	P	**Pg**	**12 02 07.1**	**-0.7**
LAST				S	**Sg**	**12 02 13.8**	**+0.2**
IACM	**Heraklion**	**0.80**	**298**	P	**Pg**	**12 02 14.1**	**-0.5**
IACM				S	**Sb**	**12 02 25.5**	**-0.6**
IACM	**Heraklion**	**0.80**	**298**	P	**Pg**	**12 02 14.1**	**-0.5**
IACM				S	**Sb**	**12 02 26.8**	**+0.7**
IDI	**Anoyia**	**0.93**	**293**	PG	**Pg**	**12 02 15.7**	**-1.3**
IDI				SG	**Sg**	**12 02 29.1**	**0.0**
SIVA	**Sivas**	**0.93**	**275**	P	**Pg**	**12 02 16.1**	**-0.9**
SIVA				S	**Sb**	**12 02 30.2**	**+0.4**
SIVA				AML	AML	12 02 36.1	
	comp=E,8838μm,0.5s						
SIVA				AML	AML	12 02 43.3	
	comp=N,5829μm,0.7s						
SIVA	**Sivas**	**0.93**	**275**	P	**Pg**	**12 02 16.0**	**-1.0**
SIVA				S	**Sb**	**12 02 30.1**	**+0.4**
KARP	**Karpathos**	**1.17**	**58**	PN	**Pb**	**12 02 21.5**	**-0.1**
KARP	**Karpathos**	**1.17**	**58**	P	**Pb**	**12 02 20.8**	**-0.8**
KARP				S	**Sn**	**12 02 37.4**	**-0.5**
KARP				AML	AML	12 02 46.0	
	comp=E,2254μm,0.6s						
KARP				AML	AML	12 02 55.8	
	comp=N,2577μm,0.9s						
KARP	**Karpathos**	**1.17**	**58**	P	**Pb**	**12 02 20.7**	**-0.9**
ANAF	**Anafi Island**	**1.42**	**355**	P	**Pn**	**12 02 24.8**	**-0.4**
ANAF				S	**Sn**	**12 02 43.0**	**-1.0**
ANAF				AML	AML	12 02 46.4	
	comp=N,13468μm,0.3s						
ANAF				AML	AML	12 02 46.4	
	comp=E,17964μm,0.4s						
ANAF	**Anafi Island**	**1.42**	**355**	P	**Pn**	**12 02 24.8**	**-0.4**
ANAF				S	**Sn**	**12 02 42.3**	**-1.7**
SANT	**Santorini**	**1.48**	**345**	PN	**Pn**	**12 02 26.1**	**+0.1**
SANT	**Santorini**	**1.48**	**345**	P	**Pb**	**12 02 27.0**	**+0.1**
SANT				S	**Sb**	**12 02 45.4**	**-0.4**
SANT				AML	AML	12 02 48.7	
	comp=N,4629μm,0.3s						
SANT				AML	AML	12 02 48.9	
	comp=E,5349μm,0.3s						
THR6	**Thira Island,**	**1.48**	**343**	P	**Pb**	**12 02 26.3**	**-0.6**
VAM	**Vamos**	**1.50**	**289**	P	**Pn**	**12 02 26.1**	**-0.1**
VAM				S	**Sg**	**12 02 47.4**	**0.0**
VAM				AML	AML	12 02 56.0	
	comp=E,1943μm,0.3s						
VAM				AML	AML	12 02 59.0	
	comp=N,2187μm,0.4s						
VAM	**Vamos**	**1.50**	**289**	P	**Pn**	**12 02 25.9**	**-0.3**
THR8	**Santorini-Mono**	**1.51**	**346**	P	**Pb**	**12 02 27.4**	**0.0**
GVD	**Gavdhos**	**1.52**	**267**	PN	**Pn**	**12 02 27.2**	**+0.7**
GVD	**Gavdhos**	**1.52**	**267**	P	**Pb**	**12 02 27.8**	**+0.3**
THR3	**Thira Island,**	**1.53**	**344**	P	**Pb**	**12 02 27.1**	**-0.6**
THT2	**Imerovigli**	**1.55**	**345**	P	**Pb**	**12 02 28.0**	**-0.1**
THT2				S	**Sg**	**12 02 48.5**	**-0.6**
THR5	**Thira Island,**	**1.55**	**342**	P	**Pn**	**12 02 26.8**	**-0.1**
THR2	**Thira island,**	**1.56**	**345**	P	**Pn**	**12 02 26.9**	**-0.2**
IMMV	**Iera Moni Meta**	**1.68**	**289**	PN	**Pn**	**12 02 29.1**	**+0.4**
IMMV	**Iera Moni Meta**	**1.68**	**289**	P	**Pb**	**12 02 29.7**	**-0.6**
IMMV				S	**Sb**	**12 02 51.5**	**0.0**
IMMV				AML	AML	12 03 09.7	
	comp=N,1826μm,1.0s						
IMMV				AML	AML	12 03 13.2	
	comp=E,1606μm,0.9s						
IOSP	**Ios island**	**1.86**	**344**	P	**Pn**	**12 02 30.6**	**-0.5**
IOSP				AML	AML	12 02 56.1	
	comp=E,1633μm,0.4s						
IOSP				AML	AML	12 02 58.6	
	comp=N,1911μm,0.5s						
AMGA	**Amorgos Island**	**1.89**	**359**	P	**Pn**	**12 02 31.1**	**-0.5**
AMGA				AML	AML	12 03 03.0	
	comp=E,1698μm,0.3s						
AMGA				AML	AML	12 03 04.4	
	comp=N,1630μm,0.6s						
AMGA	**Amorgos Island**	**1.89**	**359**	P	**Pn**	**12 02 30.2**	**-1.4**
AMGA				S	**Sn**	**12 02 54.2**	**-1.3**
NISR	**Nisiros**	**1.93**	**30**	P	**Pn**	**12 02 33.0**	**+0.9**
APE	**Apeiranthos**	**2.15**	**351**	PN	**Pn**	**12 02 35.8**	**+0.6**
APE	**Apeiranthos**	**2.15**	**351**	P	**Pn**	**12 02 35.1**	**-0.1**
MHLA	**Plaka, Milos I**	**2.18**	**326**	P	**Pb**	**12 02 37.3**	**-1.5**
ARG	**Arkhangelos**	**2.20**	**54**	PN	**Pn**	**12 02 37.2**	**+1.4**
ARG	**Arkhangelos**	**2.20**	**54**	P	**Pb**	**12 02 37.6**	**-1.4**
ARG				AML	AML	12 03 16.1	
	comp=E,710μm,0.5s						
ARG				AML	AML	12 03 18.8	
	comp=N,381μm,0.7s						
DAT	**Datca**	**2.23**	**36**	PN	**Pn**	**12 02 37.4**	**+1.0**
ANKY	**Antikythira Is**	**2.34**	**294**	P	**Pn**	**12 02 39.0**	**+1.2**
BODT	**Bodrum**	**2.40**	**27**	PN	**Pn**	**12 02 39.6**	**+1.1**
SERI	**Serifos**	**2.51**	**333**	P	**Pn**	**12 02 41.1**	**+1.0**
KYTH	**Kithira**	**2.70**	**300**	P	**Pn**	**12 02 43.7**	**+1.0**
SMG	**Samos**	**2.86**	**14**	P	**Pn**	**12 02 45.0**	**+0.1**
DALY	**Dalyan (Mula)**	**2.90**	**49**	PN	**Pn**	**12 02 47.1**	**+1.7**
TURN	**Turunc**	**2.90**	**47**	PN	**Pn**	**12 02 43.1**	**-2.4**
GCAM	**G?zelcaml?**	**2.95**	**20**	PN	**Pn**	**12 02 47.6**	**+1.5**
VLI	**Veliai**	**3.02**	**307**	P	**Pn**	**12 02 47.6**	**+0.5**
FETY	**Fethiye**	**3.07**	**56**	PN	**Pn**	**12 02 49.7**	**+1.9**
AKAS	**Kas**	**3.26**	**66**	PN	**Pn**	**12 02 52.5**	**+2.0**
AKAS	**Kas**	**3.26**	**66**	*i* P	**Pn**	**12 02 52.2**	**+1.7**
KRND	**KRANIDI**	**3.32**	**318**	P	**Pn**	**12 02 52.5**	**+1.3**
DID	**Didima**	**3.37**	**320**	P	**Pn**	**12 02 53.0**	**+1.1**
VLY	**Voula,Athens**	**3.38**	**330**	P	**Pn**	**12 02 53.5**	**+1.4**
AYDB	**Zeytinkoy-Aydi**	**3.39**	**27**	PN	**Pn**	**12 02 53.8**	**+1.5**
CHOS	**Chios island**	**3.45**	**2**	PN	**Pn**	**12 02 54.2**	**+1.2**
CHOS	**Chios island**	**3.45**	**2**	P	**Pn**	**12 02 52.9**	**-0.1**
URLA	**Izmir**	**3.46**	**9**	PN	**Pn**	**12 02 53.2**	**0.0**
BLCB	**Balcova**	**3.56**	**14**	PN	**Pn**	**12 02 55.3**	**+0.8**
ELL	**Elmali**	**3.70**	**60**	PN	**Pn**	**12 02 58.6**	**+2.0**
GOLH	**Golhisar**	**3.73**	**51**	*i* P	**Pg**	**12 03 09.3**	**-1.3**
LOUT	**Loutraki**	**3.87**	**323**	P	**Pn**	**12 03 00.5**	**+1.7**
LTK	**Loutraki**	**3.90**	**323**	P	**Pn**	**12 03 00.7**	**+1.5**
VIL2	**Platees**	**3.91**	**327**	P	**Pn**	**12 03 00.1**	**+0.7**
PYL	**PYLOS**	**3.92**	**301**	P	**Pn**	**12 03 01.5**	**+2.0**
KORT	**Korkueli**	**4.13**	**59**	PN	**Pn**	**12 03 04.8**	**+2.3**
GUR	**Goura**	**4.17**	**317**	P	**Pn**	**12 03 04.3**	**+1.3**
KULA	**Kula-Manisa**	**4.19**	**31**	PN	**Pn**	**12 03 05.2**	**+2.0**
KLV	**Kalavryta, Ach**	**4.35**	**317**	P	**Pn**	**12 03 06.8**	**+1.3**
DSF	**Desfina**	**4.42**	**323**	P	**Pn**	**12 03 08.2**	**+1.8**
BRTR	**Keskin Array B**	**7.78**	**50**	Pn	**Pn**	**12 03 53.6**	**+1.0**
	comp=N,0.2nm,0.3s,baz=225,slow=15,SNR=11						
MMAI	**Mount Meron Ar**	**8.09**	**101**	Pn	**Pn**	**12 03 53.0**	**-3.9**
	comp=N,3.0nm,0.3s,baz=271,slow=14,SNR=4.8						
EIL	**Elat**	**9.26**	**122**	Pn	**Pn**	**12 04 08.8**	**-4.0**
	comp=N,0.2nm,0.3s,baz=341,slow=11,SNR=1.7						
EIL				Sn	**Sn**	**12 05 51.8**	**-5.3**
	comp=N,0.6nm,0.3s,baz=99,slow=13,SNR=2.8						
AKASG	**Malin Array Be**	**15.94**	**8**	Pn	**P**	**12 05 45.7**	**-1.3**
	comp=N,0.9nm,0.3s,baz=197,slow=11,SNR=5.1						
ESDC	**Sonseca Array**	**24.19**	**290**	P	**P**	**12 07 17.2**	**+1.4**
	comp=N,0.4nm,0.4s,baz=84,slow=11,SNR=4.1						
EKA	**Eskdalemuir Ar**	**28.59**	**325**	P	**P**	**12 07 58.9**	**+3.6**
	comp=N,0.4nm,0.4s,baz=106,slow=11,SNR=3.3						
TORD	**Torodi Ar. Bea**	**30.84**	**231**	P	**P**	**12 08 16.0**	**+0.4**
	comp=N,0.8nm,0.5s,baz=32,slow=9.2,SNR=8.7						
MKAR	**Makanchi Array**	**43.37**	**56**	P	**P**	**12 10 01.9**	**+0.2**
	comp=N,0.8nm,0.4s,baz=280,slow=6.7,SNR=15						
ZALV	**Zalesovo Beam**	**44.70**	**46**	P	**P**	**12 10 11.8**	**-0.4**
	comp=N,0.5nm,0.5s,baz=260,slow=8.6,SNR=3.0						
YKA	**Yellowknife Ar**	**77.86**	**342**	P	**P**	**12 13 58.2**	**+1.6**
	comp=N,0.1nm,0.4s,baz=31,slow=5.2,SNR=3.6						

IGQ ***24*** *12:03:04.5±8.6, 27.°5±70.°×7.°0W±1.°7*
GUC ***24*** *12:03:05.2±0.3, 26.°10S×69.°08W, h6km±7km, ML3.6*
IDC ***24*** *12:03:05.9±2.3, 26.°29S×69.°02W, h0km, mb3.6/1, mb1 3.7/3, mb1mx3.5/20, mbtmp3.7/3, ML3.6/2, Error ellipse: s-maj=78.4km s-min=47.4km az=88.0*

ISC 24 12:03:06.8±1.4, **26.°0S**±0.°1×**69.°11W**±0.°08, **h10**km, **n23**, σ2§**08**/25, **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO02	**Mina Guanaco**	**0.95**	**333**	*e*P	**Pg**	**12 03 24.6**	**-0.7**
GO02				*e*S	**Sb**	**12 03 39.5**	**+1.0**
PB14	**IPOC Station P**	**1.81**	**320**	*e*P	**Pn**	**12 03 38.8**	**+0.4**
PB14				*e*S	**Sb**	**12 04 04.2**	**+1.0**
PB14				IAML		12 04 07.9	
	comp=N,997nm,0.8s						
PB14	**IPOC Station P**	**1.81**	**320**	P	**Pb**	**12 03 39.6**	**-0.7**
PB10	**IPOC Station P**	**2.82**	**332**	*e*P	**Pn**	**12 03 53.5**	**+1.6**
PB10				IAML		12 04 40.6	
	comp=E,180nm,0.5s						
PB10	**IPOC Station P**	**2.82**	**332**	P	**Pb**	**12 03 56.0**	**-1.2**
PB05	**IPOC Station P**	**3.30**	**342**	*e*P	**Pn**	**12 04 00.5**	**+1.8**
PB05	**IPOC Station P**	**3.30**	**342**	P	**Pb**	**12 04 02.6**	**-3.0**
PB06	**IPOC Station P**	**3.32**	**353**	*e*P	**Pn**	**12 04 00.8**	**+1.8**
PB06	**IPOC Station P**	**3.32**	**353**	P	**Pb**	**12 04 03.7**	**-2.2**
LVC	**Limon Verde**	**3.40**	**3**	Pn	**Pb**	**12 04 05.0**	**-2.3**
	comp=E,4.9nm,0.3s,baz=171,slow=9.3,SNR=31						
LVC				Lg	Lg	12 04 53.2	
	baz=31,slow=19						
LVC	**Limon Verde**	**3.40**	**3**	*e*P	**Pn**	**12 04 02.1**	**+1.9**
LVC	**Limon Verde**	**3.40**	**3**	P	**Pb**	**12 04 06.0**	**-1.3**
LVC				P	**Pb**	**12 04 06.0**	**-1.3**
PB04	**IPOC Station P**	**3.79**	**345**	P	**Pn**	**12 04 08.3**	**+2.8**
PB03	**IPOC Station P**	**3.99**	**351**	*e*P	**Pn**	**12 04 10.5**	**+2.3**
PB03	**IPOC Station P**	**3.99**	**351**	P	**Pn**	**12 04 11.8**	**+3.5**
PB09	**IPOC Station P**	**4.20**	**358**	P	**Pb**	**12 04 17.5**	**-3.5**
PB07	**IPOC Station P**	**4.33**	**350**	P	**Pb**	**12 04 20.8**	**-2.4**
PB01	**IPOC Station P**	**4.96**	**356**	P	Pn	12 04 26.9	+5.4
SIV	**San Ignacio**	**12.48**	**38**	Pn	**Pn**	**12 06 05.2**	**+0.6**
	comp=E,0.3nm,0.3s,baz=236,slow=14,SNR=7.3						
TORD	**Torodi Ar. Bea**	**79.07**	**70**	P	**P**	**12 15 13.3**	**+1.5**
	comp=E,0.4nm,0.7s,baz=242,slow=3.1,SNR=2.8						
KURBB	**Kurchatov Arra**	**145.13**	**37**	PKPbc	**PKPdf**	**12 22 44.0**	**-0.3**
	comp=E,0.5nm,0.9s,baz=297,slow=3.4,SNR=3.3						
ZALV	**Zalesovo Beam**	**146.06**	**28**	PKPbc	**PKiKP**	**12 22 47.2**	**-2.8**
	comp=E,0.5nm,0.4s,baz=290,slow=4.3,SNR=5.3						
MKAR	**Makanchi Array**	**149.29**	**40**	PKPbc	**PKiKP**	**12 22 55.7**	**-1.2**
	comp=E,0.5nm,0.8s,baz=321,slow=1.7,SNR=5.4						

IDC ***24*** *12:58:34.7±0.9, 4.°85N×95.°93E, h0km, mb4.0/9, mb1 4.1/11, mb1mx3.9/44, mbtmp3.9/11, ML3.7/1, MS3.1/4, Ms1 3.1/4, ms1mx2.8/44, Error ellipse: s-maj=41.9km s-min=12.5km az=48.0*
NEIC ***24*** *12:58:36.1±0.4, 4.°85N×95.°91E, h10km, mb4.1/4, Error ellipse: s-maj=9.5km s-min=5.6km az=225.0*
DJA ***24*** *12:58:36.8±1.1, 5.°N±5.°×9.°6E±°, h15km±11km, M4.2/6, mb4.3/1, mB4.7/1, MLv4.2/6, Mw(mB)3.9/1*
ISCJB ***24*** *12:58:37.4±0.4, 4.°93N±0.°05×95.°90E±0.°05, h29km, mb4.2/14, MS3.4/1, Error ellipse: s-maj=8.8km s-min=4.9km az=139.3*

ISC 24 12:58:39.0±0.6, **4.°89N**±0.°05×**95.°98E**±0.°06, **h29**km, **n40**, σ1§**16**/39, **mb4.1**/14, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**1.02**	**71**	*e*Pg	**Pn**	**12 58 56.6**	**-0.8**
LHMI	**Lhok Sumawe**	**1.02**	**71**	P	**Pn**	**12 58 56.3**	**-1.1**
LHMI				S	**Sn**	**12 59 10.5**	**-0.3**
TPTI		**2.01**	**143**	P	**Pn**	**12 59 11.0**	**0.0**
TPTI				S	**Sb**	**12 59 37.2**	**-2.4**
KCSI	**Kotacane, Aceh**	**2.24**	**127**	P	**Pb**	**12 59 16.7**	**-2.2**
KCSI				S	**Sb**	**12 59 45.8**	**-0.5**
SNSI	**Sinabang, Aceh**	**2.49**	**172**	P	**Pn**	**12 59 17.8**	**+0.2**
TSI	**Tuntungan**	**2.92**	**118**	P	**Pb**	**12 59 31.0**	**+0.5**
PSI	**Prapat**	**3.60**	**125**	Pn	**Pn**	**12 59 35.1**	**+2.1**
	5.8nm,0.3s,baz=360,slow=5.6,SNR=18						
PSI				Sn	**Sn**	**13 00 18.8**	**+4.2**
	2.9nm,0.3s,baz=360,slow=21,SNR=4.0						
PSI				Lg	Lg	13 00 30.8	
	4.6nm,0.3s,baz=180,slow=15,SNR=2.6						
PSI				LR	LR	13 00 49.3	
	comp=Z,169nm,18.8s,baz=84,slow=37						
GSI	**Gunungsitoli**	**3.90**	**156**	*e*Pn	**Pn**	**12 59 36.7**	**-0.3**
GSI	**Gunungsitoli**	**3.90**	**156**	P	**Pn**	**12 59 35.7**	**-1.3**
KULM	**Kulim**	**4.67**	**85**	*e*Pn	**Pn**	**12 59 47.9**	**+0.3**
IPM	**Ipoh**	**5.05**	**94**	*e*Pn	**Pn**	**12 59 53.0**	**+0.1**
PBKT	**Sadao Pong**	**12.60**	**22**	P	Pn	13 01 41.3	+4.9
	10nm,0.6s,511nm						
CMAR	**Chiang Mai Arr**	**13.79**	**12**	Pn	**Pn**	**13 01 53.5**	**+0.7**
	baz=196,slow=11,SNR=2.8						
CMAR				Lg	Lg	13 06 01.4	
	baz=201,slow=32,SNR=4.8						
CMMT	**Chiang Mai**	**14.14**	**12**	P	P	13 02 12.2	+7.4
CHTO	**Chiang Mai**	**14.14**	**12**	P	P	13 02 12.3	+7.5
	17nm,1.0s						
PALK	**Pallekele**	**15.37**	**280**	LR	LR	13 06 24.9	
	comp=Z,41nm,21.5s,baz=116,slow=31						
LEM	**Lembang**	**16.44**	**135**	LR	LR	13 09 32.4	
	comp=Z,100nm,18.3s,baz=257,slow=40						
H08S2	**Diego Garcia H**	**26.53**	**242**	T	T	13 31 23.4	
	baz=62,slow=75						
H08S3	**Diego Garcia H**	**26.53**	**242**	T	T	13 31 18.9	
	baz=62,slow=75						
H08S1	**Diego Garcia H**	**26.55**	**242**	T	T	13 31 25.2	
	baz=62,slow=75						
SOEI	**Soe**	**31.72**	**117**	*e*P	**P**	**13 05 01.4**	**+0.7**
	74nm,0.7s						
MK32	**Makanchi Array**	**43.39**	**346**	*e*P	**P**	**13 06 38.4**	**-0.6**
MKAR	**Makanchi Array**	**43.39**	**346**	P	**P**	**13 06 38.4**	**-0.6**
	0.6nm,0.7s,baz=158,slow=8.4,SNR=5.4						
SONA0	**Songino Array**	**43.71**	**10**	*e*P	**P**	**13 06 41.9**	**+0.2**
SONM	**Songino Array**	**43.71**	**10**	P	**P**	**13 06 41.9**	**+0.2**
	0.8nm,0.8s,baz=190,slow=8.6,SNR=6.3						
WR1	**Warramunga Arr**	**45.06**	**124**	*e*P	**P**	**13 06 52.3**	**-0.4**
	5.6nm,1.1s						
WR1				*e*PcP	**PcP**	**13 08 32.8**	**-0.6**
WRA	**Warramunga Arr**	**45.06**	**124**	P	**P**	**13 06 52.3**	**-0.4**
	1.4nm,0.5s,baz=302,slow=9.3,SNR=14						
WRA				PcP	**PcP**	**13 08 32.8**	**-0.6**
	0.6nm,0.6s,baz=317,slow=2.8,SNR=6.2						
AS31	**Alice Springs**	**46.62**	**129**	*e*P	**P**	**13 07 04.6**	**-0.4**
	1.6nm,0.6s						
ASAR	**Alice Springs**	**46.62**	**129**	P	**P**	**13 07 05.3**	**+0.3**
	4.1nm,0.7s,baz=299,slow=7.8,SNR=50						
ASAR				PcP	**PcP**	**13 08 39.6**	**+0.9**
	0.8nm,0.7s,baz=306,slow=3.0,SNR=4.1						
GEYT	**Alibeck**	**47.63**	**319**	P	**P**	**13 07 14.3**	**+1.6**
	4.3nm,0.8s,baz=163,slow=7.1,SNR=5.3						
GEYT				LR	LR	13 29 01.6	
	comp=Z,36nm,18.1s,baz=10.0,slow=38						
ZALV	**Zalesovo Beam**	**49.75**	**351**	P	**P**	**13 07 29.1**	**+0.4**
	0.5nm,0.4s,baz=181,slow=5.8,SNR=4.9						
ZAA1	**Zalesovo Array**	**49.76**	**351**	*e*P	**P**	**13 07 29.1**	**+0.4**
ABKAR	**Akbulak array**	**53.71**	**331**	*e*P	**P**	**13 07 57.7**	**-0.7**
	1.3nm,0.9s						
STKA	**Stephens Creek**	**56.74**	**133**	P	**P**	**13 08 20.6**	**+0.1**
	2.2nm,0.7s,baz=298,slow=9.2,SNR=4.3						
STKA	**Stephens Creek**	**56.74**	**133**	*e*P	**P**	**13 08 18.6**	**-1.8**
	1.6nm,1.1s						
BR101	**Keskin Array S**	**65.76**	**311**	*e*P	**P**	**13 09 21.2**	**-0.5**
BRTR	**Keskin Array B**	**65.76**	**311**	P	**P**	**13 09 21.2**	**-0.5**
	1.5nm,0.8s,baz=126,slow=6.4,SNR=8.2						
ARA0	**ARCESS Array S**	**78.68**	**340**	*e*P	**P**	**13 10 38.1**	**0.0**
ARCES	**ARCESS Array B**	**78.68**	**340**	P	**P**	**13 10 38.1**	**0.0**
	4.7nm,1.0s,baz=91,slow=6.6,SNR=4.4						
GERES	**GERESS Array B**	**81.26**	**319**	P	**P**	**13 10 53.1**	**+0.5**
	0.4nm,0.4s,baz=138,slow=4.8,SNR=3.6						

IDC ***24*** *13:28:03.9±1.3, 8.°01S×122.°09E, h192km±13km, mb3.5/7, mb1 3.8/12, mb1mx3.6/37, mbtmp4.2/12, Error ellipse: s-maj=29.6km s-min=13.8km az=69.0*
ISCJB ***24*** *13:28:04.6±0.3, 8.°15S±0.°03×122.°08E±0.°03, h219km±3km, mb3.7/7, Error ellipse: s-maj=6.2km s-min=4.6km az=40.6*
DJA ***24*** *13:28:05.9±0.3, 8.°S±3.°×12.°2E±°, h208km±4km, M4.4/17, mb4.4/7, mB5.2/2, MLv4.5/17, Mw(mB)4.6/2*

ISC 24 13:28:05.3±0.7, **8.°17S**±0.°05×**122.°07E**±0.°05, **h213**km±6km, **n39**, σ1§**79**/52, **mb4.0**/14, **Flores region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**0.50**	**160**	P	**S**	**13 28 57.5**	**+1.0**
EDFI	**Ende, Flores**	**0.69**	**213**	P	**Pn**	**13 28 35.8**	**+0.9**
EDFI				S	**S**	**13 28 58.1**	**-0.1**
WSI	**Waingapu**	**2.30**	**229**	P	**Pn**	**13 28 48.7**	**+0.8**
WSI				S	**S**	**13 29 21.9**	**+1.0**
BASI	**Baing, Sumba**	**2.52**	**216**	P	**Pn**	**13 28 50.8**	**+0.6**
BASI				S	**S**	**13 29 26.8**	**+1.7**
BATI	**Baumata**	**2.57**	**142**	P	**Pn**	**13 28 51.3**	**+0.5**
	166nm,0.3s,baz=72,slow=1.5,SNR=142						
BATI				S	**S**	**13 29 24.9**	**-1.2**
	341nm,0.3s,baz=157,slow=8.3,SNR=19						
BATI	**Baumata**	**2.57**	**142**	P	**Pn**	**13 28 51.5**	**+0.6**
BATI				S	**S**	**13 29 25.7**	**-0.5**
SOEI	**Soe**	**2.69**	**126**	P	**Pn**	**13 28 52.6**	**+0.3**
BBSI	**Bau Bau**	**2.71**	**11**	P	**Pn**	**13 28 52.4**	**0.0**
BKSI	**Bulukumba**	**3.42**	**326**	P	**Pn**	**13 29 00.6**	**0.0**
BKSI				S	**S**	**13 29 42.7**	**-1.0**
KDI	**Kendari**	**4.21**	**8**	P	Pn	13 29 02.2	-8.1
BNSI	**Bone**	**4.22**	**332**	P	**Pn**	**13 29 11.7**	**+1.4**
PLAI	**Plampang**	**4.29**	**261**	P	**Pn**	**13 29 13.2**	**+1.9**
PLAI				S	**S**	**13 30 03.3**	**+0.4**
SPSI	**Sidrap Palu**	**4.76**	**331**	P	**Pn**	**13 29 17.9**	**+0.8**
SRBI	**Singaraja**	**6.79**	**270**	P	**Pn**	**13 29 45.0**	**+2.1**
IGBI	**Denpasar**	**6.88**	**264**	P	**Pn**	**13 29 44.5**	**+0.4**
IGBI				S	**S**	**13 31 00.9**	**-1.7**
APSI	**Ampana**	**7.22**	**357**	P	**Pn**	**13 29 48.9**	**+0.4**
SANI	**Sanana**	**7.22**	**33**	P	**Pn**	**13 29 47.3**	**-1.3**
JAGI	**Jajag, Banyuwa**	**7.84**	**267**	P	**Pn**	**13 29 56.9**	**+0.3**
JAGI				S	**S**	**13 31 22.5**	**-2.8**
KMMI	**Kalianget**	**8.11**	**277**	P	**Pn**	**13 30 04.3**	**+4.3**
GMJI	**Gumukmas**	**8.54**	**269**	P	**Pn**	**13 30 04.6**	**-1.0**
GMJI				S	**S**	**13 31 42.8**	**+0.9**
MRSI	**Marisa**	**8.59**	**359**	P	**Pn**	**13 30 06.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**10.47**	**161**	P	**Pn**	**13 30 29.9**	**-0.6**
	1.1nm,0.3s,baz=358,slow=9.3,SNR=34						
FITZ				S	**S**	**13 32 23.4**	**-4.4**
	6.4nm,0.3s,baz=159,slow=7.4,SNR=9.

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.70**	**175**	*i* Pg	**Pg**	**13 58 01.6**	**-0.2**
KSP				*i* Sg	**Sg**	**13 58 10.0**	**-1.0**
UPC	**Upice**	**1.04**	**187**	*e*PG	**Pg**	**13 58 07.9**	**-0.5**
UPC				*e*SG	**Sg**	**13 58 20.7**	**-1.1**
	comp=Z,133nm,0.4s						
DPC	**Dobruska-Polom**	**1.20**	**176**	*e*PG	**Pg**	**13 58 10.5**	**-0.8**
DPC				*e*SG	**Sg**	**13 58 25.4**	**-1.4**
	comp=Z,74nm,0.6s						
PVCC	**Panska Ves**	**1.44**	**226**	*e*PG	**Pb**	**13 58 16.0**	**-0.2**
PVCC				*e*SG	**Sb**	**13 58 34.4**	**-0.7**
	comp=Z,176nm,0.4s						
KRLC	**Kraliky**	**1.51**	**166**	*e*PG	**Pn**	**13 58 16.3**	**-0.5**
KRLC				*e*SG	**Sg**	**13 58 34.6**	**-2.4**
	comp=Z,12nm,0.3s						
BRG	**Berggiesshubel**	**1.57**	**246**	PG	**Pg**	**13 58 17.9**	**-0.6**
BRG				SG	**Sn**	**13 58 38.8**	**+0.3**
	117nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.86**	**209**	*e*PG	**Pb**	**13 58 22.8**	**-0.5**
GOPC				*e*SG	**Sn**	**13 58 44.9**	**-0.8**
	comp=Z,39nm,0.5s						
PRU	**Pruhonice**	**1.88**	**215**	*e*PN	**Pn**	**13 58 20.5**	**-1.3**
PRU				*e*PG	**Pb**	**13 58 22.8**	**-0.8**
PRU				*e*SG	**Sb**	**13 58 46.3**	**-1.2**
	comp=Z,59nm,0.4s						
MORC	**Moravsky Berou**	**1.96**	**154**	*e*PN	**Pn**	**13 58 22.3**	**-0.7**
MORC				*e*SG	**Sn**	**13 58 48.0**	**-0.3**
CLL	**Collm**	**2.01**	**265**	*i* Pn	**Pn**	**13 58 23.7**	**+0.1**
CLL				*i* Pg	**Pg**	**13 58 26.5**	**-0.5**
CLL				*i*		13 58 31.0	
CLL				*e*Sg	**Sg**	**13 58 55.0**	**+1.9**
	comp=Z,43nm,0.4s						
OKC	**Ostrava-Krasne**	**2.11**	**143**	*e*PG	**Pb**	**13 58 27.9**	**+0.4**
OKC				*e*SG	**Sb**	**13 58 53.7**	**-0.5**
	comp=Z,44nm,0.6s						
CHZP	**Chorzow**	**2.17**	**124**	*e*Pg	**Pg**	**13 58 31.4**	**+1.4**
CHZP				*e*SG	**Sg**	**13 58 59.6**	**+1.6**
VRAC	**Vranov**	**2.25**	**173**	Pn	**Pn**	**13 58 27.6**	**+0.7**
	comp=Z,3.0nm,0.3s,baz=342,slow=18,SNR=8.2						
VRAC				Sn	**Sb**	**13 58 57.0**	**-1.3**
	comp=Z,7.1nm,0.3s,baz=79,slow=18,SNR=12						
VRAC	**Vranov**	**2.25**	**173**	*e*PN	**Pn**	**13 58 27.4**	**+0.5**
VRAC				*e*SG	**Sb**	**13 58 57.3**	**-1.0**
TREC	**Trest**	**2.29**	**192**	*e*PG	**Pb**	**13 58 30.2**	**-0.5**
TREC				*e*SG	**Sb**	**13 58 59.1**	**-0.5**
KRUC	**Moravsky**	**2.49**	**177**	*e*PG	**Pb**	**13 58 33.5**	**-0.4**
KRUC				*e*SG	**Sb**	**13 59 04.9**	**-0.2**
OJC	**Ojcow**	**2.64**	**119**	*e*Pg	**Pg**	**13 58 39.4**	**+0.4**
OJC				*e*Sg	**Sg**	**13 59 14.0**	**+0.9**
NKC	**Novy Kostel**	**2.71**	**243**	*e*PN	**Pn**	**13 58 33.4**	**+0.1**
NKC				*e*PG	**Pg**	**13 58 39.6**	**-0.8**
NKC				*e*SG	**Sg**	**13 59 15.1**	**-0.4**
	comp=Z,79nm,0.3s						
JAVC	**Velka Javorina**	**2.85**	**160**	*e*PN	**Pn**	**13 58 36.9**	**+1.7**
KHC	**Kasperske Hory**	**2.94**	**216**	*e*PN	**Pn**	**13 58 35.9**	**-0.5**
KHC				*e*PG	**Pb**	**13 58 42.3**	**+0.6**
KHC				*e*SN	**Sn**	**13 59 09.4**	**-3.0**
KHC				*e*SG	**Sb**	**13 59 19.2**	**+1.1**
	comp=Z,21nm,0.5s						
SMOL	**Smolenice**	**3.13**	**165**	*e*PG	**Pg**	**13 58 48.5**	**+0.1**
SMOL				*e*SG	**Sg**	**13 59 31.6**	**+2.6**
GERES	**GERESS Array B**	**3.14**	**212**	Pn	**Pn**	**13 58 38.9**	**-0.3**
	comp=Z,2.9nm,0.3s,baz=24,slow=13,SNR=11						
GERES				Pg	**Pb**	**13 58 45.2**	**+0.1**
	comp=Z,3.2nm,0.3s,baz=25,slow=17,SNR=51						
GERES				Sn	**Sn**	**13 59 15.3**	**-2.2**
	comp=Z,2.0nm,0.3s,baz=30,slow=14,SNR=6.8						
GERES				Lg	Lg	13 59 25.2	
	comp=Z,7.4nm,0.3s,baz=28,slow=29,SNR=9.9						
LANS	**Liptovska Anna**	**3.18**	**138**	*e*PG	**Pg**	**13 58 49.2**	**-0.2**
LANS				*e*SG	**Sg**	**13 59 28.8**	**-1.8**
MODS	**Modra-Piesok**	**3.25**	**167**	*e*PG	**Pg**	**13 58 50.6**	**0.0**
MODS				*e*SG	**Sg**	**13 59 32.2**	**-0.5**
MODS				*e*LG	Lg	13 59 42.3	
NIE	**Niedzica**	**3.37**	**127**	*e*Pg	**Pg**	**13 58 53.7**	**+0.7**
NIE				*e*Sg	**Sg**	**13 59 37.3**	**+0.5**
VYHS	**Vyhne**	**3.49**	**150**	*e*PG	**Pg**	**13 58 54.2**	**-1.1**
VYHS				*e*SG	**Sg**	**13 59 43.0**	**+2.4**
VYHS				*e*LG	Lg	13 59 47.9	
CONA	**Conrad Observa**	**3.62**	**184**	*e*Pn	**Pn**	**13 58 46.3**	**+0.4**
	comp=Z,0.9nm,0.3s						
CONA				Sg	**Sg**	**13 59 41.5**	**-3.3**
	comp=Z,5.3nm,0.4s						
BSD	**Bornholm Skovb**	**3.66**	**348**	*i* P	**Pn**	**13 58 47.1**	**+0.9**
BSD				*i* S	**Sn**	**13 59 28.1**	**-2.0**
MOA	**Molln**	**3.90**	**199**	*e*Pn	**Pn**	**13 58 49.6**	**0.0**
	comp=Z,0.7nm,0.2s						
MOA				Sg	**Sb**	**13 59 47.9**	**+2.0**
	comp=Z,12nm,0.4s						
ARSA	**Arzberg**	**4.32**	**186**	*e*Pn	**Pn**	**13 58 55.4**	**+0.1**
	comp=Z,0.7nm,0.2s						
ARSA				Sg	**Sb**	**13 59 59.5**	**+1.7**
	comp=Z,4.4nm,0.5s						
LUNU	**Lund**	**4.41**	**339**	P	**Pn**	**13 58 56.8**	**+0.2**
LUNU				S	**Sn**	**13 59 46.4**	**-2.2**
KBA	**Koelnbreinsper**	**4.84**	**204**	*e*Pg	**Pg**	**13 59 22.7**	**+1.6**
	comp=Z,0.4nm,0.1s						
KBA				Sg	**Sb**	**14 00 14.4**	**+1.4**
	comp=Z,3.1nm,0.3s						
BJUU	**Bjuv**	**4.92**	**339**	P	**Pn**	**13 59 03.6**	**+0.2**
BJUU				S	**Sn**	**13 59 57.7**	**-3.3**
SOKA	**Soboth**	**4.93**	**189**	Pg	**Pg**	**13 59 21.6**	**-1.2**
	comp=Z,0.2nm,0.1s						
SOKA				Sg	**Sb**	**14 00 18.7**	**+3.3**
	comp=Z,2.7nm,0.5s						
OBKA	**Obir**	**5.15**	**193**	Pg	**Pg**	**13 59 25.0**	**-2.1**
	comp=Z,0.4nm,0.2s						
OBKA				Sg	**Sb**	**14 00 25.0**	**+3.1**
	comp=Z,5.8nm,0.8s						
WATA	**Walderalm**	**5.18**	**217**	Sg	**Sg**	**14 00 39.3**	**+4.7**
	comp=Z,4.2nm,0.3s						
MYKA	**Terra Mystica**	**5.19**	**200**	Sg	**Sb**	**14 00 26.1**	**+3.1**
	comp=Z,1.0nm,0.2s						
ABTA	**Abfaltersbach**	**5.37**	**208**	Sg	**Sb**	**14 00 31.0**	**+2.8**
	comp=Z,1.4nm,0.2s						
SQTA	**Sankt Quirin**	**5.41**	**219**	Sg	**Sb**	**14 00 32.4**	**+3.0**
	comp=Z,2.7nm,0.3s						
VXJU	**Vaexsjoe**	**5.44**	**353**	P	**Pn**	**13 59 11.9**	**+1.2**
OSKU	**Oskarshamn**	**5.67**	**359**	P	**Pn**	**13 59 15.0**	**+1.3**
FETA	**Feichten**	**5.77**	**220**	Sg	**Sb**	**14 00 44.2**	**+4.6**
	comp=Z,3.1nm,0.7s						
BYXU	**Byxelkrok**	**5.78**	**4**	P	**Pn**	**13 59 17.1**	**+1.8**
GNOU	**Gnosjoe**	**5.93**	**347**	P	**Pn**	**13 59 18.4**	**+0.9**
AKASG	**Malin Array Be**	**8.24**	**91**	Pn	**Pn**	**13 59 49.5**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=276,slow=12,SNR=2.5						
HFS	**Hagfors**	**8.73**	**352**	Pn	**Pn**	**13 59 55.4**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=167,slow=14,SNR=5.0						
NOA	**NORSAR Array B**	**9.91**	**346**	Pn	**Pn**	**14 00 10.4**	**-1.6**
	comp=Z,0.0nm,0.3s,baz=217,slow=13,SNR=4.5						
FINES	**FINESS Array B**	**11.31**	**25**	Pn	**Pn**	**14 00 30.4**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=209,slow=12,SNR=4.0						

*ISCJB **24** 14:03:05.4±0.7,62.7°S±0.1°×160.5°W±0.2,h10km,mb4.4/9, MS4.4/17,Error ellipse: s-maj=20.5km s-min=13.4km az=27.3*

*IDC **24** 14:03:06.3±0.7,62.62°S×160.33°W,h0km,mb4.3/8, mb1 4.5/9,mb1mx4.4/27,mbtmp4.4/9,ML4.2/1,MS4.4/18, Ms1 4.4/18,ms1mx4.3/24,Error ellipse: s-maj=29.6km s-min=18.0km az=20.0*

*NEIC **24** 14:03:07.8±0.4,62.60S×160.38W,h10km,mb4.3/1,Error ellipse: s-maj=17.6km s-min=12.2km az=201.0*

*GCMT **24** 14:03:09.8±0.2,62.97S±0.01°×160.28W±0.03,h12km±1km, MW5.1/91,Moment Tensor Solution. s37,c44; s91,c134; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.19±.13; Mθθ=4.17±.16; Mφφ=-3.98±.14; Mrθ=-1.04±.37; Mrφ=0.74±.11; Mθφ=3.20±.67; Best double couple: M=5.17100×10^16 NP1:φs=128.00000°,δ79.00000°,λ=-31.00000°. NP2: φs=225.00000°,δ59.00000°,λ=-167.00000°. Principal axes: T 4.4050, Plg13.0000°, Azm180.0000°; N 1.5330, Plg57.0000°, Azm290.0000°; P -5.9360, Plg30.0000°, Azm82.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 14:03:08.2±0.6,62.9S±0.1×160.5W±0.1,h10km,n40, σ1§41/22,mb4.5/9,MS4.4/17,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**18.86**	**204**	P	**Pn**	**14 07 31.0**	**+2.5**
	0.7nm,0.3s,baz=74,slow=17,SNR=40						
VNDA				LR	LR	14 13 12.2	
	comp=Z,1μm,18.5s,baz=62,slow=32						
QSPA	**South Pole Qui**	**27.26**	**180**	P	**P**	**14 08 53.0**	**+0.7**
	14nm,1.0s,baz=53,slow=5.5,SNR=17						
QSPA				LR	LR	14 18 14.0	
	comp=Z,744nm,18.8s,baz=56,slow=33						
URZ	**Urewera**	**28.15**	**320**	LR	LR	14 17 31.3	
	comp=Z,750nm,21.8s,baz=180,slow=31						
TBI	**Tubuai**	**40.19**	**16**	*e*T	T	14 53 04.2	
	52nm,0.3s						
RKT	**Rikitea**	**43.28**	**35**	*e*T	T	14 56 50.1	
	5.4nm,0.2s						
USHA	**Ushuaia**	**44.33**	**124**	P	**P**	**14 11 19.4**	**+1.5**
	7.1nm,0.9s,baz=263,slow=8.1,SNR=2.4						
VNA3	**Neumayer Olymp**	**44.66**	**167**	P	**P**	**14 11 19.1**	**-1.2**
SNAA	**Sanae**	**44.86**	**170**	P	**P**	**14 11 21.1**	**-0.9**
VNA1	**Neumayer--Stat**	**45.37**	**167**	P	P	14 11 21.6	-4.3
PPT2	**Papeete2**	**45.86**	**15**	*e*S	**S**	**14 18 17.6**	**+3.2**
	138nm,26.5s						
PPT2				*e*LQ	LQ	14 21 58.6	
	626nm,26.8s						
PPT2				*e*LR	LR	14 24 18.4	
	comp=Z,1μm,25.2s,baz=189						
PPT	**Papeete**	**45.88**	**15**	LR	LR	14 25 22.0	
	comp=Z,445nm,19.3s,baz=216,slow=29						
MAW	**Mawson**	**46.13**	**201**	LR	LR	14 28 58.4	
	comp=Z,342nm,20.2s,baz=158,slow=34						
DZM	**Mont Dzumac**	**46.49**	**316**	*e*LR	LR	14 24 33.0	
	comp=Z,408nm,22.3s						
DZM	**Mont Dzumac**	**46.49**	**316**	LR	LR	14 28 12.1	
	comp=Z,330nm,18.3s,baz=204,slow=32						
STKA	**Stephens Creek**	**47.61**	**283**	P	**P**	**14 11 43.9**	**-0.1**
	6.3nm,0.8s,baz=347,slow=4.3,SNR=3.9						
STKA				LR	LR	14 28 09.4	
	comp=Z,343nm,19.7s,baz=155,slow=32						
VAH	**Vaihoa**	**48.42**	**17**	*e*T	T	15 03 20.5	
	94nm,0.3s						
PLCA	**Paso Flores**	**54.69**	**111**	P	**P**	**14 12 36.6**	**-0.6**
	1.2nm,0.6s,baz=225,slow=13,SNR=2.6						
PLCA				LR	LR	14 30 06.6	
	comp=Z,324nm,21.6s,baz=236,slow=30						
CTA	**Charters Tower**	**55.86**	**294**	LR	LR	14 34 11.7	
	comp=Z,319nm,18.9s,baz=264,slow=33						
H01W1	**Cape Leeuwin H**	**57.55**	**256**	T	T	15 15 50.3	
	baz=146,slow=76,SNR=5.8						
H01W2	**Cape Leeuwin H**	**57.56**	**256**	T	T	15 15 52.6	
	baz=146,slow=76,SNR=5.6						
H01W3	**Cape Leeuwin H**	**57.57**	**256**	T	T	15 15 55.7	
	baz=146,slow=76,SNR=5.3						
ASAR	**Alice Springs**	**58.11**	**280**	P	**P**	**14 13 01.1**	**-0.5**
	4.9nm,0.8s,baz=150,slow=8.0,SNR=18						
ASAR				LR	LR	14 34 19.4	
	comp=Z,571nm,21.1s,baz=148,slow=32						
WRA	**Warramunga Arr**	**61.16**	**283**	P	**P**	**14 13 21.6**	**-1.1**
	3.3nm,0.8s,baz=154,slow=5.5,SNR=10						
WRA				LR	LR	14 36 07.7	
	comp=Z,345nm,21.5s,baz=155,slow=32						
WRAB	**Tennant Creek**	**61.16**	**283**	P	**P**	**14 13 20.7**	**-2.1**
	2.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**66.70**	**276**	LR	LR	14 39 35.7	
	comp=Z,164nm,21.1s,baz=142,slow=33						
CPUP	**Villa Florida**	**72.64**	**114**	P	**P**	**14 14 34.2**	**-1.5**
	1.6nm,0.7s,baz=222,slow=6.4,SNR=3.3						
CPUP				LR	LR	14 41 54.9	
	comp=Z,262nm,20.2s,baz=209,slow=32						
BATI	**Baumata**	**74.53**	**278**	LR	LR	14 44 21.8	
	comp=Z,486nm,20.9s,baz=174,slow=33						
LPAZ	**La Paz**	**76.72**	**100**	P	**P**	**14 14 59.7**	**-0.5**
	2.2nm,0.8s,baz=232,slow=3.3,SNR=7.7						
LPAZ				LR	LR	14 41 44.9	
	comp=Z,127nm,19.7s,baz=174,slow=30						
BDFB	**Brasilia**	**86.03**	**117**	LR	LR	14 51 05.2	
	comp=Z,315nm,19.5s,baz=255,slow=33						
BOSA	**Bosnof**	**88.73**	**185**	LR	LR	14 53 06.2	
	comp=Z,378nm,18.8s,baz=178,slow=34						
ROSC	**El Rosal**	**92.51**	**84**	LR	LR	14 50 19.0	
	comp=Z,134nm,18.3s,baz=282,slow=31						
ILAR	**Eielson Array**	**127.72**	**7**	PKP	**PKPdf**	**14 22 11.4**	**-0.5**
	0.9nm,0.8s,baz=230,slow=1.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**128.77**	**158**	PKP	**PKPdf**	**14 22 15.2**	**-0.3**
	0.5nm,0.9s,baz=235,slow=5.1,SNR=2.4						
YKA	**Yellowknife Ar**	**129.70**	**26**	PKP	**PKPdf**	**14 22 15.9**	**+0.1**
	0.4nm,1.1s,baz=197,slow=2.1,SNR=3.5						
MKAR	**Makanchi Array**	**142.17**	**275**	PKP	**PKPdf**	**14 22 39.6**	**+0.1**
	0.6nm,0.9s,baz=125,slow=4.0,SNR=5.4						
RES	**Resolute Bay**	**143.74**	**24**	PKP	**PKPdf**	**14 22 41.0**	**-0.3**
	3.7nm,0.8s,baz=210,slow=9.6,SNR=10.0						
GEYT	**Alibeck**	**145.83**	**241**	PKPbc	**PKPab**	**14 22 47.3**	**0.0**
	3.9nm,0.8s,baz=72,slow=4.8,SNR=6.3						
ZALV	**Zalesovo Beam**	**146.10**	**286**	PKPbc	**PKPdf**	**14 22 45.7**	**-0.4**
	0.7nm,0.6s,baz=72,slow=4.7,SNR=3.3						
KURK	**Kurchatov**	**146.69**	**277**	*e*PKPbc	**PKPbc**	**14 22 48.3**	**-0.6**
BRTR	**Kenkin Array B**	**155.32**	**207**	PKPab	**PKPab**	**14 23 28.8**	**+2.5**
	0.9nm,0.8s,baz=116,slow=3.4,SNR=4.7						

IDC 24 14:06:35.9±1.2,7.96S×109.15E,h0km,mb3.5/5, mb1 3.7/5,mb1mx3.4/39,mbtmp3.5/5,Error ellipse: s-maj=66.8km s-min=13.1km az=39.0,Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang**	**1.89**	**306**	Pn	Pn	14 07 08.3	-1.3
	4.9nm,0.3s,baz=127,slow=20,SNR=3.2						
LEM				Sn	Sn	14 07 27.3	-7.0
	6.0nm,0.3s,baz=135,slow=19,SNR=4.4						
LEM				Lg	Lg	14 07 36.6	
	8.7nm,0.3s,baz=131,slow=20,SNR=6.8						
WRA	**Warramunga Arr**	**27.14**	**119**	P	P	14 12 22.5	+1.3
	0.5nm,0.9s,baz=294,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**28.40**	**126**	P	P	14 12 32.2	-0.2
	0.2nm,0.7s,baz=296,slow=8.5,SNR=5.5						
STKA	**Stephens Creek**	**38.42**	**133**	P	P	14 13 58.5	-0.9
	2.2nm,0.8s,baz=333,slow=9.0,SNR=5.5						
MKAR	**Makanchi Array**	**59.52**	**339**	P	P	14 16 40.9	-0.2
	0.3nm,0.8s,baz=151,slow=6.3,SNR=3.0						
ZALV	**Zalesovo Beam**	**65.00**	**344**	P	P	14 17 18.0	+0.4
	0.3nm,0.5s,baz=134,slow=10,SNR=2.4						

KRSC 24 14:07:36.5±1.1,55.08N×162.35E,h48km±23km,ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUMD	**Tumrok D**	**1.13**	**277**	*e*P	Pn	14 07 57.5	+1.6
TUMD				*e*S	Sn	14 08 12.8	+2.5
KBTR	**Krutoberegovo**	**1.16**	**13**	*e*P	Pn	14 07 57.4	+1.1
KBTR				*e*S	Sn	14 08 11.6	+0.5
KZV	**Kizimen**	**1.18**	**272**	*e*P	Pn	14 07 58.3	+1.5
KZV				*e*S	Sn	14 08 13.4	+1.6
KBG	**Krutoberegovo**	**1.19**	**10**	*e*P	Pn	14 07 58.9	+2.1
KBG				*e*S	Sn	14 08 14.6	+2.8
BZGR	**Bezymyannyi-Gr**	**1.28**	**313**	*e*P	Pn	14 07 59.1	+1.1
BZGR				*e*S	Sn	14 08 14.5	+0.5
TUMR	**Tumrok**	**1.28**	**280**	*e*P	Pn	14 08 00.7	+2.6
TUMR				*e*S	Sn	14 08 17.7	+3.5
ZLN	**Zelenaya**	**1.29**	**318**	*e*P	Pn	14 08 00.3	+2.1
CIRR	**Tsirk**	**1.38**	**319**	*e*P	Pn	14 07 59.2	-0.3
KRSR	**Krestovskiy**	**1.52**	**319**	*e*S	Sn	14 08 21.2	+1.1
SMKR	**Semkarok**	**1.58**	**342**	*e*P	Pn	14 08 04.3	+2.1
BDR	**Baidarnaya**	**1.62**	**337**	*e*P	Pn	14 08 05.2	+2.4
SRKR	**Sorokina**	**1.71**	**338**	*e*P	Pn	14 08 06.0	+2.1
KOZ	**Kozyrevsk**	**1.71**	**306**	*e*P	Pn	14 08 06.3	+2.4
SRDR	**Sredinnyy**	**1.94**	**311**	*e*P	Pn	14 08 09.1	+2.1
KII	**Karymskiy**	**1.99**	**239**	*e*P	Pn	14 08 10.5	+2.8
KII				*e*S	Sn	14 08 34.3	+2.9
ESO	**Esso**	**2.24**	**294**	*e*P	Pn	14 08 13.6	+2.5
ESO				*e*S	Sn	14 08 39.6	+2.0
SPN	**Mys Shipunski**	**2.41**	**216**	*e*P	Pn	14 08 15.3	+1.8
SPN				*e*S	Sn	14 08 41.8	0.0
NLC	**Nalytchevo**	**2.60**	**224**	*e*P	Pn	14 08 19.4	+3.3
NLC				*e*S	Sn	14 08 49.3	+2.9
SMAR	**Somma**	**2.77**	**230**	*e*P	Pn	14 08 21.8	+3.2
KRX	**Arik**	**2.77**	**233**	*e*P	Pn	14 08 22.8	+4.2
AVH	**Avacha**	**2.80**	**231**	*e*P	Pn	14 08 23.4	+4.6
AVH				*e*S	Sn	14 08 56.6	+5.3
UGLR	**Uglovaya**	**2.80**	**229**	*e*P	Pn	14 08 22.0	+3.2
KOK	**Koryaka**	**2.82**	**232**	*e*P	Pn	14 08 23.2	+4.0
GNL	**Ganaly**	**2.93**	**243**	*e*P	Pn	14 08 24.1	+3.5
DALK	**Dalny**	**2.95**	**227**	*e*P	Pn	14 08 23.7	+2.9
DALK				*e*S	Sn	14 08 57.6	+2.6
PET	**Petropavlovsk**	**3.00**	**228**	*e*P	Pn	14 08 24.9	+3.4
PET				*e*S	Sn	14 09 00.5	+4.4
KRMR	**Karymshinskiy**	**3.36**	**230**	*e*P	Pn	14 08 30.6	+4.1
KRMR				*e*S	Sn	14 09 08.0	+2.9
RUS	**Russkaya**	**3.50**	**222**	*e*P	Pn	14 08 31.3	+3.0
RUS				*e*S	Sn	14 09 11.0	+2.6
MTVR	**Mutnovka**	**3.59**	**225**	*e*P	Pn	14 08 34.6	+4.9
MTVR				*e*S	Sn	14 09 14.7	+3.8

*SKHL **24** 14:15:46.4±0.2,53.27N×142.70E,h10km,mb4.9/11, Ms4.5/5*

SKHL Felt (IV-V) at Moskal'vo, (III-IV) at Nekrasovka, Okha, Tungor.

*MOS **24** 14:15:47.3±1.0,53.39N×142.85E,h10km,mb4.7/32,Error ellipse: s-maj=8.7km s-min=4.9km az=88.4*

MOS Felt (IV-V) at Moskal'vo; (III-IV) at Nekrasovka, Okha, Tungur.

*BJI **24** 14:15:47.8,53.76N×142.82E,h10km,mb4.6/45,mB5.0/29, Ms4.8/42,Ms7 4.5/36*

*IDC **24** 14:15:47.8±0.5,53.49N×142.76E,h0km,mb4.3/25, mb1 4.4/33,mb1mx4.3/53,mbtmp4.2/33,ML3.4/6,MS3.7/21, Ms1 3.7/21,ms1mx3.5/43,Error ellipse: s-maj=13.9km s-min=8.7km az=141.0*

*ISCJB **24** 14:15:47.5±0.2,53.39N±0.02×142.78E±0.03,h10km, mb4.6/70,MS4.0/24,Error ellipse: s-maj=3.4km s-min=2.7km az=161.8*

*NEIC **24** 14:15:49.3±0.1,53.45N×142.73E,h10km,mb4.8/24,Error ellipse: s-maj=4.1km s-min=2.9km az=150.0*

NEIC Felt in Nikolayevskiy Rayon and at Okha.

ISC 24 14:15:49.6±0.8,53.43N±0.03×142.72E±0.03,h10km±4km, n207,σ1§94/239,mb4.7/79,MS4.0/25,8C-6D,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKH	**Okha**	**0.18**	**46**	⇓ *i* Pg	**Pb**	**14 15 54.7**	**-0.3**
OKH				AMB	AMB	14 15 55.3	
	12μm,0.2s						
OKH				*e*Sg	**Sb**	**14 16 00.4**	**+4.3**
OKH				A	A	14 16 00.6	
	165μm,0.6s						
OKH				A	A	14 16 00.6	
	251μm,0.6s						
OKH	**Okha**	**0.18**	**46**	⇓ *i* PN	**Pb**	**14 15 54.8**	**-0.3**
OKH				*i* S	**Sb**	**14 15 59.7**	**+3.6**
OKH				pmax	pmax		
	comp=Z,12nm,0.2s						
OKH				smax	smax		
	comp=N,153nm,0.6s						
OKH				smax	smax		
	comp=E,250nm,0.6s						
NKL	**Nikolayevsk**	**1.25**	**258**	⇓ *i* Pg	**Pn**	**14 16 10.8**	**-2.3**
	comp=Z,220nm,0.2s,comp=E,120nm,0.2s,comp=N,40nm,0.2s						
NKL				AMB	AMB	14 16 13.5	
	comp=N,260nm,0.2s						
NKL				*e*Sg	**Sb**	**14 16 28.0**	**-1.5**
NKL				A	A	14 16 29.0	
	comp=N,38μm,1.0s						
NKL				AMS	AMS	14 18 08.0	
	comp=N,3μm,4.0s						
NKL				AMS	AMS	14 18 08.0	
	comp=N,5μm,4.0s						
NKL				AMS	AMS	14 18 08.0	
	comp=N,4μm,4.0s						
NKL	**Nikolayevsk**	**1.25**	**258**	*i* PN	**Pn**	**14 16 10.0**	**-3.1**
NKL				*e*S	**Sb**	**14 16 28.0**	**-1.5**
NKL				pmax	pmax		
	comp=Z,260nm,0.2s						
NKL				smax	smax		
	comp=N,38μm,1.0s						
TYV	**Tymovskoe**	**2.57**	**181**	*e*P	**Pn**	**14 16 29.3**	**-1.9**
TYV				*e*Pg	**Pb**	**14 16 34.5**	**-1.2**
TYV				AMB	AMB	14 16 35.0	
	comp=N,170nm,0.5s						
TYV				*e*S	**Sn**	**14 16 55.9**	**-6.5**
TYV				A	A	14 16 57.8	
	comp=N,460nm,1.0s						
TYV				A	A	14 16 57.8	
	comp=N,410nm,1.0s						
TYV				*e*Sg	**Sb**	**14 17 08.7**	**+1.4**
TYV				A	A	14 17 11.9	
	comp=N,570nm,0.7s						
TYV				AMS	AMS	14 18 39.0	
	comp=N,6μm,7.0s						
TYV				AMS	AMS	14 18 39.0	
	comp=N,9μm,7.0s						
TYV				AMS	AMS	14 18 39.0	
	comp=N,5μm,7.0s						
TYV	**Tymovskoe**	**2.57**	**181**	*e*PN	**Pn**	**14 16 29.4**	**-1.8**
TYV				*e*S	**Sn**	**14 17 00.0**	**-2.4**
TYV				pmax	pmax		
	comp=Z,100nm,0.5s						
TYV				pmax	pmax		
	comp=Z,110nm,0.6s						
TYV				smax	smax		
	comp=E,317nm,0.7s						
TYV				smax	smax		
	comp=N,2μm,1.9s						
UGL	**Uglegorsk**	**4.37**	**186**	*e*P	**Pn**

YSS MLR MLR
comp=Z,600nm,13.0s
YSS MLR MLR
comp=N,800nm,17.0s
YSS MLR MLR
comp=E,900nm,13.0s
MA2 Magadan 7.60 33 Pn **Pn 14 17 39.5 -0.7**
comp=E,2.5nm,0.3s,baz=216,slow=12,SNR=32
MA2 Sn **Sn 14 18 59.9 -6.5**
baz=203,slow=18,SNR=2.0
MA2 LR LR 14 21 10.8
comp=E,720nm,18.2s,baz=236,slow=43
MA2 Magadan 7.60 33*ce*PN **Pn 14 17 39.4 -0.9**
MA2 pmax pmax
comp=Z,15nm,0.6s
KLR Kul'dur 8.05 243 Pn **Pn 14 17 45.8 -0.7**
comp=Z,1.2nm,0.3s,baz=62,slow=12,SNR=22
KLR Pg Pb 14 18 15.6 +6.5
comp=Z,2.7nm,0.3s,baz=33,slow=15,SNR=12
KLR Lg Lg 14 20 06.0
comp=Z,8.6nm,0.3s,baz=124,slow=15,SNR=8.3
KLR Kul'dur 8.05 243 *i* PN **Pn 14 17 47.0 +0.5**
BMKR Bomnak 8.27 285 *e*P **Pn 14 17 48.3 -1.1**
BMKR *e*Pg Pb 14 18 24.0 +11
BMKR AMB AMB 14 18 27.8
comp=Z,26nm,0.5s
BMKR *e*Sg Sb 14 20 22.3 +31
BMKR A A 14 20 26.8
comp=Z,128nm,0.5s
SKR Severo-Kuril's 8.70 103 *e*PN Pn 14 17 46.7 -8.7
SKR pmax pmax
comp=Z,400nm,5.3s
SKR MLR MLR
comp=Z,800nm,16.0s
KUR Kuril'sk 8.86 156 *e*PN **Pn 14 17 56.6 -1.0**
KUR MLR MLR
comp=Z,486nm,15.0s
PEA1 Petropavlovsk- 8.99 86 *e*Pn **Pn 14 17 58.6 -0.7**
PEA1 *e*Sn **Sn 14 19 44.2 +3.7**
PEA0B Petropavlovsk- 8.99 86 *e*Pn **Pn 14 17 59.1 -0.2**
PETK Petropavlovsk- 8.99 86 Pn **Pn 14 17 58.6 -0.7**
comp=Z,4.0nm,0.3s,baz=278,slow=12,SNR=71
PETK Sn **Sn 14 19 44.2 +3.7**
comp=Z,0.8nm,0.3s,baz=295,slow=17,SNR=3.9
PETK LR LR 14 21 29.8
comp=Z,418nm,20.7s,baz=263,slow=38
ZEA Zeya 9.21 278 *e*P **Pn 14 18 05.6 +3.2**
ZEA AMB AMB 14 18 08.4
comp=Z,140nm,1.2s
ZEA *e*Sg 14 20 55.0
ZEA A A 14 20 58.5
comp=Z,410nm,1.3s
ZEA Zeya 9.21 278 *e*PN **Pn 14 18 05.6 +3.2**
ZEA pmax pmax
comp=Z,140nm,1.2s
ZEA MLR MLR
comp=Z,2μm,8.0s
ZEA MLR MLR
comp=N,2μm,6.0s
ZEA MLR MLR
comp=E,2μm,6.0s
TEY Ternei 9.30 208 *e*Sg 14 20 51.1
TEY A A 14 20 54.0
comp=E,220nm,1.0s
ASAJ Asahikawa 9.32 181 Pn **Pn 14 18 03.0 -0.9**
comp=E,1.0nm,0.3s,baz=20,slow=9.5,SNR=13
ASAJ LR LR 14 22 16.0
comp=E,565nm,19.7s,baz=74,slow=41
KROS Kirovskiy 9.35 283 *e*P **Pn 14 18 01.8 -2.5**
KROS AMB AMB 14 18 08.0
comp=E,8.0nm,0.4s
KROS *e*Sg Sn 14 20 44.0 +55
KROS A A 14 20 56.0
comp=E,76nm,0.4s
PET Petropavlovsk 9.57 86 *e*Pn **Pn 14 18 07.3 +0.1**
PET Petropavlovsk 9.57 86⫴ *i* P **Pn 14 18 07.6 +0.3**
PET AMB AMB 14 18 07.9
comp=E,80nm,0.6s
PET AMS AMS 14 23 01.8
comp=E,560nm,13.0s
PET Petropavlovsk 9.57 86⫴ *i* PN **Pn 14 18 07.6 +0.3**
PET pmax pmax
comp=Z,78nm,0.6s
PET MLR MLR
comp=Z,600nm,13.0s
SHO Shikotan 9.94 163*c i* PN **Pn 14 18 12.7 +0.3**
SHO pmax pmax
comp=Z,11nm,0.6s
SHO pmax pmax
comp=N,6.0nm,0.4s
SHO pmax pmax
comp=E,9.0nm,0.5s
SHO MLR MLR
comp=Z,264nm,12.0s
SEY Seymchan 10.80 24 *i* PN **Pn 14 18 24.3 +0.3**
YAK Yakutsk 11.07 326 *e*PN **Pn 14 18 26.0 -1.7**
YAK pmax pmax
comp=Z,7.0nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=E,213nm,1.0s
YAK pmax pmax
comp=Z,60nm,0.9s
YAK pmax pmax
comp=N,67nm,1.0s
YAK MLR MLR
comp=Z,595nm,10.0s
YAK MLR MLR
comp=N,334nm,9.0s
YAK MLR MLR
comp=E,322nm,9.0s
USRK Ussuriysk Ar. 11.62 222 Pn **Pn 14 18 34.9 -0.4**
comp=E,0.3nm,0.3s,baz=23,slow=14,SNR=4.5
USRK Lg Lg 14 21 56.7
comp=E,0.4nm,0.3s,baz=56,slow=26,SNR=6.0
USRK LR LR 14 22 56.5
comp=E,378nm,20.7s,baz=8.9,slow=37
CN2 Changchun 14.90 237 *e*P **P 14 19 28.0 +2.1**
CN2 *e*sP Pn 14 19 35.0 +15
CN2 *e*S **S 14 22 15.0 -8.3**
CN2 pmax pmax
comp=E,10.0nm,1.2s
CN2 LR LR
comp=E,910nm,10.0s
CN2 LR LR
comp=E,1μm,10.0s
CN2 LR LR
comp=E,910nm,10.0s
BOD Bodaibo 16.73 297 *e*P **P 14 19 46.4 +0.3**
MAJO Matsushiro 17.17 192 *e*Pn **P 14 19 50.7 -0.5**
MAJO Matsushiro 17.17 192 *e*P **P 14 19 50.7 -0.5**
MJAR Matsushiro Arr 17.18 192 P **P 14 19 50.7 -0.5**
comp=E,0.0nm,0.3s,baz=2.9,slow=9.5,SNR=3.9
MJAR LR LR 14 25 47.5
comp=E,109nm,19.8s,baz=25,slow=35
CIT Chita 17.67 277 *e*P **Pn 14 19 52.1 -3.6**
CIT pmax pmax
comp=Z,64nm,1.6s
BILL Bilibino 18.44 28 *e*P **Pn 14 20 04.5 -0.4**
comp=Z,12nm,0.7s
BILL Bilibino 18.44 28⫴ *e*P **Pn 14 20 04.8 -0.1**
BILL pmax pmax
comp=Z,12nm,0.7s
BILL MLR MLR
comp=Z,576nm,15.0s
KSRS Korea Array 18.98 219 P **Pn 14 20 11.8 +0.1**
comp=Z,0.1nm,0.3s,baz=33,slow=12,SNR=3.9
KSRS LR LR 14 27 31.9
comp=Z,337nm,20.8s,baz=40,slow=37
KS15 Wonju Array Si 19.01 219 *e*P **Pn 14 20 11.8 -0.2**
KSAR Wonju Array Be 19.01 219 P **Pn 14 20 11.8 -0.2**
KSAR Wonju Array Be 19.01 219 P **Pn 14 20 11.9 -0.2**
TIXI Tiksi 19.27 347 P **P 14 20 13.0 -1.0**
comp=Z,0.6nm,0.3s,baz=137,slow=11,SNR=32
TIXI Lg Lg 14 26 04.8
comp=Z,0.0nm,0.3s,baz=267,slow=19,SNR=2.6
TIXI LR LR 14 27 13.1
comp=Z,112nm,20.8s,baz=195,slow=36
TIXI Tiksi 19.27 347 P **P 14 20 13.0 -1.0**
TIXI pmax pmax
comp=Z,1.0nm,0.3s
TIXI MLR MLR
comp=Z,112nm,20.8s

JNU Nakatsue 21.99 207 LR LR 14 28 45.5
comp=Z,151nm,18.6s,baz=53,slow=35
BJI Beijing 22.42 244 *e*P **P 14 20 49.8 +1.6**
BJI S **S 14 24 57.6 +3.3**
BJI pmax pmax
comp=Z,16nm,0.7s
BJI LR LR
comp=Z,950nm,9.4s
BJI LR LR
comp=Z,800nm,9.0s
BJI LR LR
comp=Z,500nm,15.7s
BJT Baijiatuau 22.44 244 *e*P **P 14 20 47.9 -0.6**
comp=Z,18nm,0.7s
BJT Baijiatuau 22.44 244 *e*P **P 14 20 47.9 -0.6**
BJT pmax pmax
comp=Z,18nm,0.7s
ULN Ulaanbaatar 23.12 271 *e*P **P 14 20 56.1 +0.5**
comp=Z,4.4nm,0.8s
ULN Ulaanbaatar 23.12 271*ce*P **P 14 20 54.9 -0.8**
ULN pmax pmax
comp=Z,6.0nm,1.0s
SONA1 Songino Array 23.52 271 *e*P **P 14 21 00.7 +1.0**
SONA0 Songino Array 23.52 271 *e*P **P 14 20 59.5 -0.3**
SONM Songino Array 23.52 271 P **P 14 20 59.5 -0.3**
comp=Z,1.7nm,0.8s,baz=56,slow=8.8,SNR=10
SONM PcP **PcP 14 24 44.8 -0.1**
comp=Z,0.6nm,0.6s,baz=55,slow=1.1,SNR=4.4
SONM Lg Lg 14 28 18.9
comp=Z,3.0nm,1.1s,baz=41,slow=32,SNR=8.0
SONM LR LR 14 30 59.8
comp=Z,563nm,18.4s,baz=51,slow=39
ZAK Zakamensk 24.31 279 *e*P **P 14 21 09.2 +2.1**
ZAK pmax pmax
comp=Z,15nm,1.3s
HHC Hu-ho-hao-te 24.42 252 *e*P **P 14 21 07.9 -0.4**
HHC PP **PnPn 14 21 43.4 +4.9**
HHC S **S 14 25 28.3 +0.3**
HHC pmax pmax
comp=Z,19nm,0.6s
HHC pmax pmax
comp=Z,370nm,6.9s
HHC LR LR
comp=Z,690nm,8.6s
HHC LR LR
comp=Z,620nm,6.9s
HHC LR LR
comp=Z,540nm,10.4s
MOY Mondy 25.18 283 *e*P **P 14 21 18.5 +3.5**
MOY pmax pmax
comp=Z,11nm,1.1s
NJ2 Nanjing 27.40 228 *e*P **P 14 21 37.1 +2.1**
NJ2 S **S 14 26 20.8 +5.8**
NJ2 pmax pmax
comp=Z,28nm,0.5s
NJ2 LR LR
comp=Z,520nm,13.6s
NJ2 LR LR
comp=Z,510nm,8.7s
NJ2 LR LR
comp=Z,770nm,11.8s
JOW Kunigami 28.65 208 LR LR 14 33 54.7
comp=Z,105nm,18.4s,baz=284,slow=38
WHN Wuhan 30.75 233 P P 14 22 10.6 +5.8
WHN LR LR
comp=Z,810nm,10.1s
WHN LR LR
comp=Z,1μm,15.4s
WHN LR LR
comp=Z,950nm,13.2s
LZH Lanzhou 32.09 253 *e*P **P 14 22 19.8 +3.0**
LZH pP sP 14 22 22.8 +1.6
LZH sP pP 14 22 24.3 +4.4
LZH PP **PP 14 23 25.9 -3.3**
LZH pmax pmax
comp=Z,24nm,1.0s
LZH pmax pmax
comp=Z,76nm,5.2s
LZH LR LR
comp=Z,890nm,14.1s
LZH LR LR
comp=Z,800nm,13.6s
LZH LR LR
comp=Z,1μm,16.3s
GTA Gaotai 32.20 262 *e*P **P 14 22 16.8 -0.9**
GTA pP pP 14 22 20.8 0.0
GTA sP sP 14 22 24.0 +1.9
GTA pmax pmax
comp=Z,69nm,6.5s
GTA LR LR
comp=Z,660nm,14.1s
GTA LR LR
comp=Z,580nm,13.7s
GTA LR LR
comp=Z,570nm,14.4s
IM3 Indian Mountai 32.84 42 *e*P **P 14 22 22.4 -0.5**
ZAA1 Zalesovo Array 33.47 295 *e*P **P 14 22 28.1 -0.4**
ZALV Zalesovo Beam 33.47 295 P **P 14 22 28.1 -0.4**
comp=Z,0.7nm,0.5s,baz=66,slow=8.3,SNR=3.9
ZALV PcP **PcP 14 25 08.7 -0.5**
comp=Z,2.6nm,0.7s,baz=63,slow=1.0,SNR=9.7
ZALV LR LR 14 36 45.8
comp=Z,80nm,19.5s,baz=70,slow=38
NVS Novosibirsk 33.97 297 *i* P **P 14 22 33.6 +0.7**
KDAK Kodiak Island 35.56 56 P **P 14 22 45.8 -0.7**
comp=Z,3.9nm,0.7s,baz=249,slow=12,SNR=2.3
KDAK LR LR 14 37 36.6
comp=Z,119nm,21.5s,baz=320,slow=37
KDAK Kodiak Island 35.56 56 *e*P **P 14 22 45.8 -0.7**
comp=Z,18nm,1.1s
ILAR Eielson Array 35.91 43 P **P 14 22 49.0 -0.5**
comp=Z,3.9nm,0.7s,baz=275,slow=7.0,SNR=35
ILAR LR LR 14 38 45.8
comp=Z,132nm,20.5s,baz=274,slow=38
ILB Eielson Array 35.91 43 *e*P **P 14 22 49.0 -0.5**
CD2 Chengdu 35.95 247 P **P 14 22 50.5 +0.2**
CD2 S **S 14 28 30.0 +1.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,4.6s
CD2 LR LR
comp=Z,580nm,8.0s
CD2 LR LR
comp=Z,640nm,8.7s
DHY Denali Highway 36.20 46 *e*P **P 14 22 51.8 -0.4**
comp=Z,8.6nm,1.0s
WMQ Urumqi 36.76 278 P **P 14 23 00.0 +2.9**
WMQ pP sP 14 23 03.9 +2.4
WMQ sP pP 14 23 06.1 +5.9
WMQ pmax pmax
comp=Z,28nm,1.1s
WMQ pmax pmax
comp=Z,320nm,4.3s
WMQ LR LR
comp=Z,2μm,13.5s
WMQ LR LR
comp=Z,810nm,13.7s
GYA Guiyang 37.93 239 *e*P **P 14 23 09.8 +2.6**
GYA pmax pmax
comp=Z,10.0nm,0.8s
MK31 Makanchi Array 38.27 285 *e*P **P 14 23 09.7 -0.1**
MK31 Makanchi Array 38.27 285 *e*P **P 14 23 09.7 -0.1**
MK32 Makanchi Array 38.27 285 *e*P **P 14 23 09.6 -0.2**
MKAR Makanchi Array 38.27 285 P **P 14 23 09.6 -0.2**
comp=Z,3.3nm,0.8s,baz=60,slow=8.2,SNR=19
MKAR PcP **PcP 14 25 23.1 -0.6**
comp=Z,1.1nm,0.8s,baz=55,slow=5.5,SNR=5.1
MKAR LR LR 14 39 49.4
comp=Z,172nm,20.5s,baz=42,slow=38
MKAR Makanchi Array 38.27 285 *e*P **P 14 23 09.7 -0.2**
comp=Z,24nm,0.7s
MKAR PcP **PcP 14 25 23.1 -0.6**
MKAR Makanchi Array 38.27 285 *e*P **P 14 23 09.7 -0.2**
MKAR 14 25 23.1
MKAR pmax pmax
comp=Z,24nm,0.7s
MK01 Makanchi Array 38.28 285 *e*P **P 14 23 09.3 -0.6**
KURK Kurchatov 38.31 293*ce*P **P 14 23 11.0 +1.0**
KURK pmax pmax
comp=Z,13nm,1.3s
INK Inuvik 39.83 35 P **P 14 23 22.6 +0.1**
comp=Z,2.1nm,0.8s,baz=320,slow=8.9,SNR=13
INK PcP **PcP 14 25 27.4 -0.7**
comp=Z,3.1nm,1.0s,baz=298,slow=4.5,SNR=7.9
KMI Kunming 41.06 242 P **P 14 23 36.4 +2.9**

KMI pmax pmax
comp=Z,14nm,0.5s
KMI pmax pmax
comp=Z,98nm,4.3s
KMI LR LR
comp=Z,280nm,10.0s
KMI LR LR
comp=Z,270nm,8.1s
KMI LR LR
comp=Z,350nm,10.2s
BRVK Borovoye 41.60 300⫴ *i* P **P 14 23 37.8 +0.5**
BRVK pmax pmax
comp=Z,7.0nm,1.1s
PDGK Podgornoye 41.88 283 P **P 14 23 39.9 0.0**
QIZ Qiongzhong 42.68 229 P **P 14 23 47.6 +1.2**
QIZ S **S 14 30 17.5 +7.8**
QIZ LR LR
comp=Z,170nm,7.7s
QIZ LR LR
comp=Z,270nm,13.2s
QIZ LR LR
comp=Z,250nm,13.2s
OTUK Ortayu 43.10 293 P **P 14 23 51.8 +2.2**
TARG Taragay, Kyrgy 43.85 282 *e*P **P 14 23 55.1 -1.1**
comp=Z,4.7nm,0.7s
KDJ Kajisay 43.96 283 *e*P **P 14 23 58.2 +1.4**
comp=Z,15nm,1.3s
KDJ Kajisay 43.96 283 *e*P **P 14 23 58.3 +1.4**
KDJ pmax pmax
comp=Z,15nm,1.3s
SVE Sverdlovsk 44.39 309 *e*P **P 14 24 00.2 +0.4**
SVE pmax pmax
comp=Z,13nm,0.8s
TKM2 Tokmak 2 44.40 285 P **P 14 24 00.7 +0.4**
SNR=6.0
ULHL Ulahol 44.44 283 P **P 14 24 03.8 +3.1**
SNR=5.2
USP Ospenovka 44.82 286 P **P 14 24 03.7 +0.2**
SNR=7.2
KBK Karagaybulak 44.94 285 P **P 14 24 05.3 +0.7**
SNR=5.3
KZA Kyzart 45.12 284 P **P 14 24 07.2 +0.8**
SNR=7.4
AAK Ala-Archa 45.21 285 P **P 14 24 09.4 +2.7**
SNR=5.2
AAK Ala-Archa 45.21 285 *e*P **P 14 24 07.1 +0.4**
comp=Z,9.5nm,1.1s
AAK Ala-Archa 45.21 285*ce*P **P 14 24 06.6 -0.2**
AAK pmax pmax
comp=Z,11nm,1.3s
ARU Arti 45.57 309 *e*P **P 14 24 08.5 -0.7**
comp=Z,33nm,1.4s
ARU Arti 45.57 309*c i* P **P 14 24 08.7 -0.5**
ARU 14 25 43.2
ARU 14 25 56.2
ARU S **S 14 30 53.9 +2.8**
ARU SS **SS 14 34 14.0 -0.2**
ARU pmax pmax
comp=Z,21nm,1.3s
EKS2 ErKin-Say 45.61 286 P **P 14 24 13.0 +3.1**
SNR=6.6
DLBC Dease Lake 45.86 47 P **P 14 24 12.3 +0.8**
comp=Z,2.1nm,1.0s,baz=298,slow=6.9,SNR=4.1
KSH Kashi 46.33 281 P P 14 24 22.3 +6.7
KSH S S 14 31 10.8 +8.2
KSH sS sS 14 31 19.5 +12
KSH SS **SS 14 34 31.5 +3.7**
KSH pmax pmax
comp=Z,12nm,1.0s
KSH pmax pmax
comp=Z,520nm,6.0s
KSH LR LR
comp=Z,290nm,8.1s
KSH LR LR
comp=Z,320nm,10.1s
KSH LR LR
comp=Z,420nm,9.0s
MNAS Manas 46.45 286 P **P 14 24 17.2 +0.7**
RES Resolute Bay 46.59 18 P **P 14 24 16.9 -0.1**
comp=Z,8.6nm,0.8s,baz=290,slow=8.2,SNR=16
SFK Sufi-Kurgan 47.45 283 P **P 14 24 24.3 -0.2**
PRGR Permogore 48.04 320 *e*P **P 14 24 27.7 -0.7**
PRGR pmax pmax
comp=Z,26nm,0.9s
CMMT Chiang Mai 48.23 241 P **P 14 24 33.3 +2.9**
comp=Z,7.6nm,0.8s
CHTO Chiang Mai 48.23 241 *e*P **P 14 24 31.7 +1.3**
comp=Z,5.7nm,0.8s
CHTO Chiang Mai 48.23 241 *e*P **P 14 24 31.7 +1.3**
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 48.23 241 P **P 14 24 33.4 +3.0**
comp=Z,35nm,0.8s
GUN Gumba 48.49 262 *e*P **P 14 24 34.5 +1.7**
comp=Z,17nm,0.8s
JIRN Jiri 48.49 261 *e*P **P 14 24 34.8 +2.0**
comp=Z,31nm,1.0s
CMAR Chiang Mai Arr 48.53 241 P **P 14 24 34.7 +2.0**
comp=Z,0.5nm,0.5s,baz=18,slow=7.4,SNR=9.5
CMAR PcP **PcP 14 25 58.9 +0.3**
comp=Z,0.7nm,0.7s,baz=2.6,slow=3.3,SNR=4.5
CMAR LR LR 14 47 50.9
comp=Z,123nm,18.2s,baz=160,slow=40
CM01 Chiang Mai Arr 48.55 241 *e*P **P 14 24 32.9 0.0**
PKI Pulchoki 49.02 262 *e*P **P 14 24 38.8 +2.0**
comp=Z,8.6nm,0.8s
ABKAR Akbulak array 49.11 301 *e*P **P 14 24 34.9 -2.0**
CHAI Chaiyaphum 49.12 236 P P 14 24 44.4 +7.1
comp=Z,3.8nm,0.8s
ARA0 ARCESS Array S 49.18 336 *e*P **P 14 24 37.5 +0.4**
ARCES ARCESS Array B 49.18 336 P **P 14 24 37.5 +0.4**
comp=Z,1.4nm,0.7s,baz=46,slow=7.6,SNR=3.8
DANN Dangsing 49.42 264 *e*P **P 14 24 41.7 +1.8**
comp=Z,14nm,0.8s
YKA Yellowknife Ar 49.56 37 P **P 14 24 39.6 -0.5**
comp=Z,0.9nm,0.7s,baz=308,slow=7.8,SNR=18
YKA PcP **PcP 14 26 01.1 -0.6**
comp=Z,0.2nm,0.7s,baz=181,slow=22,SNR=4.3
YKA LR LR 14 49 11.4
comp=Z,9.5nm,18.2s,baz=326,slow=40
YKB5 Yellowknife Ar 49.56 37 *e*P **P 14 24 38.8 -1.3**
KOLN Koldanda 49.95 263 *e*P **P 14 24 44.9 +1.1**
comp=Z,7.6nm,0.8s
PYUN Piuthan 50.07 264 *e*P **P 14 24 46.1 +1.4**
comp=Z,39nm,1.1s
KLMR Klimovskoe 50.82 322 *e*P **P 14 24 48.2 -1.4**
KLMR pmax pmax
comp=Z,23nm,1.0s
KLMR Klimovskoe 50.82 322 *e*P **P 14 24 48.3 -1.4**
KLMR AMP 14 24 53.5
comp=Z,23nm,1.1s
SUMG Summit 54.29 0 *e*P **P 14 25 14.3 -1.4**
comp=Z,18nm,1.0s
SUMG Summit 54.29 0 *i* P **P 14 25 15.9 +0.2**
comp=Z,45nm,1.0s
SUMG Summit 54.29 0 *i* P **P 14 25 15.9 +0.2**
SUMG pmax pmax
comp=Z,45nm,1.0s
FIA1 FINESS Array S 54.99 328 *e*P **P 14 25 19.9 -0.5**
FIA0 FINESS Array S 54.99 328 *e*P **P 14 25 20.1 -0.3**
FIA0 FINESS Array S 54.99 328 *e*P **P 14 25 20.2 -0.3**
FINES FINESS Array B 54.99 328 P **P 14 25 20.1 -0.3**
comp=Z,12nm,0.5s,baz=30,slow=8.9,SNR=77
FINES PcP **PcP 14 26 20.8 -1.3**
comp=Z,2.2nm,0.7s,baz=57,slow=5.1,SNR=2.2
VRH Novokhopyorsk 56.57 312 *e*P **P 14 25 29.2 -2.7**
VRH pmax pmax
comp=Z,3.0nm,0.3s
LPSR Galich'ya Gora 56.78 315 *e*P **P 14 25 33.5 +0.1**
LPSR pmax pmax
comp=Z,20nm,0.9s
GEYT Alibeck 57.66 291 P **P 14 25 39.9 0.0**
comp=Z,4.6nm,0.7s,baz=67,slow=1.9,SNR=7.0
GEYT LR LR 14 50 49.3
comp=Z,63nm,18.3s,baz=345,slow=36
VSR Storozhevoye 57.68 314 *e*P **P 14 25 37.5 -2.3**
VSR pmax pmax
comp=Z,5.0nm,0.5s
SFJD Kangerlussuaq 59.48 6 P **P 14 25 51.6 -0.5**
comp=Z,10.0nm,0.7s,baz=357,slow=8.6,SNR=4.4
NB2 NORSAR Subarra 59.55 335 P **P 14 25 52.2 -0.5**
comp=Z,14nm,0.9s,baz=32,slow=6.9
NB200 NORSAR Array S 59.55 335 *e*P **P 14 25 52.1 -0.5**
NOA NORSAR Array B 59.55 335 P **P 14 25 52.1 -0.5**
comp=Z,7.0nm,0.8s,baz=32,slow=6.9,SNR=17
NOA LR LR 14 53 19.2

comp=Z,53nm,20.2s,baz=20,slow=38
FFC Flin Flon 59.72 37 *i* P **P** 14 25 54.2 **+0.3**
NC602 NORSAR Array S 59.72 335 *e*P **P** 14 25 52.6 **-1.2**
KIV Kislovodsk 61.39 306 *e*P **P** 14 26 03.0 **-2.6**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,87nm,17.0s
KBZ Khabaz 61.45 306 P **P** 14 26 05.7 **-0.2**
comp=Z,2.0nm,0.8s,baz=45,slow=19,SNR=3.5
KBZ LR LR 14 56 23.4
comp=Z,50nm,18.9s,baz=20,slow=40
AKASG Malin Array Be 62.19 319 P **P** 14 26 09.3 **-1.4**
comp=Z,1.7nm,0.6s,baz=38,slow=7.7,SNR=6.1
AKASG LR LR 14 56 20.8
comp=Z,48nm,18.6s,baz=315,slow=39
KIEV Kiev 62.20 319 *i* P **P** 14 26 10.8 **0.0**
KIEV pmax pmax
comp=Z,3.0nm,0.7s
FXWY Fox Creek 64.58 51 *e*P **P** 14 26 27.8 **+0.8**
comp=Z,1.8nm,0.8s
NV01 Mina Array Sit 65.00 59 *e*P **P** 14 26 30.0 **+0.1**
NVAR Mina Array Bea 65.00 59 P **P** 14 26 30.2 **+0.3**
comp=Z,2.3nm,0.7s,baz=308,slow=5.9,SNR=22
ULM Lac du Bonnet 65.54 37 P **P** 14 26 31.4 **-1.5**
comp=Z,6.4nm,0.8s,baz=327,slow=6.3,SNR=13
PD31 Pinedale Array 65.93 50 *e*P **P** 14 26 36.0 **+0.2**
PDAR Pinedale Array 65.93 50 P **P** 14 26 35.7 **-0.1**
comp=Z,2.4nm,1.0s,baz=336,slow=1.5,SNR=12
PDAR Pinedale Array 65.93 50 *e*P **P** 14 26 35.3 **-0.4**
BUR04 Bucovina Ar. S 66.23 319 *e*P **P** 14 26 36.7 **-0.8**
LANS Liptovska Anna 67.12 323 *e*P **P** 14 26 43.6 **+0.6**
LANS Liptovska Anna 67.12 323 *e*P **P** 14 26 43.6 **+0.6**
TPNV Topopah Spring 67.18 59 *e*P **P** 14 26 43.6 **-0.2**
comp=Z,4.4nm,0.8s
DPC Dobruska-Polom 67.19 326 *e*P **P** 14 26 43.9 **+0.4**
DPC Dobruska-Polom 67.19 326 *e*P **P** 14 26 43.9 **+0.4**
MORC Moravsky Berou 67.26 325 *e*P **P** 14 26 43.3 **-0.6**
comp=Z,5.0nm,0.8s
MORC Moravsky Berou 67.26 325 *e*P **P** 14 26 43.3 **-0.6**
MORC pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 67.44 328 *i* P **P** 14 26 44.3 **-0.6**
comp=Z,15nm,1.3s
CLL Collm 67.44 328 *i* P **P** 14 26 44.3 **-0.6**
CLL pmax pmax
comp=Z,15nm,1.3s
VYHS Vyhne 67.90 323 *e*P **P** 14 26 47.8 **-0.1**
VYHS Vyhne 67.90 323 *e*P **P** 14 26 47.8 **-0.1**
GOPC GO Pecny, Ondr 68.07 327 *e*P **P** 14 26 49.3 **+0.3**
GOPC GO Pecny, Ondr 68.07 327 *e*P **P** 14 26 49.3 **+0.3**
PRU Pruhonice 68.09 327 *e*P **P** 14 26 49.2 **+0.1**
PRU Pruhonice 68.09 327 *e*P **P** 14 26 49.2 **+0.1**
BR101 Keskin Array S 68.95 309 *e*P **P** 14 26 54.2 **-0.6**
BR131 Keskin Array S 68.95 309 *e*P **P** 14 26 54.4 **-0.4**
BRTR Keskin Array B 68.95 309 P **P** 14 26 54.2 **-0.6**
comp=Z,3.0nm,0.7s,baz=66,slow=3.7,SNR=20
KHC Kasperske Hory 69.15 327 *e*P **P** 14 26 55.9 **+0.1**
KHC Kasperske Hory 69.15 327 *e*P **P** 14 26 55.9 **+0.1**
GERES GERESS Array B 69.36 327 P **P** 14 26 56.4 **-0.7**
comp=Z,0.9nm,0.5s,baz=37,slow=6.7,SNR=10.0
CONA Conrad Observa 69.42 325 *e*pP **P** 14 26 58.1 **+0.6**
comp=Z,3.5nm,0.7s
ECSD EROS Data Cent 70.69 41 *e*P **P** 14 27 04.6 **-0.7**
comp=Z,12nm,0.8s
KBA Koelnbreinsper 71.01 326 pP **P** 14 27 07.8 **+0.4**
comp=Z,22nm,1.1s
VTS Vitosha 71.18 317 *e*P **P** 14 27 07.2 **-1.3**
comp=Z,14nm,0.9s
VTS Vitosha 71.18 317 *e*P **P** 14 27 07.2 **-1.3**
VTS pmax pmax
comp=Z,15nm,0.9s
ABTA Abfaltersbach 71.58 326 pP **P** 14 27 10.3 **-0.4**
comp=Z,16nm,1.4s
WR1 Warramunga Arr 73.42 188 *e*P **P** 14 27 20.7 **-1.0**
comp=Z,19nm,1.4s
WRA Warramunga Arr 73.42 188 P **P** 14 27 20.7 **-1.0**
comp=Z,2.7nm,1.0s,baz=4.9,slow=6.3,SNR=16
ANMO Albuquerque 73.62 53 *i* P **P** 14 27 21.8 **-1.4**
ANMO pmax pmax
comp=Z,2.0nm,1.1s
ASAR Alice Springs 77.15 188 P **P** 14 27 42.9 **-0.3**
comp=Z,2.5nm,0.7s,baz=1.1,slow=5.1,SNR=40
WMOK Wichita Mounta 77.33 48 *e*P **P** 14 27 43.1 **-1.2**
comp=Z,8.0nm,1.0s
WMOK Wichita Mounta 77.33 48 *e*P **P** 14 27 43.1 **-1.2**
WMOK pmax pmax
comp=Z,8.0nm,1.0s
HHAR Hobbs 78.10 44 *e*P **P** 14 27 47.7 **-0.8**
comp=Z,17nm,0.8s
T42A Van Buren 78.60 41 *e*P **P** 14 27 50.5 **-0.8**
comp=Z,10nm,0.9s
TX31 Lajitas Ar. Si 79.56 54 *e*P **P** 14 27 56.6 **-0.2**
LTX Lajitas 79.56 54 *e*P **P** 14 27 57.2 **+0.4**
LTX Lajitas 79.56 54 *e*P **P** 14 27 57.2 **+0.4**
TXAR Lajitas Array 79.56 54 P **P** 14 27 57.2 **+0.4**
comp=Z,2.3nm,0.9s,baz=294,slow=4.0,SNR=17
TXAR LR LR 15 05 47.7
comp=Z,83nm,18.8s,baz=0.0,slow=38
WHAR Wooly Hollow 79.63 43 *e*P **P** 14 27 55.2 **-1.7**
comp=Z,31nm,0.8s
W41B Gary Mavity, V 79.75 43 *e*P **P** 14 27 56.6 **-1.0**
comp=Z,22nm,0.8s
ESDC Sonseca Array 82.91 335 P **P** 14 28 13.9 **-0.4**
comp=Z,1.3nm,0.6s,baz=17,slow=4.5,SNR=7.9
TAOE Nuku Hiva Isla 89.47 106 *e*LR LR 14 29 06.5
comp=Z,598nm,25.1s
CPUP Villa Florida 149.09 37 PKPbc **PKPbc** **14 35 36.9 -0.9**
comp=Z,3.4nm,0.7s,baz=339,slow=3.1,SNR=8.8

*ISCJB **24** 14:23:33.5±0.9, 6.0°S±0.1°×151.4°E±0.2°, h41km, mb3.9/10, Error ellipse: s-maj=30.8km s-min=9.4km az=38.7*
*IDC **24** 14:23:35.1±5.0, 6.06°S×151.50°E, h43km±44km, mb3.8/8, mb1 4.1/9, mb1mx3.8/35, mbtmp4.1/9, ML2.7/1, Error ellipse: s-maj=43.2km s-min=23.4km az=111.0*
ISC 24 14:23:34.7±1.0, 6.1°S±0.2°×151.6°E±0.2°, h41km, n12, σ0.95/13, mb4.0/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.49**	**233**	P	**Pn**	**14 24 55.0**	**+1.1**
	17nm,0.3s,baz=65,slow=6.8,SNR=49						
PMG				S	**Sn**	**14 25 54.6**	**-1.3**
	13nm,0.3s,baz=24,slow=20,SNR=5.1						
WRA	**Warramunga Arr**	**21.69**	**229**	P	**P**	**14 28 21.7**	**-0.6**
	2.3nm,0.7s,baz=47,slow=11,SNR=17						
ASAR	**Alice Springs**	**24.39**	**222**	P	**P**	**14 28 49.0**	**-0.3**
	5.3nm,0.7s,baz=56,slow=9.1,SNR=54						
STKA	**Stephens Creek**	**27.32**	**199**	P	**P**	**14 29 16.9**	**+1.2**
	2.9nm,0.7s,baz=18,slow=9.6,SNR=5.0						
FITZ	**Fitzroy Crossi**	**27.98**	**242**	P	P	14 29 28.1	+6.3
	4.6nm,0.4s,baz=45,slow=10,SNR=37						
PETK	**Petropavlovsk-**	**59.18**	**4**	P	**P**	**14 33 31.2**	**-0.1**
	7.2nm,1.1s,baz=155,slow=6.5,SNR=4.2						
SONM	**Songino Array**	**66.75**	**329**	P	**P**	**14 34 22.6**	**+0.7**
	0.6nm,0.6s,baz=156,slow=4.3,SNR=3.9						
MKAR	**Makanchi Array**	**80.47**	**319**	P	**P**	**14 35 42.7**	**+0.3**
	0.1nm,0.5s,baz=92,slow=5.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**81.53**	**327**	P	**P**	**14 35 47.8**	**0.0**
	0.5nm,0.5s,baz=118,slow=5.7,SNR=3.3						
ILAR	**Eielson Array**	**83.79**	**22**	P	**P**	**14 35 59.5**	**+0.2**
	0.9nm,0.6s,baz=248,slow=5.3,SNR=18						
NVAR	**Mina Array Bea**	**93.83**	**52**	P	**P**	**14 36 47.8**	**-0.4**
	0.5nm,0.8s,baz=248,slow=4.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**149.50**	**286**	PKP	**PKPdf**	**14 43 14.2**	**-1.9**
	0.3nm,0.7s,baz=87,slow=2.4,SNR=2.8						
TORD				PKPbc	**PKPbc**	**14 43 20.4**	**-0.2**
	1.1nm,0.6s,baz=70,slow=2.4,SNR=9.0						

*ISCJB **24** 14:47:48.0±0.3, 6.26°S±0.03°×130.13°E±0.04°, h146km, mb4.3/23, Error ellipse: s-maj=5.5km s-min=4.0km az=24.4*
*BJI **24** 14:47:47.9, 6.17°S×130.30°E, h155km, mb4.4/11, mB4.8/4*
*NEIC **24** 14:47:49.6±1.5, 6.25°S×130.13°E, h149km±15km, mb4.5/4, Error ellipse: s-maj=13.9km s-min=8.0km az=69.0*
*IDC **24** 14:47:49.5±1.9, 6.24°S×130.08°E, h144km±18km, mb4.1/15, mb1 4.2/20, mb1mx4.1/30, mbtmp4.6/20, Error ellipse: s-maj=18.6km s-min=11.6km az=89.0*
*DJA **24** 14:47:51.6±0.4, 6°S±2°×13°E±°, h121km±13km, M4.8/11, mb4.7/7, mB5.3/6, MLv4.9/11, Mw(mB)4.7/6*
ISC 24 14:47:49.5±0.4, 6.19S±0.04×130.07E±0.05, h146km, n68, σ1.86/75, mb4.4/31, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.66**	**354**	P	**Pn**	**14 48 23.9**	**+3.3**
SAUI	**Saumlaki**	**2.16**	**146**	P	**Pn**	**14 48 28.5**	**+2.2**
SAUI				S	**Sn**	**14 48 58.9**	**+4.2**
FAKI	**Fak Fak**	**3.91**	**34**	P	**Pn**	**14 48 48.7**	**+0.2**
FAKI				S	**Sn**	**14 49 32.6**	**-1.7**
NLAI	**Namlea**	**4.16**	**315**	P	**Pn**	**14 48 54.9**	**+3.0**
SIJI	**Sorong**	**5.42**	**13**	P	**Pn**	**14 49 08.3**	**-0.2**
	31nm,0.3s,baz=90,slow=24,SNR=80						
SIJI				S	**Sn**	**14 50 05.3**	**-4.8**
	9.7nm,0.3s,baz=90,slow=20,SNR=5.2						
SWI	**Sorong**	**5.42**	**13**	P	**Pn**	**14 49 08.4**	**-0.1**
SWI				S	**Sn**	**14 50 06.2**	**-4.0**
SANI	**Sanana**	**5.79**	**315**	P	**Pn**	**14 49 15.6**	**+2.2**
SANI				S	**Sn**	**14 50 19.5**	**+0.6**
RKPI	**Ransiki, Papua**	**6.19**	**42**	P	**Pn**	**14 49 20.0**	**+1.2**
RKPI				S	**Sn**	**14 50 26.5**	**-2.2**
SOEI	**Soe**	**6.75**	**238**	P	**Pn**	**14 49 27.3**	**+0.9**
	112nm,1.1s						
SOEI				S	**Sn**	**14 50 41.1**	**-1.2**
	112nm,1.1s						
TNTI	**Ternate**	**7.42**	**339**	P	**Pn**	**14 49 36.3**	**+1.0**
BATI	**Baumata**	**7.49**	**237**	P	**Pn**	**14 49 37.0**	**+0.8**
	28nm,0.3s,baz=101,slow=3.3,SNR=31						
BATI				S	**Sn**	**14 50 58.5**	**-1.5**
	21nm,0.3s,baz=125,slow=22,SNR=6.2						
BATI	**Baumata**	**7.49**	**237**	P	**Pn**	**14 49 36.7**	**+0.5**
BATI				S	**Sn**	**14 50 57.8**	**-2.2**
SRPI	**Serui, Papua**	**7.50**	**55**	P	**Pn**	**14 49 38.0**	**+1.7**
BAKI	**Biak**	**7.80**	**51**	P	**Pn**	**14 49 42.4**	**+2.0**
EDFI	**Ende, Flores**	**8.69**	**252**	P	**Pn**	**14 49 54.6**	**+2.3**
APSI	**Ampana**	**9.90**	**302**	P	**Pn**	**14 50 12.3**	**+3.9**
PCI	**Palu**	**11.48**	**297**	P	**P**	**14 50 36.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**12.60**	**200**	P	**Pn**	**14 50 41.9**	**-1.9**
	4.1nm,0.3s,baz=28,slow=9.0,SNR=96						
FITZ				S	Sn	14 52 52.1	-11
	3.2nm,0.3s,baz=128,slow=9.8,SNR=3.9						
WRAB	**Tennant Creek**	**14.28**	**163**	*e*Pn	**Pn**	**14 51 03.5**	**-1.8**
	29nm,0.9s						
WRAB				*e*Sn	Sn	14 53 30.3	-13
WRA	**Warramunga Arr**	**14.29**	**164**	P	**Pn**	**14 51 03.2**	**-2.1**
	2.1nm,0.3s,baz=339,slow=13,SNR=66						
WRA				S	Sn	14 53 32.4	-11
	8.7nm,0.3s,baz=338,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.77**	**168**	P	**Pn**	**14 51 47.3**	**-0.6**
	4.6nm,0.3s,baz=342,slow=9.1,SNR=380						
ASAR				S	**S**	**14 54 55.5**	**-8.3**
	1.5nm,0.3s,baz=357,slow=27,SNR=6.9						
MBWA	**Marble Bar**	**17.94**	**213**	*e*P	**P**	**14 51 48.8**	**+0.3**
TGY	**Tagaytay City**	**22.10**	**336**	P	**P**	**14 52 34.8**	**+1.5**
	89nm,0.5s,baz=128,slow=12,SNR=4.2						
STKA	**Stephens Creek**	**27.74**	**159**	P	**P**	**14 53 25.1**	**+0.7**
	1.9nm,0.6s,baz=322,slow=12,SNR=4.6						
NWAO	**Narrogin (SRO)**	**29.17**	**203**	P	**P**	**14 53 37.5**	**+0.4**
	5.2nm,0.7s,baz=22,slow=14,SNR=3.4						
UTHA	**Uthaitani**	**37.24**	**306**	P	**P**	**14 54 48.2**	**+0.9**
UTTA	**Uttaradit**	**37.62**	**310**	P	**P**	**14 54 51.7**	**+1.3**
	3.1nm,0.8s						
NANT	**Nan**	**38.14**	**311**	P	**P**	**14 54 56.5**	**+1.7**
	3.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**39.27**	**309**	P	**P**	**14 55 05.0**	**+0.7**
	0.5nm,0.3s,baz=156,slow=30,SNR=4.2						
CMMT	**Chiang Mai**	**39.47**	**310**	P	**P**	**14 55 07.1**	**+1.1**
CHTO	**Chiang Mai**	**39.48**	**310**	P	**P**	**14 55 07.1**	**+1.1**
	30nm,0.9s						
MJAR	**Matsushiro Arr**	**43.18**	**10**	P	**P**	**14 55 35.6**	**-0.4**
	2.2nm,0.7s,baz=195,slow=10,SNR=5.4						
KSAR	**Wonju Array Be**	**43.45**	**357**	P	**P**	**14 55 39.0**	**+0.9**
KSRS	**Korea Array**	**43.46**	**358**	P	**P**	**14 55 38.9**	**+0.9**
	1.1nm,0.7s,baz=183,slow=9.5,SNR=3.5						
XAN	**Xi'an**	**44.74**	**335**	P	**P**	**14 55 48.3**	**-0.1**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**50.18**	**2**	P	**P**	**14 56 31.1**	**+0.8**
	2.3nm,0.6s,baz=184,slow=6.0,SNR=8.1						
GTA	**Gaotai**	**53.30**	**331**	*e*P	**P**	**14 56 54.3**	**+0.7**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
RAMN	**Ramite**	**53.43**	**310**	*e*P	**P**	**14 56 55.2**	**+0.2**
	26nm,0.5s						
JIRN	**Jiri**	**54.11**	**311**	*e*P	**P**	**14 56 59.9**	**-0.2**
	16nm,0.6s						
GUN	**Gumba**	**54.48**	**311**	*e*P	**P**	**14 57 02.6**	**-0.1**
	22nm,0.6s						
PKI	**Pulchoki**	**54.66**	**310**	*e*P	**P**	**14 57 03.5**	**-0.5**
	8.0nm,0.6s						
KKN	**Kakani**	**54.87**	**310**	*e*P	**P**	**14 57 05.5**	**+0.2**
	22nm,0.3s						
DMN	**Daman**	**54.91**	**310**	*e*P	**P**	**14 57 05.4**	**-0.3**
	6.1nm,0.4s						
KOLN	**Koldanda**	**56.14**	**309**	*e*P	**P**	**14 57 14.4**	**0.0**
	12nm,0.8s						
PYUN	**Piuthan**	**56.77**	**309**	*e*P	**P**	**14 57 18.8**	**-0.1**
	18nm,0.8s						
SONM	**Songino Array**	**57.70**	**341**	P	**P**	**14 57 26.2**	**+1.3**
	1.6nm,0.6s,baz=159,slow=7.1,SNR=11						
PETK	**Petropavlovsk-**	**63.53**	**18**	P	**P**	**14 58 05.5**	**+1.3**
	3.7nm,1.0s,baz=186,slow=4.5,SNR=6.7						
MKAR	**Makanchi Array**	**67.59**	**327**	P	**P**	**14 58 31.2**	**+0.8**
	10.0nm,0.6s,baz=122,slow=7.9,SNR=155						
KZA	**Kyzart**	**69.21**	**319**	P	**P**	**14 58 42.6**	**+1.5**
	SNR=5.7						
TKM2	**Tokmak 2**	**69.41**	**320**	P	**P**	**14 58 43.0**	**+1.0**
	SNR=7.6						
UCH	**Uchtor**	**69.76**	**319**	P	**P**	**14 58 46.3**	**+1.8**
	SNR=5.4						
AAK	**Ala-Archa**	**69.97**	**320**	*e*P	**P**	**14 58 45.0**	**-0.4**
	5.4nm,0.9s						
AML	**Almayashu**	**70.25**	**319**	P	**P**	**14 58 48.6**	**+1.2**
	SNR=9.0						
USP	**Ospenovka**	**70.28**	**320**	P	**P**	**14 58 48.1**	**+0.9**
	SNR=11						
EKS2	**Erkin-Say**	**70.44**	**319**	P	**P**	**14 58 49.8**	**+1.5**
	SNR=9.9						
ZALV	**Zalesovo Beam**	**70.89**	**334**	P	**P**	**14 58 50.2**	**-0.3**
	2.9nm,0.5s,baz=140,slow=5.9,SNR=15						
KURK	**Kurchatov**	**71.86**	**328**	*e*P	**P**	**14 58 56.3**	**-0.2**
TIXI	**Tiksi**	**77.68**	**360**	*e*P	**P**	**14 59 29.6**	**+0.1**
	3.3nm,0.5s						
PAE	**Paea**	**78.98**	**107**	*e*T	T	15 00 03.7	
	2.5nm,0.3s						
PPT2	**Papeete2**	**78.98**	**107**	*e*T	T	15 00 09.4	
	6.8nm,0.3s						
PPT	**Papeete**	**78.99**	**107**	P	**P**	**14 59 37.2**	**-0.6**
	21nm,0.6s,baz=233,slow=20,SNR=3.2						
TVO	**Taravao**	**79.28**	**107**	*e*T	T	14 59 57.7	
	4.1nm,0.3s						
GEYT	**Alibeck**	**79.75**	**310**	P	**P**	**14 59 41.7**	**+0.1**
	37nm,0.9s,baz=192,slow=5.6,SNR=5.0						
RAYN	**Ar Rayn**	**87.48**	**294**	*e*P	**P**	**15 00 21.2**	**-0.1**
	7.4nm,0.8s						
KBZ	**Khabaz**	**92.19**	**314**	P	**P**	**15 00 42.2**	**-0.6**
	0.6nm,0.6s,baz=45,slow=5.7,SNR=1.8						
ILAR	**Eielson Array**	**92.59**	**25**	P	**P**	**15 00 42.9**	**-1.3**
	0.4nm,0.7s,baz=313,slow=5.1,SNR=5.5						
TORD	**Torodi Ar. Bea**	**128.72**	**282**	PKP	**PKPdf**	**15 06 39.4**	**-1.2**
	0.4nm,0.6s,baz=92,slow=1.7,SNR=3.3						
CPUP	**Villa Florida**	**146.89**	**168**	PKPbc	**PKPbc**	**15 07 15.2**	**-0.3**
	1.0nm,0.5s,baz=152,slow=1.1,SNR=3.7						

*MOS **24** 15:13:31.7±1.5, 53.16°N×162.96°E, h99km, mb4.4/1, Error ellipse: s-maj=8.9km s-min=6.2km az=107.6*
KRSC 24 15:13:31.7±1.8, 53.16°N×162.96°E, h99km±34km, ML4.2, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**1.77**	**269**	*i* P	Pn	15 14 02.6	+1.3
SPN				*e*S	Sn	15 14 23.9	+0.2
SPN	**Mys Shipunski**	**1.77**	**269**	PN	Pn	15 14 02.6	+1.3
SPN				S	Sn	15 14 23.9	+0.2
NLC	**Nalytchevo**	**2.17**	**272**	*e*P	Pn	15 14 08.1	+1.6
NLC				*e*S	Sn	15 14 34.0	+1.0
NLC	**Nalytchevo**	**2.17**	**272**	PN	Pn	15 14 08.1	+1.6
NLC				S	Sn	15 14 34.0	+1.0
KII	**Karymskiy**	**2.27**	**294**	*e*P	Pn	15 14 09.8	+2.0
KII				*e*S	Sn	15 14 37.3	+1.9
KII	**Karymskiy**	**2.27**	**294**	PN	Pn	15 14 09.8	+2.0
KII				S	Sn	15 14 37.3	+1.9
UGLR	**Uglovaya**	**2.49**	**273**	*e*P	Pn	15 14 13.4	+2.7
UGLR				*e*S	Sn	15 14 42.8	+2.2
UGLR	**Uglovaya**	**2.49**	**273**	PN	Pn	15 14 13.4	+2.7
UGLR				S	Sn	15 14 42.8	+2.2
SMAR	**Somma**	**2.50**	**274**	*e*P	Pn	15 14 13.4	+2.4
SMAR	**Somma**	**2.50**	**274**	PN	Pn	15 14 13.4	+2.4
KZV	**Kizimen**	**2.51**	**322**	*e*P	Pn	15 14 13.5	+2.5
KZV				*e*S	Sn	15 14 43.1	+2.0
KZV	**Kizimen**	**2.51**	**322**	PN	Pn	15 14 13.5	+2.5
KZV				S	Sn	15 14 43.1	+2.0
DALK	**Dalny**	**2.54**	**269**	*e*P	Pn	15 14 13.3	+2.1
DALK				*e*S	Sn	15 14 42.8	+1.2
DALK	**Dalny**	**2.54**	**269**	PN	Pn	15 14 13.3	+2.1
DALK				S	Sn	15 14 42.8	+1.2
AVH	**Avacha**	**2.54**	**274**	*i* P	Pn	15 14 14.2	+2.8
AVH				*e*S	Sn	15 14 44.2	+2.4
AVH	**Avacha**	**2.54**	**274**	PN	Pn	15 14 14.2	+2.8
AVH				S	Sn	15 14 44.2	+2.4
TUMD	**Tumrok D**	**2.54**	**325**	*e*P	Pn	15 14 13.7	+2.4
TUMD				*e*S	Sn	15 14 43.2	+1.5
KRX	**Arik**	**2.60**	**276**	*e*P	Pn	15 14 14.7	+2.5
KRX				*e*S	Sn	15 14 44.8	+1.6
KRX	**Arik**	**2.60**	**276**	PN	Pn	15 14 14.7	+2.5
KRX				S	Sn	15 14 44.8	+1.6
PET	**Petropavlovsk**	**2.60**	**269**	*e*P	Pn	15 14 14.3	+2.3
PET				*e*S	Sn	15 14 44.7	+1.7
PET	**Petropavlovsk**	**2.60**	**269**	*e*PN	Pn	15 14 14.2	+2.2
PET				*e*S	Sn	15 14 44.4	+1.4
PET				smax	smax		
	comp=E,154nm,0.3s						
PET				smax	smax		
	comp=N,148nm,0.4s						
KOK	**Koryaka**	**2.60**	**275**	*i* P	Pn	15 14 15.0	+2.8
KOK	**Koryaka**	**2.60**	**275**	PN	Pn	15 14 15.0	+2.8
TUMR	**Tumrok**	**2.69**	**323**	*e*P	Pn	15 14 16.2	+2.8
TUMR	**Tumrok**	**2.69**	**323**	PN	Pn	15 14 13.7	+0.3
TUMR				S	Sn	15 14 43.2	-2.2
RUS	**Russkaya**	**2.79**	**257**	*e*P	Pn	15 14 16.4	+1.8
RUS				*e*S	Sn	15 14 48.3	+0.6
RUS	**Russkaya**	**2.79**	**257**	PN	Pn	15 14 16.4	+1.8
RUS				S	Sn	15 14 48.3	+0.6
KRMR	**Karymshinskiy**	**2.94**	**265**	*i* P	Pn	15 14 18.9	+2.4
KRMR				*e*S	Sn	15 14 52.5	+1.5
KRMR	**Karymshinskiy**	**2.94**	**265**	PN	Pn	15 14 18.9	+2.4
KRMR				S	Sn	15 14 52.5	+1.5
MTVR	**Mutnovka**	**2.98**	**259**	*e*P	Pn	15 14 19.4	+2.2
MTVR				*e*S	Sn	15 14 53.4	+1.2
MTVR	**Mutnovka**	**2.98**	**259**	PN	Pn	15 14 19.4	+2.2
MTVR				S	Sn	15 14 53.4	+1.2
GRL	**Gorelyy**	**3.02**	**260**	*e*P	Pn	15 14 19.9	+2.1
GRL	**Gorelyy**	**3.02**	**260**	PN	Pn	15 14 19.9	+2.1
GNL	**Ganaly**	**3.05**	**282**	*e*P	Pn	15 14 21.5	+3.4
GNL				*e*S	Sn	15 14 57.4	+3.5
GNL	**Ganaly**	**3.05**	**282**	PN	Pn	15 14 21.5	+3.4
GNL				S	Sn	15 14 57.4	+3.5
KBTR	**Krutoberegovo**	**3.06**	**359**	*e*P	Pn	15 14 18.8	+0.7
KBTR	**Krutoberegovo**	**3.06**	**359**	PN	Pn	15 14 18.8	+0.7
BZGR	**Bezymyannyi-Gr**	**3.08**	**336**	*e*S	Sn	15 14 55.7	+1.0
KBG	**Krutoberegovo**	**3.10**	**357**	*e*P	Pn	15 14 19.6	+0.9
KBG				*e*S	Sn	15 14 56.4	+1.4
KBG	**Krutoberegovo**	**3.10**	**357**	PN	Pn	15 14 19.6	+0.9
KBG				S	Sn	15 14 56.4	+1.4
ZLN	**Zelenaya**	**3.12**	**337**	*e*P	Pn	15 14 22.4	+3.2
ZLN				*e*S	Sn	15 14 59.0	+3.3
ZLN	**Zelenaya**	**3.12**	**337**	PN	Pn	15 14 22.4	+3.2
ZLN				S	Sn	15 14 59.0	+3.3
CIRR	**Tsirk**	**3.23**	**337**	*e*S	Sn	15 14 58.9	+0.7
KPT	**Kopyto**	**3.23**	**332**	*e*S	Sn	15 15 02.0	+3.8
KDTR	**Khodutka, Kamc**	**3.28**	**248**	*e*P	Pn	15 14 22.5	+1.4
KDTR				*e*S	Sn	15 14 58.4	-0.8
KDTR	**Khodutka, Kamc**	**3.28**	**248**	PN	Pn	15 14 22.5	+1.4
KDTR				S	Sn	15 14 58.4	-0.8
KRSR	**Krestovskiy**	**3.36**	**337**	*e*S	Sn	15 15 04.7	+3.3
KOZ	**Kozyrevsk**	**3.41**	**330**	*e*P	Pn	15 14 26.1	+3.2
KOZ				*e*S	Sn	15 15 06.6	+4.1
KOZ	**Kozyrevsk**	**3.41**	**330**	PN	Pn	15 14 26.1	+3.2
KOZ				S	Sn	15 15 06.6	+4.1
KLY	**Klyuchi**	**3.43**	**338**	*e*P	Pn	15 14 24.8	+1.7
KLY				*e*S	Sn	15 15 02.4	-0.4
KLY	**Klyuchi**	**3.43**	**338**	PN	Pn	15 14 24.8	+1.7
KLY				S	Sn	15 15 02.4	-0.4
APC	**Apacha**	**3.51**	**268**	*e*P	Pn	15 14 27.5	+3.3
APC				*e*S	Sn	15 15 09.0	+4.2
APC	**Apacha**	**3.51**	**268**	PN	Pn	15 14 27.5	+3.3
APC				S	Sn	15 15 09.0	+4.2
SMKR	**Semkarok**	**3.54**	**347**	*e*P	Pn	15 14 27.0	+2.4
SMKR				*e*S	Sn	15 15 06.2	+0.7
SMKR	**Semkarok**	**3.54**	**347**	PN	Pn	15 14 27.0	+2.4
SMKR				S	Sn	15 15 06.2	+0.7
BDR	**Baidarnaya**	**3.56**	**344**	*e*P	Pn	15 14 27.6	+2.6
BDR				*e*S	Sn	15 15 10.1	+3.9
BDR	**Baidarnaya**	**3.56**	**344**	PN	Pn	15 14 27.6	+2.6
BDR				S	Sn	15 15 10.1	+3.9
SRKR	**Sorokina**	**3.65**	**344**	*e*P	Pn	15 14 28

*NEIC **24** 16:12:10.8±0.4,0.7°S×133.0°E,h35km,mb4.7/16, Error ellipse: s-maj=11.2km s-min=6.4km az=72.0*

ISC 24 16:12:10.7±1.3,**0.72°S**±0.06×**133.01°E**±0.04,**h32**km±9km, **n46,σ1°98/50,mb4.5/15,MS3.1/3,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**1.40**	**124**	P	**Pb**	**16 12 35.2**	**-1.1**
RKPI				S	**Sb**	**16 12 55.6**	**+1.7**
SIJI	**Sorong**	**1.75**	**265**	Pn	**Pn**	**16 12 38.2**	**-0.6**
	32nm,0.3s,baz=70,slow=13,SNR=107						
SIJI				Sn	**Sb**	**16 13 03.7**	**-0.2**
	26nm,0.3s,baz=127,slow=20,SNR=5.6						
SIJI				LR	LR	16 13 08.9	
	comp=Z,194nm,21.1s,baz=64,slow=34						
SWI	**Sorong**	**1.76**	**265**	P	**Pn**	**16 12 39.8**	**+0.9**
SWI				S	**Sb**	**16 13 02.9**	**-1.1**
FAKI	**Fak Fak**	**2.31**	**199**	*e*Pn	**Pn**	**16 12 48.2**	**+1.6**
FAKI				*e*Sn	**Sn**	**16 13 07.4**	**-6.5**
FAKI	**Fak Fak**	**2.31**	**199**	P	**Pn**	**16 12 48.6**	**+2.0**
FAKI				S	**Sb**	**16 13 18.7**	**-1.2**
BAKI	**Biak**	**3.13**	**99**	P	**Pn**	**16 12 56.6**	**-1.2**
SRPI	**Serui, Papua**	**3.42**	**109**	P	**Pb**	**16 13 14.3**	**+3.6**
TNTI	**Ternate**	**5.84**	**285**	*e*Pn	**Pn**	**16 13 38.1**	**+3.1**
NLAI	**Namlea**	**6.42**	**247**	P	**Pn**	**16 13 45.0**	**+2.0**
	74nm,0.7s						
NLAI				S	**Sn**	**16 14 57.9**	**+2.7**
	74nm,0.7s						
SANI	**Sanana**	**7.14**	**259**	P	**Pn**	**16 13 52.6**	**-0.4**
SANI				S	**Sn**	**16 15 16.5**	**+3.3**
SAUI	**Saumlaki**	**7.41**	**193**	*e*Pn	**Pn**	**16 13 54.9**	**-1.8**
MTN	**Manton Dam**	**12.19**	**189**	*e*Pn	**Pn**	**16 15 01.5**	**-0.7**
SOEI	**Soe**	**12.50**	**224**	*e*Pn	Pn	16 15 11.1	+4.5
BATI	**Baumata**	**13.23**	**224**	Pn	**Pn**	**16 15 18.1**	**+1.6**
	3.1nm,0.3s,baz=110,slow=5.4,SNR=7.0						
BATI				LR	LR	16 20 25.8	
	comp=Z,113nm,18.5s,baz=76,slow=37						
COEN	**Coen**	**16.55**	**143**	*e*Pn	**Pn**	**16 15 58.8**	**-1.8**
	37nm,1.4s						
GUMO	**Guam**	**18.45**	**39**	LR	LR	16 22 24.0	
	comp=Z,57nm,20.4s,baz=256,slow=34						
FITZ	**Fitzroy Crossi**	**18.72**	**202**	P	**P**	**16 16 25.8**	**-1.0**
	0.6nm,0.3s,baz=41,slow=11,SNR=17						
FITZ				S	Sn	16 19 43.4	-13
	0.2nm,0.3s,baz=336,slow=19,SNR=3.2						
FITZ				LR	LR	16 25 19.7	
	comp=Z,13nm,21.2s,baz=36,slow=42						
WRAB	**Tennant Creek**	**19.14**	**176**	*e*P	**Pn**	**16 16 32.0**	**-0.4**
	16nm,1.2s						
WR1	**Warramunga Arr**	**19.14**	**176**	*e*P	**P**	**16 16 31.4**	**0.0**
	22nm,1.4s						
WR1				*e*Sn	Sn	16 19 54.8	-11
WRA	**Warramunga Arr**	**19.14**	**176**	P	**P**	**16 16 31.4**	**0.0**
	0.7nm,0.3s,baz=356,slow=12,SNR=44						
WRA				S	Sn	16 19 54.8	-11
	0.3nm,0.3s,baz=2.2,slow=23,SNR=5.3						
SBUM	**Sibu**	**21.02**	**279**	*e*P	**P**	**16 16 51.3**	**-0.7**
	8.9nm,1.3s						
AS31	**Alice Springs**	**22.82**	**178**	*e*P	**P**	**16 17 11.7**	**+0.5**
	4.2nm,0.5s						
AS31				*e*S	**S**	**16 21 23.4**	**+4.9**
AS01	**Alice Springs**	**22.82**	**178**	*e*P	**P**	**16 17 11.3**	**+0.1**
ASAR	**Alice Springs**	**22.82**	**178**	P	**P**	**16 17 11.7**	**+0.5**
	9.1nm,0.7s,baz=354,slow=11,SNR=130						
ASAR				S	**S**	**16 21 22.9**	**+4.3**
	1.6nm,0.7s,baz=1.3,slow=22,SNR=7.9						
CTA	**Charters Tower**	**23.20**	**147**	P	**P**	**16 17 15.8**	**+0.7**
	5.2nm,0.7s,baz=315,slow=11,SNR=5.6						
CTAO	**Charters Tower**	**23.20**	**147**	*e*P	**P**	**16 17 16.4**	**+1.4**
	90nm,1.6s						
MBWA	**Marble Bar**	**24.10**	**212**	*e*P	**P**	**16 17 25.2**	**+1.6**
	67nm,1.6s						
CISI	**Cisompet, Garu**	**26.02**	**254**	*e*P	**P**	**16 17 41.7**	**+0.5**
	76nm,1.6s						
HNR	**Honiara**	**28.16**	**109**	LR	LR	16 29 53.7	
	comp=Z,48nm,18.4s,baz=156,slow=38						
EIDS	**Eidsvold**	**30.08**	**146**	*e*P	**P**	**16 18 16.4**	**-0.9**
	112nm,2.0s						
FORT	**Forrest**	**30.26**	**188**	*e*P	**P**	**16 18 18.3**	**-0.6**
	131nm,1.6s						
STKA	**Stephens Creek**	**32.03**	**166**	P	**P**	**16 18 34.5**	**+0.1**
	3.0nm,0.4s,baz=345,slow=9.0,SNR=12						
STKA	**Stephens Creek**	**32.03**	**166**	*e*P	**P**	**16 18 34.3**	**-0.1**
	2.5nm,1.0s						
ARMA	**Armidale**	**34.42**	**151**	*e*P	**P**	**16 18 55.5**	**+0.1**
	82nm,1.9s						
MJAR	**Matsushiro Arr**	**37.39**	**7**	LR	LR	16 31 44.5	
	comp=Z,34nm,21.0s,baz=205,slow=32						
KSRS	**Korea Array**	**38.28**	**353**	LR	LR	16 34 36.2	
	comp=Z,20nm,18.8s,baz=30,slow=35						
SONA0	**Songino Array**	**53.63**	**338**	*e*P	**P**	**16 21 27.4**	**-1.7**
SONM	**Songino Array**	**53.63**	**338**	P	**P**	**16 21 27.4**	**-1.7**
	0.2nm,0.5s,baz=129,slow=9.6,SNR=3.0						
MK01	**Makanchi Array**	**64.78**	**324**	*e*P	**P**	**16 22 45.9**	**-0.3**
MK31	**Makanchi Array**	**64.80**	**324**	*e*P	**P**	**16 22 46.2**	**-0.2**
MK32	**Makanchi Array**	**64.80**	**324**	*e*P	**P**	**16 22 46.5**	**+0.2**
MKAR	**Makanchi Array**	**64.80**	**324**	P	**P**	**16 22 46.5**	**+0.2**
	0.5nm,0.7s,baz=113,slow=7.1,SNR=6.2						
MKAR	**Makanchi Array**	**64.80**	**324**	*e*P	**P**	**16 22 45.8**	**-0.6**
	9.1nm,1.3s						
MAKZ	**Makanchi**	**64.99**	**324**	*e*P	**P**	**16 22 47.6**	**0.0**
	7.1nm,1.8s						
PRZ	**Przheval'sk**	**65.17**	**318**	*e*P	**P**	**16 22 47.5**	**-1.6**
	12nm,1.1s						
ILAR	**Eielson Array**	**86.43**	**25**	P	**P**	**16 24 47.5**	**-2.3**
	0.4nm,0.8s,baz=263,slow=4.0,SNR=5.1						

*ISN **24** 16:31:51.0±1.1,31.80N×46.26E,h0km±4km,ML4.2*
*IDC **24** 16:32:01.0±1.9,31.63N×46.05E,h0km,mb3.7/9, mb1 3.8/10,mb1mx3.6/38,mbtmp3.7/10,ML2.5/1,MS3.1/1, Ms1 3.1/1,ms1mx2.4/34, Error ellipse: s-maj=39.4km s-min=25.1km az=171.0*
*OMAN **24** 16:32:13.6±32.0,32.65N×47.81E,h30km±999km, Error ellipse: s-maj=2232.0km s-min=60.3km az=315.0*

ISC 24 16:32:01.7±0.7,**31.63N**±0.06×**45.99E**±0.07,**h10**km,**n25, σ3°40/29,mb3.7/8,Iraq**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NSR	**Nassriya**	**0.63**	**168**	*e*Pg	Pg	16 32 08.1	-5.9
NSR				*e*Sg	**Sg**	**16 32 20.2**	**-2.0**
IBDR	**Badra**	**1.48**	**358**	*e*Pg	Pn	16 32 20.0	-8.4
IBDR				*e*Sg	**Sn**	**16 32 41.0**	**-6.7**
BHD	**Baghdad**	**2.13**	**321**	*e*Pn	Pn	16 32 30.0	-7.3
BHD				AML	AML	16 32 44.8	
	comp=Z,6μm,0.3s						
BHD				*e*Sn	**Sn**	**16 32 56.0**	**-7.7**
IKRK	**Kirkuk**	**4.00**	**340**	*e*Pn	Pn	16 32 54.5	-8.6
IKRK				*e*Sn	Sn	16 33 39.0	-11
RTB	**Rutbah**	**5.00**	**288**	*e*Pn	Pn	16 33 12.0	-4.9
RTB				*e*Sn	**Sn**	**16 34 08.0**	**-6.9**
MSL	**Mosul**	**5.32**	**334**	*e*Pn	Pn	16 33 13.5	-7.8
MSL				AML	AML	16 33 49.8	
	comp=Z,325nm,0.2s						
MSL				*e*Sn	Sn	16 34 11.0	-12
CUKT	**Cukurca**	**5.94**	**341**	IAML_P			
	comp=Z,946nm,0.2s						
CUKT				*i* P	**Pn**	**16 33 31.3**	**+1.4**
CUKT				*i* S	**Sn**	**16 34 35.0**	**-2.9**
SIRN	**Sırnak**	**6.55**	**334**	IAML_P			
	comp=Z,1μm,0.2s						
SIRN				*i* P	**Pn**	**16 33 40.8**	**+2.6**
SIRN				*i* S	**Sn**	**16 34 48.8**	**-4.2**
GEVA	**Gevas**	**7.09**	**341**	*i* P	**Pn**	**16 33 47.5**	**+1.8**
GEVA				*i* S	**Sn**	**16 35 04.3**	**-2.1**
SRTM	**Siirt_Merkez**	**7.17**	**333**	IAML_P			
	comp=Z,420nm,0.4s						
SRTM				*i* P	**Pn**	**16 33 48.1**	**+1.4**
ASUD	**Al Ashush, Dub**	**10.80**	**128**	P	Pn	16 34 40.1	+3.7
	SNR=6.7						
ASUD				S	**Sn**	**16 36 36.9**	**-0.4**
MZR	**Muzera**	**10.87**	**140**	P	**Pn**	**16 34 39.4**	**+2.0**
FAQ	**Al Faqa, Dubai**	**10.90**	**127**	P	**Pn**	**16 34 41.0**	**+3.3**
FAQ				S	**Sn**	**16 36 37.1**	**-2.7**
MDH	**Madha**	**11.05**	**122**	P	**Pn**	**16 34 40.8**	**+1.0**
MDH				S	**Sn**	**16 36 38.0**	**-5.5**
UOSS	**Minazif**	**11.20**	**124**	P	**Pn**	**16 34 43.6**	**+1.8**
UOSS				S	**Sn**	**16 36 42.2**	**-4.9**
BRTR	**Keskin Array B**	**12.87**	**312**	Pn	**Pn**	**16 35 08.0**	**+3.1**
	comp=Z,0.0nm,0.3s,baz=132,slow=8.0,SNR=7.2						
MLR	**Muntele Rosu**	**20.83**	**317**	P	**P**	**16 36 44.3**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=113,slow=13,SNR=1.6						
MLR				LR	LR	16 47 51.9	
	comp=Z,56nm,19.4s,baz=216,slow=46						

AKASG	**Malin Array Be**	**22.76**	**332**	P	**P**	**16 37 04.5**	**+0.6**
	comp=Z,3.0nm,0.7s,baz=138,slow=10.0,SNR=9.0						
MKAR	**Makanchi Array**	**31.62**	**51**	P	**P**	**16 38 25.3**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=251,slow=9.1,SNR=5.4						
FINES	**FINESS Array B**	**32.53**	**342**	P	**P**	**16 38 33.9**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=131,slow=8.8,SNR=8.1						
ZALV	**Zalesovo Beam**	**35.54**	**40**	P	**P**	**16 38 58.2**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=248,slow=6.2,SNR=6.3						
NOA	**NORSAR Array B**	**37.16**	**333**	P	**P**	**16 39 12.9**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=109,slow=12,SNR=2.8						
ARCES	**ARCESS Array B**	**39.68**	**349**	P	**P**	**16 39 35.6**	**+1.9**
	comp=Z,1.2nm,0.7s,baz=162,slow=9.5,SNR=8.3						
TORD	**Torodi Ar. Bea**	**44.54**	**256**	P	**P**	**16 40 14.9**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=54,slow=8.0,SNR=4.6						
YKA	**Yellowknife Ar**	**84.91**	**351**	P	**P**	**16 44 38.0**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=20,slow=5.4,SNR=6.4						

TRN 24 17:06:26.9,11°.17N×61°.98W,h89km,MD3.5,1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.76**	**132**	*e*P	Pn	17 06 44.6	+0.7
TRN				*e*S	Sn	17 06 57.4	+0.7
TPP	**Pointe-a-Pierr**	**0.99**	**149**	*e*P	Pn	17 06 48.1	+1.7
TPP				*e*S	Sn	17 07 03.1	+2.1
GRGR	**Grenville**	**1.01**	**18**	*e*P	Pn	17 06 48.1	+1.4
GRHS	**Sauteurs**	**1.10**	**17**	*e*P	Pn	17 06 48.9	+1.1
GRHS	**Sauteurs**	**1.10**	**17**	*e*	Sn	17 07 04.6	+1.3
TBH	**Brigand Hill**	**1.12**	**127**	*e*P	Pn	17 06 49.7	+1.7
TBH				*e*S	Sn	17 07 05.7	+1.9
TPR	**Prospect**	**1.18**	**89**	*e*P	Pn	17 06 49.6	+1.0
TPR				*e*S	Sn	17 07 06.5	+1.6
GRSS	**Sisters**	**1.18**	**18**	*e*P	Pn	17 06 50.3	+1.6
GRSS	**Sisters**	**1.18**	**18**	*e*	Sn	17 07 08.9	+3.9
BOT	**Bacolet**	**1.23**	**90**	*i*P	Pn	17 06 50.2	+0.9
BOT				*e*S	Sn	17 07 07.4	+1.2
TOSP	**Speyside**	**1.42**	**85**	*e*P	Pn	17 06 52.2	+0.6
TOSP				*e*S	Sn	17 07 12.0	+1.7
FCV	**Fort Charlotte**	**2.10**	**20**	*e*P	Pn	17 07 02.5	+2.0
FCV				*e*S	Sn	17 07 26.9	+0.8
SVB	**Belmont**	**2.21**	**19**	*e*P	Pn	17 07 03.2	+1.3
SVB				*e*S	Sn	17 07 30.0	+1.4
SVCV	**St. Vincent, C**	**2.24**	**21**	*e*P	Pn	17 07 03.5	+1.1
SVCV				*e*S	Sn	17 07 30.5	+1.0
SVV	**Soufriere Volc**	**2.26**	**19**	*e*P	Pn	17 07 04.1	+1.5
SVV				*e*S	Sn	17 07 30.8	+0.8
SSV	**Crater Summit**	**2.28**	**20**	*e*P	Pn	17 07 04.8	+1.9
SSV	**Crater Summit**	**2.28**	**20**	*e*	Sn	17 07 33.8	+3.4
SLB	**Belfond**	**2.80**	**19**	*e*P	Pn	17 07 11.8	+2.0
SLB				*e*S	Sn	17 07 45.4	+2.6
SLW	**Petit Monier**	**3.01**	**20**	*e*P	Pn	17 07 15.1	+2.4
BBGH	**Gun Hill**	**3.07**	**50**	*e*P	Pn	17 07 15.6	+2.2
BBSP	**Saint Philip**	**3.13**	**52**	*e*P	Pn	17 07 15.9	+1.8
BBSP				*e*S	Sn	17 07 50.8	+0.2
FDF	**Fort de France**	**3.63**	**13**	*e*P	Pn	17 07 22.4	+1.3
FDF	**Fort de France**	**3.63**	**13**	*e*	Sn	17 08 01.6	-1.4
PML	**Morne Lenard**	**3.67**	**12**	*e*P	Pn	17 07 22.5	+0.9
GBMF	**Grand Be**	**3.69**	**12**	*e*P	Pn	17 07 22.5	+0.6
PCM	**Pelee Case Pet**	**3.70**	**12**	*e*P	Pn	17 07 23.1	+1.0
BAMF	**Morne Balai**	**3.71**	**12**	*e*P	Pn	17 07 23.1	+1.0
ANWB	**Willy Bob**	**6.47**	**2**	*e*P	Pn	17 08 04.0	+4.5

MAN 24 17:32:40.4,5.73N×124.56E,h1km,mb4.5,ML3.3,MS3.1, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.53**	**47**	*e*P	Pn	17 32 55.3	+0.2
GSPH				*i* S	Sn	17 33 04.9	+0.1
SKMP	**Bagumbayan, Su**	**0.79**	**358**	*e*P	Pg	17 32 55.8	+0.2
SKMP				*e*S	Sg	17 33 05.8	0.0
DDMP	**Don Marcelino,**	**1.20**	**72**	*e*P	Pb	17 33 04.1	+0.1
DDMP				*e*S	Sg	17 33 17.6	-1.4
BUKP	**Musuan**	**2.19**	**13**	*e*P	Pn	17 33 18.7	+0.6
BUKP				*e*S	Sn	17 33 46.9	+1.0

*TIR **24** 17:48:33.5,41.71N×19.84E,h7km,Md2.1/2*
SKO 24 17:48:34.2,41.33N×20.31E,h15km,ML2.1,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.34**	**273**	*i* Pg	Pg	17 48 41.3	+0.2
TIR	**Tirane**	**0.34**	**273**	*i* PG	Pg	17 48 41.2	+0.1
TIR				*i* SG	Sb	17 48 46.8	-0.2
PHP	**Peshkopia**	**0.37**	**15**	*i* PG	Pb	17 48 42.5	+0.1
PHP				*i* SG	Sb	17 48 49.5	+1.4
KRUS	**Krusevo**	**0.71**	**87**	*i* Pg	Pg	17 48 48.0	-0.1
KRUS				*i* Sg	Sb	17 48 58.9	+1.1
KRUS				*e*Lg	Lg	17 49 00.5	
	comp=E,18nm,0.4s						
BIA	**Bitola**	**0.83**	**112**	*i* Pg	Pb	17 48 50.7	+0.4
BIA				*i* Sg	Sn	17 49 03.8	+0.5
BIA				*e*Lg	Lg	17 49 04.6	
	comp=E,18nm,0.3s						
SKO	**Skopje**	**1.06**	**52**	*i* Pg	Pg	17 48 54.9	+0.2
PDG	**Podgorica**	**1.35**	**325**	*e*Pg	Pg	17 49 00.3	+0.1
PDG				*i* Sg	Sg	17 49 20.9	+3.0
STIP	**Stip**	**1.46**	**75**	*i* Pg	Pg	17 49 04.7	+2.6
STIP				*i* Sg	Sg	17 49 29.8	+8.7
STIP				*e*Lg	Lg	17 49 30.3	
	comp=N,3.6nm,0.3s						
GRG	**Griva**	**1.62**	**103**	*i* Pg	Pb	17 49 03.5	-0.3
VAY	**Valandovo**	**1.70**	**90**	*e*Pg	Pb	17 49 05.4	+0.3
VAY				*i* Sg	Sg	17 49 29.6	+0.6
VAY				*e*Lg	Lg	17 49 38.1	
	comp=N,62nm,1.5s						

*NEIC **24** 18:00:03.0±0.0, 16.27N×98.04W,h5km,MD4.0(MEX), After MEX.*
MEX 24 18:00:02.9±0.4,**16.26N×98.05W,h6km±3km,MD4.0,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.15**	**328**	*i* P	Pg	18 00 05.5	-0.5
PNIG				*i* S	Sg	18 00 08.2	+0.1
PNIG	**Pinotepa**	**0.15**	**328**	*i* P	Pg	18 00 05.5	-0.5
PNIG				*i* S	Sg	18 00 08.2	+0.1
VHO	**Vista Hermosa**	**1.49**	**57**	*e*P	Pn	18 00 27.4	-3.1
VHO				*i* S	Sn	18 00 49.1	-1.4
VHO	**Vista Hermosa**	**1.49**	**57**	*e*P	Pn	18 00 27.4	-3.1
VHO				*i* S	Sn	18 00 45.4	-5.0
HUIG	**Huatulco**	**1.93**	**105**	*e*P	Pn	18 00 32.5	-3.8
HUIG	**Huatulco**	**1.93**	**105**	*e*P	Pn	18 00 32.5	-3.8
HUIG				*i* S	Sn	18 00 56.1	-4.8
MEIG	**Mezcala**	**2.24**	**318**	*e*P	Pn	18 00 39.7	-0.9
MEIG	**Mezcala**	**2.24**	**318**	*e*P	Pn	18 00 37.4	-3.2
MEIG				*e*S	Sn	18 01 04.3	-4.4
CAIG	**El Cayaco**	**2.27**	**290**	*e*P	Pn	18 00 39.8	-1.2
CAIG	**El Cayaco**	**2.27**	**290**	*i* P	Pn	18 00 37.3	-3.7
CAIG				*i* S	Sn	18 01 05.0	-4.3
ARIG	**Puente Sto Nin**	**2.98**	**313**	*e*P	Pn	18 00 51.2	+0.4
ARIG	**Puente Sto Nin**	**2.98**	**313**	*i* P	Pn	18 00 47.8	-3.0
ARIG				*i* S	Sn	18 01 23.3	-3.6
CMIG	**Matias Romero**	**3.14**	**74**	*e*P	Pn	18 00 49.8	-3.2
CMIG	**Matias Romero**	**3.14**	**74**	*e*P	Pn	18 00 49.8	-3.2
CMIG				*i* S	Sn	18 01 27.5	-3.3

*ISCJB **24** 18:02:43.2±1.0,42.98N±0.06×145.69E±0.06,h46km±9km, Error ellipse: s-maj=12.1km s-min=5.4km az=149.0*
*JMA **24** 18:02:43.6±0.1,42.97N×145.65E,h45km±1km,M2.5*
*SKHL **24** 18:02:44.1±0.6,42.97N×145.63E,h40km±4km,mb4.0/4*
ISC 24 18:02:43.7±1.9,**42.96N**±0.09×**145.68E**±0.06,**h41**km±15km, **n13,σ0°55/24,1D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKHN	**Kushirohamanak**	**0.40**	**288**	P	**Pn**	**18 02 53.2**	**0.0**
JKHN				*e*S	**Sn**	**18 02 59.7**	**-0.1**
NEM2	**Nemuro 2**	**0.41**	**7**	P	**Pn**	**18 02 53.3**	**0.0**
NEM2				*e*S	**Sn**	**18 03 00.2**	**+0.2**
JAK	**Akkeshi**	**0.72**	**273**	P	**Pn**	**18 02 57.1**	**-0.3**
JAK				*e*S	**Sn**	**18 03 07.3**	**0.0**
GLVR	**Golovnino**	**0.79**	**352**	*i* P	**Pn**	**18 02 58.0**	**-0.3**
GLVR				AMB	AMB	18 02 59.0	
	50nm,0.2s						
GLVR				AMB	AMB	18 02 59.0	
	40nm,0.2s						
GLVR				AMB	AMB	18 02 59.0	
	90nm,0.2s						
GLVR				*i* S	**Sn**	**18 03 09.0**	**+0.1**
GLVR				A	A	18 03 10.0	
	390nm,0.2s						
GLVR				A	A	18 03 10.0	
	60nm,0.2s						
JNK	**Nakash**	**0.94**	**312**	P	**Pn**	**18 03 00.0**	**-0.4**
JNK				*e*S	**Sn**	**18 03 12.0**	**-0.6**
GRPR	**Tuman**	**1.03**	**4**	*e*P	**Pn**	**18 03 01.0**	**-0.7**
GRPR				AMB	AMB	18 03 01.0	
	110nm,0.1s						
GRPR				AMB	AMB	18 03 01.0	
	120nm,0.1s						
GRPR				AMB	AMB	18 03 01.0	
	10.0nm,0.1s						
GRPR				*e*S	**Sn**	**18 03 14.0**	**-0.9**
GRPR				A	A	18 03 16.0	
	220nm,0.2s						
GRPR				A	A	18 03 16.0	
	200nm,0.2s						
JRA	**Rausu**	**1.06**	**338**	P	**Pn**	**18 03 02.3**	**+0.3**
JRA				*e*S	**Sn**	**18 03 15.9**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**1.08**	**7**	*i*P	**Pn**	**18 03 02.3**	**0.0**
YUK				AMB	AMB	18 03 03.0	
	30nm,0.2s						
YUK				AMB	AMB	18 03 03.0	
	20nm,0.2s						
YUK				AMB	AMB	18 03 03.0	
	40nm,0.2s						
YUK				*i* S	**Sn**	**18 03 15.6**	**-0.5**
YUK				A	A	18 03 19.0	
	270nm,0.2s						
YUK				A	A	18 03 19.0	
	190nm,0.2s						
SHO	**Shikotan**	**1.24**	**42**	*e*P	**Pn**	**18 03 04.1**	**-0.4**
SHO				AMB	AMB	18 03 05.2	
	10.0nm,0.1s						
SHO				*i* S	**Sn**	**18 03 19.0**	**-0.9**
SHO				A	A	18 03 23.3	
	30nm,0.2s						
SHO				A	A	18 03 23.3	
	520nm,0.2s						
JOB	**Onbets**	**1.35**	**268**	P	**Pn**	**18 03 05.9**	**-0.2**
JAR	**Ashorobuto**	**1.44**	**284**	P	**Pn**	**18 03 07.1**	**-0.1**
JAR				*e*S	**Sn**	**18 03 25.3**	**+0.4**
JTKR	**Abashiri--Toko**	**1.64**	**309**	P	**Pn**	**18 03 10.7**	**+0.8**
KUR	**Kuril'sk**	**2.76**	**34**	*e*P	**Pn**	**18 03 26.6**	**+1.2**
KUR				*e*S	**Sn**	**18 03 58.1**	**+0.6**
KUR				A	A	18 04 03.5	
	78nm,0.4s						
KUR				A	A	18 04 03.5	
	153nm,0.4s						

*ISCJB **24** 18:17:27.7±0.5,44.19N±0.06×105.34W±0.07,h0km, Error ellipse: s-maj=8.5km s-min=6.8km az=156.0*
*NEIC **24** 18:17:29.6±0.4,44.16N×105.33W,h0km,ML3.3, Error ellipse: s-maj=7.1km s-min=5.2km az=157.0,Suspected Mining explosion.*
NEIC 20 km [13 miles] SE of Gillette.
*IDC **24** 18:17:30.3±1.1,44.38N×105.82W,h0km,mb1 3.5/5, mb1mx3.3/48,mbtmp3.1/5,ML2.7/3, Error ellipse: s-maj=26.7km s-min=9.6km az=144.0*

ISC 24 18:17:29.3±0.9,**44.20N**±0.07×**105.34W**±0.07,**h0**km,**n16, σ1°03/16,Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.94**	**95**	*e*P	**Pg**	**18 17 47.6**	**+0.3**
LAO	**LASA Array**	**2.56**	**346**	*e*P	**Pn**	**18 18 13.3**	**+1.2**
BW06	**Boulder Array**	**3.39**	**246**	*e*P	**Pn**	**18 18 23.7**	**+0.1**
PDAR	**Pinedale Array**	**3.39**	**246**	Pn	**Pn**	**18 18 23.5**	**-0.1**
	3.9nm,0.3s,baz=69,slow=13,SNR=33						
PDAR				Lg	Lg	18 19 09.0	
	9.2nm,0.3s,baz=67,slow=29,SNR=4.5						
LKWY	**Lake**	**3.64**	**277**	*e*P	**Pn**	**18 18 28.2**	**+1.1**
OGNE	**Ogallala**	**4.07**	**142**	*e*P	**Pn**	**18 18 32.4**	**-0.5**
DGMT	**Dagmar**	**4.34**	**10**	*e*P	**Pn**	**18 18 36.8**	**+0.3**
ISCO	**Idaho Springs**	**4.41**	**183**	*e*P	**Pn**	**18 18 36.6**	**-1.0**
EGMT	**Eagleton**	**4.90**	**323**	*e*P	**Pn**	**18 18 42.0**	**-2.2**
HWUT	**Hardware Ranch**	**5.26**	**243**	*e*P	**Pn**	**18 18 48.9**	**-0.3**
	9.0nm,0.6s						
ECSD	**EROS Data Cent**	**6.32**	**91**	*e*P	**Pn**	**18 19 04.5**	**+0.8**
	6.7nm,0.6s						
DUG	**Dugway, Tooele**	**6.84**	**237**	*e*P	**Pn**	**18 19 10.1**	**-0.9**
	9.4nm,0.5s						
ULM	**Lac du Bonnet**	**8.83**	**43**	Pn	**Pn**	**18 19 38.4**	**+0.3**
	0.6nm,0.3s,baz=240,slow=13,SNR=7.9						
ULM				Pg	Pg	18 20 06.7	-12
	0.7nm,0.3s,baz=216,slow=10,SNR=5.4						
ULM				Lg	Lg

comp=Z,0.4nm,0.9s,baz=41,slow=9.5,SNR=2.8
SONM LR LR 18 49 10.4
comp=Z,86nm,19.1s,baz=10.0,slow=38
ZAA1 Zalesovo Array 41.97 299 *eP* **P 18 34 01.2 +0.8**
ZALV Zalesovo Beam 41.97 299 P **P 18 34 01.2 +0.8**
comp=Z,0.6nm,0.5s,baz=52,slow=9.3,SNR=3.4
EGMT Eagleton 45.86 68 *eP* **P 18 34 28.1 -3.8**
comp=Z,11nm,0.7s
ARA0 ARCESS Array S 46.15 343 *eP* **P 18 34 33.7 0.0**
ARCES ARCESS Array B 46.15 343 P **P 18 34 33.7 0.0**
comp=Z,7.8nm,1.1s,baz=34,slow=8.9,SNR=6.5
BRVK Borovoye 48.41 307 *eP* **P 18 34 52.2 +0.6**
comp=Z,2.9nm,0.6s
BRVK Borovoye 48.41 307 *eP* **P 18 34 52.2 +0.6**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
NVAR Mina Array Bea 49.44 83 P **P 18 35 00.7 +0.8**
comp=Z,0.4nm,0.6s,baz=316,slow=5.0,SNR=3.0
ULM Lac du Bonnet 49.94 P **P 18 35 03.3 0.0**
comp=Z,2.4nm,0.7s,baz=301,slow=7.3,SNR=4.0
PDAR Pinedale Array 50.02 72 P **P 18 35 04.9 +0.5**
comp=Z,0.6nm,0.9s,baz=0.0,slow=5.9,SNR=4.0
FIA0 FINESS Array S 53.58 338 *eP* **P 18 35 30.2 -0.1**
FIA0 FINESS Array S 53.58 338 *eP* **P 18 35 30.2 -0.1**
FINES FINESS Array B 53.58 338 P **P 18 35 30.2 -0.1**
comp=Z,2.9nm,0.7s,baz=29,slow=9.1,SNR=10
ABKAR Akbulak array 55.30 311 *eP* **P 18 35 43.5 +0.5**
NB2 NORSAR Subarra 56.07 347 P **P 18 35 48.6 +0.2**
comp=Z,4.7nm,0.8s,baz=12,slow=7.4
NB200 NORSAR Array S 56.07 347 *eP* **P 18 35 48.6 +0.2**
NOA NORSAR Array B 56.07 347 P **P 18 35 48.6 +0.2**
comp=Z,2.7nm,0.9s,baz=13,slow=7.3,SNR=4.2
AKASG Malin Array Be 63.02 332 P **P 18 36 35.3 -1.1**
comp=Z,1.9nm,0.6s,baz=26,slow=6.6,SNR=7.8
NIL Nilore 63.08 291 *eP* **P 18 36 37.8 +0.7**
comp=Z,4.7nm,0.6s
NIL Nilore 63.08 291 *eP* **P 18 36 37.8 +0.7**
NIL pmax pmax
comp=Z,5.0nm,0.6s
CMAR Chiang Mai Arr 64.08 260 P **P 18 36 43.5 -0.3**
comp=Z,0.9nm,0.7s,baz=8.9,slow=5.7,SNR=10
CM01 Chiang Mai Arr 64.11 260 *eP* **P 18 36 43.2 -0.8**
CLL Collm 65.37 343 *iP* **P 18 36 52.0 +0.2**
comp=Z,5.0nm,1.0s
BUR08 Bucovina Ar. S 66.78 334 *eP* **P 18 37 01.6 +0.5**
GERES GERESS Array B 67.67 342 P **P 18 37 06.7 0.0**
comp=Z,0.7nm,0.6s,baz=33,slow=5.1,SNR=7.4
WR1 Warramunga Arr 85.92 212 *eP* **P 18 38 47.9 -1.8**
comp=Z,29nm,1.8s
WRA Warramunga Arr 85.92 212 P **P 18 38 47.9 -1.8**
comp=Z,0.6nm,0.7s,baz=17,slow=5.6,SNR=5.3
BOAB BOACO BROADBAND 86.59 70 *eP* **P 18 38 54.3 +1.1**
comp=Z,51nm,0.9s

*ISCJB **24** 18:27:31.2±0.4, 6.37N±0.04×126.87E±0.07, h199km±3km, mb3.8/17, Error ellipse: s-maj=11.0km s-min=6.6km az=159.9*
*IDC **24** 18:27:33.2±0.8, 6.39N×126.75E, h202km±7km, mb3.6/16, mb1 3.6/16, mb1mx3.5/40, mbtmp4.1/16, MS2.8/1, Ms1 2.8/1, ms1mx2.3/22, Error ellipse: s-maj=20.2km s-min=9.6km az=83.0*
*MAN **24** 18:27:34.0, 6.30N×126.70E, h175km, mb5.0, ML3.9, MS4.0*

ISC 24 18:27:32.1±0.7, 6.33N±0.06×126.88E±0.08, h194km±6km, n38, σ1°41/49, mb4.0/24, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.87**	**314**	*eP*	**Pn**	**18 28 00.2**	**-0.2**
MATI				*eS*	**S**	**18 28 20.8**	**-1.5**
DDMP	**Don Marcelino,**	**1.19**	**259**	*eP*	**Pn**	**18 28 03.6**	**+0.9**
DDMP				*eS*	**S**	**18 28 26.8**	**+0.6**
DAV	**Davao City (W)**	**1.49**	**300**	P	**Pn**	**18 28 05.8**	**+0.7**
	76nm,0.3s,baz=76,slow=2.3,SNR=6.1						
DAV				S	**S**	**18 28 31.0**	**+0.2**
	166nm,0.3s,baz=246,slow=19,SNR=67						
DAV				LR	LR	18 28 42.7	
	comp=Z,73nm,19.2s,baz=90,slow=52						
DMPH	**Davao City--Mi**	**1.56**	**299**	*eP*	**Pn**	**18 28 06.6**	**+0.8**
DMPH				*eS*	**S**	**18 28 32.2**	**+0.3**
BIPH	**Bislig**	**1.91**	**344**	*eP*	**Pn**	**18 28 11.3**	**+2.1**
BIPH				*i* S	**S**	**18 28 36.1**	**-2.1**
GSPH	**General Santos**	**1.94**	**263**	*eP*	**Pn**	**18 28 10.2**	**+0.5**
GSPH				*i* S	**S**	**18 28 38.5**	**-0.3**
SKMP	**Bagumbayan, Su**	**2.33**	**275**	*eP*	**Pn**	**18 28 13.1**	**-0.7**
SKMP				*eS*	**S**	**18 28 43.1**	**-3.0**
BUKP	**Musuan**	**2.37**	**310**	*eP*	**Pn**	**18 28 13.7**	**-0.5**
BUKP				*eS*	**S**	**18 28 44.9**	**-2.2**
BUTP	**Butuan**	**2.90**	**335**	*eP*	**Pn**	**18 28 19.5**	**-0.7**
BUTP				*eS*	**S**	**18 28 58.4**	**+0.4**
CGP	**Cagayan de Oro**	**3.03**	**314**	*eP*	Pn	18 28 30.9	+9.1
CGP				*eS*	**S**	**18 29 05.9**	**+5.4**
SIJI	**Sorong**	**8.38**	**148**	P	**Pn**	**18 29 30.5**	**+0.1**
	0.6nm,0.3s,baz=229,slow=19,SNR=3.7						
SIJI				S	**S**	**18 31 02.1**	**-2.6**
	0.6nm,0.3s,baz=52,slow=19,SNR=9.2						
BATI	**Baumata**	**16.74**	**191**	P	**Pn**	**18 31 18.2**	**+2.5**
	1.8nm,0.3s,baz=97,slow=6.6,SNR=4.1						
FITZ	**Fitzroy Crossi**	**24.31**	**183**	P	**P**	**18 32 33.5**	**+1.7**
	1.3nm,0.3s,baz=11,slow=9.0,SNR=16						
WRA	**Warramunga Arr**	**27.12**	**164**	P	**P**	**18 32 58.1**	**+0.9**
	0.2nm,0.3s,baz=341,slow=8.6,SNR=9.7						
CMAR	**Chiang Mai Arr**	**29.77**	**296**	P	**P**	**18 33 21.1**	**+0.3**
	0.5nm,0.7s,baz=103,slow=7.1,SNR=7.4						
ASAR	**Alice Springs**	**30.59**	**167**	P	**P**	**18 33 29.1**	**+1.2**
	0.5nm,0.3s,baz=340,slow=7.5,SNR=26						
ASAR				PcP	**PcP**	**18 36 22.4**	**+0.7**
	0.8nm,0.6s,baz=355,slow=2.5,SNR=12						
KSRS	**Korea Array**	**30.99**	**2**	P	**P**	**18 33 31.4**	**+0.2**
	0.9nm,0.5s,baz=177,slow=9.6,SNR=5.4						
MJAR	**Matsushiro Arr**	**31.80**	**17**	LR	LR	18 48 46.8	
	comp=Z,16nm,18.8s,baz=20,slow=40						
USRK	**Ussuriysk Ar.**	**37.98**	**6**	P	**P**	**18 34 31.1**	**0.0**
	2.3nm,0.4s,baz=182,slow=8.1,SNR=12						
ASAJ	**Asahikawa**	**40.08**	**18**	P	**P**	**18 34 49.5**	**+1.0**
	4.7nm,0.6s,baz=196,slow=7.2,SNR=6.8						
KLR	**Kul'dur**	**42.95**	**5**	P	**P**	**18 35 11.9**	**+0.2**
	1.7nm,0.3s,baz=274,slow=7.4,SNR=9.5						
RAMN	**Ramite**	**43.43**	**303**	*eP*	**P**	**18 35 16.3**	**0.0**
	9.4nm,0.6s						
JIRN	**Jiri**	**44.02**	**304**	*eP*	**P**	**18 35 20.8**	**-0.3**
	18nm,0.6s						
GUN	**Gumba**	**44.37**	**304**	*eP*	**P**	**18 35 23.4**	**-0.4**
	7.5nm,0.5s						
PKI	**Pulchoki**	**44.64**	**303**	*eP*	**P**	**18 35 25.2**	**-0.8**
	6.7nm,0.7s						
SONM	**Songino Array**	**44.90**	**340**	P	**P**	**18 35 27.8**	**+0.4**
	1.2nm,0.7s,baz=162,slow=8.1,SNR=11						
SONM				PcP	**PcP**	**18 37 04.7**	**-0.8**
	0.3nm,0.4s,baz=169,slow=2.9,SNR=3.6						
KOLN	**Koldanda**	**46.22**	**303**	*eP*	**P**	**18 35 37.9**	**-0.3**
	10.0nm,0.3s						
DANN	**Dangsing**	**46.27**	**304**	*eP*	**P**	**18 35 38.2**	**-0.6**
	18nm,0.5s						
PYUN	**Piuthan**	**46.83**	**303**	*eP*	**P**	**18 35 42.8**	**-0.2**
	11nm,0.6s						
PETK	**Petropavlovsk-**	**52.98**	**23**	P	**P**	**18 36 29.6**	**+1.0**
	2.9nm,0.8s,baz=158,slow=2.3,SNR=6.1						
ZALV	**Zalesovo Beam**	**58.36**	**332**	P	**P**	**18 37 06.1**	**-0.7**
	1.4nm,0.3s,baz=128,slow=6.2,SNR=12						
GEYT	**Alibeck**	**69.41**	**308**	P	**P**	**18 38 19.7**	**+0.5**
	71nm,0.6s,baz=111,slow=6.5,SNR=3.9						
KDAK	**Kodiak Island**	**79.62**	**32**	P	**P**	**18 39 18.1**	**+0.5**
	9.2nm,1.0s,baz=243,slow=6.8,SNR=4.7						
ILAR	**Eielson Array**	**82.70**	**26**	P	**P**	**18 39 33.0**	**-0.7**
	0.6nm,0.5s,baz=240,slow=5.4,SNR=7.6						
ARCES	**ARCESS Array B**	**88.08**	**340**	P	**P**	**18 39 58.9**	**-1.3**
	1.7nm,0.8s,baz=87,slow=6.4,SNR=12						
FINES	**FINESS Array B**	**89.62**	**332**	P	**P**	**18 40 06.2**	**-1.4**
	0.5nm,0.4s,baz=72,slow=4.5,SNR=7.5						
AKASG	**Malin Array Be**	**89.98**	**321**	P	**P**	**18 40 08.0**	**-1.4**
	0.2nm,0.4s,baz=69,slow=6.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**122.22**	**290**	PKP	**PKPdf**	**18 46 03.5**	**-1.3**
	0.7nm,0.6s,baz=62,slow=2.2,SNR=6.0						

IDC 24 18:36:58.6±10.0, 43.85N×128.07W, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/33, mbtmp3.2/3, Error ellipse: s-maj=175.9km s-min=30.0km az=69.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NVAR	**Mina Array Bea**	**9.14**	**123**	Pn	Pn	18 39 13.6	+1.7
	baz=304,slow=13,SNR=1.7						
YKA	**Yellowknife Ar**	**20.27**	**18**	P	P	18 41 35.3	-0.1
	0.4nm,0.8s,baz=207,slow=11,SNR=5.0						
ULM	**Lac du Bonnet**	**22.73**	**62**	P	P	18 42 02.0	+0.1
	1.0nm,0.4s,baz=264,slow=9.2,SNR=2.9						
H11N3	**WAKE ISLAND Hy 58.71**	**268**		T	T	19 50 04.0	
	baz=50,slow=75,SNR=27						
H11N2	**WAKE ISLAND Hy 58.71**	**268**		T	T	19 50 03.2	
	baz=50,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy 58.73**	**268**		T	T	19 50 04.0	
	baz=50,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy 59.64**	**267**		T	T	19 51 12.4	
	baz=50,slow=75,SNR=9.4						
H11S2	**WAKE ISLAND Hy 59.65**	**267**		T	T	19 51 13.7	
	baz=50,slow=75,SNR=7.2						
H11S3	**WAKE ISLAND Hy 59.66**	**267**		T	T	19 51 12.1	
	baz=50,slow=75,SNR=5.5						

IDC 24 18:42:15.6±5.6, 44.11N×127.81W, h0km, mb1 3.5/3, mb1mx3.3/33, mbtmp3.1/3, ML3.2/3, Error ellipse: s-maj=83.0km s-min=30.0km az=66.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NVAR	**Mina Array Bea**	**9.13**	**125**	Pn	Pn	18 44 30.7	+1.9
	0.2nm,0.3s,baz=301,slow=12,SNR=3.9						
PDAR	**Pinedale Array**	**13.34**	**89**	Pn	Pn	18 45 30.9	+4.6
	0.0nm,0.3s,baz=267,slow=7.8,SNR=2.9						
YKA	**Yellowknife Ar**	**19.96**	**18**	P	P	18 46 49.0	0.0
	0.1nm,0.3s,baz=211,slow=12,SNR=9.5						
H11N3	**WAKE ISLAND Hy 58.91**	**268**		T	T	19 55 16.0	
	baz=50,slow=75,SNR=56						
H11N2	**WAKE ISLAND Hy 58.91**	**268**		T	T	19 55 17.6	
	baz=50,slow=75,SNR=42						
H11N1	**WAKE ISLAND Hy 58.92**	**268**		T	T	19 55 19.3	
	baz=50,slow=75,SNR=37						
H11S1	**WAKE ISLAND Hy 59.84**	**267**		T	T	19 56 23.3	
	baz=50,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy 59.85**	**267**		T	T	19 56 25.1	
	baz=50,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy 59.86**	**267**		T	T	19 56 28.4	
	baz=50,slow=75,SNR=10						

*ISCJB **24** 19:13:45.3±0.5, 36.87N±0.04×34.38E±0.04, h10km±5km, Error ellipse: s-maj=7.2km s-min=4.3km az=146.6*
*DDA **24** 19:13:45.3, 36.89N×34.36E, h7km±1km, ML2.7*
*ISK **24** 19:13:45.1, 36.88N×34.37E, h11km, ML2.4/15*

ISC 24 19:13:45.4±1.0, 36.89N±0.03×34.36E±0.03, h11km±8km, n21, σ0°36/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MERS	**Mersin**	**0.13**	**101**	PG	**Pg**	**19 13 48.5**	**-0.1**
MERS				SG	**Sg**	**19 13 50.9**	**+0.1**
KIZK	**Mersin**	**0.45**	**203**	PG	**Pg**	**19 13 54.1**	**-0.1**
KIZK				SG	**Sg**	**19 14 00.7**	**+0.6**
KIZK	**Mersin**	**0.45**	**203**	*iP*	**Pg**	**19 13 54.5**	**+0.2**
KIZK				*iS*	**Sb**	**19 14 01.9**	**-0.1**
GULE	**Gulek**	**0.51**	**40**	IAML_P			
	comp=Z,2µm,0.2s						
GULE				*iP*	**Pb**	**19 13 56.1**	**-0.5**
KERG	**Konya-Eregli**	**0.56**	**340**	IAML_P			
	comp=Z,350nm,0.1s						
KERG				*iP*	**Pg**	**19 13 56.2**	**-0.1**
KERG				*iS*	**Sb**	**19 14 05.6**	**+0.2**
KARA	**Karaisali**	**0.66**	**56**	PG	**Pg**	**19 13 58.4**	**+0.1**
KEBE	**Keben-Mersin**	**0.69**	**230**	PG	**Pg**	**19 13 58.7**	**0.0**
KEBE				SG	**Sb**	**19 14 08.7**	**-0.3**
IKL	**Isikli**	**0.85**	**220**	PG	**Pg**	**19 14 01.0**	**-0.8**
TEVE	**Tevekalti-Mers**	**0.87**	**239**	PG	**Pb**	**19 14 02.2**	**-0.4**
KRTS	**Karatas**	**0.87**	**111**	PG	**Pg**	**19 14 02.1**	**-0.1**
YESI	**Yesilovacik-Me**	**0.91**	**220**	PG	**Pb**	**19 14 02.8**	**-0.4**
GULN	**MERSIN_Gulnar**	**0.97**	**223**	*iP*	**Pn**	**19 14 05.9**	**+0.9**
AKKU	**Akkuyu-Mersin**	**0.98**	**222**	PG	**Pb**	**19 14 04.3**	**-0.2**
AKK2	**Akkuyu-Mersin**	**1.00**	**221**	PG	**Pb**	**19 14 04.5**	**-0.3**
YURE	**YUREGIR**	**1.02**	**93**	PG	**Pb**	**19 14 04.9**	**-0.2**
BERE	**Bereket-Mersin**	**1.07**	**240**	PG	**Pb**	**19 14 05.9**	**-0.1**
CEYT	**Ceyhan**	**1.11**	**84**	PN	**Pb**	**19 14 06.7**	**0.0**
ERMK	**Ermenek**	**1.19**	**258**	*iP*	**Pn**	**19 14 08.3**	**0.0**
KOZT	**Kozan**	**1.31**	**63**	PN	**Pn**	**19 14 09.8**	**+0.1**
GULA	**Gulagac**	**1.45**	**356**	PN	**Pn**	**19 14 12.1**	**+0.3**
TAHT	**Tahtakopru-Hat**	**1.55**	**109**	PN	**Pn**	**19 14 13.1**	**+0.1**

MEX 24 19:33:16.1±0.6, 16.06N×97.54W, h16km±11km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.66**	**301**	*eP*	Pg	19 33 26.8	-2.2
PNIG				*eS*	Sg	19 33 35.0	-2.8
VHO	**Vista Hermosa**	**1.27**	**37**	*eP*	Pn	19 33 36.2	-3.1
VHO				*eS*	Sb	19 33 51.1	-4.8
HUIG	**Huatulco**	**1.41**	**102**	*iP*	Pn	19 33 37.9	-3.1
HUIG				*iS*	Sn	19 33 53.4	-5.9

*TIF **24** 19:51:09.0, 42.34N×40.84E, h40km±1km*
*ISCJB **24** 19:51:08.6±0.4, 42.41N±0.02×40.82E±0.03, h10km, mb3.4/3, Error ellipse: s-maj=3.8km s-min=2.3km az=160.4*
*ISK **24** 19:51:09.4, 42.36N×41.05E, h14km, ML3.3/3*
*MOS **24** 19:51:10.0±0.0, 42.45N×40.99E, h6km, MPVA3.9*
*DDA **24** 19:51:10.4, 42.24N×41.02E, h7km±2km, ML3.3*
*NORS **24** 19:51:11.3±0.0, 42.54N×41.40E, h5km, MPVA3.7*

ISC 24 19:51:09.8±0.7, 42.41N±0.02×40.99E±0.03, h10km, n56, σ1°13/95, mb3.4/3, 1C-2D, Black Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATM	**Batumi**	**0.96**	**147**	PG	**Pg**	**19 51 27.3**	**-0.8**
BATM	**Batumi**	**0.96**	**147**	P	**Pg**	**19 51 28.0**	**-0.2**
BATM				S	**Sg**	**19 51 42.0**	**+1.4**
DOMR	**Dombai**	**1.00**	**27**	*e*PG	**Pb**	**19 51 29.0**	**-0.3**
DOMR				*eS*	**Sb**	**19 51 41.8**	**-0.8**
DOMR	**Dombai**	**1.00**	**27**	*e*Pg	**Pb**	**19 51 29.0**	**-0.3**
DOMR				*eSg*	**Sb**	**19 51 41.7**	**-0.9**
BCA	**Borcka**	**1.07**	**154**	PG	**Pb**	**19 51 29.2**	**-1.1**
BCA				SG	**Sg**	**19 51 43.7**	**-0.5**
DBOC	**Borcka**	**1.17**	**154**	*iP*	**Pn**	**19 51 31.8**	**-0.5**
DBOC				*iS*	**Sb**	**19 51 47.3**	**-0.1**
ARXR	**Arkhyz**	**1.17**	**10**	*e*Pg	**Pb**	**19 51 31.3**	**-0.9**
ARXR				*eSg*	**Sb**	**19 51 46.5**	**-1.1**
RPOR	**Krasnaya Polya**	**1.40**	**338**	*d*PG	**Pn**	**19 51 35.2**	**-0.2**
RPOR	**Krasnaya Polya**	**1.40**	**338**	*e*Pg	**Pn**	**19 51 35.1**	**-0.3**
RPOR				*eSg*	**Sg**	**19 51 54.1**	**-0.7**
ARTV	**Artvin**	**1.41**	**150**	IAML_P			
	comp=Z,5µm,0.1s						
ARTV				*iP*	**Pn**	**19 51 35.0**	**-0.7**
ARTV				*iS*	**Sn**	**19 51 53.1**	**-1.2**
DBAD	**Bademkaya**	**1.48**	**159**	*iP*	**Pn**	**19 51 35.9**	**-0.7**
DBAD				*iS*	**Sn**	**19 51 54.1**	**-1.9**
DAGI	**Agillar**	**1.50**	**152**	IAML_P			
	comp=Z,828nm,0.1s						
DAGI				*iP*	**Pn**	**19 51 36.3**	**-0.4**
DAGI				*iS*	**Sn**	**19 51 54.4**	**-2.0**
SOC	**Sochi**	**1.50**	**322**	*e*PG	**Pb**	**19 51 37.0**	**-0.8**
SOC				pmax	pmax		
	comp=Z,63nm,0.3s						
SOC	**Sochi**	**1.50**	**322**	*e*Pg	**Pn**	**19 51 36.8**	**0.0**
SOC				*eSg*	**Sg**	**19 51 57.4**	**-0.7**
NEY	**Neytrino**	**1.52**	**56**	*e*PG	**Pn**	**19 51 37.2**	**0.0**
NEY				*eS*	**Sn**	**19 51 56.0**	**-1.2**
NEY	**Neytrino**	**1.52**	**56**	*e*Pg	**Pn**	**19 51 36.9**	**-0.4**
NEY				*eSg*	**Sn**	**19 51 55.9**	**-1.4**
DDEM	**Demirkent**	**1.61**	**159**	*iP*	**Pn**	**19 51 38.6**	**+0.2**
GUZR	**Guzeripl'**	**1.71**	**338**	*e*Pg	**Pb**	**19 51 40.6**	**-0.8**
GUZR				*eSg*	**Sg**	**19 52 04.2**	**-0.7**
SHA1	**Shidzhatmaz**	**1.81**	**42**	*i*PG	**Pb**	**19 51 42.5**	**-0.5**
SHA1				*eS*	**Sb**	**19 52 05.8**	**0.0**
SHA1	**Shidzhatmaz**	**1.81**	**42**	*i*Pg	**Pb**	**19 51 42.5**	**-0.5**
SHA1				*eSg*	**Sb**	**19 52 05.8**	**0.0**
LZRR	**Lazarevskoye**	**1.93**	**323**	*e*Pg	**Pb**	**19 51 43.7**	**-1.3**
LZRR				*eSg*	**Sb**	**19 52 08.6**	**-0.6**
DIGR	**Digorskoe uzhe**	**1.97**	**75**	*e*PN	**Pn**	**19 51 44.6**	**+1.2**
DIGR				*eS*	**Sb**	**19 52 10.2**	**-0.3**
DIGR	**Digorskoe uzhe**	**1.97**	**75**	*e*Pg	**Pn**	**19 51 44.6**	**+1.2**
DIGR				*eSg*	**Sb**	**19 52 10.2**	**-0.3**
KIV	**Kislovodsk**	**1.98**	**38**	*e*PN	**Pn**	**19 51 43.6**	**+0.1**
KIV	**Kislovodsk**	**1.98**	**38**	*e*PN	**Pb**	**19 51 45.5**	**-0.5**
KIV				*eS*	**Sb**	**19 52 10.6**	**-0.2**
KIV0	**Kislovodsk Arr**	**1.99**	**38**	*i*Pg	**Pb**	**19 51 45.1**	**-0.9**
KIV0				*i*Sg	**Sb**	**19 52 10.4**	**-0.5**
BEYR	**Belyy Ugol+**	**2.09**	**39**	*e*PN	**Pb**	**19 51 47.4**	**-0.3**
BEYR				*eS*	**Sb**	**19 52 13.7**	**0.0**
BEYR	**Belyy Ugol+**	**2.09**	**39**	*e*Pg	**Pb**	**19 51 47.4**	**-0.3**
BEYR				*eSg*	**Sb**	**19 52 13.7**	**0.0**
BAYT	**Aydıntepe-Bayb**	**2.11**	**198**	PN	**Pn**	**19 51 45.1**	**-0.2**
ZEI	**Tsey**	**2.18**	**79**	*i* PN	**Pn**	**19 51 47.7**	**+1.4**
ZEI				pmax	pmax		
	comp=Z,22nm,0.4s						
ZEI	**Tsey**	**2.18**	**79**	*e*Pg	**Pn**	**19 51 47.5**	**+1.3**
ZEI				*eSg*	**Sb**	**19 52 16.0**	**-0.6**
NCK	**Nalchik**	**2.20**	**59**	*e*PN	**Pb**	**19 51 48.7**	**-0.9**
NCK				pmax	pmax		
	comp=Z,46nm,0.2s						
NCK	**Nalchik**	**2.20**	**59**	*e*Pg	**Pb**	**19 51 48.8**	**-0.9**
NCK				*eSg*	**Sb**	**19 52 17.8**	**+0.9**
BGD	**Bogdanovka**	**2.26**	**120**	P	**Pn**	**19 51 49.5**	**+2.2**
BGD				S	**Sb**	**19 52 18.6**	**-0.2**
ESPY	**Espiye-Giresun**	**2.26**	**230**	PN	**Pn**	**19 51 47.4**	**+0.2**
LSNR	**Lesken**	**2.26**	**66**	*e*PN	**Pb**	**19 51 50.0**	**-0.6**
LSNR				pmax	pmax		
	comp=Z,6.0nm,0.2s						
LSNR	**Lesken**	**2.26**	**66**	*e*Pg	**Pb**	**19 51 50.2**	**-0.4**
LSNR				*eSg*	**Sb**	**19 52 18.5**	**-0.1**
PYA1	**Pyatigorsk**	**2.26**	**42**	*e*PN	**Pn**	**19 51 47.7**	**+0.5**
PYA1				*eS*	**Sb**	**19 52 16.5**	**-2.1**
PYA1	**Pyatigorsk**	**2.26**	**42**	*e*Pg	**Pn**	**19 51 47.6**	**+0.4**
PYA1				*eSg*	**Sb**	**19 52 18.5**	**-0.2**
KBTC	**Kuba-Taba**	**2.26**	**51**	*e*PN	**Pb**	**19 51 49.2**	**-1.5**
KBTC				*eS*	**Sb**	**19 52 17.6**	**-1.1**
KBTC	**Kuba-Taba**	**2.26**	**51**	*e*Pn	**Pb**	**19 51 49.2**	**-1.5**
KBTC				*eSn*	**Sb**	**19 52 17.6**	**-1.1**
KORR	**Kora**	**2.36**	**72**	*e*PN	**Pb**	**19 51 51.7**	**-0.7**
KORR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
KORR	**Kora**	**2.36**	**72**	*e*Pn	**Pb**	**19 51 51.4**	**-1.1**
KORR				*eSn*	**Sb**	**19 52 20.1**	**-1.6**
STDR	**Stavd-Durt**	**2.45**	**66**	*e*Pn	**Pg**	**19 51 56.5**	**-0.2**
STDR				*eSn*	**Sg**	**19 52 26.9**	**-1.6**
LACR	**Lac**	**2.47**	**79**	*e*PN	**Pn**	**19 51 52.3**	**+2.1**
LACR				pmax	pmax		
	comp=Z,23nm,0.4s						
LACR	**Lac**	**2.47**	**79**	*e*Pn	**Pb**	**19 51 52.6**	**-1.8**
LACR				*eSn*	**Sb**	**19 52 24.4**	**-0.5**
TRLG	**Trialeti**	**2.47**	**109**	P	**Pn**	**19 51 52.8**	**+2.6**
TRLG				S	**Sb**	**19 52 25.6**	**+0.6**
ARNR	**Ardon**	**2.54**	**71**	*e*Pn	**Pb**	**19 51 56.8**	**+1.3**
ARNR				*eSn*	**Sg**	**19 52 30.1**	**-1.3**
ALER	**Alexandrovskoy**	**2.74**	**30**	*i* Pn	**Pg**	**19 52 00.4**	**-1.9**
ALER				*eSn*	**Sb**	**19 52 34.0**	**+1.6**
GOF	**Gofitskoye**	**3.04**	**29**	*e*PN	**Pg**	**19 52 06.6**	**-1.4**
GOF				*eS*	**Sg**	**19 52 47.5**	**+0.2**
GOF				pmax	pmax		
	comp=Z,5.0nm,0.5s						
GOF				smax	smax		
	comp=E,30nm,0.6s						
ANN	**Anapa**	**3.52**	**314**	*e*PN	**Pn**	**19 52 06.9**	**+2.4**
ANN				*e*		19 53 07.1	
ANN				pmax	pmax		
	comp=Z,21nm,0.8s						
ANN				smax	smax		
	comp=Z,34nm,1.4s						
ANN	**Anapa**	**3.52**	**314**	*e*Pn	**Pn**	**19 52 06.0**	**+1.5**
ANN				*eSn*	**Sn**	**19 52 49.5**	**+3.3**
LGD	**Lagodekhi**	**3.94**	**97**	P	**Pb**	**19 52 19.5**	**+0.2**
BRVK	**Borovoye**	**22.24**	**51**	*i* P	**P**	**19 56 08.7**	**+2.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AAK	**Ala-Archa**	**24.60**	**78**	*i* P	**P**	**19 56 32.3**	**+2.1**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.9s						
KURK	**Kurchatov**	**26.93**	**59**	*i* P	**P**	**19 56 52.3**	**+1.3**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						

MEX 24 19:58:16.1±0.3, 16.42N×98.35W, h33km±7km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.22**	**96**	*i* P	Pb	19 58 21.5	-1.4
PNIG				*i* S	Sn	19 58 25.8	-1.0

*NEIC **24** 20:17:14.6±0.9, 41.78N×110.64W, h0km, ML2.0, Error ellipse: s-maj=14.6km s-min=8.0km az=143.0, Suspected Mining explosion.*
NEIC 8 km [5 miles] WSW of Kemmerer.
*IDC **24** 20:17:15.3±1.6, 41.91N×110.60W, h0km, mb2.6/1, mb1 3.1/3, mb1mx3

5.9nm,0.3s,baz=171,slow=24,SNR=10
KBK Karagaybulak 5.98 24 P **Pn** **20 21 28.5 +2.6**
SNR=9.2
ULHL Ulahol 6.13 33 P **Pn** **20 21 29.6 +1.7**
SNR=10
CHMS Chumysh 6.24 21 P **Pn** **20 21 31.6 +2.3**
SNR=16
USP Ospenovka 6.42 19 P **Pn** **20 21 33.5 +1.8**
SNR=20
TKM2 Tokmak 2 6.44 26 P **Pn** **20 21 34.4 +2.3**
SNR=13
TKM2 Tokmak 2 6.44 26 ⇑P **Pn** **20 21 34.2 +2.0**
6.6nm,0.7s
TKM2 ⇑S **Sn** **20 22 43.3 -1.0**
5.0nm,0.7s
GEYT Alibeck 10.81 278 P **Pn** **20 22 33.3 +2.0**
0.4nm,0.3s,baz=101,slow=13,SNR=4.3
GEYT S **Sn** **20 24 29.4 -0.9**
1.6nm,0.3s,baz=143,slow=15,SNR=8.1
MK31 Makanchi Array 12.39 36 ⇑P **P** **20 23 00.8 +1.1**
0.5nm,0.6s,baz=0.0,slow=0.1,SNR=5.2
PYUN Piuthan 13.14 130 *eP* **Pn** **20 23 01.0 -1.3**
16nm,0.5s
DANN Dangsing 13.44 128 *eP* **Pn** **20 23 04.4 -1.9**
12nm,0.3s
KOLN Koldanda 13.75 130 *eP* **Pn** **20 23 09.3 -0.9**
7.4nm,0.5s
KURBB Kurchatov Arra 14.27 18 P **Pn** **20 23 14.7 -1.9**
0.0nm,0.3s,baz=210,slow=12,SNR=2.7
AB31 Akbulak array 14.76 328 P **P** **20 23 24.8 -1.1**
1.0nm,0.3s,baz=133,slow=15,SNR=98
AB31 S **Sn** **20 26 02.5 -3.0**
0.8nm,0.5s,baz=154,slow=24,SNR=4.0
DMN Daman 14.81 126 *eP* **Pn** **20 23 22.2 -1.6**
5.2nm,0.2s
PKI Pulchoki 15.03 126 *eP* **Pn** **20 23 25.0 -1.7**
6.2nm,0.3s
GUN Gumba 15.11 124 *eP* **Pn** **20 23 26.0 -1.8**
5.0nm,0.4s
JIRN Jiri 15.48 124 *eP* **Pn** **20 23 31.2 -1.2**
20nm,0.3s
BVA0 Borovoye Array 15.84 357 ⇑P **Pn** **20 23 36.5 +0.2**
3.1nm,1.1s,baz=243,slow=39,SNR=9.8
BVAR Borovoye Array 15.84 357 P **Pn** **20 23 35.4 -1.0**
0.3nm,0.3s,baz=158,slow=13,SNR=8.6
RAMN Ramite 16.23 125 *eP* **Pn** **20 23 41.0 -0.6**
6.6nm,0.4s
AKTO Aktyubinsk 16.47 328 P **P** **20 23 45.0 +0.2**
0.6nm,0.3s,baz=136,slow=13,SNR=19
AKTO Aktyubinsk 16.47 328 ⇓P **P** **20 23 47.6 +2.8**
3.5nm,0.6s
ZALV Zalesovo Beam 19.04 24 P **P** **20 24 10.3 -2.7**
0.2nm,0.3s,baz=212,slow=9.0,SNR=3.1
SONM Songino Array 27.47 56 P **P** **20 25 36.2 +0.6**
0.2nm,0.5s,baz=261,slow=7.2,SNR=2.8
YKA Yellowknife Ar 80.51 3 P **P** **20 31 58.7 -0.6**
0.2nm,0.4s,baz=349,slow=5.1,SNR=4.6

*ISK **24** 20:25:03.9, 39.˚69N×25.˚62E, h5km, ML2.6/22*
*ISCJB **24** 20:25:04.9±0.4, 39.˚70N±0.˚02×25.˚58E±0.˚03, h8km±4km, Error ellipse: s-maj=3.8km s-min=3.2km az=27.7*
*DDA **24** 20:25:04.2, 39.˚78N×25.˚57E, h7km±7km, ML2.8*
*ATH **24** 20:25:04.6, 39.˚68N×25.˚56E, h29km±1km, ML2.3/5, Error ellipse: s-maj=1.8km s-min=1.0km az=228.0*
*THE **24** 20:25:05.3, 39.˚70N×25.˚60E, h6km±2km, ML2.2/2, Error ellipse: s-maj=3.0km s-min=0.9km az=206.0*

ISC 24 20:25:04.8±1.0, 39.70N±0.02×25.58E±0.02, h11km±9km, n57, σ0.61/74, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.37**	**303**	P	**Pb**	**20 25 13.0**	**-0.4**
LIA				S	**Sb**	**20 25 18.5**	**-0.6**
LIA				AML	AML	20 25 21.6	
	comp=N,815μm,0.3s						
LIA				AML	AML	20 25 25.2	
	comp=E,849μm,0.6s						
LIA	**Limnos Island**	**0.37**	**303**	P	**Pb**	**20 25 12.9**	**-0.4**
LIA				S	**Sg**	**20 25 18.0**	**+1.1**
BOZC	**Bozcaada**	**0.39**	**68**	PG	**Pg**	**20 25 12.2**	**-0.3**
BOZC				SG	**Sb**	**20 25 18.3**	**-1.5**
EFSA	**Agios Efstrati**	**0.48**	**251**	P	**Pb**	**20 25 16.0**	**+0.7**
EFSA				S	**Sb**	**20 25 22.7**	**+0.3**
SIGR	**SIGRI**	**0.53**	**156**	PG	**Pg**	**20 25 14.8**	**-0.3**
SIGR	**SIGRI**	**0.53**	**156**	P	**Pg**	**20 25 14.8**	**-0.3**
SIGR				AML	AML	20 25 22.6	
	comp=E,724μm,0.6s						
SIGR				S	**Sg**	**20 25 22.6**	**+0.6**
SIGR				AML	AML	20 25 23.1	
	comp=N,1184μm,0.4s						
SIGR	**SIGRI**	**0.53**	**156**	P	**Pg**	**20 25 14.8**	**-0.3**
SIGR				S	**Sg**	**20 25 22.5**	**+0.5**
GADA	**Gvkgeada**	**0.55**	**26**	PG	**Pg**	**20 25 15.6**	**+0.1**
GADA	**Gvkgeada**	**0.55**	**26**	P	**Pb**	**20 25 16.0**	**-0.5**
EZN	**Ezine**	**0.59**	**77**	PG	**Pg**	**20 25 15.9**	**-0.3**
EZN				SG	**Sg**	**20 25 24.0**	**+0.1**
EZN	**Ezine**	**0.59**	**77**	P	**Pg**	**20 25 15.9**	**-0.3**
EZN				S	**Sg**	**20 25 23.8**	**-0.1**
PRK	**Paraskevi**	**0.70**	**130**	P	**Pb**	**20 25 19.3**	**+0.3**
PRK				S	**Sb**	**20 25 29.1**	**+0.4**
PRK	**Paraskevi**	**0.70**	**130**	P	**Pb**	**20 25 19.2**	**+0.3**
PRK				S	**Sb**	**20 25 29.3**	**+0.7**
BAYC	**CANAKKALE_Bayr**	**0.75**	**86**	IAML_P			
	comp=Z,2μm,0.2s						
BAYC				*i* P	**Pb**	**20 25 19.6**	**-0.2**
SMTH	**Samothraki Isl**	**0.77**	**357**	P	**Pb**	**20 25 20.3**	**-0.1**
SMTH				S	**Sb**	**20 25 31.5**	**+0.6**
SMTH				AML	AML	20 25 33.2	
	comp=N,381μm,0.4s						
SMTH				AML	AML	20 25 33.4	
	comp=E,238μm,0.2s						
SMTH	**Samothraki Isl**	**0.77**	**357**	P	**Pb**	**20 25 20.2**	**-0.1**
AYVA	**Ayvalik**	**0.94**	**114**	IAML_P			
	comp=Z,543nm,0.2s						
AYVA				*i* P	**Pn**	**20 25 24.4**	**+0.4**
AYVA				*i* S	**Sn**	**20 25 37.3**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.98**	**44**	PG	**Pb**	**20 25 23.5**	**-0.3**
THAS	**Thassos island**	**1.12**	**324**	P	**Pg**	**20 25 25.8**	**-0.6**
THAS				AML	AML	20 25 42.9	
	comp=N,342μm,0.2s						
THAS				AML	AML	20 25 43.6	
	comp=E,432μm,0.3s						
ENEZ	**Enez**	**1.13**	**23**	PN	**Pn**	**20 25 26.4**	**-0.1**
LPK	**Lapseki**	**1.13**	**53**	PN	**Pb**	**20 25 26.2**	**-0.1**
DKL	**Dikili**	**1.20**	**121**	PN	**Pn**	**20 25 27.7**	**+0.2**
ERIK	**Erikli-Kesan**	**1.21**	**36**	PN	**Pn**	**20 25 27.8**	**+0.2**
ALN	**Alexandroupoli**	**1.25**	**16**	PN	**Pg**	**20 25 28.5**	**-0.3**
ALN	**Alexandroupoli**	**1.25**	**16**	P	**Pg**	**20 25 28.6**	**-0.3**
ALN				S	**Sn**	**20 25 45.4**	**+0.3**
ALN	**Alexandroupoli**	**1.25**	**16**	P	**Pg**	**20 25 28.5**	**-0.3**
ALN				S	**Sn**	**20 25 45.4**	**+0.3**
CHOS	**Chios island**	**1.36**	**164**	PN	**Pg**	**20 25 30.7**	**-0.2**
CHOS	**Chios island**	**1.36**	**164**	P	**Pn**	**20 25 29.0**	**-0.8**
CHOS				S	**Sb**	**20 25 47.4**	**-0.3**
OUR	**Ouranopolis**	**1.38**	**298**	PN	**Pg**	**20 25 31.6**	**+0.3**
OUR	**Ouranopolis**	**1.38**	**298**	P	**Pn**	**20 25 29.1**	**-0.9**
KESN	**Edirne-Kesan**	**1.41**	**36**	IAML_P			
	comp=Z,324nm,0.2s						
KESN				*i* P	**Pg**	**20 25 31.6**	**-0.2**
AOS	**Alonnisos**	**1.42**	**249**	PN	**Pg**	**20 25 32.3**	**+0.3**
AOS	**Alonnisos**	**1.42**	**249**	P	**Pn**	**20 25 29.9**	**-0.6**
RDO	**Rodhopi**	**1.45**	**359**	PN	**Pg**	**20 25 32.3**	**-0.2**
RDO	**Rodhopi**	**1.45**	**359**	P	**Pb**	**20 25 31.6**	**-0.2**
PAIG	**Paliouri**	**1.48**	**280**	P	**Pn**	**20 25 31.0**	**-0.4**
KRBG	**Karabiga-Canak**	**1.49**	**62**	PN	**Pb**	**20 25 32.2**	**-0.3**
KAVA	**Kavala**	**1.53**	**328**	P	**Pn**	**20 25 31.5**	**-0.6**
KAVA				AML	AML	20 25 51.8	
	comp=E,178μm,0.2s						
KAVA				AML	AML	20 25 51.9	
	comp=N,142μm,0.2s						
KAVA	**Kavala**	**1.53**	**328**	P	**Pn**	**20 25 31.8**	**-0.3**
KNL	**Balıkesir**	**1.60**	**68**	*i* P	**Pb**	**20 25 33.9**	**-0.5**
KNL				*i* S	**Sg**	**20 25 55.8**	**-0.5**
GONE	**Gonen-Balikesi**	**1.66**	**77**	PN	**Pb**	**20 25 34.6**	**-0.7**
STEP	**BALIKESIR_Sava**	**1.68**	**100**	IAML_P			
	comp=Z,378nm,0.1s						
STEP				*i* P	**Pb**	**20 25 35.0**	**-0.7**
BLCB	**Balcova**	**1.73**	**139**	PN	**Pb**	**20 25 35.8**	**-0.8**
PLG	**Polygyros**	**1.77**	**293**	P	**Pn**	**20 25 34.3**	**-1.2**
BALB	**Balikesir**	**1.77**	**91**	PN	**Pn**	**20 25 36.1**	**+0.7**
MRMT	**Marmara Adasi**	**1.79**	**59**	PN	**Pn**	**20 25 36.4**	**+0.7**
EDC	**Edincik**	**1.87**	**69**	PN	**Pb**	**20 25 37.9**	**-1.0**
SBT4	**Kumbag-Tekirda**	**1.87**	**52**	PN	**Pb**	**20 25 37.9**	**-1.0**
SRS	**Serrai**	**2.08**	**314**	P	**Pn**	**20 25 39.9**	**+0.3**
NVR	**Nevrokopi**	**2.11**	**322**	P	**Pn**	**20 25 40.1**	**+0.1**
CRLT	**Corlu**	**2.18**	**48**	PN	**Pn**	**20 25 42.2**	**+1.2**
KCTX	**Karacabey (Bur**	**2.21**	**74**	PN	**Pn**	**20 25 42.2**	**+0.8**
DURS	**Dursunbey**	**2.24**	**92**	IAML_P			
	comp=Z,130nm,0.2s						
DURS				*i* P	**Pn**	**20 25 42.3**	**+0.4**
DURS				*i* S	**Sn**	**20 26 09.8**	**+0.2**
EDRB	**Edirne**	**2.32**	**22**	PN	**Pn**	**20 25 44.5**	**+1.5**
KNT	**Kendrikon**	**2.52**	**306**	P	**Pn**	**20 25 45.8**	**+0.1**
SLVT	**Silivri**	**2.52**	**52**	PN	**Pn**	**20 25 47.0**	**+1.3**
MDNY	**Mudanya-Bursa**	**2.62**	**74**	PN	**Pn**	**20 25 48.4**	**+1.3**

IDC 24 20:26:50.4±3.5, 5.94S×151.12E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/37, mbtmp3.4/2, Error ellipse: s-maj=142.0km s-min=47.6km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.45**	**228**	P	P	20 31 40.2	-0.3
	0.4nm,0.4s,baz=54,slow=11,SNR=8.9						
ASAR	**Alice Springs**	**24.19**	**221**	P	P	20 32 09.1	+0.2
	0.9nm,0.7s,baz=59,slow=8.7,SNR=8.5						
TORD	**Torodi Ar. Bea**	**149.03**	**286**	PKPbc	PKPbc	20 46 41.1	-0.6
	0.3nm,0.6s,baz=82,slow=3.1,SNR=2.7						

*IDC **24** 20:36:58.6±1.9, 2.˚62N×95.˚64E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.6/39, mbtmp3.7/7, ML3.6/2, MS2.9/4, Ms1 2.9/4, ms1mx2.7/50, Error ellipse: s-maj=53.9km s-min=21.8km az=60.0*

ISC 24 20:37:04.9±1.4, 2.9N±0.˚2×96.1E±0.˚1, h31km, n21, σ0.80/15, mb4.2/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.78**	**91**	Pn	**Pb**	**20 37 52.5**	**-1.5**
	3.1nm,0.3s,baz=358,slow=3.1,SNR=6.0						
PSI				Sn	**Sb**	**20 38 28.9**	**+1.2**
	1.4nm,0.3s,baz=360,slow=19,SNR=2.9						
PSI				LR	LR	20 39 27.6	
	comp=Z,108nm,19.5s,baz=267,slow=45						
LEM	**Lembang**	**14.96**	**130**	LR	LR	20 46 54.8	
	comp=Z,62nm,18.8s,baz=176,slow=39						
CMAR	**Chiang Mai Arr**	**15.74**	**10**	Pn	**P**	**20 40 48.0**	**-0.2**
	0.1nm,0.3s,baz=199,slow=11,SNR=20						
CMAR				LR	LR	20 46 46.9	
	comp=Z,36nm,18.1s,baz=245,slow=37						
PALK	**Pallekele**	**15.99**	**286**	LR	LR	20 45 36.2	
	comp=Z,46nm,21.7s,baz=115,slow=33						
RAMN	**Ramite**	**25.64**	**340**	*eP*	**P**	**20 42 32.6**	**+0.4**
	16nm,0.6s						
H08S2	**Diego Garcia H**	**25.80**	**246**	T	T	21 08 37.5	
	baz=66,slow=75,SNR=80						
H08S3	**Diego Garcia H**	**25.80**	**246**	T	T	21 08 38.3	
	baz=66,slow=75,SNR=101						
H08S1	**Diego Carcia H**	**25.82**	**246**	T	T	21 08 37.2	
	baz=66,slow=75,SNR=68						
JIRN	**Jiri**	**26.43**	**340**	*eP*	**P**	**20 42 39.0**	**-0.6**
	21nm,0.6s						
GUN	**Gumba**	**26.77**	**340**	*eP*	**P**	**20 42 42.1**	**-0.5**
	12nm,0.7s						
KOLN	**Koldanda**	**27.52**	**335**	*eP*	**P**	**20 42 50.0**	**+0.9**
	12nm,1.0s						
DANN	**Dangsing**	**27.96**	**336**	*eP*	**P**	**20 42 52.6**	**-0.6**
	5.2nm,0.6s						
PYUN	**Piuthan**	**28.06**	**335**	*eP*	**P**	**20 42 54.0**	**0.0**
	27nm,1.5s						
H01W3	**Cape Leeuwin H**	**41.17**	**157**	T	T	21 28 22.7	
	baz=333,slow=76,SNR=56						
H01W2	**Cape Leeuwin H**	**41.19**	**157**	T	T	21 28 23.6	
	baz=333,slow=76,SNR=54						
H01W1	**Cape Leeuwin H**	**41.19**	**157**	T	T	21 28 23.8	
	baz=333,slow=76,SNR=48						
WRA	**Warramunga Arr**	**43.81**	**123**	P	**P**	**20 45 08.9**	**+0.5**
	0.8nm,0.9s,baz=302,slow=9.2,SNR=3.8						
KSRS	**Korea Array**	**45.12**	**36**	P	**P**	**20 45 19.7**	**+1.2**
	1.0nm,0.6s,baz=234,slow=7.9,SNR=3.0						
ASAR	**Alice Springs**	**45.24**	**128**	P	**P**	**20 45 19.7**	**-0.1**
	0.4nm,0.8s,baz=312,slow=8.7,SNR=3.8						
SONM	**Songino Array**	**45.67**	**10**	P	**P**	**20 45 22.7**	**-0.2**
	0.8nm,0.6s,baz=198,slow=9.0,SNR=6.7						
SONM				PcP	**PcP**	**20 47 01.2**	**+0.5**
	0.4nm,0.6s,baz=179,slow=1.6,SNR=3.4						
ZALV	**Zalesovo Beam**	**51.77**	**352**	P	**P**	**20 46 09.1**	**-0.4**
	2.0nm,0.6s,baz=187,slow=7.4,SNR=13						

TRN 24 20:51:17.3, 14.95N×60.75W, h42km, MD3.9, 5C-5D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAM	**Ilet Lapin Mar**	**0.21**	**215**	⇓*eP*	Pn	20 51 25.4	+0.5
BAMF	**Morne Balai**	**0.41**	**251**	⇓*eP*	Pn	20 51 28.5	+1.4
MVM	**Montagne Vaucl**	**0.42**	**200**	⇑*eP*	Pn	20 51 27.6	+0.5
LPMF	**Morne Lapointe**	**0.43**	**210**	*eP*	Pn	20 51 27.8	+0.5
CXM	**Morne La Croix**	**0.43**	**251**	⇓*eP*	Pn	20 51 28.9	+1.5
GBMF	**Grand Be**	**0.43**	**250**	⇓*eP*	Pn	20 51 28.7	+1.4
FDF	**Fort de France**	**0.45**	**241**	*eP*	Pn	20 51 28.7	+1.1
FDF					eS	20 51 37.0	+2.4
PML	**Morne Lenard**	**0.46**	**248**	⇓*eP*	Pn	20 51 29.1	+1.5
ZAM	**Aeronautique**	**0.46**	**216**	⇑*eP*	Pn	20 51 28.5	+0.8
PCM	**Pelee Case Pet**	**0.47**	**253**	⇑*eP*	Pn	20 51 29.2	+1.4
TRMF	**Trois Ilets**	**0.51**	**216**	⇑*eP*	Pn	20 51 29.1	+0.8
DLPL	**La Plaine**	**0.61**	**308**	*eP*	Pn	20 51 31.2	+1.5
DLPL					eS	20 51 41.4	+2.8
SLW	**Petit Monier**	**0.94**	**191**	*eP*	Pn	20 51 35.8	+1.6
SLW					eS	20 51 49.0	+2.6
SLPA	**Patience**	**1.10**	**189**	*eP*	Pn	20 51 38.0	+1.6
SLPA					eS	20 51 52.6	+2.2
MAGL	**Barre de l'ile**	**1.12**	**333**	⇑*eP*	Pn	20 51 36.7	+0.1
SLB	**Belfond**	**1.15**	**194**	*eP*	Pn	20 51 38.2	+1.1
SLB					eS	20 51 53.7	+2.0
SLDE	**Delcer**	**1.18**	**195**	*eP*	Pn	20 51 39.0	+1.6
SLDE					eS	20 51 54.3	+2.0
SFAN	**Fancy Village**	**1.61**	**195**	*eP*	Pn	20 51 44.5	+1.1
SFAN					eS	20 52 04.0	+1.1
SSV	**Crater Summit**	**1.67**	**195**	*eP*	Pn	20 51 46.1	+1.8
SSV					eS	20 52 07.0	+2.5
SVV	**Soufriere Volc**	**1.69**	**196**	*eP*	Pn	20 51 46.6	+2.2
SVV					eS	20 52 06.8	+2.1
SVCV	**St. Vincent, C**	**1.71**	**193**	*eP*	Pn	20 51 46.2	+1.4
SVCV					eS	20 52 06.8	+1.4
SVB	**Belmont**	**1.74**	**196**	*eP*	Pn	20 51 46.5	+1.4
SVB					eS	20 52 07.9	+1.9
FCV	**Fort Charlotte**	**1.85**	**195**	*eP*	Pn	20 51 47.7	+1.1
FCV					eS	20 52 09.8	+1.0
BBGH	**Gun Hill**	**2.13**	**147**	*eP*	Pn	20 51 52.6	+2.1
BBGH					eS	20 52 16.6	+0.8
BBSP	**Saint Philip**	**2.22**	**146**	*eP*	Pn	20 51 54.5	+2.8
MLYT	**Lee's Yard**	**2.24**	**322**	*eP*	Pn	20 51 54.4	+2.3
MLYT					eS	20 52 20.4	+1.9
BPA	**Boggy Peak**	**2.34**	**333**	*eP*	Pn	20 51 55.1	+1.8
BPA					eS	20 52 21.8	+0.9
GRSS	**Sisters**	**2.77**	**198**	*eP*	Pn	20 52 00.1	+0.9
GRSS					eS	20 52 32.6	+1.2
NEV	**Hard Times**	**2.79**	**321**	*eP*	Pn	20 52 01.6	+2.0
NEV					eS	20 52 32.6	+0.5
GRHS	**Sauteurs**	**2.85**	**198**	*eP*	Pn	20 52 02.3	+2.0
GRHS					eS	20 52 33.6	+0.2
ANWB	**Willy Bob**	**2.88**	**340**	*eP*	Pn	20 52 03.0	+2.2
ANWB					eS	20 52 35.5	+1.3
GRGR	**Grenville**	**2.94**	**198**	*eP*	Pn	20 52 04.0	+2.4
GRGR					eS	20 52 36.4	+0.7
TOSP	**Speyside**	**3.63**	**177**	*eP*	Pn	20 52 13.2	+2.1
TOSP					eS	20 52 53.1	+0.3
TPR	**Prospect**	**3.74**	**180**	*eP*	Pn	20 52 14.9	+2.2
TPR					eS	20 52 55.4	-0.1
BOT	**Bacolet**	**3.76**	**180**	*eP*	Pn	20 52 14.9	+2.1
BOT					eS	20 52 56.1	+0.1

*IDC **24** 21:03:54.2±1.9, 42.˚02N×144.˚06E, h0km, mb3.7/6, mb1 3.7/9, mb1mx3.6/49, mbtmp3.7/9, ML3.2/2, MS2.6/2, Ms1 2.6/2, ms1mx2.3/48, Error ellipse: s-maj=41.3km s-min=25.5km az=149.0*
*SKHL **24** 21:04:00.9±0.5, 41.˚98N×144.˚31E, h61km±2km, mb4.6/5*
*JMA **24** 21:04:00.4±0.1, 42.˚21N×143.˚93E, h56km±2km, M3.4*
*MOS **24** 21:04:01.0±3.5, 42.˚01N×144.˚32E, h33km, mb3.9/5, Error ellipse: s-maj=11.7km s-min=6.6km az=54.6*

ISC 24 21:03:58.4±1.7, 42.07N±0.˚08×144.04E±0.˚04, h27km±11km, n45, σ1.32/55, mb3.7/6, 6C-7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTHR	**Tokachihiroo**	**0.60**	**292**	⇓P	**Pn**	**21 04 11.7**	**+0.6**
JTHR				*e*S	**Sn**	**21 04 19.8**	**-0.1**
JCH	**Churui**	**0.74**	**317**	⇓P	**Pb**	**21 04 13.1**	**+0.3**
JCH				*e*S	**Sb**	**21 04 22.0**	**-0.5**
JOB	**Onbets**	**0.85**	**350**	P	**Pb**	**21 04 14.5**	**0.0**
JNBK	**Urakawa-nobuka**	**0.98**	**283**	P	**Pb**	**21 04 16.6**	**-0.2**
JAK	**Akkeshi**	**1.04**	**27**	⇑P	**Pn**	**21 04 17.5**	**+0.2**
JSHD	**Hidakashinhida**	**1.22**	**287**	P	**Pn**	**21 04 20.2**	**+0.5**
JAR	**Ashorobuto**	**1.24**	**351**	⇓P	**Pn**	**21 04 19.6**	**-0.4**
JAR				*e*S	**Sn**	**21 04 33.3**	**-2.6**
JKHN	**Kushirohamanak**	**1.31**	**39**	P	**Pb**	**21 04 22.0**	**-0.3**
JKHN				*e*S	**Sb**	**21 04 38.5**	**-0.1**
JBT2	**Biratori 2**	**1.43**	**300**	⇓P	**Pn**	**21 04 21.8**	**-0.8**
JFR	**Furan**	**1.53**	**316**	P	**Pn**	**21 04 23.9**	**-0.1**
JNK	**Nakash**	**1.59**	**18**	P	**Pn**	**21 04 24.6**	**-0.3**
JNK				*e*S	**Sn**	**21 04 42.2**	**-2.4**
NEM2	**Nemuro 2**	**1.80**	**43**	P	**Pn**	**21 04 28.2**	**+0.5**
NEM2				*e*S	**Sn**	**21 04 48.7**	**-0.9**
JTKR	**Abashiri--Toko**	**1.90**	**357**	⇓P	**Pn**	**21 04 29.5**	**+0.4**
JTKR				*e*S	**Sn**	**21 04 50.9**	**-1.2**
JAB	**Ashibetsu**	**1.96**	**318**	P	**Pn**	**21 04 31.1**	**+1.2**
GLVR	**Golovnino**	**1.99**	**33**	*e*P	**Pn**	**21 04 31.0**	**+0.7**
GLVR				*i* S	**Sn**	**21 04 54.0**	**-0.3**
GLVR				A	A	21 04 55.0	
	1μm,0.4s						
GLVR				A	A	21 04 55.0	
	1μm,0.4s						
GLVR	**Golovnino**	**1.99**	**33**	*e*PN	**Pn**	**21 04 31.8**	**+1.5**
GLVR				*i* S	**Sn**	**21 04 54.8**	**+0.5**
GLVR				smax	smax		
	comp=N,1μm,0.3s						
GLVR				smax	smax		
	comp=E,1μm,0.3s						
GRPR	**Tuman**	**2.30**	**33**	⇑*i*P	**Pn**	**21 04 36.0**	**+1.4**
GRPR				AMB	AMB	21 04 37.0	
	comp=E,150nm,0.4s						
GRPR				*i* S	**Sn**	**21 05 02.0**	**0.0**
GRPR				A	A	21 05 07.0	
	comp=E,600nm,0.4s						
GRPR				A	A	21 05 07.0	
	comp=E,760nm,0.4s						
GRPR	**Tuman**	**2.30**	**33**	⇑*i*PN	**Pn**	**21 04 36.3**	**+1.7**
GRPR				*i* S	**Sn**	**21 05 02.1**	**0.0**
GRPR				pmax	pmax		
	comp=Z,146nm,0.4s						
GRPR				smax	smax		
	comp=N,595nm,0.3s						
GRPR				smax	smax		
	comp=E,758nm,0.3s						
ASAJ	**Asahikawa**	**2.30**	**333**	Pn	**Pn**	**21 04 35.6**	**+1.0**
	comp=E,9.4nm,0.3s,baz=210,slow=18,SNR=22						
ASAJ				Sn	**Sn**	**21 05 00.8**	**-1.3**
	comp=E,10nm,0.3s,baz=218,slow=17,SNR=4.9						
ASAJ				LR	LR	21 05 48.3	
	comp=E,206nm,19.9s,baz=151,slow=48						
YUK	**Yuzh-Kuril'sk**	**2.37**	**34**	⇑*i*P	**Pn**	**21 04 37.0**	**+1.5**
YUK				AMB	AMB	21 04 38.0	
	comp=E,20nm,0.4s						
YUK				AMB	AMB	21 04 38.0	
	comp=E,50nm,0.4s						
YUK				AMB	AMB	21 04 38.0	
	comp=E,220nm,0.4s						
YUK				*i* S	**Sn**	**21 05 04.0**	**+0.2**
YUK				A	A	21 05 09.0	
	comp=E,360nm,0.4s						
YUK				A	A	21 05 09.0	
	comp=E,560nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.37**	**34**	*c i*PN	**Pn**	**21 04 37.1**	**+1.5**
YUK				*i* S	**Sn**	**21 05 04.2**	**+0.4**
YUK				pmax	pmax		
	comp=Z,219nm,0.3s						
YUK				pmax	pmax		
	comp=N,20nm,0.1s						
YUK				pmax	pmax		
	comp=E,53nm,0.1s						
YUK				smax	smax		
	comp=E,561nm,0.4s						
YUK				smax	smax		
	comp=N,230nm,0.3s						
SHO	**Shikotan**	**2.72**	**48**	⇓*i*P	**Pn**	**21 04 41.6**	**+1.2**
SHO				AMB	AMB	21 04 43.0	
	comp=N,10.0nm,0.3s						
SHO				AMB	AMB	21 04 43.0	
	comp=N,20nm,0.3s						
SHO				AMB	AMB	21 04 43.0	
	comp=N,30nm,0.3s						
SHO				*i* S	**Sn**	**21 05 11.0**	**-1.4**
SHO				A	A	21 05 16.0	
	comp=N,220nm,0.3s						
SHO				A	A	21 05 16.0	
	comp=N,280nm,0.3s						
SHO	**Shikotan**	**2.72**	**48**	*d i*PN	**Pn**	**21 04 41.6**	**+1.2**
SHO				*i* S	**Sn**	**21 05 11.3**	**-1.1**
SHO				pmax	pmax		
	comp=N,14nm,0.4s						
SHO				pmax	pmax		
	comp=E,23nm,0.4s						
SHO				pmax	pmax		
	comp=Z,30nm,0.4s						
SHO				smax	smax		
	comp=E,278nm,0.3s						
SHO				smax	smax		
	comp=N,219nm,0.2s						
KUR	**Kuril'sk**	**4.21**	**40**	⇑*e*P	**Pn**	**21 05 02.2**	**+1.5**
KUR				AMB	AMB	21 05 05.0	
	comp=N,20nm,0.3s						
KUR				*i* S	**Sn**	**21 05 48.9**	**0.0**
KUR				A	A	21 06 01.0	
	comp=N,140nm,0.3s						
KUR				A	A	21 06 01.0	
	comp=N,50nm,0.3s						
KUR	**Ku

Mining explosion.
NEIC 59 km [37 miles] SSE of Gillette.
*ANF **24** 21:04:02.2±0.6, 43.74N×105.26W, ML3.7/10, Error ellipse: s-maj=7.8km s-min=5.4km az=128.0*
*IDC **24** 21:04:02.3±1.5, 44.04N×105.65W, h0km, mb1 3.7/5, mb1mx3.4/44, mbtmp3.4/5, ML3.0/4, Error ellipse: s-maj=48.5km s-min=8.9km az=146.0*

ISC 24 21:04:01.3±0.7, **43.82N**±0.03×**105.20W**±0.03, **h0**km, **n89**, σ1**9**/**43**/99, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.89**	**70**	*e*Pg	**Pb**	**21 04 20.0**	**+0.2**
RSSD	**Black Hills**	**0.89**	**70**	P	**Pb**	**21 04 20.2**	**+0.5**
	baz=250						
K22A	**Casper**	**1.52**	**220**	*e*Pn	**Pn**	**21 04 28.5**	**-1.5**
K22A	**Casper**	**1.52**	**220**	P	**Pn**	**21 04 28.5**	**-1.5**
	baz=39						
K22A				S	**Sg**	**21 04 49.3**	**-0.9**
	baz=39						
PHWY	**Pilot Hill**	**2.53**	**184**	*e*Pn	**Pn**	**21 04 42.2**	**-1.7**
RWWY	**Rawlins**	**2.60**	**216**	*e*Pn	**Pn**	**21 04 44.1**	**-0.8**
LAO	**LASA Array**	**2.96**	**346**	*e*Pn	**Pn**	**21 04 51.4**	**+1.8**
LAO				*e*Sn	**Sn**	**21 05 26.0**	**+0.3**
LAO	**LASA Array**	**2.96**	**346**	S	**Sb**	**21 05 34.3**	**+2.7**
	baz=166						
N23A	**Red Feather La**	**2.98**	**191**	*e*Pn	**Pn**	**21 04 50.8**	**+0.7**
N23A	**Red Feather La**	**2.98**	**191**	P	**Pn**	**21 04 50.9**	**+0.8**
	baz=10						
RLMT	**Red Lodge**	**3.19**	**295**	*e*Pn	**Pn**	**21 04 53.5**	**+0.6**
RLMT				*e*Sn	**Sn**	**21 05 31.1**	**-0.8**
RLMT	**Red Lodge**	**3.19**	**295**	P	**Pn**	**21 04 53.6**	**+0.6**
	baz=113						
BW06	**Boulder Array**	**3.36**	**253**	*e*Pn	**Pn**	**21 04 56.1**	**+0.9**
BW06				*e*Sn	**Sn**	**21 05 35.5**	**-0.4**
BW06	**Boulder Array**	**3.36**	**253**	P	**Pn**	**21 04 55.4**	**+0.2**
	baz=70						
PD31	**Pinedale Array**	**3.36**	**253**	*e*Pn	**Pn**	**21 04 55.5**	**+0.3**
PDAR	**Pinedale Array**	**3.36**	**253**	Pn	**Pn**	**21 04 56.6**	**+1.4**
	7.0nm,0.3s,baz=68,slow=18,SNR=70						
PDAR				Lg	Lg	21 05 37.4	
	4.4nm,0.3s,baz=70,slow=27,SNR=3.8						
PDAR	**Pinedale Array**	**3.36**	**253**	*e*Pn	**Pn**	**21 04 54.2**	**-1.1**
PDAR				Lg	Lg	21 05 37.4	
OGNE	**Ogallala**	**3.71**	**140**	*e*Pn	**Pn**	**21 04 59.4**	**-0.5**
OGNE				*e*Pg	**Pg**	**21 05 10.7**	**-1.7**
OGNE				*e*Sg	**Sg**	**21 06 01.0**	**+0.5**
GCMT	**Greycliff**	**3.74**	**303**	*e*Pn	**Pn**	**21 04 58.2**	**-2.2**
H17A	**Grant Village**	**3.92**	**280**	*e*Pn	**Pn**	**21 05 05.1**	**+2.1**
LOHW	**Long Hollow**	**3.93**	**269**	*e*Pn	**Pn**	**21 05 04.2**	**+1.2**
FLWY	**Flagg Ranch**	**3.98**	**276**	*e*Pn	**Pn**	**21 05 04.7**	**+0.9**
MOOW	**Moose Ponds**	**4.02**	**271**	*e*Pn	**Pn**	**21 05 05.3**	**+1.0**
ISCO	**Idaho Springs**	**4.03**	**185**	*e*Pn	**Pn**	**21 05 05.3**	**+0.7**
ISCO				*e*Sn	**Sn**	**21 05 52.8**	**+0.1**
ISCO				*e*Sg	**Sb**	**21 06 06.0**	**+3.1**
ISCO	**Idaho Springs**	**4.03**	**185**	P	**Pn**	**21 05 05.5**	**+0.9**
	baz=4.3						
YNR	**Norris Junctio**	**4.04**	**285**	*e*Pn	**Pn**	**21 05 05.4**	**+0.7**
SNOW	**Snow King Moun**	**4.05**	**267**	*e*Pn	**Pn**	**21 05 03.9**	**-0.9**
YPP	**Pitchstone Pla**	**4.07**	**278**	*e*Pb	**Pb**	**21 05 13.0**	**-1.0**
YFT	**Old Faithful**	**4.11**	**281**	*e*Pn	**Pn**	**21 05 07.0**	**+1.4**
REDW	**Red Top Meadow**	**4.13**	**266**	*e*Pn	**Pn**	**21 05 06.3**	**+0.3**
IMW	**Indian Meadow**	**4.16**	**273**	*e*Pn	**Pn**	**21 05 06.8**	**+0.5**
TPAW	**Teton Pass**	**4.19**	**267**	*e*Pn	**Pn**	**21 05 07.9**	**+1.1**
FXWY	**Fox Creek**	**4.23**	**269**	*e*Pn	**Pn**	**21 05 07.9**	**+0.6**
O20A	**White River Ci**	**4.33**	**213**	*e*Pn	**Pn**	**21 05 09.4**	**+0.9**
O20A	**White River Ci**	**4.33**	**213**	P	**Pn**	**21 05 09.3**	**+0.7**
	baz=31						
YHB	**Horse Butte**	**4.41**	**284**	*e*Pn	**Pn**	**21 05 09.9**	**+0.2**
AHID	**Auburn Hatcher**	**4.44**	**258**	*e*Pn	**Pn**	**21 05 11.7**	**+1.6**
AHID				*e*Pg	**Pb**	**21 05 22.7**	**+2.5**
AHID				*e*Sg	**Sg**	**21 06 20.8**	**-3.1**
QLMT	**Earthquake Lak**	**4.59**	**285**	*e*Pn	**Pn**	**21 05 10.9**	**-1.2**
DGMT	**Dagmar**	**4.70**	**8**	*e*Pn	**Pn**	**21 05 15.4**	**+1.9**
DGMT				*e*Sg	**Sb**	**21 06 27.5**	**+5.8**
DGMT	**Dagmar**	**4.70**	**8**	Sb	**Sg**	**21 06 27.7**	**-4.5**
	baz=189						
BOZ	**Bozeman (W)**	**4.92**	**293**	*e*Pn	**Pn**	**21 05 17.1**	**+0.5**
BOZ	**Bozeman (W)**	**4.92**	**293**	Sb	**Sb**	**21 06 32.6**	**+4.5**
	baz=110						
KSCO	**Kaye Shedlock'**	**5.18**	**157**	*e*Pn	**Pn**	**21 05 20.4**	**+0.2**
HWUT	**Hardware Ranch**	**5.19**	**247**	*e*Pn	**Pn**	**21 05 20.8**	**+0.4**
HWUT				*e*Sg	**Sg**	**21 06 45.4**	**-2.7**
EGMT	**Eagleton**	**5.27**	**324**	*e*Pn	**Pn**	**21 05 22.0**	**+0.6**
TCUT	**Toone Canyon**	**5.33**	**242**	*e*Pn	**Pn**	**21 05 22.9**	**+0.5**
HRY	**Holter Researc**	**5.50**	**304**	*e*Pn	**Pn**	**21 05 24.9**	**+0.3**
DLMT	**Dillon**	**5.50**	**289**	*e*Pn	**Pn**	**21 05 25.2**	**+0.5**
JLU	**Jordanelle**	**5.65**	**237**	*e*Pn	**Pn**	**21 05 27.1**	**+0.4**
SPUT	**South Promonto**	**5.92**	**247**	*e*Pn	**Pn**	**21 05 31.3**	**+0.9**
HVU	**Hansel Valley**	**5.94**	**252**	*e*Pn	**Pn**	**21 05 31.1**	**+0.4**
PV21	**Cone Mtn., Par**	**5.98**	**210**	*e*Pn	**Pn**	**21 05 31.6**	**+0.3**
P17A	**Butcher Ranch,**	**6.01**	**226**	*e*Pn	**Pn**	**21 05 31.8**	**+0.1**
SDCO	**Great Sand Dun**	**6.08**	**182**	*e*Pn	**Pn**	**21 05 32.5**	**-0.2**
PV23	**Carpenter Ridg**	**6.09**	**210**	*e*Pn	**Pn**	**21 05 33.6**	**+0.8**
PV09	**Paradox Valley**	**6.09**	**211**	*e*Pn	**Pn**	**21 05 33.0**	**+0.1**
PV12	**Saucer Basin,**	**6.14**	**208**	*e*Pn	**Pn**	**21 05 33.7**	**+0.2**
PV14	**Lion Creek, Pa**	**6.17**	**209**	*e*Pn	**Pn**	**21 05 35.0**	**+1.2**
PV10	**Paradox Valley**	**6.17**	**209**	*e*Pn	**Pn**	**21 05 35.4**	**+1.5**
PV11	**David Mesa, Pa**	**6.18**	**208**	*e*Pn	**Pn**	**21 05 34.9**	**+0.9**
SRU	**San Rafael Swe**	**6.18**	**222**	*e*Pn	**Pn**	**21 05 33.0**	**-1.0**
PV16	**Nyswonger Mesa**	**6.18**	**208**	*e*Pn	**Pn**	**21 05 34.3**	**+0.2**
S22A	**4UR Ranch, Cre**	**6.20**	**192**	*e*Pn	**Pn**	**21 05 35.5**	**+1.2**
PV19	**Morning Glory**	**6.21**	**209**	*e*Pn	**Pn**	**21 05 35.0**	**+0.6**
PV03	**Paradox Valley**	**6.21**	**208**	*e*Pn	**Pn**	**21 05 35.4**	**+1.0**
ECSD	**EROS Data Cent**	**6.21**	**88**	*e*Pn	**Pn**	**21 05 35.2**	**+1.0**
PV02	**Paradox Valley**	**6.22**	**207**	*e*Pn	**Pn**	**21 05 35.8**	**+1.2**
PV13	**Radium Mtn., P**	**6.29**	**207**	*e*Pn	**Pn**	**21 05 36.2**	**+0.7**
TMUT	**Trail Mountain**	**6.39**	**227**	*e*Pn	**Pn**	**21 05 37.7**	**+0.8**
PV05	**Paradox Valley**	**6.46**	**209**	*e*Pn	**Pn**	**21 05 36.5**	**-1.3**
CBKS	**Cedar Bluff**	**6.47**	**139**	*e*Pn	**Pn**	**21 05 37.7**	**-0.2**
BGU	**Big Grassy Mou**	**6.49**	**246**	*e*Pn	**Pn**	**21 05 38.2**	**+0.1**
Q16A	**Castle Valley**	**6.65**	**225**	*e*Pn	**Pn**	**21 05 40.6**	**+0.2**
HLID	**Hailey**	**6.69**	**271**	*e*Pn	**Pn**	**21 05 41.7**	**+0.7**
T25A	**Trinidad**	**6.71**	**175**	*e*Pn	**Pn**	**21 05 41.0**	**-0.2**
DUG	**Dugway, Tooele**	**6.73**	**240**	*e*Pn	**Pn**	**21 05 41.1**	**-0.5**
MSO	**Missoula**	**6.86**	**299**	*e*Pn	**Pn**	**21 05 43.5**	**+0.3**
MSU	**Marysvale**	**7.47**	**227**	*e*Pn	**Pn**	**21 05 51.9**	**+0.1**
TCRU	**Three Creeks R**	**7.55**	**229**	*e*Pn	**Pn**	**21 05 53.0**	**+0.2**
MTPU	**Mount Pierson**	**7.83**	**225**	*e*Pn	**Pn**	**21 05 56.4**	**-0.5**
WALA	**Waterton Lakes**	**7.98**	**314**	*e*Pn	**Pn**	**21 05 55.5**	**-3.0**
ELK	**Elko**	**8.06**	**251**	Pn	**Pn**	**21 06 00.7**	**+0.9**
	0.4nm,0.3s,baz=65,slow=7.9,SNR=7.6						
PSUT	**Pine Spring**	**8.40**	**234**	*e*Pn	**Pn**	**21 06 05.6**	**+1.1**
I10CA	**LAC DU BONNET**	**8.94**	**41**	*i*		21 54 50.0	
	baz=226,slow=346,SNR=1.3						
ULM	**Lac du Bonnet**	**9.04**	**41**	Pn	**Pn**	**21 06 12.0**	**-1.0**
	1.7nm,0.3s,baz=235,slow=11,SNR=18						
ULM				Pg		21 06 46.6	
	1.2nm,0.3s,baz=244,slow=16,SNR=4.7						
ULM				Lg	Lg	21 08 39.4	
	0.4nm,0.3s,baz=325,slow=16,SNR=2.5						
ULM	**Lac du Bonnet**	**9.04**	**41**	*e*Pn	**Pn**	**21 06 12.3**	**-0.7**
ULM				Pg		21 06 46.6	
ULM				Lg	Lg	21 08 39.4	
NEW	**Newport**	**9.41**	**302**	Lg	Lg	21 08 37.3	
	0.2nm,0.3s,baz=90,slow=20,SNR=2.9						
NVAR	**Mina Array Bea**	**11.26**	**246**	Pn	**Pn**	**21 06 44.8**	**+1.2**
	0.1nm,0.3s,baz=51,slow=12,SNR=3.8						
YKA	**Yellowknife Ar**	**19.50**	**347**	P	**P**	**21 08 29.3**	**-0.3**
	0.1nm,0.3s,baz=158,slow=12,SNR=3.4						

*IDC **24** 21:08:27.8±2.8, 26.56S×177.61W, h199km±26km, mb3.4/2, mb1 3.7/5, mb1mx3.5/31, mbtmp4.1/5, Error ellipse: s-maj=38.7km s-min=27.2km az=136.0*
*ISCJB **24** 21:08:29.9±1.1, 26.7S±0.1×178.0W±0.2, h200km, mb3.5/2, Error ellipse: s-maj=29.3km s-min=13.2km az=20.0*

ISC 24 21:08:29.1±0.8, **26.60S**±0.09×**178.0W**±0.2, **h200**km, **n16**, σ2**5**/**16**/18, **1C**, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.64**	**178**	P	**Pn**	**21 09 14.3**	**-0.3**
	105nm,0.3s,baz=73,slow=18,SNR=4.1						
RAO				S	**Sn**	**21 09 54.1**	**+3.8**
	124nm,0.3s,baz=90,slow=20,SNR=4.3						
URZ	**Urewera**	**12.33**	**198**	P	**Pn**	**21 11 17.1**	**-0.9**
	0.4nm,0.3s,baz=9.5,slow=18,SNR=2.5						
URZ				S	**Sn**	**21 13 31.4**	**-4.1**
	3.0nm,0.3s,baz=134,slow=20,SNR=10						
RPZ	**Rata Peaks**	**19.24**	**205**	P	**P**	**21 12 38.6**	**+0.3**
	0.5nm,0.3s,baz=334,slow=3.1,SNR=3.1						
RPZ				S	**S**	**21 16 03.2**	**-2.1**
	0.4nm,0.3s,baz=343,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**43.43**	**263**	P	**P**	**21 16 14.9**	**+2.4**
	1.7nm,0.7s,baz=114,slow=7.9,SNR=7.3						
SYO	**Syowa Base**	**80.80**	**193**	*e*P	**P**	**21 20 21.7**	**+1.7**
SNAA	**Sanae**	**81.94**	**178**	P	**P**	**21 20 27.7**	**+1.6**
VNA3	**Neumayer Olymp**	**82.08**	**176**	P	**P**	**21 20 28.3**	**+1.6**
VNA2	**Neumayer--Watz**	**82.52**	**177**	P	**P**	**21 20 30.5**	**+1.5**
VNA1	**Neumayer--Stat**	**82.75**	**177**	P	**P**	**21 20 32.2**	**+2.1**
NVAR	**Mina Array Bea**	**85.47**	**43**	P	**P**	**21 20 42.2**	**-2.4**
	0.7nm,0.7s,baz=232,slow=10,SNR=3.5						
NB2	**NORSAR Subarra**	**145.00**	**352**	PKP	PKPbc	21 27 40.4	-1.3
	comp=Z,0.3nm,0.4s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**145.00**	**352**	PKPbc	PKPbc	21 27 40.0	-1.7
	comp=Z,2.2nm,0.8s,baz=17,slow=2.8,SNR=8.9						
HFS	**Hagfors**	**145.52**	**350**	PKPbc	**PKPdf**	**21 27 41.5**	**-1.3**
	comp=Z,5.1nm,0.4s,baz=46,slow=4.2,SNR=26						
AKASG	**Malin Array Be**	**148.20**	**326**	PKPbc	**PKPdf**	**21 27 47.7**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=40,slow=3.9,SNR=5.2						
BRTR	**Keskin Array B**	**150.61**	**304**	PKPbc	**PKPbc**	**21 27 56.7**	**-0.9**
	comp=Z,1.3nm,0.9s,baz=90,slow=2.5,SNR=5.4						
TORD	**Torodi Ar. Bea**	**166.61**	**179**	PKP	**PKPdf**	**21 28 09.2**	**-2.1**
	comp=Z,0.4nm,1.0s,baz=170,slow=0.9,SNR=3.9						
TORD				PKPab	**PKPab**	**21 29 14.9**	**+0.4**
	comp=Z,1.2nm,1.0s,baz=176,slow=4.5,SNR=3.6						

*ISCJB **24** 21:09:40.0±0.6, 7.22S±0.05×129.80E±0.08, h100km, mb3.8/4, Error ellipse: s-maj=11.3km s-min=7.1km az=169.4*
*IDC **24** 21:09:43.0±1.9, 7.21S×129.97E, h118km±17km, mb3.6/4, mb1 3.9/9, mb1mx3.6/30, mbtmp4.2/9, Error ellipse: s-maj=30.5km s-min=15.5km az=76.0*

ISC 24 21:09:40.7±0.7, **7.29S**±0.06×**129.98E**±0.09, **h100**km, **n16**, σ2**5**/**6**/22, **mb4.4**/10, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.51**	**11**	P	**Pn**	**21 11 15.6**	**+1.7**
	5.1nm,0.3s,baz=213,slow=23,SNR=25						
SIJI				S	**Sn**	**21 12 22.4**	**-4.4**
	7.0nm,0.3s,baz=272,slow=23,SNR=10						
BATI	**Baumata**	**6.88**	**245**	P	**Pn**	**21 11 22.4**	**+3.4**
	37nm,0.3s,baz=88,slow=4.6,SNR=49						
BATI				S	**Sn**	**21 12 33.9**	**-2.0**
	54nm,0.3s,baz=249,slow=23,SNR=13						
FITZ	**Fitzroy Crossi**	**11.54**	**201**	P	**Pn**	**21 12 25.0**	**+2.7**
	2.2nm,0.3s,baz=25,slow=9.0,SNR=65						
FITZ				S	**Sn**	**21 14 22.7**	**-6.6**
	3.5nm,0.3s,baz=256,slow=19,SNR=6.4						
WRA	**Warramunga Arr**	**13.27**	**162**	P	**Pn**	**21 12 48.4**	**+3.2**
	1.8nm,0.3s,baz=347,slow=14,SNR=54						
WRA				S	**Sn**	**21 15 07.8**	**-3.4**
	6.0nm,0.3s,baz=336,slow=22,SNR=12						
ASAR	**Alice Springs**	**16.71**	**167**	P	**P**	**21 13 30.8**	**+1.3**
	0.8nm,0.3s,baz=335,slow=9.2,SNR=31						
ASAR				S	**Sn**	**21 16 32.2**	**-2.3**
	0.8nm,0.3s,baz=356,slow=28,SNR=5.4						
ASAR				ScP	**ScP**	**21 21 36.0**	**-2.2**
	0.3nm,0.3s,baz=1.4,slow=1.9,SNR=7.6						
STKA	**Stephens Creek**	**26.75**	**158**	P	**P**	**21 15 11.9**	**+0.9**
	1.7nm,0.5s,baz=55,slow=12,SNR=2.4						
CMAR	**Chiang Mai Arr**	**39.90**	**310**	P	**P**	**21 17 04.5**	**-0.7**
	0.7nm,0.6s,baz=136,slow=6.6,SNR=13						
RAMN	**Ramite**	**54.07**	**311**	*e*P	**P**	**21 18 55.8**	**+0.2**
	6.2nm,0.6s						
JIRN	**Jiri**	**54.76**	**311**	*e*P	**P**	**21 19 01.1**	**+0.4**
	6.6nm,0.6s						
GUN	**Gumba**	**55.13**	**311**	*e*P	**P**	**21 19 03.1**	**-0.2**
	4.3nm,0.5s						
KOLN	**Koldanda**	**56.77**	**310**	*e*P	**P**	**21 19 14.9**	**0.0**
	3.2nm,0.5s						
DANN	**Dangsing**	**56.95**	**311**	*e*P	**P**	**21 19 15.8**	**-0.4**
	6.2nm,0.7s						
PYUN	**Piuthan**	**57.40**	**310**	*e*P	**P**	**21 19 18.6**	**-0.8**
	16nm,1.1s						
SONM	**Songino Array**	**58.71**	**342**	P	**P**	**21 19 27.9**	**-0.1**
	0.6nm,0.6s,baz=160,slow=6.5,SNR=4.5						
ZALV	**Zalesovo Beam**	**71.83**	**334**	P	**P**	**21 20 51.8**	**-0.7**
	1.0nm,0.4s,baz=129,slow=4.8,SNR=6.2						
TORD	**Torodi Ar. Bea**	**128.84**	**281**	PKP	**PKiKP**	**21 28 38.8**	**+0.5**
	0.4nm,0.6s,baz=92,slow=3.7,SNR=3.7						

*ISCJB **24** 21:23:00.8±0.3, 53.14N±0.06×35.20W±0.05, h10km, mb4.3/68, MS3.9/26, Error ellipse: s-maj=9.0km s-min=4.4km az=175.9*
*IDC **24** 21:23:00.3±0.5, 53.09N×35.32W, h0km, mb4.0/24, mb1 4.2/27, mb1mx4.1/49, mbtmp4.0/27, ML3.7/3, MS3.9/28, Ms1 3.9/28, ms1mx3.7/43, Error ellipse: s-maj=17.1km s-min=10.6km az=11.0*
*GCMT **24** 21:23:01.6±0.3, 53.47N±0.05×35.17W±0.04, h14km±1km, MW4.7/71, Moment Tensor Solution. s19,c22; s71,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.30±.13; $M_{\theta\theta}$0.09±.08; $M_{\phi\phi}$1.20±.09; $M_{r\theta}$0.76±.22; $M_{\theta\phi}$0.04±.05; $M_{\phi r}$-0.37±.17; Best double couple: $M_0$1.46800×10^{16} NP1:ϕ337.00000°, δ58.00000°, λ-116.00000°. NP2: ϕ200.00000°, δ41.00000°, λ-54.00000°. Principal axes: T 1.2580, Plg9.0000°, Azm86.0000°; N 0.4140, Plg22.0000°, Azm352.0000°; P -1.6780, Plg66.0000°, Azm197.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **24** 21:23:02.6±0.7, 53.11N×35.18W, h10km±4km, mb4.6/46 Error ellipse: s-maj=6.9km s-min=3.3km az=175.0*

ISC 24 21:23:02.5±0.4, **53.07N**±0.09×**35.25W**±0.06, **h10**km, **n118**, σ1**8**/**08**/109, **mb4.5**/68, **MS3.9**/26, **Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFJD	**Kangerlussuaq**	**15.86**	**338**	Pn	**Pn**	**21 26 46.0**	**+0.5**
	0.7nm,0.3s,baz=26,slow=5.4,SNR=3.9						
SFJD				LR	LR	21 31 31.6	
	comp=Z,286nm,21.2s,baz=128,slow=32						
SCHQ	**Schefferville**	**18.59**	**288**	P	**P**	**21 27 17.4**	**-2.1**
	0.7nm,0.3s,baz=82,slow=14,SNR=7.7						
SCHQ				LR	LR	21 33 25.1	
	comp=Z,353nm,21.6s,baz=98,slow=34						
ESK	**Eskdalemuir**	**18.80**	**70**	*e*P	**P**	**21 27 21.9**	**+0.1**
	7.9nm,0.8s						
EKA	**Esdalemuir Ar**	**18.82**	**70**	P	**Pn**	**21 27 22.7**	**+0.1**
	baz=286,slow=9.3,SNR=4.4						
SUMG	**Summit**	**19.63**	**357**	*i* P	**Pn**	**21 27 35.3**	**+2.7**
FRB	**Frobisher Bay**	**20.19**	**315**	P	**P**	**21 27 36.1**	**-0.8**
	11nm,1.1s,baz=107,slow=9.4,SNR=7.7						
FRB				LR	LR	21 33 34.9	
	comp=Z,402nm,20.0s,baz=82,slow=32						
JMIC	**Jan Mayen**	**21.57**	**24**	LR	LR	21 34 06.3	
	comp=Z,158nm,18.4s,baz=249,slow=31						
PQI	**Presque Isle**	**21.93**	**266**	*e*P	**P**	**21 27 57.2**	**+1.3**
	37nm,1.0s						
ESDC	**Sonseca Array**	**25.17**	**110**	P	**P**	**21 28 28.1**	**+0.2**
	0.4nm,0.4s,baz=315,slow=9.5,SNR=8.8						
ESDC				LR	LR	21 36 24.6	
	comp=Z,321nm,18.5s,baz=305,slow=32						
NB200	**NORSAR Array S**	**25.99**	**54**	*e*P	**P**	**21 28 35.0**	**-0.1**
NOA	**NORSAR Array B**	**25.99**	**54**	P	**P**	**21 28 35.0**	**-0.1**
	1.0nm,0.8s,baz=275,slow=9.9,SNR=3.2						
NOA				LR	LR	21 37 26.3	
	comp=Z,188nm,19.0s,baz=280,slow=33						
HFS	**Hagfors**	**27.29**	**55**	LR	LR	21 37 00.9	
	comp=Z,264nm,21.8s,baz=257,slow=31						
CLL	**Collm**	**29.20**	**74**	*e*P	**P**	**21 29 03.0**	**-0.8**
DAVOX	**Davos/Dischmat**	**29.33**	**84**	LR	LR	21 40 37.6	
	comp=Z,244nm,18.2s,baz=302,slow=36						
SADO	**Sadowa**	**29.61**	**272**	LR	LR	21 40 05.1	
	comp=Z,396nm,18.6s,baz=67,slow=35						
GERES	**GERESS Array B**	**30.64**	**78**	P	**P**	**21 29 16.5**	**-0.3**
	1.3nm,1.0s,baz=301,slow=11,SNR=6.5						
GERES				LR	LR	21 41 06.4	
	comp=Z,168nm,18.1s,baz=294,slow=35						
GEA0	**GERESS Array S**	**30.64**	**78**	*e*P	**P**	**21 29 17.6**	**+0.9**
ARA0	**ARCESS Array S**	**31.77**	**36**	*e*P	**P**	**21 29 25.2**	**-1.2**
ARCES	**ARCESS Array B**	**31.77**	**36**	P	**P**	**21 29 25.2**	**-1.2**
	2.4nm,0.8s,baz=264,slow=7.2,SNR=5.4						
RES	**Resolute Bay**	**31.81**	**334**	P	**P**	**21 29 24.9**	**-1.8**
	2.4nm,0.9s,baz=92,slow=6.2,SNR=4.9						
RES				LR	LR	21 39 41.1	
	comp=Z,247nm,21.2s,baz=108,slow=32						
RES	**Resolute Bay**	**31.81**	**334**	*e*P	**P**	**21 29 26.4**	**-0.4**
	2.3nm,0.8s						
FCC	**Fort Churchill**	**32.51**	**304**	*e*P	**P**	**21 29 33.1**	**+0.2**
	6.0nm,0.9s						
FIA0	**FINESS Array S**	**33.02**	**51**	*e*P	**P**	**21 29 35.2**	**-2.2**
FINES	**FINESS Array B**	**33.02**	**51**	P	**P**	**21 29 35.2**	**-2.2**
	2.0nm,0.8s,baz=267,slow=7.0,SNR=3.3						
FINES				LR	LR	21 41 06.0	
	comp=Z,256nm,21.7s,baz=254,slow=33						
FIA1	**FINESS Array S**	**33.02**	**51**	*e*P	**P**	**21 29 37.7**	**+0.3**
KEST	**Kesra**	**35.59**	**101**	LR	LR	21 42 34.2	
	comp=Z,190nm,19.0s,baz=340,slow=33						
ULM	**Lac du Bonnet**	**36.73**	**291**	P	**P**	**21 30 07.5**	**-2.1**
	4.8nm,0.8s,baz=73,slow=8.5,SNR=9.6						
ULM				LR	LR	21 43 46.5	
	comp=Z,217nm,18.6s,baz=68,slow=34						
ULM	**Lac du Bonnet**	**36.73**	**291**	*e*P	**P**	**21 30 09.8**	**+0.2**
	25nm,1.6s						
BUR08	**Bucovina Ar. S**	**37.94**	**73**	*e*P	**P**	**21 30 18.2**	**-1.7**
BUR04	**Bucovina Ar. S**	**37.95**	**73**	*e*P	**P**	**21 30 20.7**	**+0.6**
FFC	**Flin Flon**	**38.02**	**300**	*e*P	**P**	**21 30 20.5**	**+0.1**
	1.6nm,0.6s						
AKASG	**Malin Array Be**	**38.67**	**67**	P	**P**	**21 30 24.8**	**-1.2**
	0.3nm,0.4s,baz=304,slow=7.9,SNR=4.3						
AKASG				LR	LR	21 45 10.6	
	comp=Z,123nm,20.3s,baz=295,slow=34						
AKBB	**Malin Array Si**	**38.67**	**67**	*e*P	**P**	**21 30 24.8**	**-1.2**
SIUC	**Southern Illin**	**39.89**	**270**	*e*P	**P**	**21 30 37.2**	**+0.9**
	37nm,1.1s						
YKA	**Yellowknife Ar**	**40.71**	**316**	P	**P**	**21 30 42.4**	**-0.3**
	0.9nm,0.9s,baz=60,slow=9.2,SNR=11						
YKA				PcP	**PcP**	**21 32 42.0**	**-2.0**
	1.2nm,0.8s,baz=57,slow=3.4,SNR=7.7						
YKB5	**Yellowknife Ar**	**40.71**	**316**	*e*P	**P**	**21 30 43.2**	**+0.4**
CCM	**Cathedral Cave**	**40.90**	**272**	*e*P	**P**	**21 30 45.7**	**+1.1**
	9.6nm,0.8s						
HHAR	**Hobbs**	**43.68**	**272**	*e*P	**P**	**21 31 08.5**	**+1.1**
	14nm,1.2s						
X40A	**Basin Creek Fa**	**44.22**	**269**	*e*P	**P**	**21 31 11.6**	**-0.1**
	14nm,1.2s						
MIAR	**Mount Ida**	**44.63**	**270**	*e*P	**P**	**21 31 15.9**	**+1.0**
	13nm,1.0s						
INK	**Inuvik**	**44.93**	**329**	P	**P**	**21 31 16.2**	**-0.6**
	5.7nm,1.0s,baz=44,slow=9.3,SNR=4.0						
INK	**Inuvik**	**44.93**	**329**	*e*P	**P**	**21 31 16.0**	**-0.9**
	6.5nm,1.1s						
BR101	**Keskin Array S**	**47.53**	**77**	*e*P	**P**	**21 31 38.7**	**+0.8**
BR131	**Keskin Array S**	**47.53**	**77**	*e*P	**P**	**21 31 39.4**	**+1.5**
BRTR	**Keskin Array B**	**47.53**	**77**	P	**P**	**21 31 38.7**	**+0.8**
	4.0nm,0.8s,baz=308,slow=5.1,SNR=18						
BRTR				LR	LR	21 53 25.1	
	comp=Z,103nm,18.0s,baz=282,slow=38						
WMOK	**Wichita Mounta**	**47.64**	**274**	*e*P	**P**	**21 31 39.2**	**+0.5**
	6.0nm,1.0s						
PD31

SONM	**Songino Array**	**74.31**	**26**	P		**P**	**21 34 39.1**	**-0.7**
	1.4nm,0.8s,baz=324,slow=6.7,SNR=10.0							
ULN	**Ulaanbaatar**	**74.45**	**25**	*eP*		**P**	**21 34 41.5**	**+0.7**
	4.7nm,0.9s							
LPAZ	**La Paz**	**74.67**	**213**	P		**P**	**21 34 42.8**	**+0.1**
	0.7nm,0.6s,baz=350,slow=6.1,SNR=3.4							
GTA	**Gaotai**	**80.02**	**34**	*eP*		**P**	**21 35 13.1**	**+1.0**
GTA				pP		pwP	21 35 17.4	-0.5
GTA				sP		PcP	21 35 20.8	+1.3
GTA				pmax		pmax		
	comp=Z,2.0nm,1.0s							
LVC	**Limon Verde**	**80.83**	**211**	*eP*		**P**	**21 35 16.8**	**+0.1**
	comp=Z,5.8nm,1.0s							
XAN	**Xi'an**	**87.82**	**29**	P		**P**	**21 35 56.5**	**+4.6**
XAN				pP		pwP	21 36 02.4	+4.6
XAN				pmax		pmax		
	comp=Z,5.0nm,0.9s							
KSRS	**Korea Array**	**88.67**	**13**	LR	LR	LR	22 16 21.5	
	comp=Z,24nm,18.8s,baz=175,slow=36							
BOSA	**Boshof**	**96.82**	**130**	LR		LR	22 18 13.2	
	comp=Z,54nm,20.1s,baz=319,slow=34							
CMAR	**Chiang Mai Arr**	**98.53**	**43**	LR		LR	22 23 16.0	
	comp=Z,43nm,18.3s,baz=338,slow=37							
PALK	**Pallekele**	**99.30**	**65**	LR		LR	22 25 46.5	
	comp=Z,38nm,18.4s,baz=286,slow=38							
WRAB	**Tennant Creek**	**145.96**	**18**	*e*PKPbc		**PKPdf**	**21 42 41.5**	**0.0**
WR1	**Warramunga Arr**	**145.97**	**18**	*e*PKPdf		**PKPdf**	**21 42 41.1**	**-0.5**
WRA	**Warramunga Arr**	**145.97**	**18**	PKPbc		**PKPdf**	**21 42 41.1**	**-0.5**
	comp=Z,2.1nm,1.0s,baz=344,slow=2.9,SNR=17							
AS31	**Alice Springs**	**149.50**	**20**	epPKPdf		pPKPdf	21 42 50.6	+0.8
ASAR	**Alice Springs**	**149.50**	**20**	PKPbc		**PKPbc**	**21 42 50.7**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=348,slow=2.0,SNR=12							

*ISCJB **24** 21:56:07.6±0.9, 53°.2N±0°.2×35°.2W±0°.2, h13km, mb3.6/7, MS3.6/17, Error ellipse: s-maj=31.5km s-min=17.4km az=21.8*
*IDC **24** 21:56:07.6±1.1, 53°.24N×35°.18W, h0km, mb3.5/7, mb1 3.8/7, mb1mx3.5/42, mbtmp3.5/7, MS3.7/17, Ms1 3.7/17, ms1mx3.4/39, Error ellipse: s-maj=39.7km s-min=22.5km az=17.0*

ISC 24 21:56:09.5±1.0, 53°.3N±0°.2×35°.2W±0°.2, h13km, n23, σ0s99/9, mb3.6/7, MS3.7/17, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FRB	**Frobisher Bay**	**20.10**	**315**	LR	LR	22 06 09.0	
	comp=Z,134nm,21.1s,baz=24,slow=30						
JMIC	**Jan Mayen**	**21.38**	**24**	LR		22 07 12.2	
	comp=Z,100nm,19.6s,baz=90,slow=31						
NOA	**NORSAR Array B**	**25.84**	**54**	LR	LR	22 11 35.9	
	comp=Z,94nm,18.1s,baz=285,slow=36						
HFS	**Hagfors**	**27.15**	**56**	LR	LR	22 11 21.7	
	comp=Z,169nm,18.6s,baz=256,slow=34						
DAVOX	**Davos/Dischmat**	**29.26**	**84**	LR	LR	22 12 33.3	
	comp=Z,116nm,19.6s,baz=296,slow=34						
SADO	**Sadowa**	**29.65**	**271**	LR	LR	22 13 12.2	
	comp=Z,180nm,18.5s,baz=98,slow=35						
FINES	**FINESS Array B**	**32.87**	**51**	LR	LR	22 14 24.2	
	comp=Z,119nm,19.6s,baz=248,slow=33						
ULM	**Lac du Bonnet**	**36.71**	**291**	LR	LR	22 16 54.0	
	comp=Z,118nm,19.0s,baz=18,slow=34						
INK	**Inuvik**	**44.80**	**329**	P	**P**	**22 04 22.4**	**+0.1**
	1.4nm,1.0s,baz=76,slow=4.2,SNR=3.5						
BRTR	**Keskin Array B**	**47.44**	**77**	P	**P**	**22 04 42.7**	**-1.0**
	1.1nm,1.0s,baz=310,slow=7.4,SNR=3.1						
BRTR				LR	LR	22 26 15.3	
	comp=Z,47nm,18.6s,baz=284,slow=38						
PDAR	**Pinedale Array**	**48.71**	**289**	P	**P**	**22 04 52.2**	**-1.4**
	0.4nm,0.6s,baz=61,slow=7.4,SNR=4.2						
PDAR				LR	LR	22 23 49.0	
	comp=Z,117nm,19.2s,baz=68,slow=34						
TORD	**Torodi Ar. Bea**	**49.54**	**130**	P	**P**	**22 05 00.1**	**+0.2**
	0.4nm,0.8s,baz=331,slow=12,SNR=3.5						
KBZ	**Khabaz**	**50.16**	**67**	LR	LR	22 26 31.4	
	comp=Z,67nm,18.1s,baz=336,slow=36						
ILAR	**Eielson Array**	**51.18**	**329**	P	**P**	**22 05 11.6**	**-0.1**
	0.3nm,0.9s,baz=53,slow=5.0,SNR=2.9						
DBIC	**Dimbokro**	**52.59**	**141**	LR	LR	22 24 41.7	
	comp=Z,65nm,19.5s,baz=320,slow=33						
TXAR	**Lajitas Array**	**54.41**	**273**	P	**P**	**22 05 37.2**	**+1.0**
	0.6nm,0.9s,baz=69,slow=6.9,SNR=4.8						
TXAR				LR	LR	22 27 56.2	
	comp=Z,83nm,18.2s,baz=0.0,slow=35						
YBH	**Yreka Blue Hor**	**56.67**	**296**	LR	LR	22 29 09.2	
	comp=Z,124nm,21.1s,baz=15,slow=35						
LPIG	**La Paz**	**62.26**	**274**	LR	LR	22 33 14.7	
	comp=Z,90nm,19.6s,baz=14,slow=36						
GEYT	**Alibeck**	**62.48**	**63**	LR	LR	22 36 05.4	
	comp=Z,39nm,18.1s,baz=25,slow=38						
SONM	**Songino Array**	**74.13**	**26**	P	**P**	**22 07 46.5**	**+1.2**
	0.5nm,0.6s,baz=35,slow=5.3,SNR=4.4						
CMAR	**Chiang Mai Arr**	**98.37**	**44**	LR	LR	22 56 13.9	
	comp=Z,23nm,18.8s,baz=0.0,slow=37						
WRA	**Warramunga Arr**	**145.78**	**18**	PKPbc	**PKPab**	**22 15 48.0**	**-0.5**
	0.9nm,0.9s,baz=340,slow=3.7,SNR=4.7						
ASAR	**Alice Springs**	**149.32**	**20**	PKPbc	**PKPbc**	**22 15 58.2**	**+0.4**
	0.4nm,0.5s,baz=355,slow=3.0,SNR=4.4						

*ISCJB **24** 21:58:30.1±0.8, 53°.1N±0°.2×35°.6W±0°.2, h10km, mb3.5/9, Error ellipse: s-maj=33.1km s-min=14.0km az=20.6*
*IDC **24** 21:58:30.2±0.9, 53°.17N×35°.55W, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.6/41, mbtmp3.5/9, Error ellipse: s-maj=37.4km s-min=17.3km az=21.0*

ISC 24 21:58:31.7±0.8, 53°.2N±0°.2×35°.6W±0°.1, h10km, n11, σ0s68/11, mb3.7/9, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**25.38**	**109**	P	**P**	**22 03 59.9**	**+0.9**
	0.5nm,0.5s,baz=314,slow=9.4,SNR=5.4						
ULM	**Lac du Bonnet**	**36.53**	**290**	P	**P**	**22 05 37.4**	**+0.3**
	1.1nm,0.6s,baz=76,slow=8.3,SNR=3.1						
YKA	**Yellowknife Ar**	**40.52**	**315**	P	**P**	**22 06 09.9**	**-0.5**
	0.3nm,0.7s,baz=64,slow=8.8,SNR=3.3						
BRTR	**Keskin Array B**	**47.70**	**77**	P	**P**	**22 07 08.9**	**+0.5**
	0.9nm,0.8s,baz=291,slow=6.3,SNR=5.6						
PDAR	**Pinedale Array**	**48.52**	**289**	P	**P**	**22 07 15.5**	**+0.6**
	0.4nm,0.6s,baz=74,slow=11,SNR=4.8						
TORD	**Torodi Ar. Bea**	**49.65**	**129**	P	**P**	**22 07 22.8**	**-0.7**
	0.6nm,0.9s,baz=334,slow=9.6,SNR=3.3						
ILAR	**Eielson Array**	**51.14**	**329**	P	**P**	**22 07 34.6**	**+0.3**
	0.4nm,0.9s,baz=52,slow=5.8,SNR=3.7						
TXAR	**Lajitas Array**	**54.18**	**272**	P	**P**	**22 07 57.1**	**-0.2**
	0.8nm,1.0s,baz=69,slow=7.1,SNR=4.8						
SONM	**Songino Array**	**74.32**	**26**	P	**P**	**22 10 08.6**	**-0.5**
	0.3nm,0.4s,baz=316,slow=4.2,SNR=3.4						
WRA	**Warramunga Arr**	**145.94**	**17**	PKPbc	**PKPdf**	**22 18 10.9**	**+0.2**
	0.5nm,0.7s,baz=343,slow=3.4,SNR=5.2						
ASAR	**Alice Springs**	**149.49**	**19**	PKPbc	**PKPbc**	**22 18 20.1**	**-1.0**
	0.4nm,0.7s,baz=349,slow=1.9,SNR=3.2						

*ISCJB **24** 22:07:04.0±0.6, 53°.3N±0°.1×35°.3W±0°.2, h16km, mb3.7/11, MS3.5/15, Error ellipse: s-maj=21.9km s-min=13.5km az=24.6*
*IDC **24** 22:07:03.2±0.8, 53°.25N×35°.30W, h0km, mb3.7/11, mb1 3.9/11, mb1mx3.7/45, mbtmp3.7/11, MS3.6/16, Ms1 3.6/16, ms1mx3.4/42, Error ellipse: s-maj=26.8km s-min=17.9km az=21.0*

ISC 24 22:07:05.6±0.7, 53°.3N±0°.2×35°.3W±0°.1, h16km, n23, σ0s48/13, mb3.7/11, MS3.5/15, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**18.51**	**288**	LR	LR	22 16 52.1	
	comp=Z,270nm,18.6s,baz=16,slow=32						
FRB	**Frobisher Bay**	**20.04**	**315**	LR	LR	22 17 38.6	
	comp=Z,198nm,18.8s,baz=124,slow=32						
ESDC	**Sonseca Array**	**25.26**	**110**	P	**P**	**22 12 31.2**	**+0.3**
	0.9nm,0.7s,baz=313,slow=8.6,SNR=6.3						
ESDC				LR	LR	22 20 28.8	
	comp=Z,92nm,18.9s,baz=265,slow=32						
NOA	**NORSAR Array B**	**25.90**	**54**	LR	LR	22 22 14.9	
	comp=Z,86nm,18.0s,baz=275,slow=35						
HFS	**Hagfors**	**27.20**	**56**	LR	LR	22 21 15.6	
	comp=Z,90nm,21.2s,baz=253,slow=31						
DAVOX	**Davos/Dischmat**	**29.34**	**84**	LR	LR	22 23 54.8	
	comp=Z,118nm,20.0s,baz=288,slow=34						
SADO	**Sadowa**	**29.57**	**271**	LR	LR	22 23 58.2	
	comp=Z,198nm,18.6s,baz=104,slow=34						
GERES	**GERESS Array B**	**30.62**	**78**	LR	LR	22 25 02.2	
	comp=Z,78nm,18.7s,baz=302,slow=35						
FINES	**FINESS Array B**	**32.93**	**51**	LR	LR	22 25 29.4	
	comp=Z,138nm,19.1s,baz=242,slow=34						
AKASG	**Malin Array Be**	**38.62**	**67**	LR	LR	22 29 44.3	
	comp=Z,64nm,18.2s,baz=280,slow=35						
YKA	**Yellowknife Ar**	**40.56**	**315**	P	**P**	**22 14 43.3**	**-0.4**
	0.2nm,0.4s,baz=56,slow=9.0,SNR=4.4						
INK	**Inuvik**	**44.75**	**328**	P	**P**	**22 15 18.1**	**+0.4**
	1.4nm,1.0s,baz=45,slow=4.3,SNR=3.9						
INK				LR	LR	22 32 39.3	
	comp=Z,55nm,18.4s,baz=104,slow=34						
BRTR	**Keskin Array B**	**47.52**	**77**	P	**P**	**22 15 39.5**	**-0.5**
	0.8nm,0.8s,baz=293,slow=6.4,SNR=4.9						
PDAR	**Pinedale Array**	**48.64**	**289**	P	**P**	**22 15 48.3**	**-0.4**
	0.5nm,0.7s,baz=57,slow=9.0,SNR=4.7						
PDAR				LR	LR	22 33 43.9	
	comp=Z,53nm,19.3s,baz=52,slow=33						
TORD	**Torodi Ar. Bea**	**49.60**	**130**	P	**P**	**22 15 55.8**	**-0.3**
	0.7nm,0.8s,baz=340,slow=7.8,SNR=4.3						
TORD				LR	LR	22 34 51.7	
	comp=Z,56nm,18.9s,baz=325,slow=34						
ILAR	**Eielson Array**	**51.13**	**329**	P	**P**	**22 16 07.3**	**+0.2**
	0.8nm,0.9s,baz=41,slow=6.5,SNR=6.9						
DBIC	**Dimbokro**	**52.64**	**141**	LR	LR	22 35 26.9	
	comp=Z,47nm,19.5s,baz=308,slow=32						
TXAR	**Lajitas Array**	**54.34**	**273**	P	**P**	**22 16 31.4**	**0.0**
	2.0nm,1.2s,baz=79,slow=4.7,SNR=3.1						
TXAR				LR	LR	22 38 29.0	
	comp=Z,62nm,19.3s,baz=0.0,slow=35						
ZALV	**Zalesovo Beam**	**62.19**	**35**	P	**P**	**22 17 25.5**	**-0.3**
	0.5nm,0.5s,baz=326,slow=7.3,SNR=2.7						
SONM	**Songino Array**	**74.15**	**26**	P	**P**	**22 18 42.0**	**+1.0**
	0.3nm,0.4s,baz=332,slow=4.9,SNR=3.7						
LPAZ	**La Paz**	**74.81**	**213**	P	**P**	**22 18 46.2**	**+0.5**
	0.4nm,0.3s,baz=50,slow=6.2,SNR=3.5						
LPAZ				LR	LR	22 48 06.3	
	comp=Z,62nm,20.7s,baz=272,slow=33						
WRA	**Warramunga Arr**	**145.80**	**18**	PKPbc	**PKPbc**	**22 26 43.6**	**-0.2**
	1.0nm,0.7s,baz=341,slow=3.1,SNR=8.3						
ASAR	**Alice Springs**	**149.34**	**20**	PKPbc	**PKPbc**	**22 26 53.5**	**-0.1**
	0.6nm,0.6s,baz=345,slow=2.0,SNR=8.3						

*ISCJB **24** 22:19:15.7±0.9, 36°.61N±0°.05×70°.4E±0°.1, h200km, Error ellipse: s-maj=13.3km s-min=5.5km az=165.4*
*NNC **24** 22:19:19.5±1.8, 36°.85N×70°.28E, h184km±26km, mb2.7, mpv3.6, Error ellipse: s-maj=20.1km s-min=13.2km az=54.0*

ISC 24 22:19:15.3±1.5, 36°.57N±0°.09×70°.3E±0°.1, h200km, n23, σ1s55/26, 5C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.24**	**35**	⇓P	**Pn**	**22 20 21.2**	**+1.0**
	4.0nm,0.4s						
SFK				⇑S	**Sn**	**22 21 11.1**	**-0.3**
	14nm,0.4s						
AML	**Almayashu**	**6.13**	**24**	P	**Pn**	**22 20 45.2**	**+0.7**
	SNR=60						
MNAS	**Manas**	**6.14**	**15**	⇓P	**Pn**	**22 20 45.2**	**+0.9**
	1.9nm,0.4s						
MNAS				⇓S	**Sn**	**22 21 52.8**	**-2.1**
	23nm,0.9s						
UCH	**Uchtor**	**6.50**	**28**	P	**Pn**	**22 20 50.2**	**+0.8**
	SNR=25						
KK31	**Karatay Array**	**6.52**	**1**	P	**Pn**	**22 20 50.1**	**+0.9**
	0.7nm,0.2s,baz=267,slow=9.4,SNR=31						
KK31				⇑S	**Sn**	**22 22 01.7**	**-2.1**
	2.4nm,0.5s,baz=190,slow=25,SNR=4.9						
EKS2	**Erkin-Say**	**6.63**	**22**	P	**Pn**	**22 20 51.7**	**+1.0**
	SNR=5.8						
KZA	**Kyzart**	**6.68**	**33**	P	**Pn**	**22 20 52.0**	**+0.3**
	SNR=6.5						
AAK	**Ala-Archa**	**6.85**	**27**	P	**Pn**	**22 20 54.8**	**+1.1**
	SNR=5.8						
AAK	**Ala-Archa**	**6.85**	**27**	⇓P	**Pn**	**22 20 54.5**	**+0.9**
	2.6nm,0.6s						
AAK				⇑S	**Sn**	**22 22 10.0**	**-1.7**
	9.9nm,0.8s						
CHMS	**Chumysh**	**7.26**	**27**	P	**Pn**	**22 20 60.0**	**+1.2**
	SNR=5.2						
USP	**Ospenovka**	**7.41**	**24**	P	**Pn**	**22 21 01.2**	**+0.4**
	SNR=11						
TKM2	**Tokmak 2**	**7.52**	**31**	P	**Pn**	**22 21 03.2**	**+0.9**
	SNR=18						
TKM2	**Tokmak 2**	**7.52**	**31**	⇑P	**Pn**	**22 21 03.3**	**+0.9**
	6.5nm,0.5s						
MK31	**Makanchi Array**	**13.55**	**37**	P	**P**	**22 22 23.4**	**+1.5**
	0.2nm,0.5s,baz=214,slow=10,SNR=4.9						
PYUN	**Piuthan**	**13.62**	**125**	*eP*	**P**	**22 22 20.2**	**-2.9**
	3.8nm,0.3s						
DANN	**Dangsing**	**13.97**	**122**	*eP*	**P**	**22 22 24.9**	**-2.2**
	3.6nm,0.4s						
KOLN	**Koldanda**	**14.24**	**124**	*eP*	**P**	**22 22 27.5**	**-2.5**
	2.8nm,0.5s						
AB31	**Akbulak array**	**14.77**	**332**	P	P	22 22 37.1	+1.7
	0.8nm,0.5s,baz=142,slow=11,SNR=27						
PKI	**Pulchoki**	**15.59**	**121**	*eP*	**Pn**	**22 22 46.7**	**+1.6**
	8.2nm,0.5s						
GUN	**Gumba**	**15.71**	**119**	*eP*	**Pn**	**22 22 48.4**	**+1.9**
	7.3nm,0.6s						
JIRN	**Jiri**	**16.08**	**119**	*eP*	**Pn**	**22 22 53.1**	**+2.1**
	14nm,0.5s						
AKTO	**Aktyubinsk**	**16.46**	**331**	⇑P	**Pn**	**22 22 55.2**	**+0.3**
	4.6nm,1.0s						
RAMN	**Ramite**	**16.81**	**120**	*eP*	**Pn**	**22 23 00.8**	**+1.2**
	5.7nm,0.6s						

*ISK **24** 22:23:02.9, 38°.78N×43°.61E, h20km, ML1.9/6*
*DDA **24** 22:23:05.0, 38°.79N×43°.45E, h7km±5km, ML2.6*

ISC 24 22:23:04.0±1.5, 38°.79N±0°.04×43°.54E±0°.10, h13km, n10, σ0s59/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.21**	**8**	IAML_P			
	comp=Z,2μm,0.1s						
VMUR				*i* P	**Pg**	**22 23 09.1**	**+0.4**
VANB	**Van**	**0.22**	**211**	PG	**Pb**	**22 23 10.1**	**+0.1**
VANB				SG	**Sb**	**22 23 15.3**	**+1.3**
TVAN	**Van**	**0.28**	**202**	IAML_P			
	comp=Z,3μm,0.1s						
TVAN				*i* P	**Pb**	**22 23 10.5**	**-0.5**
TVAN				*i* S	**Sb**	**22 23 16.2**	**+0.6**
ERCV	**ERCIS-VAN**	**0.28**	**327**	PG	**Pg**	**22 23 10.3**	**+0.3**
ERCV				SG	**Sb**	**22 23 15.7**	**-0.1**
GEVA	**Gevas**	**0.60**	**219**	*i* P	**Pb**	**22 23 16.1**	**-0.4**
AKDM	**Akdamar-Van**	**0.63**	**224**	PG	**Pg**	**22 23 16.4**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.64**	**272**	IAML_P			
	comp=Z,310nm,0.1s						
ADCV				*i* P	**Pb**	**22 23 17.2**	**+0.2**
MLAZ	**Malazgirt-MUS**	**0.85**	**295**	PG	**Pb**	**22 23 20.8**	**+0.1**
AGRB	**Hanur-Agry**	**0.90**	**332**	PG	**Pg**	**22 23 21.3**	**-0.1**
GURO	**Guroymak-BITLI**	**1.20**	**259**	PN	**Pn**	**22 23 25.9**	**-0.7**

IDC 24 22:38:22.6±12.0, 2°.77N×92°.17E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/36, mbtmp3.6/3, Error ellipse: s-maj=397.1km s-min=34.7km az=69.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**46.55**	**13**	P	P	22 46 52.1	-0.1
	0.5nm,0.5s,baz=196,slow=6.5,SNR=4.5						
WRA	**Warramunga Arr**	**47.14**	**121**	P	P	22 46 57.6	+0.5
	0.7nm,1.1s,baz=296,slow=8.3,SNR=5.8						
ASAR	**Alice Springs**	**48.37**	**125**	P	P	22 47 05.9	-0.7
	1.0nm,1.1s,baz=313,slow=7.8,SNR=4.1						

NNC 24 22:55:25.6±2.6, 37°.37N×70°.97E, h0km, mb3.6, mpv3.3, 5C-4D, Error ellipse: s-maj=21.3km s-min=18.4km az=144.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.30**	**36**	⇓P	Pn	22 56 19.1	+0.3
	2.1nm,0.4s						
SFK				⇑S	Sn	22 57 00.5	+1.6
	3.0nm,0.3s						
AML	**Almayashu**	**5.20**	**23**	P	Pn	22 56 44.6	-0.4
	SNR=15						
MNAS	**Manas**	**5.25**	**13**	⇑P	Pn	22 56 45.8	+0.3
	1.7nm,0.6s						
MNAS				⇑S	Sn	22 57 46.8	+0.1
	1.9nm,0.7s						
EKS2	**Erkin-Say**	**5.71**	**21**	P	Pn	22 56 51.0	-0.8
	SNR=5.8						
KK31	**Karatay Array**	**5.74**	**357**	⇑P	Pn	22 56 53.3	+1.2
	0.8nm,0.3s,baz=44,slow=12,SNR=6.1						
KK31				⇓S	Sn	22 58 00.3	+1.6
	0.4nm,0.3s,baz=175,slow=20,SNR=3.9						
AAK	**Ala-Archa**	**5.92**	**26**	P	Pn	22 56 54.1	-0.5
	SNR=5.6						
AAK	**Ala-Archa**	**5.92**	**26**	⇑P	Pn	22 56 53.8	-0.9
	3.3nm,0.5s						
AAK				⇓S	Sn	22 58 04.2	+1.0
	1.3nm,0.5s						
CHMS	**Chumysh**	**6.33**	**26**	P	Pn	22 56 59.1	-1.1
	SNR=5.3						
USP	**Ospenovka**	**6.48**	**23**	P	Pn	22 57 01.1	-1.2
	SNR=5.7						
TKM2	**Tokmak 2**	**6.58**	**31**	⇓P	Pn	22 57 02.1	-1.7
	1.8nm,0.6s						

*SJA **24** 22:56:15.7±0.4, 23°.91S×68°.12W, h200km±15km, ML3.7, MW3.1*
*ISCJB **24** 22:56:22.6±0.3, 24°.40S±0°.02×68°.05W±0°.08, h171km±7km, mb4.0/7, Error ellipse: s-maj=11.3km s-min=3.5km az=173.7*
*NEIC **24** 22:56:22.9±0.6, 24°.46S×67°.99W, h163km±9km, mb4.4/3, Error ellipse: s-maj=16.2km s-min=6.8km az=94.0*
*GUC **24** 22:56:24.6±0.5, 24°.38S×67°.97W, h152km±7km, ML3.9*
*IDC **24** 22:56:25.2±2.8, 24°.19S×67°.60W, h137km±18km, mb3.7/5, mb1 3.7/7, mb1mx3.5/29, mbtmp4.0/7, Error ellipse: s-maj=33.3km s-min=19.2km az=178.0*

ISC 24 22:56:22.7±0.8, 24°.40S±0°.04×67°.92W±0°.06, h142km±9km, n45, σ2s08/69, mb4.4/7, 4C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO02	**Mina Guanaco**	**1.70**	**243**	*e*Pn	**Pn**	**22 56 56.2**	**+2.0**
GO02				*e*Sn	**Sn**	**22 57 20.0**	**+1.7**
GO02	**Mina Guanaco**	**1.70**	**243**	⇑*i*P	**Pn**	**22 56 56.5**	**+2.2**
GO02				*e*S	**Sn**	**22 57 20.8**	**+2.5**
GO02				IAML		22 57 21.8	
	comp=N,2μm,0.3s						
LVC	**Limon Verde**	**2.00**	**333**	P	**Pn**	**22 57 00.6**	**+2.8**
	comp=N,20nm,0.3s,baz=149,slow=11,SNR=211						
LVC				S	**Sn**	**22 57 26.0**	**+1.4**
	comp=N,12nm,0.3s,baz=134,slow=4.1,SNR=5.7						
LVC	**Limon Verde**	**2.00**	**333**	*e*Pn	**Pn**	**22 56 59.8**	**+2.0**
LVC				*e*Sn	**Sn**	**22 57 25.8**	**+1.3**
LVC	**Limon Verde**	**2.00**	**333**	*e*P	**Pn**	**22 56 59.7**	**+2.0**
LVC				*e*S	**Sn**	**22 57 26.2**	**+1.7**
PB06	**IPOC Station P**	**2.27**	**318**	⇑*e*P	**Pn**	**22 57 02.8**	**+2.0**
PB06				*e*S	**Sn**	**22 57 31.1**	**+1.1**
PB06				IAML		22 57 32.7	
	comp=E,527nm,0.2s						
PB10	**IPOC Station P**	**2.57**	**289**	*e*Pn	**Pn**	**22 57 06.3**	**+2.0**
PB10				*e*Sn	**Sn**	**22 57 36.6**	**+0.3**
PB10	**IPOC Station P**	**2.57**	**289**	⇑*e*P	**Pn**	**22 57 06.3**	**+2.0**
PB10				*e*S	**Sn**	**22 57 37.7**	**+1.4**
PB10				IAML		22 57 45.0	
	comp=N,266nm,0.4s						
PB05	**IPOC Station P**	**2.60**	**306**	⇑*i*P	**Pn**	**22 57 06.5**	**+1.7**
PB05				*e*S	**Sn**	**22 57 38.5**	**+1.3**
PB05				IAML		22 57 41.6	
	comp=E,326nm,0.3s						
PB09	**IPOC Station P**	**2.86**	**335**	*e*P	**Pn**	**22 57 10.6**	**+2.4**
PB09				*e*S	**Sn**	**22 57 44.9**	**+1.6**
PB09				IAML		22 57 52.0	
	comp=E,163nm,0.7s						
PB03	**IPOC Station P**	**2.88**	**324**	⇓*e*P	**Pn**	**22 57 10.2**	**+1.7**
PB03				*e*S	**Sn**	**22 57 43.7**	**0.0**
PB03				IAML		22 57 45.1	
	comp=E,486nm,0.4s						
PB04	**IPOC Station P**	**2.90**	**315**	*e*Pn	**Pn**	**22 57 10.0**	**+1.3**
PB04				*e*Sn	**Sn**	**22 57 41.8**	**-2.3**
PB04	**IPOC Station P**	**2.90**	**315**	*e*P	**Pn**	**22 57 10.2**	**+1.5**
PB04				*e*S	**Sn**	**22 57 43.7**	**-0.5**
PB04				IAML		22 57 48.9	
	comp=N,304nm,0.3s						
PB07	**IPOC Station P**	**3.22**	**325**	*e*P	**Pn**	**22 57 14.2**	**+1.5**
PB01	**IPOC Station P**	**3.64**	**336**	*e*Pn	**Pn**	**22 57 19.2**	**+1.1**
PB01				*e*Sn	**Sn**	**22 57 58.6**	**-2.5**
PB01	**IPOC Station P**	**3.64**	**336**	*e*P	**Pn**	**22 57 19.2**	**+1.1**
PB01				IAML		22 58 07.4	
	comp=E,185nm,0.6s						
PB11	**IPOC Station P**	**4.89**	**340**	*e*Pn	**Pn**	**22 57 34.3**	**-0.4**
PB11				*e*Sn	**Sn**	**22 58 29.9**	**-0.9**
ACLC	**CERRO LA CRUZ**	**5.08**	**170**	*e*P	**Pn**	**22 57 38.7**	**+1.4**
ACLC				*e*S	**Sn**	**22 58 39.7**	**+4.4**
LCO	**Las Campanas**	**5.23**	**208**	*e*Pn	**Pn**	**22 57 38.4**	**-0.9**
LCO				*e*Sn	**Sn**	**22 58 37.6**	**-1.3**
MNMC	**Minye Minye**	**5.47**	**343**	*e*Pn	**Pn**	**22 57 42.7**	**+0.2**
MNMC				*e*Sn	**Sn**	**22 58 40.8**	**-4.0**
AROD	**

s-maj=77.1km s-min=25.2km az=138.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.97**	**184**	P	Pn	23 24 39.9	+0.3
	6.5nm,0.3s,baz=340,slow=15,SNR=4.9						
PMG				S	Sn	23 25 27.5	+0.6
	12nm,0.3s,baz=222,slow=21,SNR=11						
WRA	**Warramunga Arr**	**19.25**	**220**	P	P	23 27 50.7	0.0
	1.6nm,0.3s,baz=47,slow=12,SNR=101						
ASAR	**Alice Springs**	**22.33**	**214**	P	P	23 28 23.4	+0.3
	7.4nm,1.1s,baz=49,slow=8.4,SNR=20						
FITZ	**Fitzroy Crossi**	**24.73**	**238**	P	P	23 28 44.7	-0.3
	9.4nm,0.5s,baz=48,slow=12,SNR=38						
ILAR	**Eielson Array**	**84.79**	**23**	P	P	23 35 53.9	-0.1
	0.3nm,0.6s,baz=264,slow=5.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**145.36**	**285**	PKPbc	PKPdf	23 42 57.2	-0.5
	0.6nm,0.9s,baz=60,slow=3.5,SNR=4.8						

*NEIC **24** 23:25:51.2±0.0, 38.56N×119.62W, h7km, ML3.9(REN), MW4.0(BRK), After REN.*
NEIC Felt [IV] at Coleville and [III] at El Portal, Mi-Wuk Village, Mokelumne Hill, Mountain Ranch, Murphys, Twain Harte and Yosemite National Park. Felt from Nevada City to Mariposa. Felt [III] at Wellington, Nevada.
*REN **24** 23:25:51.2, 38.56N×119.62W, h7km, ML3.9, MW4.0(BRK)*
*ISCJB **24** 23:25:51.0±0.2, 38.59N±0.01×119.60W±0.02, h10km, mb3.5/3, MS3.5/1, Error ellipse: s-maj=2.7km s-min=1.9km az=154.9*
*NCEDC **24** 23:25:51.2±0.0, 38.56N×119.62W, h7km*
*ANF **24** 23:25:52.9±0.3, 38.56N×119.52W, h10km, ML4.4/30, Error ellipse: s-maj=5.3km s-min=2.8km az=55.0*
*IDC **24** 23:25:52.3±1.3, 38.57N×119.52W, h0km, mb3.5/4, mb1 3.8/9, mb1mx3.6/44, mbtmp3.6/9, ML3.9/5, MS3.2/7, Ms1 3.2/7, ms1mx3.0/25, Error ellipse: s-maj=16.8km s-min=6.0km az=26.0*

ISC 24 23:25:51.3±0.6, 38°63'N±0'02×119°61'W±0'02, h10km, n84, σ2s13/123, mb3.4/3, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WAKR	**Walker**	**0.19**	**132**	*e*Sg	**Sg**	**23 25 57.5**	**-0.7**
PNTR	**Pine Nut**	**0.46**	**1**	*e*Pg	**Pb**	**23 26 01.3**	**-0.4**
PNTR				*e*Sg	**Sb**	**23 26 09.3**	**+0.7**
YERR	**Yerington**	**0.46**	**39**	*e*Pg	**Pb**	**23 26 00.9**	**-0.7**
YERR				*e*Sg	**Sb**	**23 26 08.1**	**-0.5**
RUBR	**Rubicon Trail**	**0.60**	**315**	*e*Sg	**Sb**	**23 26 11.8**	**-0.7**
VCNR	**Virginia City**	**0.66**	**358**	*e*Pg	**Pb**	**23 26 05.0**	**-0.2**
VCNR				*e*Sg	**Sn**	**23 26 15.1**	**-2.5**
CMB	**Columbia Colle**	**0.85**	**226**	*e*Pg	**Pg**	**23 26 05.6**	**-2.1**
CMB				*e*Sg	**Sg**	**23 26 16.3**	**-2.5**
RYN	**Ryan**	**0.85**	**90**	*e*Pg	**Pb**	**23 26 07.4**	**-1.0**
NVAR	**Mina Array Bea**	**1.05**	**101**	Pg	**Pg**	**23 26 10.8**	**-0.7**
	1µm,0.3s,baz=335,slow=29						
NVAR				Lg	Lg	23 26 23.6	
	938nm,0.3s,baz=277,slow=18,SNR=13						
NV01	**Mina Array Sit**	**1.05**	**101**	*e*Pg	**Pg**	**23 26 09.6**	**-1.8**
MDPB	**Devils Postpil**	**1.08**	**157**	*e*Pg	**Pg**	**23 26 09.7**	**-2.5**
MDPB				*e*Sg	**Sg**	**23 26 22.3**	**-4.0**
PAHR	**Pah Rah Range**	**1.09**	**9**	*e*Sg	**Sn**	**23 26 28.9**	**+0.9**
AFDM	**Forest Hills D**	**1.11**	**287**	*e*Sg	**Sb**	**23 26 26.6**	**-0.5**
OMMB	**Old Mammoth Mi**	**1.13**	**154**	*e*Sg	**Sg**	**23 26 23.5**	**-4.1**
MLAC	**Mammoth, Mammo**	**1.17**	**148**	P	**Pb**	**23 26 12.4**	**-1.4**
	baz=327						
MLAC				S	**Sb**	**23 26 27.7**	**-1.5**
	baz=327						
KVN	**Kaiserville**	**1.25**	**70**	*e*Sg	**Sn**	**23 26 31.6**	**-0.6**
BEKR	**Beckworth**	**1.36**	**335**	*e*Pn	**Pg**	**23 26 17.0**	**-0.5**
BEKR				*e*Sn	**Sg**	**23 26 35.3**	**0.0**
ORV	**Oroville**	**1.73**	**303**	*e*Pn	**Pb**	**23 26 22.0**	**-1.3**
TIN	**Tinemaha, Big**	**1.92**	**145**	P	**Pn**	**23 26 24.6**	**+0.4**
	baz=324						
TIN				S	**Sb**	**23 26 50.5**	**0.0**
	baz=324						
VOG	**Valley Oaks Go**	**2.31**	**175**	P	**Pn**	**23 26 30.3**	**+0.8**
	baz=355						
VOG				S	**Sb**	**23 27 00.4**	**-1.3**
	baz=355						
SAO	**San Andreas Ge**	**2.36**	**219**	*e*Pn	**Pn**	**23 26 29.9**	**-0.3**
SAO				*e*Sn	**Sn**	**23 26 57.6**	**-1.6**
O03E	**Paynes Creek**	**2.37**	**315**	P	**Pb**	**23 26 32.7**	**-1.5**
	baz=135,SNR=792						
O03E				S	**Sg**	**23 27 04.9**	**-2.6**
	baz=135						
GRAC	**Grapevine Rang**	**2.42**	**132**	P	**Pn**	**23 26 31.3**	**+0.4**
	baz=312						
GRAC				Sg	**Sg**	**23 27 08.0**	**-0.9**
	baz=312						
CWC	**Cottonwood Cre**	**2.50**	**150**	P	**Pn**	**23 26 32.7**	**+0.4**
	baz=330						
CWC				Sb	**Sb**	**23 27 07.9**	**+0.5**
	baz=330						
MCCM	**Marconi Confer**	**2.61**	**260**	*e*Pn	**Pn**	**23 26 33.3**	**-0.2**
MCCM				*e*Sn	**Sn**	**23 27 04.4**	**-0.9**
HOPS	**Hopland Field**	**2.73**	**279**	*e*Pn	**Pn**	**23 26 35.8**	**+0.7**
HOPS				*e*Sn	**Sn**	**23 27 08.0**	**-0.1**
VES	**Vestal, Richgr**	**2.82**	**171**	P	**Pn**	**23 26 37.5**	**+1.1**
	baz=351						
VES				S	**Sb**	**23 27 13.3**	**-2.9**
	baz=351						
O02D	**Mt. Diablo Mer**	**2.90**	**303**	P	**Pn**	**23 26 39.0**	**+1.3**
	baz=122,SNR=48						
FURC	**Furnace Creek,**	**3.07**	**134**	P	**Pn**	**23 26 40.6**	**+0.7**
	baz=315						
FURC				Sg	**Sg**	**23 27 29.7**	**-0.3**
	baz=315						
MPMC	**Manual Prospec**	**3.08**	**146**	P	**Pn**	**23 26 40.4**	**+0.3**
	baz=326						
MPMC				Sb	**Sb**	**23 27 25.4**	**+1.5**
	baz=326						
TPNV	**Topopah Spring**	**3.15**	**121**	*e*Pn	**Pn**	**23 26 40.6**	**-0.6**
TPNV				*e*Pg	**Pb**	**23 26 48.1**	**+0.6**
TPNV				*e*Sg	**Sg**	**23 27 30.7**	**-1.8**
TPNV	**Topopah Spring**	**3.15**	**121**	P	**Pn**	**23 26 40.9**	**-0.3**
	baz=302						
TPNV				Sg	**Sg**	**23 27 32.3**	**-0.2**
	baz=302						
R11A	**Troy Canyon, C**	**3.17**	**94**	*e*Pn	**Pn**	**23 26 40.7**	**-0.8**
R11A				*e*Pg	**Pb**	**23 26 49.1**	**+1.1**
R11A				*e*Sg	**Sg**	**23 27 30.7**	**-2.6**
R11A	**Troy Canyon, C**	**3.17**	**94**	P	**Pn**	**23 26 40.9**	**-0.6**
	baz=275						
R11A				Sb	**Sg**	**23 27 30.0**	**-3.2**
	baz=275						
MOD	**Modoc Plateau**	**3.31**	**351**	*e*Pn	**Pn**	**23 26 44.1**	**+0.8**
MOD				*e*Pg	**Pg**	**23 26 52.5**	**-2.2**
SMMC	**Simmler**	**3.33**	**185**	S	**Sn**	**23 27 25.8**	**+2.8**
	baz=5.2						
N02D	**Trinity Center**	**3.34**	**315**	P	**Pn**	**23 26 45.2**	**+1.6**
	baz=134,SNR=18						
LRMC	**Laurel Mtn Rad**	**3.50**	**153**	P	**Pn**	**23 26 46.1**	**+0.1**
	baz=334						
LRMC				Sb	**Sb**	**23 27 38.5**	**+2.3**
	baz=334						
KMRM	**Mail Ridge**	**3.55**	**298**	*e*Pn	**Pn**	**23 26 46.0**	**-0.5**
KMRM				*e*Pg	**Pg**	**23 26 57.3**	**-2.0**
ARVC	**Arvin**	**3.55**	**170**	P	**Pn**	**23 26 47.6**	**+1.1**
	baz=350						
ARVC				Sb	**Sb**	**23 27 38.9**	**+1.4**
	baz=350						
M04C	**Macdoel**	**3.58**	**332**	Sb	**Sg**	**23 27 45.1**	**-1.2**
	baz=152						
M02C	**Callahan**	**3.71**	**319**	P	**Pn**	**23 26 51.9**	**+3.1**
	baz=138,SNR=30						
M02C				Sb	**Sg**	**23 27 48.7**	**-1.9**
	baz=138						
PKM	**Mcpherson Peak**	**3.74**	**183**	P	**Pn**	**23 26 49.8**	**+0.5**
	baz=2.3						
WVOR	**Wild Horse Val**	**3.87**	**11**	*e*Pn	**Pn**	**23 26 52.6**	**+1.6**
WVOR				*e*Pg	**Pg**	**23 27 03.4**	**-2.1**
WVOR				*e*Sn	**Sn**	**23 27 38.6**	**+2.0**
YBH	**Yreka Blue Hor**	**3.90**	**324**	Pn	**Pn**	**23 26 54.4**	**+3.0**
	2.2nm,0.3s,baz=154,slow=7.8,SNR=32						
YBH				Lg	Lg	23 27 56.7	
	2.0nm,0.3s,baz=118,slow=10,SNR=3.4						
YBH				LR	LR	23 28 35.0	
	comp=Z,219nm,20.8s,baz=230,slow=41						
YBH	**Yreka Blue Hor**	**3.90**	**324**	*e*Pn	**Pn**	**23 26 52.5**	**+1.1**
YBH				*e*Sg	**Sg**	**23 27 57.8**	**+1.3**
EDW2	**Edwards Air Fo**	**3.96**	**160**	P	**Pn**	**23 26 53.8**	**+1.6**
	baz=341						
EDW2				Sb	**Sb**	**23 27 52.0**	**+2.7**
	baz=341						
ELK	**Elko**	**3.98**	**57**	*e*Pn	**Pn**	**23 26 53.1**	**+0.5**
	19nm,0.3s,baz=256,slow=13,SNR=228						
ELK				Lg	Lg	23 27 56.3	
	59nm,0.3s,baz=134,slow=22,SNR=16						
ELK				LR	LR	23 28 23.5	
	comp=Z,135nm,22.0s,baz=220,slow=38						
ELK	**Elko**	**3.98**	**57**	*e*Pg	**Pg**	**23 27 05.7**	**-1.9**
ELK				*e*Sg	**Sg**	**23 27 55.9**	**-3.3**
GSC	**Goldstone, Bar**	**4.01**	**145**	*e*Pn	**Pn**	**23 26 52.4**	**-0.5**
GSC				*e*Pg	**Pb**	**23 27 04.2**	**+2.0**
GSC	**Goldstone, Bar**	**4.01**	**145**	P	**Pn**	**23 26 53.5**	**+0.6**
	baz=326						
OSI	**Osito Audit: C**	**4.07**	**170**	*e*Pn	**Pn**	**23 26 53.7**	**0.0**
OSI				*e*Pg	**Pb**	**23 27 02.4**	**-0.8**
OSI				*e*Sg	**Sb**	**23 27 57.0**	**+4.5**
SHPR	**Sheep Range**	**4.13**	**120**	*e*Pg	**Pg**	**23 27 08.4**	**-1.9**
SHPR				*e*Sg	**Sg**	**23 28 01.2**	**-2.6**
L04D	**Klamath Falls**	**4.13**	**331**	P	Pb	23 26 58.6	-5.5
	baz=150,SNR=21						
K04D	**Chiloquin, OR**	**4.31**	**338**	Sb	**Sg**	**23 28 07.2**	**-2.4**
	baz=158						
TUQ	**Turquoise Moun**	**4.35**	**136**	P	**Pn**	**23 26 57.9**	**+0.4**
	baz=318						
BLG	**Laguna Peak, P**	**4.54**	**174**	P	**Pn**	**23 27 01.1**	**+1.0**
	baz=354						
HEC	**Hector,Ludlow**	**4.62**	**144**	P	**Pn**	**23 27 01.8**	**+0.6**
	baz=326						
L02E	**Cave Junction**	**4.66**	**320**	P	Pb	23 27 06.6	-6.4
	baz=139						
BFSC	**Mount Baldy Ra**	**4.66**	**160**	P	**Pn**	**23 27 04.2**	**+2.4**
	baz=340						
HUMO	**Hull Mountain**	**4.72**	**328**	*e*Pn	**Pn**	**23 27 04.0**	**+1.5**
HUMO				*e*Sg	**Sg**	**23 28 20.9**	**-1.9**
J05D	**Fort Rock, OR**	**4.81**	**346**	Sb	**Sg**	**23 28 25.1**	**-0.6**
	baz=165						
BELC	**Belle Mtn. Jos**	**5.46**	**147**	P	**Pn**	**23 27 13.8**	**+0.9**
	baz=328						
DUG	**Dugway, Tooele**	**5.49**	**71**	*e*Pn	**Pn**	**23 27 14.1**	**+0.7**
DUG				*e*Pg	**Pg**	**23 27 35.7**	**-0.8**
DUG				*e*Sg	**Sg**	**23 28 44.3**	**-3.4**
DUG	**Dugway, Tooele**	**5.49**	**71**	P	**Pn**	**23 27 14.6**	**+1.3**
	baz=255						
PFO	**Pinyon Flats O**	**5.62**	**152**	*e*Pn	**Pn**	**23 27 14.5**	**-0.5**
PFO				*e*Pg	**Pb**	**23 27 32.2**	**+2.6**
PFO				*e*Sg	**Sg**	**23 28 45.3**	**-6.5**
PFO	**Pinyon Flats O**	**5.62**	**152**	P	**Pn**	**23 27 17.7**	**+2.6**
	baz=334						
XPFO	**Pion Flat**	**5.62**	**152**	*e*Pg	**Pb**	**23 27 32.2**	**+2.6**
HLID	**Hailey**	**6.30**	**37**	*e*Pn	**Pn**	**23 27 25.6**	**+1.2**
HLID				*e*Pg	**Pg**	**23 27 49.9**	**-2.1**
HLID				*e*Sg	**Sg**	**23 29 07.7**	**-5.9**
BMO	**Blue Mountains**	**6.45**	**15**	*e*Pn	**Pn**	**23 27 27.8**	**+1.4**
	9.6nm,0.8s						
BMO				*e*Sg	**Sg**	**23 29 14.7**	**-3.6**
HWUT	**Hardware Ranch**	**6.85**	**62**	*e*Pn	**Pn**	**23 27 33.0**	**+1.1**
HWUT				*e*Pg	**Pg**	**23 28 01.1**	**-1.3**
HWUT				*e*Sg	**Sg**	**23 29 26.8**	**-4.3**
WUAZ	**Wupatki**	**7.28**	**113**	*e*Pn	**Pn**	**23 27 36.8**	**-1.1**
	25nm,0.8s						
WUAZ				*e*Pg	**Pg**	**23 28 06.3**	**-4.5**
WUAZ				*e*Sg	**Sb**	**23 29 33.2**	**+8.3**
PDAR	**Pinedale Array**	**8.68**	**58**	Pn	Pn	23 28 01.4	+4.2
	0.6nm,0.3s,baz=212,slow=14,SNR=14						
PDAR				Lg	Lg	23 30 23.1	
	0.3nm,0.3s,baz=234,slow=29,SNR=4.5						
NEW	**Newport**	**9.80**	**10**	Pn	Pn	23 28 18.7	+6.4
	0.1nm,0.3s,baz=189,slow=11,SNR=3.2						
NEW				Lg	Lg	23 30 57.5	
	0.1nm,0.3s,baz=260,slow=12,SNR=1.9						
NEW				LR	LR	23 31 55.8	
	comp=Z,106nm,19.2s,baz=31,slow=37						
ANMO	**Albuquerque**	**11.17**	**105**	Pg	Pn	23 29 15.2	+44
	0.1nm,0.3s,baz=297,slow=9.2,SNR=3.7						
ANMO				Lg	Lg	23 31 42.6	
	0.1nm,0.3s,baz=94,slow=13,SNR=2.7						
ANMO				LR	LR	23 32 55.0	
	comp=Z,106nm,19.6s,baz=306,slow=38						
LTX	**Lajitas**	**16.14**	**120**	*e*Pn	**P**	**23 29 42.3**	**+0.7**
TXAR	**Lajitas Array**	**16.14**	**120**	Pn	**P**	**23 29 42.3**	**+0.7**
	0.0nm,0.3s,baz=305,slow=9.5,SNR=4.6						
TXAR				LR	LR	23 36 03.6	
	comp=Z,130nm,18.1s,baz=0.0,slow=38						
LPIG	**La Paz**	**16.50**	**149**	LR	LR	23 35 40.9	
	comp=Z,86nm,20.8s,baz=21,slow=36						
ULM	**Lac du Bonnet**	**20.45**	**48**	P	Pn	23 30 31.7	+0.8
	1.5nm,0.7s,baz=235,slow=12,SNR=3.7						
DLBC	**Dease Lake**	**20.94**	**345**	LR	LR	23 40 31.9	
	comp=Z,185nm,18.8s,baz=12,slow=42						
YKA	**Yellowknife Ar**	**24.09**	**6**	P	**P**	**23 31 10.4**	**+3.8**
	0.4nm,0.7s,baz=191,slow=9.1,SNR=7.8						
YKB5	**Yellowknife Ar**	**24.09**	**6**	*e*P	**P**	**23 31 10.4**	**+3.8**
ILAR	**Eielson Array**	**30.67**	**337**	P	P	23 32 10.9	+5.2
	0.4nm,0.8s,baz=150,slow=7.8,SNR=4.5						
ILB	**Eielson Array**	**30.67**	**337**	*e*P	P	23 32 10.9	+5.2
FRB	**Frobisher Bay**	**39.13**	**33**	P	P	23 33 23.0	+4.5
	2.8nm,0.8s,baz=239,slow=9.0,SNR=6.0						

*ISK **24** 23:58:54.7, 37.93N×37.97E, h5km, ML3.3/23*
*DDA **24** 23:58:55.5, 37.91N×37.96E, h7km, 3km, ML3.5*

ISC 24 23:58:56.8±1.1, 37°90'N±0'02×37°94'E±0'02, h6km±13km, n44, σ0s85/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKCD	**Akcadag**	**0.39**	**358**	*i* P	**Pg**	**23 59 03.6**	**-0.8**
AKCD				IAML_P			
	comp=Z,46µm,0.2s						
ATAB	**Bozova**	**0.52**	**147**	*i* P	**Pg**	**23 59 06.9**	**+0.1**
ATAB				*i* S	**Sg**	**23 59 13.6**	**+0.1**
GZT	**Gaziantep**	**0.62**	**209**	*i* P	**Pg**	**23 59 08.1**	**-0.7**
GZT				*i* S	**Sg**	**23 59 17.9**	**+0.9**
GZT				IAML_P			
	comp=Z,6µm,0.1s						
DARE	**Darende-Malaty**	**0.76**	**332**	PG	**Pg**	**23 59 10.3**	**-1.1**
DARE				SG	**Sg**	**23 59 21.0**	**-0.2**
ELBS	**KAHRAMANMARAS**	**0.76**	**304**	*i* P	**Pg**	**23 59 10.1**	**-1.4**
ELBS				*i* S	**Sg**	**23 59 22.0**	**+0.6**
ELBS				IAML_P			
	comp=Z,3µm,0.2s						
URFA	**Urfa**	**0.84**	**123**	PG	**Pg**	**23 59 11.8**	**-1.1**
KMRS	**Kahramanmaras**	**0.92**	**245**	PG	**Pg**	**23 59 13.6**	**-0.8**
GAZ	**Gaziantep**	**0.93**	**219**	PG	**Pg**	**23 59 14.0**	**-0.7**
CUGUR	**Gurin_SVAS**	**0.97**	**327**	*i* P	**Pb**	**23 59 16.1**	**-0.1**
CUGUR				*i* S	**Sb**	**23 59 29.2**	**-0.1**
SANL	**SANLIURFA_Merk**	**1.11**	**131**	*i* P	**Pg**	**23 59 17.4**	**-0.7**
SANL				IAML_P			
	comp=Z,3µm,0.1s						
SURC	**SANLIURFA_SURC**	**1.16**	**152**	*i* P	**Pg**	**23 59 18.9**	**-0.1**
SURC				IAML_P			
	comp=Z,368nm,0.1s						
ANDN	**Andirin**	**1.30**	**256**	*i* P	**Pn**	**23 59 20.5**	**-1.2**
KUZU	**Kuzuini**	**1.32**	**212**	*i* P	**Pn**	**23 59 21.5**	**-0.4**
KEMA	**Kemaliye**	**1.43**	**17**	*i* P	**Pn**	**23 59 21.9**	**-1.5**
KEMA				*i* S	**Sg**	**23 59 45.9**	**+3.1**
CUKAN	**kangal_SIVAS**	**1.46**	**345**	*i* P	**Pn**	**23 59 23.7**	**-0.1**
CUKAN				*i* S	**Sg**	**23 59 43.9**	**+0.2**
SAIM	**ADANA**	**1.47**	**273**	*i* P	**Pn**	**23 59 23.9**	**-0.1**
SAIM				IAML_P			
	comp=Z,3µm,0.2s						
PTK	**Pertek**	**1.51**	**49**	PN	**Pn**	**23 59 22.8**	**-1.8**
CUALT	**Altinyayla-SIV**	**1.65**	**326**	*i* P	**Pg**	**23 59 29.0**	**+0.5**
CUALT				*i* S	**Sg**	**23 59 51.5**	**+1.5**
DIYA	**Diyarbakir**	**1.73**	**89**	*i* P	**Pb**	**23 59 29.1**	**+0.2**
KOZT	**Kozan**	**1.73**	**256**	PN	**Pn**	**23 59 27.9**	**+0.4**
TNCL	**Tunceli-Merkez**	**1.74**	**46**	*i* P	**Pg**	**23 59 31.4**	**+1.2**
BNN	**Bunyan**	**1.90**	**301**	PN	**Pn**	**23 59 29.6**	**-0.3**
CEYT	**Ceyhan**	**1.96**	**244**	PN	**Pn**	**23 59 30.9**	**+0.3**
CUZAR	**Zara_SIVAS**	**1.99**	**356**	*i* P	**Pb**	**23 59 32.8**	**-0.7**
HANI	**Diyarbakir_Han**	**2.00**	**75**	*i* P	**Pn**	**23 59 30.7**	**-0.6**
CUSAR	**Sarkisla-SIVAS**	**2.01**	**319**	*i* P	**Pb**	**23 59 33.5**	**-0.4**
MAZI	**Mazidag**	**2.04**	**102**	PN	**Pn**	**23 59 31.5**	**-0.3**
TAHT	**Tahtakopru-Hat**	**2.07**	**223**	PN	**Pn**	**23 59 32.6**	**+0.4**
YURE	**YUREGIR**	**2.13**	**240**	PN	**Pn**	**23 59 33.4**	**+0.4**
SVSK	**Karacayir**	**2.14**	**340**	PN	**Pn**	**23 59 32.8**	**-0.3**
EUZM	**Uzumlu**	**2.26**	**37**	*i* P	**Pb**	**23 59 37.4**	**-0.8**
KARA	**Karaisali**	**2.38**	**255**	PN	**Pn**	**23 59 36.9**	**+0.5**
KRTS	**Karatas**	**2.44**	**238**	PN	**Pn**	**23 59 37.8**	**+0.6**
KELT	**Kelkit**	**2.46**	**24**	*i* P	**Pn**	**23 59 38.3**	**+0.5**
RSDY	**Resadiye-TOKAT**	**2.54**	**349**	PN	**Pn**	**23 59 38.6**	**0.0**
SVAN	**Silvan-Diyarba**	**2.58**	**84**	PN	**Pn**	**23 59 39.1**	**-0.2**
TOKT	**Tokat**	**2.65**	**336**	PN	**Pn**	**23 59 40.2**	**+0.1**
YOZ	**Yozgat**	**2.68**	**311**	PN	**Pn**	**23 59 40.7**	**0.0**
MERS	**Mersin**	**2.91**	**250**	PN	**Pn**	**23 59 44.7**	**+0.9**
BAYT	**Aydıntepe-Bayb**	**3.02**	**34**	PN	**Pn**	**23 59 45.0**	**-0.3**
ESPY	**Espiye-Giresun**	**3.07**	**11**	PN	**Pn**	**23 59 45.9**	**0.0**
GURO	**Guroymak-BITLI**	**3.29**	**77**	PN	**Pn**	**23 59 49.0**	**0.0**
YAYX	**Yaylak**	**3.40**	**289**	PN	**Pn**	**23 59 51.2**	**+0.6**
SULT	**Sultanhani-AKS**	**3.50**	**276**	PN	**Pn**	**23 59 52.7**	**+0.8**

*IDC **25** 00:41:13.8±2.6, 17°76N×93°67W, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.5/34, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=111.8km s-min=22.7km az=42.0*
*MEX **25** 00:41:22.6±0.4, 17°97N×93°20W, h24km±11km, MD4.1*
*NEIC **25** 00:41:22.7±0.0, 17°97N×93°20W, h20km, MD4.0(MEX), After MEX.*

ISC 25 00:41:16.8±1.6, 17°89N±0'05×93°24W±0'04, h14km±11km, n16, σ2s01/25, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUIG	**Tuzandepetl**	**1.14**	**278**	*i* P	**Pg**	**00 41 41.4**	**+2.7**
TUIG				*e*S	**Sb**	**00 41 49.5**	**-3.4**
TUIG	**Tuzandepetl**	**1.14**	**278**	*i* P	**Pg**	**00 41 41.0**	**+2.3**
TUIG				*i* S	**Sn**	**00 41 54.2**	**+0.5**
CMIG	**Matias Romero**	**1.76**	**243**	*e*P	**Pg**	**00 41 50.2**	**-0.4**
CMIG				*i* S	**Sb**	**00 42 11.7**	**+0.9**
CMIG	**Matias Romero**	**1.76**	**243**	*e*P	**Pg**	**00 41 50.2**	**-0.4**
CMIG				*i* S	**Sb**	**00 42 11.7**	**+0.9**
CCIG	**Comitan**	**1.91**	**146**	*e*P	**Pg**	**00 41 52.5**	**-1.1**
CCIG	**Comitan**	**1.91**	**146**	*e*P	**Pg**	**00 41 52.1**	**-1.5**
CCIG				*i* S	**Sb**	**00 42 15.3**	**-0.2**
PCIG		**2.17**	**179**	*e*P	**Pg**	**00 41 59.0**	**+0.5**
PCIG				*e*S	**Sb**	**00 42 25.5**	**+2.8**
PCIG		**2.17**	**179**	*i* P	**Pb**	**00 41 56.0**	**0.0**
PCIG				*i* S	**Sb**	**00 42 22.6**	**-0.1**
VHO	**Vista Hermosa**	**3.43**	**257**	*e*P	**Pb**	**00 42 14.1**	**-3.5**
VHO	**Vista Hermosa**	**3.43**	**257**	*e*P	**Pb**	**00 42 14.1**	**-3.5**
VHO				*i* S	**Sn**	**00 42 53.1**	**+2.3**
LVIG	**Laguna Verde**	**3.52**	**302**	*e*P	**Pb**	**00 42 19.0**	**+0.1**
APG	**El Apazote**	**3.91**	**137**	Pn	**Pn**	**00 42 17.8**	**+1.0**
	0.7nm,0.3s,baz=330,slow=14,SNR=3.7						
APG				Sn	**Sn**	**00 43 03.9**	**+1.3**
	6.2nm,0.3s,baz=68,slow=3.6,SNR=5.4						
TXAR	**Lajitas Array**	**14.86**	**322**	Pn	**Pn**	**00 44 47.4**	**+0.7**
	0.1nm,0.3s,baz=145,slow=15,SNR=4.1						
SDV	**Santo Domingo**	**23.72**	**109**	P	**P**	**00 46 31.6**	**+2.8**
	1.0nm,0.4s,baz=299,slow=10,SNR=4.0						
NVAR	**Mina Array Bea**	**29.95**	**318**	P	**P**	**00 47 22.5**	**-2.4**
	0.1nm,0.3s,baz=123,slow=8.3,SNR=1.7						
YKA	**Yellowknife Ar**	**46.99**	**347**	P	**P**	**00 49 46.2**	**-1.0**
	1.1nm,0.7s,baz=149,slow=7.6,SNR=19						

*ISCJB **25** 01:07:33.5±0.5, 6°87N±0'04×73°12W±0'04, h160km±4km, mb3.6/4, Error ellipse: s-maj=7.3km s-min=5.2km az=37.6*
*IDC **25** 01:07:33.7±0.8, 6°75N×72°96W, h162km±10km, mb3.4/4, mb1 3.8/6, mb1mx3.3/28, mbtmp4.0/6, Error ellipse: s-maj=31.1km s-min=7.9km az=131.0*
*RSNC **25** 01:07:35.3±1.0, 6°82N×73°13W, h151km±5km, ML3.7, Mw3.9*

ISC 25 01:07:34.5±0.8, 6°85N±0'04×73°12W±0'04, h153km±6km, n29, σ0s93/42, mb3.6/5, 1C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.26**	**194**	*e*P	**Pn**	**01 07 55.6**	**-0.1**
BARC				*e*S	**Sn**	**01 08 11.4**	**-0.4**
BARC				*i*		01 08 12.4	
	comp=Z,1µm,0.4s						
BRRC	**Barranca, Sant**	**0.64**	**294**	*e*P	**Pn**	**01 07 57.5**	**+0.4**
BRRC				*e*S	**Sn**	**01 08 14.8**	**+0.6**
BRRC				*i*		01 08 18.6	
	comp=Z,585nm,0.4s						
PAMC	**Pamplona, Colo**	**0.64**	**40**	*e*P	**Pn**	**01 07 58.4**	**+0.7**
PAMC				*e*S	**Sn**	**01 08 15.6**	**+0.4**
PAMC				*i*		01 08 17.9	
	comp=Z,986nm,0.5s						
RUSC	**La Rusia**	**0.95**	**178**	*e*P	**Pn**	**01 07 59.4**	**-0.4**
RUSC				*e*S	**Sn**	**01

PB01	**IPOC Station P**	**1.39**	**326**	⇑*i*P	Pn	01 43 49.9	-0.4
PB01				*i* S	Sn	01 44 09.4	-0.9
PB01				IAML		01 44 10.6	
	comp=E,1μm,0.2s						
PB04	**IPOC Station P**	**1.40**	**264**	⇑*i*P	Pn	01 43 50.3	-0.1
PB04				*i* S	Sn	01 44 10.4	-0.2
PB04				IAML		01 44 12.4	
	comp=E,879nm,0.2s						
PB05	**IPOC Station P**	**1.58**	**245**	⇑*i*P	Pn	01 43 52.3	-0.1
PB05				*i* S	Sn	01 44 13.7	-0.5
PB08	**IPOC Station P**	**2.10**	**347**	⇓*i*P	Pn	01 43 59.5	+0.4
PB08				*i* S	Sn	01 44 27.0	+1.0
PB08				IAML		01 44 29.2	
	comp=E,206nm,0.2s						
PB10	**IPOC Station P**	**2.19**	**233**	*e*P	Pn	01 43 59.7	-0.1
PB11	**IPOC Station P**	**2.60**	**339**	⇓*i*P	Pn	01 44 04.4	-0.9
PB11				*i* S	Sn	01 44 36.0	-1.0
GO02	**Mina Guanaco**	**3.08**	**196**	*e*P	Pn	01 44 11.9	+0.4
GO02				*e*S	Sn	01 44 48.9	+0.7

MEX 25 01:43:29.8±0.4, 16°38N×97°87W, h1km±3km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.25**	**274**	*e*P	Pg	01 43 34.2	-0.3
PNIG				*i* S	Sg	01 43 38.1	+0.4
VHO	**Vista Hermosa**	**1.29**	**57**	*e*P	Pg	01 43 51.8	-2.8
VHO				*i* S	Sg	01 44 08.5	-2.8
HUIG	**Huatulco**	**1.80**	**109**	*i* P	Pn	01 43 58.0	-3.9
HUIG				*i* S	Sn	01 44 20.4	-5.0

*ISCJB **25** 02:00:51.0±0.6, 18°.97N±0°.06×108°.38W±0°.04, h10km, mb4.1/44, MS3.7/6, Error ellipse: s-maj=9.2km s-min=5.7km az=10.2*
*MEX **25** 02:00:53.5±0.9, 19°.22N×108°.39W, h10km, MD4.0*
*IDC **25** 02:00:53.1±1.5, 19°.30N×108°.38W, h0km, mb3.7/8, mb1 4.1/11, mb1mx3.9/30, mbtmp3.8/11, ML4.0/3, MS3.7/8, Ms1 3.7/8, ms1mx3.3/38, Error ellipse: s-maj=50.0km s-min=18.5km az=60.0*
*NEIC **25** 02:00:54.3±0.6, 19°.12N×108°.41W, h10km, mb4.2/72, MD4.0(MEX), Error ellipse: s-maj=8.3km s-min=5.6km az=209.0*
ISC 25 02:00:53.3±0.8, 19°09N±0°.09×108°39W±0°.05, h10km, n111, σ1s39/108, mb4.2/43, MS3.7/6, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E		**2.41**	**263**	*e*P	**Pn**	**02 01 30.5**	**-2.3**
H06E				*e*S	**Sn**	**02 01 58.5**	**-4.0**
H06E1	**SOCORRO T-PHAS**	**2.42**	**263**	T	T	02 04 07.8	
	SNR=450						
H06S1	**SOCORRO T**	**2.46**	**262**	T	T	02 04 03.8	
	SNR=176						
H06N1	**SOCORRO T-PHAS**	**2.47**	**265**	T	T	02 04 02.9	
	SNR=22						
CJM	**Chamela**	**3.19**	**82**	*e*P	**Pn**	**02 01 40.6**	**-2.9**
CJM				*e*S	**Sn**	**02 02 15.0**	**-6.6**
CJM	**Chamela**	**3.19**	**82**	*e*P	**Pn**	**02 01 40.6**	**-2.9**
CJM				*i* S	**Sn**	**02 02 16.1**	**-5.6**
R15V		**4.17**	**88**	*i* P	**Pn**	**02 01 55.3**	**-1.8**
EZ5V		**4.54**	**84**	*e*P	**Pn**	**02 02 01.2**	**-1.2**
SLBS	**Sierra La Lagu**	**4.80**	**343**	*e*Pn	**Pn**	**02 02 04.1**	**-1.7**
LPIG	**La Paz**	**5.30**	**341**	Pn	**Pn**	**02 02 10.9**	**-1.6**
	13nm,0.3s,baz=276,slow=9.1,SNR=5.4						
LPIG				LR	LR	02 03 49.2	
	comp=Z,659nm,21.3s,baz=146,slow=34						
ZAIG	**Zacatecas**	**6.56**	**55**	*e*Pn	**Pn**	**02 02 30.7**	**+0.5**
HPIG		**8.21**	**17**	*e*Pn	**Pn**	**02 02 53.2**	**+0.5**
TX31	**Lajitas Ar. Si**	**11.07**	**22**	*e*Pn	**Pn**	**02 03 31.9**	**0.0**
TXAR	**Lajitas Array**	**11.07**	**22**	Pn	**Pn**	**02 03 31.5**	**-0.4**
	0.2nm,0.3s,baz=198,slow=14,SNR=35						
MNTX	**Cornudas Mount**	**12.85**	**12**	*e*Pn	**Pn**	**02 03 57.0**	**+0.9**
CMIG	**Matias Romero**	**13.00**	**97**	Pn	**Pn**	**02 03 59.9**	**+1.8**
	0.4nm,0.3s,baz=283,slow=8.6,SNR=5.7						
GLA	**Glamis**	**15.05**	**339**	*e*Pn	**Pn**	**02 04 26.7**	**+0.4**
	21nm,1.4s						
LENM	**Lemitar**	**15.07**	**5**	*e*Pn	**Pn**	**02 04 28.3**	**+1.7**
BNM	**Barren Site**	**15.09**	**6**	*e*Pn	**Pn**	**02 04 27.5**	**+0.7**
LAZ	**Ladron**	**15.30**	**4**	*e*Pn	**Pn**	**02 04 29.0**	**-0.6**
Y14A	**Wickenburg**	**15.35**	**345**	*e*Pn	**Pn**	**02 04 31.7**	**+1.5**
	13nm,1.4s						
X18A	**Snowflake**	**15.45**	**355**	*e*Pn	**Pn**	**02 04 32.5**	**+1.0**
	16nm,1.2s						
X16A	**Lo Mia Camp, P**	**15.51**	**351**	*e*Pn	**Pn**	**02 04 32.9**	**+0.5**
	20nm,1.5s						
Y12C	**Blythe**	**15.60**	**341**	*e*Pn	**Pn**	**02 04 34.6**	**+1.2**
	28nm,1.4s						
ABTX	**Abilene, Hawle**	**15.60**	**29**	*e*Pn	**Pn**	**02 04 34.0**	**+0.6**
	13nm,1.1s						
MSTX	**Muleshoe**	**15.65**	**18**	*e*Pn	**Pn**	**02 04 36.5**	**+2.4**
	7.3nm,0.6s						
ANMO	**Albuquerque**	**15.89**	**6**	Pn	**P**	**02 04 40.4**	**-0.7**
	0.1nm,0.3s,baz=193,slow=11,SNR=7.8						
ANMO				LR	LR	02 10 23.7	
	comp=Z,144nm,21.5s,baz=188,slow=36						
ANMO	**Albuquerque**	**15.89**	**6**	*e*Pn	**Pn**	**02 04 35.6**	**-1.7**
	6.0nm,1.1s						
WHTX	**Lake Whitney,**	**16.19**	**35**	*e*Pn	**P**	**02 04 43.3**	**-0.8**
	7.8nm,0.8s						
WUAZ	**Wupatki**	**16.58**	**351**	*e*Pn	**Pn**	**02 04 47.8**	**+1.7**
	24nm,1.4s						
W13A	**Hualapai Mount**	**16.68**	**344**	*e*Pn	**Pn**	**02 04 48.4**	**+1.0**
	16nm,1.5s						
LDFC	**Landfair**	**17.01**	**341**	*e*Pn	**P**	**02 04 53.4**	**+0.1**
	30nm,1.4s						
U15A	**North Rim**	**17.61**	**350**	*e*Pn	**P**	**02 05 01.1**	**+0.8**
	18nm,1.6s						
WMOK	**Wichita Mounta**	**17.77**	**27**	*e*Pn	**P**	**02 05 02.4**	**+0.7**
	15nm,1.5s						
GSC	**Goldstone, Bar**	**17.79**	**337**	*e*Pn	**P**	**02 05 02.9**	**+1.0**
	26nm,1.7s						
MVCO	**Mesa Verde**	**18.06**	**360**	*e*Pn	**P**	**02 05 05.5**	**+0.4**
	15nm,1.3s						
KNB	**Kanab**	**18.28**	**349**	*e*Pn	**P**	**02 05 08.3**	**+0.8**
	16nm,1.2s						
T25A	**Trinidad**	**18.32**	**10**	*e*P	**P**	**02 05 08.9**	**+0.9**
	22nm,1.7s						
SHPR	**Sheep Range**	**18.35**	**342**	*e*P	**P**	**02 05 09.3**	**+1.2**
	5.5nm,1.1s						
LCMT	**Little Creek M**	**18.36**	**348**	*e*P	**P**	**02 05 09.0**	**+0.7**
	9.9nm,1.6s						
PKCU	**Pink Cliffs**	**18.61**	**350**	*e*P	**Pn**	**02 05 13.0**	**+1.6**
	36nm,1.8s						
S22A	**4UR Ranch, Cre**	**18.64**	**4**	*e*P	**Pn**	**02 05 13.6**	**+1.8**
	29nm,2.0s						
SDCO	**Great Sand Dun**	**18.76**	**7**	*e*P	**P**	**02 05 12.3**	**-0.6**
	11nm,1.6s						
CCUT	**Cedar City**	**18.90**	**348**	*e*P	**Pn**	**02 05 15.5**	**+0.5**
	23nm,1.7s						
TPNV	**Topopah Spring**	**19.09**	**340**	*e*P	**P**	**02 05 17.0**	**+0.7**
	18nm,1.5s						
PV12	**Saucer Basin,**	**19.17**	**359**	*e*P	**P**	**02 05 18.1**	**+0.9**
	16nm,1.4s						
MTPU	**Mount Pierson**	**19.18**	**351**	*e*P	**Pn**	**02 05 18.6**	**+0.2**
	16nm,1.5s						
PV21	**Cone Mtn., Par**	**19.41**	**359**	*e*P	**P**	**02 05 19.9**	**-0.1**
	6.3nm,1.1s						
MSU	**Marysvale**	**19.64**	**351**	*e*P	**P**	**02 05 21.9**	**-0.5**
Q16A	**Castle Valley**	**19.91**	**354**	*e*P	**P**	**02 05 25.5**	**+0.2**
	20nm,1.7s						
PSUT	**Pine Spring**	**19.95**	**347**	*e*P	**P**	**02 05 26.5**	**+0.7**
	10nm,1.0s						
R11A	**Troy Canyon, C**	**20.19**	**343**	*e*P	**P**	**02 05 29.1**	**+0.7**
	7.0nm,1.2s						
P17A	**Butcher Ranch,**	**20.42**	**355**	*e*P	**P**	**02 05 31.5**	**+0.7**
	8.4nm,1.3s						
KSCO	**Kaye Shedlock'**	**20.47**	**13**	*e*P	**P**	**02 05 32.0**	**+0.6**
	22nm,1.3s						
OMMB	**Old Mammoth Mi**	**20.66**	**336**	*e*P	**P**	**02 05 34.5**	**+0.9**
	28nm,1.8s						
MDPB	**Devils Postpil**	**20.70**	**335**	*e*P	**P**	**02 05 34.7**	**+0.6**
	39nm,1.8s						
O20A	**White River Ci**	**20.98**	**0**	*e*P	**P**	**02 05 38.0**	**+1.1**
	17nm,1.2s						
NLU	**North Lily Min**	**21.04**	**352**	*e*P	**P**	**02 05 37.9**	**+0.3**
	10nm,1.4s						
CBKS	**Cedar Bluff**	**21.04**	**19**	*e*P	**P**	**02 05 36.8**	**-0.7**
	6.3nm,0.6s						
MPU	**Maple Canyon**	**21.05**	**353**	*e*P	**P**	**02 05 38.3**	**+0.7**
	10.0nm,1.4s						
NV01	**Mina Array Sit**	**21.11**	**338**	*e*P	**P**	**02 05 39.1**	**+0.7**
NVAR	**Mina Array Bea**	**21.11**	**338**	P	**P**	**02 05 38.2**	**-0.2**
	2.6nm,0.8s,baz=158,slow=7.6,SNR=13						
RYN	**Ryan**	**21.37**	**338**	*e*P	**P**	**02 05 41.9**	**+0.7**
	30nm,2.0s						
DUG	**Dugway, Tooele**	**21.38**	**351**	*e*P	**P**	**02 05 41.9**	**+0.7**
	22nm,1.4s						
W41B	**Gary Mavity, V**	**21.47**	**38**	*e*P	**P**	**02 05 42.3**	**+0.2**
	51nm,1.8s						
WHAR	**Woolly Hollow**	**21.53**	**38**	*e*P	**P**	**02 05 42.5**	**-0.2**
	11nm,1.0s						
CMB	**Columbia Colle**	**21.58**	**334**	*e*P	**P**	**02 05 44.7**	**+1.4**
	9.9nm,1.4s						
KVN	**Kaiserville**	**21.60**	**339**	*e*P	**P**	**02 05 44.3**	**+0.7**
	9.3nm,1.0s						
WAKR	**Walker**	**21.60**	**336**	*e*P	**P**	**02 05 44.7**	**+1.0**
	14nm,1.1s						
JLU	**Jordanelle**	**21.61**	**354**	*e*P	**P**	**02 05 44.0**	**+0.3**
	27nm,1.7s						
CTU	**Camp Tracy**	**21.73**	**353**	*e*P	**P**	**02 05 45.1**	**+0.2**
	9.8nm,1.3s						
N23A	**Red Feather La**	**21.84**	**5**	*e*P	**P**	**02 05 46.7**	**+0.5**
	20nm,1.5s						
YERR	**Yerington**	**21.95**	**337**	*e*P	**P**	**02 05 47.7**	**+0.4**
	26nm,1.5s						
TCUT	**Toone Canyon**	**22.11**	**354**	*e*P	**P**	**02 05 49.7**	**+0.6**
	20nm,1.1s						
BGU	**Big Grassy Mou**	**22.13**	**351**	*e*P	**P**	**02 05 49.6**	**+0.3**
	8.9nm,1.4s						
ELK	**Elko**	**22.37**	**346**	P	**P**	**02 05 51.2**	**-0.7**
	2.8nm,0.9s,baz=192,slow=7.8,SNR=9.1						
ELK				LR	LR	02 13 16.1	
	comp=Z,167nm,18.9s,baz=176,slow=34						
ELK	**Elko**	**22.37**	**346**	*e*P	**P**	**02 05 52.7**	**+0.8**
	9.6nm,1.4s						
VCNR	**Virginia City**	**22.37**	**337**	*e*P	**P**	**02 05 52.6**	**+0.6**
	12nm,1.1s						
SPUT	**South Promonto**	**22.42**	**352**	*e*P	**P**	**02 05 52.4**	**0.0**
	13nm,1.2s						
HWUT	**Hardware Ranch**	**22.61**	**354**	*e*P	**P**	**02 05 54.3**	**-0.1**
PAHR	**Pah Rah Range**	**22.64**	**338**	*e*P	**P**	**02 05 55.4**	**+0.7**
	13nm,1.3s						
HVU	**Hansel Valley**	**22.93**	**352**	*e*P	**P**	**02 05 58.7**	**+1.0**
	16nm,1.8s						
BEKR	**Beckworth**	**23.14**	**336**	*e*P	**P**	**02 06 00.7**	**+0.7**
	5.0nm,1.1s						
ORV	**Oroville**	**23.33**	**334**	*e*P	**P**	**02 06 03.2**	**+1.5**
	16nm,1.4s						
PDAR	**Pinedale Array**	**23.63**	**358**	P	**P**	**02 06 04.1**	**-0.8**
	0.6nm,0.8s,baz=145,slow=11,SNR=5.8						
PDAR				LR	LR	02 15 02.9	
	comp=Z,103nm,19.6s,baz=150,slow=36						
PDAR	**Pinedale Array**	**23.63**	**358**	*e*P	**P**	**02 06 05.5**	**+0.6**
REDW	**Red Top Meadow**	**24.29**	**356**	*e*P	**P**	**02 06 11.4**	**+0.3**
	13nm,1.4s						
TPAW	**Teton Pass**	**24.43**	**355**	*e*P	**P**	**02 06 13.6**	**+1.2**
	28nm,1.8s						
LOHW	**Long Hollow**	**24.52**	**356**	*e*P	**P**	**02 06 13.7**	**+0.4**
	10nm,1.3s						
FXWY	**Fox Creek**	**24.58**	**355**	*e*P	**P**	**02 06 13.9**	**+0.1**
	5.2nm,1.0s						
MOOW	**Moose Ponds**	**24.67**	**356**	*e*P	**P**	**02 06 15.2**	**+0.6**
	3.7nm,1.0s						
IMW	**Indian Meadow**	**24.83**	**356**	*e*P	**P**	**02 06 17.1**	**+1.0**
	5.7nm,1.2s						
WVOR	**Wild Horse Val**	**24.84**	**342**	*e*P	**P**	**02 06 16.1**	**+0.1**
	13nm,1.2s						
MOD	**Modoc Plateau**	**24.90**	**339**	*e*P	**P**	**02 06 17.3**	**+0.7**
	10nm,1.0s						
HLID	**Hailey**	**24.92**	**350**	*e*P	**P**	**02 06 17.0**	**+0.2**
	3.4nm,1.0s						
LKWY	**Lake**	**25.46**	**357**	*e*P	**P**	**02 06 22.1**	**+0.3**
	24nm,1.0s						
J08A	**Circle Bar Ran**	**25.65**	**343**	*e*P	**P**	**02 06 23.4**	**+0.1**
	5.0nm,0.8s						
HRY	**Holter Researc**	**27.70**	**355**	*e*P	**P**	**02 06 41.3**	**-0.4**
NEW	**Newport**	**29.96**	**348**	LR	LR	02 18 23.3	
	comp=Z,82nm,21.1s,baz=288,slow=35						
ULM	**Lac du Bonnet**	**32.66**	**15**	P	**P**	**02 07 24.9**	**-0.5**
	2.5nm,0.9s,baz=244,slow=6.8,SNR=3.8						
FCC	**Fort Churchill**	**40.98**	**11**	*e*P	**P**	**02 08 37.2**	**+1.1**
	3.9nm,1.0s						
YKA	**Yellowknife Ar**	**43.58**	**356**	P	**P**	**02 08 56.2**	**-1.1**
	0.4nm,0.8s,baz=167,slow=7.8,SNR=9.0						
YKA				PcP	**PcP**	**02 10 46.0**	**+1.3**
	0.2nm,0.8s,baz=163,slow=3.8,SNR=3.5						
INK	**Inuvik**	**51.68**	**348**	LR	LR	02 33 03.7	
	comp=Z,99nm,19.2s,baz=124,slow=38						
INK	**Inuvik**	**51.68**	**348**	*e*P	**P**	**02 09 59.7**	**-0.4**
	3.5nm,0.9s						
IL1	**Eielson Array**	**52.35**	**340**	*e*P	**P**	**02 10 04.6**	**-0.5**
ILAR	**Eielson Array**	**52.35**	**340**	P	**P**	**02 10 04.7**	**-0.5**
	1.6nm,0.8s,baz=155,slow=6.4,SNR=14						
LPAZ	**La Paz**	**52.95**	**129**	P	**P**	**02 10 13.1**	**+2.1**
	0.8nm,0.8s,baz=318,slow=5.7,SNR=3.5						
IM3	**Indian Mountai**	**55.35**	**339**	*e*P	**P**	**02 10 26.0**	**-1.2**
CPUP	**Villa Florida**	**67.05**	**131**	P	**P**	**02 11 49.3**	**+2.3**
	2.1nm,0.9s,baz=320,slow=6.4,SNR=2.3						
PLCA	**Paso Flores**	**69.13**	**150**	LR	LR	02 35 19.5	
	comp=Z,89nm,20.4s,baz=60,slow=30						
DAVOX	**Davos/Dischmat**	**94.11**	**37**	LR	LR	02 54 10.7	
	comp=Z,139nm,21.6s,baz=164,slow=34						

*IDC **25** 02:18:06.4±1.4, 65°.99N×137°.53E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.4/55, mbtmp3.7/5, ML6.4/1, Error ellipse: s-maj=30.3km s-min=20.0km az=83.0*
*YARS **25** 02:18:07.6±0.2, 65°.96N±0°.01×137°.59E±0°.03, h13km±5km*
ISC 25 02:18:07.0±0.7, 65°90N±0°.04×137°50E±0°.03, h10km, n16, σ2s36/27, mb3.4/4, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTGS	**Batagay**	**2.10**	**329**	*e*P	**Pn**	**02 18 42.5**	**+0.4**
BTGS				*e*P	**Pb**	**02 18 45.4**	**+0.3**
BTGS				Pmax		02 18 45.4	
	comp=Z,600nm,0.2s						
BTGS				*e*S	**Sg**	**02 19 11.9**	**-2.4**
BTGS				Smax		02 19 11.9	
	comp=N,825nm,0.3s						
MOMR	**Moma**	**2.39**	**74**	*e*P	**Pn**	**02 18 46.5**	**+0.3**
MOMR				*e*P	**Pb**	**02 18 49.7**	**-0.4**
MOMR				Pmax		02 18 49.7	
	comp=Z,204nm,0.5s						
MOMR				*e*S	**Sn**	**02 19 14.5**	**-1.0**
MOMR				*e*S	**Sb**	**02 19 20.4**	**+0.8**
MOMR				Smax		02 19 20.4	
	comp=E,552nm,0.4s						
ATKR	**Artyk**	**3.67**	**115**	*e*P	**Pn**	**02 19 04.5**	**+0.7**
ATKR				*e*P	**Pb**	**02 19 13.4**	**+1.5**
ATKR				Pmax		02 19 13.4	
	comp=Z,89nm,0.5s						
ATKR				*e*S	**Sn**	**02 19 45.5**	**-1.5**
ATKR				*e*S	**Sg**	**02 20 01.5**	**-3.1**
ATKR				Smax		02 20 01.5	
	comp=N,1μm,0.9s						
YBGR	**Belaya Gora**	**4.29**	**48**	*e*P	**Pn**	**02 19 12.1**	**-0.2**
YBGR				*e*P	**Pb**	**02 19 22.5**	**0.0**
YBGR				Pmax		02 19 22.5	
	comp=Z,33nm,0.5s						
YBGR				*e*S	**Sb**	**02 20 17.1**	**+2.9**
YBGR				Smax		02 20 17.1	
	comp=N,286nm,1.3s						
YAK	**Yakutsk**	**5.18**	**225**	*e*P	**Pb**	**02 19 41.6**	**+3.9**
YAK				*e*S	**Sg**	**02 20 50.1**	**-3.2**
YAK				Smax		02 20 50.1	
	comp=E,175nm,0.5s						
TBGR	**Tabaga**	**5.37**	**224**	*e*P	**Pn**	**02 19 29.5**	**+2.5**
TBGR				*e*S	**Sg**	**02 20 55.2**	**-3.8**
TBGR				Smax		02 20 55.2	
	comp=N,381nm,0.6s						
USMR	**Ust'-Maya**	**5.66**	**195**	*e*P	**Pn**	**02 19 33.2**	**+2.2**
USMR				*e*S	**Sg**	**02 21 06.9**	**-1.5**
USMR				Smax		02 21 06.9	
	comp=E,124nm,0.7s						
TIXI	**Tiksi**	**6.57**	**335**	Pn	**Pn**	**02 19 43.3**	**-0.1**
	comp=E,3.3nm,0.3s,baz=145,slow=15,SNR=64						
TIXI				Sn	**Sn**	**02 20 55.7**	**-2.6**
	comp=E,3.7nm,0.3s,baz=272,slow=16,SNR=4.0						
TIXI				Lg	Lg	02 21 29.5	
	comp=E,2.9nm,0.3s,baz=83,slow=18,SNR=4.6						
CGD	**Chagda**	**7.85**	**207**	*e*S	Sg	02 22 11.5	-7.1
CGD				Smax		02 22 11.5	
	comp=E,178nm,1.1s						
YVAM	**Verhnyaya Amga**	**7.87**	**222**	*e*S	**Sg**	**02 22 13.1**	**-6.1**
MA2	**Magadan**	**8.78**	**130**	Lg	Lg	02 22 42.9	
	comp=E,1.4nm,0.3s,baz=15,slow=20,SNR=8.0						
ALDR	**Aldan**	**9.21**	**223**	*e*S	Sn	02 22 54.9	+51
ALDR				Smax		02 22 54.9	
	comp=E,24nm,0.7s						
USRK	**Ussuriysk Ar.**	**21.95**	**191**	P	**P**	**02 23 00.9**	**+0.4**
	comp=E,0.8nm,0.5s,baz=2.6,slow=12,SNR=3.6						
SONM	**Songino Array**	**24.40**	**237**	P	**P**	**02 23 27.6**	**+2.2**
	comp=E,0.8nm,0.7s,baz=31,slow=10,SNR=6.2						
ILAR	**Eielson Array**	**29.83**	**57**	P	**P**	**02 24 14.2**	**+0.5**
	comp=E,0.4nm,0.8s,baz=312,slow=9.5,SNR=5.4						
FINES	**FINESS Array B**	**43.32**	**319**	P	**P**	**02 26 08.6**	**+0.2**
	comp=E,2.3nm,0.9s,baz=49,slow=9.4,SNR=3.8						

*NEIC **25** 02:24:48.9±1.2, 18°.97N×108°.42W, h10km, mb4.1/42, Error ellipse: s-maj=16.6km s-min=9.3km az=166.0*
*IDC **25** 02:24:49.3±2.9, 19°.26N×108°.36W, h0km, mb3.4/7, mb1 3.8/10, mb1mx3.7/42, mbtmp3.6/10, ML3.5/3, MS3.4/9, Ms1 3.4/9, ms1mx3.3/23, Error ellipse: s-maj=58.2km s-min=35.7km az=37.0*
*ISCJB **25** 02:24:51.2±1.2, 19°.1N±0°.1×108°.36W±0°.09, h33km, mb4.0/29, MS3.5/4, Error ellipse: s-maj=17.3km s-min=11.0km az=18.9*
ISC 25 02:24:53.6±1.9, 19°2N±0°2×108°4W±0°2, h35km, n64, σ0s82/60, mb4.1/27, MS3.5/4, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	**2.41**	**261**	T	T	02 28 04.4	
	SNR=366						
H06S1	**SOCORRO T**	**2.45**	**260**	T	T	02 27 56.4	
	SNR=91						
H06N1	**SOCORRO T-PHAS**	**2.45**	**263**	T	T	02 27 54.5	
	SNR=32						
SLBS	**Sierra La Lagu**	**4.71**	**343**	*e*Pn	**Pn**	**02 26 00.4**	**-1.9**
LPIG	**La Paz**	**5.21**	**341**	Pn	**Pn**	**02 26 07.6**	**-1.5**
	5.6nm,0.3s,baz=164,slow=14,SNR=4.1						
LPIG				LR	LR	02 27 45.0	
	comp=Z,447nm,21.0s,baz=158,slow=34						
TX31	**Lajitas Ar. Si**	**11.00**	**22**	*e*Pn	**Pn**	**02 27 28.8**	**+0.2**
TXAR	**Lajitas Array**	**11.00**	**22**	Pn	**Pn**	**02 27 27.4**	**-1.2**
	0.1nm,0.3s,baz=197,slow=14,SNR=12						
TXAR				LR	LR	02 31 12.3	
	comp=Z,109nm,19.4s,baz=0.0,slow=35						
CMIG	**Matias Romero**	**13.03**	**97**	Pn	**Pn**	**02 27 56.0**	**-0.4**
	0.2nm,0.3s,baz=286,slow=15,SNR=2.3						
CMIG				LR	LR	02 32 35.3	
	comp=Z,106nm,19.1s,baz=276,slow=36						
GLA	**Glamis**	**14.96**	**339**	*e*Pn	**Pn**	**02 28 23.6**	**+0.9**
	7.1nm,1.0s						
Y14A	**Wickenburg**	**15.26**	**345**	*e*Pn	**Pn**	**02 28 27.2**	**+0.6**
	11nm,1.4s						
X18A	**Snowflake**	**15.36**	**355**	*e*Pn	**Pn**	**02 28 28.4**	**+0.5**
	13nm,1.4s						
X16A	**Lo Mia Camp, P**	**15.42**	**351**	*e*Pn	**Pn**	**02 28 29.3**	**+0.5**
	6.2nm,1.2s						
MSTX	**Muleshoe**	**15.57**	**18**	*e*Pn	**Pn**	**02 28 31.0**	**+0.3**
	20nm,1.6s						
ANMO	**Albuquerque**	**15.80**	**6**	Pn	**Pn**	**02 28 35.3**	**+1.6**
	0.1nm,0.3s,baz=222,slow=11,SNR=2.4						
ANMO				LR	LR	02 34 27.3	
	comp=Z,165nm,18.0s,baz=184,slow=37						
ANMO	**Albuquerque**	**15.80**	**6**	*e*Pn	**Pn**	**02 28 33.7**	**-0.1**
	4.7nm,1.3s						
W18A	**Petrified Fore**	**15.93**	**356**	*e*Pn	**Pn**	**02 28 36.5**	**+1.2**
	7.3nm,1.1s						
WUAZ	**Wupatki**	**16.49**	**351**	*e*Pn	**Pn**	**02 28 43.2**	**+0.8**
	15nm,1.4s						
W13A	**Hualapai Mount**	**16.59**	**344**	*e*Pn	**Pn**	**02 28 44.1**	**+0.3**
AMTX	**Amarillo**	**16.75**	**20**	*e*Pn	**Pn**	**02 28 46.2**	**+0.6**
LDFC	**Landfair**	**16.92**	**341**	*e*Pn	**Pn**	**02 28 48.4**	**+0.7**
	14nm,1.3s						
APG	**El Apazote**	**17.65**	**101**	LR	LR	02 34 39.3	
	comp=Z,133nm,21.1s,baz=75,slow=34						
WMOK	**Wichita Mounta**	**17.70**	**27**	*e*Pn	**Pn**	**02 28 58.3**	**+0.8**
	4.8nm,1.2s						
MVCO	**Mesa Verde**	**17.97**	**360**	*e*Pn	**P**	**02 29 02.4**	**+1.1**
	9.3nm,1.2s						
KNB	**Kanab**	**18.19**	**349**	*e*Pn	**Pn**	**02 29 04.1**	**+0.5**
	15nm,1.6s						
SDCO	**Great Sand Dun**	**18.68**	**7**	*e*P	**P**	**02 29 09.6**	**+0.5**
	1.5nm,0.9s						
CCUT	**Cedar City**	**18.81**	**348**	*e*P	**Pn**	**02 29 12.1**	**+0.9**
	5.5nm,1.3s						
PSUT	**Pine Spring**	**19.86**	**347**	*e*P	**P**	**02 29 22.9**	**+1.0**
	7.6nm,1.1s						
R11A	**Troy Canyon, C**	**20.10**	**343**	*e*P	**P**	**02 29 24.9**	**+0.4**
	12nm,1.4s						
OMMB	**Old Mammoth Mi**	**20.57**	**335**	*e*P	**P**	**02 29 29.8**	**0.0**
	27nm,1.7s						
MDPB	**Devils Postpil**	**20.62**	**335**	*e*P	**P**	**02 29 31.1**	**+0.9**
	17nm,1.5s						
MPU	**Maple Canyon**	**20.95**	**353**	*e*P	**P**	**02 29 34.3**	**+0.5**
	4.9nm,1.1s	

*IDC **25** 02:33:27.4±5.0, 12°.65S×166°.91E, h258km±54km, mb3.6/10, mb1 3.8/11, mb1mx3.6/31, mbtmp4.1/11, Error ellipse: s-maj=40.6km s-min=19.4km az=154.0*
ISC 25 02:33:22.7±0.8, 12.76S±0.09×167.2E±0.2, h220km, n12, σ0.98/14, mb3.9/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.29**	**184**	P	**P**	**02 35 39.1**	**-1.7**
	0.9nm,0.3s,baz=315,slow=14,SNR=7.9						
DZM				S	**S**	02 37 18.3	+1.2
	0.1nm,0.3s,baz=0.0,slow=20,SNR=1.6						
CTA	**Charters Tower**	**21.32**	**247**	P	**P**	**02 37 52.9**	**+0.1**
	4.5nm,0.4s,baz=82,slow=12,SNR=7.4						
STKA	**Stephens Creek**	**30.22**	**227**	P	**P**	**02 39 14.1**	**+1.3**
	1.2nm,0.3s,baz=36,slow=11,SNR=5.3						
WRA	**Warramunga Arr**	**32.25**	**253**	P	**P**	**02 39 29.6**	**-1.3**
	0.8nm,0.5s,baz=83,slow=8.9,SNR=14						
ASAR	**Alice Springs**	**33.31**	**246**	P	**P**	**02 39 39.4**	**-0.6**
	1.3nm,0.5s,baz=74,slow=9.6,SNR=16						
PETK	**Petropavlovsk-**	**66.10**	**354**	P	**P**	**02 43 46.1**	**+0.1**
	2.2nm,0.7s,baz=184,slow=5.8,SNR=2.8						
CMAR	**Chiang Mai Arr**	**74.06**	**294**	P	**P**	**02 44 35.6**	**+0.6**
	0.9nm,0.3s,baz=108,slow=5.8,SNR=2.9						
SONM	**Songino Array**	**80.86**	**323**	P	**P**	**02 45 12.0**	**-0.2**
	0.3nm,0.4s,baz=134,slow=5.8,SNR=4.7						
ILAR	**Eielson Array**	**84.70**	**18**	P	**P**	**02 45 31.0**	**-0.4**
	3.7nm,0.6s,baz=247,slow=5.0,SNR=59						
TXAR	**Lajitas Array**	**95.44**	**61**	P	**P**	**02 46 23.7**	**+0.9**
	0.3nm,0.8s,baz=228,slow=5.3,SNR=3.8						
YKA	**Yellowknife Ar**	**95.86**	**27**	P	**P**	**02 46 23.0**	**-0.7**
	0.3nm,0.5s,baz=258,slow=4.6,SNR=13						
ESDC	**Sonseca Array**	**152.06**	**345**	PKPbc	**PKPbc**	**02 52 52.7**	**+0.5**
	0.4nm,0.6s,baz=7.0,slow=2.1,SNR=2.9						
ESDC				PKPab	**PKPab**	**02 53 03.1**	**+0.6**
	1.6nm,0.8s,baz=12,slow=5.5,SNR=7.5						

*IDC **25** 02:42:47.9±0.7, 27°.20N×65°.51E, h0km, mb4.0/22, mb1 4.1/24, mb1mx4.0/47, mbtmp4.0/24, ML4.1/2, MS3.1/2, Ms1 3.1/2, ms1mx2.7/35, Error ellipse: s-maj=19.2km s-min=13.3km az=17.0*
*NEIC **25** 02:42:48.2±3.0, 27°.17N×65°.54E, h5km±18km, mb4.3/11, Error ellipse: s-maj=9.2km s-min=5.7km az=156.0*
*ISCJB **25** 02:42:49.2±0.3, 27°.07N±0°.04×65°.65E±0°.03, h33km, mb4.1/33, MS3.0/1, Error ellipse: s-maj=5.4km s-min=3.3km az=163.3*
ISC 25 02:42:52.2±0.5, 27.16N±0.06×65.69E±0.05, h35km, n93, σ1.987/100, mb4.0/33, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHJ	**Bhuj**	**5.29**	**136**	*e*P	**Pn**	**02 44 09.3**	**+0.6**
BHJ				*e*S	**Sn**	**02 45 09.0**	**+0.5**
WSAR	**Wadi Sarin**	**7.49**	**240**	Pn	**Pn**	**02 44 35.8**	**-3.2**
	3.7nm,0.3s,baz=115,slow=7.7,SNR=30						
WSAR				Sn	Sn	02 45 51.8	-11
	5.8nm,0.3s,baz=190,slow=19,SNR=7.8						
WSAR				LR	LR	02 48 28.1	
	comp=Z,142nm,18.9s,baz=85,slow=46						
THW	**Thamme Wali**	**7.69**	**42**	P	**Pn**	**02 44 41.9**	**+0.2**
THW				S	**Sn**	**02 46 09.0**	**+1.5**
KBL	**Kabul**	**7.90**	**21**	*e*Pn	**Pn**	**02 44 45.9**	**+1.1**
BANOM	**Banah**	**8.50**	**264**	P	**Pn**	**02 44 50.5**	**-2.3**
CEP	**Cherat**	**8.54**	**37**	P	**Pn**	**02 44 52.8**	**-0.6**
SHME	**Shamm**	**8.62**	**265**	*i* P	**Pn**	**02 44 52.6**	**-1.9**
	SNR=6.9						
MDH	**Madha**	**8.63**	**260**	*i* P	**Pn**	**02 44 52.2**	**-2.5**
	SNR=7.2						
MSFE	**Esma-Masafi**	**8.74**	**260**	P	**Pn**	**02 44 54.3**	**-1.9**
UOSS	**Minazif**	**8.81**	**258**	*e*Pn	**Pn**	**02 44 54.6**	**-2.5**
HATD	**Hatta, Dubai**	**8.91**	**257**	*i* P	**Pn**	**02 44 57.7**	**-0.7**
	SNR=8.1						
ASHO	**Ashiyiah**	**9.01**	**256**	*i* P	**Pn**	**02 44 59.1**	**-0.8**
	SNR=27						
NIL	**Nilore**	**9.19**	**43**	*e*Pn	**Pn**	**02 45 02.0**	**-0.2**
CHCP	**Chirah Chowk**	**9.20**	**43**	P	**Pn**	**02 45 02.6**	**+0.1**
NAZ	**Nazwa, Dubai**	**9.27**	**259**	*i* P	**Pn**	**02 45 03.4**	**-0.1**
	SNR=14						
FAQ	**Al Faqa, Dubai**	**9.40**	**257**	*i* P	**Pn**	**02 45 04.5**	**-0.6**
	SNR=8.7						
ALNE	**Al Ain**	**9.49**	**253**	*i* P	**Pn**	**02 45 06.8**	**+0.4**
	SNR=12						
ASUD	**Al Ashush, Dub**	**9.66**	**257**	P	**Pn**	**02 45 07.7**	**-1.1**
DHRM	**DHARAMSHALA**	**10.53**	**59**	*e*P	**Pn**	**02 45 21.5**	**+0.7**
DHRM				*e*S	**Sn**	**02 47 11.5**	**-6.0**
DHRM				IAML		02 47 32.2	
	comp=E,47nm,0.3s						
DHRM				IAML		02 47 32.5	
	comp=N,56nm,0.1s						
SMLA	**Simla**	**10.78**	**66**	*e*P	**Pn**	**02 45 25.1**	**+1.0**
SMLA				*e*S	**Sn**	**02 47 16.0**	**-7.5**
BHPL	**Bhopal**	**11.32**	**108**	*e*P	**Pn**	**02 45 31.2**	**-0.3**
BHPL				*e*S	**Sn**	**02 47 30.4**	**-6.4**
CHGR	**Chuyangaron**	**11.83**	**13**	*e*Pn	**Pn**	**02 45 39.5**	**+1.1**
GAR	**Garm**	**12.43**	**17**	*e*Pn	**Pn**	**02 45 46.9**	**+0.3**
JOSI	**Joshimath**	**12.62**	**71**	*e*P	**Pn**	**02 45 49.1**	**-0.3**
JOSI				*e*S	**Sn**	**02 48 03.8**	**-5.0**
JOSI				IAML		02 48 15.1	
	comp=E,29nm,0.6s						
JOSI				IAML		02 48 15.7	
	comp=N,41nm,0.2s						
HYB	**Hyderabad**	**15.34**	**127**	*e*P	**Pn**	**02 46 27.8**	**+1.6**
PYUN	**Piuthan**	**15.37**	**83**	*e*P	**Pn**	**02 46 24.2**	**-2.4**
KOLN	**Koldanda**	**15.91**	**84**	*e*P	**Pn**	**02 46 31.6**	**-2.1**
DANN	**Dangsing**	**16.04**	**82**	*e*P	**Pn**	**02 46 33.2**	**-2.3**
AML	**Almayashu**	**16.31**	**22**	P	**Pn**	**02 46 39.0**	**+0.1**
	SNR=10						
KK31	**Karatay Array**	**16.38**	**13**	*e*Pn	**Pn**	**02 46 39.2**	**-0.2**
KKAR	**Karatay Array**	**16.38**	**13**	*e*Pn	**Pn**	**02 46 39.4**	**-0.1**
NRN	**Naryn**	**16.57**	**28**	*e*Pn	**Pn**	**02 46 39.7**	**-2.4**
	comp=N,9.7nm,0.9s						
UCH	**Uchtor**	**16.68**	**23**	P	**Pn**	**02 46 42.5**	**-1.0**
	SNR=9.3						
EKS2	**Erkin-Say**	**16.81**	**21**	P	**Pn**	**02 46 44.4**	**-0.6**
	SNR=6.9						
KZA	**Kyzart**	**16.82**	**25**	P	**Pn**	**02 46 45.5**	**+0.2**
	SNR=22						
AAK	**Ala-Archa**	**17.03**	**23**	P	**Pn**	**02 46 47.3**	**-0.4**
	comp=N,0.4nm,0.3s,baz=221,slow=9.3,SNR=12						
AAK	**Ala-Archa**	**17.03**	**23**	*e*Pn	**Pn**	**02 46 47.5**	**-0.2**
	comp=N,5.2nm,0.8s						
KBK	**Karagaybulak**	**17.21**	**24**	P	**P**	**02 46 54.0**	**+2.8**
	SNR=6.3						
PKI	**Pulchoki**	**17.52**	**84**	*e*P	**Pn**	**02 46 52.5**	**-1.6**
	comp=N,12nm,0.7s						
TKM2	**Tokmak 2**	**17.67**	**25**	P	**Pn**	**02 46 55.1**	**-0.6**
	SNR=9.7						
GUN	**Gumba**	**17.92**	**83**	*e*P	**Pn**	**02 46 56.8**	**-2.3**
JIRN	**Jiri**	**18.21**	**84**	*e*P	**Pn**	**02 47 01.2**	**-1.4**
RAYN	**Ar Rayn**	**18.60**	**263**	*e*P	**P**	**02 47 02.8**	**-3.8**
	comp=N,20nm,1.9s						
RAYN	**Ar Rayn**	**18.60**	**263**	*i* P	**P**	**02 47 04.1**	**-2.5**
	SNR=6.3						
RAMN	**Ramite**	**18.63**	**86**	*e*P	**P**	**02 47 05.5**	**-1.6**
GNI	**Garni**	**21.66**	**312**	P	**P**	**02 47 39.3**	**-0.5**
	comp=N,3.0nm,0.7s,baz=180,slow=9.1,SNR=2.2						
GNI	**Garni**	**21.66**	**312**	*e*P	**P**	**02 47 38.6**	**-1.2**
	comp=N,11nm,0.9s						
TBLG	**Delisi**	**22.50**	**316**	*e*P	**P**	**02 47 49.0**	**+0.3**
	comp=N,14nm,0.9s						
ABKAR	**Akbulak array**	**22.50**	**350**	*e*P	**P**	**02 47 48.9**	**+0.3**
MAKZ	**Makanchi**	**23.45**	**29**	*e*P	**P**	**02 47 58.8**	**+0.5**
	comp=N,14nm,1.1s						
MK01	**Makanchi Array**	**23.56**	**29**	*e*P	**P**	**02 47 59.3**	**-0.1**
MK31	**Makanchi Array**	**23.57**	**29**	*e*P	**P**	**02 47 59.2**	**-0.3**
WMQ	**Urumqi**	**24.33**	**41**	*e*P	**P**	**02 48 05.7**	**-0.9**
KBZ	**Khabaz**	**24.74**	**318**	P	**P**	**02 48 10.9**	**+0.6**
	comp=N,6.5nm,0.8s,baz=138,slow=9.4,SNR=11						
KIV	**Kislovodsk**	**24.99**	**318**	*e*P	**P**	**02 48 11.9**	**-0.8**
	comp=N,14nm,0.9s						
KURBB	**Kurchatov Arra**	**25.40**	**19**	P	**P**	**02 48 17.4**	**+1.2**
	comp=N,3.0nm,0.8s,baz=210,slow=9.0,SNR=16						
KURK	**Kurchatov**	**25.51**	**19**	*e*P	**P**	**02 48 18.2**	**+1.1**
BRVK	**Borovoye**	**26.10**	**6**	*e*P	**P**	**02 48 23.1**	**+0.7**
	comp=N,8.8nm,1.0s						
MMAI	**Mount Meron Ar**	**26.79**	**290**	P	**P**	**02 48 30.0**	**+0.9**
	comp=N,2.7nm,1.0s,baz=81,slow=8.9,SNR=2.8						
EIL	**Elat**	**27.11**	**283**	P	**P**	**02 48 32.4**	**+0.4**
	comp=N,1.8nm,0.7s,baz=104,slow=8.3,SNR=2.6						
BRTR	**Keskin Array B**	**29.37**	**303**	P	**P**	**02 48 51.7**	**-0.4**
	comp=N,0.7nm,0.8s,baz=111,slow=9.8,SNR=5.4						
ZALV	**Zalesovo Beam**	**30.25**	**23**	P	**P**	**02 49 00.3**	**+0.8**
	comp=N,1.3nm,0.6s,baz=224,slow=11,SNR=5.8						
ZALV				LR	LR	03 02 31.9	
	comp=N,41nm,21.5s,baz=64,slow=39						
ZALV	**Zalesovo Beam**	**30.25**	**23**	*e*P	**P**	**02 49 00.5**	**+0.9**
GTA	**Gaotai**	**30.85**	**58**	*e*P	**P**	**02 49 07.5**	**+2.3**
GTA				pP	pP	02 49 12.1	-3.6
GTA				sP	sP	02 49 15.5	-4.6
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**31.78**	**99**	P	**P**	**02 49 16.3**	**+2.9**
	comp=Z,0.7nm,0.4s,baz=292,slow=9.5,SNR=2.1						
AKASG	**Malin Array Be**	**36.29**	**320**	P	**P**	**02 49 51.4**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=113,slow=7.6,SNR=4.6						
KIEV	**Kiev**	**36.29**	**320**	*e*P	**P**	**02 49 51.6**	**-0.6**
	comp=Z,2.5nm,0.5s						
BUR04	**Bucovina Ar. S**	**37.55**	**314**	*e*P	**P**	**02 50 01.8**	**-1.3**
BUR08	**Bucovina Ar. S**	**37.56**	**314**	*e*P	**P**	**02 50 02.5**	**-0.7**
SONM	**Songino Array**	**37.76**	**46**	P	**P**	**02 50 07.0**	**+2.1**
	comp=Z,1.2nm,0.8s,baz=251,slow=8.0,SNR=7.1						
SONM				PP	**PnPn**	**02 51 34.5**	**+1.8**
	comp=Z,1.3nm,1.1s,baz=254,slow=11,SNR=4.2						
ULN	**Ulaanbaatar**	**38.19**	**46**	*e*P	**P**	**02 50 07.7**	**-0.9**
	comp=Z,1.4nm,0.6s						
KWP	**Kalwaria Pacla**	**39.76**	**316**	*e*P	**P**	**02 50 21.3**	**-0.2**
	comp=Z,81nm,1.0s						
HHC	**Hu-ho-hao-te**	**39.97**	**58**	*e*P	**P**	**02 50 21.9**	**-1.6**
HHC				pmax	pmax		
	comp=Z,18nm,0.9s						
HHC				pmax	pmax		
	comp=Z,250nm,5.1s						
PSI	**Prapat**	**39.97**	**122**	P	**P**	**02 50 26.7**	**+3.0**
	comp=Z,4.0nm,0.6s,baz=0.0,slow=6.5,SNR=4.7						
FINES	**FINESS Array B**	**43.28**	**333**	P	**P**	**02 50 49.9**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=134,slow=11,SNR=7.4						
GERES	**GERESS Array B**	**45.30**	**313**	P	**P**	**02 51 06.0**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=95,slow=8.0,SNR=7.2						
BRG	**Berggiesshubel**	**45.51**	**316**	*e*P	**P**	**02 51 09.0**	**+0.9**
	comp=Z,3.9nm,0.8s						
CLL	**Collm**	**46.17**	**316**	*e*P	**P**	**02 51 14.0**	**+0.7**
CLL				LmH		06 24 00.0	
	comp=N,200nm,20.9s						
CLL				LmH		06 24 00.0	
	comp=E,300nm,21.7s						
ARCES	**ARCESS Array B**	**48.36**	**342**	P	**P**	**02 51 30.2**	**+0.1**
	comp=E,7.1nm,0.9s,baz=140,slow=7.7,SNR=14						
NB2	**NORSAR Subarra**	**49.56**	**329**	P	**P**	**02 51 38.9**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=109,slow=7.4						
NOA	**NORSAR Array B**	**49.56**	**329**	P	**P**	**02 51 38.6**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=109,slow=7.5,SNR=6.9						
KSAR	**Wonju Array Be**	**52.72**	**62**	P	**P**	**02 52 04.8**	**+1.3**
KSRS	**Korea Array**	**52.75**	**62**	P	**P**	**02 52 04.8**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=269,slow=8.0,SNR=3.2						
EKA	**Eskdalemuir Ar**	**56.20**	**320**	P	**P**	**02 52 28.0**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=113,slow=8.2,SNR=4.7						
TOA0	**Torodi Ar. Sit**	**61.11**	**270**	*e*P	**P**	**02 53 01.1**	**-2.1**
TORD	**Torodi Ar. Bea**	**61.11**	**270**	P	**P**	**02 53 02.3**	**-1.0**
	comp=Z,1.9nm,0.9s,baz=43,slow=7.5,SNR=12						
WRA	**Warramunga Arr**	**81.30**	**118**	P	**P**	**02 55 07.3**	**+2.0**
	comp=Z,0.6nm,0.9s,baz=315,slow=4.6,SNR=4.5						
ASAR	**Alice Springs**	**83.00**	**121**	P	**P**	**02 55 16.2**	**+2.1**
	comp=Z,0.4nm,0.5s,baz=304,slow=4.8,SNR=5.1						
INK	**Inuvik**	**83.76**	**7**	*e*P	**P**	**02 55 17.9**	**+0.6**
	comp=Z,2.0nm,0.8s						
ILAR	**Eielson Array**	**84.93**	**13**	P	**P**	**02 55 24.2**	**+0.9**
	comp=Z,0.6nm,0.9s,baz=327,slow=2.3,SNR=4.3						
YKA	**Yellowknife Ar**	**90.66**	**0**	P	**P**	**02 55 51.5**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=350,slow=4.9,SNR=11						
TXAR	**Lajitas Array**	**122.91**	**349**	PKP	**PKPdf**	**03 01 45.2**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=101,slow=0.9,SNR=2.9						
CPUP	**Villa Florida**	**129.50**	**257**	PKP	**PKiKP**	**03 01 59.5**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=172,slow=3.6,SNR=3.2						

*AZER **25** 03:06:18.3±0.1, 38°.27N×46°.44E, h10km±2km, ml3.7/26, Error ellipse: s-maj=6.7km s-min=1.0km az=32.0*
*TEH **25** 03:06:22.7, 38°.42N×46°.59E, h4km, ML3.5*
*NSSP **25** 03:06:22.9, 38°.52N×46°.57E, h12km, Ms3.5*
*THR **25** 03:06:22.4, 38°.55N×46°.57E, h15km, ML3.2*
*NNC **25** 03:06:34.5±5.5, 39°.56N×46°.69E, h0km, mb3.8, Error ellipse: s-maj=198.5km s-min=46.9km az=120.0*
ISC 25 03:06:22.2±1.1, 38.48N±0.02×46.53E±0.02, h8km±9km, n62, σ2.910/95, 20C-22D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITBZ	**Tabriz**	**0.39**	**231**	*e*Pg	**Pb**	**03 06 30.1**	**-1.4**
ITBZ				IAMB	IAmb	03 06 32.9	
	comp=Z,35μm,0.3s						
IHRS	**Heris**	**0.43**	**112**	*e*Pg	**Pg**	**03 06 29.8**	**-0.9**
IHRS				*e*Sg	**Sg**	**03 06 36.2**	**-0.2**
IHRS				IAMB	IAmb	03 06 37.9	
	comp=Z,88μm,0.3s						
ORD	**Ordubad**	**0.61**	**317**	⇓P	**Pb**	**03 06 34.2**	**-1.1**
ORD				⇓S	**Sb**	**03 06 43.1**	**-1.0**
IMRD	**Marand**	**0.69**	**290**	*e*Pg	**Pb**	**03 06 35.8**	**-0.8**
IMRD				*e*Sg	**Sn**	**03 06 48.8**	**-0.7**
IMRD				IAMB	IAmb	03 06 53.9	
	comp=Z,34μm,0.3s						
IBST	**Bostanabad**	**0.83**	**160**	*e*Pg	**Pg**	**03 06 36.7**	**-1.5**
IBST				IAMB	IAmb	03 06 37.1	
	comp=Z,24μm,0.2s						
IAZR	**Azarshahr**	**0.91**	**209**	*e*Pg	**Pb**	**03 06 39.7**	**-0.8**
IAZR				IAMB	IAmb	03 06 57.6	
	comp=Z,21μm,0.3s						
GRS	**Goris**	**1.03**	**351**	⇑*i*P	**Pn**	**03 06 46.0**	**+2.9**
GRS				⇓*i*S	**Sn**	**03 07 01.0**	**+3.1**
NAX	**Nakhchivan**	**1.06**	**311**	P	**Pn**	**03 06 42.8**	**-0.8**
	SNR=166						
NAX				⇓S	**Sn**	**03 06 59.2**	**+0.6**
ISRB	**Sarab**	**1.11**	**126**	*e*Pg	**Pg**	**03 06 41.9**	**-1.6**
ISRB				IAMB	IAmb	03 07 06.2	
	comp=Z,13μm,0.6s						
GRMI	**Germi**	**1.11**	**73**	*e*AML	AML	03 07 03.0	
	comp=N,466nm,0.2s						
GRMI				*e*Pg	**Pg**	**03 06 42.2**	**-1.4**
GRMI				*e*Sg	**Sg**	**03 06 57.3**	**-0.9**
GRMI				*e*AML	AML	03 07 03.3	
	comp=E,580nm,0.3s						
SBZ	**Shahbuz**	**1.19**	**320**	⇓P	**Pb**	**03 06 44.6**	**-0.6**
SBZ				⇓S	**Sn**	**03 07 05.0**	**+3.2**
LRK	**Lerik**	**1.43**	**83**	P	**Pn**	**03 06 47.7**	**-1.0**
	SNR=176						
LRK				⇑S	**Sg**	**03 07 08.4**	**+0.3**
GLBA	**Clilabad**	**1.64**	**62**	P	**Pb**	**03 06 52.8**	**+0.1**
	SNR=118						
GLBA				⇑S	**Sg**	**03 07 16.8**	**+1.9**
MAKU	**Maku**	**1.69**	**302**	*e*Pn	**Pg**	**03 06 53.3**	**-1.3**
MAKU				*e*Sg	**Sg**	**03 07 15.8**	**-0.6**
ASTR	**Astara**	**1.77**	**87**	⇓P	**Pn**	**03 06 54.0**	**+0.8**
	SNR=39						
ASTR				⇓S	**Sg**	**03 07 19.8**	**+0.6**
LKRN	**Lenkeran, Azer**	**1.77**	**82**	⇑P	**Pn**	**03 06 54.1**	**+0.8**
	SNR=31						
LKRN				⇓S	**Sg**	**03 07 20.8**	**+1.5**
HYR	**Heyderabad**	**1.80**	**314**	⇑P	**Pg**	**03 06 55.3**	**-1.4**
HYR				⇑S	**Sg**	**03 07 22.4**	**+2.4**
BRDA	**Brd**	**1.85**	**16**	P	**Pg**	**03 06 57.5**	**-0.1**
	SNR=12						
BRDA				⇑S	**Sg**	**03 07 24.5**	**+2.9**
ZRD	**Zardab**	**2.00**	**26**	P	**Pg**	**03 07 00.3**	**-0.4**
	SNR=12						
ZRD				⇓S	**Sg**	**03 07 29.6**	**+3.0**
CLDR	**Caldiran**	**2.15**	**289**	P	**Pg**	**03 07 03.6**	**+0.2**
GANJ	**Ganja**	**2.17**	**356**	P	**Pb**	**03 07 01.1**	**-0.6**
	SNR=152						
GANJ				⇑S	**Sb**	**03 07 29.3**	**+0.5**
GNI	**Garni**	**2.17**	**321**	P	**Pg**	**03 07 02.2**	**-1.6**
GNI	**Garni**	**2.17**	**321**	⇑*i*P	**Pg**	**03 07 02.5**	**-1.3**
GNI				⇑*i*S	**Sg**	**03 07 33.4**	**+1.5**
KDMR	**Kurdemir**	**2.28**	**34**	⇑P	**Pn**	**03 07 01.7**	**+1.4**
	SNR=4.5						
KDMR				⇑S	**Sg**	**03 07 35.6**	**0.0**
GDB	**GEDABAY**	**2.32**	**345**	P	**Pb**	**03 07 03.7**	**-0.7**
	SNR=109						
GDB				⇑S	**Sg**	**03 07 36.5**	**-0.2**
MNGR	**Mingechevir, A**	**2.33**	**10**	⇑P	**Pn**	**03 07 02.2**	**+1.4**
MNGR				⇓S	**Sg**	**03 07 37.7**	**+0.7**
TASB	**TASBURUN-IGDIR**	**2.33**	**311**	P	**Pg**	**03 07 05.6**	**-1.3**
ALIB	**Äli-Bayra**	**2.42**	**52**	⇑P	**Pn**	**03 07 03.1**	**+1.0**
	SNR=6.5						
ALIB				⇓S	**Sg**	**03 07 39.9**	**-0.1**
VANB	**Van**	**2.47**	**274**	*e*P	**Pg**	**03 07 09.1**	**-0.4**
ZNJK	**Zanjan**	**2.49**	**136**	*e*Pn	**Pn**	**03 07 05.1**	**+1.8**
CUKT	**Cukurca**	**2.62**	**243**	P	**Pb**	**03 07 08.2**	**-1.4**
IML	**Ismayilli**	**2.64**	**28**	P	**Pb**	**03 07 08.3**	**-1.5**
	SNR=18						
IML				⇓S	**Sb**	**03 07 43.0**	**+0.6**
QBL	**Gabala**	**2.66**	**22**	P	**Pb**	**03 07 08.6**	**-1.5**
	SNR=8.4						
QBL				⇓S	**Sg**	**03 07 46.2**	**-1.4**
QZX	**Qazax, Azerbai**	**2.72**	**341**	⇓P	**Pg**	**03 07 12.4**	**-2.0**
QZX				⇓S	**Sg**	**03 07 51.2**	**+1.4**
GBS	**Qobustan**	**2.77**	**42**	P	**Pb**	**03 07 11.1**	**-0.9**
	SNR=8.5						
GBS				⇓S	**Sg**	**03 07 50.3**	**-0.9**
SEKA	**Sheki**	**2.77**	**10**	P	**Pb**	**03 07 10.3**	**-1.8**
	SNR=32						
SEKA				⇑S	**Sb**	**03 07 48.5**	**+2.3**
AKDM	**Akdamar-Van**	**2.79**	**268**	*e*P	**Pg**	**03 07 13.7**	**-2.1**
PQL	**Pirkuli**	**2.80**	**34**	P	**Pb**	**03 07 10.7**	**-1.9**
	SNR=68						
PQL				⇓S	**Sb**	**03 07 49.1**	**+1.9**
XNQ	**Khinaliq**	**2.96**	**24**	P	**Pn**	**03 07 11.3**	**+1.5**
	SNR=50						
XNQ				⇑S	**Sb**	**03 07 51.5**	**-0.2**
AGRB	**Hanur-Agry**	**2.96**	**293**	*e*P	**Pb**	**03 07 15.9**	**+0.4**
ATGJ	**Altiaghaj**	**3.02**	**37**	P	**Pb**	**03 07 14.3**	**-2.0**
	SNR=39						
ATGJ				⇓S	**Sb**	**03 07 56.2**	**+3.0**
ZKTA	**Zakatala**	**3.15**	**1**	P	**Pb**	**03 07 17.5**	**-1.1**
	SNR=12						
ZKTA				⇓S	**Sg**	**03 08 00.8**	**-2.7**
SIZA	**Siyzn**	**3.17**	**34**	P	**Pb**	**03 07 16.6**	**-2.2**
	SNR=30						
SIZA				⇓S	**Sb**	**03 08 01.1**	**+3.4**
MLAZ	**Malazgirt-MUS**	**3.18**	**283**	*e*P	**Pb**	**03 07 18.9**	**-0.2**
QUBA	**Quba, Azerbaij**	**3.24**	**27**	P	**Pb**	**03 07 17.5**	**-2.5**
	SNR=11						
LGD	**Lagodekhi**	**3.36**	**356**	P	**Pb**	**03 07 21.5**	**-0.5**
SIRT	**Sirnak**	**3.38**	**254**	*e*P	**Pb**	**03 07 21.4**	**-1.0**
KARS	**Kars**	**3.42**	**310**	*e*P	**Pb**	**03 07 22.3**	**-0.9**
TBLG	**Delisi**	**3.52**	**338**	*e*P	**Pb**	**03 07 22.3**	**-2.6**
TBLG	**Delisi**	**3.52**	**338**	P	**Pb**	**03 07 26.7**	**+1.8**
GURO	**Guroymak-BITLI**	**3.53**	**273**	*e*P	**Pb**	**03 07 24.5**	**-0.5**
TRLG	**Trialeti**	**3.58**	**329**	P	**Pg**	**03 07 27.6**	**-3.1**
BGD	**Bogdanovka**	**3.58**	**322**	P	**Pg**	**03 07 33.4**	**+2.6**
HKZM	**Kohzaman**	**3.63**	**148**	*e*Pn	**Pn**	**03 07 21.5**	**+2.4**
IRAZ	**Razeghan**	**4.10**	**137**	*e*Pn	**Pn**	**03 07 28.1**	**+2.6**
IRAZ				IAMB	IAmb	03 08 40.4	
	comp=Z,891nm,0.7s						
SVAN	**Silvan-Diyarba**	**4.21**	**267**	*e*P	**Pb**	**03 07 34.4**	**-2.1**
IPRN	**Peran**	**5.14**	**114**	*e*Pn	**Pn**	**03 07 43.1**	**+3.5**
IPRN				IAMB	IAmb	03 08 11.0	
	comp=Z,316nm,0.4s						
IKIA	**Kiasar**	**6.13**	**110**	*e*Pn	**Pn**	**03 07 56.4**	**+3.0**
ISFR	**Sfrayin**	**9.19**	**95**	*e*Pn	**Pn**	**03 08 37.6**	**+2.2**
ISFR				IAMB	IAmb	03 08 48.3	
	comp=Z,181nm,0.4s						
AB31	**Akbulak array**	**14.45**	**38**	Pn	**Pn**	**03 09 46.6**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=226,slow=12,SNR=27						
AB31				⇑Sn	**Sn**	**03 12 19.9**	**-7.4**
	comp=Z,1.0nm,0.8s,baz=229,slow=25,SNR=4.3						
AKTO	**Aktyubinsk**	**14.47**	**31**	⇑Pn	**Pn**	**03 09 46.1**	**-1.2**
	comp=Z,3.1nm,0.7s						
AKTO				⇓Sn	**Sn**	**03 12 19.9**	**-8.0**
	comp=Z,1.1nm,0.5s						
BVA0	**Borovoye Array

YHNB				S	Sn	03 21 32.3	+0.4
	baz=299							
YHNB	**Yeheng**	**0.06**	**299**	P	Pn	03 21 27.0	+0.4
	baz=116							
NSK	**Sanguang**	**0.08**	**297**	*i* P	Pn	03 21 26.6	0.0
	baz=298							
NSK				*i* S	Sn	03 21 32.4	+0.5
	baz=298							
NDT	**Datong Townshi**	**0.08**	**118**	*e*P	Pn	03 21 28.6	+2.0
	baz=117							
NDT				*e*S	Sn	03 21 34.5	+2.7
	baz=117							
ENTT	**Nioudou**	**0.12**	**90**	*e*P	Pn	03 21 27.1	+0.3
	baz=91							
ENTT				*e*S	Sn	03 21 31.9	-0.2
	baz=91							
NWLT	**Wulai**	**0.15**	**25**	P	Pn	03 21 27.2	+0.3
	baz=25							
NWLT				S	Sn	03 21 33.0	+0.6
	baz=25							
SBCB	**Hsinchu**	**0.43**	**290**	*e*S	Sn	03 21 37.7	+1.0
	baz=290							
NACB	**Ninganchiao**	**0.49**	**162**	*e*S	Sn	03 21 39.3	+1.4
	baz=162							
WHF	**Hehuan Shan**	**0.52**	**197**	*e*P	Pn	03 21 30.4	-0.5
	baz=196							
WHF				*e*S	Sn	03 21 37.4	-1.8
	baz=196							

*SKHL **25** 04:23:27.6±0.2,53°.35N×142°.65E,h10km,mb4.0/4*
SKHL Felt (II) at Okha.
*MOS **25** 04:23:28.8±0.8,53°.46N×142°.70E,h14km,mb3.9/1,Error ellipse: s-maj=59.0km s-min=21.1km az=75.4*
*ISCJB **25** 04:23:29.3±0.7,53°.32N±0°.04×142°.60E±0°.06,h3km±9km, Error ellipse: s-maj=7.5km s-min=5.4km az=150.3*

ISC 25 04:23:30.0±1.1,53°.35N±0°.04×142°.70E±0°.04,h10km±12km, n9,σ2§25/17,2D,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKH	**Okha**	**0.25**	**34**	⇓*i*Pg	**Pb**	**04 23 35.1**	**-1.5**
OKH				AMB	AMB	04 23 35.4	
	1μm,0.2s						
OKH				*i* Sg	**Sg**	**04 23 40.5**	**+2.0**
OKH				A	A	04 23 41.5	
	5μm,0.4s						
OKH				A	A	04 23 41.5	
	7μm,0.4s						
OKH	**Okha**	**0.25**	**34**	⇓*i*PN	**Pb**	**04 23 35.1**	**-1.5**
OKH				*i* S	**Sg**	**04 23 40.2**	**+1.7**
OKH				pmax	pmax		
	comp=Z,1.0nm,0.4s						
OKH				smax	smax		
	comp=N,5.0nm,0.6s						
OKH				smax	smax		
	comp=E,5.0nm,0.4s						
NKL	**Nikolayevsk**	**1.23**	**262**	*e*Pg	**Pg**	**04 23 52.0**	**-1.6**
NKL				AMB	AMB	04 23 53.0	
	comp=E,100nm,0.3s						
NKL				*e*Sg	**Sg**	**04 24 09.0**	**-0.6**
NKL				A	A	04 24 13.0	
	comp=E,360nm,0.3s						
NKL	**Nikolayevsk**	**1.23**	**262**	*e*PN	**Pg**	**04 23 52.0**	**-1.6**
NKL				*e*S	**Sg**	**04 24 09.0**	**-0.6**
NKL				pmax	pmax		
	comp=Z,100nm,0.3s						
NKL				smax	smax		
	comp=E,360nm,0.3s						
TYV	**Tymovskoe**	**2.49**	**181**	*e*P	**Pn**	**04 24 09.3**	**-1.2**
TYV				*e*Pg	**Pg**	**04 24 17.1**	**-0.6**
TYV				AMB	AMB	04 24 18.7	
	comp=E,4.0nm,0.4s						
TYV				*e*Sg	**Sg**	**04 24 52.3**	**+2.4**
TYV				A	A	04 24 53.2	
	comp=E,10.0nm,0.5s						
TYV	**Tymovskoe**	**2.49**	**181**	*e*PN	**Pb**	**04 24 12.7**	**-2.0**
TYV				*e*S	**Sn**	**04 24 42.0**	**+1.2**
UGL	**Uglegorsk**	**4.29**	**186**	*e*PN	**Pn**	**04 24 37.0**	**+1.7**
GRNR	**Gornyy**	**4.65**	**239**	*e*Sg	**Sg**	**04 26 01.5**	**+2.1**
GRNR				A	A	04 26 02.7	
	comp=E,20nm,0.5s						
EKMR	**Ekimchan**	**5.87**	**271**	*e*Pg	**Pg**	**04 25 22.5**	**+0.2**
EKMR				AMB	AMB	04 25 23.2	
	comp=E,2.0nm,0.4s						
EKMR				*e*Sg	**Sg**	**04 26 43.5**	**+5.3**
EKMR				A	A	04 26 44.8	
	comp=E,12nm,0.8s						
EKMR				A	A	04 26 44.8	
	comp=E,5.0nm,0.8s						
EKMR				A	A	04 26 44.8	
	comp=E,7.0nm,0.8s						

IDC 25 04:30:24.2±1.9,3°.49S×149°.54E,h0km,mb3.6/4, mb1 3.9/4,mb1mx3.5/26,mbtmp3.6/4,MS3.6/3,Ms1 3.6/3, ms1mx3.0/28,Error ellipse: s-maj=134.9km s-min=26.5km az=126.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**11.91**	**120**	LR	LR	04 37 39.0	
	comp=Z,112nm,20.1s,baz=250,slow=36						
GUMO	**Guam**	**17.59**	**345**	LR	LR	04 40 33.6	
	comp=Z,48nm,18.9s,baz=48,slow=35						
WRA	**Warramunga Arr**	**22.08**	**221**	P	P	04 35 21.4	+0.4
	2.1nm,0.9s,baz=45,slow=12,SNR=5.6						
ASAR	**Alice Springs**	**25.11**	**216**	P	P	04 35 50.6	-0.4
	0.4nm,0.6s,baz=46,slow=6.9,SNR=3.2						
FITZ	**Fitzroy Crossi**	**27.54**	**236**	P	P	04 36 13.0	+0.1
	3.0nm,0.9s,baz=51,slow=13,SNR=3.3						
PALK	**Pallekele**	**69.52**	**279**	LR	LR	05 13 40.9	
	comp=Z,302nm,19.2s,baz=116,slow=37						
ILAR	**Eielson Array**	**82.20**	**23**	P	P	04 42 46.9	0.0
	0.2nm,0.9s,baz=238,slow=5.2,SNR=3.0						

IDC 25 04:58:02.4±4.4,3°.44S×149°.55E,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.5/35,mbtmp3.6/3,Error ellipse: s-maj=152.9km s-min=53.2km az=113.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.12**	**221**	P	P	05 02 59.5	-0.2
	1.2nm,1.0s,baz=43,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**25.16**	**216**	P	P	05 03 28.9	-0.7
	0.6nm,0.9s,baz=48,slow=10.0,SNR=3.8						
FITZ	**Fitzroy Crossi**	**27.58**	**236**	P	P	05 03 52.3	+0.9
	2.1nm,0.9s,baz=49,slow=11,SNR=2.1						
TORD	**Torodi Ar. Bea**	**146.80**	**289**	PKPbc	PKPbc	05 17 46.8	-0.8
	0.8nm,1.0s,baz=72,slow=4.7,SNR=3.6						

IDC 25 04:58:47.7±4.2,3°.43S×148°.71E,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.6/36,mbtmp3.7/3,Error ellipse: s-maj=129.1km s-min=55.0km az=109.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.58**	**219**	P	P	05 03 38.0	-1.3
	1.8nm,1.1s,baz=42,slow=12,SNR=3.7						
ASAR	**Alice Springs**	**24.69**	**214**	P	P	05 04 10.2	-0.5
	2.1nm,1.1s,baz=45,slow=9.2,SNR=3.4						
FITZ	**Fitzroy Crossi**	**26.89**	**235**	P	P	05 04 32.5	+1.9
	3.7nm,1.0s,baz=56,slow=11,SNR=2.5						
TORD	**Torodi Ar. Bea**	**146.01**	**288**	PKPbc	PKPdf	05 18 29.4	-0.5
	0.4nm,0.8s,baz=85,slow=3.0,SNR=2.8						

IDC 25 04:59:37.4±4.5,3°.84S×149°.96E,h0km,mb4.0/3, mb1 4.3/3,mb1mx3.7/33,mbtmp4.0/3,MS4.3/4,Ms1 4.3/4, ms1mx3.6/30,Error ellipse: s-maj=165.3km s-min=53.9km az=116.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**18.90**	**278**	LR	LR	05 10 49.4	
	comp=Z,656nm,19.3s,baz=94,slow=36						
WRA	**Warramunga Arr**	**22.09**	**222**	P	P	05 04 33.6	-0.9
	2.0nm,0.7s,baz=42,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**25.08**	**217**	P	P	05 05 04.5	+0.5
	2.5nm,1.0s,baz=52,slow=8.5,SNR=4.2						
FITZ	**Fitzroy Crossi**	**27.70**	**237**	P	P	05 05 27.9	+0.3
	8.1nm,1.1s,baz=66,slow=11,SNR=4.2						
FITZ				LR	LR	05 18 27.6	
	comp=Z,1μm,18.6s,baz=24,slow=41						
URZ	**Urewera**	**42.28**	**148**	LR	LR	05 24 40.5	
	comp=Z,287nm,19.1s,baz=308,slow=36						
RPZ	**Rata Peaks**	**43.88**	**158**	LR	LR	05 24 22.4	
	comp=Z,345nm,21.8s,baz=336,slow=34						
TORD	**Torodi Ar. Bea**	**147.31**	**288**	PKPbc	PKPbc	05 19 23.2	-0.9
	0.6nm,0.8s,baz=64,slow=3.4,SNR=3.2						

*BJI **25** 05:00:10.6,4°.50N×95°.89E,h7km,mb4.5/22,mB4.9/12, Ms4.5/4,Ms7 4.5/4*
*IDC **25** 05:00:13.6±0.7,4°.93N×95°.88E,h0km,mb4.1/16, mb1 4.2/18,mb1mx4.0/54,mbtmp4.0/18,ML3.9/2,MS3.8/2, Ms1 4.0/2,ms1mx3.1/44,Error ellipse: s-maj=34.3km s-min=14.3km az=48.0*
*DJA **25** 05:00:14.8±1.3,5°.N±8°×9°6E±°,h15km±14km,M4.3/5, mb4.3/1,mB5.0/1,MLv4.3/5,Mw(mB)4.4/1*
*NEIC **25** 05:00:15.4±0.3,4°.92N×95°.89E,h10km,mb4.5/17,Error ellipse: s-maj=8.3km s-min=5.3km az=223.0*
*ISCJB **25** 05:00:16.7±0.3,4°.96N±0°.04×95°.94E±0°.04,h29km, mb4.3/39,MS4.5/2,Error ellipse: s-maj=6.7km s-min=4.4km az=34.5*

ISC 25 05:00:18.6±0.4,5°.00N±0°.05×95°.96E±0°.05,h29km,n82, σ1§35/87,mb4.3/39,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**1.01**	**77**	*e*Pg	**Pn**	**05 00 34.3**	**-2.5**
LHMI				*e*Sg	**Sn**	**05 00 47.7**	**-2.4**
LHMI	**Lhok Sumawe**	**1.01**	**77**	P	**Pn**	**05 00 35.0**	**-1.9**
LHMI				S	**Sn**	**05 00 50.5**	**+0.4**
KCSI	**Kotacane, Aceh**	**2.33**	**129**	P	**Pn**	**05 00 55.9**	**+0.8**
KCSI				S	**Sb**	**05 01 27.3**	**-1.1**
SNSI	**Sinabang, Aceh**	**2.60**	**172**	P	**Pn**	**05 00 57.4**	**-1.4**
SNSI				S	**Sb**	**05 01 33.1**	**-3.1**
PSI	**Prapat**	**3.68**	**126**	Pn	**Pn**	**05 01 14.0**	**+0.3**
	4.0nm,0.3s,baz=360,slow=10,SNR=21						
PSI				Sn	**Sn**	**05 01 59.2**	**+3.0**
	2.2nm,0.3s,baz=360,slow=17,SNR=5.9						
PSI				Lg	Lg	05 02 12.8	
	1.9nm,0.3s,baz=0.0,slow=19,SNR=3.8						
PSI	**Prapat**	**3.68**	**126**	*e*Pn	**Pn**	**05 01 14.6**	**+0.9**
PSI				*e*Sn	**Sn**	**05 01 59.6**	**+3.4**
PSI				Lg	Lg	05 02 12.8	
GSI	**Gunungsitoli**	**4.01**	**156**	*e*Pn	**Pn**	**05 01 17.2**	**-1.0**
KULM	**Kulim**	**4.68**	**86**	*e*Pn	**Pn**	**05 01 26.2**	**-1.2**
KULM				*e*Sn	**Sn**	**05 02 21.2**	**+0.4**
IPM	**Ipoh**	**5.08**	**96**	*e*Pn	**Pn**	**05 01 32.8**	**-0.1**
IPM				*e*Sn	**Sn**	**05 02 28.4**	**-2.2**
PBKT	**Sadao Pong**	**12.50**	**23**	*e*Pn	**Pn**	**05 03 17.4**	**+2.7**
CM31	**Chiang Mai Arr**	**13.69**	**12**	*e*Pn	**Pn**	**05 03 32.2**	**+1.3**
CMAR	**Chiang Mai Ar**	**13.69**	**12**	Pn	**Pn**	**05 03 32.3**	**+1.4**
	0.4nm,0.3s,baz=196,slow=16,SNR=3.9						
CMAR				Lg	Lg	05 07 31.2	
	0.6nm,0.3s,baz=190,slow=31,SNR=3.9						
CMAR				LR	LR	05 09 12.3	
	comp=Z,113nm,18.3s,baz=203,slow=39						
KMI	**Kunming**	**21.04**	**17**	P	**P**	**05 05 03.0**	**+2.4**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
H08S2	**Diego Garcia H**	**26.57**	**242**	T	T	05 33 03.9	
	baz=61,slow=75,SNR=8.5						
H08S3	**Diego Garcia H**	**26.57**	**242**	T	T	05 33 03.1	
	baz=61,slow=75,SNR=9.2						
H08S1	**Diego Carcia H**	**26.59**	**242**	T	T	05 32 58.9	
	baz=61,slow=75,SNR=4.0						
CD2	**Chengdu**	**26.80**	**15**	*e*P	**P**	**05 05 57.5**	**+1.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,4.6s						
XAN	**Xi'an**	**31.30**	**21**	P	**P**	**05 06 37.8**	**+1.4**
XAN				pP	pP	05 06 45.1	-0.1
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XAN	**Xi'an**	**31.30**	**21**	*e*P	**P**	**05 06 38.6**	**+2.2**
	22nm,0.8s						
LZH	**Lanzhou**	**31.78**	**12**	*e*P	**P**	**05 06 44.0**	**+3.3**
LZH				pP	pP	05 06 47.8	-1.6
LZH				sP	sP	05 06 51.3	-1.6
LZH				*e*PP	**PP**	**05 07 51.3**	**-1.5**
LZH				pmax	pmax		
	comp=Z,28nm,1.1s						
LZH				pmax	pmax		
	comp=Z,120nm,4.3s						
LZH				LR	LR		
	comp=N,690nm,14.1s						
LZH				LR	LR		
	comp=E,500nm,13.6s						
LZH				LR	LR		
	comp=Z,1μm,16.3s						
NJ2	**Nanjing**	**34.41**	**36**	*e*P	**P**	**05 07 04.0**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
GTA	**Gaotai**	**34.43**	**5**	*e*P	**P**	**05 07 03.3**	**-0.5**
GTA				pP	pP	05 07 07.5	-5.0
GTA				sP	sP	05 07 10.6	-5.5
GTA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NIL	**Nilore**	**35.47**	**326**	*e*P	**P**	**05 07 12.3**	**-0.5**
	6.3nm,0.7s						
HHC	**Hu-ho-hao-te**	**38.34**	**19**	*e*P	**P**	**05 07 40.3**	**+3.1**
HHC				pmax	pmax		
	comp=Z,21nm,0.9s						
HHC				pmax	pmax		
	comp=Z,330nm,5.8s						
KSH	**Kashi**	**38.82**	**335**	P	**P**	**05 07 40.3**	**-0.9**
KSH				pmax	pmax		
	comp=Z,14nm,0.4s						
WMQ	**Urumqi**	**39.34**	**351**	*e*P	**P**	**05 07 46.3**	**+0.9**
WMQ				pP	pP	05 07 50.5	-3.8
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WSAR	**Wadi Sarin**	**40.30**	**300**	P	**P**	**05 07 53.6**	**0.0**
	1.5nm,0.5s,baz=106,slow=7.4,SNR=2.1						
GAR	**Garm**	**41.05**	**329**	*e*P	**P**	**05 08 00.4**	**+0.6**
	4.7nm,0.5s						
ARSB	**Arslanbob**	**41.60**	**334**	*e*P	**P**	**05 08 04.4**	**+0.1**
	5.2nm,1.3s						
MK01	**Makanchi Array**	**43.25**	**346**	*e*P	**P**	**05 08 17.7**	**+0.2**
MK31	**Makanchi Array**	**43.28**	**346**	*e*P	**P**	**05 08 17.3**	**-0.4**
MK32	**Makanchi Array**	**43.28**	**346**	*e*P	**P**	**05 08 17.4**	**-0.3**
MKAR	**Makanchi Array**	**43.28**	**346**	P	**P**	**05 08 17.4**	**-0.3**
	1.0nm,0.7s,baz=164,slow=7.4,SNR=15						
MKAR	**Makanchi Array**	**43.28**	**346**	*e*P	**P**	**05 08 17.4**	**-0.3**
	5.0nm,0.7s						
MAKZ	**Makanchi**	**43.37**	**346**	*e*P	**P**	**05 08 18.6**	**+0.2**
	1.2nm,0.7s						
SONA0	**Songino Array**	**43.61**	**10**	*e*P	**P**	**05 08 20.8**	**+0.4**
SONM	**Songino Array**	**43.61**	**10**	P	**P**	**05 08 20.8**	**+0.4**
	1.5nm,0.6s,baz=192,slow=9.4,SNR=12						
SONA1	**Songino Array**	**43.62**	**10**	*e*P	**P**	**05 08 21.7**	**+1.1**
ULN	**Ulaanbaatar**	**43.75**	**11**	*e*P	**P**	**05 08 23.2**	**+1.5**
	3.9nm,1.3s						
WRA	**Warramunga Arr**	**45.14**	**125**	P	**P**	**05 08 32.2**	**-0.8**
	1.3nm,0.5s,baz=292,slow=11,SNR=7.6						
WR1	**Warramunga Arr**	**45.15**	**125**	*e*P	**P**	**05 08 32.2**	**-0.8**
WRAB	**Tennant Creek**	**45.15**	**124**	*e*P	**P**	**05 08 31.2**	**-1.8**
	8.9nm,0.4s						
AS31	**Alice Springs**	**46.70**	**129**	*e*P	**P**	**05 08 45.2**	**-0.1**
	1.9nm,0.5s						
ASAR	**Alice Springs**	**46.70**	**129**	P	**P**	**05 08 44.3**	**-1.0**
	3.3nm,0.5s,baz=300,slow=8.0,SNR=27						
AS01	**Alice Springs**	**46.74**	**129**	*e*P	**P**	**05 08 46.0**	**+0.4**
FORT	**Forrest**	**46.98**	**141**	*e*P	**P**	**05 08 48.3**	**+1.0**
	17nm,0.8s						
GEYT	**Ailbeck**	**47.53**	**319**	P	**P**	**05 08 51.9**	**+0.3**
	5.3nm,0.7s,baz=142,slow=7.5,SNR=6.7						
ZALV	**Zalesovo Beam**	**49.64**	**351**	P	**P**	**05 09 07.1**	**-0.3**
	0.6nm,0.4s,baz=182,slow=7.2,SNR=4.1						
ZALV	**Zalesovo Beam**	**49.64**	**351**	*e*P	**P**	**05 09 07.5**	**+0.2**
ZAA1	**Zalesovo Array**	**49.64**	**351**	*e*P	**P**	**05 09 07.1**	**-0.4**
RAYN	**Ar Rayn**	**51.93**	**296**	*e*P	**P**	**05 09 26.9**	**+1.6**
	1.6nm,0.7s						
ABKAR	**Akbulak array**	**53.60**	**331**	*e*P	**P**	**05 09 37.0**	**-0.1**
STKA	**Stephens Creek**	**56.83**	**133**	P	**P**	**05 10 00.5**	**-0.2**
	2.2nm,0.7s,baz=304,slow=7.3,SNR=3.8						
STKA	**Stephens Creek**	**56.83**	**133**	*e*P	**P**	**05 10 01.6**	**+0.9**
	1.4nm,1.2s						
KBZ	**Khabaz**	**60.42**	**318**	P	**P**	**05 10 25.2**	**-0.3**
	0.8nm,0.5s,baz=127,slow=10,SNR=3.3						
BR101	**Keskin Array S**	**65.67**	**311**	*e*P	**P**	**05 10 59.3**	**-1.4**
BR131	**Keskin Array S**	**65.67**	**311**	*e*P	**P**	**05 10 59.7**	**-1.0**
BRTR	**Keskin Array B**	**65.67**	**311**	P	**P**	**05 10 59.3**	**-1.4**
	0.9nm,0.6s,baz=137,slow=7.8,SNR=7.8						
TIXI	**Tiksi**	**69.69**	**11**	*e*P	**P**	**05 11 24.8**	**-0.5**
	2.5nm,1.0s						
AKASG	**Malin Array Be**	**71.51**	**322**	P	**P**	**05 11 35.1**	**-1.6**
	0.1nm,0.3s,baz=97,slow=4.9,SNR=5.5						
AKBB	**Malin Array Si**	**71.51**	**322**	*e*P	**P**	**05 11 35.6**	**-1.2**
	3.7nm,1.2s						
BUR04	**Bucovina Ar. S**	**73.38**	**318**	*e*P	**P**	**05 11 48.7**	**+0.6**
BUR08	**Bucovina Ar. S**	**73.39**	**318**	*e*P	**P**	**05 11 49.0**	**+0.8**
AGG	**Agios Georgios**	**74.15**	**309**	*e*P	**P**	**05 11 51.5**	**-1.3**
	17nm,1.4s						
LIT	**Litokhoron**	**74.16**	**310**	*e*P	**P**	**05 11 52.1**	**-0.7**
	33nm,1.3s						
FIA1	**FINESS Array S**	**76.08**	**332**	*e*P	**P**	**05 12 01.6**	**-1.6**
	20nm,1.4s						
FIA0	**FINESS Array S**	**76.08**	**332**	*e*P	**P**	**05 12 02.1**	**-1.1**
FINES	**FINESS Array B**	**76.08**	**332**	P	**P**	**05 12 02.1**	**-1.1**
	1.1nm,0.7s,baz=91,slow=7.4,SNR=5.6						
ARA0	**ARCESS Array S**	**78.56**	**340**	*e*P	**P**	**05 12 16.8**	**-0.3**
ARCES	**ARCESS Array B**	**78.56**	**340**	P	**P**	**05 12 16.8**	**-0.3**
	3.3nm,0.9s,baz=98,slow=5.6,SNR=6.1						
GEA0	**GERESS Array S**	**81.16**	**319**	*e*P	**P**	**05 12 32.9**	**+1.2**
GERES	**GERESS Array B**	**81.16**	**319**	P	**P**	**05 12 32.3**	**+0.6**
	0.3nm,0.4s,baz=150,slow=5.7,SNR=4.1						
SPITS	**Spitsbergen Ar**	**83.00**	**348**	P	**P**	**05 12 39.6**	**-1.1**
	9.2nm,1.0s,baz=115,slow=2.4,SNR=5.2						
TORD	**Torodi Ar. Bea**	**93.01**	**283**	P	**P**	**05 13 30.5**	**+0.2**
	0.6nm,1.1s,baz=98,slow=3.9,SNR=2.9						
TOA1	**Torodi Ar. Sit**	**93.02**	**283**	*e*P	**P**	**05 13 30.4**	**+0.2**
IM3	**Indian Mountai**	**93.58**	**23**	*e*P	**P**	**05 13 32.7**	**+0.9**
ILAR	**Eielson Array**	**96.70**	**23**	LR	LR	06 01 09.4	
	comp=Z,145nm,19.9s,baz=268,slow=38						
PV23	**Carpenter Ridg**	**130.96**	**26**	*e*PKPdf	**PKPdf**	**05 19 27.6**	**-0.7**
LTX	**Lajitas**	**141.00**	**28**	*e*PKPdf	**PKiKP**	**05 19 48.4**	**-1.3**
TXAR	**Lajitas Array**	**141.00**	**28**	PKP	**PKiKP**	**05 19 48.4**	**-1.3**
	0.6nm,1.1s,baz=20,slow=2.9,SNR=3.0						
555A	**McAlpin**	**145.06**	**358**	*e*PKPbc	**PKPbc**	**05 19 50.9**	**-2.4**
ROC1	**El Roble**	**149.63**	**202**	*e*PKPdf	**PKPdf**	**05 20 01.6**	**-0.2**

*IDC **25** 05:00:53.6±1.7,3°.68S×149°.82E,h0km,mb4.1/7, mb1 4.3/7,mb1mx4.0/34,mbtmp4.1/7,MS4.2/6,Ms1 4.2/6, ms1mx3.8/32,Error ellipse: s-maj=57.9km s-min=22.3km az=115.0*
*ISCJB **25** 05:00:55.9±0.9,3°.48S±0°.08×149°.4E±0°.2,h20km, mb4.3/13,MS4.3/2,Error ellipse: s-maj=24.2km s-min=10.3km az=15.0*
*NEIC **25** 05:00:55.2±0.8,3°.44S×149°.51E,h10km,mb4.7/8,Error ellipse: s-maj=25.0km s-min=12.3km az=110.0*
*GCMT **25** 05:01:00.2±0.3,3°.26S±0°.02×149°.42E±0°.02,h34km±1km, MW5.1/72,Moment Tensor Solution. s29,c35; s72,c94; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.10±.33; Mθθ0.02±.23; Mθφ-2.12±.22; Mrθ0.11±.24; Mφφ5.77±.22; Mrφ0.68±.24; Best double couple: M₀5.92800×10¹⁶ NP1:φs5.00000°,δ85.00000°,λ171.00000°. NP2: φs96.00000°,δ81.00000°,λ5.00000°. Principal axes: T 4.9160, Plg10.0000°, Azm320.0000°; N 2.0280, Plg79.0000°, Azm156.0000°; P -6.9400, Plg3.0000°, Azm50.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 05:00:56.9±1.0,3°.5S±0°.1×149°.5E±0°.2,h20km,n30, σ1§64/24,mb4.5/13,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**2.55**	**304**	*e*Pn	**Pn**	**05 01 34.6**	**-2.6**
PMG	**Port Moresby**	**6.34**	**201**	LR	LR	05 05 00.1	
	comp=Z,2μm,18.6s,baz=4.5,slow=39						
JAY	**Jayapura**	**8.83**	**276**	LR	LR	05 06 03.1	
	comp=Z,890nm,21.6s,baz=39,slow=34						
HNR	**Honiara**	**11.96**	**120**	LR	LR	05 08 24.8	
	comp=Z,1μm,19.0s,baz=311,slow=39						
GUMO	**Guam**	**17.55**	**345**	LR	LR	05 11 12.3	
	comp=Z,417nm,18.5s,baz=150,slow=35						
SARN	**Sarigan**	**20.37**	**350**	*e*P	Pn	05 05 36.4	+1.9
	57nm,1.1s						
WRAB	**Tennant Creek**	**22.05**	**221**	*e*P	**P**	**05 05 50.7**	**+0.1**
	16nm,0.8s						
WB2	**Warramunga Arr**	**22.06**	**221**	*e*P	**P**	**05 05 52.2**	**+1.6**
	18nm,0.9s						
WR1	**Warramunga Arr**	**22.06**	**221**	*e*P	**P**	**05 05 50.2**	**-0.5**
	20nm,0.8s						
WRA	**Warramunga Arr**	**22.06**	**221**	P	**P**	**05 05 50.2**	**-0.5**
	6.8nm,0.6s,baz=42,slow=11,SNR=12						
ASAR	**Alice Springs**	**25.11**	**216**	P	**P**	**05 06 20.5**	**-0.1**
	2.4nm,0.6s,baz=48,slow=8.7,SNR=5.6						
ASAR				LR	LR	05 17 05.4	
	comp=Z,776nm,19.1s,baz=48,slow=39						
BATI	**Baumata**	**26.49**	**254**	LR	LR	05 19 23.3	
	comp=Z,824nm,18.5s,baz=79,slow=42						
FITZ	**Fitzroy Crossi**	**27.52**	**236**	P	**P**	**05 06 44.0**	**+1.7**
	11nm,0.8s,baz=70,slow=7.9,SNR=8.1						
FITZ	**Fitzroy Crossi**	**27.52**	**236**	*e*P	**P**	**05 06 44.6**	**+2.2**
	18nm,1.1s						
MORW	**Morawa**	**40.70**	**228**	*e*P	**P**	**05 08 35.4**	**-1.0**
	13nm,1.0s						
CMAR	**Chiang Mai Arr**	**54.33**	**296**	P	**P**	**05 10 25.8**	**+3.3**
	0.8nm,0.3s,baz=97,slow=5.8,SNR=4.2						
SONA0	**Songino Array**	**63.47**	**329**	*e*P	**P**	**05 11 27.1**	**+1.5**
SONM	**Songino Array**	**63.47**	**329**	P	**P**	**05 11 27.1**	**+1.5**
	0.9nm,0.7s,baz=128,slow=6.2,SNR=2.1						
SVW2	**Sparrevohn**	**76.93**	**24**	*e*P	**P**	**05 12 46.4**	**-1.3**
	19nm,0.6s						
MK01	**Makanchi Array**	**77.15**	**319**	*e*P	**P**	**05 12 48.3**	**-1.0**
MK31	**Makanchi Array**	**77.17**	**319**	*e*P	**P**	**05 12 48.2**	**-1.1**
MKAR	**Makanchi Array**	**77.17**	**319**	*e*P	**P**	**05 12 48.2**	**-1.

ASAR	**Alice Springs**	**25.08**	**216**	P	P	05 17 36.2	-0.3
	6.2nm,1.1s,baz=45,slow=8.4,SNR=7.2						
FITZ	**Fitzroy Crossi**	**27.50**	**236**	P	P	05 17 58.2	-0.1
	14nm,1.1s,baz=81,slow=11,SNR=5.6						
TORD	**Torodi Ar. Bea**	**146.77**	**289**	PKPbc	PKPbc	05 31 54.4	-0.7
	0.8nm,0.9s,baz=85,slow=3.5,SNR=3.6						

IDC ***25*** *05:12:32.0±1.0,3˚.35S×149˚.40E, h0km, mb4.3/10, mb1 4.4/12, mb1mx4.2/36, mbtmp4.2/12, ML1.8/1, Error ellipse: s-maj=27.4km s-min=19.2km az=103.0*

ISCJB ***25*** *05:12:33.6±0.4,3˚.40S±0˚.06×149˚.29E±0˚.07, h20km, mb4.5/17, Error ellipse: s-maj=9.7km s-min=8.3km az=15.0*

NEIC ***25*** *05:12:33.6±0.3,3˚.39S×149˚.34E, h10km, mb4.7/9, Error ellipse: s-maj=9.2km s-min=7.3km az=114.0*

GCMT ***25*** *05:12:37.6±0.2,3˚.41S±0˚.01×149˚.25E±0˚.01, h12km, MW5.2/116, Moment Tensor Solution. s74,c106; s116,c198; Duration: 1§0 Moment tensor: Scale 10¹⁶ Nm; Mrr=0.13±.16; Mθθ=3.09±.16; Mϕϕ=-2.96±.16; Mrθ=1.21±.41; Mθϕ=7.38±.12; Mϕr=1.10±.39; Best double couple: M=8.13400×10¹⁶ NP1:ϕ=11.00000°, δ=84.00000°, λ=171.00000°. NP2:ϕ=102.00000°, δ=81.00000°, λ=6.00000°. Principal axes: T 8.3490, Plg11.0000°, Azm326.0000°; N -0.4350, Plg79.0000°, Azm156.0000°; P -7.9180, Plg2.0000°, Azm56.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 05:12:35.3±0.6,3˚.30S±0˚.08×149˚.32E±0˚.07, h20km, n50, σ1§24/41, mb4.5/17, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**2.32**	**303**	*e*Pn		**Pn**	**05 13 11.0**	**-1.4**
RABL	**Rabaul**	**2.97**	**107**	*e*Pn		**Pn**	**05 13 20.7**	**-0.7**
PMG	**Port Moresby**	**6.43**	**199**	Pn		**Pn**	**05 14 10.0**	**+1.0**
	1.1nm,0.3s,baz=20,slow=18,SNR=1.7							
PMG	**Port Moresby**	**6.43**	**199**	*e*Pn		**Pn**	**05 14 07.6**	**-1.4**
SIJI	**Sorong**	**18.20**	**277**	P		**P**	**05 16 47.1**	**-0.1**
	0.9nm,0.3s,baz=175,slow=14,SNR=2.1							
WRAB	**Tennant Creek**	**22.06**	**220**	*e*P		**P**	**05 17 26.6**	**-2.5**
	32nm,0.9s							
WB2	**Warramunga Arr**	**22.07**	**220**	*e*P		**P**	**05 17 26.6**	**-2.6**
	29nm,0.9s							
WR1	**Warramunga Arr**	**22.07**	**220**	*e*P		**P**	**05 17 28.4**	**-0.9**
WRA	**Warramunga Arr**	**22.07**	**220**	P		**P**	**05 17 28.4**	**-0.9**
	21nm,0.9s,baz=44,slow=11,SNR=9.2							
DZM	**Mont Dzumac**	**24.99**	**140**	*e*P		**P**	**05 18 00.8**	**+2.8**
	15nm,0.7s							
DZM				*e*LR		LR	05 23 59.4	
	comp=Z,6μm,24.3s							
DZM	**Mont Dzumac**	**24.99**	**140**	P		**P**	**05 17 56.6**	**-1.4**
	8.6nm,0.6s,baz=336,slow=11,SNR=3.4							
DZM	**Mont Dzumac**	**24.99**	**140**	*e*P		**P**	**05 17 55.6**	**-2.4**
	7.7nm,0.6s							
AS01	**Alice Springs**	**25.11**	**215**	*e*P		**P**	**05 17 58.7**	**-0.4**
AS31	**Alice Springs**	**25.14**	**215**	*e*P		**P**	**05 17 59.2**	**-0.1**
	7.1nm,0.9s							
ASAR	**Alice Springs**	**25.14**	**215**	P		**P**	**05 17 59.0**	**-0.3**
	13nm,1.0s,baz=49,slow=8.7,SNR=9.7							
FITZ	**Fitzroy Crossi**	**27.46**	**236**	P		**P**	**05 18 20.9**	**+0.6**
	22nm,0.8s,baz=81,slow=7.6,SNR=15							
FITZ	**Fitzroy Crossi**	**27.46**	**236**	*e*P		**P**	**05 18 21.3**	**+1.0**
	27nm,0.9s							
H11S3	**WAKE ISLAND Hy**	**27.60**	**38**	T		T	05 47 19.5	
	baz=220,slow=76,SNR=21							
H11S2	**WAKE ISLAND Hy**	**27.61**	**38**	T		T	05 47 38.0	
	baz=220,slow=76,SNR=15							
H11S1	**WAKE ISLAND Hy**	**27.62**	**38**	T		T	05 47 26.1	
	baz=220,slow=76,SNR=12							
WAKE	**Wake Island**	**28.18**	**37**	*e*P		**P**	**05 18 24.4**	**-2.3**
	42nm,1.0s							
H11N1	**WAKE ISLAND Hy**	**28.66**	**36**	T		T	05 48 27.3	
	baz=219,slow=76,SNR=6.2							
H11N3	**WAKE ISLAND Hy**	**28.67**	**36**	T		T	05 48 36.5	
	baz=219,slow=76,SNR=7.6							
H11N2	**WAKE ISLAND Hy**	**28.68**	**36**	T		T	05 48 28.9	
	baz=219,slow=76,SNR=15							
NWAO	**Narrogin (SRO)**	**42.07**	**222**	*e*P		**P**	**05 20 25.1**	**-0.9**
	5.4nm,1.0s							
CM01	**Chiang Mai Arr**	**54.08**	**295**	*e*P		**P**	**05 21 59.8**	**+0.6**
CM31	**Chiang Mai Arr**	**54.10**	**296**	*e*P		**P**	**05 21 59.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**54.10**	**296**	P		**P**	**05 21 59.1**	**-0.2**
	1.6nm,0.5s,baz=112,slow=5.7,SNR=8.4							
HLK	**Haleakala**	**58.45**	**63**	*e*P		**P**	**05 22 32.0**	**+1.4**
	112nm,1.1s							
PPT2	**Papeete2**	**61.49**	**108**	*e*LQ		LQ	05 38 00.3	
	1μm,28.5s							
PPT2				*e*LR		LR	05 40 24.2	
	comp=Z,372nm,25.8s							
TBI	**Tubuai**	**62.33**	**115**	*e*S		S	05 31 11.3	-11
	499nm,28.5s							
TBI				*e*LR		LR	05 41 00.9	
	comp=Z,648nm,27.2s							
SONA0	**Songino Array**	**63.24**	**329**	*e*P		**P**	**05 23 04.5**	**+2.0**
SONM	**Songino Array**	**63.24**	**329**	P		**P**	**05 23 04.5**	**+2.0**
	0.7nm,0.9s,baz=190,slow=4.4,SNR=3.1							
RKT	**Rikitea**	**75.56**	**113**	*e*LR		LR	05 47 06.9	
	comp=Z,460nm,24.0s							
MK01	**Makanchi Array**	**76.92**	**319**	*e*P		**P**	**05 24 27.0**	**+0.6**
MK31	**Makanchi Array**	**76.93**	**320**	*e*P		**P**	**05 24 26.7**	**+0.2**
MK32	**Makanchi Array**	**76.93**	**320**	*e*P		**P**	**05 24 26.8**	**+0.3**
MKAR	**Makanchi Array**	**76.93**	**320**	P		**P**	**05 24 26.8**	**+0.3**
	1.7nm,1.0s,baz=116,slow=5.5,SNR=6.7							
MKAR	**Makanchi Array**	**76.93**	**320**	*e*P		**P**	**05 24 26.6**	**+0.1**
	7.4nm,0.8s							
ZALV	**Zalesovo Beam**	**78.00**	**327**	P		**P**	**05 24 32.6**	**+0.3**
	1.3nm,0.8s,baz=95,slow=4.6,SNR=3.6							
ZALV	**Zalesovo Beam**	**78.00**	**327**	*e*P		**P**	**05 24 33.3**	**+1.0**
ZAA1	**Zalesovo Array**	**78.00**	**327**	*e*P		**P**	**05 24 32.6**	**+0.3**
ILAR	**Eielson Array**	**82.11**	**23**	P		**P**	**05 24 54.6**	**+0.3**
	0.7nm,0.8s,baz=248,slow=4.5,SNR=2.8							
CHGR	**Chuyangaron**	**84.38**	**309**	*e*P		**P**	**05 25 06.8**	**+0.1**
	15nm,1.1s							
YKA	**Yellowknife Ar**	**95.72**	**28**	P		**P**	**05 25 59.4**	**-0.2**
	0.3nm,0.6s,baz=272,slow=4.5,SNR=3.7							
YKB5	**Yellowknife Ar**	**95.72**	**28**	*e*P		**P**	**05 25 59.1**	**-0.6**
SMRT	**St. Maarten**	**145.05**	**63**	*e*PKPbc		**PKPdf**	**05 32 12.6**	**+0.3**
TOA0	**Torodi Ar. Sit**	**146.54**	**289**	*e*PKPdf		**PKPbc**	**05 32 16.3**	**-0.1**
TORD	**Torodi Ar. Bea**	**146.54**	**289**	PKPbc		**PKPbc**	**05 32 15.5**	**-1.0**
	2.2nm,0.8s,baz=115,slow=3.1,SNR=6.9							
TOA1	**Torodi Ar. Sit**	**146.54**	**289**	*e*PKPdf		**PKPbc**	**05 32 15.5**	**-1.0**

IDC ***25*** *05:19:23.3±0.9,3˚.47S×149˚.32E, h0km, mb4.1/10, mb1 4.4/10, mb1mx4.1/34, mbtmp4.1/10, MS4.3/3, Ms1 4.3/3, ms1mx3.8/26, Error ellipse: s-maj=28.7km s-min=20.1km az=105.0*

ISCJB ***25*** *05:19:25.1±0.6,3˚.45S±0˚.07×149˚.2E±0˚.1, h19km, mb4.2/14, MS4.3/2, Error ellipse: s-maj=15.9km s-min=9.4km az=2.6*

NEIC ***25*** *05:19:25.6±0.5,3˚.43S×149˚.17E, h10km, mb4.7/7, Error ellipse: s-maj=15.3km s-min=9.1km az=94.0*

GCMT ***25*** *05:19:29.5±0.2,3˚.39S±0˚.01×149˚.19E±0˚.01, h15km±1km, MW5.2/120, Moment Tensor Solution. s45,c61; s120,c206; Duration: 1§0 Moment tensor: Scale 10¹⁶ Nm; Mrr=0.11±.18; Mθθ=3.40±.17; Mϕϕ=-3.51±.17; Mrθ=0.53±.34; Mθϕ=7.02±.18; Mϕr=1.57±.35; Best double couple: M=7.99800×10¹⁶ NP1:ϕ=13.00000°, δ=89.00000°, λ=168.00000°. NP2:ϕ=103.00000°, δ=78.00000°, λ=1.00000°. Principal axes: T 7.9800, Plg9.0000°, Azm327.0000°; N 0.0410, Plg78.0000°, Azm187.0000°; P -8.0170, Plg7.0000°, Azm59.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 05:19:26.7±0.8,3˚.4S±0˚.1×149˚.2E±0˚.1, h19km, n38, σ1§18/30, mb4.4/14, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**2.24**	**306**	*e*Pn		**Pn**	**05 20 00.1**	**-2.7**
CTA	**Charters Tower**	**16.86**	**190**	LR		LR	05 29 50.7	
	comp=Z,834nm,18.2s,baz=18,slow=37							
WRAB	**Tennant Creek**	**21.92**	**220**	*e*P		**P**	**05 24 19.8**	**+0.8**
	27nm,0.9s							
WB2	**Warramunga Arr**	**21.92**	**220**	*e*P		**P**	**05 24 17.9**	**-1.2**
	18nm,0.9s							
WR1	**Warramunga Arr**	**21.93**	**220**	*e*P		**P**	**05 24 18.0**	**-1.2**
WRA	**Warramunga Arr**	**21.93**	**220**	P		**P**	**05 24 18.0**	**-1.2**
	15nm,0.8s,baz=43,slow=11,SNR=13							

AS01	**Alice Springs**	**24.97**	**215**	*e*P		**P**	**05 24 48.0**	**-1.3**
AS31	**Alice Springs**	**25.00**	**215**	*e*P		**P**	**05 24 48.9**	**-0.6**
	3.3nm,0.9s							
ASAR	**Alice Springs**	**25.00**	**215**	P		**P**	**05 24 48.6**	**-1.0**
	6.2nm,0.9s,baz=52,slow=8.0,SNR=23							
DZM	**Mont Dzumac**	**25.02**	**139**	P		**P**	**05 24 48.7**	**-1.1**
	8.7nm,0.9s,baz=350,slow=11,SNR=3.9							
DZM	**Mont Dzumac**	**25.02**	**139**	*e*P		**P**	**05 24 49.2**	**-0.7**
	25nm,1.1s							
ARMA	**Armidale**	**27.00**	**175**	*e*P		**P**	**05 25 08.0**	**+0.3**
	24nm,1.1s							
FITZ	**Fitzroy Crossi**	**27.31**	**236**	P		**P**	**05 25 11.2**	**+0.7**
	11nm,0.8s,baz=67,slow=9.9,SNR=12							
FITZ	**Fitzroy Crossi**	**27.31**	**236**	*e*P		**P**	**05 25 12.0**	**+1.5**
	16nm,1.0s							
H11S3	**WAKE ISLAND Hy**	**27.74**	**38**	T		T	05 54 01.9	
	baz=220,slow=76,SNR=30							
H11S2	**WAKE ISLAND Hy**	**27.75**	**38**	T		T	05 54 16.7	
	baz=220,slow=76,SNR=28							
H11S1	**WAKE ISLAND Hy**	**27.76**	**38**	T		T	05 54 24.7	
	baz=220,slow=76,SNR=26							
H11N1	**WAKE ISLAND Hy**	**28.80**	**37**	T		T	05 55 43.5	
	baz=219,slow=76,SNR=8.8							
H11N3	**WAKE ISLAND Hy**	**28.81**	**37**	T		T	05 55 21.7	
	baz=219,slow=76,SNR=13							
H11N2	**WAKE ISLAND Hy**	**28.82**	**36**	T		T	05 55 20.8	
	baz=219,slow=76,SNR=18							
CM01	**Chiang Mai Arr**	**53.98**	**296**	*e*P		**P**	**05 28 52.2**	**+2.3**
CMAR	**Chiang Mai Arr**	**54.01**	**296**	P		**P**	**05 28 51.7**	**+1.6**
	1.2nm,0.3s,baz=106,slow=6.5,SNR=8.3							
KLR	**Kul'dur**	**54.53**	**346**	LR		LR	05 52 45.4	
	comp=Z,172nm,18.1s,baz=176,slow=37							
SONA0	**Songino Array**	**63.23**	**329**	*e*P		**P**	**05 29 54.1**	**+0.1**
SONM	**Songino Array**	**63.23**	**329**	P		**P**	**05 29 54.1**	**+0.1**
	0.3nm,0.6s,baz=143,slow=5.0,SNR=3.5							
MK01	**Makanchi Array**	**76.88**	**320**	*e*P		**P**	**05 31 18.2**	**+0.5**
MK31	**Makanchi Array**	**76.89**	**320**	*e*P		**P**	**05 31 19.2**	**+1.4**
MK32	**Makanchi Array**	**76.89**	**320**	*e*P		**P**	**05 31 18.7**	**+0.9**
MKAR	**Makanchi Array**	**76.89**	**320**	P		**P**	**05 31 18.7**	**+0.9**
	2.1nm,1.0s,baz=100,slow=6.7,SNR=12							
MKAR	**Makanchi Array**	**76.89**	**320**	*e*P		**P**	**05 31 19.6**	**+1.9**
	14nm,1.1s							
ZALV	**Zalesovo Beam**	**77.98**	**327**	P		**P**	**05 31 24.5**	**+0.9**
	0.2nm,0.3s,baz=117,slow=5.0,SNR=2.6							
ZAA1	**Zalesovo Array**	**77.99**	**327**	*e*P		**P**	**05 31 24.5**	**+0.9**
ILAR	**Eielson Array**	**82.23**	**23**	P		**P**	**05 31 45.9**	**-0.5**
	1.2nm,1.1s,baz=251,slow=5.9,SNR=4.9							
INK	**Inuvik**	**88.43**	**21**	LR		LR	06 06 03.9	
	comp=Z,188nm,21.1s,baz=189,slow=32							
YKA	**Yellowknife Ar**	**95.85**	**28**	P		**P**	**05 32 51.3**	**-0.4**
	0.3nm,0.8s,baz=264,slow=4.6,SNR=4.4							
TOA0	**Torodi Ar. Sit**	**146.43**	**289**	*e*PKPdf		**PKPbc**	**05 39 07.7**	**+0.1**
TOA0				*e*PKPdf		**PKPab**	**05 39 08.9**	**+0.4**
TORD	**Torodi Ar. Bea**	**146.43**	**289**	PKPbc		**PKPbc**	**05 39 07.2**	**-0.4**
	1.9nm,1.0s,baz=23,slow=4.8,SNR=7.4							
TOA1	**Torodi Ar. Sit**	**146.44**	**289**	*e*PKPdf		**PKPbc**	**05 39 07.2**	**-0.4**

NEIC ***25*** *05:28:24.4±0.0, 16˚.71N×99˚.51W, h16km, MD4.0(MEX), After MEX.*

MEX 25 05:28:23.7±0.8, 16˚.68N×99˚.52W, h15km±5km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ACP2	**Acapulco**	**0.40**	**299**	*e*P		Pg	05 28 30.2	-1.6
ACP2				*e*S		Sg	05 28 35.5	-1.8
CAIG	**El Cayaco**	**0.80**	**297**	*i* P		Pg	05 28 36.5	-2.8
CAIG				*e*S		Sg	05 28 46.3	-3.5
CAIG	**El Cayaco**	**0.80**	**297**	*i* P		Pg	05 28 36.5	-2.8
CAIG				*e*S		Sg	05 28 46.3	-3.5
MEIG	**Mezcala**	**1.24**	**356**	*e*P		Pn	05 28 43.0	-3.5
MEIG				*e*S		Sb	05 28 57.6	-5.1
MEIG	**Mezcala**	**1.24**	**356**	*e*P		Pn	05 28 43.0	-3.5
MEIG				*e*S		Sb	05 28 57.6	-5.1
PNIG	**Pinotepa**	**1.37**	**102**	*e*P		Pn	05 28 46.9	-1.4
PNIG				*e*S		Sn	05 29 01.7	-4.6
PNIG	**Pinotepa**	**1.37**	**102**	*e*P		Pn	05 28 44.6	-3.8
PNIG				*i* S		Sn	05 29 00.7	-5.5
PLIG	**Platanillo**	**1.70**	**1**	*e*P		Pn	05 28 50.6	-2.3
PLIG				*e*S		Sn	05 29 09.3	-5.2
PLIG	**Platanillo**	**1.70**	**1**	*e*P		Pn	05 28 49.8	-3.2
PLIG				*e*S		Sn	05 29 09.3	-5.2
ARIG	**Puente Sto Nin**	**1.77**	**334**	*e*P		Pn	05 28 51.3	-2.6
ARIG				*e*S		Sn	05 29 11.3	-4.9
ARIG	**Puente Sto Nin**	**1.77**	**334**	*e*P		Pn	05 28 51.3	-2.6
ARIG				*e*S		Sn	05 29 11.3	-4.9
ZIIG	**Zihuatanejo**	**2.07**	**297**	*e*P		Pn	05 28 55.3	-2.7
ZIIG				*e*S		Sn	05 29 19.7	-3.8
ZIIG	**Zihuatanejo**	**2.07**	**297**	*e*P		Pn	05 28 55.3	-2.7
ZIIG				*e*S		Sn	05 29 19.7	-3.8

BJI ***25*** *05:28:37.0, 55˚.90S×28˚.10W, h104km, mB5.2/4*

MOS ***25*** *05:28:37.4±0.8, 55˚.88S×28˚.08W, h108km, mb4.9/14, Error ellipse: s-maj=19.0km s-min=10.2km az=102.5*

ISCJB ***25*** *05:28:38.6±1.3, 55˚.85S±0˚.04×28˚.09W±0˚.08, h123km±12km, mb4.8/60, Error ellipse: s-maj=8.6km s-min=5.9km az=143.0*

NEIC ***25*** *05:28:41.1±0.8, 55˚.87S×28˚.09W, h134km±6km, mb4.8/55, Error ellipse: s-maj=4.8km s-min=3.6km az=221.0*

IDC ***25*** *05:28:43.0±1.2, 55˚.86S×28˚.05W, h150km±9km, mb4.5/14, mb1 4.5/16, mb1mx4.3/22, mbtmp4.9/16, MS3.7/3, Ms1 3.7/3, ms1mx3.2/25, Error ellipse: s-maj=13.4km s-min=11.5km az=78.0*

GCMT ***25*** *05:28:43.1±0.3, 55˚.96S±0˚.02×27˚.91W±0˚.04, h120km±3km, MW5.0/93, Moment Tensor Solution. s28,c28; s93,c115; Duration: 0 Moment tensor: Scale 10¹⁶ Nm; Mrr=3.28±.17; Mθθ=3.98±.24; Mϕϕ=0.70±.21; Mrθ=2.51±.16; Mθϕ=0.91±.18; Mϕr=1.25±.12; Best double couple: M=4.71300×10¹⁶ NP1:ϕ=258.00000°, δ=65.00000°, λ=66.00000°. NP2: ϕ=124.00000°, δ=34.00000°, λ=130.00000°. Principal axes: T 4.6160, Plg63.0000°, Azm130.0000°; N 0.2030, Plg21.0000°, Azm269.0000°; P -4.8100, Plg16.0000°, Azm6.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 05:28:42.1±0.8, 55˚.89S±0˚.06×28˚.22W±0˚.06, h145km±7km, n326, σ1§01/355, mb4.7/59, 11C-9D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.01**	**285**	*e*Pn		**Pn**	**05 29 53.8**	**-1.7**
HOPE				*e*Sn		**Sn**	**05 30 46.4**	**-6.3**
VNA1	**Neumayer--Stat**	**17.17**	**157**	P		**P**	**05 32 32.2**	**+0.1**
VNA3	**Neumayer Olymp**	**17.34**	**160**	P		**P**	**05 32 34.0**	**0.0**
VNA2	**Neumayer--Watz**	**17.57**	**157**	P		**P**	**05 32 36.2**	**-0.2**
	baz=318,slow=12							
EFI	**East Falkland**	**18.06**	**271**	*e*P		**P**	**05 32 43.4**	**+1.5**
	40nm,1.1s							
EFI	**East Falkland**	**18.06**	**271**	*i*P		**P**	**05 32 43.1**	**+1.1**
SNAA	**Sanae**	**19.13**	**156**	P		**P**	**05 32 53.1**	**-0.5**
SNAA	**Sanae**	**19.13**	**156**	P		**P**	**05 32 52.8**	**-0.8**
	6.7nm,0.3s,baz=305,slow=9.1,SNR=244							
SNAA				S		**S**	**05 36 19.7**	**-2.7**
	0.1nm,0.3s,baz=207,slow=18,SNR=5.0							
SNAA				PcP		**PcP**	**05 37 11.1**	**+0.2**
	0.4nm,0.3s,baz=314,slow=2.0,SNR=4.7							
SNAA				ScP		**ScP**	**05 40 33.5**	**+0.7**
	0.5nm,0.3s,baz=21,slow=20,SNR=7.7							
SNAA	**Sanae**	**19.13**	**156**	*e*P		**P**	**05 32 52.6**	**-1.0**
	194nm,0.9s							
SNAA				S		**S**	**05 36 19.7**	**-2.7**
SNAA				*e*PcP		**PcP**	**05 37 11.9**	**+1.1**
SNAA				ScP		**ScP**	**05 40 33.5**	**+0.7**
SNAA	**Sanae**	**19.13**	**156**	*e*P		**P**	**05 32 52.6**	**-1.0**
SNAA				S		**S**	**05 36 19.7**	**-2.7**
SNAA				pmax	pmax			
	comp=Z,194nm,0.9s							
PMSA	**Palmer Station**	**19.57**	**228**	P		**P**	**05 32 59.7**	**+1.4**
	comp=Z,1.2nm,0.3s,baz=78,slow=7.3,SNR=3.6							
PMSA	**Palmer Station**	**19.57**	**228**	*e*P		**P**	**05 33 00.5**	**+2.2**
	comp=Z,92nm,1.1s							
NVL	**N'lazarevskaya**	**22.72**	**146**	*e*P		**P**	**05 33 30.3**	**-0.8**
NVL				*e*S		S	05 37 13.9	-14
NVL				pmax	pmax			
	comp=Z,24nm,0.6s							
GO09	**Cerro Castillo**	**26.25**	**261**	*e*P		**P**	**05 34 02.3**	**-1.0**
	comp=Z,13nm,1.1s							
TRQA	**Tornquist**	**28.73**	**294**	*e*P		**P**	**05 34 26.1**	**+0.5**

	comp=Z,5.0nm,1.0s							
TRQA				*e*PcP		**PcP**	**05 37 32.6**	**+0.6**
TRQA	**Tornquist**	**28.73**	**294**	*e*P		**P**	**05 34 26.1**	**+0.5**
TRQA				*e*			05 37 32.6	
TRQA				pmax	pmax			
	comp=Z,5.0nm,1.0s							
PLCA	**Paso Flores**	**31.40**	**281**	PcP		**PcP**	**05 37 39.5**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=159,slow=0.5,SNR=5.4							
PLCA				ScP		**ScP**	**05 41 07.9**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=94,slow=3.3,SNR=6.6							
PLCA				LR		LR	05 47 11.4	
	comp=Z,79nm,19.1s,baz=86,slow=35							
SYO	**Syowa Base**	**32.08**	**141**	*i*eP		P	05 34 49.6	-5.0
SYO	**Syowa Base**	**32.08**	**141**	*i*epP		pP	05 35 17.8	-7.7
QSPA	**South Pole Qui**	**34.37**	**180**	P		**P**	**05 35 15.6**	**+0.8**
	comp=Z,55nm,0.6s,baz=197,slow=4.6,SNR=278							
QSPA				PcP		**PcP**	**05 37 46.7**	**-0.2**
	comp=Z,4.9nm,0.6s,baz=203,slow=2.9,SNR=2.9							
QSPA				ScP		**ScP**	**05 41 17.1**	**-1.1**
	comp=Z,2.6nm,0.5s,baz=277,slow=2.2,SNR=7.7							
QSPA	**South Pole Qui**	**34.37**	**180**	*e*P		**P**	**05 35 15.4**	**+0.6**
	comp=Z,67nm,0.8s							
QSPA				*e*PcP		**PcP**	**05 37 46.1**	**-0.9**
QSPA				*e*PcP		PcP	05 37 46.7	-0.2
CPUP	**Villa Florida**	**36.27**	**312**	P		**P**	**05 35 31.9**	**+0.6**
	comp=Z,2.0nm,0.5s,baz=146,slow=6.5,SNR=7.0							
CPUP				PcP		**PcP**	**05 37 53.0**	**+0.1**
	comp=Z,2.8nm,0.7s,baz=165,slow=4.7,SNR=3.4							
CPUP				ScP		**ScP**	**05 41 25.0**	**-0.6**
	comp=Z,5.7nm,1.0s,baz=89,slow=2.6,SNR=6.2							
CPUP	**Villa Florida**	**36.27**	**312**	*e*P		**P**	**05 35 32.1**	**+0.8**
	comp=Z,2.5nm,0.6s							
CPUP				*e*PcP		**PcP**	**05 37 53.4**	**+0.4**
CPUP				ScP		**ScP**	**05 41 25.0**	**-0.6**
CPUP	**Villa Florida**	**36.27**	**312**	*e*P		**P**	**05 35 32.1**	**+0.8**
CPUP				*e*			05 37 53.4	
CPUP				pmax	pmax			
	comp=Z,3.0nm,0.6s							
GO05	**Huala**	**36.28**	**287**	*e*P		**P**	**05 35 33.0**	**+1.7**
	comp=Z,8.2nm,1.0s							
GO05				*e*PcP		**PcP**	**05 37 53.3**	**+0.3**
ROC1	**El Roble**	**37.34**	**290**	*e*P		**P**	**05 35 40.1**	**-0.4**
	comp=Z,9.2nm,1.1s							
GO04	**Tololo Observa**	**39.43**	**293**	*e*P		**P**	**05 35 57.9**	**-0.1**
	comp=Z,6.9nm,1.0s							
GO04				*e*PcP		**PcP**	**05 38 03.8**	**+0.7**
LCO	**Las Campanas**	**40.31**	**294**	*e*P		**P**	**05 36 05.1**	**-0.2**
	comp=Z,4.4nm,1.0s							
LCO	**Las Campanas**	**40.31**	**294**	*ce*P		**P**	**05 36 05.8**	**+0.5**
MAW	**Mawson**	**40.62**	**144**	P		**P**	**05 36 07.1**	**0.0**
	comp=Z,21nm,0.7s,baz=257,slow=13,SNR=4.8							
MAW				PcP		**PcP**	**05 38 06.5**	**+0.6**
	comp=Z,33nm,1.0s,baz=230,slow=7.2,SNR=5.8							
MAW	**Mawson**	**40.62**	**144**	*e*P		**P**	**05 36 07.0**	**0.0**
	comp=Z,8.3nm,1.0s							
MAW				*e*PcP		**PcP**	**05 38 06.9**	**+0.9**
SUR	**Sutherland**	**41.16**	**76**	P		**P**	**05 36 11.9**	**-0.2**
	comp=Z,9.5nm,1.0s,baz=202,slow=5.4,SNR=2.8							
SUR	**Sutherland**	**41.16**	**76**	*e*P		**P**	**05 36 10.9**	**-1.3**
	comp=Z,13nm,1.1s							
GO02	**Mina Guanaco**	**42.90**	**298**	*e*P		**P**	**05 36 27.0**	**+0.5**
	comp=Z,12nm,0.6s							
BDFB	**Brasilia**	**42.94**	**331**	LR		LR	05 53 55.0	
	comp=Z,148nm,18.6s,baz=200,slow=35							
BDFB	**Brasilia**	**42.94**	**331**	*e*P		**P**	**05 36 25.2**	**-1.4**
	comp=Z,2.6nm,1.0s							
BDFB	**Brasilia**	**42.94**	**331**	*e*P		**P**	**05 36 25.2**	**-1.4**
BDFB				pmax	pmax			
	comp=Z,3.0nm,1.0s							
SHEL	**Horse Pasture**	**43.40**	**32**	*e*P		**P**	**05 36 31.1**	**+1.0**
	comp=Z,46nm,1.0s							
SHEL	**Horse Pasture**	**43.40**	**32**	*e*P		**P**	**05 36 31.2**	**+1.0**
SHEL				pmax	pmax			
	comp=Z,46nm,1.0s

	comp=Z,4.7nm,0.9s									
OTAV	**Otavalo**		**69.08**	**305**	*ce*P		**P**		05 39 35.1	**+2.3**
OTAV					pmax		pmax			
	comp=Z,14nm,1.3s									
MCQ	**Macquarie Isla**		**69.82**	**184**	*e*P		**P**		05 39 36.6	**+0.4**
	comp=Z,100nm,0.9s									
MCQ	**Macquarie Isla**		**69.82**	**184**	*e*P		**P**		05 39 36.6	**+0.4**
MCQ					pmax		pmax			
	comp=Z,100nm,0.9s									
MRIV	**Mauritius Mete**		**71.07**	**98**	*e*P		**P**		05 39 45.7	**+1.3**
	comp=Z,16nm,0.9s									
MBAR	**Mbarara**		**72.59**	**64**	⇓*e*P		**P**		05 39 54.5	**+0.8**
MBAR					pmax		pmax			
	comp=Z,21nm,1.5s									
TOA0	**Torodi Ar. Sit**		**73.20**	**30**	*e*P		**P**		05 39 57.8	**+0.9**
	comp=Z,14nm,0.8s									
TORD	**Torodi Ar. Bea**		**73.20**	**30**	P		**P**		05 39 56.0	**-0.9**
	comp=Z,10nm,0.8s,baz=198,slow=6.9,SNR=56									
TOA1	**Torodi Ar. Sit**		**73.21**	**30**	*e*P		**P**		05 39 56.0	**-0.9**
SDV	**Santo Domingo**		**73.49**	**316**	*e*P		**P**		05 39 59.2	**+0.3**
	comp=Z,13nm,1.1s									
WHZ	**Wether Hill Ro**		**77.68**	**191**	*e*P		**P**		05 40 22.7	**+0.5**
	comp=Z,17nm,1.0s									
MLZ	**Mavora Lakes**		**78.18**	**192**	*e*P		**P**		05 40 25.0	**0.0**
	comp=Z,17nm,1.2s									
LBZ	**Lake Benmore**		**78.90**	**193**	*e*P		**P**		05 40 29.9	**+1.0**
	comp=Z,9.8nm,1.1s									
RPZ	**Rata Peaks**		**79.44**	**194**	*e*P		**P**		05 40 32.3	**+0.4**
	comp=Z,29nm,1.0s									
FOZ	**Fox Glacier**		**79.78**	**193**	*e*P		**P**		05 40 34.3	**+0.7**
	comp=Z,14nm,1.2s									
LTZ	**Lake Taylor**		**80.18**	**195**	*e*P		**P**		05 40 35.6	**-0.3**
	comp=Z,44nm,1.1s									
OBIP	**Obispado Ponce**		**80.45**	**323**	*e*P		**P**		05 40 37.4	**0.0**
	comp=Z,11nm,1.1s									
THZ	**Tophouse**		**81.08**	**196**	*e*P		**P**		05 40 41.6	**+0.8**
	comp=Z,14nm,0.8s									
SNZO	**South Karori**		**81.23**	**197**	*e*P		**P**		05 40 41.5	**0.0**
	comp=Z,68nm,1.1s									
TAU	**Tasmania Unive**		**81.50**	**177**	*e*P		**P**		05 40 42.4	**-0.4**
	comp=Z,55nm,1.1s									
TAU	**Tasmania Unive**		**81.50**	**177**	*e*P		**P**		05 40 42.4	**-0.4**
TAU					pmax		pmax			
	comp=Z,55nm,1.1s									
BKZ	**Black Stump Fm**		**83.01**	**199**	*e*P		**P**		05 40 51.1	**+0.2**
	comp=Z,15nm,1.2s									
BOAB	**BOACO BROADBAND**		**83.16**	**304**	*e*P		**P**		05 40 51.6	**-0.1**
	comp=Z,43nm,0.9s									
HIZ	**Hauiti**		**83.93**	**198**	*e*P		**P**		05 40 54.5	**-1.0**
	comp=Z,33nm,1.2s									
NWAO	**Narrogin (SRO)**		**86.75**	**151**	P		**P**		05 41 09.0	**-0.7**
	comp=Z,10nm,0.7s,baz=59,slow=4.5,SNR=7.3									
NWAO	**Narrogin (SRO)**		**86.75**	**151**	*e*P		**P**		05 41 08.9	**-0.7**
	comp=Z,16nm,0.8s									
NWAO	**Narrogin (SRO)**		**86.75**	**151**	*e*P		**P**		05 41 08.9	**-0.7**
NWAO					pmax		pmax			
	comp=Z,16nm,0.8s									
OUZ	**Omahuta**		**87.36**	**198**	*e*P		**P**		05 41 13.1	**+0.6**
	comp=Z,16nm,1.0s									
CAN	**Canberra**		**89.12**	**178**	*e*P		**P**		05 41 21.9	**+1.0**
	comp=Z,4.9nm,0.8s									
CAN	**Canberra**		**89.12**	**178**	*e*P		**P**		05 41 21.9	**+1.0**
CAN					pmax		pmax			
	comp=Z,5.0nm,0.8s									
MORW	**Morawa**		**90.06**	**149**	*e*P		**P**		05 41 24.8	**-0.5**
	comp=Z,10nm,1.0s									
BBOO	**Buckleboo**		**90.64**	**167**	*e*P		**P**		05 41 27.9	**0.0**
	comp=Z,8.2nm,1.1s									
TEIG	**Tepich**		**91.14**	**306**	*e*P		**P**		05 41 31.1	**+1.0**
	comp=Z,22nm,1.1s									
FORT	**Forrest**		**91.33**	**160**	*e*P		**P**		05 41 31.7	**+0.6**
	comp=Z,28nm,0.9s									
STKA	**Stephens Creek**		**92.16**	**171**	P		**P**		05 41 35.4	**+0.5**
	comp=Z,3.4nm,0.7s,baz=240,slow=2.8,SNR=6.0									
STKA	**Stephens Creek**		**92.16**	**171**	*e*P		**P**		05 41 35.1	**+0.2**
	comp=Z,0.7nm,0.7s									
STKA	**Stephens Creek**		**92.16**	**171**	*e*P		**P**		05 41 35.1	**+0.2**
STKA					pmax		pmax			
	comp=Z,1.0nm,0.7s									
ASAR	**Alice Springs**		**99.32**	**163**	P		**Pdif**		05 42 07.0	**-0.7**
	comp=Z,4.1nm,0.8s,baz=190,slow=3.8,SNR=31									
ASAR					PP		**PP**		05 46 10.0	**-1.4**
	comp=Z,2.4nm,1.0s,baz=181,slow=6.5,SNR=7.8									
ASAR					PKKPbc		**PKKPbc**		05 58 26.6	**-1.5**
	comp=Z,0.5nm,0.5s,baz=15,slow=2.3,SNR=4.1									
AS01	**Alice Springs**		**99.33**	**163**	*e*Pdif		**Pdif**		05 42 06.2	**-1.5**
WR1	**Warramunga Arr**		**103.04**	**163**	*e*Pdif		**Pdif**		05 42 24.9	**+0.7**
WR1					*e*PKKPbc		**PKKPbc**		05 58 16.6	**-0.9**
WRA	**Warramunga Arr**		**103.04**	**163**	Pdiff		**Pdif**		05 42 24.9	**+0.7**
	comp=Z,1.3nm,0.8s,baz=190,slow=4.2,SNR=3.1									
WRA					PKKPbc		**PKKPbc**		05 58 16.6	**-0.9**
	comp=Z,0.5nm,0.3s,baz=334,slow=2.1,SNR=11									
LTX	**Lajitas**		**106.20**	**298**	*e*PP		PP		05 47 05.3	+1.2
LTX					*e*PKKPbc		PKKPbc		05 58 10.2	+1.6
TXAR	**Lajitas Array**		**106.20**	**298**	PP		PP		05 47 05.3	+1.2
	comp=Z,0.2nm,0.9s,baz=192,slow=7.4,SNR=2.6									
TXAR					PKKPbc		PKKPbc		05 58 10.2	+1.6
	comp=Z,0.5nm,0.8s,baz=292,slow=3.4,SNR=6.4									
PMG	**Port Moresby**		**114.83**	**175**	⇓*i*PKIKP		PKPdf		05 47 06.7	+1.2
KULM	**Kulim**		**115.32**	**121**	*e*PKPdf		**PKPdf**		**05 47 05.4**	**-1.0**
NEY	**Neytrino**		**115.44**	**50**	⇑*i*PKIKP		**PKPdf**		**05 47 06.9**	**+1.0**
KIV	**Kislovodsk**		**116.00**	**49**	*e*PKIKP		**PKPdf**		**05 47 07.3**	**+0.5**
KIV					pmax		pmax			
	comp=Z,6.0nm,1.0s									
AK11	**Malin Array Si**		**116.37**	**37**	*e*PKPdf		**PKPdf**		**05 47 06.1**	**-1.1**
KIEV	**Kiev**		**116.40**	**37**	*e*PKPdf		**PKPdf**		**05 47 06.6**	**-0.6**
KIEV	**Kiev**		**116.40**	**37**	⇓*i*PKIKP		**PKPdf**		**05 47 05.7**	**-1.5**
AKASG	**Malin Array Be**		**116.41**	**37**	PKP		**PKPdf**		**05 47 06.5**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=238,slow=1.7,SNR=3.7									
AKBB	**Malin Array Si**		**116.41**	**37**	*e*PKPdf		**PKPdf**		**05 47 06.9**	**-0.4**
AKBB	**Malin Array Si**		**116.41**	**37**	*e*PKIKP		**PKPdf**		**05 47 06.9**	**-0.4**
KNB	**Kanab**		**116.93**	**297**	*e*PKPdf		**PKPdf**		**05 47 09.2**	**+0.2**
KNB	**Kanab**		**116.93**	**297**	*e*PKIKP		**PKPdf**		**05 47 09.2**	**+0.2**
PKCU	**Pink Cliffs**		**117.00**	**297**	*e*PKPdf		**PKPdf**		**05 47 10.2**	**+0.9**
LCMT	**Little Creek M**		**117.14**	**296**	*e*PKPdf		**PKPdf**		**05 47 09.9**	**+0.5**
SHPR	**Sheep Range**		**117.72**	**295**	*e*PKPdf		**PKPdf**		**05 47 11.5**	**+1.0**
MSU	**Marysvale**		**117.76**	**298**	*e*PKPdf		**PKPdf**		**05 47 11.2**	**+0.6**
MSU	**Marysvale**		**117.76**	**298**	*e*PKIKP		**PKPdf**		**05 47 11.2**	**+0.6**
RSSD	**Black Hills**		**118.28**	**308**	*e*PKPdf		**PKPdf**		**05 47 11.7**	**+0.3**
RSSD	**Black Hills**		**118.28**	**308**	*e*PKIKP		**PKPdf**		**05 47 11.7**	**+0.3**
PSUT	**Pine Spring**		**118.62**	**297**	*e*PKPdf		**PKPdf**		**05 47 12.7**	**+0.4**
TPNV	**Topopah Spring**		**118.62**	**294**	*e*PKPdf		**PKPdf**		**05 47 13.4**	**+1.1**
NLU	**North Lily Min**		**118.82**	**299**	*e*PKPdf		**PKPdf**		**05 47 13.3**	**+0.7**
DUG	**Dugway, Tooele**		**119.37**	**299**	*e*PKPdf		**PKPdf**		**05 47 14.2**	**+0.6**
TCUT	**Toone Canyon**		**119.39**	**301**	*e*PKPdf		**PKPdf**		**05 47 14.2**	**+0.5**
ULM	**Lac du Bonnet**		**119.73**	**317**	PKP		**PKPdf**		**05 47 12.5**	**-1.2**
	comp=Z,2.3nm,0.6s,baz=180,slow=2.1,SNR=7.2									
ULM					PKKPbc		**PKKPbc**		05 57 23.7	**+0.2**
	comp=Z,2.9nm,0.8s,baz=345,slow=7.6,SNR=5.0									
PD31	**Pinedale Array**		**119.77**	**303**	*e*PKPdf		**PKPdf**		**05 47 13.4**	**-1.0**
PDAR	**Pinedale Array**		**119.77**	**303**	PKP		**PKPdf**		**05 47 13.5**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=151,slow=4.6,SNR=4.7									
PDAR					PKKPbc		**PKKPbc**		05 57 22.4	**-1.1**
	comp=Z,0.5nm,0.7s,baz=109,slow=3.6,SNR=5.1									
HWUT	**Hardware Ranch**		**119.84**	**301**	*e*PKPdf		**PKPdf**		**05 47 14.2**	**-0.3**
BGU	**Big Grassy Mou**		**120.03**	**299**	*e*PKPdf		**PKPdf**		**05 47 14.9**	**+0.1**
SPUT	**South Promonto**		**120.04**	**300**	*e*PKPdf		**PKPdf**		**05 47 14.9**	**+0.1**
VSR	**Storozhevoye**		**120.40**	**42**	*e*PKIKP		**PKPdf**		**05 47 13.5**	**-1.4**
VSR					pmax		pmax			
	comp=Z,4.0nm,0.5s									
HVU	**Hansel Valley**		**120.56**	**300**	*e*PKPdf		**PKPdf**		**05 47 15.9**	**+0.1**
HVU	**Hansel Valley**		**120.56**	**300**	*e*PKIKP		**PKPdf**		**05 47 15.9**	**+0.1**
NB2	**NORSAR Subarra**		**120.66**	**21**	PKPdf		**PKPdf**		**05 47 15.1**	**-0.1**
	comp=Z,4.3nm,1.2s,baz=202,slow=1.9									
NB200	**NORSAR Array S**		**120.66**	**21**	*e*PKPdf		**PKPdf**		**05 47 15.3**	**+0.1**
NOA	**NORSAR Array B**		**120.66**	**21**	PKP		**PKPdf**		**05 47 15.3**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=205,slow=2.0,SNR=9.7									
NB201	**NORSAR Array S**		**120.68**	**21**	*e*PKPdf		**PKPdf**		**05 47 15.2**	**0.0**
NC204	**NORSAR Array S**		**120.78**	**21**	*e*PKPdf		**PKPdf**		**05 47 15.5**	**+0.1**
NV01	**Mina Array Sit**		**120.80**	**294**	*e*PKPdf		**PKPdf**		**05 47 17.1**	**+0.6**
NVAR	**Mina Array Bea**		**120.80**	**294**	PKP		**PKPdf**		**05 47 17.1**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=141,slow=3.9,SNR=9.3									
NVAR					PKKPab		**PKKPab**		05 57 20.7	**+0.2**
	comp=Z,0.7nm,0.8s,baz=326,slow=2.1,SNR=4.4									
NC405	**NORSAR Array S**		**120.83**	**21**	*e*PKPdf		**PKPdf**		**05 47 15.8**	**+0.4**
REDW	**Red Top Meadow**		**120.83**	**303**	*e*PKPdf		**PKPdf**		**05 47 16.6**	**+0.3**
NC303	**NORSAR Array S**		**120.86**	**21**	*e*PKPdf		**PKPdf**		**05 47 15.5**	**0.0**
LOHW	**Long Hollow**		**120.91**	**303**	*e*PKPdf		**PKPdf**		**05 47 16.9**	**+0.5**
TPAW	**Teton Pass**		**120.98**	**303**	*e*PKPdf		**PKPdf**		**05 47 16.3**	**-0.4**
ELK	**Elko**		**120.99**	**298**	*e*PKPdf		**PKPdf**		**05 47 17.0**	**+0.2**
ELK	**Elko**		**120.99**	**298**	*e*PKIKP		**PKPdf**		**05 47 17.0**	**+0.2**
RYN	**Ryan**		**121.06**	**294**	*e*PKPdf		**PKPdf**		**05 47 17.9**	**+1.0**
MOOW	**Moose Ponds**		**121.08**	**303**	*e*PKPdf		**PKPdf**		**05 47 16.7**	**-0.1**
FXWY	**Fox Creek**		**121.13**	**303**	*e*PKPdf		**PKPdf**		**05 47 17.2**	**+0.3**
LAO	**LASA Array**		**121.24**	**308**	*e*PKPdf		**PKPdf**		**05 47 16.7**	**-0.1**
FLWY	**Flagg Ranch**		**121.31**	**303**	*e*PKPdf		**PKPdf**		**05 47 18.4**	**+1.1**
VRH	**Novokhopyorsk**		**121.37**	**44**	*e*PKIKP		**PKPdf**		**05 47 15.3**	**-1.5**
VRH					pmax		pmax			
	comp=Z,5.0nm,0.4s									
RLMT	**Red Lodge**		**121.43**	**305**	*e*PKPdf		**PKPdf**		**05 47 18.2**	**+0.8**
YPP	**Pitchstone Pla**		**121.50**	**303**	*e*PKPdf		**PKPdf**		**05 47 19.3**	**+1.6**
YERR	**Yerington**		**121.70**	**294**	*e*PKPdf		**PKPdf**		**05 47 19.2**	**+1.1**
BEKR	**Beckworth**		**122.94**	**294**	*e*PKPdf		**PKPdf**		**05 47 21.1**	**+0.6**
NIL	**Nilore**		**123.31**	**78**	*e*PKPdf		**PKPdf**		**05 47 21.2**	**0.0**
NIL	**Nilore**		**123.31**	**78**	*e*PKIKP		**PKPdf**		**05 47 21.2**	**0.0**
HRY	**Holter Researc**		**123.80**	**305**	*e*PKPdf		**PKPdf**		**05 47 22.8**	**+1.0**
EGMT	**Eagleton**		**123.83**	**307**	*e*PKPdf		**PKPdf**		**05 47 22.1**	**+0.4**
WVOR	**Wild Horse Val**		**123.95**	**297**	*e*PKPdf		**PKPdf**		**05 47 23.8**	**+1.5**
MOD	**Modoc Plateau**		**124.40**	**295**	*e*PKPdf		**PKPdf**		**05 47 24.1**	**+0.9**
FIA0	**FINESS Array S**		**124.51**	**28**	*e*PKPdf		**PKPdf**		**05 47 22.3**	**-0.2**
FIA0	**FINESS Array S**		**124.51**	**28**	*e*PKIKP		**PKPdf**		**05 47 22.3**	**-0.2**
FINES	**FINESS Array B**		**124.51**	**28**	PKP		**PKPdf**		**05 47 22.3**	**-0.2**
	comp=Z,6.9nm,0.4s,baz=158,slow=2.2,SNR=93									
FIA1	**FINESS Array S**		**124.51**	**28**	*e*PKPdf		**PKPdf**		**05 47 22.3**	**-0.2**
J08A	**Circle Bar Ran**		**124.54**	**298**	*e*PKPdf		**PKPdf**		**05 47 23.8**	**+0.4**
WDC	**Whiskeytown Da**		**124.59**	**293**	*e*PKPdf		**PKPdf**		**05 47 23.9**	**+0.5**
WDC	**Whiskeytown Da**		**124.59**	**293**	*e*PKIKP		**PKPdf**		**05 47 23.9**	**+0.5**
MSO	**Missoula**		**124.88**	**303**	*e*PKPdf		**PKPdf**		**05 47 24.7**	**+0.8**
BMO	**Blue Mountains**		**125.05**	**300**	*e*PKPdf		**PKPdf**		**05 47 24.8**	**+0.5**
I07A	**Izee**		**125.58**	**298**	*e*PKPdf		**PKPdf**		**05 47 26.5**	**+1.2**
CM01	**Chiang Mai Arr**		**125.64**	**111**	*e*PKPdf		**PKPdf**		**05 47 25.7**	**-0.4**
GAR	**Garm**		**125.66**	**72**	*e*PKPdf		**PKPdf**		**05 47 26.0**	**+0.3**
CM31	**Chiang Mai Arr**		**125.66**	**111**	*e*PKPdf		**PKPdf**		**05 47 25.8**	**-0.3**
CMAR	**Chiang Mai Arr**		**125.66**	**111**	PKP		**PKPdf**		**05 47 26.1**	**0.0**
	comp=Z,7.7nm,0.8s,baz=234,slow=3.6,SNR=40									
FCC	**Fort Churchill**		**125.81**	**324**	*e*PKPdf		**PKPdf**		**05 47 24.5**	**-0.5**
FCC	**Fort Churchill**		**125.81**	**324**	*e*PKIKP		**PKPdf**		**05 47 24.5**	**-0.5**
G08A	**Pilot Rock**		**126.18**	**299**	*e*PKIKP		**PKPdf**		**05 47 26.7**	**+0.3**
BTK	**Batken**		**126.69**	**71**	*e*PKPdf		**PKPdf**		**05 47 28.6**	**+1.1**
BTK	**Batken**		**126.69**	**71**	*e*PKIKP		**PKPdf**		**05 47 28.6**	**+1.1**
E08A	**Dider Farm, El**		**127.08**	**300**	*e*PKPdf		**PKPdf**		**05 47 28.9**	**+1.0**
AKTO	**Aktyubinsk**		**127.70**	**54**	PKP		**PKPdf**		**05 47 29.1**	**+0.1**
	comp=Z,5.2nm,0.7s,baz=186,slow=2.5,SNR=17									
ABKAR	**Akbulak array**		**127.75**	**56**	*e*PKPdf		**PKPdf**		**05 47 29.5**	**+0.4**
KLMR	**Klimovskoe**		**128.02**	**35**	*e*PKIKP		**PKPdf**		**05 47 25.3**	**-3.9**
KLMR					pmax		pmax			
	comp=Z,17nm,1.4s									
KLMR	**Klimovskoe**		**128.02**	**35**	*e*PKPdf		**PKPdf**		**05 47 25.3**	**-3.9**
KLMR					AMP				05 47 31.5	
	comp=Z,17nm,1.4s									
B08A	**Colville Reser**		**128.53**	**302**	*e*PKPdf		**PKPdf**		**05 47 31.1**	**+0.4**
LON	**Longmire**		**128.62**	**299**	*e*PKPdf		**PKPdf**		**05 47 31.9**	**+1.0**
LON	**Longmire**		**128.62**	**299**	*e*PKIKP		**PKPdf**		**05 47 31.9**	**+1.0**
KK31	**Karatay Array**		**128.69**	**68**	*e*PKPdf		**PKPdf**		**05 47 31.2**	**+0.1**
KK31	**Karatay Array**		**128.69**	**68**	*e*PKIKP		**PKPdf**		**05 47 31.3**	**+0.1**
KKAR	**Karatay Array**		**128.69**	**68**	*e*PKPdf		**PKPdf**		**05 47 31.4**	**+0.3**
KKAR	**Karatay Array**		**128.69**	**68**	*e*PKIKP		**PKPdf**		**05 47 31.4**	**+0.3**
KSH	**Kashi**		**129.08**	**75**	PKP		**PKPdf**		**05 47 32.3**	**+0.1**
KSH					sPKP				05 48 11.3	
KSH					PP		**PP**		**05 49 40.4**	**-2.2**
AAK	**Ala-Archa**		**130.47**	**71**	PKP		**PKPdf**		**05 47 34.7**	**0.0**
	comp=Z,4.7nm,0.7s,baz=182,slow=2.4,SNR=13									
AAK	**Ala-Archa**		**130.47**	**71**	*e*PKPdf		**PKPdf**		**05 47 35.0**	**+0.3**
AAK	**Ala-Archa**		**130.47**	**71**	*e*PKIKP		**PKPdf**		**05 47 34.9**	**+0.2**
PRGR	**Permogore**		**130.62**	**37**	*e*PKIKP		**PKPdf**		**05 47 32.4**	**-1.7**
PRGR					pmax		pmax			
	comp=Z,11nm,0.5s									
ARCES	**ARCESS Array B**		**131.01**	**22**	PKP		**PKPdf**		**05 47 34.5**	**-0.2**
	comp=Z,3.8nm,0.5s,baz=199,slow=1.7,SNR=45									
ARCES					SKPbc		**SKPbc**		05 50 44.5	**-1.0**
	comp=Z,5.1nm,0.9s,baz=222,slow=1.6,SNR=5.4									
ARE0	**ARCESS Array S**		**131.01**	**22**	*e*PKPdf		**PKPdf**		**05 47 35.0**	**+0.3**
LVZ	**Lovozero**		**131.87**	**27**	*e*PKPdf		**PKPdf**		**05 47 37.1**	**+0.7**
LVZ	**Lovozero**		**131.87**	**27**	*e*PKIKP		**PKPdf**		**05 47 37.1**	**+0.7**
ARU	**Arti**		**132.02**	**48**	⇑*i*PKIKP		**PKPdf**		**05 47 37.4**	**+0.4**
BRVK	**Borovoye**		**135.15**	**58**	*e*PKIKP		**PKPdf**		**05 47 42.9**	**-0.1**
BVAR	**Borovoye Array**		**135.18**	**58**	PKP		**PKPdf**		**05 47 43.2**	**+0.1**
	comp=Z,4.9nm,0.8s,baz=240,slow=2.9,SNR=21									
BVAR					SKPbc		**SKPbc**		05 50 57.4	**-2.7**
	comp=Z,1.5nm,0.7s,baz=270,slow=3.0,SNR=7.2									
YKA	**Yellowknife Ar**		**135.66**	**318**	PKP		**PKPdf**		**05 47 43.3**	**-0.3**
	comp=Z,6.5nm,0.8s,baz=128,slow=1.8,SNR=34									
YKA					SKPbc		**SKPbc**		05 50 59.6	**-1.6**
	comp=Z,2.7nm,0.9s,baz=126,slow=2.3,SNR=17									
YKA					PKKP		**PKKPdf**		05 57 24.3	**-0.5**
	comp=Z,0.4nm,0.8s,baz=306,slow=1.8,SNR=4.5									
YKB5	**Yellowknife Ar**		**135.66**	**318**	*e*PKPdf		**PKPdf**		**05 47 43.3**	**-0.3**
YKW3	**Yellowknife Ar**		**135.71**	**319**	*e*PKPdf		**PKPdf**		**05 47 43.8**	**+0.1**
SPITS	**Spitsbergen Ar**		**136.53**	**12**	PKP		**PKPdf**		**05 47 44.6**	**-0.2**
	comp=Z,17nm,1.0s,baz=121,slow=7.9,SNR=5.2									
MK01	**Makanchi Array**		**137.37**	**72**	*e*PKPpre		PKPpre		05 47 37.7	
MK01					*e*PKPdf		**PKiKP**		**05 47 48.7**	**-0.6**
MK31	**Makanchi Array**		**137.38**	**72**	*e*PKPpre		PKPpre		05 47 37.9	
MK31	**Makanchi Array**		**137.38**	**72**	*e*PKHKP		PKPpre		05 47 37.9	
MK32	**Makanchi Array**		**137.38**	**72**	*e*PKPpre		PKPpre		05 47 39.2	
MKAR	**Makanchi Array**		**137.38**	**72**	PKHKP		PKPpre		05 47 39.2	
	comp=Z,1.4nm,0.8s,baz=225,slow=5.1,SNR=6.5									
MKAR					SKPbc		**SKPbc**		**05 51 05.7**	**-1.3**
	comp=Z,1.6nm,0.7s,baz=247,slow=2.5,SNR=11									
MKAR	**Makanchi Array**		**137.38**	**72**	*e*PKPpre		PKPpre		05 47 37.9	
MKAR					SKPbc		**SKPbc**		**05 51 05.7**	**-1.3**
MKAR	**Makanchi Array**		**137.38**	**72**	*e*PKHKP		PKPpre		05 47 37.9	
RES	**Resolute Bay**		**137.49**	**339**	*e*PKPpre		PKPpre		05 47 39.3	
RES					*e*PKPdf		**PKPdf**		**05 47 47.4**	**+0.7**
KURBB	**Kurchatov Arra**		**137.76**	**65**	PKHKP		PKPpre		05 47 39.0	
	comp=Z,1.4nm,0.7s,baz=235,slow=3.7,SNR=5.9									
KURBB					SKPbc		**SKPbc**		**05 51 07.0**	**-0.9**
	comp=Z,2.9nm,0.9s,baz=230,slow=3.4,SNR=12									
KURK	**Kurchatov**		**137.86**	**65**	*e*PKPpre		PKPpre		05 47 39.0	
KURK					*e*PKPpre		PKPpre		05 47 39.5	
KURK					*e*SKPdf		**SKPbc**		**05 51 07.0**	**-1.2**
KURK	**Kurchatov**		**137.86**	**65**	⇓*e*PKIKP		**PKPdf**		**05 47 49.2**	**+1.2**
CD2	**Chengdu**		**138.26**	**106**	PKP		**PKPdf**		**05 47 51.0**	**+1.5**
WMQ	**Urumqi**		**138.44**	**79**	*e*PKP		**PKPdf**		**05 47 51.0**	**+1.5**
DGZ	**Jazzator, Alta**		**141.88**	**71**	⇑*i*PKIKP		**PKPdf**		**05 47 53.6**	**-2.0**
LZH	**Lanzhou**		**142.21**	**101**	*e*PKP		**PKPdf**		**05 48 00.3**	**+3.6**
LZH					pPKP		pPKPdf		05 48 26.9	-8.2
LZH					sPKP				05 48 38.8	
LZH					LR		LR			
	comp=Z,65nm,17.8s									
LZH					LR		LR			
	comp=Z,70nm,18.3s									
LZH					LR		LR			
	comp=Z,91nm,20.2s									
GTA	**Gaotai**		**142.31**	**94**	PKP		**PKPdf**		**05 47 54.9**	**-1.8**
NVS	**Novosibirsk**		**142.48**	**62**	⇓*i*PKIKP		**PKPdf**		**05 47 53.2**	**-3.1**
NVS					pmax		pmax			
	comp=Z,16nm,1.0s									
NVS					pmax		pmax			
	comp=N,5.0nm,1.2s									
ZAA0	**Zalesovo Array**		**142.82**	**64**	*e*PKPpre		PKPpre		05 47 53.7	
ZAA0					*e*PKPdf		**PKiKP**		**05 47 59.6**	**-0.5**
ZALV	**Zalesovo Beam**		**142.82**	**64**	PKHKP		PKPpre		05 47 53.1	
	comp=N,2.1nm,0.3s,baz=234,slow=4.4,SNR=12									
ZALV					SKP				05 51 17.4	
	comp=N,1.0nm,0.6s,baz=219,slow=3.7,SNR=2.8									
ZALV	**Zalesovo Beam**		**142.82**	**64**	*e*PKPpre		PKPpre		05 47 53.3	
ZALV					*e*PKPdf		**PKiKP**		**05 47 58.8**	**-1.3**
ZALV					SKP				05 51 17.4	
ZAA1	**Zalesovo Array**		**142.82**	**64**	*e*PKPpre		PKPpre		05 47 53.1	
ZAA1					*e*SKPdf		**SKPdf**		**05 51 17.4**	**-0.2**
WHY	**Whitehorse**		**143.00**	**308**	*e*PKPpre		PKPpre		05 47 54.5	
XAN	**Xi'an**		**143.44**	**108**	PKP		PKPbc		05 47 57.1	+0.6
HYT	**Haines Junctio**		**144.23**	**308**	*e*PKPdf		PKPbc		05 47 58.8	+0.8
INK	**Inuvik**		**145.31**	**321**	PKPbc		**PKPdf**		**05 48 01.1**	**+0.3**
	baz=106,slow=2.7									
INK					SKPbc		**SKPbc**		05 51 25.9	**-0.6**
	comp=N,4.1nm,0.8s,baz=37,slow=0.5,SNR=6.6									
DAWY	**Dawson**		**146.25**	**312**	*e*PKPdf		**PKPbc**		**05 48 04.0**	**-0.1**
JOW	**Kunigami**		**146.37**	**140**	*e*PKPdf		**PKPbc**		**05 48 06.0**	**+0.5**
NJ2	**Nanjing**		**146.92**	**122**	*e*PKPbc		**PKPbc**	

*ISCJB **25** 05:50:12.5±0.6,3°.47S±0°.06×149°.2E±0°.1,h19km, mb4.1/16,MS3.9/11,Error ellipse: s-maj=16.5km s-min=8.9km az=8.7*

*NEIC **25** 05:50:12.6±0.4,3°.47S×149°.22E,h10km,mb4.5/8,Error ellipse: s-maj=11.2km s-min=6.2km az=101.0*

*GCMT **25** 05:50:17.6±0.3,3°.38S±0°.02×149°.11E±0°.02,h12km, MW4.9/80,Moment Tensor Solution. s5,c5; s80,c111; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.01±.08; Mθθ=1.30±.07; Mφφ=-1.31±.08; Mrθ=-0.28±.26; Mθφ=1.42±.07; Mφr=1.71±.23; Best double couple: M☐=2.48600×10^16 NP1:φ=201.00000°,δ=82.00000°,λ=-145.00000°. NP2: φ=106.00000°,δ=55.00000°,λ=-10.00000°. Principal axes: T 2.0620, Plg18.0000°, Azm329.0000°; N 0.8490, Plg54.0000°, Azm213.0000°; P -2.9100, Plg30.0000°, Azm69.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 05:50:14.0±0.7,3°.49S±0°.10×149°.1E±0°.1,h19km,n48, σ0.87/33,mb4.3/16,MS3.9/11,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**2.28**	**309**	*e*Pn	**Pn**	**05 50 50.9**	**+0.2**
PMG	**Port Moresby**	**6.20**	**198**	LR	LR	05 54 13.8	
	comp=Z,538nm,19.3s,baz=340,slow=38						
JAY	**Jayapura**	**8.48**	**276**	LR	LR	05 55 11.2	
	comp=Z,1μm,18.3s,baz=78,slow=36						
COEN	**Coen**	**11.96**	**209**	*e*Pn	**Pn**	**05 53 02.5**	**-1.1**
HNR	**Honiara**	**12.25**	**119**	LR	LR	05 57 36.5	
	comp=Z,552nm,21.3s,baz=320,slow=36						
WB2	**Warramunga Arr**	**21.81**	**220**	*e*P	**P**	**05 55 06.4**	**+1.2**
	19nm,0.9s						
WR1	**Warramunga Arr**	**21.82**	**220**	*e*P	**P**	**05 55 05.6**	**+0.3**
WRA	**Warramunga Arr**	**21.82**	**220**	P	**P**	**05 55 05.6**	**+0.3**
	7.3nm,1.0s,baz=42,slow=10,SNR=9.8						
AS01	**Alice Springs**	**24.86**	**215**	*e*P	**P**	**05 55 36.0**	**+0.4**
AS31	**Alice Springs**	**24.89**	**215**	*e*P	**P**	**05 55 36.3**	**+0.5**
	2.7nm,0.9s						
ASAR	**Alice Springs**	**24.89**	**215**	P	**P**	**05 55 36.5**	**+0.7**
	7.8nm,1.0s,baz=52,slow=7.9,SNR=25						
ASAR				LR	LR	06 06 19.6	
	comp=Z,315nm,20.4s,baz=46,slow=39						
DZM	**Mont Dzumac**	**24.96**	**139**	P	**P**	**05 55 38.8**	**+2.2**
	6.5nm,0.6s,baz=300,slow=20,SNR=2.6						
DZM	**Mont Dzumac**	**24.96**	**139**	*e*P	**P**	**05 55 37.0**	**+0.4**
	14nm,0.9s						
FITZ	**Fitzroy Crossi**	**27.22**	**236**	P	**P**	**05 55 57.7**	**+0.8**
	8.9nm,0.9s,baz=58,slow=9.2,SNR=8.0						
FITZ	**Fitzroy Crossi**	**27.22**	**236**	*e*P	**P**	**05 55 58.9**	**+2.0**
	10nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**27.85**	**38**	T	T	06 25 03.5	
	baz=220,slow=76,SNR=55						
H11S2	**WAKE ISLAND Hy**	**27.86**	**38**	T	T	06 25 14.8	
	baz=220,slow=76,SNR=43						
H11S1	**WAKE ISLAND Hy**	**27.87**	**38**	T	T	06 25 14.3	
	baz=220,slow=76,SNR=44						
H11N1	**WAKE ISLAND Hy**	**28.91**	**36**	T	T	06 26 33.3	
	baz=219,slow=76,SNR=9.6						
H11N3	**WAKE ISLAND Hy**	**28.92**	**36**	T	T	06 26 40.9	
	baz=219,slow=76,SNR=11						
H11N2	**WAKE ISLAND Hy**	**28.93**	**36**	T	T	06 26 39.3	
	baz=219,slow=76,SNR=19						
MBWA	**Marble Bar**	**33.56**	**236**	*e*P	**P**	**05 56 52.4**	**-0.6**
	8.8nm,1.0s						
RAO	**Raoul Island**	**40.41**	**133**	LR	LR	06 11 49.4	
	comp=Z,837nm,20.4s,baz=237,slow=32						
MJAR	**Matsushiro Arr**	**41.11**	**347**	LR	LR	06 13 05.1	
	comp=Z,138nm,21.4s,baz=130,slow=34						
LEM	**Lembang**	**41.48**	**264**	LR	LR	06 17 28.3	
	comp=Z,107nm,21.2s,baz=181,slow=40						
KSRS	**Korea Array**	**45.26**	**336**	LR	LR	06 16 25.5	
	comp=Z,167nm,18.6s,baz=152,slow=35						
USRK	**Ussuriysk Ar.**	**49.91**	**344**	LR	LR	06 17 55.6	
	comp=Z,181nm,21.7s,baz=148,slow=33						
CMAR	**Chiang Mai Arr**	**54.02**	**296**	P	**P**	**05 59 38.1**	**+0.5**
	2.1nm,0.4s,baz=127,slow=5.4,SNR=8.7						
CMAR				LR	LR	06 20 40.3	
	comp=Z,37nm,21.5s,baz=112,slow=34						
KLR	**Kul'dur**	**54.63**	**346**	P	**P**	**05 59 40.4**	**-1.0**
	2.5nm,1.1s,baz=173,slow=8.1,SNR=3.7						
SONA0	**Songino Array**	**63.31**	**329**	*e*P	**P**	**06 00 42.9**	**+1.1**
SONM	**Songino Array**	**63.31**	**329**	P	**P**	**06 00 42.9**	**+1.1**
	0.4nm,0.7s,baz=127,slow=3.8,SNR=3.7						
SONM				LR	LR	06 27 43.1	
	comp=Z,85nm,20.2s,baz=69,slow=36						
VNDA	**Vanda**	**74.29**	**177**	LR	LR	06 33 00.9	
	comp=Z,720nm,18.1s,baz=316,slow=34						
MK01	**Makanchi Array**	**76.94**	**320**	*e*P	**P**	**06 02 05.9**	**+0.5**
MK31	**Makanchi Array**	**76.96**	**320**	*e*P	**P**	**06 02 05.7**	**+0.3**
MK32	**Makanchi Array**	**76.96**	**320**	*e*P	**P**	**06 02 05.6**	**+0.2**
MKAR	**Makanchi Array**	**76.96**	**320**	P	**P**	**06 02 05.6**	**+0.2**
	3.0nm,1.1s,baz=101,slow=6.5,SNR=17						
MKAR				LR	LR	06 36 15.3	
	comp=Z,57nm,18.9s,baz=104,slow=36						
MKAR	**Makanchi Array**	**76.96**	**320**	*e*P	**P**	**06 02 05.7**	**+0.3**
	11nm,0.9s						
MAKZ	**Makanchi**	**77.17**	**320**	*e*P	**P**	**06 02 07.6**	**+1.0**
	3.4nm,1.1s						
ZALV	**Zalesovo Beam**	**78.06**	**327**	P	**P**	**06 02 10.8**	**-0.5**
	0.2nm,0.3s,baz=104,slow=6.1,SNR=3.5						
ZALV				LR	LR	06 37 12.2	
	comp=Z,75nm,19.9s,baz=106,slow=36						
ZALV	**Zalesovo Beam**	**78.06**	**327**	*e*P	**P**	**06 02 11.0**	**-0.4**
ZAA1	**Zalesovo Array**	**78.06**	**327**	*e*P	**P**	**06 02 10.8**	**-0.5**
KURK	**Kurchatov**	**80.51**	**323**	*e*P	**P**	**06 02 25.0**	**+0.2**
	3.4nm,1.1s						
ILAR	**Eielson Array**	**82.35**	**23**	P	**P**	**06 02 33.7**	**-0.6**
	0.8nm,1.1s,baz=270,slow=5.4,SNR=3.5						
YKA	**Yellowknife Ar**	**95.97**	**28**	P	**P**	**06 03 39.3**	**-0.3**
	0.3nm,0.7s,baz=270,slow=4.5,SNR=4.2						
TOA0	**Torodi Ar. Sit**	**146.44**	**289**	*e*PKPdf	**PKPbc**	**06 09 54.3**	**-0.6**
TORD	**Torodi Ar. Bea**	**146.44**	**289**	PKPbc	**PKPbc**	**06 09 54.2**	**-0.7**
	1.6nm,0.9s,baz=50,slow=2.7,SNR=8.4						
TOA1	**Torodi Ar. Sit**	**146.44**	**289**	*e*PKPdf	**PKPbc**	**06 09 54.2**	**-0.7**
ANWB	**Willy Bob**	**146.57**	**63**	*e*PKPdf	**PKPdf**	**06 09 52.7**	**-1.1**

IDC 25 05:53:28.9±4.5,3°.64S×149°.73E,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.7/32,mbtmp4.0/4,MS4.2/1,Ms1 4.2/1, ms1mx3.2/20,Error ellipse: s-maj=146.3km s-min=31.0km az=106.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.09**	**222**	P	P	05 58 25.8	-0.1
	5.2nm,0.8s,baz=38,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**25.10**	**216**	P	P	05 58 55.6	0.0
	3.3nm,1.0s,baz=56,slow=8.0,SNR=5.6						
FITZ	**Fitzroy Crossi**	**27.62**	**237**	P	P	05 59 18.4	0.0
	5.9nm,1.0s,baz=73,slow=7.1,SNR=4.5						
RPZ	**Rata Peaks**	**44.15**	**158**	LR	LR	06 17 26.9	
	comp=Z,294nm,19.2s,baz=312,slow=33						
SONM	**Songino Array**	**63.73**	**329**	P	P	06 04 02.5	-0.2
	0.4nm,0.9s,baz=122,slow=5.2,SNR=3.5						
TORD	**Torodi Ar. Bea**	**147.03**	**289**	PKPbc	PKPbc	06 13 14.3	-0.6
	0.4nm,0.8s,baz=52,slow=2.4,SNR=4.1						

*YARS **25** 06:04:01.0±0.1,65°.900N±0°.007×137°.49E±0°.02, h7km±5km*

*IDC **25** 06:04:02.1±1.6,66°.03N×137°.40E,h0km,mb3.5/4, mb1 3.7/5,mb1mx3.4/44,mbtmp3.6/5,ML6.1/1,Error ellipse: s-maj=28.8km s-min=23.0km az=98.0*

*ISCJB **25** 06:04:03.4±0.6,65°.83N±0°.05×136°.4E±0°.1,h10km, mb3.4/4,Error ellipse: s-maj=7.7km s-min=5.9km az=43.1*

ISC 25 06:04:05.2±0.7,65°.90N±0°.03×136°.31E±0°.05,h10km,n17, σ2.75/33,mb3.5/4,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTGS	**Batagay**	**1.88**	**340**	*e*P	**Pn**	**06 04 37.2**	**-0.1**
BTGS				*e*P	**Pb**	**06 04 39.2**	**-0.3**
BTGS				Pmax		06 04 39.2	
	comp=Z,294nm,0.2s						
BTGS				*e*S	**Sg**	**06 05 06.2**	**+0.8**
BTGS				Smax		06 05 06.2	
	comp=N,659nm,0.4s						
ATKR	**Artyk**	**4.12**	**111**	*e*P	**Pn**	**06 05 07.1**	**-1.1**
ATKR				Pmax		06 05 07.1	
	comp=Z,106nm,0.8s						
ATKR				*e*S	**Sn**	**06 05 55.0**	**-1.4**
ATKR				Smax		06 05 55.0	
	comp=E,463nm,0.7s						
YBGR	**Belaya Gora**	**4.66**	**51**	*e*P	Pn	06 05 07.2	-8.3
YBGR				*e*P	Pb	06 05 17.4	-9.5
YBGR				Pmax		06 05 17.4	
	comp=Z,96nm,1.0s						
YBGR				*e*S	**Sn**	**06 06 13.1**	**+3.6**
YBGR				Smax		06 06 13.1	
	comp=E,111nm,0.8s						
YAK	**Yakutsk**	**4.86**	**220**	*e*P	**Pn**	**06 05 19.9**	**+1.7**
YAK				*e*P	**Pb**	**06 05 33.8**	**+3.5**
YAK				Pmax		06 05 33.8	
	comp=Z,41nm,0.3s						
YAK				*e*S	**Sg**	**06 06 40.7**	**-0.3**
YAK				Smax		06 06 40.7	
	comp=E,199nm,0.6s						
TBGR	**Tabaga**	**5.05**	**219**	*e*P	**Pn**	**06 05 21.8**	**+1.0**
TBGR				*e*S	**Sn**	**06 06 20.2**	**+1.1**
TBGR				*e*S	**Sg**	**06 06 46.5**	**-0.6**
TBGR				Smax		06 06 46.5	
	comp=E,278nm,0.6s						
USMR	**Ust'-Maya**	**5.56**	**189**	*e*P	**Pn**	**06 05 27.3**	**-0.6**
USMR				*e*P	**Pb**	**06 05 44.5**	**+2.2**
USMR				Pmax		06 05 44.5	
	comp=Z,4.0nm,0.3s						
USMR				*e*S	**Sn**	**06 06 28.8**	**-3.0**
USMR				*e*S	**Sg**	**06 06 58.6**	**-5.0**
USMR				Smax		06 06 58.6	
	comp=E,138nm,0.6s						
TIXI	**Tiksi**	**6.37**	**338**	Pn	**Pn**	**06 05 38.8**	**-0.1**
	comp=E,1.8nm,0.3s,baz=140,slow=14,SNR=37						
TIXI				Sn	**Sn**	**06 06 50.0**	**-1.5**
	comp=E,4.5nm,0.3s,baz=120,slow=14,SNR=4.0						
TIXI				Lg	Lg	06 07 24.6	
	comp=E,8.2nm,0.3s,baz=18,slow=6.8,SNR=7.5						
TIXI	**Tiksi**	**6.37**	**338**	*e*P	**Pn**	**06 05 38.8**	**-0.1**
TIXI				*e*S	**Sn**	**06 06 50.1**	**-1.4**
TIXI				*e*S	**Sg**	**06 07 23.5**	**-5.7**
TIXI				Smax		06 07 23.5	
	comp=N,147nm,0.4s						
YVAM	**Verhnyaya Amga**	**7.56**	**218**	*e*P	**Pn**	**06 05 56.0**	**+0.7**
YVAM				*e*S	**Sn**	**06 07 20.4**	**-0.5**
YVAM				*e*S	**Sg**	**06 08 04.6**	**-2.9**
CGD	**Chagda**	**7.65**	**203**	*e*P	**Pn**	**06 05 55.6**	**-0.9**
CGD				*e*P	**Pb**	**06 06 22.3**	**+4.5**
CGD				Pmax		06 06 22.3	
	comp=Z,9.0nm,0.7s						
CGD				*e*S	**Sg**	**06 08 03.7**	**-6.7**
CGD				Smax		06 08 03.7	
	comp=E,102nm,1.1s						
ALDR	**Aldan**	**8.90**	**220**	*e*P	**Pn**	**06 06 15.7**	**+2.1**
ALDR				*e*S	**Sn**	**06 07 53.0**	**-0.8**
ALDR				*e*S	**Sg**	**06 08 45.4**	**-4.9**
ALDR				Smax		06 08 45.4	
	comp=E,30nm,0.7s						
MA2	**Magadan**	**9.16**	**127**	Lg	Lg	06 08 38.0	
	comp=E,1.3nm,0.3s,baz=260,slow=16,SNR=4.9						
KLR	**Kul'dur**	**16.89**	**190**	Lg	Lg	06 12 57.1	
	comp=E,0.1nm,0.3s,baz=251,slow=22,SNR=3.8						
SONM	**Songino Array**	**24.00**	**236**	P	**P**	**06 09 22.8**	**+3.0**
	comp=E,1.1nm,0.8s,baz=22,slow=8.0,SNR=7.1						
ILAR	**Eielson Array**	**30.23**	**56**	P	P	06 10 09.8	-5.7
	comp=E,0.4nm,0.9s,baz=301,slow=7.3,SNR=4.0						
MKAR	**Makanchi Array**	**34.08**	**263**	P	**P**	**06 10 50.9**	**+1.5**
	comp=E,0.5nm,0.6s,baz=48,slow=7.7,SNR=7.4						
FINES	**FINESS Array B**	**42.99**	**319**	P	**P**	**06 12 04.0**	**0.0**
	comp=E,0.7nm,0.6s,baz=30,slow=9.6,SNR=4.0						

*DSN **25** 06:16:06.7±1.6,26°.74N×54°.26E,h15km,ML3.5/8,Error ellipse: s-maj=19.9km s-min=6.0km az=171.0*

*TEH **25** 06:16:11.5,26°.34N×54°.68E,h12km,ML3.4*

*OMAN **25** 06:16:11.8±1.2,26°.46N×54°.48E,h107km±20km,ml3.5/11, Error ellipse: s-maj=22.8km s-min=11.7km az=90.0*

*IDC **25** 06:16:20.0±31.0,27°.55N×54°.70E,h0km,mb3.6/3, mb1 3.6/3,mb1mx3.2/34,mbtmp3.6/3,Error ellipse: s-maj=656.7km s-min=40.2km az=180.0*

ISC 25 06:16:11.6±1.9,26°.62N±0°.05×54°.66E±0°.07,h9km±14km, n46,σ1s74/45,mb3.3/3,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UMQ	**Umm Al-Quwin**	**1.42**	**140**	P	**Pn**	**06 16 37.5**	**-0.1**
	SNR=8.4						
UMQ	**Umm Al-Quwin**	**1.42**	**140**	*e*Pn	**Pn**	**06 16 37.2**	**-0.4**
SHME	**Shamm**	**1.45**	**113**	*e*P	**Pn**	**06 16 37.7**	**-0.3**
	SNR=30						
SHME				S	**Sg**	**06 17 01.1**	**+2.9**
SHME	**Shamm**	**1.45**	**113**	*e*Pg	**Pb**	**06 16 38.5**	**-0.3**
BANOM	**Banah**	**1.63**	**115**	P	**Pn**	**06 16 41.3**	**+0.7**
	SNR=41						
MSFE	**Esma-Masafi**	**1.85**	**133**	*e*P	**Pn**	**06 16 42.9**	**-0.6**
	SNR=24						
MSFE	**Esma-Masafi**	**1.85**	**133**	*e*Pn	**Pn**	**06 16 43.1**	**-0.4**
NAZ	**Nazwa, Dubai**	**1.86**	**151**	*e*P	**Pn**	**06 16 42.3**	**-1.4**
	SNR=36						
NAZ	**Nazwa, Dubai**	**1.86**	**151**	P	**Pn**	**06 16 42.5**	**-1.2**
	SNR=36						
NAZ				S	**Sn**	**06 17 05.9**	**-1.5**
NAZ	**Nazwa, Dubai**	**1.86**	**151**	*e*Pn	**Pn**	**06 16 42.5**	**-1.2**
MDH	**Madha**	**1.98**	**131**	*e*P	**Pn**	**06 16 44.5**	**-0.8**
	SNR=22						
MDH	**Madha**	**1.98**	**131**	P	**Pn**	**06 16 45.0**	**-0.4**
	SNR=10						
MDH	**Madha**	**1.98**	**131**	*e*Pg	**Pn**	**06 16 44.9**	**-0.4**
FAQ	**Al Faqa, Dubai**	**2.05**	**156**	*e*P	**Pn**	**06 16 44.7**	**-1.6**
	SNR=11						
FAQ	**Al Faqa, Dubai**	**2.05**	**156**	*e*Pn	**Pn**	**06 16 44.4**	**-1.9**
AJN	**Ajban**	**2.08**	**172**	S	**Sn**	**06 17 09.7**	**-2.9**
	SNR=17						
AJN	**Ajban**	**2.08**	**172**	*e*Pn	**Pn**	**06 16 44.6**	**-2.0**
ASUD	**Al Ashush, Dub**	**2.08**	**163**	*e*P	**Pn**	**06 16 44.8**	**-1.9**
	SNR=24						
ASUD	**Al Ashush, Dub**	**2.08**	**163**	P	**Pn**	**06 16 45.1**	**-1.6**
	SNR=24						
ASUD				S	**Sn**	**06 17 11.5**	**-1.2**
ASUD	**Al Ashush, Dub**	**2.08**	**163**	*e*Pn	**Pn**	**06 16 45.7**	**-1.0**
NIAN	**Nian**	**2.15**	**64**	*e*Pn	**Pg**	**06 16 51.9**	**-1.0**
NIAN				IAMB	IAmb	06 17 39.5	
	comp=Z,0.0nm,0.6s						
UOSS	**Minazif**	**2.18**	**140**	*e*P	**Pn**	**06 16 45.8**	**-2.3**
	SNR=21						
UOSS	**Minazif**	**2.18**	**140**	P	**Pn**	**06 16 46.2**	**-1.9**
	SNR=26						
UOSS	**Minazif**	**2.18**	**140**	*e*Pn	**Pn**	**06 16 46.0**	**-2.0**
HATD	**Hatta, Dubai**	**2.23**	**143**	*e*P	**Pn**	**06 16 47.6**	**-1.2**
	SNR=21						
HATD	**Hatta, Dubai**	**2.23**	**143**	P	**Pn**	**06 16 47.6**	**-1.2**
	SNR=7.0						
HATD				S	**Sn**	**06 17 15.5**	**-0.9**
HATD	**Hatta, Dubai**	**2.23**	**143**	*e*Pn	**Pn**	**06 16 47.6**	**-1.2**
ASHO	**Ashiyiah**	**2.31**	**147**	*e*P	**Pn**	**06 16 47.9**	**-2.0**
	SNR=22						
ASHO	**Ashiyiah**	**2.31**	**147**	P	**Pn**	**06 16 48.1**	**-1.8**
	SNR=25						
ASHO				S	**Sn**	**06 17 17.1**	**-1.3**
ASHO	**Ashiyiah**	**2.31**	**147**	*e*Pn	**Pn**	**06 16 48.1**	**-1.8**
ALNE	**Al Ain**	**2.74**	**159**	*e*Pn	**Pn**	**06 16 53.7**	**-2.1**
SOHO	**SOHO**	**3.00**	**145**	P	**Pn**	**06 16 57.4**	**-2.0**
	SNR=6.1						
NGRK	**Negar Kerman**	**3.52**	**31**	*e*Pn	**Pb**	**06 17 13.0**	**-1.3**
NGRK				IAMB	IAmb	06 17 19.3	
	comp=Z,0.0nm,0.2s						
MZR	**Muzera**	**3.76**	**197**	*e*Pg	**Pb**	**06 17 19.2**	**+1.0**
HOQ	**Hoqain**	**3.87**	**141**	*e*Pn	**Pn**	**06 17 11.5**	**+0.2**
KHGB	**Koh Gabri**	**4.07**	**23**	*e*Pn	**Pb**	**06 17 21.4**	**-2.1**
CHMN	**Cheshme madani**	**4.11**	**38**	*e*Pn	**Pb**	**06 17 22.3**	**-2.0**
KLNJ	**Kolanjah**	**5.13**	**329**	*e*Pn	Pb	06 17 34.6	-7.1
IRAM	**Ramesheh**	**5.54**	**339**	*e*Pn	Pb	06 17 39.7	-8.9
MHTO	**MHTO**	**6.38**	**151**	*e*Pn	**Pn**	**06 17 42.9**	**-2.9**
	SNR=11						
TPRV	**Parvadeh(Tabas**	**6.62**	**15**	*e*Pn	Pn	06 17 55.3	+6.1
TKDS	**Koohdasht(Taba**	**7.29**	**16**	*e*Pn	Pn	06 18 04.0	+5.6
TNSJ	**Nastanj**	**7.51**	**13**	*e*Pn	Pn	06 18 07.2	+5.8
BRTR	**Keskin Array B**	**21.85**	**312**	P	**P**	**06 21 08.1**	**+3.5**
	comp=Z,1.0nm,0.7s,baz=120,slow=12,SNR=5.9						
MKAR	**Makanchi Array**	**29.69**	**40**	P	P	06 22 21.2	+3.4
	comp=Z,0.2nm,0.5s,baz=231,slow=9.5,SNR=4.4						
ZALV	**Zalesovo Beam**	**35.21**	**31**	P	**P**	**06 23 08.7**	**+2.7**
	comp=Z,1.4nm,0.6s,baz=238,slow=9.6,SNR=6.3						

NEIC 25 06:40:55.2±1.7,9°.61N×83°.98W,h10km,MW3.6(UCR), Error ellipse: s-maj=28.4km s-min=9.9km az=210.0, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HDC	**Heredia**	**0.42**	**341**	*e*Pg	Pg	06 41 03.8	+0.3
HDC				*e*Sg	Sg	06 41 08.7	-0.3
JTS	**JuntasAbangare**	**1.18**	**305**	*e*Pg	Pb	06 41 17.5	-0.2
JTS				*e*Sg	Sn	06 41 33.8	-0.2
ESPN	**Las Esperanzas**	**2.59**	**353**	*e*Pn	Pn	06 41 36.6	-0.7
ESPN				*e*Sn	Sb	06 42 11.6	-2.2
BOAB	**BOACO BROADBAN**	**3.28**	**330**	*e*Pn	Pn	06 41 46.9	+0.2
BOAB				*e*Sn	Sn	06 42 26.2	+0.4
BCIP	**Isla Barro Col**	**4.11**	**96**	*e*Pn	Pn	06 41 58.2	0.0
ESTN	**Estel**	**4.19**	**326**	*e*Pn	Pn	06 42 00.1	+0.7

IDC 25 06:50:46.2±4.3,3°.36S×149°.22E,h0km,mb4.0/3, mb1 4.3/3,mb1mx3.6/39,mbtmp4.1/3,MS3.7/17, Ms1 3.7/17,ms1mx3.6/27,Error ellipse: s-maj=149.8km s-min=49.8km az=112.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.34**	**199**	LR	LR	06 54 09.1	
	comp=Z,172nm,19.7s,baz=310,slow=32						
JAY	**Jayapura**	**8.55**	**275**	LR	LR	06 55 47.9	
	comp=Z,604nm,19.6s,baz=18,slow=35						
HNR	**Honiara**	**12.24**	**120**	LR	LR	06 58 20.4	
	comp=Z,312nm,21.8s,baz=308,slow=37						
GUMO	**Guam**	**17.39**	**346**	LR	LR	07 00 17.0	
	comp=Z,186nm,21.7s,baz=142,slow=33						
WRA	**Warramunga Arr**	**21.96**	**220**	P	P	06 55 41.0	-0.9
	2.0nm,0.8s,baz=42,slow=12,SNR=11						
WRA				LR	LR	07 04 43.2	
	comp=Z,234nm,21.5s,baz=50,slow=38						
DZM	**Mont Dzumac**	**25.01**	**139**	LR	LR	07 04 54.0	
	comp=Z,454nm,19.7s,baz=247,slow=34						
ASAR	**Alice Springs**	**25.03**	**215**	P	P	06 56 12.6	+0.3
	3.3nm,1.0s,baz=48,slow=8.0,SNR=12						
ASAR				LR	LR	07 06 17.4	
	comp=Z,220nm,18.7s,baz=46,slow=37						
BATI	**Baumata**	**26.26**	**254**	LR	LR	07 09 10.0	
	comp=Z,368nm,19.6s,baz=94,slow=42						
FITZ	**Fitzroy Crossi**	**27.35**	**236**	P	P	06 56 33.7	+0.4
	8.7nm,1.0s,baz=41,slow=9.3,SNR=5.7						
FITZ				LR	LR	07 08 15.1	
	comp=Z,439nm,19.2s,baz=56,slow=38						
STKA	**Stephens Creek**	**29.26**	**193**	LR	LR	07 09 54.2	
	comp=Z,156nm,18.7s,baz=22,slow=39						
MJAR	**Matsushiro Arr**	**41.01**	**346**	LR	LR	07 14 12.6	
	comp=Z,66nm,19.1s,baz=175,slow=34						
KSRS	**Korea Array**	**45.18**	**336**	LR	LR	07 15 44.8	
	comp=Z,104nm,20.1s,baz=154,slow=33						
USRK	**Ussuriysk Ar.**	**49.81**	**344**	LR	LR	07 18 41.1	
	comp=Z,99nm,21.1s,baz=141,slow=34						
CMAR	**Chiang Mai Arr**	**54.04**	**296**	LR	LR	07 21 42.4	
	comp=Z,19nm,21.7s,baz=220,slow=34						
SONM	**Songino Array**	**63.24**	**329**	LR	LR	07 28 18.1	
	comp=Z,65nm,19.8s,baz=183,slow=36						
MKAR	**Makanchi Array**	**76.91**	**320**	LR	LR	07 38 10.0	
	comp=Z,52nm,18.1s,baz=345,slow=37						
ZALV	**Zalesovo Beam**	**78.00**	**327**	LR	LR	07 36 12.8	
	comp=Z,55nm,21.4s,baz=117,slow=35						
TORD	**Torodi Ar. Bea**	**146.47**	**289**	PKPbc	PKPdf	07 10 29.6	+0.4
	0.9nm,0.9s,baz=59,slow=3.3,SNR=4.5						

*ISCJB **25** 07:01:18.3±0.2,31°.93N±0°.02×94°.28W±0°.01,h10km, mb4.0/22,MS3.8/2,Error ellipse: s-maj=2.4km s-min=1.5km az=4.6*

*NEIC **25** 07:01:19.8±0.3,31°.84N×94°.30W,h5km,mb3.9/52,MN4.1, Error ellipse: s-maj=5.4km s-min=2.5km az=181.0*

NEIC At least one chimney collapsed at Timpson. Felt [V] at Beckville and Timpson; [IV] at Center, Garrison, Gary, Nacogdoches and Tenaha; [III] at Carthage, De Barry and Mount Enterprise; [II] at Longview. Felt north to Marshall, east to Joaquin, south to Livingston and west to Tyler. Also felt at Logansport and Shreveport, Louisiana.

*ANF **25** 07:01:19.5±0.6,31°.91N×94°.44W,h14km±5km,ML5.3/45, Error ellipse: s-maj=2.4km s-min=1.5km az=25.0*

*IDC **25** 07:01:19.6±0.6,31°.89N×94°.44W,h0km,mb3.9/13, mb1 4.2/17,mb1mx4.0/41,mbtmp4.0/17,ML4.0/4,MS3.6/7, Ms1 3.6/7,ms1mx3.3/35,Error ellipse: s-maj=14.5km s-min=8.4km az=166.0*

ISC 25 07:01:20.0±0.4,31°.91N±0°.04×94°.35W±0°.04,h10km,n517, σ1s58/554,mb4.2/22,Louisiana-Texas border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NATX	**Nacogdoches**	**0.31**	**241**	*e*Pg	**Pg**	**07 01 24.7**	**-1.5**
NATX				*e*Sg	**Sb**	**07 01 30.1**	**-2.5**
NATX	**Nacogdoches**	**0.31**	**241**	P	**Pg**	**07 01 24.7**	**-1.5**
	baz=52						
Z41A	**Richland Creek**	**1.87**	**44**	*e*Pn	**Pn**	**07 01 52.6**	**+0.5**
Z41A	**Richland Creek

TUL1 **Leonard** 4.17 344 P Pn 07 02 23.2 -0.5
baz=164
Z45A **Winona** 4.19 68 ePn Pn 07 02 24.3 +0.3
Z45A eSn Sn 07 03 15.4 +2.5
Z45A **Winona** 4.19 68 P Pn 07 02 24.7 +0.8
baz=251,SNR=75
Z45A S Sn 07 03 15.0 +2.1
baz=251
346A **Big Creek Wild** 4.20 96 ePn Pn 07 02 23.7 -0.3
346A **Big Creek Wild** 4.20 96 P Pn 07 02 23.8 -0.2
baz=278
346A S Sn 07 03 14.6 +1.5
baz=278
V41A **Mountainview** 4.27 25 P Pn 07 02 25.4 +0.3
baz=207,SNR=107
X44A **Crenshaw** 4.37 53 P Pn 07 02 27.2 +0.8
baz=235,SNR=39
X44A S Sn 07 03 18.4 +1.0
baz=235
HHAR **Hobbs** 4.37 4 ePn Pn 07 02 26.6 +0.1
HHAR eSn Sn 07 03 19.7 +2.2
W43A **Forest City** 4.39 43 P Pn 07 02 27.7 +1.0
baz=225
W43A S Sn 07 03 19.0 +1.1
baz=225
246A **Jackson Lee, B** 4.44 87 S Sn 07 03 19.9 +0.9
baz=270
Y45A **Yeager Farm, C** 4.49 63 P Pn 07 02 28.8 +0.8
baz=246,SNR=83
Y45A S Sn 07 03 21.8 +1.5
baz=246
146A **Union** 4.54 79 ePn Pn 07 02 29.2 +0.5
146A **Union** 4.54 79 P Pn 07 02 29.2 +0.5
baz=262
146A S Sn 07 03 22.4 +0.8
baz=262
ABTX **Abilene, Hawle** 4.54 280 ePn Pn 07 02 27.7 -1.2
ABTX **Abilene, Hawle** 4.54 280 P Pn 07 02 27.8 -1.1
baz=98
V42A **Cord** 4.60 32 P Pn 07 02 29.6 +0.1
baz=214,SNR=17
U40A **Yellville** 4.60 15 P Pn 07 02 29.8 +0.2
baz=197
WMOK **Wichita Mounta** 4.66 308 ePn Pn 07 02 29.9 -0.6
WMOK eSn Sn 07 03 27.5 +2.9
WMOK **Wichita Mounta** 4.66 308 P Pn 07 02 29.9 -0.6
baz=127
Z46A **Louisville** 4.74 73 P Pn 07 02 31.5 0.0
baz=256,SNR=18
Z46A S Sn 07 03 28.0 +1.4
baz=256
HBAR **Harrisburg** 4.76 39 ePn Pn 07 02 33.2 +1.4
X45A **UM Field Stati** 4.85 58 P Pn 07 02 33.5 +0.4
baz=241,SNR=37
X45A S Sn 07 03 30.3 +1.0
baz=241
U41A **Viola** 4.86 24 P Pn 07 02 33.3 +0.1
baz=206,SNR=60
MET **Memphis--Engin** 4.88 48 ePn Pn 07 02 34.5 +1.0
OXF **Oxford** 4.88 57 ePn Pn 07 02 33.8 +0.3
OXF eSn Sn 07 03 30.2 +0.1
OXF **Oxford** 4.88 57 P Pn 07 02 34.0 +0.5
baz=240,SNR=55
OXF S Sn 07 03 30.7 +0.6
baz=240
JCT **Junction City** 4.89 254 ePn Pn 07 02 32.3 -1.3
JCT **Junction City** 4.89 254 P Pn 07 02 32.1 -1.5
baz=71
W44A **Shelby Farms P** 4.97 48 P Pn 07 02 34.9 +0.3
baz=231
V43A **Jonesboro** 4.99 38 P Pn 07 02 35.6 +0.6
baz=221,SNR=9.3
Y46A **Houston** 5.02 65 P Pn 07 02 35.6 +0.2
baz=249,SNR=77
Y46A S Sn 07 03 32.5 -0.8
baz=249
U42A **Revenden** 5.12 29 P Pn 07 02 37.2 +0.4
baz=212,SNR=69
U42A S Sn 07 03 34.9 -1.1
baz=212
147A **Livingston** 5.20 80 ePn Pn 07 02 38.2 +0.4
147A eSn Sn 07 03 39.3 +1.4
147A **Livingston** 5.20 80 P Pn 07 02 38.5 +0.7
baz=263,SNR=13
147A S Sn 07 03 37.8 -0.1
baz=263
V44A **Blytheville** 5.38 42 P Pn 07 02 40.7 +0.4
baz=225,SNR=13
W45A **Hickory Valley** 5.39 52 P Pn 07 02 40.9 +0.5
baz=235
GNAR **Gosnell** 5.41 40 ePn Pn 07 02 41.4 +0.7
Z47A **Carrollton** 5.45 75 P Pn 07 02 41.6 +0.3
baz=258,SNR=14
Z47A S Sn 07 03 43.6 -0.5
baz=258
X46A **Booneville** 5.50 60 P Pn 07 02 42.8 +0.8
baz=243,SNR=20
348A **Jackson** 5.52 93 ePn Pn 07 02 41.7 -0.5
348A eSn Sn 07 03 46.6 +0.9
348A **Jackson** 5.52 93 P Pn 07 02 41.6 -0.5
baz=277
U43A **Rector** 5.52 35 P Pn 07 02 42.4 +0.2
baz=218,SNR=9.3
T41A **Mountain View** 5.55 22 P Pn 07 02 42.8 +0.2
baz=204,SNR=62
248A **Dixon Mills** 5.62 86 P Pn 07 02 43.6 0.0
baz=270
448A **Bay Minette** 5.63 98 P Pn 07 02 43.3 -0.4
baz=282
HALT **Halls** 5.76 45 ePn Pn 07 02 46.0 +0.4
T42A **Van Buren** 5.77 27 ePn Pn 07 02 46.1 +0.4
T42A **Van Buren** 5.77 27 P Pn 07 02 46.3 +0.6
baz=209,SNR=100
148A **Greensboro** 5.79 81 P Pn 07 02 46.6 +0.8
baz=265,SNR=20
Y47A **UCPARC, Winfie** 5.81 68 P Pn 07 02 46.2 0.0
baz=252
V45A **Humboldt** 5.89 48 P Pn 07 02 47.6 +0.3
baz=231,SNR=15
Z48A **Northport** 5.91 74 P Pn 07 02 47.5 -0.1
baz=258,SNR=37
W46A **Michie** 5.93 56 P Pn 07 02 48.0 +0.1
baz=239
U44A **Portageville** 5.99 39 P Pn 07 02 49.0 +0.3
baz=222,SNR=10
X47A **Russelville** 6.03 63 P Pn 07 02 50.2 +0.9
baz=246,SNR=129
GLAT **Glass** 6.04 43 ePn Pn 07 02 50.8 +1.4
S41A **Jillco Farms,** 6.05 20 P Pn 07 02 49.9 +0.3
baz=202,SNR=38
U44B **Burton Farm, H** 6.05 42 P Pn 07 02 50.0 +0.4
baz=225,SNR=12
PLAL **Pickwick Lake** 6.07 58 ePn Pn 07 02 50.9 +1.1
PARMO **Parma** 6.08 37 ePn Pn 07 02 50.4 +0.5
349A **Repton** 6.13 93 P Pn 07 02 50.2 -0.3
baz=277,SNR=7.9
249A **Camden** 6.14 87 P Pn 07 02 50.9 +0.1
baz=271
T43A **Greenville** 6.15 32 P Pn 07 02 51.1 +0.2
baz=215,SNR=16
449A **Pace** 6.21 99 P Pn 07 02 51.0 -0.6
baz=282
BRAL **Brewton** 6.27 95 ePn Pn 07 02 52.1 -0.5
BRAL **Brewton** 6.27 95 P Pn 07 02 52.4 -0.2
baz=279
LRAL **Lakeview Retre** 6.31 78 ePn Pn 07 02 53.1 0.0
LRAL **Lakeview Retre** 6.31 78 P Pn 07 02 53.2 +0.1
baz=262,SNR=27
Y48A **Jasper** 6.36 70 P Pn 07 02 53.9 +0.2
baz=254
U45A **Rockin P Farm,** 6.40 45 P Pn 07 02 54.3 -0.1
baz=228,SNR=11
149A **Jones** 6.44 82 P Pn 07 02 55.1 +0.3
baz=266,SNR=25
V46A **Holladay** 6.47 51 P Pn 07 02 55.2 -0.1
baz=235
S42A **Caledonia** 6.53 26 P Pn 07 02 56.0 -0.2
baz=208,SNR=19
W47A **Westpoint** 6.54 58 P Pn 07 02 56.5 +0.2
baz=242,SNR=22
X48A **Hartselle** 6.62 66 ePn Pn 07 02 57.4 0.0
X48A **Hartselle** 6.62 66 P Pn 07 02 57.2 -0.2
baz=250,SNR=7.6
CCM **Cathedral Cave** 6.64 22 ePn Pn 07 02 57.6 0.0
CCM **Cathedral Cave** 6.64 22 P Pn 07 02 57.3 -0.2
baz=204
S43A **Fulton Ridge,** 6.65 31 P Pn 07 02 57.9 +0.1
baz=214
Z49A **Columbiana** 6.72 77 P Pn 07 02 58.7 -0.1
baz=261,SNR=16
450A **Crestview** 6.73 97 P Pn 07 02 58.1 -0.7
baz=281
U46A **Springville** 6.77 47 P Pn 07 02 59.6 +0.2
baz=231,SNR=7.7
AMTX **Amarillo** 6.81 298 ePn Pn 07 02 59.1 -1.0
AMTX **Amarillo** 6.81 298 P Pn 07 02 59.1 -1.0
baz=114
R41A **Rosebud** 6.82 20 P Pn 07 02 59.7 -0.4
baz=202,SNR=40
350A **Dozier** 6.85 92 P Pn 07 02 60.0 -0.5
baz=276
WVT **Waverly** 6.85 50 ePn Pn 07 03 01.0 +0.4
WVT **Waverly** 6.85 50 P Pn 07 03 00.8 +0.3
baz=234
FVM **French Village** 6.86 27 ePb Pb 07 03 17.9 -1.4
250A **Grady** 6.87 87 ePn Pn 07 03 00.8 0.0
250A **Grady** 6.87 87 P Pn 07 03 00.3 -0.5
baz=272,SNR=21
V47A **Nunnelly** 6.89 54 P Pn 07 03 00.8 -0.3
baz=238,SNR=15
T45A **Paducah** 6.94 41 P Pn 07 03 01.8 +0.1
baz=225
Y49A **Blount Mountai** 6.95 72 ePn Pn 07 03 01.7 -0.2
Y49A **Blount Mountai** 6.95 72 P Pn 07 03 01.5 -0.4
baz=256,SNR=40
W48A **Pulaski** 6.98 61 P Pn 07 03 02.8 +0.5
baz=245,SNR=24
R42A **Luebbering** 6.99 24 P Pn 07 03 02.4 0.0
baz=206,SNR=24
150A **Eclectic** 7.08 82 P Pn 07 03 03.7 0.0
baz=267,SNR=23
S44A **Carbondale** 7.13 35 P Pn 07 03 04.5 +0.2
baz=218
SIUC **Southern Illin** 7.16 35 ePn Pn 07 03 05.2 +0.4
X49A **Woodville** 7.20 67 P Pn 07 03 06.0 +0.6
baz=251
Z50A **Ashland** 7.24 77 ePn Pn 07 03 06.0 +0.1
Z50A **Ashland** 7.24 77 P Pn 07 03 05.9 +0.1
baz=262,SNR=29
R43A **Red Bud** 7.31 28 P Pn 07 03 07.4 +0.6
baz=211,SNR=16
V48A **Smith Brothers** 7.33 57 ePn Pn 07 03 07.1 0.0
V48A **Smith Brothers** 7.33 57 P Pn 07 03 07.1 0.0
baz=241,SNR=14
MSTX **Muleshoe** 7.37 288 ePn Pn 07 03 06.7 -1.2
MSTX **Muleshoe** 7.37 288 P Pn 07 03 06.5 -1.4
baz=104
T46A **Princeton** 7.39 44 P Pn 07 03 07.7 -0.2
baz=228
U47A **Clarksville** 7.39 50 P Pn 07 03 07.8 -0.1
baz=235,SNR=9.6
KSU1 **Kansas State U** 7.41 346 ePn Pn 07 03 07.0 -1.2
KSU1 **Kansas State U** 7.41 346 P Pn 07 03 07.0 -1.2
baz=166
W49A **Belvidere** 7.47 62 P Pn 07 03 09.2 +0.2
baz=247,SNR=19
Q41A **Truxton** 7.47 19 P Pn 07 03 08.5 -0.6
baz=201,SNR=13
451A **Vernon** 7.47 98 ePn Pn 07 03 07.8 -1.2
451A **Vernon** 7.47 98 P Pn 07 03 07.4 -1.6
baz=282
351A **Pinckard** 7.49 93 P Pn 07 03 07.9 -1.4
baz=277,SNR=13
Y50A **Piedmont** 7.51 72 P Pn 07 03 09.5 0.0
baz=257,SNR=18
251A **Midway** 7.59 86 P Pn 07 03 09.2 -1.5
baz=271,SNR=16
Q42A **Golden Eagle** 7.65 23 P Pn 07 03 10.3 -1.2
baz=206
R44A **Waltonville** 7.65 33 P Pn 07 03 11.7 +0.2
baz=216
151A **Opelika** 7.67 83 P Pn 07 03 10.9 -0.8
baz=268
X50B **Fort Payne** 7.72 68 P Pn 07 03 11.8 -0.7
baz=253,SNR=23
SWET **Sewanee** 7.76 63 ePn Pn 07 03 14.1 +1.1
T47A **Sharon Grove** 7.83 48 ePn Pn 07 03 15.9 +1.9
T47A **Sharon Grove** 7.83 48 P Pn 07 03 14.8 +0.8
baz=232
Z51A **Franklin** 7.86 77 P Pn 07 03 14.5 0.0
baz=262,SNR=17
452A **Marianna** 7.91 95 P Pn 07 03 13.6 -1.4
baz=280
U48A **Cassie Pea, Po** 7.93 53 P Pn 07 03 14.8 -0.5
baz=237
S46A **Don Dixon Farm** 7.93 42 P Pn 07 03 16.0 +0.7
baz=226
552A **Lynn Haven** 7.97 100 P Pn 07 03 14.5 -1.4
baz=285
Q43A **New Douglas** 7.97 27 P Pn 07 03 15.9 0.0
baz=210,SNR=8.9
V49A **McMinnville** 8.01 59 P Pn 07 03 16.6 +0.2
baz=244,SNR=17
352A **Blakely** 8.04 91 ePn Pn 07 03 15.1 -1.8
352A **Blakely** 8.04 91 P Pn 07 03 15.4 -1.4
baz=276
Y51A **Rockmart** 8.05 73 P Pn 07 03 17.2 +0.1
baz=258
R45A **Skylar, Fairfi** 8.07 36 P Pn 07 03 17.5 +0.1
baz=220
CBKS **Cedar Bluff** 8.17 329 ePn Pn 07 03 16.9 -1.9
CBKS **Cedar Bluff** 8.17 329 P Pn 07 03 17.3 -1.4
baz=146
152A **Waverly Hall** 8.19 82 ePn Pn 07 03 20.4 +1.5
152A **Waverly Hall** 8.19 82 P Pn 07 03 19.0 +0.1
baz=267
P41A **Barry, Barry** 8.19 18 P Pn 07 03 18.1 -0.8
baz=200,SNR=16
Q44A **Meyer Farm, Va** 8.22 30 ePn Pn 07 03 21.1 +1.8
Q44A eSg Sg 07 05 43.5 -0.3
Q44A **Meyer Farm, Va** 8.22 30 P Pn 07 03 19.5 +0.2
baz=214
W50A **Signal Mountai** 8.22 64 ePn Pn 07 03 20.7 +1.3
W50A **Signal Mountai** 8.22 64 P Pn 07 03 19.6 +0.2
baz=249,SNR=23
LNIG **Linares** 8.31 214 ePn Pn 07 03 15.6 -5.1
P42A **Winchester** 8.32 22 ePn Pn 07 03 20.4 -0.2
P42A **Winchester** 8.32 22 P Pn 07 03 20.6 -0.1
baz=205
S47A **Hartford** 8.36 45 P Pn 07 03 21.7 +0.5
baz=230
T48A **Bowling Green** 8.36 50 P Pn 07 03 21.8 +0.6
baz=234
X51A **Calhoun** 8.38 69 ePn Pn 07 03 21.2 -0.2
X51A **Calhoun** 8.38 69 P Pn 07 03 21.6 +0.1
baz=254
R46A **Gibon Southern** 8.42 40 P Pn 07 03 23.3 +1.3
baz=224
TX31 **Lajitas Ar. Si** 8.43 255 ePn Pn 07 03 20.7 -1.7
TXAR **Lajitas Array** 8.43 255 Pn Pn 07 03 20.2 -2.2
2.4nm,0.3s,baz=88,slow=13,SNR=84
TXAR Sn Sn 07 04 52.7 -4.9
3.6nm,0.3s,baz=88,slow=24,SNR=3.3
TXAR LR LR 07 06 37.7
comp=Z,254nm,19.2s,baz=0.0,slow=38
U49A **Red Boiling Sp** 8.45 55 P Pn 07 03 22.8 +0.4
baz=240
Z52A **Williamson** 8.48 79 P Pn 07 03 23.7 +0.8
baz=264
GDL2 **Guadalupe Moun** 8.51 275 ePn Pn 07 03 22.1 -1.3
V50A **Pikevile** 8.56 62 P Pn 07 03 24.3 +0.3
baz=247,SNR=11
Q45A **Warren Harvey,** 8.61 34 P Pn 07 03 25.2 +0.6
baz=218
W51A **Cleland** 8.63 65 P Pn 07 03 25.6 +0.6
baz=251
453A **Whigham** 8.64 94 ePn Pn 07 03 23.9 -1.1
453A **Whigham** 8.64 94 P Pn 07 03 24.7 -0.3
baz=280
P43A **Skaggs, Pawnee** 8.65 26 P Pn 07 03 25.6 +0.4
baz=209
O41A **Passleys Farm,** 8.65 18 P Pn 07 03 25.0 -0.3
baz=200
353A **Camilla** 8.65 91 P Pn 07 03 25.6 +0.3
baz=276,SNR=13
553A **Crawfordville** 8.68 99 P Pn 07 03 24.2 -1.4
baz=284
253A **Americus** 8.68 86 P Pn 07 03 25.8 +0.1
baz=272
P44A **Sand Creek, Wi** 8.86 30 P Pn 07 03 28.0 -0.1
baz=214
Y52A **Lilburn** 8.87 75 ePn Pn 07 03 29.2 +1.0
Y52A **Lilburn** 8.87 75 P Pn 07 03 28.2 0.0
baz=260,SNR=14
S48A **Wiedeman Farm,** 8.90 48 P Pn 07 03 29.8 +1.1
baz=233
CPCT **Cooper Cave** 8.91 64 ePn Pn 07 03 30.1 +1.2
T49A **Edmonton** 8.93 52 ePn Pn 07 03 31.3 +2.3
T49A **Edmonton** 8.93 52 P Pn 07 03 30.3 +1.3
baz=237
153A **Fort Valley** 8.93 82 P Pn 07 03 29.6 +0.5
baz=268
O42A **Bath** 8.96 21 P Pn 07 03 28.9 -0.5
baz=204
R47A **Wooly Knot Far** 9.03 43 P Pn 07 03 29.9 -0.5
baz=228,SNR=6.6
U50A **Jamestown** 9.06 58 P Pn 07 03 31.0 0.0
baz=243,SNR=14
WCI **Wyandotte Cave** 9.12 44 ePn Pn 07 03 32.1 +0.4
WCI **Wyandotte Cave** 9.12 44 P Pn 07 03 32.1 +0.4
baz=229
X52A **Dahlonega** 9.15 70 P Pn 07 03 33.0 +0.9
baz=256
V51A **Loudon** 9.17 62 ePn Pn 07 03 33.0 +0.6
V51A **Loudon** 9.17 62 P Pn 07 03 33.0 +0.6
baz=248
TIGA **Tifton** 9.18 90 P Pn 07 03 31.2 -1.3
baz=276
Z53A **Monticello** 9.19 79 P Pn 07 03 32.3 -0.4
baz=264
N41A **Harden Midland** 9.22 17 ePn Pn 07 03 34.1 +1.1
N41A **Harden Midland** 9.22 17 P Pn 07 03 32.7 -0.3
baz=199
N40A **Mertquake, Sal** 9.23 13 P Pn 07 03 32.5 -0.6
baz=195
454A **Quitman** 9.24 95 P Pn 07 03 31.6 -1.7
baz=280
Y53A **Monroe** 9.26 75 P Pn 07 03 33.9 +0.4
baz=261
W52A **Murphy** 9.26 67 ePn Pn 07 03 33.9 +0.2
W52A **Murphy** 9.26 67 P Pn 07 03 33.8 +0.2
baz=253
GOGA **Godfrey** 9.29 78 ePn Pn 07 03 34.2 +0.2
GOGA **Godfrey** 9.29 78 P Pn 07 03 33.6 -0.4
baz=264,SNR=20
O43A **Sugar Creek Fa** 9.29 25 P Pn 07 03 33.8 -0.2
baz=208
P45A **Graceland, Par** 9.30 33 ePn Pn 07 03 36.8 +2.7
P45A **Graceland, Par** 9.30 33 P Pn 07 03 35.2 +1.0
baz=218
T50A **Nancy** 9.36 54 P Pn 07 03 34.7 -0.2
baz=240
MNTX **Cornudas Mount** 9.39 272 ePn Pn 07 03 34.5 -1.0
MNTX **Cornudas Mount** 9.39 272 P Pn 07 03 34.4 -1.1
baz=86
254A **Abbeville** 9.40 87 P Pn 07 03 34.9 -0.5
baz=273,SNR=7.2
S49A **Springfield** 9.47 49 P Pn 07 03 36.8 +0.4
baz=235
R48A **Northridge Ran** 9.49 45 P Pn 07 03 37.6 +1.0
baz=230
O44A **Mansfield** 9.50 28 P Pn 07 03 37.4 +0.6
baz=212
Q47A **Bedord North L** 9.53 40 P Pn 07 03 37.8 +0.5
baz=225
HDIL **Hopedale** 9.54 24 ePn Pn 07 03 37.3 -0.1
HDIL **Hopedale** 9.54 24 P Pn 07 03 37.5 +0.1
baz=207
154A **Montrose** 9.54 83 ePn Pn 07 03 39.0 +1.5
154A **Montrose** 9.54 83 P Pn 07 03 38.1 +0.6
baz=269
N42A **Yates City** 9.55 20 P Pn 07 03 37.0 -0.6
baz=203
TKL **Tuckaleechee C** 9.56 64 Pn Pn 07 03 37.8 +0.1
2.4nm,0.3s,baz=198,slow=10,SNR=15
TKL Sn Sn 07 05 22.2 -3.0
4.8nm,0.3s,baz=72,slow=20,SNR=6.5
TKL **Tuckaleechee C** 9.56 64 ePn Pn 07 03 40.0 +2.3
TKL Sn Sn 07 05 22.2 -3.0
X53A **Estanollee** 9.61 71 P Pn 07 03 38.8 +0.5
baz=258
P46A **Rosedale** 9.63 35 P Pn 07 03 39.6 +1.0
baz=219
U51A **La Follette** 9.65 60 P Pn 07 03 38.9 0.0
baz=246,SNR=9.1
M39A **Webster** 9.71 10 P Pn 07 03 39.1 -0.6
baz=191
M40A **Post Highland** 9.75 13 P Pn 07 03 39.7 -0.5
baz=195,SNR=6.8
455A **Stateville** 9.75 94 P Pn 07 03 40.0 -0.4
baz=280
V52A **Sevierville** 9.76 63 ePn Pn 07 03 39.9 -0.6
V52A **Sevierville** 9.76 63 P Pn 07 03 39.9 -0.6
baz=250,SNR=9.4
KSCO **Kaye Shedlock'** 9.78 319 ePn Pn 07 03 39.1 -1.8
KSCO **Kaye Shedlock'** 9.78 319 P Pn 07 03 39.0 -1.9
baz=134
Z54A **Sparta** 9.80 79 P Pn 07 03 40.8 -0.1
baz=265
T25A **Trinidad** 9.80 305 ePn Pn 07 03 39.6 -1.6
T25A **Trinidad** 9.80 305 P Pn 07 03 39.8 -1.5
baz=120
355A **Pearson** 9.82 90 P Pn 07 03 39.4 -1.8
baz=276
655A **Horseshoe Beac** 9.84 101 P Pn 07 03 41.5 0.0
baz=287
R49A **Shelbyville** 9.85 47 P Pn 07 03 41.3 -0.3
baz=233
W53A **Cullowhee** 9.88 68 P Pn 07 03 43.0 +0.8
baz=254
O45A **Potomac** 9.89 31 P Pn 07 03 42.4 +0.2
baz=215
Q48A **North Vernon** 9.92 43 P Pn 07 03 42.5 0.0
baz=228
N43A **Stutzman Famil** 9.93 23 P Pn 07 03 41.8 -0.8
baz=207
555A **McAlpin** 9.93 97 ePn Pn 07 03 42.3 -0.4
555A eSn Sn 07 05 30.4 -3.8
555A **McAlpin** 9.93 97 P Pn 07 03 41.2 -1.6
baz=283
M41A **Milan** 9.93 17 P Pn 07 03 41.7 -1.0
baz=199
T51A **Gray** 9.96 57 P Pn 07 03 43.0 -0.1
baz=243,SNR=12
BGNE **Belgrade** 9.96 343 ePn Pn 07 03 41.8 -1.4
BGNE **Belgrade** 9.96 343 P Pn 07 03 41.9 -1.3
baz=161
Y54A **Tignall** 9.99 76 P Pn 07 03 43.0 -0.6
baz=262
S50A **Richmond** 10.00 52 P Pn 07 03 43.6 0.0
baz=238
P47A **Martinsville** 10.01 39 P Pn 07 03 43.3 -0.6
baz=224
SCIA **State Center** 10.02 5 ePn Pn 07 03 44.5 +0.5
SCIA **State Center** 10.02 5 P Pn 07 03 44.2 +0.3
baz=186
BG3 **Lake Jocassee** 10.02 69 ePn Pn 07 03 46.0 +2.0
TZTN **Tazewell** 10.06 60 ePn Pn 07 03 46.3 +1.7
TZTN **Tazewell** 10.06 60 P Pn 07 03 44.3 -0.3
baz=246,SNR=11
155A **Kite** 10.08 83 P Pn 07 03 44.2 -0.7
baz=269,SNR=19
255A **Hazlehurst** 10.09 87 ePn Pn 07 03 45.9 +0.9
255A eSn Sn 07 05 35.0 -3.2
255A **Hazlehurst** 10.09 87 P Pn 07 03 44.3 -0.7
baz=273
U52A **Thorn Hill** 10.13 61 P Pn 07 03 45.1 -0.5
baz=247
N44A **Piper City** 10.18 28 P Pn 07 03 45.4 -0.8
baz=212
V53A **Saluda** 10.30 66 ePn Pn 07 03 47.9 0.0
V53A **Saluda** 10.30 66 P Pn 07 03 47.1 -0.8
baz=252
L39A **Vinton** 10.36 10 P Pn 07 03 48.5 -0.2
baz=192
R50A **Paris** 10.38 49 P Pn 07 03 48.4 -0.5
baz=235,SNR=9.6
Z55A **Blythe** 10.39 80 P Pn 07 03 48.6 -0.4
baz=266
HODGE **Hodges** 10.40 74 ePn Pn 07 03 48.0 -1.2
556A **Lake Butler** 10.43 97 P Pn 07 03 47.7 -1.9
baz=284
356A **Blackshear** 10.44 90 P Pn 07 03 48.9 -0.8
baz=276
L40A **Anamosa** 10.44 13 ePn Pn 07 03 48.8 -0.9
L40A **Anamosa** 10.44 13 P Pn 07 03 48.7 -0.9
baz=195,SNR=7.9
M43A **Waltham Townsh** 10.44 23 P Pn 07 03 49.3 -0.4
baz=206
P48A **Milroy** 10.45 41 P Pn 07 03 50.3 +0.3
baz=227

Q49A	Aurora	10.46	45	P	Pn	07 03 50.2	+0.2
	baz=230						
656A	Willston	10.48	101	*e*Pn	Pn	07 03 50.4	0.0
656A	Willston	10.48	101	P	Pn	07 03 50.4	0.0
	baz=287						
S51A	Beattyville	10.53	54	*e*Pn	Pn	07 03 51.5	+0.5
S51A	Beattyville	10.53	54	P	Pn	07 03 50.7	-0.3
	baz=240						
BNM	Barren Site	10.55	286	*e*Pn	Pn	07 03 49.6	-1.8
ANMO	Albuquerque	10.56	290	Pn	Pn	07 03 49.8	-1.8
	0.4nm,0.3s,baz=98,slow=15,SNR=12						
ANMO				Lg	Lg	07 06 45.2	
	1.3nm,0.3s,baz=356,slow=19,SNR=2.4						
ANMO	Albuquerque	10.56	290	*e*Pn	Pn	07 03 50.3	-1.3
ANMO				Lg	Lg	07 06 45.2	
ANMO	Albuquerque	10.56	290	P	Pn	07 03 49.8	-1.8
	baz=104						
256A	Glennville	10.59	86	P	Pn	07 03 50.7	-1.0
	baz=273,SNR=8.2						
L41A	Preston	10.60	16	P	Pn	07 03 51.5	-0.4
	baz=198						
456A	Hilliard	10.61	93	*e*Pn	Pn	07 03 50.5	-1.6
456A				*e*Sn	Sn	07 05 49.8	-1.1
456A	Hilliard	10.61	93	P	Pn	07 03 50.2	-1.9
	baz=280						
O47A	Sheridan	10.61	36	P	Pn	07 03 52.1	0.0
	baz=221						
T52A	Hallie	10.71	58	P	Pn	07 03 53.2	-0.3
	baz=244						
U53A	Fall Branch	10.72	62	P	Pn	07 03 53.0	-0.6
	baz=249						
M44A	Midewin, Midew	10.72	26	P	Pn	07 03 54.2	+0.6
	baz=210						
L42A	Oliver, Polo	10.74	19	P	Pn	07 03 52.8	-1.1
	baz=202						
SDCO	Great Sand Dun	10.86	305	*e*Pn	Pn	07 03 54.3	-1.4
SDCO	Great Sand Dun	10.86	305	P	Pn	07 03 54.2	-1.5
	baz=120						
N46A	Monticello	10.86	32	P	Pn	07 03 55.7	+0.2
	baz=217						
PAULI	Pauline	10.87	71	*e*Pn	Pn	07 03 57.3	+1.6
R51A	Hillsboro	10.87	51	P	Pn	07 03 55.4	-0.3
	baz=238						
156A	Sylvania	10.90	83	P	Pn	07 03 56.8	+0.7
	baz=270						
Q50A	Georgetown	10.92	48	P	Pn	07 03 56.1	-0.3
	baz=234						
OGNE	Ogallala	10.93	328	*e*Pn	Pn	07 03 54.4	-2.1
OGNE	Ogallala	10.93	328	P	Pn	07 03 54.7	-1.9
	baz=144						
K39A	Oelwein	10.95	10	P	Pn	07 03 55.5	-1.2
	baz=191						
657A	Interlachen	10.98	99	P	Pn	07 03 54.2	-3.0
	baz=285						
757A	Oxford	11.00	102	P	Pn	07 03 57.3	-0.2
	baz=289						
LAZ	Ladron	11.01	286	*e*Pn	Pn	07 03 57.0	-0.7
K40A	Colesburg	11.07	12	P	Pn	07 03 56.7	-1.6
	baz=195,SNR=6.6						
K41A	Shullsburg	11.15	16	P	Pn	07 03 57.8	-1.6
	baz=198,SNR=8.3						
JSC	Jenkinsville	11.23	74	*e*Sn	Sn	07 06 00.4	-5.7
Q24A	Divide	11.27	312	*e*Pn	Pn	07 04 00.0	-1.4
Q24A	Divide	11.27	312	P	Pn	07 03 59.2	-2.2
	baz=126						
KMSC	Kings Mountain	11.33	70	*e*Pn	Pn	07 04 03.1	+1.2
KMSC	Kings Mountain	11.33	70	P	Pn	07 04 02.0	+0.1
	baz=257						
N47A	Urbana	11.34	35	P	Pn	07 04 01.5	-0.6
	baz=221						
121A	Cookes Peak, D	11.40	277	P	Pn	07 04 01.0	-2.1
	baz=90						
Q51A	Peebles	11.43	49	*e*Pn	Pn	07 04 05.4	+2.1
Q51A	Peebles	11.43	49	P	Pn	07 04 03.3	-0.1
	baz=235						
JFWS	Jewell Farm	11.46	15	*e*Pn	Pn	07 04 02.6	-1.0
JFWS	Jewell Farm	11.46	15	P	Pn	07 04 02.1	-1.5
	baz=198,SNR=11						
P50A	Jamestown	11.50	45	P	Pn	07 04 03.6	-0.7
	baz=232						
R52A	Catlettsburg	11.52	53	P	Pn	07 04 05.0	+0.4
	baz=240						
K42A	Prairie Point,	11.55	19	P	Pn	07 04 03.7	-1.3
	baz=202						
O49A	Covington	11.56	42	P	Pn	07 04 04.2	-0.9
	baz=228						
J39A	Decorah	11.60	10	P	Pn	07 04 03.5	-2.1
	baz=192						
N48A	Decatur	11.66	37	P	Pn	07 04 05.1	-1.4
	baz=223						
M47A	Cromwell	11.74	34	P	Pn	07 04 06.6	-1.0
	baz=220						
S22A	4UR Ranch, Cre	11.79	303	*e*Pn	Pn	07 04 10.3	+1.8
J40A	Soldiers Grove	11.81	13	P	Pn	07 04 06.5	-2.1
	baz=195,SNR=13						
J41A	Loganville	11.94	15	P	Pn	07 04 08.7	-1.5
	baz=198,SNR=11						
ECSD	EROS Data Cent	11.94	352	*e*Pn	Pn	07 04 08.0	-2.2
ECSD	EROS Data Cent	11.94	352	P	Pn	07 04 08.4	-1.8
	baz=171						
L46A	Eue Claire	11.96	30	P	Pn	07 04 10.2	-0.3
	baz=215						
NHSC	New Hope	12.02	81	*e*Sn	Sn	07 06 22.7	-2.8
ISCO	Idaho Springs	12.05	314	*e*Pn	Pn	07 04 09.7	-2.5
ISCO	Idaho Springs	12.05	314	P	Pn	07 04 09.6	-2.5
	baz=128						
J42A	Columbus	12.11	18	P	Pn	07 04 11.0	-1.6
	baz=202						
I39A	Houston	12.13	10	*e*Pn	Pn	07 04 10.7	-2.1
I39A	Houston	12.13	10	P	Pn	07 04 10.9	-2.0
	baz=192						
I40A	Norwalk	12.32	13	P	Pn	07 04 13.3	-2.1
	baz=195,SNR=10						
J43A	Natural Harves	12.37	21	P	Pn	07 04 14.5	-1.6
	baz=204						
ACSO	Alum Creek Sta	12.38	45	*e*Pn	Pn	07 04 17.6	+1.3
SMCO	Snowmass	12.57	309	*e*Pn	Pn	07 04 22.6	+3.2
R54A	Victor	12.60	57	P	Pn	07 04 19.0	-0.3
	baz=244						
N50A	Nevada	12.63	42	P	Pn	07 04 19.3	-0.4
	baz=229						
I41A	Arkdale	12.63	15	P	Pn	07 04 18.9	-0.8
	baz=198						
BLA	Blacksburg	12.63	61	*e*Pn	Pn	07 04 19.8	0.0
BLA				*e*Sn	Sn	07 06 37.4	-3.2
BLA	Blacksburg	12.63	61	P	Pn	07 04 19.4	-0.4
	baz=249						
I42A	Draeger Farm,	12.70	18	P	Pn	07 04 19.0	-1.7
	baz=202						
L48A	N Adams	12.76	36	P	Pn	07 04 20.9	-0.6
	baz=222						
MVCO	Mesa Verde	12.80	298	*e*Pn	Pn	07 04 25.2	+2.9
TEIG	Tepich	12.85	153	*e*Pn	Pn	07 04 21.2	-1.5
TEIG				*e*Sn	Sn	07 06 34.6	-11
H38A	Maiden Rock	12.85	7	P	Pn	07 04 20.7	-1.9
	baz=188						
I43A	Langenfeld Bro	12.91	20	P	Pn	07 04 21.8	-1.7
	baz=204						
PHWY	Pilot Hill	12.93	320	*e*Pn	Pn	07 04 22.9	-1.2
N23A	Red Feather La	12.94	317	*e*Pn	Pn	07 04 22.4	-1.7
N23A	Red Feather La	12.94	317	P	Pn	07 04 21.9	-2.2
	baz=131						
P53A	Whipple	12.95	51	*e*Pn	Pn	07 04 26.2	+2.1
P53A	Whipple	12.95	51	P	Pn	07 04 24.2	+0.1
	baz=238						
H39A	Augusta	12.97	10	P	Pn	07 04 22.7	-1.6
	baz=192						
K47A	Vermontville	13.05	32	P	Pn	07 04 24.1	-1.4
	baz=218						
H40A	Chili	13.06	13	P	Pn	07 04 23.7	-1.9
	baz=195						
H41A	Junction City	13.21	15	*e*Pn	Pn	07 04 26.0	-1.6
H41A	Junction City	13.21	15	P	Pn	07 04 25.2	-2.4
	baz=198,SNR=6.6						
X18A	Snowflake	13.32	285	*e*Pn	Pn	07 04 28.4	-0.9
SPMN	Marine on St.	13.35	5	*e*Pn	Pn	07 04 26.4	-3.1
SPMN	Marine on St.	13.35	5	P	Pn	07 04 26.9	-2.6
	baz=186						
H42A	Shiocton	13.38	18	P	Pn	07 04 28.6	-1.2
	baz=202						
G38A	Ridgeland	13.38	8	P	Pn	07 04 27.2	-2.8
	baz=190						
PV13	Radium Mtn., P	13.39	302	*e*Pn	Pn	07 04 33.2	+2.8
PV12	Saucer Basin,	13.44	302	*e*Pn	Pn	07 04 33.5	+2.5
O53A	New Philadelph	13.48	48	P	Pn	07 04 31.7	+0.4
	baz=236						
PV11	David Mesa, Pa	13.49	302	*e*Pn	Pn	07 04 34.7	+3.1
PV17	East Wray Mesa	13.54	302	*e*Pn	Pn	07 04 35.6	+3.3
PV05	Paradox Valley	13.56	301	*e*Pn	Pn	07 04 35.5	+2.9
K48A	Perry	13.56	34	P	Pn	07 04 31.0	-1.5
	baz=220						
G39A	Holcombe	13.58	10	P	Pn	07 04 30.4	-2.2
	baz=192						
PV14	Lion Creek, Pa	13.62	302	*e*Pn	Pn	07 04 35.7	+2.2
PV21	Cone Mtn., Par	13.67	303	*e*Pn	Pn	07 04 36.2	+2.1
G40A	Rib Lake	13.72	12	*e*Pn	Pn	07 04 31.6	-3.0
PV09	Paradox Valley	13.75	303	*e*Pn	P	07 04 41.4	-2.6
O20A	White River Ci	13.91	310	*e*Pn	Pn	07 04 39.9	+2.5
TUC	Tucson	13.94	276	*e*Pn	Pn	07 04 37.5	-0.2
G42A	Mountain	14.09	17	*e*Pn	Pn	07 04 37.1	-2.4
RSSD	Black Hills	14.37	331	*e*Pn	Pn	07 04 41.0	-2.7
F41A	Three Lakes	14.39	15	*e*Pn	Pn	07 04 43.5	-0.2
K22A	Casper	14.44	321	*e*Pn	Pn	07 04 44.6	+0.1
X16A	Lo Mia Camp, P	14.54	284	*e*Pn	P	07 04 48.5	-4.1
WUAZ	Wupatki	14.62	289	*e*Pn	Pn	07 04 48.1	+1.0
COWI	Conover	14.73	14	*e*Pn	Pn	07 04 45.8	-2.6
	13nm,0.6s						
COWI				*e*Sn	Sn	07 07 25.6	-6.1
CMIG	Matias Romero	14.76	182	Pn	Pn	07 04 46.0	-2.9
	2.0nm,0.3s,baz=354,slow=11,SNR=38						
CMIG				Sn	Sn	07 07 16.7	-16
	0.2nm,0.3s,baz=240,slow=20,SNR=5.2						
R58B	Mineral	14.79	61	*e*Sn	Sn	07 07 30.7	-2.4
E38A	The Farm, Brul	14.83	8	*e*Pn	Pn	07 04 46.7	-3.0
SRU	San Rafael Swe	14.99	303	*e*Pn	Pn	07 04 53.8	+1.7
P17A	Butcher Ranch,	15.30	304	*e*Pn	P	07 04 58.4	-2.7
	9.8nm,1.5s						
Q16A	Castle Valley	15.38	302	*e*Pn	P	07 05 00.2	-1.8
	7.2nm,1.0s						
TMUT	Trail Mountain	15.56	303	*e*Pn	P	07 05 01.2	-2.8
	6.6nm,1.1s						
PKCU	Pink Cliffs	15.77	295	*e*Pn	P	07 05 07.1	+0.6
	14nm,1.2s						
Y14A	Wickenburg	15.80	282	*e*Pn	Pn	07 05 03.4	+0.7
	6.5nm,1.3s						
MTPU	Mount Pierson	15.84	298	*e*Pn	P	07 05 04.8	-2.5
	6.4nm,0.9s						
LPIG	La Paz	16.09	245	LR	LR	07 10 21.7	
	comp=Z,85nm,21.7s,baz=62,slow=34						
MPU	Maple Canyon	16.15	305	*e*Pn	P	07 05 11.2	+0.8
	9.6nm,0.9s						
EYMN	Ely	16.16	7	*e*Pn	P	07 05 11.7	+1.3
	21nm,0.8s						
EYMN				*e*Sn	Sn	07 07 57.0	-9.5
PD31	Pinedale Array	16.21	316	*e*Pn	Pn	07 05 07.5	-0.5
PDAR	Pinedale Array	16.21	316	Pn	Pn	07 05 05.5	-2.5
	0.3nm,0.3s,baz=122,slow=11,SNR=10						
PDAR				Lg	Lg	07 09 34.0	
	0.4nm,0.3s,baz=124,slow=40,SNR=3.3						
PDAR				LR	LR	07 12 15.9	
	comp=Z,239nm,20.7s,baz=129,slow=41						
PDAR	Pinedale Array	16.21	316	*e*Pn	Pn	07 05 06.1	-2.0
PDAR				Lg	Lg	07 09 34.0	
BW06	Boulder Array	16.21	316	*e*Pn	P	07 05 08.8	-2.5
	11nm,1.1s						
JLU	Jordanelle	16.28	307	*e*Pn	P	07 05 13.7	+1.7
	3.2nm,0.7s						
LCMT	Little Creek M	16.39	293	*e*Pn	P	07 05 16.5	+3.4
	7.1nm,1.2s						
NLU	North Lily Min	16.43	304	*e*Pn	P	07 05 14.8	+1.1
	3.8nm,1.1s						
TCUT	Toone Canyon	16.49	309	*e*Pn	P	07 05 16.7	+2.4
	17nm,0.9s						
CTU	Camp Tracy	16.52	307	*e*Pn	P	07 05 17.6	+2.9
	4.3nm,0.8s						
W13A	Hualapai Mount	16.60	286	*e*Pn	P	07 05 15.6	-0.1
	2.1nm,0.6s						
CCUT	Cedar City	16.61	295	*e*Pn	P	07 05 19.8	+4.2
	9.3nm,1.1s						
HWUT	Hardware Ranch	16.83	310	*e*Pn	P	07 05 17.0	-1.0
	6.6nm,0.6s						
DUG	Dugway, Tooele	17.05	304	*e*Pn	P	07 05 19.9	-0.5
	21nm,1.4s						
AHID	Auburn Hatcher	17.14	314	*e*Pn	P	07 05 24.8	+3.3
	10nm,0.9s						
APG	El Apazote	17.20	167	P	Pn	07 05 17.2	-3.5
	0.4nm,0.3s,baz=326,slow=15,SNR=3.9						
APG				S	Sn	07 08 15.0	-17
	0.4nm,0.3s,baz=331,slow=19,SNR=2.8						
PSUT	Pine Spring	17.24	298	*e*Pn	P	07 05 25.0	+2.4
	6.0nm,1.0s						
SPUT	South Promonto	17.27	308	*e*Pn	P	07 05 25.9	+3.0
	7.4nm,1.0s						
SNOW	Snow King Moun	17.33	316	*e*Pn	P	07 05 27.0	+3.3
	4.6nm,0.8s						
LOHW	Long Hollow	17.33	317	*e*Pn	P	07 05 23.5	-0.1
	2.4nm,0.8s						
LAO	LASA Array	17.36	332	*e*Pn	Pn	07 05 21.4	-0.9
	17nm,0.6s						
TPAW	Teton Pass	17.46	316	*e*Pn	P	07 05 27.0	+1.9
	6.6nm,0.9s						
SADO	Sadowa	17.48	38	P	Pn	07 05 21.9	-1.9
	0.6nm,0.3s,baz=252,slow=13,SNR=3.6						
SADO				S	Sn	07 08 34.7	-3.8
	0.4nm,0.3s,baz=250,slow=15,SNR=2.4						
BGU	Big Grassy Mou	17.50	306	*e*Pn	P	07 05 27.6	+2.2
	5.2nm,1.0s						
MOOW	Moose Ponds	17.50	317	*e*Pn	P	07 05 28.1	+2.6
	4.1nm,1.1s						
RLMT	Red Lodge	17.58	323	*e*Pn	P	07 05 26.8	+0.4
	11nm,1.1s						
FXWY	Fox Creek	17.60	316	*e*Pn	P	07 05 25.5	-1.1
	5.8nm,1.0s						
LDFC	Landfair	17.60	286	*e*Pn	P	07 05 30.4	+3.9
	15nm,1.1s						
IMW	Indian Meadow	17.70	317	*e*Pn	P	07 05 30.1	+2.4
	3.0nm,0.6s						
HVU	Hansel Valley	17.70	309	*e*Pn	P	07 05 29.3	+1.6
	4.1nm,1.0s						
SHPR	Sheep Range	17.81	291	*e*Pn	P	07 05 31.1	+2.2
	4.4nm,1.1s						
DGMT	Dagmar	18.14	339	*e*Pn	Pn	07 05 30.7	-1.4
	16nm,0.9s						
YMR	Madison River	18.19	319	*e*Pn	P	07 05 35.5	+2.5
	13nm,1.2s						
ULM	Lac du Bonnet	18.36	357	P	Pn	07 05 31.4	-3.2
	1.8nm,0.3s,baz=177,slow=12,SNR=21						
ULM				S	Sn	07 08 42.3	-17
	0.7nm,0.3s,baz=60,slow=14,SNR=5.6						
ULM				Lg	Lg	07 10 41.1	
	baz=264,slow=19,SNR=1.8						
ULM				LR	LR	07 13 09.7	
	comp=Z,261nm,19.0s,baz=261,slow=39						
R11A	Troy Canyon, C	18.50	296	*e*P	Pn	07 05 40.1	+3.4
	4.7nm,0.9s						
TPNV	Topopah Spring	18.74	292	*e*P	Pn	07 05 42.8	+3.3
	5.2nm,1.0s						
ELK	Elko	18.97	304	P	Pn	07 05 41.5	-0.8
	0.1nm,0.3s,baz=101,slow=10,SNR=2.6						
ELK				LR	LR	07 14 30.4	
	comp=Z,150nm,19.7s,baz=108,slow=42						
MCMT	McKenzie Canyo	19.35	317	*e*P	Pn	07 05 49.9	+2.9
HLID	Hailey	19.62	312	*e*P	Pn	07 05 52.5	+2.4
	12nm,1.5s						
EGMT	Eagleton	19.90	328	*e*P	Pn	07 05 54.6	+1.3
	8.7nm,1.0s						
MFID	Camas Ranch	20.46	310	*e*P	Pn	07 06 01.0	+1.1
	6.8nm,1.0s						
KVN	Kaiserville	20.58	297	*e*P	Pn	07 06 03.1	+1.6
	6.8nm,0.9s						
NVAR	Mina Array Bea	20.61	295	P	Pn	07 06 01.7	-0.1
	4.6nm,1.0s,baz=105,slow=11,SNR=14						
MSO	Missoula	21.16	320	*e*P	P	07 06 08.7	+3.3
	8.0nm,0.9s						
PNTR	Pine Nut	21.73	296	*e*P	P	07 06 15.5	+3.8
	7.8nm,0.7s						
BMO	Blue Mountains	22.07	312	*e*P	P	07 06 16.3	+1.2
	7.4nm,0.8s						
J08A	Circle Bar Ran	22.18	308	*e*P	P	07 06 18.8	+2.4
	6.1nm,0.9s						
F10A	Beach Ranch, E	22.57	315	*e*P	P	07 06 23.0	+2.5
	14nm,1.3s						
MOD	Modoc Plateau	22.95	303	*e*P	P	07 06 27.3	+2.7
	9.5nm,0.8s						
I07A	Izee	23.15	309	*e*P	P	07 06 29.1	+2.5
	6.7nm,1.0s						
E09A	Wood Farm, Sta	23.39	315	*e*P	P	07 06 30.7	+1.9
	9.6nm,1.1s						
FFC	Flin Flon	23.44	349	*e*P	P	07 06 30.8	+1.5
	14nm,1.4s						
FFC				*e*S	S	07 10 42.3	-0.2
NEW	Newport	23.75	320	P	P	07 06 34.6	+2.1
	4.4nm,0.9s,baz=134,slow=11,SNR=9.0						
NEW	Newport	23.75	320	*e*P	P	07 06 34.8	+2.4
	7.1nm,1.0s						
YBH	Yreka Blue Hor	24.64	301	P	P	07 06 41.8	+1.0
	0.8nm,0.7s,baz=354,slow=9.2,SNR=3.1						
YBH				LR	LR	07 17 11.6	
	comp=Z,257nm,18.1s,baz=80,slow=39						
B08A	Colville Reser	25.03	318	*e*P	P	07 06 46.5	+2.4
	4.7nm,0.8s						
ZARC	Zaragoza, Cauc	30.33	139	*e*P	P	07 07 32.4	+0.5
ZARC	Zaragoza, Cauc	30.33	139	*e*P	P	07 07 32.4	+0.5
PTBC	PUERTO BERRIO,	31.34	139	*e*P	P	07 07 41.7	+0.9
PTBC	PUERTO BERRIO,	31.34	139	*e*P	P	07 07 41.7	+0.9
SDV	Santo Domingo	31.77	131	P	P	07 07 47.9	+3.0
	2.5nm,0.5s,baz=326,slow=12,SNR=6.1						
SDV	Santo Domingo	31.77	131	*e*P	P	07 07 47.7	+2.8
SDV	Santo Domingo	31.77	131	*e*P	P	07 07 47.7	+2.8
BARC	Barichara	32.01	137	*e*P	P	07 07 48.8	+1.8
BARC	Barichara	32.01	137	*e*P	P	07 07 48.8	+1.8
RUSC	La Rusia	32.64	138	*e*P	P	07 07 53.9	+1.1
RUSC	La Rusia	32.64	138	*e*P	P	07 07 53.9	+1.1
YKA	Yellowknife Ar	33.24	343	P	P	07 07 57.1	+0.1
	0.4nm,0.6s,baz=140,slow=8.5,SNR=12						
CHIC	Chingaza	33.32	140	*e*P	P	07 07 58.8	+0.1
CHIC	Chingaza	33.32	140	*e*P	P	07 07 58.8	+0.1
POPC	Popayan, Colom	33.62	147	*e*P	P	07 07 59.9	-1.2
POPC	Popayan, Colom	33.62	147	*e*P	P	07 07 59.9	-1.2
VILC	Villavicencio,	33.77	141	*e*P	P	07 08 05.1	+2.9
VILC	Villavicencio,	33.77	141	*e*P	P	07 08 05.1	+2.9
PCON	Cinco Dias	33.94	147	*e*P	P	07 08 06.4	+2.2
PCON	Cinco Dias	33.94	147	*e*P	P	07 08 06.4	+2.2
SOTA	Rioblanco	34.01	147	*e*P	P	07 08 06.2	+1.5
SOTA	Rioblanco	34.01	147	*e*P	P	07 08 06.2	+1.5
FRB	Frobisher Bay	35.74	19	P	P	07 08 19.7	+1.1
	1.8nm,0.7s,baz=206,slow=11,SNR=5.0						
RES	Resolute Bay	42.85	360	P	P	07 09 19.2	+1.3
	1.0nm,0.7s,baz=191,slow=15,SNR=3.6						
ILAR	Eielson Array	45.82	332	P	P	07 09 44.2	+2.5
	1.0nm,0.9s,baz=106,slow=6.0,SNR=8.4						
LPAZ	La Paz	54.12	148	P	P	07 10 46.8	+0.8
	0.9nm,0.6s,baz=344,slow=2.8,SNR=4.6						
BDFB	Brasilia	64.86	130	P	P	07 12 02.2	+2.5
	1.1nm,0.4s,baz=249,slow=8.6,SNR=2.8						
NOA	NORSAR Array B	69.61	30	LR	LR	07 44 59.8	
	comp=Z,64nm,18.0s,baz=285,slow=38						
ARCES	ARCESS Array B	69.91	19	P	P	07 12 31.5	+0.7
	1.9nm,0.5s,baz=310,slow=6.0,SNR=20						
FINES	FINESS Array B	75.26	25	P	P	07 13 03.9	+1.2
	1.6nm,0.4s,baz=314,slow=4.8,SNR=16						
PLCA	Paso Flores	75.56	162	P	P	07 13 05.2	+0.5
	1.5nm,1.0s,baz=357,slow=7.3,SNR=2.9						
KSH	Kashi	108.37	8	Pdif	Pdif	07 15 45.0	+2.1
KSH				PP	PP	07 20 18.5	+6.7
KSH				AMB	AMB		
	comp=Z,420nm,7.1s						
ASAR	Alice Springs	136.82	268	PKP	PKPdf	07 20 47.1	+3.8
	comp=Z,0.2nm,0.5s,baz=64,slow=2.2,SNR=3.2						

IPEC ***25*** *07:14:30.4±0.1, 47°.74N×16°.14E, h15km, ML3.4/7, Error ellipse: s-maj=0.7km s-min=0.6km az=70.0*

LDG ***25*** *07:14:30.2±0.1, 47°.73N×16°.15E, h10km, Md3.7/1, Ml3.7/11, Error ellipse: s-maj=2.3km s-min=1.7km az=164.0*

PRU ***25*** *07:14:30.6±0.0, 47°.78N×16°.17E, h2km*

VIE ***25*** *07:14:30.8±0.2, 47°.70N×16°.17E, h12km±1km, mb3.0/10, ml3.6/10, Error ellipse: s-maj=3.3km s-min=1.4km az=127.0 7 km ESE of Neunkirchen felt 5-6 ems98 at Seebenstein / Lower Austria*

BGR ***25*** *07:14:32.8±0.4, 47°.74N×16°.08E, h10km, ML3.8/17, Error ellipse: s-maj=4.4km s-min=3.3km az=75.0*

BGR Few reports of slight damage to buildings, fissures in the plastering of the church of Seebenstein.

ROM ***25*** *07:14:33.3±0.5, 47°.59N±0°.03×16°.06E±0°.06, h10km, ML3.4/15*

ISC 25 07:14:30.2±0.7, 47°.75N±0°.02×16°.10E±0°.02, h20km±4km, n145, σ2s78/178, 7C-8D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CONA	Conrad Observa	0.23	318	*i* Pg		Pb	07 14 36.3	+0.1
	137nm,0.2s							
CONA				Sg		Sb	07 14 40.9	+0.6
	3μm,0.4s							
SOP	Sopron	0.32	103	*i* Pg		Pb	07 14 36.0	-1.2
SOP				*e*Sg		Sb	07 14 40.0	-2.0
ARSA	Arzberg	0.64	218	*e*Pg		Pb	07 14 42.8	+0.1
ARSA				*e*Sg		Sb	07 14 51.2	0.0
ARSA	Arzberg	0.64	218	*i* Pg		Pb	07 14 42.8	+0.1
	366nm,0.3s,SNR=383							
ARSA				*e*Sg		Sb	07 14 51.2	0.0
	1μm,0.3s							
ARSA	Arzberg	0.64	218	P		Pb	07 14 42.7	0.0
ARSA				S		Sb	07 14 51.0	-0.2
ARSA				AML		AML		
	comp=E,4335μm,0.4s							
ARSA				AML		AML		
	comp=N,3125μm,0.4s							
ARSA				AML		AML		
	comp=E,4335μm,0.4s							
ARSA				AML		AML		
	comp=N,3125μm,0.4s							
ARSA				AML		AML		
	comp=E,4335μm,0.4s							
ARSA				AML		AML		
	comp=N,3125μm,0.4s							
ZST	Bratislava	0.81	56	*e*PG		Pb	07 14 44.6	-1.0
ZST				*e*SG		Sb	07 14 56.0	-0.1
MODS	Modra-Piesok	1.01	52	*e*PG		Pb	07 14 49.1	-0.1
MODS				*e*SG		Sn	07 15 03.6	+0.8
MODS				eLG		Lg	07 15 05.6	
SMOL	Smolenice

BUD	**Budapest**	**2.00**	**97**	*e*Pn	**Pb**	**07 15 05.0**	**-0.9**
BUD				Sn	**Sn**	**07 15 27.0**	**-0.2**
MYKA	**Terra Mystica**	**2.02**	**237**	*e*Pn	**Pb**	**07 15 05.5**	**-0.7**
	comp=N,3.0nm,0.2s,SNR=8.5						
MYKA				Sg	**Sb**	**07 15 36.1**	**+5.2**
	comp=N,51nm,0.4s						
LJU	**Ljubljana**	**2.02**	**213**	*e*Pn	**Pb**	**07 15 06.3**	**0.0**
LJU	**Ljubljana**	**2.02**	**213**	P	**Pb**	**07 15 06.5**	**+0.3**
LJU				AML	AML		
	comp=E,334µm,0.7s						
LJU				AML	AML		
	comp=N,528µm,0.6s						
LJU				AML	AML		
	comp=N,528µm,0.6s						
LJU				AML	AML		
	comp=E,334µm,0.7s						
ACOM	**Acomizza, Ital**	**2.14**	**237**	P	**Pb**	**07 15 07.5**	**-0.9**
ACOM				AML	AML		
	comp=E,465µm,0.7s						
ACOM				AML	AML		
	comp=N,534µm,0.5s						
ACOM				AML	AML		
	comp=N,534µm,0.5s						
ACOM				AML	AML		
	comp=E,465µm,0.7s						
KHC	**Kasperske Hory**	**2.17**	**310**	*e*PN	**Pb**	**07 15 08.0**	**-0.8**
KHC				*e*PG	Pn	07 15 09.8	+4.6
KHC				*e*SN	**Sb**	**07 15 34.5**	**-0.8**
KHC				*e*SG	**Sn**	**07 15 38.7**	**+7.2**
	comp=E,318nm,0.5s						
RJOB	**Jochberg**	**2.23**	**271**	*e*Pn	**Pb**	**07 15 09.4**	**-0.4**
RJOB				*e*Sg	**Sb**	**07 15 43.5**	**+6.5**
MORC	**Moravsky Berou**	**2.24**	**25**	ǁ *i*P	**Pn**	**07 15 07.7**	**+1.5**
MORC	**Moravsky Berou**	**2.24**	**25**	*e*PN	**Pn**	**07 15 07.7**	**+1.5**
MORC				*e*SN	**Sb**	**07 15 35.5**	**-1.8**
CEY	**Cerknica**	**2.32**	**210**	*e*Pn	**Pb**	**07 15 09.5**	**-1.9**
MORH	**Mrgy, Hungar**	**2.33**	**131**	*e*Pn	**Pn**	**07 15 06.1**	**-1.3**
MORH				*e*Pn	**Sn**	**07 15 38.0**	**+2.7**
MORH				Sn	**Sb**	**07 15 41.0**	**+1.3**
MORH	**Mrgy, Hungar**	**2.33**	**131**	*e*Pn	**Pn**	**07 15 07.5**	**+0.2**
GOPC	**GO Pecny, Ondr**	**2.33**	**339**	*e*PN	**Pb**	**07 15 11.1**	**-0.4**
KRLC	**Kraliky**	**2.37**	**11**	*e*PN	**Pb**	**07 15 10.2**	**-2.0**
KRLC				*e*SG	**Sb**	**07 15 45.7**	**+4.7**
	comp=E,32nm,0.4s						
PRU	**Pruhonice**	**2.46**	**336**	*e*PN	**Pb**	**07 15 12.8**	**-0.9**
PRU				*e*PG	Pn	07 15 15.2	+6.0
PRU				*e*SG	**Sb**	**07 15 48.0**	**+4.4**
	comp=E,210nm,0.3s						
SABO	**M.te Sabotino**	**2.47**	**225**	P	**Pb**	**07 15 12.5**	**-1.3**
SABO				AML	AML		
	comp=E,330µm,0.7s						
SABO				AML	AML		
	comp=N,300µm,1.4s						
SABO				AML	AML		
	comp=E,330µm,0.7s						
SABO				AML	AML		
	comp=N,300µm,1.4s						
OKC	**Ostrava-Krasne**	**2.49**	**32**	*e*PN	**Pn**	**07 15 11.6**	**+2.0**
FVI	**Forni Avoltri**	**2.54**	**244**	P	**Pb**	**07 15 13.4**	**-1.8**
FVI				AML	AML		
	comp=E,176µm,1.0s						
FVI				AML	AML		
	comp=N,172µm,0.5s						
FVI				AML	AML		
	comp=E,176µm,1.0s						
FVI				AML	AML		
	comp=N,172µm,0.5s						
WET	**Wettzell**	**2.55**	**304**	*e*Pn	**Pb**	**07 15 13.5**	**-1.9**
PRA	**Prague**	**2.56**	**335**	*e*PN	**Pb**	**07 15 14.4**	**-1.1**
PRA				*e*SG	**Sb**	**07 15 51.8**	**+5.2**
	comp=N,196nm,0.4s						
PSZ	**Piszkesteto**	**2.56**	**85**	⇑ *i*P	**Pn**	**07 15 11.3**	**+0.6**
PSZ	**Piszkesteto**	**2.56**	**85**	*e*Pn	**Pn**	**07 15 12.0**	**+1.3**
PSZ				Sn	**Sn**	**07 15 41.0**	**-0.3**
DPC	**Dobruska-Polom**	**2.60**	**3**	*e*PN	**Pn**	**07 15 12.8**	**+1.6**
DPC				*e*SG	**Sb**	**07 15 51.2**	**+3.5**
	comp=N,92nm,0.3s						
ABTA	**Abfaltersbach**	**2.64**	**249**	Sg	Sb	07 15 57.8	+8.9
	comp=N,69nm,0.6s						
LANS	**Liptovska Anna**	**2.64**	**57**	*e*PN	**Pn**	**07 15 13.2**	**+1.4**
LANS				*e*SN	**Sn**	**07 15 46.2**	**+3.0**
UPC	**Upice**	**2.76**	**359**	*e*PN	**Pb**	**07 15 16.0**	**-2.8**
UPC				*e*SG	**Sb**	**07 15 57.1**	**+5.0**
	comp=N,136nm,0.4s						
STAL	**STALIGIAL**	**2.76**	**238**	P	**Pb**	**07 15 16.2**	**-2.6**
STAL				AML	AML		
	comp=E,162µm,0.4s						
STAL				AML	AML		
	comp=N,140µm,1.0s						
STAL				AML	AML		
	comp=N,140µm,1.0s						
STAL				AML	AML		
	comp=E,162µm,0.4s						
RISI	**Rein**	**2.85**	**255**	P	**Pb**	**07 15 18.6**	**-1.9**
RISI				AML	AML		
	comp=E,516µm,1.3s						
RISI				AML	AML		
	comp=N,788µm,0.4s						
RISI				AML	AML		
	comp=N,788µm,0.4s						
RISI				AML	AML		
	comp=E,516µm,1.3s						
PVCC	**Panska Ves**	**2.95**	**341**	*e*SG	**Sb**	**07 16 03.5**	**+5.8**
	comp=E,272nm,0.4s						
WATA	**Walderalm**	**3.09**	**264**	*i* Pn	**Pb**	**07 15 21.5**	**-3.1**
	SNR=6.4						
BLY	**Banja Luka**	**3.10**	**166**	⇑ *i*P	**Pn**	**07 15 20.1**	**+2.1**
BLY	**Banja Luka**	**3.10**	**166**	*e*Pn	**Pn**	**07 15 18.7**	**+0.7**
BRES	**Bressanone**	**3.15**	**252**	P	**Pb**	**07 15 22.8**	**-3.0**
BRES				AML	AML		
	comp=E,177µm,0.8s						
BRES				AML	AML		
	comp=N,177µm,0.3s						
BRES				AML	AML		
	comp=N,177µm,0.3s						
BRES				AML	AML		
	comp=E,177µm,0.8s						
FUR	**Furstenfeldbru**	**3.27**	**279**	*e*Pn	**Pb**	**07 15 24.3**	**-3.2**
FUR				*e*Pg	Pn	07 15 34.1	+14
ROTZ	**Rotzenmuhle**	**3.27**	**309**	*e*Pn	**Pb**	**07 15 23.3**	**-4.2**
ROTZ				*e*Sg	Sb	07 16 14.5	+7.7
ROSI	**Rosskopf**	**3.29**	**257**	P	**Pb**	**07 15 25.0**	**-3.0**
ROSI				AML	AML		
	comp=E,304µm,1.3s						
ROSI				AML	AML		
	comp=N,646µm,1.0s						
ROSI				AML	AML		
	comp=N,646µm,1.0s						
ROSI				AML	AML		
	comp=E,304µm,1.3s						
SQTA	**Sankt Quirin**	**3.36**	**263**	*i* Pn	**Pb**	**07 15 25.4**	**-3.7**
	comp=E,4.7nm,0.1s,SNR=8.5						
SQTA				Sg	Sb	07 16 19.4	+10
	comp=E,27nm,0.2s						
PART	**Garmisch-Parte**	**3.38**	**267**	*e*Pn	**Pb**	**07 15 25.3**	**-4.1**
PART				*e*Sg	Sb	07 16 20.1	+10
MOTA	**Moosalm**	**3.41**	**265**	*i* Pn	**Pb**	**07 15 25.6**	**-4.4**
	SNR=9.1						
ABSI	**Aberstueckl**	**3.41**	**254**	P	**Pb**	**07 15 26.3**	**-3.7**
ABSI				AML	AML		
	comp=E,275µm,0.8s						
ABSI				AML	AML		
	comp=N,390µm,0.6s						
ABSI				AML	AML		
	comp=E,275µm,0.8s						
ABSI				AML	AML		
	comp=N,390µm,0.6s						
BRG	**Berggiesshubel**	**3.42**	**337**	PN	**Pb**	**07 15 26.0**	**-4.2**
	comp=N,4.7nm,0.3s						
BRG				PG	Pn	07 15 36.8	+14
BRG				*e*		07 15 48.3	
BRG	**Berggiesshubel**	**3.42**	**337**	SB	**Sn**	**07 16 03.8**	**+1.4**
BRG				SG	Sb	07 16 19.8	+8.5
	comp=N,130nm,0.5s						
MANZ	**Manzenberg**	**3.45**	**312**	*e*Pn	**Pn**	**07 15 25.6**	**+2.7**
MANZ				*e*Sg	Sb	07 16 21.7	+10
NKC	**Novy Kostel**	**3.45**	**317**	*e*PN	**Pb**	**07 15 26.0**	**-4.7**
NKC				*e*SG	Sb	07 16 20.2	+8.0
	comp=N,159nm,0.4s						
KOSI	**Kohlern**	**3.47**	**250**	P	**Pb**	**07 15 26.9**	**-4.2**
KOSI				AML	AML		
	comp=E,132µm,0.9s						
KOSI				AML	AML		
	comp=N,164µm,0.7s						
KOSI				AML	AML		
	comp=N,164µm,0.7s						
KOSI				AML	AML		
APPI	**Appiano**	**3.56**	**251**	P	**Pb**	**07 15 27.9**	**-4.6**
APPI				AML	AML		
	comp=E,100µm,1.5s						
APPI				AML	AML		
	comp=N,120µm,1.4s						
APPI				AML	AML		
	comp=N,120µm,1.4s						
APPI				AML	AML		
	comp=E,100µm,1.5s						
RETA	**Reutte**	**3.62**	**268**	*i* Pn	Pb	07 15 28.6	-5.0
	comp=E,0.8nm,0.1s,SNR=7.6						
RETA				Sg	Sb	07 16 26.8	+10
	comp=E,16nm,0.2s						
FRGS	**Fruska Gora**	**3.65**	**134**	*e*Pn	**Pn**	**07 15 26.5**	**+0.9**
FETA	**Feichten**	**3.72**	**261**	*i* Pn	Pb	07 15 30.1	-5.2
	comp=E,2.3nm,0.1s,SNR=16						
FETA				Sg	Sb	07 16 31.3	+11
	comp=E,11nm,0.4s						
GRF	**Grafenberg Arr**	**3.76**	**303**	*e*Pn	Pb	07 15 30.8	-5.2
GRF				*e*Sg	Sb	07 16 31.1	+10
NORI	**Noerdlinger Ri**	**3.78**	**287**	*e*Pn	**Pn**	**07 15 30.7**	**+3.3**
NORI				*e*Sg	Sb	07 16 33.2	+12
MOSI	**Grossmontoni**	**3.95**	**255**	P	Pb	07 15 34.1	-5.1
MOSI				AML	AML		
	comp=E,180µm,0.9s						
MOSI				AML	AML		
	comp=N,284µm,1.6s						
MOSI				AML	AML		
	comp=N,284µm,1.6s						
MOSI				AML	AML		
	comp=E,180µm,0.9s						
TEKS	**Tekeris**	**4.00**	**142**	*e*Pn	**Pn**	**07 15 31.0**	**+0.7**
UBR	**Ueberruh**	**4.04**	**271**	*e*Pn	**Pn**	**07 15 34.2**	**+3.2**
UBR				*e*Sg	Sb	07 16 39.9	+11
CLL	**Collm**	**4.09**	**332**	*e*Pn	**Pn**	**07 15 35.0**	**+3.5**
CLL				*e*Sn	**Sn**	**07 16 20.0**	**+1.3**
CLL				*e*Sg	Sb	07 16 39.0	+8.6
	comp=Z,154nm,0.6s						
CLL				*e*		07 17 01.0	
MOX	**Moxa**	**4.12**	**316**	*e*Pn	**Pn**	**07 15 35.5**	**+3.5**
MOX				*e*Sg	Sb	07 16 42.0	+11
FUORN	**Ofenpass-Fuorn**	**4.13**	**256**	P	Pb	07 15 36.6	-5.8
FUORN				AML	AML		
	comp=E,85µm,1.5s						
FUORN				AML	AML		
	comp=N,70µm,0.9s						
FUORN				AML	AML		
	comp=N,70µm,0.9s						
FUORN				AML	AML		
	comp=E,85µm,1.5s						
HAPS	**Han Pijesak,Bl**	**4.17**	**150**	*e*Pn	**Pn**	**07 15 33.2**	**+0.3**
DAVA	**Damuels**	**4.24**	**266**	*e*Pn	**Pn**	**07 15 36.9**	**+3.1**
DAVA				*e*Sg	Sb	07 16 46.5	+12
DAVA	**Damuels**	**4.24**	**266**	*i* Pn	**Pn**	**07 15 36.9**	**+3.1**
	comp=E,8.3nm,0.2s,SNR=9.2						
DAVA				Sg	Sb	07 16 46.6	+12
	comp=E,37nm,0.4s						
MAGA	**Magasa**	**4.25**	**244**	P	**Pn**	**07 15 36.8**	**+3.0**
MAGA				AML	AML		
	comp=E,194µm,0.6s						
MAGA				AML	AML		
	comp=N,112µm,1.2s						
MAGA				AML	AML		
	comp=E,194µm,0.6s						
MAGA				AML	AML		
	comp=N,112µm,1.2s						
DAVOX	**Davos/Dischmat**	**4.34**	**259**	P	**Pn**	**07 15 38.8**	**+3.6**
BZS	**Buzias**	**4.36**	**117**	ǁ *i*P	**Pn**	**07 15 37.7**	**+2.4**
BBLS	**Lazići**	**4.53**	**148**	*e*Pn	**Pn**	**07 15 36.0**	**-1.6**
DRGR		**4.61**	**100**	ǁ *i*P	**Pn**	**07 15 40.2**	**+1.5**
STU	**Stuttgart**	**4.72**	**285**	*e*Pn	**Pn**	**07 15 43.1**	**+2.9**
STU				*e*Sg	Sb	07 17 04.1	+15
MDVR	**Moldovita**	**4.90**	**125**	⇑ *i*P	**Pn**	**07 15 45.4**	**+2.6**
GZR	**Gura Zlata**	**5.18**	**115**	⇑ *i*P	**Pn**	**07 15 48.9**	**+2.3**
HERR	**Herculane**	**5.24**	**121**	ǁ *i*P	**Pn**	**07 15 48.5**	**+1.2**
BFO	**Black Forest**	**5.24**	**279**	*e*Pn	**Pn**	**07 15 49.9**	**+2.4**
BFO				*e*Sn	**Sn**	**07 16 46.5**	**-0.8**
BFO				*e*Sg	Sb	07 17 18.4	+15
TNS	**Taunus Mts**	**5.61**	**299**	*e*Pn	**Pn**	**07 15 55.9**	**+3.5**
TNS				*e*Sg	Sb	07 17 31.3	+17
CDF	**Champ du Feu**	**5.95**	**280**	*e*Pn	**Pn**	**07 15 56.3**	**-0.9**
CDF	**Champ du Feu**	**5.95**	**280**	*e*Pg	Pb	07 16 20.6	+7.4
CDF				*e*Sg	Sb	07 17 39.6	+16
	comp=N,18nm,0.4s						
BURAR	**Bucovina Array**	**6.16**	**88**	⇑ *i*P	**Pn**	**07 16 02.0**	**+1.9**
HINF	**Hinteralfeld**	**6.23**	**274**	*e*Pn	**Pn**	**07 16 00.7**	**-0.3**
HINF	**Hinteralfeld**	**6.23**	**274**	*e*Pg	Pb	07 16 25.9	+7.9
HINF				*e*Sn	**Sn**	**07 17 07.9**	**-3.7**
HINF				*e*Sg	Sb	07 17 48.6	+17
	comp=N,9.5nm,0.3s						
ARR	**Arges**	**6.35**	**109**	ǁ *i*P	**Pn**	**07 16 04.4**	**+1.7**
HAU	**Haudompre**	**6.56**	**276**	*e*Pn	**Pn**	**07 16 04.9**	**-0.7**
HAU	**Haudompre**	**6.56**	**276**	*e*Pg	Pb	07 16 33.1	+9.5
HAU				*e*Sg	Sb	07 17 57.1	+16
	comp=N,15nm,0.3s						
LPG	**La Plagne**	**6.82**	**254**	*e*Pn	**Pn**	**07 16 08.4**	**-0.9**
LPG	**La Plagne**	**6.82**	**254**	*e*P	Pn	07 16 13.1	+3.8
LPL	**La Plagne**	**6.82**	**254**	*e*Pn	**Pn**	**07 16 08.4**	**-0.9**
LPL	**La Plagne**	**6.82**	**254**	*e*P	**Pn**	**07 16 13.1**	**+3.8**
CABF	**La Chapelle**	**6.92**	**264**	*e*Pn	**Pn**	**07 16 09.7**	**-0.8**
CABF	**La Chapelle**	**6.92**	**264**	*e*Pg	Pb	07 16 38.4	+8.7
CABF				*e*Sn	**Sn**	**07 17 24.2**	**-4.4**
CABF				*e*Sg	Sb	07 18 08.2	+16
PAGF	**Fort de Pagny**	**6.99**	**280**	*e*Pn	**Pn**	**07 16 10.3**	**-1.0**
	baz=103						
PAGF	**Fort de Pagny**	**6.99**	**280**	*e*Pg	Pb	07 16 39.5	+8.7
	baz=97						
PAGF				*e*Sn	**Sn**	**07 17 25.7**	**-4.4**
	baz=100						
PAGF				*e*Sg	Sb	07 18 10.6	+17
	comp=N,153nm,0.8s,baz=112						
MBDF	**Montbardon**	**7.14**	**248**	*e*P	Pn	07 16 17.8	+4.2
SBF	**Sospel**	**7.19**	**240**	*e*P	**Pn**	**07 16 17.5**	**+3.2**
SFTF	**Sexfontaines**	**7.44**	**278**	*e*Pn	**Pn**	**07 16 17.0**	**-0.5**
	baz=99						
SFTF	**Sexfontaines**	**7.44**	**278**	*e*Pg	Pb	07 16 48.3	+10
	baz=99						
SFTF				*e*Sg	Sb	07 18 24.5	+18
	comp=N,11nm,0.5s						
ORIF	**Oris-en-Rattie**	**7.62**	**252**	*e*P	**Pn**	**07 16 23.5**	**+3.4**
GIVF	**Givet**	**7.79**	**292**	*e*Pn	**Pn**	**07 16 21.4**	**-0.9**
GIVF	**Givet**	**7.79**	**292**	*e*Pg	Pb	07 16 54.7	+10
GIVF				*e*Sn	**Sn**	**07 17 44.8**	**-5.0**
GIVF				*e*Sg	Sb	07 18 33.8	+17
	comp=N,3.9nm,0.3s						
BAIF	**Baives**	**8.17**	**291**	*e*Pn	**Pn**	**07 16 26.6**	**-0.9**
BAIF	**Baives**	**8.17**	**291**	*e*Pg	Pb	07 17 01.4	+11
BAIF				*e*Sn	**Sn**	**07 17 53.3**	**-5.8**
BAIF				*e*Sg	Sb	07 18 46.7	+19
	comp=N,27nm,0.9s						
SMRF	**Simiane la Rot**	**8.26**	**247**	*e*P	**Pn**	**07 16 32.1**	**+3.3**
LOR	**Lormes**	**8.30**	**271**	*e*Pn	**Pn**	**07 16 28.4**	**-1.0**
	baz=92						
LOR	**Lormes**	**8.30**	**271**	*e*Pg	Pb	07 17 04.1	+11
	baz=92						
LOR				*e*Sn	**Sn**	**07 17 56.4**	**-6.1**
LOR				*e*Sg	Sb	07 18 50.0	+18
	baz=96						
SMF	**Signal de Mont**	**8.42**	**267**	*e*Pn	**Pn**	**07 16 30.2**	**-0.8**
SMF				*e*Sn	**Sn**	**07 17 59.9**	**-5.5**
	comp=N,1.4nm,0.2s						
VIVF	**Saint-Julien-l**	**8.42**	**254**	*e*Pn	**Pn**	**07 16 31.8**	**+0.7**
SSF	**Saint Saulge**	**8.57**	**270**	*e*Pn	**Pn**	**07 16 32.2**	**-0.9**
SSF	**Saint Saulge**	**8.57**	**270**	*e*Pg	Pn	07 17 08.1	+35
SSF				*e*Sn	**Sn**	**07 18 03.5**	**-5.6**
SSF				*e*Sg		07 18 59.3	
AVF	**Avril sur Loir**	**8.72**	**268**	*e*P	**Pn**	**07 16 37.8**	**+2.7**
AVF	**Avril sur Loir**	**8.72**	**268**	*e*Pg	Pn	07 17 12.3	+37
AVF				*e*Sn	**Sn**	**07 18 07.3**	**-5.5**
AVF				*e*Sg		07 19 03.2	
BGF	**Bois d'Agland**	**9.11**	**267**	*e*Pn	**Pn**	**07 16 39.4**	**-1.1**
BGF	**Bois d'Agland**	**9.11**	**267**	*e*Pg	Pn	07 17 18.8	+38
BGF				*e*Sn	**Sn**	**07 18 16.3**	**-6.0**
BGF				*e*Sg		07 19 15.5	
	comp=N,8.8nm,0.6s						
HYF	**Humbligny**	**9.12**	**272**	*e*Pn	**Pn**	**07 16 39.8**	**-0.9**
HYF	**Humbligny**	**9.12**	**272**	*e*Pg	Pn	07 17 18.8	+38
HYF				*e*Sn	**Sn**	**07 18 16.8**	**-5.9**
LASF	**Ste Croix**	**9.29**	**251**	*e*Pn	**Pn**	**07 16 41.9**	**-1.1**
LASF	**Ste Croix**	**9.29**	**251**	*e*Pg	Pn	07 17 22.1	+39
LASF				*e*Sn	**Sn**	**07 18 23.8**	**-3.0**
TCF	**Toulx Ste Croi**	**9.60**	**266**	*e*Pn	**Pn**	**07 16 46.0**	**-1.2**
TCF				*e*Sn	**Sn**	**07 18 28.0**	**-6.4**
	comp=N,0.9nm,0.2s						
CAF	**Calviac**	**10.11**	**259**	*e*Pn	**Pn**	**07 16 52.1**	**-2.1**
CAF				*e*Sn	**Sn**	**07 18 45.3**	**-1.6**
	comp=N,1.3nm,0.2s						
MTLF	**Montolieu**	**10.69**	**251**	*e*Pn	**Pn**	**07 17 01.1**	**-0.9**
LDF	**La Druitiere**	**10.87**	**280**	*e*Pn	**Pn**	**07 17 03.7**	**-0.8**
LFF	**La Frestale**	**10.98**	**261**	*e*Pn	**Pn**	**07 17 04.5**	**-1.6**
MFF	**Saint Martin d**	**11.12**	**270**	*e*Pn	**Pn**	**07 17 09.6**	**+1.6**

IDC 25 07:28:27.2±9.0, 61°.37S×156°.31E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.7/23, mbtmp3.5/3, ML3.4/1, MS3.0/2, Ms1 3.1/2, ms1mx2.9/14, Error ellipse: s-maj=540.7km s-min=40.0km az=75.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**16.33**	**176**	Pn	Pn	07 32 17.4	+0.1
	0.1nm,0.3s,baz=345,slow=14,SNR=6.9						
VNDA				LR	LR	07 37 13.4	
	comp=Z,57nm,19.5s,baz=70,slow=32						
H01W1	**Cape Leeuwin H**	**37.58**	**295**	T	T	08 14 50.3	
	baz=147,slow=75,SNR=26						
H01W2	**Cape Leeuwin H**	**37.58**	**295**	T	T	08 14 53.5	
	baz=147,slow=75,SNR=26						
H01W3	**Cape Leeuwin H**	**37.59**	**295**	T	T	08 14 51.1	
	baz=147,slow=75,SNR=29						
ASAR	**Alice Springs**	**40.71**	**328**	P	P	07 36 09.7	+0.3
	1.8nm,1.5s,baz=167,slow=8.6,SNR=5.1						
WRA	**Warramunga Arr**	**44.16**	**330**	P	P	07 36 36.9	-0.5
	0.7nm,0.9s,baz=163,slow=7.0,SNR=2.9						
CMAR	**Chiang Mai Arr**	**91.68**	**307**	LR	LR	08 21 29.8	
	comp=Z,5.9nm,19.5s,baz=105,slow=35						

IDC 25 07:41:11.0±344.0, 60°.87N×64°.44W, h0km, Error ellipse: s-maj=181.1km s-min=127.1km az=121.0, Labrador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I18DK	**QAANAAQ INFRAS**	**16.77**	**356**	*i*		09 34 55.0	
	baz=172,slow=371,SNR=32						
I10CA	**LAC DU BONNET**	**20.60**	**253**	*i*		09 46 40.0	
	baz=45,slow=393,SNR=1.5						
I42PT	**GRACIOSA ISLAN**	**31.39**	**117**	*i*		10 53 20.0	
	baz=326,slow=313,SNR=0.4						
I26DE	**FREYUNG INFRAS**	**43.85**	**69**	*i*		12 20 10.0	
	baz=313,slow=310,SNR=5.6						

*IDC **25** 07:58:14.8±3.3, 37°.82N×142°.23E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.2/30, mbtmp3.1/3, ML2.0/1, Error ellipse: s-maj=70.6km s-min=43.9km az=58.0*
*ISCJB **25** 07:58:22.6±0.9, 37°.73N±0°.04×141°.73E±0°.09, h56km±8km, mb3.2/2, Error ellipse: s-maj=12.3km s-min=5.2km az=21.8*
*JMA **25** 07:58:23.6, 37°.74N×141°.67E, h52km±1km, M3.5*
ISC 25 07:58:22.9±1.6, 37°.71N±0°.05×141°.76E±0°.10, h46km±15km, n23, σ0°.43/30, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.64**	**339**	P	**Pn**	**07 58 36.2**	**+0.4**
JIKH				S	**Sn**	**07 58 44.9**	**-0.1**
JMM	**Marumori**	**0.78**	**282**	P	**Pn**	**07 58 37.6**	**0.0**
JMM				S	**Sn**	**07 58 47.6**	**-0.7**
JFK	**Kawauchi**	**0.79**	**244**	P	**Pn**	**07 58 37.9**	**+0.2**
JFK				S	**Sn**	**07 58 48.1**	**-0.3**
JIO	**Ouri**	**0.81**	**336**	P	**Pn**	**07 58 38.3**	**+0.3**
JIO				*e*S	**Sn**	**07 58 48.6**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.98**	**232**	P	**Pn**	**07 58 40.6**	**+0.3**
ONAJ				S	**Sn**	**07 58 52.6**	**-0.5**
JOU	**Okura**	**1.09**	**307**	P	**Pn**	**07 58 41.6**	**-0.1**
JOU				*e*S	**Sn**	**07 58 55.4**	**-0.3**
JKMT	**Kesennumamotoy**	**1.12**	**348**	P	**Pn**	**07 58 42.5**	**+0.3**
JKMT				S	**Sn**	**07 58 56.0**	**-0.5**
JFT	**Otama**	**1.15**	**261**	P	**Pn**	**07 58 43.2**	**+0.6**
JFT				S	**Sn**	**07 58 57.6**	**+0.4**
JMK	**Ichinoseki**	**1.31**	**341**	P	**Pn**	**07 58 45.3**	**+0.5**
JMK				S	**Sn**	**07 59 00.9**	**-0.2**
JYS	**Shirataka**	**1.44**	**291**	P	**Pn**	**07 58 46.7**	**+0.2**
JYS				*e*S	**Sn**	**07 59 04.2**	**0.0**
JYK	**Kaneyama**	**1.64**	**318**	P	**Pn**	**07 58 49.5**	**+0.3**
JYK				S	**Sn**	**07 59 08.8**	**-0.3**
JFY	**Yanaizu**	**1.66**	**260**	P	**Pn**	**07 58 50.2**	**+0.6**
JFY				S	**Sn**	**07 59 10.0**	**+0.2**
JOM	**Ohasama**	**1.80**	**348**	P	**Pn**	**07 58 52.2**	**+0.8**
JOM				S	**Sn**	**07 59 13.0**	**-0.1**
JYA	**Atsumi**	**1.84**	**299**	P	**Pn**	**07 58 52.4**	**+0.4**
MJAR	**Matsushiro Arr**	**3.07**	**249**	Pn	**Pn**	**07 59 09.6**	**+0.7**
	0.1nm,0.3s,baz=54,slow=11,SNR=7.1						
H11N2	**WAKE ISLAND Hy**	**28.26**	**122**	T	T	08 34 33.6	
	baz=315,slow=75,SNR=7.9						
H11N1	**WAKE ISLAND Hy**	**28.27**	**122**	T	T	08 34 31.3	
	baz=315,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**28.28**	**122**	T	T	08 34 35.0	
	baz=315,slow=75,SNR=8.1						
H11S1	**WAKE ISLAND Hy**	**29.00**	**124**	T	T	08 35 35.4	
	baz=318,slow=74,SNR=9.2						
H11S3	**WAKE ISLAND Hy**	**29.00**	**124**	T	T	08 35 34.5	
	baz=318,slow=74,SNR=9.2						
H11S2	**WAKE ISLAND Hy**	**29.02**	**124**	T	T	08 35 29.8	
	baz=318,SNR=6.2						
MKAR	**Makanchi Array**	**44.00**	**302**	P	**P**	**08 06 25.8**	**+0.1**
	0.2nm,0.6s,baz=67,slow=7.7,SNR=3.0						
WRA	**Warramunga Arr**	**57.77**	**188**	P	**P**	**08 08 08.8**	**-0.6**
	0.2nm,0.5s,baz=6.5,slow=7.6,SNR=1.3						

MEX 25 08:05:09.0±0.5, 16°.27N×98°.15W, h13km±2km, MD3.8, Near coast of Guerrero

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

0.2nm,0.6s,baz=303,slow=4.0,SNR=4.3
ASAR Alice Springs 90.30 230 P P 08 28 10.5 -2.6
0.4nm,1.0s,baz=28,slow=4.8,SNR=4.1

SOME ***25*** *08:17:15.9, 43˚.08N× 76˚.58E, h20km*
ISCJB ***25*** *08:17:16.8±0.3, 43˚.13N±0˚.02× 76˚.59E±0˚.02, h11km±2km, Error ellipse: s-maj=3.4km s-min=2.0km az=159.7*
KRNET ***25*** *08:17:16.1±0.1, 43˚.12N× 76˚.60E, h22km, mb3.3*
NNC ***25*** *08:17:16.7±0.4, 43˚.19N× 76˚.58E, h0km, mb3.2, mpv3.6, Error ellipse: s-maj=4.6km s-min=2.1km az=170.0*
KNET ***25*** *08:17:17.6±0.7, 42˚.99N× 76˚.51E, h18km±5km, ml2.2, Error ellipse: s-maj=5.5km s-min=2.7km az=50.0*

ISC 25 08:17:16.8±0.8, 43˚.13N±0˚.02× 76˚.58E±0˚.01, h15km±4km, n81, σ1§01/143, 47C-26D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
IZV	**Izvestkoviy**	**0.09**	**166**	P		**Pg**		**08 17 19.9**	**-0.4**
	179nm,0.1s								
IZV				S		**Sg**		**08 17 22.5**	**0.0**
	741nm,0.1s								
IZV	**Izvestkoviy**	**0.09**	**166**	⇓*e*P		**Pg**		**08 17 19.9**	**-0.4**
	baz=73								
IZV				⇓*e*S		**Sg**		**08 17 22.5**	**0.0**
	baz=73								
IZV	**Izvestkoviy**	**0.09**	**166**	⇓*e*P		**Pg**		**08 17 19.9**	**-0.4**
	179nm,0.1s								
IZV				*e*S		**Sg**		**08 17 22.5**	**0.0**
	741nm,0.1s								
MTBS	**Maitube**	**0.11**	**272**	P		**Pg**		**08 17 20.4**	**0.0**
	411nm,0.1s								
MTBS				S		**Sb**		**08 17 23.4**	**+0.1**
	3μm,0.2s								
MTBS	**Maitube**	**0.11**	**272**	*e*P		**Pg**		**08 17 20.4**	**0.0**
	baz=75								
MTBS				*e*S		**Sb**		**08 17 23.4**	**+0.1**
	baz=75								
MTBS	**Maitube**	**0.11**	**272**	*e*P		**Pg**		**08 17 20.4**	**0.0**
	411nm,0.1s								
MTBS				*e*S		**Sb**		**08 17 23.4**	**+0.1**
	3μm,0.2s								
AAA	**Alma-Ata**	**0.26**	**71**	P		**Pg**		**08 17 22.2**	**-0.3**
	389nm,0.1s								
AAA				S		**Sg**		**08 17 26.6**	**+0.2**
	2μm,0.2s								
AAA	**Alma-Ata**	**0.26**	**71**	*e*P		**Pg**		**08 17 22.2**	**-0.3**
	baz=69								
AAA				*e*S		**Sg**		**08 17 26.6**	**+0.2**
	baz=69								
AAA	**Alma-Ata**	**0.26**	**71**	*e*P		**Pg**		**08 17 22.2**	**-0.3**
	389nm,0.1s								
AAA				*e*S		**Sg**		**08 17 26.6**	**+0.2**
	2μm,0.2s								
TNSS	**Tian-Shan**	**0.28**	**108**	P		**Pg**		**08 17 22.1**	**-1.0**
	200nm,0.1s								
TNSS				S		**Sg**		**08 17 26.5**	**-0.9**
	1μm,0.4s								
TNSS	**Tian-Shan**	**0.28**	**108**	*e*P		**Pg**		**08 17 22.1**	**-1.0**
	baz=8.0								
TNSS				*e*S		**Sg**		**08 17 26.5**	**-0.9**
	baz=8.0								
TNSS	**Tian-Shan**	**0.28**	**108**	*e*P		**Pg**		**08 17 22.1**	**-1.0**
	200nm,0.1s								
TNSS				*e*S		**Sg**		**08 17 26.5**	**-0.9**
	1μm,0.4s								
KNDC	**Almaty**	**0.29**	**72**	⇑P		**Pg**		**08 17 23.3**	**+0.2**
	99nm,0.3s								
KNDC				⇑S		**Sg**		**08 17 27.5**	**0.0**
	157nm,0.3s								
MDOK	**Medeo**	**0.34**	**84**	Pg		**Pg**		**08 17 23.1**	**-0.9**
	391nm,0.1s								
MDOK				Lg		Lg		08 17 28.1	
	242nm,0.1s								
MDOK	**Medeo**	**0.34**	**84**	*e*P		**Pg**		**08 17 23.1**	**-0.9**
	baz=82								
MDOK				*e*S		**Sg**		**08 17 28.1**	**-0.8**
	baz=82								
MDOK	**Medeo**	**0.34**	**84**	*e*P		**Pg**		**08 17 23.1**	**-0.9**
	391nm,0.1s								
MDOK				*e*S		**Sg**		**08 17 28.1**	**-0.8**
	242nm,0.1s								
KOTS	**Kotyrbulak**	**0.40**	**74**	P		**Pg**		**08 17 24.3**	**-0.8**
	120nm,0.1s								
KOTS				S		**Sg**		**08 17 29.9**	**-0.7**
	349nm,0.4s								
KOTS	**Kotyrbulak**	**0.40**	**74**	*e*P		**Pg**		**08 17 24.3**	**-0.8**
	baz=73								
KOTS				*e*S		**Sg**		**08 17 30.0**	**-0.7**
	baz=73								
KOTS	**Kotyrbulak**	**0.40**	**74**	*e*P		**Pg**		**08 17 24.2**	**-0.8**
	120nm,0.1s								
KOTS				*e*S		**Sg**		**08 17 29.9**	**-0.7**
	349nm,0.4s								
KST	**Kastek**	**0.46**	**260**	P		**Pg**		**08 17 25.6**	**-0.5**
	162nm,0.1s								
KST				S		**Sg**		**08 17 32.7**	**+0.3**
	64nm,0.1s								
KST	**Kastek**	**0.46**	**260**	⇑*e*P		**Pg**		**08 17 25.6**	**-0.5**
	baz=61								
KST				⇑*e*S		**Sg**		**08 17 32.7**	**+0.3**
	baz=61								
KST	**Kastek**	**0.46**	**260**	⇑*e*P		**Pg**		**08 17 25.6**	**-0.5**
	162nm,0.1s								
KST				*e*S		**Sg**		**08 17 32.7**	**+0.3**
	64nm,0.1s								
KTBS	**Karatobe**	**0.59**	**7**	P		**Pg**		**08 17 27.9**	**-0.6**
	17nm,0.1s								
KTBS	**Karatobe**	**0.59**	**7**	*e*P		**Pg**		**08 17 27.9**	**-0.6**
	baz=53								
KTBS				*e*S		**Sg**		**08 17 36.4**	**0.0**
	baz=53								
KTBS	**Karatobe**	**0.59**	**7**	*e*P		**Pg**		**08 17 27.9**	**-0.6**
	17nm,0.1s								
KTBS				*e*S		**Sg**		**08 17 36.4**	**0.0**
	71nm,0.3s								
DGS	**Degeres**	**0.60**	**281**	P		**Pg**		**08 17 28.2**	**-0.5**
	71nm,0.2s								
DGS				S		**Sg**		**08 17 36.9**	**+0.1**
	100nm,0.2s								
DGS	**Degeres**	**0.60**	**281**	*e*P		**Pg**		**08 17 28.3**	**-0.5**
	baz=82								
DGS				*e*S		**Sg**		**08 17 37.0**	**+0.1**
	baz=82								
DGS	**Degeres**	**0.60**	**281**	*e*P		**Pg**		**08 17 28.2**	**-0.5**
	71nm,0.2s								
DGS				*e*S		**Sg**		**08 17 37.0**	**+0.1**
	100nm,0.2s								
TKM2	**Tokmak 2**	**0.75**	**255**	⇑P		**Pg**		**08 17 30.7**	**-0.8**
	69nm,0.1s,SNR=271								
TKM2				⇓S		**Sg**		**08 17 41.4**	**-0.1**
	135nm,0.1s								
TKM2	**Tokmak 2**	**0.75**	**255**	⇓P		**Pg**		**08 17 30.5**	**-1.1**
	14nm,0.2s								
TKM2				⇓S		**Sg**		**08 17 41.6**	**+0.1**
	11nm,0.1s								
TKM2	**Tokmak 2**	**0.75**	**255**	⇑*i*P		**Pg**		**08 17 30.7**	**-0.8**
	baz=55								
TKM2				⇑*i*S		**Sg**		**08 17 41.0**	**-0.5**
	baz=55								
CHKK	**Chushkaly**	**0.79**	**22**	*e*P		**Pg**		**08 17 31.1**	**-1.1**
	baz=21								
CHKK				*e*S		**Sg**		**08 17 41.7**	**-0.8**
	baz=21								
CHKK	**Chushkaly**	**0.79**	**22**	*e*P		**Pg**		**08 17 31.1**	**-1.1**
	3.1nm,0.2s								
CHKK				*e*S		**Sg**		**08 17 41.6**	**-0.8**
	122nm,0.3s								
KUU	**Kurty**	**0.79**	**347**	⇓*e*P		**Pg**		**08 17 31.4**	**-0.8**
	baz=46								
KUU				⇓*e*S		**Sg**		**08 17 42.1**	**-0.5**
	baz=46								
KUU	**Kurty**	**0.79**	**347**	⇓*e*P		**Pg**		**08 17 31.4**	**-0.8**
	18nm,0.2s								
KUU				*e*S		**Sg**		**08 17 42.0**	**-0.5**
	110nm,0.2s								
BOOM	**Boomskoye usch**	**0.79**	**217**	⇑*i*P		**Pg**		**08 17 30.9**	**-1.4**
	baz=18								
BOOM				⇑*i*S		**Sg**		**08 17 41.5**	**-1.3**
	baz=18								
ULHL	**Ulahol**	**0.92**	**196**	⇓P		**Pg**		**08 17 33.2**	**-1.4**
	7.0nm,0.1s,SNR=44								
ULHL				⇓S		**Sg**		**08 17 44.0**	**-2.7**
	26nm,0.1s								
ULHL	**Ulahol**	**0.92**	**196**	⇓*i*P		**Pg**		**08 17 33.2**	**-1.4**
	baz=97								
ULHL				⇓*i*S		**Sg**		**08 17 44.9**	**-1.8**
	baz=97								
KDJ	**Kajisay**	**1.09**	**156**	⇑*i*P		**Pb**		**08 17 36.5**	**-0.9**
	baz=56								
KDJ				⇑*i*S		**Sb**		**08 17 50.5**	**-1.0**
	baz=56								
KBK	**Karagaybulak**	**1.29**	**249**	⇑P		**Pn**		**08 17 40.2**	**-0.3**
	22nm,0.1s,SNR=30								
KBK				⇑S		**Sn**		**08 17 58.2**	**+0.7**
	43nm,0.2s								
KBK	**Karagaybulak**	**1.29**	**249**	⇑*i*P		**Pn**		**08 17 40.0**	**-0.4**
	baz=50								
KBK				⇑*i*S		**Sb**		**08 17 57.5**	**+0.2**
	baz=50								
SATY	**Saty**	**1.34**	**92**	*e*P		**Pn**		**08 17 40.4**	**-0.7**
	48nm,0.1s								
SATY				*e*S		**Sb**		**08 17 58.3**	**-0.4**
	85nm,0.1s								
CHMS	**Chumysh**	**1.35**	**265**	⇑P		**Pn**		**08 17 40.6**	**-0.5**
	12nm,0.1s,SNR=6.0								
CHMS				⇓S		**Sn**		**08 17 59.3**	**+0.5**
	26nm,0.1s								
CHMS	**Chumysh**	**1.35**	**265**	⇑*i*P		**Pn**		**08 17 40.8**	**-0.3**
	baz=66								
CHMS				⇑*i*S		**Sb**		**08 17 59.1**	**+0.2**
	baz=66								
ARXS	**Arharly**	**1.41**	**39**	P		**Pn**		**08 17 41.8**	**-0.2**
ARXS	**Arharly**	**1.41**	**39**	*e*P		**Pn**		**08 17 41.8**	**-0.2**
	4.3nm,0.1s								
ARXS				*e*S		**Sn**		**08 18 00.2**	**-0.2**
	137nm,0.2s								
KZA	**Kyzart**	**1.44**	**224**	⇑P		**Pn**		**08 17 43.0**	**+0.3**
	2.8nm,0.1s,SNR=20								
KZA	**Kyzart**	**1.44**	**224**	⇑*i*P		**Pn**		**08 17 42.8**	**+0.1**
	baz=24								
KZA				⇑*i*S		**Sn**		**08 18 01.5**	**0.0**
	baz=24								
FRU1	**Bishkek**	**1.47**	**258**	⇑*i*P		**Pn**		**08 17 43.1**	**+0.3**
	baz=59								
FRU1				⇑*i*S		**Sb**		**08 18 02.6**	**+0.3**
	baz=59								
USP	**Ospenovka**	**1.53**	**276**	⇑*i*P		**Pn**		**08 17 43.9**	**+0.3**
	baz=76								
USP				⇑*i*S		**Sb**		**08 18 04.2**	**+0.1**
	baz=76								
AAK	**Ala-Archa**	**1.61**	**253**	⇑P		**Pn**		**08 17 45.5**	**+0.7**
	7.3nm,0.2s,SNR=14								
AAK				⇑S		**Sb**		**08 18 07.8**	**+1.3**
	24nm,0.3s								
AAK	**Ala-Archa**	**1.61**	**253**	⇓Pg		**Pn**		**08 17 45.7**	**+0.9**
	5.5nm,0.4s								
AAK				⇑Lg		Lg		08 18 08.2	
	12nm,0.4s								
AAK	**Ala-Archa**	**1.61**	**253**	⇑*i*P		**Pn**		**08 17 45.2**	**+0.4**
	baz=53								
AAK				⇑*i*S		**Sb**		**08 18 06.6**	**+0.1**
	baz=53								
MNBS	**Baschi**	**1.63**	**54**	P		**Pn**		**08 17 45.1**	**0.0**
	11nm,0.2s								
MNBS	**Baschi**	**1.63**	**54**	*e*P		**Pn**		**08 17 45.1**	**0.0**
	baz=58								
MNBS				*e*S		**Sn**		**08 18 06.4**	**+0.6**
	baz=58								
MNBS	**Baschi**	**1.63**	**54**	*e*P		**Pn**		**08 17 45.1**	**0.0**
	11nm,0.2s								
MNBS				*e*S		**Sn**		**08 18 06.4**	**+0.6**
	145nm,0.2s								
NRN	**Naryn**	**1.75**	**195**	⇓*i*P		**Pb**		**08 17 48.2**	**-0.5**
	baz=96								
NRN				⇓*i*S		**Sb**		**08 18 11.2**	**+0.6**
	baz=96								
UCH	**Uchtor**	**1.77**	**240**	⇑P		**Pb**		**08 17 48.6**	**-0.7**
	5.5nm,0.2s,SNR=14								
UCH	**Uchtor**	**1.77**	**240**	⇑*i*P		**Pb**		**08 17 48.6**	**-0.7**
	baz=41								
UCH				⇑*i*S		**Sb**		**08 18 11.8**	**+0.4**
	baz=41								
UZB	**Uzynbulak**	**1.79**	**88**	*e*P		**Pn**		**08 17 47.7**	**+0.5**
	baz=88								
UZB				*e*S		**Sn**		**08 18 10.8**	**+1.1**
	baz=88								
UZB	**Uzynbulak**	**1.79**	**88**	*e*P		**Pn**		**08 17 47.7**	**+0.5**
	17nm,0.2s								
UZB				*e*S		**Sn**		**08 18 10.8**	**+1.1**
	30nm,0.2s								
ARLS	**Aral**	**2.10**	**234**	⇓*i*P		**Pn**		**08 17 53.1**	**+1.6**
	baz=34								
ARLS				⇓*i*S		**Sn**		**08 18 18.8**	**+1.4**
	baz=34								
SHLS	**Shalkode**	**2.11**	**88**	*e*P		**Pg**		**08 17 59.4**	**+2.1**
	18nm,0.4s								
SHLS				*e*S		**Sg**		**08 18 30.9**	**+6.2**
	26nm,0.8s								
EKS2	**Erkin-Say**	**2.11**	**258**	⇑P		**Pb**		**08 17 53.7**	**-1.2**
	3.2nm,0.1s,SNR=15								
EKS2	**Erkin-Say**	**2.11**	**258**	⇑*e*P		**Pn**		**08 17 53.3**	**+1.6**
	baz=59								
EKS2				⇑*i*S		**Sb**		**08 18 20.4**	**-0.6**
	baz=59								
PDGK	**Podgornoye**	**2.13**	**84**	⇑Pg		**Pn**		**08 17 52.8**	**+0.8**
	2.7nm,0.4s								
PDGK				⇓Lg		Lg		08 18 21.5	
	7.6nm,0.5s								
PDGK	**Podgornoye**	**2.13**	**84**	⇑*i*P		**Pn**		**08 17 53.0**	**+1.0**
	baz=83								
PDGK				⇑*i*S		**Sb**		**08 18 20.8**	**-0.8**
	baz=83								
AML	**Almayashu**	**2.35**	**246**	⇓*e*P		**Pn**		**08 17 57.3**	**+2.0**
	baz=46								
AML				⇓*i*S		**Sb**		**08 18 26.9**	**-1.2**
	baz=46								
MRKS	**Merke**	**2.49**	**262**	*e*P		**Pb**		**08 18 00.5**	**-0.8**
	3.5nm,0.4s								
MRKS				*e*S		**Sb**		**08 18 32.5**	**+0.7**
	18nm,0.3s								
DJR	**Jarkent**	**2.62**	**61**	*e*P		**Pb**		**08 18 01.6**	**-1.9**
	0.6nm,0.3s								
DJR				*e*S		**Sb**		**08 18 34.9**	**-0.6**
	7.7nm,0.4s								
KTMS	**Ketmen**	**2.77**	**82**	Pg		**Pb**		**08 18 05.5**	**-0.6**
	6.3nm,0.3s								
KTMS				Lg		Lg		08 18 41.1	
	12nm,0.2s								
KTMS	**Ketmen**	**2.77**	**82**	*e*P		**Pb**		**08 18 05.5**	**-0.6**
	6.3nm,0.3s								
KTMS				*e*S		**Sb**		**08 18 41.1**	**+1.2**
	12nm,0.2s								
KAPS	**Kapalarasan**	**2.94**	**42**	*e*P		**Pb**		**08 18 08.1**	**-0.8**
	2.5nm,0.3s								
KAPS				*e*S		**Sb**		**08 18 45.1**	**+0.5**
	25nm,0.5s								
MNAS	**Manas**	**3.07**	**259**	⇑Pg		**Pb**		**08 18 12.3**	**+1.1**
	0.7nm,0.4s								
MNAS				⇑Lg		Lg		08 18 49.9	
	1.8nm,0.3s								
ARK	**Arkit**	**3.67**	**250**	⇑*i*P		**Pn**		**08 18 14.5**	**+1.4**
	baz=50								
ARK				⇑*i*S		**Sn**		**08 18 57.1**	**+1.0**
	baz=50								
SFK	**Sufi-Kurgan**	**3.87**	**218**	⇑Pg		**Pb**		**08 18 27.6**	**+2.6**
	0.7nm,0.4s								
SFK				⇓Lg		Lg		08 19 18.7	
	2.2nm,0.5s								
KK31	**Karatay Array**	**4.45**	**272**	⇓Pg		**Pg**		**08 18 39.6**	**-2.3**
	0.3nm,0.3s,baz=88,slow=16,SNR=6.1								
KK31				Lg		Lg		08 19 34.6	
	1.2nm,0.3s,baz=86,slow=28,SNR=8.2								
MK31	**Makanchi Array**	**5.46**	**46**	Pn		**Pn**		**08 18 38.5**	**+0.9**
	0.3nm,0.3s,baz=220,slow=15,SNR=6.9								
MK31				Sn		**Sn**		**08 19 39.5**	**-0.7**
	0.2nm,0.3s,baz=222,slow=23,SNR=3.5								
MK31				⇑Lg		Lg		08 20 05.4	
	0.2nm,0.3s,baz=222,slow=26,SNR=4.0								
OTUK	**Ortayu**	**5.92**	**331**	⇓Lg		Lg		08 20 20.7	
	1.7nm,0.5s								
KURBB	**Kurchatov Arra**	**7.62**	**9**	⇓Lg		Lg		08 21 20.1	
	0.6nm,0.5s								
KURK	**Kurchatov**	**7.72**	**10**	⇑Lg		Lg		08 21 18.3	
	0.6nm,0.5s								

IDC 25 08:27:08.5±1.7, 1.80N× 127˚.49E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.7/42, mbtmp3.9/5, ML3.8/1, Error ellipse: s-maj=102.8km s-min=22.4km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
FITZ	**Fitzroy Crossi**	**19.86**	**185**	P		**Pn**		**08 31 42.1**	**-0.7**
	0.2nm,0.3s,baz=4.6,slow=8.1,SNR=6.2								
WRA	**Warramunga Arr**	**22.63**	**163**	P		**P**		**08 32 11.7**	**+0.5**
	3.2nm,0.4s,baz=341,slow=11,SNR=42								
ASAR	**Alice Springs**	**26.07**	**167**	P		**P**		**08 32 43.4**	**-0.6**
	0.8nm,0.5s,baz=351,slow=7.3,SNR=17								
STKA	**Stephens Creek**	**36.07**	**159**	P		**P**		**08 34 11.6**	**-0.4**
	1.5nm,0.3s,baz=332,slow=8.2,SNR=6.7								
MKAR	**Makanchi Array**	**59.57**	**326**	P		**P**		**08 37 14.2**	**+0.1**
	0.2nm,0.5s,baz=132,slow=7.6,SNR=3.8								

ISCJB ***25*** *08:27:42.9±0.5, 41˚.56N±0˚.03× 141˚.07E±0˚.05, h118km±4km, mb3.6/5, Error ellipse: s-maj=6.8km s-min=5.3km az=20.4*
JMA ***25*** *08:27:43.7±0.1, 41˚.56N× 141˚.10E, h114km±1km, M2.8*
IDC ***25*** *08:27:47.9±2.0, 41˚.99N× 140˚.93E, h128km±17km, mb3.2/5, mb1 3.3/7, mb1mx3.0/51, mbtmp3.5/7, Error ellipse: s-maj=25.4km s-min=18.0km az=149.0*

ISC 25 08:27:43.8±0.9, 41˚.55N±0˚.04× 141˚.08E±0˚.04, h115km±6km, n24, σ0§53/38, mb3.5/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
JOT	**Ohata**	**0.17**	**187**	P		**Pn**		**08 27 59.6**	**-0.1**
JKB	**Kayabe**	**0.34**	**354**	P		**Pn**		**08 28 00.2**	**0.0**
JKB				*e*S		**Sn**		**08 28 12.7**	**+0.1**
JAHD	**Aomorihigashid**	**0.34**	**145**	P		**Pn**		**08 28 00.0**	**-0.3**
JAHD				*e*S		**Sn**		**08 28 12.6**	**0.0**
JSR	**Shiriuchi**	**0.49**	**268**	P		**Pn**		**08 28 01.0**	**-0.1**
JSR				*e*S		**Sn**		**08 28 13.8**	**-0.3**
JARK	**Aomorirokkasho**	**0.58**	**158**	P		**Pn**		**08 28 01.6**	**-0.1**
JARK				S		**Sn**		**08 28 15.1**	**0.0**
JTM	**Tenmabayashi**	**0.76**	**181**	P		**Pn**		**08 28 03.1**	**0.0**
JTM				S		**Sn**		**08 28 17.6**	**0.0**
JYM2	**Yakumo 2**	**0.78**	**317**	P		**Pn**		**08 28 03.2**	**0.0**
JYM2				S		**Sn**		**08 28 18.2**	**+0.3**
JNB	**Noboribetsu**	**0.92**	**358**	P		**Pn**		**08 28 04.3**	**-0.2**
JANG	**Nango**	**1.22**	**164**	P		**Pn**		**08 28 07.3**	**-0.4**
JANG				S		**Sn**		**08 28 25.0**	**-0.8**
JIAM	**Iburiatsuma**	**1.24**	**30**	P		**Pn**		**08 28 08.2**	**+0.3**
JIAM				S		**Sn**		**08 28 26.5**	**+0.3**
JIW	**Iwasaki**	**1.25**	**221**	P		**Pn**		**08 28 08.4**	**+0.4**
JIW				*e*S		**Sn**		**08 28 26.8**	**+0.4**
JOSM	**Okushiri--Mats**	**1.31**	**295**	P		**Pn**		**08 28 07.9**	**-0.7**
JOSM				*e*S		**Sn**		**08 28 26.7**	**-0.8**
JEW	**Eniwo**	**1.32**	**12**	P		**Pn**		**08 28 09.2**	**+0.5**
JEW				*e*S		**Sn**		**08 28 28.0**	**+0.3**
JSH	**Shimam**	**1.34**	**325**	P		**Pn**		**08 28 08.8**	**-0.1**
JSH				*e*S		**Sn**		**08 28 27.9**	**-0.1**
JNBK	**Urakawa-nobuka**	**1.45**	**59**	P		**Pn**		**08 28 10.2**	**0.0**
JNBK				*e*S		**Sn**		**08 28 30.4**	**+0.1**
JFR	**Furan**	**1.97**	**34**	P		**Pn**		**08 28 16.8**	**+0.3**
JFR				*e*S		**Sn**		**08 28 41.6**	**0.0**
JCH	**Churui**	**2.01**	**57**	P		**Pn**		**08 28 17.0**	**0.0**
ASAJ	**Asahikawa**	**2.80**	**23**	P		**Pn**		**08 28 27.1**	**-0.2**
	1.6nm,0.3s,baz=126,slow=17,SNR=3.7								
ASAJ				S		**Sn**		**08 28 58.3**	**-2.3**
	2.6nm,0.3s,baz=106,slow=20,SNR=5.1								
USRK	**Ussuriysk Ar.**	**7.18**	**295**	P		**Pn**		**08 29 26.4**	**+0.4**
	0.4nm,0.3s,baz=91,slow=15,SNR=5.4								
ZALV	**Zalesovo Beam**	**38.79**	**308**	P		**P**		**08 34 57.6**	**+0.7**
	1.5nm,0.5s,baz=97,slow=8.9,SNR=6.0								
MKAR	**Makanchi Array**	**41.64**	**298**	P		**P**		**08 35 20.0**	**-0.6**
	1.0nm,0.8s,baz=82,slow=10.0,SNR=8.3								
ILAR	**Eielson Array**	**45.88**	**35**	P		**P**		**08 35 54.5**	**+0.3**
	0.3nm,0.7s,baz=271,slow=5.4,SNR=5.9								
INK	**Inuvik**	**50.52**	**29**	P		**P**		**08 36 29.8**	**+0.1**
	0.6nm,0.6s,baz=274,slow=5.3,SNR=3.0								
WRA	**Warramunga Ar**	**61.50**	**187**	P		P		08 37 53.9	+5.5
	0.6nm,1.1s,baz=5.5,slow=6.4,SNR=2.5								

ISCJB ***25*** *08:38:55.1±1.2, 5˚.1S±0˚.2× 151˚.8E±0˚.3, h35km, mb3.8/9, MS2.9/1, Error ellipse: s-maj=47.3km s-min=9.6km az=37.9*
IDC ***25*** *08:38:58.8±5.4, 5˚.26S× 151˚.87E, h59km±48km, mb3.6/9, mb1 3.8/10, mb1mx3.6/43, mbtmp3.9/10, ML1.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/26, Error ellipse: s-maj=51.7km s-min=27.0km az=127.0*

ISC 25 08:38:56.4±1.5, 5˚.1S±0˚.3× 151˚.9E±0˚.3, h35km, n12, σ1§11/12, mb4.0/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
PMG	**Port Moresby**	**6.34**	**228**	P		**Pn**		**08 40 29.7**	**+2.2**
	0.9nm,0.3s,baz=138,slow=15,SNR=1.9								
PMG				S		**Sn**		**08 41 37.4**	**-1.3**
	1.8nm,0.3s,baz=78,slow=19,SNR=2.2								
WRA	**Warramunga Arr**	**22.56**	**228**	P		**P**		**08 43 53.9**	**0.0**
	0.9nm,0.4s,baz=52,slow=9.7,SNR=12								
ASAR	**Alice Springs**	**25.31**	**222**	P		**P**		**08 44 18.6**	**-1.4**
	0.5nm,0.5s,baz=57,slow=8.5,SNR=6.0								
FITZ	**Fitzroy Crossi**	**28.72**	**241**	P		**P**		**08 44 49.7**	**-1.0**
	2.3nm,0.6s,baz=46,slow=8.3,SNR=10								
MJAR	**Matsushiro Arr**	**43.39**	**344**	LR		LR		09 03 11.6	
	comp=Z,16nm,21.4s,baz=210,slow=33								
SONM	**Songino Array**	**66.13**	**328**	P		**P**		**08 49 40.6**	**+0.2**
	0.8nm,0.6s,baz=149,slow=4.2,SNR=5.6								
MKAR	**Makanchi Array**	**79.99**	**319**	P		**P**		**08 51 03.0**	**+0.8**
	0.3nm,0.5s,baz=101,slow=7.7,SNR=5.9								
ZALV	**Zalesovo Beam**	**80.93**	**327**	P		**P**		**08 51 06.7**	**-0.4**
	0.6nm

ms1mx2.7/31, **Error ellipse: s-maj=111.4km s-min=43.9km az=140.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.87**	**235**	Pn	Pn	08 44 15.8	-0.7
	213nm,0.3s,baz=174,slow=22,SNR=5.2						
RAO				Sn	Sn	08 44 32.0	-8.8
	250nm,0.3s,baz=96,slow=21,SNR=4.9						
STKA	**Stephens Creek**	**36.59**	**254**	P	P	08 50 51.1	0.0
	0.8nm,0.3s,baz=90,slow=9.1,SNR=4.0						
ASAR	**Alice Springs**	**44.88**	**264**	P	P	08 51 59.5	-0.3
	0.8nm,0.7s,baz=101,slow=6.6,SNR=14						
WRA	**Warramunga Arr**	**45.68**	**269**	P	P	08 52 05.3	-0.7
	2.1nm,0.8s,baz=109,slow=7.9,SNR=8.0						
FITZ	**Fitzroy Crossi**	**54.01**	**267**	P	P	08 53 10.6	+1.1
	2.4nm,0.9s,baz=132,slow=12,SNR=2.4						
FITZ				LR	LR	09 16 12.6	
	comp=Z,23nm,19.0s,baz=155,slow=36						
BRTR	**Keskin Array B**	**152.85**	**303**	PKPbc	PKPbc	09 03 42.1	-0.3
	0.2nm,0.4s,baz=91,slow=2.9,SNR=2.8						

ISCJB ***25*** *08:45:27.7±1.0, 3°.3N±0°.1×128°.8E±0°.2, h33km, mb3.6/5, Error ellipse: s-maj=34.2km s-min=11.3km az=155.6*
IDC ***25*** *08:45:30.8±4.1, 3°.25N×128°.79E, h45km±42km, mb3.5/5, mb1 3.6/6, mb1mx3.4/43, mbtmp3.7/6, ML3.6/1, Error ellipse: s-maj=45.7km s-min=21.8km az=82.0*

ISC 25 08:45:29.9±1.1, 3°.3N±0°.1×128°.7E±0°.3, h35km, n6, σ0s93/8, mb3.5/5, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.85**	**148**	P	**Pn**	**08 46 41.7**	**+1.2**
	2.5nm,0.3s,baz=238,slow=23,SNR=22						
SIJI				S	**Sn**	**08 47 34.1**	**-1.4**
	3.2nm,0.3s,baz=228,slow=23,SNR=8.3						
FITZ	**Fitzroy Crossi**	**21.45**	**188**	P	**P**	**08 50 15.7**	**+0.4**
	1.7nm,0.8s,baz=9.2,slow=10,SNR=6.4						
WRA	**Warramunga Arr**	**23.73**	**167**	P	**P**	**08 50 39.0**	**0.0**
	1.0nm,0.7s,baz=347,slow=10,SNR=7.3						
ASAR	**Alice Springs**	**27.25**	**170**	P	**P**	**08 51 10.5**	**-0.5**
	0.3nm,0.7s,baz=349,slow=8.1,SNR=4.3						
ASAR				PcP	**PcP**	**08 54 29.9**	**-0.6**
	0.3nm,0.5s,baz=350,slow=2.0,SNR=5.7						
PETK	**Petropavlovsk-**	**55.13**	**21**	P	**P**	**08 54 58.8**	**+0.1**
	1.4nm,0.6s,baz=186,slow=5.7,SNR=5.6						
MKAR	**Makanchi Array**	**59.05**	**325**	P	**P**	**08 55 26.3**	**-0.3**
	1.0nm,0.3s,baz=114,slow=8.0,SNR=41						

SJA ***25*** *08:46:06.2±0.9, 27°.46S×70°.47W, h64km±19km, ML3.2, MW3.1*
GUC ***25*** *08:46:07.3±0.7, 27°.64S×70°.13W, h90km±11km, ML3.3*
ISCJB ***25*** *08:46:09.9±0.5, 27°.62S±0°.03×70°.23W±0°.08, h54km, Error ellipse: s-maj=10.6km s-min=4.6km az=4.1*

ISC 25 08:46:10.8±1.3, 27°.59S±0°.04×70°.38W±0°.09, h54km, n21, σ1s22/25, 4C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRCH	**Chaqaral**	**1.25**	**350**	*eS*	**Sn**	**08 46 50.8**	**+2.9**
LCO	**Las Campanas**	**1.45**	**191**	⇑*i* P	**Pn**	**08 46 34.6**	**-0.3**
LCO				*i* S	**Sn**	**08 46 54.3**	**+1.3**
LCO				IAML		08 46 55.1	
	comp=E,449nm,0.1s						
LSCH	**La Serena**	**2.44**	**198**	⇑*i* P	**Pn**	**08 46 46.8**	**-1.3**
GO02	**Mina Guanaco**	**2.52**	**16**	⇑*i* P	**Pn**	**08 46 48.7**	**-0.8**
GO02				*i* S	**Sn**	**08 47 19.4**	**+0.2**
GO02				IAML		08 47 23.8	
	comp=N,168nm,0.1s						
GO04	**Tololo Observa**	**2.60**	**188**	*eP*	**Pn**	**08 46 49.7**	**-0.9**
GO04				*eS*	**Sn**	**08 47 21.9**	**+0.7**
GO04	**Tololo Observa**	**2.60**	**188**	⇑*i* P	**Pn**	**08 46 49.4**	**-1.2**
GO04				*i* S	**Sn**	**08 47 21.0**	**-0.2**
AROD	**Rodeo**	**2.69**	**163**	*eP*	**Pn**	**08 46 53.9**	**+2.0**
ACCO	**Cerro Coronel**	**3.20**	**159**	*eP*	**Pn**	**08 47 00.1**	**+1.2**
ACLC	**CERRO LA CRUZ**	**3.53**	**122**	*eP*	**Pn**	**08 47 03.0**	**-0.3**
CMCH	**Combarbala**	**3.62**	**189**	*eP*	**Pn**	**08 47 02.7**	**-1.7**
RTLL	**Cerro Villicun**	**4.08**	**156**	*eP*	**Pn**	**08 47 11.0**	**+0.3**
CYA	**Choya**	**4.13**	**103**	*eP*	**Pn**	**08 47 10.1**	**-1.3**
ZON	**Zonda**	**4.21**	**160**	*eP*	**Pn**	**08 47 12.3**	**-0.2**
RTLS	**Leoncito**	**4.30**	**168**	*eP*	**Pn**	**08 47 14.4**	**+0.4**
RTLS				IAML		08 47 49.6	
	comp=Z,25nm,0.2s						
APLL	**PUNTA DE LOS L**	**4.38**	**131**	*eP*	**Pn**	**08 47 13.9**	**-0.9**
CFA	**Coronel Fontan**	**4.42**	**156**	*eP*	**Pn**	**08 47 15.0**	**-0.3**
PB15	**IPOC Station P**	**4.44**	**11**	⇓*i* P	**Pn**	**08 47 14.1**	**-1.7**
ASAL	**Salagasta**	**5.16**	**165**	*eP*	**Pn**	**08 47 25.3**	**-0.3**
ARCO	**CERRO ARCO**	**5.38**	**167**	*eP*	**Pn**	**08 47 28.7**	**0.0**
ARCO				IAML		08 48 07.4	
	comp=Z,9.7nm,0.5s						
AAGR	**Agrelo**	**5.64**	**167**	*eP*	**Pn**	**08 47 31.3**	**-0.9**
MRA	**San Martin**	**6.29**	**141**	*eP*	**Pn**	**08 47 39.5**	**-1.5**

IDC ***25*** *09:00:12.9±3.3, 64°.63N×32°.35E, h0km, mb1 3.0/3, mb1mx2.8/36, mbtmp2.9/3, ML2.2/3, Error ellipse: s-maj=44.7km s-min=11.2km az=101.0*
HEL ***25*** *09:00:15.8±0.4, 64°.65N×30°.62E, h0km, ML2.1, Explosion*
NAO ***25*** *09:00:17.9±1.4, 64°.75N×29°.97E, ML2.3*
KOLA ***25*** *09:00:17.4, 64°.76N×30°.31E, M2.4, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
BER ***25*** *09:00:19.1±3.9, 64°.75N×29°.96E, h0km, ML2.3(NAO), Suspected explosion*

ISC 25 09:00:09.1±0.8, 64°.46N±0°.03×31°.56E±0°.05, h0km, n39, σ2s23/58, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.73**	**337**	PG	**Pn**	**09 00 41.1**	**+0.7**
	baz=163						
KU6				MSG		09 00 58.3	
	comp=Z,13nm,0.2s						
KU6				SG	**Sn**	**09 00 59.0**	**-4.1**
MSF	**Maaselka**	**1.81**	**325**	PG	**Pn**	**09 00 41.5**	**0.0**
	baz=155						
MSF				SB	**Sn**	**09 01 01.2**	**-3.9**
OUL	**Oulu**	**2.51**	**287**	PG	**Pn**	**09 00 52.9**	**+1.8**
	baz=89						
OUL				SG	**Sn**	**09 01 19.5**	**-2.8**
OUF	**Merijarvi**	**2.97**	**271**	PB	**Pn**	**09 00 59.8**	**+2.5**
	baz=84						
OUF				MSG		09 01 31.5	
	comp=Z,10.0nm,0.2s						
OUF				SG	**Sn**	**09 01 34.6**	**+1.0**
SUF	**Sumiainen**	**2.98**	**237**	PN	**Pb**	**09 01 04.0**	**+1.0**
SUF				MSG		09 01 37.7	
	comp=Z,9.5nm,0.2s						
SUF				SG	**Sg**	**09 01 43.0**	**-1.8**
RNF	**Rovaniemi**	**3.16**	**316**	PN	**Pn**	**09 01 02.6**	**+2.5**
	baz=140						
APA	**Apatity**	**3.22**	**13**	P	**Pb**	**09 01 06.8**	**-0.2**
APA				S	**Sb**	**09 01 43.7**	**-3.0**
APA0	**Apatity Array**	**3.22**	**10**	Pn	**Pb**	**09 01 06.6**	**-0.4**
	baz=187,slow=14						
APA0				Sn	**Sb**	**09 01 44.7**	**-2.0**
	baz=207,slow=22						
APA0				Lg	Lg	09 01 56.8	
	baz=198,slow=28						
APA0	**Apatity Array**	**3.22**	**10**	P	**Pb**	**09 01 06.3**	**-0.8**
APA0				S	**Sn**	**09 01 43.0**	**+3.2**
APA0	**Apatity Array**	**3.22**	**10**	Pn	**Pb**	**09 01 06.6**	**-0.4**
	baz=187,slow=14						
APA0				Sn	**Sb**	**09 01 44.7**	**-2.0**
	baz=207,slow=22						
APA0				Sg	**Sg**	**09 01 56.8**	**+4.4**
	baz=198,slow=28						
KAF	**Kangasniemi**	**3.34**	**228**	PB	**Pg**	**09 01 12.5**	**-0.6**
	baz=39						
KAF				MSG		09 01 49.9	
	comp=Z,3.1nm,0.2s						
VRF	**Varrio**	**3.40**	**347**	PN	**Pn**	**09 01 06.5**	**+3.1**
	baz=172						
VRF				MSG		09 01 47.8	
	comp=Z,3.2nm,0.2s						
TOF	**Tornio**	**3.45**	**301**	PN	**Pn**	**09 01 06.0**	**+2.0**
	baz=108						
TOF				MSG		09 01 43.9	
	comp=Z,7.1nm,0.2s						
SGF	**Sodankyl**	**3.64**	**328**	PN	**Pn**	**09 01 08.8**	**+2.2**
KALU	**Kalix**	**3.74**	**296**	PN	**Pn**	**09 01 09.5**	**+1.5**
	baz=115						
KALU				SG	**Sn**	**09 01 54.5**	**+1.9**
KEF	**Keuruu**	**3.79**	**236**	PN	**Pb**	**09 01 15.2**	**-1.6**
FIA0	**FINESS Array S**	**3.93**	**222**	Pn	**Pb**	**09 01 17.6**	**-1.5**
	baz=37,slow=14						
FIA0				Lg	Lg	09 02 14.2	
	baz=39,slow=28						
FIA0	**FINESS Array S**	**3.93**	**222**	Pn	**Pb**	**09 01 17.6**	**-1.5**
	baz=37,slow=14						
FIA0				Sg	**Sg**	**09 02 14.2**	**-0.9**
	baz=39,slow=28						
FIA0	**FINESS Array S**	**3.93**	**222**	PN	**Pb**	**09 01 18.5**	**-0.6**
	baz=29						
FINES	**FINESS Array B**	**3.93**	**222**	Pn	**Pb**	**09 01 17.6**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=36,slow=14,SNR=8.1						
FINES				Sn	**Sb**	**09 02 08.2**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=38,slow=25,SNR=3.4						
VAF	**Ylistaro**	**4.20**	**254**	PG	**Pb**	**09 01 24.9**	**+1.2**
	baz=64						
VJF	**Virojoki**	**4.35**	**207**	SG	**Sg**	**09 02 31.6**	**+3.0**
BURU	**Burvik**	**4.40**	**276**	PN	**Pn**	**09 01 17.9**	**+0.8**
	baz=86						
UMAU	**Umeaa**	**4.80**	**268**	PG	**Pb**	**09 01 36.1**	**+2.2**
	baz=74						
HEF	**Hetta**	**5.08**	**325**	PN	**Pn**	**09 01 29.2**	**+2.8**
	baz=153						
HEF				SG	**Sb**	**09 02 38.3**	**-1.9**
KLMR	**Klimovskoe**	**5.15**	**131**	*i* P	**Pb**	**09 01 39.4**	**-0.5**
KLMR				*i* S	**Sn**	**09 02 24.3**	**-3.0**
KLMR				*i* S	**Sn**	**09 02 24.3**	**-3.0**
KLMR				*i* S	**Sn**	**09 02 24.3**	**-3.0**
LANU	**Lannavaara**	**5.29**	**317**	PN	**Pn**	**09 01 30.6**	**+1.3**
	baz=120						
KEV	**Kevo**	**5.61**	**344**	Pn	**Pn**	**09 01 35.5**	**+1.9**
KEV				Sn	**Sn**	**09 02 34.8**	**-3.9**
KEV				Lg	Lg	09 02 57.2	
KEV	**Kevo**	**5.61**	**344**	Pn	**Pn**	**09 01 35.5**	**+1.9**
KEV				Sn	**Sn**	**09 02 34.8**	**-3.9**
KEV				Sg	**Sb**	**09 02 57.2**	**+1.7**
ARA0	**ARCESS Array S**	**5.62**	**338**	Pn	**Pn**	**09 01 35.3**	**+1.4**
	baz=154,slow=14						
ARA0				Lg	Lg	09 02 56.0	
	baz=156,slow=28						
ARA0	**ARCESS Array S**	**5.62**	**338**	Pn	**Pn**	**09 01 35.3**	**+1.4**
	baz=154,slow=14						
ARA0				Sg	**Sb**	**09 02 56.0**	**+0.1**
	baz=156,slow=28						
ARCES	**ARCESS Array B**	**5.62**	**338**	Pn	**Pn**	**09 01 35.4**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=152,slow=12,SNR=37						
ARCES				Sn	**Sn**	**09 02 35.4**	**-3.7**
	comp=Z,0.2nm,0.3s,baz=151,slow=28,SNR=3.4						
ARCES				Lg	Lg	09 02 57.7	
	comp=Z,0.6nm,0.3s,baz=158,slow=27,SNR=5.4						
HFS	**Hagfors**	**9.37**	**251**	Lg	Lg	09 04 54.0	
	baz=61,slow=28						
HFS	**Hagfors**	**9.37**	**251**	Sg	Sn	09 04 54.0	+43
	baz=61,slow=28						
NB2	**NORSAR Subarra**	**9.92**	**259**	Pn	**Pn**	**09 02 34.1**	**+1.3**
NB2	**NORSAR Subarra**	**9.92**	**259**	Pn	**Pn**	**09 02 34.1**	**+1.3**
NOA	**NORSAR Array B**	**9.92**	**259**	Pn	Pn	09 02 38.2	+5.3
	comp=Z,0.0nm,0.3s,baz=62,slow=14,SNR=2.9						
NRA0	**NORESS Array S**	**9.94**	**257**	Pn	**Pn**	**09 02 35.1**	**+2.1**
	baz=59,slow=12						
NRA0	**NORESS Array S**	**9.94**	**257**	Pn	**Pn**	**09 02 35.1**	**+2.1**
	baz=59,slow=12						

IDC 25 09:13:33.4±2.2, 6°.91S×128°.67E, h0km, mb3.4/1, mb1 3.8/4, mb1mx3.5/38, mbtmp3.6/4, ML3.7/3, MS4.1/1, Ms1 4.1/1, ms1mx2.6/29, Error ellipse: s-maj=104.6km s-min=28.1km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.51**	**195**	Pn	Pn	09 16 19.4	+0.3
	0.8nm,0.3s,baz=18,slow=11,SNR=22						
FITZ				Sn	Sn	09 18 17.4	-11
	0.2nm,0.3s,baz=182,slow=18,SNR=3.2						
WRA	**Warramunga Arr**	**14.07**	**158**	Pn	Pn	09 16 53.4	-0.9
	0.3nm,0.3s,baz=334,slow=13,SNR=21						
WRA				Sn	Sn	09 19 16.4	-15
	0.4nm,0.3s,baz=330,slow=22,SNR=8.3						
ASAR	**Alice Springs**	**17.40**	**164**	P	Pn	09 17 38.2	+0.4
	0.2nm,0.3s,baz=336,slow=9.4,SNR=20						
ASAR				S	Sn	09 20 37.6	-15
	0.1nm,0.3s,baz=346,slow=25,SNR=3.6						
JOW	**Kunigami**	**33.55**	**359**	LR	LR	09 35 27.4	
	comp=Z,319nm,18.3s,baz=298,slow=39						
MKAR	**Makanchi Array**	**67.44**	**327**	P	P	09 24 31.0	0.0
	0.3nm,0.7s,baz=130,slow=7.4,SNR=5.2						

IDC 25 09:19:55.8±1.9, 2°.36N×126°.49E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.4/41, mbtmp3.4/4, MS3.1/1, Ms1 3.1/1, ms1mx2.4/22, Error ellipse: s-maj=116.3km s-min=23.4km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.35**	**182**	P	Pn	09 24 35.1	-0.8
	2.7nm,1.0s,baz=27,slow=14,SNR=2.1						
WRA	**Warramunga Arr**	**23.47**	**161**	P	P	09 25 06.7	-0.5
	0.4nm,0.3s,baz=338,slow=10,SNR=7.4						
ASAR	**Alice Springs**	**26.86**	**165**	P	P	09 25 38.1	-0.3
	0.2nm,0.5s,baz=341,slow=7.8,SNR=3.6						
PSI	**Prapat**	**27.54**	**272**	LR	LR	09 39 32.5	
	comp=Z,36nm,18.0s,baz=91,slow=43						
MKAR	**Makanchi Array**	**58.54**	**326**	P	P	09 29 54.2	0.0
	0.1nm,0.4s,baz=120,slow=8.5,SNR=3.0						

NIED ***25*** *09:36:00, 40°.70N×143°.50E, h20km, Mw3.8 Best double couple: M0=4.87000×10^14 NP1:φs=161.00000°, δ37.00000°, λ37.00000°. NP2:φs=40.00000°, δ69.00000°, λ121.00000°.*
ISCJB ***25*** *09:36:49.3±0.6, 40°.74N±0°.03×143°.56E±0°.07, h35km, mb3.7/7, Error ellipse: s-maj=8.8km s-min=3.2km az=27.7*
JMA ***25*** *09:36:49.1±0.1, 40°.73N×143°.49E, h31km, M3.8*
IDC ***25*** *09:36:52.2±3.8, 40°.79N×143°.44E, h38km±31km, mb3.5/7, mb1 3.7/10, mb1mx3.4/46, mbtmp3.7/10, ML2.7/3, Error ellipse: s-maj=31.6km s-min=21.7km az=93.0*

ISC 25 09:36:51.1±0.9, 40°.75N±0°.05×143°.55E±0°.07, h35km, n35, σ1s01/40, mb3.9/7, 5C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.30**	**347**	P	**Pn**	**09 37 11.8**	**-0.9**
JKEN	**Kujiedanarisaw**	**1.50**	**249**	P	**Pn**	**09 37 13.7**	**-1.8**
JKEN				*eS*	**Sn**	**09 37 32.5**	**-1.3**
JTH	**Tanohata**	**1.52**	**238**	P	**Pn**	**09 37 14.4**	**-1.3**
JTH				*eS*	**Sn**	**09 37 32.3**	**-2.0**
JTHR	**Tokachihiroo**	**1.55**	**353**	P	**Pn**	**09 37 15.8**	**-0.4**
JTHR				*eS*	**Sn**	**09 37 35.2**	**+0.1**
JANG	**Nango**	**1.59**	**257**	⇑P	**Pn**	**09 37 15.2**	**-1.5**
JNBK	**Urakawa-nobuka**	**1.64**	**339**	⇑P	**Pn**	**09 37 16.9**	**-0.5**
JNBK				S	**Sn**	**09 37 37.7**	**+0.4**
JCH	**Churui**	**1.87**	**356**	P	**Pn**	**09 37 19.9**	**-0.6**
JCH				*eS*	**Sn**	**09 37 42.5**	**-0.4**
JOT	**Ohata**	**1.99**	**289**	⇑P	**Pn**	**09 37 21.4**	**-0.8**
JOM	**Ohasama**	**2.15**	**234**	⇑P	**Pn**	**09 37 24.3**	**-0.1**
JKB	**Kayabe**	**2.21**	**302**	P	**Pn**	**09 37 24.4**	**-0.8**
JAK	**Akkeshi**	**2.40**	**21**	P	**Pn**	**09 37 27.3**	**-0.6**
JAK				*eS*	**Sn**	**09 37 55.7**	**-0.4**
JFR	**Furan**	**2.51**	**344**	P	**Pn**	**09 37 28.9**	**-0.5**
JFR				*eS*	**Sn**	**09 37 58.1**	**-0.8**
JMK	**Ichinoseki**	**2.54**	**226**	P	**Pn**	**09 37 29.6**	**-0.1**
JMK				*eS*	**Sn**	**09 37 58.9**	**-0.5**
JAR	**Ashorobuto**	**2.55**	**4**	P	**Pn**	**09 37 29.2**	**-0.7**
JAR				*eS*	**Sn**	**09 37 58.6**	**-1.1**
JEW	**Eniwo**	**2.61**	**324**	P	**Pn**	**09 37 31.5**	**+0.8**
JYK	**Kaneyama**	**3.06**	**234**	⇑P	**Pn**	**09 37 37.0**	**+0.1**
NEM2	**Nemuro 2**	**3.08**	**31**	P	**Pn**	**09 37 36.6**	**-0.6**
NEM2				*eS*	**Sn**	**09 38 10.1**	**-2.7**
JKK2	**Kamakawa 2**	**3.18**	**350**	P	**Pn**	**09 37 38.6**	**+0.1**
JTKR	**Abashiri--Toko**	**3.23**	**5**	P	**Pn**	**09 37 38.8**	**-0.4**
JTKR				*eS*	**Sn**	**09 38 15.5**	**-0.9**
ASAJ	**Asahikawa**	**3.44**	**349**	Pn	**Pn**	**09 37 40.6**	**-1.5**
	1.1nm,0.3s,baz=215,slow=12,SNR=2.4						
MJAR	**Matsushiro Arr**	**5.92**	**227**	Pn	**Pn**	**09 38 17.4**	**+1.1**
	0.1nm,0.3s,baz=37,slow=20,SNR=6.0						
USRK	**Ussuriysk Ar.**	**9.21**	**296**	Pn	**Pn**	**09 39 02.1**	**+0.8**
	0.4nm,0.3s,baz=100,slow=13,SNR=7.0						
H11N2	**WAKE ISLAND Hy**	**28.92**	**129**	T	T	10 13 21.3	
	baz=322,slow=75,SNR=37						
H11N1	**WAKE ISLAND Hy**	**28.93**	**129**	T	T	10 13 22.6	
	baz=322,slow=75,SNR=35						
H11N3	**WAKE ISLAND Hy**	**28.94**	**129**	T	T	10 13 31.3	
	baz=322,slow=75,SNR=37						
H11S1	**WAKE ISLAND Hy**	**29.77**	**131**	T	T	10 14 30.6	
	baz=323,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**29.77**	**131**	T	T	10 14 34.4	
	baz=323,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**29.79**	**131**	T	T	10 14 33.9	
	baz=323,slow=76,SNR=11						
ZALV	**Zalesovo Beam**	**40.75**	**309**	P	**P**	**09 44 28.8**	**+0.4**
	0.9nm,0.4s,baz=109,slow=7.5,SNR=3.9						
MKAR	**Makanchi Array**	**43.66**	**299**	P	**P**	**09 44 52.2**	**0.0**
	0.4nm,0.5s,baz=83,slow=10,SNR=4.0						
KURBB	**Kurchatov Arra**	**45.12**	**305**	P	**P**	**09 45 03.9**	**+0.1**
	1.1nm,0.4s,baz=79,slow=9.0,SNR=5.0						
ILAR	**Eielson Array**	**45.48**	**34**	P	**P**	**09 45 08.2**	**+1.8**
	0.3nm,0.7s,baz=266,slow=6.0,SNR=5.3						
WRA	**Warramunga Arr**	**60.89**	**190**	P	**P**	**09 47 01.3**	**+0.4**
	0.8nm,1.1s,baz=6.2,slow=6.8,SNR=4.1						
FINES	**FINESS Array B**	**66.30**	**332**	P	**P**	**09 47 34.9**	**-0.6**
	0.8nm,0.5s,baz=46,slow=11,SNR=6.1						
AKASG	**Malin Array Be**	**72.37**	**323**	P	**P**	**09 48 13.3**	**+0.1**
	0.6nm,0.4s,baz=46,slow=6.0,SNR=4.2						

DJA 25 09:42:39.4±1.2, 5°N±10°×97°6E±°, h16km±23km, M3.6/4, MLv3.6/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**1.02**	**71**	P	Pb	09 42 57.5	-1.2
LHMI				S	Sb	09 43 11.1	-0.7
TPTI		**2.02**	**144**	P	Pn	09 43 12.6	-0.3
TPTI				S	Sn	09 43 38.2	+0.4
KCSI	**Kotacane, Aceh**	**2.25**	**127**	P	Pn	09 43 16.8	+0.8
KCSI				S	Sn	09 43 44.9	+1.4
SNSI	**Sinabang, Aceh**	**2.50**	**172**	P	Pn	09 43 19.2	-0.2

IDC ***25*** *09:54:16.1±2.8, 43°.54N×87°.78E, h0km, mb3.7/2, mb1 3.8/6, mb1mx3.4/57, mbtmp3.8/6, ML3.5/4, MS3.5/1, Ms1 3.5/1, ms1mx2.5/38, Error ellipse: s-maj=38.7km s-min=33.0km az=31.0*
NNC ***25*** *09:54:16.4±2.6, 43°.48N×87°.72E, h0km, mb3.8, mpv3.3, Error ellipse: s-maj=20.4km s-min=15.6km az=93.0*

ISC 25 09:54:19.2±2.3, 43°.4N±0°.1×87°.9E±0°.1, h35km, n10, σ1s09/13, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**5.22**	**312**	Pn	**Pn**	**09 55 34.0**	**-0.8**
	0.9nm,0.2s,baz=130,slow=14,SNR=68						
MK31				⇑Sn	**Sn**	**09 56 34.9**	**+1.2**
	2.1nm,0.5s						
MK31				⇑Lg	Lg	09 56 54.7	
	1.5nm,0.5s,baz=125,slow=30,SNR=5.9						
MKAR	**Makanchi Array**	**5.22**	**312**	Pn	**Pn**	**09 55 34.2**	**-0.5**
	3.2nm,0.3s,baz=131,slow=14,SNR=57						
MKAR				Sn	**Sn**	**09 56 33.4**	**-0.3**
	0.8nm,0.3s,baz=135,slow=24,SNR=4.4						
MKAR				Lg	Lg	09 56 55.5	
	0.9nm,0.3s,baz=121,slow=28,SNR=7.4						
MAKZ	**Makanchi**	**5.40**	**311**	⇑Pn	**Pn**	**09 55 36.6**	**-0.6**
	4.0nm,0.4s						
MAKZ				⇓Sn	**Sn**	**09 56 38.1**	**0.0**
	1.5nm,0.5s						
PDGK	**Podgornoye**	**6.15**	**272**	⇓Pn	**Pn**	**09 55 45.7**	**-1.9**
	0.9nm,0.4s						
PDGK				⇓Sn	**Sn**	**09 56 57.7**	**+0.9**
	3.7nm,0.5s						
KURBB	**Kurchatov Arra**	**9.64**	**322**	Pn	**Pn**	**09 56 33.3**	**-1.9**
	0.2nm,0.3s,baz=130,slow=13,SNR=2.9						
AAK	**Ala-Archa**	**9.87**	**270**	Pn	**Pn**	**09 56 39.2**	**+0.5**
	1.4nm,0.3s,baz=258,slow=4.2,SNR=11						
ZALV	**Zalesovo Beam**	**10.72**	**350**	Pn	**Pn**	**09 56 50.3**	**+0.2**
	0.5nm,0.3s,baz=172,slow=14,SNR=5.4						
KBZ	**Ussuriysk Ar.**	**31.52**	**73**	LR	LR	10 13 18.3	
	comp=Z,90nm,21.4s,baz=163,slow=36						
ARCES	**ARCESS Array B**	**40.55**	**331**	P	**P**	**10 01 55.3**	**+0.8**
	3.5nm,0.9s,baz=91,slow=8.1,SNR=2.7						
NOA	**NORSAR Array B**	**47.16**	**320**	P	**P**	**10 02 48.1**	**+0.2**
	1.0nm,1.0s,baz=77,slow=6.2,SNR=2.4						

MEX 25 09:58:18.7±0.5, 16°.86N×100°.29W, h2km±5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.19**	**7**	*i* P	Pg	09 58 22.1	-0.2
CAIG				*i* S	Sg	09 58 25.0	+0.2
MEIG	**Mezcala**	**1.24**	**31**	*eP*	Pg	09 58 39.1	-3.4
MEIG				*i* S	Sg	09 58 55.2	-3.3
ZIIG	**Zihuatanejo**	**1.35**	**304**	*i* P	Pg	09 58 41.0	-3.5
ZIIG				*i* S	Sg	09 58 57.8	-4.2
ARIG	**Puente Sto Nin**	**1.41**	**358**	*eP*	Pn	09 58 41.8	-3.8
ARIG				*eS*	Sg	09 58 59.5	-4.6
PLIG	**Platanillo**	**1.70**	**26**	*eP*	Pn	09 58 46.8	-2.7
PLIG				*i* S	Sn	09 59 07.0	-4.9

*IS

HEF				*e*S		**Sn**	**10 14 30.6**	**-0.3**
HEF	**Hetta**	**4.01**	**286**	PN		**Pn**	**10 13 44.1**	**+0.8**
TOF	**Tornio**	**4.19**	**252**	PG		**Pb**	**10 13 57.4**	**+2.3**
OUL	**Oulu**	**4.21**	**236**	PG		**Pb**	**10 13 53.8**	**-1.6**
	baz=49							
KTK1	**Kautokeino**	**4.27**	**294**	*e*P		**Pn**	**10 13 47.7**	**+0.9**
KTK1				*e*S		**Sn**	**10 14 35.7**	**-1.5**
KTK1				IAML			10 14 52.5	
	comp=Z,6.2nm,0.3s							
LANU	**Lannavaara**	**4.62**	**280**	PN		**Pn**	**10 13 50.6**	**-1.0**
LANU				SG		**Sb**	**10 15 02.3**	**+3.7**
KALU	**Kalix**	**4.65**	**252**	PG		**Pb**	**10 14 04.7**	**+1.9**
HAMF	**Hammerfest**	**4.79**	**313**	*e*P		**Pn**	**10 13 55.1**	**+1.2**
HAMF				*e*S		**Sn**	**10 14 47.1**	**-2.9**
HAMF				IAML			10 14 52.2	
	comp=Z,7.1nm,0.8s							
KIF	**Kilpisjarvi**	**5.13**	**291**	Pn		**Pn**	**10 13 58.5**	**0.0**
KIF				Sn		**Sn**	**10 14 55.3**	**-3.0**
KIF	**Kilpisjarvi**	**5.13**	**291**	*e*P		**Pn**	**10 13 58.3**	**-0.2**
FIA0	**FINESS Array S**	**7.14**	**213**	Pn		**Pn**	**10 14 27.6**	**+1.5**
	baz=23,slow=14							
FIA0				Lg		Lg	10 16 17.9	
	baz=18,slow=22							
FIA0	**FINESS Array S**	**7.14**	**213**	Pn		**Pn**	**10 14 27.6**	**+1.5**
	baz=23,slow=14							
FIA0				Sg		**Sb**	**10 16 17.9**	**+7.0**
	baz=18,slow=22							
FINES	**FINESS Array B**	**7.14**	**213**	Pn		**Pn**	**10 14 28.1**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=29,slow=13,SNR=6.0							
FINES				Sn		**Sn**	**10 15 46.4**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=35,slow=25,SNR=2.8							
FINES				Lg		Lg	10 16 20.7	
	comp=Z,0.6nm,0.3s,baz=31,slow=24,SNR=4.0							
KLMR	**Klimovskoe**	**7.22**	**159**	*i* P		**Pn**	**10 14 26.1**	**-1.1**
KLMR				*i* S		**Sn**	**10 15 48.5**	**-1.3**
KLMR				*i* S		**Sn**	**10 15 48.5**	**-1.3**
KLMR				*i* S		**Sn**	**10 15 48.5**	**-1.3**
KLMR				AMP			10 15 49.0	
	comp=E,2.0nm,0.3s							
SPA0	**Spitsbergen Ar**	**11.69**	**342**	Pn		**Pn**	**10 15 28.1**	**-0.3**
	baz=147,slow=14							
SPA0	**Spitsbergen Ar**	**11.69**	**342**	Pn		**Pn**	**10 15 28.1**	**-0.3**
	baz=147,slow=14							
HFS	**Hagfors**	**11.70**	**240**	Pn		**Pn**	**10 15 26.6**	**-1.9**
HFS	**Hagfors**	**11.70**	**240**	Pn		**Pn**	**10 15 26.6**	**-1.9**
NOA	**NORSAR Array B**	**11.89**	**247**	Pn		**Pn**	**10 15 31.7**	**+0.6**
	comp=E,0.0nm,0.3s,baz=39,slow=10.0,SNR=3.2							

*KRNET **25** 10:13:28.1±0.1,40.°89N×69.°16E,mb3.0*
*SOME **25** 10:13:31.7,40.°92N×70.°02E,h15km*
*NNC **25** 10:13:31.0±2.6,41.°06N×69.°80E,h0km,mb3.4,mpv3.0,*
Error ellipse: s-maj=18.3km s-min=11.0km az=44.0
ISC 25 10:13:33.8±1.4,41.°05N±0.°05×69.°94E±0.°06,h10km,n24,
σ2§11/36,16C-5D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**1.10**	**4**	P	**Pg**	**10 13 53.9**	**-1.1**
	51nm,0.2s						
IUG				S	**Sg**	**10 14 08.2**	**-1.1**
	76nm,0.8s						
IUG	**Iuzhnay**	**1.10**	**4**	*e*P	**Pg**	**10 13 53.7**	**-1.3**
	34nm,0.5s						
IUG				*e*S	**Sg**	**10 14 07.6**	**-1.7**
	48nm,0.4s						
BTK	**Batken**	**1.20**	**145**	⇑*i*P	**Pb**	**10 13 54.9**	**-1.7**
	baz=23						
BTK				⇑*i*S	**Sn**	**10 14 14.8**	**+1.8**
	baz=23						
KK31	**Karatay Array**	**2.10**	**12**	Pg	**Pn**	**10 14 09.6**	**+0.5**
	4.6nm,0.5s,baz=198,slow=18,SNR=20						
KK31				⇑Lg	Lg	10 14 39.4	
	9.9nm,0.5s,baz=202,slow=31,SNR=4.8						
ARSB	**Arslanbob**	**2.32**	**82**	⇑*i*P	**Pb**	**10 14 14.2**	**-1.5**
	baz=80						
ARSB				⇑*i*S	**Sg**	**10 14 48.3**	**+0.1**
	baz=80						
MNAS	**Manas**	**2.40**	**52**	⇑Pg	**Pb**	**10 14 16.6**	**-0.6**
	2.5nm,0.5s						
MNAS				⇓Lg	Lg	10 14 49.7	
	6.7nm,0.6s						
MNAS	**Manas**	**2.40**	**52**	Pg	**Pb**	**10 14 15.8**	**-1.4**
	1.7nm,0.4s						
MNAS				Lg	Lg	10 14 46.3	
	2.9nm,0.5s						
MNAS	**Manas**	**2.40**	**52**	⇑*i*P	**Pb**	**10 14 15.5**	**-1.6**
	baz=56						
MNAS				⇑*i*S	**Sg**	**10 14 49.8**	**-1.1**
	baz=56						
SFK	**Sufi-Kurgan**	**2.91**	**110**	⇑Pn	**Pn**	**10 14 21.3**	**+1.0**
	0.7nm,0.4s						
SFK				⇑Lg	Lg	10 15 04.3	
	4.0nm,0.6s						
SFK	**Sufi-Kurgan**	**2.91**	**110**	Pg	**Pn**	**10 14 21.5**	**+1.2**
	0.9nm,0.4s						
SFK				Lg	Lg	10 14 56.1	
	1.7nm,0.6s						
MRKS	**Merke**	**2.98**	**54**	Pg	**Pb**	**10 14 26.9**	**-0.2**
	4.3nm,0.6s						
MRKS				Lg	Lg	10 15 05.3	
	5.5nm,0.5s						
MRKS	**Merke**	**2.98**	**54**	*e*P	**Pb**	**10 14 26.9**	**-0.2**
	4.0nm,0.6s						
MRKS				*e*S	**Sb**	**10 15 05.3**	**+1.7**
	6.7nm,0.6s						
AML	**Almayashu**	**3.02**	**68**	⇑*i*P	**Pb**	**10 14 24.7**	**-3.2**
	baz=69						
AML				⇑*i*S	**Sb**	**10 15 06.5**	**+1.6**
	baz=69						
EKS2	**Erkin-Say**	**3.29**	**59**	⇑*e*P	**Pn**	**10 14 27.9**	**+2.4**
	baz=61						
EKS2				⇑*i*S	**Sb**	**10 15 12.2**	**-0.3**
	baz=61						
UCH	**Uchtor**	**3.63**	**70**	⇓*e*P	**Pn**	**10 14 32.8**	**+2.4**
	baz=70						
UCH				⇓*i*S	**Sb**	**10 15 21.3**	**-1.2**
	baz=70						
AAK	**Ala-Archa**	**3.76**	**63**	⇓Pg	**Pb**	**10 14 40.8**	**+0.6**
	2.0nm,0.5s						
AAK				⇓Lg	Lg	10 15 30.3	
	3.4nm,0.8s						
SGDS	**Sogindy**	**4.23**	**54**	Pg	**Pb**	**10 14 48.8**	**+0.5**
	2.4nm,0.5s						
SGDS				Lg	Lg	10 15 44.6	
	2.9nm,0.4s						
TKM2	**Tokmak 2**	**4.62**	**64**	⇑Pg	**Pb**	**10 14 56.3**	**+1.3**
	2.2nm,0.7s						
TKM2				⇑Lg	Lg	10 16 00.2	
	4.7nm,0.7s						
DGS	**Degeres**	**4.86**	**61**	Pg	**Pb**	**10 14 59.1**	**0.0**
	3.3nm,0.6s						
DGS				Lg	Lg	10 16 01.2	
	5.3nm,0.7s						
DGS	**Degeres**	**4.86**	**61**	*e*P	**Pb**	**10 15 01.2**	**+2.1**
	3.6nm,0.6s						
DGS				*e*S	**Sg**	**10 16 05.8**	**-4.0**
	6.0nm,0.7s						
KST	**Kastek**	**4.91**	**64**	Pg	**Pb**	**10 15 02.4**	**+2.5**
	3.9nm,0.7s						
KST				Lg	Lg	10 16 06.1	
	3.6nm,0.7s						
KST	**Kastek**	**4.91**	**64**	*e*P	**Pb**	**10 15 03.1**	**+3.2**
	4.2nm,0.7s						
KST				*e*S	**Sg**	**10 16 08.5**	**-2.9**
	5.4nm,0.8s						
KUU	**Kurty**	**5.52**	**57**	Pg	**Pb**	**10 15 14.1**	**+3.7**
KUU				Lg	Lg	10 16 26.6	
KUU	**Kurty**	**5.52**	**57**	*e*P	**Pb**	**10 15 14.0**	**+3.7**
	2.2nm,0.6s						
KUU				*e*S	**Sg**	**10 16 26.6**	**-4.4**
	2.9nm,0.7s						

*ISCJB **25** 10:28:17.0±0.8,23.°17S±0.°05×67.°2W±0.°1,h242km±13km,*
mb3.4/2,Error ellipse: s-maj=20.5km s-min=7.3km az=5.9
*IDC **25** 10:28:16.3±1.4,23.°15S×66.°87W,h210km±26km,mb3.3/2,*
mb1 3.2/5,mb1mx3.0/27,mbtmp3.8/5,Error ellipse:
s-maj=41.1km s-min=17.5km az=127.0
*GUC **25** 10:28:17.3±0.5,23.°15S×67.°13W,h241km±6km,ML4.2*
ISC 25 10:28:17.0±1.1,23.°17S±0.°06×67.°0W±0.°1,h225km±15km,
n22,σ0§82/38,12C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.82**	**287**	P	**Pn**	**10 28 56.5**	**+0.3**
	32nm,0.3s,baz=102,slow=6.3,SNR=127						
LVC				S	**S**	**10 29 26.1**	**-0.4**
	23nm,0.3s,baz=193,slow=22,SNR=20						
LVC	**Limon Verde**	**1.82**	**287**	⇓*i*P	**Pn**	**10 28 56.5**	**+0.3**
LVC				*i* S	**S**	**10 29 26.5**	**0.0**
PB15	**IPOC Station P**	**2.24**	**268**	⇑*i*P	**Pn**	**10 29 00.6**	**+0.6**
PB15				*i* S	**S**	**10 29 34.1**	**+0.5**
PB06	**IPOC Station P**	**2.38**	**281**	⇑*i*P	**Pn**	**10 29 02.1**	**+0.7**
PB06				*i* S	**S**	**10 29 36.1**	**0.0**
PB06				IAML		10 29 38.6	
	comp=N,403nm,0.1s						
PB09	**IPOC Station P**	**2.46**	**303**	⇑*i*P	**Pn**	**10 29 03.3**	**+1.0**
PB09				*e*S	**S**	**10 29 37.4**	**-0.1**
PB09				IAML		10 29 42.6	
	comp=N,167nm,0.2s						
PB03	**IPOC Station P**	**2.75**	**293**	⇑*i*P	**Pn**	**10 29 05.8**	**+0.4**
PB03				*i* S	**S**	**10 29 42.6**	**-0.6**
PB03				IAML		10 29 43.9	
	comp=E,532nm,0.2s						
PB05	**IPOC Station P**	**2.94**	**275**	⇑*i*P	**Pn**	**10 29 07.9**	**+0.5**
PB05				*i* S	**S**	**10 29 46.2**	**-0.6**
PB05				IAML		10 29 49.7	
	comp=N,165nm,0.4s						
PB04	**IPOC Station P**	**2.99**	**285**	⇑*i*P	**Pn**	**10 29 08.6**	**+0.5**
PB04				*i* S	**S**	**10 29 47.6**	**-0.4**
PB04				IAML		10 29 50.9	
	comp=N,419nm,0.4s						
PB07	**IPOC Station P**	**3.00**	**298**	⇑*i*P	**Pn**	**10 29 08.7**	**+0.5**
PB07				*i* S	**S**	**10 29 47.6**	**-0.7**
PB07				IAML		10 29 48.1	
	comp=N,764nm,0.2s						
GO02	**Mina Guanaco**	**3.07**	**229**	⇑*i*P	**Pn**	**10 29 08.8**	**-0.2**
GO02				*i* S	**S**	**10 29 49.4**	**-0.4**
PB01	**IPOC Station P**	**3.10**	**312**	⇑*i*P	**Pn**	**10 29 09.6**	**+0.3**
PB01				*i* S	**S**	**10 29 50.2**	**-0.1**
PB01				IAML		10 29 52.8	
	comp=E,411nm,0.1s						
PB02	**IPOC Station P**	**3.23**	**304**	⇑*i*P	**Pn**	**10 29 11.1**	**+0.3**
PB02				*i* S	**S**	**10 29 51.5**	**-1.3**
PB10	**IPOC Station P**	**3.25**	**263**	⇑*i*P	**Pn**	**10 29 11.5**	**+0.6**
PB10				*i* S	**S**	**10 29 51.8**	**-1.3**
PB14	**IPOC Station P**	**3.41**	**244**	*e*P	**Pn**	**10 29 13.1**	**+0.1**
PB08	**IPOC Station P**	**3.60**	**326**	⇑*i*P	**Pn**	**10 29 16.6**	**+1.2**
PB08				*i* S	**S**	**10 30 02.1**	**+1.0**
PB08				IAML		10 30 05.0	
	comp=N,101nm,0.6s						
PB11	**IPOC Station P**	**4.18**	**324**	*e*P	**Pn**	**10 29 21.7**	**-0.4**
PB11				*i* S	**S**	**10 30 11.5**	**-1.8**
MNMC	**Minye Minye**	**4.67**	**329**	*e*P	**Pn**	**10 29 28.6**	**+0.3**
MNMC				*i* S	**S**	**10 30 23.9**	**-0.7**
LPAZ	**La Paz**	**6.92**	**351**	P	**Pn**	**10 29 58.0**	**+0.9**
	comp=N,0.5nm,0.3s,baz=177,slow=8.3,SNR=15						
PLCA	**Paso Flores**	**17.77**	**189**	P	**P**	**10 32 08.3**	**-0.3**
	comp=N,0.1nm,0.3s,baz=22,slow=12,SNR=4.5						
BDFB	**Brasilia**	**19.43**	**71**	P	**P**	**10 32 25.8**	**-1.0**
	comp=N,0.4nm,0.3s,baz=243,slow=12,SNR=7.4						
QSPA	**South Pole Qui**	**67.03**	**180**	P	**P**	**10 38 47.9**	**+2.1**
	comp=N,1.8nm,1.1s,baz=140,slow=2.0,SNR=6.6						
TORD	**Torodi Ar. Bea**	**76.30**	**69**	P	**P**	**10 39 40.3**	**-1.3**
	comp=N,0.2nm,0.3s,baz=255,slow=5.7,SNR=6.8						

*MOS **25** 10:33:39.5±1.6,49.°72N×87.°44E,h11km,mb4.3/2,Error*
ellipse: s-maj=4.2km s-min=0.1km az=80.2
*NNC **25** 10:33:40.0±3.2,49.°86N×87.°51E,h0km,mb4.0,mpv3.6,*
Error ellipse: s-maj=24.7km s-min=15.1km az=71.0
ISC 25 10:33:41.6±0.9,49.°95N±0.°06×87.°50E±0.°07,h10km,n16,
σ1§18/20,15C-4D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGZ	**Jazzator, Alta**	**0.25**	**190**	*c i*PG	Pg	10 33 40.3	-6.5
ARTR	**Artybash**	**1.86**	**356**	*e*PN	**Pb**	**10 34 15.4**	**-0.2**
UKR	**Ust'-Kan**	**2.00**	**301**	*e*PN	**Pb**	**10 34 16.8**	**-1.4**
UKR				*e*		10 34 46.8	
TASR	**Tashtagol**	**2.83**	**5**	*e*PN	**Pb**	**10 34 31.2**	**-1.0**
TASR				*e*		10 35 09.9	
MK31	**Makanchi Array**	**4.69**	**230**	⇑Pn	**Pn**	**10 34 52.0**	**-0.5**
	4.3nm,0.5s,baz=54,slow=13,SNR=130						
MK31				⇑Pg	**Pb**	**10 35 04.3**	**+0.3**
	1.4nm,0.2s,baz=56,slow=17,SNR=12						
MK31				⇑Sn	**Sn**	**10 35 47.9**	**+1.0**
	4.3nm,0.5s,baz=57,slow=15,SNR=6.0						
MK31				⇑Lg	Lg	10 36 06.4	
	13nm,0.5s,baz=71,slow=26						
MK31	**Makanchi Array**	**4.69**	**230**	*e*PN	**Pn**	**10 34 51.9**	**-0.5**
MK31				*e*		10 35 04.2	
MK31						10 35 47.9	
MK31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MK31				smax	smax		
	comp=E,4.0nm,0.5s						
MAKZ	**Makanchi**	**4.84**	**232**	⇑Pn	**Pn**	**10 34 53.9**	**-0.5**
	comp=E,3.3nm,0.7s						
MAKZ				⇓Pg	**Pb**	**10 35 05.4**	**-1.0**
	comp=E,3.5nm,0.3s						
MAKZ				⇑Lg	Lg	10 36 09.2	
	comp=E,25nm,0.9s						
MAKZ	**Makanchi**	**4.84**	**232**	PN	**Pn**	**10 34 53.9**	**-0.5**
MAKZ						10 35 05.3	
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KURK	**Kurchatov**	**5.74**	**281**	⇑Pn	**Pn**	**10 35 06.0**	**-0.8**
	comp=Z,6.8nm,0.8s						
KURK				⇓Sn	**Sn**	**10 36 13.8**	**+1.2**
	comp=Z,7.1nm,0.7s						
KURK				⇑Lg	Lg	10 36 40.0	
	comp=Z,15nm,0.6s						
KURK	**Kurchatov**	**5.74**	**281**	*c i*PN	**Pn**	**10 35 06.8**	**0.0**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KURBB	**Kurchatov Arra**	**5.79**	**280**	⇑Pn	**Pn**	**10 35 07.4**	**-0.1**
	comp=Z,6.8nm,0.4s						
KURBB				⇑Sn	**Sn**	**10 36 16.7**	**+2.8**
	comp=Z,23nm,0.8s						
KURBB				⇓Lg	Lg	10 36 44.5	
	comp=Z,38nm,0.6s						
BRVK	**Borovoye**	**11.17**	**293**	⇓*e*P	**Pn**	**10 36 21.5**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ULN	**Ulaanbaatar**	**13.03**	**92**	⇑*e*P	**Pn**	**10 36 46.3**	**-0.5**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KIV	**Kislovodsk**	**30.80**	**276**	*e*P	**P**	**10 39 55.7**	**-1.7**
NEY	**Neytrino**	**31.11**	**275**	⇑*e*P	**P**	**10 39 59.4**	**-0.8**
NEY				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MA2	**Magadan**	**36.39**	**50**	⇑*e*P	**P**	**10 40 47.7**	**+2.0**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.9s						

*HLW **25** 11:27:53.4,29.°92N×36.°55E,h16km±9km,Ml3.2*
*ISCJB **25** 11:27:54.6±1.5,29.°88N±0.°07×36.°2E±0.°1,h3km,Error*
ellipse: s-maj=17.2km s-min=6.6km az=30.6
*JSO **25** 11:27:57.6±1.2,30.°N±9.°×3.°6E±.°,h10km,M3.1/11,*
Mjma3.0/11,ML3.2/3,MLv3.1/11
ISC 25 11:27:54.2±1.8,29.°88N±0.°07×36.°3E±0.°1,h3km,n14,
σ0§61/15,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSNJ	**Maan**	**0.64**	**306**	P	**Pg**	**11 28 06.3**	**-0.1**
JDRJ	**Daraweish**	**1.00**	**328**	P	**Pg**	**11 28 13.5**	**+0.2**
AQBJ	**Aqaba**	**1.08**	**262**	P	**Pg**	**11 28 14.6**	**-0.2**
HRFI	**Mount Harif**	**1.09**	**279**	P	**Pg**	**11 28 14.8**	**-0.2**
SWQJ	**Swaqa**	**1.37**	**352**	P	**Pb**	**11 28 21.9**	**+1.4**
HBST	**Basata**	**1.50**	**244**	P	**Pn**	**11 28 22.1**	**+0.1**
	baz=247						
HBST				AMP		11 28 00.0	
	baz=247						
HBST				S	**Sg**	**11 28 43.2**	**+0.8**
	baz=247						
LISJ	**El Lisan**	**1.52**	**333**	P	**Pn**	**11 28 21.8**	**-0.4**
GHAJ	**Ghor Haditha**	**1.55**	**337**	P	**Pn**	**11 28 22.3**	**-0.3**
WALJ	**Wala**	**1.73**	**347**	P	**Pn**	**11 28 25.2**	**+0.1**
KZIT	**Kziot**	**1.92**	**303**	P	**Pb**	**11 28 29.1**	**-0.7**
ASF	**Jabal al Asfar**	**2.35**	**13**	P	**Pb**	**11 28 36.2**	**-1.0**
HKAT	**Jabal Katrina**	**2.41**	**236**	P	**Pn**	**11 28 34.9**	**+0.2**
	baz=239						
HKAT				AMP		11 29 00.0	
	baz=239						
RSH		**2.46**	**297**	P	**Pn**	**11 28 35.0**	**-0.2**
	baz=294						
SH2	**Sharm el Sheik**	**2.77**	**225**	P	**Pn**	**11 28 39.3**	**-0.1**
	baz=228						

*DDA **25** 11:50:29.9,40.°89N×39.°91E,h7km±2km,ML2.9*
*ISK **25** 11:50:29.9,40.°85N×39.°87E,h14km,ML1.9/4*
*ISCJB **25** 11:50:30.8±0.5,40.°86N±0.°04×39.°89E±0.°05,h8km±5km,*
Error ellipse: s-maj=7.2km s-min=5.5km az=32.2
ISC 25 11:50:30.1±1.0,40.°88N±0.°04×39.°89E±0.°04,h15km±8km,
n12,σ0§50/21,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACK	**Trabzon**	**0.11**	**308**	*i* P	**Pg**	**11 50 33.3**	**-0.2**
MACK				*i* S	**Sg**	**11 50 35.4**	**-0.3**
KTUT	**Trabzon**	**0.14**	**321**	PG	**Pb**	**11 50 34.2**	**-0.3**
KTUT				SG	**Sg**	**11 50 37.2**	**+0.8**
BAYT	**Aydıntepe-Bayb**	**0.52**	**158**	PG	**Pb**	**11 50 40.5**	**-0.5**
BAYT				SG	**Sg**	**11 50 47.6**	**+0.3**
BAYB	**BAYBURT**	**0.68**	**155**	IAML_P			
	comp=Z,2μm,0.1s						
BAYB				*i* P	**Pb**	**11 50 44.3**	**+0.5**
BAYB				*i* S	**Sn**	**11 50 55.2**	**-0.6**
CHOM	**Cayeli-Rize**	**0.70**	**71**	PG	**Pb**	**11 50 44.4**	**+0.4**
KELT	**Kelkit**	**0.87**	**214**	*i* P	**Pb**	**11 50 47.4**	**+0.3**
KELT				*i* S	**Sb**	**11 50 58.7**	**+0.1**
DBAD	**Bademkaya**	**1.38**	**83**	*i* P	**Pg**	**11 50 56.5**	**-0.1**
DBAD				*i* S	**Sn**	**11 51 13.7**	**+0.8**
DDEM	**Demirkent**	**1.42**	**89**	*i* P	**Pg**	**11 50 56.8**	**-0.5**
DDEM				*i* S	**Sb**	**11 51 14.6**	**+0.5**
DBOC	**Borcka**	**1.43**	**70**	*i* P	**Pb**	**11 50 56.7**	**+0.3**
DBOC				*i* S	**Sg**	**11 51 15.9**	**-0.2**
BCA	**Borcka**	**1.43**	**66**	PN	**Pb**	**11 50 56.3**	**-0.1**
DAGI	**Agillar**	**1.55**	**82**	IAML_P			
	comp=Z,486nm,0.1s						
DAGI				*i* P	**Pg**	**11 50 59.6**	**-0.3**
DAGI				*i* S	**Sg**	**11 51 19.3**	**-0.7**
ARTV	**Artvin**	**1.58**	**78**	IAML_P			
	comp=Z,636nm,0.1s						
ARTV				*i* P	**Pg**	**11 50 59.9**	**-0.4**

*ISCJB **25** 11:54:57.4±0.5,6.°10S±0.°05×128.°35E±0.°07,h322km,*
mb3.5/7,Error ellipse: s-maj=9.7km s-min=6.1km az=10.1
*IDC **25** 11:54:59.6±1.3,6.°24S×128.°25E,h336km±15km,mb3.2/7,*
mb1 3.3/13,mb1mx3.2/39,mbtmp4.0/13,Error ellipse:
s-maj=17.0km s-min=9.3km az=72.0
ISC 25 11:54:58.3±0.6,6.°19S±0.°06×128.°35E±0.°09,h322km,n13,
σ1§64/18,mb3.7/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.04**	**29**	P	**Pn**	**11 56 30.9**	**+2.1**
	1.0nm,0.3s,baz=255,slow=20,SNR=4.7						
SIJI				S	**S**	**11 57 38.1**	**-3.8**
	3.1nm,0.3s,baz=66,slow=23,SNR=10						
BATI	**Baumata**	**6.12**	**229**	P	**Pn**	**11 56 31.3**	**+1.6**
	16nm,0.3s,baz=93,slow=1.5,SNR=13						
BATI				S	**S**	**11 57 42.9**	**-0.7**
	23nm,0.3s,baz=88,slow=3.4,SNR=22						
FITZ	**Fitzroy Crossi**	**12.12**	**192**	P	**P**	**11 57 41.7**	**-0.9**
	0.1nm,0.3s,baz=30,slow=8.1,SNR=3.0						
FITZ				S	**S**	**11 59 57.2**	**+0.2**
	0.2nm,0.3s,baz=0.0,slow=19,SNR=2.7						
JAY	**Jayapura**	**12.85**	**74**	P	**Pn**	**11 57 52.1**	**+1.3**
	0.9nm,0.3s,baz=236,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**14.85**	**157**	P	**Pn**	**11 58 14.0**	**-0.4**
	1.0nm,0.3s,baz=333,slow=13,SNR=43						
WRA				S	**S**	**12 00 51.2**	**-3.0**
	0.3nm,0.3s,baz=338,slow=21,SNR=5.8						
ASAR	**Alice Springs**	**18.18**	**163**	P	**P**	**11 58 50.5**	**+1.8**
	0.3nm,0.3s,baz=343,slow=12,SNR=23						
ASAR				S	**S**	**12 01 59.8**	**-0.2**
	0.3nm,0.3s,baz=344,slow=22,SNR=14						
CTA	**Charters Tower**	**22.20**	**130**	P	**P**	**11 59 28.6**	**0.0**
	4.5nm,0.9s,baz=282,slow=14,SNR=3.3						
CMAR	**Chiang Mai Arr**	**37.96**	**311**	P	**P**	**12 01 44.5**	**-1.7**
	0.7nm,0.6s,baz=130,slow=7.5,SNR=5.1						
KSRS	**Korea Array**	**43.42**	**360**	P	**P**	**12 02 30.5**	**+0.3**
	1.0nm,0.5s,baz=182,slow=9.5,SNR=6.1						
SONM	**Songino Array**	**57.17**	**343**	P	**P**	**12 04 13.0**	**+0.5**
	0.7nm,0.7s,baz=163,slow=8.6,SNR=6.1						
MKAR	**Makanchi Array**	**66.66**	**327**	P	**P**	**12 05 15.3**	**+0.1**
	1.0nm,0.5s,baz=113,slow=8.6,SNR=16						
ZALV	**Zalesovo Beam**	**70.15**	**334**	P	**P**	**12 05 35.9**	**-0.5**
	0.6nm,0.4s,baz=132,slow=4.2,SNR=4.8						
KURBB	**Kurchatov Arra**	**70.97**	**329**	P	**P**	**12 05 41.2**	**-0.1**
	1.2nm,0.6s,baz=131,slow=4.6,SNR=3.1						

*ISCJB **25** 12:04:54.1±0.5,37.°93N±0.°05×73.°12E±0.°09,h127km,*
mb3.5/6,Error ellipse: s-maj=10.7km s-min=5.6km
az=160.9
*IDC **25** 12:04:55.3±5.8,37.°89N×73.°29E,h134km±42km,mb3.3/6,*
mb1 3.2/11,mb1mx3.0/55,mbtmp3.6/11,Error ellipse:
s-maj=57.4km s-min=39.4km az=161.0
*NNC **25** 12:04:60.0±7.5,38.°51N×72.°70E,h0km,mb3.9,mpv3.5,*
Error ellipse: s-maj=67.6km s-min=42.0km az=142.0
ISC 25 12:04:55.2±0.9,38.°01N±0.°08×73.°20E±0.°09,h127km,n30,
σ1§49/35,mb3.6/6,5C-3D,Tajikistan-Xinjiang border
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.01**	**7**	⇓Pn	**Pn**	**12 05 31.8**	**+2.4**
	7.5nm,0.2s						
SFK				⇑Sn	**Sn**	**12 05 56.3**	**+0.8**
	184nm,0.2s						
AML	**

ARCES	**ARCESS Array B**	40.44	336	P		**P**	**12 12 21.1**	**+0.4**
	0.7nm,0.5s,baz=107,slow=8.0,SNR=4.6							
HFS	**Hagfors**	42.99	321	P		**P**	**12 12 42.3**	**+0.8**
	1.0nm,0.4s,baz=97,slow=12,SNR=8.5							
NB2	**NORSAR Subarra**	44.25	322	P		**P**	**12 12 52.1**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=92,slow=7.9							
NOA	**NORSAR Array B**	44.25	322	P		**P**	**12 12 51.7**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=91,slow=7.8,SNR=4.0							
TORD	**Torodi Ar. Bea**	67.50	269	P		**P**	**12 15 37.7**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=56,slow=5.4,SNR=3.4							
YKA	**Yellowknife Ar**	79.64	4	P		**P**	**12 16 47.9**	**-0.2**
	comp=Z,0.1nm,0.5s,baz=348,slow=4.9,SNR=3.9							

SOME ***25*** *12:07:54.6,41.˚28N×71.˚07E,h5km*
NNC ***25*** *12:07:54.5±1.2,41.˚24N×71.˚06E,h0km,mb3.1,mpv2.8, Error ellipse: s-maj=8.9km s-min=5.8km az=34.0*
KRNET ***25*** *12:07:55.7±0.1,41.˚35N×71.˚11E,h13km,mb2.5*
ISC 25 12:07:55.4±1.3,41.˚34N±0.˚03×71.˚11E±0.˚03,h1km±16km, n22,σ1§27/33,12C-12D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**1.14**	**315**	**S**			**Sg**	**12 08 32.2**	**0.0**
	25nm,0.6s								
IUG	**Iuzhnay**	**1.14**	**315**		*e*P		**Pb**	**12 08 17.3**	**-0.7**
	10nm,0.5s								
IUG					*e*S		**Sg**	**12 08 31.8**	**-0.4**
	27nm,0.4s								
BTK	**Batken**	**1.30**	**190**	⇑	*i*P		**Pb**	**12 08 20.3**	**-0.3**
	baz=90								
BTK				⇑	*i*S		**Sg**	**12 08 39.4**	**+2.4**
	baz=90								
ARSB	**Arslanbob**	**1.41**	**90**	⇓	*i*P		**Pb**	**12 08 22.3**	**-0.3**
	baz=90								
ARSB				⇓	*i*S		**Sg**	**12 08 42.2**	**+1.5**
	baz=90								
MNAS	**Manas**	**1.55**	**42**	⇓	Pg		**Pg**	**12 08 25.5**	**+0.4**
	1.6nm,0.4s								
MNAS				⇑	Lg		Lg	12 08 50.6	
	2.1nm,0.3s								
MNAS	**Manas**	**1.55**	**42**		P		**Pb**	**12 08 24.8**	**-0.2**
	2.0nm,0.2s								
MNAS					S		**Sg**	**12 08 46.4**	**+1.1**
	2.0nm,0.2s								
MNAS	**Manas**	**1.55**	**42**	⇓	*i*P		**Pb**	**12 08 24.7**	**-0.2**
	baz=42								
MNAS				⇓	*i*S		**Sg**	**12 08 46.8**	**+1.6**
	baz=42								
KK31	**Karatay Array**	**1.82**	**346**	Pg			**Pg**	**12 08 29.7**	**-0.6**
	5.9nm,0.4s,baz=162,slow=15,SNR=13								
KK31				⇑	Lg		Lg	12 08 56.5	
	7.9nm,0.5s,baz=164,slow=26,SNR=15								
AML	**Almayashu**	**2.09**	**67**	⇑	*e*P		**Pb**	**12 08 33.3**	**-1.0**
	baz=67								
AML				⇑	*i*S		**Sg**	**12 09 02.5**	**-0.1**
	baz=67								
MRKS	**Merke**	**2.11**	**48**	Pg			**Pg**	**12 08 35.2**	**-0.7**
	6.0nm,0.3s								
MRKS					Lg		Lg	12 09 04.5	
	8.5nm,0.3s								
MRKS	**Merke**	**2.11**	**48**	*e*P			**Pg**	**12 08 35.1**	**-0.8**
	4.6nm,0.5s								
MRKS				*e*S			**Sg**	**12 09 04.9**	**+1.6**
	8.2nm,0.3s								
SFK	**Sufi-Kurgan**	**2.25**	**125**	⇑	Pg		**Pn**	**12 08 34.5**	**+0.6**
	0.4nm,0.2s								
SFK				⇑	Lg		Lg	12 09 06.5	
	3.9nm,0.4s								
SFK	**Sufi-Kurgan**	**2.25**	**125**		Pg		**Pb**	**12 08 35.3**	**-1.6**
	0.9nm,0.2s								
SFK					Lg		Lg	12 09 04.8	
	3.2nm,0.3s								
SFK	**Sufi-Kurgan**	**2.25**	**125**	⇓	*i*P		**Pb**	**12 08 36.4**	**-0.5**
	baz=25								
SFK				⇓	*i*S		**Sg**	**12 09 06.6**	**-1.1**
	baz=25								
EKS2	**Erkin-Say**	**2.39**	**55**	⇓	*i*P		**Pb**	**12 08 37.4**	**-1.8**
	baz=56								
EKS2				⇓	*i*S		**Sb**	**12 09 08.6**	**-0.7**
	baz=56								
ARLS	**Aral**	**2.47**	**77**	⇓	*i*P		**Pb**	**12 08 39.7**	**-0.9**
	baz=77								
ARLS				⇓	*i*S		**Sb**	**12 09 11.7**	**+0.2**
	baz=77								
UCH	**Uchtor**	**2.70**	**70**	⇑	*i*P		**Pb**	**12 08 43.2**	**-1.5**
	baz=70								
UCH				⇑	*i*S		**Sb**	**12 09 18.2**	**-0.2**
	baz=70								
AAK	**Ala-Archa**	**2.84**	**62**	⇓	Pg		**Pb**	**12 08 48.1**	**+1.2**
	1.0nm,0.3s								
AAK				⇑	Lg		Lg	12 09 27.2	
	2.0nm,0.4s								
SGDS	**Sogindy**	**3.36**	**50**		Pg		**Pb**	**12 08 57.3**	**+1.6**
	1.7nm,0.4s								
SGDS					Lg		Lg	12 09 42.1	
	1.9nm,0.3s								
TKM2	**Tokmak 2**	**3.69**	**63**	⇑	Lg		Lg	12 09 52.7	
	0.7nm,0.4s								
DGS	**Degeres**	**3.95**	**60**		Pg		**Pb**	**12 09 07.8**	**+2.0**
	2.8nm,0.6s								
DGS					Lg		Lg	12 09 60.0	
	3.1nm,0.4s								
DGS	**Degeres**	**3.95**	**60**	*e*P			**Pb**	**12 09 07.3**	**+1.5**
	2.9nm,0.5s								
DGS				*e*S			**Sg**	**12 09 59.4**	**-2.8**
	1.9nm,0.4s								

GCMT ***25*** *12:11:21.9±0.3,31.˚71N±0.˚01×51.˚03E±0.˚02,h21km, MW5.0/88,Moment Tensor Solution. s35,c38; s88,c140; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.35±.22; Mθθ-3.97±.14; Mθφ0.62±.13; Mrθ0.50±.18; Mφφ0.90±.08; Mrφ0.60±.29; Best double couple: M₀3.85000×10¹⁶ NP1:ϕ₁87.00000°,δ50.00000°,λ71.00000°. NP2: ϕ₂295.00000°,δ44.00000°,λ110.00000°. Principal axes: T 3.5400, Plg76.0000°, Azm292.0000°; N 0.6220, Plg14.0000°, Azm100.0000°; P -4.1600, Plg3.0000°, Azm190.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI ***25*** *12:11:21.4,31.˚80N×50.˚90E,h8km,mb4.9/55,mB5.2/41, Ms4.9/45,Ms7 4.7/43*
TEH ***25*** *12:11:22.3,31.˚88N×50.˚95E,h5km,ML4.8*
ISCJB ***25*** *12:11:24.3±0.5,31.˚73N±0.˚01×50.˚90E±0.˚01,h22km±3km, mb4.9/214,MS4.4/56,Error ellipse: s-maj=2.6km s-min=1.8km az=30.4*
IDC ***25*** *12:11:25.4±1.6,31.˚83N×50.˚90E,h20km±9km,mb4.5/37, mb1 4.6/42,mb1mx4.5/50,mbtmp4.6/42,ML4.0/5,MS4.3/31, Ms1 4.3/31,ms1mx4.1/45,Error ellipse: s-maj=10.0km s-min=8.2km az=19.0*
GII ***25*** *12:11:25.7±0.0,31.˚76N×50.˚92E,h10km*
DSN ***25*** *12:11:26.6±0.4,31.˚72N×50.˚92E,h15km,mb4.8/4, ML4.5/12,Error ellipse: s-maj=9.3km s-min=4.3km az=54.0*
MOS ***25*** *12:11:26.1±1.1,31.˚85N×50.˚89E,h32km,mb5.1/87, MS4.2/35,Error ellipse: s-maj=4.5km s-min=3.6km az=95.2*
THR ***25*** *12:11:27.9,31.˚81N×50.˚94E,h36km,ML4.4*
NEIC ***25*** *12:11:27.9±0.4,31.˚77N×50.˚91E,h38km±4km,mb5.0/101, ML4.4(THR),MN4.7(TEH),Error ellipse: s-maj=4.4km s-min=2.8km az=191.0*
OMAN ***25*** *12:11:30.4±0.2,31.˚57N×50.˚93E,h47km±4km,mb5.3/5, ms4.5/6,Error ellipse: s-maj=5.0km s-min=1.4km az=27.0*
ISC 25 12:11:24.1±0.6,31.˚84N±0.˚02×50.˚96E±0.˚02,h9km±3km, n708,σ1§59/750,mb5.0/228,MS4.3/57,63C-29D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZNGN	**Zangian**	**0.29**	**343**		*e*Pg		**Pg**	**12 11 27.9**	**-2.2**
ROKH	**ROKH**	**0.51**	**7**		*e*Pg		**Pg**	**12 11 31.5**	**-2.6**
ROKH					*e*Sg		**Sb**	**12 11 39.5**	**-3.5**
ROKH					IAMB		IAmb	12 11 46.2	
	comp=Z,0.0nm,0.6s								
IPIR	**Pirpir**	**0.85**	**356**		*e*Pg		**Pg**	**12 11 38.1**	**-2.4**
IPIR					*e*Sg		**Sn**	**12 11 52.5**	**-2.6**
IPIR					IAMB		IAmb	12 12 05.0	
	comp=Z,86μm,0.6s								
KLNJ	**Kolanjah**	**0.99**	**146**		*e*Pg		**Pn**	**12 11 44.3**	**-0.1**
IGAR	**Gharneh**	**1.08**	**58**		*e*Pg		**Pg**	**12 11 42.1**	**-2.8**
IGAR					IAMB		IAmb	12 12 00.9	
	comp=Z,17μm,0.6s								
IRAM	**Ramesheh**	**1.21**	**91**		*e*Pg		**Pg**	**12 11 45.8**	**-1.6**
IRAM					IAMB		IAmb	12 12 07.0	
	comp=Z,100μm,0.4s								
IKLH	**Kolahrood**	**1.57**	**19**		*e*Pn		**Pn**	**12 11 50.3**	**-2.0**
IKLH					IAMB		IAmb	12 12 25.8	
	comp=Z,83μm,0.7s								
IZEF	**Zefreh**	**1.57**	**47**		*e*Pn		**Pn**	**12 11 50.7**	**-1.6**
IZEF					IAMB		IAmb	12 12 19.5	
	comp=Z,75μm,0.9s								
SHGR	**Shooshtar-Gavs**	**1.85**	**279**		*e*Pg		**Pg**	**12 12 00.9**	**+1.3**
SHGR					*e*Sg		**Sg**	**12 12 25.0**	**+1.4**
SHGR	**Shooshtar-Gavs**	**1.85**	**279**		*e*Pg		**Pg**	**12 12 00.9**	**+1.3**
SHGR	**Shooshtar-Gavs**	**1.85**	**279**		*e*AML		AML	12 12 33.1	
	comp=N,3μm,0.5s								
SHGR					*e*AML		AML	12 12 49.5	
	comp=E,4μm,0.6s								
SHGR	**Shooshtar-Gavs**	**1.85**	**279**		*e*Pg		**Pg**	**12 12 00.9**	**+1.3**
SHGR					*e*Sg		**Sg**	**12 12 25.0**	**+1.4**
AHWZ	**Ahwaz**	**2.04**	**256**		*e*Pn		**Pg**	**12 12 01.3**	**-1.8**
AHWZ					IAMB		IAmb	12 12 43.4	
	comp=Z,0.0nm,1.6s								
KHMZ	**Khomeyn**	**2.08**	**336**		*e*Pn		**Pg**	**12 12 02.8**	**-1.1**
KHMZ					*e*Sg		**Sg**	**12 12 32.6**	**+1.8**
KHMZ	**Khomeyn**	**2.08**	**336**		*e*Pn		**Pg**	**12 12 02.8**	**-1.1**
KHMZ	**Khomeyn**	**2.08**	**336**		*e*Pn		**Pg**	**12 12 02.8**	**-1.1**
KHMZ					*e*Sg		**Sg**	**12 12 32.6**	**+1.8**
IKAZ	**Kazeroun**	**2.19**	**159**		*e*Pn		**Pb**	**12 12 04.1**	**+0.1**
IKAZ					IAMB		IAmb	12 12 44.2	
	comp=Z,15μm,0.6s								
ISAD	**Sadrabad**	**2.32**	**87**		IAMB		IAmb	12 12 47.6	
	comp=Z,64μm,0.8s								
ISAD					*e*Pn		**Pb**	**12 12 05.0**	**-1.3**
SHI	**Shiraz**	**2.56**	**148**		*e*Pn		**Pb**	**12 12 08.4**	**-1.9**
SHI					IAMB		IAmb	12 13 02.1	
	comp=Z,2μm,2.2s								
GHVR	**GHOM**	**2.65**	**6**		*e*Pn		**Pb**	**12 12 10.8**	**-0.9**
GHVR	**GHOM**	**2.65**	**6**		*e*Pn		**Pb**	**12 12 10.8**	**-0.9**
GHVR	**GHOM**	**2.65**	**6**		*e*AML		AML	12 13 00.2	
	comp=N,1μm,0.8s								
GHVR	**GHOM**	**2.65**	**6**		*e*Pn		**Pb**	**12 12 10.8**	**-0.9**
ANAR	**Anarak**	**2.70**	**59**		*e*Pn		**Pb**	**12 12 10.3**	**-2.4**
IKMR	**Kamar-syah**	**2.75**	**308**		*e*Pn		**Pb**	**12 12 11.4**	**-1.9**
IKMR					IAMB		IAmb	12 13 19.9	
	comp=Z,0.0nm,1.6s								
ASAO	**Ashtian**	**2.81**	**344**		*e*Pn		**Pb**	**12 12 12.9**	**-1.8**
ASAO	**Ashtian**	**2.81**	**344**		*e*Pn		**Pb**	**12 12 12.9**	**-1.8**
ASAO	**Ashtian**	**2.81**	**344**		*e*Pn		**Pb**	**12 12 12.9**	**-1.8**
ICHK	**Chekchek**	**2.96**	**81**		*e*Pn		**Pb**	**12 12 13.6**	**-3.5**
ICHK					IAMB		IAmb	12 13 04.2	
	comp=Z,27μm,1.0s								
HSAM	**Samen**	**3.09**	**321**		*e*Pn		**Pb**	**12 12 15.2**	**-4.1**
HSAM					IAMB		IAmb	12 13 36.6	
	comp=Z,0.0nm,3.5s								
IKFM	**Kafar-mosalman**	**3.12**	**304**		*e*Pn		**Pb**	**12 12 15.0**	**-4.6**
IKFM					IAMB		IAmb	12 13 20.0	
	comp=Z,0.0nm,1.9s								
YZKH	**Yazd**	**3.13**	**79**		*e*Pn		**Pb**	**12 12 17.4**	**-2.6**
YZKH	**Yazd**	**3.13**	**79**		*e*AML		AML	12 13 08.8	
	comp=N,905nm,0.6s								
YZKH					*e*AML		AML	12 13 13.8	
	comp=E,919nm,0.6s								
YZKH	**Yazd**	**3.13**	**79**		*e*Pn		**Pb**	**12 12 17.4**	**-2.6**
IMEH	**Mehriz**	**3.15**	**97**		*e*Pn		**Pb**	**12 12 16.7**	**-3.7**
IMEH					IAMB		IAmb	12 13 12.3	
	comp=Z,13μm,0.6s								
IRAZ	**Razeghan**	**3.66**	**347**		*e*Pn		**Pn**	**12 12 22.8**	**+1.8**
IRAZ					IAMB		IAmb	12 12 39.2	
	comp=Z,17μm,1.1s								
IKOM	**Komasi**	**3.72**	**310**		*e*Pn		**Pn**	**12 12 23.4**	**+1.6**
IDMV	**Damavand**	**3.84**	**13**		*e*Pn		**Pn**	**12 12 25.3**	**+1.8**
IDMV					IAMB		IAmb	12 13 42.8	
	comp=N,14μm,0.6s								
ILAS	**Lasjerd**	**3.91**	**25**		*e*Pn		**Pn**	**12 12 26.7**	**+2.2**
ILAS					IAMB		IAmb	12 13 45.1	
	comp=N,23μm,0.9s								
HKZM	**Kohzaman**	**3.93**	**335**		*e*Pn		**Pn**	**12 12 26.0**	**+1.3**
HKZM					IAMB		IAmb	12 13 53.5	
	comp=Z,0.0nm,3.4s								
JHRM	**Jahrom**	**4.02**	**145**		*e*Pn		**Pn**	**12 12 28.4**	**+2.5**
JHRM					IAMB		IAmb	12 14 32.9	
	comp=Z,0.0nm,0.0s								
HSRG	**Sareghieh**	**4.07**	**327**		*e*Pn		**Pn**	**12 12 28.6**	**+1.9**
HSRG					IAMB		IAmb	12 14 00.3	
	comp=Z,0.0nm,3.2s								
IFIR	**Firoozkooh**	**4.08**	**21**		*e*Pn		**Pn**	**12 12 29.0**	**+2.1**
IFIR					IAMB		IAmb	12 13 47.8	
	comp=N,12μm,1.0s								
IANJ	**Anjilo**	**4.38**	**33**		*e*Pn		**Pn**	**12 12 32.4**	**+1.4**
IANJ					IAMB		IAmb	12 14 19.2	
	comp=Z,10μm,1.2s								
ISHM	**Shahmirzad**	**4.41**	**26**		*e*Pn		**Pn**	**12 12 33.1**	**+1.7**
ISHM					IAMB		IAmb	12 12 59.2	
	comp=Z,11μm,0.8s								
SNGE	**Sanandaj**	**4.43**	**318**		*e*Pn		Pn	12 12 34.8	+3.1
SNGE	**Sanandaj**	**4.43**	**318**		*e*Pn		Pn	12 12 34.8	+3.1
SNGE	**Sanandaj**	**4.43**	**318**		*e*AML		AML	12 13 34.2	
	comp=N,329nm,0.6s								
SNGE	**Sanandaj**	**4.43**	**318**		*e*Pn		Pn	12 12 34.8	+3.1
IGHG	**Ghaleghazi**	**4.44**	**305**		*e*Pn		**Pn**	**12 12 32.6**	**+0.8**
IGHG					IAMB		IAmb	12 14 33.4	
	comp=Z,24μm,1.1s								
IALA	**Alasht**	**4.51**	**19**		*e*Pn		**Pn**	**12 12 35.0**	**+2.2**
IALA					IAMB		IAmb	12 14 24.9	
	comp=Z,13μm,1.6s								
IPRN	**Peran**	**4.54**	**14**		*e*Pn		**Pn**	**12 12 35.8**	**+2.7**
IPRN					IAMB		IAmb	12 12 52.9	
	comp=Z,11μm,0.8s								
IKIA	**Kiasar**	**4.91**	**27**		*e*Pn		**Pn**	**12 12 40.3**	**+2.0**
IKIA					IAMB		IAmb	12 14 29.5	
	comp=Z,13μm,1.6s								
KHGB	**Koh Gabri**	**4.95**	**106**		*e*Pn		**Pn**	**12 12 41.3**	**+2.5**
TPRV	**Parvadeh(Tabas**	**4.99**	**75**		*e*Pn		**Pn**	**12 12 41.0**	**+1.8**
TNSJ	**Nastanj**	**5.21**	**64**		*e*Pn		**Pn**	**12 12 43.7**	**+1.5**
TVBK	**TV Kerman**	**5.32**	**109**		*e*Pn		**Pn**	**12 12 46.3**	**+2.4**
KRBR	**Kerman**	**5.32**	**109**		*e*Pn		**Pn**	**12 12 47.5**	**+3.7**
KRBR	**Kerman**	**5.32**	**109**		*e*Pn		**Pn**	**12 12 47.6**	**+3.7**
KRBR	**Kerman**	**5.32**	**109**		*e*AML		AML	12 14 39.2	
	comp=E,184nm,0.8s								
KRBR	**Kerman**	**5.32**	**109**		*e*Pn		**Pn**	**12 12 47.5**	**+3.7**
NGRK	**Negar Kerman**	**5.43**	**112**		*e*Pn		**Pn**	**12 12 47.9**	**+2.4**
TKDS	**Koohdasht(Taba**	**5.49**	**70**		*e*Pn		**Pn**	**12 12 47.5**	**+1.4**
TABS	**Tabas**	**5.50**	**69**		*e*Pn		Pn	12 12 49.8	+3.6
TABS	**Tabas**	**5.50**	**69**		*e*Pn		Pn	12 12 49.8	+3.6
TABS	**Tabas**	**5.50**	**69**		*e*AML		AML	12 14 45.6	
	comp=N,161nm,0.7s								
TABS	**Tabas**	**5.50**	**69**		*e*Pn		Pn	12 12 49.8	+3.6
GENO	**Geno**	**6.34**	**133**		*e*Pn		**Pn**	**12 12 59.5**	**+1.7**
NIAN	**Nian**	**6.66**	**128**		*e*Pn		**Pn**	**12 13 04.0**	**+2.0**
ITEG	**Tejag**	**6.68**	**79**		*e*Pn		**Pn**	**12 13 05.0**	**+2.5**
ITEG					IAMB		IAmb	12 15 30.5	
	comp=Z,18μm,2.1s								
IBST	**Bostanabad**	**6.74**	**331**		*e*Pn		**Pn**	**12 13 03.3**	**0.0**
SBZV	**Sabzevar**	**7.14**	**49**		*e*Pn		**Pn**	**12 13 11.3**	**+2.4**
IHRS	**Heris**	**7.22**	**335**		*e*Pn		**Pn**	**12 13 10.3**	**+0.4**
SHME	**Shamm**	**7.34**	**140**		*i*P		**Pn**	**12 13 13.0**	**+1.5**
	SNR=18								
SHME	**Shamm**	**7.34**	**140**		*e*Pn		**Pn**	**12 13 12.8**	**+1.4**
UMQ	**Umm Al-Quwin**	**7.52**	**146**		P		**Pn**	**12 13 15.5**	**+1.6**
UMQ	**Umm Al-Quwin**	**7.52**	**146**		*e*Pn		**Pn**	**12 13 17.5**	**+3.6**
BANOM	**Banah**	**7.53**	**140**		*i*P		**Pn**	**12 13 14.7**	**+0.7**
	SNR=25								
BANOM	**Banah**	**7.53**	**140**		P		Pn	12 13 19.7	+5.7
	SNR=12								
ISFR	**Sfrayin**	**7.80**	**46**		*e*Pn		**Pn**	**12 13 20.4**	**+2.4**
ISFR					IAMB		IAmb	12 13 35.6	
	comp=Z,2μm,0.6s								
MSFE	**Esma-Masafi**	**7.91**	**143**		*i*P		**Pn**	**12 13 19.4**	**+0.1**
	SNR=36								
MSFE	**Esma-Masafi**	**7.91**	**143**		*e*Pn		**Pn**	**12 13 19.5**	**+0.3**
NAZ	**Nazwa, Dubai**	**7.98**	**148**		*i*P		**Pn**	**12 13 21.5**	**+1.3**
	SNR=76								
NAZ	**Nazwa, Dubai**	**7.98**	**148**		P		**Pn**	**12 13 21.7**	**+1.5**
	SNR=36								
NAZ	**Nazwa, Dubai**	**7.98**	**148**		*e*Pn		**Pn**	**12 13 21.7**	**+1.5**
MDH	**Madha**	**8.03**	**143**		*i*P		**Pn**	**12 13 21.9**	**+1.0**
	SNR=37								
MDH	**Madha**	**8.03**	**143**		P		**Pn**	**12 13 21.3**	**+0.4**
	SNR=21								
MDH					S		**Sn**	**12 14 49.9**	**-1.8**
MDH	**Madha**	**8.03**	**143**		*e*Pn		**Pn**	**12 13 21.2**	**+0.4**
AJN	**Ajban**	**8.07**	**153**		*i*P		**Pn**	**12 13 23.0**	**+1.6**
	SNR=11								
AJN	**Ajban**	**8.07**	**153**		P		**Pn**	**12 13 24.6**	**+3.2**
	SNR=20								
AJN					S		**Sn**	**12 14 53.0**	**+0.2**
AJN	**Ajban**	**8.07**	**153**		*e*Pn		**Pn**	**12 13 23.7**	**+2.3**
IMRD	**Marand**	**8.09**	**329**		*e*Pn		**Pn**	**12 13 24.1**	**+2.2**
IPAY	**Payeh**	**8.10**	**53**		*e*Pn		**Pn**	**12 13 24.2**	**+2.2**
IPAY					IAMB		IAmb	12 16 16.5	
	comp=Z,1μm,1.1s								
ASUD	**Al Ashush, Dub**	**8.15**	**151**		*i*P		**Pn**	**12 13 24.9**	**+2.4**
	SNR=36								
ASUD	**Al Ashush, Dub**	**8.15**	**151**		P		**Pn**	**12 13 24.9**	**+2.4**
	SNR=17								
ASUD					S		**Sn**	**12 14 54.9**	**+0.1**
ASUD	**Al Ashush, Dub**	**8.15**	**151**		*e*Pn		**Pn**	**12 13 24.9**	**+2.4**
FAQ	**Al Faqa, Dubai**	**8.16**	**149**		*i*P		**Pn**	**12 13 24.6**	**+1.9**
	SNR=33								
FAQ	**Al Faqa, Dubai**	**8.16**	**149**		P		**Pn**	**12 13 24.9**	**+2.3**
	SNR=17								
FAQ					S		**Sn**	**12 14 52.9**	**-2.1**
FAQ	**Al Faqa, Dubai**	**8.16**	**149**		*e*Pn		**Pn**	**12 13 24.6**	**+1.9**
UOSS	**Minazif**	**8.27**	**145**		*e*Pn		**Pn**	**12 13 23.7**	**-0.5**
UOSS					*e*Sn		Sn	12 14 48.0	-10
UOSS	**Minazif**	**8.27**	**145**		*i*P		**Pn**	**12 13 24.5**	**+0.3**
	SNR=41								
UOSS	**Minazif**	**8.27**	**145**		P		**Pn**	**12 13 24.3**	**+0.1**
	SNR=22								
UOSS					S		**Sn**	**12 14 53.8**	**-4.0**
UOSS	**Minazif**	**8.27**	**145**		*e*Pn		**Pn**	**12 13 24.5**	**+0.3**
HATD	**Hatta, Dubai**	**8.34**	**146**		*i*P		**Pn**	**12 13 26.5**	**+1.4**
	SNR=31								
HATD	**Hatta, Dubai**	**8.34**	**146**		P		**Pn**	**12 13 26.5**	**+1.4**
	SNR=20								
HATD					S		**Sn**	**12 14 58.3**	**-1.2**
HATD	**Hatta, Dubai**	**8.34**	**146**		*e*Pn		**Pn**	**12 13 26.6**	**+1.4**
ASHO	**Ashiyiah**	**8.42**	**146**		*i*P		**Pn**	**12 13 26.7**	**+0.4**
	SNR=74								
ASHO	**Ashiyiah**	**8.42**	**146**		P		**Pn**	**12 13 27.2**	**+0.8**
	SNR=55								
ASHO					S		**Sn**	**12 14 58.9**	**-2.6**
ASHO	**Ashiyiah**	**8.42**	**146**		*e*Pn		**Pn**	**12 13 26.4**	**+0.1**
IEMG	**Emamgholi**	**8.44**	**47**		*e*Pn		**Pn**	**12 13 28.8**	**+2.1**
IEMG					IAMB		IAmb	12 16 31.6	
	comp=Z,927nm,1.2s								
GEYT	**Alibeck**	**8.46**	**42**		Pn		**Pn**	**12 13 29.0**	**+2.3**
	comp=Z,1.3nm,0.3s,baz=220,slow=14,SNR=13								
GEYT					Lg		Lg	12 15 50.4	
	comp=Z,1.3nm,0.3s,baz=250,slow=31,SNR=2.3								
GYA0B	**ALIBECK ARRAY**	**8.46**	**42**		*e*Pn		**Pn**	**12 13 28.3**	**+1.5**
JRKH	**Jarkhoshk**	**8.80**	**60**		*e*Pn		**Pn**	**12 13 33.8**	**+2.3**
IMYA	**Miami**	**8.81**	**57**		*e*Pn		Pn	12 13 35.5	+3.7
IMYA					IAMB		IAmb	12 17 16.9	
	comp=Z,3μm,1.7s								
ALNE	**Al Ain**	**8.83**	**150**		*i*P		**Pn**	**12 13 32.1**	**+0.2**
	SNR=48								
ALNE	**Al Ain**	**8.83**	**150**		*e*Pn		**Pn**	**12 13 31.7**	**-0.2**
SIRT	**Sirnak**	**9.01**	**311**		*e*Pn		**Pn**	**12 13 34.5**	**+0.1**
SIRT					*e*Sn		**Sn**	**12 15 16.8**	**+0.9**
MZR	**Muzera**	**9.08**	**165**		*i*P		**Pn**	**12 13 37.0**	**+1.7**
	SNR=28								
MZR	**Muzera**	**9.08**	**165**		P		**Pn**	**12 13 37.6**	**+2.4**
	SNR=22								
MZR					S		**Sn**	**12 15 16.0**	**-1.6**
MZR	**Muzera**	**9.08**	**165**		*e*Pn		**Pn**	**12 13 37.7**	**+2.4**
SOHO	**SOHO**	**9.12**	**146**		P		**Pn**	**12 13 35.3**	**-0.5**
	SNR=18								
SOHO					S		**Sn**	**12 15 15.9**	**-2.7**
RAYN	**Ar Rayn**	**9.59**	**212**		*e*Pn		**Pn**	**12 13 40.7**	**-1.6**
RAYN					*e*Sn		Sn	12 15 18.1	-12
RAYN	**Ar Rayn**	**9.59**	**212**		*i*P		**Pn**	**12 13 41.5**	**-0.8**

comp=Z,87nm,1.4s
KBL Kabul 15.38 75 *e*P **Pn** **12 15 02.2 +0.7**
KBL pmax pmax
comp=Z,87nm,1.4s
BR101 Keskin Array S 16.09 304 *e*Pn **P** **12 15 11.4 -2.5**
BR131 Keskin Array S 16.09 304 *e*Pn **P** **12 15 12.4 -1.6**
BR131 Keskin Array S 16.09 304 P **P** **12 15 13.4 -0.6**
SNR=9.9
BRTR Keskin Array B 16.09 304 Pn **P** **12 15 11.4 -2.5**
comp=Z,1.9nm,0.3s,baz=129,slow=13,SNR=36
BRTR ScP **ScP** **12 23 40.5 -0.6**
comp=Z,0.1nm,0.3s,baz=142,slow=2.8,SNR=3.1
SNOP Sinop 16.16 313 *e*Pn **P** **12 15 13.3 -1.2**
comp=Z,41nm,0.9s
CHGR Chuyangaron 16.34 60 *e*Pn **P** **12 15 14.5 -2.1**
comp=Z,114nm,1.1s
ILGA Ilgaz 16.62 308 *e*Pn **P** **12 15 17.7 -2.2**
comp=Z,30nm,1.0s
ANN Anapa 16.71 325 *e*P **Pn** **12 15 17.5 -0.7**
ANN *e*S **Sn** **12 18 24.3 +0.5**
ANN pmax pmax
comp=Z,46nm,0.9s
ANN MLR MLR
comp=E,207nm,12.0s
ANN MLR MLR
comp=N,824nm,13.0s
ANN MLR MLR
comp=Z,844nm,13.0s
ANTO Ankara 16.75 304 *e*Pn **P** **12 15 19.0 -2.2**
comp=Z,63nm,1.0s
ANTO Ankara 16.75 304⇑ *i*P **P** **12 15 20.8 -0.4**
ANTO Ankara 16.75 304 *e*P **P** **12 15 19.0 -2.2**
ANTO pmax pmax
comp=Z,63nm,1.0s
ANTO Ankara 16.75 304 P **P** **12 15 23.0 +1.9**
SNR=7.8
BR231 Keskin MP Arra 16.75 304 *e*Pn **P** **12 15 19.8 -1.4**
GAR Garm 17.31 60 *e*Pn **P** **12 15 27.0 -0.4**
GAR Garm 17.31 60 *e*P **P** **12 15 27.0 -0.4**
THW Thamme Wali 17.60 81 P **P** **12 15 30.2 -0.4**
CEP Cherat 17.72 78 P **P** **12 15 32.3 +0.3**
ISP Isparta 17.80 295 *e*Pn **P** **12 15 33.2 +0.4**
comp=Z,45nm,0.8s
ISP Isparta 17.80 295⇑ *i*P **P** **12 15 34.4 +1.6**
ISP Isparta 17.80 295 *e*P **P** **12 15 33.2 +0.4**
ISP pmax pmax
comp=Z,45nm,0.8s
BTK Batken 18.03 57 *e*Pn **P** **12 15 36.3 +1.0**
comp=Z,34nm,1.2s
BTK Batken 18.03 57 *e*P **P** **12 15 36.3 +1.0**
BTK pmax pmax
comp=Z,34nm,1.2s
DAMY Dhamar 18.20 201 *e*Pn **Pn** **12 15 36.4 -0.9**
comp=Z,92nm,1.2s
IUG Iuzhnay 18.35 51*c i*P **P** **12 15 38.3 -0.5**
IUG pmax pmax
comp=Z,322nm,2.1s
IUG MLR MLR
comp=Z,1μm,13.0s
IUG Iuzhnay 18.35 51⇑ *i*P **P** **12 15 38.4 -0.5**
comp=Z,322nm,2.1s
IUG *e*LRM MLR 12 23 52.0
comp=Z,1μm,13.1s
SARP Sargodha 18.44 84 P **Pn** **12 15 40.3 +0.4**
SIM Simferopol' 18.54 320 *e*P Pn 12 15 50.2 +9.2
SIM *e*S **S** **12 19 12.0 -0.4**
SIM pmax pmax
comp=Z,49nm,0.6s
SIM MLR MLR
comp=Z,300nm,11.9s
ABKAR Akbulak array 18.67 19 *e*P **Pn** **12 15 41.5 -1.0**
NIL Nilore 18.84 79 *e*P **Pn** **12 15 45.8 +1.0**
comp=Z,39nm,0.9s
NIL Nilore 18.84 79 *e*P **Pn** **12 15 45.8 +1.0**
NIL pmax pmax
comp=Z,39nm,0.9s
CHCP Chirah Chowk 18.85 78 P **Pn** **12 15 45.3 +0.4**
TURN Turunc 19.11 291 *i* P **Pn** **12 15 50.8 +2.7**
KK31 Karatay Array 19.12 48 *e*P **Pn** **12 15 48.2 +0.1**
KK31 Karatay Array 19.12 48 *e*P **Pn** **12 15 48.2 +0.1**
KKAR Karatay Array 19.12 48 *e*P **Pn** **12 15 48.2 +0.1**
KKAR Karatay Array 19.12 48 *e*P **Pn** **12 15 48.2 +0.1**
AKTO Aktyubinsk 19.31 14 P **Pn** **12 15 49.5 -0.8**
comp=Z,0.7nm,0.3s,baz=201,slow=11,SNR=30
AKTO ScP **ScP** **12 23 45.0 -2.5**
comp=Z,0.0nm,0.3s,baz=236,slow=3.6,SNR=3.7
AKTO LR LR 12 25 15.9
comp=Z,2μm,18.1s,baz=191,slow=43
MANT Manisa 19.46 296 *e*P **Pn** **12 15 51.5 -0.8**
comp=Z,196nm,1.1s
AYDN Tasoluk 19.81 293 *e*P **Pn** **12 15 55.8 -0.6**
SFK Sufi-Kurgan 19.96 60 P **Pn** **12 16 00.2 +1.8**
SFK pmax pmax
comp=Z,38nm,1.1s
ARSB Arslanbob 20.02 56 *e*P **Pn** **12 15 58.2 -0.8**
comp=Z,35nm,1.0s
KARP Karpathos 20.13 287 *e*P Pn 12 15 58.7 -1.5
comp=Z,125nm,0.8s
MNAS Manas 20.14 52 P Pn 12 16 02.9 +2.5
MNAS pmax pmax
comp=Z,24nm,1.2s
VRH Novokhopyorsk 20.52 343 *e*P Pn 12 16 02.4 -2.1
VRH *e*S **S** **12 19 49.1 -2.7**
VRH pmax pmax
comp=Z,90nm,0.9s
VRH smax smax
comp=N,390nm,2.5s
AML Almayashu 20.81 54 P Pn 12 16 07.2 -1.3
SNR=30
EKS2 Erkin-Say 21.07 53 P **P** **12 16 10.4 +1.8**
SNR=19
VSR Storozhevoye 21.23 339 *e*P **P** **12 16 08.8 -1.3**
VSR *e*S **S** **12 20 04.0 -2.0**
VSR pmax pmax
comp=Z,70nm,1.1s
VSR smax smax
comp=N,180nm,1.3s
VSR MLR MLR
comp=Z,660nm,12.0s
UCH Uchtor 21.41 54 P **P** **12 16 14.5 +1.9**
SNR=12
MFTR Murfatlar 21.53 311⇑ *i*P **P** **12 16 14.1 +0.7**
ATD Arta Tunnel 21.55 202 P **P** **12 16 15.1 +1.2**
comp=Z,14nm,0.9s,baz=26,slow=13,SNR=2.5
ATD LR LR 12 25 13.8
comp=Z,1μm,20.2s,baz=32,slow=38
ATD Arta Tunnel 21.55 202 *e*P **P** **12 16 14.1 +0.2**
comp=Z,63nm,1.2s
AAK Ala-Archa 21.55 53 P **P** **12 16 14.9 +1.1**
comp=Z,4.8nm,0.9s,baz=194,slow=7.2,SNR=16
AAK ScP **ScP** **12 23 51.8 -1.4**
comp=Z,1.9nm,0.8s,baz=214,slow=3.6,SNR=4.1
AAK LR LR 12 25 44.4
comp=Z,873nm,21.5s,baz=254,slow=40
AAK Ala-Archa 21.55 53 P **P** **12 16 18.7 +4.9**
SNR=7.2
AAK Ala-Archa 21.55 53 *e*P **P** **12 16 14.8 +1.0**
comp=Z,27nm,1.0s
AAK Ala-Archa 21.55 53 *i* P **P** **12 16 17.7 +3.9**
SNR=18
AAK Ala-Archa 21.55 53⇑ *e*P **P** **12 16 16.7 +2.9**
AAK pmax pmax
comp=Z,48nm,1.7s
AAK MLR MLR
comp=Z,2μm,15.0s
AAK Ala-Archa 21.55 53 P **P** **12 16 17.3 +3.5**
SNR=22
SANT Santorini 21.57 289 *e*P **P** **12 16 13.7 -0.2**
comp=Z,174nm,1.0s
SANT Santorini 21.57 289⇑ *i*P **P** **12 16 14.4 +0.5**
APE Apeiranthos 21.58 291⇑ *i*P **P** **12 16 14.2 +0.2**
APE Apeiranthos 21.58 291⇓ *e*P **P** **12 16 14.5 +0.5**
APE pmax pmax
comp=Z,51nm,0.9s
TIRR Tirgusor 21.67 312⇑ *i*P **P** **12 16 16.3 +1.5**
KSH Kashi 21.67 62 P **P** **12 16 12.5 -2.6**
KSH pP pP 12 16 15.3 -3.2
KSH sP sP 12 16 18.0 -2.0
KSH PP **PnPn** **12 16 38.5 +2.7**
KSH S S 12 20 02.0 -13
KSH sS sS 12 20 08.8 -12
KSH PcP **PcP** **12 20 12.0 -4.3**
KSH SS **SnSn** **12 20 39.0 -0.2**
KSH pmax pmax
comp=Z,25nm,0.8s
KSH pmax pmax
comp=Z,610nm,3.6s
KSH LR LR
comp=Z,1μm,8.9s
KSH LR LR
comp=Z,4μm,12.1s
KSH LR LR
comp=Z,3μm,16.0s
FRU Bishkek 21.71 53 *e*P **P** **12 16 18.0 +2.6**
FRU *e*S **S** **12 20 16.0 +0.3**
FRU *e* 12 20 30.0
FRU pmax pmax
comp=Z,180nm,2.2s
FRU1 Bishkek 21.71 53 *e*P **P** **12 16 15.3 -0.1**
comp=Z,50nm,1.3s
FRU1 Bishkek 21.71 53 *e*P **P** **12 16 15.3 -0.1**
FRU1 pmax pmax
comp=Z,50nm,1.3s
TLCR 21.77 314⇑ *i*P **P** **12 16 16.6 +0.7**
USP Ospenovka 21.80 52 P **P** **12 16 20.0 +3.7**
SNR=16
CHMS Chumysh 21.86 53 P **P** **12 16 21.4 +4.4**
SNR=20
KBK Karagaybulak 21.87 54 P **P** **12 16 22.2 +5.0**
SNR=18
KZA Kyzart 21.87 55 P P 12 16 24.1 +6.6
SNR=14
ALN Alexandroupoli 21.95 301 *e*P **P** **12 16 18.6 +0.7**
comp=Z,29nm,1.0s
ALN Alexandroupoli 21.95 301 *e*P **P** **12 16 18.6 +0.7**
ALN pmax pmax
comp=Z,29nm,1.0s
TLB Topalu 21.96 312⇑ *i*P **P** **12 16 18.5 +0.5**
IDI Anoyia 21.97 286 P **P** **12 16 18.6 +0.3**
comp=Z,51nm,0.6s,baz=77,slow=14,SNR=14
IDI S **S** **12 20 20.0 -0.9**
comp=Z,20nm,1.1s,baz=120,slow=20,SNR=3.3
IDI Anoyia 21.97 286 *e*P **P** **12 16 19.2 +1.0**
comp=Z,178nm,1.3s
IDI Anoyia 21.97 286⇑ *i*P **P** **12 16 19.8 +1.5**
CFR Carcaliu 22.18 313⇑ *i*P **P** **12 16 20.5 +0.1**
NRN Naryn 22.20 57 *e*P **P** **12 16 23.0 +2.0**
comp=Z,156nm,1.3s
NRN Naryn 22.20 57 *e*P **P** **12 16 23.0 +2.0**
NRN pmax pmax
comp=Z,156nm,1.3s
BTLS Baital 22.29 47 *e*P **P** **12 16 22.3 +0.8**
BTLS pmax pmax
comp=Z,249nm,1.7s
BTLS MLR MLR
comp=Z,725nm,13.0s
BTLS Baital 22.29 47 *e*P **P** **12 16 22.3 +0.8**
comp=Z,249nm,1.7s
BTLS *e*LRM MLR 12 26 08.4
comp=Z,725nm,13.0s
TKM2 Tokmak 2 22.41 53 P **P** **12 16 26.2 +3.1**
SNR=36
TKM2 Tokmak 2 22.41 53 P **P** **12 16 25.8 +2.7**
TKM2 pmax pmax
comp=Z,61nm,1.4s
LPSR Galich'ya Gora 22.52 341 *e*P **P** **12 16 24.0 +0.1**
LPSR *e*S **S** **12 20 27.5 -3.4**
LPSR pmax pmax
comp=Z,90nm,0.8s
LPSR smax smax
comp=N,120nm,1.6s
ULHL Ulahol 22.62 56 P **P** **12 16 27.3 +1.9**
SNR=28
KIS Kishinev 22.73 318 *e*P **P** **12 16 26.0 -0.2**
KIS Kishinev 22.73 318 *e*P **P** **12 16 26.0 -0.2**
KIS *e* 12 21 16.0
LEOM Leova 22.78 316⇑ *i*P **P** **12 16 27.9 +1.2**
PETR Petresti 23.01 314⇓ *i*P **P** **12 16 30.5 +1.4**
OTUK Ortayu 23.04 39 P **P** **12 16 31.1 +1.6**
OTUK pmax pmax
comp=Z,63nm,1.1s
SULR 23.15 311⇑ *i*P **P** **12 16 32.8 +2.3**
KDJ Kajisay 23.25 56 *e*P **P** **12 16 31.0 -0.9**
comp=Z,26nm,1.0s
KDJ Kajisay 23.25 56 *e*P **P** **12 16 31.0 -0.9**
KDJ pmax pmax
comp=Z,27nm,1.0s
KUU Kurty 23.28 52*de*P **P** **12 16 32.1 +0.2**
KUU pmax pmax
comp=Z,212nm,1.8s
KUU MLR MLR
comp=Z,505nm,12.0s
KUU Kurty 23.28 52⇓ *e*P **P** **12 16 32.2 +0.2**
comp=Z,212nm,1.8s
KUU *e*LRM MLR 12 26 49.6
comp=Z,505nm,12.3s
VRI Vrincioaia 23.39 314⇑ *i*P **P** **12 16 33.9 +0.9**
AAA Alma-Ata 23.41 54 *e*P **P** **12 16 37.3 +3.9**
AAA pmax pmax
comp=Z,300nm,3.2s
AAA MLR MLR
comp=Z,2μm,11.0s
SECR 23.42 311⇑ *i*P **P** **12 16 34.7 +1.4**
PLOR Plostina 23.43 314⇓ *i*P **P** **12 16 34.3 +0.9**
MDOK Medeo 23.49 54*de*P **P** **12 16 34.7 +0.5**
MDOK pmax pmax
comp=Z,134nm,1.9s
MDOK MLR MLR
comp=Z,1μm,12.0s
MDOK Medeo 23.49 54⇓ *e*P **P** **12 16 34.7 +0.5**
comp=Z,134nm,1.9s
MDOK *e*LRM MLR 12 26 56.2
comp=Z,1μm,11.8s
TARG Taragay, Kyrgy 23.58 58 *e*P **P** **12 16 37.2 +1.8**
comp=Z,54nm,1.0s
CHKK Chushkaly 23.70 52*ce*P **P** **12 16 37.2 +1.1**
CHKK pmax pmax
comp=Z,117nm,1.3s
CHKK Chushkaly 23.70 52⇑ *e*P **P** **12 16 37.2 +1.1**
comp=Z,117nm,1.3s
MLR Muntele Rosu 23.70 312 P **P** **12 16 37.1 +0.9**
comp=Z,18nm,0.7s,baz=72,slow=0.9,SNR=26
MLR LR LR 12 26 42.8
comp=Z,462nm,20.1s,baz=126,slow=39
MLR Muntele Rosu 23.70 312 *e*P **P** **12 16 38.1 +1.9**
comp=Z,52nm,0.8s
MLR Muntele Rosu 23.70 312⇑ *i*P **P** **12 16 38.4 +2.2**
PRZ Przheval'sk 24.22 56 *e*P **P** **12 16 42.9 +1.7**
comp=Z,93nm,1.4s
VOIR 24.24 311⇓ *i*P **P** **12 16 42.3 +1.0**
DOPR Dopca 24.26 313⇓ *i*P **P** **12 16 42.4 +1.0**
BIZ Bicaz 24.28 316⇓ *i*P **P** **12 16 42.5 +0.9**
BRZS Berezniki 24.31 35 *e*P **P** **12 16 42.1 +0.4**
BRZS pmax pmax
comp=Z,577nm,1.5s
BRZS MLR MLR
comp=Z,648nm,12.0s
BRZS Berezniki 24.31 35 *e*P **P** **12 16 42.2 +0.4**
comp=Z,577nm,1.6s
BRZS *e*LRM MLR 12 27 18.3
comp=Z,648nm,12.2s
AGG Agios Georgios 24.34 295 *e*P **P** **12 16 42.7 +0.5**
comp=Z,87nm,1.3s
AGG Agios Georgios 24.34 295 *e*P **P** **12 16 42.7 +0.5**
AGG pmax pmax
comp=Z,87nm,1.3s
LIT Litokhoron 24.39 298 *e*P **P** **12 16 43.1 +0.4**
comp=Z,24nm,0.9s
LIT Litokhoron 24.39 298 *e*P **P** **12 16 43.1 +0.4**
LIT pmax pmax
comp=Z,24nm,0.9s
SATY Saty 24.40 55*c i*P **P** **12 16 43.4 +0.6**
SATY pmax pmax
comp=Z,568nm,1.7s
SATY MLR MLR
comp=Z,439nm,14.0s
SATY Saty 24.40 55⇑ *i*P **P** **12 16 43.4 +0.6**
comp=Z,568nm,1.7s
SATY ⇓ *i*S **S** **12 21 09.3 +6.8**
comp=Z,238nm,13.9s
SATY *e*LRM MLR 12 27 46.9
comp=Z,439nm,13.9s
PRAR RASCA 24.42 317⇑ *i*P **P** **12 16 43.4 +0.6**
ZHN Zhinishke 24.45 55*c i*P **P** **12 16 44.1 +0.8**
ZHN pmax pmax
comp=Z,405nm,1.2s
ZHN Zhinishke 24.45 55⇑ *i*P **P** **12 16 44.1 +0.8**
comp=Z,405nm,1.2s
ITM Ithomi 24.46 291 *e*P **P** **12 16 43.6 +0.3**
comp=Z,57nm,0.8s
VTS Vitosha 24.46 304 *e*P **P** **12 16 43.4 0.0**
VTS Vitosha 24.46 304⇑ *i*P **P** **12 16 43.8 +0.4**
VTS Vitosha 24.46 304 *e*P **P** **12 16 43.4 0.0**
ARR Arges 24.48 311⇓ *i*P **P** **12 16 44.2 +0.7**
AKASG Malin Array Be 24.78 326 P **P** **12 16 45.5 -0.5**
comp=Z,7.4nm,0.5s,baz=132,slow=9.2,SNR=46
AKASG S **S** **12 21 07.7 -0.6**
comp=Z,1.0nm,0.4s,baz=132,slow=16,SNR=5.2
AKASG LR LR 12 27 25.8
comp=Z,629nm,21.3s,baz=110,slow=39
AKBB Malin Array Si 24.78 326 *e*P **P** **12 16 46.3 +0.3**
comp=Z,40nm,0.8s
AKBB Malin Array Si 24.78 326 *e*P **P** **12 16 46.3 +0.3**
AKBB pmax pmax
comp=Z,40nm,0.8s
KIEV Kiev 24.79 326 *e*P **P** **12 16 46.2 +0.2**
comp=Z,40nm,0.8s
KIEV Kiev 24.79 326 *i* P **P** **12 16 46.2 +0.2**
SNR=23
KIEV Kiev 24.79 326⇓ *i*P **P** **12 16 46.1 +0.1**
KIEV pmax pmax
comp=Z,68nm,1.1s
KIEV MLR MLR
comp=Z,683nm,20.0s
AK11 Malin Array Si 24.80 326 *e*P **P** **12 16 45.5 -0.6**
UZB Uzynbulak 24.85 55*c i*P **P** **12 16 47.4 +0.5**
UZB pmax pmax
comp=Z,576nm,1.2s
UZB MLR MLR
comp=Z,283nm,10.0s
UZB Uzynbulak 24.85 55⇑ *i*P **P** **12 16 47.5 +0.5**
comp=Z,576nm,1.2s
UZB ⇓ *i*S **S** **12 21 19.2 +9.2**
comp=Z,202nm,10.4s
UZB *e*LRM MLR 12 27 17.5
comp=Z,283nm,10.4s
MDB Medias 24.97 313⇑ *i*P **P** **12 16 49.6 +1.8**
TDK Taldyqorghan 25.07 51*c i*P **P** **12 16 49.0 +0.3**
TDK pmax pmax
comp=Z,767nm,1.4s
TDK MLR MLR
comp=Z,4μm,14.0s
TDK Taldyqorghan 25.07 51⇑ *i*P **P** **12 16 49.0 +0.3**
comp=Z,767nm,1.4s
TDK *e*LRM MLR 12 27 44.6
comp=Z,4μm,13.8s
LOT Lotru 25.07 311⇑ *i*P **P** **12 16 49.3 +0.5**
BURAR Bucovina Array 25.14 316⇑ *i*P **P** **12 16 50.2 +0.8**
SRE Strehaia 25.14 309⇑ *i*P **P** **12 16 50.6 +1.2**
BUR04 Bucovina Ar. S 25.14 316 *e*P **P** **12 16 50.0 +0.6**
ARU Arti 25.16 10 *e*P **P** **12 16 49.5 +0.2**
comp=Z,17nm,0.8s
ARU Arti 25.16 10⇑ *e*P **P** **12 16 51.1 +1.8**
ARU pmax pmax
comp=Z,10.0nm,1.6s
SHLS Shalkode 25.16 55*c i*P **P** **12 16 52.9 +3.2**
SHLS pmax pmax
comp=Z,425nm,1.3s
SHLS MLR MLR
comp=Z,365nm,13.0s
SHLS Shalkode 25.16 55⇑ *i*P **P** **12 16 53.0 +3.2**
comp=Z,425nm,1.3s
SHLS *e*LRM MLR 12 27 46.1
comp=Z,365nm,12.6s
BUR08 Bucovina Ar. S 25.16 316 *e*P **P** **12 16 50.6 +0.9**
PUNG Punghina 25.19 308⇓ *i*P **P** **12 16 51.3 +1.5**
PDGK Podgornoye 25.23 55 P **P** **12 16 51.4 +1.0**
PDGK pmax pmax
comp=Z,31nm,1.4s
OBN Obninsk 25.40 341 P **P** **12 16 50.6 -0.9**
comp=Z,9.2nm,0.5s,baz=139,slow=8.7,SNR=9.7
OBN Obninsk 25.40 341 *e*P **P** **12 16 51.5 0.0**
comp=Z,119nm,1.3s
OBN Obninsk 25.40 341⇓ *e*P **P** **12 16 53.2 +1.7**
OBN *i* 12 17 03.1
OBN *i* 12 20 24.7
OBN *e*S **S** **12 21 21.4 +3.3**
OBN pmax pmax
comp=Z,245nm,2.5s
OBN MLR MLR
comp=Z,537nm,17.0s
BRVK Borovoye 25.40 28 *e*P **P** **12 16 52.0 +0.4**
comp=Z,21nm,0.9s
BRVK Borovoye 25.40 28⇓ *e*P **P** **12 16 51.8 +0.2**
BRVK pmax pmax
comp=Z,31nm,1.1s
BRVK Borovoye 25.40 28 P **P** **12 16 52.2 +0.6**
SNR=11
BRVK P **P** **12 16 52.2 +0.6**
SNR=11
ARCR ARCALIA 25.41 314⇑ *i*P **P** **12 16 53.5 +1.8**
BVA0 Borovoye Array 25.42 28 P **P** **12 16 51.3 -0.5**
BVA0 pmax pmax
comp=Z,27nm,1.0s
BVAR Borovoye Array 25.42 28 P **P** **12 16 51.5 -0.3**
comp=Z,14nm,0.7s,baz=232,slow=7.3,SNR=42
BVAR PcP **PcP** **12 20 22.4 -1.3**
comp=Z,1.9nm,0.5s,baz=203,slow=2.8,SNR=5.9
BVAR ScP **ScP** **12 24 00.5 -2.7**
comp=Z,1.5nm,0.8s,baz=270,slow=1.4,SNR=5.2
BVAR LR LR 12 28 43.9
comp=Z,874nm,18.8s,baz=219,slow=41
MOS Moscow 25.67 342 *e*P **P** **12 16 55.7 +1.7**
MOS pmax pmax
comp=Z,69nm,1.1s
GZR Gura Zlata 25.69 310⇑ *i*P **P** **12 16 54.8 +0.4**
CJR Cluj-Napoca 25.70 313⇑ *i*P **P** **12 16 55.8 +1.3**
HERR Herculane 25.75 309⇑ *i*P **P** **12 16 56.8 +2.0**
SVE Sverdlovsk 25.88 12⇓ *e*P **P** **12 16 57.8 +1.9**
SVE *e*S **S** **12 21 29.5 +3.9**
SVE pmax pmax
comp=Z,27nm,1.4s
SVE MLR MLR
comp=Z,749nm,12.0s
MDVR Moldovita 26.18 308⇓ *i*P **P** **12 16 59.3 +0.5**
BMR Baia Mare 26.19 315⇑ *i*P **P** **12 17 00.0 +1.2**
DRGR 26.29 313⇑ *i*P **P** **12 17 00.7 +0.9**
BZS Buzias 26.53 310⇑ *i*P **P** **12 17 02.2 +0.2**
SIRR Siria 26.75 311⇑ *i*P **P** **12 17 05.7 +1.8**
LVV L'vov 26.94 320 *e*P **P** **12 17 07.5 +1.9**
TRPA Tarpa 26.97 315⇑ *e*P **P** **12 17 08.0 +2.2**
DIVS Divibare 27.14 306 *e*P **P** **12 17 08.1 +0.5**
comp=Z,21nm,1.4s
KURBB Kurchatov Arra 27.72 39 P **P** **12 17 12.9 +0.4**
comp=Z,7.3nm,1.0s,baz=242,slow=9.2,SNR=18
KURK Kurchatov 27.82 39 *e*P **P** **12 17 14.9 +1.5**
KURK Kurchatov 27.82 39⇑ *e*P **P** **12 17 14.9 +1.5**
KURK pmax pmax
comp=Z,35nm,1.7s
KURK Kurchatov 27.82 39 P **P** **12 17 17.4 +4.0**
SNR=10.0
KURK P **P** **12 17 17.4 +4.0**
SNR=10.0
PYUN Piuthan 27.94 89 *e*P **P** **12 17 16.0 +0.9**
comp=Z,106nm,1.2s
MAKZ Makanchi 28.05 49 *e*P **P** **12 17 16.6 +1.0**
comp=Z,12nm,1.2s
MAKZ Makanchi 28.05 49 *e*P **P** **12 17 16.6 +1.0**
MAKZ pmax pmax
comp=Z,12nm,1.2s
MK01 Makanchi Array 28.25 49 *e*P **P** **12 17 18.3 +1.0**
MK31 Makanchi Array 28.25 49 *e*P **P** **12 17 18.5 +1.2**
MK31 Makanchi Array 28.25 49 *i* P **P** **12 17 18.1 +0.7**
MK31 pmax pmax
comp=Z,10.0nm,0.7s
MK32 Makanchi Array 28.25 49 *e*P **P** **12 17 18.4 +1.0**
MK32 *e*PcP **PcP** **12 20 29.7 -0.8**
MKAR Makanchi Array 28.25 49 P **P** **12 17 18.4 +1.0**
comp=Z,5.8nm,0.7s,baz=244,slow=7.5,SNR=42
MKAR PcP **PcP** **12 20 29.7 -0.8**
comp=Z,0.6nm,0.5s,baz=248,slow=1.9,SNR=6.7
MKAR LR LR 12 29 26.7
comp=Z,661nm,20.4s,baz=249,slow=38
MKAR Makanchi Array 28.25 49 *e*P **P** **12 17 18.5 +1.1**
comp=Z,56nm,0.6s
PSZ Piszkesteto 28.50 313 *e*P **P** **12 17 18.3 -1.3**
comp=Z,7.9nm,0.8s
PSZ Piszkesteto 28.50 313 *e*P **P** **12 17 18.3 -1.3**
PSZ pmax pmax
comp=Z,8.0nm,0.8s
DANN Dangsing 28.53 88 *e*P **P** **12 17 21.7 +1.3**
comp=Z,90nm,0.8s
KOLN Koldanda 28.55 90 *e*P **P** **12 17 21.9 +1.4**
comp=Z,253nm,2.0s
SEM Semipalatinsk 28.55 41*c i*P **P** **12 17 20.3 0.0**
SEM pmax pmax
comp=Z,167nm,1.1s
SEM Semipalatinsk 28.55 41⇑ *i*P **P** **12 17 20.3 0.0**

comp=Z,167nm,1.1s
TIP Timpagrande 28.66 294 eP P 12 17 20.3 -0.9
comp=Z,28nm,1.1s
MORH Mrgy, Hungar 28.69 309 eP P 12 17 22.1 +0.8
HYB Hyderabad 28.80 113 i P P 12 17 23.0 +0.5
NIE Niedzica 28.87 316 eP P 12 17 25.1 +2.3
NIE Niedzica 28.87 316 eP P 12 17 25.2 +2.3
IDID Didziasalis 29.02 331 eP P 12 17 25.3 +1.3
IDID IAmb IAmb 12 17 27.4
comp=Z,12nm,1.0s
LANS Liptovska Anna 29.25 315 eP P 12 17 26.9 +0.6
LANS Liptovska Anna 29.25 315 eP P 12 17 26.9 +0.6
BLY Banja Luka 29.26 306 eP P 12 17 27.0 +0.7
comp=Z,36nm,1.4s
IIGN Ignalina 29.26 331 eP P 12 17 27.6 +1.4
IIGN IAmb IAmb 12 17 28.8
comp=Z,13nm,0.7s
VYHS Vyhne 29.37 314 eP P 12 17 28.2 +0.9
VYHS pmax pmax
comp=Z,8.0nm,1.2s
VYHS Vyhne 29.37 314 eP P 12 17 28.1 +0.8
ISAL Salakas 29.45 331 eP P 12 17 29.3 +1.4
ISAL IAmb IAmb 12 17 30.5
comp=Z,12nm,0.8s
OJC Ojcow 29.52 318 eP P 12 17 28.7 +0.1
OJC Ojcow 29.52 318 eP P 12 17 28.4 -0.2
comp=Z,74nm,1.3s
OJC Ojcow 29.52 318 eP P 12 17 28.4 -0.2
OJC pmax pmax
comp=Z,75nm,1.3s
IZAR Zarasai 29.53 331 eP P 12 17 29.9 +1.4
IZAR IAmb IAmb 12 17 31.2
comp=Z,17nm,0.8s
SUW Suwalki 29.75 326 eP P 12 17 30.4 -0.1
SUW Suwalki 29.75 326 eP P 12 17 30.7 +0.1
comp=Z,138nm,1.1s
SUW Suwalki 29.75 326 eP P 12 17 30.4 -0.1
DMN Daman 29.88 89 eP P 12 17 33.1 +0.8
comp=Z,48nm,0.8s
KKN Kakani 29.98 89 eP P 12 17 33.9 +0.8
comp=Z,71nm,0.8s
KLMR Klimovskoe 29.99 349 eP P 12 17 31.2 -1.3
KLMR pmax pmax
comp=Z,27nm,1.1s
KLMR Klimovskoe 29.99 349 eP P 12 17 31.3 -1.3
KLMR AMP 12 17 34.6
comp=Z,27nm,1.1s
PRGR Permogore 30.01 355 eP P 12 17 31.9 -0.9
PRGR pmax pmax
comp=Z,14nm,0.6s
PKI Pulchoki 30.15 89 eP P 12 17 35.7 +0.9
comp=Z,75nm,0.9s
JAVC Velka Javorina 30.23 314 eP P 12 17 37.2 +2.3
MODS Modra-Piesok 30.29 313 eP P 12 17 37.0 +1.5
MODS pmax pmax
comp=Z,33nm,1.7s
MODS Modra-Piesok 30.29 313 eP P 12 17 37.0 +1.5
OKC Ostrava-Krasne 30.32 316 eP P 12 17 35.9 +0.2
OKC Ostrava-Krasne 30.32 316 eP P 12 17 35.9 +0.2
PABE Paberze 30.32 329 eP P 12 17 36.1 +0.5
PABE IAmb IAmb 12 17 39.2
comp=Z,34nm,0.5s
GUN Gumba 30.45 88 eP P 12 17 38.6 +1.1
comp=Z,133nm,1.1s
SOP Sopron 30.51 311 eP P 12 17 37.1 -0.3
MORC Moravsky Berou 30.65 316 eP P 12 17 38.6 -0.1
comp=Z,29nm,1.3s
MORC Moravsky Berou 30.65 316⇓ iP P 12 17 38.8 +0.1
MORC Moravsky Berou 30.65 316 eP P 12 17 38.6 -0.1
MORC pmax pmax
comp=Z,29nm,1.3s
MORC Moravsky Berou 30.65 316 eP P 12 17 37.7 -1.0
JIRN Jiri 30.79 89 eP P 12 17 41.4 +0.9
comp=Z,56nm,0.6s
CONA Conrad Observa 31.04 311 i P P 12 17 42.3 +0.2
comp=Z,6.1nm,0.8s
ARSA Arzberg 31.05 310 i P P 12 17 42.5 +0.3
comp=Z,6.2nm,0.8s
VRAC Vranov 31.05 314 P P 12 17 41.7 -0.4
comp=Z,7.9nm,0.7s,baz=95,slow=9.2,SNR=6.8
VRAC Vranov 31.05 314⇑ iP P 12 17 42.7 +0.6
VRAC Vranov 31.05 314 eP P 12 17 42.8 +0.6
KRUC Moravsky 31.08 314 eP P 12 17 43.1 +0.7
WMQ Urumqi 31.14 57 P P 12 17 44.5 +1.4
WMQ pP sP 12 17 49.5 +1.3
WMQ sP pP 12 17 52.5 +5.8
WMQ S **S** **12 22 50.5 +1.6**
WMQ sS sS 12 23 03.3 +8.3
WMQ pmax pmax
comp=Z,41nm,1.5s
WMQ pmax pmax
comp=Z,590nm,7.3s
WMQ LR LR
comp=Z,2μm,18.1s
WMQ LR LR
comp=Z,1μm,25.5s
WMQ LR LR
comp=Z,1μm,23.3s
WMQ Urumqi 31.14 57 eP P 12 17 43.4 +0.3
comp=Z,29nm,1.3s
WMQ Urumqi 31.14 57 eP P 12 17 43.4 +0.3
WMQ pmax pmax
comp=Z,29nm,1.3s
VSU Vasula 31.29 335⇑ eP P 12 17 45.4 +1.3
VSU pmax pmax
comp=Z,73nm,1.0s
VSU Vasula 31.29 335 eP P 12 17 43.2 -0.8
VSU IAmb IAmb 12 17 46.5
comp=Z,25nm,0.6s
RAMN Ramite 31.34 90 eP P 12 17 45.4 +0.2
comp=Z,47nm,0.7s
KLNR Kaliningrad 31.51 325⇑ iP P 12 17 47.0 +0.9
KLNR pmax pmax
comp=Z,147nm,1.5s
DPC Dobruska-Polom 31.60 316 eP P 12 17 47.2 +0.2
DPC Dobruska-Polom 31.60 316 eP P 12 17 47.2 +0.2
KSP Ksiaz 31.81 317 eP P 12 17 49.2 +0.4
KSP Ksiaz 31.81 317 eP P 12 17 49.2 +0.4
MOA Molln 32.04 311 i P P 12 17 51.0 +0.1
comp=Z,15nm,1.2s
NVS Novosibirsk 32.39 35 eP P 12 17 54.9 +1.1
NVS e 12 20 40.6
NVS pmax pmax
comp=N,13nm,1.8s
NVS pmax pmax
comp=E,7.0nm,1.8s
NVS pmax pmax
comp=Z,22nm,1.8s
KBA Koelnbreinsper 32.43 309 i P P 12 17 54.7 +0.2
comp=Z,12nm,0.6s
GEA0 GERESS Array S 32.69 312 eP P 12 17 56.2 -0.4
GEC2 GERESS Array S 32.69 312 eP P 12 17 57.7 +1.1
comp=Z,13nm,1.3s
GEC2 GERESS Array S 32.69 312 eP P 12 17 58.0 +1.3
comp=Z,7.1nm,1.1s,baz=108,slow=8.8
GERES GERESS Array B 32.69 312 P P 12 17 55.8 -0.9
comp=Z,2.3nm,0.5s,baz=110,slow=9.3,SNR=15
GERES PcP **PcP** 12 20 41.4 -0.8
comp=Z,1.1nm,0.6s,baz=103,slow=4.2,SNR=4.6
GERES ScP **ScP** 12 24 24.2 -2.2
comp=Z,0.7nm,0.8s,baz=132,slow=2.9,SNR=3.6
GERES LR LR 12 34 26.8
comp=Z,254nm,18.3s,baz=113,slow=42
PVCC Panska Ves 32.71 316 eP P 12 17 58.8 +2.1
PVCC Panska Ves 32.71 316 eP P 12 17 58.8 +2.1
ZAA0 Zalesovo Array 32.73 38 eP P 12 17 57.1 +0.2
comp=Z,26nm,1.3s
ZALV Zalesovo Beam 32.73 38 P P 12 17 57.0 +0.1
comp=Z,5.6nm,0.5s,baz=249,slow=8.5,SNR=30
ZALV PcP **PcP** 12 20 41.1 -1.0
comp=Z,0.7nm,0.4s,baz=247,slow=3.0,SNR=2.8
ZALV LR LR 12 33 08.5
comp=Z,682nm,21.7s,baz=227,slow=40
ZALV Zalesovo Beam 32.73 38 eP P 12 17 57.3 +0.4
ZAA1 Zalesovo Array 32.74 38 eP P 12 17 57.0 +0.1
ZAA1 ePcP **PcP** 12 20 41.1 -1.0
KHC Kasperske Hory 32.85 313 eP P 12 17 58.0 0.0
comp=Z,15nm,1.5s
KHC Kasperske Hory 32.85 313 eP P 12 17 58.0 0.0
KHC epP **sP** 12 18 01.8 -1.4
KHC ex x 12 18 08.5
KHC Kasperske Hory 32.85 313 eP P 12 17 58.0 0.0
KHC e 12 18 08.5
ABTA Abfaltersbach 32.91 308 i P P 12 17 57.8 -0.9
comp=Z,8.4nm,1.0s
RJOB Jochberg 32.96 310 eP P 12 18 00.2 +1.2
comp=Z,6.3nm,0.7s,baz=108,slow=8.8
BRG Berggiesshubel 33.20 316 eP P 12 18 01.9 +0.9
comp=Z,11nm,1.1s
BRG e 12 18 20.8
comp=Z,9.1nm,1.2s
BRG Berggiesshubel 33.20 316 eP P 12 18 01.1 +0.1
comp=Z,4.9nm,0.8s,baz=108,slow=8.8
BRG Berggiesshubel 33.20 316 eP P 12 18 01.9 +0.9
BRG pmax pmax
comp=Z,11nm,1.1s
BRG pmax pmax
comp=Z,9.0nm,1.2s
WET Wettzell 33.30 312 eP P 12 18 01.2 -0.7
comp=Z,6.4nm,0.9s,baz=108,slow=8.8
FBE Freiberg 33.57 316 eP P 12 18 03.6 -0.6
comp=Z,4.6nm,0.8s,baz=108,slow=8.8
WATA Walderaim 33.67 309 i P P 12 18 04.4 -0.9
comp=Z,14nm,0.6s
FIA0 FINESS Array S 33.76 339 eP P 12 18 05.0 -0.7
FIA0 FINESS Array S 33.76 339 eP P 12 18 05.0 -0.7
FIA1 FINESS Array S 33.76 339 eP P 12 18 06.1 +0.4
FINES FINESS Array B 33.76 339 P P 12 18 05.0 -0.7
comp=Z,3.9nm,0.6s,baz=138,slow=9.2,SNR=20
FINES LR LR 12 33 15.1
comp=Z,425nm,20.2s,baz=146,slow=39
SQTA Sankt Quirin 33.88 309 i P P 12 18 06.2 -0.9
comp=Z,15nm,0.5s
RUE Ruedersdorf 33.89 318 eP P 12 18 07.3 +0.3
comp=Z,21nm,0.7s,baz=108,slow=8.8
RUE Ruedersdorf 33.89 318 eP P 12 18 05.6 -1.4
RUE IAmb IAmb 12 18 09.0
comp=Z,29nm,0.8s
ROTZ Rotzenmuhle 33.90 313 eP P 12 18 06.0 -1.1
comp=Z,5.6nm,0.7s,baz=108,slow=8.8
CLL Collm 33.91 316 eP P 12 18 07.3 +0.1
comp=Z,13nm,0.9s
CLL Collm 33.91 316 eP P 12 18 07.3 +0.1
comp=Z,9.8nm,0.9s,baz=108,slow=8.8
CLL Collm 33.91 316⇓ iP P 12 18 07.1 -0.1
comp=Z,27nm,1.4s
CLL LmH 12 32 00.0
comp=N,400nm,20.8s
CLL LmH 12 32 00.0
comp=E,500nm,19.9s
CLL LmV 12 33 00.0
comp=Z,400nm,18.1s
CLL Collm 33.91 316⇓ iP P 12 18 07.1 -0.1
CLL pmax pmax
comp=Z,27nm,1.4s
CLL MLR MLR
comp=Z,400nm,18.1s
MOTA Moosalm 33.98 309 i P P 12 18 07.2 -0.9
comp=Z,16nm,0.9s
FETA Feichten 34.16 308 i P P 12 18 09.1 -0.5
comp=Z,23nm,1.0s
RETA Reutte 34.24 309 i P P 12 18 09.0 -1.2
comp=Z,8.4nm,1.0s
FUORN Ofenpass-Fuorn 34.40 307 eP P 12 18 12.3 +0.5
comp=Z,26nm,1.4s
BSD Bornholm Skovb 34.41 323⇑ iP P 12 18 09.9 -1.5
comp=Z,66nm,0.7s
BSD Bornholm Skovb 34.41 323⇑ iP P 12 18 09.9 -1.5
BSD pmax pmax
comp=Z,66nm,0.7s
LSA Lhasa 34.47 83 eP P 12 18 11.0 -1.8
comp=Z,19nm,1.1s
LSA Lhasa 34.47 83 eP P 12 18 11.0 -1.8
LSA pmax pmax
comp=Z,19nm,1.1s
GRF Grafenberg Arr 34.49 313 eP P 12 18 12.2 0.0
comp=Z,6.3nm,0.7s,baz=108,slow=8.8
GRF eL L 12 35 46.3
comp=Z,185nm,20.4s
MOX Moxa 34.52 315 eP P 12 18 13.4 +0.9
comp=Z,2.9nm,0.9s,baz=108,slow=8.8
MOX eL L 12 32 48.8
comp=Z,184nm,21.7s
NEUB Neuenburg 34.60 316 eP P 12 18 14.6 +1.4
comp=Z,13nm,0.8s,baz=108,slow=8.8
KEST Kesra 34.62 288 P P 12 18 13.8 +0.2
comp=Z,10nm,0.7s,baz=90,slow=1.0,SNR=5.8
DAVOX Davos/Dischmat 34.69 307 P P 12 18 13.1 -1.1
comp=Z,5.9nm,0.4s,baz=97,slow=8.3,SNR=12
DAVOX S **S** 12 23 38.1 -6.1
comp=Z,2.6nm,0.8s,baz=301,slow=21,SNR=4.0
UBR Ueberruh 34.71 309 eP P 12 18 13.4 -0.8
comp=Z,15nm,0.9s,baz=108,slow=8.8
DAVA Damuels 34.78 308 i P P 12 18 14.0 -0.9
comp=Z,16nm,0.5s
RGN Rugen 34.98 322 eP P 12 18 15.8 -0.6
comp=Z,95nm,0.9s,baz=108,slow=8.8
RGN Rugen 34.98 322 eP P 12 18 15.6 -0.8
RGN IAmb IAmb 12 18 19.6
comp=Z,215nm,1.2s
ASSE Asse, Remlinge 35.55 317 eP P 12 18 21.5 +0.3
comp=Z,5.4nm,0.8s,baz=108,slow=8.8
CLZ Clausthal 35.64 316 eP P 12 18 22.5 +0.4
comp=Z,20nm,0.8s,baz=108,slow=8.8
GTTG Gvttingen 35.79 316 eP P 12 18 26.0 +2.7
comp=Z,16nm,1.0s,baz=108,slow=8.8
COP Copenhagen 35.93 323 i P P 12 18 24.9 +0.4
comp=Z,91nm,1.1s
COP Copenhagen 35.93 323 i P P 12 18 24.9 +0.4
COP pmax pmax
comp=Z,91nm,1.1s
NRDL Niedersach Rie 36.00 317 eP P 12 18 26.0 +1.0
comp=Z,24nm,1.1s,baz=108,slow=8.8
SHL Shillong 36.28 89 eP P 12 18 26.7 -1.4
comp=Z,82nm,1.5s
SHL Shillong 36.28 89 eP P 12 18 26.7 -1.4
SHL pmax pmax
comp=Z,82nm,1.5s
TNS Taunus Mts 36.36 313 eP P 12 18 28.6 +0.3
comp=Z,12nm,1.0s,baz=108,slow=8.8
BSEG Bad Segeberg 36.37 320 eP P 12 18 28.6 +0.4
comp=Z,10nm,1.0s,baz=108,slow=8.8
SENIN Lac Senin/Sane 36.38 306 eP P 12 18 28.0 -0.7
comp=Z,7.5nm,0.6s
BNI Bardonecchia 36.66 304 eP P 12 18 30.5 -0.5
comp=Z,30nm,0.7s
ECH Echery 36.76 309 eP P 12 18 29.0 -2.8
comp=Z,10.0nm,1.1s
ECH Echery 36.76 309 eP P 12 18 29.0 -2.8
ECH pmax pmax
comp=Z,10.0nm,1.1s
PALK Pallekele 36.95 125 P P 12 18 34.0 +0.2
comp=Z,7.4nm,0.5s,baz=295,slow=8.2,SNR=5.3
PALK Pallekele 36.95 125 eP P 12 18 31.5 -2.2
comp=Z,22nm,1.0s
PALK Pallekele 36.95 125 eP P 12 18 31.5 -2.2
PALK pmax pmax
comp=Z,22nm,1.0s
APA Apatity 37.23 349⇑ iP P 12 18 35.4 -0.1
APA pmax pmax
comp=Z,8.0nm,0.8s
APA MLR MLR
comp=Z,1μm,11.0s
LVZ Lovozero 37.34 350 eP P 12 18 36.9 +0.5
comp=Z,42nm,1.2s
LVZ Lovozero 37.34 350⇓ eP P 12 18 37.6 +1.1
LVZ pmax pmax
comp=Z,24nm,1.9s
HFS Hagfors 37.49 330 P P 12 18 37.7 0.0
comp=Z,17nm,0.5s,baz=128,slow=9.6,SNR=74
MBAR Mbarara 37.52 215 P P 12 18 38.9 +0.3
comp=Z,3.8nm,0.4s,baz=50,slow=12,SNR=7.2
WLF Walferdange 37.68 311 eP P 12 18 39.3 -0.2
comp=Z,58nm,0.8s
WLF Walferdange 37.68 311 eP P 12 18 40.3 +0.8
comp=Z,31nm,0.8s,baz=108,slow=8.8
WLF Walferdange 37.68 311 eP P 12 18 39.3 -0.2
WLF pmax pmax
comp=Z,58nm,0.8s
WLF Walferdange 37.68 311 ⇑pP pP 12 18 42.1 -1.2
MUD Monsted U'grnd 37.91 323 i P P 12 18 42.1 +0.8
comp=Z,59nm,0.9s
MUD Monsted U'grnd 37.91 323 i P P 12 18 42.1 +0.8
MUD pmax pmax
comp=Z,59nm,0.9s
SSB Saint Sauveur 38.18 304 eP P 12 18 43.3 -0.6
comp=Z,9.0nm,0.8s
SSB Saint Sauveur 38.18 304 eP P 12 18 43.3 -0.6
SSB pmax pmax
comp=Z,9.0nm,0.8s
OSL Oslo 38.68 329 eP P 12 18 48.2 +0.5
NC602 NORSAR Array S 38.71 330 eP P 12 18 47.8 -0.3
NC602 NORSAR Array S 38.71 330 eP P 12 18 47.8 -0.3
DOU Dourbes 38.75 312 ⇑P P 12 18 48.3 -0.2
NC405 NORSAR Array S 38.83 331 eP P 12 18 48.6 -0.4
NB201 NORSAR Array S 38.98 330 eP P 12 18 49.9 -0.5
NB2 NORSAR Subarra 39.01 330 P P 12 18 49.7 -0.9
comp=Z,5.7nm,0.6s,baz=122,slow=8.6
NB2 NORSAR Subarra 39.01 330 P P 12 18 49.7 -0.9
baz=122,slow=8.6
NB200 NORSAR Array S 39.01 330 eP P 12 18 50.0 -0.6
NB200 ePP **PP** 12 20 18.7 -1.1
NOA NORSAR Array B 39.01 330 P P 12 18 50.0 -0.6
comp=Z,9.1nm,0.7s,baz=121,slow=8.3,SNR=34
NOA PP **PP** 12 20 18.7 -1.1
comp=Z,2.8nm,0.8s,baz=126,slow=10,SNR=3.4
NOA LR LR 12 36 12.1
comp=Z,380nm,21.0s,baz=125,slow=38
NC303 NORSAR Array S 39.03 331 eP P 12 18 50.2 -0.5
NAO01 NORSAR Array S 39.05 330 eP P 12 18 50.7 -0.2
KONO Kongsberg 39.05 328 eP P 12 18 51.0 +0.2
comp=Z,56nm,1.3s
KONO Kongsberg 39.05 328⇓ eP P 12 18 51.2 +0.3
KONO pmax pmax
comp=Z,43nm,1.1s
KONO Kongsberg 39.05 328 eP P 12 18 51.2 +0.3
NBO00 NORSAR Array S 39.19 330 eP P 12 18 51.6 -0.4
NC204 NORSAR Array S 39.31 331 eP P 12 18 52.3 -0.9
GTA Gaotai 40.02 65 eP P 12 19 01.3 +1.8
GTA pP sP 12 19 05.0 +0.3
GTA sP pP 12 19 08.5 +5.3
GTA PcP **PcP** **12 21 06.8 +2.4**
GTA ScS ScS 12 29 06.8 -0.2
GTA pmax pmax
comp=Z,9.0nm,1.0s
GTA pmax pmax
comp=Z,170nm,7.6s
GTA LR LR
comp=Z,830nm,20.6s
GTA LR LR
comp=Z,490nm,17.5s
GTA LR LR
comp=Z,750nm,19.2s
KEV Kevo 40.28 347 eP P 12 19 01.6 +0.6
comp=Z,47nm,1.3s
KEV Kevo 40.28 347 eP P 12 19 01.6 +0.6
KEV pmax pmax
comp=Z,47nm,1.3s
ARA0 ARCESS Array S 40.39 347 eP P 12 19 01.6 -0.4
ARA0 ePP **PnPn** **12 20 38.4 -0.1**
ARCES ARCESS Array B 40.39 347 P P 12 19 01.6 -0.4
comp=Z,7.1nm,0.9s,baz=151,slow=7.8,SNR=14
ARCES PP **PnPn** **12 20 38.4 -0.1**
comp=Z,8.0nm,1.1s,baz=127,slow=8.1,SNR=4.7
ARCES LR LR 12 37 55.8
comp=Z,314nm,20.6s,baz=156,slow=39
DOMB Dombas 40.40 331 eP P 12 19 02.9 +0.8
BLS5 Blasjo 40.40 326 eP P 12 19 03.3 +1.1
ODD1 Odda 40.52 327 eP P 12 19 04.2 +1.0
BER Bergen 41.30 327 eP P 12 19 10.9 +1.4
MOY Mondy 41.31 46 eP P 12 19 11.9 +2.0
MOY pmax pmax
comp=Z,61nm,2.2s
AKN Aaknes 41.32 330 eP P 12 19 11.4 +1.7
ASK Askoy 41.40 328 eP P 12 19 11.2 +0.8
FOO Floro 41.91 329 eP P 12 19 15.5 +1.0
ZAK Zakamensk 42.58 48 eP P 12 19 21.0 +0.7
ZAK e 12 21 07.2
ZAK pmax pmax
comp=Z,11nm,1.8s
ZAK pmax pmax
comp=Z,5.0nm,1.6s
IRK Irkutsk 43.40 46 eP P 12 19 28.9 +2.1
IRK pmax pmax
comp=Z,57nm,1.9s
LZH Lanzhou 43.63 69 eP P 12 19 27.5 -1.5
LZH pP sP 12 19 32.0 -2.2
LZH sP pP 12 19 35.3 +2.5
LZH PP **PcP** **12 21 13.3 -3.1**
LZH pmax pmax
comp=Z,37nm,1.0s
LZH pmax pmax
comp=Z,170nm,5.9s
LZH LR LR
comp=Z,1μm,15.0s
LZH LR LR
comp=Z,1μm,13.9s
LZH LR LR
comp=Z,860nm,13.9s
EKA Eskdalemuir Ar 44.29 318 P P 12 19 32.9 -1.0
comp=Z,5.5nm,0.6s,baz=106,slow=7.9,SNR=15
SONA0 Songino Array 44.50 52 eP P 12 19 36.5 +0.6
SONA0 ePcP **PP** **12 21 18.9 -0.6**
SONM Songino Array 44.50 52 P P 12 19 36.5 +0.6
comp=Z,5.1nm,1.0s,baz=266,slow=5.2,SNR=30
SONM PcP **PP** **12 21 18.9 -0.6**
comp=Z,1.1nm,0.7s,baz=264,slow=3.8,SNR=3.9
SONM LR LR 12 39 23.6
comp=Z,363nm,18.5s,baz=236,slow=38
ES19 SONSECA Array 44.60 296 eP P 12 19 36.8 +0.1
ESDC Sonseca Array 44.66 296 P P 12 19 36.8 -0.3
comp=Z,3.7nm,0.8s,baz=69,slow=7.9,SNR=13
ESDC PcP **PP** **12 21 19.7 -1.5**
comp=Z,0.2nm,0.2s,baz=53,slow=3.1,SNR=3.7
ESLA Sonseca Array 44.66 296 eP P 12 19 37.1 0.0
comp=Z,24nm,1.4s
CD2 Chengdu 44.72 77 eP P 12 19 37.0 -0.7
CD2 S **S** **12 26 14.0 -0.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,4.8s
CD2 LR LR
comp=Z,450nm,10.9s
CD2 LR LR
comp=Z,980nm,11.5s
CD2 LR LR
comp=Z,650nm,9.5s
CHTO Chiang Mai 44.94 95 eP P 12 19 39.7 +0.2
comp=Z,34nm,1.4s
CHTO Chiang Mai 44.94 95 eP P 12 19 39.7 +0.2
CHTO pmax pmax
comp=Z,34nm,1.4s
CHTO Chiang Mai 44.94 95 P P 12 19 40.3 +0.8
SNR=13
CHTO P P 12 19 40.3 +0.8
SNR=13
CHTO Chiang Mai 44.94 95 P P 12 19 40.5 +1.0
comp=Z,76nm,1.4s
CMMT Chiang Mai 44.94 95 P P 12 19 40.5 +0.9
comp=Z,17nm,1.4s
ULN Ulaanbaatar 44.95 52 eP P 12 19 40.1 +0.7
comp=Z,33nm,1.3s
ULN Ulaanbaatar 44.95 52 ceP P 12 19 41.5 +2.1
ULN pmax pmax
comp=Z,38nm,1.7s
ULN Ulaanbaatar 44.95 52 P P 12 19 41.1 +1.7
SNR=10
PAB San Pablo 44.97 296 eP P 12 19 39.9 +0.3
comp=Z,24nm,1.2s
PAB San Pablo 44.97 296 eP P 12 19 39.9 +0.3
PAB pmax pmax
comp=Z,25nm,1.2s
CM31 Chiang Mai Arr 45.09 95 eP P 12 19 42.1 +1.3
CMAR Chiang Mai Arr 45.09 95 P P 12 19 41.0 +0.2
comp=Z,2.0nm,0.3s,baz=292,slow=8.3,SNR=14
CMAR PcP **PcP** **12 21 21.0 -0.5**
comp=Z,1.1nm,0.3s,baz=290,slow=5.2,SNR=4.0
CMAR ScP **ScP** **12 25 11.7 -2.5**
comp=Z,0.6nm,0.8s,baz=294,slow=4.5,SNR=3.4
CMAR LR LR 12 42 13.7
comp=Z,98nm,20.1s,baz=298,slow=41
CMAR Chiang Mai Arr 45.09 95 P P 12 19 41.0 +0.2
CMAR 12 21 21.0
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR pmax pmax
comp=N,1.0nm,0.8s
CMAR MLR MLR
comp=Z,98nm,20.1s
CM01 Chiang Mai Arr 45.12 95 eP P 12 19 41.4 +0.4
KMI Kunming 45.66 85 P P 12 19 46.5 +1.1
KMI pP sP 12 19 50.8 +0.2
KMI sP pP 12 19 53.0 +3.9
KMI PP **PP** **12 21 34.3 +2.1**

KMI					S	**S**	**12 26 29.0**	**+0.4**	
KMI					sS	sS	12 26 36.8	+2.0	
KMI					SS	**ScS**	**12 29 45.3**	**+2.8**	
KMI					pmax	pmax			
	comp=Z,41nm,1.6s								
KMI					pmax	pmax			
	comp=Z,150nm,3.1s								
KMI					LR	LR			
	comp=Z,250nm,16.4s								
KMI					LR	LR			
	comp=Z,170nm,20.3s								
KMI					LR	LR			
	comp=Z,290nm,20.0s								
KMI	**Kunming**	**45.66**	**85**	*e*P	**P**		**12 19 46.2**	**+0.8**	
	comp=Z,24nm,0.8s								
KMI	**Kunming**	**45.66**	**85**	*e*P	**P**		**12 19 46.2**	**+0.8**	
KMI					pmax	pmax			
	comp=Z,24nm,0.8s								
UMPA	**Umpang Tak**	**46.07**	**98**	P	**P**		**12 19 51.0**	**+2.5**	
	comp=Z,5.6nm,1.0s								
SUKH	**Sukhothai**	**46.12**	**96**	P	**P**		**12 19 51.1**	**+2.2**	
	comp=Z,3.8nm,1.0s								
NANT	**Nan**	**46.43**	**94**	P	**P**		**12 19 52.6**	**+1.2**	
	comp=Z,5.5nm,1.1s								
PBRG	**Braganca**	**46.48**	**299**	*e*P	**P**		**12 19 51.5**	**0.0**	
	comp=Z,34nm,1.5s								
MVO	**Moncorvo**	**46.77**	**299**	*e*P	**P**		**12 19 54.0**	**+0.1**	
UTTA	**Uttaradit**	**46.78**	**95**	P	**P**		**12 19 55.8**	**+1.7**	
	comp=Z,3.7nm,0.7s								
UTHA	**Uthaitani**	**46.87**	**99**	P	**P**		**12 19 57.7**	**+2.9**	
	comp=Z,2.6nm,1.0s,comp=Z,66nm								
PVRL	**Vila Real**	**47.27**	**299**	*e*P	**P**		**12 19 58.1**	**+0.4**	
MTE	**Manteigas**	**47.27**	**298**	*e*P	**P**		**12 19 58.4**	**+0.6**	
	comp=Z,64nm,1.1s								
MTE	**Manteigas**	**47.27**	**298**	*e*P	**P**		**12 19 58.6**	**+0.8**	
	comp=Z,24nm,0.8s								
PCBR	**Castelo Branco**	**47.31**	**297**	*e*P	**P**		**12 19 58.4**	**+0.4**	
	comp=Z,79nm,2.1s								
PMRV	**Marv??o**	**47.31**	**296**	*e*P	**P**		**12 19 58.4**	**+0.4**	
	comp=Z,40nm,1.3s								
POLO	**Lamas de Olo**	**47.32**	**299**	*e*P	**P**		**12 19 58.5**	**+0.4**	
PVIS	**Viseu**	**47.49**	**298**	*e*P	**P**		**12 19 59.9**	**+0.5**	
PESTR	**Estremoz**	**47.56**	**296**	*e*P	**P**		**12 20 00.7**	**+0.7**	
	comp=Z,32nm,1.1s								
PGAV	**Gavieira, Arco**	**47.59**	**300**	*e*P	**P**		**12 20 00.9**	**+0.7**	
	comp=Z,80nm,2.0s								
PBKT	**Sadao Pong**	**47.68**	**96**	*e*P	**P**		**12 20 01.6**	**+0.6**	
	comp=Z,33nm,1.3s								
PBKT	**Sadao Pong**	**47.68**	**96**	P	**P**		**12 20 02.1**	**+1.1**	
	comp=Z,17nm,0.8s								
EVO	**Evora**	**47.95**	**295**	*e*P	**P**		**12 20 03.8**	**+0.8**	
PMTG	**Montargil**	**48.01**	**296**	*e*P	**P**		**12 20 04.5**	**+1.1**	
PCAS	**Casmilo, Conde**	**48.05**	**297**	*e*P	**P**		**12 20 04.3**	**+0.6**	
PTOM	**Tomar**	**48.06**	**297**	*e*P	**P**		**12 20 04.5**	**+0.7**	
	comp=Z,75nm,1.3s								
XAN	**Xi'an**	**48.13**	**71**	P	**P**		**12 20 05.0**	**+0.5**	
XAN				pP	sP		12 20 12.5	+2.8	
XAN				sP	pP		12 20 15.8	+7.5	
XAN				S	**S**		**12 27 00.5**	**-3.0**	
XAN				pmax	pmax				
	comp=Z,27nm,1.4s								
XAN				pmax	pmax				
	comp=Z,130nm,3.5s								
XAN				LR	LR				
	comp=Z,650nm,18.4s								
XAN				LR	LR				
	comp=Z,470nm,19.5s								
XAN				LR	LR				
	comp=Z,480nm,13.7s								
XAN	**Xi'an**	**48.13**	**71**	*e*P	**P**		**12 20 05.2**	**+0.7**	
	comp=Z,168nm,1.3s								
XAN	**Xi'an**	**48.13**	**71**	*e*P	**P**		**12 20 05.2**	**+0.7**	
XAN				pmax	pmax				
	comp=Z,168nm,1.3s								
MESJ	**Messejana**	**48.24**	**294**	*e*P	P		12 20 09.1	+3.9	
	comp=Z,41nm,1.4s								
GYA	**Guiyang**	**48.51**	**81**	*e*P	**P**		**12 20 08.3**	**+0.7**	
GYA				PP	**PP**		**12 22 01.5**	**+1.2**	
GYA				S	**S**		**12 27 06.8**	**-2.3**	
GYA				SS	**SS**		**12 30 33.8**	**-5.1**	
GYA				pmax	pmax				
	comp=Z,20nm,1.0s								
GYA				pmax	pmax				
	comp=Z,120nm,5.4s								
GYA				LR	LR				
	comp=Z,510nm,17.0s								
GYA				LR	LR				
	comp=Z,530nm,18.2s								
GYA				LR	LR				
	comp=Z,520nm,18.5s								
TOA0	**Torodi Ar. Sit**	**48.72**	**259**	*e*P	**P**		**12 20 09.2**	**+0.1**	
TOA0	**Torodi Ar. Sit**	**48.72**	**259**	P	**P**		**12 20 08.9**	**-0.3**	
	SNR=13								
TOA1	**Torodi Ar. Sit**	**48.72**	**259**	*e*P	**P**		**12 20 07.7**	**-1.5**	
TOA1				*e*ScP	**ScP**		**12 25 28.4**	**-1.0**	
TORD	**Torodi Ar. Bea**	**48.72**	**259**	P	**P**		**12 20 07.7**	**-1.5**	
	comp=Z,18nm,0.8s,baz=25,slow=8.2,SNR=90								
TORD				ScP	**ScP**		**12 25 28.4**	**-1.0**	
	comp=Z,0.8nm,1.1s,baz=50,slow=4.7,SNR=2.8								
TORD				LR	LR		12 43 53.6		
	comp=Z,415nm,19.1s,baz=10.0,slow=40								
HHC	**Hu-ho-hao-te**	**48.78**	**61**	*e*P	**P**		**12 20 12.5**	**+3.0**	
HHC				S	**S**		**12 27 13.3**	**+0.7**	
HHC				pmax	pmax				
	comp=Z,29nm,1.0s								
HHC				pmax	pmax				
	comp=Z,380nm,5.5s								
HHC				LR	LR				
	comp=Z,760nm,13.5s								
HHC				LR	LR				
	comp=Z,740nm,13.3s								
HHC				LR	LR				
	comp=Z,550nm,12.8s								
NONG	**Nongkai**	**48.84**	**93**	P	P		12 20 14.5	+4.5	
	comp=Z,0.5nm,1.8s								
SPA0	**Spitsbergen Ar**	**48.84**	**351**	*e*P	**P**		**12 20 09.9**	**+0.6**	
SPITS	**Spitsbergen Ar**	**48.84**	**351**	P	**P**		**12 20 09.3**	**0.0**	
	comp=Z,12nm,0.7s,baz=115,slow=14,SNR=30								
BOD	**Bodaibo**	**49.47**	**39**	*e*P	**P**		**12 20 14.5**	**+0.2**	
BOD				pmax	pmax				
	comp=Z,42nm,1.7s								
SRAK	**Srakaew**	**49.82**	**99**	P	P		12 20 24.0	+6.5	
	comp=Z,33nm,1.1s								
OPO	**Ambohidratompo**	**50.25**	**185**	P	**P**		**12 20 20.4**	**-0.4**	
	comp=Z,3.1nm,0.3s,baz=40,slow=9.7,SNR=6.2								
CHBT	**CHBT**	**50.69**	**100**	P	P		12 20 19.2	-4.9	
TRTT	**Trang**	**51.15**	**107**	P	**P**		**12 20 29.3**	**+1.7**	
	comp=Z,10.0nm,1.7s								
LSZ	**Lusaka**	**51.68**	**208**	*e*P	**P**		**12 20 33.1**	**+1.5**	
	comp=Z,14nm,1.3s								
LSZ	**Lusaka**	**51.68**	**208**	*e*P	**P**		**12 20 33.1**	**+1.5**	
LSZ				pmax	pmax				
	comp=Z,14nm,1.3s								
BJI	**Beijing**	**52.39**	**62**	P	**P**		**12 20 39.0**	**+2.4**	
BJI				pmax	pmax				
	comp=Z,8.0nm,1.6s								
BJI				LR	LR				
	comp=Z,880nm,17.8s								
BJI				LR	LR				
	comp=Z,390nm,14.1s								
BJI				LR	LR				
	comp=Z,430nm,19.4s								
BJT	**Baijiatuau**	**52.39**	**62**	*e*P	**P**		**12 20 38.2**	**+1.6**	
	comp=Z,30nm,1.4s								
BJT	**Baijiatuau**	**52.39**	**62**	*e*P	**P**		**12 20 38.2**	**+1.6**	
BJT				pmax	pmax				
	comp=Z,30nm,1.4s								
HIA	**Hailar**	**53.25**	**50**	*e*P	**P**		**12 20 45.4**	**+2.6**	
	comp=Z,39nm,1.5s								
GSI	**Gunungsitoli**	**53.39**	**115**	*e*P	**P**		**12 20 44.9**	**+0.6**	
	comp=Z,57nm,1.4s								
PSI	**Prapat**	**53.51**	**113**	P	**P**		**12 20 44.0**	**-1.3**	
	comp=Z,3.9nm,0.4s,baz=360,slow=5.8,SNR=6.9								
PSI	**Prapat**	**53.51**	**113**	*e*P	**P**		**12 20 44.6**	**-0.7**	
	comp=Z,43nm,1.5s								
PSI	**Prapat**	**53.51**	**113**	P	**P**		**12 20 44.0**	**-1.3**	
PSI				pmax	pmax				
	comp=Z,4.0nm,0.4s								
TIA	**Tai'an**	**54.06**	**66**	P	**P**		**12 20 49.0**	**0.0**	
TIA				pmax	pmax				
	comp=Z,10.0nm,1.3s								
IPM	**Ipoh**	**54.17**	**109**	*e*P	**P**		**12 20 48.6**	**-1.4**	
	comp=Z,31nm,1.3s								
DAG	**Danmarks Havn**	**54.61**	**345**	*i* P	**P**		**12 20 51.2**	**-1.1**	
	comp=Z,7.2nm,0.7s								
DAG	**Danmarks Havn**	**54.61**	**345**	*i* P	**P**		**12 20 51.2**	**-1.1**	
DAG				pmax	pmax				
	comp=Z,5.0nm,0.7s								
TIXI	**Tiksi**	**56.33**	**22**	LR	LR		12 48 59.9		
	comp=Z,652nm,19.8s,baz=271,slow=40								
TIXI	**Tiksi**	**56.33**	**22**	*e*P	**P**		**12 21 04.9**	**+0.1**	
	comp=Z,4.8nm,0.7s								
TIXI	**Tiksi**	**56.33**	**22**‖	*e*P	**P**		**12 21 05.0**	**+0.2**	
TIXI				pmax	pmax				
	comp=Z,17nm,1.6s								
NJ2	**Nanjing**	**56.69**	**70**	*e*P	**P**		**12 21 08.5**	**+0.6**	
NJ2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
NJ2				LR	LR				
	comp=Z,760nm,15.2s								
NJ2				LR	LR				
	comp=Z,630nm,15.7s								
NJ2				LR	LR				
	comp=Z,490nm,9.2s								
BKNI	**Bangkinang**	**56.69**	**113**	*e*P	**P**		**12 21 06.5**	**-1.7**	
	comp=Z,96nm,1.3s								
DL2	**Dalian**	**56.76**	**62**	P	**P**		**12 21 09.3**	**+1.0**	
DL2				*e*S	**S**		**12 29 03.0**	**+1.6**	
DL2				pmax	pmax				
	comp=Z,29nm,1.0s								
DL2				LR	LR				
	comp=Z,760nm,15.8s								
DL2				LR	LR				
	comp=Z,540nm,15.8s								
DL2				LR	LR				
	comp=Z,620nm,15.5s								
YAK	**Yakutsk**	**57.22**	**33**	*e*P	**P**		**12 21 10.4**	**-0.8**	
YAK				*e**PP	**sP**		**12 21 16.3**	**-0.2**	
YAK				*e*			12 22 05.9		
YAK				*e*S	**S**		**12 29 07.5**	**+0.8**	
YAK				*e**SS	sS		12 29 23.9	+11	
YAK				*e*			12 31 00.9		
YAK				*e*SS	**SS**		**12 32 53.3**	**-2.0**	
YAK				*e*SSS	SSS		12 35 15.8		
YAK				pmax	pmax				
	comp=Z,28nm,1.1s								
YAK				pmax	pmax				
	comp=E,13nm,1.2s								
YAK				pmax	pmax				
	comp=Z,249nm,4.3s								
YAK				pmax	pmax				
	comp=N,259nm,4.5s								
YAK				pmax	pmax				
	comp=E,212nm,4.1s								
YAK				smax	smax				
	comp=E,171nm,4.1s								
YAK				smax	smax				
	comp=N,188nm,4.3s								
YAK				MLR	MLR				
	comp=Z,191nm,14.0s								
YAK				MLR	MLR				
	comp=E,253nm,16.0s								
DBIC	**Dimbokro**	**57.61**	**257**	P	**P**		**12 21 13.9**	**-0.8**	
	comp=E,15nm,0.9s,baz=35,slow=7.1,SNR=15								
DBIC				LR	LR		12 49 08.2		
	comp=E,282nm,21.7s,baz=38,slow=39								
DBIC	**Dimbokro**	**57.61**	**257**	*e*P	**P**		**12 21 15.2**	**+0.5**	
	comp=E,17nm,0.9s								
KIC	**Kosan Boka**	**57.69**	**256**	*e*P	**P**		**12 21 15.1**	**-0.1**	
	comp=E,63nm,1.1s								
TIC	**Toumodi**	**57.76**	**257**	*e*P	**P**		**12 21 15.5**	**-0.3**	
LIC	**Lamto**	**58.00**	**256**	*e*P	**P**		**12 21 17.3**	**-0.1**	
	comp=E,52nm,0.8s								
KRJI	**Kerinci**	**58.54**	**115**	P	**P**		**12 21 23.2**	**+1.9**	
SUMG	**Summit**	**59.79**	**340**	*e*P	**P**		**12 21 30.0**	**+0.5**	
	comp=E,26nm,1.0s								
SUMG	**Summit**	**59.79**	**340**	*i* P	**P**		**12 21 30.2**	**+0.7**	
	comp=E,68nm,1.0s								
SUMG	**Summit**	**59.79**	**340**	*e*P	**P**		**12 21 30.0**	**+0.5**	
SUMG				pmax	pmax				
	comp=Z,26nm,1.0s								
KLR	**Kul'dur**	**60.94**	**48**⇑	*e*P	**P**		**12 21 38.9**	**+1.6**	
KS01	**Wonju Array Si**	**61.90**	**61**	*e*P	**P**		**12 21 43.9**	**0.0**	
KSRS	**Korea Array**	**61.92**	**61**	P	**P**		**12 21 44.0**	**0.0**	
	comp=Z,5.2nm,0.8s,baz=281,slow=6.5,SNR=13								
KSRS				LR	LR		12 50 06.0		
	comp=Z,225nm,18.7s,baz=292,slow=38								
MDSI	**Maura Dua**	**62.14**	**115**	P	**P**		**12 21 46.4**	**+0.6**	
	comp=Z,14nm,2.0s								
LWLI	**Liwa**	**62.39**	**116**	P	**P**		**12 21 49.5**	**+1.9**	
	comp=Z,26nm,1.1s,comp=Z,11μm								
USRK	**Ussuriysk Ar.**	**62.60**	**53**	LR	LR		12 51 33.0		
	comp=Z,283nm,18.4s,baz=281,slow=38								
BOSA	**Boshof**	**64.90**	**205**	P	**P**		**12 22 02.8**	**-1.1**	
	comp=Z,13nm,0.6s,baz=360,slow=8.0,SNR=26								
BOSA				LR	LR		12 52 09.2		
	comp=Z,411nm,18.6s,baz=31,slow=38								
NKL	**Nikolayevsk**	**65.07**	**42**	*e*P	**P**		**12 22 05.0**	**+0.4**	
NKL				pmax	pmax				
	comp=Z,22nm,1.0s								
DBJI	**Dramaga**	**65.42**	**115**	P	**P**		**12 22 09.8**	**+2.3**	
SFJD	**Kangerlussuaq**	**65.45**	**335**	LR	LR		12 52 01.7		
	comp=Z,273nm,19.8s,baz=66,slow=37								
JOW	**Kunigami**	**66.26**	**72**	LR	LR		12 51 22.6		
	comp=Z,382nm,19.5s,baz=288,slow=36								
CISI	**Cisompet, Garu**	**66.87**	**115**	P	**P**		**12 22 17.7**	**+0.9**	
SEY	**Seymchan**	**67.07**	**29**⇑	*i* P	**P**		**12 22 18.1**	**+0.8**	
MA2	**Magadan**	**67.79**	**33**	*e* P	**P**		**12 22 22.7**	**+0.8**	
	comp=Z,22nm,1.3s								
MA2	**Magadan**	**67.79**	**33**	*d i* P	**P**		**12 22 23.4**	**+1.5**	
MA2				pmax	pmax				
	comp=Z,37nm,2.5s								
BILL	**Bilibino**	**69.54**	**21**	*e*P	**P**		**12 22 34.0**	**+1.3**	
	comp=Z,37nm,1.4s								
BILL	**Bilibino**	**69.54**	**21**	*de*P	**P**		**12 22 33.9**	**+1.2**	
BILL				*i*			12 22 40.6		
BILL				*i*			12 22 57.1		
BILL				*i*			12 25 09.3		
BILL				pmax	pmax				
	comp=Z,26nm,1.3s								
BILL				MLR	MLR				
	comp=Z,274nm,21.0s								
MJAR	**Matsushiro Arr**	**69.88**	**59**	LR	LR		12 55 57.9		
	comp=Z,251nm,18.8s,baz=300,slow=38								
ERM	**Erimo**	**70.99**	**52**⇑	*e*P	**P**		**12 22 45.2**	**+3.2**	
ERM				pmax	pmax				
	comp=Z,692nm,3.8s								
MPSI	**Mapaga**	**72.01**	**101**	P	**P**		**12 22 51.5**	**+2.9**	
FRB	**Frobisher Bay**	**73.52**	**336**	LR	LR		12 55 20.4		
	comp=Z,154nm,19.9s,baz=17,slow=36								
PEA1	**Petropavlovsk-**	**74.27**	**37**	*e*P	**P**		**12 23 01.1**	**-0.3**	
PETK	**Petropavlovsk-**	**74.28**	**37**	P	**P**		**12 23 01.1**	**-0.3**	
	comp=Z,5.3nm,1.0s,baz=331,slow=8.3,SNR=3.8								
PETK				LR	LR		12 58 51.0		
	comp=Z,308nm,19.8s,baz=293,slow=38								
SCHQ	**Schefferville**	**78.55**	**329**	P	**P**		**12 23 25.0**	**-0.6**	
	comp=Z,2.6nm,0.4s,baz=63,slow=6.8,SNR=6.0								
ANM	**Nome**	**79.78**	**15**	*e*P	**P**		**12 23 32.6**	**+0.4**	
	comp=Z,20nm,1.3s								
ANM	**Nome**	**79.78**	**15**	*e*P	**P**		**12 23 32.6**	**+0.4**	
ANM				pmax	pmax				
	comp=Z,20nm,1.3s								
COLD	**Coldfoot**	**79.95**	**8**	*e*P	**P**		**12 23 33.7**	**+0.7**	
	comp=Z,5.5nm,0.8s								
IM3	**Indian Mountai**	**80.65**	**10**	*e*P	**P**		**12 23 36.5**	**-0.4**	
FYU	**Fort Yukon**	**81.13**	**6**	*e*P	**P**		**12 23 38.8**	**-0.5**	
	comp=Z,15nm,1.3s								
MLY	**Manley**	**81.97**	**9**	*e*P	**P**		**12 23 44.4**	**+0.4**	
	comp=Z,12nm,1.2s								
MDM	**Murphy Dome**	**82.36**	**8**	*e*P	**P**		**12 23 45.7**	**-0.2**	
	comp=Z,18nm,1.1s								
COLA	**College**	**82.49**	**8**	*e*P	**P**		**12 23 47.5**	**+0.9**	
	comp=Z,9.7nm,0.9s								
COLA	**College**	**82.49**	**8**‖	*e*P	**P**		**12 23 47.7**	**+1.1**	
COLA				pmax	pmax				
	comp=Z,10.0nm,1.0s								
IL1	**Eielson Array**	**82.70**	**8**	*e*P	**P**		**12 23 47.2**	**-0.5**	
ILAR	**Eielson Array**	**82.70**	**8**	P	**P**		**12 23 47.2**	**-0.5**	
	comp=Z,2.3nm,0.7s,baz=319,slow=3.9,SNR=26								
ILAR				PKKPbc	**PKKPbc**		**12 42 11.2**	**-1.5**	
	comp=Z,0.6nm,0.8s,baz=182,slow=3.5,SNR=5.0								
ILAR				LR	LR		13 06 24.2		
	comp=Z,137nm,19.2s,baz=322,slow=40								
ILB	**Eielson Array**	**82.70**	**8**	*e*P	**P**		**12 23 46.8**	**-0.9**	
BPAW	**Bear Paw Mtn.**	**82.83**	**10**	*e*P	**P**		**12 23 48.8**	**+0.4**	
	comp=Z,19nm,1.1s								
EGAK	**Eagle**	**83.24**	**5**	*e*P	**P**		**12 23 50.7**	**+0.2**	
	comp=Z,21nm,1.4s								
MCK	**McKinley**	**83.46**	**9**	*e*P	**P**		**12 23 53.2**	**+1.5**	
	comp=Z,22nm,1.2s								
MCK	**McKinley**	**83.46**	**9**	*e*P	**P**		**12 23 53.2**	**+1.5**	
MCK				pmax	pmax				
	comp=Z,22nm,1.2s								
SCRK	**Sand Creek**	**83.78**	**7**	*e*P	**P**		**12 23 54.4**	**+1.0**	
	comp=Z,15nm,1.1s								
DAWY	**Dawson**	**84.07**	**5**	*e*P	**P**		**12 23 56.0**	**+1.2**	
	comp=Z,20nm,1.4s								
DOT	**Dot Lake**	**84.09**	**7**	*e*P	**P**		**12 23 55.5**	**+0.5**	
	comp=Z,20nm,1.1s								
FCC	**Fort Churchill**	**85.16**	**343**	*e*P	**P**		**12 24 00.5**	**+0.2**	
	comp=Z,12nm,1.1s								
FCC	**Fort Churchill**	**85.16**	**343**	*e*P	**P**		**12 24 00.5**	**+0.2**	
FCC				pmax	pmax				
	comp=Z,12nm,1.1s								
HARP	**HAARP**	**85.19**	**7**	*e*P	**P**		**12 24 01.7**	**+1.2**	
	comp=Z,38nm,1.2s								
YKW3	**Yellowknife Ar**	**85.22**	**353**	*e*P	**P**		**12 24 00.1**	**-0.4**	
	comp=Z,11nm,1.3s								
YKA	**Yellowknife Ar**	**85.28**	**353**	P	**P**		**12 24 00.2**	**-0.7**	
	comp=Z,1.8nm,0.7s,baz=9.1,slow=5.4,SNR=29								
YKA				LR	LR		13 07 50.1		
	comp=Z,25nm,18.5s,baz=28,slow=40								
YKB5	**Yellowknife Ar**	**85.28**	**353**	*e*P	**P**		**12 23 59.8**	**-1.1**	
GHO	**Glory Hole Cre**	**85.34**	**9**	*e*P	**P**		**12 24 02.6**	**+1.3**	
	comp=Z,18nm,1.1s								
SUA	**Susitna One**	**85.37**	**10**	*e*P	**P**		**12 24 01.9**	**+0.4**	
	comp=Z,21nm,1.1s								
SML	**Sawmill**	**85.39**	**9**	*e*P	**P**		**12 24 01.7**	**+0.2**	
	comp=Z,15nm,1.0s								
SML	**Sawmill**	**85.39**	**9**	*e*P	**P**		**12 24 01.7**	**+0.2**	
SML				pmax	pmax				
	comp=Z,15nm,1.0s								
PMR	**Palmer**	**85.48**	**9**	*e*P	**P**		**12 24 02.3**	**+0.4**	
	comp=Z,21nm,1.3s								
PMR	**Palmer**	**85.48**	**9**	*e*P	**P**		**12 24 02.3**	**+0.4**	
PMR				pmax	pmax				
	comp=Z,21nm,1.3s								
KNK	**Knik Glacier**	**85.75**	**9**	*e*P	**P**		**12 24 03.8**	**+0.5**	
	comp=Z,15nm,1.0s								
FITZ	**Fitzroy Crossi**	**87.03**	**113**	*e*P	**P**		**12 24 09.9**	**-0.3**	
	comp=Z,14nm,0.9s								
HYT	**Haines Junctio**	**87.42**	**4**	*e*P	**P**		**12 24 13.2**	**+1.6**	
	comp=Z,19nm,1.3s								
ULM	**Lac du Bonnet**	**93.15**	**339**	LR	LR		13 09 52.8		
	comp=Z,104nm,18.2s,baz=44,slow=38								
WRA	**Warramunga Arr**	**94.92**	**110**	P	**P**		**12 24 45.9**	**-1.1**	
	comp=Z,2.7nm,0.9s,baz=315,slow=3.9,SNR=14								
WR1	**Warramunga Arr**	**94.92**	**110**	*e*P	**P**		**12 24 45.9**	**-1.1**	
	comp=Z,12nm,1.2s								
WRAB	**Tennant Creek**	**94.92**	**110**‖	*e*P	**P**		**12 24 48.5**	**+1.5**	
WB2	**Warramunga Arr**	**94.93**	**110**	*e*P	**P**		**12 24 46.1**	**-1.0**	
ASAR	**Alice Springs**	**96.53**	**114**	P	**P**		**12 24 53.2**	**-1.1**	
	comp=Z,1.1nm,0.8s,baz=307,slow=4.8,SNR=13								
ASAR				PKiKP	**PKiKP**		**12 29 31.2**	**-0.5**	
	comp=Z,0.2nm,0.6s,baz=340,slow=1.5,SNR=3.8								
MAW	**Mawson**	**99.54**	**175**	LR	LR		13 06 20.1		
	comp=Z,88nm,19.4s,baz=3.0,slow=33								
NVAR	**Mina Array Bea**	**109.38**	**351**	PKiKP	**PKiKP**		**12 29 55.9**	**+0.7**	
	comp=Z,0.7nm,0.8s,baz=113,slow=2.1,SNR=3.8								
QSPA	**South Pole Qui**	**121.67**	**180**	*e*PKPdf	**PKiKP**		**12 30 17.1**	**-0.4**	
LPAZ	**La Paz**	**122.94**	**271**	PKP	**PKPdf**		**12 30 20.9**	**-1.2**	
	comp=Z,0.8nm,0.6s,baz=65,slow=3.2,SNR=3.6								
PB11	**IPOC Station P**	**125.78**	**268**	*e*PKPpre	PKPpre		12 30 17.4		
PLCA	**Paso Flores**	**132.78**	**242**	PKP	**PKiKP**		**12 30 39.9**	**-0.7**	
	comp=Z,1.5nm,0.8s,baz=117,slow=2.3,SNR=3.8								

IDC 25 12:23:06.4±5.8, 19.71S×176.75W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/31, mbtmp3.5/2, Error ellipse: s-maj=288.8km s-min=56.9km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.85**	**256**	P	P	12 31 30.1	-0.6
	0.7nm,0.9s,baz=98,slow=8.8,SNR=11						
WRA	**Warramunga Arr**	**45.88**	**261**	P	P	12 31 31.4	+0.4
	0.4nm,0.7s,baz=97,slow=8.0,SNR=8.8						
AKASG	**Malin Array Be**	**142.88**	**333**	PKP	PKPdf	12 42 39.7	-2.1
	0.3nm,0.4s,baz=41,slow=3.9,SNR=4.4						
BRTR	**Keskin Array B**	**147.16**	**314**	PKPbc	PKPbc	12 42 51.4	-0.5
	0.3nm,0.5s,baz=52,slow=2.4,SNR=2.3						

ISCJB ***25*** *12:31:37.5±1.0, 47.9N±0.1×152.8E±0.2, h128km, mb3.4/7, Error ellipse: s-maj=25.3km s-min=11.1km az=38.3*
IDC ***25*** *12:31:40.0±4.0, 47.89N×152.84E, h137km±35km, mb3.2/7, mb1 3.3/9, mb1mx3.1/45, mbtmp3.5/9, Error ellipse: s-maj=30.8km s-min=27.6km az=62.0*

ISC 25 12:31:39.1±1.2, 47.9N±0.2×152.8E±0.2, h128km, n15, σ0.8s49/10, mb3.3/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.07**	**29**	P	**Pn**	**12 33 07.0**	**+0.6**
	0.2nm,0.3s,baz=187,slow=14,SNR=8.7						
PETK				S	**Sn**	**12 34 14.0**	**-0.6**
	0.0nm,0.3s,baz=195,slow=27,SNR=3.2						
SEY	**Seymchan**	**15.07**	**359**	P	**P**	**12 35 07.5**

	21nm,0.3s,SNR=9.2								
EMAL	**Malaga-Limoner**	**1.52**	**350**	*e*P		**Pn**	**12 48 58.7**	**+0.1**
EMAL				*e*S		**Sg**	**12 49 20.9**	**+1.3**
EJIF	**Jimena Fronter**	**1.62**	**318**	P		**Pn**	**12 49 01.4**	**+1.4**
	12nm,0.2s,SNR=7.9								
ELGU	**Los Guajares,**	**1.65**	**14**	P		**Pn**	**12 48 59.8**	**-0.7**
	5.8nm,0.1s,SNR=7.9								
ELGU				S		**Sn**	**12 49 21.6**	**-0.6**
	2.9nm,0.4s,SNR=7.9								
EGOR	**Sierra Gorda,**	**1.85**	**0**	P		**Pn**	**12 49 04.0**	**+0.7**
	1.3nm,0.1s,SNR=7.9								
EBER	**Berja**	**1.91**	**31**	P		**Pn**	**12 49 03.5**	**-0.7**
	3.6nm,0.2s,SNR=21								
EBER				S		**Sg**	**12 49 31.5**	**-0.6**
	9.0nm,0.2s,SNR=51								
IFR	**Ifrane**	**1.93**	**206**	*e*P		**Pn**	**12 49 05.2**	**+0.8**
IFR				*e*S		**Sn**	**12 49 28.9**	**-0.2**
EQUE	**Quentar**	**2.02**	**15**	P		**Pn**	**12 49 05.6**	**+0.1**
	2.0nm,0.2s,SNR=6.1								
EQUE				S		**Sb**	**12 49 33.9**	**+0.5**
	31nm,0.5s,SNR=7.9								
ESPR	**Espera**	**2.14**	**319**	P		**Pn**	**12 49 09.9**	**+2.8**
	12nm,0.3s,SNR=7.9								
ESPR				S		**Sb**	**12 49 39.2**	**+2.4**
	4.7nm,0.2s,SNR=7.9								
EQES	**Quesada**	**2.67**	**18**	P		**Pn**	**12 49 17.1**	**+2.5**
	4.1nm,0.2s,SNR=32								
EQES				S		**Sn**	**12 49 47.3**	**-0.1**
	3.5nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**2.93**	**353**	P		**Pn**	**12 49 19.7**	**+1.7**
	0.4nm,0.2s,SNR=14								
EADA				S		**Sn**	**12 49 53.9**	**+0.3**
	1.8nm,0.2s,SNR=7.9								
ECAB	**El Cabril**	**3.00**	**340**	P		**Pn**	**12 49 20.8**	**+1.8**
	0.2nm,0.3s,SNR=13								
ECAB				S		**Sn**	**12 49 56.3**	**+0.9**
	1.3nm,0.1s,SNR=7.9								
SESP	**Santiago Espad**	**3.12**	**23**	P		**Pn**	**12 49 23.7**	**+2.9**
	SNR=7.9								
SESP				S		**Sn**	**12 49 59.0**	**+0.4**
	SNR=7.9								
EMIN	**Mina Concepcio**	**3.25**	**321**	P		**Pn**	**12 49 23.9**	**+1.6**
	1.0nm,0.1s,SNR=20								
EMIN				S		**Sn**	**12 50 00.5**	**-0.9**
	1.3nm,0.3s,SNR=7.9								
AVE	**Averroes**	**3.36**	**235**	*e*P		**Pn**	**12 49 26.7**	**+2.8**
EMUR	**La Murta**	**3.46**	**41**	P		**Pb**	**12 49 29.0**	**-3.5**
	SNR=7.9								
EMUR				S		**Sn**	**12 50 03.3**	**-3.5**
	SNR=7.9								
EGRO	**El Granado**	**3.54**	**311**	P		**Pn**	**12 49 27.3**	**+0.9**
	4.1nm,0.3s,SNR=7.9								
EGRO				S		**Sn**	**12 50 08.3**	**-0.4**
	4.1nm,0.2s,SNR=7.9								
PVAQ	**Vaqueiros**	**3.62**	**307**	*e*Pn		**Pn**	**12 49 29.1**	**+1.7**
PVAQ				*e*Sn		**Sn**	**12 50 10.0**	**-0.5**
PVAQ				A		A	12 50 11.6	
	15nm,0.5s								
PBDV	**Barranco-do-Ve**	**3.67**	**304**	*e*Pn		**Pn**	**12 49 29.4**	**+1.2**
PBDV				*e*Sn		**Sn**	**12 50 11.9**	**0.0**
PBDV				A		A	12 50 14.7	
	8.9nm,0.6s								
ETOB	**Tobarra**	**3.95**	**31**	P		**Pn**	**12 49 34.7**	**+2.6**
	8.3nm,0.3s,SNR=7.9								
ETOB				S		**Sn**	**12 50 19.9**	**+0.9**
	4.6nm,0.4s,SNR=7.9								
EBAD	**Badajoz**	**4.19**	**327**	P		**Pn**	**12 49 37.1**	**+1.7**
	1.5nm,0.3s,SNR=7.9								
EBAD				S		**Sn**	**12 50 24.1**	**-0.7**
	5.0nm,0.2s,SNR=7.9								
MESJ	**Messejana**	**4.19**	**309**	*e*P		**Pn**	**12 49 36.8**	**+1.5**
MESJ				*e*S		**Sn**	**12 50 22.4**	**-2.4**
MESJ				AML		AML	12 50 26.8	
	comp=N,16nm,0.5s								
MESJ	**Messejana**	**4.19**	**309**	*e*Pn		**Pn**	**12 49 37.3**	**+2.0**
MESJ				*e*Sn		**Sn**	**12 50 24.1**	**-0.7**
MESJ				A		A	12 50 27.8	
	comp=N,7.1nm,0.4s								
MORF	**Marmelete**	**4.20**	**300**	*e*Sn		**Sn**	**12 50 24.5**	**-0.5**
MORF				A		A	12 50 30.0	
	comp=N,6.9nm,0.2s								
PAB	**San Pablo**	**4.28**	**358**	P		**Pn**	**12 49 38.1**	**+1.5**
	comp=N,0.1nm,0.2s,SNR=7.9								
PAB				S		**Sn**	**12 50 27.7**	**+0.5**
	comp=N,4.0nm,0.5s,SNR=7.9								
PTEO	**Sao Teotonio**	**4.37**	**303**	*e*Pn		**Pn**	**12 49 39.4**	**+1.7**
PTEO				*e*Sn		**Sn**	**12 50 28.9**	**-0.1**
PTEO				A		A	12 50 31.2	
	comp=N,14nm,0.6s								
ESDC	**Sonseca Array**	**4.41**	**1**	P		**Pn**	**12 49 40.0**	**+1.6**
	comp=N,2.1nm,0.2s,baz=178,slow=12,SNR=12								
ESDC				S		**Sn**	**12 50 30.1**	**-0.1**
	baz=172,slow=23,SNR=7.9								
EVO	**Evora**	**4.52**	**317**	*e*Pn		**Pn**	**12 49 42.4**	**+2.5**
EVO				*e*Sn		**Sn**	**12 50 32.4**	**-0.5**
EVO				A		A	12 50 36.8	
	comp=N,6.5nm,0.2s								
PESTR	**Estremoz**	**4.55**	**323**	*e*Pn		**Pn**	**12 49 42.9**	**+2.6**
PESTR				*e*Sn		**Sn**	**12 50 33.8**	**+0.2**
PESTR				A		A	12 50 37.5	
	comp=N,4.1nm,0.4s								
PNCL	**Nicolau / Gran**	**4.55**	**310**	*e*Pn		**Pn**	**12 49 41.5**	**+1.2**
PNCL				*e*Sn		**Sn**	**12 50 32.9**	**-0.7**
PNCL				A		A	12 50 39.7	
	comp=N,6.3nm,0.4s								
PMRV	**Marv??o**	**4.92**	**329**	*e*Pn		**Pn**	**12 49 47.1**	**+1.8**
PMRV				*e*Sn		**Sn**	**12 50 41.1**	**-1.5**
PMRV				A		A	12 50 47.4	
	comp=N,2.7nm,0.5s								
PMTG	**Montargil**	**5.03**	**320**	*e*Pn		**Pn**	**12 49 49.1**	**+2.3**
PMTG				*e*Sn		**Sn**	**12 50 44.9**	**-0.4**
PMTG				A		A	12 50 48.1	
	comp=N,3.4nm,0.3s								
EPLA	**Plasencia**	**5.05**	**343**	P		**Pn**	**12 49 48.5**	**+1.4**
	comp=N,1.7nm,0.2s,SNR=7.9								
EPLA				S		**Sn**	**12 50 45.4**	**-0.4**
	comp=N,9.0nm,0.7s,SNR=7.9								
PCBR	**Castelo Branco**	**5.30**	**331**	*e*Pn		**Pn**	**12 49 52.8**	**+2.3**
PCBR				*e*Sn		**Sn**	**12 50 50.9**	**-1.1**
PCBR				A		A	12 50 55.8	
	comp=N,4.2nm,0.5s								
PVIS	**Viseu**	**6.21**	**332**	*e*Pn		**Pn**	**12 50 06.8**	**+3.6**
MVO	**Moncorvo**	**6.33**	**340**	*e*Pn		**Pn**	**12 50 06.7**	**+2.0**
MVO				*e*Sn		**Sn**	**12 51 18.3**	**+0.8**
MVO				A		A	12 51 25.9	
	comp=N,3.7nm,0.9s								
PBRG	**Braganca**	**6.85**	**343**	*e*Pn		**Pn**	**12 50 14.9**	**+3.0**
PGAV	**Gavieira, Arco**	**7.45**	**335**	*e*Pn		**Pn**	**12 50 22.6**	**+2.5**

IDC 25 12:48:38.5±2.4, 23°.79S×176°.72W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/26, mbtmp4.0/4, ML3.8/1, MS2.8/2, Ms1 2.8/2, ms1mx2.6/27, Error ellipse: s-maj=75.1km s-min=44.7km az=135.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**15.36**	**199**	Pn	Pn	12 52 15.3	-1.2
	0.4nm,0.3s,baz=357,slow=18,SNR=4.4						
DZM	**Mont Dzumac**	**15.61**	**273**	LR	LR	12 57 03.4	
	comp=Z,30nm,18.6s,baz=354,slow=32						
PPT	**Papeete**	**26.11**	**81**	LR	LR	13 03 35.8	
	comp=Z,25nm,18.5s,baz=146,slow=34						
ASAR	**Alice Springs**	**45.01**	**260**	P	P	12 56 56.1	0.0
	1.4nm,0.8s,baz=93,slow=7.1,SNR=21						
WRA	**Warramunga Arr**	**45.41**	**265**	P	P	12 56 58.6	-0.6
	0.7nm,0.4s,baz=101,slow=8.4,SNR=23						
CMAR	**Chiang Mai Arr**	**92.32**	**289**	P	P	13 01 52.8	+1.5
	0.4nm,0.5s,baz=134,slow=2.6,SNR=5.2						
AKASG	**Malin Array Be**	**146.45**	**330**	PKPbc	PKPbc	13 08 20.7	-0.6
	0.6nm,0.4s,baz=37,slow=3.5,SNR=4.4						
BRTR	**Keskin Array B**	**149.87**	**309**	PKPbc	PKPbc	13 08 29.7	-1.3
	0.7nm,0.9s,baz=90,slow=2.9,SNR=2.7						

*ISCJB **25** 12:59:21.9±0.7, 40°.34N±0°.06×37°.45E±0°.05, h4km±11km, Error ellipse: s-maj=10.9km s-min=5.8km az=165.0*
*DDA **25** 12:59:22.4, 40°.30N×37°.39E, h7km±4km, ML2.6*
ISC 25 12:59:22.6±1.0, 40°.36N±0°.04×37°.42E±0°.04, h12km±9km, n12, σ1°03/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSDY	**Resadiye-TOKAT**	**0.08**	**300**	PG	**Pg**	**12 59 25.7**	**+0.5**
CUZAR	**Zara_SIVAS**	**0.54**	**150**	*i* P	**Pg**	**12 59 33.2**	**+0.1**
TOKT	**Tokat**	**0.67**	**267**	*e*PG	**Pg**	**12 59 35.2**	**-0.4**
TOKT				*e*SG	**Sg**	**12 59 44.3**	**-0.1**
ORDU	**Ordu-Boztepe**	**0.72**	**28**	*i* P	**Pn**	**12 59 38.5**	**-0.1**
CUKAN	**kangal_SIVAS**	**1.04**	**178**	*i* P	**Pg**	**12 59 41.0**	**-1.7**
CUKAN				*i* S	**Sg**	**12 59 56.4**	**+0.2**
ESPY	**Espiye-Giresun**	**1.14**	**60**	*e*PG	**Pb**	**12 59 44.1**	**-0.2**
ESPY				*e*SG	**Sg**	**12 59 57.9**	**-1.5**
CUALT	**Altinyayla-SIV**	**1.20**	**206**	*i* P	**Pg**	**12 59 44.9**	**-0.7**
CUSAR	**Sarkisla-SIVAS**	**1.30**	**224**	*i* P	**Pn**	**12 59 46.8**	**+0.1**
CUSAR				*i* S	**Sb**	**13 00 03.1**	**-0.7**
KEMA	**Kemaliye**	**1.37**	**142**	IAML_P			
	comp=Z,855nm,0.1s						
KEMA				*i* P	**Pb**	**12 59 48.4**	**+0.3**
KEMA				*i* S	**Sn**	**13 00 08.2**	**+2.5**
REFA	**Refahiye_ERZN**	**1.41**	**132**	*e*P	Pn	12 59 39.8	-8.5
KELT	**Kelkit**	**1.42**	**98**	IAML_P			
	comp=Z,322nm,0.2s						
KELT				*i* P	**Pg**	**12 59 49.9**	**0.0**
DARE	**Darende-Malaty**	**1.78**	**178**	*e*PG	**Pb**	**12 59 55.4**	**+0.1**

*ISCJB **25** 13:33:35.3±0.5, 37°.01N±0°.03×140°.63E±0°.05, h14km±4km, mb3.5/2, Error ellipse: s-maj=6.9km s-min=4.2km az=16.3*
*JMA **25** 13:33:35.8, 37°.02N×140°.58E, h10km±1km, M3.4*
JMA Felt II J1.
*IDC **25** 13:33:35.2±4.2, 36°.78N×140°.63E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.2/39, mbtmp3.4/2, Error ellipse: s-maj=81.6km s-min=30.3km az=20.0*
ISC 25 13:33:35.5±0.9, 37°.01N±0°.05×140°.61E±0°.03, h12km±6km, n19, σ0°71/24, 7C-1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFFD	**Fukushimafurud**	**0.09**	**334**	⇓P	**Pg**	**13 33 38.1**	**0.0**
JFFD				S	**Sg**	**13 33 39.5**	**-0.6**
ONAJ	**Iwakimizuishiy**	**0.18**	**59**	⇑P	**Pg**	**13 33 40.0**	**+0.6**
ONAJ				S	**Sg**	**13 33 42.9**	**+0.7**
JHO	**Hitachi**	**0.40**	**185**	⇑P	**Pb**	**13 33 43.8**	**-0.7**
JHO				S	**Sb**	**13 33 49.3**	**-1.4**
JFK	**Kawauchi**	**0.41**	**31**	⇑P	**Pg**	**13 33 43.9**	**+0.2**
JFK				S	**Sg**	**13 33 49.6**	**+0.4**
JFT	**Otama**	**0.55**	**337**	⇑P	**Pg**	**13 33 46.3**	**+0.1**
JFT				S	**Sg**	**13 33 53.6**	**+0.1**
JSB	**Shiboa**	**0.55**	**266**	⇑P	**Pg**	**13 33 46.8**	**+0.5**
JSB				S	**Sg**	**13 33 54.3**	**+0.7**
JFY	**Yanaizu**	**0.82**	**299**	P	**Pg**	**13 33 51.1**	**-0.3**
JFY				S	**Sg**	**13 34 01.3**	**-0.8**
JYT	**Yasato**	**0.85**	**203**	⇑P	**Pb**	**13 33 51.6**	**-0.6**
JYT				S	**Sb**	**13 34 02.7**	**-0.9**
JMM	**Marumori**	**0.86**	**10**	⇑P	**Pg**	**13 33 51.6**	**-0.6**
JMM				S	**Sg**	**13 34 03.0**	**-0.5**
MJAR	**Matsushiro Arr**	**1.98**	**257**	Pn	**Pn**	**13 34 10.0**	**+1.1**
	1.9nm,0.3s,baz=80,slow=15,SNR=39						
MJAR				Sn	**Sn**	**13 34 34.5**	**+0.7**
	2.7nm,0.3s,baz=98,slow=19,SNR=14						
MAT	**Matsushiro**	**1.98**	**257**	P	**Pn**	**13 34 10.1**	**+1.2**
MAT				S	**Sb**	**13 34 36.2**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**28.69**	**120**	T	T	14 09 21.7	
	baz=312,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.70**	**120**	T	T	14 09 22.7	
	baz=312,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.71**	**120**	T	T	14 09 24.6	
	baz=312,slow=75						
H11S1	**WAKE ISLAND Hy**	**29.39**	**122**	T	T	14 10 15.1	
	baz=312,slow=75						
H11S3	**WAKE ISLAND Hy**	**29.39**	**122**	T	T	14 10 15.3	
	baz=312,slow=75						
H11S2	**WAKE ISLAND Hy**	**29.41**	**122**	T	T	14 10 16.2	
	baz=312,slow=75						
WRA	**Warramunga Arr**	**56.95**	**187**	P	**P**	**13 43 20.3**	**-0.5**
	0.6nm,0.7s,baz=3.8,slow=7.6,SNR=5.6						
ASAR	**Alice Springs**	**60.68**	**187**	P	**P**	**13 43 46.9**	**+0.2**
	0.2nm,0.8s,baz=2.5,slow=6.5,SNR=3.3						

NEIC 25 13:36:30.3±0.0, 55°.99N×135°.21W, h26km, ML3.5(AEIC), After AEIC., Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIT	**Sitka**	**1.07**	**357**	P	Pn	13 36 48.7	-1.0
SIT				S	Sb	13 37 03.8	0.0
CRAG	**Craig**	**1.29**	**113**	P	Pn	13 36 50.5	-2.1
CRAG				S	Sn	13 37 09.3	+0.3
WRAK	**Wrangell Islan**	**1.66**	**74**	P	Pn	13 36 57.6	0.0
JIS	**Juneau Island**	**2.34**	**11**	P	Pn	13 37 07.5	+0.5
JIS				S	Sn	13 37 35.8	+1.0
SKAG	**Skagway**	**3.48**	**359**	P	Pn	13 37 24.1	+1.4
PLBC	**Pleasant Camp**	**3.53**	**350**	P	Pn	13 37 24.3	+0.8
PLBC				S	Sn	13 38 06.5	+2.2
DLBC	**Dease Lake**	**3.74**	**47**	P	Pn	13 37 27.6	+1.3
WHY	**Whitehorse**	**4.69**	**2**	P	Pn	13 37 40.8	+1.4
SAMH	**Samovar Hills**	**5.10**	**327**	P	Pn	13 37 46.2	+1.2
CHX	**Chaix Hills**	**5.15**	**325**	P	Pn	13 37 46.5	+0.7
KULT	**Kultieth River**	**5.84**	**320**	P	Pn	13 37 54.5	-0.7

*NNC **25** 13:36:36.6±5.0, 37°.01N×70°.54E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=48.8km s-min=31.2km az=148.0*
ISC 25 13:36:37.1±3.1, 36°.7N±0°.2×70°.6E±0°.1, h35km, n14, σ1°92/18, 4C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.97**	**34**	⇑Pn	**Pn**	**13 37 35.9**	**+0.1**
	3.4nm,0.2s						
SFK				⇑Sn	**Sn**	**13 38 25.4**	**+4.2**
	6.1nm,0.2s						
AML	**Almayashu**	**5.88**	**23**	P	**Pn**	**13 38 01.0**	**-1.1**
	SNR=28						
MNAS	**Manas**	**5.92**	**14**	⇑Pn	**Pn**	**13 38 02.2**	**-0.2**
	2.8nm,0.4s						
MNAS				⇓Sn	**Sn**	**13 39 08.9**	**-0.1**
	4.3nm,0.4s						
UCH	**Uchtor**	**6.25**	**28**	P	**Pn**	**13 38 05.6**	**-1.6**
	SNR=6.7						
KK31	**Karatay Array**	**6.35**	**359**	⇑Pn	**Pn**	**13 38 08.5**	**+0.3**
	5.7nm,0.3s,baz=173,slow=11,SNR=97						
KK31				⇓Sn	**Sn**	**13 39 19.7**	**+0.2**
	2.2nm,0.3s,baz=179,slow=22,SNR=6.7						
EKS2	**Erkin-Say**	**6.39**	**21**	P	**Pn**	**13 38 08.2**	**-0.6**
	SNR=8.8						
AAK	**Ala-Archa**	**6.60**	**26**	P	**Pn**	**13 38 10.7**	**-1.0**
	SNR=13						
AAK	**Ala-Archa**	**6.60**	**26**	Pn	**Pn**	**13 38 10.5**	**-1.3**
	5.3nm,0.4s						
AAK				Sn	**Sn**	**13 39 24.4**	**-1.4**
	3.8nm,0.5s						
KBK	**Karagaybulak**	**6.78**	**28**	P	**Pn**	**13 38 13.8**	**-0.5**
	SNR=5.4						
CHMS	**Chumysh**	**7.01**	**26**	P	**Pn**	**13 38 16.0**	**-1.2**
	SNR=7.9						
USP	**Ospennovka**	**7.16**	**23**	P	**Pn**	**13 38 18.1**	**-1.2**
	SNR=8.2						
TKM2	**Tokmak 2**	**7.26**	**30**	P	**Pn**	**13 38 18.8**	**-2.1**
	SNR=5.8						
AB31	**Akbulak array**	**14.72**	**331**	P	**Pn**	**13 40 00.3**	**-2.3**
	0.5nm,0.4s,baz=160,slow=11,SNR=39						
AKTO	**Aktyubinsk**	**16.42**	**330**	⇓P	**P**	**13 40 31.1**	**+3.9**
	0.9nm,0.8s						

*IDC **25** 13:45:06.1±0.7, 6°.66S×153°.56E, h0km, mb4.2/16, mb1 4.3/18, mb1mx4.2/35, mbtmp4.2/18, ML3.1/2, MS3.5/9, Ms1 3.5/9, ms1mx3.2/35, Error ellipse: s-maj=21.4km s-min=14.7km az=110.0*
*ISCJB **25** 13:45:08.7±0.5, 6°.70S±0°.07×153°.57E±0°.08, h29km, mb4.1/16, MS3.7/6, Error ellipse: s-maj=12.3km s-min=8.7km az=43.8*
ISC 25 13:45:10.6±0.7, 6°.7S±0°.1×153°.6E±0°.1, h29km, n29, σ0°75/29, mb4.3/21, MS3.8/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.89**	**114**	LR	LR	13 49 27.0	
	comp=Z,117nm,18.7s,baz=128,slow=38						
PMG	**Port Moresby**	**6.91**	**246**	Pn	**Pn**	**13 46 50.8**	**+0.7**
	8.3nm,0.3s,baz=57,slow=17,SNR=33						
PMG				Sn	**Sn**	**13 48 08.7**	**+0.8**
	6.1nm,0.3s,baz=141,slow=19,SNR=7.9						
PMG				LR	LR	13 49 27.8	
	comp=Z,113nm,20.5s,baz=57,slow=38						
DZM	**Mont Dzumac**	**19.73**	**142**	P	**P**	**13 49 38.7**	**+0.5**
	0.3nm,0.3s,baz=332,slow=18,SNR=3.7						
DZM				LR	LR	13 55 41.5	
	comp=Z,78nm,18.9s,baz=29,slow=32						
WRA	**Warramunga Arr**	**22.87**	**233**	P	**P**	**13 50 11.1**	**-0.9**
	4.0nm,0.8s,baz=58,slow=10,SNR=22						
WRA				PcP	**PcP**	**13 54 03.1**	**+0.6**
	0.7nm,0.8s,baz=56,slow=2.7,SNR=4.3						
WRA				LR	LR	14 00 00.4	
	comp=Z,79nm,18.0s,baz=90,slow=39						
SIJI	**Sorong**	**22.98**	**284**	P	**P**	**13 50 12.0**	**-1.2**
	3.1nm,0.5s,baz=142,slow=5.1,SNR=3.8						
ASAR	**Alice Springs**	**25.36**	**226**	P	**P**	**13 50 35.0**	**-0.5**
	3.6nm,0.8s,baz=57,slow=9.6,SNR=65						
ASAR				PcP	**PcP**	**13 54 07.9**	**+0.1**
	0.3nm,0.8s,baz=64,slow=2.8,SNR=3.2						
STKA	**Stephens Creek**	**27.47**	**203**	P	**P**	**13 50 53.2**	**-1.2**
	1.5nm,0.7s,baz=325,slow=14,SNR=3.1						
FITZ	**Fitzroy Crossi**	**29.51**	**245**	P	**P**	**13 51 11.4**	**-1.3**
	2.5nm,0.5s,baz=84,slow=5.2,SNR=9.3						
FITZ				LR	LR	14 03 05.5	
	comp=Z,45nm,18.4s,baz=74,slow=37						
JNU	**Nakatsue**	**45.06**	**333**	P	**P**	**13 53 23.2**	**-0.9**
	9.1nm,0.9s,baz=180,slow=8.1,SNR=3.2						
KSRS	**Korea Array**	**49.99**	**333**	P	**P**	**13 54 02.5**	**+0.1**
	1.9nm,0.8s,baz=142,slow=6.3,SNR=4.4						
USRK	**Ussuriysk Ar.**	**54.24**	**341**	P	**P**	**13 54 33.5**	**-0.4**
	2.5nm,0.9s,baz=128,slow=6.1,SNR=3.4						
CMAR	**Chiang Mai Arr**	**59.37**	**296**	P	**P**	**13 55 11.4**	**+0.7**
	2.8nm,0.8s,baz=122,slow=5.3,SNR=24						
PETK	**Petropavlovsk-**	**59.64**	**3**	P	**P**	**13 55 12.7**	**+0.7**
	4.8nm,1.0s,baz=162,slow=8.5,SNR=5.5						
PETK				LR	LR	14 18 10.4	
	comp=Z,38nm,20.0s,baz=92,slow=33						
SONM	**Songino Array**	**68.30**	**328**	P	**P**	**13 56 10.0**	**+0.8**
	2.6nm,0.9s,baz=143,slow=2.7,SNR=9.3						
VNDA	**Vanda**	**70.96**	**178**	P	**P**	**13 56 25.8**	**+0.9**
	0.8nm,0.7s,baz=329,slow=4.2,SNR=4.1						
RAMN	**Ramite**	**72.85**	**301**	*e*P	**P**	**13 56 38.0**	**+0.5**
GUN	**Gumba**	**73.74**	**301**	*e*P	**P**	**13 56 43.7**	**+0.8**
	26nm,0.7s						
PKI	**Pulchoki**	**74.04**	**301**	*e*P	**P**	**13 56 44.5**	**-0.2**
DMN	**Daman**	**74.31**	**301**	*e*P	**P**	**13 56 46.6**	**+0.5**
	26nm,0.8s						
KOLN	**Koldanda**	**75.64**	**301**	*e*P	**P**	**13 56 54.0**	**+0.2**
	28nm,0.9s						
DANN	**Dangsing**	**75.66**	**301**	*e*P	**P**	**13 56 54.1**	**+0.1**
	16nm,0.8s						
PYUN	**Piuthan**	**76.25**	**301**	*e*P	**P**	**13 56 56.9**	**-0.3**
	36nm,0.9s						
MKAR	**Makanchi Array**	**82.22**	**319**	P	**P**	**13 57 29.7**	**+0.5**
	1.3nm,0.8s,baz=106,slow=5.9,SNR=14						
ZALV	**Zalesovo Beam**	**83.12**	**326**	P	**P**	**13 57 33.2**	**-0.5**
	1.3nm,0.5s,baz=115,slow=5.2,SNR=7.2						
ILAR	**Eielson Array**	**83.58**	**22**	P	**P**	**13 57 36.0**	**+0.1**
	1.3nm,0.6s,baz=248,slow=4.8,SNR=20						
ILAR				LR	LR	14 33 50.6	
	comp=Z,73nm,18.1s,baz=162,slow=35						
YBH	**Yreka Blue Hor**	**89.71**	**48**	LR	LR	14 32 39.5	
	comp=Z,84nm,18.9s,baz=335,slow=32						
INK	**Inuvik**	**89.91**	**21**	P	**P**	**13 58 05.2**	**-1.4**
	1.0nm,0.8s,baz=230,slow=5.2,SNR=14						
BVAR	**Borovoye Array**	**91.18**	**323**	LR	LR	14 41 07.0	
	comp=Z,60nm,20.5s,baz=22,slow=37						
TORD	**Torodi Ar. Bea**	**151.57**	**285**	PKPbc	**PKPbc**	**14 05 02.5**	**-0.7**
	3.4nm,0.8s,baz=36,slow=3.2,SNR=18						

MAN 25 14:12:24.9, 9°.07N×126°.34E, h19km, mb4.3, ML3.2, MS2.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.71**	**262**	*e*P	Pb	14 12 38.1	-0.6
BUTP				*e*S	Sn	14 12 51.4	+0.9
BIPH	**Bislig**	**0.88**	**179**	⇑*i*P	Pg	14 12 42.1	+0.1
BIPH				*i* S	Sg	14 12 53.5	-0.2
BUKP	**Musuan**	**1.73**	**227**	*e*P	Pn	14 12 54.4	+0.4
BUKP				*e*S	Sn	14 13 16.3	+0.7
MSLP	**Maasin**	**1.80**	**306**	*e*P	Pn	14 12 54.4	-0.6
MSLP				*e*S	Sn	14 13 17.8	+0.5

*ISCJB **25** 14:15:32.7±0.9, 11°.05S±0°.1×164°.5E±0°.1, h29km, mb3.9/9, MS3.1/2, Error ellipse: s-maj=19.1km s-min=14.7km az=170.4*
*IDC **25** 14:15:36.9±3.9, 11°.02S×164°.43E, h51km±33km, mb3.7/9, mb1 3.9/11, mb1mx3.7/46, mbtmp4.0/11, ML4.0/2, MS3.2/3, Ms1 3.2/3, ms1mx2.8/24, Error ellipse: s-maj=33.7km s-min=26.2km az=117.0*
ISC 25 14:15:34.5±1.1, 10°.9S±0°.1×164°.5E±0°.2, h29km, n14, σ1°13/13, mb4.0/9, Santa Cruz Islands region

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

TORD	**Torodi Ar. Bea**	**144.67**	**282**	PKP	**PKPdf**	**14**	**39**	**33.4**	**-0.9**
	2.5nm,0.8s,baz=55,slow=3.3,SNR=12								
DBIC	**Dimbokro**	**151.31**	**271**	PKPbc	**PKiKP**	**14**	**39**	**52.4**	**+0.6**
	2.8nm,0.6s,baz=57,slow=1.8,SNR=5.3								

*ISCJB **25** 14:22:05.7±0.3, 60.16°N±0.03°×153.19°W±0.07, h150km±3km, mb3.9/5, Error ellipse: s-maj=6.7km s-min=4.2km az=34.6*
*IDC **25** 14:22:06.0±1.8, 60.18°N×153.32°W, h130km±22km, mb3.7/5, mb1 3.7/10, mb1mx3.3/55, mbtmp4.1/10, Error ellipse: s-maj=26.9km s-min=22.0km az=131.0*
*NEIC **25** 14:22:08.0±0.0, 60.14°N×153.14°W, h139km, ML3.6(AEIC), After AEIC.*

ISC 25 14:22:06.6±0.8, 60.14°N±0.04°×153.08°W±0.05, h145km±6km, n79, σ0.98/87, mb4.1/5, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILW	**Iliamna West**	**0.09**	**197**	P	**Pn**	**14 22 26.3**	**0.0**
ILW				S	**Sn**	**14 22 41.2**	**-0.1**
IVE	**Iliamna Volcan**	**0.13**	**165**	P	**Pn**	**14 22 26.2**	**-0.1**
ILS	**Iliamna Low So**	**0.18**	**177**	P	**Pn**	**14 22 26.0**	**-0.3**
RDWB	**Redoubt West**	**0.37**	**19**	P	**Pn**	**14 22 27.0**	**+0.1**
RDWB				S	**Sn**	**14 22 41.7**	**-0.8**
RDJH	**Redoubt Jeurge**	**0.47**	**17**	P	**Pn**	**14 22 27.4**	**0.0**
DFR	**Drift River**	**0.49**	**24**	P	**Pn**	**14 22 27.5**	**0.0**
AUL	**Augustine Lava**	**0.78**	**193**	P	**Pn**	**14 22 29.5**	**+0.3**
AUL				S	**Sn**	**14 22 46.3**	**+0.1**
AUE	**Augustine Isla**	**0.80**	**191**	P	**Pn**	**14 22 29.5**	**+0.3**
NKA	**Nikishka**	**1.10**	**56**	P	**Pn**	**14 22 33.9**	**+2.2**
CNPM	**China Poot**	**1.12**	**123**	P	**Pn**	**14 22 33.0**	**+1.0**
CKT	**Bend**	**1.15**	**22**	P	**Pn**	**14 22 32.7**	**+0.4**
SPCR	**Spurr Chakacha**	**1.15**	**22**	P	**Pn**	**14 22 32.8**	**+0.6**
SPCR				S	**Sn**	**14 22 52.4**	**+0.4**
BRLK	**Bradley Lake**	**1.17**	**108**	P	**Pn**	**14 22 33.2**	**+0.8**
SPCP	**Crater Peak Br**	**1.22**	**22**	P	**Pn**	**14 22 33.8**	**+0.7**
FONW	**Fourpeaked Sta**	**1.38**	**198**	P	**Pn**	**14 22 34.6**	**0.0**
SUA	**Susitna One**	**1.75**	**40**	P	**Pn**	**14 22 39.4**	**+0.8**
FIB	**Fire Island**	**1.76**	**53**	P	**Pn**	**14 22 40.0**	**+1.5**
SEW	**Seward**	**1.82**	**90**	P	**Pn**	**14 22 39.7**	**+0.5**
RC01	**Rabbit Creek A**	**1.91**	**59**	P	**Pn**	**14 22 40.5**	**+0.3**
KBM	**Katmai Bkd Mtn**	**2.17**	**211**	P	**Pn**	**14 22 43.5**	**+0.2**
KELA	**Mount Kelaz**	**2.19**	**220**	P	**Pn**	**14 22 43.3**	**-0.3**
KABU	**Katmai Buttres**	**2.19**	**212**	P	**Pn**	**14 22 43.9**	**+0.2**
ANCK	**Angle Creek**	**2.31**	**214**	P	**Pn**	**14 22 45.2**	**+0.1**
CNTC	**Contact Creek**	**2.37**	**219**	P	**Pn**	**14 22 45.8**	**-0.1**
KDAK	**Kodiak Island**	**2.38**	**174**	P	**Pn**	**14 22 45.0**	**-0.9**
	9.5nm,0.3s,baz=356,slow=10,SNR=158						
KDAK				S	**Sn**	**14 23 13.8**	**-2.3**
	88nm,0.3s,baz=131,slow=20,SNR=90						
CAHL	**Cahill**	**2.39**	**210**	P	**Pn**	**14 22 46.3**	**+0.2**
PMR	**Palmer**	**2.42**	**51**	P	**Pn**	**14 22 46.0**	**-0.4**
PWL	**Port Wells**	**2.46**	**71**	P	**Pn**	**14 22 46.6**	**-0.2**
KNK	**Knik Glacier**	**2.60**	**59**	P	**Pn**	**14 22 48.4**	**-0.3**
PPLA	**Purkeypile**	**2.80**	**8**	P	**Pn**	**14 22 52.4**	**+1.2**
SML	**Sawmill**	**2.86**	**52**	P	**Pn**	**14 22 51.5**	**-0.3**
OHAK	**Old Harbor**	**2.93**	**182**	P	**Pn**	**14 22 51.4**	**-1.4**
TT01	**Tatalina**	**3.11**	**334**	P	**Pn**	**14 22 54.5**	**-0.6**
SCM	**Sheep Creek Mo**	**3.28**	**56**	P	**Pn**	**14 22 57.1**	**-0.1**
CAST	**Castle Rocks**	**3.32**	**8**	P	**Pn**	**14 22 58.2**	**+0.4**
JPK	**Jack Peak**	**3.33**	**71**	P	**Pn**	**14 22 57.4**	**-0.5**
TRF	**Thorofare Moun**	**3.58**	**21**	P	**Pn**	**14 23 01.6**	**+0.4**
DIV	**Divide**	**3.74**	**71**	P	**Pn**	**14 23 03.1**	**0.0**
RND	**Reindeer**	**3.84**	**30**	P	**Pn**	**14 23 05.0**	**+0.4**
DHY	**Denali Highway**	**4.01**	**40**	P	**Pn**	**14 23 07.1**	**+0.2**
BPAW	**Bear Paw Mtn.**	**4.09**	**13**	P	**Pn**	**14 23 07.2**	**-0.6**
MCK	**McKinley**	**4.10**	**27**	P	**Pn**	**14 23 08.7**	**+0.8**
RAGM	**Ragged Mountai**	**4.20**	**83**	P	**Pn**	**14 23 10.3**	**+1.1**
HARP	**HAARP**	**4.45**	**56**	P	**Pn**	**14 23 13.2**	**+0.7**
PAX	**Paxson**	**4.62**	**49**	P	**Pn**	**14 23 15.5**	**+0.8**
BERG	**Berg Lake**	**4.68**	**83**	P	**Pn**	**14 23 16.3**	**+0.7**
NEA	**Nenana**	**4.83**	**21**	P	**Pn**	**14 23 17.3**	**-0.1**
KHIT	**Khitrov Hills**	**4.90**	**82**	P	**Pn**	**14 23 19.6**	**+1.0**
WRH	**Wood River Hil**	**4.93**	**26**	P	**Pn**	**14 23 18.7**	**-0.1**
MLY	**Manley**	**5.03**	**11**	P	**Pn**	**14 23 19.7**	**-0.4**
HDA	**Harding Lake**	**5.15**	**31**	P	**Pn**	**14 23 21.9**	**+0.2**
KULT	**Kultieth River**	**5.17**	**84**	P	**Pn**	**14 23 23.7**	**+1.5**
VNSS	**Veniaminof 8**	**5.17**	**223**	P	**Pn**	**14 23 22.4**	**+0.1**
PS08	**TAPS Pump Stn8**	**5.29**	**31**	P	**Pn**	**14 23 23.8**	**+0.2**
RIDG	**Independ'e Rid**	**5.31**	**44**	P	**Pn**	**14 23 24.7**	**+0.9**
MDM	**Murphy Dome**	**5.33**	**23**	P	**Pn**	**14 23 24.0**	**-0.1**
COLA	**College**	**5.33**	**25**	P	**Pn**	**14 23 24.1**	**0.0**
ILAR	**Eielson Array**	**5.46**	**29**	P	**Pn**	**14 23 25.8**	**-0.1**
	19nm,0.3s,baz=214,slow=13,SNR=1196						
ILAR				S	**Sn**	**14 24 24.2**	**-3.6**
	3.0nm,0.3s,baz=219,slow=24,SNR=4.8						
ILB	**Eielson Array**	**5.46**	**29**	P	**Pn**	**14 23 25.7**	**-0.1**
MESA	**MESA**	**5.56**	**85**	P	**Pn**	**14 23 29.4**	**+2.0**
SCRK	**Sand Creek**	**5.75**	**44**	P	**Pn**	**14 23 29.9**	**0.0**
IM3	**Indian Mountai**	**5.87**	**357**	P	**Pn**	**14 23 31.7**	**+0.4**
PS06	**TAPS Pump Stn6**	**5.93**	**13**	P	**Pn**	**14 23 32.9**	**+0.8**
BCA3	**Beaver Creek A**	**6.13**	**57**	P	**Pn**	**14 23 35.8**	**+0.9**
YUK2	**White River**	**6.18**	**69**	P	**Pn**	**14 23 37.3**	**+1.7**
YUK3	**Moose Creek**	**6.36**	**70**	P	**Pn**	**14 23 39.7**	**+1.6**
YUK4	**Talbot Arm**	**7.18**	**74**	P	**Pn**	**14 23 51.2**	**+2.2**
EGAK	**Eagle**	**7.22**	**49**	P	**Pn**	**14 23 49.5**	**+0.2**
COLD	**Coldfoot**	**7.23**	**9**	P	**Pn**	**14 23 50.2**	**+0.8**
DAWY	**Dawson**	**7.53**	**53**	*e*Pn	**Pn**	**14 23 54.8**	**+1.4**
INK	**Inuvik**	**11.75**	**38**	P	**Pn**	**14 24 49.4**	**0.0**
	0.7nm,0.3s,baz=232,slow=12,SNR=21						
DLBC	**Dease Lake**	**11.89**	**88**	P	**Pn**	**14 24 52.6**	**+1.2**
	0.1nm,0.3s,baz=266,slow=13,SNR=3.2						
DLBC				S	**Sn**	**14 26 59.4**	**-3.2**
	baz=186,slow=18,SNR=1.4						
YKA	**Yellowknife Ar**	**18.43**	**66**	P	**Pn**	**14 26 13.0**	**+0.8**
	0.3nm,0.3s,baz=278,slow=11,SNR=47						
YKA				PcP	**PcP**	**14 30 35.3**	**+1.3**
	0.0nm,0.3s,baz=289,slow=1.5,SNR=4.1						
SONM	**Songino Array**	**54.67**	**306**	P	**P**	**14 31 21.6**	**+1.5**
	1.1nm,0.7s,baz=42,slow=6.9,SNR=9.4						
ZALV	**Zalesovo Beam**	**57.23**	**323**	P	**P**	**14 31 38.3**	**+0.2**
	1.5nm,0.5s,baz=22,slow=6.9,SNR=7.3						
KURK	**Kurchatov**	**61.89**	**326**	P	**P**	**14 32 09.5**	**-0.5**
BVAR	**Borovoye Array**	**61.92**	**332**	P	**P**	**14 32 10.3**	**+0.1**
	1.5nm,0.6s,baz=24,slow=7.0,SNR=9.8						
KURBB	**Kurchatov Arra**	**62.00**	**326**	P	**P**	**14 32 09.5**	**-1.2**
	0.6nm,0.2s,baz=26,slow=6.5,SNR=3.9						
AKTO	**Aktyubinsk**	**66.94**	**339**	P	**P**	**14 32 43.0**	**+0.1**
	0.6nm,0.4s,baz=25,slow=14,SNR=4.3						

*SOME **25** 14:28:32.2, 42.23°N×78.42°E, h10km*
*KRNET **25** 14:28:32.4±0.1, 42.21°N×78.43°E, h16km, mb3.8*
*NNC **25** 14:28:33.7±1.1, 42.30°N×78.45°E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=8.5km s-min=3.4km az=163.0*
*ISCJB **25** 14:28:34.1±0.5, 42.21°N±0.03°×78.43°E±0.03, h10km, Error ellipse: s-maj=4.7km s-min=2.4km az=149.9*

ISC 25 14:28:33.4±0.9, 42.24°N±0.03°×78.37°E±0.02, h10km, n84, σ1.55/146, 35C-27D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**0.24**	**5**	⇓*i*P	**Pg**	**14 28 37.5**	**-1.0**
	baz=57						
PRZ				⇓*i*S	**Sg**	**14 28 41.7**	**-0.3**
	baz=57						
SATY	**Saty**	**0.82**	**2**	P	**Pg**	**14 28 48.0**	**-1.2**
	82nm,0.2s						
SATY				S	**Sg**	**14 28 59.3**	**-0.7**
	182nm,0.1s						
SATY	**Saty**	**0.82**	**2**	*e*P	**Pg**	**14 28 48.0**	**-1.2**
	82nm,0.2s						
SATY				*e*S	**Sg**	**14 28 59.3**	**-0.7**
	182nm,0.1s						
KDJ	**Kajisay**	**0.89**	**263**	⇓*i*P	**Pb**	**14 28 50.4**	**-0.7**
	baz=65						
KDJ				⇓*i*S	**Sb**	**14 29 03.4**	**+0.3**
	baz=65						
UZB	**Uzynbulak**	**1.03**	**28**	P	**Pg**	**14 28 51.3**	**-1.8**
	6.3nm,0.2s						
UZB				S	**Sg**	**14 29 05.1**	**-1.5**
	98nm,0.3s						
UZB	**Uzynbulak**	**1.03**	**28**	*e*P	**Pg**	**14 28 51.4**	**-1.8**
	baz=25						
UZB				*e*S	**Sg**	**14 29 05.0**	**-1.5**
	baz=25						
UZB	**Uzynbulak**	**1.03**	**28**	*e*P	**Pg**	**14 28 51.4**	**-1.8**
	5.1nm,0.2s						
UZB				*e*S	**Sg**	**14 29 04.9**	**-1.6**
	111nm,0.3s						
SHLS	**Shalkode**	**1.22**	**41**	⇑*e*P	**Pg**	**14 28 58.8**	**+1.9**
	baz=48						
SHLS				⇑*e*S	**Sn**	**14 29 18.1**	**+4.8**
	baz=48						
SHLS	**Shalkode**	**1.22**	**41**	⇑*e*P	**Pg**	**14 28 58.8**	**+1.9**
	90nm,0.2s						
SHLS				*e*S	**Sn**	**14 29 18.1**	**+4.8**
	519nm,0.4s						
TNSS	**Tian-Shan**	**1.32**	**308**	P	**Pn**	**14 28 57.8**	**-0.6**
	20nm,0.1s						
TNSS				S	**Sn**	**14 29 16.0**	**-0.1**
	165nm,0.3s						
TNSS	**Tian-Shan**	**1.32**	**308**	*e*P	**Pn**	**14 28 57.7**	**-0.6**
	baz=7.0						
TNSS				*e*S	**Sg**	**14 29 15.8**	**-0.1**
	baz=7.0						
TNSS	**Tian-Shan**	**1.32**	**308**	*e*P	**Pn**	**14 28 57.7**	**-0.6**
	21nm,0.1s						
TNSS				*e*S	**Sg**	**14 29 15.9**	**-0.1**
	152nm,0.3s						
MDOK	**Medeo**	**1.34**	**314**	⇑*e*P	**Pn**	**14 28 57.9**	**-0.5**
	baz=13						
MDOK				⇑*e*S	**Sn**	**14 29 16.3**	**-0.1**
	baz=13						
MDOK	**Medeo**	**1.34**	**314**	⇑*e*P	**Pn**	**14 28 57.9**	**-0.5**
	22nm,0.1s						
MDOK				*e*S	**Sn**	**14 29 16.3**	**-0.1**
	167nm,0.3s						
KOTS	**Kotyrbulak**	**1.36**	**317**	P	**Pb**	**14 28 58.5**	**-0.6**
	36nm,0.2s						
KOTS				S	**Sg**	**14 29 17.2**	**-0.1**
	196nm,0.2s						
KOTS	**Kotyrbulak**	**1.36**	**317**	*e*P	**Pb**	**14 28 58.5**	**-0.6**
	baz=17						
KOTS				*e*S	**Sg**	**14 29 17.2**	**-0.1**
	baz=17						
KOTS	**Kotyrbulak**	**1.36**	**317**	*e*P	**Pb**	**14 28 58.5**	**-0.6**
	36nm,0.2s						
KOTS				*e*S	**Sg**	**14 29 17.2**	**-0.1**
	196nm,0.2s						
PDGK	**Podgornoye**	**1.36**	**37**	P	**Pn**	**14 28 57.1**	**-1.5**
	12nm,0.1s						
PDGK				S	**Sb**	**14 29 14.8**	**-1.9**
	70nm,0.3s						
PDGK	**Podgornoye**	**1.36**	**37**	⇑P	**Pn**	**14 28 56.8**	**-1.9**
	9.6nm,0.3s						
PDGK				⇑S	**Sb**	**14 29 14.9**	**-1.9**
	93nm,0.5s						
KNDC	**Almaty**	**1.43**	**314**	⇑P	**Pg**	**14 29 04.0**	**+3.2**
	15nm,0.3s						
KNDC				⇓S	**Sg**	**14 29 19.5**	**+0.2**
IZV	**Izvestkoviy**	**1.52**	**302**	P	**Pb**	**14 29 01.5**	**-0.4**
	42nm,0.1s						
IZV				S	**Sg**	**14 29 22.5**	**+0.1**
	613nm,0.2s						
IZV	**Izvestkoviy**	**1.52**	**302**	*e*P	**Pb**	**14 29 01.5**	**-0.4**
	baz=2.0						
IZV				*e*S	**Sg**	**14 29 22.6**	**+0.1**
	baz=2.0						
IZV	**Izvestkoviy**	**1.52**	**302**	*e*P	**Pb**	**14 29 01.5**	**-0.4**
	41nm,0.1s						
IZV				*e*S	**Sg**	**14 29 22.5**	**+0.1**
	656nm,0.2s						
ULHL	**Ulahol**	**1.58**	**271**	P	**Pb**	**14 29 02.1**	**-0.8**
	SNR=240						
ULHL	**Ulahol**	**1.58**	**271**	⇑*i*P	**Pb**	**14 29 02.2**	**-0.7**
	baz=72						
ULHL				⇑*i*S	**Sg**	**14 29 24.2**	**-0.1**
	baz=72						
MTBS	**Maitube**	**1.69**	**303**	*e*P	**Pb**	**14 29 04.3**	**-0.3**
	baz=3.0						
MTBS				*e*S	**Sg**	**14 29 26.9**	**-0.8**
	baz=3.0						
MTBS	**Maitube**	**1.69**	**303**	*e*P	**Pb**	**14 29 04.3**	**-0.3**
	44nm,0.3s						
MTBS				*e*S	**Sg**	**14 29 26.9**	**-0.8**
	379nm,0.2s						
BOOM	**Boomskoye usch**	**1.82**	**279**	⇓*i*P	**Pb**	**14 29 06.1**	**-0.8**
	baz=79						
BOOM				⇓*i*S	**Sb**	**14 29 30.6**	**+0.8**
	baz=79						
MNBS	**Baschi**	**1.84**	**1**	P	**Pb**	**14 29 06.6**	**-0.6**
	127nm,0.2s						
MNBS				S	**Sg**	**14 29 31.3**	**-1.3**
	166nm,0.3s						
MNBS	**Baschi**	**1.84**	**1**	*e*P	**Pb**	**14 29 06.6**	**-0.6**
	baz=2.0						
MNBS				*e*S	**Sg**	**14 29 31.2**	**-1.3**
	baz=2.0						
MNBS	**Baschi**	**1.84**	**1**	*e*P	**Pb**	**14 29 06.6**	**-0.6**
	127nm,0.2s						
MNBS				*e*S	**Sg**	**14 29 31.3**	**-1.3**
	166nm,0.3s						
KTMS	**Ketmen**	**1.89**	**50**	P	**Pb**	**14 29 06.2**	**-1.9**
	87nm,0.2s						
KTMS				S	**Sb**	**14 29 30.8**	**-1.0**
	242nm,0.4s						
KTMS	**Ketmen**	**1.89**	**50**	*e*P	**Pb**	**14 29 06.2**	**-1.9**
	baz=48						
KTMS				*e*S	**Sb**	**14 29 30.8**	**-1.0**
	baz=48						
KTMS	**Ketmen**	**1.89**	**50**	*e*P	**Pb**	**14 29 06.2**	**-1.9**
	87nm,0.2s						
KTMS				*e*S	**Sb**	**14 29 30.8**	**-1.0**
	242nm,0.4s						
CHKK	**Chushkaly**	**1.91**	**328**	⇓*e*P	**Pb**	**14 29 08.0**	**-0.3**
	baz=28						
CHKK				⇓*e*S	**Sg**	**14 29 33.7**	**-1.0**
	baz=28						
CHKK	**Chushkaly**	**1.91**	**328**	⇓*e*P	**Pb**	**14 29 08.0**	**-0.3**
	99nm,0.2s						
CHKK				*e*S	**Sg**	**14 29 33.6**	**-1.0**
	390nm,0.3s						
KTBS	**Karatobe**	**1.93**	**320**	Pg	**Pb**	**14 29 08.5**	**-0.2**
	62nm,0.4s						
KTBS				Lg	Lg	14 29 34.3	
	302nm,0.5s						
KTBS	**Karatobe**	**1.93**	**320**	*e*P	**Pb**	**14 29 08.3**	**-0.3**
	baz=17						
KTBS				*e*S	**Sg**	**14 29 34.0**	**-1.3**
	baz=17						
KTBS	**Karatobe**	**1.93**	**320**	*e*P	**Pb**	**14 29 08.3**	**-0.3**
	70nm,0.5s						
KTBS				*e*S	**Sg**	**14 29 34.0**	**-1.3**
	319nm,0.6s						
NRN	**Naryn**	**1.95**	**246**	⇓*i*P	**Pb**	**14 29 08.4**	**-0.8**
	baz=48						
NRN				⇓*i*S	**Sg**	**14 29 34.6**	**-1.4**
	baz=48						
KST	**Kastek**	**1.95**	**295**	Pg	**Pb**	**14 29 08.6**	**-0.5**
	77nm,0.2s						
KST				Lg	Lg	14 29 35.2	
	368nm,0.4s						
KST	**Kastek**	**1.95**	**295**	*e*P	**Pb**	**14 29 08.6**	**-0.5**
	baz=95						
KST				*e*S	**Sg**	**14 29 35.2**	**-0.9**
	baz=95						
KST	**Kastek**	**1.95**	**295**	*e*P	**Pb**	**14 29 08.6**	**-0.5**
	77nm,0.2s						
KST				*e*S	**Sg**	**14 29 35.2**	**-0.9**
	368nm,0.4s						
ARXS	**Arharly**	**2.01**	**349**	Pg	**Pb**	**14 29 09.7**	**-0.5**
	106nm,0.6s						
ARXS				Lg	Lg	14 29 36.7	
	160nm,0.3s						
ARXS	**Arharly**	**2.01**	**349**	*e*P	**Pb**	**14 29 09.7**	**-0.5**
	106nm,0.6s						
ARXS				*e*S	**Sg**	**14 29 36.7**	**-1.4**
	160nm,0.3s						
TKM2	**Tokmak 2**	**2.16**	**289**	P	**Pb**	**14 29 12.2**	**-0.5**
	SNR=71						
TKM2	**Tokmak 2**	**2.16**	**289**	⇑Pn	**Pb**	**14 29 12.2**	**-0.5**
	12nm,0.3s						
TKM2				⇑Sn	**Sg**	**14 29 41.9**	**-1.0**
	139nm,0.5s						
TKM2	**Tokmak 2**	**2.16**	**289**	⇑*i*P	**Pb**	**14 29 11.6**	**-1.1**
	baz=90						
TKM2				⇑*i*S	**Sb**	**14 29 39.9**	**+0.2**
	baz=90						
DGS	**Degeres**	**2.16**	**299**	Pg	**Pb**	**14 29 12.9**	**+0.2**
	49nm,0.5s						
DGS				Lg	Lg	14 29 41.8	
	230nm,0.4s						
DGS	**Degeres**	**2.16**	**299**	*e*P	**Pb**	**14 29 12.5**	**-0.2**
	baz=99						
DGS				*e*S	**Sg**	**14 29 41.6**	**-1.3**
	baz=99						
DGS	**Degeres**	**2.16**	**299**	*e*P	**Pb**	**14 29 12.5**	**-0.2**
	25nm,0.3s						
DGS				*e*S	**Sg**	**14 29 41.6**	**-1.3**
	238nm,0.5s						
KUU	**Kurty**	**2.23**	**319**	*e*P	**Pb**	**14 29 13.3**	**-0.5**
	baz=18						
KUU				*e*S	**Sg**	**14 29 43.2**	**-1.8**
	baz=18						
KUU	**Kurty**	**2.23**	**319**	*e*P	**Pb**	**14 29 13.3**	**-0.5**
	23nm,0.3s						
KUU				*e*S	**Sg**	**14 29 43.1**	**-1.8**
	336nm,0.3s						
KZA	**Kyzart**	**2.33**	**267**	P	**Pb**	**14 29 15.3**	**-0.4**
	SNR=60						
KZA	**Kyzart**	**2.33**	**267**	⇑*i*P	**Pb**	**14 29 13.8**	**-1.9**
	baz=68						
KZA				⇑*i*S	**Sb**	**14 29 43.9**	**-0.8**
	baz=68						
DJR	**Jarkent**	**2.33**	**26**	Pg	**Pb**	**14 29 15.0**	**-0.6**
	19nm,0.2s						
DJR				Lg	Lg	14 29 45.8	
	154nm,0.3s						
DJR	**Jarkent**	**2.33**	**26**	*e*P	**Pb**	**14 29 14.8**	**-0.8**
	21nm,0.2s						
DJR				*e*S	**Sb**	**14 29 45.5**	**+0.9**
	143nm,0.3s						
KBK	**Karagaybulak**	**2.57**	**281**	P	**Pb**	**14 29 18.5**	**-1.2**
	SNR=78						
KBK	**Karagaybulak**	**2.57**	**281**	⇑*i*P	**Pb**	**14 29 17.1**	**-2.6**
	baz=81						
KBK				⇑*i*S	**Sb**	**14 29 49.7**	**-1.7**
	baz=81						
TDK	**Taldyqorghan**	**2.76**	**0**	*e*P	**Pb**	**14 29 21.4**	**-1.5**
	44nm,0.3s						
TDK				*e*S	**Sb**	**14 29 56.5**	**-0.3**
	138nm,0.5s						
CHMS	**Chumysh**	**2.78**	**287**	P	**Pb**	**14 29 22.2**	**-0.9**
	SNR=15						
CHMS	**Chumysh**	**2.78**	**287**	⇓*i*P	**Pn**	**14 29 19.9**	**+1.9**
	baz=87						
CHMS				⇓*i*S	**Sb**	**14 29 54.5**	**-2.8**
	baz=87						
FRU1	**Bishkek**	**2.83**	**283**	⇑*e*P	**Pn**	**14 29 20.4**	**+1.7**
	baz=83						
FRU1				⇑*i*S	**Sn**	**14 29 55.4**	**+2.6**
	baz=83						
UCH	**Uchtor**	**2.87**	**271**	P	**Pb**	**14 29 24.0**	**-0.9**
	SNR=11						
UCH	**Uchtor**	**2.87**	**271**	⇓*e*P	**Pn**	**14 29 21.3**	**+1.7**
	baz=72						
UCH				⇓*i*S	**Sb**	**14 29 57.1**	**-3.1**
	baz=72						
AAK	**Ala-Archa**	**2.90**	**279**	P	**Pb**	**14 29 23.3**	**-2.0**
	SNR=31						
AAK	**Ala-Archa**	**2.90**	**279**	⇑Pn	**Pb**	**14 29 23.1**	**-2.2**
	8.8nm,0.3s						
AAK				⇓Lg	Lg	14 30 02.4	
	74nm,0.6s						
AAK	**Ala-Archa**	**2.90**	**279**	⇑*e*P	**Pn**	**14 29 21.4**	**+1.6**
	baz=80						
AAK				⇑*i*S	**Sn**	**14 29 57.4**	**+2.7**
	baz=80						
USP	**Ospenovka**	**3.03**	**291**	P	**Pb**	**14 29 25.0**	**-2.5**
	SNR=12						
USP	**Ospenovka**	**3.03**	**291**	⇓*i*P	**Pn**	**14 29 23.2**	**+1.7**
	baz=91						
USP				⇓*i*S	**Sn**	**14 30 00.7**	**+2.8**
	baz=91						
ARLS	**Aral**	**3.04**	**264**	⇓*i*P	**Pn**	**14 29 24.0**	**+2.3**
	baz=65						
ARLS				⇓*i*S	**Sn**	**14 30 00.0**	**+1.8**
	baz=65						
KAPS	**Kapalarasan**	**3.13**	**13**	*e*P	**Pb**	**14 29 28.2**	**-1.0**
	12nm,0.4s						
KAPS				*e*S	**Sb**	**14 30 09.2**	**+1.8**
	93nm,0.4s						
EKS2	**Erkin-Say**	**3.43**	**279**	P	**Pb**	**14 29 34.8**	**+0.5**
	SNR=19						
EKS2	**Erkin-Say**	**3.43**	**279**	⇑*i*P	**Pn**	**14 29 28.9**	**+1.9**
	baz=79						
EKS2				⇑*i*S	**Sn**	**14 30 09.8**	**+2.1**
	baz=79						
AML	**Almayashu**	**3.48**	**270**	P	**Pb**	**14 29 34.7**	**-0.6**
	SNR=11						
AML	**Almayashu**	**3.48**	**270**	⇑*e*P	**Pn**	**14 29 29.9**	**+1.9**
	baz=70						
AML				⇑*i*S	**Sn**	**14 30 11.7**	**+2.3**
	baz=70						
ARSB	**Arslanbob**	**4.13**	**259**	⇓*i*P	**Pn**	**14 29 39.0**	**+2.3**
	baz=60						
ARSB				⇓*e*S	**Sn**	**14 30 26.8**	**+1.6**
	baz=60						
SFK	**Sufi-Kurgan**	**4.30**	**240**	⇓Pg	**Pg**	**14 29 54.1**	**-1.7**
	3.6nm,0.5s						
SFK				⇓Lg	Lg	14 30 49.7	
	16nm,0.7s						
MNAS	**Manas**	**4.36**	**275**	⇓Pg	**Pb**	**14 29 51.5**	**+1.4**
	4.9nm,0.6s						
MNAS				⇑Lg	Lg	14 30 49.8	
	4.7nm,0.4s						
MNAS	**Manas**	**4.36**	**275**	⇑*i*P	**Pn**	**14 29 41.7**	**+1.9**
	baz=76						
MNAS				⇑*i*S	**Sn**	**14 30 32.6**	**+1.9**
	baz=76						
MAKZ	**Makanchi**	**5.25**	**28**	⇑Pn	**Pn**	**14 29 54.8**	**+2.9**
	0.5nm,0.2s						
MAKZ				⇓Lg	Lg	14 31 14.3	
	6.0nm,0.6s						
MK31	**Makanchi Array**	**5.35**	**30**	⇑Pn	**Pn**	**14 29 55.8**	**+2.5**
	0.5nm,0.2s,baz=206,slow=12,SNR=36						
MK31				Sn	**Sn**	**14 30 58.8**	**+3.9**

Plg64.0000°, Azm303.0000°; P -3.6600, Plg25.0000°, Azm107.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.

BGR ***25*** *14:48:18.2±0.6,44.04N×10.64E,h10km,ML5.2 Error ellipse: s-maj=12.2km s-min=10.0km az=43.0*

ROM ***25*** *14:48:18.3±0.1,44.164N±0.004×10.446E±0.006, h20km,ML4.8/130*

STR ***25*** *14:48:19.3±0.9,44°N±4°×1°1E±°,h15km,M5.4/17, mB6.0/13,mb5.8/17,MLv4.8/3,Mw(mB)5.6/13*

GEN ***25*** *14:48:19.1,44.17N×10.44E,h16km±6km,Ml4.8*

BGS ***25*** *14:48:20.3±1.9,44.39N×10.38E,h15km,MW4.9(NEIC)*

GCMT ***25*** *14:48:22.0±0.2,44.17N±0.01×10.49E±0.02,h22km±1km, MW5.0/97,Moment Tensor Solution. s40,c48; s97,c152; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.45±.14; $M_{\theta\theta}$3.72±.12; $M_{\phi\phi}$-2.26±.10; $M_{r\theta}$-0.12±.17; $M_{\theta\phi}$-2.45±.09; $M_{\phi r}$0.87±.18; Best double couple: M_o4.03200×10^{16} NP1:ϕ_s152.00000°,δ78.00000°,λ-18.00000°. NP2: ϕ_s246.00000°,δ72.00000°,λ-167.00000°. Principal axes: T 4.6230, Plg4.0000°, Azm200.0000°; N -1.1720, Plg68.0000°, Azm300.0000°; P -3.4410, Plg21.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 14:48:19.2±0.5,44.18N±0.02×10.45E±0.01,h19km±1km, n813,σ2≥08/913,mb5.0/107,MS4.3/48,81C-44D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARO	**Sassorosso**	**0.03**	**281**	P	**Pg**	**14 48 21.4**	**-1.4**
VLC	**Villacollemand**	**0.05**	**247**	*e*Pg	**Pg**	**14 48 21.6**	**-1.1**
VLC	**Villacollemand**	**0.05**	**247**	*i* P	**Pg**	**14 48 21.6**	**-1.1**
VLC				S	**Sg**	**14 48 24.0**	**-1.1**
VLC				AML	AML		
VLC				AML	AML		
VLC				AML	AML		
VLC				AML	AML		
VLC				AML	AML		
VLC				AML	AML		
VLC				AML	AML		
VLC				AML	AML		
BDI	**Bagni Di Lucca**	**0.16**	**137**	P	**Pg**	**14 48 22.5**	**-1.3**
BDI				S	**Sb**	**14 48 26.1**	**+1.9**
BDI				AML	AML		
BDI				AML	AML		
BDI				AML	AML		
BDI				AML	AML		
BDI				AML	AML		
BDI				AML	AML		
EQUI	**Equi**	**0.21**	**267**	P	**Pg**	**14 48 23.5**	**-1.0**
EQUI				S	**Sg**	**14 48 27.2**	**-0.8**
EQUI	**Equi**	**0.21**	**267**	*e*P	**Pg**	**14 48 23.5**	**-1.0**
EQUI				S	**Sg**	**14 48 27.3**	**-0.8**
POPM	**Popiglio**	**0.26**	**121**	P	**Pg**	**14 48 23.8**	**-1.3**
POPM				S	**Sg**	**14 48 28.6**	**-0.7**
POPM	**Popiglio**	**0.26**	**121**	P	**Pg**	**14 48 23.9**	**-1.3**
POPM				S	**Sg**	**14 48 28.6**	**-0.7**
MAIM	**Mastiano**	**0.27**	**173**	P	**Pg**	**14 48 24.3**	**-1.0**
MAIM				S	**Sb**	**14 48 29.8**	**+0.6**
MAIM	**Mastiano**	**0.27**	**173**	*e*P	**Pg**	**14 48 24.3**	**-1.0**
MAIM				S	**Sb**	**14 48 29.2**	**-0.1**
MAIM				AML	AML		
MAIM				AML	AML		
MAIM				AML	AML		
MAIM				AML	AML		
MAIM				AML	AML		
MAIM				AML	AML		
GRAM	**Graiana**	**0.42**	**319**	P	**Pg**	**14 48 26.7**	**-1.2**
GRAM	**Graiana**	**0.42**	**319**	*i* P	**Pg**	**14 48 26.7**	**-1.2**
NEVI	**Neviano degli**	**0.42**	**347**	P	**Pg**	**14 48 27.2**	**-0.6**
NEVI				AML	AML		
NEVI				AML	AML		
NEVI				AML	AML		
NEVI				AML	AML		
NEVI				AML	AML		
NEVI				AML	AML		
ZCCA	**Zocca**	**0.42**	**65**	*e*P	**Pg**	**14 48 27.1**	**-0.8**
ZCCA				S	**Sb**	**14 48 34.5**	**+0.4**
ZCCA				AML	AML		
ZCCA				AML	AML		
ZCCA				AML	AML		
ZCCA				AML	AML		
ZCCA				AML	AML		
ZCCA				AML	AML		
ZCCA				AML	AML		
ZCCA				AML	AML		
ZCCA				AML	AML		
ZCCA				AML	AML		
ZCCA				AML	AML		
MTCR	**Monte La Croce**	**0.42**	**111**	P	**Pg**	**14 48 26.5**	**-1.5**
MTCR				S	**Sg**	**14 48 33.0**	**-1.0**
MTCR				AML	AML		
MTCR				AML	AML		
MTCR				AML	AML		
MTCR				AML	AML		
MTCR				AML	AML		
MTCR				AML	AML		
PLMA	**Palmaria, Port**	**0.45**	**254**	*e*P	**Pg**	**14 48 28.0**	**-0.4**
PLMA				S	**Sg**	**14 48 34.4**	**-0.2**
CODM	**Codolo**	**0.48**	**297**	P	**Pg**	**14 48 27.8**	**-1.2**
FNVD	**Fontana Vidola**	**0.49**	**91**	P	**Pg**	**14 48 27.4**	**-1.8**
PTF	**Prato**	**0.50**	**116**	*i* P	**Pg**	**14 48 27.6**	**-1.7**
CRMI	**Carmignano**	**0.54**	**136**	P	**Pg**	**14 48 29.3**	**-0.8**
CRMI				S	**Sg**	**14 48 36.6**	**-0.8**
CRMI				AML	AML		
CRMI				AML	AML		
CRMI				AML	AML		
	comp=E,67400µm,0.6s						
CRMI				AML	AML		
	comp=N,66750µm,1.6s						
CRMI				AML	AML		
CRMI				AML	AML		
CRMI				AML	AML		
	comp=E,67350µm,0.6s						
CRMI				AML	AML		
	comp=N,66750µm,1.6s						
CRMI				AML	AML		
	comp=E,67350µm,0.6s						
CRMI				AML	AML		
CRMI				AML	AML		
	comp=N,66750µm,1.6s						
CRMI				AML	AML		
MODE	**Modena**	**0.58**	**38**	P	**Pg**	**14 48 30.5**	**-0.3**
MODE				AML	AML		
MODE				AML	AML		
MODE				AML	AML		
MODE				AML	AML		
MODE				AML	AML		
MODE				AML	AML		
MODE				AML	AML		
MODE				AML	AML		
PRMA	**PARMA**	**0.59**	**351**	*i* P	**Pg**	**14 48 30.4**	**-0.7**
PRMA				AML	AML		
PRMA				AML	AML		
PRMA				AML	AML		
PRMA				AML	AML		
PRMA				AML	AML		
PRMA				AML	AML		
NOVE	**Novellara**	**0.65**	**17**	*e*P	**Pg**	**14 48 31.2**	**-0.9**
NOVE				AML	AML		
NOVE				AML	AML		
NOVE				AML	AML		
NOVE				AML	AML		
NOVE				AML	AML		
NOVE				AML	AML		
NOVE				AML	AML		
NOVE				AML	AML		
MSSA	**Maissana**	**0.68**	**282**	*i* P	**Pg**	**14 48 31.8**	**-1.0**
MSSA				AML	AML		
	comp=E,94300µm,1.6s						
MSSA				AML	AML		
MSSA				AML	AML		
	comp=E,94300µm,1.6s						
MSSA				AML	AML		
MSSA				AML	AML		
	comp=E,94300µm,1.6s						
MSSA				AML	AML		
FIR	**Firenze**	**0.71**	**124**	P	**Pg**	**14 48 32.0**	**-1.2**
FIR				S	**Sb**	**14 48 42.6**	**+0.4**
RAVA	**Ravarino**	**0.75**	**40**	P	**Pb**	**14 48 33.4**	**-0.3**
RAVA				AML	AML		
RAVA				AML	AML		
RAVA				AML	AML		
RAVA				AML	AML		
RAVA				AML	AML		
RAVA				AML	AML		
RAVA				AML	AML		
RAVA				AML	AML		
MTRZ	**Monterenzio**	**0.76**	**74**	P	**Pb**	**14 48 32.4**	**-1.5**
MTRZ				AML	AML		
MTRZ				AML	AML		
MTRZ				AML	AML		
MTRZ				AML	AML		
MTRZ				AML	AML		
MTRZ				AML	AML		
MTRZ				AML	AML		
MTRZ				AML	AML		
MTRZ				AML	AML		
MTRZ				AML	AML		
MTRZ				AML	AML		
MTRZ				AML	AML		
NDIM	**Novi di Modena**	**0.78**	**24**	*e*P	**Pb**	**14 48 33.2**	**-0.9**
NDIM				AML	AML		
NDIM				AML	AML		
NDIM				AML	AML		
NDIM				AML	AML		
NDIM				AML	AML		
NDIM				AML	AML		
NDIM				AML	AML		
NDIM				AML	AML		
NDIM				AML	AML		
NDIM				AML	AML		
NDIM				AML	AML		
NDIM				AML	AML		
GROG	**Isola di Gorgo**	**0.85**	**208**	*e*P	**Pb**	**14 48 34.1**	**-1.2**
FIU	**Minerbio Fiu**	**0.88**	**58**	AML	AML		
FIU				AML	AML		
FIU				AML	AML		
FIU				AML	AML		
FIU				AML	AML		
FIU				AML	AML		
T0813	**Massa Finalese**	**0.88**	**37**	P	**Pb**	**14 48 35.8**	**-0.1**
T0813				AML	AML		
T0813				AML	AML		
T0813				AML	AML		
T0813				AML	AML		
T0813				AML	AML		
T0813				AML	AML		
T0813				AML	AML		
T0813				AML	AML		
T0813				AML	AML		
T0813				AML	AML		
T0813				AML	AML		
T0813				AML	AML		
BOB	**Bobbio (Coli)**	**0.93**	**310**	*e*P	**Pb**	**14 48 35.9**	**-0.8**
BOB				AML	AML		
	comp=E,71350µm,0.6s						
BOB				AML	AML		
	comp=N,81950µm,0.6s						
BOB				AML	AML		
	comp=E,81900µm,0.7s						
BOB				AML	AML		
	comp=N,88500µm,0.6s						
BOB				AML	AML		
	comp=E,71400µm,0.6s						
BOB				AML	AML		
	comp=N,81900µm,0.6s						
BOB				AML	AML		
	comp=E,81900µm,0.7s						
BOB				AML	AML		
	comp=N,88500µm,0.6s						
BOB				AML	AML		
	comp=E,71350µm,0.6s						
BOB				AML	AML		
	comp=N,81900µm,0.6s						
BOB				AML	AML		
	comp=E,71350µm,0.6s						
BOB				AML	AML		
	comp=E,81900µm,0.7s						
GORR	**Gorreto**	**0.93**	**298**	P	**Pb**	**14 48 36.0**	**-0.8**
CSNT	**Castellina Chi**	**0.93**	**139**	P	**Pb**	**14 48 36.4**	**-0.5**
CSNT				S	**Sg**	**14 48 48.8**	**-0.9**
CSNT				AML	AML		
CSNT				AML	AML		
CSNT				AML	AML		
CSNT				AML	AML		
CSNT				AML	AML		
CSNT				AML	AML		
SBPO	**S.Benedetto Po**	**0.94**	**21**	AML	AML		
SBPO				AML	AML		
SBPO				AML	AML		
SBPO				AML	AML		
SBPO				AML	AML		
SBPO				AML	AML		
IMOL	**Imola, Italy**	**0.95**	**79**	AML	AML		
IMOL				AML	AML		
	comp=N,97650µm,0.7s						
IMOL				AML	AML		
	comp=E,11650µm,0.8s						
IMOL				AML	AML		
	comp=N,18400µm,0.9s						
IMOL				AML	AML		
IMOL				AML	AML		
	comp=N,97600µm,0.7s						
IMOL				AML	AML		
	comp=E,11665µm,0.8s						
IMOL				AML	AML		
	comp=N,18400µm,0.9s						
IMOL				AML	AML		
	comp=N,18400µm,0.9s						
IMOL				AML	AML		
IMOL				AML	AML		
	comp=E,11665µm,0.8s						
IMOL				AML	AML		
	comp=N,97600µm,0.7s						
ASQU	**Asqua**	**1.04**	**111**	*e*P	**Pb**	**14 48 37.4**	**-1.3**
ASQU				AML	AML		
	comp=E,48400µm,1.0s						
ASQU				AML	AML		
	comp=N,81400µm,0.6s						
ASQU				AML	AML		
	comp=N,81400µm,0.6s						
ASQU				AML	AML		
	comp=E,48400µm,1.0s						
GAZZ	**Gazzo Veronese**	**1.04**	**26**	*e*Pg	**Pn**	**14 48 39.2**	**+0.4**
GAZZ				*e*Sg	**Sn**	**14 48 55.7**	**+2.8**
SFI	**Santa Sofia**	**1.04**	**105**	P	**Pb**	**14 48 38.0**	**-0.7**
SFI				AML	AML		
	comp=E,90850µm,1.0s						
SFI				AML	AML		
	comp=N,58200µm,0.6s						
SFI				AML	AML		
	comp=E,93500µm,1.0s						
SFI				AML	AML		
	comp=N,60400µm,0.6s						
SFI				AML	AML		
	comp=E,90850µm,1.0s						
SFI				AML	AML		
	comp=N,58200µm,0.6s						
SFI				AML	AML		
	comp=E,93550µm,1.0s						
SFI				AML	AML		
	comp=N,60400µm,0.6s						
SFI				AML	AML		
	comp=N,60400µm,0.6s						
SFI				AML	AML		
	comp=E,90850µm,1.0s						
SFI				AML	AML		
	comp=E,93550µm,1.0s						
FROS	**Frosini**	**1.10**	**152**	P	**Pb**	**14 48 39.3**	**-0.3**
FROS				AML	AML		
FROS				AML	AML		
FROS				AML	AML		
FROS				AML	AML		
FROS				AML	AML		
FROS				AML	AML		
TRIF	**Trifonti**	**1.11**	**163**	P	**Pb**	**14 48 39.3**	**-0.6**
TRIF				AML	AML		
	comp=E,55650µm,0.7s						
TRIF				AML	AML		
	comp=N,77450µm,0.8s						
TRIF				AML	AML		
	comp=E,55650µm,0.7s						
TRIF				AML	AML		
	comp=N,77450µm,0.8s						
TRIF				AML	AML		
	comp=E,55650µm,0.7s						
TRIF				AML	AML		
	comp=N,77450µm,0.8s						
CTL8	**Castelleone**	**1.20**	**336**	AML	AML		
	comp=E,60850µm,0.7s						
CTL8				AML	AML		
CTL8				AML	AML		
	comp=N,30660µm,1.0s						
CTL8				AML	AML		
	comp=E,60850µm,0.7s						
CTL8				AML	AML		
	comp=N,27900µm,0.7s						
CTL8				AML	AML		
CTL8				AML	AML		
	comp=N,30660µm,1.0s						
CTL8				AML	AML		
	comp=N,27900µm,0.7s						
CRE	**Caprese Michel**	**1.22**	**117**	P	**Pn**	**14 48 39.9**	**-1.5**
CRE				AML	AML		
	comp=E,54000µm,0.7s						
CRE				AML	AML		
	comp=N,49750µm,0.4s						
CRE				AML	AML		
	comp=E,54000µm,0.7s						
CRE				AML	AML		
	comp=N,49750µm,0.4s						
CRE				AML	AML		
	comp=N,49750µm,0.4s						
CRE				AML	AML		
	comp=E,54000µm,0.7s						
SSP9	**Sansepolcro**	**1.36**	**116**	P	**Pn**	**14 48 42.6**	**-0.6**
SSP9				AML	AML		
	comp=E,35400µm,1.2s						
SSP9				AML	AML		
	comp=N,60150µm,1.5s						
SSP9				AML	AML		
	comp=N,60150µm,1.5s						
SSP9				AML	AML		
	comp=E,35400µm,1.2s						
CAFI	**Castiglion Fio**	**1.39**	**127**	P	**Pn**	**14 48 42.7**	**-1.0**
CAFI				AML	AML		
	comp=E,26300µm,1.2s						
CAFI				AML	AML		
	comp=N,23450µm,1.4s						
CAFI				AML	AML		
	comp=E,26600µm,1.2s						
CAFI				AML	AML		
	comp=N,23850µm,1.4s						
CAFI				AML	AML		
	comp=E,26600µm,1.2s						
CAFI				AML	AML		
	comp=E,26300µm,1.2s						
CAFI				AML	AML		
	comp=N,23850µm,1.4s						
CAFI				AML	AML		
	comp=N,23450µm,1.4s						
CPGN	**Carpegna, Ital**	**1.40**	**105**	P	**Pn**	**14 48 43.7**	**-0.2**
CPGN				AML	AML		
	comp=E,30000µm,0.8s						
CPGN				AML	AML		
	comp=N,31500µm,1.6s						
CPGN				AML	AML		
	comp=E,30750µm,0.8s						
CPGN				AML	AML		
	comp=N,32050µm,1.6s						
CPGN				AML	AML		
	comp=E,30750µm,0.8s						
CPGN				AML	AML		
	comp=N,31500µm,1.6s						
CPGN				AML	AML		
	comp=N,32050µm,1.6s						
CPGN				AML	AML		
	comp=E,30000µm,0.8s						
ADRI	**Adria, Italy**	**1.41**	**52**	‖*e*Pg	**Pb**	**14 48 45.6**	**+0.6**
PCP	**Piancastagn**	**1.41**	**286**	P	**Pn**	**14 48 43.8**	**-0.2**
PCP				S	**Sg**	**14 49 04.7**	**-0.2**
CASP	**Castiglione de**	**1.42**	**168**	P	**Pn**	**14 48 43.1**	**-0.9**
CASP				AML	AML		
	comp=E,22600µm,1.2s						
CASP				AML	AML		
	comp=N,18250µm,1.2s						
CASP				AML	AML		
	comp=E,22600µm,1.2s						
CASP				AML	AML		
	comp=N,18250µm,1.2s						
CELB	**S.Piero in Cam**	**1.44**	**187**	P	**Pn**	**14 48 43.2**	**-1.1**
CELB				AML	AML		
	comp=E,14700µm,0.6s						
CELB				AML	AML		
	comp=N,29900µm,0.8s						
CELB				AML	AML		
	comp=E,14700µm,0.6s						
CELB				AML	AML		
	comp=N,29900µm,0.8s						
SALO	**Salr**	**1.44**	**2**	*e*P	**Pn**	**14 48 44.6**	**+0.2**
SALO				AML	AML		
SALO				AML	AML		
SALO				AML	AML		
SALO				AML	AML		
ATMC	**Monte Cedrone**	**1.46**	**119**	P	**Pn**	**14 48 43.8**	**-0.8**
ATMC				AML	AML		
	comp=E,49800µm,0.7s						
ATMC				AML	AML		
	comp=N,61950µm,1.2s						
ATMC				AML	AML		
	comp=E,49800µm,0.7s						
ATMC				AML	AML		
	comp=N,62000µm,1.2s						
ATMC				AML	AML		
	comp=E,49800µm,0.7s						
ATMC				AML	AML		
	comp=N,62000µm,1.2s						
BADI	**Badiali**	**1.46**	**117**	P	**Pn**	**14 48 44.0**	**-0.6**
BADI				AML	AML		
	comp=E,34200µm,1.4s						
BADI				AML	AML		
	comp=N,35100µm,0.8s						
BADI				AML	AML		
	comp=E,34250µm,1.4s						
BADI				AML	AML		
	comp=N,35100µm,0.8s						
BADI				AML	AML		
	comp=E,34250µm,1.4s						
BADI				AML	AML		
	comp=N,35100µm,0.8s						
RSM	**Repubblica di**	**1.46**	**99**	AML	AML		
	comp=E,44600µm,1.1s						
RSM				AML	AML		
	comp=E,44600µm,1.1s						
RSM				AML	AML		
	comp=N,45500µm,0.9s						
RSM				AML	AML		
	comp=N,45500µm,0.9s						
VOBA	**Vobarno**	**1.47**	**2**	AML	AML		
VOBA				AML	AML		
VOBA				AML	AML		
VOBA				AML	AML		
TEOL	**Teolo**	**1.47**	**36**	*e*P	**Pn**	**14 48 43.8**	**-0.9**
TEOL				AML	AML		
TEOL				AML	AML		
	comp=N,54850µm,0.9s						
TEOL				AML	AML		
	comp=N,54850µm,0.9s						
TEOL				AML	AML		
ZEN8	**San Zeno di Mo**	**1.47**	**8**	*e*P	**Pn**	**14 48 44.5**	**-0.4**
ZEN8				AML	AML		
	comp=E,27950µm,0.5s						

ZEN8 AML AML
comp=N,21300µm,0.8s
ZEN8 AML AML
comp=N,21300µm,0.8s
ZEN8 AML AML
comp=E,27950µm,0.5s
CDCA Citt' di Caste 1.48 118 AML AML
comp=E,55250µm,1.6s
CDCA AML AML
comp=E,59750µm,1.4s
CDCA AML AML
CDCA AML AML
comp=E,55250µm,1.6s
CDCA AML AML
comp=N,38650µm,0.9s
CDCA AML AML
comp=E,59750µm,1.4s
CDCA AML AML
CDCA AML AML
comp=N,38650µm,0.9s
ARCI Arcidosso 1.52 150 P **Pn 14 48 45.1 -0.4**
ARCI AML AML
comp=E,17150µm,0.9s
ARCI AML AML
comp=N,19400µm,1.0s
ARCI AML AML
comp=E,17150µm,0.9s
ARCI AML AML
comp=N,19400µm,1.0s
BALD Monte Baldo 1.53 10⇑ *e*Pg **Pn 14 48 45.4 -0.3**
BALD *e*Sg **Sb 14 49 07.6 +1.5**
ROVR Rover Verones 1.53 17 *e*P **Pn 14 48 44.9 -0.8**
PE3 Peglio 1.56 107 AML AML
comp=N,61850µm,1.0s
PE3 AML AML
comp=E,72550µm,0.6s
PE3 AML AML
comp=E,72550µm,0.6s
PE3 AML AML
comp=N,61850µm,1.0s
MARN Marana (Italy) 1.56 20⇑ *e*Pg **Pn 14 48 46.2 +0.3**
MARN *e*Sg **Sg 14 49 08.7 -0.8**
MAGA Magasa 1.60 5 *e*P **Pn 14 48 46.2 -0.5**
MAGA AML AML
MAGA AML AML
comp=N,74650µm,0.5s
MAGA AML AML
comp=N,74650µm,0.5s
MAGA AML AML
PIEI Pieia 1.64 112 P **Pn 14 48 46.5 -0.6**
PIEI AML AML
comp=E,11660µm,1.4s
PIEI AML AML
comp=N,14900µm,1.5s
PIEI AML AML
comp=E,11660µm,1.4s
PIEI AML AML
comp=N,14900µm,1.5s
MERA Merate 1.66 334 P **Pn 14 48 48.6 +1.2**
SACS San Casciano d 1.70 141 AML AML
comp=N,13950µm,0.7s
SACS AML AML
comp=E,9515µm,1.2s
SACS AML AML
comp=E,9490µm,1.6s
SACS AML AML
comp=N,13550µm,0.7s
SACS AML AML
comp=N,13950µm,0.7s
SACS AML AML
comp=E,9490µm,1.6s
SACS AML AML
comp=E,9515µm,1.2s
SACS AML AML
comp=N,13550µm,0.7s
PESA Pesaro 1.74 97 AML AML
comp=E,28200µm,0.7s
PESA AML AML
comp=E,28200µm,0.7s
PESA AML AML
comp=N,20200µm,1.2s
PESA AML AML
comp=N,20200µm,1.2s
MGAB Montegabbione 1.75 136 AML AML
comp=E,20650µm,0.8s
MGAB AML AML
comp=E,19550µm,0.8s
MGAB AML AML
comp=N,19650µm,1.5s
MGAB AML AML
comp=N,18750µm,1.4s
MGAB AML AML
comp=E,20650µm,0.8s
MGAB AML AML
comp=N,18750µm,1.4s
MGAB AML AML
comp=E,19550µm,0.8s
MGAB AML AML
comp=N,19650µm,1.5s
FSSB Fossombrone 1.75 105 AML AML
comp=E,16500µm,0.6s
FSSB AML AML
comp=E,16500µm,0.6s
FSSB AML AML
comp=N,39100µm,1.3s
FSSB AML AML
comp=N,39100µm,1.3s
MPAG Monte Paganucc 1.76 107 AML AML
comp=E,15500µm,0.7s
MPAG AML AML
comp=E,15500µm,0.7s
MPAG AML AML
comp=N,14850µm,0.8s
MPAG AML AML
comp=E,15600µm,0.8s
MPAG AML AML
comp=N,15100µm,0.8s
MPAG AML AML
comp=N,14850µm,0.8s
MPAG AML AML
comp=N,15100µm,0.8s
MPAG AML AML
comp=E,15600µm,0.8s
MURB Monte Urbino 1.76 121 AML AML
comp=N,48150µm,1.2s
MURB AML AML
comp=E,35500µm,1.6s
MURB AML AML
comp=E,37100µm,1.5s
MURB AML AML
comp=N,46900µm,1.2s
MURB AML AML
comp=N,46900µm,1.2s
MURB AML AML
comp=N,48150µm,1.2s
MURB AML AML
comp=E,35500µm,1.6s
MURB AML AML
comp=E,37100µm,1.5s
FRON Frontone 1.77 111 AML AML
comp=N,17550µm,1.0s
FRON AML AML
comp=E,14050µm,0.7s
FRON AML AML
comp=E,14050µm,0.7s
FRON AML AML
comp=N,17550µm,1.0s
DOSS Dosso del Somm 1.78 17 *e*Pg **Pn 14 48 48.9 -0.3**
DOSS *e*Sg **Sb 14 49 14.9 +1.5**
RNI Roncone 1.81 4⇑ *e*Pn **Pn 14 48 49.1 -0.4**
RNI *e*Sn **Sb 14 49 14.3 +0.1**
MAON Monte Argentar 1.82 164 P **Pn 14 48 48.8 -0.7**
MAON AML AML
comp=E,11750µm,1.0s
MAON AML AML
comp=N,8490µm,1.0s
MAON AML AML
comp=N,8490µm,1.0s
MAON AML AML
comp=E,11750µm,1.0s
SSFR Montelago di S 1.85 113 AML AML
comp=E,12055µm,0.6s
SSFR AML AML
comp=E,12055µm,0.6s
SSFR AML AML
comp=N,11955µm,1.3s
SSFR AML AML
comp=N,11955µm,1.3s
IMI Imperia 1.86 263 *e*P **Pn 14 48 49.3 -0.8**
IMI AML AML
comp=E,14350µm,0.8s
IMI AML AML
comp=N,21800µm,0.6s
IMI AML AML
comp=N,21800µm,0.6s
IMI AML AML
comp=E,14350µm,0.8s
MABI Malga Bissina 1.88 1 *i* P **Pn 14 48 50.3 -0.2**
MABI AML AML
comp=E,10100µm,0.9s
MABI AML AML
comp=N,7665µm,0.8s
MABI AML AML
comp=E,10100µm,0.9s
MABI AML AML
comp=N,7665µm,0.8s
ARVD Arcevia 1.93 110 AML AML
comp=N,9095µm,0.7s
ARVD AML AML
comp=E,11175µm,1.1s
ARVD AML AML
comp=N,9095µm,0.7s
ARVD AML AML
comp=E,11175µm,1.1s
PGF Pioggiola 1.94 213 *e*P **Pn 14 48 50.5 -0.8**
PGF *e*Sn **Sn 14 49 12.4 -2.8**
comp=E,3µm,0.6s
PGF Pioggiola 1.94 213 AML AML
comp=N,10550µm,1.0s
PGF AML AML
comp=E,11105µm,0.9s
PGF AML AML
comp=E,11105µm,0.9s
PGF AML AML
comp=N,10550µm,1.0s
CGRP Cima Grappa 1.95 29⇑ *e*Pn **Pn 14 48 50.2 -1.4**
CGRP Cima Grappa 1.95 29 P **Pn 14 48 50.1 -1.4**
CGRP AML AML
comp=E,26050µm,1.6s
CGRP AML AML
comp=N,21300µm,1.4s
CGRP AML AML
comp=E,26050µm,1.6s
CGRP AML AML
comp=N,21300µm,1.4s
PANI Panarotta 1.97 18 *e*Pn **Pn 14 48 51.5 -0.3**
MUGIO Muggio 2.01 331 *e*P **Pn 14 48 52.4 +0.3**
MUGIO AML AML
comp=E,8525µm,0.7s
MUGIO AML AML
comp=N,9560µm,1.1s
MUGIO AML AML
comp=N,9560µm,1.1s
MUGIO AML AML
comp=E,8525µm,0.7s
MONC Moncucco Torin 2.01 297 AML AML
comp=N,36350µm,0.6s
MONC AML AML
comp=E,41500µm,0.7s
MONC AML AML
comp=N,36350µm,0.6s
MONC AML AML
comp=E,41500µm,0.7s
MTLO Montello 2.01 35⇑ *e*Pn **Pn 14 48 51.2 -1.0**
CRND Cornuda 2.02 34 AML AML
comp=E,13750µm,0.7s
CRND AML AML
comp=N,15650µm,0.7s
CRND AML AML
comp=E,13750µm,0.7s
CRND AML AML
comp=N,15650µm,0.7s
SNTG Esanatoglia 2.03 116 AML AML
comp=N,13200µm,1.1s
SNTG AML AML
comp=E,12400µm,1.1s
SNTG AML AML
comp=N,13200µm,1.1s
SNTG AML AML
comp=E,12400µm,1.1s
CTI Castel Tesino 2.05 24 *e*P **Pn 14 48 51.7 -1.2**
CTI AML AML
comp=E,19500µm,0.9s
CTI AML AML
comp=N,21400µm,1.6s
CTI AML AML
comp=E,19500µm,0.9s
CTI AML AML
comp=N,21400µm,1.6s
EL6 Elcito 2.10 113 AML AML
comp=N,18250µm,0.7s
EL6 AML AML
comp=E,15350µm,1.2s
EL6 AML AML
comp=N,18250µm,0.7s
EL6 AML AML
comp=E,15350µm,1.2s
CING Cingoli 2.15 111 AML AML
comp=N,7220µm,0.7s
CING AML AML
comp=E,7710µm,0.8s
CING AML AML
comp=N,7220µm,0.7s
CING AML AML
comp=E,7710µm,0.8s
ENR Entracque 2.18 272 AML AML
comp=E,7665µm,1.4s
ENR AML AML
comp=E,7665µm,1.4s
ENR AML AML
comp=N,12000µm,0.6s
ENR AML AML
comp=N,12000µm,0.6s
SBF Sospel 2.20 263 *e*P **Pn 14 48 54.4 -0.4**
SNR=1.0
SBF Sospel 2.20 263 *e*Pg **Pb 14 48 59.0 +0.6**
SBF *e*Sn **Sn 14 49 18.9 -2.5**
comp=N,13µm,0.6s,SNR=1.0
CESX Cesi 2.21 135 AML AML
comp=N,8385µm,0.7s
CESX AML AML
comp=E,7175µm,0.7s
CESX AML AML
comp=N,8385µm,0.7s
CESX AML AML
comp=E,7175µm,0.7s
FDMO Fiordimonte 2.23 120 AML AML
comp=N,8240µm,1.6s
FDMO AML AML
comp=E,6350µm,0.8s
FDMO AML AML
comp=N,8240µm,1.6s
FDMO AML AML
comp=E,6350µm,0.8s
ESCA l'Escarene 2.25 262 Pn **Pn 14 48 57.3 +1.9**
STV San Anna di V 2.25 273 P **Pn 14 48 55.2 -0.2**
STV AML AML
comp=E,4670µm,1.6s
STV AML AML
comp=N,6220µm,1.4s
STV AML AML
comp=E,4670µm,1.6s
STV AML AML
comp=N,6220µm,1.4s
SMPL Sampolo 2.25 203 AML AML
SMPL AML AML
SMPL AML AML
SMPL AML AML
CARE Lago del Cares 2.25 4⇑ *e*Pn **Pn 14 48 56.1 +0.4**
BERNI Berninapass 2.25 352 *i* P **Pn 14 48 56.4 +0.7**
BERNI AML AML
comp=E,9170µm,1.0s
BERNI AML AML
comp=N,6515µm,0.9s
BERNI AML AML
comp=E,9170µm,1.0s
BERNI AML AML
comp=N,6515µm,0.9s
OZOL Ozolo 2.27 11⇑ *e*Pn **Pn 14 48 55.9 +0.1**
REVF Revere 2.27 260 Pn **Pn 14 48 57.0 +1.3**
BRMO Bormio 2.30 359 *e*P **Pn 14 48 56.8 +0.6**
BRMO AML AML
comp=E,5270µm,1.0s
BRMO AML AML
comp=N,4545µm,0.8s
BRMO AML AML
comp=E,5270µm,1.0s
BRMO AML AML
comp=N,4545µm,0.8s
DOI San Damiano 2.32 279 AML AML
comp=N,12150µm,1.2s
DOI AML AML
comp=E,15750µm,0.9s
DOI AML AML
comp=N,12150µm,1.2s
DOI AML AML
comp=E,15750µm,0.9s
ARRO Arrone 2.33 133 P **Pn 14 48 56.3 -0.1**
ARRO AML AML
comp=E,7570µm,1.6s
ARRO AML AML
comp=N,8145µm,0.9s
ARRO AML AML
comp=N,8145µm,0.9s
ARRO AML AML
comp=E,7570µm,1.6s
TRAV Traversella 2.34 306 AML AML
comp=E,13000µm,0.6s
TRAV AML AML
comp=N,9100µm,0.7s
TRAV AML AML
comp=N,9100µm,0.7s
TRAV AML AML
comp=E,13000µm,0.6s
POLC Polcenigo 2.35 37 P **Pn 14 48 55.8 -1.0**
POLC AML AML
comp=E,16300µm,0.8s
POLC AML AML
comp=N,20300µm,0.5s
POLC AML AML
comp=N,20300µm,0.5s
POLC AML AML
comp=E,16300µm,0.8s
NRCA Norcia 2.36 124 AML AML
comp=N,5090µm,1.1s
NRCA AML AML
comp=E,4820µm,1.6s
NRCA AML AML
comp=E,5240µm,1.6s
NRCA AML AML
comp=N,5625µm,1.4s
NRCA AML AML
comp=E,5240µm,1.6s
NRCA AML AML
comp=E,4820µm,1.6s
NRCA AML AML
comp=N,5625µm,1.4s
NRCA AML AML
comp=N,5090µm,1.1s
AOI Ancona 2.37 104 AML AML
comp=E,5770µm,1.1s
AOI AML AML
comp=E,5770µm,1.1s
AOI AML AML
comp=N,8210µm,1.0s
AOI AML AML
comp=N,8210µm,1.0s
APPI Appiano 2.37 13 *i* P **Pn 14 48 57.1 0.0**
APPI AML AML
comp=E,14950µm,0.6s
APPI AML AML
comp=N,11950µm,0.6s
APPI AML AML
comp=N,11950µm,0.6s
APPI AML AML
comp=E,14950µm,0.6s
BHB Bricherasio 2.37 287 P **Pn 14 48 57.3 +0.2**
BHB Bricherasio 2.37 287 AML AML
comp=E,6745µm,0.5s
BHB AML AML
comp=N,8460µm,0.7s
BHB AML AML
comp=N,8460µm,0.7s
BHB AML AML
comp=E,6745µm,0.5s
KOSI Kohlern 2.38 16 *i* P **Pn 14 48 57.3 -0.1**
KOSI AML AML
comp=E,12600µm,1.2s
KOSI AML AML
comp=N,12500µm,1.1s
KOSI AML AML
comp=E,12600µm,1.2s
KOSI AML AML
comp=N,12500µm,1.1s
AGOR Agordo 2.39 28 AML AML
comp=N,6940µm,0.4s
AGOR AML AML
comp=E,9635µm,1.6s
AGOR AML AML
comp=N,6940µm,0.4s
AGOR AML AML
comp=E,9635µm,1.6s
MVIF Mont Vial 2.39 264 Pn **Pn 14 48 58.0 +0.5**
TOLF Tolfa 2.40 151 AML AML
comp=E,2615µm,0.9s
TOLF AML AML
comp=E,2615µm,0.9s
TOLF AML AML
comp=N,3445µm,1.1s
TOLF AML AML
comp=N,3445µm,1.1s
PZZ Stroppo 2.41 279 P **Pn 14 48 57.1 -0.7**
PZZ AML AML
comp=E,9565µm,1.3s
PZZ AML AML
comp=N,14350µm,1.4s
PZZ AML AML
comp=N,14350µm,1.4s
PZZ AML AML
comp=E,9565µm,1.3s
TUE Stuetta 2.42 342 *e*Pn **Pn 14 48 59.1 +1.1**
TUE Stuetta 2.42 342 AML AML
comp=N,6175µm,0.6s
TUE AML AML
comp=E,6180µm,0.7s
TUE AML AML
comp=N,6175µm,0.6s
TUE AML AML
comp=E,8055µm,0.7s
TUE AML AML
comp=N,7580µm,0.6s
TUE AML AML
comp=E,8055µm,0.7s
TUE AML AML
comp=E,6180µm,0.7s
TUE AML AML
comp=N,7580µm,0.6s
MOSI Grossmontoni 2.44 2 AML AML
comp=E,24300µm,0.9s
MOSI AML AML
comp=N,35200µm,0.7s
MOSI AML AML
comp=E,24300µm,0.9s
MOSI AML AML
comp=N,35200µm,0.7s
FUORN Ofenpass-Fuorn 2.45 357 *e*Pn **Pn 14 48 59.2 +0.9**
FUORN Ofenpass-Fuorn 2.45 357 AML AML
comp=E,6905µm,0.8s
FUORN AML AML
comp=N,5575µm,1.1s
FUORN AML AML
comp=N,5575µm,1.1s
FUORN AML AML
comp=E,6905µm,0.8s
LNSS Leonessa 2.46 129 P **Pn 14 48 57.9 -0.5**
LNSS AML AML
comp=E,12600µm,0.8s
LNSS AML AML
comp=N,11670µm,0.5s
LNSS AML AML
comp=E,12600µm,0.8s
LNSS AML AML
comp=N,11670µm,0.5s
RSP Reno Superiore 2.47 294 AML AML
comp=N,5110µm,0.8s
RSP AML AML
comp=E,5400µm,1.0s
RSP AML AML
comp=N,5110µm,0.8s
RSP AML AML
comp=E,5400µm,1.0s
CIRO Champorcher 2.49 306 P **Pn 14 48 59.1 +0.1**

MMK	**Mattmark**	**2.57**	**318**		AML	AML			
	comp=E,6305µm,0.6s								
MMK					AML	AML			
	comp=E,6305µm,0.6s								
MMK					AML	AML			
	comp=N,5620µm,0.6s								
MMK					AML	AML			
	comp=N,5620µm,0.6s								
CALF	**Calern**	**2.58**	**262**		Pn	**Pn**	**14 49 00.6**	**+0.5**	
FUSIO	**Fusio**	**2.60**	**332**		AML	AML			
	comp=N,5695µm,0.6s								
FUSIO					AML	AML			
	comp=E,8560µm,1.2s								
FUSIO					AML	AML			
	comp=N,5695µm,0.6s								
FUSIO					AML	AML			
	comp=E,8560µm,1.2s								
SMA1	**SAN MARTINO**	**2.61**	**125**		AML	AML			
	comp=E,10360µm,1.6s								
SMA1					AML	AML			
	comp=E,10360µm,1.6s								
SMA1					AML	AML			
	comp=N,12200µm,1.1s								
SMA1					AML	AML			
	comp=N,12200µm,1.1s								
ABSI	**Aberstueckl**	**2.62**	**13**		AML	AML			
	comp=E,22700µm,0.7s								
ABSI					AML	AML			
	comp=N,18850µm,0.7s								
ABSI					AML	AML			
	comp=E,22700µm,0.7s								
ABSI					AML	AML			
	comp=N,18850µm,0.7s								
STAL	**STALIGIAL**	**2.62**	**37**		AML	AML			
	comp=E,7445µm,0.6s								
STAL					AML	AML			
	comp=E,7445µm,0.6s								
STAL					AML	AML			
	comp=N,7175µm,0.9s								
STAL					AML	AML			
	comp=E,9775µm,0.4s								
STAL					AML	AML			
	comp=N,7940µm,1.0s								
STAL					AML	AML			
	comp=E,9775µm,0.4s								
STAL					AML	AML			
	comp=N,7175µm,0.9s								
STAL					AML	AML			
	comp=N,7940µm,1.0s								
SURF	**Saint Ours**	**2.63**	**278**		Pn	**Pn**	**14 49 01.2**	**+0.5**	
DAVOX	**Davos/Dischmat**	**2.63**	**351**		Pn	**Pn**	**14 49 01.9**	**+1.0**	
	comp=N,358nm,0.3s,baz=167,slow=7.6,SNR=2966								
DAVOX					Sn	**Sn**	**14 49 34.6**	**+2.2**	
	comp=N,391nm,0.3s,baz=141,slow=21,SNR=5.8								
DAVOX	**Davos/Dischmat**	**2.63**	**351**		AML	AML			
	comp=N,6250µm,0.6s								
DAVOX					AML	AML			
	comp=E,5665µm,0.9s								
DAVOX					AML	AML			
	comp=N,6250µm,0.6s								
DAVOX					AML	AML			
	comp=E,5665µm,0.9s								
BRES	**Bressanone**	**2.68**	**19**		AML	AML			
	comp=E,6320µm,1.3s								
BRES					AML	AML			
	comp=N,6610µm,1.4s								
BRES					AML	AML			
	comp=N,6610µm,1.4s								
BRES					AML	AML			
	comp=E,6320µm,1.3s								
LSD	**Lago del Serru**	**2.68**	**300**		AML	AML			
	comp=E,3585µm,0.6s								
LSD					AML	AML			
	comp=N,3760µm,0.6s								
LSD					AML	AML			
	comp=N,3760µm,0.6s								
LSD					AML	AML			
	comp=E,3585µm,0.6s								
MBDF	**Montbardon**	**2.69**	**283**		*e*P	**Pn**	**14 49 02.2**	**+0.6**	
	SNR=1.0								
MBDF					*e*Sn	**Sn**	**14 49 29.0**	**-4.7**	
MBDF					*e*Sg	**Sg**	**14 49 44.1**	**-1.6**	
	comp=E,5µm,0.8s								
FIAM	**Fiamignano**	**2.73**	**133**		AML	AML			
	comp=E,4905µm,1.6s								
FIAM					AML	AML			
	comp=E,4905µm,1.6s								
FIAM					AML	AML			
	comp=N,5300µm,1.0s								
FIAM					AML	AML			
	comp=N,5300µm,1.0s								
MTCE	**Montecelio**	**2.73**	**141**		AML	AML			
	comp=E,3375µm,1.6s								
MTCE					AML	AML			
	comp=N,2555µm,1.3s								
MTCE					AML	AML			
	comp=N,2555µm,1.3s								
MTCE					AML	AML			
	comp=E,3375µm,1.6s								
GUMA	**Gualdo di Mace**	**2.77**	**113**		AML	AML			
	comp=N,30650µm,0.6s								
GUMA					AML	AML			
	comp=E,38650µm,0.7s								
GUMA					AML	AML			
	comp=N,30650µm,0.6s								
GUMA					AML	AML			
	comp=E,38650µm,0.7s								
TERO	**Teramo**	**2.78**	**123**		AML	AML			
	comp=N,3340µm,0.7s								
TERO					AML	AML			
	comp=E,2015µm,0.6s								
TERO					AML	AML			
	comp=N,3340µm,0.7s								
TERO					AML	AML			
	comp=E,2015µm,0.6s								
AQU	**L'Aquila**	**2.83**	**129**		*e*Pn	**Pn**	**14 49 04.1**	**+0.7**	
AQU	**L'Aquila**	**2.83**	**129**		*e*P	**Pn**	**14 49 04.1**	**+0.7**	
AQU	**L'Aquila**	**2.83**	**129**		*e*Pn	**Pn**	**14 49 03.9**	**+0.5**	
BNI	**Bardonecchia**	**2.83**	**289**		*e*Pn	**Pn**	**14 49 05.7**	**+2.2**	
BNI	**Bardonecchia**	**2.83**	**289**		*e*P	**Pn**	**14 49 05.7**	**+2.2**	
BNI	**Bardonecchia**	**2.83**	**289**		AML	AML			
	comp=N,1820µm,1.4s								
BNI					AML	AML			
	comp=E,1705µm,0.7s								
BNI					AML	AML			
	comp=E,2110µm,0.6s								
BNI					AML	AML			
	comp=N,2185µm,1.4s								
BNI					AML	AML			
	comp=E,2110µm,0.6s								
BNI					AML	AML			
	comp=E,1705µm,0.7s								
BNI					AML	AML			
	comp=N,1820µm,1.4s								
BNI					AML	AML			
	comp=N,2185µm,1.4s								
GEPF	**Gemona**	**2.83**	**41**		AML	AML			
	comp=E,5120µm,0.8s								
GEPF					AML	AML			
	comp=N,6665µm,0.7s								
GEPF					AML	AML			
	comp=E,5120µm,0.8s								
GEPF					AML	AML			
	comp=N,6665µm,0.7s								
ROSI	**Rosskopf**	**2.83**	**13**		AML	AML			
	comp=N,16450µm,0.7s								
ROSI					AML	AML			
	comp=E,8955µm,0.9s								
ROSI					AML	AML			
	comp=N,16450µm,0.7s								
ROSI					AML	AML			
	comp=E,8955µm,0.9s								
FETA	**Feichten**	**2.85**	**4**		*e*Pn	**Pn**	**14 49 05.0**	**+1.1**	
	comp=E,329nm,0.5s,SNR=235								
FETA					Sn	**Sn**	**14 49 39.5**	**+1.8**	
	comp=E,1µm,0.7s								
REMY	**Saint-Rhmy-en**	**2.86**	**307**		AML	AML			
	comp=E,8340µm,0.6s								
REMY					AML	AML			
	comp=E,8340µm,0.6s								
REMY					AML	AML			
	comp=N,11750µm,0.8s								
REMY					AML	AML			
	comp=N,11750µm,0.8s								
SABO	**M.te Sabotino**	**2.87**	**50**		AML	AML			
	comp=E,11680µm,0.7s								
SABO					AML	AML			
	comp=E,11680µm,0.7s								
SABO					AML	AML			
	comp=N,11490µm,1.1s								
SABO					AML	AML			
	comp=N,11490µm,1.1s								
DIX	**Grande Dixence**	**2.87**	**313**		AML	AML			
	comp=N,6240µm,1.1s								
DIX					AML	AML			
	comp=E,4000µm,0.7s								
DIX					AML	AML			
	comp=N,6240µm,1.1s								
DIX					AML	AML			
	comp=E,4000µm,0.7s								
SKDS	**Skadanscina**	**2.88**	**60**		*i* Pn	**Pn**	**14 49 02.7**	**-1.4**	
SKDS					*e*Sn	**Sn**	**14 49 36.2**	**-2.1**	
	comp=Z,2µm,0.7s								
MRGE	**Morge**	**2.88**	**305**		AML	AML			
	comp=E,3915µm,1.1s								
MRGE					AML	AML			
	comp=N,5760µm,0.8s								
MRGE					AML	AML			
	comp=E,3915µm,1.1s								
MRGE					AML	AML			
	comp=N,5760µm,0.8s								
FVI	**Forni Avoltri**	**2.92**	**33**		AML	AML			
	comp=E,3945µm,0.6s								
FVI					AML	AML			
	comp=N,7360µm,0.6s								
FVI					AML	AML			
	comp=E,3945µm,0.6s								
FVI					AML	AML			
	comp=N,7360µm,0.6s								
LPG	**La Plagne**	**2.94**	**298**		*e*P	**Pn**	**14 49 06.5**	**+1.3**	
	SNR=1.0								
LPG					*e*Sn	**Sn**	**14 49 36.1**	**-4.0**	
LPG					*e*Sg	**Sg**	**14 49 52.2**	**-1.6**	
	comp=N,2µm,0.6s								
ABTA	**Abfaltersbach**	**2.95**	**29**		*e*Pn	**Pn**	**14 49 05.1**	**-0.1**	
	comp=N,268nm,0.7s,SNR=91								
ABTA					*e*Sn	**Sn**	**14 49 40.1**	**0.0**	
	comp=N,2µm,0.9s								
LPL	**La Plagne**	**2.96**	**298**		*e*P	**Pn**	**14 49 07.1**	**+1.7**	
	SNR=1.0								
LPL					*e*Sn	**Sn**	**14 49 36.9**	**-3.7**	
LPL					*e*Sg	**Sg**	**14 49 52.8**	**-1.6**	
	comp=N,3µm,0.8s								
PLONS	**Plons/SG**	**2.97**	**346**		AML	AML			
	comp=E,4365µm,1.0s								
PLONS					AML	AML			
	comp=E,4365µm,1.0s								
PLONS					AML	AML			
	comp=N,4065µm,1.1s								
PLONS					AML	AML			
	comp=N,4065µm,1.1s								
LMR	**La Mourre**	**2.98**	**255**		*e*P	**Pn**	**14 49 04.7**	**-0.7**	
LMR					*e*Sn	**Sn**	**14 49 37.1**	**-3.5**	
	comp=N,808nm,0.3s,SNR=1.0								
FAGN	**Fagnano**	**2.98**	**129**		AML	AML			
	comp=E,12900µm,0.8s								
FAGN					AML	AML			
	comp=N,10675µm,0.5s								
FAGN					AML	AML			
	comp=E,12900µm,0.8s								
FAGN					AML	AML			
	comp=N,10675µm,0.5s								
RISI	**Rein**	**3.00**	**22**		AML	AML			
	comp=N,14000µm,0.5s								
RISI					AML	AML			
	comp=E,11650µm,0.5s								
RISI					AML	AML			
	comp=N,14000µm,0.5s								
RISI					AML	AML			
	comp=E,11650µm,0.5s								
PTCC	**Patocco-Chiusa**	**3.03**	**42**		AML	AML			
	comp=E,4240µm,0.9s								
PTCC					AML	AML			
	comp=N,3320µm,0.6s								
PTCC					AML	AML			
	comp=N,3320µm,0.6s								
PTCC					AML	AML			
	comp=E,4240µm,0.9s								
BNALP	**Bannalp**	**3.04**	**333**		AML	AML			
	comp=N,5985µm,1.0s								
BNALP					AML	AML			
	comp=E,5795µm,0.5s								
BNALP					AML	AML			
	comp=N,5985µm,1.0s								
BNALP					AML	AML			
	comp=E,5795µm,0.5s								
PTQR	**Pietraquaria**	**3.05**	**134**		AML	AML			
	comp=E,3955µm,1.1s								
PTQR					AML	AML			
	comp=N,2940µm,1.0s								
PTQR					AML	AML			
	comp=E,3955µm,1.1s								
PTQR					AML	AML			
	comp=N,2940µm,1.0s								
SQTA	**Sankt Quirin**	**3.09**	**10**		*i* Pn	**Pn**	**14 49 08.3**	**+1.3**	
	comp=N,1µm,0.4s,SNR=623								
SQTA					*e*Sn	**Sn**	**14 49 43.6**	**0.0**	
	comp=N,1µm,0.4s								
SENIN	**Lac Senin/Sane**	**3.12**	**316**		*e*Pn	**Pn**	**14 49 09.5**	**+1.9**	
DAVA	**Damuels**	**3.13**	**353**		*e*Pn	**Pn**	**14 49 09.7**	**+2.0**	
DAVA					*e*Sn	**Sn**	**14 49 46.0**	**+1.3**	
DAVA	**Damuels**	**3.13**	**353**		*e*Pn	**Pn**	**14 49 09.7**	**+2.0**	
DAVA					*e*Sn	**Sn**	**14 49 46.0**	**+1.3**	
DAVA	**Damuels**	**3.13**	**353**		*i* Pn	**Pn**	**14 49 09.7**	**+2.0**	
	comp=N,1µm,0.5s,SNR=467								
DAVA					*e*Sn	**Sn**	**14 49 46.1**	**+1.4**	
	comp=N,2µm,0.6s								
OG25	**Le Caire**	**3.15**	**275**		P	**Pn**	**14 49 09.3**	**+1.4**	
OG25					S	**Sb**	**14 49 50.1**	**-2.6**	
NVLJ	**Novalja**	**3.19**	**82**		*i* Pn	**Pn**	**14 49 08.4**	**+0.1**	
NVLJ					Sn	**Sn**	**14 49 45.2**	**-0.7**	
MOTA	**Moosalm**	**3.20**	**8**		*i* Pn	**Pn**	**14 49 10.3**	**+1.7**	
	comp=N,938nm,0.5s,SNR=821								
ACOM	**Acomizza, Ital**	**3.21**	**41**		AML	AML			
	comp=E,9050µm,1.6s								
ACOM					AML	AML			
	comp=N,8470µm,1.0s								
ACOM					AML	AML			
	comp=E,9050µm,1.6s								
CEY	**Cerknica**	**3.23**	**60**	⇑	*i* Pn	**Pn**	**14 49 07.2**	**-1.7**	
WATA	**Walderalm**	**3.25**	**14**		*i* Pn	**Pn**	**14 49 10.2**	**+0.8**	
	comp=E,1µm,0.7s,SNR=479								
VVLD	**Villa Vallelon**	**3.28**	**134**		AML	AML			
	comp=E,2655µm,1.0s								
VVLD					AML	AML			
	comp=N,2825µm,1.3s								
VVLD					AML	AML			
	comp=N,2825µm,1.3s								
VVLD					AML	AML			
	comp=E,2655µm,1.0s								
GORS	**Gorjuse**	**3.29**	**48**		*i* Pn	**Pn**	**14 49 08.8**	**-1.1**	
RETA	**Reutte**	**3.32**	**4**		*i* Pn	**Pn**	**14 49 11.6**	**+1.5**	
	comp=E,335nm,0.4s,SNR=206								
RETA					*e*Sn	**Sn**	**14 49 52.9**	**+3.8**	
	comp=E,587nm,0.4s								
MYKA	**Terra Mystica**	**3.33**	**41**		*i* Pn	**Pn**	**14 49 09.6**	**-0.8**	
	comp=E,80nm,0.4s,SNR=30								
MYKA					*e*Sn	**Sn**	**14 49 47.6**	**-1.8**	
	comp=E,650nm,0.5s								
INTR	**Introdacqua**	**3.33**	**129**		AML	AML			
	comp=E,5290µm,1.1s								
INTR					AML	AML			
	comp=N,6265µm,1.5s								
INTR					AML	AML			
	comp=N,6265µm,1.5s								
INTR					AML	AML			
	comp=E,5290µm,1.1s								
ORIF	**Oris-en-Rattie**	**3.35**	**284**		*e*P	**Pn**	**14 49 12.4**	**+1.8**	
	SNR=1.0								
ORIF					*e*Sn	**Sn**	**14 49 46.4**	**-3.5**	
	comp=E,3µm,0.8s,SNR=1.0								
ORIF	**Oris-en-Rattie**	**3.35**	**284**		AML	AML			
	comp=E,3215µm,0.7s								
ORIF					AML	AML			
	comp=E,3215µm,0.7s								
ORIF					AML	AML			
	comp=N,2815µm,1.0s								
ORIF					AML	AML			
	comp=N,2815µm,1.0s								
PART	**Garmisch-Parte**	**3.35**	**8**		*e*Pn	**Pn**	**14 49 12.1**	**+1.5**	
PART					*e*Sn	**Sn**	**14 49 53.6**	**+3.7**	
PART	**Garmisch-Parte**	**3.35**	**8**		*e*Pn	**Pn**	**14 49 12.1**	**+1.5**	
PART					*e*Sn	**Sn**	**14 49 53.6**	**+3.7**	
ARTF	**Artigues**	**3.41**	**262**		Pn	**Pn**	**14 49 11.9**	**+0.6**	
POFI	**Posta Fibreno**	**3.43**	**135**		P	**Pn**	**14 49 13.2**	**+1.4**	
POFI					AML	AML			
	comp=E,1514µm,1.6s								
POFI					AML	AML			
	comp=N,2390µm,1.6s								
POFI					AML	AML			
	comp=E,1564µm,1.6s								
POFI					AML	AML			
	comp=N,2415µm,1.6s								
POFI					AML	AML			
	comp=E,1564µm,1.6s								
POFI					AML	AML			
	comp=E,1514µm,1.6s								
POFI					AML	AML			
	comp=N,2390µm,1.6s								
POFI					AML	AML			
	comp=N,2415µm,1.6s								
LJU	**Ljubljana**	**3.44**	**56**	⇑	*i* Pn	**Pn**	**14 49 10.9**	**-0.9**	
LJU	**Ljubljana**	**3.44**	**56**		AML	AML			
	comp=E,12300µm,0.9s								
LJU					AML	AML			
	comp=E,12300µm,0.9s								
LJU					AML	AML			
	comp=N,11500µm,0.9s								
LJU					AML	AML			
	comp=N,11500µm,0.9s								
UBR	**Ueberruh**	**3.51**	**356**		*e*Pn	**Pn**	**14 49 14.0**	**+1.2**	
UBR					*e*Sn	**Sn**	**14 49 54.2**	**+0.3**	
UBR	**Ueberruh**	**3.51**	**356**		*e*Pn	**Pn**	**14 49 14.0**	**+1.2**	
UBR					*e*Sn	**Sn**	**14 49 54.2**	**+0.3**	
SMRF	**Simiane la Rot**	**3.52**	**268**		*e*P	**Pn**	**14 49 13.8**	**+0.9**	
	SNR=1.0								
SMRF					*e*Sn	**Sn**	**14 49 49.3**	**-4.7**	
	SNR=1.0								
SMRF					*e*Sg	**Sg**	**14 50 09.8**	**-2.4**	
	comp=N,3µm,0.8s								
KBA	**Koelnbreinsper**	**3.54**	**34**		*e*Sg	**Sg**	**14 50 09.6**	**-3.4**	
KBA	**Koelnbreinsper**	**3.54**	**34**		*e*Sg	**Sg**	**14 50 09.6**	**-3.4**	
KBA	**Koelnbreinsper**	**3.54**	**34**		*i* Pn	**Pn**	**14 49 13.8**	**+0.5**	
	comp=N,91nm,0.3s,SNR=55								
KBA					*e*Sn	**Sn**	**14 49 56.3**	**+1.5**	
	comp=N,676nm,0.7s								
BOJS	**Bojanci**	**3.67**	**67**		*i* Pn	**Pn**	**14 49 14.4**	**-0.5**	
BOJS					*e*Sn	**Sn**	**14 49 56.7**	**-0.8**	
	comp=Z,4µm,2.0s								
BOJS	**Bojanci**	**3.67**	**67**		AML	AML			
	comp=E,3270µm,1.1s								
BOJS					AML	AML			
	comp=N,4330µm,1.2s								
BOJS					AML	AML			
	comp=N,4330µm,1.2s								
BOJS					AML	AML			
	comp=E,3270µm,1.1s								
OG26	**St.-Nazaire-De**	**3.71**	**278**		P	**Pn**	**14 49 17.1**	**+1.5**	
OBKA	**Obir**	**3.71**	**50**		*e*Pn	**Pn**	**14 49 14.8**	**-0.9**	
OBKA	**Obir**	**3.71**	**50**		*e*Pn	**Pn**	**14 49 14.8**	**-0.9**	
OBKA	**Obir**	**3.71**	**50**		*i* Pn	**Pn**	**14 49 15.1**	**-0.6**	
	comp=E,159nm,0.4s,SNR=21								
OBKA					*e*Sn	**Sn**	**14 49 58.8**	**-0.1**	
	comp=E,1µm,0.8s								
OBKA					Sg	**Sg**	**14 50 23.1**	**+4.7**	
	comp=E,3µm,0.8s								
PDKS	**Podkum**	**3.73**	**58**		*i* Pn	**Pn**	**14 49 15.0**	**-0.8**	
PDKS					*e*Sn	**Sn**	**14 49 59.0**	**-0.2**	
	comp=Z,5µm,1.2s								
GIMEL	**St. Georges /**	**3.77**	**310**		P	**Pn**	**14 49 18.3**	**+1.8**	
GIMEL					AML	AML			
	comp=E,1670µm,1.1s								
GIMEL					AML	AML			
	comp=N,2095µm,1.0s								
GIMEL					AML	AML			
	comp=N,2095µm,1.0s								
GIMEL					AML	AML			
	comp=E,1670µm,1.1s								
UDBI	**Udbina**	**3.83**	**83**		*e*Pn	**Pn**	**14 49 18.1**	**+0.9**	
OZLJ	**Ozalj**	**3.84**	**66**		*e*Pn	**Pn**	**14 49 17.3**	**0.0**	
CRES	**Cresnjev**	**3.92**	**63**		*e*Pn	**Pn**	**14 49 17.6**	**-0.7**	
CABF	**La Chapelle**	**3.92**	**310**		*e*P	**Pn**	**14 49 20.7**	**+2.3**	
	SNR=1.0								
CABF					*e*Sn	**Sn**	**14 49 59.4**	**-4.5**	
CABF					*e*Sg	**Sg**	**14 50 21.7**	**-3.3**	
	comp=E,2µm,0.8s								
RJOB	**Jochberg**	**3.92**	**24**		*e*Pn	**Pn**	**14 49 18.8**	**+0.4**	
RJOB	**Jochberg**	**3.92**	**24**		*e*Pn	**Pn**	**14 49 18.8**	**+0.4**	
OG35	**Corcelles**	**3.92**	**300**		Pn	**Pn**	**14 49 20.2**	**+1.7**	
FUR	**Furstenfeldbru**	**4.03**	**8**		*e*Pn	**Pn**	**14 49 20.2**	**+0.3**	
FUR	**Furstenfeldbru**	**4.03**	**8**		*e*Pn	**Pn**	**14 49 20.2**	**+0.3**	
LOMF	**Lomont**	**4.06**	**323**		Pn	**Pn**	**14 49 21.6**	**+1.2**	
SOKA	**Soboth**	**4.08**	**51**		*i* Pn	**Pn**	**14 49 20.1**	**-0.6**	
	comp=E,57nm,0.5s,SNR=35								
SOKA					*e*Sn	**Sn**	**14 50 06.3**	**-1.6**	
	comp=E,383nm,1.0s								
KIZ	**Kirchzarten**	**4.17**	**336**		Pn	**Pn**	**14 49 21.8**	**0.0**	
VIVF	**Saint-Julien-l**	**4.19**	**281**		*e*P	**Pn**	**14 49 23.1**	**+1.0**	
	SNR=1.0								
VIVF					*e*Sn	**Sn**	**14 50 06.1**	**-4.4**	
	comp=E,249nm,0.4s,SNR=1.0								
VIVF					*e*Sg	**Sg**	**14 50 29.5**	**-4.1**	
	comp=E,300nm,0.7s								
SACR	**S. Croce Del S**	**4.19**	**130**		P	**Pn**	**14 49 25.6**	**+3.4**	
MOF	**Molkenrain**	**4.34**	**329**		Pn	**Pn**	**14 49 24.9**	**+0.6**	
SSB	**Saint Sauveur**	**4.35**	**287**		*e*Pn	**Pn**	**14 49 25.3**	**+0.9**	
BFO	**Black Forest**	**4.41**	**341**		*e*Pn	**Pn**	**14 49 24.9**	**-0.2**	
BFO	**Black Forest**	**4.41**	**341**		*e*Pn	**Pn**	**14 49 24.8**	**-0.3**	
BFO					*e*Sn	**Sn**	**14 50 13.7**	**-2.1**	
BFO	**Black Forest**	**4.41**	**341**		*i* P	**Pn**	**14 49 24.7**	**-0.3**	
BFO	**Black Forest**	**4.41**	**341**		*e*Pn	**Pn**	**14 49 24.8**	**-0.3**	
BFO					*e*Sn	**Sn**	**14 50 13.7**	**-2.1**	
HINF	**Hinteralfeld**	**4.42**	**327**		*e*P	**Pn**	**14 49 25.7**	**+0.4**	
	SNR=1.0								
HINF					*e*Sn	**Sn**	**14 50 15.1**	**-1.1**	
	comp=E,2µm,0.6s,SNR=1.0								
MOA	**Molln**	**4.53**	**35**		*e*Pn	**Pn**	**14 49 26.9**	**0.0**	
MOA	**Molln**	**4.53**	**35**		*e*Pn	**Pn**	**14 49 26.9**	**0.0**	
MOA	**Molln**	**4.53**	**35**		*i* Pn	**Pn**	**14 49 26.9**	**0.0**	
	comp=E,72nm,0.4s,SNR=67								
MOA					*i* Sn	**Sn**	**14 50 19.5**	**+0.5**	
	comp=E,294nm,0.5s								
NORI	**Noerdlinger Ri**	**4.54**	**1**		*e*Pn	**Pn**	**14 49 25.9**	**-1.0**	
NORI					*e*Sn	**Sn**	**14 50 18.1**	**-1.2**	
NORI	**Noerdlinger Ri**	**4.54**	**1**		*e*Pn	**Pn**	**14 49 25.9**	**-1.0**	
NORI					*e*Sn	**Sn**	**14 50 18.1**	**-1.2**	
SGRT	**San Giovanni R**	**4.58**	**120**		P	**Pn**	**14 49 27.1**	**-0.4**	
SGRT					AML	AML			
	comp=E,1173µm,0.4s								
SGRT					AML	AML			
	comp=N,1260µm,0.7s								
SGRT					AML	AML			
	comp=E,1173µm,0.4s								
SGRT					AML	AML			
	comp=N,1260µm,0.7s								
OPP	**Oppenau**	**4.59**	**341**		Pn	**Pn**	**14 49 27.6**	**-0.1**	
ECH	**Echery**	**4.64**	**332**		*e*Pn	**Pn**	**14 49 28.5**	**+0.2**	
ECH	**Echery**	**4.64**	**332**		Pn	**Pn**	**14 49 28.6**	**+0.2**	
STU	**Stuttgart**	**4.68**	**350**		*e*Pn	**Pn**	**14 49 28.3**	**-0.5**	
STU	**Stuttgart**	**4.68**	**350**		*e*Pn	**Pn**	**14 49 28.4**	**-0.4**	
STU					*e*Sn	**Sn**	**14 50 19.3**	**-3.2**	
STU	**Stuttgart**	**4.68**	**350**		*e*P	**Pn**	**14 49 28.3**	**-0.5**	
STU	**Stuttgart**	**4.68**	**350**		*e*Pn	**Pn**	**14 49 28.4**	**-0.4**	
STU					*e*Sn	**Sn**	**14 50 19.3**	**-3.2**	
KOGS	**Kog**	**4.68**	**59**		P	**Pn**	**14 49 30.3**	**+1.5**	
ARSA	**Arzberg**	**4.70**	**47**		*e*Pn	**Pn**	**14 49 28.1**	**-0.9**	
ARSA	**Arzberg**	**4.70**	**47**		*e*Pn	**Pn**	**14 49 28.1**	**-0.9**	
ARSA	**Arzberg**	**4.70**	**47**		*i* Pn	**Pn**	**14 49 28.2**	**-0.9**	
	comp=N,129nm,0.3s,SNR=54								
ARSA					*e*Sn	**Sn**	**14 50 22.8**	**-0.2**	
	comp=N,546nm,1.2s								
ARSA	**Arzberg**	**4.70**	**47**		P	**Pn**	**14 49 28.2**	**-0.9**	
ARSA					AML	AML			
	comp=E,714µm,1.1s								
ARSA					AML	AML			
	comp=N,820µm,1.2s								
ARSA					AML	AML			
	comp=E,714µm,1.1s								
ARSA					AML	AML			
	comp=N,820µm,1.2s								
MSAG	**Monte S. Angel**	**4.71**	**120**		P	**Pn**	**14 49 30

comp=N,1640µm,1.0s
MSAG AML AML
comp=E,1125µm,0.9s
MSAG AML AML
comp=N,1640µm,1.0s
MSAG AML AML
comp=N,1625µm,1.0s
MSAG AML AML
comp=E,1185µm,0.9s
LASF Ste Croix 4.75 271 *eP* **Pn** 14 49 29.6 -0.2
SNR=1.0
LASF *eSn* **Sn** 14 50 19.5 -4.8
comp=E,416nm,0.6s
VSL Villasalto 4.75 190 P **Pn** 14 49 29.5 -0.2
CDF Champ du Feu 4.77 334 *eP* **Pn** 14 49 30.2 0.0
SNR=1.0
CDF *eSn* **Sn** 14 50 21.2 -3.7
comp=E,899nm,0.5s
HAU Haudompre 4.77 325 *eP* **Pn** 14 49 30.8 +0.7
SNR=1.0
HAU *eSn* **Sn** 14 50 19.9 -5.0
comp=E,2µm,0.4s
STR Strasbourg 4.78 338 P **Pn** 14 49 30.7 +0.5
BLY Banja Luka 4.86 81 *ePn* **Pn** 14 49 31.8 +0.5
BLY Banja Luka 4.86 81⇑ *iP* **Pn** 14 49 31.6 +0.4
BLY Banja Luka 4.86 81 S **Sn** 14 50 24.5 -2.4
BLY Banja Luka 4.86 81⇑ *iPn* **Pn** 14 49 31.6 +0.4
BLY Banja Luka 4.86 81 P **Pn** 14 49 31.7 +0.5
THEF They Montfort 5.10 324 P **Pn** 14 49 35.4 +0.9
LANF Langenberg 5.14 340 P **Pn** 14 49 35.0 -0.1
GEA0 GERESS Array S 5.17 25 *ePn* **Pn** 14 49 34.4 -1.3
GEC2 GERESS Array S 5.18 25 *ePn* **Pn** 14 49 34.6 -1.2
GEC2 GERESS Array S 5.18 25 *ePn* **Pn** 14 49 34.6 -1.2
GEC2 GERESS Array S 5.18 25 *eP* **Pn** 14 49 34.6 -1.2
GERES GERESS Array B 5.18 25 Pn **Pn** 14 49 34.6 -1.2
comp=E,30nm,0.3s,baz=196,slow=13,SNR=521
GERES Sn **Sn** 14 50 31.3 -3.7
comp=E,44nm,0.3s,baz=203,slow=23,SNR=7.6
GERES LR LR 14 51 55.3
comp=E,2µm,18.1s,baz=242,slow=42
LBL Lubilhac 5.24 284 P **Pn** 14 49 37.5 +0.9
WET Wettzell 5.24 18 *ePn* **Pn** 14 49 35.3 -1.3
WET *eSn* **Sn** 14 50 31.4 -5.0
WET Wettzell 5.24 18 *ePn* **Pn** 14 49 35.3 -1.3
WET *eSn* **Sn** 14 50 31.4 -5.0
SMF Signal de Mont 5.26 300 *eP* **Pn** 14 49 38.4 +1.5
SNR=1.0
SMF *eSn* **Sn** 14 50 33.9 -3.1
comp=E,851nm,0.6s
CONA Conrad Observa 5.32 43 *i* Pn **Pn** 14 49 36.7 -0.9
comp=E,41nm,0.3s,SNR=47
CONA *i* Sn **Sn** 14 50 37.5 -0.9
comp=E,276nm,0.7s
KHC Kasperske Hory 5.40 22 *ePn* **Pn** 14 49 37.9 -0.9
KHC Kasperske Hory 5.40 22 *ePN* **Pn** 14 49 38.1 -0.7
KHC *ex* x 14 49 44.0
KHC *eSN* **Sn** 14 50 36.7 -3.7
KHC *eSG* **Sg** 14 51 06.9 -5.6
comp=E,3µm,1.7s
KHC AMS AMS 14 52 00.0
comp=E,10µm,10.5s
KHC Kasperske Hory 5.40 22 *eP* **Pn** 14 49 38.1 -0.7
KHC *e* 14 50 36.7
KHC smax smax
comp=N,3µm,1.7s
KHC MLR MLR
comp=Z,10µm,10.5s
STON Ston 5.43 101 *ePn* **Pn** 14 49 40.0 +0.9
STON Sn **Sn** 14 50 40.8 -0.3
PAGF Fort de Pagny 5.46 325 *eP* **Pn** 14 49 40.5 +0.9
baz=145
PAGF *eSn* **Sn** 14 50 35.4 -6.5
comp=Z,8µm,1.0s
SFTF Sexfontaines 5.51 319 *eP* **Pn** 14 49 41.3 +1.1
baz=140
SFTF *eSn* **Sn** 14 50 36.9 -6.0
comp=Z,427nm,0.5s
AGO Saint Agoulin 5.51 292 Pn **Pn** 14 49 41.7 +1.5
PYM Petit Puy Mans 5.51 289 Pn **Pn** 14 49 41.5 +1.2
SOP Sopron 5.52 48 *ePn* **Pn** 14 49 36.0 -4.3
SOP Sn **Sn** 14 50 40.1 -3.1
GRFO Grafenberg 5.54 5 *ePn* **Pn** 14 49 38.3 -2.3
GRFO Grafenberg 5.54 5 *eP* **Pn** 14 49 38.3 -2.3
GRA1 Grafenberg Arr 5.54 5 *ePn* **Pn** 14 49 38.3 -2.4
GRF Grafenberg Arr 5.54 5 *ePn* **Pn** 14 49 38.6 -2.0
GRF Grafenberg Arr 5.54 5 *eP* **Pn** 14 49 38.3 -2.4
GRF Grafenberg Arr 5.54 5 *ePn* **Pn** 14 49 38.6 -2.0
LOR Lormes 5.55 306 *eP* **Pn** 14 49 41.8 +1.0
baz=128,SNR=1.0
LOR *eSn* **Sn** 14 50 39.0 -5.1
comp=Z,505nm,0.4s,SNR=1.0
LOR Lormes 5.55 306 Pn **Pn** 14 49 42.0 +1.2
AVF Avril sur Loir 5.63 300 *eP* **Pn** 14 49 43.5 +1.6
SNR=1.0
AVF *eSn* **Sn** 14 50 40.2 -5.8
comp=Z,312nm,0.6s,SNR=1.0
BAI Bari 5.65 121⇓ *iPn* **Pn** 14 49 42.8 +0.7
SSF Saint Saulge 5.66 303 *eP* **Pn** 14 49 43.2 +0.9
SNR=1.0
SSF *eSn* **Sn** 14 50 40.9 -5.8
comp=Z,311nm,0.4s
SG1 Sgolgore (BA) 5.69 124⇑ *iPn* **Pn** 14 49 44.0 +1.3
MEZF Maizieres J'vi 5.71 321 *eP* **Pn** 14 49 44.2 +1.2
baz=142,SNR=1.0
MEZF *eSn* **Sn** 14 50 42.7 -5.3
comp=Z,230nm,0.4s,SNR=1.0
ROTZ Rotzenmuhle 5.72 12 *ePn* **Pn** 14 49 41.0 -2.1
ROTZ Rotzenmuhle 5.72 12 *ePn* **Pn** 14 49 41.0 -2.1
SJAF Saint Jean de 5.77 256 Pn **Pn** 14 49 43.6 -0.3
MATE Matera 5.82 125⇓ *iP* **Pn** 14 49 45.2 +0.7
MATE Matera 5.82 125 S **Sn** 14 50 49.7 -0.9
BGF Bois d'Agland 5.86 297 *eP* **Pn** 14 49 46.7 +1.7
SNR=1.0
BGF *eSn* **Sn** 14 50 46.2 -5.5
comp=Z,768nm,0.6s
TIH Tihany 5.89 60 *ePn* **Pn** 14 49 46.0 +0.5
TIH Sn **Sn** 14 50 53.0 +0.5
MANZ Manzenberg 5.92 10 *ePn* **Pn** 14 49 43.7 -2.2
MANZ *eSn* **Sn** 14 50 50.1 -3.1
MANZ Manzenberg 5.92 10 *ePn* **Pn** 14 49 43.7 -2.2
MANZ *eSn* **Sn** 14 50 50.1 -3.1
TREB Trebinje 5.94 102 *ePn* **Pn** 14 49 46.6 +0.5
NOCI Noci 5.95 122 P **Pn** 14 49 46.6 +0.3
BRY Bratogost 6.02 99⇑ *iPn* **Pn** 14 49 47.8 +0.5
BRY *eSn* **Sn** 14 50 53.8 -2.0
BRY Bratogost 6.02 99⇑ *iPn* **Pn** 14 49 48.3 +1.0
MTLF Montolieu 6.02 265 *eP* **Pn** 14 49 47.8 +0.6
SNR=1.0
MTLF *eSn* **Sn** 14 50 52.2 -3.4
comp=Z,246nm,0.5s
MTLF Montolieu 6.02 265 Pn **Pn** 14 49 47.8 +0.6
CAF Calviac 6.04 280 *ePn* **Pn** 14 49 47.5 0.0
SNR=1.0
CAF *eSn* **Sn** 14 50 49.4 -6.7
comp=Z,260nm,0.7s
ABH Alteburg 6.04 342 Pn **Pn** 14 49 47.4 -0.2
MASS Massafra 6.09 123 *ePn* **Pn** 14 49 49.8 +1.6
FASA Fasano 6.11 121 *ePn* **Pn** 14 49 49.1 +0.6
HCY Herceg Novi 6.12 104⇓ *iPn* **Pn** 14 49 49.0 +0.3
HCY *eSn* **Sn** 14 50 56.0 -2.1
HCY Herceg Novi 6.12 104⇓ *iPn* **Pn** 14 49 48.9 +0.3
HAPS Han Pijesak,BI 6.12 88 *ePn* **Pn** 14 49 48.1 -0.6
ZST Bratislava 6.12 47 *eP* **Pn** 14 49 46.6 -2.0
ZST *e* 14 50 52.8
ZST Bratislava 6.12 47 *ePN* **Pn** 14 49 46.6 -2.0
ZST *eSN* **Sn** 14 50 52.8 -5.3
MORH Mrgy, Hungar 6.14 68 *ePn* **Pn** 14 49 46.9 -1.9
MORH Mrgy, Hungar 6.14 68 *ePn* **Pn** 14 49 49.0 +0.2
MORH *eSn* **Sn** 14 50 57.1 -1.4
MORH Sn **Sg** 14 51 30.0 -6.1
TREC Trest 6.18 32 *ePN* **Pn** 14 49 48.4 -1.0
TREC *eSN* **Sn** 14 50 56.2 -3.3
TREC AMS AMS 14 52 30.0
comp=Z,8µm,13.4s
TREC Trest 6.18 32 *eP* **Pn** 14 49 48.4 -1.0
TREC *e* 14 50 56.2
TREC MLR MLR
comp=Z,8µm,13.4s
TCF Toulx Ste Croi 6.19 293 *eP* **Pn** 14 49 51.6 +2.0
SNR=1.0
FNEB Nbias 6.19 261 Pn **Pn** 14 49 50.2 +0.6
TNS Taunus Mts 6.20 348 *ePn* **Pn** 14 49 49.6 -0.1
TNS *eSn* **Sn** 14 50 55.2 -4.9
TNS Taunus Mts 6.20 348 *ePn* **Pn** 14 49 49.6 -0.1
TNS *eSn* **Sn** 14 50 55.2 -4.9
NKC Novy Kostel 6.21 12 *ePN* **Pn** 14 49 47.7 -2.1
NKC *eSN* **Sn** 14 50 57.6 -2.7
NKC AMS AMS 14 52 40.0
comp=Z,8µm,10.4s
NKC Novy Kostel 6.21 12 *eP* **Pn** 14 49 47.7 -2.1
NKC *e* 14 50 57.6
NKC MLR MLR
comp=Z,8µm,10.4s
WLF Walferdange 6.23 333 *ePn* **Pn** 14 49 50.8 +0.8
WLF Walferdange 6.23 333 *ePn* **Pn** 14 49 51.1 +1.1
WLF *eSn* **Sn** 14 50 58.5 -2.1
WLF Walferdange 6.23 333 *eP* **Pn** 14 49 50.8 +0.8
WLF Walferdange 6.23 333⇓ *iPn* **Pn** 14 49 50.5 +0.5
WLF ⇑ *iPg* **Pb** 14 50 05.9 -1.0
WLF ⇑ *iSn* **Sn** 14 50 59.0 -1.7
comp=E,260nm,0.0s
WLF Walferdange 6.23 333 *ePn* **Pn** 14 49 51.1 +1.1
WLF *eSn* **Sn** 14 50 58.5 -2.1
CARF Carcanieres 6.25 259 P **Pn** 14 49 50.4 -0.1
HYF Humbligny 6.28 302 *eP* **Pn** 14 49 53.0 +2.2
HYF *eSn* **Sn** 14 50 55.9 -6.1
MODS Modra-Piesok 6.32 46 *eP* **Pn** 14 49 50.0 -1.4
MODS *e* 14 50 56.6
MODS Modra-Piesok 6.32 46 *ePN* **Pn** 14 49 50.0 -1.4
MODS *eSN* **Sn** 14 50 56.6 -6.5
NKME Niksic 6.35 100⇓ *iPn* **Pn** 14 49 51.9 +0.1
NKME *i* Sn **Sn** 14 51 01.5 -2.2
NKY Niksic 6.36 99⇑ *iPn* **Pn** 14 49 51.8 -0.3
NKY *eSn* **Sn** 14 51 01.5 -2.7
KRUC Moravsky 6.37 38 *ePN* **Pn** 14 49 50.6 -1.5
KRUC *eSN* **Sn** 14 51 00.3 -4.0
VALF Valcebollere 6.40 257 P **Pn** 14 49 53.1 +0.4
BUM Brajici-Budva 6.45 104⇓ *iPn* **Pn** 14 49 53.3 +0.1
BUM *i* Sn **Sn** 14 51 04.3 -1.9
PRU Pruhonice 6.45 24 *ePn* **Pn** 14 49 51.9 -1.2
PRU *eSN* **Sn** 14 51 03.2 -2.9
PRU AMS AMS 14 52 40.0
comp=E,9µm,11.4s
PRU Pruhonice 6.45 24 *eP* **Pn** 14 49 51.9 -1.2
PRU *e* 14 51 03.2
PRU MLR MLR
comp=Z,9µm,11.4s
GOPC GO Pecny, Ondr 6.46 26 *ePN* **Pn** 14 49 52.3 -0.9
GOPC AMS AMS 14 52 40.0
comp=Z,10µm,11.7s
GOPC GO Pecny, Ondr 6.46 26 *eP* **Pn** 14 49 52.3 -0.9
GOPC MLR MLR
comp=Z,10µm,11.7s
RJF Les Rejaudoux 6.46 283 *ePn* **Pn** 14 49 54.8 +1.5
SNR=1.0
RJF *eSn* **Sn** 14 51 01.3 -5.2
RJF SNR=1.0 *eSg* **Sg** 14 51 40.0 -6.4
comp=Z,273nm,0.8s,SNR=1.0
BBLS Lazići 6.47 90⇑ *iPn* **Pn** 14 49 54.0 +0.6
PRA Prague 6.49 23 *ePN* **Pn** 14 49 53.2 -0.5
PRA AMS AMS 14 52 40.0
comp=Z,9µm,11.1s
PRA Prague 6.49 23 *eP* **Pn** 14 49 53.2 -0.5
PRA MLR MLR
comp=Z,9µm,11.1s
SMOL Smolenice 6.49 46 *eP* **Pn** 14 49 52.7 -1.0
SMOL *e* 14 51 03.9
SMOL Smolenice 6.49 46 *ePN* **Pn** 14 49 52.7 -1.0
SMOL *eSN* **Sn** 14 51 03.9 -3.3
MTGR Montagna Grand 6.52 164 P **Pn** 14 49 56.6 +2.5
MOX Moxa 6.52 7 *ePn* **Pn** 14 49 51.6 -2.5
MOX *eSn* **Sn** 14 51 02.3 -5.6
MOX Moxa 6.52 7 *ePn* **Pn** 14 49 51.6 -2.5
MOX *eSn* **Sn** 14 51 02.3 -5.6
TEKS Tekeris 6.52 84 *ePn* **Pn** 14 49 54.0 -0.1
PLE Plijevlja 6.53 94⇑ *iPn* **Pn** 14 49 57.0 +2.6
PLE *eSn* **Sn** 14 51 05.5 -2.9
SRO Srobarova 6.57 54 *eP* **Pn** 14 49 54.1 -0.7
SRO *e* 14 51 05.6
SRO Srobarova 6.57 54 *ePN* **Pn** 14 49 54.1 -0.7
SRO *eSN* **Sn** 14 51 05.6 -3.6
VRAC Vranov 6.64 37 Pn **Pn** 14 49 54.2 -1.5
comp=Z,5.7nm,0.3s,baz=230,slow=13,SNR=18
VRAC Sn **Sn** 14 51 07.7 -3.2
comp=Z,7.1nm,0.3s,baz=257,slow=10,SNR=4.5
VRAC Vranov 6.64 37⇑ *iP* **Pn** 14 49 54.1 -1.7
VRAC Vranov 6.64 37 *ePN* **Pn** 14 49 54.1 -1.7
VRAC *eSN* **Sn** 14 51 07.0 -3.9
MONQ Montcuq 6.65 275 Pn **Pn** 14 49 56.6 +0.8
CRJA Costa Raja 6.66 162 P Pn 14 50 01.1 +5.1
PDG Podgorica 6.66 102⇑ *iP* **Pn** 14 49 57.1 +1.1
PDG Podgorica 6.66 102 S **Sn** 14 51 09.9 -1.4
PDG Podgorica 6.66 102⇑ *iPn* **Pn** 14 49 57.2 +1.2
TTG Podgorica 6.66 102⇓ *iPn* **Pn** 14 49 56.9 +0.9
TTG *iSn* **Sn** 14 51 09.1 -2.2
TTG Podgorica 6.66 102 *ePn* **Pn** 14 49 56.8 +0.9
TTG Podgorica 6.66 102 *eP* **Pn** 14 49 56.8 +0.9
DRME Dracevica, Mon 6.69 104⇑ *iPn* **Pn** 14 49 56.5 +0.1
DRME *i* Sn **Sn** 14 51 09.5 -2.6
DRME Dracevica, Mon 6.69 104 *ePn* **Pn** 14 49 56.2 -0.2
KOME Kolasin 6.72 98⇑ *iPn* **Pn** 14 49 56.7 -0.3
KOME *i* Sn **Sn** 14 51 10.5 -2.6
FRGS Fruska Gora 6.75 78 *ePn* **Pn** 14 49 56.6 -0.6
MMGO Monte Magaggia 6.79 163 P **Pn** 14 50 02.3 +4.5
ULC Ulcinj 6.81 106⇓ *iPn* **Pn** 14 49 58.2 +0.1
ULC *i* Sn **Sn** 14 51 12.6 -2.5
JAVC Velka Javorina 6.84 44 *ePN* **Pn** 14 49 57.6 -0.9
JAVC *eSN* **Sn** 14 51 12.6 -3.1
DIVS Divibare 6.87 87 *ePn* **Pn** 14 49 58.9 -0.1
DIVS Divibare 6.87 87 *ePn* **Pn** 14 49 58.8 -0.1
TIP Timpagrande 6.87 134⇑ *iP* **Pn** 14 50 02.4 +3.4
MLS Moulis 6.90 263 Pn **Pn** 14 50 00.2 +0.8
CLTB Caltabellotta 6.92 161 *ePn* **Pn** 14 49 58.5 -1.3
PVCC Panska Ves 6.94 22 *ePN* **Pn** 14 49 58.5 -1.3
PVCC AMS AMS 14 53 00.0
comp=Z,8µm,10.8s
PVCC Panska Ves 6.94 22 *eP* **Pn** 14 49 58.5 -1.3
PVCC MLR MLR
comp=Z,8µm,10.8s
LFF La Frestale 6.98 280 *ePn* **Pn** 14 50 02.1 +1.7
SNR=1.0
LFF *eSn* **Sn** 14 51 12.4 -6.7
comp=Z,327nm,0.8s
IVA Berane 6.99 97⇓ *iPn* **Pn** 14 50 01.7 +1.1
IVA *eSn* **Sn** 14 51 17.1 -2.5
KOLL Kolacno 7.04 49 *eP* **Pn** 14 49 59.3 -2.0
KOLL *e* 14 51 13.1
KOLL Kolacno 7.04 49 *ePN* **Pn** 14 49 59.3 -2.0
KOLL *eSN* **Sn** 14 51 13.1 -7.7
GIVF Givet 7.06 329 *eP* **Pn** 14 50 02.2 +0.8
SNR=1.0
GIVF *eSn* **Sn** 14 51 15.1 -6.0
comp=Z,272nm,0.6s,SNR=1.0
BRG Berggiesshubel 7.10 18⇑ *iPN* **Pn** 14 50 00.6 -1.5
comp=Z,20nm,0.6s
BRG SN **Sn** 14 51 15.8 -6.4
BRG SG **Sg** 14 52 04.7 -2.3
comp=Z,444nm,1.2s
comp=Z,8µm,11.2s
comp=N,5µm,10.6s
comp=E,4µm,10.6s
BRG Berggiesshubel 7.10 18⇑ *iP* **Pn** 14 50 00.6 -1.5
BRG 14 51 15.8
BRG pmax pmax
comp=Z,20nm,0.6s
BRG smax smax
comp=N,444nm,1.2s
BRG MLR MLR
comp=Z,8µm,11.2s
BRG MLR MLR
comp=N,5µm,10.6s
BRG MLR MLR
comp=E,4µm,10.6s
MEM Membach 7.10 336 ⇑Pn **Pn** 14 50 01.9 -0.2
MEM ⇑Sn **Sn** 14 51 19.5 -2.7
comp=E,171nm,0.0s
PVY Plav 7.11 100⇑ *iPn* **Pn** 14 50 03.8 +1.5
PVY *eSn* **Sn** 14 51 19.9 -2.7
DOU Dourbes 7.14 328 ⇑Pn **Pn** 14 50 02.7 +0.1
DOU ⇑Sn **Sn** 14 51 20.5 -2.5
comp=E,140nm,0.0s
DOU ⇑Sg **Sb** 14 51 49.9 +2.7
MELF Melles 7.16 263 P **Pn** 14 50 03.6 +0.6
VYHS Vyhne 7.23 50 *eP* **Pn** 14 50 02.0 -1.9
VYHS *e* 14 51 18.8
VYHS Vyhne 7.23 50 *ePN* **Pn** 14 50 02.0 -1.9
VYHS *eSN* **Sn** 14 51 18.8 -6.6
BAIF Baives 7.26 326 *eP* **Pn** 14 50 04.8 +0.6
SNR=1.0
BAIF *eSn* **Sn** 14 51 19.1 -6.9
comp=E,336nm,0.8s
HGN Heimansgroeve 7.26 337 *eP* **Pn** 14 50 04.6 +0.3
HGN *eS* **Sn** 14 51 21.1 -5.1
KRLC Kraliky 7.31 34 *ePN* **Pn** 14 50 03.8 -1.2
KRLC *eSN* **Sn** 14 51 23.5 -3.9
KRLC Kraliky 7.31 34 *eP* **Pn** 14 50 03.8 -1.2
KRLC *e* 14 51 23.5
VAE Valguarnera 7.34 154 Pn **Pn** 14 50 09.8 +4.4
comp=E,1.3nm,0.3s,baz=2.7,slow=14,SNR=2.5
CLL Collm 7.34 13 *ePn* **Pn** 14 50 04.0 -1.3
comp=Z,123nm,1.1s
CLL *e*(Pg) Pb 14 50 19.0 -6.9
CLL *e* 14 51 02.0
CLL *e*(Sn) **Sn** 14 51 24.0 -4.0
CLL *eSb* Sb 14 51 35.0 -18
CLL *eSg* Sg 14 52 06.0 -8.5
comp=Z,603nm,1.1s
CLL Collm 7.34 13 *eP* **Pn** 14 50 04.0 -1.3
CLL pmax pmax
comp=Z,123nm,1.1s
DPC Dobruska-Polom 7.35 31 *ePN* **Pn** 14 50 03.5 -2.0
DPC *eSN* **Sn** 14 51 23.8 -4.6
DPC AMS AMS 14 53 00.0
comp=Z,6µm,11.7s
DPC Dobruska-Polom 7.35 31 *eP* **Pn** 14 50 03.5 -2.0
DPC *e* 14 51 23.8
DPC MLR MLR
comp=Z,6µm,11.7s
BEBN Eben Emael 7.37 336 ⇑Pn **Pn** 14 50 04.8 -0.8
BEBN ⇑Pg **Pb** 14 50 25.5 -0.8
BEBN ⇑Sn **Sn** 14 51 27.3 -1.3
comp=N,16nm,0.0s
UPC Upice 7.37 29 *ePN* **Pn** 14 50 04.1 -1.7
UPC AMS AMS 14 53 20.0
comp=N,9µm,10.7s
UPC Upice 7.37 29 *eP* **Pn** 14 50 04.1 -1.7
UPC MLR MLR
comp=Z,9µm,10.7s
MORC Moravsky Berou 7.41 38 *ePn* **Pn** 14 50 04.7 -1.6
MORC Moravsky Berou 7.41 38⇑ *iP* **Pn** 14 50 04.7 -1.6
MORC Moravsky Berou 7.41 38 *eP* **Pn** 14 50 04.7 -1.6
MORC Moravsky Berou 7.41 38 *ePN* **Pn** 14 50 04.6 -1.7
MORC *eSN* **Sn** 14 51 24.1 -5.7
EPF Esparros 7.43 265 *ePn* **Pn** 14 50 04.1 -2.5
SNR=1.0
EPF *eSn* **Sn** 14 51 24.1 -6.2
comp=Z,46nm,0.4s
TIR Tirane 7.48 109 *ePn* **Pn** 14 50 07.4 +0.1
TIR Tirane 7.48 109⇓ *iP* **Pn** 14 50 07.8 +0.5
TIR Tirane 7.48 109 S **Sn** 14 51 29.3 -2.3
PSZ Piszkesteto 7.56 57 *ePn* **Pn** 14 50 06.9 -1.5
PSZ Piszkesteto 7.56 57⇑ *iP* **Pn** 14 50 08.9 +0.5
PSZ Piszkesteto 7.56 57 S **Sn** 14 51 28.5 -5.1
PSZ Piszkesteto 7.56 57 *eP* **Pn** 14 50 06.9 -1.5
SNF Seneffe 7.59 329 ⇓Pn **Pn** 14 50 09.3 +0.6
SNF ⇑Pg **Pb** 14 50 29.0 -1.1
LABF Labassere 7.61 265 P **Pn** 14 50 09.8 +0.6
OKC Ostrava-Krasne 7.73 40 *ePN* **Pn** 14 50 08.8 -1.8
OKC AMS AMS 14 53 30.0
comp=Z,4µm,10.9s
OKC Ostrava-Krasne 7.73 40 *eP* **Pn** 14 50 08.8 -1.8
OKC MLR MLR
comp=Z,4µm,10.9s
PHP Peshkopia 7.75 105 P **Pn** 14 50 11.7 +0.7
PHP Peshkopia 7.75 105 P **Pn** 14 50 11.7 +0.7
PHP Peshkopia 7.75 105 P **Pn** 14 50 11.7 +0.7
KSP Ksiaz 7.75 29 *ePn* **Pn** 14 50 09.0 -2.0
KSP Ksiaz 7.75 29 *eP* **Pn** 14 50 09.0 -2.0
UCC Uccle 7.80 330 ⇓Pn **Pn** 14 50 13.2 +1.6
UCC ⇑Sn **Sn** 14 51 41.3 +2.0
MFF Saint Martin d 7.84 292 *eP* **Pn** 14 50 14.5 +2.3
SNR=1.0
MFF *eSn* **Sn** 14 51 34.4 -6.0
comp=Z,92nm,0.6s
LANS Liptovska Anna 7.95 48 *eP* **Pn** 14 50 12.6 -1.1
LANS *e* 14 51 38.3
LANS Liptovska Anna 7.95 48 *ePN* **Pn** 14 50 12.6 -1.1
LANS *eSN* **Sn** 14 51 38.3 -4.8
BZS Buzias 8.06 76⇓ *iP* **Pn** 14 50 15.5 +0.3
MDVR Moldovita 8.08 82⇑ *iP* **Pn** 14 50 15.5 0.0
ETSF Etsaut 8.10 265 *ePn* **Pn** 14 50 13.0 -2.8
SNR=1.0
ETSF Etsaut 8.10 265 *eP* **Pn** 14 50 18.1 +2.3
ETSF *eSn* **Sn** 14 51 39.2 -7.7
comp=Z,99nm,0.7s
WTSB Winterswijk 8.17 344 *eP* **Pn** 14 50 17.3 +0.7
SIRR Siria 8.19 71⇑ *iP* **Pn** 14 50 19.0 +2.0
SKO Skopje 8.34 102 *i* Pn **Pn** 14 50 18.1 -1.0
KRUS Krusevo 8.43 106 *i* Pn **Pn** 14 50 20.9 +0.6
KEST Kesra 8.48 186 Pn **Pn** 14 50 24.2 +3.2
comp=Z,4.8nm,0.3s,baz=301,slow=2.4,SNR=24
KEST Sn **Sn** 14 51 57.0 +0.8
baz=346,slow=17,SNR=2.0
KEST LR LR 14 53 51.6
comp=Z,3µm,18.1s,baz=7.5,slow=39
KEST Kesra 8.48 186 *ePn* **Pn** 14 50 26.5 +5.4
KEST Sn **Sn** 14 51 57.0 +0.8
SJPF Ste Jean 8.53 267 *ePn* **Pn** 14 50 18.7 -3.0
SJPF Ste Jean 8.53 267 *eP* **Pn** 14 50 24.1 +2.4
SNR=1.0
SJPF *eSn* **Sn** 14 51 49.4 -8.1
comp=Z,58nm,0.7s
LDF La Druitiere 8.54 305 *ePn* **Pn** 14 50 18.8 -2.9
SNR=1.0
LDF La Druitiere 8.54 305 *eP* **Pn** 14 50 24.3 +2.6
LDF *eSn* **Sn** 14 51 50.5 -6.9
comp=Z,166nm,0.7s
NIE Niedzica 8.55 49 *ePn* **Pn** 14 50 20.6 -1.4
NIE Niedzica 8.55 49 *eP* **Pn** 14 50 20.6 -1.4
HERR Herculane 8.58 81⇑ *iP* **Pn** 14 50 23.2 +0.8
HERR Herculane 8.58 81 S **Sn** 14 51 53.8 -4.8
BIA Bitola 8.62 108 *i* Pn **Pn** 14 50 24.0 +1.0
NEST Nestorio 8.71 112 P **Pn** 14 50 26.1 +1.9
EALK Alkurruntz 8.72 268 Pn **Pn** 14 50 24.4 +0.1
OJC Ojcow 8.77 43 *ePn* **Pn** 14 50 23.9 -1.1
OJC *eSn* **Sn** 14 52 00.5 -2.8
OJC Ojcow 8.77 43 *ePn* **Pn** 14 50 23.7 -1.3
OJC Ojcow 8.77 43 *eP* **Pn** 14 50 23.9 -1.1
OJC *e* 14 52 00.5
FLN La Foliniere 8.82 305 *eP* **Pn** 14 50 28.6 +2.9
baz=126,SNR=1.0
FLN *eSn* **Sn** 14 51 56.6 -7.9
comp=Z,83nm,0.6s
GZR Gura Zlata 8.85 78⇑ *iP* **Pn** 14 50 27.0 +0.8
GZR Gura Zlata 8.85 78 S **Sn** 14 52 00.6 -4.8
PENT Pentalofos 8.88 113 P **Pn** 14 50 29.4 +2.9
GRR Gorron 8.89 302 *ePn* **Pn** 14 50 24.1 -2.4
GRR Gorron 8.89 302 *eP* **Pn** 14 50 29.3 +2.8
SNR=1.0
GRR *eSn* **Sn** 14 51 58.8 -7.3
comp=Z,188nm,0.9s
STIP Stip 8.96 102 *i* Pn **Pn** 14 50 28.6 +1.0
PUNG Punghina 8.97 85⇑ *iP* **Pn** 14 50 28.3 +0.7
DEV Deva 8.98 75⇑ *iP* **Pn** 14 50 28.6 +0.7
DRGR 9.00 69⇑ *iP* **Pn** 14 50 29.4 +1.2
SRE Strehaia 9.14 83⇑ *iP* **Pn** 14 50 31.5 +1.4
KPRO Kipourio 9.15 114 P **Pn** 14 50 32.7 +2.5
TRPA Tarpa 9.28 61⇑ *iP* **Pn** 14 50 32.5 +0.7
VAY Valandovo 9.36 104 *i* Pn Pn 14 50 25.4 -7.7
GRG Griva 9.39 106 P **Pn** 14 50 33.8 +0.3
GRG Griva 9.39 106 P **Pn** 14 50 33.8 +0.3
GRG Griva 9.39 106 P **Pn** 14 50 33.8 +0.3
VTS Vitosha 9.43 95 *ePn* **Pn** 14 50 34.3 +0.2
VTS Vitosha 9.43 95⇑ *iP* **Pn** 14 50 34.8 +0.6
VTS Vitosha 9.43 95 *eP* **Pn** 14 50 34.3 +0.2
VTS Vitosha 9.43 95 *eP* **Pn** 14 50 34.7 +0.6
KKB Krupnik 9.54 100 *eP* **Pn** 14 50 36.6 +1.1
LOT Lotru 9.55 78⇑ *iP* **Pn** 14 50 37.1 +1.3
LOT Lotru 9.55 78 S **Sn** 14 52 22.2 -0.5
CJR Cluj-Napoca 9.59 70⇓ *iP* **Pn** 14 50 38.2 +2.0
KNT Kendrikon 9.65 104 P **Pn** 14 50 36.9 -0.2
KNT Kendrikon 9.65 104 P **Pn** 14 50 36.9 -0.2
KNT Kendrikon 9.65 104 P **Pn** 14 50 36.9 -0.2
SGMF Saint Gilles 9.89 299 *ePn* **Pn** 14 50 37.2 -3.1
SNR=1.0
SGMF Saint Gilles 9.89 299 *eP* **Pn** 14 50 43.0 +2.7
SGMF *eSn* Sn 14 52 22.0 -8.7
comp=Z,53nm,0.7s

KWP Kalwaria Pacla 10.00 53 *e*Pn Pn 14 50 42.5 +0.7
KWP Kalwaria Pacla 10.00 53 *e*Pn Pn 14 50 42.6 +0.7
KWP Kalwaria Pacla 10.00 53 *e*P Pn 14 50 42.6 +0.7
MDB Medias 10.04 74⇑ *i*P Pn 14 50 44.7 +2.4
PGB Panagyurishte 10.12 94 *e*P Pn 14 50 45.5 +1.9
GKP Gorka Klasztor 10.14 24 *e*Pn Pn 14 50 45.2 +1.6
GKP Gorka Klasztor 10.14 24 *e*P Pn 14 50 45.2 +1.6
SRS Serrai 10.16 103 P Pn 14 50 42.7 -1.3
ARR Arges 10.16 78⇓ *i*P Pn 14 50 46.5 +2.4
ARCR ARCALIA 10.16 69⇓ *i*P Pn 14 50 44.5 +0.4
QUIF Quistinic 10.18 296 *e*Pn Pn 14 50 42.1 -2.1
SNR=1.0
QUIF *e*Sn Sn 14 52 27.5 -10
comp=Z,30nm,0.5s
NVR Nevrokopi 10.26 101 P Pn 14 50 45.2 -0.2
PLG Polygyros 10.35 107 P Pn 14 50 48.7 +2.0
ROSF Rostrenen 10.37 298 *e*P Pn 14 50 49.5 +2.7
SNR=1.0
ROSF *e*Sn Sn 14 52 33.5 -9.0
comp=Z,62nm,0.7s
HUMR Humele 10.42 83⇑ *i*P Pn 14 50 47.7 +0.2
VOIR 10.46 78⇑ *i*P Pn 14 50 50.8 +2.7
PLD Plovdiv 10.62 96 *e*P Pn 14 50 51.2 +0.9
DOPR Dopca 10.72 75⇓ *i*P Pn 14 50 53.5 +1.8
RZN Rozhen 10.76 98 *e*P Pn 14 50 52.9 +0.6
BUR08 Bucovina Ar. S 10.85 66 *e*Pn Pn 14 50 55.0 +1.5
KAVA Kavala 10.85 102 P Pn 14 50 53.6 +0.2
BUR04 Bucovina Ar. S 10.85 66 *e*Pn Pn 14 50 55.6 +2.1
BURAR Bucovina Array 10.85 66⇓ *i*P Pn 14 50 55.5 +2.0
LVV L'vov 10.85 54 *e*P Pn 14 50 54.7 +1.3
LVV *e*S Sn 14 52 56.6 +2.3
LVV MLR MLR
comp=N,2μm,12.0s
LVV MLR MLR
comp=E,1μm,12.0s
LVV MLR MLR
comp=Z,2μm,12.0s
CART Cartagena 10.88 237 *e*Pn Pn 14 50 55.8 +1.9
SWN1 Swindon 11.02 316 *e*P Pn 14 50 54.8 -0.9
SWN1 IAmb IAmb 14 50 58.5
comp=Z,159nm,0.6s
MLR Muntele Rosu 11.09 78 Pn Pn 14 50 57.7 +0.9
comp=Z,0.2nm,0.3s,baz=178,slow=1.4,SNR=11
MLR LR LR 14 55 35.4
comp=Z,2μm,21.6s,baz=276,slow=40
MLR Muntele Rosu 11.09 78⇑ *i*P Pn 14 50 58.5 +1.7
SZH Strazhica 11.25 89 *e*P Pn 14 50 59.6 +0.7
BSD Bornholm Skovb 11.32 13 *i* P Pn 14 50 58.8 -1.0
comp=Z,3μm,10.0s
BSD Bornholm Skovb 11.32 13 *i* P Pn 14 50 58.8 -1.0
BSD MLR MLR
comp=Z,3μm,10.0s
STRD Stroud 11.36 316 *e*P Pn 14 50 59.2 -1.1
STRD IAmb IAmb 14 51 08.7
comp=Z,149nm,0.8s
ISR Istrita 11.51 80⇑ *i*P Pn 14 51 03.7 +1.2
RDO Rodhopi 11.52 100 P Pn 14 51 02.2 -0.4
CWF Charnwood Fore 11.57 322 *e*P Pn 14 51 02.7 -0.6
ES19 SONSECA Array 11.58 252 *e*Pn Pn 14 51 04.4 +0.9
PLOR Plostina 11.59 76⇓ *i*P Pn 14 51 05.4 +1.8
ESDC Sonseca Array 11.64 252 Pn Pn 14 51 04.7 +0.4
comp=Z,1.7nm,0.3s,baz=66,slow=13,SNR=33
ESDC LR LR 14 55 10.1
comp=Z,390nm,18.9s,baz=75,slow=36
ESLA Sonseca Array 11.64 252 *e*Pn Pn 14 51 04.8 +0.5
VRI Vrincioaia 11.65 76⇑ *i*P Pn 14 51 06.1 +1.7
MONM Monmouth 11.71 316 *e*P Pn 14 51 03.6 -1.5
MONM IAmb IAmb 14 51 05.2
comp=Z,104nm,1.3s
MCH1 Michaelchurch 11.90 316 *e*P Pn 14 51 06.5 -1.3
MCH1 IAmb IAmb 14 51 08.2
comp=Z,38nm,1.0s
PAB San Pablo 11.96 252 *e*Pn Pn 14 51 09.0 +0.3
PAB San Pablo 11.96 252 *e*P Pn 14 51 09.0 +0.3
HLM1 Long Mynd 12.16 318 *e*P Pn 14 51 11.1 -0.2
KLNR Kaliningrad 12.21 28⇑ *e*P Pn 14 51 09.0 -2.9
KLNR pmax pmax
comp=Z,244nm,1.5s
LBWR Ladybower, Pea 12.21 323 *e*P Pn 14 51 10.6 -1.5
LBWR IAmb IAmb 14 51 14.2
comp=Z,44nm,0.7s
CCA1 Carnmenellis 12.23 305 *e*P Pn 14 51 12.0 -0.3
CCA1 IAmb IAmb 14 51 16.9
comp=Z,238nm,1.6s
MUD Monsted U'grnd 12.32 357 *i* P Pn 14 51 11.5 -1.9
MUD Monsted U'grnd 12.32 357 *i* P Pn 14 51 11.5 -1.9
HPK Haverah Park 12.57 325 *e*P Pn 14 51 15.6 -1.2
PBRG Braganca 12.81 265 *e*P Pn 14 51 24.1 +3.8
comp=Z,41nm,1.5s
KIS Kishinev 13.17 71 *e*P P 14 51 39.0 +3.9
KIS LRM MLR 14 57 48.0
comp=Z,2μm,12.0s
KIS Kishinev 13.17 71 *e*P P 14 51 39.0 +3.9
KIS MLR MLR
comp=Z,2μm,12.0s
KIS MLR MLR
comp=N,2μm,12.0s
MVO Moncorvo 13.21 263 *e*P Pn 14 51 30.0 +4.2
comp=N,40nm,1.3s
EDMD Edmundbyers 13.34 327 *e*P Pn 14 51 25.7 -1.8
EDMD IAmb IAmb 14 51 29.7
comp=Z,54nm,0.8s
KESW Keswick, Cumbr 13.63 325 *e*P Pn 14 51 30.7 -0.6
POLO Lamas de Olo 13.69 265 *e*P P 14 51 37.5 -3.5
comp=Z,32nm,1.7s
PBUR Paburg 13.93 28 *e*P Pn 14 51 34.8 -0.6
PBUR IAmb IAmb 14 51 36.7
comp=Z,113nm,1.2s
PCBR Castelo Branco 14.01 258 *e*P Pn 14 51 40.8 +4.2
comp=Z,46nm,2.0s
PMRV Marv??o 14.12 257 *e*P Pn 14 51 38.1 -0.1
comp=Z,72nm,1.7s
EKA Eskdalemuir Ar 14.18 327 Pn Pn 14 51 36.9 -2.0
baz=140,slow=14,SNR=27
EKA Sn Sn 14 54 07.2 -8.3
baz=138,slow=29,SNR=3.6
ESK Eskdalemuir 14.19 327 *e*P Pn 14 51 38.0 -1.0
IDI Anoyia 14.21 124 Pn P 14 51 43.2 -3.5
comp=Z,0.3nm,0.3s,baz=307,slow=15,SNR=2.1
IDI Sn Sn 14 54 11.3 -5.2
comp=Z,0.3nm,0.3s,baz=254,slow=18,SNR=2.0
IDI LR LR 14 58 24.1
comp=Z,753nm,18.2s,baz=298,slow=43
KIEV Kiev 14.25 56⇓ *i*P P 14 51 45.0 -2.0
KIEV Kiev 14.25 56 *i* P P 14 51 45.4 -1.7
SNR=10.0
KIEV Kiev 14.25 56⇑ *e*P Pn 14 51 37.5 -2.4
KIEV pmax pmax
comp=Z,11nm,1.5s
AKASG Malin Array Be 14.26 56 Pn Pn 14 51 39.2 -0.9
comp=Z,0.5nm,0.3s,baz=241,slow=12,SNR=6.4
AKASG LR LR 14 57 33.7
comp=Z,342nm,18.1s,baz=250,slow=39
PABE Paberze 14.27 33 *e*P Pn 14 51 39.4 -0.7
PABE IAmb IAmb 14 51 41.2
comp=Z,114nm,1.1s
ESY Stoneypath 14.41 329 *e*P Pn 14 51 41.4 -0.6
PESTR Estremoz 14.51 255 *e*P P 14 51 49.3 -0.7
comp=Z,37nm,1.6s
NACGM Naroch 15.05 39 *e*P Pn 14 51 47.0 -3.6
NACGM PM 14 51 50.0
comp=Z,0.2nm,1.0s
NACGM *e*S Sn 14 54 21.0 -16
NACGM *e*LQ LQ 14 56 02.0
NACGM *e*LR LR 14 57 25.0
NACGM LRM MLR 14 58 16.0
comp=Z,5.9nm,12.0s
IIGN Ignalina 15.09 37 *e*P Pn 14 51 50.6 -0.6
IIGN IAmb IAmb 14 51 51.4
comp=Z,8.5nm,0.8s
ISAL Salakas 15.19 36 *e*P Pn 14 51 52.3 -0.2
ISAL IAmb IAmb 14 51 59.9
comp=Z,18nm,1.1s
IDID Didziasalis 15.29 37 *e*P Pn 14 51 53.8 0.0
IDID IAmb IAmb 14 51 55.5
comp=Z,15nm,0.9s
MICGM Minsk 15.31 41 *e* Pn 14 51 51.0 -3.1
MICGM *e* 14 56 35.0
MNK Minsk 15.31 41 *e*P Pn 14 51 51.0 -3.1
IZAR Zarasai 15.36 36 *e*P Pn 14 51 54.5 -0.2
IZAR IAmb IAmb 14 52 00.6
comp=Z,26nm,1.3s
SLIT Slitere, Latvi 15.37 25 *e*P P 14 51 58.8 -0.5
SLIT IAmb IAmb 14 52 01.8
comp=Z,409nm,1.1s
KONO Kongsberg 15.50 358⇑ *e*P Pn 14 51 55.6 -1.0
KONO pmax pmax
comp=Z,59nm,2.3s
MME1 Meikle Cairn 15.61 332 *e*P Pn 14 51 56.6 -1.4
MCD Coleburn Disti 15.92 332 *e*P Pn 14 52 01.2 -0.7
HFS Hagfors 16.10 6 Pn Pn 14 52 03.0 -1.3
comp=Z,0.1nm,0.3s,baz=185,slow=12,SNR=11
HFS LR LR 14 59 08.0
comp=Z,1μm,18.6s,baz=202,slow=40
HFS Hagfors 16.10 6 P Pn 14 52 03.0 -1.3
HFS MLR MLR
comp=Z,1μm,18.6s
MDT Midelt 16.33 231 Pn Pn 14 52 07.5 0.0
comp=Z,0.2nm,0.3s,baz=50,slow=14,SNR=2.4
MDT LR LR 14 57 38.3
comp=Z,395nm,18.6s,baz=57,slow=34
KAC Achnashellach 16.58 329 *e*P Pn 14 52 09.4 -0.9
NC602 NORSAR Array S 16.60 2 *e*Pn Pn 14 52 10.0 -0.6
NAO01 NORSAR Array S 16.70 1 *e*Pn Pn 14 52 10.5 -1.4
SIM Simferopol' 16.88 79 P P 14 52 17.9 +1.7
SIM S Sn 14 55 15.8 -5.4
SIM pmax pmax
comp=Z,63nm,1.1s
SIM MLR MLR
comp=Z,1μm,8.5s
NBO00 NORSAR Array S 16.88 1 *e*Pn Pn 14 52 11.0 -3.2
NB2 NORSAR Subarra 16.90 1 P Pn 14 52 13.1 -1.3
comp=Z,57nm,1.1s,baz=182,slow=11
NOA NORSAR Array B 16.90 1 Pn Pn 14 52 13.1 -1.3
comp=Z,0.1nm,0.3s,baz=182,slow=11,SNR=32
NOA LR LR 14 59 32.3
comp=Z,708nm,18.8s,baz=175,slow=40
NB201 NORSAR Array S 16.91 1 *e*Pn Pn 14 52 13.6 -1.0
NC405 NORSAR Array S 16.98 2 *e*Pn Pn 14 52 14.8 -0.6
VSU Vasula 17.48 29 *c i*P Pn 14 52 20.7 -1.0
VSU pmax pmax
comp=Z,372nm,1.2s
VSU Vasula 17.48 29 *e*P Pn 14 52 20.9 -0.7
VSU IAmb IAmb 14 52 24.6
comp=Z,597nm,0.8s
BR131 Keskin Array S 17.80 96 *e*Pn P 14 52 28.1 +1.5
BR131 Keskin Array S 17.80 96 P P 14 52 29.4 +2.8
SNR=8.2
BRTR Keskin Array B 17.80 96 P P 14 52 26.6 +0.1
comp=Z,0.2nm,0.3s,baz=298,slow=10,SNR=24
BRTR PcP PcP 14 57 02.4 -0.2
comp=Z,0.1nm,0.3s,baz=269,slow=1.4,SNR=3.4
BRTR LR LR 15 00 43.4
comp=Z,1μm,21.9s,baz=289,slow=42
ANN Anapa 19.24 79 *e*P P 14 52 38.3 -3.9
ANN *e*S Sn 14 56 12.5 -5.7
ANN pmax pmax
comp=Z,45nm,1.0s
ANN MLR MLR
comp=N,905nm,13.0s
ANN MLR MLR
comp=E,76nm,13.0s
ANN MLR MLR
comp=Z,990nm,13.0s
FINES FINESS Array B 19.61 23 P P 14 52 45.4 -0.7
comp=Z,2.8nm,0.3s,baz=205,slow=8.4,SNR=60
FINES PcP PcP 14 57 04.1 -0.9
comp=Z,0.1nm,0.3s,baz=192,slow=1.3,SNR=3.9
FINES LR LR 15 00 22.9
comp=Z,229nm,20.3s,baz=223,slow=37
FIA1 FINESS Array S 19.61 23 *e*P P 14 52 45.6 -0.6
PUL Pulkovo 19.71 31⇓ *e*P P 14 52 46.9 -0.3
PUL pmax pmax
comp=Z,116nm,1.1s
OBN Obninsk 20.02 48 P P 14 52 49.9 -0.7
comp=Z,5.6nm,0.5s,baz=202,slow=19,SNR=8.4
OBN LR LR 15 02 04.9
comp=Z,244nm,19.2s,baz=242,slow=41
OBN Obninsk 20.02 48 *e*P P 14 52 50.5 -0.1
comp=Z,157nm,1.5s
OBN Obninsk 20.02 48⇓ *e*P P 14 52 50.0 -0.6
OBN *e*S S 14 56 31.0 -3.7
OBN pmax pmax
comp=Z,54nm,1.0s
OBN MLR MLR
comp=Z,967nm,16.0s
VSR Storozhevoye 20.48 60 *d i*P P 14 52 54.9 -0.8
VSR pmax pmax
comp=Z,101nm,0.6s
VORR Voronezh 20.58 58 P P 14 52 56.0 -0.8
VORR pmax pmax
comp=Z,250nm,1.2s
LPSR Galich'ya Gora 20.59 56 *e*P P 14 52 55.6 -1.3
LPSR pmax pmax
comp=Z,80nm,0.8s
MOS Moscow 20.81 47 *e*P P 14 52 58.8 -0.4
MOS *e* 14 53 06.6
MOS *e* 14 53 18.1
MOS *e* 14 53 34.1
MOS *e*S S 14 56 48.8 -1.7
MOS pmax pmax
comp=Z,99nm,1.2s
MOS MLR MLR
comp=Z,1μm,12.0s
SOC Sochi 21.06 81 *e*P P 14 53 00.7 -1.4
SOC *e* 14 53 19.5
SOC *e*S S 14 56 52.8 -2.8
SOC *e*SS SnSn 14 57 20.9 +4.0
SOC pmax pmax
comp=Z,130nm,0.9s
SOC MLR MLR
comp=Z,370nm,17.0s
TAM Tamanrasset 21.71 192 *e*P P 14 53 12.1 +2.8
comp=Z,58nm,1.5s
TAM Tamanrasset 21.71 192 *e*P P 14 53 12.1 +2.8
TAM pmax pmax
comp=Z,58nm,1.5s
VRH Novokhopyorsk 22.07 60 *e*P P 14 53 14.9 +2.1
VRH pmax pmax
comp=Z,30nm,1.0s
VRH MLR MLR
comp=Z,1μm,13.0s
MMAI Mount Meron Ar 22.38 111 P P 14 53 17.9 +1.5
comp=Z,11nm,0.9s,baz=315,slow=8.2,SNR=8.6
MMAI LR LR 15 03 52.0
comp=Z,226nm,19.6s,baz=330,slow=42
KIV Kislovodsk 23.09 79 *e*P P 14 53 24.0 +0.2
comp=Z,97nm,1.0s
KIV Kislovodsk 23.09 79 *i* P P 14 53 24.3 +0.5
SNR=12
KIV Kislovodsk 23.09 79 *e*P P 14 53 24.7 +0.9
KIV *e*S S 14 57 36.5 +2.5
KIV pmax pmax
comp=Z,107nm,1.1s
KIV MLR MLR
comp=Z,315nm,14.0s
KIV Kislovodsk 23.09 79 P P 14 53 24.0 +0.2
SNR=20
KVAR Kislovodsk Arr 23.10 79 P P 14 53 25.4 +1.5
comp=Z,8.7nm,1.1s,baz=242,slow=23,SNR=8.1
GOF Gofitskoye 23.14 76 *e*P P 14 53 25.4 +1.2
GOF pmax pmax
comp=Z,50nm,0.3s
NEY Neytrino 23.27 81⇓ *e*P P 14 53 25.0 -0.7
NEY pmax pmax
comp=Z,1.0nm,1.0s
KBZ Khabaz 23.29 80 P P 14 53 26.9 +1.3
comp=Z,13nm,0.9s,baz=302,slow=7.1,SNR=22
KBZ LR 15 04 09.4
comp=Z,407nm,20.1s,baz=282,slow=41
NCK Nalchik 23.83 80⇑ *e*P P 14 53 33.8 +2.8
NCK pmax pmax
comp=Z,12nm,0.4s
ASF Jabal al Asfar 23.89 111 P P 14 53 32.2 +0.5
comp=Z,13nm,0.9s,baz=245,slow=4.0,SNR=16
ASF Jabal al Asfar 23.89 111 P P 14 53 33.2 +1.5
comp=Z,18nm,1.2s
KLMR Klimovskoe 24.02 36⇓ *i*P P 14 53 32.3 -0.2
KLMR pmax pmax
comp=Z,108nm,1.3s
KLMR Klimovskoe 24.02 36⇓ *i*P P 14 53 32.3 -0.2
KLMR *e*P P 14 53 32.3 -0.2
KLMR *e*P P 14 53 32.3 -0.2
KLMR AMP 14 53 33.9
comp=Z,108nm,1.2s
ZEI Tsey 24.22 82 *e*P P 14 53 34.5 -0.4
ZEI pmax pmax
comp=Z,36nm,0.9s
EIL Elat 24.24 118 P P 14 53 34.4 -0.5
comp=Z,2.6nm,0.8s,baz=320,slow=7.9,SNR=2.3
EIL LR LR 15 05 17.3
comp=Z,329nm,21.4s,baz=348,slow=42
GNI Garni 25.62 87 P P 14 53 48.4 +0.9
comp=Z,40nm,0.9s,baz=333,slow=4.5,SNR=14
GNI LR LR 15 05 51.2
comp=Z,355nm,19.6s,baz=310,slow=41
GNI Garni 25.62 87 *i* P P 14 53 48.7 +1.1
SNR=7.2
GNI Garni 25.62 87 *de*P P 14 53 49.0 +1.4
GNI pmax pmax
comp=Z,625nm,1.7s
GNI Garni 25.62 87 P P 14 53 49.9 +2.3
SNR=6.8
APA Apatity 26.42 20⇓ *i*P P 14 53 53.4 -0.9
APA pmax pmax
comp=Z,13nm,1.0s
ARCES ARCESS Array B 26.56 12 P P 14 53 54.0 -1.5
comp=Z,6.6nm,0.7s,baz=190,slow=3.8,SNR=21
LVZ Lovozero 26.98 20⇑ *e*P P 14 53 59.1 -0.3
LVZ pmax pmax
comp=Z,10.0nm,1.5s
PRGR Permogore 27.00 37 *e*P P 14 53 58.6 -0.9
PRGR pmax pmax
comp=Z,32nm,0.8s
BORG Borgarnes 27.16 330 LR LR 15 03 31.7
comp=Z,461nm,20.5s,baz=139,slow=34
JMIC Jan Mayen 28.46 347 LR LR 15 07 00.1
comp=Z,238nm,18.3s,baz=170,slow=40
TOA0 Torodi Ar. Sit 31.82 196 *e*P P 14 54 44.9 +2.2
comp=Z,12nm,0.8s
TORD Torodi Ar. Bea 31.82 196 P P 14 54 43.4 +0.6
comp=Z,1.7nm,0.6s,baz=12,slow=7.5,SNR=10
TORD LR LR 15 08 45.5
comp=Z,379nm,18.1s,baz=345,slow=39
AKTO Aktyubinsk 32.40 62 P P 14 54 46.7 -0.8
AKTO pmax pmax
comp=Z,15nm,1.0s
ARU Arti 32.40 51 *e*P P 14 54 46.1 -1.4
comp=Z,20nm,0.7s
ARU Arti 32.40 51⇑ *e*P P 14 54 46.7 -0.8
ARU pmax pmax
comp=Z,2.0nm,0.7s
SVE Sverdlovsk 33.55 50 *e*P P 14 54 57.6 0.0
SVE pmax pmax
comp=Z,43nm,1.1s
SVE MLR MLR
comp=Z,1μm,12.0s
AB31 Akbulak array 33.81 64 *i* P P 14 54 59.8 -0.1
AB31 pmax pmax
comp=Z,6.0nm,0.7s
ABKAR Akbulak array 33.81 64 *e*P P 14 54 60.0 0.0
SPITS Spitsbergen Ar 34.20 2 LR LR 15 11 39.6
comp=Z,318nm,18.3s,baz=160,slow=41
RAYN Ar Rayn 35.29 114 *e*P P 14 55 12.7 -0.3
comp=Z,3.7nm,0.9s
RAYN Ar Rayn 35.29 114 P P 14 55 12.4 -0.6
RAYN Ar Rayn 35.29 114 *e*P P 14 55 12.7 -0.3
RAYN pmax pmax
comp=Z,4.0nm,0.9s
GEYT Alibeck 36.07 83 P P 14 55 20.9 +1.3
comp=Z,18nm,0.9s,baz=294,slow=11,SNR=32
GEYT LR LR 15 13 53.0
comp=Z,242nm,18.9s,baz=285,slow=43
SFJD Kangerlussuaq 39.16 327 P P 14 55 45.9 +0.6
comp=Z,24nm,1.0s,baz=73,slow=9.1,SNR=5.6
BRVK Borovoye 39.47 55 *e*P P 14 55 49.0 +0.9
comp=Z,24nm,1.1s
BRVK Borovoye 39.47 55⇓ *e*P P 14 55 47.9 -0.2
BRVK pmax pmax
comp=Z,23nm,1.1s
BRVK Borovoye 39.47 55 P P 14 55 49.0 +0.9
SNR=7.3
BVA0 Borovoye Array 39.54 55 P P 14 55 48.6 -0.1
BVA0 pmax pmax
comp=Z,12nm,1.4s
DBIC Dimbokro 39.69 204 P P 14 55 51.4 +1.1
comp=Z,2.2nm,0.8s,baz=37,slow=10,SNR=2.9
DBIC LR LR 15 12 47.5
comp=Z,327nm,21.6s,baz=7.0,slow=37
TIC Toumodi 39.76 204 *e*PKP1 P 14 55 56.1 +5.2
KIC Kosan Boka 39.95 204 *e*PKP1 P 14 55 57.1 +4.7
comp=Z,58nm,1.5s
LIC Lamto 40.16 204 *e*P P 14 55 56.4 +2.2
comp=Z,51nm,1.4s
SHME Shamm 40.94 101 P P 14 56 00.2 -0.3
BANOM Banah 41.13 101 P P 14 56 01.9 -0.2
ASUD Al Ashush, Dub 41.26 103 *i* P P 14 56 03.2 +0.1
SNR=14
ASUD Al Ashush, Dub 41.26 103 P P 14 56 03.5 +0.3
SNR=6.1
NAZ Nazwa, Dubai 41.26 102 P P 14 56 03.1 0.0
NAZ Nazwa, Dubai 41.26 102 P P 14 56 03.2 0.0
SNR=7.2
FAQ Al Faqa, Dubai 41.37 103 *i* P P 14 56 03.6 -0.4
SNR=8.5
MDH Madha 41.51 101 P P 14 56 04.8 -0.4
UOSS Minazif 41.67 102 *e*P P 14 56 05.9 -0.7
comp=Z,25nm,0.8s
UOSS Minazif 41.67 102 *i* P P 14 56 05.1 -1.4
SNR=11
HATD Hatta, Dubai 41.69 102 *i* P P 14 56 05.9 -0.9
SNR=11
HATD Hatta, Dubai 41.69 102 P P 14 56 06.6 -0.1
SNR=6.2
ASHO Ashiyiah 41.73 102 *i* P P 14 56 06.4 -0.6
SNR=16
ASHO Ashiyiah 41.73 102 P P 14 56 06.5 -0.6
SNR=7.1
OTUK Ortayu 42.00 62 P P 14 56 09.4 +0.4
OTUK pmax pmax
comp=Z,37nm,1.0s
SOHO SOHO 42.41 103 P P 14 56 12.2 -0.4
SNR=6.5
IUG Iuzhnay 42.68 71 *de*P P 14 56 14.7 0.0
IUG pmax pmax
comp=Z,211nm,0.9s
IUG Iuzhnay 42.68 71⇓ *e*P P 14 56 14.8 0.0
comp=Z,211nm,0.9s
CHGR Chuyngaron 43.56 76 *e*P P 14 56 23.7 +1.8
comp=Z,29nm,0.9s
MNAS Manas 44.21 70 P P 14 56 28.3 +1.1
MNAS pmax pmax
comp=Z,19nm,1.0s
EKS2 Erkin-Say 45.00 69 P P 14 56 35.1 +1.7
SNR=75
ARSB Arslanbob 45.03 71 *e*P P 14 56 35.5 +1.9
comp=Z,30nm,1.0s
KURK Kurchatov 45.08 56 *e*P P 14 56 33.2 -0.5
comp=Z,25nm,1.1s
KURK Kurchatov 45.08 56 *d i*P P 14 56 33.8 0.0
KURK pmax pmax
comp=Z,25nm,1.3s
KURK Kurchatov 45.08 56 P P 14 56 33.7 0.0
SNR=6.2
AML Almayashu 45.16 70 P P 14 56 37.5 +2.4
SNR=18
USP Ospenovka 45.23 68 P P 14 56 37.9 +2.8
SNR=10
AAK Ala-Archa 45.49 69 P P 14 56 39.4 +2.0
SNR=24
AAK Ala-Archa 45.49 69 *e*P P 14 56 38.8 +1.5
comp=Z,34nm,1.1s
AAK Ala-Archa 45.49 69 *i* P P 14 56 38.5 +1.2
SNR=51
AAK Ala-Archa 45.49 69⇓ *e*P P 14 56 38.5 +1.2
AAK pmax pmax
comp=Z,31nm,1.0s
AAK Ala-Archa 45.49 69 P P 14 56 38.6 +1.3
SNR=13
FRU Bishkek 45.49 68⇑ *e*P P 14 56 38.0 +0.8
FRU pmax pmax
comp=Z,60nm,1.8s
FRU1 Bishkek 45.51 68 *e*P P 14 56 39.8 +2.4
comp=Z,42nm,0.9s
FRU1 Bishkek 45.51 68 *e*P P 14 56 39.8 +2.4
FRU1 pmax pmax
comp=Z,42nm,0.9s
CHMS Chumysh 45.51 68 P P 14 56 39.4 +2.1
SNR=11
UCH Uchtor 45.67 69 P P 14 56 41.2 +2.1
SNR=13
KBK Karagaybulak 45.78 68 P P 14 56 41.4 +1.8
SNR=11
SFK Sufi-Kurgan 45.96 72 P P 14 56 42.6 +1.4
SFK pmax pmax
comp=Z,17nm,1.0s
TKM2 Tokmak 2 46.10 68 P P 14 56 43.5 +1.3

SNR=10.0
TKM2 Tokmak 2 46.10 68 P P 14 56 43.3 +1.1
TKM2 pmax pmax
comp=Z,6.0nm,1.1s
KUU Kurty 46.19 66*c i*P **P 14 56 43.0 +0.3**
KUU pmax pmax
comp=Z,124nm,1.2s
KUU MLR MLR
comp=Z,108nm,9.0s
KUU Kurty 46.19 66⇑*i*P **P 14 56 43.0 +0.3**
comp=Z,124nm,1.2s
KUU *e*LRM MLR 15 18 01.5
comp=Z,108nm,9.4s
KZA Kyzart 46.23 69 P **P 14 56 45.6 +2.1**
SNR=49
NVS Novosibirsk 46.40 50 *e*P **P 14 56 45.1 +1.0**
NVS *e* 14 58 22.8
NVS pmax pmax
comp=Z,19nm,1.6s
NVS pmax pmax
comp=E,9.0nm,1.2s
CHKK Chushkaly 46.63 66*d i*P **P 14 56 46.2 +0.1**
CHKK pmax pmax
comp=Z,78nm,1.1s
CHKK Chushkaly 46.63 66⇓*i*P **P 14 56 46.2 +0.1**
comp=Z,78nm,1.1s
ULHL Ulahol 46.82 68 P **P 14 56 49.5 +1.6**
SNR=8.2
FRB Frobisher Bay 46.91 323 LR LR 15 15 37.5
comp=Z,556nm,18.1s,baz=72,slow=35
TNSS Tian-Shan 46.95 67 *e*P **P 14 56 50.3 +1.2**
TNSS pmax pmax
comp=Z,75nm,0.5s
TNSS Tian-Shan 46.95 67 *e*P **P 14 56 50.4 +1.2**
comp=Z,75nm,0.5s
MDOK Medeo 46.96 67*ce*P **P 14 56 50.1 +1.2**
MDOK pmax pmax
comp=Z,182nm,1.8s
MDOK MLR MLR
comp=Z,141nm,6.0s
MDOK Medeo 46.96 67⇑*e*P **P 14 56 50.1 +1.2**
comp=Z,182nm,1.8s
MDOK *e*LRM MLR 15 18 35.5
comp=Z,141nm,6.2s
NRN Naryn 47.02 69 *e*P **P 14 56 51.5 +1.9**
NRN Naryn 47.02 69 *e*P **P 14 56 51.5 +1.9**
KDJ Kajisay 47.50 68 *e*P **P 14 56 55.5 +2.3**
comp=Z,22nm,0.8s
ZALV Zalesovo Beam 47.57 50 P **P 14 56 52.8 -0.5**
comp=Z,4.7nm,0.8s,baz=284,slow=8.7,SNR=15
ZALV PP **PP 14 58 43.1 -1.4**
comp=Z,2.5nm,0.8s,baz=299,slow=9.3,SNR=4.6
ZALV LR LR 15 17 28.1
comp=Z,390nm,21.7s,baz=256,slow=37
KSH Kashi 47.88 72 P **P 14 56 57.3 +1.3**
KSH PcP **PcP 14 58 28.8 +4.4**
KSH PP **PP 14 58 49.0 +1.2**
KSH PcS **PcS 15 02 21.5 +1.4**
KSH S **S 15 03 52.5 +0.2**
KSH ScS **ScS 15 06 52.0 +3.5**
KSH SS **SS 15 07 13.8 -6.8**
KSH pmax pmax
comp=Z,24nm,0.9s
KSH pmax pmax
comp=Z,520nm,5.6s
KSH LR LR
comp=Z,420nm,6.0s
KSH LR LR
comp=Z,290nm,8.3s
KSH LR LR
comp=Z,260nm,11.4s
SATY Saty 47.91 66*de*P **P 14 56 56.9 +0.7**
SATY pmax pmax
comp=Z,43nm,1.0s
SATY MLR MLR
comp=Z,184nm,14.0s
SATY Saty 47.91 66⇓*e*P **P 14 56 57.0 +0.7**
comp=Z,43nm,1.0s
SATY *e*LRM MLR 15 19 06.8
comp=Z,184nm,13.6s
UZB Uzynbulak 48.27 66*de*P **P 14 56 59.3 +0.3**
UZB pmax pmax
comp=Z,165nm,1.0s
UZB MLR MLR
comp=Z,120nm,11.0s
UZB Uzynbulak 48.27 66⇓*e*P **P 14 56 59.4 +0.3**
comp=Z,165nm,1.0s
UZB *e*LRM MLR 15 19 17.4
comp=Z,120nm,10.6s
PDGK Podgornoye 48.50 65 P **P 14 57 01.5 +0.7**
PDGK pmax pmax
comp=Z,32nm,0.9s
SHLS Shalkode 48.56 66*ce*P **P 14 57 03.9 +2.7**
SHLS pmax pmax
comp=Z,747nm,0.9s
SHLS MLR MLR
comp=Z,173nm,10.0s
SHLS Shalkode 48.56 66⇑*e*P **P 14 57 03.9 +2.7**
comp=Z,747nm,0.9s
SHLS *e*LRM MLR 15 19 41.8
comp=Z,173nm,9.7s
MAKZ Makanchi 48.60 60 *e*P **P 14 57 02.1 +0.7**
comp=Z,14nm,1.0s
MAKZ Makanchi 48.60 60 P **P 14 57 01.4 0.0**
MAKZ pmax pmax
comp=Z,14nm,1.1s
MK31 Makanchi Array 48.80 60 *e*P **P 14 57 03.5 +0.5**
MK31 Makanchi Array 48.80 60 *i*P **P 14 57 03.1 +0.1**
MK31 pmax pmax
comp=Z,20nm,0.9s
MKAR Makanchi Array 48.80 60 P **P 14 57 03.5 +0.5**
comp=Z,17nm,0.9s,baz=291,slow=5.3,SNR=101
MKAR LR LR 15 18 48.4
comp=Z,268nm,19.3s,baz=292,slow=38
MKAR Makanchi Array 48.80 60 *e*P **P 14 57 03.5 +0.5**
comp=Z,99nm,0.9s
MK01 Makanchi Array 48.82 60 *e*P **P 14 57 03.7 +0.6**
ZSN Zaisan 50.12 58*c i*P **P 14 57 13.4 +0.4**
ZSN pmax pmax
comp=Z,65nm,1.5s
ZSN MLR MLR
comp=Z,215nm,14.0s
ZSN Zaisan 50.12 58⇑*i*P **P 14 57 13.4 +0.4**
comp=Z,65nm,1.5s
ZSN *e*LRM MLR 15 20 24.7
comp=Z,215nm,13.8s
RES Resolute Bay 51.76 341 *e*P **P 14 57 26.7 +1.8**
comp=Z,4.1nm,0.8s
RES Resolute Bay 51.76 341 *e*P **P 14 57 26.7 +1.8**
RES pmax pmax
comp=Z,4.0nm,0.8s
WMQ Urumqi 53.55 61 P **P 14 57 40.5 +1.8**
WMQ pP pP 14 57 45.5 +0.4
WMQ sP sP 14 57 50.3 +3.0
WMQ S **S 15 05 09.3 -1.4**
WMQ SS **SKiKP 15 08 55.5 +2.7**
WMQ pmax pmax
comp=Z,48nm,1.3s
WMQ pmax pmax
comp=Z,520nm,7.3s
WMQ LR LR
comp=Z,490nm,21.9s
WMQ LR LR
comp=Z,1μm,21.1s
WMQ LR LR
comp=Z,710nm,26.9s
TIXI Tiksi 56.62 19 *e*P **P 14 58 01.0 +0.7**
comp=Z,6.1nm,1.0s
TIXI Tiksi 56.62 19⇓*e*P **P 14 58 00.8 +0.5**
TIXI pmax pmax
comp=Z,8.0nm,1.1s
TIXI MLR MLR
comp=Z,210nm,16.0s
MOY Mondy 57.38 48 *e*P **P 14 58 07.1 +0.9**
MOY pmax pmax
comp=Z,18nm,2.1s
PYUN Piuthan 58.93 80 *e*P **P 14 58 17.9 +0.4**
comp=Z,104nm,1.0s
ZAK Zakamensk 59.29 48 *e*P **P 14 58 16.2 -3.3**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
DANN Dangsing 59.33 79 *e*P **P 14 58 20.7 +0.4**
comp=Z,65nm,1.0s
KOLN Koldanda 59.56 80 *e*P **P 14 58 22.0 +0.2**
comp=Z,60nm,1.3s
BOD Bodaibo 60.24 37 *e*P **P 14 58 24.4 -1.4**
BOD pmax pmax
comp=Z,14nm,1.2s
DMN Daman 60.72 79 *e*P **P 14 58 30.3 +0.5**
comp=Z,77nm,1.0s
PKI Pulchoki 60.96 79 *e*P **P 14 58 31.6 +0.1**
comp=Z,50nm,1.0s
GUN Gumba 61.08 78 *e*P **P 14 58 32.7 +0.3**
comp=Z,180nm,0.9s
JIRN Jiri 61.45 78 *e*P **P 14 58 35.3 +0.3**
comp=Z,159nm,0.9s
RAMN Ramite 62.17 79 *e*P **P 14 58 39.7 0.0**
comp=Z,73nm,0.8s
SONM Songino Array 62.42 49 P **P 14 58 41.2 +0.3**
comp=Z,12nm,1.0s,baz=290,slow=7.0,SNR=42
SONM LR LR 15 29 05.9
comp=Z,393nm,18.1s,baz=276,slow=39
ULN Ulaanbaatar 62.76 49 *e*P **P 14 58 44.0 +0.9**
comp=Z,9.8nm,1.1s
ULN Ulaanbaatar 62.76 49⇓*e*P **P 14 58 44.3 +1.1**
ULN pmax pmax
comp=Z,11nm,1.2s
YAK Yakutsk 63.46 27*d i*P **P 14 58 47.4 +0.1**
YAK *e**PP **sP 14 58 55.0 -1.1**
YAK *e* 14 59 29.7
YAK *e* 15 01 04.1
YAK *e*PPP PPP 15 02 39.1
YAK *e*S **S 15 07 11.9 -7.1**
YAK *e**SS **sS 15 07 30.7 +1.3**
YAK *e* 15 08 37.1
YAK *e*SSS SSS 15 14 05.5
YAK pmax pmax
comp=Z,44nm,0.9s
YAK pmax pmax
comp=N,15nm,0.9s
YAK pmax pmax
comp=E,26nm,1.1s
YAK pmax pmax
comp=Z,348nm,4.3s
YAK pmax pmax
comp=N,238nm,4.1s
YAK pmax pmax
comp=E,190nm,4.3s
YAK smax smax
comp=N,269nm,3.7s
YAK smax smax
comp=E,221nm,3.7s
GTA Gaotai 63.56 60 *e*P **P 14 58 49.8 +1.2**
GTA pP pP 14 58 53.8 -1.3
GTA sP sP 14 58 57.0 -0.3
GTA pmax pmax
comp=E,4.0nm,0.8s
GTA pmax pmax
comp=E,96nm,6.5s
GTA LR LR
comp=E,490nm,17.5s
GTA LR LR
comp=E,380nm,16.5s
GTA LR LR
comp=E,340nm,16.8s
LSA Lhasa 63.67 73 P **P 14 58 51.0 +1.1**
INK Inuvik 64.64 346 P **P 14 58 55.2 +0.3**
comp=E,1.6nm,0.4s,baz=2.8,slow=10,SNR=12
YKA Yellowknife Ar 64.96 335 P **P 14 58 57.6 +0.5**
comp=E,7.7nm,0.8s,baz=43,slow=6.4,SNR=66
YKA LR LR 15 26 03.7
comp=E,27nm,21.6s,baz=41,slow=35
ULM Lac du Bonnet 66.26 318 P **P 14 59 04.8 -1.0**
comp=E,4.7nm,0.9s,baz=70,slow=6.4,SNR=6.9
ULM LR LR 15 26 57.2
comp=E,379nm,19.6s,baz=48,slow=35
BILL Bilibino 66.64 10⇑*e*P **P 14 59 10.1 +2.2**
BILL *e* 14 59 16.7
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL MLR MLR
comp=Z,246nm,22.0s
LZH Lanzhou 68.12 61 *e*P **P 14 59 17.0 -1.0**
LZH pP pP 14 59 20.5 -4.1
LZH sP sP 14 59 24.3 -2.5
LZH pmax pmax
comp=Z,34nm,1.0s
LZH pmax pmax
comp=Z,170nm,5.2s
LZH LR LR
comp=Z,900nm,18.7s
LZH LR LR
comp=Z,690nm,18.8s
LZH LR LR
comp=Z,280nm,17.1s
ZEA Zeya 68.54 35 *e*P **P 14 59 21.3 +1.2**
ZEA pmax pmax
comp=Z,17nm,1.0s
J39A Decorah 68.63 310 P **P 14 59 20.6 -0.3**
baz=49
SEY Seymchan 69.00 18⇑*i*P **P 14 59 24.1 +1.3**
HHC Hu-ho-hao-te 69.68 53 *e*P **P 14 59 28.0 +0.4**
HHC S **S 15 08 33.0 -2.3**
HHC pmax pmax
comp=Z,18nm,1.2s
HHC pmax pmax
comp=Z,290nm,7.7s
HHC LR LR
comp=Z,880nm,15.6s
HHC LR LR
comp=Z,1μm,15.0s
HHC LR LR
comp=Z,480nm,15.3s
POKR Poker Plat Res 69.68 350 P **P 14 59 27.9 +0.8**
baz=17
ILAR Eielson Array 69.94 350 P **P 14 59 29.6 +0.9**
comp=Z,2.9nm,0.7s,baz=9.2,slow=6.0,SNR=41
ILAR LR LR 15 34 00.2
comp=Z,130nm,18.5s,baz=346,slow=39
COLA College 69.97 350⇑*e*P **P 14 59 30.3 +1.5**
COLA pmax pmax
comp=Z,7.0nm,1.4s
TCOL CIGO, UAF Yank 69.97 350 P **P 14 59 30.3 +1.5**
baz=16
HDA Harding Lake 70.30 350 P **P 14 59 31.8 +0.9**
baz=17
ECSD EROS Data Cent 71.01 313 P **P 14 59 37.0 +1.4**
baz=47
CD2 Chengdu 71.38 65 *e*P **P 14 59 38.0 -0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
MA2 Magadan 71.58 20*c i*P **P 14 59 40.1 +1.4**
MA2 pmax pmax
comp=Z,14nm,1.0s
T42A Van Buren 72.47 305 P **P 14 59 46.9 +2.5**
baz=48
S41A Jillco Farms, 72.48 305 P **P 14 59 46.6 +2.1**
baz=47
XAN Xi'an 72.61 59 P **P 14 59 46.3 +0.9**
XAN pmax pmax
comp=Z,34nm,0.9s
XAN pmax pmax
comp=Z,230nm,7.6s
XAN LR LR
comp=Z,340nm,22.8s
XAN LR LR
comp=Z,470nm,17.1s
XAN LR LR
comp=Z,280nm,15.2s
BJI Beijing 72.83 51 *e*P **P 14 59 47.5 +1.0**
BJI pmax pmax
comp=Z,14nm,1.0s
BJI LR LR
comp=Z,840nm,16.7s
BJI LR LR
comp=Z,590nm,15.7s
BJI LR LR
comp=Z,290nm,25.5s
T41A Mountain View 72.85 305 P **P 14 59 49.7 +3.0**
baz=47
KLR Kul'dur 73.78 36⇑*i*P **P 14 59 53.0 +1.1**
U40A Yellville 73.96 305 P **P 14 59 53.5 +0.2**
baz=47
NKL Nikolayevsk 74.07 29 *e*P **P 14 59 54.0 +0.5**
NKL pmax pmax
comp=Z,22nm,1.0s
EGMT Eagleton 74.23 323 P **P 14 59 55.8 +1.0**
baz=40
GRNR Gornyy 74.45 32 *e*P **P 14 59 56.5 +0.6**
KMI Kunming 74.50 70 P **P 14 59 57.8 +0.9**
KMI pP pP 15 00 00.3 -3.2
KMI pmax pmax
comp=Z,10.0nm,1.0s
KMI pmax pmax
comp=Z,93nm,3.1s
KMI LR LR
comp=Z,250nm,24.7s
KMI LR LR
comp=Z,260nm,23.0s
KMI LR LR
comp=Z,290nm,29.9s
CN2 Changchun 75.00 43 *e*P **P 15 00 00.3 +1.1**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
MIAR Mount Ida 75.64 304 P **P 15 00 07.1 +4.1**
baz=46
CHTO Chiang Mai 76.08 77 P **P 15 00 06.5 +0.7**
comp=Z,52nm,1.2s
GYA Guiyang 76.24 67 *e*P **P 15 00 06.8 +0.1**
GYA pmax pmax
comp=Z,20nm,1.0s
CMAR Chiang Mai Arr 76.32 78 P **P 15 00 07.6 +0.5**
comp=Z,7.1nm,0.9s,baz=304,slow=7.3,SNR=44
CMAR LR LR 15 40 10.6
comp=Z,46nm,19.8s,baz=323,slow=41
H17A Grant Village 77.39 321 P **P 15 00 16.0 +2.9**
baz=39
KDAK Kodiak Island 77.42 351 *i*P **P 15 00 14.4 +1.8**
USRK Ussuriysk Ar. 77.77 39 P **P 15 00 14.9 +0.1**
comp=Z,7.6nm,1.0s,baz=318,slow=2.6,SNR=7.3
USRK LR LR 15 38 01.8
comp=Z,154nm,18.6s,baz=313,slow=38
PDAR Pinedale Array 78.18 319 P **P 15 00 17.1 -0.4**
comp=Z,0.4nm,0.5s,baz=34,slow=9.3,SNR=5.1
PDAR LR LR 15 34 22.2
comp=Z,364nm,18.0s,baz=27,slow=35
WMOK Wichita Mounta 78.53 307 P **P 15 00 19.7 +0.4**
baz=44
MSHR Mys Shultsa 78.65 40⇓*e*P **P 15 00 22.2 +2.5**
PETK Petropavlovsk- 79.09 19 P **P 15 00 21.8 -0.2**
comp=Z,7.9nm,0.9s,baz=318,slow=1.9,SNR=8.9
PETK LR LR 15 40 23.4
comp=Z,210nm,19.2s,baz=332,slow=40
O20A White River Ci 79.57 317 P **P 15 00 25.2 +0.1**
baz=40
HLID Hailey 79.75 323 P **P 15 00 27.0 +1.0**
baz=37
BDFB Brasilia 79.83 237 P **P 15 00 26.1 -0.4**
comp=Z,6.1nm,0.9s,baz=43,slow=5.8,SNR=5.0
BDFB Brasilia 79.83 237 P **P 15 00 26.2 -0.4**
BDFB pmax pmax
comp=Z,3.0nm,0.5s
YSS Yuzh-Sakhalins 79.97 31⇑*e*P **P 15 00 28.1 +1.2**
YSS *e* 15 00 34.9
YSS pmax pmax
comp=Z,60nm,0.8s
YSS MLR MLR
comp=Z,400nm,20.0s
YSS MLR MLR
comp=N,500nm,18.0s
NJ2 Nanjing 79.99 55 *e*P **P 15 00 29.5 +2.3**
NJ2 pmax pmax
comp=N,13nm,0.5s
SDCO Great Sand Dun 79.99 314 P **P 15 00 28.0 +0.4**
baz=41
KSAR Wonju Array Be 80.99 46 P **P 15 00 33.6 +1.1**
KSAR Wonju Array Be 80.99 46 P **P 15 00 33.6 +1.1**
KSRS Korea Array 81.00 46 P **P 15 00 33.6 +1.0**
comp=N,2.5nm,0.7s,baz=320,slow=5.1,SNR=8.8
KSRS LR LR 15 41 55.7
comp=N,298nm,18.2s,baz=318,slow=40
ANMO Albuquerque 82.61 312⇑*e*P **P 15 00 44.0 +2.6**
ANMO pmax pmax
comp=Z,5.0nm,2.0s
ROSC El Rosal 82.90 270 LR LR 15 34 45.3
comp=Z,229nm,19.9s,baz=60,slow=34
M04C Macdoel 84.32 326 P **P 15 00 49.5 -0.5**
baz=32
R11A Troy Canyon, C 84.47 320 P **P 15 00 51.9 +1.0**
baz=36
MNTX Cornudas Mount 84.50 310 P **P 15 00 51.5 +0.6**
baz=40
M02C Callahan 85.06 327 P **P 15 00 54.6 +1.0**
baz=32
TXAR Lajitas Array 85.31 307 P **P 15 00 55.4 +0.2**
comp=Z,2.6nm,0.8s,baz=60,slow=4.3,SNR=20
TXAR LR LR 15 37 37.6
comp=Z,199nm,19.2s,baz=0.0,slow=35
N02D Trinity Center 85.35 326 P **P 15 00 55.9 +0.8**
baz=32
NVAR Mina Array Bea 85.63 322 P **P 15 00 56.4 -0.4**
comp=Z,0.5nm,0.6s,baz=61,slow=5.0,SNR=5.4
MJAR Matsushiro Arr 86.74 40 LR LR 15 42 48.8
comp=Z,112nm,20.3s,baz=315,slow=38
214A Organ Pipe Nat 88.26 315 P **P 15 01 12.0 +2.6**
baz=37
LPAZ La Paz 93.25 251 LR LR 15 44 39.1
comp=Z,44nm,18.8s,baz=69,slow=36
CPUP Villa Florida 93.56 236 LR LR 15 43 42.9
comp=Z,116nm,18.6s,baz=29,slow=36
FITZ Fitzroy Crossi 120.38 86 PKP **PKPdf 15 07 08.2 -1.3**
comp=Z,2.9nm,1.0s,baz=0.0,slow=4.0,SNR=4.3
WRA Warramunga Arr 127.80 81 PKP **PKPdf 15 07 21.6 -2.0**
comp=Z,0.3nm,0.4s,baz=322,slow=1.8,SNR=10
ASAR Alice Springs 129.86 85 PKP **PKPdf 15 07 27.1 -0.4**
comp=Z,0.9nm,0.5s,baz=310,slow=1.9,SNR=24
STKA Stephens Creek 140.15 89 PKhKP PKPpre 15 07 38.9
comp=Z,1.3nm,0.7s,baz=297,slow=4.5,SNR=5.2
VNDA Vanda 144.62 170 PKP **PKPab 15 07 51.4 -0.2**
comp=Z,2.9nm,1.0s,baz=260,slow=5.1,SNR=7.0
DZM Mont Dzumac 150.36 50 PKPbc **PKPbc 15 08 09.9 +0.4**
comp=Z,9.7nm,1.0s,baz=32,slow=10.0,SNR=3.5

ROM 25 14:56:23.5±0.1,**43°393N**±0°004×**12°699E**±0°010,
h13km,Md1.3/6,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRON	**Frontone**	**0.13**	**9**	P	Pg	14 56 27.1	+0.2
FRON				S	Sg	14 56 29.7	+0.4
FRON				END			
FRON				END			
PIEI	**Pieia**	**0.19**	**320**	P	Pg	14 56 28.1	+0.3
PIEI				S	Sg	14 56 31.5	+0.8
PIEI				END			
PIEI				END			
SNTG	**Esanatoglia**	**0.22**	**128**	P	Pg	14 56 28.7	+0.3
SNTG				S	Sb	14 56 32.6	-0.8
SNTG				END			
SNTG				END			
NARO	**Abbazia di Nar**	**0.23**	**338**	P	Pg	14 56 28.9	+0.4
NARO				S	Sb	14 56 33.0	-0.7
NARO				END			
NARO				END			
FSSB	**Fossombrone**	**0.30**	**11**	P	Pg	14 56 30.1	+0.3
FSSB				S	Sb	14 56 35.3	-0.4
FSSB				END			
FSSB				END			

ROM 25 14:56:26.8±0.1,**44°178N**±0°008×**10°454E**±0°009,
h15km±**1km,ML2.2/2,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLC	**Villacollemand**	**0.05**	**250**	P	Pg	14 56 30.1	+0.3
VLC				S	Sg	14 56 32.4	+0.7
BDI	**Bagni Di Lucca**	**0.15**	**138**	P	Pg	14 56 31.0	+0.1
BDI				S	Sb	14 56 34.1	-0.4
BDI				AML	AML		
	comp=E,1405μm,0.8s						
BDI				AML	AML		
	comp=N,740μm,0.2s						
BDI				AML	AML		
	comp=E,1330μm,0.8s						
BDI				AML	AML		
	comp=N,802μm,0.9s						
BDI				AML	AML		
	comp=E,1405μm,0.8s						
BDI				AML	AML		
	comp=N,2135μm,0.3s						
BDI				AML	AML		
	comp=E,1440μm,0.3s						
BDI				AML	AML		
	comp=N,2150μm,0.2s						
BDI				AML	AML		
	comp=E,1405μm,0.8s						

BDI				AML	AML		
	comp=N,2150μm,0.2s						
BDI				AML	AML		
	comp=N,2135μm,0.3s						
BDI				AML	AML		
	comp=E,1440μm,0.3s						
EQUI	**Equi**	**0.22 267**		P	Pg	14 56 32.0	+0.2
EQUI				S	Sb	14 56 35.7	-0.5
POPM	**Popiglio**	**0.26 121**		P	Pg	14 56 32.4	0.0
POPM				S	Sg	14 56 36.6	+0.4
MAIM	**Mastiano**	**0.27 174**		P	Pb	14 56 33.5	+0.2
MAIM				S	Sb	14 56 37.6	0.0
MAIM				AML	AML		
	comp=E,118μm,1.6s						
MAIM				AML	AML		
	comp=N,152μm,0.5s						
MAIM				AML	AML		
	comp=E,216μm,1.6s						
MAIM				AML	AML		
	comp=N,166μm,1.5s						
MAIM				AML	AML		
	comp=N,166μm,1.5s						
MAIM				AML	AML		
	comp=E,216μm,1.6s						
ZCCA	**Zocca**	**0.41 65**		P	Pb	14 56 35.9	0.0
GRAM	**Graiana**	**0.42 319**		P	Pg	14 56 35.5	+0.2
GRAM				S	Sg	14 56 41.6	+0.5
MTCR	**Monte La Croce**	**0.42 111**		P	Pb	14 56 35.8	-0.2
MTCR				S	Sg	14 56 41.5	+0.3
PLMA	**Palmaria, Port**	**0.45 254**		AML	AML		
	comp=E,179μm,0.5s						
PLMA				AML	AML		
	comp=N,179μm,1.1s						

ROM 25 14:57:10.1±0.2, 44°14N±0'.02×10°46E±0'.02, h17km±1km, ML2.1/5, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLC	**Villacollemand**	**0.05**	**291**	P	Pg	14 57 13.8	+0.4
VLC				S	Sg	14 57 16.1	+0.6
VLC				AML	AML		
	comp=E,540μm,0.7s						
VLC				AML	AML		
	comp=N,540μm,1.3s						
VLC				AML	AML		
	comp=E,532μm,0.7s						
VLC				AML	AML		
	comp=N,548μm,1.3s						
VLC				AML	AML		
	comp=E,540μm,0.7s						
VLC				AML	AML		
	comp=N,540μm,1.3s						
VLC				AML	AML		
	comp=E,532μm,0.7s						
VLC				AML	AML		
	comp=N,548μm,1.3s						
VLC				AML	AML		
	comp=E,540μm,0.7s						
VLC				AML	AML		
	comp=E,532μm,0.7s						
VLC				AML	AML		
	comp=N,548μm,1.3s						
VLC				AML	AML		
	comp=N,540μm,1.3s						
BDI	**Bagni Di Lucca**	**0.13 127**		P	Pb	14 57 14.2	+0.2
BDI				S	Sb	14 57 17.0	+0.3
BDI				AML	AML		
	comp=E,1285μm,0.2s						
BDI				AML	AML		
	comp=N,2135μm,0.3s						
BDI				AML	AML		
	comp=E,1440μm,0.3s						
BDI				AML	AML		
	comp=N,2150μm,0.2s						
BDI				AML	AML		
	comp=E,1285μm,0.2s						
BDI				AML	AML		
	comp=N,2135μm,0.3s						
BDI				AML	AML		
	comp=E,1440μm,0.3s						
BDI				AML	AML		
	comp=N,2150μm,0.2s						
BDI				AML	AML		
	comp=N,2135μm,0.3s						
BDI				AML	AML		
	comp=N,2150μm,0.2s						
BDI				AML	AML		
	comp=E,1440μm,0.3s						
BDI				AML	AML		
	comp=E,1285μm,0.2s						
EQUI	**Equi**	**0.22 277**		P	Pb	14 57 15.8	+0.2
EQUI				S	Sg	14 57 18.8	0.0
EQUI				AML	AML		
	comp=E,166μm,0.8s						
EQUI				AML	AML		
	comp=N,123μm,0.8s						
EQUI				AML	AML		
	comp=E,166μm,0.8s						
EQUI				AML	AML		
	comp=N,123μm,0.8s						
EQUI				AML	AML		
	comp=E,166μm,0.8s						
EQUI				AML	AML		
	comp=N,123μm,0.8s						
POPM	**Popiglio**	**0.24 114**		P	Pg	14 57 15.6	+0.1
POPM				S	Sg	14 57 19.5	+0.2
POPM				AML	AML		
	comp=E,1085μm,0.2s						
POPM				AML	AML		
	comp=N,1430μm,0.9s						
POPM				AML	AML		
	comp=E,1085μm,0.2s						
POPM				AML	AML		
	comp=N,1430μm,0.9s						
POPM				AML	AML		
	comp=N,1430μm,0.9s						
POPM				AML	AML		
	comp=E,1085μm,0.2s						
MTCR	**Monte La Croce**	**0.41 106**		P	Pb	14 57 18.7	-0.2
ZCCA	**Zocca**	**0.43 60**		P	Pb	14 57 19.4	+0.2
GRAM	**Graiana**	**0.45 322**		P	Pg	14 57 18.9	-0.4
GRAM				S	Sg	14 57 25.5	+0.1
GRAM				AML	AML		
	comp=E,524μm,0.2s						
GRAM				AML	AML		
	comp=N,398μm,0.4s						
GRAM				AML	AML		
	comp=E,524μm,0.2s						
GRAM				AML	AML		
	comp=N,398μm,0.4s						
GRAM				AML	AML		
	comp=N,398μm,0.4s						
GRAM				AML	AML		
	comp=E,524μm,0.2s						

IDC 25 15:03:53.6±4.0, 18°90N×145°71E, h228km±34km, mb3.0/5, mb1 3.4/6, mb1mx3.0/49, mbtmp3.7/6, Error ellipse: s-maj=95.9km s-min=18.8km az=119.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.34**	**189**	P	Pn	15 05 14.3	+1.2
	2.6nm,0.3s,baz=180,slow=20,SNR=2.5						
GUMO				S	S	15 06 15.7	-0.4
	1.9nm,0.3s,baz=165,slow=20,SNR=2.0						
WRA	**Warramunga Arr**	**40.18**	**197**	P	P	15 11 08.2	+0.2
	0.5nm,0.5s,baz=17,slow=9.1,SNR=15						
FITZ	**Fitzroy Crossi**	**41.72**	**209**	P	P	15 11 20.3	-0.2
	1.4nm,0.9s,baz=20,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**43.85**	**196**	P	P	15 11 37.3	-0.3
	0.4nm,0.6s,baz=16,slow=6.6,SNR=7.7						
YKA	**Yellowknife Ar**	**77.81**	**28**	P	P	15 15 25.0	-0.5
	0.2nm,0.5s,baz=284,slow=5.1,SNR=3.2						
NVAR	**Mina Array Bea**	**83.01**	**52**	P	P	15 15 54.6	+0.6
	0.4nm,0.6s,baz=265,slow=6.2,SNR=3.1						

ROM 25 15:04:27.5±0.2, 44°17N±0'.02×10°50E±0'.01, h14km±1km, ML2.1/4, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLC	**Villacollemand**	**0.09**	**261**	P	Pg	15 04 30.8	+0.2
VLC				S	Sg	15 04 33.2	+0.6
VLC				AML	AML		
	comp=E,1165μm,0.2s						
VLC				AML	AML		
	comp=N,1685μm,0.6s						
VLC				AML	AML		
	comp=E,1215μm,0.2s						
VLC				AML	AML		
	comp=N,1695μm,0.6s						
VLC				AML	AML		
	comp=E,1165μm,0.2s						
VLC				AML	AML		
	comp=E,1215μm,0.2s						
VLC				AML	AML		
	comp=N,1685μm,0.6s						
VLC				AML	AML		
	comp=N,1695μm,0.6s						
BDI	**Bagni Di Lucca**	**0.13**	**148**	P	Pg	15 04 31.3	+0.2
BDI				S	Sg	15 04 34.0	+0.5
POPM	**Popiglio**	**0.22**	**125**	P	Pg	15 04 32.8	+0.3
POPM				S	Sg	15 04 36.3	+0.5
POPM				AML	AML		
	comp=E,1605μm,0.2s						
POPM				AML	AML		
	comp=N,1515μm,1.4s						
POPM				AML	AML		
	comp=E,1605μm,0.2s						
POPM				AML	AML		
	comp=N,1515μm,1.4s						
EQUI	**Equi**	**0.25**	**269**	P	Pg	15 04 33.4	+0.4
EQUI				S	Sg	15 04 37.1	+0.5
EQUI				AML	AML		
	comp=E,384μm,1.0s						
EQUI				AML	AML		
	comp=N,323μm,1.3s						
EQUI				AML	AML		
	comp=N,322μm,1.3s						
EQUI				AML	AML		
	comp=E,384μm,1.0s						
MAIM	**Mastiano**	**0.26**	**182**	P	Pb	15 04 34.1	+0.1
MAIM				S	Sb	15 04 37.6	-0.7
MAIM				AML	AML		
	comp=E,205μm,0.7s						
MAIM				AML	AML		
	comp=N,192μm,0.4s						
MAIM				AML	AML		
	comp=E,205μm,0.7s						
MAIM				AML	AML		
	comp=N,192μm,0.4s						

*ROM **25** 15:05:26.8±0.1, 44°168N±0°.007×10°498E±0°.006, h15km±1km, ML2.0/6*
*GEN **25** 15:05:27.4, 44°17N×10°49E, h13km±2km, Ml1.7*
ISC 25 15:05:27.0±1.2, 44°18N±0°.04×10°50E±0°.03, h15km±8km, n14, σ0°21/26, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLC	**Villacollemand**	**0.09**	**255**	P	**Pg**	**15 05 30.1**	**-0.1**
VLC				S	**Sg**	**15 05 32.4**	**+0.2**
VLC				AML	AML		
	comp=E,1165μm,0.2s						
VLC				AML	AML		
	comp=N,1690μm,0.6s						
VLC				AML	AML		
	comp=E,1215μm,0.2s						
VLC				AML	AML		
	comp=N,1695μm,0.6s						
VLC				AML	AML		
	comp=N,1690μm,0.6s						
VLC				AML	AML		
	comp=N,1695μm,0.6s						
VLC				AML	AML		
	comp=E,1165μm,0.2s						
VLC				AML	AML		
	comp=E,1215μm,0.2s						
BDI	**Bagni Di Lucca**	**0.14**	**150**	P	**Pg**	**15 05 30.6**	**-0.2**
BDI				S	**Sg**	**15 05 33.3**	**0.0**
BDI				AML	AML		
	comp=E,1470μm,0.2s						
BDI				AML	AML		
	comp=N,644μm,0.4s						
BDI				AML	AML		
	comp=E,1485μm,0.2s						
BDI				AML	AML		
	comp=N,982μm,1.0s						
BDI				AML	AML		
	comp=E,1470μm,0.2s						
BDI				AML	AML		
	comp=E,1485μm,0.2s						
BDI				AML	AML		
	comp=N,644μm,0.4s						
BDI				AML	AML		
	comp=N,982μm,1.0s						
POPM	**Popiglio**	**0.23**	**127**	P	**Pg**	**15 05 31.9**	**-0.2**
POPM				S	**Sg**	**15 05 35.7**	**+0.2**
POPM	**Popiglio**	**0.23**	**127**	P	**Pg**	**15 05 31.9**	**-0.2**
POPM				S	**Sg**	**15 05 35.7**	**+0.2**
EQUI	**Equi**	**0.25**	**266**	P	**Pg**	**15 05 32.4**	**0.0**
EQUI				S	**Sg**	**15 05 35.9**	**-0.2**
EQUI	**Equi**	**0.25**	**266**	P	**Pg**	**15 05 32.5**	**0.0**
EQUI				S	**Sg**	**15 05 36.0**	**-0.2**
EQUI				AML	AML		
	comp=E,384μm,1.0s						
EQUI				AML	AML		
	comp=N,323μm,1.3s						
EQUI				AML	AML		
	comp=N,322μm,1.3s						
EQUI				AML	AML		
	comp=E,384μm,1.0s						
MAIM	**Mastiano**	**0.27**	**182**	P	**Pg**	**15 05 32.6**	**-0.1**
MAIM				S	**Sg**	**15 05 36.6**	**0.0**
MAIM	**Mastiano**	**0.27**	**182**	P	**Pg**	**15 05 32.7**	**-0.1**
MAIM				S	**Sg**	**15 05 36.9**	**+0.3**
MAIM				AML	AML		
	comp=E,205μm,0.7s						
MAIM				AML	AML		
	comp=N,192μm,0.4s						
MAIM				AML	AML		
	comp=E,205μm,0.7s						
MAIM				AML	AML		
	comp=N,192μm,0.4s						
ZCCA	**Zocca**	**0.38**	**64**	P	**Pb**	**15 05 35.6**	**+0.1**
MTCR	**Monte La Croce**	**0.39**	**113**	P	**Pg**	**15 05 34.7**	**-0.3**
MTCR				S	**Sg**	**15 05 40.7**	**+0.4**
GRAM	**Graiana**	**0.44**	**315**	P	**Pg**	**15 05 35.7**	**-0.2**
GRAM				S	**Sg**	**15 05 42.0**	**+0.2**
GRAM	**Graiana**	**0.44**	**315**	P	**Pg**	**15 05 35.7**	**-0.2**
GRAM				S	**Sg**	**15 05 42.2**	**+0.4**
GRAM				AML	AML		
	comp=E,728μm,0.3s						
GRAM				AML	AML		
	comp=N,453μm,0.4s						
GRAM				AML	AML		
	comp=E,728μm,0.3s						
GRAM				AML	AML		
	comp=N,453μm,0.4s						
PLMA	**Palmaria, Port**	**0.49**	**254**	P	**Pg**	**15 05 36.7**	**0.0**
PLMA				S	**Sg**	**15 05 43.2**	**0.0**
PLMA				AML	AML		
	comp=E,164μm,1.0s						
PLMA				AML	AML		
	comp=N,151μm,0.9s						
PLMA				AML	AML		
	comp=N,151μm,0.9s						
PLMA				AML	AML		
	comp=E,164μm,1.0s						
MSSA	**Maissana**	**0.72**	**281**	P	**Pg**	**15 05 40.8**	**-0.3**

SVSA 25 15:08:41.3±0.8, 40°57N×29°43W, h10km, MD4.0, ML3.6, 1C, Error ellipse: s-maj=6.5km s-min=4.1km az=90.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**1.90**	**144**	*iP*	Pn	15 09 08.8	-5.0
PGRA				*eS*	Sn	15 09 30.0	-7.7
PGRA				A	A	15 09 36.2	
	73nm,0.4s						
PCED	**Cedros**	**2.02**	**164**	*eS*	Sn	15 09 33.1	-7.6
PCED				A	A	15 09 38.8	
	109nm,0.4s						
ROSA	**Rosais**	**2.06**	**153**	*eP*	Pn	15 09 11.3	-4.7
ROSA				*eS*	Sn	15 09 33.8	-8.0
ROSA				A	A	15 09 39.1	
	108nm,0.3s						
CALA	**Caldeira**	**2.06**	**164**	*eS*	Sn	15 09 34.4	-7.5
HOR	**Horta**	**2.13**	**163**	*eS*	Sn	15 09 35.7	-7.7
HOR				A	A	15 09 36.6	
	167nm,0.2s						
PMAN	**Manadas**	**2.19**	**151**	*eP*	Pn	15 09 13.1	-4.7
PMAN				*eS*	Sn	15 09 36.7	-8.3
PMAN				A	A	15 09 40.0	
	108nm,0.2s						
PICO	**Pico**	**2.21**	**159**	*eP*	Pn	15 09 13.5	-4.5
PICO				*eS*	Sn	15 09 37.7	-7.7
PICO				A	A	15 09 43.2	
	128nm,0.3s						
PCAN	**Candelaria**	**2.23**	**161**	*eS*	Sn	15 09 38.0	-7.8
PCAN				A	A	15 09 41.3	
	174nm,0.3s						
ADH	**Angra Heroismo**	**2.56**	**138**	*eP*	Pn	15 09 18.2	-4.5
ADH				*eS*	Sn	15 09 45.9	-8.0
ADH				A	A	15 09 49.6	
	30nm,0.2s						
PSET	**Sete Cidades**	**3.98**	**132**	*eP*	Pn	15 09 38.2	-4.2
PSET				*eS*	Sn	15 10 20.6	-8.4
PSET				A	A	15 10 22.8	
	47nm,0.4s						
PDA	**Ponta Delgada**	**4.06**	**133**	*eS*	Sn	15 10 22.5	-8.6
PDA				A	A	15 10 23.4	
	26nm,0.1s						
CMLA	**Cha da Macela**	**4.13**	**131**	*eP*	Pn	15 09 40.5	-3.9
CMLA				*eS*	Sn	15 10 24.7	-8.1
CMLA				A	A	15 10 31.4	
	89nm,0.4s						

ATH 25 15:30:22.9, 35°31N×26°06E, h59km±5km, ML2.2/2, Error ellipse: s-maj=14.0km s-min=2.8km az=190.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.23**	**146**	P	Pn	15 30 32.8	+0.4
ZKR				S	Sn	15 30 40.0	+0.7
ZKR				AML	AML	15 30 40.5	
	comp=N,296μm,0.4s						
ZKR				AML	AML	15 30 40.6	
	comp=E,1024μm,0.4s						
ZKR	**Zakros**	**0.23**	**146**	P	Pn	15 30 32.8	+0.3
ZKR				S	Sn	15 30 40.3	+1.0
ZKR				AML	AML	15 30 40.7	
	comp=N,296μm,0.4s						
ZKR				AML	AML	15 30 40.8	
	comp=E,1024μm,0.4s						
NPS	**Neapolis**	**0.37**	**263**	P	Pn	15 30 34.0	+0.5
NPS				S	Sn	15 30 42.0	+0.8
NPS				AML	AML	15 30 42.4	
	comp=N,373μm,0.4s						
NPS				AML	AML	15 30 43.4	
	comp=E,655μm,0.3s						
NPS	**Neapolis**	**0.37**	**263**	P	Pn	15 30 34.0	+0.4
NPS				S	Sn	15 30 41.2	0.0
LAST	**Lasithi**	**0.50**	**253**	P	Pn	15 30 35.3	+0.4
LAST				S	Sn	15 30 44.4	+0.9
LAST	**Lasithi**	**0.50**	**253**	P	Pn	15 30 35.2	+0.4
LAST				S	Sn	15 30 44.4	+0.9
SIVA	**Sivas**	**1.06**	**255**	P	Pn	15 30 43.6	+1.9

IDC 25 15:34:51.1±10.0, 13°54S×167°18E, h269km±120km, mb3.1/4, mb1 3.2/5, mb1mx3.0/33, mbtmp3.6/5, Error ellipse: s-maj=101.4km s-min=29.8km az=156.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.52**	**185**	P	Pn	15 36 51.6	+0.5
	0.2nm,0.3s,baz=323,slow=20,SNR=6.8						
DZM				S	S	15 38 28.3	+0.3
	0.1nm,0.3s,baz=221,slow=20,SNR=2.2						
WRA	**Warramunga Arr**	**32.05**	**254**	P	P	15 40 52.7	-0.6
	0.5nm,0.8s,baz=84,slow=8.9,SNR=3.1						
ASAR	**Alice Springs**	**33.03**	**247**	P	P	15 41 01.5	-0.3
	0.5nm,0.3s,baz=74,slow=8.4,SNR=21						
ILAR	**Eielson Array**	**85.43**	**18**	P	P	15 46 57.2	-0.9
	0.2nm,0.6s,baz=243,slow=4.0,SNR=4.0						
MKAR	**Makanchi Array**	**96.28**	**316**	P	P	15 47 50.6	+1.4
	0.2nm,0.6s,baz=91,slow=5.4,SNR=2.6						

*IDC **25** 15:35:43.5±4.7, 18°88S×177°45W, h533km±57km, mb3.2/13, mb1 3.5/15, mb1mx3.3/31, mbtmp4.1/15, Error ellipse: s-maj=23.0km s-min=16.3km az=34.0*
*ISCJB **25** 15:35:45.3±0.6, 19°05S±0°.1×177°.5W±0°.1, h570km, mb3.7/14, Error ellipse: s-maj=17.7km s-min=12.7km az=35.6*
ISC 25 15:35:46.4±0.8, 19°1S±0°.1×177°6W±0°.1, h570km, n18, σ2°03/21, mb3.6/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.22**	**256**	P	**P**	**15 38 58.4**	**+0.7**
	0.4nm,0.3s,baz=129,slow=18,SNR=5.2						
URZ	**Urewera**	**19.68**	**192**	P	**P**	**15 39 38.1**	**-0.3**
	2.7nm,0.3s,baz=286,slow=2.1,SNR=19						
URZ				S	**S**	**15 42 41.3**	**-5.2**
	baz=32,slow=19,SNR=2.9						
RPZ	**Rata Peaks**	**26.37**	**199**	P	**P**	**15 40 39.1**	**+1.1**
	5.5nm,0.5s,baz=84,slow=1.3,SNR=7.4						
STKA	**Stephens Creek**	**38.75**	**243**	P	**P**	**15 42 24.4**	**+1.6**
	3.3nm,0.4s,baz=81,slow=8.6,SNR=19						
JAY	**Jayapura**	**43.94**	**287**	P	**P**	**15 43 04.5**	**+0.6**
	baz=135,slow=4.3,SNR=11						
WRA	**Warramunga Arr**	**45.17**	**261**	P	**P**	**15 43 13.8**	**+0.5**
	0.7nm,0.4s,baz=98,slow=7.2,SNR=25						
WRA				S	**S**	**15 49 08.2**	**-4.0**
	1.0nm,0.7s,baz=95,slow=13,SNR=5.3						
ASAR	**Alice Springs**	**45.21**	**255**	P	**P**	**15 43 14.6**	**+0.9**
	2.4nm,0.6s,baz=89,slow=8.0,SNR=54						
ASAR				S	**S**	**15 49 09.8**	**-3.0**
	4.8nm,0.7s,baz=93,slow=16,SNR=27						
SIJI	**Sorong**	**53.22**	**284**	P	**P**	**15 44 13.5**	**+0.8**
	25nm,0.7s,baz=112,slow=4.6,SNR=17						
FITZ	**Fitzroy Crossi**	**53.58**	**261**	P	**P**	**15 44 15.8**	**+0.7**
	5.5nm,1.0s,baz=157,slow=5.4,SNR=7.8						
VNDA	**Vanda**	**59.38**	**185**	P	**P**	**15 44 56.7**	**+2.8**
	0.7nm,0.7s,baz=19,slow=3.6,SNR=4.0						
MJAR	**Matsushiro Arr**	**69.26**	**323**	P	**P**	**15 45 56.8**	**-0.2**
	1.4nm,0.5s,baz=168,slow=5.0,SNR=4.1						
PETK	**Petropavlovsk-**	**74.97**	**345**	P	**P**	**15 46 29.5**	**-0.1**
	2.7nm,0.9s,baz=156,slow=8.3,SNR=3.7						
NVAR	**Mina Array Bea**	**79.73**	**43**	P	**P**	**15 46 55.6**	**-0.4**
	0.8nm,0.6s,baz=220,slow=8.2,SNR=6.7						
ILAR	**Eielson Array**	**86.83**	**13**	P	**P**	**15 47 29.6**	**-0.8**
	0.2nm,0.4s,baz=223,slow=5.3,SNR=6.9						
PDAR	**Pinedale Array**	**87.67**	**43**	P	**P**	**15 47 35.2**	**+0.1**
	0.5nm,0.5s,baz=187,slow=2.4,SNR=4.7						
CMAR	**Chiang Mai Arr**	**89.97**	**289**	P	**P**	**15 47 47.3**	**+1.3**
	0.5nm,0.8s,baz=147,slow=2.9,SNR=4.2						
YKA	**Yellowknife Ar**	**95.05**	**25**	P	**P**	**15 48 06.2**	**-2.1**
	0.1nm,0.4s,baz=251,slow=3.8,SNR=3.7						
ARCES	**ARCESS Array B**	**127.56**	**350**	PKP	**PKPdf**	**15 53 45.5**	**-1.1**
	3.9nm,1.0s,baz=12,slow=1.3,SNR=3.0						

*IDC **25** 15:54:46.3±4.7, 4°03N×95°25E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.4/54, mbtmp3.6/4, ML3.8/2, Error ellipse: s-maj=103.5km s-min=47.9km az=75.0*
*DJA **25** 15:54:47.7±1.4, 5°N±5°×9°6E±1°.0, h10km±15km, M4.0/6, mb4.1/1, MLv3.9/6*
ISC 25 15:54:45.9±2.5, 5°1N±0°.1×95°8E±0°.1, h10km, n12, σ1°38/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**1.20**	**84**	P	**Pn**	**15 55 08.6**	**-0.1**
TPTI		**2.32**	**142**	P	**Pn**	**15 55 23.4**	**-0.7**
TPTI				S	**Sn**	**15 55 51.9**	**-0.8**
KCSI	**Kotacane, Aceh**	**2.55**	**128**	P	**Pn**	**15 55 29.3**	**+1.9**
KCSI				S	**Sn**	**15 56 00.6**	**+2.1**
SNSI	**Sinabang, Aceh**	**2.73**	**168**	P	**Pn**	**15 55 30.3**	**+0.4**
TSI	**Tuntungan**	**3.22**	**119**	P	**Pg**	**15 55 46.5**	**-1.2**
PSI	**Prapat**	**3.90**	**126**	Pn	**Pn**	**15 55 47.8**	**+1.7**
	2.1nm,0.3s,baz=360,slow=5.1,SNR=3.7						
PSI					Sn	**15 56 30.8**	**-1.2**
	2.1nm,0.3s,baz=0.0,slow=20,SNR=3.7						
CMAR	**Chiang Mai Arr**	**13.64**	**13**	Pn	P	15 58 16.8	+8.3
	0.3nm,0.3s,baz=204,slow=10,SNR=7.6						
H08S2	**Diego Garcia H**	**26.43**	**242**	T	T	16 27 24.9	

baz=62,slow=76,SNR=7.7
H08S3 Diego Garcia H 26.43 242 T T 16 27 22.7
baz=62,slow=76,SNR=3.6
H08S1 Diego Garcia H 26.45 242 T T 16 27 25.5
baz=62,slow=76,SNR=5.5
WRA Warramunga Arr 45.37 124 P **P** **16 03 05.0 +0.2**
0.5nm,0.8s,baz=301,slow=9.1,SNR=3.7
ASAR Alice Springs 46.93 129 P **P** **16 03 17.1 0.0**
1.4nm,0.5s,baz=301,slow=7.5,SNR=43

*ISCJB **25** 16:03:49.0±0.8, 19°.33S×0°.08×177°.5W±0°.1, h600km, mb4.0/10, Error ellipse: s-maj=14.8km s-min=9.3km az=156.5*
*IDC **25** 16:03:50.1±2.0, 19°.34S×177°.51W, h597km±25km, mb3.4/9, mb1 3.5/11, mb1mx3.2/47, mbtmp4.4/11, Error ellipse: s-maj=17.6km s-min=14.4km az=0.0*
ISC 25 16:03:50.1±0.9, **19°.3S**±0°.1×**177°.5W**±0°.1, **h600**km, **n42,** σ1^{9}**33/45, mb4.2/10, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.30**	**257**	P	**P**	**16 07 02.1**	**+0.9**
	0.3nm,0.3s,baz=28,slow=18,SNR=4.0						
OUZ	**Omahuta**	**17.74**	**205**	P	**P**	**16 07 25.3**	**+2.1**
WIAZ	**Waiheke Island**	**18.62**	**199**	P	**P**	**16 07 32.6**	**+1.4**
WMGZ	**Waiomatatini S**	**18.82**	**190**	P	**P**	**16 07 32.5**	**-0.5**
ETAZ	**East Tamaki Re**	**18.83**	**199**	P	**P**	**16 07 34.7**	**+1.6**
HAZ	**Te Kaha**	**18.87**	**192**	P	**P**	**16 07 33.1**	**-0.4**
MKAZ	**Moumakai**	**18.89**	**198**	P	**P**	**16 07 35.1**	**+1.4**
WTAZ	**Waiatarua**	**18.92**	**200**	P	**P**	**16 07 35.2**	**+1.3**
PKGZ	**Pakihiroa**	**18.95**	**191**	P	**P**	**16 07 34.0**	**-0.2**
AWAZ	**Awhitu Peninsu**	**19.02**	**200**	P	**P**	**16 07 36.2**	**+1.4**
PUZ	**Puketiti**	**19.09**	**190**	P	**P**	**16 07 35.0**	**-0.5**
RUGZ	**Raukumara Rang**	**19.09**	**192**	P	**P**	**16 07 35.2**	**-0.4**
TWGZ	**Tauwhareparae**	**19.24**	**191**	P	**P**	**16 07 37.4**	**+0.5**
TOZ	**Tahuroa Road**	**19.38**	**197**	P	**P**	**16 07 39.3**	**+1.2**
MWZ	**Matawai**	**19.48**	**192**	P	**P**	**16 07 37.0**	**-2.1**
URZ	**Urewera**	**19.49**	**193**	P	**P**	**16 07 36.7**	**-2.4**
	3.6nm,0.3s,baz=290,slow=36,SNR=19						
URZ	**Urewera**	**19.49**	**193**	P	**P**	**16 07 38.0**	**-1.1**
CNGZ	**Carnagh Statio**	**19.50**	**190**	P	**P**	**16 07 38.9**	**-0.3**
TKGZ	**Te Karaka**	**19.52**	**191**	P	**P**	**16 07 39.8**	**+0.5**
RAGZ	**Rawiri**	**19.66**	**192**	P	**P**	**16 07 40.4**	**-0.3**
MUGZ	**Murupara**	**19.77**	**193**	P	**P**	**16 07 40.1**	**-1.5**
SNGZ	**Shannon Statio**	**19.95**	**192**	P	**P**	**16 07 42.6**	**-0.7**
MTHZ	**Maungataniwha**	**20.12**	**193**	P	**P**	**16 07 43.9**	**-0.9**
RAHZ	**Arahi**	**20.13**	**192**	P	**P**	**16 07 44.6**	**-0.3**
NMHZ	**Naumai**	**20.36**	**193**	P	**P**	**16 07 46.1**	**-1.0**
BKZ	**Black Stump Fm**	**20.50**	**193**	P	**P**	**16 07 46.4**	**-1.8**
MCHZ	**McNeill Hill**	**20.72**	**193**	P	**P**	**16 07 48.0**	**-2.2**
KWHZ	**Kaweka Forest**	**20.76**	**193**	P	**P**	**16 07 48.9**	**-1.7**
MRZ	**Mangatainoka R**	**22.13**	**194**	P	**P**	**16 08 00.9**	**-1.9**
OGWZ	**Otaki Gorge**	**22.37**	**195**	P	**P**	**16 08 04.0**	**-0.9**
MSWZ	**Moikau Station**	**22.92**	**194**	P	**P**	**16 08 09.1**	**-0.7**
RPZ	**Rata Peaks**	**26.20**	**199**	P	**P**	**16 08 34.6**	**-4.1**
	7.0nm,0.9s,baz=52,slow=10.0,SNR=2.5						
CTA	**Charters Tower**	**34.12**	**262**	P	**P**	**16 09 45.9**	**-1.0**
	2.6nm,0.4s,baz=88,slow=10.0,SNR=7.4						
STKA	**Stephens Creek**	**38.77**	**243**	P	**P**	**16 10 25.2**	**+0.4**
	2.6nm,1.0s,baz=82,slow=7.4,SNR=3.9						
JAY	**Jayapura**	**44.14**	**287**	P	**P**	**16 11 08.0**	**+0.7**
	15nm,0.4s,baz=144,slow=6.0,SNR=14						
WRA	**Warramunga Arr**	**45.27**	**261**	P	**P**	**16 11 15.8**	**-0.1**
	2.9nm,0.4s,baz=98,slow=7.8,SNR=92						
WRA				S	**S**	**16 17 12.6**	**-1.2**
	0.4nm,0.8s,baz=102,slow=12,SNR=2.7						
ASAR	**Alice Springs**	**45.29**	**255**	P	**P**	**16 11 15.8**	**-0.2**
	3.8nm,0.4s,baz=87,slow=8.5,SNR=152						
ASAR				PcP	**PcP**	**16 12 42.2**	**-0.5**
	0.2nm,0.4s,baz=93,slow=4.8,SNR=3.3						
ASAR				S	**S**	**16 17 13.8**	**-0.1**
	1.5nm,0.9s,baz=97,slow=15,SNR=8.8						
SIJI	**Sorong**	**53.41**	**284**	P	**P**	**16 12 15.9**	**+0.3**
	20nm,0.7s,baz=117,slow=7.3,SNR=14						
QSPA	**South Pole Qui**	**70.78**	**180**	P	**P**	**16 14 08.5**	**+1.5**
	2.6nm,0.8s,baz=294,slow=1.1,SNR=14						
NVAR	**Mina Array Bea**	**79.80**	**43**	P	**P**	**16 14 58.5**	**+0.9**
	0.3nm,0.7s,baz=236,slow=6.4,SNR=2.3						
ILAR	**Eielson Array**	**87.02**	**13**	P	**P**	**16 15 31.6**	**-0.8**
	0.7nm,1.0s,baz=236,slow=5.1,SNR=8.1						
GERES	**GERESS Array B**	**149.15**	**346**	PKPbc	**PKPbc**	**16 22 30.9**	**-1.1**
	0.4nm,0.4s,baz=90,slow=2.9,SNR=3.8						

MAN 25 16:04:04.5, 11°.84N×125°.38E, h27km, mb4.4, ML3.3, MS3.0, 2D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.25**	**166**	*eP*	Pn	16 04 13.1	+0.6
BESP				*eS*	Sb	16 04 19.1	+3.7
PLP	**Palo**	**0.78**	**210**↓	*eP*	Pb	16 04 18.4	-1.0
PLP				*eS*	Sb	16 04 27.6	-2.1
CNP	**Catarman**	**0.96**	**314**	*eP*	Pn	16 04 21.8	-0.4
CNP				*eS*	Sn	16 04 35.4	+0.4
OCLP	**Ormoc**	**1.09**	**224**	*eP*	Pn	16 04 23.8	-0.2
OCLP				*eS*	Sn	16 04 38.2	0.0
MSLP	**Maasin**	**1.77**	**197**	*eP*	Pn	16 04 34.7	+1.2
MSLP				*eS*	Sn	16 04 56.5	+1.4
PVCP	**Virac**	**2.11**	**326**	*eP*	Pn	16 04 37.9	-0.2
RCP	**Roxas**	**2.59**	**264**↓	*eP*	Pn	16 04 46.3	+1.6

*IDC **25** 16:13:08.9±0.9, 28°.96N×142°.60E, h0km, mb3.8/13, mb1 3.9/14, mb1mx3.8/40, mbtmp3.8/14, ML3.1/1, MS3.0/3, Ms1 3.1/3, ms1mx2.7/40, Error ellipse: s-maj=34.4km s-min=16.8km az=79.0*
*ISCJB **25** 16:13:11.6±0.7, 29°.11N±0°.04×142°.5E±0°.2, h27km, mb3.8/13, MS3.1/1, Error ellipse: s-maj=21.7km s-min=5.0km az=171.4*
*JMA **25** 16:13:12.7±0.1, 29°.11N×142°.64E, h56km, M3.9*
ISC 25 16:13:12.8±0.8, **29°.00N**±0°.05×**142°.6E**±0°.2, **h27**km, **n24,** σ1^{9}**36/28, mb3.8/13, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.93**	**191**	S	**Sb**	**16 14 09.8**	**-1.2**
JCJ	**Chichijima**	**1.93**	**191**	Pn	**Pn**	**16 13 44.0**	**+0.1**
	7.3nm,0.3s,baz=1.0,slow=17,SNR=2.3						
JCJ				Sn	**Sn**	**16 14 05.5**	**-1.8**
	39nm,0.3s,baz=295,slow=21,SNR=5.7						
JOD2	**Odawara 2**	**6.93**	**335**	P	**Pn**	**16 14 52.7**	**+0.1**
JHU	**Hanno**	**7.39**	**338**	P	**Pn**	**16 14 58.5**	**-0.5**
JHU				*eS*	**Sn**	**16 16 20.7**	**-1.2**
JRY	**Ryogami san**	**7.67**	**337**	P	**Pn**	**16 15 02.7**	**-0.1**
JRY				S	**Sn**	**16 16 27.8**	**-1.0**
JHO	**Hitachi**	**7.79**	**348**	P	**Pn**	**16 15 02.1**	**-2.2**
JHO				S	**Sn**	**16 16 27.6**	**-4.0**
JAG	**Ashikaga**	**7.87**	**341**	P	**Pn**	**16 15 04.6**	**-0.9**
JAG				S	**Sn**	**16 16 31.9**	**-1.8**
MJAR	**Matsushiro Arr**	**8.39**	**335**	Pn	**Pn**	**16 15 12.1**	**-0.5**
	0.2nm,0.3s,baz=86,slow=28,SNR=14						
JOW	**Kunigami**	**12.86**	**264**	LR	LR	16 20 07.4	
	comp=Z,61nm,21.6s,baz=269,slow=33						
KSRS	**Korea Array**	**14.89**	**308**	Pn	**Pn**	**16 16 44.1**	**+2.6**
	0.1nm,0.3s,baz=119,slow=10,SNR=3.6						
KSRS				LR	LR	16 22 05.4	
	comp=Z,46nm,19.0s,baz=150,slow=36						
SONM	**Songino Array**	**33.64**	**314**	P	**P**	**16 19 51.5**	**+0.3**
	0.7nm,0.7s,baz=116,slow=8.9,SNR=5.3						
CMAR	**Chiang Mai Arr**	**41.13**	**265**	LR	LR	16 37 40.2	
	comp=Z,25nm,18.1s,baz=1.0,slow=36						
ZALV	**Zalesovo Beam**	**48.32**	**318**	P	**P**	**16 21 52.8**	**+1.1**
	0.5nm,0.3s,baz=102,slow=7.4,SNR=4.3						
WRA	**Warramunga Arr**	**49.30**	**190**	P	**P**	**16 21 59.1**	**-0.4**
	0.5nm,0.3s,baz=8.3,slow=7.9,SNR=23						
MKAR	**Makanchi Array**	**49.58**	**308**	P	**P**	**16 22 01.4**	**-0.1**
	0.5nm,0.6s,baz=87,slow=9.5,SNR=8.4						
MKAR				PcP	**PcP**	**16 23 23.8**	**+0.8**
	0.2nm,0.5s,baz=84,slow=5.9,SNR=4.6						
KURBB	**Kurchatov Arra**	**52.00**	**313**	P	**P**	**16 22 19.7**	**+0.1**
	1.9nm,0.6s,baz=90,slow=7.5,SNR=7.5						
ASAR	**Alice Springs**	**53.02**	**190**	P	**P**	**16 22 26.6**	**-0.9**
	0.1nm,0.3s,baz=11,slow=6.7,SNR=5.0						
BVAR	**Borovoye Array**	**56.91**	**317**	P	**P**	**16 22 55.6**	**+0.2**
	1.1nm,0.6s,baz=109,slow=7.2,SNR=5.2						
AKTO	**Aktyubinsk**	**64.94**	**315**	P	**P**	**16 23 50.5**	**+0.6**
	1.4nm,0.7s,baz=80,slow=12,SNR=4.6						
YKA	**Yellowknife Ar**	**70.30**	**29**	P	**P**	**16 24 24.3**	**+0.8**
	0.3nm,0.6s,baz=294,slow=6.2,SNR=4.5						
FINES	**FINESS Array B**	**76.42**	**334**	P	**P**	**16 24 59.7**	**+0.1**
	1.3nm,0.9s,baz=90,slow=7.8,SNR=3.6						
NOA	**NORSAR Array B**	**81.99**	**338**	P	**P**	**16 25 30.3**	**+0.1**
	0.3nm,0.6s,baz=61,slow=1.5,SNR=2.4						
BRTR	**Keskin Array B**	**84.99**	**313**	P	**P**	**16 25 47.5**	**+1.4**
	0.4nm,0.7s,baz=39,slow=5.8,SNR=3.6						
TXAR	**Lajitas Array**	**94.17**	**53**	P	**P**	**16 26 30.4**	**+0.8**
	0.1nm,0.4s,baz=321,slow=7.0,SNR=2.5						

MEX 25 16:23:37.2±0.4, **17°.66N×101°.91W, h18**km±4km, **MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.42**	**98**	*eP*	Pg	16 23 44.3	-1.6
ZIIG				*eS*	Sg	16 23 50.2	-1.6
ARIG	**Puente Sto Nin**	**1.60**	**67**	*eP*	Pn	16 24 01.4	-3.3
ARIG				*eS*	Sn	16 24 20.7	-4.3
CAIG	**El Cayaco**	**1.68**	**111**	*eP*	Pn	16 24 02.8	-2.9
CAIG				*eS*	Sn	16 24 22.0	-4.8
PLIG	**Platanillo**	**2.40**	**72**	*i* P	Pn	16 24 12.6	-3.1
PLIG				*i* S	Sn	16 24 40.1	-4.5

*IDC **25** 16:23:44.9±1.3, 34°.12N×73°.75E, h0km, mb3.5/5, mb1 3.5/10, mb1mx3.3/39, mbtmp3.4/10, ML3.2/5, MS3.2/2, Ms1 3.2/2, ms1mx2.6/33, Error ellipse: s-maj=31.5km s-min=22.5km az=82.0*
*ISCJB **25** 16:23:47.4±0.8, 34°.26N±0°.06×73°.7E±0°.1, h27km, mb3.3/5, MS3.4/1, Error ellipse: s-maj=16.4km s-min=6.2km az=154.0*
ISC 25 16:23:49.6±1.1, **34°.22N**±0°.09×**73°.7E**±0°.1, **h27**km, **n18,** σ0^{9}**92/18, mb3.4/5, Pakistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**8.43**	**4**	Pn	**Pn**	**16 25 51.1**	**+1.0**
	0.2nm,0.3s,baz=199,slow=13,SNR=4.3						
AAK				Sn	**Sn**	**16 27 24.1**	**-0.4**
	0.2nm,0.3s,baz=162,slow=20,SNR=2.2						
PYUN	**Piuthan**	**10.02**	**125**	*eP*	**Pn**	**16 26 12.8**	**+0.7**
	2.7nm,0.2s						
DANN	**Dangsing**	**10.40**	**121**	*eP*	**Pn**	**16 26 17.7**	**+0.4**
	4.8nm,0.2s						
DMN	**Daman**	**11.80**	**121**	*eP*	**Pn**	**16 26 37.5**	**+1.1**
	3.0nm,0.2s						
PKI	**Pulchoki**	**12.04**	**120**	*eP*	**Pn**	**16 26 41.1**	**+1.4**
	11nm,0.6s						
GUN	**Gumba**	**12.18**	**118**	*eP*	**Pn**	**16 26 42.1**	**+0.4**
	4.7nm,0.4s						
JIRN	**Jiri**	**12.55**	**118**	*eP*	**Pn**	**16 26 46.7**	**-0.1**
	6.7nm,0.3s						
RAMN	**Ramite**	**13.26**	**120**	*eP*	**Pn**	**16 26 56.8**	**+0.5**
MKAR	**Makanchi Array**	**14.15**	**25**	Pn	**Pn**	**16 27 08.1**	**0.0**
	0.0nm,0.3s,baz=216,slow=14,SNR=3.3						
KURBB	**Kurchatov Arra**	**16.77**	**11**	Pn	**Pn**	**16 27 40.5**	**-2.0**
	0.0nm,0.3s,baz=194,slow=11,SNR=4.1						
BVAR	**Borovoye Array**	**18.95**	**354**	P	**Pn**	**16 28 09.6**	**+0.3**
	0.3nm,0.3s,baz=155,slow=9.4,SNR=6.0						
AKTO	**Aktyubinsk**	**19.86**	**329**	P	**P**	**16 28 18.5**	**+0.1**
	0.3nm,0.3s,baz=138,slow=9.1,SNR=5.9						
AKTO				LR	LR	16 37 36.3	
	comp=Z,50nm,20.8s,baz=345,slow=42						
ZALV	**Zalesovo Beam**	**21.23**	**18**	P	**P**	**16 28 32.8**	**-0.5**
	1.2nm,0.4s,baz=212,slow=10,SNR=7.8						
SONM	**Songino Array**	**27.93**	**51**	P	**P**	**16 29 37.7**	**0.0**
	0.2nm,0.6s,baz=266,slow=9.4,SNR=2.7						
TGY	**Tagaytay City**	**47.05**	**103**	LR	LR	16 52 43.2	
	comp=Z,41nm,20.9s,baz=196,slow=37						
TORD	**Torodi Ar. Bea**	**67.92**	**271**	P	**P**	**16 34 46.2**	**-0.1**
	0.3nm,0.5s,baz=52,slow=6.6,SNR=3.0						
WRA	**Warramunga Arr**	**78.91**	**123**	P	**P**	**16 35 49.0**	**-1.8**
	0.3nm,0.9s,baz=320,slow=5.0,SNR=3.1						
ASAR	**Alice Springs**	**81.14**	**126**	P	**P**	**16 36 02.7**	**-0.1**
	0.4nm,1.0s,baz=300,slow=5.0,SNR=3.5						

*IDC **25** 16:25:12.2±2.6, 13°.01N×124°.56E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.3/40, mbtmp3.4/5, Error ellipse: s-maj=257.2km s-min=20.5km az=66.0*
*MAN **25** 16:25:15.5, 13°.19N×124°.78E, h17km, mb4.7, ML3.6, MS3.5*
ISC 25 16:25:14.7±1.6, **13°.16N**±0°.06×**124°.81E**±0°.09, **h16**km±10km, **n21,** σ1^{9}**16/22, mb3.4/5, 1C-1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.66**	**193**	*eP*	**Pn**	**16 25 28.9**	**-0.5**
CNP				*eS*	**Sn**	**16 25 40.8**	**+1.3**
PVCP	**Virac**	**0.77**	**304**	*eP*	**Pg**	**16 25 29.8**	**0.0**
PVCP				*eS*	**Sn**	**16 25 42.0**	**-0.3**
BESP	**Borongan**	**1.67**	**158**	*eP*	**Pn**	**16 25 44.2**	**+1.0**
BESP				*eS*	**Sg**	**16 26 09.4**	**+1.0**
PLP	**Palo**	**1.99**	**175**↓	*eP*	**Pn**	**16 25 48.7**	**+1.0**
PLP				*eS*	**Sn**	**16 26 13.3**	**+1.0**
OCLP	**Ormoc**	**2.10**	**185**	*eP*	**Pb**	**16 25 50.9**	**-1.6**
OCLP				*eS*	**Sb**	**16 26 18.6**	**+0.2**
RCP	**Roxas**	**2.57**	**232**↑	*eP*	**Pn**	**16 25 57.0**	**+1.3**
OTRP	**Odiongan**	**2.84**	**254**	*eP*	**Pn**	**16 25 59.2**	**-0.2**
BOAC	**Boac**	**2.91**	**276**	*eP*	**Pn**	**16 26 01.7**	**+1.4**
BOAC				*eS*	**Sn**	**16 26 36.2**	**+1.3**
MSLP	**Maasin**	**3.01**	**179**	*eP*	**Pn**	**16 26 03.8**	**+2.1**
MSLP				*eS*	**Sb**	**16 26 43.3**	**-1.1**
POLP	**Polilio Island**	**3.20**	**300**	*eP*	**Pn**	**16 26 05.6**	**+1.3**
WRA	**Warramunga Arr**	**34.20**	**164**	P	**P**	**16 31 59.9**	**+0.1**
	0.5nm,0.6s,baz=342,slow=8.2,SNR=4.3						
ASAR	**Alice Springs**	**37.66**	**166**	P	**P**	**16 32 27.8**	**-1.6**
	0.6nm,0.9s,baz=354,slow=9.3,SNR=12						
H11S3	**WAKE ISLAND Hy**	**40.57**	**77**	T	T	17 16 33.4	
	baz=269,slow=75,SNR=8.3						
H11S1	**WAKE ISLAND Hy**	**40.58**	**77**	T	T	17 16 28.8	
	baz=269,slow=75,SNR=4.7						
H11S2	**WAKE ISLAND Hy**	**40.59**	**77**	T	T	17 16 31.3	
	baz=269,slow=75,SNR=5.3						
H11N1	**WAKE ISLAND Hy**	**40.80**	**75**	T	T	17 16 47.3	
	baz=267,slow=75,SNR=8.8						
H11N2	**WAKE ISLAND Hy**	**40.81**	**75**	T	T	17 16 46.9	
	baz=267,slow=75,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**40.82**	**75**	T	T	17 16 44.6	
	baz=267,slow=75,SNR=10						
MKAR	**Makanchi Array**	**48.88**	**322**	P	**P**	**16 34 00.1**	**+0.3**
	0.2nm,0.8s,baz=119,slow=9.6,SNR=2.9						
ZALV	**Zalesovo Beam**	**51.42**	**331**	P	**P**	**16 34 18.5**	**-0.4**
	0.6nm,0.5s,baz=110,slow=8.4,SNR=3.5						
KURBB	**Kurchatov Arra**	**52.90**	**325**	P	**P**	**16 34 29.5**	**-0.4**
	0.3nm,0.6s,baz=123,slow=8.1,SNR=4.2						

*ISCJB **25** 16:32:52.6±0.8, 11°.88S±0°.07×166°.13E±0°.09, h30km, mb3.7/7, MS3.2/2, Error ellipse: s-maj=14.1km s-min=8.4km az=149.5*
*IDC **25** 16:32:58.3±3.3, 11°.89S×166°.05E, h67km±28km, mb3.5/7, mb1 3.7/9, mb1mx3.5/41, mbtmp3.8/9, ML3.9/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/21, Error ellipse: s-maj=26.3km s-min=19.4km az=53.0*
ISC 25 16:32:54.1±0.9, **11°.77S**±0°.09×**166°.2E**±0°.1, **h30**km, **n11,** σ1^{9}**48/13, mb3.7/7, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.61**	**290**	P	**Pn**	**16 34 31.4**	**+2.2**
	9.1nm,0.3s,baz=150,slow=4.2,SNR=5.3						
HNR				S	**Sn**	**16 35 43.8**	**+0.2**
	1.5nm,0.3s,baz=189,slow=13,SNR=1.4						
DZM	**Mont Dzumac**	**10.25**	**179**	P	**Pn**	**16 35 21.2**	**+2.0**
	0.4nm,0.3s,baz=288,slow=22,SNR=18						
DZM				S	**Sn**	**16 37 12.3**	**-0.9**
	0.0nm,0.3s,baz=345,slow=18,SNR=1.9						
STKA	**Stephens Creek**	**30.26**	**225**	LR	LR	16 50 39.4	
	comp=Z,38nm,18.6s,baz=26,slow=35						
WRA	**Warramunga Arr**	**31.70**	**251**	P	**P**	**16 39 14.1**	**-1.3**
	0.8nm,0.8s,baz=85,slow=9.1,SNR=5.9						
WRA				PcP	**PcP**	**16 42 05.1**	**-1.8**
	0.4nm,1.0s,baz=73,slow=3.4,SNR=2.7						
RPZ	**Rata Peaks**	**32.10**	**173**	LR	LR	16 51 35.7	
	comp=Z,75nm,18.1s,baz=24,slow=35						
ASAR	**Alice Springs**	**32.91**	**245**	P	**P**	**16 39 25.1**	**-0.8**
	1.5nm,0.8s,baz=71,slow=9.5,SNR=7.5						
ASAR				PcP	**PcP**	**16 42 08.7**	**-1.5**
	0.5nm,0.8s,baz=89,slow=2.9,SNR=4.0						
CMAR	**Chiang Mai Arr**	**72.84**	**294**	P	**P**	**16 44 19.7**	**-0.9**
	0.3nm,0.7s,baz=134,slow=3.9,SNR=3.0						
SONM	**Songino Array**	**79.53**	**324**	P	**P**	**16 44 58.1**	**-0.1**
	0.3nm,0.5s,baz=132,slow=4.9,SNR=2.7						
ILAR	**Eielson Array**	**84.04**	**18**	P	**P**	**16 45 21.7**	**+0.3**
	0.4nm,0.7s,baz=231,slow=5.9,SNR=7.1						
NVAR	**Mina Array Bea**	**86.12**	**50**	P	**P**	**16 45 34.1**	**+1.3**
	0.5nm,0.8s,baz=233,slow=7.5,SNR=2.9						
MKAR	**Makanchi Array**	**94.38**	**317**	P	**P**	**16 46 09.8**	**-1.3**
	0.6nm,0.6s,baz=101,slow=5.8,SNR=8.6						

*IDC **25** 16:34:24.6±4.2, 14°.21N×91°.63W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/28, mbtmp3.3/3, ML3.7/1, Error ellipse: s-maj=137.0km s-min=69.4km az=42.0*
*MEX **25** 16:34:29.8±0.4, 14°.03N×92°.40W, h62km±15km, MD3.8*
ISC 25 16:34:33.9±1.9, **14°.3N**±0°.1×**92°.4W**±0°.1, **h54**km, **n7,** σ1^{9}**74/10, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.61**	**11**	*eP*	**Pn**	**16 34 45.0**	**-1.7**
THIG				*eS*	**Sn**	**16 34 57.0**	**+0.9**
PCIG		**1.61**	**330**	*eP*	**Pn**	**16 34 57.9**	**-2.1**
PCIG				*eS*	**Sn**	**16 35 19.2**	**-0.5**
CCIG	**Comitan**	**1.98**	**7**	*i* P	**Pn**	**16 35 03.2**	**-2.0**
CCIG				*eP*		16 35 06.9	
CCIG				*i* S	**Sn**	**16 35 30.1**	**+1.1**
TXAR	**Lajitas Array**	**18.24**	**327**	P	**Pn**	**16 38 44.7**	**+1.3**
	0.1nm,0.3s,baz=134,slow=13,SNR=3.2						
NVAR	**Mina Array Bea**	**33.20**	**321**	P	**P**	**16 41 08.0**	**+2.1**
	0.4nm,0.7s,baz=129,slow=9.7,SNR=3.0						
YKA	**Yellowknife Ar**	**50.65**	**347**	P	**P**	**16 43 27.4**	**0.0**
	0.6nm,0.6s,baz=151,slow=7.3,SNR=13						
CMAR	**Chiang Mai Arr**	**145.58**	**341**	PKPbc	**PKPdf**	**16 54 06.1**	**-1.1**
	0.5nm,0.8s,baz=338,slow=3.2,SNR=4.8						

*IDC **25** 16:49:26.9±9.0, 24°.65S×179°.79W, h438km±86km, mb3.4/6, mb1 3.5/7, mb1mx3.3/40, mbtmp4.3/7, Error ellipse: s-maj=66.4km s-min=24.3km az=43.0*
ISC 25 16:49:33.4±1.9, **25°.1S**±0°.2×**180°.0W**±0°.2, **h505**km, **n10,** σ1^{9}**03/10, mb3.8/6, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.79**	**281**	P	**P**	**16 52 20.9**	**+0.5**
	0.2nm,0.3s,baz=53,slow=20,SNR=2.9						
URZ	**Urewera**	**13.38**	**190**	P	**P**	**16 52 25.1**	**-1.3**
	1.1nm,0.3s,baz=60,slow=20,SNR=8.0						
CTA	**Charters Tower**	**31.50**	**272**	P	**P**	**16 55 13.8**	**+0.2**
	6.3nm,0.5s,baz=104,slow=10,SNR=15						
STKA	**Stephens Creek**	**34.31**	**250**	P	**P**	**16 55 37.1**	**0.0**
	0.9nm,0.4s,baz=110,slow=14,SNR=5.2						
ASAR	**Alice Springs**	**41.86**	**262**	P	**P**	**16 56 39.0**	**0.0**
	1.1nm,0.4s,baz=91,slow=7.4,SNR=59						
WRA	**Warramunga Arr**	**42.34**	**267**	P	**P**	**16 56 42.3**	**-0.5**
	2.5nm,0.3s,baz=99,slow=6.9,SNR=112						
FITZ	**Fitzroy Crossi**	**50.75**	**267**	P	**P**	**16 57 46.5**	**0.0**
	2.2nm,0.5s,baz=97,slow=8.9,SNR=6.4						
QSPA	**South Pole Qui**	**65.03**	**180**	P	**P**	**16 59 25.0**	**+1.9**
	1.9nm,1.0s,baz=55,slow=18,SNR=5.9						
AKASG	**Malin Array Be**	**145.94**	**326**	PKPbc	**PKPbc**	**17 08 14.7**	**-1.2**
	0.2nm,0.3s,baz=47,slow=4.1,SNR=2.3						
BRTR	**Keskin Array B**	**148.27**	**306**	PKPbc	**PKPbc**	**17 08 22.3**	**-0.3**
	0.4nm,0.8s,baz=82,slow=2.9,SNR=2.5						

*DDA **25** 17:14:13.5, 37°.94N×31°.99E, h7km±2km, ML2.6*
*ISK **25** 17:14:13.7, 37°.96N×31°.98E, h5km, ML2.3/7*
*ISCJB **25** 17:14:14.4±0.6, 37°.95N±0°.05×31°.99E±0°.04, h9km, Error ellipse: s-maj=7.0km s-min=4.1km az=22.5*
ISC 25 17:14:13.9±1.0, **37°.94N**±0°.03×**31°.97E**±0°.03, **h9**km, **n15,** σ0^{9}**36/19, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DOGA	**KONYA_Doganhis**	**0.29**	**305**	*i* P	**Pb**	**17 14 21.0**	**-0.5**
DOGA				*i* S	**Sg**	**17 14 24.4**	**+0.5**
KONT	**Konya--Tato

PNPO	**Pukaskwa Natio**	**2.33**	**22**	PN	**Pn**	**17 27 50.9**	**+0.8**
PNPO				SN	**Sn**	**17 28 17.5**	**-1.9**
PNPO				Trac		17 28 26.5	
	comp=Z,13nm,0.2s						
F39A	**Loretta**	**2.35**	**258**	Sb	**Sb**	**17 28 24.4**	**+1.1**
	baz=76						
D46A	**Sault St. Mari**	**2.51**	**79**	Sb	**Sb**	**17 28 29.5**	**+1.7**
	baz=261						
TBO	**Thunder Bay**	**2.51**	**332**	PN	**Pn**	**17 27 53.8**	**+1.2**
TBO				SN	**Sn**	**17 28 24.7**	**+0.8**
TBO				Trac		17 28 33.6	
	comp=Z,14nm,0.2s						
I43A	**Langenfeld Bro**	**2.59**	**188**	P	**Pn**	**17 27 53.5**	**-0.1**
	baz=8.0,SNR=16						
EYMN	**Ely**	**3.04**	**301**	PN	**Pn**	**17 28 02.3**	**+2.5**
EYMN				SN	**Sb**	**17 28 41.2**	**-1.8**
GTO	**Geraldton**	**3.33**	**7**	PN	**Pn**	**17 28 04.8**	**+1.0**
GTO				SN	**Sn**	**17 28 43.2**	**-0.8**
GTO				Trac		17 28 54.2	
	comp=Z,8.1nm,0.2s						
KAPO	**Kapuskasing**	**4.56**	**47**	PN	**Pn**	**17 28 21.6**	**+0.9**
KAPO				SN	**Sn**	**17 29 12.1**	**-2.4**
KAPO				LG	Lg	17 29 34.8	
KAPO				Trac		17 29 37.2	
	comp=Z,5.0nm,0.2s						
SOLO	**Sioux Lookout**	**4.65**	**322**	PN	**Pn**	**17 28 23.6**	**+1.5**
SOLO				SN	**Sn**	**17 29 16.0**	**-0.7**
SOLO				Trac		17 29 38.3	
	comp=Z,2.6nm,0.2s						
PKLO	**Pickle Lake**	**5.37**	**341**	PN	**Pn**	**17 28 31.5**	**-0.3**
PKLO				SN	**Sn**	**17 29 30.8**	**-3.4**
PKLO				Trac		17 29 39.7	
	comp=Z,55nm,1.1s						
ULM	**Lac du Bonnet**	**6.69**	**308**	PN	**Pn**	**17 28 51.0**	**+1.1**
ULM				SN	**Sn**	**17 30 06.5**	**-0.2**
ULM				Trac		17 30 08.9	
	comp=Z,23nm,0.8s						

MEX 25 17:39:10.4±0.5, 15°95N×98°34W, h8km±3km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.48**	**25**	*e*P	Pg	17 39 19.2	-0.5
PNIG				*e*S	Sg	17 39 26.4	+0.4

MAN 25 17:45:46.9, 12°60N×123°43E, h7km, mb4.3, ML3.1, MS2.9, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.31**	**142**	*i*P	Pg	17 45 53.6	+0.7
MMPH				*i* S	Sb	17 45 58.6	-1.4
CNP	**Catarman**	**1.21**	**94**	*e*P	Pg	17 46 09.0	-1.0
CNP				*e*S	Sn	17 46 27.3	+0.5
PVCP	**Virac**	**1.21**	**35**	*e*P	Pg	17 46 09.3	-0.8
OTRP	**Odiongan**	**1.40**	**260**	*e*P	Pn	17 46 12.1	-0.8
BOAC	**Boac**	**1.77**	**299**	*e*P	Pn	17 46 17.3	-0.6
OCLP	**Ormoc**	**1.93**	**143**	*e*P	Pn	17 46 20.5	+0.4
PLP	**Palo**	**2.08**	**133**	*e*P	Pn	17 46 22.1	-0.1
PLP				*e*S	Sb	17 46 52.0	+0.8
GUIM	**Jordan**	**2.13**	**203**	*e*P	Pn	17 46 24.2	+1.2
SJMP	**San Jose**	**2.26**	**267**	*e*P	Pn	17 46 25.9	+1.1
SJMP				*e*S	Sn	17 46 52.0	-1.0
LLP	**Lapu-Lapu**	**2.33**	**167**	*e*P	Pn	17 46 26.4	+0.7
LLP				*e*S	Sn	17 46 55.2	+0.5
MSLP	**Maasin**	**2.83**	**150**	*e*P	Pn	17 46 33.3	+0.8
BUSP	**Coron**	**3.22**	**260**	*e*P	Pn	17 46 38.1	+0.3

*NIED **25** 17:46:00.29°.50N×132°.30E, h5km, Mw4.3 Best double couple: M₀3.36000×10¹⁵ NP1:φ₁92.00000°, δ31.00000°, λ-93.00000°. NP2:φ₂16.00000°, δ59.00000°, λ-88.00000°.*
*BJI **25** 17:46:13.3, 29°.14N×132°.49E, h5km, mb4.5/31, mB5.0/30, Ms4.4/15, Ms7 4.1/14*
*ISCJB **25** 17:46:16.2±1.0, 29°.42N±0°.02×132°.24E±0°.02, h8km±6km, mb4.7/102, MS3.6/11, Error ellipse: s-maj=3.9km s-min=3.3km az=165.4*
*IDC **25** 17:46:16.5±0.5, 29°.50N×132°.23E, h0km, mb4.1/19, mb1 4.3/23, mb1mx4.3/35, mbtmp4.1/23, ML3.8/4, MS3.3/11, Ms1 3.4/11, ms1mx3.1/45, Error ellipse: s-maj=19.2km s-min=12.8km az=80.0*
*NEIC **25** 17:46:18.1±1.6, 29°.38N×132°.19E, h10km±10km, mb4.8/77, Error ellipse: s-maj=4.6km s-min=3.4km az=134.0*
*JMA **25** 17:46:19.8±0.2, 29°.50N×132°.28E, h71km, M4.2*
*MOS **25** 17:46:19.6±1.0, 29°.46N×132°.26E, h31km, mb4.7/27, Error ellipse: s-maj=9.2km s-min=5.9km az=97.6*

ISC 25 17:46:20.1±1.8, 29°.42N±0°.03×132°.29E±0°.04, h24km±12km, n226, σ1$60/259, mb4.7/106, MS3.8/13, 7C-6D, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMTN	**Minamitane**	**1.55**	**309**	P	**Pn**	**17 46 45.2**	**-1.0**
JMTN				S	**Sn**	**17 47 03.8**	**-1.8**
JTN	**Tanegashima 3**	**1.68**	**318**	P	**Pn**	**17 46 46.6**	**-1.3**
JTN				S	**Sn**	**17 47 07.0**	**-1.6**
JYAK	**Yakushimahirau**	**1.75**	**298**	P	**Pn**	**17 46 47.9**	**-1.0**
JYAK				S	**Sn**	**17 47 09.0**	**-1.4**
JKC	**Kuchinoerabu**	**2.10**	**300**	P	**Pn**	**17 46 52.8**	**-0.8**
JKC				*e*S	**Sn**	**17 47 17.4**	**-1.5**
JTSR	**Tashiro 2**	**2.11**	**326**	P	**Pn**	**17 46 52.4**	**-1.4**
JTSR				S	**Sn**	**17 47 16.2**	**-3.1**
JNN	**Nakanoshima**	**2.15**	**282**	P	**Pn**	**17 46 53.6**	**-0.7**
JNN				S	**Sn**	**17 47 19.4**	**-0.8**
JNAR	**Kushima--Naru**	**2.28**	**338**	P	**Pn**	**17 46 55.1**	**-1.1**
JNAR				S	**Sn**	**17 47 20.5**	**-3.0**
JTZ	**Takazaki**	**2.68**	**338**	P	**Pn**	**17 47 00.8**	**-0.9**
JTZ				S	**Sn**	**17 47 30.6**	**-2.9**
JTAJ	**Takarajima**	**2.71**	**265**	P	**Pn**	**17 47 01.6**	**-0.5**
JTAJ				S	**Sn**	**17 47 34.1**	**0.0**
JAMN	**Amaminishikomi**	**2.97**	**248**	P	**Pn**	**17 47 05.0**	**-0.7**
JAMN				S	**Sn**	**17 47 39.0**	**-1.6**
JSJ	**Shimokoshiki**	**3.16**	**316**	P	**Pn**	**17 47 05.9**	**-2.4**
JSJ				S	**Sn**	**17 47 41.5**	**-3.8**
JTK	**Tokunoshima**	**3.36**	**242**	P	**Pn**	**17 47 10.7**	**-0.3**
JTK				S	**Sn**	**17 47 48.2**	**-1.9**
JTO	**Tosashimizu**	**3.46**	**7**	P	**Pn**	**17 47 10.7**	**-1.7**
JTO				S	**Sn**	**17 47 45.9**	**-6.7**
JMZ	**Minamidaito 2**	**3.71**	**195**	P	**Pn**	**17 47 14.6**	**-1.2**
JMZ				*e*S	**Sn**	**17 47 55.1**	**-3.7**
JNU	**Nakatsue**	**3.89**	**342**	Pn	**Pn**	**17 47 17.7**	**-0.6**
	15nm,0.3s,baz=212,slow=5.9,SNR=102						
JNU				Sn	**Sn**	**17 47 58.8**	**-4.4**
	50nm,0.3s,baz=154,slow=6.6,SNR=8.0						
JNU	**Nakatsue**	**3.89**	**342**	*e*Pn	**Pn**	**17 47 17.3**	**-1.0**
JNU				*e*Sn	**Sn**	**17 48 00.7**	**-2.5**
JNA	**Nagahama**	**4.13**	**2**	P	**Pn**	**17 47 20.7**	**-0.9**
JNA				S	**Sn**	**17 48 03.3**	**-5.9**
JOW	**Kunigami**	**4.38**	**235**	Pn	**Pn**	**17 47 23.9**	**-1.2**
	16nm,0.3s,baz=115,slow=17,SNR=60						
JOW				Sn	**Sn**	**17 48 11.6**	**-3.9**
	26nm,0.3s,baz=58,slow=29,SNR=8.7						
JOW				LR	LR	17 49 18.3	
	comp=Z,330nm,21.4s,baz=68,slow=41						
JOW	**Kunigami**	**4.38**	**235**	*e*Pn	**Pn**	**17 47 23.7**	**-1.4**
JOW				*e*Sn	**Sn**	**17 48 11.1**	**-4.4**
JOW	**Kunigami**	**4.38**	**235**	P	**Pn**	**17 47 23.9**	**-1.2**
JIH	**Iheya**	**4.49**	**239**	P	**Pn**	**17 47 25.3**	**-1.3**
JMN	**Monobe**	**4.51**	**17**	P	**Pn**	**17 47 26.2**	**-0.6**
JAI	**Aioi**	**4.74**	**22**	P	**Pn**	**17 47 29.5**	**-0.4**
INU	**Inuyama**	**7.14**	**33**	*e*Pn	**Pn**	**17 48 03.4**	**+0.5**
JHJ2	**Mitsune**	**7.42**	**58**	*e*Pn	**Pn**	**17 48 09.1**	**+2.3**
MAJO	**Matsushiro**	**8.67**	**33**	*e*Pn	**Pn**	**17 48 25.6**	**+1.6**
MAJO	**Matsushiro**	**8.67**	**33**	*i*P	**Pn**	**17 48 25.5**	**+1.6**
MAT	**Matsushiro**	**8.67**	**33**	P	**Pn**	**17 48 25.5**	**+1.5**
MJAR	**Matsushiro Arr**	**8.67**	**33**	Pn	**Pn**	**17 48 25.9**	**+1.9**
	0.4nm,0.3s,baz=205,slow=12,SNR=24						
MJAR				LR	LR	17 51 51.7	
	comp=Z,127nm,18.2s,baz=220,slow=39						
KSRS	**Korea Array**	**8.80**	**337**	Pn	**Pn**	**17 48 25.8**	**0.0**
	0.4nm,0.3s,baz=156,slow=14,SNR=6.7						
KS15	**Wonju Array Si**	**8.81**	**336**	*e*Pn	**Pn**	**17 48 25.2**	**-0.7**
KSAR	**Wonju Array Be**	**8.81**	**336**	Pn	**Pn**	**17 48 25.8**	**0.0**
KSAR	**Wonju Array Be**	**8.81**	**336**	P	**Pn**	**17 48 25.8**	**0.0**
KS01	**Wonju Array Si**	**8.84**	**337**	*e*Pn	**Pn**	**17 48 24.6**	**-1.6**
CBIJ	**Chichi jima**	**9.03**	**102**	*e*Pn	**Pn**	**17 48 27.4**	**-1.5**
SSE	**Sheshan**	**9.75**	**283**	*e*Pn	**Pn**	**17 48 38.5**	**-0.3**
YHNB	**Yeheng**	**10.81**	**247**	*e*Pn	**Pn**	**17 48 51.2**	**-2.3**
YULB	**Yu-li**	**11.53**	**241**	*e*Pn	**Pn**	**17 49 00.7**	**-2.6**
SSLB	**Suanglung**	**11.59**	**244**	*e*Pn	**Pn**	**17 49 01.8**	**-2.2**
NJ2	**Nanjing**	**11.86**	**286**	*e*P	**Pn**	**17 49 08.0**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NJ2				LR	LR		
	comp=N,380nm,13.0s						
NJ2				LR	LR		
	comp=E,410nm,11.4s						
NJ2				LR	LR		
	comp=Z,510nm,14.1s						
TWG	**Pinlang**	**12.03**	**239**	*e*Pn	**Pn**	**17 49 06.1**	**-3.9**
TPUB	**Ta-pu**	**12.10**	**242**	*e*Pn	**Pn**	**17 49 08.7**	**-2.3**
MSHR	**Mys Shultsa**	**13.17**	**356**	*i*P	**Pn**	**17 49 24.1**	**-1.4**
USRK	**Ussuriysk Ar.**	**14.76**	**359**	Pn	**Pn**	**17 49 50.2**	**+3.1**
	0.1nm,0.3s,baz=164,slow=11,SNR=2.7						
WHN	**Wuhan**	**15.59**	**279**	P	**P**	**17 50 02.0**	**-0.3**
ASAJ	**Asahikawa**	**16.81**	**26**	LR	LR	17 56 28.2	
	comp=Z,88nm,19.3s,baz=92,slow=36						
BJT	**Baijiatuan**	**16.93**	**313**	*e*Pn	**P**	**17 50 16.8**	**-0.3**
	20nm,0.7s						
BJT	**Baijiatuan**	**16.93**	**313**	*e*P	**P**	**17 50 16.8**	**-0.3**
BJT				pmax	pmax		
	comp=Z,20nm,0.7s						
BJI	**Beijing**	**16.94**	**313**	*e*P	**P**	**17 50 18.0**	**+0.8**
BJI				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**19.31**	**22**	*e*P	**P**	**17 50 43.6**	**+0.3**
YSS				pmax	pmax		
	comp=Z,20nm,1.2s						
GUMO	**Guam**	**19.59**	**141**	LR	LR	17 57 35.7	
	comp=Z,63nm,19.2s,baz=96,slow=34						
KLR	**Kul'dur**	**19.79**	**359**	P	**P**	**17 50 48.0**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=172,slow=6.1,SNR=5.4						
KLR	**Kul'dur**	**19.79**	**359**	*e*P	**Pn**	**17 50 49.7**	**-0.4**
ENH	**Enshi**	**19.80**	**278**	*e*P	**P**	**17 50 46.0**	**-2.8**
	comp=Z,15nm,0.8s						
HHC	**Hu-ho-hao-te**	**20.38**	**310**	*e*P	Pn	17 50 56.8	-0.4
HHC				pmax	pmax		
	comp=Z,21nm,0.9s						
HHC				pmax	pmax		
	comp=Z,380nm,4.3s						
XAN	**Xi'an**	**20.39**	**289**	P	**P**	**17 50 54.0**	**-1.2**
XAN				pmax	pmax		
	comp=Z,13nm,0.7s						
XAN				pmax	pmax		
	comp=Z,120nm,5.1s						
XAN				LR	LR		
	comp=Z,230nm,13.0s						
XAN	**Xi'an**	**20.39**	**289**	*e*P	**P**	**17 50 52.7**	**-2.5**
	comp=Z,46nm,0.8s						
XAN	**Xi'an**	**20.39**	**289**	*e*P	**P**	**17 50 52.7**	**-2.5**
XAN				pmax	pmax		
	comp=Z,46nm,0.8s						
GYA	**Guiyang**	**22.82**	**269**	P	**P**	**17 51 21.0**	**-0.4**
GYA				PP	**PnPn**	**17 51 49.5**	**+3.6**
GYA				S	**S**	**17 55 24.5**	**-5.0**
GYA				SS	**SnSn**	**17 56 05.8**	**+4.9**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=Z,610nm,16.5s						
GYA				LR	LR		
	comp=Z,580nm,16.9s						
GYA				LR	LR		
	comp=Z,520nm,16.8s						
DAV	**Davao City (W)**	**23.11**	**197**	LR	LR	18 01 49.6	
	comp=Z,81nm,19.0s,baz=354,slow=40						
ZEA	**Zeya**	**24.58**	**353**	*e*P	**P**	**17 51 41.7**	**+3.7**
CD2	**Chengdu**	**24.69**	**281**	*e*P	**P**	**17 51 38.5**	**-0.8**
CD2				S	**S**	**17 56 00.5**	**+0.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,4.6s						
CD2				LR	LR		
	comp=Z,410nm,10.3s						
CD2				LR	LR		
	comp=Z,430nm,7.6s						
KMI	**Kunming**	**26.58**	**268**	P	**P**	**17 51 54.5**	**-2.2**
KMI				pmax	pmax		
	comp=Z,11nm,1.0s						
ULN	**Ulaanbaatar**	**26.79**	**320**	*e*P	**P**	**17 51 56.8**	**-1.4**
	comp=Z,4.3nm,1.0s						
ULN	**Ulaanbaatar**	**26.79**	**320**	*e*P	**P**	**17 51 58.6**	**+0.3**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.3s						
SONA0	**Songino Array**	**27.14**	**320**	*e*P	**P**	**17 51 59.7**	**-1.7**
SONA0				*e*PcP	**PcP**	**17 55 21.0**	**-0.6**
SONM	**Songino Array**	**27.14**	**320**	P	**P**	**17 51 59.7**	**-1.7**
	comp=Z,1.1nm,0.8s,baz=133,slow=8.5,SNR=5.8						
SONM				PcP	**PcP**	**17 55 21.0**	**-0.5**
	comp=Z,0.4nm,0.9s,baz=122,slow=2.2,SNR=2.7						
GTA	**Gaotai**	**28.45**	**299**	*e*P	**P**	**17 52 14.8**	**+1.6**
GTA				pP	pP	17 52 18.8	-1.7
GTA				sP	sP	17 52 22.0	-1.5
PETK	**Petropavlovsk-**	**30.12**	**31**	LR	LR	18 03 49.7	
	comp=Z,75nm,20.1s,baz=275,slow=35						
CHAI	**Chaiyaphum**	**30.92**	**251**	P	P	17 52 47.5	+12
PBKT	**Sadao Pong**	**31.43**	**253**	*e*P	**P**	**17 52 39.4**	**-0.2**
	comp=Z,7.1nm,0.8s						
PBKT	**Sadao Pong**	**31.43**	**253**	P	P	17 52 44.6	+5.0
	comp=Z,9.8nm,0.8s						
LUWI	**Luwuk**	**31.63**	**198**	*e*P	**P**	**17 52 40.5**	**-0.7**
	comp=Z,27nm,1.0s						
CHTO	**Chiang Mai**	**32.11**	**258**	*e*P	**P**	**17 52 45.5**	**-0.1**
	comp=Z,3.9nm,1.1s						
CHTO	**Chiang Mai**	**32.11**	**258**	*e*P	**P**	**17 52 45.5**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**32.27**	**258**	P	**P**	**17 52 46.5**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=61,slow=5.6,SNR=5.1						
CMAR				PcP	**PcP**	**17 55 36.1**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=104,slow=1.8,SNR=4.7						
CMAR				LR	LR	18 07 55.6	
	comp=Z,41nm,19.9s,baz=58,slow=40						
MA2	**Magadan**	**32.67**	**17**	*e*P	**P**	**17 52 52.6**	**+2.5**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SHL	**Shillong**	**35.92**	**274**	*e*P	**P**	**17 53 19.1**	**+0.2**
	comp=Z,3.8nm,0.7s						
SHL	**Shillong**	**35.92**	**274**	*e*P	**P**	**17 53 19.1**	**+0.2**
SHL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SEY	**Seymchan**	**35.97**	**16**	*e*P	**P**	**17 53 20.7**	**+2.2**
WMQ	**Urumqi**	**38.11**	**305**	*e*P	**P**	**17 53 38.8**	**+1.7**
WMQ				pP	pP	17 53 43.0	-1.4
WMQ				sP	sP	17 53 45.3	-2.1
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,320nm,5.3s						
WMQ				LR	LR		
	comp=Z,110nm,18.7s						
WMQ				LR	LR		
	comp=Z,87nm,21.1s						
WMQ				LR	LR		
	comp=Z,120nm,18.7s						
SOEI	**Soe**	**39.70**	**192**	*e*P	**P**	**17 53 50.3**	**-0.4**
	comp=Z,21nm,0.9s						
RAMN	**Ramite**	**40.16**	**278**	*e*P	**P**	**17 53 55.2**	**+0.6**
JIRN	**Jiri**	**40.34**	**279**	*e*P	**P**	**17 53 58.1**	**+1.8**
GUN	**Gumba**	**40.55**	**280**	*e*P	**P**	**17 53 59.4**	**+1.4**
	comp=Z,67nm,1.0s						
PKI	**Pulchoki**	**41.03**	**279**	*e*P	**P**	**17 54 04.9**	**+2.9**
	comp=Z,10nm,0.7s						
DMN	**Daman**	**41.28**	**279**	*e*P	**P**	**17 54 07.2**	**+3.2**
ZALV	**Zalesovo Beam**	**42.03**	**319**	P	**P**	**17 54 09.5**	**+0.1**
ZALV				PcP	**PcP**	**17 56 03.4**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=116,slow=8.8,SNR=4.4						
	comp=Z,1.8nm,0.7s,baz=94,slow=2.7,SNR=7.9						
ZALV				LR	LR	18 11 39.7	
	comp=Z,50nm,19.0s,baz=64,slow=36						
ZAA1	**Zalesovo Array**	**42.03**	**319**	*e*P	**P**	**17 54 09.5**	**0.0**
ZAA1				*e*PcP	**PcP**	**17 56 03.4**	**-0.7**
MK32	**Makanchi Array**	**42.24**	**308**	*e*P	**P**	**17 54 11.5**	**+0.2**
MK32				*e*PcP	**PcP**	**17 56 03.0**	**-1.9**
MKAR	**Makanchi Array**	**42.24**	**308**	P	**P**	**17 54 11.5**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=98,slow=9.5,SNR=24						
MKAR				PcP	**PcP**	**17 56 03.0**	**-1.9**
	comp=Z,0.7nm,0.7s,baz=90,slow=5.8,SNR=4.2						
MKAR				LR	LR	18 13 21.0	
	comp=Z,54nm,18.9s,baz=354,slow=38						
MKAR	**Makanchi Array**	**42.24**	**308**	*e*P	**P**	**17 54 10.9**	**-0.4**
	comp=Z,18nm,0.7s						
MKAR				PcP	**PcP**	**17 56 03.0**	**-1.9**
TIXI	**Tiksi**	**42.32**	**358**	*e*P	**P**	**17 54 12.1**	**+0.6**
	comp=Z,3.2nm,1.1s						
TIXI	**Tiksi**	**42.32**	**358**	*e*P	**P**	**17 54 12.1**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MAKZ	**Makanchi**	**42.45**	**308**	*e*P	**P**	**17 54 13.9**	**+0.9**
	comp=Z,3.3nm,1.0s						
MAKZ	**Makanchi**	**42.45**	**308**	*e*P	**P**	**17 54 13.9**	**+0.9**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KOLN	**Koldanda**	**42.54**	**280**	*e*P	**P**	**17 54 16.7**	**+2.5**
	comp=Z,13nm,0.9s						
PYUN	**Piuthan**	**42.98**	**281**	*e*P	**P**	**17 54 21.8**	**+4.0**
	comp=Z,20nm,0.9s						
GSI	**Gunungsitoli**	**43.28**	**236**	*e*P	**P**	**17 54 19.8**	**-0.2**
	comp=Z,39nm,1.4s						
BILL	**Bilibino**	**43.54**	**18**	*e*P	**P**	**17 54 22.6**	**+1.2**
	comp=Z,7.2nm,0.9s						
BILL	**Bilibino**	**43.54**	**18**	*e*P	**P**	**17 54 22.3**	**+0.9**
BILL				pmax	pmax		
	comp=Z,25nm,2.5s						
PRZ	**Przheval'sk**	**44.83**	**302**	*e*P	**P**	**17 54 32.1**	**-0.3**
	comp=Z,4.7nm,0.8s						
PRZ	**Przheval'sk**	**44.83**	**302**	*e*P	**P**	**17 54 32.1**	**-0.3**
PRZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KURK	**Kurchatov**	**45.11**	**314**	*e*P	**P**	**17 54 33.9**	**-0.3**
	comp=Z,4.6nm,0.8s						
KURK	**Kurchatov**	**45.11**	**314**	*e*P	**P**	**17 54 34.8**	**+0.6**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TARG	**Taragay, Kyrgy**	**45.30**	**301**	*e*P	**P**	**17 54 36.8**	**+0.4**
	comp=Z,5.0nm,0.8s						
KDJ	**Kajisay**	**45.75**	**302**	*e*P	**P**	**17 54 41.0**	**+1.3**
	comp=Z,2.3nm,0.8s						
KDJ	**Kajisay**	**45.75**	**302**	*e*P	**P**	**17 54 41.0**	**+1.3**
KDJ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NRN	**Naryn**	**46.67**	**301**	*e*P	**P**	**17 54 48.5**	**+1.4**
	comp=Z,3.3nm,0.8s						
NRN	**Naryn**	**46.67**	**301**	*e*P	**P**	**17 54 48.5**	**+1.4**
NRN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KSH	**Kashi**	**46.84**	**298**	P	**P**	**17 54 50.0**	**+1.7**
KSH				sP	pP	17 54 56.5	+0.8
KSH				PcP	**PcP**	**17 56 23.8**	**+2.8**
KSH				PcS	**PcS**	**18 00 12.0**	**-4.1**
KSH				S	**S**	**18 01 39.0**	**+1.4**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,330nm,6.7s						
KSH				LR	LR		
	comp=Z,150nm,5.6s						
KSH				LR	LR		
	comp=Z,210nm,6.8s						
KSH				LR	LR		
	comp=Z,270nm,10.9s						
XMIS	**Christmas Isla**	**47.26**	**217**	*e*P	**P**	**17 54 51.2**	**-0.4**
	comp=Z,38nm,1.0s						
AAK	**Ala-Archa**	**47.71**	**302**	*e*P	**P**	**17 54 55.5**	**+0.5**
	comp=Z,2.2nm,0.9s						
AAK				*e*PcP	**PcP**	**17 56 20.9**	**-3.2**
AAK	**Ala-Archa**	**47.71**	**302**	*i*P	**P**	**17 54 56.2**	**+1.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WR1	**Warramunga Arr**	**49.11**	**177**	*e*P	**P**	**17 55 06.1**	**+0.4**
	comp=Z,7.6nm,0.9s						
WR1				*e*PcP	**PcP**	**17 56 30.0**	**+0.9**
WRA	**Warramunga Arr**	**49.11**	**177**	P	**P**	**17 55 06.1**	**+0.4**
	comp=Z,3.3nm,0.7s,baz=354,slow=8.6,SNR=22						
WRA				PcP	**PcP**	**17 56 30.0**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=350,slow=4.0,SNR=3.5						
WB2	**Warramunga Arr**	**49.11**	**177**	*e*P	**P**	**17 55 05.4**	**-0.4**
NIL	**Nilore**	**49.91**	**291**	*e*P	**P**	**17 55 13.1**	**+1.2**
	comp=Z,7.1nm,0.8s						
NIL	**Nilore**	**49.91**	**291**	*e*P	**P**	**17 55 13.1**	**+1.2**
NIL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BRVK	**Borovoye**	**50.45**	**316**	*e*P	**P**	**17 55 15.8**	**+0.1**
	comp=Z,11nm,1.2s						
BRVK	**Borovoye**	**50.45**	**316**	*c i*P	**P**	**17 55 16.5**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KKAR	**Karatay Array**	**50.59**	**303**	*e*P	**P**	**17 55 17.8**	**+0.9**
KKAR	**Karatay Array**	**50.59**	**303**	*e*P	**P**	**17 55 17.8**	**+0.9**
GAR	**Garm**	**51.27**	**298**	*e*P	**P**	**17 55 22.2**	**+0.1**
	comp=Z,16nm,1.5s						
GAR	**Garm**	**51.27**	**298**	*e*P	**P**	**17 55 22.2**	**+0.1**
GAR				pmax	pmax		
	comp=Z,17nm,1.5s						
ANM	**Nome**	**52.00**	**29**	*e*P	**P**	**17 55 28.2**	**+1.1**
	comp=Z,4.1nm,0.9s						
ANM	**Nome**	**52.00**	**29**	*e*P	**P**	**17 55 28.2**	**+1.1**
ANM				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CHGR	**Chuyangaron**	**52.21**	**298**	*e*P	**P**	**17 55 29.7**	**+0.5**
AS31	**Alice Springs**	**52.80**	**178**	*e*P	**P**	**17 55 33.9**	**+0.5**
	comp=Z,1.1nm,0.7s						
AS01	**Alice Springs**	**52.80**	**178**	*e*P	**P**	**17 55 34.2**	**+0.7**
ASAR	**Alice Springs**	**52.80**	**178**	P	**P**	**17 55 34.4**	**+0.9**
	comp=Z,2.7nm,0.8s,baz=11,slow=13,SNR=45						
ASAR				PcP	**PcP**	**17 56

ILAR	**Eielson Array**	**59.92**	**29**	P		**P**		**17 56 23.6**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=264,slow=5.5,SNR=14								
ILB	**Eielson Array**	**59.92**	**29**	*e*P		**P**		**17 56 23.0**	**-0.8**
HDA	**Harding Lake**	**59.93**	**30**	*e*P		**P**		**17 56 23.8**	**-0.1**
	comp=Z,5.4nm,0.7s								
FORT	**Forrest**	**60.00**	**184**	*e*P		**P**		**17 56 25.2**	**+0.6**
	comp=Z,22nm,1.0s								
SCM	**Sheep Creek Mo**	**60.05**	**33**	*e*P		**P**		**17 56 24.7**	**0.0**
	comp=Z,5nm,1.9s								
SCM	**Sheep Creek Mo**	**60.05**	**33**	*e*P		**P**		**17 56 24.7**	**0.0**
SCM				pmax		pmax			
	comp=Z,75nm,1.9s								
GLI	**Glacier Island**	**60.28**	**34**	*e*P		**P**		**17 56 26.8**	**+0.5**
	comp=Z,103nm,2.0s								
KLU	**Klutina**	**60.76**	**33**	*e*P		**P**		**17 56 30.6**	**+0.9**
	comp=Z,20nm,1.6s								
PAX	**Paxson**	**60.76**	**31**	*e*P		**P**		**17 56 28.8**	**-0.8**
	comp=Z,5.8nm,0.8s								
PAX	**Paxson**	**60.76**	**31**	*e*P		**P**		**17 56 28.8**	**-0.8**
PAX				pmax		pmax			
	comp=Z,6.0nm,0.8s								
DZM	**Mont Dzumac**	**60.85**	**143**	*e*P		**P**		**17 56 32.1**	**+1.4**
	comp=Z,9.4nm,0.8s								
SCRK	**Sand Creek**	**61.27**	**30**	*e*P		**P**		**17 56 33.5**	**+0.4**
	comp=Z,5.2nm,0.7s								
DOT	**Dot Lake**	**61.29**	**30**	*e*P		**P**		**17 56 32.7**	**-0.5**
	comp=Z,16nm,0.8s								
BMRM	**Bremner River**	**61.47**	**33**	*e*P		**P**		**17 56 34.6**	**+0.2**
	comp=Z,34nm,1.5s								
RAGM	**Ragged Mountai**	**61.53**	**34**	*e*P		**P**		**17 56 34.3**	**-0.5**
	comp=Z,59nm,1.7s								
STKA	**Stephens Creek**	**61.60**	**171**	P		**P**		**17 56 36.6**	**+1.1**
	comp=Z,5.2nm,0.7s,baz=351,slow=7.2,SNR=9.7								
BBOO	**Buckleboo**	**61.99**	**176**	*e*P		**P**		**17 56 36.9**	**-1.2**
	comp=Z,80nm,1.8s								
NWAO	**Narrogin (SRO)**	**63.63**	**194**	*e*P		**P**		**17 56 49.0**	**0.0**
	comp=Z,39nm,1.5s								
NWAO	**Narrogin (SRO)**	**63.63**	**194**	*e*P		**P**		**17 56 49.0**	**0.0**
NWAO				pmax		pmax			
	comp=Z,39nm,1.5s								
INK	**Inuvik**	**64.54**	**24**	*e*P		**P**		**17 56 55.4**	**+0.8**
	comp=Z,4.4nm,0.8s								
INK	**Inuvik**	**64.54**	**24**	*e*P		**P**		**17 56 55.4**	**+0.8**
INK				pmax		pmax			
	comp=Z,4.0nm,0.8s								
ARA0	**ARCESS Array S**	**68.36**	**339**	*e*P		**P**		**17 57 18.8**	**-0.3**
ARCES	**ARCESS Array B**	**68.36**	**339**	P		**P**		**17 57 18.8**	**-0.3**
	comp=Z,4.0nm,0.9s,baz=49,slow=8.2,SNR=8.1								
KBZ	**Khabaz**	**69.92**	**309**	P		**P**		**17 57 29.6**	**+0.5**
	comp=Z,3.4nm,0.8s,baz=76,slow=4.1,SNR=5.7								
KIV	**Kislovodsk**	**69.98**	**310**	*e*P		**P**		**17 57 30.6**	**+0.9**
KIV				pmax		pmax			
	comp=Z,9.0nm,1.1s								
KIV				MLR		MLR			
	comp=Z,89nm,17.0s								
RES	**Resolute Bay**	**71.73**	**12**	*e*P		**P**		**17 57 40.4**	**+0.8**
	comp=Z,5.6nm,0.9s								
FIA0	**FINESS Array S**	**71.85**	**331**	*e*P		**P**		**17 57 40.3**	**-0.3**
FIA0	**FINESS Array S**	**71.85**	**331**	*e*P		**P**		**17 57 40.3**	**-0.3**
FINES	**FINESS Array B**	**71.85**	**331**	P		**P**		**17 57 40.3**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=62,slow=5.8,SNR=11								
YKA	**Yellowknife Ar**	**74.11**	**26**	P		**P**		**17 57 54.2**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=297,slow=5.8,SNR=19								
AKASG	**Malin Array Be**	**75.42**	**320**	P		**P**		**17 58 01.2**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=56,slow=6.3,SNR=12								
BR101	**Keskin Array S**	**77.89**	**309**	*e*P		**P**		**17 58 16.4**	**+0.2**
BRTR	**Keskin Array B**	**77.89**	**309**	P		**P**		**17 58 16.4**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=88,slow=5.8,SNR=6.6								
NB2	**NORSAR Subarra**	**78.01**	**335**	P		**P**		**17 58 18.3**	**+2.0**
	comp=Z,6.9nm,1.0s,baz=50,slow=5.9								
NB200	**NORSAR Array S**	**78.01**	**335**	*e*P		**P**		**17 58 14.8**	**-1.5**
NOA	**NORSAR Array B**	**78.01**	**335**	P		**P**		**17 58 14.8**	**-1.5**
	comp=Z,0.7nm,0.6s,baz=50,slow=5.6,SNR=2.4								
NOA				LR		LR		18 36 27.4	
	comp=Z,44nm,18.3s,baz=260,slow=39								
PINE	**Pine Mountain**	**81.10**	**45**	*e*P		**P**		**17 58 33.9**	**+0.2**
	comp=Z,7.8nm,0.8s								
BMO	**Blue Mountains**	**82.70**	**42**	*e*P		**P**		**17 58 41.6**	**-0.2**
	comp=Z,7.6nm,1.5s								
BMO	**Blue Mountains**	**82.70**	**42**	*e*P		**P**		**17 58 41.6**	**-0.2**
BMO				pmax		pmax			
	comp=Z,8.0nm,1.5s								
J08A	**Circle Bar Ran**	**82.84**	**44**	*e*P		**P**		**17 58 43.4**	**+0.8**
	comp=Z,4.4nm,0.8s								
CLL	**Collm**	**83.54**	**327**	*e*P		**P**		**17 58 46.0**	**+0.1**
	comp=Z,7.0nm,1.1s								
CLL	**Collm**	**83.54**	**327**	*e*P		**P**		**17 58 46.0**	**+0.1**
CLL				pmax		pmax			
	comp=Z,7.0nm,1.1s								
GERES	**GERESS Array B**	**84.78**	**324**	P		**P**		**17 58 51.8**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=66,slow=2.4,SNR=3.9								
HLID	**Hailey**	**85.14**	**42**	*e*P		**P**		**17 58 56.1**	**+1.7**
	comp=Z,5.8nm,1.4s								
RYN	**Ryan**	**85.46**	**48**	*e*P		**P**		**17 58 57.1**	**+1.0**
	comp=Z,2.9nm,0.8s								
KVN	**Kaiserville**	**85.49**	**47**	*e*P		**P**		**17 58 57.3**	**+1.0**
	comp=Z,4.6nm,0.8s								
KVN	**Kaiserville**	**85.49**	**47**	*e*P		**P**		**17 58 57.3**	**+1.0**
KVN				pmax		pmax			
	comp=Z,5.0nm,0.8s								
NV01	**Mina Array Sit**	**85.71**	**48**	*e*P		**P**		**17 58 58.0**	**+0.5**
NVAR	**Mina Array Bea**	**85.71**	**48**	P		**P**		**17 58 58.4**	**+1.0**
	comp=Z,2.4nm,0.6s,baz=302,slow=5.6,SNR=23								
IMW	**Indian Meadow**	**86.93**	**40**	*e*P		**P**		**17 59 05.2**	**+1.8**
	comp=Z,2.8nm,0.8s								
FLWY	**Flagg Ranch**	**86.95**	**40**	*e*P		**P**		**17 59 05.6**	**+2.2**
	comp=Z,6.1nm,0.9s								
TPAW	**Teton Pass**	**87.18**	**41**	*e*P		**P**		**17 59 04.7**	**+0.1**
	comp=Z,4.4nm,0.9s								
TPNV	**Topopah Spring**	**87.89**	**48**	*e*P		**P**		**17 59 09.4**	**+1.3**
	comp=Z,12nm,1.8s								
TPNV	**Topopah Spring**	**87.89**	**48**	*e*P		**P**		**17 59 09.4**	**+1.3**
TPNV				pmax		pmax			
	comp=Z,12nm,1.8s								
PD31	**Pinedale Array**	**88.42**	**41**	*e*P		**P**		**17 59 10.8**	**+0.2**
PDAR	**Pinedale Array**	**88.42**	**41**	P		**P**		**17 59 11.1**	**+0.5**
	comp=Z,1.8nm,0.9s,baz=246,slow=1.3,SNR=10								
PDAR	**Pinedale Array**	**88.42**	**41**	*e*P		**P**		**17 59 10.6**	**0.0**
P17A	**Butcher Ranch,**	**89.82**	**44**	*e*P		**P**		**17 59 17.5**	**+0.4**
	comp=Z,12nm,1.2s								
ULM	**Lac du Bonnet**	**89.94**	**29**	P		**P**		**17 59 15.6**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=232,slow=6.8,SNR=3.3								
SRU	**San Rafael Swe**	**90.18**	**44**	*e*P		**P**		**17 59 20.1**	**+1.3**
	comp=Z,3.4nm,0.8s								
SRU	**San Rafael Swe**	**90.18**	**44**	*e*P		**P**		**17 59 20.1**	**+1.3**
SRU				pmax		pmax			
	comp=Z,3.0nm,0.8s								
PV21	**Cone Mtn., Par**	**91.46**	**43**	*e*P		**P**		**17 59 26.4**	**+1.5**
	comp=Z,4.7nm,1.0s								
PV23	**Carpenter Ridg**	**91.51**	**44**	*e*P		**P**		**17 59 26.1**	**+0.9**
	comp=Z,7.4nm,1.0s								
PV14	**Lion Creek, Pa**	**91.55**	**44**	*e*P		**P**		**17 59 26.7**	**+1.4**
	comp=Z,6.6nm,0.8s								
PV17	**East Wray Mesa**	**91.65**	**44**	*e*P		**P**		**17 59 27.0**	**+1.3**
	comp=Z,6.1nm,1.0s								
PV12	**Saucer Basin,**	**91.72**	**44**	*e*P		**P**		**17 59 28.0**	**+2.0**
	comp=Z,20nm,1.8s								
PV13	**Radium Mtn., P**	**91.81**	**44**	*e*P		**P**		**17 59 27.3**	**+0.8**
	comp=Z,5.5nm,0.8s								

NNC 25 17:47:39.2±4.5, 37°.26N×70°.87E, h0km, mb3.5, mpv3.1, 3C-2D, Error ellipse: s-maj=35.7km s-min=30.3km az=153.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.44**	**36**	⇓Pn	Pn	17 48 34.3	0.0
	5.9nm,0.3s						
SFK				⇑Sn	Sn	17 49 17.2	+1.3
	4.7nm,0.2s						
MNAS	**Manas**	**5.38**	**13**	⇓Pn	Pn	17 49 01.1	+0.3
	0.5nm,0.3s						
MNAS				⇑Sn	Sn	17 50 04.9	+1.4
	2.5nm,0.5s						
KK31	**Karatay Array**	**5.85**	**357**	Pn	Pn	17 49 08.5	+1.3
	0.3nm,0.3s,baz=183,slow=14,SNR=14						
KK31				⇑Sn	Sn	17 50 17.6	+2.7
	0.7nm,0.4s,baz=182,slow=23,SNR=12						
AAK	**Ala-Archa**	**6.05**	**26**	Pn	Pn	17 49 09.7	-0.5
	1.0nm,0.4s						
AAK				Sn	Sn	17 50 19.5	-0.8
	0.8nm,0.5s						

*ROM **25** 17:58:04.8±0.1, 44°.166N±0°.010×10°.489E±0°.009, h16km±1km, ML2.1/7*

GEN 25 17:58:05.6, 44°.17N×10°.49E, h12km±2km, Ml1.6, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARO	**Sassorosso**	**0.06**	**283**	P	Pg	17 58 07.8	-0.4
SARO				S	Sg	17 58 09.8	-0.2
VLC	**Villacollemand**	**0.07**	**262**	P	Pg	17 58 08.1	-0.1
VLC				S	Sg	17 58 10.4	+0.4
VLC				AML	AML		
	comp=E,1110μm,0.1s						
VLC				AML	AML		
	comp=N,1610μm,0.4s						
VLC				AML	AML		
	comp=E,1160μm,0.1s						
VLC				AML	AML		
	comp=N,1660μm,0.4s						
VLC				AML	AML		
	comp=E,1360μm,0.7s						
VLC				AML	AML		
	comp=N,1812μm,0.3s						
VLC				AML	AML		
	comp=E,1415μm,0.7s						
VLC				AML	AML		
	comp=N,1825μm,0.3s						
VLC				AML	AML		
	comp=N,1812μm,0.3s						
VLC				AML	AML		
	comp=N,1825μm,0.3s						
VLC				AML	AML		
	comp=E,1415μm,0.7s						
VLC				AML	AML		
	comp=E,1360μm,0.7s						
BDI	**Bagni Di Lucca**	**0.13**	**144**	P	Pg	17 58 08.6	-0.3
BDI				S	Sg	17 58 11.4	+0.1
BDI				AML	AML		
	comp=E,1995μm,0.1s						
BDI				AML	AML		
	comp=N,1119μm,0.4s						
BDI				AML	AML		
	comp=E,2220μm,0.1s						
BDI				AML	AML		
	comp=N,1305μm,0.5s						
BDI				AML	AML		
	comp=E,2220μm,0.1s						
BDI				AML	AML		
	comp=E,1995μm,0.1s						
BDI				AML	AML		
	comp=N,1119μm,0.4s						
BDI				AML	AML		
	comp=N,1305μm,0.5s						
POPM	**Popiglio**	**0.23**	**123**	P	Pg	17 58 10.0	-0.5
POPM				S	Sg	17 58 13.9	+0.1
POPM	**Popiglio**	**0.23**	**123**	P	Pg	17 58 10.0	-0.5
POPM				S	Sg	17 58 13.9	+0.2
POPM				AML	AML		
	comp=E,1480μm,0.2s						
POPM				AML	AML		
	comp=N,1380μm,1.4s						
POPM				AML	AML		
	comp=E,2415μm,0.4s						
POPM				AML	AML		
	comp=N,2990μm,1.4s						
POPM				AML	AML		
	comp=E,2415μm,0.4s						
POPM				AML	AML		
	comp=N,2990μm,1.4s						
EQUI	**Equi**	**0.24**	**269**	P	Pg	17 58 10.2	-0.4
EQUI				S	Sg	17 58 13.9	-0.1
EQUI	**Equi**	**0.24**	**269**	P	Pg	17 58 10.3	-0.3
EQUI				S	Sg	17 58 14.1	0.0
EQUI				AML	AML		
	comp=E,189μm,0.5s						
EQUI				AML	AML		
	comp=N,252μm,0.4s						
EQUI				AML	AML		
	comp=E,232μm,0.8s						
EQUI				AML	AML		
	comp=N,254μm,0.3s						
EQUI				AML	AML		
	comp=N,254μm,0.3s						
EQUI				AML	AML		
	comp=E,232μm,0.8s						
MAIM	**Mastiano**	**0.26**	**179**	P	Pg	17 58 10.6	-0.3
MAIM				S	Sg	17 58 15.3	+0.8
MAIM	**Mastiano**	**0.26**	**179**	P	Pg	17 58 10.6	-0.3
MAIM				S	Sg	17 58 15.3	+0.9
MAIM				AML	AML		
	comp=E,213μm,0.7s						
MAIM				AML	AML		
	comp=N,285μm,0.5s						
MAIM				AML	AML		
	comp=E,224μm,1.2s						
MAIM				AML	AML		
	comp=N,285μm,0.5s						
MAIM				AML	AML		
	comp=E,224μm,1.2s						
MAIM				AML	AML		
	comp=N,285μm,0.5s						
MTCR	**Monte La Croce**	**0.40**	**111**	P	Pg	17 58 12.8	-0.7
MTCR				S	Sg	17 58 18.8	+0.1
ZCCA	**Zocca**	**0.40**	**63**	P	Pg	17 58 13.6	+0.1
GRAM	**Graiana**	**0.44**	**317**	P	Pg	17 58 14.0	-0.3
GRAM				S	Sg	17 58 20.2	0.0
GRAM	**Graiana**	**0.44**	**317**	P	Pg	17 58 13.8	-0.6
GRAM				S	Sg	17 58 20.3	+0.1
GRAM				AML	AML		
	comp=E,530μm,0.9s						
GRAM				AML	AML		
	comp=N,446μm,0.3s						
PLMA	**Palmaria, Port**	**0.47**	**256**	P	Pg	17 58 14.7	-0.2
PLMA				S	Sg	17 58 21.2	0.0
PLMA				AML	AML		
	comp=E,127μm,0.5s						
PLMA				AML	AML		
	comp=N,156μm,1.0s						
PLMA				AML	AML		
	comp=E,178μm,0.5s						
PLMA				AML	AML		
	comp=N,207μm,0.2s						
PLMA				AML	AML		
	comp=N,207μm,0.2s						
PLMA				AML	AML		
	comp=E,178μm,0.5s						
CRMI	**Carmignano**	**0.52**	**137**	P	Pg	17 58 15.3	-0.4
CRMI				S	Sg	17 58 23.0	+0.5
CRMI				AML	AML		
	comp=E,30μm,0.6s						
CRMI				AML	AML		
	comp=N,56μm,1.3s						
CRMI				AML	AML		
	comp=E,39μm,1.5s						
CRMI				AML	AML		
	comp=N,56μm,1.3s						
CRMI				AML	AML		
	comp=N,56μm,1.3s						
CRMI				AML	AML		
	comp=E,39μm,1.5s						
VLC				AML	AML		
	comp=E,1415μm,0.7s						
VLC				AML	AML		
	comp=N,1825μm,0.3s						
VLC				AML	AML		
	comp=N,1360μm,0.7s						
VLC				AML	AML		
	comp=N,1812μm,0.3s						
VLC				AML	AML		
	comp=E,1415μm,0.7s						
VLC				AML	AML		
	comp=N,1825μm,0.3s						
VLC				AML	AML		
	comp=E,1360μm,0.7s						
VLC				AML	AML		
	comp=N,1810μm,0.3s						
VLC				AML	AML		
	comp=N,1825μm,0.3s						
BDI	**Bagni Di Lucca**	**0.18**	**151**	P	**Pg**	**17 58 39.6**	**-0.5**
BDI				S	**Sg**	**17 58 43.0**	**+0.3**
BDI				AML	AML		
	comp=E,1995μm,0.1s						
BDI				AML	AML		
	comp=N,1119μm,0.4s						
BDI				AML	AML		
	comp=E,2220μm,0.1s						
BDI				AML	AML		
	comp=N,1305μm,0.5s						
BDI				AML	AML		
	comp=E,2220μm,0.1s						
BDI				AML	AML		
	comp=E,1995μm,0.1s						
BDI				AML	AML		
	comp=N,1119μm,0.4s						
BDI				AML	AML		
	comp=N,1305μm,0.5s						
EQUI	**Equi**	**0.24**	**257**	P	**Pg**	**17 58 40.3**	**-0.7**
EQUI				S	**Sg**	**17 58 43.8**	**-0.6**
EQUI	**Equi**	**0.24**	**257**	P	**Pg**	**17 58 40.4**	**-0.7**
EQUI				S	**Sg**	**17 58 44.2**	**-0.2**
EQUI				AML	AML		
	comp=E,232μm,0.8s						
EQUI				AML	AML		
	comp=N,254μm,0.3s						
EQUI				AML	AML		
	comp=E,232μm,0.8s						
EQUI				AML	AML		
	comp=N,254μm,0.3s						
EQUI				AML	AML		
	comp=E,232μm,0.8s						
EQUI				AML	AML		
	comp=N,254μm,0.3s						
POPM	**Popiglio**	**0.27**	**131**	P	**Pg**	**17 58 41.0**	**-0.6**
POPM				S	**Sg**	**17 58 45.4**	**+0.2**
POPM	**Popiglio**	**0.27**	**131**	P	**Pg**	**17 58 41.0**	**-0.6**
POPM				S	**Sg**	**17 58 45.5**	**+0.2**
POPM				AML	AML		
	comp=E,2415μm,0.4s						
POPM				AML	AML		
	comp=N,2990μm,1.4s						
POPM				AML	AML		
	comp=E,2415μm,0.4s						
POPM				AML	AML		
	comp=N,2990μm,1.4s						
POPM				AML	AML		
	comp=E,2415μm,0.4s						
POPM				AML	AML		
	comp=N,2990μm,1.4s						
MAIM	**Mastiano**	**0.30**	**178**	P	**Pg**	**17 58 41.8**	**-0.5**
MAIM				S	**Sg**	**17 58 46.1**	**-0.2**
MAIM	**Mastiano**	**0.30**	**178**	P	**Pg**	**17 58 41.8**	**-0.5**
MAIM				S	**Sg**	**17 58 46.7**	**+0.3**
MAIM				AML	AML		
	comp=E,224μm,1.2s						
MAIM				AML	AML		
	comp=N,250μm,0.4s						
MAIM				AML	AML		
	comp=E,224μm,1.2s						
MAIM				AML	AML		
	comp=N,250μm,0.4s						
MAIM				AML	AML		
	comp=N,250μm,0.4s						
MAIM				AML	AML		
	comp=E,224μm,1.2s						
ZCCA	**Zocca**	**0.38**	**70**	P	**Pb**	**17 58 44.2**	**-0.9**
ZCCA				AML	AML		
	comp=E,335μm,1.3s						
ZCCA				AML	AML		
	comp=N,325μm,0.7s						
ZCCA				AML	AML		
	comp=E,336μm,1.3s						
ZCCA				AML	AML		
	comp=N,325μm,0.7s						
ZCCA				AML	AML		
	comp=E,336μm,1.3s						
ZCCA				AML	AML		
	comp=N,325μm,0.7s						
GRAM	**Graiana**	**0.40**	**313**	P	**Pg**	**17 58 43.3**	**-0.8**
GRAM				S	**Sg**	**17 58 49.7**	**+0.2**
GRAM	**Graiana**	**0.40**	**313**	P	**Pg**	**17 58 43.3**	**-0.8**
GRAM				S	**Sg**	**17 58 49.7**	**+0.2**
GRAM				AML	AML		
	comp=E,844μm,0.3s						
GRAM				AML	AML		
	comp=N,810μm,1.2s						
MTCR	**Monte La Croce**	**0.42**	**117**	P	**Pg**	**17 58 43.8**	**-0.7**
MTCR				S	**Sg**	**17 58 50.1**	**-0.1**
MTCR				AML	AML		
	comp=E,384μm,0.2s						
MTCR				AML	AML		
	comp=N,432μm,0.2s						
MTCR				AML	AML		
	comp=E,384μm,0.2s						
MTCR				AML	AML		
	comp=N,432μm,0.2s						
PLMA	**Palmaria, Port**	**0.48**	**250**	P	**Pg**	**17 58 45.1**	**-0.5**
MSSA	**Maissana**	**0.69**	**278**	P	**Pg**	**17 58 49.0**	**-0.7**
MSSA				AML	AML		
	comp=E,125μm,1.5s						
MSSA				AML	AML		
	comp=N,107μm,0.4s						
MSSA				AML	AML		
	comp=N,107μm,0.4s						
MSSA				AML	AML		
	comp=E,125μm,1.5s						
SQTA	**Sankt Quirin**	**3.05**	**9**	*i* Pn	**Pn**	**17 59 25.8**	**+1.2**
	comp=E,2.2nm,0.2s						
MOTA	**Moosalm**	**3.16**	**8**	*i* Pn	**Pn**	**17 59 27.4**	**+1.3**
	comp=E,1.2nm,0.2s						
WATA	**Walderalm**	**3.21**	**13**	*i* Pn	**Pn**	**17 59 28.3**	**+1.5**
	comp=E,0.7nm,0.1s						
RETA	**Reutte**	**3.27**	**3**	*i* Pn	**Pn**	**17 59 28.4**	**+0.7**
	comp=E,0.2nm,0.1s						

*ISCJB **25** 17:58:36.0±0.4, 44°.21N±0°.03×10°.47E±0°.04, h10km, Error ellipse: s-maj=4.6km s-min=3.3km az=35.3*
*GEN **25** 17:58:35.7, 44°.21N×10°.46E, h15km±2km, Ml2.0*
*ROM **25** 17:58:35.1±0.2, 44°.200N±0°.010×10°.47E±0°.01, h17km±2km, ML2.2/8*

ISC 25 17:58:36.2±0.9, 44°.22N±0°.04×10°.48E±0°.03, h10km, n19, σ0°.68/31, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARO	**Sassorosso**	**0.06**	**237**	P	**Pg**	**17 58 38.4**	**-0.1**
SARO				S	**Sg**	**17 58 40.4**	**+0.3**
VLC	**Villacollemand**	**0.09**	**227**	P	**Pg**	**17 58 38.7**	**0.0**
VLC				S	**Sg**	**17 58 41.0**	**+0.6**
VLC				AML	AML		
	comp=E,1360μm,0.7s						
VLC				AML	AML		
	comp=N,1812μm,0.3s						
VLC				AML	AML		
	comp=E,1415μm,0.7s						
VLC				AML	AML		
	comp=N,1825μm,0.3s						
VLC				AML	AML		
	comp=E,1360μm,0.7s						
VLC				AML	AML		
	comp=N,1810μm,0.3s						

SVSA 25 17:59:05.8±0.9, 40°.56N×29°.53W, h10km, MD3.8, ML3.3, Error ellipse: s-maj=10.1km s-min=5.8km az=82.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**1.94**	**141**	*e*S	Sn	17 59 55.6	-7.6
PGRA				A	A	17 59 56.6	
	45nm,0.2s						
PCED	**Cedros**	**2.03**	**161**	*e*S	Sn	17 59 57.8	-7.7
PCED				A	A	18 00 01.1	
	72nm,0.3s						
CALA	**Caldeira**	**2.08**	**162**	*e*P	Pn	17 59 36.2	-4.6
CALA				*e*S	Sn	17 59 59.0	-7.7
ROSA	**Rosais**	**2.09**	**151**	*e*P	Pn	17 59 35.8	-5.1
ROSA				*e*S	Sn	17 59 58.6	-8.3
ROSA				A	A	18 00 00.1	
	88nm,0.2s						
HOR	**Horta**	**2.15**	**161**	*e*S	Sn	18 00 00.6	-7.7
HOR				A	A	18 00 03.5	
	97nm,0.2s						
PICO	**Pico**	**2.23**	**157**	*e*P	Pn	17 59 38.6	-4.2
PICO				*e*S	Sn	18 00 02.6	-7.8
PICO				A	A	18 00 09.1	
	35nm,0.1s						
PCAN	**Candelaria**	**2.24**	**159**	*e*P	Pn	17 59 38.8	-4.2
PCAN				*e*S	Sn	18 00 03.0	-7.7
PCAN				A	A	18 00 06.7	
	90nm,0.3s						
CMLA	**Cha da Macela**	**4.18**	**131**	*e*P	Pn	18 00 05.2	-4.4
CMLA				*e*S	Sn	18 00 50.4	-8.1
CMLA				A	A	18 00 57.8	
	46nm,0.3s						

*ISCJB **25** 18:07:33.5±0.3, 44°.14N±0°.02×10°.45E±0°.03, h19km±2km, Error ellipse: s-maj=4.4km s-min=3.2km az=32.2*

*GEN **25** 18:07:33.8, 44°.18N × 10°.52E, h13km ± 1km, Ml2.4*
*ROM **25** 18:07:33.6 ± 0.1, 44°.16N ± 0°.01 × 10°.502E ± 0°.007, h12km ± 1km, ML2.4/10*
*LDG **25** 18:07:34.9 ± 0.2, 44°.09N × 10°.54E, h10km, Ml2.8/8, Error ellipse: s-maj=5.3km s-min=3.4km az=44.0*
*STR **25** 18:07:36.2 ± 0.8, 44°.N × 1°.0E ± °, h10km, M2.8/5, MLv2.8/5*

ISC 25 18:07:33.6 ± 0.8, **44°.11N** ± 0°.03 × **10°.47E** ± 0°.02, **h15**km ± 5km, **n43**, σ1 **9°16/70**, **Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VLC	**Villacollemand**	**0.07**	**309**	P	**Pg**		**18 07 36.8**	**+0.1**
VLC				S	**Sg**		**18 07 39.1**	**+0.4**
VLC				AML	AML			
	comp=E,3160μm,0.5s							
VLC				AML	AML			
	comp=N,2720μm,0.7s							
VLC				AML	AML			
	comp=E,3115μm,0.5s							
VLC				AML	AML			
	comp=N,2795μm,0.7s							
VLC				AML	AML			
	comp=E,3160μm,0.5s							
VLC				AML	AML			
	comp=N,2720μm,0.7s							
VLC				AML	AML			
	comp=E,3115μm,0.5s							
VLC				AML	AML			
	comp=N,2795μm,0.7s							
VLC				AML	AML			
	comp=N,2795μm,0.7s							
VLC				AML	AML			
	comp=N,2720μm,0.7s							
VLC				AML	AML			
	comp=E,3115μm,0.5s							
VLC				AML	AML			
	comp=E,3160μm,0.5s							
SARO	**Sassorosso**	**0.08**	**327**	P	**Pg**		**18 07 36.5**	**-0.4**
SARO				S	**Sg**		**18 07 38.6**	**-0.4**
BDI	**Bagni Di Lucca**	**0.11**	**119**	P	**Pb**		**18 07 37.0**	**-0.4**
BDI				S	**Sb**		**18 07 39.7**	**-0.2**
MAIM	**Mastiano**	**0.20**	**174**	P	**Pb**		**18 07 39.0**	**+0.1**
MAIM				S	**Sb**		**18 07 43.3**	**+0.8**
MAIM	**Mastiano**	**0.20**	**174**	P	**Pb**		**18 07 39.1**	**+0.1**
MAIM				S	**Sb**		**18 07 43.2**	**+0.7**
MAIM				AML	AML			
	comp=E,1910μm,1.5s							
MAIM				AML	AML			
	comp=N,1790μm,0.5s							
MAIM				AML	AML			
	comp=E,1910μm,1.5s							
MAIM				AML	AML			
	comp=N,1790μm,0.5s							
MAIM				AML	AML			
	comp=N,1790μm,0.5s							
MAIM				AML	AML			
	comp=E,1910μm,1.5s							
POPM	**Popiglio**	**0.22**	**108**	P	**Pg**		**18 07 38.4**	**-0.2**
POPM				S	**Sb**		**18 07 42.2**	**-1.0**
POPM	**Popiglio**	**0.22**	**108**	P	**Pg**		**18 07 38.4**	**-0.2**
POPM				S	**Sb**		**18 07 42.1**	**-1.1**
POPM				AML	AML			
	comp=E,11600μm,0.4s							
POPM				AML	AML			
	comp=N,8175μm,0.9s							
POPM				AML	AML			
	comp=E,11600μm,0.4s							
POPM				AML	AML			
	comp=N,8175μm,0.9s							
POPM				AML	AML			
	comp=E,11600μm,0.4s							
POPM				AML	AML			
	comp=N,8175μm,0.9s							
EQUI	**Equi**	**0.23**	**283**	P	**Pb**		**18 07 39.0**	**-0.5**
EQUI				S	**Sb**		**18 07 42.9**	**-0.6**
EQUI	**Equi**	**0.23**	**283**	P	**Pb**		**18 07 39.0**	**-0.5**
EQUI				S	**Sg**		**18 07 42.7**	**+0.5**
MTCR	**Monte La Croce**	**0.39**	**103**	P	**Pg**		**18 07 41.2**	**-0.5**
MTCR				S	**Sb**		**18 07 47.0**	**-1.2**
MTCR				AML	AML			
	comp=E,1390μm,0.9s							
MTCR				AML	AML			
	comp=N,2770μm,0.3s							
ZCCA	**Zocca**	**0.44**	**57**	P	**Pb**		**18 07 42.2**	**-0.9**
ZCCA				AML	AML			
	comp=E,434μm,0.6s							
ZCCA				AML	AML			
	comp=N,602μm,0.4s							
ZCCA				AML	AML			
	comp=E,488μm,0.6s							
ZCCA				AML	AML			
	comp=N,554μm,0.4s							
ZCCA				AML	AML			
	comp=E,434μm,0.6s							
ZCCA				AML	AML			
	comp=N,602μm,0.4s							
ZCCA				AML	AML			
	comp=E,488μm,0.6s							
ZCCA				AML	AML			
	comp=N,554μm,0.4s							
ZCCA				AML	AML			
	comp=E,488μm,0.6s							
ZCCA				AML	AML			
	comp=E,434μm,0.6s							
ZCCA				AML	AML			
	comp=N,554μm,0.4s							
ZCCA				AML	AML			
	comp=N,602μm,0.4s							
PLMA	**Palmaria, Port**	**0.45**	**262**	P	**Pb**		**18 07 43.4**	**+0.2**
PLMA				S	**Sb**		**18 07 50.2**	**+0.5**
PTF	**Prato**	**0.46**	**109**	P	**Pg**		**18 07 42.4**	**-0.4**
GRAM	**Graiana**	**0.47**	**323**	P	**Pg**		**18 07 42.3**	**-0.8**
GRAM				S	**Sg**		**18 07 48.8**	**-0.6**
GRAM	**Graiana**	**0.47**	**323**	P	**Pg**		**18 07 42.3**	**-0.8**
GRAM				S	**Sb**		**18 07 49.4**	**-1.1**
GRAM				AML	AML			
	comp=E,1740μm,0.4s							
GRAM				AML	AML			
	comp=N,1103μm,0.2s							
GRAM				AML	AML			
	comp=E,1740μm,0.4s							
GRAM				AML	AML			
	comp=N,1103μm,0.2s							
GRAM				AML	AML			
	comp=E,1740μm,0.4s							
GRAM				AML	AML			
	comp=N,1103μm,0.2s							
CRMI	**Carmignano**	**0.49**	**131**	P	**Pb**		**18 07 43.6**	**-0.2**
CRMI				S	**Sb**		**18 07 51.1**	**+0.3**
CRMI				AML	AML			
	comp=E,154μm,0.3s							
CRMI				AML	AML			
	comp=N,179μm,0.3s							
CRMI				AML	AML			
	comp=E,154μm,0.3s							
CRMI				AML	AML			
	comp=N,179μm,0.3s							
CRMI				AML	AML			
	comp=E,154μm,0.3s							
CRMI				AML	AML			
	comp=N,179μm,0.3s							
CSNT	**Castellina Chi**	**0.88**	**137**	P	**Pb**		**18 07 50.4**	**-0.2**
CSNT				AML	AML			
	comp=E,135μm,0.6s							
CSNT				AML	AML			
	comp=N,186μm,0.8s							
CSNT				AML	AML			
	comp=N,186μm,0.8s							
CSNT				AML	AML			
	comp=E,135μm,0.6s							
BOB	**Bobbio (Coli)**	**0.98**	**312**	P	**Pg**		**18 07 52.3**	**-0.2**
BOB				AML	AML			
	comp=E,282μm,0.6s							
BOB				AML	AML			
	comp=N,304μm,0.6s							
BOB				AML	AML			
	comp=N,304μm,0.6s							
BOB				AML	AML			
	comp=E,282μm,0.6s							
FROS	**Frosini**	**1.03**	**151**	P	**Pn**		**18 07 54.0**	**+0.4**
FROS				AML	AML			
	comp=E,306μm,0.3s							
FROS				AML	AML			
	comp=N,304μm,1.2s							
FROS				AML	AML			
	comp=N,304μm,1.2s							
FROS				AML	AML			
	comp=E,306μm,0.3s							
TRIF	**Trifonti**	**1.05**	**162**	P	**Pn**		**18 07 53.9**	**+0.1**
TRIF				AML	AML			
	comp=E,109μm,1.2s							
TRIF				AML	AML			
	comp=N,107μm,1.6s							
TRIF				AML	AML			
	comp=N,107μm,1.6s							
TRIF				AML	AML			
	comp=E,109μm,1.2s							
PGF	**Pioggiola**	**1.90**	**215**	*e*P	**Pb**		**18 08 08.2**	**+0.3**
PGF				*e*Sn	**Sn**		**18 08 28.2**	**-0.9**
	comp=E,5.5nm,0.3s							
SBF	**Sospel**	**2.20**	**264**	*e*Pn	**Pn**		**18 08 09.6**	**0.0**
SBF				*e*Sn	**Sn**		**18 08 35.8**	**-0.8**
CALF	**Calern**	**2.58**	**263**	P	**Pn**		**18 08 14.5**	**-0.4**
CALF				S	**Sn**		**18 08 45.4**	**-0.7**
SURF	**Saint Ours**	**2.65**	**279**	P	**Pn**		**18 08 16.1**	**+0.2**
MBDF	**Montbardon**	**2.72**	**284**	*e*Pn	**Pn**		**18 08 18.5**	**+1.7**
MBDF				*e*Sn	**Sb**		**18 08 56.0**	**+0.9**
	comp=E,5.3nm,0.5s							
FRF	**La Foret Royal**	**2.82**	**260**	*e*Pn	**Pn**		**18 08 18.3**	**+0.2**
FRF				*e*Sn	**Sn**		**18 08 50.6**	**-1.1**
	comp=E,5.7nm,0.3s							
LMR	**La Mourre**	**2.97**	**256**	*e*Pn	**Pn**		**18 08 20.3**	**+0.1**
LMR				*e*Sn	**Sn**		**18 08 53.4**	**-2.1**
LPG	**La Plagne**	**2.98**	**299**	*e*Pn	**Pn**		**18 08 21.9**	**+1.3**
LPG	**La Plagne**	**2.98**	**299**	*e*P	**Pb**		**18 08 25.0**	**-1.6**
LPL	**La Plagne**	**3.00**	**299**	*e*Pn	**Pn**		**18 08 21.6**	**+0.8**
LPL	**La Plagne**	**3.00**	**299**	*e*P	**Pb**		**18 08 25.3**	**-1.6**
SQTA	**Sankt Quirin**	**3.15**	**9**	*i* Pn	**Pn**		**18 08 24.6**	**+1.8**
	comp=E,1.9nm,0.2s							
SQTA				*i* Sn	**Sn**		**18 09 02.6**	**+2.5**
	comp=E,7.0nm,0.6s							
MOTA	**Moosalm**	**3.26**	**8**	*e*Pn	**Pn**		**18 08 26.6**	**+2.3**
	comp=E,2.2nm,0.4s							
WATA	**Walderalm**	**3.31**	**13**	*i* Pn	**Pn**		**18 08 27.4**	**+2.4**
	comp=E,1.1nm,0.2s							
ORIF	**Oris-en-Rattie**	**3.38**	**285**	*e*Pn	**Pn**		**18 08 27.6**	**+1.8**
ORIF				*e*Sn	**Sn**		**18 09 09.5**	**+3.8**
	comp=E,2.3nm,0.3s							
CABF	**La Chapelle**	**3.97**	**311**	*e*Pn	**Pn**		**18 08 36.8**	**+2.8**
HINF	**Hinteralfeld**	**4.48**	**327**	*e*Pn	**Pn**		**18 08 41.3**	**+0.4**
HINF				*e*Sn	**Sn**		**18 09 32.0**	**-0.7**
	comp=E,8.1nm,0.4s							
OPP	**Oppenau**	**4.66**	**341**	P	**Pn**		**18 08 43.6**	**+0.3**
ECH	**Echery**	**4.70**	**332**	P	**Pn**		**18 08 44.6**	**+0.6**
HAU	**Haudompre**	**4.83**	**325**	*e*Pn	**Pn**		**18 08 46.6**	**+0.8**
HAU				*e*Sn	**Sn**		**18 09 40.8**	**-0.6**
	comp=E,20nm,0.4s							
CDF	**Champ du Feu**	**4.83**	**334**	*e*Pn	**Pn**		**18 08 46.1**	**+0.3**
CDF				*e*Sn	**Sn**		**18 09 40.1**	**-1.5**
SMF	**Signal de Mont**	**5.31**	**301**	*e*Pn	**Pn**		**18 08 54.5**	**+2.2**
SMF				*e*Sn	**Sn**		**18 09 53.6**	**+0.5**
	comp=E,3.3nm,0.4s							
LOR	**Lormes**	**5.60**	**307**	*e*Pn	**Pn**		**18 08 57.7**	**+1.4**
LOR				*e*Sn	**Sn**		**18 10 00.4**	**+0.1**
	comp=E,3.5nm,0.3s							

*ISCJB **25** 18:19:48.9 ± 0.4, 43°.26N ± 0°.02 × 18°.68E ± 0°.03, h10km ± 3km, Error ellipse: s-maj=3.8km s-min=2.8km az=21.5*
*SAR **25** 18:19:49.9 ± 0.2, 43°.26N × 18°.65E, h4km ± 3km, ML2.3/1*
*BEO **25** 18:19:50.1 ± 0.3, 43°.23N × 18°.73E, h12km ± 2km, ML2.2/12*
*PDG **25** 18:19:50.3 ± 0.1, 43°.21N × 18°.69E, h11km, MD2.8/5, ML2.6/8, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*

ISC 25 18:19:49.8 ± 0.9, **43°.24N** ± 0°.02 × **18°.70E** ± 0°.02, **h12**km ± 7km, **n37**, σ0 **°83/72**, **8C-6D**, **Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.15**	**105**	⇑*i*Pg	**Pg**		**18 19 53.7**	**+0.1**
UPM				*e*Sg	**Sg**		**18 19 56.7**	**+0.5**
BRY	**Bratogost**	**0.36**	**199**	⇓*i*Pg	**Pg**		**18 19 56.5**	**-0.7**
BRY				*i* Sg	**Sg**		**18 20 01.9**	**-0.2**
BRY	**Bratogost**	**0.36**	**199**	⇓*i*Pg	**Pg**		**18 19 56.5**	**-0.7**
BRY				*e*Sg	**Sg**		**18 20 02.6**	**+0.5**
NKY	**Niksic**	**0.48**	**154**	⇑*i*Pg	**Pg**		**18 19 58.7**	**-0.6**
NKY				*i* Sg	**Sg**		**18 20 06.2**	**+0.5**
PLE	**Pljevlja**	**0.51**	**80**	⇓*i*Pg	**Pg**		**18 20 00.2**	**+0.4**
PLE				*i* Sg	**Sb**		**18 20 08.6**	**+0.4**
TREB	**Trebinje**	**0.59**	**206**	*e*Pg	**Pg**		**18 20 00.2**	**-1.1**
TREB				*e*Sg	**Sb**		**18 20 10.4**	**+0.1**
TREB	**Trebinje**	**0.59**	**206**	⇓*i*Pg	**Pg**		**18 20 00.1**	**-1.2**
TREB				*e*Sg	**Sg**		**18 20 09.8**	**+0.8**
BBLS	**Lazi?i**	**0.80**	**39**	*e*Pg	**Pg**		**18 20 04.9**	**-0.5**
BBLS				*e*Sg	**Sb**		**18 20 16.7**	**0.0**
BBLS	**Lazi?i**	**0.80**	**39**	*e*Pg	**Pg**		**18 20 04.9**	**-0.5**
BBLS				*e*Sg	**Sg**		**18 20 16.3**	**+0.3**
HCY	**Herceg Novi**	**0.81**	**191**	⇓*i*Pg	**Pg**		**18 20 04.7**	**-0.8**
HCY				*e*Sg	**Sb**		**18 20 16.9**	**+0.1**
HCY	**Herceg Novi**	**0.81**	**191**	⇓*i*Pg	**Pg**		**18 20 04.8**	**-0.8**
HCY				*e*Sg	**Sg**		**18 20 16.3**	**+0.2**
STON	**Ston**	**0.82**	**243**	*e*Pg	**Pg**		**18 20 04.1**	**-1.6**
STON				Sg	**Sg**		**18 20 15.4**	**-1.1**
HAPS	**Han Pijesak,Bl**	**0.86**	**12**	*e*Pg	**Pg**		**18 20 05.3**	**-1.2**
HAPS				*e*Sg	**Sb**		**18 20 18.4**	**+0.1**
HAPS	**Han Pijesak,Bl**	**0.86**	**12**	⇑*i*Pg	**Pg**		**18 20 05.3**	**-1.2**
HAPS				*e*Sg	**Sg**		**18 20 16.2**	**-1.6**
PDG	**Podgorica**	**0.91**	**153**	*e*Pg	**Pg**		**18 20 05.9**	**-1.5**
PDG				*e*Sg	**Sg**		**18 20 19.0**	**-0.2**
PDG	**Podgorica**	**0.91**	**153**	⇑*i*Pg	**Pg**		**18 20 06.1**	**-1.3**
PDG				*e*Sg	**Sb**		**18 20 19.5**	**0.0**
TTG	**Podgorica**	**0.91**	**153**	⇑*i*Pg	**Pg**		**18 20 06.4**	**-1.0**
TTG				*e*Sg	**Sg**		**18 20 20.6**	**-0.8**
IVA	**Berane**	**0.95**	**113**	⇑*i*Pg	**Pg**		**18 20 07.9**	**-0.2**
IVA				*i* Sg	**Sn**		**18 20 22.6**	**+0.1**
BUM	**Brajici-Budva**	**0.95**	**171**	⇑*i*Pg	**Pg**		**18 20 07.2**	**-1.0**
BUM				*i* Sg	**Sb**		**18 20 21.8**	**+0.9**
DRME	**Dracevica, Mon**	**1.11**	**161**	*e*Pg	**Pb**		**18 20 10.8**	**-0.2**
DRME				*e*Sg	**Sn**		**18 20 26.9**	**+0.4**
PVY	**Plav**	**1.13**	**125**	⇑*i*Pg	**Pb**		**18 20 10.9**	**-0.4**
PVY				*e*Sg	**Sn**		**18 20 28.6**	**+1.6**
DIVS	**Divibare**	**1.27**	**47**	*e*Pg	**Pn**		**18 20 13.6**	**+0.2**
DIVS				*e*Sg	**Sb**		**18 20 29.8**	**-0.2**
DIVS	**Divibare**	**1.27**	**47**	*e*Pg	**Pn**		**18 20 13.4**	**0.0**
DIVS				*e*Sg	**Sb**		**18 20 30.3**	**+0.3**
TEKS	**Tekeris**	**1.44**	**24**	*e*Pg	**Pn**		**18 20 16.1**	**+0.4**
TEKS				*e*Sg	**Sg**		**18 20 35.9**	**-0.1**
TEKS	**Tekeris**	**1.44**	**24**	*e*Sg	**Sg**		**18 20 36.1**	**+0.1**
TRUS	**Trudelj**	**1.57**	**51**	*e*Pn	**Pn**		**18 20 17.6**	**0.0**
TRUS				*e*Sn	**Sn**		**18 20 38.1**	**+0.2**
GRUS	**Gruza**	**1.60**	**66**	*e*Pn	**Pn**		**18 20 18.4**	**+0.5**
GRUS				*e*Sn	**Sb**		**18 20 39.1**	**-0.3**
SELS	**Selova**	**1.77**	**90**	*e*Pn	**Pn**		**18 20 19.4**	**-0.8**
SELS				*e*Sn	**Sn**		**18 20 41.6**	**-1.0**
BLY	**Banja Luka**	**1.86**	**324**	*e*Pn	**Pn**		**18 20 22.2**	**+0.7**
BLY				*e*Sn	**Sb**		**18 20 47.0**	**0.0**
BLY	**Banja Luka**	**1.86**	**324**	*e*Pn	**Pn**		**18 20 21.9**	**+0.4**
BLY				*e*Sn	**Sn**		**18 20 45.2**	**+0.2**
FRGS	**Fruska Gora**	**2.07**	**22**	*e*Pn	**Pn**		**18 20 24.8**	**+0.3**
FRGS				*e*Sn	**Sn**		**18 20 50.8**	**+0.6**
FRGS	**Fruska Gora**	**2.07**	**22**	*e*Pn	**Pn**		**18 20 25.4**	**+0.9**
FRGS				*e*Sn	**Sn**		**18 20 51.4**	**+1.2**
BOVS	**Bovan**	**2.22**	**79**	*e*Pn	**Pn**		**18 20 26.9**	**+0.4**
BOVS				*e*Sn	**Sn**		**18 20 53.8**	**0.0**
BARS	**Barje**	**2.32**	**100**	*e*Pn	**Pn**		**18 20 28.6**	**+0.7**
BARS				*e*Sn	**Sn**		**18 20 55.9**	**-0.4**
UDBI	**Udbina**	**2.48**	**302**	*e*Pn	**Pb**		**18 20 34.0**	**-0.3**
UDBI				Sn	**Sb**		**18 21 06.0**	**+1.0**
ZAPS	**Zavoj**	**2.87**	**88**	*e*Pn	**Pn**		**18 20 36.4**	**+1.0**
ZAPS				*e*Sn	**Sn**		**18 21 09.5**	**-0.4**
NVLJ	**Novalja**	**3.07**	**297**	*i* Pn	**Pn**		**18 20 41.4**	**+3.4**

*ISK **25** 18:31:37.9, 38°.68N × 43°.21E, h7km ± 1km, ML2.2/6*
*DDA **25** 18:31:38.6, 38°.68N × 43°.25E, h7km ± 3km, ML2.7*

ISC 25 18:31:39.3 ± 1.0, **38°.68N** ± 0°.03 × **43°.22E** ± 0°.03, **h16**km ± 9km, **n13**, σ1 **°91/20**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**122**	PG	**Pg**		**18 31 42.9**	**-0.7**
VANB				SG	**Sb**		**18 31 46.7**	**-0.4**
TVAN	**Van**	**0.21**	**135**	*i* P	**Pg**		**18 31 43.8**	**-0.7**
GEVA	**Gevas**	**0.39**	**199**	IAML_P				
	comp=Z,5μm,0.1s							
GEVA				*i* P	**Pg**		**18 31 47.0**	**-0.4**
GEVA				*i* S	**Sg**		**18 31 53.0**	**+0.3**
AKDM	**Akdamar-Van**	**0.40**	**208**	PG	**Pg**		**18 31 45.9**	**-1.6**
ADCV	**BITLIS_Adilcev**	**0.41**	**289**	*i* P	**Pg**		**18 31 47.6**	**-0.1**
VMUR	**Van-Muradiye**	**0.42**	**42**	*i* P	**Pg**		**18 31 47.5**	**-0.4**
VMUR				*i* S	**Sb**		**18 31 54.4**	**-0.2**
VMUR				*i* S	**Sg**		**18 31 55.7**	**+2.1**
CLDR	**Caldiran**	**0.72**	**50**	PG	**Pg**		**18 31 52.2**	**-1.2**
CLDR				SG	**Sg**		**18 32 02.9**	**-0.1**
CLDR	**Caldiran**	**0.72**	**50**	IAML_P				
	comp=Z,2μm,0.2s							
CLDR				*i* P	**Pg**		**18 31 52.5**	**-0.9**
AGRB	**Hanur-Agry**	**0.91**	**349**	PG	**Pg**		**18 31 55.8**	**-1.3**
GURO	**Guroymak-BITLI**	**0.94**	**262**	PG	**Pg**		**18 31 55.9**	**-1.6**
GURO				SG	**Sg**		**18 32 09.5**	**-0.3**
SRTM	**Siirt_Merkez**	**1.23**	**236**	*i* P	**Pg**		**18 32 03.2**	**+0.2**
SIRT	**Sirnak**	**1.33**	**208**	PN	**Pb**		**18 32 03.9**	**0.0**
BTMN	**Batman**	**1.72**	**243**	*i* P	**Pn**		**18 32 09.6**	**+0.9**
BTMN				*i* S	**Sg**		**18 32 35.5**	**+0.7**

*ISCJB **25** 18:42:02.4 ± 1.0, 6°.61S ± 0°.09 × 129°.9E ± 0°.1, h146km, mb3.1/1, Error ellipse: s-maj=15.9km s-min=10.9km az=29.7*
*IDC **25** 18:42:03.0 ± 2.8, 6°.61S × 129°.85E, h130km ± 38km, mb3.0/1, mb1 3.1/5, mb1mx2.9/38, mbtmp3.4/5, Error ellipse: s-maj=67.8km s-min=20.9km az=90.0*

ISC 25 18:42:02.8 ± 1.1, **6°.53S** ± 0°.09 × **130°.0E** ± 0°.1, **h146**km, **n6**, σ2 **°69/7**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.77**	**13**	P	**Pn**		**18 43 28.1**	**+1.6**
	0.9nm,0.3s,baz=170,slow=23,SNR=16							
SIJI				S	**Sn**		**18 44 28.0**	**-3.9**
	1.3nm,0.3s,baz=165,slow=22,SNR=10							
BATI	**Baumata**	**7.22**	**239**	S	**Sn**		**18 45 05.2**	**-1.5**
	0.6nm,0.3s,baz=18,slow=20,SNR=2.5							
FITZ	**Fitzroy Crossi**	**12.25**	**200**	P	**Pn**		**18 44 51.4**	**-1.2**
	0.1nm,0.3s,baz=24,slow=10,SNR=18							
FITZ				S	Sn		18 46 58.3	-10
	0.1nm,0.3s,baz=259,slow=16,SNR=4.1							
WRA	**Warramunga Arr**	**14.00**	**163**	P	**Pn**		**18 45 13.6**	**-1.5**
	0.2nm,0.3s,baz=344,slow=13,SNR=14							
ASAR	**Alice Springs**	**17.46**	**168**	P	**Pn**		**18 45 59.1**	**+1.5**
	0.1nm,0.3s,baz=358,slow=10,SNR=5.9							
MKAR	**Makanchi Array**	**67.80**	**327**	P	**P**		**18 52 46.9**	**+1.8**
	0.2nm,0.5s,baz=120,slow=7.4,SNR=5.5							

*IDC **25** 18:44:30.6 ± 2.1, 6°.61S × 130°.12E, h153km ± 24km, mb3.7/1, mb1 3.5/6, mb1mx3.2/38, mbtmp4.0/6, MS2.8/1, Ms1 3.0/1, ms1mx2.4/26, Error ellipse: s-maj=37.3km s-min=19.4km az=95.0*

ISC 25 18:44:28.4 ± 0.9, **6°.72S** ± 0°.06 × **130°.2E** ± 0°.1, **h146**km, **n7**, σ3 **°88/11**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.91**	**10**	P	**Pn**		**18 45 55.1**	**+1.2**
	3.5nm,0.3s,baz=237,slow=23,SNR=32							
SIJI				S	**Sn**		**18 46 55.7**	**-5.1**
	4.2nm,0.3s,baz=260,slow=23,SNR=12							
BATI	**Baumata**	**7.35**	**241**	P	**Pn**		**18 46 15.1**	**+1.9**
	6.4nm,0.3s,baz=78,slow=5.4,SNR=15							
BATI				S	**Sn**		**18 47 33.5**	**-1.9**
	3.2nm,0.3s,baz=74,slow=20,SNR=7.4							
FITZ	**Fitzroy Crossi**	**12.16**	**201**	P	**Pn**		**18 47 19.2**	**+2.3**
	0.7nm,0.3s,baz=26,slow=10,SNR=9.9							
FITZ				S	**Sn**		**18 49 24.7**	**-6.6**
	0.3nm,0.3s,baz=356,slow=19,SNR=2.4							
WRA	**Warramunga Arr**	**13.74**	**163**	P	**Pn**		**18 47 40.3**	**+3.0**
	0.5nm,0.3s,baz=347,slow=13,SNR=12							
WRA				S	**Sn**		**18 50 05.5**	**-3.9**
	0.9nm,0.3s,baz=339,slow=22,SNR=9.1							
ASAR	**Alice Springs**	**17.22**	**168**	P	**Pn**		**18 48 23.8**	**+3.5**
	0.2nm,0.3s,baz=350,slow=10,SNR=6.8							
ASAR				S	**S**		**18 51 31.1**	**-0.5**
	0.1nm,0.3s,baz=355,slow=29,SNR=3.9							
CMAR	**Chiang Mai Arr**	**39.72**	**310**	LR	LR		19 10 44.2	
	comp=Z,12nm,18.0s,baz=105,slow=40							
MKAR	**Makanchi Array**	**68.11**	**327**	P	**P**		**18 55 13.1**	**+0.5**
	1.0nm,0.5s,baz=121,slow=7.9,SNR=29							

*ISCJB **25** 18:48:20.3 ± 0.6, 43°.57N ± 0°.06 × 105°.34W ± 0°.07, h0km, Error ellipse: s-maj=8.6km s-min=6.8km az=159.1*
*IDC **25** 18:48:20.2 ± 1.9, 43°.39N × 105°.42W, h0km, mb1 3.3/4, mb1mx3.2/48, mbtmp3.0/4, ML2.6/3, Error ellipse: s-maj=40.7km s-min=9.0km az=152.0*
*NEIC **25** 18:48:21.6 ± 0.6, 43°.52N × 105°.31W, h0km, ML3.1, Error ellipse: s-maj=9.3km s-min=7.6km az=165.0, Suspected Mining explosion.*
NEIC 80 km [50 miles] E of Midwest.

ISC 25 18:48:21.6 ± 1.1, **43°.55N** ± 0°.08 × **105°.36W** ± 0°.07, **h0**km, **n18**, σ1 **°55/17**, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.12**	**58**	*e*Pg	**Pg**		**18 48 42.9**	**-0.2**
BW06	**Boulder Array**	**3.17**	**257**	*e*Pn	**Pn**		**18 49 12.2**	**-0.8**
PDAR	**Pinedale Array**	**3.17**	**257**	Pn	**Pn**		**18 49 12.2**	**-0.9**
	4.2nm,0.3s,baz=82,slow=15,SNR=52							
PDAR				Lg	Lg		18 49 57.4	
	12nm,0.3s,baz=80,slow=31,SNR=15							
LAO	**LASA Array**	**3.20**	**349**	*e*Pn	**Pn**		**18 49 12.6**	**-0.7**
RLMT	**Red Lodge**	**3.22**	**301**	*e*Pn	**Pn**		**18 49 12.5**	**-1.1**
OGNE	**Ogallala**	**3.58**	**135**	*e*Pn	**Pn**		**18 49 19.1**	**+0.6**
ISCO	**Idaho Springs**	**3.75**	**183**	*e*Pn	**Pn**		**18 49 20.9**	**-0.1**
LKWY	**Lake**	**3.78**	**287**	*e*Pn	**Pn**		**18 49 22.3**	**+1.0**
AHID	**Auburn Hatcher**	**4.27**	**261**	*e*Pn	**Pn**		**18 49 30.7**	**+2.5**
HWUT	**Hardware Ranch**	**4.98**	**249**	*e*Pn	**Pn**		**18 49 37.7**	**-0.1**
	4.5nm,0.4s							
DGMT

n336,σ1$85/468,mb4.0/13,40C-26D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	Unac-Piva	0.18	105	⇓iPg	Pg	18 52 29.2	-0.8
UPM				*i* Sg	Sg	18 52 32.3	-0.6
BRY	Bratogost	0.36	196	⇓iPg	Pg	18 52 31.8	-1.4
BRY				*i* Sg	Sg	18 52 37.2	-0.8
BRY	Bratogost	0.36	196	⇓P	Pg	18 52 31.8	-1.4
BRY				S	Sg	18 52 37.2	-0.8
BRY	Bratogost	0.36	196	⇓iPg	Pg	18 52 32.2	-0.9
BRY				*e*Sg	Sg	18 52 38.2	+0.2
NKY	Niksic	0.50	152	⇓iPg	Pg	18 52 33.6	-2.0
NKY				*i* Sg	Sg	18 52 40.6	-1.6
NKY	Niksic	0.50	152	⇓P	Pg	18 52 33.6	-2.0
NKY				S	Sg	18 52 40.6	-1.6
PLE	Pljevlja	0.53	81	⇑iPg	Pg	18 52 35.3	-0.9
PLE				*i* Sg	Sg	18 52 43.8	+0.5
PLE	Pljevlja	0.53	81	⇑P	Pg	18 52 35.3	-0.9
PLE				S	Sg	18 52 43.8	+0.5
TREB	Trebinje	0.58	204	*e*Pg	Pg	18 52 36.0	-1.2
TREB				*e*Sg	Sb	18 52 46.0	-0.1
TREB	Trebinje	0.58	204	*e*Pg	Pg	18 52 36.0	-1.2
TREB				*e*Sg	Sb	18 52 46.0	-0.1
TREB	Trebinje	0.58	204	⇓iPg	Pg	18 52 35.8	-1.4
TREB				*e*Sg	Sg	18 52 45.3	+0.4
KOME	Kolasin	0.74	123	⇓iPg	Pg	18 52 38.7	-1.4
KOME				*i* Sg	Sg	18 52 49.1	-0.7
STON	Ston	0.81	242	*e*Pg	Pg	18 52 39.4	-2.0
STON				Sg	Sg	18 52 50.8	-1.2
HCY	Herceg Novi	0.81	189	⇓iPg	Pg	18 52 39.7	-1.8
HCY				*i* Sg	Sg	18 52 51.3	-0.9
HCY	Herceg Novi	0.81	189	⇑iPg	Pg	18 52 40.3	-1.2
HCY				*e*Sg	Sg	18 52 52.2	0.0
BBLS	Lazići	0.81	41	*e*Pg	Pg	18 52 40.8	-0.9
BBLS				*e*Sg	Sb	18 52 52.1	-0.2
BBLS	Lazići	0.81	41	⇓iPg	Pg	18 52 40.7	-0.9
BBLS				*e*Sg	Sg	18 52 51.2	-1.1
HAPS	Han Pijesak,Bl	0.86	14	⇑iPg	Pg	18 52 40.7	-1.8
HAPS				*e*Sg	Sg	18 52 53.6	-0.2
HAPS	Han Pijesak,Bl	0.86	14	⇑iPg	Pg	18 52 40.4	-2.1
HAPS				*e*Sg	Sg	18 52 52.2	-1.6
PDG	Podgorica	0.93	152	*e*Pg	Pg	18 52 41.5	-2.2
PDG				*e*Sg	Sg	18 52 55.5	-0.2
PDG	Podgorica	0.93	152	⇓iP	Pg	18 52 41.5	-2.2
PDG				S	Sg	18 52 54.9	-0.8
PDG	Podgorica	0.93	152	⇑iPg	Pg	18 52 41.2	-2.5
PDG				*e*Sg	Sg	18 52 54.8	-0.9
TTG	Podgorica	0.93	152	⇑iPg	Pg	18 52 41.0	-2.7
TTG				*i* Sg	Sg	18 52 54.6	-1.1
TTG	Podgorica	0.93	152	*e*Pg	Pg	18 52 41.4	-2.3
TTG				*e*Sg	Sb	18 52 56.8	+0.8
BUM	Brajici-Budva	0.96	170	⇑iPg	Pg	18 52 41.8	-2.6
BUM				*i* Sg	Sg	18 52 56.1	-0.8
IVA	Berane	0.97	112	⇑iPg	Pg	18 52 42.4	-2.2
IVA				*i* Sg	Sg	18 52 57.0	-0.3
DRME	Dracevica, Mon	1.13	160	⇑iPg	Pb	18 52 45.4	-1.8
DRME				*i* Sg	Sb	18 53 01.5	-0.4
DRME	Dracevica, Mon	1.13	160	*e*Pg	Pb	18 52 45.5	-1.8
DRME				*e*Sg	Sb	18 53 01.4	-0.4
PVY	Plav	1.15	124	⇓iPg	Pb	18 52 45.6	-2.1
PVY				*i* Sg	Sg	18 53 02.9	0.0
DIVS	Divibare	1.28	48	*e*Pg	Pn	18 52 49.2	-0.4
DIVS				*e*Sg	Sb	18 53 05.8	-0.5
DIVS	Divibare	1.28	48	*e*Pg	Pn	18 52 49.1	-0.5
DIVS				*e*Sn	Sb	18 53 04.7	-1.7
DIVS	Divibare	1.28	48	⇓iPg	Pn	18 52 48.2	-1.4
DIVS				*e*Sg	Sb	18 53 05.8	-0.5
ULC	Ulcinj	1.35	162	⇑iPg	Pn	18 52 49.1	-1.4
ULC				*i* Sg	Sg	18 53 09.2	-0.2
ULC	Ulcinj	1.35	162	⇑P	Pn	18 52 49.1	-1.4
ULC				S	Sn	18 53 08.5	0.0
BCI	Bajram Curri	1.35	130	*i* PN	Pb	18 52 50.9	-0.2
BCI				*i* SN	Sg	18 53 11.9	+2.5
TEKS	Tekeris	1.44	25	*e*Pg	Pn	18 52 51.5	-0.2
TEKS				*e*Sg	Sg	18 53 11.8	-0.4
TEKS	Tekeris	1.44	25	*e*Pg	Pn	18 52 51.3	-0.4
PUK	Puka	1.51	143	*i* PN	Pb	18 52 53.9	+0.2
PUK				*i* SN	Sg	18 53 17.1	+2.8
DOB	Doboj	1.54	345	*e*Pn	Pn	18 52 53.2	+0.1
DOB				*e*Sn	Sb	18 53 13.6	-0.1
TRUS	Trudelj	1.59	52	*e*Pn	Pn	18 52 53.3	-0.5
TRUS				*e*Sn	Sn	18 53 14.5	+0.2
GRUS	Gruza	1.62	66	*e*Pn	Pn	18 52 54.1	0.0
GRUS				*e*Sn	Sn	18 53 15.1	+0.2
SELS	Selova	1.79	90	*e*Pn	Pn	18 52 56.3	-0.2
SELS				*e*Sn	Sn	18 53 18.3	-0.9
BLY	Banja Luka	1.84	325	*e*Pn	Pn	18 52 58.1	+0.8
BLY				*e*Sn	Sb	18 53 22.1	+0.1
BLY	Banja Luka	1.84	325	*e*Pn	Pn	18 52 58.0	+0.8
BLY				*e*Sn	Sg	18 53 23.9	-1.2
BLY	Banja Luka	1.84	325	⇑iP	Pn	18 52 58.0	+0.8
BLY	Banja Luka	1.84	325	S	Sb	18 53 21.8	-0.7
BLY	Banja Luka	1.84	325	⇑iPn	Pn	18 52 57.9	+0.6
BLY				*e*Sn	Sb	18 53 21.6	-0.9
BEO	Beograd	2.03	39	*e*Pn	Pn	18 52 59.0	-0.8
BEO				*e*Sn	Sn	18 53 25.5	+0.5
PHP	Peshkopia	2.04	139	*e*Pn	Pb	18 53 02.9	+0.1
PHP	Peshkopia	2.04	139	P	Pb	18 53 02.9	+0.1
PHP	Peshkopia	2.04	139	*i* PN	Pb	18 53 02.4	-0.5
PHP				*i* SN	Sg	18 53 32.1	+0.7
FRGS	Fruska Gora	2.08	23	*e*Pn	Pn	18 52 59.6	-0.9
FRGS				*e*Sn	Sn	18 53 26.4	+0.2
FRGS	Fruska Gora	2.08	23	*e*Pn	Pn	18 53 00.6	+0.1
FRGS				*e*Sn	Sn	18 53 26.5	+0.2
TIR	Tirane	2.10	155	*e*Pn	Pb	18 53 03.7	-0.1
TIR				*e*Sn	Sg	18 53 33.3	+0.1
TIR	Tirane	2.10	155	⇑iP	Pb	18 53 03.7	-0.1
TIR	Tirane	2.10	155	S	Sb	18 53 29.0	-0.7
TIR	Tirane	2.10	155	P	Pb	18 53 03.0	-0.8
TIR	Tirane	2.10	155	*i* PN	Pb	18 53 04.4	+0.6
TIR				*i* SN	Sg	18 53 36.9	+3.7
SVIS	Svilajnac	2.10	60	*e*Pn	Pn	18 52 59.9	-0.9
SVIS				*e*Sn	Sn	18 53 25.5	-1.4
MRAK	Mrakovica	2.18	325	*e*Pn	Pn	18 53 02.3	+0.4
MRAK				*e*Sn	Sn	18 53 29.6	+0.8
BOVS	Bovan	2.24	79	*e*Pn	Pn	18 53 02.4	-0.3
BOVS				*e*Sn	Sn	18 53 29.0	-1.3
BARS	Barje	2.34	100	*e*Pn	Pn	18 53 04.5	+0.3
BARS	Barje	2.34	100	*e*Pn	Pn	18 53 05.8	+1.6
BARS				*e*Sn	Sn	18 53 30.9	-2.0
BARS				*e*Sn	Sb	18 53 37.3	+0.4
UDBI	Udbina	2.46	302	*e*Pn	Pn	18 53 07.0	+1.2
UDBI				Sg	Sg	18 53 34.8	+1.0
KUBS	Kucevo	2.46	61	*e*Pn	Pn	18 53 04.4	-1.4
KUBS				*e*Sn	Sn	18 53 35.0	-0.8
BAI	Bari	2.52	212	⇑iPn	Pn	18 53 06.5	-0.1
FASA	Fasano	2.62	202	*e*Pn	Pn	18 53 08.5	+0.5
ZAGS	Zajecar	2.65	77	*e*Pn	Pn	18 53 08.3	0.0
ZAGS				*e*Sn	Sn	18 53 39.1	-1.3
MDVR	Moldovita	2.67	54	⇑iP	Pn	18 53 08.2	-0.5
MDVR	Moldovita	2.67	54	S	Sn	18 53 41.0	-0.1
KRUS	Krusevo	2.68	134	*i* Pn	Pn	18 53 10.7	+1.8
KRUS				*i* Sn	Sb	18 53 47.2	+0.5
CGL1	Ceglie Messapi	2.74	199	*e*Pn	Pn	18 53 11.3	+1.7
BANR	Banloc	2.77	39	⇑iP	Pn	18 53 09.4	-0.6
BANR	Banloc	2.77	39	S	Sg	18 54 00.1	+5.3
SG1	Sgolgore (BA)	2.83	212	⇓iPn	Pn	18 53 10.6	-0.2
SG1				Sn	Sn	18 53 45.8	+1.0
MASS	Massafra	2.85	204	*e*Pn	Pn	18 53 12.7	+1.6
ZAPS	Zavoj	2.89	88	*e*Pn	Pn	18 53 11.9	+0.2
ZAPS				*e*Sn	Sn	18 53 44.3	-2.2
MORH	Mrgy, Hungar	2.96	360	⇑iPn	Pn	18 53 10.1	-0.6
MORH				*e*Sn	Sn	18 53 47.9	-0.2
MORH	Mrgy, Hungar	2.96	360	⇓*e*Pn	Pn	18 53 12.0	-0.6
MORH				Sn	Sn	18 53 48.1	-0.1
BIA	Bitola	2.98	138	*i* Pn	Pn	18 53 15.1	+2.2
BIA				*i* Sn	Sb	18 53 55.0	-0.1
MATE	Matera	2.98	210	⇑iP	Pn	18 53 13.0	+0.1
MATE	Matera	2.98	210	S	Sn	18 53 49.2	+0.6
STIP	Stip	3.03	120	*i* Pn	Pn	18 53 15.3	+1.8
NVLJ	Novalja	3.04	297	*e*Pn	Pn	18 53 15.1	+1.4
NVLJ				Sn	Sb	18 53 55.6	-1.4
TIM	Timisoara	3.08	35	⇑iP	Pg	18 53 24.8	-0.1
TIM	Timisoara	3.08	35	S	Sg	18 54 06.5	+1.7
HERR	Herculane	3.15	58	⇑iP	Pn	18 53 15.1	-0.2
HERR	Herculane	3.15	58	S	Sn	18 53 52.3	-0.5
BZS	Buzias	3.17	41	⇓iP	Pn	18 53 14.4	-1.1
PUNG	Punghina	3.25	70	⇑iP	Pn	18 53 17.0	+0.4
PUNG	Punghina	3.25	70	S	Sg	18 54 08.4	-1.9
OZLJ	Ozalj	3.30	317	*e*Pn	Pn	18 53 17.8	+0.6
BOJS	Bojanci	3.33	314	*i* Pn	Pn	18 53 18.5	+0.8
NEST	Nestorio	3.34	147	P	Pn	18 53 20.6	+2.6
VTS	Vitosha	3.40	100	*e*Pn	Pn	18 53 19.2	+0.5
VTS	Vitosha	3.40	100	⇑iP	Pn	18 53 19.2	+0.5
VTS	Vitosha	3.40	100	S	Sn	18 53 59.1	+0.1
VTS	Vitosha	3.40	100	P	Pn	18 53 19.3	+0.5
GCIS	Gornji Cirnik	3.40	321	*i* Pn	Pn	18 53 19.4	+0.7
CRES	Cresnjev	3.45	319	*i* Pn	Pn	18 53 20.1	+0.8
CRES	Cresnjev	3.45	319	⇑iPn	Pn	18 53 20.2	+0.8
CRES				*e*Sn	Sn	18 54 00.5	+0.3
VAY	Valandovo	3.48	122	*i* Pn	Pn	18 53 20.6	+1.0
SRN	Sarande	3.51	163	*e*Pn	Pn	18 53 21.1	+0.9
SRN	Sarande	3.51	163	P	Pn	18 53 21.1	+0.9
KKB	Krupnik	3.54	111	*i* P	Pn	18 53 21.8	+1.2
SRE	Strehaia	3.56	65	⇓iP	Pn	18 53 21.6	+0.7
SRE	Strehaia	3.56	65	S	Sg	18 54 20.3	0.0
PENT	Pentalofos	3.57	148	P	Pn	18 53 23.7	+2.7
GRG	Griva	3.60	128	*e*Pn	Pn	18 53 22.7	+1.3
GRG	Griva	3.60	128	P	Pn	18 53 22.7	+1.3
KOGS	Kog	3.63	333	*i* Pn	Pn	18 53 22.2	+0.3
KEK	Kerkira	3.63	166	*e*Pn	Pn	18 53 22.3	+0.4
KEK	Kerkira	3.63	166	P	Pn	18 53 22.3	+0.4
GZR	Gura Zlata	3.64	53	⇑iP	Pn	18 53 21.6	-0.5
SIRR	Siria	3.69	34	⇓iP	Pn	18 53 21.6	-1.1
SIRR	Siria	3.69	34	S	Sn	18 54 04.4	-1.7
TIH	Tihany	3.69	352	*e*Pn	Pn	18 53 22.1	-0.6
TIH				Sn	Sn	18 54 07.1	+1.0
MPEP	Malo Peshtene	3.70	87	*i* P	Pn	18 53 23.0	+0.2
KZN	Kozani	3.74	141	P	Pn	18 53 25.8	+2.3
KZN	Kozani	3.74	141	P	Pn	18 53 25.8	+2.3
VISS	Visnje	3.75	314	*i* Pn	Pn	18 53 24.1	+0.7
KNT	Kendrikon	3.77	122	P	Pn	18 53 24.2	+0.5
KNT	Kendrikon	3.77	122	P	Pn	18 53 24.2	+0.5
KPRO	Kipourio	3.86	148	P	Pn	18 53 27.2	+2.1
IGT	Igoumenitsa	3.92	161	*e*Pn	Pn	18 53 26.8	+1.0
IGT	Igoumenitsa	3.92	161	P	Pn	18 53 26.8	+1.0
GROS	Grobnik	3.92	326	*e*Pn	Pn	18 53 26.2	+0.3
CEY	Cerknica	3.93	311	*e*Pn	Pn	18 53 26.4	+0.5
CEY				*e*Sn	Sn	18 54 11.8	-0.1
AQU	L'Aquila	3.98	259	*e*Pn	Pn	18 53 28.5	+1.8
AQU				*e*Sn	Sn	18 54 16.5	+3.2
AQU	L'Aquila	3.98	259	*e*Pn	Pn	18 53 27.6	+0.9
AQU				*e*Sn	Sn	18 54 13.2	-0.1
DEV	Deva	4.01	47	⇑iP	Pn	18 53 26.0	-1.0
DEV	Deva	4.01	47	S	Sn	18 54 12.4	-1.5
LJU	Ljubljana	4.07	315	⇑iPn	Pn	18 53 28.3	+0.5
LJU				*e*Sn	Sn	18 54 15.7	+0.3
MMB	Musomiste	4.09	112	*i* P	Pn	18 53 29.7	+1.5
PGB	Panagyurishte	4.10	98	*i* P	Pn	18 53 29.4	+1.1
SRS	Serrai	4.23	119	*e*Pn	Pn	18 53 30.6	+0.5
SRS	Serrai	4.23	119	P	Pn	18 53 30.6	+0.5
BUD	Budapest	4.24	3	⇑*e*Pn	Pn	18 53 29.1	-1.1
BUD				Sn	Sn	18 54 19.1	-0.5
LIT	Litokhoron	4.25	136	*e*Pn	Pn	18 53 32.3	+1.9
LIT	Litokhoron	4.25	136	P	Pn	18 53 32.3	+1.9
LOT	Lotru	4.27	57	⇑iP	Pn	18 53 30.3	-0.4
LOT	Lotru	4.27	57	S	Sn	18 54 20.6	+0.2
NVR	Nevrokopi	4.29	114	P	Pn	18 53 31.6	+0.6
NVR	Nevrokopi	4.29	114	P	Pn	18 53 31.6	+0.6
SOKA	Soboth	4.29	324	*i* Pn	Pn	18 53 31.5	+0.5
	122nm,0.4s,SNR=36						
TIP	Timpagrande	4.32	200	*e*Pn	Pn	18 53 31.6	+0.2
TIP	Timpagrande	4.32	200	⇑iP	Pn	18 53 31.5	+0.2
TIP	Timpagrande	4.32	200	S	Sn	18 54 25.0	+3.4
OBKA	Obir	4.38	319	*e*Pn	Pn	18 53 33.0	+0.7
OBKA	Obir	4.38	319	*i* Pn	Pn	18 53 33.0	+0.7
	17nm,0.5s						
OBKA				*e*Sn	Sn	18 54 26.3	+3.1
	92nm,0.7s						
THL	Klokotos Trika	4.46	145	P	Pn	18 53 34.8	+1.6
DRGR		4.55	38	⇑iP	Pn	18 53 33.6	-1.0
DRGR		4.55	38	S	Sn	18 54 25.2	-2.2
SRO	Srobarova	4.57	357	*e*PN	Pn	18 53 34.7	0.0
SRO				*e*SN	Sn	18 54 26.9	-0.8
ARSA	Arzberg	4.58	332	*e*Pn	Pn	18 53 35.3	+0.5
ARSA				*e*Sn	Sn	18 54 26.5	-1.4
ARSA	Arzberg	4.58	332	*i* Pn	Pn	18 53 35.1	+0.3
	51nm,0.4s,SNR=30						
ARSA				*i* Sn	Sn	18 54 26.6	-1.4
	84nm,0.6s						
PLD	Plovdiv	4.59	102	*i* P	Pb	18 53 49.3	+3.0
SOP	Sopron	4.68	342	*e*Pn	Pn	18 53 36.1	-0.1
SOP				Sn	Sn	18 54 29.0	-1.3
LKD2	Lefkada island	4.70	161	P	Pn	18 53 37.1	+0.5
LKD2	Lefkada island	4.70	161	P	Pn	18 53 37.1	+0.5
HUMR	Humele	4.74	72	⇑iP	Pn	18 53 37.0	0.0
HUMR	Humele	4.74	72	S	Sn	18 54 29.3	-2.5
PSZ	Piszkesteto	4.75	10	*e*Pn	Pn	18 53 36.1	-1.2
PSZ	Piszkesteto	4.75	10	⇓iP	Pn	18 53 36.3	-0.9
PSZ	Piszkesteto	4.75	10	*e*Pn	Pn	18 53 36.0	-1.2
PSZ				Sn	Sn	18 54 31.5	+2.9
ARR	Arges	4.77	62	⇑iP	Pn	18 53 38.4	+0.8
ARR	Arges	4.77	62	S	Sn	18 54 31.5	-1.4
MYKA	Terra Mystica	4.92	315	*i* Pn	Pn	18 53 41.1	+1.5
	6.4nm,0.4s						
CJR	Cluj-Napoca	4.92	44	⇓iP	Pn	18 53 40.8	+1.2
EVR	Evrytania	4.94	150	P	Pn	18 53 42.6	+2.7
EVR	Evrytania	4.94	150	P	Pn	18 53 42.6	+2.7
AGG	Agios Georgios	5.05	146	*e*Pn	Pn	18 53 42.9	+1.6
AGG				*e*Sn	Sn	18 54 42.1	+2.6
AGG	Agios Georgios	5.05	146	P	Pn	18 53 42.9	+1.6
ZST	Bratislava	5.07	348	*e*SN	Sn	18 54 35.0	-5.0
VOIR		5.07	62	⇓iP	Pn	18 53 42.5	+0.8
VOIR		5.07	62	S	Sn	18 54 39.7	-0.5
CONA	Conrad Observa	5.08	338	*i* Pn	Pn	18 53 42.2	+0.4
	9.0nm,0.3s,SNR=8.1						
CONA				*e*Sn	Sn	18 54 38.4	-2.0
	107nm,0.6s						
PVO	Paravola	5.11	154	P	Pn	18 53 43.9	+1.8
MODS	Modra-Piesok	5.22	350	*e*PN	Pn	18 53 42.4	-1.2
MODS				*e*SN	Sn	18 54 39.6	-4.1
VYHS	Vyhne	5.25	1	*e*PN	Pn	18 53 43.4	-0.6
VYHS				*e*SN	Sn	18 54 40.2	-4.2
ANX	Ano Chora	5.26	151	P	Pn	18 53 47.2	+2.9
KOLL	Kolacno	5.33	358	*e*PN	Pn	18 53 44.6	-0.6
KOLL				*e*SN	Sn	18 54 45.3	-1.2
SMOL	Smolenice	5.34	351	*e*SN	Sn	18 54 43.3	-3.3
KBA	Koelnbreinsper	5.37	317	*e*Pn	Pn	18 53 47.0	+1.1
KBA	Koelnbreinsper	5.37	317	*i* Pn	Pn	18 53 47.0	+1.1
	20nm,0.4s,SNR=9.9						
KBA				*i* Sn	Sn	18 54 52.5	+4.8
	49nm,0.5s						
DOPR	Dopca	5.51	58	⇑iP	Pn	18 53 48.4	+0.7
MOA	Molln	5.54	328	*e*Pn	Pn	18 53 49.2	+1.1
MOA				*e*Sn	Sn	18 54 51.3	-0.4
MOA	Molln	5.54	328	*i* Pn	Pn	18 53 49.6	+1.4
	9.3nm,0.2s,SNR=8.5						
MOA				*e*Sn	Sn	18 54 52.5	+0.7
	82nm,0.5s						
TRPA	Tarpa	5.58	28	⇓iP	Pn	18 53 47.3	-1.3
ABTA	Abfaltersbach	5.59	311	*i* Pn	Pn	18 53 49.8	+0.9
	17nm,0.4s,SNR=6.4						
ABTA				*e*Sn	Sn	18 54 58.8	+5.7
	54nm,0.7s						
ALIK	Aliki, Aigiali	5.63	151	P	Pn	18 53 51.7	+2.5
DSF	Desfina	5.65	148	*e*Pn	Pn	18 53 51.4	+1.8
DSF	Desfina	5.65	148	P	Pn	18 53 51.4	+1.8
JAVC	Velka Javorina	5.65	353	*e*PN	Pn	18 53 49.9	+0.2
JAVC				*e*SN	Sn	18 54 52.7	-1.8
SULR		5.66	73	⇑iP	Pn	18 53 48.5	-1.1
SULR		5.66	73	S	Sn	18 54 52.1	-2.4
MLR	Muntele Rosu	5.67	64	Pn	Pn	18 53 51.8	+1.7
	0.3nm,0.3s,baz=217,slow=14,SNR=3.6						
MLR				Sn	Sn	18 54 53.8	-1.3
	2.4nm,0.3s,baz=307,slow=20,SNR=3.8						
MLR				LR	LR	18 56 35.0	
	comp=Z,374nm,19.0s,baz=293,slow=43						
MLR	Muntele Rosu	5.67	64	*e*Pn	Pn	18 53 50.2	+0.2
MLR				*e*Sn	Sn	18 54 53.9	-1.3
MLR	Muntele Rosu	5.67	64	⇓iP	Pn	18 53 51.6	+1.6
LANS	Liptovska Anna	5.93	5	*e*PN	Pn	18 53 54.0	+0.6
LANS				*e*SN	Sn	18 54 57.5	-3.7
PROD	Prodromos	5.93	146	P	Pn	18 53 54.5	+1.1
JOSR	Joseni	5.96	52	⇑iP	Pn	18 53 51.3	-2.5
ISR	Istrita	5.96	69	⇑iP	Pn	18 53 55.9	+2.0
ISR	Istrita	5.96	69	S	Sn	18 55 01.4	-0.7
ALN	Alexandroupoli	5.97	111	*e*Pn	Pn	18 53 54.9	+0.9
ALN				eLg	Lg	18 55 41.4	
ALN	Alexandroupoli	5.97	111	P	Pn	18 53 54.8	+0.9
KRUC	Moravsky	6.02	346	*e*PN	Pn	18 53 54.3	-0.4
KRUC				*e*SN	Sn	18 55 00.1	-3.4
VLC	Villacollemand	6.07	281	*e*Pn	Pn	18 53 57.0	+1.6
RJOB	Jochberg	6.10	319	*e*Pn	Pn	18 53 57.1	+1.4
RJOB				*e*Sn	Sn	18 55 06.6	+1.1
VILL	Villia	6.18	144	P	Pn	18 53 58.1	+1.2
VRAC	Vranov	6.23	347	Pn	Pn	18 53 57.6	+0.2
	0.5nm,0.3s,baz=187,slow=11,SNR=4.1						
VRAC				Sn	Sn	18 55 03.3	-5.2
	5.8nm,0.3s,baz=177,slow=8.8,SNR=9.1						
VRAC	Vranov	6.23	347	⇓iP	Pn	18 53 57.7	+0.2
VRAC	Vranov	6.23	347	S	Sn	18 55 09.4	+0.8
VRAC	Vranov	6.23	347	*e*PN	Pn	18 53 57.5	0.0
VRAC				*e*SN	Sn	18 55 06.2	-2.4
VRI	Vrincioaia	6.32	63	⇑iP	Pn	18 53 57.2	-1.6
VRI	Vrincioaia	6.32	63	S	Sn	18 55 10.7	-0.2
BUR04	Bucovina Ar. S	6.34	44	*e*Pn	Pn	18 53 59.9	+0.7
BURAR	Bucovina Array	6.34	44	⇓iP	Pn	18 53 58.4	-0.8
BUR08	Bucovina Ar. S	6.36	44	*e*Pn	Pn	18 53 59.9	+0.5
TREC	Trest	6.44	341	*e*SN	Sn	18 55 10.5	-3.2
WATA	Walderalm	6.46	312	*i* Pn	Pn	18 54 02.8	+2.0
	SNR=12						
WATA				*e*Sn	Sn	18 55 18.0	+3.5
	27nm,0.8s						
ITM	Ithomi	6.55	157	*e*Pn	Pn	18 54 03.4	+1.4
ITM				*e*Sn	Sn	18 55 18.4	+1.7
GEA0	GERESS Array S	6.57	330	*e*Pn	Pn	18 54 03.3	+1.0
GEA0				*e*Sn	Sn	18 55 14.6	-2.6
MORC	Moravsky Berou	6.58	354	*e*Pn	Pn	18 54 03.0	+0.7
MORC				*e*Sn	Sn	18 55 13.7	-3.5
MORC	Moravsky Berou	6.58	354	⇑iP	Pn	18 54 03.2	+0.9
MORC	Moravsky Berou	6.58	354	S	Sn	18 55 15.0	-2.2
MORC	Moravsky Berou	6.58	354	*e*PN	Pn	18 54 02.9	+0.6
MORC				*e*SN	Sn	18 55 13.7	-3.5
GEC2	GERESS Array S	6.58	330	*e*Pn	Pn	18 54 03.1	+0.8
GEC2				*e*Sn	Sn	18 55 14.7	-2.7
GEC2	GERESS Array S	6.58	330	*e*Pn	Pn	18 54 03.2	+0.8
GEC2				*e*Sn	Sn	18 55 14.5	-2.8
GERES	GERESS Array B	6.58	330	Pn	Pn	18 54 03.1	+0.8
	4.6nm,0.3s,baz=154,slow=13,SNR=104						
GERES				Sn	Sn	18 55 15.1	-2.2
	7.1nm,0.3s,baz=144,slow=24,SNR=10						
SQTA	Sankt Quirin	6.60	310	*i* Pn	Pn	18 54 04.8	+2.2
	15nm,0.3s,SNR=7.8						
OKC	Ostrava-Krasne	6.60	357	*e*PN	Pn	18 54 02.3	-0.3
OKC				*e*SN	Sn	18 55 14.0	-3.7
VAE	Valguarnera	6.62	211	Pn	Pn	18 54 03.6	+0.7
	0.5nm,0.3s,baz=348,slow=9.3,SNR=2.7						
VAE				Sn	Sn	18 55 19.6	+1.4
	0.8nm,0.3s,baz=15,slow=19,SNR=2.8						
V

KEST	**Kesra**	**10.40**	**227**	Pn	**Pn**	**18 54 53.3**	**-1.5**
	comp=E,0.3nm,0.3s,baz=341,slow=4.0,SNR=1.8						
PAGF	**Fort de Pagny**	**10.46**	**305**	*e*Pn	**Pn**	**18 54 58.2**	**+2.7**
WLF	**Walferdange**	**10.75**	**311**	*e*Pn	**Pn**	**18 55 03.4**	**+3.9**
SMF	**Signal de Mont**	**11.05**	**293**	*e*Pn	**Pn**	**18 55 02.5**	**-1.0**
SMF				*e*Sn	**Sn**	**18 57 03.1**	**-3.8**
	comp=E,50nm,0.8s						
BR231	**Keskin MP Arra**	**11.11**	**103**	*e*Pn	**Pn**	**18 55 04.9**	**+0.4**
SUW	**Suwalki**	**11.17**	**14**	*e*Pn	Pn	18 54 57.7	-7.6
LOR	**Lormes**	**11.19**	**296**	*e*Pn	**Pn**	**18 55 05.3**	**-0.2**
LOR				*e*Sn	**Sn**	**18 57 06.2**	**-4.2**
SSF	**Saint Saulge**	**11.37**	**295**	*e*Pn	**Pn**	**18 55 07.6**	**-0.3**
SSF				*e*Sn	**Sn**	**18 57 09.4**	**-5.3**
AVF	**Avril sur Loir**	**11.40**	**293**	*e*Pn	**Pn**	**18 55 08.0**	**-0.4**
AVF				*e*Sn	**Sn**	**18 57 10.9**	**-4.8**
BGF	**Bois d'Agland**	**11.70**	**292**	*e*Pn	**Pn**	**18 55 13.0**	**+0.5**
BGF				*e*Sn	**Sn**	**18 57 17.5**	**-5.4**
	comp=E,25nm,0.6s						
BRTR	**Keskin Array B**	**11.77**	**102**	LR	LR	19 00 42.3	
	comp=E,55nm,19.2s,baz=313,slow=42						
HYF	**Humbligny**	**11.99**	**295**	*e*Sn	**Sn**	**18 57 22.7**	**-7.3**
MMAI	**Mount Meron Ar**	**16.63**	**122**	Pn	**P**	**18 56 22.3**	**+1.0**
	comp=E,0.7nm,0.3s,baz=308,slow=14,SNR=7.3						
MMAI				LR	LR	19 03 11.7	
	comp=E,30nm,18.9s,baz=40,slow=39						
HFS	**Hagfors**	**17.18**	**352**	P	**P**	**18 56 27.1**	**+0.1**
	comp=E,0.0nm,0.3s,baz=166,slow=14,SNR=3.4						
ESDC	**Sonseca Array**	**17.33**	**266**	P	**P**	**18 56 29.4**	**+0.5**
	comp=E,0.2nm,0.3s,baz=68,slow=12,SNR=3.2						
NB200	**NORSAR Array S**	**18.37**	**348**	*e*Pn	**P**	**18 56 41.0**	**+0.8**
NOA	**NORSAR Array B**	**18.37**	**348**	P	**P**	**18 56 41.0**	**+0.8**
	comp=E,0.0nm,0.3s,baz=165,slow=10,SNR=6.5						
EKA	**Eskdalemuir Ar**	**18.58**	**318**	P	**Pn**	**18 56 42.8**	**+0.1**
	baz=119,slow=9.8,SNR=2.7						
FIA0	**FINESS Array S**	**18.75**	**11**	*e*P	**Pn**	**18 56 45.0**	**+0.2**
FINES	**FINESS Array B**	**18.75**	**11**	P	**Pn**	**18 56 45.0**	**+0.2**
	comp=E,0.1nm,0.3s,baz=185,slow=13,SNR=4.9						
EIL	**Elat**	**18.80**	**131**	P	**Pn**	**18 56 47.3**	**+1.7**
	comp=E,0.2nm,0.3s,baz=8.1,slow=14,SNR=2.6						
GNI	**Garni**	**19.68**	**90**	LR	LR	19 05 14.4	
	comp=E,42nm,18.6s,baz=298,slow=39						
KLMR	**Klimovskoe**	**21.63**	**28**	*e*P	**P**	**18 57 13.9**	**-1.6**
KLMR				AMP		18 57 21.3	
	comp=Z,6.0nm,0.8s						
ARA0	**ARCESS Array S**	**26.59**	**5**	*e*P	**P**	**18 58 05.0**	**+1.6**
ARCES	**ARCESS Array B**	**26.59**	**5**	P	**P**	**18 58 05.0**	**+1.6**
	comp=Z,1.4nm,0.8s,baz=225,slow=25,SNR=5.5						
TOA1	**Torodi Ar. Sit**	**33.38**	**211**	*e*P	**P**	**18 59 04.3**	**+0.3**
TORD	**Torodi Ar. Bea**	**33.38**	**211**	P	**P**	**18 59 04.3**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=15,slow=8.7,SNR=7.0						
DBIC	**Dimbokro**	**41.91**	**216**	P	**P**	**19 00 16.8**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=6.3,slow=12,SNR=5.0						
KSH	**Kashi**	**42.44**	**75**	P	**P**	**19 00 18.5**	**-2.0**
KSH				sP	pP	19 00 24.8	+0.1
KSH				PcP	**PcP**	**19 02 12.0**	**-1.4**
KSH				S	**S**	**19 06 34.5**	**-7.5**
KSH				sS	pS	19 06 47.3	+0.5
KSH				pmax	pmax		
	comp=Z,14nm,1.2s						
KSH				pmax	pmax		
	comp=Z,320nm,7.4s						
KSH				LR	LR		
	comp=N,87nm,5.7s						
KSH				LR	LR		
	comp=E,200nm,8.3s						
KSH				LR	LR		
	comp=Z,470nm,8.1s						
ZAA1	**Zalesovo Array**	**43.50**	**52**	*e*P	**P**	**19 00 30.2**	**+1.5**
ZALV	**Zalesovo Beam**	**43.50**	**52**	P	**P**	**19 00 30.2**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=283,slow=8.4,SNR=4.5						
MK32	**Makanchi Array**	**44.02**	**62**	*e*P	**P**	**19 00 35.7**	**+2.6**
MKAR	**Makanchi Array**	**44.02**	**62**	P	**P**	**19 00 35.7**	**+2.6**
	comp=Z,0.4nm,0.7s,baz=290,slow=7.6,SNR=6.0						
WMQ	**Urumqi**	**48.67**	**64**	*e*P	**P**	**19 01 11.5**	**+1.8**
SCHQ	**Schefferville**	**53.84**	**314**	P	**P**	**19 01 48.2**	**0.0**
	comp=Z,4.1nm,0.7s,baz=235,slow=11,SNR=3.8						
SONA0	**Songino Array**	**58.39**	**52**	*e*P	**P**	**19 02 21.6**	**+0.6**
SONM	**Songino Array**	**58.39**	**52**	P	**P**	**19 02 21.6**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=299,slow=10,SNR=4.7						
LZH	**Lanzhou**	**63.24**	**65**	*e*P	**P**	**19 02 53.5**	**-0.8**
LZH				pP	pP	19 02 57.8	-0.9
LZH				sP	sP	19 03 01.3	+1.0
LZH				*e*PP	**PP**	**19 05 14.5**	**+1.4**
LZH				pmax	pmax		
	comp=Z,52nm,1.0s						
YKA	**Yellowknife Ar**	**68.15**	**339**	P	**P**	**19 03 24.5**	**-0.8**
	comp=Z,0.1nm,0.5s,baz=37,slow=5.8,SNR=2.7						
YKB5	**Yellowknife Ar**	**68.15**	**339**	*e*P	**P**	**19 03 24.6**	**-0.8**
KMI	**Kunming**	**69.10**	**75**	P	**P**	**19 03 36.5**	**+4.4**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CM31	**Chiang Mai Arr**	**70.61**	**83**	*e*P	**P**	**19 03 43.6**	**+2.4**
CMAR	**Chiang Mai Arr**	**70.61**	**83**	P	**P**	**19 03 43.6**	**+2.4**
	comp=Z,0.5nm,0.3s,baz=294,slow=7.5,SNR=3.9						
ILAR	**Eielson Array**	**71.72**	**354**	P	**P**	**19 03 49.3**	**+2.1**
	comp=Z,0.9nm,1.2s,baz=22,slow=5.8,SNR=3.6						
ILB	**Eielson Array**	**71.72**	**354**	*e*P	**P**	**19 03 49.3**	**+2.1**

*ISCJB **25** 19:00:19.5±0.4, 43°.25N±0°.02×18°.70E±0°.03, h5km±3km, Error ellipse: s-maj=3.9km s-min=2.6km az=13.6*
*SAR **25** 19:00:20.8±0.2, 43°.25N×18°.66E, h7km±3km, ML2.1/9*
*PDG **25** 19:00:20.5±0.1, 43°.21N×18°.72E, h12km, MD2.5/1, ML2.3/8, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
*BEO **25** 19:00:21.1±0.3, 43°.22N×18°.75E, h9km±2km, ML2.0/11*

ISC 25 19:00:20.4±1.0, 43°.23N±0°.02×18°.70E±0°.02, h9km±8km, n39, σ0s66/75, 10C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BRY	**Bratogost**	**0.35**	**199**	⇑*i*	P	**Pg**	**19 00 27.2**	**-0.1**
BRY				*i*	Sg	**Sg**	**19 00 32.6**	**+0.7**
BRY	**Bratogost**	**0.35**	**199**	⇓*i*	P	**Pg**	**19 00 27.0**	**-0.3**
BRY				*e*Sg		**Sg**	**19 00 33.0**	**+1.1**
NKY	**Niksic**	**0.47**	**152**	⇑*i*	P	**Pg**	**19 00 29.1**	**-0.5**
NKY				*i*	Sg	**Sg**	**19 00 36.0**	**+0.2**
NKME	**Niksic**	**0.50**	**158**	⇓*i*	P	**Pg**	**19 00 29.8**	**-0.3**
NKME				*i*	Sg	**Sg**	**19 00 37.2**	**+0.5**
PLE	**Pljevlja**	**0.52**	**78**	⇑*i*	P	**Pg**	**19 00 30.1**	**-0.4**
PLE				*i*	Sg	**Sg**	**19 00 37.9**	**+0.6**
TREB	**Trebinje**	**0.57**	**207**	*e*	Pg	**Pg**	**19 00 31.0**	**-0.5**
TREB				*e*	Sg	**Sb**	**19 00 41.1**	**+0.3**
TREB	**Trebinje**	**0.57**	**207**	*e*	Pg	**Pg**	**19 00 30.9**	**-0.5**
TREB				*e*	Sg	**Sb**	**19 00 40.5**	**-0.3**
KOME	**Kolasin**	**0.71**	**122**	⇓*i*	Pg	**Pg**	**19 00 33.4**	**-0.7**
KOME				*i*	Sg	**Sb**	**19 00 44.2**	**-0.7**
HCY	**Herceg Novi**	**0.80**	**191**	⇓*i*	Pg	**Pg**	**19 00 34.9**	**-0.8**
HCY				*i*	Sg	**Sb**	**19 00 47.4**	**+0.2**
HCY	**Herceg Novi**	**0.80**	**191**	*e*	Pg	**Pg**	**19 00 35.3**	**-0.4**
HCY				*e*	Sg	**Sb**	**19 00 47.4**	**+0.2**
STON	**Ston**	**0.81**	**244**	*e*	Pg	**Pg**	**19 00 34.6**	**-1.5**
STON					Sg	**Sg**	**19 00 46.2**	**-0.4**
BBLS	**Lazići**	**0.82**	**39**	*e*	Pg	**Pg**	**19 00 35.9**	**-0.3**
BBLS				*e*	Sg	**Sg**	**19 00 47.3**	**+0.4**
BBLS	**Lazići**	**0.82**	**39**	*e*	Pg	**Pg**	**19 00 35.8**	**-0.4**
BBLS				*e*	Sg	**Sg**	**19 00 47.5**	**+0.6**
HAPS	**Han Pijesak,Bl**	**0.88**	**12**	*e*	Pg	**Pg**	**19 00 36.4**	**-0.9**
HAPS				*e*	Sg	**Sg**	**19 00 49.0**	**+0.2**
HAPS	**Han Pijesak,Bl**	**0.88**	**12**	*e*	Pg	**Pg**	**19 00 36.6**	**-0.7**
HAPS				*e*	Sg	**Sg**	**19 00 48.6**	**-0.2**
PDG	**Podgorica**	**0.90**	**153**	*e*	Pg	**Pg**	**19 00 36.2**	**-1.5**
PDG				*e*	Sg	**Sg**	**19 00 49.2**	**-0.2**
PDG	**Podgorica**	**0.90**	**153**	⇑*i*	P	**Pg**	**19 00 36.6**	**-1.1**
PDG				S		**Sb**	**19 00 50.1**	**-0.1**
PDG	**Podgorica**	**0.90**	**153**	*e*	Pg	**Pb**	**19 00 38.2**	**+0.1**
PDG				*e*	Sg	**Sb**	**19 00 50.4**	**+0.2**
TTG	**Podgorica**	**0.90**	**153**	⇑*i*	Pg	**Pg**	**19 00 36.8**	**-0.9**
TTG				*i*	Sg	**Sb**	**19 00 50.6**	**+0.4**
BUM	**Brajici-Budva**	**0.94**	**171**	⇑*i*	Pg	**Pg**	**19 00 37.6**	**-0.9**
BUM				*i*	Sg	**Sb**	**19 00 52.1**	**+0.7**
IVA	**Berane**	**0.95**	**112**	⇑*i*	Pg	**Pg**	**19 00 38.2**	**-0.5**
IVA				*i*	Sg	**Sb**	**19 00 52.1**	**+0.4**
DRME	**Dracevica, Mon**	**1.10**	**161**	⇓*i*	Pg	**Pg**	**19 00 40.7**	**-0.9**
DRME				*i*	Sg	**Sn**	**19 00 57.5**	**+0.2**
DRME	**Dracevica, Mon**	**1.10**	**161**	*e*	Pg	**Pg**	**19 00 41.0**	**-0.6**
DRME				*e*	Sg	**Sn**	**19 00 56.9**	**-0.4**
DIVS	**Divibare**	**1.28**	**47**	*e*	Pg	**Pn**	**19 00 44.2**	**-0.4**
DIVS				*e*	Sg	**Sb**	**19 01 00.6**	**-0.7**
DIVS	**Divibare**	**1.28**	**47**	*e*	Pg	**Pn**	**19 00 44.0**	**-0.6**
DIVS				*e*	Sg	**Sb**	**19 01 01.0**	**-0.3**
ULC	**Ulcinj**	**1.33**	**162**	⇑*i*	Pg	**Pn**	**19 00 44.7**	**-0.4**
ULC				*i*	Sg	**Sg**	**19 01 05.2**	**+2.1**
TEKS	**Tekeris**	**1.45**	**24**	*e*	Pg	**Pb**	**19 00 48.0**	**+0.4**
TEKS				*e*	Sg	**Sn**	**19 01 06.4**	**+0.4**
TEKS	**Tekeris**	**1.45**	**24**	*e*	Pg	**Pn**	**19 00 46.7**	**-0.1**
TEKS				*e*	Sg	**Sn**	**19 01 06.3**	**+0.3**
TRUS	**Trudelj**	**1.59**	**51**	*e*	Pn	**Pb**	**19 00 49.7**	**-0.3**
TRUS				*e*	Sn	**Sn**	**19 01 09.9**	**+0.5**
GRUS	**Gruza**	**1.61**	**65**	*e*	Pn	**Pn**	**19 00 48.9**	**-0.1**
GRUS				*e*	Sn	**Sn**	**19 01 10.2**	**+0.4**
SELS	**Selova**	**1.77**	**89**	*e*	Pn	**Pn**	**19 00 51.4**	**+0.2**
SELS				*e*	Sn	**Sn**	**19 01 12.4**	**-1.5**
BLY	**Banja Luka**	**1.87**	**325**	*e*	Pn	**Pn**	**19 00 53.8**	**+1.2**
BLY				*e*	Sn	**Sb**	**19 01 18.3**	**+0.1**
BLY	**Banja Luka**	**1.87**	**325**	⇑*i*	P	**Pb**	**19 00 54.8**	**+0.1**
BLY	**Banja Luka**	**1.87**	**325**	*e*	Pn	**Pn**	**19 00 52.8**	**+0.2**
BLY				*e*	Sn	**Sn**	**19 01 16.0**	**-0.3**
FRGS	**Fruska Gora**	**2.09**	**22**	*e*	Pn	**Pn**	**19 00 56.3**	**+0.7**
FRGS				*e*	Sn	**Sn**	**19 01 22.7**	**+1.0**
FRGS	**Fruska Gora**	**2.09**	**22**	*e*	Pn	**Pn**	**19 00 56.0**	**+0.4**
FRGS				*e*	Sn	**Sn**	**19 01 21.8**	**+0.1**
BARS	**Barje**	**2.32**	**99**	*e*	Pn	**Pn**	**19 00 59.5**	**+0.7**
BARS				*e*	Sn	**Sn**	**19 01 26.9**	**-0.6**
MDVR	**Moldovita**	**2.67**	**53**	S		**Sg**	**19 01 47.0**	**+0.7**
BZS	**Buzias**	**3.17**	**40**	⇑*i*	P	**Pn**	**19 01 10.9**	**+0.4**

IDC 25 19:09:51.8±17.0, 22°.07N×142°.96E, h295km±139km, mb2.9/6, mb1 3.0/6, mb1mx2.7/36, mbtmp3.5/6, Error ellipse: s-maj=249.1km s-min=16.1km az=79.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KSRS	**Korea Array**	**20.09**	**323**	P		P	19 14 03.9	+0.1
	1.4nm,0.6s,baz=150,slow=8.7,SNR=6.7							
SONM	**Songino Array**	**38.92**	**320**	P		P	19 16 50.2	+0.5
	0.2nm,0.4s,baz=120,slow=5.3,SNR=4.1							
WRA	**Warramunga Arr**	**42.60**	**192**	P		P	19 17 19.6	-0.1
	0.4nm,1.0s,baz=15,slow=9.0,SNR=6.8							
ASAR	**Alice Springs**	**46.31**	**192**	P		P	19 17 48.7	-0.1
	0.3nm,0.7s,baz=7.9,slow=14,SNR=3.3							
ZALV	**Zalesovo Beam**	**53.79**	**322**	P		P	19 18 43.6	-0.7
	0.4nm,0.4s,baz=105,slow=9.3,SNR=3.6							
FINES	**FINESS Array B**	**82.75**	**334**	P		P	19 21 42.9	+0.1
	0.9nm,0.6s,baz=74,slow=5.9,SNR=4.3							

*IDC **25** 19:20:40.1±1.2, 13°.62S×166°.41E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.8/34, mbtmp3.9/7, ML3.6/1, Error ellipse: s-maj=41.2km s-min=22.3km az=122.0*
*ISCJB **25** 19:20:44.2±0.8, 13°.73S±0°.06×166°.3E±0°.1, h36km, mb4.0/8, Error ellipse: s-maj=17.3km s-min=7.8km az=162.4*
*NEIC **25** 19:20:45.8±1.4, 13°.65S×166°.36E, h40km±12km, mb4.4/3, Error ellipse: s-maj=15.9km s-min=11.5km az=55.0*

ISC 25 19:20:45.6±0.9, 13°.63S±0°.08×166°.4E±0°.2, h36km, n19, σ0s92/21, mb3.9/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
HNR	**Honiara**	**7.54**	**303**	*e*Pn		**Pn**	**19 22 33.3**	**+0.2**
MARNC	**Mare, Loyalty**	**7.97**	**169**	*e*Pn		**Pn**	**19 22 39.2**	**+0.2**
DZM	**Mont Dzumac**	**8.40**	**179**	Pn		**Pn**	**19 22 44.5**	**-0.4**
	0.8nm,0.3s,baz=334,slow=9.4,SNR=17							
DZM				Sn		**Sn**	**19 24 18.6**	**+0.1**
	baz=134,slow=17,SNR=1.2							
DZM	**Mont Dzumac**	**8.40**	**179**	*e*Pn		**Pn**	**19 22 43.9**	**-1.0**
DZM				Sn		**Sn**	**19 24 18.6**	**+0.1**
OUENC	**Ouen Island, N**	**8.75**	**177**	*e*Pn		**Pn**	**19 22 49.5**	**-0.2**
PINNC	**Pines Island,**	**8.99**	**174**	*e*Pn		**Pn**	**19 22 54.0**	**+0.9**
STKA	**Stephens Creek**	**29.06**	**227**	P		**P**	**19 26 43.0**	**+0.3**
	2.0nm,0.7s,baz=66,slow=10.0,SNR=4.3							
STKA	**Stephens Creek**	**29.06**	**227**	*e*P		**P**	**19 26 42.9**	**+0.3**
	3.3nm,1.6s							
WB2	**Warramunga Arr**	**31.24**	**254**	*e*P		**P**	**19 26 59.8**	**-2.4**
	10nm,1.3s							
WR1	**Warramunga Arr**	**31.25**	**254**	*e*P		**P**	**19 27 02.3**	**+0.1**
	18nm,1.5s							
WRA	**Warramunga Arr**	**31.25**	**254**	P		**P**	**19 27 02.3**	**+0.1**
	1.1nm,0.7s,baz=86,slow=9.7,SNR=6.7							
AS01	**Alice Springs**	**32.22**	**247**	*e*P		**P**	**19 27 11.5**	**+0.8**
ASAR	**Alice Springs**	**32.26**	**247**	P		**P**	**19 27 11.0**	**-0.1**
	0.9nm,0.7s,baz=75,slow=9.6,SNR=18							
ILAR	**Eielson Array**	**85.76**	**18**	P		**P**	**19 33 21.6**	**+0.8**
	0.9nm,0.7s,baz=243,slow=4.9,SNR=13							
MK32	**Makanchi Array**	**95.80**	**317**	*e*P		**P**	**19 34 09.1**	**+0.8**
MKAR	**Makanchi Array**	**95.80**	**317**	P		**P**	**19 34 09.1**	**+0.8**
	0.4nm,0.8s,baz=110,slow=6.7,SNR=4.1							
YKA	**Yellowknife Ar**	**96.98**	**27**	P		**P**	**19 34 12.4**	**-0.8**
	0.2nm,0.5s,baz=257,slow=4.7,SNR=4.8							
ARA0	**ARCESS Array S**	**118.97**	**345**	*e*PKPdf		**PKPdf**	**19 39 28.5**	**-1.4**
ARCES	**ARCESS Array B**	**118.97**	**345**	PKP		**PKPdf**	**19 39 28.5**	**-1.4**
	1.3nm,0.8s,baz=53,slow=3.5,SNR=4.3							

*ISCJB **25** 19:33:16.5±0.9, 17°.39N±0°.05×101°.25W±0°.04, h16km±6km, mb3.6/5, Error ellipse: s-maj=9.7km s-min=5.1km az=23.7*
*MEX **25** 19:33:18.3±0.4, 17°.41N×101°.34W, h14km±2km, MD4.3*
*NEIC **25** 19:33:18.5±0.0, 17°.42N×101°.34W, h14km, MD4.3(MEX), After MEX.*
*IDC **25** 19:33:36.1±5.0, 17°.89N×100°.84W, h179km±42km, mb3.2/5, mb1 3.4/7, mb1mx3.2/42, mbtmp3.6/7, Error ellipse: s-maj=78.1km s-min=29.7km az=32.0*

ISC 25 19:33:14.6±1.4, 17°.32N±0°.05×101°.15W±0°.03, h4km±9km, n29, σ2s02/37, mb3.5/5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ZIIG	**Zihuatanejo**	**0.41**	**314**	*e*	Sg	**Sg**	**19 33 26.9**	**-1.1**
ZIIG	**Zihuatanejo**	**0.41**	**314**	*i*	P	**Pg**	**19 33 22.7**	**+0.1**
ZIIG				*i*	Sg	**Sg**	**19 33 26.9**	**-1.1**
CAIG	**El Cayaco**	**0.89**	**108**	*e*	Pg	**Pn**	**19 33 35.3**	**+1.4**
CAIG	**El Cayaco**	**0.89**	**108**	*e*	P	**Pn**	**19 33 35.3**	**+1.4**
CAIG				*i*	S	**Sn**	**19 33 48.5**	**+1.2**
ARIG	**Puente Sto Nin**	**1.23**	**39**	*e*	P	**Pg**	**19 33 38.2**	**0.0**
ARIG				*i*	S	**Sg**	**19 33 53.5**	**-0.6**
ARIG	**Puente Sto Nin**	**1.23**	**39**	*e*	P	**Pg**	**19 33 38.2**	**0.0**
ARIG				*i*	S	**Sg**	**19 33 53.5**	**-0.6**
MEIG	**Mezcala**	**1.58**	**67**	*e*	Pn	**Pg**	**19 33 45.1**	**+0.1**
MEIG	**Mezcala**	**1.58**	**67**	*e*	P	**Pg**	**19 33 45.1**	**+0.1**
MEIG				*i*	S	**Sg**	**19 34 05.5**	**0.0**
PLIG	**Platanillo**	**1.90**	**56**	*e*	P	**Pn**	**19 33 48.7**	**+0.7**
PLIG				*e*	S	**Sn**	**19 34 12.1**	**-0.3**
MOIG	**Morelia**	**2.35**	**359**	*e*	Pn	**Pn**	**19 33 54.5**	**+0.3**
MOIG				*e*	Sn	**Sn**	**19 34 24.0**	**+0.3**
YAIG	**Yautepec**	**2.51**	**52**	*e*	P	**Pn**	**19 33 57.1**	**+0.7**
YAIG				*i*	S	**Sn**	**19 34 27.9**	**+0.4**
UNM	**Universidad Na**	**2.74**	**43**	*e*	Pn	**Pn**	**19 34 02.1**	**+2.4**
UNM				*e*	Sn	**Sg**	**19 34 43.1**	**+0.3**
PNIG	**Pinotepa**	**3.04**	**107**	*e*	Pn	**Pb**	**19 34 10.2**	**+0.8**
PNIG	**Pinotepa**	**3.04**	**107**	*i*	P	**Pn**	**19 34 05.9**	**+2.3**
PNIG				*i*	S	**Sn**	**19 34 43.7**	**+3.3**
LVIG	**Laguna Verde**	**5.09**	**61**	*e*	Pn	Pn	19 34 36.9	+5.2
ZAIG	**Zacatecas**	**5.58**	**346**	*e*	Pn	**Pn**	**19 34 41.8**	**+3.0**
ZAIG				*e*	Sg	**Sb**	**19 36 05.4**	**+5.1**
CMIG	**Matias Romero**	**6.00**	**91**	P		**Pb**	**19 34 59.5**	**-0.3**
	0.2nm,0.3s,baz=274,slow=13,SNR=2.4							
CMIG				S		**Sb**	**19 36 06.0**	**-6.0**
	0.4nm,0.3s,baz=340,slow=5.1,SNR=4.3							
LNIG	**Linares**	**7.70**	**12**	*e*	Pn	Pn	19 35 12.7	+5.0
TXAR	**Lajitas Array**	**12.18**	**350**	P		Pn	19 36 17.9	+8.8
	0.0nm,0.3s,baz=167,slow=8.3,SNR=7.9							
152A	**Waverly Hall**	**21.30**	**41**	*e*	P	**P**	**19 38 06.3**	**+3.9**
W52A	**Murphy**	**23.43**	**38**	*e*	P	**P**	**19 38 25.4**	**+0.4**
ISA	**Isabella, Lake**	**23.89**	**323**	*e*	Sn	Sn	19 43 13.0	+4.2
NV01	**Mina Array Sit**	**25.84**	**328**	*e*	P	**P**	**19 38 47.1**	**-0.3**
NVAR	**Mina Array Bea**	**25.84**	**328**	P		**P**	**19 38 47.7**	**+0.2**
	2.3nm,0.7s,baz=150,slow=11,SNR=16							
KVN	**Kaiserville**	**26.22**	**329**	*e*	P	**P**	**19 38 50.8**	**0.0**
PDAR	**Pinedale Array**	**26.36**	**346**	P		**P**	**19 38 52.9**	**+0.7**
	0.6nm,0.8s,baz=158,slow=10,SNR=4.6							
ULM	**Lac du Bonnet**	**33.12**	**6**	P		**P**	**19 39 49.0**	**-2.8**
	2.1nm,1.0s,baz=190,slow=18,SNR=2.5							
YKA	**Yellowknife Ar**	**46.10**	**351**	P		**P**	**19 41 36.9**	**-2.7**
	0.3nm,0.8s,baz=159,slow=7.4,SNR=3.1							
ILAR	**Eielson Array**	**56.42**	**338**	P		**P**	**19 42 56.6**	**-0.5**
	0.5nm,0.9s,baz=139,slow=5.6,SNR=4.7							

*KNET **25** 19:39:46.1±4.3, 36°.61N×71°.81E, h0km, Error ellipse: s-maj=51.3km s-min=42.7km az=64.0*
*KRNET **25** 19:40:48.2±0.1, 40°.83N×74°.13E, h14km, mb2.7*

*NNC **25** 19:40:48.3±0.4, 40°.79N×74°.12E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=4.9km s-min=2.1km az=113.0*
*SOME **25** 19:40:49.6, 40°.77N×74°.18E, h15km*

ISC 25 19:40:47.5±1.2, 40°.80N±0°.03×74°.10E±0°.02, h3km±12km, n47, σ1s27/72, 21C-23D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SFK	**Sufi-Kurgan**	**0.91**	**210**	⇓P		**Pb**	**19 41 06.1**	**+0.1**
	2.5nm,0.2s							
SFK				⇑S		**Sg**	**19 41 18.0**	**+1.4**
	10nm,0.3s							
SFK	**Sufi-Kurgan**	**0.91**	**210**	Pg		**Pb**	**19 41 06.1**	**+0.1**
	11nm,0.1s							
SFK				Lg		Lg	19 41 17.9	
	25nm,0.1s							
SFK	**Sufi-Kurgan**	**0.91**	**210**	⇓*i*P		**Pb**	**19 41 06.2**	**+0.2**
	baz=11							
SFK				⇓*i*S		**Sb**	**19 41 18.9**	**+0.4**
	baz=11							
ARSB	**Arslanbob**	**1.00**	**302**	⇑*i*P		**Pb**	**19 41 07.5**	**0.0**
	baz=0.0							
ARSB				⇑*i*S		**Sg**	**19 41 21.3**	**+1.8**
	baz=0.0							
ARLS	**Aral**	**1.08**	**9**	⇑*i*P		**Pb**	**19 41 07.8**	**-1.0**
	baz=8.0							
ARLS				⇑*i*S		**Sb**	**19 41 21.6**	**-1.8**
	baz=8.0							
AML	**Almayashu**	**1.37**	**347**	P		**Pn**	**19 41 13.5**	**-0.3**
	SNR=66							
AML	**Almayashu**	**1.37**	**347**	⇓*i*P		**Pn**	**19 41 13.3**	**-0.5**
	baz=46							
AML				⇓*i*S		**Sn**	**19 41 31.9**	**-0.7**
	baz=46							
UCH	**Uchtor**	**1.46**	**12**	P		**Pg**	**19 41 18.2**	**+2.7**
	SNR=7.4							
UCH	**Uchtor**	**1.46**	**12**	⇓*i*P		**Pb**	**19 41 15.3**	**-0.3**
	baz=12							
UCH				⇓*i*S		**Sb**	**19 41 34.5**	**-0.3**
	baz=12							
KZA	**Kyzart**	**1.54**	**34**	⇑*i*P		**Pb**	**19 41 16.4**	**-0.6**
	baz=34							
KZA				⇑*i*S		**Sg**	**19 41 37.2**	**+0.1**
	baz=34							
NRN	**Naryn**	**1.57**	**65**	⇑*i*P		**Pn**	**19 41 16.2**	**-0.3**
	baz=66							
NRN				⇑*i*S		**Sg**	**19 41 37.9**	**0.0**
	baz=66							
AAK	**Ala-Archa**	**1.86**	**9**	P		**Pg**	**19 41 24.7**	**+1.6**
	SNR=9.9							
AAK	**Ala-Archa**	**1.86**	**9**	⇓Pg		**Pb**	**19 41 22.5**	**+0.3**
AAK				Lg		Lg	19 41 47.9	
	5.4nm,0.3s					

ARXS Arharly 4.39 38 Pg Pb 19 42 07.5 +2.3
1.3nm,0.5s
ARXS Lg Lg 19 43 03.1
7.8nm,0.5s
ARXS Arharly 4.39 38 *e*P **Pb 19 42 07.5 +2.3**
1.3nm,0.5s
ARXS *e*S **Sb 19 43 03.1 +4.7**
7.8nm,0.5s
PDGK Podgornoye 4.74 56 ⇑Pg **Pg 19 42 15.5 -2.8**
1.1nm,0.6s
PDGK ⇑Lg Lg 19 43 17.5
3.0nm,0.7s

NIED ***25*** *19:41:00,42°.30N×143°.00E,h62km,Mw3.8 Best double couple: M0=5.43000×10^14 NP1:φs=232.00000°,δ26.00000°, λ121.00000°. NP2:φs18.00000°,δ68.00000°,λ75.00000°.*
ISCJB ***25*** *19:41:03.6±0.4,42°.29N±0°.05×142°.99E±0°.05,h70km±3km, mb3.7/13,Error ellipse: s-maj=8.4km s-min=4.8km az=155.4*
IDC ***25*** *19:41:04.7±2.5,42°.33N×143°.24E,h74km±18km,mb3.5/12, mb1 3.6/14,mb1mx3.4/56,mbtmp3.8/14,Error ellipse: s-maj=30.1km s-min=17.9km az=100.0*
MOS ***25*** *19:41:04.2±0.9,42°.28N×143°.05E,h86km,mb3.9/10,Error ellipse: s-maj=15.4km s-min=9.5km az=66.4*
JMA ***25*** *19:41:05.4±0.1,42°.35N×142°.99E,h53km±1km,M3.5 Broadband fault plane solution: P waves. NP1: φs7.00000°,δ64.00000°,λ55.00000°. NP2:φs245.00000°, δ43.00000°,λ140.00000°. Principal axes: T Plg56.0000°, Azm230.0000°; N Plg31.0000°, Azm25.0000°; P Plg12.0000°, Azm122.0000°;*
JMA Felt I J1.

ISC 25 19:41:04.1±0.8,42°.28N±0°.06×142°.98E±0°.04,h63km±6km, n41,σ1§31/47,mb3.9/13,5C-4D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNBK	**Urakawa-nobuka**	**0.17**	**271**	⇑P	**Pn**	**19 41 13.8**	**+0.1**
JTHR	**Tokachihiroo**	**0.24**	**87**	⇑P	**Pn**	**19 41 14.3**	**+0.3**
JTHR				*e*S	**Sn**	**19 41 21.1**	**-0.1**
JEM	**Erimo**	**0.29**	**153**	⇑P	**Pn**	**19 41 15.4**	**+1.0**
JSHD	**Hidakashinhida**	**0.40**	**289**	⇓P	**Pn**	**19 41 15.8**	**+0.5**
JCH	**Churui**	**0.44**	**40**	⇑P	**Pn**	**19 41 15.6**	**0.0**
JCH				*e*S	**Sn**	**19 41 23.7**	**-0.4**
JBT2	**Biratori 2**	**0.68**	**318**	⇓P	**Pn**	**19 41 18.3**	**+0.1**
JBT2				*e*S	**Sn**	**19 41 29.1**	**+0.6**
JIAM	**Iburiatsuma**	**0.85**	**294**	P	**Pn**	**19 41 21.8**	**+1.5**
JOB	**Onbets**	**0.89**	**45**	⇑P	**Pn**	**19 41 21.6**	**+0.8**
JFR	**Furan**	**0.93**	**342**	P	**Pn**	**19 41 20.7**	**-0.6**
JAR	**Ashorobuto**	**1.17**	**29**	P	**Pn**	**19 41 24.3**	**-0.2**
JAR				*e*S	**Sn**	**19 41 38.6**	**-1.1**
JEW	**Eniwo**	**1.26**	**297**	⇓P	**Pn**	**19 41 26.5**	**+0.9**
JAB	**Ashibetsu**	**1.35**	**336**	P	**Pn**	**19 41 27.5**	**+0.7**
ASAJ	**Asahikawa**	**1.86**	**351**	P	**Pn**	**19 41 34.6**	**+1.0**
	26nm,0.3s,baz=202,slow=11,SNR=39						
ASAJ				S	**Sn**	**19 41 54.4**	**-1.7**
	20nm,0.3s,baz=62,slow=21,SNR=5.2						
GLVR	**Golovnino**	**2.37**	**51**	*e*PN	**Pn**	**19 41 41.8**	**+1.3**
GLVR				*e*S	**Sn**	**19 42 09.6**	**+1.2**
GLVR				pmax	pmax		
	comp=Z,262nm,0.2s						
GLVR				pmax	pmax		
	comp=E,45nm,0.1s						
GLVR				smax	smax		
	comp=N,1μm,0.3s						
GLVR				smax	smax		
	comp=E,672nm,0.3s						
GRPR	**Tuman**	**2.67**	**49**	*e*PN	**Pn**	**19 41 46.0**	**+1.4**
GRPR				*e*S	**Sn**	**19 42 16.7**	**+0.9**
GRPR				pmax	pmax		
	comp=Z,126nm,0.1s						
GRPR				pmax	pmax		
	comp=E,49nm,0.2s						
GRPR				pmax	pmax		
	comp=N,144nm,0.1s						
GRPR				smax	smax		
	comp=N,450nm,0.3s						
GRPR				smax	smax		
	comp=E,502nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.74**	**49**	*e*PN	**Pn**	**19 41 46.9**	**+1.2**
YUK				*e*S	**Sn**	**19 42 18.7**	**+1.1**
YUK				pmax	pmax		
	comp=Z,179nm,0.3s						
YUK				pmax	pmax		
	comp=E,49nm,0.2s						
YUK				pmax	pmax		
	comp=N,35nm,0.1s						
YUK				smax	smax		
	comp=E,207nm,0.2s						
YUK				smax	smax		
	comp=N,358nm,0.4s						
SHO	**Shikotan**	**3.24**	**59**	⇓*i*PN	**Pn**	**19 41 52.2**	**-0.2**
SHO				*i* S	**Sn**	**19 42 28.7**	**-1.0**
SHO				pmax	pmax		
	comp=Z,42nm,0.2s						
SHO				pmax	pmax		
	comp=N,21nm,0.3s						
SHO				pmax	pmax		
	comp=E,20nm,0.3s						
SHO				smax	smax		
	comp=N,77nm,0.2s						
SHO				smax	smax		
	comp=E,221nm,0.2s						
KUR	**Kuril'sk**	**4.61**	**49**	*e*PN	**Pn**	**19 42 14.4**	**+3.2**
KUR				*e*S	**Sn**	**19 43 06.2**	**+2.8**
KUR				pmax	pmax		
	comp=N,5.0nm,0.1s						
KUR				pmax	pmax		
	comp=Z,13nm,0.1s						
KUR				pmax	pmax		
	comp=E,10.0nm,0.2s						
KUR				smax	smax		
	comp=N,30nm,0.3s						
KUR				smax	smax		
	comp=E,29nm,0.3s						
MJAR	**Matsushiro Arr**	**6.81**	**214**	P	**Pn**	**19 42 43.2**	**+1.8**
	comp=E,0.1nm,0.3s,baz=27,slow=13,SNR=7.8						
USRK	**Ussuriysk Ar.**	**8.25**	**287**	P	**Pn**	**19 43 05.1**	**+4.1**
	comp=E,0.2nm,0.3s,baz=84,slow=14,SNR=4.4						
KSRS	**Korea Array**	**12.53**	**252**	P	**P**	**19 44 06.6**	**-2.3**
	comp=E,0.3nm,0.3s,baz=63,slow=14,SNR=3.3						
SEY	**Seymchan**	**21.42**	**12**	P	**P**	**19 45 44.7**	**-1.8**
	comp=E,0.6nm,0.4s,baz=190,slow=17,SNR=7.7						
SONM	**Songino Array**	**26.26**	**295**	P	**P**	**19 46 34.0**	**+0.6**
	comp=E,0.9nm,0.7s,baz=77,slow=8.8,SNR=7.8						
SONM	**Songino Array**	**26.26**	**295**	P	**P**	**19 46 34.0**	**+0.6**
H11N2	**WAKE ISLAND Hy**	**30.23**	**131**	T	T	20 18 42.7	
	baz=324						
H11N1	**WAKE ISLAND Hy**	**30.24**	**131**	T	T	20 18 47.0	
	baz=324						
H11N3	**WAKE ISLAND Hy**	**30.25**	**131**	T	T	20 18 44.9	
	baz=324						
H11S1	**WAKE ISLAND Hy**	**31.11**	**132**	T	T	20 19 51.7	
	baz=325,slow=76,SNR=82						
H11S3	**WAKE ISLAND Hy**	**31.11**	**132**	T	T	20 19 46.1	
	baz=325,slow=76,SNR=78						
H11S2	**WAKE ISLAND Hy**	**31.12**	**132**	T	T	20 19 53.5	
	baz=325,slow=76,SNR=86						
ZALV	**Zalesovo Beam**	**39.46**	**308**	P	**P**	**19 48 27.9**	**0.0**
	comp=E,0.9nm,0.5s,baz=112,slow=11,SNR=8.3						
ZALV				PcP	**PcP**	**19 50 33.5**	**-1.1**
	comp=E,0.3nm,0.4s,baz=96,slow=1.4,SNR=3.0						
MKAR	**Makanchi Array**	**42.55**	**298**	P	**P**	**19 48 54.2**	**+0.7**
	comp=E,1.4nm,0.8s,baz=82,slow=9.5,SNR=14						
MKAR				PcP	**PcP**	**19 50 45.4**	**+0.5**
	comp=E,0.3nm,0.7s,baz=84,slow=1.9,SNR=2.7						
KURK	**Kurchatov**	**43.82**	**304**	P	**P**	**19 49 04.7**	**+1.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURBB	**Kurchatov Arra**	**43.90**	**304**	P	**P**	**19 49 04.7**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=75,slow=8.8,SNR=10						
CMAR	**Chiang Mai Arr**	**44.16**	**251**	P	**P**	**19 49 07.4**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=37,slow=9.1,SNR=4.3						
BVAR	**Borovoye Array**	**48.06**	**309**	P	**P**	**19 49 37.6**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=77,slow=9.5,SNR=9.2						
AKTO	**Aktyubinsk**	**56.15**	**310**	P	**P**	**19 50 36.6**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=49,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**62.42**	**189**	P	**P**	**19 51 20.7**	**+0.2**
	comp=Z,0.6nm,1.1s,baz=6.7,slow=6.9,SNR=4.7						
FINES	**FINESS Array B**	**64.76**	**332**	P	**P**	**19 51 34.8**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=56,slow=6.7,SNR=7.6						
HFS	**Hagfors**	**69.81**	**336**	P	**P**	**19 52 07.5**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=31,slow=6.9,SNR=8.8						
NOA	**NORSAR Array B**	**69.82**	**337**	P	**P**	**19 52 06.7**	**-0.9**
	comp=Z,1.0nm,0.9s,baz=42,slow=7.2,SNR=2.4						

KRSC ***25*** *19:42:59.4±2.5,49°.43N×156°.22E,h54km±30km,ML5.5*
BJI ***25*** *19:43:00.2,49°.87N×156°.05E,h62km,mb4.5/35,mB5.2/25, Ms4.8/10,Ms7 4.5/7*
ISCJB ***25*** *19:43:03.9±0.4,49°.75N±0°.03×155°.68E±0°.03,h84km±3km, mb4.8/245,Error ellipse: s-maj=5.0km s-min=2.4km az=153.4*
MOS ***25*** *19:43:04.9±1.0,49°.80N×155°.73E,h95km,mb4.8/43,Error ellipse: s-maj=6.9km s-min=3.3km az=74.0*
NEIC ***25*** *19:43:05.0±0.5,49°.76N×155°.57E,h80km±4km,mb4.9/198, Error ellipse: s-maj=3.9km s-min=2.1km az=157.0*
IDC ***25*** *19:43:06.4±1.7,49°.82N×155°.54E,h92km±15km,mb4.2/38, mb1 4.3/44,mb1mx4.3/64,mbtmp4.5/44,MS3.6/13, Ms1 3.7/13,ms1mx3.5/33,Error ellipse: s-maj=11.5km s-min=8.0km az=156.0*

ISC 25 19:43:04.0±0.8,49°.62N±0°.05×155°.86E±0°.04,h75km±6km, n794,σ1§28/834,mb4.9/245,24C-14D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.08**	**9**	*e*P	**Pn**	**19 43 22.6**	**-1.1**
SKR				*e*S	**Sn**	**19 43 37.1**	**-1.2**
SKR	**Severo-Kuril's**	**1.08**	**9**	*i* PN	**Pn**	**19 43 22.5**	**-1.1**
PAU	**Pauzhetka**	**1.94**	**18**	*e*P	**Pn**	**19 43 34.6**	**-0.3**
PAU				*e*S	**Sn**	**19 43 58.8**	**+0.3**
PAU	**Pauzhetka**	**1.94**	**18**	PN	**Pn**	**19 43 34.6**	**-0.3**
PAU				S	**Sn**	**19 43 58.8**	**+0.3**
KDTR	**Khodutka, Kamc**	**2.60**	**32**	*e*P	**Pn**	**19 43 42.5**	**-1.3**
KDTR				*e*S	**Sn**	**19 44 12.5**	**-1.8**
KDTR	**Khodutka, Kamc**	**2.60**	**32**	PN	**Pn**	**19 43 42.5**	**-1.3**
KDTR				S	**Sn**	**19 44 12.5**	**-1.8**
MTVR	**Mutnovka**	**3.22**	**26**	*e*P	**Pn**	**19 43 52.4**	**+0.1**
MTVR				*e*S	**Sn**	**19 44 30.0**	**+0.5**
MTVR	**Mutnovka**	**3.22**	**26**	PN	**Pn**	**19 43 52.4**	**+0.1**
MTVR				S	**Sn**	**19 44 30.0**	**+0.5**
GRL	**Gorelyy**	**3.25**	**25**	*e*P	**Pn**	**19 43 53.6**	**+0.9**
GRL				*e*S	**Sn**	**19 44 31.4**	**+1.2**
GRL	**Gorelyy**	**3.25**	**25**	PN	**Pn**	**19 43 53.6**	**+0.9**
GRL				S	**Sn**	**19 44 31.4**	**+1.2**
RUS	**Russkaya**	**3.27**	**30**	*e*P	**Pn**	**19 43 52.3**	**-0.6**
RUS				*e*S	**Sn**	**19 44 29.0**	**-1.7**
RUS	**Russkaya**	**3.27**	**30**	PN	**Pn**	**19 43 52.3**	**-0.6**
RUS				S	**Sn**	**19 44 29.0**	**-1.7**
APC	**Apacha**	**3.41**	**13**	*e*P	**Pn**	**19 43 56.3**	**+1.6**
APC	**Apacha**	**3.41**	**13**	PN	**Pn**	**19 43 56.3**	**+1.6**
KRMR	**Karymshinskiy**	**3.52**	**23**	*e*P	**Pn**	**19 43 57.0**	**+0.8**
KRMR				*e*S	**Sn**	**19 44 40.0**	**+3.5**
KRMR	**Karymshinskiy**	**3.52**	**23**	PN	**Pn**	**19 43 57.0**	**+0.8**
PEA0B	**Petropavlovsk-**	**3.68**	**18**	*e*Pn	**Pn**	**19 43 59.2**	**+0.9**
PETK	**Petropavlovsk-**	**3.68**	**18**	P	**Pn**	**19 43 59.6**	**+1.2**
	52nm,0.3s,baz=172,slow=12,SNR=695						
PETK				S	**Sn**	**19 44 47.8**	**+7.3**
	23nm,0.3s,baz=172,slow=12,SNR=4.3						
PETK				LR	LR	19 45 45.6	
	comp=Z,868nm,20.4s,baz=186,slow=45						
PETK	**Petropavlovsk-**	**3.68**	**18**	*e*PN	**Pn**	**19 43 59.4**	**+1.0**
PEA1	**Petropavlovsk-**	**3.68**	**17**	*e*Pn	**Pn**	**19 43 59.6**	**+1.1**
PEA1				*e*Sn	**Sn**	**19 44 47.8**	**+7.1**
PEA1				*e*		19 45 45.6	
PET	**Petropavlovsk**	**3.83**	**26**	*e*Pn	**Pn**	**19 44 00.7**	**+0.3**
PET				*e*Sn	**Sn**	**19 44 44.4**	**+0.2**
PET	**Petropavlovsk**	**3.83**	**26**	*e*PN	**Pn**	**19 44 00.7**	**+0.3**
PET				*e*		19 44 44.4	
DALK	**Dalny**	**3.87**	**27**	*e*P	**Pn**	**19 44 01.2**	**+0.3**
DALK				*e*S	**Sn**	**19 44 44.9**	**-0.2**
DALK	**Dalny**	**3.87**	**27**	PN	**Pn**	**19 44 01.2**	**+0.3**
DALK				S	**Sn**	**19 44 44.9**	**-0.2**
UGLR	**Uglovaya**	**4.04**	**26**	*i* P	**Pn**	**19 44 04.5**	**+1.0**
UGLR	**Uglovaya**	**4.04**	**26**	PN	**Pn**	**19 44 04.5**	**+1.0**
KOK	**Koryaka**	**4.06**	**24**	*e*P	**Pn**	**19 44 05.4**	**+1.7**
KOK	**Koryaka**	**4.06**	**24**	PN	**Pn**	**19 44 05.4**	**+1.7**
AVH	**Avacha**	**4.07**	**25**	*e*P	**Pn**	**19 44 05.2**	**+1.4**
AVH				*e*S	**Sn**	**19 44 54.6**	**+4.5**
AVH	**Avacha**	**4.07**	**25**	PN	**Pn**	**19 44 05.2**	**+1.4**
SMAR	**Somma**	**4.08**	**26**	*i* P	**Pn**	**19 44 05.0**	**+0.9**
SMAR	**Somma**	**4.08**	**26**	PN	**Pn**	**19 44 05.0**	**+0.9**
KRX	**Arik**	**4.13**	**24**	*e*P	**Pn**	**19 44 06.4**	**+1.7**
KRX				*e*S	**Sn**	**19 44 56.0**	**+4.3**
KRX	**Arik**	**4.13**	**24**	PN	**Pn**	**19 44 06.4**	**+1.7**
NLC	**Nalytchevo**	**4.17**	**30**	*e*P	**Pn**	**19 44 03.5**	**-1.6**
NLC				*e*S	**Sn**	**19 44 48.9**	**-3.6**
NLC	**Nalytchevo**	**4.17**	**30**	PN	**Pn**	**19 44 03.5**	**-1.6**
NLC				S	**Sn**	**19 44 48.9**	**-3.6**
GNL	**Ganaly**	**4.28**	**17**	*i* P	**Pn**	**19 44 08.4**	**+1.7**
GNL	**Ganaly**	**4.28**	**17**	PN	**Pn**	**19 44 08.4**	**+1.7**
SPN	**Mys Shipunski**	**4.35**	**35**	*e*P	**Pn**	**19 44 06.6**	**-0.9**
SPN				*e*S	**Sn**	**19 44 54.7**	**-2.2**
SPN	**Mys Shipunski**	**4.35**	**35**	PN	**Pn**	**19 44 06.6**	**-0.9**
SPN				S	**Sn**	**19 44 54.7**	**-2.2**
KII	**Karymskiy**	**4.95**	**25**	*e*P	**Pn**	**19 44 17.4**	**+1.6**
KII	**Karymskiy**	**4.95**	**25**	PN	**Pn**	**19 44 17.4**	**+1.6**
KZV	**Kizimen**	**6.13**	**25**	*e*P	**Pn**	**19 44 32.8**	**+0.8**
KZV	**Kizimen**	**6.13**	**25**	PN	**Pn**	**19 44 32.8**	**+0.8**
TUMD	**Tumrok D**	**6.24**	**25**	*e*P	**Pn**	**19 44 33.9**	**+0.6**
TUMR	**Tumrok**	**6.25**	**23**	*e*P	**Pn**	**19 44 35.1**	**+1.6**
TUMR	**Tumrok**	**6.25**	**23**	PN	**Pn**	**19 44 33.9**	**+0.4**
ESO	**Esso**	**6.54**	**14**	*e*P	**Pn**	**19 44 38.6**	**+1.1**
ESO	**Esso**	**6.54**	**14**	PN	**Pn**	**19 44 38.6**	**+1.1**
KUR	**Kuril'sk**	**6.98**	**234**	*e*PN	**Pn**	**19 44 44.6**	**+1.2**
KUR				*e*S	**Sn**	**19 46 03.6**	**+2.4**
KUR				pmax	pmax		
	comp=Z,240nm,0.8s						
KUR				pmax	pmax		
	comp=N,75nm,0.3s						
KUR				pmax	pmax		
	comp=E,71nm,0.2s						
KUR				smax	smax		
	comp=N,189nm,0.7s						
KUR				smax	smax		
	comp=E,44nm,0.7s						
ZLN	**Zelenaya**	**7.07**	**23**	*e*P	**Pn**	**19 44 46.5**	**+1.8**
ZLN	**Zelenaya**	**7.07**	**23**	PN	**Pn**	**19 44 46.5**	**+1.8**
KLY	**Klyuchi**	**7.30**	**21**	*e*P	**Pn**	**19 44 49.4**	**+1.7**
KLY	**Klyuchi**	**7.30**	**21**	PN	**Pn**	**19 44 49.4**	**+1.7**
BDR	**Baidarnaya**	**7.66**	**23**	*e*P	**Pn**	**19 44 53.7**	**+0.9**
BDR	**Baidarnaya**	**7.66**	**23**	PN	**Pn**	**19 44 53.7**	**+0.9**
SRKR	**Sorokina**	**7.73**	**22**	*e*P	**Pn**	**19 44 54.5**	**+0.8**
SRKR	**Sorokina**	**7.73**	**22**	PN	**Pn**	**19 44 54.5**	**+0.8**
SMKR	**Semkarok**	**7.74**	**24**	*e*P	**Pn**	**19 44 54.1**	**+0.2**
SMKR	**Semkarok**	**7.74**	**24**	PN	**Pn**	**19 44 54.1**	**+0.2**
KBTR	**Krutoberegovo**	**7.82**	**30**	*e*P	**Pn**	**19 44 53.7**	**-1.2**
KBTR	**Krutoberegovo**	**7.82**	**30**	PN	**Pn**	**19 44 53.7**	**-1.2**
SHO	**Shikotan**	**8.46**	**231**	⇓*i*PN	**Pn**	**19 45 00.6**	**-3.0**
SHO				pmax	pmax		
	comp=Z,85nm,0.3s						
SHO				pmax	pmax		
	comp=N,26nm,0.4s						
SHO				pmax	pmax		
	comp=E,50nm,0.3s						
TYV	**Tymovskoe**	**8.56**	**283**	*e*PN	**Pn**	**19 45 08.7**	**+3.7**
TYV				*e*S	**Sn**	**19 46 41.5**	**+1.6**
TYV				pmax	pmax		
	comp=Z,37nm,1.0s						
TYV				pmax	pmax		
	comp=Z,500nm,5.1s						
TYV				smax	smax		
	comp=N,600nm,4.5s						
TYV				smax	smax		
	comp=N,15nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**8.84**	**235**	⇓*i*PN	**Pn**	**19 45 07.9**	**-1.0**
YUK				pmax	pmax		
	comp=Z,440nm,0.3s						
YUK				pmax	pmax		
	comp=N,185nm,0.4s						
YUK				pmax	pmax		
	comp=E,370nm,0.4s						
UGL	**Uglegorsk**	**9.03**	**272**	⇓*e*PN	Pn	19 45 15.3	+3.9
UGL				pmax	pmax		
	comp=Z,220nm,0.9s						
UGL				MLR	MLR		
	comp=E,2μm,16.0s						
UGL				MLR	MLR		
	comp=Z,2μm,15.0s						
YSS	**Yuzh-Sakhalins**	**9.14**	**258**	*e*Pn	**Pn**	**19 45 15.2**	**+2.3**
YSS	**Yuzh-Sakhalins**	**9.14**	**258**	*e*PN	**Pn**	**19 45 15.7**	**+2.8**
YSS				*e*S	**Sn**	**19 46 55.8**	**+1.7**
YSS				pmax	pmax		
	comp=Z,80nm,0.8s						
YSS				pmax	pmax		
	comp=N,50nm,1.0s						
YSS				pmax	pmax		
	comp=E,90nm,1.0s						
YSS				smax	smax		
	comp=E,70nm,0.8s						
NKL	**Nikolayevsk**	**10.13**	**296**	*e*PN	**Pn**	**19 45 29.0**	**+2.7**
NKL				pmax	pmax		
	comp=E,24nm,1.0s						
NKL				pmax	pmax		
	comp=Z,65nm,1.0s						
MA2	**Magadan**	**10.40**	**345**	P	**Pn**	**19 45 30.1**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=128,slow=9.1,SNR=12						
MA2				LR	LR	19 49 29.5	
	comp=Z,286nm,21.9s,baz=186,slow=38						
MA2	**Magadan**	**10.40**	**345**	*e*Pn	**Pn**	**19 45 29.5**	**-0.5**
MA2				*e*		19 49 29.4	
MA2	**Magadan**	**10.40**	**345**	*d i* PN	**Pn**	**19 45 30.6**	**+0.6**
MA2				pmax	pmax		
	comp=Z,33nm,1.7s						
ASAJ	**Asahikawa**	**10.62**	**244**	P	**Pn**	**19 45 35.1**	**+2.0**
	comp=Z,11nm,0.3s,baz=81,slow=16,SNR=12						
ASAJ				LR	LR	19 49 15.1	
	comp=Z,273nm,20.3s,baz=330,slow=35						
ASAJ	**Asahikawa**	**10.62**	**244**	*e*Pn	**Pn**	**19 45 34.8**	**+1.7**
ERM	**Erimo**	**11.67**	**234**	*e*Pn	**Pn**	**19 45 45.1**	**-2.3**
ERM	**Erimo**	**11.67**	**234**	⇓*e*PN	**Pn**	**19 45 44.7**	**-2.7**
SMY	**Shemya**	**11.86**	**68**	*e*Pn	**Pn**	**19 45 48.4**	**-1.5**
SMY	**Shemya**	**11.86**	**68**	*e*PN	**Pn**	**19 45 48.4**	**-1.5**
TILK	**Tilichiki**	**12.33**	**24**	*e*P	**Pn**	**19 45 55.5**	**-0.7**
TILK	**Tilichiki**	**12.33**	**24**	PN	**Pn**	**19 45 55.5**	**-0.7**
SEY	**Seymchan**	**13.48**	**353**	P	**Pn**	**19 46 12.2**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=165,slow=11,SNR=13						
SEY	**Seymchan**	**13.48**	**353**	⇓*i*PN	**Pn**	**19 46 13.2**	**+1.5**
TEY	**Ternei**	**13.84**	**258**	⇑*e*P	**P**	**19 46 19.0**	**-3.4**
TEY				pmax	pmax		
	comp=N,20nm,2.0s						
TEY				pmax	pmax		
	comp=Z,60nm,1.5s						
TEY				pmax	pmax		
	comp=E,60nm,1.2s						
KLR	**Kul'dur**	**15.68**	**278**	P	**P**	**19 46 42.2**	**-0.6**
	comp=E,0.2nm,0.3s,baz=81,slow=9.5,SNR=11						
KLR				LR	LR	19 53 07.9	
	comp=E,269nm,18.2s,baz=70,slow=39						
KLR	**Kul'dur**	**15.68**	**278**	⇑*e*P	**P**	**19 46 42.5**	**-0.4**
USA0B	**Ussuriysk Arra**	**17.16**	**261**	*e*Pn	**Pn**	**19 46 54.8**	**-3.9**
	comp=E,33nm,1.4s						
USRK	**Ussuriysk Ar.**	**17.16**	**261**	P	**Pn**	**19 46 57.9**	**-0.8**
	comp=E,0.5nm,0.3s,baz=64,slow=12,SNR=14						
USRK				LR	LR	19 53 25.8	
	comp=E,171nm,20.7s,baz=42,slow=36						
VLA	**Vladivostok**	**17.74**	**258**	⇓*e*P	**Pn**	**19 47 06.4**	**+0.7**
VLA				pmax	pmax		
	comp=Z,84nm,1.8s						
ZEA	**Zeya**	**18.15**	**294**	*e*P	**Pn**	**19 47 12.8**	**+2.1**
ZEA				pmax	pmax		
	comp=N,20nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,37nm,1.4s						
MJAR	**Matsushiro Arr**	**18.30**	**231**	P	**P**	**19 47 11.7**	**-0.2**
	comp=Z,3.3nm,0.3s,baz=23,slow=12,SNR=20						
MJB9	**Matsu-Tunnel**	**18.30**	**231**	*e*P	**P**	**19 47 08.2**	**-3.7**
	comp=Z,26nm,0.8s						
MAJO	**Matsushiro**	**18.30**	**231**	*e*P	**P**	**19 47 08.2**	**-3.7**
	comp=Z,25nm,0.8s						
MAJO	**Matsushiro**	**18.30**	**231**	⇓*e*P	**Pn**	**19 47 12.5**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,14nm,0.6s						
MAT	**Matsushiro**	**18.30**	**231**	P	**Pn**	**19 47 12.0**	**-0.7**
MDJ	**Mudanjiang**	**18.52**	**264**	P	**P**	**19 47 13.5**	**-0.7**
MDJ				pP	pP	19 47 25.8	-3.4
MDJ				sP	sP	19 47 34.5	-4.2
MDJ				S	**S**	**19 50 37.8**	**-3.1**
MDJ				pmax	pmax		
	comp=Z,35nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,730nm,4.7s						
MDJ	**Mudanjiang**	**18.52**	**264**	*e*P	**P**	**19 47 10.7**	**-3.5**
	comp=Z,27nm,0.9s						
ATKA	**Atka Island**	**18.99**	**71**	*e*P	**Pn**	**19 47 21.4**	**+0.6**
	comp=Z,182nm,1.4s						
YAK	**Yakutsk**	**19.08**	**320**	*e*P	**P**	**19 47 19.6**	**-0.6**
YAK				pmax	pmax		
	comp=Z,28nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,11nm,1.1s						
BILL	**Bilibino**	**19.19**	**12**	*e*P	**P**	**19 47 19.4**	**-1.9**
	comp=E,20nm,0.8s						
BILL	**Bilibino**	**19.19**	**12**	*cd e*P	**P**	**19 47 20.3**	**-1.0**
BILL				pmax	pmax		
	comp=Z,28nm,1.0s						
INU	**Inuyama**	**19.84**	**231**	*e*P	**P**	**19 47 27.9**	**-0.8**
	comp=Z,28nm,0.7s						
GAMB	**Gambell**	**22.42**	**39**	*e*P	**P**	**19 47 55.6**	**-0.5**
	comp=Z,17nm,1.0s						
HIA	**Hailar**	**23.35**	**283**	*e*P	**P**	**19 48 03.8**	**-1.9**
	comp=Z,22nm,1.4s						
HIA	**Hailar**	**23.35**	**283**	*e*P	**P**	**19 48 03.8**	**-1.9**
HIA				pmax	pmax		
	comp=Z,22nm,1.4s						
KSRS	**Korea Array**	**23.48**	**249**	P	**P**	**19 48 06.5**	**-0.3**
	comp=Z,3.8nm,0.8s,baz=49,slow=9.0,SNR=11						
KSRS				LR	LR	19 56 26.6	
	comp=Z,176nm,20.1s,baz=60,slow=34						
KS15	**Wonju Array Si**	**23.51**	**249**	*e*P	**P**	**19 48 07.2**	**+0.1**
KSAR	**Wonju Array Be**	**23.51**	**249**	P	**P**	**19 48 06.5**	**-0.6**

RC01 Rabbit Creek A 32.02 48 *e*P P 19 49 22.9 0.0
comp=Z,11nm,0.8s
BWN Browne 32.05 42 *e*P P 19 49 25.0 +1.9
comp=Z,87nm,1.1s
SONA1 Songino Array 32.20 286 *e*P P 19 49 23.6 -1.2
SONA0 Songino Array 32.21 286 *e*P P 19 49 24.6 -0.3
SONA0 *e*PcP PcP 19 52 11.9 +0.2
SONA0 *e*ScP ScP 19 55 47.2 -1.3
SONA0 *e* 20 03 14.4
SONM Songino Array 32.21 286 P P 19 49 24.6 -0.3
comp=Z,0.1nm,0.4s,baz=68,slow=6.8,SNR=3.3
SONM PcP PcP 19 52 11.9 +0.2
comp=Z,1.3nm,0.6s,baz=86,slow=3.6,SNR=9.3
SONM ScP ScP 19 55 47.2 -1.3
comp=Z,0.3nm,0.7s,baz=70,slow=1.7,SNR=4.1
SONM LR LR 20 03 14.5
comp=Z,96nm,18.3s,baz=125,slow=38
H11S1 WAKE ISLAND Hy 32.24 160 T T 20 23 34.0
baz=347,slow=76,SNR=1488
SEW Seward 32.25 50 *e*P P 19 49 26.2 +1.4
comp=Z,26nm,1.2s
H11S3 WAKE ISLAND Hy 32.25 160 T T 20 23 40.7
baz=347,slow=76,SNR=3325
H11S2 WAKE ISLAND Hy 32.26 160 T T 20 23 40.9
baz=347,slow=76,SNR=1993
PMR Palmer 32.27 47 *e*P P 19 49 26.3 +1.3
comp=Z,17nm,1.3s
MCK McKinley 32.28 43 *e*P P 19 49 25.7 +0.5
comp=Z,28nm,1.0s
MCK McKinley 32.28 43 *e*P P 19 49 25.7 +0.5
MCK pmax pmax
comp=Z,28nm,1.0s
RND Reindeer 32.32 44 *e*P P 19 49 25.9 +0.3
comp=Z,30nm,1.0s
RND Reindeer 32.32 44 *e*P P 19 49 25.9 +0.3
RND pmax pmax
comp=Z,30nm,1.0s
GHO Glory Hole Cre 32.36 47 *e*P P 19 49 26.4 +0.4
comp=Z,11nm,0.6s
MDM Murphy Dome 32.59 41 *e*P P 19 49 28.6 +0.7
comp=Z,14nm,0.8s
KNK Knik Glacier 32.61 47 *e*P P 19 49 28.4 +0.3
comp=Z,47nm,0.8s
NJ2 Nanjing 32.63 251 *e*P P 19 49 30.5 +2.0
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
SML Sawmill 32.64 47 *e*P P 19 49 28.7 +0.4
comp=Z,81nm,0.7s
SML Sawmill 32.64 47 *e*P P 19 49 28.7 +0.4
SML pmax pmax
comp=Z,81nm,0.7s
WRH Wood River Hil 32.65 42 *e*P P 19 49 28.8 +0.4
comp=Z,53nm,1.4s
TCOL CIGO, UAF Yank 32.75 41 P P 19 49 30.2 +1.0
baz=270,SNR=6.5
COLA College 32.75 41 *e*P P 19 49 30.6 +1.4
comp=Z,44nm,0.6s
COLA College 32.75 41 *c i*P P 19 49 30.3 +1.1
COLA pmax pmax
comp=Z,34nm,0.7s
POKR Poker Plat Res 32.93 41 P P 19 49 31.8 +1.0
baz=270,SNR=16
DHY Denali Highway 33.01 44 *e*P P 19 49 32.1 +0.5
comp=Z,32nm,1.3s
SCM Sheep Creek Mo 33.11 47 *e*P P 19 49 33.3 +0.7
comp=Z,42nm,1.0s
HDA Harding Lake 33.14 42 *e*P P 19 49 33.3 +0.6
comp=Z,33nm,0.4s
HDA Harding Lake 33.14 42 P P 19 49 33.3 +0.6
baz=272,SNR=22
IL1 Eielson Array 33.16 41 *e*P P 19 49 33.6 +0.7
ILAR Eielson Array 33.16 41 P P 19 49 33.0 +0.1
comp=Z,9.0nm,0.7s,baz=255,slow=6.8,SNR=92
ILAR PcP PcP 19 52 12.1 -1.8
comp=Z,0.2nm,0.4s,baz=265,slow=3.9,SNR=2.9
ILB Eielson Array 33.16 41 *e*P P 19 49 33.2 +0.4
ZAK Zakamensk 33.22 292 *e*P P 19 49 33.4 -0.3
ZAK pmax pmax
comp=Z,5.0nm,1.0s
GLI Glacier Island 33.32 48 *e*P P 19 49 34.7 +0.5
comp=Z,17nm,0.8s
PRP Porcupine Dome 33.73 40 *e*P P 19 49 39.2 +1.3
comp=Z,32nm,0.9s
KLU Klutina 33.81 47 *e*P P 19 49 38.3 -0.3
comp=Z,24nm,1.1s
SARN Sarigan 33.84 198 *e*P P 19 49 40.3 +1.1
comp=Z,52nm,1.1s
FYU Fort Yukon 33.84 38 *e*P P 19 49 38.7 0.0
comp=Z,35nm,0.7s
PAX Paxson 33.88 44 *e*P P 19 49 39.6 +0.4
comp=Z,20nm,1.4s
PAX Paxson 33.88 44 *e*P P 19 49 39.6 +0.4
PAX pmax pmax
comp=Z,20nm,1.4s
MID Middleton Isla 33.90 51 *e*P P 19 49 40.4 +1.2
comp=Z,467nm,1.4s
MID Middleton Isla 33.90 51 *e*P P 19 49 40.4 +1.2
MID pmax pmax
comp=Z,467nm,1.4s
DIV Divide 33.93 48 *e*P P 19 49 40.0 +0.4
comp=Z,25nm,0.7s
HARP HAARP 34.08 45 *e*P P 19 49 42.1 +1.3
comp=Z,43nm,1.2s
RIDG Independ'e Rid 34.10 43 *e*P P 19 49 40.9 -0.2
comp=Z,23nm,0.8s
DOT Dot Lake 34.45 43 *e*P P 19 49 43.8 -0.3
comp=Z,18nm,0.9s
SCRK Sand Creek 34.46 43 *e*P P 19 49 43.6 -0.7
comp=Z,21nm,1.0s
BMRM Bremner River 34.52 48 *e*P P 19 49 45.2 +0.5
comp=Z,34nm,1.0s
RAGM Ragged Mountai 34.57 49 *e*P P 19 49 45.7 +0.6
comp=Z,20nm,0.8s
HMT Hamilton 34.78 49 *e*P P 19 49 47.6 +0.7
comp=Z,15nm,0.8s
EGAK Eagle 35.61 41 *e*P P 19 49 54.0 0.0
comp=Z,32nm,0.8s
DAWY Dawson 36.46 42 *e*P P 19 50 01.8 +0.5
comp=Z,7.2nm,0.8s
YHNB Yeheng 36.58 240 *e*P P 19 50 02.7 -0.1
comp=Z,73nm,1.5s
NACB Ninganchiao 36.85 239 *e*P P 19 50 04.0 -0.9
comp=Z,15nm,0.9s
GUMO Guam 37.05 198 LR LR 20 02 14.3
comp=Z,78nm,20.4s,baz=92,slow=31
XAN Xi'an 37.63 264 *e*P P 19 50 11.2 -0.4
comp=Z,6.7nm,1.3s
XAN Xi'an 37.63 264 *e*P P 19 50 11.2 -0.4
XAN pmax pmax
comp=Z,7.0nm,1.3s
YULB Yu-li 37.63 239 *e*P P 19 50 12.2 +0.6
comp=Z,40nm,1.5s
HYT Haines Junctio 37.95 47 *e*P P 19 50 15.8 +1.8
comp=Z,20nm,0.9s
TPUB Ta-pu 38.08 239 *e*P P 19 50 15.3 -0.1
comp=Z,34nm,1.2s
INK Inuvik 38.24 35 P P 19 50 16.6 +0.4
comp=Z,9.1nm,0.5s,baz=282,slow=5.8,SNR=23
INK PcP PcP 19 52 29.0 +0.2
comp=Z,1.4nm,0.6s,baz=298,slow=3.2,SNR=2.9
INK Inuvik 38.24 35 *e*P P 19 50 16.2 0.0
comp=Z,14nm,0.8s
INK *e*PcP PcP 19 52 29.0 +0.2
INK Inuvik 38.24 35 *e*P P 19 50 16.2 0.0
INK *e* 19 52 29.0
INK pmax pmax
comp=Z,14nm,0.8s
WHY Whitehorse 39.23 47 *e*P P 19 50 26.7 +1.9
comp=Z,26nm,1.2s
SKAG Skagway 39.36 49 *e*P P 19 50 28.1 +2.4
comp=Z,17nm,1.0s
LZH Lanzhou 39.68 270 *e*P P 19 50 32.0 +3.2
LZH pP pP 19 50 47.8 +1.2
LZH sP sP 19 50 51.5 -3.6
LZH pmax pmax
comp=Z,28nm,1.3s
LZH pmax pmax
comp=Z,110nm,5.4s
LZH LR LR
comp=Z,380nm,12.9s
LZH LR LR
comp=Z,410nm,13.2s
LZH LR LR
comp=Z,520nm,16.5s
ENH Enshi 39.72 259 *e*P P 19 50 31.2 +2.1
comp=Z,15nm,1.5s
SIT Sitka 40.12 52 *e*P P 19 50 32.9 +0.9
comp=Z,79nm,1.4s
SIT Sitka 40.12 52 *e*P P 19 50 32.9 +0.9
SIT pmax pmax
comp=Z,79nm,1.4s
JIS Juneau Island 40.20 50 *e*P P 19 50 34.5 +1.9
comp=Z,16nm,1.0s
KWAJ Kwajalein Atol 41.86 162 *e*P P 19 50 49.8 +3.2
comp=Z,158nm,1.0s
DLBC Dease Lake 42.29 49 LR LR 20 09 58.8
comp=Z,127nm,19.1s,baz=42,slow=38
DLBC Dease Lake 42.29 49 *e*P P 19 50 52.6 +2.7
ZAA1 Zalesovo Array 42.47 304 *e*P P 19 50 49.2 -2.1
ZAA1 *e*PcP PcP 19 52 42.4 -0.4
ZAA1 *e* 20 08 22.1
ZAA0 Zalesovo Array 42.47 304 *e*P P 19 50 50.0 -1.2
comp=Z,1.8nm,1.3s
ZAA0 *e*PcP PcP 19 52 42.3 -0.4
ZALV Zalesovo Beam 42.47 304 P P 19 50 49.2 -2.1
comp=Z,0.7nm,0.3s,baz=60,slow=5.8,SNR=4.8
ZALV PcP PcP 19 52 42.3 -0.4
comp=Z,1.8nm,0.5s,baz=69,slow=4.9,SNR=6.7
ZALV LR LR 20 08 22.0
comp=Z,60nm,19.8s,baz=48,slow=36
ZALV Zalesovo Beam 42.47 304 *e*P P 19 50 49.4 -1.9
ZALV *e*PcP PcP 19 52 41.9 -0.8
CD2 Chengdu 42.98 264 *e*P P 19 50 55.0 -0.7
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.8s
WMQ Urumqi 45.64 290 *e*P P 19 51 18.5 +1.7
WMQ pP pP 19 51 34.3 -0.9
WMQ sP sP 19 51 42.5 -1.1
WMQ pmax pmax
comp=Z,10.0nm,0.9s
WMQ pmax pmax
comp=Z,390nm,5.9s
WMQ LR LR
comp=Z,170nm,23.5s
WMQ LR LR
comp=Z,140nm,20.5s
MK31 Makanchi Array 47.29 296 *e*P P 19 51 27.7 -2.0
MK31 Makanchi Array 47.29 296 *e*P P 19 51 27.7 -2.0
MK32 Makanchi Array 47.29 296 *e*P P 19 51 27.9 -1.7
MK32 *e*PcP PcP 19 52 58.5 -1.0
MK32 *e* 20 12 39.5
MKAR Makanchi Array 47.29 296 P P 19 51 27.9 -1.7
comp=Z,0.6nm,0.4s,baz=53,slow=5.7,SNR=19
MKAR PcP PcP 19 52 58.5 -1.0
comp=Z,0.3nm,0.4s,baz=57,slow=5.3,SNR=3.6
MKAR LR LR 20 12 39.5
comp=Z,209nm,18.3s,baz=32,slow=38
MKAR Makanchi Array 47.29 296 *e*P P 19 51 27.8 -1.9
comp=Z,11nm,0.4s
MKAR PcP PcP 19 52 58.5 -1.0
MK01 Makanchi Array 47.30 296 *e*P P 19 51 28.0 -1.7
MK01 *e*PcP PcP 19 53 02.3 +2.7
KURK Kurchatov 47.34 303 *e*P P 19 51 28.6 -1.3
comp=Z,5.7nm,1.3s
KURK *e*PcP PcP 19 52 59.7 +0.1
KURK Kurchatov 47.34 303 *e*P P 19 51 29.5 -0.4
KURK pmax pmax
comp=Z,16nm,3.0s
KURBB Kurchatov Arra 47.44 302 P P 19 51 29.4 -1.2
comp=Z,1.6nm,0.3s,baz=64,slow=8.0,SNR=14
KURBB PcP PcP 19 52 59.7 -0.2
comp=Z,3.2nm,0.8s,baz=60,slow=3.6,SNR=7.9
MAKZ Makanchi 47.46 296 *e*P P 19 51 30.3 -0.7
comp=Z,2.9nm,1.3s
MAKZ Makanchi 47.46 296 *e*P P 19 51 30.3 -0.7
MAKZ pmax pmax
comp=Z,3.0nm,1.3s
YKW3 Yellowknife Ar 47.49 39 *e*P P 19 51 32.0 +1.1
comp=Z,14nm,1.1s
RES Resolute Bay 47.52 20 *e*P P 19 51 31.5 +0.5
comp=Z,3.3nm,0.7s
RES *e*PcP PcP 19 53 00.5 +0.7
RES Resolute Bay 47.52 20 *e*P P 19 51 31.5 +0.5
RES *e* 19 53 00.5
RES pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 47.53 39 P P 19 51 32.2 +1.0
comp=Z,7.2nm,0.8s,baz=299,slow=7.6,SNR=69
YKA PcP PcP 19 53 00.5 +0.5
comp=Z,1.4nm,0.9s,baz=306,slow=3.5,SNR=5.6
YKB5 Yellowknife Ar 47.53 39 *e*P P 19 51 31.3 +0.1
YKB5 *e*PcP PcP 19 53 00.8 +0.7
KMI Kunming 47.58 259 P P 19 51 32.0 -0.4
KMI pmax pmax
comp=Z,13nm,0.8s
KHLU Kahalu`u 48.58 110 *e*P P 19 51 40.4 +0.4
comp=Z,86nm,1.3s
POHA Pohakuloa 48.68 110 *e*P P 19 51 40.9 0.0
comp=Z,116nm,1.3s
HMH Hunu Sheep 48.82 110 *e*P P 19 51 43.9 +1.8
comp=Z,217nm,1.5s
MLH Mauna Loa 48.97 110 *e*P P 19 51 44.5 +1.5
comp=Z,157nm,1.5s
MLH Mauna Loa 48.97 110 *e*P P 19 51 44.6 +1.5
MLH pmax pmax
comp=Z,157nm,1.5s
KHU Kahuku 49.01 110 *e*P P 19 51 44.8 +1.3
comp=Z,131nm,1.2s
KHU Kahuku 49.01 110 *e*P P 19 51 44.8 +1.3
KHU pmax pmax
comp=Z,131nm,1.2s
PUH Pauahi 49.16 110 *e*P P 19 51 44.5 0.0
comp=Z,52nm,0.8s
HLP Hilina Pali 49.16 110 *e*P P 19 51 45.5 +1.1
comp=Z,93nm,0.8s
SPA0 Spitsbergen Ar 50.11 350 *e*P P 19 51 49.0 -1.8
SPITS Spitsbergen Ar 50.11 350 P P 19 51 48.1 -2.7
comp=Z,14nm,1.0s,baz=60,slow=12,SNR=9.7
LLLB Lillooet 50.11 55 *e*P P 19 51 51.8 +0.5
comp=Z,14nm,1.1s
BVAR Bovoye Array 50.48 309 P P 19 51 52.6 -1.3
comp=Z,3.8nm,0.3s,baz=58,slow=8.4,SNR=50
BVAR PcP PcP 19 53 10.6 -0.4
comp=Z,2.2nm,0.7s,baz=64,slow=3.4,SNR=6.7
BRVK Borovoye 50.51 309 *e*P P 19 51 53.5 -0.7
comp=Z,4.3nm,0.9s
BRVK Borovoye 50.51 309 *c i*P P 19 51 53.2 -1.0
BRVK pmax pmax
comp=Z,5.0nm,0.9s
TULEG Thule 50.94 12 *e*P P 19 51 56.3 -0.7
comp=Z,8.1nm,0.7s
D03D Eldon 51.15 59 P P 19 52 00.6 +1.5
baz=305
B05A Bryant 51.29 58 P P 19 52 01.5 +1.4
baz=305
B06A Marblemount 51.49 57 *e*P P 19 52 02.2 +0.7
comp=Z,9.1nm,0.8s
E04D Cinebar 52.01 60 P P 19 52 07.0 +1.6
baz=306
LON Longmire 52.32 59 *e*P P 19 52 08.9 +1.0
comp=Z,12nm,1.4s
LON Longmire 52.32 59 *e*P P 19 52 08.9 +1.0
LON pmax pmax
comp=Z,12nm,1.4s
LTY Liberty 52.66 58 *e*P P 19 52 11.1 +0.8
comp=Z,15nm,1.5s
B08A Colville Reser 52.75 57 *e*P P 19 52 11.7 +0.8
comp=Z,17nm,1.1s
TARG Taragay, Kyrgy 52.81 293 *e*P P 19 52 11.4 -0.6
comp=Z,3.6nm,1.4s
KDJ Kajisay 52.94 294 *e*P P 19 52 12.6 -0.1
comp=Z,1.4nm,0.6s
KDJ Kajisay 52.94 294 *e*P P 19 52 12.6 -0.1
KDJ pmax pmax
comp=Z,1.0nm,0.6s
H04A Detroit Lake 53.32 62 *e*P P 19 52 15.8 +0.6
comp=Z,7.1nm,0.8s
G05D Wamic, OR 53.48 61 P P 19 52 17.8 +1.4
baz=307
E07A Sunnyside 53.52 59 *e*P P 19 52 17.8 +1.2
comp=Z,22nm,1.2s
C09A Chrisman Ranch 53.65 57 *e*P P 19 52 17.8 +0.2
comp=Z,7.7nm,0.6s
K02D Willamette Mer 53.66 65 P P 19 52 20.0 +2.2
baz=308
I04A Tendick Farm, 53.73 63 P P 19 52 20.0 +1.8
baz=307
D08A Wollman Farm, 53.74 58 *e*P P 19 52 18.6 +0.4
comp=Z,8.2nm,0.8s
HAWA Hanford 53.80 59 *e*P P 19 52 19.6 +1.0
comp=Z,9.5nm,1.0s
DAG Danmarks Havn 53.84 358 *i*P P 19 52 17.1 -1.3
comp=Z,4.3nm,0.6s
DAG Danmarks Havn 53.84 358 *i*P P 19 52 17.1 -1.3
DAG pmax pmax
comp=Z,3.0nm,0.6s
F07A Phinny Hill Vi 53.88 59 *e*P P 19 52 20.0 +0.8
comp=Z,15nm,0.8s
NEW Newport 54.00 56 P P 19 52 20.7 +0.6
comp=Z,3.7nm,0.6s,baz=289,slow=9.1,SNR=5.4
NEW Newport 54.00 56 *e*P P 19 52 20.7 +0.6
comp=Z,15nm,1.4s
NEW Newport 54.00 56 *e*P P 19 52 20.7 +0.6
NEW pmax pmax
comp=Z,15nm,1.4s
NEW Newport 54.00 56 P P 19 52 21.2 +1.1
baz=307
L02E Cave Junction 54.02 65 P P 19 52 22.1 +1.8
baz=308
KULLO Kullorsuaq 54.12 10 *i*P P 19 52 19.7 -0.8
comp=Z,13nm,0.6s
KULLO Kullorsuaq 54.12 10 *i*P P 19 52 19.7 -0.8
KULLO pmax pmax
comp=Z,13nm,0.6s
HUMO Hull Mountain 54.13 64 *e*P P 19 52 22.3 +1.2
comp=Z,8.2nm,1.1s
ARU Arti 54.15 317 *e*P P 19 52 19.3 -1.7
comp=Z,8.7nm,1.0s
ARU Arti 54.15 317 *c e*P P 19 52 19.2 -1.8
AAK Ala-Archa 54.22 296 *e*P P 19 52 21.7 -0.2
comp=Z,2.6nm,1.2s
AAK Ala-Archa 54.22 296 *i e*P P 19 52 19.8 -2.2
AAK pmax pmax
comp=Z,3.0nm,2.1s
J04D Umpqua Nationa 54.23 63 P P 19 52 24.0 +1.9
baz=308
SHL Shillong 54.29 268 *e*P P 19 52 21.6 -1.1
comp=Z,4.6nm,0.5s
SHL Shillong 54.29 268 *e*P P 19 52 21.6 -1.1
SHL pmax pmax
comp=Z,5.0nm,0.5s
E09A Wood Farm, Sta 54.49 58 *e*P P 19 52 25.1 +1.4
comp=Z,15nm,0.8s
CHTO Chiang Mai 54.57 257 *e*P P 19 52 25.3 +0.7
comp=Z,5.5nm,1.0s
CHTO Chiang Mai 54.57 257 *e*P P 19 52 25.3 +0.7
CHTO pmax pmax
comp=Z,6.0nm,1.0s
CHTO Chiang Mai 54.57 257 P P 19 52 28.4 +3.8
comp=Z,24nm,1.0s
PINE Pine Mountain 54.57 62 *e*P P 19 52 26.1 +1.6
comp=Z,11nm,1.0s
J05D Fort Rock, OR 54.71 63 P P 19 52 27.8 +2.2
baz=308,SNR=11
KHMM Horse Mountain 54.73 66 *e*P P 19 52 26.5 +0.8
comp=Z,30nm,1.2s
L04D Klamath Falls 54.75 64 P P 19 52 27.7 +1.9
baz=308,SNR=7.8
G08A Pilot Rock 54.78 59 *e*P P 19 52 27.3 +1.4
comp=Z,2.7nm,0.8s
YBH Yreka Blue Hor 54.81 65 P P 19 52 28.4 +2.3
comp=Z,6.5nm,0.8s,baz=346,slow=5.6,SNR=8.4
YBH Yreka Blue Hor 54.81 65 *e*P P 19 52 28.4 +2.3
comp=Z,18nm,1.2s
YBH Yreka Blue Hor 54.81 65 *e*P P 19 52 28.4 +2.3
YBH pmax pmax
comp=Z,18nm,1.2s
CM31 Chiang Mai Arr 54.83 257 *e*P P 19 52 25.7 -0.8
CMAR Chiang Mai Arr 54.83 257 P P 19 52 26.9 +0.4
comp=Z,2.0nm,0.8s,baz=34,slow=6.9,SNR=8.9
CMAR LR LR 20 16 42.2
comp=Z,52nm,18.3s,baz=50,slow=37
CM01 Chiang Mai Arr 54.85 257 *e*P P 19 52 27.1 +0.5
M02C Callahan 54.93 65 P P 19 52 29.3 +2.3
baz=309
PBKT Sadao Pong 54.97 253 *e*P P 19 52 28.5 +1.1
comp=Z,3.5nm,0.9s
KMRM Mail Ridge 55.15 67 *e*P P 19 52 30.8 +2.2
comp=Z,14nm,1.3s
I07A Izee 55.22 61 *e*P P 19 52 31.0 +1.9
comp=Z,8.3nm,1.2s
WALA Waterton Lakes 55.22 53 *e*P P 19 52 30.2 +1.2
comp=Z,39nm,1.5s
KSH Kashi 55.27 292 P P 19 52 34.5 +5.0
KSH pP pP 19 52 50.0 +1.6
KSH PP PP 19 54 42.8 +9.4
KSH S **S** **20 00 12.0 +4.4**
KSH sS sS 20 00 36.8 -2.4
KSH ScS **ScS** **20 02 14.3 +2.6**
KSH pmax pmax
comp=Z,4.0nm,0.8s
KSH pmax pmax
comp=Z,350nm,5.8s
KSH LR LR
comp=Z,160nm,6.3s
KSH LR LR
comp=Z,160nm,7.0s
KSH LR LR
comp=Z,380nm,9.1s
N02D Trinity Center 55.28 66 P P 19 52 31.8 +2.3
baz=309
M04C Macdoel 55.29 64 P P 19 52 31.5 +1.8
baz=309,SNR=5.4
F10A Beach Ranch, E 55.33 58 *e*P P 19 52 31.0 +1.2
comp=Z,6.0nm,1.0s
KCPM Cahto Peak 55.56 67 *e*P P 19 52 34.0 +2.4
comp=Z,44nm,1.4s
WDC Whiskeytown Da 55.62 66 *e*P P 19 52 33.7 +1.8
comp=Z,7.4nm,1.0s
WDC Whiskeytown Da 55.62 66 *e*P P 19 52 33.7 +1.8
WDC pmax pmax
comp=Z,7.0nm,1.0s
O02D Mt. Diablo Mer 55.73 66 P P 19 52 35.0 +2.3
baz=309
ARA0 ARCESS Array S 55.74 341 *e*P P 19 52 30.7 -1.6
ARCES ARCESS Array B 55.74 341 P P 19 52 30.7 -1.6
comp=Z,6.6nm,1.2s,baz=48,slow=6.6,SNR=7.6
ARE0 ARCESS Array S 55.74 341 *e*P P 19 52 32.5 +0.2
comp=Z,21nm,1.5s
BMO Blue Mountains 55.98 59 *e*P P 19 52 36.0 +1.5
comp=Z,6.8nm,0.8s
BMO Blue Mountains 55.98 59 *e*P P 19 52 36.0 +1.5
BMO pmax pmax
comp=Z,7.0nm,0.8s
MOD Modoc Plateau 56.11 63 *e*P P 19 52 37.4 +1.9
comp=Z,18nm,1.0s
O03E Paynes Creek 56.24 66 P P 19 52 37.6 +1.2
baz=310,SNR=7.2
J08A Circle Bar Ran 56.25 61 *e*P P 19 52 38.3 +1.8
comp=Z,21nm,1.2s
SRAK Srakaew 56.26 250 P P 19 52 52.2 +15
MSO Missoula 56.58 55 *e*P P 19 52 39.6 +0.8
comp=Z,11nm,0.9s
MSO Missoula 56.58 55 P P 19 52 40.1 +1.3
baz=309,SNR=9.1
WVOR Wild Horse Val 56.74 62 *e*P P 19 52 41.5 +1.5
comp=Z,16nm,0.9s
WVOR Wild Horse Val 56.74 62 *e*P P 19 52 41.5 +1.5
WVOR pmax pmax
comp=Z,16nm,0.9s
ORV Oroville 56.89 66 *e*P P 19 52 42.7 +1.8
ORV Oroville 56.89 66 *e*P P 19 52 42.7 +1.8
FFC Flin Flon 57.36 42 *e*P P 19 52 44.3 +0.2
comp=Z,14nm,1.1s
FFC Flin Flon 57.36 42 *i*P P 19 52 45.4 +1.4
BEKR Beckworth 57.37 65 *e*P P 19 52 45.8 +1.3
comp=Z,9.3nm,1.0s
AFDM Forest Hills D 57.59 66 *e*P P 19 52 47.0 +1.0
comp=Z,5.5nm,1.1s
SUMG Summit 57.69 5 *e*P P 19 52 46.7 +0.1
comp=Z,24nm,0.9s
SUMG Summit 57.69 5 *i*P P 19 52 46.4 -0.2
SUMG Summit 57.69 5 *i*P P 19 52 46.4 -0.2
MFID Camas Ranch 57.71 60 *e*P P 19 52 47.6 +0.8
comp=Z,6.7nm,0.8s
HRY Holter Researc 57.78 54 *e*P P 19 52 48.6 +1.4
FCC Fort Churchill 57.85 35 *e*P P 19 52 47.6 +0.3
comp=Z,16nm,0.7s
FCC Fort Churchill 57.85 35 *e*P P 19 52 47.6 +0.3
FCC pmax pmax
comp=Z,16nm,0.7s
LUWI Luwuk 57.92 220 *e*P P 19 52 47.8 -0.6
comp=Z,19nm,0.5s
ABKAR Akbulak array 58.00 310 *e*P P 19 52 47.6 -0.9
EGMT Eagleton 58.02 52 *e*P P 19 52 49.9 +1.0
comp=Z,16nm,1.1s
EGMT Eagleton 58.02 52 P P 19 52 50.1 +1.3
baz=310

LRM **Limekiln Ridge** 58.02 55 *e*P P 19 52 50.1 +1.1
PAHR **Pah Rah Range** 58.05 65 *e*P P 19 52 50.5 +1.2
comp=Z,13nm,1.2s
VCNR **Virginia City** 58.15 65 *e*P P 19 52 51.4 +1.3
comp=Z,6.8nm,0.7s
AKTO **Aktyubinsk** 58.18 312 P P 19 52 48.2 -1.7
comp=Z,2.2nm,0.4s,baz=66,slow=9.1,SNR=18
AKTO PcP PcP 19 53 40.2 -0.3
comp=Z,0.7nm,0.4s,baz=24,slow=5.9,SNR=3.7
DLMT **Dillon** 58.24 56 *e*P P 19 52 52.6 +2.1
comp=Z,6.0nm,0.8s
PNTR **Pine Nut** 58.32 66 *e*P P 19 52 52.8 +1.6
comp=Z,12nm,0.8s
HLID **Hailey** 58.40 59 *e*P P 19 52 53.0 +1.2
comp=Z,18nm,1.4s
HLID **Hailey** 58.40 59 P P 19 52 53.6 +1.9
baz=311,SNR=14
MCMT **McKenzie Canyo** 58.45 57 *e*P P 19 52 53.1 +1.0
CMB **Columbia Colle** 58.53 67 *e*P P 19 52 53.8 +1.2
comp=Z,7.8nm,1.1s
CMB **Columbia Colle** 58.53 67 *e*P P 19 52 53.8 +1.2
CMB pmax pmax
comp=Z,8.0nm,1.1s
YERR **Yerington** 58.60 65 *e*P P 19 52 54.5 +1.3
comp=Z,16nm,1.1s
BOZ **Bozeman (W)** 58.60 55 *e*P P 19 52 54.5 +1.4
comp=Z,14nm,0.8s
BOZ **Bozeman (W)** 58.60 55 P P 19 52 54.6 +1.6
baz=311,SNR=18
WAKR **Walker** 58.79 66 *e*P P 19 52 56.1 +1.6
comp=Z,9.3nm,0.9s
BMN **Battle Mountai** 58.84 63 *e*P P 19 52 56.5 +1.7
comp=Z,14nm,0.9s
BMN **Battle Mountai** 58.84 63 *e*P P 19 52 56.5 +1.7
BMN pmax pmax
comp=Z,14nm,0.9s
GAR **Garm** 58.97 295 *e*P P 19 52 55.1 -0.6
comp=Z,5.8nm,0.5s
GAR **Garm** 58.97 295 *e*P P 19 52 55.1 -0.6
GAR pmax pmax
comp=Z,6.0nm,0.5s
QLMT **Earthquake Lak** 59.21 56 *e*P P 19 52 58.9 +1.6
KVN **Kaiserville** 59.23 65 *e*P P 19 52 59.1 +1.6
comp=Z,17nm,1.1s
KVN **Kaiserville** 59.23 65 *e*P P 19 52 59.1 +1.6
KVN pmax pmax
comp=Z,17nm,1.1s
RYN **Ryan** 59.25 65 *e*P P 19 52 59.2 +1.5
comp=Z,10nm,1.0s
YHB **Horse Butte** 59.39 56 *e*P P 19 53 00.4 +1.8
comp=Z,15nm,0.6s
NV01 **Mina Array Sit** 59.52 65 *e*P P 19 53 00.7 +1.1
NVAR **Mina Array Bea** 59.52 65 P P 19 53 01.2 +1.7
comp=Z,7.3nm,0.8s,baz=291,slow=7.4,SNR=42
GCMT **Greycliff** 59.52 54 *e*P P 19 53 01.0 +1.6
YMR **Madison River** 59.57 56 *e*P P 19 53 01.8 +2.0
comp=Z,18nm,0.9s
MDPB **Devils Postpil** 59.58 67 *e*P P 19 53 01.7 +1.6
comp=Z,8.6nm,1.1s
OMMB **Old Mammoth Mi** 59.64 66 *e*P P 19 53 01.6 +1.0
comp=Z,5.0nm,1.1s
YNR **Norris Junctio** 59.69 56 *e*P P 19 53 02.9 +2.2
comp=Z,14nm,1.1s
ELK **Elko** 59.77 62 P P 19 53 03.0 +1.7
comp=Z,5.5nm,0.7s,baz=299,slow=9.1,SNR=23
ELK **Elko** 59.77 62 *e*P P 19 53 02.8 +1.5
comp=Z,4.9nm,0.7s
ELK **Elko** 59.77 62 *e*P P 19 53 02.8 +1.5
ELK pmax pmax
comp=Z,5.0nm,0.7s
YFT **Old Faithful** 59.78 56 *e*P P 19 53 04.1 +2.8
comp=Z,17nm,0.8s
ILULI **Ilulissat** 59.83 11 *e*P P 19 52 59.5 -1.3
comp=Z,50nm,1.2s
ILULI **Ilulissat** 59.83 11 *e*P P 19 52 59.6 -1.3
ILULI pmax pmax
comp=Z,50nm,1.2s
CHGR **Chuyangaron** 59.88 295 *e*P P 19 53 00.6 -1.2
comp=Z,8.0nm,0.8s
YPP **Pitchstone Pla** 59.91 56 *e*P P 19 53 04.9 +2.6
comp=Z,6.6nm,1.0s
LKWY **Lake** 59.94 56 *e*P P 19 53 05.4 +3.0
comp=Z,16nm,0.8s
LKWY **Lake** 59.94 56 *e*P P 19 53 05.4 +3.0
LKWY pmax pmax
comp=Z,16nm,0.8s
H17A **Grant Village** 59.96 56 *e*P P 19 53 05.8 +3.3
comp=Z,23nm,1.0s
H17A **Grant Village** 59.96 56 P P 19 53 05.6 +3.1
baz=312,SNR=19
IMW **Indian Meadow** 60.09 56 *e*P P 19 53 05.5 +2.0
comp=Z,14nm,1.1s
FLWY **Flagg Ranch** 60.10 56 *e*P P 19 53 05.8 +2.4
comp=Z,13nm,1.0s
RLMT **Red Lodge** 60.17 54 *e*P P 19 53 05.6 +1.7
comp=Z,36nm,1.1s
RLMT **Red Lodge** 60.17 54 P P 19 53 05.9 +2.0
baz=312,SNR=10.0
FXWY **Fox Creek** 60.21 57 *e*P P 19 53 06.2 +2.0
comp=Z,7.4nm,0.8s
MOOW **Moose Ponds** 60.29 56 *e*P P 19 53 06.8 +2.0
comp=Z,6.9nm,0.8s
TPAW **Teton Pass** 60.35 57 *e*P P 19 53 06.8 +1.5
comp=Z,16nm,0.8s
LOHW **Long Hollow** 60.46 56 *e*P P 19 53 07.8 +1.8
comp=Z,24nm,1.3s
TIN **Tinemaha, Big** 60.47 67 P P 19 53 07.6 +1.7
baz=312
SNOW **Snow King Moun** 60.48 57 *e*P P 19 53 08.3 +2.2
comp=Z,17nm,1.0s
HVU **Hansel Valley** 60.48 59 *e*P P 19 53 07.0 +1.0
comp=Z,10nm,1.1s
HVU **Hansel Valley** 60.48 59 *e*P P 19 53 07.0 +1.0
HVU pmax pmax
comp=Z,10.0nm,1.1s
REDW **Red Top Meadow** 60.49 57 *e*P P 19 53 08.1 +2.0
comp=Z,19nm,1.0s
DGMT **Dagmar** 60.51 49 *e*P P 19 53 06.7 +0.8
comp=Z,27nm,0.9s
DGMT **Dagmar** 60.51 49 P P 19 53 07.1 +1.2
baz=313
LAO **LASA Array** 60.70 51 *e*P P 19 53 08.8 +1.4
comp=Z,28nm,0.9s
LAO **LASA Array** 60.70 51 P P 19 53 09.0 +1.6
baz=313,SNR=11
NIL **Nilore** 60.74 289 *e*P P 19 53 07.5 -0.3
comp=Z,3.7nm,1.0s
AHID **Auburn Hatcher** 60.76 57 *e*P P 19 53 09.1 +1.2
comp=Z,22nm,1.4s
BGU **Big Grassy Mou** 60.91 60 *e*P P 19 53 10.0 +1.0
comp=Z,3.0nm,0.8s
PKM **Mcpherson Peak** 60.96 69 P P 19 53 10.7 +1.3
baz=313
CWC **Cottonwood Cre** 60.97 67 P P 19 53 10.7 +1.3
baz=312
SPUT **South Promonto** 60.98 59 *e*P P 19 53 11.1 +1.7
comp=Z,12nm,1.1s
GRAC **Grapevine Rang** 61.02 66 P P 19 53 11.3 +1.7
baz=312
R11A **Troy Canyon, C** 61.16 64 *e*P P 19 53 11.9 +1.2
comp=Z,8.5nm,0.9s
R11A **Troy Canyon, C** 61.16 64 P P 19 53 11.9 +1.2
baz=312,SNR=13
HWUT **Hardware Ranch** 61.27 59 *e*P P 19 53 12.9 +1.5
comp=Z,5.0nm,0.8s
DAC **Darwin (Calif)** 61.37 67 *e*P P 19 53 12.8 +0.6
comp=Z,3.2nm,0.8s
DAC **Darwin (Calif)** 61.37 67 *e*P P 19 53 12.8 +0.6
DAC pmax pmax
comp=Z,3.0nm,0.8s
DUG **Dugway, Tooele** 61.52 61 *e*P P 19 53 14.8 +1.7
comp=Z,22nm,1.2s
DUG **Dugway, Tooele** 61.52 61 P P 19 53 14.7 +1.7
baz=313,SNR=12
MPMC **Manual Prospec** 61.58 67 P P 19 53 14.7 +1.1
baz=313,SNR=7.8
BW06 **Boulder Array** 61.59 57 *e*P P 19 53 14.8 +1.1
comp=Z,19nm,0.9s
BW06 **Boulder Array** 61.59 57 P P 19 53 15.0 +1.3
baz=313,SNR=24
PD31 **Pinedale Array** 61.59 57 *e*P P 19 53 14.8 +1.1
PDAR **Pinedale Array** 61.59 57 P P 19 53 15.1 +1.5
comp=Z,14nm,0.9s,baz=308,slow=2.5,SNR=83
FURC **Furnace Creek,** 61.67 66 P P 19 53 15.3 +1.3
baz=313
TPNV **Topopah Spring** 61.71 65 P P 19 53 15.8 +1.4
baz=313,SNR=9.4
LRMC **Laurel Mtn Rad** 61.85 67 P P 19 53 16.3 +1.0
baz=313
SFJD **Kangerlussuaq** 61.98 11 P P 19 53 14.7 -0.8
comp=Z,11nm,0.4s,baz=333,slow=7.3,SNR=21
SFJD **Kangerlussuaq** 61.98 11 *i* P P 19 53 14.9 -0.6
SFJD **Kangerlussuaq** 61.98 11 *i* P P 19 53 14.9 -0.6
PSUT **Pine Spring** 62.05 63 *e*P P 19 53 17.8 +1.1
comp=Z,9.3nm,1.2s
EDW2 **Edwards Air Fo** 62.07 68 P P 19 53 17.9 +1.2
baz=313,SNR=9.0
FIA0 **FINESS Array S** 62.21 335 *e*P P 19 53 14.8 -2.4
FIA0 **FINESS Array S** 62.21 335 *e*P P 19 53 14.8 -2.4
FINES **FINESS Array B** 62.21 335 P P 19 53 14.8 -2.4
comp=Z,1.3nm,0.3s,baz=35,slow=5.6,SNR=28
GSC **Goldstone, Bar** 62.50 67 P P 19 53 20.5 +0.9
baz=313
BFSC **Mount Baldy Ra** 62.71 69 P P 19 53 22.1 +1.0
baz=313
CIS **Catalina Islan** 62.82 70 P P 19 53 22.5 +0.8
baz=314
TUQ **Turquoise Moun** 62.93 66 P P 19 53 23.7 +1.1
baz=314,SNR=12
MSU **Marysvale** 63.02 62 *e*P P 19 53 24.8 +1.6
HEC **Hector,Ludlow** 63.10 67 P P 19 53 24.7 +1.1
baz=314,SNR=10
BBRC **Big Bear Solar** 63.14 68 P P 19 53 25.0 +1.0
baz=314
ULM **Lac du Bonnet** 63.15 43 P P 19 53 23.5 -0.1
comp=Z,3.8nm,0.5s,baz=292,slow=6.8,SNR=9.3
MDND **Maddock** 63.16 47 P P 19 53 24.8 +1.1
baz=316
K22A **Casper** 63.30 55 P P 19 53 26.0 +1.0
baz=314
Q16A **Castle Valley** 63.32 61 *e*P P 19 53 26.5 +1.3
comp=Z,8.2nm,0.8s
MTPU **Mount Pierson** 63.34 62 *e*P P 19 53 27.8 +2.2
comp=Z,9.8nm,0.9s
MURC **Murrieta** 63.42 69 P P 19 53 26.8 +1.1
baz=314
LCMT **Little Creek M** 63.44 63 *e*P P 19 53 27.7 +1.9
comp=Z,15nm,0.9s
GMRC **Granite Mounta** 63.54 67 P P 19 53 27.6 +1.1
baz=314,SNR=9.2
SRU **San Rafael Swe** 63.55 60 *e*P P 19 53 28.2 +1.5
comp=Z,25nm,0.9s
SRU **San Rafael Swe** 63.55 60 *e*P P 19 53 28.2 +1.5
SRU pmax pmax
comp=Z,25nm,0.9s
RSSD **Black Hills** 63.59 52 *e*P P 19 53 27.7 +0.8
comp=Z,21nm,0.8s
RSSD **Black Hills** 63.59 52 *e*P P 19 53 27.7 +0.8
RSSD pmax pmax
comp=Z,21nm,0.8s
RSSD **Black Hills** 63.59 52 P P 19 53 27.9 +1.0
baz=315
PFO **Pinyon Flats O** 63.86 68 P P 19 53 28.9 +0.2
baz=314
BELC **Bell Mtn. Jos** 63.87 68 P P 19 53 29.4 +0.6
baz=314,SNR=5.2
OBN **Obninsk** 63.97 326⇑ *e*P P 19 53 29.4 +0.6
OBN pmax pmax
comp=Z,29nm,2.3s
O20A **White River Ci** 64.12 58 P P 19 53 31.5 +1.1
baz=314,SNR=5.6
IRM **Iron Mountain** 64.28 67 P P 19 53 32.4 +1.1
baz=314,SNR=12
MONP2 **Monument Peak** 64.38 69 P P 19 53 32.9 +0.7
baz=314
BC3 **Big Chuckawall** 64.44 68 P P 19 53 33.2 +0.8
baz=314,SNR=6.1
SWSC **Sam W. Stewart** 64.72 68 P P 19 53 34.8 +0.7
baz=314
IKP **In-Ko-Pah, Jac** 64.74 69 P P 19 53 35.4 +1.0
baz=314
PV09 **Paradox Valley** 64.76 60 *e*P P 19 53 35.9 +1.2
N23A **Red Feather La** 64.84 56 P P 19 53 36.8 +1.6
baz=315,SNR=6.3
PV14 **Lion Creek, Pa** 64.91 60 *e*P P 19 53 36.6 +1.0
comp=Z,16nm,0.9s
Y12C **Blythe** 64.93 67 P P 19 53 36.8 +1.3
baz=314
GLA **Glamis** 65.23 68 P P 19 53 38.5 +1.0
baz=315
SMCO **Snowmass** 65.49 58 *e*P P 19 53 40.7 +1.2
comp=Z,15nm,0.8s
WUAZ **Wupatki** 65.56 64 P P 19 53 41.5 +1.7
baz=315,SNR=7.5
ISCO **Idaho Springs** 65.79 57 *e*P P 19 53 42.6 +1.2
comp=Z,18nm,0.9s
ISCO **Idaho Springs** 65.79 57 P P 19 53 43.1 +1.7
baz=316,SNR=11
VSR **Storozhevoye** 66.00 322⇑ *e*P P 19 53 39.5 -2.6
VSR pmax pmax
comp=Z,5.0nm,0.9s
MVCO **Mesa Verde** 66.02 60 P P 19 53 44.1 +1.3
baz=315,SNR=8.4
NB2 **NORSAR Subarra** 66.08 342 P P 19 53 40.5 -2.1
comp=Z,0.3nm,0.4s,baz=29,slow=6.5
NB200 **NORSAR Array S** 66.08 342 *e*P P 19 53 40.3 -2.3
NOA **NORSAR Array B** 66.08 342 P P 19 53 40.3 -2.3
comp=Z,0.5nm,0.5s,baz=30,slow=7.7,SNR=8.0
HFS **Hagfors** 66.39 340 P P 19 53 42.7 -1.7
comp=Z,2.3nm,0.3s,baz=55,slow=2.9,SNR=23
S22A **4UR Ranch, Cre** 66.58 59 *e*P P 19 53 48.0 +1.6
comp=Z,19nm,1.1s
S22A **4UR Ranch, Cre** 66.58 59 P P 19 53 48.3 +1.9
baz=316,SNR=16
Q24A **Divide** 66.64 57 P P 19 53 48.0 +1.2
baz=316
GEYT **Alibeck** 66.69 301 P P 19 53 46.3 -0.5
comp=Z,100nm,1.1s,baz=17,slow=5.1,SNR=7.4
GEYT LR LR 20 25 22.2
comp=Z,44nm,18.1s,baz=330,slow=38
W18A **Petrified Fore** 66.79 63 P P 19 53 49.1 +1.4
baz=316
EYMN **Ely** 66.80 42 P P 19 53 47.6 +0.3
baz=320
OGNE **Ogallala** 66.88 54 P P 19 53 49.3 +1.2
baz=317,SNR=5.1
214A **Organ Pipe Nat** 67.21 67 P P 19 53 51.4 +1.2
baz=316,SNR=6.7
SDCO **Great Sand Dun** 67.32 58 *e*P P 19 53 52.4 +1.3
comp=Z,11nm,1.2s
SDCO **Great Sand Dun** 67.32 58 P P 19 53 52.6 +1.4
baz=316,SNR=11
ECSD **EROS Data Cent** 67.58 48 *e*P P 19 53 52.5 +0.2
comp=Z,12nm,0.8s
ECSD **EROS Data Cent** 67.58 48 P P 19 53 52.6 +0.3
baz=318,SNR=11
KSCO **Kaye Shedlock'** 67.97 55 P P 19 53 55.9 +0.9
baz=317
F38A **Pierce - Schro** 68.14 44 P P 19 53 56.3 +0.6
baz=320,SNR=6.6
TUC **Tucson** 68.17 66 P P 19 53 57.6 +1.3
baz=316
SPMN **Marine on St.** 68.27 45 P P 19 53 56.8 +0.2
baz=320
T25A **Trinidad** 68.35 58 P P 19 53 58.6 +1.1
baz=317,SNR=5.9
E39A **Mellen** 68.41 43 P P 19 53 57.3 -0.1
baz=320
F39A **Loretta** 68.60 44 P P 19 53 59.5 +0.9
baz=320
E40A **Wakefield** 68.65 43 P P 19 53 59.5 +0.6
baz=321
G38A **Ridgeland** 68.75 45 P P 19 53 59.3 -0.3
baz=320
ANMO **Albuquerque** 68.79 61 P P 19 54 01.6 +1.4
comp=Z,5.2nm,0.7s,baz=311,slow=7.7,SNR=16
ANMO **Albuquerque** 68.79 61 *e*P P 19 54 01.3 +1.0
comp=Z,6.9nm,0.9s
ANMO **Albuquerque** 68.79 61⇑ *e*P P 19 54 00.6 +0.3
ANMO pmax pmax
comp=Z,6.0nm,0.8s
ANMO **Albuquerque** 68.79 61 P P 19 54 01.5 +1.2
baz=317
F40A **Park Falls** 68.95 43 P P 19 54 01.3 +0.5
baz=321
E41A **Kenton** 69.04 42 P P 19 54 01.7 +0.3
baz=321
G40A **Rib Lake** 69.42 44 P P 19 54 04.0 +0.3
baz=321
E42A **Champion** 69.52 41 P P 19 54 04.9 +0.5
baz=322
F41A **Three Lakes** 69.54 43 P P 19 54 04.4 -0.1
baz=321
319A **Douglas** 69.73 65 *e*P P 19 54 07.2 +1.2
comp=Z,21nm,0.9s
H40A **Chili** 69.83 44 P P 19 54 06.3 0.0
baz=321
I39A **Houston** 69.91 45 P P 19 54 06.1 -0.6
baz=321
SCHQ **Schefferville** 69.94 25 P P 19 54 06.8 +0.1
comp=Z,7.9nm,0.7s,baz=331,slow=4.2,SNR=8.0
SCHQ **Schefferville** 69.94 25 *e*P P 19 54 07.2 +0.5
comp=Z,12nm,0.9s
AKASG **Malin Array Be** 70.16 327 P P 19 54 06.0 -2.1
comp=Z,1.1nm,0.4s,baz=32,slow=6.2,SNR=10
AKBB **Malin Array Si** 70.16 327 *e*P P 19 54 06.3 -1.8
comp=Z,2.6nm,0.9s
AKBB **Malin Array Si** 70.16 327 *e*P P 19 54 06.3 -1.8
AKBB pmax pmax
comp=Z,3.0nm,0.9s
KBZ **Khabaz** 70.17 315 P P 19 54 07.8 -0.5
comp=Z,1.6nm,0.4s,baz=135,slow=1.5,SNR=14
KIEV **Kiev** 70.17 327⇓ *e*P P 19 54 06.2 -2.0
KIEV pmax pmax
comp=Z,30nm,3.5s
H41A **Junction City** 70.17 44 P P 19 54 08.1 -0.2
baz=321
J39A **Decorah** 70.22 46 P P 19 54 08.6 0.0
baz=321
I40A **Norwalk** 70.30 45 P P 19 54 09.0 -0.1
baz=321
SCIA **State Center** 70.60 48 P P 19 54 10.7 -0.3
baz=320
K39A **Oelwein** 70.62 46 P P 19 54 10.5 -0.6
baz=321
D46A **Sault St. Mari** 70.78 39 P P 19 54 11.4 -0.6
baz=324
MATQ **Matagami** 70.89 33 P P 19 54 12.2 -0.4
baz=327
J41A **Loganville** 70.98 45 P P 19 54 13.1 -0.2
baz=322
D47A **Chapleau** 71.03 38 P P 19 54 13.5 -0.1
baz=324
F46A **Macinaw City C** 71.38 40 P P 19 54 15.4 -0.2
baz=324
J42A **Columbus** 71.42 44 P P 19 54 15.6 -0.3
baz=322
L40A **Anamosa** 71.43 46 P P 19 54 15.7 -0.4
baz=321
M39A **Webster** 71.43 47 P P 19 54 16.1 0.0
baz=321
AMTX **Amarillo** 71.51 58 P P 19 54 17.6 +0.9
baz=318
MSTX **Muleshoe** 71.58 59 P P 19 54 17.9 +0.7
baz=318
LSQQ **Lebel-sur-Quev** 71.72 34 P P 19 54 17.1 -0.5
baz=327
K42A **Prairie Point,** 71.74 45 P P 19 54 17.5 -0.4
baz=322
MNTX **Cornudas Mount** 71.77 62 *e*P P 19 54 19.5 +1.2
comp=Z,17nm,1.3s
MNTX **Cornudas Mount** 71.77 62 P P 19 54 19.4 +1.2
baz=318,SNR=13
M40A **Post Highland** 71.80 47 P P 19 54 18.2 -0.1
baz=321
WRAB **Tennant Creek** 71.83 201⇑ *e*P P 19 54 18.9 +0.4
WRAB pmax pmax
comp=Z,9.0nm,1.1s
WB2 **Warramunga Arr** 71.84 201 *e*P P 19 54 17.8 -0.8
WR1 **Warramunga Arr** 71.84 201 *e*P P 19 54 18.8 +0.1
comp=Z,18nm,1.3s
WRA **Warramunga Arr** 71.84 201 P P 19 54 18.7 +0.1
comp=Z,4.1nm,0.7s,baz=18,slow=6.3,SNR=20
WRA **Warramunga Arr** 71.84 201 P P 19 54 18.7 +0.1
WRA pmax pmax
comp=Z,6.0nm,0.9s
CHGQ **Chibougamau** 71.91 32 P P 19 54 18.2 -0.5
baz=329,SNR=5.8
N40A **Mertquake, Sal** 72.17 47 P P 19 54 20.3 -0.2
baz=321
H46A **Fife Lake** 72.18 41 P P 19 54 19.9 -0.7
baz=324
VLDQ **Val d'Or** 72.33 34 *e*P P 19 54 20.3 -1.0
comp=Z,23nm,1.1s
D51A **Lot 18 Range I** 72.47 36 P P 19 54 21.6 -0.6
baz=326
E50A **Wahnapitae** 72.49 37 P P 19 54 21.9 -0.4
baz=326
F49A **Sandfield** 72.51 38 P P 19 54 21.8 -0.6
baz=325
I46A **Reed City** 72.56 42 P P 19 54 22.2 -0.5
baz=324
N41A **Harden Midland** 72.66 47 *e*P P 19 54 23.5 +0.2
comp=Z,27nm,0.9s
N41A **Harden Midland** 72.66 47 P P 19 54 23.4 0.0
baz=322,SNR=5.8
H48A **Harrisville** 72.85 40 P P 19 54 24.4 0.0
baz=325
E51A **G1948 Merrick** 72.88 36 P P 19 54 23.9 -0.7
baz=326
J46A **Howard City** 72.95 42 P P 19 54 25.1 +0.1
baz=324
N42A **Yates City** 72.95 46 P P 19 54 24.9 -0.2
baz=322
O41A **Passleys Farm,** 73.11 47 P P 19 54 26.3 +0.3
baz=322
WMOK **Wichita Mounta** 73.20 56 *e*P P 19 54 27.1 +0.4
comp=Z,13nm,0.9s
WMOK **Wichita Mounta** 73.20 56 *e*P P 19 54 27.1 +0.4
WMOK pmax pmax
comp=Z,13nm,0.9s
WMOK **Wichita Mounta** 73.20 56 P P 19 54 27.4 +0.7
baz=319,SNR=13
J47A **Sunmer** 73.39 42 P P 19 54 28.0 +0.3
baz=324
E52A **Mattawa** 73.41 36 P P 19 54 27.1 -0.7
baz=327
D54A **Lac Fusel, La** 73.44 34 P P 19 54 27.5 -0.4
baz=328
M44A **Midewin, Midew** 73.44 45 P P 19 54 27.5 -0.5
baz=323
HDIL **Hopedale** 73.51 46 P P 19 54 28.2 -0.2
baz=322
F52A **Sundridge** 73.56 37 P P 19 54 28.0 -0.7
baz=326
K47A **Vermontville** 73.77 42 P P 19 54 29.9 -0.1
baz=324
P42A **Winchester** 73.78 47 P P 19 54 30.1 +0.2
baz=322
E54A **Lac Daplat, Po** 73.84 35 P P 19 54 29.2 -1.1
baz=328
Q41A **Truxton** 73.84 48 P P 19 54 30.8 +0.4
baz=322,SNR=6.9
TUL1 **Leonard** 73.89 53 P P 19 54 31.1 +0.4
baz=320
ALGO **Algonquin Park** 73.92 36 P P 19 54 30.4 -0.3
baz=327
EKA **Eskdalemuir Ar** 73.95 348 P P 19 54 30.2 -0.5
comp=Z,1.7nm,0.4s,baz=18,slow=5.0,SNR=15
K48A **Perry** 74.05 42 P P 19 54 32.3 +0.7
baz=324
N45A **Kentland** 74.11 45 P P 19 54 32.5 +0.6
baz=323
P43A **Skaggs, Pawnee** 74.13 47 P P 19 54 32.2 +0.1
baz=322
BUR08 **Bucovina Ar. S** 74.15 328 *e*P P 19 54 31.0 -1.2
BUR04 **Bucovina Ar. S** 74.17 328 *e*P P 19 54 31.1 -1.2
BURAR **Bucovina Array** 74.17 328⇑ *i*P P 19 54 31.1 -1.2
BURAR **Bucovina Array** 74.17 328 ⇑P P 19 54 31.1 -1.2
Q42A **Golden Eagle** 74.21 48 P P 19 54 33.1 +0.5
baz=322
L47A **Sherwood** 74.24 43 P P 19 54 32.8 +0.1
baz=324
R41A **Rosebud** 74.28 49 P P 19 54 33.2 +0.2
baz=322
ABTX **Abilene, Hawle** 74.32 58 P P 19 54 34.3 +1.0
baz=320
G53A **Haliburton** 74.39 37 P P 19 54 33.4 -0.1
baz=327
PEMO **Pembroke** 74.46 36 P P 19 54 33.2 -0.7
baz=328
O45A **Potomac** 74.49 45 P P 19 54 34.3 +0.2
baz=323
TX31 **Lajitas Ar. Si** 74.51 63 *e*P P 19 54 35.4 +0.9
LTX **Lajitas** 74.51 63 *e*P P 19 54 35.8 +1.2
LTX **Lajitas** 74.51 63 *e*P P 19 54 35.8 +1.2
TXAR **Lajitas Array** 74.51 63 P P 19 54 35.8 +1.2
comp=Z,17nm,0.7s,baz=300,slow=4.5,SNR=170
I51A **Listowel** 74.53 39 P P 19 54 34.5 +0.2
baz=326
CCM **Cathedral Cave** 74.54 49 P P 19 54 34.9 +0.4
baz=322
M47A **Cromwell** 74.55 43 P P 19 54 34.4 -0.1
baz=324

CLL	Collm	74.58	337	eP		P	19 54 33.0	-1.4		
CLL	Collm	74.58	337	eP		P	19 54 33.0	-1.4		
R42A	Luebbering baz=322	74.58	49	P		P	19 54 35.0	+0.3		
L48A	N Adams baz=324	74.61	42	P		P	19 54 34.8	0.0		
LATQ	La Tuque baz=330	74.62	32	P		P	19 54 35.0	+0.2		
TRPA	Tarpa	74.63	330	⇓iP		P	19 54 34.6	-0.2		
S41A	Jillco Farms, baz=322	74.66	50	P		P	19 54 35.0	-0.1		
F55A	Otter Lake baz=328	74.66	35	P		P	19 54 34.7	-0.4		
SFIN	Lafayette baz=323	74.67	45	P		P	19 54 35.1	0.0		
P44A	Sand Creek, Wi baz=323	74.69	46	P		P	19 54 35.9	+0.6		
BANO	Bancroft baz=327	74.75	36	P		P	19 54 35.3	-0.2		
L49A	Milan baz=325	74.76	42	P		P	19 54 36.0	+0.3		
N47A	Urbana baz=324	74.91	44	P		P	19 54 36.7	+0.1		
Q44A	Meyer Farm, Va baz=323	74.95	47	P		P	19 54 37.0	+0.2		
TRQ	Mont Tremblant	74.99	34	eP		P	19 54 36.8	-0.2		
FVM	French Village	75.00	49	ePcP		PcP	19 54 55.1	+4.6		
R43A	Red Bud baz=322	75.00	48	P		P	19 54 37.3	+0.2		
G55A	Calabogie baz=328	75.02	36	P		P	19 54 37.0	-0.1		
PLVO	Plevna baz=328	75.06	36	P		P	19 54 37.1	-0.2		
U40A	Yellville baz=322,SNR=9.0	75.06	51	P		P	19 54 37.7	+0.2		
T41A	Mountain View baz=322	75.07	50	P		P	19 54 37.4	-0.2		
ACTO	Acton baz=326	75.08	39	P		P	19 54 37.4	-0.2		
PKRO	Pickering baz=328	75.19	38	P		P	19 54 38.3	+0.2		
N48A	Decatur baz=324	75.22	43	P		P	19 54 38.4	0.0		
L50A	Kingsville baz=325	75.23	41	P		P	19 54 38.5	+0.2		
P46A	Rosedale baz=324	75.23	45	P		P	19 54 38.6	+0.2		
ORIO	Orleans, Innes baz=329	75.30	35	P		P	19 54 38.1	-0.6		
Q45A	Warren Harvey, baz=323,SNR=5.3	75.36	46	P		P	19 54 39.2	0.0		
ALFO	Alfred baz=329	75.38	34	P		P	19 54 38.8	-0.3		
GOPC	GO Pecny, Ondr	75.38	335	eP		P	19 54 39.2	+0.1		
GOPC	GO Pecny, Ondr	75.38	335	eP		P	19 54 39.2	+0.1		
DRWO	Darlington Wes baz=327	75.40	38	P		P	19 54 39.4	+0.1		
T42A	Van Buren baz=322	75.42	50	P		P	19 54 39.4	-0.1		
H55A	Tweed baz=328	75.43	36	P		P	19 54 39.6	+0.1		
R44A	Waltonville baz=323	75.44	47	P		P	19 54 39.9	+0.3		
VYHS	Vyhne	75.48	332	eP		P	19 54 38.5	-1.2		
VYHS	Vyhne	75.48	332	eP		P	19 54 38.5	-1.2		
W39A	Magazine baz=321	75.49	52	P		P	19 54 40.0	0.0		
WLVO	Wesleyville baz=327	75.49	37	P		P	19 54 39.6	-0.1		
AS01	Alice Springs	75.52	201	eP		P	19 54 40.7	+0.6		
I55A	Frankford baz=328	75.52	37	P		P	19 54 39.8	-0.2		
AS31	Alice Springs comp=Z,1.4nm,0.9s	75.53	201	eP		P	19 54 40.8	+0.6		
ASAR	Alice Springs comp=Z,3.0nm,0.5s,baz=15,slow=4.9,SNR=60	75.53	201	P		P	19 54 41.2	+1.1		
N49A	Columbus Grove baz=325	75.55	43	P		P	19 54 40.1	-0.1		
TYNO	Tyneside baz=327	75.59	39	P		P	19 54 40.3	-0.1		
O48A	Farmland baz=324	75.65	44	P		P	19 54 40.6	-0.2		
MLR	Muntele Rosu comp=Z,2.5nm,0.4s,baz=340,slow=6.1,SNR=14	75.74	326	P		P	19 54 40.8	-0.6		
MLR	Muntele Rosu comp=Z,7.0nm,1.0s	75.74	326	eP		P	19 54 40.9	-0.5		
MLR	Muntele Rosu	75.74	326	⇑iP		P	19 54 41.1	-0.3		
MLR	Muntele Rosu	75.74	326	⇑P		P	19 54 41.1	-0.3		
P47A	Martinsville baz=324	75.77	45	P		P	19 54 41.5	0.0		
T43A	Greenville baz=322	75.77	49	P		P	19 54 42.2	+0.7		
R45A	Skylar, Fairfi baz=323	75.78	47	P		P	19 54 42.2	+0.6		
S44A	Carbondale baz=323	75.79	48	P		P	19 54 42.3	+0.7		
JCT	Junction City baz=320,SNR=6.6	75.86	60	P		P	19 54 42.6	+0.5		
V41A	Mountainview baz=322	75.86	51	P		P	19 54 42.1	0.0		
U42A	Revenden baz=322	75.88	50	P		P	19 54 41.6	-0.5		
WHTX	Lake Whitney, baz=320	76.00	57	P		P	19 54 43.7	+0.8		
O49A	Covington baz=325	76.08	43	P		P	19 54 43.3	0.0		
MIAR	Mount Ida comp=Z,12nm,0.9s	76.10	53	eP		P	19 54 44.1	+0.7		
MIAR	Mount Ida comp=Z,12nm,0.9s	76.10	53	eP	pmax	P pmax	19 54 44.1	+0.7		
MIAR	Mount Ida baz=322,SNR=6.3	76.10	53	P		P	19 54 43.9	+0.5		
MEDO	Medina baz=327	76.10	38	P		P	19 54 43.3	0.0		
VOIR		76.11	327	⇑iP		P	19 54 43.5	+0.1		
VOIR		76.11	327	⇑P		P	19 54 43.5	+0.1		
N50A	Nevada baz=325	76.12	42	P		P	19 54 43.5	0.0		
S45A	Carrier Mills baz=323	76.13	48	P		P	19 54 43.8	+0.2		
Q47A	Bedord North L baz=324	76.14	45	P		P	19 54 43.7	+0.1		
P48A	Milroy baz=324	76.17	44	P		P	19 54 43.8	-0.1		
R46A	Gibson Southern baz=324	76.21	46	P		P	19 54 44.3	+0.3		
V42A	Cord baz=322	76.23	51	P		P	19 54 44.6	+0.4		
M52A	Chesterland baz=326	76.26	41	P		P	19 54 44.5	+0.3		
J55A	Hilton baz=328	76.27	37	P		P	19 54 43.8	-0.5		
U43A	Rector baz=323	76.28	50	P		P	19 54 44.8	+0.4		
W41B	Gary Mavity, V baz=322,SNR=5.8	76.29	51	P		P	19 54 44.7	+0.2		
ARR	Arges	76.31	327	⇑iP		P	19 54 45.0	+0.4		
N51A	Ashland baz=326	76.34	42	P		P	19 54 44.8	+0.1		
LONY	Lake Ozonia baz=329	76.35	35	P		P	19 54 44.5	-0.3		
ERPA	Erie baz=327	76.35	39	P		P	19 54 44.8	0.0		
L53A	Girard baz=327	76.38	40	P		P	19 54 45.0	+0.1		
KHC	Kasperske Hory	76.42	336	eP		P	19 54 44.7	-0.4		
KHC				ex		x	19 54 50.7			
KHC	Kasperske Hory	76.42	336	eP		P	19 54 44.7	-0.4		
KHC				e			19 54 50.7			
O50A	Cable baz=325	76.43	43	P		P	19 54 45.6	+0.3		
P49A	Miami Univ. Ec baz=325	76.44	44	P		P	19 54 45.4	+0.2		
Q48A	North Vernon baz=324	76.46	45	P		P	19 54 45.4	0.0		
X40A	Basin Creek Fa baz=322	76.53	52	P		P	19 54 46.1	+0.3		
S46A	Don Dixon Farm baz=324	76.54	47	P		P	19 54 46.0	+0.2		
MOQ	Mont Orford	76.59	33	eP		P	19 54 46.8	+0.6		
R47A	Wooly Knot Far baz=324	76.61	46	P		P	19 54 46.7	+0.5		
K55A	Perry baz=328	76.62	38	P		P	19 54 46.1	-0.2		
M53A	WI Miller and baz=326	76.63	40	P		P	19 54 46.6	+0.3		
GERES	GERESS Array B comp=Z,0.6nm,0.4s,baz=29,slow=5.8,SNR=9.2	76.65	335	P		P	19 54 45.6	-0.9		
WCI	Wyandotte Cave baz=324	76.77	46	P		P	19 54 47.8	+0.6		
P50A	Jamestown baz=325	76.79	43	P		P	19 54 47.6	+0.4		
R48A	Northridge Ran baz=324	76.83	45	P		P	19 54 47.8	+0.3		
O51A	Pataskala baz=326	76.87	42	P		P	19 54 47.9	+0.2		
MEM	Membach	76.87	341	⇑P		P	19 54 47.8	+0.2		
GZR	Gura Zlata	76.94	328	⇑iP		P	19 54 47.1	-1.0		
GZR	Gura Zlata	76.94	328	⇑P		P	19 54 47.1	-1.0		
T46A	Princeton baz=324,SNR=8.7	76.97	47	P		P	19 54 49.1	+0.8		
M54A	Oil Creek Stat baz=327	76.99	39	P		P	19 54 49.0	+0.6		
N53A	Lisbon baz=326	77.09	41	P		P	19 54 49.6	+0.6		
BZS	Buzias	77.14	329	⇓iP		P	19 54 49.0	-0.1		
BZS	Buzias	77.14	329	⇓P		P	19 54 49.0	-0.1		
O52A	Adamsville baz=326	77.23	42	P		P	19 54 50.0	+0.2		
N54A	Moraine State baz=327	77.31	40	P		P	19 54 50.4	+0.1		
S48A	Wiedeman Farm, baz=324	77.34	46	P		P	19 54 50.9	+0.5		
O53A	New Philadelph baz=326	77.39	41	P		P	19 54 50.9	+0.3		
Q51A	Peebles baz=325	77.46	43	P		P	19 54 51.4	+0.4		
BR101	Keskin Array S	77.52	318	eP		P	19 54 50.8	-0.8		
BRTR	Keskin Array B comp=Z,0.9nm,0.5s,baz=115,slow=3.3,SNR=9.1	77.52	318	P		P	19 54 50.8	-0.8		
S49A	Springfield baz=325	77.59	45	P		P	19 54 52.5	+0.7		
R50A	Paris baz=325	77.63	44	P		P	19 54 52.3	+0.3		
NATX	Nacodoches baz=322	77.69	55	P		P	19 54 53.4	+0.9		
WVT	Waverly baz=324	77.73	48	P		P	19 54 53.1	+0.6		
U47A	Clarksville baz=324	77.74	47	P		P	19 54 53.1	+0.5		
O54A	Avella baz=327	77.80	41	P		P	19 54 53.3	+0.4		
V46A	Holladay baz=324	77.85	48	P		P	19 54 53.7	+0.5		
N55A	Marion Center baz=327	77.88	39	P		P	19 54 53.6	+0.2		
BINY	Binghamton baz=329	77.89	37	P		P	19 54 53.5	+0.1		
P53A	Whipple baz=326	77.94	42	P		P	19 54 53.9	+0.2		
R51A	Hillsboro baz=325	77.95	44	P		P	19 54 54.2	+0.4		
T49A	Edmonton baz=325	78.03	46	P		P	19 54 54.4	+0.1		
U48A	Cassie Pea, Po baz=324	78.04	47	P		P	19 54 54.5	+0.2		
S50A	Richmond baz=325	78.09	45	P		P	19 54 54.9	+0.3		
V47A	Nunnelly baz=324	78.12	48	P		P	19 54 55.1	+0.3		
O55A	Ligonier baz=327	78.23	40	P		P	19 54 55.5	+0.1		
SOKA	Soboth comp=Z,13nm,1.5s	78.25	334	iP		P	19 54 56.0	+0.6		
R52A	Catlettsburg baz=326	78.34	43	P		P	19 54 56.2	+0.3		
KBA	Koelnbreinsper comp=Z,13nm,0.9s	78.36	335	iP		P	19 54 57.3	+1.2		
U49A	Red Boiling Sp baz=325	78.39	46	P		P	19 54 56.8	+0.5		
T50A	Nancy baz=325	78.42	45	P		P	19 54 56.9	+0.4		
O56A	Blue Knob Stat baz=328	78.49	39	P		P	19 54 56.9	+0.1		
S51A	Beattyville baz=326	78.49	44	P		P	19 54 56.8	+0.1		
V48A	Smith Brothers baz=324	78.52	48	P		P	19 54 57.5	+0.5		
OBKA	Obir comp=Z,14nm,1.4s	78.54	334	iP		P	19 54 57.5	+0.5		
W47A	Westpoint baz=324	78.54	48	P		P	19 54 57.3	+0.2		
P55A	Reedsville baz=327	78.60	41	P		P	19 54 58.0	+0.6		
S52A	Salyersville baz=326	78.69	44	P		P	19 54 58.2	+0.3		
Y45A	Yeager Farm, C baz=323	78.69	50	P		P	19 54 59.0	+1.1		
MOTA	Moosalm comp=Z,7.9nm,1.1s	78.71	336	iP		P	19 54 58.7	+0.7		
T51A	Gray baz=325	78.88	45	P		P	19 54 59.4	+0.4		
ABTA	Abfaltersbach comp=Z,3.0nm,0.6s	78.89	335	iP		P	19 54 59.4	+0.5		
U50A	Jamestown baz=325	78.91	46	P		P	19 54 59.8	+0.7		
Q55A	Buckhannon baz=327	78.92	41	P		P	19 54 59.6	+0.5		
V49A	McMinnville baz=325	78.94	47	P		P	19 54 59.7	+0.4		
W48A	Pulaski baz=324	78.95	48	P		P	19 54 59.9	+0.5		
Y46A	Houston baz=324	79.02	50	P		P	19 55 00.5	+0.8		
N59A	State Game Lan baz=329	79.06	37	P		P	19 54 59.9	0.0		
T52A	Hallie baz=326	79.20	44	P		P	19 55 01.5	+0.8		
R54A	Victor baz=327	79.20	42	P		P	19 55 01.4	+0.6		
VTS	Vitosha comp=Z,6.1nm,0.7s	79.23	326	eP		P	19 55 00.3	-0.6		
VTS	Vitosha	79.23	326	⇑iP		P	19 55 01.1	+0.1		
VTS	Vitosha	79.23	326	⇑P		P	19 55 01.1	+0.1		
W49A	Belvidere baz=325	79.29	48	P		P	19 55 01.5	+0.3		
SWET	Sewanee comp=Z,10nm,0.8s	79.37	47	eP		P	19 55 01.6	-0.1		
V50A	Pikeville baz=325	79.40	46	P		P	19 55 01.8	0.0		
R55A	Marlinton baz=327	79.49	42	P		P	19 55 02.7	+0.3		
Y47A	UCPARC, Winfie baz=324	79.50	49	P		P	19 55 02.7	+0.4		
DAVOX	Davos/Dischmat comp=Z,1.7nm,0.4s,baz=340,slow=6.2,SNR=4.5	79.55	337	P		P	19 55 02.6	-0.1		
U52A	Thorn Hill baz=326	79.61	45	P		P	19 55 03.3	+0.3		
V51A	Loudon baz=325	79.64	46	P		P	19 55 03.7	+0.6		
W50A	Signal Mountai baz=325	79.68	47	P		P	19 55 03.5	+0.1		
X49A	Woodville baz=325	79.75	48	P		P	19 55 04.3	+0.6		
V52A	Sevierville baz=326	79.96	45	P		P	19 55 05.4	+0.6		
X50B	Fort Payne baz=325	80.12	47	P		P	19 55 06.1	+0.4		
147A	Livingston baz=324	80.28	50	P		P	19 55 07.2	+0.7		
Y50A	Piedmont baz=325	80.54	48	P		P	19 55 08.4	+0.4		
R58B	Mineral baz=328	80.72	40	P		P	19 55 09.1	+0.3		
Z49A	Columbiana baz=325	80.72	49	P		P	19 55 09.0	0.0		
Y51A	Rockmart baz=325	80.86	47	P		P	19 55 09.3	-0.4		
Z50A	Ashland comp=Z,14nm,0.8s	80.97	48	eP		P	19 55 10.6	+0.3		
Z50A	Ashland baz=325,SNR=5.3	80.97	48	P		P	19 55 10.5	+0.2		
149A	Jones baz=325	81.08	49	P		P	19 55 11.0	+0.2		
X53A	Estanollee baz=326	81.20	46	P		P	19 55 11.6	+0.1		
Z51A	Franklin baz=325	81.28	48	P		P	19 55 12.0	+0.1		
249A	Camden baz=324	81.42	50	P		P	19 55 13.4	+0.8		
150A	Eclectic baz=325	81.45	49	P		P	19 55 13.3	+0.5		
KMSC	Kings Mountain baz=327	81.57	44	P		P	19 55 13.5	+0.1		
Y53A	Monroe baz=326	81.60	46	P		P	19 55 14.1	+0.5		
Z52A	Williamson baz=326	81.75	47	P		P	19 55 14.8	+0.4		
151A	Opelika baz=325	81.85	48	P		P	19 55 14.7	-0.2		
Y54A	Tignall baz=326,SNR=5.0	82.01	46	P		P	19 55 16.5	+0.7		
Z53A	Monticello baz=326	82.08	47	P		P	19 55 16.9	+0.8		
155A	Kite baz=326	83.14	46	P		P	19 55 21.9	+0.3		
254A	Abbeville baz=326	83.31	47	P		P	19 55 23.2	+0.7		
353A	Camilla baz=326	83.36	48	P		P	19 55 23.2	+0.5		
RAYN	Ar Rayn comp=Z,8.2nm,1.0s	84.62	300	eP		P	19 55 28.8	-0.6		
RAYN	Ar Rayn comp=Z,8.0nm,1.0s	84.62	300	eP	pmax	P pmax	19 55 28.8	-0.6		
554A	Perry baz=326	84.65	49	P		P	19 55 30.6	+1.2		
IDI	Anoyia comp=Z,6.8nm,0.6s,baz=40,slow=21,SNR=1.6	84.95	322	P		P	19 55 28.7	-2.2		
457A	Yulee baz=327	85.23	47	P		P	19 55 32.4	+0.1		
656A	Willston baz=327	85.80	48	P		P	19 55 35.5	+0.4		
657A	Interlachen baz=327	85.95	48	P		P	19 55 36.2	+0.4		
VAE	Valguarnera comp=Z,22nm,1.1s,baz=9.0,slow=13,SNR=2.1	86.81	330	P		P	19 55 40.1	+0.1		
058A	Arcadia baz=327	88.08	49	P		P	19 55 46.4	+0.2		
ESDC	Sonseca Array comp=Z,0.5nm,0.5s,baz=357,slow=3.8,SNR=6.2	89.32	345	P		P	19 55 51.0	-0.9		
CPUP	Villa Florida comp=Z,19nm,0.8s,baz=235,slow=1.8,SNR=3.0	145.44	60	PKPbc		PKPdf	20 02 32.5	-0.7		
CPUP	Villa Florida	145.44	60	ePKPdf		PKPab	20 02 33.6	+0.1		
PLCA	Paso Flores comp=Z,7.1nm,0.9s,baz=21,slow=2.9,SNR=8.4	146.56	93	PKPbc		PKPbc	20 02 35.9	-0.5		
PLCA	Paso Flores	146.56	93	ePKPdf		PKPdf	20 02 35.5	+0.8		
SNAA	Sanae comp=Z,2.8nm,0.9s,baz=243,slow=4.8,SNR=5.4	155.83	196	PKPab		PKPab	20 03 15.2	+0.1		

SJA ***25*** *19:53:24.1±1.1,24.°30S×65.°28W,h38km±10km,ML4.5, MW4.8*

ISCJB ***25*** *19:53:25.9±0.2,24.°11S±0.°03×65.°36W±0.°03,h33km, mb5.0/115,MS4.2/2,Error ellipse: s-maj=4.2km s-min=3.6km az=172.9*

VAO ***25*** *19:53:27.0±0.3,24.°24S×65.°41W,h10km,mb4.6*

MOS ***25*** *19:53:28.5±1.7,24.°13S×65.°32W,h46km,mb5.2/22,Error ellipse: s-maj=11.5km s-min=7.0km az=105.0*

NEIC ***25*** *19:53:28.5±0.5,24.°13S×65.°25W,h41km±4km,mb5.1/106, MD4.8(SJA),Error ellipse: s-maj=6.0km s-min=3.8km az=73.0*

NEIC Felt [IV] at San Salvador de Jujuy and [III] at Salta.

IDC ***25*** *19:53:29.4±1.9,24.°20S×65.°36W,h44km±17km,mb4.3/18, mb1 4.4/25,mb1mx4.3/41,mbtmp4.5/25,ML4.2/7,MS3.5/6, Ms1 3.5/6,ms1mx3.3/22,Error ellipse: s-maj=18.3km s-min=13.2km az=50.0*

BJI ***25*** *19:53:30.6,24.°10S×65.°30W,h32km,mB5.4/7,Ms5.4/4, Ms7 5.3/4*

ISC 25 19:53:28.3±0.3,24.°24S±0.°04×65.°28W±0.°05,h35km,n507, σ1°47/515,mb5.1/115,12C-5D,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	San Lorenzo	0.52	204	*i* P	Pn	19 53 34.2	-5.2
SLA				*i* S	Sn	19 53 41.9	-5.2
SLA	comp=Z,37μm,0.4s			IAML		19 53 44.1	
HJA	Humahuaca	1.04	353	*i* P	Pn	19 53 45.4	-1.3
YJA	Yavi	2.07	354	*i* P	Pn	19 54 02.9	+2.0
LVC	Limon Verde comp=Z,7.1nm,0.3s,baz=116,slow=4.1,SNR=14	3.71	295	P	Pn	19 54 23.8	+0.3
LVC	comp=Z,1.4nm,0.3s,baz=255,slow=7.9,SNR=4.1			S	Sn	19 55 11.7	+5.5
LVC	Limon Verde	3.71	295	*e*P	Pn	19 54 24.8	+1.3
LVC	comp=Z,91nm,1.7s			pmax	pmax		
LVC	Limon Verde	3.71	295	*e*P	Pn	19 54 22.0	-1.4
GO02	Mina Guanaco	4.03	256	*e*Pn	Pn	19 54 29.2	+1.4
CYA	Choya	4.21	186	*i* P	Pn	19 54 29.6	-0.4
PB04	IPOC Station P	4.87	292	*e*Pn	Pn	19 54 39.9	+0.7
PB10	IPOC Station P	4.89	277	*e*Pn	Pn	19 54 39.8	+0.6
PB01	IPOC Station P	5.03	308	*e*Pn	Pn	19 54 42.4	+1.1
GO03	Copiap	5.57	232	*e*Pn	Pn	19 54 50.2	+1.4
PB11	IPOC Station P	6.03	317	*e*Pn	Pn	19 54 55.8	+0.5
MNMC	Minye Minye	6.48	321	*e*Pn	Pn	19 55 03.0	+1.6
MNMCX	Minye Minye	6.48	321	*i* P	Pn	19 55 02.3	+0.8
LCO	Las Campanas	6.79	224	*e*Pn	Pn	19 55 05.4	-0.2
LCO	Las Campanas	6.79	224	*e*P	Pn	19 55 05.5	-0.2
LCO	Las Campanas	6.79	224	*e*P	Pn	19 55 05.7	0.0
CPUP	Villa Florida comp=Z,4.3nm,0.3s,baz=279,slow=12,SNR=50	7.49	108	P	Pn	19 55 17.2	+2.3
CPUP	comp=Z,31nm,0.3s,baz=182,slow=20,SNR=4.6			Lg	Lg	19 57 27.2	
CPUP	comp=Z,216nm,18.3s,baz=303,slow=34			LR	LR	19 57 50.8	
CPUP	Villa Florida	7.49	108	*e*P	Pn	19 55 17.1	+2.1
CPUP	Villa Florida	7.49	108	*e*P	Pn	19 55 16.9	+2.0
GO04	Tololo Observa	7.68	219	*e*Pn	Pn	19 55 17.3	-0.6
LPAZ	La Paz comp=Z,5.6nm,0.3s,baz=141,slow=8.6,SNR=44	8.36	341	P	Pn	19 55 28.6	+1.1
LPAZ	comp=Z,0.9nm,0.3s,baz=196,slow=19,SNR=2.0			S	Sn	19 57 04.2	+3.2
LPAZ	comp=Z,1.3nm,0.3s,baz=236,slow=24,SNR=1.3			Lg	Lg	19 57 58.8	
LPAZ	comp=Z,551nm,20.2s,baz=218,slow=43			LR	LR	19 59 23.1	
LPAZ	La Paz	8.36	341	*e*Pn	Pn	19 55 27.9	+0.4
LPAZ				Lg	Lg	19 57 58.8	
LPAZ	La Paz	8.36	341	*e*P	Pn	19 55 27.9	+0.4
LPAZ	La Paz	8.36	341	*e*P	Pn	19 55 26.5	-1.0
SIV	San Ignacio comp=Z,15nm,0.3s,baz=224,slow=12,SNR=139	9.11	26	P	Pn	19 55 37.7	+0.4
SIV	comp=Z,8.7nm,0.3s,baz=208,slow=22,SNR=1.6			S	Sn	19 57 15.5	-3.2
SIV	comp=Z,9.0nm,0.3s,baz=294,slow=23,SNR=1.9			Lg	Lg	19 58 14.5	
SIV	comp=Z,368nm,20.5s,baz=153,slow=42			LR	LR	19 59 51.1	
AQDB	Aquidauana	9.62	69	*e*P	Pn	19 55 46.8	+2.5
ROC1	El Roble	10.05	209	*e*Pn	Pn	19 55 51.2	+0.8
PEL	Peldehue	10.06	207	*e*Pn	Pn	19 55 53.2	+2.9
PEL	Peldehue	10.06	207	*e*P	Pn	19 55 53.2	+2.9
TRCB	Terra Rica	11.69	85	*e*P	Pn	19 56 14.4	+1.7
GO05	Huala	12.19	207	*e*Pn	Pn	19 56 21.5	+2.1
CNLB	Canela	13.83	115	*e*P	Pn	19 56 43.5	+1.5
TRQA	Tornquist	14.05	169	*e*Pn	Pn	19 56 44.0	-0.9
TRQA	Tornquist	14.05	169	*e*P	Pn	19 56 44.0	-0.9
ITRB	Iturama	14.55	75	*e*P	P	19 56 55.2	-2.7
TIJ01	Guaruva-PR	14.82	98	*e*P	P	19 56 59.2	-1.6
BB19B	Bebedouro	15.78	82	*e*P	P	19 57 10.6	-0.9
GO06	Curarrehue comp=Z,29nm,0.8s	16.17	197	*e*Pn	Pn	19 57 10.5	-2.4
SPB	Sao Paulo comp=Z,20nm,0.8s	16.33	91	*e*Pn	Pn	19 57 13.0	-1.9
RCLB	Rio Claro- Sao	16.40	87	*e*P	P	19 57 19.4	+1.0
NNA	Nana comp=Z,0.5nm,0.3s,baz=158,slow=10,SNR=4.2	16.40	316	P	Pn	19 57 15.7	-0.2
NNA	Nana comp=Z,11nm,0.8s	16.40	316	*e*Pn	Pn	19 57 12.1	-3.9
NNA	Nana	16.40	316	*i* P	P	19 57 18.7	+0.3
PLCA	Paso Flores comp=Z,0.1nm,0.3s,baz=35,slow=9.3,SNR=8.6	17.03	194	P	Pn	19 57 23.8	+0.1
PLCA	comp=Z,125nm,20.1s,baz=22,slow=41			LR	LR	20 05 06.7	
PLCA	Paso Flores comp=Z,11nm,1.2s	17.03	194	*e*Pn	Pn	19 57 23.9	+0.1
PLCA	Paso Flores	17.03	194	*e*P	P	19 57 26.0	+0.8
PLCA	Paso Flores	17.03	194	*e*P	Pn	19 57 24.1	+0.4
IPMB	Ipameri, GO	17.09	72	*e*P	P	19 57 26.3	+0.3
BDFB	Brasilia comp=Z,0.2nm,0.3s,baz=235,slow=11,SNR=2.7	18.33	65	P	Pn	19 57 42.2	+2.2
BDFB	comp=Z,0.2nm,0.3s,baz=0.0,slow=20,SNR=2.3			Lg	Lg	20 03 21.9	
BDFB	comp=Z,115nm,18.0s,baz=235,slow=41			LR	LR	20 06 03.6	
BDFB	Brasilia	18.33	65	*e*Pn	P	19 57 39.3	-0.5

comp=Z,50nm,1.9s
BDFB Brasilia 18.33 65 *e*P P 19 57 39.3 -0.5
BDFB pmax pmax
comp=Z,50nm,1.9s
GO07 Milladeo Hill, 20.05 198 *e*P P 19 57 58.0 -0.3
comp=Z,132nm,0.9s
DUB01 Friburgo-RJ 21.16 89 *e*P P 19 58 14.1 +3.5
MCI6 Montes Claros 21.33 74 *e*P P 19 58 15.5 +3.0
MCI8 Montes Claros 21.37 73 *e*P P 19 58 16.1 +3.3
MCI9 Montes Claros 21.38 73 *e*P P 19 58 16.2 +3.3
MCI7 Montes Claros 21.41 74 *e*P P 19 58 16.6 +3.4
JANB Januaria 21.73 69 *e*P P 19 58 19.4 +2.7
ALF01 Guarapari-ES 22.97 86 *e*P P 19 58 33.8 +3.9
BSFB Barra de Sao F 23.34 81 *e*P P 19 58 36.7 +3.1
RIB01 Linhares ES 23.61 83 *e*P P 19 58 38.9 +2.8
PTGA Pitinga 23.93 13 P P 19 58 38.1 -1.1
comp=Z,27nm,0.9s,baz=202,slow=11,SNR=28
PTGA Pitinga 23.93 13 *e*P P 19 58 37.6 -1.6
comp=Z,23nm,0.8s
OTAV Otavalo 27.49 330 *e*P P 19 59 11.1 -0.9
comp=Z,9.9nm,0.9s
OTAV Otavalo 27.49 330 *ce*P P 19 59 14.2 +2.3
OTAV pmax pmax
comp=Z,4.0nm,1.3s
OTAV Otavalo 27.49 330 *e*P P 19 59 13.8 +1.8
GO09 Cerro Castillo 27.53 190 *e*P P 19 59 14.2 +2.7
comp=Z,66nm,1.5s
GO10 Punta Arenas 29.20 187 *e*P P 19 59 28.8 +2.4
comp=Z,259nm,1.4s
ROSC El Rosal 30.22 342 P P 19 59 36.1 -0.1
comp=Z,3.6nm,0.4s,baz=122,slow=19,SNR=1.7
ROSC El Rosal 30.22 342 *e*P P 19 59 34.6 -1.6
comp=Z,9.3nm,1.0s
SDV Santo Domingo 33.34 350 *e*P P 20 00 01.5 -1.8
comp=Z,5.4nm,0.8s
GRGR Grenville 36.33 6 *e*P P 20 00 27.5 -1.4
comp=Z,147nm,1.0s
FDF Fort de France 38.95 6 *e*P P 20 00 49.3 -1.8
comp=Z,82nm,1.3s
FDF Fort de France 38.95 6 *e*P P 20 00 49.3 -1.8
FDF pmax pmax
comp=Z,82nm,1.3s
JTS JuntasAbangare 39.34 328 P P 20 00 53.8 -0.6
comp=Z,8.2nm,0.6s,baz=50,slow=4.8,SNR=4.7
JTS JuntasAbangare 39.34 328 *e*P P 20 00 53.8 -0.6
comp=Z,21nm,1.0s
JTS JuntasAbangare 39.34 328 *ci*P P 20 00 55.4 +1.0
PMSA Palmer Station 40.53 179 *e*P P 20 01 04.0 +0.3
comp=Z,140nm,1.3s
ESPN Las Esperanzas 40.71 331 *e*P P 20 01 03.6 -2.1
comp=Z,22nm,0.9s
ICMP Isla Caja de M 41.89 358 *e*P P 20 01 12.1 -3.2
comp=Z,41nm,0.9s
CRPR Cabo Rojo, PR 42.03 357 *e*P P 20 01 14.7 -1.8
comp=Z,41nm,0.9s
OBIP Obispado Ponce 42.05 358 *e*P P 20 01 14.6 -2.0
comp=Z,27nm,0.7s
MTP Monte Pirata 42.08 360 *e*P P 20 01 14.5 -2.4
comp=Z,22nm,1.2s
SMRT St. Maarten 42.09 3 *e*P P 20 01 14.6 -2.4
comp=Z,77nm,1.4s
SJG San Juan 42.11 359 *e*P P 20 01 14.5 -2.6
comp=Z,43nm,1.1s
SJG San Juan 42.11 359 *e*P P 20 01 14.5 -2.6
SJG pmax pmax
comp=Z,43nm,1.1s
EMPR Esperanza - Ma 42.48 358 *e*P P 20 01 18.2 -1.9
comp=Z,201nm,1.1s
TGUH Tegucigalpa,Un 43.71 328 *e*P P 20 01 27.7 -2.4
comp=Z,89nm,1.8s
APG El Apazote 46.12 325 P P 20 01 49.5 -0.1
comp=Z,12nm,0.9s,baz=343,slow=13,SNR=6.6
TEIG Tepich 49.55 331 *e*P P 20 02 14.6 -1.3
comp=Z,43nm,1.3s
CMIG Matias Romero 50.23 322 P P 20 02 20.7 -0.4
comp=Z,2.9nm,0.8s,baz=180,slow=7.3,SNR=2.4
ASCN Ascension 51.24 80 *e*P P 20 02 26.9 -1.9
comp=Z,87nm,1.0s
VNA3 Neumayer Olymp 56.41 161 P P 20 03 05.9 0.0
VNA2 Neumayer--Watz 56.96 161 P P 20 03 09.7 -0.1
baz=291,slow=8.5
SNAA Sanae 58.60 161 P P 20 03 20.7 -0.7
comp=Z,2.0nm,0.7s,baz=271,slow=9.7,SNR=5.6
SNAA Sanae 58.60 161 *e*P P 20 03 21.1 -0.3
comp=Z,4.7nm,1.0s
SNAA Sanae 58.60 161⇑ *e*P P 20 03 21.6 +0.2
LNIG Linares 59.02 323 *e*P P 20 03 23.1 -1.6
comp=Z,13nm,1.6s
154A Montrose 59.04 342 *e*P P 20 03 23.3 -1.5
comp=Z,65nm,0.4s
ZAIG Zacatecas 59.12 319 *e*P P 20 03 25.0 -0.9
comp=Z,14nm,1.4s
251A Midway 59.23 340 P P 20 03 24.5 -1.6
baz=159
152A Waverly Hall 59.56 341 *e*P P 20 03 27.1 -1.2
comp=Z,16nm,1.0s
152A Waverly Hall 59.56 341 P P 20 03 26.8 -1.6
baz=159
Z54A Sparta 59.56 343 P P 20 03 27.3 -1.0
baz=161
151A Opelika 59.61 340 P P 20 03 27.4 -1.2
baz=159
249A Camden 59.68 339 P P 20 03 27.9 -1.3
baz=157
Z53A Monticello 59.80 342 P P 20 03 28.5 -1.5
baz=161
GOGA Godfrey 59.90 342 *e*P P 20 03 29.3 -1.3
comp=Z,20nm,1.1s
GOGA Godfrey 59.90 342 *e*P P 20 03 29.3 -1.3
GOGA pmax pmax
comp=Z,20nm,1.1s
GOGA Godfrey 59.90 342 P P 20 03 29.4 -1.2
baz=161
150A Eclectic 59.90 340 P P 20 03 29.2 -1.5
baz=158,SNR=8.0
Z52A Williamson 59.96 341 P P 20 03 29.6 -1.4
baz=160
Y54A Tignall 60.11 343 P P 20 03 30.7 -1.4
baz=162
149A Jones 60.14 339 P P 20 03 30.9 -1.4
baz=157
JSC Jenkinsville 60.15 345 *e*P P 20 03 31.0 -1.3
comp=Z,9.3nm,0.9s
JSC Jenkinsville 60.15 345 *e*P P 20 03 31.0 -1.3
JSC pmax pmax
comp=Z,9.0nm,0.9s
Z51A Franklin 60.30 341 P P 20 03 32.0 -1.4
baz=159
Y53A Monroe 60.35 342 P P 20 03 32.4 -1.3
baz=161
HODGE Hodges 60.35 344 *e*P P 20 03 32.8 -0.9
comp=Z,13nm,1.0s
Z50A Ashland 60.47 340 *e*P P 20 03 32.5 -2.1
comp=Z,28nm,0.9s
Z50A Ashland 60.47 340 P P 20 03 33.3 -1.2
baz=158,SNR=11
Y52A Lilburn 60.49 342 *e*P P 20 03 32.8 -1.9
comp=Z,21nm,1.0s
Y52A Lilburn 60.49 342 P P 20 03 33.6 -1.1
baz=160
Z49A Columbiana 60.60 340 P P 20 03 34.0 -1.4
baz=158
LRAL Lakeview Retre 60.61 339 *e*P P 20 03 33.3 -2.1
comp=Z,18nm,1.1s
LRAL Lakeview Retre 60.61 339 P P 20 03 34.0 -1.5
baz=157
PAULI Pauline 60.80 344 *e*P P 20 03 35.9 -0.9
comp=Z,16nm,1.1s
Y51A Rockmart 60.81 341 P P 20 03 35.6 -1.3
baz=159,SNR=7.5
X53A Estanollee 60.88 343 P P 20 03 36.4 -0.9
baz=161
146A Union 60.95 337 *e*P P 20 03 37.0 -0.8
comp=Z,70nm,1.5s
KMSC Kings Mountain 60.99 345 *e*P P 20 03 37.3 -0.8
comp=Z,68nm,2.0s
KMSC Kings Mountain 60.99 345 P P 20 03 37.3 -0.8
baz=163
Y50A Piedmont 61.00 341 P P 20 03 37.0 -1.2
baz=159,SNR=5.4
Z48A Northport 61.10 339 P P 20 03 37.3 -1.6
baz=157
VBMS Vicksburg 61.10 336 *e*P P 20 03 38.2 -0.7
comp=Z,46nm,0.3s
Z47A Carrollton 61.11 338 P P 20 03 37.6 -1.4
baz=156
X52A Dahlonega 61.13 342 P P 20 03 38.0 -1.1
baz=161
Y49A Blount Mountai 61.18 340 *e*P P 20 03 37.5 -1.9
comp=Z,16nm,0.9s
Y49A Blount Mountai 61.18 340 P P 20 03 38.0 -1.3
baz=158,SNR=5.2
BG3 Lake Jocassee 61.25 343 *e*P P 20 03 38.4 -1.5
comp=Z,22nm,1.4s
X51A Calhoun 61.37 342 *e*P P 20 03 39.5 -1.2
comp=Z,45nm,1.0s
X51A Calhoun 61.37 342 P P 20 03 39.6 -1.0
baz=160,SNR=6.5
Y48A Jasper 61.47 339 P P 20 03 40.0 -1.3
baz=157
W53A Cullowhee 61.47 343 P P 20 03 40.9 -0.6
baz=161
X50B Fort Payne 61.51 341 P P 20 03 40.4 -1.2
baz=159
W52A Murphy 61.61 343 *e*P P 20 03 40.9 -1.4
comp=Z,12nm,0.9s
W52A Murphy 61.61 343 P P 20 03 42.1 -0.2
baz=161
Y47A UCPARC, Winfie 61.68 339 P P 20 03 41.4 -1.3
baz=157,SNR=5.7
X49A Woodville 61.76 340 P P 20 03 42.0 -1.3
baz=158
Z45A Winona 61.84 337 *e*P P 20 03 42.7 -1.1
comp=Z,20nm,0.6s
V53A Saluda 61.86 344 *e*P P 20 03 43.0 -1.0
comp=Z,13nm,1.0s
V53A Saluda 61.86 344 P P 20 03 42.9 -1.1
baz=162,SNR=5.0
W51A Cleveland 61.90 342 P P 20 03 43.3 -0.9
baz=160
X48A Hartselle 61.93 340 *e*P P 20 03 43.2 -1.2
comp=Z,33nm,0.9s
X48A Hartselle 61.93 340 P P 20 03 43.2 -1.2
baz=158,SNR=11
W50A Signal Mountai 62.09 341 *e*P P 20 03 44.4 -1.2
comp=Z,26nm,1.0s
W50A Signal Mountai 62.09 341 P P 20 03 44.5 -1.1
baz=159,SNR=5.6
TKL Tuckaleechee C 62.10 343 P P 20 03 44.8 -0.8
comp=Z,12nm,0.9s,baz=160,slow=8.7,SNR=7.5
TKL Tuckaleechee C 62.10 343 *e*P P 20 03 44.0 -1.6
comp=Z,19nm,1.0s
TKL Tuckaleechee C 62.10 343 *e*P P 20 03 44.0 -1.6
TKL pmax pmax
comp=Z,19nm,1.0s
CPCT Cooper Cave 62.10 342 *e*P P 20 03 44.5 -1.0
comp=Z,13nm,1.0s
V52A Sevierville 62.22 343 *e*P P 20 03 45.1 -1.3
comp=Z,14nm,1.0s
V52A Sevierville 62.22 343 P P 20 03 45.2 -1.1
baz=161
Y45A Yeager Farm, C 62.23 337 P P 20 03 45.3 -1.1
baz=155
X47A Russelville 62.25 339 P P 20 03 44.8 -1.8
baz=157
SWET Sewanee 62.29 341 *e*P P 20 03 45.3 -1.6
comp=Z,29nm,1.0s
W49A Belvidere 62.30 341 P P 20 03 45.7 -1.2
baz=158,SNR=6.2
U53A Fall Branch 62.46 344 P P 20 03 46.7 -1.2
baz=162
V50A Pikevile 62.47 342 P P 20 03 46.8 -1.3
baz=160,SNR=5.2
W48A Pulaski 62.52 340 P P 20 03 47.3 -1.1
baz=158,SNR=11
X46A Booneville 62.52 338 P P 20 03 46.8 -1.6
baz=156
PLAL Pickwick Lake 62.74 339 *e*P P 20 03 47.5 -2.4
comp=Z,12nm,0.9s
OXF Oxford 62.77 338 *e*P P 20 03 47.8 -2.2
comp=Z,39nm,1.1s
OXF Oxford 62.77 338 *e*P P 20 03 47.8 -2.2
OXF pmax pmax
comp=Z,39nm,1.1s
BLA Blacksburg 62.77 346 *e*P P 20 03 49.3 -0.8
comp=Z,45nm,1.6s
BLA Blacksburg 62.77 346 *e*P P 20 03 49.3 -0.8
BLA pmax pmax
comp=Z,45nm,1.6s
V49A McMinnville 62.80 341 P P 20 03 48.8 -1.4
baz=159
W47A Westpoint 62.84 340 P P 20 03 49.2 -1.3
baz=157,SNR=7.3
U51A La Follette 62.84 343 P P 20 03 49.8 -0.7
baz=161
R58B Mineral 63.00 349 *e*P P 20 03 50.3 -1.2
comp=Z,31nm,1.6s
T53A Wise 63.03 345 P P 20 03 51.0 -0.8
baz=162
V48A Smith Brothers 63.05 340 *e*P P 20 03 50.3 -1.6
comp=Z,13nm,0.9s
V48A Smith Brothers 63.05 340 P P 20 03 50.9 -0.9
baz=158
U50A Jamestown 63.10 342 P P 20 03 50.9 -1.4
baz=160
W45A Hickory Valley 63.27 338 P P 20 03 52.5 -0.9
baz=156
X43A Mavil 63.30 336 *e*P P 20 03 52.5 -1.0
comp=Z,28nm,0.8s
V47A Nunnelly 63.34 340 P P 20 03 52.1 -1.7
baz=157,SNR=6.7
T51A Gray 63.37 343 P P 20 03 52.9 -1.1
baz=161
V46A Holladay 63.51 339 P P 20 03 53.5 -1.4
baz=157
T50A Nancy 63.66 343 P P 20 03 54.6 -1.3
baz=160
U48A Cassie Pea, Po 63.67 341 P P 20 03 54.5 -1.5
baz=158
JCT Junction City 63.69 327 *e*P P 20 03 54.6 -1.7
comp=Z,5.9nm,0.8s
WVT Waverly 63.72 340 *e*P P 20 03 54.5 -1.8
comp=Z,27nm,0.8s
WVT Waverly 63.72 340 *e*P P 20 03 54.5 -1.8
WVT pmax pmax
comp=Z,27nm,0.8s
WVT Waverly 63.72 340 P P 20 03 54.7 -1.6
baz=157
WHTX Lake Whitney, 63.82 330 *e*P P 20 03 55.7 -1.3
comp=Z,6.3nm,0.6s
U47A Clarksville 63.84 340 P P 20 03 55.6 -1.5
baz=158,SNR=7.2
S51A Beattyville 63.92 344 *e*P P 20 03 55.5 -2.1
comp=Z,40nm,1.8s
T49A Edmonton 63.94 342 *e*P P 20 03 55.8 -1.9
comp=Z,14nm,1.1s
T49A Edmonton 63.94 342 P P 20 03 56.4 -1.4
baz=159
U46A Springville 64.04 340 P P 20 03 57.0 -1.4
baz=157
S50A Richmond 64.17 343 P P 20 03 58.1 -1.1
baz=161
R53A Hurricane 64.18 345 P P 20 03 58.6 -0.7
baz=163
T47A Sharon Grove 64.29 341 *e*P P 20 03 56.8 -3.2
T47A Sharon Grove 64.29 341 P P 20 03 59.1 -0.9
baz=158
GNAR Gosnell 64.29 338 *e*P P 20 03 57.9 -2.1
comp=Z,31nm,0.6s
GLAT Glass 64.32 339 *e*P P 20 03 59.3 -1.0
comp=Z,149nm,1.3s
MIAR Mount Ida 64.34 334 *e*P P 20 03 59.2 -1.3
comp=Z,9.9nm,1.3s
MIAR Mount Ida 64.34 334 *e*P P 20 03 59.2 -1.3
MIAR pmax pmax
comp=Z,10.0nm,1.3s
MIAR Mount Ida 64.34 334 P P 20 03 59.2 -1.3
baz=151
W41B Gary Mavity, V 64.39 336 *e*P P 20 03 58.9 -1.8
comp=Z,26nm,1.3s
U44B Burton Farm, H 64.40 339 P P 20 03 59.5 -1.3
baz=156
R51A Hillsboro 64.54 344 P P 20 04 01.0 -0.7
baz=162
T46A Princeton 64.58 340 P P 20 04 00.8 -1.1
baz=157
S48A Wiedeman Farm, 64.60 342 P P 20 04 00.7 -1.3
baz=159
R50A Paris 64.72 343 P P 20 04 01.8 -1.0
baz=161
S47A Hartford 64.78 341 P P 20 04 01.2 -2.0
baz=158
LTX Lajitas 64.80 323 *e*P P 20 04 03.0 -0.7
LTX Lajitas 64.80 323 *e*P P 20 04 03.0 -0.7
TXAR Lajitas Array 64.80 323 P P 20 04 03.0 -0.7
comp=Z,1.0nm,0.7s,baz=150,slow=7.7,SNR=6.3
TX31 Lajitas Ar. Si 64.81 323 *e*P P 20 04 02.1 -1.6
PARMO Parma 64.83 338 *e*P P 20 04 02.9 -0.7
comp=Z,101nm,0.8s
Q52A Bidwell 64.86 345 P P 20 04 03.0 -0.7
baz=163
V41A Mountainview 64.89 336 P P 20 04 03.2 -0.8
baz=153
R49A Shelbyville 64.95 343 P P 20 04 03.3 -1.0
baz=160
W39A Magazine 65.00 334 *e*P P 20 04 04.1 -0.6
comp=Z,40nm,1.9s
W39A Magazine 65.00 334 P P 20 04 04.1 -0.6
baz=151
U42A Revenden 65.07 337 P P 20 04 04.0 -1.1
baz=154
X37A Clayton 65.11 333 *e*P P 20 04 04.6 -0.9
comp=Z,13nm,1.3s
Q50A Georgetown 65.16 344 P P 20 04 04.8 -0.8
baz=161
P53A Whipple 65.16 346 *e*P P 20 04 05.2 -0.5
comp=Z,25nm,1.0s
P53A Whipple 65.16 346 P P 20 04 05.0 -0.7
baz=164
BRNJ Basking Ridge 65.17 352 *e*P P 20 04 04.5 -1.1
comp=Z,72nm,1.6s
Q51A Peebles 65.17 345 *e*P P 20 04 04.3 -1.5
comp=Z,19nm,1.3s
Q51A Peebles 65.17 345 P P 20 04 04.4 -1.4
baz=162
WCI Wyandotte Cave 65.20 342 P P 20 04 04.0 -1.9
baz=159
R47A Wooly Knot Far 65.33 342 P P 20 04 05.2 -1.5
baz=159
S45A Carrier Mills 65.38 340 P P 20 04 06.3 -0.8
baz=157
T43A Greenville 65.39 338 P P 20 04 06.0 -1.2
baz=155,SNR=12
O55A Ligonier 65.44 348 P P 20 04 06.6 -0.9
baz=166
P52A Corning 65.47 346 P P 20 04 06.5 -1.1
baz=163
P51A Williamsport 65.54 345 *e*P P 20 04 06.9 -1.2
comp=Z,16nm,0.3s
Q49A Aurora 65.54 343 P P 20 04 07.1 -1.1
baz=160
U40A Yellville 65.66 336 P P 20 04 07.9 -1.1
baz=152
Q48A North Vernon 65.70 343 P P 20 04 07.6 -1.5
baz=160
P50A Jamestown 65.83 344 P P 20 04 08.9 -1.2
baz=162
R45A Skylar, Fairfi 65.85 340 P P 20 04 08.1 -2.0
baz=157
O53A New Philadelph 65.86 347 P P 20 04 09.3 -0.9
baz=164
O52A Adamsville 65.86 346 P P 20 04 09.3 -0.9
baz=163
T41A Mountain View 65.87 337 P P 20 04 09.2 -1.1
baz=154
Q47A Bedord North L 65.90 342 P P 20 04 09.3 -1.1
baz=159
N55A Marion Center 65.94 349 P P 20 04 09.8 -0.9
baz=166
QSPA South Pole Qui 65.96 180 *e*P P 20 04 11.2 +0.4
comp=Z,16nm,0.8s
P49A Miami Univ. Ec 66.00 344 P P 20 04 09.6 -1.5
baz=161
HHAR Hobbs 66.01 335 *e*P P 20 04 10.1 -1.1
comp=Z,6.5nm,0.8s
LIC Lamto 66.02 71 *e*P P 20 04 12.1 +0.3
comp=Z,48nm,1.4s
R44A Waltonville 66.06 340 P P 20 04 10.1 -1.4
baz=156
O51A Pataskala 66.06 346 P P 20 04 10.1 -1.4
baz=163
P48A Milroy 66.11 343 P P 20 04 10.3 -1.5
baz=160
BLO Bloomington 66.14 342 *e*P P 20 04 10.3 -1.7
comp=Z,12nm,0.8s
BLO Bloomington 66.14 342 *e*P P 20 04 10.3 -1.7
BLO pmax pmax
comp=Z,12nm,0.8s
KSPA Keystone Colle 66.19 351 *e*P P 20 04 11.9 -0.3
comp=Z,41nm,1.4s
S42A Caledonia 66.19 338 P P 20 04 10.8 -1.5
baz=155,SNR=7.2
ACSO Alum Creek Sta 66.23 345 *e*P P 20 04 11.0 -1.6
comp=Z,47nm,1.0s
ACSO Alum Creek Sta 66.23 345 P P 20 04 11.4 -1.1
baz=162
TIC Toumodi 66.24 70 *e*P P 20 04 13.8 +0.6
KIC Kosan Boka 66.34 71 *e*P P 20 04 14.1 +0.3
comp=Z,48nm,1.1s
S41A Jillco Farms, 66.35 337 P P 20 04 12.3 -1.1
baz=154,SNR=14
Q45A Warren Harvey, 66.36 341 P P 20 04 11.4 -2.0
baz=157
P47A Martinsville 66.36 342 P P 20 04 11.9 -1.5
baz=159
DBIC Dimbokro 66.39 71 P P 20 04 15.1 +0.9
comp=Z,9.7nm,0.8s,baz=215,slow=7.2,SNR=12
DBIC Dimbokro 66.39 71 *e*P P 20 04 13.6 -0.6
comp=Z,15nm,0.9s
O49A Covington 66.52 344 *e*P P 20 04 13.5 -0.9
comp=Z,77nm,1.9s
O49A Covington 66.52 344 P P 20 04 12.9 -1.5
baz=161
CCM Cathedral Cave 66.60 338 *e*P P 20 04 13.2 -1.7
comp=Z,17nm,0.8s
CCM Cathedral Cave 66.60 338 *e*P P 20 04 13.2 -1.7
CCM pmax pmax
comp=Z,17nm,0.8s
CCM Cathedral Cave 66.60 338 P P 20 04 13.9 -1.1
baz=154
R42A Luebbering 66.65 338 P P 20 04 14.0 -1.3
baz=155
M54A Oil Creek Stat 66.76 348 *e*P P 20 04 15.1 -0.9
comp=Z,65nm,1.8s
M54A Oil Creek Stat 66.76 348 P P 20 04 15.3 -0.6
baz=166
O48A Farmland 66.79 344 P P 20 04 15.1 -1.1
baz=160
P45A Graceland, Par 66.82 341 *e*P P 20 04 13.9 -2.4
comp=Z,20nm,1.0s
P45A Graceland, Par 66.82 341 P P 20 04 14.5 -1.9
baz=158
BINY Binghamton 66.85 351 *e*P P 20 04 16.2 -0.2
comp=Z,36nm,0.9s
BINY Binghamton 66.85 351 P P 20 04 16.8 +0.3
baz=169
R41A Rosebud 66.86 338 P P 20 04 15.4 -1.2
baz=154,SNR=7.2
Q43A New Douglas 66.89 339 P P 20 04 15.2 -1.6
baz=156
TRY Troy 67.09 353 *e*P P 20 04 17.2 -0.7
comp=Z,69nm,1.5s
Q42A Golden Eagle 67.13 339 P P 20 04 17.0 -1.3
baz=155
N49A Columbus Grove 67.17 345 *e*P P 20 04 17.0 -1.6
comp=Z,13nm,0.8s
N49A Columbus Grove 67.17 345 P P 20 04 17.4 -1.1
baz=161
Q41A Truxton 67.40 338 P P 20 04 18.6 -1.4
baz=154
GDL2 Guadalupe Moun 67.41 325 *e*P P 20 04 20.1 -0.4
ERPA Erie 67.42 348 *e*P P 20 04 19.1 -1.0
comp=Z,38nm,1.0s
O45A Potomac 67.48 342 P P 20 04 18.8 -1.8
baz=158
N47A Urbana 67.51 343 P P 20 04 19.0 -1.7
baz=160
MNTX Cornudas Mount 67.57 324 *e*P P 20 04 19.5 -1.8
comp=Z,5.6nm,0.9s
MNTX Cornudas Mount 67.57 324 P P 20 04 20.0 -1.3
baz=140,SNR=9.8
M49A Liberty Center 67.64 345 P P 20 04 20.3 -1.2
baz=162
MMNY Mt. Morris Dam 67.65 350 *e*P P 20 04 20.8 -0.7
comp=Z,22nm,0.9s
P42A Winchester 67.68 339 *e*P P 20 04 19.8 -2.0
comp=Z,52nm,1.8s
P42A Winchester 67.68 339 P P 20 04 20.3 -1.5
baz=155
M47A Cromwell 67.94 344 P P 20 04 22.0 -1.4
baz=160
MSTX Muleshoe 67.99 327 *e*P P 20 04 21.8 -2.2
comp=Z,15nm,0.9s

MSTX	Muleshoe	67.99	327	P		P	20 04 23.0	-1.0
	baz=143,SNR=6.3							
O42A	Bath	68.15	340	P		P	20 04 23.7	-1.0
	baz=156							
AMTX	Amarillo	68.19	328	*eP*		P	20 04 24.3	-1.0
	comp=Z,5.3nm,0.8s							
AMTX	Amarillo	68.19	328	P		P	20 04 24.2	-1.0
	baz=144							
L49A	Milan	68.20	345	P		P	20 04 24.3	-0.6
	baz=162							
L48A	N Adams	68.20	345	P		P	20 04 24.1	-0.9
	baz=161							
STCO	Saint Catharin	68.33	349	P		P	20 04 25.2	-0.6
	baz=166							
O41A	Passleys Farm,	68.33	339	P		P	20 04 24.3	-1.6
	baz=155							
TYNO	Tyneside	68.34	349	P		P	20 04 25.0	-0.8
	baz=166							
L47A	Sherwood	68.42	344	P		P	20 04 24.9	-1.5
	baz=160							
N43A	Stutzman Famil	68.55	341	P		P	20 04 25.8	-1.4
	baz=157							
J52A	Paris	68.59	348	P		P	20 04 26.9	-0.5
	baz=165							
N42A	Yates City	68.71	340	P		P	20 04 27.1	-1.1
	baz=156							
N41A	Harden Midland	68.86	339	P		P	20 04 28.0	-1.1
	baz=155							
ACTO	Acton	68.87	349	P		P	20 04 28.7	-0.5
	baz=166							
K48A	Perry	68.94	345	P		P	20 04 28.3	-1.3
	baz=162							
M43A	Waltham Townsh	68.94	341	P		P	20 04 28.3	-1.3
	baz=157							
LONY	Lake Ozonia	69.05	353	P		P	20 04 30.3	0.0
	baz=171							
I55A	Frankford	69.07	350	P		P	20 04 30.0	-0.3
	baz=168							
N40A	Mertquake, Sal	69.26	339	P		P	20 04 30.8	-0.8
	baz=154							
H55A	Tweed	69.32	351	P		P	20 04 31.5	-0.4
	baz=168							
M41A	Milan	69.37	340	P		P	20 04 32.0	-0.3
	baz=155							
121A	Cookes Peak, D	69.52	322	P		P	20 04 34.1	+0.4
	baz=139,SNR=5.1							
M40A	Post Highland	69.70	339	P		P	20 04 33.0	-1.4
	baz=154							
M39A	Webster	69.98	339	P		P	20 04 35.2	-0.9
	baz=154							
G53A	Haliburton	70.10	350	P		P	20 04 36.4	-0.3
	baz=167							
I48A	Sherman Twp	70.16	346	P		P	20 04 36.6	-0.5
	baz=162							
L40A	Anamosa	70.20	340	P		P	20 04 36.7	-0.7
	baz=155							
K42A	Prairie Point,	70.29	341	P		P	20 04 37.1	-0.9
	baz=157							
K41A	Shullsburg	70.41	341	P		P	20 04 37.9	-0.8
	baz=156							
J43A	Natural Harves	70.58	342	P		P	20 04 39.2	-0.5
	baz=158							
ANMO	Albuquerque	70.64	325	P		P	20 04 40.2	-0.3
	comp=Z,3.2nm,0.7s,baz=146,slow=7.3,SNR=9.1							
ANMO	Albuquerque	70.64	325	⇓*iP*		P	20 04 40.4	-0.1
ANMO					pmax	pmax		
	comp=Z,5.0nm,0.8s							
ANMO	Albuquerque	70.64	325	P		P	20 04 40.8	+0.3
	baz=140							
JFWS	Jewell Farm	70.68	341	P		P	20 04 39.8	-0.5
	baz=156							
ALGO	Algonquin Park	70.82	351	P		P	20 04 40.4	-0.7
	baz=168							
H46A	Fife Lake	70.84	345	P		P	20 04 40.5	-0.8
	baz=161							
K39A	Oelwein	71.00	340	P		P	20 04 41.3	-0.9
	baz=154							
J41A	Loganville	71.02	341	P		P	20 04 41.2	-1.2
	baz=156							
J40A	Soldiers Grove	71.27	341	P		P	20 04 42.9	-1.0
	baz=156							
T25A	Trinidad	71.32	328	*eP*		P	20 04 42.3	-2.3
	comp=Z,11nm,0.8s							
J39A	Decorah	71.51	340	P		P	20 04 44.1	-1.2
	baz=155							
E51A	G1948 Merrick	71.61	350	P		P	20 04 45.3	-0.6
	baz=166							
F46A	Macinaw City C	71.90	346	P		P	20 04 46.9	-0.7
	baz=161							
I39A	Houston	71.92	340	P		P	20 04 46.9	-0.9
	baz=155							
214A	Organ Pipe Nat	72.01	319	P		P	20 04 48.6	-0.1
	baz=135							
H41A	Junction City	72.06	342	P		P	20 04 48.2	-0.4
	baz=157							
D51A	Lot 18 Range I	72.13	350	P		P	20 04 48.6	-0.3
	baz=166							
E47A	Iron Bridge	72.23	347	P		P	20 04 48.9	-0.7
	baz=163							
H40A	Chili	72.28	341	P		P	20 04 48.9	-1.0
	baz=156							
D48A	Paudash Townsh	72.63	348	P		P	20 04 51.7	-0.3
	baz=164							
SYO	Syowa Base	72.75	159	⇑*ep*P		P	20 04 52.3	-0.2
SYO	Syowa Base	72.75	159	⇓*eP*cP		PcP	20 05 08.0	-1.7
F41A	Three Lakes	72.94	343	P		P	20 04 53.8	-0.1
	baz=157							
G39A	Holcombe	73.11	341	P		P	20 04 54.2	-0.6
	baz=155							
G38A	Ridgeland	73.21	341	P		P	20 04 54.6	-0.9
	baz=155							
E42A	Champion	73.27	344	P		P	20 04 55.2	-0.6
	baz=158							
F40A	Park Falls	73.39	342	P		P	20 04 56.1	-0.4
	baz=156							
SPMN	Marine on St.	73.55	340	P		P	20 04 56.8	-0.7
	baz=154							
F39A	Loretta	73.61	342	P		P	20 04 57.3	-0.5
	baz=156							
LSQQ	Lebel-sur-Quev	73.71	352	P		P	20 04 58.4	+0.1
	baz=169							
WUAZ	Wupatki	73.73	322	P		P	20 04 59.5	+0.6
	baz=137							
E40A	Wakefield	73.81	343	P		P	20 04 58.9	-0.1
	baz=157							
E39A	Mellen	73.93	342	P		P	20 04 59.6	-0.1
	baz=156							
F38A	Pierce - Schro	73.93	341	P		P	20 04 59.5	-0.2
	baz=155							
F37A	Hinrichs Farm,	73.94	340	P		P	20 04 59.8	0.0
	baz=154							
D41A	Chassel	74.02	344	P		P	20 05 00.7	+0.6
	baz=158							
E38A	The Farm, Brul	74.42	342	P		P	20 05 02.8	+0.3
	baz=155							
VNDA	Vanda	74.73	190	P		P	20 05 05.2	+1.2
	comp=Z,2.3nm,1.0s,baz=123,slow=4.3,SNR=4.4							
VNDA	Vanda	74.73	190	*eP*		P	20 05 04.9	+0.9
VNDA	Vanda	74.73	190	*eP*		P	20 05 04.9	+0.9
BC3	Big Chuckawall	74.79	318	P		P	20 05 05.1	0.0
	baz=133							
MONP2	Monument Peak	74.86	317	P		P	20 05 05.5	-0.1
	baz=133							
U15A	North Rim	74.90	322	*eP*		P	20 05 06.1	+0.2
	comp=Z,7.5nm,0.9s							
IRM	Iron Mountain	74.95	319	P		P	20 05 06.2	+0.3
	baz=134							
TOA0	Torodi Ar. Sit	75.19	68	*eP*		P	20 05 05.9	-1.7
TOA1	Torodi Ar. Sit	75.19	68	*eP*		P	20 05 08.0	+0.4
TORD	Torodi Ar. Bea	75.19	68	P		P	20 05 08.0	+0.4
	comp=Z,9.5nm,0.9s,baz=265,slow=4.2,SNR=34							
BELC	Belle Mtn. Jos	75.36	318	P		P	20 05 08.8	+0.4
	baz=133							
PFO	Pinyon Flats O	75.37	318	P		P	20 05 08.7	+0.2
	baz=133							
O20A	White River Ci	75.53	327	P		P	20 05 10.2	+0.9
	baz=140							
GMRC	Granite Mounta	75.69	319	P		P	20 05 11.1	+0.8
	baz=134							
TSUM	Tsumeb	76.07	105	*eP*		P	20 05 13.3	+0.4
	comp=Z,8.6nm,1.1s							
HEC	Hector,Ludlow	76.12	319	P		P	20 05 13.6	+0.9
	baz=133							
TUQ	Turquoise Moun	76.29	319	P		P	20 05 14.2	+0.5
	baz=133							
CCUT	Cedar City	76.30	322	*eP*		P	20 05 15.1	+1.3
	comp=Z,9.7nm,0.9s							
MSU	Marysvale	76.34	324	*eP*		P	20 05 14.7	+0.6
MSU	Marysvale	76.34	324	*eP*		P	20 05 14.7	+0.6
GSC	Goldstone, Bar	76.73	319	P		P	20 05 16.5	+0.4
	baz=133							
EDW2	Edwards Air Fo	77.17	318	P		P	20 05 18.7	+0.2
	baz=132							
LRMC	Laurel Mtn Rad	77.38	318	P		P	20 05 20.5	+0.7
	baz=132							
TPNV	Topopah Spring	77.52	320	P		P	20 05 21.7	+1.1
	baz=133							
MPMC	Manual Prospec	77.65	319	P		P	20 05 22.0	+0.6
	baz=132							
DAC	Darwin (Calif)	77.86	319	*eP*		P	20 05 22.5	-0.1
	comp=Z,4.9nm,0.9s							
DAC	Darwin (Calif)	77.86	319	*eP*		P	20 05 22.5	-0.1
DAC					pmax	pmax		
	comp=Z,5.0nm,0.9s							
DUG	Dugway, Tooele	77.90	325	P		P	20 05 23.6	+0.9
	baz=136							
R11A	Troy Canyon, C	78.11	322	P		P	20 05 24.8	+0.9
	baz=134							
PD31	Pinedale Array	78.17	328	*eP*		P	20 05 23.5	-0.7
PDAR	Pinedale Array	78.17	328	P		P	20 05 24.5	+0.3
	comp=Z,0.9nm,0.7s,baz=125,slow=7.8,SNR=5.3							
CWC	Cottonwood Cre	78.26	319	P		P	20 05 25.3	+0.5
	baz=132							
PKM	Mcpherson Peak	78.30	317	P		P	20 05 25.5	+0.4
	baz=131							
VES	Vestal, Richgr	78.47	318	P		P	20 05 26.0	+0.3
	baz=131							
SMMC	Simmler	78.69	317	P		P	20 05 27.6	+0.6
	baz=131							
SCHQ	Schefferville	78.76	359	P		P	20 05 25.8	-1.1
	comp=Z,7.2nm,0.8s,baz=111,slow=1.5,SNR=5.2							
SCHQ	Schefferville	78.76	359	*eP*		P	20 05 26.1	-0.8
	comp=Z,49nm,1.6s							
ULM	Lac du Bonnet	78.97	341	P		P	20 05 27.2	-0.9
	comp=Z,6.1nm,0.8s,baz=150,slow=5.1,SNR=9.3							
ULM	Lac du Bonnet	78.97	341	*eP*		P	20 05 27.2	-0.9
	comp=Z,34nm,1.6s							
ULM	Lac du Bonnet	78.97	341	*eP*		P	20 05 27.7	-0.4
ULM					pmax	pmax		
	comp=Z,5.0nm,0.6s							
IMW	Indian Meadow	79.69	328	*eP*		P	20 05 32.9	+0.4
	comp=Z,8.2nm,1.1s							
LAO	LASA Array	79.72	333	*eP*		P	20 05 31.6	-0.8
	comp=Z,11nm,0.9s							
LAO	LASA Array	79.72	333	P		P	20 05 32.8	+0.5
	baz=143							
KVN	Kaiserville	80.02	321	*eP*		P	20 05 34.4	0.0
	comp=Z,8.6nm,0.8s							
KVN	Kaiserville	80.02	321	*eP*		P	20 05 34.4	0.0
KVN					pmax	pmax		
	comp=Z,9.0nm,0.8s							
DGMT	Dagmar	80.34	335	P		P	20 05 36.3	+0.7
	baz=144							
HLID	Hailey	81.16	326	P		P	20 05 41.1	+0.8
	baz=136							
BOZ	Bozeman (W)	81.28	329	P		P	20 05 41.8	+0.9
	baz=138							
O03E	Paynes Creek	82.99	320	P		P	20 05 49.4	-0.5
	baz=130							
O02D	Mt. Diablo Mer	83.50	319	P		P	20 05 52.2	-0.3
	baz=129							
M04C	Macdoel	83.97	321	P		P	20 05 54.9	-0.1
	baz=130							
F10A	Beach Ranch, E	84.28	326	*eP*		P	20 05 56.6	+0.2
	comp=Z,15nm,1.4s							
FFC	Flin Flon	84.72	340	*ceP*		P	20 05 58.8	+0.5
FFC					pmax	pmax		
	comp=Z,27nm,2.5s							
ESDC	Sonseca Array	85.49	43	P		P	20 06 03.4	+0.8
	comp=Z,6.5nm,1.0s,baz=243,slow=4.3,SNR=16							
ES19	SONSECA Array	85.55	43	*eP*		P	20 06 01.1	-1.8
FCC	Fort Churchill	86.08	345	*eP*		P	20 06 05.2	+0.4
	comp=Z,15nm,0.9s							
FCC	Fort Churchill	86.08	345	*eP*		P	20 06 05.3	+0.4
FCC					pmax	pmax		
	comp=Z,15nm,0.9s							
FRB	Frobisher Bay	87.73	359	P		P	20 06 12.0	-0.8
	comp=Z,1.5nm,0.6s,baz=261,slow=8.3,SNR=3.2							
YKA	Yellowknife Ar	94.90	339	P		P	20 06 45.9	-0.4
	comp=Z,2.4nm,0.7s,baz=129,slow=4.4,SNR=63							
YKA					LR	LR	20 53 11.3	
	comp=Z,21nm,18.3s,baz=183,slow=38							
YKB5	Yellowknife Ar	94.90	339	*eP*		P	20 06 45.3	-0.9
YKW3	Yellowknife Ar	94.95	339	*eP*		P	20 06 46.1	-0.4
	comp=Z,4.3nm,1.0s							
BR101	Keskin Array S	111.65	55	*e*PP		PP	20 12 49.1	+7.2
BRTR	Keskin Array B	111.65	55	PP		PP	20 12 49.1	+7.2
	comp=Z,0.2nm,0.6s,baz=231,slow=7.8,SNR=3.7							
LPSR	Galich'ya Gora	117.40	42	*e*PKIKP		PKiKP	20 12 09.6	-0.2
LPSR					pmax	pmax		
	comp=Z,7.0nm,0.9s							
VSR	Storozhevoye	117.43	43	*e*PKIKP		PKPdf	20 12 08.7	-1.2
VSR					pmax	pmax		
	comp=Z,5.0nm,1.3s							
VRH	Novokhopyorsk	119.03	43	*e*PKIKP		PKPdf	20 12 11.3	-1.7
VRH					pmax	pmax		
	comp=Z,3.0nm,0.4s							
KIV	Kislovodsk	119.06	52	*e*PKIKP		PKPdf	20 12 11.4	-2.0
KIV					pmax	pmax		
	comp=Z,11nm,1.0s							
KBZ	Khabaz	119.19	52	PKP		PKiKP	20 12 14.1	+0.6
	comp=Z,2.6nm,0.9s,baz=233,slow=5.1,SNR=3.2							
PRGR	Permogore	120.95	31	*e*PKIKP		PKiKP	20 12 16.6	+0.1
PRGR					pmax	pmax		
	comp=Z,4.0nm,0.5s							
BILL	Bilibino	126.29	339	⇑*e*PKIKP		PKPdf	20 12 25.6	-0.9
BILL					pmax	pmax		
	comp=Z,2.0nm,0.9s							
ARU	Arti	128.45	36	*i* PKIKP		PKiKP	20 12 32.2	+0.7
ARU							20 14 39.2	
ARU							20 19 38.6	
ARU					SS	SS	20 31 50.6	+0.7
AS01	Alice Springs	128.85	203	*e*PKPdf		PKPdf	20 12 31.7	-1.2
ASAR	Alice Springs	128.87	203	PKP		PKPdf	20 12 32.4	-0.5
	comp=Z,2.1nm,0.6s,baz=137,slow=2.1,SNR=29							
AS31	Alice Springs	128.87	203	*e*PKPdf		PKPdf	20 12 31.6	-1.3
GEYT	Ailbeck	130.33	60	PKP		PKiKP	20 12 35.7	-0.3
	comp=Z,0.7nm,0.3s,baz=308,slow=3.5,SNR=3.6							
ABKAR	Akbulak array	130.80	45	*e*PKPdf		PKPdf	20 12 35.7	+0.1
TIXI	Tiksi	131.89	354	*e*PKPdf		PKPdf	20 12 36.4	-0.6
TIXI	Tiksi	131.89	354	⇓*i*PKIKP		PKPdf	20 12 37.1	+0.1
WB2	Warramunga Arr	132.10	205	*e*PKPdf		PKPdf	20 12 38.1	-1.0
WR1	Warramunga Arr	132.10	205	*e*PKPdf		PKPdf	20 12 38.8	-0.3
WRA	Warramunga Arr	132.10	205	PKP		PKPdf	20 12 38.8	-0.3
	comp=Z,1.5nm,0.5s,baz=160,slow=1.8,SNR=38							
SEY	Seymchan	133.92	337	⇑*i*PKIKP		PKiKP	20 12 42.7	+0.3
BRVK	Borovoye	135.97	37	⇓*i*PKIKP		PKiKP	20 12 46.8	0.0
CHGR	Chuyangaron	138.97	58	*e*PKPdf		PKPdf	20 12 51.6	+0.2
NVS	Novosibirsk	141.57	29	*e*PKIKP		PKPdf	20 12 55.7	+0.3
NVS					pmax	pmax		
	comp=Z,8.0nm,1.5s							
KURK	Kurchatov	141.63	37	*e*PKPdf		PKPdf	20 12 55.7	+0.1
KURK	Kurchatov	141.63	37	⇑*e*PKIKP		PKPdf	20 12 55.1	-0.5
AAK	Ala-Archa	142.17	51	*e*PKPdf		PKPdf	20 12 56.5	-0.6
AAK	Ala-Archa	142.17	51	⇑*e*PKIKP		PKPdf	20 12 56.5	-0.6
AAK					pmax	pmax		
	comp=Z,11nm,1.0s							
ZAA1	Zalesovo Array	142.85	29	*e*PKPpre		PKPpre	20 12 54.6	
ZAA0	Zalesovo Array	142.85	29	*e*PKPdf		PKPpre	20 12 54.9	
ZALV	Zalesovo Beam	142.85	29	PKhKP		PKPpre	20 12 54.6	
	comp=Z,6.9nm,0.8s,baz=291,slow=2.6,SNR=13							
ZALV	Zalesovo Beam	142.85	29	*e*PKPpre		PKPpre	20 12 54.0	
ZALV	Zalesovo Beam	142.85	29	*e*PKIKP		PKPpre	20 12 54.0	
NRN	Naryn	143.58	52	*e*PKPpre		PKPpre	20 12 56.7	
NRN	Naryn	143.58	52	*e*PKIKP		PKPbc	20 12 56.7	-0.6
KSH	Kashi	144.04	56	PKP		PKPbc	20 12 58.5	0.0
KSH					pPKP	pPKPdf	20 13 12.3	0.0
KSH					PP	PP	20 16 20.5	+5.5
KSH					PKS	PKSdf	20 16 37.0	+0.8
KSH					SKS	SKSdf	20 20 02.8	-4.7
KSH					AMB	AMB		
	comp=Z,330nm,6.5s							
KDJ	Kajisay	144.22	51	*e*PKPdf		PKPdf	20 13 00.5	-0.3
KDJ	Kajisay	144.22	51	*e*PKIKP		PKPdf	20 13 00.5	-0.3
PRZ	Przheval'sk	144.96	50	*e*PKPdf		PKPdf	20 13 03.1	+1.1
MAKZ	Makanchi	145.50	41	*e*PKPbc		PKPab	20 13 03.1	+0.1
MAKZ	Makanchi	145.50	41	*e*PKIKP		PKPab	20 13 03.1	+0.1
HYB	Hyderabad	145.59	94	*i* PKP		PKPab	20 13 05.0	+0.8
MK31	Makanchi Array	145.69	41	*e*PKPdf		PKPab	20 13 03.5	-0.2
MK31	Makanchi Array	145.69	41	*e*PKP2		PKPab	20 13 03.5	-0.2
MK32	Makanchi Array	145.69	41	*e*PKPdf		PKPbc	20 13 03.0	-0.4
MKAR	Makanchi Array	145.69	41	*e*PKPdf		PKPab	20 13 03.4	-0.3
MKAR	Makanchi Array	145.69	41	*e*PKIKP		PKPab	20 13 03.6	-0.1
MKAR					pmax	pmax		
	comp=Z,12nm,1.0s							
MK01	Makanchi Array	145.71	41	*e*PKPdf		PKPdf	20 13 02.6	-0.4
BOD	Bodaibo	146.45	1	*e*PKP2		PKPdf	20 13 03.9	+0.1
BOD					pmax	pmax		
	comp=Z,25nm,1.2s							
CISI	Cisompet, Garu	147.68	167	*e*PKPbc		PKPbc	20 13 10.6	+0.5
ZEA	Zeya	149.07	345	*e*PKP2		PKiKP	20 13 13.7	0.0
ZEA					pmax	pmax		
	comp=Z,20nm,1.0s							
WMQ	Urumqi	150.49	42	*e*PKPbc		PKPdf	20 13 10.5	-0.5
WMQ					LR	LR		
	comp=Z,140nm,19.9s							
WMQ					LR	LR		
	comp=Z,99nm,23.1s							
WMQ					LR	LR		
	comp=Z,100nm,16.5s							
KNGR	Kungurtug, Tuv	150.50	23	⇑*i*PKIKP		PKiKP	20 13 16.6	-0.3
MOY	Mondy	150.66	18	*e*PKIKP		PKiKP	20 13 17.8	+0.6
MOY					pmax	pmax		
	comp=Z,29nm,1.4s							
KLR	Kul'dur	151.71	336	⇑*i*PKIKP		PKPbc	20 13 18.7	-0.2
SONA1	Songino Array	155.53	14	*e*PKPdf		PKPdf	20 13 18.6	+0.3
SONA1				*e*PKPab		PKPab	20 13 44.1	0.0
SONA0	Songino Array	155.54	14	*e*PKPdf		PKPdf	20 13 19.5	+1.2
SONA0				*e*PKPbc		pPKPdf	20 13 28.3	-1.9
SONA0				*e*PKPab		PKPab	20 13 44.7	+0.6
SONM	Songino Array	155.54	14	PKP		PKPdf	20 13 19.5	+1.2
	comp=Z,1.5nm,0.9s,baz=351,slow=0.6,SNR=10							
SONM				PKPbc		pPKPdf	20 13 28.3	-1.9
	comp=Z,2.1nm,0.7s,baz=325,slow=1.8,SNR=11							
SONM				PKPab		PKPab	20 13 44.7	+0.6
	comp=Z,3.3nm,0.8s,baz=329,slow=5.6,SNR=12							
ULN	Ulaanbaatar	155.65	13	⇓*e*PKIKP		PKPdf	20 13 19.6	+1.2
MAJO	Matsushiro	156.39	307	*eP*		PKPdf	20 13 23.5	+3.9
DAV	Davao City (W)	160.00	213	*eP*		PKPdf	20 13 28.5	+3.9
GTA	Gaotai	160.31	36	*e*PKP		PKPdf	20 13 25.5	+1.1
GTA				pPKP		pPKPdf	20 13 35.8	-0.6
GTA				sPKP			20 13 39.8	
CM01	Chiang Mai Arr	164.21	109	*e*PKPdf		PKPdf	20 13 28.5	-0.3
CM01				*e*PKPab		PKPab	20 14 21.4	-1.2
CM31	Chiang Mai Arr	164.22	108	*e*PKPdf		PKPdf	20 13 27.7	-1.0
CMAR	Chiang Mai Arr	164.22	108	PKP		PKPdf	20 13 28.8	+0.1
	comp=Z,1.0nm,0.9s,baz=267,slow=4.0,SNR=7.4							
CMAR				PKPab		PKPab	20 14 22.2	-0.5
	comp=Z,0.3nm,0.7s,baz=254,slow=5.5,SNR=2.5							
CHTO	Chiang Mai	164.36	107	*eP*		PKPdf	20 13 33.2	+4.4
LZH	Lanzhou	164.92	36	*e*PKP		PKPdf	20 13 29.0	-0.1
LZH				pPKP		pPKPdf	20 13 40.3	-0.8
LZH				sPKP			20 13 43.3	
CD2	Chengdu	168.23	53	PKP		PKPdf	20 13 29.5	-2.1
KMI	Kunming	169.07	83	PKP		PKPdf	20 13 29.5	-3.1
NJ2	Nanjing	171.41	336	*e*PKP		PKPdf	20 13 32.3	-1.1
GYA	Guiyang	172.38	71	*e*PKP		PKPdf	20 13 32.8	-1.4
GYA				PKPab		PKPab	20 14 59.0	+0.2
GYA				PKS		PKSdf	20 17 03.3	-3.4
GYA				PP		PP	20 18 51.5	+1.0
GYA				AMB		AMB		
	comp=Z,120nm,8.4s							

IDC 25 20:01:38.1±329.0, 37.82N×118.27W, h0km, Error ellipse: s-maj=158.3km s-min=91.4km az=158.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NVAR	Mina Array Bea	0.60	357	*i*		20 02 57.5	
	5.4nm,0.3s,baz=215,slow=10,SNR=45						
I57US	PINON FLAT INF	4.46	160	*i*		20 31 40.0	
	baz=340,slow=366,SNR=2.3						
I56US	NEWPORT INFRAST	0.47	4	*i*		21 08 11.6	
	baz=182,slow=376,SNR=0.5						
I10CA	LAC DU BONNET	20.13	45	*i*		22 06 00.0	
	baz=238,slow=337,SNR=0.8						

*IDC **25** 20:19:46.9±2.5, 7.86N×103.44W, h0km, mb3.7/8, mb1 4.0/9, mb1mx3.9/33, mbtmp3.8/9, ML4.2/1, MS3.9/10, Ms1 3.9/10, ms1mx3.7/23, Error ellipse: s-maj=57.1km s-min=32.0km az=29.0*

*NEIC **25** 20:19:48.0±0.9, 7.84N×103.43W, h10km, mb4.4/8, Error ellipse: s-maj=19.6km s-min=10.3km az=215.0*

*ISCJB **25** 20:19:49.5±1.5, 7.9N±0.2×103.4W±0.1, h33km, mb4.0/16, MS3.9/8, Error ellipse: s-maj=30.2km s-min=13.2km az=34.4*

ISC 25 20:19:51.9±1.8, 7.9N±0.2×103.4W±0.2, h35km, n35, σ0.878/22, mb4.1/16, MS3.9/8, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	Matias Romero	12.35	41	LR	LR	20 26 17.2	
	comp=Z,858nm,21.4s,baz=210,slow=32						
H06E1	SOCORRO T-PHAS	13.07	327	T	T	20 35 49.6	
APG	El Apazote	14.51	60	Pn	Pn	20 23 14.6	-0.4
	1.2nm,0.3s,baz=242,slow=4.1,SNR=21						
APG				LR	LR	20 27 36.7	
	comp=Z,623nm,21.1s,baz=228,slow=32						
LTX	Lajitas	21.34	359	*eP*	P	20 24 36.5	+0.4
TXAR	Lajitas Array	21.34	359	P	P	20 24 36.5	+0.4
	1.6nm,0.9s,baz=180,slow=13,SNR=12						
TX31	Lajitas Ar. Si	21.34	359	*eP*	P	20 24 36.0	-0.1
MNTX	Cornudas Mount	23.77	356	*eP*	P	20 24 59.6	-1.6
	3.2nm,1.1s						
WHTX	Lake Whitney,	24.62	12	*eP*	P	20 25 09.3	+0.3
	6.9nm,0.6s						
ABTX	Abilene, Hawle	24.86

*ISCJB **25** 20:23:20.8±0.5,24°.33S×0°.04×65°.28W×0°.06,h33km, mb3.7/5,Error ellipse: s-maj=8.2km s-min=5.4km az=3.0*
*NEIC **25** 20:23:23.8±0.7,24°.27S×65°.33W,h48km±6km, MD4.0(SJA),Error ellipse: s-maj=8.6km s-min=8.4km az=142.0*
NEIC Felt [III] at Salta and San Salvador de Jujuy.
*IDC **25** 20:23:23.1±2.9,24°.34S×65°.39W,h42km±22km,mb3.6/5, mb1 3.8/9,mb1mx3.7/29,mbtmp3.8/9,ML4.1/3,Error ellipse: s-maj=40.9km s-min=22.5km az=27.0*

ISC 25 20:23:21.6±0.7,24°.43S±0°.06×65°.16W±0°.09,h35km,n32, σ2s01/35,mb3.8/5,Salta Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**0.42**	**227**	*i* P			**Pn**	**20 23 29.0**	**-2.5**
SLA				*e*S			**Sn**	**20 23 36.0**	**-2.2**
SLA				IAML				20 23 37.3	
	comp=Z,4µm,0.5s								
HJA	**Humahuaca**	**1.24**	**349**	*i* P			**Pn**	**20 23 39.4**	**-3.4**
HJA				IAML				20 23 44.1	
	comp=Z,2µm,0.3s								
YJA	**Yavi**	**2.27**	**352**	*i* P			**Pn**	**20 23 58.4**	**+1.3**
YJA				*e*S			**Sn**	**20 24 27.7**	**+3.6**
YJA				IAML				20 24 33.9	
	comp=Z,397nm,0.7s								
LVC	**Limon Verde**	**3.89**	**297**	P			**Pn**	**20 24 16.9**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=126,slow=11,SNR=4.0								
CYA	**Choya**	**4.03**	**188**	*i* P			**Pn**	**20 24 24.9**	**+4.0**
CYA				IAML				20 25 38.4	
	comp=Z,79nm,0.4s								
GO02	**Mina Guanaco**	**4.09**	**259**	*e*Pn			**Pn**	**20 24 23.4**	**+1.4**
PB10	**IPOC Station P**	**5.02**	**279**	*e*Pn			**Pn**	**20 24 34.7**	**+0.3**
PB04	**IPOC Station P**	**5.04**	**294**	*e*Pn			**Pn**	**20 24 34.8**	**-0.1**
PB01	**IPOC Station P**	**5.23**	**309**	*e*Pn			**Pn**	**20 24 35.5**	**-2.0**
GO03	**Copiap**	**5.54**	**234**	*e*Pn			**Pn**	**20 24 45.4**	**+3.6**
APLL	**PUNTA DE LOS L**	**6.06**	**191**	*i* P			**Pn**	**20 24 52.3**	**+3.4**
APLL				IAML				20 26 46.8	
	comp=Z,23nm,0.5s								
PB11	**IPOC Station P**	**6.24**	**317**	*e*Pn			**Pn**	**20 24 50.8**	**-0.7**
MNMC	**Minye Minye**	**6.69**	**321**	*e*Pn			**Pn**	**20 24 57.5**	**-0.2**
CPUP	**Villa Florida**	**7.33**	**107**	P			Pn	20 25 11.9	+5.7
	comp=Z,1.0nm,0.3s,baz=277,slow=11,SNR=11								
CPUP				Lg			Lg	20 27 21.3	
	comp=Z,4.0nm,0.3s,baz=183,slow=20,SNR=4.5								
GO04	**Tololo Observa**	**7.60**	**220**	*e*Pn			**Pn**	**20 25 10.3**	**+0.1**
LPAZ	**La Paz**	**8.57**	**340**	P			**Pn**	**20 25 23.3**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=124,slow=7.7,SNR=10								
LPAZ				S			**Sn**	**20 27 00.5**	**+0.9**
	comp=Z,0.0nm,0.3s,baz=258,slow=16,SNR=1.3								
SIV	**San Ignacio**	**9.23**	**25**	P			**Pn**	**20 25 32.4**	**0.0**
	comp=Z,1.9nm,0.3s,baz=287,slow=6.6,SNR=30								
SIV				S			**Sn**	**20 27 09.7**	**-5.4**
	comp=Z,0.9nm,0.3s,baz=149,slow=24,SNR=2.0								
SIV				Lg			Lg	20 28 15.1	
	comp=Z,1.6nm,0.3s,baz=147,slow=24,SNR=3.9								
APG	**El Apazote**	**46.33**	**325**	P			**P**	**20 31 44.5**	**-0.2**
	comp=Z,4.8nm,0.8s,baz=121,slow=12,SNR=3.9								
TORD	**Torodi Ar. Bea**	**75.17**	**68**	P			**P**	**20 35 02.0**	**+1.1**
	comp=Z,0.9nm,0.9s,baz=261,slow=5.5,SNR=4.9								
TOA1	**Torodi Ar. Sit**	**75.17**	**68**	*e*P			**P**	**20 35 02.0**	**+1.1**
PDAR	**Pinedale Array**	**78.39**	**328**	P			**P**	**20 35 18.8**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=123,slow=6.6,SNR=2.7								
NVAR	**Mina Array Bea**	**79.93**	**320**	P			**P**	**20 35 26.5**	**-0.8**
	comp=Z,0.1nm,0.5s,baz=121,slow=8.5,SNR=2.3								
YKA	**Yellowknife Ar**	**95.11**	**339**	P			**P**	**20 36 40.3**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=129,slow=4.3,SNR=7.3								
ASAR	**Alice Springs**	**128.73**	**203**	PKP			**PKPdf**	**20 42 24.7**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=135,slow=2.6,SNR=3.2								
WR1	**Warramunga Arr**	**131.98**	**205**	*e*PKPdf			**PKPdf**	**20 42 33.2**	**+0.9**
WRA	**Warramunga Arr**	**131.98**	**205**	PKP			**PKPdf**	**20 42 33.2**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=155,slow=1.9,SNR=4.1								
ZAA1	**Zalesovo Array**	**142.96**	**29**	*e*PKPdf			**PKPdf**	**20 42 51.9**	**+0.6**
ZALV	**Zalesovo Beam**	**142.97**	**29**	PKP			**PKPdf**	**20 42 51.9**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=336,slow=3.2,SNR=2.7								
MK32	**Makanchi Array**	**145.77**	**41**	*e*PKPdf			**PKPbc**	**20 42 57.9**	**+0.9**
MKAR	**Makanchi Array**	**145.77**	**41**	PKPbc			**PKPbc**	**20 42 57.8**	**+0.9**
	comp=Z,0.8nm,0.9s,baz=318,slow=3.3,SNR=6.1								
SONA0	**Songino Array**	**155.70**	**14**	*e*PKPab			**PKPab**	**20 43 38.0**	**-0.2**
SONM	**Songino Array**	**155.70**	**14**	PKPab			**PKPab**	**20 43 38.0**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=316,slow=4.0,SNR=3.4								

UCR 25 20:29:26.7±1.6,11°.85N×83°.55W,h20km±50km,MD4.1, 1C-3D,Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ESPN	**Las Esperanzas**	**0.81**	**295**	*e*P			Pb	20 29 41.7	-0.4
ESPN				*e*S			Sb	20 29 52.5	-0.2
CEDE	**Laguna Cedeo**	**1.76**	**220**	*e*P			Pn	20 29 56.1	-0.2
CEDE				*e*S			Sb	20 30 20.3	+0.1
ARE1	**Arenal 1**	**1.79**	**220**	⇓*e*P			Pn	20 29 56.3	-0.3
ARE1				*e*S			Sg	20 30 23.9	-0.6
HDC	**Heredia**	**1.92**	**197**	⇓*e*P			Pn	20 29 59.1	+0.6
MESS	**Mesas**	**1.95**	**236**	*e*P			Pn	20 29 58.1	-0.7
MESS				*i* P			Pb	20 29 58.6	-3.1
MESS				*e*S			Sb	20 30 24.2	-1.4
CUI	**Cuipilapa**	**1.98**	**233**	*i* P			Pn	20 29 59.1	-0.1
CUI				*i* S			Sn	20 30 24.2	+0.9
SRA1	**San Ramn**	**1.98**	**208**	⇑*e*P			Pn	20 29 59.9	+0.6
JTS	**JuntasAbangare**	**2.07**	**222**	*e*P			Pn	20 29 59.4	-1.1
JTS				*e*S			Sn	20 30 26.2	+0.5
BUEV	**Buena Vista**	**2.10**	**240**	*e*P			Pn	20 30 01.3	+0.5
LCR2	**La Lucha 2**	**2.14**	**192**	⇓*e*P			Pn	20 30 02.2	+0.7
LCR2				*e*S			Sn	20 30 28.6	+0.9
PLVR	**Palo Verde**	**2.31**	**230**	*e*P			Pn	20 30 03.7	-0.2
DRK0	**Durika**	**2.59**	**173**	*e*P			Pn	20 30 07.2	-0.5
EDDO	**Dominical**	**2.60**	**187**	*e*P			Pn	20 30 10.0	+2.4
ESTN	**Estel**	**3.02**	**295**	*e*P			Pb	20 30 18.1	-1.8

IDC 25 20:32:12.6±2.4,0°.10N×91°.65E,h0km,mb3.4/3,mb1 3.7/5, mb1mx3.4/38,mbtmp3.5/5,ML3.6/1,MS2.9/1,Ms1 2.9/1, ms1mx2.4/31,Error ellipse: s-maj=61.7km s-min=29.9km az=52.0,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.75**	**70**	LR			LR	20 36 38.1	
	comp=Z,77nm,19.3s,baz=269,slow=34								
PALK	**Pallekele**	**13.04**	**303**	Pn			Pn	20 35 17.3	-2.1
	0.3nm,0.3s,baz=115,slow=5.3,SNR=3.3								
PALK							Sn	20 37 33.4	-12
	0.3nm,0.3s,baz=114,slow=8.0,SNR=0.9								
CMAR	**Chiang Mai Arr**	**19.60**	**21**	P			P	20 36 40.9	-1.8
	baz=209,slow=12,SNR=5.0								
WRA	**Warramunga Arr**	**46.29**	**118**	P			P	20 40 40.1	-0.4
	0.9nm,0.8s,baz=294,slow=8.6,SNR=4.6								
MKAR	**Makanchi Array**	**47.23**	**351**	P			P	20 40 48.1	+0.7
	0.2nm,0.5s,baz=184,slow=7.9,SNR=3.7								
SONM	**Songino Array**	**49.25**	**13**	P			P	20 41 03.6	+0.5
	0.3nm,0.5s,baz=195,slow=6.8,SNR=3.1								

*AZER **25** 20:56:41.3±0.1,41°.04N×44°.02E,h6km±1km,ml3.3/23, Error ellipse: s-maj=8.0km s-min=1.2km az=295.0*
*NSSP **25** 20:56:41.1,41°.00N×43°.90E,h10km,Ms3.2*
*TIF **25** 20:56:41.5,41°.02N×43°.91E,h15km±1km*
*ISK **25** 20:56:41.3,41°.03N×43°.95E,h1km,ML3.3/12*
*DDA **25** 20:56:42.1,41°.06N×43°.80E,h7km±6km,ML3.6*
*MOS **25** 20:56:43.5±0.0,41°.19N×43°.93E,h1km,MPVA4.3*
*NORS **25** 20:56:43.5±0.0,41°.19N×43°.93E,h1km,MPVA4.3*

ISC 25 20:56:42.3±1.1,41°.02N±0°.01×43°.94E±0°.02,h3km±8km, n106,σ1s57/175,34C-21D,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GMRZ	**Gyumri**	**0.22**	**201**	*e*P			**Pg**	**20 56 47.0**	**+0.3**
GMRZ				*e*S			**Sg**	**20 56 51.0**	**+1.4**
STEZ	**Stepenevan**	**0.35**	**93**	⇑*i*P			**Pg**	**20 56 48.4**	**-0.7**
STEZ				⇑*i*S			**Sg**	**20 56 53.6**	**-0.1**
EAK	**Akyaka**	**0.42**	**217**	IAML_P					
	comp=Z,50µm,0.1s								
EAK				*i* P			**Pg**	**20 56 50.5**	**+0.2**
TRLG	**Trialeti**	**0.53**	**14**	P			**Pg**	**20 56 52.9**	**+0.3**
TRLG				S			**Sg**	**20 57 00.4**	**+0.9**
DIGO	**Kars**	**0.74**	**215**	IAML_P					
	comp=Z,43µm,0.2s								
DIGO				*i* P			**Pg**	**20 56 56.5**	**0.0**
DIGO				*i* S			**Sg**	**20 57 05.5**	**-0.6**
KARS	**Kars**	**0.76**	**239**	PG			**Pg**	**20 56 56.2**	**-0.7**
TBLG	**Delisi**	**0.93**	**40**	PG			**Pg**	**20 57 00.0**	**-0.3**
TBLG				SG			**Sb**	**20 57 13.4**	**-0.6**
TBLG	**Delisi**	**0.93**	**40**	P			**Pg**	**20 56 59.9**	**-0.3**
TBLG				S			**Sb**	**20 57 13.3**	**-0.8**
TBLG	**Delisi**	**0.93**	**40**	*e*PG			**Pg**	**20 56 59.9**	**-0.3**
TBLG				*e*S			**Sb**	**20 57 13.2**	**-0.8**
TBLG	**Delisi**	**0.93**	**40**	IAML_P					
	comp=Z,13µm,0.1s								
TBLG				*i* P			**Pn**	**20 57 01.0**	**-1.5**
TBLG				*i* S			**Sb**	**20 57 13.6**	**-0.4**
SEAG	**Tbilisi Sea**	**0.99**	**41**	P			**Pg**	**20 57 01.2**	**-0.1**
SEAG				S			**Sn**	**20 57 15.4**	**-2.4**
TASB	**TASBURUN-IGDIR**	**1.06**	**167**	PG			**Pg**	**20 57 02.1**	**-0.6**
TASB				SG			**Sn**	**20 57 17.7**	**-1.9**
GNI	**Garni**	**1.06**	**145**	PG			**Pn**	**20 57 03.2**	**-1.0**
GNI				SG			**Sn**	**20 57 18.9**	**-0.9**
GNI	**Garni**	**1.06**	**145**	⇓*i*P			**Pb**	**20 57 02.7**	**-0.9**
GNI				⇑*i*S			**Sn**	**20 57 17.6**	**-2.1**
QZX	**Qazax, Azerbai**	**1.09**	**88**	⇑P			**Pb**	**20 57 03.0**	**-0.8**
	SNR=442								
QZX				⇓S			**Sn**	**20 57 19.2**	**-1.0**
IGDI	**IGDIR**	**1.16**	**175**	IAML_P					
	comp=Z,3µm,0.2s								
IGDI				*i* P			**Pb**	**20 57 03.7**	**-1.3**
IGDI				*i* S			**Sb**	**20 57 18.7**	**-1.7**
GDB	**GEDABAY**	**1.41**	**102**	⇑P			**Pb**	**20 57 08.4**	**-1.1**
	SNR=759								
GDB				⇑S			**Sg**	**20 57 27.2**	**-0.5**
HYR	**Heyderabad**	**1.48**	**151**	⇑P			**Pb**	**20 57 09.6**	**-0.9**
HYR				⇑S			**Sg**	**20 57 30.1**	**+0.3**
DYDN	**Diyadin**	**1.49**	**187**	IAML_P					
	comp=Z,2µm,0.3s								
DYDN				*i* P			**Pg**	**20 57 11.2**	**+0.4**
DYDN				*i* S			**Sg**	**20 57 34.0**	**+3.9**
ARTV	**Artvin**	**1.52**	**277**	IAML_P					
	comp=Z,7µm,0.3s								
ARTV				*i* P			**Pb**	**20 57 10.2**	**-1.2**
ARTV				*i* S			**Sb**	**20 57 29.9**	**-1.3**
DAGI	**Agillar**	**1.53**	**273**	IAML_P					
	comp=Z,4µm,0.4s								
DAGI				*i* P			**Pb**	**20 57 10.4**	**-1.1**
DAGI				*i* S			**Sn**	**20 57 29.0**	**-2.2**
EATA	**Eleskirt**	**1.60**	**224**	*i* P			**Pb**	**20 57 11.8**	**-0.9**
AGRB	**Hanur-Agry**	**1.61**	**207**	PN			**Pg**	**20 57 12.7**	**-0.5**
VADZ	**Vardenis**	**1.62**	**121**	⇓*i*P			**Pb**	**20 57 12.4**	**-0.6**
VADZ				⇑*i*S			**Sg**	**20 57 35.2**	**+0.9**
DDEM	**Demirkent**	**1.66**	**266**	IAML_P					
	comp=Z,6µm,0.2s								
DDEM				*i* P			**Pb**	**20 57 12.4**	**-1.2**
DDEM				*i* S			**Sb**	**20 57 33.6**	**-1.4**
DBAD	**Bademkaya**	**1.69**	**271**	IAML_P					
	comp=Z,4µm,0.2s								
DBAD				*i* P			**Pb**	**20 57 13.8**	**-0.5**
DBAD				*i* S			**Sn**	**20 57 32.2**	**-3.1**
DBOC	**Borcka**	**1.74**	**281**	IAML_P					
	comp=Z,4µm,0.3s								
DBOC				*i* P			**Pb**	**20 57 14.0**	**-1.0**
DBOC				*i* S			**Sb**	**20 57 36.2**	**-1.1**
ZEI	**Tsey**	**1.77**	**359**	*e*PG			**Pb**	**20 57 15.0**	**-0.5**
ZEI				*e*S			**Sg**	**20 57 39.4**	**+0.3**
ZEI	**Tsey**	**1.77**	**359**	*e*Pg			**Pb**	**20 57 15.0**	**-0.5**
ZEI				*e*Sg			**Sg**	**20 57 39.4**	**+0.3**
BCA	**Borcka**	**1.79**	**284**	PN			**Pb**	**20 57 14.3**	**-1.6**
LACR	**Lac**	**1.82**	**8**	*e*PN			**Pb**	**20 57 16.1**	**-0.4**
LACR				pmax			pmax		
	comp=Z,191nm,0.3s								
LACR	**Lac**	**1.82**	**8**	*i* Pg			**Pb**	**20 57 16.2**	**-0.4**
LACR				*e*Sg			**Sg**	**20 57 41.1**	**+0.1**
HOMI	**Horasan**	**1.83**	**238**	IAML_P					
	comp=Z,3µm,0.4s								
HOMI				*i* P			**Pg**	**20 57 17.4**	**+0.1**
GANJ	**Ganja**	**1.85**	**101**	⇓P			**Pb**	**20 57 15.9**	**-0.9**
	SNR=159								
GANJ				⇑S			**Sg**	**20 57 41.4**	**-0.3**
CLDR	**Caldiran**	**1.88**	**180**	PN			**Pb**	**20 57 16.4**	**-1.0**
CLDR	**Caldiran**	**1.88**	**180**	*i* P			**Pg**	**20 57 18.1**	**-0.2**
KOPR	**Koprukoy-ERZUR**	**1.89**	**238**	PN			**Pb**	**20 57 16.7**	**-0.9**
DIGR	**Digorskoe uzhe**	**1.90**	**352**	*e*PN			**Pb**	**20 57 17.1**	**-0.6**
DIGR				pmax			pmax		
	comp=Z,247nm,0.5s								
DIGR	**Digorskoe uzhe**	**1.90**	**352**	*i* Pg			**Pb**	**20 57 17.5**	**-0.3**
DIGR				*e*Sg			**Sg**	**20 57 44.7**	**+1.4**
LGD	**Lagodekhi**	**1.92**	**64**	P			**Pb**	**20 57 17.0**	**-1.0**
LGD				S			**Sg**	**20 57 44.1**	**+0.2**
LGD	**Lagodekhi**	**1.92**	**64**	*e*PN			**Pb**	**20 57 16.9**	**-1.0**
LGD				*e*S			**Sg**	**20 57 44.1**	**+0.2**
SBZ	**Shahbuz**	**2.04**	**142**	⇓P			**Pb**	**20 57 19.2**	**-0.9**
SBZ				⇑S			**Sg**	**20 57 47.4**	**-0.5**
VMUR	**Van-Muradiye**	**2.05**	**188**	IAML_P					
	comp=Z,566nm,0.5s								
VMUR				*i* P			**Pg**	**20 57 20.6**	**-0.9**
KORR	**Kora**	**2.07**	**3**	*e*PN			**Pg**	**20 57 21.1**	**-0.8**
KORR				*e*S			**Sg**	**20 57 50.3**	**+1.6**
KORR	**Kora**	**2.07**	**3**	*e*Pg			**Pg**	**20 57 21.1**	**-0.8**
KORR				*e*Sg			**Sg**	**20 57 50.3**	**+1.6**
VLKR	**Vladikavkaz**	**2.10**	**15**	*e*PN			**Pg**	**20 57 21.9**	**-0.6**
VLKR				*e*S			**Sg**	**20 57 50.9**	**+1.1**
VLKR	**Vladikavkaz**	**2.10**	**15**	*e*Pg			**Pg**	**20 57 21.9**	**-0.6**
VLKR				*e*Sg			**Sg**	**20 57 50.9**	**+1.1**
ZKTA	**Zakatala**	**2.12**	**72**	⇑P			**Pb**	**20 57 20.0**	**-1.4**
	SNR=156								
ZKTA				⇓S			**Sg**	**20 57 49.1**	**-1.2**
KMGR	**Komgaron**	**2.15**	**19**	*e*PN			**Pg**	**20 57 22.9**	**-0.6**
KMGR				*e*S			**Sg**	**20 57 53.3**	**+1.9**
KMGR	**Komgaron**	**2.15**	**19**	*e*Pg			**Pg**	**20 57 22.9**	**-0.6**
KMGR				*e*Sg			**Sg**	**20 57 53.3**	**+1.9**
MLAZ	**Malazgirt-MUS**	**2.16**	**210**	PN			**Pb**	**20 57 20.1**	**-2.1**
ARNR	**Ardon**	**2.17**	**7**	*e*PN			**Pg**	**20 57 23.2**	**-0.8**
ARNR				pmax			pmax		
	comp=Z,68nm,0.3s								
ARNR	**Ardon**	**2.17**	**7**	*e*Pg			**Pg**	**20 57 23.1**	**-0.9**
ARNR				*e*Sg			**Sg**	**20 57 53.6**	**+1.4**
NAX	**Nakhchivan**	**2.20**	**147**	⇓P			**Pb**	**20 57 21.0**	**-1.8**
	SNR=6.0								
NAX				⇑S			**Sb**	**20 57 49.7**	**-0.8**
LSNR	**Lesken**	**2.26**	**358**	⇑*i*PN			**Pg**	**20 57 24.8**	**-0.8**
LSNR				*e*S			**Sg**	**20 57 55.2**	**+0.3**
LSNR	**Lesken**	**2.26**	**358**	*i* Pg			**Pg**	**20 57 24.8**	**-0.8**
LSNR				*e*Sg			**Sg**	**20 57 55.2**	**+0.3**
STDR	**Stavd-Durt**	**2.35**	**2**	*e*PN			**Pg**	**20 57 27.0**	**-0.4**
STDR				*e*S			**Sg**	**20 58 00.5**	**+2.7**
STDR	**Stavd-Durt**	**2.35**	**2**	*e*Pg			**Pg**	**20 57 27.0**	**-0.4**
STDR				*e*Sg			**Sg**	**20 58 00.5**	**+2.7**
BTLR	**Botlikh**	**2.37**	**45**	*e*PN			**Pg**	**20 57 25.5**	**-0.3**
BTLR				*e*S			**Sg**	**20 57 57.2**	**-1.3**
BTLR	**Botlikh**	**2.37**	**45**	*e*Pg			**Pg**	**20 57 25.5**	**-0.3**
BTLR				*e*Sg			**Sg**	**20 57 57.2**	**-1.3**
GRS	**Goris**	**2.38**	**129**	⇓*i*P			**Pn**	**20 57 19.0**	**-3.5**
GRS				⇓*i*S			**Sn**	**20 57 50.0**	**-2.3**
BTKR	**Batakoyurt**	**2.39**	**11**	*e*PN			**Pb**	**20 57 26.5**	**+0.4**
BTKR				*e*S			**Sg**	**20 58 00.0**	**+0.8**
BTKR	**Batakoyurt**	**2.39**	**11**	*e*Pg			**Pb**	**20 57 26.5**	**+0.4**
BTKR				*e*Sg			**Sg**	**20 58 00.0**	**+0.8**
ADCV	**BITLIS_Adilcev**	**2.40**	**203**	*i* P			**Pg**	**20 57 28.9**	**+0.6**
CHOM	**Cayeli-Rize**	**2.40**	**273**	PN			**Pb**	**20 57 23.8**	**-2.4**
MNGR	**Mingechevir, A**	**2.40**	**95**	⇑P			**Pb**	**20 57 23.5**	**-2.7**
	SNR=15								
MNGR				⇑S			**Sb**	**20 57 56.2**	**0.0**
NEY	**Neytrino**	**2.40**	**338**	*e*PN			**Pb**	**20 57 25.2**	**-1.1**
NEY				pmax			pmax		
	comp=Z,183nm,0.5s								
NEY	**Neytrino**	**2.40**	**338**	*e*Pg			**Pb**	**20 57 25.3**	**-1.1**
NEY				*e*Sg			**Sb**	**20 57 56.9**	**+0.4**
VANB	**Van**	**2.46**	**190**	PN			**Pb**	**20 57 25.8**	**-1.5**
SEKA	**Sheki**	**2.47**	**85**	⇑P			**Pb**	**20 57 25.3**	**-2.2**
	SNR=108								
SEKA				⇑S			**Sb**	**20 57 58.9**	**+0.5**
NCK	**Nalchik**	**2.49**	**354**	⇑*e*PN			**Pb**	**20 57 26.5**	**-1.2**
NCK				pmax			pmax		
	comp=Z,71nm,0.2s								
DVE	**Vedeno**	**2.53**	**39**	*de*PN			**Pb**	**20 57 28.6**	**+0.1**
DVE				pmax			pmax		
	comp=Z,72nm,0.3s								
DVE	**Vedeno**	**2.53**	**39**	*e*Pn			**Pb**	**20 57 28.7**	**+0.2**
DVE				*e*Sn			**Sg**	**20 58 02.2**	**-1.4**
BRDA	**Brd**	**2.58**	**106**	⇑P			**Pb**	**20 57 26.9**	**-2.3**
	SNR=4.1								
BRDA				⇑S			**Sb**	**20 57 58.9**	**-2.5**
GROC	**Groznyy**	**2.58**	**32**	*d*iPN			**Pb**	**20 57 30.0**	**+0.7**
GROC				pmax			pmax		
	comp=Z,16nm,0.2s								
GROC	**Groznyy**	**2.58**	**32**	*e*Pn			**Pb**	**20 57 30.1**	**+0.7**
GROC				*e*Sn			**Sg**	**20 58 06.7**	**+1.4**
ORD	**Ordubad**	**2.62**	**142**	⇓P			**Pb**	**20 57 29.8**	**-0.2**
ORD				⇓S			**Sb**	**20 58 02.1**	**-0.6**
GNBR	**Gunib**	**2.65**	**58**	*e*PN			**Pb**	**20 57 30.0**	**-0.5**
GNBR				*e*S			**Sg**	**20 58 05.0**	**-2.4**
GNBR	**Gunib**	**2.65**	**58**	*e*Pn			**Pb**	**20 57 30.0**	**-0.5**
GNBR				*e*Sn			**Sg**	**20 58 05.0**	**-2.4**
AKDM	**Akdamar-Van**	**2.79**	**196**	PN			**Pn**	**20 57 29.0**	**+0.9**
KBTC	**Kuba-Taba**	**2.82**	**352**	*e*PN			**Pb**	**20 57 32.0**	**-1.4**
KBTC				*e*S			**Sb**	**20 58 07.4**	**-1.0**
KBTC	**Kuba-Taba**	**2.82**	**352**	*e*Pn			**Pb**	**20 57 32.0**	**-1.4**
KBTC				*e*Sn			**Sb**	**20 58 07.4**	**-1.0**
DOMR	**Dombai**	**2.85**	**324**	⇑*e*PN			**Pb**	**20 57 31.1**	**-2.8**
AKT	**Akhty**	**2.90**	**80**	⇓*i*PN			**Pb**	**20 57 32.8**	**-2.0**
AKT				*e*S			**Sb**	**20 58 11.3**	**+0.6**
AKT	**Akhty**	**2.90**	**80**	*i* Pn			**Pb**	**20 57 32.8**	**-2.0**
AKT				*e*Sn			**Sb**	**20 58 11.3**	**+0.6**
BAYT	**Aydıntepe-Bayb**	**2.95**	**259**	PN			**Pn**	**20 57 31.8**	**+1.5**
QBL	**Gabala**	**2.96**	**90**	⇓P			**Pb**	**20 57 32.0**	**-3.6**
	SNR=44								
QBL				⇓S			**Sb**	**20 58 09.4**	**-2.8**
KIV	**Kislovodsk**	**3.08**	**343**	*e*PN			**Pb**	**20 57 35.4**	**-2.4**
KIV				*e*S			**Sb**	**20 58 13.3**	**-2.4**
KIV				pmax			pmax		
	comp=Z,32nm,1.0s								
XNQ	**Khinaliq**	**3.18**	**86**	⇑P			**Pn**	**20 57 33.7**	**+0.2**
	SNR=8.4								
IML	**Ismayilli**	**3.23**	**93**	⇓P			**Pn**	**20 57 36.0**	**+2.0**
	SNR=12								
KDMR	**Kurdemir**	**3.29**	**100**	⇑P			**Pn**	**20 57 36.9**	**+2.1**
KDMR				⇑S			**Sg**	**20 58 26.7**	**-1.4**
QSAR	**Qusar**	**3.30**	**80**	⇓P			**Pn**	**20 57 36.3**	**+1.4**
	SNR=30								
DRN	**Derbent**	**3.45**	**72**	*e*PN			**Pb**	**20 57 40.6**	**-3.5**
DRN				*e*S			**Sb**	**20 58 24.9**	**-1.5**
DRN	**Derbent**	**3.45**	**72**	*e*Pn			**Pb**	**20 57 40.6**	**-3.5**
DRN				*e*Sn			**Sb**	**20 58 24.9**	**-1.5**
QUBA	**Quba, Azerbaij**	**3.46**	**83**	⇓P			**Pn**	**20 57 38.1**	**+1.0**
	SNR=6.6								
PQL	**Pirkuli**	**3.54**	**92**	⇑P			**Pn**	**20 57 39.6**	**+1.2**
	SNR=15								
PQL				⇑S			**Sn**	**20 58 23.0**	**+2.2**
SIZA	**Siyzn**	**3.75**	**88**	⇑P			**Pn**	**20 57 42.0**	**+0.7**
	SNR=4.9								
ALER	**Alexandrovskoy**	**3.81**	**349**	*e*Pn			**Pg**	**20 57 53.2**	**-2.2**
ALER				*e*Sn			**Sb**	**20 58 33.4**	**-3.6**
RPOR	**Krasnaya Polya**	**3.81**	**316**	*e*Pn			Pb	20 57 45.6	-4.7
RPOR				*e*Sn

KZA	**Kyzart**	**4.04**	**22**	P		**Pn**	**21 09 42.5**	**+0.5**
	SNR=38							
MNAS	**Manas**	**4.19**	**352**	⇓P		**Pn**	**21 09 44.7**	**+1.0**
	comp=Z,62nm,0.6s							
MNAS				⇑S		**Sn**	**21 10 29.7**	**-2.2**
	comp=Z,181nm,0.8s							
MNAS	**Manas**	**4.19**	**352**	*i* PN		**Pn**	**21 09 44.5**	**+0.7**
MNAS				pmax	pmax			
	comp=Z,85nm,0.6s							
EKS2	**Erkin-Say**	**4.35**	**5**	P		**Pn**	**21 09 47.0**	**+1.1**
	SNR=82							
AAK	**Ala-Archa**	**4.41**	**12**	P		**Pn**	**21 09 47.8**	**+1.2**
	comp=Z,2.4nm,0.3s,baz=163,slow=6.2,SNR=44							
AAK				S		**Sn**	**21 10 34.5**	**-2.4**
	comp=Z,10nm,0.3s,baz=321,slow=18,SNR=32							
AAK				LR		LR	21 11 36.2	
	comp=Z,53nm,21.0s,baz=329,slow=41							
AAK	**Ala-Archa**	**4.41**	**12**	P		**Pn**	**21 09 48.1**	**+1.4**
	SNR=14							
AAK	**Ala-Archa**	**4.41**	**12**	*e*Pn		**Pn**	**21 09 47.9**	**+1.2**
AAK				*e*S		**Sn**	**21 10 35.8**	**-1.2**
AAK	**Ala-Archa**	**4.41**	**12**	⇑P		**Pn**	**21 09 48.4**	**+1.7**
	comp=Z,7.9nm,0.6s							
AAK				⇑S		**Sn**	**21 10 35.3**	**-1.7**
	comp=Z,196nm,0.8s							
KBK	**Karagaybulak**	**4.51**	**16**	P		**Pn**	**21 09 50.0**	**+2.0**
	SNR=12							
ULHL	**Ulahol**	**4.53**	**29**	P		**Pn**	**21 09 48.5**	**+0.2**
	SNR=8.1							
FRU1	**Bishkek**	**4.60**	**13**	*e*Pn		**Pn**	**21 09 51.5**	**+2.4**
FRU1	**Bishkek**	**4.60**	**13**	*e*PN		**Pn**	**21 09 51.6**	**+2.4**
FRU	**Bishkek**	**4.62**	**13**	*e*PN		Pn	21 09 54.0	+4.6
FRU				*i* S		**Sn**	**21 10 45.0**	**+3.1**
FRU				smax	smax			
	comp=N,340nm,1.9s							
CEP	**Cherat**	**4.63**	**194**	P		Pn	21 09 55.0	+5.3
CEP				S		**Sn**	**21 10 45.0**	**+2.6**
CHCP	**Chirah Chowk**	**4.66**	**180**	P		Pn	21 09 55.0	+5.0
NIL	**Nilore**	**4.67**	**180**	*e*Pn		**Pn**	**21 09 54.0**	**+3.9**
NIL				*e*S		**Sn**	**21 10 43.0**	**-0.2**
NIL	**Nilore**	**4.67**	**180**	*e*PN		**Pn**	**21 09 54.0**	**+3.9**
KDJ	**Kajisay**	**4.84**	**37**	*e*Pn		**Pn**	**21 09 52.4**	**-0.1**
KDJ	**Kajisay**	**4.84**	**37**	*e*PN		**Pn**	**21 09 52.4**	**-0.1**
TKM2	**Tokmak 2**	**4.92**	**20**	P		**Pn**	**21 09 54.5**	**+0.9**
	SNR=6.7							
TKM2	**Tokmak 2**	**4.92**	**20**	⇑P		**Pn**	**21 09 54.3**	**+0.6**
	comp=N,0.9nm,0.2s							
TKM2				⇓S		**Sn**	**21 10 45.8**	**-3.7**
	comp=N,28nm,0.7s							
TKM2	**Tokmak 2**	**4.92**	**20**	*i* PN		**Pn**	**21 09 54.2**	**+0.6**
TKM2				pmax	pmax			
	comp=Z,9.0nm,0.4s							
USP	**Ospenovka**	**5.02**	**10**	P		**Pn**	**21 09 56.2**	**+1.3**
	SNR=8.4							
KBL	**Kabul**	**5.08**	**223**	*e*Pn		**Pn**	**21 10 00.6**	**+4.7**
KBL	**Kabul**	**5.08**	**223**	*e*PN		**Pn**	**21 10 00.6**	**+4.7**
KK31	**Karatay Array**	**5.21**	**337**	*e*Pn		**Pn**	**21 09 58.1**	**+0.8**
KK31				*e*Sn		**Sn**	**21 10 53.2**	**-2.9**
KK31	**Karatay Array**	**5.21**	**337**	⇑P		**Pn**	**21 09 58.1**	**+0.8**
	comp=Z,40nm,0.4s,baz=156,slow=16							
KK31				⇓S		**Sn**	**21 10 53.0**	**-3.1**
	comp=Z,74nm,0.7s,baz=155,slow=20,SNR=12							
KK31	**Karatay Array**	**5.21**	**337**	*e*PN		**Pn**	**21 09 58.1**	**+0.8**
KKAR	**Karatay Array**	**5.21**	**337**	*e*Pn		**Pn**	**21 09 58.3**	**+1.0**
KKAR	**Karatay Array**	**5.21**	**337**	*e*PN		**Pn**	**21 09 58.3**	**+1.0**
THW	**Thamme Wali**	**5.66**	**193**	P		**Pn**	**21 10 07.6**	**+4.1**
PRZ	**Przheval'sk**	**5.71**	**42**	*e*Pn		**Pn**	**21 10 03.5**	**-0.8**
PRZ	**Przheval'sk**	**5.71**	**42**	*e*PN		**Pn**	**21 10 03.5**	**-0.8**
DHRM	**DHARAMSHALA**	**6.55**	**157**	*e*P		**Pn**	**21 10 15.5**	**-0.3**
DHRM				*e*S		**Sn**	**21 11 22.9**	**-6.4**
DHRM				IAML			21 11 31.6	
	comp=E,90nm,0.1s							
DHRM				IAML			21 11 33.2	
	comp=N,113nm,0.2s							
PDGK	**Podgornoye**	**6.88**	**41**	⇑P		**Pn**	**21 10 18.8**	**-1.2**
	comp=N,14nm,1.0s							
SMLA	**Simla**	**7.87**	**155**	*e*P		**Pn**	**21 10 32.5**	**-1.0**
SMLA				*e*S		Sn	21 11 52.0	-8.9
SMLA				IAML			21 12 01.4	
	comp=E,45nm,0.2s							
SMLA				IAML			21 12 01.6	
	comp=N,74nm,0.4s							
JOSI	**Joshimath**	**9.34**	**144**	*e*P		**Pn**	**21 10 50.8**	**-2.8**
JOSI				*e*S		Sn	21 12 28.0	-8.8
KUDL	**Kundal**	**10.51**	**164**	*e*P		**Pn**	**21 11 07.0**	**-2.3**
KUDL				*e*S		Sn	21 12 53.0	-12
KUDL				IAML			21 13 03.1	
	comp=N,9.7nm,0.2s							
MK01	**Makanchi Array**	**10.75**	**35**	*e*Pn		**Pn**	**21 11 11.1**	**-1.3**
MK31	**Makanchi Array**	**10.76**	**35**	*e*Pn		**Pn**	**21 11 12.1**	**-0.5**
MK31	**Makanchi Array**	**10.76**	**35**	*e*P		**Pn**	**21 11 12.1**	**-0.5**
MKAR	**Makanchi Array**	**10.76**	**35**	P		**Pn**	**21 11 11.6**	**-1.1**
	comp=N,0.1nm,0.3s,baz=219,slow=11,SNR=8.5							
MKAR	**Makanchi Array**	**10.76**	**35**	*e*Pn		**Pn**	**21 11 12.1**	**-0.5**
MKAR	**Makanchi Array**	**10.76**	**35**	*e*P		**Pn**	**21 11 12.1**	**-0.5**
GEYT	**Alibeck**	**11.93**	**273**	P		**Pn**	**21 11 27.7**	**-0.7**
	comp=N,1.8nm,0.3s,baz=93,slow=9.6,SNR=9.5							
GEYT				S		**Sn**	**21 13 34.4**	**-5.2**
	comp=N,2.2nm,0.3s,baz=115,slow=17,SNR=8.8							
GYA0B	**ALIBECK ARRAY**	**11.93**	**273**	*e*Pn		**Pn**	**21 11 27.7**	**-0.7**
GYA0B				*e*Sn		**Sn**	**21 13 34.4**	**-5.2**
WMQ	**Urumqi**	**12.19**	**59**	*e*P		**Pn**	**21 11 31.8**	**0.0**
WMQ				sP		P	21 12 04.0	+24
WMQ				pmax	pmax			
	comp=N,20nm,1.7s							
KURBB	**Kurchatov Arra**	**12.85**	**15**	P		**Pn**	**21 11 37.8**	**-2.5**
	baz=227,slow=7.3,SNR=2.7							
KURK	**Kurchatov**	**12.96**	**15**	P		**Pn**	**21 11 37.8**	**-3.9**
PYUN	**Piuthan**	**13.05**	**139**	*e*P		Pn	21 11 39.0	-4.2
	comp=N,36nm,0.4s							
DANN	**Dangsing**	**13.26**	**136**	*e*P		Pn	21 11 41.4	-4.7
	comp=N,22nm,0.3s							
KOLN	**Koldanda**	**13.63**	**138**	*e*P		**Pn**	**21 11 47.0**	**-3.9**
AB31	**Akbulak array**	**14.53**	**323**	P		**Pn**	**21 12 00.5**	**-1.5**
	comp=N,7.4nm,0.5s,baz=131,slow=11,SNR=188							
ABKAR	**Akbulak array**	**14.53**	**323**	*e*Pn		**Pn**	**21 11 59.9**	**-2.1**
DMN	**Daman**	**14.59**	**134**	*e*P		**Pn**	**21 11 59.1**	**-4.1**
	comp=N,8.2nm,0.3s							
PKI	**Pulchoki**	**14.79**	**133**	*e*P		**Pn**	**21 12 02.0**	**-3.8**
	comp=N,20nm,0.7s							
GUN	**Gumba**	**14.81**	**131**	*e*P		Pn	21 12 01.4	-4.7
	comp=N,12nm,0.4s							
BVAR	**Borovoye Array**	**14.83**	**353**	P		**Pn**	**21 12 04.3**	**-1.6**
	comp=N,0.1nm,0.3s,baz=164,slow=12,SNR=18							
BRVK	**Borovoye**	**14.88**	**353**	*e*Pn		**Pn**	**21 12 04.9**	**-1.4**
BRVK	**Borovoye**	**14.88**	**353**	⇓*e*P		**Pn**	**21 12 04.7**	**-1.7**
JIRN	**Jiri**	**15.18**	**131**	*e*P		**Pn**	**21 12 06.8**	**-4.0**
	comp=N,18nm,0.4s							
RAMN	**Ramite**	**15.95**	**131**	*e*P		**Pn**	**21 12 14.7**	**-5.6**
AKTO	**Aktyubinsk**	**16.24**	**323**	P		**Pn**	**21 12 23.3**	**-0.2**
	comp=N,1.0nm,0.3s,baz=131,slow=12,SNR=33							
AKTO				S		**Sn**	**21 15 16.1**	**-7.4**
	comp=N,0.2nm,0.3s,baz=27,slow=22,SNR=2.6							
AKTO	**Aktyubinsk**	**16.24**	**323**	⇓P		**Pn**	**21 12 23.2**	**-0.2**
	comp=N,12nm,0.6s							
ZALV	**Zalesovo Beam**	**17.52**	**23**	P		**P**	**21 12 38.0**	**-0.6**
	comp=N,0.2nm,0.3s,baz=223,slow=10,SNR=6.0							
ZALV				pP		**pP**	**21 13 00.5**	**+1.1**
	comp=N,0.2nm,0.3s,baz=219,slow=12,SNR=2.5							
ZALV	**Zalesovo Beam**	**17.52**	**23**	*e*P		**P**	**21 12 37.5**	**-1.1**
ZALV	**Zalesovo Beam**	**17.52**	**23**	*e*P		**Pn**	**21 12 38.5**	**-0.5**
WSAR	**Wadi Sarin**	**19.56**	**224**	LR		LR	21 21 00.3	
	comp=N,34nm,18.2s,baz=308,slow=37							
SHL	**Shillong**	**20.24**	**124**	*e*P		**P**	**21 13 08.6**	**-0.1**
	comp=N,6.4nm,0.9s							
SHL	**Shillong**	**20.24**	**124**	*e*P		**P**	**21 13 08.6**	**-0.1**
SHL				pmax	pmax			
	comp=Z,6.0nm,0.9s							
SVE	**Sverdlovsk**	**20.31**	**340**	*e*P		**P**	**21 13 09.3**	**+0.4**
SVE				pmax	pmax			
	comp=Z,10.0nm,0.9s							
ARU	**Arti**	**20.58**	**336**	*e*P		**P**	**21 13 12.4**	**+0.5**
	comp=Z,8.8nm,0.8s							
ARU	**Arti**	**20.58**	**336**	*d* iP		**P**	**21 13 12.7**	**+0.8**
ARU							21 13 45.9	
ARU				S		**S**	**21 16 57.1**	**+1.2**
ARU				SS		Sn	21 17 35.3	+28
ARU				pmax	pmax			
	comp=Z,10.0nm,0.9s							
GTA	**Gaotai**	**20.69**	**79**	*e*P		Pn	21 13 16.0	-0.7
KNGR	**Kungurtug, Tuv**	**21.11**	**47**	⇓*i*P		**P**	**21 13 21.6**	**+3.8**
KBZ	**Khabaz**	**23.45**	**293**	P		**P**	**21 13 42.6**	**+1.2**
	comp=Z,1.2nm,0.9s,baz=122,slow=13,SNR=1.8							
NEY	**Neytrino**	**23.56**	**292**	⇓*e*P		**P**	**21 13 41.5**	**-1.2**
NEY				pmax	pmax			
	comp=Z,6.0nm,1.4s							
KIV	**Kislovodsk**	**23.62**	**294**	*e*P		**P**	**21 13 42.5**	**-0.6**
KIV				pmax	pmax			
	comp=Z,9.0nm,1.0s							
LZH	**Lanzhou**	**24.41**	**86**	*e*P		**P**	**21 13 52.5**	**+2.1**
LZH				pP	pP		21 14 14.5	-0.2
LZH				sP	sP		21 14 26.8	-1.3
LZH				PP		**PnPn**	**21 14 34.0**	**+6.3**
LZH				pmax	pmax			
	comp=Z,28nm,1.0s							
LZH				pmax	pmax			
	comp=Z,120nm,5.3s							
SONM	**Songino Array**	**25.83**	**58**	P		**P**	**21 14 04.3**	**+1.2**
	comp=Z,0.7nm,1.0s,baz=253,slow=10,SNR=2.9							
SONM				pP		**pP**	**21 14 30.3**	**+2.5**
	comp=Z,0.8nm,0.9s,baz=263,slow=6.7,SNR=4.1							
SONM				sP		**sP**	**21 14 44.6**	**+3.8**
	comp=Z,1.9nm,0.9s,baz=256,slow=5.8,SNR=6.6							
CMAR	**Chiang Mai Arr**	**29.88**	**124**	P		P	21 14 44.4	+5.1
	comp=Z,0.2nm,0.4s,baz=305,slow=9.5,SNR=3.4							
FINES	**FINESS Array B**	**37.01**	**324**	P		**P**	**21 15 41.0**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=123,slow=10,SNR=4.7							
FINES	**FINESS Array B**	**37.01**	**324**	*e*P		**P**	**21 15 42.5**	**+1.9**
FINES				pmax	pmax			
	comp=Z,4.0nm,1.2s							
ARCES	**ARCESS Array B**	**40.17**	**336**	P		**P**	**21 16 07.6**	**+0.6**
	comp=Z,2.3nm,0.9s,baz=115,slow=10,SNR=4.1							
ARCES	**ARCESS Array B**	**40.17**	**336**	*e*P		**P**	**21 16 08.8**	**+1.8**
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.9s							
TIXI	**Tiksi**	**43.41**	**22**	P		**P**	**21 16 33.0**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=240,slow=6.2,SNR=6.4							
TIXI	**Tiksi**	**43.41**	**22**	P		**P**	**21 16 33.0**	**-0.2**
TIXI				pmax	pmax			
	comp=Z,1.0nm,0.4s							
NOA	**NORSAR Array B**	**44.03**	**322**	*e*P		**P**	**21 16 38.0**	**-0.4**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**67.55**	**269**	P		**P**	**21 19 27.3**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=49,slow=5.7,SNR=5.1							
YKA	**Yellowknife Ar**	**79.32**	**4**	P		**P**	**21 20 35.5**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=350,slow=5.0,SNR=6.1							

*IDC **25** 21:22:35.3±1.3, 11.65°×118.50°E, h0km, mb3.8/3, mb1 3.8/7, mb1mx3.6/36, mbtmp3.8/7, ML3.5/4, MS2.9/3, Ms1 2.9/3, ms1mx2.7/31, Error ellipse: s-maj=39.2km s-min=21.4km az=53.0*

*ISCJB **25** 21:22:38.5±1.0, 11.67S±0.08×118.80E±0.07, h35km, mb3.8/3, MS3.6/1, Error ellipse: s-maj=12.1km s-min=9.0km az=41.3*

ISC 25 21:22:40.7±1.3, 11.70S±0.09×118.8E±0.1, h35km, n9, σ2s23/11, mb3.9/3, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.00**	**73**	Pn		**Pn**	**Pn**	**21 23 55.6**	**+2.2**
	8.4nm,0.3s,baz=250,slow=15,SNR=17								
BATI				Sn		**Sn**	**Sn**	**21 24 49.5**	**-0.6**
	4.7nm,0.3s,baz=243,slow=9.0,SNR=2.1								
BATI				LR		LR	LR	21 25 49.1	
	comp=Z,38nm,21.6s,baz=234,slow=37								
FITZ	**Fitzroy Crossi**	**9.18**	**135**	Pn		**Pn**	**Pn**	**21 24 52.6**	**+1.9**
	0.3nm,0.3s,baz=318,slow=15,SNR=20								
FITZ				Sn		**Sn**	**Sn**	**21 26 33.1**	**+0.3**
	0.8nm,0.3s,baz=175,slow=19,SNR=5.4								
LEM	**Lembang**	**12.04**	**293**	LR		LR	LR	21 30 13.6	
	comp=Z,53nm,18.3s,baz=250,slow=39								
WRA	**Warramunga Arr**	**17.05**	**121**	P		**P**	**P**	**21 26 37.7**	**-0.3**
	0.1nm,0.3s,baz=296,slow=13,SNR=4.7								
WRA				S		**Sn**	**Sn**	**21 29 41.3**	**-3.8**
	0.2nm,0.3s,baz=306,slow=28,SNR=4.9								
ASAR	**Alice Springs**	**18.66**	**132**	P		**Pn**	**Pn**	**21 26 58.4**	**+2.1**
	0.1nm,0.3s,baz=310,slow=11,SNR=4.4								
ASAR				S		**Sn**	**Sn**	**21 30 21.1**	**-3.0**
	0.1nm,0.3s,baz=302,slow=23,SNR=4.2								
NWAO	**Narrogin (SRO)**	**21.18**	**184**	P		**P**	**P**	**21 27 22.6**	**-0.5**
	4.6nm,0.7s,baz=356,slow=18,SNR=4.0								
NWAO				S		S	S	21 31 02.7	-14
	4.5nm,0.3s,baz=139,slow=20,SNR=7.8								
MKAR	**Makanchi Array**	**66.76**	**334**	P		**P**	**P**	**21 33 27.8**	**-0.7**
	0.4nm,0.4s,baz=140,slow=7.6,SNR=9.7								
ZALV	**Zalesovo Beam**	**71.48**	**340**	P		**P**	**P**	**21 33 56.2**	**-1.4**
	0.4nm,0.4s,baz=155,slow=4.8,SNR=2.1								
GNI	**Garni**	**75.12**	**312**	LR		LR	LR	22 16 48.0	
	comp=Z,27nm,19.7s,baz=342,slow=38								

*IDC **25** 21:23:32.6±7.7, 20.44S×179.01W, h620km±81km, mb3.4/9, mb1 3.4/10, mb1mx3.1/49, mbtmp4.4/10, Error ellipse: s-maj=59.5km s-min=20.7km az=57.0*

*ISCJB **25** 21:23:33.3±2.2, 20.5S±0.3×179.1W±0.3, h645km, mb3.8/9, Error ellipse: s-maj=45.1km s-min=26.7km az=140.4*

ISC 25 21:23:34.1±1.2, 20.7S±0.2×179.0W±0.2, h645km, n16, σ1s37/17, mb4.0/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.66**	**262**	P		**P**	**P**	**21 26 28.7**	**+0.4**
	0.2nm,0.3s,baz=94,slow=19,SNR=3.7								
URZ	**Urewera**	**17.83**	**190**	P		**P**	**P**	**21 27 02.9**	**-3.2**
	1.0nm,0.3s,baz=302,slow=3.1,SNR=6.7								
CTA	**Charters Tower**	**32.57**	**265**	P		**P**	**P**	**21 29 15.8**	**+0.4**
	2.3nm,0.5s,baz=85,slow=15,SNR=3.7								
STKA	**Stephens Creek**	**36.89**	**244**	P		**P**	**P**	**21 29 51.5**	**+0.6**
	0.5nm,0.2s,baz=75,slow=19,SNR=2.5								
JAY	**Jayapura**	**43.25**	**289**	P		**P**	**P**	**21 30 39.9**	**-1.7**
	7.4nm,0.7s,baz=95,slow=9.6,SNR=4.3								
ASAR	**Alice Springs**	**43.59**	**257**	P		**P**	**P**	**21 30 43.9**	**-0.2**
	3.8nm,0.5s,baz=93,slow=7.6,SNR=35								
ASAR				PcP		**PcP**	**PcP**	**21 32 17.1**	**+0.6**
	0.6nm,0.5s,baz=104,slow=3.8,SNR=4.7								
WRA	**Warramunga Arr**	**43.68**	**262**	P		**P**	**P**	**21 30 44.2**	**-0.6**
	2.6nm,0.3s,baz=97,slow=7.5,SNR=34								
FITZ	**Fitzroy Crossi**	**52.10**	**263**	P		**P**	**P**	**21 31 47.4**	**+0.3**
	2.1nm,0.6s,baz=20,slow=3.2,SNR=6.3								
SIJI	**Sorong**	**52.41**	**286**	P		**P**	**P**	**21 31 49.4**	**+0.1**
	13nm,0.8s,baz=179,slow=19,SNR=4.7								
VNDA	**Vanda**	**57.64**	**185**	P		**P**	**P**	**21 32 26.5**	**+2.1**
	1.6nm,0.5s,baz=288,slow=18,SNR=18								
CMAR	**Chiang Mai Arr**	**89.33**	**290**	P		**P**	**P**	**21 35 25.5**	**+1.3**
	0.8nm,0.9s,baz=125,slow=3.0,SNR=5.2								
ARCES	**ARCESS Array B**	**128.94**	**349**	PKP		**PKPdf**	**PKPdf**	**21 41 29.5**	**+0.1**
	0.7nm,0.5s,baz=11,slow=1.2,SNR=7.7								
FINES	**FINESS Array B**	**135.70**	**343**	PKP		**PKPdf**	**PKPdf**	**21 41 42.6**	**+0.3**
	1.1nm,0.9s,baz=58,slow=3.4,SNR=3.7								
AKASG	**Malin Array Be**	**142.74**	**330**	PKP		**PKPdf**	**PKPdf**	**21 41 53.2**	**-2.3**
	2.7nm,0.4s,baz=43,slow=4.4,SNR=18								
BRTR	**Keskin Array B**	**146.29**	**312**	PKPbc		**PKPbc**	**PKPbc**	**21 42 04.9**	**+0.3**
	0.7nm,0.5s,baz=109,slow=3.5,SNR=5.3								
GERES	**GERESS Array B**	**150.13**	**343**	PKPbc		**PKPbc**	**PKPbc**	**21 42 14.1**	**+0.3**
	0.5nm,0.5s,baz=325,slow=6.8,SNR=5.5								

*DDA **25** 21:24:44.9, 37.92N×37.99E, h10km±4km, ML3.5*

*ISK **25** 21:24:44.1, 37.93N×37.97E, h5km, ML3.2/18*

ISC 25 21:24:45.8±1.0, 37.91N±0.02×37.95E±0.02, h11km±9km, n34, σ0s89/52, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.39**	**357**	*i* P		**Pg**		**21 24 53.7**	**+0.1**
ATAB	**Bozova**	**0.52**	**147**	IAML_P					
	comp=Z,14μm,0.1s								
ATAB				*i* P		**Pb**		**21 24 56.1**	**-0.7**
ATAB				*i* S		**Sb**		**21 25 03.3**	**-1.0**
GZT	**Gaziantep**	**0.63**	**209**	IAML_P					
	comp=Z,7μm,0.2s								
GZT				*i* P		**Pb**		**21 24 58.3**	**-0.5**
GZT				*i* S		**Sg**		**21 25 06.9**	**+0.6**
DARE	**Darende-Malaty**	**0.76**	**331**	PG		**Pg**		**21 24 59.8**	**-0.7**
DARE				SG		**Sg**		**21 25 10.4**	**0.0**
ELBS	**KAHRAMANMARAS**	**0.77**	**303**	IAML_P					
	comp=Z,2μm,0.2s								
ELBS				*i* P		**Pg**		**21 25 00.5**	**-0.1**
ELBS				*i* S		**Sb**		**21 25 11.7**	**0.0**
URFA	**Urfa**	**0.83**	**123**	PG		**Pg**		**21 25 01.3**	**-0.6**
URFA				SG		**Sb**		**21 25 13.9**	**+0.4**
KMRS	**Kahramanmaras**	**0.92**	**245**	PG		**Pg**		**21 25 02.9**	**-0.6**
KMRS				SG		**Sn**		**21 25 17.5**	**-0.4**
GAZ	**Gaziantep**	**0.94**	**219**	PG		**Pg**		**21 25 03.5**	**-0.3**
GAZ				SG		**Sn**		**21 25 18.3**	**0.0**
CUGUR	**Gurin_SVAS**	**0.97**	**327**	*i* S		**Sn**		**21 25 18.3**	**-1.1**
CUGUR				*i* P		**Sn**		**21 25 19.2**	**-0.1**
SANL	**SANLIURFA_Merk**	**1.11**	**131**	IAML_P					
	comp=Z,13μm,0.2s								
SANL				*i* P		**Pb**		**21 25 06.4**	**-0.5**
SANL				*i* S		**Sn**		**21 25 21.8**	**-0.6**
SURC	**SANLIURFA_SURC**	**1.15**	**152**	IAML_P					
	comp=Z,2μm,0.2s								
SURC				*i* P		**Pn**		**21 25 07.7**	**-0.1**
SURC				*i* S		**Sn**		**21 25 23.6**	**0.0**
ANDN	**Andirin**	**1.31**	**256**	IAML_P					
	comp=Z,6μm,0.3s								
ANDN				*i* P		**Pb**		**21 25 10.4**	**0.0**
ANDN				*i* S		**Sg**		**21 25 30.0**	**+2.0**
KUZU	**Kuzuini**	**1.33**	**212**	*i* P		**Pg**		**21 25 11.6**	**+0.3**
KEMA	**Kemaliye**	**1.43**	**17**	IAML_P					
	comp=Z,4μm,0.3s								
KEMA				*i* P		**Pb**		**21 25 11.9**	**-0.5**
KEMA				*i* S		**Sg**		**21 25 32.1**	**+0.3**
CUKAN	**kangal_SIVAS**	**1.46**	**345**	*i* P		**Pg**		**21 25 13.2**	**-0.6**
CUKAN				*i* S		**Sg**		**21 25 32.2**	**-0.6**
SAIM	**ADANA**	**1.48**	**273**	IAML_P					
	comp=Z,6μm,0.2s								
SAIM				*i* P		**Pg**		**21 25 13.6**	**-0.5**
SAIM				*i* S		**Sg**		**21 25 33.0**	**-0.3**
PTK	**Pertek**	**1.50**	**49**	PN		**Pb**		**21 25 12.9**	**-0.9**
PTK				SN		**Sg**		**21 25 33.9**	**-0.3**
CUALT	**Altinyayla-SIV**	**1.66**	**326**	*i* P		**Pg**		**21 25 17.2**	**-0.3**
CUALT				*i* S		**Sg**		**21 25 40.1**	**+1.0**
KOZT	**Kozan**	**1.73**	**257**	PN		**Pb**		**21 25 17.2**	**-0.4**
TNCL	**Tunceli-Merkez**	**1.74**	**46**	*i* P		**Pg**		**21 25 20.8**	**+1.6**
TNCL				*i* S		**Sg**		**21 25 40.9**	**-0.9**
BNN	**Bunyan**	**1.90**	**300**	PN		**Pb**		**21 25 19.4**	**-1.2**
CEYT	**Ceyhan**	**1.96**	**244**	PN		**Pb**		**21 25 20.3**	**-1.2**
CUZAR	**Zara_SIVAS**	**1.98**	**356**	*i* P		**Pb**		**21 25 22.0**	**+0.1**
CUZAR				*i* S		**Sn**		**21 25 42.9**	**-1.4**
CUSAR	**Sarkisla-SIVAS**	**2.02**	**319**	*i* P		**Pg**		**21 25 23.2**	**-1.3**
MAZI	**Mazidag**	**2.03**	**102**	PN		**Pn**		**21 25 20.5**	**+0.5**
TAHT	**Tahtakopru-Hat**	**2.08**	**223**	PN		**Pn**		**21 25 21.8**	**+1.3**
SVSK	**Karacayir**	**2.14**	**340**	PN		**Pn**		**21 25 22.2**	**+0.8**
SVAN	**Silvan-Diyarba**	**2.58**	**84**	PN		**Pn**		**21 25 28.0**	**+0.5**
TOKT	**Tokat**	**2.65**	**336**	PN		**Pn**		**21 25 29.7**	**+1.3**
YOZ	**Yozgat**	**2.69**	**311**	PN		**Pn**		**21 25 30.5**	**+1.5**
BAYT	**Aydintepe-Bayb**	**3.01**	**34**	PN		**Pn**		**21 25 34.5**	**+0.9**
ESPY	**Espiye-Giresun**	**3.07**	**11**	PN		**Pn**		**21 25 36.0**	**+1.9**
SIRT	**Sirnak**	**3.58**	**95**	PN		**Pn**		**21 25 42.6**	**+1.3**
AKDM	**Akdamar-Van**	**3.99**	**82**	PN		**Pn**		**21 25 48.5**	**+1.5**

MEX 25 21:26:32.0±0.5, 16.36N×98.14W, h20km±5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.04**	**19**	*i* P		Pb		21 26 34.6	-1.0
PNIG				*e*S		Sb		21 26 36.9	-1.2

*ISCJB **25** 22:12:02.2±0.6, 21.45S±0.03×68.76W±0.1, h146km±7km, Error ellipse: s-maj=15.4km s-min=4.9km az=3.1*

*GUC **25** 22:12:02.9±0.7, 21.44S×68.48W, h135km±4km, ML3.3*

*IDC **25** 22:12:06.1±9.1, 21.25S×68.57W, h169km±65km, mb3.3/3, mb1 3.4/4, mb1mx3.2/17, mbtmp3.8/4, Error ellipse: s-maj=84.0km s-min=29.4km az=18.0*

ISC 25 22:12:02.7±0.9, 21.45S±0.04×68.6W±0.1, h140km±9km, n17, σ0s53/31, 7C-5D, Chile-Bolivia border region

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

comp=E,1μm,0.3s
YOA Uoyan 1.13 37 *e*PG Pg 22 18 10.9 -0.7
YOA *i* 22 18 26.6
YOA pmax pmax
comp=Z,289nm,0.2s
YOA smax smax
comp=E,1μm,0.3s
SYVR Suvo 1.60 191 ⇓*i*Pg Pn 22 18 19.4 -0.1
SYVR *e*Sg Sn 22 18 40.9 0.0
SYVR Pmax
comp=E,29nm,0.2s
SYVR Smax
comp=E,166nm,0.6s
UKT Uakit 1.79 80 ⇑*i*Pg Pn 22 18 21.6 -0.6
UKT *e*Sg Sn 22 18 45.3 -0.4
UKT Pmax
comp=E,98nm,0.2s
UKT Smax
comp=E,355nm,0.4s
UKT Uakit 1.79 80 ⇑*i*PN Pn 22 18 21.6 -0.6
UKT *e* 22 18 44.7
UKT pmax pmax
comp=Z,97nm,0.2s
UKT smax smax
comp=N,360nm,0.4s
SVKR Severomuysk 1.94 61 *e*Pg Pn 22 18 24.6 +0.5
SVKR *e* 22 18 30.1
SVKR *e*Sg Sb 22 18 50.4 -0.4
SVKR Pmax
comp=N,83nm,0.2s
SVKR Smax
comp=N,908nm,0.4s
SVKR Severomuysk 1.94 61 *e*PN Pn 22 18 24.5 +0.4
SVKR *e* 22 18 50.5
SVKR pmax pmax
comp=Z,193nm,0.4s
SVKR smax smax
comp=N,1μm,0.8s
MXMB Maximikha 2.23 209 *e*Pn Pn 22 18 26.5 -1.6
MXMB *e*Pg Pb 22 18 29.7 -1.3
MXMB *e*Sg Sb 22 18 59.6 +0.4
OGRR Ongureny 2.33 228 *e*Pn Pn 22 18 30.3 +0.8
OGRR *e*Pg Pb 22 18 32.8 0.0
OGRR *e*Sn Sn 22 18 57.5 -1.4
OGRR *e*Sg Sb 22 19 02.7 +0.5
OGRR Pmax
comp=N,16nm,0.3s
OGRR Smax
comp=N,141nm,0.4s
NLYR Nelyaty 3.18 64 *e*Pn Pn 22 18 40.8 -0.4
NLYR *e*Pg Pb 22 18 46.2 -1.1
NLYR *e*Sn Sn 22 19 17.1 -2.7
NLYR *e*Sg Sb 22 19 27.8 +1.2
NLYR Pmax
comp=N,23nm,0.5s
NLYR Smax
comp=N,109nm,0.8s
BOD Bodaibo 3.23 35 *e*Pn Pn 22 18 40.3 -1.6
BOD *e*Pg Pb 22 18 48.5 +0.4
BOD *e*Sn Sn 22 19 17.7 -3.3
BOD *e*Sg Sb 22 19 28.6 +0.6
BOD Pmax
comp=N,6.0nm,0.2s
BOD Smax
comp=N,73nm,0.3s
ZRHB Zarechye 3.34 218 *e*Pg Pb 22 18 50.2 +0.2
ZRHB *e*Sg Sg 22 19 34.4 -2.7
ZRHB Pmax
comp=N,23nm,0.5s
ZRHB Smax
comp=N,151nm,0.6s
TRTB Turuntaevo 3.46 211 *e*Pn Pn 22 18 44.9 -0.1
TRTB *e*Pg Pb 22 18 51.9 -0.1
TRTB *e*Sn Sn 22 19 24.2 -2.5
TRTB *e*Sg Sb 22 19 37.2 +2.6
TRG Tyrgan 3.49 227 *e*Pn Pn 22 18 45.3 -0.1
TRG *e*Pg Pb 22 18 51.2 -1.3
TRG *e*Sn Sn 22 19 25.8 -1.7
TRG *e*Sg Sb 22 19 37.3 +1.8
TRG Pmax
comp=N,8.0nm,0.3s
TRG Smax
comp=N,52nm,0.4s
CIT Chita 3.69 149 *e*Sg Sb 22 19 44.4 +3.3
CIT Smax
comp=N,117nm,0.3s
BGT Bolshoye Golou 4.41 226 *e*Pn Pn 22 18 58.0 0.0
BGT *e*Pg Pb 22 19 10.1 +1.9
BGT *e*Sg Sb 22 20 06.1 +4.3
BGT Pmax
comp=N,4.0nm,0.3s
BGT Smax
comp=N,38nm,0.7s
CRS Chara 4.65 66 *e*Pn Pn 22 19 01.5 +0.1
CRS *e*Pg Pb 22 19 14.3 +1.9
CRS *e*Sg Sb 22 20 13.4 +4.5
CRS Pmax
comp=N,34nm,1.1s
CRS Smax
comp=N,44nm,0.6s
CRS Chara 4.65 66 *e*PN Pb 22 19 13.7 +1.3
CRS *e* 22 20 13.1
CRS pmax pmax
comp=Z,34nm,0.6s
CRS smax smax
comp=E,44nm,0.7s
LSTR Listvyanka 4.78 228 *e*Pn Pn 22 19 01.7 -1.4
LSTR *e*Pg Pb 22 19 15.1 +0.6
LSTR *e*Sn Sn 22 19 55.2 -4.0
LSTR *e*Sg Sb 22 20 16.7 +4.2
LSTR *e* 22 20 24.1
LSTR Pmax
comp=E,2.0nm,0.1s
LSTR max
comp=E,31nm,1.1s
IVK Ivanovka 5.01 229 *e*Pn Pn 22 19 06.4 +0.2
IVK *e*Pg Pb 22 19 19.3 +0.9
IVK *e*Sn Sn 22 20 00.6 -4.2
IVK *e*Sg Sb 22 20 23.5 +4.5
IVK Pmax
comp=E,4.0nm,0.2s
IVK Smax
comp=E,27nm,0.5s
TLY Talaya 5.43 232 *e*Sg Sb 22 20 36.6 +5.3
TLY Smax
comp=E,29nm,0.7s
TUP Tupik 5.51 95 *e*Pn Pn 22 19 11.9 -1.3
TUP *e*Pg Pb 22 19 28.7 +1.7
TUP *e*Sg Sb 22 20 40.2 +6.6
TUP Pmax
comp=E,15nm,0.4s
TUP Smax
comp=E,74nm,0.5s
TUP Tupik 5.51 95 *e*PN Pn 22 19 11.7 -1.5
TUP *e* 22 19 28.4
TUP *e*S Sn 22 20 14.4 -2.9
TUP *e* 22 20 40.9
TUP pmax pmax
comp=Z,14nm,0.4s
TUP smax smax
comp=N,74nm,0.9s
KPC Khapcheranga 5.65 168 *e*Pn Pn 22 19 13.8 -1.3
KPC *e*Pg Pb 22 19 32.0 +2.6
KPC *e*Sn Sn 22 20 16.3 -4.4
KPC *e*Sg Sg 22 20 45.5 -5.8
KPC Pmax
comp=N,6.0nm,0.4s
KPC Smax
comp=N,56nm,0.9s
ARS Arshan 5.85 239 *e*Pn Pn 22 19 17.1 -0.8
ARS *e*Pg Pb 22 19 35.0 +2.2
ARS *e*Sn Sn 22 20 22.8 -2.9
ARS *e*Sg Sb 22 20 50.4 +7.0
ARS Pmax
comp=N,9.0nm,0.6s
ARS Smax
comp=N,101nm,1.0s
MOY Mondy 6.72 242 *e*Pn Pn 22 19 29.5 -0.3
MOY *e*Pg Pb 22 19 51.2 +3.7
MOY *e*Sn Sn 22 20 41.9 -5.1
MOY *e*Sg Sg 22 21 17.8 -7.6
MOY Pmax
comp=N,8.0nm,0.6s
MOY Smax
comp=N,31nm,1.0s
MOY Mondy 6.72 242 *e*PN Pn 22 19 29.7 -0.1
MOY *e* 22 19 50.4
MOY *e* 22 21 18.4
MOY pmax pmax
comp=Z,5.0nm,0.4s
MOY smax smax
comp=E,34nm,1.1s
ORL Orlik 6.88 251 *e*Pn Pn 22 19 31.8 -0.3
ORL *e*Sn Sn 22 20 47.5 -3.6
ORL *e*Sg Sg 22 21 23.2 -7.5
ORL Smax
comp=E,38nm,1.2s
ORL Orlik 6.88 251 *e*PN Pn 22 19 33.3 +1.2
ORL *e* 22 19 55.3
ORL *e* 22 21 24.6
ORL pmax pmax
comp=Z,5.0nm,1.0s
ORL smax smax
comp=N,37nm,1.3s
KNGR Kungurtug, Tuv 9.12 245 *e*Sg Sn 22 22 31.2 +45

*ISCJB **25** 22:21:07.2±0.9, 47°.9N±0°.2×146°.7E±0°.1, h483km, mb3.2/9, Error ellipse: s-maj=23.2km s-min=10.5km az=170.9*
*IDC **25** 22:21:07.6±1.8, 48°.15N×146°.65E, h458km±30km, mb2.8/9, mb1 3.0/11, mb1mx2.8/35, mbtmp3.7/11, Error ellipse: s-maj=43.2km s-min=14.1km az=176.0*
ISC 25 22:21:08.3±1.0, 47°.9N±0°.2×146°.62E±0°.10, h483km, n11, σ0°.77/12, mb3.3/9, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**4.70**	**218**	P	**P**	**22 22 31.0**	**-0.7**
	1.5nn,0.3s,baz=45,slow=5.7,SNR=3.2						
KLR	**Kul'dur**	**9.95**	**283**	P	**P**	**22 23 25.6**	**+0.8**
	0.2nn,0.3s,baz=71,slow=11,SNR=5.2						
KLR				S	**S**	**22 25 16.7**	**-0.5**
	0.0nn,0.3s,baz=43,slow=19,SNR=2.8						
ILAR	**Eielson Array**	**38.43**	**39**	P	**P**	**22 27 46.5**	**-0.6**
	0.9nn,0.6s,baz=254,slow=6.5,SNR=13						
MKAR	**Makanchi Array**	**42.46**	**293**	P	**P**	**22 28 20.3**	**+0.6**
	0.6nn,0.5s,baz=71,slow=6.9,SNR=9.3						
INK	**Inuvik**	**43.05**	**32**	P	**P**	**22 28 23.1**	**-0.8**
	0.8nn,0.3s,baz=293,slow=8.2,SNR=9.0						
KURBB	**Kurchatov Arra**	**43.10**	**300**	P	**P**	**22 28 24.6**	**0.0**
	0.4nn,0.5s,baz=74,slow=8.4,SNR=8.5						
BVAR	**Borovoye Array**	**46.67**	**306**	P	**P**	**22 28 51.7**	**-0.4**
	0.2nn,0.3s,baz=68,slow=8.2,SNR=3.0						
YKA	**Yellowknife Ar**	**52.60**	**35**	P	**P**	**22 29 34.9**	**-0.7**
	0.2nn,0.6s,baz=304,slow=7.4,SNR=6.8						
FINES	**FINESS Array B**	**61.03**	**332**	P	**P**	**22 30 33.5**	**-0.2**
	1.5nn,1.0s,baz=61,slow=4.8,SNR=4.3						
PDAR	**Pinedale Array**	**67.54**	**51**	P	**P**	**22 31 16.3**	**+0.5**
	0.8nn,0.9s,baz=246,slow=1.5,SNR=3.8						
TXAR	**Lajitas Array**	**80.66**	**56**	P	**P**	**22 32 31.6**	**+1.3**
	0.2nn,0.4s,baz=294,slow=4.1,SNR=6.5						

*ISCJB **25** 22:21:20.9±1.1, 6°.74N±0°.04×124°.05E±0°.04, h7km±7km, mb3.4/4, Error ellipse: s-maj=7.0km s-min=6.3km az=15.9*
*IDC **25** 22:21:20.4±1.4, 6°.76N×124°.40E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/38, mbtmp3.6/4, Error ellipse: s-maj=165.7km s-min=22.1km az=68.0*
*MAN **25** 22:21:22.1, 6°.83N×124°.08E, h4km, mb4.7, ML3.5, MS3.4*
ISC 25 22:21:21.8±1.6, 6.73N±0°.05×124°.10E±0°.04, h10km±10km, n16, σ1°.33/24, mb3.5/4, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKMP	**Bagumbayan, Su**	**0.49**	**116**	*e*P	**Pb**	**22 21 32.7**	**+0.2**
CTBH	**Cotabato--PC H**	**0.51**	**16**	⇑*i*P	**Pg**	**22 21 31.4**	**-0.3**
CTBH				*i* S	**Sg**	**22 21 37.5**	**-0.8**
GSPH	**General Santos**	**1.06**	**127**	*e*P	Pg	22 21 47.8	+5.6
GSPH				*e*S	Sn	22 22 05.7	+8.0
PAGZ	**Pagadian**	**1.32**	**327**	*e*P	**Pn**	**22 21 44.2**	**-2.1**
PAGZ				*e*S	**Sn**	**22 22 00.6**	**-3.3**
DMPH	**Davao City--Mi**	**1.44**	**76**	⇑*e*P	**Pb**	**22 21 49.0**	**+0.2**
DMPH				*e*S	**Sg**	**22 22 09.5**	**+1.4**
BUKP	**Musuan**	**1.48**	**40**	*e*P	**Pn**	**22 21 47.8**	**-0.8**
BUKP				*e*S	**Sb**	**22 22 07.5**	**-0.9**
ZCP	**Zamboanga City**	**2.02**	**276**	⇓*i*P	**Pn**	**22 21 55.7**	**-0.2**
ZCP				*i* S	**Sn**	**22 22 21.4**	**0.0**
MATI	**Mati**	**2.15**	**84**	*e*P	**Pn**	**22 21 58.2**	**+0.4**
MATI				*e*S	**Sn**	**22 22 21.5**	**-3.0**
BUTP	**Butuan**	**2.68**	**34**	*e*P	**Pn**	**22 22 04.9**	**-0.2**
SNPH	**Sibulan**	**2.73**	**342**	*e*P	**Pn**	**22 22 07.0**	**+1.2**
SNPH				*e*S	**Sn**	**22 22 39.8**	**+0.9**
MSLP	**Maasin**	**3.46**	**12**	*e*P	**Pn**	**22 22 16.1**	**+0.3**
MSLP				*e*S	**Sn**	**22 22 58.0**	**+1.1**
LLP	**Lapu-Lapu**	**3.56**	**358**	*e*P	**Pn**	**22 22 17.0**	**-0.2**
LLP				*e*S	**Sb**	**22 23 09.2**	**+0.9**
WRA	**Warramunga Arr**	**28.36**	**159**	P	**P**	**22 27 15.8**	**-0.6**
	0.7nn,0.5s,baz=341,slow=9.7,SNR=6.2						
ASAR	**Alice Springs**	**31.70**	**163**	P	**P**	**22 27 45.5**	**-0.4**
	0.3nn,0.5s,baz=340,slow=7.6,SNR=4.6						
SONM	**Songino Array**	**43.65**	**343**	P	**P**	**22 29 27.8**	**+1.0**
	0.6nn,0.8s,baz=153,slow=7.4,SNR=4.7						
MKAR	**Makanchi Array**	**53.61**	**325**	P	**P**	**22 30 44.2**	**+0.9**
	0.3nn,0.6s,baz=135,slow=6.0,SNR=2.9						

*ISCJB **25** 22:26:53.5±0.4, 24°.03N±0°.02×122°.42E±0°.02, h25km±3km, Error ellipse: s-maj=3.8km s-min=2.4km az=161.6*
*JMA **25** 22:26:53.1±0.2, 24°.01N×122°.44E, h18km±4km, M2.2*
*TAP **25** 22:26:53.7, 24°.02N×122°.42E, h27km, ML2.8, D*
ISC 25 22:26:53.2±1.1, 24°.02N±0°.03×122°.42E±0°.02, h23km±13km, n56, σ0°.53/92, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.59**	**333**	*i* P	**Pb**	**22 27 05.0**	**+0.2**
	baz=332						
EOS1				*e*S	**Sb**	**22 27 13.1**	**+0.3**
	baz=332						
JYNG	**Yonaguni jima**	**0.64**	**48**	P	**Pb**	**22 27 05.3**	**-0.4**
JYNG				S	**Sb**	**22 27 13.6**	**-0.7**
YOJ	**Yonaguni jima**	**0.69**	**51**	*e*P	**Pb**	**22 27 05.5**	**-1.1**
	baz=49						
YOJ	**Yonaguni jima**	**0.69**	**51**	P	**Pb**	**22 27 06.5**	**-0.1**
YOJ				*e*S	**Sb**	**22 27 15.1**	**-0.7**
ENA	**Nanau**	**0.74**	**303**	P	**Pb**	**22 27 07.8**	**+0.4**
	baz=303						
ENA				*e*S	**Sb**	**22 27 17.7**	**+0.5**
	baz=303						
TWD	**Chiawan**	**0.76**	**275**	*e*P	**Pb**	**22 27 07.9**	**+0.3**
	baz=274						
TWD				*e*S	**Sb**	**22 27 18.3**	**+0.7**
	baz=274						
NACB	**Ninganchiao**	**0.77**	**282**	*e*P	**Pb**	**22 27 08.2**	**+0.2**
	baz=281						
NACB				*e*S	**Sb**	**22 27 18.8**	**+0.8**
	baz=281						
TWC	**Suao**	**0.79**	**318**	P	**Pb**	**22 27 07.8**	**-0.3**
	baz=318						
TWC				*e*S	**Sb**	**22 27 17.4**	**-1.0**
	baz=318						
ESL	**Shilin**	**0.93**	**257**	*e*P	**Pn**	**22 27 11.2**	**+0.4**
	baz=256						
ESL				*e*S	**Sb**	**22 27 23.1**	**+0.5**
	baz=256						
EGS		**0.93**	**332**	*e*P	**Pn**	**22 27 10.9**	**+0.1**
	baz=331						
EGS				*e*S	**Sb**	**22 27 22.7**	**+0.1**
	baz=331						
TWE	**Neicheng**	**0.98**	**315**	P	**Pn**	**22 27 11.7**	**+0.2**
	baz=315						
TWE				S	**Sb**	**22 27 24.0**	**0.0**
	baz=315						
ENTT	**Nioudou**	**0.99**	**308**	*e*P	**Pn**	**22 27 12.0**	**+0.3**
	baz=308						
ENTT				*e*S	**Sb**	**22 27 24.8**	**+0.3**
	baz=308						
NDT	**Datong Townshi**	**1.01**	**305**	*e*P	**Pb**	**22 27 12.5**	**+0.5**
	baz=304						
NDT				*e*S	**Sb**	**22 27 24.9**	**0.0**
	baz=304						
NNS	**Nan Shan**	**1.04**	**294**	*e*P	**Pb**	**22 27 12.7**	**0.0**
	baz=293						
NNS				*e*S	**Sb**	**22 27 26.1**	**+0.1**
	baz=293						
HGSD	**Ruisui**	**1.05**	**240**	*e*P	**Pn**	**22 27 12.3**	**-0.3**
	baz=240						
HGSD				*e*S	**Sb**	**22 27 26.0**	**-0.1**
	baz=240						
TWB1	**Santiao Chiao**	**1.06**	**338**	*e*P	**Pn**	**22 27 12.3**	**-0.3**
	baz=338						
TWB1				*e*S	**Sb**	**22 27 26.4**	**+0.1**
	baz=338						
WHF	**Hehuan Shan**	**1.06**	**277**	*e*P	**Pn**	**22 27 12.9**	**-0.1**
	baz=276						
WHF				*e*S	**Sb**	**22 27 26.3**	**-0.5**
	baz=276						
TIPB	**Shuangxi**	**1.09**	**330**	*e*P	**Pb**	**22 27 13.3**	**-0.1**
	baz=330						
TIPB				*e*S	**Sb**	**22 27 27.1**	**-0.2**
	baz=330						
CHGB	**Renai**	**1.14**	**272**	*e*P	**Pn**	**22 27 14.2**	**+0.2**
	baz=271						
CHGB				*e*S	**Sb**	**22 27 28.5**	**-0.3**
	baz=271						
YHNB	**Yeheng**	**1.15**	**304**	*e*P	**Pn**	**22 27 14.3**	**+0.3**
	baz=303						
YHNB				*e*S	**Sb**	**22 27 28.4**	**-0.7**
	baz=303						
NSK	**Sanguang**	**1.17**	**304**	P	**Pb**	**22 27 14.6**	**-0.1**
	baz=303						
NSK				*e*S	**Sn**	**22 27 29.5**	**0.0**
	baz=303						
TDCB	**Techi**	**1.18**	**282**	*e*P	**Pn**	**22 27 14.4**	**0.0**
	baz=281						
TDCB				*e*S	**Sn**	**22 27 28.5**	**-1.3**
	baz=281						
NWF	**Wu-fen Shan**	**1.20**	**331**	*e*S	**Sb**	**22 27 30.4**	**+0.1**
	baz=330						
WFSB	**Wu-fen Shan**	**1.20**	**331**	*e*S	**Sn**	**22 27 30.1**	**0.0**
	baz=330						
VWDT	**VWDT**	**1.20**	**257**	*e*P	**Pn**	**22 27 14.7**	**+0.1**
	baz=257						
VWDT				*e*S	**Sn**	**22 27 30.2**	**0.0**
	baz=257						
YULB	**Yu-li**	**1.21**	**239**	*e*P	**Pn**	**22 27 14.7**	**+0.1**
	baz=238						
YULB				*e*S	**Sn**	**22 27 29.8**	**-0.5**
	baz=238						
TWA	**Mucha**	**1.22**	**322**	*e*P	**Pn**	**22 27 14.9**	**+0.1**
	baz=321						
TWA				*e*S	**Sn**	**22 27 30.8**	**+0.1**
	baz=321						
TWF1	**Yuli**	**1.23**	**237**	*e*P	**Pn**	**22 27 15.2**	**+0.3**
	baz=236						
TWF1				*e*S	**Sn**	**22 27 30.6**	**-0.2**
	baz=236						
IRIF	**Iriomote-Funau**	**1.23**	**75**	P	**Pb**	**22 27 15.5**	**-0.3**
IRIF				S	**Sb**	**22 27 32.2**	**+0.9**
HATJ	**Hateruma jima**	**1.27**	**88**	*e*S	**Sb**	**22 27 32.5**	**+0.3**
TATO	**Taipei**	**1.27**	**318**	*e*P	**Pb**	**22 27 16.5**	**0.0**
	baz=318						
SSLB	**Suanglung**	**1.36**	**260**	*e*P	**Pn**	**22 27 16.7**	**-0.1**
	baz=260						
SSLB				*e*S	**Sn**	**22 27 34.1**	**-0.1**
	baz=260						
WHP	**Taichung City**	**1.37**	**281**	*e*P	**Pb**	**22 27 18.5**	**+0.3**
	baz=278						
YM11	**YM11**	**1.38**	**326**	*e*P	**Pn**	**22 27 17.1**	**0.0**
	baz=325						
YM05	**YM05**	**1.38**	**326**	*e*P	**Pn**	**22 27 17.6**	**+0.5**
	baz=325						
YM04	**YM04**	**1.39**	**325**	*e*P	**Pn**	**22 27 17.1**	**0.0**
	baz=324						
YM08	**YM08**	**1.39**	**327**	*e*P	**Pn**	**22 27 17.7**	**+0.6**
	baz=326						
SMLT	**Sun Moon Lake**	**1.40**	**265**	*e*P	**Pn**	**22 27 16.8**	**-0.6**
	baz=264						
SMLT				*e*S	**Sn**	**22 27 34.8**	**-0.4**
	baz=264						
LIOB	**Emei**	**1.43**	**296**	*e*P	**Pn**	**22 27 18.2**	**+0.6**
	baz=295						
LIOB				*e*S	**Sn**	**22 27 35.5**	**-0.2**
	baz=295						
NSTT	**Nanjuang**	**1.43**	**295**	*e*P	**Pn**	**22 27 18.3**	**+0.6**
	baz=295						
TYC	**Yuchr**	**1.44**	**266**	*e*P	**Pn**	**22 27 18.6**	**+0.8**
	baz=265						
TYC				*e*S	**Sn**	**22 27 35.4**	**-0.5**
	baz=265						
JKRS	**Kuro-shima**	**1.47**	**81**	P	**Pb**	**22 27 19.3**	**-0.4**
JKRS				*e*S	**Sb**	**22 27 39.7**	**+1.7**
ELDTW	**Lidau**	**1.53**	**238**	*e*P	**Pn**	**22 27 19.3**	**0.0**
	baz=237						
ELDTW				*e*S	**Sn**	**22 27 37.6**	**-0.9**
	baz=237						
TWQ1	**Liyutan**	**1.54**	**283**	*e*P	**Pb**	**22 27 21.4**	**+0.4**
	baz=282						
JIJ	**Ishigaki jima**	**1.61**	**77**	P	**Pn**	**22 27 20.7**	**+0.6**
JIJ				*e*S	**Sn**	**22 27 40.3**	**+0.1**
PCYT	**Pengchaiyu**	**1.63**	**349**	*e*P	**Pn**	**22 27 20.6**	**+0.1**
	baz=348						
CHN5	**Tsauling**	**1.65**	**256**	*e*P	**Pn**	**22 27 21.6**	**+0.7**
	baz=255						
TWGBT	**Beinan**	**1.72**	**226**	*e*P	**Pn**	**22 27 21.9**	**+0.3**
	baz=225						
TWGBT				*e*S	**Sn**	**22 27 42.9**	**0.0**
	baz=225						
STYT	**Tauyuan**	**1.75**	**241**	*e*S	**Sn**	**22 27 43.4**	**-0.4**
	baz=240						
TPUB	**Ta-pu**	**1.79**	**247**	*e*P	**Pb**	**22 27 24.2**	**-1.2**
	baz=246						
TPUB				*e*S	**Sn**	**22 27 45.3**	**+0.5**
	baz=246						
CHN4	**Tsaushan**	**1.81**	**249**	*e*P	**Pb**	**22 27 24.3**	**-1.2**
	baz=248						
JISG	**Ishigakijimahi**	**1.81**	**72**	P	**Pn**	**22 27 23.0**	**0.0**
JISG				*e*S	**Sn**	**22 27 45.2**	**0.0**
WTP	**Ta-pu**	**1.83**	**245**	*e*P	**Pb**	**22 27 25.5**	**-0.5**
	baz=244						
CHN1	**Nanshi**	**1.93**	**245**	*e*P	**Pb**	**22 27 27.4**	**-0.2**
	baz=244						
SGST	**Jiashian**	**1.93**	**241**	*e*P	**Pb**	**22 27 27.0**	**-0.6**
	baz=240						
MASBT	**Mashibuluo**	**2.16**	**230**	*e*P	**Pn**	**22 27 29.3**	**+1.5**
	baz=229						

*DJA **25** 22:40:53.0±1.5, 10°N±10°×12°6E±°, h48km±16km, M5.1/12, mB5.3/7, mb5.0/12, MLv5.6/3, Mw(mB)4.7/7*
*BJI **25** 22:40:54.7, 9°.41N×126°.17E, h85km, mb4.6/41, mB5.0/23, Ms4.7/12, Ms7 4.5/10*
*ISCJB **25** 22:40:54.5±0.4, 9°.45N±0°.02×126°.20E±0°.04, h80km±3km, mb4.5/65, Error ellipse: s-maj=5.9km s-min=3.0km az=166.1*
*MAN **25** 22:40:54.2, 9°.46N×126°.18E, h26km, mb4.9, ML3.9, MS3.9*
*IDC **25** 22:40:55.4±1.9, 9°.47N×126°.11E, h73km±18km, mb4.2/24, mb1 4.3/27, mb1mx4.2/41, mbtmp4.5/27, MS3.3/16, Ms1 3.3/16, ms1mx3.2/39, Error ellipse: s-maj=20.0km s-min=9.0km az=83.0*
*NEIC **25** 22:40:57.0±0.6, 9°.44N×126°.12E, h89km±6km, mb4.7/31, Error ellipse: s-maj=7.6km s-min=3.7km az=76.0*
NEIC Felt at Madrid and Surigao.
ISC 25 22:40:55.9±0.8, 9°.46N±0°.03×126°.25E±0°.05, h79km±7km, n157, σ1°.66/175, mb4.7/71, 3C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.79**	**232**	*e*P	**Pn**	**22 41 08.2**	**-4.2**
MSLP	**Maasin**	**1.53**	**296**	*e*P	**Pn**	**22 41 19.5**	**-2.0**
MSLP				*e*S	**Sn**	**22 41 40.9**	**0.0**
BUKP	**Musuan**	**1.96**	**217**	*e*P	**Pn**	**22 41 25.6**	**-1.6**
BUKP				*e*S	**Sn**	**22 41 50.1**	**-1.0**
PLP	**Palo**	**2.11**	**324**	⇓*e*P	**Pn**	**22 41 27.0**	**-2.2**
PLP				*e*S	**Sn**	**22 41 55.1**	**+0.5**
OCLP	**Ormoc**	**2.26**	**315**	*e*P	**Pn**	**22 41 30.5**	**-0.8**
OCLP				*e*S	**Sn**	**22 41 57.2**	**-1.1**
BESP	**Borongan**	**2.28**	**340**	*e*P	**Pn**	**22 41 29.4**	**-2.0**
BESP				*e*S	**Sn**	**22 41 57.5**	**-1.1**
TBP	**Tagbilaran**	**2.37**	**276**	*e*P	**Pn**	**22 41 31.0**	**-1.6**
TBP				*i* S	**Sn**	**22 41 58.6**	**-2.2**
LLP	**Lapu-Lapu**	**2.41**	**291**	⇓*e*P	**Pn**	**22 41 31.7**	**-1.5**
LLP				*e*S	**Sn**	**22 41 59.8**	**-2.1**
DAV	**Davao City (W)**	**2.46**	**196**	P	**Pn**	**22 41 33.6**	**-0.3**
	162nm,0.3s,baz=327,slow=15,SNR=10						
DAV				S	**Sn**	**22 42 03.1**	**-0.1**
	243nm,0.3s,baz=295,slow=23,SNR=7.9						
DAV	**Davao City (W)**	**2.46**	**196**	*e*Pn	**Pn**	**22 41 34.3**	**+0.3**
DAV				S	**Sn**	**22 42 03.1**	**-0.1**
DMPH	**Davao City--Mi**	**2.47**	**197**	⇑*e*P	**Pn**	**22 41 33.0**	**-1.0**
DMPH				*e*S	**Sn**	**22 42 05.0**	**+1.7**
MATI	**Mati**	**2.49**	**180**	*e*P	**Pn**	**22 41 33.3**	**-1.1**

MATI					*e*S		**Sn**	**22 42 04.5**	**+0.6**
SNPH	**Sibulan**	**2.98**	**268**		*e*P		**Pn**	**22 41 40.1**	**-0.8**
SNPH					*e*S		**Sn**	**22 42 16.6**	**+0.9**
CTBH	**Cotabato--PC H**	**2.98**	**222**	ǁ	*e*P		**Pn**	**22 41 39.7**	**-1.2**
CTBH					*i* S		**Sn**	**22 42 11.9**	**-3.7**
DCPH	**Dipolog City**	**2.99**	**253**	ǁ	*e*P		**Pn**	**22 41 40.9**	**-0.2**
DCPH					*e*S		**Sn**	**22 42 14.3**	**-1.7**
PAGZ	**Pagadian**	**3.25**	**241**		*e*P		**Pn**	**22 41 43.9**	**-0.8**
PAGZ					*e*S		**Sn**	**22 42 20.9**	**-1.5**
DDMP	**Don Marcelino,**	**3.37**	**189**		*e*P		**Pn**	**22 41 44.7**	**-1.6**
DDMP					*e*S		**Sn**	**22 42 25.8**	**+0.5**
SKMP	**Bagumbayan, Su**	**3.37**	**210**		*e*P		**Pn**	**22 41 42.9**	**-3.4**
CNP	**Catarman**	**3.41**	**333**		*e*P		**Pn**	**22 41 44.3**	**-2.5**
CNP					*e*S		**Sn**	**22 42 26.0**	**-0.2**
GUIM	**Jordan**	**3.79**	**288**		*e*P		**Pn**	**22 41 50.5**	**-1.5**
RCP	**Roxas**	**4.03**	**302**	ǁ	*e*P		**Pn**	**22 41 54.8**	**-0.4**
JAP	**San Jose, Anti**	**4.43**	**287**	ǁ	*e*P		**Pn**	**22 42 01.3**	**+0.7**
PVCP	**Virac**	**4.60**	**334**		*e*P		**Pn**	**22 42 01.5**	**-1.4**
OTRP	**Odiongan**	**5.06**	**305**		*e*P		**Pn**	**22 42 07.5**	**-1.7**
SGSI	**Sangihe**	**5.78**	**187**		P		**Pn**	**22 42 19.2**	**+0.1**
TGY	**Tagaytay City**	**6.96**	**312**		P		**Pn**	**22 42 36.2**	**+1.0**
	54nm,0.3s,baz=193,slow=10.0,SNR=5.3								
TGY					LR		LR	22 45 40.1	
	comp=Z,328nm,19.5s,baz=116,slow=42								
TNTI	**Ternate**	**8.70**	**173**		P		**Pn**	**22 42 59.4**	**+0.4**
MRSI	**Marisa**	**9.90**	**206**		P		**Pn**	**22 43 15.8**	**+0.5**
LUWI	**Luwuk**	**10.99**	**199**		*e*Pn		**Pn**	**22 43 31.1**	**+0.8**
LUWI	**Luwuk**	**10.99**	**199**		P		**Pn**	**22 43 31.0**	**+0.8**
APSI	**Ampana**	**11.27**	**204**		P		**Pn**	**22 43 36.0**	**+1.9**
SIJI	**Sorong**	**11.41**	**154**		P		**Pn**	**22 43 33.9**	**-2.1**
	2.9nm,0.3s,baz=306,slow=2.0,SNR=8.0								
SIJI					S		**Sn**	**22 45 32.8**	**-8.9**
	0.7nm,0.3s,baz=342,slow=19,SNR=3.1								
SANI	**Sanana**	**11.43**	**181**		P		**Pn**	**22 43 32.6**	**-3.7**
FAKI	**Fak Fak**	**13.67**	**154**		*e*Pn		**Pn**	**22 44 06.4**	**0.0**
YULB	**Yu-li**	**14.65**	**342**		*e*Pn		**Pn**	**22 44 20.1**	**+1.1**
TPUB	**Ta-pu**	**14.78**	**339**		*e*Pn		**Pn**	**22 44 20.6**	**-0.2**
SSLB	**Suanglung**	**15.12**	**341**		*e*Pn		**Pn**	**22 44 26.4**	**+1.2**
	23nm,0.9s								
SBUM	**Sibu**	**15.59**	**244**		*e*Pn		**P**	**22 44 37.8**	**+4.0**
	10nm,0.7s								
JOW	**Kunigami**	**17.39**	**6**		P		**Pn**	**22 44 53.1**	**-0.3**
	1.1nm,0.3s,baz=210,slow=20,SNR=3.5								
JOW					LR		LR	22 51 46.7	
	comp=Z,39nm,18.1s,baz=152,slow=37								
QIZ	**Qiongzhong**	**18.52**	**303**		*e*Pn		**Pn**	**22 45 07.3**	**+0.1**
GUMO	**Guam**	**18.70**	**76**		LR		LR	22 51 09.5	
	comp=Z,57nm,21.0s,baz=130,slow=33								
BATI	**Baumata**	**19.70**	**188**		P		**Pn**	**22 45 20.6**	**-0.6**
	6.9nm,0.3s,baz=86,slow=3.2,SNR=5.2								
BATI					LR		LR	22 54 17.1	
	comp=Z,54nm,18.6s,baz=312,slow=41								
BATI	**Baumata**	**19.70**	**188**		P		**Pn**	**22 45 24.2**	**+3.0**
SSE	**Sheshan**	**22.04**	**348**		*e*P		**P**	**22 45 44.6**	**+0.5**
NJ2	**Nanjing**	**23.51**	**344**		*e*P		**P**	**22 45 59.0**	**+0.2**
NJ2					pmax		pmax		
	comp=Z,16nm,0.5s								
JNU	**Nakatsue**	**23.94**	**10**		P		**P**	**22 46 01.1**	**-1.6**
	24nm,1.0s,baz=247,slow=7.7,SNR=4.6								
JNU					LR		LR	22 54 00.4	
	comp=Z,78nm,20.9s,baz=117,slow=33								
CHAI	**Chaiyaphum**	**24.51**	**288**		P		**P**	**22 46 09.0**	**+0.9**
	5.2nm,0.7s								
LEM	**Lembang**	**24.62**	**230**		LR		LR	22 56 58.3	
	comp=Z,87nm,19.2s,baz=200,slow=39								
GYA	**Guiyang**	**25.10**	**315**		P		**P**	**22 46 14.0**	**+0.5**
GYA					pP		pP	22 46 32.8	+1.1
GYA					PP		**PnPn**	**22 46 55.0**	**+3.4**
GYA					S		**S**	**22 50 30.3**	**-2.3**
GYA					SS		**SnSn**	**22 51 35.3**	**+5.0**
GYA					pmax		pmax		
	comp=Z,20nm,0.8s								
GYA					pmax		pmax		
	comp=Z,120nm,5.2s								
GYA					LR		LR		
	comp=N,510nm,17.0s								
GYA					LR		LR		
	comp=E,480nm,17.2s								
GYA					LR		LR		
	comp=Z,520nm,17.5s								
UTTA	**Uttaradit**	**26.27**	**291**		P		**P**	**22 46 28.4**	**+4.4**
	1.5nm,0.8s								
JHJ	**Hachijo jima 2**	**26.66**	**26**		LR		LR	22 57 53.5	
	comp=Z,482nm,18.6s,baz=72,slow=38								
UTHA	**Uthaitani**	**26.85**	**286**		P		**P**	**22 46 33.5**	**+4.3**
	2.7nm,0.8s								
KMI	**Kunming**	**27.25**	**308**		P		**P**	**22 46 31.5**	**-1.6**
KMI					pP		pP	22 46 50.5	-0.9
KMI					pmax		pmax		
	comp=Z,7.0nm,1.7s								
KMI					pmax		pmax		
	comp=Z,110nm,5.1s								
KMI					LR		LR		
	comp=N,96nm,18.7s								
KMI					LR		LR		
	comp=E,150nm,20.2s								
FITZ	**Fitzroy Crossi**	**27.39**	**181**		P		**P**	**22 46 34.1**	**+0.2**
	4.5nm,0.6s,baz=3.4,slow=9.3,SNR=22								
KSAR	**Wonju Array Be**	**27.90**	**3**		P		**P**	**22 46 39.3**	**+0.9**
KSRS	**Korea Array**	**27.91**	**3**		P		**P**	**22 46 39.3**	**+0.8**
	6.3nm,0.7s,baz=181,slow=11,SNR=14								
KSRS					LR		LR	22 57 36.1	
	comp=Z,38nm,21.4s,baz=197,slow=36								
CMAR	**Chiang Mai Arr**	**27.94**	**292**		P		**P**	**22 46 39.4**	**+0.4**
	0.9nm,0.4s,baz=102,slow=7.5,SNR=9.8								
CMAR					PcP		**PcP**	**22 49 54.0**	**+1.2**
	0.6nm,0.3s,baz=109,slow=0.7,SNR=4.9								
CMAR					LR		LR	22 58 15.6	
	comp=Z,51nm,18.3s,baz=112,slow=37								
KS01	**Wonju Array Si**	**27.94**	**3**		*e*P		**P**	**22 46 39.0**	**+0.3**
PSI	**Prapat**	**27.95**	**258**		LR		LR	22 59 19.6	
	comp=Z,22nm,18.4s,baz=252,slow=40								
PMG	**Port Moresby**	**28.01**	**131**		LR		LR	22 58 57.8	
	comp=Z,31nm,20.6s,baz=326,slow=38								
MJAR	**Matsushiro Arr**	**29.07**	**20**		P		**P**	**22 46 48.0**	**-0.9**
	4.1nm,0.7s,baz=193,slow=10.0,SNR=8.6								
MJAR					LR		LR	22 58 18.6	
	comp=Z,52nm,19.6s,baz=180,slow=36								
XAN	**Xi'an**	**29.19**	**330**		P		**P**	**22 46 48.3**	**-1.7**
XAN					pmax		pmax		
	comp=Z,3.0nm,0.7s								
XAN					pmax		pmax		
	comp=Z,150nm,6.4s								
CD2	**Chengdu**	**29.90**	**319**		P		**P**	**22 46 56.0**	**-0.3**
CD2					pmax		pmax		
	comp=Z,10.0nm,0.5s								
CD2					pmax		pmax		
	comp=Z,140nm,4.6s								
WRA	**Warramunga Arr**	**30.28**	**165**		P		**P**	**22 46 58.5**	**-1.2**
	1.1nm,0.3s,baz=345,slow=9.3,SNR=15								
BJI	**Beijing**	**31.75**	**345**		*e*P		**P**	**22 47 12.0**	**-0.4**
BJI					pmax		pmax		
	comp=Z,8.0nm,1.0s								
LZH	**Lanzhou**	**33.43**	**326**		*e*P		**P**	**22 47 29.0**	**+1.6**
LZH					pP		pP	22 47 47.5	+1.5
LZH					sP		sP	22 47 56.0	+0.8
LZH					*e*PP		**PP**	**22 48 43.8**	**-0.7**
LZH					pmax		pmax		
	comp=Z,30nm,1.3s								
LZH					pmax		pmax		
	comp=Z,140nm,4.8s								
LZH					LR		LR		
	comp=N,440nm,14.2s								
LZH					LR		LR		
	comp=E,480nm,14.3s								
LZH					LR		LR		
	comp=Z,690nm,16.2s								
AS31	**Alice Springs**	**33.76**	**167**		*e*P		**P**	**22 47 30.0**	**-0.2**
	3.2nm,0.3s								
ASAR	**Alice Springs**	**33.76**	**167**		P		**P**	**22 47 29.8**	**-0.4**
	3.4nm,0.3s,baz=346,slow=7.6,SNR=51								
ASAR					S		**S**	**22 52 45.8**	**-2.5**
	0.8nm,0.9s,baz=350,slow=21,SNR=3.6								
ASAR					ScP		**ScP**	**22 53 47.0**	**+1.0**
	0.7nm,0.9s,baz=357,slow=2.8,SNR=5.0								
AS01	**Alice Springs**	**33.77**	**167**		*e*P		**P**	**22 47 29.6**	**-0.7**
HHC	**Hu-ho-hao-te**	**33.87**	**340**		*e*P		**P**	**22 47 32.0**	**+0.9**
HHC					pmax		pmax		
	comp=Z,16nm,0.9s								
HHC					pmax		pmax		
	comp=Z,240nm,4.7s								
USA0B	**Ussuriysk Arra**	**34.97**	**7**		*e*P		**P**	**22 47 42.0**	**+1.6**
	29nm,0.9s								
USRK	**Ussuriysk Ar.**	**34.97**	**7**		P		**P**	**22 47 41.3**	**+0.9**
	21nm,0.8s,baz=194,slow=8.0,SNR=36								
USRK					LR		LR	23 00 05.5	
	comp=Z,44nm,21.7s,baz=169,slow=33								
MDJ	**Mudanjiang**	**35.15**	**4**		P		**P**	**22 47 43.5**	**+1.6**
MDJ					pmax		pmax		
	comp=Z,29nm,1.1s								
MDJ	**Mudanjiang**	**35.15**	**4**		*e*P		**P**	**22 47 43.8**	**+1.9**
	21nm,0.9s								
CTAO	**Charters Tower**	**35.35**	**146**		*e*P		**P**	**22 47 45.3**	**+1.4**
	10.0nm,0.6s								
SHL	**Shillong**	**36.33**	**301**		*e*P		**P**	**22 47 51.8**	**-0.7**
	17nm,0.8s								
SHL	**Shillong**	**36.33**	**301**		*e*P		**P**	**22 47 57.0**	**+4.5**
GTA	**Gaotai**	**38.04**	**326**		*e*P		**P**	**22 48 06.0**	**-0.8**
GTA					pP		pP	22 48 24.5	-1.1
GTA					sP		sP	22 48 33.5	-1.3
LSA	**Lhasa**	**38.49**	**306**		*e*P		**P**	**22 48 10.9**	**-0.1**
KLR	**Kul'dur**	**39.91**	**6**		P		**P**	**22 48 22.6**	**+0.6**
	6.7nm,0.7s,baz=193,slow=6.7,SNR=24								
FORT	**Forrest**	**40.04**	**178**		*e*P		**P**	**22 48 24.5**	**+1.2**
	37nm,0.8s								
H11S3	**WAKE ISLAND Hy**	**40.17**	**73**		T		T	23 31 27.7	
	baz=262,slow=75,SNR=287								
H11S1	**WAKE ISLAND Hy**	**40.19**	**73**		T		T	23 31 28.0	
	baz=262,slow=75,SNR=139								
H11S2	**WAKE ISLAND Hy**	**40.19**	**73**		T		T	23 31 26.2	
	baz=262,slow=75,SNR=111								
H11N1	**WAKE ISLAND Hy**	**40.53**	**71**		T		T	23 31 55.9	
	baz=265,slow=74,SNR=95								
H11N2	**WAKE ISLAND Hy**	**40.54**	**71**		T		T	23 31 56.3	
	baz=265,slow=74,SNR=74								
H11N3	**WAKE ISLAND Hy**	**40.55**	**71**		T		T	23 32 12.3	
	baz=265,slow=74,SNR=106								
RAMN	**Ramite**	**41.27**	**300**		*e*P		**P**	**22 48 33.7**	**-0.2**
	15nm,0.8s								
ULN	**Ulaanbaatar**	**41.58**	**341**		*e*P		**P**	**22 48 35.5**	**-0.5**
	3.5nm,0.6s								
SONM	**Songino Array**	**41.77**	**340**		P		**P**	**22 48 36.7**	**-0.8**
	1.0nm,0.8s,baz=156,slow=9.3,SNR=7.4								
SONM					PcP		**PcP**	**22 50 32.3**	**-0.2**
	0.5nm,0.5s,baz=166,slow=3.6,SNR=3.6								
SONM					LR		LR	23 05 51.4	
	comp=Z,28nm,21.2s,baz=127,slow=36								
JIRN	**Jiri**	**41.83**	**301**		*e*P		**P**	**22 48 38.5**	**-0.1**
	22nm,0.4s								
GUN	**Gumba**	**42.17**	**301**		*e*P		**P**	**22 48 41.1**	**-0.3**
	31nm,0.9s								
PKI	**Pulchoki**	**42.46**	**301**		*e*P		**P**	**22 48 42.8**	**-0.9**
DMN	**Daman**	**42.73**	**301**		*e*P		**P**	**22 48 44.9**	**-0.9**
BBOO	**Buckeboo**	**43.06**	**168**		*e*P		**P**	**22 48 48.8**	**+0.8**
	35nm,0.4s								
STKA	**Stephens Creek**	**43.64**	**161**		P		**P**	**22 48 53.2**	**+0.6**
	6.2nm,0.5s,baz=338,slow=8.5,SNR=24								
STKA					LR		LR	23 10 43.6	
	comp=Z,27nm,18.8s,baz=23,slow=41								
STKA	**Stephens Creek**	**43.64**	**161**		*e*P		**P**	**22 48 53.3**	**+0.6**
	1.9nm,1.0s								
KOLN	**Koldanda**	**44.06**	**300**		*e*P		**P**	**22 48 55.9**	**-0.5**
	28nm,0.9s								
DANN	**Dangsing**	**44.08**	**301**		*e*P		**P**	**22 48 56.1**	**-0.7**
	19nm,0.7s								
PYUN	**Piuthan**	**44.67**	**301**		*e*P		**P**	**22 49 00.9**	**-0.4**
	30nm,0.8s								
WMQ	**Urumqi**	**47.85**	**323**		*e*P		**P**	**22 49 27.8**	**+1.9**
WMQ					pP		pP	22 49 48.5	+3.1
WMQ					sP		sP	22 49 57.3	+3.0
WMQ					pmax		pmax		
	comp=Z,15nm,1.1s								
WMQ					pmax		pmax		
	comp=Z,410nm,5.3s								
WMQ					LR		LR		
	comp=N,97nm,15.1s								
WMQ					LR		LR		
	comp=E,140nm,20.5s								
PETK	**Petropavlovsk-**	**50.38**	**24**		P		**P**	**22 49 47.1**	**+2.2**
	7.0nm,0.5s,baz=203,slow=3.4,SNR=20								
PETK	**Petropavlovsk-**	**50.38**	**24**		*e*P		**P**	**22 49 46.2**	**+1.2**
MK01	**Makanchi Array**	**52.64**	**323**		*e*P		**P**	**22 50 01.2**	**-0.8**
MK31	**Makanchi Array**	**52.66**	**323**		*e*P		**P**	**22 50 01.5**	**-0.6**
MKAR	**Makanchi Array**	**52.66**	**323**		P		**P**	**22 50 01.4**	**-0.7**
	4.8nm,0.6s,baz=125,slow=7.6,SNR=70								
MKAR	**Makanchi Array**	**52.66**	**323**		*e*P		**P**	**22 50 01.5**	**-0.6**
MAKZ	**Makanchi**	**52.85**	**323**		*e*P		**P**	**22 50 02.9**	**-0.6**
	4.1nm,0.8s								
MA2	**Magadan**	**53.32**	**15**		*e*P		**P**	**22 50 07.2**	**+0.5**
	12nm,0.7s								
KSH	**Kashi**	**53.76**	**312**		P		**P**	**22 50 11.8**	**+1.4**
KSH					pP		pP	22 50 34.3	+4.0
KSH					PcP		**PcP**	**22 51 14.5**	**-1.0**
KSH					S		**S**	**22 57 36.5**	**-2.7**
KSH					ScS		**ScS**	**22 59 48.5**	**-4.2**
KSH					pmax		pmax		
	comp=Z,6.0nm,0.8s								
KSH					LR		LR		
	comp=N,160nm,7.4s								
KSH					LR		LR		
	comp=E,190nm,5.7s								
KSH					LR		LR		
	comp=Z,260nm,8.4s								
NRN	**Naryn**	**54.41**	**315**		*e*P		**P**	**22 50 15.3**	**-0.1**
	8.0nm,0.9s								
ULHL	**Ulahol**	**54.54**	**316**		P		**P**	**22 50 16.0**	**-0.1**
	SNR=5.4								
KZA	**Kyzart**	**55.17**	**315**		P		**P**	**22 50 21.6**	**+0.7**
	SNR=8.6								
TKM2	**Tokmak 2**	**55.23**	**316**		P		**P**	**22 50 21.2**	**+0.1**
	SNR=5.6								
ZALV	**Zalesovo Beam**	**55.33**	**332**		P		**P**	**22 50 19.8**	**-1.6**
	1.5nm,0.3s,baz=120,slow=8.7,SNR=5.0								
UCH	**Uchtor**	**55.73**	**315**		P		**P**	**22 50 25.8**	**+0.7**
	SNR=10								
AAK	**Ala-Archa**	**55.89**	**316**		*e*P		**P**	**22 50 25.8**	**0.0**
	13nm,1.9s								
USP	**Ospenovka**	**56.11**	**316**		P		**P**	**22 50 26.6**	**-0.6**
	SNR=6.7								
AML	**Almayashu**	**56.27**	**315**		P		**P**	**22 50 29.0**	**+0.2**
	SNR=9.5								
EKS2	**Erkin-Say**	**56.39**	**315**		P		**P**	**22 50 29.7**	**+0.4**
	SNR=8.6								
KURK	**Kurchatov**	**56.72**	**326**		*e*P		**P**	**22 50 30.4**	**-0.9**
	11nm,0.9s								
KBL	**Kabul**	**57.78**	**305**		*e*P		**P**	**22 50 39.1**	**-0.3**
	3.7nm,0.6s								
GAR	**Garm**	**57.80**	**310**		*e*P		**P**	**22 50 39.1**	**-0.3**
	11nm,0.6s								
CHGR	**Chuyangaron**	**58.59**	**310**		*e*P		**P**	**22 50 44.3**	**-0.5**
	9.3nm,0.6s								
KK31	**Karatay Array**	**58.81**	**315**		*e*P		**P**	**22 50 45.8**	**-0.3**
KKAR	**Karatay Array**	**58.81**	**315**		*e*P		**P**	**22 50 45.8**	**-0.3**
TIXI	**Tiksi**	**62.16**	**1**		*e*P		**P**	**22 51 08.5**	**+0.1**
	11nm,0.7s								
BRVK	**Borovoye**	**62.39**	**326**		*e*P		**P**	**22 51 09.6**	**-0.7**
	7.1nm,0.8s								
RPZ	**Rata Peaks**	**66.72**	**146**		P		**P**	**22 51 40.1**	**+1.4**
	6.9nm,0.7s,baz=326,slow=3.6,SNR=3.5								
ABKAR	**Akbulak array**	**67.48**	**319**		*e*P		**P**	**22 51 42.7**	**-0.6**
ARU	**Arti**	**69.89**	**327**		*e*P		**P**	**22 51 57.1**	**-1.2**
	7.1nm,0.6s								
IM3	**Indian Mountai**	**77.35**	**24**		*e*P		**P**	**22 52 43.5**	**+1.7**
RAYN	**Ar Rayn**	**77.86**	**292**		*e*P		**P**	**22 52 44.7**	**-0.8**
	6.9nm,0.8s								
BPAW	**Bear Paw Mtn.**	**78.39**	**26**		*e*P		**P**	**22 52 49.7**	**+2.1**
	8.1nm,1.0s								
MLY	**Manley**	**78.54**	**25**		*e*P		**P**	**22 52 50.3**	**+1.9**
	27nm,2.0s								
KBZ	**Khabaz**	**78.74**	**313**		P		**P**	**22 52 50.0**	**+0.1**
	1.9nm,0.8s,baz=61,slow=10,SNR=2.8								
MCK	**McKinley**	**79.29**	**27**		*e*P		**P**	**22 52 53.5**	**+1.0**
	7.8nm,0.7s								
HDA	**Harding Lake**	**80.16**	**26**		*e*P		**P**	**22 52 57.8**	**+0.6**
	4.1nm,0.5s								
ILAR	**Eielson Array**	**80.18**	**26**		P		**P**	**22 52 56.9**	**-0.5**
	1.3nm,0.7s,baz=240,slow=4.8,SNR=21								
ILB	**Eielson Array**	**80.18**	**26**		*e*P		**P**	**22 52 58.0**	**+0.6**
KLMR	**Klimovskoe**	**80.22**	**330**		*e*P		**P**	**22 52 55.7**	**-1.9**
KLMR					AMP			22 52 58.9	
	comp=Z,14nm,1.1s								
RIDG	**Independ'e Rid**	**81.11**	**27**		*e*P		**P**	**22 53 03.9**	**+1.5**
	comp=Z,30nm,1.7s								
DAWY	**Dawson**	**83.48**	**26**		*e*P		**P**	**22 53 16.0**	**+1.3**
	comp=Z,14nm,1.6s								
ARCES	**ARCESS Array B**	**84.94**	**340**		P		**P**	**22 53 21.6**	**-0.4**
	comp=Z,5.0nm,0.5s,baz=78,slow=6.2,SNR=56								
INK	**Inuvik**	**85.05**	**22**		*e*P		**P**	**22 53 23.5**	**+1.0**
	comp=Z,2.0nm,0.6s								
BRTR	**Keskin Array B**	**86.03**	**309**		P		**P**	**22 53 27.1**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=99,slow=3.9,SNR=4.2								
FINES	**FINESS Array B**	**86.59**	**332**		P		**P**	**22 53 29.6**	**-0.7**
	comp=Z,2.5nm,0.5s,baz=77,slow=4.9,SNR=22								
AKASG	**Malin Array Be**	**87.18**	**321**		P		**P**	**22 53 31.2**	**-2.1**
	comp=Z,0.5nm,0.5s,baz=60,slow=6.2,SNR=4.2								
VNDA	**Vanda**	**89.13**	**173**		P		**P**	**22 53 42.1**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=344,slow=5.7,SNR=5.0								
RES	**Resolute Bay**	**92.30**	**10**		*e*P		**P**	**22 53 57.5**	**+0.7**
	comp=Z,1.9nm,0.8s								
NOA	**NORSAR Array B**	**93.47**	**334**		P		**P**	**22 54 01.0**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=64,slow=4.7,SNR=3.5								
NOA					LR		LR	23 42 13.4	
	comp=Z,40nm,19.2s,baz=270,slow=39								
YKA	**Yellowknife Ar**	**94.50**	**24**		P		**P**	**22 54 08.3**	**+1.1**
	comp=Z,1.7nm,0.7s,baz=301,slow=4.7,SNR=38								
YKB5	**Yellowknife Ar**	**94.50**	**24**		*e*P		**P**	**22 54 07.3**	**+0.1**
TXAR	**Lajitas Array**	**118.37**	**49**		PKP		**PKiKP**	**22 59 36.0**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=342,slow=2.0,SNR=3.7								
TOA0	**Torodi Ar. Sit**	**120.55**	**291**		*e*PKPdf		**PKPdf**	**22 59 39.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**120.55**	**291**		PKP		**PKPdf**	**22 59 39.2**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=65,slow=1.5,SNR=8.4								
PLCA	**Paso Flores**	**145.47**	**157**		PKPbc		**PKPab**	**23 00 26.7**	**+1.1**
	comp=Z,2.4nm,0.7s,baz=271,slow=2.1,SNR=6.6								

IDC ***25*** *22:50:04.5±2.2,25.73S×175.22W,h0km,mb3.8/5, mb1 4.2/5,mb1mx3.9/35,mbtmp3.8/5,MS3.2/2,Ms1 3.2/2, ms1mx2.8/21,Error ellipse: s-maj=139.8km s-min=25.8km az=156.0*

ISCJB ***25*** *22:50:07.9±2.4,25.9S±0.9×175.3W±0.4, h33km,mb3.8/5, MS3.0/1,Error ellipse: s-maj=140.8km s-min=23.0km az=158.0*

ISC 25 22:50:09.9±2.1,25.7S±0.8×175.3W±0.4,h35km,n9, σ0.854/8,mb3.9/5,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.11**	**278**	LR		LR	LR	22 59 18.0	
	comp=Z,101nm,20.4s,baz=127,slow=32								
PPT	**Papeete**	**25.18**	**76**	LR		LR	LR	23 04 12.5	
	comp=Z,46nm,18.7s,baz=238,slow=34								
ASAR	**Alice Springs**	**46.00**	**261**	P		P	P	22 58 30.2	+0.1
	1.1nm,0.6s,baz=100,slow=7.7,SNR=15								
ASAR				PcP		**PcP**	**PcP**	**23 00 07.2**	**+0.8**
	0.3nm,0.6s,baz=101,slow=4.8,SNR=3.2								
WRA	**Warramunga Arr**	**46.58**	**266**	P		P	P	22 58 34.3	-0.4
	0.7nm,0.5s,baz=104,slow=7.9,SNR=5.9								
NVAR	**Mina Array Bea**	**83.16**	**42**	P		P	P	**23 02 33.0**	**+0.5**
	0.5nm,0.6s,baz=215,slow=6.1,SNR=3.0								
TXAR	**Lajitas Array**	**87.80**	**56**	P		P	P	**23 02 55.3**	**-0.5**
	0.4nm,0.8s,baz=226,slow=6.1,SNR=4.9								
ILAR	**Eielson Array**	**92.85**	**12**	P		P	P	**23 03 18.5**	**+0.1**
	0.5nm,1.0s,baz=204,slow=3.8,SNR=3.4								
MKAR	**Makanchi Array**	**116.56**	**311**	PKP		**PKPdf**		**23 08 49.6**	**-0.4**
	0.2nm,0.6s,baz=95,slow=1.7,SNR=3.1								
AKASG	**Malin Array Be**	**148.77**	**329**	PKPbc		**PKPbc**		**23 09 53.2**	**-0.1**
	0.6nm,0.4s,baz=40,slow=3.5,SNR=5.8								

IDC ***25*** *23:36:59.2±0.4,23.62S×43.61E,h0km,mb4.7/28, mb1 4.9/31,mb1mx4.8/37,mbtmp4.8/31,ML5.0/3,MS4.2/27, Ms1 4.2/27,ms1mx4.1/37,Error ellipse: s-maj=13.6km s-min=12.6km az=98.0*

BJI ***25*** *23:36:59.1,23.60S×43.60E,h10km,mb5.1/50,mB5.2/29, Ms5.0/20,Ms7 4.6/22*

ISCJB ***25*** *23:37:00.9±0.2,23.68S±0.03×43.63E±0.03,h22km, mb5.0/180,MS4.3/31,Error ellipse: s-maj=4.8km s-min=3.9km az=0.9*

NEIC ***25*** *23:37:01.1±0.1,23.61S×43.59E,h10km,mb5.3/76,Error ellipse: s-maj=5.3km s-min=4.3km az=155.0*

NEIC Felt strongly at Toliara.

GCMT ***25*** *23:37:02.1±0.4,23.73S±0.03×43.58E±0.02,h

GRAN eS S 23 45 21.7 -13
GRAN AML AML 23 46 31.2
comp=Z,9.1nm,0.6s
SUR Sutherland 21.94 241 P **P** **23 41 53.3 -1.8**
comp=Z,33nm,0.7s,baz=83,slow=8.4,SNR=17
SUR S **S** **23 45 56.1 -0.3**
comp=Z,6.5nm,1.0s,baz=85,slow=19,SNR=2.3
SUR LR LR 23 50 01.3
comp=Z,2µm,18.9s,baz=79,slow=36
SUR Sutherland 21.94 241 eP **P** **23 41 53.5 -1.6**
comp=Z,62nm,0.9s
SUR S **S** **23 45 56.1 -0.3**
SUR Sutherland 21.94 241 eP **P** **23 41 53.0 -2.1**
TSUM Tsumeb 24.60 275 P **P** **23 42 21.3 -0.4**
comp=Z,22nm,1.0s,baz=99,slow=8.7,SNR=19
TSUM LR LR 23 51 49.7
comp=Z,2µm,18.9s,baz=110,slow=36
TSUM Tsumeb 24.60 275 eP **P** **23 42 20.8 -0.9**
comp=Z,78nm,1.2s
MBAR Mbarara 26.00 329 P **P** **23 42 35.6 +1.1**
comp=Z,2.6nm,0.2s,baz=166,slow=13,SNR=6.0
MBAR LR LR 23 52 40.4
comp=Z,435nm,19.6s,baz=159,slow=36
MBAR Mbarara 26.00 329 eP **P** **23 42 34.4 -0.1**
comp=Z,16nm,1.3s
MBAR Mbarara 26.00 329 eP **P** **23 42 34.4 -0.1**
MBAR pmax pmax
comp=Z,17nm,1.3s
DGAR Diego Garcia 32.00 65 deP **P** **23 43 26.5 -1.2**
FURI Furi 32.60 351 eP **P** **23 43 35.7 +2.4**
comp=Z,53nm,1.3s
DAMY Dhamar 37.89 1 eP **P** **23 44 21.1 +2.3**
comp=Z,105nm,1.1s
SYO Syowa Base 45.54 182⇓eP **P** **23 45 18.9 -1.5**
MAW Mawson 45.66 170 LR LR 00 01 37.1
comp=Z,289nm,18.5s,baz=336,slow=32
MHTO MHTO 46.42 19 P **P** **23 45 29.3 +1.4**
SNR=7.6
RAYN Ar Rayn 46.82 2 eP **P** **23 45 32.7 +1.6**
comp=Z,56nm,1.0s
RAYN eP cP **PcP** **23 47 05.0 +1.0**
RAYN Ar Rayn 46.82 2 *i* P **P** **23 45 32.4 +1.3**
SNR=44
RAYN Ar Rayn 46.82 2 eP **P** **23 45 32.7 +1.6**
RAYN *e* 23 47 05.0
RAYN pmax pmax
comp=Z,56nm,1.0s
PALK Pallekele 47.45 54 P **P** **23 45 36.7 +0.4**
comp=Z,7.7nm,0.7s,baz=292,slow=5.6,SNR=5.0
PALK Pallekele 47.45 54 eP **P** **23 45 37.2 +0.9**
comp=Z,8.1nm,0.7s
PALK Pallekele 47.45 54 P **P** **23 45 36.9 +0.7**
JLN Jalan Bani Buh 47.95 20 P **P** **23 45 40.8 +1.0**
SNR=12
WSAR Wadi Sarin 48.74 18 P **P** **23 45 47.5 +1.5**
SNR=8.0
ALNE Al Ain 48.77 15 *i* P **P** **23 45 47.8 +1.7**
SNR=11
SOHO SOHO 49.03 16 P **P** **23 45 49.1 +1.0**
SNR=5.6
AJN Ajban 49.08 14 *i* P **P** **23 45 50.5 +2.0**
SNR=6.4
AJN Ajban 49.08 14 P **P** **23 45 50.5 +2.0**
SNR=12
ASUD Al Ashush, Dub 49.22 14 *i* P **P** **23 45 51.7 +2.1**
SNR=14
ASUD Al Ashush, Dub 49.22 14 P **P** **23 45 51.7 +2.1**
SNR=9.2
FAQ Al Faqa, Dubai 49.39 14 *i* P **P** **23 45 52.5 +1.6**
SNR=22
FAQ Al Faqa, Dubai 49.39 14 P **P** **23 45 52.4 +1.5**
SNR=9.1
ASHO Ashiyiah 49.44 15 *i* P **P** **23 45 52.6 +1.3**
SNR=10
ASHO Ashiyiah 49.44 15 P **P** **23 45 52.6 +1.3**
SNR=5.8
HATD Hatta, Dubai 49.60 15 *i* P **P** **23 45 53.9 +1.4**
SNR=17
HATD Hatta, Dubai 49.60 15 P **P** **23 45 53.9 +1.4**
SNR=8.0
UOSS Minazif 49.73 15 eP **P** **23 45 53.9 +0.4**
comp=Z,23nm,0.9s
UOSS Minazif 49.73 15 *i* P **P** **23 45 53.9 +0.4**
SNR=6.3
UOSS Minazif 49.73 15 P **P** **23 45 54.1 +0.6**
SNR=7.5
MDH Madha 50.09 15 *i* P **P** **23 45 57.0 +0.8**
SNR=6.0
MSFE Esma-Masafi 50.12 15 *i* P **P** **23 45 57.3 +0.9**
SNR=6.0
BANOM Banah 50.69 15 *i* P **P** **23 46 01.7 +0.9**
SNR=10
NVL N'lazarevskaya 50.70 193 eP **P** **23 46 00.2 -0.1**
NVL eS **S** **23 53 13.5 -0.4**
NVL pmax pmax
comp=Z,20nm,0.8s
SHME Shamm 50.77 15 *i* P **P** **23 46 01.9 +0.4**
SNR=9.5
POO Poona 51.19 38⇓*i* PS **P** **23 46 04.0 -0.7**
comp=Z,40nm,1.0s
HYB Hyderabad 53.13 43 *i* P **P** **23 46 20.0 +0.8**
SNAA Sanae 54.77 196 P **P** **23 46 30.2 -0.2**
SNAA Sanae 54.77 196 P **P** **23 46 30.2 -0.2**
comp=Z,3.4nm,0.8s,baz=66,slow=6.7,SNR=7.6
SNAA Sanae 54.77 196 eP **P** **23 46 29.6 -0.9**
comp=Z,5.7nm,1.0s
SNAA Sanae 54.77 196 deP **P** **23 46 30.0 -0.5**
TOA0 Torodi Ar. Sit 54.86 307 eP **P** **23 46 30.7 -1.1**
TORD Torodi Ar. Bea 54.86 307 P **P** **23 46 31.0 -0.8**
comp=Z,3.9nm,0.9s,baz=116,slow=5.5,SNR=26
TORD LR LR 00 10 32.0
comp=Z,256nm,18.7s,baz=335,slow=37
VNA2 Neumayer--Watz 55.59 198 P **P** **23 46 37.0 +0.6**
VNA1 Neumayer--Stat 55.71 199 P **P** **23 46 35.9 -1.2**
DBIC Dimbokro 56.03 296 P **P** **23 46 40.4 +0.1**
comp=Z,14nm,0.9s,baz=107,slow=9.1,SNR=14
DBIC LR LR 00 10 05.0
comp=Z,301nm,20.4s,baz=106,slow=35
DBIC Dimbokro 56.03 296 eP **P** **23 46 40.3 +0.1**
comp=Z,28nm,0.8s
DBIC Dimbokro 56.03 296 eP **P** **23 46 40.3 0.0**
DBIC pmax pmax
comp=Z,28nm,0.8s
VNA3 Neumayer Olymp 56.40 198 P **P** **23 46 42.5 +0.3**
GSI Gunungsitoli 57.95 73 eP **P** **23 46 55.4 +1.5**
comp=Z,21nm,0.8s
CSS Mathiatis 59.00 350 eP **P** **23 47 02.0 +1.2**
comp=Z,28nm,1.2s
TAM Tamanrasset 59.09 318 eP **P** **23 47 03.4 +1.6**
comp=Z,24nm,1.5s
TAM Tamanrasset 59.09 318 eP **P** **23 47 03.4 +1.6**
TAM pmax pmax
comp=Z,24nm,1.5s
KCSI Kotacane, Aceh 59.20 70 P **P** **23 47 02.2 -0.5**
LHMI Lhok Sumawe 59.36 68 eP **P** **23 47 05.4 +1.7**
comp=Z,179nm,0.9s
LHMI Lhok Sumawe 59.36 68 P **P** **23 47 03.3 -0.4**
PBA Port Blair 59.44 59 eP P 23 47 05.5 +1.2
comp=Z,115nm,1.0s
PDSI Padang 59.47 76 P **P** **23 47 04.1 -0.5**
PSI Prapat 59.85 72 eP **P** **23 47 08.1 +0.8**
comp=Z,43nm,1.1s
PSI Prapat 59.85 72 eP **P** **23 47 08.1 +0.8**
PSI pmax pmax
comp=Z,43nm,1.1s
LWLI Liwa 60.97 82 P **P** **23 47 14.3 -0.6**
LHSI Lahat 60.97 81 P **P** **23 47 14.3 -0.5**
KASI Kota Agung 61.16 83 P **P** **23 47 15.6 -0.5**
MDSI Maura Dua 61.29 82 P **P** **23 47 16.5 -0.5**
PKDT Phuket 61.92 66 P **P** **23 47 21.1 0.0**
comp=Z,39nm,1.0s
FRIM Kepong 62.42 73 P **P** **23 47 25.2 +0.6**
IPM Ipoh 62.49 71 eP **P** **23 47 25.5 +0.4**
comp=Z,29nm,0.9s
KULM Kulim 62.57 70 eP **P** **23 47 25.3 -0.2**
comp=Z,96nm,1.3s
KULM Kulim 62.57 70 P **P** **23 47 26.1 +0.5**
KBL Kabul 62.62 24 eP **P** **23 47 26.4 +0.7**
comp=Z,8.4nm,1.0s
KBL Kabul 62.62 24 eP **P** **23 47 26.4 +0.7**
KBL pmax pmax
comp=Z,8.0nm,1.0s
GEYT Alibeck 62.65 13 P **P** **23 47 26.0 +0.4**
comp=Z,4.5nm,0.9s,baz=188,slow=5.5,SNR=9.3
GEYT LR LR 00 15 23.6
comp=Z,94nm,18.1s,baz=180,slow=37
GYA0B ALIBECK ARRAY 62.65 13 eP **P** **23 47 25.9 +0.3**
comp=Z,9.5nm,1.0s
CBJI Citeko 62.96 85 P **P** **23 47 27.5 -0.6**
TRTT Trang 63.03 67 P **P** **23 47 28.6 0.0**
comp=Z,24nm,1.0s
GNI Garni 63.37 1 eP **P** **23 47 31.7 +1.2**
comp=Z,45nm,1.4s
GNI Garni 63.37 1⇓eP **P** **23 47 31.6 +1.1**
GNI pmax pmax
comp=Z,201nm,1.4s
NIL Nilore 63.50 27 eP **P** **23 47 31.5 +0.1**
comp=Z,13nm,1.1s
NIL Nilore 63.50 27 eP **P** **23 47 31.5 +0.1**
NIL pmax pmax
comp=Z,13nm,1.1s
BR131 Keskin Array S 63.63 351 eP **P** **23 47 32.2 0.0**
BRTR Keskin Array B 63.63 351 P **P** **23 47 32.5 +0.4**
comp=Z,6.6nm,0.8s,baz=168,slow=9.2,SNR=43
BRTR LR LR 00 19 45.9
comp=Z,60nm,18.1s,baz=186,slow=40
MYKOM Kota Tinggi 63.71 75 P **P** **23 47 33.1 -0.1**
PYUN Piuthan 63.87 39 eP **P** **23 47 33.6 -0.5**
comp=Z,175nm,1.1s
KOLN Koldanda 63.97 39 eP **P** **23 47 34.6 -0.2**
comp=Z,113nm,1.3s
DANN Dangsing 64.50 39 eP **P** **23 47 37.8 -0.5**
comp=Z,49nm,0.8s
DMN Daman 64.74 41 eP **P** **23 47 39.6 -0.3**
KTGM Kuala Trenggan 64.74 72 P **P** **23 47 39.9 +0.1**
PKI Pulchoki 64.89 41 eP **P** **23 47 40.5 -0.5**
comp=Z,147nm,1.2s
TBLG Delisi 64.95 1 eP **P** **23 47 41.8 +1.1**
comp=Z,31nm,1.2s
TBLG Delisi 64.95 1 eP **P** **23 47 41.8 +1.1**
TBLG pmax pmax
comp=Z,31nm,1.2s
KKN Kakani 64.97 41 eP **P** **23 47 41.1 -0.3**
AGG Agios Georgios 65.35 342 eP **P** **23 47 43.9 +0.6**
comp=Z,30nm,1.0s
AGG Agios Georgios 65.35 342 eP **P** **23 47 43.9 +0.6**
AGG pmax pmax
comp=Z,30nm,1.0s
PHET Kaeng Krachan 65.68 63 P **P** **23 47 47.6 +1.7**
comp=Z,11nm,0.9s,comp=Z,110nm
ZEI Tsey 66.00 0 eP **P** **23 47 47.8 +0.1**
ZEI pmax pmax
comp=Z,32nm,1.0s
SRDT SRDT 66.06 61 P **P** **23 47 49.6 +1.2**
comp=Z,25nm,1.4s
CHGR Chuyangaron 66.35 22 eP **P** **23 47 50.8 +0.9**
comp=Z,115nm,0.9s
NEY Neytrino 66.47 359⇑eP **P** **23 47 52.9 +2.3**
NEY pmax pmax
comp=Z,9.0nm,1.6s
QSPA South Pole Qui 66.61 180 P **P** **23 47 50.7 -0.6**
comp=Z,12nm,0.9s,baz=250,slow=4.5,SNR=25
QSPA South Pole Qui 66.61 180 eP **P** **23 47 50.6 -0.7**
comp=Z,16nm,1.0s
PATY Pattaya 66.70 63 P **P** **23 47 54.1 +1.7**
comp=Z,21nm,0.8s
NCK Nalchik 66.71 360⇓eP **P** **23 47 53.8 +1.9**
NCK pmax pmax
comp=Z,19nm,1.3s
UMPA Umpang Tak 66.90 59 P **P** **23 47 54.4 +0.6**
comp=Z,12nm,1.0s,comp=Z,172nm
KBZ Khabaz 66.94 359 P **P** **23 47 54.6 +1.3**
comp=Z,13nm,1.0s,baz=168,slow=4.3,SNR=15
KBZ LR LR 00 19 51.4
comp=Z,136nm,18.2s,baz=162,slow=38
UTHA Uthaitani 67.00 60 P **P** **23 47 55.1 +0.8**
comp=Z,15nm,1.0s,comp=Z,152nm
GAR Garm 67.06 22 eP **P** **23 47 55.3 +0.9**
comp=Z,36nm,0.9s
GAR Garm 67.06 22 eP **P** **23 47 55.3 +0.9**
GAR pmax pmax
comp=Z,36nm,0.9s
KIV Kislovodsk 67.17 359 eP **P** **23 47 56.3 +1.3**
comp=Z,46nm,1.0s
KIV Kislovodsk 67.17 359⇓*i* P **P** **23 47 55.9 +1.0**
KIV Kislovodsk 67.17 359 *i* P **P** **23 47 55.1 +0.1**
SNR=8.5
KIV Kislovodsk 67.17 359 eP **P** **23 47 56.0 +1.0**
KIV eS **S** **23 56 50.8 +2.7**
KIV pmax pmax
comp=Z,48nm,1.1s
KIV pmax pmax
comp=Z,29nm,4.1s
KIV MLR MLR
comp=Z,116nm,17.0s
KIV Kislovodsk 67.17 359 P **P** **23 47 54.9 -0.1**
SNR=5.4
TIP Timpagrande 67.26 338⇓*i* P **P** **23 47 57.7 +2.1**
KEST Kesra 67.28 330 P **P** **23 47 56.8 +1.0**
comp=Z,10nm,0.9s,baz=207,slow=14,SNR=4.2
KEST LR LR 00 20 54.7
comp=Z,167nm,19.0s,baz=336,slow=39
SHL Shillong 67.60 47 eP **P** **23 47 58.1 -0.1**
comp=Z,46nm,0.9s
SHL Shillong 67.60 47 eP **P** **23 47 58.1 -0.1**
SHL pmax pmax
comp=Z,46nm,0.9s
SHL Shillong 67.60 47 *i* P P 23 48 05.0 +6.8
TIR Tirane 68.22 341⇑*i* P **P** **23 48 03.8 +2.3**
SUKH Sukhothai 68.23 58 P P **23 48 02.9 +0.8**
comp=Z,23nm,0.8s
SRAK Srakaew 68.24 63 P P **23 48 06.3 +4.1**
comp=Z,225nm,0.9s,comp=Z,2µm
CM01 Chiang Mai Arr 68.25 57 eP **P** **23 48 02.4 +0.2**
CM31 Chiang Mai Arr 68.26 57 eP **P** **23 48 02.8 +0.4**
CM31 Chiang Mai Arr 68.26 57 P P **23 48 02.7 +0.4**
SNR=12
CMAR Chiang Mai Arr 68.26 57 P **P** **23 48 02.8 +0.5**
comp=Z,23nm,0.9s,baz=238,slow=7.7,SNR=109
CMAR LR LR 00 13 50.5
comp=Z,63nm,21.9s,baz=224,slow=32
GOF Gofitskoye 68.27 360 eP **P** **23 48 02.7 +0.9**
GOF pmax pmax
comp=Z,70nm,0.9s
VTS Vitosha 68.45 344 eP **P** **23 48 03.2 +0.1**
comp=Z,9.3nm,1.0s
VTS Vitosha 68.45 344⇑*i* P **P** **23 48 04.1 +1.0**
VTS Vitosha 68.45 344 eP **P** **23 48 03.2 +0.1**
VTS pmax pmax
comp=Z,9.0nm,1.0s
CHTO Chiang Mai 68.47 57 eP **P** **23 48 03.4 -0.2**
comp=Z,24nm,0.8s
CHTO Chiang Mai 68.47 57 eP **P** **23 48 03.4 -0.2**
CHTO pmax pmax
comp=Z,24nm,0.8s
CHTO Chiang Mai 68.47 57 P **P** **23 48 04.0 +0.5**
SNR=5.9
CHTO Chiang Mai 68.47 57 P **P** **23 48 03.9 +0.3**
comp=Z,165nm,0.9s,comp=Z,2µm
PBKT Sadao Pong 68.78 60 P **P** **23 48 06.1 +0.6**
comp=Z,71nm,0.9s,comp=Z,1µm
TIRR Tirgusor 69.09 348⇑*i* P **P** **23 48 07.8 +1.0**
UTTA Uttaradit 69.11 59 P **P** **23 48 07.9 +0.4**
SFK Sufi-Kurgan 69.11 24 *i* P **P** **23 48 08.1 +0.7**
SFK pmax pmax
comp=Z,32nm,0.9s
CHAI Chaiyaphum 69.22 61 P **P** **23 48 09.2 +0.9**
comp=Z,6.9nm,1.0s
TLB Topalu 69.28 348⇑*i* P **P** **23 48 08.5 +0.5**
KSH Kashi 69.65 26 P **P** **23 48 08.8 -1.8**
KSH pP pP 23 48 12.0 -6.0
KSH sP sP 23 48 16.8 -4.0
KSH PcP **PcP** **23 48 30.8 -2.6**
KSH PP **PP** **23 50 42.5 -2.6**
KSH S **S** **23 57 11.0 -6.8**
KSH sS pS 23 57 20.0 -7.1
KSH ScS **SKSac** **23 58 04.0 -5.8**
KSH SS **SS** **00 01 38.0 -8.7**
KSH pmax pmax
comp=Z,54nm,0.9s
KSH LR LR
comp=Z,210nm,6.5s
KSH LR LR
comp=Z,610nm,9.4s
SULR **69.72 347**⇓*i* P **P** **23 48 12.9 +2.2**
STKI Sintang 69.81 81 P **P** **23 48 11.6 -0.5**
CFR Carcaliu 69.83 348⇑*i* P **P** **23 48 12.5 +1.1**
LSA Lhasa 69.93 43 P **P** **23 48 13.8 +0.8**
LSA pmax pmax
comp=Z,30nm,1.4s
LSA Lhasa 69.93 43 eP **P** **23 48 13.8 +0.8**
comp=Z,38nm,1.0s
LSA Lhasa 69.93 43 *i* P **P** **23 48 14.0 +1.0**
SNR=11
LSA Lhasa 69.93 43 eP **P** **23 48 13.8 +0.8**
LSA pmax pmax
comp=Z,37nm,1.0s
SRBI Singaraja 69.99 90 P **P** **23 48 12.7 -0.5**
ARSB Arslanbob 70.06 23 eP **P** **23 48 13.8 +0.6**
comp=Z,17nm,1.0s
ISR Istrita 70.08 347⇓*i* P **P** **23 48 15.3 +2.2**
SECR **70.10 347**⇓*i* P **P** **23 48 15.3 +2.2**
GOLR **70.15 346**⇑*i* P **P** **23 48 15.7 +2.3**
MLR Muntele Rosu 70.56 347 eP **P** **23 48 17.0 +0.9**
comp=Z,23nm,1.0s
MLR Muntele Rosu 70.56 347⇑*i* P **P** **23 48 17.3 +1.2**
MLR Muntele Rosu 70.56 347 eP **P** **23 48 17.0 +0.9**
MLR pmax pmax
comp=Z,23nm,1.0s
VOIR **70.70 346**⇑*i* P **P** **23 48 17.6 +0.7**
DIVS Divibare 70.71 342 eP **P** **23 48 18.3 +1.3**
comp=Z,24nm,0.9s
ARR Arges 70.73 346⇑*i* P **P** **23 48 17.9 +0.9**
PLOR Plostina 70.76 348⇑*i* P **P** **23 48 18.3 +1.1**
VRI Vrincioaia 70.76 348⇓*i* P **P** **23 48 18.6 +1.4**
HERR Herculane 70.79 344⇑*i* P **P** **23 48 18.4 +1.1**
KK31 Karatay Array 70.80 21 eP **P** **23 48 18.1 +0.6**
KK31 Karatay Array 70.80 21 eP **P** **23 48 18.1 +0.6**
KKAR Karatay Array 70.80 21 eP **P** **23 48 17.9 +0.4**
KKAR Karatay Array 70.80 21 eP **P** **23 48 17.9 +0.4**
MNAS Manas 70.92 22 *i* P **P** **23 48 18.3 0.0**
MNAS pmax pmax
comp=Z,13nm,0.9s
AML Almayashu 71.03 23 P **P** **23 48 20.4 +1.1**
SNR=9.0
LEOM Leova 71.06 349⇑*i* P **P** **23 48 20.3 +1.4**
DOPR Dopca 71.13 347⇑*i* P **P** **23 48 19.8 +0.4**
GZR Gura Zlata 71.18 345⇑*i* P **P** **23 48 21.2 +1.4**
NRN Naryn 71.29 25 eP **P** **23 48 21.3 +0.4**
comp=Z,4.9nm,0.9s
NRN Naryn 71.29 25 eP **P** **23 48 21.3 +0.4**
NRN pmax pmax
comp=Z,5.0nm,0.9s
SKNT Sakolnakorn 71.41 61 P **P** **23 48 22.1 +0.4**
comp=Z,39nm,1.1s,comp=Z,839nm
UCH Uchtor 71.41 24 P **P** **23 48 23.3 +1.5**
SNR=11
SBUM Sibu 71.49 79 eP **P** **23 48 22.4 +0.1**
comp=Z,26nm,1.4s
SBUM Sibu 71.49 79 P **P** **23 48 22.6 +0.3**
EKS2 Erkin-Say 71.52 23 P **P** **23 48 23.0 +1.1**
SNR=11
KZA Kyzart 71.55 24 P **P** **23 48 23.9 +1.3**
SNR=11
BANR Banloc 71.59 344⇓*i* P **P** **23 48 24.4 +2.3**
BZS Buzias 71.68 344⇑*i* P **P** **23 48 24.2 +1.5**
AAK Ala-Archa 71.76 24 P **P** **23 48 24.7 +1.3**
SNR=11
AAK Ala-Archa 71.76 24 eP **P** **23 48 24.7 +1.3**
comp=Z,17nm,1.0s
AAK Ala-Archa 71.76 24 *i* P **P** **23 48 24.3 +0.8**
SNR=25
AAK Ala-Archa 71.76 24*c i* P **P** **23 48 24.6 +1.1**
AAK pmax pmax
comp=Z,31nm,1.7s
AAK MLR MLR
comp=Z,188nm,18.0s
AAK Ala-Archa 71.76 24 P **P** **23 48 24.4 +0.9**
SNR=9.6
IAS Iasi 71.88 349⇑*i* P **P** **23 48 24.8 +1.0**
TIM Timisoara 71.89 344⇑*i* P **P** **23 48 26.2 +2.3**
BIZ Bicaz 71.92 347⇑*i* P **P** **23 48 25.3 +1.2**
KBK Karagaybulak 71.94 24 P **P** **23 48 26.1 +1.5**
SNR=24
FRU Bishkek 71.97 23⇑eP **P** **23 48 25.0 +0.4**
FRU pmax pmax
comp=Z,60nm,1.8s
PLAI Plampang 72.07 92 P **P** **23 48 25.3 -0.5**
ULHL Ulahol 72.08 25 P **P** **23 48 26.5 +1.0**
SNR=7.8
BLY Banja Luka 72.12 341 eP **P** **23 48 26.2 +0.8**
comp=Z,22nm,1.0s
BLY Banja Luka 72.12 341⇓*i* P **P** **23 48 26.6 +1.2**
CHMS Chumysh 72.16 23 P **P** **23 48 26.2 +0.5**
SNR=14
CJR Cluj-Napoca 72.23 346⇑*i* P **P** **23 48 28.0 +1.9**
SIRR Siria 72.28 344⇑*i* P **P** **23 48 27.8 +1.5**
PRAR RASCA 72.30 348⇑*i* P **P** **23 48 27.4 +1.0**
USP Ospenovka 72.31 23 P **P** **23 48 27.3 +0.7**
SNR=24
KDJ Kajisay 72.35 26 eP **P** **23 48 27.9 +1.0**
comp=Z,7.8nm,0.9s
KDJ Kajisay 72.35 26 eP **P** **23 48 28.0 +1.0**
KDJ pmax pmax
comp=Z,8.0nm,0.9s
TKM2 Tokmak 2 72.41 24 P **P** **23 48 28.4 +1.0**
SNR=42
TKM2 Tokmak 2 72.41 24 *i* P **P** **23 48 27.8 +0.4**
TKM2 pmax pmax
comp=Z,26nm,0.8s
ARCR ARCALIA 72.42 346⇓*i* P **P** **23 48 28.7 +1.6**
DRGR **72.51 345**⇑*i* P **P** **23 48 29.2 +1.4**
KBKI Kotabaru 72.71 86 P **P** **23 48 29.2 -0.4**
BURAR Bucovina Array 72.74 347⇑*i* P **P** **23 48 31.2 +2.1**
BUR04 Bucovina Ar. S 72.74 347 eP **P** **23 48 30.2 +1.1**
BUR08 Bucovina Ar. S 72.77 347 eP **P** **23 48 30.6 +1.3**
VNDA Vanda 72.95 168 P **P** **23 48 29.7 -0.3**
comp=Z,2.4nm,0.9s,baz=252,slow=10,SNR=4.7
VNDA LR LR 00 18 11.8
comp=Z,113nm,18.0s,baz=248,slow=34
MORH Mrgy, Hungar 73.03 342 eP **P** **23 48 31.0 +0.3**
PRZ Przheval'sk 73.13 26 eP **P** **23 48 33.3 +1.6**
comp=Z,17nm,0.9s
PRZ Przheval'sk 73.13 26 eP **P** **23 48 33.3 +1.6**
PRZ pmax pmax
comp=Z,17nm,0.9s
CRES Cresnjev 73.63 340 eP **P** **23 48 35.3 +1.0**
TRPA Tarpa 73.81 345⇑*i* P **P** **23 48 36.2 +0.9**
TRPA Tarpa 73.81 345 eP **P** **23 48 36.0 +0.7**
TIH Tihany 73.87 342⇑eP **P** **23 48 36.0 +0.4**
ABKAR Akbulak array 73.92 11 eP **P** **23 48 36.4 +0.5**
KOGS Kog 73.94 341 *i* P **P** **23 48 37.0 +0.9**
PDKS Podkum 73.98 340 *i* P **P** **23 48 37.4 +1.0**
BUD Budapest 74.09 343⇑eP **P** **23 48 37.1 +0.2**
PSZ Piszkesteto 74.26 344 eP **P** **23 48 38.2 +0.2**
comp=Z,35nm,0.9s
PSZ Piszkesteto 74.26 344⇑*i* P **P** **23 48 38.7 +0.7**
PSZ Piszkesteto 74.26 344 eP **P** **23 48 38.2 +0.2**
PSZ pmax pmax
comp=Z,35nm,0.9s
PSZ Piszkesteto 74.26 344⇑eP **P** **23 48 38.1 0.0**
VRH Novokhopyorsk 74.44 359 eP **P** **23 48 38.7 -0.1**
VRH pmax pmax
comp=Z,20nm,0.9s
SOKA Soboth 74.52 340 eP **P** **23 48 40.2 +0.6**
comp=Z,15nm,1.0s
VSR Storozhevoye 74.54 357*c i* P **P** **23 48 39.1 -0.3**
VSR pmax pmax
comp=Z,53nm,1.2s
ARSA Arzberg 74.88 341 *i* P **P** **23 48 42.5 +0.9**
comp=Z,8.4nm,0.9s
SOP Sopron 74.96 341⇓eP **P** **23 48 43.0 +1.0**
KMI Kunming 74.99 54 P **P** **23 48 42.5 -0.5**
KMI pP pP 23 48 51.8 +1.3
KMI sP PcP 23 48 56.5 -0.2
KMI pmax pmax
comp=Z,18nm,1.2s
KMI pmax pmax
comp=Z,93nm,3.5s
KMI LR LR
comp=Z,190nm,13.7s
KMI LR LR
comp=Z,130nm,12.7s
KMI LR LR
comp=Z,220nm,21.5s
KMI Kunming 74.99 54 eP **P** **23 48 42.3 -0.7**
comp=Z,19nm,1.0s
AK11 Malin Array Si 74.99 351 eP **P** **23 48 42.2 +0.1**
AKASG Malin Array Be 75.00 351 P **P** **23 48 42.2 +0.1**
comp=Z,5.5nm,0.8s,baz=174,slow=5.3,SNR=26
AKBB Malin Array Si 75.00 351 eP **P** **23 48 42.2 0.0**
comp=Z,13nm,1.0s
AKBB Malin Array Si 75.00 351 eP **P** **23 48 42.2 0.0**
AKBB pmax pmax
comp=Z,13nm,1.0s
VYHS Vyhne 75.07 343 eP **P** **23 48 41.4 -1.2**
VYHS pmax pmax
comp=Z,9.0nm,1.0s

VYHS Vyhne 75.07 343 *e*P P **P 23 48 41.4 -1.2**
KWP Kalwaria Pacla 75.19 346 *e*P P **P 23 48 44.0 +0.7**
KWP Kalwaria Pacla 75.19 346 *e*P P **P 23 48 44.0 +0.7**
ZST Bratislava 75.27 342 *e*P P **P 23 48 43.7 -0.1**
ZST pmax pmax
comp=Z,1.0nm,1.0s
ZST Bratislava 75.27 342 *e*P P **P 23 48 43.7 -0.1**
MODS Modra-Piesok 75.38 342 *e*P P **P 23 48 45.0 +0.6**
MODS pmax pmax
comp=Z,39nm,1.3s
MODS Modra-Piesok 75.38 342 *e*P P **P 23 48 45.0 +0.6**
CONA Conrad Observa 75.39 341 *i*P P **P 23 48 45.2 +0.6**
comp=Z,10nm,1.0s,SNR=5.2
ABTA Abfaltersbach 75.40 338 *e*P P **P 23 48 45.4 +0.7**
comp=Z,7.8nm,0.9s
KBA Koelnbreinsper 75.42 339 *e*P P **P 23 48 45.4 +0.6**
comp=Z,10nm,1.0s
LANS Liptovska Anna 75.51 344 *e*P P **P 23 48 46.5 +1.3**
LANS Liptovska Anna 75.51 344 *e*P P **P 23 48 46.5 +1.3**
BKSI Bulukumba 75.55 90 P P **P 23 48 45.8 -0.4**
NIE Niedzica 75.55 345 *e*P P **P 23 48 46.6 +1.2**
NIE Niedzica 75.55 345 *e*P P **P 23 48 46.6 +1.2**
EDFI Ende, Flores 75.68 93 P P **P 23 48 46.6 -0.5**
JAVC Velka Javorina 75.71 343 *e*P P **P 23 48 47.5 +1.1**
MOA Molln 75.80 340 *i*P P **P 23 48 47.7 +0.8**
comp=Z,20nm,1.1s,SNR=6.0
FITZ Fitzroy Crossi 75.90 104 *e*P P **P 23 48 48.2 0.0**
comp=Z,26nm,1.3s
LPSR Galich'ya Gora 75.93 357 *e*P P **P 23 48 47.5 +0.1**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
FUORN Ofenpass-Fuorn 76.08 337 *e*P P **P 23 48 49.7 +1.0**
comp=Z,18nm,0.8s
BNI Bardonecchia 76.12 334 *e*P P **P 23 48 51.0 +2.1**
comp=Z,31nm,1.2s
RJOB Jochberg 76.17 339 *e*P P **P 23 48 49.4 +0.4**
comp=Z,6.4nm,0.8s,baz=149,slow=5.7
MMRI Maumere 76.23 94 *e*P P **P 23 48 49.5 -0.6**
comp=Z,116nm,0.7s
MMRI Maumere 76.23 94 P P **P 23 48 49.7 -0.4**
WATA Walderalm 76.23 338 *i*P P **P 23 48 49.8 +0.3**
comp=Z,11nm,0.8s,SNR=8.1
FETA Feichten 76.25 338 *i*P P **P 23 48 50.7 +1.1**
comp=Z,36nm,1.0s,SNR=10
KRUC Moravsky 76.25 342 *e*P P **P 23 48 49.2 -0.2**
SQTA Sankt Quirin 76.26 338 *i*P P **P 23 48 50.4 +0.8**
comp=Z,22nm,0.7s,SNR=5.5
MOTA Moosalm 76.40 338 *i*P P **P 23 48 50.9 +0.4**
comp=Z,23nm,0.9s,SNR=14
OJC Ojcow 76.41 345 *e*P P **P 23 48 50.7 +0.5**
OJC Ojcow 76.41 345 *e*P P **P 23 48 50.6 +0.3**
comp=Z,25nm,1.0s
OJC Ojcow 76.41 345 *e*P P **P 23 48 50.6 +0.3**
OJC pmax pmax
comp=Z,25nm,1.0s
VRAC Vranov 76.42 342⇓*i*P P **P 23 48 50.9 +0.6**
VRAC Vranov 76.42 342 *e*P P **P 23 48 50.6 +0.3**
OKC Ostrava-Krasne 76.48 343 *e*P P **P 23 48 51.5 +0.9**
OKC Ostrava-Krasne 76.48 343 *e*P P **P 23 48 51.5 +0.9**
MORC Moravsky Berou 76.58 343 *e*P P **P 23 48 51.8 +0.5**
comp=Z,13nm,0.9s
MORC Moravsky Berou 76.58 343⇑*i*P P **P 23 48 51.9 +0.6**
MORC Moravsky Berou 76.58 343 *e*P P **P 23 48 51.8 +0.5**
MORC pmax pmax
comp=Z,13nm,0.9s
MORC Moravsky Berou 76.58 343 *e*P P **P 23 48 51.7 +0.5**
KKM Kota Kinabalu 76.63 77 P P **P 23 48 52.1 -0.4**
RETA Reutte 76.64 338 *i*P P **P 23 48 52.4 +0.7**
comp=Z,22nm,0.8s
TREC Trest 76.72 342 *e*P P **P 23 48 52.4 +0.3**
TREC Trest 76.72 342 *e*P P **P 23 48 52.4 +0.3**
DAVA Damuels 76.78 337 *e*P P **P 23 48 53.3 +0.7**
comp=Z,18nm,0.8s
GEA0 GERESS Array S 76.85 340 *e*P P **P 23 48 52.7 -0.2**
GEC2 GERESS Array S 76.86 340 *e*P P **P 23 48 53.0 +0.1**
comp=Z,11nm,1.0s
GEC2 GERESS Array S 76.86 340 *e*P P **P 23 48 53.5 +0.5**
comp=Z,7.1nm,0.9s,baz=149,slow=5.7
GEC2 GERESS Array S 76.86 340 *e*P P **P 23 48 53.0 +0.1**
GEC2 pmax pmax
comp=Z,11nm,1.0s
GERES GERESS Array B 76.86 340 P P **P 23 48 52.9 -0.1**
comp=Z,5.2nm,0.8s,baz=145,slow=4.9,SNR=38
SENIN Lac Senin/Sane 76.96 335 *e*P P **P 23 48 53.7 -0.1**
comp=Z,12nm,0.9s
ES19 SONSECA Array 76.96 324 *e*P P **P 23 48 54.9 +1.2**
ESDC Sonseca Array 76.98 324 P P **P 23 48 55.0 +1.2**
comp=Z,8.8nm,0.8s,baz=139,slow=6.2,SNR=43
ESLA Sonseca Array 76.98 324 *e*P P **P 23 48 54.3 +0.5**
comp=Z,14nm,0.9s
UBR Ueberruh 77.04 338 *e*P P **P 23 48 55.2 +1.3**
comp=Z,22nm,0.8s,baz=149,slow=5.7
FUR Furstenfeldbru 77.05 338 *e*P P **P 23 48 55.4 +1.4**
comp=Z,38nm,0.8s,baz=149,slow=5.7
PAB San Pablo 77.09 324 *e*P P **P 23 48 54.8 +0.3**
comp=Z,15nm,1.0s
KHC Kasperske Hory 77.15 340 *e*P P **P 23 48 53.9 -0.6**
comp=Z,2.3nm,0.9s
KHC Kasperske Hory 77.15 340 *e*P P **P 23 48 54.5 0.0**
KHC Kasperske Hory 77.15 340 *e*P P **P 23 48 53.9 -0.6**
KHC pmax pmax
comp=Z,2.0nm,0.9s
QIZ Qiongzhong 77.23 63 P P **P 23 48 58.0 +2.4**
QIZ S S **S 23 58 49.0 +4.8**
QIZ pmax pmax
comp=Z,20nm,1.5s
QIZ LR LR
comp=Z,210nm,18.8s
WET Wettzell 77.38 340 *e*P P **P 23 48 56.1 +0.3**
comp=Z,2.8nm,0.7s,baz=149,slow=5.7
DPC Dobruska-Polom 77.44 342 *e*P P **P 23 48 56.4 +0.3**
DPC *ex* x 23 49 03.8
DPC Dobruska-Polom 77.44 342 *e*P P **P 23 48 56.4 +0.3**
DPC *e* 23 49 03.8
GOPC GO Pecny, Ondr 77.48 341 *e*P P **P 23 48 56.7 +0.4**
GOPC GO Pecny, Ondr 77.48 341 *e*P P **P 23 48 56.7 +0.4**
MPSI Mapaga 77.58 84 P P **P 23 48 57.3 -0.4**
PRU Pruhonice 77.62 341 *e*P P **P 23 48 57.2 +0.2**
PRU Pruhonice 77.62 341 *e*P P **P 23 48 57.2 +0.2**
UPC Upice 77.66 342 *e*P P **P 23 48 58.2 +0.9**
UPC *ex* x 23 49 06.2
UPC Upice 77.66 342 *e*P P **P 23 48 58.2 +0.9**
UPC *e* 23 49 06.2
SOEI Soe 77.67 95 *e*P P **P 23 48 59.5 +1.2**
comp=Z,65nm,1.1s
SOEI Soe 77.67 95 P P **P 23 48 57.8 -0.5**
PRA Prague 77.72 341 *e*P P **P 23 48 58.3 +0.7**
PRA *ex* x 23 49 05.7
PRA Prague 77.72 341 *e*P P **P 23 48 58.3 +0.7**
PRA *e* 23 49 05.7
KSP Ksiaz 77.89 343 *e*P P **P 23 48 59.7 +1.1**
KSP Ksiaz 77.89 343 *e*P P **P 23 48 59.7 +1.1**
MESJ Messejana 78.09 321 *e*P P **P 23 49 01.0 +1.1**
MESJ AMb AMB 23 49 04.2
comp=Z,33nm,1.2s
MESJ Messejana 78.09 321 *e*P P **P 23 49 02.3 +2.4**
MESJ Messejana 78.09 321 *e*P P **P 23 49 01.0 +1.1**
MESJ pmax pmax
comp=Z,33nm,1.2s
ROTZ Rotzenmuhle 78.14 340 *e*P P **P 23 49 00.9 +0.9**
comp=Z,10nm,0.8s,baz=149,slow=5.7
ROTZ *ep*P **pP 23 49 08.4 +1.2**
MAKZ Makanchi 78.14 26 *e*P P **P 23 49 00.1 0.0**
comp=Z,18nm,0.9s
MAKZ Makanchi 78.14 26 *e*P P **P 23 49 00.1 0.0**
MAKZ pmax pmax
comp=Z,18nm,0.9s
BFO Black Forest 78.22 337 *e*P P **P 23 49 01.3 +0.8**
comp=Z,12nm,0.9s
BFO Black Forest 78.22 337 *e*P P **P 23 49 01.7 +1.2**
comp=Z,9.0nm,0.9s,baz=149,slow=5.7
BFO Black Forest 78.22 337 *i*P P **P 23 49 02.1 +1.6**
MK01 Makanchi Array 78.24 26 *e*P P **P 23 49 00.3 -0.3**
MK31 Makanchi Array 78.25 26 *e*P P **P 23 49 00.4 -0.3**
MK31 Makanchi Array 78.25 26 *e*P P **P 23 49 00.4 -0.3**
MKAR Makanchi Array 78.25 26 P P **P 23 49 00.5 -0.2**
comp=Z,10nm,0.8s,baz=218,slow=5.3,SNR=80
MKAR LR LR 00 21 35.3
comp=Z,63nm,19.6s,baz=240,slow=34
MKAR Makanchi Array 78.25 26 *e*P P **P 23 49 00.6 -0.2**
comp=Z,57nm,0.8s
WMQ Urumqi 78.29 31 P P **P 23 49 03.5 +2.5**
WMQ pP sP 23 49 11.5 +0.1
WMQ sP PcP 23 49 15.5 +5.2
WMQ pmax pmax
comp=Z,11nm,1.1s
WMQ pmax pmax
comp=Z,440nm,6.5s
WMQ LR LR
comp=Z,240nm,23.1s
WMQ LR LR
comp=Z,200nm,17.9s
WMQ LR LR
comp=Z,250nm,20.5s
MANZ Manzenberg 78.36 340 *e*P P **P 23 49 02.1 +0.9**
comp=Z,63nm,0.9s,baz=149,slow=5.7
MANZ *ep*P **pP 23 49 09.7 +1.3**
GRFO Grafenberg 78.39 339 *e*P P **P 23 49 01.7 +0.4**
comp=Z,37nm,0.8s
GRFO Grafenberg 78.39 339 *e*P P **P 23 49 01.7 +0.4**
GRFO pmax pmax
comp=Z,37nm,0.8s
GRA1 Grafenberg Arr 78.39 339 *e*P P **P 23 49 02.0 +0.6**
comp=Z,47nm,0.9s
GRF Grafenberg Arr 78.39 339 *e*P P **P 23 49 02.8 +1.4**
comp=Z,32nm,0.8s,baz=149,slow=5.7
GRF Grafenberg Arr 78.39 339 *e*P P **P 23 49 02.0 +0.6**
GRF pmax pmax
comp=Z,47nm,0.9s
PESTR Estremoz 78.42 322 *e*P P **P 23 49 03.6 +1.8**
comp=Z,33nm,1.2s
EVO Evora 78.44 321 *e*P P **P 23 49 06.1 +4.2**
comp=Z,30nm,1.9s
PNCL Nicolau / Gran 78.45 321 *e*P P **P 23 49 04.2 +2.3**
comp=Z,52nm,1.6s
NKC Novy Kostel 78.47 340 *e*P P **P 23 49 02.8 +1.0**
NKC Novy Kostel 78.47 340 *e*P P **P 23 49 02.8 +1.0**
WERN Wernitzgruen 78.54 340 *e*P P **P 23 49 03.5 +1.2**
comp=Z,4.8nm,0.8s,baz=149,slow=5.7
OBN Obninsk 78.57 356 *e*P P **P 23 49 02.3 +0.2**
comp=Z,61nm,1.4s
OBN Obninsk 78.57 356*d*/*i*P P **P 23 49 02.9 +0.8**
OBN *e* 23 49 10.8
OBN *e* 23 51 59.2
OBN pmax pmax
comp=Z,50nm,1.4s
OBN MLR MLR
comp=Z,189nm,18.0s
BRG Berggiesshubel 78.58 341 *i*P P **P 23 49 02.9 +0.5**
comp=Z,16nm,1.1s
BRG *e* 23 49 10.5
comp=Z,9.0nm,1.0s
BRG Berggiesshubel 78.58 341 *e*P P **P 23 49 03.4 +1.0**
comp=Z,7.0nm,0.9s,baz=149,slow=5.7
BRG *ep*P **PcP 23 49 11.0 -0.3**
BRG Berggiesshubel 78.58 341 *i*P P **P 23 49 02.9 +0.5**
BRG *e* 23 49 10.5
BRG pmax pmax
comp=Z,16nm,1.2s
BRG pmax pmax
comp=Z,9.0nm,1.0s
GUNZ Gunzen 78.62 340 *e*P P **P 23 49 04.1 +1.4**
comp=Z,18nm,0.9s,baz=149,slow=5.7
TANN Tannbergstha 78.63 340 *e*P P **P 23 49 04.1 +1.4**
comp=Z,38nm,0.8s,baz=149,slow=5.7
GYA Guiyang 78.66 55 P P **P 23 49 06.5 +3.0**
GYA pP pP 23 49 11.3 +0.2
GYA PP **PP 23 52 05.8 +3.8**
GYA S S **23 59 03.0 +3.4**
GYA SKS **SKSac 23 59 16.5 -1.1**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.9s
APSI Ampana 78.68 86 P P **P 23 49 03.4 -0.4**
PMRV Marv??o 78.69 322 *e*P P **P 23 49 04.5 +1.2**
FBE Freiberg 78.80 341 *e*P P **P 23 49 04.8 +1.2**
comp=Z,6.6nm,0.8s,baz=149,slow=5.7
PMTG Montargil 78.92 321 *e*P P **P 23 49 07.2 +2.7**
PCBR Castelo Branco 79.02 322 *e*P P **P 23 49 07.5 +2.5**
comp=Z,36nm,1.7s
CD2 Chengdu 79.08 49 *e*P P **P 23 49 07.0 +1.4**
CD2 S S **23 59 08.0 +4.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.8s
CD2 LR LR
comp=Z,260nm,13.4s
CD2 LR LR
comp=Z,370nm,6.8s
MOX Moxa 79.09 340 *e*P P **P 23 49 06.5 +1.3**
comp=Z,9.4nm,0.9s,baz=149,slow=5.7
MOX *ep*P **PcP 23 49 13.7 +0.1**
MOS Moscow 79.13 357 *e*P P **P 23 49 04.6 -0.6**
MOS *e* 23 49 12.4
MOS pmax pmax
comp=Z,93nm,1.2s
SUW Suwalki 79.23 348 *e*P P **P 23 49 06.3 +0.6**
SUW Suwalki 79.23 348 *e*P P **P 23 49 06.5 +0.6**
comp=Z,89nm,1.0s
SUW Suwalki 79.23 348 *e*P P **P 23 49 06.4 +0.6**
CLL Collm 79.25 341 *e*P P **P 23 49 05.2 -0.8**
comp=Z,17nm,0.9s
CLL Collm 79.25 341 *e*P P **P 23 49 07.2 +1.2**
comp=Z,12nm,0.9s,baz=149,slow=5.7
CLL Collm 79.25 341⇑*i*P P **P 23 49 06.8 +0.8**
comp=Z,20nm,1.0s
CLL *ep*P **pP 23 49 10.0 -3.2**
CLL *ep*PcP **PcP 23 49 14.0 -0.2**
CLL Collm 79.25 341⇑*i*P P **P 23 49 06.8 +0.8**
CLL *e* 23 49 14.0
CLL pmax pmax
comp=Z,20nm,1.0s
PTOM Tomar 79.40 322 *e*P P **P 23 49 08.8 +1.7**
comp=Z,53nm,2.2s
NACGM Naroch 79.45 350 *e* P **P 23 49 08.0 +1.0**
NEUB Neuenburg 79.53 340 *e*P P **P 23 49 08.9 +1.4**
comp=Z,5.6nm,0.8s,baz=149,slow=5.7
LUWI Luwuk 79.65 87 *e*P P **P 23 49 09.5 +0.4**
comp=Z,140nm,1.3s
LUWI Luwuk 79.65 87 P P **P 23 49 08.8 -0.3**
BRVK Borovoye 79.73 16 *e*P P **P 23 49 08.9 +0.3**
comp=Z,28nm,1.2s
BRVK Borovoye 79.73 16 *e*P P **P 23 49 08.9 +0.3**
BRVK pmax pmax
comp=Z,27nm,1.2s
BRVK Borovoye 79.73 16 P P **P 23 49 09.1 +0.5**
SNR=7.4
UBBA Unterbreizbach 79.76 339 *e*P P **P 23 49 10.2 +1.5**
comp=Z,2.1nm,0.8s,baz=149,slow=5.7
TNS Taunus Mts 79.77 338 *e*P P **P 23 49 10.5 +1.5**
comp=Z,9.9nm,1.0s,baz=149,slow=5.7
GKP Gorka Klasztor 79.85 344 *e*P P **P 23 49 10.1 +0.9**
GKP Gorka Klasztor 79.85 344 *e*P P **P 23 49 10.1 +0.9**
IDID Didziasalis 79.86 350 *e*P P **P 23 49 10.1 +0.9**
IDID IAmb IAmb 23 49 11.9
comp=Z,16nm,1.1s
IIGN Ignalina 79.97 350 *e*P P **P 23 49 10.8 +0.9**
IIGN IAmb IAmb 23 49 12.7
comp=Z,20nm,1.3s
PBRG Braganca 79.98 324 *e*P P **P 23 49 11.8 +1.5**
comp=Z,46nm,1.8s
RUE Ruedersdorf 80.06 342 *e*P P **P 23 49 11.8 +1.5**
comp=Z,24nm,0.9s,baz=149,slow=5.7
RUE Ruedersdorf 80.06 342 *e*P P **P 23 49 10.8 +0.4**
RUE IAmb IAmb 23 49 12.9
comp=Z,48nm,1.1s
WLF Walferdange 80.13 336 *e*P P **P 23 49 12.3 +1.5**
comp=Z,26nm,0.8s,baz=149,slow=5.7
WLF Walferdange 80.13 336⇑P P **P 23 49 12.1 +1.2**
comp=Z,10nm,0.9s
KURK Kurchatov 80.14 22 *e*P P **P 23 49 11.0 +0.1**
comp=Z,12nm,1.0s
KURK Kurchatov 80.14 22 *e*P P **P 23 49 11.0 +0.1**
KURK pmax pmax
comp=Z,12nm,1.0s
ISAL Salakas 80.20 350 *e*P P **P 23 49 11.5 +0.4**
ISAL IAmb IAmb 23 49 12.5
comp=Z,12nm,1.2s
POLO Lamas de Olo 80.25 323 *e*P P **P 23 49 14.1 +2.3**
IZAR Zarasai 80.35 350 *e*P P **P 23 49 13.0 +1.1**
IZAR IAmb IAmb 23 49 14.4
comp=Z,32nm,1.4s
KLNR Kaliningrad 80.39 346⇓*e*P P **P 23 49 13.1 +1.0**
KLNR pmax pmax
comp=Z,149nm,1.4s
PABE Paberze 80.50 349 *e*P P **P 23 49 13.2 +0.6**
PABE IAmb IAmb 23 49 14.8
comp=Z,59nm,1.1s
CLZ Clausthal 80.52 340 *e*P P **P 23 49 14.7 +1.7**
comp=Z,5.5nm,0.8s,baz=149,slow=5.7
AHRW Bad Neuenahr-A 80.52 337 *e*P P **P 23 49 15.1 +2.2**
comp=Z,10nm,0.9s,baz=149,slow=5.7
ARU Arti 80.66 8 *e*P P **P 23 49 13.9 +0.4**
comp=Z,45nm,1.0s
ARU Arti 80.66 8*d*/*i*P P **P 23 49 13.6 +0.1**
ARU 23 52 13.2
ARU S S **23 59 21.5 +2.3**
ARU SS SS **00 04 29.5 -3.6**
ARU pmax pmax
comp=Z,55nm,1.1s
MEM Membach 80.96 337⇑P P **P 23 49 16.0 +0.8**
DOU Dourbes 81.06 336⇓P P **P 23 49 17.0 +1.2**
ASAR Alice Springs 81.13 112 P P **P 23 49 16.8 -0.3**
comp=Z,10nm,1.0s,baz=243,slow=4.8,SNR=41
ASAR LR LR 00 21 05.2
comp=Z,157nm,19.7s,baz=247,slow=33
AS31 Alice Springs 81.14 112 *e*P P **P 23 49 17.4 +0.4**
comp=Z,7.7nm,1.4s
NRDL Niedersach Rie 81.17 340 *e*P P **P 23 49 17.4 +1.2**
comp=Z,4.5nm,0.8s,baz=149,slow=5.7
AS01 Alice Springs 81.17 112 *e*P P **P 23 49 16.7 -0.6**
BUG Bochum--Univer 81.20 338 *e*P P **P 23 49 18.5 +1.9**
comp=Z,14nm,0.8s,baz=149,slow=5.7
BEBN Eben Emael 81.23 337⇑P P **P 23 49 17.9 +1.2**
SVE Sverdlovsk 81.34 9⇓*e*P P **P 23 49 17.7 +0.6**
SVE pmax pmax
comp=Z,31nm,1.3s
SNF Seneffe 81.51 336⇓P P **P 23 49 19.2 +1.1**
GTA Gaotai 81.71 41 *e*P P **P 23 49 20.3 +0.6**
GTA pP PcP 23 49 24.5 -0.9
GTA sP pP 23 49 27.5 +0.1
GTA pmax pmax
comp=Z,12nm,0.8s
GTA pmax pmax
comp=Z,190nm,7.6s
GTA LR LR
comp=Z,220nm,15.1s
GTA LR LR
comp=Z,220nm,14.1s
GTA LR LR
comp=Z,250nm,16.5s
UCC Uccle 81.72 336⇑P P **P 23 49 19.9 +0.6**
LZH Lanzhou 82.18 45 *e*P P **P 23 49 24.8 +2.5**
LZH pP pP 23 49 31.0 +1.0
LZH sP sP 23 49 34.0 +1.3
LZH pmax pmax
comp=Z,28nm,1.0s
LZH pmax pmax
comp=Z,110nm,4.8s
LZH LR LR
comp=Z,250nm,17.1s
LZH LR LR
comp=Z,230nm,17.5s
LZH LR LR
comp=Z,280nm,18.2s
SANI Sanana 82.20 89 P P **P 23 49 22.4 -0.4**
DGZ Jazzator, Alta 82.66 27⇑*e*P P **P 23 49 24.4 -0.1**
ENH Enshi 82.81 53 *e*P P **P 23 49 25.6 +0.1**
comp=Z,50nm,1.4s
VSU Vasula 82.89 351*d*/*i*P P **P 23 49 26.3 +1.1**
VSU pmax pmax
comp=Z,127nm,0.8s
VSU Vasula 82.89 351 *e*P P **P 23 49 26.0 +0.8**
VSU IAmb IAmb 23 49 27.6
comp=Z,140nm,0.9s
WRA Warramunga Arr 82.90 109 P P **P 23 49 26.4 +0.1**
comp=Z,15nm,0.9s,baz=249,slow=3.4,SNR=51
WRAB Tennant Creek 82.91 109 *e*P P **P 23 49 26.7 +0.3**
comp=Z,37nm,0.8s
WRAB Tennant Creek 82.91 109*c*/*i*P P **P 23 49 26.6 +0.2**
WRAB pmax pmax
comp=Z,40nm,1.3s
PUL Pulkovo 83.72 353⇓*e*P P **P 23 49 30.9 +1.4**
PUL pmax pmax
comp=Z,69nm,0.5s
KLMR Klimovskoe 84.16 358 *e*P P **P 23 49 29.7 -1.9**
KLMR pmax pmax
comp=Z,69nm,1.4s
KLMR Klimovskoe 84.16 358 *e*P P **P 23 49 29.8 -1.9**
KLMR AMP 23 49 33.8
comp=Z,69nm,1.4s
STKA Stephens Creek 84.25 122 P P **P 23 49 32.9 -0.2**
comp=Z,8.3nm,0.9s,baz=254,slow=6.3,SNR=10
STKA LR LR 00 21 53.6
comp=Z,161nm,18.1s,baz=205,slow=32
STKA Stephens Creek 84.25 122 *e*P P **P 23 49 32.4 -0.7**
comp=Z,6.3nm,1.4s
STKA Stephens Creek 84.25 122 *e*P P **P 23 49 32.4 -0.7**
STKA pmax pmax
comp=Z,6.0nm,1.4s
XAN Xi'an 84.44 49 P P **P 23 49 34.0 +0.1**
XAN pmax pmax
comp=Z,28nm,1.4s
XAN pmax pmax
comp=Z,190nm,3.8s
XAN LR LR
comp=Z,240nm,18.4s
XAN LR LR
comp=Z,260nm,21.7s
XAN Xi'an 84.44 49 *e*P P **P 23 49 34.1 +0.3**
comp=Z,27nm,1.0s
XAN Xi'an 84.44 49 *e*P P **P 23 49 34.2 +0.3**
XAN pmax pmax
comp=Z,27nm,1.0s
PRGR Permogore 84.90 1⇑*i*P P **P 23 49 35.6 +0.2**
PRGR pmax pmax
comp=Z,105nm,0.9s
ZAA0 Zalesovo Array 84.97 23 *e*P P **P 23 49 35.8 -0.2**
comp=Z,19nm,1.0s
ZALV Zalesovo Beam 84.97 23 P P **P 23 49 35.8 -0.1**
comp=Z,13nm,0.9s,baz=234,slow=5.1,SNR=33
ZALV LR LR 00 25 16.8
comp=Z,97nm,21.4s,baz=63,slow=34
ZALV Zalesovo Beam 84.97 23 *e*P P **P 23 49 35.3 -0.7**
ZALV Zalesovo Beam 84.97 23 *e*P P **P 23 49 35.3 -0.7**
NVS Novosibirsk 85.14 22 *e*P P **P 23 49 37.6 +0.9**
NVS pmax pmax
comp=Z,30nm,1.6s
NVS pmax pmax
comp=N,10.0nm,1.5s
NVS pmax pmax
comp=E,9.0nm,1.6s
BDFB Brasilia 85.33 255 P P **P 23 49 40.6 +1.7**
comp=E,1.1nm,0.4s,baz=36,slow=8.3,SNR=3.1
BDFB LR LR 00 22 47.9
comp=E,253nm,20.3s,baz=94,slow=32
FINES FINESS Array B 85.86 352 P P **P 23 49 41.2 +1.0**
comp=E,23nm,0.7s,baz=129,slow=7.6,SNR=72
FIA1 FINESS Array S 85.86 352 *e*P P **P 23 49 40.7 +0.5**
FAKI Fak Fak 87.61 92 *e*P P **P 23 49 48.3 -1.7**
comp=E,61nm,1.2s
FAKI Fak Fak 87.61 92 P P **P 23 49 49.6 -0.4**
NC602 NORSAR Array S 87.93 345 *e*P P **P 23 49 50.0 -0.3**
NB2 NORSAR Subarra 88.27 345 P P **P 23 49 52.5 +0.5**
comp=Z,1.5nm,0.8s,baz=149,slow=4.8
NOA NORSAR Array B 88.27 345 P P **P 23 49 52.7 +0.7**
comp=Z,4.4nm,1.1s,baz=144,slow=4.4,SNR=5.4
NOA LR LR 00 33 20.9
comp=Z,68nm,18.4s,baz=250,slow=38
CPUP Villa Florida 88.91 242 P P **P 23 49 55.7 -0.3**
comp=Z,2.6nm,0.7s,baz=123,slow=4.9,SNR=6.5
CPUP LR LR 00 26 18.0
comp=Z,169nm,21.0s,baz=197,slow=33
HHC Hu-ho-hao-te 89.86 45 *e*P P **P 23 50 02.5 +2.4**
HHC pmax pmax
comp=Z,19nm,1.4s
HHC pmax pmax
comp=Z,140nm,7.0s
SONM Songino Array 90.62 37 P P **P 23 50 03.2 -0.2**
comp=Z,0.7nm,0.9s,baz=240,slow=4.8,SNR=4.7
SONM LR LR 00 28 42.9
comp=Z,94nm,19.8s,baz=208,slow=34
NJ2 Nanjing 90.65 55 *e*P P **P 23 50 04.0 +0.2**
NJ2 pmax pmax
comp=Z,13nm,0.7s
ULN Ulaanbaatar 91.00 37⇑*e*P P **P 23 50 04.1 -1.2**
ULN pmax pmax
comp=Z,8.0nm,2.5s
PLCA Paso Flores 91.56 224 P P **P 23 50 08.0 -0.2**
comp=Z,2.3nm,0.9s,baz=206,slow=12,SNR=3.5
PLCA LR LR 00 26 05.3
comp=Z,106nm,18.8s,baz=216,slow=32
PLCA Paso Flores 91.56 224 P P **P 23 50 08.0 -0.2**
BJI Beijing 92.50 47 *e*P P 23 50 17.0 +4.9

BJI pmax pmax
comp=Z,6.0nm,2.4s
ARCES ARCESS Array B 93.73 354 P **P** **23 50 16.2 -0.9**
comp=Z,8.8nm,0.8s,baz=157,slow=3.4,SNR=16
ARCES ARCESS Array B 93.73 354 *e*P **P** **23 50 17.0 -0.2**
ARCES ARCESS Array B 93.73 354 *e*P **P** **23 50 17.0 -0.2**
KSRS Korea Array 99.69 53 LR LR 00 36 31.3
comp=Z,66nm,18.0s,baz=298,slow=36
DZM Mont Dzumac 108.25 125 *e*LR LR 00 27 17.1
comp=Z,150nm,22.1s
SEY Seymchan 119.23 30⇑ *i*PKIKP **PKiKP** **23 55 50.2 +0.6**
FRB Frobisher Bay 120.64 331 PKP **PKPdf** **23 55 51.7 -0.5**
comp=Z,3.2nm,0.8s,baz=89,slow=4.4,SNR=6.4
PETK Petropavlovsk- 122.88 41 PKP **PKPdf** **23 55 55.9 -1.0**
comp=Z,2.3nm,0.8s,baz=197,slow=4.5,SNR=2.6
BILL Bilibino 123.67 22⇑ *i*PKIKP **PKiKP** **23 55 59.2 +1.0**
BILL pmax pmax
comp=Z,3.0nm,0.9s
RES Resolute Bay 124.44 348 *e*PKPdf **PKiKP** **23 56 00.1 +0.6**
RES Resolute Bay 124.44 348 *e*PKIKP **PKiKP** **23 56 00.1 +0.6**
ALFO Alfred 126.17 310 P **PKiKP** **23 56 04.2 +0.4**
baz=88
R58B Mineral 128.47 301 P **PKiKP** **23 56 08.7 0.0**
baz=92
SSPA Standing Stone 128.50 304 *e*PKPdf **PKiKP** **23 56 08.8 +0.2**
SSPA Standing Stone 128.50 304 P **PKiKP** **23 56 08.9 +0.2**
baz=89
D52A ZEK Kipawa Sen 128.51 312 P **PKiKP** **23 56 08.7 +0.2**
baz=84
K55A Perry 128.58 307 P **PKiKP** **23 56 09.1 +0.3**
baz=88
G53A Haliburton 128.83 310 P **PKiKP** **23 56 09.5 +0.3**
baz=85
L55A Hinsdale 128.87 306 P **PKiKP** **23 56 09.9 +0.5**
baz=88
O56A Blue Knob Stat 129.02 304 *e*PKPdf **PKiKP** **23 56 10.0 +0.2**
O56A Blue Knob Stat 129.02 304 P **PKiKP** **23 56 09.9 +0.1**
baz=89
N55A Marion Center 129.33 304 P **PKiKP** **23 56 10.5 +0.1**
baz=89
D50A G1974 Best Tow 129.46 312 P **PKiKP** **23 56 10.1 -0.2**
baz=83
O55A Ligonier 129.59 303 P **PKiKP** **23 56 11.4 +0.5**
baz=89
H52A Wyevale 129.77 309 P **PKiKP** **23 56 11.2 +0.1**
baz=85
P55A Reedsville 130.00 303 P **PKiKP** **23 56 11.7 -0.1**
baz=89
MCWV Mont Chateau 130.01 303 P **PKiKP** **23 56 12.0 +0.3**
baz=89
L53A Girard 130.24 306 P **PKiKP** **23 56 11.9 -0.2**
baz=87
R55A Marlinton 130.24 301 P **PKiKP** **23 56 12.1 -0.3**
baz=90
J52A Paris 130.31 307 P **PKiKP** **23 56 12.4 +0.2**
baz=86
O54A Avella 130.41 303 P **PKiKP** **23 56 12.9 +0.4**
baz=88
557A Orange Park 131.15 290 P **PKPdf** **23 56 13.4 0.0**
baz=96
O52A Adamsville 131.53 303 *e*PKPdf **PKiKP** **23 56 14.6 -0.2**
O52A Adamsville 131.53 303 P **PKiKP** **23 56 14.4 -0.4**
baz=87
N51A Ashland 131.89 305 P **PKPdf** **23 56 14.7 +0.2**
baz=86
E47A Iron Bridge 131.90 312 P **PKiKP** **23 56 14.9 -0.3**
baz=80
V53A Saluda 132.39 297 P **PKPdf** **23 56 15.9 +0.3**
baz=91
N50A Nevada 132.49 304 P **PKPdf** **23 56 15.8 +0.2**
baz=86
GOGA Godfrey 132.88 294 *e*PKPdf **PKPdf** **23 56 16.8 +0.2**
Y53A Monroe 132.99 295 P **PKPdf** **23 56 17.2 +0.4**
baz=92
T51A Gray 133.30 299 P **PKPdf** **23 56 17.5 +0.2**
baz=89
Y52A Lilburn 133.39 295 P **PKiKP** **23 56 18.2 -0.5**
baz=92
M48A Edgerton 133.60 306 *e*PKPdf **PKiKP** **23 56 18.4 -0.5**
M48A Edgerton 133.60 306 P **PKiKP** **23 56 18.4 -0.5**
baz=84
V51A Loudon 133.64 298 P **PKiKP** **23 56 19.0 -0.1**
baz=90
Z52A Williamson 133.66 294 P **PKPdf** **23 56 18.7 +0.6**
baz=92
P49A Miami Univ. Ec 133.78 303 P **PKPdf** **23 56 18.1 0.0**
baz=86
FCC Fort Churchill 133.84 331 *e*PKPdf **PKPdf** **23 56 17.9 +0.4**
252A Lumpkin 133.88 292 P **PKPdf** **23 56 19.0 +0.5**
baz=93
L47A Sherwood 133.91 306 P **PKPdf** **23 56 18.5 +0.3**
baz=83
352A Blakely 134.01 292 *e*PKPpre PKPpre 23 56 05.8
U50A Jamestown 134.03 299 P **PKPdf** **23 56 19.1 +0.4**
baz=89
X51A Calhoun 134.06 296 *e*PKPdf **PKiKP** **23 56 20.5 +0.4**
X51A Calhoun 134.06 296 P **PKiKP** **23 56 20.3 +0.2**
baz=90
X50B Fort Payne 134.71 296 P **PKiKP** **23 56 21.2 -0.3**
baz=90
U49A Red Boiling Sp 134.78 299 P **PKPdf** **23 56 20.4 +0.3**
baz=88
V49A McMinnville 134.91 298 P **PKiKP** **23 56 21.6 -0.2**
baz=89
Z50A Ashland 134.93 294 *e*PKPdf **PKiKP** **23 56 21.5 -0.4**
Z50A Ashland 134.93 294 P **PKiKP** **23 56 21.5 -0.4**
baz=91
WCI Wyandotte Cave 135.10 301 P **PKPdf** **23 56 21.1 +0.6**
baz=86
INK Inuvik 135.20 358 PKP **PKPdf** **23 56 19.1 -0.7**
comp=Z,4.8nm,0.9s,baz=18,slow=3.1,SNR=9.2
INK Inuvik 135.20 358 *e*PKPdf **PKPdf** **23 56 20.1 +0.3**
W49A Belvidere 135.21 297 P **PKiKP** **23 56 21.7 -0.7**
baz=89
X49A Woodville 135.27 296 P **PKiKP** **23 56 22.3 -0.2**
baz=90
S47A Hartford 135.61 300 P **PKPdf** **23 56 21.7 +0.1**
baz=86
149A Jones 135.64 293 P **PKiKP** **23 56 22.8 -0.5**
baz=92
V48A Smith Brothers 135.65 298 P **PKiKP** **23 56 23.1 -0.2**
baz=88
W48A Pulaski 135.76 297 P **PKiKP** **23 56 22.7 -0.8**
baz=89
X48A Hartselle 135.87 296 P **PKiKP** **23 56 24.0 +0.3**
baz=89
U47A Clarksville 136.00 299 P **PKPdf** **23 56 22.5 +0.2**
baz=87
IM3 Indian Mountai 136.13 10 *e*PKPdf **PKPdf** **23 56 22.0 +0.4**
V47A Nunnelly 136.22 298 P **PKPdf** **23 56 22.9 +0.1**
baz=88
W47A Westpoint 136.30 297 P **PKPdf** **23 56 22.5 -0.4**
baz=88
WVT Waverly 136.45 298 P **PKPdf** **23 56 23.3 +0.1**
baz=87
Q45A Warren Harvey, 136.50 302 P **PKiKP** **23 56 24.5 -0.4**
baz=84
X47A Russelville 136.53 296 P **PKPdf** **23 56 23.7 +0.4**
baz=89
R45A Skylar, Fairfi 136.66 301 P **PKiKP** **23 56 24.4 -0.8**
baz=85
V46A Holladay 136.70 298 P **PKPdf** **23 56 24.3 +0.7**
baz=87
EYMN Ely 136.98 316 *e*PKPdf **PKPdf** **23 56 23.6 -0.1**
EYMN Ely 136.98 316 P **PKiKP** **23 56 24.8 -0.8**
baz=72
PPT2 Papeete2 137.14 161 *e*LR LR 00 40 38.3
comp=Z,103nm,23.2s
P43A Skaggs, Pawnee 137.46 304 P **PKiKP** **23 56 27.1 +0.3**
baz=82
MLY Manley 137.48 9 *e*PKPdf **PKPdf** **23 56 24.9 +0.6**
G39A Holcombe 137.53 312 P **PKPdf** **23 56 25.8 +0.9**
baz=75
M41A Milan 137.95 306 P **PKiKP** **23 56 28.5 +0.8**
baz=80
COLA College 138.01 7⇑ *e*PKIKP **PKPdf** **23 56 25.1 0.0**
IL1 Eielson Array 138.21 7 *e*PKPpre PKPpre 23 56 16.8
IL1 *e*PKPdf **PKPdf** **23 56 24.1 -1.4**
ILAR Eielson Array 138.21 7 PKhKP PKPpre 23 56 16.1
comp=Z,1.0nm,0.8s,baz=331,slow=3.3,SNR=10
ILAR PKP **PKPdf** **23 56 24.4 -1.1**
comp=Z,1.4nm,0.9s,baz=332,slow=2.5,SNR=9.7
ILAR PP **PP** **23 59 15.9 +1.6**
comp=Z,1.0nm,1.2s,baz=326,slow=8.5,SNR=5.0
ILAR Eielson Array 138.21 7 PKHKP PKPpre 23 56 16.1
ILAR 23 56 24.4
ILAR 23 59 15.9

ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,1.2s
T43A Greenville 138.36 300 P **PKiKP** **23 56 29.1 +0.4**
baz=84
WRH Wood River Hil 138.37 8 *e*PKPdf **PKPdf** **23 56 25.0 -0.8**
YKA Yellowknife Ar 138.37 345 PKhKP PKPpre 23 56 14.8
comp=Z,0.7nm,0.8s,baz=28,slow=3.3,SNR=8.0
YKA PKP **PKPdf** **23 56 24.4 -1.5**
comp=Z,1.4nm,0.9s,baz=60,slow=1.3,SNR=11
YKA PP **PP** **23 59 11.6 -3.7**
comp=Z,0.4nm,0.8s,baz=24,slow=6.0,SNR=4.2
YKB5 Yellowknife Ar 138.37 345 *e*PKPdf **PKPdf** **23 56 24.2 -1.6**
SPMN Marine on St. 138.66 312 P **PKiKP** **23 56 29.5 +0.4**
baz=73
EGAK Eagle 138.66 3 *e*PKPdf **PKiKP** **23 56 27.6 -0.9**
ULM Lac du Bonnet 138.80 321 PKP **PKPdf** **23 56 26.0 -1.0**
comp=Z,4.8nm,0.9s,baz=128,slow=1.1,SNR=8.2
ULM Lac du Bonnet 138.80 321 PKIKP **PKPdf** **23 56 26.0 -1.0**
CCM Cathedral Cave 139.00 301 *e*PKPdf **PKiKP** **23 56 29.2 -0.8**
CCM Cathedral Cave 139.00 301 P **PKiKP** **23 56 29.9 -0.1**
baz=83
T42A Van Buren 139.00 300 *e*PKPdf **PKiKP** **23 56 30.4 +0.3**
T42A Van Buren 139.00 300 P **PKiKP** **23 56 29.9 -0.1**
baz=84
R41A Rosebud 139.08 302 P **PKiKP** **23 56 30.0 -0.2**
baz=82
S41A Jillco Farms, 139.46 301 P **PKiKP** **23 56 31.7 +0.7**
baz=83
T41A Mountain View 139.53 300 P **PKiKP** **23 56 31.0 -0.2**
baz=84
FFC Flin Flon 139.70 330 *e*PKPdf **PKPdf** **23 56 28.8 +0.3**
FFC Flin Flon 139.70 330 *e*PKIKP **PKPdf** **23 56 28.8 +0.3**
V41A Mountainview 139.98 298 P **PKiKP** **23 56 32.2 +0.1**
baz=85
W41B Gary Mavity, V 140.11 297 *e*PKPdf **PKPdf** **23 56 29.2 -0.7**
U40A Yellville 140.48 299 P **PKPdf** **23 56 30.7 +0.2**
baz=84
HHAR Hobbs 141.36 299 *e*PKPdf **PKiKP** **23 56 33.7 -1.2**
ECSD EROS Data Cent 141.71 312 *e*PKPdf **PKPdf** **23 56 33.5 +1.0**
ECSD EROS Data Cent 141.71 312 P **PKPdf** **23 56 32.8 +0.2**
baz=71
HYT Haines Junctio 142.74 1 *e*PKPpre PKPpre 23 56 31.8
SKAG Skagway 144.11 359 *e*PKPdf **PKPdf** **23 56 35.3 -1.0**
DGMT Dagmar 144.42 322 *e*PKPdf **PKPdf** **23 56 36.8 -0.5**
DGMT Dagmar 144.42 322 P **PKPdf** **23 56 36.7 -0.5**
baz=57
WHTX Lake Whitney, 144.68 293 P PKPbc 23 56 37.3 +0.3
baz=86
435B Jarrell 144.86 290 *e*PKPdf **PKPdf** **23 56 39.1 +0.6**
435B Jarrell 144.86 290 P **PKPdf** **23 56 38.1 -0.4**
baz=88
JIS Juneau Island 145.27 358 *e*PKPbc **PKPbc** **23 56 37.8 -0.2**
U32A Winter Ranch, 145.38 300 *e*PKPbc **PKPab** **23 56 39.8 +0.4**
CBKS Cedar Bluff 145.40 305 *e*PKPdf **PKPab** **23 56 40.0 +0.6**
CBKS Cedar Bluff 145.40 305 *e*PKIKP **PKPab** **23 56 40.0 +0.6**
CBKS Cedar Bluff 145.40 305 P **PKPab** **23 56 40.0 +0.6**
baz=75
WMOK Wichita Mounta 145.49 297 *e*PKPdf **PKPab** **23 56 40.1 +0.3**
WMOK Wichita Mounta 145.49 297 *e*PKIKP **PKPab** **23 56 40.1 +0.3**
WMOK Wichita Mounta 145.49 297 P **PKPab** **23 56 40.3 +0.5**
baz=81
LNIG Linares 146.36 280 *e*PKPdf **PKPdf** **23 56 40.2 -1.0**
OGNE Ogallala 146.43 309 *e*PKPbc **PKPbc** **23 56 42.0 -0.3**
OGNE Ogallala 146.43 309 P **PKPbc** **23 56 42.3 -0.1**
baz=70
ABTX Abilene, Hawle 146.47 294 *e*PKPdf **PKPbc** **23 56 42.7 0.0**
ABTX Abilene, Hawle 146.47 294 P **PKPbc** **23 56 42.3 -0.3**
baz=84
RSSD Black Hills 146.50 316 *e*PKPbc **PKPbc** **23 56 42.1 -0.5**
RSSD Black Hills 146.50 316 *e*PKP2 **PKPbc** **23 56 42.1 -0.5**
RSSD Black Hills 146.50 316 P **PKPbc** **23 56 42.9 +0.3**
baz=63
LAO LASA Array 146.54 321 *e*PKPdf **PKPab** **23 56 43.0 -0.4**
LAO LASA Array 146.54 321 P **PKPbc** **23 56 42.6 +0.2**
baz=57
JCT Junction City 146.78 290 *e*PKPbc **PKPdf** **23 56 42.6 +0.8**
JCT Junction City 146.78 290 *e*PKIKP **PKPdf** **23 56 42.6 +0.8**
JCT Junction City 146.78 290 P **PKPdf** **23 56 42.4 +0.5**
baz=87
WRAK Wrangell Islan 147.03 356 *e*PKPbc **PKPab** **23 56 44.5 -0.4**
KSCO Kaye Shedlock' 147.50 306 *e*PKPbc **PKPab** **23 56 46.8 -0.8**
KSCO Kaye Shedlock' 147.50 306 PKiKP **PKPab** **23 56 46.7 -0.9**
baz=80
EGMT Eagleton 147.68 326 P **PKPbc** **23 56 44.3 -1.3**
baz=50
AMTX Amarillo 147.81 298 *e*PKPbc **PKPdf** **23 56 44.2 +0.7**
PHWY Pilot Hill 148.68 312 *e*PKPbc **PKPbc** **23 56 49.3 +0.6**
K22A Casper 148.79 315 *e*PKPdf **PKPdf** **23 56 44.9 -0.1**
K22A *e*PKPbc **PKPbc** **23 56 49.2 +0.4**
K22A Casper 148.79 315 P **PKPdf** **23 56 45.3 +0.3**
baz=62
MSTX Muleshoe 148.87 297 *e*PKPdf **PKPdf** **23 56 45.4 +0.1**
MSTX *e*PKPbc **PKPbc** **23 56 49.7 +0.5**
MSTX Muleshoe 148.87 297 P **PKPdf** **23 56 46.1 +0.8**
baz=80
WALA Waterton Lakes 148.98 331 *e*PKPdf **PKPdf** **23 56 45.1 +0.1**
WALA *e*PKPbc **PKPbc** **23 56 48.9 -0.1**
GCMT Greycliff 149.01 322 *e*PKPdf **PKPdf** **23 56 47.0 +1.8**
GCMT *e*PKPbc **PKiKP** **23 56 50.6 +0.1**
RLMT Red Lodge 149.18 321 *e*PKPdf **PKPdf** **23 56 47.4 +1.9**
RLMT *e*PKPbc **PKiKP** **23 56 51.2 +0.2**
RLMT Red Lodge 149.18 321 P **PKPdf** **23 56 47.4 +1.9**
baz=55
N23A Red Feather La 149.18 311 *e*PKPdf **PKPdf** **23 56 46.0 +0.3**
N23A *e*PKPbc **PKiKP** **23 56 50.7 -0.5**
N23A Red Feather La 149.18 311 P **PKPdf** **23 56 46.5 +0.7**
baz=65
Q24A Divide 149.37 307 *e*PKPdf **PKPdf** **23 56 46.8 +0.6**
Q24A Divide 149.37 307 P **PKPdf** **23 56 46.6 +0.5**
baz=69
ISCO Idaho Springs 149.39 309 *e*PKPdf **PKPdf** **23 56 47.2 +1.0**
ISCO *e*PKPbc **PKPbc** **23 56 51.0 +0.4**
ISCO Idaho Springs 149.39 309 P **PKPdf** **23 56 47.5 +1.3**
baz=67
T25A Trinidad 149.41 304 *e*PKPdf **PKPdf** **23 56 46.7 +0.5**
T25A Trinidad 149.41 304 P **PKPdf** **23 56 46.9 +0.7**
baz=73
HRY Holter Researc 149.60 326 *e*PKPdf **PKPdf** **23 56 43.3 -2.8**
HRY *e*PKPbc **PKiKP** **23 56 51.8 0.0**
RWWY Rawlins 149.69 314 *e*PKPdf **PKPdf** **23 56 46.3 +0.3**
SDCO Great Sand Dun 150.04 305 *e*PKPdf **PKPdf** **23 56 48.2 +1.0**
SDCO *e*PKPbc **PKiKP** **23 56 53.2 +0.1**
SDCO *e*PKPab **pPKPbc** **23 57 00.5 +0.5**
SDCO Great Sand Dun 150.04 305 P **PKPdf** **23 56 48.3 +1.0**
baz=71
TX31 Lajitas Ar. Si 150.19 288 *e*PKPdf **PKPdf** **23 56 47.7 +0.2**
TX31 *e*PKPbc **PKiKP** **23 56 53.5 +0.1**
TXAR Lajitas Array 150.19 288 PKP **PKPdf** **23 56 47.5 +0.1**
comp=Z,1.5nm,0.8s,baz=106,slow=3.2,SNR=18
TXAR PKPbc **PKPbc** **23 56 52.9 +0.3**
comp=Z,8.7nm,0.9s,baz=95,slow=2.2,SNR=23
BOZ Bozeman (W) 150.22 324 *e*PKPdf **PKPdf** **23 56 48.9 +1.8**
BOZ *e*PKPbc **PKiKP** **23 56 53.5 +0.4**
BOZ Bozeman (W) 150.22 324 P **PKPdf** **23 56 49.0 +1.9**
baz=51
YNR Norris Junctio 150.23 321 *e*PKPbc **PKiKP** **23 56 54.9 +1.7**
H17A Grant Village 150.36 321 *e*PKPdf **PKPbc** **23 56 50.8 -2.0**
YMR Madison River 150.42 322 *e*PKPdf **PKPdf** **23 56 49.2 +1.7**
YHB Horse Butte 150.50 322 *e*PKPdf **PKPdf** **23 56 49.0 +1.4**
LRM Limekiln Ridge 150.51 325 *e*PKPdf **PKPdf** **23 56 49.2 +1.5**
LRM *e*PKPbc **PKiKP** **23 56 54.2 +0.4**
YPP Pitchstone Pla 150.57 321 *e*PKPdf **PKPbc** **23 56 51.4 -1.9**
QLMT Earthquake Lak 150.59 322 *e*PKPdf **PKPdf** **23 56 48.8 +1.0**
QLMT *e*PKPbc **PKiKP** **23 56 54.8 +0.9**
MSO Missoula 150.59 328 *e*PKPdf **PKPdf** **23 56 48.8 +1.2**
MSO Missoula 150.59 328 P **PKPdf** **23 56 48.9 +1.3**
baz=46
SMCO Snowmass 150.60 309 *e*PKPdf **PKPdf** **23 56 49.2 +1.0**
SMCO *e*PKPbc **PKiKP** **23 56 54.7 +0.3**
FLWY Flagg Ranch 150.62 320 *e*PKPdf **PKPdf** **23 56 48.2 +0.4**
PD31 Pinedale Array 150.66 317 *e*PKPdf **PKPdf** **23 56 48.6 +0.6**
PDAR Pinedale Array 150.66 317 PKP **PKPdf** **23 56 47.6 -0.4**
comp=Z,7.7nm,0.9s,baz=96,slow=2.7,SNR=48
PDAR PKPbc **PKPbc** **23 56 53.0 -0.4**
comp=Z,19nm,0.8s,baz=76,slow=3.8,SNR=48
PDAR PKPab **PKPab** **23 57 00.9 +0.5**
comp=Z,8.1nm,0.8s,baz=59,slow=3.5,SNR=8.7
BW06 Boulder Array 150.66 317 *e*PKPdf **PKPdf** **23 56 48.2 +0.2**
BW06 *e*PKPbc **PKPbc** **23 56 53.4 -0.1**
BW06 *e*PKPab **PKPab** **23 57 00.3 -0.1**

BW06 Boulder Array 150.66 317 P **PKPdf** **23 56 48.7 +0.7**
baz=58
LOHW Long Hollow 150.83 320 *e*PKPdf **PKPdf** **23 56 47.5 -0.7**
MOOW Moose Ponds 150.84 320 *e*PKPdf **PKPdf** **23 56 47.9 -0.4**
IMW Indian Meadow 150.86 320 *e*PKPdf **PKPdf** **23 56 49.4 +1.0**
IMW *e*PKPbc **PKiKP** **23 56 55.4 +0.7**
DLMT Dillon 150.89 324 *e*PKPdf **PKPdf** **23 56 50.1 +1.9**
NEW Newport 150.97 333 *e*PKPdf **PKPdf** **23 56 48.6 +0.6**
NEW *e*PKPbc **PKiKP** **23 56 54.3 0.0**
NEW *e*PKPab **pPKPbc** **23 57 02.0 +0.4**
NEW Newport 150.97 333 *e*PKIKP **PKPdf** **23 56 48.6 +0.6**
NEW *e* 23 56 54.3
NEW *e* 23 57 02.0
NEW Newport 150.97 333 PKiKP **PKiKP** **23 56 54.4 +0.1**
baz=39
SNOW Snow King Moun 151.01 319 *e*PKPdf **PKPdf** **23 56 50.1 +1.5**
S22A 4UR Ranch, Cre 151.03 306 *e*PKPdf **PKPdf** **23 56 50.3 +1.4**
S22A 4UR Ranch, Cre 151.03 306 P **PKPdf** **23 56 50.2 +1.4**
baz=69
FXWY Fox Creek 151.07 320 *e*PKPdf **PKPdf** **23 56 48.6 0.0**
O20A White River Ci 151.09 312 *e*PKPdf **PKPdf** **23 56 49.0 +0.3**
O20A White River Ci 151.09 312 P **PKPdf** **23 56 49.7 +1.0**
baz=64
TPAW Teton Pass 151.11 320 *e*PKPdf **PKPdf** **23 56 48.7 0.0**
REDW Red Top Meadow 151.12 319 *e*PKPdf **PKPdf** **23 56 48.6 -0.1**
MCMT McKenzie Canyo 151.37 324 *e*PKPdf **PKPdf** **23 56 50.8 +1.8**
MNTX Cornudas Mount 151.42 293 *e*PKPdf **PKPdf** **23 56 49.6 +0.4**
MNTX *e*PKPbc **PKiKP** **23 56 55.7 0.0**
MNTX *e*PKPab **PKPab** **23 57 03.4 -0.3**
MNTX Cornudas Mount 151.42 293 P **PKPdf** **23 56 50.0 +0.8**
baz=81
AHID Auburn Hatcher 151.61 319 *e*PKPbc **PKiKP** **23 56 56.2 +0.1**
AHID *e*PKPab **PKPab** **23 57 03.4 -0.9**
ANMO Albuquerque 151.62 300 *e*PKPdf **PKPdf** **23 56 49.6 0.0**
ANMO *e*PKPbc **PKiKP** **23 56 56.4 +0.1**
ANMO Albuquerque 151.62 300⇑ *e*PKIKP **PKPdf** **23 56 49.8 +0.1**
ANMO Albuquerque 151.62 300 P **PKPdf** **23 56 51.1 +1.4**
baz=74
B08A Colville Reser 151.78 336 *e*PKPbc **PKiKP** **23 56 56.3 +0.3**
C09A Chrisman Ranch 151.81 334 *e*PKPbc **PKiKP** **23 56 56.5 +0.4**
BNM Barren Site 151.96 299 *e*PKPdf **PKPdf** **23 56 50.4 +0.2**
BNM *e*PKPbc **pPKPdf** **23 56 58.1 0.0**
HPIG 152.03 283 *e*PKPdf **PKPdf** **23 56 49.6 -0.9**
HPIG *e*PKPbc **PKiKP** **23 56 57.5 0.0**
PV01 Paradox Valley 152.16 308 *e*PKPdf **PKPdf** **23 56 52.2 +1.8**
PV01 *e*PKPbc **PKPbc** **23 56 57.2 +0.1**
LENM Lemitar 152.23 299 *e*PKPdf **PKPdf** **23 56 50.2 -0.4**
LENM *e*PKPbc **PKiKP** **23 56 58.5 +0.9**
PV02 Paradox Valley 152.25 308 *e*PKPdf **PKPdf** **23 56 52.5 +2.0**
PV12 Saucer Basin, 152.26 308 *e*PKPdf **PKPdf** **23 56 50.7 +0.1**
PV21 Cone Mtn., Par 152.28 309 *e*PKPdf **PKPdf** **23 56 51.2 +0.6**
LAZ Ladron 152.30 300 *e*PKPdf **PKPdf** **23 56 50.2 -0.5**
LAZ *e*PKPbc **PKiKP** **23 56 58.4 +0.6**
PV11 David Mesa, Pa 152.31 309 *e*PKPdf **PKPdf** **23 56 51.4 +0.8**
PV03 Paradox Valley 152.31 308 *e*PKPdf **PKPdf** **23 56 51.1 +0.5**
PV13 Radium Mtn., P 152.33 308 *e*PKPdf **PKPdf** **23 56 51.4 +0.7**
PV16 Nyswonger Mesa 152.34 309 *e*PKPdf **PKPdf** **23 56 51.0 +0.3**
PV16 *e*PKPbc **PKiKP** **23 56 58.1 +0.4**
PV23 Carpenter Ridg 152.35 309 *e*PKPdf **PKPdf** **23 56 51.9 +1.2**
PV20 West Nyswonger 152.36 309 *e*PKPdf **PKPdf** **23 56 52.8 +2.1**
PV20 *e*PKPbc **pPKPdf** **23 56 58.8 +0.3**
PV17 East Wray Mesa 152.38 309 *e*PKPdf **PKPdf** **23 56 51.5 +0.8**
PV19 Morning Glory 152.39 309 *e*PKPdf **PKPdf** **23 56 52.5 +1.8**
PV14 Lion Creek, Pa 152.39 309 *e*PKPdf **PKPdf** **23 56 52.4 +1.6**
PV10 Paradox Valley 152.40 309 *e*PKPdf **PKPdf** **23 56 53.2 +2.4**
B06A Marblemount 152.42 338 *e*PKPbc **PKiKP** **23 56 57.1 -0.1**
PV09 Paradox Valley 152.42 309 *e*PKPdf **PKPdf** **23 56 52.8 +1.9**
MVCO Mesa Verde 152.46 306 *e*PKPdf **PKPdf** **23 56 49.6 -1.3**
MVCO *e*PKPbc **PKPbc** **23 56 57.9 0.0**
MVCO Mesa Verde 152.46 306 P **PKPdf** **23 56 51.9 +1.0**
baz=68
HWUT Hardware Ranch 152.54 317 *e*PKPdf **PKPdf** **23 56 51.3 +0.5**
HWUT *e*PKPbc **PKiKP** **23 56 58.0 -0.1**
PV05 Paradox Valley 152.57 308 *e*PKPdf **PKPdf** **23 56 51.0 0.0**
A04D Lummi Island 152.64 340 PKiKP **PKiKP** **23 56 58.3 +0.6**
baz=28
TCUT Toone Canyon 152.71 316 *e*PKPdf **PKPdf** **23 56 51.0 -0.2**
TCUT *e*PKPbc **PKPbc** **23 56 58.3 0.0**
E09A Wood Farm, Sta 152.77 332 *e*PKPdf **PKPdf** **23 56 52.4 +1.7**
E09A *e*PKPbc **PKiKP** **23 56 58.2 +0.2**
F10A Beach Ranch, E 152.78 330 *e*PKPbc **PKPbc** **23 56 58.1 0.0**
B05A Bryant 152.84 339 PKiKP **PKiKP** **23 56 58.6 +0.5**
baz=30
HLID Hailey 153.05 323 *e*PKPdf **PKPdf** **23 56 53.2 +1.7**
HLID Hailey 153.05 323 P **PKPdf** **23 56 52.6 +1.1**
baz=49
SRU San Rafael Swe 153.12 311 *e*PKPdf **PKPdf** **23 56 53.5 +1.8**
HVU Hansel Valley 153.19 318 *e*PKPdf **PKPdf** **23 56 53.1 +1.3**
121A Cookes Peak, D 153.27 296 P **PKPdf** **23 56 54.4 +2.3**
baz=78
BMO Blue Mountains 153.65 328 *e*PKPdf **PKPdf** **23 56 52.4 +0.2**
BMO *e*PKPbc **PKPbc** **23 56 59.9 0.0**
BMO Blue Mountains 153.65 328 *e*PKIKP **PKPdf** **23 56 52.4 +0.2**
BMO *e* 23 56 59.9
NLU North Lily Min 153.75 314 *e*PKPdf **PKPdf** **23 56 52.0 -0.7**
D03D Eldon 153.80 339 PKiKP **PKiKP** **23 57 01.4 +1.2**
baz=29
BGU Big Grassy Mou 153.84 317 *e*PKPdf **PKPdf** **23 56 51.2 -1.4**
MFID Camas Ranch 153.91 324 *e*PKPdf **PKPdf** **23 56 52.7 0.0**
MFID *e*PKPbc **pPKPdf** **23 57 01.5 +0.9**
MFID *e*PKPab **PKPab** **23 57 14.9 +1.1**
G08A Pilot Rock 154.08 331 *e*PKPdf **PKPdf** **23 56 54.7 +1.9**
DUG Dugway, Tooele 154.11 315 *e*PKPdf **PKPdf** **23 56 52.6 -0.4**
DUG Dugway, Tooele 154.11 315 *e*PKIKP **PKPdf** **23 56 52.6 -0.4**
DUG Dugway, Tooele 154.11 315 P **PKPdf** **23 56 52.9 -0.2**
baz=57
MSU Marysvale 154.54 312 *e*PKPdf **PKPdf** **23 56 55.9 +2.0**
MTPU Mount Pierson 154.77 311 *e*PKPdf **PKPdf** **23 56 55.2 +0.8**
G06A Carlson Farm, 154.84 333 *e*PKPab **PKPab** **23 57 19.6 +2.0**
WUAZ Wupatki 155.25 304 *e*PKPdf **PKPdf** **23 56 56.1 +1.3**
WUAZ Wupatki 155.25 304 P **PKPdf** **23 56 58.2 +3.4**
baz=68
ELK Elko 155.30 319 *e*PKPab **PKPab** **23 57 20.2 +0.2**
PSUT Pine Spring 155.67 313 *e*PKPdf **PKPdf** **23 56 55.8 +0.4**
X16A Lo Mia Camp, P 155.69 302 *e*PKPdf **PKPdf** **23 56 56.0 +0.5**
TUC Tucson 155.79 297 *e*PKPdf **PKPdf** **23 56 54.7 -0.8**
TUC Tucson 155.79 297 *e*PKIKP **PKPdf** **23 56 54.7 -0.8**
TUC Tucson 155.79 297 P **PKPdf** **23 56 57.3 +1.8**
baz=75
CCUT Cedar City 155.83 311 *e*PKPdf **PKPdf** **23 56 58.5 +2.8**
PINE Pine Mountain 156.13 332 *e*PKPdf **PKPdf** **23 56 56.3 +0.5**
R11A Troy Canyon, C 156.92 315 *e*PKPab **PKPab** **23 57 28.4 +1.5**
MOD Modoc Plateau 157.30 328 *e*PKPdf **PKPdf** **23 56 56.5 -0.8**
214A Organ Pipe Nat 157.54 297 P **PKPdf** **23 56 59.5 +1.8**
baz=74
PDMCI Parker Dam,Lak 157.81 304 P **PKPdf** **23 56 59.4 +1.4**
baz=67
L04D Klamath Falls 157.99 331 P **PKPdf** **23 56 58.6 +0.4**
baz=37
KVN Kaiserville 158.08 319 *e*PKPdf **PKPdf** **23 56 58.9 +0.5**
KVN Kaiserville 158.08 319 *e*PKIKP **PKPdf** **23 56 58.9 +0.5**
TPNV Topopah Spring 158.12 312 *e*PKPab **PKPab** **23 57 33.6 +1.5**
M04C Macdoel 158.13 330 P **PKPdf** **23 56 59.6 +1.3**
baz=38
PAHR Pah Rah Range 158.39 322 *e*PKPdf **PKPdf** **23 57 01.0 +2.3**
NV11 Mina Array Sit 158.50 318 *e*PKPdf **PKPdf** **23 56 58.6 -0.3**
NV01 Mina Array Sit 158.59 318 *e*PKPdf **PKPdf** **23 56 59.6 +0.5**
NVAR Mina Array Bea 158.59 318 PKP **PKPdf** **23 57 00.7 +1.6**
comp=Z,5.3nm,0.9s,baz=152,slow=1.5,SNR=24
NVAR PKPab **PKPab** **23 57 34.4 +0.2**
comp=Z,1.4nm,0.8s,baz=114,slow=1.1,SNR=3.2
RYN Ryan 158.60 319 *e*PKPdf **PKPdf** **23 57 00.3 +1.3**
IRM Iron Mountain 158.63 304 P **PKPdf** **23 57 00.7 +1.7**
baz=66
FURC Furnace Creek, 158.79 312 P **PKPdf** **23 57 01.9 +2.8**
baz=58
YERR Yerington 158.80 321 *e*PKPab **PKPab** **23 57 35.5 +0.5**
GLA Glamis 158.81 301 P **PKPdf** **23 57 01.6 +2.3**
baz=69
M02C Callahan 158.90 331 P **PKPdf** **23 57 00.9 +1.7**
baz=37
BC3 Big Chuckawall 159.07 303 P **PKPdf** **23 57 01.0 +1.3**
baz=67
N02D Trinity Center 159.16 330 P **PKPdf** **23 57 00.8 +1.3**
baz=38
BELC Belle Mtn. Jos 159.34 305 P **PKPdf** **23 57 00.9 +0.9**
baz=65
GSC Goldstone, Bar 159.34 309 P **PKPdf** **23 57 02.1 +2.2**
baz=61
DAC Darwin (Calif) 159.39 312 *e*PKPdf **PKPdf** **23 56 59.5 -0.6**
DAC Darwin (Calif) 159.39 312 *e*PKIKP **PKPdf** **23 56 59.5 -0.6**
MPMC Manual Prospec 159.44 312 P **PKPdf** **23 57 02.2 +2.1**

	baz=58						
CWC	**Cottonwood Cre**	**159.63**	**313**	P	**PKPdf**	**23 57 02.7**	**+2.5**
	baz=56						
ORV	**Oroville**	**159.65**	**325**	*e*PKPdf	**PKPdf**	**23 56 59.9**	**-0.1**
ORV	**Oroville**	**159.65**	**325**	*e*PKIKP	**PKIKP**	**23 56 59.9**	**-0.1**
AFDM	**Forest Hills D**	**159.81**	**323**	*e*PKPdf	**PKPdf**	**23 56 59.8**	**-0.4**
LRMC	**Laurel Mtn Rad**	**159.87**	**310**	P	**PKPdf**	**23 57 02.8**	**+2.2**
	baz=59						
MONP2	**Monument Peak**	**160.11**	**302**	P	**PKPdf**	**23 57 02.7**	**+1.7**
	baz=67						
ISA	**Isabella, Lake**	**160.32**	**312**	*e*PKPdf	**PKPdf**	**23 57 01.2**	**+0.3**
ISA	**Isabella, Lake**	**160.32**	**312**	*e*PKIKP	**PKPdf**	**23 57 01.3**	**+0.3**
ISA	**Isabella, Lake**	**160.32**	**312**	P	**PKPdf**	**23 57 03.0**	**+2.0**
	baz=57						
EDW2	**Edwards Air Fo**	**160.40**	**309**	P	**PKPdf**	**23 57 03.6**	**+2.6**
	baz=60						
BFSC	**Mount Baldy Ra**	**160.47**	**307**	P	**PKPdf**	**23 57 01.2**	**0.0**
	baz=62						

MAN 25 23:44:01.3, 9˚48N×126˚15E, h19km, mb4.2, ML3.1, MS2.8, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.73**	**226**	*e*P	Pg	23 44 15.9	+0.2
BUTP				*e*S	Sn	23 44 27.4	+0.2
MSLP	**Maasin**	**1.43**	**297**	*e*P	Pn	23 44 25.3	-1.0
BUKP	**Musuan**	**1.92**	**214**	*e*P	Pn	23 44 33.0	0.0
BUKP				*e*S	Sb	23 44 58.2	-1.2
BESP	**Borongan**	**2.22**	**342**	*e*P	Pn	23 44 37.4	+0.3
BESP				*e*S	Sn	23 45 05.6	+1.5
TBP	**Tagbilaran**	**2.27**	**275**	*e*P	Pn	23 44 37.7	0.0
TBP				*i* S	Sn	23 45 06.8	+1.6

*IDC **25** 23:49:28.6±1.8, 24˚21S×65˚20W, h0km, mb3.5/1, mb1 3.6/5, mb1mx3.5/21, mbtmp3.5/5, ML3.4/4, Error ellipse: s-maj=35.1km s-min=28.2km az=32.0*
*ISCJB **25** 23:49:32.3±1.2, 24˚03S±0˚10×65˚1W±0˚1, h33km, mb3.5/1, Error ellipse: s-maj=14.0km s-min=13.2km az=11.9*
ISC 25 23:49:33.5±1.3, 24˚1S±0˚1×65˚2W±0˚1, h35km, n6, σ1s50/7, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**3.72**	**293**	Pn	**Pn**	**23 50 28.6**	**-0.2**
	0.3nm,0.3s,baz=117,slow=6.8,SNR=2.9						
CPUP	**Villa Florida**	**7.46**	**109**	Pn	**Pn**	**23 51 20.3**	**+0.4**
	0.2nm,0.3s,baz=277,slow=14,SNR=3.8						
CPUP				Lg	Lg	23 53 27.0	
	0.8nm,0.3s,baz=335,slow=3.6,SNR=3.1						
LPAZ	**La Paz**	**8.27**	**340**	Pn	**Pn**	**23 51 33.6**	**+2.0**
	0.2nm,0.3s,baz=157,slow=7.8,SNR=4.6						
SIV	**San Ignacio**	**8.98**	**26**	Pn	**Pn**	**23 51 40.9**	**0.0**
	1.1nm,0.3s,baz=197,slow=10,SNR=42						
SIV				Sn	**Sn**	**23 53 19.5**	**-1.3**
	0.5nm,0.3s,baz=158,slow=19,SNR=2.4						
SIV				Lg	Lg	23 54 14.5	
	0.5nm,0.3s,baz=299,slow=19,SNR=2.0						
TORD	**Torodi Ar. Bea**	**75.09**	**68**	P	**P**	**00 01 13.4**	**+1.1**
	0.5nm,0.9s,baz=256,slow=5.8,SNR=2.2						
MKAR	**Makanchi Array**	**145.57**	**41**	PKPbc	**PKPdf**	**00 09 06.6**	**-1.4**
	0.3nm,0.7s,baz=306,slow=2.8,SNR=3.3						

*MOS **25** 23:54:14.0±0.8, 53˚41N×109˚05E, h10km, mb4.3/1, Error ellipse: s-maj=71.2km s-min=36.4km az=142.0*
BYKL 25 23:54:14.6±0.2, 53˚54N×108˚99E, h19km±3km, 4C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXMB	**Maximikha**	**0.31**	**208**	⇓*i* Pg	Pg	23 54 21.4	-0.1
MXMB				*e*Sg	Sb	23 54 26.5	+0.2
SYVR	**Suvo**	**0.61**	**78**	⇓*i* Pg	Pb	23 54 26.2	-0.4
SYVR				*e*Sg	Sb	23 54 34.7	-0.1
SYVR				Pmax			
	78nm,0.1s						
SYVR				Smax			
	925nm,0.1s						
SYVR	**Suvo**	**0.61**	**78**	*e*PG	Pb	23 54 26.0	-0.6
SYVR				*e*		23 54 34.2	
SYVR				pmax	pmax		
	comp=Z,78nm,0.1s						
SYVR				smax	smax		
	comp=N,936nm,0.1s						
OGRR	**Ongureny**	**0.84**	**278**	⇑*i* Pg	Pn	23 54 31.2	-0.2
OGRR				*e*Sg	Sg	23 54 42.2	+0.1
OGRR				*e*Sb	Sn	23 54 46.2	+3.0
OGRR				Pmax			
	comp=N,53nm,0.1s						
OGRR				Smax			
	comp=N,441nm,0.1s						
OGRR	**Ongureny**	**0.84**	**278**	⇑*i* PG	Pn	23 54 31.2	-0.2
OGRR				*e*		23 54 42.5	
OGRR				pmax	pmax		
	comp=Z,52nm,0.1s						
OGRR				smax	smax		
	comp=E,520nm,0.3s						
ZRHB	**Zarechye**	**1.49**	**229**	*e*	Pb	23 54 41.3	-0.3
ZRHB				*e*Pg	Pg	23 54 42.2	-1.0
ZRHB				*e*Sg	Sg	23 55 01.9	-0.7
ZRHB				Pmax			
	comp=E,91nm,0.4s						
ZRHB				Smax			
	comp=E,489nm,0.5s						
TRTB	**Turuntaevo**	**1.55**	**213**	*e*Pg	Pb	23 54 42.5	-0.2
TRTB				*e*Sg	Sg	23 55 03.8	-0.8
TRG	**Tyrgan**	**1.77**	**245**	*e*Pn	Pn	23 54 45.1	+0.8
TRG				*e*Pg	Pb	23 54 46.1	-0.4
TRG				*e*Sg	Sb	23 55 09.9	+1.6
TRG				Pmax			
	comp=E,20nm,0.2s						
TRG				Smax			
	comp=E,520nm,0.2s						
TRG	**Tyrgan**	**1.77**	**245**	*e*PN	Pn	23 54 45.2	+0.9
TRG				*e*		23 54 46.3	
TRG				*e*S	Sb	23 55 09.0	+0.7
TRG				*e*		23 55 10.1	
TRG				pmax	pmax		
	comp=Z,37nm,0.2s						
TRG				smax	smax		
	comp=N,515nm,0.2s						
YLYR	**Ulyunkhan**	**1.85**	**43**	*i* Pn	Pb	23 54 46.7	-1.1
YLYR				⇑*e*Pg	Pn	23 54 47.6	+2.3
YLYR				*e*		23 54 50.4	
YLYR				*e*Sg	Sb	23 55 11.9	+1.4
YLYR				max			
	comp=N,35nm,0.4s						
YLYR				Smax			
	comp=N,163nm,0.4s						
YLYR	**Ulyunkhan**	**1.85**	**43**	⇑*i* PN	Pb	23 54 46.7	-1.1
YLYR				*e*		23 55 12.2	
KAB	**Kabansk**	**2.06**	**224**	*e*Pg	Pg	23 54 52.8	-1.3
KAB				*e*Sg	Sg	23 55 19.3	-1.6
KAB				Pmax			
	comp=N,487nm,0.4s						
KAB				Smax			
	comp=N,221nm,0.3s						
NIZ	**Nizh Angarsk**	**2.26**	**8**	*e*Pn	Pb	23 54 53.2	-1.6
NIZ				*e*Pg	Pg	23 54 55.1	-2.9
NIZ				*e*Sn	Sn	23 55 19.4	+1.1
NIZ				*e*Sg	Sb	23 55 24.7	+2.3
NIZ				Pmax			
	comp=N,12nm,0.2s						
NIZ				Smax			
	comp=N,86nm,0.4s						
BGT	**Bolshoye Golou**	**2.64**	**237**	*e*Pn	Pn	23 54 56.9	+0.7
BGT				*e*Pg	Pb	23 55 01.2	-0.1
BGT				*e*PgPg	PnPn	23 55 03.3	0.0
BGT				*e*Sg	Sb	23 55 35.9	+2.6
BGT				max			
	comp=N,8.0nm,0.1s						
BGT				Smax			
	comp=N,53nm,0.2s						
KMO	**Kumora**	**2.68**	**28**	*e*Pg	Pb	23 55 02.5	+0.6
KMO				*e*Sg	Sg	23 55 37.8	-2.9
KMO				Pmax			
	comp=N,29nm,0.4s						
KMO				Smax			
	comp=N,108nm,1.0s						
LSTR	**Listvyanka**	**3.03**	**238**	*e*Pn	Pn	23 55 02.5	+0.9
LSTR				*e*Pg	Pb	23 55 08.9	+0.9
LSTR				*e*Sn	Sn	23 55 37.3	0.0
LSTR				*e*Sg	Sb	23 55 48.0	+3.4
LSTR				Pmax			
	comp=N,5.0nm,0.1s						
LSTR				Smax			
	comp=N,52nm,0.4s						
IRK	**Irkutsk**	**3.14**	**247**	*e*Sg	Sb	23 55 51.0	+3.4
IRK				Smax			
	comp=N,406nm,0.4s						
CIT	**Chita**	**3.16**	**117**	*e*	Pb	23 55 08.1	-2.0
CIT				*e*Sg	Sb	23 55 52.0	+3.7
CIT				Smax			
	comp=N,240nm,0.2s						
IVK	**Ivanovka**	**3.29**	**240**	*e*Pn	Pn	23 55 05.9	+0.9
IVK				*e*Pg	Pb	23 55 13.1	+0.9
IVK				*e*Sg	Sb	23 55 55.4	+3.6
IVK				Pmax			
	comp=N,10.0nm,0.3s						
IVK				Smax			
	comp=N,65nm,0.4s						
UKT	**Uakit**	**3.33**	**52**	*e*Pn	Pn	23 55 07.2	+1.4
UKT				*e*Pg	Pb	23 55 14.0	+0.9
UKT				*e*		23 55 19.1	
UKT				*e*Sn	Sn	23 55 44.8	-0.1
UKT				*e*Sg	Sg	23 55 57.6	-4.0
UKT				max			
	comp=N,14nm,0.7s						
UKT				Smax			
	comp=N,38nm,0.5s						
TLY	**Talaya**	**3.75**	**242**	*e*Pn	Pn	23 55 11.7	+0.2
TLY				*e*Pg	Pb	23 55 20.2	0.0
TLY				*e*Sn	Sn	23 55 53.3	-1.8
TLY				*e*Sg	Sb	23 56 09.1	+3.8
TLY				Pmax			
	comp=N,6.0nm,0.3s						
TLY				Smax			
	comp=N,45nm,0.2s						
ARS	**Arshan**	**4.31**	**251**	*e*PN	Pb	23 55 30.8	+1.1
ARS				*e*		23 56 25.0	
ARS				pmax	pmax		
	comp=Z,11nm,0.3s						
ARS				smax	smax		
	comp=E,295nm,0.5s						
KPC	**Khapcheranga**	**4.38**	**150**	*e*Pn	Pn	23 55 20.3	+0.1
KPC				*e*Pg	Pb	23 55 33.1	+2.1
KPC				*e*Sn	Sn	23 56 10.2	-0.5
KPC				*e*Sg	Sb	23 56 29.3	+5.8
KPC				Pmax			
	comp=E,10.0nm,0.3s						
KPC				Smax			
	comp=E,42nm,0.4s						
ZAK	**Zakamensk**	**4.74**	**230**	*e*Pn	Pn	23 55 25.5	+0.4
ZAK				*e*Pg	Pb	23 55 40.5	+3.4
ZAK				*e*Sn	Sn	23 56 18.4	-1.1
ZAK				*e*Sg	Sg	23 56 42.3	-4.3
ZAK				Pmax			
	comp=E,3.0nm,0.2s						
ZAK				Smax			
	comp=E,24nm,0.4s						
BOD	**Bodaibo**	**5.14**	**31**	*e*Pg	Pb	23 55 47.2	+3.4
BOD				*e*Sg	Sg	23 56 53.5	-5.9
BOD				Pmax			
	comp=E,3.0nm,0.2s						
BOD				Smax			
	comp=E,17nm,0.4s						
MOY	**Mondy**	**5.22**	**252**	*e*Pn	Pn	23 55 33.1	+1.4
MOY				*e*Pg	Pb	23 55 48.4	+3.1
MOY				*e*Sn	Sn	23 56 31.0	-0.4
MOY				*e*		23 56 51.0	
MOY				*e*Sg	Sg	23 56 55.3	-6.8
MOY				Pmax			
	comp=E,7.0nm,0.5s						
MOY				Smax			
	comp=E,61nm,1.1s						
ORL	**Orlik**	**5.63**	**263**	*e*Pn	Pn	23 55 39.5	+2.2
ORL				*e*Pg	Pb	23 55 55.8	+3.6
ORL				*e*		23 56 42.3	
ORL				*e*Sg	Sg	23 57 08.5	-6.6
ORL				Pmax			
	comp=E,4.0nm,0.4s						
ORL				Smax			
	comp=E,20nm,0.7s						
ULN	**Ulaanbaatar**	**5.81**	**193**	*e*Sg	Sg	23 57 15.5	-5.6
CRS	**Chara**	**6.29**	**54**	*e*Pn	Pn	23 55 47.4	+1.2
CRS				*e*Pg	Pb	23 56 07.7	+4.4
CRS				*e*Sg	Sg	23 57 29.7	-6.4
CRS				Pmax			
	comp=E,2.0nm,0.1s						
CRS				Smax			
	comp=E,19nm,0.7s						
TUP	**Tupik**	**6.53**	**78**	*e*Pg	Pb	23 56 12.1	+4.6
TUP				*e*Sn	Sn	23 57 00.9	-2.6
TUP				*e*Sg	Sg	23 57 35.7	-8.2
TUP				Pmax			
	comp=E,3.0nm,0.3s						
TUP				Smax			
	comp=E,83nm,0.8s						

*ISCJB **25** 23:55:36.6±0.8, 20˚8N±0˚1×144˚9E±0˚2, h129km, mb3.6/10, Error ellipse: s-maj=26.6km s-min=11.9km az=160.6*
*IDC **25** 23:55:44.4±3.4, 20˚73N×144˚87E, h189km±30km, mb3.4/10, mb1 3.6/12, mb1mx3.3/41, mbtmp4.0/12, MS3.8/1, Ms1 3.8/1, ms1mx2.7/17, Error ellipse: s-maj=24.7km s-min=18.8km az=86.0*
ISC 25 23:55:38.1±1.0, 20˚8N±0˚1×144˚9E±0˚2, h129km, n12, σ0s99/12, mb3.9/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**6.80**	**339**	P	Pn	23 57 22.1	+6.7
	22nm,0.3s,baz=264,slow=16,SNR=4.0						
JCJ				S	**Sn**	**23 58 30.5**	**-0.9**
	12nm,0.3s,baz=270,slow=19,SNR=2.7						
MJAR	**Matsushiro Arr**	**16.79**	**341**	P	**Pn**	**23 59 26.7**	**+1.0**
	0.1nm,0.3s,baz=166,slow=9.2,SNR=5.6						
KSRS	**Korea Array**	**22.25**	**322**	P	**P**	**00 00 26.0**	**+1.5**
	9.1nm,0.8s,baz=144,slow=8.8,SNR=14						
SONM	**Songino Array**	**41.11**	**320**	P	**P**	**00 03 09.6**	**+0.2**
	0.7nm,0.3s,baz=136,slow=7.4,SNR=13						
WRA	**Warramunga Arr**	**41.76**	**195**	P	**P**	**00 03 14.6**	**-0.2**
	0.1nm,0.3s,baz=13,slow=8.3,SNR=3.3						
WRA				LR	LR	00 21 52.2	
	comp=Z,130nm,20.2s,baz=255,slow=38						
ZALV	**Zalesovo Beam**	**55.96**	**322**	P	**P**	**00 05 02.1**	**-0.8**
	0.7nm,0.4s,baz=108,slow=8.4,SNR=3.8						
MKAR	**Makanchi Array**	**56.54**	**313**	P	**P**	**00 05 07.4**	**+0.3**
	1.3nm,0.6s,baz=89,slow=8.0,SNR=20						
ILAR	**Eielson Array**	**62.13**	**27**	P	**P**	**00 05 44.4**	**-0.8**
	0.5nm,0.9s,baz=243,slow=5.4,SNR=4.1						
YKA	**Yellowknife Ar**	**76.52**	**28**	P	**P**	**00 07 14.0**	**+0.3**
	0.5nm,0.6s,baz=291,slow=5.6,SNR=10.0						
ARCES	**ARCESS Array B**	**80.33**	**342**	P	**P**	**00 07 34.0**	**-0.5**
	2.5nm,0.8s,baz=74,slow=8.9,SNR=6.4						
NVAR	**Mina Array Bea**	**82.44**	**52**	P	**P**	**00 07 47.5**	**+0.9**
	0.1nm,0.3s,baz=264,slow=5.2,SNR=3.6						
FINES	**FINESS Array B**	**84.73**	**335**	P	**P**	**00 07 56.0**	**-1.4**
	1.9nm,0.7s,baz=74,slow=4.7,SNR=10						

IDC 26 00:05:23.4±3.9, 6˚43S×154˚59E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/34, mbtmp3.7/4, Error ellipse: s-maj=113.6km s-min=30.7km az=112.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.82**	**234**	P	P	00 10 39.4	+1.1
	3.3nm,0.8s,baz=61,slow=9.9,SNR=9.2						
ASAR	**Alice Springs**	**26.26**	**227**	P	P	00 10 60.0	-0.6
	0.7nm,0.3s,baz=57,slow=9.6,SNR=13						
H11S3	**WAKE ISLAND Hy**	**27.49**	**26**	T	T	00 39 31.4	
	baz=202,slow=75,SNR=54						
H11S2	**WAKE ISLAND Hy**	**27.49**	**26**	T	T	00 39 30.1	
	baz=202,slow=75,SNR=42						
H11S1	**WAKE ISLAND Hy**	**27.50**	**26**	T	T	00 39 31.3	
	baz=202,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**28.66**	**25**	T	T	00 40 59.4	
	baz=205						
H11N3	**WAKE ISLAND Hy**	**28.67**	**25**	T	T	00 41 02.3	
	baz=205						
H11N2	**WAKE ISLAND Hy**	**28.68**	**25**	T	T	00 41 01.9	
	baz=205						
SONM	**Songino Array**	**68.64**	**327**	P	P	00 16 28.4	-0.2
	0.5nm,0.7s,baz=128,slow=6.3,SNR=2.7						
MKAR	**Makanchi Array**	**82.72**	**319**	P	P	00 17 49.1	0.0
	0.3nm,0.7s,baz=90,slow=6.7,SNR=3.6						

MEX 26 00:07:03.2±0.3, 14˚92N×93˚05W, h68km±11km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.80**	**348**	*e*P	Pn	00 07 17.9	-1.2
PCIG				*e*S	Sn	00 07 28.8	-2.0
CCIG	**Comitan**	**1.62**	**33**	*e*P	Pn	00 07 28.1	-1.7
CCIG				*i* S	Sn	00 07 48.2	-1.8

*GUC **26** 00:10:42.7±0.5, 31˚32S×68˚84W, h137km±24km, ML3.6*
*SJA **26** 00:10:42.9±0.6, 31˚35S×68˚72W, h106km±1km, ML3.5, MW3.5*
*ISCJB **26** 00:10:43.3±0.7, 31˚34S±0˚03×68˚70W±0˚04, h110km±5km, Error ellipse: s-maj=6.2km s-min=4.3km az=175.2*
ISC 26 00:10:44.1±1.5, 31˚34S±0˚03×68˚72W±0˚05, h104km±8km, n28, σ0s52/45, 1C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.21**	**87**	*e*P	**Pn**	**00 10 58.7**	**-0.3**
RTLL				IAML		00 10 58.8	
	comp=Z,3μm,0.2s						
RTLL				*e*S	**Sn**	**00 11 10.2**	**+0.2**
ZON	**Zonda**	**0.21**	**171**	*e*P	**Pn**	**00 10 58.5**	**-0.5**
ZON				IAML		00 10 58.9	
	comp=Z,1μm,0.2s						
ZON				*e*S	**Sn**	**00 11 10.1**	**0.0**
SJA	**San Juan**	**0.23**	**145**	*e*P	**Pn**	**00 10 58.7**	**-0.3**
SJA				IAML		00 10 59.1	
	comp=Z,925nm,0.3s						
SJA				*e*S	**Sn**	**00 11 10.3**	**+0.1**
AMOG	**MOGNA**	**0.44**	**26**	*e*P	**Pn**	**00 11 00.1**	**0.0**
AMOG				*e*S	**Sn**	**00 11 12.1**	**0.0**
CFA	**Coronel Fontan**	**0.49**	**123**	*e*P	**Pn**	**00 11 00.1**	**-0.3**
CFA				*e*S	**Sn**	**00 11 12.4**	**-0.2**
RTCV	**Cerro Valdivia**	**0.54**	**164**	*e*P	**Pn**	**00 11 00.4**	**-0.4**
RTCV				*e*S	**Sn**	**00 11 12.8**	**-0.4**
RTLS	**Leoncito**	**0.68**	**227**	*e*P	**Pn**	**00 11 02.1**	**0.0**
RTLS				IAML		00 11 16.9	
	comp=Z,969nm,0.2s						
ACCO	**Cerro Coronel**	**0.81**	**338**	*e*P	**Pn**	**00 11 03.6**	**+0.2**
ACCO				*e*S	**Sn**	**00 11 18.3**	**+0.6**
AUSP	**Uspallata**	**1.05**	**213**	*e*P	**Pn**	**00 11 05.8**	**+0.1**
AUSP				*e*S	**Sn**	**00 11 22.6**	**+0.6**
ACDV	**Cuesta del Vie**	**1.22**	**343**	*e*P	**Pn**	**00 11 07.8**	**+0.3**
ACDV				IAML		00 11 08.3	
	comp=Z,449nm,0.5s						
ASAL	**Salagasta**	**1.25**	**185**	*e*P	**Pn**	**00 11 07.7**	**-0.1**
ASAL				*e*S	**Sn**	**00 11 25.8**	**+0.1**
AROD	**Rodeo**	**1.34**	**331**	*e*P	**Pn**	**00 11 09.8**	**+0.7**
AROD				*e*S	**Sn**	**00 11 28.8**	**+1.0**
ARCO	**CERRO ARCO**	**1.51**	**187**	*e*P	**Pn**	**00 11 10.9**	**0.0**
ARCO				*e*S	**Sn**	**00 11 31.2**	**0.0**
ARCO				IAML		00 11 33.5	
	comp=Z,527nm,0.2s						
ACAN	**Cantantal**	**1.60**	**126**	*e*P	**Pn**	**00 11 12.0**	**+0.1**
AAGR	**Agrelo**	**1.74**	**183**	*e*P	**Pn**	**00 11 13.6**	**-0.1**
AGUA	**GUANDACOL**	**1.86**	**6**	*e*P	**Pn**	**00 11 14.8**	**-0.3**
CMCH	**Combarbala**	**1.96**	**274**	*e*P	**Pn**	**00 11 16.3**	**-0.2**
CMCH				*i* S	**Sn**	**00 11 41.5**	**+0.3**
APLL	**PUNTA DE LOS L**	**2.10**	**64**	*e*P	**Pn**	**00 11 18.3**	**0.0**
APLL				IAML		00 11 44.9	
	comp=Z,258nm,0.2s						
AVIZ	**Vizcacheras**	**2.13**	**176**	*e*P	**Pn**	**00 11 18.4**	**-0.3**
GO04	**Tololo Observa**	**2.14**	**302**	*e*P	**Pn**	**00 11 18.5**	**-0.4**
GO04				*i* S	**Sn**	**00 11 46.3**	**+0.8**
FCH	**Farellones**	**2.39**	**214**	*e*P	**Pn**	**00 11 22.6**	**+0.4**
FCH				*i* S	**Sn**	**00 11 53.0**	**+1.6**
FCH				IAML		00 12 03.4	
	comp=E,196nm,0.2s						
ACLC	**CERRO LA CRUZ**	**2.44**	**39**	*e*P	**Pn**	**00 11 22.8**	**0.0**
PEL	**Peldehue**	**2.45**	**222**	⇑*i* P	**Pn**	**00 11 22.5**	**-0.3**
PEL				*i* S	**Sn**	**00 11 52.6**	**+0.1**
ROCH	**El Roble**	**2.54**	**230**	IAML		00 11 58.8	
	comp=N,190nm,0.3s						
ROC1	**El Roble**	**2.54**	**229**	*e*P	**Pn**	**00 11 23.2**	**-0.9**
CLCH	**Cerro Calan**	**2.56**	**216**	*e*P	**Pn**	**00 11 24.1**	**-0.2**
CLCH				*e*S	**Sn**	**00 11 55.3**	**+0.2**
CLCH				IAML		00 11 57.8	
	comp=E,219nm,0.6s						
LSCH	**La Serena**	**2.61**	**303**	*e*P	**Pn**	**00 11 24.0**	**-0.7**
LSCH				*i* S	**Sn**	**00 11 54.6**	**-1.3**
LSCH				IAML		00 11 55.9	
	comp=N,220nm,0.3s						
LCO	**Las Campanas**	**2.89**	**323**	*e*P	**Pn**	**00 11 28.4**	**-0.3**
LCO				*i* S	**Sn**	**00 12 02.6**	**-0.5**
LCO				IAML		00 12 05.6	
	comp=E,190nm,0.6s						

*NIED **26** 00:14:00, 36˚40N×139˚80E, h125km, Mw4.2 Best double couple: M0 1.96000×10^15 NP1:φs333.00000°, δ43.00000°, λ139.00000°. NP2:φs95.00000°, δ63.00000°, λ55.00000°.*
*ISCJB **26** 00:14:37.8±0.3, 36˚30N±0˚03×139˚78E±0˚04, h123km±2km, mb4.2/30, Error ellipse: s-maj=5.7km s-min=4.2km az=6.5*
*IDC **26** 00:14:39.7±0.9, 36˚33N×139˚68E, h125km±7km, mb3.8/17, mb1 4.0/20, mb1mx3.8/35, mbtmp4.2/20, Error ellipse: s-maj=15.2km s-min=12.1km az=67.0*
*JMA **26** 00:14:39.4±0.1, 36˚31N×139˚79E, h112km±1km, M4.0 Broadband fault plane solution: P waves. NP1: φs103.00000°, δ51.00000°, λ71.00000°. NP2: φs311.00000°, δ43.00000°, λ111.00000°. Principal axes: T Plg75.0000°, Azm312.0000°; N Plg14.0000°, Azm115.0000°; P Plg4.0000°, Azm206.0000°;*
JMA Felt II J1.
*NEIC **26** 00:14:39.0±0.5, 36˚38N×139˚75E, h117km±4km, mb4.2/12 Error ellipse: s-maj=6.8km s-min=6.2km az=138.0*
NEIC Recorded [2 JMA] in Tochigi.
ISC 26 00:14:38.5±0.6, 36˚36N±0˚04×139˚85E±0˚05, h116km±5km, n97, σ1s26/112, mb4.2/35, 4C-6D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.31**	**115**	⇑P	**Pn**	**00 14 55.7**	**+0.7**
JYT				S	**Sn**	**00 15 07.9**	**+0.5**
JAG	**Ashikaga**	**0.33**	**282**	⇑P	**Pn**	**00 14 55.3**	**+0.2**
JKT	**Katashina**	**0.63**	**310**	⇑P	**Pn**	**00 14 57.5**	**+0.4**
JKT				*e*S	**Sn**	**00 15 11.4**	**+0.3**
JRY	**Ryogami san**	**0.84**	**246**	⇑P	**Pn**	**00 14 58.8**	**+0.1**
JRY				S	**Sn**	**00 15 13.2**	**-0.8**
JFY	**Yanaizu**	**1.05**	**354**	⇓P	**Pn**	**00 15 01.8**	**+1.0**
JFY				S	**Sn**	**00 15 18.6**	**+0.9**
JHK	**Hiroka**	**1.11**	**323**	⇓P	**Pn**	**00 15 02.0**	**+0.6**
JHK				S	**Sn**	**00 15 19.4**	**+0.7**
JFT	**Otama**	**1.22**	**18**	⇓P	**Pn**	**00 15 03.9**	**+1.3**
JFT				*e*S	**Sn**	**00 15 22.9**	**+2.1**
JOD2	**Odawara 2**	**1.25**	**210**	⇓P	**Pn**	**00 15 02.3**	**-0.7**
JOD2				S	**Sn**	**00 15 19.8**	**-1.6**
MJAR	**Matsushiro Arr**	**1.33**	**278**	P	**Pn**	**00 15 03.6**	**-0.2**
	16nm,0.3s,baz=97,slow=11,SNR=632						
MJAR				LR	LR	00 15 05.4	
	comp=Z,25nm,20.4s,baz=350,slow=22						
MJAR				S	**Sn**	**00 15 22.4**	**-0.7**

JHJ S Sn 00 16 04.0 -1.7
236nm,0.3s,baz=240,slow=24,SNR=12
JHJ2 Mitsune 3.24 180 *e*Pn **Pn** 00 15 27.9 +0.1
JHJ2 *e*Sn **Sn** 00 16 03.3 -2.6
ERM Erimo 6.21 23 *e*Pn **Pn** 00 16 06.6 -1.0
ERM *e*Sn **Sn** 00 17 11.0 -6.1
ASAJ Asahikawa 8.03 14 P **Pn** 00 16 30.9 -1.3
4.9nm,0.3s,baz=225,slow=8.6,SNR=8.9
ASAJ S **Sn** 00 17 55.9 -5.4
2.3nm,0.3s,baz=306,slow=19,SNR=2.7
JNU Nakatsue 8.06 249 P **Pn** 00 16 33.2 +0.5
2.1nm,0.3s,baz=76,slow=1.1,SNR=9.0
CBIJ Chichi jima 9.45 167 P Pn 00 16 47.5 -4.1
CBIJ S Sn 00 18 25.0 -11
JCJ Chichijima 9.45 167 P Pn 00 16 47.5 -4.1
19nm,0.3s,baz=290,slow=18,SNR=3.4
JCJ S Sn 00 18 25.0 -11
15nm,0.3s,baz=261,slow=19,SNR=4.3
KSRS Korea Array 9.62 280 P **Pn** 00 16 56.6 +2.8
0.3nm,0.3s,baz=93,slow=16,SNR=4.3
KSAR Wonju Array Be 9.65 280 P **Pn** 00 16 56.6 +2.4
USRK Ussuriysk Ar. 9.87 325 P **Pn** 00 16 58.1 +1.0
0.2nm,0.3s,baz=149,slow=16,SNR=5.2
KLR Kul'dur 14.16 338 P **Pn** 00 17 51.9 -1.8
0.3nm,0.3s,baz=160,slow=8.3,SNR=6.2
BJT Baijiatuan 18.96 288 *e*P **P** 00 18 48.3 -2.2
PETK Petropavlovsk- 20.91 31 P Pn 00 19 15.8 +0.6
4.4nm,0.9s,baz=227,slow=15,SNR=4.4
PEA1 Petropavlovsk- 20.91 31 *e*P Pn 00 19 15.8 +0.6
SONA1 Songino Array 27.13 306 *e*P **P** 00 20 09.6 -1.2
SONA0 Songino Array 27.14 305 *e*P **P** 00 20 09.6 -1.1
SONM Songino Array 27.14 305 P **P** 00 20 09.6 -1.1
2.3nm,0.6s,baz=105,slow=8.4,SNR=20
H11N2 WAKE ISLAND Hy 28.92 118 T T 00 50 51.1
baz=313,slow=75,SNR=56
H11N1 WAKE ISLAND Hy 28.92 118 T T 00 50 55.6
baz=313,slow=75,SNR=36
H11N3 WAKE ISLAND Hy 28.93 118 T T 00 50 57.1
baz=313,slow=75,SNR=38
H11S1 WAKE ISLAND Hy 29.58 120 T T 00 51 37.8
baz=314,slow=76,SNR=66
H11S3 WAKE ISLAND Hy 29.58 120 T T 00 51 40.5
baz=314,slow=76,SNR=50
H11S2 WAKE ISLAND Hy 29.60 120 T T 00 51 44.4
baz=314,slow=76,SNR=49
ZAA0 Zalesovo Array 41.45 313 *e*P **P** 00 22 13.3 -0.1
2.4nm,0.6s
ZAA1 Zalesovo Array 41.45 313 *e*P **P** 00 22 13.2 -0.3
ZAA1 *e*PcP **PcP** 00 24 08.7 -0.4
ZALV Zalesovo Beam 41.45 313 P **P** 00 22 13.2 -0.3
2.1nm,0.4s,baz=102,slow=8.3,SNR=9.6
ZALV PcP **PcP** 00 24 08.7 -0.4
1.7nm,0.5s,baz=117,slow=2.0,SNR=6.6
MK01 Makanchi Array 43.41 302 *e*P **P** 00 22 29.0 -0.5
MK31 Makanchi Array 43.42 302 *e*P **P** 00 22 29.5 -0.1
MK32 Makanchi Array 43.42 302 *e*P **P** 00 22 29.5 -0.1
MK32 *e*PP **PcP** 00 24 15.8 0.0
MKAR Makanchi Array 43.42 302 P **P** 00 22 29.5 -0.1
3.3nm,0.6s,baz=88,slow=9.9,SNR=29
MKAR PcP **PcP** 00 24 15.8 0.0
0.5nm,0.7s,baz=114,slow=1.7,SNR=3.0
MAKZ Makanchi 43.63 303 *e*P **P** 00 22 31.3 0.0
6.2nm,1.0s
RAMN Ramite 45.80 274 *e*P **P** 00 22 48.2 -0.8
12nm,0.6s
JIRN Jiri 45.83 275 *e*P **P** 00 22 49.2 -0.1
18nm,0.6s
GUN Gumba 45.97 275 *e*P **P** 00 22 50.2 -0.2
11nm,0.5s
PKI Pulchoki 46.49 275 *e*P **P** 00 22 53.7 -0.8
DANN Dangsing 47.49 277 *e*P **P** 00 23 02.1 -0.1
47nm,0.7s
TARG Taragay, Kyrgy 47.57 296 *e*P **P** 00 23 02.7 -0.1
6.5nm,0.7s
PYUN Piuthan 48.21 277 *e*P **P** 00 23 07.3 -0.4
14nm,0.6s
NRN Naryn 48.96 297 *e*P **P** 00 23 13.6 +0.3
2.2nm,0.8s
AAK Ala-Archa 49.70 298 *e*P **P** 00 23 18.7 -0.1
1.9nm,0.6s
MDM Murphy Dome 50.15 32 *e*P **P** 00 23 24.2 +2.5
7.8nm,0.8s
ILAR Eielson Array 50.73 32 P **P** 00 23 27.3 +1.2
3.0nm,0.8s,baz=273,slow=6.3,SNR=28
ILB Eielson Array 50.73 32 *e*P **P** 00 23 27.7 +1.7
ARSB Arslanbob 51.16 297 *e*P **P** 00 23 30.5 +0.7
3.7nm,0.6s
SCRK Sand Creek 52.06 33 *e*P **P** 00 23 37.6 +1.5
2.1nm,1.0s
INK Inuvik 55.56 27 *e*P **P** 00 24 02.3 +1.0
3.6nm,0.7s
INK *e*PcP **PcP** 00 24 58.7 -0.9
WR1 Warramunga Arr 56.24 186 *e*P **P** 00 24 06.0 -0.6
WRA Warramunga Arr 56.24 186 P **P** 00 24 06.0 -0.6
1.7nm,0.6s,baz=1.8,slow=7.6,SNR=18
WRA pP **pP** 00 24 33.4 -1.1
1.4nm,0.5s,baz=1.6,slow=7.6,SNR=3.3
ABKAR Akbulak array 57.41 310 *e*P **P** 00 24 14.3 -0.4
AS31 Alice Springs 59.96 186 *e*P **P** 00 24 32.5 -0.1
1.2nm,1.1s
ASAR Alice Springs 59.96 186 P **P** 00 24 32.5 -0.1
0.7nm,0.5s,baz=7.7,slow=6.0,SNR=10
ASAR pP **pP** 00 25 01.1 +0.4
0.5nm,0.5s,baz=18,slow=12,SNR=2.1
GEYT Alibeck 63.06 299 P **P** 00 24 53.7 +0.2
307nm,1.1s,baz=75,slow=1.6,SNR=3.6
ARA0 ARCESS Array S 64.18 339 *e*P **P** 00 25 00.4 +0.1
ARCES ARCESS Array B 64.18 339 P **P** 00 25 00.4 +0.1
3.2nm,1.0s,baz=54,slow=7.3,SNR=13
YKA Yellowknife Ar 65.02 30 P **P** 00 25 05.9 +0.2
1.1nm,0.7s,baz=303,slow=8.0,SNR=24
YKB5 Yellowknife Ar 65.02 30 *e*P **P** 00 25 05.9 +0.2
FIA0 FINESS Array S 68.82 332 *e*P **P** 00 25 28.9 -1.0
FINES FINESS Array B 68.82 332 P **P** 00 25 28.9 -1.0
1.5nm,0.4s,baz=55,slow=5.9,SNR=16
KBZ Khabaz 70.38 310 P **P** 00 25 40.3 +0.6
2.3nm,0.8s,baz=41,slow=12,SNR=5.0
AKASG Malin Array Be 74.06 322 P **P** 00 26 00.9 -0.5
2.1nm,0.6s,baz=50,slow=6.2,SNR=14
AKBB Malin Array Si 74.06 322 *e*P **P** 00 26 00.9 -0.5
2.6nm,0.5s
AK11 Malin Array Si 74.10 322 *e*P **P** 00 26 01.1 -0.7
NB2 NORSAR Subarra 74.32 337 P **P** 00 26 02.6 -0.3
comp=Z,2.6nm,0.5s,baz=42,slow=5.9
NB200 NORSAR Array S 74.32 337 *e*P **P** 00 26 02.7 -0.2
NOA NORSAR Array B 74.32 337 P **P** 00 26 02.7 -0.2
comp=Z,3.4nm,0.7s,baz=42,slow=5.9,SNR=10
KVN Kaiserville 76.17 52 *e*P **P** 00 26 16.3 +2.2
comp=Z,2.6nm,0.8s
NV01 Mina Array Sit 76.40 52 *e*P **P** 00 26 16.6 +1.1
NVAR Mina Array Bea 76.40 52 P **P** 00 26 16.6 +1.1
comp=Z,1.0nm,0.6s,baz=302,slow=5.1,SNR=7.6
ELK Elko 76.94 49 P **P** 00 26 20.7 +2.2
comp=Z,0.2nm,0.4s,baz=24,slow=10.0,SNR=3.6
PD31 Pinedale Array 79.03 45 *e*P **P** 00 26 30.9 +0.9
PDAR Pinedale Array 79.03 45 P **P** 00 26 30.9 +0.9
comp=Z,0.3nm,0.5s,baz=38,slow=2.6,SNR=4.8
CLL Collm 81.05 329 *e*P **P** 00 26 40.0 -0.3
GERES GERESS Array B 82.61 327 P **P** 00 26 48.6 -0.1
comp=Z,0.5nm,0.5s,baz=38,slow=5.0,SNR=5.9
LTX Lajitas 91.53 51 *e*P **P** 00 27 33.7 +1.4
TXAR Lajitas Array 91.53 51 P **P** 00 27 33.7 +1.4
comp=Z,0.5nm,0.6s,baz=289,slow=2.7,SNR=8.8
TOA1 Torodi Ar. Sit 116.89 313 *e*PKPdf **PKPdf** 00 33 08.8 -1.1
TORD Torodi Ar. Bea 116.90 313 PKP **PKPdf** 00 33 08.8 -1.1
comp=Z,0.2nm,0.5s,baz=345,slow=0.4,SNR=5.4
MAW Mawson 118.39 205 PKP **PKPdf** 00 33 13.2 +2.0
comp=Z,5.0nm,0.6s,baz=45,slow=7.1,SNR=2.3
LPAZ La Paz 148.12 59 PKPbc **PKPbc** 00 34 12.6 +0.8
comp=Z,1.1nm,0.6s,baz=328,slow=1.2,SNR=6.5

*DRS **26** 00:17:56.3±0.0, 43.°57N×45.°57E, h17km*
*MOS **26** 00:17:57.2±0.0, 43.°43N×45.°88E, h5km, MPVA4.2*
*NORS **26** 00:17:59.1±0.0, 43.°38N×45.°81E, h16km, MPVA4.2*
ISC 26 00:17:59.9±0.9, **43.°46N**±0.°03×**45.°89E**±0.°02, **h15**km±7km,
n96, σ1s**22**/165, **21C-6D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.27**	**195**	*ce*PG		**Pg**	**Pg**	**00 18 04.4**	**-1.2**
GROC	**Groznyy**	**0.27**	**195**	*i* Pg		**Pg**	**Pg**	**00 18 04.6**	**-1.0**
GROC				*e*Sg		**Sg**	**Sg**	**00 18 08.8**	**-0.7**
DVE	**Vedeno**	**0.53**	**161**	*c i* PG		**Pg**	**Pg**	**00 18 09.4**	**-1.0**
DVE	**Vedeno**	**0.53**	**161**	*i* Pg		**Pg**	**Pg**	**00 18 09.5**	**-0.9**
DVE				*e*Sg		**Sg**	**Sg**	**00 18 17.9**	**+0.4**
DLMR	**Dylym**	**0.67**	**126**	*e*PG		**Pg**	**Pg**	**00 18 12.0**	**-0.9**
DLMR				*e*S		**Sn**	**Sn**	**00 18 24.0**	**-1.0**
DLMR				pmax		pmax			
	comp=Z,103nm,0.1s								
DLMR	**Dylym**	**0.67**	**126**	*e*Pg		**Pg**	**Pg**	**00 18 12.0**	**-0.9**
DLMR				*e*Sg		**Sn**	**Sn**	**00 18 24.0**	**-1.0**
DBC	**Dubki**	**0.82**	**122**	⇑*i* PG		**Pb**	**Pb**	**00 18 15.3**	**-0.5**
DBC				*i* S		**Sg**	**Sg**	**00 18 27.9**	**+1.4**
DBC				pmax		pmax			
	comp=Z,64nm,0.2s								
DBC	**Dubki**	**0.82**	**122**	*i* Pg		**Pb**	**Pb**	**00 18 15.3**	**-0.5**
DBC				*i* Sg		**Sg**	**Sg**	**00 18 27.9**	**+1.4**
BTLR	**Botlikh**	**0.83**	**163**	⇑*e*PG		**Pb**	**Pb**	**00 18 14.5**	**-1.6**
BTLR				*e*				00 18 26.8	
BTLR				pmax		pmax			
	comp=Z,120nm,0.3s								
BTLR				smax		smax			
	comp=N,161nm,1.1s								
BTLR	**Botlikh**	**0.83**	**163**	*i* Pg		**Pb**	**Pb**	**00 18 14.5**	**-1.6**
BTLR				*e*Sg		**Sb**	**Sb**	**00 18 27.3**	**+0.1**
KMGR	**Komgaron**	**0.85**	**242**	*e*PG		**Pb**	**Pb**	**00 18 15.8**	**-0.6**
KMGR				*e*S		**Sg**	**Sg**	**00 18 28.8**	**+1.2**
KMGR	**Komgaron**	**0.85**	**242**	*i* Pg		**Pb**	**Pb**	**00 18 15.7**	**-0.6**
KMGR				*e*Sg		**Sn**	**Sn**	**00 18 29.9**	**+0.2**
TRKR	**Terskaya**	**0.88**	**288**	*e*PG		**Pb**	**Pb**	**00 18 16.8**	**-0.1**
TRKR				*e*S		**Sn**	**Sn**	**00 18 30.1**	**-0.2**
TRKR	**Terskaya**	**0.88**	**288**	*e*Pg		**Pb**	**Pb**	**00 18 16.8**	**-0.1**
TRKR				*e*Sg		**Sn**	**Sn**	**00 18 30.1**	**-0.2**
KRNR	**Karanay**	**0.98**	**130**	*e*PG		**Pb**	**Pb**	**00 18 18.0**	**-0.6**
KRNR				*e*S		**Sn**	**Sn**	**00 18 33.0**	**+0.2**
KRNR				pmax		pmax			
	comp=Z,36nm,0.2s								
KRNR	**Karanay**	**0.98**	**130**	*e*Pg		**Pb**	**Pb**	**00 18 18.0**	**-0.6**
KRNR				*e*Sg		**Sn**	**Sn**	**00 18 33.0**	**+0.2**
VLKR	**Vladikavkaz**	**0.98**	**245**	*e*PG		**Pb**	**Pb**	**00 18 18.8**	**+0.2**
VLKR				*e*S		**Sg**	**Sg**	**00 18 31.9**	**+0.3**
VLKR	**Vladikavkaz**	**0.98**	**245**	*i* Pg		**Pb**	**Pb**	**00 18 18.6**	**+0.1**
VLKR				*i* Sg		**Sn**	**Sn**	**00 18 32.6**	**-0.1**
BTKR	**Batakoyurt**	**0.99**	**265**	⇓*i* PG		**Pb**	**Pb**	**00 18 18.8**	**+0.1**
BTKR				*e*S		**Sn**	**Sn**	**00 18 34.3**	**+1.4**
BTKR	**Batakoyurt**	**0.99**	**265**	*i* Pg		**Pb**	**Pb**	**00 18 18.6**	**-0.1**
BTKR				*e*Sg		**Sn**	**Sn**	**00 18 34.1**	**+1.1**
UNCR	**Uncukul**	**1.00**	**138**	*e*PG		**Pb**	**Pb**	**00 18 18.0**	**-0.9**
UNCR				*e*S		**Sg**	**Sg**	**00 18 32.5**	**+0.2**
UNCR				pmax		pmax			
	comp=Z,107nm,0.2s								
UNCR	**Uncukul**	**1.00**	**138**	*e*Pg		**Pb**	**Pb**	**00 18 18.0**	**-0.9**
UNCR				*e*Sg		**Sg**	**Sg**	**00 18 32.5**	**+0.2**
BUJR	**Buynaksk**	**1.09**	**125**	*e*PG		**Pn**	**Pn**	**00 18 21.0**	**+0.3**
BUJR				*e*S		**Sg**	**Sg**	**00 18 37.8**	**+2.5**
BUJR	**Buynaksk**	**1.09**	**125**	*e*Pg		**Pn**	**Pn**	**00 18 21.0**	**+0.3**
BUJR				*e*Sg		**Sg**	**Sg**	**00 18 37.8**	**+2.5**
XNZR	**Khunzakh**	**1.10**	**147**	⇑*e*PG		**Pb**	**Pb**	**00 18 20.3**	**-0.4**
XNZR				*e*				00 18 36.0	
XNZR	**Khunzakh**	**1.10**	**147**	*e*Pg		**Pb**	**Pb**	**00 18 19.7**	**-0.9**
XNZR				*e*Sg		**Sn**	**Sn**	**00 18 36.0**	**+0.2**
ARKR	**Arakani**	**1.18**	**136**	*i* PG		**Pn**	**Pn**	**00 18 21.5**	**-0.4**
ARKR				*e*S		**Sg**	**Sg**	**00 18 39.0**	**+1.0**
ARKR				pmax		pmax			
	comp=Z,76nm,0.3s								
ARKR	**Arakani**	**1.18**	**136**	*i* Pg		**Pn**	**Pn**	**00 18 21.5**	**-0.4**
ARKR				*e*Sg		**Sg**	**Sg**	**00 18 39.0**	**+1.0**
PRTR	**Priterechnaya**	**1.20**	**284**	*c i* PG		**Pn**	**Pn**	**00 18 22.3**	**+0.2**
PRTR				pmax		pmax			
	comp=Z,395nm,0.6s								
PRTR	**Priterechnaya**	**1.20**	**284**	*e*Pg		**Pn**	**Pn**	**00 18 22.4**	**+0.2**
PRTR				*e*Sg		**Sg**	**Sg**	**00 18 40.0**	**+1.2**
ARNR	**Ardon**	**1.21**	**257**	*e*PG		**Pn**	**Pn**	**00 18 22.3**	**+0.1**
ARNR				*e*S		**Sn**	**Sn**	**00 18 38.3**	**0.0**
ARNR	**Ardon**	**1.21**	**257**	*i* Pg		**Pn**	**Pn**	**00 18 22.3**	**+0.1**
ARNR				*e*Sg		**Sg**	**Sg**	**00 18 40.2**	**+1.3**
MAK	**Makhachkala**	**1.28**	**112**	*e*PG		**Pg**	**Pg**	**00 18 25.5**	**+0.9**
MAK				*e*				00 18 45.2	
MAK				pmax		pmax			
	comp=Z,89nm,0.3s								
MAK				smax		smax			
	comp=E,378nm,0.4s								
MAK				smax		smax			
	comp=E,422nm,0.4s								
MAK	**Makhachkala**	**1.28**	**112**	*e*Pg		**Pg**	**Pg**	**00 18 25.3**	**+0.7**
MAK				*e*Sg		**Sg**	**Sg**	**00 18 43.5**	**+2.2**
LACR	**Lac**	**1.33**	**242**	*c i* PG		**Pn**	**Pn**	**00 18 22.8**	**-1.2**
LACR	**Lac**	**1.33**	**242**	*i* Pg		**Pn**	**Pn**	**00 18 23.4**	**-0.6**
LACR				*e*Sg		**Sn**	**Sn**	**00 18 41.4**	**-0.1**
GNBR	**Gunib**	**1.33**	**143**	⇑*e*PG		**Pb**	**Pb**	**00 18 24.8**	**+0.2**
GNBR				*e*				00 18 44.2	
GNBR				pmax		pmax			
	comp=Z,93nm,0.8s								
GNBR				smax		smax			
	comp=N,305nm,0.7s								
GNBR	**Gunib**	**1.33**	**143**	*i* Pg		**Pb**	**Pb**	**00 18 24.8**	**+0.2**
GNBR				*e*Sg		**Sg**	**Sg**	**00 18 44.3**	**+1.4**
STDR	**Stavd-Durt**	**1.33**	**267**	*e*PG		**Pn**	**Pn**	**00 18 24.6**	**+0.6**
STDR				*e*S		**Sg**	**Sg**	**00 18 43.8**	**+0.9**
STDR	**Stavd-Durt**	**1.33**	**267**	*i* Pg		**Pn**	**Pn**	**00 18 24.6**	**+0.6**
STDR				*e*Sg		**Sg**	**Sg**	**00 18 43.5**	**+0.6**
KORR	**Kora**	**1.38**	**255**	*c i* PG		**Pn**	**Pn**	**00 18 24.3**	**-0.4**
KORR	**Kora**	**1.38**	**255**	*i* Pg		**Pn**	**Pn**	**00 18 24.3**	**-0.4**
KORR				*e*Sg		**Sg**	**Sg**	**00 18 44.9**	**+0.4**
LSNR	**Lesken**	**1.52**	**264**	*ce*PG		**Pn**	**Pn**	**00 18 26.3**	**-0.2**
LSNR	**Lesken**	**1.52**	**264**	*e*Pg		**Pn**	**Pn**	**00 18 27.2**	**+0.6**
LSNR				*e*Sg		**Sg**	**Sg**	**00 18 48.4**	**-0.4**
KMKR	**Kumukh**	**1.60**	**146**	*e*PN		**Pn**	**Pn**	**00 18 28.5**	**+0.7**
KMKR				*e*S		**Sg**	**Sg**	**00 18 51.0**	**-0.5**
KMKR				pmax		pmax			
	comp=Z,59nm,0.2s								
KMKR	**Kumukh**	**1.60**	**146**	*e*Pg		**Pn**	**Pn**	**00 18 28.5**	**+0.7**
KMKR				*e*Sg		**Sg**	**Sg**	**00 18 51.0**	**-0.5**
ZEI	**Tsey**	**1.60**	**246**	*ce*PG		**Pn**	**Pn**	**00 18 26.2**	**-1.7**
ZEI	**Tsey**	**1.60**	**246**	*i* Pg		**Pn**	**Pn**	**00 18 27.4**	**-0.4**
ZEI				*i* Sg		**Sb**	**Sb**	**00 18 49.1**	**-0.3**
SGKR	**Sergokala**	**1.64**	**127**	*e*PN		**Pb**	**Pb**	**00 18 29.5**	**-0.3**
SGKR				*e*S		**Sg**	**Sg**	**00 18 52.5**	**-0.2**
SGKR	**Sergokala**	**1.64**	**127**	*e*Pg		**Pb**	**Pb**	**00 18 29.5**	**-0.3**
SGKR				*e*Sg		**Sg**	**Sg**	**00 18 52.5**	**-0.2**
LGD	**Lagodekhi**	**1.65**	**171**	P		**Pn**	**Pn**	**00 18 29.2**	**+0.9**
LGD				S		**Sb**	**Sb**	**00 18 51.9**	**+1.4**
LGD	**Lagodekhi**	**1.65**	**171**	*e*PN		**Pn**	**Pn**	**00 18 29.1**	**+0.9**
LGD				*e*S		**Sb**	**Sb**	**00 18 51.9**	**+1.4**
LGD	**Lagodekhi**	**1.65**	**171**	*e*Pg		**Pn**	**Pn**	**00 18 29.2**	**+0.9**
LGD				*e*Sg		**Sb**	**Sb**	**00 18 51.9**	**+1.4**
NCK	**Nalchik**	**1.67**	**272**	*i e*PN		**Pn**	**Pn**	**00 18 28.6**	**0.0**
NCK	**Nalchik**	**1.67**	**272**	*e*Pg		**Pn**	**Pn**	**00 18 29.8**	**+1.1**
NCK				*e*Sg		**Sg**	**Sg**	**00 18 53.7**	**+0.1**
DIGR	**Digorskoe uzhe**	**1.78**	**252**	*de*PN		**Pn**	**Pn**	**00 18 29.0**	**-1.3**
DIGR	**Digorskoe uzhe**	**1.78**	**252**	*e*Pg		**Pn**	**Pn**	**00 18 30.2**	**-0.1**
DIGR				*e*Sg		**Sb**	**Sb**	**00 18 54.1**	**-0.5**
URKR	**Urkarakh**	**1.82**	**135**	⇑*e*PN		**Pb**	**Pb**	**00 18 33.4**	**+0.4**
URKR				*e*				00 18 59.5	
URKR	**Urkarakh**	**1.82**	**135**	*e*Pg		**Pb**	**Pb**	**00 18 33.4**	**+0.4**
URKR				*e*Sg		**Sg**	**Sg**	**00 18 59.1**	**+0.6**
KBTC	**Kuba-Taba**	**1.84**	**282**	*e*PN		**Pn**	**Pn**	**00 18 31.6**	**+0.7**
KBTC				*e*S		**Sb**	**Sb**	**00 18 57.4**	**+1.4**
KBTC	**Kuba-Taba**	**1.84**	**282**	*e*Pg		**Pn**	**Pn**	**00 18 31.0**	**0.0**
KBTC				*e*Sg		**Sb**	**Sb**	**00 18 57.2**	**+1.2**
TBLG	**Delisi**	**1.93**	**207**	P		**Pn**	**Pn**	**00 18 33.0**	**+0.8**
TBLG				S		**Sb**	**Sb**	**00 19 00.2**	**+1.6**
TBLG	**Delisi**	**1.93**	**207**	*e*PN		**Pn**	**Pn**	**00 18 32.9**	**+0.8**
TBLG				*e*S		**Sb**	**Sb**	**00 19 00.2**	**+1.6**
TBLG	**Delisi**	**1.93**	**207**	*e*Pg		**Pn**	**Pn**	**00 18 33.0**	**+0.8**
TBLG				*e*Sg		**Sb**	**Sb**	**00 19 00.2**	**+1.6**
PYA1	**Pyatigorsk**	**2.11**	**287**	*e*PN		**Pn**	**Pn**	**00 18 34.4**	**-0.3**
PYA1				*e*S		**Sb**	**Sb**	**00 19 03.1**	**-0.8**
PYA1	**Pyatigorsk**	**2.11**	**287**	*i* Pg		**Pn**	**Pn**	**00 18 35.2**	**+0.5**
PYA1				*e*Sg		**Sb**	**Sb**	**00 19 03.8**	**-0.1**
BEYR	**Belyy Ugol+**	**2.29**	**285**	*e*PN		**Pn**	**Pn**	**00 18 36.5**	**-0.7**
BEYR				*e*S		**Sb**	**Sb**	**00 19 08.4**	**-0.8**
DRN	**Derbent**	**2.30**	**128**	⇑*e*PN		**Pb**	**Pb**	**00 18 41.6**	**+0.6**
DRN				*e*				00 19 11.8	
DRN				pmax		pmax			
	comp=Z,33nm,1.0s								
DRN				smax		smax			
	comp=N,91nm,1.2s								
DRN	**Derbent**	**2.30**	**128**	*e*Pn		**Pb**	**Pb**	**00 18 40.2**	**-0.8**
DRN				*e*Sn		**Sb**	**Sb**	**00 19 11.7**	**+2.6**
NEY	**Neytrino**	**2.32**	**266**	*e*PN		**Pn**	**Pn**	**00 18 37.3**	**-0.4**
NEY				*e*S		**Sn**	**Sn**	**00 19 07.6**	**+1.5**
NEY	**Neytrino**	**2.32**	**266**	*e*Pn		**Pn**	**Pn**	**00 18 38.0**	**+0.3**
NEY				*e*Sn		**Sb**	**Sb**	**00 19 09.6**	**-0.5**
TRLG	**Trialeti**	**2.33**	**215**	P		**Pn**	**Pn**	**00 18 38.8**	**+1.0**
SHA1	**Shidzhatmaz**	**2.37**	**278**	*e*PN		**Pn**	**Pn**	**00 18 37.3**	**-1.1**
SHA1				*e*S		**Sn**	**Sn**	**00 19 09.1**	**+1.9**
SHA1	**Shidzhatmaz**	**2.37**	**278**	*e*Pn		**Pn**	**Pn**	**00 18 37.0**	**-1.4**
SHA1				*e*Sn		**Sn**	**Sn**	**00 19 09.0**	**+1.7**
KIV0	**Kislovodsk Arr**	**2.37**	**283**	*i* Pn		**Pn**	**Pn**	**00 18 37.6**	**-0.7**
KIV0				*e*Sn		**Sb**	**Sb**	**00 19 09.8**	**-1.6**
KIV	**Kislovodsk**	**2.38**	**283**	*e*PN		**Pn**	**Pn**	**00 18 37.5**	**-0.9**
KIV				*e*S		**Sb**	**Sb**	**00 19 11.1**	**-0.5**
AKT	**Akhty**	**2.40**	**145**	⇑*e*PN		**Pb**	**Pb**	**00 18 42.2**	**-0.7**
AKT				*e*				00 19 15.2	
AKT				pmax		pmax			
	comp=Z,31nm,0.2s								
AKT				smax		smax			
	comp=N,95nm,0.9s								
AKT	**Akhty**	**2.40**	**145**	*e*Pn		**Pb**	**Pb**	**00 18 42.2**	**-0.7**
AKT				*e*Sn		**Sb**	**Sb**	**00 19 15.0**	**+2.6**
KSMR	**Kasumkent**	**2.49**	**138**	*e*PN		**Pb**	**Pb**	**00 18 43.0**	**-1.3**
KSMR				*e*S		**Sb**	**Sb**	**00 19 15.5**	**+0.7**
KSMR	**Kasumkent**	**2.49**	**138**	*e*Pn		**Pb**	**Pb**	**00 18 43.0**	**-1.3**
KSMR				*e*Sn		**Sb**	**Sb**	**00 19 15.5**	**+0.7**
ALER	**Alexandrovskoy**	**2.51**	**302**	*i* Pn		**Pn**	**Pn**	**00 18 41.1**	**+1.0**
ALER				*e*Sn		**Sn**	**Sn**	**00 19 13.2**	**+2.7**
GOF	**Gofitskoye**	**2.59**	**309**	*e*PN		**Pn**	**Pn**	**00 18 41.6**	**+0.3**
NVNR	**Nevinnomyssk**	**3.06**	**294**	*e*Pn		**Pb**	**Pb**	**00 18 55.0**	**+1.0**
NVNR				*e*Sn		**Sg**	**Sg**	**00 19 36.1**	**-1.9**
DOMR	**Dombai**	**3.12**	**268**	⇓*e*PN		**Pn**	**Pn**	**00 18 50.7**	**+2.1**
DOMR	**Dombai**	**3.12**	**268**	*e*Pn		**Pn**	**Pn**	**00 18 49.3**	**+0.6**
DOMR				*e*Sn		**Sb**	**Sb**	**00 19 29.7**	**-3.3**
ARXR	**Arkhyz**	**3.36**	**273**	*e*Pn		**Pn**	**Pn**	**00 18 52.6**	**+0.7**
ARXR				*i* Sn		**Sn**	**Sn**	**00 19 32.0**	**+0.4**
GNI	**Garni**	**3.42**	**195**	⇓*e*PN		**Pn**	**Pn**	**00 18 55.2**	**+2.4**
GUZR	**Guzeripl'**	**4.22**	**279**	*e*Pn		**Pb**	**Pb**	**00 19 16.7**	**+2.9**
GUZR				*e*Sn		**Sb**	**Sb**	**00 20 07.9**	**+3.4**
AKTO	**Aktyubinsk**	**10.82**	**46**	⇑Pn		**Pn**	**Pn**	**00 20 33.8**	**-0.4**
	comp=N,1.1nm,0.8s								
AKTO				⇑Sn		Sn		00 22 26.2	-8.8
	comp=N,2.3nm,1.1s								
AB31	**Akbulak array**	**11.30**	**54**	⇑Pn		**Pn**	**Pn**	**00 20 39.2**	**-1.5**
	comp=N,0.1nm,0.3s,baz=232,slow=11,SNR=10								
AB31				⇑Sn		**Sn**	**Sn**	**00 22 40.1**	**-6.6**
	comp=N,0.7nm,0.3s,baz=232,slow=19,SNR=6.5								
OBN	**Obninsk**	**13.14**	**336**	*i* P		**Pn**	**Pn**	**00 21 06.7**	**+1.0**
OBN				pmax		pmax			
	comp=Z,4.0nm,0.8s								
ARU	**Arti**	**15.29**	**28**	⇑*e*P		**P**	**Pn**	**00 21 38.0**	**-1.8**
ARU				pmax		pmax			
	comp=Z,3.0nm,1.9s								
BRVK	**Borovoye**	**18.78**	**51**	⇑*e*P		**Pn**	**Pn**	**00 22 19.1**	**+0.2**
BRVK				pmax		pmax			
	comp=Z,1.0nm,0.7s								
AAK	**Ala-Archa**	**20.88**	**82**	⇓*e*P		**P**	**P**	**00 22 43.1**	**+1.5**
TIXI	**Tiksi**	**47.29**	**25**	⇑*e*P		**P**	**P**	**00 26 34.0**	**+1.9**
TIXI				pmax		pmax			
	comp=Z,1.0nm,1.6s								
COCO	**West Island**	**72.26**	**127**	*i* P		**P**	**P**	**00 29 23.4**	**-1.2**

*BUC **26** 00:24:54.9±0.2, 46.°97N×25.°34E, h3km, MD3.6/9, Error ellipse: s-maj=2.2km s-min=1.8km az=25.0*
*SIGU **26** 00:24:55.6±0.1, 46.°9N×25.°25E±0.°6, h1km, mb2.6/5*
ISC 26 00:24:55.5±1.1, **46.°96N**±0.°02×**25.°34E**±0.°01, **h4**km±9km,
**n

TRPA	**Tarpa**	**2.23 303**	⇑	*e*P	**Pn**	**00 25 33.4**	**+0.2**
TRPA	**Tarpa**	**2.23 303**		*e*Pn	**Pb**	**00 25 36.0**	**-0.3**
TRPA				Sn	**Sb**	**00 26 02.0**	**-2.3**
MUKU	**Mukachevo**	**2.34 311**		*i* P	**Pn**	**00 25 35.8**	**+1.2**
GZR	**Gura Zlata**	**2.37 230**	⇓	*i*P	**Pb**	**00 25 36.6**	**-2.2**
GZR	**Gura Zlata**	**2.37 230**	⇓	*i*P	**Pb**	**00 25 36.6**	**-2.2**
HORU	**Horodok**	**2.37 17**		*i* P	**Pb**	**00 25 38.0**	**-0.8**
HORU				*e*S	**Sb**	**00 26 08.3**	**-0.1**
MILM	**Milestii Mici**	**2.38 90**	⇓	*i*P	**Pb**	**00 25 36.6**	**-2.2**
MILM	**Milestii Mici**	**2.38 90**	⇓	*i*P	**Pb**	**00 25 36.6**	**-2.2**
MILM				*i* S	**Sb**	**00 26 05.9**	**-2.6**
MILM	**Milestii Mici**	**2.38 90**		P	**Pb**	**00 25 36.6**	**-2.2**
MILM				S	**Sb**	**00 26 05.9**	**-2.6**
MORS	**Morshin**	**2.38 336**		*e*P	**Pb**	**00 25 37.1**	**-1.9**
LTVH	**Ltavrtes, Hu**	**2.39 282**		*e*Pn	**Pg**	**00 25 40.0**	**-1.2**
LTVH				Sn	**Sg**	**00 26 14.0**	**+1.8**
HUMR	**Humele**	**2.44 186**	⇑	*i*P	**Pn**	**00 25 37.0**	**+0.9**
HUMR	**Humele**	**2.44 186**	⇑	*i*P	**Pn**	**00 25 37.0**	**+0.9**
SIRR	**Siria**	**2.63 256**	⇑	*i*P	**Pn**	**00 25 39.3**	**+0.6**
SIRR	**Siria**	**2.63 256**	⇑	*i*P	**Pn**	**00 25 39.3**	**+0.6**
SIRR				*i* S	**Sn**	**00 26 12.5**	**+1.4**
CFR	**Carcaliu**	**2.64 131**	⇓	*i*P	**Pn**	**00 25 39.5**	**+0.8**
CFR	**Carcaliu**	**2.64 131**	⇓	*i*P	**Pn**	**00 25 39.5**	**+0.8**
CFR				*i* S	**Sb**	**00 26 12.8**	**-3.1**
BZS	**Buzias**	**2.91 244**	⇓	*i*P	**Pn**	**00 25 42.6**	**0.0**
BZS	**Buzias**	**2.91 244**	⇓	*i*P	**Pn**	**00 25 42.6**	**0.0**
HERR	**Herculane**	**2.91 226**	⇓	*i*P	**Pn**	**00 25 43.6**	**+1.0**
HERR	**Herculane**	**2.91 226**	⇓	*i*P	**Pn**	**00 25 43.6**	**+1.0**
TLB	**Topalu**	**3.03 140**	⇓	*i*P	**Pn**	**00 25 44.5**	**+0.3**
TLB	**Topalu**	**3.03 140**	⇓	*i*P	**Pn**	**00 25 44.5**	**+0.3**
TLB				*i* S	**Sn**	**00 26 22.9**	**+2.0**
TIRR	**Tirgusor**	**3.30 138**	⇑	*i*P	**Pn**	**00 25 48.4**	**+0.6**
TIRR	**Tirgusor**	**3.30 138**	⇑	*i*P	**Pn**	**00 25 48.4**	**+0.6**
TIRR				*i* S	**Sn**	**00 26 29.2**	**+1.8**
MDVR	**Moldovita**	**3.34 231**		S	**Sn**	**00 26 30.2**	**+1.5**
MDVR	**Moldovita**	**3.34 231**		*i* S	**Sn**	**00 26 30.2**	**+1.5**
PSZ	**Piszkesteto**	**3.82 287**		*e*Pn	**Pn**	**00 25 57.0**	**+1.9**
PSZ				Sn	**Sn**	**00 26 41.1**	**+0.6**
LANS	**Liptovska Anna**	**4.51 301**		*e*PN	**Pn**	**00 26 05.6**	**+1.0**
VYHS	**Vyhne**	**4.65 292**		*e*PN	**Pn**	**00 26 04.8**	**-1.7**

ROM 26 00:26:27.2±0.1, 44°.168N±0°.003×10°.519E±0°.003, h14km, Md1.4/4, ML2.3/4, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLC	**Villacollemand**	**0.10**	**265**	P	Pg	00 26 30.6	+0.2
VLC				S	Sg	00 26 33.0	+0.5
VLC				AML	AML		
	comp=E,1675μm,0.3s						
VLC				AML	AML		
	comp=N,1885μm,0.7s						
VLC				AML	AML		
	comp=E,1830μm,0.3s						
VLC				AML	AML		
	comp=N,1815μm,0.7s						
VLC				AML	AML		
	comp=N,1885μm,0.7s						
VLC				AML	AML		
	comp=N,1815μm,0.7s						
VLC				AML	AML		
	comp=E,1675μm,0.3s						
VLC				AML	AML		
	comp=E,1830μm,0.3s						
VLC				END			
VLC				END			
BDI	**Bagni Di Lucca**	**0.12**	**152**	P	Pg	00 26 30.9	+0.2
BDI				S	Sb	00 26 33.6	-0.3
BDI				AML	AML		
	comp=E,1845μm,0.8s						
BDI				AML	AML		
	comp=N,1240μm,0.5s						
BDI				AML	AML		
	comp=E,1750μm,0.2s						
BDI				AML	AML		
	comp=N,1660μm,0.5s						
BDI				AML	AML		
	comp=E,1750μm,0.2s						
BDI				AML	AML		
	comp=E,1840μm,0.8s						
BDI				AML	AML		
	comp=N,1660μm,0.5s						
BDI				AML	AML		
	comp=N,1240μm,0.5s						
BDI				END			
BDI				END			
POPM	**Popiglio**	**0.21**	**126**	P	Pg	00 26 32.2	+0.3
POPM				S	Sb	00 26 36.0	-0.6
POPM				AML	AML		
	comp=E,2520μm,0.3s						
POPM				AML	AML		
	comp=N,2970μm,1.4s						
POPM				AML	AML		
	comp=E,2520μm,0.3s						
POPM				AML	AML		
	comp=N,2970μm,1.4s						
POPM				END			
POPM				END			
MAIM	**Mastiano**	**0.26**	**184**	P	Pg	00 26 33.0	+0.4
MAIM				S	Sb	00 26 37.3	-0.5
MAIM				AML	AML		
	comp=E,194μm,0.5s						
MAIM				AML	AML		
	comp=N,206μm,0.5s						
MAIM				AML	AML		
	comp=N,206μm,0.5s						
MAIM				AML	AML		
	comp=E,194μm,0.5s						
MAIM				END			
MAIM				END			

*ISCJB **26** 00:27:19.7±0.3, 44°.15N±0°.03×10°.40E±0°.03, h23km±3km, Error ellipse: s-maj=5.8km s-min=3.9km az=17.6*
*ROM **26** 00:27:20.0±0.1, 44°.185N±0°.007×10°.468E±0°.007, h15km±1km, ML2.1/9*
*GEN **26** 00:27:20.5, 44°.20N×10°.49E, h14km±2km, Ml1.9*
*LDG **26** 00:27:20.0±0.1, 44°.25N×10°.47E, h10km, Md2.6/4, Ml2.6/3, Error ellipse: s-maj=3.1km s-min=2.5km az=62.0*

ISC 26 00:27:18.3±0.9, 44°.31N±0°.03×10°.48E±0°.03, h18km±4km, n40, σ1§20/61, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SARO	**Sassorosso**	**0.14**	**203**	P	**Pg**	**00 27 23.2**	**+0.6**
SARO				S	**Sg**	**00 27 25.3**	**-0.1**
VLC	**Villacollemand**	**0.17**	**203**	P	**Pg**	**00 27 23.3**	**+0.5**
VLC				S	**Sg**	**00 27 25.8**	**-0.1**
BDI	**Bagni Di Lucca**	**0.27**	**161**	P	**Pg**	**00 27 24.1**	**-0.2**
BDI				S	**Sg**	**00 27 27.3**	**-1.2**
BDI				AML	AML		
	comp=E,1845μm,0.8s						
BDI				AML	AML		
	comp=N,1240μm,0.5s						
BDI				AML	AML		
	comp=E,1750μm,0.2s						
BDI				AML	AML		
	comp=N,1660μm,0.5s						
BDI				AML	AML		
	comp=E,1845μm,0.8s						
BDI				AML	AML		
	comp=N,1240μm,0.5s						
BDI				AML	AML		
	comp=E,1750μm,0.2s						
BDI				AML	AML		
	comp=N,1660μm,0.5s						
BDI				AML	AML		
	comp=E,1750μm,0.2s						
BDI				AML	AML		
	comp=E,1840μm,0.8s						
BDI				AML	AML		
	comp=N,1660μm,0.5s						
BDI				AML	AML		
	comp=N,1240μm,0.5s						
EQUI	**Equi**	**0.28**	**238**	P	**Pb**	**00 27 25.2**	**+0.6**
EQUI				S	**Sg**	**00 27 28.9**	**+0.3**
EQUI	**Equi**	**0.28**	**238**	P	**Pb**	**00 27 25.2**	**+0.6**
EQUI				S	**Sg**	**00 27 29.0**	**+0.3**
EQUI				AML	AML		
	comp=E,263μm,0.5s						
EQUI				AML	AML		
	comp=N,296μm,1.0s						
EQUI				AML	AML		
	comp=E,263μm,0.5s						
EQUI				AML	AML		
	comp=N,296μm,1.0s						
POPM	**Popiglio**	**0.34**	**143**	P	**Pg**	**00 27 25.6**	**+0.2**
POPM				S	**Sg**	**00 27 29.8**	**-0.6**
POPM	**Popiglio**	**0.34**	**143**	P	**Pg**	**00 27 25.6**	**+0.2**
POPM				S	**Sg**	**00 27 29.7**	**-0.6**
POPM				AML	AML		
	comp=E,2520μm,0.3s						
POPM				AML	AML		
	comp=N,2970μm,1.4s						
POPM				AML	AML		
	comp=N,2970μm,1.4s						
POPM				AML	AML		
	comp=E,2520μm,0.3s						
GRAM	**Graiana**	**0.34**	**301**	P	**Pn**	**00 27 28.4**	**0.0**
GRAM				S	**Sn**	**00 27 34.7**	**-0.3**
GRAM	**Graiana**	**0.34**	**301**	P	**Pn**	**00 27 28.4**	**0.0**
GRAM				S	**Sn**	**00 27 34.9**	**-0.1**
GRAM				AML	AML		
	comp=E,1092μm,0.3s						
GRAM				AML	AML		
	comp=N,691μm,0.3s						
GRAM				AML	AML		
	comp=E,1092μm,0.3s						
GRAM				AML	AML		
	comp=N,691μm,0.3s						
GRAM				AML	AML		
	comp=N,691μm,0.3s						
ZCCA	**Zocca**	**0.36**	**84**	P	**Pn**	**00 27 29.2**	**+0.5**
ZCCA				AML	AML		
	comp=E,410μm,0.4s						
ZCCA				AML	AML		
	comp=N,270μm,0.4s						
ZCCA				AML	AML		
	comp=E,409μm,0.4s						
ZCCA				AML	AML		
	comp=N,270μm,0.4s						
ZCCA				AML	AML		
	comp=N,270μm,0.4s						
ZCCA				AML	AML		
	comp=E,409μm,0.4s						
MAIM	**Mastiano**	**0.40**	**179**	P	**Pg**	**00 27 26.1**	**-0.5**
MAIM				S	**Sg**	**00 27 30.9**	**-1.3**
MAIM	**Mastiano**	**0.40**	**179**	P	**Pg**	**00 27 26.1**	**-0.5**
MAIM				S	**Sg**	**00 27 31.1**	**-1.0**
MAIM				AML	AML		
	comp=E,193μm,0.5s						
MAIM				AML	AML		
	comp=N,206μm,0.5s						
MAIM				AML	AML		
	comp=E,194μm,0.5s						
MAIM				AML	AML		
	comp=N,206μm,0.5s						
MAIM				AML	AML		
	comp=N,206μm,0.5s						
MAIM				AML	AML		
	comp=E,194μm,0.5s						
MTCR	**Monte La Croce**	**0.47**	**127**	P	**Pb**	**00 27 28.3**	**+0.2**
MTCR				S	**Sg**	**00 27 34.5**	**+0.1**
PLMA	**Palmaria, Port**	**0.52**	**240**	P	**Pb**	**00 27 29.8**	**+0.9**
PLMA				S	**Sg**	**00 27 36.1**	**+0.3**
PLMA				AML	AML		
	comp=E,326μm,0.5s						
PLMA				AML	AML		
	comp=N,253μm,0.7s						
PLMA				AML	AML		
	comp=E,326μm,0.5s						
PLMA				AML	AML		
	comp=N,253μm,0.7s						
PLMA				AML	AML		
	comp=E,326μm,0.5s						
PLMA				AML	AML		
	comp=N,253μm,0.7s						
CRMI	**Carmignano**	**0.63**	**146**	P	**Pg**	**00 27 30.9**	**+0.1**
CRMI				S	**Sg**	**00 27 38.6**	**-0.6**
CRMI				AML	AML		
	comp=E,38μm,1.4s						
CRMI				AML	AML		
	comp=N,49μm,0.3s						
CRMI				AML	AML		
	comp=E,38μm,1.4s						
CRMI				AML	AML		
	comp=N,49μm,0.3s						
MSSA	**Maissana**	**0.69**	**270**	P	**Pn**	**00 27 33.8**	**+0.6**
MSSA				AML	AML		
	comp=E,143μm,1.0s						
MSSA				AML	AML		
	comp=N,106μm,0.4s						
MSSA				AML	AML		
	comp=N,106μm,0.4s						
MSSA				AML	AML		
	comp=E,143μm,1.0s						
PGF	**Pioggiola**	**2.07**	**212**	*e*Pn	**Pn**	**00 27 52.2**	**0.0**
SBF	**Sospel**	**2.24**	**259**	*e*Pn	**Pn**	**00 27 55.7**	**+1.2**
SBF				*e*Sn	**Sn**	**00 28 21.6**	**-0.1**
	comp=E,4.4nm,0.2s						
MBDF	**Montbardon**	**2.68**	**280**	*e*Pn	**Pn**	**00 28 02.2**	**+1.5**
MBDF				*e*Sn	**Sn**	**00 28 31.9**	**-0.9**
	comp=E,4.5nm,0.5s						
FRF	**La Foret Royal**	**2.87**	**256**	*e*Pn	**Pn**	**00 28 04.3**	**+1.2**
FRF				*e*Sn	**Sn**	**00 28 36.2**	**-0.9**
	comp=E,6.1nm,0.2s						
LPG	**La Plagne**	**2.90**	**295**	*e*Pn	**Pn**	**00 28 04.3**	**+0.5**
LPG	**La Plagne**	**2.90**	**295**	*e*Pg	**Pg**	**00 28 14.0**	**+0.1**
LPG				*e*Sn	**Sn**	**00 28 37.6**	**-0.7**
LPL	**La Plagne**	**2.92**	**296**	*e*Pn	**Pn**	**00 28 04.7**	**+0.7**
LPL	**La Plagne**	**2.92**	**296**	*e*P	**Pb**	**00 28 08.3**	**-1.6**
LPL				*e*Sn	**Sn**	**00 28 37.3**	**-1.4**
SQTA	**Sankt Quirin**	**2.95**	**10**	*i* Pn	**Pb**	**00 28 11.0**	**+0.6**
	comp=E,1.1nm,0.2s						
DAVA	**Damuels**	**3.00**	**352**	*i* Pn	**Pb**	**00 28 11.5**	**+0.2**
	comp=E,0.8nm,0.2s						
LMR	**La Mourre**	**3.04**	**253**	*e*Pn	**Pn**	**00 28 06.2**	**+0.8**
LMR				*e*Sn	**Sn**	**00 28 40.2**	**-1.0**
MOTA	**Moosalm**	**3.06**	**8**	*i* Pn	**Pb**	**00 28 12.4**	**+0.1**
	comp=E,0.5nm,0.1s						
RETA	**Reutte**	**3.18**	**3**	*i* Pn	**Pb**	**00 28 13.5**	**-0.8**
	comp=E,0.4nm,0.2s						
ORIF	**Oris-en-Rattie**	**3.34**	**282**	*e*Pn	**Pn**	**00 28 09.3**	**-0.3**
SMRF	**Simiane la Rot**	**3.54**	**266**	*e*Pn	**Pn**	**00 28 15.3**	**+2.9**
SMRF				*e*Sn	**Sn**	**00 28 52.9**	**-1.0**
HINF	**Hinteralfeld**	**4.32**	**326**	*e*Pn	**Pn**	**00 28 23.8**	**+0.8**
CDF	**Champ du Feu**	**4.66**	**333**	*e*Pn	**Pn**	**00 28 28.4**	**+0.6**
CDF	**Champ du Feu**	**4.66**	**333**	*e*P	**Pn**	**00 28 32.1**	**+4.3**
HAU	**Haudompre**	**4.67**	**324**	*e*Pn	**Pn**	**00 28 28.8**	**+0.9**
HAU	**Haudompre**	**4.67**	**324**	*e*P	**Pn**	**00 28 32.6**	**+4.7**
LASF	**Ste Croix**	**4.77**	**269**	*e*Pn	**Pn**	**00 28 29.7**	**+0.5**
SFTF	**Sexfontaines**	**5.42**	**318**	*e*Pn	**Pn**	**00 28 39.9**	**+1.8**
SFTF	**Sexfontaines**	**5.42**	**318**	*e*Pg	**Pg**	**00 29 00.4**	**-1.6**
LOR	**Lormes**	**5.49**	**305**	*e*Pn	**Pn**	**00 28 38.7**	**-0.4**
	baz=132						

*IDC **26** 01:33:42.2±2.7, 6°.29S×147°.82E, h0km, mb4.0/3, mb1 4.0/5, mb1mx3.6/29, mbtmp3.9/5, ML3.7/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/34, Error ellipse: s-maj=60.1km s-min=32.1km az=93.0*

ISC 26 01:33:47.7±3.1, 6°.3S±0°.2×147°.9E±0°.5, h51km, n6, σ0§82/7, mb3.8/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.21**	**193**	Pn	**Pn**	**01 34 35.2**	**-0.3**
	11nm,0.3s,baz=22,slow=3.4,SNR=14						
PMG				Sn	**Sn**	**01 35 13.4**	**+0.9**
	10.0nm,0.3s,baz=356,slow=18,SNR=4.4						
PMG				LR	LR	01 36 15.2	
	comp=Z,122nm,18.2s,baz=78,slow=48						
WRA	**Warramunga Arr**	**18.92**	**223**	P	**P**	**01 38 03.5**	**-1.0**
	0.2nm,0.3s,baz=49,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**21.91**	**216**	P	**P**	**01 38 36.6**	**-0.2**
	2.3nm,0.5s,baz=51,slow=9.4,SNR=47						
FITZ	**Fitzroy Crossi**	**24.68**	**240**	P	**P**	**01 39 04.3**	**+0.3**
	3.3nm,0.8s,baz=46,slow=8.7,SNR=13						
STKA	**Stephens Creek**	**26.15**	**192**	P	**P**	**01 39 16.9**	**-0.4**
	1.6nm,0.5s,baz=14,slow=14,SNR=3.5						
TORD	**Torodi Ar. Bea**	**146.00**	**284**	PKPbc	**PKPab**	**01 53 24.3**	**+0.8**
	0.1nm,0.5s,baz=62,slow=3.8,SNR=2.9						

IDC 26 01:39:52.1±7.5, 27°.77S×176°.45W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.6/21, mbtmp3.5/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/17, Error ellipse: s-maj=420.3km s-min=102.9km az=162.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.68**	**264**	P	P	01 48 06.3	-0.7
	0.5nm,0.8s,baz=96,slow=6.8,SNR=5.7						
WRA	**Warramunga Arr**	**45.43**	**269**	P	P	01 48 13.6	+0.6
	0.6nm,0.9s,baz=109,slow=7.5,SNR=2.0						
JAY	**Jayapura**	**47.99**	**294**	LR	LR	02 04 49.4	
	comp=Z,42nm,21.8s,baz=216,slow=31						
FINES	**FINESS Array B**	**143.10**	**342**	PKP	PKPdf	01 59 27.0	-0.3
	2.3nm,1.0s,baz=52,slow=3.1,SNR=3.5						

*DDA **26** 01:45:11.7, 38°.77N×43°.05E, h7km±7km, ML2.1*
*ISCJB **26** 01:45:17.0±0.8, 36°.89N±0°.05×41°.04E±0°.04, h10km, Error ellipse: s-maj=7.7km s-min=4.4km az=178.6*
*ISK **26** 01:45:17.6, 37°.05N×41°.13E, h3km, ML2.2/4*

ISC 26 01:45:16.5±1.2, 36°.92N±0°.07×41°.09E±0°.03, h10km, n12, σ0§99/20, Iraq

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAZI	**Mazidag**	**0.75**	**317**	PG	**Pb**	**01 45 31.4**	**-0.3**
MAZI				SG	**Sb**	**01 45 41.7**	**-0.4**
SIRN	**Sırnak**	**1.20**	**61**	IAML_P			
	comp=Z,292nm,0.1s						
SIRN				*i* P	**Pn**	**01 45 39.7**	**+0.2**
SIRN				*i* S	**Sn**	**01 45 56.2**	**+0.3**
SIRT	**Sirnak**	**1.22**	**61**	PN	**Pn**	**01 45 39.8**	**0.0**
SVAN	**Silvan-Diyarba**	**1.24**	**4**	PN	**Pn**	**01 45 39.8**	**-0.1**
SVAN				SN	**Sn**	**01 45 55.6**	**-1.1**
SVAN	**Silvan-Diyarba**	**1.24**	**4**	IAML_P			
	comp=Z,37nm,0.1s						
SVAN				*i* P	**Pn**	**01 45 41.3**	**+1.3**
SVAN				*i* S	**Sn**	**01 45 58.2**	**+1.5**
SRTM	**Siirt_Merkez**	**1.26**	**31**	IAML_P			
	comp=Z,76nm,0.2s						
SRTM				*i* P	**Pn**	**01 45 40.4**	**+0.1**
DIYA	**Diyarbakir**	**1.27**	**323**	*i* P	**Pb**	**01 45 38.6**	**-2.0**
DIYA				*i* S	**Sn**	**01 45 58.7**	**+1.1**
SANL	**SANLIURFA_Merk**	**1.70**	**279**	*i* P	**Pn**	**01 45 46.7**	**+0.4**
SANL				*i* S	**Sn**	**01 46 08.0**	**-0.2**
URFA	**Urfa**	**1.89**	**287**	PN	**Pb**	**01 45 52.2**	**+1.1**
SURC	**SANLIURFA_SURC**	**1.99**	**270**	*i* P	**Pn**	**01 45 48.9**	**-1.3**
SURC				*i* S	**Sn**	**01 46 16.2**	**+0.9**
CUKT	**Cukurca**	**2.04**	**80**	PN	**Pb**	**01 45 53.2**	**-0.5**
CUKT	**Cukurca**	**2.04**	**80**	*i* P	**Pb**	**01 45 52.7**	**-1.0**
CUKT				*i* S	**Sb**	**01 46 20.0**	**+0.8**

*ISCJB **26** 02:07:52.7±0.7, 13°.4S±0°.1×72°.51W±0°.08, h33km, mb3.4/3, Error ellipse: s-maj=21.5km s-min=6.8km az=24.5*
*IDC **26** 02:07:55.5±1.7, 13°.63S×72°.58W, h60km±25km, mb3.2/3, mb1 3.5/7, mb1mx3.4/33, mbtmp3.5/7, ML3.2/3, Error ellipse: s-maj=59.5km s-min=11.1km az=25.0*

ISC 26 02:07:54.6±0.9, 13°.4S±0°.2×72°.48W±0°.10, h35km, n8, σ1§61/10, mb3.5/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.47**	**287**	P	**Pn**	**02 09 00.5**	**+0.6**
	2.0nm,0.3s,baz=130,slow=7.9,SNR=3.8						
NNA				S	**Sn**	**02 09 51.8**	**+0.9**
	5.6nm,0.3s,baz=242,slow=18,SNR=7.4						
LPAZ	**La Paz**	**5.11**	**125**	P	**Pn**	**02 09 10.8**	**+1.5**
	1.6nm,0.3s,baz=301,slow=9.0,SNR=17						
LPAZ				S	**Sn**	**02 10 06.2**	**-1.2**
	0.1nm,0.3s,baz=197,slow=19,SNR=1.9						
SIV	**San Ignacio**	**11.34**	**105**	P	**Pn**	**02 10 36.5**	**+2.2**
	0.0nm,0.3s,baz=128,slow=19,SNR=1.8						
PTGA	**Pitinga**	**17.64**	**46**	P	**P**	**02 11 59.9**	**+1.4**
	baz=330,slow=20,SNR=1.2						
TXAR	**Lajitas Array**	**52.05**	**325**	P	**P**	**02 17 00.9**	**-0.2**
	0.3nm,0.8s,baz=140,slow=5.7,SNR=2.7						
TORD	**Torodi Ar. Bea**	**78.08**	**73**	P	**P**	**02 19 48.4**	**-2.0**
	0.4nm,0.8s,baz=278,slow=6.9,SNR=3.3						
YKA	**Yellowknife Ar**	**82.43**	**342**	P	**P**	**02 20 11.8**	**-1.0**
	0.4nm,0.7s,baz=136,slow=5.4,SNR=10						
SONM	**Songino Array**	**145.63**	**1**	PKPbc	**PKPdf**	**02 27 28.4**	**-1.1**
	0.5nm,0.6s,baz=331,slow=4.2,SNR=4.9						

NDI 26 02:24:31.7±3.2, 17°.20N×73°.69E, h10km±7km, ML3.8, Southern India

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAD	**Karad**	**0.48**	**77**	*e*P	Pb	02 24 41.9	-0.4
KAD				*e*S	Sg	02 24 47.6	0.0
POO	**Poona**	**1.33**	**6**	*e*P	Pg	02 24 58.1	+0.8
POO				*e*S	Sg	02 25 15.7	+1.0
GOA	**Goa**	**1.70**	**176**	*e*P	Pb	02 25 03.0	-0.1
GOA				*e*S	Sn	02 25 23.1	-0.1
GOA				IAML		02 25 29.4	
	comp=E,2μm,0.5s						
GOA				IAML		02 25 30.8	
	comp=N,1μm,0.6s						
BOM	**Bombay**	**1.89**	**334**	*e*P	Pn	02 25 03.1	-0.8
BOM				*e*S	Sn	02 25 28.4	+0.6
HYB	**Hyderabad**	**4.65**	**87**	*e*P	Pn	02 25 42.8	+0.7
HYB				*e*P	Pb	02 25 44.0	-9.4
HYB				*e*S	Sn	02 26 32.4	-3.7
HYB				IAML		02 26 55.9	
	comp=E,108nm,0.3s						
NGP	**Nagpur**	**6.41**	**51**	*e*P	Pn	02 26 04.5	-1.8
NGP				*e*S	Sn	02 27 13.7	-5.8
NGP				IAML		02 27 51.5	
	comp=E,134nm,0.8s						
NGP				IAML		02 27 52.9	
	comp=N,169nm,0.3s						
BHPL	**Bhopal**	**6.96**	**30**	*e*P	Pn	02 26 13.6	-0.2
BHPL				*e*S	Sn	02 27 26.9	-6.2
BHPL				IAML		02 28 14.3	
	comp=N,79nm,0.7s						
BHPL				IAML		02 28 14.3	
	comp=E,81nm,0.5s						

DJA 26 02:53:19.2±0.6, 8°.S±4°.×10°.8E±°., h10km, M3.9/8, MLv3.9/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.75**	**357**	P	Pg	02 53 33.2	-0.5
CISI				S	Sg	02 53 43.0	-0.6
CMJI	**Cimerak**	**0.78**	**48**	P	Pg	02 53 34.1	-0.2
CMJI				S	Sg	02 53 44.8	+0.2
KPJI	**Karang Pucung**	**1.44**	**48**	P	Pn	02 53 44.7	-0.6
LEM	**Lembang**	**1.49**	**351**	P	Pn	02 53 46.0	-0.2
SKJI	**Sukabumi**	**1.83**	**315**	P	Pn	02 53 49.6	-1.1
DBJI	**Dramaga**	**2.06**	**328**	P	Pn	02 53 53.9	-0.1
UGM	**Wanagama**	**2.67**	**82**	P	Pn	02 54 01.4	-0.9
PCJI	**Pacitan**	**3.29**	**88**	P	Pn	02 54 10.6	-0.2
PWJI	**Pagerwojo**	**3.92**	**86**	P	Pn	02 54 18.8	-0.6

MEX 26 02:57:37.6±0.5, 17°.12N×99°.98W, h37km±9km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.28**	**255**	*e*P	Pn	02 57 43.7	-2.1
CAIG				*e*S	Sn	02 57 49.4	-3.7
MEIG	**Mezcala**	**0.87**	**23**	*e*P	Pn	02 57 51.5	-2.0
MEIG				*e*S	Sn	02 58 02.5	-2.5
ARIG	**Puente Sto Nin**	**1.20**	**343**	*e*P	Pn	02 57 56.5	-1.5
ARIG				*i* S	Sn	02 58 10.6	-2.4
PLIG	**Platanillo**	**1.34**	**20**	*e*P	Pn	02 57 58.8	-1.1
PLIG				*e*S	Sn	02 58 13.6	-3.0
ZIIG	**Zihuatanejo**	**1.49**	**289**	*e*P	Pn	02 57 59.7	-2.2
ZIIG				*i* S	Sn	02 58 18.4	-1.7
PNIG	**Pinotepa**	**1.92**	**112**	*e*P	Pn	02 58 06.1	-1.7
PNIG				*e*S	Sn	02 58 29.1	-1.6

**UCR 26 03:18:18.7±1.2, 11°.24N×86°.

CONN	**Concepcion**	**0.67**	**61**	*eP*		Pn	03 18 32.1	-0.1
MASN	**Masaya**	**0.75**	**5**	*eS*		Sn	03 18 45.4	+1.6
GBS3	**Finca Las Img**	**0.88**	**121**	*i P*		Pn	03 18 34.5	-0.6
GBS3				*i S*		Sn	03 18 47.5	+0.7
NY14	**Universidad de**	**0.89**	**131**	*i P*		Pn	03 18 35.0	-0.3
LAPC	**Finca la Perla**	**0.90**	**121**	*i P*		Pn	03 18 34.8	-0.7
LAPC				*i S*		Sn	03 18 47.6	+0.1
GB1A	**Borinquen Arri**	**0.91**	**117**	*i P*		Pn	03 18 35.0	-0.6
MGAN	**Managua**	**0.91**	**358**	*i P*		Pb	03 18 35.8	-0.1
BUEV	**Buena Vista**	**0.91**	**118**	*i P*		Pn	03 18 35.3	-0.3
GPS3	**Bodega del ICE**	**0.97**	**120**	*i P*		Pn	03 18 35.9	-0.5
GPS3				*i S*		Sb	03 18 49.5	+0.1
GPS2	**Hotel Rincn d**	**0.98**	**119**	*i P*		Pn	03 18 36.4	-0.1
COPN	**Copaltepe**	**1.01**	**339**	*eS*		Sb	03 18 51.1	+0.6
LIM1	**Limonal**	**1.09**	**119**	*i P*		Pn	03 18 37.9	-0.2
LIM1				*i S*		Sb	03 18 52.7	-0.2
MESS	**Mesas**	**1.12**	**116**	*i P*		Pn	03 18 38.4	-0.1
MESS				*eP*		Pb	03 18 38.5	-1.0
CUI	**Cuipilapa**	**1.19**	**119**	*eP*		Pn	03 18 39.4	0.0
CUI				*eS*		Sb	03 18 56.0	+0.4
MOMN	**Momotombo**	**1.21**	**345**	*eP*		Pn	03 18 39.8	+0.1
PLVR	**Palo Verde**	**1.23**	**136**	*eP*		Pn	03 18 40.0	-0.1
PLVR				*eS*		Sb	03 18 56.5	-0.5
ACON	**Acoyapa**	**1.26**	**54**	*eP*		Pn	03 18 40.0	-0.3
ACON				*eS*		Sn	03 18 56.6	+0.3
BOAB	**BOACO BROADBAN**	**1.32**	**24**	⇓*iP*		Pn	03 18 41.4	+0.2
BOAB				*eS*		Sn	03 18 58.1	+0.2
CNGN	**Cerro Negro**	**1.34**	**340**	*eP*		Pn	03 18 41.4	-0.2
CNGN				*eS*		Sn	03 18 58.6	+0.1
JTS	**JuntasAbangare**	**1.56**	**127**	*eP*		Pn	03 18 43.9	-0.6
JTS				*eS*		Sb	03 19 05.2	-1.1
ARE1	**Arenal 1**	**1.66**	**117**	*eP*		Pn	03 18 46.0	+0.6
CEDE	**Laguna Cedeo**	**1.67**	**116**	*eP*		Pn	03 18 46.1	+0.1
CRIN	**San Cristobal**	**1.67**	**331**	*eP*		Pn	03 18 46.4	+0.4
CRIN				*eS*		Sn	03 19 07.2	+0.7
FORC	**Fortuna**	**1.70**	**116**	*i P*		Pn	03 18 46.7	+0.2
MATN	**Matagalpa**	**1.71**	**10**	*eP*		Pn	03 18 47.0	+0.4
MATN				*eS*		Sn	03 19 08.6	+1.0
ESTN	**Estel**	**1.86**	**356**	*eP*		Pn	03 18 49.1	+0.3
ESPN	**Las Esperanzas**	**2.11**	**63**	*eP*		Pn	03 18 52.3	+0.2
ESPN				*eS*		Sn	03 19 18.1	+0.8
CNCH	**Conchagua**	**2.57**	**322**	*eP*		Pn	03 18 59.5	+1.0
CNCH				*eS*		Sn	03 19 29.2	+0.3
CNCH	comp=Z,1μm,0.3s				IAML		03 19 33.8	
LCR2	**La Lucha 2**	**2.64**	**124**	*eP*		Pn	03 18 59.6	+0.1
PACA	**Pacayal**	**3.02**	**317**	*eP*		Pn	03 19 05.7	+0.9
PACA				*eS*		Sn	03 19 39.9	-0.3
TECA	**Tecapa**	**3.17**	**315**	*eP*		Pn	03 19 07.7	+0.9
TECA				*eS*		Sn	03 19 44.7	+1.1

MEX 26 03:21:13.1±0.4, 17°02N×99°75W, h15km±5km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.49**	**273**	*i P*	Pg	03 21 21.3	-1.7
CAIG				*eS*	Sg	03 21 28.4	-1.2
MEIG	**Mezcala**	**0.91**	**8**	*eP*	Pb	03 21 27.3	-3.3
MEIG				*eS*	Sb	03 21 38.7	-3.9
ARIG	**Puente Sto Nin**	**1.37**	**336**	*eP*	Pn	03 21 34.2	-3.6
ARIG				*i S*	Sn	03 21 50.4	-5.4
PLIG	**Platanillo**	**1.38**	**10**	*eP*	Pn	03 21 34.7	-3.3
PLIG				*eS*	Sn	03 21 50.8	-5.3
PNIG	**Pinotepa**	**1.68**	**112**	*eP*	Pn	03 21 38.5	-3.5
PNIG				*i S*	Sn	03 21 58.0	-5.3
ZIIG	**Zihuatanejo**	**1.74**	**290**	*eP*	Pn	03 21 39.6	-3.2
ZIIG				*eS*	Sn	03 22 00.2	-4.5

GUC 26 03:36:40.0±0.5, 24°10S×67°28W, h221km±9km, ML3.8, 8C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.11**	**314**	*eP*	Pn	03 37 21.5	-0.1
LVC				*eS*	S	03 37 52.9	-0.9
GO02	**Mina Guanaco**	**2.35**	**243**	⇑*iP*	Pn	03 37 24.0	0.0
GO02				*i S*	S	03 37 57.9	-0.3
PB06	**IPOC Station P**	**2.52**	**303**	⇑*iP*	Pn	03 37 26.0	+0.4
PB06				*i S*	S	03 38 00.5	-0.6
PB06	comp=E,186nm,0.2s				IAML	03 38 02.5	
PB09	**IPOC Station P**	**2.92**	**321**	⇑*iP*	Pn	03 37 30.5	+0.4
PB09				*eS*	S	03 38 08.5	-0.6
PB09	comp=N,79nm,0.4s				IAML	03 38 15.6	
PB05	**IPOC Station P**	**2.96**	**294**	⇑*eP*	Pn	03 37 30.8	+0.4
PB05				*eS*	S	03 38 08.9	-0.8
PB05	comp=E,59nm,0.7s				IAML	03 38 12.7	
PB10	**IPOC Station P**	**3.05**	**280**	⇑*eP*	Pn	03 37 31.8	+0.4
PB10				*i S*	S	03 38 11.1	-0.3
PB10	comp=N,66nm,0.5s				IAML	03 38 13.8	
PB03	**IPOC Station P**	**3.06**	**311**	⇑*eP*	Pn	03 37 31.8	+0.2
PB03				*eS*	S	03 38 11.0	-0.8
PB03	comp=E,159nm,0.3s				IAML	03 38 12.8	
PB04	**IPOC Station P**	**3.17**	**303**	⇓*eP*	Pn	03 37 33.3	+0.4
PB04				*eS*	S	03 38 13.2	-0.9
PB04	comp=N,106nm,0.3s				IAML	03 38 23.9	
PB07	**IPOC Station P**	**3.37**	**314**	⇑*eP*	Pn	03 37 35.4	+0.1
PB07				*i S*	S	03 38 17.2	-1.2
PB07	comp=N,147nm,0.2s				IAML	03 38 18.6	
PB01	**IPOC Station P**	**3.66**	**326**	⇑*iP*	Pn	03 37 38.3	-0.3
PB01				*eS*	S	03 38 23.2	-1.3

*IDC **26** 03:49:08.8±2.0, 36°60N×141°27E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.3/36, mbtmp3.4/5, ML2.4/1, MS2.4/2, Ms1 2.4/2, ms1mx2.2/28, Error ellipse: s-maj=47.1km s-min=27.9km az=51.0*
*JMA **26** 03:49:12.9±0.1, 36°33N×141°11E, h47km±1km, M3.1*
ISC 26 03:49:11.7±1.1, 36°32N±0°04×141°19E±0°07, h20km±6km, n26, σ0°93/31, mb3.3/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.49**	**273**	*P*	**Pn**	**03 49 23.2**	**-0.3**
JHYU				*S*	**Sn**	**03 49 30.4**	**-1.0**
JHO	**Hitachi**	**0.58**	**301**	*P*	**Pb**	**03 49 24.0**	**+0.8**
JHO				*S*	**Sb**	**03 49 31.6**	**+0.5**
JIHU	**Itakohorinouch**	**0.64**	**237**	*P*	**Pn**	**03 49 25.2**	**-0.4**
JIHU				*S*	**Sn**	**03 49 34.1**	**-1.1**
CHOJ	**Chosi**	**0.67**	**204**	*P*	**Pn**	**03 49 25.8**	**-0.2**
CHOJ				*S*	**Sn**	**03 49 35.0**	**-0.9**
JYT	**Yasato**	**0.81**	**264**	*P*	**Pb**	**03 49 27.2**	**+0.1**
JYT				*S*	**Sb**	**03 49 37.0**	**-0.6**
ONAJ	**Iwakimizuishiy**	**0.84**	**338**	*P*	**Pb**	**03 49 27.8**	**+0.1**
JSMT	**Sammumatsuo**	**0.90**	**222**	*P*	**Pn**	**03 49 29.3**	**+0.1**
JFK	**Kawauchi**	**1.08**	**346**	*P*	**Pn**	**03 49 31.0**	**-0.7**
JFK				*S*	**Sb**	**03 49 44.9**	**-0.5**
JFT	**Otama**	**1.38**	**331**	*P*	**Pn**	**03 49 36.4**	**+0.6**
JFT				*S*	**Sn**	**03 49 52.9**	**-0.6**
JAG	**Ashikaga**	**1.41**	**275**	*P*	**Pn**	**03 49 35.7**	**-0.5**
JAG				*S*	**Sn**	**03 49 52.3**	**-1.8**
JMM	**Marumori**	**1.58**	**348**	*P*	**Pn**	**03 49 38.7**	**+0.2**
JMM				*S*	**Sn**	**03 49 57.4**	**-1.0**
JFY	**Yanaizu**	**1.61**	**313**	*P*	**Pn**	**03 49 39.5**	**+0.4**
JFY				*S*	**Sn**	**03 49 59.5**	**+0.2**
JKT	**Katashina**	**1.63**	**287**	*S*	**Sn**	**03 49 58.4**	**-1.3**
MJAR	**Matsushiro Arr**	**2.42**	**276**	*Pn*	**Pn**	**03 49 50.4**	**+0.3**
MJAR	1.0nm,0.3s,baz=146,slow=4.5,SNR=32				**Sn**	**03 50 20.3**	**+1.3**
MJAR	1.2nm,0.3s,baz=121,slow=19,SNR=5.6				LR	03 51 09.9	
MAT	**Matsushiro**	**2.42**	**276**	*P*	**Pn**	**03 49 51.3**	**+1.2**
MAT				*S*	**Sn**	**03 50 19.8**	**+0.7**
JNU	**Nakatsue**	**9.07**	**252**	*LR*	LR	03 55 30.6	
H11N2	**WAKE ISLAND Hy**	**27.94**	**119**	*T*	T	04 24 20.0	
H11N1	**WAKE ISLAND Hy**	**27.95**	**119**	*T*	T	04 24 22.4	
H11N3	**WAKE ISLAND Hy**	**27.96**	**119**	*T*	T	04 24 20.4	

	comp=Z,3nm,21.4s,baz=114,slow=41							
H11N2	**WAKE ISLAND Hy**	**27.94**	**119**	*T*		T	04 24 20.0	
	baz=312,slow=75,SNR=11							
H11N1	**WAKE ISLAND Hy**	**27.95**	**119**	*T*		T	04 24 22.4	
	baz=312,slow=75,SNR=10							
H11N3	**WAKE ISLAND Hy**	**27.96**	**119**	*T*		T	04 24 20.4	
	baz=312,slow=75,SNR=9.3							
SONM	**Songino Array**	**28.04**	**305**	*P*		**P**	**03 55 00.7**	**-0.9**
	0.2nm,0.4s,baz=106,slow=11,SNR=2.4							
H11S1	**WAKE ISLAND Hy**	**28.63**	**121**	*T*		T	04 25 12.9	
	baz=314,slow=75,SNR=38							
H11S3	**WAKE ISLAND Hy**	**28.63**	**122**	*T*		T	04 25 14.7	
	baz=314,slow=75,SNR=23							
H11S2	**WAKE ISLAND Hy**	**28.64**	**121**	*T*		T	04 25 05.3	
	baz=314,slow=75,SNR=22							
MKAR	**Makanchi Array**	**44.35**	**303**	*P*		**P**	**03 57 20.0**	**-0.5**
	0.2nm,0.7s,baz=84,slow=7.1,SNR=2.4							
KURBB	**Kurchatov Arra**	**46.30**	**309**	*P*		**P**	**03 57 34.7**	**-1.1**
	0.9nm,0.5s,baz=86,slow=7.8,SNR=7.4							
WRA	**Warramunga Arr**	**56.33**	**188**	*P*		**P**	**03 58 53.4**	**+2.2**
	0.3nm,0.6s,baz=5.2,slow=7.7,SNR=3.4							

*IDC **26** 04:00:18.0±1.9, 37°86Nx140°73E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.2/35, mbtmp3.6/2, ML2.0/1, Error ellipse: s-maj=50.7km s-min=31.3km az=120.0*
*JMA **26** 04:00:20.3±0.1, 36°77Nx141°16E, h32km±1km, M3.2*
ISC 26 04:00:17.8±2.0, 36°76N±0°05×141°27E±0°10, h31km±11km, n20, σ1°55/24, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.51**	**313**	*P*	**Pn**	**04 00 29.7**	**+0.7**
ONAJ				*S*	**Sn**	**04 00 35.9**	**-0.9**
JHO	**Hitachi**	**0.58**	**256**	*P*	**Pn**	**04 00 30.5**	**+0.6**
JHO				*S*	**Sb**	**04 00 37.5**	**-0.1**
JFFD	**Fukushimafurud**	**0.66**	**301**	*P*	**Pn**	**04 00 31.6**	**+0.6**
JFK	**Kawauchi**	**0.69**	**333**	*P*	**Pn**	**04 00 32.4**	**+1.0**
JFK				*S*	**Sn**	**04 00 40.6**	**-0.5**
JHYU	**Hitachinakayam**	**0.69**	**233**	*P*	**Pn**	**04 00 32.2**	**+0.8**
JHYU				*S*	**Sb**	**04 00 40.5**	**-0.1**
JYT	**Yasato**	**1.01**	**239**	*P*	**Pb**	**04 00 37.3**	**+0.5**
JYT				*S*	**Sb**	**04 00 48.6**	**-1.2**
JFT	**Otama**	**1.06**	**316**	*P*	**Pn**	**04 00 38.7**	**+2.1**
JFT				*S*	**Sn**	**04 00 51.3**	**+0.9**
JMM	**Marumori**	**1.17**	**341**	*P*	**Pb**	**04 00 40.0**	**+0.5**
JMM				*S*	**Sn**	**04 00 54.1**	**+1.1**
JFY	**Yanaizu**	**1.41**	**298**	*P*	**Pb**	**04 00 44.0**	**+0.5**
JFY				*S*	**Sb**	**04 01 00.6**	**-0.5**
JAG	**Ashikaga**	**1.50**	**258**	*P*	**Pb**	**04 00 44.3**	**-0.7**
JAG				*S*	**Sn**	**04 01 02.1**	**+1.1**
MJAR	**Matsushiro Arr**	**2.47**	**266**	*Pn*	**Pn**	**04 00 58.9**	**+3.0**
	0.3nm,0.3s,baz=89,slow=14,SNR=11						
MJAR					Sn	**Sb**	**04 01 28.8**	**-2.7**
	0.6nm,0.3s,baz=252,slow=25,SNR=7.7							
MAT	**Matsushiro**	**2.47**	**266**	*P*	**Pb**	**04 00 59.7**	**-1.8**
MAT				*S*	**Sn**	**04 01 28.3**	**+3.2**
H11N2	**WAKE ISLAND Hy**	**28.11**	**120**	*T*	T	04 35 40.7	
	baz=313,slow=75,SNR=47						
H11N1	**WAKE ISLAND Hy**	**28.12**	**120**	*T*	T	04 35 39.5	
	baz=313,slow=75,SNR=43						
H11N3	**WAKE ISLAND Hy**	**28.13**	**120**	*T*	T	04 35 40.2	
	baz=313,slow=75,SNR=42						
H11S1	**WAKE ISLAND Hy**	**28.81**	**122**	*T*	T	04 36 37.5	
	baz=315,slow=76,SNR=35						
H11S3	**WAKE ISLAND Hy**	**28.81**	**122**	*T*	T	04 36 31.6	
	baz=315,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**28.82**	**122**	*T*	T	04 36 33.3	
	baz=315,slow=76,SNR=28						
WRA	**Warramunga Arr**	**56.77**	**188**	*P*	P	04 10 11.0	+12
	0.4nm,0.8s,baz=2.6,slow=7.3,SNR=5.1						
NOA	**NORSAR Array B**	**74.40**	**337**	*P*	**P**	**04 11 50.5**	**-1.9**
	1.4nm,1.0s,baz=39,slow=6.3,SNR=3.2						

*MOS **26** 04:01:41.5±0.0, 42°49Nx41°08E, h12km, MPVA3.1*
*DDA **26** 04:01:41.4, 42°36Nx41°68E, h7km±7km, ML2.9*
*NORS **26** 04:01:41.5±0.0, 42°49Nx41°14E, h4km, MPVA3.0*
ISC 26 04:01:39.8±1.1, 42°41N±0°03×41°00E±0°05, h14km±11km, n18, σ0°36/33, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.95**	**147**	*P*	**Pg**	**04 01 58.5**	**+0.2**
BATM				*S*	**Sn**	**04 02 12.4**	**+0.3**
DOMR	**Dombai**	**1.00**	**27**	*i Pg*	**Pn**	**04 01 59.8**	**+0.3**
DOMR				*i Sg*	**Sg**	**04 02 12.3**	**+0.2**
DBOC	**Borcka**	**1.17**	**155**	IAML_P			
	comp=Z,2μm,0.1s						
DBOC				*i P*	**Pn**	**04 02 01.5**	**-0.3**
DBOC				*i S*	**Sg**	**04 02 17.9**	**+0.2**
ARXR	**Arkhyz**	**1.17**	**10**	*ePg*	**Pg**	**04 02 02.2**	**-0.2**
ARXR				*i Sg*	**Sg**	**04 02 17.5**	**-0.2**
RPOR	**Krasnaya Polya**	**1.40**	**338**	*ePg*	**Pg**	**04 02 06.1**	**-0.6**
RPOR				*eSg*	**Sg**	**04 02 25.5**	**+0.6**
ARTV	**Artvin**	**1.41**	**150**	IAML_P			
	comp=Z,1μm,0.1s						
ARTV				*i P*	**Pn**	**04 02 05.4**	**+0.2**
DBAD	**Bademkaya**	**1.48**	**159**	IAML_P			
	comp=Z,828nm,0.1s						
DBAD				*i P*	**Pb**	**04 02 06.8**	**-0.3**
DBAD				*i S*	**Sn**	**04 02 24.9**	**-0.4**
DAGI	**Agillar**	**1.49**	**152**	IAML_P			
	comp=Z,228nm,0.1s						
DAGI				*i P*	**Pn**	**04 02 06.4**	**+0.1**
DAGI				*i S*	**Sn**	**04 02 25.4**	**-0.3**
SOC	**Sochi**	**1.51**	**322**	*ePg*	**Pg**	**04 02 08.8**	**0.0**
SOC				*eSg*	**Sg**	**04 02 28.2**	**-0.1**
NEY	**Neytrino**	**1.52**	**56**	*ePg*	**Pb**	**04 02 07.9**	**0.0**
NEY				*eSg*	**Sb**	**04 02 26.8**	**-0.4**
DDEM	**Demirkent**	**1.61**	**159**	IAML_P			
	comp=Z,721nm,0.2s						
DDEM				*i P*	**Pn**	**04 02 08.6**	**+0.6**
GUZR	**Guzeripl'**	**1.71**	**338**	*i Pg*	**Pb**	**04 02 11.6**	**+0.5**
GUZR				*i Sg*	**Sb**	**04 02 34.5**	**-0.5**
SHA1	**Shidzhatmaz**	**1.80**	**42**	*ePg*	**Pb**	**04 02 13.0**	**+0.3**
SHA1				*eSg*	**Sb**	**04 02 35.2**	**-0.1**
DIGR	**Digorskoe uzhe**	**1.97**	**75**	*ePg*	**Pb**	**04 02 15.0**	**-0.5**
DIGR				*eSg*	**Sb**	**04 02 40.2**	**+0.2**
KIV0	**Kislovodsk Arr**	**1.98**	**38**	*ePg*	**Pb**	**04 02 15.8**	**+0.1**
KIV0				*eSg*	**Sb**	**04 02 40.6**	**+0.2**
ZEI	**Tsey**	**2.18**	**79**	*ePg*	**Pn**	**04 02 16.0**	**+0.2**
ZEI				*eSg*	**Sb**	**04 02 45.8**	**-0.2**
LACR	**Lac**	**2.47**	**79**	*i Pn*	**Pb**	**04 02 24.6**	**+0.6**
LACR				*eSn*	**Sb**	**04 02 54.3**	**0.0**
TRLG	**Trialeti**	**2.47**	**109**	*P*	**Sb**	**04 02 54.0**	**-0.5**

NNC 26 04:04:12.4±2.6, 50°03N×87°82E, h0km, mb3.8, mpv3.3, 8C-5D, Error ellipse: s-maj=21.4km s-min=14.2km az=86.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**4.34**	**336**	⇓*Pg*	Pb	04 05 30.0	+0.6
	3.2nm,0.9s						
ZAA0				⇓*Lg*	Lg	04 06 28.1	
	6.0nm,0.6s						
MK31	**Makanchi Array**	**4.90**	**231**	⇑*Pn*	Pn	04 05 27.8	+0.5
	1.7nm,0.4s,baz=61,slow=13,SNR=7.7						
MK31				⇓*Pg*	Pb	04 05 40.5	+1.4
	2.9nm,0.6s,baz=52,slow=18,SNR=7.3						
MK31				⇑*Lg*	Lg	04 06 46.3	
	12nm,0.8s,baz=56,slow=27,SNR=8.8						
MAKZ	**Makanchi**	**5.05**	**233**	⇑*Pn*	Pn	04 05 29.6	+0.3
	1.9nm,0.6s						
MAKZ				⇓*Lg*	Lg	04 06 49.2	
	6.3nm,0.6s						
KURK	**Kurchatov**	**5.92**	**280**	⇑*Pn*	Pn	04 05 42.8	+1.5
	3.9nm,0.7s						
KURK				⇑*Sn*	Sn	04 06 52.1	+2.3
	4.8nm,0.7s						
KURK				⇑*Lg*	Lg	04 07 19.7	
	11nm,0.8s						
KURBB	**Kurchatov Arra**	**5.98**	**279**	⇑*Pn*	Pn	04 05 43.0	+1.0
	5.3nm,0.6s						
KURBB				⇑*Sn*	Sn	04 06 51.6	+0.5
	8.2nm,0.7s						
KURBB				⇓*Lg*	Lg	04 07 19.7	
	23nm,0.7s						

*IDC **26** 04:27:29.4±2.5, 4°41Nx95°21E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/36, mbtmp3.8/5, ML3.5/1, Error ellipse: s-maj=83.4km s-min=21.9km az=55.0*
*ISCJB **26** 04:27:32.7±1.0, 5°00N±0°06×95°76E±0°07, h10km, mb3.7/4, Error ellipse: s-maj=10.2km s-min=8.4km az=149.4*
*DJA **26** 04:27:34.1±1.0, 5°N±5°x9°6E±°, h10km, M4.1/7, MLv4.1/7*
ISC 26 04:27:33.8±1.2, 4°97N±0°09×95°79E±0°09, h10km, n16, σ2°11/15, mb3.7/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**1.18**	**78**	*P*	**Pb**	**04 27 54.1**	**-2.2**
LHMI				*S*	**Sb**	**04 28 09.6**	**-2.1**
TPTI		**2.20**	**141**	*P*	**Pn**	**04 28 08.9**	**-1.4**
TPTI				*S*	**Sn**	**04 28 37.3**	**-0.3**
KCSI	**Kotacane, Aceh**	**2.45**	**126**	*P*	**Pn**	**04 28 15.1**	**+1.3**
KCSI				*S*	**Sn**	**04 28 45.6**	**+1.8**
SNSI	**Sinabang, Aceh**	**2.60**	**168**	*P*	**Pn**	**04 28 16.1**	**+0.1**
TSI	**Tuntungan**	**3.13**	**118**	*P*	**Pg**	**04 28 35.0**	**+1.2**
PSI	**Prapat**	**3.80**	**124**	*Pn*	**Pn**	**04 28 34.0**	**+1.5**
	3.3nm,0.3s,baz=360,slow=12,SNR=14						
PSI					Sn	**Sn**	**04 29 21.6**	**+4.2**
	3.0nm,0.3s,baz=180,slow=9.3,SNR=4.3						
GSI	**Gunungsitoli**	**4.06**	**154**	*P*	**Pn**	**04 28 35.3**	**-0.7**
BKNI	**Bangkinang**	**6.99**	**131**	*P*	Pn	04 29 21.8	+5.5
CMAR	**Chiang Mai Arr**	**13.75**	**13**	*Pn*	P	04 31 02.7	+5.0
	0.3nm,0.3s,baz=198,slow=11,SNR=6.3						
H08S2	**Diego Garcia H**	**26.41**	**242**	*T*	T	05 00 07.0	
	baz=62,slow=75,SNR=75						
H08S3	**Diego Garcia H**	**26.41**	**242**	*T*	T	05 00 06.8	
	baz=62,slow=75,SNR=43						
H08S1	**Diego Garcia H**	**26.42**	**242**	*T*	T	05 00 17.3	
	baz=62,slow=75,SNR=14						
MKAR	**Makanchi Array**	**43.27**	**346**	*P*	**P**	**04 35 35.7**	**+0.1**
	0.4nm,0.7s,baz=177,slow=8.7,SNR=4.3						
SONM	**Songino Array**	**43.66**	**10**	*P*	**P**	**04 35 41.4**	**+2.6**
	0.8nm,0.8s,baz=181,slow=8.2,SNR=4.5						
WRA	**Warramunga Arr**	**45.27**	**124**	*P*	**P**	**04 35 49.3**	**-2.6**
	1.0nm,0.7s,baz=302,slow=9.2,SNR=6.4						
ASAR	**Alice Springs**	**46.82**	**129**	*P*	**P**	**04 36 02.7**	**-1.5**
	3.2nm,0.7s,baz=300,slow=7.9,SNR=34						

*ISCJB **26** 04:41:20.2±0.4, 51°44N±0°02×16°24E±0°03, h0km, mb3.2/1, Error ellipse: s-maj=3.3km s-min=2.6km az=34.9*
*PRU **26** 04:41:23.5±0.0, 51°42Nx16°20E, h0km*
*IDC **26** 04:41:23.2±0.7, 51°45Nx16°09E, h0km, mb2.9/1, mb1 3.4/9, mb1mx3.2/38, mbtmp3.3/9, ML2.9/8, Error ellipse: s-maj=15.9km s-min=6.6km az=102.0*
*VIE **26** 04:41:25.5±0.5, 51°19Nx16°28E, h0km, mb2.4/4, ml2.8/8, Error ellipse: s-maj=4.3km s-min=4.0km az=110.0 52 km WNW of Wroclaw Suspected Mining induced.*
ISC 26 04:41:21.1±0.7, 51°51N±0°03×16°24E±0°02, h0km, n38, σ1°04/79, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**177**	*i Pg*	**Pg**	**04 41 34.5**	**+0.6**
KSP				*i Sg*	**Sg**	**04 41 42.2**	**-0.2**
UPC	**Upice**	**1.01**	**188**	*ePG*	**Pg**	**04 41 40.7**	**+0.2**
UPC				*eSG*	**Sg**	**04 41 53.4**	**-0.2**
	comp=Z,170nm,0.4s						
DPC	**Dobruska-Polom**	**1.16**	**177**	*ePG*	**Pg**	**04 41 43.4**	**+0.1**
DPC				*eSG*	**Sg**	**04 41 57.5**	**-0.8**
	comp=Z,58nm,0.5s						
PVCC	**Panska Ves**	**1.44**	**228**	*ePG*	**Pn**	**04 41 48.6**	**+0.2**
PVCC				*eSG*	**Sn**	**04 42 08.0**	**0.0**
	comp=Z,230nm,0.3s						
KRLC	**Kraliky**	**1.48**	**166**	*ePG*	**Pn**	**04 41 49.1**	**+0.2**
KRLC				*eSG*	**Sg**	**04 42 07.7**	**-0.8**
	comp=Z,9.5nm,0.4s						
BRG	**Berggiesshubel**	**1.58**	**247**	*PN*	**Pn**	**04 41 50.0**	**-0.3**
BRG				*PG*	**Pg**	**04 41 51.9**	**+0.6**
BRG				*SG*	**Sg**	**04 42 12.2**	**+0.5**
	49nm,0.4s						
PRA	**Prague**	**1.84**	**219**	*ePN*	**Pn**	**04 41 54.0**	**+0.1**
PRA				*ePG*	**Pb**	**04 41 55.7**	**+0.1**
PRA				*eSG*	**Sb**	**04 42 19.2**	**+0.1**
	comp=Z,18nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.84**	**211**	*ePN*	**Pn**	**04 41 54.4**	**+0.4**
GOPC				*ePG*	**Pb**	**04 41 55.9**	**+0.2**
GOPC				*eSG*	**Sb**	**04 42 18.9**	**-0.4**
	comp=Z,27nm,0.3s						
PRU	**Pruhonice**	**1.87**	**216**	*ePN*	**Pn**	**04 41 53.9**	**-0.3**
PRU				*ePG*	**Pb**	**04 41 56.1**	**+0.1**
PRU				*eSG*	**Sb**	**04 42 19.5**	**-0.4**
	comp=Z,23nm,0.2s						
MORC	**Moravsky Berou**	**1.92**	**154**	*ePN*	**Pn**	**04 41 55.2**	**+0.1**
MORC				*eSG*	**Sb**	**04 42 21.3**	**-0.3**
CLL	**Collm**	**2.04**	**266**	*ePn*	**Pn**	**04 41 57.0**	**+0.4**
CLL				*ePg*	**Pg**	**04 42 00.0**	**-0.1**
CLL				*eSg*	**Sg**	**04 42 27.0**	**+0.6**
	comp=Z,19nm,0.

EKA	**Eskdalemuir Ar**	**12.18**	**296**	Pn		**Pn**	**04 44 16.6**	**+0.9**
	baz=100,slow=13,SNR=2.0								
ARCES	**ARCESS Array B**	**18.61**	**10**	Pn		**P**	**04 45 37.1**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=192,slow=11,SNR=8.6								
YKA	**Yellowknife Ar**	**59.89**	**336**	P		**P**	**04 51 29.9**	**+1.8**
	comp=Z,0.1nm,0.4s,baz=33,slow=6.8,SNR=2.0								

IDC 26 05:06:59.2±1.8, 12°.57N×143°.76E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/51, mbtmp3.4/4, Error ellipse: s-maj=318.0km s-min=23.9km az=110.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.61**	**196**	P		P	05 13 40.8	-0.7
	0.4nm,0.6s,baz=17,slow=9.6,SNR=3.3							
ASAR	**Alice Springs**	**37.28**	**195**	P		P	05 14 13.7	+0.6
	0.4nm,0.9s,baz=15,slow=10,SNR=4.1							
ILAR	**Eielson Array**	**69.95**	**25**	P		P	05 18 11.7	-0.4
	0.1nm,0.4s,baz=250,slow=5.4,SNR=8.1							
YKA	**Yellowknife Ar**	**84.26**	**27**	P		P	05 19 33.2	+0.6
	0.1nm,0.3s,baz=286,slow=5.2,SNR=5.5							

*GUC **26** 05:13:26.3±0.8, 30°.71S×71°.14W, h90km±7km, ML3.5*
*SJA **26** 05:13:29.6±1.1, 30°.78S×71°.24W, h33km±10km, ML3.1, MW3.4*

ISC 26 05:13:27.1±2.1, 30°.72S±0°.04×71°.57W±0°.09, h27km±18km, n29, σ1s33/37, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.67**	**133**	*e*P		**Pn**	**05 13 41.9**	**+1.0**
CMCH				*i* S		**Sn**	**05 13 52.2**	**+1.7**
CMCH				IAML			05 13 52.8	
	comp=N,5μm,0.5s							
LSCH	**La Serena**	**0.85**	**19**	*e*P		**Pn**	**05 13 44.3**	**+1.0**
LSCH				*e*S		**Sn**	**05 13 56.9**	**+2.1**
GO04	**Tololo Observa**	**0.86**	**51**	*e*P		**Pn**	**05 13 44.1**	**+0.5**
GO04				*e*S		**Sn**	**05 13 56.0**	**+0.6**
GO04	**Tololo Observa**	**0.86**	**51**	⇑*i*P		**Pb**	**05 13 43.6**	**+0.2**
GO04				*e*S		**Sn**	**05 13 55.9**	**+0.6**
LCO	**Las Campanas**	**1.86**	**24**	⇓*i*P		**Pn**	**05 13 57.0**	**-0.4**
LCO				*i* S		**Sn**	**05 14 19.5**	**-0.6**
LCO				IAML			05 14 20.8	
	comp=N,515nm,0.3s							
AROD	**Rodeo**	**1.89**	**74**	*e*P		**Pn**	**05 13 58.6**	**+0.7**
AROD				*e*S		**Sn**	**05 14 21.1**	**+0.1**
ACCO	**Cerro Coronel**	**2.16**	**87**	*e*P		**Pn**	**05 14 02.3**	**+0.7**
ACDV	**Cuesta del Vie**	**2.18**	**76**	*e*P		**Pn**	**05 14 02.8**	**+1.0**
RTLS	**Leoncito**	**2.23**	**120**	*e*P		**Pn**	**05 14 03.5**	**+1.0**
RTLS				IAML			05 14 32.0	
	comp=Z,180nm,0.2s							
ROCH	**El Roble**	**2.30**	**168**	⇑*i*P		**Pn**	**05 14 03.1**	**-0.3**
ROCH				*e*S		**Sn**	**05 14 30.3**	**-0.7**
ROCH				IAML			05 14 35.6	
	comp=N,200nm,0.3s							
ROC1	**El Roble**	**2.30**	**168**	*e*P		**Pn**	**05 14 03.2**	**-0.3**
AUSP	**Uspallata**	**2.40**	**129**	*e*P		**Pn**	**05 14 05.9**	**+1.1**
ZON	**Zonda**	**2.61**	**109**	*e*P		**Pn**	**05 14 07.7**	**+0.1**
AMOG	**MOGNA**	**2.66**	**96**	*e*P		**Pn**	**05 14 08.9**	**+0.7**
SJA	**San Juan**	**2.70**	**108**	*e*P		**Pn**	**05 14 09.1**	**+0.3**
SJA				IAML			05 14 09.5	
	comp=Z,74nm,0.2s							
RTLL	**Cerro Villicun**	**2.73**	**104**	*e*P		**Pn**	**05 14 08.7**	**-0.4**
FCH	**Farellones**	**2.82**	**158**	*e*P		**Pn**	**05 14 10.1**	**-0.6**
FCH				*e*S		**Sn**	**05 14 43.3**	**-0.7**
FCH				IAML			05 14 47.0	
	comp=E,222nm,0.2s							
RTCV	**Cerro Valdivia**	**2.83**	**115**	*e*P		**Pn**	**05 14 11.2**	**+0.6**
AGUA	**GUANDACOL**	**2.94**	**66**	*e*P		**Pn**	**05 14 13.7**	**+1.7**
ASAL	**Salagasta**	**2.99**	**129**	*e*P		**Pn**	**05 14 14.3**	**+1.5**
CFA	**Coronel Fontan**	**2.99**	**108**	*e*P		**Pn**	**05 14 12.6**	**-0.2**
ARCO	**CERRO ARCO**	**3.09**	**134**	*e*P		**Pn**	**05 14 16.3**	**+2.1**
ARCO				IAML			05 14 55.4	
	comp=Z,78nm,0.3s							
AAGR	**Agrelo**	**3.32**	**136**	*e*P		**Pn**	**05 14 19.3**	**+2.0**
ACAN	**Cantantal**	**4.05**	**114**	*e*P		**Pn**	**05 14 26.6**	**-0.8**
ACLC	**CERRO LA CRUZ**	**4.20**	**73**	*e*P		**Pn**	**05 14 29.0**	**-0.6**
APLL	**PUNTA DE LOS L**	**4.36**	**87**	*e*P		**Pn**	**05 14 30.3**	**-1.3**
MRA	**San Martin**	**5.28**	**110**	*e*P		**Pn**	**05 14 42.2**	**-2.0**
CYA	**Choya**	**5.51**	**67**	*e*P		**Pn**	**05 14 43.8**	**-3.6**
TCA	**Tanti**	**6.02**	**98**	*e*P		**Pn**	**05 14 51.7**	**-2.8**

*IDC **26** 05:15:58.5±0.7, 34°.60N×23°.96E, h0km, mb4.2/22, mb1 4.2/31, mb1mx4.1/63, mbtmp4.1/31, ML3.7/9, MS3.5/12, Ms1 3.5/12, ms1mx3.3/37, Error ellipse: s-maj=15.2km s-min=9.7km az=153.0*
*ISCJB **26** 05:15:60.0±0.6, 34°.47N±0°.03×24°.06E±0°.03, h19km±4km, mb4.3/60, MS3.5/9, Error ellipse: s-maj=4.9km s-min=3.0km az=37.0*
*NEIC **26** 05:15:59.4±0.0, 34°.53N×23°.96E, h9km, mb4.3/37, ML3.6(THE), ML3.9(ATH), After ATH.*
*ATH **26** 05:15:59.5, 34°.53N×23°.96E, h9km±1km, ML3.9/12, Error ellipse: s-maj=2.7km s-min=1.1km az=27.0*
*THE **26** 05:16:00.0, 34°.59N×23°.91E, h6km±2km, ML4.3/6, Error ellipse: s-maj=3.1km s-min=1.6km az=321.0*
*MOS **26** 05:16:00.9±1.8, 34°.52N×24°.02E, h26km, mb4.4/30, Error ellipse: s-maj=7.6km s-min=3.6km az=86.7*
*HLW **26** 05:16:01.3, 34°.61N×24°.27E, h12km±23km, Md4.3, Ml4.2*

ISC 26 05:16:00.4±1.4, 34°.55N±0°.05×24°.00E±0°.04, h10km±7km, n327, σ1s62/327, mb4.3/62, MS3.6/9, 17C-12D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.30**	**13**	P		**Pg**	**05 16 06.1**	**-0.4**
GVD				S		**Sg**	**05 16 10.8**	**+0.4**
GVD				AML	AML		05 16 11.5	
GVD				AML	AML		05 16 11.8	
GVD	**Gavdhos**	**0.30**	**13**	P		**Pg**	**05 16 06.0**	**-0.4**
GVD				S		**Sg**	**05 16 10.6**	**+0.1**
SIVA	**Sivas**	**0.81**	**54**	P		**Pg**	**05 16 15.7**	**-0.3**
SIVA				AML	AML		05 16 41.3	
	comp=E,59072μm,0.8s							
SIVA				AML	AML		05 16 45.2	
	comp=N,40438μm,0.8s							
SIVA	**Sivas**	**0.81**	**54**	P		**Pg**	**05 16 15.6**	**-0.5**
SIVA				S		**Sb**	**05 16 28.9**	**+1.2**
VAM	**Vamos**	**0.88**	**11**	P		**Pg**	**05 16 15.7**	**-1.5**
VAM				S		**Sg**	**05 16 29.6**	**+1.0**
VAM				AML	AML		05 16 33.4	
	comp=N,31963μm,0.4s							
VAM				AML	AML		05 16 40.6	
	comp=E,30790μm,0.5s							
VAM	**Vamos**	**0.88**	**11**	P		**Pg**	**05 16 15.7**	**-1.5**
VAM				S		**Sg**	**05 16 28.0**	**-0.6**
KERA	**Keramoti**	**0.90**	**336**	P		**Pg**	**05 16 16.5**	**-1.2**
KERA				S		**Sg**	**05 16 29.7**	**+0.3**
KERA				AML	AML		05 16 34.5	
	comp=N,22994μm,0.4s							
KERA				AML	AML		05 16 39.2	
	comp=E,15965μm,0.6s							
IMMV	**Iera Moni Meta**	**0.91**	**359**	P		**Pg**	**05 16 16.4**	**-1.5**
IMMV				S		**Sg**	**05 16 29.7**	**-0.1**
IMMV				AML	AML		05 16 30.9	
	comp=N,59441μm,0.3s							
IMMV				AML	AML		05 16 33.1	
	comp=E,77842μm,0.5s							
IMMV	**Iera Moni Meta**	**0.91**	**359**	P		**Pg**	**05 16 16.3**	**-1.7**
IMMV				S		**Sg**	**05 16 29.7**	**-0.1**
IDI	**Anoyia**	**1.04**	**44**	Pg		**Pg**	**05 16 18.8**	**-1.5**
	comp=E,21nm,0.3s,baz=224,slow=11,SNR=54							
IDI				Lg		Lg	05 16 34.2	
	comp=E,144nm,0.3s,baz=75,slow=20,SNR=13							
IDI				LR		LR	05 16 58.8	
	comp=E,2μm,19.2s,baz=164,slow=58							
IDI	**Anoyia**	**1.04**	**44**	*e*Pg		**Pg**	**05 16 18.5**	**-1.8**
IDI				Lg		Lg	05 16 34.2	
IDI	**Anoyia**	**1.04**	**44**	P		**Pg**	**05 16 19.8**	**-0.6**
IDI				AML	AML		05 16 41.3	
	comp=E,5042μm,0.6s							
IDI				AML	AML		05 16 43.5	
	comp=N,5676μm,1.0s							
IACM	**Heraklion**	**1.16**	**49**	P		**Pb**	**05 16 23.0**	**+0.4**
LAST	**Lasithi**	**1.36**	**63**	P		**Pn**	**05 16 25.7**	**+0.1**
LAST				AML	AML		05 16 53.5	
	comp=N,2920μm,0.8s							
LAST				AML	AML		05 17 04.0	
	comp=E,3801μm,1.0s							
LAST	**Lasithi**	**1.36**	**63**	P		**Pn**	**05 16 25.6**	**+0.1**
LAST				S		**Sb**	**05 16 43.5**	**0.0**
ANKY	**Antikythira Is**	**1.44**	**337**	P		**Pn**	**05 16 27.3**	**+0.8**
ANKY				AML	AML		05 16 57.0	
	comp=N,6028μm,1.2s							
ANKY				AML	AML		05 17 02.1	
	comp=E,7330μm,0.8s							
NPS	**Neapolis**	**1.50**	**61**	P		**Pn**	**05 16 28.4**	**+1.0**
NPS				AML	AML		05 17 03.8	
	comp=E,5607μm,0.8s							
NPS				AML	AML		05 17 07.8	
	comp=N,4599μm,1.3s							
NPS	**Neapolis**	**1.50**	**61**	P		**Pn**	**05 16 27.2**	**-0.2**
NPS				S		**Sb**	**05 16 48.8**	**+1.2**
KYTH	**Kithira**	**1.89**	**336**	P		**Pn**	**05 16 34.8**	**+2.1**
KYTH				AML	AML		05 17 09.7	
	comp=N,2810μm,1.0s							
KYTH				AML	AML		05 17 14.1	
	comp=E,4020μm,0.8s							
ZKR	**Zakros**	**1.91**	**72**	P		**Pn**	**05 16 35.7**	**+2.7**
ZKR				AML	AML		05 17 26.8	
	comp=E,2781μm,0.9s							
ZKR				AML	AML		05 17 29.2	
	comp=N,1126μm,1.2s							
MHLO	**Agia Marina, M**	**2.16**	**9**	P		**Pn**	**05 16 37.4**	**+0.9**
SANT	**Santorini**	**2.17**	**33**	*e*Pn		**Pn**	**05 16 38.5**	**+1.8**
SANT	**Santorini**	**2.17**	**33**	P		**Pn**	**05 16 38.4**	**+1.7**
MHLA	**Plaka, Milos I**	**2.22**	**9**	P		**Pn**	**05 16 39.7**	**+2.4**
ANAF	**Anafi Island**	**2.31**	**38**	P		**Pn**	**05 16 40.0**	**+1.4**
VLI	**Veliai**	**2.34**	**338**	P		**Pn**	**05 16 41.3**	**+2.4**
SERI	**Serifos**	**2.64**	**8**	P		**Pn**	**05 16 44.3**	**+1.2**
KARP	**Karpathos**	**2.78**	**68**	*e*Pn		**Pn**	**05 16 47.9**	**+3.0**
KARP	**Karpathos**	**2.78**	**68**	P		**Pn**	**05 16 47.6**	**+2.6**
APE	**Apeiranthos**	**2.81**	**26**	P		**Pn**	**05 16 46.8**	**+1.4**
APE				AML	AML		05 17 32.8	
	comp=N,633μm,0.9s							
APE				AML	AML		05 17 41.9	
	comp=E,1033μm,0.9s							
APE	**Apeiranthos**	**2.81**	**26**	*e*P		**Pn**	**05 16 46.3**	**+0.9**
KRND	**KRANIDI**	**2.92**	**347**	P		**Pn**	**05 16 47.8**	**+1.0**
DID	**Didima**	**3.02**	**348**	P		**Pn**	**05 16 49.1**	**+0.8**
VLX	**Vlachokerasia**	**3.11**	**335**	P		**Pn**	**05 16 52.1**	**+2.5**
ITM	**Ithomi**	**3.12**	**328**	*e*Pn		**Pn**	**05 16 52.1**	**+2.4**
ITM	**Ithomi**	**3.12**	**328**	P		**Pn**	**05 16 50.8**	**+1.1**
SLUM	**Salum**	**3.21**	**161**	P		**Pn**	**05 16 51.4**	**+0.5**
	baz=165							
TRIP	**Tripoli**	**3.29**	**335**	P		**Pn**	**05 16 54.7**	**+2.7**
MES3	**Kyparissia**	**3.29**	**326**	P		**Pn**	**05 16 54.3**	**+2.2**
VLY	**Voula,Athens**	**3.31**	**357**	P		**Pn**	**05 16 53.3**	**+1.1**
ATHU	**Athens Univers**	**3.42**	**357**	P		**Pn**	**05 16 54.8**	**+1.0**
PTL	**Penteli**	**3.50**	**358**	P		**Pn**	**05 16 55.8**	**+0.9**
AMT	**Artemida-Makis**	**3.51**	**329**	P		**Pn**	**05 16 56.3**	**+1.2**
DION	**Dionisos Attik**	**3.53**	**359**	P		**Pn**	**05 16 56.3**	**+1.1**
LOUT	**Loutraki**	**3.54**	**347**	P		**Pn**	**05 16 56.5**	**+1.1**
LTK	**Loutraki**	**3.57**	**347**	P		**Pn**	**05 16 57.1**	**+1.2**
GUR	**Goura**	**3.64**	**339**	P		**Pn**	**05 16 58.6**	**+1.7**
VIL2	**Platees**	**3.71**	**351**	P		**Pn**	**05 16 57.8**	**+0.1**
ARG	**Arkhangelos**	**3.76**	**62**	P		**Pn**	**05 17 00.6**	**+2.2**
KLV	**Kalavryta, Ach**	**3.80**	**337**	P		**Pn**	**05 17 00.9**	**+1.9**
PROD	**Prodromos**	**3.81**	**347**	P		**Pn**	**05 17 00.3**	**+1.1**
EREA	**Eretria**	**3.87**	**359**	P		**Pn**	**05 17 01.3**	**+1.4**
DRO	**Drossia**	**3.87**	**332**	P		**Pn**	**05 17 02.8**	**+2.8**
LAKA	**Lakka**	**4.03**	**337**	P		**Pn**	**05 17 04.3**	**+2.0**
DSF	**Desfina**	**4.04**	**343**	P		**Pn**	**05 17 03.4**	**+1.1**
RLS	**Riolos of Patr**	**4.06**	**330**	P		**Pn**	**05 17 04.7**	**+2.2**
TRIZ	**Trizonia**	**4.12**	**338**	P		**Pn**	**05 17 05.4**	**+2.1**
KALE	**Kalithea**	**4.12**	**339**	P		**Pn**	**05 17 05.4**	**+1.9**
SERG	**Sergoula**	**4.17**	**338**	P		**Pn**	**05 17 05.7**	**+1.6**
LKR	**Lokris**	**4.18**	**349**	P		**Pn**	**05 17 03.5**	**-0.7**
ATAL	**Atalanti**	**4.21**	**349**	P		**Pn**	**05 17 06.2**	**+1.5**
EFP	**Efpalio**	**4.23**	**337**	P		**Pn**	**05 17 07.2**	**+2.4**
SMIA	**Simia**	**4.37**	**352**	P		**Pn**	**05 17 08.0**	**+1.2**
ANX	**Ano Chora**	**4.37**	**338**	P		**Pn**	**05 17 08.7**	**+1.7**
VLS	**Valsamata**	**4.55**	**324**	P		**Pn**	**05 17 09.7**	**+0.3**
SKIA	**Skiathos**	**4.63**	**355**	P		**Pn**	**05 17 11.5**	**+1.0**
AGG	**Agios Georgios**	**4.67**	**344**	*e*Pn		**Pn**	**05 17 12.4**	**+1.5**
AGG	**Agios Georgios**	**4.67**	**344**	P		**Pn**	**05 17 12.2**	**+1.2**
AGG	**Agios Georgios**	**4.67**	**344**	*e*P		**Pn**	**05 17 12.4**	**+1.5**
EVR	**Evrytania**	**4.71**	**339**	P		**Pn**	**05 17 13.8**	**+2.2**
MAKR	**Makrakomi, Fth**	**4.71**	**342**	P		**Pn**	**05 17 13.5**	**+2.0**
XOR	**Xorichti**	**4.86**	**353**	P		**Pn**	**05 17 14.8**	**+1.2**
EVGI	**Lefkada island**	**4.88**	**327**	P		**Pn**	**05 17 16.3**	**+2.5**
FYTO	**Fytoko, Volos**	**4.93**	**350**	P		**Pn**	**05 17 15.8**	**+1.3**
LKD2	**Lefkada island**	**5.02**	**329**	P		**Pn**	**05 17 18.6**	**+2.8**
SWA2		**5.43**	**166**	P		**Pn**	**05 17 22.1**	**+0.8**
	baz=168							
SWA2				S		**Sn**	**05 18 21.3**	**-2.6**
	baz=168							
SWA2				AMP			05 19 00.0	
	baz=168							
LIT	**Litokhoron**	**5.67**	**348**	*e*Pn		**Pn**	**05 17 26.1**	**+1.3**
LIT	**Litokhoron**	**5.67**	**348**	*e*P		**Pn**	**05 17 26.1**	**+1.3**
IGT	**Igoumenitsa**	**5.78**	**331**	P		**Pn**	**05 17 28.3**	**+2.1**
BIA	**Bitola**	**6.80**	**343**	*e*Pn		**Pn**	**05 17 39.4**	**-0.9**
BIA				*e*Sn		**Sn**	**05 17 55.9**	**-1.9**
VAY	**Valandovo**	**6.86**	**351**	*i* Pn		**Pn**	**05 17 42.3**	**+1.3**
KRUS	**Krusevo**	**7.15**	**343**	*i* Pn		**Pn**	**05 17 43.9**	**-1.2**
KRUS				*e*Sn		**Sn**	**05 19 03.5**	**-2.9**
STIP	**Stip**	**7.28**	**349**	*e*Pn		**Pn**	**05 17 47.8**	**+1.0**
TIP	**Timpagrande**	**7.42**	**311**	*e*Pn		**Pn**	**05 17 48.9**	**+0.1**
HNAT	**Natroun**	**7.45**	**129**	P		**Pn**	**05 17 48.6**	**-0.5**
	baz=130							
CSS	**Mathiatis**	**7.69**	**84**	*e*Pn		**Pn**	**05 17 53.1**	**+0.6**
VTS	**Vitosha**	**8.06**	**356**	⇑*i*P		**Pn**	**05 18 00.9**	**+3.3**
VTS	**Vitosha**	**8.06**	**356**	⇑P		**Pn**	**05 18 00.9**	**+3.3**
GLL	**Jalalah**	**8.20**	**125**	P		**Pn**	**05 17 58.8**	**-0.7**
	baz=126							
HFRF	**Wahat Farafira**	**8.25**	**152**	P		**Pn**	**05 17 59.8**	**-0.3**
	baz=153							
DRME	**Dracevica, Mon**	**8.51**	**335**	*e*Pn		**Pn**	**05 18 02.1**	**-1.6**
NBNS	**Bani Suef**	**8.57**	**132**	P		**Pn**	**05 18 05.1**	**+0.5**
	baz=133							
NBNS				S		Sn	05 19 34.0	-7.5
	baz=133							
PDG	**Podgorica**	**8.71**	**336**	⇓*i*P		**Pn**	**05 18 06.6**	**+0.3**
PDG	**Podgorica**	**8.71**	**336**	*e*Pn		**Pn**	**05 18 04.8**	**-1.5**
TTG	**Podgorica**	**8.71**	**336**	*e*Pn		**Pn**	**05 18 05.2**	**-1.1**
TTG	**Podgorica**	**8.71**	**336**	*e*P		**Pn**	**05 18 05.2**	**-1.1**
BR231	**Keskin MP Arra**	**8.77**	**50**	*e*Pn		**Pn**	**05 18 08.2**	**+0.8**
ANTO	**Ankara**	**8.80**	**50**	*e*Pn		**Pn**	**05 18 10.6**	**+2.9**
ANTO	**Ankara**	**8.80**	**50**	*e*P		**Pn**	**05 18 10.6**	**+2.9**
RSH		**8.93**	**111**	P		**Pn**	**05 18 07.7**	**-1.7**
	baz=112							
ZNM	**Zenema**	**9.13**	**122**	P		**Pn**	**05 18 12.4**	**+0.2**
	baz=123							
BR101	**Keskin Array S**	**9.27**	**53**	*e*Pn		**Pn**	**05 18 15.7**	**+1.5**
BR131	**Keskin Array S**	**9.27**	**53**	*e*Pn		**Pn**	**05 18 16.0**	**+1.8**
BRTR	**Keskin Array B**	**9.27**	**53**	Pn		**Pn**	**05 18 15.7**	**+1.5**
	comp=E,0.2nm,0.3s,baz=232,slow=14,SNR=11							
BRTR				LR		LR	05 22 33.2	
	comp=E,210nm,18.4s,baz=232,slow=43							
TREB	**Trebinje**	**9.28**	**333**	*e*Pn		Pn	05 18 06.6	-7.6
MMAI	**Mount Meron Ar**	**9.61**	**96**	Pn		**Pn**	**05 18 17.1**	**-1.7**
	comp=E,1.4nm,0.3s,baz=293,slow=12,SNR=7.5							
MMAI				Sn		**Sn**	**05 20 04.5**	**-2.5**
	baz=288,slow=14,SNR=2.2							
MMAI				LR		LR	05 23 34.3	
	comp=E,21nm,21.9s,baz=315,slow=47							
STON	**Ston**	**9.66**	**331**	*e*Pn		**Pn**	**05 18 16.8**	**-2.6**
STON				Sn		Sn	05 19 58.3	-10
BBLS	**Lazići**	**9.97**	**340**	*e*Pn		**Pn**	**05 18 21.0**	**-2.7**
DIVS	**Divibare**	**10.03**	**343**	*e*Pn		**Pn**	**05 18 22.4**	**-2.2**
DIVS	**Divibare**	**10.03**	**343**	*e*Pn		**Pn**	**05 18 21.8**	**-2.8**
HAPS	**Han Pijesak,BI**	**10.30**	**339**	*e*Pn		Pn	05 18 24.7	-3.6
EIL	**Elat**	**10.48**	**115**	Pn		**Pn**	**05 18 29.5**	**-1.2**
	comp=E,0.7nm,0.3s,baz=321,slow=8.9,SNR=8.5							
EIL				Sn		**Sn**	**05 20 30.0**	**+1.9**
	comp=E,0.8nm,0.3s,baz=328,slow=16,SNR=4.3							
TEKS	**Tekeris**	**10.57**	**342**	*e*Pn		**Pn**	**05 18 29.1**	**-2.8**
GZR	**Gura Zlata**	**10.88**	**355**	⇓*i*P		**Pn**	**05 18 38.1**	**+2.0**
GZR	**Gura Zlata**	**10.88**	**355**	⇓P		**Pn**	**05 18 38.1**	**+2.0**
VOIR		**10.91**	**4**	⇑*i*P		**Pn**	**05 18 40.8**	**+4.2**
VOIR		**10.91**	**4**	⇑P		**Pn**	**05 18 40.8**	**+4.2**
MLR	**Muntele Rosu**	**11.03**	**7**	Pn		**Pn**	**05 18 37.5**	**-0.8**
	comp=E,0.1nm,0.3s,baz=119,slow=13,SNR=2.4							
MLR				LR		LR	05 22 39.8	
	comp=E,158nm,18.5s,baz=223,slow=36							
MLR	**Muntele Rosu**	**11.03**	**7**	*e*Pn		**Pn**	**05 18 38.4**	**+0.1**
MLR	**Muntele Rosu**	**11.03**	**7**	*e*P		**Pn**	**05 18 38.4**	**+0.1**
FRGS	**Fruska Gora**	**11.08**	**344**	*e*Pn		**Pn**	**05 18 36.1**	**-2.7**
BZS	**Buzias**	**11.21**	**351**	⇓*i*P		**Pn**	**05 18 41.7**	**+1.1**
BZS	**Buzias**	**11.21**	**351**	⇓P		**Pn**	**05 18 41.7**	**+1.1**
UDBI	**Udbina**	**11.82**	**330**	*e*Pn		**Pn**	**05 18 47.7**	**-1.3**
NVLJ	**Novalja**	**12.23**	**328**	*i* Pn		**Pn**	**05 18 53.3**	**-1.3**
MORH	**Mrgy, Hungar**	**12.35**	**342**	⇓*e*Pn		Pn	05 18 53.1	-3.1
MORH	**Mrgy, Hungar**	**12.35**	**342**	*e*Pn		**Pn**	**05 18 53.2**	**-3.0**
OZLJ	**Ozalj**	**12.83**	**332**	*e*Pn		**Pn**	**05 19 01.4**	**-1.4**
CRES	**Cresnjev**	**13.01**	**333**	*e*Pn		Pn	05 19 01.7	-3.6
BURAR	**Bucovina Array**	**13.09**	**4**	⇑*i*P		**P**	**05 19 15.7**	**-1.1**
BURAR	**Bucovina Array**	**13.09**	**4**	⇑P		**P**	**05 19 15.7**	**-1.1**
CEY	**Cerknica**	**13.35**	**330**	*e*Pn		Pn	05 19 06.5	-3.5
UZH	**Uzhgorod**	**14.13**	**355**	*e*P		Pn	05 19 25.4	+4.9
ARSA	**Arzberg**	**14.21**	**336**	*e*Pn		**Pn**	**05 19 21.6**	**0.0**
	comp=E,8.6nm,1.2s							
VYHS	**Vyhne**	**14.46**	**346**	*e*P		**Pn**	**05 19 27.7**	**+2.7**
VYHS	**Vyhne**	**14.46**	**346**	*e*PN		**Pn**	**05 19 27.7**	**+2.7**
ANN	**Anapa**	**14.54**	**41**	*e*P		**Pn**	**05 19 23.3**	**-2.8**
ANN				pmax	pmax			
	comp=Z,142nm,1.1s							
MODS	**Modra-Piesok**	**14.70**	**342**	*e*P		**P**	**05 19 33.3**	**-1.2**
MODS	**Modra-Piesok**	**14.70**	**342**	*e*PN		**P**	**05 19 33.3**	**-1.2**
KBA	**Koelnbreinsper**	**14.88**	**331**	*e*P		**Pn**	**05 19 34.5**	**+3.6**
	comp=Z,7.3nm,0.7s							
ABTA	**Abfaltersbach**	**14.97**	**328**	*e*P		**P**	**05 19 37.9**	**+0.3**
	comp=Z,16nm,0.9s							
MOA	**Molln**	**15.16**	**334**	*i* pP		**P**	**05 19 41.4**	**+1.7**
	comp=Z,13nm,0.9s							
VRAC	**Vranov**	**15.73**	**342**	Pn		**Pn**	**05 19 42.5**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=198,slow=7.0,SNR=5.3							
WATA	**Walderalm**	**15.83**	**328**	*e*P		**Pn**	**05 19 46.8**	**+3.4**
	comp=Z,7.1nm,0.7s							
SQTA	**Sankt Quirin**	**15.91**	**327**	*e*P		**Pn**	**05 19 47.9**	**+3.5**
	comp=Z,12nm,0.8s							
FUORN	**Ofenpass-Fuorn**	**15.92**	**323**	*e*Pn		**Pn**	**05 19 45.8**	**+1.1**
	comp=Z,25nm,0.9s							
MORC	**Moravsky Berou**	**15.95**	**345**	*e*Pn		**Pn**	**05 19 46.9**	**+2.1**
	comp=Z,4.6nm,0.9s							
MORC	**Moravsky Berou**	**15.95**	**345**	⇑*i*P		**P**	**05 19 50.6**	**+2.2**
MORC	**Moravsky Berou**	**15.95**	**345**	⇑P		**P**	**05 19 50.6**	**+2.2**
FETA	**Feichten**	**15.98**	**325**	*e*pP		**P**	**05 19 50.1**	**+1.1**
	comp=Z,30nm,1.4s							
TREC	**Trest**	**16.03**	**339**	*e*P		**P**	**05 19 51.0**	**+1.7**
TREC	**Trest**	**16.03**	**339**	*e*P		**P**	**05 19 51.0**	**+1.7**
MOTA	**Moosalm**	**16.05**	**327**	*e*P		**Pn**	**05 19 48.2**	**+2.0**
	comp=Z,13nm,1.0s							
GEA0	**GERESS Array S**	**16.20**	**335**	*e*Pn		**Pn**	**05 19 50.2**	**+2.2**
GEC2	**GERESS Array S**	**16.20**	**335**	*e*Pn		**Pn**	**05 19 48.2**	**0.0**
	comp=Z,10nm,0.9s							
GEC2	**GERESS Array S**	**16.20**	**335**	*e*P		**Pn**	**05 19 48.2**	**0.0**
GEC2				pmax	pmax			
	comp=Z,10.0nm,0.9s							
GERES	**GERESS Array B**	**16.20**	**335**	Pn		**Pn**	**05 19 47.6**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=159,slow=14,SNR=5.1							

ISAL					IAmb	IAmb	05 20 50.8		
	comp=Z,11nm,0.9s								
CLF	**Chambon-Foret**	**21.08**	**316**	*eP*	**P**	**P**	**05 20 45.6**	**+0.8**	
	comp=Z,20nm,0.9s								
IZAR	**Zarasai**	**21.26**	**3**	*eP*	**P**	**P**	**05 20 41.6**	**-4.9**	
IZAR					IAmb	IAmb	05 20 47.8		
	comp=Z,10nm,0.8s								
PBUR	**Paburg**	**21.53**	**357**	*eP*	**P**	**P**	**05 20 44.3**	**-5.1**	
OBN	**Obninsk**	**22.35**	**19**	*iP*	**P**	**P**	**05 20 54.5**	**-3.7**	
OBN				*i*			05 21 25.4		
OBN					pmax	pmax			
	comp=Z,5.0nm,0.9s								
OBN					MLR	MLR			
	comp=Z,182nm,17.0s								
ESDC	**Sonseca Array**	**22.84**	**291**	P	**P**	**P**	**05 21 02.6**	**-1.1**	
	comp=Z,1.8nm,0.6s,baz=84,slow=9.7,SNR=11								
ESLA	**Sonseca Array**	**22.84**	**291**	*eP*	**P**	**P**	**05 21 05.6**	**+1.9**	
	comp=Z,5.5nm,0.8s								
MOS	**Moscow**	**23.19**	**20**	*eP*	**P**	**P**	**05 21 09.9**	**+2.9**	
MOS				*e*			05 21 35.8		
MOS					pmax	pmax			
	comp=Z,26nm,0.6s								
VSU	**Vasula**	**23.99**	**4**⇓	*eP*	**P**	**P**	**05 21 14.8**	**-0.1**	
VSU	**Vasula**	**23.99**	**4**	*eP*	**P**	**P**	**05 21 13.0**	**-1.9**	
VSU					IAmb	IAmb	05 21 18.2		
	comp=Z,37nm,1.0s								
PESTR	**Estremoz**	**25.62**	**289**	*eP*	**P**	**P**	**05 21 31.9**	**+1.9**	
	comp=Z,5.8nm,0.8s								
HFS	**Hagfors**	**26.47**	**348**	P	**P**	**P**	**05 21 36.4**	**-1.1**	
	comp=Z,8.7nm,0.7s,baz=153,slow=9.4,SNR=23								
FIA0	**FINESS Array S**	**26.95**	**2**	*eP*	**P**	**P**	**05 21 39.7**	**-2.0**	
FIA0	**FINESS Array S**	**26.95**	**2**	*eP*	**P**	**P**	**05 21 39.7**	**-2.0**	
FINES	**FINESS Array B**	**26.95**	**2**	P	**P**	**P**	**05 21 39.7**	**-2.0**	
	comp=Z,2.4nm,0.6s,baz=174,slow=9.6,SNR=9.7								
FINES					LR	LR	05 33 25.3		
	comp=Z,276nm,21.3s,baz=230,slow=39								
FIA1	**FINESS Array S**	**26.95**	**2**	*eP*	**P**	**P**	**05 21 40.2**	**-1.5**	
	comp=Z,2.8nm,0.8s								
NC602	**NORSAR Array S**	**27.42**	**347**	*eP*	**P**	**P**	**05 21 45.0**	**-1.0**	
NAO01	**NORSAR Array S**	**27.42**	**347**	*eP*	**P**	**P**	**05 21 47.0**	**-1.0**	
NC405	**NORSAR Array S**	**27.74**	**347**	*eP*	**P**	**P**	**05 21 49.1**	**+0.3**	
NB201	**NORSAR Array S**	**27.76**	**347**	*eP*	**P**	**P**	**05 21 48.1**	**-0.9**	
NB2	**NORSAR Subarra**	**27.76**	**347**	P	**P**	**P**	**05 21 47.9**	**-1.1**	
	comp=Z,1.5nm,0.5s,baz=154,slow=9.3								
NB200	**NORSAR Array S**	**27.76**	**347**	*eP*	**P**	**P**	**05 21 48.0**	**-1.1**	
NOA	**NORSAR Array B**	**27.76**	**347**	P	**P**	**P**	**05 21 48.0**	**-1.1**	
	comp=Z,2.3nm,0.7s,baz=156,slow=10,SNR=14								
NOA					LR	LR	05 34 13.0		
	comp=Z,76nm,19.8s,baz=305,slow=40								
NOA	**NORSAR Array B**	**27.76**	**347**	P	**P**	**P**	**05 21 48.0**	**-1.1**	
NOA					pmax	pmax			
	comp=Z,2.0nm,0.7s								
NOA					MLR	MLR			
	comp=Z,76nm,19.8s								
NBO00	**NORSAR Array S**	**27.84**	**346**	*eP*	**P**	**P**	**05 21 49.1**	**-0.7**	
NC303	**NORSAR Array S**	**27.91**	**347**	*eP*	**P**	**P**	**05 21 49.4**	**-0.9**	
EKA	**Eskdalemuir Ar**	**28.01**	**326**	P	**P**	**P**	**05 21 51.1**	**-0.2**	
	comp=Z,0.3nm,0.3s,baz=124,slow=8.3,SNR=7.1								
EKA	**Eskdalemuir Ar**	**28.01**	**326**	P	**P**	**P**	**05 21 51.1**	**-0.2**	
EKA					pmax	pmax			
	comp=Z,1.0nm,0.4s								
NC204	**NORSAR Array S**	**28.07**	**346**	*eP*	**P**	**P**	**05 21 52.7**	**+0.9**	
KLMR	**Klimovskoe**	**28.17**	**16**	*eP*	**P**	P	05 21 48.8	-3.8	
KLMR					pmax	pmax			
	comp=Z,7.0nm,0.9s								
KLMR	**Klimovskoe**	**28.17**	**16**	*eP*	**P**	P	05 21 48.9	-3.7	
KLMR					AMP		05 21 54.8		
	comp=Z,7.0nm,0.9s								
AKTO	**Aktyubinsk**	**29.36**	**47**	P	**P**	**P**	**05 22 02.2**	**-1.2**	
	comp=Z,2.7nm,0.6s,baz=254,slow=8.1,SNR=12								
TOA1	**Torodi Ar. Sit**	**29.37**	**229**	*eP*	**P**	**P**	**05 22 04.3**	**+0.6**	
TOA0	**Torodi Ar. Sit**	**29.37**	**229**	*eP*	**P**	**P**	**05 22 04.8**	**+1.1**	
	comp=Z,2.6nm,0.8s								
TORD	**Torodi Ar. Bea**	**29.37**	**229**	P	**P**	**P**	**05 22 04.3**	**+0.5**	
	comp=Z,1.8nm,0.9s,baz=34,slow=8.6,SNR=17								
TORD					LR	LR	05 34 34.9		
	comp=Z,100nm,19.1s,baz=340,slow=38								
ABKAR	**Akbulak array**	**30.20**	**50**	*eP*	**P**	P	**05 22 10.6**	**-0.2**	
PRGR	**Permogore**	**30.41**	**20**	*eP*	**P**	P	05 22 09.6	-2.9	
PRGR					pmax	pmax			
	comp=Z,16nm,0.7s								
ARU	**Arti**	**32.11**	**36**	*eP*	**P**	**P**	**05 22 27.8**	**+0.2**	
	comp=Z,4.5nm,0.7s								
ARU	**Arti**	**32.11**	**36**⇑	*eP*	**P**	**P**	**05 22 27.5**	**-0.1**	
ARU					pmax	pmax			
	comp=Z,1.0nm,1.1s								
ARA0	**ARCESS Array S**	**35.05**	**1**	*eP*	**P**	**P**	**05 22 50.9**	**-2.2**	
ARCES	**ARCESS Array B**	**35.05**	**1**	P	**P**	**P**	**05 22 50.9**	**-2.2**	
	comp=Z,5.0nm,1.0s,baz=192,slow=8.8,SNR=9.5								
ARCES					LR	LR	05 38 04.6		
	comp=Z,205nm,19.9s,baz=338,slow=38								
KK31	**Karatay Array**	**36.83**	**62**	*eP*	**P**	**P**	**05 23 09.0**	**+0.3**	
KK31	**Karatay Array**	**36.83**	**62**	*eP*	**P**	**P**	**05 23 09.0**	**+0.3**	
KKAR	**Karatay Array**	**36.83**	**62**	*eP*	**P**	**P**	**05 23 08.8**	**+0.1**	
KKAR	**Karatay Array**	**36.83**	**62**	*eP*	**P**	**P**	**05 23 08.8**	**+0.1**	
BRVK	**Borovoye**	**37.40**	**46**	*eP*	**P**	**P**	**05 23 12.7**	**-0.7**	
	comp=Z,4.7nm,1.1s								
BRVK	**Borovoye**	**37.40**	**46**⇓	*eP*	**P**	**P**	**05 23 13.1**	**-0.2**	
BRVK					pmax	pmax			
	comp=Z,6.0nm,1.2s								
DBIC	**Dimbokro**	**38.44**	**230**	P	**P**	**P**	**05 23 22.3**	**-0.1**	
	comp=Z,3.2nm,0.9s,baz=19,slow=7.7,SNR=4.5								
DBIC					LR	LR	05 41 17.4		
	comp=Z,33nm,19.3s,baz=1.5,slow=40								
DBIC	**Dimbokro**	**38.44**	**230**	*eP*	**P**	**P**	**05 23 22.3**	**-0.1**	
	comp=Z,8.1nm,1.1s								
AAK	**Ala-Archa**	**39.78**	**63**	LR	LR	LR	05 43 21.7		
	comp=Z,68nm,20.7s,baz=306,slow=41								
AAK	**Ala-Archa**	**39.78**	**63**	*eP*	**P**	**P**	**05 23 31.9**	**-1.8**	
	comp=Z,2.3nm,0.9s								
AAK	**Ala-Archa**	**39.78**	**63**⇑	*eP*	**P**	**P**	**05 23 35.6**	**+1.9**	
AAK					pmax	pmax			
	comp=Z,4.0nm,1.3s								
NRN	**Naryn**	**41.04**	**64**	*eP*	**P**	**P**	**05 23 44.7**	**+0.4**	
	comp=Z,4.4nm,0.9s								
NRN	**Naryn**	**41.04**	**64**	*eP*	**P**	**P**	**05 23 44.7**	**+0.4**	
NRN					pmax	pmax			
	comp=Z,4.0nm,0.9s								
KSH	**Kashi**	**41.31**	**67**	P	P	P	05 23 42.5	-3.8	
KSH				pP	pP	pP	05 23 48.0	-0.5	
KSH				S	S	S	05 29 52.8	-7.9	
KSH				sS	pS	pS	05 30 00.5	-2.9	
KSH				SS	SS	SS	05 32 54.8	-9.2	
KSH				pmax	pmax				
	comp=Z,12nm,0.5s								
KSH				pmax	pmax				
	comp=Z,460nm,8.6s								
KSH				LR	LR				
	comp=N,130nm,7.7s								
KSH				LR	LR				
	comp=E,170nm,5.3s								
KSH				LR	LR				
	comp=Z,440nm,8.6s								
KURBB	**Kurchatov Arra**	**42.25**	**50**	P	**P**	**P**	**05 23 52.7**	**-0.9**	
	comp=Z,1.5nm,0.3s,baz=279,slow=8.5,SNR=13								
KURK	**Kurchatov**	**42.30**	**50**	*eP*	**P**	**P**	**05 23 54.3**	**+0.2**	
	comp=Z,3.8nm,0.8s								
KURK	**Kurchatov**	**42.30**	**50**⇓	*eP*	**P**	**P**	**05 23 54.1**	**0.0**	
KURK					pmax	pmax			
	comp=Z,4.0nm,0.8s								
MAKZ	**Makanchi**	**44.69**	**56**	*eP*	**P**	**P**	**05 24 13.5**	**0.0**	
	comp=Z,2.8nm,1.0s								
MAKZ	**Makanchi**	**44.69**	**56**	*eP*	**P**	**P**	**05 24 13.5**	**0.0**	
MAKZ					pmax	pmax			
	comp=Z,3.0nm,1.0s								
MK31	**Makanchi Array**	**44.91**	**56**	*eP*	**P**	**P**	**05 24 14.8**	**-0.4**	
MK31	**Makanchi Array**	**44.91**	**56**	*eP*	**P**	**P**	**05 24 14.8**	**-0.4**	
MK32	**Makanchi Array**	**44.91**	**56**	*eP*	**P**	**P**	**05 24 15.2**	**0.0**	
MKAR	**Makanchi Array**	**44.91**	**56**	P	**P**	**P**	**05 24 15.2**	**0.0**	
	comp=Z,2.6nm,0.8s,baz=269,slow=7.5,SNR=35								
MKAR	**Makanchi Array**	**44.91**	**56**	*eP*	**P**	**P**	**05 24 14.8**	**-0.4**	
	comp=Z,26nm,0.6s								
MKAR	**Makanchi Array**	**44.91**	**56**	*eP*	**P**	**P**	**05 24 14.8**	**-0.4**	
MKAR					pmax	pmax			
	comp=Z,26nm,0.6s								
MK01	**Makanchi Array**	**44.91**	**56**	*eP*	**P**	**P**	**05 24 14.8**	**-0.5**	
NVS	**Novosibirsk**	**45.19**	**44**	*eP*	**P**	**P**	**05 24 17.5**	**+0.2**	
NVS					pmax	pmax			
	comp=N,3.0nm,0.6s								
NVS					pmax	pmax			
	comp=E,5.0nm,0.6s								
NVS					pmax	pmax			
	comp=Z,10.0nm,0.6s								
ZAA0	**Zalesovo Array**	**46.11**	**46**	*eP*	**P**	**P**	**05 24 23.6**	**-1.0**	
	comp=Z,5.5nm,0.6s								
ZAA1	**Zalesovo Array**	**46.11**	**46**	*eP*	**P**	**P**	**05 24 23.9**	**-0.7**	
ZALV	**Zalesovo Beam**	**46.11**	**46**	P	**P**	**P**	**05 24 23.9**	**-0.7**	
	comp=Z,5.2nm,0.5s,baz=265,slow=9.9,SNR=18								
ZALV					LR	LR	05 48 28.3		
	comp=Z,75nm,18.5s,baz=44,slow=42								
ZALV	**Zalesovo Beam**	**46.11**	**46**	*eP*	**P**	**P**	**05 24 23.7**	**-0.9**	
DGZ	**Jazzator, Alta**	**48.01**	**51**⇑	*eP*	**P**	**P**	**05 24 39.0**	**-0.6**	
DGZ					pmax	pmax			
	comp=Z,1.0nm,1.0s								
WMQ	**Urumqi**	**49.13**	**59**	*eP*	**P**	**P**	**05 24 50.5**	**+2.2**	
WMQ					pmax	pmax			
	comp=Z,14nm,0.7s								
ZAK	**Zakamensk**	**57.86**	**48**	*eP*	**P**	**P**	**05 25 51.0**	**-1.3**	
ZAK					pmax	pmax			
	comp=Z,3.0nm,0.9s								
SONA0	**Songino Array**	**60.61**	**50**	*eP*	**P**	**P**	**05 26 11.8**	**+0.3**	
SONM	**Songino Array**	**60.61**	**50**	P	**P**	**P**	**05 26 11.8**	**+0.3**	
	comp=Z,1.6nm,0.5s,baz=288,slow=8.0,SNR=17								
SONA1	**Songino Array**	**60.61**	**50**	*eP*	**P**	**P**	**05 26 11.5**	**0.0**	
ULN	**Ulaanbaatar**	**61.02**	**50**	*eP*	**P**	**P**	**05 26 14.1**	**-0.1**	
	comp=Z,3.8nm,0.6s								
ULN	**Ulaanbaatar**	**61.02**	**50**⇓	*eP*	**P**	**P**	**05 26 14.3**	**+0.1**	
ULN					pmax	pmax			
	comp=Z,3.0nm,0.6s								
BOD	**Bodaibo**	**61.52**	**38**	*eP*	**P**	P	05 26 14.2	-3.0	
BOD					pmax	pmax			
	comp=Z,5.0nm,1.6s								
TIXI	**Tiksi**	**62.07**	**20**	P	**P**	**P**	**05 26 19.7**	**-1.0**	
	comp=Z,1.9nm,0.7s,baz=332,slow=3.8,SNR=7.2								
TIXI	**Tiksi**	**62.07**	**20**	*eP*	**P**	**P**	**05 26 20.0**	**-0.8**	
	comp=Z,2.6nm,0.9s								
TIXI	**Tiksi**	**62.07**	**20**⇓	*eP*	**P**	**P**	**05 26 20.2**	**-0.5**	
TIXI					pmax	pmax			
	comp=Z,14nm,2.8s								
BOSA	**Boshof**	**62.83**	**179**	LR	LR	LR	05 55 55.5		
	comp=Z,37nm,19.0s,baz=300,slow=38								
SCHQ	**Schefferville**	**63.04**	**320**	*eP*	**P**	**P**	**05 26 25.6**	**-1.9**	
	comp=Z,5.7nm,1.0s								
LZH	**Lanzhou**	**63.32**	**63**	*eP*	**P**	**P**	**05 26 30.0**	**+0.1**	
LZH					pP	pwP	05 26 37.0	+1.1	
LZH					sP	sP	05 26 40.3	+7.3	
LZH					PP	**PP**	**05 28 50.8**	**+1.9**	
LZH					pmax	pmax			
	comp=Z,21nm,1.2s								
LZH					pmax	pmax			
	comp=Z,130nm,4.3s								
HHC	**Hu-ho-hao-te**	**66.77**	**56**	*eP*	**P**	**P**	**05 26 51.5**	**-0.7**	
HHC					pmax	pmax			
	comp=Z,14nm,0.6s								
HHC					pmax	pmax			
	comp=Z,210nm,6.6s								
CMAR	**Chiang Mai Arr**	**67.59**	**83**	P	**P**	**P**	**05 26 57.0**	**-0.5**	
	comp=Z,0.7nm,0.3s,baz=298,slow=8.5,SNR=4.1								
FCC	**Fort Churchill**	**73.79**	**331**	*eP*	**P**	**P**	**05 27 35.4**	**+0.8**	
	comp=Z,3.3nm,1.1s								
FCC	**Fort Churchill**	**73.79**	**331**	*eP*	**P**	**P**	**05 27 35.4**	**+0.8**	
FCC					pmax	pmax			
	comp=Z,3.0nm,1.1s								
BILL	**Bilibino**	**73.89**	**14**	*iP*	P	P	05 27 44.1	+9.0	
BILL				*i*			05 28 00.2		
BILL					pmax	pmax			
	comp=Z,3.0nm,1.3s								
KLR	**Kul'dur**	**74.85**	**40**	P	**P**	**P**	**05 27 40.9**	**-0.2**	
	comp=Z,2.6nm,0.8s,baz=337,slow=5.9,SNR=5.9								
KLR	**Kul'dur**	**74.85**	**40**⇑	*iP*	**P**	**P**	**05 27 40.6**	**-0.4**	
INK	**Inuvik**	**76.09**	**352**	P	**P**	**P**	**05 27 47.2**	**-0.5**	
	comp=Z,2.0nm,0.8s,baz=27,slow=5.8,SNR=6.0								
INK	**Inuvik**	**76.09**	**352**	*eP*	**P**	**P**	**05 27 47.7**	**0.0**	
	comp=Z,2.1nm,0.8s								
MA2	**Magadan**	**76.44**	**25**⇑	*eP*	**P**	**P**	**05 27 51.5**	**+1.6**	
MA2					pmax	pmax			
	comp=Z,8.0nm,0.9s								
YKA	**Yellowknife Ar**	**77.74**	**342**	P	**P**	**P**	**05 27 57.0**	**-0.1**	
	comp=Z,0.5nm,0.4s,baz=33,slow=5.2,SNR=20								
YKA	**Yellowknife Ar**	**77.74**	**342**	P	**P**	**P**	**05 27 57.0**	**-0.1**	
YKA	**Yellowknife Ar**	**77.74**	**342**	P	**P**	**P**	**05 27 57.0**	**-0.1**	
YKA					pmax	pmax			
	comp=Z,1.0nm,0.4s								
YKB5	**Yellowknife Ar**	**77.74**	**342**	*eP*	**P**	**P**	**05 27 57.0**	**-0.2**	
USRK	**Ussuriysk Ar.**	**77.94**	**44**	P	**P**	**P**	**05 27 58.2**	**-0.4**	
	comp=Z,1.7nm,0.7s,baz=318,slow=2.6,SNR=5.0								
KS15	**Wonju Array Si**	**79.39**	**52**	*eP*	**P**	**P**	**05 28 06.3**	**-0.5**	
KSAR	**Wonju Array Be**	**79.39**	**52**	P	**P**	**P**	**05 28 06.2**	**-0.6**	
KSAR	**Wonju Array Be**	**79.39**	**52**	P	**P**	**P**	**05 28 06.2**	**-0.6**	
KSRS	**Korea Array**	**79.41**	**52**	P	**P**	**P**	**05 28 06.2**	**-0.7**	
	comp=Z,7.1nm,0.6s,baz=322,slow=5.2,SNR=5.2								
ULM	**Lac du Bonnet**	**80.28**	**326**	P	**P**	**P**	**05 28 11.8**	**+0.5**	
	comp=Z,1.5nm,1.0s,baz=18,slow=7.4,SNR=3.3								
MDM	**Murphy Dome**	**80.64**	**357**	*eP*	**P**	**P**	**05 28 14.1**	**+1.1**	
	comp=Z,3.4nm,1.1s								
MLY	**Manley**	**80.67**	**358**	*eP*	**P**	**P**	**05 28 14.4**	**+1.2**	
ILAR	**Eielson Array**	**80.75**	**356**	P	**P**	**P**	**05 28 13.9**	**+0.4**	
	comp=Z,0.6nm,0.8s,baz=344,slow=4.5,SNR=6.2								
ILAR	**Eielson Array**	**80.75**	**356**	P	**P**	**P**	**05 28 14.0**	**+0.4**	
ILAR					pmax	pmax			
	comp=Z,1.0nm,0.8s								
ILB	**Eielson Array**	**80.75**	**356**	*eP*	**P**	**P**	**05 28 13.8**	**+0.2**	
DAWY	**Dawson**	**80.84**	**353**	*eP*	**P**	**P**	**05 28 15.1**	**+0.9**	
	comp=Z,4.5nm,1.1s								
ANM	**Nome**	**80.94**	**4**	*eP*	**P**	**P**	**05 28 15.1**	**+0.5**	
	comp=Z,3.0nm,1.1s								
ANM	**Nome**	**80.94**	**4**	*eP*	**P**	**P**	**05 28 15.1**	**+0.5**	
ANM					pmax	pmax			
	comp=Z,3.0nm,1.1s								
WRH	**Wood River Hil**	**81.12**	**357**	*eP*	**P**	**P**	**05 28 16.1**	**+0.6**	
	comp=Z,1.1nm,1.0s								
ECSD	**EROS Data Cent**	**85.17**	**321**	*eP*	**P**	**P**	**05 28 37.9**	**+0.9**	
	comp=Z,3.6nm,1.1s								
152A	**Waverly Hall**	**85.42**	**307**	*eP*	**P**	**P**	**05 28 39.8**	**+1.4**	
	comp=Z,3.0nm,0.8s								
T42A	**Van Buren**	**86.66**	**313**	*eP*	**P**	**P**	**05 28 45.9**	**+1.5**	
	comp=Z,6.6nm,1.0s								
FUNA	**Funafuti**	**145.51**	**47**	*e*PKPdf	**PKPbc**	**PKPbc**	**05 35 38.6**	**-0.8**	

UCR 26 05:17:53.8±1.3, 13°.15N×89°.25W, h42km±15km, MD3.7, ML3.7, 1C-4D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
UESV	**Ojushtada**	**0.51**	**62**⇓	*eP*		Pn	05 18 06.8	+2.0
UESV				*eS*		Sn	05 18 16.9	+4.4
LFRS	**El Faro**	**0.51**	**21**	*eP*		Pn	05 18 04.9	0.0
SNET	**Serv Nac Est T**	**0.54**	**2**	*eP*		Pn	05 18 05.2	0.0
SNET				*eS*		Sn	05 18 14.2	+0.9
UTEC	**San Salvador**	**0.55**	**5**	*eP*		Pn	05 18 05.7	+0.2
UESS	**San Salvador**	**0.56**	**5**	*eP*		Pn	05 18 06.1	+0.6
OPAM	**San Salvador**	**0.57**	**5**	*eP*		Pn	05 18 05.8	+0.1
OPAM				*eS*		Sn	05 18 14.2	+0.1
OPAM					IAML		05 18 22.6	
	comp=Z,4μm,0.3s							
UEES	**San Salvador**	**0.58**	**1**	*eP*		Pn	05 18 05.8	0.0
UEES				*eS*		Sn	05 18 15.4	+1.1
UDBS	**Soyapango**	**0.58**	**9**	*eP*		Pn	05 18 05.9	0.0
UDBS				*eS*		Sn	05 18 15.3	+0.9
BOQS	**Boqueron**	**0.59**	**357**	*iP*		Pn	05 18 06.4	+0.3
BOQS				*eS*		Sn	05 18 15.5	+0.9
LFU	**La Fuente**	**0.61**	**13**⇓	*eP*		Pn	05 18 06.7	+0.5
SNVI	**San Vicente**	**0.61**	**41**	*eP*		Pn	05 18 06.2	-0.1
SNVI				*eS*		Sn	05 18 16.2	+0.9
LBRS	**Las Brisas**	**0.62**	**19**	*eP*		Pn	05 18 06.7	+0.3
PAVA	**Las Pavas**	**0.64**	**29**⇓	*eP*		Pn	05 18 06.8	+0.2
PAVA				*eS*		Sn	05 18 17.1	+1.3
PAVA					IAML		05 18 20.3	
	comp=Z,5μm,0.3s							
CEVE	**Cerro Verde**	**0.77**	**332**	*eP*		Pn	05 18 08.3	-0.2
CEVE				*eS*		Sn	05 18 21.3	+2.2
CEVE					IAML		05 18 22.7	
	comp=Z,7μm,0.3s							
SBLS	**San Blas**	**0.78**	**332**	*eP*		Pn	05 18 08.6	-0.1
SNJE	**San Jose**	**0.80**	**335**	*eP*		Pn	05 18 08.6	-0.2
SNJE				*eS*		Sn	05 18 20.2	+0.6
TECA	**Tecapa**	**0.81**	**65**	*eP*		Pn	05 18 08.6	-0.3
RTR	**El Retiro**	**0.84**	**333**	*eP*		Pn	05 18 09.4	0.0
RTR				*eS*		Sn	05 18 21.6	+0.9
UNIC	**Santa Ana**	**0.89**	**341**	*eP*		Pn	05 18 09.9	-0.1
PACA	**Pacayal**	**0.96**	**70**	*eP*		Pn	05 18 11.1	+0.2
PACA				*eS*		Sn	05 18 24.9	+1.4
LCY	**Lacayo**	**0.97**	**73**	*eP*		Pn	05 18 11.3	+0.2
LCY				*eS*		Sn	05 18 24.7	+0.8
VSM	**San Miguel**	**0.99**	**73**	*eP*		Pn	05 18 11.6	+0.1
VICT	**Victoria**	**1.01**	**36**⇓	*eP*		Pn	05 18 11.7	+0.1
VICT					IAML		05 18 12.1	
	comp=Z,2μm,0.2s							
VICT				*eS*		Sn	05 18 25.6	+0.9
BLLM	**Bellamira**	**1.03**	**73**	*eP*		Pn	05 18 11.9	0.0
BLLM				*eS*		Sn	05 18 26.6	+1.4
CAHU	**Cacacuatique**	**1.19**	**58**	*eP*		Pn	05 18 13.9	-0.3
CNCH	**Conchagua**	**1.39**	**84**	*eP*		Pn	05 18 16.8	0.0
CNCH				*eS*		Sn	05 18 34.8	+0.8
IXG	**Ixpaco**	**1.55**	**311**	*eP*		Pn	05 18 19.7	+0.6
IXG				*eS*		Sn	05 18 38.2	0.0
NBG	**Las Nubes**	**1.78**	**324**	*eP*		Pn	05 18 23.9	+1.5
FUG	**Fuego 3**	**2.01**	**310**	*eP*		Pn	05 18 27.3	+1.8
FUG				*eS*		Sn	05 18 51.1	+1.5

IDC 26 05:24:18.2±1.8, 15°.03S×176°.16W, h0km, mb3.8/6, mb1 4.2/6, mb1mx3.9/50, mbtmp3.8/6, MS3.5/4, Ms1 3.5/4, ms1mx3.1/29, Error ellipse: s-maj=123.5km s-min=23.0km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RAR	**Rarotonga**	**16.74**	**114**	LR		LR	05 33 21.2	
	comp=Z,118nm,18.5s,baz=292,slow=32							
DZM	**Mont Dzumac**	**17.91**	**244**	*e*LR		LR	05 33 32.8	
	comp=Z,113nm,25.6s							
DZM	**Mont Dzumac**	**17.91**	**244**	LR		LR	05 33 58.8	
	comp=Z,78nm,19.3s,baz=218,slow=32							
HNR	**Honiara**	**23.99**	**281**	LR		LR	05 37 13.9	
	comp=Z,261nm,21.4s,baz=124,slow=32							
PMG	**Port Moresby**	**36.25**	**275**	LR		LR	05 43 36.3	
	comp=Z,56nm,19.6s,baz=48,slow=32							
WRA	**Warramunga Arr**	**47.33**	**257**	P		P	05 32 53.5	-0.8
	1.4nm,0.9s,baz=90,slow=9.1,SNR=5.6							
ASAR	**Alice Springs**	**47.69**	**252**	P		P	05 32 57.4	+0.4
	3.6nm,0.6s,baz=84,slow=8.2,SNR=56							
NVAR	**Mina Array Bea**	**75.87**	**43**	P		P	05 36 06.0	-1.0
	0.4nm,0.8s,baz=223,slow=8.7,SNR=3.4							
ILAR	**Eielson Array**	**82.63**	**12**	P		P	05 36 43.7	+0.6
	0.5nm,0.9s,baz=202,slow=4.8,SNR=3.8							
TXAR	**Lajitas Array**	**82.64**	**57**	P		P	05 36 44.9	+0.9
	0.7nm,0.9s,baz=249,slow=4.4,SNR=4.9							
PDAR	**Pinedale Array**	**83.79**	**43**	P		P	05 36 50.0	+0.1
	0.6nm,0.8s,baz=224,slow=5.8,SNR=3.9							
BRTR	**Keskin Array B**	**144.16**	**319**	PKP		PKPbc	05 43 55.1	+0.5
	2.5nm,0.9s,baz=104,slow=1.3,SNR=9.0							

*ISCJB **26** 05:28:43.4±0.2, 61°.65N±0°.02×151°.53W±0°.03, h93km±3km, mb3.6/5, Error ellipse: s-maj=3.0km s-min=2.4km az=139.3*

*IDC **26** 05:28:43.3±2.4, 61°.70N×151°.62W, h62km±24km, mb3.4/5, mb1 3.7/9, mb1mx3.4/63, mbtmp3.7/9, ML3.4/4, MS3.4/1, Ms1 3.4/1, ms1mx2.8/22, Error ellipse: s-maj=24.2km s-min=17.1km az=107.0*

*NEIC **26** 05:28:45.5±0.0, 61°.62N×151°.56W, h80km, ML3.5(AEIC), After AEIC.*

ISC 26 05:28:45.0±0.7, 61°.65N±0°.03×151°.54W±0°.03, h83km±6km, n115, σ1§14/151, mb3.6/5, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res

KDAK				*e*Sn	**Sn**	**05 30 25.6**	**-1.7**
GCSA	**Galena City Sc**	**3.94**	**324**	*e*Pn	**Pn**	**05 29 42.6**	**-0.4**
PS07	**TAPS Pump Stn7**	**3.96**	**20**	*e*Pn	**Pn**	**05 29 43.6**	**+0.3**
DOT	**Dot Lake**	**3.99**	**57**	*e*Pn	**Pn**	**05 29 43.5**	**-0.3**
DOT				*e*Sn	**Sn**	**05 30 34.1**	**+4.8**
CAHL	**Cahill**	**4.08**	**209**	P	**Pn**	**05 29 44.7**	**-0.3**
SCRK	**Sand Creek**	**4.18**	**53**	*e*Pn	**Pn**	**05 29 46.0**	**-0.4**
SCRK				*e*Sn	**Sn**	**05 30 32.4**	**-1.6**
KHIT	**Khitrov Hills**	**4.21**	**103**	P	**Pn**	**05 29 44.8**	**-1.9**
PS06	**TAPS Pump Stn6**	**4.30**	**10**	*e*Pn	**Pn**	**05 29 47.8**	**-0.1**
IM3	**Indian Mountai**	**4.46**	**348**	*e*Pn	**Pn**	**05 29 49.0**	**-1.1**
OHAK	**Old Harbor**	**4.53**	**192**	*e*Pn	**Pn**	**05 29 49.0**	**-2.0**
PRP	**Porcupine Dome**	**4.72**	**32**	*e*Pn	**Pn**	**05 29 54.1**	**+0.3**
PRP				*e*Sn	**Sn**	**05 30 46.8**	**-0.4**
BCA3	**Beaver Creek A**	**4.76**	**68**	*e*Pn	**Pn**	**05 29 54.0**	**-0.2**
MESA	**MESA**	**4.91**	**103**	P	**Pn**	**05 29 54.8**	**-1.6**
YUK2	**White River**	**5.09**	**84**	P	**Pn**	**05 29 57.9**	**-0.9**
YUK3	**Moose Creek**	**5.27**	**84**	P	**Pn**	**05 30 00.9**	**-0.4**
COLD	**Coldfoot**	**5.63**	**5**	*e*Pn	**Pn**	**05 30 07.0**	**+1.0**
COLD				*e*Sn	**Sn**	**05 31 09.3**	**0.0**
EGAK	**Eagle**	**5.65**	**52**	*e*Pn	**Pn**	**05 30 05.8**	**-0.4**
FYU	**Fort Yukon**	**5.66**	**26**	*e*Pn	**Pn**	**05 30 07.1**	**+0.7**
DAWY	**Dawson**	**6.06**	**61**	*e*Pn	**Pn**	**05 30 11.6**	**-0.4**
PNL	**Peninsula**	**6.29**	**103**	*e*Pn	**Pn**	**05 30 13.8**	**-1.3**
CHGN	**Chignik**	**6.43**	**217**	*e*Pn	**Pn**	**05 30 16.1**	**-0.9**
BM3	**Burnt Mountain**	**6.52**	**24**	*e*Pn	**Pn**	**05 30 17.7**	**-0.4**
HYT	**Haines Junctio**	**6.82**	**91**	*e*Pn	**Pn**	**05 30 22.3**	**-0.1**
HYT				*e*Sn	**Sn**	**05 31 36.8**	**-1.8**
ANM	**Nome**	**6.92**	**301**	*e*Pn	**Pn**	**05 30 23.4**	**-0.2**
DHAK	**Deception Hill**	**7.08**	**105**	*e*Pn	**Pn**	**05 30 24.7**	**-1.1**
SDPT	**Sand Point**	**7.86**	**221**	*e*Pn	**Pn**	**05 30 38.2**	**+1.9**
WHY	**Whitehorse**	**8.12**	**90**	*e*Pn	**Pn**	**05 30 39.9**	**-0.1**
WHY				*e*Sn	**Sn**	**05 32 06.9**	**-3.1**
JIS	**Juneau Island**	**9.23**	**104**	*e*Pn	**Pn**	**05 30 54.4**	**-0.7**
FALS	**False Pass**	**9.24**	**228**	*e*Pn	**Pn**	**05 30 55.8**	**+0.6**
SIT	**Sitka**	**9.46**	**112**	*e*Pn	**Pn**	**05 30 58.2**	**0.0**
GAMB	**Gambell**	**9.49**	**292**	*e*Pn	**Pn**	**05 30 59.0**	**+0.4**
INK	**Inuvik**	**10.10**	**41**	P	**Pn**	**05 31 06.4**	**-0.5**
	0.4nm,0.3s,baz=209,slow=17,SNR=12						
INK	**Inuvik**	**10.10**	**41**	*e*Pn	**Pn**	**05 31 06.7**	**-0.2**
AKUT	**Akutan**	**10.66**	**231**	*e*Pn	**Pn**	**05 31 13.8**	**-0.8**
WRAK	**Wrangell Islan**	**11.16**	**109**	*e*Pn	**Pn**	**05 31 22.6**	**+1.2**
DLBC	**Dease Lake**	**11.21**	**97**	LR	LR	05 35 54.1	
	comp=Z,208nm,20.9s,baz=162,slow=38						
YKA	**Yellowknife Ar**	**17.17**	**71**	P	**Pn**	**05 32 37.3**	**-1.9**
	0.1nm,0.3s,baz=278,slow=9.8,SNR=10.0						
YKB5	**Yellowknife Ar**	**17.17**	**71**	*e*Pn	**Pn**	**05 32 37.3**	**-1.9**
NV01	**Mina Array Sit**	**30.96**	**123**	*e*P	**P**	**05 34 55.5**	**+1.4**
NVAR	**Mina Array Bea**	**30.96**	**123**	P	**P**	**05 34 55.5**	**+1.4**
	0.7nm,0.5s,baz=320,slow=9.4,SNR=9.3						
PD31	**Pinedale Array**	**31.15**	**108**	*e*P	**P**	**05 34 56.6**	**+0.8**
PDAR	**Pinedale Array**	**31.15**	**108**	P	**P**	**05 34 56.6**	**+0.8**
	0.3nm,0.5s,baz=319,slow=4.7,SNR=5.2						
ULM	**Lac du Bonnet**	**32.16**	**85**	P	**P**	**05 35 04.5**	**+0.2**
	1.1nm,0.4s,baz=311,slow=6.2,SNR=4.9						
LTX	**Lajitas**	**44.94**	**114**	*e*P	**P**	**05 36 52.2**	**+0.8**
TXAR	**Lajitas Array**	**44.94**	**114**	P	**P**	**05 36 52.2**	**+0.8**
	0.6nm,0.7s,baz=327,slow=6.0,SNR=6.3						
SONA0	**Songino Array**	**54.40**	**306**	*e*P	**P**	**05 38 03.0**	**-0.1**
SONM	**Songino Array**	**54.40**	**306**	P	**P**	**05 38 03.0**	**-0.1**
	0.5nm,0.7s,baz=53,slow=4.8,SNR=3.9						

*IDC **26** 05:32:03.0±3.2,4.°40S×104.°46E,h0km,mb4.2/3, mb1 4.4/3,mb1mx3.6/43,mbtmp4.2/3,Error ellipse: s-maj=201.3km s-min=60.7km az=41.0*
*DJA **26** 05:32:22.1±1.1,5.°5S±6.°10.°5E±.°,h103km±8km,M3.2/6, MLv3.2/6*
*ISCJB **26** 05:32:23.6±0.6,5.°13S±0.°10×104.°58E±0.°08,h100km, mb4.1/3,Error ellipse: s-maj=15.6km s-min=8.1km az=32.9*

ISC 26 05:32:20.9±0.9,**5.°18S**±0.°10×**104.°62E**±0.°08,**h100**km,**n12,** σ2°**98**/16,**mb4.1/3,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**0.36**	**200**	P	**Pn**	**05 32 38.7**	**+2.8**
KASI				S	**Sn**	**05 32 51.4**	**+4.4**
KLI	**Kotabumi**	**0.39**	**37**	P	**Pn**	**05 32 38.9**	**+2.9**
KLSI		**0.50**	**13**	P	**Pn**	**05 32 39.5**	**+2.8**
LWLI	**Liwa**	**0.58**	**286**	P	**Pn**	**05 32 39.7**	**+2.2**
BLSI	**Bandar Lampung**	**0.65**	**107**	P	**Pn**	**05 32 39.5**	**+1.6**
BLSI				S	**Sn**	**05 32 55.4**	**+4.8**
MDSI	**Maura Dua**	**0.82**	**327**	P	**Pn**	**05 32 41.1**	**+1.6**
MDSI				S	**Sn**	**05 32 56.5**	**+3.1**
MNAI	**Manna**	**1.85**	**296**	P	**Pn**	**05 32 52.9**	**+1.3**
MNAI				S	**Sn**	**05 33 16.5**	**+1.5**
PMBI	**Palembang**	**2.24**	**4**	P	Pn	05 32 43.4	-13
WRA	**Warramunga Arr**	**32.42**	**120**	P	**P**	**05 38 39.7**	**-2.0**
	1.0nm,0.3s,baz=292,slow=8.9,SNR=29						
ASAR	**Alice Springs**	**33.66**	**126**	P	**P**	**05 38 50.9**	**-1.6**
	0.8nm,0.3s,baz=302,slow=8.1,SNR=22						
ASAR				PcP	**PcP**	**05 41 27.6**	**-2.9**
	0.2nm,0.5s,baz=306,slow=2.4,SNR=4.2						
STKA	**Stephens Creek**	**43.61**	**132**	P	**P**	**05 40 14.4**	**-1.1**
	3.2nm,0.4s,baz=309,slow=7.1,SNR=15						
TXAR	**Lajitas Array**	**144.05**	**45**	PKP	**PKPab**	**05 51 40.2**	**-3.2**
	0.1nm,0.5s,baz=274,slow=1.4,SNR=4.0						

*ISCJB **26** 05:32:44.9±0.9,43.°30N±0.°07×146.°74E±0.°07,h78km±5km, mb3.7/5,Error ellipse: s-maj=13.6km s-min=5.6km az=146.5*
*JMA **26** 05:32:46.6±0.2,43.°25N×146.°65E,h67km±2km,M3.7*
*MOS **26** 05:32:46.2±2.8,43.°25N×146.°79E,h66km,mb4.1/5,Error ellipse: s-maj=25.6km s-min=13.3km az=120.1*
*SKHL **26** 05:32:46.4±0.5,43.°44N×146.°65E,h83km±2km,mb4.7/5, msh5.6/5*
*IDC **26** 05:32:52.0±4.9,45.°56N×145.°51E,h0km,mb3.8/5, mb1 3.9/6,mb1mx3.5/45,mbtmp3.8/6,ML3.6/1,Error ellipse: s-maj=107.5km s-min=31.2km az=131.0*

ISC 26 05:32:45.3±1.2,**43.°31N**±0.°08×**146.°76E**±0.°06,**h70**km±7km, **n30,** σ1°**37**/50,**mb3.8**/5,**1C-8D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.56**	**5**	⇓*i*P	**Pn**	**05 32 59.0**	**+0.2**
SHO				AMB	AMB	05 33 00.0	
	40nm,0.2s						
SHO				AMB	AMB	05 33 00.0	
	10.0nm,0.2s						
SHO				AMB	AMB	05 33 00.0	
	100nm,0.2s						
SHO				*e*S	**Sn**	**05 33 09.0**	**+0.4**
SHO				A	A	05 33 10.0	
	660nm,0.3s						
SHO				A	A	05 33 10.0	
	2µm,0.3s						
SHO	**Shikotan**	**0.56**	**5**	*d*iPN	**Pn**	**05 32 59.8**	**+1.0**
SHO				*e*S	**Sn**	**05 33 09.8**	**+1.2**
SHO				pmax	pmax		
	comp=N,36nm,0.2s						
SHO				pmax	pmax		
	comp=Z,97nm,0.2s						
SHO				pmax	pmax		
	comp=E,9.0nm,0.1s						
SHO				smax	smax		
	comp=E,659nm,0.2s						
SHO				smax	smax		
	comp=E,1µm,0.5s						
NEM2	**Nemuro 2**	**0.74**	**275**	P	**Pn**	**05 33 01.0**	**+0.3**
NEM2				*e*S	**Sn**	**05 33 11.7**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**0.97**	**318**	⇓*i*P	**Pn**	**05 33 04.0**	**+0.5**
YUK				AMB	AMB	05 33 04.0	
	comp=E,60nm,0.3s						
YUK				AMB	AMB	05 33 04.0	
	comp=E,120nm,0.3s						
YUK				AMB	AMB	05 33 04.0	
	comp=E,570nm,0.3s						
YUK				*e*S	**Sn**	**05 33 17.0**	**+0.1**
YUK				A	A	05 33 18.0	
	comp=E,1µm,0.3s						
YUK				A	A	05 33 18.0	
	comp=E,1µm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.97**	**318**	*d*iPN	**Pn**	**05 33 04.0**	**+0.5**
YUK				*e*S	**Sn**	**05 33 17.1**	**+0.1**
YUK				pmax	pmax		
	comp=N,60nm,0.1s						
YUK				pmax	pmax		
	comp=E,115nm,0.1s						
YUK				pmax	pmax		
	comp=Z,572nm,0.1s						
YUK				smax	smax		
	comp=E,1µm,0.3s						
YUK				smax	smax		
	comp=N,1µm,0.2s						
GRPR	**Tuman**	**0.99**	**314**	⇓*i*P	**Pn**	**05 33 04.0**	**+0.3**
GRPR				AMB	AMB	05 33 04.0	
	comp=N,100nm,0.3s						
GRPR				AMB	AMB	05 33 04.0	
	comp=N,70nm,0.3s						
GRPR				AMB	AMB	05 33 04.0	
	comp=N,580nm,0.3s						
GRPR				*e*S	**Sn**	**05 33 17.0**	**-0.3**
GRPR				A	A	05 33 17.0	
	comp=N,3µm,0.4s						
GRPR				A	A	05 33 17.0	
	comp=N,1µm,0.4s						
GRPR	**Tuman**	**0.99**	**314**	*i*PN	**Pn**	**05 33 04.0**	**+0.3**
GRPR				*e*S	**Sn**	**05 33 17.3**	**0.0**
GRPR				pmax	pmax		
	comp=N,101nm,0.1s						
GRPR				pmax	pmax		
	comp=E,68nm,0.1s						
GRPR				pmax	pmax		
	comp=Z,577nm,0.1s						
GRPR				smax	smax		
	comp=N,3µm,0.2s						
GRPR				smax	smax		
	comp=E,1µm,0.4s						
GLVR	**Golovnino**	**1.00**	**296**	⇓*i*P	**Pn**	**05 33 04.0**	**+0.3**
GLVR				AMB	AMB	05 33 05.0	
	comp=E,410nm,0.3s						
GLVR				AMB	AMB	05 33 05.0	
	comp=E,630nm,0.3s						
GLVR				AMB	AMB	05 33 05.0	
	comp=E,380nm,0.3s						
GLVR				*i* S	**Sn**	**05 33 18.0**	**+0.5**
GLVR				A	A	05 33 18.0	
	comp=E,3µm,0.4s						
GLVR				A	A	05 33 18.0	
	comp=E,2µm,0.4s						
GLVR	**Golovnino**	**1.00**	**296**	⇓*i*PN	**Pn**	**05 33 04.7**	**+1.0**
GLVR				*i* S	**Sn**	**05 33 18.4**	**+0.9**
GLVR				pmax	pmax		
	comp=Z,4µm,0.1s						
GLVR				pmax	pmax		
	comp=N,407nm,0.2s						
GLVR				pmax	pmax		
	comp=E,632nm,0.1s						
GLVR				smax	smax		
	comp=N,3µm,0.3s						
GLVR				smax	smax		
	comp=E,2µm,0.2s						
JKHN	**Kushirohamanak**	**1.19**	**260**	P	**Pn**	**05 33 06.8**	**+0.6**
JKHN				*e*S	**Sn**	**05 33 21.9**	**+0.1**
JRA	**Rausu**	**1.34**	**298**	P	**Pn**	**05 33 09.2**	**+1.0**
JRA				*e*S	**Sn**	**05 33 26.2**	**+0.8**
JNK	**Nakash**	**1.51**	**281**	P	**Pn**	**05 33 10.6**	**+0.2**
JNK				*e*S	**Sn**	**05 33 28.8**	**-0.5**
JAK	**Akkeshi**	**1.54**	**259**	P	**Pn**	**05 33 10.9**	**+0.1**
JAK				*e*S	**Sn**	**05 33 28.9**	**-1.1**
KUR	**Kuril'sk**	**2.08**	**22**	⇓*i*P	**Pn**	**05 33 19.2**	**+1.2**
KUR				AMB	AMB	05 33 20.0	
	comp=E,10.0nm,0.1s						
KUR				AMB	AMB	05 33 20.0	
	comp=E,20nm,0.1s						
KUR				*e*S	**Sn**	**05 33 42.1**	**-0.9**
KUR				A	A	05 33 45.0	
	comp=E,320nm,0.3s						
KUR				A	A	05 33 45.0	
	comp=E,240nm,0.3s						
KUR	**Kuril'sk**	**2.08**	**22**	*e*PN	**Pn**	**05 33 19.6**	**+1.6**
KUR				*e*S	**Sn**	**05 33 44.2**	**+1.2**
KUR				pmax	pmax		
	comp=N,8.0nm,0.1s						
KUR				pmax	pmax		
	comp=E,13nm,0.1s						
KUR				pmax	pmax		
	comp=Z,16nm,0.1s						
KUR				smax	smax		
	comp=N,178nm,0.1s						
KUR				smax	smax		
	comp=E,142nm,0.2s						
JTKR	**Abashiri--Toko**	**2.17**	**289**	P	**Pn**	**05 33 20.5**	**+1.3**
JTKR				*e*S	**Sn**	**05 33 46.5**	**+1.4**
JAR	**Ashorobuto**	**2.18**	**271**	P	**Pn**	**05 33 20.1**	**+0.7**
JAR				*e*S	**Sn**	**05 33 45.4**	**0.0**
JMP	**Maruseppu**	**2.56**	**287**	P	**Pn**	**05 33 26.0**	**+1.4**
JCH	**Churui**	**2.59**	**256**	*e*S	**Sn**	**05 33 54.3**	**-0.9**
HRK	**Horoka**	**2.65**	**275**	*e*P	**Pn**	**05 33 27.3**	**+1.5**
HRK				*e*S	**Sn**	**05 33 57.6**	**+0.7**
JKA	**Kamikawa-asahi**	**3.12**	**286**	*e*P	**Pn**	**05 33 34.4**	**+2.3**
ASAJ	**Asahikawa**	**3.12**	**286**	Pn	**Pn**	**05 33 34.4**	**+2.3**
	comp=E,8.8nm,0.3s,baz=104,slow=9.1,SNR=33						
ASAJ				Sn	**Sn**	**05 34 13.0**	**+4.7**
	comp=E,0.6nm,0.3s,baz=198,slow=20,SNR=2.2						
YSS	**Yuzh-Sakhalins**	**4.62**	**324**	*e*P	**Pn**	**05 33 53.0**	**+0.5**
YSS				*e*S	**Sn**	**05 34 41.3**	**-3.4**
YSS				A	A	05 34 55.1	
	comp=E,20nm,1.0s						
YSS				A	A	05 34 55.1	
	comp=E,10.0nm,1.0s						
BMKR	**Bomnak**	**16.32**	**321**	*e*P	**Pn**	**05 36 26.0**	**-3.9**
SONM	**Songino Array**	**28.38**	**293**	P	**P**	**05 38 32.9**	**0.0**
	comp=E,1.9nm,0.7s,baz=86,slow=8.0,SNR=11						
MKAR	**Makanchi Array**	**44.54**	**298**	P	**P**	**05 40 50.6**	**+0.7**
	comp=E,0.7nm,0.7s,baz=81,slow=8.7,SNR=7.8						
ARCES	**ARCESS Array B**	**59.56**	**340**	P	**P**	**05 42 41.1**	**+0.1**
	comp=E,1.2nm,0.8s,baz=46,slow=6.4,SNR=3.6						
FINES	**FINESS Array B**	**65.14**	**333**	P	**P**	**05 43 17.7**	**-0.6**
	comp=E,1.0nm,0.8s,baz=26,slow=7.0,SNR=3.9						
NB2	**NORSAR Subarra**	**69.91**	**339**	P	**P**	**05 43 48.5**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**69.91**	**339**	P	**P**	**05 43 48.8**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=32,slow=6.6,SNR=9.5						

*IDC **26** 05:33:33.4±6.0,20.°25S×178.°93W,h637km±71km, mb2.9/7, mb1 3.2/7,mb1mx3.0/35,mbtmp3.8/7,Error ellipse: s-maj=108.4km s-min=25.2km az=155.0*
*ISCJB **26** 05:33:34.4±1.9,20.°2S±0.°8×179.°1W±0.°4,h665km,mb3.3/7, Error ellipse: s-maj=117.5km s-min=17.5km az=156.0*

ISC 26 05:33:35.9±1.7,**20.°0S**±0.°6×**179.°1W**±0.°3,**h665**km,**n9,** σ0°**91**/10,**mb3.3/7,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.61**	**256**	P	**P**	**05 40 45.2**	**+0.4**
	2.5nm,0.8s,baz=97,slow=7.5,SNR=25						
ASAR				PcP	**PcP**	**05 42 17.4**	**+0.8**
	0.3nm,0.5s,baz=102,slow=3.9,SNR=4.2						
WRA	**Warramunga Arr**	**43.63**	**262**	P	**P**	**05 40 45.4**	**+0.3**
	1.0nm,0.6s,baz=97,slow=7.9,SNR=15						
FITZ	**Fitzroy Crossi**	**52.06**	**262**	P	**P**	**05 41 47.1**	**-0.1**
	2.8nm,1.0s,baz=37,slow=5.1,SNR=4.8						
NVAR	**Mina Array Bea**	**81.41**	**44**	P	**P**	**05 44 46.3**	**+0.2**
	0.2nm,0.5s,baz=232,slow=4.4,SNR=3.5						
TXAR	**Lajitas Array**	**87.68**	**58**	P	**P**	**05 45 16.7**	**+0.2**
	0.6nm,0.9s,baz=216,slow=6.2,SNR=4.3						
ILAR	**Eielson Array**	**88.09**	**13**	P	**P**	**05 45 18.1**	**+0.7**
	0.3nm,0.5s,baz=212,slow=6.4,SNR=4.9						
PDAR	**Pinedale Array**	**89.34**	**44**	P	**P**	**05 45 23.9**	**-0.2**
	0.3nm,0.6s,baz=255,slow=2.7,SNR=3.7						
AKASG	**Malin Array Be**	**142.09**	**331**	PKP	**PKPdf**	**05 51 52.2**	**-2.0**
	1.5nm,0.4s,baz=46,slow=4.7,SNR=12						
BRTR	**Keskin Array B**	**145.75**	**312**	PKPbc	**PKPab**	**05 52 04.7**	**-0.5**
	0.2nm,0.4s,baz=149,slow=5.0,SNR=3.9						

*IDC **26** 05:45:12.7±1.0,28.°94N×104.°28E,h0km,mb3.6/6, mb1 3.9/7,mb1mx3.6/34,mbtmp3.7/7,ML4.0/1,MS3.4/2, Ms1 3.4/2,ms1mx2.8/42,Error ellipse: s-maj=61.6km s-min=18.3km az=62.0*
*ISCJB **26** 05:45:15.3±0.9,28.°9N±0.°1×104.°2E±0.°2,h33km,mb3.6/6, MS3.4/1,Error ellipse: s-maj=31.6km s-min=14.4km az=164.6*

ISC 26 05:45:17.8±1.2,**28.°9N**±0.°1×**104.°2E**±0.°3,**h35**km,**n9,** σ1°**11**/7,**mb3.8**/6,**Sichuan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.46**	**206**	Pn	**Pn**	**05 47 59.0**	**0.0**
	0.3nm,0.3s,baz=19,slow=14,SNR=4.2						
SONM	**Songino Array**	**18.97**	**5**	LR	LR	05 56 52.8	
	comp=Z,78nm,19.4s,baz=206,slow=37						
MKAR	**Makanchi Array**	**24.71**	**322**	P	**P**	**05 50 35.9**	**+0.2**
	0.2nm,0.4s,baz=121,slow=12,SNR=5.6						
KURBB	**Kurchatov Arra**	**29.05**	**325**	P	**P**	**05 51 12.9**	**-1.6**
	0.3nm,0.5s,baz=127,slow=10,SNR=3.4						
KLR	**Kul'dur**	**29.23**	**38**	LR	LR	06 04 12.6	
	comp=Z,90nm,19.2s,baz=118,slow=39						
WRA	**Warramunga Arr**	**56.62**	**146**	P	**P**	**05 54 56.9**	**-0.6**
	0.6nm,0.6s,baz=337,slow=7.9,SNR=6.0						
ARCES	**ARCESS Array B**	**59.28**	**336**	P	**P**	**05 55 16.4**	**+0.9**
	1.1nm,0.9s,baz=87,slow=5.7,SNR=2.7						
FINES	**FINESS Array B**	**59.43**	**327**	P	**P**	**05 55 17.6**	**+1.1**
	2.3nm,0.9s,baz=79,slow=7.2,SNR=3.1						
ASAR	**Alice Springs**	**59.59**	**148**	P	**P**	**05 55 18.6**	**+0.4**
	0.5nm,0.5s,baz=328,slow=7.1,SNR=8.4						

IDC 26 06:16:32.3±2.2,**49.°36S**×**117.°07E**,**h0**km,**mb3.8**/3, **mb1 4.1**/3,**mb1mx3.8**/24,**mbtmp3.8**/3,**MS3.4**/7,**Ms1 3.3**/7, **ms1mx3.1**/24,**1D,Error ellipse: s-maj=65.3km s-min=53.4km az=117.0,Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**14.61**	**350**	T	T	06 35 12.5	
	baz=170,slow=74,SNR=18						
H01W1	**Cape Leeuwin H**	**14.62**	**350**	T	T	06 35 12.9	
	baz=170,slow=74,SNR=19						
H01W3	**Cape Leeuwin H**	**14.63**	**350**	T	T	06 35 14.8	
	baz=170,slow=74,SNR=15						
STKA	**Stephens Creek**	**25.35**	**56**	LR	LR	06 29 52.7	
	comp=Z,75nm,21.8s,baz=205,slow=32						
ASAR	**Alice Springs**	**28.86**	**33**	P	P	06 22 32.9	+0.4
	0.6nm,0.8s,baz=204,slow=8.4,SNR=6.0						
FITZ	**Fitzroy Crossi**	**31.95**	**16**	LR	LR	06 34 05.7	
	comp=Z,46nm,21.3s,baz=176,slow=33						
MAW	**Mawson**	**32.28**	**216**	LR	LR	06 32 11.3	
	comp=Z,103nm,18.9s,baz=150,slow=29						
WRA	**Warramunga Arr**	**32.45**	**31**	P	P	06 23 03.7	-0.4
	0.8nm,0.8s,baz=202,slow=8.8,SNR=3.6						
WRA				LR	LR	06 34 35.7	
	comp=Z,44nm,21.9s,baz=340,slow=33						
SYO	**Syowa Base**	**40.81**	**213**	⇓*e*P	P	06 24 22.0	+7.2
PMG	**Port Moresby**	**47.08**	**43**	LR	LR	06 44 31.6	
	comp=Z,39nm,19.1s,baz=134,slow=36						
SIJI	**Sorong**	**49.82**	**19**	LR	LR	06 46 13.2	
	comp=Z,43nm,20.6s,baz=266,slow=36						
PSI	**Prapat**	**54.28**	**337**	LR	LR	06 44 26.3	
	comp=Z,44nm,20.1s,baz=269,slow=31						
CMAR	**Chiang Mai Arr**	**69.41**	**342**	P	P	06 27 42.1	+0.2
	0.7nm,0.3s,baz=185,slow=5.2,SNR=4.5						
PDAR	**Pinedale Array**	**147.41**	**84**	PKPbc	PKPbc	06 36 17.5	-0.2
	0.3nm,0.6s,baz=210,slow=5.1,SNR=3.8						
YKA	**Yellowknife Ar**	**149.14**	**45**	PKPbc	PKPbc	06 36 20.1	-1.1
	0.3nm,0.7s,baz=281,slow=2.5,SNR=7.9						

IDC 26 06:38:22.4±2.0,**7.°40S**×**129.°19E**,**h160**km±24km,**mb2.8**/1, **mb1 3.5**/6,**mb1mx3.3**/36,**mbtmp3.9**/6,**Error ellipse: s-maj=25.2km s-min=19.4km az=112.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.14**	**243**	P	Pn	06 39 52.0	+0.8
	11nm,0.3s,baz=213,slow=2.8,SNR=7.0						
BATI				S	Sn	06 41 01.1	+0.5
	12nm,0.3s,baz=50,slow=22,SNR=7.3						
SIJI	**Sorong**	**6.80**	**18**	P	Pn	06 40 00.0	0.0
	2.0nm,0.3s,baz=241,slow=24,SNR=8.3						
SIJI				S	Sn	06 41 09.8	-6.9
	1.5nm,0.3s,baz=229,slow=19,SNR=5.9						
FITZ	**Fitzroy Crossi**	**11.19**	**198**	P	Pn	06 40 56.6	-1.3
	0.3nm,0.3s,baz=29,slow=12,SNR=12						
FITZ				S	Sn	06 42 55.0	-6.9
	1.5nm,0.3s,baz=233,slow=21,SNR=9.2						
WRA	**Warramunga Arr**	**13.43**	**159**	P	Pn	06 41 25.9	-1.0
	0.4nm,0.3s,baz=334,slow=13,SNR=22						
WRA				S	Sn	06 43 49.1	-6.8
	1.0nm,0.3s,baz=331,slow=23,SNR=5.4						
ASAR	**Alice Springs**	**16.80**	**165**	P	Pn	06 42 09.8	+1.3
	0.9nm,0.3s,baz=338,slow=9.4,SNR=94						
ASAR				S	S	06 45 11.7	-3.1
	0.3nm,0.3s,baz=318,slow=20,SNR=5.9						
MKAR	**Makanchi Array**	**68.12**	**327**	P	P	06 49 05.1	-0.1
	0.1nm,0.4s,baz=132,slow=8.1,SNR=3.7						

IDC 26 07:01:10.8±4.0,**18.°15S**×**174.°63W**,**h0**km,**mb4.2**/4, **mb1 4.5**/4,**mb1mx4.0**/29,**mbtmp4.2**/4,**Error ellipse: s-maj=218.5km s-min=28.0km az=146.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**48.12**	**259**	P	P	07 09 52.5	-0.4
	3.8nm,0.7s,baz=96,slow=8.0,SNR=66						
ASAR	**Alice Springs**	**48.19**	**254**	P	P	07 09 53.5	+0.1
	10nm,0.7s,baz=93,slow=8.2,SNR=128						
ILAR	**Eielson Array**	**85.36**	**12**	P	P	07 13 49.2	-0.3
	0.5nm,0.6s,baz=221,slow=6.2,SNR=9.8						
YKA	**Yellowknife Ar**	**93.07**	**24**	P	P	07 14 26.2	+0.1
	0.3nm,0.9s,baz=237,slow=4.4,SNR=4.0						
ARCES	**ARCESS Array B**	**127.14**	**351**	PKP	PKPd

	comp=E,2395μm,0.4s						
BDI				AML	AML		
	comp=E,2445μm,0.4s						
BDI				AML	AML		
	comp=N,1450μm,0.5s						
BDI				AML	AML		
	comp=N,1191μm,0.8s						
POPM	**Popiglio**	**0.23**	**123**	P	**Pg**	**07 05 35.2**	**-0.1**
POPM				S	**Sg**	**07 05 38.8**	**+0.1**
POPM	**Popiglio**	**0.23**	**123**	P	**Pg**	**07 05 35.2**	**-0.1**
POPM				S	**Sg**	**07 05 38.8**	**+0.1**
POPM				AML	AML		
	comp=E,2985μm,0.3s						
POPM				AML	AML		
	comp=N,2550μm,0.6s						
POPM				AML	AML		
	comp=E,2985μm,0.3s						
POPM				AML	AML		
	comp=N,2550μm,0.6s						
POPM				AML	AML		
	comp=N,2550μm,0.6s						
POPM				AML	AML		
	comp=E,2985μm,0.3s						
EQUI	**Equi**	**0.25**	**270**	P	**Pg**	**07 05 35.6**	**-0.1**
EQUI				S	**Sg**	**07 05 39.5**	**+0.2**
EQUI	**Equi**	**0.25**	**270**	P	**Pg**	**07 05 35.5**	**-0.1**
EQUI				S	**Sg**	**07 05 39.6**	**+0.2**
EQUI				AML	AML		
	comp=E,332μm,0.5s						
EQUI				AML	AML		
	comp=N,306μm,0.4s						
EQUI				AML	AML		
	comp=E,332μm,0.5s						
EQUI				AML	AML		
	comp=N,306μm,0.4s						
EQUI				AML	AML		
	comp=N,306μm,0.4s						
EQUI				AML	AML		
	comp=E,332μm,0.5s						
MAIM	**Mastiano**	**0.25**	**181**	P	**Pg**	**07 05 35.8**	**+0.1**
MAIM				S	**Sg**	**07 05 39.8**	**+0.3**
MAIM	**Mastiano**	**0.25**	**181**	P	**Pg**	**07 05 35.8**	**+0.1**
MAIM				S	**Sg**	**07 05 40.2**	**+0.7**
MAIM				AML	AML		
	comp=E,278μm,0.4s						
MAIM				AML	AML		
	comp=N,368μm,0.2s						
MAIM				AML	AML		
	comp=E,278μm,0.4s						
MAIM				AML	AML		
	comp=N,367μm,0.2s						
MAIM				AML	AML		
	comp=E,278μm,0.4s						
MAIM				AML	AML		
	comp=N,367μm,0.2s						
MTCR	**Monte La Croce**	**0.39**	**111**	P	**Pg**	**07 05 38.0**	**-0.1**
MTCR				S	**Sg**	**07 05 43.6**	**+0.1**
ZCCA	**Zocca**	**0.39**	**62**	P	**Pb**	**07 05 38.9**	**+0.1**
ZCCA				AML	AML		
	comp=E,366μm,0.3s						
ZCCA				AML	AML		
	comp=N,368μm,0.5s						
ZCCA				AML	AML		
	comp=E,366μm,0.3s						
ZCCA				AML	AML		
	comp=N,368μm,0.5s						
ZCCA				AML	AML		
	comp=N,368μm,0.5s						
ZCCA				AML	AML		
	comp=E,366μm,0.3s						
GRAM	**Graiana**	**0.45**	**316**	P	**Pg**	**07 05 39.2**	**+0.1**
GRAM				S	**Sb**	**07 05 46.1**	**-0.2**
PLMA	**Palmaria, Port**	**0.48**	**256**	P	**Pg**	**07 05 40.0**	**+0.3**
PLMA				S	**Sg**	**07 05 46.6**	**+0.4**
PLMA				AML	AML		
	comp=E,223μm,0.5s						
PLMA				AML	AML		
	comp=N,205μm,0.9s						
PLMA				AML	AML		
	comp=E,223μm,0.5s						
PLMA				AML	AML		
	comp=N,205μm,0.9s						
CRMI	**Carmignano**	**0.51**	**138**	P	**Pg**	**07 05 40.5**	**+0.3**
CRMI				S	**Sg**	**07 05 47.5**	**+0.4**
CRMI				AML	AML		
	comp=E,89μm,0.2s						
CRMI				AML	AML		
	comp=N,123μm,0.2s						
CRMI				AML	AML		
	comp=E,34μm,0.2s						
CRMI				AML	AML		
	comp=N,49μm,0.2s						
CRMI				AML	AML		
	comp=E,89μm,0.2s						
CRMI				AML	AML		
	comp=N,123μm,0.2s						
CRMI				AML	AML		
	comp=E,34μm,0.2s						
CRMI				AML	AML		
	comp=N,49μm,0.2s						
CRMI				AML	AML		
	comp=N,123μm,0.2s						
CRMI				AML	AML		
	comp=N,49μm,0.2s						
CRMI				AML	AML		
	comp=E,89μm,0.2s						
CRMI				AML	AML		
	comp=E,34μm,0.2s						
GROG	**Isola di Gorgo**	**0.86**	**211**	P	**Pb**	**07 05 46.1**	**-0.7**

ROM 26 07:06:18.1±0.1, 44°163N±0'.004×10°.514E±0'.005, h14km, ML1.3/2, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLC	**Villacollemand**	**0.09**	**268**	P	Pg	07 06 21.4	+0.3
VLC				S	Sg	07 06 23.8	+0.6
BDI	**Bagni Di Lucca**	**0.12**	**149**	P	Pg	07 06 21.8	+0.3
BDI				S	Sb	07 06 24.4	-0.6
BDI				AML	AML		
	comp=E,134μm,1.0s						
BDI				AML	AML		
	comp=N,131μm,0.4s						
BDI				AML	AML		
	comp=E,134μm,1.0s						
BDI				AML	AML		
	comp=N,131μm,0.4s						
POPM	**Popiglio**	**0.21**	**124**	P	Pg	07 06 23.2	+0.3
POPM				S	Sb	07 06 26.8	-0.8
POPM				AML	AML		
	comp=E,156μm,0.4s						
POPM				AML	AML		
	comp=N,246μm,0.6s						
POPM				AML	AML		
	comp=E,156μm,0.4s						
POPM				AML	AML		
	comp=N,246μm,0.6s						
MAIM	**Mastiano**	**0.25**	**184**	P	Pg	07 06 23.9	+0.4
MAIM				S	Sb	07 06 28.2	-0.5
EQUI	**Equi**	**0.26**	**271**	P	Pg	07 06 23.9	+0.2
EQUI				S	Sg	07 06 28.1	+0.7
GRAM	**Graiana**	**0.46**	**316**	P	Pg	07 06 27.6	+0.4
GRAM				S	Sg	07 06 34.1	+0.7

*ISCJB **26** 07:13:44.5±0.4, 41°.12N±0°.03×24°.99E±0°.02, h6km±4km, Error ellipse: s-maj=4.5km s-min=2.7km az=2.5*
*ATH **26** 07:13:44.3, 41°.10N×24°.97E, h22km±2km, ML2.5/5, Error ellipse: s-maj=2.1km s-min=0.9km az=170.0*
*ISK **26** 07:13:44.0, 41°.07N×24°.95E, h11km, ML2.7/11*
*SOF **26** 07:13:45.9, 41°.17N×24°.93E, h2km, MD2.5*
*THE **26** 07:13:45.0, 41°.11N×24°.97E, h2km±1km, ML2.4/11, Error ellipse: s-maj=1.5km s-min=0.4km az=31.0*

ISC 26 07:13:44.9±1.0, 41°.10N±0'.03×24°.97E±0°.02, h10km±9km, n45, σ0°49/65, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAVA	**Kavala**	**0.36**	**254**	P	**Pg**	**07 13 52.2**	**+0.1**
KAVA				S	**Sg**	**07 13 57.1**	**+0.2**
KAVA				AML	AML	07 13 57.8	
	comp=E,1914μm,0.1s						
KAVA				AML	AML	07 13 58.0	
	comp=N,3337μm,0.3s						
KAVA	**Kavala**	**0.36**	**254**	P	**Pg**	**07 13 52.2**	**+0.1**
KAVA				S	**Sg**	**07 13 57.1**	**+0.2**
RDO	**Rodhopi**	**0.43**	**83**	PG	**Pg**	**07 13 53.2**	**-0.2**
RDO	**Rodhopi**	**0.43**	**83**	P	**Pg**	**07 13 53.2**	**-0.2**
RDO				S	**Sg**	**07 13 59.2**	**+0.1**
RDO				AML	AML	07 14 00.9	
	comp=N,1076μm,0.1s						
RDO				AML	AML	07 14 01.1	
	comp=E,1156μm,0.1s						
RDO	**Rodhopi**	**0.43**	**83**	P	**Pg**	**07 13 53.2**	**-0.2**
RDO				S	**Sg**	**07 13 59.2**	**+0.1**
KVLA	**Kavala**	**0.47**	**250**	P	**Pg**	**07 13 54.2**	**+0.1**
KVLA				S	**Sg**	**07 14 00.8**	**+0.4**
THAS	**Thassos island**	**0.53**	**201**	P	**Pg**	**07 13 55.2**	**0.0**
THAS				S	**Sg**	**07 14 02.5**	**+0.4**
THAS				AML	AML	07 14 02.8	
	comp=E,1074μm,0.2s						
THAS				AML	AML	07 14 03.2	
	comp=N,722μm,0.1s						
THAS	**Thassos island**	**0.53**	**201**	P	**Pg**	**07 13 55.2**	**0.0**
THAS				S	**Sg**	**07 14 02.5**	**+0.4**
RZN	**Rozhen**	**0.62**	**342**	*i* P	**Pg**	**07 13 56.6**	**-0.4**
SMTH	**Samothraki Isl**	**0.76**	**146**	P	**Pg**	**07 13 59.4**	**-0.1**
SMTH	**Samothraki Isl**	**0.76**	**146**	P	**Pg**	**07 13 59.4**	**-0.1**
SMTH				S	**Sb**	**07 14 11.1**	**+0.6**
ALN	**Alexandroupoli**	**0.84**	**103**	PG	**Pg**	**07 14 00.9**	**-0.2**
ALN				SG	**Sb**	**07 14 13.0**	**+0.2**
ALN	**Alexandroupoli**	**0.84**	**103**	P	**Pg**	**07 14 01.3**	**+0.2**
ALN				S	**Sg**	**07 14 11.9**	**-0.1**
ALN	**Alexandroupoli**	**0.84**	**103**	P	**Pg**	**07 14 01.1**	**0.0**
ALN				S	**Sb**	**07 14 12.8**	**0.0**
NVR	**Nevrokopi**	**0.87**	**287**	P	**Pg**	**07 14 00.9**	**-0.9**
NVR				S	**Sg**	**07 14 13.4**	**+0.3**
NVR				AML	AML	07 14 16.8	
	comp=E,756μm,0.1s						
NVR				AML	AML	07 14 17.5	
	comp=N,432μm,0.2s						
NVR	**Nevrokopi**	**0.87**	**287**	P	**Pg**	**07 14 01.0**	**-0.8**
NVR				S	**Sg**	**07 14 13.4**	**+0.3**
ENEZ	**Enez**	**0.97**	**112**	PG	**Pg**	**07 14 03.4**	**-0.1**
ENEZ				SG	**Sb**	**07 14 16.9**	**+0.4**
PLD	**Plovdiv**	**1.03**	**349**	PG	**Pg**	**07 14 04.6**	**-0.1**
DIM	**Dimitrovgrad**	**1.04**	**24**	*i* P	**Pn**	**07 14 05.8**	**+0.2**
SRS	**Serrai**	**1.04**	**272**	P	**Pg**	**07 14 04.6**	**-0.4**
SRS	**Serrai**	**1.04**	**272**	P	**Pg**	**07 14 04.5**	**-0.4**
SRS				S	**Sn**	**07 14 19.7**	**-0.5**
MMB	**Musomiste**	**1.06**	**298**	*i* P	**Pg**	**07 14 04.9**	**-0.4**
OUR	**Ouranopolis**	**1.07**	**225**	P	**Pb**	**07 14 05.0**	**-0.5**
OUR				S	**Sn**	**07 14 20.6**	**-0.3**
GADA	**Gvkgeada**	**1.15**	**142**	PN	**Pb**	**07 14 06.2**	**-0.6**
LIA	**Limnos Island**	**1.21**	**172**	P	**Pn**	**07 14 07.6**	**-0.3**
LIA	**Limnos Island**	**1.21**	**172**	P	**Pn**	**07 14 07.5**	**-0.3**
LIA				S	**Sn**	**07 14 25.3**	**+1.0**
ERIK	**Erikli-Kesan**	**1.25**	**110**	PN	**Pn**	**07 14 07.8**	**-0.5**
SOH	**Sokhos**	**1.25**	**258**	P	**Pn**	**07 14 08.0**	**-0.6**
SOH	**Sokhos**	**1.25**	**258**	P	**Pn**	**07 14 08.2**	**-0.4**
SOH				S	**Sn**	**07 14 26.8**	**+1.3**
GELI	**Tayfur-Gelibol**	**1.34**	**121**	PN	**Pn**	**07 14 08.9**	**-0.7**
PLG	**Polygyros**	**1.37**	**239**	P	**Pb**	**07 14 11.0**	**+0.3**
PLG				AML	AML	07 14 30.4	
	comp=N,616μm,0.5s						
PLG				AML	AML	07 14 30.4	
	comp=E,738μm,0.4s						
PLG	**Polygyros**	**1.37**	**239**	P	**Pb**	**07 14 10.9**	**+0.3**
PLG				S	**Sg**	**07 14 29.4**	**+0.5**
BOZC	**Bozcaada**	**1.50**	**146**	PN	**Pn**	**07 14 10.9**	**-1.0**
HORT	**Hortiatis**	**1.50**	**251**	P	**Pn**	**07 14 11.8**	**-0.2**
EDRB	**Edirne**	**1.53**	**60**	PN	**Pn**	**07 14 12.1**	**-0.2**
PAIG	**Paliouri**	**1.53**	**221**	P	**Pn**	**07 14 11.6**	**-0.7**
KNT	**Kendrikon**	**1.57**	**273**	P	**Pn**	**07 14 13.1**	**+0.2**
KNT	**Kendrikon**	**1.57**	**273**	P	**Pn**	**07 14 13.0**	**+0.2**
KNT				S	**Sg**	**07 14 35.0**	**-0.3**
KKB	**Krupnik**	**1.61**	**299**	*i* P	**Pb**	**07 14 14.8**	**0.0**
EZN	**Ezine**	**1.64**	**140**	PN	**Pn**	**07 14 13.0**	**-0.7**
VAY	**Valandovo**	**1.82**	**278**	*e*Pn	**Pn**	**07 14 16.7**	**+0.3**
SBT4	**Kumbag-Tekirda**	**1.96**	**97**	PN	**Pn**	**07 14 18.3**	**+0.3**
PHSR	**Pinarhisar**	**1.99**	**74**	PN	**Pn**	**07 14 18.8**	**+0.1**
STIP	**Stip**	**2.18**	**287**	*e*Pn	**Pn**	**07 14 19.6**	**-1.6**
MPEP	**Malo Peshtene**	**2.44**	**338**	*i* P	**Pg**	**07 14 32.1**	**+0.5**

NNC 26 07:27:34.3±0.6, 50°.00N×78°.66E, h0km, mb3.6, mpv3.2, 10C-9D, Error ellipse: s-maj=7.8km s-min=3.0km az=84.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.63**	**353**	⇑P	Pg	07 27 46.6	+0.2
	54nm,0.3s						
KURBB				⇓S	Sg	07 27 55.5	+0.9
	231nm,0.5s						
KURK	**Kurchatov**	**0.72**	**358**	⇑P	Pg	07 27 48.0	-0.1
	35nm,0.6s						
KURK				⇑S	Sg	07 27 58.7	+1.3
	57nm,0.6s						
MAKZ	**Makanchi**	**3.88**	**144**	⇑Pg	Pb	07 28 44.3	+0.7
	3.8nm,0.7s						
MAKZ				⇓Lg	Lg	07 29 35.0	
	19nm,0.6s						
MK31	**Makanchi Array**	**4.02**	**142**	⇓Pn	Pn	07 28 38.8	+1.7
	0.7nm,0.3s,baz=279,slow=6.3,SNR=86						
MK31				⇓Pg	Pb	07 28 48.0	+2.1
	2.0nm,0.4s,baz=324,slow=13,SNR=24						
MK31				⇑Lg	Lg	07 29 41.1	
	15nm,0.6s,baz=330,slow=25,SNR=13						
OTUK	**Ortayu**	**4.51**	**249**	⇓Pn	Pn	07 28 45.4	+1.6
	3.1nm,0.3s						
OTUK				⇑Lg	Lg	07 29 58.7	
	10.0nm,0.6s						
BVA0	**Borovoye Array**	**5.99**	**304**	⇓Pn	Pn	07 29 06.0	+1.8
	2.8nm,1.1s,baz=110,slow=14,SNR=5.2						
BVA0				⇓Sn	Sn	07 30 13.8	+0.5
	4.8nm,0.6s,baz=112,slow=22,SNR=13						
BVA0				⇓Lg	Lg	07 30 42.6	
	4.3nm,0.6s						
BRVK	**Borovoye**	**6.06**	**304**	⇑Pn	Pn	07 29 06.8	+1.7
	1.4nm,0.7s						
BRVK				⇑Sn	Sn	07 30 14.9	-0.2
	8.5nm,0.6s						
BRVK				⇑Lg	Lg	07 30 42.9	
	5.0nm,0.6s						
PDGK	**Podgornoye**	**6.70**	**175**	⇓Pg	Pb	07 29 34.6	+3.0
	2.6nm,0.8s						
PDGK				⇑Lg	Lg	07 31 07.2	
	11nm,0.6s						

*NEIC **26** 07:30:33.7±0.0, 18°.13N×101°.76W, h16km, MD4.1(MEX), After MEX.*

MEX 26 07:30:33.4±0.5, 18°.14N×101°.78W, h24km±18km, MD4.1, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.61**	**151**	*e*P	Pb	07 30 43.2	-2.2
ZIIG				*e*S	Sb	07 30 51.2	-2.3
ZIIG	**Zihuatanejo**	**0.61**	**151**	*e*P	Pb	07 30 43.0	-2.3
ZIIG				*e*S	Sb	07 30 51.6	-1.9
ARIG	**Puente Sto Nin**	**1.36**	**84**	*e*P	Pn	07 30 54.1	-2.9
ARIG				*e*S	Sn	07 31 10.2	-4.2
ARIG	**Puente Sto Nin**	**1.36**	**84**	*e*P	Pn	07 30 54.1	-2.9
ARIG				*e*S	Sn	07 31 10.2	-4.2
CAIG	**El Cayaco**	**1.80**	**127**	*e*P	Pn	07 30 59.8	-3.2
CAIG				*e*S	Sn	07 31 21.4	-3.8
CAIG	**El Cayaco**	**1.80**	**127**	*e*P	Pn	07 30 59.8	-3.2
CAIG				*e*S	Sn	07 31 21.4	-3.8
MEIG	**Mezcala**	**2.06**	**96**	*e*P	Pn	07 31 04.8	-1.8
MEIG				*e*S	Sn	07 31 28.5	-3.2
MEIG	**Mezcala**	**2.06**	**96**	*e*P	Pn	07 31 04.8	-1.8
MEIG				*e*S	Sn	07 31 28.5	-3.2
PLIG	**Platanillo**	**2.17**	**83**	*e*P	Pn	07 31 06.2	-2.0
PLIG				*e*S	Sn	07 31 31.3	-3.2
PLIG	**Platanillo**	**2.17**	**83**	*e*P	Pn	07 31 06.2	-2.0
PLIG				*e*S	Sn	07 31 31.3	-3.2
PNIG	**Pinotepa**	**3.89**	**116**	*e*P	Pb	07 31 37.1	-4.3
PNIG	**Pinotepa**	**3.89**	**116**	*i* P	Pn	07 31 29.6	-2.2
PNIG				*e*S	Sn	07 32 13.6	-3.3

MEX 26 07:51:58.9±0.6, 16°.32N×98°.12W, h18km±5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.07**	**355**	*i* P	Pg	07 52 01.2	-1.2
PNIG				*i* S	Sg	07 52 04.0	-0.7
VHO	**Vista Hermosa**	**1.53**	**60**	*e*P	Pn	07 52 22.1	-3.4
VHO				*e*S	Sn	07 52 40.5	-4.5

UCR 26 08:16:51.7±1.2, 13°.25N×89°.62W, h33km±2km, MD3.4, ML3.7, 1C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEVE	**Cerro Verde**	**0.57**	**360**	*e*P	Pn	08 17 03.8	0.0
CEVE				*e*S	Sn	08 17 12.8	+0.6
CEVE				IAML		08 17 17.9	
	comp=Z,5μm,0.2s						
SNET	**Serv Nac Est T**	**0.57**	**41**	*e*P	Pn	08 17 03.5	-0.1
SNET				*e*S	Sn	08 17 12.4	+0.5
BOQS	**Boqueron**	**0.58**	**34**	⇑*e*P	Pb	08 17 04.0	+0.2
BOQS				*e*S	Sn	08 17 13.5	+1.1
SBLS	**San Blas**	**0.58**	**360**	*e*P	Pn	08 17 03.8	0.0
SBLS				*e*S	Sn	08 17 14.0	+1.6
UEES	**San Salvador**	**0.60**	**38**	*e*P	Pb	08 17 04.0	0.0
UEES				*e*S	Sn	08 17 13.5	+0.9
UEES				IAML		08 17 14.6	
	comp=Z,5μm,0.3s						
UTEC	**San Salvador**	**0.60**	**42**	*e*P	Pb	08 17 04.2	+0.1
UTEC				*e*S	Sn	08 17 13.3	+0.6
UTEC				IAML		08 17 15.3	
	comp=Z,4μm,0.1s						
UESS	**San Salvador**	**0.61**	**42**	*e*P	Pb	08 17 04.4	+0.2
UESS				*e*S	Sn	08 17 14.0	+1.3
SNJE	**San Jose**	**0.61**	**1**	*e*P	Pn	08 17 04.0	-0.2
SNJE				*e*S	Sn	08 17 13.6	+0.5
OPAM	**San Salvador**	**0.62**	**41**	*e*P	Pn	08 17 03.7	-0.4
OPAM				*e*S	Sn	08 17 13.5	+0.6
OPAM				IAML		08 17 15.9	
	comp=Z,4μm,0.4s						
RTR	**El Retiro**	**0.64**	**358**	*e*P	Pn	08 17 04.7	0.0
RTR				*e*S	Sn	08 17 14.8	+1.0
UDBS	**Soyapango**	**0.65**	**44**	*e*P	Pb	08 17 04.8	-0.1
UDBS				*e*S	Sn	08 17 14.3	+0.5
UDBS				IAML		08 17 16.4	
	comp=Z,5μm,0.4s						
LFRS	**El Faro**	**0.66**	**56**	*e*P	Pn	08 17 04.8	+0.1
LFU	**La Fuente**	**0.70**	**45**	⇓*e*P	Pb	08 17 05.8	+0.2
UNIC	**Santa Ana**	**0.74**	**5**	*e*P	Pn	08 17 05.8	-0.1
UNIC				*e*S	Sb	08 17 17.5	+1.3
LBRS	**Las Brisas**	**0.74**	**49**	*e*P	Pb	08 17 06.3	-0.1
PAVA	**Las Pavas**	**0.81**	**55**	*e*P	Pn	08 17 07.1	+0.2
PAVA				*e*S	Sb	08 17 18.8	+0.6
PAVA				IAML		08 17 21.3	
	comp=Z,2μm,0.5s						
UESV	**Ojushtada**	**0.82**	**81**	*e*P	Pb	08 17 08.2	+0.6
SNVI	**San Vicente**	**0.84**	**65**	*e*P	Pn	08 17 06.5	-0.8
SNVI				*e*S	Sb	08 17 19.5	+0.4
TECA	**Tecapa**	**1.11**	**77**	*e*P	Pn	08 17 10.6	-0.6
VICT	**Victoria**	**1.19**	**53**	*e*P	Pn	08 17 11.7	-0.3
IXG	**Ixpaco**	**1.23**	**319**	*e*P	Pn	08 17 12.7	+0.1
IXG				*e*S	Sn	08 17 27.3	-0.9
PACA	**Pacayal**	**1.28**	**80**	*e*P	Pn	08 17 13.0	-0.4
PACA				*e*S	Sb	08 17 31.2	-0.4
LCY	**Lacayo**	**1.30**	**82**	*e*P	Pn	08 17 13.6	0.0
VSM	**San Miguel**	**1.32**	**82**	*e*P	Pn	08 17 14.7	+0.6
PCG	**Pacaya**	**1.49**	**320**	*e*S	Sn	08 17 35.3	+0.5
NBG	**Las Nubes**	**1.50**	**332**	*e*P	Pn	08 17 17.8	+1.2
NBG				*e*S	Sn	08 17 36.2	+1.0
FUG	**Fuego 3**	**1.68**	**315**	*e*P	Pn	08 17 20.0	+1.1
FUG				*e*S	Sn	08 17 40.3	+0.9

IDC 26 08:26:19.3±7.5, 30°.52S×178°.50W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/25, mbtmp3.8/2, Error ellipse: s-maj=313.2km s-min=55.7km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.67**	**267**	P	P	08 34 17.8	-0.2
	0.4nm,0.5s,baz=104,slow=7.4,SNR=6.9						
WRA	**Warramunga Arr**	**43.67**	**273**	P	P	08 34 25.9	-0.2
	1.4nm,0.5s,baz=111,slow=8.2,SNR=16						
FINES	**FINESS Array B**	**145.10**	**340**	PKPbc	PKPbc	08 45 56.7	-0.7
	0.9nm,0.5s,baz=74,slow=3.0,SNR=8.3						

*SKO **26** 08:26:39.7, 41°.90N×23°.24E, h22km, M1.9, ML2.3*
*ISCJB **26** 08:26:39.8±0.3, 41°.92N±0°.01×23°.17E±0°.03, h9km±3km, Error ellipse: s-maj=3.9km s-min=2.3km az=165.3*
*BEO **26** 08:26:40.9±0.6, 41°.90N×23°.23E, h20km±3km, ML2.4/7*
*THE **26** 08:26:40.7, 41°.88N×23°.26E, h6km±1km, ML2.3/6, Error ellipse: s-maj=1.8km s-min=0.8km az=277.0*
*SOF **26** 08:26:40.2, 41°.92N×23°.27E, h2km, MD2.6*
*ATH **26** 08:26:41.2, 41°.85N×23°.24E, h17km±4km, ML2.3/4, Error ellipse: s-maj=5.2km s-min=1.9km az=172.0*

ISC 26 08:26:40.2±0.8, 41°.90N±0°.02×23°.19E±0°.02, h13km±5km, n54, σ0°96/83, 10C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.09**	**251**	⇑*i*Pg	**Pg**	**08 26 43.0**	**-0.1**
KKB				*i* Sg	**Sg**	**08 26 44.8**	**-0.3**
KKB	**Krupnik**	**0.09**	**251**	*i* P	**Pg**	**08 26 43.0**	**-0.1**
KKB	**Krupnik**	**0.09**	**251**	*i* P	**Pg**	**08 26 43.0**	**-0.1**
MMB	**Musomiste**	**0.50**	**127**	⇑*i*Pg	**Pb**	**08 26 50.5**	**-0.5**
MMB				*i* Sg	**Sb**	**08 26 57.6**	**-0.7**
MMB	**Musomiste**	**0.50**	**127**	*i* P	**Pg**	**08 26 50.4**	**+0.2**
MMB	**Musomiste**	**0.50**	**127**	*i* P	**Pg**	**08 26 50.4**	**+0.2**
VTS	**Vitosha**	**0.70**	**1**	*e*Pg	**Pg**	**08 26 53.8**	**0.0**
VTS				*e*Sg	**Sb**	**08 27 04.0**	**0.0**
VTS	**Vitosha**	**0.70**	**1**	P	**Pg**	**08 26 54.1**	**+0.3**
VTS				S	**Sb**	**08 27 03.9**	**0.0**
VTS	**Vitosha**	**0.70**	**1**	⇑*i*Pg	**Pg**	**08 26 54.0**	**+0.1**
VTS				*i* Sg	**Sb**	**08 27 04.2**	**+0.3**
VTS	**Vitosha**	**0.70**	**1**	*i* P	**Pg**	**08 26 53.9**	**+0.1**
VTS	**Vitosha**	**0.70**	**1**	*i* P	**Pg**	**08 26 53.9**	**+0.1**
VAY	**Valandovo**	**0.74**	**219**	*e*Sg	Sb	08 26 55.3	-10
VAY	**Valandovo**	**0.74**	**219**	*e*Pg	Pn	08 27 05.7	+9.3
VAY	**Valandovo**	**0.74**	**219**	P	**Pb**	**08 26 55.5**	**+0.5**
VAY				S	**Sg**	**08 27 06.3**	**+2.0**
VAY	**Valandovo**	**0.74**	**219**	⇑*i*Pg	**Pb**	**08 26 55.4**	**+0.4**
VAY				*i* Sg	**Sb**	**08 27 05.5**	**+0.5**
VAY				*e*Lg	Lg	08 27 05.7	
	comp=E,48nm,0.3s						
VAY				*e*Lg	Lg	08 27 05.8	
	comp=N,72nm,0.5s						
NVR	**Nevrokopi**	**0.74**	**137**	P	**Pg**	**08 26 54.3**	**-0.3**
NVR				S	**Sg**	**08 27 04.0**	**-0.4**
NVR				AML	AML	08 27 10.2	
	comp=E,567μm,0.1s						
NVR				AML	AML	08 27 11.2	
	comp=N,554μm,0.1s						
NVR	**Nevrokopi**	**0.74**	**137**	P	**Pg**	**08 26 54.3**	**-0.3**
NVR				S	**Sg**	**08 27 03.9**	**-0.4**
KNT	**Kendrikon**	**0.77**	**197**	P	**Pb**	**08 26 55.2**	**-0.2**
KNT				S	**Sb**	**08 27 05.5**	**-0.2**
KNT				AML	AML	08 27 10.5	
	comp=E,406μm,0.2s						
KNT				AML	AML	08 27 12.4	
	comp=N,609μm,0.2s						
KNT	**Kendrikon**	**0.77**	**197**	P	**Pb**	**08 26 55.2**	**-0.2**
KNT				S	**Sb**	**08 27 05.5**	**-0.2**
KNT	**Kendrikon**	**0.77**	**197**	⇑*i*Pg	**Pb**	**08 26 55.5**	**+0.1**
KNT				*i* Sg	**Sb**	**

SOH	**Sokhos**	**1.08**	**173**	P	**Pb**	**08 27 00.8**	**+0.1**
SOH				S	**Sn**	**08 27 15.6**	**-0.4**
SOH				AML	AML	08 27 18.4	
	comp=E,487μm,0.4s						
SOH				AML	AML	08 27 19.0	
	comp=N,438μm,0.3s						
SOH	**Sokhos**	**1.08**	**173**	P	**Pb**	**08 27 00.9**	**+0.1**
SOH				S	**Sn**	**08 27 15.3**	**-0.7**
SOH	**Sokhos**	**1.08**	**173**	⇑*i*Pg	**Pb**	**08 27 00.9**	**+0.1**
SOH				*i* Sg	**Sn**	**08 27 15.7**	**-0.2**
GRG	**Griva**	**1.11**	**213**	P	**Pb**	**08 27 01.9**	**+0.6**
GRG	**Griva**	**1.11**	**213**	P	**Pb**	**08 27 01.9**	**+0.6**
GRG	**Griva**	**1.11**	**213**	⇑*i*Pg	**Pb**	**08 27 01.9**	**+0.6**
GRG				*i* Sg	**Sn**	**08 27 17.2**	**+0.5**
RZN	**Rozhen**	**1.16**	**100**	*i* P	**Pg**	**08 27 02.6**	**0.0**
RZN	**Rozhen**	**1.16**	**100**	*i* P	**Pg**	**08 27 02.6**	**0.0**
THE	**Thessaloniki**	**1.27**	**188**	P	**Pb**	**08 27 04.8**	**+0.8**
THE	**Thessaloniki**	**1.27**	**188**	⇑*i*Pg	**Pb**	**08 27 04.9**	**+0.8**
THE				*i* Sg	**Sg**	**08 27 22.0**	**+0.7**
HORT	**Hortiatis**	**1.30**	**183**	P	**Pb**	**08 27 05.3**	**+0.8**
HORT	**Hortiatis**	**1.30**	**183**	P	**Pb**	**08 27 05.3**	**+0.8**
HORT				S	**Sg**	**08 27 22.2**	**+0.1**
KAVA	**Kavala**	**1.34**	**132**	P	**Pb**	**08 27 05.5**	**+0.3**
KAVA	**Kavala**	**1.34**	**132**	P	**Pb**	**08 27 04.8**	**-0.4**
KAVA				S	**Sg**	**08 27 22.6**	**-0.8**
BARS	**Barje**	**1.38**	**313**	*e*Pg	**Pb**	**08 27 06.7**	**+0.9**
BARS				*e*Sg	**Sg**	**08 27 25.5**	**+0.9**
BARS	**Barje**	**1.38**	**313**	*e*Pg	**Pb**	**08 27 06.1**	**+0.3**
BARS				*i* Sg	**Sg**	**08 27 25.2**	**+0.6**
ZAPS	**Zavoj**	**1.44**	**344**	*e*Pg	**Pb**	**08 27 07.6**	**+0.7**
ZAPS				*e*Sg	**Sb**	**08 27 26.2**	**+1.0**
MPEP	**Malo Peshtene**	**1.52**	**15**	*i* P	**Pg**	**08 27 09.4**	**0.0**
MPEP	**Malo Peshtene**	**1.52**	**15**	*i* P	**Pg**	**08 27 09.4**	**0.0**
PLG	**Polygyros**	**1.53**	**173**	P	**Pb**	**08 27 08.5**	**0.0**
KRUS	**Krusevo**	**1.55**	**251**	*i* Pg	**Pb**	**08 27 09.8**	**+1.0**
KRUS				*i* Sg	**Sg**	**08 27 30.9**	**+0.8**
KRUS				*e*Lg	Lg	08 27 32.2	
	comp=E,1.6nm,0.2s						
KRUS				*e*Lg	Lg	08 27 32.2	
	comp=N,2.8nm,0.3s						
RDO	**Rodhopi**	**1.91**	**112**	P	**Pb**	**08 27 15.3**	**+0.4**
PAIG	**Paliouri**	**2.00**	**169**	P	**Pn**	**08 27 14.7**	**+1.0**
SELS	**Selova**	**2.02**	**312**	*e*Pn	**Pn**	**08 27 14.3**	**+0.2**
SELS				*e*Sn	**Sn**	**08 27 38.7**	**-0.6**
ZAGS	**Zajecar**	**2.04**	**340**	*e*Pn	**Pn**	**08 27 14.2**	**-0.1**
ZAGS				*e*Sn	**Sn**	**08 27 39.0**	**-0.7**
BOVS	**Bovan**	**2.06**	**328**	*e*Pn	**Pn**	**08 27 15.3**	**+0.8**
BOVS				*e*Sn	**Sn**	**08 27 39.1**	**-0.9**
GRUS	**Gruza**	**2.70**	**318**	*e*Pn	**Pn**	**08 27 23.7**	**+0.4**
GRUS				*e*Sn	**Sn**	**08 27 56.7**	**+0.8**
DIVS	**Divibare**	**3.22**	**314**	*e*Pn	**Pn**	**08 27 30.3**	**-0.3**
DIVS				*e*Sn	**Sn**	**08 28 07.5**	**-1.3**

*ISCJB **26** 09:00:56.6±0.4, 23°.14N±0°.02×122°.86E±0°.02, h60km, Error ellipse: s-maj=3.5km s-min=2.1km az=148.3*
*JMA **26** 09:00:56.4±0.2, 23°.12N×122°.86E, h55km, M2.6*
*TAP **26** 09:00:57.6, 23°.15N×122°.85E, h60km±1km, ML3.2, D*
ISC 26 09:00:56.9±1.2, 23°.11N±0°.04×122°.88E±0°.03, h60km, n58, σ1§14/115, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.27**	**42**	P		**Pn**	**Pn**	**09 01 18.4**	**-0.1**
HATJ				S		**Sn**	**Sn**	**09 01 33.6**	**-1.0**
JYNG	**Yonagunijimaku**	**1.33**	**3**	P		**Pn**	**Pn**	**09 01 19.8**	**+0.4**
JYNG				*e*S		**Sn**	**Sn**	**09 01 36.3**	**+0.1**
YOJ	**Yonaguni jima**	**1.35**	**5**	P		**Pn**	**Pn**	**09 01 19.9**	**+0.3**
	baz=14								
YOJ				S		**Sn**	**Sn**	**09 01 36.5**	**0.0**
	baz=14								
YOJ	**Yonaguni jima**	**1.35**	**5**	P		**Pn**	**Pn**	**09 01 19.3**	**-0.3**
YOJ				S		**Sn**	**Sn**	**09 01 36.6**	**0.0**
HGSD	**Ruisui**	**1.39**	**286**	*e*P		**Pn**	**Pn**	**09 01 19.1**	**-0.9**
	baz=284								
HGSD				*e*S		**Sn**	**Sn**	**09 01 34.6**	**-2.9**
	baz=284								
CHKT	**Chengkung**	**1.39**	**270**	*e*P		**Pn**	**Pn**	**09 01 19.3**	**-0.8**
	baz=267								
CHKT				*e*S		**Sn**	**Sn**	**09 01 34.5**	**-3.0**
	baz=267								
ENLB	**Shoufeng**	**1.41**	**304**	P		**Pn**	**Pn**	**09 01 20.3**	**-0.1**
	baz=303								
ENLB				S		**Sn**	**Sn**	**09 01 36.4**	**-1.6**
	baz=303								
EGFH	**Guangfu**	**1.44**	**293**	*e*P		**Pn**	**Pn**	**09 01 20.2**	**-0.6**
	baz=299								
EGFH				*e*S		**Sn**	**Sn**	**09 01 38.0**	**-0.7**
	baz=299								
IRIF	**Iriomote-Funau**	**1.45**	**33**	P		**Pn**	**Pn**	**09 01 21.0**	**+0.1**
IRIF				*e*S		**Sn**	**Sn**	**09 01 38.1**	**-0.8**
TWF1	**Yuli**	**1.47**	**280**	*i* P		**Pn**	**Pn**	**09 01 20.6**	**-0.6**
	baz=271								
TWF1				S		**Sn**	**Sn**	**09 01 38.0**	**-1.5**
	baz=271								
YULB	**Yu-li**	**1.48**	**281**	*e*P		**Pn**	**Pn**	**09 01 21.0**	**-0.3**
	baz=274								
YULB				*e*S		**Sn**	**Sn**	**09 01 39.0**	**-0.7**
	baz=274								
ESL	**Shilin**	**1.50**	**298**	*i* P		**Pn**	**Pn**	**09 01 20.5**	**-1.1**
	baz=297								
ESL				S		**Sn**	**Sn**	**09 01 39.0**	**-1.2**
	baz=297								
TWD	**Chiawan**	**1.52**	**310**	*i* P		**Pn**	**Pn**	**09 01 21.2**	**-0.7**
	baz=309								
TWD				S		**Sn**	**Sn**	**09 01 38.0**	**-2.7**
	baz=309								
JKRS	**Kuro-shima**	**1.53**	**43**	P		**Pn**	**Pn**	**09 01 22.4**	**+0.4**
JKRS				S		**Sn**	**Sn**	**09 01 41.1**	**+0.3**
NACB	**Ninganchiao**	**1.58**	**312**	*e*P		**Pn**	**Pn**	**09 01 22.0**	**-0.7**
	baz=304								
NACB				*e*S		**Sn**	**Sn**	**09 01 39.8**	**-2.3**
	baz=304								
EOS1	**EOS1**	**1.59**	**335**	*e*P		**Pn**	**Pn**	**09 01 23.4**	**+0.7**
	baz=326								
EOS1				*e*S		**Sn**	**Sn**	**09 01 41.2**	**-1.0**
	baz=326								
LAY	**Lan-yu**	**1.62**	**229**	*e*P		**Pn**	**Pn**	**09 01 23.1**	**-0.3**
	baz=234								
LAY				*e*S		**Sn**	**Sn**	**09 01 43.5**	**+0.2**
	baz=234								
ENA	**Nanau**	**1.67**	**322**	*e*P		**Pn**	**Pn**	**09 01 24.5**	**+0.6**
	baz=322								
ENA				*e*S		**Sn**	**Sn**	**09 01 43.3**	**-1.1**
	baz=322								
TWGBT	**Beinan**	**1.68**	**260**	*e*P		**Pn**	**Pn**	**09 01 24.2**	**+0.1**
	baz=258								
TWGBT				*e*S		**Sn**	**Sn**	**09 01 43.8**	**-0.8**
	baz=258								
TWG	**Pinlang**	**1.69**	**260**	P		**Pn**	**Pn**	**09 01 24.2**	**+0.1**
	baz=258								
TWG				S		**Sn**	**Sn**	**09 01 43.7**	**-1.1**
	baz=258								
JIJ	**Ishigaki jima**	**1.70**	**43**	P		**Pn**	**Pn**	**09 01 24.2**	**-0.1**
JIJ				S		**Sn**	**Sn**	**09 01 43.5**	**-1.6**
ELDTW	**Lidau**	**1.71**	**273**	P		**Pn**	**Pn**	**09 01 24.4**	**-0.2**
	baz=271								
ELDTW				S		**Sn**	**Sn**	**09 01 43.8**	**-1.7**
	baz=271								
VWDT	**VWDT**	**1.72**	**292**	*e*P		**Pn**	**Pn**	**09 01 24.8**	**+0.3**
	baz=296								
VWDT				*e*S		**Sn**	**Sn**	**09 01 44.5**	**-0.9**
	baz=296								
TWC	**Suao**	**1.76**	**328**	*e*P		**Pn**	**Pn**	**09 01 25.7**	**+0.5**
	baz=328								
TWC				S		**Sn**	**Sn**	**09 01 45.2**	**-1.3**
	baz=328								
WHF	**Hehuan Shan**	**1.80**	**305**	*i* P		**Pn**	**Pn**	**09 01 25.9**	**-0.2**
	baz=295								
WHF				S		**Sn**	**Sn**	**09 01 46.7**	**-1.4**
	baz=295								
CHGB	**Renai**	**1.82**	**301**	*e*P		**Pn**	**Pn**	**09 01 26.3**	**+0.1**
	baz=300								
CHGB				*e*S		**Sn**	**Sn**	**09 01 46.9**	**-1.5**
	baz=300								
ECL	**Taimali**	**1.84**	**254**	P		**Pn**	**Pn**	**09 01 25.7**	**-0.5**
	baz=251								
ECL				*e*S		**Sn**	**Sn**	**09 01 47.2**	**-1.3**
	baz=251								
NNSB	**Datong**	**1.89**	**314**	*e*P		**Pn**	**Pn**	**09 01 27.3**	**+0.3**
	baz=313								
NNSB				*e*S		**Sn**	**Sn**	**09 01 48.8**	**-1.1**
	baz=313								
NNS	**Nan Shan**	**1.91**	**314**	P		**Pn**	**Pn**	**09 01 27.7**	**+0.4**
	baz=314								
NNS				S		**Sn**	**Sn**	**09 01 49.1**	**-1.2**
	baz=314								
TWT	**Tachien**	**1.93**	**306**	*e*P		**Pn**	**Pn**	**09 01 28.2**	**+0.6**
	baz=298								
TWT				S		**Sn**	**Sn**	**09 01 49.9**	**-1.0**
	baz=298								
ENTT	**Nioudou**	**1.94**	**322**	P		**Pn**	**Pn**	**09 01 28.3**	**+0.8**
	baz=322								
ENTT				S		**Sn**	**Sn**	**09 01 50.2**	**-0.6**
	baz=322								
TDCB	**Techi**	**1.94**	**306**	*e*P		**Pn**	**Pn**	**09 01 28.0**	**+0.2**
	baz=298								
TDCB				*e*S		**Sn**	**Sn**	**09 01 50.5**	**-0.6**
	baz=298								
ALS	**Alishan**	**1.94**	**282**	*i* P		**Pn**	**Pn**	**09 01 29.1**	**+1.2**
	baz=287								
ALS				S		**Sn**	**Sn**	**09 01 50.7**	**-0.7**
	baz=287								
TWE	**Neicheng**	**1.95**	**326**	*e*P		**Pn**	**Pn**	**09 01 28.6**	**+1.0**
	baz=334								
TWE				*e*S		**Sn**	**Sn**	**09 01 51.0**	**0.0**
	baz=334								
JISG	**Ishigakijimahi**	**1.97**	**42**	P		**Pn**	**Pn**	**09 01 28.1**	**+0.2**
JISG				*e*S		**Sn**	**Sn**	**09 01 50.8**	**-0.8**
SMLT	**Sun Moon Lake**	**1.97**	**293**	P		**Pn**	**Pn**	**09 01 28.9**	**+0.8**
	baz=297								
SMLT				*e*S		**Sn**	**Sn**	**09 01 51.3**	**-0.5**
	baz=297								
EAST	**Anshuo**	**2.01**	**249**	*i* P		**Pn**	**Pn**	**09 01 29.0**	**+0.5**
	baz=254								
EAST				S		**Sn**	**Sn**	**09 01 52.3**	**-0.3**
	baz=254								
TYC	**Yuchr**	**2.01**	**293**	*e*P		**Pn**	**Pn**	**09 01 29.6**	**+1.1**
	baz=299								
TYC				S		**Sn**	**Sn**	**09 01 51.9**	**-0.8**
	baz=299								
SLGT	**Liugui**	**2.06**	**267**	*e*P		**Pn**	**Pn**	**09 01 30.4**	**+1.2**
	baz=266								
SLGT				*e*S		**Sn**	**Sn**	**09 01 54.0**	**+0.3**
	baz=266								
YHNB	**Yeheng**	**2.07**	**319**	*e*P		**Pn**	**Pn**	**09 01 29.9**	**+0.4**
	baz=308								
YHNB				*e*S		**Sn**	**Sn**	**09 01 53.2**	**-1.0**
	baz=308								
CHN5	**Tsauling**	**2.08**	**284**	P		**Pn**	**Pn**	**09 01 31.7**	**+2.2**
	baz=286								
CHN5				S		**Sn**	**Sn**	**09 01 56.5**	**+2.2**
	baz=286								
NWLT	**Wulai**	**2.08**	**323**	*e*P		**Pn**	**Pn**	**09 01 31.8**	**+2.3**
	baz=332								
NWLT				*e*S		**Sn**	**Sn**	**09 01 54.5**	**+0.1**
	baz=332								
NSK	**Sanguang**	**2.09**	**319**	*e*P		**Pn**	**Pn**	**09 01 30.5**	**+0.9**
	baz=308								
NSK				S		**Sn**	**Sn**	**09 01 53.9**	**-0.6**
	baz=308								
TIPB	**Shuangxi**	**2.09**	**333**	*e*P		**Pn**	**Pn**	**09 01 30.8**	**+1.2**
	baz=333								
TIPB				*e*S		**Sn**	**Sn**	**09 01 54.4**	**-0.1**
	baz=333								
SSD	**Sandimen**	**2.10**	**260**	*e*P		**Pn**	**Pn**	**09 01 30.1**	**+0.4**
	baz=258								
SSD				*e*S		**Sn**	**Sn**	**09 01 53.8**	**-1.0**
	baz=258								
SGST	**Jiashian**	**2.11**	**270**	*e*P		**Pn**	**Pn**	**09 01 30.4**	**+0.5**
	baz=269								
SGST				*e*S		**Sn**	**Sn**	**09 01 53.7**	**-1.4**
	baz=269								
CHN4	**Tsaushan**	**2.11**	**277**	*e*P		**Pn**	**Pn**	**09 01 32.0**	**+2.1**
	baz=272								
CHN4				*e*S		**Sn**	**Sn**	**09 01 57.8**	**+2.7**
	baz=272								
MASBT	**Mashibuluo**	**2.13**	**257**	*e*P		**Pn**	**Pn**	**09 01 31.1**	**+1.0**
	baz=258								
MASBT				*e*S		**Sn**	**Sn**	**09 01 54.5**	**-0.9**
	baz=258								
CHN1	**Nanshi**	**2.16**	**272**	*e*P		**Pn**	**Pn**	**09 01 33.0**	**+2.5**
	baz=270								
CHN1				*e*S		**Sn**	**Sn**	**09 01 58.5**	**+2.1**
	baz=270								
TWA	**Mucha**	**2.20**	**328**	*e*P		**Pn**	**Pn**	**09 01 31.7**	**+0.6**
	baz=337								
TWA				*e*S		**Sn**	**Sn**	**09 01 56.4**	**-0.9**
	baz=337								
TWK	**Hsinying**	**2.20**	**274**	P		**Pn**	**Pn**	**09 01 33.4**	**+2.2**
	baz=272								
TWK				S		**Sn**	**Sn**	**09 02 00.1**	**+2.7**
	baz=272								
TWKBT	**Hengchun**	**2.24**	**239**	*e*P		**Pn**	**Pn**	**09 01 31.4**	**-0.2**
	baz=236								
TWKBT				*e*S		**Sn**	**Sn**	**09 01 57.6**	**-0.4**
	baz=236								
TWK1	**Hengchun**	**2.24**	**239**	*e*P		**Pn**	**Pn**	**09 01 31.2**	**-0.4**
	baz=236								
TWK1				S		**Sn**	**Sn**	**09 01 59.1**	**+0.9**
	baz=236								
JTJ	**Tarama**	**2.26**	**47**	P		**Pn**	**Pn**	**09 01 32.0**	**+0.1**
JTJ				S		**Sn**	**Sn**	**09 01 58.3**	**-0.4**
HEN	**Hengchun**	**2.26**	**241**	*e*S		**Sn**	**Sn**	**09 01 58.9**	**+0.2**
	baz=231								
LIOB	**Emei**	**2.29**	**312**	*e*P		**Pn**	**Pn**	**09 01 34.5**	**+2.2**
	baz=312								
LIOB				*e*S		**Sn**	**Sn**	**09 02 00.1**	**+0.7**
	baz=312								
NSTT	**Nanjuang**	**2.29**	**312**	*e*P		**Pn**	**Pn**	**09 01 33.9**	**+1.6**
	baz=311								
NSTT				*e*S		**Sn**	**Sn**	**09 01 59.5**	**+0.1**
	baz=311								
JIRB	**Irabujima**	**2.71**	**50**	P		**Pn**	**Pn**	**09 01 38.7**	**+0.7**
JIRB				*e*S		**Sn**	**Sn**	**09 02 09.7**	**+0.1**

*ISCJB **26** 09:27:52.6±0.6, 8°.98N±0°.04×82°.82W±0°.02, h13km±5km, mb3.8/3, Error ellipse: s-maj=7.0km s-min=3.3km az=20.1*
*UCR **26** 09:27:52.7±1.8, 8°.95N×82°.82W, h9km±5km*
*IDC **26** 09:27:54.2±5.6, 9°.65N×82°.74W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.6/39, mbtmp3.9/4, ML3.9/1, Error ellipse: s-maj=122.0km s-min=21.8km az=2.0*
ISC 26 09:27:52.0±1.3, 9°.10N±0°.05×82°.82W±0°.04, h5km±11km, n41, σ1§33/51, mb3.7/3, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EDSV	**San Vito**	**0.31**	**210**	*e*P		Pg		09 27 57.3	-0.8
EDSV				*e*S		**Sg**		**09 28 01.4**	**-0.9**
BRU2	**Volcan**	**0.32**	**158**	*i* P		Pg		09 27 57.7	-0.6
BRU2				*i* S		**Sg**		**09 28 01.6**	**-1.0**
EDBA	**Buenos Aires**	**0.46**	**279**	*e*P		**Pg**		**09 28 02.6**	**+1.8**
EDPN	**Palmar Norte**	**0.65**	**258**	*e*P		**Pg**		**09 28 04.3**	**-0.1**
PTJ1	**Puerto Jimnez**	**0.73**	**221**	*i* P		Pg		09 28 04.0	-2.1
PTJ1				*e*S		Sg		09 28 13.5	-2.2
DVD	**David**	**0.75**	**151**	*e*P		Pg		09 28 04.8	-1.5
DVD				*i* S		**Sg**		**09 28 14.4**	**-1.6**
EDLM	**Las Mercedes**	**0.79**	**284**	*e*P		**Pg**		**09 28 07.7**	**+0.6**
EDDO	**Dominical**	**1.05**	**279**	*e*P		**Pg**		**09 28 11.7**	**-0.4**
LCR2	**La Lucha 2**	**1.34**	**299**	*e*P		**Pg**		**09 28 17.1**	**-0.5**
SJS	**Escuela Geolog**	**1.48**	**305**	*e*P		**Pn**		**09 28 20.1**	**+0.7**
HDC	**Heredia**	**1.57**	**305**	*e*P		**Pn**		**09 28 21.4**	**+0.8**
HDC				*e*S		**Sg**		**09 28 44.4**	**+2.1**
SRA1	**San Ramn**	**1.91**	**301**	*e*P		**Pn**		**09 28 26.1**	**+0.7**
ARE1	**Arenal 1**	**2.32**	**306**	*e*P		**Pn**		**09 28 32.1**	**+1.3**
CEDE	**Laguna Cedeo**	**2.32**	**307**	*e*P		**Pb**		**09 28 33.3**	**-1.0**
JTS	**JuntasAbangare**	**2.42**	**300**	Pn		**Pn**		**09 28 33.3**	**+1.1**
	30nm,0.3s,baz=151,slow=19,SNR=288								
JTS				Lg		Lg		09 29 06.4	
	55nm,0.3s,baz=24,slow=20,SNR=10								
JTS	**JuntasAbangare**	**2.42**	**300**	*e*P		**Pn**		**09 28 33.0**	**+0.8**
JTS				*e*S		**Sb**		**09 29 05.7**	**-0.5**
PNME	**Penonome**	**2.53**	**104**	*e*P		**Pn**		**09 28 35.5**	**+1.8**
PNME				*e*S		**Sn**		**09 29 05.7**	**+0.7**
PNME	**Penonome**	**2.53**	**104**	*e*P		**Pn**		**09 28 35.5**	**+1.8**
PNME				*e*S		**Sn**		**09 29 05.7**	**+0.7**
PNME	**Penonome**	**2.53**	**104**	*e*P		**Pn**		**09 28 35.8**	**+2.1**
PNME				*e*S		**Sb**		**09 29 09.4**	**0.0**
CUI	**Cuipilapa**	**2.79**	**304**	*e*P		**Pn**		**09 28 39.6**	**+2.3**
PLVR	**Palo Verde**	**2.79**	**297**	*e*P		**Pn**		**09 28 38.2**	**+0.7**
AZU	**Azuero**	**2.83**	**117**	*e*P		**Pn**		**09 28 39.7**	**+1.9**
AZU	**Azuero**	**2.83**	**117**	*e*P		**Pn**		**09 28 39.7**	**+1.9**
AZU	**Azuero**	**2.83**	**117**	*e*P		**Pn**		**09 28 38.4**	**+0.6**
MESS	**Mesas**	**2.86**	**305**	*e*P		**Pn**		**09 28 40.7**	**+2.4**
ZANG	**Zanguenga, Cho**	**2.92**	**92**	*e*P		**Pn**		**09 28 39.4**	**+0.4**
BCIP	**Isla Barro Col**	**2.94**	**88**	*e*P		**Pn**		**09 28 39.7**	**+0.3**
BCIP	**Isla Barro Col**	**2.94**	**88**	*e*P		**Pn**		**09 28 39.7**	**+0.3**
BCIP	**Isla Barro Col**	**2.94**	**88**	*e*P		**Pn**		**09 28 39.7**	**+0.3**
BCIP				*e*S		**Sn**		**09 29 14.6**	**-0.5**
FRIJ	**El Hiral**	**3.05**	**87**	*e*P		**Pn**		**09 28 41.4**	**+0.5**
FRIJ				*e*S		**Sn**		**09 29 17.4**	**-0.5**
BUEV	**Buena Vista**	**3.06**	**304**	*e*P		**Pn**		**09 28 42.5**	**+1.4**
UPA	**Univ. de Panam**	**3.24**	**92**	*e*P		**Pn**		**09 28 44.5**	**+1.0**
UPA	**Univ. de Panam**	**3.24**	**92**	*e*P		**Pn**		**09 28 44.5**	**+1.0**
UPA	**Univ. de Panam**	**3.24**	**92**	*e*P		**Pn**		**09 28 44.5**	**+1.0**
UPA				*e*S		**Sn**		**09 29 22.5**	**-0.1**
ESPN	**Las Esperanzas**	**3.41**	**335**	*e*P		**Pn**		**09 28 47.4**	**+1.6**
PRVC	**Isla de Provid**	**4.49**	**18**	*e*P		**Pn**		**09 29 01.6**	**+1.0**
PRVC				*e*S		**Sn**		**09 29 52.0**	**-1.2**
PRVC				*i*				09 29 59.7	
	comp=N,65nm,0.5s								
PRVC	**Isla de Provid**	**4.49**	**18**	*e*P		**Pn**		**09 29 01.6**	**+1.0**
PRVC				*e*S		**Sn**		**09 29 52.0**	**-1.2**
PRVC				*i*				09 29 59.7	
	comp=N,65nm,0.5s								
UPD2	**Meteti**	**4.78**	**96**	*e*P		**Pn**		**09 29 07.0**	**+2.4**
UPD2				*e*S		**Sn**		**09 30 03.8**	**+3.4**
ULM	**Lac du Bonnet**	**42.44**	**348**	P		**P**		**09 35 46.6**	**-1.0**
	comp=N,3.6nm,0.7s,baz=174,slow=9.4,SNR=8.0								
YKA	**Yellowknife Ar**	**58.07**	**343**	P		**P**		**09 37 45.2**	**-0.7**
	comp=N,0.4nm,0.5s,baz=137,slow=7.1,SNR=5.3								
ILAR	**Eielson Array**	**70.92**	**336**	P		**P**		**09 39 10.2**	**+0.2**
	comp=N,0.4nm,0.8s,baz=107,slow=4.9,SNR=4.9								

*ISCJB **26** 09:36:38.9±0.4, 13°.10N±0°.04×89°.31W±0°.03, h69km±2km, mb4.3/34, Error ellipse: s-maj=7.6km s-min=3.2km az=35.9*
*UCR **26** 09:36:39.5±1.4, 13°.09N×89°.33W, h49km±24km, ML4.5*
*NEIC **26** 09:36:40.9±0.7, 13°.09N×89°.25W, h76km±7km, mb4.5/34, MD4.4(SNET), Error ellipse: s-maj=10.1km s-min=5.6km az=216.0*
NEIC Felt [III] at San Salvador. Also felt at Cojutepeque.
*IDC **26** 09:36:40.6±1.4, 13°.38N×89°.04W, h73km±12km, mb3.6/11, mb1 3.9/15, mb1mx3.7/42, mbtmp4.0/15, MS3.5/10, Ms1 3.5/10, ms1mx3.3/34, Error ellipse: s-maj=25.8km s-min=8.9km az=47.0*
ISC 26 09:36:40.2±0.8, 13°.15N±0°.07×89°.28W±0°.05, h69km±6km, n224, σ1§14/240, mb4.3/34, 1C-3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.52**	**24**	*e*P		**Pn**		**09 36 51.5**	**-1.7**
SNET	**Serv Nac Est T**	**0.54**	**5**	*e*P		**Pn**		**09 36 52.2**	**-1.2**
SNET				AML		AML		09 36 52.9	
	comp=Z,36μm,0.3s								
SNET				*e*S		**Sn**		**09 37 01.6**	**-1.4**
UTEC	**San Salvador**	**0.56**	**8**	*e*P		**Pn**		**09 36 52.5**	**-1.0**
BOQS	**Boqueron**	**0.58**	**0**	⇓*e*P		**Pn**		**09 36 53.0**	**-1.0**
UDBS	**Soyapango**	**0.59**	**12**	*e*P		**Pn**		**09 36 52.8**	**-1.1**
UDBS				IAML				09 37 06.1	
	comp=Z,19μm,0.3s								
SNVI	**San Vicente**	**0.63**	**43**	*e*P		**Pn**		**09 36 53.3**	**-1.1**
PAVA	**Las Pavas**	**0.66**	**31**	*e*P		**Pn**		**09 36 53.7**	**-0.9**
CEVE	**Cerro Verde**	**0.75**	**334**	*e*P		**Pn**		**09 36 54.9**	**-1.0**
CEVE				*e*S		**Sn**		**09 37 07.3**	**-0.2**
SBLS	**San Blas**	**0.76**	**334**	⇓*e*P		**Pn**		**09 36 55.0**	**-1.0**
SNJE	**San Jose**	**0.78**	**336**	⇓*e*P		**Pn**		**09 36 55.2**	**-1.0**
RTR	**El Retiro**	**0.82**	**335**	*e*P		**Pn**		**09 36 55.9**	**-0.7**
PACA	**Pacayal**	**0.99**	**71**	*e*P		**Pn**		**09 36 58.0**	**-0.5**
LCY	**Lacayo**	**1.00**	**74**	*e*P		**Pn**		**09 36 58.3**	**-0.4**
VSM	**San Miguel**	**1.02**	**74**	*e*P		**Pn**		**09 36 59.0**	**-0.1**
CAHU	**Cacacuatique**	**1.21**	**59**	*e*P		**Pn**		**09 37 01.3**	**-0.2**
CNCH	**Conchagua**	**1.42**	**85**	*e*P		**Pn**		**09 37 04.3**	**+0.2**
APG	**El Apazote**	**2.17**	**328**	P		**Pn**		**09 37 14.6**	**+0.2**
	comp=Z,14nm,0.3s,baz=122,slow=5.8,SNR=74								
APG				S		**Sn**		**09 37 44.3**	**+3.9**
	comp=Z,36nm,0.3s,baz=150,slow=20,SNR=5.7								
CRIN	**San Cristobal**	**2.22**	**101**	*e*P		**Pn**		**09 37 15.5**	**+0.6**
CRIN				*e*S		**Sn**		**09 37

JCT	Junction City	19.80	332	*eP*		P	09 41 04.8	-0.4
	comp=E,6.3nm,0.8s							
JCT	Junction City	19.80	332	P		P	09 41 06.3	+1.2
	baz=148							
152A	Waverly Hall	19.88	11	*eP*		P	09 41 06.9	+1.1
	comp=E,36nm,1.5s							
152A	Waverly Hall	19.88	11	P		P	09 41 06.9	+1.1
	baz=193							
LRAL	Lakeview Retre	19.91	6	*eP*		P	09 41 07.0	+0.8
	comp=E,45nm,2.0s							
LRAL	Lakeview Retre	19.91	6	P		P	09 41 07.6	+1.4
	baz=186							
Z49A	Columbiana	20.11	7	P		P	09 41 09.3	+0.8
	baz=188							
154A	Montrose	20.18	15	*eP*		P	09 41 09.3	+0.1
	comp=E,44nm,0.5s							
Z48A	Northport	20.20	4	P		Pn	09 41 11.4	-0.4
	baz=185							
WHTX	Lake Whitney,	20.20	340	*eP*		P	09 41 10.3	+0.9
WHTX				*ep*	P	pP	09 41 22.8	-1.0
WHTX	Lake Whitney,	20.20	340	P		P	09 41 11.3	+1.9
	baz=156							
Z50A	Ashland	20.25	8	P		P	09 41 11.7	+1.8
	baz=189							
155A	Kite	20.36	17	P		P	09 41 12.7	+1.5
	baz=199							
Z52A	Williamson	20.44	12	P		P	09 41 13.7	+1.8
	baz=194							
HPIG		20.58	314	*eP*		P	09 41 15.0	+1.2
	comp=E,18nm,2.0s							
Y45A	Yeager Farm, C	20.63	359	P		Pn	09 41 16.7	-0.1
	baz=179							
Y46A	Houston	20.65	1	P		P	09 41 16.4	+2.2
	baz=181							
Y47A	UCPARC, Winfie	20.70	3	P		P	09 41 16.5	+1.7
	baz=184,SNR=8.5							
Z53A	Monticello	20.71	14	P		P	09 41 16.8	+2.0
	baz=196							
Y48A	Jasper	20.76	5	P		P	09 41 16.5	+1.1
	baz=186,SNR=8.0							
Y49A	Blount Mountai	20.78	7	*eP*		P	09 41 17.0	+1.3
	comp=E,13nm,0.6s							
Y49A	Blount Mountai	20.78	7	P		P	09 41 17.0	+1.3
	baz=188							
Z54A	Sparta	20.84	15	P		P	09 41 17.9	+1.6
	baz=198							
GOGA	Godfrey	20.86	14	*eP*		P	09 41 16.8	+0.4
GOGA	Godfrey	20.86	14	P		P	09 41 18.2	+1.7
	baz=196							
Y50A	Piedmont	20.90	8	P		P	09 41 18.6	+1.6
	baz=190							
TXAR	Lajitas Array	20.92	323	P		P	09 41 19.0	+1.7
	comp=E,1.3nm,0.5s,baz=142,slow=9.5,SNR=32							
TXAR				PcP		PcP	09 45 23.6	+0.7
	comp=E,1.9nm,1.2s,baz=126,slow=2.3,SNR=4.1							
TX31	Lajitas Ar. Si	20.92	323	*eP*		P	09 41 19.0	+1.7
Y51A	Rockmart	21.01	10	P		P	09 41 19.7	+1.6
	baz=191							
Z55A	Blythe	21.02	17	P		P	09 41 19.7	+1.4
	baz=200							
Y52A	Lilburn	21.16	12	*eP*		P	09 41 20.8	+1.0
Y52A				*ep*	P	pP	09 41 35.6	+1.4
Y52A	Lilburn	21.16	12	P		P	09 41 21.3	+1.5
	baz=194							
X45A	UM Field Stati	21.18	360	P		P	09 41 21.7	+1.8
	baz=180							
Y53A	Monroe	21.26	13	P		P	09 41 21.8	+1.1
	baz=195							
OXF	Oxford	21.27	360	*eP*		P	09 41 23.0	+2.1
OXF				*ep*	P	pP	09 41 36.4	+1.0
OXF	Oxford	21.27	360	P		P	09 41 22.5	+1.6
	baz=180							
X48A	Hartselle	21.31	5	P		P	09 41 22.2	+0.9
	baz=186							
X49A	Woodville	21.44	7	P		P	09 41 23.5	+0.9
	baz=188							
X41A	Kaden, Bauxite	21.45	353	P		P	09 41 23.4	+0.6
	baz=171							
X50B	Fort Payne	21.47	8	P		P	09 41 23.1	0.0
	baz=190							
X40A	Basin Creek Fa	21.49	352	P		P	09 41 23.8	+0.6
	baz=170							
ABTX	Abilene, Hawle	21.58	336	*eP*		P	09 41 24.6	+0.4
	comp=E,43nm,1.9s							
ABTX	Abilene, Hawle	21.58	336	P		P	09 41 24.5	+0.2
	baz=152,SNR=6.0							
MIAR	Mount Ida	21.66	350	*eP*		P	09 41 25.6	+0.6
	comp=E,46nm,1.9s							
MIAR	Mount Ida	21.66	350	P		P	09 41 25.5	+0.5
	baz=169							
X51A	Calhoun	21.70	10	P		P	09 41 25.7	+0.2
	baz=192							
UALR	University of	21.71	353	*eP*		P	09 41 27.2	+1.6
UALR				*ep*	P	pP	09 41 41.7	+1.6
W45A	Hickory Valley	21.91	0	P		P	09 41 28.1	+0.4
	baz=180							
X53A	Estanollee	21.94	13	P		P	09 41 28.3	+0.3
	baz=196							
W48A	Pulaski	22.00	5	P		P	09 41 29.1	+0.4
	baz=186							
W49A	Belvidere	22.05	7	P		P	09 41 29.8	+0.6
	baz=188							
W47A	Westpoint	22.06	4	P		P	09 41 30.0	+0.6
	baz=184							
SWET	Sewanee	22.18	7	*eP*		P	09 41 31.2	+0.5
	comp=E,14nm,1.1s							
W51A	Cleveland	22.30	10	P		P	09 41 32.6	+0.7
	baz=192							
W39A	Magazine	22.33	350	P		P	09 41 33.1	+0.9
	baz=168							
V46A	Holladay	22.58	2	P		P	09 41 35.3	+0.3
	baz=183							
V48A	Smith Brothers	22.61	5	P		P	09 41 35.5	+0.3
	baz=186							
V47A	Nunnelly	22.64	4	P		P	09 41 36.0	+0.4
	baz=184							
V42A	Cord	22.64	356	P		P	09 41 36.0	+0.4
	baz=175							
LPIG	La Paz	22.68	302	LR		LR	09 50 36.0	
	comp=E,48nm,20.7s,baz=270,slow=37							
V41A	Mountainview	22.69	354	P		P	09 41 36.8	+0.7
	baz=173,SNR=6.3							
V49A	McMinnville	22.73	7	P		P	09 41 36.9	+0.4
	baz=188							
V50A	Pikevile	22.74	9	P		P	09 41 36.9	+0.2
	baz=190							
SJG	San Juan	22.81	75	LR		LR	09 51 02.2	
	comp=E,96nm,19.6s,baz=264,slow=38							
WVT	Waverly	22.92	3	P		P	09 41 39.0	+0.5
	baz=184							
TKL	Tuckaleechee C	22.96	12	LR		LR	09 50 28.1	
	comp=E,160nm,21.2s,baz=202,slow=36							
KMSC	Kings Mountain	23.05	17	P		P	09 41 39.8	+0.1
	baz=200							
U44B	Burton Farm, H	23.09	360	P		P	09 41 40.5	+0.3
	baz=180							
U46A	Springville	23.14	2	P		P	09 41 40.4	-0.1
	baz=183,SNR=7.3							
U43A	Rector	23.15	358	P		P	09 41 41.2	+0.6
	baz=177							
WMOK	Wichita Mounta	23.16	340	*eP*		P	09 41 40.1	-0.7
	comp=E,13nm,1.0s							
WMOK	Wichita Mounta	23.16	340	P		P	09 41 40.7	-0.1
	baz=156							
U42A	Revenden	23.17	356	P		P	09 41 41.1	+0.2
	baz=175							
U41A	Viola	23.22	355	P		P	09 41 41.2	-0.1
	baz=173							
U40A	Yellville	23.33	353	P		P	09 41 43.2	+0.7
	baz=171							
U48A	Cassie Pea, Po	23.39	6	P		P	09 41 43.5	+0.5
	baz=187							
HHAR	Hobbs	23.41	350	*eP*		P	09 41 43.9	+0.7
HHAR				*ep*	P	pP	09 41 59.6	+1.1
U49A	Red Boiling Sp	23.48	7	P		P	09 41 44.3	+0.5
	baz=188							
U50A	Jamestown	23.51	9	P		P	09 41 44.7	+0.6
	baz=191							
U51A	La Follette	23.61	11	P		P	09 41 45.3	+0.3
	baz=193							
MNTX	Cornudas Mount	23.66	324	*eP*		P	09 41 45.7	+0.2
	comp=E,8.2nm,1.5s							
MNTX	Cornudas Mount	23.66	324	P		P	09 41 45.8	+0.2
	baz=138							
T42A	Van Buren	23.84	356	*eP*		P	09 41 47.3	+0.3
	comp=E,59nm,1.8s							
T42A	Van Buren	23.84	356	P		P	09 41 47.3	+0.3
	baz=176,SNR=6.6							
T43A	Greenville	23.85	358	P		P	09 41 46.8	-0.4
	baz=178,SNR=5.9							
T41A	Mountain View	23.90	355	P		P	09 41 47.6	0.0
	baz=174							
MSTX	Muleshoe	24.09	332	P		P	09 41 49.1	-0.4
	baz=146							
T50A	Nancy	24.10	9	P		P	09 41 50.5	+1.1
	baz=190							
S43A	Fulton Ridge,	24.33	358	P		P	09 41 51.7	+0.2
	baz=178							
AMTX	Amarillo	24.38	335	*eP*		P	09 41 51.6	-0.4
	comp=E,9.8nm,0.7s							
AMTX	Amarillo	24.38	335	P		P	09 41 52.2	+0.2
	baz=150							
S41A	Jillco Farms,	24.44	355	P		P	09 41 52.8	+0.4
	baz=174							
S44A	Carbondale	24.45	0	P		P	09 41 52.7	+0.2
	baz=180							
S42A	Caledonia	24.56	357	P		P	09 41 53.3	-0.2
	baz=176							
CCM	Cathedral Cave	24.87	356	*eP*		P	09 41 56.4	0.0
CCM				*ep*	P	pP	09 42 11.1	-1.6
CCM	Cathedral Cave	24.87	356	P		P	09 41 55.8	-0.5
	baz=175							
R43A	Red Bud	25.03	359	P		P	09 41 58.0	+0.1
	baz=178,SNR=6.9							
R45A	Skylar, Fairfi	25.06	2	P		P	09 41 57.6	-0.5
	baz=182							
R42A	Luebbering	25.07	357	P		P	09 41 58.3	+0.1
	baz=176							
R41A	Rosebud	25.12	356	P		P	09 41 58.6	0.0
	baz=175,SNR=8.8							
121A	Cookes Peak, D	25.67	322	P		P	09 42 04.3	+0.3
	baz=135							
Q41A	Truxton	25.76	357	P		P	09 42 05.7	+1.3
	baz=176,SNR=5.4							
BNM	Barren Site	26.18	326	*eP*		P	09 42 06.7	-1.9
P42A	Winchester	26.35	358	P		P	09 42 09.9	+0.1
	baz=178							
P47A	Martinsville	26.37	5	P		P	09 42 10.2	+0.3
	baz=186							
KSU1	Kansas State U	26.65	347	P		P	09 42 12.2	-0.3
	baz=164							
T25A	Trinidad	27.46	333	P		P	09 42 20.7	+0.7
	baz=147							
NNA	Nana	27.85	153	LR		LR	09 51 46.2	
	comp=E,35nm,19.6s,baz=168,slow=32							
KSCO	Kaye Shedlock'	28.34	338	*eP*		P	09 42 28.4	+0.6
	comp=E,39nm,1.8s							
L41A	Preston	28.84	358	P		P	09 42 32.8	+0.8
	baz=178							
S22A	4UR Ranch, Cre	29.07	331	*eP*		P	09 42 33.4	-1.1
	comp=E,4.7nm,1.3s							
S22A	4UR Ranch, Cre	29.07	331	P		P	09 42 34.2	-0.3
	baz=143							
J42A	Columbus	30.06	0	P		P	09 42 42.8	0.0
	baz=180							
PV12	Saucer Basin,	30.48	329	*eP*		P	09 42 48.5	+1.6
	comp=E,4.5nm,0.7s							
PV11	David Mesa, Pa	30.51	329	*eP*		P	09 42 48.0	+1.0
	comp=E,11nm,1.5s							
PV17	East Wray Mesa	30.54	329	*eP*		P	09 42 47.9	+0.6
	comp=E,22nm,1.8s							
PV16	Nysvonger Mesa	30.54	329	*eP*		P	09 42 47.1	-0.3
	comp=E,21nm,1.9s							
J55A	Hilton	31.60	16	P		P	09 42 57.2	+0.9
	baz=202							
O20A	White River Ci	31.63	332	P		P	09 42 57.1	+0.2
	baz=143							
SPMN	Marine on St.	32.11	355	P		P	09 43 00.8	0.0
	baz=174							
P17A	Butcher Ranch,	32.35	328	*eP*		P	09 43 05.0	+1.8
	comp=E,3.6nm,0.8s							
TCUT	Toone Canyon	33.92	329	*eP*		P	09 43 19.3	+2.4
	comp=E,4.7nm,0.6s							
BW06	Boulder Array	34.33	333	P		P	09 43 20.7	+0.2
	baz=143							
PDAR	Pinedale Array	34.33	333	P		P	09 43 20.4	-0.1
	comp=E,0.4nm,0.5s,baz=120,slow=11,SNR=6.1							
PDAR				PcP		PcP	09 45 54.2	-1.1
	comp=E,0.4nm,0.5s,baz=113,slow=3.4,SNR=4.2							
HWUT	Hardware Ranch	34.36	330	*eP*		P	09 43 23.2	+2.5
	comp=E,1.3nm,0.6s							
REDW	Red Top Meadow	35.38	332	*eP*		P	09 43 30.6	+1.1
	comp=E,7.2nm,0.6s							
SNOW	Snow King Moun	35.41	333	*eP*		P	09 43 31.1	+1.2
	comp=E,9.7nm,0.6s							
LOHW	Long Hollow	35.47	333	*eP*		P	09 43 31.2	+1.0
	comp=E,3.0nm,0.7s							
TPAW	Teton Pass	35.52	332	*eP*		P	09 43 31.2	+0.4
	comp=E,3.1nm,0.6s							
IMW	Indian Meadow	35.84	333	*eP*		P	09 43 35.5	+2.0
	comp=E,2.3nm,0.6s							
LPAZ	La Paz	35.95	144	P		P	09 43 35.9	+0.7
	comp=E,1.5nm,0.8s,baz=290,slow=8.9,SNR=6.8							
NVAR	Mina Array Bea	36.01	320	P		P	09 43 36.5	+1.5
	comp=E,1.1nm,0.8s,baz=137,slow=8.3,SNR=5.2							
NVAR				PcP		PcP	09 46 01.5	+1.2
	comp=E,1.1nm,0.7s,baz=138,slow=4.5,SNR=6.0							
NVAR				ScP		ScP	09 49 41.5	+0.8
	comp=E,0.9nm,0.8s,baz=132,slow=4.9,SNR=5.7							
NVAR				LR		LR	09 58 49.7	
	comp=E,103nm,18.1s,baz=210,slow=37							
LAO	LASA Array	36.35	340	P		P	09 43 38.3	+0.7
	baz=151							
DGMT	Dagmar	37.33	344	*eP*		P	09 43 45.2	-0.7
	comp=E,14nm,0.6s							
DGMT	Dagmar	37.33	344	P		P	09 43 45.4	-0.4
	baz=156,SNR=7.3							
ULM	Lac du Bonnet	37.39	353	P		P	09 43 44.3	-2.0
	comp=E,2.3nm,0.5s,baz=165,slow=8.8,SNR=10							
ULM				LR		LR	10 00 35.6	
	comp=E,121nm,19.3s,baz=158,slow=39							
MCMT	McKenzie Canyo	37.42	332	*eP*		P	09 43 48.4	+1.4
EGMT	Eagleton	38.73	338	P		P	09 43 57.9	+0.2
	baz=147							
SIV	San Ignacio	40.20	135	P		P	09 44 09.5	-0.8
	comp=E,2.3nm,0.9s,baz=319,slow=10.0,SNR=8.4							
SIV				PcP		PcP	09 46 12.9	-0.4
	comp=E,0.7nm,0.8s,baz=316,slow=6.2,SNR=3.2							
LVC	Limon Verde	40.76	150	LR		LR	10 01 30.9	
	comp=E,62nm,18.8s,baz=197,slow=36							
SCHQ	Schefferville	45.15	18	P		P	09 44 47.5	-2.4
	comp=E,1.7nm,0.7s,baz=247,slow=3.5,SNR=5.3							
BDFB	Brasilia	49.84	124	LR		LR	10 08 06.9	
	comp=E,60nm,19.0s,baz=229,slow=38							
YKA	Yellowknife Ar	52.48	346	P		P	09 45 44.7	-1.1
	comp=E,3.7nm,0.9s,baz=147,slow=6.6,SNR=50							
YKB5	Yellowknife Ar	52.48	346	*eP*		P	09 45 44.7	-1.1
YKW3	Yellowknife Ar	52.54	346	*eP*		P	09 45 45.4	-0.8
	comp=E,11nm,1.3s							
PLCA	Paso Flores	56.35	163	P		P	09 46 15.0	+0.8
	comp=E,1.8nm,0.8s,baz=352,slow=12,SNR=4.5							
PLCA				LR		LR	10 05 00.7	
	comp=E,107nm,20.7s,baz=232,slow=30							
ILAR	Eielson Array	64.67	336	P		P	09 47 08.2	-2.4
	comp=E,1.1nm,1.0s,baz=136,slow=6.0,SNR=7.2							
COLD	Coldfoot	66.89	338	*eP*		P	09 47 29.8	+5.0
	comp=E,6.0nm,0.3s							
NOA	NORSAR Array B	83.62	29	LR		LR	10 25 43.0	
	comp=E,39nm,18.4s,baz=335,slow=35							
ARCES	ARCESS Array B	86.11	19	P		P	09 49 10.8	-2.4
	comp=E,1.4nm,0.9s,baz=280,slow=5.4,SNR=3.1							
MKAR	Makanchi Array	119.86	7	PKP		PKPdf	09 55 20.8	-2.1
	comp=E,0.3nm,0.7s,baz=302,slow=3.4,SNR=3.2							
KSH	Kashi	125.84	14	PKP		PKPdf	09 55 33.3	-1.4
KSH				sPKP			09 56 07.3	
KSH				PP		PP	09 57 30.8	+4.2
KSH				PKS		PKSdf	09 59 08.0	-3.5
KSH				AMB		AMB		
	comp=Z,290nm,9.4s							
LZH	Lanzhou	129.49	346	*e*PKP		PKPdf	09 55 38.8	-3.0
LZH				pPKP		sPKPdf	09 56 05.0	-3.9
LZH				sPKP			09 56 14.8	
LZH				LR		LR		
	comp=N,69nm,18.1s							
LZH				LR		LR		
	comp=E,72nm,17.9s							
LZH				LR		LR		
	comp=Z,81nm,20.0s							
WRA	Warramunga Arr	137.74	255	PKP		PKPdf	09 55 58.6	+1.1
	comp=Z,1.7nm,0.9s,baz=88,slow=2.2,SNR=7.4							
ASAR	Alice Springs	137.85	249	PKP		PKPdf	09 55 58.1	+0.5
	comp=Z,0.6nm,0.8s,baz=122,slow=3.0,SNR=5.2							
FITZ	Fitzroy Crossi	146.04	257	PKPbc		PKPdf	09 56 12.6	+0.3
	comp=Z,2.2nm,0.7s,baz=128,slow=18,SNR=2.4							
CMAR	Chiang Mai Arr	147.56	345	PKPbc		PKPdf	09 56 14.5	-0.3
	comp=Z,1.9nm,0.3s,baz=331,slow=2.8,SNR=10							

IDC 26 09:43:05.7±1.6, 0°01'S×126°06'E, *h*0km, *mb*3.6/4, *mb*1 3.8/4, *mb*1*mx*3.5/50, *mbtmp*3.6/4, Error ellipse: s-maj=164.0km s-min=21.4km az=65.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.41	158	P	P	09 47 54.4	-0.9
	1.1nm,0.5s,baz=336,slow=11,SNR=15						
ASAR	Alice Springs	24.72	163	P	P	09 48 29.6	+0.6
	2.1nm,0.3s,baz=345,slow=12,SNR=56						
MKAR	Makanchi Array	60.26	327	P	P	09 53 15.8	-0.2
	0.1nm,0.4s,baz=114,slow=8.1,SNR=5.9						
KURBB	Kurchatov Arra	64.53	329	P	P	09 53 44.5	+0.1
	0.2nm,0.5s,baz=132,slow=6.7,SNR=7.0						

*NEIC **26** 09:49:28.7±0.0, 17°.36N×94°.87W, h146km, MD4.2(MEX), After MEX.*

MEX 26 09:49:27.1±0.8, 17°.44N×94°.77W, h152km±7km, MD4.2, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.36	197	*i* P	Pn	09 49 47.2	-1.0
CMIG				*e*S	Sn	09 50 01.7	-2.5
CMIG	Matias Romero	0.36	197	*i* P	Pn	09 49 47.2	-0.9
CMIG				*e*S	Sn	09 50 02.3	-1.9
TUIG	Tuzandepetl	0.68	29	*i* P	Pn	09 49 48.1	-1.6
TUIG				*i* S	Sn	09 50 04.5	-2.6
VHO	Vista Hermosa	1.91	259	*e*P	Pn	09 50 00.9	-0.6
VHO				*e*S	Sn	09 50 24.7	-3.3
VHO	Vista Hermosa	1.91	259	*e*P	Pn	09 50 00.9	-0.6
VHO				*i* S	Sn	09 50 26.2	-1.7
HUIG	Huatulco	2.10	218	*i* P	Pn	09 50 01.4	-2.1
HUIG				*e*S	Sn	09 50 28.1	-3.4
HUIG	Huatulco	2.10	218	*i* P	Pn	09 50 01.4	-2.1
HUIG				*i* S	Sn	09 50 29.4	-2.2
PNIG	Pinotepa	3.38	253	*e*P	Pn	09 50 16.6	-2.7
PNIG				*e*S	Sn	09 50 56.7	-3.2
PNIG	Pinotepa	3.38	253	*i* P	Pn	09 50 16.6	-2.8
PNIG				*e*S	Sn	09 50 57.4	-2.5

*ISCJB **26** 09:58:37.8±0.5, 35°.51N±0°.04×78°.76E±0°.09, h10km, mb3.5/7, MS4.0/1, Error ellipse: s-maj=10.5km s-min=4.2km az=161.7*
*BJI **26** 09:58:37.2, 35°.32N×78°.20E, h9km, ML3.7/6*
*NNC **26** 09:58:37.3±3.5, 35°.37N×78°.96E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=27.9km s-min=20.7km az=170.0*
*IDC **26** 09:58:37.6±1.3, 35°.49N×78°.33E, h0km, mb3.6/7, mb1 3.6/12, mb1mx3.4/52, mbtmp3.5/12, ML3.2/5, MS4.0/1, Ms1 4.0/1, ms1mx2.6/45, Error ellipse: s-maj=31.6km s-min=18.8km az=57.0*

ISC 26 09:58:40.6±0.8, 35°.43N±0°.07×78°.81E±0°.08, h10km, n28, σ2.946/35, mb3.6/7, 8C-12D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	6.21	319	⇓Pn	Pn	10 00 13.0	+0.5
	1.5nm,0.4s						
SFK				⇑Pg	Pb	10 00 29.0	+0.1
	4.1nm,0.5s						
SFK				⇓Sn	Sn	10 01 28.4	+4.7
	3.4nm,0.4s						
TKM2	Tokmak 2	7.88	343	⇑Pn	Pn	10 00 34.6	-0.8
	1.8nm,1.0s						
TKM2				⇑Pg	Pb	10 01 00.3	+2.9
	12nm,1.1s						
TKM2				⇓Lg	Lg	10 02 50.2	
	13nm,1.1s						
PDGK	Podgornoye	7.90	4	⇑Pn	Pn	10 00 35.5	-0.2
	2.4nm,0.4s						
PDGK				⇓Sn	Sn	10 02 06.6	+1.4
	11nm,0.7s						
PDGK				⇑Lg	Lg	10 02 49.4	
	19nm,0.9s						
AAK	Ala-Archa	7.94	336	Pn	Pn	10 00 36.2	+0.1
	0.7nm,0.3s,baz=161,slow=12,SNR=7.2						
AAK				Lg	Lg	10 02 44.2	
	0.3nm,0.3s,baz=333,slow=12,SNR=5.5						
AAK	Ala-Archa	7.94	336	⇑Pn	Pn	10 00 36.7	+0.6
	5.0nm,0.8s						
AAK				⇓Pg	Pb	10 01 03.0	+4.8
	4.4nm,0.8s						
AAK				⇑Lg	Lg	10 02 50.7	
	13nm,0.8s						
PYUN	Piuthan	8.13	153	*eP*	Pn	10 00 40.0	+1.1
	23nm,0.4s						
DANN	Dangsing	8.22	148	*eP*	Pn	10 00 40.8	+0.6
	17nm,0.5s						
MNAS	Manas	8.58	327	⇑Pn	Pn	10 00 45.9	+0.9
	0.9nm,0.5s						
MNAS				⇓Sn	Sn	10 02 27.6	+5.6
	4.8nm,0.9s						
KOLN	Koldanda	8.66	151	*eP*	Pn	10 00 46.9	+0.7
	12nm,0.5s						
GUN	Gumba	9.62	139	*eP*	Pn	10 01 02.0	+2.6
	6.9nm,0.4s						
PKI	Pulchoki	9.65	142	*eP*	Pn	10 01 01.3	+1.5
	7.9nm,0.5s						
JIRN	Jiri	9.98	139	*eP*	Pn	10 01 06.2	+1.8
	20nm,0.3s						
KK31	Karatay Array	10.00	323	⇓Pn	Pn	10 01 00.8	-3.4
	0.9nm,0.5s,baz=145,slow=13,SNR=7.7						
KK31				⇓Sn	Sn	10 02 56.1	-0.3
	0.6nm,0.4s						
RAMN	Ramite	10.77	140	*eP*	Pn	10 01 15.2	+0.1
	9.5nm,0.5s						
WMQ	Urumqi	10.82	37	*eP*	Pn	10 01 20.0	+4.4
MAKZ	Makanchi	11.61	11	⇓Pn	Pn	10 01 24.8	-1.6
	1.8nm,0.8s						
MAKZ				⇓Sn	Sn	10 03 33.5	-2.6
	4.9nm,1.3s						
MK31	Makanchi Array	11.65	12	⇓Pn	Pn	10 01 25.8	-1.1
	0.6nm,0.5s,baz=191,slow=11,SNR=24						
MK31				⇓Sn	Sn	10 03 38.0	+1.1
	3.6nm,0.8s,baz=192,slow=17,SNR=6.1						
MKAR	Makanchi Array	11.65	12	Pn	Pn	10 01 26.5	-0.4
	0.2nm,0.3s,baz=195,slow=13,SNR=10						
MKAR				Sn	Sn	10 03 34.6	-2.4
	0.3nm,0.3s,baz=189,slow=22,SNR=6.4						
KURBB	Kurchatov Arra	15.18	359	Pn	Pn	10 02 12.9	-2.1
	0.0nm,0.3s,baz=190,slow=15,SNR=3.5						
BVAR	Borovoye Array	18.57	344	P	P	10 02 55.9	-1.7
	0.1nm,0.3s,baz=148,slow=8.4,SNR=3.7						
ZALV	Zalesovo Beam	18.99	11	P	P	10 02 59.

comp=Z,270nm,0.1s

ANDN				*i* P	**Pn**	10 06 05.6	**+0.1**
ANDN				*i* S	**Sn**	10 06 20.8	**+0.8**
URFA	**Urfa**	**1.17**	**71**	PN	**Pg**	10 06 06.5	**-1.0**
URFA				SN	**Sn**	10 06 23.1	**-0.9**
TAHT	**Tahtakopru-Hat**	**1.22**	**236**	PN	**Pn**	10 06 07.2	**-1.1**
ELBS	**KAHRAMANMARAS**	**1.28**	**349**	IAML_P			

comp=Z,203nm,0.2s

ELBS				*i* P	**Pg**	10 06 09.7	**+0.1**
ELBS				*i* S	**Sn**	10 06 27.1	**+0.3**
KOZT	**Kozan**	**1.35**	**288**	PN	**Pn**	10 06 09.4	**-0.7**
DARE	**Darende-Malaty**	**1.50**	**2**	PN	**Pn**	10 06 11.7	**-0.7**

NEIC ***26*** *10:12:22.3±0.8,27.˚46S×177.˚66W,h128km±7km,mb4.5/17, Error ellipse: s-maj=8.6km s-min=7.1km az=131.0*

IDC ***26*** *10:12:22.4±1.9,27.˚42S×177.˚59W,h126km±18km, mb3.8/16,mb1 4.0/16,mb1mx3.9/35,mbtmp4.1/16,MS2.9/3, Ms1 2.9/3,ms1mx2.7/30,Error ellipse: s-maj=24.0km s-min=15.1km az=178.0*

ISC 26 10:12:23.7±0.5,27˚62S±0.˚06×177˚6W±0.˚1,h145km,n88, σ1§81/72,mb4.2/27,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**1.65**	**190**	P	**Pn**	10 12 52.3	**-2.2**
RIZ				S	**Sn**	10 13 18.9	**+0.8**
RAO	**Raoul Island**	**1.66**	**190**	P	**Pn**	10 12 52.5	**-2.1**

1μm,0.3s,baz=206,slow=3.6,SNR=26

RAO				S	**Sn**	10 13 19.2	**+1.0**

2μm,0.3s,baz=80,slow=23,SNR=9.8

RAO	**Raoul Island**	**1.66**	**190**	*e*Pn	**Pn**	10 12 52.5	**-2.1**
RAO				*e*Sn	**Sn**	10 13 17.9	**-0.4**
RAO				*e*Sn	Sn	10 13 19.2	+1.0
GLKZ	**Green Lake**	**1.67**	**190**	P	**Pn**	10 12 52.2	**-2.5**
GLKZ				S	**Sn**	10 13 20.1	**+1.6**
MSVF	**Nonsavu**	**10.62**	**337**	*e*Pn	**Pn**	10 14 49.1	**-3.0**
OUZ	**Omahuta**	**10.68**	**223**	*e*Pn	**Pn**	10 14 53.6	**+0.9**
OUZ	**Omahuta**	**10.68**	**223**	P	**Pn**	10 14 56.4	**+3.7**
WMGZ	**Waiomatatini S**	**10.71**	**197**	P	Pn	10 14 45.9	-7.2
WCZ	**Waipu Caves**	**10.76**	**218**	P	Pn	10 15 01.4	+7.6
HAZ	**Te Kaha**	**10.83**	**200**	P	Pn	10 14 45.2	-9.5
PKGZ	**Pakihiroa**	**10.87**	**198**	P	Pn	10 14 45.7	-10
PUZ	**Puketiti**	**10.99**	**197**	P	Pn	10 14 45.9	-11
RUGZ	**Raukumara Rang**	**11.06**	**200**	P	Pn	10 14 49.0	-8.9
TWGZ	**Tauwhareparae**	**11.17**	**198**	P	Pn	10 14 49.6	-10
CNGZ	**Carnagh Statio**	**11.39**	**197**	P	Pn	10 14 51.8	-10
TKGZ	**Te Karaka**	**11.45**	**198**	P	Pn	10 14 53.1	-10
URZ	**Urewera**	**11.51**	**201**	P	Pn	10 14 53.7	-10

0.8nm,0.3s,baz=265,slow=3.3,SNR=11

URZ				S	Sn	10 16 59.0	-12

4.2nm,0.3s,baz=141,slow=3.3,SNR=13

URZ				LR	LR	10 19 26.2	

comp=Z,35nm,19.1s,baz=7.5,slow=36

URZ	**Urewera**	**11.51**	**201**	*e*Pn	Pn	10 14 53.7	-10
URZ				*e*Sn	Sn	10 16 59.0	-12
URZ				*e*Sn	S	10 17 07.5	-24
URZ				*e*		10 19 26.2	
URZ	**Urewera**	**11.51**	**201**	P	Pn	10 14 54.0	-10
RIGZ	**Rimuhau**	**11.72**	**198**	P	Pn	10 14 56.6	-10
MUGZ	**Murupara**	**11.81**	**202**	P	Pn	10 14 58.9	-8.7
BKZ	**Black Stump Fm**	**12.53**	**202**	P	Pn	10 15 10.7	-6.3
BHHZ	**Black Hill Sta**	**12.96**	**202**	P	Pn	10 15 15.7	-6.9
BHHZ				S	Sn	10 17 35.3	-11
DVHZ	**Dannevirke**	**13.66**	**201**	P	**Pn**	**10 15 30.3**	**-1.2**
DVHZ				S	Sn	10 17 48.7	-14
KIW	**Kapiti Island**	**14.58**	**203**	P	Pn	10 15 38.4	-4.7
KIW				S	Sn	10 18 08.9	-16
DUWZ	**D'Urville Isla**	**14.90**	**206**	P	Pn	10 15 39.4	-7.5
SNZO	**South Karori**	**15.05**	**203**	*e*Pn	**Pn**	**10 15 44.8**	**-4.1**

29nm,1.0s

BHW	**Baring Head**	**15.09**	**202**	P	Pn	10 15 41.8	-7.4
TUWZ	**Tuamarina**	**15.43**	**205**	P	Pn	10 15 46.0	-7.5
NNZ	**Nelson**	**15.46**	**206**	P	**Pn**	**10 15 47.6**	**-6.3**
QRZ	**Quartz Range**	**15.49**	**209**	P	**Pn**	**10 15 48.2**	**-6.0**
DZM	**Mont Dzumac**	**15.50**	**287**	LR	LR	10 20 00.1	

comp=Z,48nm,19.3s,baz=202,slow=30

THZ	**Tophouse**	**16.11**	**206**	*e*Pn	**P**	**10 16 03.9**	**+1.4**

73nm,1.9s

THZ				*e*Sn	Sn	10 18 47.5	-14
THZ	**Tophouse**	**16.11**	**206**	P	Pn	10 15 55.0	-7.1
KHZ	**Kahutara**	**16.44**	**204**	P	Pn	10 15 57.1	-8.8
LTZ	**Lake Taylor**	**17.23**	**206**	P	**P**	**10 16 10.1**	**-4.7**
RPZ	**Rata Peaks**	**18.49**	**207**	P	**P**	**10 16 26.1**	**-2.5**

0.6nm,0.3s,baz=68,slow=5.4,SNR=4.6

RPZ				S	S	10 19 36.2	-16

0.9nm,0.3s,baz=296,slow=23,SNR=11

WHZ	**Wether Hill Ro**	**21.55**	**208**	*e*P	**P**	**10 17 01.8**	**+0.3**

99nm,1.9s

PPT	**Papeete**	**27.68**	**75**	LR	LR	10 28 14.5	

comp=Z,33nm,18.8s,baz=214,slow=34

CTA	**Charters Tower**	**33.81**	**275**	P	**P**	**10 18 54.2**	**+2.0**

3.1nm,0.5s,baz=109,slow=5.5,SNR=4.1

CTAO	**Charters Tower**	**33.81**	**275**	*e*P	**P**	**10 18 50.5**	**-1.7**

47nm,1.6s

STKA	**Stephens Creek**	**35.54**	**253**	P	**P**	**10 19 08.3**	**+1.4**

0.9nm,0.5s,baz=80,slow=6.1,SNR=4.1

STKA	**Stephens Creek**	**35.54**	**253**	*e*P	**P**	**10 19 08.4**	**+1.5**

5.3nm,1.6s

AS31	**Alice Springs**	**43.68**	**264**	*e*P	**P**	**10 20 13.4**	**-1.0**

1.2nm,0.9s

AS31				*e*PP	**PcP**	**10 21 59.5**	**+0.4**
ASAR	**Alice Springs**	**43.68**	**264**	P	**P**	**10 20 15.0**	**+0.6**

0.6nm,0.4s,baz=104,slow=7.2,SNR=18

ASAR				PcP	**PcP**	**10 21 59.5**	**+0.4**

0.5nm,0.9s,baz=120,slow=4.1,SNR=2.9

WR1	**Warramunga Arr**	**44.42**	**269**	*e*P	**P**	**10 20 20.3**	**0.0**

63nm,1.8s

WRA	**Warramunga Arr**	**44.42**	**269**	P	**P**	**10 20 20.3**	**0.0**

1.2nm,0.5s,baz=104,slow=8.2,SNR=19

QSPA	**South Pole Qui**	**62.49**	**180**	*e*P	**P**	**10 22 33.8**	**+2.3**

5.7nm,0.8s

MJAR	**Matsushiro Arr**	**76.17**	**325**	P	**P**	**10 23 55.1**	**-0.7**

1.4nm,0.4s,baz=162,slow=6.5,SNR=6.6

MAJO	**Matsushiro**	**76.17**	**325**	*e*P	**P**	**10 23 55.1**	**-0.7**
SNAA	**Sanae**	**80.92**	**178**	*e*P	**P**	**10 24 22.6**	**+1.1**

21nm,1.6s

KSRS	**Korea Array**	**82.47**	**319**	P	**P**	**10 24 30.5**	**+0.7**

0.9nm,0.6s,baz=134,slow=5.9,SNR=5.2

KS15	**Wonju Array Si**	**82.48**	**319**	*e*P	**P**	**10 24 29.9**	**-0.1**
KSAR	**Wonju Array Be**	**82.48**	**319**	P	**P**	**10 24 30.5**	**+0.6**
PLCA	**Paso Flores**	**84.14**	**133**	P	**P**	**10 24 40.7**	**+2.0**

2.8nm,0.5s,baz=266,slow=5.5,SNR=18

PLCA	**Paso Flores**	**84.14**	**133**	*e*P	**P**	**10 24 40.5**	**+1.7**

3.7nm,0.6s

GSC	**Goldstone, Bar**	**84.90**	**46**	*e*P	**P**	**10 24 42.8**	**+0.4**

3.4nm,0.9s

YBH	**Yreka Blue Hor**	**85.63**	**38**	P	**P**	**10 24 47.0**	**+1.1**

1.3nm,0.9s,baz=162,slow=23,SNR=3.1

LDFC	**Landfair**	**85.85**	**47**	*e*P	**P**	**10 24 48.4**	**+1.2**

7.3nm,0.8s

NV01	**Mina Array Sit**	**85.96**	**43**	*e*P	**P**	**10 24 47.4**	**-0.4**
NVAR	**Mina Array Bea**	**85.96**	**43**	P	**P**	**10 24 48.0**	**+0.2**

1.8nm,0.8s,baz=225,slow=8.2,SNR=15

Y14A	**Wickenburg**	**86.54**	**49**	*e*P	**P**	**10 24 51.0**	**+0.4**

3.4nm,1.0s

X16A	**Lo Mia Camp, P**	**87.87**	**49**	*e*P	**P**	**10 24 58.3**	**+1.2**

3.3nm,0.8s

KLR	**Kul'dur**	**88.82**	**330**	P	**P**	**10 25 02.3**	**+1.4**

0.6nm,0.6s

ELK	**Elko**	**89.25**	**42**	P	**P**	**10 25 04.0**	**+0.5**

0.2nm,0.3s,baz=73,slow=23,SNR=2.8

G08A	**Pilot Rock**	**90.03**	**37**	*e*P	**P**	**10 25 07.3**	**+0.5**

3.7nm,1.0s

LTX	**Lajitas**	**90.59**	**57**	*e*P	**P**	**10 25 10.6**	**+0.8**
TXAR	**Lajitas Array**	**90.59**	**57**	P	**P**	**10 25 10.6**	**+0.8**

0.9nm,0.9s,baz=214,slow=8.7,SNR=3.6

TMUT	**Trail Mountain**	**90.86**	**45**	*e*P	**P**	**10 25 12.2**	**+1.1**

4.6nm,0.5s

ANMO	**Albuquerque**	**91.56**	**51**	P	**P**	**10 25 15.0**	**+0.7**

1.4nm,0.9s,baz=184,slow=6.3,SNR=5.8

ANMO	**Albuquerque**	**91.56**	**51**	*e*P	**P**	**10 25 14.9**	**+0.5**

4.7nm,1.6s

CM31	**Chiang Mai Arr**	**92.82**	**289**	*e*P	**P**	**10 25 20.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**92.82**	**289**	P	**P**	**10 25 20.9**	**+0.6**

0.5nm,0.3s,baz=90,slow=1.8,SNR=3.6

PD31	**Pinedale Array**	**93.88**	**43**	*e*P	**P**	**10 25 24.4**	**-0.5**
PDAR	**Pinedale Array**	**93.88**	**43**	P	**P**	**10 25 24.8**	**-0.1**

0.9nm,0.9s,baz=204,slow=3.3,SNR=5.8

ILAR	**Eielson Array**	**95.14**	**13**	P	**P**	**10 25 28.6**	**-1.2**

0.3nm,0.8s,baz=220,slow=5.4,SNR=3.4

ILB	**Eielson Array**	**95.14**	**13**	*e*P	**P**	**10 25 28.6**	**-1.2**
CPUP	**Villa Florida**	**101.42**	**128**	PKiKP	**PKiKP**	**10 30 20.2**	**-2.3**

1.0nm,0.3s,baz=282,slow=2.4,SNR=3.6

MK32	**Makanchi Array**	**116.23**	**311**	*e*PKPdf	**PKPdf**	**10 30 48.8**	**-0.8**
MKAR	**Makanchi Array**	**116.23**	**311**	PKP	**PKPdf**	**10 30 48.8**	**-0.8**

0.2nm,0.5s,baz=124,slow=1.4,SNR=3.3

NB200	**NORSAR Array S**	**146.05**	**352**	*e*PKPdf	**PKPdf**	**10 31 45.0**	**+0.1**
NOA	**NORSAR Array B**	**146.05**	**352**	PKPbc	**PKPdf**	**10 31 45.1**	**+0.1**

1.0nm,0.6s,baz=14,slow=4.6,SNR=3.5

AKASG	**Malin Array Be**	**149.25**	**326**	PKPbc	**PKPbc**	**10 31 54.3**	**-0.6**

0.6nm,0.3s,baz=44,slow=3.7,SNR=4.6

AKBB	**Malin Array Si**	**149.25**	**326**	*e*PKPbc	**PKPbc**	**10 31 54.4**	**-0.5**
BR101	**Keskin Array S**	**151.48**	**303**	*e*PKPbc	**PKPbc**	**10 32 00.5**	**-0.3**
BRTR	**Keskin Array B**	**151.48**	**303**	PKPbc	**PKPbc**	**10 32 00.5**	**-0.3**

0.5nm,0.5s,baz=142,slow=4.8,SNR=3.9

TORD	**Torodi Ar. Bea**	**165.59**	**177**	PKP	**PKPdf**	**10 32 11.9**	**+0.2**

0.3nm,0.6s,baz=188,slow=4.2,SNR=2.4

TORD				PKPab	**PKPab**	**10 33 12.3**	**+1.5**

0.8nm,0.6s,baz=188,slow=3.0,SNR=7.1

TOA1	**Torodi Ar. Sit**	**165.60**	**177**	*e*PKPdf	**PKPdf**	**10 32 11.9**	**+0.1**
TOA1				*e*PKPab	**PKPab**	**10 33 12.3**	**+1.4**

IDC ***26*** *10:14:22.6±1.4,4.˚90S×152.˚64E,h0km,mb3.8/6, mb1 4.0/7,mb1mx3.7/33,mbtmp3.8/7,ML3.6/1,Error ellipse: s-maj=39.0km s-min=27.4km az=124.0*

ISCJB ***26*** *10:14:28.4±1.3,5.˚1S±0.˚2×152.˚6E±0.˚2,h55km,mb3.6/6, Error ellipse: s-maj=27.4km s-min=21.1km az=135.0*

ISC 26 10:14:30.1±1.2,5˚1S±0.˚2×152˚6E±0.˚2,h55km,n8,σ1§19/8, mb3.6/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**16.16**	**202**	Pn	**Pn**	**10 18 12.2**	**-1.6**

0.2nm,0.3s,baz=18,slow=12,SNR=3.0

DZM	**Mont Dzumac**	**21.57**	**143**	P	**P**	**10 19 16.0**	**+0.6**

4.3nm,0.9s,baz=311,slow=20,SNR=2.5

WRA	**Warramunga Arr**	**23.13**	**229**	P	**P**	**10 19 32.0**	**+0.3**

1.9nm,0.9s,baz=54,slow=9.3,SNR=4.2

ASAR	**Alice Springs**	**25.83**	**222**	P	**P**	**10 19 58.2**	**+1.6**

0.8nm,0.9s,baz=53,slow=8.9,SNR=2.9

STKA	**Stephens Creek**	**28.60**	**200**	P	**P**	**10 20 21.2**	**0.0**

0.7nm,0.4s,baz=45,slow=10.0,SNR=2.2

FITZ	**Fitzroy Crossi**	**29.36**	**242**	P	**P**	**10 20 28.0**	**-0.2**

1.8nm,0.7s,baz=96,slow=10,SNR=2.4

ILAR	**Eielson Array**	**82.47**	**22**	P	**P**	**10 26 45.6**	**-0.8**

0.4nm,0.7s,baz=243,slow=6.0,SNR=3.4

TORD	**Torodi Ar. Bea**	**150.20**	**288**	PKPbc	**PKPbc**	**10 34 16.9**	**+0.9**

0.2nm,0.5s,baz=71,slow=2.2,SNR=3.8

IDC ***26*** *10:27:03.0±0.7,37.˚76N×145.˚06E,h0km,mb3.7/12, mb1 4.0/18,mb1mx3.9/40,mbtmp3.8/18,ML3.9/5,Error ellipse: s-maj=21.3km s-min=16.0km az=122.0*

NEIC ***26*** *10:27:04.4±0.3,37.˚78N×145.˚02E,h10km,mb4.6/4, Error ellipse: s-maj=7.1km s-min=4.9km az=155.0*

ISCJB ***26*** *10:27:05.4±0.4,37.˚94N±0.˚03×144.˚81E±0.˚03,h26km, mb3.9/16,Error ellipse: s-maj=4.5km s-min=3.8km az=157.6*

JMA ***26*** *10:27:08.7±0.2,37.˚96N×144.˚67E,h56km,M4.4*

ISC 26 10:27:07.1±0.7,37˚94N±0.˚05×144˚82E±0.˚07,h26km,n67, σ2§16/84,mb3.8/16,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.67**	**279**	P	**Pn**	**10 27 48.7**	**+0.3**
OFUJ	**Ofunato**	**2.72**	**296**	P	**Pn**	**10 27 49.7**	**+0.6**
OFUJ				*e*S	**Sn**	**10 28 20.2**	**-1.0**
JKMT	**Kesennumamotoy**	**2.77**	**289**	P	**Pn**	**10 27 50.2**	**+0.5**
JIO	**Ouri**	**2.78**	**282**	P	**Pn**	**10 27 50.4**	**+0.5**
JIO				S	**Sn**	**10 28 21.3**	**-1.3**
MIYJ	**Miyakonagasawa**	**2.86**	**306**	P	**Pn**	**10 27 51.3**	**+0.3**
MIYJ				*e*S	**Sn**	**10 28 23.2**	**-1.4**
JMK	**Ichinoseki**	**3.00**	**291**	P	**Pn**	**10 27 53.7**	**+0.8**
JMK				*e*S	**Sn**	**10 28 27.2**	**-0.9**
JOM	**Ohasama**	**3.16**	**300**	P	**Pn**	**10 27 56.0**	**+0.9**
JOM				S	**Sn**	**10 28 31.8**	**-0.1**
JANG	**Nango**	**3.54**	**314**	P	**Pn**	**10 28 00.8**	**+0.5**
JANG				*e*S	**Sn**	**10 28 39.9**	**-1.4**
JFT	**Otama**	**3.58**	**265**	P	**Pn**	**10 28 01.9**	**+1.0**
JFT				S	**Sn**	**10 28 41.5**	**-0.8**
ERM	**Erimo**	**4.27**	**343**	*e*Pn	**Pn**	**10 28 10.8**	**+0.5**
ERM				*e*Sn	**Sn**	**10 28 54.3**	**-5.0**
JOT	**Ohata**	**4.51**	**321**	P	**Pn**	**10 28 14.3**	**+0.7**
JOT				S	**Sn**	**10 29 02.8**	**-2.3**
BSO1	**Boso 1**	**4.51**	**225**	P	**Pn**	**10 28 12.4**	**-0.8**
BSO1				*e*S	**Sn**	**10 29 02.7**	**-1.9**
JCH	**Churui**	**4.80**	**347**	P	**Pn**	**10 28 17.2**	**-0.5**
JCH				S	**Sn**	**10 29 08.4**	**-4.0**
JKB	**Kayabe**	**4.90**	**325**	P	**Pn**	**10 28 19.7**	**+0.7**
JKB				*e*S	**Sn**	**10 29 13.5**	**-1.4**
JRY	**Ryogami san**	**5.11**	**250**	P	**Pn**	**10 28 21.8**	**-0.2**
JRY				S	**Sn**	**10 29 15.9**	**-4.3**
JOD2	**Odawara 2**	**5.33**	**242**	P	**Pn**	**10 28 24.7**	**-0.2**
JOD2				*e*S	**Sn**	**10 29 20.1**	**-5.4**
MJAR	**Matsushiro Arr**	**5.46**	**257**	Pn	**Pn**	**10 28 28.1**	**+1.4**

2.7nm,0.3s,baz=79,slow=15,SNR=111

MJAR				Sn	**Sn**	**10 29 29.3**	**+0.6**

0.4nm,0.3s,baz=95,slow=28,SNR=4.3

MAJO	**Matsushiro**	**5.46**	**257**	*e*Pn	**Pn**	**10 28 28.1**	**+1.4**
MAJO				*e*Sn	**Sn**	**10 29 29.3**	**+0.6**
MAT	**Matsushiro**	**5.46**	**257**	P	**Pn**	**10 28 28.7**	**+2.0**
MAT				S	**Sn**	**10 29 30.6**	**+1.9**
MJB9	**Matsu-Tunnel**	**5.46**	**257**	*e*Pn	**Pn**	**10 28 28.1**	**+1.4**
NEM2	**Nemuro 2**	**5.47**	**7**	P	**Pn**	**10 28 24.7**	**-2.1**
NEM2				*e*S	**Sn**	**10 29 22.1**	**-6.7**
JTKR	**Abashiri--Toko**	**6.07**	**354**	P	**Pn**	**10 28 34.7**	**-0.3**
JTKR				*e*S	**Sn**	**10 29 38.6**	**-4.9**
JHR	**Hokuryu**	**6.26**	**339**	P	**Pn**	**10 28 39.5**	**+1.9**
JHR				S	**Sn**	**10 29 47.7**	**-0.5**
JHJ2	**Mitsune**	**6.31**	**222**	*e*Pn	**Pn**	**10 28 33.8**	**-4.6**
JHJ2	**Mitsune**	**6.31**	**222**	*e*S	**Sn**	**10 29 42.9**	**-6.7**
JHJ	**Hachijo jima 2**	**6.32**	**222**	Pn	**Pn**	**10 28 38.5**	**0.0**

22nm,0.3s,baz=67,slow=21,SNR=2.9

JHJ				Sn	**Sn**	**10 29 43.4**	**-6.6**

49nm,0.3s,baz=69,slow=23,SNR=5.0

ASAJ	**Asahikawa**	**6.40**	**345**	Pn	**Pn**	**10 28 40.4**	**+0.8**

7.3nm,0.3s,baz=193,slow=12,SNR=85

ASAJ				Sn	**Sn**	**10 29 50.1**	**-1.6**

2.1nm,0.3s,baz=33,slow=26,SNR=7.5

ASAJ	**Asahikawa**	**6.40**	**345**	*e*Pn	**Pn**	**10 28 41.0**	**+1.4**
ASAJ				*e*Sn	**Sn**	**10 29 50.5**	**-1.2**
JTNC	**Tanabenakahech**	**8.53**	**244**	P	**Pn**	**10 29 09.3**	**+0.4**
USRK	**Ussuriysk Ar.**	**11.52**	**307**	Pn	**Pn**	**10 29 52.2**	**+2.4**

0.5nm,0.3s,baz=115,slow=14,SNR=8.3

KSRS	**Korea Array**	**13.39**	**273**	Pn	**Pn**	**10 30 18.7**	**+3.3**

0.2nm,0.3s,baz=88,slow=13,SNR=4.7

KS01	**Wonju Array Si**	**13.41**	**273**	*e*Pn	**Pn**	**10 30 15.9**	**+0.2**
KS15	**Wonju Array Si**	**13.43**	**273**	*e*Pn	**Pn**	**10 30 17.4**	**+1.5**
KSAR	**Wonju Array Be**	**13.43**	**273**	Pn	**Pn**	**10 30 18.7**	**+2.9**
KLR	**Kul'dur**	**14.71**	**324**	Pn	**P**	**10 30 38.0**	**-1.2**

0.1nm,0.3s,baz=300,slow=17,SNR=2.6

YOJ	**Yonaguni jima**	**22.92**	**240**	*e*P	**P**	**10 32 07.1**	**-2.0**

149nm,1.2s

SEY	**Seymchan**	**25.45**	**8**	P	**P**	**10 32 34.1**	**+1.6**

1.3nm,0.7s,baz=100,slow=5.0,SNR=4.8

H11N2	**WAKE ISLAND Hy**	**26.40**	**127**	T	T	10 59 40.6	

baz=317,slow=74,SNR=19

H11N1	**WAKE ISLAND Hy**	**26.41**	**127**	T	T	10 59 38.3	

baz=317,slow=74,SNR=9.3

H11N3	**WAKE ISLAND Hy**	**26.42**	**127**	T	T	10 59 40.2	

baz=317,slow=74,SNR=14

H11S1	**WAKE ISLAND Hy**	**27.20**	**129**	T	T	11 00 40.1	

baz=310

H11S3	**WAKE ISLAND Hy**	**27.20**	**129**	T	T	11 00 46.8	

baz=310,slow=74

H11S2	**WAKE ISLAND Hy**	**27.22**	**129**	T	T	11 00 47.3	

baz=310,slow=74

SONA0	**Songino Array**	**29.57**	**302**	*e*P	**P**	**10 33 11.9**	**+2.1**
SONM	**Songino Array**	**29.57**	**302**	P	**P**	**10 33 11.9**	**+2.1**

0.2nm,0.6s,baz=90,slow=5.8,SNR=2.8

ZALV	**Zalesovo Beam**	**43.32**	**312**	PcP	**PcP**	**10 36 55.3**	**+0.3**

0.6nm,0.4s,baz=89,slow=2.9,SNR=2.5

ILAR	**Eielson Array**	**47.27**	**33**	P	**P**	**10 35 37.8**	**0.0**

1.1nm,0.8s,baz=262,slow=6.6,SNR=13

ILB	**Eielson Array**	**47.27**	**33**	*e*P	**P**	**10 35 37.6**	**-0.2**
INK	**Inuvik**	**52.34**	**28**	P	**P**	**10 36 17.0**	**+0.9**

0.9nm,0.8s,baz=279,slow=4.9,SNR=5.2

INK	**Inuvik**	**52.34**	**28**	*e*P	**P**	**10 36 17.2**	**+1.1**

14nm,1.8s

WR1	**Warramunga Arr**	**58.41**	**192**	*e*P	**P**	**10 36 59.0**	**-1.4**

17nm,1.4s

WRA	**Warramunga Arr**	**58.41**	**192**	P	**P**	**10 36 59.0**	**-1.4**

0.7nm,0.6s,baz=10,slow=7.0,SNR=12

YKA	**Yellowknife Ar**	**61.65**	**31**	P	**P**	**10 37 22.1**	**0.0**

0.4nm,0.7s,baz=298,slow=6.1,SNR=9.7

YKB5	**Yellowknife Ar**	**61.65**	**31**	*e*P	**P**	**10 37 21.6**	**-0.5**
AS31	**Alice Springs**	**62.13**	**191**	*e*P	**P**	**10 37 24.7**	**-1.1**

1.0nm,1.1s

ASAR	**Alice Springs**	**62.13**	**191**	P	**P**	**10 37 24.6**	**-1.2**

0.2nm,0.5s,baz=5.8,slow=7.3,SNR=4.1

FIA0	**FINESS Array S**	**69.25**	**333**	*e*P	**P**	**10 38 12.1**	**+0.7**
FINES	**FINESS Array B**	**69.25**	**333**	P	**P**	**10 38 12.1**	**+0.7**

1.2nm,0.7s,baz=78,slow=12,SNR=4.3

NV01	**Mina Array Sit**	**72.26**	**55**	*e*P	**P**	**10 38 30.0**	**-0.4**
NVAR	**Mina Array Bea**	**72.26**	**55**	P	**P**	**10 38 31.

KNRA Kununurra 22.79 244 P **P** **11 06 41.3 0.0**
baz=23,SNR=28
AS01 Alice Springs 23.20 220 *e*P **P** **11 06 44.4 -1.0**
AS31 Alice Springs 23.23 220 *e*P **P** **11 06 44.9 -0.8**
comp=Z,17nm,1.5s
ASAR Alice Springs 23.23 220 P **P** **11 06 46.4 +0.7**
comp=Z,4.2nm,0.5s,baz=54,slow=8.6,SNR=93
ASAR PcP **PcP** **11 10 33.1 +0.8**
comp=Z,2.5nm,0.7s,baz=65,slow=2.8,SNR=4.6
ASAR ScP **ScP** **11 14 09.0 +3.0**
comp=Z,1.2nm,0.9s,baz=37,slow=2.3,SNR=4.9
ASAR LR LR 11 16 13.2
comp=Z,720nm,19.9s,baz=31,slow=37
ARMA Armidale 24.18 176 P **P** **11 06 55.8 +1.3**
baz=24,SNR=5.7
ARMA Armidale 24.18 176 *e*P **P** **11 06 53.9 -0.6**
comp=Z,50nm,1.4s
SOEI Soe 25.64 260 *e*P **P** **11 07 07.4 -0.6**
comp=Z,79nm,1.0s
SOEI Soe 25.64 260 P **P** **11 07 07.6 -0.4**
BATI Baumata 26.28 259 P **P** **11 07 14.1 +0.5**
comp=Z,56nm,0.6s,baz=155,slow=2.4,SNR=7.7
BATI Baumata 26.28 259 P **P** **11 07 14.2 +0.5**
comp=Z,37nm,0.8s
FITZ Fitzroy Crossi 26.48 241 P **P** **11 07 15.3 -0.1**
comp=Z,21nm,0.5s,baz=50,slow=7.8,SNR=95
FITZ Fitzroy Crossi 26.48 241 P **P** **11 07 15.3 -0.1**
baz=26,SNR=25
FITZ Fitzroy Crossi 26.48 241 *e*P **P** **11 07 14.9 -0.5**
comp=Z,43nm,0.8s
STKA Stephens Creek 26.73 196 P **P** **11 07 19.1 +1.6**
comp=Z,18nm,1.1s,baz=7.2,slow=13,SNR=14
STKA LR LR 11 18 28.1
comp=Z,881nm,20.0s,baz=29,slow=38
STKA Stephens Creek 26.73 196 P **P** **11 07 19.3 +1.8**
baz=27,SNR=9.7
STKA Stephens Creek 26.73 196 *e*P **P** **11 07 18.5 +1.0**
comp=Z,7.7nm,1.3s
STKA Stephens Creek 26.73 196 *e*P **P** **11 07 18.5 +1.0**
STKA pmax pmax
comp=Z,8.0nm,1.3s
MMRI Maumere 27.55 263 *e*P **P** **11 07 23.7 -1.4**
comp=Z,88nm,0.8s
MMRI Maumere 27.55 263 P **P** **11 07 24.2 -0.9**
comp=Z,113nm,0.9s,comp=Z,2µm
WRKA Warakurna 27.94 225 P **P** **11 07 28.4 -0.1**
baz=28,SNR=28
EDFI Ende, Flores 28.10 263 P **P** **11 07 28.4 -1.7**
comp=Z,61nm,0.9s,comp=Z,634nm
HTT Hallett 28.98 199 P **P** **11 07 39.5 +1.8**
baz=29,SNR=4.1
BBOO Buckleboo 29.48 204 *e*P **P** **11 07 41.7 -0.4**
comp=Z,24nm,1.2s
WSI Waingapu 29.53 261 P P 11 07 35.2 -7.5
MSVF Nonsavu 29.78 115 *e*P **P** **11 07 46.2 +1.2**
comp=Z,26nm,0.8s
MSVF Nonsavu 29.78 115 *e*P **P** **11 07 46.2 +1.2**
MSVF pmax pmax
comp=Z,26nm,0.8s
FORT Forrest 31.94 217 P **P** **11 08 04.0 +0.3**
baz=32,SNR=8.4
FORT Forrest 31.94 217 *e*P **P** **11 08 03.3 -0.5**
comp=Z,41nm,1.2s
MBWA Marble Bar 32.80 240 *e*P **P** **11 08 10.8 -0.6**
comp=Z,19nm,0.6s
KBKI Kotabaru 33.74 273 P P 11 08 12.8 -6.9
JAGI Jajag, Banyuwa 35.53 264 *e*P **P** **11 08 33.6 -1.6**
comp=Z,54nm,0.8s
MEEK Meekatharra 36.09 232 P **P** **11 08 39.9 0.0**
baz=36,SNR=31
GIRL Giralia 38.09 241 *e*P **P** **11 08 56.4 -0.4**
comp=Z,588nm,1.6s
SBUM Sibu 38.60 282 P **P** **11 09 02.9 +1.7**
UGM Wanagama 39.12 265 *e*P **P** **11 09 04.7 -0.9**
comp=Z,351nm,1.5s
MORW Morawa 39.26 230 *e*P **P** **11 09 05.8 -0.8**
comp=Z,9.5nm,1.1s
KLBR Kellerberrin 39.29 226 P **P** **11 09 06.3 -0.5**
baz=39,SNR=6.4
KSM Kuching 40.26 280 P **P** **11 09 15.8 +0.7**
URZ Urewera 40.36 146 P **P** **11 09 15.8 +0.3**
comp=Z,3.8nm,0.8s,baz=350,slow=6.1,SNR=2.5
URZ PcP **PcP** **11 11 16.7 -1.3**
comp=Z,9.3nm,0.7s,baz=352,slow=1.7,SNR=4.7
NWAO Narrogin (SRO) 40.39 224 *e*P **P** **11 09 15.4 -0.5**
comp=Z,28nm,1.4s
NWAO Narrogin (SRO) 40.39 224 *e*P **P** **11 09 15.4 -0.5**
NWAO pmax pmax
comp=Z,28nm,1.4s
YULB Yu-li 40.55 317 *e*P **P** **11 09 17.2 -0.1**
comp=Z,27nm,1.5s
MUN Mundaring 40.60 226 P **P** **11 09 18.0 +0.3**
baz=41
THZ Tophouse 40.92 154 *e*P **P** **11 09 21.3 +1.1**
comp=Z,11nm,1.0s
TPUB Ta-pu 40.94 317 *e*P **P** **11 09 20.2 -0.3**
comp=Z,17nm,0.9s
CMJI Cimerak 41.18 265 P **P** **11 09 22.0 -0.6**
comp=Z,167nm,0.7s
YHNB Yeheng 41.38 319 *e*P **P** **11 09 23.5 -0.7**
comp=Z,27nm,1.0s
RPZ Rata Peaks 41.76 157 P **P** **11 09 28.1 +1.0**
comp=Z,6.2nm,0.9s,baz=281,slow=5.2,SNR=2.6
RPZ Rata Peaks 41.76 157 *e*P **P** **11 09 27.0 0.0**
comp=Z,18nm,1.2s
CISI Cisompet, Garu 41.81 266 *e*P **P** **11 09 26.2 -1.6**
comp=Z,135nm,0.9s
CISI Cisompet, Garu 41.81 266 P **P** **11 09 26.9 -1.0**
comp=Z,156nm,1.1s,comp=Z,2µm
MLZ Mavora Lakes 42.14 161 *e*P **P** **11 09 31.0 +0.9**
comp=Z,20nm,1.3s
CBJI Citeko 42.79 267 P **P** **11 09 40.0 +4.2**
JNU Nakatsue 43.05 336 *e*P **P** **11 09 36.7 -0.9**
comp=Z,54nm,1.3s
MJA0 Matsu Arr-Jizo 43.87 346 *e*P **P** **11 09 43.7 -0.5**
MJA0 pmax pmax
comp=Z,5.0nm,0.7s
MJAR Matsushiro Arr 43.88 346 P **P** **11 09 43.1 -1.2**
comp=Z,5.3nm,0.7s,baz=166,slow=10.0,SNR=12
MJAR LR LR 11 26 20.6
comp=Z,181nm,18.3s,baz=160,slow=34
MAJO Matsushiro 43.88 346 *e*P **P** **11 09 42.8 -1.4**
comp=Z,8.9nm,0.7s
MAJO Matsushiro 43.88 346*c i*P **P** **11 09 44.7 +0.5**
MAJO pmax pmax
comp=Z,14nm,1.0s
MAJO pmax pmax
comp=Z,47nm,1.7s
MAT Matsushiro 43.88 346 P **P** **11 09 42.7 -1.5**
MAT S **S** **11 16 16.8 +5.0**
MJB9 Matsu-Tunnel 43.88 346 *e*P **P** **11 09 43.0 -1.2**
comp=Z,9.1nm,0.7s
XMIS Christmas Isla 43.97 261 *e*P **P** **11 09 42.5 -2.8**
comp=Z,134nm,1.4s
MDSI Maura Dua 45.56 270 P **P** **11 09 57.6 -0.4**
comp=Z,16nm,1.2s
QIZ Qiongzhong 46.75 303 P **P** **11 10 06.5 -0.7**
QIZ S **S** **11 16 55.0 +1.4**
QIZ pmax pmax
comp=Z,39nm,2.1s
QIZ LR LR
comp=Z,250nm,22.6s
KSRS Korea Array 48.01 336 P **P** **11 10 16.3 -0.4**
comp=Z,6.3nm,0.8s,baz=156,slow=8.5,SNR=13
KSRS Korea Array 48.01 336 *e*P **P** **11 10 16.6 -0.1**
KSRS pmax pmax
comp=Z,7.0nm,0.9s
KS01 Wonju Array Si 48.04 336 *e*P **P** **11 10 15.6 -1.3**
KTGM Kuala Trenggan 48.08 283 P **P** **11 10 19.8 +2.2**
NJ2 Nanjing 48.17 324 *e*P **P** **11 10 18.0 -0.1**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
IPM Ipoh 49.94 281 P **P** **11 10 33.5 +1.5**
SKNT Sakolnakorn 50.89 298 P **P** **11 10 40.4 +1.4**
comp=Z,5.4nm,0.9s
USRK Ussuriysk Ar. 52.68 344 P **P** **11 10 51.5 -0.4**
comp=Z,3.9nm,0.8s,baz=186,slow=8.2,SNR=6.0
USRK LR LR 11 31 04.5
comp=Z,229nm,21.8s,baz=140,slow=34
GSI Gunungsitoli 52.77 276 *e*P **P** **11 10 51.9 -1.2**
comp=Z,12nm,0.7s
MDJ Mudanjiang 53.76 342 P **P** **11 11 01.5 +1.7**
MDJ pmax pmax
comp=Z,16nm,0.9s
MDJ pmax pmax
comp=Z,870nm,5.2s
KMI Kunming 55.41 306 P **P** **11 11 12.8 +0.3**
KMI pP pP 11 11 25.5 -1.6
KMI pmax pmax
comp=Z,10.0nm,0.9s
KMI pmax pmax
comp=Z,78nm,4.5s
KMI LR LR
comp=Z,150nm,18.6s
KMI LR LR
comp=Z,88nm,24.2s
XAN Xi'an 55.69 319 P P 11 11 21.5 +7.4
XAN pP sP 11 11 34.3 -0.8
XAN pmax pmax
comp=Z,170nm,6.0s
CMAR Chiang Mai Arr 55.89 297 P **P** **11 11 16.0 +0.2**
comp=Z,0.7nm,0.3s,baz=116,slow=5.7,SNR=5.4
CMAR PcP **PcP** **11 12 14.1 0.0**
comp=Z,0.9nm,0.3s,baz=100,slow=2.9,SNR=4.5
CMAR ScP **ScP** **11 16 10.0 +1.1**
comp=Z,0.5nm,0.3s,baz=73,slow=3.1,SNR=3.1
CMAR LR LR 11 35 20.9
comp=Z,46nm,20.8s,baz=128,slow=36
CMAR Chiang Mai Arr 55.89 297 *e*P **P** **11 11 18.1 +2.3**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
KLR Kul'dur 57.40 346*ce*P **P** **11 11 27.5 +1.6**
CD2 Chengdu 57.49 313 *e*P **P** **11 11 26.5 -0.5**
HHC Hu-ho-hao-te 58.53 327 *e*P **P** **11 11 34.3 +0.2**
HHC S **S** **11 19 30.5 -3.6**
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,130nm,7.5s
HHC LR LR
comp=Z,260nm,13.0s
HHC LR LR
comp=Z,260nm,11.2s
HHC LR LR
comp=Z,480nm,11.2s
PEA0B Petropavlovsk- 59.42 5 *e*P **P** **11 11 39.0 -0.9**
comp=Z,23nm,1.1s
PETK Petropavlovsk- 59.42 5 P **P** **11 11 40.4 +0.5**
comp=Z,3.7nm,0.7s,baz=162,slow=7.9,SNR=8.3
PETK LR LR 11 33 07.4
comp=Z,256nm,20.0s,baz=197,slow=32
PETK Petropavlovsk- 59.42 5 *e*P **P** **11 11 39.4 -0.5**
PETK Petropavlovsk- 59.42 5 *e*P **P** **11 11 39.4 -0.5**
PEA1 Petropavlovsk- 59.42 5 *e*P **P** **11 11 40.4 +0.4**
NKL Nikolayevsk 59.61 354 *e*P **P** **11 11 41.5 +0.4**
NKL pmax pmax
comp=Z,16nm,0.9s
LZH Lanzhou 60.25 318 *e*P **P** **11 11 49.5 +3.3**
LZH pP pP 11 12 02.5 +1.4
LZH sP sP 11 12 09.0 +1.7
LZH PP **PP** **11 14 00.5 +0.9**
LZH pmax pmax
comp=Z,24nm,1.7s
LZH pmax pmax
comp=Z,98nm,4.3s
LZH LR LR
comp=Z,520nm,15.5s
LZH LR LR
comp=Z,520nm,14.1s
LZH LR LR
comp=Z,820nm,18.4s
TBI Tubuai 60.64 113 *e*LR LR 11 30 01.2
comp=Z,152nm,36.8s
ZEA Zeya 62.66 345 *e*P **P** **11 12 02.6 +0.7**
ZEA pmax pmax
comp=Z,29nm,1.0s
SHL Shillong 64.55 302 *e*P **P** **11 12 14.0 -1.1**
comp=Z,5.7nm,1.0s
SHL Shillong 64.55 302 *e*P **P** **11 12 14.0 -1.1**
SHL pmax pmax
comp=Z,6.0nm,1.0s
GTA Gaotai 64.75 319 *e*P **P** **11 12 17.0 +0.9**
GTA pmax pmax
comp=Z,2.0nm,1.0s
ULN Ulaanbaatar 65.68 330 *e*P **P** **11 12 21.5 -0.4**
comp=Z,3.7nm,1.0s
ULN Ulaanbaatar 65.68 330*c i*P **P** **11 12 22.5 +0.5**
ULN pmax pmax
comp=Z,2.0nm,0.7s
ULN pmax pmax
comp=Z,2.0nm,0.7s
SONA0 Songino Array 65.99 329 *e*P **P** **11 12 24.6 +0.7**
SONM Songino Array 65.99 329 P **P** **11 12 24.6 +0.7**
comp=Z,3.7nm,0.8s,baz=141,slow=6.8,SNR=24
SONM LR LR 11 40 37.6
comp=Z,166nm,21.5s,baz=138,slow=35
SONM PKP2bc 11 41 02.9
comp=Z,0.6nm,0.8s,baz=323,slow=3.8,SNR=3.9
SONA1 Songino Array 65.99 329 *e*P **P** **11 12 23.6 -0.4**
ODAN Odare 68.78 302 *e*P **P** **11 12 44.4 +2.2**
ZAK Zakamensk 69.20 330 *e*P **P** **11 12 44.2 +0.1**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
PALK Pallekele 70.33 280 LR LR 11 48 23.8
comp=Z,64nm,18.8s,baz=115,slow=40
GUN Gumba 70.39 302 *e*P **P** **11 12 51.5 -0.7**
comp=Z,15nm,0.5s
PKI Pulchoki 70.68 302 *e*P **P** **11 12 54.2 +0.2**
DMN Daman 70.95 302 *e*P **P** **11 12 55.6 +0.1**
comp=Z,18nm,0.8s
VNDA Vanda 71.59 177 P **P** **11 12 58.8 +0.6**
comp=Z,2.7nm,0.8s,baz=323,slow=9.1,SNR=5.9
VNDA LR LR 11 40 25.7
comp=Z,118nm,19.8s,baz=360,slow=32
VNDA Vanda 71.59 177 *e*P **P** **11 12 58.4 +0.3**
comp=Z,32nm,1.5s
VNDA Vanda 71.59 177 *e*P **P** **11 12 58.4 +0.3**
VNDA pmax pmax
comp=Z,32nm,1.5s
KOLN Koldanda 72.27 302 *e*P **P** **11 13 02.3 -1.1**
comp=Z,13nm,0.9s
DANN Dangsing 72.31 302 *e*P **P** **11 13 02.5 -1.2**
comp=Z,6.8nm,0.6s
PYUN Piuthan 72.89 302 *e*P **P** **11 13 05.8 -1.2**
comp=Z,15nm,0.9s
RKT Rikitea 73.93 112 *e*LR LR 11 36 07.7
comp=Z,158nm,28.8s
WMQ Urumqi 74.82 318 *e*P **P** **11 13 18.5 +0.6**
WMQ pP PcP 11 13 29.0 -2.7
WMQ sP pP 11 13 34.0 +0.9
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,400nm,5.9s
WMQ LR LR
comp=Z,220nm,23.1s
WMQ LR LR
comp=Z,220nm,21.1s
WMQ LR LR
comp=Z,230nm,23.1s
BILL Bilibino 74.93 6 *e*P **P** **11 13 17.9 0.0**
comp=Z,4.7nm,1.0s
BILL Bilibino 74.93 6 *i*P **P** **11 13 16.5 -1.4**
BILL *i* 11 13 28.3
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL MLR MLR
comp=Z,212nm,19.0s
ANM Nome 77.95 18 *e*P **P** **11 13 33.5 -1.5**
comp=Z,7.4nm,1.6s
ANM Nome 77.95 18 *e*P **P** **11 13 33.5 -1.5**
ANM pmax pmax
comp=Z,7.0nm,1.6s
TIXI Tiksi 78.89 353 *i*P **P** **11 13 41.7 +1.6**
TIXI pmax pmax
comp=Z,1.0nm,1.0s
MK01 Makanchi Array 79.47 320 *e*P **P** **11 13 42.9 -1.0**
MK31 Makanchi Array 79.48 320 *e*P **P** **11 13 43.2 -0.7**
MK31 Makanchi Array 79.48 320 *e*P **P** **11 13 43.2 -0.7**
MK32 Makanchi Array 79.48 320 *e*P **P** **11 13 43.5 -0.4**
MKAR Makanchi Array 79.48 320 P **P** **11 13 43.5 -0.4**
comp=Z,1.6nm,0.7s,baz=104,slow=7.0,SNR=12
MKAR LR LR 11 49 56.2
comp=Z,142nm,18.3s,baz=78,slow=36
MKAR Makanchi Array 79.48 320 *e*P **P** **11 13 42.9 -1.0**
comp=Z,10nm,0.6s
MAKZ Makanchi 79.69 320 *e*P **P** **11 13 43.6 -1.4**
comp=Z,2.2nm,0.9s
MAKZ Makanchi 79.69 320 *e*P **P** **11 13 43.6 -1.4**
MAKZ pmax pmax
comp=Z,2.0nm,0.9s
ZALV Zalesovo Beam 80.71 327 P **P** **11 13 48.4 -1.9**
comp=Z,1.6nm,0.5s,baz=108,slow=6.0,SNR=6.1
ZALV LR LR 11 50 01.5
comp=Z,114nm,19.2s,baz=93,slow=36
ZALV Zalesovo Beam 80.71 327 *e*P **P** **11 13 48.2 -2.1**
ZAA1 Zalesovo Array 80.71 327 *e*P **P** **11 13 48.4 -1.9**
KSH Kashi 81.66 311 P **P** **11 13 57.0 +1.2**
KSH PP **PP** **11 17 08.5 +5.3**
KSH S **S** **11 24 03.8 -0.7**
KSH sS sS 11 24 26.5 -4.1
KSH SS **SS** **11 29 23.8 +0.8**
KSH pmax pmax
comp=Z,10.0nm,1.0s
KSH pmax pmax
comp=Z,200nm,5.9s
KSH LR LR
comp=Z,58nm,6.7s
KSH LR LR
comp=Z,110nm,7.0s
KSH LR LR
comp=Z,650nm,9.3s
NIL Nilore 82.39 305 *e*P **P** **11 13 58.4 -1.3**
comp=Z,12nm,0.6s
NIL Nilore 82.39 305 *e*P **P** **11 13 58.4 -1.3**
NIL pmax pmax
comp=Z,12nm,0.6s
MAW Mawson 83.21 203 P **P** **11 14 02.0 -1.2**
comp=Z,19nm,1.0s,baz=101,slow=5.2,SNR=2.4
MAW LR LR 11 48 36.2
comp=Z,208nm,21.7s,baz=96,slow=34
AAK Ala-Archa 83.53 314*c i*P **P** **11 14 05.0 -0.6**
AAK pmax pmax
comp=Z,2.0nm,0.8s
AAK pmax pmax
comp=Z,8.0nm,0.7s
QSPA South Pole Qui 83.80 180 *e*P **P** **11 14 06.8 +0.4**
comp=Z,15nm,1.0s
ILAR Eielson Array 84.51 23 P **P** **11 14 06.0 -3.8**
comp=Z,1.2nm,0.7s,baz=248,slow=5.2,SNR=13
ILAR Eielson Array 84.51 23 *e*P **P** **11 14 09.1 -0.7**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
KK31 Karatay Array 86.49 314 *e*P **P** **11 14 19.2 -1.0**
KK31 Karatay Array 86.49 314 *e*P **P** **11 14 19.2 -1.0**
KKAR Karatay Array 86.49 314 *e*P **P** **11 14 19.1 -1.1**
KKAR Karatay Array 86.49 314 *e*P **P** **11 14 19.1 -1.1**
CHGR Chuyangaron 86.64 309 *e*P **P** **11 14 20.2 -0.9**
comp=Z,6.9nm,0.8s
HYT Haines Junctio 86.98 28 *e*P **P** **11 14 21.9 -0.4**
comp=Z,4.7nm,0.8s
BVAR Borovoye Array 88.62 324 P **P** **11 14 28.6 -1.5**
comp=Z,0.9nm,0.6s,baz=104,slow=6.1,SNR=2.8
BRVK Borovoye 88.69 324*ce*P **P** **11 14 29.1 -1.4**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK pmax pmax
comp=Z,1.0nm,0.9s
SYO Syowa Base 91.42 200⇑ *e*P **P** **11 14 42.0 -0.9**
SYO Syowa Base 91.42 200⇓ *e*PP PP 11 18 24.6 +3.8
GEYT Alibeck 95.16 307 LR LR 11 59 51.4
comp=Z,160nm,20.6s,baz=15,slow=37
NV01 Mina Array Sit 95.19 52 *e*P **P** **11 15 00.5 -0.7**
NVAR Mina Array Bea 95.19 52 P **P** **11 15 01.4 +0.1**
comp=Z,0.8nm,0.7s,baz=253,slow=6.5,SNR=6.5
NVAR LR LR 11 50 15.6
comp=Z,201nm,21.9s,baz=284,slow=31
AKTO Aktyubinsk 95.92 320 LR LR 11 58 48.6
comp=Z,165nm,20.0s,baz=78,slow=36
YKA Yellowknife Ar 97.97 28 P **P** **11 15 10.9 -2.1**
comp=Z,0.3nm,0.8s,baz=275,slow=4.9,SNR=4.9
YKA PKiKP **PKiKP** **11 19 46.2 +0.2**
comp=Z,0.2nm,0.6s,baz=275,slow=1.5,SNR=6.1
YKA PKKPbc **PKKPbc** **11 31 45.2 -4.0**
comp=Z,0.2nm,0.7s,baz=87,slow=2.7,SNR=6.5
YKA LR LR 11 56 06.9
comp=Z,22nm,20.0s,baz=277,slow=33
PDAR Pinedale Array 101.89 48 PKiKP **PKiKP** **11 19 54.2 +0.1**
comp=Z,0.2nm,0.7s,baz=28,slow=2.5,SNR=3.3
TXAR Lajitas Array 107.31 61 PKiKP **PKiKP** **11 20 04.2 0.0**
comp=Z,0.3nm,0.9s,baz=250,slow=2.7,SNR=3.7
ULM Lac du Bonnet 110.10 39 PKiKP **PKiKP** **11 20 07.7 -1.0**
comp=Z,1.4nm,0.8s,baz=326,slow=4.1,SNR=5.2
AKASG Malin Array Be 113.90 323 PKiKP **PKiKP** **11 20 14.9 -1.0**
comp=Z,0.2nm,0.3s,baz=62,slow=2.5,SNR=4.1
P42A Winchester 116.68 49 *e*PKPdf **PKPdf** **11 20 20.6 -0.9**
BLO Bloomington 119.64 48 *e*PKPdf **PKPdf** **11 20 26.7 -0.6**
BLO Bloomington 119.64 48 *e*PKiKP **PKPdf** **11 20 26.7 -0.6**
WCI Wyandotte Cave 120.09 49 *e*PKPdf **PKPdf** **11 20 27.3 -0.9**
WCI Wyandotte Cave 120.09 49 *e*PKiKP **PKPdf** **11 20 27.3 -0.9**
LANS Liptovska Anna 120.27 325 *e*PKiKP **PKiKP** **11 20 28.9 +0.6**
LANS Liptovska Anna 120.27 325 *e*PKP **PKiKP** **11 20 28.9 +0.6**
PLCA Paso Flores 120.36 145 PKP **PKiKP** **11 20 29.0 +0.1**
comp=Z,1.7nm,0.8s,baz=199,slow=1.3,SNR=6.9
PLCA Paso Flores 120.36 145 *e*PKPdf **PKPdf** **11 20 28.9 +0.1**
PLCA Paso Flores 120.36 145 *e*PKiKP **PKPdf** **11 20 28.3 -0.5**
PLCA pmax pmax
comp=Z,2.0nm,0.8s
N49A Columbus Grove 120.77 46 *e*PKPdf **PKPdf** **11 20 28.7 -0.7**
VYHS Vyhne 120.95 324 *e*PKiKP **PKPdf** **11 20 29.3 -0.3**
VYHS Vyhne 120.95 324 *e*PKP **PKPdf** **11 20 29.2 -0.3**
W50A Signal Mountai 121.72 52 *e*PKPdf **PKPdf** **11 20 30.1 -1.4**
VLDQ Val d'Or 122.04 36 *e*PKPdf **PKPdf** **11 20 29.3 -2.3**
S51A Beattyville 122.30 49 *e*PKPdf **PKPdf** **11 20 31.0 -1.5**
BRG Berggiesshubel 122.38 329 *i*PKP **PKPdf** **11 20 32.1 -0.1**
comp=Z,7.2nm,1.0s
BRG Berggiesshubel 122.38 329 *i*PKiKP **PKPdf** **11 20 32.1 -0.1**
BRG pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 122.61 329 *e*PKPdf **PKPdf** **11 20 32.0 -0.6**
comp=Z,6.0nm,1.1s
CLL Lm MLR 12 14 00.0
comp=Z,300nm,21.9s
CLL Collm 122.61 329 *e*PKiKP **PKPdf** **11 20 32.0 -0.6**
CLL pmax pmax
comp=Z,6.0nm,1.1s
CLL MLR MLR
comp=Z,300nm,21.9s
152A Waverly Hall 122.87 55 *e*PKPdf **PKPdf** **11 20 32.4 -1.3**
CONA Conrad Observa 122.95 325 *i*PKiKP **PKPdf** **11 20 33.5 -0.1**
comp=Z,2.9nm,0.7s
Y52A Lilburn 123.08 53 *e*PKPdf **PKPdf** **11 20 33.2 -0.9**
SCHQ Schefferville 123.23 24 PKP **PKPdf** **11 20 33.4 -0.3**
comp=Z,3.8nm,1.0s,baz=285,slow=12,SNR=2.7
P53A Whipple 123.28 46 *e*PKPdf **PKPdf** **11 20 33.2 -1.0**
KHC Kasperske Hory 123.57 327 *e*PKPdf **PKPdf** **11 20 34.4 -0.2**
KHC Kasperske Hory 123.57 327 *e*PKiKP **PKPdf** **11 20 34.4 -0.2**
GEC2 GERESS Array S 123.66 327 *e*PKPdf **PKPdf** **11 20 33.8 -1.1**
GEC2 GERESS Array S 123.66 327 *e*PKiKP **PKPdf** **11 20 33.8 -1.1**
GERES GERESS Array B 123.66 327 PKP **PKPdf** **11 20 34.2 -0.6**
comp=Z,2.8nm,0.7s,baz=48,slow=2.0,SNR=21
GEA0 GERESS Array S 123.67 327 *e*PKPdf **PKPdf** **11 20 33.4 -1.5**
MOA Molln 123.90 325 *e*PKiKP **PKPdf** **11 20 34.6 -0.6**
comp=Z,4.0nm,1.0s
JSC Jenkinsville 125.17 52 *e*PKPdf **PKPdf** **11 20 37.4 -0.7**
JSC Jenkinsville 125.17 52 *e*PKiKP **PKPdf** **11 20 37.4 -0.7**
ABTA Abfaltersbach 125.51 325 *i*PKiKP **PKPdf** **11 20 37.8 -0.7**
comp=Z,4.5nm,0.8s
MOTA Moosalm 125.95 326 *i*PKiKP **PKPdf** **11 20 38.7 -0.7**
comp=Z,7.5nm,0.8s
SQTA Sankt Quirin 125.97 326 *i*PKiKP **PKPdf** **11 20 39.2 -0.1**
comp=Z,7.1nm,0.9s
FETA Feichten 126.35 326 *i*PKiKP **PKPdf** **11 20 39.1 -1.0**
comp=Z,8.1nm,1.2s
DAVOX Davos/Dischmat 126.96 326 PKP **PKPdf** **11 20 41.6 +0.2**
comp=Z,3.9nm,0.7s,baz=107,slow=3.9,SNR=7.7
MNMC Minye Minye 133.67 124 *e*PKPdf **PKPdf** **11 20 54.8 -0.2**
LPAZ La Paz 136.24 121 PKhKP PKPpre 11 20 48.6
comp=Z,1.2nm,0.7s,baz=161,slow=2.9,SNR=5.3
LPAZ PKP **PKPdf** **11 20 59.8 -0.5**
comp=Z,4.7nm,0.9s,baz=236,slow=2.3,SNR=12
LPAZ SKP 11 24 31.6
comp=Z,0.7nm,0.4s,baz=221,slow=2.9,SNR=3.7
LPAZ La Paz 136.24 121 *e*PKPdf **PKPdf** **11 20 59.6 -0.7**
LPAZ La Paz 136.24 121 *e*PKiKP **PKPdf** **11 20 59.6 -0.7**
SDV Santo Domingo 139.73 84 *e*PKPdf **PKPdf** **11 21 06.0 -0.3**
SMRT St. Maarten 145.72 67 *e*PKPdf **PKPdf** **11 21 15.4 -1.1**
TOA0 Torodi Ar. Sit 147.94 285 *e*PKPdf **PKPdf** **11 21 19.5 -0.8**
TORD Torodi Ar. Bea 147.94 285 PKPbc **PKPdf** **11 21 21.2 +0.9**
comp=Z,18nm,0.9s,baz=69,slow=1.3,SNR=64
TOA1 Torodi Ar. Sit 147.94 285 *e*PKPdf **PKPdf** **11 21 21.2 +0.9**
FDF Fort de France 148.32 72 *e*PKPbc **PKPbc** **11 21 25.2 +0.8**
FDF Fort de France 148.32 72 *e*PKP2 **PKPbc** **11 21 25.2 +0.8**
SVB Belmont 148.51 75 *e*PKPbc **PKPbc** **11 21 24.0 -0.8**
PTGA Pitinga 149.40 102 *e*PKPdf **PKPdf** **11 21 22.7 -0.1**
PTGA *e*PKPbc **PKPbc** **11 21 27.5 +0.3**
BDFB Brasilia 151.99 141 PKPbc **PKPbc** **11 21 33.2 -0.1**
comp=Z,8.3nm,0.8s,baz=345,slow=0.4,SNR=8.4

BDFB				PKPab	**PKPab**	**11 21 43.1**	**+0.5**	
	comp=Z,6.8nm,0.7s,baz=205,slow=3.1,SNR=3.2							
DBIC	**Dimbokro**	**154.92**	**273**	PKPbc	**PKPbc**	**11 21 39.1**	**-0.6**	
	comp=Z,8.0nm,0.8s,baz=62,slow=2.5,SNR=9.1							
DBIC				PKPab	**pPKPbc**	**11 21 54.8**	**-1.0**	
	comp=Z,5.2nm,0.7s,baz=89,slow=5.9,SNR=4.3							
DBIC	**Dimbokro**	**154.92**	**273**	*e*PKPbc	**PKPbc**	**11 21 38.7**	**-1.0**	
DBIC				*e*PKPab	**pPKPbc**	**11 21 54.2**	**-1.6**	
DBIC	**Dimbokro**	**154.92**	**273**	*e*PKIKP	**PKPbc**	**11 21 38.7**	**-1.0**	
DBIC				*e*		11 21 54.2		

NEIC ***26*** *11:14:24.9±0.0, 18°.09N×99°.58W, h52km, MD4.1(MEX), After MEX.*

MEX 26 11:14:24.9±0.6,**18°.10N×99°.56W,h54**km±4km,**MD4.1, Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MEIG	**Mezcala**	**0.18**	**197**	*e*Pn		Pn	11 14 32.0	-1.7
MEIG				*e*Sn		Sn	11 14 37.7	-2.3
MEIG	**Mezcala**	**0.18**	**197**	*e*P		Pn	11 14 32.1	-1.6
MEIG				*e*S		Sn	11 14 38.4	-1.6
PLIG	**Platanillo**	**0.29**	**11**	*e*Pn		Pn	11 14 32.9	-1.6
PLIG				*e*Sn		Sn	11 14 38.6	-2.8
PLIG	**Platanillo**	**0.29**	**11**	*e*P		Pn	11 14 32.9	-1.6
PLIG				*e*S		Sn	11 14 39.6	-1.8
ARIG	**Puente Sto Nin**	**0.77**	**283**	*e*P		Pn	11 14 38.5	-1.2
ARIG				*e*S		Sn	11 14 47.8	-2.7
ARIG	**Puente Sto Nin**	**0.77**	**283**	*e*P		Pn	11 14 38.5	-1.2
ARIG				*e*S		Sn	11 14 49.1	-1.4
YAIG	**Yautepec**	**0.89**	**32**	*e*Pn		Pn	11 14 39.7	-1.7
YAIG				*e*Sn		Sn	11 14 50.8	-2.7
YAIG	**Yautepec**	**0.89**	**32**	*e*P		Pn	11 14 39.7	-1.8
YAIG				*i* S		Sn	11 14 51.6	-1.9
CAIG	**El Cayaco**	**1.25**	**213**	*e*Pn		Pn	11 14 44.0	-2.0
CAIG				*e*Sn		Sn	11 14 58.6	-3.2
CAIG	**El Cayaco**	**1.25**	**213**	*e*P		Pn	11 14 44.0	-2.0
CAIG				*i* S		Sn	11 14 59.6	-2.2
UNM	**Universidad Na**	**1.27**	**17**	*e*Pn		Pn	11 14 45.9	-0.8
UNM				*e*Sn		Sn	11 15 02.4	-0.4
ZIIG	**Zihuatanejo**	**1.88**	**255**	*e*Pn		Pn	11 14 51.6	-3.0
ZIIG	**Zihuatanejo**	**1.88**	**255**	*i* P		Pn	11 14 53.2	-1.4
ZIIG				*i* S		Sn	11 15 16.0	-1.2
PNIG	**Pinotepa**	**2.19**	**141**	*e*Pn		Pn	11 14 57.4	-1.4
PNIG	**Pinotepa**	**2.19**	**141**	*e*P		Pn	11 14 57.4	-1.4
PNIG				*i* S		Sn	11 15 22.2	-2.6

SOME ***26*** *11:19:37.6, 48°.70N×77°.62E, h10km*
NNC ***26*** *11:19:42.7±1.2, 48°.67N×77°.99E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=14.7km s-min=8.3km az=83.0, Suspected Mining explosion.*

ISC 26 11:19:35.8±1.2,**48°.63N**±0°.03×**77°.63E**±0°.07,**h0km**,**n8,** σ1s**76**/13,**4C-6D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KURBB	**Kurchatov Arra**	**2.08**	**16**	⇓Pn		**Pg**	**11 20 16.3**	**+0.6**
	6.0nm,0.5s							
KURBB				⇓Sn		**Sg**	**11 20 44.1**	**+1.5**
	12nm,0.7s							
KURK	**Kurchatov**	**2.19**	**17**	⇓Pn		**Pg**	**11 20 18.5**	**+0.9**
	3.3nm,0.4s							
KURK				⇑Sn		**Sg**	**11 20 47.0**	**+1.1**
	4.2nm,0.3s							
MAKZ	**Makanchi**	**3.46**	**120**	⇓Pn		**Pb**	**11 20 35.7**	**-2.1**
	0.9nm,0.6s							
MAKZ				⇓Lg		Lg	11 21 24.2	
	1.8nm,0.6s							
OTUK	**Ortayu**	**3.54**	**266**	⇑Pn		**Pg**	**11 20 43.2**	**-0.5**
	2.4nm,0.9s							
OTUK				⇑Lg		Lg	11 21 38.9	
	1.8nm,0.6s							
KAPS	**Kapalarasan**	**3.55**	**160**	*e*P		**Pg**	**11 20 44.0**	**+0.2**
	0.6nm,0.2s							
KAPS				*e*S		**Sg**	**11 21 31.8**	**+2.0**
	6.4nm,0.5s							
MK31	**Makanchi Array**	**3.65**	**119**	⇑Pn		**Pb**	**11 20 38.9**	**-2.2**
	0.2nm,0.3s,baz=300,slow=14,SNR=16							
MK31				⇓Lg		Lg	11 21 30.5	
	2.4nm,0.7s,baz=307,slow=26,SNR=8.7							
ARXS	**Arharly**	**4.42**	**178**	*e*P		**Pg**	**11 21 00.7**	**+0.2**
	0.1nm,0.2s							
ARXS				*e*S		**Sg**	**11 22 00.6**	**+2.9**
	6.3nm,0.6s							
KTBS	**Karatobe**	**4.96**	**188**	*e*P		**Pg**	**11 21 10.6**	**-0.3**
	0.7nm,0.2s							
KTBS				*e*S		**Sg**	**11 22 17.3**	**+2.1**
	7.7nm,0.6s							

IDC 26 11:23:41.0±4.1,**4°.80S×150°.96E, h0km, mb3.2**/3, **mb1 3.5**/3,**mb1mx3.3**/25,**mbtmp3.3**/3,**MS3.6**/1,**Ms1 3.6**/1, **ms1mx2.9**/11,**Error ellipse: s-maj=135.7km s-min=30.4km az=104.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**22.10**	**226**	P		P	11 28 37.8	-0.3
	0.3nm,1.0s,baz=50,slow=10,SNR=2.8							
DZM	**Mont Dzumac**	**22.79**	**140**	LR		LR	11 35 57.4	
	comp=Z,127nm,18.0s,baz=50,slow=32							
ASAR	**Alice Springs**	**24.95**	**220**	P		P	11 29 06.3	0.0
	1.4nm,0.7s,baz=59,slow=8.8,SNR=20							
SONM	**Songino Array**	**65.36**	**329**	P		P	11 34 25.2	-0.1
	0.2nm,0.5s,baz=116,slow=5.0,SNR=2.5							
TORD	**Torodi Ar. Bea**	**148.56**	**287**	PKPbc		PKPbc	11 43 30.8	-0.2
	0.3nm,0.4s,baz=74,slow=4.2,SNR=3.3							

IDC 26 11:24:33.1±3.8,**6°.21S×150°.05E, h0km, mb3.3**/2, **mb1 3.7**/2,**mb1mx3.3**/25,**mbtmp3.5**/2,**Error ellipse: s-maj=126.9km s-min=51.4km az=116.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**20.48**	**227**	P		P	11 29 11.8	-0.9
	3.6nm,1.0s,baz=52,slow=11,SNR=11							
ASAR	**Alice Springs**	**23.29**	**220**	P		P	11 29 43.1	+0.3
	0.3nm,0.5s,baz=56,slow=9.2,SNR=5.2							
TORD	**Torodi Ar. Bea**	**148.08**	**285**	PKPbc		PKPbc	11 44 21.6	-0.3
	0.2nm,0.4s,baz=64,slow=4.7,SNR=2.7							

ISK ***26*** *11:24:59.4, 38°.81N×27°.83E, h5km, ML2.3/3*
DDA ***26*** *11:25:00.4, 38°.84N×27°.90E, h7km±3km, ML2.7*

ISC 26 11:24:60.0±1.1,**38°.83N**±0°.03×**27°.85E**±0°.04,**h10**km±11km, **n10**,σ0s**49**/16,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AKHS	**Akhisar**	**0.06**	**328**	IAML_P				
	comp=Z,41μm,0.1s							
STEP	**BALIKESİR_Sava**	**0.55**	**349**	*i* P		**Pb**	**11 25 11.5**	**-0.3**
STEP				*i* S		**Sb**	**11 25 20.2**	**+0.3**
MANT	**Manisa**	**0.65**	**121**	IAML_P				
	comp=Z,809nm,0.1s							
MANT				*i* P		**Pb**	**11 25 13.9**	**+0.3**
MANT				*i* S		**Sb**	**11 25 22.1**	**-0.7**
DEMI	**Demirci**	**0.71**	**72**	IAML_P				
	comp=Z,824nm,0.1s							
DEMI				*i* P		**Pb**	**11 25 14.2**	**-0.2**
DEMI				*i* S		**Sg**	**11 25 22.9**	**0.0**
KULA	**Kula-Manisa**	**0.71**	**116**	PG		**Pg**	**11 25 13.5**	**-0.2**
BLCB	**Balcova**	**0.78**	**235**	PG		**Pg**	**11 25 14.2**	**-0.7**
DKL	**Dikili**	**0.78**	**288**	PG		**Pg**	**11 25 14.6**	**-0.3**
DKL				SG		**Sg**	**11 25 26.0**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**0.88**	**178**	PG		**Pg**	**11 25 17.1**	**+0.1**
AYDB				SG		**Sg**	**11 25 28.8**	**+0.3**
DURS	**Dursunbey**	**0.91**	**32**	IAML_P				
	comp=Z,1μm,0.1s							
DURS				*i* P		**Pn**	**11 25 18.8**	**-0.1**
DURS				*i* S		**Sb**	**11 25 30.8**	**+0.7**
AYDN	**Tasoluk**	**1.17**	**179**	IAML_P				
	comp=Z,542nm,0.1s							
AYDN				*i* P		**Pn**	**11 25 22.6**	**+0.2**
AYDN				*i* S		**Sn**	**11 25 38.4**	**-0.1**

NNC ***26*** *11:35:03.6±9.9, 42°.23N×78°.87E, h0km, mb2.6, mpv2.6, Error ellipse: s-maj=126.9km s-min=65.4km az=33.0*
ISCJB ***26*** *11:35:43.4±0.8, 42°.95N±0°.03×77°.47E±0°.05, h10km±6km, Error ellipse: s-maj=5.8km s-min=5.0km az=175.9*
SOME ***26*** *11:35:44.1, 42°.93N×77°.43E, h15km*
KRNET ***26*** *11:35:45.1±0.1, 42°.86N×77°.40E, h30km, mb1.9*

ISC 26 11:35:42.6±1.4,**42°.96N**±0°.04×**77°.45E**±0°.04,**h15**km±13km, **n13**,σ0s**36**/21,**4C-4D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MDOK	**Medeo**	**0.36**	**305**	Lg		Lg	11 35 52.9	
	3.5nm,0.3s							
MDOK	**Medeo**	**0.36**	**305**	*e*P		**Pb**	**11 35 50.9**	**0.0**
	2.4nm,0.1s							
MDOK				*e*S		**Sb**	**11 35 55.7**	**-0.7**
	6.3nm,0.2s							
KOTS	**Kotyrbulak**	**0.38**	**318**	*e*P		**Pb**	**11 35 51.3**	**+0.2**
	11nm,0.1s							
KOTS				*e*S		**Sb**	**11 35 57.1**	**+0.3**
	19nm,0.3s							
TNSS	**Tian-Shan**	**0.38**	**283**	S		**Sb**	**11 35 57.2**	**+0.1**
	4.3nm,0.4s							
TNSS	**Tian-Shan**	**0.38**	**283**	*e*P		**Pb**	**11 35 51.5**	**+0.2**
	1.3nm,0.1s							
TNSS				*e*S		**Sb**	**11 35 57.2**	**+0.1**
	2.6nm,0.1s							
SATY	**Saty**	**0.71**	**81**	*e*P		**Pb**	**11 35 56.9**	**+0.2**
	1.5nm,0.1s							
SATY				*e*S		**Sb**	**11 36 06.4**	**+0.1**
	5.1nm,0.1s							
KDJ	**Kajisay**	**0.85**	**194**	⇓*i*P		**Pn**	**11 36 00.2**	**0.0**
	baz=92							
KDJ				⇓*i*S		**Sb**	**11 36 10.6**	**+0.2**
	baz=92							
KTBS	**Karatobe**	**0.94**	**324**	*e*P		**Pn**	**11 36 02.1**	**+0.8**
	1.1nm,0.1s							
KTBS				*e*S		**Sn**	**11 36 14.1**	**-0.5**
	6.4nm,0.3s							
CHKK	**Chushkaly**	**0.96**	**340**	Lg		Lg	11 36 12.3	
	5.0nm,0.2s							
CHKK	**Chushkaly**	**0.96**	**340**	*e*P		**Pn**	**11 36 01.7**	**+0.1**
	1.0nm,0.1s							
CHKK				*e*S		**Sn**	**11 36 14.4**	**-0.6**
	5.0nm,0.2s							
ULHL	**Ulahol**	**1.14**	**232**	⇓*i*P		**Pg**	**11 36 04.7**	**0.0**
	baz=35							
ULHL				⇓*i*S		**Sb**	**11 36 19.1**	**+0.3**
	baz=35							
BOOM	**Boomskoye usch**	**1.21**	**248**	⇑*i*P		**Pg**	**11 36 05.9**	**0.0**
	baz=52							
BOOM				⇑*i*S		**Sg**	**11 36 21.5**	**-0.2**
	baz=52							
TARG	**Taragay, Kyrgy**	**1.25**	**168**	⇑*i*P		**Pg**	**11 36 06.5**	**-0.3**
	baz=65							
TARG				⇑*i*S		**Sb**	**11 36 22.3**	**+0.1**
	baz=65							

ISCJB ***26*** *11:36:42.5±0.5, 35°.23N±0°.03×4°.85W±0°.03, h83km±9km, Error ellipse: s-maj=4.9km s-min=3.7km az=177.2*
SFS ***26*** *11:36:43.0, 35°.07N×4°.75W, ML4.2, IEBHA (MARRUECOS)*
MDD ***26*** *11:36:44.0±1.0, 35°.12N×4°.72W, h52km±29km, mb4.2/23, Error ellipse: s-maj=11.0km s-min=5.3km az=18.0, PRXIMO*
INMG ***26*** *11:36:43.3±2.0, 35°.13N×4°.77W, h70km±7km, ML3.3, Error ellipse: s-maj=6.0km s-min=3.5km az=108.0*
IGIL ***26*** *11:36:45.1, 35°.11N×4°.82W, h77km, ML3.5*

ISC 26 11:36:41.7±1.3,**35°.11N**±0°.03×**4°.77W**±0°.03,**h79**km±13km, **n49**,σ1s**87**/95,**1C-4D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CEU	**Ceuta**	**0.93**	**328**	*e*P		**Pn**	**11 37 00.1**	**+0.3**
CEU				*e*S		**Sn**	**11 37 15.8**	**+2.4**
ECEU	**Ceuta**	**0.93**	**328**	P		**Pn**	**11 37 00.6**	**+0.7**
	11nm,0.2s,SNR=9.5							
ECEU				S		**Sn**	**11 37 13.5**	**+0.1**
	48nm,0.1s,SNR=7.2							
EMIJ	**Mijas**	**1.45**	**360**	⇓P		**Pn**	**11 37 05.6**	**-0.8**
	18nm,0.1s,SNR=18							
EMIJ				S		**Sn**	**11 37 21.9**	**-3.1**
	78nm,0.1s,SNR=21							
EJIF	**Jimena Fronter**	**1.46**	**337**	P		**Pn**	**11 37 09.3**	**+2.9**
	2.0nm,0.2s,SNR=7.9							
EMEL	**Melilla**	**1.50**	**82**	P		**Pn**	**11 37 07.1**	**+0.2**
	243nm,0.2s,SNR=7.9							
EMEL				S		**Sn**	**11 37 24.9**	**-1.0**
	134nm,0.1s,SNR=7.9							
MELI	**Melilla**	**1.51**	**82**	P		**Pn**	**11 37 07.4**	**+0.4**
	SNR=7.9							
MELI				S		**Sn**	**11 37 23.8**	**-2.5**
MELI	**Melilla**	**1.51**	**82**	*e*S		**Sn**	**11 37 25.2**	**-1.1**
IFR	**Ifrane**	**1.61**	**191**	⇓*i*P		**Pn**	**11 37 09.3**	**+0.6**
IFR				*i* S		**Sn**	**11 37 27.6**	**-1.4**
EMAL	**Malaga-Limoner**	**1.67**	**9**	*e*P		**Pn**	**11 37 09.2**	**0.0**
EMAL				*e*S		**Sn**	**11 37 28.6**	**-1.5**
ESPR	**Espera**	**1.97**	**334**	P		**Pn**	**11 37 14.7**	**+1.6**
	0.6nm,0.1s,SNR=10							
ESPR				S		**Sn**	**11 37 37.0**	**0.0**
	16nm,0.2s,SNR=11							
ELGU	**Los Guajares,**	**1.98**	**27**	P		**Pn**	**11 37 13.2**	**-0.2**
	3.3nm,0.1s,SNR=7.9							
ELGU				S		**Sn**	**11 37 35.5**	**-2.1**
	55nm,0.2s,SNR=7.9							
EGOR	**Sierra Gorda,**	**2.07**	**15**	P		**Pn**	**11 37 15.5**	**+0.9**
	SNR=4.0							
EGOR				S		**Sn**	**11 37 38.7**	**-0.9**
	11nm,0.2s,SNR=7.9							
EBER	**Berja**	**2.35**	**40**	P		**Pn**	**11 37 18.7**	**+0.4**
	3.0nm,0.1s,SNR=21							
EBER				S		**Sn**	**11 37 44.4**	**-2.0**
	55nm,0.2s,SNR=11							
EQUE	**Quentar**	**2.35**	**27**	P		**Pn**	**11 37 20.3**	**+1.9**
	6.4nm,0.2s,SNR=4.0							
EQUE				S		**Sn**	**11 37 45.8**	**-0.6**
	9.3nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**2.79**	**47**	P		**Pn**	**11 37 25.3**	**+1.2**
	1.1nm,0.1s,SNR=7.9							
ENIJ				S		**Sn**	**11 37 54.4**	**-2.4**
	76nm,0.3s,SNR=7.9							
AVE	**Averroes**	**2.84**	**231**	*e*P		**Pn**	**11 37 26.1**	**+1.3**
AVE				*e*S		**Sn**	**11 37 58.2**	**+0.1**
ECAB	**El Cabril**	**3.01**	**350**	P		**Pn**	**11 37 28.3**	**+1.2**
	3.6nm,0.1s,SNR=51							
ECAB				S		**Sn**	**11 38 00.1**	**-2.0**
	7.9nm,0.1s,SNR=14							
EQES	**Quesada**	**3.02**	**26**	P		**Pn**	**11 37 29.8**	**+2.5**
	2.7nm,0.1s,SNR=29							
EQES				S		**Sn**	**11 38 05.2**	**+2.7**
	18nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**3.06**	**3**	⇓P		**Pn**	**11 37 29.6**	**+1.8**
	2.8nm,0.1s,SNR=18							
EADA				S		**Sn**	**11 38 02.4**	**-0.9**
	5.2nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.07**	**330**	⇓P		**Pn**	**11 37 28.9**	**+1.0**
	1.4nm,0.1s,SNR=18							
EMIN				S		**Sn**	**11 38 01.5**	**-2.0**
	17nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**3.27**	**319**	P		**Pn**	**11 37 31.8**	**+1.2**
	5.1nm,0.1s,SNR=58							
EGRO				S		**Sn**	**11 38 06.6**	**-1.8**
	30nm,0.1s,SNR=11							
PVAQ	**Vaqueiros**	**3.31**	**315**	*e*P		**Pn**	**11 37 32.4**	**+1.3**
PVAQ				*e*S		**Sn**	**11 38 08.0**	**-1.3**
PVAQ				A		A	11 38 08.4	
	154nm,0.3s							
PBDV	**Barranco-do-Ve**	**3.33**	**311**	⇑*i*P		**Pn**	**11 37 32.7**	**+1.2**
PBDV				*e*S		**Sn**	**11 38 08.4**	**-1.6**
PBDV				A		A	11 38 12.2	
	66nm,0.5s							
SESP	**Santiago Espad**	**3.50**	**30**	P		**Pn**	**11 37 36.2**	**+2.3**
	1.2nm,0.1s,SNR=4.0							
SESP				S		**Sn**	**11 38 15.6**	**+1.4**
	9.5nm,0.1s,SNR=7.9							
PBAR	**Barrancos**	**3.56**	**330**	*e*P		**Pn**	**11 37 37.2**	**+2.6**
PBAR				*e*S		**Sn**	**11 38 13.7**	**-1.9**
PBAR				A		A	11 38 15.0	
	68nm,0.5s							
MORF	**Marmelete**	**3.83**	**306**	*e*P		**Pn**	**11 37 39.4**	**+1.1**
MORF				*e*S		**Sn**	**11 38 19.1**	**-3.1**
MORF				AML		AML	11 38 24.7	
	comp=N,124nm,0.2s							
MORF	**Marmelete**	**3.83**	**306**	*e*P		**Pn**	**11 37 39.4**	**+1.1**
MORF				*e*S		**Sn**	**11 38 20.7**	**-1.5**
MORF				A		A	11 38 25.1	
	comp=N,42nm,0.1s							
PBEJ	**Beja**	**3.83**	**320**	*e*P		**Pn**	**11 37 41.4**	**+3.1**
PBEJ				*e*S		**Sn**	**11 38 21.3**	**-0.9**
PBEJ				A		A	11 38 24.4	
	comp=N,38nm,0.3s							
PFVI	**Vila Bisbo**	**3.86**	**303**	*e*P		**Pn**	**11 37 39.6**	**+1.0**
PFVI				*e*S		**Sn**	**11 38 20.7**	**-2.1**
PFVI				A		A	11 38 25.6	
	comp=N,33nm,0.3s							
PFVI	**Vila Bisbo**	**3.86**	**303**	P		**Pn**	**11 37 39.5**	**+0.8**
	comp=N,6.1nm,0.1s,SNR=13							
PFVI				S		**Sn**	**11 38 20.9**	**-1.9**
	comp=N,56nm,0.1s,SNR=8.3							
MESJ	**Messejana**	**3.90**	**315**	*e*P		**Pn**	**11 37 40.5**	**+1.4**
MESJ				*e*S		**Sn**	**11 38 20.8**	**-2.9**
MESJ				AML		AML	11 38 26.9	
	comp=N,103nm,0.3s							
MESJ	**Messejana**	**3.90**	**315**	*e*P		**Pn**	**11 37 40.5**	**+1.4**
MESJ				*e*S		**Sn**	**11 38 21.8**	**-1.9**
MESJ				A		A	11 38 26.8	
	comp=N,41nm,0.2s							
EMUR	**La Murta**	**3.94**	**45**	P		**Pn**	**11 37 41.0**	**+1.2**
	comp=N,2.1nm,0.2s,SNR=7.9							
EMUR				S		**Sn**	**11 38 22.4**	**-2.4**
	comp=N,14nm,0.4s,SNR=7.9							
PTEO	**Sao Teotonio**	**4.02**	**308**	*e*P		**Pn**	**11 37 42.1**	**+1.3**
PTEO				*e*S		**Sn**	**11 38 25.1**	**-1.5**
PTEO				A		A	11 38 31.1	
	comp=N,52nm,0.3s							
EBAD	**Badajoz**	**4.06**	**334**	P		**Pn**	**11 37 42.7**	**+1.3**
	comp=N,2.8nm,0.1s,SNR=65							
EBAD				S		**Sn**	**11 38 26.0**	**-1.7**
	comp=N,46nm,0.2s,SNR=7.9							
PNCL	**Nicolau / Gran**	**4.26**	**316**	*e*P		**Pn**	**11 37 45.4**	**+1.3**
PNCL				*e*S		**Sn**	**11 38 30.0**	**-2.5**
PNCL				A		A	11 38 34.0	
	comp=N,26nm,0.3s							
EVO	**Evora**	**4.30**	**324**	*e*P		**Pn**	**11 37 48.1**	**+3.5**
EVO				*e*S		**Sn**	**11 38 33.7**	**+0.2**
EVO				A		A	11 38 34.7	
	comp=N,62nm,0.1s							
EVO	**Evora**	**4.30**	**324**	*e*P		**Pn**	**11 37 47.9**	**+3.3**
EVO				*e*S		**Sn**	**11 38 33.6**	**+0.1**
ETOB	**Tobarra**	**4.37**	**35**	P		**Pn**	**11 37 48.8**	**+3.1**
	comp=N,1.5nm,0.2s,SNR=4.0							
ETOB				S		**Sn**	**11 38 36.8**	**+1.4**
	comp=N,2.0nm,0.2s,SNR=7.9							
PESTR	**Estremoz**	**4.38**	**330**	*e*P		**Pn**	**11 37 47.6**	**+1.9**
PESTR				*e*S		**Sn**	**11 38 33.0**	**-2.5**
PESTR				A		A	11 38 36.2	
	comp=N,16nm,0.4s							
PAB	**San Pablo**	**4.44**	**4**	P		**Pn**	**11 37 48.2**	**+1.5**
	comp=N,1.3nm,0.1s,SNR=7.9							
PAB				S		**Sn**	**11 38 35.4**	**-1.7**
	comp=N,0.8nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**4.60**	**8**	P		**Pn**	**11 37 50.3**	**+1.4**
	comp=N,0.9nm,0.3s,baz=190,slow=12,SNR=4.0							
ESDC				S		**Sn**	**11 38 39.8**	**-1.2**
	baz=186,slow=24,SNR=7.9							
PMRV	**Marv??o**	**4.79**	**335**	*e*P		**Pn**	**11 37 52.9**	**+1.5**
PMRV				*e*S		**Sn**	**11 38 43.3**	**-2.3**
PMRV				A		A	11 38 45.4	
	comp=N,13nm,0.2s							
PMTG	**Montargil**	**4.82**	**326**	*e*P		**Pn**	**11 37 53.1**	**+1.3**
PMTG				*e*S		**Sn**	**11 38 44.3**	**-2.0**
PMTG				A		A	11 38 46.5	
	comp=N,16nm,0.2s							
EPLA	**Plasencia**	**5.06**	**348**	P		**Pn**	**11 37 56.5**	**+1.5**
	comp=N,8.5nm,0.2s,SNR=28							
EPLA				S		**Sn**	**11 38 49.6**	**-2.5**
	comp=N,10nm,0.2s,SNR=9.5							
PMAFR	**Mafra**	**5.27**	**318**	S		**Sn**	**11 38 55.0**	**-2.2**
	comp=N,27nm,0.2s,SNR=7.9							
MVO	**Moncorvo**	**6.30**	**344**	P		**Pn**	**11 38 13.5**	**+1.5**
	comp=N,6.0nm,0.1s,SNR=18							
MVO				S		**Sn**	**11 39 19.3**	**-3.3**
	comp=N,6.9nm,0.2s,SNR=6.1							
ECAL	**Calabor**	**7.00**	**348**	P		**Pn**	**11 38 23.2**	**+1.7**
	comp=N,1.8nm,0.1s,SNR=10							
ECAL				S		**Sn**	**11 39 36.7**	**-2.8**
	comp=N,0.8nm,0.1s,SNR=5.3							
ELOB	**Lobios**	**7.23**	**340**	P		**Pn**	**11 38 26.4**	**+1.8**
	comp=N,1.4nm,0.1s,SNR=8.3							
ELOB				S		**Sn**	**11 39 41.4**	**-3.7**
	comp=N,5.2nm,0.3s,SNR=4.0							

JMA ***26*** *11:55:18.8±0.6, 44°.75N×148°.24E, h124km, M3.5*
SKHL ***26*** *11:55:19.6±0.5, 44°.71N×148°.40E, h95km±2km, mb4.5/5, msh5.0/5*

ISC 26 11:55:16.5±3.7,**44°.9N**±0°.1×**148°.3E**±0°.2,**h129**km±18km, **n16**,σ1s**36**/27,**2C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUR	**Kuril'sk**	**0.49**	**318**	⇑*i*P		**Pn**	**11 55 35.7**	**+0.4**
KUR				AMB		AMB	11 55 35.9	
	20nm,0.2s							
KUR				AMB		AMB	11 55 35.9	
	10.0nm,0.2s							
KUR				AMB		AMB	11 55 35.9	
	60nm,0.2s							
KUR				*i* S		**Sn**	**11 55 48.1**	**-1.4**
KUR				A		A	11 55 48.9	
	310nm,0.4s							
KUR				A		A	11 55 48.9	
	60nm,0.4s							
SHO	**Shikotan**	**1.47**	**228**	⇑*i*P		**Pn**	**11 55 45.0**	**+0.9**
SHO				AMB		AMB	11 55 46.0	
	10.0nm,0.2s							
SHO				AMB		AMB	11 55 46.0	
	20nm,0.2s				

JNBK	**Urakawa-nobuka**	**4.81**	**239**	P		**Pn**	**11 56 27.0**	**0.0**
JNBK				*e*S		**Sn**	**11 57 19.3**	**-2.5**
JKB	**Kayabe**	**6.10**	**243**	P		**Pn**	**11 56 44.4**	**+0.2**
JKB				*e*S		**Sn**	**11 57 49.2**	**-3.5**

*ISCJB **26** 12:52:13.6±0.3,46°.83N±0°.04×150°.06E±0°.06,h250km, mb3.7/18,Error ellipse: s-maj=6.5km s-min=3.0km az=42.8*
*MOS **26** 12:52:14.2±1.2,47°.09N×149°.91E,h246km,mb3.9/11, Error ellipse: s-maj=14.1km s-min=7.8km az=66.9*
*SKHL **26** 12:52:14.4±0.1,46°.86N×150°.02E,h244km±22km,mb5.3/5, msh5.3/7*
*JMA **26** 12:52:16.9±0.5,46°.21N×150°.21E,h246km,M4.5*
*IDC **26** 12:52:16.2±1.5,47°.12N×149°.72E,h244km±15km, mb3.4/15,mb1 3.6/23,mb1mx3.4/38,mbtmp4.0/23,Error ellipse: s-maj=14.5km s-min=9.1km az=132.0*

ISC 26 12:52:15.1±0.5,46°.84N±0°.05×149°.97E±0°.06,h250km,n96, σ2s22/110,mb3.8/18,4C-7D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.17**	**223**	⇑ *i*P		**Pn**	**12 52 59.5**	**+0.4**
KUR					AMB	AMB	12 53 00.0	
	30nm,0.4s							
KUR					AMB	AMB	12 53 00.0	
	10.0nm,0.4s							
KUR					AMB	AMB	12 53 00.0	
	90nm,0.4s							
KUR					AMB	AMB	12 53 05.5	
	2μm,2.0s							
KUR				*i* S		**S**	**12 53 34.8**	**+1.0**
KUR					A	A	12 53 43.0	
	530nm,0.3s							
KUR					A	A	12 53 43.0	
	220nm,0.3s							
KUR					A	A	12 53 45.0	
	3μm,4.0s							
KUR					A	A	12 53 45.0	
	8μm,4.0s							
KUR	**Kuril'sk**	**2.17**	**223**	*i* PN		**Pn**	**12 53 00.3**	**+1.2**
KUR				*i* S		**S**	**12 53 33.0**	**-0.8**
KUR					pmax	pmax		
	comp=E,8.0nm,0.4s							
KUR					pmax	pmax		
	comp=Z,66nm,0.4s							
KUR					pmax	pmax		
	comp=N,26nm,0.2s							
KUR					smax	smax		
	comp=N,372nm,0.4s							
KUR					smax	smax		
	comp=E,23nm,0.4s							
SHO	**Shikotan**	**3.70**	**218**	⇓ *i*P		**Pn**	**12 53 14.0**	**-1.4**
SHO					AMB	AMB	12 53 14.0	
	comp=E,20nm,0.2s							
SHO					AMB	AMB	12 53 14.0	
	comp=E,50nm,0.2s							
SHO					AMB	AMB	12 53 15.9	
	comp=E,2μm,4.0s							
SHO				*i* S		**S**	**12 54 00.0**	**-3.2**
SHO					A	A	12 54 00.0	
	comp=E,1μm,0.2s							
SHO					A	A	12 54 00.0	
	comp=E,2μm,0.2s							
SHO					A	A	12 54 03.0	
	comp=E,2μm,3.0s							
SHO					A	A	12 54 03.0	
	comp=E,1μm,3.0s							
SHO	**Shikotan**	**3.70**	**218**	*d i* PN		**Pn**	**12 53 14.2**	**-1.2**
SHO					pmax	pmax		
	comp=Z,63nm,0.5s							
SHO					pmax	pmax		
	comp=N,22nm,0.4s							
SHO					pmax	pmax		
	comp=E,18nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**4.03**	**227**	⇑ *i*P		**Pn**	**12 53 19.9**	**+0.8**
YUK					AMB	AMB	12 53 21.0	
	comp=E,80nm,0.4s							
YUK					AMB	AMB	12 53 21.0	
	comp=E,220nm,0.4s							
YUK					AMB	AMB	12 53 21.4	
	comp=E,900nm,2.0s							
YUK				*i* S		**S**	**12 54 10.9**	**+0.9**
YUK					A	A	12 54 11.3	
	comp=E,5μm,3.5s							
YUK					A	A	12 54 11.3	
	comp=E,550nm,0.4s							
YUK					A	A	12 54 11.3	
	comp=E,720nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**4.03**	**227**	*i* PN		**Pn**	**12 53 20.7**	**+1.6**
YUK				*i* S		**S**	**12 54 09.3**	**-0.7**
YUK					pmax	pmax		
	comp=Z,199nm,0.5s							
YUK					pmax	pmax		
	comp=N,84nm,0.3s							
YUK					smax	smax		
	comp=N,652nm,0.2s							
YUK					smax	smax		
	comp=E,621nm,0.7s							
GRPR	**Tuman**	**4.10**	**228**	*e*S		**S**	**12 54 09.0**	**-2.6**
GLVR	**Golovnino**	**4.41**	**227**	*i* P		**Pn**	**12 53 25.0**	**+1.3**
GLVR					AMB	AMB	12 53 25.0	
	comp=E,70nm,0.3s							
GLVR					AMB	AMB	12 53 25.0	
	comp=E,30nm,0.3s							
GLVR					AMB	AMB	12 53 25.0	
	comp=E,210nm,0.3s							
GLVR				*i* S		**S**	**12 54 17.0**	**-1.2**
GLVR					A	A	12 54 23.4	
	comp=E,1μm,0.4s							
GLVR	**Golovnino**	**4.41**	**227**	*i* PN		**Pn**	**12 53 25.0**	**+1.3**
GLVR				*i* S		**S**	**12 54 17.0**	**-1.2**
GLVR					pmax	pmax		
	comp=Z,209nm,0.5s							
GLVR					pmax	pmax		
	comp=N,65nm,0.3s							
GLVR					pmax	pmax		
	comp=E,28nm,0.1s							
GLVR					smax	smax		
	comp=N,1μm,0.2s							
GLVR					smax	smax		
	comp=E,1.0nm,0.2s							
NEM2	**Nemuro 2**	**4.58**	**222**	P		**Pn**	**12 53 23.8**	**-1.9**
NEM2				*e*S		**S**	**12 54 16.1**	**-5.9**
JNK	**Nakash**	**4.93**	**231**	P		**Pn**	**12 53 30.0**	**0.0**
YSS	**Yuzh-Sakhalins**	**4.94**	**274**	⇓ *i*P		**Pn**	**12 53 31.0**	**+1.0**
YSS					AMB	AMB	12 53 32.0	
	comp=E,50nm,1.2s							
YSS				*e*S		**S**	**12 54 31.5**	**+1.7**
YSS					A	A	12 54 37.0	
	comp=E,300nm,4.0s							
YSS					A	A	12 54 37.0	
	comp=E,1μm,4.0s							
YSS	**Yuzh-Sakhalins**	**4.94**	**274**	⇓ *i*PN		**Pn**	**12 53 31.1**	**+1.0**
YSS				*e*S		**S**	**12 54 28.1**	**-1.7**
YSS					pmax	pmax		
	comp=Z,50nm,1.2s							
JTKR	**Abashiri--Toko**	**5.14**	**238**	P		**Pn**	**12 53 33.2**	**+0.7**
JAK	**Akkeshi**	**5.36**	**226**	P		**Pn**	**12 53 33.8**	**-1.4**
JAK				*e*S		**S**	**12 54 34.0**	**-5.2**
JSE	**Soyaes**	**5.48**	**253**	P		**Pn**	**12 53 38.7**	**+2.0**
SKR	**Severo-Kuril's**	**5.60**	**44**	⇓ *i*P		**Pn**	**12 53 36.7**	**-1.3**
SKR					AMB	AMB	12 53 37.0	
	comp=Z,40nm,0.4s							
SKR					AMB	AMB	12 53 41.0	
	comp=Z,400nm,3.5s							
SKR				*e*S		**S**	**12 54 39.9**	**-4.4**
SKR					A	A	12 54 40.8	
	comp=Z,500nm,4.0s							
SKR					A	A	12 54 45.0	
	comp=Z,220nm,0.6s							
SKR					A	A	12 54 45.0	
	comp=Z,120nm,0.6s							
SKR	**Severo-Kuril's**	**5.60**	**44**	*e*PN		**Pn**	**12 53 36.2**	**-1.8**
SKR				*e*S		**S**	**12 54 39.0**	**-5.3**
SKR					pmax	pmax		
	comp=Z,35nm,0.4s							
SKR					pmax	pmax		
	comp=Z,400nm,3.6s							
SKR					smax	smax		
	comp=N,221nm,0.6s							
SKR					smax	smax		
	comp=E,121nm,0.6s							
JAR	**Ashorobuto**	**5.64**	**233**	P		**Pn**	**12 53 39.2**	**+0.5**
JWK2	**Keihoku**	**5.81**	**258**	P		**Pn**	**12 53 43.3**	**+2.5**
JKA	**Kamikawa-asahi**	**5.85**	**245**	*e*P		**Pn**	**12 53 43.2**	**+1.9**
ASAJ	**Asahikawa**	**5.85**	**245**	P		**Pn**	**12 53 43.2**	**+1.9**
	comp=E,6.4nm,0.3s,baz=65,slow=14,SNR=62							
ASAJ					S	**S**	**12 54 49.8**	**-0.5**
	comp=E,0.9nm,0.3s,baz=6.0,slow=19,SNR=2.1							
ASAJ	**Asahikawa**	**5.85**	**245**	P		**Pn**	**12 53 43.0**	**+1.7**
JOB	**Onbets**	**5.87**	**230**	P		**Pn**	**12 53 40.6**	**-0.9**
JOB				*e*S		**S**	**12 54 46.1**	**-4.5**
JKK2	**Kamakawa 2**	**5.89**	**242**	P		**Pn**	**12 53 43.0**	**+1.2**
JSS	**Shosan**	**6.19**	**250**	P		**Pn**	**12 53 48.1**	**+2.6**
TYV	**Tymovskoe**	**6.28**	**313**	*e*P		**Pn**	**12 53 47.2**	**+0.7**
TYV					AMB	AMB	12 53 50.6	
	comp=E,40nm,0.9s							
TYV				*e*S		**S**	**12 54 59.5**	**-0.3**
TYV					A	A	12 55 05.6	
	comp=E,70nm,0.9s							
TYV					A	A	12 55 05.6	
	comp=E,50nm,0.9s							
JCH	**Churui**	**6.32**	**230**	P		**Pn**	**12 53 45.8**	**-1.3**
JCH				*e*S		**S**	**12 54 55.4**	**-5.5**
JFR	**Furan**	**6.39**	**238**	P		**Pn**	**12 53 48.6**	**+0.6**
PAU	**Pauzhetka**	**6.45**	**42**	⇑ *e*P		**Pn**	**12 53 45.9**	**-2.7**
PAU					AMB	AMB	12 53 46.3	
	comp=E,160nm,0.7s							
PAU				*e*S		**S**	**12 54 59.1**	**-4.5**
PAU					A	A	12 55 05.4	
	comp=E,240nm,0.8s							
PAU					A	A	12 55 05.4	
	comp=E,360nm,0.8s							
PAU					A	A	12 55 10.1	
	comp=E,2μm,5.0s							
MYR	**Moyori**	**6.59**	**229**	*e*P		**Pn**	**12 53 48.8**	**-1.7**
JBT2	**Biratori 2**	**6.76**	**236**	P		**Pn**	**12 53 53.1**	**+0.4**
JEM	**Erimo**	**6.85**	**228**	*e*S		**S**	**12 55 03.4**	**-10**
ERM	**Erimo**	**6.85**	**228**	*i* P		**Pn**	**12 53 54.1**	**+0.2**
ERM	**Erimo**	**6.85**	**228**	*i* PN		**Pn**	**12 53 54.1**	**+0.2**
JNBK	**Urakawa-nobuka**	**6.88**	**231**	P		**Pn**	**12 53 52.1**	**-2.0**
JNBK				*e*S		S	12 55 05.0	-8.6
JEW	**Eniwo**	**7.25**	**240**	P		**Pn**	**12 53 59.2**	**+0.3**
JNB	**Noboribetsu**	**7.72**	**239**	P		**Pn**	**12 54 03.4**	**-1.3**
JNB				*e*S		**S**	**12 55 28.7**	**-4.3**
PETK	**Petropavlovsk-**	**8.01**	**36**	P		**Pn**	**12 54 06.1**	**-2.2**
	comp=E,0.5nm,0.3s,baz=209,slow=13,SNR=8.9							
PETK					S	**S**	**12 55 46.6**	**+7.0**
	comp=E,0.4nm,0.3s,baz=232,slow=24,SNR=2.8							
JKB	**Kayabe**	**8.09**	**235**	P		**Pn**	**12 54 08.1**	**-1.3**
JKB				*e*S		S	12 55 33.1	-8.4
JYM2	**Yakumo 2**	**8.32**	**239**	P		**Pn**	**12 54 11.4**	**-1.0**
PET	**Petropavlovsk**	**8.35**	**39**	⇑ *e*P		**Pn**	**12 54 11.1**	**-1.4**
PET					AMB	AMB	12 54 16.0	
	comp=E,800nm,5.0s							
PET				*e*S		**S**	**12 55 41.8**	**-5.5**
PET					A	A	12 55 44.2	
	comp=E,40nm,0.5s							
PET					A	A	12 55 45.0	
	comp=E,1μm,5.0s							
PET					A	A	12 55 45.0	
	comp=E,1μm,5.0s							
JSR	**Shiriuchi**	**8.67**	**236**	P		**Pn**	**12 54 14.9**	**-1.9**
NKL	**Nikolayevsk**	**8.70**	**320**	*e*P		**Pn**	**12 54 16.6**	**-0.3**
JTM	**Tenmabayashi**	**8.83**	**230**	P		**Pn**	**12 54 15.9**	**-2.9**
JTM				*e*S		S	12 55 48.4	-10
JANG	**Nango**	**8.90**	**227**	P		**Pn**	**12 54 16.4**	**-3.4**
JANG				*e*S		S	12 55 49.9	-11
TEY	**Ternei**	**9.48**	**264**	*e*P		**Pn**	**12 54 27.8**	**+0.8**
GRNR	**Gornyy**	**9.76**	**299**	*e*P		**Pn**	**12 54 31.3**	**+0.8**
KLR	**Kul'dur**	**12.43**	**288**	P		**Pn**	**12 55 04.1**	**+0.3**
	comp=E,0.2nm,0.3s,baz=98,slow=16,SNR=7.1							
KLR	**Kul'dur**	**12.43**	**288**	*i* P		**Pn**	**12 55 04.2**	**+0.5**
KLR	**Kul'dur**	**12.43**	**288**	*i* PN		**Pn**	**12 55 04.2**	**+0.5**
EKMR	**Ekimchan**	**12.59**	**306**	⇓ *i*P		**P**	**12 55 08.0**	**0.0**
EKMR					AMB	AMB	12 55 11.8	
	comp=E,4.0nm,0.6s							
MA2	**Magadan**	**12.77**	**2**	P		**Pn**	**12 55 05.9**	**-2.0**
	comp=E,0.6nm,0.3s,baz=190,slow=8.9,SNR=8.5							
MA2	**Magadan**	**12.77**	**2**	*i* P		**Pn**	**12 55 04.6**	**-3.3**
MA2	**Magadan**	**12.77**	**2**	*i* PN		**Pn**	**12 55 04.6**	**-3.3**
MA2					pmax	pmax		
	comp=Z,8.0nm,0.9s							
USRK	**Ussuriysk Ar.**	**12.88**	**265**	P		**Pn**	**12 55 10.4**	**+1.1**
	comp=Z,1.5nm,0.3s,baz=67,slow=13,SNR=26							
MJAR	**Matsushiro Arr**	**13.51**	**225**	P		**P**	**12 55 19.3**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=24,slow=12,SNR=6.8							
BMKR	**Bomnak**	**15.47**	**308**	*e*P		**Pn**	**12 55 41.2**	**+0.6**
SEY	**Seymchan**	**16.19**	**4**	P		**P**	**12 55 46.9**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=177,slow=9.0,SNR=12							
SEY	**Seymchan**	**16.19**	**4**	*i* P		**P**	**12 55 45.7**	**-1.9**
SEY	**Seymchan**	**16.19**	**4**	*i* P		**P**	**12 55 45.7**	**-1.9**
KROS	**Kirovskiy**	**16.39**	**306**	*e*P		**P**	**12 55 49.2**	**-0.8**
KROS					AMB	AMB	12 55 55.7	
	comp=Z,3.0nm,0.5s							
KSRS	**Korea Array**	**18.79**	**248**	P		**Pn**	**12 56 19.1**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=48,slow=9.7,SNR=10							
BILL	**Bilibino**	**22.84**	**16**	*e*P		**P**	**12 56 57.4**	**+1.1**
BILL	**Bilibino**	**22.84**	**16**	*i* P		**P**	**12 56 58.3**	**+2.0**
BILL					pmax	pmax		
	comp=Z,7.0nm,1.9s							
TIXI	**Tiksi**	**26.80**	**345**	P		**P**	**12 57 29.5**	**-2.3**
	comp=Z,0.7nm,0.4s,baz=110,slow=4.6,SNR=4.7							
TIXI	**Tiksi**	**26.80**	**345**	*i* P		**P**	**12 57 29.0**	**-2.8**
TIXI	**Tiksi**	**26.80**	**345**	*i* P		**P**	**12 57 29.0**	**-2.8**
TIXI					pmax	pmax		
	comp=Z,11nm,3.1s							
ULN	**Ulaanbaatar**	**28.82**	**288**	*i* P		**P**	**12 57 52.8**	**+2.6**
ULN	**Ulaanbaatar**	**28.82**	**288**	*i* P		**P**	**12 57 52.8**	**+2.6**
ULN					pmax	pmax		
	comp=Z,3.0nm,1.0s							
SONM	**Songino Array**	**29.26**	**288**	P		**P**	**12 57 52.8**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=74,slow=7.7,SNR=4.9							
H11N2	**WAKE ISLAND Hy**	**30.38**	**147**	T		T	13 29 60.0	
	baz=334,slow=76,SNR=29							
H11N1	**WAKE ISLAND Hy**	**30.39**	**147**	T		T	13 29 56.9	
	baz=334,slow=76,SNR=24							
H11N3	**WAKE ISLAND Hy**	**30.40**	**147**	T		T	13 30 01.3	
	baz=334,slow=76,SNR=33							
H11S1	**WAKE ISLAND Hy**	**31.43**	**148**	T		T	13 31 20.2	
	baz=334,slow=76,SNR=45							
H11S3	**WAKE ISLAND Hy**	**31.44**	**148**	T		T	13 31 30.4	
	baz=334,slow=76,SNR=29							
H11S2	**WAKE ISLAND Hy**	**31.45**	**148**	T		T	13 31 18.7	
	baz=334,slow=76,SNR=31							
KDAK	**Kodiak Island**	**35.72**	**51**	P		**P**	**12 58 50.6**	**+1.0**
	comp=Z,4.8nm,0.5s,baz=263,slow=3.9,SNR=6.0							
ILAR	**Eielson Array**	**37.83**	**39**	P		**P**	**12 59 08.0**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=267,slow=7.3,SNR=11							
MKAR	**Makanchi Array**	**44.97**	**296**	P		**P**	**13 00 05.2**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=60,slow=8.5,SNR=4.2							
BRVK	**Borovoye**	**49.16**	**308**	*e*P		**P**	**13 00 37.4**	**-0.1**
BRVK	**Borovoye**	**49.16**	**308**	*i* P		**P**	**13 00 37.4**	**-0.1**
BRVK					pmax	pmax		
	comp=Z,16nm,4.9s							
YKA	**Yellowknife Ar**	**52.13**	**36**	P		**P**	**13 01 00.3**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=301,slow=7.0,SNR=15							
FINES	**FINESS Array B**	**63.02**	**333**	P		**P**	**13 02 14.6**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=38,slow=8.5,SNR=9.1							
OBN	**Obninsk**	**63.99**	**324**	*i* P		**P**	**13 02 21.8**	**+0.3**
OBN	**Obninsk**	**63.99**	**324**	*i* P		**P**	**13 02 21.8**	**+0.3**
OBN					pmax	pmax		
	comp=Z,5.0nm,0.9s							
NVAR	**Mina Array Bea**	**64.29**	**61**	P		**P**	**13 02 26.0**	**+2.0**
	comp=Z,1.0nm,0.5s,baz=297,slow=7.3,SNR=11							
PDAR	**Pinedale Array**	**66.42**	**52**	P		**P**	**13 02 39.0**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=307,slow=1.6,SNR=10							
NOA	**NORSAR Array B**	**67.42**	**340**	P		**P**	**13 02 42.3**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=28,slow=6.6,SNR=2.7							
WRA	**Warramunga Arr**	**67.95**	**196**	P		**P**	**13 02 49.3**	**+2.3**
	comp=Z,0.9nm,0.5s,baz=14,slow=6.8,SNR=14							
AKASG	**Malin Array Be**	**70.24**	**324**	P		**P**	**13 02 59.9**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=40,slow=5.6,SNR=4.5							
AKASG	**Malin Array Be**	**70.24**	**324**	*e*P		**P**	**13 03 00.3**	**-0.4**
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**71.66**	**196**	P		**P**	**13 03 12.8**	**+3.3**
	comp=Z,1.0nm,0.6s,baz=7.8,slow=5.6,SNR=22							
SCHQ	**Schefferville**	**74.04**	**21**	P		**P**	**13 03 25.3**	**+2.2**
	comp=Z,2.9nm,0.8s,baz=323,slow=5.1,SNR=3.5							
TXAR	**Lajitas Array**	**79.31**	**58**	P		**P**	**13 03 54.6**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=292,slow=4.3,SNR=21							
PLCA	**Paso Flores**	**150.37**	**93**	PKPbc		**PKiKP**	**13 11 38.5**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=303,slow=6.7,SNR=5.9							

IGQ 26 13:00:26.5±0.4,3°S±2°×8°0W±°,h5km,MLv3.7,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MORR	**Playas El Morr**	**0.11**	**259**		P	Pg	13 00 29.2	+0.4
MORR					S	Sg	13 00 32.5	+2.0
APLA	**Playas - Guaya**	**0.17**	**264**		P	Pg	13 00 28.6	-1.3
APLA					S	Sg	13 00 32.2	+0.2
AGUAY	**Guayaquil**	**0.62**	**26**		P	Pg	13 00 36.0	-2.5
AGUAY					S	Sg	13 00 46.2	-0.4
MILO	**Milagro-Astudi**	**0.75**	**63**		P	Pg	13 00 40.4	-0.5
MILO					S	Sb	13 00 53.0	+0.4
AMIL	**Milagro (Trans**	**0.79**	**53**		P	Pg	13 00 40.9	-0.8
AMIL					S	Sb	13 00 53.7	-0.2
COHC	**Cochancay**	**0.98**	**81**		P	Pg	13 00 44.2	-1.2
COHC					S	Sb	13 00 59.9	+0.6
MCRA	**Macar, Loja**	**1.76**	**171**		P	Pn	13 00 57.0	-0.7
MCRA					S	Sn	13 01 21.1	+0.5
ARRY	**Arrayan**	**2.09**	**58**		P	Pn	13 01 01.7	-0.8
PISA	**Pisayambo**	**2.41**	**50**		P	Pn	13 01 06.4	-0.7
MAG1	**Magdalena**	**2.57**	**10**		P	Pn	13 01 09.8	+0.9
PITA	**Cotopaxi Volc**	**2.72**	**41**		P	Pn	13 01 11.4	+0.1
NINA	**Atacazo Ninahu**	**2.74**	**36**		P	Pn	13 01 11.9	+0.3
NINA					S	Sn	13 01 45.5	+0.1
ANTM	**Antisana-La Mi**	**2.88**	**44**		P	Pn	13 01 13.7	+0.1
ANTM					S	Sn	13 01 49.9	+1.0
ANTG	**Antisana-Guama**	**2.88**	**43**		P	Pn	13 01 14.3	+0.7
ANTG					S	Sn	13 01 50.1	+1.1
OTAV	**Otavalo**	**3.35**	**32**		P	Pn	13 01 18.6	-1.4
URCU	**Urcuqui**	**3.62**	**33**		P	Pn	13 01 26.1	+2.4
YAHU	**Yahuarcocha**	**3.67**	**36**		P	Pn	13 01 24.2	-0.1
YAHU					S	Pn	13 01 24.2	-0.1
LITE1	**Lita**	**3.87**	**29**		P	Pn	13 01 31.0	+4.2

*ANF **26** 13:10:35.8±1.2,39°.73N×123°.74W,ML3.3/9,Error ellipse: s-maj=12.7km s-min=6.4km az=176.0*
*ISCJB **26** 13:10:38.1±0.6,39°.85N±0°.03×123°.66W±0°.07,h9km±5km, Error ellipse: s-maj=10.1km s-min=4.0km az=159.7*
*NEIC **26** 13:10:38.7±0.0,39°.82N×123°.63W,h6km,MW3.5(BRK), After NCEDC.*
NEIC Felt at Branscomb, Fort Bragg, Fortuna, Laytonville, Leggett and Mendocino.
*NCEDC **26** 13:10:38.7,39°.82N×123°.63W,h6km,MW3.5(BRK)*

ISC 26 13:10:38.7±1.1,39°.83N±0°.03×123°.61W±0°.06,h8km±9km, n31,σ1s37/41,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KCPM	**Cahto Peak**	**0.15**	**172**		*e*Pg	**Pg**	**13 10 41.9**	**0.0**
KCPM					*e*Sg	**Sg**	**13 10 45.1**	**+1.0**
KMRM	**Mail Ridge**	**0.40**	**349**		*e*Pg	**Pg**	**13 10 47.2**	**+0.7**
KMRM					*e*Sg	**Sg**	**13 10 50.1**	**-1.7**
O02D	**Mt. Diablo Mer**	**0.72**	**61**		P	**Pb**	**13 10 53.5**	**0.0**
	baz=241							
O02D					S	**Sb**	**13 11 04.7**	**+1.2**
	baz=241							
HOPS	**Hopland Field**	**0.94**	**153**		*e*Pg	**Pg**	**13 10 56.6**	**-0.1**
HOPS					*e*Sg	**Sg**	**13 11 05.6**	**-3.2**
JCC	**Jacoby Creek,**	**1.03**	**342**		*e*Pg	**Pg**	**13 10 58.0**	**-0.6**
KHMM	**Horse Mountain**	**1.04**	**355**		*e*Pg	**Pg**	**13 10 58.7**	**-0.1**
WDC	**Whiskeytown Da**	**1.11**	**47**		*e*Pg	**Pg**	**13 10 59.8**	**-0.1**
WDC					*e*Sn	**Sb**	**13 11 15.8**	**+1.1**
GDXM	**Geysers**	**1.20**	**148**		*e*Pn	**Pn**	**13 11 02.0**	**+0.2**
N02D	**Trinity Center**	**1.33**	**31**		P	**Pn**	**13 11 02.9**	**-0.8**
	baz=212,SNR=763							
N02D					S	**Sn**	**13 11 22.6**	**+0.9**
	baz=212							
O03E	**Paynes Creek**	**1.46**	**71**		P	**Pn**	**13 11 04.2**	**-1.3**
	baz=252,SNR=55							
ORV	**Oroville**	**1.65**	**99**		*e*Pn	**Pn**	**13 11 05.7**	**-2.3**
M02C	**Callahan**	**1.66**	**20**		P	**Pn**	**13 11 07.6**	**-0.6**
	baz=201,SNR=29							
MCCM	**Marconi Confer**	**1.78**	**161**		*e*Pg	**Pg**	**13 11 13.6**	**+0.8**
YBH	**Yreka Blue Hor**	**2.02**	**20**		*e*Pn	**Pn**	**13 11 13.3**	**+0.2**
AFDM	**Forest Hills D**	**2.23**	**113**		*e*Pn	**Pn**	**13 11 15.8**	**-0.1**
AFDM					*e*Sn	**Sn**	**13 11 43.5**	**-0.1**
L02E	**Cave Junction**	**2.32**	**0**		P	**Pn**	**13 11 16.9**	**-0.3**
	baz=180,SNR=38							
M04C	**Macdoel**	**2.37**	**34**		P	**Pn**	**13 11 17.9**	**0.0**
	baz=215,SNR=12							
BEKR	**Beckworth**	**2.50**	**88**		*e*Pn	**Pn**	**13 11 21.4**	**+1.6**
BEKR					*e*Sn	**Sn**	**13 11 48.6**	**-2.0**
L04D	**Klamath Falls**	**2.58**	**22**		P	**Pn**	**13 11 20.9**	**0.0**
	baz=203,SNR=22							
HUMO	**Hull Mountain**	**2.82**	**10**		*e*Pn	**Pn**	**13 11 24.3**	**+0.3**
HUMO					*e*Sn	**Sn**	**13 11 56.3**	**-1.9**
K02D	**Willamette Mer**	**2.86**	**359**		P	**Pn**	**13 11 24.6**	**0.0**
	baz=179,SNR=86							
K02D					S	**Sn**	**13 12 00.4**	**+1.1**
	baz=179							
CMB	**Columbia Colle**	**3.09**	**125**		*e*Pn	**Pn**	**13 11 30.4**	**+2.7**
VCNR	**Virginia City**	**3.11**	**99**		*e*Pn	**Pn**	**13 11 31.5**	**+3.3**
PNTR	**Pine Nut**	**3.19**	**102**		*e*Pn	**Pb**	**13 11 33.4**	**-2.3**
MOD	**Modoc Plateau**	**3.25**	**49**		*e*Pg	**Pb**	**13 11 38.3**	**+1.6**
PAHR	**Pah Rah Range**	**3.26**	**91**		*e*Pn	**Pn**	**13 11 31.5**	**+1.3**
J01E	**Myrtle Point**	**3.33**	**356**		P	**Pn**	**13 11 31.3**	**+0.2**
	baz=176							
I03D	**Drain, OR**	**3.87**	**3**		P	**Pn**	**13 11 38.6**	**+0.3**
	baz=183,SNR

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB01	**IPOC Station P**	**0.50**	**290**	⇑	*iP*	**Pn**	**13 25 26.1**	**-0.4**
PB01					*i* S	**Sn**	**13 25 39.3**	**-0.1**
PB09	**IPOC Station P**	**0.62**	**202**	⇓	*iP*	**Pn**	**13 25 27.2**	**-0.3**
PB09					*i* S	**Sn**	**13 25 40.7**	**-0.5**
PB09					IAML		13 25 42.1	
	comp=N,2μm,0.5s							
PB07	**IPOC Station P**	**0.98**	**239**	⇑	*iP*	**Pn**	**13 25 31.0**	**+0.3**
PB07					*e*S	**Sn**	**13 25 47.4**	**+0.6**
PB07					IAML		13 25 49.1	
	comp=E,2μm,0.2s							
PB08	**IPOC Station P**	**1.08**	**352**	⇓	*iP*	**Pn**	**13 25 32.1**	**+0.1**
PB08					*i* S	**Sn**	**13 25 49.1**	**+0.1**
PB08					IAML		13 25 51.1	
	comp=E,2μm,0.3s							
PB03	**IPOC Station P**	**1.09**	**221**	⇓	*iP*	**Pn**	**13 25 32.0**	**+0.2**
PB03					*i* S	**Sn**	**13 25 49.1**	**+0.2**
PB03					IAML		13 25 50.8	
	comp=E,1μm,0.1s							
LVC	**Limon Verde**	**1.39**	**177**		P	**Pn**	**13 25 35.7**	**+0.3**
	comp=E,106nm,0.3s,baz=21,slow=10,SNR=2626							
LVC					S	**Sn**	**13 25 55.5**	**+0.4**
	comp=E,34nm,0.3s,baz=134,slow=23,SNR=12							
LVC	**Limon Verde**	**1.39**	**177**	⇑	*iP*	**Pn**	**13 25 35.4**	**0.0**
LVC					*i* S	**Sn**	**13 25 55.5**	**+0.4**
PB04	**IPOC Station P**	**1.55**	**224**	⇑	*iP*	**Pn**	**13 25 37.5**	**+0.4**
PB04					*i* S	**Sn**	**13 25 58.8**	**+0.7**
PB04					IAML		13 26 03.6	
	comp=N,838nm,0.2s							
PB06	**IPOC Station P**	**1.58**	**200**	⇓	*iP*	**Pn**	**13 25 37.4**	**0.0**
PB06					*i* S	**Sn**	**13 25 59.2**	**+0.5**
PB06					IAML		13 26 00.8	
	comp=N,747nm,0.3s							
PB11	**IPOC Station P**	**1.58**	**336**	⇓	*iP*	**Pn**	**13 25 37.7**	**+0.3**
PB11					*i* S	**Sn**	**13 25 59.4**	**+0.6**
PB11					IAML		13 26 01.0	
	comp=E,2μm,0.6s							
PSGC	**Pisagua**	**1.93**	**326**	⇑	*iP*	**Pn**	**13 25 41.6**	**-0.1**
PSGC					*i* S	**Sn**	**13 26 06.5**	**+0.1**
PB05	**IPOC Station P**	**1.98**	**215**	⇑	*iP*	**Pn**	**13 25 42.3**	**0.0**
PB05					*i* S	**Sn**	**13 26 07.4**	**-0.1**
MNMC	**Minye Minye**	**2.15**	**344**	⇓	*iP*	**Pn**	**13 25 45.0**	**+0.3**
MNMC					*i* S	**Sn**	**13 26 12.5**	**+0.8**
PB12	**IPOC Station P**	**2.88**	**334**		*eP*	**Pn**	**13 25 52.9**	**-1.1**
LPAZ	**La Paz**	**4.97**	**10**		P	**Pn**	**13 26 23.1**	**+0.7**
	comp=E,1.7nm,0.3s,baz=185,slow=9.7,SNR=26							
TORD	**Torodi Ar. Bea**	**77.33**	**70**		P	**P**	**13 36 51.0**	**-1.2**
	comp=E,0.4nm,0.4s,baz=248,slow=5.5,SNR=7.4							
MKAR	**Makanchi Array**	**145.45**	**36**		PKPbc	**PKPab**	**13 44 35.6**	**+0.9**
	comp=E,0.1nm,0.5s,baz=304,slow=4.1,SNR=2.3							

*PRU **26** 13:29:48.1±0.0,43.°73N×17.°24E,h0km*
*BEO **26** 13:29:48.9±0.5,43.°92N×17.°25E,h5km±2km,ML2.8/10*
*PDG **26** 13:29:50.4±0.2,43.°90N×17.°47E,h4km,MD3.2/1,*
ML2.9/13,Error ellipse: s-maj=0.6km s-min=1.3km az=0.0
*SAR **26** 13:29:50.5±0.3,43.°89N×17.°41E,h4km±2km,ML2.9/1*

ISC 26 13:29:49.1±1.1,43.°90N±0.°02×17.°40E±0.°02,h3km±10km, n70,σ1≟30/125,20C-7D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BLY	**Banja Luka**	**0.86**	**350**	*eP*	**g**	**Pg**	**13 30 05.4**	**-0.1**
BLY					*e*S	**Sg**	**13 30 16.2**	**-0.5**
BLY	**Banja Luka**	**0.86**	**350**	⇑	*iP*	**Pb**	**13 30 06.5**	**-0.1**
BLY					S	**Sg**	**13 30 17.3**	**+0.6**
BLY	**Banja Luka**	**0.86**	**350**	⇓	*iP*	**Pb**	**13 30 06.1**	**-0.5**
BLY					*e*S	**Sb**	**13 30 18.8**	**+0.3**
DOB	**Doboj**	**0.97**	**31**		*e*P	**Pb**	**13 30 08.4**	**-0.1**
DOB					*e*S	**Sb**	**13 30 21.8**	**+0.1**
STON	**Ston**	**1.05**	**168**		*e*P	**Pg**	**13 30 07.1**	**-2.2**
STON					Sg	**Sg**	**13 30 21.8**	**-1.1**
HAPS	**Han Pijesak,BI**	**1.13**	**80**		*e*P	**Pb**	**13 30 10.2**	**-1.2**
HAPS					*e*S	**Sn**	**13 30 28.6**	**+0.6**
HAPS	**Han Pijesak,BI**	**1.13**	**80**	⇑	*iP*	**Pb**	**13 30 10.4**	**-1.0**
HAPS					*e*S	**Sn**	**13 30 26.5**	**-1.5**
UPM	**Unac-Piva**	**1.30**	**122**	⇑	*iP*	**Pn**	**13 30 13.4**	**-0.9**
UPM					*i* Sg	**Sn**	**13 30 31.8**	**-0.4**
BRY	**Bratogost**	**1.30**	**140**	⇑	*iP*	**Pb**	**13 30 13.9**	**-0.3**
BRY					*i* Sg	**Sg**	**13 30 33.6**	**+2.7**
BRY	**Bratogost**	**1.30**	**140**	⇓	*iP*	**Pn**	**13 30 13.2**	**-1.0**
BRY					*e*Sg	**Sg**	**13 30 31.4**	**+0.5**
UDBI	**Udbina**	**1.33**	**298**		*e*P	**Pn**	**13 30 13.3**	**-1.3**
UDBI					Sg	**Sg**	**13 30 34.4**	**+2.5**
TREB	**Trebinje**	**1.37**	**149**		*e*P	**Pn**	**13 30 14.5**	**-0.7**
TREB					*e*Sg	**Sg**	**13 30 35.2**	**+2.0**
TREB	**Trebinje**	**1.37**	**149**	⇓	*iP*	**Pn**	**13 30 14.4**	**-0.7**
TREB					*e*Sg	**Sg**	**13 30 34.1**	**+0.9**
BBLS	**Lazići**	**1.45**	**91**		*e*P	**Pb**	**13 30 16.7**	**0.0**
BBLS					*e*Sg	**Sg**	**13 30 38.0**	**+2.3**
BBLS	**Lazići**	**1.45**	**91**	⇑	*iP*	**Pb**	**13 30 16.6**	**-0.1**
BBLS					*e*Sg	**Sg**	**13 30 36.4**	**+0.7**
PLE	**Pljevlja**	**1.55**	**111**	⇑	*iP*	**Pb**	**13 30 18.3**	**-0.2**
PLE					*i* Sg	**Sg**	**13 30 41.9**	**+2.9**
NKY	**Niksic**	**1.59**	**133**	⇑	*iP*	**Pb**	**13 30 18.5**	**-0.7**
NKY					*i* Sg	**Sg**	**13 30 43.1**	**+2.8**
NKME	**Niksic**	**1.60**	**135**	⇑	*iP*	**Pb**	**13 30 19.3**	**-0.1**
NKME					*i* Sg	**Sg**	**13 30 43.5**	**+2.9**
TEKS	**Tekeris**	**1.66**	**66**		*e*P	**Pb**	**13 30 19.9**	**-0.3**
TEKS					*e*Sg	**Sg**	**13 30 44.9**	**+2.5**
TEKS	**Tekeris**	**1.66**	**66**		*e*Pn	**Pb**	**13 30 20.0**	**-0.3**
TEKS					*e*Sn	**Sg**	**13 30 42.5**	**+0.1**
HCY	**Herceg Novi**	**1.66**	**151**	⇓	*iP*	**Pb**	**13 30 20.4**	**+0.1**
HCY					*i* Sn	**Sg**	**13 30 45.2**	**+2.8**
HCY	**Herceg Novi**	**1.66**	**151**	⇓	*iPn*	**Pg**	**13 30 20.6**	**-0.3**
HCY					*e*Sn	**Sg**	**13 30 42.4**	**0.0**
KOME	**Kolasin**	**1.87**	**124**	⇑	*iPn*	**Pb**	**13 30 23.3**	**-0.6**
KOME					*i* Sn	**Sg**	**13 30 49.8**	**+0.7**
DIVS	**Divibare**	**1.88**	**83**		*e*Pn	**Pn**	**13 30 22.6**	**+0.4**
DIVS					*e*Sn	**Sb**	**13 30 48.5**	**+0.5**
DIVS	**Divibare**	**1.88**	**83**	⇑	*iPn*	**Pn**	**13 30 22.6**	**+0.4**
DIVS					*e*Sn	**Sb**	**13 30 47.3**	**-0.7**
NVLJ	**Novalja**	**1.93**	**291**		*e*Pn	**Pb**	**13 30 24.8**	**-0.1**
NVLJ					Sg	**Sg**	**13 30 52.4**	**+1.2**
BUM	**Brajici-Budva**	**1.94**	**145**	⇑	*iPn*	**Pb**	**13 30 24.8**	**-0.3**
BUM					*i* Sn	**Sg**	**13 30 52.0**	**+0.6**
PDG	**Podgorica**	**2.00**	**137**		*e*Pg	**Pb**	**13 30 26.5**	**+0.5**
PDG					*e*Sg	**Sg**	**13 30 55.4**	**+2.0**
PDG	**Podgorica**	**2.00**	**137**	⇑	*iP*	**Pb**	**13 30 26.6**	**+0.5**
PDG	**Podgorica**	**2.00**	**137**		S	**Sg**	**13 30 53.6**	**+0.2**
PDG	**Podgorica**	**2.00**	**137**		*e*Pn	**Pb**	**13 30 25.0**	**-1.1**
PDG					*e*Sn	**Sb**	**13 30 50.3**	**-1.1**
TTG	**Podgorica**	**2.00**	**137**	⇑	*iPn*	**Pb**	**13 30 25.5**	**-0.6**
TTG					*i* Sn	**Sg**	**13 30 53.3**	**-0.1**
IVAS	**Ivanjica**	**2.02**	**98**		*e*Pn	**Pn**	**13 30 24.4**	**+0.3**
IVAS					*e*Sn	**Sb**	**13 30 52.3**	**+0.3**
IVA	**Berane**	**2.09**	**119**	⇓	*iPn*	**Pb**	**13 30 28.1**	**+0.5**
IVA					*i* Sn	**Sg**	**13 30 55.2**	**-1.0**
FRGS	**Fruska Gora**	**2.13**	**53**		*e*Pn	**Pb**	**13 30 26.8**	**-1.5**
FRGS					*e*Sn	**Sb**	**13 30 53.5**	**-1.6**
FRGS	**Fruska Gora**	**2.13**	**53**		*e*Pn	**Pb**	**13 30 27.0**	**-1.3**
FRGS					*e*Sn	**Sb**	**13 30 53.5**	**-1.6**
DRME	**Dracevica, Mon**	**2.16**	**142**	⇑	*iPn*	**Pb**	**13 30 28.3**	**-0.5**
DRME					*i* Sn	**Sb**	**13 30 56.8**	**+0.9**
DRME	**Dracevica, Mon**	**2.16**	**142**		*e*Pn	**Pn**	**13 30 27.2**	**-1.6**
DRME					*e*Sn	**Sb**	**13 30 54.2**	**-1.7**
TRUS	**Trudelj**	**2.19**	**81**		*e*Pn	**Pn**	**13 30 26.6**	**+0.3**
TRUS					*e*Sn	**Sb**	**13 30 55.9**	**-0.9**
OZLJ	**Ozalj**	**2.20**	**322**		*e*Pn	**Pn**	**13 30 25.4**	**-1.0**
PVY	**Plav**	**2.28**	**124**	⇑	*iPn*	**Pb**	**13 30 29.3**	**-1.6**
PVY					*i* Sn	**Sb**	**13 31 00.0**	**+0.4**
GCIS	**Gornji Cirnik**	**2.33**	**328**		*i* Pn	**Pb**	**13 30 29.5**	**-2.2**
ULC	**Ulcinj**	**2.37**	**144**	⇓	*iPn*	**Pb**	**13 30 30.9**	**-1.4**
ULC					*i* Sn	**Sb**	**13 31 02.0**	**+0.1**
CRES	**Cresnjev**	**2.37**	**325**		*e*Pn	**Pn**	**13 30 30.0**	**+1.2**
CRES					*e*Sn	**Sb**	**13 30 59.9**	**-2.0**
GRUS	**Gruza**	**2.40**	**89**		*e*Pn	**Pn**	**13 30 30.2**	**+1.0**
GRUS					*e*Sn	**Sb**	**13 31 01.1**	**-1.6**
MORH	**Mrgy, Hungar**	**2.47**	**20**		*e*Pn	**Pn**	**13 30 30.9**	**+0.7**
MORH					*e*Sn	**Sb**	**13 31 02.4**	**-2.5**
MORH	**Mrgy, Hungar**	**2.47**	**20**		*e*Pn	**Pn**	**13 30 31.0**	**+0.8**
MORH					*e*Sg	**Pg**	**13 30 36.0**	**-0.4**
MORH					Sn	**Sb**	**13 31 02.0**	**-2.9**
SELS	**Selova**	**2.79**	**103**		*e*Pn	**Pn**	**13 30 35.6**	**+1.0**
SELS					*e*Sn	**Sn**	**13 31 09.9**	**+1.2**
CEY	**Cerknica**	**2.80**	**312**		*e*Pn	**Pn**	**13 30 36.0**	**+1.2**
CEY					*e*Sn	**Sn**	**13 31 10.5**	**+1.5**
LJU	**Ljubljana**	**2.96**	**317**		*e*Pn	**Pn**	**13 30 37.9**	**+1.0**
LJU					*e*Sn	**Sn**	**13 31 14.4**	**+1.6**
TIH	**Tihany**	**3.02**	**6**		*e*Pn	**Pn**	**13 30 39.0**	**+1.4**
TIH					Sn	**Sn**	**13 31 15.1**	**+0.8**
BOVS	**Bovan**	**3.13**	**93**	⇑	*e*Pn	**Pn**	**13 30 40.3**	**+1.0**
BOVS					*e*Sn	**Sn**	**13 31 18.4**	**+1.3**
MDVR	**Moldovita**	**3.22**	**73**	⇑	*iP*	**Pn**	**13 30 40.4**	**-0.1**
SOKA	**Soboth**	**3.24**	**330**		*i* Pn	**Pn**	**13 30 41.8**	**+1.0**
	1.9nm,0.3s							
SOKA					*e*Sn	**Sn**	**13 31 19.8**	**-0.1**
	5.9nm,0.5s							
OBKA	**Obir**	**3.29**	**323**		*e*Pn	**Pn**	**13 30 43.8**	**+2.2**
	1.4nm,0.4s							
OBKA					Pg	**Pg**	**13 30 51.5**	**-0.6**
	3.7nm,0.3s							
OBKA					*e*Sn	**Sn**	**13 31 22.7**	**+1.4**
	8.8nm,0.5s							
BARS	**Barje**	**3.40**	**107**		*e*Pn	**Pn**	**13 30 43.2**	**+0.2**
BZS	**Buzias**	**3.46**	**59**	⇑	*iP*	**Pn**	**13 30 43.8**	**+0.1**
BZS	**Buzias**	**3.46**	**59**		S	**Sn**	**13 31 24.5**	**-0.7**
ARSA	**Arzberg**	**3.60**	**339**		*i* Pn	**Pn**	**13 30 47.1**	**+1.4**
	22nm,0.4s							
KRUS	**Krusevo**	**3.81**	**130**		*i* Pn	**Pn**	**13 30 50.6**	**+1.9**
ZAPS	**Zavoj**	**3.85**	**98**		*e*Pn	**Pn**	**13 30 49.9**	**+0.7**
ZAPS					*e*Sn	**Sn**	**13 31 35.8**	**+0.8**
GZR	**Gura Zlata**	**4.12**	**67**	⇑	*iP*	**Pn**	**13 30 52.8**	**-0.1**
GZR	**Gura Zlata**	**4.12**	**67**		S	**Sn**	**13 31 41.1**	**-0.4**
STIP	**Stip**	**4.16**	**120**		*e*Pn	**Pn**	**13 30 57.1**	**+3.7**
CONA	**Conrad Observa**	**4.17**	**346**		*i* Pn	**Pn**	**13 30 54.9**	**+1.3**
	9.3nm,0.3s							
VTS	**Vitosha**	**4.44**	**105**	⇑	*iP*	**Pg**	**13 31 14.1**	**-0.1**
MOA	**Molln**	**4.51**	**332**		*i* Pn	**Pn**	**13 31 00.5**	**+2.2**
	3.7nm,0.3s							
MOA					*e*Sn	**Sn**	**13 31 52.3**	**+1.1**
	2.0nm,0.3s							
DRGR		**4.73**	**51**	⇑	*iP*	**Pb**	**13 31 10.6**	**-2.0**
DRGR		**4.73**	**51**		S	**Sn**	**13 31 57.0**	**+0.4**
KHC	**Kasperske Hory**	**5.86**	**335**		*e*PN	**Pn**	**13 31 17.4**	**+0.7**
KHC					*ex*	x	13 31 30.4	
KHC					*e*SN	**Sn**	**13 32 23.6**	**-0.7**

*ISCJB **26** 13:39:03.7±0.6,5.°83N±0.°03×127.°05E±0.°07,h139km±4km, mb4.1/24,Error ellipse: s-maj=11.3km s-min=5.2km az=173.8*
*MAN **26** 13:39:05.7,6.°18N×127.°12E,h148km,mb4.6,ML3.5, MS3.3*
*IDC **26** 13:39:05.1±1.1,5.°86N×127.°10E,h136km±8km,mb3.9/24, mb1 4.0/26,mb1mx3.9/37,mbtmp4.3/26,MS3.4/2, Ms1 3.4/2,ms1mx2.7/34,Error ellipse: s-maj=17.6km s-min=8.3km az=72.0*
*DJA **26** 13:39:09.6±1.0,5.°N±8.°×12.°7E±.°,h153km±6km,M4.6/10, mB5.0/6,mb4.7/10,MLv4.8/8,Mw(mB)4.3/6*

ISC 26 13:39:03.9±0.9,5.°83N±0.°04×127.°18E±0.°08,h127km±7km, n54,σ1≟40/65,mb4.4/31,1C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.48**	**281**		*e*P	**Pn**	**13 39 30.9**	**-0.7**
DDMP					*e*S	**Sn**	**13 39 51.1**	**-1.5**
DAV	**Davao City (W)**	**2.01**	**308**		P	**Pn**	**13 39 38.7**	**+0.9**
	49nm,0.3s,baz=88,slow=9.8,SNR=2.4							
DAV					S	**Sn**	**13 40 04.5**	**+0.8**
	69nm,0.3s,baz=223,slow=18,SNR=11							
DMPH	**Davao City--Mi**	**2.07**	**307**		*e*P	**Pn**	**13 39 40.2**	**+1.7**
DMPH					*e*S	**Sn**	**13 40 07.1**	**+1.9**
GSPH	**General Santos**	**2.23**	**277**		*i* P	**Pn**	**13 39 39.5**	**-1.2**
GSPH					*i* S	**Sn**	**13 40 06.3**	**-2.6**
BIPH	**Bislig**	**2.47**	**341**	⇓	*iP*	**Pn**	**13 39 43.1**	**-0.4**
BIPH					*i* S	**Sn**	**13 40 13.0**	**-1.1**
SGSI	**Sangihe**	**2.69**	**218**		P	**Pn**	**13 39 48.9**	**+2.5**
SGSI					S	**Sn**	**13 40 16.8**	**-2.4**
BUKP	**Musuan**	**2.92**	**314**		*e*P	**Pn**	**13 39 49.6**	**+0.2**
BUKP					*e*S	**Sn**	**13 40 22.2**	**-2.3**
BUTP	**Butuan**	**3.48**	**334**		*e*P	**Pn**	**13 39 58.4**	**+1.8**
BUTP					*e*S	**Sn**	**13 40 39.9**	**+2.4**
KMSI	**Cibinong**	**6.12**	**212**		P	**Pn**	**13 40 32.0**	**0.0**
	447nm,0.9s,4μm							
MRSI	**Marisa**	**7.46**	**225**		P	**Pn**	**13 40 50.1**	**0.0**
	156nm,0.8s,2μm							
SIJI	**Sorong**	**7.81**	**148**		P	**Pn**	**13 40 56.7**	**+1.9**
	1.9nm,0.3s,baz=4.7,slow=23,SNR=5.8							
SIJI					S	**Sn**	**13 42 17.7**	**-4.1**
	1.4nm,0.3s,baz=182,slow=23,SNR=6.8							
SANI	**Sanana**	**7.92**	**189**		P	Pn	13 40 52.6	-3.7
	16nm,0.6s,501nm							
LUWI	**Luwuk**	**8.12**	**213**		P	**Pn**	**13 40 56.2**	**-2.9**
APSI	**Ampana**	**8.68**	**220**		P	**Pn**	**13 41 08.0**	**+1.4**
TTSI	**Tana Toraja**	**11.48**	**220**		P	**P**	**13 41 56.0**	**+3.4**
EDFI	**Ende, Flores**	**15.49**	**201**		P	**Pn**	**13 42 32.8**	**-2.8**
BATI	**Baumata**	**16.32**	**192**		P	**Pn**	**13 42 47.2**	**+1.5**
	3.9nm,0.3s,baz=46,slow=2.6,SNR=4.5							
FITZ	**Fitzroy Crossi**	**23.83**	**184**		P	**P**	**13 44 06.1**	**+0.7**
	4.0nm,0.7s,baz=333,slow=4.6,SNR=11							
WRA	**Warramunga Arr**	**26.57**	**165**		P	**P**	**13 44 31.6**	**+1.4**
	1.3nm,0.4s,baz=345,slow=11,SNR=16							
WRA						ScP	**ScP**	**13 51 19.4**	**-0.6**
	1.1nm,1.0s,baz=344,slow=3.0,SNR=8.8							
ASAR	**Alice Springs**	**30.05**	**168**		P	**P**	**13 45 00.8**	**-0.3**
	0.3nm,0.5s,baz=344,slow=7.5,SNR=12							
ASAR						PcP	**PcP**	**13 48 00.2**	**0.0**
	0.4nm,0.6s,baz=332,slow=2.5,SNR=5.1							
ASAR						ScP	**ScP**	**13 51 30.0**	**-0.9**
	0.6nm,0.8s,baz=339,slow=3.3,SNR=10							
CMAR	**Chiang Mai Arr**	**30.26**	**297**		P	**P**	**13 45 03.7**	**+0.6**
	0.6nm,0.3s,baz=104,slow=7.5,SNR=4.9							
KSRS	**Korea Array**	**31.48**	**1**		P	**P**	**13 45 13.9**	**+0.3**
	0.8nm,0.5s,baz=180,slow=9.1,SNR=4.1							
MJAR	**Matsushiro Arr**	**32.19**	**17**		P	**P**	**13 45 19.4**	**-0.4**
	2.2nm,0.7s,baz=192,slow=9.3,SNR=5.7							
USRK	**Ussuriysk Ar.**	**38.45**	**6**		P	**P**	**13 46 14.6**	**+1.4**
	1.4nm,0.6s,baz=148,slow=42,SNR=3.8							
NWAO	**Narrogin (SRO)**	**39.69**	**193**		P	**P**	**13 46 24.4**	**+0.7**
	6.1nm,0.4s,baz=253,slow=9.0,SNR=13							
STKA	**Stephens Creek**	**39.94**	**161**		P	**P**	**13 46 26.8**	**+0.9**
	2.1nm,0.7s,baz=327,slow=12.3,SNR=3.0							
RAMN	**Ranite**	**43.94**	**303**		*e*P	**P**	**13 46 58.7**	**-0.1**
	34nm,0.7s							
JIRN	**Jiri**	**44.54**	**304**		*e*P	**P**	**13 47 03.4**	**-0.3**
	49nm,0.6s							
GUN	**Gumba**	**44.89**	**304**		*e*P	**P**	**13 47 06.0**	**-0.4**
	33nm,0.6s							
PKI	**Pulchoki**	**45.16**	**303**		*e*P	**P**	**13 47 07.5**	**-1.0**
	14nm,0.7s							
KKN	**Kakani**	**45.34**	**304**		*e*P	**P**	**13 47 09.0**	**-0.8**
	7.0nm,0.5s							
DMN	**Daman**	**45.42**	**303**		*e*P	**P**	**13 47 09.7**	**-0.8**
SONM	**Songino Array**	**45.47**	**340**		P	**P**	**13 47 10.1**	**-0.3**
	1.2nm,0.7s,baz=140,slow=8.9,SNR=7.0							
SONM						PcP	**PcP**	**13 48 47.2**	**-0.1**
	0.5nm,0.4s,baz=164,slow=5.3,SNR=4.8							
KOLN	**Koldanda**	**46.73**	**303**		*e*P	**P**	**13 47 20.2**	**-0.5**
	31nm,0.6s							
DANN	**Dangsing**	**46.79**	**304**		*e*P	**P**	**13 47 20.6**	**-0.7**
	50nm,0.6s							
PYUN	**Pinan**	**47.35**	**303**		*e*P	**P**	**13 47 25.1**	**-0.4**
	22nm,0.6s							
PETK	**Petropavlovsk-**	**53.33**	**22**		P	**P**	**13 48 10.9**	**+1.1**
	7.3nm,0.7s,baz=197,slow=7.3,SNR=11							
PETK						LR	LR	14 10 45.6	
	comp=Z,9.6nm,20.6s,baz=121,slow=36							
MKAR	**Makanchi Array**	**56.11**	**324**		P	**P**	**13 48 30.3**	**+0.3**
	9.5nm,0.6s,baz=122,slow=8.2,SNR=140							
MKAR						PcP	**PcP**	**13 49 26.4**	**-0.1**
	1.5nm,0.7s,baz=119,slow=4.5,SNR=4.9							
ZALV	**Zalesovo Beam**	**58.94**	**332**		P	**P**	**13 48 48.6**	**-1.1**
	1.5nm,0.4s,baz=122,slow=5.3,SNR=7.0							
KURBB	**Kurchatov Arra**	**60.23**	**327**		P	**P**	**13 48 58.5**	**-0.1**
	14nm,0.7s,baz=124,slow=6.1,SNR=147							
BVAR	**Borovoye Array**	**65.82**	**326**		P	**P**	**13 49 35.6**	**0.0**
	13nm,0.7s,baz=128,slow=8.0,SNR=94							
GEYT	**Alibeck**	**69.94**	**308**		P	**P**	**13 50 02.3**	**+0.6**
	2.5nm,0.7s,baz=90,slow=3.0,SNR=7.2							
AKTO	**Aktyubinsk**	**72.31**	**321**		P	**P**	**13 50 15.5**	**-0.1**
	8.7nm,0.7s,baz=98,slow=7.9,SNR=45							
AKTO						LR	LR	14 24 30.6	
	comp=Z,72nm,18.1s,baz=332,slow=38							
ILAR	**Eielson Array**	**83.02**	**26**		P	**P**	**13 51 14.5**	**-0.3**
	1.2nm,0.5s,baz=251,slow=5.1,SNR=20							
ARCES	**ARCESS Array B**	**88.64**	**340**		P	**P**	**13 51 41.1**	**-1.3**
	2.3nm,0.7s,baz=80,slow=5.9,SNR=15							
BRTR	**Keskin Array B**	**89.03**	**310**		P	**P**	**13 51 44.4**	**-0.6**
	0.6nm,0.6s,baz=90,slow=4.3,SNR=3.5							
FINES	**FINESS Array B**	**90.20**	**332**		P	**P**	**13 51 48.8**	**-1.0**
	1.0nm,0.5s,baz=61,slow=6.7,SNR=11							
AKASG	**Malin Array Be**	**90.55**	**321**		P	**P**	**13 51 50.4**	**-1.3**
	1.2nm,0.5s,baz=69,slow=4.7,SNR=3.3							
H02S1	**DAWSON INLET T**	**91.54**	**36**		T	T	15 34 01.2	
	SNR=11							
NOA	**NORSAR Array B**	**97.11**	**334**		P	**P**	**13 52 20.6**	**-0.9**
	1.5nm,0.9s,baz=51,slow=17,SNR=3.1							
YKA	**Yellowknife Ar**	**97.41**	**24**		P	Pdif	13 52 23.2	+0.3
	0.2nm,0.7s,baz=306,slow=4.9,SNR=4.2							
YKA					PP	PP	13 56 35.6	+15
	0.3nm,0.8s,baz=292,slow=5.8,SNR=4.6							
GERES	**GERESS Array B**	**100.72**	**322**		P	**Pdif**	**13 52 38.5**	**+0.4**
	0.1nm,0.2s,baz=136,slow=35,SNR=3.5							
TXAR	**Lajitas Array**	**119.95**	**51**		PKP	**PKPdf**	**13 57 40.4**	**+0.2**
	0.2nm,0.7s,baz=348,slow=2.2,SNR=2.6							
TORD	**Torodi Ar. Bea**	**122.67**	**290**		PKP	**PKPdf**	**13 57 45.0**	**-0.6**
	0.7nm,0.7s,baz=26,slow=1.2,SNR=5.5							

MEX 26 13:43:54.5±0.4,16.°23N×98.°04W,h7km±4km,MD3.7,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.18**	**333**	*i*	P	Pg	13 43 57.9	-0.4
PNIG					*e*S	Sg	13 44 00.8	0.0

MEX 26 13:45:10.5±0.3,14.°21N×92.°61W,h16km±52km,MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**1.60**	**339**	*eP*		Pn	13 45 34.6	-3.5
PCIG					*i* S	Sn	13 45 53.2	-5.3
CCIG	**Comitan**	**2.11**	**13**	*eP*		Pn	13 45 42.5	-2.9
CCIG					*i* S	Sn	13 46 07.0	-4.4

*ISCJB **26** 14:09:47.5±0.7,2.°17N±0.°05×121.°54E±0.°06,h10km, mb3.6/5,Error ellipse: s-maj=8.0km s-min=7.2km az=0.5*
*IDC **26** 14:09:47.4±1.0,2.°33N×122.°08E,h0km,mb3.7/6, mb1 3.9/6,mb1mx3.6/36,mbtmp3.7/6,MS2.6/1,Ms1 2.6/1, ms1mx2.4/29,Error ellipse: s-maj=111.4km s-min=17.6km az=67.0*
*DJA **26** 14:09:51.5±1.0,2.°N±3.°×12.°2E±.°,h20km±12km,M4.3/12, mb4.4/4,mB5.2/1,MLv4.3/12,Mw(mB)4.6/1*

ISC 26 14:09:49.0±0.8,2.°17N±0.°05×121.°52E±0.°06,h10km,n17, σ1≟41/21,mb3.6/5,Celebes Sea

| Code | Station Name |

comp=Z,60nm,20.1s,baz=214,slow=38
KSRS Korea Array 48.39 16 LR LR 14 45 00.4
comp=Z,16nm,18.3s,baz=215,slow=40
MJAR Matsushiro Arr 51.18 26 P **P** **14 22 21.3 -2.6**
1.5nm,0.6s,baz=206,slow=8.6,SNR=5.8
USRK Ussuriysk Ar. 55.78 16 P **P** **14 22 56.2 -1.2**
7.3nm,0.8s,baz=170,slow=5.1,SNR=10.0
SONM Songino Array 57.08 355 P **P** **14 23 06.1 -0.7**
1.3nm,0.5s,baz=175,slow=7.2,SNR=13
SONM LR LR 14 51 12.9
comp=Z,36nm,20.3s,baz=294,slow=40
MKAR Makanchi Array 62.17 336 P **P** **14 23 41.2 -0.5**
1.3nm,0.6s,baz=150,slow=7.6,SNR=26
ZALV Zalesovo Beam 67.32 342 P **P** **14 24 13.5 -1.5**
1.7nm,0.6s,baz=149,slow=4.7,SNR=6.3
BOSA Boshof 83.90 242 LR LR 14 58 43.1
comp=Z,38nm,18.4s,baz=206,slow=32
BRTR Keskin Array B 87.89 311 P **P** **14 26 10.5 +0.4**
1.2nm,0.9s,baz=152,slow=8.4,SNR=4.8
TORD Torodi Ar. Bea 112.88 280 PKiKP **PKiKP** **14 31 57.6 -0.2**
0.5nm,0.9s,baz=4.8,slow=3.2,SNR=2.6

*TEH **26** 14:18:16.6,27.°58N×56.°66E,h10km, ML3.3*
*OMAN **26** 14:18:21.6±0.8,27.°31N×56.°79E,h10km,ml3.2/8,Error ellipse: s-maj=15.2km s-min=6.9km az=23.0*
*DSN **26** 14:18:23.1±2.0,27.°43N×55.°83E,h15km,ML2.9/7,Error ellipse: s-maj=38.0km s-min=15.2km az=64.0*
ISC 26 14:18:16.8±1.1,**27.°63N**±0.°04×**56.°72E**±0.°06,**h14**km±9km, **n31**,σ1°**49**/35,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIAN	**Nian**	**0.13**	**124**	*e*Pg	**Pg**	**14 18 20.3**	**+0.1**
NIAN				IAMB	IAmb	14 18 26.0	
	comp=Z,0.0nm,0.1s						
GENO	**Geno**	**0.54**	**245**	*e*Pg	**Pg**	**14 18 26.8**	**-0.6**
GENO				IAMB	IAmb	14 18 37.9	
	comp=N,0.0nm,0.3s						
SHME	**Shamm**	**1.66**	**198**	*e*P	**Pn**	**14 18 47.0**	**+1.5**
	SNR=17						
SHME				S	**Sn**	**14 19 07.3**	**+0.7**
SHME	**Shamm**	**1.66**	**198**	*e*Pn	**Pn**	**14 18 47.0**	**+1.5**
BANOM	**Banah**	**1.74**	**192**	*e*P	**Pg**	**14 18 50.7**	**+0.5**
	SNR=20						
BANOM	**Banah**	**1.74**	**192**	P	**Pn**	**14 18 47.7**	**+1.1**
	SNR=48						
BANOM				P	**Pn**	**14 18 47.7**	**+1.1**
	SNR=48						
NGRK	**Negar Kerman**	**2.01**	**0**	*e*Pn	**Pb**	**14 18 53.0**	**-0.3**
NGRK				IAMB	IAmb	14 18 55.6	
	comp=Z,0.0nm,0.1s						
MSFE	**Esma-Masafi**	**2.32**	**193**	*e*P	**Pb**	**14 18 58.5**	**+0.1**
	SNR=9.4						
MSFE	**Esma-Masafi**	**2.32**	**193**	*e*Pn	**Pn**	**14 18 56.1**	**+1.5**
CHMN	**Cheshme madani**	**2.34**	**18**	*e*Pn	**Pb**	**14 18 59.1**	**+0.2**
CHMN				IAMB	IAmb	14 19 00.0	
	comp=Z,0.0nm,0.3s						
TVBK	**TV Kerman**	**2.35**	**1**	*e*Pn	**Pb**	**14 18 59.3**	**+0.2**
TVBK				IAMB	IAmb	14 19 01.5	
	comp=Z,0.0nm,0.2s						
MDH	**Madha**	**2.35**	**189**	P	**Pn**	**14 18 55.6**	**+0.6**
MDH	**Madha**	**2.35**	**189**	*e*Pn	**Pn**	**14 18 56.1**	**+1.0**
UOSS	**Minazif**	**2.71**	**190**	P	**Pn**	**14 19 02.9**	**+2.9**
UOSS	**Minazif**	**2.71**	**190**	P	**Pn**	**14 19 02.8**	**+2.8**
UOSS	**Minazif**	**2.71**	**190**	*e*Pn	**Pn**	**14 19 01.0**	**+1.0**
KHGB	**Koh Gabri**	**2.74**	**356**	IAMB	IAmb	14 19 12.1	
	comp=Z,0.0nm,0.3s						
KHGB				*e*Pn	**Pb**	**14 19 03.8**	**-2.0**
HATD	**Hatta, Dubai**	**2.84**	**191**	P	**Pb**	**14 19 05.9**	**-1.4**
HATD	**Hatta, Dubai**	**2.84**	**191**	S	**Sg**	**14 19 47.6**	**-0.6**
HATD	**Hatta, Dubai**	**2.84**	**191**	*e*Pn	**Pn**	**14 19 03.8**	**+2.0**
ASHO	**Ashiyiah**	**2.99**	**192**	*e*P	**Pn**	**14 19 06.2**	**+2.2**
	SNR=7.7						
ASHO	**Ashiyiah**	**2.99**	**192**	P	**Pn**	**14 19 05.7**	**+1.8**
	SNR=7.1						
ASHO	**Ashiyiah**	**2.99**	**192**	*e*Pn	**Pn**	**14 19 05.2**	**+1.3**
FAQ	**Al Faqa, Dubai**	**3.05**	**200**	P	**Pn**	**14 19 04.5**	**-0.1**
FAQ	**Al Faqa, Dubai**	**3.05**	**200**	P	**Pn**	**14 19 06.2**	**+1.6**
	SNR=9.0						
FAQ	**Al Faqa, Dubai**	**3.05**	**200**	*e*Pn	**Pn**	**14 19 04.5**	**-0.1**
ASUD	**Al Ashush, Dub**	**3.24**	**203**	P	**Pn**	**14 19 08.7**	**+1.4**
ASUD	**Al Ashush, Dub**	**3.24**	**203**	P	**Pn**	**14 19 09.4**	**+2.1**
IMEH	**Mehriz**	**4.17**	**334**	*e*Pn	**Pn**	**14 19 21.5**	**+1.2**
IMEH				IAMB	IAmb	14 19 25.5	
	comp=Z,166nm,0.2s						
WSAR	**Wadi Sarin**	**4.70**	**158**	P	**Pn**	**14 19 28.2**	**+0.8**
WSAR				S	**Sn**	**14 20 20.7**	**-1.1**
JLN	**Jalan Bani Buh**	**5.98**	**155**	P	**Pn**	**14 19 46.0**	**+1.0**
JLN				S	**Sn**	**14 20 50.7**	**-2.6**
	SNR=9.6						

*ISCJB **26** 14:18:37.1±0.3,23.°68N±0.°02×122.°06E±0.°02,h16km±3km, Error ellipse: s-maj=3.2km s-min=1.9km az=143.7*
*JMA **26** 14:18:37.6±0.1,23.°70N×121.°99E,h25km±4km,M3.2*
*TAP **26** 14:18:38.8,23.°72N×121.°98E,h32km,ML3.5,C*
ISC 26 14:18:38.1±1.0,**23.°71N**±0.°02×**121.°99E**±0.°02,**h30**km±9km, **n84**,σ0°**63**/145,**15D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENLB	**Shoufeng**	**0.40**	**298**	*i*P	**Pb**	**14 18 47.4**	**+0.3**
ENLB	baz=305			*i* S	**Sb**	**14 18 53.8**	**+0.7**
	baz=305						
HWA	**Hwalien**	**0.44**	**307**	*e*P	**Pb**	**14 18 47.9**	**+0.3**
HWA	baz=304			*e*S	**Sn**	**14 18 54.8**	**-0.7**
	baz=304						
TWD	**Chiawan**	**0.52**	**316**	*i*P	**Pb**	**14 18 48.6**	**-0.2**
TWD	baz=317			*e*S	**Sb**	**14 18 56.0**	**-0.1**
	baz=317						
EGFH	**Guangfu**	**0.52**	**266**	*i*P	**Pb**	**14 18 48.8**	**0.0**
EGFH	baz=257			*e*S	**Sb**	**14 18 56.3**	**+0.2**
	baz=257						
ESL	**Shilin**	**0.52**	**282**	*i*P	**Pb**	**14 18 48.6**	**-0.3**
ESL	baz=275			*e*S	**Sb**	**14 18 56.1**	**-0.2**
	baz=275						
HGSD	**Ruisui**	**0.56**	**247**	*i*P	**Pb**	**14 18 49.5**	**-0.1**
HGSD	baz=246			S	**Sb**	**14 18 57.5**	**+0.1**
	baz=246						
NACB	**Ninganchiao**	**0.59**	**322**	*i* P	**Pb**	**14 18 49.4**	**-0.6**
NACB	baz=317			*i* S	**Sb**	**14 18 57.4**	**-0.7**
	baz=317						
EHY	**Hungye**	**0.65**	**252**	*i*P	**Pb**	**14 18 50.9**	**0.0**
EHY	baz=250			*e*S	**Sn**	**14 19 00.1**	**-0.4**
	baz=250						
YULB	**Yu-li**	**0.71**	**244**	*i*P	**Pb**	**14 18 51.8**	**-0.2**
YULB	baz=235			*e*S	**Sn**	**14 19 01.9**	**-0.2**
	baz=235						
TWF1	**Yuli**	**0.73**	**241**	*i* P	**Pb**	**14 18 52.2**	**-0.2**
TWF1	baz=232			*e*S	**Sb**	**14 19 02.3**	**+0.2**
	baz=232						
ENA	**Nanau**	**0.75**	**342**	*e*P	**Pb**	**14 18 52.3**	**-0.4**
ENA	baz=334			*e*S	**Sb**	**14 19 02.4**	**-0.2**
	baz=334						
VWDT	**VWDT**	**0.78**	**273**	*i*P	**Pn**	**14 18 53.2**	**+0.1**
VWDT	baz=265			*e*S	**Sb**	**14 19 02.5**	**-0.9**
	baz=265						
WHF	**Hehuan Shan**	**0.79**	**303**	*i*P	**Pb**	**14 18 52.9**	**-0.8**
WHF	baz=303			*e*S	**Sb**	**14 19 03.6**	**-0.7**
	baz=303						
CHGB	**Renai**	**0.82**	**295**	*i*P	**Pb**	**14 18 53.6**	**-0.5**
CHGB	baz=302			*e*S	**Sb**	**14 19 04.7**	**-0.2**
	baz=302						
CHKT	**Chengkung**	**0.84**	**223**	*i* P	**Pn**	**14 18 53.0**	**-0.9**
CHKT	baz=214			*e*S	**Sb**	**14 19 03.4**	**-1.7**
	baz=214						
EOS1	**EOS1**	**0.84**	**9**	*e*P	**Pn**	**14 18 54.2**	**+0.2**
	baz=19						
TWC	**Suao**	**0.90**	**352**	*e*P	**Pn**	**14 18 54.9**	**0.0**
	baz=353						
TWC				*e*S	**Sn**	**14 19 07.5**	**+0.6**
	baz=353						
NNSB	**Datong**	**0.91**	**322**	P	**Pn**	**14 18 55.0**	**0.0**
	baz=322						
NNSB				*e*S	**Sb**	**14 19 06.4**	**-0.8**
	baz=322						
NNS	**Nan Shan**	**0.92**	**322**	*e*P	**Pn**	**14 18 55.2**	**0.0**
	baz=323						
NNS				*e*S	**Sb**	**14 19 07.3**	**-0.3**
	baz=323						
TWT	**Tachien**	**0.92**	**306**	*e*P	**Pb**	**14 18 55.6**	**-0.1**
	baz=305						
TWT				*e*S	**Sb**	**14 19 07.2**	**-0.4**
	baz=305						
TDCB	**Techi**	**0.93**	**306**	*i*P	**Pn**	**14 18 55.5**	**+0.1**
	baz=305						
TDCB				*e*S	**Sb**	**14 19 07.1**	**-0.9**
	baz=305						
SSLB	**Suanglung**	**0.95**	**275**	*i*P	**Pn**	**14 18 55.5**	**-0.1**
	baz=274						
SSLB				*e*S	**Sn**	**14 19 07.8**	**-0.3**
	baz=274						
ENTT	**Nioudou**	**1.00**	**337**	P	**Pn**	**14 18 56.3**	**+0.1**
	baz=338						
ENTT				*e*S	**Sn**	**14 19 09.2**	**-0.2**
	baz=338						
SMLT	**Sun Moon Lake**	**1.01**	**280**	*i* P	**Pn**	**14 18 56.9**	**+0.4**
	baz=287						
SMLT				*e*S	**Sn**	**14 19 09.6**	**-0.2**
	baz=287						
ELDTW	**Lidau**	**1.03**	**240**	*i*P	**Pn**	**14 18 56.3**	**-0.4**
	baz=239						
ELDTW				*e*S	**Sn**	**14 19 09.4**	**-0.9**
	baz=239						
TWE	**Neicheng**	**1.05**	**344**	P	**Pn**	**14 18 57.0**	**+0.2**
	baz=345						
TYC	**Yuchr**	**1.05**	**281**	*i* P	**Pn**	**14 18 57.4**	**+0.4**
	baz=288						
TYC				*e*S	**Sb**	**14 19 11.1**	**-0.2**
	baz=288						
SLBB	**Yuanshan**	**1.09**	**343**	*e*P	**Pn**	**14 18 57.9**	**+0.4**
	baz=336						
ALS	**Alishan**	**1.10**	**260**	*i*P	**Pb**	**14 18 58.7**	**-0.2**
	baz=269						
ALS				*e*S	**Sb**	**14 19 13.0**	**0.0**
	baz=269						
YHNB	**Yeheng**	**1.11**	**330**	P	**Pn**	**14 18 58.0**	**+0.3**
	baz=330						
YHNB				*e*S	**Sn**	**14 19 11.4**	**-0.7**
	baz=330						
NSK	**Sanguang**	**1.12**	**329**	*e*P	**Pn**	**14 18 58.0**	**+0.1**
	baz=330						
JYNG	**Yonagunijimaku**	**1.14**	**50**	P	**Pn**	**14 18 58.6**	**+0.5**
JYNG				S	**Sn**	**14 19 13.4**	**+0.6**
NTC	**Toucheng**	**1.15**	**353**	*e*P	**Pn**	**14 18 57.8**	**-0.5**
	baz=4.0						
NWLT	**Wulai**	**1.15**	**337**	*e*P	**Pn**	**14 18 58.7**	**+0.4**
	baz=337						
WJS	**Zhushan**	**1.16**	**276**	*e*P	**Pb**	**14 18 59.9**	**+0.3**
	baz=284						
YOJ	**Yonaguni jima**	**1.20**	**51**	*i* P	**Pn**	**14 18 59.1**	**+0.3**
	baz=51						
YOJ				*e*S	**Sb**	**14 19 15.5**	**+0.2**
	baz=51						
YOJ	**Yonaguni jima**	**1.20**	**51**	P	**Pn**	**14 18 59.2**	**+0.3**
YOJ				*e*S	**Sn**	**14 19 14.0**	**-0.1**
CHN5	**Tsauling**	**1.21**	**265**	*i* P	**Pb**	**14 19 00.5**	**+0.1**
	baz=264						
CHN5				*e*S	**Sb**	**14 19 16.5**	**+0.8**
	baz=264						
WNT	**Mingjian**	**1.21**	**278**	*e*P	**Pb**	**14 19 00.9**	**+0.5**
	baz=278						
TWGBT	**Beinan**	**1.22**	**223**	*i* P	**Pn**	**14 18 58.4**	**-0.8**
	baz=234						
TWGBT				S	**Sn**	**14 19 13.6**	**-1.1**
	baz=234						
TWG	**Pinlang**	**1.22**	**224**	*i* P	**Pn**	**14 18 58.5**	**-0.8**
	baz=234						
TWG				*e*S	**Sn**	**14 19 14.0**	**-0.8**
	baz=234						
TTN	**Taitung**	**1.23**	**219**	*e*S	**Sn**	**14 19 14.0**	**-0.9**
	baz=209						
STYT	**Tauyuan**	**1.26**	**245**	*i* P	**Pn**	**14 19 00.5**	**+0.7**
	baz=235						
STYT				*e*S	**Sn**	**14 19 16.1**	**+0.4**
	baz=235						
TIPB	**Shuangxi**	**1.27**	**353**	*e*P	**Pb**	**14 19 00.9**	**-0.5**
	baz=353						
TCU	**Taichung**	**1.28**	**290**	*e*P	**Pb**	**14 19 02.1**	**+0.5**
	baz=290						
TCU				*e*S	**Sb**	**14 19 18.4**	**+0.7**
	baz=290						
TWQ1	**Liyutan**	**1.28**	**300**	*e*P	**Pb**	**14 19 02.0**	**+0.3**
	baz=300						
TWQ1				*e*S	**Sb**	**14 19 18.3**	**+0.5**
	baz=300						
NSTT	**Nanjuang**	**1.29**	**316**	*e*P	**Pb**	**14 19 01.8**	**+0.1**
	baz=316						
NSTT				*e*S	**Sb**	**14 19 17.5**	**-0.4**
	baz=316						
LIOB	**Emei**	**1.29**	**316**	P	**Pb**	**14 19 02.0**	**+0.2**
	baz=316						
LIOB				*e*S	**Sb**	**14 19 17.9**	**-0.1**
	baz=316						
WGK	**Gukeng**	**1.31**	**269**	*e*P	**Pb**	**14 19 01.4**	**-0.7**
	baz=269						
WGK				*e*S	**Sb**	**14 19 19.6**	**+1.1**
	baz=269						
TPUB	**Ta-pu**	**1.31**	**252**	*i* P	**Pb**	**14 19 02.1**	**-0.2**
	baz=242						
TPUB				*e*S	**Sb**	**14 19 18.6**	**-0.1**
	baz=242						
TWA	**Mucha**	**1.32**	**344**	*e*P	**Pn**	**14 18 59.6**	**-1.0**
	baz=344						
NSY	**Sanyi**	**1.32**	**302**	*e*P	**Pb**	**14 19 02.5**	**+0.1**
	baz=302						
NSY				*e*S	**Sb**	**14 19 19.6**	**+0.6**
	baz=302						
CHN4	**Tsaushan**	**1.33**	**255**	*i* P	**Pb**	**14 19 02.5**	**0.0**
	baz=245						
CHN4				*e*S	**Sb**	**14 19 20.4**	**+1.2**
	baz=245						
WDLH	**Douliu**	**1.33**	**269**	*e*P	**Pb**	**14 19 02.5**	**0.0**
	baz=269						
WTP	**Ta-pu**	**1.34**	**250**	*i*P	**Pb**	**14 19 02.4**	**-0.4**
	baz=241						
WTP				*e*S	**Sb**	**14 19 20.0**	**+0.4**
	baz=241						
WCHH	**Zhanghua**	**1.36**	**286**	*e*P	**Pb**	**14 19 03.4**	**+0.5**
	baz=285						
WCHH				*e*S	**Sb**	**14 19 21.4**	**+1.4**
	baz=285						
CHN2	**Minshiung**	**1.40**	**263**	*e*S	**Sb**	**14 19 22.7**	**+1.6**
	baz=263						
SLGT	**Liugui**	**1.43**	**240**	*i* P	**Pb**	**14 19 03.3**	**-0.8**
	baz=232						
SLGT				*e*S	**Sn**	**14 19 20.9**	**+1.0**
	baz=232						
SGST	**Jiashian**	**1.44**	**244**	P	**Pb**	**14 19 03.9**	**-0.4**
	baz=234						
SGST				*e*S	**Sb**	**14 19 22.5**	**+0.3**
	baz=234						
CHN1	**Nanshi**	**1.44**	**249**	*i* P	**Pb**	**14 19 04.2**	**-0.2**
	baz=248						
CHN1				*e*S	**Sb**	**14 19 22.5**	**+0.2**
	baz=248						
TWK	**Hsinying**	**1.45**	**253**	*i* P	**Pb**	**14 19 04.3**	**-0.2**
	baz=252						
TWK				*e*S	**Sb**	**14 19 22.2**	**-0.4**
	baz=252						
CHY	**Chiayi**	**1.45**	**262**	*e*P	**Pb**	**14 19 04.2**	**-0.4**
	baz=262						
ECL	**Taimali**	**1.46**	**221**	*e*P	**Pn**	**14 19 02.1**	**-0.4**
	baz=229						
TWS1	**Kuangyinshan**	**1.48**	**339**	*e*P	**Pn**	**14 19 03.6**	**+0.9**
	baz=340						
RLNB	**Erlin**	**1.50**	**277**	*e*P	**Pb**	**14 19 05.2**	**-0.2**
	baz=277						
RLNB				*e*S	**Sb**	**14 19 24.3**	**+0.2**
	baz=277						
WTCT	**Ta-ch'eng**	**1.57**	**276**	*e*P	**Pb**	**14 19 06.2**	**-0.4**
	baz=275						
WTCT				*e*S	**Sb**	**14 19 26.6**	**+0.5**
	baz=275						
SSD	**Sandimen**	**1.57**	**233**	P	**Pn**	**14 19 04.7**	**+0.6**
	baz=224						
CHN3	**Shinhua**	**1.62**	**247**	*e*S	**Sb**	**14 19 28.8**	**+1.3**
	baz=247						
WSF	**Szhu**	**1.62**	**268**	*e*P	**Pn**	**14 19 05.3**	**+0.6**
	baz=267						
WSF				*e*S	**Sb**	**14 19 26.6**	**-0.9**
	baz=267						
MASBT	**Mashibuluo**	**1.66**	**229**	P	**Pn**	**14 19 05.8**	**+0.6**
	baz=226						
MASBT				*e*S	**Sn**	**14 19 25.6**	**0.0**
	baz=226						
CHN8	**Yiju**	**1.67**	**258**	*e*P	**Pb**	**14 19 07.4**	**-0.9**
	baz=258						
EAST	**Anshuo**	**1.69**	**219**	*e*P	**Pn**	**14 19 05.5**	**-0.2**
	baz=218						
TWM1	**Shoushan**	**1.69**	**239**	*e*P	**Pb**	**14 19 09.2**	**+0.6**
	baz=238						
TWM1				*e*S	**Sb**	**14 19 31.3**	**+1.8**
	baz=238						
HATJ	**Hateruma jima**	**1.70**	**78**	P	**Pn**	**14 19 05.8**	**0.0**
HATJ				*e*S	**Sn**	**14 19 26.4**	**-0.1**
IRIF	**Iriomote-Funau**	**1.71**	**68**	P	**Pn**	**14 19 06.4**	**+0.5**
IRIF				*e*S	**Sn**	**14 19 26.7**	**-0.1**
SCLT	**Jiali**	**1.73**	**252**	*e*S	**Sb**	**14 19 30.6**	**-0.1**
	baz=252						
SCZT	**Fangliau**	**1.83**	**224**	*e*P	**Pn**	**14 19 09.1**	**+1.5**
	baz=219						
JKRS	**Kuro-shima**	**1.92**	**74**	P	**Pn**	**14 19 09.3**	**+0.5**
JKRS				S	**Sn**	**14 19 32.6**	**+0.6**
JIJ	**Ishigaki jima**	**2.07**	**71**	P	**Pn**	**14 19 10.8**	**-0.1**
JIJ				S	**Sn**	**14 19 34.9**	**-0.9**
PHUB	**P'eng-hu**	**2.23**	**265**	*e*P	**Pn**	**14 19 14.4**	**+1.4**
	baz=253						
JISG	**Ishigakijimahi**	**2.29**	**67**	P	**Pn**	**14 19 13.8**	**-0.1**
JISG				S	**Sn**	**14 19 39.7**	**-1.5**
JTJ	**Tarama**	**2.65**	**69**	P	**Pn**	**14 19 18.9**	**+0.1**
JTJ				*e*S	**Sn**	**14 19 50.7**	**+0.8**
JIRB	**Irabujima**	**3.11**	**68**	P	**Pn**	**14 19 25.3**	**+0.1**
JIRB				*e*S	**Sn**	**14 20 02.1**	**+0.7**
QZH	**Quanzhou**	**3.33**	**292**	*e*Pn	**Pn**	**14 19 29.0**	**+0.7**
QZH				Sn	**Sn**	**14 20 05.3**	**-1.6**
QZH				smax	smax		
	comp=N,36nm,0.2s						
QZH				smax	smax		
	comp=E,20nm,0.2s						

*ISK **26** 14:24:24.9,37.°89N×37.°86E,h4km,ML2.1/8*
*DDA **26** 14:24:26.2,37.°93N×37.°98E,h7km±2km,ML2.7*
ISC 26 14:24:26.8±1.0,**37.°93N**±0.°03×**37.°92E**±0.°03,**h17**km±11km, **n16**,σ1°**30**/25,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKCD	**Akcadag**	**0.36**	**1**	IAML_P			
	comp=Z,3μm,0.1s						
AKCD				*i* P	**Pg**	**14 24 34.0**	**-0.5**
ATAB	**Bozova**	**0.55**	**147**	IAML_P			
	comp=Z,2μm,0.1s						
ATAB				*i* P	**Pg**	**14 24 37.5**	**-0.3**
ATAB				*i* S	**Sg**	**14 24 44.9**	**-0.2**
GZT	**Gaziantep**	**0.64**	**206**	IAML_P			
	comp=Z,921nm,0.1s						
GZT				*i* P	**Pg**	**14 24 39.1**	**-0.4**
GZT				*i* S	**Sb**	**14 24 48.4**	**+0.2**
DARE	**Darende-Malaty**	**0.72**	**332**	PG	**Pg**	**14 24 40.0**	**-1.1**
DARE				SG	**Sb**	**14 24 50.9**	**+0.1**
URFA	**Urfa**	**0.87**	**124**	PG	**Pb**	**14 24 42.5**	**-1.0**
URFA				SG	**Sg**	**14 24 55.4**	**+0.2**
KMRS	**Kahramanmaras**	**0.91**	**243**	PG	**Pb**	**14 24 41.9**	**-2.3**
GAZ	**Gaziantep**	**0.94**	**217**	PG	**Pb**	**14 24 42.3**	**-2.4**
ELZG	**Elazig**	**1.01**	**56**	IAML_P			
	comp=Z,594nm,0.1s						
ELZG				*i* P	**Pb**	**14 24 45.4**	**-0.6**
ELZG				*i* S	**Sb**	**14 24 59.1**	**-0.1**
SANL	**SANLIURFA_Merk**	**1.14**	**131**	*i* P	**Pg**	**14 24 49.0**	**+0.1**
SANL				*i* S	**Sg**	**14 25 03.6**	**-0.1**
SURC	**SANLIURFA_SURC**	**1.19**	**152**	IAML_P			
	comp=Z,320nm,0.2s						
SURC				*i* P	**Pg**	**14 24 50.0**	**+0.3**
SURC				*i* S	**Sg**	**14 25 05.2**	**-0.1**
ANDN	**Andirin**	**1.29**	**255**	IAML_P			
	comp=Z,233nm,0.1s						
ANDN				*i* P	**Pg**	**14 24 52.7**	**+0.9**
ANDN				*i* S	**Sg**	**14 25 12.1**	**+3.4**
KUZU	**Kuzuini**	**1.33**	**210**	*i* P	**Pg**	**14 24 53.0**	**+0.5**
KUZU				*i* S	**Sg**	**14 25 12.5**	**+2.5**
PTK	**Pertek**	**1.50**	**50**	PN	**Pb**	**14 24 54.3**	**-0.1**
KOZT	**Kozan**	**1.72**	**255**	PN	**Pn**	**14 24 55.7**	**-0.2**
MAZI	**Mazidag**	**2.06**	**102**	PN	**Pn**	**14 25 02.2**	**+1.4**
TAHT	**Tahtakopru-Hat**	**2.08**	**222**	PN	**Pn**	**14 25 00.9**	**0.0**

*IDC **26** 14:25:49.6±4.9,36.°11N×71.°33E,h81km±31km,mb3.4/6, mb1 3.6/12,mb1mx3.3/38,mbtmp3.9/12,Error ellipse: s-maj=58.5km s-min=24.2km az=150.0*
*ISCJB **26** 14:25:50.9±0.4,36.°33N±0.°04×71.°16E±0.°04,h100km, mb3.6/5,Error ellipse: s-maj=5.8km s-min=4.5km az=38.3*
*NNC **26** 14:25:58.4±2.5,36.°84N×70.°97E,h116km±59km,mb3.5, mpv4.1,Error ellipse: s-maj=25.0km s-min=17.5km az=138.0*
ISC 26 14:25:53.0±0.8,**36.°50N**±0.°07×**71.°16E**±0.°06,**h100**km,**n39**, σ2°**34**/47,**mb3.8/5,12C-4D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.96**	**27**	⇑P	**Pn**	**14 26 54.7**	**+2.8**
	8.1nm,0.3s						
SFK				⇓S	**Sn**	**14 27 38.9**	**+1.4**
	9.8nm,0.3s						
AML	**Almayashu**	**5.96**	**18**	P	**Pn**	**14 27 20.6**	**+1.6**
	SNR=81						
MNAS	**Manas**	**6.07**	**9**	⇓P	**Pn**	**14 27 22.1**	**+1.7**
	16nm,0.8s						
MNAS				⇑S	**Sn**	**14 28 26.2**	**-2.3**
	20nm,0.5s						
UCH	**Uchtor**	**6.28**	**23**	P	**Pn**	**14 27 25.1**	**+1.6**
	SNR=22						
KZA	**Kyzart**	**6.41**	**28**	P	**Pn**	**14 27 26.3**	**+1.1**
	SNR=17						
EKS2	**Erkin-Say**	**6.48**	**17**	P	**Pn**	**14 27 27.8**	**+1.9**
	SNR=21						
KK31	**Karatay Array**	**6.62**	**356**	⇓P	**Pn**	**14 27 29.4**	**+1.8**
	10nm,0.3s,baz=192,slow=15,SNR=78						
KK31				⇑S	**Sn**	**14 28 40.8**	**-0.7**
	5.8nm,0.4s,baz=188,slow=24,SNR=7.0						
AAK	**Ala-Archa**	**6.65**	**22**	P	**Pn**	**14 27 30.2**	**+1.9**
	6.8nm,0.3s,baz=160,slow=6.1,SNR=104						
AAK				S	**Sn**	**14 28 41.2**	**-1.3**
	2.2nm,0.3s,baz=336,slow=21,SNR=11						
AAK	**Ala-Archa**	**6.65**	**22**	P	**Pn**	**14 27 30.1**	**+1.9**
	SNR=22						
AAK	**Ala-Archa**	**6.65**	**22**	⇓P	**Pn**	**14 27 30.0**	**+1.8**
	8.5nm,0.3s						
AAK				⇑S	**Sn**	**14 28 41.6**	**-1.0**
	8.9nm,0.6s						
KBK	**Karagaybulak**	**6.81**	**24**	P	**Pn**	**14 27 32.9**	**+2.4**
	SNR=8.3						
CHMS	**Chumysh**	**7.06**	**22**	P	**Pn**	**14 27 35.0**	**+1.4**
	SNR=11						
USP	**Ospenovka**	**7.23**	**20**	P	**Pn**	**14 27 37.3**	**+1.3**
	SNR=25						
TKM2	**Tokmak 2**	**7.27**	**27**	P	**Pn**	**14 27 38.2**	**+1.6**
	SNR=11						
TKM2	**Tokmak 2**	**7.27**	**27**	⇑P	**Pn**	**

KKN	**Kakani**	**14.77**	**122**	*e*P	**Pn**	**14 29 14.6**	**-2.4**
PKI	**Pulchoki**	**14.99**	**122**	*e*P	**Pn**	**14 29 17.3**	**-2.7**
KURBB	**Kurchatov Arra**	**15.08**	**18**	P	**P**	**14 29 23.6**	**+0.1**
	0.1nm,0.3s,baz=209,slow=10,SNR=6.5						
GUN	**Gumba**	**15.10**	**120**	*e*P	**Pn**	**14 29 18.7**	**-2.7**
AB31	**Akbulak array**	**15.15**	**331**	⇑P	**Pn**	**14 29 21.0**	**-0.4**
	1.1nm,0.3s,baz=138,slow=12,SNR=90						
AB31				⇑S	**Sn**	**14 31 59.4**	**-9.1**
	0.5nm,0.4s,baz=145,slow=24,SNR=9.2						
JIRN	**Jiri**	**15.47**	**120**	*e*P	**Pn**	**14 29 23.2**	**-2.9**
RAMN	**Ramite**	**16.20**	**122**	*e*P	**Pn**	**14 29 32.9**	**-2.1**
	7.5nm,0.5s						
BVAR	**Borovoye Array**	**16.54**	**358**	P	**P**	**14 29 40.2**	**+0.7**
	0.5nm,0.3s,baz=172,slow=12,SNR=9.0						
AKTO	**Aktyubinsk**	**16.85**	**330**	P	**P**	**14 29 44.7**	**+1.7**
	0.7nm,0.3s,baz=160,slow=12,SNR=9.4						
AKTO	**Aktyubinsk**	**16.85**	**330**	⇑P	**P**	**14 29 46.8**	**+3.8**
	3.0nm,0.7s						
AKTO				⇑S	**Sn**	**14 32 45.5**	**-4.0**
	3.2nm,1.1s						
ZALV	**Zalesovo Beam**	**19.86**	**24**	P	**P**	**14 30 15.7**	**-0.2**
	1.1nm,0.4s,baz=241,slow=12,SNR=4.7						
FINES	**FINESS Array B**	**37.56**	**326**	P	**P**	**14 32 58.6**	**+1.4**
	0.6nm,0.5s,baz=116,slow=12,SNR=3.7						
ARCES	**ARCESS Array B**	**41.20**	**338**	P	**P**	**14 33 29.8**	**+2.4**
	2.3nm,0.9s,baz=113,slow=8.0,SNR=4.6						
NB2	**NORSAR Subarra**	**44.46**	**323**	P	**P**	**14 33 55.6**	**+1.8**
	comp=Z,0.9nm,0.5s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.46**	**323**	P	**P**	**14 33 55.3**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=97,slow=7.7,SNR=4.0						
TORD	**Torodi Ar. Bea**	**65.85**	**269**	P	**P**	**14 36 27.5**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=50,slow=5.4,SNR=4.6						
YKA	**Yellowknife Ar**	**81.24**	**3**	P	**P**	**14 37 58.6**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=351,slow=5.3,SNR=8.0						

ISCJB ***26*** *14:42:25.2±0.9, 40.71N±0.05×41.27E±0.06, h10km, Error ellipse: s-maj=7.2km s-min=5.8km az=142.1*
ISK ***26*** *14:42:25.5, 40.77N×41.29E, h26km, ML2.2/4*
DDA ***26*** *14:42:26.6, 40.76N×41.29E, h7km±1km, ML2.5*

ISC 26 14:42:25.8±1.2, 40.73N±0.05×41.24E±0.04, h10km, n10, σ0s59/14, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDEM	**Demirkent**	**0.42**	**67**	IAML_P			
	comp=Z,944nm,0.1s						
DDEM				*i* P	**Pg**	**14 42 34.7**	**+0.7**
DBAD	**Bademkaya**	**0.45**	**50**	IAML_P			
	comp=Z,3μm,0.1s						
DBAD				*i* P	**Pb**	**14 42 35.7**	**-0.1**
CHOM	**Cayeli-Rize**	**0.52**	**315**	PG	**Pg**	**14 42 36.6**	**+0.8**
CHOM				SG	**Sb**	**14 42 44.8**	**+0.3**
DAGI	**Agillar**	**0.61**	**56**	IAML_P			
	comp=Z,697nm,0.1s						
DAGI				*i* P	**Pb**	**14 42 38.8**	**+0.1**
DAGI				*i* S	**Sb**	**14 42 46.8**	**-0.6**
ARTV	**Artvin**	**0.69**	**49**	IAML_P			
	comp=Z,2μm,0.2s						
ARTV				*i* P	**Pb**	**14 42 39.9**	**-0.1**
DBOC	**Borcka**	**0.69**	**27**	IAML_P			
	comp=Z,1μm,0.1s						
DBOC				*i* P	**Pg**	**14 42 39.8**	**+0.6**
DBOC				*i* S	**Sb**	**14 42 49.1**	**-0.5**
BCA	**Borcka**	**0.77**	**22**	PG	**Pg**	**14 42 40.3**	**-0.3**
BCA				SG	**Sg**	**14 42 51.1**	**+0.5**
KOPR	**Koprukoy-ERZUR**	**0.87**	**148**	PG	**Pg**	**14 42 42.8**	**+0.2**
BAYT	**Aydıntepe-Bayb**	**0.91**	**248**	PG	**Pg**	**14 42 42.8**	**-0.4**
BATM	**Batumi**	**0.94**	**21**	PG	**Pg**	**14 42 42.7**	**-1.1**

IDC 26 14:49:36.4±2.6, 8.99S×114.25E, h0km, mb3.0/3, mb1 3.5/4, mb1mx3.3/40, mbtmp3.3/4, ML3.0/1, Error ellipse: s-maj=154.0km s-min=23.8km az=48.0, Bali region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**14.29**	**130**	Pn	Pn	14 53 02.1	+1.9
	0.1nm,0.3s,baz=318,slow=14,SNR=1.9						
FITZ				Sn	Sn	14 55 30.4	-9.3
	0.1nm,0.3s,baz=255,slow=18,SNR=2.4						
WRA	**Warramunga Arr**	**22.26**	**121**	P	P	14 54 34.1	-1.2
	0.2nm,0.5s,baz=296,slow=12,SNR=5.1						
ASAR	**Alice Springs**	**23.80**	**130**	P	P	14 54 51.4	+0.2
	0.1nm,0.3s,baz=305,slow=9.1,SNR=9.8						
MKAR	**Makanchi Array**	**62.41**	**336**	P	P	15 00 01.3	+0.1
	0.1nm,0.5s,baz=126,slow=7.2,SNR=3.1						

IDC 26 14:50:54.0±3.5, 18.75S×173.58W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/33, mbtmp3.8/5, Error ellipse: s-maj=188.4km s-min=26.9km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.85**	**261**	P	P	14 58 13.1	+0.2
	3.6nm,0.7s,baz=90,slow=10,SNR=4.3						
ASAR	**Alice Springs**	**48.99**	**255**	P	P	14 59 43.1	+0.3
	0.7nm,0.6s,baz=96,slow=7.9,SNR=17						
WRA	**Warramunga Arr**	**48.99**	**260**	P	P	14 59 42.0	-0.9
	0.6nm,0.7s,baz=97,slow=7.7,SNR=8.0						
NVAR	**Mina Array Bea**	**76.93**	**42**	P	P	15 02 48.5	-0.2
	0.5nm,0.7s,baz=220,slow=8.3,SNR=3.7						
ILAR	**Eielson Array**	**85.75**	**11**	P	P	15 03 34.9	+0.3
	0.4nm,0.9s,baz=206,slow=6.0,SNR=3.5						

IDC 26 15:00:49.0±1.6, 4.49S×130.40E, h0km, mb3.2/1, mb1 3.5/4, mb1mx3.2/37, mbtmp3.3/4, ML2.9/4, Error ellipse: s-maj=68.8km s-min=24.1km az=86.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.69**	**14**	Pn	Pn	15 01 45.5	-1.9
	0.9nm,0.3s,baz=241,slow=23,SNR=16						
SIJI				Sn	Sn	15 02 25.1	-6.6
	1.5nm,0.3s,baz=180,slow=23,SNR=6.0						
FITZ	**Fitzroy Crossi**	**14.31**	**199**	Pn	Pn	15 04 12.3	-0.7
	0.0nm,0.3s,baz=34,slow=13,SNR=2.3						
WRA	**Warramunga Arr**	**15.84**	**166**	Pn	Pn	15 04 32.8	-0.7
	0.1nm,0.3s,baz=345,slow=13,SNR=3.7						
ASAR	**Alice Springs**	**19.37**	**170**	P	P	15 05 16.6	+0.1
	0.1nm,0.3s,baz=348,slow=9.3,SNR=11						
MKAR	**Makanchi Array**	**66.37**	**326**	P	P	15 11 40.5	+0.7
	0.1nm,0.4s,baz=119,slow=8.2,SNR=5.0						

BJI ***26*** *15:10:44.6, 38.48N×46.15E, h10km, mb4.7/45, mB5.1/30, Ms4.6/19, Ms7 4.3/19*
AZER ***26*** *15:10:45.4±0.1, 38.33N×46.78E, h10km±3km, ml5.1/29, Error ellipse: s-maj=6.2km s-min=1.6km az=27.0*
IDC ***26*** *15:10:47.6±0.5, 38.32N×46.85E, h0km, mb4.3/25, mb1 4.4/34, mb1mx4.4/44, mbtmp4.4/34, ML4.0/9, MS3.9/30, Ms1 3.9/30, ms1mx3.9/37, Error ellipse: s-maj=11.2km s-min=8.1km az=173.0*
NSSP ***26*** *15:10:47.6, 38.47N×46.85E, h13km, Ms4.7*
ISCJB ***26*** *15:10:49.4±0.4, 38.36N±0.01×46.85E±0.01, h9km±3km, mb4.5/67, MS4.0/30, Error ellipse: s-maj=2.3km s-min=1.9km az=17.3*
NEIC ***26*** *15:10:49.0±0.0, 38.36N×46.84E, h6km, mb4.8/15, MN4.6(TEH), After TEH.*
NEIC Felt [III] at Tabriz. Also felt at Ahar, Ardabil and Azar Shahr. Felt at Sisian, Armenia.
THR ***26*** *15:10:49.8, 38.49N×46.83E, h15km, ML4.6*
TEH ***26*** *15:10:49.3, 38.36N×46.84E, h6km, ML4.6*
MOS ***26*** *15:10:49.6±1.3, 38.25N×46.88E, h21km, mb4.7/37, Error ellipse: s-maj=6.2km s-min=4.0km az=108.1*
GCMT ***26*** *15:10:52.0±0.3, 38.37N±0.02×46.87E±0.02, h22km±1km, MW4.8/80, Moment Tensor Solution. s24,c30; s80,c123; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.91±.12; Mθθ-0.62±.09; Mφφ-0.29±.08; Mrθ-0.14±.14; Mrφ-2.09±.06; Mθφ0.63±.14; Best double couple: Mo2.26500×10¹⁶ NP1:ϕ6.00000°,δ74.00000°,λ25.00000°. NP2: ϕs269.00000°,δ66.00000°,λ163.00000°. Principal axes: T 1.9480, Plg29.0000°, Azm230.0000°; N 0.6340, Plg61.0000°, Azm37.0000°; P -2.5820, Plg6.0000°, Azm137.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DSN ***26*** *15:10:53.7±1.7, 38.26N×46.77E, h15km, mb5.1/7 Error ellipse: s-maj=34.0km s-min=21.3km az=59.0*
GII ***26*** *15:10:55.0±0.0, 38.30N×46.81E, h18km*
NNC ***26*** *15:10:56.5±2.5, 39.01N×47.45E, h0km, mb4.8, mpv5.0, Error ellipse: s-maj=35.8km s-min=24.7km az=174.0*
NSSC ***26*** *15:10:59.4±0.4, 38.42N×45.17E, h5km±999km*

ISC 26 15:10:50.4±0.8, 38.41N±0.02×46.84E±0.02, h13km±5km, n413, σ2s04/440, mb4.6/91, MS3.9/30, 59C-53D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHRS	**Heris**	**0.19**	**120**	*e*Pg	**Pg**	**15 10 53.5**	**-1.3**
IHRS					IAMB	IAmb	15 10 54.2
	comp=Z,5361μm,0.2s						
IHRS				*e*Sg	**Sg**	**15 10 56.7**	**-1.1**
ITBZ	**Tabriz**	**0.57**	**252**	*e*Pg	**Pg**	**15 11 00.7**	**-0.9**
ITBZ					IAMB	IAmb	15 11 10.9
	comp=Z,39μm,0.2s						
IBST	**Bostanabad**	**0.71**	**176**	*e*Pg	**Pg**	**15 11 01.9**	**-2.3**
IBST					IAMB	IAmb	15 11 14.8
	comp=Z,64μm,0.3s						
ORD	**Ordubad**	**0.84**	**308**	⇓P	**Pg**	**15 11 04.8**	**-1.8**
ORD				⇓S	**Sg**	**15 11 16.1**	**-1.5**
ISRB	**Sarab**	**0.88**	**131**		IAMB	IAmb	15 11 20.1
	comp=Z,20μm,0.2s						
ISRB				*e*Pg	**Pg**	**15 11 05.7**	**-1.7**
GRMI	**Germi**	**0.92**	**64**	*e*Pg	**Pg**	**15 11 06.8**	**-1.4**
GRMI	**Germi**	**0.92**	**64**	*e*AML	AML	15 11 21.1	
	comp=N,4μm,0.2s						
GRMI				*e*AML	AML	15 11 21.8	
	comp=E,7μm,0.2s						
GRMI	**Germi**	**0.92**	**64**	*e*Pg	**Pg**	**15 11 06.8**	**-1.4**
GRMI				*e*Sg	**Sg**	**15 11 19.0**	**-1.2**
IMRD	**Marand**	**0.94**	**289**	IAMB	IAmb	15 11 22.8	
	comp=Z,1440μm,0.5s						
IMRD				*e*Pg	**Pg**	**15 11 06.8**	**-1.7**
IAZR	**Azarshahr**	**0.99**	**223**	IAMB	IAmb	15 11 17.2	
	comp=Z,19μm,0.3s						
IAZR				*e*Pg	**Pg**	**15 11 08.4**	**-1.2**
LRK	**Lerik**	**1.20**	**78**	P	**Pb**	**15 11 11.7**	**-1.4**
	SNR=420						
LRK				⇓S	**Sn**	**15 11 29.2**	**0.0**
NAX	**Nakhchivan**	**1.29**	**306**	P	**Pn**	**15 11 13.1**	**-1.1**
	SNR=1170						
NAX				⇓S	**Sb**	**15 11 31.4**	**+0.3**
SBZ	**Shahbuz**	**1.40**	**315**	⇑P	**Pn**	**15 11 14.7**	**-1.0**
SBZ				⇓S	**Sg**	**15 11 35.4**	**-0.2**
GLBA	**Clilabad**	**1.47**	**55**	P	**Pb**	**15 11 17.4**	**-0.1**
	SNR=918						
GLBA				⇑S	**Sg**	**15 11 38.0**	**+0.2**
ASTR	**Astara**	**1.54**	**84**	P	**Pn**	**15 11 17.7**	**+0.2**
	SNR=950						
ASTR				⇑S	**Sg**	**15 11 40.2**	**+0.2**
LKRN	**Lenkeran, Azer**	**1.55**	**78**	P	**Pn**	**15 11 17.8**	**+0.2**
	SNR=940						
LKRN				⇑S	**Sg**	**15 11 39.5**	**-0.8**
BRDA	**Brd**	**1.87**	**8**	⇓P	**Pn**	**15 11 22.2**	**+0.2**
	SNR=95						
BRDA				⇑S	**Sg**	**15 11 50.8**	**+0.3**
SAAT	**Saatly**	**1.90**	**40**	⇓P	**Pn**	**15 11 23.2**	**+0.8**
	SNR=4.0						
SAAT				⇓S	**Sb**	**15 11 49.4**	**+0.8**
MAKU	**Maku**	**1.93**	**300**	*e*Pn	**Pn**	**15 11 23.7**	**+0.7**
MAKU	**Maku**	**1.93**	**300**	*e*AML	AML	15 11 56.6	
	comp=N,5μm,0.6s						
MAKU				*e*AML	AML	15 11 57.8	
	comp=E,4μm,0.5s						
MAKU	**Maku**	**1.93**	**300**	*e*Pn	**Pn**	**15 11 23.7**	**+0.7**
MAKU				*e*Sg	**Sb**	**15 11 49.3**	**-0.2**
VADZ	**Vardenis**	**1.95**	**335**	⇓*i*P	**Pn**	**15 11 24.5**	**+1.2**
VADZ				⇓*i*S	**Sg**	**15 11 52.0**	**-1.2**
ZRD	**Zardab**	**1.98**	**19**	⇓P	**Pn**	**15 11 24.3**	**+0.8**
	SNR=253						
ZRD				⇑S	**Sg**	**15 11 54.6**	**+0.6**
HYR	**Heyderabad**	**2.02**	**311**	⇓P	**Pn**	**15 11 25.1**	**+0.9**
HYR				⇑S	**Sb**	**15 11 53.4**	**+1.3**
KDMR	**Kurdemir**	**2.22**	**28**	⇓P	**Pn**	**15 11 27.6**	**+0.7**
KDMR				⇑S	**Sb**	**15 11 59.6**	**+1.8**
BASK	**Baskale_VAN**	**2.26**	**262**	*i* P	**Pb**	**15 11 31.4**	**+0.3**
GANJ	**Ganja**	**2.27**	**350**	⇓P	**Pn**	**15 11 27.9**	**+0.4**
	SNR=533						
GANJ				⇓S	**Sb**	**15 11 58.3**	**-0.8**
ALIB	**Äli-Bayra**	**2.29**	**47**	⇑P	**Pn**	**15 11 28.5**	**+0.8**
	SNR=81						
ALIB				⇓S	**Sb**	**15 12 00.8**	**+1.2**
MNGR	**Mingechevir, A**	**2.37**	**5**	⇓P	**Pn**	**15 11 29.3**	**+0.4**
	SNR=41						
MNGR				⇓S	**Sb**	**15 12 02.9**	**+1.0**
GNI	**Garni**	**2.38**	**318**	*e*Pn	**Pb**	**15 11 31.8**	**-1.3**
GNI	**Garni**	**2.38**	**318**	*e*P	**Pb**	**15 11 32.6**	**-0.5**
	SNR=206						
GNI	**Garni**	**2.38**	**318**	*de*PN	**Pb**	**15 11 31.5**	**-1.6**
GNI				pmax	pmax		
	comp=Z,51μm,1.3s						
GNI	**Garni**	**2.38**	**318**	P	**Pb**	**15 11 32.1**	**-1.1**
	SNR=549						
GNI	**Garni**	**2.38**	**318**	⇓*i*P	**Pb**	**15 11 31.8**	**-1.3**
GNI				⇑*i*S	**Sg**	**15 12 05.1**	**-1.7**
GNI	**Garni**	**2.38**	**318**	*e*Pn	**Pb**	**15 11 31.8**	**-1.3**
CLDR	**Caldiran**	**2.40**	**289**	*e*Pn	**Pn**	**15 11 31.4**	**+1.9**
GDB	**GEDABAY**	**2.45**	**340**	⇓P	**Pn**	**15 11 30.3**	**0.0**
	SNR=176						
GDB				⇓S	**Sb**	**15 12 05.5**	**+0.9**
TASB	**TASBURUN-IGDIR**	**2.56**	**309**	*e*Pn	**Pb**	**15 11 33.9**	**-2.2**
IML	**Ismayilli**	**2.60**	**23**	⇓P	**Pn**	**15 11 32.4**	**+0.3**
	SNR=60						
IML				⇑S	**Sb**	**15 12 07.7**	**-0.9**
QBL	**Gabala**	**2.65**	**17**	⇑P	**Pn**	**15 11 33.5**	**+0.7**
	SNR=82						
QBL				⇑S	**Sb**	**15 12 08.7**	**-1.3**
GBS	**Qobustan**	**2.68**	**37**	⇑P	**Pn**	**15 11 34.1**	**+1.0**
	SNR=52						
GBS				⇓S	**Sb**	**15 12 09.6**	**-1.3**
VANB	**Van**	**2.71**	**275**	*e*Pn	**Pn**	**15 11 35.2**	**+1.5**
PQL	**Pirkuli**	**2.74**	**29**	⇓P	**Pn**	**15 11 35.1**	**+1.0**
	SNR=234						
PQL				⇑S	**Sb**	**15 12 12.6**	**-0.2**
CUKT	**Cukurca**	**2.81**	**247**	*e*Pn	**Pb**	**15 11 37.7**	**-2.7**
SEKA	**Sheki**	**2.81**	**6**	⇓P	**Pn**	**15 11 35.8**	**+0.8**
	SNR=248						
SEKA				⇓S	**Sn**	**15 12 12.0**	**+3.3**
QZX	**Qazax, Azerbai**	**2.88**	**337**	⇑P	**Pn**	**15 11 36.3**	**+0.4**
	SNR=329						
QZX				⇑S	**Sn**	**15 12 12.0**	**+1.7**
XNQ	**Khinaliq**	**2.94**	**20**	⇓P	**Pn**	**15 11 37.4**	**+0.5**
	SNR=141						
XNQ				⇑S	**Sn**	**15 12 14.9**	**+2.8**
ATGJ	**Altiaghaj**	**2.94**	**33**	⇓P	**Pn**	**15 11 37.2**	**+0.4**
	SNR=78						
ATGJ				⇑S	**Sn**	**15 12 14.8**	**+2.9**
GOBA	**Gobu**	**3.00**	**48**	⇓P	**Pn**	**15 11 37.6**	**+0.1**
DDFL	**Dedoflistskaro**	**3.08**	**350**	P	**Pb**	**15 11 42.7**	**-2.4**
DDFL				S	**Sg**	**15 12 28.8**	**-0.5**
SIZA	**Siyzn**	**3.10**	**30**	⇓P	**Pn**	**15 11 39.6**	**+0.6**
	SNR=160						
SIZA				⇑S	**Sn**	**15 12 18.8**	**+2.8**
QUBA	**Quba, Azerbaij**	**3.21**	**23**	⇓P	**Pn**	**15 11 41.3**	**+0.9**
	SNR=43						
QUBA				⇑S	**Sn**	**15 12 22.1**	**+3.6**
AGRB	**Hanur-Agry**	**3.21**	**292**	*e*Pn	**Pn**	**15 11 42.9**	**+2.2**
ZKTA	**Zakatala**	**3.23**	**357**	⇓P	**Pn**	**15 11 41.5**	**+0.8**
	SNR=95						
ZKTA				⇓S	**Sb**	**15 12 23.6**	**-3.1**
QSAR	**Qusar**	**3.29**	**19**	⇓P	**Pn**	**15 11 42.5**	**+0.9**
	SNR=95						
QSAR				⇓S	**Sb**	**15 12 25.1**	**-3.4**
SNGE	**Sanandaj**	**3.34**	**173**	*e*Pn	**Pn**	**15 11 44.7**	**+2.3**
SNGE	**Sanandaj**	**3.34**	**173**	*e*Pn	**Pn**	**15 11 44.7**	**+2.3**
SNGE				*e*Sg	**Sg**	**15 12 36.3**	**-1.3**
LGD	**Lagodekhi**	**3.45**	**353**	P	**Pn**	**15 11 46.0**	**+2.2**
LGD				S	**Sb**	**15 12 32.7**	**-0.4**
LGD	**Lagodekhi**	**3.45**	**353**	*e*PN	**Pn**	**15 11 45.9**	**+2.2**
LGD				*e*S	**Sb**	**15 12 32.7**	**-0.4**
HKZM	**Kohzaman**	**3.45**	**151**	*e*Pn	**Pn**	**15 11 46.0**	**+2.0**
ILIN	**Lien**	**3.49**	**178**	*e*Pn	**Pn**	**15 11 47.6**	**+3.1**
ILIN				IAMB	IAmb	15 12 52.3	
	comp=Z,32μm,1.0s						
SIRT	**Sirnak**	**3.59**	**257**	*e*Pn	**Pn**	**15 11 48.9**	**+3.1**
KARS	**Kars**	**3.65**	**308**	*e*Pn	**Pn**	**15 11 50.7**	**+4.0**
TBLG	**Delisi**	**3.69**	**335**	P	**Pb**	**15 11 53.7**	**-1.6**
TBLG	**Delisi**	**3.69**	**335**	*e*Pn	**Pn**	**15 11 49.6**	**+2.6**
TBLG	**Delisi**	**3.69**	**335**	*e*PN	**Pn**	**15 11 49.6**	**+2.6**
TBLG	**Delisi**	**3.69**	**335**	*e*Pn	**Pn**	**15 11 49.6**	**+2.6**
SEAG	**Tbilisi Sea**	**3.69**	**336**	P	**Pb**	**15 11 56.0**	**+0.5**
TRLG	**Trialeti**	**3.77**	**327**	P	**Pb**	**15 11 56.3**	**-0.4**
GURO	**Guroymak-BITLI**	**3.77**	**274**	*e*Pn	**Pn**	**15 11 51.3**	**+3.0**
BGD	**Bogdanovka**	**3.79**	**320**	P	**Pb**	**15 11 58.2**	**+1.1**
IVIS	**Veis**	**3.88**	**180**	*e*Pn	**Pn**	**15 11 52.5**	**+2.8**
IVIS				IAMB	IAmb	15 13 05.8	
	comp=Z,16μm,1.2s						
IRAZ	**Razeghan**	**3.89**	**139**	*e*Pn	**Pn**	**15 11 51.2**	**+1.2**
IRAZ				IAMB	IAmb	15 12 02.5	
	comp=Z,18μm,0.5s						
HAGD	**Aghdareh**	**4.03**	**152**	*e*Pn	**Pn**	**15 11 53.6**	**+1.6**
IGHG	**Ghaleghazi**	**4.08**	**183**	*e*Pn	**Pn**	**15 11 56.5**	**+3.9**
IGHG				IAMB	IAmb	15 13 17.0	
	comp=N,31μm,1.5s						
IMHD	**Mahdasht**	**4.10**	**130**	*e*Pn	**Pn**	**15 11 53.9**	**+1.1**
IMHD				IAMB	IAmb	15 12 11.4	
	comp=Z,8μm,0.5s						
IKOM	**Komasi**	**4.26**	**172**	*e*Pn	**Pn**	**15 11 58.4**	**+3.3**
HSAM	**Samen**	**4.43**	**161**	*e*Pn	**Pn**	**15 12 00.4**	**+3.0**
SVAN	**Silvan-Diyarba**	**4.44**	**268**	*e*Pn	**Pn**	**15 12 00.8**	**+3.3**
DVE	**Vedeno**	**4.57**	**353**	*i* PN	**Pn**	**15 12 01.5**	**+2.3**
MAK	**Makhachkala**	**4.57**	**6**	*e*PN	Pn	15 12 04.2	+5.0
MAK				*e*		15 12 24.9	
MAK				*e*S	**Sn**	**15 12 58.1**	**+6.0**
MAK				*e*		15 13 24.6	
MAK				pmax	pmax		
	comp=Z,478nm,0.8s						
MAK				smax	smax		
	comp=E,1μm,0.6s						
MAK				smax	smax		
	comp=E,1μm,0.6s						
MAK				MLR	MLR		
	comp=Z,5μm,13.0s						
IPRN	**Peran**	**4.89**	**115**	*e*Pn	**Pn**	**15 12 04.5**	**+0.8**
IPRN				IAMB	IAmb	15 13 13.6	
	comp=Z,6μm,0.4s						
ZEI	**Tsey**	**4.91**	**334**	*e*PN	**Pn**	**15 12 07.1**	**+3.1**
ZEI				pmax	pmax		
	comp=Z,153nm,0.5s						
IKFM	**Kafar-mosalman**	**4.94**	**170**	*e*Pn	**Pn**	**15 12 07.6**	**+3.3**
IKMR	**Kamar-syah**	**5.04**	**165**	*e*Pn	**Pn**	**15 12 08.5**	**+2.9**
IALA	**Alasht**	**5.30**	**114**	*e*Pn	**Pn**	**15 12 10.7**	**+1.2**
IALA				IAMB	IAmb	15 12 31.7	
	comp=Z,4μm,0.6s						
KHMZ	**Khomeyn**	**5.30**	**151**	*e*Pn	**Pn**	**15 12 11.6**	**+2.1**
KHMZ	**Khomeyn**	**5.30**	**151**	*e*Pn	**Pn**	**15 12 11.6**	**+2.1**
IFIR	**Firoozkooh**	**5.48**	**118**	*e*Pn	**Pn**	**15 12 15.5**	**+3.6**
IFIR				IAMB	IAmb	15 12 44.2	
	comp=Z,1μm,0.4s						
NCK	**Nalchik**	**5.64**	**335**	*i* P	**Pn**	**15 12 15.0**	**+1.1**
NEY	**Neytrino**	**5.75**	**328**	*i* P	**Pn**	**15 12 17.4**	**+1.9**
ILAS	**Lasjerd**	**5.76**	**120**	*e*Pn	**Pn**	**15 12 19.0**	**+3.2**
ILAS				IAMB	IAmb	15 14 33.5	
	comp=Z,2μm,0.8s						
ISHM	**Shahmirzad**	**5.78**	**115**	*e*Pn	**Pn**	**15 12 19.1**	**+3.1**
ISHM				IAMB	IAmb	15 12 44.1	
	comp=Z,3μm,0.7s						
KBZ	**Khabaz**	**6.09**	**332**	Pn	**Pn**	**15 12 24.5**	**+4.6**
	comp=Z,0.8nm,0.3s,baz=158,slow=15,SNR=25						
KBZ				Lg	Lg	15 14 01.3	
	comp=Z,1.2nm,0.3s,baz=241,slow=21,SNR=2.7						
KBZ				LR	LR	15 15 01.4	
	comp=Z,949nm,21.5s,baz=157,slow=41						
KVAR	**Kislovodsk Arr**	**6.36**	**332**	Pn	**Pn**	**15 12 28.3**	**+4.5**
	baz=90,slow=20,SNR=13						
KIV	**Kislovodsk**	**6.36**	**332**	*e*Pn	Pn	15 12 29.1	+5.2
KIV	**Kislovodsk**	**6.36**	**332**	*i* P	Pn	15 12 28.8	+5.0
	SNR=18						
KIV	**Kislovodsk**	**6.36**	**332**	*e*P	**Pn**	**15 12 28.5**	**+4.7**
KIV				pmax	pmax		
	comp=Z,71nm,0.9s						
KIV				MLR	MLR		
	comp=Z,217nm,8.0s						
KIV	**Kislovodsk**	**6.36**	**332**	P	Pn	15 12 29.0	+5.2
	SNR=12						
IKLH	**Kolahrood**	**6.37**	**141**	*e*Pn	**Pn**	**15 12 27.2**	**+3.0**
IKLH				IAMB	IAmb	15 12 49.8	
	comp=Z,2μm,0.8s						
IANJ	**Anjilo**	**6.38**	**115**	*e*Pn	**Pn**	**15 12 27.5**	**+3.2**
IANJ				IAMB	IAmb	15 12 51.0	
	comp=Z,1μm,0.7s						
ROKH	**ROKH**	**6.96**	**149**	*e*Pn	**Pn**	**15 12 33.7**	**+1.6**
ZNGN	**Zangian**	**7.09**	**151**	*e*Pn	**Pn**	**15 12 35.3**	**+1.3**
IZEF	**Zefreh**	**7.09**	**139**	*e*Pn	**Pn**	**15 12 36.2**	**+2.2**
IZEF				IAMB	IAmb	15 13 14.9	
	comp=Z,716nm,0.6s						
GOF	**Gofitskoye**	**7.22**	**338**	*e*P	**Pn**	**15 12 39.5**	**+4.0**
GOF				pmax	pmax		
	comp=Z,40nm,0.7s						
SOC	**Sochi**	**7.46**	**316**	*e*P	Pn	15 12 44.1	+5.3
SOC				*e*		15 14 09.9	
SOC				pmax	pmax		
	comp=Z,64nm,0.7s						
SOC				MLR	MLR		
	comp=Z,860nm,9.0s						
ANAR	**Anarak**	**7.65**	**131**	*e*Pn	**Pn**	**15 12 43.4**	**+1.8**
IRAM	**Ramesheh**	**8.00**	**144**	*e*Pn	**Pn**	**15 12 48.6**	**+2.1**
IRAM				IAMB	IAmb	15 13 29.5	
	comp=Z,501nm,0.8s	

MZDA Masada 11.78 236 Pn **Pn** 15 13 41.4 +3.4
ZFRI Zfri 12.40 234 Pn **Pn** 15 13 49.5 +3.0
PRNI Paran 12.64 234 Pn **Pn** 15 13 52.7 +2.8
KZIT Kziot 12.68 238 Pn **Pn** 15 13 54.1 +3.8
HRFI Mount Harif 12.84 233 Pn **Pn** 15 13 55.7 +3.1
MBRI Mt Berech 13.08 232 Pn **Pn** 15 13 58.6 +2.6
EIL Elat 13.15 232 Pn **Pn** 15 13 59.7 +3.0
VRH Novokhopyorsk 13.29 346 *e*P **Pn** 15 13 57.9 -0.7
VRH pmax pmax
comp=Z,50nm,1.6s
VSR Storozhevoye 13.90 340 *i* P **Pn** 15 14 04.8 -2.1
AB31 Akbulak array 14.36 37 ⇑P **Pn** 15 14 10.8 -2.5
comp=Z,8.5nm,0.5s,baz=220,slow=13,SNR=323
AB31 ⇑S **Sn** 15 16 45.4 -6.9
comp=Z,28nm,0.8s,baz=220,slow=24,SNR=4.5
AB31 Akbulak array 14.36 37 P **Pn** 15 14 10.7 -2.5
AB31 pmax pmax
comp=Z,9.0nm,0.5s
ABKAR Akbulak array 14.36 37 *e*Pn **Pn** 15 14 10.3 -2.9
AKTO Aktyubinsk 14.41 30 Pn **Pn** 15 14 11.8 -2.1
comp=Z,2.9nm,0.3s,baz=214,slow=12,SNR=30
AKTO Sn Sn 15 16 42.3 -11
comp=Z,1.1nm,0.3s,baz=11,slow=21,SNR=7.5
AKTO LR LR 15 21 24.9
comp=Z,324nm,18.6s,baz=218,slow=44
AKTO Aktyubinsk 14.41 30 ⇑P **Pn** 15 14 10.8 -3.1
comp=Z,38nm,0.7s
AKTO ⇑S Sn 15 16 42.0 -11
comp=Z,30nm,0.9s
AKTO Aktyubinsk 14.41 30 P **Pn** 15 14 10.8 -3.1
AKTO pmax pmax
comp=Z,38nm,0.7s
RAYN Ar Rayn 14.88 185 *e*Pn **Pn** 15 14 17.6 -2.9
RAYN Ar Rayn 14.88 185 *i* P **Pn** 15 14 17.3 -3.2
SNR=5.7
RAYN Ar Rayn 14.88 185 *e*P **Pn** 15 14 17.7 -2.9
TLCR 15.03 302 ⇑*i*P **P** 15 14 27.0 -0.7
MSFE Esma-Masafi 15.22 146 P **Pn** 15 14 24.8 -0.1
LPSR Galich'ya Gora 15.22 341 *e*P **Pn** 15 14 24.2 -0.6
LPSR pmax pmax
comp=Z,80nm,1.9s
MDH Madha 15.33 146 P **Pn** 15 14 25.9 -0.5
TLB Topalu 15.36 300 ⇓*i*P **P** 15 14 30.2 -1.1
AJN Ajban 15.45 151 *i* P **Pn** 15 14 28.7 +0.7
SNR=7.4
AJN Ajban 15.45 151 S **Sn** 15 17 16.6 -2.3
CFR Carcaliu 15.48 302 ⇑*i*P **P** 15 14 31.9 -0.8
ASUD Al Ashush, Dub 15.52 150 *i* P **Pn** 15 14 28.4 -0.5
SNR=12
ASUD Al Ashush, Dub 15.52 150 P **Pn** 15 14 28.4 -0.5
SNR=7.4
ASUD S **Sn** 15 17 25.0 +4.3
UOSS Minazif 15.60 147 P **Pn** 15 14 29.2 -0.8
HATD Hatta, Dubai 15.67 147 *i* P **P** 15 14 39.0 +4.0
SNR=5.5
HATD Hatta, Dubai 15.67 147 P **Pn** 15 14 30.0 -1.0
KIS Kishinev 15.76 309 *e*P **P** 15 14 36.0 +0.3
comp=Z,210nm,2.0s
KIS *e*L L 15 23 20.0
KIS Kishinev 15.76 309 *e*P **P** 15 14 36.0 +0.3
KIS pmax pmax
comp=Z,210nm,2.0s
ASHO Ashiyiah 15.77 148 P **Pn** 15 14 31.8 -0.4
MZR Muzera 16.38 158 *i* P **P** 15 14 48.5 +5.7
SNR=5.5
ODBI Odobesti 16.39 303 ⇑*i*P **P** 15 14 44.2 +1.4
SOHO SOHO 16.45 147 P **Pn** 15 14 41.3 +0.4
SNR=5.7
VRI Vrincioaia 16.64 303 ⇑*i*P **P** 15 14 46.7 +1.1
PLOR Plostina 16.69 303 ⇓*i*P **P** 15 14 47.4 +1.2
APE Apeiranthos 16.91 272 ⇑*i*P **P** 15 14 48.8 +0.2
APE Apeiranthos 16.91 272 *i* P **Pn** 15 14 47.5 +0.9
MLR Muntele Rosu 17.05 301 P **P** 15 14 49.8 -0.5
comp=Z,0.1nm,0.3s,baz=151,slow=7.0,SNR=6.4
MLR Muntele Rosu 17.05 301 ⇑*i*P **P** 15 14 52.1 +1.9
BIZ Bicaz 17.43 306 ⇓*i*P **P** 15 14 56.0 +1.7
AKASG Malin Array Be 17.51 320 P **Pn** 15 14 54.1 +0.1
comp=Z,1.2nm,0.3s,baz=125,slow=12,SNR=18
AKASG LR LR 15 23 09.7
comp=Z,267nm,18.8s,baz=130,slow=42
AKBB Malin Array Si 17.51 320 *e*Pn **Pn** 15 14 54.4 +0.4
comp=Z,22nm,0.9s
AKBB Malin Array Si 17.51 320 *e*P **Pn** 15 14 54.4 +0.4
AKBB pmax pmax
comp=Z,22nm,0.9s
DOPR Dopca 17.56 302 ⇓*i*P **P** 15 14 57.4 +1.6
VOIR 17.64 300 ⇑*i*P **P** 15 14 58.9 +2.2
IDI Anoyia 17.83 267 P **Pn** 15 14 56.5 -1.7
comp=Z,2.0nm,0.3s,baz=55,slow=13,SNR=10
IDI LR LR 15 21 55.6
comp=Z,320nm,19.6s,baz=82,slow=37
IDI Anoyia 17.83 267 *e*Pn **P** 15 14 58.9 0.0
comp=Z,55nm,0.9s
IDI Anoyia 17.83 267 ⇓*i*P **Pn** 15 14 57.3 -0.9
ARR Arges 17.90 300 ⇑*i*P **P** 15 15 01.8 +2.2
OBN Obninsk 18.09 341 P **P** 15 15 01.6 +0.2
comp=Z,0.5nm,0.3s,baz=165,slow=9.3,SNR=5.8
OBN LR LR 15 22 54.8
comp=Z,158nm,18.7s,baz=154,slow=40
OBN Obninsk 18.09 341 *i* P **P** 15 15 01.7 +0.2
OBN pmax pmax
comp=Z,39nm,1.3s
OBN MLR MLR
comp=Z,620nm,19.0s
WSAR Wadi Sarin 18.18 143 P **P** 15 15 03.3 +0.7
SNR=6.3
BURAR Bucovina Array 18.24 307 ⇑*i*P **P** 15 15 04.3 +0.9
BUR04 Bucovina Ar. S 18.25 307 *e*Pn **P** 15 15 03.9 +0.5
BUR08 Bucovina Ar. S 18.26 307 *e*Pn **P** 15 15 04.5 +0.9
GAR Garm 18.33 81 *e*P **P** 15 15 04.8 +0.4
comp=Z,59nm,0.9s
GAR Garm 18.33 81 *e*P **P** 15 15 04.8 +0.4
GAR pmax pmax
comp=Z,59nm,0.9s
MOS Moscow 18.41 343 *e*P **Pn** 15 15 05.6 +0.6
MOS *e*S **S** 15 18 34.6 -0.1
MOS pmax pmax
comp=Z,27nm,0.6s
VTS Vitosha 18.43 291 ⇑*i*P **Pn** 15 15 06.9 +1.3
KK31 Karatay Array 18.52 68 *e*P **P** 15 15 05.5 -0.9
KK31 Karatay Array 18.52 68 P **P** 15 15 05.5 -0.9
comp=Z,31nm,0.8s,baz=281,slow=11,SNR=208
KK31 ⇓S **Sn** 15 18 27.0 -6.3
comp=Z,4.4nm,0.7s,baz=276,slow=22,SNR=3.7
KK31 Karatay Array 18.52 68 *i* P **P** 15 15 05.5 -0.9
KK31 pmax pmax
comp=Z,31nm,0.8s
KKAR Karatay Array 18.52 68 *e*P **P** 15 15 05.5 -0.9
KKAR Karatay Array 18.52 68 *e*P **P** 15 15 05.5 -0.9
ARCR ARCALIA 18.60 305 ⇑*i*P **Pn** 15 15 09.8 +2.3
CJR Cluj-Napoca 18.97 303 ⇑*i*P **Pn** 15 15 13.2 +1.2
AGG Agios Georgios 19.12 280 *e*P **P** 15 15 12.0 -1.0
comp=Z,37nm,1.0s
AGG Agios Georgios 19.12 280 *e*P **P** 15 15 12.0 -1.0
AGG pmax pmax
comp=Z,37nm,1.0s
GZR Gura Zlata 19.18 299 ⇑*i*P **Pn** 15 15 14.3 -0.2
HERR Herculane 19.32 297 ⇓*i*P **Pn** 15 15 16.3 +0.1
JLN Jalan Bani Buh 19.48 143 P **Pn** 15 15 20.3 +2.2
SNR=10
DRGR 19.58 303 ⇑*i*P **Pn** 15 15 19.6 +0.3
ARU Arti 19.64 20 *e*P **P** 15 15 18.2 -0.4
comp=Z,213nm,1.5s
ARU Arti 19.64 20 *c i*P **P** 15 15 17.4 -1.1
ARU S **S** 15 18 56.1 -3.6
ARU pmax pmax
comp=Z,113nm,1.5s
ARU MLR MLR
comp=Z,585nm,18.0s
MDVR Moldovita 19.80 297 ⇓*i*P **Pn** 15 15 21.4 -0.5
MHTO MHTO 19.85 148 P **Pn** 15 15 22.2 -0.3
SNR=8.4
LVV L'vov 19.87 312 *e*P **Pn** 15 15 25.5 +2.8
LVV *e* 15 19 04.2
MNAS Manas 19.93 70 ⇓P **P** 15 15 21.5 -0.4
comp=Z,19nm,1.4s
MNAS Manas 19.93 70 P **P** 15 15 21.5 -0.4
MNAS pmax pmax
comp=Z,19nm,1.4s
BZS Buzias 20.02 299 ⇑*i*P **P** 15 15 23.6 +0.8
TRPA Tarpa 20.11 307 ⇑*i*P Pn 15 15 25.0 -0.5
TRPA Tarpa 20.11 307 ⇓*e*P Pn 15 15 25.0 -0.5
SIRR Siria 20.14 301 ⇑*i*P Pn 15 15 25.6 -0.3
UZH Uzhgorod 20.44 308 *e*P Pn 15 15 30.4 +1.0

UZH *e* 15 15 36.2
KWP Kalwaria Pacla 20.57 311 *e*P Pn 15 15 32.3 +1.4
KWP Kalwaria Pacla 20.57 311 *e*P Pn 15 15 32.3 +1.4
SVE Sverdlovsk 20.57 22 *d i*P Pn 15 15 32.5 +1.7
SVE *e*S **S** 15 19 08.8 -9.3
SVE pmax pmax
comp=Z,126nm,1.4s
SFK Sufi-Kurgan 20.70 77 ⇑P Pn 15 15 33.3 +0.5
comp=Z,6.4nm,0.6s
SFK Sufi-Kurgan 20.70 77 P Pn 15 15 33.3 +0.5
SFK pmax pmax
comp=Z,6.0nm,0.6s
AML Almayashu 20.80 71 P Pn 15 15 36.4 +2.3
SNR=12
EKS2 Erkin-Say 20.88 70 P Pn 15 15 37.1 +2.4
SNR=20
OTUK Ortayu 20.91 54 ⇑P **P** 15 15 32.9 +0.5
comp=Z,35nm,1.1s
OTUK Ortayu 20.91 54 P **P** 15 15 32.8 +0.5
OTUK pmax pmax
comp=Z,35nm,1.1s
DIVS Divibare 20.92 294 *e*P **P** 15 15 33.2 +0.7
comp=Z,35nm,1.3s
NACGM Naroch 21.36 327 *e* **P** 15 15 35.0 -2.1
AAK Ala-Archa 21.40 70 P **P** 15 15 39.1 +1.2
comp=Z,80nm,1.2s,baz=228,slow=8.6,SNR=43
AAK LR LR 15 25 54.1
comp=Z,322nm,18.4s,baz=262,slow=42
AAK Ala-Archa 21.40 70 P **P** 15 15 42.4 +4.4
SNR=38
AAK Ala-Archa 21.40 70 *e*P **P** 15 15 39.6 +1.7
comp=Z,60nm,1.0s
AAK Ala-Archa 21.40 70 ⇓P **P** 15 15 40.8 +2.9
comp=Z,90nm,1.4s
AAK Ala-Archa 21.40 70 *i* P **P** 15 15 41.9 +4.0
SNR=58
AAK Ala-Archa 21.40 70 *ce*P **P** 15 15 39.8 +1.9
AAK pmax pmax
comp=Z,20nm,1.0s
AAK Ala-Archa 21.40 70 P **P** 15 15 41.0 +3.1
SNR=34
UCH Uchtor 21.41 71 P **P** 15 15 43.0 +4.7
SNR=7.5
USP Ospenovka 21.44 68 P **P** 15 15 44.2 +6.1
SNR=13
FRU Bishkek 21.50 69 *e*P **P** 15 15 40.0 +1.2
CHMS Chumysh 21.61 69 P **P** 15 15 40.9 +0.9
SNR=15
IDID Didziasalis 21.66 328 *e*P **P** 15 15 40.4 +0.1
IDID IAmb IAmb 15 15 46.2
comp=Z,27nm,1.2s
PSZ Piszkesteto 21.73 305 *e*P **P** 15 15 44.0 +2.7
KBK Karagaybulak 21.74 70 P **P** 15 15 50.0 +8.5
SNR=16
BRVK Borovoye 21.82 40 *e*P **P** 15 15 42.8 +0.7
comp=Z,216nm,1.8s
BRVK Borovoye 21.82 40 *ce*P **P** 15 15 42.6 +0.5
BRVK pmax pmax
comp=Z,60nm,1.3s
BRVK Borovoye 21.82 40 P **P** 15 15 42.8 +0.7
SNR=20
BRVK P **P** 15 15 42.8 +0.7
SNR=20
BVA0 Borovoye Array 21.86 40 *i* P **P** 15 15 42.7 +0.2
BVA0 pmax pmax
comp=Z,44nm,0.9s
BVAR Borovoye Array 21.86 40 P **P** 15 15 42.8 +0.3
comp=Z,21nm,0.7s,baz=243,slow=8.2,SNR=44
BVAR S **S** 15 19 42.6 -1.1
comp=Z,7.3nm,0.7s,baz=245,slow=18,SNR=6.2
BVAR LR LR 15 26 26.4
comp=Z,210nm,20.1s,baz=239,slow=43
IIGN Ignalina 21.90 327 *e*P **P** 15 15 43.1 +0.2
IIGN IAmb IAmb 15 15 53.0
comp=Z,24nm,1.3s
NIE Niedzica 21.94 309 *e*P **P** 15 15 45.5 +2.0
NIE Niedzica 21.94 309 *e*P **P** 15 15 45.5 +2.0
KZA Kyzart 21.95 71 P **P** 15 15 51.6 +7.5
SNR=14
ISAL Salakas 22.09 328 *e*P **P** 15 15 46.0 +1.1
ISAL IAmb IAmb 15 15 52.6
comp=Z,8.5nm,0.8s
IZAR Zarasai 22.16 328 *e*P **P** 15 15 48.2 +2.5
IZAR IAmb IAmb 15 15 56.4
comp=Z,20nm,0.8s
MORH Mrgy, Hungar 22.18 300 ⇓*e*P **P** 15 15 50.0 +4.1
TKM2 Tokmak 2 22.22 69 P **P** 15 15 50.8 +4.0
SNR=16
TKM2 Tokmak 2 22.22 69 ⇓P **P** 15 15 48.7 +1.9
comp=Z,93nm,0.9s
TKM2 Tokmak 2 22.22 69 P **P** 15 15 48.7 +1.9
TKM2 pmax pmax
comp=Z,93nm,1.0s
LANS Liptovska Anna 22.37 308 *e*P **P** 15 15 50.0 +1.9
LANS Liptovska Anna 22.37 308 *e*P **P** 15 15 50.0 +1.9
OJC Ojcow 22.53 310 *e*P **P** 15 15 51.9 +2.1
OJC Ojcow 22.53 310 *e*P **P** 15 15 51.9 +2.1
VYHS Vyhne 22.57 306 *e*P **P** 15 15 50.9 +0.7
VYHS pmax pmax
comp=Z,23nm,1.5s
VYHS Vyhne 22.57 306 *e*P **P** 15 15 50.9 +0.7
BEL Belsk 22.61 315 *e*P **P** 15 15 54.9 +4.4
BEL Belsk 22.61 315 *e*P **P** 15 15 54.9 +4.4
KSH Kashi 22.64 78 P **P** 15 15 51.0 -0.2
KSH pP pP 15 15 54.0 -1.4
KSH sP sP 15 15 58.8 +1.4
KSH PP **PnPn** 15 16 21.5 +6.7
KSH PcP **PcP** 15 19 43.0 -0.7
KSH S **S** 15 19 51.0 -7.9
KSH sS pS 15 20 00.5 -3.6
KSH pmax pmax
comp=Z,10.0nm,0.8s
KSH pmax pmax
comp=Z,460nm,3.6s
KSH LR LR
comp=Z,980nm,10.6s
KSH LR LR
comp=Z,510nm,6.2s
KSH LR LR
comp=Z,790nm,10.2s
ULHL Ulahol 22.69 71 P **P** 15 15 55.7 +4.0
SNR=14
KLMR Klimovskoe 22.93 351 *e*P **P** 15 15 54.3 +0.5
KLMR *e*S **S** 15 20 05.9 +2.6
KLMR pmax pmax
comp=Z,74nm,1.4s
KLMR Klimovskoe 22.93 351 *e*P **P** 15 15 54.4 +0.6
KLMR *e*P **P** 15 15 54.4 +0.6
KLMR *e*P **P** 15 15 54.4 +0.6
KLMR AMP 15 16 12.2
comp=Z,74nm,1.4s
KLMR *e*S **S** 15 20 05.9 +2.6
KLMR *e*S **S** 15 20 05.9 +2.6
PABE Paberze 22.98 326 *e*P **P** 15 15 56.1 +1.7
PABE IAmb IAmb 15 16 06.8
comp=Z,26nm,0.7s
PRGR Permogore 23.26 359 *e*P **P** 15 15 56.3 -0.9
PRGR *e*S **S** 15 20 08.5 -0.4
PRGR pmax pmax
comp=Z,92nm,0.6s
TIP Timpagrande 23.41 281 ⇑*i*P **P** 15 15 57.6 -1.4
JAVC Velka Javorina 23.41 306 *e*P **P** 15 16 01.2 +2.2
MODS Modra-Piesok 23.54 305 *e*P **P** 15 16 01.8 +1.6
MODS pmax pmax
comp=Z,178nm,2.7s
MODS Modra-Piesok 23.54 305 *e*P **P** 15 16 01.8 +1.6
MORC Moravsky Berou 23.76 308 ⇑*i*P **P** 15 16 02.1 -0.2
VSU Vasula 23.92 334 *i* P **P** 15 16 02.0 -1.6
VSU pmax pmax
comp=Z,28nm,0.9s
VSU Vasula 23.92 334 *e*P **P** 15 16 05.2 +1.6
VSU IAmb IAmb 15 16 08.7
comp=Z,53nm,1.0s
PBUR Paburg 24.21 325 *e*P **P** 15 16 02.3 -4.1
PBUR IAmb IAmb 15 16 11.9
comp=Z,99nm,1.1s
VRAC Vranov 24.22 307 P **P** 15 16 05.3 -1.3
comp=Z,4.7nm,1.0s,baz=130,slow=5.8,SNR=3.6
VRAC Vranov 24.22 307 ⇓*i*P **P** 15 16 04.1 -2.5
KRUC Moravsky 24.28 306 *e*P **P** 15 16 08.2 +1.0
CONA Conrad Observa 24.37 303 *e*pP **P** 15 16 09.2 +1.1
comp=Z,12nm,1.3s
BOJS Bojanci 24.42 297 *i* P **P** 15 16 10.6 +2.1
ARSA Arzberg 24.47 301 *e*P **P** 15 16 08.8 -0.2
comp=Z,22nm,1.6s,SNR=5.5

PERS Pernice 24.65 300 *e*P **P** 15 16 12.2 +1.6
DPC Dobruska-Polom 24.68 309 *e*P **P** 15 16 11.5 +0.7
DPC *ex* x 15 16 18.8
DPC Dobruska-Polom 24.68 309 *e*P **P** 15 16 11.5 +0.7
DPC *e* 15 16 18.8
SOKA Soboth 24.71 300 *i* P **P** 15 16 12.8 +1.6
comp=Z,44nm,1.2s
VISS Visnje 24.74 298 *e*P **P** 15 16 13.0 +1.6
KSP Ksiaz 24.84 310 *e*P **P** 15 16 14.3 +2.0
KSP Ksiaz 24.84 310 *e*P **P** 15 16 14.3 +2.0
OBKA Obir 25.02 299 pP **P** 15 16 15.3 +1.3
comp=Z,19nm,1.3s
SLIT Slitere, Latvi 25.04 328 *e*P **P** 15 16 17.2 +3.3
SLIT IAmb IAmb 15 16 19.2
comp=Z,502nm,1.3s
PDGK Podgornoye 25.08 68 ⇑P **P** 15 16 15.2 +0.5
comp=Z,17nm,1.2s
PDGK Podgornoye 25.08 68 P **P** 15 16 15.1 +0.5
PDGK pmax pmax
comp=Z,17nm,1.2s
JAVS Javornik 25.29 298 *i* P **P** 15 16 19.8 +3.4
MOA Molln 25.41 302 pP **P** 15 16 18.6 +1.1
comp=Z,30nm,1.9s
KURBB Kurchatov Arra 25.48 51 P **P** 15 16 18.4 +0.4
comp=Z,13nm,0.8s,baz=261,slow=9.3,SNR=46
VAE Valguarnera 25.52 278 LR LR 15 27 11.8
comp=Z,366nm,18.3s,baz=190,slow=38
KURK Kurchatov 25.56 51 *e*P **P** 15 16 20.1 +1.4
comp=Z,46nm,1.1s
KURK Kurchatov 25.56 51 ⇓P **P** 15 16 19.4 +0.7
comp=Z,56nm,1.3s
KURK Kurchatov 25.56 51 *ce*P **P** 15 16 20.4 +1.7
KURK pmax pmax
comp=Z,27nm,0.8s
KURK Kurchatov 25.56 51 P **P** 15 16 20.6 +1.9
SNR=22
KBA Koelnbreinsper 25.91 300 *e*pP **P** 15 16 22.5 +0.3
comp=Z,20nm,1.0s
GEA0 GERESS Array S 25.96 304 *e*P **P** 15 16 23.1 +0.6
GEC2 GERESS Array S 25.96 304 *e*P **P** 15 16 23.3 +0.8
comp=Z,13nm,0.8s
GEC2 GERESS Array S 25.96 304 *e*P **P** 15 16 23.3 +0.8
GEC2 pmax pmax
comp=Z,13nm,0.8s
GERES GERESS Array B 25.96 304 P **P** 15 16 23.1 +0.6
comp=Z,3.1nm,0.5s,baz=100,slow=9.0,SNR=41
GERES PcP **PcP** 15 19 50.3 -0.4
comp=Z,1.0nm,0.9s,baz=64,slow=3.1,SNR=3.9
KHC Kasperske Hory 26.10 305 *e*P **P** 15 16 25.9 +2.2
KHC *ex* x 15 16 31.6
KHC Kasperske Hory 26.10 305 *e*P **P** 15 16 25.9 +2.2
KHC *e* 15 16 31.6
FINES FINESS Array B 26.41 337 P **P** 15 16 25.9 -0.4
comp=Z,3.6nm,0.7s,baz=128,slow=12,SNR=7.3
FINES LR LR 15 28 24.3
comp=Z,429nm,20.0s,baz=135,slow=40
ABTA Abfaltersbach 26.44 299 *e*pP **P** 15 16 28.1 +1.2
comp=Z,20nm,2.0s
CLL Collm 26.97 310 *e*P **P** 15 16 32.0 +0.6
comp=Z,5.0nm,0.8s
CLL *i* 15 16 45.1
comp=Z,12nm,1.0s
CLL Collm 26.97 310 *e*P **P** 15 16 32.0 +0.6
CLL *i* 15 16 45.1
CLL pmax pmax
comp=Z,5.0nm,0.8s
ATD Arta Tunnel 27.00 189 LR LR 15 26 39.5
comp=Z,189nm,20.1s,baz=46,slow=35
MAKZ Makanchi 27.01 61 *e*P **P** 15 16 34.6 +2.7
comp=Z,10nm,0.9s
MAKZ Makanchi 27.01 61 ⇑P **P** 15 16 34.1 +2.2
comp=Z,12nm,0.9s
MAKZ Makanchi 27.01 61 P **P** 15 16 34.1 +2.2
MAKZ pmax pmax
comp=Z,12nm,0.9s
WTTA Wattenberg 27.09 300 *e*pP **P** 15 16 33.6 +0.7
comp=Z,11nm,1.0s
WATA Walderalm 27.14 301 *e*pP **P** 15 16 34.3 +1.1
comp=Z,12nm,1.1s
MK31 Makanchi Array 27.22 61 *e*P **P** 15 16 37.2 +3.4
MK31 Makanchi Array 27.22 61 *i* P **P** 15 16 36.4 +2.6
MK31 pmax pmax
comp=Z,7.0nm,0.7s
MKAR Makanchi Array 27.22 61 P **P** 15 16 35.0 +1.1
comp=Z,3.7nm,0.8s,baz=265,slow=7.4,SNR=19
MKAR LR LR 15 28 00.2
comp=Z,168nm,20.6s,baz=252,slow=38
MKAR Makanchi Array 27.22 61 *e*P **P** 15 16 37.0 +3.1
comp=Z,52nm,0.6s
MKAR Makanchi Array 27.22 61 P **P** 15 16 35.0 +1.1
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR MLR MLR
comp=Z,168nm,20.6s
MK01 Makanchi Array 27.23 61 *e*P **P** 15 16 37.2 +3.3
SQTA Sankt Quirin 27.38 300 *i* pP **P** 15 16 36.0 +0.6
comp=Z,12nm,0.8s
MOTA Moosalm 27.46 301 *e*P **P** 15 16 36.2 +0.1
comp=Z,14nm,1.2s
FETA Feichten 27.69 300 *e*pP **P** 15 16 39.0 +0.8
comp=Z,15nm,1.4s,SNR=6.9
RETA Reutte 27.71 301 *i* pP **P** 15 16 38.6 +0.4
comp=Z,6.1nm,0.8s,SNR=4.1
DAVOX Davos/Dischmat 28.25 299 P **P** 15 16 42.7 -0.5
comp=Z,5.0nm,0.6s
DAVOX LR LR 15 29 14.9
comp=Z,232nm,19.5s,slow=39
DAVA Damuels 28.29 300 *i* P **P** 15 16 42.8 -0.7
comp=Z,9.8nm,0.8s
NVS Novosibirsk 29.48 44 *e*P **P** 15 16 54.6 +0.8
NVS pmax pmax
comp=N,5.0nm,0.8s
NVS pmax pmax
comp=E,5.0nm,0.8s
NVS pmax pmax
comp=Z,7.0nm,0.8s
KEST Kesra 29.90 277 P **P** 15 16 56.4 -1.5
comp=Z,8.0nm,0.8s,baz=17,slow=3.4,SNR=5.3
KEST LR LR 15 31 14.7
comp=Z,209nm,18.4s,baz=3.0,slow=41
ZALV Zalesovo Beam 30.11 46 P **P** 15 16 59.7 +0.3
comp=Z,1.7nm,0.3s,baz=262,slow=10,SNR=7.7
ZALV LR LR 15 31 14.2
comp=Z,190nm,20.5s,baz=98,slow=41
APA Apatity 30.16 350 ⇑*i*P P 15 17 08.8 +9.1
APA pmax pmax
comp=Z,7.0nm,1.2s
APA MLR MLR
comp=Z,1μm,12.0s
WMQ Urumqi 31.02 67 *e*P **P** 15 17 09.5 +1.8
WMQ pP sP 15 17 12.8 -1.2
WMQ sP pP 15 17 16.3 +4.1
WMQ pmax pmax
comp=Z,18nm,0.7s
WMQ pmax pmax
comp=Z,550nm,5.9s
WMQ LR LR
comp=Z,290nm,25.7s
WMQ LR LR
comp=Z,340nm,21.7s
WMQ LR LR
comp=Z,190nm,29.7s
MEM Membach 31.17 306 ⇑pP pP 15 17 15.6 +2.2
NOA NORSAR Array B 31.64 327 P **P** 15 17 13.5 +0.5
comp=Z,0.4nm,0.5s,baz=122,slow=8.4,SNR=3.1
NOA LR LR 15 31 52.5
comp=Z,168nm,19.7s,baz=120,slow=40
PYUN Piuthan 31.76 98 *e*P **P** 15 17 15.8 +1.3
comp=Z,7.0nm,0.6s
DANN Dangsing 32.24 97 *e*P **P** 15 17 20.3 +1.5
comp=Z,29nm,0.6s
KOLN Koldanda 32.39 98 *e*P **P** 15 17 21.4 +1.4
comp=Z,19nm,1.2s
ARCES ARCESS Array B 33.22 346 P **P** 15 17 26.1 -0.5
comp=Z,1.8nm,0.7s,baz=141,slow=7.8,SNR=10
DMN Daman 33.64 97 *e*P **P** 15 17 33.0 +2.0
comp=Z,25nm,1.1s
PKI Pulchoki 33.89 97 *e*P **P** 15 17 34.8 +1.5
GUN Gumba 34.10 96 *e*P **P** 15 17 36.6 +1.5
comp=Z,38nm,1.2s
JIRN Jiri 34.46 96 *e*P **P** 15 17 39.9 +1.6
comp=Z,21nm,0.9s
RAMN Ramite 35.12 97 *e*P **P** 15 17 44.6 +0.8
comp=Z,20nm,0.7s
ESDC Sonseca Array 39.04 288 P **P** 15 18 15.2 -1.6
comp=Z,3.1nm,0.8s,baz=66,slow=8.7,SNR=13
ESDC PcP **PcP** 15 20 25.9 -0.8

comp=Z,0.1nm,0.4s,baz=29,slow=3.7,SNR=5.7
ESDC LR LR 15 36 31.4
comp=Z,105nm,19.3s,baz=75,slow=40
GTA Gaotai 40.74 71 *e*P **P 15 18 32.5 +1.5**
GTA pP sP 15 18 36.5 -0.9
GTA sP pP 15 18 39.5 +3.9
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,110nm,6.2s
GTA LR LR
comp=Z,200nm,16.5s
GTA LR LR
comp=Z,240nm,16.8s
GTA LR LR
comp=Z,210nm,10.6s
ZAK Zakamensk 41.12 54 *e*P P 15 18 25.7 -8.3
ZAK pmax pmax
comp=Z,4.0nm,1.5s
MDT Midelt 41.75 279 P **P 15 18 38.4 -1.0**
comp=Z,7.7nm,1.0s,baz=83,slow=6.3,SNR=6.5
SPITS Spitsbergen Ar 41.84 351 P **P 15 18 39.3 -0.1**
comp=Z,7.9nm,0.7s,baz=121,slow=16,SNR=11
SONM Songino Array 43.50 58 P **P 15 18 54.2 +0.8**
comp=Z,0.4nm,0.6s,baz=272,slow=7.3,SNR=4.8
SONM PcP **PcP 15 20 40.1 -1.1**
comp=Z,0.9nm,0.7s,baz=278,slow=3.7,SNR=4.2
SONM LR LR 15 38 06.7
comp=Z,162nm,20.4s,baz=316,slow=38
ULN Ulaanbaatar 43.93 57 *e*P **P 15 18 56.5 -0.5**
comp=Z,6.1nm,0.8s
ULN Ulaanbaatar 43.93 57*ce*P **P 15 18 58.1 +1.2**
ULN pmax pmax
comp=Z,23nm,2.5s
LZH Lanzhou 44.82 75 *e*P **P 15 19 05.8 +1.6**
LZH pP sP 15 19 11.3 +0.7
LZH sP pP 15 19 14.0 +5.2
LZH PP **PP 15 20 49.8 +1.0**
LZH pmax pmax
comp=Z,29nm,1.2s
LZH pmax pmax
comp=Z,120nm,5.4s
LZH LR LR
comp=Z,400nm,13.5s
LZH LR LR
comp=Z,410nm,14.0s
LZH LR LR
comp=Z,530nm,16.8s
BOD Bodaibo 46.70 43 *e*P **P 15 19 18.3 -0.2**
BOD pmax pmax
comp=Z,12nm,1.2s
CD2 Chengdu 46.78 81 *e*P **P 15 19 19.5 -0.1**
TOA0 Torodi Ar. Sit 47.18 250 P **P 15 19 21.1 -1.8**
TORD Torodi Ar. Bea 47.18 250 P **P 15 19 20.6 -2.3**
comp=Z,6.2nm,0.8s,baz=37,slow=8.8,SNR=36
TORD LR LR 15 40 42.5
comp=Z,79nm,21.6s,baz=355,slow=38
BTO Baotou 47.86 66 *e*P **P 15 19 28.3 +0.3**
KMI Kunming 48.66 89 P **P 15 19 36.3 +1.8**
KMI pP sP 15 19 40.5 -0.6
KMI sP pP 15 19 43.0 +3.7
KMI pmax pmax
comp=Z,12nm,1.0s
KMI pmax pmax
comp=Z,150nm,5.2s
KMI LR LR
comp=Z,200nm,18.8s
KMI LR LR
comp=Z,110nm,21.4s
KMI LR LR
comp=Z,160nm,20.1s
HHC Hu-ho-hao-te 48.89 66 *e*P **P 15 19 36.0 +0.1**
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,380nm,4.8s
CHTO Chiang Mai 49.05 98 P P 15 19 43.2 +5.9
comp=Z,22nm,1.8s
CMMT Chiang Mai 49.06 98 P P 15 19 43.2 +5.9
comp=Z,4.8nm,1.8s
CMAR Chiang Mai Arr 49.26 99 P **P 15 19 39.5 +0.7**
comp=Z,2.0nm,0.7s,baz=301,slow=8.0,SNR=16
CMAR PcP **PcP 15 21 02.0 +0.3**
comp=Z,1.0nm,0.8s,baz=301,slow=5.3,SNR=4.1
CMAR LR LR 15 45 00.5
comp=Z,100nm,18.7s,baz=302,slow=42
XAN Xi'an 49.45 75 P **P 15 19 41.0 +0.8**
XAN sP sP 15 19 47.8 +1.1
XAN pmax pmax
comp=Z,9.0nm,1.0s
XAN pmax pmax
comp=Z,150nm,5.8s
UTHA Uthaitani 51.34 101 P **P 15 19 57.1 +2.5**
comp=Z,2.7nm,0.9s
TIXI Tiksi 51.58 24*ce*P **P 15 19 56.7 +1.0**
TIXI pmax pmax
comp=Z,9.0nm,2.5s
PBKT Sadao Pong 51.92 99 P **P 15 20 00.7 +1.8**
comp=Z,11nm,1.0s,comp=Z,719nm
BJI Beijing 52.46 65 *e*P **P 15 20 04.0 +1.3**
BJI pmax pmax
comp=Z,4.0nm,0.6s
SRAK Srakaew 54.27 101 P P 15 20 21.0 +4.7
comp=Z,46nm,0.8s,comp=Z,479nm
DBIC Dimbokro 56.28 250 P **P 15 20 29.3 -1.5**
comp=Z,9.0nm,0.8s,baz=24,slow=9.2,SNR=11
DBIC LR LR 15 46 19.4
comp=Z,76nm,19.0s,baz=20,slow=38
DBIC Dimbokro 56.28 250 *e*P **P 15 20 29.6 -1.2**
comp=Z,14nm,0.9s
KIC Kosan Boka 56.40 249 *e*P **P 15 20 29.9 -1.8**
comp=Z,60nm,1.0s
TIC Toumodi 56.42 250 *e*P **P 15 20 30.1 -1.7**
LIC Lamto 56.70 249 *e*P **P 15 20 32.0 -1.8**
comp=Z,56nm,0.7s
CN2 Changchun 57.38 57 *e*P **P 15 20 39.5 +1.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 Nanjing 57.81 73 *e*P **P 15 20 42.3 +0.8**
NJ2 pmax pmax
comp=Z,20nm,0.5s
KLR Kul'dur 59.14 50 *i*P **P 15 20 50.8 +0.3**
USRK Ussuriysk Ar. 61.47 55 P **P 15 21 05.0 -1.5**
comp=Z,5.2nm,0.8s,baz=291,slow=7.2,SNR=11
USRK LR LR 15 50 56.3
comp=Z,194nm,18.4s,baz=271,slow=39
KSAR Wonju Array Be 61.84 63 P **P 15 21 08.8 -0.3**
KSAR Wonju Array Be 61.84 63 P **P 15 21 08.8 -0.3**
KSRS Korea Array 61.87 63 P **P 15 21 08.8 -0.5**
comp=Z,4.1nm,0.7s,baz=289,slow=6.9,SNR=12
SEY Seymchan 63.01 30*ce*P **P 15 21 17.5 +1.0**
MA2 Magadan 64.13 33 *i*P **P 15 21 23.5 -0.5**
BILL Bilibino 64.66 21 *i*P **P 15 21 26.9 -0.4**
BILL *i* 15 22 03.1
BILL pmax pmax
comp=Z,10.0nm,2.5s
BILL MLR MLR
comp=Z,209nm,20.0s
MJAR Matsushiro Arr 69.41 59 LR LR 15 55 19.4
comp=Z,81nm,18.1s,baz=340,slow=38
BOSA Boshof 69.66 200 P **P 15 21 58.5 -1.1**
comp=Z,3.5nm,0.7s,baz=16,slow=6.6,SNR=11
BOSA LR LR 15 53 59.6
comp=Z,187nm,18.3s,baz=22,slow=37
PETK Petropavlovsk- 71.04 37 LR LR 15 58 17.6
comp=Z,114nm,19.4s,baz=309,slow=40
SCHQ Schefferville 71.20 326 LR LR 15 53 36.7
comp=Z,78nm,18.2s,baz=328,slow=36
ANM Nome 74.28 14 *e*P **P 15 22 28.0 +1.2**
comp=Z,8.2nm,1.2s
ANM Nome 74.28 14 *e*P **P 15 22 28.0 +1.2**
ANM pmax pmax
comp=Z,8.0nm,1.2s
IM3 Indian Mountai 74.72 9 *e*P **P 15 22 29.7 +0.4**
MLY Manley 75.98 8 *e*P **P 15 22 38.1 +1.5**
ILAR Eielson Array 76.59 6 P **P 15 22 39.5 -0.6**
comp=Z,1.3nm,1.0s,baz=334,slow=4.6,SNR=10
DAWY Dawson 77.74 3 *e*P **P 15 22 47.5 +0.8**
FCC Fort Churchill 77.86 340 *e*P **P 15 22 48.3 +1.1**
FCC Fort Churchill 77.86 340 *e*P **P 15 22 48.3 +1.1**
DOT Dot Lake 77.91 5 *e*P **P 15 22 48.8 +1.2**
YKA Yellowknife Ar 78.33 351 P **P 15 22 49.6 -0.2**
comp=Z,1.9nm,1.0s,baz=18,slow=5.9,SNR=24
YKA LR LR 15 58 58.4
comp=Z,6.0nm,19.0s,baz=13,slow=37
YKA Yellowknife Ar 78.33 351 P **P 15 22 49.6 -0.2**
YKA pmax pmax
comp=Z,4.0nm,1.2s
YKA MLR MLR
comp=Z,6.0nm,19.0s
SKAG Skagway 82.47 1 *e*P **P 15 23 14.0 +1.9**
KDAK Kodiak Island 82.79 10*ce*P **P 15 23 15.1 +1.3**
FFC Flin Flon 83.45 342 *i*P **P 15 23 17.9 +0.6**
ULM Lac du Bonnet 85.81 337 P **P 15 23 28.3 -1.0**
comp=Z,2.4nm,0.8s,baz=39,slow=5.4,SNR=5.1
ULM LR LR 16 02 47.0
comp=Z,99nm,18.6s,baz=70,slow=36
PDAR Pinedale Array 96.40 343 LR LR 16 10 11.9
comp=Z,62nm,18.6s,baz=28,slow=37

*ISCJB **26** 15:11:46.3±0.6, 16°.5S±0°.1×177°.4W±0°.1, h350km, mb3.6/11, Error ellipse: s-maj=21.4km s-min=12.7km az=41.9*
*IDC **26** 15:11:50.2±5.0, 16°.52S×177°.38W, h381km±52km, mb3.3/11, mb1 3.6/11, mb1mx3.5/28, mbtmp4.1/11, Error ellipse: s-maj=22.7km s-min=18.6km az=154.0*
ISC 26 15:11:47.4±0.6, 16°.4S±0°.2×177°.4W±0°.2, h350km, n18, σ1§14/20, mb3.6/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.25**	**247**	P	**P**	**15 15 16.2**	**+0.5**
	0.1nm,0.3s,baz=61,slow=19,SNR=2.7						
URZ	**Urewera**	**22.26**	**191**	P	**P**	**15 16 14.3**	**-1.6**
	7.9nm,0.6s,baz=302,slow=3.2,SNR=8.4						
RPZ	**Rata Peaks**	**28.90**	**197**	P	**P**	**15 17 15.2**	**+0.1**
	6.2nm,1.0s,baz=18,slow=6.4,SNR=4.4						
STKA	**Stephens Creek**	**40.19**	**240**	P	**P**	**15 18 50.8**	**-0.3**
	1.0nm,0.3s,baz=64,slow=9.9,SNR=5.9						
WRA	**Warramunga Arr**	**45.86**	**258**	P	**P**	**15 19 37.0**	**+0.6**
	0.3nm,0.3s,baz=96,slow=8.0,SNR=18						
WRA				PcP	**PcP**	**15 21 06.2**	**-0.8**
	0.5nm,0.4s,baz=89,slow=3.7,SNR=5.0						
ASAR	**Alice Springs**	**46.13**	**253**	P	**P**	**15 19 38.8**	**+0.4**
	2.4nm,0.4s,baz=89,slow=7.6,SNR=101						
ASAR				PcP	**PcP**	**15 21 06.8**	**-1.1**
	0.9nm,0.7s,baz=104,slow=5.6,SNR=4.3						
VNDA	**Vanda**	**61.98**	**185**	P	**P**	**15 21 31.2**	**+0.4**
	10nm,1.2s,baz=354,slow=9.2,SNR=4.0						
NVAR	**Mina Array Bea**	**77.70**	**44**	P	**P**	**15 23 07.0**	**+0.4**
	0.7nm,0.7s,baz=230,slow=8.6,SNR=6.9						
ILAR	**Eielson Array**	**84.25**	**13**	P	**P**	**15 23 39.8**	**-0.2**
	0.3nm,0.5s,baz=226,slow=5.5,SNR=9.3						
TXAR	**Lajitas Array**	**84.40**	**57**	P	**P**	**15 23 42.4**	**+0.7**
	1.2nm,0.8s,baz=216,slow=6.7,SNR=12						
PDAR	**Pinedale Array**	**85.63**	**43**	P	**P**	**15 23 47.3**	**-0.3**
	0.2nm,0.5s,baz=231,slow=6.9,SNR=2.8						
SNAA	**Sanae**	**92.03**	**178**	P	**P**	**15 24 16.7**	**-0.2**
VNA3	**Neumayer Olymp**	**92.13**	**176**	P	**P**	**15 24 17.4**	**+0.1**
VNA2	**Neumayer--Watz**	**92.58**	**177**	P	**P**	**15 24 19.9**	**+0.5**
	baz=190,slow=4.6						
YKA	**Yellowknife Ar**	**92.61**	**24**	P	**P**	**15 24 18.7**	**-0.7**
	0.3nm,0.6s,baz=240,slow=4.4,SNR=6.1						
ARCES	**ARCESS Array B**	**125.05**	**350**	PKP	**PKPdf**	**15 30 03.9**	**-1.9**
	2.4nm,0.9s,baz=2.9,slow=2.4,SNR=6.1						
BRTR	**Keskin Array B**	**144.41**	**317**	PKP	**PKPab**	**15 30 41.1**	**-1.0**
	0.8nm,0.8s,baz=160,slow=3.9,SNR=3.9						
DAVOX	**Davos/Dischmat**	**149.15**	**350**	PKPbc	**PKPdf**	**15 30 53.7**	**+3.2**

*IDC **26** 15:41:11.6±0.6, 39°.75N×77°.28E, h0km, mb4.2/21, mb1 4.4/27, mb1mx4.3/36, mbtmp4.2/27, ML3.9/6, MS3.3/10, Ms1 3.3/10, ms1mx3.1/40, Error ellipse: s-maj=14.0km s-min=11.7km az=15.0*
*KRNET **26** 15:41:13.6±0.1, 39°.89N×77°.25E, mb5.1*
*NNC **26** 15:41:13.8±2.0, 39°.94N×77°.27E, h0km, mb5.0, mpv4.7, Error ellipse: s-maj=16.1km s-min=8.7km az=143.0*
*BJI **26** 15:41:14.0, 39°.93N×77°.36E, h12km, mb4.5/42, mB4.7/26, ML4.6/8, Ms4.1/22, Ms7 3.9/21*
*MOS **26** 15:41:15.8±1.0, 39°.93N×77°.27E, h36km, mb4.6/27, Error ellipse: s-maj=7.2km s-min=4.9km az=98.8*
*SOME **26** 15:41:16.2, 40°.08N×77°.13E, h20km*
*NEIC **26** 15:41:17.3±0.4, 39°.84N×77°.29E, h35km, mb4.7/5, Error ellipse: s-maj=6.8km s-min=5.3km az=154.0*
ISC 26 15:41:12.9±1.1, 39°.81N±0°.03×77°.28E±0°.03, h6km±7km, n257, σ1§97/303, mb4.5/49, MS3.5/7, 54C-22D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.05**	**254**	Pn	Pn	15 41 42.5	+8.2
KSH				Sn	Sn	15 41 59.3	+10
NRN	**Naryn**	**1.89**	**329**	*e*Pn	**Pn**	**15 41 47.0**	**+1.0**
NRN				*e*Sn	**Sb**	**15 42 11.9**	**-0.1**
NRN	**Naryn**	**1.89**	**329**	*e*PN	**Pn**	**15 41 47.0**	**+1.0**
NRN				*e*		15 42 11.9	
NRN	**Naryn**	**1.89**	**329**	⇓*i*P	**Pn**	**15 41 47.1**	**+1.1**
	baz=28						
NRN				⇓*i*S	**Sb**	**15 42 11.7**	**-0.3**
	baz=28						
TARG	**Taragay, Kyrgy**	**1.96**	**12**	⇑*i*P	**Pb**	**15 41 48.6**	**-0.6**
	baz=13						
TARG				⇑*i*S	**Sb**	**15 42 14.4**	**+0.4**
	baz=13						
KDJ	**Kajisay**	**2.32**	**358**	*e*Pn	**Pb**	**15 41 55.7**	**+0.5**
KDJ				*e*Sn	**Sb**	**15 42 24.5**	**+0.3**
KDJ	**Kajisay**	**2.32**	**358**	*e*PN	**Pb**	**15 41 55.7**	**+0.5**
KDJ				*e*		15 42 24.5	
KDJ	**Kajisay**	**2.32**	**358**	⇑*i*P	**Pb**	**15 41 53.7**	**-1.5**
	baz=59						
KDJ				⇑*i*S	**Sb**	**15 42 23.3**	**-0.9**
	baz=59						
ULHL	**Ulahol**	**2.56**	**342**	P	**Pb**	**15 41 58.2**	**-1.0**
	SNR=211						
ULHL	**Ulahol**	**2.56**	**342**	⇑*i*P	**Pn**	**15 41 57.2**	**+2.1**
	baz=42						
ULHL				⇑*i*S	**Sb**	**15 42 28.9**	**-2.1**
	baz=42						
KZA	**Kyzart**	**2.74**	**326**	P	**Pb**	**15 42 01.2**	**-1.3**
	SNR=90						
KZA	**Kyzart**	**2.74**	**326**	⇑*i*P	**Pn**	**15 41 59.9**	**+2.2**
	baz=26						
KZA				⇑*i*S	**Sn**	**15 42 33.7**	**+2.4**
	baz=26						
PRZ	**Przheval'sk**	**2.80**	**17**	*e*Pn	**Pb**	**15 42 01.8**	**-1.6**
PRZ				*e*Sn	**Sn**	**15 42 33.2**	**+0.6**
PRZ	**Przheval'sk**	**2.80**	**17**	*e*PN	**Pb**	**15 42 01.8**	**-1.6**
PRZ				*e*		15 42 33.2	
PRZ	**Przheval'sk**	**2.80**	**17**	⇑*i*P	**Pn**	**15 42 00.6**	**+2.2**
	baz=18						
PRZ				⇑*i*S	**Sn**	**15 42 34.9**	**+2.3**
	baz=18						
SFK	**Sufi-Kurgan**	**2.91**	**275**	⇑Pg	**Pg**	**15 42 09.4**	**+0.7**
	357nm,0.5s						
SFK				⇑Lg	Lg	15 42 47.4	
	1μm,1.1s						
SFK	**Sufi-Kurgan**	**2.91**	**275**	Pg	**Pb**	**15 42 06.4**	**+1.1**
	121nm,0.9s						
SFK				Lg	Lg	15 42 45.5	
	460nm,0.7s						
SFK	**Sufi-Kurgan**	**2.91**	**275**	PN	**Pg**	**15 42 09.3**	**+0.7**
SFK				pmax	pmax		
	comp=Z,357nm,0.5s						
SFK	**Sufi-Kurgan**	**2.91**	**275**	⇑*i*P	**Pn**	**15 42 02.5**	**+2.5**
	baz=74						
SFK				⇑*i*S	**Sn**	**15 42 38.6**	**+3.2**
	baz=74						
ARLS	**Aral**	**3.04**	**313**	⇓*e*P	**Pn**	**15 42 03.9**	**+2.3**
	baz=13						
ARLS				⇓*i*S	**Sn**	**15 42 40.5**	**+2.1**
	baz=13						
UCH	**Uchtor**	**3.19**	**320**	P	**Pb**	**15 42 07.7**	**-2.6**
	SNR=95						
UCH	**Uchtor**	**3.19**	**320**	⇑*i*P	**Pn**	**15 42 05.9**	**+1.8**
	baz=19						
UCH				⇑*i*S	**Sn**	**15 42 44.7**	**+2.0**
	baz=19						
KBK	**Karagaybulak**	**3.34**	**329**	P	**Pb**	**15 42 09.6**	**-3.0**
	SNR=169						
KBK	**Karagaybulak**	**3.34**	**329**	⇑*i*P	**Pn**	**15 42 07.9**	**+2.1**
	baz=29						
KBK				⇑*i*S	**Sn**	**15 42 48.0**	**+2.1**
	baz=29						
MDOK	**Medeo**	**3.35**	**357**	Pg	**Pb**	**15 42 11.9**	**-0.9**
	comp=Z,292nm,0.7s						
MDOK				Lg	Lg	15 42 55.4	
	comp=Z,1μm,0.9s						
MDOK	**Medeo**	**3.35**	**357**	*e*P	**Pb**	**15 42 12.2**	**-0.7**
	comp=Z,55nm,0.4s						
MDOK				*e*S	**Sb**	**15 42 55.4**	**+1.5**
	comp=Z,1μm,0.9s						
SATY	**Saty**	**3.35**	**14**	Pg	**Pb**	**15 42 11.9**	**-0.9**
	comp=Z,914nm,1.0s						
SATY				Lg	Lg	15 42 54.9	
	comp=Z,2μm,1.2s						
SATY	**Saty**	**3.35**	**14**	*e*P	**Pb**	**15 42 11.9**	**-0.9**
	comp=Z,914nm,1.0s						
SATY				*e*S	**Sb**	**15 42 54.9**	**+1.0**
	comp=Z,2μm,1.2s						
TKM2	**Tokmak 2**	**3.35**	**338**	P	**Pn**	**15 42 09.2**	**+3.2**
	SNR=280						
TKM2	**Tokmak 2**	**3.35**	**338**	⇓Pg	**Pb**	**15 42 11.9**	**-1.0**
	comp=Z,154nm,0.5s						
TKM2				⇑Lg	Lg	15 42 55.1	
	comp=Z,480nm,0.8s						
TKM2	**Tokmak 2**	**3.35**	**338**	PN	**Pb**	**15 42 11.9**	**-1.0**
TKM2				pmax	pmax		
	comp=Z,154nm,0.5s						
MTBS	**Maitube**	**3.38**	**349**	Pg	**Pb**	**15 42 12.6**	**-0.6**
	comp=Z,164nm,0.6s						
MTBS				Lg	Lg	15 42 56.4	
	comp=Z,358nm,0.7s						
MTBS	**Maitube**	**3.38**	**349**	*e*P	**Pb**	**15 42 12.8**	**-0.4**
	comp=Z,164nm,0.6s						
MTBS				*e*S	**Sb**	**15 42 56.4**	**+1.9**
	comp=Z,358nm,0.7s						
KST	**Kastek**	**3.38**	**343**	Pg	**Pb**	**15 42 12.6**	**-0.6**
	comp=Z,364nm,0.9s						
KST				Lg	Lg	15 42 57.7	
	comp=Z,695nm,1.6s						
KST	**Kastek**	**3.38**	**343**	*e*P	**Pb**	**15 42 13.5**	**+0.3**
	comp=Z,364nm,0.9s						
KST				*e*S	**Sb**	**15 42 57.7**	**+3.1**
	comp=Z,695nm,1.6s						
AAA	**Alma-Ata**	**3.41**	**355**	Pg	**Pb**	**15 42 13.7**	**+0.1**
	comp=Z,269nm,0.7s						
AAA				Lg	Lg	15 42 59.2	
	comp=Z,1μm,1.6s						
AAA	**Alma-Ata**	**3.41**	**355**	*e*P	**Pb**	**15 42 14.4**	**+0.8**
	comp=Z,269nm,0.7s						
AAA				*e*S	**Sg**	**15 42 59.2**	**-3.1**
	comp=Z,1μm,1.6s						
KNDC	**Almaty**	**3.41**	**356**	⇓Pg	**Pg**	**15 42 17.1**	**-1.1**
	comp=Z,620nm,0.7s						
KNDC				⇓Lg	Lg	15 42 59.9	
	comp=Z,3μm,1.2s						
KOTS	**Kotyrbulak**	**3.42**	**358**	Pg	**Pb**	**15 42 14.7**	**+0.8**
	comp=Z,234nm,0.7s						
KOTS				Lg	Lg	15 43 00.0	
	comp=Z,1μm,1.0s						
KOTS	**Kotyrbulak**	**3.42**	**358**	*e*P	**Pb**	**15 42 14.8**	**+0.8**
	comp=Z,234nm,0.7s						
KOTS				*e*S	**Sg**	**15 43 00.0**	**-2.8**
	comp=Z,1μm,1.0s						
AAK	**Ala-Archa**	**3.52**	**324**	Pn	**Pn**	**15 42 11.9**	**+3.6**
	comp=Z,15nm,0.3s,baz=140,slow=12,SNR=143						
AAK				LR	LR	15 42 55.1	
	comp=Z,147nm,20.8s,baz=63,slow=29						
AAK				Lg	Lg	15 43 00.6	
	comp=Z,74nm,0.3s,baz=345,slow=11,SNR=19						
AAK	**Ala-Archa**	**3.52**	**324**	P	**Pn**	**15 42 12.0**	**+3.7**
	SNR=122						
AAK	**Ala-Archa**	**3.52**	**324**	⇓Pg	**Pb**	**15 42 15.3**	**-0.3**
	comp=Z,408nm,0.8s						
AAK				⇑Lg	Lg	15 43 01.6	
	comp=Z,2μm,1.0s						
AAK	**Ala-Archa**	**3.52**	**324***ce*	PN	**Pn**	**15 42 11.7**	**+3.5**
AAK				pmax	pmax		
	comp=Z,385nm,1.0s						
AAK	**Ala-Archa**	**3.52**	**324**	⇑*i*P	**Pn**	**15 42 09.9**	**+1.7**
	baz=24						
AAK				⇑*i*S	**Sn**	**15 42 51.9**	**+1.6**
	baz=24						
AML	**Almayashu**	**3.57**	**312**	P	**Pn**	**15 42 12.8**	**+3.7**
	SNR=79						
AML	**Almayashu**	**3.57**	**312**	⇑*i*P	**Pn**	**15 42 11.9**	**+2.8**
	baz=11						
AML				⇑*i*S	**Sn**	**15 42 53.9**	**+2.1**
	baz=11						
UZB	**Uzynbulak**	**3.58**	**21**	Pg	**Pb**	**15 42 17.9**	**+1.2**
	comp=Z,191nm,0.8s						
UZB				Lg	Lg	15 43 05.1	
	comp=Z,454nm,1.1s						
UZB	**Uzynbulak**	**3.58**	**21**	*e*P	**Pb**	**15 42 17.9**	**+1.2**
	comp=Z,191nm,0.8s						
UZB				*e*S	**Sg**	**15 43 05.1**	**-2.8**
	comp=Z,454nm,1.1s						
FRU1	**Bishkek**	**3.60**	**327**	*e*Pn	**Pb**	**15 42 13.6**	**-3.4**
FRU1	**Bishkek**	**3.60**	**327**	*e*PN	**Pb**	**15 42 13.6**	**-3.4**
FRU1	**Bishkek**	**3.60**	**327**	⇑*i*P	**Pn**	**15 42 11.9**	**+2.6**
	baz=27						
FRU1				⇑*i*S	**Sn**	**15 42 53.9**	**+1.8**
	baz=27						
ARSB	**Arslanbob**	**3.61**	**296**	*e*Pn	**Pn**	**15 42 12.0**	**+2.6**
ARSB	**Arslanbob**	**3.61**	**296**	⇑*i*P	**Pn**	**15 42 12.1**	**+2.7**
	baz=95						
ARSB				⇑*i*S	**Sn**	**15 42 54.6**	**+2.2**
	baz=95						
DGS	**Degeres**	**3.61**	**342**	Pg	**Pb**	**15 42 16.6**	**-0.5**
	comp=Z,384nm,1.2s						
DGS				Lg	Lg	15 43 03.3	
	comp=Z,376nm,1.8s						
DGS	**Degeres**	**3.61**	**342**	*e*P	**Pb**	**15 42 16.6**	**-0.5**
	comp=Z,384nm,1.2s						
DGS				*e*S	**Sb**	**15 43 03.3**	**+2.0**
	comp=Z,376nm,1.8s						
FRU	**Bishkek**	**3.62**	**327**	⇑*i*PN	**Pn**	**15 42 13.0**	**+3.4**
FRU				*i* S	**Sb**	**15 42 59.0**	**-2.6**
FRU				pmax	pmax		
	comp=Z,1μm,1.2s						
FRU				smax	smax		
	comp=E,3μm,1.9s						
FRU				pmax	pmax		
	comp=E,7μm,3.0s						
CHMS	**Chumysh**	**3.71**	**330**	P	**Pn**	**15 42 14.4**	**+3.7**
	SNR=18						
CHMS	**Chumysh**	**3.71**	**330**	⇓*i*P	**Pn**	**15 42 13.4**	**+2.7**
	baz=30						
CHMS				⇓*i*S	**Sn**	**15 42 56.3**	**+1.5**
	baz=30						
SHLS	**Shalkode**	**3.72**	**25**	Pg	**Pg**	**15 42 21.9**	**-2.3**
	comp=E,230nm,0.8s						
SHLS				Lg	Lg	15 43 12.1	
	comp=E,733nm,0.7s						
SHLS	**Shalkode**	**3.72**	**25**	*e*P	**Pg**	**15 42 21.9**	**-2.3**
	comp=E,230nm,0.8s						
SHLS				*e*S	**Sg**	**15 43 12.1**	**-0.4**
	comp=E,733nm,0.7s						
KURS	**Kuram**	**3.73**	**10**	Pg	**Pb**	**15 42 18.4**	**-0.9**
	comp=E,185nm,1.1s						
KURS				Lg	Lg	15 43 06.5	
	comp=E,657nm,1.4s						
KURS	**Kuram**	**3.73**	**10**	*e*P	**Pb**	**15 42 18.6**	**-0.6**
	comp=E,84nm,0.5s						
KURS				*e*S	**Sb**	**15 43 06.5**	**+1.8**
	comp=E,657nm,1.4s						
EKS2	**Erkin-Say**	**3.88**	**318**	P	**Pn**	**15 42 17.3**	**+4.1**
	SNR=594						
EKS2	**Erkin-Say**	**3.88**	**318**	⇓*i*P	**Pn**	**15 42 16.1**	**+2.9**
	baz=18						
EKS2				⇓*i*S	**Sn**	**15 43 01.2**	**+2.0**
	baz=18						
PDGK	**Podgornoye**	**3.89**	**25**	Pg	**Pb**	**15 42 20.7**	**-1.2**
	comp=E,520nm,0.7s						
PDGK				Lg	Lg	15 43 10.1	
	comp=E,291nm,1.3s						
PDGK	**Podgornoye**	**3.89**	**25**	⇓Pg	**Pb**	**15 42 23.6**	**+1.7**
	comp=E,552nm,1.4s						
PDGK				⇓Lg	Lg	15 43 12.5	
	comp=E,1μm,1.0s						
PDGK	**Podgornoye**	**3.89**	**25**	PN	**Pb**	**15 42 23.6**	**+1.7**
PDGK				pmax	pmax		
	comp=Z,552nm,1.4s						
PDGK	**Podgornoye**	**3.89**	**25**	⇑*i*P	**Pn**	**15 42 15.6**	**+2.3**
	baz=25						
PDGK				⇑*i*S	**Sn**	**15 43 01.5**	**+2.2**
	baz=25						
KTBS	**Karatobe**	**3.92**	**354**	Pg	**Pb**	**15 42 23.3**	**+0.8**
	comp=Z,153nm,0.9s						
KTBS				Lg	Lg	15 43 14.6	
	comp=Z,340nm,1.2s						
KTBS	**Karatobe**	**3.92**	**354**	*e*P	**Pb**	**15 42 23.3**	**+0.8**
	comp=Z,153nm,0.9s						
KTBS				*e*S	**Sg**	**15 43 14.6**	**-4.2**
	comp=Z,340nm,1.2s						
USP	**Ospenovka**	**4.03**	**330**	P	**Pn**	**15 42 19.2**	**+4.0**
	SNR=24						

CHKK Chushkaly 4.05 357 Pg Pb 15 42 25.0 +0.4
comp=Z,101nm,1.1s
CHKK Lg Lg 15 43 18.2
comp=Z,789nm,0.9s
CHKK Chushkaly 4.05 357 *e*P Pb 15 42 25.1 +0.6
comp=Z,101nm,1.1s
CHKK *e*S Sg 15 43 18.2 -4.5
comp=Z,789nm,0.9s
KUU Kurty 4.14 351 Pg Pb 15 42 28.0 +1.9
comp=Z,165nm,1.2s
KUU Lg Lg 15 43 23.0
comp=Z,485nm,0.8s
KUU Kurty 4.14 351 *e*P Pb 15 42 28.0 +1.9
comp=Z,165nm,1.2s
KUU *e*S Sg 15 43 23.0 -2.8
comp=Z,485nm,0.8s
SGDS Sogindy 4.14 332 Pg Pb 15 42 26.3 +0.1
comp=Z,148nm,1.2s
SGDS Lg Lg 15 43 19.6
comp=Z,348nm,1.2s
MRKS Merke 4.23 315 Pg Pb 15 42 25.4 -2.3
comp=Z,258nm,0.6s
MRKS Lg Lg 15 43 18.4
comp=Z,125nm,0.8s
ARXS Arharly 4.42 5 Pg Pb 15 42 30.9 0.0
comp=Z,140nm,0.6s
ARXS Lg Lg 15 43 27.7
comp=Z,734nm,1.0s
ARXS Arharly 4.42 5 *e*P Pb 15 42 30.5 -0.4
comp=Z,140nm,0.6s
ARXS *e*S Sb 15 43 27.7 +3.3
comp=Z,734nm,1.0s
MNAS Manas 4.49 308 ⇓Pn Pn 15 42 24.2 +2.7
comp=Z,321nm,1.1s
MNAS ⇓Lg Lg 15 43 32.6
comp=Z,330nm,0.9s
MNAS Manas 4.49 308 Pg Pb 15 42 31.6 -0.5
comp=Z,52nm,1.3s
MNAS Lg Lg 15 43 28.8
comp=Z,50nm,1.1s
MNAS Manas 4.49 308 PN Pn 15 42 24.2 +2.7
MNAS pmax pmax
comp=Z,321nm,1.1s
MNAS Manas 4.49 308⇑ *e*P Pn 15 42 24.6 +3.1
baz=8.0
MNAS ⇑ *i*S Sn 15 43 15.9 +1.8
baz=8.0
ARK Arkit 4.50 298⇑ *e*P Pn 15 42 24.0 +2.4
baz=97
ARK ⇑ *i*S Sn 15 43 15.1 +0.8
baz=97
DJR Jarkent 4.89 22 Pg Pb 15 42 36.5 -2.4
comp=Z,57nm,0.8s
DJR Lg Lg 15 43 37.9
comp=Z,75nm,1.2s
DZA Taraz 5.43 306 Pg Pg 15 42 59.1 +2.2
comp=Z,46nm,0.1s
DZA Lg Lg 15 44 16.0
comp=Z,183nm,1.0s
GAR Garm 5.45 264 *e*Pn Pn 15 42 36.4 +1.6
GAR Garm 5.45 264 *e*PN Pn 15 42 36.4 +1.6
KAPS Kapalarasan 5.68 15 Pg Pb 15 42 51.9 -0.5
comp=Z,51nm,0.7s
KAPS Lg Lg 15 44 04.1
comp=Z,116nm,1.4s
IUG Iuzhnay 5.96 295 Pg Pg 15 43 02.5 -4.6
comp=Z,152nm,0.9s
IUG Lg Lg 15 44 21.8
comp=Z,395nm,1.1s
KK31 Karatay Array 6.06 305 *e*Pn Pn 15 42 44.8 +1.9
KK31 Karatay Array 6.06 305 ⇓Pn Pn 15 42 43.1 +0.1
comp=Z,4.5nm,0.6s,baz=139,slow=14,SNR=49
KK31 ⇑Pg Pg 15 43 04.0 -4.8
comp=Z,50nm,0.7s,baz=137,slow=17,SNR=16
KK31 ⇑Lg Lg 15 44 21.1
comp=Z,79nm,0.8s,baz=130,slow=28
KK31 Karatay Array 6.06 305 *i* PN Pn 15 42 43.3 +0.4
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KK31 pmax pmax
comp=Z,50nm,0.7s
KKAR Karatay Array 6.06 305 *e*Pn Pn 15 42 44.8 +1.9
KKAR Karatay Array 6.06 305 *e*PN Pn 15 42 44.8 +1.9
CHGR Chuyangaron 6.41 262 *e*Pn Pn 15 42 48.7 +0.8
CHCP Chirah Chowk 6.94 209 P Pn 15 43 00.2 +5.1
NIL Nilore 6.95 209 *e*Pn Pn 15 43 00.2 +5.0
NIL Nilore 6.95 209 *e*PN Pn 15 43 00.2 +5.0
CEP Cherat 7.37 217 P Pn 15 43 04.9 +3.8
CEP S Sn 15 44 30.0 +5.0
DHRM DHARAMSHALA 7.59 186 *e*P Pn 15 43 06.8 +2.7
DHRM *e*S Sn 15 44 24.2 -6.4
DHRM IAML 15 45 23.2
comp=N,609nm,0.9s
DHRM IAML 15 45 23.5
comp=E,225nm,0.5s
MAKZ Makanchi 7.79 25 *e*Pn Pn 15 43 07.2 +0.5
MAKZ Makanchi 7.79 25 ⇑Pn Pn 15 43 08.8 +2.1
comp=E,4.9nm,0.4s
MAKZ ⇓Lg Lg 15 45 19.0
comp=E,142nm,1.3s
MAKZ Makanchi 7.79 25 *e*P Pn 15 43 07.2 +0.5
MK01 Makanchi Array 7.86 26 *e*Pn Pn 15 43 08.9 +1.2
MK31 Makanchi Array 7.88 26 *e*Pn Pn 15 43 09.3 +1.4
MK31 Makanchi Array 7.88 26 Pn Pn 15 43 08.5 +0.5
comp=E,1.8nm,0.3s,baz=205,slow=13,SNR=289
MK31 ⇓Lg Lg 15 45 20.6
comp=E,47nm,0.8s
MK31 Makanchi Array 7.88 26 P Pn 15 43 08.4 +0.5
MK31 pmax pmax
comp=Z,2.0nm,0.3s
MKAR Makanchi Array 7.88 26 Pn Pn 15 43 09.4 +1.5
comp=Z,4.4nm,0.3s,baz=207,slow=15,SNR=46
MKAR Lg Lg 15 45 18.3
comp=Z,1.8nm,0.3s,baz=211,slow=30,SNR=5.1
MKAR LR LR 15 45 57.3
comp=Z,84nm,21.5s,baz=197,slow=36
THW Thamme Wali 8.30 214 P Pn 15 43 16.5 +2.6
KBL Kabul 8.42 234 *e*Pn Pn 15 43 18.2 +2.7
KBL Kabul 8.42 234 *e*P Pn 15 43 18.2 +2.7
SMLA Simla 8.66 181 *e*P Pn 15 43 22.6 +3.9
SMLA *e*S Sn 15 44 53.1 -3.6
SMLA IAML 15 45 01.0
comp=N,266nm,0.6s
SMLA IAML 15 45 04.1
comp=E,337nm,0.5s
WMQ Urumqi 8.75 59 P Pn 15 43 21.8 +1.9
WMQ pP 15 43 25.0
WMQ sP 15 43 35.0
WMQ S Sn 15 44 59.5 +0.7
WMQ pmax pmax
comp=E,130nm,0.7s
WMQ pmax pmax
comp=E,630nm,5.7s
WMQ smax smax
comp=E,130nm,1.3s
WMQ smax smax
comp=E,140nm,0.7s
WMQ LR LR
comp=E,1μm,10.5s
WMQ LR LR
comp=E,840nm,18.3s
WMQ Urumqi 8.75 59 *e*Pn Pn 15 43 21.6 +1.7
WMQ Urumqi 8.75 59 *e*P Pn 15 43 21.6 +1.7
OTUK Ortayu 9.15 339 ⇑Pn Pn 15 43 27.8 +2.4
comp=E,11nm,1.0s
OTUK ⇓Lg Lg 15 45 58.0
comp=E,174nm,1.2s
OTUK Ortayu 9.15 339 P Pn 15 43 27.7 +2.4
OTUK pmax pmax
comp=Z,11nm,1.0s
DDI Dehra Dun 9.49 176 *e*P Pn 15 43 31.0 +0.9
DDI *e*S Sn 15 45 12.5 -4.6
DDI IAML 15 45 22.0
comp=N,429nm,0.2s
DDI IAML 15 45 22.9
comp=E,523nm,0.2s
KURBB Kurchatov Arra 10.85 4 Pn Pn 15 43 48.5 0.0
comp=E,0.2nm,0.3s,baz=192,slow=12,SNR=22
KURBB Lg Lg 15 46 49.1
comp=E,0.2nm,0.3s,baz=191,slow=29,SNR=7.6
KURBB Kurchatov Arra 10.85 4 ⇓P Pn 15 43 49.2 +0.6
comp=E,11nm,0.8s
KURK Kurchatov 10.95 4 *e*Pn Pn 15 43 50.7 +0.8
KURK Kurchatov 10.95 4 ⇑P Pn 15 43 48.3 -1.6
comp=E,15nm,1.0s
KURK Kurchatov 10.95 4 *ce*P Pn 15 43 49.7 -0.2
KURK pmax pmax
comp=Z,10.0nm,0.8s
NDI New Delhi 11.10 180 *e*P Pn 15 43 53.0 +0.9
NDI *e*S Sn 15 45 48.0 -8.6
PYUN Piuthan 12.60 156 *e*P Pn 15 44 12.2 -0.7
PYUN *e*S Sn 15 46 26.4 -7.2
DANN Dangsing 12.62 153 *e*P Pn 15 44 12.7 -0.6
KOLN Koldanda 13.10 155 *e*P Pn 15 44 17.5 -2.2
KKN Kakani 13.70 149 *e*P Pn 15 44 27.3 -0.6
DMN Daman 13.79 150 *e*P Pn 15 44 28.8 -0.4
DMN *e*S Sn 15 46 57.3 -5.6
GUN Gumba 13.84 146 *e*P Pn 15 44 29.2 -0.8
PKI Pulchoki 13.95 149 *e*P Pn 15 44 30.0 -1.4
comp=Z,25nm,0.3s
BVA0 Borovoye Array 14.04 343 ⇑P Pn 15 44 30.8 -1.4
comp=Z,33nm,1.1s,baz=157,slow=13,SNR=52
BVA0 Borovoye Array 14.04 343 *i* P Pn 15 44 30.7 -1.4
BVA0 pmax pmax
comp=Z,26nm,1.0s
BVAR Borovoye Array 14.04 343 Pn Pn 15 44 31.1 -1.0
comp=Z,1.2nm,0.3s,baz=148,slow=14,SNR=26
BVAR Lg Lg 15 48 31.7
comp=Z,0.5nm,0.3s,baz=157,slow=24,SNR=12
BVAR LR LR 15 49 53.8
comp=Z,224nm,19.5s,baz=145,slow=37
BRVK Borovoye 14.09 342 *e*Pn Pn 15 44 32.5 -0.4
BRVK Borovoye 14.09 342 ⇑P Pn 15 44 34.2 +1.3
comp=Z,48nm,1.0s
BRVK Borovoye 14.09 342 *c i* P Pn 15 44 32.4 -0.4
BRVK pmax pmax
comp=Z,50nm,1.7s
JIRN Jiri 14.20 146 *e*P Pn 15 44 34.6 -0.2
comp=Z,70nm,0.4s
RAMN Ramite 14.99 146 *e*P Pn 15 44 42.7 -2.8
ZALV Zalesovo Beam 15.04 17 Pn Pn 15 44 45.0 -0.8
comp=Z,1.4nm,0.3s,baz=212,slow=14,SNR=12
ZALV LR LR 15 50 06.7
comp=Z,120nm,20.2s,baz=9.0,slow=35
GEYT Alibeck 15.05 269 Pn Pn 15 44 41.8 -4.3
comp=Z,0.6nm,0.3s,baz=98,slow=11,SNR=6.9
GEYT Sn Sn 15 47 26.7 -6.3
comp=Z,1.0nm,0.3s,baz=312,slow=52,SNR=4.6
GYA0B ALIBECK ARRAY 15.05 269 ⇑P Pn 15 44 47.5 +1.5
comp=Z,16nm,1.1s
GYA0B ⇑S Sn 15 47 34.4 +1.4
comp=Z,42nm,0.9s
AB31 Akbulak array 15.52 313 ⇑P Pn 15 44 50.4 -1.8
comp=Z,8.8nm,0.6s,baz=115,slow=12,SNR=121
AB31 Akbulak array 15.52 313 *i* P Pn 15 44 50.8 -1.4
AB31 pmax pmax
comp=Z,9.0nm,0.6s
ABKAR Akbulak array 15.52 313 *e*Pn Pn 15 44 51.7 -0.5
NVS Novosibirsk 15.56 13 *e*P Pn 15 44 52.5 -0.1
NVS pmax pmax
NVS comp=N,13nm,1.0s
NVS pmax pmax
NVS comp=E,6.0nm,1.0s
NVS pmax pmax
comp=Z,20nm,1.0s
BHPL Bhopal 16.52 180 *e*P Pn 15 45 07.3 +2.1
JBP Jabalpur 16.75 171 *e*P P 15 45 10.9 +0.5
JBP *ex* x 15 47 48.2
AKTO Aktyubinsk 17.20 314 P Pn 15 45 13.6 0.0
comp=Z,0.3nm,0.3s,baz=120,slow=12,SNR=20
AKTO LR LR 15 52 34.2
comp=Z,39nm,21.3s,baz=141,slow=40
AKTO Aktyubinsk 17.20 314 ⇑P Pn 15 45 13.5 -0.2
comp=Z,36nm,1.0s
GTA Gaotai 17.37 84 *e*P Pn 15 45 14.3 -1.6
GTA pP sP 15 45 21.5 +1.7
GTA sP pP 15 45 27.0 +8.0
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,120nm,5.8s
GTA LR LR
comp=Z,200nm,7.9s
GTA LR LR
comp=Z,210nm,7.2s
GTA LR LR
comp=Z,270nm,12.4s
BOK Bokaro 17.55 153 *e*P P 15 45 22.4 +3.2
BHJ Bhuj 17.73 204 *e*P P 15 45 21.8 +0.5
SHL Shillong 18.75 135 *e*P Pn 15 45 35.0 +2.0
SVE Sverdlovsk 20.21 333 *e*P P 15 45 49.1 +0.8
SVE pmax pmax
comp=Z,25nm,1.2s
MOY Mondy 20.25 46 *e*P Pn 15 45 50.5 -0.3
MOY pmax pmax
comp=Z,25nm,1.7s
ARU Arti 20.68 330 *e*P P 15 45 53.7 +0.3
comp=Z,72nm,1.4s
ARU Arti 20.68 330 *ce*P P 15 45 53.5 +0.1
ARU pmax pmax
comp=Z,63nm,1.0s
BRDH Bariadhala 20.99 140 LR LR 15 55 05.0
comp=Z,177nm,19.1s,baz=342,slow=40
ZAK Zakamensk 21.07 51 *e*P P 15 45 58.3 +0.5
ZAK pmax pmax
comp=Z,20nm,1.0s
LZH Lanzhou 21.25 92 *e*P P 15 46 02.0 +2.2
LZH pP sP 15 46 10.3 +8.0
LZH sP pP 15 46 15.8 +14
LZH PP PnPn 15 46 22.0 +2.9
LZH pmax pmax
comp=Z,26nm,1.2s
LZH pmax pmax
comp=Z,95nm,4.7s
LZH LR LR
comp=Z,350nm,12.5s
LZH LR LR
comp=Z,380nm,13.6s
POO Poona 21.41 189 *e*P P 15 46 03.0 +1.5
IRK Irkutsk 22.34 47 *e*P P 15 46 13.7 +2.5
IRK pmax pmax
comp=Z,27nm,1.9s
HYB Hyderabad 22.34 177 *i* P P 15 46 13.0 +1.5
HYB *e*S S 15 50 14.0 -3.5
HYB Hyderabad 22.34 177 *e*P P 15 46 13.5 +2.0
SONM Songino Array 22.39 59 P P 15 46 13.3 +1.3
comp=Z,9.0nm,0.9s,baz=260,slow=9.5,SNR=31
SONA1 Songino Array 22.39 59 *e*P P 15 46 13.2 +1.2
ULN Ulaanbaatar 22.83 60 *e*P P 15 46 18.2 +1.6
comp=Z,27nm,1.0s
ULN Ulaanbaatar 22.83 60 *ce*P P 15 46 16.6 0.0
ULN pmax pmax
comp=Z,14nm,1.7s
WSAR Wadi Sarin 22.85 229 P P 15 46 16.8 -0.1
comp=Z,7.6nm,1.0s,baz=40,slow=8.3,SNR=4.4
WSAR LR LR 15 57 00.2
comp=Z,51nm,20.0s,baz=70,slow=42
CD2 Chengdu 23.28 104 *e*P P 15 46 21.0 -0.3
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.6s
GNI Garni 24.86 281 P P 15 46 37.3 +1.0
comp=Z,7.0nm,0.8s,baz=325,slow=2.5,SNR=4.3
GNI Garni 24.86 281 *ce*P P 15 46 41.4 +5.1
GNI pmax pmax
comp=Z,146nm,1.3s
BTO Baotou 24.94 78 *e*P P 15 46 37.5 +0.5
ZEI Tsey 25.16 288 *e*P P 15 46 40.7 +1.7
ZEI pmax pmax
comp=Z,4.0nm,0.6s
NCK Nalchik 25.34 289 *i* P P 15 46 45.1 +4.7
NCK pmax pmax
comp=Z,10.0nm,0.9s
KBZ Khabaz 25.83 290 P P 15 46 45.5 +0.7
comp=Z,1.4nm,0.7s,baz=18,slow=6.6,SNR=4.0
XAN Xi'an 25.86 93 P P 15 46 46.5 +1.2
XAN pP sP 15 46 56.0 +8.1
XAN sP pP 15 47 00.0 +13
XAN pmax pmax
comp=Z,27nm,0.9s
KMI Kunming 25.88 117 P P 15 46 46.0 +0.3
KMI pP sP 15 46 52.3 +4.0
KMI sP pP 15 46 57.3 +10
KMI pmax pmax
comp=Z,8.0nm,0.6s
KMI pmax pmax
comp=Z,56nm,4.0s
KIV Kislovodsk 25.97 291 *e*P P 15 46 50.5 +4.3
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,56nm,15.0s
NEY Neytrino 25.99 289 *i* P P 15 46 49.4 +2.9
NEY pmax pmax
comp=Z,1.0nm,1.0s
HHC Hu-ho-hao-te 26.06 77 *e*P P 15 46 47.3 +0.2
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,190nm,9.0s
CMAR Chiang Mai Arr 28.34 132 P P 15 47 07.8 +0.3
comp=Z,0.9nm,0.8s,baz=310,slow=9.4,SNR=6.9
VSR Storozhevoye 28.72 306 *i* P P 15 47 12.0 +1.3
VSR pmax pmax
comp=Z,4.0nm,0.9s
PRGR Permogore 29.14 329 *e*P P 15 47 13.5 -0.8
PRGR pmax pmax
comp=Z,15nm,0.9s
OBN Obninsk 30.97 313 *i* P P 15 47 31.6 +1.0
OBN pmax pmax
comp=Z,6.0nm,0.9s
KLMR Klimovskoe 31.33 325 *e*P P 15 47 32.8 -0.9
KLMR pmax pmax
comp=Z,11nm,1.1s
KLMR Klimovskoe 31.33 325 *e*P P 15 47 32.9 -0.8
KLMR AMP 15 47 40.3
comp=Z,11nm,1.1s
BRTR Keskin Array B 33.30 284 P P 15 47 52.0 +0.6
comp=Z,3.4nm,0.7s,baz=90,slow=8.1,SNR=20
NJ2 Nanjing 34.30 90 *e*P P 15 48 01.3 +1.3
NJ2 pmax pmax
comp=Z,11nm,0.5s
QIZ Qiongzhong 34.83 117 P P 15 48 05.3 +0.6
QIZ S S 15 53 37.0 +1.0
QIZ pmax pmax
comp=Z,19nm,1.3s
AKASG Malin Array Be 34.96 304 P P 15 48 05.0 -0.5
comp=Z,0.3nm,0.4s,baz=90,slow=7.6,SNR=4.6
ZEA Zeya 36.17 50 *e*P P 15 48 17.0 +1.2
VSU Vasula 36.89 317 *i* P P 15 48 21.3 -0.6
VSU pmax pmax
comp=Z,45nm,1.0s
FINES FINESS Array B 37.70 322 P P 15 48 28.5 -0.3
comp=Z,3.6nm,0.5s,baz=107,slow=8.9,SNR=19
FINES LR LR 16 04 36.0
comp=Z,172nm,18.2s,baz=234,slow=37
YAK Yakutsk 38.38 37 *e*P P 15 48 34.3 -0.1
YAK *e*S S 15 54 24.6 -4.6
YAK *e*SSS SSS 15 57 40.8
YAK *e* 15 58 41.6
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK smax smax
comp=N,203nm,4.8s
YAK smax smax
comp=E,219nm,4.7s
MDJ Mudanjiang 38.49 65 P P 15 48 37.0 +1.3
MDJ pmax pmax
comp=E,16nm,1.3s
KSAR Wonju Array Be 39.18 77 P P 15 48 41.7 +0.2
KSAR Wonju Array Be 39.18 77 P P 15 48 41.7 +0.2
KLR Kul'dur 39.19 58 *d i* P P 15 48 42.7 +1.2
KSRS Korea Array 39.20 77 P P 15 48 41.7 0.0
comp=E,1.5nm,0.5s,baz=284,slow=8.7,SNR=7.5
ARCES ARCESS Array B 40.13 335 P P 15 48 49.0 0.0
comp=E,7.5nm,0.6s,baz=104,slow=7.5,SNR=18
ARCES ARCESS Array B 40.13 335 *e*P P 15 48 49.2 +0.2
ARCES ARCESS Array B 40.13 335 *e*P P 15 48 49.2 +0.2
ARE0 ARCESS Array S 40.13 335 *e*P P 15 48 49.6 +0.6
KTK1 Kautokeino 40.73 333 *e*P P 15 48 54.2 +0.2
TIXI Tiksi 40.84 22 *e*P P 15 48 54.3 -0.6
comp=E,23nm,0.8s
TIXI Tiksi 40.84 22 *ce*P P 15 48 54.8 -0.1
TIXI pmax pmax
comp=Z,25nm,0.8s
VYHS Vyhne 41.90 302 *e*P P 15 49 02.7 -1.2
VYHS Vyhne 41.90 302 *e*P P 15 49 02.7 -1.2
TRO Tromso 42.37 334 *e*P P 15 49 08.0 +0.6
DPC Dobruska-Polom 43.18 305 *e*P P 15 49 14.7 +0.4
DPC Dobruska-Polom 43.18 305 *e*P P 15 49 14.7 +0.4
UPC Upice 43.35 305 *e*P P 15 49 16.0 +0.4
UPC Upice 43.35 305 *e*P P 15 49 16.0 +0.4
STEI Steigen 43.37 331 *e*P P 15 49 15.5 0.0
MOR8 Moi Rana 43.48 328 *e*P P 15 49 15.6 -0.9
LOF Lofoten 44.03 331 *e*P P 15 49 21.1 +0.3
NKL Nikolayevsk 44.21 51 *e*P P 15 49 22.7 +0.2
NKL pmax pmax
comp=Z,17nm,1.0s
NC602 NORSAR Array S 44.69 320 *e*P P 15 49 25.8 -0.4
NB2 NORSAR Subarra 44.83 321 P P 15 49 26.8 -0.6
comp=Z,1.3nm,0.5s,baz=93,slow=8.6
NB2 NORSAR Subarra 44.83 321 P P 15 49 26.8 -0.6
baz=93,slow=8.6
NOA NORSAR Array B 44.83 321 P P 15 49 26.5 -0.9
comp=Z,0.7nm,0.9s,baz=142,slow=19,SNR=5.1
NOA LR LR 16 10 29.7
comp=Z,44nm,20.9s,baz=340,slow=39
CLL Collm 45.07 307 *e*P P 15 49 29.0 -0.4
CLL *e*PP PP 15 51 14.0 -0.4
CLL *e*(PPP) 15 51 49.0
CLL Collm 45.07 307 *e*P P 15 49 29.0 -0.4
GERES GERESS Array B 45.16 303 P P 15 49 30.5 +0.2
comp=Z,1.6nm,0.6s,baz=68,slow=7.6,SNR=19
GERES LR LR 16 09 50.6
comp=Z,118nm,19.0s,baz=76,slow=38
GEA0 GERESS Array S 45.16 303 *e*P P 15 49 30.5 +0.2
KHC Kasperske Hory 45.17 304 *e*P P 15 49 30.2 -0.1
KHC Kasperske Hory 45.17 304 *e*P P 15 49 30.2 -0.1
DOMB Dombas 45.80 322 *e*P P 15 49 35.2 +0.1
MJAR Matsushiro Arr 47.20 74 P P 15 49 46.4 0.0
comp=Z,1.7nm,0.7s,baz=278,slow=8.9,SNR=4.8
SEY Seymchan 48.88 36 *i* P P 15 49 57.9 -1.1
DAG Danmarks Havn 52.97 343 *i* P P 15 50 29.8 +0.2
comp=Z,5.8nm,0.7s
DAG Danmarks Havn 52.97 343 *i* P P 15 50 29.8 +0.2
DAG pmax pmax
comp=Z,4.0nm,0.7s
BILL Bilibino 53.42 28 *e*P P 15 50 33.8 +0.8
comp=Z,7.7nm,1.0s
BILL Bilibino 53.42 28 *i* P P 15 50 34.3 +1.3
BILL *i* 15 50 44.2
BILL *i* 15 51 40.3
BILL *i* 15 52 32.5
BILL pmax pmax
comp=Z,8.0nm,1.3s
ESDC Sonseca Array 60.26 299 P P 15 51 21.2 -0.9
comp=Z,0.6nm,0.5s,baz=54,slow=6.6,SNR=5.1
COLD Coldfoot 67.37 18 *e*P P 15 52 07.9 -0.5
comp=Z,5.2nm,0.9s
IM3 Indian Mountai 67.44 20 *e*P P 15 52 08.1 -0.8
IL1 Eielson Array 70.16 19 *e*P P 15 52 24.7 -1.1
ILAR Eielson Array 70.16 19 P P 15 52 24.8 -1.1
comp=Z,2.8nm,0.8s,baz=317,slow=4.8,SNR=31
ILAR PP PP 15 55 03.9 +3.4
comp=Z,0.7nm,1.0s,baz=317,slow=8.6,SNR=4.2
ILB Eielson Array 70.16 19 *e*P P 15 52 25.2 -0.6
TOA0 Torodi Ar. Sit 70.67 271 *e*P P 15 52 29.1 -0.7
TORD Torodi Ar. Bea 70.67 271 P P 15 52 28.4 -1.3
comp=Z,3.1nm,0.4s,baz=56,slow=4.7,SNR=25
KDAK Kodiak Island 74.19 25 *ce*P P 15 52 50.2 +0.2
YKA Yellowknife Ar 77.59 6 P P 15 53 08.6 -0.7
comp=Z,4.9nm,0.8s,baz=346,slow=5.5,SNR=64
YKB5 Yellowknife Ar 77.59 6 *e*P P 15 53 08.3 -1.1
DBIC Dimbokro 79.73 270 P P 15 53 21.5 -0.4
comp=Z,9.2nm,0.8s,baz=23,slow=8.4,SNR=10
WRA Warramunga Arr 79.76 127 P P 15 53 21.6 -0.3
comp=Z,1.7nm,0.9s,baz=321,slow=5.0,SNR=5.8
KIC Kosan Boka 79.84 270 *e*P P 15 53 22.0 -0.5
comp=Z,27nm,0.8s
TIC Toumodi 79.87 270 *e*P P 15 53 22.1 -0.7
LIC Lamto 80.14 270 *e*P P 15 53 23.5 -0.7
comp=Z,57nm,1.5s
ASAR Alice Springs 82.30 129 P P 15 53 34.5 -0.9
comp=Z,1.2nm,0.8s,baz=320,slow=5.8,SNR=7.2
FFC Flin Flon 85.83 360 *i* P P 15 53 53.1 +0.1
PDAR Pinedale Array 97.57 5 P P 15 54 47.6 -0.7
comp=Z,0.3nm,0.8s,baz=47,slow=6.6,SNR=3.2

MEX 26 15:47:55.6±0.4, 17°01N×93°97W, h200km±4km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.88**	**276**	*i* P	Pn	15 48 23.2	-1.3
CMIG				*e*S	Sn	15 48 44.7	-2.3
HUIG	**Huatulco**	**2.40**	**239**	*e*P	Pn	15 48 36.9	-1.5
HUIG				*e*S	Sn	15 49 09.9	-1.8
VHO	**Vista Hermosa**	**2.65**	**272**	*e*P	Pn	15 48 40.7	-0.7
VHO				*i* S	Sn	15 49 14.7	-2.3

*SOME **26** 15:48:01.2, 41˚.60N × 78˚.77E, h0km*
*KRNET **26** 15:48:01.6±0.1, 41˚.58N × 78˚.79E, h12km, mb3.0*
*NNC **26** 15:48:02.6±1.8, 41˚.61N × 78˚.76E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=13.1km s-min=6.1km az=162.0*

ISC 26 15:48:02.9±1.9, 41˚.62N±0˚.07 × 78˚.73E±0˚.05, h6km±12km, n27, σ1°§17/45, 14C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy** baz=82	**0.70**	**279**	⇑*i* P	**Pg**	**15 48 15.9**	**-0.6**
TARG				⇑*i* S	**Sg**	**15 48 26.5**	**+0.9**
PRZ	**Przheval'sk** baz=43	**0.90**	**344**	⇑*i* P	**Pg**	**15 48 19.5**	**-0.6**
PRZ				⇑*i* S	**Sg**	**15 48 32.2**	**+0.4**
KDJ	**Kajisay** baz=95	**1.27**	**294**	⇑*i* P	**Pg**	**15 48 26.6**	**-0.6**
KDJ				⇑*i* S	**Sb**	**15 48 44.5**	**+0.5**
SATY	**Saty** 18nm,0.5s	**1.46**	**351**	*e*P	**Pg**	**15 48 29.9**	**-1.0**
SATY				*e*S	**Sn**	**15 48 50.3**	**+0.9**
UZB	**Uzynbulak** 10nm,0.5s	**1.54**	**8**	P	**Pn**	**15 48 30.7**	**-0.4**
UZB				S	**Sb**	**15 48 51.9**	**+0.1**
UZB	**Uzynbulak** 10nm,0.5s	**1.54**	**8**	*e*P	**Pn**	**15 48 30.7**	**-0.4**
UZB				*e*S	**Sb**	**15 48 51.9**	**+0.1**
SHLS	**Shalkode** 24nm,0.4s	**1.63**	**19**	P	**Pg**	**15 48 34.6**	**+0.5**
SHLS				S	**Sg**	**15 48 58.7**	**+3.6**
SHLS	**Shalkode** 24nm,0.4s	**1.63**	**19**	*e*P	**Pg**	**15 48 34.6**	**+0.5**
SHLS				*e*S	**Sg**	**15 48 58.8**	**+3.6**
PDGK	**Podgornoye** 4.0nm,0.5s	**1.80**	**18**	P	**Pb**	**15 48 35.2**	**-1.1**
PDGK				S	**Sg**	**15 48 59.9**	**-0.8**
PDGK	**Podgornoye** 9.8nm,0.7s	**1.80**	**18**	⇓Pn	**Pn**	**15 48 34.2**	**-0.5**
PDGK				⇑Sn	**Sg**	**15 48 59.8**	**-0.8**
PDGK	**Podgornoye** baz=16	**1.80**	**18**	⇑*i* P	**Pb**	**15 48 34.9**	**-1.4**
PDGK				⇑*i* S	**Sg**	**15 49 00.0**	**-0.6**
TNSS	**Tian-Shan** 17nm,0.3s	**1.94**	**317**	Pg	**Pb**	**15 48 38.6**	**-0.3**
TNSS				Lg	Lg	15 49 06.0	
TNSS	**Tian-Shan** 17nm,0.3s	**1.94**	**317**	*e*P	**Pb**	**15 48 38.6**	**-0.3**
TNSS				*e*S	**Sg**	**15 49 05.7**	**+0.5**
ULHL	**Ulahol** baz=90	**1.96**	**289**	⇓*i* P	**Pb**	**15 48 38.0**	**-1.2**
ULHL				⇓*i* S	**Sb**	**15 49 04.4**	**+0.4**
MDOK	**Medeo** 14nm,0.3s	**1.98**	**322**	Pg	**Pb**	**15 48 39.3**	**-0.2**
MDOK				Lg	Lg	15 49 07.0	
MDOK	**Medeo** 14nm,0.3s	**1.98**	**322**	*e*P	**Pb**	**15 48 39.3**	**-0.2**
MDOK				*e*S	**Sg**	**15 49 07.0**	**+0.4**
KOTS	**Kotyrbulak** 18nm,0.8s	**2.01**	**324**	Pg	**Pg**	**15 48 40.2**	**-1.2**
KOTS				Lg	Lg	15 49 08.1	
KOTS	**Kotyrbulak** 9.5nm,0.2s	**2.01**	**324**	*e*P	**Pg**	**15 48 40.2**	**-1.2**
KOTS				*e*S	**Sg**	**15 49 08.1**	**+0.6**
NRN	**Naryn** baz=67	**2.06**	**266**	⇑*i* P	**Pb**	**15 48 39.6**	**-1.3**
NRN				⇑*i* S	**Sb**	**15 49 07.5**	**+0.5**
KNDC	**Almaty** 13nm,0.6s	**2.06**	**321**	⇑Pg	**Pb**	**15 48 40.7**	**-0.2**
KNDC				⇓Lg	Lg	15 49 09.8	
KST	**Kastek** 8.8nm,0.4s	**2.50**	**306**	Pg	**Pb**	**15 48 48.9**	**+0.7**
KST				Lg	Lg	15 49 23.5	
KST	**Kastek** 8.8nm,0.4s	**2.50**	**306**	*e*P	**Pb**	**15 48 49.0**	**+0.7**
KST				*e*S	**Sg**	**15 49 23.5**	**+0.3**
TKM2	**Tokmak 2** 5.9nm,0.6s	**2.67**	**300**	⇓Pg	**Pb**	**15 48 49.9**	**-1.3**
TKM2				⇓Lg	Lg	15 49 26.3	
ARXS	**Arharly** 13nm,0.6s	**2.67**	**346**	Pg	**Pb**	**15 48 51.3**	**0.0**
ARXS				Lg	Lg	15 49 27.3	
ARXS	**Arharly** 4.7nm,0.4s	**2.67**	**346**	*e*P	**Pb**	**15 48 51.4**	**+0.2**
ARXS				*e*S	**Sg**	**15 49 27.3**	**-1.5**
DGS	**Degeres** 7.9nm,1.0s	**2.73**	**307**	Pg	**Pb**	**15 48 50.9**	**-1.3**
DGS				Lg	Lg	15 49 26.6	
AAK	**Ala-Archa** 4.4nm,0.9s	**3.31**	**289**	⇑Pg	**Pg**	**15 49 08.9**	**+2.6**
AAK				⇑Lg	Lg	15 49 47.8	

17nm,1.1s

*ISK **26** 15:51:22.3, 37˚.57N × 35˚.56E, h8km±4km, ML2.0/3*
*ISCJB **26** 15:51:23.8±1.2, 37˚.52N±0˚.08 × 35˚.57E±0˚.05, h12km, Error ellipse: s-maj=11.3km s-min=5.5km az=169.3*
*DDA **26** 15:51:23.5, 37˚.59N × 35˚.54E, h7km±2km, ML2.5*

ISC 26 15:51:23.9±1.4, 37˚.54N±0˚.06 × 35˚.58E±0˚.04, h12km, n6, σ0§85/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.20**	**105**	PG	**Pg**	**15 51 27.4**	**-0.9**
KOZT				SG	**Sg**	**15 51 31.1**	**-0.3**
KARA	**Karaisali**	**0.50**	**237**	PG	**Pg**	**15 51 32.7**	**-0.9**
CEYT	**Ceyhan**	**0.54**	**165**	PG	**Pg**	**15 51 33.9**	**-0.5**
CEYT				SG	**Sg**	**15 51 42.4**	**+0.8**
SAIM	**ADANA** comp=Z,610nm,0.1s	**0.59**	**42**	IAML_P			
SAIM				*i* P	**Pg**	**15 51 35.1**	**-0.4**
ANDN	**Andirin** comp=Z,670nm,0.1s	**0.61**	**86**	IAML_P			
ANDN				*i* P	**Pg**	**15 51 35.3**	**-0.5**
ANDN				*i* S	**Sb**	**15 51 46.2**	**+1.1**
GULE	**Gulek** comp=Z,687nm,0.3s	**0.69**	**249**	IAML_P			
GULE				*i* P	**Pg**	**15 51 36.7**	**-0.5**
GULE				*i* S	**Sg**	**15 51 47.0**	**+0.7**

*IDC **26** 16:12:27.3±7.4, 50˚.03N × 179˚.86W, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.2/38, mbtmp3.1/3, Error ellipse: s-maj=195.0km s-min=37.7km az=166.0*
*NEIC **26** 16:12:44.5±0.0, 51˚.38N × 179˚.51E, h52km, ML3.4(AEIC), After AEIC.*

ISC 26 16:12:46.2±1.0, 51˚.55N±0˚.09 × 179˚.70E±0˚.05, h25km±16km, n31, σ1°§61/36, mb3.3/3, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.30**	**235**	P	**Pb**	**16 12 53.0**	**-0.3**
AMKA				S	**Sb**	**16 12 59.3**	**+1.2**
CESW	**Semis' Southwe**	**0.36**	**346**	P	**Pn**	**16 12 56.5**	**+0.6**
CERB	**Semis' Cerberu**	**0.38**	**353**	P	**Pn**	**16 12 56.9**	**+0.8**
CERB				S	**Sn**	**16 13 06.4**	**+3.7**
CEAP	**Semis' Anvil P**	**0.46**	**350**	P	**Pn**	**16 12 57.8**	**+0.7**
CEAP				S	**Sn**	**16 13 07.9**	**+3.3**
LSPA	**Little Sitkin**	**0.81**	**301**	P	**Pb**	**16 13 00.4**	**-1.3**
LSPA				S	**Sb**	**16 13 12.5**	**+0.3**
LSSA	**Little Sitkin**	**0.84**	**299**	P	**Pb**	**16 13 00.6**	**-1.5**
LSNW	**Little Sitkin**	**0.85**	**300**	P	**Pb**	**16 13 00.4**	**-1.9**
GALAA	**Gareloi Lava P**	**0.97**	**77**	P	**Pn**	**16 13 05.2**	**+1.0**
GALAA				S	**Sn**	**16 13 20.6**	**+3.3**
GAEA	**Gareloi East**	**0.99**	**76**	P	**Pn**	**16 13 05.4**	**+0.8**
TASE	**Tanaga Southea**	**1.44**	**78**	P	**Pb**	**16 13 11.0**	**-1.3**
TAFP	**Tanaga Falls P**	**1.48**	**75**	P	**Pn**	**16 13 11.5**	**+0.2**
TAFP				S	**Sb**	**16 13 32.0**	**+0.6**
TAPA	**Tanaga Point A**	**1.57**	**79**	P	**Pn**	**16 13 12.7**	**+0.2**
KIMD	**Kanaga Island**	**1.92**	**83**	P	**Pn**	**16 13 17.8**	**+0.5**
KIKV	**Kanaga Island**	**1.97**	**79**	P	**Pn**	**16 13 18.7**	**+0.7**
KIRH	**Kanaga Island**	**2.02**	**79**	P	**Pn**	**16 13 19.7**	**+1.0**
ADK	**Adak**	**2.27**	**80**	P	**Pn**	**16 13 22.6**	**+0.5**
ADK				S	**Sn**	**16 13 50.7**	**+1.4**
ADAG	**Mount Adagdak**	**2.34**	**78**	P	**Pn**	**16 13 23.3**	**+0.3**
ETKA	**Kagalaska Isla**	**2.44**	**81**	P	**Pn**	**16 13 24.7**	**+0.3**
GSSP	**Great Sitkin S**	**2.62**	**76**	P	**Pn**	**16 13 27.1**	**+0.3**
GSTD	**Great Sitkin T**	**2.63**	**77**	P	**Pn**	**16 13 27.2**	**+0.2**
GSMY	**Great Sitkin M**	**2.68**	**78**	P	**Pn**	**16 13 28.0**	**+0.3**
GSTR	**Great Sitkin T**	**2.69**	**77**	P	**Pn**	**16 13 28.1**	**+0.3**
GSIG	**Igitkin Island**	**2.75**	**79**	P	**Pn**	**16 13 28.9**	**+0.2**
KOWE	**Korovin West**	**3.83**	**75**	P	**Pn**	**16 13 44.0**	**+0.5**
ATKA	**Atka Island**	**3.84**	**78**	P	**Pn**	**16 13 43.9**	**+0.3**
KOKI	**Mount Kliuchef**	**3.85**	**76**	P	**Pn**	**16 13 44.2**	**+0.4**
KOFP	**Korovin Flat P**	**3.91**	**77**	P	**Pn**	**16 13 44.8**	**+0.1**
NIKH	**Nikolski High**	**7.17**	**74**	P	**Pn**	**16 14 31.4**	**+2.1**
ILAR	**Eielson Array** 0.2nm,0.5s,baz=243,slow=9.0,SNR=4.1	**21.70**	**40**	P	**P**	**16 17 30.0**	**-4.9**
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=281,slow=8.3,SNR=5.3	**35.79**	**46**	P	P	16 19 35.2	-7.6
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=49,slow=6.5,SNR=4.1	**59.19**	**308**	P	P	16 22 37.7	-7.1

*IDC **26** 16:14:02.6±1.4, 32˚.48S × 56˚.59E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/38, mbtmp3.7/7, ML3.2/1, Error ellipse: s-maj=55.5km s-min=22.9km az=31.0*

ISC 26 16:14:05.6±1.5, 32˚.1S±0˚.3 × 56˚.6E±0˚.3, h10km, n18, σ1°§57/9, mb3.8/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo** 0.1nm,0.3s,baz=93,slow=18,SNR=1.7	**15.93**	**326**	Pn	**Pn**	**16 17 51.3**	**+1.3**
OPO				Sn	**Sn**	**16 20 44.3**	**-2.4**
H08S1	**Diego Garcia H** baz=201,slow=76	**28.52**	**35**	T	T	16 49 19.8	
H08S2	**Diego Garcia H** baz=201	**28.53**	**35**	T	T	16 49 19.5	
H08S3	**Diego Garcia H** baz=201,slow=76	**28.54**	**35**	T	T	16 49 21.2	
H08N3	**Diego Garcia H** baz=204,slow=75,SNR=8.5	**28.98**	**31**	T	T	16 49 56.8	
H08N1	**Diego Garcia H** baz=204,slow=75,SNR=6.2	**29.00**	**31**	T	T	16 49 57.7	
H08N2	**Diego Garcia H** baz=204,slow=75,SNR=6.5	**29.00**	**31**	T	T	16 49 58.2	
H01W2	**Cape Leeuwin H** baz=257,slow=75,SNR=3.6	**47.52**	**110**	T	T	17 12 54.0	
H01W3	**Cape Leeuwin H** baz=257,slow=75,SNR=3.1	**47.52**	**110**	T	T	17 12 54.3	
H01W1	**Cape Leeuwin H** baz=257,slow=75,SNR=3.4	**47.54**	**110**	T	T	17 12 55.2	
CMAR	**Chiang Mai Arr** 1.1nm,0.9s,baz=231,slow=7.0,SNR=7.8	**64.65**	**45**	P	**P**	**16 24 43.0**	**-0.7**
ASAR	**Alice Springs** 0.9nm,0.7s,baz=240,slow=5.9,SNR=14	**67.57**	**105**	P	**P**	**16 25 01.1**	**-1.5**
TORD	**Torodi Ar. Bea** 0.2nm,0.4s,baz=123,slow=5.3,SNR=2.7	**69.14**	**302**	P	**P**	**16 25 11.6**	**-0.8**
WRA	**Warramunga Arr** 0.7nm,0.6s,baz=242,slow=5.4,SNR=11	**69.61**	**101**	P	P	16 25 12.6	-2.8
BRTR	**Keskin Array B** 0.2nm,0.4s,baz=10,slow=34,SNR=3.4	**74.59**	**342**	P	**P**	**16 25 45.6**	**+0.8**
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=213,slow=5.5,SNR=4.5	**81.92**	**18**	P	**P**	**16 26 26.6**	**+1.5**
ILAR	**Eielson Array** 0.7nm,1.0s,baz=319,slow=4.8,SNR=3.3	**144.28**	**17**	PKP	**PKPab**	**16 33 39.3**	**+0.4**
YKA	**Yellowknife Ar** 1.6nm,0.8s,baz=0.4,slow=2.5,SNR=6.0	**149.10**	**352**	PKPbc	**PKPbc**	**16 33 54.1**	**+0.9**

*ISCJB **26** 16:24:28.5±2.0, 20˚.6S±0˚.6 × 178˚.9W±0˚.4, h600km, mb3.4/6, Error ellipse: s-maj=83.7km s-min=21.3km az=151.9*
*IDC **26** 16:24:35.8±7.3, 20˚.98S × 178˚.91W, h692km±90km, mb2.8/6, mb1 3.1/6, mb1mx2.9/27, mbtmp3.8/6, Error ellipse: s-maj=71.5km s-min=34.9km az=145.0*

ISC 26 16:24:29.6±2.1, 20˚.6S±0˚.5 × 178˚.9W±0˚.3, h600km, n8, σ0§96/7, mb3.4/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 0.7nm,0.5s,baz=91,slow=7.9,SNR=17	**43.70**	**257**	P	**P**	**16 31 43.2**	**-0.1**
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=97,slow=7.6,SNR=20	**43.79**	**262**	P	**P**	**16 31 43.5**	**-0.4**
PETK	**Petropavlovsk-** 6.4nm,1.1s,baz=160,slow=4.6,SNR=3.7	**76.20**	**346**	P	**P**	**16 35 18.0**	**+0.8**
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=232,slow=10,SNR=2.7	**81.68**	**44**	P	**P**	**16 35 46.8**	**+0.1**
ILAR	**Eielson Array** 0.3nm,0.4s,baz=209,slow=4.8,SNR=4.2	**88.63**	**13**	P	**P**	**16 36 17.9**	**-1.4**
PDAR	**Pinedale Array** 0.2nm,0.5s,baz=225,slow=5.0,SNR=2.4	**89.61**	**44**	P	**P**	**16 36 25.0**	**+0.3**
AKASG	**Malin Array Be** 0.7nm,0.5s,baz=43,slow=4.2,SNR=13	**142.74**	**330**	PKP	PKPpre	16 42 51.5	
BRTR	**Keskin Array B** 0.9nm,0.9s,baz=90,slow=1.4,SNR=3.2	**146.34**	**312**	PKPbc	**PKPdf**	**16 43 03.0**	**+0.9**

*IDC **26** 16:25:04.6±0.7, 64˚.40N × 130˚.87W, h0km, mb3.4/4, mb1 3.8/8, mb1mx3.5/37, mbtmp3.6/8, ML4.1/5, MS3.3/7, Ms1 3.3/7, ms1mx2.9/38, Error ellipse: s-maj=11.6km s-min=8.7km az=49.0*
*NEIC **26** 16:25:05.5±0.0, 64˚.37N × 130˚.81W, h10km, mb4.0/3, MW4.0(OTT), After OTT.*
*PGC **26** 16:25:06.4±1.7, 64˚.25N × 131˚.03W, h1km, mb3.8, ML4.3/10, Mw4.0, 236km Wsw of Norman Wells, Nt Southern Yukon Territory, Canada*

ISC 26 16:25:04.6±0.5, 64˚.38N±0˚.03 × 130˚.62W±0˚.03, h10km, n85, σ2§37/128, mb3.7/4, MS3.4/4, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAWY	**Dawson**	**3.85**	**269**	*e*Pn	**Pn**	**16 26 03.2**	**-0.6**
DAWY				Sg	**Sb**	**16 27 01.7**	**+2.7**
DAWY	**Dawson**	**3.85**	**269**	Pn	**Pn**	**16 26 03.2**	**-0.6**
DAWY				Sg	**Sb**	**16 27 01.7**	**+2.7**
INK	**Inuvik** 5.6nm,0.3s,baz=156,slow=15,SNR=66	**4.12**	**345**	Pn	**Pn**	**16 26 08.6**	**+1.2**
INK				Sn	**Sn**	**16 26 55.5**	**0.0**
	8.5nm,0.3s,baz=268,slow=2.7,SNR=3.7						
INK				Lg	Lg	16 27 10.5	
	4.7nm,0.3s,baz=244,slow=6.9,SNR=3.9						
INK				LR	LR	16 27 18.2	
	comp=Z,102nm,22.0s,baz=162,slow=33						
INK	**Inuvik**	**4.12**	**345**	Pn	**Pn**	**16 26 09.2**	**+1.8**
INK				Sn	**Sn**	**16 26 55.5**	**0.0**
INK	**Inuvik**	**4.12**	**345**	Pn	**Pn**	**16 26 09.2**	**+1.8**
WHY	**Whitehorse**	**4.22**	**210**	Pn	**Pn**	**16 26 09.1**	**0.0**
WHY				Sg	**Sb**	**16 27 09.5**	**-0.4**
WHY	**Whitehorse**	**4.22**	**210**	Pn	**Pn**	**16 26 09.1**	**0.0**
WHY				Pg	**Pb**	**16 26 19.6**	**+0.7**
WHY				Sg	**Sb**	**16 27 09.5**	**-0.4**
EGAK	**Eagle**	**4.56**	**280**	*e*Pn	**Pn**	**16 26 13.2**	**-0.3**
YUK5	**Granite Creek**	**4.66**	**229**	Pn	**Pn**	**16 26 13.5**	**-1.6**
YUK5				Sg	**Sb**	**16 27 20.1**	**-2.4**
YUK5	**Granite Creek**	**4.66**	**229**	Pn	**Pn**	**16 26 13.5**	**-1.6**
YUK5				Pg	**Pb**	**16 26 26.6**	**+0.3**
YUK5				Sg	**Sb**	**16 27 20.1**	**-2.4**
YUK4	**Talbot Arm**	**4.77**	**234**	Pn	**Pn**	**16 26 13.9**	**-2.7**
YUK4				Sg	**Sb**	**16 27 21.3**	**-4.5**
HYT	**Haines Junctio**	**4.78**	**225**	*e*Pn	**Pn**	**16 26 16.3**	**-0.4**
HYT				Sg	**Sb**	**16 27 26.1**	**+0.2**
HYT	**Haines Junctio**	**4.78**	**225**	Pn	**Pn**	**16 26 15.8**	**-0.8**
HYT				Pg	**Pb**	**16 26 30.4**	**+2.0**
HYT				Sg	**Sb**	**16 27 26.1**	**+0.2**
YUK6	**Outpost Mounta**	**4.96**	**230**	Pn	**Pn**	**16 26 18.1**	**-1.2**
YUK6				Pg	**Pb**	**16 26 32.8**	**+1.2**
YUK6				Sg	**Sb**	**16 27 31.7**	**+0.4**
BVCY	**Beaver Creek**	**5.01**	**251**	Pn	**Pn**	**16 26 18.5**	**-1.2**
BVCY				Sg	**Sb**	**16 27 33.2**	**+0.8**
BVCY	**Beaver Creek**	**5.01**	**251**	Pn	**Pn**	**16 26 18.5**	**-1.2**
BVCY				Sn	**Sn**	**16 27 14.1**	**-3.6**
BVCY				Sg	**Sb**	**16 27 33.2**	**+0.8**
YUK3	**Moose Creek**	**5.18**	**244**	Pn	**Pn**	**16 26 20.8**	**-1.5**
YUK3				Sg	**Sb**	**16 27 37.4**	**-0.1**
YUK7	**Dusty Glacier**	**5.20**	**226**	Pn	**Pn**	**16 26 21.5**	**-1.1**
YUK7				Pg	**Pb**	**16 26 38.2**	**+2.5**
YUK7				Sg	**Sb**	**16 27 39.4**	**+1.2**
YUK2	**White River**	**5.32**	**245**	Pn	**Pn**	**16 26 22.5**	**-1.6**
YUK2				Sg	**Sb**	**16 27 43.1**	**+1.5**
SKAG	**Skagway**	**5.41**	**206**	*e*Pn	**Pn**	**16 26 26.4**	**+1.1**
PLBC	**Pleasant Camp**	**5.63**	**211**	Pn	**Pn**	**16 26 28.5**	**+0.2**
PLBC				Sg	**Sb**	**16 27 51.6**	**+1.2**
PLBC	**Pleasant Camp**	**5.63**	**211**	Pn	**Pn**	**16 26 28.5**	**+0.2**
PLBC				Sg	**Sb**	**16 27 51.6**	**+1.2**
SCRK	**Sand Creek**	**5.86**	**272**	*e*Pn	**Pn**	**16 26 31.2**	**-0.3**
DOT	**Dot Lake**	**5.96**	**269**	*e*Pn	**Pn**	**16 26 32.1**	**-0.6**
DOT	**Dot Lake**	**5.96**	**269**	Pn	**Pn**	**16 26 31.8**	**-0.9**
DOT				Sg	**Sb**	**16 28 04.9**	**+5.2**
DLBC	**Dease Lake** 17nm,0.3s,baz=3.1,slow=18,SNR=225	**5.97**	**177**	Pn	**Pn**	**16 26 33.9**	**+0.9**
DLBC				Sn	**Sn**	**16 27 39.3**	**-2.0**
	5.3nm,0.3s,baz=16,slow=23,SNR=5.6						
DLBC				Lg	Lg	16 28 08.4	
	12nm,0.3s,baz=80,slow=26,SNR=8.6						
DLBC				LR	LR	16 29 07.1	
	comp=Z,256nm,21.3s,baz=0.5,slow=40						
DLBC	**Dease Lake**	**5.97**	**177**	Pn	**Pn**	**16 26 33.5**	**+0.5**
DLBC				Sn	**Sn**	**16 27 40.8**	**-0.6**
DLBC				Sg	**Sb**	**16 28 07.1**	**+7.0**
BESE	**Bessie Mountai**	**6.16**	**201**	*e*Pn	**Pn**	**16 26 34.9**	**-0.7**
BESE				Sg	**Sb**	**16 28 08.6**	**+3.0**
BESE	**Bessie Mountai**	**6.16**	**201**	Pn	**Pn**	**16 26 35.1**	**-0.5**
BESE				Sg	**Sb**	**16 28 08.6**	**+3.0**
PCA	**Pinnacle**	**6.22**	**231**	Pn	**Pn**	**16 26 37.5**	**+1.1**
PCA				Sn	**Sn**	**16 27 48.8**	**+1.3**
PCA				Sg	**Sb**	**16 28 12.1**	**+4.8**
PNL	**Peninsula**	**6.27**	**225**	Pn	**Pn**	**16 26 37.2**	**+0.1**
PNL				Sg	**Sb**	**16 28 14.5**	**+5.7**
PNL	**Peninsula**	**6.27**	**225**	Pn	**Pn**	**16 26 37.2**	**+0.1**
PNL				Sg	**Sb**	**16 28 14.5**	**+5.7**
RIDG	**Independ'e Rid**	**6.28**	**271**	*e*Pn	**Pn**	**16 26 36.1**	**-1.0**
JIS	**Juneau Island**	**6.38**	**198**	*e*Pn	**Pn**	**16 26 39.1**	**+0.6**
DHAK	**Deception Hill**	**6.41**	**218**	*e*Pn	**Pn**	**16 26 39.3**	**+0.3**
PRP	**Porcupine Dome**	**6.43**	**287**	*e*Pn	**Pn**	**16 26 38.5**	**-0.8**
FYU	**Fort Yukon**	**6.47**	**296**	*e*Pn	**Pn**	**16 26 39.3**	**-0.3**
FNBB	**Fort Nelson**	**6.59**	**143**	Pn	**Pn**	**16 26 43.4**	**+2.0**
FNBB				Sg	**Sg**	**16 28 32.4**	**-3.5**
FNBB	**Fort Nelson**	**6.59**	**143**	Pn	**Pn**	**16 26 43.4**	**+2.0**
FNBB				Sg	**Sg**	**16 28 32.4**	**-3.5**
PAX	**Paxson**	**6.75**	**265**	Sn	**Sn**	**16 27 56.4**	**-4.3**
PAX				Sg	**Sb**	**16 28 24.8**	**+2.1**
HARP	**HAARP**	**6.82**	**260**	Pn	**Pn**	**16 26 43.4**	**-1.2**
HARP				Sg	**Sb**	**16 28 30.2**	**+5.7**
IL1	**Eielson Array**	**7.01**	**281**	*e*Pn	**Pn**	**16 26 46.6**	**-0.6**
ILAR	**Eielson Array** 0.6nm,0.3s,baz=82,slow=12,SNR=32	**7.01**	**281**	Pn	**Pn**	**16 26 46.2**	**-1.0**
ILAR				Sn	**Sn**	**16 27 59.0**	**-7.9**
	0.6nm,0.3s,baz=90,slow=25,SNR=4.3						
ILAR				Lg	Lg	16 28 40.0	
	1.2nm,0.3s,baz=78,slow=31,SNR=5.4						
ILB	**Eielson Array**	**7.01**	**281**	*e*Pn	**Pn**	**16 26 47.1**	**-0.1**
HDA	**Harding Lake**	**7.08**	**278**	*e*Pn	**Pn**	**16 26 48.1**	**0.0**
KUKN	**Kugluktuk,NWT**	**7.18**	**54**	Pn	**Pn**	**16 26 52.0**	**+2.9**
KUKN				Sn	**Sn**	**16 28 12.4**	**+1.3**
BMRM	**Bremner River**	**7.28**	**248**	*e*Pn	**Pn**	**16 26 51.5**	**+0.5**
YKW3	**Yellowknife Ar**	**7.39**	**97**	*e*Pn	**Pn**	**16 26 55.0**	**+2.6**
YKW3	**Yellowknife Ar**	**7.39**	**97**	Pn	**Pn**	**16 26 54.5**	**+2.1**
YKW3				Sn	**Sn**	**16 28 16.3**	**+0.1**
YKA	**Yellowknife Ar** 0.9nm,0.3s,baz=287,slow=13,SNR=32	**7.42**	**97**	Pn	**Pn**	**16 26 54.8**	**+2.0**
YKA				Sn	**Sn**	**16 28 16.1**	**-0.9**
	1.8nm,0.3s,baz=286,slow=23,SNR=4.6						
YKA				Lg	Lg	16 28 59.1	
	1.0nm,0.3s,baz=157,slow=30,SNR=6.9						
YKB5	**Yellowknife Ar**	**7.42**	**97**	*e*Pn	**Pn**	**16 26 54.6**	**+1.8**
YKW1	**Yellowknife Ar**	**7.46**	**97**	Pn	**Pn**	**16 26 54.7**	**+1.4**
YKW1				Sn	**Sn**	**16 28 18.1**	**+0.2**
HMT	**Hamilton**	**7.52**	**244**	*e*Pn	**Pn**	**16 26 54.8**	**+0.5**
DHY	**Denali Highway**	**7.55**	**268**	*e*Pn	**Pn**	**16 26 53.9**	**-0.8**
KLU	**Klutina**	**7.55**	**254**	*e*Pn	**Pn**	**16 26 56.5**	**+1.9**
WRH	**Wood River Hil**	**7.56**	**279**	*e*Pn	**Pn**	**16 26 54.1**	**-0.6**
MDM	**Murphy Dome**	**7.58**	**282**	*e*Pn	**Pn**	**16 26 53.3**	**-1.7**
DIV	**Divide**	**7.67**	**252**	*e*Pn	**Pn**	**16 26 57.8**	**+1.4**
SIT	**Sitka**	**7.70**	**200**	*e*Pn	**Pn**	**16 26 57.2**	**+0.6**
MCK	**McKinley**	**8.05**	**274**	*e*Pn	**Pn**	**16 27 01.9**	**+0.4**
RND	**Reindeer**	**8.10**	**271**	*e*Pn	**Pn**	**16 27 02.7**	**+0.5**
SML	**Sawmill**	**8.43**	**260**	*e*Pn	**Pn**	**16 27 07.9**	**+1.3**
COLD	**Coldfoot**	**8.52**	**298**	*e*Pn	**Pn**	**16 27 09.0**	**+1.1**
COLD	**Coldfoot**	**8.52**	**298**	Pn	**Pn**	**16 27 08.8**	**+1.0**
COLD				Sn	**Sn**	**16 28 40.8**	**-3.1**
MLY	**Manley**	**8.63**	**283**	*e*Pn	**Pn**	**16 27 08.3**	**-1.2**
TRF	**Thorofare Moun**	**8.71**	**273**	*e*Pn	**Pn**	**16 27 10.8**	**+0.2**
HILA	**High Level**	**8.73**	**126**	Sn	**Sn**	**16 28 47.0**	**-2.1**
BPAW	**Bear Paw Mtn.**	**8.87**	**277**	*e*Pn	**Pn**	**16 27 12.4**	**-0.2**
BMBC	**Bull Mountain**	**9.36**	**149**	Sg	Sn	16 29 55.9	+51
FSMA	**Fort Smith**	**9.81**	**108**	Pn	**Pn**	**16 27 28.3**	**+2.8**
FSMA				Sn	**Sn**	**16 29 11.2**	**-4.3**
FSB	**Fort

comp=Z,10μm,0.1s
ISRB Sarab 0.87 132 *e*Pg **Pg 16 38 21.1 -0.1**
ISRB *e*Sg **Sb 16 38 33.9 +1.5**
ISRB IAMB IAmb 16 38 35.5
comp=Z,11μm,0.2s
GRMI Germi 0.91 64 *e*Pg **Pg 16 38 21.8 -0.2**
GRMI Germi 0.91 64 *e*AML AML 16 38 36.4
comp=N,305nm,0.1s
GRMI *e*AML AML 16 38 37.6
comp=E,284nm,0.1s
GRMI Germi 0.91 64 Pn **Pg 16 38 21.8 -0.2**
GRMI Sg **Sb 16 38 34.4 +0.8**
IMRD Marand 0.95 289 *e*Pg **Pg 16 38 22.1 -0.7**
IMRD IAMB IAmb 16 38 37.5
comp=Z,24μm,0.2s
IAZR Azarshahr 1.00 224 *e*Pg **Pb 16 38 23.9 +0.5**
IAZR IAMB IAmb 16 38 28.1
comp=Z,13μm,0.2s
STKZ 1.40 357 ⇓*i*P **Pn 16 38 29.2 +0.1**
STKZ ⇑*i*S **Sb 16 38 48.4 +0.6**
MAKU Maku 1.94 300 *e*Pn **Pb 16 38 39.2 -0.1**
MAKU Maku 1.94 300 *e*AML AML 16 39 07.6
comp=N,57nm,0.2s
MAKU Maku 1.94 300 Pn **Pb 16 38 39.2 -0.1**
ZNJK Zanjan 2.27 139 *e*Pn **Pb 16 38 44.1 -0.8**
ZNJK Zanjan 2.27 139 Pn **Pb 16 38 44.0 -0.8**
ZNJK Sg **Sg 16 39 16.9 -0.3**
GNI Garni 2.39 317 ⇓*i*P **Pg 16 38 49.0 -1.1**
GNI ⇑*i*S **Sg 16 39 21.5 +0.4**

*SJA **26** 16:43:32.9±1.2, 33°.67S×72°.87W, h35km, ML3.7, MW4.4*
*ISCJB **26** 16:43:36.1±1.3, 34°.00S±0°.04×72°.32W±0°.08, h29km±15km, Error ellipse: s-maj=11.4km s-min=5.9km az=8.2*
*GUC **26** 16:43:36.3±0.5, 34°.00S×72°.26W, h36km±3km, ML3.8*
ISC 26 16:43:34.3±2.3, 33°.98S±0°.04×72°.37W±0°.08, h16km±15km, n31, σ1°.98/41, 4C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**1.08**	**161**	⇓*i*P	**Pb**	**16 43 54.5**	**-0.3**
GO05				*i* S	**Sb**	**16 44 08.3**	**-0.4**
GO05				IAML		16 44 10.2	
comp=E,7μm,0.5s							
ROC1	**El Roble**	**1.51**	**49**	*e*P	**Pn**	**16 44 01.1**	**+0.1**
ROC1				*e*S	**Sg**	**16 44 24.6**	**+1.5**
ROCH	**El Roble**	**1.52**	**49**	⇓*i*P	**Pn**	**16 44 01.1**	**0.0**
ROCH				*i* S	**Sn**	**16 44 20.1**	**-0.5**
ROCH				IAML		16 44 28.9	
comp=N,2μm,0.7s							
CLCH	**Cerro Calan**	**1.64**	**69**	⇑*i*P	**Pn**	**16 44 02.4**	**-0.1**
CLCH				*i* S	**Sn**	**16 44 22.1**	**-1.2**
CLCH				IAML		16 44 34.5	
comp=E,2μm,0.6s							
PEL	**Peldehue**	**1.64**	**60**	*e*P	**Pn**	**16 44 02.4**	**-0.1**
PEL				*e*S	**Sn**	**16 44 26.1**	**+2.9**
PEL	**Peldehue**	**1.64**	**60**	⇑*i*P	**Pn**	**16 44 02.7**	**+0.2**
PEL				*i* S	**Sn**	**16 44 22.5**	**-0.8**
PEL				IAML		16 44 30.1	
comp=E,2μm,0.5s							
LMEL	**Las Melosas**	**1.80**	**86**	⇑*i*P	**Pn**	**16 44 04.9**	**0.0**
LMEL				*i* S	**Sn**	**16 44 26.2**	**-1.4**
LMEL				IAML		16 44 32.0	
comp=N,2μm,0.2s							
FCH	**Farellones**	**1.85**	**70**	⇑*i*P	**Pn**	**16 44 05.5**	**-0.3**
FCH				*i* S	**Sn**	**16 44 28.7**	**-0.3**
FCH				IAML		16 44 34.4	
comp=E,2μm,0.2s							
CCHI	**Chillan**	**2.62**	**175**	*e*P	**Pb**	**16 44 18.6**	**-2.4**
CCHI				*i* S	**Sn**	**16 44 48.2**	**+0.7**
CMCH	**Combarbala**	**3.03**	**23**	*e*P	**Pn**	**16 44 21.7**	**0.0**
AUSP	**Uspallata**	**3.06**	**56**	*e*P	**Pn**	**16 44 24.7**	**+2.4**
AAGR	**Agrelo**	**3.09**	**74**	*e*P	**Pb**	**16 44 26.9**	**-2.1**
ARCO	**CERRO ARCO**	**3.09**	**69**	*e*P	**Pb**	**16 44 27.1**	**-1.9**
AVIZ	**Vizcacheras**	**3.25**	**82**	*e*P	**Pb**	**16 44 30.3**	**-1.4**
ASAL	**Salagasta**	**3.27**	**66**	*e*P	**Pb**	**16 44 30.4**	**-1.6**
RTLS	**Leoncito**	**3.38**	**51**	*e*P	**Pn**	**16 44 29.9**	**+3.2**
RTLS				IAML		16 45 22.7	
comp=Z,189nm,0.6s							
RTCV	**Cerro Valdivia**	**3.85**	**58**	*e*P	**Pb**	**16 44 39.3**	**-2.7**
ZON	**Zonda**	**3.94**	**53**	*e*P	**Pn**	**16 44 38.2**	**+3.9**
ZON				IAML		16 45 48.8	
comp=Z,51nm,0.5s							
GO04	**Tololo Observa**	**4.03**	**20**	*e*P	**Pn**	**16 44 36.4**	**+0.8**
GO04	**Tololo Observa**	**4.03**	**20**	⇓*i*P	**Pn**	**16 44 36.3**	**+0.8**
GO04				*i* S	**Sn**	**16 45 22.5**	**-0.1**
CFA	**Coronel Fontan**	**4.21**	**57**	*e*P	**Pn**	**16 44 40.3**	**+2.4**
RTLL	**Cerro Villicun**	**4.22**	**52**	*e*P	**Pn**	**16 44 40.5**	**+2.4**
ACCO	**Cerro Coronel**	**4.39**	**40**	*e*P	**Pn**	**16 44 43.1**	**+2.4**
AMOG	**MOGNA**	**4.47**	**48**	*e*P	**Pn**	**16 44 43.5**	**+2.0**
AROD	**Rodeo**	**4.53**	**34**	*e*P	**Pn**	**16 44 45.4**	**+2.8**
ACAN	**Cantantal**	**4.67**	**70**	*e*P	**Pn**	**16 44 48.9**	**+4.7**
ACDV	**Cuesta del Vie**	**4.70**	**37**	*e*P	**Pn**	**16 44 47.6**	**+2.9**
AGUA	**GUANDACOL**	**5.57**	**37**	*e*P	**Pn**	**16 44 59.2**	**+2.5**
MRA	**San Martin**	**5.79**	**76**	*e*P	**Pn**	**16 45 02.1**	**+2.4**
APLL	**PUNTA DE LOS L**	**6.11**	**56**	*e*P	**Pn**	**16 45 04.2**	**+0.2**
APLL				IAML		16 46 28.8	
comp=Z,23nm,0.6s							
ACLC	**CERRO LA CRUZ**	**6.47**	**47**	*e*P	**Pn**	**16 45 09.5**	**+0.3**

*IDC **26** 16:46:50.7±1.4, 2°.21N×84°.64W, h0km, mb3.5/6, mb1 4.0/9, mb1mx3.7/47, mbtmp3.7/9, ML2.9/2, MS3.2/5, Ms1 3.2/5, ms1mx3.0/19, Error ellipse: s-maj=56.8km s-min=21.9km az=55.0*
*ISCJB **26** 16:46:55.1±0.9, 2°.47N±0°.09×84°.5W±0°.1, h33km, mb3.5/6, MS3.0/2, Error ellipse: s-maj=19.0km s-min=11.1km az=155.8*
ISC 26 16:46:56.5±1.2, 2°.3N±0°.1×84°.5W±0°.2, h35km, n11, σ1°.09/11, mb3.5/6, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**7.91**	**357**	Pn	**Pn**	**16 48 50.7**	**+1.7**
8.3nm,0.3s,baz=150,slow=24,SNR=21							
JTS				Sn	**Sn**	**16 50 15.8**	**-1.6**
1.2nm,0.3s,baz=30,slow=20,SNR=4.3							
APG	**El Apazote**	**13.88**	**335**	Pn	**Pn**	**16 50 10.4**	**-0.6**
0.3nm,0.3s,baz=144,slow=13,SNR=2.3							
APG				LR	LR	16 54 33.3	
comp=Z,152nm,21.4s,baz=272,slow=33							
SDV	**Santo Domingo**	**15.26**	**64**	Pn	**Pn**	**16 50 29.4**	**-0.2**
0.1nm,0.3s,baz=162,slow=20,SNR=1.5							
SDV				LR	LR	16 55 54.5	
comp=Z,85nm,19.3s,baz=230,slow=35							
CMIG	**Matias Romero**	**17.85**	**326**	P	**P**	**16 51 04.3**	**+1.7**
0.1nm,0.3s,baz=69,slow=18,SNR=3.0							
CMIG				LR	LR	16 55 10.0	
comp=Z,57nm,21.0s,baz=182,slow=28							
SJG	**San Juan**	**23.87**	**48**	LR	LR	17 01 03.0	
comp=Z,39nm,20.9s,baz=190,slow=35							
LPAZ	**La Paz**	**24.59**	**139**	P	**P**	**16 52 13.9**	**-0.4**
3.4nm,0.8s,baz=328,slow=12,SNR=12							
TXAR	**Lajitas Array**	**32.44**	**328**	P	**P**	**16 53 23.8**	**+0.3**
0.2nm,0.5s,baz=131,slow=7.7,SNR=2.8							
PDAR	**Pinedale Array**	**46.04**	**334**	P	**P**	**16 55 17.3**	**+0.2**
0.2nm,0.4s,baz=138,slow=5.7,SNR=2.4							
PDAR				LR	LR	17 14 54.3	
comp=Z,32nm,21.0s,baz=132,slow=36							
NVAR	**Mina Array Bea**	**47.36**	**324**	P	**P**	**16 55 27.2**	**-0.3**
0.3nm,0.5s,baz=139,slow=7.0,SNR=3.6							
YKA	**Yellowknife Ar**	**64.06**	**345**	P	**P**	**16 57 25.8**	**-0.7**
0.4nm,0.8s,baz=140,slow=6.6,SNR=8.0							
ILAR	**Eielson Array**	**76.39**	**337**	P	**P**	**16 58 41.8**	**-0.2**
0.3nm,0.8s,baz=108,slow=8.6,SNR=3.2							

*SOME **26** 16:51:12.8, 50°.35N×86°.88E, h30km*
*NNC **26** 16:51:15.9±4.8, 49°.93N×87°.66E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=40.1km s-min=24.9km az=57.0*
ISC 26 16:51:02.3±4.2, 50°.4N±0°.1×87°.8E±0°.2, h13km, n6, σ1°.90/11, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**3.50**	**214**	*e*P	**Pg**	**16 52 08.8**	**-0.6**
0.4nm,0.2s							
ZSN				*e*S	**Sb**	**16 52 48.9**	**+2.3**
18nm,0.7s							
SEM	**Semipalatinsk**	**4.81**	**273**	*e*P	**Pg**	**16 52 36.0**	**+1.5**
1.9nm,0.1s							
SEM				*e*S	**Sg**	**16 53 35.1**	**-1.7**
29nm,0.1s							

MAKZ Makanchi 5.25 229 ⇓Pn **Pb 16 52 31.6 -2.3**
0.7nm,0.4s
MAKZ ⇑Pg **Pg 16 52 42.9 +0.1**
1.1nm,0.6s
MAKZ ⇑Lg Lg 16 53 48.3
6.6nm,0.9s
KURK Kurchatov 5.85 277 ⇑Pn **Pb 16 52 44.4 +0.3**
3.3nm,0.8s
KURK ⇑Sn **Sb 16 53 52.3 -1.6**
2.7nm,0.6s
KURK ⇓Lg Lg 16 54 21.0
2.9nm,0.5s
KURBB Kurchatov Arra 5.91 276 ⇓Pn **Pb 16 52 44.5 -0.6**
2.9nm,0.5s,baz=93,slow=15
KURBB ⇑Sn **Sb 16 53 55.1 -0.5**
6.1nm,0.6s,baz=88,slow=26
KURBB ⇓Lg Lg 16 54 20.3
13nm,0.6s,baz=89,slow=34
KAPS Kapalarasan 7.62 231 *e*P Pb 16 53 03.9 -10
KAPS *e*S **Sn 16 54 22.2 +3.0**

IDC 26 16:59:44.0±2.2, 7°.04S×128°.23E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.3/32, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=275.8km s-min=29.6km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.13**	**156**	Pn	Pn	17 03 05.4	-0.1
0.2nm,0.3s,baz=335,slow=14,SNR=8.7							
WRA				Sn	Sn	17 05 28.0	-15
0.3nm,0.3s,baz=336,slow=19,SNR=7.5							
ASAR	**Alice Springs**	**17.40**	**162**	P	Pn	17 03 48.5	+0.1
0.1nm,0.3s,baz=339,slow=13,SNR=24							
ASAR				S	Sn	17 06 47.5	-15
0.1nm,0.3s,baz=347,slow=26,SNR=4.0							
MKAR	**Makanchi Array**	**67.31**	**328**	P	P	17 10 40.9	+0.1
0.2nm,0.5s,baz=113,slow=8.3,SNR=6.9							
KURBB	**Kurchatov Arra**	**71.64**	**329**	P	P	17 11 07.2	-0.1
0.3nm,0.4s,baz=121,slow=5.0,SNR=5.0							

*IDC **26** 17:00:17.5±1.0, 46°.61N×155°.49E, h0km, mb3.7/9, mb1 3.9/11, mb1mx3.6/39, mbtmp3.7/11, ML2.5/2, MS2.6/2, Ms1 2.6/2, ms1mx2.3/44, Error ellipse: s-maj=27.5km s-min=21.5km az=174.0*
*ISCJB **26** 17:00:18.6±0.9, 46°.7N±0°.1×155°.5E±0°.2, h18km, mb3.7/9, Error ellipse: s-maj=20.5km s-min=15.5km az=158.9*
ISC 26 17:00:20.5±1.0, 46.7N±0.2×155.5E±0.1, h18km, n18, σ0°.86/11, mb3.7/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.56**	**12**	Pn	**Pn**	**17 01 54.8**	**-1.3**
0.4nm,0.3s,baz=178,slow=12,SNR=8.0							
PETK				LR	LR	17 05 35.9	
comp=Z,36nm,18.5s,baz=151,slow=48							
MA2	**Magadan**	**13.20**	**349**	LR	LR	17 08 45.0	
comp=Z,32nm,21.0s,baz=104,slow=38							
KLR	**Kul'dur**	**16.10**	**288**	Pn	**Pn**	**17 04 05.5**	**-0.1**
0.0nm,0.3s,baz=85,slow=18,SNR=2.4							
H11N2	**WAKE ISLAND Hy**	**28.48**	**157**	T	T	17 36 01.1	
baz=344							
H11N1	**WAKE ISLAND Hy**	**28.49**	**157**	T	T	17 36 01.0	
baz=344,slow=74,SNR=4.7							
H11N3	**WAKE ISLAND Hy**	**28.49**	**157**	T	T	17 36 01.5	
baz=344,slow=74,SNR=4.7							
H11S1	**WAKE ISLAND Hy**	**29.59**	**158**	T	T	17 37 21.9	
baz=344,slow=76,SNR=9.2							
H11S3	**WAKE ISLAND Hy**	**29.60**	**158**	T	T	17 37 26.1	
baz=344,slow=76,SNR=11							
H11S2	**WAKE ISLAND Hy**	**29.61**	**158**	T	T	17 37 22.3	
baz=344,slow=76,SNR=7.4							
MKAR	**Makanchi Array**	**48.42**	**298**	P	**P**	**17 09 02.0**	**+0.6**
0.4nm,0.7s,baz=76,slow=8.2,SNR=4.2							
KURBB	**Kurchatov Arra**	**48.85**	**304**	P	**P**	**17 09 04.0**	**-0.5**
1.2nm,0.7s,baz=66,slow=8.2,SNR=7.2							
BVAR	**Borovoye Array**	**52.15**	**310**	P	**P**	**17 09 30.2**	**+0.7**
1.1nm,0.6s,baz=57,slow=8.8,SNR=5.6							
CMAR	**Chiang Mai Arr**	**53.97**	**258**	P	**P**	**17 09 43.5**	**+0.2**
0.4nm,0.7s,baz=38,slow=6.4,SNR=4.7							
NVAR	**Mina Array Bea**	**60.99**	**64**	P	**P**	**17 10 33.5**	**+0.6**
0.3nm,0.6s,baz=292,slow=7.7,SNR=3.1							
FINES	**FINESS Array B**	**64.77**	**336**	P	**P**	**17 10 57.5**	**+0.2**
2.6nm,0.9s,baz=12,slow=9.9,SNR=8.0							
AKASG	**Malin Array Be**	**72.49**	**327**	P	**P**	**17 11 45.9**	**+0.3**
0.3nm,0.4s,baz=204,slow=32,SNR=5.2							
ASAR	**Alice Springs**	**72.72**	**201**	P	**P**	**17 11 45.8**	**-1.5**
0.5nm,0.7s,baz=20,slow=5.1,SNR=5.3							
TXAR	**Lajitas Array**	**76.07**	**62**	P	**P**	**17 12 07.7**	**+0.7**
0.4nm,0.6s,baz=297,slow=4.6,SNR=6.9							

*ISK **26** 17:07:50.9, 37°.91N×37°.90E, h2km, ML2.0/6*
*DDA **26** 17:07:51.4, 37°.91N×37°.97E, h7km±3km, ML2.6*
ISC 26 17:07:51.8±1.1, 37°.92N±0°.03×37°.95E±0°.03, h19km±3km, n16, σ0°.98/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.37**	**357**	IAML_P			
comp=Z,4μm,0.1s							
AKCD				*i* P	**Pb**	**17 08 00.4**	**+0.3**
ATAB	**Bozova**	**0.53**	**149**	IAML_P			
comp=Z,3μm,0.1s							
ATAB				*i* P	**Pb**	**17 08 02.4**	**-0.2**
ATAB				*i* S	**Sg**	**17 08 08.2**	**-1.5**
GZT	**Gaziantep**	**0.64**	**208**	IAML_P			
comp=Z,521nm,0.1s							
GZT				*i* P	**Pb**	**17 08 04.6**	**+0.1**
GZT				*i* S	**Sb**	**17 08 13.7**	**+0.5**
DARE	**Darende-Malaty**	**0.74**	**331**	PG	**Pg**	**17 08 05.7**	**-0.7**
ELBS	**KAHRAMANMARAS**	**0.76**	**302**	IAML_P			
comp=Z,93nm,0.2s							
ELBS				*i* P	**Pg**	**17 08 06.2**	**-0.5**
ELBS				*i* S	**Sn**	**17 08 18.8**	**+0.1**
URFA	**Urfa**	**0.84**	**124**	PG	**Pn**	**17 08 08.1**	**-0.7**
URFA				SG	**Sn**	**17 08 21.3**	**+0.5**
KMRS	**Kahramanmaras**	**0.93**	**244**	PG	**Pb**	**17 08 08.8**	**-0.6**
ELZG	**Elazig**	**1.00**	**55**	IAML_P			
comp=Z,556nm,0.1s							
ELZG				*i* P	**Pn**	**17 08 10.4**	**-0.6**
ELZG				*i* S	**Sn**	**17 08 24.5**	**-0.2**
SANL	**SANLIURFA_Merk**	**1.12**	**132**	IAML_P			
comp=Z,906nm,0.1s							
SANL				*i* P	**Pg**	**17 08 14.4**	**+0.9**
SANL				*i* S	**Sg**	**17 08 28.7**	**+0.5**
SURC	**SANLIURFA_SURC**	**1.17**	**153**	IAML_P			
comp=Z,228nm,0.1s							
SURC				*i* P	**Pg**	**17 08 14.5**	**+0.1**
SURC				*i* S	**Sg**	**17 08 32.0**	**+2.2**
ANDN	**Andirin**	**1.31**	**255**	IAML_P			
comp=Z,253nm,0.2s							
ANDN				*i* P	**Pg**	**17 08 17.7**	**+0.5**
ANDN				*i* S	**Sg**	**17 08 35.8**	**+1.4**
KUZU	**Kuzuini**	**1.34**	**211**	IAML_P			
comp=Z,1μm,0.2s							
KUZU				*i* P	**Pg**	**17 08 16.9**	**-0.9**
KUZU				*i* S	**Sg**	**17 08 34.5**	**-0.8**
SAIM	**ADANA**	**1.48**	**273**	IAML_P			
comp=Z,332nm,0.2s							
SAIM				*i* P	**Pg**	**17 08 20.2**	**-0.1**
SAIM				*i* S	**Sg**	**17 08 42.0**	**+2.5**
PTK	**Pertek**	**1.49**	**49**	PN	**Pg**	**17 08 20.7**	**+0.1**
KOZT	**Kozan**	**1.74**	**256**	PN	**Pb**	**17 08 22.7**	**-0.5**
MAZI	**Mazidag**	**2.04**	**102**	PN	**Pb**	**17 08 28.0**	**-0.3**

RSNC 26 17:12:11.1±1.4, 2°.40N×75°.66W, h4km±7km, ML3.4, Mw3.5, 3C-4D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BETC	**Betania**	**0.35**	**37**	⇑*e*P	Pg	17 12 18.0	0.0
BETC				*e*S	Sg	17 12 23.1	+0.4
MARP	**Paez Belalcaza**	**0.53**	**326**	⇓*i*P	Pg	17 12 20.5	-0.9
MARP				*e*S	Sg	17 12 28.3	-0.1
MARP				*i*		17 12 29.0	
comp=Z,2μm,0.1s							
PCON	**Cinco Dias**	**0.74**	**265**	⇓*i*P	Pg	17 12 25.1	-0.3
PCON				*e*S	Sg	17 12 36.0	+0.9
PCON				*i*		17 12 37.4	
comp=Z,2μm,0.3s							
FLOC	**Florencia**	**0.81**	**180**	⇑*i*P	Pg	17 12 24.8	-1.9
comp=Z,957nm,0.4s							
FLOC				*e*S	Sg	17 12 35.9	-1.3
FLOC				*i*		17 12 36.9	
comp=Z,957nm,0.4s							
SOTA	**Rioblanco**	**0.99**	**255**	*e*P	Pg	17 12 29.1	-0.9
SOTA				*e*S	Sg	17 12 43.0	+0.2
POPC	**Popayan, Colom**	**1.03**	**278**	⇓*i*P	Pg	17 12 29.4	-1.4
POPC				*e*S	Sg	17 12 43.5	-0.7
CRUC	**La Cruz**	**1.53**	**237**	⇓*e*P	Pn	17 12 38.2	-1.3
CRUC				*e*S	Sn	17 12 58.3	-1.9
CRUC				*i*		17 13 00.9	
comp=Z,193nm,0.2s							
YOTC	**Yotoco, Valle**	**1.72**	**336**	*e*P	Pn	17 12 40.2	-1.7
YOTC				*e*S	Sn	17 13 02.5	-1.9
SJAC	**San Juan de Ar**	**1.91**	**63**	*e*P	Pn	17 12 44.5	-0.1
SJAC				*e*S	Sn	17 13 08.8	-0.4
SJAC				*i*		17 13 12.7	
comp=Z,874nm,0.3s							
GCUF	**Volcan Galeras**	**2.05**	**235**	⇑*e*P	Pn	17 12 47.4	+0.6
GCUF				*i*		17 13 18.8	
comp=Z,108nm,0.2s							
ANIL	**Santa Ana**	**2.09**	**7**	*e*P	Pn	17 12 45.3	-2.0
ANIL				*i*		17 13 16.3	
comp=N,678nm,0.2s							
TOLC	**Tolima**	**2.20**	**9**	*e*P	Pn	17 12 47.2	-1.5
TOLC				*i*		17 13 19.6	
comp=Z,84nm,0.2s							
PTLC	**Puerto Leguiza**	**2.37**	**159**	*e*P	Pb	17 12 53.4	-1.1
PTLC				*e*S	Sb	17 13 25.7	+1.6
PTLC				*i*		17 13 34.1	
comp=Z,256nm,0.2s							
VILC	**Villavicencio,**	**2.60**	**49**	*e*P	Pn	17 12 52.9	-1.1
VILC				*i*		17 13 36.2	
comp=Z,203nm,0.4s							
NORC	**Norcasia**	**3.24**	**14**	*e*P	Pn	17 13 00.1	-2.7

*BJI **26** 17:31:10.9, 5°.35N×127°.00E, h122km, mb5.0/69, mB5.2/39*
*ISCJB **26** 17:31:11.4±0.3, 5°.50N±0°.02×127°.13E±0°.02, h122km±2km, mb4.8/207, Error ellipse: s-maj=3.9km s-min=2.3km az=159.8*
*MAN **26** 17:31:11.1, 5°.54N×127°.22E, h109km, mb5.8, ML4.8, MS5.3*
MAN INTENSITY II - MANAY DAVAO ORIENTAL.
*KLM **26** 17:31:11.6, 5°.29N×127°.41E, h67km, mb5.1*
*IDC **26** 17:31:12.9±0.9, 5°.48N×127°.05E, h118km±7km, mb4.5/32, mb1 4.6/36, mb1mx4.5/45, mbtmp4.9/36, MS3.3/7, Ms1 3.3/7, ms1mx2.9/37, Error ellipse: s-maj=12.4km s-min=7.1km az=69.0*
*DJA **26** 17:31:12.7±0.4, 6°.N±3°.×12°.7E±°, h107km±3km, M4.8/42, mB5.3/19, mb5.1/42, MLv5.3/13, Mw(mB)4.7/19*
*MOS **26** 17:31:13.1±0.9, 5°.48N×127°.05E, h136km, mb4.9/43, Error ellipse: s-maj=10.3km s-min=4.8km az=119.3*
*NEIC **26** 17:31:13.2±0.5, 5°.48N×127°.08E, h123km±4km, mb4.9/144, Error ellipse: s-maj=3.6km s-min=2.4km az=67.0*
ISC 26 17:31:12.4±0.5, 5°.55N±0°.03×127°.14E±0°.04, h116km±4km, n466, σ1°.46/515, mb4.9/216, 17C-5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.64**	**328**	*e*P	**Pn**	**17 31 40.7**	**-0.5**
MATI				*e*S	**Sn**	**17 32 03.4**	**+0.1**
DAV	**Davao City (W)**	**2.17**	**314**	P	**Pn**	**17 31 49.1**	**+1.4**
446nm,0.3s,baz=108,slow=1.9,SNR=88							
DAV				S	**Sn**	**17 32 15.6**	**+0.7**
344nm,0.3s,baz=255,slow=18,SNR=9.8							
DAV				LR	LR	17 32 33.7	
comp=Z,839nm,21.2s,baz=135,slow=38							
DAV	**Davao City (W)**	**2.17**	**314**	*e*Pn	**Pn**	**17 31 48.6**	**+0.9**
DAV				*e*Sn	**Sn**	**17 32 15.5**	**+0.7**
DMPH	**Davao City--Mi**	**2.23**	**313**	⇑*i*P	**Pn**	**17 31 49.8**	**+1.3**
DMPH				*e*S	**Sn**	**17 32 21.4**	**+5.1**
GSPH	**General Santos**	**2.25**	**284**	*i* P	**Pn**	**17 31 47.9**	**-1.0**
SGSI	**Sangihe**	**2.45**	**221**	P	**Pn**	**17 31 50.6**	**-0.8**
BIPH	**Bislig**	**2.73**	**343**	⇑*i*P	**Pn**	**17 31 54.5**	**-0.5**
BIPH				*i* S	**Sn**	**17 32 23.7**	**-4.1**
SKMP	**Bagumbayan, Su**	**2.76**	**291**	*e*P	**Pn**	**17 31 55.2**	**-0.1**
SKMP				*e*S	**Sn**	**17 32 29.2**	**+0.7**
BUKP	**Musuan**	**3.10**	**318**	*e*P	**Pn**	**17 32 00.7**	**+0.7**
BUKP				*e*S	**Sn**	**17 32 37.4**	**+0.7**
CTBH	**Cotabato--PC H**	**3.33**	**300**	⇓*e*P	**Pn**	**17 32 03.1**	**+0.3**
CTBH				*i* S	**Sn**	**17 32 41.1**	**-0.7**
BUTP	**Butuan**	**3.72**	**336**	*e*P	**Pn**	**17 32 10.8**	**+2.7**
BUTP				*e*S	**Sn**	**17 32 51.9**	**+0.7**
CGP	**Cagayan de Oro**	**3.77**	**320**	⇓*e*P	**Pn**	**17 32 09.9**	**+1.1**
CGP				*e*S	**Sn**	**17 32 54.0**	**+1.4**
PAGZ	**Pagadian**	**4.38**	**302**	*e*P	**Pn**	**17 32 17.5**	**+0.6**
PAGZ				*e*S	**Sn**	**17 33 09.0**	**+2.0**
TNTI	**Ternate**	**4.75**	**177**	*e*Pn	**Pn**	**17 32 22.0**	**0.0**
TNTI				*e*Sn	**Sn**	**17 33 14.6**	**-1.4**
TNTI	**Ternate**	**4.75**	**177**	P	**Pn**	**17 32 21.6**	**-0.4**
IPIL	**Ipil**	**5.06**	**296**	*e*P	**Pn**	**17 32 27.7**	**+1.7**
IPIL				*e*S	**Sn**	**17 33 25.0**	**+1.6**
MSLP	**Maasin**	**5.09**	**334**	*e*P	**Pn**	**17 32 27.5**	**+1.0**
MSLP				*e*S	**Sn**	**17 33 21.1**	**-3.0**
ZCP	**Zamboanga City**	**5.22**	**286**	⇑*e*P	**Pn**	**17 32 27.2**	**-1.0**
SNPH	**Sibulan**	**5.41**	**314**	*e*P	**Pn**	**17 32 32.5**	**+1.7**
KMSI	**Cibinong**	**5.87**	**213**	P	**Pn**	**17 32 36.3**	**-0.7**
921nm,0.6s,11μm6.1nm							
PLP	**Palo**	**5.98**	**339**	⇓*e*P	**Pn**	**17 32 38.2**	**-0.2**
PLP				*e*S	**Sn**	**17 33 38.0**	**-7.7**
OCLP	**Ormoc**	**6.01**	**336**	*e*P	**Pn**	**17 32 38.6**	**-0.4**
OCLP				*e*S	**Sn**	**17 33 39.6**	**-7.0**
BESP	**Borongan**	**6.25**	**344**	*e*P	**Pn**	**17 32 42.4**	**-0.3**
BESP				*e*S	**Sn**	**17 33 43.9**	**-8.3**
MRSI	**Marisa**	**7.24**	**226**	P	**Pn**	**17 32 55.4**	**-0.1**
CNP	**Catarman**	**7.34**	**341**	*e*P	**Pn**	**17 32 56.9**	**0.0**
CNP				*e*S	**Sn**	**17 34 12.0**	**-6.7**
RCP	**Roxas**	**7.39**	**324**	⇑*e*P	**Pn**	**17 32 58.9**	**+1.3**
PALU	**Palau**	**7.50**	**76**	P

STKI Sintang 16.56 251 P **P** **17 34 59.7 +1.3**
PLAI Plampang 17.07 213 P **P** **17 35 02.8 -1.1**
132nm,0.8s
KSM Kuching 17.28 257 *e*P **Pn** **17 35 06.5 -0.2**
24nm,0.8s
KSM Kuching 17.28 257 P **Pn** **17 35 07.5 +0.8**
SRBI Singaraja 18.03 221 P **P** **17 35 14.8 +0.3**
37nm,0.9s
TWG Pinlang 18.14 342 *e*P **P** **17 35 15.7 0.0**
67nm,0.6s
YULB Yu-li 18.61 343 *e*P **P** **17 35 19.8 -1.1**
18nm,0.7s
MTN Manton Dam 18.70 168 *e*P **P** **17 35 21.7 -0.1**
58nm,0.7s
TPUB Ta-pu 18.73 341 *e*P **P** **17 35 22.4 +0.2**
25nm,0.6s
KDU Kakadu 18.88 164 P **P** **17 35 23.9 +0.1**
baz=19,SNR=75
JAGI Jaiag, Banyuwa 19.02 223 *e*P **P** **17 35 25.1 -0.3**
38nm,1.0s
GUMO Guam 19.20 64 LR LR 17 42 10.9
comp=Z,49nm,18.2s,baz=99,slow=34
NACB Ninganchiao 19.27 344 *e*P **P** **17 35 27.8 -0.2**
22nm,0.7s
YHNB Yeheng 19.80 344 *e*P **P** **17 35 34.9 +1.1**
38nm,0.7s
TATO Taipei 20.06 345 *e*P **P** **17 35 37.5 +0.9**
14nm,0.6s
KNRA Kununurra 21.15 176 P **P** **17 35 48.4 0.0**
baz=21,SNR=56
JOW Kunigami 21.19 3 LR LR 17 44 27.8
comp=Z,34nm,20.7s,baz=348,slow=37
JOW Kunigami 21.19 3 *e*P **P** **17 35 50.0 +1.3**
32nm,0.6s
UGM Wanagama 21.30 231 *e*P **P** **17 35 49.8 -0.3**
35nm,0.9s
SARN Sarigan 21.36 57 *e*P **P** **17 35 52.4 +1.8**
28nm,1.0s
QIZ Qiongzhong 21.54 310 *e*P **P** **17 35 52.5 0.0**
12nm,0.8s
CISI Cisompet, Garu 23.27 236 *e*P **P** **17 36 07.9 -2.1**
34nm,1.0s
MYKOM Kota Tinggi 23.54 262 *e*P **P** **17 36 11.7 -0.7**
16nm,1.1s
FITZ Fitzroy Crossi 23.54 184 P **P** **17 36 12.1 -0.3**
26nm,0.8s,baz=11,slow=9.7,SNR=119
FITZ ScP **ScP** **17 43 22.5 0.0**
2.9nm,0.7s,baz=32,slow=4.7,SNR=4.0
FITZ Fitzroy Crossi 23.54 184 P **P** **17 36 12.2 -0.2**
baz=24,SNR=45
FITZ Fitzroy Crossi 23.54 184 *e*P **P** **17 36 12.2 -0.2**
26nm,0.8s
FITZ ScP **ScP** **17 43 22.5 0.0**
DBJI Dramaga 23.64 240 P **P** **17 36 20.1 +6.7**
KTGM Kuala Trenggan 23.90 271 P **P** **17 36 16.1 +0.4**
KGM Kluang 24.03 263 P **P** **17 36 17.2 +0.3**
PMG Port Moresby 24.87 127 *e*P **P** **17 36 25.4 +0.9**
16nm,1.1s
PMG Port Moresby 24.87 127 *e*P **P** **17 36 25.4 +0.9**
PMG pmax pmax
comp=Z,16nm,1.1s
COEN Coen 25.07 141 P **P** **17 36 26.8 +0.5**
baz=25,SNR=33
COEN Coen 25.07 141 *e*P **P** **17 36 26.8 +0.5**
comp=Z,21nm,0.5s
SKNT Sakolnakorn 25.36 298 P **P** **17 36 28.7 -0.2**
comp=Z,19nm,0.9s
FRIM Kepong 25.55 266 P **P** **17 36 31.2 +0.5**
CBIJ Chichi jima 25.78 32 *e*P **P** **17 36 31.6 -1.0**
comp=Z,132nm,0.7s
SSE Sheshan 26.02 348 *e*P **P** **17 36 36.2 +1.5**
comp=Z,23nm,0.6s
IPM Ipoh 26.04 269 *e*P **P** **17 36 33.8 -1.3**
comp=Z,7.2nm,0.7s
MNAI Manna 26.09 248 *e*P **P** **17 36 35.3 -0.2**
comp=Z,132nm,1.1s
SRAK Srakaew 26.10 291 P **P** **17 36 30.6 -5.0**
comp=Z,50nm,0.8s,comp=Z,494nm
WRAB Tennant Creek 26.30 165 *e*P **P** **17 36 35.8 -1.5**
comp=Z,66nm,0.8s
WRAB Tennant Creek 26.30 165*ce*P **P** **17 36 36.8 -0.5**
WRAB pmax pmax
comp=Z,62nm,0.8s
WR1 Warramunga Arr 26.30 165 *e*P **P** **17 36 36.4 -1.0**
WR1 *e*ScP **ScP** **17 43 30.1 -0.1**
WRA Warramunga Arr 26.30 165 P **P** **17 36 36.4 -1.0**
comp=Z,19nm,0.3s,baz=342,slow=11,SNR=176
WRA ScP **ScP** **17 43 30.1 -0.2**
comp=Z,1.7nm,0.7s,baz=341,slow=2.9,SNR=9.4
WB2 Warramunga Ar 26.31 165 *e*P **P** **17 36 36.8 -0.6**
comp=Z,61nm,0.8s
KULM Kulim 26.38 271 *e*P **P** **17 36 34.5 -3.6**
comp=Z,15nm,1.1s
NONG Nongkai 26.53 300 P **P** **17 36 41.2 +1.7**
comp=Z,0.2nm,1.3s
CHAI Chaiyaphum 26.74 295 P **P** **17 36 41.0 -0.3**
comp=Z,4.1nm,0.7s,comp=Z,56nm
RABL Rabaul 26.80 111 *e*P **P** **17 36 42.7 +0.8**
comp=Z,30nm,0.6s
NJ2 Nanjing 27.48 345 *e*P **P** **17 36 50.5 +2.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
MBWA Marble Bar 27.52 195 *e*P **P** **17 36 47.6 -0.6**
comp=Z,20nm,1.0s
JNU Nakatsue 27.65 7 P **P** **17 36 50.1 +0.8**
comp=Z,7.1nm,0.6s,baz=228,slow=3.8,SNR=9.7
JNU Nakatsue 27.65 7 *e*P **P** **17 36 50.7 +1.3**
comp=Z,16nm,1.0s
PBKT Sadao Pong 27.88 295 *e*P **P** **17 36 50.9 -0.7**
comp=Z,10nm,0.6s
PBKT Sadao Pong 27.88 295 P **P** **17 36 51.0 -0.5**
comp=Z,19nm,0.7s
PHET Kaeng Krachan 28.10 287 P **P** **17 36 54.9 +1.3**
comp=Z,12nm,0.8s
PSI Prapat 28.27 266 P **P** **17 36 54.1 -1.1**
comp=Z,9.6nm,0.5s,baz=179,slow=0.9,SNR=14
PSI Prapat 28.27 266 *e*P **P** **17 36 53.5 -1.7**
comp=Z,12nm,0.6s
PSI Prapat 28.27 266 *e*P **P** **17 36 53.5 -1.7**
PSI pmax pmax
comp=Z,13nm,0.6s
UTTA Uttaradit 28.67 297 P **P** **17 36 59.1 +0.5**
comp=Z,2.5nm,0.9s
QIS Mount Isa 28.69 155 P **P** **17 36 58.4 -0.2**
baz=29,SNR=48
SRDT SRDT 28.92 290 P **P** **17 37 02.1 +1.3**
comp=Z,13nm,1.4s,comp=Z,3µm
NANT Nan 28.95 299 P **P** **17 37 01.0 0.0**
comp=Z,6.9nm,0.6s,comp=Z,97nm
UTHA Uthaitani 28.95 292 P **P** **17 37 01.4 +0.3**
comp=Z,3.7nm,0.6s,comp=Z,46nm
MTSU Mount Surprise 29.00 145 P **P** **17 37 02.9 +1.4**
baz=29,SNR=27
KCSI Kotacane, Aceh 29.35 267 P **P** **17 37 02.8 -1.8**
comp=Z,28nm,0.8s
SUKH Sukhothai 29.40 296 P **P** **17 37 05.7 +0.7**
comp=Z,3.7nm,0.8s
UMPA Umpang Tak 29.68 293 P **P** **17 37 08.6 +1.0**
comp=Z,4.1nm,1.0s
ENH Enshi 29.69 328 *e*P **P** **17 37 07.8 +0.4**
comp=Z,46nm,0.8s
AS31 Alice Springs 29.78 167 *e*P **P** **17 37 06.9 -1.4**
comp=Z,4.4nm,0.8s
ASAR Alice Springs 29.78 167 P **P** **17 37 08.1 -0.2**
comp=Z,6.5nm,0.4s,baz=349,slow=7.7,SNR=105
ASAR PcP **PcP** **17 40 09.2 -0.1**
comp=Z,2.9nm,0.3s,baz=351,slow=2.2,SNR=5.7
ASAR ScP **ScP** **17 43 40.8 -0.2**
comp=Z,1.9nm,0.6s,baz=344,slow=2.9,SNR=9.6
AS01 Alice Springs 29.79 167 *e*P **P** **17 37 05.9 -2.4**
GSI Gunungsitoli 29.81 263 *e*P **P** **17 37 05.9 -2.8**
comp=Z,27nm,0.5s
JHJ2 Mitsune 29.86 22 *e*P **P** **17 37 07.8 -1.0**
comp=Z,194nm,0.8s
LHMI Lhok Sumawe 30.06 271 *e*P **P** **17 37 09.3 -1.7**
comp=Z,50nm,0.7s
CM01 Chiang Mai Arr 30.33 297 *e*P **P** **17 37 13.3 +0.1**
CM31 Chiang Mai Arr 30.36 297 *e*P **P** **17 37 13.6 +0.1**
CMAR Chiang Mai Arr 30.36 297 P **P** **17 37 13.2 -0.4**
comp=Z,6.9nm,0.7s,baz=110,slow=7.3,SNR=71
CMAR PcP **PcP** **17 40 11.7 +0.7**
comp=Z,0.8nm,0.6s,baz=120,slow=1.6,SNR=4.9
CMAR ScP **ScP** **17 43 43.4 +0.4**
comp=Z,1.2nm,0.8s,baz=117,slow=2.0,SNR=7.7
WRKA Warakurna 30.42 178 P **P** **17 37 13.7 -0.3**
baz=30,SNR=25
KMI Kunming 30.43 312 P **P** **17 37 15.8 +1.5**
KMI pmax pmax
comp=Z,14nm,0.9s
CMMT Chiang Mai 30.48 298 P **P** **17 37 14.3 -0.3**
comp=Z,22nm,0.8s
CHTO Chiang Mai 30.49 298 *e*P **P** **17 37 14.1 -0.6**
comp=Z,15nm,0.7s
CHTO Chiang Mai 30.49 298 *e*P **P** **17 37 14.1 -0.6**
CHTO pmax pmax
comp=Z,15nm,0.7s
CHTO Chiang Mai 30.49 298 P **P** **17 37 14.4 -0.3**
comp=Z,100nm,0.8s
GIRL Giralia 30.73 204 P **P** **17 37 18.6 +1.9**
baz=31,SNR=4.3
GIRL Giralia 30.73 204 *e*P **P** **17 37 17.2 +0.6**
comp=Z,34nm,1.0s
INU Inuyama 31.02 16 *e*P **P** **17 37 19.0 -0.1**
comp=Z,15nm,0.7s
CTAO Charters Tower 31.66 144 *e*P **P** **17 37 25.5 +0.6**
comp=Z,18nm,0.8s
CTAO Charters Tower 31.66 144 *e*P **P** **17 37 25.5 +0.6**
CTAO pmax pmax
comp=Z,19nm,0.8s
KS15 Wonju Array Si 31.75 1 *e*P **P** **17 37 27.1 +1.7**
KSAR Wonju Array Be 31.75 1 P **P** **17 37 27.3 +1.8**
KSAR Wonju Array Be 31.75 1 P **P** **17 37 27.3 +1.8**
KSRS Korea Array 31.76 1 P **P** **17 37 27.3 +1.7**
comp=Z,7.0nm,0.6s,baz=179,slow=9.8,SNR=40
KSRS LR LR 17 53 12.5
comp=Z,28nm,19.3s,baz=196,slow=42
KS01 Wonju Array Si 31.79 1 *e*P **P** **17 37 27.6 +1.8**
TIA Tai'an 31.87 345 P **P** **17 37 27.8 +1.2**
TIA pmax pmax
comp=Z,11nm,0.8s
MAJO Matsushiro 32.47 17 *e*P **P** **17 37 32.3 +0.4**
comp=Z,12nm,1.0s
MAJO *e*PcP **PcP** **17 40 16.8 +0.5**
MAJO Matsushiro 32.47 17 *e*P **P** **17 37 32.3 +0.4**
MAJO *e* 17 40 16.8
MAJO pmax pmax
comp=Z,12nm,1.0s
MJAR Matsushiro Arr 32.47 17 P **P** **17 37 31.9 +0.1**
comp=Z,3.3nm,0.9s,baz=182,slow=8.9,SNR=7.9
MJAR PcP **PcP** **17 40 16.8 +0.5**
comp=Z,2.3nm,0.9s,baz=190,slow=3.4,SNR=4.0
MJB9 Matsu-Tunnel 32.47 17 *e*P **P** **17 37 32.4 +0.5**
comp=Z,13nm,1.0s
XAN Xi'an 33.01 332 P **P** **17 37 37.0 +0.4**
XAN pP pwP 17 38 03.3 -2.3
XAN sP sP 17 38 20.0 +6.0
XAN PP **PnPn** **17 38 51.5 +1.2**
XAN S **S** **17 42 42.0 -4.7**
XAN SS **SnSn** **17 44 54.5 -3.3**
XAN pmax pmax
comp=Z,74nm,0.9s
XAN pmax pmax
comp=Z,190nm,6.5s
XAN Xi'an 33.01 332 *e*P **P** **17 37 36.6 +0.1**
comp=Z,59nm,0.8s
XAN Xi'an 33.01 332 *e*P **P** **17 37 36.7 +0.1**
XAN pmax pmax
comp=Z,59nm,0.8s
MEEK Meekatharra 33.05 194 P **P** **17 37 36.5 -0.5**
baz=33,SNR=20
CD2 Chengdu 33.45 322 P **P** **17 37 41.0 +0.5**
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 pmax pmax
comp=Z,220nm,4.8s
TIY Taiyuan 34.71 339 *e*P **P** **17 37 52.8 +1.5**
BJT Baijiatuau 35.71 345 *e*P **P** **17 38 01.4 +1.7**
comp=Z,40nm,0.8s
BJT Baijiatuau 35.71 345 *e*P **P** **17 38 01.4 +1.7**
BJT pmax pmax
comp=Z,40nm,0.8s
BJI Beijing 35.73 346 ⇓ *i*P **P** **17 38 01.0 +1.1**
BJI pmax pmax
comp=Z,36nm,0.8s
QLP Quilpie 35.98 153 P **P** **17 38 02.1 -0.1**
baz=36,SNR=16
MORW Morawa 36.04 197 P **P** **17 38 02.3 -0.3**
baz=36,SNR=4.4
MORW Morawa 36.04 197 *e*P **P** **17 38 01.7 -1.0**
comp=Z,7.7nm,0.6s
FORT Forrest 36.13 179 P **P** **17 38 03.4 0.0**
baz=36,SNR=74
FORT Forrest 36.13 179 *e*P **P** **17 38 03.2 -0.3**
comp=Z,47nm,0.6s
LZH Lanzhou 37.17 328 ⇑ P **P** **17 38 14.3 +1.9**
LZH pP pwP 17 38 41.5 -0.5
LZH sP sP 17 38 56.5 +6.4
LZH PP **PnPn** **17 39 42.8 +1.4**
LZH pmax pmax
comp=Z,35nm,1.3s
LZH pmax pmax
comp=Z,140nm,6.0s
BLDU Ballidu 37.32 195 P **P** **17 38 13.2 -0.4**
baz=37,SNR=34
HHC Hu-ho-hao-te 37.82 341 *e*P **P** **17 38 19.8 +2.0**
HHC pmax pmax
comp=Z,47nm,1.0s
HHC pmax pmax
comp=Z,210nm,6.4s
KLBR Kellerberrin 38.01 193 P **P** **17 38 19.1 -0.2**
baz=38,SNR=23
RMQ Roma 38.12 148 P **P** **17 38 20.8 +0.5**
baz=38,SNR=7.4
CN2 Changchun 38.13 358 *e*P **P** **17 38 22.5 +2.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
BRDH Bariadhala 38.26 300 P **P** **17 38 22.1 +0.6**
comp=Z,111nm,0.4s,baz=245,slow=4.8,SNR=4.3
EIDS Eidsvold 38.55 144 *e*P **P** **17 38 23.4 -0.5**
comp=Z,18nm,0.8s
USA0B Usuriysk Arra 38.73 6 *e*P **P** **17 38 27.5 +2.3**
comp=Z,11nm,0.8s
USRK Ussuriysk Ar. 38.73 6 P **P** **17 38 26.6 +1.4**
comp=Z,5.7nm,0.5s,baz=189,slow=7.4,SNR=18
MUN Mundaring 38.75 195 P **P** **17 38 25.6 +0.1**
baz=39,SNR=37
MDJ Mudanjiang 38.97 3 P **P** **17 38 29.5 +2.3**
MDJ pmax pmax
comp=Z,19nm,0.7s
MDJ pmax pmax
comp=Z,450nm,4.9s
MDJ Mudanjiang 38.97 3 *e*P **P** **17 38 29.2 +2.0**
comp=Z,17nm,0.9s
BBOO Buckleboo 39.08 168 P **P** **17 38 28.2 0.0**
baz=39,SNR=96
BBOO Buckleboo 39.08 168 *e*P **P** **17 38 28.4 +0.1**
comp=Z,27nm,0.8s
SHL Shillong 39.17 304 *e*P **P** **17 38 28.6 -0.7**
comp=Z,36nm,0.6s
SHL Shillong 39.17 304 *e*P **P** **17 38 28.6 -0.7**
SHL pmax pmax
comp=Z,36nm,0.6s
SHL Shillong 39.17 304 *i* P **P** **17 38 28.0 -1.4**
NWAO Narrogin (SRO) 39.41 193 P **P** **17 38 31.2 +0.2**
comp=Z,45nm,0.6s,baz=253,slow=7.3,SNR=93
NWAO Narrogin (SRO) 39.41 193 P **P** **17 38 31.1 +0.2**
baz=40,SNR=26
NWAO Narrogin (SRO) 39.41 193 *e*P **P** **17 38 30.8 -0.2**
comp=Z,39nm,0.5s
NWAO Narrogin (SRO) 39.41 193 *e*P **P** **17 38 30.8 -0.2**
NWAO pmax pmax
comp=Z,39nm,0.5s
STKA Stephens Creek 39.69 161 P **P** **17 38 33.6 +0.3**
comp=Z,28nm,0.7s,baz=337,slow=8.9,SNR=71
STKA Stephens Creek 39.69 161 P **P** **17 38 33.4 +0.1**
baz=40,SNR=85
STKA Stephens Creek 39.69 161 *e*P **P** **17 38 33.6 +0.3**
comp=Z,7.6nm,0.8s
STKA Stephens Creek 39.69 161 *e*P **P** **17 38 33.6 +0.3**
STKA pmax pmax
comp=Z,8.0nm,0.8s
HTT Hallett 40.34 165 P **P** **17 38 39.3 +0.5**
baz=40,SNR=17
ASAJ Asahikawa 40.74 17 P **P** **17 38 43.3 +1.4**
comp=Z,15nm,0.9s,baz=233,slow=11,SNR=9.9
ASAJ Asahikawa 40.74 17 *e*P **P** **17 38 42.9 +1.0**
comp=Z,20nm,1.1s
WAKE Wake Island 40.81 67 *e*P **P** **17 38 42.6 -0.2**
comp=Z,96nm,1.1s
CMSA Cobar Meteorol 40.91 155 P **P** **17 38 43.7 +0.4**
baz=41,SNR=20
RKGY Rocky Gully 41.08 193 P **P** **17 38 46.0 +1.3**
baz=41,SNR=64
LSA Lhasa 41.58 310 *e*P **P** **17 38 49.2 -0.2**
comp=Z,5.4nm,0.4s
LSA Lhasa 41.58 310 *e*P **P** **17 38 49.3 -0.2**
LSA pmax pmax
comp=Z,5.0nm,0.4s
GTA Gaotai 41.77 328 P **P** **17 38 51.5 +0.9**
GTA pP pP 17 39 16.5 +0.5
GTA sP sP 17 39 29.8 +1.1
GTA pmax pmax
comp=Z,18nm,0.5s
ARMA Armidale 42.77 148 P **P** **17 39 00.0 +1.3**
baz=43,SNR=42
ARMA Armidale 42.77 148 *e*P **P** **17 38 59.9 +1.3**
comp=Z,35nm,0.6s
KLR Kul'dur 43.70 4 P **P** **17 39 07.0 +1.2**
comp=Z,4.6nm,0.4s,baz=182,slow=8.3,SNR=19
KLR Kul'dur 43.70 4 *i* P **P** **17 39 06.5 +0.7**
RAMN Ramite 44.07 303 *e*P **P** **17 39 09.2 -0.2**
comp=Z,61nm,0.7s
ARPS Mount Arapiles 44.29 163 P **P** **17 39 11.4 +0.8**
baz=44,SNR=26
YNG Young 44.43 155 P **P** **17 39 13.2 +1.3**
baz=45,SNR=10
JIRN Jiri 44.67 304 *e*P **P** **17 39 13.9 -0.4**
comp=Z,61nm,0.6s
GUN Gumba 45.02 304 *e*P **P** **17 39 16.5 -0.6**
comp=Z,58nm,0.6s
PKI Pulchoki 45.28 304 *e*P **P** **17 39 18.0 -1.1**
comp=Z,18nm,0.7s
KKN Kakani 45.47 304 *e*P **P** **17 39 19.5 -1.0**
comp=Z,21nm,0.6s
ULN Ulaanbaatar 45.53 341 *e*P **P** **17 39 22.0 +1.4**
comp=Z,27nm,0.6s
ULN Ulaanbaatar 45.53 341*ce*P **P** **17 39 21.7 +1.1**
ULN pmax pmax
comp=Z,26nm,0.7s
DMN Daman 45.55 304 *e*P **P** **17 39 20.4 -0.7**
comp=Z,23nm,0.8s
CNB Canberra Magne 45.71 154 P **P** **17 39 23.2 +1.2**
baz=46,SNR=7.5
SONA0 Songino Array 45.72 341 *e*P **P** **17 39 23.2 +1.1**
SONA0 *e*PcP **PcP** **17 40 58.3 +0.3**
SONM Songino Array 45.72 341 P **P** **17 39 23.2 +1.1**
comp=Z,11nm,0.7s,baz=158,slow=8.1,SNR=102
SONM PcP **PcP** **17 40 58.3 +0.3**
comp=Z,1.7nm,0.5s,baz=165,slow=2.9,SNR=5.0
SONA1 Songino Array 45.73 341 *e*P **P** **17 39 23.3 +1.2**
TOO Toolangi 46.18 160 P **P** **17 39 27.2 +1.6**
baz=46,SNR=14
TOO Toolangi 46.18 160 *e*P **P** **17 39 26.9 +1.3**
comp=Z,18nm,0.8s
TOO Toolangi 46.18 160 *e*P **P** **17 39 26.9 +1.3**
TOO pmax pmax
comp=Z,18nm,0.8s
KOLN Koldanda 46.85 303 *e*P **P** **17 39 30.9 -0.4**
comp=Z,53nm,0.5s
DANN Dangsing 46.92 304 *e*P **P** **17 39 31.4 -0.5**
comp=Z,102nm,0.5s
DZM Mont Dzumac 47.27 127 P **P** **17 39 34.9 +0.5**
comp=Z,3.3nm,0.9s,baz=186,slow=23,SNR=5.7
DZM Mont Dzumac 47.27 127 *e*P **P** **17 39 35.2 +0.8**
comp=Z,11nm,1.1s
PYUN Piuthan 47.47 303 *e*P **P** **17 39 35.9 -0.2**
comp=Z,44nm,0.5s
PINNC Pines Island, 48.34 127 *e*P **P** **17 39 40.7 -1.9**
comp=Z,34nm,1.0s
HYB Hyderabad 48.92 288 *i* P **P** **17 39 46.0 -1.2**
ZAK Zakamensk 48.96 340 *e*P **P** **17 39 47.0 0.0**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
MOY Mondy 50.83 339 *e*P **P** **17 40 03.1 +1.9**
MOY pmax pmax
comp=Z,27nm,1.7s
WMQ Urumqi 51.49 324 P **P** **17 40 07.5 +1.3**
WMQ pP pwP 17 40 39.8 +2.9
WMQ sP sP 17 40 50.0 +5.0
WMQ pmax pmax
comp=Z,44nm,0.9s
WMQ pmax pmax
comp=Z,550nm,7.5s
WMQ LR LR
comp=Z,130nm,21.5s
WMQ LR LR
comp=Z,140nm,18.3s
WMQ LR LR
comp=Z,110nm,24.5s
WMQ Urumqi 51.49 324 *e*P **P** **17 40 07.8 +1.6**
comp=Z,15nm,0.7s
TAU Tasmania Unive 51.59 161 *e*P **P** **17 40 07.5 +0.7**
comp=Z,7.8nm,0.9s
TAU Tasmania Unive 51.59 161 *e*P **P** **17 40 07.5 +0.7**
TAU pmax pmax
comp=Z,8.0nm,0.9s
BOD Bodaibo 53.14 351 *e*P **P** **17 40 17.5 -0.5**
BOD pmax pmax
comp=Z,10.0nm,1.3s
PEA0B Petropavlovsk- 53.60 22 *e*P **P** **17 40 22.3 +0.8**
comp=Z,16nm,1.0s
PETK Petropavlovsk- 53.60 22 P **P** **17 40 22.4 +0.9**
comp=Z,5.1nm,0.6s,baz=175,slow=3.6,SNR=13
PETK Petropavlovsk- 53.60 22 *e*P **P** **17 40 21.7 +0.2**
PETK Petropavlovsk- 53.60 22 *e*P **P** **17 40 21.7 +0.2**
PEA1 Petropavlovsk- 53.60 22 *e*P **P** **17 40 22.4 +0.8**
MNCI Minicoy 53.73 276 *e*P **P** **17 40 22.2 -0.9**
comp=Z,51nm,1.0s
FUNA Funafuti 53.75 105 *e*P **P** **17 40 24.0 +0.8**
comp=Z,81nm,1.0s
MSVF Nonsavu 55.31 116 *e*P **P** **17 40 35.2 +0.7**
comp=Z,6.8nm,0.9s
MSVF Nonsavu 55.31 116 *e*P **P** **17 40 35.2 +0.7**
MSVF pmax pmax
comp=Z,7.0nm,0.9s
MK01 Makanchi Array 56.30 324 *e*P **P** **17 40 41.9 +0.9**
MK32 Makanchi Array 56.32 324 *e*P **P** **17 40 42.0 +0.8**
MK32 *e*ScP **ScP** **17 45 25.0 -1.0**
MKAR Makanchi Array 56.32 324 P **P** **17 40 42.0 +0.8**
comp=Z,36nm,0.4s,baz=115,slow=7.5,SNR=943
MKAR ScP **ScP** **17 45 25.0 -1.0**
comp=Z,0.5nm,0.9s,baz=198,slow=1.2,SNR=3.6
MKAR Makanchi Array 56.32 324 *e*P **P** **17 40 41.9 +0.8**
comp=Z,352nm,0.4s
MKAR ScP **ScP** **17 45 25.0 -1.0**
YAK Yakutsk 56.39 1 *e*P **P** **17 40 42.4 +1.1**
YAK *e**PP **pwP** **17 41 15.0 +0.9**
YAK *e* 17 41 33.5
YAK *e* 17 42 53.8
YAK *e*S **S** **17 48 24.8 +2.0**
YAK pmax pmax
comp=Z,26nm,0.8s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=Z,141nm,3.8s
YAK pmax pmax
comp=N,138nm,3.5s
YAK pmax pmax
comp=E,98nm,3.3s
YAK smax smax
comp=N,144nm,4.9s
YAK smax smax
comp=E,153nm,4.3s
MAKZ Makanchi 56.51 324 *e*P **P** **17 40 43.1 +0.6**
comp=E,54nm,1.0s
MAKZ *e*PcP **PcP** **17 41 37.0 -0.9**
MAKZ Makanchi 56.51 324 *e*P **P** **17 40 43.1 +0.6**
MAKZ *e* 17 41 37.0
MAKZ pmax pmax
comp=Z,54nm,1.0s
PRZ Przheval'sk 56.62 318 *e*P **P** **17 40 45.5 +1.9**
comp=Z,40nm,0.8s
PRZ Przheval'sk 56.62 318 *e*P **P** **17 40 45.5 +1.9**
PRZ pmax pmax
comp=Z,40nm,0.8s
TARG Taragay, Kyrgy 56.69 317 *e*P **P** **17 40 45.6 +1.2**
comp=Z,8.8nm,0.6s
KSH Kashi 57.07 314 P **P** **17 40 49.0 +2.2**
KSH PcP **PcP** **17 41 45.5 +5.0**
KSH ScP **ScP** **17 45 28.5 -1.1**
KSH S **S** **17 48 31.3 -1.6**
KSH sS sS 17 49 21.3 +0.6
KSH SS **SS** **17 52 24.8 +1.4**
KSH pmax pmax
comp=Z,23nm,0.5s
KSH pmax pmax
comp=Z,250nm,4.3s
KSH LR LR
comp=Z,280nm,8.3s

KSH					LR	LR			
	comp=Z,190nm,6.5s								
KSH					LR	LR			
	comp=Z,470nm,8.2s								
NIL	**Nilore**	**57.16**	**307**	*eP*		**P**	**17**	**40**	**47.8 +0.3**
	comp=Z,17nm,0.5s								
NIL	**Nilore**	**57.16**	**307**	*eP*		**P**	**17**	**40**	**47.8 +0.3**
NIL					pmax	pmax			
	comp=Z,17nm,0.5s								
KDJ	**Kajisay**	**57.28**	**317**	*eP*		**P**	**17**	**40**	**50.1 +1.8**
	comp=Z,20nm,0.6s								
KDJ	**Kajisay**	**57.28**	**317**	*eP*		**P**	**17**	**40**	**50.1 +1.8**
KDJ					pmax	pmax			
	comp=Z,20nm,0.6s								
NRN	**Naryn**	**57.80**	**316**	*eP*		**P**	**17**	**40**	**52.6 +0.5**
	comp=Z,10nm,0.6s								
NRN	**Naryn**	**57.80**	**316**	*eP*		**P**	**17**	**40**	**52.6 +0.5**
NRN					pmax	pmax			
	comp=Z,11nm,0.6s								
ULHL	**Ulahol**	**57.97**	**317**	P		**P**	**17**	**40**	**53.8 +0.7**
	SNR=13								
KZA	**Kyzart**	**58.57**	**317**	P		**P**	**17**	**40**	**58.8 +1.2**
	SNR=30								
TKM2	**Tokmak 2**	**58.68**	**318**	P		**P**	**17**	**40**	**59.2 +1.1**
	SNR=5.1								
KBK	**Karagaybulak**	**59.01**	**317**	P		**P**	**17**	**41**	**01.4 +1.1**
	SNR=20								
UCH	**Uchtor**	**59.13**	**317**	P		**P**	**17**	**41**	**03.2 +1.6**
	SNR=31								
ZAA0	**Zalesovo Array**	**59.17**	**332**	*eP*		**P**	**17**	**41**	**00.6 -0.4**
	comp=Z,11nm,0.4s								
ZALV	**Zalesovo Beam**	**59.17**	**332**	P		**P**	**17**	**41**	**01.1 +0.1**
	comp=Z,11nm,0.4s,baz=121,slow=6.1,SNR=29								
ZALV	**Zalesovo Beam**	**59.17**	**332**	*eP*		**P**	**17**	**41**	**00.8 -0.1**
ZALV	**Zalesovo Beam**	**59.17**	**332**	*eP*		**P**	**17**	**41**	**00.8 -0.1**
ZAA1	**Zalesovo Array**	**59.17**	**332**	*eP*		**P**	**17**	**41**	**01.1 +0.1**
CHMS	**Chumysh**	**59.27**	**317**	P		**P**	**17**	**41**	**02.0 0.0**
	SNR=10								
FRU	**Bishkek**	**59.30**	**317**	*eP*		**P**	**17**	**41**	**02.0 -0.2**
AAK	**Ala-Archa**	**59.31**	**317**	LR		LR	18	09	07.9
	comp=Z,56nm,18.5s,baz=72,slow=38								
AAK	**Ala-Archa**	**59.31**	**317**	P		**P**	**17**	**41**	**03.6 +1.2**
	SNR=9.9								
AAK	**Ala-Archa**	**59.31**	**317**	*eP*		**P**	**17**	**41**	**03.4 +1.1**
	comp=Z,6.9nm,0.5s								
AAK	**Ala-Archa**	**59.31**	**317**	*de*P		**P**	**17**	**41**	**03.3 +0.9**
AAK					pmax	pmax			
	comp=Z,7.0nm,0.8s								
USP	**Ospenovka**	**59.55**	**318**	P		**P**	**17**	**41**	**04.7 +0.8**
	SNR=7.1								
AML	**Almayashu**	**59.66**	**316**	P		**P**	**17**	**41**	**06.5 +1.4**
	SNR=37								
EKS2	**Erkin-Say**	**59.80**	**317**	P		**P**	**17**	**41**	**06.7 +0.9**
	SNR=36								
ARSB	**Arslanbob**	**59.86**	**315**	*eP*		**P**	**17**	**41**	**06.7 +0.5**
	comp=Z,12nm,0.4s								
SEY	**Seymchan**	**60.18**	**13**	*i* P		**P**	**17**	**41**	**08.5 +0.8**
KURK	**Kurchatov**	**60.45**	**327**	*eP*		**P**	**17**	**41**	**10.3 +0.6**
	comp=Z,94nm,0.6s								
KURK	**Kurchatov**	**60.45**	**327**	*ce*P		**P**	**17**	**41**	**10.4 +0.6**
KURK					pmax	pmax			
	comp=Z,74nm,0.6s								
NVS	**Novosibirsk**	**60.45**	**333**⇑	*i* P		**P**	**17**	**41**	**09.9 +0.2**
NVS					pmax	pmax			
	comp=N,7.0nm,0.5s								
NVS					pmax	pmax			
	comp=E,8.0nm,0.5s								
NVS					pmax	pmax			
	comp=Z,17nm,0.5s								
MNAS	**Manas**	**60.61**	**316**	P		**P**	**17**	**41**	**10.6 -0.7**
MNAS					pmax	pmax			
	comp=Z,28nm,1.2s								
KBL	**Kabul**	**60.76**	**307**	*eP*		**P**	**17**	**41**	**11.5 -1.0**
	comp=Z,10nm,0.5s								
KBL	**Kabul**	**60.76**	**307**	*eP*		**P**	**17**	**41**	**11.5 -1.0**
KBL					pmax	pmax			
	comp=Z,11nm,0.5s								
GAR	**Garm**	**61.01**	**312**	*eP*		**P**	**17**	**41**	**14.2 +0.2**
	comp=Z,55nm,0.7s								
GAR	**Garm**	**61.01**	**312**	*eP*		**P**	**17**	**41**	**14.2 +0.2**
GAR					pmax	pmax			
	comp=Z,55nm,0.7s								
CHGR	**Chuyangaron**	**61.78**	**311**	*eP*		**P**	**17**	**41**	**19.2 0.0**
	comp=Z,19nm,0.6s								
DCZ	**Deep Cove**	**62.08**	**149**	*eP*		**P**	**17**	**41**	**20.6 -0.2**
	comp=Z,17nm,0.9s								
KK31	**Karatay Array**	**62.20**	**316**	*eP*		**P**	**17**	**41**	**22.6 +0.8**
KK31	**Karatay Array**	**62.20**	**316**	*i* P		**P**	**17**	**41**	**21.9 +0.1**
KK31					pmax	pmax			
	comp=Z,19nm,0.8s								
KKAR	**Karatay Array**	**62.20**	**316**	*eP*		**P**	**17**	**41**	**22.5 +0.7**
KKAR	**Karatay Array**	**62.20**	**316**	*eP*		**P**	**17**	**41**	**22.5 +0.7**
PYZ	**Puysegur Point**	**62.33**	**150**	*eP*		**P**	**17**	**41**	**22.4 -0.1**
	comp=Z,32nm,1.1s								
MLZ	**Mavora Lakes**	**62.51**	**149**	*eP*		**P**	**17**	**41**	**23.5 -0.3**
	comp=Z,6.2nm,0.9s								
WKZ	**Wanaka**	**62.62**	**148**	*eP*		**P**	**17**	**41**	**24.2 -0.3**
	comp=Z,13nm,1.1s								
WHZ	**Wether Hill Ro**	**62.78**	**149**	*eP*		**P**	**17**	**41**	**25.6 +0.2**
	comp=Z,11nm,1.0s								
THZ	**Tophouse**	**62.88**	**143**	*eP*		**P**	**17**	**41**	**25.6 -0.7**
	comp=Z,17nm,0.7s								
JOHN	**Johnston Islan**	**62.89**	**74**	*eP*		**P**	**17**	**41**	**26.6 -0.2**
	comp=Z,81nm,0.8s								
OTUK	**Ortayu**	**62.94**	**322**	P		**P**	**17**	**41**	**26.1 -0.5**
OTUK					pmax	pmax			
	comp=Z,20nm,0.6s								
LBZ	**Lake Benmore**	**62.96**	**147**	*eP*		**P**	**17**	**41**	**26.7 0.0**
	comp=Z,13nm,0.8s								
RPZ	**Rata Peaks**	**63.01**	**146**	*eP*		**P**	**17**	**41**	**26.8 -0.3**
	comp=Z,13nm,0.8s								
OXZ	**Oxford**	**63.33**	**145**	*eP*		**P**	**17**	**41**	**29.2 0.0**
	comp=Z,12nm,0.8s								
URZ	**Urewera**	**63.59**	**138**	*eP*		**P**	**17**	**41**	**31.0 0.0**
	comp=Z,14nm,1.1s								
ODZ	**Otahua Downs**	**63.63**	**147**	*eP*		**P**	**17**	**41**	**31.5 +0.3**
	comp=Z,7.3nm,1.2s								
KHZ	**Kahutara**	**63.65**	**143**	*eP*		**P**	**17**	**41**	**30.9 -0.3**
	comp=Z,20nm,1.1s								
BKZ	**Black Stump Fm**	**63.66**	**139**	*eP*		**P**	**17**	**41**	**32.3 +0.7**
	comp=Z,22nm,0.7s								
SNZO	**South Karori**	**63.72**	**142**	*eP*		**P**	**17**	**41**	**31.5 -0.2**
	comp=Z,26nm,0.9s								
MQZ	**McQueen's Vall**	**63.91**	**145**	*eP*		**P**	**17**	**41**	**32.9 -0.1**
	comp=Z,39nm,1.2s								
BFZ	**Birch Farm**	**64.33**	**140**	*eP*		**P**	**17**	**41**	**36.5 +0.7**
	comp=Z,27nm,1.2s								
TIXI	**Tiksi**	**66.03**	**1**	*eP*		**P**	**17**	**41**	**45.1 -1.1**
	comp=Z,7.0nm,0.9s								
TIXI	**Tiksi**	**66.03**	**1**	*ce*P		**P**	**17**	**41**	**46.0 -0.2**
TIXI					pmax	pmax			
	comp=Z,6.0nm,1.0s								
BVA0	**Borovoye Array**	**66.03**	**326**	*i* P		**P**	**17**	**41**	**46.8 +0.2**
BVA0					pmax	pmax			
	comp=Z,31nm,0.6s								
BRVK	**Borovoye**	**66.11**	**326**	*eP*		**P**	**17**	**41**	**47.5 +0.5**
	comp=Z,43nm,0.7s								
BRVK	**Borovoye**	**66.11**	**326**	*ce*P		**P**	**17**	**41**	**47.6 +0.5**
BRVK					pmax	pmax			
	comp=Z,40nm,0.6s								
BRVK					pmax	pmax			
	comp=Z,58nm,0.9s								
NIUE	**Niue**	**66.60**	**113**	*eP*		**P**	**17**	**41**	**51.6 +0.8**
	comp=Z,100nm,1.0s								
ATKA	**Atka Island**	**66.78**	**35**	*eP*		**P**	**17**	**41**	**51.3 0.0**
	comp=Z,17nm,0.9s								
BILL	**Bilibino**	**67.70**	**15**	*eP*		**P**	**17**	**41**	**57.2 +0.4**
	comp=Z,21nm,1.1s								
BILL	**Bilibino**	**67.70**	**15**	*i* P		**P**	**17**	**41**	**56.2 -0.7**
BILL				*i*			17	42	17.8
BILL				*i* *PP		pP	17	42	31.9 +9.0
BILL				*i*			17	44	26.5
BILL					pmax	pmax			
	comp=Z,1.0nm,0.9s								
WSAR	**Wadi Sarin**	**68.10**	**293**	P		**P**	**17**	**41**	**59.2 -1.0**
	comp=Z,2.3nm,0.5s,baz=119,slow=6.6,SNR=12								
GEYT	**Alibeck**	**70.09**	**308**	P		**P**	**17**	**42**	**12.4 +0.1**
	comp=Z,5.5nm,0.7s,baz=144,slow=5.3,SNR=12								
GYA0B	**ALIBECK ARRAY**	**70.09**	**308**	*eP*		**P**	**17**	**42**	**12.5 +0.2**
	comp=Z,14nm,1.1s								
NIKH	**Nikolski High**	**70.10**	**35**	*eP*		**P**	**17**	**42**	**13.4 +1.4**
	comp=Z,46nm,1.1s								
UOSS	**Minazif**	**70.41**	**294**	*eP*		**P**	**17**	**42**	**13.2 -1.2**
	comp=Z,3.4nm,0.6s								
AB31	**Akbulak array**	**71.02**	**320**	*i* P		**P**	**17**	**42**	**17.7 0.0**
AB31					pmax	pmax			
	comp=Z,58nm,0.9s								

ABKAR	**Akbulak array**	**71.02**	**320**	*eP*		**P**	**17**	**42**	**17.8 +0.2**
UNV	**Unalaska Valle**	**71.70**	**35**	*eP*		**P**	**17**	**42**	**21.9 +0.3**
	comp=Z,13nm,1.0s								
AKUT	**Akutan**	**72.20**	**35**	*eP*		**P**	**17**	**42**	**24.0 -0.6**
	comp=Z,26nm,1.0s								
KEKH	**Kekaha**	**72.32**	**69**	*eP*		**P**	**17**	**42**	**28.1 +2.1**
	comp=Z,53nm,1.1s								
AKTO	**Aktyubinsk**	**72.50**	**321**	P		**P**	**17**	**42**	**27.1 +0.6**
	comp=Z,38nm,0.6s,baz=96,slow=7.8,SNR=167								
AKTO	**Aktyubinsk**	**72.50**	**321**	P		**P**	**17**	**42**	**26.8 +0.2**
AKTO					pmax	pmax			
	comp=Z,45nm,0.7s								
SVE	**Sverdlovsk**	**72.64**	**328**	*eP*		**P**	**17**	**42**	**27.9 +0.7**
SVE					pmax	pmax			
	comp=Z,23nm,0.6s								
CASY	**Casey**	**72.66**	**187**	*eP*		**P**	**17**	**42**	**27.8 +0.8**
	comp=Z,7.1nm,0.9s								
ARU	**Arti**	**73.63**	**327**	*eP*		**P**	**17**	**42**	**33.1 +0.1**
	comp=Z,30nm,0.6s								
ARU	**Arti**	**73.63**	**327**	*c i*P		**P**	**17**	**42**	**32.9 -0.2**
ARU							17	42	44.9
ARU					*PP	**pwP**	**17**	**43**	**03.4 -2.3**
ARU							17	45	17.7
ARU					S	**S**	**17**	**51**	**55.4 +1.4**
ARU					SS	**SS**	**17**	**56**	**33.9 -5.5**
ARU					pmax	pmax			
	comp=Z,21nm,0.5s								
ANM	**Nome**	**75.45**	**24**	*eP*		**P**	**17**	**42**	**44.2 +0.8**
	comp=Z,2.3nm,1.1s								
ANM	**Nome**	**75.45**	**24**	*eP*		**P**	**17**	**42**	**44.2 +0.8**
ANM					pmax	pmax			
	comp=Z,2.0nm,1.1s								
HPAH	**Hawaii Prepara**	**76.07**	**71**	*eP*		**P**	**17**	**42**	**46.4 -1.5**
	comp=Z,128nm,1.2s								
LGD	**Lagodekhi**	**79.55**	**311**	P		**P**	**17**	**43**	**05.9 -0.8**
LGD	**Lagodekhi**	**79.55**	**311**	*eP*		**P**	**17**	**43**	**05.9 -0.8**
DDFL	**Dedoflistskaro**	**79.63**	**311**	P		**P**	**17**	**43**	**09.6 +2.4**
DVE	**Vedeno**	**79.67**	**313**	*c i*P		**P**	**17**	**43**	**07.6 +0.2**
OHAK	**Old Harbor**	**79.71**	**33**	*eP*		**P**	**17**	**43**	**07.0 -0.2**
GROC	**Groznyy**	**79.92**	**313**	*eP*		**P**	**17**	**43**	**06.2 -2.5**
GROC				*e*			17	43	16.8
GROC				*e*			17	46	12.3
GROC				*e*S		**S**	**17**	**53**	**02.4 -0.6**
GROC					pmax	pmax			
	comp=Z,47nm,1.0s								
KDAK	**Kodiak Island**	**80.14**	**32**	*eP*		**P**	**17**	**43**	**09.8 +0.3**
KDAK	**Kodiak Island**	**80.14**	**32**	*ce*P		**P**	**17**	**43**	**10.7 +1.2**
RAYN	**Ar Rayn**	**80.16**	**293**	*eP*		**P**	**17**	**43**	**09.8 -0.6**
	comp=Z,9.0nm,0.7s								
RAYN	**Ar Rayn**	**80.16**	**293**	*eP*		**P**	**17**	**43**	**09.8 -0.6**
RAYN					pmax	pmax			
	comp=Z,9.0nm,0.7s								
RSO	**Redoubt South**	**80.31**	**30**	*eP*		**P**	**17**	**43**	**11.0 +0.3**
IM3	**Indian Mountai**	**80.52**	**24**	*eP*		**P**	**17**	**43**	**12.4 +1.0**
GNI	**Garni**	**80.64**	**310**	P		**P**	**17**	**43**	**14.5 +1.7**
	comp=Z,4.5nm,0.6s,baz=54,slow=19,SNR=3.7								
TBLG	**Delisi**	**80.67**	**311**	P		**P**	**17**	**43**	**13.8 +1.1**
TBLG	**Delisi**	**80.67**	**311**	*eP*		**P**	**17**	**43**	**13.9 +1.1**
	comp=Z,51nm,0.6s								
TBLG	**Delisi**	**80.67**	**311**	*eP*		**P**	**17**	**43**	**13.9 +1.1**
TBLG					pmax	pmax			
	comp=Z,51nm,0.6s								
PPLA	**Purkeypile**	**80.83**	**27**	*eP*		**P**	**17**	**43**	**15.2 +1.8**
	comp=Z,1.7nm,0.7s								
CAST	**Castle Rocks**	**80.93**	**27**	*eP*		**P**	**17**	**43**	**14.3 +0.6**
	comp=Z,3.9nm,1.0s								
PRGR	**Permogore**	**81.11**	**331**	*eP*		**P**	**17**	**43**	**14.0 -0.6**
PRGR					pmax	pmax			
	comp=Z,18nm,0.6s								
BRLK	**Bradley Lake**	**81.19**	**30**	*eP*		**P**	**17**	**43**	**15.2 +0.1**
	comp=Z,9.2nm,1.1s								
ZEI	**Tsey**	**81.30**	**312**	*eP*		**P**	**17**	**43**	**14.8 -1.5**
ZEI					pmax	pmax			
	comp=Z,30nm,0.6s								
BPAW	**Bear Paw Mtn.**	**81.48**	**26**	*eP*		**P**	**17**	**43**	**17.6 +1.0**
	comp=Z,3.7nm,0.8s								
NCK	**Nalchik**	**81.53**	**313**	*i* P		**P**	**17**	**43**	**16.5 -0.8**
NCK					pmax	pmax			
	comp=Z,16nm,0.8s								
MLY	**Manley**	**81.67**	**25**	*eP*		**P**	**17**	**43**	**18.4 +0.9**
	comp=Z,2.3nm,0.7s								
TRF	**Thorofare Moun**	**81.74**	**27**	*eP*		**P**	**17**	**43**	**18.2 0.0**
	comp=Z,5.1nm,1.2s								
RC01	**Rabbit Creek A**	**81.84**	**29**	*eP*		**P**	**17**	**43**	**18.4 -0.1**
	comp=Z,9.8nm,1.1s								
KARS	**Kars**	**81.92**	**310**	*eP*		**P**	**17**	**43**	**21.1 +1.6**
	comp=Z,131nm,0.7s								
KARS	**Kars**	**81.92**	**310**	*eP*		**P**	**17**	**43**	**21.1 +1.6**
KARS					pmax	pmax			
	comp=Z,131nm,0.7s								
KBZ	**Khabaz**	**82.04**	**313**	P		**P**	**17**	**43**	**20.2 +0.4**
	comp=Z,10.0nm,0.9s,baz=112,slow=5.1,SNR=17								
COLD	**Coldfoot**	**82.07**	**23**	*eP*		**P**	**17**	**43**	**20.3 +0.7**
	comp=Z,1.7nm,1.0s								
NEY	**Neytrino**	**82.17**	**313**	*i* P		**P**	**17**	**43**	**21.7 +0.9**
NEY					pmax	pmax			
	comp=Z,2.0nm,0.8s								
KVAR	**Kislovodsk Arr**	**82.18**	**313**	P		**P**	**17**	**43**	**22.6 +1.8**
	comp=Z,5.4nm,0.8s,baz=102,slow=18,SNR=9.6								
KIV	**Kislovodsk**	**82.19**	**313**	*eP*		**P**	**17**	**43**	**21.5 +0.7**
	comp=Z,20nm,0.7s								
KIV	**Kislovodsk**	**82.19**	**313**	*eP*		**P**	**17**	**43**	**22.1 +1.3**
KIV					pmax	pmax			
	comp=Z,24nm,0.9s								
GHO	**Glory Hole Cre**	**82.27**	**28**	*eP*		**P**	**17**	**43**	**21.9 +1.0**
	comp=Z,5.4nm,1.0s								
ABPO	**Ambohimpanom**	**82.31**	**250**	*eP*		**P**	**17**	**43**	**21.3 -0.7**
	comp=Z,5.5nm,1.0s								
ABPO	**Ambohimpanom**	**82.31**	**250**	*eP*		**P**	**17**	**43**	**21.3 -0.7**
ABPO					pmax	pmax			
	comp=Z,6.0nm,1.0s								
MCK	**McKinley**	**82.36**	**27**	*eP*		**P**	**17**	**43**	**22.2 +1.0**
	comp=Z,8.2nm,1.1s								
RND	**Reindeer**	**82.38**	**27**	*eP*		**P**	**17**	**43**	**21.9 +0.5**
	comp=Z,3.8nm,0.9s								
RND	**Reindeer**	**82.38**	**27**	*eP*		**P**	**17**	**43**	**21.9 +0.5**
RND					pmax	pmax			
	comp=Z,4.0nm,0.9s								
SIRT	**Sirnak**	**82.46**	**307**	*eP*		**P**	**17**	**43**	**22.8 +0.5**
	comp=Z,116nm,1.0s								
KNK	**Knik Glacier**	**82.48**	**29**	*eP*		**P**	**17**	**43**	**22.6 +0.7**
	comp=Z,17nm,1.2s								
SML	**Sawmill**	**82.55**	**28**	*eP*		**P**	**17**	**43**	**22.0 -0.3**
	comp=Z,8.8nm,1.2s								
SML	**Sawmill**	**82.55**	**28**	*eP*		**P**	**17**	**43**	**22.0 -0.3**
SML					pmax	pmax			
	comp=Z,9.0nm,1.2s								
MDM	**Murphy Dome**	**82.73**	**25**	*eP*		**P**	**17**	**43**	**22.8 -0.3**
	comp=Z,3.1nm,1.2s								
WRH	**Wood River Hil**	**82.77**	**26**	*eP*		**P**	**17**	**43**	**23.1 -0.1**
	comp=Z,3.0nm,1.0s								
VRH	**Novokhopyorsk**	**82.84**	**321**	*eP*		**P**	**17**	**43**	**23.2 -0.7**
VRH					pmax	pmax			
	comp=Z,20nm,0.6s								
SCM	**Sheep Creek Mo**	**83.03**	**28**	*eP*		**P**	**17**	**43**	**25.9 +1.2**
	comp=Z,13nm,1.1s								
GLI	**Glacier Island**	**83.12**	**29**	*eP*		**P**	**17**	**43**	**25.9 +0.7**
	comp=Z,38nm,1.2s								
HDA	**Harding Lake**	**83.26**	**26**	*eP*		**P**	**17**	**43**	**24.6 -1.3**
	comp=Z,2.4nm,0.8s								
IL1	**Eielson Array**	**83.29**	**25**	*eP*		**P**	**17**	**43**	**25.6 -0.4**
ILAR	**Eielson Array**	**83.29**	**25**	P		**P**	**17**	**43**	**25.3 -0.7**
	comp=Z,1.6nm,0.9s,baz=248,slow=5.3,SNR=11								
ILB	**Eielson Array**	**83.29**	**25**	*eP*		**P**	**17**	**43**	**25.7 -0.3**
KLU	**Klutina**	**83.69**	**29**	*eP*		**P**	**17**	**43**	**27.9 -0.3**
DIV	**Divide**	**83.77**	**29**	*eP*		**P**	**17**	**43**	**28.2 -0.3**
	comp=Z,22nm,1.2s								
PRP	**Porcupine Dome**	**83.88**	**25**	*eP*		**P**	**17**	**43**	**28.7 -0.5**
	comp=Z,3.0nm,1.2s								
FYU	**Fort Yukon**	**84.00**	**24**	*eP*		**P**	**17**	**43**	**30.2 +0.7**
	comp=Z,8.2nm,1.2s								
KLMR	**Klimovskoe**	**84.03**	**331**⇑	*i* P		**P**	**17**	**43**	**29.8 0.0**
KLMR					pmax	pmax			
	comp=Z,14nm,0.6s								
KLMR	**Klimovskoe**	**84.03**	**331**⇑	*i* P		**P**	**17**	**43**	**29.8 0.0**
KLMR				*eP*		**P**	**17**	**43**	**29.8 0.0**
KLMR				*eP*		**P**	**17**	**43**	**29.8 0.0**
KLMR				AMP			17	43	31.3
	comp=Z,14nm,0.6s								
RIDG	**Independ'e Rid**	**84.18**	**27**	*eP*		**P**	**17**	**43**	**29.6 -0.9**
	comp=Z,6.2nm,1.0s								
VSR	**Storozhevoye**	**84.45**	**321**	*i* P		**P**	**17**	**43**	**30.4 -1.7**
VSR					pmax	pmax			
	comp=Z,22nm,0.8s								
HMT	**Hamilton**	**84.52**	**30**	*eP*		**P**	**17**	**43**	**28.9 -3.4**
	comp=Z,2.6nm,0.6s								

DOT	**Dot Lake**	**84.53**	**27**	*eP*		**P**	**17**	**43**	**31.3 -1.1**
	comp=Z,1.2nm,0.9s								
LPSR	**Galich'ya Gora**	**84.55**	**322**	*eP*		**P**	**17**	**43**	**32.4 -0.2**
LPSR					pmax	pmax			
	comp=Z,30nm,0.7s								
SCRK	**Sand Creek**	**84.56**	**26**	*eP*		**P**	**17**	**43**	**32.8 +0.2**
	comp=Z,2.6nm,1.2s								
VNDA	**Vanda**	**85.17**	**173**	P		**P**	**17**	**43**	**34.1 -1.0**
	comp=Z,6.2nm,1.0s,baz=290,slow=4.6,SNR=5.6								
VNDA	**Vanda**	**85.17**	**173**	*eP*		**P**	**17**	**43**	**35.6 +0.5**
MOS	**Moscow**	**85.18**	**325**	*eP*		**P**	**17**	**43**	**34.9 -0.8**
MOS				*e*			17	44	09.1
EGAK	**Eagle**	**85.75**	**25**	*eP*		**P**	**17**	**43**	**39.8 +1.5**
OBN	**Obninsk**	**85.82**	**325**	*eP*		**P**	**17**	**43**	**39.3 +0.5**
	comp=Z,22nm,0.6s								
OBN	**Obninsk**	**85.82**	**325**	*i* P		**P**	**17**	**43**	**38.6 -0.2**
OBN				*i* *PP		**pP**	**17**	**44**	**12.5 +5.1**
OBN				*i*			17	47	02.4
OBN					pmax	pmax			
	comp=Z,9.0nm,0.7s								
LVZ	**Lovozero**	**85.84**	**338**	*eP*		**P**	**17**	**43**	**39.4 +0.6**
LVZ	**Lovozero**	**85.84**	**338**	*eP*		**P**	**17**	**43**	**39.4 +0.6**
ANN	**Anapa**	**85.93**	**314**	*eP*		**P**	**17**	**43**	**39.5 -0.1**
ANN					pmax	pmax			
	comp=Z,135nm,1.6s								
INK	**Inuvik**	**88.33**	**22**	*eP*		**P**	**17**	**43**	**50.0 -0.6**
	comp=Z,1.9nm,1.1s								
INK	**Inuvik**	**88.33**	**22**	*eP*		**P**	**17**	**43**	**50.0 -0.6**
INK					pmax	pmax			
	comp=Z,2.0nm,1.1s								
KEV	**Kevo**	**88.33**	**340**	*eP*		**P**	**17**	**43**	**50.7 0.0**
SPA0	**Spitsbergen Ar**	**88.78**	**349**	*eP*		**P**	**17**	**43**	**52.2 -0.5**
SPA0	**Spitsbergen Ar**	**88.78**	**349**	*eP*		**P**	**17**	**43**	**53.1 +0.3**
ARA0	**ARCESS Array S**	**88.89**	**340**	*eP*		**P**	**17**	**43**	**52.9 -0.5**
ARCES	**ARCESS Array B**	**88.89**	**340**	P		**P**	**17**	**43**	**52.9 -0.5**
	comp=Z,3.4nm,0.4s,baz=83,slow=6.1,SNR=73								
ARE0	**ARCESS Array S**	**88.89**	**340**	*eP*		**P**	**17**	**43**	**52.9 -0.5**
BR101	**Keskin Array S**	**89.19**	**310**	*eP*		**P**	**17**	**43**	**54.3 -1.2**
BR131	**Keskin Array S**	**89.19**	**310**	*eP*		**P**	**17**	**43**	**55.2 -0.4**
BRTR	**Keskin Array B**	**89.19**	**310**	P		**P**	**17**	**43**	**54.3 -1.2**
	comp=Z,3.4nm,0.9s,baz=126,slow=4.2,SNR=18								
KTK1	**Kautokeino**	**89.80**	**340**	*eP*		**P**	**17**	**43**	**56.7 -0.9**
BR231	**Keskin MP Arra**	**89.83**	**310**	*eP*		**P**	**17**	**43**	**55.9 -2.6**
CSS	**Mathiatis**	**89.97**	**305**	*eP*		**P**	**17**	**43**	**59.1 -0.1**
	comp=Z,13nm,0.9s								
FIA0	**FINESS Array S**	**90.43**	**332**	*eP*		**P**	**17**	**44**	**00.1 -0.5**
FIA0	**FINESS Array S**	**90.43**	**332**	*eP*		**P**	**17**	**44**	**00.1 -0.5**
FINES	**FINESS Array B**	**90.43**	**332**	P		**P**	**17**	**44**	**00.1 -0.5**
	comp=Z,3.5nm,0.5s,baz=66,slow=4.7,SNR=45								
AKASG	**Malin Array Be**	**90.75**	**321**	P		**P**	**17**	**44**	**00.9 -1.5**
	comp=Z,2.2nm,0.4s,baz=66,slow=4.5,SNR=22								
AKBB	**Malin Array Si**	**90.75**	**321**	*eP*		**P**	**17**	**44**	**01.7 -0.6**
	comp=Z,3.7nm,0.9s								
AKBB	**Malin Array Si**	**90.75**	**321**	*eP*		**P**	**17**	**44**	**01.7 -0.6**
AKBB					pmax	pmax			
	comp=Z,4.0nm,0.9s								
AK11	**Malin Array Si**	**90.79**	**321**	*eP*		**P**	**17**	**44**	**02.0 -0.6**
TRO	**Tromso**	**91.09**	**341**	*eP*		**P**	**17**	**44**	**03.4 -0.1**
STEI	**Ste

MAN ***26*** *18:16:15.4, 3°.56N × 126°.69E, h4km, mb5.3, ML4.3, MS4.4*
ISCJB ***26*** *18:16:17.9±0.3, 3°.63N±0°.04 × 126°.72E±0°.06, h53km, mb4.3/23, Error ellipse: s-maj=8.7km s-min=3.8km az=155.3*
DJA ***26*** *18:16:17.9±0.5, 4°.N±20°.× 12°.7E±°, h22km±24km, M4.1/7, mb4.1/3, MLv4.1/7*
NEIC ***26*** *18:16:18.2±0.4, 3°.50N × 126°.25E, h35km, mb4.6/20, Error ellipse: s-maj=14.9km s-min=6.1km az=69.0*
IDC ***26*** *18:16:18.9±2.9, 3°.57N × 126°.59E, h41km±32km, mb3.6/8, mb1 3.8/10, mb1mx3.6/42, mbtmp3.9/10, ML4.3/2, Error ellipse: s-maj=39.8km s-min=12.2km az=66.0*

ISC 26 18:16:19.5±0.5, 3°.60N±0°.04×126°.65E±0°.07, h53km, n57, σ1$57/58, mb4.4/23, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.12**	**275**	P		**Pn**	**18 16 39.6**	**+0.6**
DDMP	**Don Marcelino,**	**2.66**	**339**	*e*P		**Pn**	**18 17 00.2**	**+0.2**
TNTI	**Ternate**	**2.89**	**166**	*e*Pn		**Pn**	**18 17 04.0**	**+0.9**
TNTI				*e*Sn		**Sn**	**18 17 39.2**	**+2.4**
TNTI	**Ternate**	**2.89**	**166**	P		**Pn**	**18 17 03.8**	**+0.6**
GSPH	**General Santos**	**3.00**	**326**	*e*P		**Pn**	**18 17 05.4**	**+0.6**
MATI	**Mati**	**3.35**	**353**	*e*P		**Pn**	**18 17 09.9**	**+0.5**
MATI				*e*S		**Sn**	**18 17 51.7**	**+3.7**
SKMP	**Bagumbayan, Su**	**3.58**	**324**	*e*P		**Pn**	**18 17 13.4**	**+0.8**
SKMP				*e*S		**Sn**	**18 17 54.9**	**+1.1**
DAV	**Davao City (W)**	**3.61**	**343**	P		**Pn**	**18 17 12.0**	**-1.1**
	44nm,0.3s,baz=248,slow=5.4,SNR=2.7							
DAV				S		Sn	18 18 08.9	+14
	baz=137,slow=22,SNR=4.0							
KMSI	**Cibinong**	**4.02**	**222**	P		**Pn**	**18 17 20.4**	**+1.9**
BUKP	**Musuan**	**4.54**	**340**	*e*P		**Pn**	**18 17 27.1**	**+1.3**
BUKP				*e*S		**Sn**	**18 18 21.6**	**+4.3**
MRSI	**Marisa**	**5.63**	**237**	P		**Pn**	**18 17 41.9**	**+1.1**
SIJI	**Sorong**	**6.40**	**134**	P		**Pn**	**18 17 52.2**	**+0.9**
	3.5nm,0.3s,baz=331,slow=18,SNR=15							
SIJI				S		**Sn**	**18 19 02.7**	**-0.3**
	0.8nm,0.3s,baz=156,slow=14,SNR=5.0							
APSI	**Ampana**	**6.71**	**228**	P		Pn	18 18 02.2	+6.7
FAKI	**Fak Fak**	**8.55**	**139**	*e*Pn		**Pn**	**18 18 22.9**	**+2.1**
KSM	**Kuching**	**16.46**	**263**	*e*Pn		Pn	18 19 59.3	-7.8
	11nm,1.1s							
MTN	**Manton Dam**	**16.93**	**165**	*e*Pn		**Pn**	**18 20 11.1**	**-1.7**
	55nm,1.5s							
TWG	**Pinlang**	**19.86**	**345**	*e*P		**P**	**18 20 42.5**	**-3.8**
	321nm,1.7s							
YULB	**Yu-li**	**20.35**	**346**	*e*P		**P**	**18 20 49.7**	**-2.0**
	119nm,2.0s							
TPUB	**Ta-pu**	**20.44**	**344**	*e*P		**P**	**18 20 52.0**	**-0.6**
	202nm,1.9s							
YHNB	**Yeheng**	**21.56**	**347**	*e*P		**P**	**18 21 03.6**	**-1.2**
	74nm,1.5s							
FITZ	**Fitzroy Crossi**	**21.58**	**183**	P		**P**	**18 21 05.0**	**+0.1**
	0.6nm,0.4s,baz=4.4,slow=13,SNR=6.6							
FITZ	**Fitzroy Crossi**	**21.58**	**183**	*e*P		**P**	**18 21 04.6**	**-0.3**
	12nm,1.3s							
PMG	**Port Moresby**	**24.18**	**122**	P		P	18 21 38.7	+7.6
	12nm,0.9s,baz=273,slow=5.8,SNR=7.8							
WR1	**Warramunga Arr**	**24.58**	**162**	*e*P		**P**	**18 21 35.2**	**+0.4**
	19nm,0.8s							
WRA	**Warramunga Arr**	**24.58**	**162**	P		**P**	**18 21 35.2**	**+0.4**
	2.8nm,0.5s,baz=334,slow=11,SNR=32							
AS31	**Alice Springs**	**28.00**	**166**	*e*P		**P**	**18 22 04.5**	**-1.2**
	0.9nm,0.8s							
ASAR	**Alice Springs**	**28.00**	**166**	P		**P**	**18 22 06.7**	**+1.0**
	0.5nm,0.5s,baz=347,slow=7.4,SNR=19							
AS01	**Alice Springs**	**28.01**	**166**	*e*P		**P**	**18 22 07.0**	**+1.2**
CM01	**Chiang Mai Arr**	**30.84**	**301**	*e*P		**P**	**18 22 28.1**	**-2.8**
CM31	**Chiang Mai Arr**	**30.87**	**301**	*e*P		**P**	**18 22 30.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**30.87**	**301**	P		**P**	**18 22 31.5**	**+0.3**
	0.6nm,0.7s,baz=115,slow=7.1,SNR=5.9							
CHTO	**Chiang Mai**	**31.02**	**301**	*e*P		P	18 22 28.5	-4.0
	11nm,1.8s							
ENH	**Enshi**	**31.11**	**330**	*e*P		**P**	**18 22 30.8**	**-2.2**
	10nm,1.4s							
KS15	**Wonju Array Si**	**33.70**	**2**	*e*P		**P**	**18 22 57.1**	**+1.4**
KSAR	**Wonju Array Be**	**33.70**	**2**	P		**P**	**18 22 57.4**	**+1.7**
KSRS	**Korea Array**	**33.72**	**2**	P		**P**	**18 22 57.4**	**+1.6**
	1.2nm,0.8s,baz=187,slow=10.0,SNR=5.6							
FORT	**Forrest**	**34.21**	**178**	*e*P		**P**	**18 22 58.3**	**-1.8**
	12nm,1.0s							
BJT	**Baijiatuan**	**37.48**	**347**	*e*P		**P**	**18 23 25.3**	**-2.8**
	5.9nm,0.6s							
STKA	**Stephens Creek**	**38.03**	**159**	P		**P**	**18 23 32.6**	**-0.2**
	1.2nm,0.4s,baz=350,slow=5.7,SNR=6.8							
STKA	**Stephens Creek**	**38.03**	**159**	*e*P		**P**	**18 23 34.1**	**+1.3**
	7.1nm,1.9s							
SHL	**Shillong**	**39.89**	**307**	*e*P		**P**	**18 23 47.6**	**-1.1**
	7.8nm,0.5s							
WAKE	**Wake Island**	**42.05**	**65**	*e*P		**P**	**18 24 05.4**	**-0.9**
	315nm,1.6s							
ASAJ	**Asahikawa**	**42.74**	**17**	*e*P		**P**	**18 24 14.8**	**+3.2**
	22nm,0.8s							
SONA0	**Songino Array**	**47.40**	**342**	*e*P		**P**	**18 24 49.0**	**+0.3**
SONM	**Songino Array**	**47.40**	**342**	P		**P**	**18 24 49.0**	**+0.3**
	0.7nm,0.6s,baz=154,slow=7.8,SNR=6.0							
SONA1	**Songino Array**	**47.41**	**342**	*e*P		**P**	**18 24 49.3**	**+0.5**
PETK	**Petropavlovsk-**	**55.58**	**22**	*e*P		**P**	**18 25 49.4**	**-0.3**
MK01	**Makanchi Array**	**57.60**	**325**	*e*P		**P**	**18 26 04.0**	**-0.1**
MK31	**Makanchi Array**	**57.62**	**325**	*e*P		**P**	**18 26 04.2**	**0.0**
MK32	**Makanchi Array**	**57.62**	**325**	*e*P		**P**	**18 26 04.2**	**-0.1**
MKAR	**Makanchi Array**	**57.62**	**325**	P		**P**	**18 26 04.2**	**-0.1**
	1.1nm,0.5s,baz=121,slow=7.4,SNR=29							
MKAR	**Makanchi Array**	**57.62**	**325**	*e*P		**P**	**18 26 04.1**	**-0.1**
	8.6nm,0.5s							
MAKZ	**Makanchi**	**57.81**	**325**	*e*P		**P**	**18 26 05.3**	**-0.2**
	8.7nm,1.9s							
KDJ	**Kajisay**	**58.40**	**318**	*e*P		**P**	**18 26 11.9**	**+1.9**
	3.2nm,1.0s							
KURK	**Kurchatov**	**61.81**	**328**	*e*P		**P**	**18 26 32.8**	**-0.1**
	3.1nm,0.6s							
BRVK	**Borovoye**	**67.46**	**327**	*e*P		**P**	**18 27 11.3**	**+1.6**
	13nm,1.9s							
ABKAR	**Akbulak array**	**72.20**	**321**	*e*P		**P**	**18 27 39.2**	**+0.2**

KRSC ***26*** *18:20:52.7±1.2, 52°.26N × 159°.79E, h44km±16km, ML4.8*
ISCJB ***26*** *18:20:54.8±0.6, 52°.30N±0°.04 × 159°.63E±0°.07, h62km±4km, mb3.8/24, Error ellipse: s-maj=8.4km s-min=4.2km az=39.3*
MOS ***26*** *18:20:54.5±0.8, 52°.31N × 159°.60E, h58km, mb4.2/15, Error ellipse: s-maj=10.5km s-min=4.8km az=97.0*
IDC ***26*** *18:20:59.3±1.6, 52°.53N × 159°.37E, h80km±11km, mb3.5/18, mb1 3.7/19, mb1mx3.6/38, mbtmp3.8/19, MS3.5/7, Ms1 3.5/7, ms1mx3.1/38, Error ellipse: s-maj=18.9km s-min=13.6km az=158.0*

ISC 26 18:20:54.7±1.1, 52°.29N±0°.04×159°.66E±0°.05, h46km±10km, n117, σ1$57/145, mb3.8/24, MS3.6/5, 5C-16D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.72**	**282**	*i* P		**Pn**	**18 21 08.5**	**0.0**
RUS				*e*S		**Sn**	**18 21 19.1**	**+0.7**
RUS	**Russkaya**	**0.72**	**282**	PN		**Pn**	**18 21 08.5**	**0.0**
RUS				S		**Sn**	**18 21 19.1**	**+0.7**
SPN	**Mys Shipunski**	**0.84**	**15**	*e*P		**Pn**	**18 21 09.4**	**-0.7**
SPN				*e*S		**Sn**	**18 21 21.1**	**-0.3**
SPN	**Mys Shipunski**	**0.84**	**15**	PN		**Pn**	**18 21 09.4**	**-0.7**
SPN				S		**Sn**	**18 21 21.1**	**-0.3**
NLC	**Nalytchevo**	**0.90**	**348**	*e*P		**Pn**	**18 21 10.3**	**-0.7**
NLC				*e*S		**Sn**	**18 21 22.7**	**-0.2**
NLC	**Nalytchevo**	**0.90**	**348**	PN		**Pn**	**18 21 10.3**	**-0.7**
NLC				S		**Sn**	**18 21 22.7**	**-0.2**
DALK	**Dalny**	**0.92**	**324**	*e*P		**Pn**	**18 21 11.2**	**-0.1**
DALK				*e*S		**Sn**	**18 21 23.5**	**+0.1**
DALK	**Dalny**	**0.92**	**324**	PN		**Pn**	**18 21 11.2**	**-0.1**
DALK				S		**Sn**	**18 21 23.5**	**+0.1**
MTVR	**Mutnovka**	**0.92**	**283**	*e*P		**Pn**	**18 21 11.7**	**+0.3**
MTVR				*e*S		**Sn**	**18 21 24.7**	**+1.0**
MTVR	**Mutnovka**	**0.92**	**283**	PN		**Pn**	**18 21 11.7**	**+0.3**
MTVR				S		**Sn**	**18 21 24.7**	**+1.0**
PET	**Petropavlovsk**	**0.95**	**321**	*i* P		**Pn**	**18 21 11.8**	**+0.1**
PET				*e*S		**Sn**	**18 21 24.3**	**+0.1**
PET	**Petropavlovsk**	**0.95**	**321**	PN		**Pn**	**18 21 11.8**	**+0.1**
PET				S		**Sn**	**18 21 24.3**	**+0.1**
GRL	**Gorelyy**	**1.00**	**286**	*i* P		**Pn**	**18 21 14.1**	**+1.6**
GRL				*e*S		**Sn**	**18 21 29.2**	**+3.6**
GRL	**Gorelyy**	**1.00**	**286**	PN		**Pn**	**18 21 14.1**	**+1.6**
GRL				S		**Sn**	**18 21 29.2**	**+3.6**
UGLR	**Uglovaya**	**1.05**	**331**	*e*P		**Pn**	**18 21 13.4**	**+0.3**
UGLR				*e*S		**Sn**	**18 21 28.1**	**+1.4**
UGLR	**Uglovaya**	**1.05**	**331**	PN		**Pn**	**18 21 13.4**	**+0.3**
UGLR				S		**Sn**	**18 21 28.1**	**+1.4**
KRMR	**Karymshinskiy**	**1.08**	**301**	*e*P		**Pn**	**18 21 13.8**	**+0.4**
KRMR				*e*S		**Sn**	**18 21 28.3**	**+1.1**
KRMR	**Karymshinskiy**	**1.08**	**301**	PN		**Pn**	**18 21 13.8**	**+0.4**
KRMR				S		**Sn**	**18 21 28.3**	**+1.1**
KDTR	**Khodutka, Kamc**	**1.09**	**244**	*e*P		**Pn**	**18 21 14.0**	**+0.5**
KDTR				*e*S		**Sn**	**18 21 28.5**	**+1.1**
KDTR	**Khodutka, Kamc**	**1.09**	**244**	PN		**Pn**	**18 21 14.0**	**+0.5**
KDTR				S		**Sn**	**18 21 28.5**	**+1.1**
SMAR	**Somma**	**1.10**	**332**	*e*P		**Pn**	**18 21 13.8**	**-0.2**
SMAR	**Somma**	**1.10**	**332**	PN		**Pn**	**18 21 13.8**	**-0.2**
AVH	**Avacha**	**1.12**	**331**	*i* P		**Pn**	**18 21 14.6**	**+0.5**
AVH				*e*S		**Sn**	**18 21 30.1**	**+1.7**
AVH	**Avacha**	**1.12**	**331**	PN		**Pn**	**18 21 14.6**	**+0.5**
AVH				S		**Sn**	**18 21 30.1**	**+1.7**
KOK	**Koryaka**	**1.18**	**329**	*i* P		**Pn**	**18 21 15.4**	**+0.5**
KOK	**Koryaka**	**1.18**	**329**	PN		**Pn**	**18 21 15.4**	**+0.5**
KRX	**Arik**	**1.23**	**331**	*e*P		**Pn**	**18 21 15.9**	**+0.3**
KRX				*e*S		**Sn**	**18 21 32.1**	**+0.9**
KRX	**Arik**	**1.23**	**331**	PN		**Pn**	**18 21 15.9**	**+0.3**
KRX				S		**Sn**	**18 21 32.1**	**+0.9**
PETK	**Petropavlovsk-**	**1.45**	**305**	P		**Pn**	**18 21 19.3**	**+0.9**
	147nm,0.3s,baz=115,slow=19,SNR=1265							
PETK				S		**Sn**	**18 21 36.6**	**+0.4**
	218nm,0.3s,baz=103,slow=19,SNR=25							
PETK				LR		LR	18 22 08.5	
	comp=Z,777nm,19.9s,baz=88,slow=59							
APC	**Apacha**	**1.65**	**294**	*e*P		**Pn**	**18 21 23.0**	**+1.8**
APC				*e*S		**Sn**	**18 21 45.1**	**+3.9**
APC	**Apacha**	**1.65**	**294**	PN		**Pn**	**18 21 23.0**	**+1.8**
APC				S		**Sn**	**18 21 45.1**	**+3.9**
GNL	**Ganaly**	**1.75**	**324**	*e*P		**Pn**	**18 21 23.7**	**+1.1**
GNL				*e*S		**Sn**	**18 21 46.5**	**+2.7**
GNL	**Ganaly**	**1.75**	**324**	PN		**Pn**	**18 21 23.7**	**+1.1**
GNL				S		**Sn**	**18 21 46.5**	**+2.7**
KII	**Karymskiy**	**1.75**	**356**	*e*P		**Pn**	**18 21 23.3**	**+0.6**
KII				*e*S		**Sn**	**18 21 48.2**	**+4.4**
KII	**Karymskiy**	**1.75**	**356**	PN		**Pn**	**18 21 23.3**	**+0.6**
KII				S		**Sn**	**18 21 48.2**	**+4.4**
PAU	**Pauzhetka**	**1.95**	**246**	*e*P		**Pn**	**18 21 26.7**	**+1.4**
PAU	**Pauzhetka**	**1.95**	**246**	PN		**Pn**	**18 21 26.7**	**+1.4**
SKR	**Severo-Kuril's**	**2.74**	**235**	*e*P		**Pn**	**18 21 37.5**	**+1.4**
SKR				*e*S		**Sn**	**18 22 09.4**	**+1.5**
SKR	**Severo-Kuril's**	**2.74**	**235**	*e*PN		**Pn**	**18 21 36.7**	**+0.6**
SKR				*e*S		**Sn**	**18 22 08.3**	**+0.4**
SKR				smax		smax		
	comp=E,1μm,0.6s							
SKR				smax		smax		
	comp=N,1μm,0.5s							
SKR				MLR		MLR		
	comp=Z,300nm,19.0s							
KZV	**Kizimen**	**2.85**	**7**	*e*P		**Pn**	**18 21 38.7**	**+0.9**
KZV				*e*S		**Sn**	**18 22 13.3**	**+2.3**
KZV	**Kizimen**	**2.85**	**7**	PN		**Pn**	**18 21 38.7**	**+0.9**
KZV				S		**Sn**	**18 22 13.3**	**+2.3**
TUMD	**Tumrok D**	**2.95**	**8**	*e*P		**Pn**	**18 21 40.2**	**+1.1**
TUMD				*e*S		**Sn**	**18 22 15.4**	**+2.2**
TUMR	**Tumrok**	**3.01**	**5**	*e*P		**Pn**	**18 21 41.7**	**+1.7**
TUMR	**Tumrok**	**3.01**	**5**	PN		**Pn**	**18 21 41.7**	**+1.7**
ESO	**Esso**	**3.68**	**352**	*e*P		**Pn**	**18 21 51.4**	**+2.3**
ESO	**Esso**	**3.68**	**352**	PN		**Pn**	**18 21 51.4**	**+2.3**
KLY	**Klyuchi**	**4.07**	**8**	*e*P		**Pn**	**18 21 57.9**	**+3.5**
KLY	**Klyuchi**	**4.07**	**8**	PN		**Pn**	**18 21 57.9**	**+3.5**
KBTR	**Krutoberegovo**	**4.34**	**24**	*e*P		**Pn**	**18 21 58.8**	**+0.7**
KBTR	**Krutoberegovo**	**4.34**	**24**	PN		**Pn**	**18 21 58.8**	**+0.7**
BDR	**Baidarnaya**	**4.38**	**11**	*e*P		**Pn**	**18 22 01.2**	**+2.5**
BDR	**Baidarnaya**	**4.38**	**11**	PN		**Pn**	**18 22 01.2**	**+2.5**
SRKR	**Sorokina**	**4.46**	**11**	*e*P		**Pn**	**18 22 02.9**	**+3.1**
SRKR	**Sorokina**	**4.46**	**11**	PN		**Pn**	**18 22 02.9**	**+3.1**
MA2	**Magadan**	**8.84**	**329**	LR		LR	18 26 54.5	
	comp=Z,181nm,19.8s,baz=150,slow=42							
ASAJ	**Asahikawa**	**13.99**	**241**	P		**P**	**18 24 16.2**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=69,slow=14,SNR=10.0							
BILL	**Bilibino**	**16.12**	**9**	*i* P		**Pn**	**18 24 38.5**	**+0.7**
BILL				pmax		pmax		
	comp=Z,4.0nm,0.8s							
KLR	**Kul'dur**	**17.87**	**271**	P		**Pn**	**18 24 59.0**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=31,slow=5.9,SNR=3.1							
KLR				LR		LR	18 32 03.8	
	comp=Z,98nm,19.5s,baz=47,slow=38							
KLR	**Kul'dur**	**17.87**	**271**	*i* P		**P**	**18 24 59.9**	**-0.1**
MJAR	**Matsushiro Arr**	**21.84**	**232**	P		**P**	**18 25 44.9**	**+1.7**
	comp=Z,3.1nm,0.9s,baz=13,slow=5.9,SNR=7.0							
MJAR	**Matsushiro Arr**	**21.84**	**232**	P		**P**	**18 25 44.9**	**+1.7**
MJAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
TIXI	**Tiksi**	**23.70**	**336**	P		**P**	**18 25 59.9**	**-2.0**
	comp=Z,6.1nm,0.7s,baz=125,slow=8.6,SNR=23							
TIXI				LR		LR	18 36 20.5	
	comp=Z,81nm,20.4s,baz=114,slow=39							
TIXI	**Tiksi**	**23.70**	**336**	*i* P		**P**	**18 26 00.5**	**-1.4**
TIXI				pmax		pmax		
	comp=Z,7.0nm,0.8s							
JNU	**Nakatsue**	**28.24**	**239**	LR		LR	18 37 42.5	
	comp=Z,62nm,18.2s,baz=135,slow=36							
ILAR	**Eielson Array**	**29.57**	**44**	P		**P**	**18 26 54.7**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=266,slow=8.2,SNR=2.8							
H11N2	**WAKE ISLAND Hy**	**32.98**	**167**	T		T	19 02 31.1	
	baz=351,slow=76,SNR=136							
H11N3	**WAKE ISLAND Hy**	**33.00**	**167**	T		T	19 02 35.9	
	baz=351,slow=76,SNR=156							
H11N1	**WAKE ISLAND Hy**	**33.00**	**167**	T		T	19 02 36.2	
	baz=351,slow=76,SNR=144							
ULN	**Ulaanbaatar**	**33.43**	**284**	*i* P		**P**	**18 27 28.9**	**-0.1**
ULN				pmax		pmax		
	comp=Z,4.0nm,1.4s							
SONM	**Songino Array**	**33.83**	**284**	P		**P**	**18 27 31.2**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=67,slow=7.8,SNR=3.8							
SONM				PcP		**PcP**	**18 30 11.3**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=87,slow=2.2,SNR=2.8							
SONM				LR		LR	18 42 09.7	
	comp=Z,108nm,19.2s,baz=184,slow=38							
H11S1	**WAKE ISLAND Hy**	**34.16**	**168**	T		T	19 04 03.0	
	baz=351,slow=76,SNR=29							
H11S3	**WAKE ISLAND Hy**	**34.17**	**168**	T		T	19 04 06.1	
	baz=351,slow=76,SNR=62							
H11S2	**WAKE ISLAND Hy**	**34.18**	**168**	T		T	19 04 02.7	
	baz=351,slow=76,SNR=20							
YKA	**Yellowknife Ar**	**43.94**	**42**	P		**P**	**18 28 57.2**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=295,slow=7.3,SNR=3.1							
KURK	**Kurchatov**	**47.93**	**302**	*i* P		**P**	**18 29 24.5**	**-3.7**
KURK				pmax		pmax		
	comp=Z,2.0nm,0.9s							
MKAR	**Makanchi Array**	**48.27**	**296**	P		**P**	**18 29 28.1**	**-2.8**
	comp=Z,0.5nm,0.5s,baz=55,slow=7.0,SNR=9.2							
MKAR				LR		LR	18 51 02.1	
	comp=Z,73nm,18.4s,baz=2.0,slow=38							
BRVK	**Borovoye**	**50.71**	**309**	*i* P		**P**	**18 29 48.0**	**-1.4**
BRVK				pmax		pmax		
	comp=Z,1.0nm,1.1s							
ARCES	**ARCESS Array B**	**53.97**	**342**	P		**P**	**18 30 11.8**	**-1.5**
	comp=Z,1.9nm,0.7s,baz=34,slow=8.8,SNR=4.2							
AAK	**Ala-Archa**	**55.19**	**296**	*i* P		**P**	**18 30 19.2**	**-3.6**
AAK				pmax		pmax		
	comp=Z,1.0nm,1.0s							
NVAR	**Mina Array Bea**	**56.27**	**69**	P		**P**	**18 30 32.4**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=288,slow=8.1,SNR=5.9							
CMAR	**Chiang Mai Arr**	**57.76**	**258**	P		**P**	**18 30 42.1**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=55,slow=3.4,SNR=3.7							
PDAR	**Pinedale Array**	**58.15**	**60**	P		**P**	**18 30 45.5**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=336,slow=3.3,SNR=3.8							
FINES	**FINESS Array B**	**60.75**	**336**	P		**P**	**18 31 00.5**	**-0.7**
	comp=Z,3.4nm,0.9s,baz=28,slow=8.6,SNR=10							
NB2	**NORSAR Subarra**	**64.24**	**344**	P		**P**	**18 31 23.6**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=21,slow=6.9							
NOA	**NORSAR Array B**	**64.24**	**344**	P		**P**	**18 31 23.8**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=20,slow=6.7,SNR=11							
AKASG	**Malin Array Be**	**69.16**	**329**	P		**P**	**18 31 54.5**	**-1.4**
	comp=Z,2.0nm,0.5s,baz=31,slow=6.3,SNR=11							
KIV	**Kislovodsk**	**69.84**	**317**	*e*P		**P**	**18 32 00.3**	**-0.1**
KIV				pmax		pmax		
	comp=Z,5.0nm,1.1s							
KBZ	**Khabaz**	**69.94**	**316**	P		**P**	**18 31 59.8**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=95,slow=3.4,SNR=4.7							
TXAR	**Lajitas Array**	**71.20**	**66**	P		**P**	**18 32 10.0**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=317,slow=5.1,SNR=5.8							
BURAR	**Bucovina Array**	**73.13**	**330**	*i* P		**P**	**18 32 19.2**	**-1.0**
BURAR	**Bucovina Array**	**73.13**	**330**	P		**P**	**18 32 19.2**	**-1.0**
MORC	**Moravsky Berou**	**73.35**	**335**	*i* P		**P**	**18 32 21.3**	**0.0**
MORC	**Moravsky Berou**	**73.35**	**335**	P		**P**	**18 32 21.3**	**0.0**
LANS	**Liptovska Anna**	**73.42**	**334**	*e*P		**P**	**18 32 22.4**	**+0.7**
LANS	**Liptovska Anna**	**73.42**	**334**	*e*P		**P**	**18 32 22.4**	**+0.7**
TRPA	**Tarpa**	**73.48**	**332**	*i* P		**P**	**18 32 18.8**	**-3.2**
VRAC	**Vranov**	**74.02**	**336**	LR		LR	19 11 33.8	
	comp=Z,94nm,18.1s,baz=352,slow=41							
VYHS	**Vyhne**	**74.19**	**334**	*e*P		**P**	**18 32 25.8**	**-0.4**
VYHS				pmax		pmax		
	comp=Z,1.0nm,0.6s							
VYHS	**Vyhne**	**74.19**	**334**	*e*P		**P**	**18 32 25.8**	**-0.4**
DRGR		**74.63**	**331**	*i* P		**P**	**18 32 28.4**	**-0.5**
DRGR		**74.63**	**331**	P		**P**	**18 32 28.4**	**-0.5**
MLR	**Muntele Rosu**	**74.79**	**328**	*i* P		**P**	**18 32 30.1**	**+0.2**
MLR	**Muntele Rosu**	**74.79**	**328**	P		**P**	**18 32 30.1**	**+0.2**
VOIR		**75.13**	**329**	*i* P		**P**	**18 32 31.6**	**-0.2**
VOIR		**75.13**	**329**	P		**P**	**18 32 31.6**	**-0.2**
GERES	**GERESS Array B**	**75.15**	**338**	P		**P**	**18 32 31.6**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=22,slow=4.3,SNR=4.4							
ARR	**Arges**	**75.32**	**329**	*i* P		**P**	**18 32 33.3**	**+0.4**
SIRR	**Siria**	**75.42**	**331**	*i* P		**P**	**18 32 33.1**	**-0.3**
LOT	**Lotru**	**75.52**	**330**	*i* P		**P**	**18 32 37.5**	**+3.4**
GZR	**Gura Zlata**	**75.87**	**330**	*i* P		**P**	**18 32 34.9**	**-1.2**
GZR	**Gura Zlata**	**75.87**	**330**	P		**P**	**18 32 34.9**	**-1.2**
BZS	**Buzias**	**76.02**	**331**	*i* P		**P**	**18 32 36.3**	**-0.5**
BZS	**Buzias**	**76.02**	**331**	P		**P**	**18 32 36.3**	**-0.5**
BRTR	**Keskin Array B**	**77.07**	**320**	P		**P**	**18 32 42.5**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=42,slow=3.3,SNR=6.5							
VTS	**Vitosha**	**78.27**	**329**	*i* P		**P**	**18 32 49.2**	**-0.4**
VTS	**Vitosha**	**78.27**	**329**	P		**P**	**18 32 49.2**	**-0.4**
ASAR	**Alice Springs**	**78.92**	**204**	P		**P**	**18 32 54.1**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=14,slow=5.0,SNR=8.8							

NSSP ***26*** *18:23:40.2, 38°.70N × 43°.17E, h8km, Ms3.1*
TEH ***26*** *18:23:41.5, 38°.61N × 43°.19E, h9km, ML3.2*
DDA ***26*** *18:23:41.4, 38°.61N × 43°.22E, h20km, ML3.6*
ISK ***26*** *18:23:41.4, 38°.61N × 43°.19E, h3km, ML3.5/14*

ISC 26 18:23:42.4±0.9, 38°.61N±0°.02×43°.20E±0°.02, h15km±6km, n72, σ1$17/87, 1C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**95**	PG		**Pg**	**18 23 46.2**	**-0.3**
VANB				SG		**Sg**	**18 23 49.7**	**+0.5**
VANB	**Van**	**0.15**	**95**	*e*Pg		**Pg**	**18 23 46.2**	**-0.3**
TVAN	**Van**	**0.18**	**116**	IAML_P				
	comp=Z,345μm,0.2s							
TVAN				*i* P		**Pg**	**18 23 46.6**	**-0.4**
TVAN	**Van**	**0.18**	**116**	*e*Pg		**Pg**	**18 23 46.2**	**-0.8**
GEVA	**Gevas**	**0.32**	**200**	IAML_P				
	comp=Z,150μm,0.2s							

DDFL	**Dedoflistskaro**	**3.61**	**37**	P	**Pg**	**18 24 53.7**	**+2.1**
LGD	**Lagodekhi**	**3.98**	**35**	P	**Pg**	**18 24 55.1**	**-3.5**

*IDC **26** 18:36:35.1±2.3,4.4°40S×131.66E, h0km, mb3.8/3, mb1 4.1/7, mb1mx3.8/32, mbtmp3.9/7, ML3.7/4, MS3.8/9, Ms1 3.7/9, ms1mx3.4/39, Error ellipse: s-maj=61.4km s-min=25.9km az=97.0*

*ISCJB **26** 18:36:38.1±0.3,4.41S±0.03×131.60E±0.04, h33km, mb4.5/14, MS3.8/5, Error ellipse: s-maj=6.3km s-min=4.0km az=11.3*

*NEIC **26** 18:36:40.4±0.9,4.39S×131.71E, h42km±10km, mb4.6/15, Error ellipse: s-maj=10.9km s-min=7.5km az=63.0*

*DJA **26** 18:36:42.2±1.4,4.4°S±6×13.1E±, h29km±16km, M4.5/7, mb4.6/2, MLv4.4/7*

ISC 26 18:36:39.7±0.6, 4.39S±0.05×131.58E±0.06, h35km, n56, σ2s24/61, mb4.6/14, MS3.9/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.61**	**25**	*e*Pn	**Pn**	**18 37 05.0**	**-0.6**
FAKI	**Fak Fak**	**1.61**	**25**	P	**Pn**	**18 37 05.3**	**-0.3**
FAKI				S	**Sn**	**18 37 24.9**	**-0.3**
BNDI	**Bandanaira**	**1.68**	**265**	P	**Pn**	**18 37 09.4**	**+2.9**
SIJI	**Sorong**	**3.51**	**355**	Pn	**Pn**	**18 37 29.7**	**-2.2**
	6.5nm,0.3s,baz=296,slow=23,SNR=34						
SIJI				Sn	**Sn**	**18 38 07.3**	**-4.9**
	26nm,0.3s,baz=49,slow=19,SNR=17						
SIJI				LR	LR	18 39 39.4	
	comp=Z,1μm,18.9s,baz=32,slow=52						
SWI	**Sorong**	**3.52**	**355**	P	**Pn**	**18 37 31.0**	**-0.9**
SWI				S	**Sn**	**18 38 07.0**	**-5.4**
SAUI	**Saumlaki**	**3.58**	**184**	*e*Pn	**Pn**	**18 37 32.1**	**-0.6**
RKPI	**Ransiki, Papua**	**3.86**	**42**	P	**Pn**	**18 37 37.7**	**+1.0**
RKPI				S	**Sn**	**18 38 20.8**	**-0.1**
SRPI	**Serui, Papua**	**5.28**	**62**	P	**Pn**	**18 37 58.2**	**+2.0**
SANI	**Sanana**	**6.05**	**292**	P	**Pn**	**18 38 06.0**	**-0.7**
SANI				S	**Sn**	**18 39 10.9**	**-3.9**
MTN	**Manton Dam**	**8.41**	**183**	*e*Pn	**Pn**	**18 38 42.8**	**+3.6**
MTN				*e*Sn	**Sn**	**18 40 15.8**	**+2.9**
SOEI	**Soe**	**9.00**	**233**	*e*Pn	**Pn**	**18 38 50.2**	**+2.8**
LUWI	**Luwuk**	**9.40**	**290**	*e*Pn	**Pn**	**18 38 57.5**	**+4.7**
BATI	**Baumata**	**9.75**	**233**	Pn	**Pn**	**18 38 58.8**	**+1.2**
	1.9nm,0.3s,baz=357,slow=1.2,SNR=5.6						
BATI				LR	LR	18 43 17.2	
	comp=Z,345nm,21.1s,baz=63,slow=41						
FITZ	**Fitzroy Crossi**	**14.81**	**203**	Pn	**Pn**	**18 40 04.9**	**-1.8**
	0.4nm,0.3s,baz=27,slow=8.8,SNR=19						
FITZ				Sn	**Sn**	**18 42 44.5**	**-5.2**
	0.1nm,0.3s,baz=184,slow=14,SNR=2.4						
FITZ				LR	LR	18 47 18.8	
	comp=Z,195nm,20.8s,baz=22,slow=43						
FITZ	**Fitzroy Crossi**	**14.81**	**203**	*e*Pn	**Pn**	**18 40 04.6**	**-2.1**
FITZ				Sn	**Sn**	**18 42 44.5**	**-5.2**
COEN	**Coen**	**14.87**	**130**	*e*Pn	**Pn**	**18 40 06.7**	**-0.9**
WRAB	**Tennant Creek**	**15.68**	**170**	*e*Pn	**Pn**	**18 40 16.8**	**-1.4**
	8.0nm,0.7s						
WR1	**Warramunga Arr**	**15.69**	**170**	*e*Pn	**Pn**	**18 40 16.8**	**-1.5**
WR1				*e*Sn	**Sn**	**18 43 06.6**	**-4.6**
WRA	**Warramunga Arr**	**15.69**	**170**	Pn	**Pn**	**18 40 16.8**	**-1.5**
	0.1nm,0.3s,baz=356,slow=13,SNR=7.5						
WRA				Sn	**Sn**	**18 43 06.6**	**-4.6**
	0.2nm,0.3s,baz=350,slow=22,SNR=5.0						
WRA				LR	LR	18 47 48.4	
	comp=Z,358nm,18.2s,baz=340,slow=43						
AS31	**Alice Springs**	**19.29**	**174**	*e*P	**Pn**	**18 41 02.9**	**-0.1**
	2.1nm,0.7s						
ASAR	**Alice Springs**	**19.30**	**174**	P	**Pn**	**18 41 05.0**	**+2.1**
	0.3nm,0.3s,baz=350,slow=9.6,SNR=30						
AS01	**Alice Springs**	**19.30**	**173**	*e*P	**Pn**	**18 41 04.7**	**+1.7**
SBUM	**Sibu**	**20.50**	**289**	*e*P	**P**	**18 41 16.5**	**+1.5**
	6.0nm,0.8s						
KSM	**Kuching**	**22.04**	**285**	*e*P	**P**	**18 41 33.6**	**+2.1**
	39nm,1.7s						
CISI	**Cisompet, Garu**	**23.84**	**261**	*e*P	**P**	**18 41 50.8**	**+0.7**
	61nm,1.2s						
LEM	**Lembang**	**23.97**	**263**	LR	LR	18 52 16.3	
	comp=Z,360nm,19.2s,baz=190,slow=39						
STKA	**Stephens Creek**	**28.91**	**162**	LR	LR	18 56 35.7	
	comp=Z,322nm,18.6s,baz=355,slow=42						
PSI	**Prapat**	**33.40**	**282**	*e*P	**P**	**18 43 16.0**	**+0.5**
	24nm,1.9s						
GSI	**Gunungsitoli**	**34.45**	**279**	*e*P	**P**	**18 43 25.7**	**+1.2**
	16nm,1.2s						
CM01	**Chiang Mai Arr**	**39.34**	**306**	*e*P	**P**	**18 44 06.9**	**+1.0**
CM31	**Chiang Mai Arr**	**39.37**	**306**	*e*P	**P**	**18 44 06.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**39.37**	**306**	P	**P**	**18 44 06.3**	**+0.1**
	0.9nm,0.7s,baz=136,slow=7.7,SNR=12						
CHTO	**Chiang Mai**	**39.56**	**307**	*e*P	**P**	**18 44 08.9**	**+1.1**
	6.8nm,1.5s						
KSRS	**Korea Array**	**41.77**	**356**	LR	LR	19 03 26.2	
	comp=Z,46nm,18.9s,baz=170,slow=39						
KS01	**Wonju Array Si**	**41.79**	**356**	*e*P	**P**	**18 44 25.0**	**-1.0**
LSA	**Lhasa**	**51.47**	**314**	*e*P	**P**	**18 45 43.3**	**+0.7**
SONA0	**Songino Array**	**56.51**	**340**	*e*P	**P**	**18 46 20.4**	**+1.8**
SONM	**Songino Array**	**56.51**	**340**	P	**P**	**18 46 20.4**	**+1.8**
	0.3nm,0.5s,baz=166,slow=6.7,SNR=2.5						
SONA1	**Songino Array**	**56.52**	**340**	*e*P	**P**	**18 46 20.1**	**+1.4**
NIL	**Nilore**	**66.75**	**309**	*e*P	**P**	**18 47 27.4**	**-0.4**
	13nm,0.3s						
MK01	**Makanchi Array**	**66.93**	**326**	*e*P	**P**	**18 47 29.6**	**+0.9**
MK31	**Makanchi Array**	**66.95**	**326**	*e*P	**P**	**18 47 29.8**	**+1.0**
MK32	**Makanchi Array**	**66.95**	**326**	*e*P	**P**	**18 47 30.3**	**+1.5**
MKAR	**Makanchi Array**	**66.95**	**326**	P	**P**	**18 47 30.3**	**+1.5**
	2.1nm,0.6s,baz=114,slow=8.0,SNR=9.3						
MKAR	**Makanchi Array**	**66.95**	**326**	*e*P	**P**	**18 47 29.4**	**+0.6**
	13nm,0.6s						
PRZ	**Przheval'sk**	**66.99**	**320**	*e*P	**P**	**18 47 29.2**	**-0.2**
TARG	**Taragay, Kyrgy**	**67.01**	**319**	*e*P	**P**	**18 47 29.5**	**-0.3**
	2.2nm,0.7s						
MAKZ	**Makanchi**	**67.13**	**325**	*e*P	**P**	**18 47 31.4**	**+1.4**
	9.3nm,1.5s						
ZAA0	**Zalesovo Array**	**69.98**	**333**	*e*P	**P**	**18 47 47.9**	**+0.4**
	3.5nm,1.0s						
ZALV	**Zalesovo Beam**	**69.98**	**333**	*e*P	**P**	**18 47 47.9**	**+0.4**
ARSB	**Arslanbob**	**70.05**	**317**	*e*P	**P**	**18 47 47.0**	**-1.4**
	24nm,1.9s						
KURK	**Kurchatov**	**71.15**	**328**	*e*P	**P**	**18 47 54.8**	**+0.1**
	5.8nm,1.1s						
KK31	**Karatay Array**	**72.45**	**318**	*e*P	**P**	**18 48 03.0**	**+0.2**
KKAR	**Karatay Array**	**72.45**	**318**	*e*P	**P**	**18 48 02.6**	**-0.2**
GEYT	**Alibeck**	**79.75**	**310**	LR	LR	19 27 58.3	
	comp=Z,48nm,18.3s,baz=0,slow=39						
KDAK	**Kodiak Island**	**86.19**	**31**	LR	LR	19 22 01.4	
	comp=Z,52nm,20.0s,baz=263,slow=32						

*ISCJB **26** 18:37:26.9±0.2,52.90N±0.03×158.12E±0.04, h143km±1km, mb4.4/97, Error ellipse: s-maj=5.6km s-min=3.3km az=142.9*

*MOS **26** 18:37:26.9±1.1,52.88N×158.07E, h141km, mb4.2/22, Error ellipse: s-maj=10.4km s-min=5.3km az=68.5*

*KRSC **26** 18:37:27.8±0.6,52.79N×158.39E, h133km±5km, ML4.4*

*NEIC **26** 18:37:27.7±0.2,52.98N×158.04E, mb4.7/78, Error ellipse: s-maj=5.6km s-min=2.8km az=157.0*

*IDC **26** 18:37:28.4±0.4,53.01N×157.95E, h137km±2km, mb3.8/23, mb1 4.0/25, mb1mx3.8/42, mbtmp4.2/25, Error ellipse: s-maj=12.9km s-min=8.0km az=144.0*

ISC 26 18:37:27.9±0.4, 52.82N±0.04×158.25E±0.04, h138km±3km, h137km:pP-P, n260, σ1s17/306, mb4.5/96, 2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRMR	**Karymshinskiy**	**0.07**	**281**	*e*P	**Pn**	**18 37 46.3**	**-0.2**
KRMR				*e*S	**Sn**	**18 38 00.6**	**+0.1**
KRMR	**Karymshinskiy**	**0.07**	**281**	PN	**Pn**	**18 37 46.3**	**-0.2**
KRMR				S	**Sn**	**18 38 00.6**	**+0.1**
GRL	**Gorelyy**	**0.28**	**202**	*i* P	**Pn**	**18 37 47.8**	**+0.7**
GRL	**Gorelyy**	**0.28**	**202**	PN	**Pn**	**18 37 47.8**	**+0.7**
PET	**Petropavlovsk**	**0.32**	**50**	*e*Pn	**Pn**	**18 37 46.3**	**-0.7**
PET	**Petropavlovsk**	**0.32**	**50**	*i* P	**Pn**	**18 37 46.9**	**-0.1**
PET				*e*S	**Sn**	**18 38 01.3**	**-0.2**
PET	**Petropavlovsk**	**0.32**	**50**	*i* PN	**Pn**	**18 37 46.8**	**-0.2**
PET				*e*S	**Sn**	**18 38 00.6**	**-0.9**
PET				pmax	pmax		
	comp=Z,4μm,0.6s						
PET				smax	smax		
	comp=N,2μm,0.9s						
PET				smax	smax		
	comp=N,2μm,0.7s						
PET				smax	smax		
	comp=E,2μm,0.6s						
MTVR	**Mutnovka**	**0.34**	**187**	*e*P	**Pn**	**18 37 47.6**	**+0.3**
MTVR				*e*S	**Sn**	**18 38 03.2**	**+1.3**
MTVR	**Mutnovka**	**0.34**	**187**	PN	**Pn**	**18 37 47.6**	**+0.3**
MTVR				S	**Sn**	**18 38 03.2**	**+1.3**
DALK	**Dalny**	**0.38**	**55**	*e*P	**Pn**	**18 37 47.0**	**-0.2**
DALK				*e*S	**Sn**	**18 38 01.4**	**-0.5**
DALK	**Dalny**	**0.38**	**55**	PN	**Pn**	**18 37 47.0**	**-0.2**
DALK				S	**Sn**	**18 38 01.4**	**-0.5**
RUS	**Russkaya**	**0.42**	**157**	*i* P	**Pn**	**18 37 47.1**	**-0.3**
RUS				*e*S	**Sn**	**18 38 01.5**	**-0.7**
RUS	**Russkaya**	**0.42**	**157**	PN	**Pn**	**18 37 47.1**	**-0.3**
RUS				S	**Sn**	**18 38 01.5**	**-0.7**
PEA0B	**Petropavlovsk-**	**0.44**	**312**	*e*Pn	**Pn**	**18 37 47.7**	**+0.2**
PEA0B				*e*Sn	**Sn**	**18 38 02.6**	**+0.1**
PETK	**Petropavlovsk-**	**0.44**	**312**	P	**Pn**	**18 37 47.9**	**+0.3**
	comp=E,194nm,0.3s,baz=105,slow=9.3,SNR=5420						
PETK				S	**Sn**	**18 38 02.4**	**-0.2**
	comp=E,170nm,0.3s,baz=90,slow=29,SNR=48						
PETK	**Petropavlovsk-**	**0.44**	**312**	*e*Pn	**Pn**	**18 37 47.5**	**0.0**
PETK				*e*Sn	**Sn**	**18 38 02.3**	**-0.2**
PEA1	**Petropavlovsk-**	**0.45**	**312**	*e*Pn	**Pn**	**18 37 47.9**	**+0.3**
PEA1				*e*Sn	**Sn**	**18 38 02.4**	**-0.1**
UGLR	**Uglovaya**	**0.53**	**41**	*e*P	**Pn**	**18 37 48.3**	**+0.2**
UGLR	**Uglovaya**	**0.53**	**41**	PN	**Pn**	**18 37 48.3**	**+0.2**
KOK	**Koryaka**	**0.53**	**26**	*e*P	**Pn**	**18 37 48.5**	**+0.4**
KOK	**Koryaka**	**0.53**	**26**	PN	**Pn**	**18 37 48.5**	**+0.4**
AVH	**Avacha**	**0.54**	**33**	*e*P	**Pn**	**18 37 48.2**	**0.0**
AVH	**Avacha**	**0.54**	**33**	PN	**Pn**	**18 37 48.2**	**0.0**
SMAR	**Somma**	**0.56**	**37**	*i* P	**Pn**	**18 37 48.5**	**+0.1**
SMAR	**Somma**	**0.56**	**37**	PN	**Pn**	**18 37 48.5**	**+0.1**
KRX	**Arik**	**0.60**	**24**	*e*P	**Pn**	**18 37 48.6**	**0.0**
KRX	**Arik**	**0.60**	**24**	PN	**Pn**	**18 37 48.6**	**0.0**
APC	**Apacha**	**0.67**	**280**	*e*P	**Pn**	**18 37 49.5**	**+0.7**
APC				*e*S	**Sn**	**18 38 05.5**	**+0.8**
APC	**Apacha**	**0.67**	**280**	PN	**Pn**	**18 37 49.5**	**+0.7**
APC				S	**Sn**	**18 38 05.5**	**+0.8**
NLC	**Nalytchevo**	**0.75**	**61**	*e*P	**Pn**	**18 37 48.5**	**-0.9**
NLC	**Nalytchevo**	**0.75**	**61**	PN	**Pn**	**18 37 48.5**	**-0.9**
GNL	**Ganaly**	**0.90**	**348**	*i* P	**Pn**	**18 37 50.9**	**+0.1**
GNL				*e*S	**Sn**	**18 38 07.9**	**-0.3**
GNL	**Ganaly**	**0.90**	**348**	PN	**Pn**	**18 37 50.9**	**+0.1**
GNL				S	**Sn**	**18 38 07.9**	**-0.3**
KDTR	**Khodutka, Kamc**	**1.01**	**186**	*e*P	**Pn**	**18 37 51.4**	**-0.2**
KDTR				*e*S	**Sn**	**18 38 08.9**	**-0.7**
KDTR	**Khodutka, Kamc**	**1.01**	**186**	PN	**Pn**	**18 37 51.4**	**-0.2**
KDTR				S	**Sn**	**18 38 08.9**	**-0.7**
SPN	**Mys Shipunski**	**1.11**	**75**	*i* P	**Pn**	**18 37 51.8**	**-0.7**
SPN				*e*S	**Sn**	**18 38 09.3**	**-1.9**
SPN	**Mys Shipunski**	**1.11**	**75**	PN	**Pn**	**18 37 51.8**	**-0.7**
SPN				S	**Sn**	**18 38 09.3**	**-1.9**
PAU	**Pauzhetka**	**1.61**	**214**	*e*P	**Pn**	**18 37 59.0**	**+1.2**
PAU	**Pauzhetka**	**1.61**	**214**	PN	**Pn**	**18 37 59.0**	**+1.2**
SKR	**Severo-Kuril's**	**2.51**	**213**	*e*P	**Pn**	**18 38 09.7**	**+1.1**
SKR				*e*S	**Sn**	**18 38 41.8**	**+1.9**
SKR	**Severo-Kuril's**	**2.51**	**213**	*e*PN	**Pn**	**18 38 09.4**	**+0.8**
SKR				*e*S	**Sn**	**18 38 41.7**	**+1.9**
SKR				pmax	pmax		
	comp=Z,75nm,0.3s						
SKR				smax	smax		
	comp=E,493nm,0.3s						
SKR				smax	smax		
	comp=N,288nm,0.5s						
SKR				MLR	MLR		
	comp=Z,300nm,20.0s						
KZV	**Kizimen**	**2.60**	**27**	*e*P	**Pn**	**18 38 10.4**	**+0.6**
KZV	**Kizimen**	**2.60**	**27**	PN	**Pn**	**18 38 10.4**	**+0.6**
TUMD	**Tumrok D**	**2.71**	**27**	*e*P	**Pn**	**18 38 11.8**	**+0.8**
TUMD				*e*S	**Sn**	**18 38 45.3**	**+1.0**
TUMR	**Tumrok**	**2.71**	**24**	*e*P	**Pn**	**18 38 12.2**	**+1.0**
TUMR	**Tumrok**	**2.71**	**24**	PN	**Pn**	**18 38 11.8**	**+0.6**
TUMR				S	**Sn**	**18 38 45.4**	**+0.7**
ZLN	**Zelenaya**	**3.54**	**24**	*e*P	**Pn**	**18 38 24.5**	**+2.7**
ZLN	**Zelenaya**	**3.54**	**24**	PN	**Pn**	**18 38 24.5**	**+2.7**
SRKR	**Sorokina**	**4.20**	**23**	*e*P	**Pn**	**18 38 32.3**	**+1.8**
SRKR	**Sorokina**	**4.20**	**23**	PN	**Pn**	**18 38 32.3**	**+1.8**
SMKR	**Semkarok**	**4.21**	**25**	*e*P	**Pn**	**18 38 33.5**	**+2.9**
SMKR	**Semkarok**	**4.21**	**25**	PN	**Pn**	**18 38 33.5**	**+2.9**
KBTR	**Krutoberegovo**	**4.32**	**36**	*e*P	**Pn**	**18 38 31.8**	**-0.1**
KBTR	**Krutoberegovo**	**4.32**	**36**	PN	**Pn**	**18 38 31.8**	**-0.1**
MA2	**Magadan**	**7.95**	**331**	*e*Pn	**Pn**	**18 39 19.6**	**-0.9**
MA2	**Magadan**	**7.95**	**331**	*e*PN	**Pn**	**18 39 19.6**	**-0.9**
SMY	**Shemya**	**9.61**	**84**	*e*Pn	**Pn**	**18 39 44.2**	**+1.4**
SMY	**Shemya**	**9.61**	**84**	*e*PN	**Pn**	**18 39 44.2**	**+1.4**
KUR	**Kuril'sk**	**10.19**	**226**	*i* PN	**Pn**	**18 39 52.4**	**+1.8**
SEY	**Seymchan**	**10.61**	**345**	P	**Pn**	**18 39 58.1**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=142,slow=9.3,SNR=3.5						
ASAJ	**Asahikawa**	**13.52**	**236**	P	**P**	**18 40 35.2**	**-3.2**
	comp=Z,1.7nm,0.3s,baz=65,slow=14,SNR=8.4						
ASAJ	**Asahikawa**	**13.52**	**236**	*e*Pn	**P**	**18 40 35.3**	**-3.1**
ERM	**Erimo**	**14.83**	**229**	*e*Pn	**Pn**	**18 40 48.4**	**-2.3**
ERM	**Erimo**	**14.83**	**229**	*e*P	**Pn**	**18 40 48.4**	**-2.3**
ADK	**Adak**	**15.33**	**83**	*e*Pn	**Pn**	**18 40 57.7**	**+1.0**
	comp=Z,241nm,1.9s						
ADK	**Adak**	**15.33**	**83**	*e*P	**Pn**	**18 40 57.7**	**+1.0**
ADK				pmax	pmax		
	comp=Z,241nm,1.9s						
GSTR	**Great Sitkin T**	**15.66**	**82**	*e*Pn	**Pn**	**18 40 59.7**	**-1.2**
BILL	**Bilibino**	**15.75**	**11**	*i* P	**P**	**18 41 07.7**	**+4.8**
BILL				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ATKA	**Atka Island**	**16.75**	**81**	*e*P	**P**	**18 41 13.0**	**-1.0**
	comp=Z,154nm,1.5s						
KLR	**Kul'dur**	**17.01**	**268**	P	**Pn**	**18 41 18.8**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=57,slow=12,SNR=8.1						
KLR	**Kul'dur**	**17.01**	**268**	*i* P	**Pn**	**18 41 17.7**	**+0.3**
YAK	**Yakutsk**	**17.79**	**312**	*e*P	**P**	**18 41 24.5**	**-0.8**
YAK				pmax	pmax		
	comp=Z,28nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,9.0nm,0.9s						
GAMB	**Gambell**	**19.02**	**43**	*e*P	**P**	**18 41 37.4**	**-1.4**
	comp=E,15nm,1.5s						
USA0B	**Ussuriysk Arra**	**19.33**	**254**	*e*P	**P**	**18 41 42.2**	**0.0**
	comp=E,16nm,1.0s						
USRK	**Ussuriysk Ar.**	**19.33**	**254**	P	**Pn**	**18 41 42.6**	**-2.2**
	comp=E,0.7nm,0.3s,baz=59,slow=12,SNR=21						
NIKH	**Nikolski High**	**19.76**	**76**	*e*P	**P**	**18 41 47.3**	**+0.5**
	comp=E,105nm,1.4s						
UNV	**Unalaska Valle**	**20.95**	**73**	*e*P	**P**	**18 42 00.3**	**+0.7**
	comp=E,93nm,1.8s						
MJB9	**Matsu-Tunnel**	**21.51**	**229**	*e*P	**P**	**18 42 06.3**	**+0.5**
	comp=E,65nm,1.4s						
MAJO	**Matsushiro**	**21.51**	**229**	*e*P	**P**	**18 42 05.9**	**+0.1**
MAJO	**Matsushiro**	**21.51**	**229**	*e*P	**P**	**18 42 05.9**	**+0.1**
MAT	**Matsushiro**	**21.51**	**229**	P	**P**	**18 42 05.9**	**+0.1**
MJAR	**Matsushiro Arr**	**21.51**	**229**	P	**P**	**18 42 06.6**	**+0.8**
	comp=E,7.7nm,0.7s,baz=14,slow=13,SNR=14						
MJAR	**Matsushiro Arr**	**21.51**	**229**	P	**P**	**18 42 06.6**	**+0.8**
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
ANM	**Nome**	**21.90**	**43**	*e*P	**P**	**18 42 10.2**	**+0.5**
	comp=Z,3.6nm,0.7s						
ANM	**Nome**	**21.90**	**43**	*e*P	**P**	**18 42 10.2**	**+0.5**
ANM				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TIXI	**Tiksi**	**22.88**	**336**	P	**P**	**18 42 18.5**	**-0.6**
	comp=Z,4.3nm,0.4s,baz=122,slow=13,SNR=30						
TIXI				PcP	**PcP**	**18 46 05.1**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=101,slow=2.8,SNR=3.6						
TIXI	**Tiksi**	**22.88**	**336**	*e*P	**P**	**18 42 18.2**	**-0.9**
	comp=Z,6.3nm,0.5s						
TIXI				*e*PcP	**PcP**	**18 46 05.1**	**+0.4**
INU	**Inuyama**	**23.04**	**229**	*e*P	**P**	**18 42 21.4**	**+0.4**
	comp=Z,137nm,2.0s						
RDOG	**Red Dog Mine**	**23.92**	**36**	*e*P	**P**	**18 42 28.9**	**+0.2**
	comp=Z,7.5nm,0.6s						
HIA	**Hailar**	**24.27**	**277**	*e*P	**P**	**18 42 31.1**	**-1.0**
	comp=Z,8.2nm,1.0s						
HIA	**Hailar**	**24.27**	**277**	*e*P	**P**	**18 42 31.1**	**-1.0**
HIA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KSRS	**Korea Array**	**26.08**	**246**	P	**P**	**18 42 48.4**	**-0.1**
	comp=Z,3.5nm,0.9s,baz=39,slow=9.4,SNR=8.4						
KSAR	**Wonju Array Be**	**26.11**	**246**	P	**P**	**18 42 48.4**	**-0.4**
KSAR	**Wonju Array Be**	**26.11**	**246**	P	**P**	**18 42 48.4**	**-0.4**
IM3	**Indian Mountai**	**26.96**	**42**	*e*P	**P**	**18 42 55.8**	**-0.3**
PPLA	**Purkeypile**	**27.53**	**49**	*e*P	**P**	**18 43 02.4**	**+1.0**
	comp=Z,37nm,1.7s						
CAST	**Castle Rocks**	**27.57**	**48**	*e*P	**P**	**18 43 02.2**	**+0.6**
	comp=Z,16nm,1.8s						
JNU	**Nakatsue**	**27.80**	**236**	P	**P**	**18 43 03.9**	**-0.1**
	comp=Z,6.5nm,0.8s,baz=8.0,slow=5.8,SNR=10						
JNU	**Nakatsue**	**27.80**	**236**	*e*P	**P**	**18 43 05.3**	**+1.3**
	comp=Z,55nm,1.4s						
KDAK	**Kodiak Island**	**27.91**	**60**	P	**P**	**18 43 04.7**	**+0.1**
	comp=Z,16nm,1.2s,baz=232,slow=12,SNR=3.7						
KDAK	**Kodiak Island**	**27.91**	**60**	*e*P	**P**	**18 43 05.0**	**+0.3**
BPAW	**Bear Paw Mtn.**	**28.05**	**46**	*e*P	**P**	**18 43 06.4**	**+0.6**
	comp=Z,28nm,1.9s						
HOM	**Homer**	**28.08**	**56**	*e*P	**P**	**18 43 06.5**	**+0.4**
	comp=Z,608nm,1.2s						
SUA	**Susitna One**	**28.30**	**52**	*e*P	**P**	**18 43 08.5**	**+0.3**
	comp=Z,53nm,1.6s						
TRF	**Thorofare Moun**	**28.37**	**48**	*e*P	**P**	**18 43 09.7**	**+0.8**
	comp=Z,39nm,2.0s						
BRLK	**Bradley Lake**	**28.44**	**56**	*e*P	**P**	**18 43 09.0**	**-0.4**
	comp=Z,116nm,1.6s						
RC01	**Rabbit Creek A**	**28.82**	**53**	*e*P	**P**	**18 43 12.3**	**-0.4**
	comp=Z,89nm,1.9s						
MCK	**McKinley**	**28.96**	**47**	*e*P	**P**	**18 43 14.0**	**0.0**
	comp=Z,29nm,1.7s						
MCK	**McKinley**	**28.96**	**47**	*e*P	**P**	**18 43 14.0**	**0.0**
MCK				pmax	pmax		
	comp=Z,29nm,1.7s						
RND	**Reindeer**	**29.02**	**48**	*e*P	**P**	**18 43 14.1**	**-0.4**
	comp=Z,34nm,1.7s						
RND	**Reindeer**	**29.02**	**48**	*e*P	**P**	**18 43 14.1**	**-0.4**
RND				pmax	pmax		
	comp=Z,34nm,1.7s						
GHO	**Glory Hole Cre**	**29.13**	**51**	*e*P	**P**	**18 43 15.8**	**+0.3**
	comp=Z,106nm,2.0s						
MDM	**Murphy Dome**	**29.22**	**45**	*e*P	**P**	**18 43 16.9**	**+0.7**
	comp=Z,13nm,1.8s						
WRH	**Wood River Hil**	**29.30**	**46**	*e*P	**P**	**18 43 16.9**	**+0.1**
	comp=Z,36nm,2.0s						
KNK	**Knik Glacier**	**29.40**	**52**	*e*P	**P**	**18 43 18.1**	**+0.3**
	comp=Z,82nm,1.6s						
SML	**Sawmill**	**29.41**	**51**	*e*P	**P**	**18 43 18.1**	**+0.3**
	comp=Z,23nm,1.3s						
SML	**Sawmill**	**29.41**	**51**	*e*P	**P**	**18 43 18.2**	**+0.3**
SML				pmax	pmax		
	comp=Z,23nm,1.3s						
DHY	**Denali Highway**	**29.71**	**48**	*e*P	**P**	**18 43 20.7**	**0.0**
	comp=Z,49nm,2.0s						
HDA	**Harding Lake**	**29.80**	**46**	*e*P	**P**	**18 43 21.3**	**0.0**
	comp=Z,5.2nm,0.4s						
ILAR	**Eielson Array**	**29.80**	**45**	P	**P**	**18 43 21.1**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=264,slow=6.8,SNR=39						
ILB	**Eielson Array**	**29.80**	**45**	*e*P	**P**	**18 43 21.9**	**+0.6**
IL1	**Eielson Array**	**29.80**	**45**	*e*P	**P**	**18 43 21.8**	**+0.4**
SCM	**Sheep Creek Mo**	**29.88**	**51**	*e*P	**P**	**18 43 22.6**	**+0.5**
	comp=Z,135nm,2.0s						
SCM	**Sheep Creek Mo**	**29.88**	**51**	*e*P	**P**	**18 43 22.6**	**+0.5**
SCM				pmax	pmax		
	comp=Z,135nm,2.0s						
PRP	**Porcupine Dome**	**30.34**	**43**	*e*P	**P**	**18 43 27.1**	**+0.9**
	comp=Z,5.8nm,0.6s						
FYU	**Fort Yukon**	**30.42**	**41**	*e*P	**P**	**18 43 28.0**	**+1.3**
	comp=Z,35nm,1.6s						
RIDG	**Independ'e Rid**	**30.78**	**47**	*e*P	**P**	**18 43 29.5**	**-0.5**
	comp=Z,32nm,1.8s						
HARP	**HAARP**	**30.81**	**49**	*e*P	**P**	**18 43 31.1**	**+0.9**
	comp=Z,67nm,1.6s	

SUMG	**Summit**	**54.36**	**6**	*eP*	**P**	**18 46 40.3**	**+0.3**
	comp=Z,12nm,1.7s							
SUMG	**Summit**	**54.36**	**6**	*i* P	**P**	**18 46 40.4**	**+0.3**
SUMG	**Summit**	**54.36**	**6**	*i* P	**P**	**18 46 40.4**	**+0.3**
MCMT	**McKenzie Canyo**	**55.48**	**60**	*eP*	**P**	**18 46 47.1**	**-1.4**
PNTR	**Pine Nut**	**55.70**	**69**	*eP*	**P**	**18 46 50.7**	**+0.7**
	comp=Z,4.7nm,0.8s							
YERR	**Yerington**	**55.97**	**69**	*eP*	**P**	**18 46 53.5**	**+1.6**
	comp=Z,17nm,1.9s							
CMB	**Columbia Colle**	**55.98**	**70**	*eP*	**P**	**18 46 52.0**	**+0.2**
	comp=Z,14nm,1.9s							
CMB	**Columbia Colle**	**55.98**	**70**	*eP*	**P**	**18 46 52.0**	**+0.2**
CMB				pmax	pmax			
	comp=Z,14nm,1.9s							
KK31	**Karatay Array**	**56.03**	**298**	*eP*	**P**	**18 46 49.4**	**-2.7**
KK31	**Karatay Array**	**56.03**	**298**	*eP*	**P**	**18 46 49.4**	**-2.7**
KKAR	**Karatay Array**	**56.03**	**298**	*eP*	**P**	**18 46 49.8**	**-2.3**
KKAR	**Karatay Array**	**56.03**	**298**	*eP*	**P**	**18 46 49.8**	**-2.3**
WAKR	**Walker**	**56.19**	**69**	*eP*	**P**	**18 46 55.2**	**+1.7**
	comp=Z,15nm,1.8s							
GCMT	**Greycliff**	**56.47**	**57**	*eP*	**P**	**18 46 57.0**	**+1.7**
KVN	**Kaiserville**	**56.57**	**68**	*eP*	**P**	**18 46 55.8**	**-0.4**
	comp=Z,6.6nm,1.6s							
KVN	**Kaiserville**	**56.57**	**68**	*eP*	**P**	**18 46 55.8**	**-0.4**
KVN				pmax	pmax			
	comp=Z,7.0nm,1.6s							
RYN	**Ryan**	**56.62**	**69**	*eP*	**P**	**18 46 56.2**	**-0.3**
	comp=Z,17nm,2.0s							
NV01	**Mina Array Sit**	**56.89**	**69**	*eP*	**P**	**18 47 00.3**	**+1.9**
NV01				*ep*P	**pP**	**18 47 31.9**	**+1.2**
NVAR	**Mina Array Bea**	**56.89**	**69**	P	**P**	**18 47 00.5**	**+2.0**
	comp=Z,1.0nm,0.5s,baz=299,slow=7.2,SNR=12							
NVAR				pP	**pP**	**18 47 32.3**	**+1.6**
	comp=Z,0.8nm,0.7s,baz=286,slow=7.5,SNR=3.4							
NV11	**Mina Array Sit**	**56.97**	**69**	*eP*	**P**	**18 46 59.7**	**+0.8**
	comp=Z,0.9nm,1.8s							
CM31	**Chiang Mai Arr**	**57.03**	**257**	*eP*	**P**	**18 46 59.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**57.03**	**257**	P	**P**	**18 46 60.0**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=28,slow=7.0,SNR=6.6							
CMAR				PcP	**PcP**	**18 47 53.4**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=36,slow=2.6,SNR=4.4							
CM01	**Chiang Mai Arr**	**57.05**	**257**	*eP*	**P**	**18 46 59.8**	**+0.3**
CM01				*ePcP*	**PcP**	**18 47 53.0**	**+0.1**
ABKAR	**Akbulak array**	**57.11**	**309**	*eP*	**P**	**18 46 57.7**	**-1.9**
DGMT	**Dagmar**	**57.31**	**52**	*eP*	**P**	**18 47 00.7**	**-0.3**
	comp=Z,6.4nm,0.9s							
TPAW	**Teton Pass**	**57.40**	**60**	*eP*	**P**	**18 47 01.4**	**-0.6**
	comp=Z,15nm,2.0s							
SFJD	**Kangerlussuaq**	**58.54**	**13**	*eP*	**P**	**18 47 08.9**	**-0.3**
SFJD				*ep*P	**pP**	**18 47 44.0**	**+2.3**
SFJD	**Kangerlussuaq**	**58.54**	**13**	*eP*	**P**	**18 47 08.9**	**-0.3**
SFJD				*e**PP	**pP**	**18 47 44.0**	**+2.3**
BW06	**Boulder Array**	**58.63**	**60**	*eP*	**P**	**18 47 11.9**	**+1.3**
	comp=Z,2.3nm,0.9s							
PD31	**Pinedale Array**	**58.63**	**60**	*eP*	**P**	**18 47 11.1**	**+0.5**
PDAR	**Pinedale Array**	**58.63**	**60**	P	**P**	**18 47 11.9**	**+1.4**
	comp=Z,1.9nm,0.8s,baz=316,slow=2.0,SNR=17							
PDAR	**Pinedale Array**	**58.63**	**60**	*eP*	**P**	**18 47 12.3**	**+1.7**
PDAR				*ep*P	**pP**	**18 47 43.9**	**+0.9**
DUG	**Dugway, Tooele**	**58.70**	**64**	*eP*	**P**	**18 47 12.4**	**+1.4**
	comp=Z,9.9nm,1.7s							
DUG	**Dugway, Tooele**	**58.70**	**64**	*eP*	**P**	**18 47 12.4**	**+1.4**
DUG				pmax	pmax			
	comp=Z,10.0nm,1.7s							
NLU	**North Lily Min**	**59.27**	**63**	*eP*	**P**	**18 47 15.4**	**+0.4**
	comp=Z,8.8nm,1.6s							
PSUT	**Pine Spring**	**59.30**	**66**	*eP*	**P**	**18 47 16.2**	**+1.0**
	comp=Z,3.6nm,1.2s							
FIA1	**FINESS Array S**	**59.92**	**336**	*eP*	**P**	**18 47 17.6**	**-1.2**
FIA0	**FINESS Array S**	**59.92**	**336**	*eP*	**P**	**18 47 16.5**	**-2.3**
FIA0				*ePcP*	**PcP**	**18 48 02.6**	**-1.0**
FIA0	**FINESS Array S**	**59.92**	**336**	*eP*	**P**	**18 47 16.5**	**-2.3**
FIA0				*e*		18 48 02.7		
FINES	**FINESS Array B**	**59.92**	**336**	P	**P**	**18 47 16.5**	**-2.3**
	comp=Z,3.3nm,1.0s,baz=28,slow=8.6,SNR=6.1							
FINES				PcP	**PcP**	**18 48 02.6**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=44,slow=3.3,SNR=7.4							
GSC	**Goldstone, Bar**	**59.94**	**70**	*eP*	**P**	**18 47 19.1**	**-0.4**
	comp=Z,5.4nm,0.3s							
GSC	**Goldstone, Bar**	**59.94**	**70**	*eP*	**P**	**18 47 19.1**	**-0.4**
GSC				pmax	pmax			
	comp=Z,5.0nm,0.3s							
TMUT	**Trail Mountain**	**60.21**	**63**	*eP*	**P**	**18 47 22.6**	**+1.1**
	comp=Z,2.2nm,0.8s							
MSU	**Marysvale**	**60.24**	**65**	*eP*	**P**	**18 47 22.9**	**+1.2**
MSU	**Marysvale**	**60.24**	**65**	*eP*	**P**	**18 47 22.9**	**+1.2**
Q16A	**Castle Valley**	**60.50**	**64**	*eP*	**P**	**18 47 23.5**	**+0.1**
	comp=Z,14nm,2.0s							
RWWY	**Rawlins**	**60.62**	**59**	*eP*	**P**	**18 47 24.6**	**+0.3**
	comp=Z,9.5nm,0.6s							
SRU	**San Rafael Swe**	**60.71**	**63**	*eP*	**P**	**18 47 25.4**	**+0.6**
	comp=Z,3.0nm,1.0s							
SRU	**San Rafael Swe**	**60.71**	**63**	*eP*	**P**	**18 47 25.4**	**+0.6**
SRU				pmax	pmax			
	comp=Z,3.0nm,1.0s							
PV20	**West Nyswonger**	**62.11**	**63**	*eP*	**P**	**18 47 35.7**	**+1.5**
	comp=Z,3.4nm,0.8s							
OBN	**Obninsk**	**62.14**	**326**	*i* P	**P**	**18 47 37.5**	**+3.7**
OBN				pmax	pmax			
	comp=Z,2.0nm,0.9s							
PV17	**East Wray Mesa**	**62.16**	**63**	*eP*	**P**	**18 47 35.9**	**+1.3**
	comp=Z,6.5nm,1.3s							
PV11	**David Mesa, Pa**	**62.19**	**63**	*eP*	**P**	**18 47 36.6**	**+1.9**
	comp=Z,20nm,1.8s							
PV13	**Radium Mtn., P**	**62.32**	**63**	*eP*	**P**	**18 47 36.7**	**+1.0**
	comp=Z,3.1nm,0.7s							
SBUM	**Sibu**	**62.95**	**234**	*eP*	**P**	**18 47 41.1**	**+1.4**
	comp=Z,1.8nm,0.7s							
NC303	**NORSAR Array S**	**63.28**	**343**	*eP*	**P**	**18 47 40.3**	**-1.1**
NC405	**NORSAR Array S**	**63.33**	**343**	*eP*	**P**	**18 47 40.7**	**-0.9**
NC204	**NORSAR Array S**	**63.34**	**343**	*eP*	**P**	**18 47 40.9**	**-1.0**
NB201	**NORSAR Array S**	**63.46**	**343**	*eP*	**P**	**18 47 41.6**	**-0.9**
NB2	**NORSAR Subarra**	**63.48**	**343**	P	**P**	**18 47 41.6**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=20,slow=6.9							
NB200	**NORSAR Array S**	**63.48**	**343**	*eP*	**P**	**18 47 41.3**	**-1.5**
NOA	**NORSAR Array B**	**63.48**	**343**	P	**P**	**18 47 41.3**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=28,slow=6.0,SNR=6.6							
NBO00	**NORSAR Array S**	**63.57**	**343**	*eP*	**P**	**18 47 43.0**	**-0.3**
NC602	**NORSAR Array S**	**63.71**	**342**	*eP*	**P**	**18 47 43.5**	**-0.6**
NA001	**NORSAR Array S**	**63.73**	**343**	*eP*	**P**	**18 47 44.0**	**-0.3**
ECSD	**EROS Data Cent**	**64.37**	**51**	*eP*	**P**	**18 47 49.5**	**+0.7**
	comp=Z,22nm,1.9s							
KSM	**Kuching**	**64.74**	**235**	*eP*	**P**	**18 47 52.9**	**+1.5**
	comp=Z,19nm,1.2s							
SCHQ	**Schefferville**	**66.41**	**27**	*eP*	**P**	**18 48 01.1**	**-0.6**
	comp=Z,52nm,1.9s							
LTX	**Lajitas**	**71.77**	**66**	*eP*	**P**	**18 48 37.0**	**+1.7**
LTX				*ep*P	**pP**	**18 49 08.6**	**-0.4**
LTX	**Lajitas**	**71.77**	**66**	*eP*	**P**	**18 48 37.0**	**+1.7**
LTX				*e**PP	**pP**	**18 49 08.6**	**-0.4**
TX31	**Lajitas Ar. Si**	**71.77**	**66**	*eP*	**P**	**18 48 36.6**	**+1.3**
TXAR	**Lajitas Array**	**71.77**	**66**	P	**P**	**18 48 37.0**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=299,slow=5.0,SNR=23							
TXAR				pP	**pP**	**18 49 08.6**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=294,slow=4.9,SNR=4.3							
CTA	**Charters Tower**	**73.34**	**192**	P	**P**	**18 48 44.9**	**+0.6**
	comp=Z,3.0nm,0.9s,baz=349,slow=5.2,SNR=3.1							
GERES	**GERESS Array B**	**74.33**	**337**	P	**P**	**18 48 49.3**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=32,slow=5.8,SNR=5.9							
WR1	**Warramunga Arr**	**75.37**	**203**	*eP*	**P**	**18 48 56.9**	**+0.8**
	comp=Z,48nm,0.8s							
WRA	**Warramunga Arr**	**75.37**	**203**	P	**P**	**18 48 56.9**	**+0.8**
	comp=Z,3.1nm,0.6s,baz=19,slow=6.1,SNR=13							
FITZ	**Fitzroy Crossi**	**76.06**	**212**	P	**P**	**18 49 00.4**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=29,slow=4.2,SNR=7.5							
FITZ	**Fitzroy Crossi**	**76.06**	**212**	*eP*	**P**	**18 48 59.2**	**-0.8**
	comp=Z,40nm,1.9s							
AS01	**Alice Springs**	**79.05**	**203**	*eP*	**P**	**18 49 16.8**	**+0.3**
AS31	**Alice Springs**	**79.06**	**203**	*eP*	**P**	**18 49 17.9**	**+1.2**
	comp=Z,1.8nm,1.0s							
ASAR	**Alice Springs**	**79.06**	**203**	P	**P**	**18 49 18.1**	**+1.5**
	comp=Z,2.6nm,0.7s,baz=16,slow=5.2,SNR=20							
ASAR				pP	**pP**	**18 49 51.0**	**0.0**
	comp=Z,0.5nm,0.7s,baz=12,slow=5.2,SNR=1.8							
ES19	**SONSECA Array**	**86.56**	**346**	*eP*	**P**	**18 49 54.8**	**-0.6**
ESDC	**Sonseca Array**	**86.60**	**346**	P	**P**	**18 49 54.8**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=358,slow=4.9,SNR=6.4							
DBIC	**Dimbokro**	**119.02**	**341**	PKP	**PKPdf**	**18 55 60.0**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=7.0,slow=0.9,SNR=4.5							
DBIC	**Dimbokro**	**119.02**	**341**	*e*PKPdf	**PKPdf**	**18 56 00.1**	**-0.3**
DBIC	**Dimbokro**	**119.02**	**341**	PKIKP	**PKPdf**	**18 56 00.0**	**-0.4**
DBIC				pmax	pmax			
	comp=Z,1.0nm,0.5s							

JMA **26** *18:38:28.8±0.5, 32.16N×142.18E, h4km, M3.9*
ISCJB **26** *18:38:33.9±0.6, 32.19N±0.04×141.96E±0.1, h26km, mb4.5/10, MS2.7/1, Error ellipse: s-maj=14.2km s-min=4.6km az=161.5*
IDC **26** *18:38:34.2±3.0, 31.99N×141.44E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.6/35, mbtmp3.8/6, ML2.7/1, MS2.7/2, Ms1 2.7/2, ms1mx2.5/47, Error ellipse: s-maj=97.9km s-min=17.0km az=64.0*
NEIC **26** *18:38:39.6±0.7, 31.75N×140.42E, h15km, mb4.9/5, Error ellipse: s-maj=26.4km s-min=8.0km az=73.0*

ISC 26 18:38:37.2±0.9, 32.23N±0.07×141.7E±0.1, h26km, n37, σ1s44/39, mb4.3/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JHJ2	**Mitsune**	**1.83**	**299**	*e*Pn		**Pn**	**18 39 06.0**	**-1.0**
JHJ2	**Mitsune**	**1.83**	**299**	P		**Pn**	**18 39 07.0**	**0.0**
JHJ	**Hachijo jima 2**	**1.86**	**299**	Pn		**Pn**	**18 39 06.3**	**-1.0**
	35nm,0.3s,baz=38,slow=19,SNR=5.7							
JHJ				Sn		**Sb**	**18 39 31.0**	**-2.3**
	40nm,0.3s,baz=52,slow=18,SNR=3.2							
BSO1	**Boso 1**	**2.49**	**346**	P		**Pn**	**18 39 13.8**	**-1.8**
BSO1				S		**Sn**	**18 39 46.3**	**+1.4**
BSO2	**Boso 2**	**2.64**	**342**	S		**Sn**	**18 39 51.5**	**+2.6**
BSO3	**Boso 3**	**2.75**	**339**	P		**Pn**	**18 39 18.2**	**-1.3**
BSO3				S		**Sn**	**18 39 54.9**	**+3.1**
JOD2	**Odawara 2**	**3.73**	**325**	P		**Pn**	**18 39 32.7**	**-0.5**
JYN	**Shimob**	**4.19**	**322**	P		**Pn**	**18 39 42.6**	**+3.0**
JRY	**Ryogami san**	**4.44**	**329**	P		**Pn**	**18 39 43.8**	**+0.9**
JAG	**Ashikaga**	**4.58**	**336**	P		**Pn**	**18 39 43.7**	**-1.2**
JAG				S		**Sn**	**18 40 35.9**	**-1.4**
INU	**Inuyama**	**5.00**	**310**	*e*Pn		**Pn**	**18 39 50.7**	**+0.2**
CBIJ	**Chichi jima**	**5.13**	**175**	*e*Pn		**Pn**	**18 39 50.4**	**-2.1**
MJAR	**Matsushiro Arr**	**5.19**	**327**	Pn		**Pn**	**18 39 53.6**	**+0.4**
	0.3nm,0.3s,baz=158,slow=11,SNR=12							
MJAR				Sn		**Sn**	**18 40 51.9**	**-0.2**
	0.2nm,0.3s,baz=179,slow=29,SNR=5.1							
MAJO	**Matsushiro**	**5.19**	**327**	*e*Pn		**Pn**	**18 39 53.6**	**+0.4**
MAJO				*e*Sn		**Sn**	**18 40 51.9**	**-0.3**
MAJO				*e*Sg		Sb	18 40 52.5	-17
MJB9	**Matsu-Tunnel**	**5.19**	**327**	*e*Pn		**Pn**	**18 39 53.6**	**+0.4**
JFT	**Otama**	**5.39**	**348**	P		**Pn**	**18 39 54.1**	**-1.9**
ASAJ	**Asahikawa**	**11.88**	**3**	*e*Pn			18 41 38.4	
KSRS	**Korea Array**	**12.47**	**298**	LR		LR	18 46 45.9	
	comp=Z,28nm,18.5s,baz=95,slow=40							
USA0B	**Ussuriysk Arra**	**14.17**	**330**	*e*Pn		**Pn**	**18 41 56.8**	**+0.6**
PETK	**Petropavlovsk-**	**23.84**	**24**	LR		LR	18 57 47.6	
	comp=Z,22nm,18.0s,baz=74,slow=48							
SONA1	**Songino Array**	**30.89**	**311**	*e*P		**P**	**18 44 51.4**	**-0.3**
SONA0	**Songino Array**	**30.89**	**311**	*e*P		**P**	**18 44 52.4**	**+0.7**
SONM	**Songino Array**	**30.89**	**311**	P		**P**	**18 44 52.4**	**+0.7**
	0.4nm,0.5s,baz=110,slow=8.3,SNR=4.0							
MK01	**Makanchi Array**	**47.01**	**306**	*e*P		**P**	**18 47 05.3**	**-1.0**
MK31	**Makanchi Array**	**47.01**	**306**	*e*P		**P**	**18 47 06.0**	**-0.3**
MK32	**Makanchi Array**	**47.01**	**306**	*e*P		**P**	**18 47 06.5**	**+0.3**
MKAR	**Makanchi Array**	**47.01**	**306**	P		**P**	**18 47 06.5**	**+0.3**
	1.5nm,0.7s,baz=90,slow=9.5,SNR=12							
MKAR	**Makanchi Array**	**47.01**	**306**	*e*P		**P**	**18 47 05.7**	**-0.6**
	13nm,0.6s							
MAKZ	**Makanchi**	**47.23**	**306**	*e*P		**P**	**18 47 07.4**	**-0.5**
	9.3nm,1.5s							
CTAO	**Charters Tower**	**52.20**	**175**	*e*P		**P**	**18 47 48.8**	**+2.9**
	28nm,1.4s							
WR1	**Warramunga Arr**	**52.36**	**189**	*e*P		**P**	**18 47 45.5**	**-1.6**
	28nm,0.8s							
WRA	**Warramunga Arr**	**52.36**	**189**	P		**P**	**18 47 45.5**	**-1.6**
	0.9nm,0.4s,baz=5.5,slow=7.7,SNR=11							
FITZ	**Fitzroy Crossi**	**52.36**	**199**	P		**P**	**18 47 46.0**	**-1.2**
	2.4nm,0.9s,baz=53,slow=10,SNR=3.5							
FUNA	**Funafuti**	**54.05**	**132**	*e*P		P	18 48 09.7	+10
	428nm,1.9s							
AS01	**Alice Springs**	**56.08**	**189**	*e*P		**P**	**18 48 13.0**	**-1.2**
AS31	**Alice Springs**	**56.08**	**189**	*e*P		**P**	**18 48 13.0**	**-1.2**
	1.8nm,1.0s							
ASAR	**Alice Springs**	**56.08**	**189**	P		**P**	**18 48 13.4**	**-0.8**
	0.3nm,0.5s,baz=7.9,slow=7.1,SNR=6.3							

KRSC 26 18:55:53.5±1.1, 52.30N×159.78E, h46km±15km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RUS	**Russkaya**	**0.79**	**280**	*i* P		Pn	18 56 08.9	+0.7
RUS				*e*S		Sn	18 56 19.5	+0.6
SPN	**Mys Shipunski**	**0.81**	**10**	*e*P		Pn	18 56 09.8	+1.3
SPN				*e*S		Sn	18 56 21.2	+1.7
NLC	**Nalytchevo**	**0.91**	**343**	*e*P		Pn	18 56 10.8	+0.9
NLC				*e*S		Sn	18 56 23.3	+1.5
DALK	**Dalny**	**0.96**	**320**	*e*P		Pn	18 56 11.6	+1.0
DALK				*e*S		Sn	18 56 23.9	+0.8
MTVR	**Mutnovka**	**1.00**	**281**	*e*P		Pn	18 56 12.3	+1.1
MTVR				*e*S		Sn	18 56 23.5	-0.7
PET	**Petropavlovsk**	**1.00**	**317**	*i* P		Pn	18 56 12.3	+1.3
PET				*e*S		Sn	18 56 24.7	+0.8
GRL	**Gorelyy**	**1.07**	**284**	*i* P		Pn	18 56 14.9	+2.7
GRL				*e*S		Sn	18 56 29.4	+3.3
UGLR	**Uglovaya**	**1.08**	**328**	*i* P		Pn	18 56 13.9	+1.6
UGLR				*e*S		Sn	18 56 28.3	+2.2
SMAR	**Somma**	**1.13**	**329**	*e*P		Pn	18 56 14.3	+1.2
KRMR	**Karymshinskiy**	**1.14**	**298**	*e*P		Pn	18 56 14.1	+1.1
KRMR				*e*S		Sn	18 56 28.8	+1.4
AVH	**Avacha**	**1.15**	**327**	*e*P		Pn	18 56 15.4	+2.1
KDTR	**Khodutka, Kamc**	**1.16**	**245**	*e*P		Pn	18 56 14.5	+1.2
KDTR				*e*S		Sn	18 56 29.3	+1.3
KOK	**Koryaka**	**1.21**	**325**	*e*P		Pn	18 56 15.7	+1.6
KRX	**Arik**	**1.26**	**327**	*e*P		Pn	18 56 16.3	+1.5
APC	**Apacha**	**1.72**	**292**	*e*P		Pn	18 56 23.8	+2.9
APC				*e*S		Sn	18 56 45.6	+4.0
KII	**Karymskiy**	**1.75**	**354**	*e*P		Pn	18 56 23.7	+2.3
GNL	**Ganaly**	**1.78**	**322**	*i* P		Pn	18 56 24.3	+2.4
PAU	**Pauzhetka**	**2.02**	**247**	*e*P		Pn	18 56 27.8	+2.7
SKR	**Severo-Kuril's**	**2.81**	**236**	*e*S		Sn	18 57 11.2	+2.8
KZV	**Kizimen**	**2.83**	**6**	*e*P		Pn	18 56 39.6	+3.3
TUMD	**Tumrok D**	**2.93**	**7**	*e*P		Pn	18 56 40.3	+2.8
TUMD				*e*S		Sn	18 57 14.7	+3.3
TUMR	**Tumrok**	**2.99**	**4**	*e*P		Pn	18 56 42.6	+4.1
KBTR	**Krutoberegovo**	**4.30**	**23**	*e*P		Pn	18 56 59.1	+2.8

NEIC **26** *18:56:58.7±1.2, 15.85S×168.14E, h148km±12km, mb4.8/20, Error ellipse: s-maj=11.2km s-min=9.0km az=176.0*
ISCJB **26** *18:56:59.9±0.6, 15.96S±0.05×168.11E±0.08, h177km, mb4.8/21, Error ellipse: s-maj=11.7km s-min=6.9km az=162.8*
IDC **26** *18:57:00.5±7.7, 15.93S×167.86E, h147km±70km, mb4.2/3, mb1 4.4/3, mb1mx3.5/34, mbtmp4.7/3, Error ellipse: s-maj=67.3km s-min=40.1km az=169.0*

ISC 26 18:57:01.2±0.7, 16.05S±0.07×168.25E±0.09, h177km, n35, σ1s53/38, mb4.8/21, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MARNC	**Mare, Loyalty**	**5.41**	**182**	*e*Pn		**Pn**	**18 58 20.1**	**-0.2**
MARNC				*e*Sn		**Sn**	**18 59 23.2**	**+0.5**
DZM	**Mont Dzumac**	**6.23**	**196**	P		**Pn**	**18 58 32.4**	**+1.2**
	1.3nm,0.3s,baz=86,slow=12,SNR=18							
DZM				S		**Sn**	**18 59 39.6**	**-2.6**
	baz=119,slow=19,SNR=2.6							
DZM	**Mont Dzumac**	**6.23**	**196**	*e*Pn		**Pn**	**18 58 30.5**	**-0.7**
DZM				S		**Sn**	**18 59 39.6**	**-2.6**
OUENC	**Ouen Island, N**	**6.47**	**192**	*e*Pn		**Pn**	**18 58 35.6**	**+1.3**
PINNC	**Pines Island,**	**6.57**	**187**	*e*Pn		**Pn**	**18 58 37.1**	**+1.5**
MSVF	**Nonsavu**	**9.53**	**102**	*e*Pn		**Pn**	**18 59 12.2**	**-2.5**
OUZ	**Omahuta**	**19.68**	**167**	*e*P		**P**	**19 01 18.2**	**+1.5**
	89nm,1.5s							
ARMA	**Armidale**	**20.89**	**224**	*e*P		**P**	**19 01 29.7**	**-0.1**
	82nm,1.8s							
CTAO	**Charters Tower**	**21.29**	**256**	*e*P		**P**	**19 01 33.4**	**-0.7**
	53nm,1.6s							
URZ	**Urewera**	**23.46**	**162**	*e*P		**P**	**19 01 57.8**	**+3.2**
	76nm,1.8s							
BKZ	**Black Stump Fm**	**24.13**	**164**	*e*P		**P**	**19 02 03.4**	**+2.5**
	21nm,1.4s							
COEN	**Coen**	**24.31**	**272**	*e*P		**P**	**19 02 02.9**	**+0.3**
	74nm,1.8s							
THZ	**Tophouse**	**25.93**	**172**	*e*P		**P**	**19 02 18.1**	**+1.0**
	19nm,1.2s							
KHZ	**Kahutara**	**26.66**	**171**	*e*P		**P**	**19 02 24.4**	**+0.9**
	97nm,2.0s							
FOZ	**Fox Glacier**	**27.42**	**178**	*e*P		**P**	**19 02 34.1**	**+3.8**
	31nm,1.6s							
STKA	**Stephens Creek**	**28.90**	**232**	P		**P**	**19 02 44.0**	**+0.4**
	4.8nm,0.9s,baz=80,slow=6.4,SNR=5.8							
STKA	**Stephens Creek**	**28.90**	**232**	*e*P		**P**	**19 02 43.9**	**+0.4**
	4.7nm,1.8s							
WRAB	**Tennant Creek**	**32.44**	**258**	*e*P		**P**	**19 03 12.5**	**-2.4**
	8.0nm,0.8s							
WR1	**Warramunga Arr**	**32.45**	**258**	*e*P		**P**	**19 03 13.8**	**-1.2**
	13nm,0.8s							
WRA	**Warramunga Arr**	**32.45**	**258**	P		**P**	**19 03 13.8**	**-1.2**
	2.3nm,0.6s,baz=83,slow=8.1,SNR=35							
AS01	**Alice Springs**	**33.08**	**251**	*e*P		**P**	**19 03 19.8**	**-0.6**
AS31	**Alice Springs**	**33.12**	**251**	*e*P		**P**	**19 03 19.9**	**-0.8**
	6.9nm,0.4s							
ASAR	**Alice Springs**	**33.12**	**251**	P		**P**	**19 03 20.1**	**-0.7**
	12nm,0.5s,baz=78,slow=8.8,SNR=350							
BBOO	**Buckleboo**	**33.55**	**234**	*e*P		**P**	**19 03 24.4**	**+0.1**
	58nm,1.9s							
MTN	**Manton Dam**	**36.06**	**270**	*e*P		**P**	**19 03 45.2**	**-0.8**
	42nm,1.3s							
FORT	**Forrest**	**39.46**	**241**	*e*P		**P**	**19 04 14.1**	**-0.3**
	71nm,1.9s							
FITZ	**Fitzroy Crossi**	**40.72**	**261**	*e*P		**P**	**19 04 24.9**	**0.0**
	54nm,1.7s							
MMRI	**Maumere**	**45.47**	**274**	*e*P		**P**	**19 05 03.2**	**+0.2**
	41nm,1.0s							
MBWA	**Marble Bar**	**46.13**	**256**	*e*P		**P**	**19 05 08.5**	**+0.4**
	14nm,0.8s							
MIDW	**Midway**	**46.15**	**18**	*e*P		**P**	**19 05 08.0**	**0.0**
	566nm,1.6s							
CISI	**Cisompet, Garu**	**59.59**	**271**	*e*P		**P**	**19 06 46.1**	**-0.7**
	58nm,1.2s							
PEA0B	**Petropavlovsk-**	**69.47**	**353**	*e*P		**P**	**19 07 49.8**	**-0.2**
PETK	**Petropavlovsk-**	**69.47**	**353**	*e*P		**P**	**19 07 49.5**	**-0.5**
ARA0	**ARCESS Array S**	**121.76**	**345**	*e*PKPdf		**PKPdf**	**19 15 35.5**	**+2.0**
ARCES	**ARCESS Array B**	**121.76**	**345**	PKP		**PKPdf**	**19 15 35.5**	**+2.0**
	4.4nm,1.1s,baz=55,slow=2.0,SNR=11							

IDC **26** *19:14:53.7±0.9, 54.03N×35.30W, h0km, mb3.4/6, mb1 3.7/6, mb1mx3.5/43, mbtmp3.4/6, MS3.9/1, Ms1 3.9/1, ms1mx2.8/29, Error ellipse: s-maj=40.6km s-min=19.7km az=21.0*
ISCJB **26** *19:14:54.4±0.9, 54.0N±0.3×35.3W±0.3, h16km, mb3.4/6, MS3.8/1, Error ellipse: s-maj=39.9km s-min=17.1km az=22.8*

ISC 26 19:14:56.1±0.9, 54.0N±0.3×35.3W±0.2, h16km, n8, σ0s72/7, mb3.6/6, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ESDC	**Sonseca Array**	**25.54**	**111**	P		**P**	**19 20 24.2**	**+0.3**
	1.0nm,0.7s,baz=310,slow=10,SNR=5.8							
**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKASG	Malin Array Be	69.99	323	P	P	19 40 36.7	+0.3
	0.1nm,0.3s,baz=36,slow=7.3,SNR=3.6						

MAN 26 19:36:48.5,6°.74N×126°.25E,h31km,mb4.1,ML2.9,MS2.5, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.21	2	eP	Pn	19 36 56.6	+1.0
MATI				eS	Sn	19 37 04.5	+4.6
DMPH	Davao City--Mi	0.81	295	⇑iP	Pb	19 37 04.1	-0.2
DMPH				eS	Sn	19 37 15.7	+0.7
DDMP	Don Marcelino,	0.83	220	eP	Pn	19 37 02.0	-2.1
DDMP				eS	Sn	19 37 10.1	-5.2
BIPH	Bislig	1.44	4	⇓iP	Pn	19 37 12.5	0.0
BIPH				i S	Sb	19 37 32.2	-0.5
GSPH	General Santos	1.45	243	eP	Pn	19 37 09.3	-3.4
BUKP	Musuan	1.64	314	eP	Pn	19 37 14.3	-1.0

IDC 26 19:42:53.3±2.4,3°.96N×126°.70E,h0km,mb3.2/3, mb1 3.4/3,mb1mx3.2/45,mbtmp3.2/3,Error ellipse: s-maj=208.2km s-min=25.8km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.91	163	P	P	19 48 18.3	0.0
	0.4nm,0.7s,baz=342,slow=11,SNR=6.0						
ASAR	Alice Springs	28.34	166	P	P	19 48 49.0	-0.1
	0.2nm,0.6s,baz=345,slow=7.0,SNR=4.5						
MKAR	Makanchi Array	57.35	325	P	P	19 52 43.4	0.0
	0.1nm,0.5s,baz=104,slow=7.0,SNR=4.2						

*BGR **26** 19:48:27.4±0.2,49°.17N×8°.16E,h4km,ML1.9/7,Error ellipse: s-maj=2.2km s-min=2.2km az=40.0*
*STR **26** 19:48:27.6±0.3,49°N±1°×°±°,h14km±2km,M2.1/9, MLv2.1/9*
*LDG **26** 19:48:28.0±0.1,49°.16N×8°.12E,h10km,Md2.7/1,Ml2.4/8, Error ellipse: s-maj=1.2km s-min=1.1km az=73.0*
ISC 26 19:48:27.1±0.7,49°.15N±0°.02×8°.15E±0°.01,h0km,n57, σ1s.02/94,4C-3D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTD	Kalmit	0.18	346	Pg	Pg	19 48 31.1	+0.7
KTD	Kalmit	0.18	346	⇓P*	Pg	19 48 31.1	+0.7
KTD				S*	Sg	19 48 33.7	+1.0
LANF	Langenberg	0.28	233	Pg	Pg	19 48 33.2	+0.8
LANF	Langenberg	0.28	233	⇑P*	Pg	19 48 33.3	+0.8
LANF				S*	Sg	19 48 37.6	+1.5
PEB	Petersbachel	0.30	254	⇑P*	Pg	19 48 33.5	+0.8
PEB				S*	Sg	19 48 37.9	+1.4
PEB				SmS		19 48 43.9	
BRET	Bretten	0.38	111	P*	Pb	19 48 36.9	+0.2
BRET				S*	Sg	19 48 40.4	+1.2
BRET				SmS		19 48 45.4	
IMS	Imsbach	0.47	340	⇓P*	Pg	19 48 36.5	+0.3
IMS				S*	Sg	19 48 43.0	+0.7
SWS	Schriesheim-Wi	0.49	47	⇑P*	Pg	19 48 36.8	+0.3
SWS				S*	Sg	19 48 43.7	+0.8
TOD	Tromm	0.63	43	P*	Pg	19 48 39.2	+0.1
TOD				S*	Sg	19 48 47.6	+0.4
TOD				SmS		19 48 51.0	
LBG	Lerchenberg	0.65	138	P*	Pg	19 48 40.2	+0.8
LBG				S*	Sg	19 48 48.9	+1.1
LBG				SmS		19 48 52.0	
OPP	Oppenau	0.65	178	Pg	Pg	19 48 40.6	+1.0
OPP	Oppenau	0.65	178	⇑P*	Pg	19 48 40.2	+0.7
OPP				PmP		19 48 41.5	
OPP				SmS		19 48 51.9	
WBA	Furth	0.67	41	PmP		19 48 48.0	
STU	Stuttgart	0.79	118	ePg	Pg	19 48 42.8	+0.7
STU				eSg	Sg	19 48 53.5	+1.2
BFO	Black Forest	0.83	172	P*	Pg	19 48 43.4	+0.5
BFO				PmP		19 48 44.5	
BFO				SmS		19 48 56.7	
ABH	Alteburg	0.83	332	Pg	Pg	19 48 43.3	+0.3
ABH	Alteburg	0.83	332	⇓P*	Pg	19 48 43.3	+0.3
ABH				PmP		19 48 44.8	
ABH				S*	Sg	19 48 54.3	+0.5
RUP	Ruppelstein	0.90	308	P*	Pg	19 48 44.7	+0.4
RUP				PmP		19 48 45.1	
CDF	Champ du Feu	0.94	218	ePg	Pg	19 48 45.3	+0.3
CDF				eSg	Sg	19 48 58.7	+1.6
	6.1nm,0.2s						
SIND	Sindeldorf	0.97	78	Pg	Pg	19 48 46.1	+0.3
SIND				Sg	Sb	19 48 59.7	-0.5
BUCH	Bad Urach	1.06	131	Pg	Pg	19 48 48.1	+0.8
BUCH				SmS		19 49 03.2	
RIVT	Riveris	1.06	302	P*	Pg	19 48 47.4	0.0
RIVT				PmP		19 48 48.3	
TNS	Taunus Mts	1.09	10	P	Pg	19 48 47.5	-0.4
TNS				SmS		19 49 04.0	
ECH	Echery	1.14	215	Pg	Pg	19 48 48.1	-0.9
ECH				Sg	Sb	19 49 05.8	+0.8
ECH	Echery	1.14	215	P	Pg	19 48 48.0	-0.9
ECH				Pg	Pb	19 48 48.5	-1.2
ECH				PmP		19 48 50.2	
ECH				eSg	Sg	19 49 04.0	+0.3
FSH	Hochheid	1.15	324	Pg	Pg	19 48 49.4	+0.3
FSH				PmP		19 48 49.8	
FSH				Sg	Sb	19 49 04.6	-0.7
KIZ	Kirchzarten	1.20	187	Pg	Pg	19 48 50.5	+0.4
KIZ	Kirchzarten	1.20	187	Pg	Pg	19 48 50.5	+0.4
KIZ				S	Sg	19 49 05.2	-0.5
KIZ				Sg	Sb	19 49 07.2	+0.4
FACH	Fachingen	1.21	355	Pg	Pg	19 48 50.0	-0.3
FACH				Sg	Sb	19 49 06.7	-0.4
GUT	Gutenstein	1.25	149	Pg	Pg	19 48 51.7	+0.7
BERGE	Lenzkirch (DE)	1.28	179	P	Pg	19 48 50.4	-1.2
BERGE				Sg	Sg	19 49 09.1	+1.0
WLF	Walferdange	1.40	292	ePg	Pn	19 48 54.0	+0.1
WLF				Sg	Sg	19 49 12.5	+0.4
SLE	Schleitheim	1.41	171	P	Pn	19 48 52.0	-2.0
SLE				Pg	Pg	19 48 54.3	+0.4
SLE				S	Sg	19 49 09.7	-2.4
MOF	Molkenrain	1.46	208	Pg	Pn	19 48 55.0	+0.2
MOF				Sg	Sg	19 49 14.9	+0.9
HDH	Heidenheim-Cha	1.47	112	Sg	Sb	19 49 15.0	+0.4
AHRW	Bad Neuenahr-A	1.56	334	eSg	Sn	19 49 16.3	-0.5
HINF	Hinteralfeld	1.59	213	ePn	Pn	19 48 53.9	-2.6
HINF	Hinteralfeld	1.59	213	ePg	Pn	19 48 57.5	+1.0
HINF				eSg	Sn	19 49 18.4	+0.7
	7.2nm,0.2s						
BIW	Bindweide	1.60	353	Pg	Pb	19 48 57.2	-0.2
BLI	Bleialf	1.62	313	Sg	Sg	19 49 19.7	+0.5
HAU	Haudompre	1.66	227	ePn	Pn	19 48 55.0	-2.4
HAU	Haudompre	1.66	227	ePg	Pb	19 48 58.8	+0.4
HAU				eSg	Sb	19 49 20.5	+0.7
	7.0nm,0.2s						
NORI	Noerdlinger Ri	1.69	104	ePg	Pb	19 48 59.5	+0.5
NORI				eSg	Sb	19 49 21.1	+0.3
THEF	They Montfort	1.71	238	Pg	Pn	19 48 58.4	+0.3
THEF				Sg	Sn	19 49 21.0	+0.5
PAGF	Fort de Pagny	1.71	251	ePg	Pb	19 48 59.3	0.0
PAGF				eSg	Sn	19 49 21.5	+0.9
	6.1nm,0.2s						
UBR	Ueberruh	1.96	138	eSg	Sg	19 49 31.1	+1.0
LOMF	Lomont	2.00	207	Pg	Pg	19 49 05.8	+0.3
LOMF				Sg	Sg	19 49 33.3	+1.9
GRFO	Grafenberg	2.08	74	eSg	Sb	19 49 32.2	+0.2
GRF	Grafenberg Arr	2.08	74	ePg	Pg	19 49 07.9	+1.0
GRF				Sg	Sb	19 49 32.7	+0.7
MEZF	Maizieres J'vi	2.15	254	eSg	Sb	19 49 35.4	+1.5
	1.8nm,0.2s						
SFTF	Sexfontaines	2.27	247	eSg	Sb	19 49 39.2	+1.8
	4.4nm,0.2s						
MOTA	Moosalm	2.68	131	ePn	Pn	19 49 12.0	+0.4
	0.2nm,0.2s						
MOTA				ePg	Pg	19 49 18.5	+0.2
	0.5nm,0.3s						
MOTA				eSn	Sn	19 49 44.0	-0.7
	0.3nm,0.2s						
MOTA				eSg	Sg	19 49 54.0	+1.0
	0.8nm,0.2s						
BAIF	Baives	2.72	291	ePn	Pn	19 49 10.3	-1.7
BAIF				eSg	Sb	19 49 52.5	+2.1
	3.0nm,0.3s						
SQTA	Sankt Quirin	2.81	132	ePg	Pg	19 49 20.5	-0.5
	0.9nm,0.2s						
SQTA				i Sn	Sn	19 49 45.6	-2.5
	0.9nm,0.2s						
SQTA				eSg	Sg	19 49 56.0	-1.4
	1.4nm,0.3s						
WATA	Walderalm	2.92	127	i Sg	Sg	19 50 02.0	+1.1
	0.8nm,0.1s						
LOR	Lormes	3.43	238	ePn	Pn	19 49 20.0	-1.8
LOR	Lormes	3.43	238	ePg	Pg	19 49 31.4	-1.4
LOR				eSg	Sg	19 50 15.4	-1.8
	1.6nm,0.2s						

*ISCJB **26** 19:57:12.6±0.5,6°.85N±0°.04×73°.13W±0°.04,h160km±4km, mb3.3/3,Error ellipse: s-maj=7.4km s-min=5.3km az=39.8*
*IDC **26** 19:57:13.8±1.5,6°.93N×73°.07W,h155km±46km,mb3.1/3, mb1 3.4/5,mb1mx3.1/28,mbtmp3.7/5,Error ellipse: s-maj=106.9km s-min=14.5km az=133.0*
*RSNC **26** 19:57:14.4±0.8,6°.81N×73°.14W,h152km±4km,ML3.3, Mw3.7*
ISC 26 19:57:13.4±0.9,6°.83N±0°.04×73°.13W±0°.04,h156km±6km, n24,σ0s.67/37,mb3.5/3,3C-3D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.24	193	eP	Pn	19 57 34.7	-0.1
BARC				eS	Sn	19 57 50.5	-0.7
BARC				i		19 57 51.5	
	comp=Z,553nm,0.4s						
BRRC	Barranca, Sant	0.64	295	⇑eP	Pn	19 57 36.6	+0.5
BRRC				eS	Sn	19 57 53.8	+0.3
BRRC				i		19 57 58.1	
	comp=Z,287nm,0.1s						
PAMC	Pamplona, Colo	0.66	40	⇓eP	Pn	19 57 37.5	+0.6
PAMC				eS	Sn	19 57 54.9	+0.2
PAMC				i		19 57 57.0	
	comp=Z,158nm,0.5s						
RUSC	La Rusia	0.94	177	⇓eP	Pn	19 57 38.6	-0.2
RUSC				eS	Sn	19 57 57.5	-0.7
RUSC				i		19 57 58.6	
	comp=Z,182nm,0.4s						
PTBC	PUERTO BERRIO,	1.35	258	eP	Pn	19 57 41.5	-0.4
PTBC				eS	Sn	19 58 02.9	-0.8
PTBC				i		19 58 10.2	
	comp=Z,370nm,0.5s						
TAMC	Tame, Arauca	1.39	106	⇓eP	Pn	19 57 42.9	+0.6
TAMC				i		19 58 03.8	
	comp=Z,144nm,0.3s						
TAMC				eS	Sn	19 58 04.5	+0.1
OCAC	Ocana	1.41	352	eP	Pn	19 57 43.1	+0.4
OCAC				eS	Sn	19 58 05.5	+0.3
OCAC				i		19 58 09.7	
	comp=Z,432nm,0.3s						
ZARC	Zaragoza, Cauc	1.84	291	eP	Pn	19 57 47.2	+0.1
ZARC				eS	Sn	19 58 13.0	+0.1
ZARC				i		19 58 19.2	
	comp=Z,300nm,0.3s						
NORC	Norcasia	2.14	234	⇑eP	Pn	19 57 50.5	-0.1
NORC				eS	Sn	19 58 19.2	0.0
NORC				i		19 58 24.0	
	comp=Z,226nm,0.2s						
CHIC	Chingaza	2.27	195	eP	Pn	19 57 52.7	+0.2
CHIC				eS	Sn	19 58 22.5	-0.1
CHIC				i		19 58 30.0	
	comp=Z,73nm,0.3s						
ROSC	El Rosal	2.31	211	P	Pn	19 57 54.4	+1.5
	comp=Z,35nm,0.3s,baz=313,slow=6.3,SNR=31						
ROSC				S	Sn	19 58 22.1	-1.3
	comp=Z,57nm,0.3s,baz=191,slow=22,SNR=12						
ROSC	El Rosal	2.31	211	eP	Pn	19 57 54.0	+1.1
ROSC				i		19 58 32.5	
	comp=Z,266nm,0.4s						
HELC	Santa Helena	2.47	255	eP	Pn	19 57 54.4	-0.4
HELC				i		19 58 34.0	
	comp=Z,132nm,0.4s						
UREC	San Jos de Ur	2.55	291	eP	Pn	19 57 55.1	-0.4
VILC	Villavicencio,	2.76	192	eP	Pn	19 57 57.8	-0.4
VILC				i		19 58 41.9	
	comp=Z,138nm,0.5s						
DBBC	Dabeiba	3.06	274	⇑eP	Pn	19 58 02.2	+0.3
TOLC	Tolima	3.12	224	eP	Pn	19 58 03.7	+0.9
TOLC				i		19 58 46.5	
	comp=Z,69nm,0.3s						
SDV	Santo Domingo	3.21	50	P	Pn	19 58 04.1	+0.4
	comp=Z,24nm,0.3s,baz=216,slow=3.2,SNR=106						
SDV				S	Sn	19 58 41.0	-1.8
	comp=Z,15nm,0.3s,baz=55,slow=19,SNR=25						
SDV	Santo Domingo	3.21	50	eP	Pn	19 58 03.9	+0.2
ANIL	Santa Ana	3.25	224	eP	Pn	19 58 05.2	+0.9
ANIL				eS	Sn	19 58 44.5	+0.6
ANIL				i		19 58 51.4	
	comp=Z,100nm,0.4s						
YOTC	Yotoco, Valle	4.27	229	eP	Pn	19 58 17.1	-0.4
TXAR	Lajitas Array	36.45	312	P	P	20 04 03.8	+0.4
	comp=Z,0.1nm,0.4s,baz=133,slow=10,SNR=2.9						
ULM	Lac du Bonnet	47.27	340	P	P	20 05 30.4	-0.4
	comp=Z,0.7nm,0.4s,baz=180,slow=2.0,SNR=3.5						
YKA	Yellowknife Ar	63.25	340	P	P	20 07 25.0	+0.1
	comp=Z,0.3nm,0.4s,baz=129,slow=6.9,SNR=7.0						

ISC 26 20:08:56.5±0.9,50°.17N±0°.04×19°.30E±0°.03,h0km,n17, σ1s.11/30,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	Chorzow	0.23	302	ePg	Pg	20 09 02.1	+1.2
CHZP				eSg	Sg	20 09 06.0	+2.1
OJC	Ojcow	0.33	81	ePg	Pg	20 09 02.2	-0.4
OJC				eSg	Sg	20 09 06.9	0.0
OKC	Ostrava-Krasne	0.81	246	ePG	Pg	20 09 12.2	+0.1
OKC				eSG	Sg	20 09 23.4	+0.8
	comp=Z,23nm,0.5s						
NIE	Niedzica	0.99	139	ePg	Pg	20 09 15.6	+0.1
NIE				eSg	Sg	20 09 29.6	+1.2
LANS	Liptovska Anna	1.03	174	ePG	Pg	20 09 16.4	+0.3
LANS				eSG	Sg	20 09 30.7	+1.3
MORC	Moravsky Berou	1.20	251	ePG	Pg	20 09 19.0	-0.5
MORC				eSG	Sg	20 09 35.5	+0.5
KRLC	Kraliky	1.62	268	ePG	Pn	20 09 25.4	-1.0
KRLC				eSG	Sn	20 09 47.1	-0.9
	comp=Z,3.8nm,0.3s						
KOLL	Kolacno	1.70	201	eSN	Sn	20 09 49.8	0.0
VYHS	Vyhne	1.71	190	ePN	Pn	20 09 26.7	-0.8
VYHS				eSN	Sn	20 09 48.4	-1.6
VYHS				eLG	Lg	20 09 52.5	
DPC	Dobruska-Polom	1.92	277	ePG	Pn	20 09 29.5	-0.9
DPC				eSG	Sn	20 09 54.8	-0.5
	comp=Z,14nm,0.3s						
VRAC	Vranov	1.96	245	ePN	Pn	20 09 31.6	+0.7
VRAC				eSG	Sn	20 09 55.8	-0.4
KSP	Ksiaz	2.03	290	ePg	Pg	20 09 35.7	+0.3
KSP				eSg	Sb	20 10 01.0	+0.9
UPC	Upice	2.13	280	eSG	Sb	20 10 03.1	+0.1
	comp=Z,6.6nm,0.4s						
PVCC	Panska Ves	3.05	279	eSG	Sg	20 10 32.7	-1.7
	comp=Z,11nm,0.6s						
PRU	Pruhonice	3.07	268	eSG	Sb	20 10 31.6	+1.7
	comp=Z,4.1nm,0.4s						
BRG	Berggiesshubel	3.49	284	SG	Sg	20 10 46.7	-1.8
	3.0nm,0.7s						
KHC	Kasperske Hory	3.86	257	ePN	Pn	20 09 56.5	-0.6
KHC				ePG	Pb	20 10 06.0	+0.6
KHC				eSG	Sg	20 10 58.0	-2.4
	comp=Z,3.2nm,0.4s						

UCR 26 20:20:19.0±1.2,13°.59N×90°.87W,h20km±6km,MD3.2, ML3.8,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.70	35	eP	Pb	20 20 32.7	0.0
PCG	Pacaya	0.83	18	eP	Pn	20 20 35.5	-0.4
PCG				eS	Sn	20 20 47.2	-0.5
FUG	Fuego 3	0.85	2	eP	Pb	20 20 35.3	+0.1
FUG				eS	Sb	20 20 46.6	+0.4
NBG	Las Nubes	1.11	27	eP	Pb	20 20 40.0	+0.3
NBG				eS	Sn	20 20 54.5	0.0
RTR	El Retiro	1.23	76	eP	Pn	20 20 41.1	0.0
CEVE	Cerro Verde	1.23	79	eP	Pn	20 20 40.7	-0.6
CEVE				eS	Sn	20 20 59.3	+1.8
CEVE				IAML		20 20 59.8	
	comp=Z,1μm,0.2s						
SBLS	San Blas	1.24	78	eP	Pn	20 20 40.8	-0.5
SBLS				eS	Sn	20 20 58.6	+1.1
SNJE	San Jose	1.26	77	eP	Pn	20 20 41.3	-0.3
BOQS	Boqueron	1.55	85	eP	Pn	20 20 45.5	-0.2
LFU	La Fuente	1.71	85	eP	Pn	20 20 47.6	-0.2
LFRS	El Faro	1.76	89	eP	Pn	20 20 48.9	+0.5
MRL	Marmol	1.86	38	eP	Pn	20 20 49.1	-0.7

*ISCJB **26** 20:20:55.1±0.7,50°.0S±0°.1×119°.8E±0°.3,h10km,mb4.0/10, MS3.7/17,Error ellipse: s-maj=26.2km s-min=13.2km az=25.0*
*IDC **26** 20:20:55.5±0.9,50°.07S×119°.88E,h0km,mb4.0/6, mb1 4.1/6,mb1mx3.9/29,mbtmp4.0/6,MS3.7/18, Ms1 3.7/18,ms1mx3.6/28,Error ellipse: s-maj=47.3km s-min=19.4km az=107.0*
*NEIC **26** 20:20:57.0±0.4,50°.05S×119°.84E,h10km,mb4.2/5,Error ellipse: s-maj=17.1km s-min=8.6km az=114.0*
ISC 26 20:20:56.8±0.8,50°.1S±0°.1×119°.8E±0°.3,h10km,n36, σ0s.35/19,mb4.1/10,MS3.7/17,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	15.71	342	T	T	20 40 47.4	
	baz=164,slow=74,SNR=22						
H01W1	Cape Leeuwin H	15.71	343	T	T	20 40 43.5	
	baz=164,slow=74,SNR=16						
H01W3	Cape Leeuwin H	15.72	342	T	T	20 40 44.7	
	baz=164,slow=74,SNR=19						
NWAO	Narrogin (SRO)	17.22	353	LR	LR	20 30 04.3	
	comp=Z,458nm,19.6s,baz=50,slow=32						
BBOO	Buckleboo	21.01	41	eP	P	20 25 40.2	-0.3
	28nm,1.4s						
STKA	Stephens Creek	24.34	50	P	P	20 26 14.8	+0.1
	2.1nm,0.6s,baz=192,slow=7.1,SNR=5.1						
STKA				LR	LR	20 33 59.4	
	comp=Z,197nm,20.6s,baz=208,slow=32						
STKA	Stephens Creek	24.34	50	eP	P	20 26 14.8	+0.1
	1.4nm,0.9s						
ASAR	Alice Springs	28.54	28	P	P	20 26 53.0	+0.2
	1.8nm,0.8s,baz=210,slow=8.4,SNR=17						
ASAR				LR	LR	20 36 49.5	
	comp=Z,350nm,21.2s,baz=216,slow=33						
AS31	Alice Springs	28.55	28	eP	P	20 26 53.3	+0.6
	1.2nm,0.8s						
AS01	Alice Springs	28.56	28	eP	P	20 26 52.9	+0.1
VNDA	Vanda	31.75	164	LR	LR	20 39 19.4	
	comp=Z,249nm,19.4s,baz=312,slow=35						
WR1	Warramunga Arr	32.19	26	eP	P	20 27 24.7	-0.2
	13nm,1.4s						
WRA	Warramunga Arr	32.19	26	P	P	20 27 24.7	-0.2
	0.7nm,0.7s,baz=199,slow=8.1,SNR=4.1						
WRA				LR	LR	20 38 54.4	
	comp=Z,200nm,22.0s,baz=205,slow=34						
FITZ	Fitzroy Crossi	32.22	10	LR	LR	20 39 20.8	
	comp=Z,245nm,19.3s,baz=184,slow=34						
MAW	Mawson	32.77	216	LR	LR	20 39 18.3	
	comp=Z,110nm,18.7s,baz=66,slow=34						
RPZ	Rata Peaks	34.99	100	LR	LR	20 38 16.4	
	comp=Z,76nm,19.3s,baz=222,slow=30						
BATI	Baumata	39.85	6	LR	LR	20 46 24.2	
	comp=Z,206nm,18.4s,baz=206,slow=38						
QSPA	South Pole Qui	40.07	180	P	P	20 28 31.8	-0.2
	1.8nm,0.7s,baz=297,slow=1.8,SNR=11						
QSPA	South Pole Qui	40.07	180	eP	P	20 28 32.0	0.0
	10nm,1.3s						
DZM	Mont Dzumac	45.87	70	LR	LR	20 46 27.6	
	comp=Z,61nm,21.1s,baz=198,slow=33						
PMG	Port Moresby	46.43	39	LR	LR	20 48 38.8	
	comp=Z,98nm,18.7s,baz=238,slow=36						
SNAA	Sanae	52.04	200	P	P	20 30 06.2	+0.1
	1.2nm,0.4s,baz=212,slow=9.8,SNR=4.1						
HNR	Honiara	52.35	53	LR	LR	20 50 31.7	
	comp=Z,74nm,18.2s,baz=185,slow=34						
PSI	Prapat	55.64	334	LR	LR	20 49 18.4	
	comp=Z,68nm,20.8s,baz=106,slow=31						
TGY	Tagaytay City	63.88	1	LR	LR	20 59 32.1	
	comp=Z,40nm,19.9s,baz=162,slow=36						
CM01	Chiang Mai Arr	70.63	339	eP	P	20 32 12.1	-0.2
CM31	Chiang Mai Arr	70.67	339	eP	P	20 32 12.6	0.0
CMAR	Chiang Mai Arr	70.67	339	P	P	20 32 13.2	+0.6
	1.1nm,0.8s,baz=185,slow=5.0,SNR=9.0						
CMAR				LR	LR	21 02 10.9	
	comp=Z,18nm,18.3s,baz=180,slow=35						
LSA	Lhasa	83.39	335	eP	P	20 33 24.2	-0.3
	2.7nm,0.8s						
KSRS	Korea Array	87.42	6	LR	LR	21 13 01.6	
	comp=Z,7.6nm,20.7s,baz=335,slow=36						
MJAR	Matsushiro Arr	87.74	15	LR	LR	21 14 35.8	
	comp=Z,26nm,18.3s,baz=50,slow=37						
PLCA	Paso Flores	89.13	172	LR	LR	21 10 26.8	
	comp=Z,47nm,21.3s,baz=236,slow=33						
PDAR	Pinedale Array	145.71	83	PKPbc	PKPbc	20 40 35.4	-0.2
	0.8nm,0.8s,baz=175,slow=3.1,SNR=7.1						
YKA	Yellowknife Ar	148.34	46	PKPbc	PKPbc	20 40 42.0	0.0
	0.9nm,0.7s,baz=277,slow=2.4,SNR=20						
YKB5	Yellowknife Ar	148.34	46	ePKPdf	PKPdf	20 40 39.3	+0.7
RES	Resolute Bay	151.38	18	PKPbc	PKPbc	20 40 48.7	-0.4
	1.8nm,0.8s,baz=300,slow=1.3,SNR=8.1						

*ISCJB **26** 20:26:26.0±1.2,50°.1S±0°.2×119°.8E±0°.5,h10km,mb4.0/5, Error ellipse: s-maj=45.0km s-min=20.7km az=17.5*
*IDC **26** 20:26:26.6±1.2,50°.14S×119°.97E,h0km,mb4.1/5, mb1 4.3/5,mb1mx4.0/38,mbtmp4.1/5,Error ellipse: s-maj=48.2km s-min=24.2km az=103.0*
ISC 26 20:26:27.9±1.2,50°.2S±0°.2×120°.0E±0°.4,h10km,n10, σ0s.57/7,mb4.0/5,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	15.86	342	T	T	20 46 25.1	
	baz=164,slow=74,SNR=10						
H01W1	Cape Leeuwin H	15.86	342	T	T	20 46 18.9	
	baz=164,slow=74,SNR=8.9						
H01W3	Cape Leeuwin H	15.87	342	T	T	20 46 18.9	
	baz=164,slow=74,SNR=12						
STKA	Stephens Creek	24.32	49	P	P	20 31 46.0	+0.3
	6.7nm,1.0s,baz=186,slow=12,SNR=7.8						
ASAR	Alice Springs	28.59	27	P	P	20 32 24.2	+0.1
	5.1nm,1.1s,baz=196,slow=9.1,SNR=19						
WRA	Warramunga Arr	32.24	26	P	P	20 32 55.4	-1.0
	1.9nm,1.1s,baz=197,slow=9.7,SNR=3.8						
QSPA	South Pole Qui	39.95	180	P	P	20 34 01.9	-0.2
	3.1nm,1.1s,baz=303,slow=8.1,SNR=5.9						
CMAR	Chiang Mai Arr	70.82	339	P	P	20 37 44.7	+0.2
	1.3nm,1.0s,baz=194,slow=5.2,SNR=9.1						
PDAR	Pinedale Array	145.61	83	PKPbc	PKPab	20 46 06.7	+0.1
	3.0nm,1.2s,baz=212,slow=3.2,SNR=7.8						
YKA	Yellowknife Ar	148.34	46	PKPbc	PKPbc	20 46 13.4	+0.4
	0.7nm,0.7s,baz=274,slow=2.4,SNR=13						

IDC 26 20:33:19.9±1.7,0°.69N×124°.85E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.3/46,mbtmp3.3/3,Error ellipse: s-maj=167.7km s-min=24.3km az=64.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.52	156	P	P	20 38 21.0	-0.4
	0.5nm,0.5s,baz=333,slow=12,SNR=16						
ASAR	Alice Springs	25.76	161	P	P	20 38 53.0	+0.4
	0.2nm,0.4s,baz=344,slow=7.5,SNR=12						
MKAR	Makanchi Array	59.02	327	P	P	20 43 21.5	-0.2
	0.1nm,0.3s,baz=116,slow=9.6,SNR=3.7						

IDC 26 20:33:41.4±1.5,31°.80S×57°.99E,h0km,mb3.6/4, mb1 3.9/4,mb1mx3.5/43,mbtmp3.6/4,Error ellipse: s-maj=69.5km s-min=28.8km az=20.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	63.55	44	P	P	20 44 14.4	+0.5
	0.7nm,0.8s,baz=226,slow=7.3,SNR=6.4						
ASAR	Alice Springs	66.46	104	P	P	20 44 33.3	+0.3
	0.7nm,0.9s,baz=244,slow=5.8,SNR=6.0						
WRA	Warramunga Arr	68.47	101	P	P	20 44 45.9	+0.2
	0.5nm,0.8s,baz=243,slow=5.3,SNR=5.1						
TORD	Torodi Ar. Bea	70.02	300	P	P	20 44 56.2	+1.0
	0.4nm,0.7s,baz=130,slow=5.8,SNR=3.2						
YKA	Yellowknife Ar	148.93	353	PKPbc	PKPdf	20 53 27.8	+1.4
	0.8nm,0.8s,baz=4.4,slow=2.5,SNR=15						

IDC 26 20:37:10.1±2.6, 27°.93S×177°.09W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/42, mbtmp3.4/2, Error ellipse: s-maj=65.6km s-min=27.2km az=109.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.50**	**209**	Pn	Pn	20 37 38.3	0.0
	110nm,0.3s,baz=270,slow=20,SNR=3.5						
RAO				Sn	Sn	20 37 59.2	+0.6
	420nm,0.3s,baz=36,slow=22,SNR=7.1						
ASAR	**Alice Springs**	**44.09**	**264**	P	P	20 45 20.1	-0.2
	0.4nm,0.8s,baz=104,slow=7.4,SNR=4.4						
WRA	**Warramunga Arr**	**44.86**	**269**	P	P	20 45 26.6	+0.1
	0.4nm,0.6s,baz=109,slow=7.8,SNR=4.6						
FINES	**FINESS Array B**	**143.08**	**342**	PKP	PKPdf	20 56 44.0	-1.3
	3.8nm,0.8s,baz=42,slow=2.3,SNR=4.1						
AKASG	**Malin Array Be**	**149.76**	**326**	PKPbc	PKPbc	20 57 01.4	-0.3
	0.8nm,0.4s,baz=50,slow=2.9,SNR=6.9						

IDC 26 20:42:14.7±1.8, 30°.07S×176°.20W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/39, mbtmp3.5/2, Error ellipse: s-maj=65.7km s-min=32.3km az=16.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.70**	**298**	Pn	Pb	20 42 46.8	-0.1
	108nm,0.3s,baz=108,slow=20,SNR=2.7						
RAO				Sn	Sn	20 43 07.6	-0.6
	135nm,0.3s,baz=53,slow=20,SNR=2.9						
ASAR	**Alice Springs**	**44.69**	**266**	P	P	20 50 30.7	+1.1
	0.5nm,0.8s,baz=105,slow=7.2,SNR=4.8						
WRA	**Warramunga Arr**	**45.65**	**271**	P	P	20 50 35.8	-1.5
	0.6nm,0.7s,baz=111,slow=7.4,SNR=4.8						
FINES	**FINESS Array B**	**145.35**	**341**	PKPbc	PKPbc	21 01 53.0	-0.6
	3.1nm,0.9s,baz=104,slow=4.7,SNR=4.5						
AKASG	**Malin Array Be**	**151.96**	**325**	PKPbc	PKPbc	21 02 11.0	-0.3
	0.5nm,0.4s,baz=55,slow=3.2,SNR=3.7						

IDC 26 20:46:48.1±61.0, 1°.92N×89°.56E, h0km, mb3.6/3, mb1 3.6/3, mb1mx3.3/39, mbtmp3.6/3, Error ellipse: s-maj=1171.0km s-min=146.9km az=5.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**19.50**	**241**	T	T	21 11 47.2	
	baz=58,slow=74,SNR=5.6						
H08S3	**Diego Garcia H**	**19.50**	**241**	T	T	21 11 51.9	
	baz=58,slow=74,SNR=3.6						
H08S1	**Diego Carcia H**	**19.51**	**241**	T	T	21 11 47.8	
	baz=58,slow=74,SNR=3.4						
MKAR	**Makanchi Array**	**45.14**	**353**	P	P	20 55 06.4	0.0
	0.4nm,0.8s,baz=163,slow=8.9,SNR=5.0						
SONM	**Songino Array**	**48.00**	**15**	P	P	20 55 28.9	-0.1
	1.2nm,0.7s,baz=197,slow=9.2,SNR=9.8						
ZALV	**Zalesovo Beam**	**52.00**	**356**	P	P	20 55 58.9	-0.2
	0.5nm,0.5s,baz=170,slow=8.8,SNR=2.4						

*ISCJB **26** 20:49:23.1±0.8, 67°.56N×33°.7E±0°.1, h0km, Error ellipse: s-maj=7.0km s-min=4.6km az=155.0*
*HEL **26** 20:49:23.2±0.7, 68°.00N×34°.06E, h0km, ML2.3, Explosion*
*NAO **26** 20:49:26.0±1.2, 67°.69N×33°.66E, ML3.1*
*KOLA **26** 20:49:26.4, 67°.68N×33°.77E, M1.9, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*IDC **26** 20:49:27.6±2.5, 67°.74N×33°.71E, h0km, mb1 3.4/3, mb1mx3.0/44, mbtmp3.3/3, ML2.7/3, Error ellipse: s-maj=25.2km s-min=10.1km az=75.0*

ISC 26 20:49:25.4±1.3, 67°.53N±0°.04×33°.72E±0°.07, h0km, n39, σ1s82/72, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.13**	**286**	P	**Pg**	**20 49 29.6**	**+1.8**
APA				S	**Sg**	**20 49 31.9**	**+2.5**
APA0	**Apatity Array**	**0.29**	**285**	Pg	**Pg**	**20 49 31.9**	**+1.0**
APA0				Lg	Lg	20 49 35.9	
APA0				Rg	Rg	20 49 37.5	
APA0	**Apatity Array**	**0.29**	**285**	P	**Pg**	**20 49 31.9**	**+1.0**
APA0				S	**Sg**	**20 49 35.9**	**+1.3**
APA0	**Apatity Array**	**0.29**	**285**	Pg	**Pg**	**20 49 31.9**	**+1.0**
APA0				Sg	**Sg**	**20 49 35.9**	**+1.3**
APA0				Rg	Rg	20 49 37.5	
VRF	**Varrio**	**1.59**	**280**	PG	**Pn**	**20 49 54.5**	**-0.2**
	baz=76						
VRF				MSG		20 50 14.0	
	comp=Z,23nm,0.2s						
VRF				SG	**Sn**	**20 50 15.2**	**-0.7**
KU6	**Riekki**	**2.15**	**227**	PN	**Pb**	**20 50 05.2**	**+0.2**
KU6				SN	**Sg**	**20 50 35.4**	**+1.2**
KU6				MSG		20 50 38.9	
	comp=Z,12nm,0.2s						
MSF	**Maaselka**	**2.47**	**231**	PN	**Pb**	**20 50 10.3**	**-0.3**
MSF				SN	**Sg**	**20 50 45.9**	**+1.2**
SGF	**Sodankyl**	**2.77**	**271**	PB	**Pn**	**20 50 11.6**	**+0.7**
SGF				SB	**Sb**	**20 50 50.8**	**+0.7**
RNF	**Rovaniemi**	**3.16**	**256**	PN	**Pn**	**20 50 17.8**	**+1.6**
RNF				SN	**Sn**	**20 50 56.6**	**+2.1**
KEV	**Kevo**	**3.32**	**315**	Pn	**Pn**	**20 50 18.9**	**+0.5**
KEV				Sn	**Sn**	**20 50 57.2**	**-1.3**
KEV				Lg	Lg	20 51 04.9	
KEV	**Kevo**	**3.32**	**315**	eP	**Pn**	**20 50 19.0**	**+0.5**
KEV				eS	**Sn**	**20 50 57.1**	**-1.3**
KEV	**Kevo**	**3.32**	**315**	PG	**Pn**	**20 50 18.6**	**+0.2**
	baz=122						
KEV				MSG		20 50 54.4	
	comp=Z,12nm,0.2s						
KEV				SG	**Sn**	**20 50 57.5**	**-1.0**
ARA0	**ARCESS Array S**	**3.63**	**307**	Pn	**Pn**	**20 50 22.6**	**-0.1**
	baz=123,slow=16						
ARA0				Pg	**Pb**	**20 50 30.1**	**-0.1**
	baz=118,slow=16						
ARA0				Sn	**Sn**	**20 51 03.9**	**-2.3**
	baz=119,slow=28						
ARA0				Lg	Lg	20 51 15.8	
	baz=115,slow=37						
ARA0	**ARCESS Array S**	**3.63**	**307**	Pn	**Pn**	**20 50 22.6**	**-0.1**
	baz=123,slow=16						
ARA0				Pg	**Pb**	**20 50 30.1**	**-0.1**
	baz=118,slow=16						
ARA0				Sn	**Sn**	**20 51 03.9**	**-2.3**
	baz=119,slow=28						
ARA0				Sg	**Sb**	**20 51 15.8**	**+1.0**
	baz=115,slow=37						
ARCES	**ARCESS Array B**	**3.63**	**307**	Pn	**Pn**	**20 50 22.6**	**-0.1**
	comp=Z,4.7nm,0.3s,baz=116,slow=14,SNR=279						
ARCES				Pg	**Pb**	**20 50 31.2**	**+1.0**
	comp=Z,4.3nm,0.3s,baz=110,slow=16,SNR=22						
ARCES				Sn	**Sn**	**20 51 03.9**	**-2.2**
	comp=Z,4.7nm,0.3s,baz=118,slow=25,SNR=20						
ARCES				Lg	Lg	20 51 15.7	
	comp=Z,12nm,0.3s,baz=114,slow=31,SNR=18						
ARE0	**ARCESS Array S**	**3.63**	**307**	eP	**Pn**	**20 50 22.9**	**+0.2**
ARE0				eS	**Sn**	**20 51 03.6**	**-2.6**
ARE0				IAML		20 51 22.2	
	comp=Z,1.8nm,0.8s						
ARE0	**ARCESS Array S**	**3.63**	**307**	PB	**Pn**	**20 50 22.3**	**-0.4**
ARE0				SB	**Sn**	**20 51 03.9**	**-2.2**
HEF	**Hetta**	**3.89**	**288**	eP	**Pn**	**20 50 26.5**	**+0.2**
HEF	**Hetta**	**3.89**	**288**	PB	**Pn**	**20 50 26.5**	**+0.2**
TOF	**Tornio**	**3.99**	**253**	PN	**Pn**	**20 50 28.5**	**+0.8**
OUL	**Oulu**	**4.00**	**236**	PN	**Pn**	**20 50 30.5**	**+2.7**
OUL				SG	**Sg**	**20 51 36.1**	**+2.4**
KTK1	**Kautokeino**	**4.17**	**296**	eP	**Pn**	**20 50 31.2**	**+1.0**
KTK1				IAML		20 51 40.8	
	comp=Z,29nm,0.5s						
LANU	**Lannavaara**	**4.48**	**282**	PN	**Pn**	**20 50 33.9**	**-0.6**
LANU				SN	**Sn**	**20 51 25.4**	**-1.8**
HAMF	**Hammerfest**	**4.76**	**316**	eP	**Pn**	**20 50 37.8**	**-0.4**
KIF	**Kilpisjarvi**	**5.02**	**293**	Pn	**Pn**	**20 50 41.3**	**-0.5**
KIF				Sn	**Sn**	**20 51 36.4**	**-4.0**
KIF	**Kilpisjarvi**	**5.02**	**293**	Pn	**Pn**	**20 50 41.3**	**-0.5**
KIF				eP	**Pn**	**20 50 41.5**	**-0.3**
KIF				Sn	**Sn**	**20 51 36.4**	**-4.0**
FIA0	**FINESS Array S**	**6.94**	**212**	Pn	**Pn**	**20 51 09.0**	**+0.8**
	baz=25,slow=14						
FIA0				Sn	**Sn**	**20 52 28.6**	**+0.9**
	baz=36,slow=28						
FIA0				Lg	Lg	20 53 00.8	
	baz=28,slow=28						
FIA0	**FINESS Array S**	**6.94**	**212**	Pn	**Pn**	**20 51 09.0**	**+0.8**
	baz=25,slow=14						
FIA0				Sn	**Sn**	**20 52 28.6**	**+0.9**
	baz=36,slow=28						
FIA0				Sg	**Sg**	**20 53 00.8**	**-7.3**
	baz=28,slow=28						
FINES	**FINESS Array B**	**6.94**	**212**	Pn	**Pn**	**20 51 09.8**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=18,slow=14,SNR=5.4						
FINES				Sn	**Sn**	**20 52 29.7**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=8.2,slow=17,SNR=3.7						
FINES				Lg	Lg	20 53 04.1	
	comp=Z,1.1nm,0.3s,baz=34,slow=27,SNR=9.8						
KLMR	**Klimovskoe**	**7.16**	**157**	*i* P	**Pn**	**20 51 12.4**	**+1.2**
KLMR				*i* S	**Sn**	**20 52 33.2**	**0.0**
KLMR				*i* S	**Sn**	**20 52 33.2**	**0.0**
KLMR				*i* S	**Sn**	**20 52 33.2**	**0.0**
KLMR				AMP		20 52 34.2	
	comp=E,5.0nm,0.6s						
HFS	**Hagfors**	**11.49**	**239**	Pn	**Pn**	**20 52 10.8**	**+0.5**
	baz=41,slow=12						
HFS	**Hagfors**	**11.49**	**239**	Pn	**Pn**	**20 52 10.8**	**+0.5**
	baz=41,slow=12						
NB2	**NORSAR Subarra**	**11.68**	**247**	Pn	**Pn**	**20 52 12.8**	**-0.4**
NB2	**NORSAR Subarra**	**11.68**	**247**	Pn	**Pn**	**20 52 12.8**	**-0.4**
NOA	**NORSAR Array B**	**11.68**	**247**	Pn	**Pn**	**20 52 12.6**	**-0.5**
	comp=E,0.0nm,0.3s,baz=48,slow=11,SNR=6.6						
NOA				Sn	**Sn**	**20 54 19.2**	**-4.9**
	comp=E,0.0nm,0.3s,baz=117,slow=22,SNR=2.5						
NOA				Lg	Lg	20 55 29.9	
	comp=E,0.0nm,0.3s,baz=45,slow=25,SNR=3.9						
SPA0	**Spitsbergen Ar**	**11.76**	**342**	Pn	**Pn**	**20 52 10.6**	**-3.5**
	baz=126,slow=22						
SPA0	**Spitsbergen Ar**	**11.76**	**342**	Pn	**Pn**	**20 52 10.6**	**-3.5**
	baz=126,slow=22						
NRA0	**NORESS Array S**	**11.78**	**245**	Pn	**Pn**	**20 52 13.1**	**-1.3**
	baz=61,slow=11						
NRA0	**NORESS Array S**	**11.78**	**245**	Pn	**Pn**	**20 52 13.1**	**-1.3**
	baz=61,slow=11						

*IDC **26** 20:51:17.7±2.5, 23°.15N×142°.34E, h152km±19km, mb3.5/7, mb1 3.7/9, mb1mx3.3/39, mbtmp4.0/9, Error ellipse: s-maj=27.1km s-min=19.4km az=88.0*
*JMA **26** 20:51:21.5±0.1, 23°.50N×141°.94E, h199km, M5.0*
*ISCJB **26** 20:51:23.2±1.1, 23°.61N±0°.08×142°.2E±0°.2, h200km, mb3.5/7, Error ellipse: s-maj=28.9km s-min=11.3km az=1.7*

ISC 26 20:51:22.9±0.9, 23°.49N±0°.09×142°.4E±0°.2, h200km, n17, σ1s82/21, mb3.8/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**3.13**	**356**	P	**Pn**	**20 52 12.9**	**-1.2**
JHHJ				S	**Sn**	**20 52 53.5**	**-0.8**
JCJ	**Chichijima**	**3.60**	**357**	P	**Pn**	**20 52 18.4**	**-1.3**
	64nm,0.3s,baz=275,slow=23,SNR=15						
JCJ				S	**Sn**	**20 53 03.0**	**-1.3**
	40nm,0.3s,baz=270,slow=20,SNR=6.1						
CBIJ	**Chichi jima**	**3.60**	**357**	P	**Pn**	**20 52 18.5**	**-1.2**
CBIJ				S	**Sn**	**20 53 02.5**	**-1.8**
JOD2	**Odawara 2**	**12.08**	**347**	P	**Pn**	**20 54 07.5**	**-1.3**
JRY	**Ryogami san**	**12.85**	**347**	P	**Pn**	**20 54 16.9**	**-1.5**
JAG	**Ashikaga**	**13.14**	**349**	P	**Pn**	**20 54 19.3**	**-2.8**
JHO	**Hitachi**	**13.17**	**354**	P	**Pn**	**20 54 20.6**	**-1.9**
MJAR	**Matsushiro Arr**	**13.51**	**345**	P	**Pn**	**20 54 26.8**	**+0.2**
	0.1nm,0.3s,baz=156,slow=9.2,SNR=3.9						
KSRS	**Korea Array**	**18.66**	**322**	P	**Pn**	**20 55 30.9**	**+2.3**
	0.1nm,0.3s,baz=135,slow=12,SNR=5.5						
WRA	**Warramunga Arr**	**43.88**	**191**	P	**P**	**20 59 05.9**	**-3.8**
	0.5nm,0.4s,baz=7.7,slow=8.2,SNR=2.5						
ZALV	**Zalesovo Beam**	**52.37**	**321**	P	**P**	**21 00 15.4**	**+1.2**
	0.7nm,0.3s,baz=110,slow=7.0,SNR=3.6						
MKAR	**Makanchi Array**	**52.97**	**312**	P	**P**	**21 00 20.5**	**+1.7**
	0.5nm,0.4s,baz=90,slow=9.7,SNR=12						
MKAR				PcP	**sP**	**21 01 25.5**	**+0.5**
	0.2nm,0.6s,baz=98,slow=2.5,SNR=2.2						
YKA	**Yellowknife Ar**	**75.22**	**28**	P	**P**	**21 02 45.1**	**+2.0**
	0.9nm,0.4s,baz=293,slow=6.0,SNR=24						
ARCES	**ARCESS Array B**	**77.00**	**341**	P	**P**	**21 02 54.9**	**+1.7**
	1.6nm,0.9s,baz=76,slow=7.5,SNR=4.3						
FINES	**FINESS Array B**	**81.26**	**334**	P	**P**	**21 03 16.8**	**+0.4**
	2.0nm,0.8s,baz=77,slow=4.1,SNR=8.0						
NVAR	**Mina Array Bea**	**82.60**	**51**	P	**P**	**21 03 25.9**	**+1.8**
	0.1nm,0.3s,baz=273,slow=5.3,SNR=4.1						
LPAZ	**La Paz**	**150.45**	**82**	PKPbc	**PKiKP**	**21 10 53.1**	**+0.2**
	0.9nm,0.6s,baz=14,slow=5.7,SNR=4.6						

IDC 26 21:01:02.2±2.5, 5°.94S×131°.90E, h169km±54km, mb2.8/1, mb1 3.0/4, mb1mx2.8/26, mbtmp3.5/4, MS2.7/1, Ms1 2.7/1, ms1mx2.6/3, Error ellipse: s-maj=245.4km s-min=18.6km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.08**	**353**	P	Pn	21 02 18.2	+1.2
	2.2nm,0.3s,baz=102,slow=16,SNR=13						
SIJI				S	Sn	21 03 15.4	-0.3
	3.4nm,0.3s,baz=229,slow=22,SNR=16						
WRA	**Warramunga Arr**	**14.12**	**171**	P	Pn	21 04 13.8	-1.1
	0.7nm,0.3s,baz=351,slow=12,SNR=18						
WRA				S	Sn	21 06 38.7	-13
	0.2nm,0.3s,baz=349,slow=21,SNR=5.4						
DAV	**Davao City (W)**	**14.38**	**334**	LR	LR	21 10 01.7	
	comp=Z,30nm,21.6s,baz=274,slow=38						
ASAR	**Alice Springs**	**17.73**	**174**	P	P	21 04 57.6	+0.3
	0.1nm,0.3s,baz=349,slow=11,SNR=5.8						
MKAR	**Makanchi Array**	**68.40**	**326**	P	P	21 11 45.8	+0.1
	0.2nm,0.6s,baz=112,slow=8.7,SNR=3.3						

*IDC **26** 21:24:05.4±4.3, 6°.66S×149°.50E, h91km±36km, mb3.5/4, mb1 3.8/6, mb1mx3.5/30, mbtmp3.9/6, MS3.1/6, Ms1 3.1/6, ms1mx2.9/20, Error ellipse: s-maj=63.1km s-min=27.5km az=120.0*

ISC 26 21:24:01.1±2.1, 6°.5S±0°.3×149°.6E±0°.5, h49km, n10, σ1s68/7, mb3.7/4, MS3.0/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.78**	**220**	P	**Pn**	**21 24 57.6**	**+0.6**
	8.8nm,0.3s,baz=355,slow=4.3,SNR=16						
PMG				S	**Sn**	**21 25 41.3**	**+1.1**
	28nm,0.3s,baz=92,slow=20,SNR=15						
PMG				LR	LR	21 26 38.0	
	comp=Z,332nm,20.4s,baz=70,slow=42						
WRA	**Warramunga Arr**	**19.97**	**227**	P	**P**	**21 28 28.0**	**-1.6**
	0.9nm,0.3s,baz=51,slow=11,SNR=29						
GUMO	**Guam**	**20.50**	**347**	LR	LR	21 35 38.0	
	comp=Z,18nm,20.8s,baz=112,slow=34						
ASAR	**Alice Springs**	**22.80**	**220**	P	**P**	**21 28 59.5**	**-0.5**
	1.8nm,0.7s,baz=58,slow=9.4,SNR=25						
FITZ	**Fitzroy Crossi**	**26.07**	**242**	P	**P**	**21 29 27.9**	**-2.5**
	6.0nm,0.8s,baz=54,slow=8.7,SNR=13						
FITZ				LR	LR	21 41 10.5	
	comp=Z,32nm,18.1s,baz=74,slow=40						
STKA	**Stephens Creek**	**26.34**	**196**	LR	LR	21 40 10.3	
	comp=Z,47nm,19.4s,baz=26,slow=37						
MJAR	**Matsushiro Arr**	**44.13**	**347**	LR	LR	21 49 07.8	
	comp=Z,25nm,18.0s,baz=345,slow=34						
SONM	**Songino Array**	**66.12**	**330**	P	**P**	**21 34 44.4**	**+0.9**
	0.2nm,0.4s,baz=142,slow=5.4,SNR=2.3						
MKAR	**Makanchi Array**	**79.54**	**320**	LR	LR	22 13 40.5	
	comp=Z,13nm,18.4s,baz=340,slow=37						
ILAR	**Eielson Array**	**84.92**	**23**	P	**P**	**21 36 30.7**	**+0.1**
	0.6nm,0.8s,baz=259,slow=4.0,SNR=4.0						

*IDC **26** 21:27:04.3±5.1, 6°.51S×149°.52E, h60km±45km, mb3.5/4, mb1 3.9/6, mb1mx3.5/30, mbtmp3.9/6, ML4.3/1, Error ellipse: s-maj=61.3km s-min=30.2km az=122.0*

ISC 26 21:27:02.9±2.0, 6°.4S±0°.3×149°.5E±0°.5, h49km, n7, σ1s41/8, mb3.6/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.80**	**218**	P	**Pn**	**21 28 00.5**	**+1.4**
	11nm,0.3s,baz=47,slow=13,SNR=7.7						
PMG				S	**Sn**	**21 28 42.7**	**+0.2**
	36nm,0.3s,baz=226,slow=20,SNR=11						
WRA	**Warramunga Arr**	**19.97**	**226**	P	**P**	**21 31 30.0**	**-1.3**
	1.0nm,0.3s,baz=52,slow=11,SNR=25						
ASAR	**Alice Springs**	**22.82**	**219**	P	**P**	**21 32 01.4**	**-0.5**
	1.2nm,0.5s,baz=57,slow=9.3,SNR=18						
FITZ	**Fitzroy Crossi**	**26.03**	**241**	P	**P**	**21 32 29.7**	**-2.0**
	2.3nm,0.5s,baz=61,slow=9.5,SNR=8.8						
SONM	**Songino Array**	**65.96**	**330**	P	**P**	**21 37 45.4**	**+1.2**
	0.3nm,0.6s,baz=127,slow=4.3,SNR=3.0						
ILAR	**Eielson Array**	**84.86**	**23**	P	**P**	**21 39 31.9**	**-0.3**
	0.4nm,0.8s,baz=259,slow=4.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**147.60**	**284**	PKPbc	**PKPab**	**21 46 44.7**	**-0.5**
	0.4nm,0.7s,baz=72,slow=3.3,SNR=2.5						

IDC 26 21:41:53.4±5.1, 5°.09S×148°.06E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, ML4.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/11, Error ellipse: s-maj=155.9km s-min=32.1km az=102.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.91**	**221**	P	P	21 46 26.7	-0.1
	0.5nm,0.3s,baz=46,slow=12,SNR=24						
ASAR	**Alice Springs**	**22.97**	**215**	P	P	21 46 59.5	-0.2
	1.0nm,0.6s,baz=46,slow=8.4,SNR=24						
MJAR	**Matsushiro Arr**	**42.42**	**348**	LR	LR	22 06 03.0	
	comp=Z,30nm,18.5s,baz=325,slow=34						
MKAR	**Makanchi Array**	**77.47**	**320**	P	P	21 53 51.0	+0.2
	0.1nm,0.6s,baz=104,slow=4.4,SNR=2.4						

JMA 26 21:46:24.4±0.5, 44°.09N×148°.13E, h0km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.88**	**248**	P	Pn	21 46 57.9	+0.2
NEM2				eS	Sb	21 47 23.1	-0.4
JKHN	**Kushirohamanak**	**2.38**	**246**	P	Pn	21 47 05.3	+0.7
JKHN				eS	Sn	21 47 35.3	+0.8
JAK	**Akkeshi**	**2.73**	**248**	P	Pn	21 47 10.1	+0.7
JAK				eS	Sn	21 47 44.6	+1.6
JAR	**Ashorobuto**	**3.26**	**257**	P	Pn	21 47 19.1	+2.3
JAR				eS	Sn	21 47 58.9	+2.7
JCH	**Churui**	**3.78**	**249**	P	Pn	21 47 25.7	+1.9
JNBK	**Urakawa-nobuka**	**4.33**	**247**	P	Pn	21 47 32.8	+1.4

*ISCJB **26** 21:59:31.1±1.1, 33°.71N±0°.06×142°.23E±0°.09, h10km, mb3.5/2, Error ellipse: s-maj=12.4km s-min=6.6km az=144.9*
*JMA **26** 21:59:31.2±0.2, 33°.65N×142°.15E, h9km, M3.6*
*IDC **26** 21:59:49.8±1.9, 33°.50N×139°.65E, h128km±18km, mb3.0/2, mb1 3.2/3, mb1mx2.8/33, mbtmp3.3/3, Error ellipse: s-maj=154.6km s-min=27.8km az=73.0*

ISC 26 21:59:32.9±1.6, 33°.68N±0°.07×142°.1E±0°.1, h10km, n15, σ0s83/21, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.35**	**317**	P	**Pb**	**21 59 56.8**	**-1.1**
BSO1				S	**Sb**	**22 00 14.9**	**-0.1**
BSO3	**Boso 3**	**1.73**	**311**	P	**Pb**	**22 00 03.0**	**-1.6**
BSO3				S	**Sb**	**22 00 26.3**	**0.0**
BSO4	**Boso 4**	**1.96**	**312**	eS	**Sn**	**22 00 31.4**	**+0.7**
JHJ	**Hachijo jima 2**	**2.02**	**255**	P	**Pb**	**22 00 08.9**	**-0.7**
	64nm,0.3s,baz=40,slow=22,SNR=9.2						
JHJ				S	**Sb**	**22 00 34.5**	**-0.3**
	50nm,0.3s,baz=252,slow=23,SNR=7.3						
KTR	**Katsuura**	**2.08**	**315**	eS	**Sn**	**22 00 34.8**	**+1.0**
JKUC	**kamogawauchiur**	**2.16**	**314**	P	**Pn**	**22 00 08.7**	**-0.2**
JKUC				eS	**Sn**	**22 00 35.8**	**+0.1**
JIM2	**Oshima 2**	**2.44**	**296**	P	**Pn**	**22 00 12.9**	**+0.1**
JIZS	**Izushimoda**	**2.86**	**292**	S	**Sn**	**22 00 53.6**	**+0.5**
JOD2	**Odawara 2**	**2.95**	**303**	P	**Pn**	**22 00 19.5**	**-0.3**
JOD2				eS	**Sn**	**22 00 55.8**	**+0.5**
JFNN	**Fujinakano**	**3.20**	**299**	eS	**Sn**	**22 01 03.3**	**+1.7**
JYN	**Shimob**	**3.45**	**303**	S	**Sn**	**22 01 08.4**	**+0.7**
JAG	**Ashikaga**	**3.50**	**322**	P	**Pn**	**22 00 28.0**	**+0.7**
MJAR	**Matsushiro Arr**	**4.28**	**313**	P	**Pn**	**22 00 39.5**	**+1.3**
	0.2nm,0.3s,baz=158,slow=12,SNR=6.4						
MJAR				S	**Sn**	**22 01 28.4**	**+0.3**
	0.3nm,0.3s,baz=126,slow=16,SNR=5.5						
WRA	**Warramunga Arr**	**53.83**	**189**	P	**P**	**22 08 56.1**	**+0.1**
	0.3nm,0.6s,baz=5.6,slow=7.4,SNR=3.5						
ASAR	**Alice Springs**	**57.55**	**189**	P	**P**	**22 09 22.9**	**+0.2**
	0.5nm,0.9s,baz=358,slow=6.5,SNR=4.1						

MEX 26 22:42:24.1±0.4, 16°.41N×98°.39W, h4km±10km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.25**	**95**	*i* P	Pg	22 42 28.5	-0.4
PNIG				eS	Sg	22 42 32.6	+0.4

*IDC **26** 22:47:11.8±1.1, 53°.32S×117°.56W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/36, mbtmp3.9/3, MS4.1/10, Ms1 4.1/10, ms1mx3.9/25, Error ellipse: s-maj=234.1km s-min=31.7km az=159.0*
*GCMT **26** 22:47:15.0±0.4, 53°.08S±0°.04×117°.48W±0°.05, h29km±1km, MW5.0/60, Moment Tensor Solution. s25,c28; s60,c75; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.57±.32; $M_{\theta\theta}$-0.81±.25; $M_{\phi\phi}$3.38±.21; $M_{r\theta}$2.94±.36; $M_{\theta\phi}$0.86±.13; $M_{\phi r}$-1.39±.26; Best double couple: M_o4.38800×10^{16} NP1:ϕ_s336.00000°, δ65.00000°, λ-130.00000°. NP2: ϕ_s219.00000°, δ46.00000°, λ-36.00000°. Principal axes: T 3.

ellipse: s-maj=105.7km s-min=42.4km az=11.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.23**	**199**	P	P	22 54 35.7	-0.6
	1.8nm,0.3s,baz=267,slow=7.0,SNR=26						
URZ				S	S	22 56 03.1	+0.5
	4.1nm,0.3s,baz=67,slow=20,SNR=23						
WRA	**Warramunga Arr**	**42.46**	**274**	P	P	23 00 06.9	-0.2
	0.2nm,0.3s,baz=113,slow=6.4,SNR=3.2						
ARCES	**ARCESS Array B**	**139.21**	**347**	PKhKP	PKPpre	23 11 20.8	
	1.0nm,0.8s,baz=43,slow=1.6,SNR=3.7						
FINES	**FINESS Array B**	**145.49**	**338**	PKPbc	PKPdf	23 11 39.7	+0.4
	6.1nm,1.1s,baz=64,slow=4.8,SNR=18						
NOA	**NORSAR Array B**	**149.47**	**349**	PKPbc	PKPbc	23 11 50.3	-0.6
	0.6nm,0.7s,baz=18,slow=4.2,SNR=3.2						

ISCJB ***26*** *22:53:34.8±0.4, 6.87N±0.03×73.14W±0.03, h149km±3km, mb3.1/4, Error ellipse: s-maj=5.2km s-min=4.0km az=30.9*
IDC ***26*** *22:53:34.7±0.7, 6.76N×73.00W, h151km±8km, mb2.9/4, mb1 3.4/7, mb1mx3.1/38, mbtmp3.6/7, Error ellipse: s-maj=21.2km s-min=7.1km az=132.0*
RSNC ***26*** *22:53:36.7±1.0, 6.81N×73.15W, h141km±5km, ML3.4, Mw3.6*

ISC 26 22:53:35.1±0.7, 6.86N±0.03×73.12W±0.04, h153km±6km, n38,σ1≒87/64, mb3.2/4, 3C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**194**	*i* P	**Pn**	**22 53 55.8**	**-0.5**
BARC				*e*S	**Sn**	**22 54 10.3**	**-2.2**
BARC				*i*		22 54 12.9	
	comp=Z,952nm,0.3s						
PAMC	**Pamplona, Colo**	**0.63**	**41**	*i* P	**Pn**	**22 53 58.7**	**+0.5**
PAMC				*e*S	**Sn**	**22 54 15.6**	**-0.2**
BRRC	**Barranca, Sant**	**0.64**	**293** ⇓	*i* P	**Pn**	**22 53 57.7**	**0.0**
BRRC				*e*S	**Sn**	**22 54 14.0**	**-0.8**
BRRC				*i*		22 54 17.4	
	comp=Z,388nm,0.2s						
RUSC	**La Rusia**	**0.96**	**178**	*e*P	**Pn**	**22 53 59.8**	**-0.7**
RUSC				*e*S	**Sn**	**22 54 18.0**	**-1.9**
RUSC				*i*		22 54 19.4	
	comp=Z,424nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.37**	**257**	*e*P	**Pn**	**22 54 02.5**	**-1.1**
PTBC				*e*S	**Sn**	**22 54 23.8**	**-1.6**
PTBC				*i*		22 54 26.9	
	comp=Z,336nm,0.2s						
TAMC	**Tame, Arauca**	**1.38**	**108** ⇓	*i* P	**Pn**	**22 54 04.2**	**+0.4**
TAMC				*e*S	**Sn**	**22 54 25.4**	**-0.4**
TAMC				*i*		22 54 26.2	
	comp=Z,185nm,0.2s						
OCAC	**Ocana**	**1.39**	**352** ⇑	*i* P	**Pn**	**22 54 04.2**	**+0.2**
OCAC				*e*S	**Sn**	**22 54 25.6**	**-0.6**
ZARC	**Zaragoza, Cauc**	**1.84**	**290**	*e*P	**Pn**	**22 54 08.9**	**+0.2**
ZARC				*e*S	**Sn**	**22 54 33.9**	**-0.6**
ZARC				*i*		22 54 40.0	
	comp=Z,475nm,0.3s						
CTAB	**Cerro Tablazo,**	**2.13**	**211**	*e*P	**Pn**	**22 54 13.3**	**+0.9**
CTAB				*e*S	**Sn**	**22 54 40.6**	**-0.5**
CHIC	**Chingaza**	**2.29**	**196**	*e*P	**Pn**	**22 54 13.9**	**-0.5**
	comp=Z,137nm,0.5s						
CHIC				*e*S	**Sn**	**22 54 43.4**	**-1.2**
CHIC				*i*		22 54 47.7	
	comp=Z,137nm,0.5s						
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**22 54 15.8**	**+1.0**
	comp=Z,38nm,0.3s,baz=81,slow=13,SNR=48						
ROSC				S	**Sn**	**22 54 44.4**	**-0.9**
	comp=Z,45nm,0.3s,baz=350,slow=22,SNR=12						
ROSC	**El Rosal**	**2.33**	**211** ⇑	*e*P	**Pn**	**22 54 15.6**	**+0.8**
ROSC				*e*S	**Sn**	**22 54 43.7**	**-1.7**
HELC	**Santa Helena**	**2.49**	**255**	*e*P	**Pn**	**22 54 16.4**	**-0.3**
HELC				*e*S	**Sn**	**22 54 47.6**	**-1.0**
HELC				*i*		22 54 52.8	
	comp=Z,137nm,0.3s						
UREC	**San Jos de Ur**	**2.56**	**291**	*e*P	**Pn**	**22 54 16.3**	**-0.8**
UREC				*e*S	**Sn**	**22 54 47.4**	**-2.2**
VILC	**Villavicencio,**	**2.79**	**192** ⇑	*e*P	**Pn**	**22 54 19.4**	**-0.7**
VILC				*e*S	**Sn**	**22 54 53.7**	**-1.2**
VILC				*i*		22 55 03.1	
	comp=Z,190nm,0.4s						
DBBC	**Dabeiba**	**3.08**	**273**	*e*P	**Pn**	**22 54 23.9**	**+0.2**
DBBC				*e*S	**Sn**	**22 55 00.1**	**-1.2**
DBBC				*i*		22 55 04.5	
	comp=Z,217nm,0.4s						
TOLC	**Tolima**	**3.15**	**224**	*e*P	**Pn**	**22 54 25.6**	**+0.8**
TOLC				*e*S	**Sn**	**22 55 02.5**	**-0.8**
TOLC				*i*		22 55 11.3	
	comp=Z,74nm,0.7s						
SDV	**Santo Domingo**	**3.18**	**50**	P	**Pn**	**22 54 25.8**	**+0.7**
	comp=Z,15nm,0.3s,baz=253,slow=4.9,SNR=101						
SDV				S	**Sn**	**22 55 02.5**	**-1.4**
	comp=Z,48nm,0.3s,baz=87,slow=22,SNR=34						
ANIL	**Santa Ana**	**3.27**	**224**	*e*P	**Pn**	**22 54 27.1**	**+0.8**
ANIL				*e*S	**Sn**	**22 55 05.5**	**-0.6**
ANIL				*i*		22 55 11.9	
	comp=Z,128nm,0.3s						
SJCC	**San Jacinto, C**	**3.65**	**326**	*e*S	**Sn**	**22 55 11.5**	**-2.9**
PLMC	**San Jos del P**	**3.70**	**239**	*e*P	**Pn**	**22 54 32.1**	**+0.5**
PLMC				*e*S	**Sn**	**22 55 11.5**	**-4.0**
YOTC	**Yotoco, Valle**	**4.30**	**229**	*e*P	**Pn**	**22 54 38.8**	**-0.7**
YOTC				*e*S	**Sn**	**22 55 25.9**	**-3.7**
YOTC				*i*		22 55 36.3	
	comp=Z,20nm,0.4s						
SMRC	**Santa Marta, M**	**4.42**	**346**	*e*P	**Pn**	**22 54 40.7**	**-0.2**
SMRC				*e*S	**Sn**	**22 55 29.3**	**-3.0**
MARP	**Paez Belalcaza**	**4.89**	**215**	*e*P	**Pn**	**22 54 47.0**	**-0.4**
MARP				*e*S	**Sn**	**22 55 36.4**	**-7.4**
PCON	**Cinco Dias**	**5.56**	**216**	*e*P	**Pn**	**22 54 57.2**	**+0.6**
POPC	**Popayan, Colom**	**5.56**	**220**	*e*P	**Pn**	**22 54 56.4**	**+0.1**
POPC				*e*S	**Sn**	**22 55 55.3**	**-4.5**
POPC				*i*		22 56 02.8	
	comp=Z,9.4nm,0.4s						
SOTA	**Rioblanco**	**5.84**	**217**	*e*P	**Pn**	**22 55 00.9**	**+0.7**
SOTA				*e*S	**Sn**	**22 56 10.3**	**+3.5**
PCRV	**Puerto La Cruz**	**9.01**	**68**	P	**Pn**	**22 55 42.1**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=26,slow=0.7,SNR=5.7						
PCRV				S	**Sn**	**22 57 20.1**	**-2.1**
	comp=Z,0.9nm,0.3s,baz=146,slow=18,SNR=2.8						
PCJ	**Portland Cotta**	**11.52**	**340**	*i* P	**Pn**	**22 56 17.0**	**+1.9**
GWJ	**Greenwich**	**11.69**	**343**	*i* P	**Pn**	**22 56 20.2**	**+2.8**
STH	**Stony Hill**	**11.72**	**342**	*i* P	**Pn**	**22 56 20.7**	**+3.0**
BBJ	**Bamboo Saint A**	**12.15**	**341**	*i* P	**P**	**22 56 26.9**	**-2.6**
LPAZ	**La Paz**	**23.52**	**168**	P	**P**	**22 58 31.5**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=325,slow=12,SNR=2.4						
TXAR	**Lajitas Array**	**36.44**	**312**	P	**P**	**23 00 26.8**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=126,slow=9.0,SNR=3.6						
PDAR	**Pinedale Array**	**48.05**	**324**	P	**P**	**23 02 00.4**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=123,slow=6.6,SNR=2.5						
YKA	**Yellowknife Ar**	**63.23**	**340**	P	**P**	**23 03 47.3**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=130,slow=6.8,SNR=5.2						
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc	**PKPbc**	**23 13 05.4**	**-0.9**
	comp=Z,1.4nm,1.2s,baz=107,slow=4.2,SNR=2.8						
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc	**PKPbc**	**23 13 08.6**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=110,slow=2.4,SNR=3.6						

IDC 26 23:00:02.8±2.2, 6.06S×130.12E, h0km, mb3.9/1, mb1 3.6/3, mb1mx3.4/32, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=142.9km s-min=30.4km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.74**	**200**	Sn	Sn	23 05 18.9	-9.3
	0.5nm,0.3s,baz=221,slow=19,SNR=7.4						
WRA	**Warramunga Arr**	**14.40**	**164**	Pn	Pn	23 03 27.9	-0.3
	0.2nm,0.3s,baz=347,slow=14,SNR=5.9						
WRA				Sn	Sn	23 05 55.7	-13
	0.5nm,0.3s,baz=334,slow=23,SNR=5.7						
ASAR	**Alice Springs**	**17.89**	**169**	P	Pn	23 04 13.4	+0.2
	0.1nm,0.3s,baz=352,slow=13,SNR=4.0						
ASAR				S	Sn	23 07 21.1	-12
	0.1nm,0.3s,baz=344,slow=25,SNR=5.4						
MKAR	**Makanchi Array**	**67.51**	**327**	P	P	23 11 00.8	0.0
	0.9nm,0.6s,baz=121,slow=7.9,SNR=16						

STR ***26*** *23:01:34.4±1.0, 44.4×1.1E±, h0km, M2.9/7, MLv2.9/7*
ROM ***26*** *23:01:36.9±0.1, 44.150N±0.007×10.489E±0.007, h16km±1km, ML2.8/22*
ISCJB ***26*** *23:01:36.9±0.2, 44.11N±0.02×10.46E±0.02, h20km±2km, Error ellipse: s-maj=3.4km s-min=2.2km az=164.7*

GEN ***26*** *23:01:37.6, 44.17N×10.50E, h13km±2km, Ml2.7*
LDG ***26*** *23:01:38.6±0.2, 44.11N×10.46E, h7km, Ml2.9/18, Error ellipse: s-maj=3.5km s-min=3.2km az=96.0*
PRU ***26*** *23:01:39.5±0.0, 44.16N×10.78E, h15km*

ISC 26 23:01:37.0±0.8, 44.14N±0.02×10.47E±0.01, h18km±4km, n109,σ1≒49/164, 5C-1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLC	**Villacollemand**	**0.06**	**291**	P	**Pg**	**23 01 40.3**	**-0.1**
VLC				S	**Sg**	**23 01 42.6**	**-0.1**
VLC				AML	AML		
	comp=E,7530μm,0.2s						
VLC				AML	AML		
	comp=N,14150μm,0.6s						
VLC				AML	AML		
	comp=E,7900μm,0.2s						
VLC				AML	AML		
	comp=N,14050μm,0.6s						
VLC				AML	AML		
	comp=E,7530μm,0.2s						
VLC				AML	AML		
	comp=N,14150μm,0.6s						
VLC				AML	AML		
	comp=E,7900μm,0.2s						
VLC				AML	AML		
	comp=N,14050μm,0.6s						
VLC				AML	AML		
	comp=E,7900μm,0.2s						
VLC				AML	AML		
	comp=E,7530μm,0.2s						
VLC				AML	AML		
	comp=N,14150μm,0.6s						
VLC				AML	AML		
	comp=N,14050μm,0.6s						
SARO	**Sassorosso**	**0.07**	**315**	P	**Pg**	**23 01 40.1**	**-0.5**
SARO				S	**Sg**	**23 01 42.2**	**-0.6**
BDI	**Bagni Di Lucca**	**0.12**	**129**	P	**Pg**	**23 01 40.7**	**-0.2**
BDI				S	**Sg**	**23 01 43.5**	**-0.1**
BDI				AML	AML		
	comp=E,9290μm,1.0s						
BDI				AML	AML		
	comp=N,4585μm,1.0s						
BDI				AML	AML		
	comp=E,9160μm,0.2s						
BDI				AML	AML		
	comp=N,7555μm,1.0s						
BDI				AML	AML		
	comp=E,9160μm,0.2s						
BDI				AML	AML		
	comp=E,9290μm,1.0s						
BDI				AML	AML		
	comp=N,4585μm,1.0s						
BDI				AML	AML		
	comp=N,7555μm,1.0s						
MAIM	**Mastiano**	**0.22**	**176**	P	**Pg**	**23 01 42.7**	**+0.4**
MAIM				S	**Sb**	**23 01 47.0**	**+0.8**
MAIM	**Mastiano**	**0.22**	**176**	P	**Pg**	**23 01 42.7**	**+0.4**
MAIM				S	**Sb**	**23 01 47.0**	**+0.8**
MAIM				AML	AML		
	comp=E,1610μm,0.7s						
MAIM				AML	AML		
	comp=N,1630μm,0.3s						
MAIM				AML	AML		
	comp=E,1610μm,0.7s						
MAIM				AML	AML		
	comp=N,1630μm,0.3s						
MAIM				AML	AML		
	comp=E,1610μm,0.7s						
MAIM				AML	AML		
	comp=N,1630μm,0.3s						
POPM	**Popiglio**	**0.23**	**114**	P	**Pg**	**23 01 42.1**	**-0.3**
POPM				S	**Sg**	**23 01 45.9**	**-0.1**
POPM	**Popiglio**	**0.23**	**114**	P	**Pg**	**23 01 42.1**	**-0.3**
POPM				S	**Sg**	**23 01 45.9**	**-0.1**
POPM				AML	AML		
	comp=E,11175μm,0.2s						
POPM				AML	AML		
	comp=N,8730μm,0.4s						
POPM				AML	AML		
	comp=E,11175μm,0.2s						
POPM				AML	AML		
	comp=N,8730μm,0.4s						
POPM				AML	AML		
	comp=N,8730μm,0.4s						
POPM				AML	AML		
	comp=E,11175μm,0.2s						
EQUI	**Equi**	**0.23**	**278**	P	**Pg**	**23 01 42.3**	**-0.1**
EQUI				S	**Sg**	**23 01 46.2**	**+0.2**
EQUI	**Equi**	**0.23**	**278**	P	**Pg**	**23 01 42.3**	**-0.1**
EQUI				S	**Sg**	**23 01 46.2**	**+0.2**
EQUI				AML	AML		
	comp=E,2330μm,1.0s						
EQUI				AML	AML		
	comp=N,2090μm,0.3s						
EQUI				AML	AML		
	comp=E,2330μm,1.0s						
EQUI				AML	AML		
	comp=N,2090μm,0.3s						
EQUI				AML	AML		
	comp=E,2330μm,1.0s						
EQUI				AML	AML		
	comp=N,2090μm,0.3s						
MTCR	**Monte La Croce**	**0.40**	**106**	P	**Pg**	**23 01 44.6**	**-0.7**
MTCR				S	**Sg**	**23 01 50.5**	**-0.4**
MTCR				AML	AML		
	comp=E,1660μm,0.3s						
MTCR				AML	AML		
	comp=N,1895μm,0.3s						
MTCR				AML	AML		
	comp=E,1660μm,0.3s						
MTCR				AML	AML		
	comp=N,1894μm,0.3s						
MTCR				AML	AML		
	comp=E,1660μm,0.3s						
MTCR				AML	AML		
	comp=N,1894μm,0.3s						
ZCCA	**Zocca**	**0.42**	**59**	P	**Pg**	**23 01 45.7**	**0.0**
ZCCA				S	**Sg**	**23 01 51.3**	**-0.3**
ZCCA				AML	AML		
	comp=E,3840μm,1.3s						
ZCCA				AML	AML		
	comp=N,3240μm,0.5s						
ZCCA				AML	AML		
	comp=E,3705μm,1.3s						
ZCCA				AML	AML		
	comp=N,3575μm,0.5s						
ZCCA				AML	AML		
	comp=E,3835μm,1.3s						
ZCCA				AML	AML		
	comp=N,3240μm,0.5s						
ZCCA				AML	AML		
	comp=E,3705μm,1.3s						
ZCCA				AML	AML		
	comp=N,3575μm,0.5s						
ZCCA				AML	AML		
	comp=E,3705μm,1.3s						
ZCCA				AML	AML		
	comp=N,3240μm,0.5s						
ZCCA				AML	AML		
	comp=N,3575μm,0.5s						
ZCCA				AML	AML		
	comp=E,3835μm,1.3s						
PLMA	**Palmaria, Port**	**0.45**	**259**	P	**Pg**	**23 01 46.8**	**+0.6**
PLMA				S	**Sg**	**23 01 53.1**	**+0.7**
PLMA				AML	AML		
	comp=E,1395μm,0.6s						
PLMA				AML	AML		
	comp=N,1066μm,1.6s						
PLMA				AML	AML		
	comp=E,1395μm,0.6s						
PLMA				AML	AML		
	comp=N,1066μm,1.6s						
GRAM	**Graiana**	**0.46**	**321**	P	**Pg**	**23 01 45.9**	**-0.5**
GRAM				S	**Sg**	**23 01 52.6**	**-0.1**
GRAM	**Graiana**	**0.46**	**321**	P	**Pg**	**23 01 45.9**	**-0.5**
GRAM				S	**Sg**	**23 01 52.5**	**-0.1**
GRAM				AML	AML		
	comp=E,6710μm,0.3s						
GRAM				AML	AML		
	comp=N,3455μm,0.3s						
PTF	**Prato**	**0.47**	**112**	P	**Pg**	**23 01 46.0**	**-0.5**
CRMI	**Carmignano**	**0.50**	**134**	P	**Pg**	**23 01 47.4**	**+0.2**
CRMI				S	**Sg**	**23 01 54.5**	**+0.6**
CRMI				AML	AML		
	comp=E,604μm,1.6s						
CRMI				AML	AML		
	comp=N,568μm,1.1s						
CRMI				AML	AML		
	comp=E,250μm,1.6s						
CRMI				AML	AML		
	comp=N,235μm,1.1s						
CRMI				AML	AML		
	comp=E,604μm,1.6s						
CRMI				AML	AML		
	comp=N,568μm,1.1s						
CRMI				AML	AML		
	comp=E,250μm,1.6s						
CRMI				AML	AML		
	comp=N,235μm,1.1s						
CRMI				AML	AML		
	comp=E,250μm,1.6s						
CRMI				AML	AML		
	comp=E,604μm,1.6s						
CRMI				AML	AML		
	comp=N,568μm,1.1s						
CRMI				AML	AML		
	comp=N,235μm,1.1s						
MODE	**Modena**	**0.60**	**35**	P	**Pb**	**23 01 49.4**	**+0.3**
PRMA	**PARMA**	**0.64**	**350**	P	**Pg**	**23 01 49.8**	**+0.1**
NOVE	**Novellara**	**0.69**	**15**	AML	AML		
	comp=N,2245μm,0.5s						
NOVE				AML	AML		
	comp=E,3600μm,0.3s						
NOVE				AML	AML		
	comp=N,2245μm,0.5s						
NOVE				AML	AML		
	comp=E,3600μm,0.3s						
MSSA	**Maissana**	**0.71**	**285**	P	**Pg**	**23 01 51.2**	**+0.2**
MSSA				S	**Sg**	**23 02 00.9**	**+0.5**
MSSA				AML	AML		
	comp=E,675μm,1.2s						
MSSA				AML	AML		
	comp=N,556μm,0.4s						
MSSA				AML	AML		
	comp=N,556μm,0.4s						
MSSA				AML	AML		
	comp=E,675μm,1.2s						
GROG	**Isola di Gorgo**	**0.82**	**211**	P	**Pg**	**23 01 52.8**	**-0.3**
GROG				AML	AML		
	comp=E,304μm,0.6s						
GROG				AML	AML		
	comp=N,252μm,1.5s						
GROG				AML	AML		
	comp=E,304μm,0.6s						
GROG				AML	AML		
	comp=N,252μm,1.5s						
BOB	**Bobbio (Coli)**	**0.96**	**311**	P	**Pb**	**23 01 55.5**	**+0.2**
BOB				AML	AML		
	comp=E,778μm,0.6s						
BOB				AML	AML		
	comp=N,923μm,0.8s						
BOB				AML	AML		
	comp=E,930μm,0.6s						
BOB				AML	AML		
	comp=N,914μm,0.6s						
BOB				AML	AML		
	comp=N,914μm,0.6s						
BOB				AML	AML		
	comp=N,923μm,0.8s						
BOB				AML	AML		
	comp=E,930μm,0.6s						
BOB				AML	AML		
	comp=E,778μm,0.6s						
SFI	**Santa Sofia**	**1.02**	**103**	P	**Pb**	**23 01 56.4**	**+0.2**
SFI				AML	AML		
	comp=E,180μm,1.2s						
SFI				AML	AML		
	comp=N,219μm,0.9s						
SFI				AML	AML		
	comp=E,180μm,1.2s						
SFI				AML	AML		
	comp=N,219μm,0.9s						
ADRI	**Adria, Italy**	**1.43**	**50** ⇑	*e*Pg	**Pg**	**23 02 04.6**	**0.0**
ADRI				*e*Sg	**Sg**	**23 02 23.2**	**+0.1**
PCP	**Piancastagn**	**1.44**	**287**	P	**Pn**	**23 02 02.2**	**-0.1**
PCP				AML	AML		
	comp=E,138μm,1.6s						
PCP				AML	AML		
	comp=N,233μm,0.5s						
PCP				AML	AML		
	comp=N,233μm,0.5s						
PCP				AML	AML		
	comp=E,138μm,1.6s						
TEOL	**Teolo**	**1.49**	**35** ⇑	*e*Pg	**Pn**	**23 02 02.8**	**-0.2**
TEOL				*e*Sg	**Sg**	**23 02 25.3**	**0.0**
FINB	**Finale Ligure**	**1.54**	**272**	P	**Pn**	**23 02 03.9**	**+0.2**
FINB				AML	AML		
	comp=E,206μm,0.3s						
FINB				AML	AML		
	comp=N,166μm,0.3s						
FINB				AML	AML		
	comp=N,166μm,0.3s						
FINB				AML	AML		
	comp=E,206μm,0.3s						
BALD	**Monte Baldo**	**1.57**	**9** ⇑	*e*Pg	**Pn**	**23 02 05.0**	**+0.8**
BALD				*e*Sg	**Sg**	**23 02 27.1**	**-0.6**
ROVR	**Rover Verones**	**1.57**	**16**	P	**Pn**	**23 02 04.1**	**-0.1**
MARN	**Marana (Italy)**	**1.59**	**19**	*e*Pg	**Pb**	**23 02 05.9**	**-0.1**
MARN				*e*Sg	**Sb**	**23 02 27.2**	**+1.4**
MAGA	**Magasa**	**1.64**	**4**	P	**Pn**	**23 02 05.5**	**+0.3**
MAGA				AML	AML		
	comp=E,866μm,0.6s						
MAGA				AML	AML		
	comp=N,404μm,1.4s						
MAGA				AML	AML		
	comp=N,404μm,1.4s						
MAGA				AML	AML		
	comp=E,866μm,0.6s						
DOSS	**Dosso del Somm**	**1.82**	**16** ⇓	*e*Pn	**Pn**	**23 02 07.6**	**0.0**
DOSS				*e*Sn	**Sb**	**23 02 32.6**	**+0.2**
RNI	**Roncone**	**1.85**	**3**	*e*Pn	**Pn**	**23 02 08.8**	**+0.8**
RNI				*e*Sn	**Sb**	**23 02 33.5**	**+0.2**
PGF	**Pioggiola**	**1.92**	**215**	*e*P	**Pb**	**23 02 11.7**	**+0.2**
PGF				*e*Sn	**Sn**	**23 02 32.1**	**-0.5**
	comp=E,13nm,0.4s						
CGRP	**Cima Grappa**	**1.98**	**28** ⇑	*e*Pn	**Pn**	**23 02 10.1**	**+0.2**
CGRP				*e*Sn	**Sb**	**23 02 37.4**	**+0.2**
PANI	**Panarotta**	**2.01**	**17** ⇑	*e*Pn	**Pn**	**23 02 10.4**	**+0.1**
SBF	**Sospel**	**2.21**	**264**	*e*Pn	**Pn**	**23 02 13.6**	**+0.7**
SBF	**Sospel**	**2.21**	**264**	*e*Pn	**Pb**	**23 02 19.0**	**+2.5**
SBF				*e*Sn	**Sn**	**23 02 39.4**	**-0.3**
	comp=E,32nm,0.3s						
REVF	**Revere**	**2.27**	**261**	P	**Pn**	**23 02 15.9**	**+2.1**
CARE	**Lago del Cares**	**2.29**	**4**	*e*Pn	**Pn**	**23 02 15.3**	**+1.0**
OZOL	**Ozolo**	**2.31**	**10**	*e*Pn	**Pn**	**23 02 14.6**	**+0.3**
MOSI	**Grossmontoni**	**2.48**	**1**	AML	AML		
	comp=N,187μm,0.7s						
MOSI				AML	AML		
	comp=E,157μm,0.5s						
MOSI				AML	AML		
	comp=N,187μm,0.7s						
MOSI				AML	AML		
	comp=E,157μm,0.5s						
CIMO	**Cimolais**	**2.58**	**32**	*e*Pn	**Pn**	**23 02 18.7**	**+0.7**
CALF	**Calern**	**2.59**	**263**	P	**Pn**	**23 02 18.4**	**+0.2**
CALF				S	**Sn**	**23 02 49.2**	**-0.1**
CALF	**Calern**	**2.59**	**263**	Pn	**Pn**	**23 02 18.8**	**+0.6**
SURF	**Saint Ours**	**2.65**	**279**	P	**Pn**	**23 02 19.8**	**+0.8**
SURF	**Saint Ours**	**2.65**	**279**	Pn	**Pn**	**23 02 19.9**	**+0.9**
DAVOX	**Davos/Dischmat**	**2.68**	**351**	AML	AML		
	comp=E,32μm,1.1s						
DAVOX				AML	AML		
	comp=E,32μm,1.1s						
DAVOX				AML	AML		
	comp=N,43μm,0.6s						
DAVOX				AML	AML		
	comp=N,43μm,0.6s						
BRES	**Bressanone**	**2.71**	**19**	AML	AML		
	comp=E,61μm,0.5s						
BRES				AML	AML		
	comp=E,61μm,0.5s						
BRES				AML	AML		
	comp=N,79μm,0.7s						
BRES				AML	AML		
	comp=N,79μm,0.7s						
MBDF	**Montbardon**	**2.71**	**284**	*e*Pn	**Pn**	**23 02 20.6**	**+0.7**
MBDF				*e*Sn	**Sn**	**23 02 51.0**	**-1.4**
	comp=N,15nm,0.4s						
MBDF				*e*Sg	**Sg**	**23 03 04.0**	**-0.3**
	comp=N,21nm,0.4s						
FRF	**La Foret Royal**	**2.82**	**260**	*e*Pn	**Pn**	**23 02 21.8**	**+0.5**

FRF	**La Foret Royal**	**2.82**	**260**	*e*Pg	**Pg**	**23 02 30.4**	**-0.8**
FRF				*e*Sn	**Sn**	**23 02 53.0**	**-1.9**
	comp=N,10nm,0.3s						
SKDS	**Skadanscina**	**2.89**	**60**	*i* Pn	**Pn**	**23 02 21.6**	**-0.7**
FETA	**Feichten**	**2.89**	**4**	*e*Pn	**Pn**	**23 02 24.9**	**+2.5**
	comp=N,2.1nm,0.3s						
FETA				*e*Sn	**Sn**	**23 02 56.8**	**0.0**
	comp=N,2.7nm,0.4s						
LPG	**La Plagne**	**2.97**	**299**	*e*Pn	**Pn**	**23 02 25.0**	**+1.4**
LPG	**La Plagne**	**2.97**	**299**	*e*P	**Pb**	**23 02 28.3**	**-1.4**
LPG				*e*Sn	**Sn**	**23 02 58.3**	**-0.7**
	comp=N,8.5nm,0.5s						
LMR	**La Mourre**	**2.98**	**256**	*e*Pn	**Pn**	**23 02 23.4**	**0.0**
LMR				*e*Sn	**Sn**	**23 02 57.6**	**-1.1**
	comp=N,8.2nm,0.3s						
ABTA	**Abfaltersbach**	**2.98**	**28**	*e*Pn	**Pn**	**23 02 24.5**	**+0.9**
	comp=N,1.9nm,0.3s						
ABTA				Sn	**Sn**	**23 02 58.3**	**-0.6**
	comp=N,5.3nm,0.3s						
LPL	**La Plagne**	**3.00**	**299**	*e*Pn	**Pn**	**23 02 25.5**	**+1.6**
LPL	**La Plagne**	**3.00**	**299**	*e*P	**Pb**	**23 02 28.9**	**-1.1**
LPL				*e*Sg	**Sg**	**23 03 12.4**	**-0.9**
	comp=N,8.1nm,0.4s						
RISI	**Rein**	**3.03**	**21**	AML	AML		
	comp=E,89µm,0.5s						
RISI				AML	AML		
	comp=E,89µm,0.5s						
RISI				AML	AML		
	comp=N,118µm,0.4s						
RISI				AML	AML		
	comp=N,118µm,0.4s						
SQTA	**Sankt Quirin**	**3.13**	**9**	*i* Pn	**Pn**	**23 02 27.8**	**+2.2**
	comp=N,18nm,0.5s,SNR=28						
SQTA				*e*Sn	**Sn**	**23 03 07.1**	**+4.6**
	comp=N,17nm,0.4s						
RSL	**Roselend**	**3.14**	**301**	P	**Pn**	**23 02 27.6**	**+1.8**
DAVA	**Damuels**	**3.18**	**353**	*i* Pn	**Pn**	**23 02 29.1**	**+2.8**
	comp=N,3.9nm,0.2s,SNR=7.6						
DAVA				*i* Sn	**Sn**	**23 03 07.8**	**+3.9**
	comp=N,7.0nm,0.3s						
NVLJ	**Novalja**	**3.19**	**81**	*e*Pn	**Pn**	**23 02 27.1**	**+0.8**
NVLJ					**Sn**	**23 03 03.1**	**-0.7**
WTTA	**Wattenberg**	**3.23**	**14**	*i* Pn	**Pn**	**23 02 30.3**	**+3.2**
	comp=N,2.6nm,0.2s,SNR=5.2						
WTTA				*i* Sn	**Sn**	**23 03 07.1**	**+1.9**
	comp=N,7.8nm,0.6s						
MOTA	**Moosalm**	**3.24**	**8**	*i* Pn	**Pn**	**23 02 29.9**	**+2.7**
	comp=N,4.9nm,0.4s,SNR=15						
WATA	**Walderalm**	**3.29**	**13**	*i* Pn	**Pn**	**23 02 30.2**	**+2.3**
	comp=N,8.5nm,0.4s,SNR=15						
WATA				*e*Sn	**Sb**	**23 03 11.6**	**-3.2**
	comp=N,3.0nm,0.3s						
RETA	**Reutte**	**3.36**	**3**	*i* Pn	**Pn**	**23 02 30.8**	**+2.0**
	comp=N,2.2nm,0.2s,SNR=12						
RETA				*e*Sn	**Sn**	**23 03 10.9**	**+2.7**
	comp=N,4.8nm,0.3s						
ORIF	**Oris-en-Rattie**	**3.37**	**285**	*e*P	**Pn**	**23 02 31.8**	**+2.9**
ORIF				*e*Sn	**Sn**	**23 03 03.3**	**-5.3**
	comp=N,9.6nm,0.6s						
ORIF	**Oris-en-Rattie**	**3.37**	**285**	P	**Pn**	**23 02 30.3**	**+1.4**
ORIF	**Oris-en-Rattie**	**3.37**	**285**	Pn	**Pn**	**23 02 31.2**	**+2.3**
SMRF	**Simiane la Rot**	**3.53**	**269**	*e*Pn	**Pn**	**23 02 32.6**	**+1.5**
SMRF				*e*Sn	**Sn**	**23 03 10.9**	**-1.5**
SMRF				*e*Sg	**Sg**	**23 03 28.7**	**-1.7**
	comp=N,17nm,0.5s						
KBA	**Koelnbreinsper**	**3.57**	**33**	*i* Pn	**Pn**	**23 02 33.4**	**+1.7**
	comp=N,0.3nm,0.1s						
KBA				*e*Sn	**Sn**	**23 03 14.5**	**+1.0**
	comp=N,5.2nm,0.6s						
RUSF	**Rustrel**	**3.60**	**269**	Pn	**Pn**	**23 02 34.1**	**+2.1**
RUSF				Sn	**Sn**	**23 03 15.3**	**+1.2**
OBKA	**Obir**	**3.73**	**49**	*i* Pn	**Pn**	**23 02 35.5**	**+1.6**
	comp=N,0.9nm,0.3s						
OBKA				*e*Sn	**Sn**	**23 03 18.1**	**+0.7**
	comp=N,10nm,0.5s						
UDBI	**Udbina**	**3.82**	**82**	*e*Pn	**Pn**	**23 02 36.6**	**+1.6**
UDBI				Sn	**Sn**	**23 03 14.9**	**-4.6**
OZLJ	**Ozalj**	**3.85**	**66**	*e*Pn	**Pn**	**23 02 36.2**	**+0.8**
OZLJ				Sn	**Sn**	**23 03 18.9**	**-1.2**
CABF	**La Chapelle**	**3.96**	**310**	*e*Pn	**Pn**	**23 02 39.5**	**+2.5**
CABF				*e*Sn	**Sn**	**23 03 21.7**	**-1.2**
	comp=N,3.4nm,0.6s						
OG35	**Corcelles**	**3.96**	**301**	P	**Pn**	**23 02 38.1**	**+1.2**
OG35	**Corcelles**	**3.96**	**301**	Pn	**Pn**	**23 02 37.7**	**+0.8**
SOKA	**Soboth**	**4.10**	**50**	*e*Sn	**Sn**	**23 03 25.7**	**-0.8**
	comp=N,2.2nm,0.5s						
LOMF	**Lomont**	**4.10**	**323**	P	**Pn**	**23 02 40.6**	**+1.7**
LOMF				S	**Sn**	**23 03 25.5**	**-1.0**
CHMF	**Charmoille**	**4.10**	**321**	P	**Pn**	**23 02 41.0**	**+2.1**
CHMF	**Charmoille**	**4.10**	**321**	Pn	**Pn**	**23 02 41.0**	**+2.0**
VIVF	**Saint-Julien-l**	**4.21**	**282**	*e*Pn	**Pn**	**23 02 41.3**	**+0.9**
KIZ	**Kirchzarten**	**4.21**	**336**	P	**Pn**	**23 02 42.2**	**+1.8**
KIZ	**Kirchzarten**	**4.21**	**336**	Pn	**Pn**	**23 02 41.1**	**+0.7**
MOF	**Molkenrain**	**4.38**	**329**	P	**Pn**	**23 02 43.8**	**+0.9**
HINF	**Hinteralfeld**	**4.46**	**327**	*e*Pn	**Pn**	**23 02 45.2**	**+1.4**
HINF				*e*Sn	**Sn**	**23 03 33.8**	**-1.5**
	comp=N,12nm,0.5s						
MOA	**Molln**	**4.56**	**34**	*i* Pn	**Pn**	**23 02 46.3**	**+1.2**
	comp=N,0.7nm,0.2s						
MOA				*e*Sn	**Sn**	**23 03 38.4**	**+0.7**
	comp=N,5.6nm,0.5s						
ARSA	**Arzberg**	**4.72**	**47**	*i* Pn	**Pn**	**23 02 47.2**	**-0.1**
	comp=N,1.5nm,0.3s						
ARSA				*i* Sn	**Sn**	**23 03 39.3**	**-2.3**
	comp=N,1.5nm,0.3s						
LASF	**Ste Croix**	**4.76**	**272**	*e*Pn	**Pn**	**23 02 48.3**	**+0.3**
LASF				*e*Sn	**Sn**	**23 03 40.5**	**-2.2**
	comp=N,2.1nm,0.3s						
CDF	**Champ du Feu**	**4.81**	**334**	*e*Pn	**Pn**	**23 02 49.5**	**+0.8**
CDF				*e*Sn	**Sn**	**23 03 42.8**	**-1.3**
	comp=N,2.3nm,0.3s						
HAU	**Haudompre**	**4.81**	**325**	*e*Pn	**Pn**	**23 02 50.3**	**+1.6**
HAU				*e*Sn	**Sn**	**23 03 42.3**	**-1.7**
	comp=N,12nm,0.4s						
THEF	**They Montfort**	**5.14**	**324**	P	**Pn**	**23 02 54.4**	**+1.3**
LBL	**Lubilhac**	**5.26**	**285**	P	**Pn**	**23 02 56.9**	**+2.0**
SMF	**Signal de Mont**	**5.30**	**301**	*e*Pn	**Pn**	**23 02 57.7**	**+2.4**
SMF				*e*Sn	**Sn**	**23 03 53.7**	**-2.2**
	comp=N,7.3nm,0.6s						
CONA	**Conrad Observa**	**5.34**	**43**	*i* Pn	**Pn**	**23 02 56.4**	**+0.5**
	comp=N,0.5nm,0.3s						
CONA				*i* Sn	**Sn**	**23 03 56.3**	**-0.7**
	comp=N,2.1nm,0.5s						
KHC	**Kasperske Hory**	**5.43**	**22**	*e*PN	**Pn**	**23 02 57.2**	**0.0**
KHC				*e*SN	**Sn**	**23 03 56.0**	**-3.3**
KHC				*ex*	x	23 04 13.0	
PAGF	**Fort de Pagny**	**5.50**	**325**	*e*Pn	**Pn**	**23 02 59.8**	**+1.7**
	baz=113						
PYM	**Petit Puy Mans**	**5.54**	**290**	P	**Pn**	**23 03 00.1**	**+1.4**
SFTF	**Sexfontaines**	**5.55**	**319**	*e*Pn	**Pn**	**23 03 00.4**	**+1.7**
	baz=132						
LOR	**Lormes**	**5.59**	**306**	*e*Pn	**Pn**	**23 03 01.3**	**+2.0**
	baz=130						
LOR				*e*Sn	**Sn**	**23 04 00.5**	**-2.6**
	comp=N,3.4nm,0.4s						
AVF	**Avril sur Loir**	**5.66**	**300**	*e*Pn	**Pn**	**23 03 02.4**	**+2.1**
SSF	**Saint Saulge**	**5.69**	**303**	*e*Sn	**Sn**	**23 04 03.1**	**-2.5**
	comp=N,1.3nm,0.4s						
MEZF	**Maizieres J'vi**	**5.75**	**321**	*e*Pn	**Pn**	**23 03 03.1**	**+1.5**
	baz=152						
BGF	**Bois d'Agland**	**5.89**	**297**	*e*Pn	**Pn**	**23 03 04.8**	**+1.3**
MTLF	**Montolieu**	**6.03**	**265**	*e*Pn	**Pn**	**23 03 04.9**	**-0.5**

IDC 26 23:02:55.4±3.6, 50°.26S×120°.28E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/22, mbtmp3.7/3, MS3.5/1, Ms1 3.5/1, ms1mx2.8/35, Error ellipse: s-maj=134.0km s-min=67.2km az=115.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.99**	**341**	T	T	23 22 47.8	
	baz=164,slow=74,SNR=7.9						
H01W1	**Cape Leeuwin H**	**16.00**	**341**	T	T	23 22 48.6	
	baz=164,slow=74,SNR=5.7						
H01W3	**Cape Leeuwin H**	**16.01**	**341**	T	T	23 22 49.5	
	baz=164,slow=74,SNR=6.5						
STKA	**Stephens Creek**	**24.26**	**49**	P	P	23 08 14.0	0.0
	1.8nm,0.7s,baz=208,slow=15,SNR=4.6						
ASAR	**Alice Springs**	**28.59**	**27**	P	P	23 08 53.5	+0.2
	0.9nm,0.8s,baz=209,slow=7.4,SNR=6.4						
WRA	**Warramunga Arr**	**32.25**	**25**	P	P	23 09 25.3	-0.2
	0.9nm,1.0s,baz=196,slow=8.3,SNR=2.9						
QSPA	**South Pole Qui**	**39.86**	**180**	LR	LR	23 26 21.8	
	comp=Z,69nm,19.4s,baz=119,slow=35						
YKA	**Yellowknife Ar**	**148.28**	**46**	PKPbc	PKPbc	23 22 41.5	-0.7
	0.4nm,0.6s,baz=265,slow=2.2,SNR=6.1						

IDC 26 23:15:36.7±3.4, 50°.30S×120°.04E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/36, mbtmp3.7/2, MS3.9/1, Ms1 3.9/1, ms1mx3.2/17, Error ellipse: s-maj=89.0km s-min=76.3km az=154.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**28.70**	**27**	P	P	23 21 35.5	0.0
	0.9nm,0.9s,baz=206,slow=7.1,SNR=4.9						
CTA	**Charters Tower**	**36.60**	**44**	LR	LR	23 37 40.0	
	comp=Z,205nm,20.6s,baz=247,slow=36						
CMAR	**Chiang Mai Arr**	**70.95**	**339**	P	P	23 26 55.9	+0.1
	0.5nm,0.5s,baz=190,slow=5.8,SNR=4.4						
YKA	**Yellowknife Ar**	**148.41**	**46**	PKPbc	PKPbc	23 35 23.1	-0.7
	0.1nm,0.6s,baz=263,slow=2.7,SNR=5.1						

IDC 26 23:15:47.0±9.3, 49°.88N×113°.90W, h0km, mb1 3.3/1, mb1mx2.9/40, mbtmp2.9/1, ML2.7/1, Error ellipse: s-maj=144.3km s-min=59.4km az=54.0, Alberta

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I56US	**NEWPORT INFRAS**	**2.67**	**234**	*i*		23 34 50.0	
	baz=51,slow=314,SNR=1.8						
I10CA	**LAC DU BONNET**	**11.50**	**82**	*i*		00 32 10.0	
	baz=272,slow=305,SNR=1.4						
YKA	**Yellowknife Ar**	**12.65**	**359**	Pn	Pn	23 18 43.9	-4.1
	0.1nm,0.3s,baz=183,slow=13,SNR=4.3						

*ISCJB **26** 23:15:58.5±1.2, 50°.1S±0°.2×120°.2E±0°.5, h10km, mb4.0/5, Error ellipse: s-maj=45.0km s-min=20.6km az=17.3*
*IDC **26** 23:15:58.9±1.1, 50°.13S×120°.29E, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.0/36, mbtmp4.1/5, Error ellipse: s-maj=47.4km s-min=23.5km az=103.0*
*GCMT **26** 23:16:02.0±0.4, 50°.09S±0°.03×120°.02E±0°.07, h22km±1km, MW4.9/53, Moment Tensor Solution. s27,c33; s53,c79; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=.2.90±.26; Mθθ.2.30±.16; Mϕϕ.0.59±.18; Mrθ.0.29±.22; Mϕθ-0.69±.08; Mϕr1.01±.30; Best double couple: Mo2.87900×10¹⁶ NP1:ϕs126.00000°, δ48.00000°, λ-68.00000°. NP2: ϕs274.00000°, δ47.00000°, λ-113.00000°. Principal axes: T 2.5490, Plg1.0000°, Azm200.0000°; N 0.6600, Plg16.0000°, Azm290.0000°; P -3.2100, Plg74.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 26 23:16:00.3±1.2, 50°.2S±0°.2×120°.4E±0°.4, h10km, n10, σ0°.81/7, mb4.2/5, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.92**	**341**	T	T	23 35 51.5	
	baz=164,slow=74,SNR=16						
H01W1	**Cape Leeuwin H**	**15.92**	**341**	T	T	23 35 51.9	
	baz=164,slow=74,SNR=14						
H01W3	**Cape Leeuwin H**	**15.93**	**341**	T	T	23 35 52.1	
	baz=164,slow=74,SNR=16						
STKA	**Stephens Creek**	**24.14**	**49**	P	**P**	**23 21 15.2**	**-1.1**
	2.0nm,0.3s,baz=247,slow=13,SNR=2.7						
ASAR	**Alice Springs**	**28.47**	**27**	P	**P**	**23 21 56.1**	**+0.7**
	7.4nm,1.2s,baz=195,slow=9.3,SNR=14						
WRA	**Warramunga Arr**	**32.13**	**25**	P	**P**	**23 22 28.5**	**+0.8**
	2.1nm,1.1s,baz=196,slow=8.4,SNR=4.0						
QSPA	**South Pole Qui**	**39.97**	**180**	P	**P**	**23 23 34.7**	**+0.1**
	1.5nm,0.9s,baz=316,slow=13,SNR=4.8						
CMAR	**Chiang Mai Arr**	**70.89**	**338**	P	**P**	**23 27 16.9**	**-0.5**
	3.6nm,1.2s,baz=183,slow=5.1,SNR=11						
PDAR	**Pinedale Array**	**145.37**	**83**	PKPbc	**PKPdf**	**23 35 38.2**	**+0.2**
	0.4nm,0.8s,baz=202,slow=3.2,SNR=5.0						
YKA	**Yellowknife Ar**	**148.16**	**46**	PKPbc	**PKPbc**	**23 35 45.1**	**+0.2**
	0.5nm,0.6s,baz=271,slow=2.4,SNR=12						

*ISCJB **26** 23:23:30.5±1.0, 5°.08S±0°.08×146°.3E±0°.2, h33km, mb3.7/6, MS3.5/3, Error ellipse: s-maj=24.6km s-min=9.9km az=168.0*
*IDC **26** 23:23:33.6±5.2, 5°.13S×146°.39E, h49km±57km, mb3.8/5, mb1 4.0/8, mb1mx3.6/38, mbtmp4.1/8, ML4.3/2, MS3.3/4, Ms1 3.3/4, ms1mx2.9/34, Error ellipse: s-maj=43.2km s-min=28.0km az=128.0*

ISC 26 23:23:31.8±1.1, 5°.1S±0°.1×146°.4E±0°.2, h35km, n11, σ1°44/10, mb3.9/6, MS3.4/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.37**	**170**	P	**Pn**	**23 24 36.8**	**+1.1**
	9.5nm,0.3s,baz=351,slow=6.1,SNR=14						
PMG				S	**Sn**	**23 25 26.7**	**+1.3**
	8.8nm,0.3s,baz=73,slow=23,SNR=6.3						
PMG				LR	LR	23 26 12.0	
	comp=Z,132nm,18.4s,baz=40,slow=37						
CTA	**Charters Tower**	**14.91**	**180**	P	**P**	**23 27 02.7**	**-2.7**
	1.2nm,0.3s,baz=359,slow=14,SNR=12						
WRA	**Warramunga Arr**	**18.84**	**217**	P	**P**	**23 27 48.5**	**-0.5**
	0.9nm,0.3s,baz=39,slow=12,SNR=26						
ASAR	**Alice Springs**	**22.04**	**212**	P	**P**	**23 28 23.9**	**+0.3**
	1.1nm,0.6s,baz=51,slow=8.1,SNR=18						
FITZ	**Fitzroy Crossi**	**24.03**	**236**	P	**P**	**23 28 43.9**	**+0.1**
	6.4nm,0.4s,baz=42,slow=8.4,SNR=28						
STKA	**Stephens Creek**	**27.03**	**189**	P	**P**	**23 29 10.9**	**+0.2**
	1.1nm,0.4s,baz=348,slow=16,SNR=4.4						
STKA				LR	LR	23 41 25.8	
	comp=Z,54nm,18.2s,baz=32,slow=40						
MKAR	**Makanchi Array**	**76.39**	**321**	P	**P**	**23 35 19.6**	**+1.9**
	0.1nm,0.6s,baz=101,slow=7.6,SNR=2.0						
ZALV	**Zalesovo Beam**	**77.91**	**328**	P	**P**	**23 35 25.7**	**-0.3**
	0.5nm,0.3s,baz=142,slow=5.4,SNR=2.7						
KDAK	**Kodiak Island**	**79.40**	**28**	LR	LR	00 03 09.7	
	comp=Z,20nm,21.8s,baz=113,slow=30						
AAK	**Ala-Archa**	**80.25**	**315**	LR	LR	00 08 48.5	
	comp=Z,56nm,20.9s,baz=153,slow=34						
ILAR	**Eielson Array**	**84.89**	**23**	P	**P**	**23 36 02.5**	**-0.4**
	0.8nm,0.8s,baz=258,slow=4.9,SNR=8.1						

IDC 26 23:49:42.6±3.3, 10°.48S×119°.63E, h0km, mb3.3/1, mb1 3.6/3, mb1mx3.3/43, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=270.4km s-min=29.1km az=49.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.01**	**125**	Pn	Pn	23 53 42.1	0.0
	0.1nm,0.3s,baz=295,slow=13,SNR=3.3						
ASAR	**Alice Springs**	**18.90**	**136**	P	P	23 54 04.9	0.0
	0.2nm,0.3s,baz=322,slow=14,SNR=11						
MKAR	**Makanchi Array**	**66.05**	**333**	P	P	00 00 31.2	0.0
	0.1nm,0.4s,baz=155,slow=6.3,SNR=6.9						

IDC 27 00:04:32.0±17.0, 12°.46S×167°.29E, h213km±160km, mb3.3/5, mb1 3.6/5, mb1mx3.3/35, mbtmp3.7/5, Error ellipse: s-maj=88.7km s-min=50.1km az=149.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.46**	**252**	P	P	00 10 42.5	-0.1
	0.2nm,0.3s,baz=85,slow=9.0,SNR=3.1						
SONM	**Songino Array**	**80.69**	**323**	P	P	00 16 21.6	+0.2
	0.1nm,0.4s,baz=124,slow=6.3,SNR=2.8						
ILAR	**Eielson Array**	**84.38**	**18**	P	P	00 16 40.0	+0.2
	1.2nm,0.6s,baz=235,slow=5.4,SNR=17						
YKA	**Yellowknife Ar**	**95.53**	**27**	P	P	00 17 31.9	-0.5
	0.1nm,0.5s,baz=250,slow=4.1,SNR=3.6						
MKAR	**Makanchi Array**	**95.58**	**317**	P	P	00 17 32.5	-0.6
	0.3nm,1.0s,baz=96,slow=5.6,SNR=4.5						
ARCES	**ARCESS Array B**	**118.07**	**346**	PKP	PKPdf	00 22 52.9	0.0
	0.9nm,0.7s,baz=54,slow=2.3,SNR=10						

*IDC **27** 00:14:12.3±0.6, 3°.23S×139°.99E, h0km, mb4.2/10, mb1 4.5/12, mb1mx4.3/32, mbtmp4.3/12, ML4.8/2, MS3.4/8, Ms1 3.4/8, ms1mx3.1/33, Error ellipse: s-maj=19.6km s-min=9.6km az=129.0*

*ISCJB **27** 00:14:17.8±0.4, 3°.31S±0°.04×139°.92E±0°.07, h54km, mb4.5/21, MS3.5/3, Error ellipse: s-maj=10.0km s-min=6.1km az=178.1*
*NEIC **27** 00:14:17.4±0.3, 3°.23S×139°.99E, h35km, mb4.7/17, Error ellipse: s-maj=8.6km s-min=5.9km az=93.0*

ISC 27 00:14:19.7±0.5, 3°.36S±0°.07×139°.84E±0°.09, h54km, n58, σ1°42/55, mb4.6/19, MS3.5/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.20**	**46**	Pg	Pn	00 14 33.2	-7.1
	161nm,0.3s,baz=218,slow=10,SNR=145						
JAY				Lg	Lg	00 14 44.5	
	309nm,0.3s,baz=193,slow=18,SNR=20						
SIJI	**Sorong**	**8.92**	**286**	LR	LR	00 20 46.0	
	comp=Z,261nm,21.7s,baz=308,slow=44						
PMG	**Port Moresby**	**9.43**	**130**	Pn	**Pn**	**00 16 34.1**	**+1.2**
	1.8nm,0.3s,baz=352,slow=7.1,SNR=4.8						
PMG				LR	LR	00 21 28.8	
	comp=Z,169nm,18.1s,baz=264,slow=46						
PMG	**Port Moresby**	**9.43**	**130**	*e*Pn	**Pn**	**00 16 30.6**	**-2.3**
SOEI	**Soe**	**16.72**	**247**	*e*Pn	**P**	**00 18 13.6**	**+1.4**
	91nm,1.3s						
WRAB	**Tennant Creek**	**17.32**	**198**	*e*Pn	**Pn**	**00 18 16.9**	**-1.0**
	28nm,0.7s						
WR1	**Warramunga Arr**	**17.33**	**198**	*e*Pn	**Pn**	**00 18 17.2**	**-0.8**
WR1				*e*Sn	Sn	00 21 21.8	-8.5
WRA	**Warramunga Arr**	**17.33**	**198**	P	**Pn**	**00 18 17.2**	**-0.8**
	3.3nm,0.3s,baz=24,slow=12,SNR=66						
WRA				S	Sn	00 21 21.8	-8.5
	1.5nm,0.3s,baz=15,slow=22,SNR=7.4						
WRA				LR	LR	00 25 32.0	
	comp=Z,174nm,20.6s,baz=30,slow=39						
BATI	**Baumata**	**17.44**	**246**	P	**Pn**	**00 18 20.9**	**+1.5**
	3.5nm,0.3s,baz=30,slow=20,SNR=3.8						
GUMO	**Guam**	**17.56**	**16**	LR	LR	00 23 27.2	
	comp=Z,118nm,19.4s,baz=160,slow=32						
DAV	**Davao City (W)**	**17.61**	**306**	LR	LR	00 25 38.9	
	comp=Z,43nm,19.9s,baz=74,slow=39						
CTA	**Charters Tower**	**17.76**	**160**	P	**P**	**00 18 25.5**	**+2.0**
	0.3nm,0.3s,baz=353,slow=8.6,SNR=6.2						
CTAO	**Charters Tower**	**17.76**	**160**	*e*Pn	**P**	**00 18 23.8**	**+0.3**
	20nm,1.2s						
FITZ	**Fitzroy Crossi**	**20.20**	**223**	P	**P**	**00 18 51.7**	**+1.5**
	5.7nm,0.5s,baz=38,slow=11,SNR=26						
FITZ				S	**S**	**00 22 31.1**	**-3.0**
	12nm,0.7s,baz=71,slow=18,SNR=7.1						
FITZ	**Fitzroy Crossi**	**20.20**	**223**	*e*P	**P**	**00 18 52.2**	**+2.0**
	9.7nm,0.7s						
FITZ				*e*S	**S**	**00 22 31.1**	**-3.0**
AS01	**Alice Springs**	**20.97**	**195**	*e*P	**P**	**00 18 59.3**	**+0.8**
AS01				*e*S	**S**	**00 22 48.9**	**-0.5**
AS31	**Alice Springs**	**20.98**	**195**	*e*P	**P**	**00 18 59.4**	**+0.7**
	8.9nm,0.6s						
AS31				*e*S	**S**	**00 22 46.0**	**-3.7**
ASAR	**Alice Springs**	**20.99**	**195**	P	**P**	**00 18 59.0**	**+0.3**
	18nm,0.5s,baz=29,slow=10,SNR=102						
ASAR				S	**S**	**00 22 46.0**	**-3.7**
	3.1nm,0.7s,baz=12,slow=31,SNR=3.5						
ASAR				LR	LR	00 27 36.8	
	comp=Z,131nm,20.5s,baz=36,slow=38						
MBWA	**Marble Bar**	**26.38**	**226**	*e*P	**P**	**00 19 52.3**	**+1.1**
	22nm,1.3s						
STKA	**Stephens Creek**	**28.41**	**177**	P	**P**	**00 20 09.7**	**+0.4**
	1.0nm,0.4s,baz=354,slow=8.6,SNR=5.1						
STKA				LR	LR	00 32 43.5	
	comp=Z,185nm,20.3s,baz=10,slow=39						
ARMA	**Armidale**	**29.13**	**159**	*e*P	**P**	**00 20 17.2**	**+1.4**
	22nm,1.3s						
FORT	**Forrest**	**29.45**	**201**	*e*P	**P**	**00 20 18.0**	**-0.5**
	17nm,1.3s						
BBOO	**Buckleboo**	**29.51**	**186**	*e*P	**P**	**00 20 18.6**	**-0.4**
	8.9nm,1.1s						
CAN	**Canberra**	**32.91**	**166**	*e*P	**P**	**00 20 48.8**	**-0.2**
	46nm,1.5s						
MORW	**Morawa**	**34.13**	**219**	*e*P	**P**	**00 21 00.6**	**+0.9**
	15nm,1.2s						
H11S3	**WAKE ISLAND Hy**	**34.22**	**50**	T	T	00 55 48.5	
	baz=232,slow=75,SNR=10						
H11S2	**WAKE ISLAND Hy**	**34.23**	**50**	T	T	00 55 53.7	
	baz=232,slow=75,SNR=6.1						
H11S1	**WAKE ISLAND Hy**	**34.23**	**50**	T	T	00 55 54.1	
	baz=232,slow=75,SNR=5.7						
PSI	**Prapat**	**41.35**	**278**	P	**P**	**00 22 01.8**	**+0.8**
	7.1nm,0.8s,baz=178,slow=2.3,SNR=4.2						
PSI	**Prapat**	**41.35**	**278**	*e*P	**P**	**00 22 01.8**	**+0.8**
	11nm,0.9s						
KS15	**Wonju Array S**	**42.09**	**346**	*e*P	**P**	**00 22 06.1**	**-0.4**
KSAR	**Wonju Array Be**	**42.09**	**346**	P	**P**	**00 22 06.1**	**-0.4**
KSRS	**Korea Array**	**42.09**	**346**	P	**P**	**00 22 06.1**	**-0.4**
	1.3nm,0.6s,baz=161,slow=9.7,SNR=6.0						
GSI	**Gunungsitoli**	**42.50**	**276**	*e*P	**P**	**00 22 10.4**	**+0.2**
	46nm,1.5s						
DCZ	**Deep Cove**	**48.27**	**154**	*e*P	**P**	**00 22 57.0**	**+1.7**
	22nm,0.9s						

BRUN	**Tungurahua Vol**	**1.26**	**263**	P	Pn
LAV4	**Lava4-Reventad**	**1.26**	**338**	P	Pn
RUN5	**Runtun**	**1.27**	**264**	P	Pn
CONE	**Cono NE Rev Vo**	**1.29**	**338**	P	Pn
BIL2	**Estacion Bilba**	**1.35**	**262**	P	Pn
VC1	**Cotopaxi 1**	**1.39**	**297**	P	Pn
CAYA	**Cayambe**	**1.57**	**328**	P	Pn
ACOT	**Cotacachi (Cas**	**1.92**	**324**	P	Pn
ACOT				S	Sn

00 20 22.2	+6.0			
00 20 22.7	+6.4			
00 20 22.3	+5.9			
00 20 19.3	+2.6			
00 20 23.3	+5.8			
00 20 23.3	+5.0			
00 20 30.0	+9.3			
00 20 28.4	+3.2			
00 20 55.7	+7.4			

MOS **27** *00:27:14.5±1.1,9.36S×121.89E,h45km,mb5.0/31,Error ellipse: s-maj=10.7km s-min=6.4km az=123.1*
BJI **27** *00:27:16.2,9.50S×121.90E,h60km,mb4.7/44,mB5.1/28, Ms4.8/12,Ms7 4.7/11*
NEIC **27** *00:27:18.9±0.5,9.49S×121.86E,h67km±4km,mb4.8/55, Error ellipse: s-maj=5.7km s-min=3.8km az=225.0*
NEIC Felt [IV] at Ende, Indonesia.
ISCJB **27** *00:27:19.4±0.3,9.54S±0.03×121.94E±0.02,h94km±3km, mb4.7/91,Error ellipse: s-maj=4.5km s-min=3.4km az=18.5*
IDC **27** *00:27:19.3±0.7,9.38S×121.92E,h69km±5km,mb4.5/19, mb1 4.5/20,mb1mx4.4/29,mbtmp4.8/20,MS3.5/25, Ms1 3.5/25,ms1mx3.4/39,Error ellipse: s-maj=16.1km s-min=9.5km az=60.0*
GCMT **27** *00:27:20.9±0.4,9.48S±0.03×122.10E±0.03,h70km±4km, MW4.8/62,Moment Tensor Solution. s24,c24; s62,c93; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.18±.15; Mθθ 1.63±.10; Mϕϕ -0.44±.14; Mrθ 0.92±.07; Mθϕ -1.15±.09; Mϕr 0.70±.09; Best double couple: M0 2.18400×10^16 NP1:ϕs 261.00000°,δ66.00000°,λ -134.00000°. NP2: ϕs 148.00000°,δ 49.00000°,λ -33.00000°. Principal axes: T 2.2420, Plg10.0000°, Azm21.0000°; N -0.1120, Plg39.0000°, Azm282.0000°; P -2.1260, Plg49.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA **27** *00:27:20.3±0.2,10°S±2°×12°2E±°,h53km±3km,M4.9/41, mB5.4/20,mb5.0/41,MLv5.0/19,Mw(mB)4.8/20*
KLM **27** *00:27:34.8,9.17S×121.60E,h173km,mb5.0*
ISC 27 00:27:18.9±0.4,**9.48S**±0.03×**121.93E**±0.04,**h68**km±3km, **h68**km**:pP-P,n287,**σ1s**75**/318,**mb4.8**/99,**10C-1D,Savu Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDFI	**Ende, Flores**	**0.76**	**342**	P	**Pn**	**00 27 35.0**	**+0.5**
EDFI				S	**Sn**	**00 27 46.5**	**+0.6**
MMRI	**Maumere**	**0.89**	**20**	*e*Pn	**Pn**	**00 27 36.8**	**+0.9**
MMRI				*e*Sn	**Sn**	**00 27 46.1**	**-2.4**
MMRI	**Maumere**	**0.89**	**20**	P	**Pn**	**00 27 36.9**	**+0.9**
MMRI				S	**Sn**	**00 27 49.4**	**+0.9**
BASI	**Baing, Sumba**	**1.52**	**241**	P	**Pn**	**00 27 45.1**	**+1.0**
BASI				S	**Sn**	**00 28 06.6**	**+3.4**
WSI	**Waingapu**	**1.62**	**263**	P	**Pn**	**00 27 46.8**	**+1.4**
BATI	**Baumata**	**1.86**	**113**	P	**Pn**	**00 27 49.2**	**+0.5**
	86nm,0.3s,baz=328,slow=2.5,SNR=59						
BATI				S	**Sn**	**00 28 12.0**	**+0.8**
	291nm,0.3s,baz=261,slow=22,SNR=6.7						
BATI	**Baumata**	**1.86**	**113**	P	**Pn**	**00 27 49.7**	**+1.1**
SOEI	**Soe**	**2.32**	**97**	*e*Pn	**Pn**	**00 27 56.9**	**+1.9**
SOEI				*e*Sn	**Sn**	**00 28 22.2**	**-0.4**
SOEI	**Soe**	**2.32**	**97**	P	**Pn**	**00 27 56.6**	**+1.6**
BBSI	**Bau Bau**	**4.01**	**9**	P	**Pn**	**00 28 21.6**	**+3.6**
PLAI	**Plampang**	**4.15**	**279**	P	**Pn**	**00 28 21.9**	**+2.0**
BKSI	**Bulukumba**	**4.50**	**336**	P	**Pn**	**00 28 27.6**	**+3.0**
BNSI	**Bone**	**5.36**	**340**	P	**Pn**	**00 28 40.5**	**+4.1**
SPSI	**Sidrap Palu**	**5.88**	**338**	P	**Pn**	**00 28 48.2**	**+4.7**
	61nm,0.7s,544nm0.2nm						
TTSI	**Tana Toraja**	**6.72**	**342**	P	**Pn**	**00 28 58.6**	**+3.5**
IGBI	**Denpasar**	**6.73**	**275**	P	**Pn**	**00 28 57.7**	**+2.5**
	457nm,0.6s,9μm2.5nm						
SRBI	**Singaraja**	**6.78**	**281**	P	**Pn**	**00 28 59.5**	**+3.6**
	46nm,0.9s,0.2nm						
JAGI	**Jajag, Banyuwa**	**7.75**	**277**	*e*Pn	**Pn**	**00 29 08.5**	**-0.6**
JAGI				*e*Sn	**Sn**	**00 30 32.6**	**-2.8**
JAGI	**Jajag, Banyuwa**	**7.75**	**277**	P	**Pn**	**00 29 08.9**	**-0.2**
NLAI	**Namlea**	**8.05**	**40**	P	Pn	00 29 18.0	+4.8
KMMI	**Kalianget**	**8.24**	**286**	P	**Pn**	**00 29 17.8**	**+2.0**
KBKI	**Kotabaru**	**8.39**	**317**	P	Pn	00 29 23.9	+6.0
	12nm,0.5s,2μm						
SANI	**Sanana**	**8.41**	**29**	P	**Pn**	**00 29 22.0**	**+3.8**
	146nm,1.6s,2μm						
LUWI	**Luwuk**	**8.42**	**6**	*e*Pn	**Pn**	**00 29 20.9**	**+2.6**
LUWI	**Luwuk**	**8.42**	**6**	P	**Pn**	**00 29 20.8**	**+2.5**
GMJI	**Gumukmas**	**8.47**	**277**	P	**Pn**	**00 29 21.5**	**+2.5**
APSI	**Ampana**	**8.51**	**358**	P	**Pn**	**00 29 24.2**	**+4.6**
FITZ	**Fitzroy Crossi**	**9.30**	**158**	P	**Pn**	**00 29 28.2**	**-2.1**
	7.0nm,0.3s,baz=6.2,slow=11,SNR=68						
FITZ				S	Sn	00 31 02.8	-11
	13nm,0.3s,baz=81,slow=19,SNR=8.8						
FITZ	**Fitzroy Crossi**	**9.30**	**158**	*e*Pn	**Pn**	**00 29 28.7**	**-1.5**
FITZ				*e*Sn	Sn	00 31 00.7	-13
SAUI	**Saumlaki**	**9.38**	**82**	*e*Pn	**Pn**	**00 29 32.2**	**+0.8**
SAUI				*e*Sn	**Sn**	**00 31 14.6**	**-0.8**
BKB	**Balikpapan**	**9.57**	**328**	P	Pn	00 29 46.2	+12
MRSI	**Marisa**	**9.89**	**0**	P	Pn	00 29 43.3	+4.9
	36nm,0.7s,524nm						
PWJI	**Pagerwojo**	**10.11**	**277**	P	**Pn**	**00 29 44.0**	**+2.6**
SMKI	**Samarinda**	**10.13**	**332**	P	Pn	00 29 47.4	+5.8
NGJI	**Ngawi**	**10.57**	**281**	P	Pn	00 29 52.7	+5.1
MTKI	**Muara Teweh, K**	**10.99**	**320**	P	Pn	00 29 59.0	+5.5
UGM	**Wanagama**	**11.38**	**277**	*e*Pn	**Pn**	**00 29 58.9**	**+0.1**
UGM				*e*Sn	**Sn**	**00 32 03.8**	**-0.6**
MBWA	**Marble Bar**	**11.81**	**190**	*e*Pn	**Pn**	**00 30 02.6**	**-1.9**
MBWA				*e*Sn	Sn	00 32 02.2	-12
FAKI	**Fak Fak**	**12.15**	**58**	*e*Pn	**Pn**	**00 30 10.2**	**+1.0**
FAKI				*e*Sn	**Sn**	**00 32 24.7**	**+1.7**
FAKI	**Fak Fak**	**12.15**	**58**	P	**Pn**	**00 30 12.3**	**+3.0**
	64nm,0.9s,1μm						
SWI	**Sorong**	**12.62**	**48**	P	**Pn**	**00 30 19.6**	**+3.8**
	137nm,1.3s,1μm						
SIJI	**Sorong**	**12.63**	**48**	P	**Pn**	**00 30 18.8**	**+3.0**
	3.1nm,0.3s,baz=215,slow=6.3,SNR=31						
SIJI					LR	LR	00 35 21.3
	comp=Z,332nm,21.0s,baz=190,slow=38						
STKI	**Sintang**	**14.07**	**312**	P	**P**	**00 30 40.0**	**-0.9**
TSM	**Tawau**	**14.26**	**343**	P	**P**	**00 30 46.2**	**+3.2**
LEM	**Lembang**	**14.41**	**279**	P	**Pn**	**00 30 36.7**	**-3.0**
	4.7nm,0.3s,baz=143,slow=20,SNR=3.3						
LEM					LR	LR	00 37 33.1
	comp=Z,132nm,20.3s,baz=62,slow=43						
RKPI	**Ransiki, Papua**	**14.53**	**58**	P	**Pn**	**00 30 43.0**	**+1.9**
	304nm,1.0s,4μm						
GIRL	**Giralia**	**15.03**	**208**	*e*Pn	**Pn**	**00 30 45.0**	**-2.6**
	254nm,1.4s						
GIRL				*e*Sn	Sn	00 33 21.9	-11
CBJI	**Citeko**	**15.24**	**280**	P	**P**	**00 30 53.3**	**-0.5**
SBUM	**Sibu**	**15.29**	**320**	*e*Pn	**Pn**	**00 30 49.7**	**-1.3**
	8.4nm,0.9s						
SBUM	**Sibu**	**15.29**	**320**	P	**P**	**00 30 57.0**	**+2.5**
SDKM	**Sandakan**	**15.74**	**342**	P	**P**	**00 31 02.7**	**+3.2**
WRA	**Warramunga Arr**	**15.87**	**132**	P	**Pn**	**00 30 52.4**	**-6.0**
	8.5nm,0.3s,baz=309,slow=15,SNR=116						
WRA				S	Sn	00 33 35.2	-18
	3.0nm,0.3s,baz=303,slow=24,SNR=16						
WRA					LR	LR	00 38 16.0
	comp=Z,274nm,18.0s,baz=305,slow=41						
WR1	**Warramunga Arr**	**15.87**	**132**	*e*Pn	**Pn**	**00 30 52.4**	**-6.0**
	44nm,0.9s						
WR1				*e*Sn	Sn	00 33 35.2	-18
WRAB	**Tennant Creek**	**15.88**	**132**	*e*Pn	**Pn**	**00 30 53.7**	**-4.7**
	33nm,0.8s						
WRAB	**Tennant Creek**	**15.88**	**132**	*ce*P	**Pn**	**00 30 53.5**	**-4.9**
WRAB				pmax	pmax		
	comp=Z,55nm,1.3s						
KSM	**Kuching**	**15.88**	**313**	*e*Pn	**P**	**00 31 00.5**	**-0.5**
	comp=Z,20nm,1.1s						
KSM	**Kuching**	**15.88**	**313**	P	**P**	**00 31 04.2**	**+3.3**
XMIS	**Christmas Isla**	**16.06**	**265**	*e*Pn	**Pn**	**00 31 01.0**	**+0.2**
	comp=Z,27nm,0.8s						
KKM	**Kota Kinabalu**	**16.44**	**340**	*e*Pn	**P**	**00 31 10.6**	**+3.4**
	comp=Z,49nm,1.1s						
KKM	**Kota Kinabalu**	**16.44**	**340**	P	**P**	**00 31 10.5**	**+3.4**
DAV	**Davao City (W)**	**16.83**	**13**	LR	LR	00 39 11.9	
	comp=Z,100nm,18.5s,baz=194,slow=43						
KDM	**Kudat**	**17.06**	**343**	P	**P**	**00 31 18.9**	**+5.0**
KASI	**Kota Agung**	**17.72**	**282**	P	**P**	**00 31 22.9**	**+1.6**
AS31	**Alice Springs**	**18.17**	**142**	*e*P	**P**	**00 31 24.6**	**-1.6**
	comp=Z,16nm,0.8s						
AS31				*e*Sn	Sn	00 34 33.2	-16
AS31				*e*ScP	**ScP**	**00 39 25.9**	**-0.8**
ASAR	**Alice Springs**	**18.17**	**142**	P	**P**	**00 31 24.6**	**-1.7**
	comp=Z,3.6nm,0.3s,baz=320,slow=13,SNR=76						
ASAR				S	Sn	00 34 33.2	-16
	comp=Z,0.7nm,0.3s,baz=312,slow=22,SNR=13						
ASAR				LR	LR	00 38 53.3	
	comp=Z,326nm,20.2s,baz=317,slow=38						
ASAR				ScP	**ScP**	**00 39 25.9**	**-0.8**
	baz=334,slow=1.7,SNR=7.6						
AS01	**Alice Springs**	**18.20**	**142**	*e*P	**P**	**00 31 25.5**	**-1.0**
LHSI	**Lahat**	**19.12**	**286**	P	**Pn**	**00 31 38.6**	**+0.5**
MNAI	**Manna**	**19.50**	**284**	*e*P	**Pn**	**00 31 41.9**	**-0.8**
	comp=Z,220nm,1.1s						
JAY	**Jayapura**	**19.90**	**71**	P	**P**	**00 31 45.6**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=270,slow=20,SNR=3.5						
MORW	**Morawa**	**20.26**	**195**	*e*P	**P**	**00 31 49.4**	**+0.5**
	comp=Z,58nm,1.0s						
MYKOM	**Kota Tinggi**	**21.20**	**301**	*e*P	**P**	**00 31 56.6**	**-2.6**
	comp=Z,16nm,0.9s						
MYKOM	**Kota Tinggi**	**21.20**	**301**	P	**P**	**00 32 01.7**	**+2.4**
COEN	**Coen**	**21.27**	**104**	*e*P	**P**	**00 31 60.0**	**0.0**
	comp=Z,38nm,0.9s						
FORT	**Forrest**	**21.95**	**166**	*e*P	**P**	**00 32 06.8**	**-0.3**
	comp=Z,112nm,0.8s						
TGY	**Tagaytay City**	**23.45**	**358**	P	**P**	**00 32 22.9**	**+0.3**
	comp=Z,128nm,0.3s,baz=158,slow=8.0,SNR=3.8						
TGY					LR	LR	00 41 32.5
	comp=Z,80nm,20.8s,baz=138,slow=36						
NWAO	**Narrogin (SRO)**	**23.74**	**190**	P	**P**	**00 32 25.1**	**0.0**
	comp=Z,11nm,0.7s,baz=54,slow=8.7,SNR=6.5						
NWAO				S	**S**	**00 36 37.5**	**+2.0**
	comp=Z,3.1nm,0.4s,baz=99,slow=19,SNR=2.8						
NWAO	**Narrogin (SRO)**	**23.74**	**190**	*e*P	**P**	**00 32 24.2**	**-0.9**
NWAO				*e*pP	**pP**	**00 32 41.7**	**+1.1**
NWAO				*e*S	**S**	**00 36 37.5**	**+2.0**
NWAO	**Narrogin (SRO)**	**23.74**	**190**	*e*P	**P**	**00 32 24.2**	**-0.9**
NWAO				*e**PP	**pP**	**00 32 41.7**	**+1.1**
NWAO				*e*S	**S**	**00 36 37.5**	**+2.0**
COCO	**West Island**	**24.79**	**261**	*e*P	**P**	**00 32 33.6**	**-1.2**
	comp=Z,88nm,1.2s						
COCO	**West Island**	**24.79**	**261**	*e*P	**P**	**00 32 33.6**	**-1.2**
COCO				pmax	pmax		
	comp=Z,88nm,1.2s						
PMG	**Port Moresby**	**24.89**	**92**	LR	LR	00 44 05.2	
	comp=Z,187nm,18.8s,baz=238,slow=40						
PMG	**Port Moresby**	**24.89**	**92**	*e*P	**P**	**00 32 35.2**	**-0.5**
	comp=Z,47nm,0.9s						
PMG	**Port Moresby**	**24.89**	**92**	*e*P	**P**	**00 32 35.2**	**-0.5**
PMG				pmax	pmax		
	comp=Z,47nm,0.9s						
IPM	**Ipoh**	**25.02**	**303**	*e*pP	pP	00 32 54.7	+1.7
IPM	**Ipoh**	**25.02**	**303**	P	**P**	**00 32 40.7**	**+3.7**
CTA	**Charters Tower**	**25.74**	**117**	P	**P**	**00 32 43.9**	**+0.5**
	comp=Z,24nm,0.9s,baz=277,slow=13,SNR=14						
CTAO	**Charters Tower**	**25.74**	**117**	*e*P	**P**	**00 32 44.0**	**+0.6**
	comp=Z,29nm,0.9s						
KULM	**Kulim**	**25.79**	**304**	*e*P	**P**	**00 32 43.3**	**-0.6**
	comp=Z,7.5nm,0.8s						
PSI	**Prapat**	**25.96**	**297**	P	**P**	**00 32 43.9**	**-1.7**
	comp=Z,1.9nm,0.4s,baz=180,slow=14,SNR=3.8						
PSI					LR	LR	00 43 46.7
	comp=Z,162nm,19.0s,baz=92,slow=38						
PSI	**Prapat**	**25.96**	**297**	*e*P	**P**	**00 32 43.9**	**-1.7**
PSI				*e*pP	**pP**	**00 33 00.1**	**-1.6**
PSI	**Prapat**	**25.96**	**297**	*e*P	**P**	**00 32 43.9**	**-1.7**
PSI				*e**PP	**pP**	**00 33 00.1**	**-1.6**
GSI	**Gunungsitoli**	**26.52**	**293**	*e*P	**P**	**00 32 49.2**	**-1.2**
	comp=Z,40nm,1.4s						
BBOO	**Buckleboo**	**26.64**	**153**	*e*P	**P**	**00 32 51.1**	**-0.2**
	comp=Z,43nm,1.4s						
STKA	**Stephens Creek**	**28.80**	**144**	P	**P**	**00 33 10.7**	**0.0**
	comp=Z,5.2nm,0.4s,baz=316,slow=9.5,SNR=17						
STKA					LR	LR	00 45 51.2
	comp=Z,142nm,20.4s,baz=307,slow=38						
STKA	**Stephens Creek**	**28.80**	**144**	*e*P	**P**	**00 33 10.9**	**+0.2**
	comp=Z,2.2nm,0.9s						
LHMI	**Lhok Sumawe**	**28.87**	**299**	*e*P	**P**	**00 33 09.8**	**-1.7**
	comp=Z,59nm,1.3s						
CHAI	**Chaiyaphum**	**32.03**	**322**	P	**P**	**00 33 40.9**	**+1.6**
	comp=Z,8.5nm,0.7s						
GUMO	**Guam**	**32.30**	**45**	LR	LR	00 45 59.9	
	comp=Z,40nm,21.4s,baz=118,slow=35						
TPUB	**Ta-pu**	**32.60**	**358**	*e*P	**P**	**00 33 43.6**	**-0.6**
	comp=Z,19nm,0.8s						
YULB	**Yu-li**	**32.67**	**359**	*e*P	**P**	**00 33 44.7**	**-0.2**
	comp=Z,33nm,1.2s						
SRDT	**SRDT**	**32.74**	**316**	P	**P**	**00 33 47.6**	**+2.0**
	comp=Z,11nm,0.7s						
UTHA	**Uthaitani**	**33.39**	**318**	P	**P**	**00 33 52.5**	**+1.3**
	comp=Z,6.6nm,0.8s,comp=Z,71nm						
UMPA	**Umpang Tak**	**34.24**	**318**	P	**P**	**00 33 59.9**	**+1.3**
UTTA	**Uttaradit**	**34.31**	**322**	P	**P**	**00 34 00.6**	**+1.4**
ARMA	**Armidale**	**34.65**	**131**	*e*P	**P**	**00 34 04.5**	**+2.3**
	comp=Z,22nm,1.1s						
SUKH	**Sukhothai**	**34.69**	**320**	P	**P**	**00 34 04.0**	**+1.6**
TOO	**Toolangi**	**35.13**	**147**	*e*P	**P**	**00 34 08.0**	**+1.9**
	comp=Z,26nm,1.2s						
TOO	**Toolangi**	**35.13**	**147**	*e*P	**P**	**00 34 08.0**	**+1.9**
TOO				pmax	pmax		
	comp=Z,26nm,1.2s						
CM01	**Chiang Mai Arr**	**35.81**	**321**	*e*P	**P**	**00 34 12.7**	**+0.6**
CM31	**Chiang Mai Arr**	**35.85**	**321**	*e*P	**P**	**00 34 12.8**	**+0.3**
CM31				*e*PcP	**PcP**	**00 36 40.8**	**+2.1**
CM31				*e*ScP	**ScP**	**00 40 19.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**35.85**	**321**	P	**P**	**00 34 12.8**	**+0.3**
	comp=Z,6.6nm,0.9s,baz=146,slow=6.8,SNR=30						
CMAR				PcP	**PcP**	**00 36 40.8**	**+2.1**
	comp=Z,1.1nm,0.5s,baz=176,slow=2.8,SNR=5.1						
CMAR				ScP	**ScP**	**00 40 19.3**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=167,slow=3.6,SNR=14						
CMAR					LR	LR	00 49 57.7
	comp=Z,61nm,20.4s,baz=142,slow=38						
CMMT	**Chiang Mai**	**36.11**	**321**	P	**P**	**00 34 15.6**	**+0.9**
CHTO	**Chiang Mai**	**36.11**	**321**	*e*P	**P**	**00 34 15.7**	**+1.0**
	comp=Z,7.2nm,0.8s						
CHTO	**Chiang Mai**	**36.11**	**321**	*e*P	**P**	**00 34 15.7**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CHTO	**Chiang Mai**	**36.11**	**321**	P	**P**	**00 34 15.7**	**+1.0**
JOW	**Kunigami**	**36.61**	**10**	LR	LR	00 49 01.6	
	comp=Z,54nm,21.9s,baz=283,slow=36						
KMI	**Kunming**	**39.15**	**332**	P	**P**	**00 34 43.0**	**+2.5**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NJ2	**Nanjing**	**41.40**	**356**	*e*P	**P**	**00 34 58.8**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
JNU	**Nakatsue**	**43.21**	**11**	LR	LR	00 51 46.9	
	comp=Z,20nm,21.7s,baz=50,slow=34						
BRDH	**Bariadhala**	**43.60**	**318**	LR	LR	00 57 13.7	
	comp=Z,70nm,18.5s,baz=114,slow=41						
CD2	**Chengdu**	**43.78**	**337**	*e*P	**P**	**00 35 20.0**	**+1.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
PALK	**Pallekele**	**44.31**	**291**	LR	LR	00 53 39.9	
	comp=Z,86nm,21.6s,baz=114,slow=36						
DZM	**Mont Dzumac**	**44.47**	**112**	*e*P	**P**	**00 35 22.4**	**-1.5**
	comp=Z,19nm,1.2s						
XAN	**Xi'an**	**45.00**	**345**	P	**P**	**00 35 25.5**	**-2.3**
XAN	**Xi'an**	**45.00**	**345**	*e*P	**P**	**00 35 26.2**	**-1.6**
	comp=Z,7.6nm,1.1s						
XAN	**Xi'an**	**45.00**	**345**	*e*P	**P**	**00 35 26.2**	**-1.6**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.1s						
SHL	**Shillong**	**45.48**	**321**	*e*P	**P**	**00 35 31.5**	**-0.4**
	comp=Z,20nm,0.9s						
SHL	**Shillong**	**45.48**	**321**	*e*P	**P**	**00 35 31.5**	**-0.4**
SHL				pmax	pmax		
	comp=Z,20nm,0.9s						
MARNC	**Mare, Loyalty**	**45.84**	**111**	*e*P	**P**	**00 35 35.8**	**+1.1**
	comp=Z,105nm,1.1s						
KSRS	**Korea Array**	**47.02**	**7**	LR	LR	00 57 49.2	
	comp=Z,20nm,18.2s,baz=166,slow=39						
KS01	**Wonju Array Si**	**47.04**	**6**	*e*P	**P**	**00 35 42.4**	**-1.3**
MAJO	**Matsushiro**	**48.27**	**18**	*e*P	**P**	**00 35 52.4**	**-0.9**
MAJO				*e*pP	**pP**	**00 36 10.7**	**+0.3**
MAJO	**Matsushiro**	**48.27**	**18**	*i*P	**P**	**00 35 51.9**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MAT	**Matsushiro**	**48.27**	**18**	P	**P**	**00 35 54.1**	**+0.8**
MJAR	**Matsushiro Arr**	**48.27**	**18**	P	**P**	**00 35 52.4**	**-0.9**
	comp=Z,7.1nm,0.7s,baz=197,slow=9.6,SNR=16						
MJAR				pP	**pP**	**00 36 10.7**	**+0.3**
	comp=Z,6.9nm,0.9s,baz=195,slow=7.8,SNR=4.5						
MJAR				LR	LR	01 01 02.0	
	comp=Z,14nm,18.1s,baz=200,slow=42						
LZH	**Lanzhou**	**48.42**	**340**	*e*P	**P**	**00 35 58.5**	**+3.9**
LZH				pP	pP	00 36 13.8	+2.0
LZH				sP	sP	00 36 21.5	+2.0
LZH				*e*PP	**PP**	**00 37 50.5**	**+2.5**
LZH				pmax	pmax		
	comp=Z,26nm,1.0s						
LZH				pmax	pmax		
	comp=Z,130nm,6.5s						
LZH				LR	LR		
	comp=Z,440nm,14.2s						
LZH				LR	LR		
	comp=Z,480nm,14.3s						
LZH				LR	LR		
	comp=Z,690nm,16.2s						
H08S2	**Diego Garcia H**	**48.89**	**268**	T	T	01 27 55.2	
	baz=95						
H08S3	**Diego Garcia H**	**48.90**	**268**	T	T	01 28 00.5	
	baz=95						
H08S1	**Diego Carcia H**	**48.91**	**268**	T	T	01 28 04.5	
	baz=95						
LSA	**Lhasa**	**48.94**	**324**	P	**P**	**00 35 59.0**	**-0.2**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LSA	**Lhasa**	**48.94**	**324**	*e*P	**P**	**00 35 59.3**	**+0.2**
	comp=Z,12nm,0.9s						
LSA	**Lhasa**	**48.94**	**324**	*e*P	**P**	**00 35 59.3**	**+0.2**
LSA				pmax	pmax		
	comp=Z,12nm,0.9s						
DGAR	**Diego Garcia**	**48.95**	**268**	*e*P	**P**	**00 35 56.8**	**-2.2**
	comp=Z,59nm,1.3s						
DGAR	**Diego Garcia**	**48.95**	**268**	*e*P	**P**	**00 35 56.8**	**-2.2**
DGAR				pmax	pmax		
	comp=Z,59nm,1.3s						
RAMN	**Ramite**	**49.86**	**318**	*e*P	**P**	**00 36 05.8**	**-0.1**
	comp=Z,29nm,0.6s						
JIRN	**Jiri**	**50.60**	**318**	*e*P	**P**	**00 36 11.5**	**-0.2**
	comp=Z,56nm,0.8s						
GUN	**Gumba**	**50.97**	**318**	*e*P	**P**	**00 36 14.2**	**-0.2**
	comp=Z,62nm,0.8s						
HHC	**Hu-ho-hao-te**	**50.98**	**350**	*e*P	**P**	**00 36 18.0**	**+4.0**
HHC				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC				pmax	pmax		
	comp=Z,140nm,5.2s						
PKI	**Pulchoki**	**51.06**	**317**	*e*P	**P**	**00 36 14.4**	**-0.7**
	comp=Z,9.0nm,0.4s						
DMN	**Daman**	**51.29**	**317**	*e*P	**P**	**00 36 16.3**	**-0.4**
	comp=Z,24nm,0.8s						
KKN	**Kakani**	**51.29**	**317**	*e*P	**P**	**00 36 16.4**	**-0.3**
KOLN	**Koldanda**	**52.41**	**316**	*e*P	**P**	**00 36 24.4**	**-0.6**
	comp=Z,21nm,0.9s						
DANN	**Dangsing**	**52.67**	**317**	*e*P	**P**	**00 36 26.2**	**-0.8**
	comp=Z,50nm,0.6s						
GTA	**Gaotai**	**52.80**	**339**	*e*P	**P**	**00 36 26.8**	**-0.8**
GTA				pP	pP	00 36 42.0	-2.9
GTA				sP	sP	00 36 49.3	-3.3
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
PYUN	**Piuthan**	**53.04**	**316**	*e*P	**P**	**00 36 28.9**	**-0.7**
	comp=Z,21nm,0.7s						
MLZ	**Mavora Lakes**	**53.31**	**141**	*e*P	**P**	**00 36 31.6**	**+0.3**
	comp=Z,25nm,1.0s						
WHZ	**Wether Hill Ro**	**53.45**	**141**	*e*P	**P**	**00 36 32.9**	**+0.7**
	comp=Z,24nm,1.0s						
FOZ	**Fox Glacier**	**53.60**	**138**	*e*P	**P**	**00 36 32.9**	**-0.4**
	comp=Z,8.2nm,1.0s						
USA0B	**Ussuriysk Arra**	**54.20**	**9**	*e*P	**P**	**00 36 36.8**	**-0.7**
	comp=Z,9.6nm,1.1s						
USRK	**Ussuriysk Ar.**	**54.20**	**9**	P	**P**	**00 36 35.7**	**-1.8**
	comp=Z,3.2nm,0.5s,baz=199,slow=6.7,SNR=12						
LBZ	**Lake Benmore**	**54.20**	**139**	*e*P	**P**	**00 36 37.8**	**+0.1**
	comp=Z,21nm,1.2s						
MDJ	**Mudanjiang**	**54.28**	**7**	P	**P**	**00 36 37.5**	**-0.6**
MDJ				pP	pP	00 36 54.3	-1.3
MDJ				sP	sP	00 37 00.5	-2.7
MDJ				S	**S**	**00 44 06.0**	**-4.8**
MDJ				sS	pS	00 44 33.5	+3.2
MDJ				Sc

KDJ	**Kajisay**	**65.68**	**325**	*e*P	**P**	**00 37 58.0**	**+1.4**
	comp=Z,16nm,1.4s						
NRN	**Naryn**	**65.91**	**324**	*e*P	**P**	**00 37 57.7**	**-0.5**
	comp=Z,5.6nm,1.0s						
NRN				*e*pP	**pP**	**00 38 16.6**	**+0.4**
NRN	**Naryn**	**65.91**	**324**	*e*P	**P**	**00 37 57.7**	**-0.5**
NRN				*e**PP	**pP**	**00 38 16.6**	**+0.4**
NRN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MK01	**Makanchi Array**	**66.20**	**331**	*e*P	**P**	**00 37 58.6**	**-1.0**
MK31	**Makanchi Array**	**66.23**	**331**	*e*P	**P**	**00 37 59.1**	**-0.7**
MK31	**Makanchi Array**	**66.23**	**331**	*e*P	**P**	**00 37 59.1**	**-0.7**
MK32	**Makanchi Array**	**66.23**	**331**	*e*P	**P**	**00 37 59.1**	**-0.7**
MK32				*e*pP	**pP**	**00 38 18.2**	**+0.5**
MKAR	**Makanchi Array**	**66.23**	**331**	P	**P**	**00 37 59.1**	**-0.7**
	comp=Z,15nm,0.6s,baz=139,slow=7.7,SNR=75						
MKAR				pP	**pP**	**00 38 18.2**	**+0.5**
	comp=Z,3.1nm,0.6s,baz=136,slow=7.9,SNR=2.9						
MKAR				LR	LR	01 08 53.1	
	comp=Z,44nm,19.1s,baz=120,slow=38						
MKAR	**Makanchi Array**	**66.23**	**331**	*e*P	**P**	**00 37 59.1**	**-0.7**
	comp=Z,74nm,0.6s						
MKAR				pP	**pP**	**00 38 18.2**	**+0.5**
MKAR	**Makanchi Array**	**66.23**	**331**	*e*P	**P**	**00 37 59.1**	**-0.7**
MKAR				*PP	**pP**	**00 38 18.2**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,75nm,0.6s						
MAKZ	**Makanchi**	**66.39**	**331**	*e*P	**P**	**00 38 00.1**	**-0.7**
	comp=Z,5.2nm,0.6s						
MAKZ	**Makanchi**	**66.39**	**331**	P	**P**	**00 37 59.6**	**-1.2**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KBL	**Kabul**	**66.48**	**314**	*e*P	**P**	**00 38 01.1**	**-0.8**
KBL				*e*pP	**pP**	**00 38 20.1**	**+0.3**
KBL	**Kabul**	**66.48**	**314**	*e*P	**P**	**00 38 01.1**	**-0.8**
KBL				*e**PP	**pP**	**00 38 20.1**	**+0.3**
KZA	**Kyzart**	**66.75**	**324**	P	**P**	**00 38 04.0**	**+0.3**
	SNR=9.5						
KBK	**Karagaybulak**	**67.29**	**324**	P	**P**	**00 38 06.7**	**-0.2**
	SNR=9.8						
BOD	**Bodaibo**	**67.37**	**355**	*e*P	**P**	**00 38 05.2**	**-1.6**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.1s						
AAK	**Ala-Archa**	**67.54**	**324**	P	**P**	**00 38 08.5**	**0.0**
	SNR=6.9						
AAK	**Ala-Archa**	**67.54**	**324**	*e*P	**P**	**00 38 08.4**	**0.0**
	comp=Z,7.9nm,1.0s						
AAK	**Ala-Archa**	**67.54**	**324**	*c i*P	**P**	**00 38 08.0**	**-0.4**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ARSB	**Arslanbob**	**67.64**	**322**	*e*P	**P**	**00 38 08.8**	**-0.3**
	comp=Z,19nm,1.0s						
AML	**Almayashu**	**67.70**	**323**	P	**P**	**00 38 09.4**	**-0.3**
	SNR=15						
USP	**Ospenovka**	**67.93**	**325**	P	**P**	**00 38 09.8**	**-0.8**
	SNR=13						
EKS2	**Erkin-Say**	**67.97**	**324**	P	**P**	**00 38 11.3**	**+0.2**
	SNR=11						
GAR	**Garm**	**67.99**	**319**	*e*P	**P**	**00 38 10.8**	**-0.4**
	comp=Z,16nm,1.1s						
GAR	**Garm**	**67.99**	**319**	*e*P	**P**	**00 38 10.8**	**-0.4**
GAR				pmax	pmax		
	comp=Z,16nm,1.1s						
CHGR	**Chuyangaron**	**68.56**	**318**	*e*P	**P**	**00 38 14.4**	**-0.4**
	comp=Z,14nm,0.9s						
MNAS	**Manas**	**68.62**	**323**	P	**P**	**00 38 13.5**	**-1.6**
MNAS				pmax	pmax		
	comp=Z,13nm,1.0s						
PETK	**Petropavlovsk-**	**69.39**	**22**	P	**P**	**00 38 19.3**	**-0.1**
	comp=Z,4.4nm,0.7s,baz=212,slow=4.6,SNR=18						
PEA1	**Petropavlovsk-**	**69.39**	**22**	*e*P	**P**	**00 38 19.3**	**-0.2**
KK31	**Karatay Array**	**70.17**	**323**	*e*P	**P**	**00 38 24.9**	**+0.3**
KK31	**Karatay Array**	**70.17**	**323**	*i*P	**P**	**00 38 24.0**	**-0.5**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KKAR	**Karatay Array**	**70.17**	**323**	*e*P	**P**	**00 38 24.9**	**+0.3**
ZAA0	**Zalesovo Array**	**70.54**	**338**	*e*P	**P**	**00 38 24.7**	**-1.8**
	comp=Z,9.0nm,0.8s						
ZALV	**Zalesovo Beam**	**70.54**	**338**	P	**P**	**00 38 24.6**	**-1.9**
	comp=Z,9.3nm,0.5s,baz=142,slow=4.1,SNR=36						
ZALV				pP	**pP**	**00 38 43.9**	**-0.8**
	comp=Z,3.9nm,0.5s,baz=138,slow=3.5,SNR=4.6						
ZALV				LR	LR	01 12 38.2	
	comp=Z,47nm,18.4s,baz=66,slow=39						
ZALV	**Zalesovo Beam**	**70.54**	**338**	*e*P	**P**	**00 38 24.4**	**-2.2**
ZALV				pP	**pP**	**00 38 43.9**	**-0.8**
ZAA1	**Zalesovo Array**	**70.55**	**338**	*e*P	**P**	**00 38 24.6**	**-1.9**
ZAA1				*e*pP	**pP**	**00 38 43.9**	**-0.8**
KURK	**Kurchatov**	**70.72**	**332**	*e*P	**P**	**00 38 27.5**	**-0.2**
	comp=Z,11nm,1.0s						
KURK	**Kurchatov**	**70.72**	**332**	*de*P	**P**	**00 38 27.3**	**-0.4**
KURK				pmax	pmax		
	comp=Z,13nm,1.1s						
VNDA	**Vanda**	**71.08**	**172**	P	**P**	**00 38 30.2**	**+0.7**
	comp=Z,5.8nm,0.8s,baz=304,slow=12,SNR=6.1						
NVS	**Novosibirsk**	**71.82**	**338**	*e*P	**P**	**00 38 32.6**	**-1.6**
OTUK	**Ortayu**	**72.19**	**328**	P	**P**	**00 38 36.1**	**-0.6**
OTUK				pmax	pmax		
	comp=Z,15nm,1.1s						
MA2	**Magadan**	**72.60**	**15**	*ce*P	**P**	**00 38 40.3**	**+1.5**
MA2				pmax	pmax		
	comp=Z,29nm,2.5s						
RAR	**Rarotonga**	**75.79**	**110**	LR	LR	01 08 19.6	
	comp=Z,62nm,20.4s,baz=262,slow=32						
GEYT	**Alibeck**	**75.87**	**313**	P	**P**	**00 38 57.8**	**-0.6**
	comp=Z,16nm,0.6s,baz=163,slow=5.7,SNR=6.2						
SEY	**Seymchan**	**75.90**	**14**	*ce*P	**P**	**00 38 58.7**	**+0.8**
BVA0	**Borovoye Array**	**76.10**	**331**	*i*P	**P**	**00 38 57.9**	**-1.4**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**76.17**	**331**	*e*P	**P**	**00 38 58.8**	**-0.8**
	comp=Z,4.7nm,1.0s						
BRVK	**Borovoye**	**76.17**	**331**	*ce*P	**P**	**00 38 59.2**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SYO	**Syowa Base**	**78.47**	**201**	*e*P	**P**	**00 39 12.4**	**+0.1**
ABKAR	**Akbulak array**	**79.63**	**324**	*e*P	**P**	**00 39 18.0**	**-1.0**
QSPA	**South Pole Qui**	**80.52**	**180**	P	**P**	**00 39 24.2**	**+0.5**
	comp=Z,20nm,1.0s,baz=323,slow=3.1,SNR=26						
QSPA				LR	LR	01 13 06.5	
	comp=Z,80nm,21.1s,baz=348,slow=34						
QSPA	**South Pole Qui**	**80.52**	**180**	*e*P	**P**	**00 39 24.8**	**+1.1**
TIXI	**Tiksi**	**81.08**	**2**	*e*P	**P**	**00 39 25.2**	**-1.0**
	comp=Z,8.7nm,0.9s						
TIXI	**Tiksi**	**81.08**	**2**	*ce*P	**P**	**00 39 25.6**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
AKTO	**Aktyubinsk**	**81.28**	**324**	P	**P**	**00 39 25.9**	**-1.9**
AKTO				pmax	pmax		
	comp=Z,9.0nm,1.4s						
RAYN	**Ar Rayn**	**81.51**	**296**	*e*P	**P**	**00 39 30.4**	**+0.7**
	comp=Z,8.6nm,0.9s						
RAYN	**Ar Rayn**	**81.51**	**296**	*e*P	**P**	**00 39 30.4**	**+0.7**
RAYN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BILL	**Bilibino**	**83.46**	**15**	*e*P	**P**	**00 39 37.8**	**-1.0**
BILL				*e**PP	**pP**	**00 39 52.0**	**-5.4**
BILL				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ARU	**Arti**	**83.70**	**330**	*i*P	**P**	**00 39 38.3**	**-1.9**
PPT	**Papeete**	**85.77**	**107**	LR	LR	01 18 48.6	
	comp=Z,22nm,18.2s,baz=224,slow=36						
TBLG	**Delisi**	**86.83**	**313**	*e*P	**P**	**00 39 58.7**	**+2.5**
	comp=Z,18nm,1.2s						
TBLG				*e*pP	**pP**	**00 40 17.8**	**+2.8**
TBLG	**Delisi**	**86.83**	**313**	*e*P	**P**	**00 39 58.7**	**+2.5**
TBLG				*e**PP	**pP**	**00 40 17.8**	**+2.8**
TBLG				pmax	pmax		
	comp=Z,18nm,1.2s						
SIRT	**Sirnak**	**87.48**	**308**	*e*P	**P**	**00 40 01.5**	**+1.9**
	comp=Z,32nm,1.2s						
ZEI	**Tsey**	**87.71**	**314**	*e*P	**P**	**00 40 01.2**	**+0.5**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KBZ	**Khabaz**	**88.66**	**315**	P	**P**	**00 40 05.1**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=115,slow=5.8,SNR=4.5						
BOSA	**Boshof**	**91.31**	**241**	P	**P**	**00 40 18.9**	**+1.0**
	comp=Z,3.4nm,1.1s,baz=130,slow=7.9,SNR=2.3						
KLMR	**Klimovskoe**	**94.52**	**331**	*e*P	**P**	**00 40 28.8**	**-2.9**
KLMR				pmax	pmax		
	comp=Z,12nm,1.5s						
KLMR	**Klimovskoe**	**94.52**	**331**	*e*P	**P**	**00 40 28.9**	**-2.8**
KLMR				AMP		00 40 37.1	
	comp=Z,12nm,1.5s						
BR101	**Keskin Array S**	**94.67**	**309**	*e*P	**P**	**00 40 32.2**	**-0.8**
BR131	**Keskin Array S**	**94.67**	**309**	*e*P	**P**	**00 40 32.5**	**-0.6**
BRTR	**Keskin Array B**	**94.67**	**309**	P	**P**	**00 40 32.2**	**-0.8**
	comp=Z,1.8nm,0.9s,baz=100,slow=5.1,SNR=8.6						
OBN	**Obninsk**	**95.05**	**325**	*e*P	**P**	**00 40 32.1**	**-2.1**
OBN				*e**PP	**pP**	**00 40 50.3**	**-2.7**
OBN				SS	SS	00 58 15.0	+4.7
OBN				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ARA0	**ARCESS Array S**	**101.06**	**339**	*e*Pdif	**Pdif**	**00 41 01.7**	**+0.7**
ARCES	**ARCESS Array B**	**101.06**	**339**	P	**Pdif**	**00 41 01.7**	**+0.7**
	comp=Z,2.7nm,0.9s,baz=74,slow=3.9,SNR=3.9						
YKA	**Yellowknife Ar**	**113.42**	**25**	PKiKP	**PKiKP**	**00 45 48.2**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=301,slow=1.9,SNR=16						
YKA				SKP		00 49 16.5	
	comp=Z,0.5nm,0.7s,baz=298,slow=2.0,SNR=7.5						
YKB5	**Yellowknife Ar**	**113.42**	**25**	*e*PKiKP	**PKiKP**	**00 45 49.8**	**+1.0**
NV01	**Mina Array Sit**	**119.07**	**51**	*e*PKPdf	**PKPdf**	**00 46 02.2**	**+1.4**
NVAR	**Mina Array Bea**	**119.07**	**51**	PKP	**PKPdf**	**00 46 02.2**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=322,slow=4.5,SNR=6.3						
HLID	**Hailey**	**120.65**	**45**	*e*PKPdf	**PKPdf**	**00 46 05.7**	**+2.1**
TOA0	**Torodi Ar. Sit**	**121.39**	**280**	*e*PKPdf	**PKPdf**	**00 46 05.7**	**+0.1**
TORD	**Torodi Ar. Bea**	**121.39**	**280**	PKP	**PKPdf**	**00 46 05.1**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=66,slow=1.7,SNR=23						
TORD				SKP		00 49 34.7	
	comp=Z,2.0nm,1.2s,baz=50,slow=3.8,SNR=3.9						
TOA1	**Torodi Ar. Sit**	**121.39**	**280**	*e*PKPdf	**PKPdf**	**00 46 05.1**	**-0.4**
REDW	**Red Top Meadow**	**123.17**	**44**	*e*PKPdf	**PKPdf**	**00 46 10.4**	**+1.8**
ESDC	**Sonseca Array**	**123.39**	**312**	PKP	**PKPdf**	**00 46 08.8**	**-0.1**
	comp=Z,0.1nm,0.2s,baz=42,slow=2.2,SNR=2.7						
PD31	**Pinedale Array**	**124.27**	**44**	*e*PKPdf	**PKPdf**	**00 46 11.9**	**+1.2**
PDAR	**Pinedale Array**	**124.27**	**44**	PKP	**PKPdf**	**00 46 11.9**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=74,slow=2.8,SNR=7.3						
DBIC	**Dimbokro**	**127.28**	**271**	PKP	**PKPdf**	**00 46 17.8**	**+0.9**
	comp=Z,2.8nm,0.9s,baz=108,slow=3.2,SNR=4.0						
ULM	**Lac du Bonnet**	**128.74**	**30**	PKP	**PKPdf**	**00 46 19.9**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=17,slow=8.9,SNR=4.1						
ULM				SKPbc	SKiKP	00 49 31.3	-18
	comp=Z,2.9nm,0.7s,baz=293,slow=3.6,SNR=6.7						
ULM	**Lac du Bonnet**	**128.74**	**30**	PKiKP	**PKPdf**	**00 46 20.0**	**+1.3**
LTX	**Lajitas**	**133.04**	**59**	*e*PKPdf	**PKPdf**	**00 46 27.0**	**-0.5**
LTX				*e*SKPbc	**SKPbc**	**00 49 48.7**	**-0.9**
LTX	**Lajitas**	**133.04**	**59**	*e*PKiKP	**PKPdf**	**00 46 27.0**	**-0.5**
TXAR	**Lajitas Array**	**133.04**	**59**	PKP	**PKPdf**	**00 46 27.0**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=202,slow=1.9,SNR=5.3						
TXAR				SKPbc	**SKPbc**	**00 49 48.7**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=245,slow=2.7,SNR=8.8						
SCHQ	**Schefferville**	**134.23**	**7**	PKP	**PKPdf**	**00 46 30.1**	**+1.2**
	comp=Z,2.2nm,0.6s,baz=288,slow=3.2,SNR=4.4						
CPUP	**Villa Florida**	**144.40**	**181**	PKP	PKPbc	00 46 47.7	+0.9
	comp=Z,4.5nm,0.8s,baz=180,slow=5.1,SNR=9.6						
CPUP	**Villa Florida**	**144.40**	**181**	*e*PKPdf	**PKPdf**	**00 46 48.2**	**-0.1**
Z50A	**Ashland**	**145.10**	**43**	*e*PKPbc	**PKPdf**	**00 46 50.0**	**+0.7**
V53A	**Saluda**	**145.54**	**37**	*e*PKPdf	**PKPab**	**00 46 52.0**	**+1.5**
BG3	**Lake Jocassee**	**145.92**	**38**	*e*PKPdf	**PKPab**	**00 46 52.5**	**+0.6**
152A	**Waverly Hall**	**146.26**	**43**	*e*PKPdf	**PKPbc**	**00 46 52.8**	**+0.4**
LPAZ	**La Paz**	**152.53**	**159**	PKPbc	**PKPbc**	**00 47 10.8**	**+1.4**
	comp=Z,0.9nm,0.4s,baz=292,slow=5.4,SNR=4.6						
LPAZ				PKPab	**PKPab**	**00 47 19.9**	**+0.1**
	comp=Z,2.2nm,0.3s,baz=167,slow=0.8,SNR=10						
LPAZ	**La Paz**	**152.53**	**159**	*e*PKPbc	**PKPbc**	**00 47 11.8**	**+2.3**
LPAZ				*e*PKPab	**PKPab**	**00 47 19.9**	**+0.1**
BDFB	**Brasilia**	**153.13**	**202**	PKPab	**PKPab**	**00 47 21.9**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=234,slow=3.4,SNR=3.2						

IDC ***27*** *00:40:24.7±1.5,* **20°.25N×144°.69E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/40, mbtmp3.5/4, MS3.3/1, Ms1 3.3/1, ms1mx2.5/33, Error ellipse: s-maj=199.5km s-min=25.8km az=113.0, Mariana Islands*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.21**	**195**	P	P	00 48 10.4	-1.0
	0.6nm,0.5s,baz=4.8,slow=8.9,SNR=7.7						
FITZ	**Fitzroy Crossi**	**42.45**	**207**	P	P	00 48 22.9	+1.4
	0.5nm,0.3s,baz=41,slow=11,SNR=11						
FITZ				LR	LR	01 06 48.4	
	comp=Z,33nm,19.1s,baz=146,slow=37						
ASAR	**Alice Springs**	**44.90**	**194**	P	P	00 48 40.4	-0.9
	0.3nm,0.5s,baz=12,slow=6.8,SNR=5.3						
YKA	**Yellowknife Ar**	**77.07**	**28**	P	P	00 52 19.6	0.0
	0.1nm,0.5s,baz=305,slow=3.6,SNR=3.4						

NIED ***27*** *00:42:00, 41°.90N×142°.70E, h47km, Mw3.7 Best double couple: M0 4.32000×10^14 NP1:φ=240.00000°, δ=20.00000°, λ=120.00000°. NP2:φ=29.00000°, δ=73.00000°, λ=80.00000°.*

ISCJB ***27*** *00:42:57.8±0.6, 41°.83N±0°.05×142°.69E±0°.05, h63km±5km, mb3.7/5, Error ellipse: s-maj=8.7km s-min=5.4km az=148.9*

JMA ***27*** *00:42:58.6±0.1, 41°.85N×142°.70E, h53km±2km, M3.6*

JMA Felt I J1.

IDC ***27*** *00:43:00.2±2.2, 41°.93N×142°.85E, h78km±18km, mb3.4/5, mb1 3.5/8, mb1mx3.2/41, mbtmp3.7/8, Error ellipse: s-maj=36.5km s-min=15.6km az=95.0*

ISC 27 00:42:58.3±1.0, 41°.83N±0°.06×142°.70E±0°.04, h53km±9km, n28, σ1=902/30, mb3.7/5, 1C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**0.39**	**61**	⇑P	**Pn**	**00 43 08.7**	**+0.2**
JEM				*e*S	**Sn**	**00 43 16.1**	**+0.3**
JNBK	**Urakawa-nobuka**	**0.46**	**5**	P	**Pn**	**00 43 09.2**	**0.0**
JSHD	**Hidakashinhida**	**0.61**	**343**	⇓P	**Pn**	**00 43 11.3**	**+0.3**
JTHR	**Tokachihiroo**	**0.64**	**43**	P	**Pn**	**00 43 11.6**	**+0.2**
JTHR				*e*S	**Sn**	**00 43 21.1**	**+0.1**
JCH	**Churui**	**0.93**	**32**	⇓P	**Pn**	**00 43 15.3**	**+0.2**
JCH				*e*S	**Sn**	**00 43 27.5**	**0.0**
JBT2	**Biratori 2**	**0.98**	**345**	⇓P	**Pn**	**00 43 15.9**	**0.0**
JIAM	**Iburiatsuma**	**0.99**	**324**	P	**Pn**	**00 43 16.8**	**+0.9**
JKB	**Kayabe**	**1.25**	**273**	P	**Pn**	**00 43 19.4**	**0.0**
JKB				*e*S	**Sn**	**00 43 34.8**	**-0.4**
JARK	**Aomorirokkasho**	**1.29**	**231**	P	**Pn**	**00 43 20.9**	**+0.9**
JOT	**Ohata**	**1.32**	**251**	P	**Pn**	**00 43 20.8**	**+0.5**
JOT				*e*S	**Sn**	**00 43 37.3**	**+0.5**
JFR	**Furan**	**1.34**	**357**	P	**Pn**	**00 43 21.0**	**+0.3**
JOB	**Onbets**	**1.37**	**38**	⇓P	**Pn**	**00 43 22.0**	**+1.0**
JOB				*e*S	**Sn**	**00 43 40.0**	**+2.0**
JEW	**Eniwo**	**1.38**	**318**	P	**Pn**	**00 43 21.3**	**+0.1**
JEW				*e*S	**Sn**	**00 43 38.3**	**0.0**
JNB	**Noboribetsu**	**1.40**	**298**	P	**Pn**	**00 43 21.0**	**-0.4**
JNB				*e*S	**Sn**	**00 43 38.3**	**-0.4**
ASAJ	**Asahikawa**	**2.29**	**358**	P	**Pn**	**00 43 34.8**	**+1.1**
	11nm,0.3s,baz=224,slow=12,SNR=32						
ASAJ				S	**Sn**	**00 44 01.5**	**+0.8**
	9.6nm,0.3s,baz=180,slow=20,SNR=13						
MJAR	**Matsushiro Arr**	**6.33**	**215**	P	Pn	00 44 31.9	+2.9
	0.1nm,0.3s,baz=38,slow=10,SNR=5.8						
USRK	**Ussuriysk Ar.**	**8.20**	**290**	P	**Pn**	**00 44 58.3**	**+3.7**
	0.1nm,0.3s,baz=97,slow=12,SNR=3.8						
SONM	**Songino Array**	**26.27**	**296**	P	**P**	**00 48 28.5**	**-0.1**
	0.4nm,0.5s,baz=88,slow=8.6,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**30.10**	**130**	T	T	01 20 40.9	
	baz=323,slow=75,SNR=29						
H11N1	**WAKE ISLAND Hy**	**30.11**	**130**	T	T	01 20 28.7	
	baz=323,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**30.11**	**130**	T	T	01 20 29.1	
	baz=323,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**30.96**	**131**	T	T	01 21 43.0	
	baz=324,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**30.96**	**131**	T	T	01 21 33.9	
	baz=324,slow=76,SNR=25						
H11S2	**WAKE ISLAND Hy**	**30.98**	**131**	T	T	01 21 32.4	
	baz=324,slow=76,SNR=20						
ZALV	**Zalesovo Beam**	**39.58**	**308**	P	**P**	**00 50 23.7**	**-0.4**
	0.5nm,0.4s,baz=77,slow=6.5,SNR=4.2						
MKAR	**Makanchi Array**	**42.59**	**298**	P	**P**	**00 50 48.1**	**-0.8**
	0.5nm,0.6s,baz=81,slow=9.5,SNR=6.3						
WRA	**Warramunga Arr**	**61.94**	**189**	P	**P**	**00 53 12.8**	**+0.2**
	0.4nm,0.4s,baz=5.6,slow=7.1,SNR=2.9						
FINES	**FINESS Array B**	**65.06**	**332**	P	**P**	**00 53 31.2**	**-1.5**
	2.4nm,0.8s,baz=31,slow=7.2,SNR=5.1						

IDC ***27*** *00:46:24.7±0.8, 0°.89N×126°.32E, h0km, mb4.0/7, mb1 4.2/8, mb1mx3.8/41, mbtmp4.0/8, ML3.9/1, Error ellipse: s-maj=50.2km s-min=15.1km az=65.0*

ISCJB ***27*** *00:46:28.3±0.6, 0°.8N±0°.1×126°.3E±0°.2, h39km, mb4.1/7, Error ellipse: s-maj=29.7km s-min=10.3km az=149.8*

ISC 27 00:46:30.2±0.8, 0°.9N±0°.2×126°.3E±0°.2, h39km, n13, σ0=83/14, mb4.5/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.84**	**182**	P	**P**	**00 50 46.9**	**0.0**
	0.3nm,0.3s,baz=16,slow=12,SNR=8.7						
WRA	**Warramunga Arr**	**22.11**	**160**	P	**P**	**00 51 22.2**	**-0.2**
	3.2nm,0.3s,baz=340,slow=11,SNR=51						
PMG	**Port Moresby**	**23.12**	**117**	P	**P**	**00 51 32.1**	**-1.0**
	9.2nm,0.6s,baz=346,slow=8.3,SNR=2.9						
ASAR	**Alice Springs**	**25.46**	**164**	P	**P**	**00 51 55.3**	**+0.6**
	4.5nm,0.3s,baz=346,slow=12,SNR=74						
ASAR				PcP	**PcP**	**00 55 26.5**	**+0.3**
	0.4nm,0.6s,baz=346,slow=2.7,SNR=4.3						
STKA	**Stephens Creek**	**35.62**	**157**	P	**P**	**00 53 24.9**	**+0.5**
	2.7nm,0.5s,baz=331,slow=12,SNR=10.0						
JIRN	**Jiri**	**46.77**	**308**	*e*P	**P**	**00 54 55.2**	**-1.3**
	5.4nm,0.3s						
KOLN	**Koldanda**	**48.87**	**307**	*e*P	**P**	**00 55 12.0**	**-0.6**
	6.7nm,0.7s						
DANN	**Dangsing**	**49.00**	**308**	*e*P	**P**	**00 55 12.9**	**-0.8**
	8.9nm,0.6s						
PYUN	**Piuthan**	**49.50**	**307**	*e*P	**P**	**00 55 18.3**	**+0.9**
	7.4nm,0.7s						
SONM	**Songino Array**	**49.89**	**343**	P	**P**	**00 55 21.1**	**+1.1**
	0.2nm,0.5s,baz=154,slow=8.5,SNR=2.6						
MKAR	**Makanchi Array**	**59.69**	**326**	P	**P**	**00 56 30.1**	**-0.8**
	0.4nm,0.4s,baz=118,slow=7.9,SNR=18						
ZALV	**Zalesovo Beam**	**62.97**	**334**	P	**P**	**00 56 53.2**	**+0.4**
	0.4nm,0.3s,baz=121,slow=5.6,SNR=3.2						
TORD	**Torodi Ar. Bea**	**123.37**	**286**	PKP	**PKPdf**	**01 05 23.7**	**-0.5**
	0.8nm,1.2s,baz=90,slow=1.8,SNR=2.8						

ISCJB ***27*** *00:52:33.4±1.4, 3°.0N±0°.3×123°.3E±0°.5, h500km, mb3.6/5, Error ellipse: s-maj=76.8km s-min=10.6km az=146.6*

IDC ***27*** *00:52:34.1±2.2, 2°.98N×123°.23E, h490km±23km, mb3.0/5, mb1 3.2/5, mb1mx2.8/42, mbtmp3.9/5, Error ellipse: s-maj=94.5km s-min=14.8km az=64.0*

ISC 27 00:52:35.0±1.4, 3°.0N±0°.3×123°.2E±0°.5, h500km, n11, σ0=50/13, mb3.9/11, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.06**	**173**	P	**P**	**00 56 43.0**	**-0.5**
	2.7nm,0.8s,baz=8.6,slow=9.1,SNR=12						
WRA	**Warramunga Arr**	**25.27**	**155**	P	**P**	**00 57 19.9**	**-1.2**
	1.1nm,0.3s,baz=336,slow=9.7,SNR=19						
WRA				ScP	**ScP**	**01 03 29.7**	**+0.2**
	0.5nm,1.0s,baz=346,slow=2.9,SNR=2.7						
ASAR	**Alice Springs**	**28.46**	**159**	P	**P**	**00 57 48.8**	**-0.3**
	0.5nm,0.3s,baz=335,slow=7.8,SNR=12						
ASAR				ScP	**ScP**	**01 03 39.3**	**+0.1**
	0.2nm,0.4s,baz=342,slow=3.4,SNR=3.5						
STKA	**Stephens Creek**	**38.82**	**155**	P	**P**	**00 59 17.2**	**+0.8**
	1.2nm,0.3s,baz=328,slow=9.5,SNR=4.7						
JIRN	**Jiri**	**43.00**	**309**	*e*P	**P**	**00 59 50.4**	**+0.1**
	8.5nm,0.5s						
GUN	**Gumba**	**43.36**	**309**	*e*P	**P**	**00 59 53.2**	**+0.1**
	6.0nm,0.5s						
PKI	**Pulchoki**	**43.57**	**308**	*e*P	**P**	**00 59 54.5**	**-0.3**
	1.7nm,0.2s						
KOLN	**Koldanda**	**45.09**	**307**	*e*P	**P**	**01 00 06.7**	**+0.3**
	9.1nm,0.7s						
DANN	**Dangsing**	**45.22**	**308**	*e*P	**P**	**01 00 07.5**	**0.0**
	10nm,0.6s						
PYUN	**Piuthan**	**45.72**	**307**	*e*P	**P**	**01 00 11.2**	**0.0**
	10.0nm,0.7s						
MKAR	**Makanchi Array**	**56.22**	**327**	P	**P**	**01 01 27.0**	**-0.1**
	0.4nm,0.4s,baz=127,slow=8.1,SNR=14						

ISCJB ***27*** *00:54:35.1±1.2, 37°.69N±0°.04×142°.18E±0°.07, h27km±8km, mb3.8/2, Error ellipse: s-maj=9.3km s-min=6.1km az=7.1*

IDC ***27*** *00:54:35.4±10.0, 37°.19N×142°.36E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.3/44, mbtmp3.5/3,

region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.82**	**308**	P	**Pn**	**01 00 23.7**	**-2.0**
	0.4nm,0.3s,baz=139,slow=5.6,SNR=6.4						
SUR				LR	LR	01 06 08.4	
	comp=Z,555nm,18.6s,baz=136,slow=33						
SUR	**Sutherland**	**17.82**	**308**	*e*Pn	**Pn**	**01 00 23.7**	**-2.0**
	94nm,1.9s						
BOSA	**Boshof**	**18.72**	**325**	P	**P**	**01 00 36.1**	**-0.2**
	0.1nm,0.3s,baz=159,slow=12,SNR=6.4						
BOSA				LR	LR	01 06 19.7	
	comp=Z,1μm,21.2s,baz=146,slow=32						
BOSA	**Boshof**	**18.72**	**325**	*e*P	**P**	**01 00 36.1**	**-0.2**
	14nm,1.1s						
LBTB	**Lobatse**	**21.83**	**330**	P	**P**	**01 01 09.7**	**-0.3**
	7.0nm,0.8s,baz=155,slow=8.6,SNR=7.7						
LBTB				LR	LR	01 08 13.9	
	comp=Z,998nm,20.4s,baz=158,slow=33						
LBTB	**Lobatse**	**21.83**	**330**	*e*P	**P**	**01 01 09.2**	**-0.8**
	32nm,1.2s						
MATP	**Matopo**	**25.28**	**340**	P	**P**	**01 01 42.5**	**-1.5**
	8.2nm,0.9s,baz=161,slow=9.6,SNR=12						
MATP				LR	LR	01 10 03.4	
	comp=Z,990nm,21.3s,baz=157,slow=33						
MAW	**Mawson**	**26.62**	**158**	LR	LR	01 10 16.0	
	comp=Z,575nm,19.7s,baz=330,slow=32						
ABPO	**Ambohimpanom**	**26.85**	**21**	*e*P	**P**	**01 01 58.5**	**+0.2**
	34nm,1.6s						
OPO	**Ambohidratompo**	**27.27**	**21**	LR	LR	01 11 15.6	
	comp=Z,680nm,18.6s,baz=183,slow=33						
TSUM	**Tsumeb**	**30.30**	**321**	*e*P	**P**	**01 02 29.8**	**+0.8**
	12nm,1.1s						
LSZ	**Lusaka**	**30.32**	**342**	*e*P	**P**	**01 02 28.4**	**-0.8**
	15nm,0.9s						
SNAA	**Sanae**	**33.19**	**202**	P	**P**	**01 02 54.7**	**+0.8**
SNAA	**Sanae**	**33.19**	**202**	P	**P**	**01 02 54.5**	**+0.6**
	3.4nm,0.8s,baz=6.5,slow=5.3,SNR=11						
SNAA	**Sanae**	**33.19**	**202**	*e*P	**P**	**01 02 54.6**	**+0.6**
	9.3nm,1.1s						
VNA2	**Neumayer--Watz**	**34.10**	**204**	P	**P**	**01 03 02.9**	**+1.2**
	baz=50,slow=6.9						
VNA3	**Neumayer Olymp**	**34.91**	**204**	P	**P**	**01 03 09.3**	**+0.5**
QSPA	**South Pole Qui**	**45.55**	**180**	P	**P**	**01 04 36.3**	**-0.8**
	4.7nm,0.7s,baz=272,slow=4.0,SNR=26						
QSPA	**South Pole Qui**	**45.55**	**180**	*e*P	**P**	**01 04 36.6**	**-0.6**
HOPE	**Hope Point**	**46.89**	**231**	*e*P	**P**	**01 04 47.4**	**-0.1**
	95nm,1.3s						
VNDA	**Vanda**	**53.42**	**167**	LR	LR	01 26 20.4	
	comp=Z,588nm,21.8s,baz=224,slow=34						
H10S2	**ASCENSION HYDR**	**57.19**	**292**	T	T	02 08 06.5	
	baz=138,slow=75,SNR=82						
H10S1	**ASCENSION HYDR**	**57.21**	**292**	T	T	02 08 07.7	
	baz=138,slow=75,SNR=74						
H10S3	**ASCENSION HYDR**	**57.21**	**292**	T	T	02 08 05.7	
	baz=138,slow=75,SNR=71						
DBIC	**Dimbokro**	**63.66**	**312**	P	**P**	**01 06 48.6**	**-0.3**
	3.9nm,0.9s,baz=170,slow=9.4,SNR=3.8						
DBIC				LR	LR	01 30 45.0	
	comp=Z,93nm,21.1s,baz=132,slow=32						
DBIC	**Dimbokro**	**63.66**	**312**	*e*P	**P**	**01 06 49.1**	**+0.2**
	24nm,1.6s						
TOA0	**Torodi Ar. Sit**	**66.05**	**322**	*e*P	**P**	**01 07 05.3**	**+0.9**
TORD	**Torodi Ar. Bea**	**66.05**	**322**	P	**P**	**01 07 04.1**	**-0.3**
	3.5nm,1.0s,baz=159,slow=5.7,SNR=12						
TORD				LR	LR	01 33 40.0	
	comp=Z,143nm,21.5s,baz=350,slow=34						
TOA1	**Torodi Ar. Sit**	**66.05**	**322**	*e*P	**P**	**01 07 04.1**	**-0.4**
FORT	**Forrest**	**69.52**	**113**	*e*P	**P**	**01 07 26.3**	**0.0**
	13nm,0.8s						
TRQA	**Tornquist**	**70.24**	**236**	*e*P	**P**	**01 07 29.1**	**-1.6**
	17nm,1.3s						
UOSS	**Minazif**	**71.37**	**18**	*e*P	**P**	**01 07 37.8**	**+0.4**
	18nm,1.4s						
TAM	**Tamanrasset**	**73.18**	**329**	*e*P	**P**	**01 07 50.5**	**+2.0**
	10.0nm,1.6s						
PLCA	**Paso Flores**	**73.26**	**229**	P	**P**	**01 07 48.6**	**-0.3**
	3.0nm,0.8s,baz=154,slow=7.8,SNR=7.4						
PLCA				LR	LR	01 34 30.8	
	comp=Z,111nm,21.4s,baz=214,slow=31						
PLCA	**Paso Flores**	**73.26**	**229**	*e*P	**P**	**01 07 48.6**	**-0.3**
	7.4nm,1.1s						
BBOO	**Buckleboo**	**73.29**	**120**	*e*P	**P**	**01 07 48.1**	**-1.0**
	17nm,1.3s						
GO06	**Curarrehue**	**74.57**	**229**	*e*P	**P**	**01 07 56.7**	**+0.1**
	10nm,0.9s						
CPUP	**Villa Florida**	**75.17**	**248**	P	**P**	**01 07 59.9**	**-0.2**
	5.1nm,0.8s,baz=128,slow=4.7,SNR=10						
CPUP				LR	LR	01 37 26.2	
	comp=Z,82nm,19.4s,baz=180,slow=33						
CPUP	**Villa Florida**	**75.17**	**248**	*e*P	**P**	**01 08 00.5**	**+0.4**
	10nm,1.0s						
BDFB	**Brasilia**	**75.97**	**262**	P	**P**	**01 08 05.1**	**+0.2**
	3.1nm,0.8s,baz=166,slow=8.3,SNR=3.1						
BDFB				LR	LR	01 34 02.8	
	comp=Z,125nm,21.2s,baz=151,slow=30						
FITZ	**Fitzroy Crossi**	**76.27**	**102**	*e*P	**P**	**01 08 07.0**	**+0.5**
	10nm,1.0s						
STKA	**Stephens Creek**	**77.32**	**122**	P	**P**	**01 08 10.8**	**-1.5**
	4.6nm,0.7s,baz=236,slow=5.1,SNR=13						
STKA				LR	LR	01 35 06.1	
	comp=Z,112nm,19.9s,baz=205,slow=30						
STKA	**Stephens Creek**	**77.32**	**122**	*e*P	**P**	**01 08 11.6**	**-0.7**
	17nm,2.0s						
ASAR	**Alice Springs**	**78.13**	**111**	P	**P**	**01 08 15.5**	**-1.4**
	4.3nm,0.8s,baz=225,slow=5.0,SNR=39						
ASAR				LR	LR	01 37 59.1	
	comp=Z,87nm,20.0s,baz=211,slow=32						
AS31	**Alice Springs**	**78.13**	**111**	*e*P	**P**	**01 08 15.7**	**-1.2**
	9.9nm,1.8s						
AS01	**Alice Springs**	**78.16**	**111**	*e*P	**P**	**01 08 15.7**	**-1.4**
WRA	**Warramunga Arr**	**80.99**	**109**	P	**P**	**01 08 31.2**	**-1.3**
	3.8nm,0.7s,baz=218,slow=4.1,SNR=18						
WRA				LR	LR	01 38 46.1	
	comp=Z,179nm,21.7s,baz=230,slow=32						
WR1	**Warramunga Arr**	**80.99**	**109**	*e*P	**P**	**01 08 31.2**	**-1.3**
	80nm,1.9s						
RPZ	**Rata Peaks**	**82.80**	**148**	P	**P**	**01 08 41.5**	**-0.1**
	5.4nm,0.9s,baz=141,slow=12,SNR=3.6						
KOLN	**Koldanda**	**83.50**	**40**	*e*P	**P**	**01 08 44.6**	**-0.9**
	58nm,1.4s						
PYUN	**Piuthan**	**83.51**	**39**	*e*P	**P**	**01 08 44.6**	**-0.9**
	57nm,1.3s						
KBL	**Kabul**	**83.90**	**26**	*e*P	**P**	**01 08 48.5**	**+1.1**
	3.9nm,0.9s						
KEST	**Kesra**	**83.97**	**337**	LR	LR	01 47 28.7	
	comp=Z,510nm,19.9s,baz=126,slow=37						
LTZ	**Lake Taylor**	**84.06**	**148**	*e*P	**P**	**01 08 49.1**	**+0.9**
	20nm,1.1s						
DMN	**Daman**	**84.07**	**41**	*e*P	**P**	**01 08 47.9**	**-0.6**
DANN	**Dangsing**	**84.07**	**40**	*e*P	**P**	**01 08 47.2**	**-1.3**
	89nm,1.6s						
BRTR	**Keskin Array B**	**84.07**	**357**	P	**P**	**01 08 48.0**	**-0.1**
	1.7nm,0.9s,baz=170,slow=6.3,SNR=5.7						
BRTR				LR	LR	01 46 16.8	
	comp=Z,56nm,19.1s,baz=168,slow=36						
BR101	**Keskin Array S**	**84.08**	**357**	*e*P	**P**	**01 08 48.0**	**-0.1**
CM01	**Chiang Mai Arr**	**84.10**	**57**	*e*P	**P**	**01 08 47.4**	**-1.1**
CM31	**Chiang Mai Arr**	**84.12**	**57**	*e*P	**P**	**01 08 47.4**	**-1.2**
CMAR	**Chiang Mai Arr**	**84.12**	**57**	P	**P**	**01 08 47.4**	**-1.2**
	0.7nm,0.3s,baz=218,slow=5.5,SNR=8.5						
CMAR				LR	LR	01 40 02.3	
	comp=Z,50nm,20.1s,baz=206,slow=31						
PKI	**Pulchoki**	**84.18**	**42**	*e*P	**P**	**01 08 48.1**	**-1.0**
	45nm,1.4s						
GEYT	**Alibeck**	**84.31**	**16**	P	**P**	**01 08 49.8**	**+0.6**
	3.8nm,0.9s,baz=244,slow=6.5,SNR=6.2						
NIL	**Nilore**	**84.48**	**29**	*e*P	**P**	**01 08 51.3**	**+1.1**
	24nm,1.2s						
JIRN	**Jiri**	**84.62**	**42**	*e*P	**P**	**01 08 50.8**	**-0.7**
	72nm,1.3s						
GUN	**Gumba**	**84.69**	**42**	*e*P	**P**	**01 08 51.1**	**-0.6**
	86nm,1.4s						
KBZ	**Khabaz**	**88.14**	**4**	LR	LR	01 48 20.0	
	comp=Z,85nm,18.6s,baz=186,slow=36						
LPAZ	**La Paz**	**89.34**	**248**	LR	LR	01 46 40.7	
	comp=Z,162nm,18.1s,baz=137,slow=34						
KSH	**Kashi**	**90.70**	**29**	P	**P**	**01 09 21.5**	**+1.3**
KSH				sP	pwP	01 09 30.8	+4.7
KSH				PP	**PP**	**01 12 58.5**	**+2.4**
KSH				SKS	**SKSac**	**01 19 51.5**	**-0.1**
KSH				S	**S**	**01 20 12.0**	**-4.1**
KSH				sS	sS	01 20 20.8	+0.5
KSH				pmax	pmax		
	comp=Z,20nm,0.6s						
KSH				LR	LR		
	comp=N,100nm,5.9s						
KSH				LR	LR		
	comp=E,66nm,6.2s						
KSH				LR	LR		
	comp=Z,220nm,10.7s						
KMI	**Kunming**	**91.47**	**55**	P	**P**	**01 09 26.0**	**+1.8**
KMI				pmax	pmax		
	comp=Z,17nm,0.5s						
ESDC	**Sonseca Array**	**91.84**	**329**	LR	LR	01 51 18.8	
	comp=Z,239nm,19.2s,baz=150,slow=36						
BUR04	**Bucovina Ar. S**	**92.52**	**352**	*e*P	**P**	**01 09 30.1**	**+1.7**
AKASG	**Malin Array Be**	**95.25**	**355**	LR	LR	01 54 25.2	
	comp=Z,49nm,20.3s,baz=205,slow=37						
GERES	**GERESS Array B**	**95.41**	**345**	LR	LR	01 55 22.3	
	comp=Z,126nm,18.9s,baz=124,slow=37						
WMQ	**Urumqi**	**98.81**	**34**	*e*P	Pdif	01 10 00.0	+2.9
WMQ				sP	pwP	01 10 05.0	+2.0
WMQ				LR	LR		
	comp=N,130nm,32.5s						
WMQ				LR	LR		
	comp=E,140nm,20.1s						
WMQ				LR	LR		
	comp=Z,220nm,30.1s						
MK32	**Makanchi Array**	**99.30**	**29**	*e*P	**Pdif**	**01 09 58.5**	**-0.6**
MKAR	**Makanchi Array**	**99.30**	**29**	P	**Pdif**	**01 09 58.5**	**-0.6**
	0.3nm,0.8s,baz=229,slow=1.3,SNR=3.6						
MKAR				LR	LR	01 51 31.9	
	comp=Z,52nm,20.5s,baz=224,slow=33						
LZH	**Lanzhou**	**100.35**	**49**	*e*P	**Pdif**	**01 10 06.5**	**+2.3**
LZH				pP	pwP	01 10 11.5	+1.2
LZH				sP	sP	01 10 14.5	+6.9
LZH				PP	**PP**	**01 14 11.5**	**+0.4**
LZH				pmax	pmax		
	comp=Z,29nm,1.0s						
TBI	**Tubuai**	**112.03**	**173**	*e*LR	LR	01 48 14.7	
	comp=Z,135nm,37.8s						
PPT2	**Papeete2**	**117.72**	**172**	*e*LR	LR	01 50 57.6	
	comp=Z,126nm,22.2s						
ABTX	**Abilene, Hawle**	**144.76**	**265**	*e*PKPdf	**PKPab**	**01 15 53.2**	**-0.1**
BILL	**Bilibino**	**144.83**	**31**	*e*PKPdf	PKPbc	01 15 52.8	+0.4
WMOK	**Wichita Mounta**	**145.24**	**269**	*e*PKPbc	**PKPbc**	**01 15 54.6**	**-0.2**
HPIA		**145.59**	**252**	*e*PKPdf	**PKPbc**	**01 15 56.5**	**+0.2**
KSU1	**Kansas State U**	**145.69**	**277**	*e*PKPdf	**PKPbc**	**01 15 56.0**	**-0.1**
LTX	**Lajitas**	**145.72**	**257**	*e*PKPdf	**PKPbc**	**01 15 56.6**	**0.0**
TX31	**Lajitas Ar. Si**	**145.72**	**257**	*e*PKPdf	**PKPdf**	**01 15 55.5**	**-0.7**
TX31				*e*PKPdf	**PKPbc**	**01 15 56.8**	**+0.2**
TXAR	**Lajitas Array**	**145.72**	**257**	PKPbc	**PKPbc**	**01 15 56.6**	**0.0**
	6.0nm,0.8s,baz=138,slow=6.0,SNR=71						
ECSD	**EROS Data Cent**	**147.37**	**285**	*e*PKPdf	**PKPbc**	**01 16 00.7**	**-0.2**
AMTX	**Amarillo**	**147.38**	**267**	*e*PKPbc	**PKPbc**	**01 16 01.8**	**+0.5**
FCC	**Fort Churchill**	**147.60**	**313**	*e*PKPdf	**PKPbc**	**01 16 00.8**	**-0.2**
MSTX	**Muleshoe**	**147.69**	**265**	*e*PKPdf	**PKPdf**	**01 16 00.8**	**+1.4**
MNTX	**Cornudas Mount**	**148.30**	**259**	*e*PKPdf	**PKPdf**	**01 16 00.9**	**+0.6**
ULM	**Lac du Bonnet**	**148.35**	**297**	PKPbc	**PKPbc**	**01 16 01.8**	**-1.4**
	4.2nm,0.9s,baz=63,slow=3.8,SNR=6.0						
OGNE	**Ogallala**	**150.24**	**277**	*e*PKPbc	**PKiKP**	**01 16 08.9**	**-0.3**
T25A	**Trinidad**	**150.40**	**269**	*e*PKPbc	**PKiKP**	**01 16 09.5**	**-0.3**
BNM	**Barren Site**	**150.52**	**262**	*e*PKPbc	**PKiKP**	**01 16 10.1**	**-0.1**
ANMO	**Albuquerque**	**150.81**	**263**	*e*PKPdf	**PKPdf**	**01 16 05.0**	**+0.5**
319A	**Douglas**	**150.82**	**254**	*e*PKPbc	**PKiKP**	**01 16 10.6**	**-0.1**
LAZ	**Ladron**	**151.01**	**262**	*e*PKPbc	**PKPbc**	**01 16 10.4**	**-0.2**
SDCO	**Great Sand Dun**	**151.44**	**269**	*e*PKPbc	**PKiKP**	**01 16 11.9**	**-0.1**
S22A	**4UR Ranch, Cre**	**152.39**	**268**	*ep*PKPdf	**PKPbc**	**01 16 12.8**	**-1.0**
TUC	**Tucson**	**152.40**	**254**	*e*PKPdf	**PKPdf**	**01 16 08.5**	**+1.7**
RSSD	**Black Hills**	**152.62**	**283**	*e*PKPdf	**PKPdf**	**01 16 07.0**	**0.0**
SMCO	**Snowmass**	**153.09**	**271**	*e*PKPbc	**PKiKP**	**01 16 16.4**	**+0.9**
PV02	**Paradox Valley**	**153.95**	**268**	*e*PKPab	**PKPab**	**01 16 31.9**	**+1.5**
PV13	**Radium Mtn., P**	**153.99**	**267**	*e*PKPab	**PKPab**	**01 16 32.6**	**+2.0**
PV12	**Saucer Basin,**	**154.04**	**268**	*e*PKPbc	**PKiKP**	**01 16 17.6**	**+0.3**
PV12				*e*PKPab	**pPKPab**	**01 16 32.3**	**-0.9**
PV11	**David Mesa, Pa**	**154.09**	**268**	*e*PKPab	**PKPab**	**01 16 33.3**	**+2.3**
PV16	**Nyswonger Mesa**	**154.12**	**268**	*e*PKPab	**PKPab**	**01 16 32.8**	**+1.6**
PV14	**Lion Creek, Pa**	**154.22**	**268**	*e*PKPbc	**PKiKP**	**01 16 18.4**	**+0.7**
PV14				*e*PKPab	**PKPab**	**01 16 32.5**	**+0.9**
PV23	**Carpenter Ridg**	**154.25**	**268**	*e*PKPab	**PKPab**	**01 16 32.7**	**+1.0**
PV09	**Paradox Valley**	**154.35**	**268**	*e*PKPab	**PKPab**	**01 16 33.3**	**+1.1**
GAMB	**Gambell**	**154.76**	**30**	*e*PKPab	**PKPab**	**01 16 33.8**	**+1.1**
SRU	**San Rafael Swe**	**155.60**	**268**	*e*PKPab	**PKPab**	**01 16 37.5**	**+0.1**
INK	**Inuvik**	**155.83**	**352**	PKPab	**PKPab**	**01 16 37.1**	**0.0**
	2.6nm,1.0s,baz=359,slow=4.5,SNR=4.9						
INK	**Inuvik**	**155.83**	**352**	*e*PKPdif	PKPdf	01 16 20.1	+10
INK				*e*PKPab	**PKPab**	**01 16 37.1**	**0.0**
P17A	**Butcher Ranch,**	**155.89**	**269**	*e*PKPab	**PKPab**	**01 16 39.5**	**+0.9**
YKA	**Yellowknife Ar**	**155.93**	**328**	PKP	**PKPdf**	**01 16 09.8**	**-0.8**
	0.5nm,0.9s,baz=41,slow=1.5,SNR=5.2						
YKA				PKPab	**PKPab**	**01 16 37.0**	**-0.8**
	1.1nm,0.8s,baz=51,slow=4.6,SNR=13						
YKB5	**Yellowknife Ar**	**155.93**	**328**	*e*PKPdf	**PKPdf**	**01 16 09.8**	**-0.8**
YKB5				*e*PKPab	**PKPab**	**01 16 37.0**	**-0.8**
PD31	**Pinedale Array**	**156.14**	**277**	*e*PKPdf	**PKPdf**	**01 16 12.2**	**+0.2**
PD31				*e*PKPab	**PKPab**	**01 16 39.4**	**-0.3**
PDAR	**Pinedale Array**	**156.14**	**277**	PKP	**PKPdf**	**01 16 12.2**	**+0.2**
	0.3nm,0.7s,baz=144,slow=3.2,SNR=3.7						
PDAR				PKPab	**PKPab**	**01 16 39.4**	**-0.3**
	1.6nm,1.1s,baz=111,slow=8.1,SNR=4.2						
TMUT	**Trail Mountain**	**156.16**	**268**	*e*PKPdf	**PKPdf**	**01 16 13.1**	**+0.9**
MTPU	**Mount Pierson**	**156.33**	**264**	*e*PKPdf	**PKPdf**	**01 16 14.2**	**+1.7**
ANM	**Nome**	**156.34**	**25**	*e*PKPab	**PKPab**	**01 16 40.9**	**+1.4**
SZCU	**Shurtz Canyon**	**156.78**	**263**	*e*PKPdf	**PKPdf**	**01 16 14.5**	**+1.7**
CCUT	**Cedar City**	**156.95**	**262**	*e*PKPdf	**PKPdf**	**01 16 15.1**	**+1.9**
FXWY	**Fox Creek**	**157.40**	**279**	*e*PKPab	**PKPab**	**01 16 45.4**	**+0.3**
DUG	**Dugway, Tooele**	**157.64**	**269**	*e*PKPdf	**PKPdf**	**01 16 14.9**	**+1.1**
DUG				*e*PKPab	**PKPab**	**01 16 47.2**	**+1.1**
IM3	**Indian Mountai**	**157.78**	**12**	*e*PKPdf	**PKPdf**	**01 16 12.1**	**-0.8**
BGU	**Big Grassy Mou**	**158.05**	**271**	*e*PKPdf	**PKPdf**	**01 16 15.1**	**+0.8**
ILAR	**Eielson Array**	**159.70**	**5**	PKPab	**PKPab**	**01 16 52.5**	**-1.6**
	0.6nm,0.9s,baz=339,slow=5.0,SNR=3.7						
ILB	**Eielson Array**	**159.70**	**5**	*e*PKPab	**PKPab**	**01 16 52.5**	**-1.6**
EGAK	**Eagle**	**159.82**	**358**	*e*PKPdif	PKPdf	01 16 24.7	+9.3
NV01	**Mina Array Sit**	**160.83**	**260**	*e*PKPab	**PKPab**	**01 17 00.3**	**+0.2**
NVAR	**Mina Array Bea**	**160.83**	**260**	PKPab	**PKPab**	**01 17 00.3**	**+0.2**
	0.2nm,0.3s,baz=143,slow=3.2,SNR=2.3						

ISCJB ***27*** *00:56:36.0±0.7, 21°.61S±0°.04×68°.5W±0°.1, h135km±8km, mb3.3/2, Error ellipse: s-maj=16.5km s-min=5.8km az=1.6*
GUC ***27*** *00:56:36.5±0.7, 21°.60S×68°.49W, h131km±4km, ML3.2*
IDC ***27*** *00:56:36.2±1.2, 21°.70S×68°.23W, h123km±19km, mb3.3/2, mb1 3.4/3, mb1mx3.1/30, mbtmp3.6/3, Error ellipse: s-maj=51.9km s-min=26.6km az=99.0*

ISC 27 00:56:36.5±1.0, 21°.62S±0°.04×68°.5W±0°.1, h129km±9km, n17, σ0°45/30, 10C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.72**	**255**	⇑*e*P	**Pn**	**00 56 57.4**	**+0.2**
PB09				*e*S	**Sn**	**00 57 12.8**	**+0.1**
PB09				IAML		00 57 17.0	
	comp=E,270nm,0.3s						
LVC	**Limon Verde**	**1.06**	**201**	P	**Pn**	**00 56 60.0**	**-0.3**
	comp=E,9.5nm,0.3s,baz=36,slow=7.6,SNR=72						
LVC				S	**Sn**	**00 57 18.0**	**-0.4**
	comp=E,17nm,0.3s,baz=107,slow=19,SNR=56						
LVC	**Limon Verde**	**1.06**	**201**	*e*P	**Pn**	**00 56 60.0**	**-0.3**
LVC				*i* S	**Sn**	**00 57 18.4**	**-0.1**
PB01	**IPOC Station P**	**1.09**	**301**	⇑*i*P	**Pn**	**00 57 00.3**	**0.0**
PB01				*e*S	**Sn**	**00 57 17.7**	**-0.6**
PB01				IAML		00 57 20.2	
	comp=E,476nm,0.2s						
PB03	**IPOC Station P**	**1.25**	**250**	⇑*e*P	**Pn**	**00 57 02.0**	**0.0**
PB03				*e*S	**Sn**	**00 57 21.4**	**+0.1**
PB03				IAML		00 57 23.0	
	comp=E,846nm,0.1s						
PB07	**IPOC Station P**	**1.30**	**265**	⇑*e*P	**Pn**	**00 57 02.7**	**+0.2**
PB07				*e*S	**Sn**	**00 57 22.5**	**+0.2**
PB07				IAML		00 57 24.6	
	comp=N,1μm,0.2s						
PB06	**IPOC Station P**	**1.48**	**222**	⇑*e*P	**Pn**	**00 57 04.5**	**+0.1**
PB06				*e*S	**Sn**	**00 57 26.3**	**+0.6**
PB06				IAML		00 57 28.4	
	comp=E,284nm,0.1s						
PB08	**IPOC Station P**	**1.59**	**337**	⇑*i*P	**Pn**	**00 57 06.5**	**+0.5**
PB08				⇑*e*P		00 57 06.6	
PB08				*e*S	**Sn**	**00 57 29.0**	**+0.6**
PB08				IAML		00 57 33.2	
	comp=N,306nm,0.2s						
PB04	**IPOC Station P**	**1.70**	**245**	⇑*e*P	**Pn**	**00 57 06.9**	**0.0**
PB04				*e*S	**Sn**	**00 57 30.1**	**-0.1**
PB04				IAML		00 57 31.9	
	comp=N,313nm,0.3s						
PB05	**IPOC Station P**	**2.01**	**232**	*e*P	**Pn**	**00 57 11.0**	**+0.4**
PB05				*e*S	**Sn**	**00 57 36.7**	**0.0**
PB05				IAML		00 57 37.9	
	comp=N,96nm,0.4s						
PB11	**IPOC Station P**	**2.14**	**329**	*e*P	**Pn**	**00 57 12.1**	**-0.2**
PB11				*e*S	**Sn**	**00 57 39.6**	**-0.2**
PB11				IAML		00 57 43.2	
	comp=N,315nm,0.3s						
PSGC	**Pisagua**	**2.52**	**322**	⇑*i*P	**Pn**	**00 57 16.1**	**-1.0**
PSGC				*i* S	**Sn**	**00 57 47.5**	**-0.7**
MNMC	**Minye Minye**	**2.68**	**337**	⇑*i*P	**Pn**	**00 57 19.1**	**-0.1**
MNMC				*e*S	**Sn**	**00 57 52.2**	**+0.1**
LPAZ	**La Paz**	**5.31**	**4**	P	**Pn**	**00 57 55.0**	**+0.6**
	comp=N,0.9nm,0.3s,baz=185,slow=6.4,SNR=21						
TORD	**Torodi Ar. Bea**	**77.03**	**70**	P	**P**	**01 08 14.8**	**-0.9**
	comp=N,0.5nm,0.7s,baz=247,slow=6.3,SNR=3.5						
YKA	**Yellowknife Ar**	**91.42**	**340**	P	**P**	**01 09 28.2**	**+0.8**
	comp=N,0.2nm,0.5s,baz=135,slow=4.4,SNR=5.7						
MKAR	**Makanchi Array**	**145.50**	**36**	PKPbc	**PKPdf**	**01 15 59.4**	**+0.1**
	comp=N,0.1nm,0.6s,baz=288,slow=3.9,SNR=2.8						

NNC 27 01:01:01.1±2.3, 52°.95N×87°.30E, h0km, mb3.5, mpv3.2, 6C-7D, Error ellipse: s-maj=21.3km s-min=10.0km az=81.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.79**	**305**	⇑Pn	Pn	01 01 32.5	-0.8
	16nm,0.4s						
ZAA0				⇓Lg	Lg	01 01 58.9	
	19nm,0.4s						
KURK	**Kurchatov**	**5.83**	**251**	⇑Pn	Pn	01 02 30.2	+1.5
	1.6nm,0.6s						
KURK				⇓Lg	Lg	01 04 07.5	
	3.2nm,0.9s						
KURBB	**Kurchatov Arra**	**5.92**	**250**	⇓Pn	Pn	01 02 31.2	+1.2
	1.8nm,0.8s						
KURBB				⇑Sn	Sn	01 03 39.2	+0.7
	0.7nm,0.3s						
KURBB				⇓Lg	Lg	01 04 07.5	
	4.5nm,0.8s						
MK31	**Makanchi Array**	**6.96**	**210**	⇑Pn	Pn	01 02 47.1	+2.8
	0.3nm,0.3s,baz=30,slow=14,SNR=41						
MK31				⇑Sn	Sn	01 04 05.0	+0.8
	0.1nm,0.2s,baz=32,slow=27,SNR=2.9						
MK31				⇓Lg	Lg	01 04 44.5	
	2.5nm,0.8s,baz=34,slow=31,SNR=4.8						
MAKZ	**Makanchi**	**7.04**	**211**	⇓Pn	Pn	01 02 46.5	+1.0
	2.1nm,1.3s						
MAKZ				⇓Sn	Sn	01 04 04.7	-1.5
	1.4nm,0.7s						
MAKZ				⇑Lg	Lg	01 04 43.2	
	2.1nm,1.1s						

SOME ***27*** *01:02:40.6, 40°.27N×77°.62E, h10km*
NNC ***27*** *01:02:41.9±0.9, 40°.36N×77°.60E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=7.1km s-min=4.9km az=145.0*
KRNET ***27*** *01:02:43.4±0.1, 40°.49N×77°.51E, h7km, mb3.0*

ISC 27 01:02:43.4±1.6, 40°.41N±0°.07×77°.60E±0°.03, h10km, n73, σ1°66/112, 23C-23D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.32**	**7**	⇑*i*P	**Pn**	**01 03 07.2**	**-1.1**
	baz=10.0						
TARG				⇑*i*S	**Sb**	**01 03 25.1**	**-0.6**
	baz=10.0						
NRN	**Naryn**	**1.58**	**311**	⇓*e*P	**Pn**	**01 03 11.8**	**0.0**
	baz=9.0						

	21nm,0.6s							
TKM2	**Tokmak 2**	**2.92**	**330**	⇓*i*P		**Pn**	**01 03 32.0**	**+1.9**
	baz=30							
TKM2				⇓*i*S		**Sn**	**01 04 07.3**	**+2.0**
	baz=30							
UZB	**Uzynbulak**	**2.93**	**21**	Pg		**Pb**	**01 03 37.2**	**+1.4**
	5.6nm,0.3s							
UZB				Lg		Lg	01 04 17.6	
	16nm,0.3s							
UZB	**Uzynbulak**	**2.93**	**21**	*e*P		**Pb**	**01 03 37.2**	**+1.4**
	5.6nm,0.3s							
UZB				*e*S		**Sg**	**01 04 17.6**	**+0.1**
	16nm,0.3s							
UCH	**Uchtor**	**2.95**	**309**	P		**Pn**	**01 03 32.2**	**+1.5**
	SNR=10							
UCH	**Uchtor**	**2.95**	**309**	⇓*e*P		**Pn**	**01 03 32.7**	**+2.0**
	baz=9.0							
UCH				⇓*i*S		**Sn**	**01 04 08.2**	**+1.9**
	baz=9.0							
KBK	**Karagaybulak**	**3.00**	**319**	P		**Pb**	**01 03 37.0**	**+0.1**
	SNR=6.5							
KBK	**Karagaybulak**	**3.00**	**319**	⇓*i*P		**Pn**	**01 03 33.1**	**+2.0**
	baz=19							
KBK				⇓*i*S		**Sn**	**01 04 09.5**	**+2.3**
	baz=19							
SHLS	**Shalkode**	**3.07**	**26**	*e*P		**Pb**	**01 03 39.5**	**+1.3**
	14nm,0.7s							
SHLS				*e*S		**Sg**	**01 04 21.6**	**-0.5**
	40nm,0.6s							
KURS	**Kuram**	**3.10**	**8**	⇓*i*P		**Pb**	**01 03 39.0**	**+0.4**
	5.2nm,0.8s							
KURS				*e*S		**Sg**	**01 04 21.0**	**-1.9**
	18nm,1.0s							
DGS	**Degeres**	**3.14**	**335**	Pg		**Pb**	**01 03 39.9**	**+0.6**
	3.9nm,0.6s							
DGS				Lg		Lg	01 04 22.5	
	18nm,0.4s							
DGS	**Degeres**	**3.14**	**335**	*e*P		**Pb**	**01 03 39.9**	**+0.6**
	3.9nm,0.6s							
DGS				*e*S		**Sg**	**01 04 22.5**	**-1.6**
	18nm,0.4s							
SFK	**Sufi-Kurgan**	**3.16**	**264**	⇑Pn		**Pn**	**01 03 33.3**	**-0.1**
	2.1nm,0.4s							
SFK				⇑Lg		Lg	01 04 22.0	
	5.2nm,0.4s							
AAK	**Ala-Archa**	**3.22**	**315**	P		**Pb**	**01 03 41.0**	**+0.3**
	SNR=5.2							
AAK	**Ala-Archa**	**3.22**	**315**	⇓Pn		**Pn**	**01 03 36.1**	**+2.0**
	3.8nm,0.5s							
AAK				⇑Lg		Lg	01 04 24.8	
	35nm,0.8s							
AAK	**Ala-Archa**	**3.22**	**315**	⇑*i*P		**Pn**	**01 03 35.9**	**+1.8**
	baz=15							
AAK				⇑*i*S		**Sn**	**01 04 14.5**	**+1.9**
	baz=15							
PDGK	**Podgornoye**	**3.24**	**25**	Pg		**Pb**	**01 03 40.9**	**-0.1**
	5.4nm,0.4s							
PDGK				Lg		Lg	01 04 24.0	
	15nm,0.5s							
PDGK	**Podgornoye**	**3.24**	**25**	⇑Pn		**Pn**	**01 03 34.0**	**-0.4**
	4.6nm,0.5s							
PDGK				⇑Pg		**Pb**	**01 03 39.6**	**-1.4**
	7.8nm,0.5s							
PDGK				⇓Lg		Lg	01 04 26.1	
	25nm,0.6s							
PDGK	**Podgornoye**	**3.24**	**25**	⇓*e*P		**Pb**	**01 03 37.6**	**-3.4**
	baz=27							
PDGK				⇓*i*S		**Sn**	**01 04 16.3**	**+3.3**
	baz=27							
CHMS	**Chumysh**	**3.35**	**321**	⇑*i*P		**Pn**	**01 03 37.9**	**+2.1**
	baz=21							
CHMS				⇑*i*S		**Sn**	**01 04 17.5**	**+1.9**
	baz=21							
KTBS	**Karatobe**	**3.37**	**349**	Pg		**Pb**	**01 03 44.1**	**+1.0**
	4.6nm,0.6s							
KTBS				Lg		Lg	01 04 29.6	
	35nm,0.5s							
KTBS	**Karatobe**	**3.37**	**349**	*e*P		**Pb**	**01 03 44.1**	**+1.0**
	4.6nm,0.6s							
KTBS				*e*S		**Sg**	**01 04 29.6**	**-1.8**
	35nm,0.5s							
AML	**Almayashu**	**3.41**	**302**	⇓*i*P		**Pn**	**01 03 39.3**	**+2.4**
	baz=1.0							
AML				⇓*i*S		**Sn**	**01 04 19.5**	**+1.9**
	baz=1.0							
CHKK	**Chushkaly**	**3.47**	**353**	Pg		**Pb**	**01 03 45.5**	**+0.6**
	4.3nm,0.6s							
CHKK				Lg		Lg	01 04 32.4	
	45nm,0.4s							
CHKK	**Chushkaly**	**3.47**	**353**	*e*P		**Pb**	**01 03 45.5**	**+0.6**
	4.3nm,0.6s							
CHKK				*e*S		**Sg**	**01 04 32.5**	**-2.3**
	45nm,0.4s							
KUU	**Kurty**	**3.60**	**345**	Pg		**Pb**	**01 03 48.5**	**+1.3**
	2.3nm,0.6s							
KUU				Lg		Lg	01 04 37.0	
	17nm,0.7s							
KUU	**Kurty**	**3.60**	**345**	*e*P		**Pb**	**01 03 48.5**	**+1.3**
	2.3nm,0.6s							
KUU				*e*S		**Sg**	**01 04 37.0**	**-1.9**
	17nm,0.7s							
EKS2	**Erkin-Say**	**3.64**	**309**	⇑*e*P		**Pn**	**01 03 42.2**	**+2.3**
	baz=9.0							
EKS2				⇑*i*S		**Sn**	**01 04 25.2**	**+2.2**
	baz=9.0							
KTMS	**Ketmen**	**3.66**	**33**	Pg		**Pb**	**01 03 48.7**	**+0.5**
	0.8nm,0.2s							
KTMS				Lg		Lg	01 04 37.9	
	13nm,0.6s							
KTMS	**Ketmen**	**3.66**	**33**	*e*P		**Pb**	**01 03 48.7**	**+0.5**
	0.8nm,0.2s							
KTMS				*e*S		**Sg**	**01 04 37.9**	**-3.0**
	13nm,0.6s							
USP	**Ospenovka**	**3.67**	**322**	P		**Pb**	**01 03 49.0**	**+0.6**
	SNR=14							
MNBS	**Baschi**	**3.71**	**9**	Pg		**Pb**	**01 03 50.8**	**+1.7**
	3.0nm,0.5s							
MNBS				Lg		Lg	01 04 41.4	
	15nm,0.3s							
MNBS	**Baschi**	**3.71**	**9**	*e*P		**Pb**	**01 03 50.8**	**+1.7**
	3.0nm,0.5s							
MNBS				*e*S		**Sg**	**01 04 41.4**	**-1.1**
	15nm,0.3s							
SGDS	**Sogindy**	**3.76**	**325**	Pg		**Pb**	**01 03 50.7**	**+0.8**
	5.5nm,0.4s							
SGDS				Lg		Lg	01 04 41.4	
	9.9nm,0.4s							
ARXS	**Arharly**	**3.80**	**2**	Pg		**Pb**	**01 03 52.3**	**+1.8**
	6.9nm,0.5s							
ARXS				Lg		Lg	01 04 43.9	
	18nm,0.5s							
ARXS	**Arharly**	**3.80**	**2**	*e*P		**Pb**	**01 03 52.3**	**+1.8**
	6.9nm,0.5s							
ARXS				*e*S		**Sg**	**01 04 43.9**	**-1.5**
	18nm,0.5s							
MRKS	**Merke**	**4.02**	**307**	Pg		**Pb**	**01 03 55.5**	**+1.1**
	1.8nm,0.2s							
MRKS				Lg		Lg	01 04 49.1	
	5.5nm,0.5s							
MRKS	**Merke**	**4.02**	**307**	*e*P		**Pb**	**01 03 55.5**	**+1.1**
	1.8nm,0.2s							
MRKS				*e*S		**Sg**	**01 04 49.1**	**-3.4**
	5.5nm,0.5s							
DJR	**Jarkent**	**4.24**	**22**	*e*P		**Pb**	**01 03 59.6**	**+1.5**
	1.2nm,0.5s							
DJR				*e*S		**Sg**	**01 04 56.6**	**-2.9**
	3.1nm,0.5s							
MNAS	**Manas**	**4.35**	**300**	⇓Pg		**Pg**	**01 04 03.5**	**-3.2**
	4.4nm,1.3s							
MNAS				⇑Lg		Lg	01 04 58.9	
	8.8nm,1.0s							
MNAS	**Manas**	**4.35**	**300**	Pg		**Pb**	**01 04 00.9**	**+0.9**
	0.6nm,0.4s							
MNAS				Lg		Lg	01 04 58.4	
	1.8nm,0.6s							
TDK	**Taldyqorghan**	**4.62**	**7**	Pg		**Pg**	**01 04 10.5**	**-1.4**
	8.6nm,0.3s							
TDK				Lg		Lg	01 05 14.9	
	16nm,0.8s							
TDK	**Taldyqorghan**	**4.62**	**7**	*e*P		**Pb**	**01 04 06.2**	**+1.7**
	8.8nm,0.3s							
TDK				*e*S		**Sg**	**01 05 07.8**	**-3.9**
	26nm,0.6s							
KAPS	**Kapalarasan**	**5.04**	**14**	Pg		**Pb**	**01 04 14.8**	**+3.2**
	2.6nm,1.1s							
KAPS				Lg		Lg	01 05 22.3	
	4.0nm,0.5s							
KAPS	**Kapalarasan**	**5.04**	**14**	*e*P		**Pb**	**01 04 14.8**	**+3.2**
	2.2nm,0.6s							
KAPS				*e*S		**Sg**	**01 05 22.3**	**-2.7**
	4.0nm,0.5s							
KK31	**Karatay Array**	**5.94**	**299**	⇑Pg		**Pb**	**01 04 30.0**	**+3.0**
	1.1nm,0.9s,baz=119,slow=15,SNR=4.7							
KK31				⇓Lg		Lg	01 05 50.5	
	1.8nm,0.6s,baz=113,slow=28,SNR=5.7							

WEL 27 01:12:58.8,46°S±3°×16°7E±°, h22km±3km, ML3.6/17, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.19**	**77**	P	Pb	01 13 04.9	+0.5
DCZ				S	Sb	01 13 09.2	+0.8
PYZ	**Puysegur Point**	**0.68**	**193**	P	Pb	01 13 12.4	+0.4
PYZ				S	Sn	01 13 24.9	+1.9
WHZ	**Wether Hill Ro**	**0.83**	**118**	P	Pn	01 13 15.3	+0.1
WHZ				S	Sn	01 13 28.1	+1.2
MLZ	**Mavora Lakes**	**0.87**	**81**	P	Pb	01 13 14.8	-0.4
MLZ				S	Sb	01 13 27.2	+0.6
MSZ	**Milford Sound**	**1.11**	**42**	P	Pn	01 13 16.3	-2.7
MSZ				S	Sb	01 13 32.1	-1.1
APZ	**The Paps**	**1.53**	**151**	P	Pb	01 13 27.0	+0.6
APZ				S	Sb	01 13 48.9	+3.5
WKZ	**Wanaka**	**1.65**	**66**	P	Pn	01 13 26.4	-0.1
WKZ				S	Sb	01 13 49.3	+0.5
EAZ	**Earnscleugh**	**1.72**	**82**	P	Pn	01 13 28.0	+0.5
SYZ	**Scrubby Hill**	**1.87**	**124**	P	Pn	01 13 30.6	+1.2
JCZ	**Jackson Bay**	**1.97**	**44**	P	Pn	01 13 30.1	-0.8
TUZ	**Tuapeka**	**1.97**	**104**	P	Pn	01 13 31.8	+1.0
LBZ	**Lake Benmore**	**2.59**	**66**	P	Pn	01 13 38.4	-1.0
HHSZ	**Highcliff Hill**	**2.62**	**100**	P	Pn	01 13 40.1	+0.2
ODZ	**Otahua Downs**	**2.69**	**81**	P	Pn	01 13 40.0	-0.7
FOZ	**Fox Glacier**	**2.87**	**48**	P	Pn	01 13 42.6	-0.6
RPZ	**Rata Peaks**	**3.47**	**60**	P	Pn	01 13 49.6	-1.8
WVZ	**Waitaha Valley**	**3.68**	**50**	P	Pn	01 13 54.0	-0.3
OXZ	**Oxford**	**4.28**	**61**	P	Pn	01 14 01.0	-1.6
INZ	**Inchbonnie**	**4.30**	**51**	P	Pn	01 14 02.1	-0.8
AKCZ	**Akaroa Harbour**	**4.59**	**71**	P	Pn	01 14 06.0	-0.9
OKCZ	**Okains Bay**	**4.75**	**70**	P	Pn	01 14 08.2	-0.9
DSZ	**Denniston Nort**	**5.18**	**45**	P	Pn	01 14 13.7	-1.3
THZ	**Tophouse**	**5.75**	**51**	P	Pn	01 14 22.0	-0.8

MAN 27 01:39:51.8,9.26N×122.69E, h23km, mb3.7, ML2.4, MS1.9, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.54**	**82**	⇑*i*P		Pn	01 40 03.6	-0.6
SNPH				*i* S		Sn	01 40 13.6	+1.0
GUIM	**Jordan**	**1.36**	**356**	*e*P		Pn	01 40 14.7	-0.7
GUIM				*e*S		Sb	01 40 33.4	-0.1
IPIL	**Ipil**	**1.47**	**185**	*e*P		Pn	01 40 13.7	-3.3
IPIL				*e*S		Sn	01 40 29.8	-5.7
PAGZ	**Pagadian**	**1.56**	**154**	*e*P		Pn	01 40 18.0	-0.2
PAGZ				*e*S		Sb	01 40 38.6	-0.8

*DDA **27** 01:41:44.7,37.47N×32.28E, h7km±3km, ML2.5*
*ISCJB **27** 01:41:45.7±1.1,37.55N±0.05×32.14E±0.08, h7km±9km, Error ellipse: s-maj=11.2km s-min=7.0km az=31.1*
*ISK **27** 01:41:46.2,37.56N×32.22E, h9km, ML2.1/5*
ISC 27 01:41:46.1±1.1, 37.54N±0.03×32.18E±0.05, h9km±10km, n11, σ0.953/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMER	**Konya-Meram**	**0.28**	**33**	IAML_P			
	comp=Z,1μm,0.1s						
KMER				*i* P	**Pg**	**01 41 51.6**	**-0.1**
KONT	**Konya--Tatoy**	**0.44**	**20**	PG	**Pg**	**01 41 54.5**	**-0.1**
KONT				SG	**Sg**	**01 42 01.0**	**+0.6**
KONT	**Konya--Tatoy**	**0.44**	**20**	IAML_P			
	comp=Z,1μm,0.1s						
KONT				*i* P	**Pg**	**01 41 54.3**	**-0.3**
KONT				*i* S	**Sg**	**01 42 00.5**	**+0.1**
LADK	**Ladik-KONYA**	**0.68**	**13**	PG	**Pg**	**01 41 59.3**	**0.0**
DOGA	**KONYA_Doganhis**	**0.70**	**325**	*i* P	**Pg**	**01 41 58.5**	**-1.0**
DOGA				*i* S	**Sg**	**01 42 08.1**	**-0.6**
KEPZ	**Antalya-Kepez**	**0.78**	**216**	IAML_P			
	comp=Z,2μm,0.2s						
KEPZ				*i* P	**Pg**	**01 42 01.0**	**-0.1**
KEPZ				*i* S	**Sg**	**01 42 11.7**	**+0.5**
KDHN	**Kadinhani**	**0.99**	**357**	IAML_P			
	comp=Z,314nm,0.1s						
KDHN				*i* P	**Pn**	**01 42 06.3**	**+0.1**
KDHN				*i* S	**Sn**	**01 42 20.8**	**+0.4**
BAGO	**Egridir - ISPA**	**1.19**	**293**	IAML_P			
	comp=Z,210nm,0.4s						
BAGO				*i* P	**Pb**	**01 42 09.4**	**+0.6**
CHBY	**Cihanbeyli**	**1.19**	**28**	PN	**Pn**	**01 42 08.6**	**-0.4**
CHBY				SN	**Sn**	**01 42 24.8**	**-0.5**
SULT	**Sultanhani-AKS**	**1.25**	**58**	PN	**Pn**	**01 42 09.8**	**0.0**
BERE	**Bereket-Mersin**	**1.45**	**144**	PN	**Pg**	**01 42 13.2**	**-0.7**

*NIED **27** 01:50:00,35.70N×141.00E, h11km, Mw3.5 Best double couple: M○2.00000×10^14 NP1:φs178.00000°,δ41.00000°, λ-122.00000°. NP2:φs29.00000°,δ56.00000°, λ-65.00000°.*
*IDC **27** 01:50:40.2±3.7,35.53N×140.74E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.2/38, mbtmp3.2/3, ML2.0/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/21, Error ellipse: s-maj=108.7km s-min=26.0km az=51.0*
*ISCJB **27** 01:50:41.1±0.9,35.74N±0.03×141.02E±0.08, h27km±5km, mb3.4/2, MS2.8/1, Error ellipse: s-maj=11.1km s-min=5.5km az=171.9*
*JMA **27** 01:50:41.9±0.2,35.71N×140.94E, h12km±1km, M3.5 JMA Felt I /1.*
ISC 27 01:50:41.3±1.2, 35.70N±0.04×140.94E±0.08, h15km±5km, n21, σ0.966/22, 1C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.07**	**273**	⇓P	**Pg**	**01 50 44.3**	**+0.1**
CHOJ				S	**Sg**	**01 50 46.1**	**0.0**
JSMT	**Sammumatsuo**	**0.40**	**262**	P	**Pb**	**01 50 50.3**	**+0.2**
JIHU	**Itakohorinouch**	**0.43**	**309**	P	**Pb**	**01 50 50.9**	**+0.4**
JCN	**Nagara**	**0.66**	**245**	P	**Pn**	**01 50 55.4**	**-0.7**
JCN				S	**Sn**	**01 51 05.9**	**-0.3**
JHYU	**Hitachinakayam**	**0.70**	**336**	P	**Pg**	**01 50 55.6**	**+0.6**
JHYU				S	**Sg**	**01 51 05.0**	**+0.8**
JYT	**Yasato**	**0.80**	**311**	⇑P	**Pg**	**01 50 56.4**	**-0.5**
JYT				*e*S	**Sg**	**01 51 06.7**	**-0.7**
BSO4	**Boso 4**	**0.86**	**215**	P	**Pn**	**01 50 58.9**	**+0.2**
JHO	**Hitachi**	**0.96**	**342**	P	**Pg**	**01 50 58.9**	**-0.9**
JHO				*e*S	**Sg**	**01 51 11.5**	**-0.9**
BSO3	**Boso 3**	**0.96**	**201**	P	**Pn**	**01 50 59.9**	**-0.1**
BSO3				*e*S	**Sn**	**01 51 14.4**	**+1.2**
BSO1	**Boso 1**	**1.04**	**178**	P	**Pb**	**01 51 00.1**	**-0.6**
MJAR	**Matsushiro Arr**	**2.36**	**292**	Pn	**Pn**	**01 51 19.3**	**-0.2**
	0.5nm,0.3s,baz=112,slow=5.2,SNR=25						
MJAR				Sn	**Sn**	**01 51 47.2**	**-1.0**
	0.6nm,0.3s,baz=96,slow=20,SNR=6.5						
MAT	**Matsushiro**	**2.37**	**292**	P	**Pn**	**01 51 20.1**	**+0.6**
MAT				*e*S	**Sn**	**01 51 48.7**	**+0.4**
GUMO	**Guam**	**22.30**	**170**	LR	LR	02 04 02.5	
	comp=Z,37nm,18.1s,baz=134,slow=36						
H11N2	**WAKE ISLAND Hy 27.83**	**118**		T	T	02 25 28.1	
	baz=311,slow=75,SNR=72						
H11N1	**WAKE ISLAND Hy 27.84**	**118**		T	T	02 25 28.7	
	baz=311,slow=75,SNR=51						
H11N3	**WAKE ISLAND Hy 27.85**	**118**		T	T	02 25 29.4	
	baz=311,slow=75,SNR=70						
H11S1	**WAKE ISLAND Hy 28.49**	**120**		T	T	02 26 17.2	
	baz=312,slow=75,SNR=176						
H11S3	**WAKE ISLAND Hy 28.49**	**120**		T	T	02 26 16.9	
	baz=312,slow=75,SNR=146						
H11S2	**WAKE ISLAND Hy 28.51**	**120**		T	T	02 26 18.7	
	baz=312,slow=75,SNR=117						
MKAR	**Makanchi Array**	**44.51**	**303**	P	**P**	**01 58 52.7**	**+0.6**
	0.3nm,0.7s,baz=90,slow=8.5,SNR=5.0						
WRA	**Warramunga Arr**	**55.69**	**188**	P	**P**	**02 00 16.9**	**-0.1**
	0.6nm,0.8s,baz=4.5,slow=7.5,SNR=3.3						

IDC 27 01:51:13.2±1.4, 2.52S×138.97E, h0km, mb3.0/2, mb1 3.3/3, mb1mx3.2/26, mbtmp3.2/3, ML3.2/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/11, Error ellipse: s-maj=28.5km s-min=24.0km az=177.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.74**	**90**	Pn	Pn	01 51 45.2	+0.5
	3.0nm,0.3s,baz=266,slow=15,SNR=10						
JAY				Sn	Sn	01 52 07.2	-0.4
	3.2nm,0.3s,baz=166,slow=22,SNR=6.7						
DAV	**Davao City (W)**	**16.41**	**306**	LR	LR	02 02 22.1	
	comp=Z,31nm,18.7s,baz=178,slow=41						
WRA	**Warramunga Arr**	**17.90**	**194**	P	Pn	01 55 23.7	-0.1
	0.1nm,0.3s,baz=11,slow=13,SNR=3.3						
ASAR	**Alice Springs**	**21.59**	**193**	P	P	01 56 04.9	+0.1
	0.2nm,0.6s,baz=27,slow=11,SNR=3.4						
MKAR	**Makanchi Array**	**69.79**	**322**	P	P	02 02 25.4	-0.1
	0.3nm,0.8s,baz=115,slow=6.8,SNR=2.8						

IDC 27 01:58:56.5±1.6, 4.53S×143.71E, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.6/24, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=46.9km s-min=27.8km az=103.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**3.61**	**304**	Pn	Pn	01 59 56.0	+2.2
	2.4nm,0.3s,baz=128,slow=13,SNR=8.8						
JAY				Sn	Sn	02 00 32.8	-4.4
	4.2nm,0.3s,baz=322,slow=19,SNR=4.0						
WRA	**Warramunga Arr**	**17.84**	**210**	P	Pn	02 03 05.3	-1.1
	0.2nm,0.3s,baz=30,slow=12,SNR=7.5						
WRA				S	Sn	02 06 14.6	-11
	0.1nm,0.3s,baz=41,slow=23,SNR=3.3						
ASAR	**Alice Springs**	**21.25**	**206**	P	P	02 03 45.5	+0.9
	0.6nm,0.8s,baz=40,slow=9.6,SNR=4.3						
MKAR	**Makanchi Array**	**74.30**	**321**	P	P	02 10 34.3	-1.6
	0.6nm,0.8s,baz=103,slow=6.6,SNR=5.5						
ILAR	**Eielson Array**	**85.44**	**24**	P	P	02 11 36.7	+0.9
	0.4nm,0.6s,baz=261,slow=4.6,SNR=9.5						

MEX 27 02:25:23.9±0.4, 18.01N×101.68W, h40km±10km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.45**	**153**	*i* P	Pn	02 25 32.3	-1.7
ZIIG				*e*S	Sn	02 25 39.1	-1.8
ARIG	**Puente Sto Nin**	**1.29**	**78**	*e*P	Pn	02 25 44.0	-1.5
ARIG				*i* S	Sn	02 25 59.2	-2.4
CAIG	**El Cayaco**	**1.65**	**125**	*i* P	Pn	02 25 48.4	-2.0
CAIG				*i* S	Sn	02 26 08.2	-2.2

*DDA **27** 02:25:29.5,39.17N×41.95E, h7km±1km, ML2.6*
*ISCJB **27** 02:25:30.4±0.7,39.11N±0.04×41.95E±0.05, h8km±8km, Error ellipse: s-maj=7.0km s-min=6.2km az=139.2*
*ISK **27** 02:25:30.6,39.07N×42.00E, h15km, ML2.0/7*
ISC 27 02:25:30.0±1.2, 39.14N±0.04×41.97E±0.03, h10km±13km, n12, σ0.952/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLAZ	**Malazgirt-MUS**	**0.45**	**90**	PG	**Pg**	**02 25 39.3**	**+0.4**
MLAZ				SG	**Sb**	**02 25 46.3**	**-0.8**
GURO	**Guroymak-BITLI**	**0.59**	**175**	PG	**Pg**	**02 25 41.5**	**0.0**
GURO				SG	**Sg**	**02 25 49.0**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.68**	**119**	IAML_P			
	comp=Z,392nm,0.1s						
ADCV				*i* P	**Pb**	**02 25 43.6**	**-0.5**
ADCV				*i* S	**Sb**	**02 25 53.7**	**+0.1**
KOPR	**Koprukoy-ERZUR**	**0.85**	**354**	PG	**Pn**	**02 25 49.0**	**+0.6**
ECAT	**Cat-ERZURUM**	**0.90**	**301**	*i* P	**Pg**	**02 25 47.0**	**-0.4**
ECAT				*i* S	**Sg**	**02 25 59.2**	**0.0**
AGRB	**Hanur-Agry**	**0.90**	**61**	PG	**Pn**	**02 25 49.4**	**+0.3**
SRTM	**Siirt_Merkez**	**1.15**	**182**	IAML_P			
	comp=Z,192nm,0.2s						
SRTM				*i* P	**Pn**	**02 25 53.4**	**+1.1**
SVAN	**Silvan-Diyarba**	**1.16**	**212**	PN	**Pn**	**02 25 52.1**	**-0.3**
BTMN	**Batman**	**1.36**	**204**	IAML_P			
	comp=Z,291nm,0.2s						
BTMN				*i* P	**Pg**	**02 25 56.6**	**+0.4**
HANI	**Diyarbakir_Han**	**1.43**	**240**	IAML_P			
	comp=Z,238nm,0.2s						
HANI				*i* P	**Pb**	**02 25 56.8**	**0.0**
HANI				*i* S	**Sg**	**02 26 16.2**	**+0.3**
SIRT	**Sirnak**	**1.68**	**167**	PN	**Pn**	**02 25 59.4**	**-0.2**
MAZI	**Mazidag**	**2.06**	**216**	PN	**Pn**	**02 26 04.9**	**0.0**

TRN 27 02:29:48.3, 11.15N×62.04W, h21km, MD3.7, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.80**	**128**	*e*P	Pb	02 30 03.6	+0.1
TRN				*e*S	Sn	02 30 15.8	+0.2
TPP	**Pointe-a-Pierr**	**1.00**	**145**	*e*P	Pn	02 30 07.4	+0.1
TPP				*e*S	Sn	02 30 22.0	+1.3
GRGR	**Grenville**	**1.05**	**21**	*e*P	Pn	02 30 08.1	+0.2
GRGR				*e*S	Sn	02 30 23.3	+1.4
GRHS	**Sauteurs**	**1.14**	**20**	*e*P	Pb	02 30 09.6	+0.3
GRHS				*e*S	Sn	02 30 24.8	+0.7
TBH	**Brigand Hill**	**1.16**	**124**	*e*P	Pn	02 30 09.2	-0.2
TBH				*e*S	Sn	02 30 24.9	+0.3
GRSS	**Sisters**	**1.22**	**20**	*e*P	Pn	02 30 10.4	+0.2
GRSS				*e*S	Sn	02 30 26.2	+0.2
TPR	**Prospect**	**1.24**	**88**	*i* P	Pb	02 30 10.8	-0.2
TPR				*e*S	Sb	02 30 26.9	+0.3
TOSP	**Speyside**	**1.48**	**84**	*e*	Pn	02 30 12.5	-1.3
TOSP	**Speyside**	**1.48**	**84**	*e*P	Pn	02 30 13.9	+0.1
FCV	**Fort Charlotte**	**2.15**	**21**	*e*P	Pn	02 30 23.4	+0.4
FCV				*e*S	Sb	02 30 51.5	-1.2
SVB	**Belmont**	**2.25**	**20**	*e*P	Pn	02 30 25.1	+0.7
SVB				*e*S	Sb	02 30 54.5	-1.2
SVCV	**St. Vincent, C**	**2.29**	**22**	*e*P	Pn	02 30 24.8	-0.1
SVCV				*e*S	Sb	02 30 54.9	-1.9
SVV	**Soufriere Volc**	**2.31**	**20**	*e*P	Pn	02 30 25.6	+0.5
SSV	**Crater Summit**	**2

	4.3nm,0.6s								
WR1	**Warramunga Arr**	**47.59**	**259**	*e*P		**P**		**02 45 18.3**	**+0.7**
	16nm,0.6s								
WR1				*e*PcP		**PcP**		**02 46 44.1**	**+0.5**
WRA	**Warramunga Arr**	**47.59**	**259**	P		**P**		**02 45 18.3**	**+0.7**
	7.3nm,0.5s,baz=97,slow=7.0,SNR=125								
WRA				PcP		**PcP**		**02 46 44.1**	**+0.5**
	0.7nm,0.5s,baz=92,slow=3.1,SNR=3.0								
AS01	**Alice Springs**	**47.63**	**254**	*e*P		**P**		**02 45 18.3**	**+0.4**
AS31	**Alice Springs**	**47.67**	**254**	*e*P		**P**		**02 45 18.8**	**+0.6**
	15nm,0.6s								
AS31				*e*S		**S**		**02 51 53.9**	**-2.8**
ASAR	**Alice Springs**	**47.68**	**254**	P		**P**		**02 45 19.3**	**+1.1**
	42nm,0.6s,baz=89,slow=9.0,SNR=605								
ASAR				PcP		**PcP**		**02 46 43.2**	**-0.7**
	1.5nm,0.6s,baz=108,slow=4.3,SNR=3.8								
ASAR				S		**S**		**02 51 53.9**	**-2.8**
	0.8nm,0.9s,baz=91,slow=17,SNR=4.9								
FORT	**Forrest**	**52.70**	**245**	*e*P		**P**		**02 45 55.0**	**-0.7**
	23nm,1.1s								
MJAR	**Matsushiro Arr**	**69.85**	**321**	P		**P**		**02 47 50.5**	**+0.1**
	3.9nm,0.8s,baz=171,slow=6.8,SNR=9.4								
MAJO	**Matsushiro**	**69.85**	**321**	*e*P		**P**		**02 47 50.7**	**+0.3**
	4.8nm,0.3s								
PETK	**Petropavlovsk-**	**74.61**	**343**	P		**P**		**02 48 18.2**	**+0.1**
	3.9nm,0.7s,baz=120,slow=8.7,SNR=18								
PEA1	**Petropavlovsk-**	**74.61**	**343**	*e*P		**P**		**02 48 18.2**	**+0.1**
KSRS	**Korea Array**	**76.83**	**317**	P		**P**		**02 48 32.1**	**+1.1**
	4.2nm,0.9s,baz=128,slow=5.5,SNR=7.7								
KS15	**Wonju Array Si**	**76.85**	**317**	*e*P		**P**		**02 48 31.5**	**+0.4**
KSAR	**Wonju Array Be**	**76.85**	**317**	P		**P**		**02 48 32.1**	**+1.0**
KS01	**Wonju Array Si**	**76.86**	**317**	*e*P		**P**		**02 48 32.0**	**+0.8**
NV01	**Mina Array Sit**	**77.44**	**42**	*e*P		**P**		**02 48 33.4**	**-1.3**
NVAR	**Mina Array Bea**	**77.44**	**42**	P		**P**		**02 48 34.5**	**-0.2**
	1.0nm,0.8s,baz=225,slow=9.3,SNR=5.6								
LTX	**Lajitas**	**83.52**	**56**	*e*P		**P**		**02 49 08.2**	**+1.2**
TXAR	**Lajitas Array**	**83.52**	**56**	P		**P**		**02 49 08.2**	**+1.2**
	0.1nm,0.4s,baz=270,slow=4.5,SNR=3.1								
WRH	**Wood River Hil**	**84.85**	**11**	*e*P		**P**		**02 49 11.5**	**-1.2**
	12nm,1.2s								
HDA	**Harding Lake**	**85.02**	**12**	*e*P		**P**		**02 49 13.1**	**-0.5**
	42nm,2.0s								
COLA	**College**	**85.26**	**11**	*e*P		**P**		**02 49 13.7**	**-1.0**
	3.7nm,0.6s								
IM3	**Indian Mountai**	**85.31**	**9**	*e*P		**P**		**02 49 14.1**	**-0.9**
IL1	**Eielson Array**	**85.35**	**12**	*e*P		**P**		**02 49 14.1**	**-1.1**
ILAR	**Eielson Array**	**85.35**	**12**	P		**P**		**02 49 14.2**	**-1.1**
	1.5nm,0.6s,baz=220,slow=5.3,SNR=42								
ILB	**Eielson Array**	**85.35**	**12**	*e*P		**P**		**02 49 14.1**	**-1.1**
PD31	**Pinedale Array**	**85.38**	**42**	*e*P		**P**		**02 49 14.9**	**-1.3**
PDAR	**Pinedale Array**	**85.38**	**42**	P		**P**		**02 49 15.1**	**-1.1**
	0.9nm,1.1s,baz=146,slow=2.9,SNR=3.6								
DAWY	**Dawson**	**86.39**	**15**	*e*P		**P**		**02 49 19.8**	**-0.6**
	28nm,2.0s								
BILL	**Bilibino**	**86.88**	**353**	*e*P		**P**		**02 49 22.4**	**-0.3**
PSI	**Prapat**	**86.92**	**274**	*e*P		**P**		**02 49 24.5**	**+0.3**
	11nm,1.0s								
INK	**Inuvik**	**91.23**	**14**	*e*P		**P**		**02 49 42.0**	**-1.0**
	1.2nm,0.6s								
CM01	**Chiang Mai Arr**	**91.76**	**289**	*e*P		**P**		**02 49 47.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**91.78**	**289**	P		**P**		**02 49 48.5**	**+1.7**
	1.0nm,0.4s,baz=80,slow=3.2,SNR=8.1								
YKA	**Yellowknife Ar**	**93.19**	**24**	P		**P**		**02 49 51.0**	**-1.1**
	0.3nm,0.7s,baz=240,slow=4.7,SNR=7.5								
YKB5	**Yellowknife Ar**	**93.19**	**24**	*e*P		**P**		**02 49 51.0**	**-1.1**
SONA0	**Songino Array**	**95.63**	**318**	*e*P		**P**		**02 50 06.4**	**+2.5**
SONM	**Songino Array**	**95.63**	**318**	P		**P**		**02 50 06.4**	**+2.5**
	0.6nm,1.0s,baz=90,slow=6.2,SNR=3.8								
MK32	**Makanchi Array**	**111.40**	**314**	*e*PKiKP		**PKiKP**		**02 55 10.1**	**-1.1**
MKAR	**Makanchi Array**	**111.40**	**314**	PKiKP		**PKiKP**		**02 55 10.1**	**-1.1**
	0.4nm,0.5s,baz=182,slow=0.9,SNR=5.7								
BRVK	**Borovoye**	**119.90**	**321**	*e*PKPdf		**PKPdf**		**02 55 24.4**	**-0.8**
ARU	**Arti**	**124.61**	**327**	*e*PKPdf		**PKPdf**		**02 55 35.0**	**-1.2**
FIA0	**FINESS Array S**	**134.08**	**346**	*e*PKPdf		**PKPdf**		**02 55 53.9**	**-0.1**
FINES	**FINESS Array B**	**134.08**	**346**	PKP		**PKPdf**		**02 55 53.9**	**-0.1**
	5.2nm,1.1s,baz=341,slow=2.9,SNR=4.3								
LSZ	**Lusaka**	**139.66**	**216**	*e*PKPdf		**PKPdf**		**02 56 04.3**	**-1.6**
AKASG	**Malin Array Be**	**142.02**	**335**	PKhKP		PKPpre		02 56 03.1	
	0.4nm,0.3s,baz=43,slow=3.9,SNR=4.1								
CLL	**Collm**	**146.16**	**351**	⇑*i*PKPbc		**PKPbc**		**02 56 17.2**	**-0.2**
	comp=Z,8.0nm,0.7s								
UPC	**Upice**	**146.37**	**347**	*e*PKP		**PKPbc**		**02 56 18.5**	**+0.4**
DPC	**Dobruska-Polom**	**146.45**	**347**	*e*PKP		**PKPbc**		**02 56 18.9**	**+0.5**
PVCC	**Panska Ves**	**146.64**	**349**	*e*PKP		**PKPbc**		**02 56 19.4**	**+0.5**
BR101	**Keskin Array S**	**146.98**	**317**	*e*PKPbc		**PKPbc**		**02 56 20.4**	**0.0**
BRTR	**Keskin Array B**	**146.98**	**317**	PKPbc		**PKPbc**		**02 56 20.4**	**0.0**
	comp=Z,2.8nm,0.7s,baz=129,slow=3.3,SNR=14								
PRU	**Pruhonice**	**147.16**	**348**	*e*PKP		**PKPbc**		**02 56 20.4**	**+0.1**
KHC	**Kasperske Hory**	**148.16**	**349**	*e*PKP		**PKPbc**		**02 56 23.3**	**+0.2**
KHC				*ex*		x		02 56 27.1	
GERES	**GERESS Array B**	**148.41**	**349**	PKPbc		**PKPbc**		**02 56 23.5**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=32,slow=3.2,SNR=11								
CONA	**Conrad Observa**	**148.83**	**346**	PKiKP		**PKPbc**		**02 56 25.2**	**+0.4**
	comp=Z,8.1nm,1.7s								
KBA	**Koelnbreinsper**	**150.18**	**348**	*e*PKiKP		**PKPbc**		**02 56 28.1**	**-0.3**
	comp=Z,2.3nm,0.5s								
SOKA	**Soboth**	**150.20**	**346**	PKiKP		**PKiKP**		**02 56 29.8**	**+0.8**
	comp=Z,4.6nm,1.2s,SNR=4.2								
WATA	**Walderalm**	**150.24**	**351**	*e*PKiKP		**PKPbc**		**02 56 27.9**	**-0.5**
	comp=Z,2.2nm,0.5s,SNR=4.4								
WTTA	**Wattenberg**	**150.30**	**351**	*e*PKiKP		**PKPbc**		**02 56 27.9**	**-0.7**
	comp=Z,5.6nm,0.6s								
MOTA	**Moosalm**	**150.30**	**351**	*e*PKiKP		**PKPbc**		**02 56 28.3**	**-0.2**
	comp=Z,6.1nm,1.0s								
SQTA	**Sankt Quirin**	**150.41**	**351**	*e*PKiKP		**PKPbc**		**02 56 28.3**	**-0.4**
	comp=Z,4.6nm,0.9s								
DAVA	**Damuels**	**150.52**	**353**	*e*PKiKP		**PKPbc**		**02 56 29.3**	**+0.2**
	comp=Z,9.5nm,1.0s								
MYKA	**Terra Mystica**	**150.55**	**348**	*e*PKiKP		**PKPbc**		**02 56 28.8**	**-0.2**
	comp=Z,7.8nm,1.0s								
ABTA	**Abfaltersbach**	**150.65**	**349**	*e*PKiKP		**PKPbc**		**02 56 28.6**	**-0.8**
	comp=Z,6.1nm,0.6s								
FETA	**Feichten**	**150.67**	**352**	*e*PKiKP		**PKPbc**		**02 56 29.1**	**-0.4**
	comp=Z,10nm,1.1s								
ESDC	**Sonseca Array**	**157.13**	**18**	PKPab		**PKPab**		**02 57 04.4**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=344,slow=2.3,SNR=3.1								
TORD	**Torodi Ar. Bea**	**174.31**	**148**	PKP		**PKPdf**		**02 56 44.9**	**-2.5**
	comp=Z,0.6nm,0.8s,baz=236,slow=2.2,SNR=3.7								
TOA1	**Torodi Ar. Sit**	**174.32**	**148**	*e*PKPdf		**PKPdf**		**02 56 44.9**	**-2.5**

*IDC **27** 03:25:32.6±2.6, 40.°02N×143.°56E, h0km, mb3.4/4, mb1 3.5/6, mb1mx3.3/44, mbtmp3.4/6, ML2.9/2, Error ellipse: s-maj=61.3km s-min=28.2km az=84.0*
*ISCJB **27** 03:25:37.0±1.5, 40.°12N±0.°05×143.°13E±0.°09, h22km±9km, mb3.2/4, Error ellipse: s-maj=11.9km s-min=7.2km az=27.8*
*JMA **27** 03:25:37.4±0.1, 40.°10N×143.°10E, h22km±2km, M3.2*
ISC 27 03:25:36.1±3.4, 40.°10N±0.°06×143.°14E±0.°07, h13km±23km, n22, σ1°06/24, mb3.4/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JTH	**Tanohata**	**1.00**	**261**	P		**Pb**	**03 25 55.2**	**0.0**
JTH				S		**Sb**	**03 26 07.4**	**-0.7**
JKEN	**Kujiedanarisaw**	**1.10**	**276**	P		**Pn**	**03 25 56.9**	**-0.3**
JKEN				*e*S		**Sb**	**03 26 11.0**	**-0.2**
MIYJ	**Miyakonagasawa**	**1.15**	**243**	P		**Pn**	**03 25 57.7**	**-0.1**
MIYJ				*e*S		**Sb**	**03 26 12.4**	**-0.1**
JANG	**Nango**	**1.27**	**283**	P		**Pn**	**03 25 59.5**	**-0.1**
JANG				*e*S		**Sn**	**03 26 15.6**	**-0.9**
JKZ	**Kuzumaki**	**1.40**	**266**	P		**Pn**	**03 26 01.6**	**+0.3**
JKZ				S		**Sn**	**03 26 19.0**	**-0.6**
JOM	**Ohasama**	**1.56**	**247**	P		**Pn**	**03 26 04.2**	**+0.8**
JTM	**Tenmabayashi**	**1.73**	**294**	P		**Pn**	**03 26 06.8**	**+1.1**
JTM				*e*S		**Sn**	**03 26 27.8**	**+0.2**
JMK	**Ichinoseki**	**1.88**	**233**	P		**Pn**	**03 26 08.4**	**+0.6**
JEM	**Erimo**	**1.91**	**0**	P		**Pb**	**03 26 09.5**	**-1.3**
JEM				*e*S		**Sn**	**03 26 32.7**	**+0.5**
JAH	**Hinai**	**1.92**	**273**	P		**Pn**	**03 26 09.9**	**+1.4**
ASAJ	**Asahikawa**	**4.03**	**354**	P		**Pn**	**03 26 39.0**	**+1.5**
	0.9nm,0.3s,baz=187,slow=16,SNR=4.8							
ASAJ				S		**Sn**	**03 27 24.2**	**-0.4**
	0.7nm,0.3s,baz=233,slow=20,SNR=2.2							
MJAR	**Matsushiro Arr**	**5.26**	**229**	Pn		**Pn**	**03 26 56.3**	**+1.9**
	0.1nm,0.3s,baz=38,slow=11,SNR=13							
SONM	**Songino Array**	**27.35**	**299**	P		**P**	**03 31 21.4**	**+0.6**
	0.2nm,0.4s,baz=104,slow=9.6,SNR=3.5							
H11N2	**WAKE ISLAND Hy**	**28.76**	**128**	T		T	04 01 38.1	
	baz=320							
H11N1	**WAKE ISLAND Hy**	**28.77**	**128**	T		T	04 01 36.8	
	baz=320							
H11N3	**WAKE ISLAND Hy**	**28.77**	**128**	T		T	04 01 38.6	
	baz=320							
H11S1	**WAKE ISLAND Hy**	**29.58**	**130**	T		T	04 02 42.7	
	baz=322							
H11S3	**WAKE ISLAND Hy**	**29.59**	**130**	T		T	04 02 47.8	
	baz=322							
H11S2	**WAKE ISLAND Hy**	**29.60**	**130**	T		T	04 02 54.5	
	baz=322							
ZALV	**Zalesovo Beam**	**40.92**	**310**	P		**P**	**03 33 17.5**	**-0.3**
	0.5nm,0.4s,baz=92,slow=7.5,SNR=2.5							
MKAR	**Makanchi Array**	**43.71**	**300**	P		**P**	**03 33 42.8**	**+2.2**
	0.1nm,0.4s,baz=83,slow=9.0,SNR=3.0							
WRA	**Warramunga Arr**	**60.29**	**190**	P		**P**	**03 35 42.5**	**-1.8**
	0.4nm,0.9s,baz=5.6,slow=6.9,SNR=3.0							

*ISCJB **27** 03:39:41.9±0.4, 43.°06N±0.°02×17.°96E±0.°03, h6km±3km, Error ellipse: s-maj=3.9km s-min=3.1km az=27.7*
*BEO **27** 03:39:42.2±0.5, 43.°04N×17.°87E, h13km±2km, ML2.3/12*
*PDG **27** 03:39:42.9±0.1, 43.°00N×18.°00E, h22km, MD2.5/1, ML2.3/10, Error ellipse: s-maj=0.3km s-min=0.6km az=0.0*
*SAR **27** 03:39:43.1±0.4, 43.°03N×17.°92E, h6km±3km, ML2.3/9*
ISC 27 03:39:42.8±1.0, 43.°03N±0.°02×17.°96E±0.°02, h11km±8km, n39, σ0°79/76, 12C-3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STON	**Ston**	**0.25**	**230**	*i* Pg		**Pg**	**03 39 47.6**	**-0.4**
STON				Sg		**Sg**	**03 39 51.8**	**+0.4**
TREB	**Trebinje**	**0.43**	**138**	*e*Pg		**Pg**	**03 39 50.5**	**-0.7**
TREB				*e*Sg		**Sb**	**03 39 58.6**	**-0.2**
TREB	**Trebinje**	**0.43**	**138**	⇑*i*Pg		**Pg**	**03 39 50.7**	**-0.5**
TREB				*e*Sg		**Sg**	**03 39 58.2**	**+1.3**
BRY	**Bratogost**	**0.45**	**107**	⇑*i*Pg		**Pg**	**03 39 51.3**	**-0.3**
BRY				*i* Sg		**Sg**	**03 39 58.7**	**+1.2**
BRY	**Bratogost**	**0.45**	**107**	⇑*i*Pg		**Pg**	**03 39 51.4**	**-0.2**
BRY				*e*Sg		**Sb**	**03 39 59.4**	**-0.1**
HCY	**Herceg Novi**	**0.70**	**146**	⇑*i*Pg		**Pg**	**03 39 55.5**	**-1.0**
HCY				*i* Sg		**Sg**	**03 40 06.3**	**+0.6**
HCY	**Herceg Novi**	**0.70**	**146**	⇑*i*Pg		**Pg**	**03 39 55.9**	**-0.6**
HCY				*e*Sg		**Sb**	**03 40 07.2**	**+0.4**
UPM	**Unac-Piva**	**0.71**	**76**	⇓*i*Pg		**Pg**	**03 39 56.2**	**-0.4**
UPM				*i* Sg		**Sg**	**03 40 07.5**	**+1.5**
NKME	**Niksic**	**0.78**	**110**	⇑*i*Pg		**Pg**	**03 39 57.3**	**-0.5**
NKME				*i* Sg		**Sg**	**03 40 09.0**	**+1.0**
BUM	**Brajici-Budva**	**1.00**	**136**	⇑*i*Pg		**Pb**	**03 40 01.0**	**-1.3**
BUM				*i* Sg		**Sg**	**03 40 16.2**	**+1.0**
PLE	**Pljevlja**	**1.09**	**74**	⇑*i*Pg		**Pb**	**03 40 02.8**	**-0.9**
PLE				*i* Sg		**Sn**	**03 40 20.0**	**+0.8**
PDG	**Podgorica**	**1.13**	**122**	*e*Pg		**Pb**	**03 40 03.9**	**-0.4**
PDG				*e*Sg		**Sn**	**03 40 21.0**	**+1.0**
PDG	**Podgorica**	**1.13**	**122**	*e*Pg		**Pb**	**03 40 03.1**	**-1.2**
PDG				*e*Sg		**Sn**	**03 40 20.5**	**+0.5**
TTG	**Podgorica**	**1.13**	**122**	⇑*i*Pg		**Pb**	**03 40 02.9**	**-1.4**
TTG				*i* Sg		**Sn**	**03 40 20.5**	**+0.5**
KOME	**Kolasin**	**1.16**	**99**	⇓*i*Pg		**Pn**	**03 40 04.7**	**-0.3**
KOME				*i* Sg		**Sg**	**03 40 21.2**	**+1.1**
DRME	**Dracevica, Mon**	**1.24**	**133**	⇑*i*Pg		**Pn**	**03 40 05.6**	**-0.5**
DRME				*i* Sg		**Sg**	**03 40 23.6**	**+0.9**
DRME	**Dracevica, Mon**	**1.24**	**133**	*e*Pg		**Pn**	**03 40 06.1**	**0.0**
DRME				*e*Sg		**Sg**	**03 40 23.8**	**+1.1**
HAPS	**Han Pijesak,Bl**	**1.27**	**34**	*e*Pg		**Pn**	**03 40 05.3**	**-1.4**
HAPS				*e*Sg		**Sb**	**03 40 23.8**	**+0.4**
HAPS	**Han Pijesak,Bl**	**1.27**	**34**	⇑*i*Pg		**Pn**	**03 40 05.6**	**-1.1**
HAPS				*e*Sg		**Sg**	**03 40 24.5**	**+0.6**
BBLS	**Lazići**	**1.34**	**51**	*e*Pg		**Pn**	**03 40 07.5**	**-0.1**
BBLS				*e*Sg		**Sg**	**03 40 27.3**	**+1.3**
BBLS	**Lazići**	**1.34**	**51**	*e*Pg		**Pn**	**03 40 07.9**	**+0.3**
BBLS				*e*Sg		**Sg**	**03 40 26.9**	**+0.9**
IVA	**Berane**	**1.43**	**96**	⇑*i*Pg		**Pn**	**03 40 08.2**	**-0.6**
IVA				*i* Sg		**Sn**	**03 40 28.2**	**+0.6**
ULC	**Ulcinj**	**1.43**	**138**	⇓*i*Pg		**Pn**	**03 40 08.0**	**-0.7**
ULC				*i* Sg		**Sb**	**03 40 27.9**	**+0.2**
IVAS	**Ivanjica**	**1.69**	**71**	*e*Pn		**Pn**	**03 40 12.9**	**+0.6**
IVAS				*e*Sn		**Sn**	**03 40 33.9**	**-0.1**
BLY	**Banja Luka**	**1.80**	**342**	*e*Pg		**Pb**	**03 40 14.9**	**-0.9**
BLY				*e*Sg		**Sg**	**03 40 40.0**	**-0.8**
BLY	**Banja Luka**	**1.80**	**342**	*e*Pn		**Pb**	**03 40 15.0**	**-0.9**
BLY				*e*Sn		**Sb**	**03 40 37.8**	**-0.7**
DIVS	**Divibare**	**1.82**	**54**	*e*Pn		**Pn**	**03 40 14.1**	**-0.1**
DIVS				*e*Sn		**Sn**	**03 40 38.3**	**+1.0**
DIVS	**Divibare**	**1.82**	**54**	*e*Pn		**Pn**	**03 40 15.0**	**+0.8**
DIVS				*e*Sn		**Sb**	**03 40 38.7**	**-0.3**
TEKS	**Tekeris**	**1.89**	**36**	*e*Pn		**Pn**	**03 40 14.4**	**-0.7**
TEKS				*e*Sn		**Sn**	**03 40 38.6**	**-0.4**
TRUS	**Trudelj**	**2.14**	**55**	*e*Pn		**Pn**	**03 40 18.5**	**+0.1**
TRUS				*e*Sn		**Sn**	**03 40 44.5**	**-0.5**
GRUS	**Gruza**	**2.18**	**66**	*e*Pn		**Pn**	**03 40 19.0**	**0.0**
GRUS				*e*Sn		**Sn**	**03 40 46.3**	**+0.3**
UDBI	**Udbina**	**2.18**	**314**	*i* Pn		**Pn**	**03 40 20.0**	**+0.9**
UDBI				Sn		**Sb**	**03 40 49.6**	**+0.2**
SELS	**Selova**	**2.32**	**84**	*e*Pn		**Pn**	**03 40 21.8**	**+0.8**
SELS				*e*Sn		**Sn**	**03 40 49.8**	**+0.3**
FRGS	**Fruska Gora**	**2.51**	**31**	*e*Pn		**Pn**	**03 40 23.3**	**-0.2**
FRGS				*e*Sn		**Sn**	**03 40 54.5**	**+0.4**
NVLJ	**Novalja**	**2.71**	**305**	*e*Pn		**Pn**	**03 40 27.2**	**+0.9**
NVLJ				Sn		**Sn**	**03 40 59.5**	**+0.5**
BARS	**Barje**	**2.84**	**93**	*e*Pn		**Pn**	**03 40 29.0**	**+0.9**
BARS				*e*Sn		**Sn**	**03 41 02.0**	**-0.3**
OZLJ	**Ozalj**	**3.14**	**326**	*e*Pn		**Pn**	**03 40 33.8**	**+1.6**
MORH	**Mrgy, Hungar**	**3.22**	**8**	*e*Pn		**Pn**	**03 40 33.9**	**+0.6**
MORH				*e*Sn		**Sn**	**03 41 12.5**	**+0.9**
CRES	**Cresnjev**	**3.32**	**328**	*e*Pn		**Pn**	**03 40 35.4**	**+0.7**

*IDC **27** 04:04:39.9±0.9, 58.°38S×25.°68W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/30, mbtmp3.8/4, Error ellipse: s-maj=33.9km s-min=29.6km az=64.0*
*ISCJB **27** 04:04:41.1±1.0, 58.°8S±0.°2×25.°5W±0.°4, h35km, mb3.8/4, Error ellipse: s-maj=35.4km s-min=12.0km az=147.2*
ISC 27 04:04:43.4±0.8, 58.°6S±0.°1×25.°2W±0.°2, h35km, n12, σ1°83/12, mb3.8/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.99**	**156**	P		**Pn**	**04 07 57.8**	**-1.0**
VNA3	**Neumayer Olymp**	**14.19**	**159**	P		**Pn**	**04 07 59.9**	**-1.7**
VNA2	**Neumayer--Watz**	**14.39**	**156**	P		**Pn**	**04 08 02.3**	**-1.9**
	baz=320,slow=15							
SNAA	**Sanae**	**15.94**	**154**	P		**Pn**	**04 08 23.2**	**-1.5**
QSPA	**South Pole Qui**	**31.62**	**180**	P		**P**	**04 11 05.8**	**+3.1**
	0.8nm,0.7s,baz=207,slow=2.3,SNR=4.3							
PLCA	**Paso Flores**	**33.57**	**282**	P		**P**	**04 11 18.4**	**-1.5**
	1.2nm,0.8s,baz=142,slow=8.4,SNR=4.3							
LPAZ	**La Paz**	**52.75**	**305**	P		**P**	**04 13 54.5**	**-0.9**
	1.4nm,1.0s,baz=188,slow=9.1,SNR=3.5							
TORD	**Torodi Ar. Bea**	**74.81**	**27**	P		**P**	**04 16 20.5**	**+0.7**
	0.4nm,0.4s,baz=195,slow=7.4,SNR=12							
YKA	**Yellowknife Ar**	**138.80**	**315**	PKP		**PKPdf**	**04 24 05.3**	**+1.1**
	0.4nm,0.6s,baz=133,slow=2.2,SNR=13							
INK	**Inuvik**	**148.47**	**318**	PKPbc		**PKPbc**	**04 24 25.4**	**+0.9**
	2.8nm,0.8s,baz=63,slow=2.3,SNR=10.0							
SONM	**Songino Array**	**149.73**	**89**	PKPbc		**PKPab**	**04 24 32.1**	**-1.9**
	0.3nm,0.6s,baz=188,slow=2.9,SNR=3.2							
ILAR	**Eielson Array**	**152.60**	**308**	PKPbc		**PKiKP**	**04 24 35.9**	**+1.2**
	0.9nm,0.6s,baz=148,slow=5.9,SNR=19							

*MOS **27** 04:05:40.7±0.9, 4.°83S×103.°14E, h46km, mb5.1/67, Error ellipse: s-maj=9.7km s-min=4.8km az=113.8*
*BJI **27** 04:05:41.0, 5.°20S×102.°90E, h64km, mb5.0/55, mB5.1/33, Ms4.6/16, Ms7 4.3/17*
*ISCJB **27** 04:05:43.1±0.4, 5.°05S±0.°03×103.°06E±0.°03, h75km±3km, mb4.8/119, Error ellipse: s-maj=6.7km s-min=3.0km az=42.2*
*NEIC **27** 04:05:43.4±0.5, 5.°06S×103.°02E, h64km±3km, mb5.1/36, Error ellipse: s-maj=6.0km s-min=2.8km az=45.0*
NEIC Felt [II] at Kapahiang. Felt at Jakarta, Java.
*DJA **27** 04:05:43.4±0.3, 5.°5S±3.°×10.°3E±.°, h48km±4km, M4.9/40, mB5.3/18, mb5.1/40, MLv5.1/21, Mw(mB)4.8/18*
*IDC **27** 04:05:43.8±0.6, 4.°93S×103.°21E, h61km±5km, mb4.6/41, mb1 4.6/43, mb1mx4.5/60, mbtmp4.8/43, MS3.5/19, Ms1 3.5/19, ms1mx3.4/33, Error ellipse: s-maj=13.0km s-min=7.3km az=42.0*
*KLM **27** 04:05:44.7, 4.°93S×102.°87E, h82km, mb5.0*
ISC 27 04:05:41.0±0.3, 5.°14S±0.°04×102.°96E±0.°04, h47km±2km, h49km:pP-P, n770, σ1°38/772, mb5.0/133, MS3.4/19, 26C-10D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MNAI	**Manna**	**0.78**	**360**	*e*Pn		**Pn**	**04 05 57.4**	**+1.7**
MNAI	**Manna**	**0.78**	**360**	P		**Pn**	**04 05 57.7**	**+2.0**
LWLI	**Liwa**	**1.10**	**84**	P		**Pn**	**04 06 01.4**	**+1.2**
MDSI	**Maura Dua**	**1.38**	**62**	P		**Pn**	**04 06 05.4**	**+1.5**
LHSI	**Lahat**	**1.42**	**23**	P		**Pn**	**04 06 06.8**	**+2.3**
KASI	**Kota Agung**	**1.58**	**104**	P		**Pn**	**04 06 07.7**	**+1.1**
KLI	**Kotabumi**	**1.91**	**82**	P		**Pn**	**04 06 13.0**	**+1.8**
MASI	**Maura Aman, Be**	**2.11**	**340**	P		**Pn**	**04 06 17.4**	**+3.5**
BLSI	**Bandar Lampung**	**2.29**	**96**	P		**Pn**	**04 06 18.1**	**+1.7**
PMBI	**Palembang**	**2.85**	**40**	P		**Pn**	**04 06 26.1**	**+2.1**
KRJI	**Kerinci**	**3.38**	**334**	P		**Pn**	**04 06 35.7**	**+4.3**
PPSI	**Pulau Pagai**	**3.77**	**309**	P		**Pn**	**04 06 40.4**	**+3.7**
DBJI	**Dramaga**	**4.03**	**111**	P		**Pn**	**04 06 43.6**	**+3.4**
SKJI	**Sukabumi**	**4.03**	**118**	P		Pn	04 06 45.0	+4.7
PPBI	**Pangkal Pinang**	**4.34**	**47**	P		**Pn**	**04 06 46.3**	**+1.8**
SDSI	**Sungai Dareh**	**4.45**	**340**	P		**Pn**	**04 06 49.6**	**+3.6**
PDSI	**Padang**	**4.88**	**329**	P		**Pn**	**04 06 54.6**	**+2.6**
LEM	**Lembang**	**4.93**	**110**	P		**Pn**	**04 06 54.7**	**+1.9**
	21nm,0.3s,baz=184,slow=13,SNR=16							
LEM				LR		LR	04 09 21.3	
	comp=Z,496nm,18.6s,baz=232,slow=46							
CISI	**Cisompet, Garu**	**5.39**	**117**	*e*Pn		**Pn**	**04 07 00.4**	**+1.4**
CISI	**Cisompet, Garu**	**5.39**	**117**	P		**Pn**	**04 07 00.4**	**+1.4**
	358nm,0.6s,8µm2.8nm							
SISI	**Saibi**	**5.41**	**314**	P		**Pn**	**04 07 01.9**	**+2.7**
	184nm,0.6s,2µm1.1nm							
JCJI	**Jatiwangi**	**5.45**	**104**	P		Pn	04 07 04.6	+4.8
	190nm,0.6s,5µm1.0nm							
BKNI	**Bangkinang**	**5.76**	**341**	*e*Pn		**Pn**	**04 07 05.7**	**+1.7**
BKNI	**Bangkinang**	**5.76**	**341**	P		**Pn**	**04 07 07.5**	**+3.5**

KTGM **Kuala Trenggan** 10.40 1 P Pn 04 08 12.9 +5.2
KULM **Kulim** 10.61 347 *e*Pn **Pn** **04 08 12.0 +1.4**
KULM **Kulim** 10.61 347 P Pn 04 08 16.2 +5.6
KMMI **Kalianget** 11.11 100 P **Pn** **04 08 20.5 +3.1**
62nm,0.8s
JAGI **Jajag, Banyuwa** 11.60 107 *e*Pn **Pn** **04 08 24.7 +0.6**
JAGI **Jajag, Banyuwa** 11.60 107 P **Pn** **04 08 24.5 +0.5**
174nm,0.9s,2µm
SBUM **Sibu** 11.94 51 *e*Pn **Pn** **04 08 32.4 +3.7**
SBUM **Sibu** 11.94 51 P Pn 04 08 34.8 +6.1
SRBI **Singaraja** 12.52 104 P **Pn** **04 08 38.1 +1.5**
46nm,0.6s,1µm
TRTT **Trang** 13.30 346 P **P** **04 08 53.3 -2.4**
PLAI **Plampang** 15.16 105 P **Pn** **04 09 09.8 -2.4**
108nm,0.5s,1µm
SPSI **Sidrap Palu** 16.80 87 P **P** **04 09 34.8 +0.1**
44nm,1.0s
TTSI **Tana Toraja** 16.95 84 P **P** **04 09 38.6 +2.3**
54nm,0.9s,1µm
BKSI **Bulukumba** 17.10 91 P **Pn** **04 09 37.1 +0.3**
36nm,1.0s
BNSI **Bone** 17.11 88 P **P** **04 09 39.7 +1.6**
108nm,1.0s
KKM **Kota Kinabalu** 17.28 50 *e*Pn **P** **04 09 42.2 +2.0**
19nm,0.8s
KKM **Kota Kinabalu** 17.28 50 P **P** **04 09 46.1 +6.0**
PCI **Palu** 17.37 77 P **P** **04 09 43.3 +2.3**
TSM **Tawau** 17.60 58 P **P** **04 09 45.5 +1.9**
MPSI **Mapaga** 17.77 73 P **P** **04 09 48.5 +3.0**
36nm,0.8s
CHBT **CHBT** 17.79 358 P **P** **04 09 50.3 +4.7**
21nm,0.8s
SDKM **Sandakan** 17.80 53 P **P** **04 09 47.7 +1.9**
PHET **Kaeng Krachan** 18.23 350 P **Pn** **04 09 52.0 +1.2**
4.9nm,0.6s
KDM **Kudat** 18.31 49 P **Pn** **04 09 53.6 +1.9**
EDFI **Ende, Flores** 18.94 102 P **P** **04 09 58.6 +0.2**
56nm,0.6s,1µm
SRAK **Srakaew** 19.05 357 P **Pn** **04 10 02.2 +1.6**
68nm,0.7s
APSI **Ampana** 19.13 78 P **Pn** **04 10 02.9 +1.3**
98nm,0.9s,786nm
SRDT **SRDT** 19.73 349 P **Pn** **04 10 09.3 +0.6**
12nm,1.6s
MRSI **Marisa** 19.77 74 P **Pn** **04 10 08.3 -0.9**
46nm,0.7s,509nm
LUWI **Luwuk** 20.20 79 *e*P Pn 04 10 13.6 -0.7
134nm,1.0s
LUWI **Luwuk** 20.20 79 P Pn 04 10 14.4 +0.1
130nm,0.9s,2µm
GIRL **Giralia** 20.53 149 P **P** **04 10 16.3 +0.7**
baz=21,SNR=7.2
UTHA **Uthaitani** 20.86 350 P **P** **04 10 19.7 +0.6**
21nm,0.8s,172nm
CHAI **Chaiyaphum** 20.93 357 P Pn 04 10 23.0 +0.1
16nm,0.8s,112nm
BATI **Baumata** 21.12 105 P **P** **04 10 21.8 -0.3**
80nm,0.5s,baz=54,slow=1.7,SNR=19
BATI S **S** **04 14 06.0 -8.7**
22nm,0.4s,baz=131,slow=20,SNR=5.8
BATI **Baumata** 21.12 105 P **P** **04 10 23.0 +0.9**
76nm,0.6s,861nm
UMPA **Umpang Tak** 21.59 349 P **P** **04 10 27.6 +0.6**
10.0nm,0.9s,283nm
SOEI **Soe** 21.62 103 *e*P **P** **04 10 26.7 -0.8**
70nm,0.8s
SOEI *e*S **S** **04 14 20.9 -3.8**
SOEI **Soe** 21.62 103 P **P** **04 10 29.4 +1.9**
96nm,0.8s
PBKT **Sadao Pong** 21.66 355 P **P** **04 10 29.5 +1.8**
24nm,0.8s,695nm
SUKH **Sukhothai** 22.72 352 P **P** **04 10 39.6 +0.6**
15nm,0.9s
MBWA **Marble Bar** 22.77 136 *e*P **P** **04 10 40.3 +0.7**
NONG **Nongkai** 23.06 0 P **P** **04 10 43.4 +0.9**
0.6nm,0.8s,205nm
SANI **Sanana** 23.19 83 P **P** **04 10 43.7 -0.2**
40nm,0.9s,1µm
CM01 **Chiang Mai Arr** 23.74 351 *e*P **P** **04 10 48.7 -0.4**
CMAR **Chiang Mai Arr** 23.78 351 P **P** **04 10 48.6 -0.8**
14nm,0.7s,baz=182,slow=9.0,SNR=15
CMAR PcP **PcP** **04 14 34.2 +1.9**
2.7nm,0.8s,baz=205,slow=3.4,SNR=7.1
CMAR LR LR 04 19 21.5
comp=Z,132nm,21.8s,baz=178,slow=35
CMMT **Chiang Mai** 24.13 351 P **P** **04 10 52.3 -0.4**
29nm,0.8s
CHTO **Chiang Mai** 24.13 351 *e*P **P** **04 10 52.0 -0.7**
23nm,0.8s
CHTO **Chiang Mai** 24.13 351 *e*P **P** **04 10 52.0 -0.7**
CHTO pmax pmax
comp=Z,23nm,0.8s
CHTO **Chiang Mai** 24.13 351 P **P** **04 10 52.4 -0.3**
comp=Z,128nm,0.8s
PALK **Pallekele** 25.40 299 LR LR 04 20 27.0
comp=Z,77nm,20.6s,baz=121,slow=35
DAV **Davao City (W)** 25.63 62 LR LR 04 21 54.9
comp=Z,88nm,20.1s,baz=179,slow=38
FITZ **Fitzroy Crossi** 25.64 122 P **P** **04 11 07.2 +0.8**
comp=Z,19nm,0.5s,baz=316,slow=6.7,SNR=85
FITZ LR LR 04 22 51.9
comp=Z,60nm,19.2s,baz=308,slow=40
FITZ **Fitzroy Crossi** 25.64 122 P **P** **04 11 07.5 +1.0**
baz=26,SNR=38
FITZ **Fitzroy Crossi** 25.64 122 *e*P **P** **04 11 06.5 +0.1**
MEEK **Meekatharra** 26.09 147 P **P** **04 11 11.9 +1.4**
baz=26,SNR=4.2
TGY **Tagaytay City** 26.15 43 LR LR 04 21 46.1
comp=Z,88nm,20.7s,baz=260,slow=37
KNRA **Kununurra** 27.42 114 P **P** **04 11 22.6 0.0**
baz=28,SNR=14
SIJI **Sorong** 28.58 82 P **P** **04 11 31.3 -1.6**
baz=339,slow=8.2,SNR=4.4
SIJI LR LR 04 23 36.6
comp=Z,96nm,18.6s,slow=38
BRDH **Bariadhala** 29.78 339 LR LR 04 26 02.9
comp=Z,113nm,20.2s,baz=207,slow=41
KMI **Kunming** 30.08 360 P **P** **04 11 48.3 +2.0**
KMI pP sP 04 12 04.0 0.0
KMI pmax pmax
comp=Z,15nm,0.5s
KMI LR LR
comp=Z,100nm,5.5s
KMI LR LR
comp=Z,160nm,6.5s
KMI LR LR
comp=Z,160nm,7.2s
KDU **Kakadu** 30.08 106 P **P** **04 11 45.0 -1.2**
baz=30,SNR=8.8
H08S2 **Diego Garcia H** 30.37 264 T T 04 44 15.2
baz=87,slow=74
H08S3 **Diego Garcia H** 30.38 264 T T 04 43 60.0
baz=87,slow=74
H08S1 **Diego Carcia H** 30.39 264 T T 04 44 16.1
baz=87
WRKA **Warakurna** 31.35 132 P **P** **04 11 59.1 +1.7**
baz=32,SNR=12
H01W3 **Cape Leeuwin H** 31.35 162 T T 04 45 18.1
baz=340,slow=76,SNR=43
H01W2 **Cape Leeuwin H** 31.37 162 T T 04 45 19.2
baz=340,slow=76,SNR=49
H01W1 **Cape Leeuwin H** 31.37 162 T T 04 45 22.7
baz=340,slow=76,SNR=26
SHL **Shillong** 32.36 341 *e*P **P** **04 12 05.7 -0.7**
comp=Z,30nm,0.4s
SHL **Shillong** 32.36 341 *e*P **P** **04 12 05.7 -0.7**
SHL pmax pmax
comp=Z,30nm,0.4s
SHL **Shillong** 32.36 341 *e*P **P** **04 12 09.0 +2.6**
WRA **Warramunga Arr** 33.89 119 P **P** **04 12 20.3 +0.6**
comp=Z,22nm,0.6s,baz=299,slow=9.0,SNR=304
WRA PcP **PcP** **04 14 58.5 +0.9**
comp=Z,1.9nm,0.6s,baz=301,slow=2.0,SNR=5.1
WRA S **S** **04 17 36.4 -4.7**
comp=Z,0.8nm,0.8s,baz=296,slow=18,SNR=3.3
WRA LR LR 04 28 16.1
comp=Z,60nm,20.1s,baz=235,slow=40
WRAB **Tennant Creek** 33.89 118 *e*P **P** **04 12 20.1 +0.4**
WRAB **Tennant Creek** 33.89 118 *ce*P **P** **04 12 20.7 +1.0**
WRAB pmax pmax
comp=Z,19nm,0.6s
WB2 **Warramunga Arr** 33.90 119 *e*P **P** **04 12 19.6 -0.1**
ASAR **Alice Springs** 35.04 125 P **P** **04 12 30.9 +1.4**
comp=Z,17nm,0.6s,baz=296,slow=7.5,SNR=288
ASAR PcP **PcP** **04 15 01.4 +0.5**
comp=Z,2.6nm,0.7s,baz=292,slow=3.1,SNR=7.4
ASAR S **S** **04 17 55.2 -3.6**
comp=Z,1.6nm,0.8s,baz=297,slow=16,SNR=7.2
ASAR ScP **ScP** **04 18 42.8 -0.1**
comp=Z,1.2nm,0.8s,baz=306,slow=3.1,SNR=4.8
AS31 **Alice Springs** 35.04 125 *e*P **P** **04 12 30.3 +0.7**
comp=Z,7.4nm,0.7s
AS01 **Alice Springs** 35.08 125 *e*P **P** **04 12 30.6 +0.7**
AS01 *e*PcP **PcP** **04 15 01.8 +0.7**
RAMN **Ramite** 35.61 334 *e*P **P** **04 12 35.8 +1.2**
comp=Z,25nm,0.7s
CD2 **Chengdu** 35.85 1 P **P** **04 12 36.8 +0.4**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 pmax pmax
comp=Z,160nm,5.0s
JIRN **Jiri** 36.41 334 *e*P **P** **04 12 42.5 +0.9**
comp=Z,110nm,0.8s
LSA **Lhasa** 36.45 343 *e*P **P** **04 12 42.3 +0.3**
comp=Z,15nm,0.8s
LSA **Lhasa** 36.45 343 *e*P **P** **04 12 42.3 +0.3**
LSA pmax pmax
comp=Z,15nm,0.8s
PKI **Pulchoki** 36.67 333 *e*P **P** **04 12 44.5 +0.7**
comp=Z,26nm,0.6s
GUN **Gumba** 36.76 334 *e*P **P** **04 12 45.8 +1.2**
comp=Z,108nm,0.6s
DMN **Daman** 36.84 333 *e*P **P** **04 12 45.9 +0.7**
comp=Z,53nm,1.0s
KKN **Kakani** 36.92 333 *e*P **P** **04 12 46.6 +0.8**
comp=Z,62nm,0.7s
KOLN **Koldanda** 37.68 331 *e*P **P** **04 12 53.4 +1.2**
comp=Z,101nm,0.7s
JAY **Jayapura** 37.75 87 P **P** **04 12 49.8 -3.1**
comp=Z,10nm,0.7s,baz=301,slow=19,SNR=4.0
DANN **Dangsing** 38.09 332 *e*P **P** **04 12 56.7 +0.9**
comp=Z,136nm,0.7s
PYUN **Piuthan** 38.25 331 *e*P **P** **04 12 58.1 +1.1**
comp=Z,50nm,0.5s
QIS **Mount Isa** 38.75 117 P **P** **04 13 02.0 +0.9**
baz=39,SNR=22
XAN **Xi'an** 39.37 8 P **P** **04 13 05.5 -0.6**
XAN pP sP 04 13 21.5 -2.4
XAN sP pP 04 13 28.0 +9.5
XAN S **S** **04 19 00.0 -4.4**
XAN SS **SS** **04 21 52.5 -7.4**
XAN pmax pmax
comp=Z,28nm,0.8s
XAN pmax pmax
comp=Z,160nm,5.2s
XAN **Xi'an** 39.37 8 *e*P **P** **04 13 05.2 -0.9**
XAN **Xi'an** 39.37 8 *e*P **P** **04 13 05.2 -0.9**
NJ2 **Nanjing** 39.96 21 *e*P **P** **04 13 12.0 +1.0**
NJ2 pmax pmax
comp=Z,17nm,0.5s
COEN **Coen** 40.56 105 P **P** **04 13 15.8 -0.5**
baz=41,SNR=9.6
LZH **Lanzhou** 41.02 1 ⇑P **P** **04 13 20.0 +0.1**
LZH pP sP 04 13 36.5 -1.3
LZH sP pP 04 13 43.5 +11
LZH PP **PnPn** **04 15 03.0 +3.1**
LZH pmax pmax
comp=Z,29nm,1.6s
LZH pmax pmax
comp=Z,110nm,5.4s
LZH LR LR
comp=Z,440nm,14.2s
LZH LR LR
comp=Z,580nm,14.3s
LZH LR LR
comp=Z,790nm,16.2s
BBOO **Buckleboo** 41.35 136 P **P** **04 13 23.9 +1.3**
baz=42,SNR=10
BBOO **Buckleboo** 41.35 136 *e*P **P** **04 13 22.9 +0.3**
comp=Z,47nm,1.6s
NDI **New Delhi** 41.77 325 *e*P **P** **04 13 27.0 +1.0**
MTSU **Mount Surprise** 42.40 111 P **P** **04 13 32.5 +1.1**
baz=42,SNR=38
HTT **Hallett** 43.70 135 P **P** **04 13 43.7 +2.0**
baz=44,SNR=9.4
PMG **Port Moresby** 44.03 98 P **P** **04 13 43.8 -0.7**
comp=Z,22nm,0.6s,baz=339,slow=15,SNR=6.1
PMG **Port Moresby** 44.03 98 *e*P **P** **04 13 43.6 -0.9**
PMG **Port Moresby** 44.03 98 *e*P **P** **04 13 43.6 -0.9**
GTA **Gaotai** 44.42 357 *e*P **P** **04 13 47.5 +0.1**
GTA pP sP 04 14 02.8 -2.6
GTA sP pP 04 14 09.8 +10
GTA pmax pmax
comp=Z,14nm,0.8s
CTA **Charters Tower** 44.62 113 P **P** **04 13 50.3 +1.1**
baz=45
CTAO **Charters Tower** 44.62 113 *e*P **P** **04 13 49.8 +0.6**
comp=Z,20nm,0.8s
CTAO **Charters Tower** 44.62 113 *e*P **P** **04 13 49.8 +0.6**
CTAO pmax pmax
comp=Z,20nm,0.8s
STKA **Stephens Creek** 44.87 131 P **P** **04 13 52.2 +1.2**
comp=Z,21nm,0.5s,baz=306,slow=7.7,SNR=90
STKA pP **sP** **04 14 08.1 -0.6**
comp=Z,18nm,0.5s,baz=299,slow=8.3,SNR=9.0
STKA LR LR 04 32 26.5
comp=Z,31nm,21.5s,baz=15,slow=36
STKA **Stephens Creek** 44.87 131 P **P** **04 13 53.0 +1.9**
baz=45,SNR=58
STKA **Stephens Creek** 44.87 131 *e*P **P** **04 13 51.8 +0.7**
comp=Z,5.5nm,0.8s
STKA pP **sP** **04 14 08.1 -0.6**
STKA **Stephens Creek** 44.87 131 *e*P **P** **04 13 51.8 +0.7**
STKA *PP **sP** **04 14 08.1 -0.6**
STKA pmax pmax
comp=Z,6.0nm,0.8s
JNU **Nakatsue** 46.36 33 *e*P **P** **04 14 02.5 -0.2**
comp=Z,32nm,0.9s
HHC **Hu-ho-hao-te** 46.44 9 *e*P **P** **04 14 05.8 +2.5**
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,240nm,6.1s
BJT **Baijiatuan** 46.55 14 *e*P **P** **04 14 03.9 -0.2**
comp=Z,19nm,0.7s
BJT **Baijiatuan** 46.55 14 *e*P **P** **04 14 03.9 -0.2**
BJT pmax pmax
comp=Z,19nm,0.7s
BJI **Beijing** 46.58 14 P **P** **04 14 04.3 +0.1**
BJI pmax pmax
comp=Z,18nm,0.8s
ARPS **Mount Arapiles** 47.50 137 P **P** **04 14 14.0 +2.4**
baz=48,SNR=10
NIL **Nilore** 47.73 326 *e*P **P** **04 14 13.5 0.0**
NIL **Nilore** 47.73 326 *e*P **P** **04 14 13.5 0.0**
CMSA **Cobar Meteorol** 47.86 129 P **P** **04 14 16.4 +1.9**
baz=48,SNR=32
KS15 **Wonju Array Si** 48.31 27 *e*P **P** **04 14 18.3 +0.5**
KSAR **Wonju Array Be** 48.31 27 P **P** **04 14 17.6 -0.2**
KSAR PcP **PcP** **04 15 43.9 -0.2**
KSAR **Wonju Array Be** 48.31 27 P **P** **04 14 17.6 -0.2**
KSAR 04 15 43.9
KSRS **Korea Array** 48.34 27 P **P** **04 14 17.6 -0.4**
comp=Z,8.3nm,0.6s,baz=227,slow=7.5,SNR=39
KSRS PcP **PcP** **04 15 43.9 -0.2**
comp=Z,2.8nm,0.8s,baz=224,slow=3.2,SNR=4.9
KSRS **Korea Array** 48.34 27 P **P** **04 14 17.6 -0.4**
KSRS 04 15 43.9
KSRS pmax pmax
comp=Z,10.0nm,0.6s
KSRS pmax pmax
comp=Z,3.0nm,0.9s
KS01 **Wonju Array Si** 48.35 27 *e*P **P** **04 14 18.1 +0.1**
WMQ **Urumqi** 50.65 346 ⇑P **P** **04 14 36.3 +0.8**
WMQ pP sP 04 14 51.5 -2.0
WMQ sP pP 04 14 59.0 +11
WMQ pmax pmax
comp=Z,79nm,0.9s
WMQ pmax pmax
comp=Z,430nm,5.1s
WMQ LR LR
comp=Z,65nm,18.7s
WMQ LR LR
comp=Z,150nm,22.5s
WMQ LR LR
comp=Z,53nm,22.5s
WMQ **Urumqi** 50.65 346 *e*P **P** **04 14 36.4 +0.8**
WMQ **Urumqi** 50.65 346 *e*P **P** **04 14 36.4 +0.8**
KBL **Kabul** 50.79 324 *e*P **P** **04 14 37.2 +0.2**
comp=Z,8.8nm,0.9s
KBL **Kabul** 50.79 324 *e*P **P** **04 14 37.2 +0.2**
KBL pmax pmax
comp=Z,9.0nm,0.9s
KSH **Kashi** 50.94 333 P **P** **04 14 37.8 -0.1**
KSH pP sP 04 14 53.0 -2.9
KSH PcP **PcP** **04 15 50.8 -3.0**
KSH PP **PP** **04 16 33.8 -1.0**
KSH S **S** **04 21 45.3 -6.2**
KSH sS sS 04 22 12.0 -0.5
KSH ScS **ScS** **04 24 15.0 -10**
KSH SS **SS** **04 25 17.5 -10**
KSH pmax pmax
comp=Z,48nm,1.0s
KSH pmax pmax
comp=Z,400nm,5.9s
KSH LR LR
comp=Z,320nm,8.9s
KSH LR LR
comp=Z,190nm,6.5s
KSH LR LR
comp=Z,240nm,9.5s
YNG **Young** 51.06 131 P **P** **04 14 41.0 +2.1**
baz=51,SNR=6.2
WSAR **Wadi Sarin** 51.65 305 P **P** **04 14 46.1 +2.7**
comp=Z,2.7nm,0.6s,baz=149,slow=6.6,SNR=3.2
SFK **Sufi-Kurgan** 52.48 332 P **P** **04 14 50.5 +1.0**
SFK pmax pmax
comp=Z,16nm,0.6s
KDJ **Kajisay** 52.58 336 *e*P **P** **04 14 51.1 +0.9**
KDJ **Kajisay** 52.58 336 *e*P **P** **04 14 51.1 +0.9**
PDGK **Podgornoye** 52.71 339 P **P** **04 14 50.8 -0.3**
PDGK pmax pmax
comp=Z,21nm,0.6s
MGCD **Mangrove Creek** 52.73 128 P **P** **04 14 54.1 +2.8**
baz=53,SNR=6.4
CN2 **Changchun** 52.77 20 *e*P **P** **04 14 50.0 -1.4**
CN2 pmax pmax
comp=Z,20nm,1.2s
SONM **Songino Array** 52.84 3 P **P** **04 14 52.5 +0.6**
comp=Z,18nm,0.8s,baz=181,slow=8.4,SNR=123
SONM PcP **PcP** **04 16 01.2 +0.5**
comp=Z,4.5nm,0.4s,baz=189,slow=4.2,SNR=14
SONM LR LR 04 39 58.8
comp=Z,65nm,18.2s,baz=150,slow=39
SONA1 **Songino Array** 52.85 3 *e*P **P** **04 14 52.2 +0.2**
ULN **Ulaanbaatar** 52.90 3 *e*P **P** **04 14 52.4 -0.1**
comp=Z,12nm,1.0s
ULN **Ulaanbaatar** 52.90 3 *ce*P **P** **04 14 53.2 +0.8**
ULN pmax pmax
comp=Z,14nm,1.0s
MAT **Matsushiro** 52.97 36 P **P** **04 14 51.2 -1.8**
MJAR **Matsushiro Arr** 52.97 36 P **P** **04 14 51.3 -1.6**
comp=Z,7.9nm,0.8s,baz=219,slow=7.9,SNR=16
MJAR PcP **PcP** **04 16 02.0 +0.6**
comp=Z,3.6nm,0.8s,baz=213,slow=6.2,SNR=5.4
GAR **Garm** 53.29 328 *e*P **P** **04 14 55.3 -0.1**
comp=Z,18nm,0.7s
GAR **Garm** 53.29 328 *e*P **P** **04 14 55.3 -0.1**
GAR pmax pmax
comp=Z,18nm,0.7s
CHGR **Chuyangaron** 53.65 327 *e*P **P** **04 14 57.6 -0.4**
comp=Z,38nm,1.3s
ARSB **Arslanbob** 53.75 332 *e*P **P** **04 14 60.0 +1.2**
comp=Z,25nm,0.8s
TKM2 **Tokmak 2** 53.88 335 P **P** **04 15 00.3 +0.5**
TKM2 pmax pmax
comp=Z,24nm,0.5s
AAK **Ala-Archa** 54.12 334 *e*P **P** **04 15 01.7 +0.2**
comp=Z,4.8nm,0.8s
AAK **Ala-Archa** 54.12 334 *ce*P **P** **04 15 02.5 +1.0**
AAK pmax pmax
comp=Z,16nm,2.5s
MK01 **Makanchi Array** 54.83 343 *e*P **P** **04 15 06.2 -0.2**
MK31 **Makanchi Array** 54.86 343 *e*P **P** **04 15 06.6 0.0**
MK31 **Makanchi Array** 54.86 343 *i*P **P** **04 15 06.2 -0.4**
MK31 pmax pmax
comp=Z,11nm,0.8s
MKAR **Makanchi Array** 54.86 343 P **P** **04 15 06.6 0.0**
comp=Z,10.0nm,0.6s,baz=147,slow=8.0,SNR=104
MKAR pP **sP** **04 15 23.9 -0.7**
comp=Z,6.1nm,0.5s,baz=149,slow=7.9,SNR=5.1
MKAR LR LR 04 42 32.8
comp=Z,44nm,21.6s,baz=140,slow=40
MNAS **Manas** 54.88 333 P **P** **04 15 07.7 +0.7**
MNAS pmax pmax
comp=Z,24nm,0.7s
MAKZ **Makanchi** 54.96 343 *e*P **P** **04 15 06.8 -0.5**
comp=Z,7.2nm,0.9s
MAKZ **Makanchi** 54.96 343 *e*P **P** **04 15 06.8 -0.5**
MAKZ pmax pmax
comp=Z,7.0nm,0.9s
ZAK **Zakamensk** 55.30 0 *e*P **P** **04 15 08.3 -1.5**
ZAK pmax pmax
comp=Z,5.0nm,0.9s
USA0B **Ussuriysk Arra** 55.63 25 *e*P **P** **04 15 12.2 0.0**
comp=Z,34nm,0.8s
USRK **Ussuriysk Ar.** 55.63 25 P **P** **04 15 11.2 -1.0**
comp=Z,26nm,0.7s,baz=219,slow=5.7,SNR=58
HIA **Hailar** 56.12 13 *e*P **P** **04 15 15.3 -0.4**
comp=Z,5.4nm,0.3s
HIA **Hailar** 56.12 13 *e*P **P** **04 15 15.3 -0.4**
HIA pmax pmax
comp=Z,5.0nm,0.3s
KK31 **Karatay Array** 56.29 332 *e*P **P** **04 15 17.1 +0.2**
KK31 **Karatay Array** 56.29 332 *i*P **P** **04 15 16.8 -0.1**
KK31 pmax pmax
comp=Z,4.0nm,0.7s
KKAR **Karatay Array** 56.29 332 *e*P **P** **04 15 16.8 -0.1**
KKAR **Karatay Array** 56.29 332 *e*P **P** **04 15 16.8 -0.1**
MOY **Mondy** 56.61 359 *e*P **P** **04 15 19.3 +0.1**
KURK **Kurchatov** 59.45 342 *e*P **P** **04 15 38.6 -0.3**
comp=Z,15nm,0.8s
KURK **Kurchatov** 59.45 342 *ce*P **P** **04 15 39.1 +0.2**
KURK pmax pmax
comp=Z,27nm,1.3s
OTUK **Ortayu** 59.55 337 P **P** **04 15 39.5 -0.2**
OTUK pmax pmax
comp=Z,12nm,0.6s
KLR **Kul'dur** 59.67 21 *d*P **P** **04 15 40.0 -0.4**
GEYT **Alibeck** 59.73 320 P **P** **04 15 42.4 +1.2**
comp=Z,22nm,0.7s,baz=148,slow=6.7,SNR=25
GEYT LR LR 04 43 09.7
comp=Z,23nm,19.1s,baz=355,slow=38
GYA0B **ALIBECK ARRAY** 59.73 320 *e*P **P** **04 15 41.2 0.0**
comp=Z,22nm,0.9s
ASAJ **Asahikawa** 60.61 32 P **P** **04 15 46.5 -0.5**
comp=Z,21nm,0.7s,baz=229,slow=6.5,SNR=17
ZAA0 **Zalesovo Array** 60.81 348 *e*P **P** **04 15 48.2 +0.1**
comp=Z,60nm,1.1s
ZALV **Zalesovo Beam** 60.81 348 P **P** **04 15 48.1 0.0**
comp=Z,25nm,0.4s,baz=157,slow=5.7,SNR=129
ZALV pP **sP** **04 16 04.1 -2.2**
comp=Z,6.9nm,0.5s,baz=166,slow=6.4,SNR=3.2
ZALV LR LR 04 44 13.7
comp=Z,84nm,18.0s,baz=74,slow=38
ZALV **Zalesovo Beam** 60.81 348 *e*P **P** **04 15 47.2 -1.0**
ZALV pP **sP** **04 16 04.1 -2.2**
ZALV *e*P **P** **04 15 47.2 -1.0**
ZALV *PP **sP** **04 16 04.1 -2.2**
NVS **Novosibirsk** 61.98 347 *e*P **P** **04 15 55.1 -0.9**
ZEA **Zeya** 62.11 16 *e*P **P** **04 15 56.8 -0.2**
ZEA pmax pmax
comp=Z,26nm,0.8s
YSS **Yuzh-Sakhalins** 62.65 30 *e*P **P** **04 16 00.5 -0.2**
YSS *e* 04 16 20.5
YSS pmax pmax
comp=Z,20nm,0.7s
RAYN **Ar Rayn** 62.84 300 *e*P **P** **04 16 04.2 +1.7**
comp=Z,4.7nm,0.9s
RAYN **Ar Rayn** 62.84 300 *e*P **P** **04 16 04.2 +1.7**
RAYN pmax pmax
comp=Z,5.0nm,0.9s
BOD **Bodaibo** 63.39 7 *e*P **P** **04 16 05.3 0.0**
BOD pmax pmax
comp=Z,19nm,0.9s
DZM **Mont Dzumac** 63.53 112 P **P** **04 16 07.6 +0.4**
comp=Z,8.0nm,0.6s,baz=127,slow=19,SNR=5.9
BRVK **Borovoye** 64.21 339 *e*P **P** **04 16 10.8 -0.1**
BRVK **Borovoye** 64.21 339 *c*P **P** **04 16 10.6 -0.3**
BRVK pmax pmax
comp=Z,10.0nm,0.6s
AB31 **Akbulak array** 65.80 331 *i*P **P** **04 16 21.6 +0.3**
AB31 pmax pmax
comp=Z,22nm,0.8s
ABKAR **Akbulak array** 65.80 331 *e*P **P** **04 16 20.9 -0.4**
AKTO **Aktyubinsk** 67.52 331 P **P** **04 16 32.5 +0.2**
comp=Z,7.1nm,0.9s,baz=136,slow=5.6,SNR=9.8
AKTO **Aktyubinsk** 67.52 331 P **P** **04 16 32.3 +0.1**
AKTO pmax pmax

comp=Z,12nm,1.0s
MAW Mawson 68.02 195 LR LR 04 39 04.7
comp=Z,178nm,21.9s,baz=74,slow=29
YAK Yakutsk 70.07 13 *e*P **P** **04 16 46.1 -1.7**
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.1s
GROC Groznyy 70.47 319 *e*P **P** **04 16 49.5 -1.2**
GROC *e* 04 17 09.6
GROC *e**SP **PcP** **04 17 12.1 +0.3**
GROC *e* 04 19 24.1
GROC *e*S **S** **04 25 55.6 -4.8**
GROC pmax pmax
comp=Z,15nm,0.5s
TBLG Delisi 70.51 318 *e*P **P** **04 16 52.0 +1.0**
comp=Z,19nm,1.1s
TBLG Delisi 70.51 318 *e*P **P** **04 16 52.0 +1.0**
TBLG pmax pmax
comp=Z,19nm,1.1s
RPZ Rata Peaks 70.69 135 P **P** **04 16 53.3 +1.2**
comp=Z,7.2nm,0.5s,baz=280,slow=4.5,SNR=14
RPZ Rata Peaks 70.69 135 *e*P **P** **04 16 53.2 +1.2**
comp=Z,48nm,1.7s
SVE Sverdlovsk 70.70 337*d i*P **P** **04 16 52.7 +0.9**
SVE pmax pmax
comp=Z,29nm,0.9s
KARS Kars 71.17 316 *e*P **P** **04 16 56.5 +1.2**
comp=Z,38nm,0.7s
ARU Arti 71.25 336 *e*P **P** **04 16 54.7 -0.5**
comp=Z,33nm,1.0s
ARU Arti 71.25 336*ce*P **P** **04 16 55.4 +0.2**
ARU pmax pmax
comp=Z,3.0nm,0.7s
ZEI Tsey 71.53 318 *e*P **P** **04 16 58.8 +1.4**
ZEI pmax pmax
comp=Z,8.0nm,0.9s
THZ Tophouse 71.67 132 *e*P **P** **04 16 59.0 +0.8**
comp=Z,15nm,0.7s
NCK Nalchik 72.04 319 *i* P **P** **04 17 01.0 +0.8**
NCK pmax pmax
comp=Z,10.0nm,0.9s
MBAR Mbarara 72.24 271 P **P** **04 17 04.4 +2.2**
comp=Z,3.5nm,0.2s,baz=119,slow=6.2,SNR=4.8
NEY Neytrino 72.51 318 *i* P **P** **04 17 03.7 +0.5**
NEY pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 72.60 319 P **P** **04 17 04.6 +1.1**
comp=Z,12nm,0.8s,baz=113,slow=5.5,SNR=30
ASF Jabal al Asfar 72.81 306 P **P** **04 17 06.4 +1.3**
comp=Z,9.2nm,0.8s,baz=76,slow=5.4,SNR=16
KIV Kislovodsk 72.83 319 *e*P **P** **04 17 04.8 -0.2**
KIV Kislovodsk 72.83 319 *e*P **P** **04 17 06.5 +1.5**
KIV pmax pmax
comp=Z,10.0nm,1.1s
EIL Elat 73.69 303 P **P** **04 17 12.7 +2.4**
comp=Z,17nm,1.0s,baz=347,slow=1.9,SNR=9.2
LSZ Lusaka 73.99 256 *e*P **P** **04 17 12.4 -0.1**
comp=Z,6.9nm,0.8s
LSZ Lusaka 73.99 256 *e*P **P** **04 17 12.4 -0.1**
LSZ pmax pmax
comp=Z,7.0nm,0.8s
PETK Petropavlovsk- 74.00 31 P **P** **04 17 10.2 -1.3**
comp=Z,5.6nm,0.8s,baz=243,slow=2.9,SNR=6.4
BKZ Black Stump Fm 74.01 129 *e*P **P** **04 17 12.5 +0.4**
comp=Z,36nm,0.7s
MMAI Mount Meron Ar 74.26 306 P **P** **04 17 16.1 +2.5**
comp=Z,8.8nm,0.6s,baz=94,slow=8.4,SNR=20
URZ Urewera 74.40 128 P **P** **04 17 15.7 +1.4**
comp=Z,6.7nm,0.7s,baz=196,slow=7.4,SNR=3.4
MA2 Magadan 74.70 23 P **P** **04 17 15.5 -0.1**
comp=Z,6.0nm,0.7s,baz=205,slow=7.0,SNR=5.2
SYO Syowa Base 75.88 199⇓*e*PcP **PcP** **04 17 36.3 +1.8**
SYO Syowa Base 75.88 199⇓*ep*P pP 04 17 41.2 +5.8
VRH Novokhopyorsk 76.56 325 *e*P **P** **04 17 26.4 +0.1**
VRH pmax pmax
comp=Z,30nm,0.6s
BOSA Boshof 76.77 242 P **P** **04 17 30.6 +2.4**
comp=Z,1.6nm,0.8s,baz=8.7,slow=13,SNR=4.8
BOSA pP **sP** **04 17 47.3 +0.7**
comp=Z,6.0nm,0.9s,baz=75,slow=3.5,SNR=4.9
BOSA LR LR 04 45 42.0
comp=Z,52nm,19.1s,baz=198,slow=31
SEY Seymchan 77.45 21 P **P** **04 17 30.2 -0.9**
comp=Z,3.7nm,0.6s,baz=218,slow=4.0,SNR=23
SEY Seymchan 77.45 21 *i* P **P** **04 17 31.6 +0.5**
BR131 Keskin Array S 77.61 312 *e*P **P** **04 17 32.9 +0.3**
BRTR Keskin Array B 77.61 312 P **P** **04 17 33.5 +0.8**
comp=Z,7.4nm,0.7s,baz=142,slow=7.3,SNR=50
BRTR LR LR 04 53 49.5
comp=Z,15nm,18.8s,baz=278,slow=37
VSR Storozhevoye 78.03 325 *i* P **P** **04 17 33.8 -0.7**
VSR pmax pmax
comp=Z,23nm,0.9s
TIXI Tiksi 78.50 8 P **P** **04 17 35.4 -1.3**
comp=Z,4.1nm,0.6s,baz=205,slow=2.8,SNR=16
TIXI Tiksi 78.50 8 *e*P **P** **04 17 35.0 -1.6**
TIXI Tiksi 78.50 8 *i* P **P** **04 17 35.1 -1.6**
TIXI pmax pmax
comp=Z,5.0nm,0.7s
VNDA Vanda 78.53 169 P **P** **04 17 38.5 +1.6**
comp=Z,4.2nm,1.0s,baz=318,slow=4.1,SNR=3.1
LPSR Galich'ya Gora 78.72 326 *e*P **P** **04 17 38.9 +0.6**
LPSR pmax pmax
comp=Z,30nm,0.8s
PRGR Permogore 79.71 336⇑ *i*P **P** **04 17 44.4 +0.9**
PRGR *e**PP **pwP** **04 17 59.4 +0.5**
PRGR pmax pmax
comp=Z,75nm,0.6s
MOS Moscow 80.69 329 *e*P **P** **04 17 48.7 -0.2**
MOS *e* 04 18 05.3
OBN Obninsk 81.00 328 P **P** **04 17 51.3 +0.7**
comp=Z,5.6nm,0.6s,baz=15,slow=5.9,SNR=7.9
OBN Obninsk 81.00 328 *e*P **P** **04 17 51.0 +0.4**
comp=Z,36nm,1.0s
OBN Obninsk 81.00 328*c i*P **P** **04 17 51.8 +1.2**
OBN *e**PP **sP** **04 18 07.9 -1.2**
OBN pmax pmax
comp=Z,32nm,0.9s
KLMR Klimovskoe 81.93 334 *e*P **P** **04 17 53.3 -2.1**
KLMR *e**PP **sP** **04 18 12.5 -1.3**
KLMR pmax pmax
comp=Z,32nm,1.3s
KLMR Klimovskoe 81.93 334 *e*P **P** **04 17 53.4 -2.0**
KLMR AMP 04 17 57.2
comp=Z,32nm,1.2s
KLMR *ep*P **sP** **04 18 12.6 -1.3**
IDI Anoyia 83.26 306 P **P** **04 18 04.7 +1.6**
comp=Z,6.1nm,0.5s,baz=92,slow=8.0,SNR=10
LEOM Leova 83.27 318⇑ *i*P **P** **04 18 04.7 +2.0**
LEOM Leova 83.27 318 ⇑P **P** **04 18 04.7 +2.0**
AKASG Malin Array Be 83.76 322 P **P** **04 18 05.6 +0.5**
comp=Z,1.6nm,0.5s,baz=89,slow=4.8,SNR=15
AKBB Malin Array Si 83.76 322 *e*P **P** **04 18 05.0 -0.1**
comp=Z,6.0nm,0.6s
AKBB Malin Array Si 83.76 322 *e*P **P** **04 18 05.0 -0.1**
AKBB pmax pmax
comp=Z,6.0nm,0.6s
AK11 Malin Array Si 83.78 322 *e*P **P** **04 18 05.5 +0.2**
VRI Vrincioaia 84.14 317⇑ *i*P **P** **04 18 09.6 +2.3**
VRI Vrincioaia 84.14 317 ⇑P **P** **04 18 09.6 +2.3**
MLR Muntele Rosu 84.59 316 P **P** **04 18 10.7 +1.0**
comp=Z,4.8nm,0.7s,baz=218,slow=1.1,SNR=8.0
MLR Muntele Rosu 84.59 316⇑ *i*P **P** **04 18 11.1 +1.4**
MLR Muntele Rosu 84.59 316 ⇑P **P** **04 18 11.1 +1.4**
PRAR RASCA 84.83 318⇓ *i*P **P** **04 18 12.7 +2.0**
BILL Bilibino 85.08 20⇓ *i*P **P** **04 18 10.8 -0.6**
BILL *e**PP **sP** **04 18 27.0 -3.1**
BILL pmax pmax
comp=Z,2.0nm,1.0s
BURAR Bucovina Array 85.55 318⇑ *i*P **P** **04 18 16.9 +2.5**
BURAR Bucovina Array 85.55 318 ⇑P **P** **04 18 16.9 +2.5**
BUR04 Bucovina Ar. S 85.56 318 *e*P **P** **04 18 15.5 +1.1**
NVL N'lazarevskaya 85.56 199 *e*P P 04 18 27.1 +13
NVL pmax pmax
comp=Z,4.0nm,0.8s
BUR08 Bucovina Ar. S 85.57 318 *e*P **P** **04 18 15.6 +1.1**
VTS Vitosha 85.94 313 *e*P **P** **04 18 17.0 +0.5**
comp=Z,6.9nm,0.8s
VTS Vitosha 85.94 313⇑ *i*P **P** **04 18 18.0 +1.6**
VTS Vitosha 85.94 313 ⇑P **P** **04 18 18.1 +1.6**
IDID Didziasalis 86.41 326 *e*P **P** **04 18 19.1 +0.8**
IDID IAmb IAmb 04 18 21.4
comp=Z,8.3nm,0.9s
IIGN Ignalina 86.70 326 *e*P **P** **04 18 20.3 +0.6**
IIGN IAmb IAmb 04 18 22.8
comp=Z,8.1nm,0.8s
IZAR Zarasai 86.79 327 *e*P **P** **04 18 20.8 +0.7**
IZAR IAmb IAmb 04 18 22.1
comp=Z,5.7nm,0.7s
DRGR 87.06 317⇓ *i*P **P** **04 18 24.0 +2.2**
DRGR 87.06 317 ⇓P **P** **04 18 24.0 +2.2**
VSU Vasula 87.19 329 *e*P **P** **04 18 22.8 +0.8**
VSU IAmb IAmb 04 18 24.7
comp=Z,70nm,1.1s
MDVR Moldovita 87.39 315⇑ *i*P **P** **04 18 25.4 +2.0**
TRPA Tarpa 87.42 319⇑ *i*P **P** **04 18 25.4 +2.0**
BZS Buzias 87.60 316⇓ *i*P **P** **04 18 26.2 +1.9**
BZS Buzias 87.60 316 ⇓P **P** **04 18 26.2 +1.9**
SIRR Siria 87.68 317⇑ *i*P **P** **04 18 26.8 +2.1**
PABE Paberze 87.99 326 *e*P **P** **04 18 26.1 +0.1**
PABE IAmb IAmb 04 18 28.4
comp=Z,26nm,0.9s
SUW Suwalki 88.14 324 *e*P **P** **04 18 27.1 +0.4**
comp=Z,40nm,1.1s
SUW Suwalki 88.14 324 *e*P **P** **04 18 27.1 +0.4**
SUW pmax pmax
comp=Z,40nm,1.1s
FINES FINESS Array B 88.25 332 P **P** **04 18 28.1 +1.1**
comp=Z,9.1nm,0.7s,baz=102,slow=5.8,SNR=64
VYHS Vyhne 89.92 319 *e*P **P** **04 18 37.4 +2.2**
VYHS pmax pmax
comp=Z,10.0nm,1.8s
VYHS Vyhne 89.92 319 *e*P **P** **04 18 37.4 +2.2**
ARCES ARCESS Array B 90.41 340 P **P** **04 18 37.7 +0.6**
comp=Z,7.2nm,0.8s,baz=103,slow=5.6,SNR=44
ARCES LR LR 05 03 20.4
comp=Z,103nm,20.7s,baz=338,slow=38
GERES GERESS Array B 93.34 319 P **P** **04 18 52.6 +1.4**
comp=Z,0.6nm,0.6s,baz=101,slow=4.1,SNR=7.1
CLL Collm 93.94 321 *e*P **P** **04 18 51.0 -2.7**
CLL *e* 04 19 04.0
HFS Hagfors 94.05 330 P **P** **04 18 54.6 +0.6**
comp=Z,1.7nm,0.5s,baz=151,slow=3.4,SNR=10
NOA NORSAR Array B 95.31 331 P **P** **04 18 59.9 +0.1**
comp=Z,0.8nm,0.8s,baz=71,slow=4.3,SNR=3.1
INK Inuvik 106.69 19 *e*P **PKiKP** **04 24 00.4 -0.2**
YKA Yellowknife Ar 116.45 18 PKP **PKPdf** **04 24 18.5 -0.8**
comp=Z,0.8nm,0.7s,baz=358,slow=2.3,SNR=17
YKB5 Yellowknife Ar 116.45 18 *e*PKPdf **PKPdf** **04 24 19.1 -0.2**
FRB Frobisher Bay 121.19 356 PKP **PKPdf** **04 24 28.2 -0.1**
comp=Z,1.4nm,0.4s,baz=68,slow=1.5,SNR=8.8
B05A Bryant 122.44 34 P **PKiKP** **04 24 31.9 +0.5**
baz=303
H04D Lebanon 124.05 38 P **PKiKP** **04 24 36.2 +1.5**
baz=301
I03D Drain, OR 124.08 39 P **PKiKP** **04 24 36.2 +1.4**
baz=300
G05D Wamic, OR 124.53 37 P **PKiKP** **04 24 36.5 +0.7**
baz=302
FCC Fort Churchill 124.91 11 *e*PKPdf **PKPdf** **04 24 35.5 -0.2**
FCC Fort Churchill 124.91 11 *e*PKIKP **PKPdf** **04 24 35.5 -0.2**
HAWA Hanford 124.93 35 *e*PKPdf **PKiKP** **04 24 36.8 +0.3**
I05D Terrebonne, OR 125.00 38 P **PKiKP** **04 24 37.8 +1.1**
baz=302
J04D Umpqua Nationa 125.09 39 P **PKiKP** **04 24 38.2 +1.1**
baz=301
NEW Newport 125.13 32 PKP **PKiKP** **04 24 36.9 0.0**
comp=Z,1.4nm,0.8s,baz=84,slow=6.6,SNR=5.1
YBH Yreka Blue Hor 125.45 41 PKP **PKPdf** **04 24 37.7 +0.3**
comp=Z,0.8nm,0.7s,baz=225,slow=1.4,SNR=4.1
L04D Klamath Falls 125.48 40 P **PKiKP** **04 24 38.7 +0.9**
baz=300
M02C Callahan 125.52 42 P **PKiKP** **04 24 38.9 +1.1**
baz=299
PINE Pine Mountain 125.53 38 *e*PKPdf **PKiKP** **04 24 38.2 +0.2**
J05D Fort Rock, OR 125.61 39 P **PKiKP** **04 24 39.2 +1.1**
baz=301
N02D Trinity Center 125.82 42 P **PKiKP** **04 24 39.6 +1.1**
baz=299
M04C Macdoel 125.99 41 P **PKiKP** **04 24 39.8 +0.9**
baz=300
O02D Mt. Diablo Mer 126.14 43 P **PKiKP** **04 24 40.7 +1.5**
baz=298
F10A Beach Branch, E 126.47 34 *e*PKPdf **PKPdf** **04 24 39.0 -0.2**
FFC Flin Flon 126.61 18 *e*PKPdf **PKiKP** **04 24 39.6 +0.1**
FFC Flin Flon 126.61 18*c i*PKIKP **PKiKP** **04 24 40.4 +0.9**
O03E Paynes Creek 126.75 42 P **PKiKP** **04 24 40.9 +0.6**
baz=299
J08A Circle Bar Ran 127.27 37 *e*PKPdf **PKiKP** **04 24 41.4 0.0**
ORV Oroville 127.31 43 *e*PKPdf **PKPdf** **04 24 40.8 -0.1**
ORV Oroville 127.31 43 *e*PKIKP **PKPdf** **04 24 40.8 -0.1**
WVOR Wild Horse Val 127.68 38 *e*PKPdf **PKPdf** **04 24 42.0 +0.3**
WVOR Wild Horse Val 127.68 38 *e*PKIKP **PKPdf** **04 24 42.0 +0.3**
MSO Missoula 127.71 31 *e*PKPdf **PKPdf** **04 24 41.1 -0.5**
MSO Missoula 127.71 31 P **PKiKP** **04 24 42.5 +0.3**
baz=311
AFDM Forest Hills D 127.96 43 *e*PKPdf **PKPdf** **04 24 42.5 +0.4**
EGMT Eagleton 128.94 28 P **PKiKP** **04 24 45.4 +0.8**
baz=316
HLID Hailey 129.53 35 P **PKiKP** **04 24 47.4 +1.4**
baz=308
BOZ Bozeman (W) 129.72 31 P **PKiKP** **04 24 47.0 +0.7**
baz=313
SCHQ Schefferville 129.77 352 PKP **PKiKP** **04 24 46.5 +0.6**
comp=Z,2.0nm,0.5s,baz=2.8,slow=2.0,SNR=11
NV01 Mina Array Sit 130.03 43 *e*PKPdf **PKiKP** **04 24 48.1 +1.0**
NVAR Mina Array Bea 130.03 43 PKP **PKiKP** **04 24 47.6 +0.4**
comp=Z,1.3nm,0.5s,baz=296,slow=2.6,SNR=10
NVAR SKPbc **SKPab** **04 28 05.2 +0.2**
comp=Z,0.7nm,0.6s,baz=267,slow=4.0,SNR=4.8
ELK Elko 130.74 38 PKP **PKiKP** **04 24 49.6 +1.0**
comp=Z,1.6nm,0.5s,baz=127,slow=6.5,SNR=10
CWC Cottonwood Cre 131.18 45 P **PKiKP** **04 24 49.5 0.0**
baz=300
LAO LASA Array 131.54 27 *e*PKPdf **PKPdf** **04 24 49.4 +0.5**
LAO LASA Array 131.54 27 P **PKiKP** **04 24 50.5 +0.7**
baz=320
HVU Hansel Valley 131.59 36 *e*PKPdf **PKPdf** **04 24 49.8 +0.6**
HVU Hansel Valley 131.59 36 *e*PKIKP **PKPdf** **04 24 49.8 +0.6**
MPMC Manual Prospec 131.79 45 P **PKiKP** **04 24 51.2 +0.5**
baz=300
R11A Troy Canyon, C 131.88 41 *e*PKPdf **PKPdf** **04 24 50.0 +0.1**
ULM Lac du Bonnet 132.33 16 PKP **PKPdf** **04 24 50.0 -0.1**
comp=Z,3.1nm,0.6s,baz=14,slow=3.4,SNR=9.8
ULM Lac du Bonnet 132.33 16 *e*PKPdf **PKPdf** **04 24 50.3 +0.2**
ULM Lac du Bonnet 132.33 16 PKIKP **PKPdf** **04 24 50.0 -0.1**
ULM pmax pmax
comp=Z,3.0nm,0.6s
HWUT Hardware Ranch 132.40 35 *e*PKPdf **PKiKP** **04 24 51.6 -0.2**
HWUT *e*SKPbc **SKPbc** **04 28 13.5 -0.3**
DUG Dugway, Tooele 132.55 37 P **PKiKP** **04 24 53.3 +1.2**
baz=308
GSC Goldstone, Bar 132.65 45 P **PKiKP** **04 24 53.2 +0.8**
baz=300
PDAR Pinedale Array 132.74 33 PKP **PKPdf** **04 24 51.6 +0.2**
comp=Z,0.6nm,0.5s,baz=160,slow=2.4,SNR=8.3
PDAR SKPbc **SKPbc** **04 28 14.4 -0.6**
comp=Z,0.5nm,0.8s,baz=58,slow=2.4,SNR=2.6
PSUT Pine Spring 132.89 40 *e*PKPdf **PKPdf** **04 24 52.1 +0.3**
NLU North Lily Min 133.15 37 *e*PKPdf **PKPdf** **04 24 52.0 -0.3**
GMRC Granite Mounta 133.72 45 P **PKiKP** **04 24 55.8 +1.1**
baz=301
SZCU Shurtz Canyon 133.93 40 *e*PKPdf **PKPdf** **04 24 52.8 -1.0**
MSU Marysvale 133.97 39 *e*PKPdf **PKPdf** **04 24 54.6 +0.8**
MSU Marysvale 133.97 39 *e*PKIKP **PKPdf** **04 24 54.6 +0.8**
TMUT Trail Mountain 134.08 37 *e*PKPdf **PKPdf** **04 24 54.8 +0.7**
LCMT Little Creek M 134.16 41 *e*PKPdf **PKiKP** **04 24 55.2 -0.3**
P17A Butcher Ranch, 134.25 37 *e*PKPdf **PKPdf** **04 24 54.2 -0.1**
Q16A Castle Valley 134.34 38 *e*PKPdf **PKPdf** **04 24 54.2 -0.3**
IRM Iron Mountain 134.40 46 P **PKiKP** **04 24 56.7 +0.8**
baz=301
K22A Casper 134.41 31 *e*PKPdf **PKPdf** **04 24 54.2 -0.3**
K22A Casper 134.41 31 P **PKiKP** **04 24 55.9 +0.1**
baz=317
RSSD Black Hills 134.50 27 P **PKiKP** **04 24 56.1 0.0**
baz=321
SRU San Rafael Swe 134.61 37 *e*PKPdf **PKPdf** **04 24 54.7 -0.3**
SRU San Rafael Swe 134.61 37 *e*PKIKP **PKPdf** **04 24 54.7 -0.3**
Y12C Blythe 135.05 46 *e*PKPdf **PKPdf** **04 24 55.7 0.0**
Y12C Blythe 135.05 46 P **PKiKP** **04 24 57.7 +0.5**
baz=301
O20A White River Ci 135.26 34 *e*PKPdf **PKPdf** **04 24 56.3 +0.1**
O20A White River Ci 135.26 34 P **PKiKP** **04 24 58.0 +0.3**
baz=313
CHGQ Chibougamau 135.33 358 P **PKiKP** **04 24 57.1 -0.2**
baz=3.7
EYMN Ely 135.59 14 P **PKiKP** **04 24 58.1 +0.2**
baz=339
N23A Red Feather La 135.98 32 P **PKiKP** **04 24 58.6 -0.6**
baz=316
LSQQ Lebel-sur-Quev 136.24 360 P **PKiKP** **04 24 59.1 0.0**
baz=360
SUSD Miller 136.39 23 P **PKiKP** **04 25 00.1 +0.5**
baz=327
214A Organ Pipe Nat 137.21 47 P **PKiKP** **04 25 01.5 -0.2**
baz=301
E39A Mellen 137.28 14 P **PKiKP** **04 25 01.6 +0.3**
baz=340
F38A Pierce - Schro 137.34 15 P **PKiKP** **04 25 01.7 +0.3**
baz=338
F37A Hinrichs Farm, 137.36 16 P **PKiKP** **04 25 01.9 +0.4**
baz=337
S22A 4UR Ranch, Cre 137.69 36 P **PKiKP** **04 25 02.3 -0.5**
baz=313
LATQ La Tuque 137.75 356 P **PKiKP** **04 25 02.5 +0.2**
baz=6.2
SPMN Marine on St. 137.77 17 P **PKiKP** **04 25 02.4 0.0**
baz=336
F40A Park Falls 137.82 14 P **PKiKP** **04 25 02.6 +0.1**
baz=340
ECSD EROS Data Cent 137.87 21 *e*PKPdf **PKPdf** **04 25 00.6 -0.1**
ECSD EROS Data Cent 137.87 21 P **PKPdf** **04 25 01.7 +1.0**
baz=330
D47A Chapleau 137.92 6 P **PKPdf** **04 25 01.3 +0.6**
baz=351
D48A Paudash Townsh 137.92 5 P **PKiKP** **04 25 02.0 -0.7**
baz=353
D46A Sault St. Mari 137.97 7 P **PKPdf** **04 25 01.6 +0.9**
baz=350
E43A Lone Tree Farm 138.03 10 P **PKiKP** **04 25 02.1 -0.8**
baz=345
G38A Ridgeland 138.08 16 P **PKiKP** **04 25 02.4 -0.6**
baz=338
D54A Lac Fusel, La 138.15 360 P **PKiKP** **04 25 02.6 -0.5**
baz=0.5
D51A Lot 18 Range I 138.16 2 P **PKPdf** **04 25 02.3 +1.2**
baz=356
F41A Three Lakes 138.22 13 P **PKiKP** **04 25 02.8 -0.6**
baz=342
D52A ZEK Kipawa Sen 138.31 1 P **PKiKP** **04 25 02.9 -0.5**
baz=358
E45A Wooded Hills, 138.34 8 P **PKiKP** **04 25 03.2 -0.3**
baz=348
E46A Sault Ste Mari 138.45 8 P **PKiKP** **04 25 03.5 -0.2**
baz=349
SDCO Great Sand Dun 138.45 35 P **PKPdf** **04 25 03.4 +1.1**
baz=314
G42A Mountain 138.84 12 P **PKiKP** **04 25 04.1 -0.4**
baz=343
E54A Lac Daplat, Po 138.86 0 P **PKiKP** **04 25 03.9 -0.7**
baz=360
E53A Dumoine, Ponti 138.92 1 P **PKiKP** **04 25 04.3 -0.3**
baz=359
H40A Chili 138.97 15 P **PKiKP** **04 25 04.5 -0.4**
baz=340
H41A Junction City 139.16 14 P **PKiKP** **04 25 05.1 -0.1**
baz=341
F48A Evansville 139.18 6 P **PKiKP** **04 25 04.9 -0.3**
baz=351
F49A Sandfield 139.30 5 P **PKiKP** **04 25 05.0 -0.4**
baz=352
I39A Houston 139.39 16 P **PKiKP** **04 25 05.2 -0.5**
baz=338
F52A Sundridge 139.46 2 P **PKiKP** **04 25 05.5 -0.3**
baz=356
I40A Norwalk 139.59 15 P **PKiKP** **04 25 05.9 -0.2**
baz=339
PEMO Pembroke 139.62 0 P **PKiKP** **04 25 06.2 +0.1**
baz=360
G47A Hillman 139.68 7 P **PKiKP** **04 25 06.2 -0.1**
baz=349
ANMO Albuquerque 139.78 39 PKP **PKPdf** **04 25 05.8 +1.1**
comp=Z,1.4nm,0.7s,baz=252,slow=2.6,SNR=7.1
ANMO Albuquerque 139.78 39 *e*PKPdf **PKPdf** **04 25 04.4 -0.3**
ANMO Albuquerque 139.78 39*c i*PKIKP **PKPdf** **04 25 05.0 +0.3**
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO Albuquerque 139.78 39 P **PKPdf** **04 25 06.0 +1.4**
baz=311
J39A Decorah 139.81 17 P **PKiKP** **04 25 06.1 -0.5**
baz=337
GLMI Grayling 139.92 8 *e*PKPdf **PKPdf** **04 25 04.2 -0.2**
I42A Draeger Farm, 140.01 13 P **PKiKP** **04 25 06.6 -0.4**
baz=341
J40A Soldiers Grove 140.02 16 P **PKiKP** **04 25 06.4 -0.7**
baz=338
G55A Calabogie 140.04 360 P **PKiKP** **04 25 06.7 -0.3**
baz=0.4
PLVO Plevna 140.26 0 P **PKiKP** **04 25 07.2 -0.2**
baz=360
BANO Bancroft 140.27 1 P **PKiKP** **04 25 07.4 -0.1**
baz=358
SADO Sadowa 140.49 2 PKP **PKiKP** **04 25 07.7 -0.3**
comp=Z,6.2nm,0.9s,baz=342,slow=4.5,SNR=6.0
J42A Columbus 140.51 14 P **PKiKP** **04 25 07.6 -0.5**
baz=341
JFWS Jewell Farm 140.60 15 P **PKiKP** **04 25 07.7 -0.5**
baz=339
I48A Sherman Twp 140.67 8 P **PKiKP** **04 25 08.2 -0.1**
baz=349
L39A Vinton 140.84 18 P **PKiKP** **04 25 08.1 -0.7**
baz=336
I49A Point Hope 141.02 7 P **PKiKP** **04 25 09.0 0.0**
baz=351
L40A Anamosa 141.12 17 P **PKiKP** **04 25 08.9 -0.4**
baz=337
M39A Webster 141.37 18 P **PKiKP** **04 25 09.2 -0.6**
baz=335
J48A Bridge Port 141.53 8 P **PKiKP** **04 25 09.9 -0.2**
baz=351
ACTO Acton 141.60 4 P **PKiKP** **04 25 09.9 -0.3**
baz=355
MNTX Cornudas Mount 142.54 42 *e*PKPdf **PKPdf** **04 25 08.3 -1.2**
K55A Perry 142.56 1 P **PKiKP** **04 25 12.0 -0.3**
baz=358
N42A Yates City 142.60 16 P **PKiKP** **04 25 12.4 0.0**
baz=338
N46A Monticello 143.35 12 P PKPbc 04 25 08.6 +0.9
baz=344
M50A Fremont 143.50 8 P PKPbc 04 25 08.5 +0.4
baz=350
N47A Urbana 143.58 11 P PKPbc 04 25 08.7 +0.3
baz=345
P42A Winchester 143.66 17 P PKPbc 04 25 09.2 +0.5
baz=337
M53A WI Miller and 143.71 5 P PKPbc 04 25 09.4 +0.7
baz=354
N48A Decatur 143.72 10 P PKPbc 04 25 09.1 +0.3
baz=346
SFIN Lafayette 143.77 13 P PKPbc 04 25 09.7 +0.7
baz=343
N49A Columbus Grove 143.80 9 P PKPbc 04 25 09.5 +0.5
baz=348
P43A Skaggs, Pawnee 143.85 16 P PKPbc 04 25 09.8 +0.6
baz=339
Q41A Truxton 143.97 19 P PKPab 04 25 09.2 +0.2
baz=336
N51A Ashland 144.06 7 P **PKPab** **04 25 09.1 -0.2**
baz=351
N50A Nevada 144.10 8 P PKPbc 04 25 10.0 0.0
baz=350
O47A Sheridan 144.10 12 P PKPbc 04 25 10.0 0.0
baz=344
Q42A Golden Eagle 144.22 18 P **PKPab** **04 25 10.4 +0.4**
baz=337
N52A McGinn's Farm, 144.24 6 P **PKPab** **04 25 09.9 -0.1**
baz=352
P44A Sand Creek, Wi 144.26 15 P PKPbc 04 25 10.6 +0.2
baz=340
O48A Farmland 144.28 11 P PKPbc 04 25 10.8 +0.2
baz=346
N53A Lisbon 144.33 5 P PKPbc 04 25 11.0 +0.3
baz=353
WMOK Wichita Mounta 144.34 32 *e*PKPdf **PKPab** **04 25 10.9 +0.3**
WMOK Wichita Mounta 144.34 32 *e*PKIKP **PKPab** **04 25 10.9 +0.3**
WMOK Wichita Mounta 144.34 32 P PKPbc 04 25 11.2 +0.2
baz=321
N59A State Game Lan 144.36 358 P PKPbc 04 25 11.2 +0.4
baz=2.0
P45A Graceland, Par 144.43 14 *e*PKPdf PKPbc 04 25 11.9 +0.9
P45A Graceland, Par 144.43 14 P PKPbc 04 25 11.5 +0.5
baz=341
Q43A New Douglas 144.45 17 P PKPbc 04 25 11.5 +0.4
baz=338
P46A Rosedale 144.47 14 P PKPbc 04 25 11.3 +0.2

	baz=342						
N55A	**Marion Center**	144.47	3	P	PKPbc	04 25 11.3	+0.2
	baz=357						
O49A	**Covington**	144.49	10	*e*PKPdf	**PKPab**	04 25 11.1	+0.1
O49A	**Covington**	144.49	10	P	**PKPab**	04 25 10.9	-0.1
	baz=347						
R41A	**Rosebud**	144.51	20	P	**PKPab**	04 25 10.9	-0.1
	baz=335,SNR=11						
BDFB	**Brasilia**	144.61	234	PKP	**PKPdf**	04 25 14.7	+1.1
	comp=Z,3.5nm,0.5s,baz=132,slow=2.4,SNR=8.6						
O50A	**Cable**	144.65	9	P	**PKPab**	04 25 11.4	-0.2
	baz=349,SNR=6.0						
ACSO	**Alum Creek Sta**	144.66	8	*e*PKPdf	**PKPab**	04 25 11.8	+0.3
ACSO	**Alum Creek Sta**	144.66	8	P	**PKPab**	04 25 11.5	-0.1
	baz=350,SNR=6.5						
Q44A	**Meyer Farm, Va**	144.68	16	*e*PKPdf	PKPbc	04 25 12.1	+0.3
Q44A	**Meyer Farm, Va**	144.68	16	P	**PKPab**	04 25 11.6	-0.1
	baz=339						
R42A	**Luebbering**	144.72	19	P	**PKPab**	04 25 11.7	-0.1
	baz=336,SNR=20						
CCM	**Cathedral Cave**	144.77	20	*e*PKPdf	**PKPab**	04 25 11.8	-0.3
CCM	**Cathedral Cave**	144.77	20	*e*PKIKP	**PKPab**	04 25 11.8	-0.3
CCM	**Cathedral Cave**	144.77	20	P	**PKPab**	04 25 11.6	-0.5
	baz=335						
O51A	**Pataskala**	144.79	7	P	**PKPab**	04 25 12.0	-0.1
	baz=350,SNR=13						
P47A	**Martinsville**	144.80	12	P	**PKPab**	04 25 12.2	0.0
	baz=344,SNR=7.9						
O53A	**New Philadelph**	144.84	6	P	**PKPab**	04 25 12.1	-0.2
	baz=353						
TUL1	**Leonard**	144.85	27	*e*PKPdf	**PKPab**	04 25 12.1	-0.3
TUL1	**Leonard**	144.85	27	P	**PKPab**	04 25 12.4	0.0
	baz=326,SNR=16						
O52A	**Adamsville**	144.91	6	*e*PKPbc	**PKPab**	04 25 11.7	-0.9
O52A	**Adamsville**	144.91	6	P	**PKPab**	04 25 12.3	-0.3
	baz=352,SNR=8.8						
Q45A	**Warren Harvey,**	144.92	15	P	**PKPab**	04 25 12.4	-0.2
	baz=340,SNR=15						
O54A	**Avella**	144.98	4	P	**PKPab**	04 25 12.8	0.0
	baz=354						
R43A	**Red Bud**	144.99	18	P	**PKPab**	04 25 12.6	-0.2
	baz=337,SNR=18						
O56A	**Blue Knob Stat**	145.00	2	*e*PKPbc	**PKPab**	04 25 12.8	-0.1
O56A	**Blue Knob Stat**	145.00	2	P	**PKPab**	04 25 12.9	0.0
	baz=357,SNR=6.6						
P48A	**Milroy**	145.00	11	P	**PKPab**	04 25 12.5	-0.4
	baz=345,SNR=7.1						
S41A	**Jilco Farms,**	145.02	21	P	**PKPbc**	04 25 12.9	-0.1
	baz=334,SNR=46						
BLO	**Bloomington**	145.05	13	*e*PKPbc	**PKPbc**	04 25 13.2	+0.2
BLO	**Bloomington**	145.05	13	*e*PKIKP	**PKPbc**	04 25 13.2	+0.2
P49A	**Miami Univ. Ec**	145.06	10	P	**PKPbc**	04 25 12.7	-0.3
	baz=346,SNR=11						
OLIL	**Olney**	145.09	15	*e*PKPbc	**PKPbc**	04 25 13.3	+0.2
P50A	**Jamestown**	145.15	9	P	**PKPbc**	04 25 12.9	-0.4
	baz=348,SNR=15						
HPIG		145.15	48	*e*PKPbc	**PKPdf**	04 25 14.6	+0.1
TX31	**Lajitas Ar. Si**	145.17	43	*e*PKPbc	**PKPab**	04 25 14.2	+0.2
TXAR	**Lajitas Array**	145.17	43	PKP	**PKPdf**	04 25 14.8	+0.5
	comp=Z,15nm,0.7s,baz=281,slow=1.4,SNR=196						
S42A	**Caledonia**	145.18	19	P	**PKPbc**	04 25 13.2	-0.3
	baz=336,SNR=32						
R44A	**Waltonville**	145.27	17	P	**PKPbc**	04 25 13.7	0.0
	baz=339,SNR=20						
MVL	**Millersville**	145.29	359	*e*PKPbc	**PKPdf**	04 25 14.3	+0.3
Q47A	**Bedord North L**	145.30	13	P	**PKPbc**	04 25 13.9	+0.1
	baz=343,SNR=20						
HHAR	**Hobbs**	145.34	24	*e*PKPbc	**PKPbc**	04 25 13.0	-1.0
P52A	**Corning**	145.35	7	P	**PKPbc**	04 25 13.5	-0.5
	baz=351,SNR=9.3						
P51A	**Williamsport**	145.38	8	*e*PKPbc	**PKPbc**	04 25 13.2	-0.9
P51A	**Williamsport**	145.38	8	P	**PKPbc**	04 25 13.5	-0.6
	baz=349						
R45A	**Skylar, Fairfi**	145.45	16	P	**PKPbc**	04 25 14.5	+0.2
	baz=340,SNR=17						
Q48A	**North Vernon**	145.45	12	P	**PKPbc**	04 25 14.4	+0.1
	baz=345,SNR=26						
ABTX	**Abilene, Hawle**	145.46	35	*e*PKPdf	**PKPdf**	04 25 14.6	0.0
ABTX	**Abilene, Hawle**	145.46	35	P	**PKPab**	04 25 14.9	+0.1
	baz=318						
LCO	**Las Campanas**	145.50	190	*e*PKPbc	**PKPab**	04 25 16.4	+1.0
T41A	**Mountain View**	145.50	21	P	**PKPdf**	04 25 14.4	-0.1
	baz=334,SNR=15						
MCWV	**Mont Chateau**	145.54	4	*e*PKPdf	**PKPdf**	04 25 14.2	-0.2
MCWV	**Mont Chateau**	145.54	4	P	**PKPab**	04 25 14.9	+0.1
	baz=355,SNR=9.7						
Q49A	**Aurora**	145.54	11	P	**PKPdf**	04 25 14.5	0.0
	baz=346						
P53A	**Whipple**	145.58	6	*e*PKPdf	**PKPdf**	04 25 14.3	-0.2
P53A	**Whipple**	145.58	6	P	**PKPdf**	04 25 14.7	+0.1
	baz=352,SNR=8.3						
S43A	**Fulton Ridge,**	145.59	18	P	**PKPdf**	04 25 14.3	-0.3
	baz=337,SNR=6.2						
P55A	**Reedsville**	145.69	4	P	**PKPdf**	04 25 15.0	+0.2
	baz=355						
U40A	**Yellville**	145.71	23	P	**PKPdf**	04 25 15.0	+0.1
	baz=331,SNR=75						
SIUC	**Southern Illin**	145.73	17	*e*PKPdf	**PKPdf**	04 25 15.0	+0.2
R46A	**Gibon Southern**	145.73	15	P	**PKPdf**	04 25 15.2	+0.4
	baz=341,SNR=7.3						
S44A	**Carbondale**	145.73	17	P	**PKPbc**	04 25 15.3	+0.1
	baz=338,SNR=24						
T42A	**Van Buren**	145.75	20	*e*PKPdf	**PKPdf**	04 25 14.6	-0.3
T42A	**Van Buren**	145.75	20	P	**PKPdf**	04 25 15.3	+0.4
	baz=335,SNR=52						
Q51A	**Peebles**	145.79	9	*e*PKPdf	**PKPdf**	04 25 15.0	+0.1
Q51A	**Peebles**	145.79	9	P	**PKPdf**	04 25 15.1	+0.1
	baz=349,SNR=11						
Q50A	**Georgetown**	145.87	10	P	**PKPdf**	04 25 15.2	+0.1
	baz=348,SNR=6.1						
SDMD	**Soldier's Deli**	145.88	360	*e*PKPdf	**PKPdf**	04 25 14.7	-0.4
R47A	**Wooly Knot Far**	145.89	13	P	**PKPdf**	04 25 15.6	+0.5
	baz=343,SNR=15						
USIN	**University of**	145.92	15	*e*PKPdf	**PKPdf**	04 25 15.2	+0.1
R48A	**Northridge Ran**	145.93	12	P	**PKPbc**	04 25 16.1	+0.3
	baz=344,SNR=17						
S45A	**Carrier Mills**	145.94	16	P	**PKPbc**	04 25 16.0	+0.1
	baz=339,SNR=17						
T43A	**Greenville**	145.97	19	P	**PKPdf**	04 25 15.5	+0.3
	baz=336,SNR=20						
Q52A	**Bidwell**	146.00	7	P	**PKPdf**	04 25 15.8	+0.5
	baz=351,SNR=8.8						
WCI	**Wyandotte Cave**	146.00	13	*e*PKPbc	**PKPbc**	04 25 15.9	-0.2
WCI	**Wyandotte Cave**	146.00	13	*e*PKP2	**PKPbc**	04 25 15.9	-0.2
WCI	**Wyandotte Cave**	146.00	13	P	**PKPdf**	04 25 15.8	+0.5
	baz=343						
U41A	**Viola**	146.07	22	P	**PKPbc**	04 25 16.2	-0.1
	baz=333,SNR=27						
X37A	**Clayton**	146.13	28	*e*PKPdf	**PKPbc**	04 25 16.6	+0.1
S46A	**Don Dixon Farm**	146.17	15	P	**PKPdf**	04 25 16.2	+0.6
	baz=341						
R49A	**Shelbyville**	146.18	12	P	**PKPbc**	04 25 16.5	-0.1
	baz=345,SNR=11						
Q55A	**Buckhannon**	146.19	4	P	**PKPbc**	04 25 16.7	+0.1
	baz=354						
U42A	**Revenden**	146.31	21	P	**PKPbc**	04 25 16.9	-0.1
	baz=334,SNR=17						
W39A	**Magazine**	146.33	25	*e*PKPdf	**PKPbc**	04 25 17.5	+0.3
W39A	**Magazine**	146.33	25	P	**PKPbc**	04 25 16.8	-0.3
	baz=329						
R50A	**Paris**	146.35	10	P	**PKPdf**	04 25 16.7	+0.8
	baz=347,SNR=8.2						
R51A	**Hillsboro**	146.46	9	P	**PKPdf**	04 25 16.9	+0.8
	baz=348						
S47A	**Hartford**	146.47	14	P	**PKPdf**	04 25 16.9	+0.8
	baz=342						
V41A	**Mountainview**	146.48	23	P	**PKPbc**	04 25 17.2	-0.4
	baz=332,SNR=20						
R52A	**Catlettsburg**	146.57	8	P	**PKPbc**	04 25 17.3	-0.5
	baz=350						
U43A	**Rector**	146.58	20	P	**PKPbc**	04 25 17.6	-0.2
	baz=335,SNR=9.6						
S48A	**Wiedeman Farm,**	146.60	13	P	**PKPbc**	04 25 17.8	-0.1
	baz=344,SNR=23						
S49A	**Springfield**	146.65	12	P	**PKPbc**	04 25 18.5	+0.5
	baz=345,SNR=11						
R53A	**Hurricane**	146.66	7	P	**PKPbc**	04 25 18.0	0.0
	baz=351,SNR=12						
U44A	**Portageville**	146.70	19	P	**PKPbc**	04 25 18.1	-0.1
	baz=337						
T46A	**Princeton**	146.73	16	P	**PKPbc**	04 25 18.5	+0.2
	baz=340,SNR=12						
V42A	**Cord**	146.74	22	P	**PKPbc**	04 25 18.2	-0.2
	baz=333,SNR=30						
WHAR	**Wooly Hollow**	146.86	23	*e*PKPbc	**PKPbc**	04 25 18.7	+0.1
JCT	**Junction City**	146.91	38	*e*PKPbc	**PKPbc**	04 25 19.2	+0.1
JCT	**Junction City**	146.91	38	*e*PKP2	**PKPbc**	04 25 19.2	+0.1
JCT	**Junction City**	146.91	38	P	**PKPbc**	04 25 19.4	+0.4
	baz=315						
S50A	**Richmond**	146.92	11	P	**PKPbc**	04 25 18.4	-0.4
	baz=346,SNR=6.6						
U44B	**Burton Farm, H**	146.96	18	P	**PKPbc**	04 25 18.7	-0.2
	baz=337						
MIAR	**Mount Ida**	146.97	26	*e*PKPbc	**PKPbc**	04 25 19.8	+0.8
MIAR	**Mount Ida**	146.97	26	*e*PKP2	**PKPbc**	04 25 19.8	+0.8
MIAR	**Mount Ida**	146.97	26	P	**PKPbc**	04 25 19.2	+0.2
	baz=329,SNR=57						
W41B	**Gary Mavity, V**	146.98	23	*e*PKPbc	**PKPbc**	04 25 18.9	-0.1
W41B	**Gary Mavity, V**	146.98	23	P	**PKPbc**	04 25 19.3	+0.3
	baz=331,SNR=6.9						
T47A	**Sharon Grove**	146.99	15	P	**PKPbc**	04 25 18.9	-0.1
	baz=341						
T48A	**Bowling Green**	147.05	14	P	**PKPbc**	04 25 19.0	-0.1
	baz=343,SNR=13						
V43A	**Jonesboro**	147.06	20	P	**PKPbc**	04 25 19.6	+0.4
	baz=335						
GNAR	**Gosnell**	147.08	20	*e*PKPbc	**PKPbc**	04 25 19.8	+0.6
CBN	**Corbin Frederi**	147.09	0	P	**PKPbc**	04 25 19.5	+0.3
	baz=359						
S51A	**Beattyville**	147.10	10	*e*PKPbc	**PKPbc**	04 25 18.7	-0.6
S51A	**Beattyville**	147.10	10	P	**PKPbc**	04 25 19.0	-0.3
	baz=348,SNR=12						
U45A	**Rockin P Farm,**	147.13	18	P	**PKPbc**	04 25 19.3	-0.1
	baz=338						
S52A	**Salyersville**	147.15	9	P	**PKPbc**	04 25 19.2	-0.2
	baz=349,SNR=7.4						
T49A	**Edmonton**	147.25	13	*e*PKPbc	**PKPbc**	04 25 20.3	+0.5
T49A	**Edmonton**	147.25	13	P	**PKPbc**	04 25 19.6	-0.2
	baz=344						
UALR	**University of**	147.29	24	*e*PKPbc	**PKPbc**	04 25 19.9	0.0
U46A	**Springville**	147.29	17	P	**PKPbc**	04 25 20.0	+0.1
	baz=339						
R58B	**Mineral**	147.32	1	*e*PKPbc	**PKPbc**	04 25 20.4	+0.5
R58B	**Mineral**	147.32	1	P	**PKPbc**	04 25 19.9	0.0
	baz=358						
X40A	**Basin Creek Fa**	147.34	25	*e*PKPbc	**PKPbc**	04 25 21.1	+1.0
X40A	**Basin Creek Fa**	147.34	25	P	**PKPbc**	04 25 20.3	+0.2
	baz=330						
HALT	**Halls**	147.35	19	*e*PKPbc	**PKPbc**	04 25 20.4	+0.4
U47A	**Clarksville**	147.46	15	P	**PKPbc**	04 25 20.4	+0.1
	baz=341,SNR=12						
X41A	**Kaden, Bauxite**	147.46	24	P	**PKPbc**	04 25 20.5	+0.1
	baz=330						
T50A	**Nancy**	147.48	12	P	**PKPbc**	04 25 19.8	-0.5
	baz=345,SNR=6.2						
U48A	**Cassie Pea, Po**	147.58	14	P	**PKPbc**	04 25 20.5	-0.2
	baz=328,SNR=16						
WVT	**Waverly**	147.60	16	*e*PKPbc	**PKPbc**	04 25 20.9	+0.2
WVT	**Waverly**	147.60	16	*e*PKP2	**PKPbc**	04 25 20.9	+0.2
WVT	**Waverly**	147.60	16	P	**PKPbc**	04 25 20.8	+0.1
	baz=340						
V45A	**Humboldt**	147.63	18	P	**PKPbc**	04 25 20.8	0.0
	baz=337						
T51A	**Gray**	147.70	10	P	**PKPbc**	04 25 20.6	-0.3
	baz=347						
T52A	**Hallie**	147.72	9	P	**PKPbc**	04 25 20.7	-0.4
	baz=349						
U49A	**Red Boiling Sp**	147.76	13	P	**PKPbc**	04 25 21.0	-0.2
	baz=344						
V46A	**Holladay**	147.83	17	P	**PKPbc**	04 25 21.2	-0.1
	baz=339						
T53A	**Wise**	147.91	8	P	**PKPbc**	04 25 21.4	-0.2
	baz=350						
BLA	**Blacksburg**	147.93	5	P	**PKPbc**	04 25 21.1	-0.5
	baz=354						
Y41A	**Eaglette Beard**	147.95	25	P	**PKPbc**	04 25 22.0	+0.3
	baz=330,SNR=17						
V47A	**Nunnelly**	147.97	16	P	**PKPbc**	04 25 21.7	-0.1
	baz=340						
435B	**Jarrell**	148.00	35	*e*PKPbc	**PKPbc**	04 25 22.8	+0.9
U50A	**Jamestown**	148.06	12	P	**PKPbc**	04 25 21.9	-0.1
	baz=345						
W45A	**Hickory Valley**	148.09	19	P	**PKPbc**	04 25 22.0	0.0
	baz=337,SNR=6.4						
TZTN	**Tazewell**	148.18	10	*e*PKPbc	**PKPbc**	04 25 22.3	0.0
TZTN				*e*PKPab	**PKPab**	04 25 25.1	-0.1
V48A	**Smith Brothers**	148.24	15	*e*PKPbc	**PKPbc**	04 25 22.3	-0.1
V48A	**Smith Brothers**	148.24	15	P	**PKPbc**	04 25 22.3	-0.1
	baz=341						
U51A	**La Follette**	148.26	11	P	**PKPbc**	04 25 22.7	+0.2
	baz=347						
CCAR	**Cane Creek**	148.26	24	*e*PKPbc	**PKPbc**	04 25 23.1	+0.6
Y42A	**Garnett, Star**	148.33	24	P	**PKPbc**	04 25 22.5	-0.2
	baz=331						
U52A	**Thorn Hill**	148.36	10	P	**PKPbc**	04 25 22.4	-0.4
	baz=348						
X44A	**Crenshaw**	148.36	21	P	**PKPbc**	04 25 22.8	0.0
	baz=334						
W46A	**Michie**	148.37	18	P	**PKPbc**	04 25 22.2	-0.6
	baz=338						
Z41A	**Richland Creek**	148.41	26	*e*PKPbc	**PKPbc**	04 25 23.5	+0.6
Z41A	**Richland Creek**	148.41	26	P	**PKPbc**	04 25 23.1	+0.2
	baz=329						
V49A	**McMinnville**	148.45	14	P	**PKPbc**	04 25 22.4	-0.6
	baz=343						
W47A	**Westpoint**	148.49	17	P	**PKPbc**	04 25 23.0	-0.1
	baz=340,SNR=30						
Y43A	**Makayla and Ka**	148.60	23	P	**PKPbc**	04 25 23.8	+0.4
	baz=333						
PLAL	**Pickwick Lake**	148.60	18	*e*PKPbc	**PKPbc**	04 25 23.1	-0.3
OXF	**Oxford**	148.61	20	*e*PKPbc	**PKPbc**	04 25 23.7	+0.3
OXF				*e*PKPab	**PKPab**	04 25 26.9	0.0
OXF	**Oxford**	148.61	20	*e*PKP2	**PKPbc**	04 25 23.7	+0.3
OXF	**Oxford**	148.61	20	P	**PKPbc**	04 25 23.3	-0.1
	baz=336,SNR=5.1						
X45A	**UM Field Stati**	148.69	20	P	**PKPbc**	04 25 23.6	-0.1
	baz=338,SNR=6.3						
V50A	**Pikeville**	148.72	13	P	**PKPbc**	04 25 23.4	-0.3
	baz=344						
V51A	**Loudon**	148.75	11	*e*PKPbc	**PKPbc**	04 25 24.1	+0.3
V51A	**Loudon**	148.75	11	P	**PKPbc**	04 25 23.7	-0.1
	baz=346						
W48A	**Pulaski**	148.78	16	P	**PKPbc**	04 25 23.6	-0.2
	baz=341,SNR=22						
NATX	**Nacogdoches**	148.79	30	*e*PKPbc	**PKPbc**	04 25 24.3	+0.3
NATX	**Nacogdoches**	148.79	30	P	**PKPbc**	04 25 24.1	+0.1
	baz=324						
Y44A	**Strider, Charl**	148.82	21	P	**PKPbc**	04 25 24.2	+0.2
	baz=334						
X46A	**Booneville**	148.84	19	P	**PKPbc**	04 25 23.8	-0.2
	baz=337,SNR=11						
V52A	**Sevierville**	148.86	10	*e*PKPbc	**PKPbc**	04 25 24.3	+0.3
V52A	**Sevierville**	148.86	10	P	**PKPbc**	04 25 24.1	+0.1
	baz=347						
SWET	**Sewanee**	148.97	14	*e*PKPbc	**PKPbc**	04 25 24.0	-0.4
W49A	**Belvidere**	148.97	15	P	**PKPbc**	04 25 24.2	-0.2
	baz=342,SNR=30						
TKL	**Tuckaleechee C**	149.00	11	PKPbc	**PKPbc**	04 25 24.7	+0.2
	comp=Z,18nm,0.6s,baz=133,slow=4.9,SNR=26						
CPCT	**Cooper Cave**	149.06	12	*e*PKPbc	**PKPbc**	04 25 24.9	+0.3
X47A	**Russelville**	149.10	18	P	**PKPbc**	04 25 24.0	-0.7
	baz=339,SNR=18						
W50A	**Signal Mountai**	149.13	13	*e*PKPbc	**PKPbc**	04 25 24.8	0.0
W50A	**Signal Mountai**	149.13	13	P	**PKPbc**	04 25 24.5	-0.3
	baz=344						
Y45A	**Yeager Farm, C**	149.15	21	P	**PKPbc**	04 25 25.2	+0.4
	baz=335,SNR=9.2						
V53A	**Saluda**	149.16	9	*e*PKPbc	**PKPbc**	04 25 25.1	+0.2
V53A	**Saluda**	149.16	9	P	**PKPbc**	04 25 24.9	+0.1
	baz=349						
W51A	**Cleveland**	149.29	12	P	**PKPbc**	04 25 25.2	+0.1
	baz=345,SNR=7.1						
Y46A	**Houston**	149.37	20	P	**PKPbc**	04 25 25.1	-0.2
	baz=336,SNR=16						
X48A	**Hartselle**	149.40	16	*e*PKPbc	**PKPbc**	04 25 25.0	-0.5
X48A	**Hartselle**	149.40	16	P	**PKPbc**	04 25 25.0	-0.5
	baz=340,SNR=18						
W52A	**Murphy**	149.52	11	*e*PKPbc	**PKPbc**	04 25 26.1	+0.2
W52A	**Murphy**	149.52	11	P	**PKPbc**	04 25 26.0	+0.2
	baz=346,SNR=10						
X49A	**Woodville**	149.53	15	P	**PKPbc**	04 25 25.8	0.0
	baz=342,SNR=8.5						
Z45A	**Winona**	149.54	21	*e*PKPbc	**PKPbc**	04 25 26.3	+0.5
Z45A	**Winona**	149.54	21	P	**PKPbc**	04 25 26.0	+0.2
	baz=335						
W53A	**Cullowhee**	149.59	10	P	**PKPbc**	04 25 26.4	+0.3
	baz=348,SNR=21						
Y47A	**UCPARC, Winfie**	149.67	18	P	**PKPbc**	04 25 25.8	-0.3
	baz=338,SNR=9.9						
X50B	**Fort Payne**	149.75	14	P	**PKPbc**	04 25 25.9	-0.5
	baz=343						
BG3	**Lake Jocassee**	149.80	10	*e*PKPbc	**PKPbc**	04 25 26.7	+0.2
X51A	**Calhoun**	149.84	13	P	**PKPbc**	04 25 26.6	+0.1
	baz=344						
Y48A	**Jasper**	149.86	17	P	**PKPbc**	04 25 26.1	-0.5
	baz=340,SNR=17						
KMSC	**Kings Mountain**	149.88	7	*e*PKPbc	**PKPbc**	04 25 26.8	+0.2
KMSC	**Kings Mountain**	149.88	7	P	**PKPbc**	04 25 26.5	-0.1
	baz=351,SNR=9.1						
144A	**Alexander Plac**	149.93	23	P	**PKPbc**	04 25 26.4	-0.4
	baz=333						
Z46A	**Louisville**	149.97	20	P	**PKiKP**	04 25 27.6	-0.1
	baz=336,SNR=8.2						
X52A	**Dahlonega**	150.00	11	P	**PKPbc**	04 25 26.8	-0.1
	baz=346						
CNNC	**Cliffs of the**	150.04	1	P	**PKPbc**	04 25 26.5	-0.4
	baz=358						
Y49A	**Blount Mountai**	150.13	16	*e*PKPbc	**PKPbc**	04 25 27.3	0.0
Y49A	**Blount Mountai**	150.13	16	P	**PKPbc**	04 25 27.2	-0.1
	baz=341,SNR=17						
PAULI	**Pauline**	150.14	8	*e*PKPbc	**PKPbc**	04 25 26.8	-0.4
145A	**Houston Renfro**	150.14	22	P	**PKiKP**	04 25 28.2	0.0
	baz=334,SNR=7.4						
X53A	**Estanollee**	150.21	10	P	**PKPbc**	04 25 28.0	+0.6
	baz=347,SNR=7.0						
Z48A	**Northport**	150.25	18	P	**PKPbc**	04 25 27.1	-0.4
	baz=338						
Z47A	**Carrollton**	150.25	19	P	**PKPbc**	04 25 27.7	+0.2
	baz=337,SNR=12						
VBMS	**Vicksburg**	150.26	23	*e*PKPbc	**PKiKP**	04 25 28.2	-0.2
VBMS	**Vicksburg**	150.26	23	P	**PKPbc**	04 25 27.8	+0.3
	baz=332						
Y50A	**Piedmont**	150.27	15	P	**PKPbc**	04 25 27.3	-0.3
	baz=342						
Y51A	**Rockmart**	150.43	14	P	**PKPbc**	04 25 28.0	0.0
	baz=344,SNR=6.9						
146A	**Union**	150.43	21	*e*PKPbc	**PKPbc**	04 25 28.0	0.0
146A	**Union**	150.43	21	P	**PKiKP**	04 25 28.9	+0.1
	baz=335,SNR=12						
HODGE	**Hodges**	150.65	9	*e*PKPbc	**PKiKP**	04 25 29.1	-0.1
147A	**Livingston**	150.67	20	*e*PKPbc	**PKPbc**	04 25 28.7	+0.2
147A	**Livingston**	150.67	20	P	**PKPbc**	04 25 28.8	+0.2
	baz=337,SNR=6.7						
Y52A	**Lilburn**	150.69	12	*e*PKPbc	**PKPbc**	04 25 28.7	+0.1
Y52A	**Lilburn**	150.69	12	P	**PKiKP**	04 25 29.2	0.0
	baz=346,SNR=8.9						
Z49A	**Columbiana**	150.72	16	P	**PKPbc**	04 25 28.6	0.0
	baz=340						
LRAL	**Lakeview Retre**	150.74	17	*e*PKPbc	**PKPbc**	04 25 28.3	-0.4
LRAL	**Lakeview Retre**	150.74	17	P	**PKPbc**	04 25 28.6	-0.1
	baz=339,SNR=7.7						
JSC	**Jenkinsville**	150.74	7	*e*PKPbc	**PKPbc**	04 25 28.8	+0.1
JSC	**Jenkinsville**	150.74	7	*e*PKIKP	**PKPbc**	04 25 28.8	+0.1
Y53A	**Monroe**	150.79	11	P	**PKPbc**	04 25 29.2	+0.4
	baz=346,SNR=6.7						
Z50A	**Ashland**	150.83	15	*e*PKPbc	**PKPbc**	04 25 29.1	+0.1
Z50A				*e*PKPab	**PKPab**	04 25 35.3	-0.8
Z50A	**Ashland**	150.83	15	P	**PKPbc**	04 25 29.0	0.0
	baz=342,SNR=5.9						
LNIG	**Linares**	150.86	45	*e*PKPbc	**PKPbc**	04 25 29.5	+0.3
148A	**Greensboro**	150.92	18	P	**PKPbc**	04 25 29.0	-0.2
	baz=338						
Y54A	**Tignall**	150.94	10	P	**PKPbc**	04 25 29.7	+0.5
	baz=348,SNR=5.6						
Z51A	**Franklin**	150.96	14	P	**PKPbc**	04 25 29.2	0.0
	baz=343						
149A	**Jones**	151.20	17	P	**PKPbc**	04 25 30.1	+0.3
	baz=340						
GOGA	**Godfrey**	151.24	11	*e*PKPbc	**PKiKP**	04 25 30.6	+0.2
GOGA				*e*PKPab	**pPKPdf**	04 25 37.2	-0.7
GOGA	**Godfrey**	151.24	11	*e*PKIKP	**PKiKP**	04 25 30.6	+0.2
GOGA				*e*		04 25 37.2	
GOGA	**Godfrey**	151.24	11	P	**PKPbc**	04 25 29.9	0.0
	ba

GURO			SG	**Sb**	**04 06 43.6**	**+0.4**
AGRB	**Hanur-Agry**	**0.95 352**	PG	**Pg**	**04 06 31.6**	**-0.8**
AGRB			SG	**Sg**	**04 06 45.0**	**+0.1**

*ISCJB **27** 04:16:12.4±1.1, 17°.9S×0°.3×178°.0W±0°.2, h590km, mb3.7/10, Error ellipse: s-maj=40.6km s-min=15.4km az=149.3*

*IDC **27** 04:16:12.6±5.0, 17°.92S×177°.90W, h580km±54km, mb3.3/10, mb1 3.5/10, mb1mx3.2/35, mbtmp4.1/10, Error ellipse: s-maj=37.6km s-min=21.0km az=135.0*

ISC 27 04:16:13.5±1.0, 17°.9S±0°.3×177°.9W±0°.2, h590km, n30, σ0s80/32, mb3.8/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.03**	**241**	P	**P**	**04 22 51.0**	**+0.1**
	4.7nm,0.7s,baz=94,slow=8.6,SNR=9.5						
WRA	**Warramunga Arr**	**45.08**	**259**	P	**P**	**04 23 37.6**	**-0.8**
	3.4nm,0.6s,baz=96,slow=7.0,SNR=78						
WRA				PcP	**PcP**	**04 25 05.9**	**-0.5**
	0.4nm,0.3s,baz=89,slow=3.5,SNR=7.8						
ASAR	**Alice Springs**	**45.23**	**254**	P	**P**	**04 23 39.3**	**-0.3**
	12nm,1.0s,baz=91,slow=7.8,SNR=76						
ASAR				PcP	**PcP**	**04 25 06.5**	**-0.4**
	1.3nm,0.5s,baz=104,slow=4.0,SNR=9.1						
SIJI	**Sorong**	**52.68**	**283**	P	**P**	**04 24 34.9**	**+0.4**
	baz=256,slow=9.8,SNR=6.3						
MJAR	**Matsushiro Arr**	**68.18**	**323**	P	**P**	**04 26 15.8**	**-0.2**
	1.8nm,0.5s,baz=162,slow=6.1,SNR=6.9						
PETK	**Petropavlovsk-**	**73.79**	**345**	P	**P**	**04 26 48.5**	**0.0**
	1.8nm,0.6s,baz=136,slow=8.3,SNR=6.6						
NVAR	**Mina Array Bea**	**79.11**	**44**	P	**P**	**04 27 17.9**	**-0.2**
	0.7nm,0.8s,baz=210,slow=7.1,SNR=3.5						
TXAR	**Lajitas Array**	**85.61**	**57**	P	**P**	**04 27 51.2**	**+0.2**
	0.2nm,0.7s,baz=212,slow=4.8,SNR=2.0						
ILAR	**Eielson Array**	**85.78**	**13**	P	**P**	**04 27 50.2**	**-0.6**
	0.5nm,0.4s,baz=220,slow=5.2,SNR=12						
CMAR	**Chiang Mai Arr**	**89.31**	**290**	P	**P**	**04 28 08.9**	**+0.5**
	1.0nm,0.3s,baz=108,slow=2.9,SNR=4.7						
YKA	**Yellowknife Ar**	**94.14**	**25**	P	**P**	**04 28 29.1**	**-0.4**
	0.1nm,0.5s,baz=235,slow=4.7,SNR=3.1						
ARCES	**ARCESS Array B**	**126.39**	**350**	PKP	**PKPdf**	**04 34 08.9**	**-0.6**
	2.3nm,0.9s,baz=112,slow=1.0,SNR=11						
BRTR	**Keskin Array B**	**145.10**	**315**	PKPbc	**PKPdf**	**04 34 45.2**	**+0.3**
	1.9nm,0.8s,baz=128,slow=4.2,SNR=11						
UPC	**Upice**	**145.61**	**344**	*e*PKP	**PKPbc**	**04 34 47.4**	**+0.5**
DPC	**Dobruska-Polom**	**145.68**	**344**	*e*PKP	**PKPbc**	**04 34 47.9**	**+0.7**
PVCC	**Panska Ves**	**145.95**	**346**	*e*PKP	**PKPbc**	**04 34 48.4**	**+0.5**
PRU	**Pruhonice**	**146.46**	**345**	*e*PKP	**PKPbc**	**04 34 49.5**	**+0.2**
KHC	**Kasperske Hory**	**147.49**	**346**	*e*PKP	**PKPbc**	**04 34 52.4**	**+0.3**
GERES	**GERESS Array B**	**147.72**	**346**	PKPbc	**PKPbc**	**04 34 52.6**	**-0.1**
	1.3nm,0.5s,baz=28,slow=3.1,SNR=14						
CONA	**Conrad Observa**	**148.00**	**342**	*e*PKPbc	**PKPbc**	**04 34 53.7**	**+0.2**
	0.5nm,0.3s						
MOA	**Molln**	**148.51**	**344**	*e*PKiKP	**PKiKP**	**04 34 57.3**	**+1.6**
ARSA	**Arzberg**	**148.71**	**342**	*e*PKiKP	**PKiKP**	**04 34 57.6**	**+1.5**
	0.7nm,0.6s						
KBA	**Koelnbreinsper**	**149.46**	**345**	*e*PKPbc	**PKPbc**	**04 34 56.5**	**-0.7**
	1.4nm,0.5s						
WATA	**Walderalm**	**149.62**	**347**	*e*PKPbc	**PKPbc**	**04 34 55.1**	**-2.5**
	1.1nm,0.4s						
WTTA	**Wattenberg**	**149.68**	**347**	*e*PKPdf	**PKPdf**	**04 34 53.9**	**+1.6**
	1.1nm,0.3s						
MOTA	**Moosalm**	**149.71**	**348**	*e*PKPbc	**PKPbc**	**04 34 57.8**	**0.0**
	0.4nm,0.3s						
SQTA	**Sankt Quirin**	**149.81**	**348**	*e*PKPbc	**PKPbc**	**04 34 57.7**	**-0.2**
	0.4nm,0.3s						
ABTA	**Abfaltersbach**	**149.97**	**346**	*e*PKPbc	**PKPbc**	**04 34 57.5**	**-0.8**
	2.6nm,0.5s						
DAVA	**Damuels**	**150.00**	**349**	*e*PKPdf	**PKPdf**	**04 34 52.5**	**-0.3**
	0.3nm,0.2s						
FETA	**Feichten**	**150.10**	**348**	*e*PKPdf	**PKPdf**	**04 34 52.8**	**-0.2**
	1.2nm,0.7s						

*IDC **27** 04:49:54.0±8.1, 36°.22N×71°.33E, h170km±67km, mb3.2/5, mb1 3.3/6, mb1mx3.0/33, mbtmp3.6/6, MS3.4/1, Ms1 3.4/1, ms1mx2.6/22, Error ellipse: s-maj=63.5km s-min=35.1km az=152.0*

*ISCJB **27** 04:49:57.6±0.7, 36°.67N±0°.04×70°.9E±0°.1, h188km, mb3.5/4, Error ellipse: s-maj=11.9km s-min=5.9km az=169.1*

*NNC **27** 04:50:04.3±6.7, 37°.25N×70°.56E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=51.5km s-min=43.7km az=167.0*

ISC 27 04:49:58.7±0.9, 36°.65N±0°.08×71°.0E±0°.1, h188km, n17, σ1s76/20, mb3.5/4, 4C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.90**	**30**	⇑Pn	**Pn**	**04 51 01.4**	**+2.4**
	3.4nm,0.3s						
SFK				⇓Sn	**Sn**	**04 51 46.0**	**-0.2**
	32nm,0.6s						
MNAS	**Manas**	**5.95**	**11**	⇑Pn	**Pn**	**04 51 28.4**	**+3.2**
	0.7nm,0.3s						
MNAS				⇓Sn	**Sn**	**04 52 31.3**	**-2.1**
	15nm,0.9s						
KK31	**Karatay Array**	**6.46**	**357**	⇓Pn	**Pn**	**04 51 34.2**	**+2.5**
	0.7nm,0.3s,baz=176,slow=12,SNR=38						
KK31				⇓Sn	**Sn**	**04 52 42.2**	**-3.0**
	4.2nm,0.4s,baz=187,slow=23,SNR=19						
AAK	**Ala-Archa**	**6.56**	**23**	⇑Pn	**Pn**	**04 51 34.0**	**+0.8**
	3.7nm,1.2s						
AAK				⇑Sn	**Sn**	**04 52 47.2**	**-0.7**
	5.7nm,0.6s						
MKAR	**Makanchi Array**	**13.17**	**36**	P	**Pn**	**04 52 58.2**	**-0.4**
	0.0nm,0.3s,baz=206,slow=12,SNR=2.6						
PYUN	**Piuthan**	**13.24**	**127**	*e*P	**Pn**	**04 52 58.2**	**-1.6**
	10nm,0.4s						
DANN	**Dangsing**	**13.57**	**124**	*e*P	**Pn**	**04 53 03.9**	**-0.2**
	7.9nm,0.4s						
KOLN	**Koldanda**	**13.86**	**126**	*e*P	**Pn**	**04 53 06.7**	**-0.8**
	4.5nm,0.3s						
DMN	**Daman**	**14.96**	**123**	*e*P	**P**	**04 53 22.5**	**+0.3**
PKI	**Pulchoki**	**15.19**	**122**	*e*P	**P**	**04 53 25.9**	**+1.1**
	6.7nm,0.4s						
JIRN	**Jiri**	**15.67**	**121**	*e*P	**P**	**04 53 32.1**	**+1.9**
	20nm,0.4s						
ZALV	**Zalesovo Beam**	**19.78**	**25**	P	**P**	**04 54 12.8**	**-1.5**
	0.6nm,0.3s,baz=201,slow=11,SNR=3.6						
FINES	**FINESS Array B**	**37.36**	**326**	P	**P**	**04 56 54.0**	**+1.2**
	2.0nm,0.9s,baz=116,slow=13,SNR=3.7						
ARCES	**ARCESS Array B**	**41.00**	**338**	P	**P**	**04 57 23.9**	**+1.0**
	3.7nm,1.1s,baz=111,slow=6.8,SNR=4.9						
LEM	**Lembang**	**55.20**	**134**	LR	LR	05 24 38.7	
	comp=Z,38nm,20.6s,baz=222,slow=38						
TORD	**Torodi Ar. Bea**	**65.72**	**269**	P	**P**	**05 00 22.2**	**-1.3**
	0.2nm,0.5s,baz=51,slow=5.3,SNR=4.1						
YKA	**Yellowknife Ar**	**81.10**	**3**	P	**P**	**05 01 52.1**	**-0.3**
	0.2nm,0.4s,baz=351,slow=5.4,SNR=14						

SJA 27 04:55:00.8±0.8, 32°.88S×69°.15W, h5km±3km, ML3.3, MW3.7, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCO	**CERRO ARCO**	**0.18**	**78**	*i* P	Pg	04 55 05.3	+0.8
ARCO				*i* S	Sg	04 55 08.2	+1.3
ARCO				IAML		04 55 08.7	
	comp=Z,11μm,0.2s						
AAGR	**Agrelo**	**0.34**	**127**	*i* P	Pb	04 55 08.5	-0.8
ASAL	**Salagasta**	**0.39**	**42**	*i* P	Pb	04 55 09.4	-0.9
ASAL				*i* S	Sb	04 55 16.5	-0.1
AUSP	**Uspallata**	**0.69**	**343**	*i* P	Pb	04 55 15.8	+0.4
AVIZ	**Vizcacheras**	**0.79**	**138**	*i* P	Pb	04 55 17.1	-0.1
RTCV	**Cerro Valdivia**	**1.14**	**27**	*i* P	Pg	04 55 22.3	-0.3
RTLL	**Cerro Villicun**	**1.65**	**20**	*i* P	Pg	04 55 32.4	0.0
RTLL				*i* S	Sg	04 55 55.5	+1.8
RTLL				IAML		04 55 58.0	
	comp=Z,204nm,0.4s						
MRA	**San Martin**	**2.93**	**82**	*i* P	Pb	04 55 51.1	-2.5

*ISCJB **27** 05:06:44.9±0.2, 31°.50N±0°.03×103°.36E±0°.03, h13km, mb4.2/31, MS3.4/10, Error ellipse: s-maj=3.9km s-min=3.6km az=149.6*

*IDC **27** 05:06:44.6±0.5, 31°.53N×103°.38E, h0km, mb4.0/19, mb1 4.1/21, mb1mx4.0/50, mbtmp4.0/21, ML3.3/2, MS3.4/12, Ms1 3.4/12, ms1mx3.2/42, Error ellipse: s-maj=17.6km s-min=11.4km az=53.0*

*BJI **27** 05:06:46.8, 31°.52N×103°.26E, h16km, mb4.3/20, mB4.3/1, ML4.4/20, Ms4.2/27, Ms7 3.9/24*

*NEIC **27** 05:06:47.1±0.9, 31°.52N×103°.38E, h16km±5km, mb4.5/13, ML4.4(BJI), Error ellipse: s-maj=3.9km s-min=3.3km az=82.0*

ISC 27 05:06:46.5±0.4, 31°.55N±0°.03×103°.42E±0°.04, h13km, n86, σ2s66/99, mb4.2/31, MS3.3/10, 3C, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.70**	**156**	⇑*i*Pg	**Pg**	**05 06 59.8**	**-0.3**
CD2				Sg	**Sb**	**05 07 10.3**	**+0.1**
CD2				smax	smax		
	comp=N,34μm,0.6s						
CD2				smax	smax		
	comp=E,39μm,0.8s						
CD2	**Chengdu**	**0.70**	**156**	⇑*i*Pg	**Pg**	**05 06 59.8**	**-0.3**
CD2				Sg	**Sb**	**05 07 10.3**	**+0.1**
LZH	**Lanzhou**	**4.54**	**4**	*e*Pn	Pn	05 07 59.5	+4.4
LZH				Pg	**Pg**	**05 08 11.8**	**-1.7**
LZH				Sn	**Sb**	**05 08 54.0**	**-6.8**
LZH				Sg	**Sg**	**05 09 11.0**	**-1.2**
LZH				smax	smax		
	comp=N,470nm,0.9s						
LZH				smax	smax		
	comp=E,540nm,0.8s						
LZH				LR	LR		
	comp=N,3μm,7.1s						
LZH				LR	LR		
	comp=E,4μm,7.6s						
LZH				LR	LR		
	comp=Z,2μm,9.8s						
LZH	**Lanzhou**	**4.54**	**4**	*e*Pn	Pn	05 07 59.5	+4.4
LZH				Pg	**Pg**	**05 08 11.8**	**-1.7**
LZH				Sn	**Sb**	**05 08 54.0**	**-6.8**
LZH				Sg	**Sg**	**05 09 11.0**	**-1.2**
XAN	**Xi'an**	**5.25**	**60**	Pn	**Pn**	**05 08 06.0**	**+1.2**
XAN				Sn	**Sn**	**05 09 04.8**	**-0.4**
XAN				Sg	**Sg**	**05 09 34.0**	**-1.1**
XAN				smax	smax		
	comp=N,760nm,0.9s						
XAN				smax	smax		
	comp=E,650nm,0.8s						
XAN				LR	LR		
	comp=E,2μm,7.9s						
XAN				LR	LR		
	comp=Z,920nm,7.3s						
XAN	**Xi'an**	**5.25**	**60**	*e*Pn	**Pn**	**05 08 05.9**	**+1.1**
ENH	**Enshi**	**5.36**	**102**	*e*Pn	**Pn**	**05 08 08.6**	**+2.3**
ENH				*e*Sn	**Sn**	**05 09 09.8**	**+1.8**
GYA	**Guiyang**	**5.81**	**150**	Pn	**Pn**	**05 08 13.3**	**+0.7**
GYA				Sn	**Sn**	**05 09 18.0**	**-1.2**
GYA				Sg	**Sg**	**05 09 49.0**	**-4.2**
GYA				smax	smax		
	comp=N,690nm,1.0s						
GYA				smax	smax		
	comp=E,600nm,1.0s						
KMI	**Kunming**	**6.43**	**186**	Pn	**Pn**	**05 08 23.8**	**+2.6**
KMI				Sn	**Sn**	**05 09 35.0**	**+0.4**
KMI				smax	smax		
	comp=N,86nm,1.2s						
KMI				smax	smax		
	comp=E,78nm,1.3s						
KMI				LR	LR		
	comp=N,350nm,4.6s						
KMI				LR	LR		
	comp=E,380nm,5.0s						
KMI				LR	LR		
	comp=Z,540nm,7.2s						
KMI	**Kunming**	**6.43**	**186**	*e*Pn	**Pn**	**05 08 20.8**	**-0.4**
GTA	**Gaotai**	**8.38**	**340**	*e*P	**Pg**	**05 09 23.0**	**-3.8**
GTA				pP	Pb	05 09 27.3	+16
GTA				sP	Pn	05 09 30.8	+43
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WHN	**Wuhan**	**9.43**	**93**	⇑P	Pn	05 09 09.0	+7.0
WHN				S	**Sn**	**05 10 54.5**	**+6.6**
WHN				LR	LR		
	comp=Z,2μm,5.2s						
WHN				LR	LR		
	comp=Z,2μm,11.5s						
WHN				LR	LR		
	comp=Z,2μm,8.3s						
HHC	**Hu-ho-hao-te**	**11.37**	**33**	*e*P	**Pn**	**05 09 33.0**	**+4.3**
HHC				S	**Sn**	**05 11 41.0**	**+5.4**
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				LR	LR		
	comp=Z,1μm,10.4s						
HHC				LR	LR		
	comp=Z,1μm,16.6s						
HHC				LR	LR		
	comp=Z,500nm,13.8s						
SHL	**Shillong**	**11.76**	**242**	*e*Pn	**Pn**	**05 09 34.1**	**-0.1**
GZH	**Guangzhou**	**12.19**	**131**	P	**Pn**	**05 09 37.3**	**-2.6**
GZH				S	**Sn**	**05 11 48.0**	**-7.8**
GZH				smax	smax		
	comp=N,120nm,1.3s						
GZH				smax	smax		
	comp=E,78nm,1.1s						
CMMT	**Chiang Mai**	**13.31**	**199**	P	**P**	**05 10 08.4**	**+3.4**
	comp=E,5.5nm,0.8s,comp=E,0.0nm						
CHTO	**Chiang Mai**	**13.31**	**199**	P	**P**	**05 10 08.5**	**+3.5**
	comp=E,33nm,0.7s,comp=E,0.1nm						
BJT	**Baijiatuan**	**13.35**	**47**	*e*Pn	**Pn**	**05 09 56.5**	**+0.8**
CM31	**Chiang Mai Arr**	**13.65**	**198**	*e*Pn	**Pn**	**05 09 56.1**	**-3.8**
CMAR	**Chiang Mai Arr**	**13.65**	**198**	Pn	**Pn**	**05 10 00.0**	**+0.1**
	comp=E,0.1nm,0.3s,baz=9.1,slow=11,SNR=8.6						
CMAR				LR	LR	05 15 35.2	
	comp=E,72nm,21.5s,baz=14,slow=39						
CM01	**Chiang Mai Arr**	**13.68**	**198**	*e*Pn	**Pn**	**05 10 00.5**	**+0.1**
BRDH	**Bariadhala**	**13.71**	**233**	LR	LR	05 16 31.6	
	comp=E,165nm,19.6s,baz=48,slow=43						
PBKT	**Sadao Pong**	**15.08**	**189**	*e*Pn	**P**	**05 10 25.5**	**+0.9**
	comp=E,8.7nm,0.7s						
PBKT				*e*S	**S**	**05 13 17.6**	**-6.1**
PBKT	**Sadao Pong**	**15.08**	**189**	P	**P**	**05 10 26.5**	**+1.9**
	comp=E,15nm,0.7s						
JIRN	**Jiri**	**15.48**	**260**	*e*P	**Pn**	**05 10 23.0**	**-2.0**
	comp=E,22nm,0.6s						
CHAI	**Chaiyaphum**	**15.63**	**185**	P	**P**	**05 10 32.9**	**+2.1**
	comp=E,3.7nm,0.6s						
GUN	**Gumba**	**15.67**	**261**	*e*P	**Pn**	**05 10 26.5**	**-0.9**
	comp=E,48nm,0.8s						
UMPA	**Umpang Tak**	**15.83**	**196**	P	**P**	**05 10 35.9**	**+2.9**
	comp=E,6.3nm,0.9s,comp=E,2μm						
PKI	**Pulchoki**	**16.17**	**260**	*e*P	**Pn**	**05 10 31.9**	**-1.9**
	comp=E,25nm,0.6s						
KKN	**Kakani**	**16.21**	**261**	*e*P	**Pn**	**05 10 33.1**	**-1.1**
	comp=E,62nm,0.9s						
UTHA	**Uthaitani**	**16.33**	**194**	P	**P**	**05 10 39.3**	**+0.8**
	comp=E,6.3nm,0.7s						
DMN	**Daman**	**16.41**	**261**	*e*P	**Pn**	**05 10 35.3**	**-1.6**
	comp=E,52nm,0.9s						
SONM	**Songino Array**	**16.42**	**7**	Pn	**Pn**	**05 10 36.4**	**-0.3**
	comp=E,0.1nm,0.3s,baz=189,slow=13,SNR=9.0						
SONM				LR	LR	05 17 30.8	
	comp=E,183nm,19.8s,baz=194,slow=39						
SONA1	**Songino Array**	**16.43**	**7**	*e*Pn	**Pn**	**05 10 37.5**	**+0.6**
ULN	**Ulaanbaatar**	**16.53**	**9**	*e*Pn	**P**	**05 10 39.5**	**-1.2**
	comp=E,4.7nm,1.0s						
DANN	**Dangsing**	**17.34**	**264**	*e*P	**Pn**	**05 10 48.3**	**-0.3**
	comp=E,34nm,0.7s						
WMQ	**Urumqi**	**17.43**	**319**	*e*P	**P**	**05 10 51.0**	**+0.4**
WMQ				LR	LR		
	comp=E,740nm,24.7s						
WMQ				LR	LR		
	comp=E,450nm,21.1s						
WMQ				LR	LR		
	comp=E,210nm,18.7s						
KOLN	**Koldanda**	**17.64**	**263**	*e*P	**Pn**	**05 10 50.7**	**-1.5**
	comp=E,26nm,0.9s						
PYUN	**Piuthan**	**18.06**	**264**	*e*P	**Pn**	**05 10 56.1**	**-1.3**
	comp=E,25nm,0.7s						
PHET	**Kaeng Krachan**	**18.88**	**192**	P	Pn	05 11 16.6	+9.3
	comp=E,6.5nm,0.9s						
KS15	**Wonju Array Si**	**20.97**	**67**	*e*P	**P**	**05 11 29.7**	**+0.4**
KSAR	**Wonju Array Be**	**20.97**	**67**	P	Pn	05 11 30.9	-1.0
KS01	**Wonju Array Si**	**20.98**	**67**	*e*P	Pn	05 11 30.3	-1.8
KSRS	**Korea Array**	**21.00**	**67**	P	**P**	**05 11 30.9**	**+1.2**
	comp=E,7.4nm,0.6s,baz=255,slow=9.9,SNR=24						
KSRS				LR	LR	05 19 33.8	
	comp=E,127nm,20.6s,baz=265,slow=37						
CN2	**Changchun**	**21.22**	**49**	*e*P	**P**	**05 11 36.0**	**+4.0**
MK01	**Makanchi Array**	**22.24**	**319**	*e*P	**P**	**05 11 43.8**	**+0.8**
MK31	**Makanchi Array**	**22.26**	**319**	*e*P	**P**	**05 11 44.1**	**+0.9**
MKAR	**Makanchi Array**	**22.26**	**319**	P	**P**	**05 11 43.5**	**+0.3**
	comp=E,3.1nm,0.8s,baz=124,slow=12,SNR=24						
MKAR				LR	LR	05 22 04.8	
	comp=E,30nm,18.9s,baz=210,slow=41						
MKAR	**Makanchi Array**	**22.26**	**319**	*e*P	**P**	**05 11 43.8**	**+0.6**
	comp=E,33nm,1.0s						
MAKZ	**Makanchi**	**22.45**	**319**	*e*P	**P**	**05 11 45.5**	**+0.3**
	comp=E,24nm,1.9s						
PRZ	**Przheval'sk**	**22.69**	**306**	*e*P	**P**	**05 11 47.4**	**-0.6**
JNU	**Nakatsue**	**23.23**	**79**	LR	LR	05 21 43.0	
	comp=E,114nm,19.2s,baz=297,slow=39						
KSH	**Kashi**	**23.65**	**297**	P	**P**	**05 12 00.5**	**+2.8**
KSH				pP	sP	05 12 05.5	+1.0
KSH				PcP	**PcP**	**05 15 44.8**	**+2.7**
KSH				S	**S**	**05 16 13.0**	**+0.8**
KSH				SS	**SnSn**	**05 17 02.3**	**+13**
KSH				PcS	**PcS**	**05 19 22.5**	**+0.8**
KSH				pmax	pmax		
	comp=E,14nm,0.5s						
KSH				LR	LR		
	comp=E,430nm,8.5s						
KSH				LR	LR		
	comp=E,280nm,6.4s						
KSH				LR	LR		
	comp=E,470nm,10.3s						
NRN	**Naryn**	**24.07**	**302**	*e*P	**P**	**05 12 06.3**	**+4.4**
	comp=E,3.7nm,0.8s						
AAK	**Ala-Archa**	**25.47**	**304**	P	**P**	**05 12 15.4**	**+0.9**
	comp=E,2.1nm,0.9s,baz=112,slow=14,SNR=2.7						
AAK				LR	LR	05 23 05.8	
	comp=E,180nm,19.0s,baz=90,slow=39						
USRK	**Ussuriysk Ar.**	**25.70**	**52**	P	**P**	**05 12 18.0**	**+1.7**
	comp=E,0.7nm,0.7s,baz=227,slow=5.7,SNR=2.3						
USRK				LR	LR	05 23 41.5	
	comp=E,66nm,21.5s,baz=304,slow=40						
ZAA0	**Zalesovo Array**	**26.07**	**335**	*e*P	**P**	**05 12 20.0**	**+0.4**
	comp=E,6.8nm,1.0s						
ZALV	**Zalesovo Beam**	**26.07**	**335**	P	**P**	**05 12 19.9**	**+0.4**
	comp=E,1.8nm,0.6s,baz=128,slow=9.3,SNR=5.2						
ZALV				LR	LR	05 22 07.9	
	comp=E,79nm,19.7s,baz=122,slow=35						
KULM	**Kulim**	**26.25**	**186**	*e*P	**P**	**05 12 21.4**	**-0.1**
	comp=E,18nm,1.2s						
KURBB	**Kurchatov Arra**	**26.53**	**323**	P	**P**	**05 12 24.1**	**+0.3**
	comp=E,2.2nm,0.7s,baz=128,slow=9.5,SNR=12						
KURK	**Kurchatov**	**26.54**	**323**	*e*P	**P**	**05 12 24.1**	**+0.3**
	comp=E,8.6nm,1.1s						
KLR	**Kul'dur**	**27.64**	**42**	P	**P**	**05 12 34.2**	**+0.4**
	comp=E,0.9nm,0.6s,baz=217,slow=5.1,SNR=3.2						
KLR				LR	LR	05 23 58.3	
	comp=E,73nm,18.1s,baz=208,slow=37						
GAR	**Garm**	**27.92**	**295**	*e*P	**P**	**05 12 40.9**	**+4.3**
	comp=E,28nm,1.8s						
GEYT	**Alibeck**	**37.48**	**293**	P	**P**	**05 13 59.8**	**-0.1**
	comp=E,72nm,1.2s,baz=109,slow=7.8,SNR=2.9						
GEYT				LR	LR	05 30 45.7	
	comp=E,88nm,18.8s,baz=115,slow=38						
ARU	**Arti**	**39.72**	**322**	*e*P	**P**	**05 14 19.3**	**+0.8**
	comp=E,16nm,0.9s						
TIXI	**Tiksi**	**42.43**	**12**	P	**P**	**05 14 40.5**	**0.0**
	comp=E,1.2nm,0.4s,baz=218,slow=7.3,SNR=1.9						
TIXI	**Tiksi**	**42.43**	**12**	*e*P	**P**	**05 14 41.1**	**+0.6**
	comp=E,5.5nm,1.3s						
PETK	**Petropavlovsk-**	**44.28**	**45**	LR	LR	05 35 32.0	
	comp=E,49nm,20.7s,baz=278,slow=39						
FITZ	**Fitzroy Crossi**	**53.77**	**154**	P	**P**	**05 16 08.4**	**-0.3**
	baz=27,slow=2.3						
BRTR	**Keskin Array B**	**56.02**	**299**	P	**P**	**05 16 24.6**	**-0.5**
	comp=E,0.1nm,0.4s,baz=119,slow=6.1,SNR=2.4						
ARCES	**ARCESS Array B**	**56.61**	**336**	P	**P**	**05 16 28.8**	**0.0**
	comp=E,1.8nm,0.7s,baz=96,slow=8.3,SNR=6.4						
AKASG	**Malin Array Be**	**56.66**	**313**	P	**P**	**05 16 29.1**	**-0.2**
	comp=E,0.3nm,0.5s,baz=66,slow=7.5,SNR=5.2						
FINES	**FINESS Array B**	**56.87**	**326**	P	**P**	**05 16 30.2**	**-0.4**
	comp=E,2.3nm,0.9s,baz=74,slow=4.9,SNR=5.8						
WRAB	**Tennant Creek**	**59.17**	**146**	*e*P	**P**	**05 16 47.2**	**0.0**
	comp=E,7.9nm,0.6s						
WRA	**Warramunga Arr**	**59.17**	**146**	P	**P**	**05 16 47.5**	**+0.2**
	comp=E,6.2nm,0.7s,baz=326,slow=9.1,SNR=68						
WB2	**Warramunga Arr**	**59.17**	**146**	*e*P	**P**	**05 16 47.4**	**+0.1**
ASAR	**Alice Springs**	**62.18**	**148**	P	**P**	**05 17 08.0**	**+0.3**
	comp=E,1.9nm,0.7s,baz=332,slow=6.9,SNR=20						
AS01	**Alice Springs**	**62.20**	**148**	*e*P	**P**	**05 17 06.9**	**-1.0**
NOA	**NORSAR Array B**	**63.97**	**327**	P	**P**	**05 17 19.0**	**-0.2**
	comp=E,0.6nm,0.8s,baz=75,slow=5.4,SNR=2.8						
CTA	**Charters Tower**	**65.75**	**136**	P	**P**	**05 17 31.9**	**+0.6**
	baz=329,slow=5.9						
COLA	**College**	**69.28**	**26**	*e*P	**P**	**05 17 54.0**	**+1.0**
	comp=E,10nm,1.1s						
ILAR	**Eielson Array**	**69.69**	**25**	P	**P**	**05 17 55.0**	**-0.6**
	comp=E,1.0nm,0.9s,baz=293,slow=3.7,SNR=8.0						
SCRK	**Sand Creek**	**71.18**	**25**	*e*P	**P**	**05 18 05.0**	**+0.1**
	comp=E,31nm,1.9s						
INK	**Inuvik**	**71.92**	**19**	P	**P**	**05 18 08.8**	**-0.3**
	comp=E,2.3nm,0.8s,baz=342,slow=7.1,SNR=8.3						
STKA	**Stephens Creek**	**72.70**	**147**	P	**P**	**05 18 13.9**	**-0.3**
	comp=E,1.6nm,0.7s,baz=354,slow=6.5,SNR=4.4						
YKA	**Yellowknife Ar**	**81.43**	**17**	P	**P**	**05 19 03.3**	**+0.4**
	comp=E,0.9nm,0.6s,baz=330,slow=5.2,SNR=20						

IDC 27 05:16:56.0±1.7, 5°.15N×127°.33E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.5/39, mbtmp3.8/5, Error ellipse: s-maj=96.2km s-min=22.4km az=68.0, Philippine Islands region

| Code

s-min=6.1km az=43.2

*IDC **27** 05:54:51.9±1.6, 13°.75N×92°.41W, h0km, mb4.0/4, mb1 4.1/8, mb1mx3.7/40, mbtmp3.8/8, ML3.4/4, MS2.9/4, Ms1 2.9/4, ms1mx2.7/35, Error ellipse: s-maj=36.5km s-min=19.1km az=29.0*

*MEX **27** 05:54:53.6±0.8, 13°.60N×92°.53W, h50km±70km, MD4.0*

*NEIC **27** 05:54:53.6±0.0, 13°.60N×92°.57W, h15km, mb4.2/15, MD3.9(MEX), After MEX.*

ISC 27 05:54:53.6±0.9,**13.77N**±0°.07×**92°.37W**±0°.07,**h10**km,**n40,** σ1$**28**/44,**mb4.2**/11,**Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
THIG		**1.13**	**5**	*e*Pn		**Pb**	**05 55 14.8**	**-0.5**
THIG				*e*Sn		**Sb**	**05 55 30.1**	**+0.1**
THIG		**1.13**	**5**	*e*P		**Pb**	**05 55 14.8**	**-0.5**
THIG				*e*S		**Sb**	**05 55 30.1**	**+0.1**
PCIG		**2.09**	**337**	*e*Pn		Pn	05 55 26.1	-2.6
PCIG				*e*Sn		**Sn**	**05 55 52.1**	**-2.6**
PCIG		**2.09**	**337**	*e*P		Pn	05 55 26.1	-2.6
PCIG				*e*S		**Sn**	**05 55 52.1**	**-2.6**
APG	**El Apazote**	**2.21**	**56**	Pn		**Pn**	**05 55 30.8**	**+0.2**
	11nm,0.3s,baz=240,slow=11,SNR=178							
APG				Sn		**Sb**	**05 56 02.1**	**+0.8**
	18nm,0.3s,baz=269,slow=18,SNR=5.8							
APG				LR		LR	05 56 39.7	
	comp=Z,254nm,18.8s,baz=172,slow=48							
CCIG	**Comitan**	**2.50**	**5**	*e*Pn		**Pn**	**05 55 37.4**	**+2.9**
CCIG	**Comitan**	**2.50**	**5**	*e*P		**Pn**	**05 55 37.4**	**+2.9**
CCIG				*i* S		**Sn**	**05 56 04.5**	**-0.8**
CMIG	**Matias Romero**	**4.09**	**324**	Pn		**Pn**	**05 55 55.5**	**-0.8**
	1.5nm,0.3s,baz=151,slow=12,SNR=20							
CMIG				Sn		**Sn**	**05 56 43.6**	**-0.7**
	3.1nm,0.3s,baz=90,slow=17,SNR=3.4							
CMIG				Lg		Lg	05 57 01.1	
	5.2nm,0.3s,baz=48,slow=16,SNR=4.6							
CMIG				LR		LR	05 57 37.8	
	comp=Z,67nm,18.6s,baz=148,slow=41							
TGUH	**Tegucigalpa,Un**	**4.95**	**86**	*e*Pn		**Pn**	**05 56 07.5**	**-0.5**
ESTN	**Estel**	**5.87**	**96**	*e*Pn		**Pn**	**05 56 19.9**	**-1.0**
TEIG	**Tepich**	**7.51**	**31**	*e*Pn		**Pn**	**05 56 44.0**	**+0.7**
JTS	**JuntasAbangare**	**8.04**	**115**	Pn		**Pn**	**05 56 51.1**	**+0.6**
	0.5nm,0.3s,baz=288,slow=19,SNR=2.8							
LTX	**Lajitas**	**18.69**	**328**	*e*P		**P**	**05 59 13.6**	**+1.3**
TXAR	**Lajitas Array**	**18.69**	**328**	P		**P**	**05 59 13.6**	**+1.3**
	0.0nm,0.3s,baz=152,slow=9.8,SNR=6.8							
LPIG	**La Paz**	**19.82**	**304**	LR		LR	06 05 38.0	
	comp=Z,42nm,20.8s,baz=174,slow=33							
ROSC	**El Rosal**	**19.88**	**115**	*e*P		P	05 59 18.8	-6.9
	13nm,0.4s							
ABTX	**Abilene, Hawle**	**19.91**	**342**	*e*P		**P**	**05 59 24.6**	**-0.9**
	4.7nm,0.6s							
Z50A	**Ashland**	**20.26**	**16**	*e*P		**P**	**05 59 29.9**	**+0.6**
	6.3nm,1.2s							
MIAR	**Mount Ida**	**20.71**	**357**	*e*P		**P**	**05 59 34.2**	**+0.1**
	6.7nm,1.1s							
Y49A	**Blount Mountai**	**20.71**	**14**	*e*P		**P**	**05 59 34.5**	**+0.3**
	10nm,1.4s							
OXF	**Oxford**	**20.82**	**7**	*e*P		**P**	**05 59 34.2**	**-1.1**
	33nm,1.6s							
X37A	**Clayton**	**20.90**	**353**	*e*P		**P**	**05 59 36.8**	**+0.6**
	6.7nm,1.2s							
X48A	**Hartselle**	**21.14**	**12**	*e*P		**P**	**05 59 38.2**	**-0.6**
	14nm,1.4s							
GOGA	**Godfrey**	**21.16**	**21**	*e*P		**P**	**05 59 40.2**	**+1.3**
	15nm,1.4s							
AMTX	**Amarillo**	**22.64**	**340**	*e*P		**P**	**05 59 55.0**	**0.0**
	10nm,0.6s							
PARMO	**Parma**	**22.91**	**5**	*e*P		**P**	**05 59 59.1**	**+1.4**
	41nm,0.7s							
TKL	**Tuckaleechee C**	**23.12**	**18**	LR		LR	06 09 25.4	
	comp=Z,52nm,19.2s,baz=274,slow=38							
SNOW	**Snow King Moun**	**33.54**	**335**	*e*P		**P**	**06 01 35.4**	**+1.5**
	7.0nm,0.9s							
NV01	**Mina Array Sit**	**33.62**	**322**	*e*P		**P**	**06 01 36.0**	**+1.4**
NVAR	**Mina Array Bea**	**33.62**	**322**	P		**P**	**06 01 36.0**	**+1.4**
	1.4nm,0.8s,baz=126,slow=9.1,SNR=7.9							
J08A	**Circle Bar Ran**	**37.04**	**328**	*e*P		**P**	**06 02 07.1**	**+3.3**
	9.2nm,1.4s							
F10A	**Beach Ranch, E**	**38.34**	**332**	*e*P		**P**	**06 02 15.7**	**+0.9**
	3.2nm,0.8s							
YKA	**Yellowknife Ar**	**51.16**	**347**	P		**P**	**06 03 55.9**	**-0.7**
	2.3nm,0.7s,baz=150,slow=7.4,SNR=74							
YKA				PcP		**PcP**	**06 05 10.8**	**-1.2**
	0.3nm,0.8s,baz=149,slow=4.3,SNR=4.3							
YKB5	**Yellowknife Ar**	**51.16**	**347**	*e*P		**P**	**06 03 55.9**	**-0.7**
YKB5				*e*PcP		**PcP**	**06 05 10.8**	**-1.2**
INK	**Inuvik**	**60.55**	**344**	P		**P**	**06 05 03.5**	**-0.3**
	1.8nm,0.9s,baz=133,slow=6.7,SNR=5.8							
INK	**Inuvik**	**60.55**	**344**	*e*P		**P**	**06 05 03.5**	**-0.3**
	3.9nm,1.3s							
ILAR	**Eielson Array**	**62.91**	**337**	P		**P**	**06 05 19.4**	**-0.4**
	0.9nm,0.9s,baz=134,slow=5.2,SNR=5.6							
ILB	**Eielson Array**	**62.91**	**337**	*e*P		**P**	**06 05 19.4**	**-0.4**
CM31	**Chiang Mai Arr**	**146.09**	**341**	*e*PKPdf		**PKPdf**	**06 14 33.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**146.09**	**341**	PKPbc		**PKPdf**	**06 14 33.9**	**-0.1**
	1.5nm,0.7s,baz=346,slow=4.2,SNR=7.0							

*IDC **27** 05:58:14.6±1.6, 39°.13N×30°.08E, h0km, mb3.4/2, mb1 3.3/4, mb1mx3.2/32, mbtmp3.3/4, ML3.5/2, Error ellipse: s-maj=25.4km s-min=15.3km az=172.0*

*ISK **27** 05:58:15.7, 39°.09N×30°.17E, h2km, ML3.8/32*

*DDA **27** 05:58:16.2, 39°.09N×30°.19E, h21$^{km}\pm_{1}^{km}$, ML3.9*

ISC 27 05:58:17.0±1.0,**39°.10N**±0°.02×**30°.16E**±0°.02,**h11**km±8km, **n115,** σ1$**19**/129,**11C-3D,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
GEDZ	**Gediz**	**0.59**	**265**	PG		**Pg**	**05 58 27.9**	**-0.5**
GEDZ				SG		**Sg**	**05 58 36.7**	**+0.5**
SHUT	**Suhut-Afyon**	**0.63**	**151**	PG		**Pg**	**05 58 28.8**	**-0.4**
SHUT				SG		**Sg**	**05 58 37.2**	**-0.2**
ESKT	**Eskisehir**	**0.68**	**52**	PG		**Pg**	**05 58 29.1**	**-1.0**
BOLV	**Bolvadin**	**0.72**	**122**	IAML_P				
	comp=Z,35μm,0.1s							
BOLV				*i* P		**Pg**	**05 58 30.9**	**-0.1**
BOLV				*i* S		**Sg**	**05 58 39.3**	**-1.2**
SHAP	**Saphane-Kutahy**	**0.74**	**264**	PG		**Pg**	**05 58 30.7**	**-0.5**
BORA	**Eskisehir**	**0.81**	**16**	PG		**Pg**	**05 58 32.0**	**-0.6**
BORA	**Eskisehir**	**0.81**	**16**	*i* P		**Pg**	**05 58 32.9**	**+0.3**
KZIL	**AFYON_Kizioren**	**0.84**	**181**	IAML_P				
	comp=Z,9μm,0.4s							
KZIL				*i* P		**Pg**	**05 58 32.9**	**-0.4**
KZIL				*i* S		**Sn**	**05 58 48.0**	**+0.6**
KHAL	**Karahalli**	**0.90**	**216**	*i* P		**Pg**	**05 58 33.5**	**-0.8**
KHAL				*i* S		**Sg**	**05 58 44.6**	**-1.5**
SMAA	**Simav-Kutahya**	**0.92**	**270**	PG		**Pg**	**05 58 34.9**	**+0.2**
KHL	**Karahalli**	**0.93**	**213**	PG		**Pg**	**05 58 34.5**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.11**	**72**	PN		**Pb**	**05 58 36.8**	**-1.5**
AUSIV	**SIVRIHISAR**	**1.12**	**72**	PN		**Pb**	**05 58 37.2**	**-1.3**
AUSIV	**SIVRIHISAR**	**1.12**	**72**	*i* P		**Pb**	**05 58 37.8**	**-0.7**
AUSIV				*i* S		**Sg**	**05 58 53.1**	**0.0**
CAVI	**Cavuskoy**	**1.13**	**347**	PN		**Pb**	**05 58 38.2**	**-0.3**
DEMI	**Demirci**	**1.13**	**267**	*i* P		**Pb**	**05 58 38.5**	**0.0**
GPA	**Golpazari**	**1.19**	**5**	PN		**Pg**	**05 58 40.5**	**+0.7**
BAGO	**Egridir - ISPA**	**1.21**	**156**	*i* P		**Pg**	**05 58 41.4**	**+1.1**
DST	**Dursunbey**	**1.30**	**293**	PN		**Pn**	**05 58 41.4**	**+0.3**
ISP	**Isparta**	**1.31**	**167**	PN		**Pn**	**05 58 40.2**	**-1.1**
KULA	**Kula-Manisa**	**1.31**	**244**	PN		**Pn**	**05 58 40.9**	**-0.4**
IZI	**Iznik**	**1.34**	**337**	PN		**Pb**	**05 58 42.6**	**+0.4**
GULT	**Gulveren**	**1.36**	**11**	PN		**Pb**	**05 58 42.5**	**0.0**
ORLT	**Orhaneli**	**1.36**	**314**	PN		**Pn**	**05 58 42.3**	**+0.3**
GEYV	**SAKARYA_Geyve**	**1.38**	**4**	IAML_P				
	comp=Z,39μm,0.2s							
GEYV				*i* P		**Pb**	**05 58 43.3**	**+0.5**
GEYV				*i* S		**Sg**	**05 59 01.8**	**+0.3**
MANT	**Manisa**	**1.39**	**245**	IAML_P				
	comp=Z,11μm,0.3s							
MANT				*i* P		**Pb**	**05 58 43.1**	**0.0**
MANT				*i* S		**Sb**	**05 59 00.8**	**-0.3**
DURS	**Dursunbey**	**1.40**	**291**	IAML_P				
	comp=Z,23μm,0.3s							
DURS				*i* P		**Pb**	**05 58 43.2**	**0.0**
DURS				*i* S		**Sg**	**05 59 01.8**	**-0.2**
BRDR	**BURDUR-Merkez**	**1.41**	**183**	IAML_P				
	comp=Z,13μm,0.3s							
BRDR				*i* P		**Pb**	**05 58 43.2**	**-0.1**
GEMT	**Gemlik**	**1.53**	**331**	PN		**Pb**	**05 58 45.0**	**-0.3**
DOGA	**KONYA_Doganhis**	**1.54**	**130**	*i* P		**Pb**	**05 58 45.6**	**-0.1**
MDUB	**Mudurnu**	**1.58**	**30**	PN		**Pn**	**05 58 45.7**	**+0.6**
YLV	**Yalova**	**1.58**	**338**	PN		**Pn**	**05 58 45.7**	**+0.6**
SPNC	**Sapanca-Adapaz**	**1.59**	**4**	PN		**Pb**	**05 58 46.1**	**-0.2**
BTAS	**Taskesti**	**1.60**	**23**	*i* P		**Pb**	**05 58 46.6**	**0.0**
BTAS				*i* S		**Sg**	**05 59 09.6**	**+1.1**
MDNY	**Mudanya-Bursa**	**1.60**	**322**	PN		**Pn**	**05 58 45.8**	**+0.5**
DENT	**Denizli**	**1.61**	**214**	PN		**Pb**	**05 58 46.7**	**-0.1**
KDHN	**Kadinhani**	**1.63**	**110**	*i* P		**Pg**	**05 58 48.6**	**+0.3**
SAUV	**Serdivan-Sakar**	**1.64**	**4**	PN		**Pn**	**05 58 46.3**	**+0.5**
BCK	**Bucak**	**1.67**	**168**	PN		**Pn**	**05 58 46.6**	**+0.3**
KCTX	**Karacabey (Bur**	**1.81**	**310**	PN		**Pb**	**05 58 50.5**	**+0.3**
SAHE	**Sakarya_HENDEK**	**1.83**	**17**	*i* P		**Pn**	**05 58 49.0**	**+0.6**
AKHS	**Akhisar**	**1.84**	**264**	*i* P		**Pn**	**05 58 49.0**	**+0.4**
BALB	**Balikesir**	**1.85**	**288**	PN		**Pn**	**05 58 49.6**	**+1.0**
TAVA	**DENIZLI_Tavas**	**1.91**	**211**	*i* P		**Pg**	**05 58 53.8**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.92**	**279**	*i* P		**Pn**	**05 58 50.3**	**+0.7**
STEP				*i* S		**Sg**	**05 59 20.5**	**+1.9**
BUY	**Buyukada**	**1.92**	**336**	*i* P		**Pg**	**05 58 54.0**	**+0.1**
BUY				*i* S		**Sg**	**05 59 19.5**	**+0.8**
KAND	**Kocaeli-Kandir**	**1.99**	**1**	IAML_P				
	comp=Z,8μm,0.4s							
KAND				*i* P		**Pg**	**05 58 55.6**	**+0.5**
KONT	**Konya--Tatoy**	**2.08**	**123**	PN		**Pn**	**05 58 53.2**	**+1.4**
KONT	**Konya--Tatoy**	**2.08**	**123**	*i* P		**Pn**	**05 58 53.3**	**+1.4**
SILT	**Sile**	**2.09**	**349**	PN		**Pb**	**05 58 53.9**	**-0.9**
KORT	**Korkueli**	**2.10**	**176**	PN		**Pn**	**05 58 53.5**	**+1.2**
KORT	**Korkueli**	**2.10**	**176**	IAML_P				
	comp=Z,547nm,0.3s							
KORT				*i* P		**Pn**	**05 58 53.5**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**2.12**	**238**	PN		**Pn**	**05 58 53.4**	**+0.9**
GONE	**Gonen-Balikesi**	**2.13**	**297**	PN		**Pn**	**05 58 53.4**	**+0.8**
LOD	**Lodumlu**	**2.16**	**68**	PN		**Pb**	**05 58 55.0**	**-1.2**
KMER	**Konya-Meram**	**2.19**	**127**	IAML_P				
	comp=Z,280nm,0.2s							
KMER				*i* P		**Pn**	**05 58 54.3**	**+0.9**
CHBY	**Cihanbeyli**	**2.19**	**103**	PN		**Pb**	**05 58 55.4**	**-1.3**
KULU	**Kulu**	**2.21**	**91**	PN		**Pn**	**05 58 54.3**	**+0.5**
BCAM	**Yenicaga**	**2.25**	**40**	*i* P		**Pn**	**05 58 55.4**	**+1.1**
CMDR	**Camlidere-ANKA**	**2.26**	**51**	*i* P		**Pb**	**05 58 59.2**	**+1.3**
AFSR	**Afar-Bala (An**	**2.28**	**80**	PN		**Pn**	**05 58 55.9**	**+1.2**
AYDN	**Tasoluk**	**2.30**	**232**	IAML_P				
	comp=Z,1μm,0.2s							
AYDN				*i* P		**Pn**	**05 58 56.8**	**+1.9**
BBAL	**Bala**	**2.34**	**78**	*i* P		**Pg**	**05 59 01.7**	**-0.1**
KNL	**Balikesir**	**2.34**	**301**	*i* P		**Pg**	**05 59 01.4**	**-0.5**
ELL	**Elmali**	**2.36**	**185**	PN		**Pb**	**05 58 57.2**	**+1.4**
TURN	**Turunc**	**2.54**	**209**	PN		**Pb**	**05 59 02.5**	**-0.1**
TURN	**Turunc**	**2.54**	**209**	*i* P		**Pg**	**05 59 08.9**	**+3.2**
DALY	**Dalyan (Mula)**	**2.57**	**208**	PN		**Pn**	**05 59 00.3**	**+1.7**
DALY	**Dalyan (Mula)**	**2.57**	**208**	IAML_P				
	comp=Z,350nm,0.2s							
DALY				*i* P		**Pn**	**05 59 00.6**	**+2.0**
MLSB	**Milas**	**2.60**	**227**	PN		**Pn**	**05 59 00.6**	**+1.5**
FETY	**Fethiye**	**2.61**	**199**	*i* P		**Pb**	**05 59 03.9**	**+0.2**
SERE	**Sereflikochisa**	**2.66**	**92**	PN		**Pn**	**05 59 01.5**	**+1.6**
GCAM	**G?zelcaml?**	**2.69**	**240**	*i* P		**Pg**	**05 59 07.9**	**-0.6**
AYVA	**Ayvalik**	**2.71**	**275**	*i* P		**Pg**	**05 59 10.5**	**+1.7**
AYVA				*i* S		**Sg**	**05 59 44.6**	**+0.8**
BRTR	**Keskin Array B**	**2.76**	**76**	Pn		**Pn**	**05 59 01.9**	**+0.5**
	comp=Z,3.4nm,0.3s,baz=255,slow=13,SNR=66							
BRTR				Pg		**Pb**	**05 59 08.3**	**+1.8**
	comp=Z,10nm,0.3s,baz=258,slow=17,SNR=93							
BRTR				Sn		**Sn**	**05 59 35.9**	**+1.0**
	comp=Z,4.1nm,0.3s,baz=261,slow=19,SNR=5.4							
BRTR				Lg		Lg	05 59 45.3	
	comp=Z,3.8nm,0.3s,baz=263,slow=24,SNR=2.8							
DGB	**zmir**	**2.78**	**249**	*i* P		**Pg**	**05 59 09.3**	**-0.9**
SULT	**Sultanhani-AKS**	**2.78**	**108**	PN		**Pn**	**05 59 03.7**	**+2.2**
SART	**Tekirdag**	**2.79**	**306**	IAML_P				
	comp=Z,2μm,0.3s							
SART				*i* P		**Pb**	**05 59 05.8**	**-1.0**
AKSY	**AKSARAY - Alti**	**2.84**	**98**	*i* P		**Pg**	**05 59 12.4**	**+0.9**
YAYX	**Yaylak**	**2.85**	**92**	PN		**Pn**	**05 59 04.4**	**+1.9**
BAYC	**CANAKKALE_Bayr**	**2.87**	**284**	*i* P		**Pn**	**05 59 03.6**	**+0.9**
URLA	**Izmir**	**2.89**	**256**	*i* P		**Pg**	**05 59 11.6**	**-0.6**
AKAS	**Kas**	**2.90**	**189**	PN		**Pn**	**05 59 05.0**	**+1.8**
AKAS	**Kas**	**2.90**	**189**	*i* P		**Pn**	**05 59 04.5**	**+1.3**
BDRM	**Kayabasi**	**2.96**	**227**	*i* P		**Pn**	**05 59 05.3**	**+1.4**
ZEY	**zmir**	**2.99**	**254**	*i* P		**Pn**	**05 59 06.0**	**+1.7**
BTIN	**Bartın**	**2.99**	**32**	*i* P		**Pn**	**05 59 05.7**	**+1.3**
DELI	**KIRIKKALE**	**3.04**	**72**	*i* P		**Pn**	**05 59 06.2**	**+1.1**
KESN	**Edirne-Kesan**	**3.18**	**304**	*i* P		**Pn**	**05 59 08.6**	**+1.3**
BOZC	**Bozcaada**	**3.27**	**284**	*i* P		**Pn**	**05 59 09.1**	**+0.9**
ERMK	**Ermenek**	**3.28**	**138**	*i* P		**Pn**	**05 59 10.8**	**+2.2**
CDAG	**Cicekdag**	**3.31**	**80**	*i* P		**Pn**	**05 59 11.1**	**+2.3**
ILGA	**Ilgaz**	**3.35**	**53**	*i* P		**Pn**	**05 59 12.4**	**+2.9**
TIRR	**Tirgusor**	**5.51**	**347**	⇑*i*P		**Pn**	**05 59 39.5**	**+0.6**
TIRR	**Tirgusor**	**5.51**	**347**	S		**Sn**	**06 00 40.2**	**-2.1**
TLCR		**6.16**	**351**	⇓*i*P		**Sn**	**05 59 48.9**	**+1.0**
TLCR		**6.16**	**351**	S		**Sn**	**06 00 56.6**	**-1.7**
CFR	**Carcaliu**	**6.25**	**347**	⇑*i*P		**Pn**	**05 59 49.9**	**+0.7**
CFR	**Carcaliu**	**6.25**	**347**	S		**Sn**	**06 00 57.6**	**-3.0**
VTS	**Vitosha**	**6.32**	**306**	⇑*i*P		**Pn**	**05 59 51.7**	**+1.5**
ISR	**Istrita**	**6.59**	**337**	⇑*i*P		**Pn**	**05 59 55.0**	**+1.2**
STIP	**Stip**	**6.62**	**296**	*i* Pn		**Pn**	**05 59 53.3**	**-0.9**
GRER		**6.70**	**340**	⇑*i*P		**Pn**	**05 59 56.8**	**+1.4**
MLR	**Muntele Rosu**	**7.11**	**335**	⇑*i*P		**Pn**	**06 00 01.8**	**+0.8**
KRUS	**Krusevo**	**7.18**	**291**	*i* Pn		**Pn**	**06 00 03.9**	**+1.8**
VRI	**Vrincioaia**	**7.22**	**341**	⇑*i*P		**Pn**	**06 00 03.6**	**+1.1**
PLOR	**Plostina**	**7.23**	**340**	⇑*i*P		**Pn**	**06 00 04.6**	**+2.0**
VOIR		**7.38**	**331**	⇓*i*P		**Pn**	**06 00 06.0**	**+1.3**
ARR	**Arges**	**7.48**	**329**	⇑*i*P		**Pn**	**06 00 06.2**	**+0.1**
OZUR		**7.70**	**337**	⇑*i*P		**Pn**	**06 00 10.2**	**+1.2**
TESR	**Tescani**	**7.84**	**342**	⇓*i*P		Pn	06 00 16.2	+5.2
MDVR	**Moldovita**	**8.47**	**315**	⇑*i*P		**Pn**	**06 00 19.9**	**+0.2**
AKASG	**Malin Array Be**	**11.62**	**357**	Pn		**Pn**	**06 01 00.4**	**-2.2**
	comp=Z,0.6nm,0.3s,baz=172,slow=12,SNR=4.7							
TORD	**Torodi Ar. Bea**	**36.07**	**232**	P		**P**	**06 05 17.2**	**-1.6**
	comp=Z,0.5nm,0.8s,baz=24,slow=11,SNR=3.4							
MKAR	**Makanchi Array**	**38.32**	**61**	P		**P**	**06 05 38.6**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=270,slow=7.5,SNR=4.5							

MEX 27 06:16:53.3±0.7,**16°.36N**×**98°.42W,h8**km±5km,**MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
PNIG	**Pinotepa**	**0.28**	**83**	*e*P		Pg	06 16 58.3	-0.7
PNIG				*e*S		Sg	06 17 03.0	+0.3
VHO	**Vista Hermosa**	**1.77**	**66**	*e*P		Pn	06 17 20.7	-3.7
VHO				*e*S		Sn	06 17 43.0	-4.2
CAIG	**El Cayaco**	**1.90**	**291**	*e*P		Pn	06 17 22.4	-3.7
CAIG				*e*S		Sn	06 17 45.5	-4.6
PPM	**Popocatepetl**	**2.70**	**356**	*i* P		Pn	06 17 33.7	-3.8
PPM				*i* S		Sn	06 18 06.5	-4.2
MAVM	**Malinalco, Edo**	**2.78**	**339**	*e*P		Pn	06 17 35.8	-2.6
MAVM				*i* S		Sn	06 18 08.8	-3.5

IDC 27 06:41:24.0±1.9,**2°.04N**×**127°.73E,h0**km,**mb3.5**/4, **mb1 3.8**/4,**mb1mx3.4**/30,**mbtmp3.6**/4,**Error ellipse: s-maj=102.7km s-min=24.3km az=70.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
FITZ	**Fitzroy Crossi**	**20.11**	**186**	P		P	06 45 58.4	-1.2
	2.4nm,0.9s,baz=12,slow=9.3,SNR=2.8							
WRA	**Warramunga Arr**	**22.79**	**164**	P		P	06 46 28.6	+0.2
	1.5nm,0.4s,baz=345,slow=11,SNR=24							
ASAR	**Alice Springs**	**26.25**	**167**	P		P	06 47 01.4	+0.3
	0.1nm,0.3s,baz=335,slow=11,SNR=5.2							
MKAR	**Makanchi Array**	**59.51**	**325**	P		P	06 51 29.2	+0.1
	0.4nm,0.6s,baz=114,slow=7.8,SNR=6.1							

*ISCJB **27** 07:05:35.8±0.3, 53°.32N±0°.02×142°.68E±0°.05, h10km, mb3.8/26, MS3.6/1, Error ellipse: s-maj=4.4km s-min=3.0km az=24.5*

*NEIC **27** 07:05:35.7±0.0, 53°.35N×142°.67E, h10km, mb3.7/2, After MOS.*

NEIC Felt at Kholmsk.

*MOS **27** 07:05:36.0±1.2, 53°.37N×142°.67E, h12km, mb4.1/12, Error ellipse: s-maj=13.3km s-min=6.2km az=80.8*

MOS Felt (III) at Moskal'vo, Okha; (II-III) at Tungur,(II) at Nekrasovka.

*SKHL **27** 07:05:36.0±0.2, 53°.32N×142°.64E, h10km, mb4.3/9, Ms4.1/4*

SKHL Felt (III) at Moskal'vo, Okha, (II-III) at Tungor, (II) at Nekrasovka.

*IDC **27** 07:05:42.5±0.7, 53°.56N×142°.77E, h35km±5km, mb3.6/19, mb1 3.8/24, mb1mx3.8/41, mbtmp3.8/24, ML2.8/4, MS3.1/4, Ms1 3.1/4, ms1mx2.7/51, Error ellipse: s-maj=14.5km s-min=12.1km az=153.0*

ISC 27 07:05:38.1±0.4,**53°.37N**±0°.03×**142°.61E**±0°.03,**h10**km,**n84,** σ1$**65**/95,**mb3.9**/26,**11C-5D,Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
OKH	**Okha**	**0.27**	**46**	*e*P		**Pg**	**07 05 44.3**	**+0.8**
OKH	**Okha**	**0.27**	**46**	⇑*i*Pg		**Pg**	**07 05 44.2**	**+0.8**
OKH				AMB		AMB	07 05 44.5	
	6μm,0.3s							
OKH				*i* Sg		**Sg**	**07 05 49.8**	**+2.7**
OKH				A		A	07 05 50.2	
	89μm,0.4s							
OKH				A		A	07 05 50.2	
	87μm,0.4s							
OKH	**Okha**	**0.27**	**46**	⇑*i*PN		**Pg**	**07 05 44.3**	**+0.8**
OKH				*i* S		**Sg**	**07 05 49.7**	**+2.7**
OKH				pmax		pmax		
	comp=Z,6.0nm,0.3s							
OKH				smax		smax		
	comp=N,89nm,0.4s							
NKL	**Nikolayevsk**	**1.18**	**260**	*e*Pg		**Pb**	**07 06 00.0**	**-0.6**
NKL				*e*Sg		**Sg**	**07 06 17.0**	**+0.9**
NKL				AMS		AMS	07 06 54.0	
	comp=N,2μm,4.0s							
NKL	**Nikolayevsk**	**1.18**	**260**	*e*PN		**Pb**	**07 06 00.0**	**-0.6**
NKL				*e*S		**Sg**	**07 06 17.0**	**+0.9**
NKL				smax		smax		
	comp=N,10μm,1.0s							
NKL				smax		smax		
	comp=E,5μm,1.0s							
TYV	**Tymovskoe**	**2.51**	**179**	*e*P		**Pn**	**07 06 18.3**	**-0.6**
TYV				*e*Pg		**Pb**	**07 06 25.5**	**+2.3**
TYV				AMB		AMB	07 06 26.0	
	comp=E,30nm,0.3s							
TYV				*e*S		**Sn**	**07 06 47.4**	**-2.1**
TYV				*e*Sg		**Sg**	**07 06 58.9**	**+0.3**
TYV				A		A	07 06 59.2	
	comp=E,80nm,0.4s							
TYV				A		A	07 06 59.2	
	comp=E,160nm,0.4s							
TYV				AMS		AMS	07 08 46.2	
	comp=E,910nm,6.0s							
TYV				AMS		AMS	07 08 46.2	
	comp=E,960nm,6.0s							
TYV				AMS		AMS	07 08 46.2	
	comp=E,860nm,6.0s							
TYV	**Tymovskoe**	**2.51**	**179**	*e*PN		**Pn**	**07 06 18.7**	**-0.2**
TYV				*e*S		**Sb**	**07 06 56.7**	**+2.6**
TYV				pmax		pmax		
	comp=Z,43nm,0.5s							
TYV				smax		smax		
	comp=N,156nm,0.6s							
UGL	**Uglegorsk**	**4.31**	**185**	*e*S		**Sn**	**07 07 31.1**	**-2.8**
UGL				*e*Sg		**Sg**	**07 07 56.5**	**+0.1**
UGL				A		A	07 07 58.9	
	comp=N,90nm,0.6s							
UGL				AMS		AMS	07 12 29.9	
	comp=N,3μm,18.0s							
UGL				AMS		AMS	07 12 29.9	
	comp=N,2μm,18.0s							
UGL				AMS		AMS	07 12 29.9	
	comp=N,860nm,18.0s							
UGL	**Uglegorsk**	**4.31**	**185**	*e

		comp=Z,5.0nm,0.9s						
ULN	**Ulaanbaatar**	**23.06**	**271**↑	*e*P		**P**	**07 10 43.8**	**+0.2**
ULN				pmax		pmax		
		comp=Z,1.0nm,1.0s						
SONM	**Songino Array**	**23.46**	**271**	P		**P**	**07 10 49.6**	**+1.9**
		comp=Z,0.3nm,0.7s,baz=57,slow=10,SNR=3.1						
IM3	**Indian Mountai**	**32.93**	**42**	*e*P		**P**	**07 12 10.4**	**-1.8**
ZALV	**Zalesovo Beam**	**33.44**	**295**	PcP		**PcP**	**07 14 57.8**	**+0.1**
		comp=Z,1.0nm,0.7s,baz=163,slow=3.0,SNR=4.4						
DGZ	**Jazzator, Alta**	**33.80**	**287**↑	*e*P		**P**	**07 12 17.5**	**-2.6**
ILAR	**Eielson Array**	**36.00**	**43**	P		**P**	**07 12 38.6**	**-0.1**
		comp=Z,1.1nm,0.8s,baz=275,slow=7.4,SNR=12						
MK31	**Makanchi Array**	**38.23**	**285**	*e*P		**P**	**07 12 58.7**	**+0.7**
MK31	**Makanchi Array**	**38.23**	**285**	↓P		**P**	**07 12 58.2**	**+0.2**
		comp=Z,1.1nm,0.8s,baz=119,slow=14,SNR=5.5						
MKAR	**Makanchi Array**	**38.23**	**285**	P		**P**	**07 12 58.5**	**+0.6**
		comp=Z,0.7nm,0.7s,baz=63,slow=8.1,SNR=8.4						
MKAR				pP		sP	07 13 10.9	+8.6
		comp=Z,0.6nm,0.5s,baz=57,slow=7.6,SNR=4.4						
MKAR	**Makanchi Array**	**38.23**	**285**	*e*P		**P**	**07 12 58.7**	**+0.7**
		comp=Z,8.0nm,0.8s						
MKAR	**Makanchi Array**	**38.23**	**285**	*e*P		**P**	**07 12 57.1**	**-0.9**
MKAR				pmax		pmax		
		comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**38.28**	**293**	*e*P		**P**	**07 12 56.5**	**-1.8**
		comp=Z,2.7nm,0.7s						
KURK	**Kurchatov**	**38.28**	**293**↓	*e*P		**P**	**07 12 57.0**	**-1.2**
KURK				pmax		pmax		
		comp=Z,2.0nm,0.7s						
KURBB	**Kurchatov Arra**	**38.38**	**293**	P		**P**	**07 12 59.7**	**+0.6**
		comp=Z,2.7nm,0.6s,baz=66,slow=9.0,SNR=18						
KURBB				pP		sP	07 13 12.0	+8.6
		comp=Z,2.2nm,0.6s,baz=65,slow=8.8,SNR=8.2						
KURBB				PcP		**PcP**	**07 15 12.7**	**+0.3**
		comp=Z,1.3nm,0.6s,baz=60,slow=2.8,SNR=12						
MAKZ	**Makanchi**	**38.40**	**285**	↑P		**P**	**07 13 01.3**	**+1.9**
		comp=Z,1.5nm,1.1s						
BVAR	**Borovoye Array**	**41.54**	**300**	P		**P**	**07 13 25.3**	**0.0**
		comp=Z,0.8nm,0.8s,baz=64,slow=6.6,SNR=4.5						
BVAR				PcP		**PcP**	**07 15 22.7**	**+0.2**
		comp=Z,0.8nm,0.6s,baz=52,slow=2.4,SNR=5.5						
BVAR	**Borovoye Array**	**41.54**	**300**	P		**P**	**07 13 25.3**	**0.0**
BVAR							07 15 22.7	
BVAR				pmax		pmax		
		comp=Z,1.0nm,0.8s						
BVAR				pmax		pmax		
		comp=Z,1.0nm,0.6s						
AAK	**Ala-Archa**	**45.16**	**285**↑	*e*P		**P**	**07 13 54.8**	**-0.1**
AAK				pmax		pmax		
		comp=Z,1.0nm,0.9s						
ARU	**Arti**	**45.56**	**309**↓	*e*P		**P**	**07 13 57.6**	**-0.1**
ARU				pmax		pmax		
		comp=Z,1.0nm,1.1s						
ARCES	**ARCESS Array B**	**49.20**	**336**	P		**P**	**07 14 26.3**	**+0.4**
		comp=Z,2.8nm,1.0s,baz=45,slow=9.1,SNR=3.2						
YKA	**Yellowknife Ar**	**49.65**	**36**	P		**P**	**07 14 29.1**	**-0.2**
		comp=Z,0.2nm,0.5s,baz=305,slow=7.8,SNR=6.9						
KLMR	**Klimovskoe**	**50.83**	**322**	*e*P		**P**	**07 14 38.0**	**-0.2**
KLMR				pmax		pmax		
		comp=Z,8.0nm,1.4s						
KLMR	**Klimovskoe**	**50.83**	**322**	*e*P		**P**	**07 14 38.1**	**-0.2**
KLMR				AMP			07 14 39.8	
		comp=Z,8.0nm,1.4s						
FINES	**FINESS Array B**	**55.01**	**328**	P		**P**	**07 15 09.2**	**+0.2**
		comp=Z,3.9nm,0.5s,baz=31,slow=8.8,SNR=48						
NB2	**NORSAR Subarra**	**59.57**	**335**	P		**P**	**07 15 41.2**	**-0.2**
		comp=Z,7.1nm,1.0s,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**59.57**	**335**	P		**P**	**07 15 41.2**	**-0.2**
		comp=Z,1.8nm,0.8s,baz=33,slow=6.9,SNR=4.8						
FFC	**Flin Flon**	**59.81**	**37**	*i* P		**P**	**07 15 44.1**	**+1.1**
AKASG	**Malin Array Be**	**62.19**	**319**	P		**P**	**07 15 58.1**	**-1.2**
		comp=Z,0.3nm,0.4s,baz=33,slow=7.0,SNR=3.5						
NVAR	**Mina Array Bea**	**65.09**	**59**	P		**P**	**07 16 18.9**	**0.0**
		comp=Z,0.6nm,0.8s,baz=305,slow=5.2,SNR=4.8						
ULM	**Lac du Bonnet**	**65.62**	**37**	P		**P**	**07 16 21.1**	**-0.8**
		comp=Z,3.3nm,1.0s,baz=337,slow=9.6,SNR=4.1						
PDAR	**Pinedale Array**	**66.02**	**50**	P		**P**	**07 16 24.2**	**-0.6**
		comp=Z,1.0nm,1.0s,baz=29,slow=3.4,SNR=5.2						
CLL	**Collm**	**67.46**	**328**	*e*P		**P**	**07 16 33.0**	**-0.6**
BRTR	**Keskin Array B**	**68.94**	**309**	P		**P**	**07 16 43.9**	**+0.6**
		comp=Z,1.1nm,0.8s,baz=61,slow=5.3,SNR=5.5						
GERES	**GERESS Array B**	**69.37**	**327**	P		**P**	**07 16 45.4**	**-0.3**
		comp=Z,0.3nm,0.6s,baz=47,slow=4.3,SNR=3.6						
WRA	**Warramunga Arr**	**73.35**	**188**	P		**P**	**07 17 09.8**	**0.0**
		comp=Z,0.8nm,0.7s,baz=6.0,slow=6.3,SNR=6.2						
WRA				pP		**PcP**	**07 17 24.0**	**-2.1**
		comp=Z,0.5nm,0.7s,baz=6.1,slow=6.4,SNR=2.8						
WRA	**Warramunga Arr**	**73.35**	**188**	*e*P		**P**	**07 17 13.0**	**+3.2**
WRA				pmax		pmax		
		comp=Z,1.0nm,0.9s						
EIL	**Elat**	**76.35**	**301**	LR		LR	07 58 07.4	
		comp=Z,30nm,20.2s,baz=263,slow=41						
ASAR	**Alice Springs**	**77.08**	**188**	P		**P**	**07 17 32.2**	**+0.9**
		comp=Z,0.7nm,0.5s,baz=1.6,slow=5.2,SNR=18						
ASAR				pP		**PcP**	**07 17 45.5**	**+3.5**
		comp=Z,0.7nm,0.6s,baz=0.6,slow=5.0,SNR=3.0						
ASAR	**Alice Springs**	**77.08**	**188**	P		**P**	**07 17 32.2**	**+0.9**
ASAR				*PP		**PcP**	**07 17 45.6**	**+3.5**
ASAR				pmax		pmax		
		comp=Z,1.0nm,0.5s						
ASAR				pmax		pmax		
		comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**79.65**	**54**	P		**P**	**07 17 46.0**	**+0.3**
		comp=Z,0.9nm,0.9s,baz=296,slow=4.0,SNR=5.9						
ESDC	**Sonseca Array**	**82.93**	**335**	P		**P**	**07 18 02.7**	**-0.2**
		comp=Z,0.6nm,0.6s,baz=4.9,slow=4.2,SNR=3.9						

IDC 27 07:15:40.7±1.0, 44°05N×101°60E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.4/43, mbtmp3.6/6, ML3.6/1, Error ellipse: s-maj=27.3km s-min=16.8km az=109.0, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**5.05**	**40**	Pn	Pn	07 16 59.3	+1.5
	2.3nm,0.3s,baz=226,slow=15,SNR=46						
SONM				Pg	Pb	07 17 13.0	+3.1
	11nm,0.3s,baz=220,slow=17,SNR=35						
SONM				Sn	Sn	07 17 56.6	-0.3
	9.4nm,0.3s,baz=222,slow=27,SNR=7.4						
SONM				Lg	Lg	07 18 23.2	
	15nm,0.3s,baz=222,slow=29,SNR=8.0						
BVAR	**Borovoye Array**	**22.38**	**305**	P	P	07 20 40.8	+0.5
	0.6nm,0.5s,baz=111,slow=8.2,SNR=3.6						
CMAR	**Chiang Mai Arr**	**25.61**	**186**	P	P	07 21 12.2	+0.5
	0.5nm,0.3s,baz=353,slow=8.9,SNR=5.2						
YKA	**Yellowknife Ar**	**69.91**	**17**	P	P	07 26 52.0	-1.1
	0.2nm,0.8s,baz=332,slow=6.0,SNR=4.2						
WRA	**Warramunga Arr**	**70.39**	**147**	P	P	07 26 56.0	-0.4
	0.6nm,0.7s,baz=345,slow=7.0,SNR=6.6						
ASAR	**Alice Springs**	**73.61**	**149**	P	P	07 27 16.2	+0.5
	0.4nm,0.6s,baz=344,slow=5.7,SNR=9.2						

*ISCJB **27** 07:24:32.1±0.4, 58°.72S±0°.06×25°.3W±0°.1, h38km, mb4.6/22, MS3.8/5, Error ellipse: s-maj=10.2km s-min=6.9km az=40.9*

*IDC **27** 07:24:32.7±1.8, 58°.64S×25°.32W, h22km±10km, mb4.3/13, mb1 4.4/14, mb1mx4.3/26, mbtmp4.5/14, ML4.9/1, MS3.8/7, Ms1 3.8/7, ms1mx3.6/19, Error ellipse: s-maj=17.5km s-min=15.6km az=26.0*

*NEIC **27** 07:24:34.4±0.3, 58°.70S×25°.39W, h35km, mb4.7/9, Error ellipse: s-maj=10.7km s-min=7.8km az=194.0*

ISC 27 07:24:34.7±0.4, 58°.72S±0°.08×25°.37W±0°.08, h38km, n66, σ1§26/67, mb4.7/22, MS3.8/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.58**	**301**	*e*Pn	**Pn**	**07 26 22.0**	**-0.6**
VNA1	**Neumayer--Stat**	**13.95**	**156**	P	**Pn**	**07 27 47.8**	**-1.6**
VNA3	**Neumayer Olymp**	**14.14**	**159**	P	**Pn**	**07 27 50.0**	**-2.2**
VNA3				S	Sn	07 30 10.3	-17
VNA2	**Neumayer--Watz**	**14.35**	**156**	P	**Pn**	**07 27 53.1**	**-1.8**
	baz=319,slow=14						
SNAA	**Sanae**	**15.90**	**154**	P	**Pn**	**07 28 13.7**	**-1.7**
SNAA	**Sanae**	**15.90**	**154**	Pn	**Pn**	**07 28 13.8**	**-1.7**
	5.0nm,0.3s,baz=318,slow=14,SNR=181						
SNAA				LR	LR	07 33 03.3	
	comp=Z,471nm,20.1s,baz=303,slow=32						
SNAA	**Sanae**	**15.90**	**154**	*e*Pn	**Pn**	**07 28 13.3**	**-2.1**
	41nm,1.1s						
PMSA	**Palmer Station**	**19.03**	**235**	LR	LR	07 35 47.3	
	comp=Z,345nm,18.2s,baz=114,slow=35						
PMSA	**Palmer Station**	**19.03**	**235**	*e*P	**P**	**07 28 52.1**	**-0.9**
	68nm,1.3s						
EFI	**East Falkland**	**19.79**	**277**	*e*P	**P**	**07 29 01.1**	**-0.3**
	323nm,2.0s						
USHA	**Ushuaia**	**23.60**	**261**	P	**P**	**07 29 42.2**	**+0.6**
	13nm,0.9s,baz=110,slow=11,SNR=5.8						
GO10	**Punta Arenas**	**25.77**	**262**	*e*P	**P**	**07 30 01.8**	**+0.3**
	90nm,1.3s						
GO09	**Cerro Castillo**	**27.45**	**265**	*e*P	**P**	**07 30 16.3**	**-0.4**
	47nm,1.4s						
QSPA	**South Pole Qui**	**31.53**	**180**	P	**P**	**07 30 54.0**	**+1.1**
	3.4nm,0.7s,baz=218,slow=1.9						
QSPA	**South Pole Qui**	**31.53**	**180**	*e*P	**P**	**07 30 54.4**	**+1.5**
	27nm,0.9s						
GO07	**Milladeo Hill,**	**33.37**	**276**	*e*P	**P**	**07 31 06.9**	**-2.1**
	41nm,0.9s						
PLCA	**Paso Flores**	**33.48**	**282**	P	**P**	**07 31 10.3**	**+0.2**
	6.2nm,0.7s,baz=160,slow=9.5,SNR=29						
PLCA				ScP	**ScP**	**07 37 33.5**	**+2.0**
	1.4nm,1.0s,baz=146,slow=8.4,SNR=3.5						
PLCA				LR	LR	07 45 01.7	
	comp=Z,173nm,18.3s,baz=209,slow=37						
PLCA	**Paso Flores**	**33.48**	**282**	*e*P	**P**	**07 31 10.6**	**+0.4**
	8.7nm,0.8s						
GO06	**Curarrehue**	**34.81**	**283**	*e*P	**P**	**07 31 21.5**	**-0.2**
	6.8nm,0.9s						
MAW	**Mawson**	**37.43**	**141**	LR	LR	07 45 18.2	
	comp=Z,238nm,19.9s,baz=228,slow=33						
GO05	**Huala**	**38.58**	**287**	*e*P	**P**	**07 31 53.2**	**-0.5**
	17nm,0.7s						
CPUP	**Villa Florida**	**39.31**	**311**	P	**P**	**07 31 58.8**	**-1.1**
	2.4nm,0.8s,baz=161,slow=8.3,SNR=5.8						
CPUP				ScP	**ScP**	**07 37 54.0**	**+0.9**
	1.8nm,0.8s,baz=201,slow=3.7,SNR=4.0						
CPUP				LR	LR	07 46 24.3	
	comp=Z,103nm,19.2s,baz=202,slow=33						
PEL	**Peldehue**	**39.46**	**290**	*e*P	**P**	**07 32 01.4**	**+0.3**
	23nm,0.7s						
ROC1	**El Roble**	**39.76**	**290**	*e*P	**P**	**07 32 02.1**	**-1.7**
	18nm,0.9s						
VNDA	**Vanda**	**43.95**	**182**	P	**P**	**07 32 38.0**	**+0.8**
	2.9nm,0.7s,baz=178,slow=8.5,SNR=5.8						
VNDA				LR	LR	07 49 09.0	
	comp=Z,64nm,21.5s,baz=180,slow=34						
BOSA	**Boshof**	**45.78**	**72**	P	**P**	**07 32 51.4**	**-1.1**
	8.1nm,0.6s,baz=206,slow=7.4,SNR=27						
BDFB	**Brasilia**	**46.17**	**329**	P	**P**	**07 32 55.2**	**-0.4**
	4.0nm,0.8s,baz=149,slow=8.2,SNR=8.4						
BDFB				LR	LR	07 51 55.8	
	comp=Z,100nm,18.5s,baz=163,slow=36						
LBTB	**Lobatse**	**48.94**	**69**	P	**P**	**07 33 15.7**	**-1.3**
	4.9nm,0.7s,baz=201,slow=6.6,SNR=9.8						
LBTB	**Lobatse**	**48.94**	**69**	*e*P	**P**	**07 33 15.8**	**-1.3**
	10nm,1.2s						
H10S2	**ASCENSION HYDR**	**50.32**	**14**	T	T	08 27 56.1	
	baz=188,slow=75,SNR=18						
H10S3	**ASCENSION HYDR**	**50.32**	**14**	T	T	08 27 53.8	
	baz=188,slow=75,SNR=20						
H10S1	**ASCENSION HYDR**	**50.34**	**14**	T	T	08 27 57.4	
	baz=188,slow=75,SNR=21						
MNMC	**Minye Minye**	**50.84**	**302**	*e*P	**P**	**07 33 31.6**	**-0.2**
	10nm,0.7s						
H10N1	**ASCENSION HYDR**	**51.44**	**14**	T	T	08 29 16.7	
	baz=180,slow=72,SNR=6.3						
H10N3	**ASCENSION HYDR**	**51.44**	**14**	T	T	08 29 20.6	
	baz=180,slow=72,SNR=16						
H10N2	**ASCENSION HYDR**	**51.45**	**14**	T	T	08 29 21.5	
	baz=180,slow=72,SNR=15						
LPAZ	**La Paz**	**52.72**	**305**	P	**P**	**07 33 44.5**	**-1.7**
	5.2nm,0.7s,baz=253,slow=7.3,SNR=23						
LPAZ	**La Paz**	**52.72**	**305**	*e*P	**P**	**07 33 44.6**	**-1.5**
	5.1nm,0.8s						
LSZ	**Lusaka**	**58.50**	**66**	*e*P	**P**	**07 34 25.1**	**-2.1**
	8.7nm,1.3s						
DBIC	**Dimbokro**	**67.23**	**22**	P	**P**	**07 35 25.5**	**+0.6**
	1.6nm,0.5s,baz=158,slow=5.6,SNR=4.1						
TOA0	**Torodi Ar. Sit**	**74.94**	**27**	*e*P	**P**	**07 36 10.5**	**-1.0**
TORD	**Torodi Ar. Bea**	**74.94**	**27**	P	**P**	**07 36 11.5**	**0.0**
	3.1nm,0.4s,baz=200,slow=6.2,SNR=58						
STKA	**Stephens Creek**	**89.10**	**169**	P	**P**	**07 37 26.2**	**+0.5**
	1.5nm,0.8s,baz=157,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**96.14**	**161**	P	**P**	**07 37 57.4**	**-1.1**
	1.1nm,0.8s,baz=187,slow=3.9,SNR=9.7						
ASAR				PKKPbc	**PKKPbc**	**07 54 45.4**	**+3.1**
	0.4nm,0.6s,baz=24,slow=2.4,SNR=7.8						
WRA	**Warramunga Arr**	**99.86**	**161**	PKKPbc	PKKPbc	07 54 34.2	+2.3
	0.7nm,1.0s,baz=356,slow=2.7,SNR=4.9						
TXAR	**Lajitas Array**	**108.86**	**295**	PKiKP	**PKiKP**	**07 42 57.6**	**-1.8**
	0.6nm,1.1s,baz=106,slow=1.3,SNR=4.2						
PDAR	**Pinedale Array**	**122.56**	**300**	PKP	**PKPdf**	**07 43 25.4**	**0.0**
	0.4nm,0.6s,baz=123,slow=8.1,SNR=6.1						
HWUT	**Hardwe Ranch**	**122.57**	**297**	*e*PKPdf	**PKPdf**	**07 43 25.9**	**+0.5**
ULM	**Lac du Bonnet**	**122.83**	**314**	PKP	**PKPdf**	**07 43 24.9**	**-0.4**
	2.6nm,0.6s,baz=162,slow=2.7,SNR=8.0						
CMAR	**Chiang Mai Arr**	**123.21**	**110**	PKP	**PKPdf**	**07 43 30.1**	**+3.1**
	0.5nm,0.3s,baz=246,slow=3.2,SNR=4.7						
NVAR	**Mina Array Bea**	**123.30**	**290**	PKP	**PKPdf**	**07 43 28.6**	**+1.7**
	1.4nm,0.6s,baz=143,slow=3.6,SNR=10						
KSH	**Kashi**	**128.32**	**75**	PKP	**PKPdf**	**07 43 36.3**	**-0.1**
KSH				sPKP		07 43 52.0	
KSH				PP	**PP**	**07 45 42.3**	**+0.5**
KSH				PKS	**PKSdf**	**07 47 14.0**	**+1.1**
KSH				SKS	**SKSdf**	**07 50 45.5**	**+0.8**
KSH				AMB	AMB		
	comp=Z,250nm,6.9s						
ARCES	**ARCESS Array B**	**133.06**	**22**	PKP	**PKPdf**	**07 43 44.4**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=281,slow=2.0,SNR=7.3						
ARCES				SKPbc	**SKPab**	**07 47 12.2**	**+1.6**
	comp=Z,1.9nm,0.8s,baz=205,slow=2.6,SNR=4.6						
BVAR	**Borovoye Array**	**135.35**	**59**	PKP	**PKPdf**	**07 43 50.0**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=201,slow=2.9,SNR=4.5						
BVAR				SKPbc	**SKPbc**	**07 47 16.8**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=191,slow=0.8,SNR=5.0						
MKAR	**Makanchi Array**	**136.77**	**73**	PKP	**PKPdf**	**07 43 54.1**	**+2.2**
	comp=Z,0.3nm,0.7s,baz=250,slow=2.1,SNR=3.6						
MKAR				SKPbc	**SKPbc**	**07 47 20.9**	**-0.4**
	comp=Z,1.0nm,1.0s,baz=266,slow=4.6,SNR=5.6						
KURBB	**Kurchatov Arra**	**137.52**	**66**	PKP	**PKPdf**	**07 43 54.8**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=239,slow=2.5,SNR=4.0						
KURK	**Kurchatov**	**137.62**	**66**	PKP	**PKPdf**	**07 43 54.8**	**+1.5**
YKA	**Yellowknife Ar**	**138.79**	**315**	PKhKP	PKPpre	07 43 46.1	
	comp=Z,0.3nm,0.5s,baz=124,slow=3.1,SNR=16						
YKA				PKP	**PKPdf**	**07 43 55.6**	**+0.5**
	comp=Z,3.6nm,0.6s,baz=129,slow=2.3,SNR=69						
YKA				SKPbc	**SKPbc**	**07 47 26.3**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=119,slow=1.8,SNR=9.6						
LZH	**Lanzhou**	**140.13**	**102**	*e*PKP	**PKPdf**	**07 43 58.5**	**-0.1**
LZH				pPKP	pPKPdf	07 44 07.3	-3.5
LZH				sPKP		07 44 13.8	
ZALV	**Zalesovo Beam**	**142.61**	**66**	PKP	**PKPdf**	**07 44 03.2**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=297,slow=6.5,SNR=4.0						
INK	**Inuvik**	**148.47**	**318**	*e*PKPbc	**PKPbc**	**07 44 15.9**	**+0.5**
DAWY	**Dawson**	**149.26**	**308**	*e*PKPbc	**PKPbc**	**07 44 18.0**	**+0.3**
SONM	**Songino Array**	**149.83**	**90**	PKPbc	**PKPbc**	**07 44 19.8**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=226,slow=3.8,SNR=10						
EGAK	**Eagle**	**150.23**	**309**	*e*PKPbc	**PKPbc**	**07 44 20.5**	**+0.6**
ILAR	**Eielson Array**	**152.58**	**308**	PKPbc	**PKPbc**	**07 44 26.2**	**+0.9**
	comp=Z,11nm,0.8s,baz=149,slow=3.2,SNR=95						
COLA	**College**	**153.00**	**307**	*e*PKPbc	**PKPbc**	**07 44 25.6**	**-0.7**

KRSC 27 07:32:05.7±1.2, 54°.36N×158°.92E, h274km±12km, ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GNL	**Ganaly**	**0.88**	**221**	*e*P	Pn	07 32 43.2	+0.3
KRX	**Arik**	**1.02**	**189**	*e*P	Pn	07 32 45.3	+1.7
KOK	**Koryaka**	**1.08**	**189**	*e*P	Pn	07 32 45.6	+1.7
SMAR	**Somma**	**1.10**	**184**	*e*P	Pn	07 32 45.9	+1.7
AVH	**Avacha**	**1.10**	**186**	*e*P	Pn	07 32 45.7	+1.7
UGLR	**Uglovaya**	**1.16**	**183**	*e*P	Pn	07 32 46.1	+1.8
TUMR	**Tumrok**	**1.17**	**37**	*e*P	Pn	07 32 45.3	+1.1
TUMD	**Tumrok D**	**1.20**	**45**	*e*P	Pn	07 32 44.9	+0.5
NLC	**Nalytchevo**	**1.22**	**168**	*e*P	Pn	07 32 45.8	+1.3
NLC				*e*S	S	07 33 16.1	+0.9
DALK	**Dalny**	**1.34**	**184**	*e*P	Pn	07 32 46.5	+1.2
PET	**Petropavlovsk**	**1.35**	**187**	*e*P	Pn	07 32 46.8	+1.5
PET				*e*S	S	07 33 16.8	+0.1
SPN	**Mys Shipunski**	**1.43**	**152**	*e*P	Pn	07 32 46.9	+1.1
SPN				*e*S	S	07 33 16.7	-0.9
KRMR	**Karymshinskiy**	**1.60**	**197**	*e*P	Pn	07 32 48.0	+0.9
KRMR				*e*S	S	07 33 20.8	+0.9
APC	**Apacha**	**1.78**	**217**	*e*P	Pn	07 32 49.0	+0.6
MTVR	**Mutnovka**	**1.93**	**193**	*e*P	Pn	07 32 51.8	+1.9
MTVR				*e*S	S	07 33 25.9	+1.1
RUS	**Russkaya**	**1.95**	**187**	*e*P	Pn	07 32 50.5	+0.7
RUS				*e*S	S	07 33 23.8	-0.9
KDTR	**Khodutka, Kamc**	**2.61**	**192**	*e*P	Pn	07 32 57.0	+1.2
KDTR				*e*S	S	07 33 34.9	-0.6

IDC 27 07:37:32.5±1.8, 58°.53S×25°.52W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/18, mbtmp3.8/3, Error ellipse: s-maj=76.2km s-min=33.2km az=175.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**33.37**	**282**	P	P	07 44 12.0	-0.2
	1.1nm,0.9s,baz=180,slow=10,SNR=3.1						
LPAZ	**La Paz**	**52.55**	**305**	P	P	07 46 48.1	-0.1
	0.8nm,0.6s,baz=196,slow=4.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**74.81**	**27**	P	P	07 49 14.3	0.0
	0.5nm,0.4s,baz=201,slow=6.5,SNR=14						
YKA	**Yellowknife Ar**	**138.60**	**315**	PKP	PKPdf	07 56 58.5	0.0
	0.5nm,0.7s,baz=132,slow=2.3,SNR=13						
SONM	**Songino Array**	**149.91**	**89**	PKPbc	PKPbc	07 57 22.9	-0.7
	0.7nm,0.4s,baz=237,slow=7.9,SNR=3.7						
ILAR	**Eielson Array**	**152.40**	**308**	PKPbc	PKiKP	07 57 28.9	-0.1
	1.2nm,0.8s,baz=115,slow=1.6,SNR=13						

*ISCJB **27** 07:46:58.8±0.3, 58°.81S±0°.05×25°.2W±0°.1, h35km, mb4.8/29, MS4.4/15, Error ellipse: s-maj=8.9km s-min=5.9km az=140.8*

*NEIC **27** 07:47:00.6±0.2, 58°.76S×25°.29W, h35km, mb4.8/12, Error ellipse: s-maj=8.9km s-min=6.0km az=200.0*

*IDC **27** 07:47:00.1±1.8, 58°.68S×25°.14W, h28km±11km, mb4.3/15, mb1 4.4/17, mb1mx4.3/25, mbtmp4.5/17, ML4.4/2, MS4.4/16, Ms1 4.3/16, ms1mx4.3/19, Error ellipse: s-maj=17.3km s-min=13.5km az=11.0*

*GCMT **27** 07:47:02.6±0.3, 58°.80S±0°.02×24°.37W±0°.05, h35km±1km, MW5.0/76, Moment Tensor Solution. s45,c53; s76,c100; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr 1.94±.20; Mθθ 1.18±.15; Mϕϕ -3.12±.13; Mrθ 0.24±.17; Mϕθ 0.16±.08; Mrϕ 3.04±.20; Best double couple: Mo 3.97300×10¹⁶ NP1:ϕs 165.00000°, δ 70.00000°, λ 97.00000°. NP2: ϕs 165.00000°, δ 21.00000°, λ 71.00000°. Principal axes: T 3.4000, Plg 64.0000°, Azm 287.0000°; N 1.1450, Plg 7.0000°, Azm 183.0000°; P -4.5450, Plg 25.0000°, Azm 90.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 07:47:00.8±0.4, 58°.78S±0°.08×25°.28W±0°.07, h35km, n104, σ1§05/96, mb4.7/29, MS4.4/15, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.66**	**301**	*e*Pn	**Pn**	**07 48 48.0**	**-1.7**
VNA1	**Neumayer--Stat**	**13.87**	**156**	P	**Pn**	**07 50 13.9**	**-0.6**
VNA3	**Neumayer Olymp**	**14.07**	**159**	P	**Pn**	**07 50 16.0**	**-1.3**
VNA3				S	Sn	07 52 38.9	-13
VNA2	**Neumayer--Watz**	**14.27**	**156**	P	**Pn**	**07 50 19.2**	**-0.8**
	baz=320,slow=14						
SNAA	**Sanae**	**15.83**	**154**	P	**Pn**	**07 50 39.9**	**-0.7**
SNAA	**Sanae**	**15.83**	**154**	Pn	**Pn**	**07 50 39.9**	**-0.7**
	2.8nm,0.3s,baz=321,slow=13,SNR=92						
SNAA				LR	LR	07 55 39.3	
	comp=Z,1μm,20.0s,baz=304,slow=33						
SNAA	**Sanae**	**15.83**	**154**	*e*

3.7nm,0.6s,baz=208,slow=8.4,SNR=13
LPAZ LR LR 08 20 34.6
comp=Z,170nm,19.6s,baz=160,slow=38
LPAZ La Paz 52.80 305 *eP* **P 07 56 12.5 -0.6**
5.8nm,0.9s
LPAZ La Paz 52.80 305 *eP* **P 07 56 11.9 -1.2**
MATP Matopo 54.21 69 P **P 07 56 21.4 -1.5**
7.4nm,1.0s,baz=231,slow=5.8,SNR=8.1
LSZ Lusaka 58.48 65 *eP* **P 07 56 52.3 -1.1**
29nm,1.7s
LIC Lamto 66.80 22 *eP* **P 07 57 49.1 +0.5**
79nm,1.6s
KIC Kosan Boka 66.99 22 *eP* **P 07 57 48.6 -1.2**
70nm,1.6s
TIC Toumodi 67.21 22 *eP* **P 07 57 53.2 +2.0**
DBIC Dimbokro 67.27 22 P **P 07 57 51.4 -0.1**
2.9nm,0.5s,baz=186,slow=6.2,SNR=4.1
DBIC LR LR 08 19 56.0
comp=Z,144nm,20.1s,baz=177,slow=29
OTAV Otavalo 72.02 303 *eP* **P 07 58 21.2 -0.2**
9.4nm,1.3s
OTAV Otavalo 72.02 303 *eP* **P 07 58 22.0 +0.5**
ROSC El Rosal 74.41 309 LR LR 08 31 57.2
comp=Z,210nm,21.4s,baz=180,slow=36
TORD Torodi Ar. Bea 74.97 27 P **P 07 58 37.9 -0.2**
4.7nm,0.7s,baz=197,slow=6.7,SNR=48
TORD LR LR 08 26 13.8
comp=Z,183nm,19.6s,baz=295,slow=31
SDV Santo Domingo 76.66 314 *eP* **P 07 58 47.5 -0.6**
14nm,1.4s
SDV Santo Domingo 76.66 314 *eP* **P 07 58 48.1 0.0**
TBI Tubuai 86.13 230 *eLR* LR 08 27 00.9
comp=Z,233nm,24.5s
H08N3 Diego Garcia H 87.87 99 T T 09 37 39.8
baz=218,slow=74,SNR=7.4
H08N1 Diego Carcia H 87.88 99 T T 09 37 40.0
baz=218,slow=74,SNR=6.1
H08N2 Diego Garcia H 87.89 99 T T 09 37 35.5
baz=218,slow=74,SNR=6.8
STKA Stephens Creek 89.02 169 P **P 07 59 52.3 +0.5**
2.6nm,1.0s,baz=348,slow=6.0,SNR=3.4
STKA LR LR 08 37 46.0
comp=Z,203nm,20.1s,baz=205,slow=34
PPT2 Papeete2 91.35 232 *eLR* LR 08 29 24.7
comp=Z,282nm,24.0s
PPT Papeete 91.37 232 LR LR 08 33 56.5
comp=Z,171nm,18.4s,baz=220,slow=31
ASAR Alice Springs 96.07 161 P **P 08 00 23.8 -0.7**
1.1nm,0.8s,baz=194,slow=4.1,SNR=9.6
ASAR PKKPbc **PKKPbc 08 17 10.9 +2.1**
0.4nm,0.5s,baz=22,slow=2.3,SNR=5.7
ASAR LR LR 08 41 25.6
comp=Z,312nm,19.6s,baz=198,slow=34
AS01 Alice Springs 96.08 161 *eP* **P 08 00 22.4 -2.2**
KEST Kesra 98.48 28 LR LR 08 42 19.7
comp=Z,93nm,19.8s,baz=282,slow=34
WRA Warramunga Arr 99.78 161 PKKPbc PKKPbc 08 17 01.2 +2.6
0.3nm,0.7s,baz=1.0,slow=2.8,SNR=5.6
WRA LR LR 08 44 00.0
comp=Z,308nm,19.6s,baz=200,slow=34
PDAR Pinedale Array 122.64 300 PKP **PKiKP 08 05 52.0 -0.2**
0.4nm,0.5s,baz=132,slow=3.7,SNR=7.7
HWUT Hardware Ranch 122.64 297 *e*PKPdf **PKiKP 08 05 52.0 -0.1**
ULM Lac du Bonnet 122.92 314 PKP **PKiKP 08 05 52.4 +0.3**
0.8nm,0.3s,baz=327,slow=1.3,SNR=5.0
NVAR Mina Array Bea 123.36 290 PKP **PKiKP 08 05 54.4 +0.7**
1.1nm,0.7s,baz=155,slow=2.5,SNR=5.6
KSH Kashi 128.29 75 PKP **PKiKP 08 06 05.0 +1.6**
KSH PP **PP 08 08 11.3 +3.3**
KSH PKS **PKSdf 08 09 39.5 +0.2**
KSH AMB AMB
comp=Z,230nm,7.7s
ARCES ARCESS Array B 133.10 22 PKP **PKPdf 08 06 11.2 +0.5**
comp=Z,1.4nm,0.8s,baz=242,slow=1.9,SNR=15
ARCES SKPbc **SKPbc 08 09 36.4 +0.8**
comp=Z,1.3nm,0.8s,baz=204,slow=2.7,SNR=4.1
MKAR Makanchi Array 136.74 73 PKP **PKiKP 08 06 19.8 -0.3**
comp=Z,0.3nm,0.5s,baz=63,slow=0.6,SNR=3.5
MKAR SKPbc **SKPbc 08 09 46.2 -1.7**
comp=Z,1.1nm,1.0s,baz=240,slow=2.4,SNR=6.9
KURK Kurchatov 137.60 66 *e*PKPdf **PKPdf 08 06 19.0 -0.7**
YKA Yellowknife Ar 138.87 315 PKhKP PKPpre 08 06 13.8
comp=Z,0.2nm,0.4s,baz=126,slow=2.9,SNR=13
YKA PKP **PKPdf 08 06 21.8 +0.2**
comp=Z,2.7nm,0.6s,baz=129,slow=2.3,SNR=39
YKA PP **PP 08 09 16.3 +1.4**
comp=Z,0.4nm,0.8s,baz=120,slow=7.2,SNR=4.1
YKA SKPbc **SKPbc 08 09 53.1 -0.3**
comp=Z,1.1nm,0.8s,baz=122,slow=2.1,SNR=10
LZH Lanzhou 140.07 102 *e*PKP **PKPdf 08 06 22.3 -2.6**
LZH pPKP pPKPdf 08 06 34.8 -1.1
LZH sPKP 08 06 38.8
LZH LR LR
comp=N,69nm,18.1s
LZH LR LR
comp=E,72nm,17.9s
LZH LR LR
comp=Z,81nm,20.0s
INK Inuvik 148.55 317 *e*PKPbc **PKPbc 08 06 41.7 -0.3**
DAWY Dawson 149.34 308 *e*PKPbc **PKPbc 08 06 43.8 -0.5**
SONM Songino Array 149.78 90 PKPbc **PKPbc 08 06 45.7 -0.3**
comp=Z,5.8nm,1.1s,baz=226,slow=2.7,SNR=20
ULN Ulaanbaatar 150.15 90 *e*PKPbc **PKPbc 08 06 47.0 +0.1**
EGAK Eagle 150.31 309 *e*PKPbc **PKPbc 08 06 46.8 +0.2**
KSAR Wonju Array Be 152.46 129 PKPab **PKPab 08 07 03.4 +0.6**
KSRS Korea Array 152.49 129 PKPab **PKPab 08 07 03.4 +0.5**
comp=Z,2.5nm,0.9s,baz=204,slow=5.3,SNR=4.3
ILAR Eielson Array 152.86 307 PKPbc **PKiKP 08 06 52.1 -0.1**
comp=Z,21nm,1.1s,baz=138,slow=2.1,SNR=62
COLA College 153.08 307 *e*PKPbc **PKiKP 08 06 53.5 +0.6**
COLA College 153.08 307 *eP* **PKPdf 08 06 47.3 +1.8**

*ISCJB **27** 07:50:15.8±0.5, 47°.63N±0°.07×148°.2E±0°.2, h400km, mb3.0/6, Error ellipse: s-maj=16.9km s-min=6.4km az=30.1*
*IDC **27** 07:50:17.9±1.6, 47°.83N×148°.05E, h396km±19km, mb2.7/6, mb1 2.9/11, mb1mx2.7/37, mbtmp3.5/11, Error ellipse: s-maj=23.4km s-min=14.2km az=130.0*
ISC 27 07:50:16.7±0.7, 47°.52N±0°.09×148°.2E±0°.1, h400km, n23, σ1°.66/25, mb3.0/6, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**4.51**	**204**	P	**Pn**	**07 51 32.9**	**-0.8**
NEM2				eS	S	07 52 33.4	-2.9
JTKR	**Abashiri--Toko**	**4.67**	**222**	P	**Pn**	**07 51 37.1**	**+1.8**
JAK	**Akkeshi**	**5.17**	**210**	P	**Pn**	**07 51 39.9**	**-0.5**
JAK				eS	S	07 52 46.0	-2.5
ASAJ	**Asahikawa**	**5.21**	**231**	P	**Pn**	**07 51 42.7**	**+1.9**
2.1nm,0.3s,baz=72,slow=11,SNR=14							
ASAJ	**Asahikawa**	**5.21**	**231**	P	**Pn**	**07 51 43.3**	**+2.5**
JAR	**Ashorobuto**	**5.26**	**218**	P	**Pn**	**07 51 42.5**	**+1.0**
JOB	**Onbets**	**5.56**	**216**	P	**Pn**	**07 51 44.9**	**+0.3**
JFR	**Furan**	**5.90**	**224**	P	**Pn**	**07 51 50.2**	**+2.0**
JCH	**Churui**	**6.00**	**217**	P	**Pn**	**07 51 48.9**	**-0.4**
JBT2	**Biratori 2**	**6.30**	**223**	P	**Pn**	**07 51 53.7**	**+1.1**
JNBK	**Urakawa-nobuka**	**6.53**	**219**	P	**Pn**	**07 51 54.5**	**-0.6**
JNB	**Noboribetsu**	**7.18**	**228**	P	**Pn**	**07 52 03.7**	**+1.4**
JKB	**Kayabe**	**7.62**	**225**	P	**Pn**	**07 52 07.6**	**+0.3**
PETK	**Petropavlovsk-**	**8.24**	**44**	P	**Pn**	**07 52 13.4**	**-0.8**
0.3nm,0.3s,baz=224,slow=4.8,SNR=8.7							
KLR	**Kul'dur**	**11.10**	**285**	P	**Pn**	**07 52 46.0**	**-1.3**
0.2nm,0.3s,baz=99,slow=11,SNR=4.2							
MJAR	**Matsushiro Arr**	**13.25**	**218**	P	**Pn**	**07 53 15.0**	**+2.7**
0.0nm,0.3s,baz=9.3,slow=11,SNR=3.7							
SEY	**Seymchan**	**15.62**	**7**	P	**P**	**07 53 34.6**	**-0.8**
0.2nm,0.3s,baz=222,slow=14,SNR=4.0							
ILAR	**Eielson Array**	**38.04**	**39**	P	**P**	**07 56 57.8**	**-0.3**
0.4nm,0.6s,baz=251,slow=6.4,SNR=9.1							
MKAR	**Makanchi Array**	**43.61**	**295**	P	**P**	**07 57 42.7**	**-0.5**
0.2nm,0.6s,baz=66,slow=6.8,SNR=3.7							
YKA	**Yellowknife Ar**	**52.27**	**36**	P	**P**	**07 58 48.5**	**+0.2**
0.2nm,0.4s,baz=302,slow=6.9,SNR=7.4							
ARCES	**ARCESS Array B**	**55.98**	**339**	P	**P**	**07 59 13.6**	**-1.0**
3.7nm,1.1s,baz=45,slow=9.4,SNR=2.9							
PDAR	**Pinedale Array**	**66.93**	**51**	P	**P**	**08 00 29.4**	**+1.7**
0.2nm,0.4s,baz=18,slow=1.5,SNR=6.0							
WRA	**Warramunga Arr**	**68.31**	**194**	P	**P**	**08 00 39.0**	**+2.9**
0.2nm,0.6s,baz=9.7,slow=5.9,SNR=4.0							

*ISCJB **27** 07:51:06.7±0.6, 58°.65S±0°.08×25°.0W±0°.2, h28km, mb4.3/9, Error ellipse: s-maj=16.7km s-min=9.3km az=146.6*
*IDC **27** 07:51:07.1±3.8, 58°.56S×25°.03W, h16km±22km, mb4.2/8, mb1 4.3/9, mb1mx4.0/24, mbtmp4.3/9, ML4.5/1, Error ellipse: s-maj=25.9km s-min=21.2km az=78.0*
*NEIC **27** 07:51:08.4±1.6, 58°.62S×24°.92W, h23km±10km, mb4.3/4, Error ellipse: s-maj=12.1km s-min=8.5km az=48.0*
ISC 27 07:51:08.8±0.6, 58.7S±0°.1×25.0W±0°.1, h28km, n37, σ0°.81/36, mb4.3/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.94**	**156**	P	**Pn**	**07 54 23.8**	**-0.4**
VNA3	**Neumayer Olymp**	**14.14**	**159**	P	**Pn**	**07 54 25.5**	**-1.5**
VNA2	**Neumayer--Watz**	**14.34**	**156**	P	**Pn**	**07 54 28.3**	**-1.3**
baz=320,slow=14							
SNAA	**Sanae**	**15.88**	**154**	P	**Pn**	**07 54 49.8**	**-0.3**
SNAA	**Sanae**	**15.88**	**154**	Pn	**Pn**	**07 54 49.8**	**-0.3**
1.8nm,0.3s,baz=343,slow=9.0,SNR=25							
SNAA	**Sanae**	**15.88**	**154**	*e*Pn	**Pn**	**07 54 49.9**	**-0.3**
21nm,1.2s							
EFI	**East Falkland**	**19.96**	**276**	*eP*	**Pn**	**07 55 39.4**	**-0.8**
201nm,1.8s							
QSPA	**South Pole Qui**	**31.59**	**180**	P	**P**	**07 57 29.9**	**+1.1**
2.6nm,0.6s,baz=181,slow=3.8,SNR=5.2							
PLCA	**Paso Flores**	**33.65**	**282**	P	**P**	**07 57 46.5**	**-0.4**
2.0nm,0.7s,baz=155,slow=7.0,SNR=5.0							
PLCA	**Paso Flores**	**33.65**	**282**	*eP*	**P**	**07 57 47.0**	**+0.1**
20nm,1.7s							
VNDA	**Vanda**	**44.02**	**182**	P	**P**	**07 59 14.3**	**+1.1**
5.6nm,0.9s,baz=135,slow=5.7,SNR=3.4							
VNDA	**Vanda**	**44.02**	**182**	*eP*	**P**	**07 59 13.7**	**+0.5**
BOSA	**Boshof**	**45.58**	**71**	P	**P**	**07 59 26.2**	**-0.1**
1.9nm,0.6s,baz=203,slow=5.6,SNR=5.8							
H10S2	**ASCENSION HYDR**	**50.21**	**13**	T	T	08 54 23.6	
baz=187,slow=74,SNR=9.1							
H10S3	**ASCENSION HYDR**	**50.22**	**13**	T	T	08 54 27.1	
baz=33,slow=74,SNR=8.1							
MNMC	**Minye Minye**	**50.96**	**301**	*eP*	**P**	**08 00 07.6**	**-0.5**
3.8nm,0.7s							
H10N3	**ASCENSION HYDR**	**51.33**	**13**	T	T	08 55 51.5	
baz=266,slow=74,SNR=11							
H10N2	**ASCENSION HYDR**	**51.34**	**13**	T	T	08 55 52.9	
baz=188,slow=74,SNR=7.2							
LPAZ	**La Paz**	**52.83**	**305**	P	**P**	**08 00 21.4**	**-1.0**
1.7nm,0.7s,baz=178,slow=5.5,SNR=5.6							
LPAZ	**La Paz**	**52.83**	**305**	*eP*	**P**	**08 00 22.0**	**-0.4**
2.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**74.80**	**27**	P	**P**	**08 02 45.8**	**-0.4**
1.3nm,0.4s,baz=198,slow=6.6,SNR=16							
TOA1	**Torodi Ar. Sit**	**74.80**	**27**	*eP*	**P**	**08 02 45.8**	**-0.4**
STKA	**Stephens Creek**	**89.13**	**169**	P	**P**	**08 04 00.8**	**-0.6**
1.2nm,0.7s,baz=149,slow=7.2,SNR=3.2							
ASAR	**Alice Springs**	**96.15**	**161**	P	**P**	**08 04 33.5**	**-0.5**
0.6nm,0.8s,baz=180,slow=5.7,SNR=4.7							
HWUT	**Hardware Ranch**	**122.70**	**297**	*e*PKPdf	**PKPdf**	**08 10 02.2**	**+1.0**
LOHW	**Long Hollow**	**123.82**	**299**	*e*PKPdf	**PKPdf**	**08 10 03.2**	**-0.1**
IMW	**Indian Meadow**	**124.20**	**299**	*e*PKPdf	**PKPdf**	**08 10 04.9**	**+0.7**
YKA	**Yellowknife Ar**	**138.87**	**315**	PKP	**PKPdf**	**08 10 31.0**	**+0.3**
1.5nm,0.7s,baz=129,slow=2.3,SNR=9.6							
YKA				SKPbc	**SKPbc**	**08 14 03.7**	**+0.4**
0.3nm,0.7s,baz=123,slow=2.7,SNR=4.2							
YKB5	**Yellowknife Ar**	**138.87**	**315**	*e*SKPdf	**SKPbc**	**08 14 03.7**	**+0.4**
INK	**Inuvik**	**148.54**	**318**	*e*PKPdf	**PKPdf**	**08 10 48.6**	**+1.1**
INK				*e*PKPbc	**PKiKP**	**08 10 51.7**	**-0.9**
DOT	**Dot Lake**	**151.18**	**306**	*e*PKPbc	**PKPbc**	**08 10 59.2**	**+1.4**
SCRK	**Sand Creek**	**151.25**	**307**	*e*PKPbc	**PKPbc**	**08 10 59.1**	**+1.1**
RIDG	**Independ'e Rid**	**151.53**	**306**	*e*PKPbc	**PKPbc**	**08 10 60.0**	**+1.3**
IL1	**Eielson Array**	**152.68**	**308**	*e*PKPbc	**PKPbc**	**08 11 02.0**	**+0.8**
IL1				*e*PKPab	**sPKPbc**	**08 11 13.4**	**-0.2**
ILAR	**Eielson Array**	**152.68**	**308**	PKPbc	**PKPbc**	**08 11 01.7**	**+0.6**
3.6nm,0.8s,baz=138,slow=3.3,SNR=20							
ILB	**Eielson Array**	**152.68**	**308**	*e*PKPbc	**PKPbc**	**08 11 02.1**	**+1.0**
WRH	**Wood River Hil**	**153.11**	**307**	*e*PKPbc	**PKPbc**	**08 11 02.9**	**+0.8**

*IDC **27** 08:47:06.7±1.8, 58°.39S×25°.18W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.8/20, mbtmp3.9/3, Error ellipse: s-maj=73.7km s-min=33.7km az=176.0*
*ISCJB **27** 08:47:07.8±1.0, 58°.7S±0°.2×25°.1W±0°.4, h28km, mb3.9/3, Error ellipse: s-maj=35.8km s-min=13.1km az=147.8*
ISC 27 08:47:10.1±0.9, 58.7S±0°.2×25.2W±0°.2, h28km, n9, σ0°.72/9, mb3.9/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.92**	**156**	P	**Pn**	**08 50 25.6**	**+0.4**
VNA3	**Neumayer Olymp**	**14.12**	**159**	P	**Pn**	**08 50 27.2**	**-0.7**
VNA2	**Neumayer--Watz**	**14.32**	**156**	P	**Pn**	**08 50 30.4**	**-0.3**
baz=324,slow=15							
PLCA	**Paso Flores**	**33.58**	**282**	P	**P**	**08 53 47.5**	**0.0**
1.6nm,1.0s,baz=153,slow=6.8,SNR=3.6							
LPAZ	**La Paz**	**52.79**	**305**	P	**P**	**08 56 22.8**	**-0.5**
0.3nm,0.3s,baz=158,slow=5.4,SNR=2.9							
TORD	**Torodi Ar. Bea**	**74.88**	**27**	P	**P**	**08 58 47.4**	**-0.6**
0.8nm,0.4s,baz=200,slow=6.4,SNR=18							
YKA	**Yellowknife Ar**	**138.85**	**315**	PKP	**PKPdf**	**09 06 32.7**	**+0.7**
0.4nm,0.6s,baz=132,slow=2.3,SNR=16							
SONM	**Songino Array**	**149.74**	**90**	PKPbc	**PKPbc**	**09 06 56.8**	**+0.5**
0.7nm,0.6s,baz=237,slow=4.3,SNR=4.5							
ILAR	**Eielson Array**	**152.65**	**307**	PKPbc	**PKPbc**	**09 07 03.4**	**+1.0**
1.5nm,0.8s,baz=160,slow=2.7,SNR=12							

*ISCJB **27** 08:57:52.4±1.0, 11°.1S±0°.1×165°.6E±0°.1, h30km, mb3.8/5, Error ellipse: s-maj=19.1km s-min=17.2km az=164.6*
*IDC **27** 08:57:56.0±3.9, 11°.08S×165°.53E, h42km±36km, mb3.7/6, mb1 4.0/8, mb1mx3.7/30, mbtmp4.0/8, ML4.4/2, MS2.9/3, Ms1 2.9/3, ms1mx2.7/35, Error ellipse: s-maj=36.2km s-min=26.3km az=132.0*
ISC 27 08:57:54.2±1.1, 11°.1S±0°.1×165°.6E±0°.1, h30km, n9, σ1°.22/8, mb3.9/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.81**	**286**	P	**Pn**	**08 59 18.9**	**+0.5**
11nm,0.3s,baz=217,slow=5.1,SNR=3.2							
HNR				LR	LR	09 01 38.1	
comp=Z,129nm,19.2s,baz=76,slow=39							
DZM	**Mont Dzumac**	**10.98**	**176**	P	**Pn**	**09 00 29.7**	**+0.3**
2.2nm,0.3s,baz=185,slow=17,SNR=21							
DZM				LR	LR	09 04 00.9	
comp=Z,63nm,18.8s,baz=208,slow=33							
PMG	**Port Moresby**	**18.24**	**273**	LR	LR	09 08 19.5	
comp=Z,24nm,19.4s,baz=55,slow=34							
CTA	**Charters Tower**	**20.68**	**242**	P	**P**	**09 02 31.4**	**-0.5**
6.8nm,1.0s,baz=71,slow=15,SNR=3.5							
STKA	**Stephens Creek**	**30.34**	**223**	P	**P**	**09 04 04.1**	**+0.7**
2.2nm,0.8s,baz=29,slow=12,SNR=4.6							
WRA	**Warramunga Arr**	**31.36**	**250**	P	**P**	**09 04 12.0**	**-0.6**
2.8nm,0.8s,baz=80,slow=9.3,SNR=12							
ASAR	**Alice Springs**	**32.67**	**243**	P	**P**	**09 04 23.1**	**-1.0**
0.5nm,0.7s,baz=68,slow=9.6,SNR=7.7							
ILAR	**Eielson Array**	**83.57**	**19**	P	**P**	**09 10 20.7**	**+1.5**
0.5nm,0.6s,baz=230,slow=5.4,SNR=7.1							
YKA	**Yellowknife Ar**	**95.05**	**27**	P	**P**	**09 11 12.2**	**-1.6**
0.2nm,0.7s,baz=256,slow=4.7,SNR=4.4							

IDC 27 09:15:46.1±1.5, 2°.03S×137°.78E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/29, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=31.3km s-min=26.8km az=44.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**2.96**	**99**	Pn	Pn	09 16 33.5	-0.9
1.5nm,0.3s,baz=262,slow=8.6,SNR=4.7							
JAY				Sn	Sn	09 17 10.1	-0.6
1.1nm,0.3s,baz=108,slow=20,SNR=2.4							
WRA	**Warramunga Arr**	**18.12**	**190**	P	P	09 19 59.6	-0.2
0.1nm,0.3s,baz=8.8,slow=12,SNR=8.6							
ASAR	**Alice Springs**	**21.83**	**190**	P	P	09 20 40.1	-0.2
0.8nm,0.6s,baz=14,slow=8.4,SNR=8.0							
MKAR	**Makanchi Array**	**68.69**	**323**	P	P	09 26 52.0	+0.4
0.4nm,0.6s,baz=119,slow=7.2,SNR=6.0							

*ISCJB **27** 09:24:39.6±0.3, 24°.44N±0°.01×122°.02E±0°.01, h9km±2km, Error ellipse: s-maj=2.4km s-min=2.2km az=165.0*
*JMA **27** 09:24:39.4±0.1, 24°.43N×121°.98E, h4km, MS.1*
*TAP **27** 09:24:39.6, 24°.45N×121°.97E, h14km, ML3.2, B*
ISC 27 09:24:39.6±0.8, 24°.43N±0°.02×122°.00E±0°.02, h15km±6km, n80, σ0°.61/120, 11C-8D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.17**	**46**	⇓P	**Pg**	**09 24 44.2**	**+0.5**
baz=48							
EOS1				S	**Sg**	**09 24 47.8**	**+1.4**
baz=48							
TWC	**Suao**	**0.22**	**323**	⇑*i*P	**Pg**	**09 24 44.2**	**-0.4**
baz=334							
TWC				S	**Sg**	**09 24 47.0**	**-1.0**
baz=334							
ENA	**Nanau**	**0.23**	**269**	⇓*i*P	**Pg**	**09 24 44.4**	**-0.3**
baz=271							
ENA				S	**Sg**	**09 24 47.5**	**-0.7**
baz=271							
ILA	**Ilan**	**0.40**	**326**	P	**Pb**	**09 24 47.9**	**-0.6**
baz=327							
ILA				eS	**Sb**	**09 24 54.7**	**+0.3**
baz=327							
TWE	**Neicheng**	**0.42**	**314**	⇑*i*P	**Pg**	**09 24 47.8**	**-0.2**
baz=319							
TWE				eS	**Sg**	**09 24 53.1**	**-0.5**
baz=319							
EGS		**0.42**	**352**	*e*P	**Pg**	**09 24 48.0**	**0.0**
baz=348							
EGS				eS	**Sg**	**09 24 52.5**	**-1.2**
baz=348							
ENTT	**Nioudou**	**0.44**	**298**	⇑*i*P	**Pg**	**09 24 48.3**	**-0.1**
baz=297							
ENTT				S	**Sg**	**09 24 53.9**	**-0.6**
baz=297							
NACB	**Ninganchiao**	**0.45**	**235**	⇓P	**Pg**	**09 24 48.3**	**-0.2**
baz=232							
NACB				S	**Sg**	**09 24 54.6**	**+0.1**
baz=232							
NTC	**Toucheng**	**0.45**	**340**	*e*P	**Pb**	**09 24 48.9**	**-0.3**
baz=352							
NDT	**Datong Townshi**	**0.47**	**291**	⇑P	**Pb**	**09 24 49.0**	**-0.6**
baz=290							
NDT				S	**Sg**	**09 24 54.8**	**-0.6**
baz=290							
TWD	**Chiawan**	**0.51**	**226**	⇓*i*P	**Pg**	**09 24 49.4**	**-0.2**
baz=229							
TWD				S	**Sg**	**09 24 56.5**	**+0.2**
baz=229							
NNSB	**Datong**	**0.56**	**270**	⇓P	**Pg**	**09 24 50.4**	**-0.2**
baz=268							
NNSB				S	**Sg**	**09 24 57.0**	**-1.1**
baz=268							
TIPB	**Shuangxi**	**0.56**	**344**	⇑*i*P	**Pg**	**09 24 50.6**	**0.0**
baz=344							
TIPB				S	**Sg**	**09 24 57.6**	**-0.6**
baz=344							
NNS	**Nan Shan**	**0.57**	**271**	P	**Pg**	**09 24 50.6**	**-0.2**
baz=269							
NNS				S	**Sg**	**09 24 57.7**	**-0.7**
baz=269							
TWB1	**Santiao Chiao**	**0.57**	**359**	*e*P	**Pg**	**09 24 50.7**	**-0.2**
baz=353							
TWB1				eS	**Sg**	**09 24 58.1**	**-0.5**
baz=353							
YHNB	**Yeheng**	**0.61**	**293**	⇑P	**Pb**	**09 24 51.7**	**-0.4**
baz=297							
YHNB				S	**Sg**	**09 24 58.9**	**-1.0**
baz=297							
NSK	**Sanguang**	**0.63**	**293**	⇑*i*P	**Pb**	**09 24 51.9**	**-0.4**
baz=297							
NSK				S	**Sg**	**09 24 59.3**	**-1.0**
baz=297							
ENLB	**Shoufeng**	**0.64**	**215**	*e*P	**Pb**	**09 24 53.5**	**+1.1**
baz=212							
TWA	**Mucha**	**0.66**	**326**	*e*P	**Pb**	**09 24 52.6**	**-0.3**
baz=326							
TWA				eS	**Sb**	**09 25 02.1**	**+0.1**
baz=326							
NWF	**Wu-fen Shan**	**0.67**	**343**	P	**Pb**	**09 24 53.2**	**+0.2**
baz=332							
NWF				S	**Sg**	**09 25 01.6**	**0.0**
baz=332							
WFSB	**Wu-fen Shan**	**0.67**	**343**	P	**Pb**	**09 24 53.2**	**+0.2**
baz=332							
WFSB				S	**Sg**	**09 25 01.5**	**0.0**
baz=332							
TATO	**Taipei**	**0.71**	**320**	⇑P	**Pb**	**09 24 54.0**	**+0.3**
baz=309							
TATO				S	**Sg**	**09 25 02.4**	**-0.5**
baz=309							
WHF	**Hehuan Shan**	**0.72**	**247**	⇓*i*P	**Pg**	**09 24 53.5**	**-0.3**
baz=255							
WHF				S	**Sg**	**09 25 03.1**	**-0.4**
baz=255							
WLTB	**Daxi**	**0.80**	**302**	⇑P	**Pb**	**09 24 56.0**	**-0.3**
baz=301							
WLTB				eS	**Sb**	**09 25 06.6**	**+0.8**
baz=301							
ESL	**Shilin**	**0.80**	**220**	P	**Pg**	**09 24 54.6**	**-0.6**
baz=225							
YM01	**YM01**	**0.81**	**332**	*e*P	**Pn**	**09 24 57.1**	**+0.6**
baz=342							
YM07	**YM07**	**0.82**	**335**	*e*P	**Pb**	**09 24 56.0**	**+0.5**
baz=344							
YM10	**YM10**	**0.82**	**331**	⇑P	**Pb**	**09 24 56.1**	**+0.5**
baz=341							
YM11	**YM11**	**0.83**	**332**	P	**Pb**	**09 24 56.3**	**+0.6**
baz=332							
YM11				eS	**Sn**	**09 25 08.3**	**-0.4**
baz=332							
YM05	**YM05**	**0.83**	**332**	⇑P	**Pb**	**09 24 56.3**	**+0.6**
baz=331							
YM05				eS	**Sn**	**09 25 08.4**	**-0.4**
baz=331							
YM04	**YM04**	**0.83**	**330**	*e*P	**Pb**	**09 24 56.2**	**+0.4**
baz=330							
CHGB	**Renai**	**0.84**	**244**	⇓P	**Pg**	**09 24 55.7**	**-0.1**
baz=252							
CHGB				eS	**Sb**	**09 25 07.0**	**-0.1**
baz=252							
YM08	**YM08**	**0.84**	**334**	P	**Pb**	**09 24 56.3**	**+0.4**
baz=333							
YM08				eS	**Sn**	**09 25 08.5**	**-0.5**
baz=333							
TWS1	**Kuangyinshan**	**0.85**	**322**	*e*P	**Pn**	**09 24 56.8**	**-0.2**
baz=322							
JYNG	**Yonagunijimaku**	**0.87**	**88**	P	**Pg**	**09 24 56.7**	**+0.3**
JYNG				S	**Sg**	**09 25 07.8**	**+0.1**
NTST	**Danshui**	**0.88**	**326**	*e*P	**Pn**	**09 24 57.7**	**+0.2**
baz=326							
NCUH	**Zhongli**

baz=250
TYC eS Sg 09 25 16.6 -0.7
baz=250
PCYT Pengchaiyu 1.20 3 eP Pb 09 25 01.7 -0.3
baz=4.0
YULB Yu-li 1.22 212 eP Pb 09 25 02.3 0.0
baz=211
TCU Taichung 1.24 257 eP Pg 09 25 04.5 +1.1
baz=256
WDJ Dajia District 1.24 266 eP Pg 09 25 04.6 +1.1
baz=266
TWF1 Yuli 1.25 211 eP Pn 09 25 02.7 +0.2
baz=226
WHYT Xinyi Township 1.27 235 eP Pg 09 25 03.7 -0.4
baz=235
WJS Zhushan 1.31 243 eP Pg 09 25 05.6 +0.8
baz=235
WNT Mingjian 1.32 246 eP Pg 09 25 06.3 +1.3
baz=246
ELDTW Lidau 1.53 216 eP Pb 09 25 07.9 +0.2
baz=201
IRIF Iriomote-Funau 1.58 93 P Pn 09 25 06.8 -0.3
IRIF eS Sn 09 25 26.5 -0.8
CHN4 Tsaushan 1.67 230 eP Pg 09 25 11.2 -0.6
baz=232
TPUB Ta-pu 1.68 228 eP Pg 09 25 11.4 -0.5
baz=230
HATJ Hateruma jima 1.69 102 S Sn 09 25 29.8 -0.2
WTP Ta-pu 1.73 227 eP Pb 09 25 11.4 +0.3
baz=229
TWK Hsinying 1.80 230 eP Pb 09 25 12.8 +0.4
baz=232
SNST Tainan City 1.83 229 eP Pb 09 25 12.8 +0.1
baz=231
CHN1 Nanshi 1.83 228 eP Pb 09 25 13.0 +0.2
baz=230
JKRS Kuro-shima 1.85 96 P Pn 09 25 11.2 +0.5
JKRS S Sn 09 25 33.2 -0.6
SGST Jiashian 1.86 224 eP Pb 09 25 14.0 +0.6
baz=226
SLGT Liugui 1.89 221 eP Pb 09 25 14.0 +0.1
baz=223
JIJ Ishigaki jima 1.96 92 P Pn 09 25 12.1 -0.2
JIJ S Sn 09 25 35.0 -1.6
SSD Sandimen 2.09 217 eP Pb 09 25 18.1 +0.9
baz=220
JISG Ishigakijimahi 2.11 85 P Pn 09 25 14.0 -0.4
JISG S Sn 09 25 40.0 -0.4
MASBT Mashibuluo 2.20 215 eP Pb 09 25 18.6 -0.5
baz=218
VWUC VWUC 2.38 284 eP Pn 09 25 18.9 +0.8
baz=283
SCZT Fangliau 2.41 212 eP Pb 09 25 21.2 -1.4
baz=195
JTJ Tarama 2.47 85 P Pn 09 25 20.1 +0.8
JTJ S Sn 09 25 49.4 +0.1

NNC 27 09:39:19.1±4.4, 53˝.62N×88˝.08E, h0km, mb3.5, mpv3.2, 6C-2D, Error ellipse: s-maj=37.7km s-min=26.5km az=58.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.96**	**281**	⇑Pn	Pn	09 39 53.4	-0.1
	6.6nm,0.6s						
ZAA0				⇑Lg	Lg	09 40 20.9	
	3.7nm,0.4s						
KURBB	**Kurchatov Arra**	**6.60**	**247**	⇓Pn	Pn	09 40 58.5	+1.2
	1.6nm,0.3s						
KURBB				⇑Sn	Sn	09 42 12.6	-0.6
	2.7nm,0.8s						
KURBB				⇑Lg	Lg	09 42 52.7	
	5.6nm,0.8s						
MK31	**Makanchi Array**	**7.77**	**211**	⇓Pn	Pn	09 41 15.1	+1.6
	0.5nm,0.7s,baz=32,slow=14,SNR=5.1						
MK31				⇑Sn	Sn	09 42 43.6	+1.4
	0.3nm,0.5s						
MK31				⇑Lg	Lg	09 43 26.2	
	0.9nm,0.8s,baz=31,slow=31						

*IDC **27** 09:59:26.3±0.3, 16˝.06S×173˝.28W, h0km, mb5.4/32, mb1 5.5/32, mb1mx5.4/41, mbtmp5.4/32, MS5.2/29, Ms1 5.2/29, ms1mx5.2/31, Error ellipse: s-maj=13.9km s-min=10.5km az=141.0*

*BJI **27** 09:59:26.1, 16˝.11S×173˝.24W, h10km, mb5.6/62, mB5.8/52, Ms5.5/72, Ms7 5.3/68*

*NEIC **27** 09:59:27.0±0.0, 15˚.83S×172˚.66W, h35km, Moment Tensor Solution. s40 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.68; $M_{\theta\theta}$0.13; $M_{\phi\phi}$3.54; $M_{r\theta}$-0.26; $M_{\theta\phi}$1.16; $M_{\phi r}$-0.12; Best double couple: $M_0$3.80000×10^{17} NP1:ϕs20.00000°, δ46.00000°, λ-85.00000°. NP2:ϕs194.00000°, δ44.00000°, λ-95.00000°. Principal axes: T 3.9000, Plg1.0000°, Azm107.0000°; N -0.2100, Plg3.0000°, Azm197.0000°; P -3.7000, Plg86.0000°, Azm355.0000°;*

*NEIC **27** 09:59:29.1±0.1, 16˚.12S×173˚.24W, h19km, mb5.7/299, ME5.4, MS5.5/296, MW5.7, MW5.7 Error ellipse: s-maj=3.5km s-min=2.0km az=140.0, Moment Tensor Solution. s53 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.99; $M_{\theta\theta}$2.70; $M_{\phi\phi}$0.30; $M_{r\theta}$0.23; $M_{\theta\phi}$3.88; $M_{\phi r}$0.58; Best double couple: $M_0$4.90000×10^{17} NP1:ϕs80.00000°, δ48.00000°, λ-51.00000°. NP2:ϕs210.00000°, δ54.00000°, λ-125.00000°. Principal axes: T 5.5900, Plg4.0000°, Azm323.0000°; N -2.3900, Plg28.0000°, Azm232.0000°; P -3.2000, Plg62.0000°, Azm60.0000°; Broadband fault plane solution: P waves. NP1:ϕs42.00000°, δ48.00000°, λ-71.00000°. NP2:ϕs195.00000°, δ45.00000°, λ-110.00000°. Principal axes: T Plg2.0000°, Azm119.0000°; N Plg0.0000°, Azm0.0000°; P Plg76.0000°, Azm22.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt at Leone, American Samoa.

*WEL **27** 09:59:29.0, 16˝.12S×173˝.24W, h19km*

*ISCJB **27** 09:59:29.7±1.5, 16˝.02S±0˝.02×173˝.24W±0˝.02, h32km±10km, mb5.6/424, MS5.5/521, Error ellipse: s-maj=4.2km s-min=2.8km az=142.7*

*MOS **27** 09:59:30.8±1.2, 15˚.89S×173˚.31W, h33km, mb5.8/97, MS5.4/61, Error ellipse: s-maj=8.4km s-min=6.2km az=69.5*

*GCMT **27** 09:59:35.1±0.1, 16˚.08S±0˚.01×172˚.89W±0˚.01, h35km, MW5.7/134, Moment Tensor Solution. s133,c263; s134,c367; Duration: 1ſ7 Moment tensor: Scale 10^{17} Nm; M_{rr}-4.29±.04; $M_{\theta\theta}$0.07±.03; $M_{\phi\phi}$4.21±.03; $M_{r\theta}$-0.12±.05; $M_{\theta\phi}$1.01±.03; $M_{\phi r}$0.19±.04; Best double couple: $M_0$4.37200×10^{17} NP1:ϕs191.00000°, δ46.00000°, λ-93.00000°. NP2:ϕs15.00000°, δ44.00000°, λ-87.00000°. Principal axes: T 4.4460, Plg1.0000°, Azm283.0000°; N -0.1540, Plg2.0000°, Azm193.0000°; P -4.2990, Plg88.0000°, Azm39.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 27 09:59:29.9±0.6, 16˚.17S±0˚.04×173˚.11W±0˚.04, h25km±3km, n1900, σ1ſ16/1802, mb5.7/424, MS5.5/526, 59C-92D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.19**	**134**	P	Pn	10 00 30.9	-1.4
	baz=4.2,SNR=405						
NIUE				S	Sn	10 01 14.6	-5.9
	baz=4.2						
NIUE	**Niue**	**4.19**	**134**	ePn	Pn	10 00 30.9	-1.4
NIUE				eSn	Sn	10 01 15.0	-5.5
MSVF	**Nonsavu**	**8.60**	**258**	ePn	Pn	10 01 40.0	+7.1
MSVF	**Nonsavu**	**8.60**	**258**	eP	Pn	10 01 40.0	+7.1
FUNA	**Funafuti**	**10.68**	**314**	ePn	Pn	10 01 59.6	-1.8
KNTN	**Kanton**	**13.38**	**6**	ePn	Pn	10 02 35.6	-2.8
KNTN				eSn	Sn	10 04 49.8	-17
RAR	**Rarotonga**	**13.59**	**114**	Pn	Pn	10 02 38.6	-2.7
	27nm,0.3s,baz=269,slow=8.0,SNR=19						
RAR				Sn	Sn	10 05 03.7	-7.9
	1.7nm,0.3s,baz=18,slow=20,SNR=3.8						
RAR	**Rarotonga**	**13.59**	**114**	ePn	Pn	10 02 38.5	-2.7
RAR				eSn	Sn	10 05 08.2	-3.3
RAO	**Raoul Island**	**13.75**	**198**	LR	LR	10 07 28.9	
	comp=Z,9μm,21.3s,baz=20,slow=35						
MARNC	**Mare, Loyalty**	**18.61**	**251**	eP	Pn	10 03 46.2	+0.3
	914nm,1.1s						
PINNC	**Pines Island,**	**19.42**	**248**	eP	Pn	10 03 56.0	+0.3
	1μm,1.9s						
OUENC	**Ouen Island, N**	**19.91**	**249**	eP	Pn	10 04 01.2	-0.3
	235nm,0.9s						
DZM	**Mont Dzumac**	**20.18**	**250**	eP	P	10 04 03.7	+0.9
	452nm,1.1s						
DZM				eS	S	10 07 42.6	-5.8
	4μm,25.6s						
DZM				eLQ	LQ	10 07 58.0	
	9μm,25.6s						
DZM				eLR	LR	10 08 50.7	
	comp=Z,26μm,24.1s						
DZM	**Mont Dzumac**	**20.18**	**250**	P	P	10 04 01.0	-1.9
	56nm,0.9s,baz=89,slow=17,SNR=16						
DZM				LR	LR	10 10 37.3	
	comp=Z,21μm,20.8s,baz=82,slow=33						
DZM	**Mont Dzumac**	**20.18**	**250**	eP	P	10 04 03.8	+0.9
	217nm,1.1s						
OUZ	**Omahuta**	**22.39**	**210**	eP	P	10 04 26.2	-0.2
	95nm,0.9s						
OUZ				LR	LR		
	comp=Z,13μm,18.0s						
OUZ	**Omahuta**	**22.39**	**210**	P	P	10 04 26.1	-0.4
PAE	**Paea**	**22.56**	**97**	eP	P	10 04 29.8	+1.3
	comp=Z,22nm,1.1s						
PAE	**Paea**	**22.56**	**97**	eT	T	10 27 44.1	
	comp=Z,20nm,0.3s						
PPT	**Papeete**	**22.56**	**97**	LR	LR	10 11 10.6	
	comp=Z,6μm,19.0s,baz=272,slow=31						
PPT2	**Papeete2**	**22.56**	**97**	eP	P	10 04 29.8	+1.2
	comp=Z,232nm,1.4s						
PPT2				eS	S	10 08 31.0	-3.8
	comp=Z,6μm,25.2s						
PPT2				eLQ	LQ	10 08 54.9	
	comp=Z,5μm,28.5s						
PPT2				eLR	LR	10 10 00.2	
	comp=Z,11μm,22.8s,baz=258						
PPT2	**Papeete2**	**22.56**	**97**	eT	T	10 27 27.2	
	comp=Z,23nm,0.3s						
MXZ	**Matakaoa Point**	**22.62**	**198**	eP	P	10 04 31.5	+2.6
	comp=Z,104nm,1.0s						
MXZ				LR	LR		
	comp=Z,9μm,21.0s						
MXZ	**Matakaoa Point**	**22.62**	**198**	P	P	10 04 31.2	+2.4
WCZ	**Waipu Caves**	**22.64**	**207**	P	P	10 04 29.2	0.0
KUZ	**Kuaotunu**	**22.76**	**204**	P	P	10 04 31.4	+1.0
TIAR	**Tiarei**	**22.78**	**97**	eP	P	10 04 32.0	+1.1
	comp=Z,48nm,1.1s						
TIAR	**Tiarei**	**22.78**	**97**	eT	T	10 27 51.3	
	comp=Z,16nm,0.3s						
WMGZ	**Waiomatatini S**	**22.82**	**198**	P	P	10 04 34.3	+3.3
TVO	**Taravao**	**22.88**	**97**	eP	P	10 04 32.9	+1.0
	comp=Z,118nm,1.4s						
TVO	**Taravao**	**22.88**	**97**	eT	T	10 27 47.1	
	comp=Z,8.8nm,0.3s						
HAZ	**Te Kaha**	**22.95**	**199**	P	P	10 04 32.9	+0.5
PKGZ	**Pakihiroa**	**22.99**	**198**	P	P	10 04 36.6	+3.8
WIAZ	**Waiheke Island**	**23.04**	**205**	P	P	10 04 34.0	+0.8
PUZ	**Puketiti**	**23.10**	**198**	P	P	10 04 34.5	+0.5
MBAZ	**Motutapu North**	**23.11**	**205**	P	P	10 04 34.9	+0.9
RUGZ	**Raukumara Rang**	**23.18**	**199**	P	P	10 04 35.7	+0.9
ETAZ	**East Tamaki Re**	**23.26**	**205**	P	P	10 04 36.2	+0.7
EPAZ	**Eden Park BICE**	**23.27**	**205**	P	P	10 04 36.9	+1.4
TWGZ	**Tauwhareparae**	**23.28**	**198**	P	P	10 04 37.7	+1.9
MKAZ	**Moumakai**	**23.30**	**204**	P	P	10 04 36.1	+0.3
TBI	**Tubuai**	**23.36**	**112**	eS	S	10 08 45.3	-2.8
	comp=Z,7μm,26.8s						
TBI				eLR	LR	10 10 18.9	
	comp=Z,16μm,23.8s,baz=281						
TBI	**Tubuai**	**23.36**	**112**	eT	T	10 28 42.8	
	comp=Z,76nm,0.3s						
KBAZ	**Karaka Road Bo**	**23.40**	**205**	P	P	10 04 37.8	+1.0
TGRZ	**Tauranga**	**23.43**	**202**	P	P	10 04 40.5	+3.3
OPRZ	**Ohinepanea**	**23.43**	**201**	P	P	10 04 40.5	+3.2
CNGZ	**Carnagh Statio**	**23.50**	**197**	P	P	10 04 40.5	+2.7
MWZ	**Matawai**	**23.56**	**199**	P	P	10 04 39.6	+1.0
MWZ				P	P	10 04 39.6	+1.0
TKGZ	**Te Karaka**	**23.57**	**198**	P	P	10 04 41.1	+2.6
URZ	**Urewera**	**23.63**	**199**	P	P	10 04 38.3	-0.8
	comp=Z,80nm,0.6s,baz=346,slow=3.4,SNR=58						
URZ				LR	LR	10 13 18.8	
	comp=Z,6μm,18.9s,baz=24,slow=35						
URZ	**Urewera**	**23.63**	**199**	eP	P	10 04 38.1	-1.0
	comp=Z,144nm,0.7s						
URZ				ePcP	PcP	10 08 26.2	+2.7
URZ	**Urewera**	**23.63**	**199**	P	P	10 04 39.0	-0.1
KMRZ	**Kaimai**	**23.65**	**202**	P	P	10 04 41.9	+2.5
KARZ	**Kaharoa**	**23.70**	**201**	P	P	10 04 42.0	+2.2
TOZ	**Tahuroa Road**	**23.71**	**203**	P	P	10 04 41.2	+1.3
OMRZ	**Omania**	**23.73**	**201**	P	P	10 04 41.7	+1.5
RAGZ	**Rawiri**	**23.75**	**199**	P	P	10 04 40.7	+0.4
NGRZ	**Ngongotaha**	**23.79**	**201**	P	P	10 04 43.8	+3.0
TARZ	**Mount Tarawera**	**23.80**	**201**	P	P	10 04 41.0	+0.1
RIGZ	**Rimuhau**	**23.84**	**198**	P	P	10 04 43.0	+1.8
RRRZ	**Republican Roa**	**23.89**	**200**	P	P	10 04 44.1	+2.4
MUGZ	**Murupara**	**23.93**	**200**	P	P	10 04 43.8	+1.8
HSRZ	**Hossack Road**	**23.96**	**201**	P	P	10 04 47.0	+4.6
RTZ	**Ruatahuna**	**23.99**	**199**	P	P	10 04 44.5	+1.8
PRGZ	**Paritu Road**	**24.00**	**197**	P	P	10 04 45.8	+3.1
HRRZ	**Handcock Road**	**24.02**	**201**	P	P	10 04 45.5	+2.6
SNGZ	**Shannon Statio**	**24.03**	**199**	P	P	10 04 46.7	+3.7
GRRZ	**Galatos Road**	**24.04**	**201**	P	P	10 04 47.2	+4.1
PRRZ	**Plateau Road**	**24.08**	**201**	P	P	10 04 46.0	+2.6
ALRZ	**Allen Road**	**24.15**	**201**	P	P	10 04 45.8	+1.7
KNZ	**Kokohu**	**24.16**	**198**	P	P	10 04 45.3	+1.3
WPRZ	**Whakapapatarin**	**24.18**	**201**	P	P	10 04 46.7	+2.4
MHGZ	**Mahia Peninsul**	**24.21**	**197**	P	P	10 04 47.3	+2.7
TLZ	**Tolley Road**	**24.23**	**202**	P	P	10 04 46.1	+1.3
RAHZ	**Arahi**	**24.23**	**199**	P	P	10 04 46.0	+1.2
MTHZ	**Maungataniwha**	**24.25**	**199**	P	P	10 04 47.3	+2.2
PMOR	**Pomariorio Ree**	**24.32**	**91**	eP	P	10 04 46.0	+0.2
	comp=Z,210nm,1.3s						
PMOR	**Pomariorio Ree**	**24.32**	**91**	eT	T	10 29 55.3	
	comp=Z,23nm,0.2s						
NMHZ	**Naumai**	**24.49**	**199**	P	P	10 04 49.3	+2.1
VAH	**Vaihoa**	**24.55**	**91**	eP	P	10 04 48.9	+1.0
	comp=Z,100nm,1.1s						
VAH	**Vaihoa**	**24.55**	**91**	eT	T	10 30 12.5	
	comp=Z,29nm,0.2s						
HIZ	**Hauiti**	**24.64**	**203**	eP	P	10 04 49.7	+1.2
	comp=Z,120nm,0.9s						
HIZ				LR	LR		
	comp=Z,6μm,21.0s						
HIZ	**Hauiti**	**24.64**	**203**	P	P	10 04 49.7	+1.2
BKZ	**Black Stump Fm**	**24.65**	**200**	eP	P	10 04 47.4	-1.3
	comp=Z,37nm,0.8s						
BKZ				ePcP	PcP	10 08 30.0	+4.2
BKZ				LR	LR		
	comp=Z,6μm,22.0s						
BKZ	**Black Stump Fm**	**24.65**	**200**	P	P	10 04 48.9	+0.2
KWHZ	**Kaweka Forest**	**24.91**	**200**	P	P	10 04 51.6	+0.6
BFZ	**Birch Farm**	**26.11**	**199**	eP	P	10 05 01.6	-0.3
	comp=Z,96nm,1.1s						
BFZ				LR	LR		
	comp=Z,6μm,22.0s						
HNR	**Honiara**	**27.09**	**281**	LR	LR	10 14 24.3	
	comp=Z,22μm,20.9s,baz=132,slow=33						
SNZO	**South Karori**	**27.17**	**200**	eP	P	10 05 10.4	-1.0
	comp=Z,40nm,0.6s						
SNZO				ePcP	PcP	10 08 32.5	+1.1
SNZO				LR	LR		
	comp=Z,6μm,20.0s						
SNZO	**South Karori**	**27.17**	**200**	eP	P	10 05 10.1	-1.3
THZ	**Tophouse**	**28.20**	**202**	eP	P	10 05 20.0	-0.7
	comp=Z,48nm,0.8s						
THZ				LR	LR		
	comp=Z,6μm,22.0s						
KHZ	**Kahutara**	**28.55**	**201**	eP	P	10 05 22.7	-1.0
	comp=Z,55nm,0.8s						
KHZ				ePcP	PcP	10 08 35.6	+0.9
KHZ				LR	LR		
	comp=Z,5μm,20.0s						
LTZ	**Lake Taylor**	**29.32**	**202**	eP	P	10 05 28.9	-1.7
	comp=Z,71nm,0.8s						
LTZ				LR	LR		
	comp=Z,7μm,22.0s						
LHI	**Lord Howe Isla**	**29.57**	**234**	PFAKE		10 05 40.0	+7.1
LHI				LR	LR		
	comp=Z,6μm,20.0s						
OXZ	**Oxford**	**29.88**	**202**	eP	P	10 05 33.3	-2.2
	comp=Z,82nm,0.8s						
OXZ				ePcP	PcP	10 08 39.3	+1.1
OXZ				LR	LR		
	comp=Z,5μm,21.0s						
CRLZ	**Canterbury Las**	**29.89**	**201**	PFAKE		10 05 50.0	+14
CRLZ				LR	LR		
	comp=Z,4μm,21.0s						
MQZ	**McQueen's Vall**	**30.00**	**201**	eP	P	10 05 38.7	+2.3
	comp=Z,63nm,1.3s						
MQZ				LR	LR		
	comp=Z,3μm,20.0s						
RPZ	**Rata Peaks**	**30.58**	**203**	P	P	10 05 42.0	+0.3
	comp=Z,16nm,0.5s,baz=16,slow=5.3,SNR=20						
RPZ				PcP	PcP	10 08 40.8	+0.8
	comp=Z,19nm,0.8s,baz=283,slow=2.9,SNR=3.5						
RPZ	**Rata Peaks**	**30.58**	**203**	eP	P	10 05 41.0	-0.7
	comp=Z,62nm,0.8s						
RPZ				ePcP	PcP	10 08 41.2	+1.2
RPZ				LR	LR		
	comp=Z,7μm,22.0s						
FOZ	**Fox Glacier**	**30.90**	**205**	eP	P	10 05 43.7	-0.8
	comp=Z,52nm,1.0s						
FOZ				ePcP	PcP	10 08 41.4	+0.6
FOZ				LR	LR		
	comp=Z,5μm,19.0s						
KWAJ	**Kwajalein Atol**	**31.30**	**321**	PFAKE		10 06 00.0	+12
KWAJ				LR	LR		
	comp=Z,6μm,22.0s						
LBZ	**Lake Benmore**	**31.48**	**203**	eP	P	10 05 49.4	-0.2
	comp=Z,19nm,0.8s						
LBZ				ePcP	PcP	10 08 43.9	+1.5
LBZ				LR	LR		
	comp=Z,7μm,18.0s						
ODZ	**Otahua Downs**	**31.87**	**202**	eP	P	10 05 52.6	-0.4
	comp=Z,15nm,0.8s						
ODZ				ePcP	PcP	10 08 44.8	+1.4
ODZ				LR	LR		
	comp=Z,6μm,18.0s						
WKZ	**Wanaka**	**32.30**	**204**	eP	P	10 05 55.4	-1.4
	comp=Z,46nm,1.1s						
WKZ				ePcP	PcP	10 08 46.6	+2.0
WKZ				LR	LR		
	comp=Z,6μm,21.0s						
TAOE	**Nuku Hiva Isla**	**32.96**	**81**	eS	S	10 11 20.5	+0.5
	comp=Z,2μm,26.8s						
TAOE				eLQ	LQ	10 13 02.5	
	comp=Z,8μm,30.9s						
TAOE				eLR	LR	10 14 46.4	
	comp=Z,7μm,23.7s						
MLZ	**Mavora Lakes**	**33.10**	**205**	eP	P	10 06 03.0	-0.9
	comp=Z,33nm,0.8s						
MLZ				LR	LR		
	comp=Z,6μm,20.0s						
DCZ	**Deep Cove**	**33.57**	**205**	eP	P	10 06 07.9	0.0
	comp=Z,30nm,0.8s						
DCZ				LR	LR		
	comp=Z,4μm,19.0s						
WHZ	**Wether Hill Ro**	**33.60**	**204**	eP	P	10 06 07.9	-0.3
	comp=Z,63nm,0.7s						
WHZ				ePcP	PcP	10 08 49.7	+1.5
WHZ				LR	LR		
	comp=Z,5μm,20.0s						
PYZ	**Puysegur Point**	**34.34**	**205**	PFAKE		10 06 30.0	+15
PYZ				LR	LR		
	comp=Z,4μm,21.0s						
EIDS	**Eidsvold**	**34.62**	**249**	P	P	10 06 15.5	-1.7
	baz=35						
EIDS	**Eidsvold**	**34.62**	**249**	eP	P	10 06 16.0	-1.3
	comp=Z,35nm,0.7s						
EIDS				LR	LR		
	comp=Z,6μm,18.0s						
ARMA	**Armidale**	**35.19**	**240**	P	P	10 06 21.4	-0.8
	baz=35,SNR=19						
ARMA	**Armidale**	**35.19**	**240**	eP	P	10 06 21.5	-0.8
	comp=Z,36nm,0.8s						
ARMA				LR	LR		
	comp=Z,4μm,22.0s						
RABL	**Rabaul**	**36.12**	**285**	PFAKE		10 06 40.0	+10
RABL				LR	LR		
	comp=Z,6μm,21.0s						
PATS	**Pohnpei**	**36.37**	**307**	PFAKE		10 06 40.0	+7.6
PATS				LR	LR		
	comp=Z,6μm,20.0s						
MGCD	**Mangrove Creek**	**36.44**	**236**	P	P	10 06 32.7	-0.2
	baz=36						
RKT	**Rikitea**	**36.50**	**107**	eS	S	10 12 15.1	+0.8
	comp=Z,751nm,30.2s						
RKT				eLQ	LQ	10 14 55.9	
	comp=Z,1μm,25.8s						
RKT				eLR	LR	10 16 22.8	
	comp=Z,5μm,22.5s,baz=278						
RKT	**Rikitea**	**36.50**	**107**	eT	T	10 45 09.7	
	comp=Z,40nm,0.3s						
RMQ	**Roma**	**36.85**	**247**	P	P	10 06 35.4	-1.1
	baz=37,SNR=14						
CNB	**Canberra Magne**	**38.51**	**233**	P	P	10 06 49.6	-0.8
	baz=39,SNR=16						
CTA	**Charters Tower**	**38.75**	**258**	P	P	10 06 51.0	-1.5
	comp=Z,23nm,0.7s,baz=96,slow=9.6,SNR=19						
CTA				PcP	PcP	10 09 04.7	+0.6
	comp=Z,14nm,0.9s,baz=76,slow=5.2,SNR=4.7						
CTAO	**Charters Tower**	**38.75**	**258**	eP	P	10 06 49.9	-2.7
	comp=Z,25nm,0.8s						
CTAO				ePcP	PcP	10 09 05.2	+1.2
CTAO				LR	LR		
	comp=Z,6μm,20.0s						
CTAO	**Charters Tower**	**38.75**	**258**	eP	P	10 06 49.9	-2.7
CTAO				e		10 09 05.3	
CTAO				pmax	pmax		
	comp=Z,25nm,0.8s						
CTAO				MLR	MLR		
	comp=Z,6μm,20.0s						
CAN	**Canberra**	**38.79**	**233**	eP	P	10 06 51.5	-1.2
	comp=Z,201nm,2.0s						
CAN				LR	LR		
	comp=Z,4μm,18.0s						
CAN	**Canberra**	**38.79**	**233**	eP	P	10 06 51.5	-1.2
CAN				pmax	pmax		
	comp=Z,201nm,2.0s						
CAN				MLR	MLR		
	comp=Z,4μm,18.0s						
YNG	**Young**	**38.93**	**235**	P	P	10 06 54.5	+0.6
	baz=39						
PMG	**Port Moresby**	**39.27**	**275**	P	P	10 06 55.2	-1.8
	comp=Z,110nm,0.9s,baz=63,slow=7.1,SNR=22						
PMG				PcP	PcP	10 09 05.8	+0.1
	comp=Z,33nm,1.0s,baz=51,slow=6.5,SNR=4.4						
PMG	**Port Moresby**	**39.27**	**275**	eP	P	10 06 56.7	-0.2
	comp=Z,105nm,0.8s						
PMG				ePcP	PcP	10 09 05.9	+0.1
PMG				LR	LR		
	comp=Z,4μm,20.0s						
WRMHI	**West Rim**	**39.46**	**27**	PFAKE		10 07 10.0	+12
WRMHI				LR	LR		
	comp=Z,3μm,20.0s						
KKO	**Keanakako'i**	**39.46**	**27**	PFAKE		10 07 10.0	+11
KKO				LR	LR		
	comp=Z,3μm,20.0s						
OBL	**Observatory Le**	**39.47**	**27**	PFAKE		10 07 10.0	+11
OBL				LR	LR		
	comp=Z,4μm,20.0s						
SBLHI	**Steaming Bluff**	**39.49**	**27**	PFAKE		10 07 10.0	+11
SBLHI				LR	LR		
	comp=Z,4μm,21.0s						
JCUZ	**Jacuzzi**	**39.52**	**27**	PFAKE		10 07 10.0	+11
JCUZ				LR	LR		
	comp=Z,5μm,20.0s						
HMH	**Humu'ula Sheep**	**39.55**	**27**	eP	P	10 06 59.7	+0.2
	comp=Z,1μm,1.9s						
HPAH	**Hawaii Prepara**	**39.84**	**26**	eP	P	10 07 02.6	+1.0
	comp=Z,143nm,0.9s						
MHA	**Mahukona**	**39.89**	**26**	eP	P	10 07 00.8	-1.2
MHA	**Mahukona**	**39.89**	**26**	eP	P	10 07 00.8	-1.2
KIP	**Kipapa**	**40.19**	**22⇑**	eP	P	10 07 02.7	-1.7
KIP				pmax	pmax		
	comp=Z,72nm,1.3s						
KHLH	**Kahului Airpor**	**40.31**	**25**	eP	P	10 07 04.4	-1.1
	comp=Z,542nm,1.7s						
CMSA	**Cobar Meteorol**	**40.41**	**240**	P	P	10 07 04.9	-1.3
	baz=40,SNR=99						
WAKE	**Wake Island**	**40.47**	**330**	eP	P	10 07 06.8	+0.1
	comp=Z,388nm,1.4s						
MTSU	**Mount Surprise**	**40.66**	**261**	P	P	10 07 07.2	-1.3
	baz=41,SNR=47						
H11N3	**WAKE ISLAND Hy**	**40.72**	**330**	T	T	10 49 53.3	
	baz=150,slow=76,

baz=150,slow=76,SNR=185
QLP Quilpie 40.88 248 P **P** **10 07 08.3 -1.9**
baz=41,SNR=31
MANU Manus Island 41.36 286 *e*P **P** **10 07 14.4 +0.1**
comp=Z,330nm,1.8s
TOO Toolangi 42.20 231 P **P** **10 07 19.7 -1.2**
baz=42,SNR=29
TOO Toolangi 42.20 231 *e*P **P** **10 07 20.0 -0.9**
comp=Z,37nm,0.8s
TOO LR LR
comp=Z,6μm,18.0s
TOO Toolangi 42.20 231 *e*P **P** **10 07 20.0 -0.9**
TOO pmax pmax
comp=Z,37nm,0.8s
TOO MLR MLR
comp=Z,6μm,18.0s
COEN Coen 42.21 267 P **P** **10 07 21.0 -0.2**
baz=42,SNR=44
COEN Coen 42.21 267 *e*P **P** **10 07 21.1 -0.1**
comp=Z,91nm,0.7s
TAU Tasmania Unive 42.95 223 PFAKE 10 07 40.0 +13
TAU LR LR
comp=Z,6μm,18.0s
STKA Stephens Creek 43.90 241 P **P** **10 07 33.9 -0.8**
comp=Z,73nm,0.9s,baz=90,slow=9.1,SNR=98
STKA LR LR 10 25 06.6
comp=Z,3μm,18.1s,baz=73,slow=35
STKA Stephens Creek 43.90 241 P **P** **10 07 33.9 -0.8**
baz=44,SNR=39
STKA Stephens Creek 43.90 241 *e*P **P** **10 07 33.9 -0.8**
comp=Z,13nm,0.9s
STKA *e*PcP **PcP** **10 09 21.9 +1.3**
ARPS Mount Arapiles 44.76 234 P **P** **10 07 40.4 -1.1**
baz=45,SNR=30
QIS Mount Isa 44.97 257 P **P** **10 07 43.0 -0.4**
baz=45,SNR=4.9
HTT Hallett 46.38 239 P **P** **10 07 53.3 -1.2**
baz=46,SNR=40
JAY Jayapura 47.41 282 P **P** **10 08 01.0 -1.8**
baz=301,slow=6.2,SNR=8.3
JAY Jayapura 47.41 282 P **P** **10 08 01.0 -1.8**
JAY Jayapura 47.41 282 P **P** **10 08 03.4 +0.6**
GENI Genyem 47.89 281 P **P** **10 08 07.8 +1.4**
BBOO Buckleboo 48.67 240 P **P** **10 08 10.9 -1.4**
baz=49,SNR=26
BBOO Buckleboo 48.67 240 *e*P **P** **10 08 10.7 -1.6**
comp=Z,103nm,1.3s
BBOO LR LR
comp=Z,4μm,18.0s
WR0 Warramunga Arr 49.75 257 PFAKE 10 08 30.0 +9.3
WR0 LR LR
comp=Z,7μm,21.0s
WR9 Warramunga Arr 49.78 257 PFAKE 10 08 30.0 +9.1
WR9 LR LR
comp=Z,6μm,20.0s
WR7 Warramunga Arr 49.81 257 PFAKE 10 08 30.0 +8.8
WR7 LR LR
comp=Z,6μm,20.0s
WR6 Warramunga Arr 49.83 257 PFAKE 10 08 30.0 +8.7
WR6 LR LR
comp=Z,6μm,20.0s
WR5 Warramunga Arr 49.86 257 PFAKE 10 08 30.0 +8.5
WR5 LR LR
comp=Z,6μm,20.0s
WR4 Warramunga Arr 49.88 257 PFAKE 10 08 30.0 +8.3
WR4 LR LR
comp=Z,6μm,19.0s
WR3 Warramunga Arr 49.90 257 PFAKE 10 08 30.0 +8.2
WR3 LR LR
comp=Z,6μm,20.0s
WB0 Warramunga Arr 49.91 258 PFAKE 10 08 30.0 +8.1
WB0 LR LR
comp=Z,5μm,19.0s
WC3 Warramunga Arr 49.91 257 *e*P **P** **10 08 20.4 -1.5**
comp=Z,63nm,0.8s
WC3 LR LR
comp=Z,6μm,19.0s
WB9 Warramunga Arr 49.91 258 PFAKE 10 08 30.0 +8.1
WB9 LR LR
comp=Z,11μm,20.0s
WB8 Warramunga Arr 49.91 258 PFAKE 10 08 30.0 +8.1
WB8 LR LR
comp=Z,6μm,20.0s
WR2 Warramunga Arr 49.92 257 PFAKE 10 08 30.0 +8.0
WR2 LR LR
comp=Z,6μm,20.0s
WB5 Warramunga Arr 49.92 257 PFAKE 10 08 30.0 +8.0
WB5 LR LR
comp=Z,6μm,19.0s
WB6 Warramunga Arr 49.92 257 PFAKE 10 08 30.0 +8.0
WB6 LR LR
comp=Z,6μm,19.0s
WB4 Warramunga Arr 49.93 257 PFAKE 10 08 30.0 +8.0
WB4 LR LR
comp=Z,6μm,20.0s
WB3 Warramunga Arr 49.93 257 PFAKE 10 08 30.0 +8.0
WB3 LR LR
comp=Z,6μm,20.0s
WB2 Warramunga Arr 49.93 257 *e*P **P** **10 08 20.3 -1.8**
comp=Z,73nm,0.8s
WB2 *e*PcP **PcP** **10 09 42.6 +0.4**
WB2 LR LR
comp=Z,8μm,21.0s
WRAB Tennant Creek 49.93 257 *e*P **P** **10 08 20.1 -2.0**
comp=Z,57nm,0.8s
WRAB *e*PcP **PcP** **10 09 42.7 +0.5**
WRAB LR LR
comp=Z,7μm,20.0s
WRAB Tennant Creek 49.93 257 *d i*P **P** **10 08 20.6 -1.5**
WRAB pmax pmax
comp=Z,75nm,1.0s
WC4 Warramunga Arr 49.94 257 PFAKE 10 08 30.0 +7.9
WC4 LR LR
comp=Z,7μm,20.0s
WR1 Warramunga Arr 49.94 257 *e*P **P** **10 08 19.7 -2.4**
comp=Z,88nm,0.8s
WR1 *e*PcP **PcP** **10 09 42.6 +0.3**
WR1 LR LR
comp=Z,7μm,19.0s
WRA Warramunga Arr 49.94 257 P **P** **10 08 19.7 -2.4**
comp=Z,63nm,0.8s,baz=92,slow=6.9,SNR=253
WRA PcP **PcP** **10 09 42.6 +0.3**
comp=Z,20nm,0.7s,baz=88,slow=3.6,SNR=8.3
WRA LR LR 10 28 11.7
comp=Z,7μm,19.9s,baz=90,slow=35
WC1 Warramunga Arr 49.94 257 PFAKE 10 08 30.0 +7.8
WC1 LR LR
comp=Z,5μm,19.0s
AS01 Alice Springs 50.10 253 *e*P **P** **10 08 21.4 -1.9**
AS01 *e*PcP **PcP** **10 09 43.3 +0.5**
AS31 Alice Springs 50.14 253 *e*P **P** **10 08 21.9 -1.7**
comp=Z,28nm,0.8s
AS31 *e*PcP **PcP** **10 09 43.2 +0.3**
AS31 LR LR
comp=Z,100nm,20.0s
ASAR Alice Springs 50.14 253 P **P** **10 08 21.9 -1.7**
comp=Z,83nm,0.6s,baz=86,slow=8.3,SNR=306
ASAR PcP **PcP** **10 09 43.2 +0.2**
comp=Z,15nm,0.7s,baz=110,slow=3.7,SNR=5.2
ASAR S **S** **10 15 31.6 -2.5**
comp=Z,1.7nm,0.9s,baz=82,slow=14,SNR=5.1
ASAR LR LR 10 28 44.5
comp=Z,7μm,18.5s,baz=98,slow=35
ASAR PKPPKP **P'P'df** **10 39 14.6 -3.7**
comp=Z,0.7nm,0.9s,baz=271,slow=1.6,SNR=4.1
GUMO Guam 50.98 303 PFAKE 10 08 40.0 +10
GUMO LR LR
comp=Z,2μm,18.0s
WRKA Warakurna 55.20 251 P **P** **10 08 59.8 -1.3**
baz=55,SNR=112
FAKI Fak Fak 55.29 278 *e*P **P** **10 09 00.4 -1.5**
comp=Z,40nm,1.0s
FORT Forrest 55.32 244 P **P** **10 09 00.3 -1.5**
baz=55,SNR=37
FORT Forrest 55.32 244 *e*P **P** **10 08 60.0 -1.8**
comp=Z,113nm,0.7s
FORT LR LR
comp=Z,3μm,18.0s
KNRA Kununurra 55.73 262 P **P** **10 09 03.7 -1.2**
baz=56,SNR=20
SIJI Sorong 56.86 280 P **P** **10 09 12.4 -0.6**
comp=Z,184nm,0.8s,baz=70,slow=6.2,SNR=51
SWI Sorong 56.87 280 P **P** **10 09 12.9 -0.2**
comp=Z,137nm,0.7s,comp=Z,1μm
FITZ Fitzroy Crossi 58.33 258 P **P** **10 09 22.5 -0.7**
comp=Z,20nm,0.8s,baz=130,slow=3.7,SNR=24
FITZ Fitzroy Crossi 58.33 258 P **P** **10 09 22.6 -0.7**
baz=58,SNR=13
FITZ Fitzroy Crossi 58.33 258 *e*P **P** **10 09 22.6 -0.7**
comp=Z,23nm,0.8s
NLAI Namlea 60.11 276 P **P** **10 09 38.9 +3.2**
TNTI Ternate 61.08 280 PFAKE 10 09 50.0 +7.7
TNTI LR LR
comp=Z,1μm,22.0s
CBIJ Chichi jima 61.09 314 PFAKE 10 09 50.0 +7.9
CBIJ LR LR
comp=Z,4μm,22.0s
SOEI Soe 61.17 268 *e*P **P** **10 09 42.5 -0.6**
comp=Z,199nm,0.8s
SOEI Soe 61.17 268 P **P** **10 09 43.9 +0.8**
comp=Z,258nm,0.8s,comp=Z,2μm
SANI Sanana 61.52 277 P **P** **10 09 44.8 -0.5**
BATI Baumata 61.65 267 P **P** **10 09 46.0 -0.2**
comp=Z,67nm,0.9s,baz=235,slow=3.5,SNR=6.2
BATI Baumata 61.65 267 P **P** **10 09 48.4 +2.2**
comp=Z,34nm,0.9s,comp=Z,666nm
SBA Scott Base 62.51 185 *e*P **P** **10 09 54.5 +3.6**
comp=Z,540nm,1.9s
SBA Scott Base 62.51 185 *e*P **P** **10 09 54.5 +3.6**
SBA pmax pmax
comp=Z,540nm,1.9s
VNDA Vanda 62.64 186 P **P** **10 09 54.0 +2.2**
comp=Z,29nm,0.9s,baz=4.6,slow=5.4,SNR=22
VNDA LR LR 10 37 11.0
comp=Z,829nm,18.1s,baz=26,slow=36
VNDA Vanda 62.64 186 *e*P **P** **10 09 54.7 +2.9**
comp=Z,29nm,0.8s
MMRI Maumere 63.38 268 *e*P **P** **10 09 57.1 -0.7**
comp=Z,68nm,0.8s
MMRI Maumere 63.38 268 P **P** **10 09 59.7 +1.9**
comp=Z,106nm,0.9s
MBWA Marble Bar 63.41 254 *e*P **P** **10 09 56.9 -1.0**
comp=Z,51nm,0.8s
MBWA LR LR
comp=Z,2μm,20.0s
MBWA Marble Bar 63.41 254 P **P** **10 09 57.0 -1.0**
SNR=5.5
MBWA Marble Bar 63.41 254 *e*P **P** **10 09 56.9 -1.0**
MEEK Meekatharra 63.78 248 P **P** **10 09 59.1 -1.2**
baz=64,SNR=9.2
EDFI Ende, Flores 63.88 268 P **P** **10 09 59.8 -1.4**
comp=Z,132nm,0.8s,comp=Z,1μm
KLBR Kellerberrin 64.13 242 P **P** **10 10 01.7 -0.8**
baz=64,SNR=22
NWAO Narrogin (SRO) 64.49 241 P **P** **10 10 04.2 -0.6**
comp=Z,19nm,0.9s,baz=26,slow=5.3,SNR=6.4
NWAO Narrogin (SRO) 64.49 241 P **P** **10 10 04.5 -0.3**
baz=64,SNR=4.8
NWAO Narrogin (SRO) 64.49 241 *e*P **P** **10 10 05.2 +0.4**
comp=Z,142nm,1.8s
NWAO LR LR
comp=Z,2μm,19.0s
DAV Davao City (W) 64.91 286 PFAKE 10 10 20.0 +12
DAV LR LR
comp=Z,2μm,19.0s
BLDU Ballidu 65.09 243 P **P** **10 10 08.0 -0.7**
baz=65,SNR=23
MUN Mundaring 65.41 242 P **P** **10 10 10.6 -0.3**
baz=65,SNR=17
MORW Morawa 65.81 245 P **P** **10 10 12.5 -0.9**
baz=66,SNR=6.1
MORW Morawa 65.81 245 *e*P **P** **10 10 13.1 -0.4**
comp=Z,81nm,1.4s
MORW LR LR
comp=Z,3μm,19.0s
BNSI Bone 66.50 272 P **P** **10 10 18.5 +0.4**
JHJ Hachijo jima 2 66.52 318 LR LR 10 36 31.4
comp=Z,520nm,18.8s,baz=122,slow=34
SPSI Sidrap Palu 66.94 273 P P 10 10 26.2 +5.3
TTSI Tana Toraja 67.14 274 P **P** **10 10 23.8 +1.6**
PLAI Plampang 67.62 267 P **P** **10 10 25.4 +0.2**
comp=Z,126nm,0.8s,comp=Z,1μm
ADK Adak 67.84 358 *e*P **P** **10 10 24.5 -1.2**
comp=Z,287nm,1.4s
ADK LR LR
comp=Z,3μm,20.0s
ADK Adak 67.84 358 *e*P **P** **10 10 24.5 -1.2**
ADK pmax pmax
comp=Z,287nm,1.4s
ADK MLR MLR
comp=Z,3μm,20.0s
GIRL Giralia 68.25 252 P **P** **10 10 29.7 +0.7**
baz=68,SNR=11
GIRL Giralia 68.25 252 *e*P **P** **10 10 29.6 +0.6**
comp=Z,261nm,1.2s
GIRL LR LR
comp=Z,4μm,18.0s
SMY Shemya 69.50 352 *e*P **P** **10 10 36.0 -0.1**
comp=Z,307nm,1.1s
SMY Shemya 69.50 352 *e*P **P** **10 10 36.0 -0.1**
SMY pmax pmax
comp=Z,307nm,1.1s
MJAR Matsushiro Arr 69.70 320 P **P** **10 10 36.6 -1.1**
comp=Z,10nm,0.9s,baz=162,slow=5.9,SNR=24
MJAR LR LR 10 35 23.5
comp=Z,2μm,22.0s,baz=130,slow=31
MAJO Matsushiro 69.70 320 *e*P **P** **10 10 37.0 -0.8**
comp=Z,20nm,0.8s
MAJO LR LR
comp=Z,2μm,20.0s
MAJO Matsushiro 69.70 320⇓ *e*P **P** **10 10 35.8 -2.0**
MAJO pmax pmax
comp=Z,8.0nm,0.6s
MAJO Matsushiro 69.70 320 *e*P **P** **10 10 36.8 -0.9**
MAT Matsushiro 69.70 320 P **P** **10 10 36.8 -1.0**
MAT S **S** **10 19 39.6 -5.6**
MJB9 Matsu-Tunnel 69.71 320 *e*P **P** **10 10 36.9 -0.9**
comp=Z,20nm,0.9s
MJB9 LR LR
comp=Z,2μm,20.0s
CASY Casey 69.83 205 *e*P **P** **10 10 38.7 +0.7**
comp=Z,55nm,0.9s
UNV Unalaska Valle 69.96 4 *e*P **P** **10 10 38.0 -0.9**
comp=Z,38nm,0.8s
IGBI Denpasar 70.14 266 P **P** **10 10 40.7 -0.2**
comp=Z,370nm,0.8s,comp=Z,4μm
SRBI Singaraja 70.25 267 P **P** **10 10 42.1 +0.5**
comp=Z,59nm,1.0s
AKUT Akutan 70.30 5 *e*P **P** **10 10 40.1 -0.8**
comp=Z,452nm,2.0s
ERM Erimo 70.56 327 PFAKE 10 10 50.0 +7.2
ERM LR LR
comp=Z,3μm,22.0s
ERM Erimo 70.56 327⇑ *e*P **P** **10 10 41.2 -1.6**
ERM pmax pmax
comp=Z,55nm,1.5s
ERM MLR MLR
comp=Z,1μm,19.0s
JOW Kunigami 71.16 306 LR LR 10 35 59.0
comp=Z,3μm,21.9s,baz=115,slow=31
JAGI Jajag, Banyuwa 71.18 266 *e*P **P** **10 10 45.4 -1.9**
comp=Z,110nm,0.8s
JAGI Jajag, Banyuwa 71.18 266 P **P** **10 10 45.7 -1.6**
comp=Z,143nm,0.8s
SCZ2 Santa Cruz Isl 71.27 45 P **P** **10 10 48.5 +1.1**
baz=235
SCI2 San Clemente I 71.44 46 P **P** **10 10 49.1 +0.7**
baz=236
SBC Santa Barbara 71.48 44 P **P** **10 10 49.6 +1.1**
baz=234
PKM Mcpherson Peak 71.67 44 P **P** **10 10 51.2 +1.2**
baz=234,SNR=5.4
MCCM Marconi Confer 71.67 40 *e*P **P** **10 10 50.0 +0.4**
comp=Z,314nm,1.8s
MCCM LR LR
comp=Z,3μm,18.0s
SAO San Andreas Ge 71.72 42 *e*P **P** **10 10 51.0 +1.0**
comp=Z,115nm,1.1s
SAO LR LR
comp=Z,4μm,20.0s
SAO San Andreas Ge 71.72 42 *e*P **P** **10 10 51.0 +1.0**
SAO pmax pmax
comp=Z,115nm,1.1s
SAO MLR MLR
comp=Z,4μm,20.0s
BLG Laguna Peak, P 71.72 45 P **P** **10 10 50.8 +0.7**
baz=235
CIS Catalina Islan 71.77 46 P **P** **10 10 51.0 +0.6**
baz=236
SMMC Simmler 71.80 44 P **P** **10 10 51.9 +1.3**
baz=234,SNR=9.2
PAGB Antelope Grade 71.88 43 *e*P **P** **10 10 52.3 +1.3**
comp=Z,97nm,1.2s
PAGB LR LR
comp=Z,4μm,18.0s
FMP Fort Macarthur 72.03 46 P **P** **10 10 52.5 +0.6**
baz=236
SDPT Sand Point 72.04 8 *e*P **P** **10 10 50.8 -0.6**
comp=Z,90nm,0.8s
SDPT LR LR
comp=Z,2μm,20.0s
HOPS Hopland Field 72.09 39 *e*P **P** **10 10 53.5 +1.3**
comp=Z,278nm,1.4s
HOPS LR LR
comp=Z,3μm,20.0s
GDXM Geysers 72.14 39 *e*P **P** **10 10 54.4 +1.8**
comp=Z,96nm,1.5s
GDXM LR LR
comp=Z,3μm,20.0s
KCPM Cahto Peak 72.23 38 *e*P **P** **10 10 55.0 +1.9**
comp=Z,150nm,1.2s
OSI Osito Audit: C 72.24 45 *e*P **P** **10 10 54.7 +1.4**
comp=Z,208nm,1.6s
OSI LR LR
comp=Z,3μm,20.0s
OSI Osito Audit: C 72.24 45 P **P** **10 10 54.2 +0.9**
baz=235,SNR=6.8
SDKM Sandakan 72.25 281 P **P** **10 10 55.4 +1.7**
DECC Green Verdugo 72.30 45 P **P** **10 10 54.0 +0.4**
baz=236,SNR=6.7
ASAJ Asahikawa 72.34 328 LR LR 10 40 39.8
comp=Z,745nm,18.9s,baz=158,slow=34
ASAJ Asahikawa 72.34 328 *e*P **P** **10 10 54.0 +0.5**
comp=Z,111nm,1.4s
PASC Pasadena Art C 72.36 45 *e*P **P** **10 10 54.0 +0.1**
comp=Z,183nm,1.7s
PASC LR LR
comp=Z,3μm,20.0s
109C Camp Elliot, M 72.40 47 P **P** **10 10 54.6 +0.5**
baz=237,SNR=7.8
CPE Camp Elliot 72.40 47 *e*P **P** **10 10 54.9 +0.8**
comp=Z,61nm,1.3s
CPE LR LR
comp=Z,2μm,20.0s
ARVC Arvin 72.47 44 P **P** **10 10 55.2 +0.7**
baz=235,SNR=9.8
MWC Mount Wilson 72.47 45 *e*P **P** **10 10 54.9 +0.1**
comp=Z,336nm,1.9s
MWC LR LR
comp=Z,3μm,20.0s
MWC Mount Wilson 72.47 45 *e*P **P** **10 10 54.9 +0.1**
MWC pmax pmax
comp=Z,336nm,1.9s
MWC MLR MLR
comp=Z,3μm,20.0s
KMRM Mail Ridge 72.50 38 *e*P **P** **10 10 56.2 +1.5**
comp=Z,303nm,1.0s
KMRM LR LR
comp=Z,4μm,20.0s
JNU Nakatsue 72.53 313 P **P** **10 10 54.3 -0.6**
comp=Z,21nm,0.8s,baz=86,slow=4.1,SNR=3.8
JNU LR LR 10 36 32.3
comp=Z,1μm,21.9s,baz=120,slow=31
JNU Nakatsue 72.53 313 *e*P **P** **10 10 54.1 -0.8**
comp=Z,192nm,2.0s
BAR Barrett 72.59 47 *e*P **P** **10 10 54.8 -0.5**
comp=Z,33nm,1.4s
VES Vestal, Richgr 72.71 44 P **P** **10 10 56.6 +0.7**
baz=235,SNR=15
MURC Murrieta 72.72 46 P **P** **10 10 56.7 +0.6**
baz=236,SNR=17
BFSC Mount Baldy Ra 72.76 46 P **P** **10 10 56.7 +0.2**
baz=236,SNR=10
VOG Valley Oaks Go 72.79 43 P **P** **10 10 56.9 +0.5**
baz=234
MONP2 Monument Peak 72.88 47 P **P** **10 10 58.0 +0.7**
baz=237,SNR=20
EDW2 Edwards Air Fo 72.89 45 P **P** **10 10 57.8 +0.7**
baz=236,SNR=31
KHMM Horse Mountain 72.91 37 *e*P **P** **10 10 58.2 +1.0**
comp=Z,124nm,1.1s
IKP In-Ko-Pah, Jac 72.97 48 P **P** **10 10 58.4 +0.7**
baz=237,SNR=13
ISA Isabella, Lake 73.01 44 *e*P **P** **10 10 58.5 +0.7**
comp=Z,148nm,1.4s
ISA LR LR
comp=Z,3μm,20.0s
ISA Isabella, Lake 73.01 44 *e*P **P** **10 10 58.5 +0.7**
ISA pmax pmax
comp=Z,148nm,1.4s
ISA MLR MLR
comp=Z,3μm,20.0s
ISA Isabella, Lake 73.01 44 P **P** **10 10 58.8 +1.0**
baz=235,SNR=33
O02D Mt. Diablo Mer 73.01 38 P **P** **10 10 59.3 +1.6**
baz=231,SNR=25
PET Petropavlovsk 73.09 343⇓ *i*P **P** **10 10 56.8 -1.0**
PET *e*S **S** **10 20 21.0 -2.6**
PET pmax pmax
comp=Z,77nm,1.5s
PET pmax pmax
comp=Z,600nm,11.0s
SRIG Santa Rosalia 73.15 54 *e*P **P** **10 10 59.3 +0.6**
comp=Z,58nm,0.9s
SRIG LR LR
comp=Z,2μm,20.0s
CMB Columbia Colle 73.16 41 *e*P **P** **10 10 58.9 +0.3**
comp=Z,58nm,0.9s
CMB LR LR
comp=Z,3μm,20.0s
CMB Columbia Colle 73.16 41 *e*P **P** **10 10 58.9 +0.3**
CMB pmax pmax
comp=Z,58nm,0.9s
CMB MLR MLR
comp=Z,3μm,20.0s
PFO Pinyon Flats O 73.24 47 *e*P **P** **10 10 59.1 -0.2**
comp=Z,62nm,1.3s
PFO LR LR
comp=Z,3μm,20.0s
PFO Pinyon Flats O 73.24 47 *e*P **P** **10 10 59.1 -0.2**
PFO pmax pmax
comp=Z,62nm,1.3s
PFO MLR MLR
comp=Z,3μm,20.0s
PFO Pinyon Flats O 73.24 47 P **P** **10 10 59.7 +0.3**
baz=237,SNR=12
CHGN Chignik 73.24 8 *e*P **P** **10 10 58.3 -0.3**
comp=Z,172nm,1.1s
CHGN LR LR
comp=Z,2μm,20.0s
XPFO Pion Flat 73.25 47 *e*P **P** **10 10 59.5 +0.2**
comp=Z,73nm,1.3s
XPFO LR LR
comp=Z,3μm,19.0s
BBRC Big Bear Solar 73.28 46 P **P** **10 11 00.3 +0.7**
baz=236
KKM Kota Kinabalu 73.30 282 *e*P **P** **10 11 00.0 0.0**
comp=Z,27nm,0.8s
KKM LR LR
comp=Z,800nm,22.0s
KKM Kota Kinabalu 73.30 282 P **P** **10 11 00.9 +0.9**
SLBS Sierra La Lagu 73.32 59 *e*P **P** **10 11 00.8 +0.9**
comp=Z,168nm,1.6s
SLBS LR LR
comp=Z,2μm,18.0s
AFDM Forest Hills D 73.35 40 *e*P **P** **10 11 00.0 +0.3**
comp=Z,59nm,1.0s
AFDM LR LR
comp=Z,2μm,20.0s
SWSC Sam W. Stewart 73.35 48 P **P** **10 11 00.3 +0.5**
baz=238,SNR=14
ORV Oroville 73.39 39 *e*P **P** **10 11 00.3 +0.4**
comp=Z,57nm,1.0s
ORV LR LR
comp=Z,2μm,19.0s
ORV Oroville 73.39 39 *e*P **P** **10 11 00.3 +0.4**
ORV pmax pmax
comp=Z,57nm,1.0s
ORV MLR MLR
comp=Z,2μm,19.0s
WDC Whiskeytown Da 73.41 38 *e*P **P** **10 11 00.7 +0.7**
comp=Z,351nm,1.8s
WDC LR LR
comp=Z,3μm,21.0s
WDC Whiskeytown Da 73.41 38 *e*P **P** **10 11 00.7 +0.7**
WDC pmax pmax
comp=Z,351nm,1.8s
WDC MLR MLR
comp=Z,3μm,21.0s
LRMC Laurel Mtn Rad 73.44 45 P **P** **10 11 01.2 +0.8**
baz=236,SNR=5.4
PEA0B Petropavlovsk- 73.44 342 *e*P **P** **10 11 00.1 +0.2**

comp=Z,426nm,2.0s
PETK Petropavlovsk- 73.44 342 P P 10 11 00.1 +0.2
comp=Z,31nm,0.8s,baz=123,slow=6.9,SNR=32
PETK LR LR 10 38 35.8
comp=Z,511nm,21.4s,baz=160,slow=32
PETK Petropavlovsk- 73.44 342 *e*P P 10 10 59.7 -0.2
PETK Petropavlovsk- 73.44 342 *e*P P 10 10 59.7 -0.2
PEA1 Petropavlovsk- 73.45 342 *e*P P 10 11 00.1 +0.2
PWJI Pagerwojo 73.54 266 P P 10 11 03.8 +2.5
comp=Z,90nm,0.7s
RRX Edison Barstow 73.56 45 P P 10 11 01.7 +0.6
baz=236,SNR=9.2
N02D Trinity Center 73.57 37 P P 10 11 02.3 +1.3
baz=231,SNR=26
O03E Paynes Creek 73.67 38 P P 10 11 02.2 +0.5
baz=231,SNR=36
CWC Cottonwood Cre 73.72 44 P P 10 11 02.9 +0.8
baz=235
M02C Callahan 73.75 37 P P 10 11 03.6 +1.5
baz=230,SNR=22
MDPB Devils Postpil 73.75 42 *e*P P 10 11 02.9 +0.5
comp=Z,56nm,0.9s
MDPB LR LR
comp=Z,3µm,19.0s
BELC Belle Mtn. Jos 73.78 47 P P 10 11 03.1 +0.6
baz=237,SNR=14
L02E Cave Junction 73.81 36 P P 10 11 03.8 +1.5
baz=230,SNR=7.4
KEBM Edson Butte 73.87 35 *e*P P 10 11 04.5 +1.8
comp=Z,288nm,1.2s
QSPA South Pole Qui 73.88 180 *e*P P 10 11 04.5 +1.9
comp=Z,160nm,1.0s
QSPA LR LR
comp=Z,2µm,19.0s
MPMC Manual Prospec 73.89 44 P P 10 11 04.1 +0.9
baz=236,SNR=64
MLAC Mammoth, Mammo 73.91 42 P P 10 11 04.5 +1.2
baz=234,SNR=9.4
RUBR Rubicon Trail 73.92 40 PFAKE 10 11 20.0 +17
RUBR LR LR
comp=Z,3µm,20.0s
GSC Goldstone, Bar 73.93 45 *e*P P 10 11 03.7 +0.4
comp=Z,224nm,1.6s
GSC LR LR
comp=Z,3µm,20.0s
GSC Goldstone, Bar 73.93 45 *e*P P 10 11 03.7 +0.4
GSC pmax pmax
comp=Z,224nm,1.6s
GSC MLR MLR
comp=Z,3µm,20.0s
GSC Goldstone, Bar 73.93 45 P P 10 11 04.0 +0.7
baz=236,SNR=32
DAC Darwin (Calif) 73.95 44 *e*P P 10 11 04.3 +0.8
comp=Z,200nm,1.8s
DAC LR LR
comp=Z,4µm,20.0s
DAC Darwin (Calif) 73.95 44 *e*P P 10 11 04.3 +0.8
DAC pmax pmax
comp=Z,200nm,1.8s
DAC MLR MLR
comp=Z,4µm,20.0s
TIN Tinemaha, Big 73.97 43 P P 10 11 04.5 +1.0
baz=235,SNR=13
BC3 Big Chuckawall 73.97 47 P P 10 11 04.4 +0.8
baz=238,SNR=26
HEC Hector,Ludlow 73.99 46 P P 10 11 04.1 +0.4
baz=237,SNR=31
NGJI Ngawi 74.03 267 P P 10 11 14.9 +11
WAKR Walker 74.04 41 *e*P P 10 11 05.0 +1.0
comp=Z,496nm,1.9s
WAKR LR LR
comp=Z,4µm,22.0s
YBH Yreka Blue Hor 74.05 37 P P 10 11 05.0 +1.2
comp=Z,89nm,0.9s,baz=149,slow=18,SNR=16
YBH Yreka Blue Hor 74.05 37 *e*P P 10 11 04.6 +0.8
comp=Z,136nm,1.0s
YBH Yreka Blue Hor 74.05 37 *e*P P 10 11 04.6 +0.8
YBH pmax pmax
comp=Z,136nm,1.0s
GLA Glamis 74.10 48 *e*P P 10 11 04.7 +0.4
comp=Z,122nm,1.4s
GLA LR LR
comp=Z,2µm,20.0s
GLA Glamis 74.10 48 *e*P P 10 11 04.7 +0.4
GLA pmax pmax
comp=Z,122nm,1.4s
GLA MLR MLR
comp=Z,2µm,20.0s
GLA Glamis 74.10 48 P P 10 11 05.2 +1.0
baz=238,SNR=14
PCJI Pacitan 74.10 266 P P 10 11 05.4 +0.8
comp=Z,262nm,1.2s
K02D Willamette Mer 74.12 36 P P 10 11 05.5 +1.3
baz=229,SNR=14
J01E Myrtle Point 74.28 35 P P 10 11 06.1 +1.1
baz=229,SNR=10
BEKR Beckworth 74.28 40 *e*P P 10 11 05.8 +0.5
comp=Z,75nm,0.9s
BEKR LR LR
comp=Z,2µm,20.0s
PNTR Pine Nut 74.28 41 *e*P P 10 11 06.2 +0.8
comp=Z,94nm,0.8s
PNTR LR LR
comp=Z,3µm,20.0s
YSS Yuzh-Sakhalins 74.29 330 *e*P P 10 11 04.9 -0.1
comp=Z,91nm,1.2s
YSS LR LR
comp=Z,1µm,22.0s
YSS Yuzh-Sakhalins 74.29 330κ *i*P P 10 11 05.4 +0.5
YSS *e**SP **pP** 10 11 11.8 -0.5
YSS *e* 10 11 27.5
YSS *i* S **S** 10 20 37.5 +0.2
YSS *e*PPS PPS 10 21 20.0
YSS pmax pmax
comp=Z,50nm,1.1s
VCNR Virginia City 74.38 40 *e*P P 10 11 06.8 +0.9
comp=Z,65nm,0.9s
VCNR LR LR
comp=Z,3µm,20.0s
GMRC Granite Mounta 74.44 46 P P 10 11 06.8 +0.5
baz=237,SNR=44
YERR Yerington 74.45 41 *e*P P 10 11 06.8 +0.4
comp=Z,77nm,0.9s
YERR LR LR
comp=Z,4µm,20.0s
IRM Iron Mountain 74.46 47 P P 10 11 07.1 +0.8
baz=238,SNR=38
HUMO Hull Mountain 74.46 36 *e*P P 10 11 06.6 +0.5
comp=Z,104nm,1.0s
HUMO LR LR
comp=Z,3µm,21.0s
GRAC Grapevine Rang 74.50 43 P P 10 11 07.8 +1.3
baz=236,SNR=16
FURC Furnace Creek, 74.54 44 P P 10 11 07.5 +0.9
baz=236,SNR=38
M04C Macdoel 74.58 37 P P 10 11 08.1 +1.1
baz=231,SNR=39
L04D Klamath Falls 74.59 37 P P 10 11 08.0 +1.0
baz=231,SNR=32
TUQ Turquoise Moun 74.61 45 P P 10 11 08.0 +0.7
baz=237,SNR=14
SHOC Shoshone, Teco 74.62 45 P P 10 11 07.9 +0.7
baz=237,SNR=37
Y12C Blythe 74.68 48 *e*P P 10 11 08.6 +1.0
comp=Z,64nm,1.1s
Y12C LR LR
comp=Z,2µm,20.0s
Y12C Blythe 74.68 48 P P 10 11 08.4 +0.8
baz=238,SNR=24
RYN Ryan 74.69 41 *e*P P 10 11 08.0 +0.3
comp=Z,73nm,1.0s
RYN LR LR
comp=Z,3µm,20.0s
113A Mohawk Valley, 74.71 49 *e*P P 10 11 07.8 +0.1
comp=Z,253nm,1.9s
NV01 Mina Array Sit 74.72 42 *e*P P 10 11 08.1 +0.2
NVAR Mina Array Bea 74.72 42 P P 10 11 08.7 +0.7
comp=Z,57nm,0.8s,baz=228,slow=8.5,SNR=94
NVAR LR LR 10 38 20.1
comp=Z,3µm,19.0s,baz=234,slow=31
PAHR Pah Rah Range 74.78 40 *e*P P 10 11 08.9 +0.7
comp=Z,70nm,1.0s
PAHR LR LR
comp=Z,3µm,20.0s
UGM Wanagama 74.80 266 *e*P P 10 11 08.5 -0.2
comp=Z,880nm,1.8s
NV11 Mina Array Sit 74.81 42 *e*P P 10 11 09.1 +0.7
comp=Z,7.8nm,1.0s
NV11 LR LR
comp=Z,300nm,20.0s
I02D Swisshome 74.94 34 P P 10 11 10.3 +1.5
baz=229
I03D Drain, OR 74.95 35 P P 10 11 10.0 +1.1
baz=230,SNR=11
OHAK Old Harbor 74.96 11 *e*P P 10 11 07.8 -0.8
comp=Z,71nm,1.1s
OHAK LR LR
comp=Z,4µm,20.0s
HSIG 74.97 53 *e*P P 10 11 08.9 -0.4
comp=Z,35nm,1.0s
HSIG LR LR
comp=Z,2µm,20.0s
LDFC Landfair 74.97 46 *e*P P 10 11 09.9 +0.5
comp=Z,441nm,1.6s
LDFC LR LR
comp=Z,3µm,20.0s
214A Organ Pipe Nat 75.00 50 P P 10 11 10.3 +0.9
baz=240,SNR=31
TWG Pinlang 75.14 299 PFAKE 10 11 20.0 +10
TWG LR LR
comp=Z,4µm,20.0s
NEE2 Needles Airpor 75.15 47 P P 10 11 11.0 +0.7
baz=238,SNR=9.2
K04D Chiloquin, OR 75.16 37 P P 10 11 11.3 +1.0
baz=231,SNR=13
YULB Yu-li 75.19 300 *e*P P 10 11 10.2 -0.6
comp=Z,54nm,1.1s
YULB LR LR
comp=Z,1µm,20.0s
KVN Kaiserville 75.20 41 *e*P P 10 11 11.1 +0.4
comp=Z,67nm,1.0s
KVN LR LR
comp=Z,3µm,20.0s
KVN Kaiserville 75.20 41 *e*P P 10 11 11.1 +0.4
KVN pmax pmax
comp=Z,67nm,1.0s
KVN MLR MLR
comp=Z,3µm,20.0s
TPNV Topopah Spring 75.22 44 *e*P P 10 11 11.5 +0.7
comp=Z,75nm,1.0s
TPNV LR LR
comp=Z,3µm,20.0s
TPNV Topopah Spring 75.22 44 *e*P P 10 11 11.5 +0.7
TPNV pmax pmax
comp=Z,75nm,1.0s
TPNV MLR MLR
comp=Z,3µm,20.0s
TPNV Topopah Spring 75.22 44 P P 10 11 11.7 +0.9
baz=236,SNR=26
PDMCI Parker Dam,Lak 75.24 47 P P 10 11 11.6 +0.8
baz=238,SNR=36
NACB Ninganchiao 75.28 301 *e*P P 10 11 10.2 -1.0
comp=Z,90nm,1.1s
NACB LR LR
comp=Z,1µm,20.0s
J04D Umpqua Nationa 75.35 36 P P 10 11 12.7 +1.2
baz=231,SNR=49
BTM Bintulu 75.39 278 P P 10 11 16.0 +3.9
I04A Tendick Farm, 75.53 35 P P 10 11 12.9 +0.6
baz=230,SNR=17
COR Corvallis 75.55 34 *e*P P 10 11 13.8 +1.4
comp=Z,752nm,2.0s
COR LR LR
comp=Z,3µm,18.0s
MOD Modoc Plateau 75.56 38 *e*P P 10 11 13.5 +0.9
comp=Z,108nm,0.9s
MOD LR LR
comp=Z,3µm,19.0s
KDAK Kodiak Island 75.62 11 *e*P P 10 11 12.3 -0.1
comp=Z,240nm,1.5s
KDAK LR LR
comp=Z,4µm,20.0s
KDAK Kodiak Island 75.62 11 *i*P P 10 11 12.5 +0.1
YHNB Yeheng 75.67 301 *e*P P 10 11 12.9 -0.6
comp=Z,70nm,0.9s
YHNB LR LR
comp=Z,3µm,19.0s
SHPR Sheep Range 75.71 45 *e*P P 10 11 14.1 +0.5
comp=Z,332nm,1.9s
SHPR LR LR
comp=Z,2µm,20.0s
TPUB Tanpu 75.71 300 *e*P P 10 11 11.5 -2.2
comp=Z,95nm,0.8s
TATO Taipei 75.71 302 *e*P P 10 11 12.2 -1.4
comp=Z,126nm,0.9s
H04D Lebanon 75.82 35 P P 10 11 14.9 +1.0
baz=230,SNR=14
W13A Hualapai Mount 75.84 47 *e*P P 10 11 14.9 +0.4
comp=Z,58nm,1.1s
W13A LR LR
comp=Z,2µm,20.0s
Y14A Wickenburg 75.86 48 *e*P P 10 11 14.9 +0.5
comp=Z,56nm,1.0s
Y14A LR LR
comp=Z,2µm,20.0s
J05D Fort Rock, OR 75.87 36 P P 10 11 15.6 +1.2
baz=231,SNR=82
G03D McMinnville, O 75.98 34 P P 10 11 15.9 +1.1
baz=229,SNR=11
SBUM Sibu 75.99 277 *e*P P 10 11 15.7 +0.2
comp=Z,26nm,1.8s
SBUM Sibu 75.99 277 P P 10 11 15.6 +0.1
STKI Sintang 76.01 274 P P 10 11 18.7 +3.0
H04A Detroit Lake 76.22 35 *e*P P 10 11 16.5 +0.3
comp=Z,112nm,0.8s
H04A LR LR
comp=Z,2µm,19.0s
PINE Pine Mountain 76.36 36 *e*P P 10 11 18.0 +0.8
comp=Z,226nm,0.9s
PINE LR LR
comp=Z,2µm,20.0s
R11A Troy Canyon, C 76.43 43 *e*P P 10 11 17.5 -0.3
comp=Z,64nm,1.3s
R11A LR LR
comp=Z,3µm,20.0s
R11A Troy Canyon, C 76.43 43 P P 10 11 18.4 +0.7
baz=236,SNR=56
I05D Terrebonne, OR 76.47 35 P P 10 11 18.7 +1.0
baz=231,SNR=27
BMN Battle Mountai 76.55 41 PFAKE 10 11 30.0 +12
BMN LR LR
comp=Z,3µm,18.0s
TUC Tucson 76.66 50 *e*P P 10 11 19.5 +0.4
comp=Z,332nm,2.0s
TUC LR LR
comp=Z,2µm,19.0s
TUC Tucson 76.66 50 *e*P P 10 11 19.5 +0.4
TUC pmax pmax
comp=Z,333nm,2.0s
TUC MLR MLR
comp=Z,2µm,19.0s
TUC Tucson 76.66 50 P P 10 11 20.2 +1.1
baz=241
F04D Rainier, OR 76.69 33 P P 10 11 20.2 +1.4
baz=229,SNR=8.1
WVOR Wild Horse Val 76.86 38 *e*P P 10 11 20.7 +0.7
comp=Z,89nm,1.0s
WVOR LR LR
comp=Z,3µm,21.0s
WVOR Wild Horse Val 76.86 38 *e*P P 10 11 20.7 +0.7
WVOR pmax pmax
comp=Z,89nm,1.0s
WVOR MLR MLR
comp=Z,3µm,21.0s
KSRS Korea Array 76.90 316 P P 10 11 20.6 +0.5
comp=Z,8.9nm,0.9s,baz=124,slow=6.0,SNR=19
KSRS LR LR 10 39 09.0
comp=Z,1µm,21.8s,baz=125,slow=31
KS15 Wonju Array Si 76.92 316 *e*P P 10 11 20.8 +0.6
KSAR Wonju Array Be 76.92 316 P P 10 11 20.6 +0.4
KSAR Wonju Array Be 76.92 316 P P 10 11 20.7 +0.4
KS01 Wonju Array Si 76.93 316 *e*P P 10 11 20.1 -0.2
G05D Wamic, OR 77.06 35 P P 10 11 21.8 +0.9
baz=231,SNR=14
NLWA Neilton Lookou 77.11 32 *e*P P 10 11 22.3 +1.1
comp=Z,84nm,1.0s
TYV Tymovskoe 77.16 333 *e*P P 10 11 20.6 -0.7
TYV *e* 10 21 05.9
TYV pmax pmax
comp=Z,47nm,1.1s
TYV pmax pmax
comp=Z,700nm,4.5s
TYV MLR MLR
comp=N,1µm,19.0s
TYV MLR MLR
comp=Z,2µm,19.0s
X16A Lo Mia Camp, P 77.22 48 *e*P P 10 11 23.3 +1.0
comp=Z,57nm,0.9s
X16A LR LR
comp=Z,2µm,18.0s
E04D Cinebar 77.23 33 P P 10 11 23.0 +1.2
baz=230,SNR=19
LCMT Little Creek M 77.28 45 *e*P P 10 11 23.1 +0.6
comp=Z,300nm,1.9s
LCMT LR LR
comp=Z,2µm,20.0s
319A Douglas 77.35 52 *e*P P 10 11 24.1 +1.2
comp=Z,79nm,0.9s
319A LR LR
comp=Z,3µm,20.0s
I07A Izee 77.35 36 *e*P P 10 11 23.6 +0.9
comp=Z,98nm,1.0s
I07A LR LR
comp=Z,3µm,20.0s
F05D White Salmon 77.39 34 P P 10 11 23.4 +0.7
baz=231,SNR=17
G06A Carlson Farm, 77.43 35 *e*P P 10 11 23.6 +0.5
comp=Z,80nm,1.0s
G06A LR LR
comp=Z,3µm,21.0s
DIB Dawson Inlet, 77.43 24 *e*P P 10 11 22.8 +0.1
comp=Z,183nm,1.8s
CCUT Cedar City 77.48 45 *e*P P 10 11 24.4 +0.7
comp=Z,124nm,1.3s
CCUT LR LR
comp=Z,2µm,20.0s
CISI Cisompet, Garu 77.48 266 *e*P P 10 11 23.3 -0.7
comp=Z,75nm,0.7s
J08A Circle Bar Ran 77.51 38 *e*P P 10 11 24.3 +0.7
comp=Z,98nm,1.0s
J08A LR LR
comp=Z,3µm,20.0s
D04E Lakebay 77.53 33 P P 10 11 25.0 +1.6
baz=229,SNR=5.3
KSM Kuching 77.53 275 *e*P P 10 11 23.9 -0.4
comp=Z,52nm,1.0s
KSM LR LR
comp=Z,700nm,21.0s
KSM Kuching 77.53 275 P P 10 11 24.6 +0.3
HOM Homer 77.55 11 PFAKE 10 11 30.0 +6.7
HOM LR LR
comp=Z,3µm,20.0s
KNB Kanab 77.57 45 *e*P P 10 11 25.4 +1.2
comp=Z,254nm,1.6s
KNB LR LR
comp=Z,2µm,20.0s
VLA Vladivostok 77.58 322⇑ *i*P P 10 11 23.3 -0.5
VLA pmax pmax
comp=Z,36nm,0.8s
D03D Eldon 77.60 32 P P 10 11 24.9 +1.0
baz=229,SNR=20
U15A North Rim 77.63 46 *e*P P 10 11 25.8 +1.2
comp=Z,424nm,1.8s
U15A LR LR
comp=Z,2µm,19.0s
PSUT Pine Spring 77.67 44 *e*P P 10 11 25.4 +0.7
comp=Z,61nm,0.9s
PSUT LR LR
comp=Z,3µm,20.0s
SZCU Shurtz Canyon 77.69 45 *e*P P 10 11 25.9 +1.0
comp=Z,170nm,1.4s
LON Longmire 77.75 33 *e*P P 10 11 25.1 +0.3
comp=Z,40nm,0.9s
LON Longmire 77.75 33 *e*P P 10 11 25.1 +0.3
LON pmax pmax
comp=Z,40nm,0.9s
BRLK Bradley Lake 77.79 11 *e*P P 10 11 24.4 -0.3
comp=Z,135nm,1.2s
BRLK LR LR
comp=Z,3µm,21.0s
WUAZ Wupatki 77.81 47 *e*P P 10 11 26.2 +0.7
comp=Z,53nm,1.0s
WUAZ LR LR
comp=Z,2µm,20.0s
WUAZ Wupatki 77.81 47 P P 10 11 26.6 +1.1
baz=240
LEM Lembang 77.86 266 P P 10 11 25.9 -0.3
comp=Z,150nm,0.7s,baz=37,slow=6.2,SNR=27
LEM Lembang 77.86 266 P P 10 11 26.0 -0.3
LEM pmax pmax
comp=Z,150nm,0.7s
D05A Enumclaw 77.94 33 *e*P P 10 11 26.4 +0.7
comp=Z,542nm,1.5s
ELK Elko 77.98 41 *e*P P 10 11 26.5 +0.1
comp=Z,56nm,1.0s
ELK LR LR
comp=Z,3µm,20.0s
ELK Elko 77.98 41 *e*P P 10 11 26.5 +0.1
ELK pmax pmax
comp=Z,56nm,1.0s
ELK MLR MLR
comp=Z,3µm,20.0s
QZH Quanzhou 78.08 300⇑ *i*P P 10 11 33.8 +6.8
QZH S **S** **10 21 26.3 +6.4**
QZH pmax pmax
comp=Z,580nm,3.5s
QZH LR LR
comp=N,660nm,15.8s
QZH LR LR
comp=E,890nm,16.8s
QZH LR LR
comp=Z,1µm,22.3s
RSO Redoubt South 78.11 10 *e*P P 10 11 25.7 -1.0
PGC Sidney 78.15 31 *e*P P 10 11 27.5 +0.7
comp=Z,94nm,0.9s
USA0B Ussuriysk Arra 78.16 323 *e*P P 10 11 27.4 +0.3
comp=Z,52nm,1.4s
USRK Ussuriysk Ar. 78.16 323 P P 10 11 27.6 +0.5
comp=Z,18nm,0.9s,baz=100,slow=3.1,SNR=31
USRK LR LR 10 39 35.2
comp=Z,2µm,21.6s,baz=119,slow=31
HPIG 78.21 57 *e*P P 10 11 28.4 +0.4
comp=Z,33nm,1.0s
HPIG LR LR
comp=Z,2µm,21.0s
F07A Phinny Hill Vi 78.23 35 *e*P P 10 11 28.0 +0.6
comp=Z,68nm,0.9s
F07A LR LR
comp=Z,3µm,20.0s
X18A Snowflake 78.35 49 *e*P P 10 11 29.2 +0.6
comp=Z,35nm,0.9s
X18A LR LR
comp=Z,1µm,18.0s
SEW Seward 78.38 12 *e*P P 10 11 28.0 +0.1
comp=Z,54nm,1.0s
G08A Pilot Rock 78.39 36 *e*P P 10 11 28.7 +0.3
comp=Z,111nm,1.0s
G08A LR LR
comp=Z,2µm,21.0s
BBB Bella Bella 78.45 26 *e*P P 10 11 28.9 +0.5
comp=Z,135nm,1.5s
MTPU Mount Pierson 78.53 45 *e*P P 10 11 30.9 +1.2
comp=Z,86nm,0.9s
MTPU LR LR
comp=Z,3µm,20.0s
A04D Lummi Island 78.57 31 P P 10 11 30.2 +1.1
baz=229,SNR=14
B05A Bryant 78.58 32 P P 10 11 30.0 +0.7
baz=230,SNR=35
SSE Sheshan 78.64 307 PFAKE 10 11 40.0 +10
SSE LR LR
comp=Z,1µm,22.0s
E07A Sunnyside 78.68 34 *e*P P 10 11 30.5 +0.6
comp=Z,118nm,1.0s
E07A LR LR
comp=Z,2µm,21.0s
LTY Liberty 78.68 33 *e*P P 10 11 29.6 -0.3
comp=Z,57nm,1.1s
HAWA Hanford 78.75 35 *e*P P 10 11 30.7 +0.4
comp=Z,88nm,0.9s
HAWA LR LR
comp=Z,2µm,20.0s
DBJI Dramaga 78.76 266 P P 10 11 31.5 +0.4
MSU Marysvale 78.78 44 *e*P P 10 11 32.3 +1.4
MSU Marysvale 78.78 44 *e*P P 10 11 32.3 +1.4
W18A Petrified Fore 78.78 48 *e*P P 10 11 31.5 +0.5
comp=Z,32nm,0.9s
W18A LR LR
comp=Z,2µm,20.0s
W18A Petrified Fore 78.78 48 P P 10 11 31.6 +0.7
baz=241
CRAG Craig 78.95 22 *e*P P 10 11 31.4 +0.3
comp=Z,362nm,2.0s
C06D Leavenworth 78.98 33 P P 10 11 31.6 +0.1

baz=231,SNR=8.9
121A Cookes Peak, D 79.01 51 P P 10 11 33.5 +1.3
baz=243,SNR=26
B06A Marblemount 79.06 32 eP P 10 11 32.1 +0.3
B06A comp=Z,61nm,1.2s LR LR
comp=Z,2µm,20.0s
E08A Dider Farm, El 79.07 35 eP P 10 11 32.1 +0.1
E08A comp=Z,359nm,1.8s LR LR
comp=Z,3µm,21.0s
BMO Blue Mountains 79.07 37 eP P 10 11 32.3 +0.1
comp=Z,73nm,1.0s
BMO Blue Mountains 79.07 37 eP P 10 11 32.3 +0.1
BMO pmax pmax
comp=Z,73nm,1.0s
ZAIG Zacatecas 79.11 62 eP P 10 11 33.3 +0.1
comp=Z,21nm,0.9s
ZAIG LR LR
comp=Z,3µm,22.0s
MOIG Morelia 79.14 66 PFAKE 10 11 50.0 +17
MOIG LR LR
comp=Z,4µm,19.0s
DUG Dugway, Tooele 79.24 43 eP P 10 11 33.5 +0.2
comp=Z,54nm,1.0s
DUG LR LR
comp=Z,2µm,20.0s
DUG Dugway, Tooele 79.24 43 eP P 10 11 33.5 +0.2
DUG pmax pmax
comp=Z,54nm,1.0s
DUG MLR MLR
comp=Z,2µm,20.0s
DUG Dugway, Tooele 79.24 43 P P 10 11 33.8 +0.5
baz=238
RC01 Rabbit Creek A 79.24 11 eP P 10 11 32.5 -0.1
comp=Z,112nm,1.2s
RC01 LR LR
comp=Z,2µm,20.0s
SUA Susitna One 79.40 11 eP P 10 11 33.0 -0.6
comp=Z,67nm,0.9s
SUA LR LR
comp=Z,4µm,20.0s
BGU Big Grassy Mou 79.48 42 eP P 10 11 34.8 +0.2
comp=Z,55nm,1.2s
BGU LR LR
comp=Z,3µm,20.0s
GLI Glacier Island 79.57 13 eP P 10 11 33.9 -0.6
comp=Z,100nm,0.9s
GLI LR LR
comp=Z,3µm,21.0s
E09A Wood Farm, Sta 79.58 35 eP P 10 11 34.5 -0.3
comp=Z,78nm,1.0s
E09A LR LR
comp=Z,2µm,19.0s
NLU North Lily Min 79.59 43 eP P 10 11 35.7 +0.4
comp=Z,38nm,1.2s
NKL Nikolayevsk 79.66 334 eP P 10 11 33.0 -2.0
NKL e 10 21 37.0
NKL pmax pmax
comp=Z,220nm,1.8s
NKL pmax pmax
comp=Z,1µm,5.0s
Q16A Castle Valley 79.66 44 eP P 10 11 36.6 +0.9
comp=Z,61nm,1.0s
Q16A LR LR
comp=Z,4µm,20.0s
GAMB Gambell 79.70 1 eP P 10 11 35.4 +0.4
comp=Z,104nm,1.2s
GAMB LR LR
comp=Z,1µm,21.0s
HMT Hamilton 79.72 14 eP P 10 11 35.5 +0.3
comp=Z,107nm,1.2s
HMT LR LR
comp=Z,4µm,19.0s
F10A Beach Ranch, E 79.78 36 eP P 10 11 35.9 -0.2
comp=Z,101nm,0.9s
F10A LR LR
comp=Z,2µm,20.0s
KNK Knik Glacier 79.78 12 eP P 10 11 35.2 -0.4
comp=Z,66nm,0.9s
KNK LR LR
comp=Z,2µm,20.0s
MDJ Mudanjiang 79.80 322 P P 10 11 36.5 +0.4
MDJ S S 10 21 43.0 +5.5
MDJ pmax pmax
comp=Z,30nm,0.9s
MDJ LR LR
comp=Z,1µm,17.4s
MDJ LR LR
comp=Z,2µm,20.9s
MDJ LR LR
comp=Z,3µm,21.6s
MDJ Mudanjiang 79.80 322 eP P 10 11 36.5 +0.4
comp=Z,18nm,0.8s
MDJ LR LR
comp=Z,2µm,21.0s
PMR Palmer 79.82 11 eP P 10 11 35.4 -0.3
comp=Z,134nm,1.4s
PMR LR LR
comp=Z,2µm,20.0s
PMR Palmer 79.82 11 eP P 10 11 35.4 -0.3
PMR pmax pmax
comp=Z,134nm,1.4s
PMR MLR MLR
comp=Z,2µm,20.0s
TMUT Trail Mountain 79.83 44 eP P 10 11 37.5 +0.8
comp=Z,122nm,1.0s
TMUT LR LR
comp=Z,3µm,20.0s
MPU Maple Canyon 79.92 43 eP P 10 11 37.4 +0.3
comp=Z,44nm,1.1s
MPU LR LR
comp=Z,3µm,18.0s
GRNR Gornyy 79.95 330 eP P 10 11 37.0 +0.3
GRNR pmax pmax
comp=Z,28nm,1.1s
WRAK Wrangell Islan 79.96 22 eP P 10 11 37.0 +0.4
comp=Z,57nm,0.9s
GHO Glory Hole Cre 80.02 11 eP P 10 11 36.4 -0.6
comp=Z,82nm,0.8s
GHO LR LR
comp=Z,1µm,20.0s
HLID Hailey 80.05 39 eP P 10 11 38.2 +0.5
comp=Z,69nm,0.9s
HLID Hailey 80.05 39 P P 10 11 38.6 +0.9
baz=236
SPUT South Promonto 80.06 42 eP P 10 11 38.2 +0.5
comp=Z,64nm,1.2s
SPUT LR LR
comp=Z,3µm,19.0s
B08A Colville Reser 80.07 33 eP P 10 11 36.7 -0.8
comp=Z,60nm,0.9s
DIV Divide 80.08 13 eP P 10 11 36.8 -0.4
comp=Z,100nm,0.9s
DIV LR LR
comp=Z,4µm,22.0s
HVU Hansel Valley 80.10 41 eP P 10 11 37.9 -0.1
comp=Z,53nm,0.8s
HVU LR LR
comp=Z,3µm,20.0s
JRQG Juriquilla Cam 80.17 65 eP P 10 11 39.6 +0.8
comp=Z,57nm,0.9s
JRQG LR LR
comp=Z,5µm,21.0s
SML Sawmill 80.17 12 eP P 10 11 37.3 -0.4
comp=Z,76nm,1.3s
SML LR LR
comp=Z,2µm,21.0s
SML Sawmill 80.17 12 eP P 10 11 37.3 -0.4
SML pmax pmax
comp=Z,76nm,1.3s
SML MLR MLR
comp=Z,2µm,21.0s
CTU Camp Tracy 80.19 43 eP P 10 11 38.1 -0.4
comp=Z,38nm,1.0s
CTU LR LR
comp=Z,2µm,20.0s
SRU San Rafael Swe 80.20 44 eP P 10 11 38.8 +0.3
comp=Z,113nm,1.2s
SRU LR LR
comp=Z,3µm,20.0s
BMRM Bremner River 80.20 14 eP P 10 11 37.6 -0.3
comp=Z,186nm,1.2s
BMRM LR LR
comp=Z,2µm,20.0s
LLLB Lillooet 80.21 30 eP P 10 11 38.1 0.0
comp=Z,61nm,0.9s
LLLB LR LR
comp=Z,2µm,21.0s
P17A Butcher Ranch, 80.23 44 eP P 10 11 39.4 +0.6
comp=Z,101nm,1.1s
P17A LR LR
comp=Z,3µm,20.0s
C09A Chrisman Ranch 80.29 34 eP P 10 11 39.0 +0.3
comp=Z,517nm,2.0s
C09A LR LR
comp=Z,2µm,18.0s
JLU Jordanelle 80.34 43 eP P 10 11 39.6 +0.3
comp=Z,49nm,1.0s
JLU LR LR
comp=Z,3µm,20.0s
LAZ Ladron 80.34 50 eP P 10 11 40.5 +1.0
Y22D IRIS PASSCAL I 80.35 50 PFAKE 10 11 50.0 +11
Y22D LR LR
comp=Z,1µm,18.0s
Y22D IRIS PASSCAL I 80.35 50 P P 10 11 40.9 +1.5
baz=243
LENM Lemitar 80.35 50 eP P 10 11 40.3 +0.8
KLU Klutina 80.38 13 eP P 10 11 37.7 -1.2
comp=Z,84nm,1.2s
KLU LR LR
comp=Z,3µm,20.0s
SCM Sheep Creek Mo 80.39 12 eP P 10 11 38.8 -0.1
comp=Z,91nm,0.8s
SCM LR LR
comp=Z,2µm,21.0s
SCM Sheep Creek Mo 80.39 12 eP P 10 11 38.8 -0.1
SCM pmax pmax
comp=Z,91nm,0.8s
SCM MLR MLR
comp=Z,2µm,21.0s
MNTX Cornudas Mount 80.46 53 eP P 10 11 40.1 +0.1
comp=Z,45nm,0.9s
MNTX LR LR
comp=Z,2µm,20.0s
MNTX Cornudas Mount 80.46 53 P P 10 11 40.8 +0.9
baz=244,SNR=65
PPLA Purkeypile 80.50 10 eP P 10 11 37.4 -2.2
comp=Z,40nm,1.0s
PPLA LR LR
comp=Z,3µm,21.0s
PCA Pinnacle 80.51 16 PFAKE 10 11 50.0 +10
PCA LR LR
comp=Z,4µm,20.0s
PPBI Pangkal Pinang 80.52 270 P P 10 11 41.6 +1.0
BNM Barren Site 80.60 50 eP P 10 11 42.0 +1.1
TCUT Toone Canyon 80.63 42 eP P 10 11 41.2 +0.3
comp=Z,185nm,1.0s
TCUT LR LR
comp=Z,4µm,21.0s
PV05 Paradox Valley 80.66 46 eP P 10 11 42.3 +1.1
MVCO Mesa Verde 80.66 47 eP P 10 11 41.2 +0.1
comp=Z,20nm,0.8s
MVCO LR LR
comp=Z,2µm,19.0s
MVCO Mesa Verde 80.66 47 P P 10 11 41.8 +0.6
baz=242,SNR=15
LPM Los Pinos Moun 80.67 50 eP P 10 11 42.1 +0.9
ANM Nome 80.70 3 eP P 10 11 40.0 -0.4
comp=Z,46nm,1.1s
ANM LR LR
comp=Z,2µm,20.0s
ANM Nome 80.70 3 eP P 10 11 40.0 -0.4
ANM pmax pmax
comp=Z,46nm,1.1s
ANM MLR MLR
comp=Z,2µm,20.0s
JIS Juneau Island 80.73 20 eP P 10 11 41.3 +0.6
comp=Z,198nm,1.9s
HWUT Hardware Ranch 80.78 42 eP P 10 11 41.2 -0.4
comp=Z,13nm,0.8s
HWUT LR LR
comp=Z,100nm,20.0s
UNM Universidad Na 80.79 67 PFAKE 10 11 50.0 +7.7
UNM LR LR
comp=Z,2µm,20.0s
LTX Lajitas 80.81 56 eP P 10 11 42.8 +0.9
TX31 Lajitas Ar. Si 80.81 56 eP P 10 11 42.8 +0.8
TXAR Lajitas Array 80.81 56 P P 10 11 42.8 +0.9
comp=Z,22nm,1.0s,baz=221,slow=6.6,SNR=124
TXAR PKKP **PKKPdf** 10 30 14.3 +2.6
comp=Z,0.5nm,0.9s,baz=114,slow=3.0,SNR=4.3
TXAR PKKPbc **PKKPbc** 10 30 22.8 +1.2
comp=Z,1.3nm,0.8s,baz=90,slow=2.7,SNR=11
TXAR PKPPKP **P'P'df** 10 38 25.8 +1.7
comp=Z,0.4nm,0.8s,baz=93,slow=5.5,SNR=4.0
TXAR LR LR 10 40 51.0
comp=Z,2µm,19.5s,baz=0.0,slow=31
PV09 Paradox Valley 80.84 46 eP P 10 11 42.6 +0.5
PV10 Paradox Valley 80.85 46 eP P 10 11 42.7 +0.5
NJ2 Nanjing 80.85 307 eP P 10 11 42.0 0.0
NJ2 S S 10 21 52.0 +3.0
NJ2 pmax pmax
comp=Z,23nm,0.8s
NJ2 pmax pmax
comp=Z,750nm,5.7s
NJ2 LR LR
comp=Z,860nm,20.6s
NJ2 LR LR
comp=Z,790nm,20.6s
NJ2 LR LR
comp=Z,1µm,22.8s
PV19 Morning Glory 80.85 46 eP P 10 11 42.9 +0.7
comp=Z,87nm,1.0s
PV19 LR LR
comp=Z,2µm,20.0s
PV17 East Wray Mesa 80.85 46 eP P 10 11 42.5 +0.4
comp=Z,204nm,1.5s
PV14 Lion Creek, Pa 80.86 46 eP P 10 11 42.6 +0.4
comp=Z,93nm,1.0s
PV14 LR LR
comp=Z,2µm,20.0s
PV20 West Nyswonger 80.88 46 eP P 10 11 43.0 +0.7
comp=Z,72nm,0.9s
PV20 LR LR
comp=Z,2µm,21.0s
PV13 Radium Mtn., P 80.89 46 eP P 10 11 42.6 +0.2
comp=Z,78nm,1.1s
PV16 Nyswonger Mesa 80.90 46 eP P 10 11 43.1 +0.7
comp=Z,133nm,1.4s
PV16 LR LR
comp=Z,2µm,20.0s
PV23 Carpenter Ridg 80.90 46 eP P 10 11 42.5 0.0
comp=Z,101nm,0.8s
PV03 Paradox Valley 80.92 46 eP P 10 11 42.9 +0.4
PV11 David Mesa, Pa 80.92 46 eP P 10 11 43.2 +0.7
comp=Z,81nm,0.9s
PV02 Paradox Valley 80.97 46 eP P 10 11 43.0 +0.1
comp=Z,203nm,1.6s
PV21 Cone Mtn., Par 80.98 46 eP P 10 11 43.6 +0.7
comp=Z,83nm,0.9s
MA2 Magadan 80.98 342 eP P 10 11 41.5 -0.6
comp=Z,64nm,1.1s
MA2 LR LR
comp=Z,1µm,22.0s
MA2 Magadan 80.98 342 *d* iP P 10 11 41.2 -0.8
MA2 pmax pmax
comp=Z,164nm,2.5s
PV12 Saucer Basin, 80.98 46 eP P 10 11 43.1 +0.3
comp=Z,294nm,1.5s
PV12 LR LR
comp=Z,3µm,20.0s
CAST Castle Rocks 81.01 9 eP P 10 11 40.0 -2.2
comp=Z,30nm,1.0s
CAST LR LR
comp=Z,2µm,20.0s
PV01 Paradox Valley 81.05 46 eP P 10 11 43.6 +0.4
ANMO Albuquerque 81.08 50 eP P 10 11 44.0 +0.6
comp=Z,57nm,1.1s
ANMO LR LR
comp=Z,2µm,20.0s
ANMO Albuquerque 81.08 50 *d* iP P 10 11 44.2 +0.8
ANMO pmax pmax
comp=Z,94nm,1.7s
ANMO Albuquerque 81.08 50 P P 10 11 44.4 +1.0
baz=243
NEW Newport 81.19 34 eP P 10 11 43.0 -0.5
comp=Z,37nm,1.0s
NEW LR LR
comp=Z,2µm,19.0s
NEW Newport 81.19 34 eP P 10 11 43.0 -0.5
NEW pmax pmax
comp=Z,37nm,1.0s
NEW MLR MLR
comp=Z,2µm,19.0s
NEW Newport 81.19 34 P P 10 11 43.4 -0.1
baz=234,SNR=25
KLR Kul'dur 81.31 327 PKKPbc PKKPbc 10 30 20.9 -0.4
comp=Z,0.4nm,0.6s,baz=330,slow=22,SNR=4.2
KLR Kul'dur 81.31 327 *d* iP P 10 11 43.7 -0.3
TRF Thorofare Moun 81.33 10 eP P 10 11 43.1 -1.0
comp=Z,100nm,1.1s
TRF LR LR
comp=Z,5µm,21.0s
HARP HAARP 81.36 13 eP P 10 11 43.8 -0.2
comp=Z,93nm,1.0s
HARP LR LR
comp=Z,3µm,21.0s
SKAG Skagway 81.38 18 eP P 10 11 44.6 +0.4
comp=Z,102nm,1.1s
SKAG LR LR
comp=Z,2µm,20.0s
GDL2 Guadalupe Moun 81.46 53 eP P 10 11 47.5 +2.2
DHY Denali Highway 81.51 12 eP P 10 11 43.9 -1.1
comp=Z,50nm,1.0s
DHY LR LR
comp=Z,1µm,20.0s
RND Reindeer 81.54 11 eP P 10 11 44.7 -0.3
comp=Z,119nm,1.0s
RND LR LR
comp=Z,4µm,21.0s
RND Reindeer 81.54 11 eP P 10 11 44.7 -0.3
RND pmax pmax
comp=Z,119nm,1.0s
RND MLR MLR
comp=Z,4µm,21.0s
AHID Auburn Hatcher 81.67 41 eP P 10 11 46.6 +0.2
comp=Z,74nm,1.2s
AHID LR LR
comp=Z,2µm,19.0s
MCMT McKenzie Canyo 81.68 39 eP P 10 11 47.0 +0.5
GZH Guangzhou 81.79 297 P P 10 11 47.3 +0.1
GZH S S 10 21 58.8 -0.4
GZH SKS SKSac 10 22 03.0 -3.0
GZH SS SS 10 27 16.5 -1.4
GZH LR LR
comp=Z,770nm,17.8s
GZH LR LR
comp=Z,1µm,17.5s
PAX Paxson 81.80 12 eP P 10 11 45.4 -1.0
comp=Z,32nm,1.0s
PAX LR LR
comp=Z,2µm,20.0s
PAX Paxson 81.80 12 eP P 10 11 45.4 -1.0
PAX pmax pmax
comp=Z,32nm,1.0s
PAX MLR MLR
comp=Z,2µm,20.0s
BPAW Bear Paw Mtn. 81.82 10 eP P 10 11 44.7 -1.7
comp=Z,33nm,1.1s
BPAW LR LR
comp=Z,2µm,20.0s
MCK McKinley 81.83 11 eP P 10 11 46.1 -0.4
comp=Z,137nm,0.9s
MCK LR LR
comp=Z,4µm,21.0s
MCK McKinley 81.83 11 eP P 10 11 46.1 -0.4
MCK pmax pmax
comp=Z,137nm,0.9s
MCK MLR MLR
comp=Z,4µm,21.0s
CN2 Changchun 81.85 320 eP P 10 11 47.0 0.0
CN2 eSP pP 10 11 54.0 -0.4
CN2 eS S 10 21 59.5 +0.5
CN2 eSS SS 10 27 21.5 +3.5
CN2 pmax pmax
comp=Z,50nm,0.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,720nm,22.0s
CN2 LR LR
comp=Z,1µm,22.0s
CN2 LR LR
comp=Z,1µm,22.0s
CLNB Carlsbad 81.86 53 eP P 10 11 48.4 +0.9
HYT Haines Junctio 81.86 17 eP P 10 11 47.4 +0.6
comp=Z,107nm,1.1s
HYT LR LR
comp=Z,3µm,20.0s
DL2 Dalian 81.92 314 P P 10 11 47.8 +0.4
DL2 S S 10 22 03.5 +3.7
DL2 pmax pmax
comp=Z,69nm,1.0s
DL2 pmax pmax
comp=Z,640nm,10.0s
DL2 LR LR
comp=Z,620nm,17.7s
DL2 LR LR
comp=Z,740nm,20.2s
DL2 LR LR
comp=Z,1µm,23.3s
SNY Shenyang 82.03 318 ⇓P P 10 11 48.3 +0.3
SNY S S 10 22 01.3 +0.5
SNY pmax pmax
comp=Z,52nm,0.7s
SNY pmax pmax
comp=Z,640nm,5.4s
SNY LR LR
comp=Z,770nm,21.6s
SNY LR LR
comp=Z,750nm,25.0s
SNY LR LR
comp=Z,1µm,24.5s
S22A 4UR Ranch, Cre 82.09 47 eP P 10 11 50.0 +1.2
comp=Z,120nm,1.0s
S22A LR LR
comp=Z,2µm,21.0s
S22A 4UR Ranch, Cre 82.09 47 P P 10 11 50.0 +1.2
baz=243,SNR=146
DLMT Dillon 82.12 38 eP P 10 11 48.6 0.0
comp=Z,267nm,1.8s
DLMT LR LR
comp=Z,2µm,20.0s
MSO Missoula 82.13 37 eP P 10 11 48.3 -0.2
comp=Z,184nm,1.5s
MSO LR LR
comp=Z,2µm,20.0s
MSO Missoula 82.13 37 P P 10 11 48.4 -0.2
baz=236,SNR=50
REDW Red Top Meadow 82.14 41 eP P 10 11 49.2 +0.3
comp=Z,256nm,1.6s
BWN Browne 82.14 10 PFAKE 10 12 00.0 +12
BWN LR LR
comp=Z,5µm,21.0s
TPAW Teton Pass 82.14 41 eP P 10 11 48.2 -0.7
comp=Z,64nm,0.9s
TPAW LR LR
comp=Z,2µm,21.0s
FXWY Fox Creek 82.17 40 eP P 10 11 49.4 +0.4
comp=Z,78nm,1.3s
CPRX Cap Rock 82.19 52 eP P 10 11 50.0 +0.8
O20A White River Ci 82.23 44 eP P 10 11 50.0 +0.6
comp=Z,72nm,1.1s
O20A LR LR
comp=Z,3µm,21.0s
O20A White River Ci 82.23 44 P P 10 11 50.0 +0.6
baz=241,SNR=34
SNOW Snow King Moun 82.25 41 eP P 10 11 49.9 +0.4
comp=Z,81nm,1.0s
DLBC Dease Lake 82.31 21 eP P 10 11 48.8 -0.4
comp=Z,223nm,1.9s
DLBC LR LR
comp=Z,2µm,19.0s
IMW Indian Meadow 82.36 40 eP P 10 11 50.5 +0.5
comp=Z,266nm,1.6s
MOOW Moose Ponds 82.40 40 eP P 10 11 50.5 +0.3
comp=Z,92nm,1.5s
LOHW Long Hollow 82.42 41 eP P 10 11 50.0 -0.3
comp=Z,73nm,1.3s
LOHW LR LR
comp=Z,1µm,18.0s
LRM Limekiln Ridge 82.45 38 eP P 10 11 50.7 +0.2
WHY Whitehorse 82.48 18 eP P 10 11 50.1 0.0
comp=Z,52nm,1.1s
WHY LR LR
comp=Z,3µm,22.0s
QLMT Earthquake Lak 82.54 39 eP P 10 11 51.7 +0.8
LNIG Linares 82.54 62 eP P 10 11 50.8 -0.3
comp=Z,44nm,0.9s
LNIG LR LR
comp=Z,3µm,20.0s

FLWY Flagg Ranch 82.60 40 *e*P P 10 11 51.9 +0.7
comp=Z,245nm,1.4s
RIDG Independ'e Rid 82.61 12 *e*P P 10 11 49.6 -1.0
comp=Z,68nm,1.0s
RIDG LR LR
comp=Z,3μm,21.0s
YPP Pitchstone Pla 82.63 40 *e*P P 10 11 51.6 +0.2
comp=Z,162nm,1.8s
YHB Horse Butte 82.64 39 *e*P P 10 11 52.4 +0.9
comp=Z,100nm,1.0s
SMCO Snowmass 82.65 46 *e*P P 10 11 52.4 +0.6
comp=Z,234nm,1.4s
BW06 Boulder Array 82.65 42 *e*P P 10 11 51.1 -0.4
comp=Z,66nm,0.9s
BW06 LR LR
comp=Z,3μm,20.0s
BW06 Boulder Array 82.65 42 P P 10 11 51.6 +0.1
baz=240,SNR=94
PD31 Pinedale Array 82.65 42 *e*P P 10 11 51.0 -0.6
PDAR Pinedale Array 82.65 42 P P 10 11 51.5 0.0
comp=Z,43nm,0.8s,baz=215,slow=3.4,SNR=312
PDAR PKKPbc **PKKPbc** 10 30 17.4 -0.8
comp=Z,2.0nm,0.8s,baz=78,slow=3.6,SNR=14
PDAR PKPPKP **P'P'df** 10 38 23.1 +3.6
comp=Z,1.0nm,1.0s,baz=156,slow=1.5,SNR=4.5
PDAR LR LR 10 43 03.0
comp=Z,3μm,19.3s,baz=244,slow=32
WRH Wood River Hil 82.65 11 *e*P P 10 11 50.3 -0.4
comp=Z,148nm,1.0s
WRH LR LR
comp=Z,3μm,21.0s
DOT Dot Lake 82.69 13 *e*P P 10 11 50.8 -0.2
comp=Z,77nm,0.9s
DOT LR LR
comp=Z,2μm,20.0s
YFT Old Faithful 82.70 40 *e*P P 10 11 53.8 +1.9
comp=Z,56nm,1.0s
MLY Manley 82.73 9 *e*P P 10 11 50.3 -0.9
comp=Z,62nm,1.0s
MLY LR LR
comp=Z,1μm,21.0s
YMR Madison River 82.74 39 *e*P P 10 11 52.9 +0.9
comp=Z,93nm,1.0s
HDA Harding Lake 82.81 11 *e*P P 10 11 51.0 -0.5
comp=Z,78nm,0.8s
HDA LR LR
comp=Z,2μm,20.0s
HDA Harding Lake 82.81 11 P P 10 11 51.2 -0.4
baz=205
BOZ Bozeman (W) 82.82 38 *e*P P 10 11 52.4 +0.2
comp=Z,240nm,1.6s
BOZ LR LR
comp=Z,2μm,20.0s
BOZ Bozeman (W) 82.82 38 P P 10 11 53.0 +0.7
baz=238,SNR=94
H17A Grant Village 82.83 40 *e*P P 10 11 54.0 +1.5
comp=Z,49nm,0.8s
H17A Grant Village 82.83 40 P P 10 11 54.2 +1.7
baz=239,SNR=49
YNR Norris Junctio 82.94 40 *e*P P 10 11 54.1 +1.1
comp=Z,120nm,1.4s
SCRK Sand Creek 83.00 12 *e*P P 10 11 52.6 -0.1
comp=Z,56nm,0.9s
SCRK LR LR
comp=Z,3μm,21.0s
SDCO Great Sand Dun 83.03 48 *e*P P 10 11 54.1 +0.4
comp=Z,52nm,1.0s
SDCO LR LR
comp=Z,2μm,19.0s
SDCO Great Sand Dun 83.03 48 P P 10 11 54.3 +0.6
baz=244,SNR=54
LKWY Lake 83.03 40 *e*P P 10 11 55.4 +1.9
comp=Z,103nm,1.0s
TCOL CIGO, UAF Yank 83.06 11 P P 10 11 52.4 -0.4
baz=204
COLA College 83.06 11 *e*P P 10 11 52.3 -0.5
comp=Z,134nm,0.8s
COLA LR LR
comp=Z,3μm,22.0s
COLA College 83.06 11 *d i*P P 10 11 52.1 -0.7
COLA pmax pmax
comp=Z,128nm,1.0s
COLA College 83.06 11 *e*P P 10 11 52.2 -0.6
MDM Murphy Dome 83.08 10 *e*P P 10 11 52.2 -0.8
comp=Z,91nm,1.0s
MDM LR LR
comp=Z,4μm,21.0s
IL1 Eielson Array 83.14 11 *e*P P 10 11 52.0 -1.3
ILAR Eielson Array 83.14 11 P P 10 11 52.6 -0.6
comp=Z,21nm,0.6s,baz=230,slow=6.3,SNR=392
ILAR PKPPKP **P'P'df** 10 38 18.5 +2.4
comp=Z,0.7nm,1.0s,baz=16,slow=6.1,SNR=4.1
ILAR LR LR 10 42 12.6
comp=Z,921nm,21.2s,baz=214,slow=31
ILB Eielson Array 83.14 11 *e*P P 10 11 52.8 -0.5
IM3 Indian Mountai 83.19 8 *e*P P 10 11 53.2 -0.3
HRY Holter Researc 83.29 37 *e*P P 10 11 54.8 +0.2
SEY Seymchan 83.33 345 ||*i*P P 10 11 54.0 -0.3
POKR Poker Plat Res 83.36 11 P P 10 11 54.3 -0.2
baz=205
LVIG Laguna Verde 83.37 67 PFAKE 10 12 10.0 +15
LVIG LR LR
comp=Z,2μm,21.0s
WALA Waterton Lakes 83.39 35 *e*P P 10 11 54.9 -0.2
comp=Z,351nm,1.9s
MSTX Muleshoe 83.41 52 *e*P P 10 11 55.7 +0.2
comp=Z,206nm,1.3s
MSTX LR LR
comp=Z,3μm,19.0s
MSTX Muleshoe 83.41 52 P P 10 11 56.0 +0.5
baz=246
QIZ Qiongzhong 83.45 292 P P 10 11 55.8 -0.1
QIZ S S 10 22 21.0 +4.7
QIZ pmax pmax
comp=Z,410nm,10.0s
QIZ LR LR
comp=Z,630nm,21.1s
QIZ LR LR
comp=Z,660nm,21.6s
QIZ LR LR
comp=Z,1μm,24.5s
QIZ Qiongzhong 83.45 292 PFAKE 10 12 10.0 +14
QIZ LR LR
comp=Z,1μm,22.0s
T25A Trinidad 83.54 49 *e*P P 10 11 56.4 +0.1
comp=Z,63nm,1.1s
T25A Trinidad 83.54 49 P P 10 11 56.7 +0.4
baz=244,SNR=15
RWWY Rawlins 83.66 43 *e*P P 10 11 56.7 -0.1
comp=Z,180nm,1.0s
RWWY LR LR
comp=Z,4μm,19.0s
WHN Wuhan 83.75 304 P P 10 11 56.8 -0.4
WHN S S 10 22 11.5 -7.4
WHN LR LR
comp=Z,3μm,21.2s
WHN LR LR
comp=Z,4μm,24.1s
WHN LR LR
comp=Z,3μm,26.9s
MYKOM Kota Tinggi 83.81 274 *e*P P 10 11 57.9 0.0
comp=Z,23nm,0.8s
Q24A Divide 83.81 47 *e*P P 10 11 58.2 +0.4
comp=Z,205nm,1.4s
Q24A LR LR
comp=Z,2μm,20.0s
Q24A Divide 83.81 47 P P 10 11 58.5 +0.7
baz=244,SNR=34
ISCO Idaho Springs 83.87 46 *e*P P 10 11 58.2 +0.2
comp=Z,36nm,1.0s
ISCO LR LR
comp=Z,2μm,20.0s
ISCO Idaho Springs 83.87 46 *e*P P 10 11 58.2 +0.2
ISCO pmax pmax
comp=Z,36nm,1.0s
ISCO MLR MLR
comp=Z,2μm,20.0s
ISCO Idaho Springs 83.87 46 P P 10 11 58.5 +0.5
baz=243,SNR=45
TIA Tai'an 83.92 310 P P 10 11 58.0 +0.1
TIA S S 10 22 20.5 +0.2
TIA pmax pmax
comp=Z,19nm,1.0s
TIA pmax pmax
comp=Z,290nm,9.8s
TIA LR LR
comp=Z,380nm,21.1s
TIA LR LR
comp=Z,530nm,23.5s
TIA LR LR
comp=Z,860nm,23.7s
RLMT Red Lodge 84.01 40 *e*P P 10 11 59.1 +0.7
comp=Z,81nm,1.0s
RLMT Red Lodge 84.01 40 P P 10 11 59.3 +0.8
baz=240,SNR=72
PRP Porcupine Dome 84.07 11 *e*P P 10 11 58.1 -0.1
comp=Z,115nm,0.9s
PRP LR LR
comp=Z,2μm,19.0s
DAWY Dawson 84.10 14 *e*P P 10 11 57.6 -0.6
comp=Z,96nm,0.9s
DAWY LR LR
comp=Z,3μm,21.0s
GCMT Greycliff 84.10 39 *e*P P 10 11 59.5 +0.7
GO09 Cerro Castillo 84.12 142 PFAKE 10 12 10.0 +11
GO09 LR LR
comp=Z,2μm,19.0s
N23A Red Feather La 84.14 45 *e*P P 10 11 59.5 +0.2
comp=Z,90nm,1.0s
N23A LR LR
comp=Z,2μm,20.0s
N23A Red Feather La 84.14 45 P P 10 11 59.9 +0.6
baz=243,SNR=55
EGAK Eagle 84.30 13 *e*P P 10 11 59.3 0.0
comp=Z,76nm,1.0s
EGAK LR LR
comp=Z,3μm,21.0s
RDOG Red Dog Mine 84.32 4 PFAKE 10 12 10.0 +11
RDOG LR LR
comp=Z,1μm,20.0s
JCT Junction City 84.34 56 *e*P P 10 11 59.9 -0.4
comp=Z,21nm,0.9s
JCT LR LR
comp=Z,2μm,20.0s
JCT Junction City 84.34 56 *e*P P 10 11 59.9 -0.4
JCT pmax pmax
comp=Z,21nm,0.9s
JCT MLR MLR
comp=Z,2μm,20.0s
JCT Junction City 84.34 56 P P 10 12 00.1 -0.2
baz=248
KGM Kluang 84.38 274 P P 10 12 01.5 +0.6
K22A Casper 84.56 43 *e*P P 10 12 00.7 -0.5
comp=Z,110nm,1.3s
K22A LR LR
comp=Z,3μm,20.0s
K22A Casper 84.56 43 P P 10 12 01.4 +0.1
baz=242,SNR=35
AMTX Amarillo 84.61 52 *e*P P 10 12 01.5 -0.1
comp=Z,105nm,0.8s
AMTX LR LR
comp=Z,2μm,19.0s
AMTX Amarillo 84.61 52 P P 10 12 01.8 +0.2
baz=246
PHWY Pilot Hill 84.65 44 *e*P P 10 12 01.8 -0.1
comp=Z,50nm,1.2s
PHWY LR LR
comp=Z,1μm,20.0s
COLD Coldfoot 84.86 9 *e*P P 10 12 02.1 +0.1
comp=Z,49nm,1.3s
FYU Fort Yukon 85.06 11 *e*P P 10 12 02.4 -0.6
comp=Z,48nm,1.2s
EGMT Eagleton 85.17 37 *e*P P 10 12 04.0 -0.1
comp=Z,71nm,1.1s
EGMT LR LR
comp=Z,2μm,20.0s
EGMT Eagleton 85.17 37 P P 10 12 04.2 +0.1
baz=240
ABTX Abilene, Hawle 85.28 54 *e*P P 10 12 05.2 +0.2
comp=Z,153nm,1.0s
ABTX LR LR
comp=Z,3μm,20.0s
ABTX Abilene, Hawle 85.28 54 P P 10 12 05.2 +0.2
baz=248
BILL Bilibino 85.31 352 *e*P P 10 12 03.8 -0.4
comp=Z,116nm,1.1s
BILL LR LR
comp=Z,4μm,22.0s
BILL Bilibino 85.31 352 *d i*P P 10 12 04.0 -0.2
BILL pmax pmax
comp=Z,140nm,1.3s
KSCO Kaye Shedlock' 85.61 47 *e*P P 10 12 06.5 -0.1
comp=Z,77nm,1.3s
KSCO Kaye Shedlock' 85.61 47 P P 10 12 06.5 -0.1
baz=245,SNR=6.1
CCIG Comitan 86.12 72 *e*P P 10 12 10.9 +1.3
comp=Z,37nm,0.9s
CCIG LR LR
comp=Z,3μm,20.0s
BJT Baijiatuau 86.19 313 *e*P P 10 12 09.2 -0.1
comp=Z,72nm,1.1s
BJT LR LR
comp=Z,1μm,22.0s
BJT Baijiatuau 86.19 313 *e*P P 10 12 09.2 -0.1
BJT pmax pmax
comp=Z,72nm,1.1s
BJT MLR MLR
comp=Z,1μm,22.0s
BJI Beijing 86.20 313 P P 10 12 09.5 +0.3
BJI S S 10 22 47.0 +4.3
BJI pmax pmax
comp=Z,42nm,1.1s
BJI LR LR
comp=Z,540nm,19.7s
BJI LR LR
comp=Z,670nm,21.1s
BJI LR LR
comp=Z,930nm,25.7s
ZEA Zeya 86.22 329 *e*P P 10 12 08.8 -0.3
ZEA pmax pmax
comp=Z,57nm,1.2s
435B Jarrell 86.23 57 *e*P P 10 12 10.2 +0.5
comp=Z,53nm,1.0s
435B LR LR
comp=Z,2μm,20.0s
435B Jarrell 86.23 57 P P 10 12 10.2 +0.5
baz=249
FRIM Kepong 86.35 274 P P 10 12 11.1 +0.5
LAO LASA Array 86.62 39 *e*P P 10 12 11.8 +0.5
comp=Z,64nm,1.0s
LAO LASA Array 86.62 39 P P 10 12 12.0 +0.7
baz=242
WMOK Wichita Mounta 86.75 53 *e*P P 10 12 11.8 -0.3
comp=Z,54nm,1.6s
WMOK LR LR
comp=Z,2μm,20.0s
WMOK Wichita Mounta 86.75 53 P P 10 12 11.6 -0.6
baz=248
WHTX Lake Whitney, 86.77 56 *e*P P 10 12 12.3 +0.1
comp=Z,362nm,1.9s
WHTX LR LR
comp=Z,2μm,19.0s
WHTX Lake Whitney, 86.77 56 P P 10 12 12.5 +0.3
baz=249
OGNE Ogallala 86.83 46 *e*P P 10 12 12.1 -0.4
comp=Z,24nm,1.1s
OGNE LR LR
comp=Z,2μm,20.0s
OGNE Ogallala 86.83 46 P P 10 12 12.6 +0.1
baz=246
RSSD Black Hills 86.84 42 *e*P P 10 12 11.7 -1.0
comp=Z,29nm,0.9s
RSSD LR LR
comp=Z,2μm,18.0s
RSSD Black Hills 86.84 42 *e*P P 10 12 11.7 -1.0
RSSD pmax pmax
comp=Z,29nm,0.9s
RSSD MLR MLR
comp=Z,2μm,18.0s
RSSD Black Hills 86.84 42 P P 10 12 12.0 -0.6
baz=244
MAW Mawson 87.15 199 P P 10 12 15.0 +1.6
comp=Z,62nm,0.7s,baz=130,slow=6.3,SNR=48
MAW LR LR 10 47 28.7
comp=Z,2μm,21.9s,baz=117,slow=33
MAW Mawson 87.15 199 P P 10 12 15.1 +1.6
baz=87,SNR=22
MAW Mawson 87.15 199 *e*P P 10 12 14.8 +1.3
comp=Z,15nm,0.8s
MAW Mawson 87.15 199 *e*P P 10 12 14.8 +1.3
MAW pmax pmax
comp=Z,15nm,0.8s
U32A Winter Ranch, 87.20 51 *e*P P 10 12 14.8 +0.4
comp=Z,44nm,0.8s
U32A LR LR
comp=Z,3μm,18.0s
IPM Ipoh 87.27 275 *e*P P 10 12 15.3 +0.1
comp=Z,31nm,0.9s
IPM LR LR
comp=Z,600nm,19.0s
IPM Ipoh 87.27 275 P P 10 12 15.8 +0.7
ENH Enshi 87.56 302 *e*P P 10 12 16.3 +0.1
comp=Z,57nm,0.8s
ENH LR LR
comp=Z,800nm,20.0s
CBKS Cedar Bluff 87.59 49 *e*P P 10 12 16.0 -0.2
comp=Z,38nm,0.9s
CBKS LR LR
comp=Z,1μm,18.0s
CBKS Cedar Bluff 87.59 49 *e*P P 10 12 16.0 -0.2
CBKS pmax pmax
comp=Z,38nm,0.9s
CBKS MLR MLR
comp=Z,1μm,18.0s
CBKS Cedar Bluff 87.59 49 P P 10 12 15.6 -0.6
baz=247
KULM Kulim 87.86 276 PFAKE 10 12 30.0 +12
KULM LR LR
comp=Z,700nm,20.0s
KULM Kulim 87.86 276 P P 10 12 18.8 +0.9
TIY Taiyuan 87.96 310 *e*P P 10 12 19.0 +1.0
TIY pP **pP** 10 12 23.8 -1.6
TIY S **S** 10 22 54.8 -5.2
TIY pmax pmax
comp=Z,94nm,0.6s
TIY pmax pmax
comp=Z,310nm,12.0s
TIY LR LR
comp=Z,320nm,8.6s
TIY LR LR
comp=Z,340nm,8.1s
TIY LR LR
comp=Z,1μm,22.8s
HIA Hailar 87.97 323 *e*P P 10 12 17.9 +0.2
comp=Z,26nm,0.9s
HIA LR LR
comp=Z,2μm,21.0s
HIA Hailar 87.97 323 *e*P P 10 12 17.9 +0.2
HIA pmax pmax
comp=Z,26nm,0.9s
HIA MLR MLR
comp=Z,2μm,21.0s
SKNT Sakolnakorn 88.09 288 P P 10 12 19.8 +0.8
SKLT Songkhla 88.41 278 P P 10 12 24.7 +4.2
GO06 Curarrehue 88.52 131 *e*P P 10 12 22.7 +1.9
comp=Z,31nm,1.1s
GO06 LR LR
comp=Z,1μm,20.0s
GYA Guiyang 88.65 298 ||*i*P P 10 12 22.3 +0.7
GYA SKS **SKSac** 10 22 43.0 -6.7
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,260nm,5.9s
GYA LR LR
comp=Z,380nm,15.3s
GYA LR LR
comp=Z,610nm,21.0s
GYA LR LR
comp=Z,650nm,20.1s
DGMT Dagmar 88.66 38 *e*P P 10 12 21.2 +0.3
comp=Z,101nm,1.0s
DGMT LR LR
comp=Z,3μm,20.0s
DGMT Dagmar 88.66 38 P P 10 12 21.4 +0.4
baz=244
PLCA Paso Flores 88.79 132 P P 10 12 24.0 +2.0
comp=Z,4.9nm,0.9s,baz=303,slow=3.0,SNR=9.1
PLCA PKKPbc **PKKPbc** 10 30 02.5 +0.1
comp=Z,4.8nm,0.9s,baz=168,slow=1.8,SNR=9.8
PLCA LR LR 10 43 19.4
comp=Z,2μm,20.7s,baz=286,slow=30
PLCA Paso Flores 88.79 132 *e*P P 10 12 23.6 +1.6
comp=Z,53nm,1.6s
PLCA PKKPbc **PKKPbc** 10 30 02.5 +0.1
PLCA Paso Flores 88.79 132 *e*P P 10 12 24.3 +2.3
PSI Prapat 88.82 273 P P 10 12 21.6 -1.1
comp=Z,29nm,1.0s,baz=180,slow=1.6,SNR=11
PSI Prapat 88.82 273 *e*P P 10 12 22.1 -0.6
comp=Z,52nm,1.3s
PSI LR LR
comp=Z,1μm,20.0s
NATX Nacogdoches 88.92 57 *e*P P 10 12 23.3 +0.8
comp=Z,316nm,1.8s
NATX LR LR
comp=Z,2μm,19.0s
NATX Nacogdoches 88.92 57 P P 10 12 23.4 +0.8
baz=250,SNR=11
INK Inuvik 88.95 14 *e*P P 10 12 21.1 -0.7
comp=Z,53nm,1.2s
INK LR LR
comp=Z,2μm,21.0s
INK Inuvik 88.95 14 *e*P P 10 12 21.1 -0.7
INK pmax pmax
comp=Z,53nm,1.2s
INK MLR MLR
comp=Z,2μm,21.0s
SRAK Srakaew 89.01 285 P P 10 12 22.6 -0.7
NONG Nongkai 89.18 289 P P 10 12 24.9 +0.8
XAN Xi'an 89.31 306 P P 10 12 24.5 +0.1
XAN sP sP 10 12 33.0 -1.5
XAN PP **PP** 10 15 51.0 -4.6
XAN SKS **SKSac** 10 22 49.8 -3.3
XAN S **S** 10 23 11.3 -1.6
XAN SS **SS** 10 29 11.0 +2.8
XAN pmax pmax
comp=Z,35nm,1.2s
XAN pmax pmax
comp=Z,440nm,12.7s
XAN LR LR
comp=Z,450nm,22.4s
XAN LR LR
comp=Z,890nm,22.7s
XAN LR LR
comp=Z,1μm,22.1s
XAN Xi'an 89.31 306 *e*P P 10 12 24.4 +0.1
comp=Z,40nm,1.0s
XAN LR LR
comp=Z,1μm,22.0s
XAN Xi'an 89.31 306 *e*P P 10 12 24.4 +0.1
XAN pmax pmax
comp=Z,40nm,1.0s
XAN MLR MLR
comp=Z,1μm,22.0s
X37A Clayton 89.32 54 *e*P P 10 12 24.4 0.0
comp=Z,16nm,1.0s
X37A LR LR
comp=Z,2μm,21.0s
TUL1 Leonard 89.45 52 *e*P P 10 12 25.0 0.0
comp=Z,21nm,1.0s
TUL1 LR LR
comp=Z,2μm,19.0s
TUL1 Leonard 89.45 52 P P 10 12 24.9 0.0
baz=250
TRTT Trang 89.48 278 P P 10 12 27.0 +1.4
CHAI Chaiyaphum 89.61 287 P P 10 12 27.1 +1.0
GSI Gunungsitoli 89.70 271 *e*P P 10 12 27.6 +1.0
comp=Z,64nm,0.8s
BGNE Belgrade 89.70 47 *e*P P 10 12 26.3 +0.2
comp=Z,50nm,1.0s
BGNE LR LR
comp=Z,2μm,20.0s
BGNE Belgrade 89.70 47 P P 10 12 25.7 -0.3
baz=248
GO05 Huala 89.71 126 PFAKE 10 12 40.0 +14
GO05 LR LR
comp=Z,2μm,22.0s
HHC Hu-ho-hao-te 89.75 313 *e*P P 10 12 27.0 +0.6
HHC sP pP 10 12 34.3 +0.4
HHC S **S** 10 23 14.0 -2.9
HHC sS ScS 10 23 22.0 +0.8
HHC pmax pmax
comp=Z,82nm,0.8s
HHC pmax pmax
comp=Z,520nm,6.2s
HHC LR LR
comp=Z,1μm,20.5s
HHC LR LR
comp=Z,2μm,20.9s
HHC LR LR
comp=Z,1μm,22.5s
PATY Pattaya 89.80 283 P P 10 12 30.9 +3.9

YAK **Yakutsk** 89.93 337 eP P 10 12 23.8 -2.7
YAK e*PP PcP 10 12 30.7 +2.9
YAK eS SKSac 10 22 50.1 -5.2
YAK e*SS S 10 23 19.2 +1.9
YAK pmax pmax
comp=Z,32nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=Z,148nm,3.6s
YAK pmax pmax
comp=E,172nm,3.5s
YAK smax smax
comp=N,53nm,3.3s
YAK smax smax
comp=E,151nm,3.7s
TGUH **Tegucigalpa,Un** 89.95 75 PFAKE 10 12 40.0 +12
TGUH LR LR
comp=Z,1μm,20.0s
KSU1 **Kansas State U** 89.96 49 eP P 10 12 27.1 -0.2
comp=Z,22nm,0.8s
KSU1 LR LR
comp=Z,2μm,21.0s
KSU1 **Kansas State U** 89.96 49 P P 10 12 27.1 -0.2
baz=249
KRAB **Krabi** 90.06 278 P P 10 12 30.6 +2.3
SUSD **Miller** 90.30 44 P P 10 12 28.0 -0.8
baz=248
ESTN **Estel** 90.52 77 PFAKE 10 12 40.0 +9.5
ESTN LR LR
comp=Z,1μm,20.0s
YKA **Yellowknife Ar** 90.69 23 P P 10 12 29.7 -0.3
comp=Z,16nm,0.9s,baz=234,slow=4.2,SNR=121
YKA PKKP PKKPdf 10 29 53.5 -2.4
comp=Z,1.0nm,0.6s,baz=41,slow=2.0,SNR=25
YKA PKPPKP P'P'df 10 38 01.3 -1.6
comp=Z,0.4nm,0.9s,baz=33,slow=2.9,SNR=5.1
YKA LR LR 10 47 28.4
comp=Z,169nm,19.5s,baz=244,slow=32
YKB5 **Yellowknife Ar** 90.69 23 eP P 10 12 29.3 -0.8
MIAR **Mount Ida** 90.70 54 eP P 10 12 30.9 +0.1
comp=Z,18nm,1.1s
MIAR LR LR
comp=Z,2μm,20.0s
MIAR **Mount Ida** 90.70 54 eP P 10 12 30.9 +0.1
MIAR pmax pmax
comp=Z,18nm,1.1s
MIAR MLR MLR
comp=Z,2μm,20.0s
MIAR **Mount Ida** 90.70 54 P P 10 12 31.1 +0.2
baz=251,SNR=5.6
YKW3 **Yellowknife Ar** 90.73 23 eP P 10 12 29.8 -0.5
comp=Z,37nm,1.1s
PBKT **Sadao Pong** 90.74 287 eP P 10 12 32.7 +1.4
PBKT **Sadao Pong** 90.74 287 P P 10 12 32.7 +1.4
W39A **Magazine** 90.75 54 eP P 10 12 31.2 +0.1
comp=Z,80nm,1.8s
W39A LR LR
comp=Z,3μm,20.0s
W39A **Magazine** 90.75 54 P P 10 12 31.1 +0.1
baz=251,SNR=5.4
BTO **Baotou** 90.76 312 eP P 10 12 32.3 +1.2
TEIG **Tepich** 90.80 69 PFAKE 10 12 40.0 +8.4
TEIG LR LR
comp=Z,1μm,20.0s
Z41A **Richland Creek** 90.89 56 eP P 10 12 32.2 +0.5
comp=Z,37nm,0.8s
Z41A LR LR
comp=Z,3μm,20.0s
Z41A **Richland Creek** 90.89 56 P P 10 12 32.3 +0.5
baz=251,SNR=7.6
PHET **Kaeng Krachan** 90.95 283 P P 10 12 34.6 +2.2
HHAR **Hobbs** 90.99 53 eP P 10 12 31.8 -0.3
comp=Z,6.4nm,0.8s
JTS **JuntasAbangare** 91.08 80 eP P 10 12 34.8 +1.7
comp=Z,122nm,1.3s
JTS LR LR
comp=Z,1μm,21.0s
JTS **JuntasAbangare** 91.08 80 d iP P 10 12 34.6 +1.6
ROC1 **El Roble** 91.11 125 eP P 10 12 34.7 +1.4
comp=Z,13nm,0.9s
MDND **Maddock** 91.19 40 PFAKE 10 12 40.0 +7.2
MDND LR LR
comp=Z,2μm,18.0s
MDND **Maddock** 91.19 40 P P 10 12 32.0 -0.9
baz=247
Y41A **Eaglette Beard** 91.24 55 P P 10 12 34.1 +0.7
baz=252,SNR=15
X40A **Basin Creek Fa** 91.26 55 eP P 10 12 33.9 +0.5
comp=Z,48nm,1.9s
PEL **Peldehue** 91.31 125 eP P 10 12 35.8 +1.9
comp=Z,33nm,0.9s
PEL **Peldehue** 91.31 125 eP P 10 12 35.8 +1.9
PEL pmax pmax
comp=Z,33nm,0.9s
X41A **Kaden, Bauxite** 91.51 55 P P 10 12 35.0 +0.4
baz=252,SNR=25
ECSD **EROS Data Cent** 91.61 45 eP P 10 12 34.0 -0.8
comp=Z,42nm,1.4s
ECSD LR LR
comp=Z,2μm,22.0s
ECSD **EROS Data Cent** 91.61 45 P P 10 12 33.9 -1.0
baz=249
KMI **Kunming** 91.61 296 P P 10 12 37.0 +1.4
KMI sP pP 10 12 41.5 -1.5
KMI SKS SKSac 10 23 07.8 +0.6
KMI S S 10 23 33.8 -1.0
KMI pmax pmax
comp=Z,35nm,1.0s
KMI pmax pmax
comp=Z,300nm,3.8s
KMI LR LR
comp=Z,450nm,16.0s
KMI LR LR
comp=Z,840nm,17.9s
KMI LR LR
comp=Z,1μm,19.8s
KMI **Kunming** 91.61 296 PFAKE 10 12 50.0 +14
KMI LR LR
comp=Z,1μm,20.0s
NANT **Nan** 91.61 289 P P 10 12 36.2 +0.8
UALR **University of** 91.73 54 eP P 10 12 35.7 +0.1
comp=Z,28nm,0.8s
HDC **Heredia** 91.79 80 eP P 10 12 39.3 +2.8
comp=Z,424nm,1.9s
HDC LR LR
comp=Z,1μm,19.0s
U40A **Yellville** 91.84 53 P P 10 12 35.6 -0.5
baz=251,SNR=12
UTHA **Uthaitani** 91.86 286 P P 10 12 38.0 +1.4
Y42A **Garnett, Star** 91.88 55 P P 10 12 37.1 +0.9
baz=252,SNR=8.0
SYO **Syowa Base** 91.90 191 ⇓ eP P 10 12 35.4 -0.4
SYO **Syowa Base** 91.90 191 ⇓ iP P 10 12 36.2 +0.4
SYO **Syowa Base** 91.90 191 ⇓ jP P 10 12 47.0 +11
CCAR **Cane Creek** 91.92 55 eP P 10 12 37.5 +1.0
comp=Z,39nm,0.9s
CCAR LR LR
comp=Z,3μm,20.0s
W41B **Gary Mavity, V** 91.93 54 eP P 10 12 37.1 +0.5
comp=Z,47nm,1.2s
W41B LR LR
comp=Z,3μm,20.0s
W41B **Gary Mavity, V** 91.93 54 P P 10 12 37.0 +0.5
baz=252,SNR=13
WHAR **Wooly Hollow** 91.94 54 eP P 10 12 36.9 +0.4
comp=Z,47nm,1.2s
WHAR LR LR
comp=Z,3μm,19.0s
VNA3 **Neumayer Olymp** 92.07 175 P P 10 12 38.1 +1.5
EFI **East Falkland** 92.11 146 PFAKE 10 12 50.0 +13
EFI LR LR
comp=Z,2μm,21.0s
SNAA **Sanae** 92.12 177 P P 10 12 38.1 +1.2
SNAA **Sanae** 92.12 177 P P 10 12 37.9 +1.0
comp=Z,24nm,1.0s,baz=205,slow=3.0,SNR=28
SNAA **Sanae** 92.12 177 eP P 10 12 37.6 +0.7
comp=Z,55nm,1.1s
SNAA **Sanae** 92.12 177 d iP P 10 12 37.6 +0.7
SNAA pmax pmax
comp=Z,2μm,1.0s
V41A **Mountainview** 92.20 53 P P 10 12 37.4 -0.4
baz=252,SNR=12
ESPN **Las Esperanzas** 92.21 78 PFAKE 10 12 50.0 +12
ESPN LR LR
comp=Z,2μm,19.0s
SUKH **Sukhothai** 92.22 287 P P 10 12 39.5 +1.3
X42A **Stuttgart** 92.23 55 P P 10 12 38.5 +0.6
baz=252
GO04 **Tololo Observa** 92.24 122 eP P 10 12 40.0 +1.5
comp=Z,39nm,1.1s
VBMS **Vicksburg** 92.40 57 eP P 10 12 40.4 +1.6
comp=Z,89nm,1.5s
VBMS **Vicksburg** 92.40 57 P P 10 12 40.0 +1.2
baz=252
CD2 **Chengdu** 92.45 301 ⇓ P P 10 12 39.3 +0.2
CD2 pP PcP 10 12 42.5 +2.7
CD2 PP PP 10 16 19.8 -0.8
CD2 SKS SKSac 10 23 12.5 +1.2
CD2 S ScS 10 23 43.3 -0.6
CD2 SS SS 10 29 55.5 +1.8
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,410nm,7.2s
CD2 LR LR
comp=Z,2μm,19.3s
CD2 LR LR
comp=Z,1μm,15.7s
CD2 LR LR
comp=Z,1μm,17.1s
W42A **Bald Knob** 92.53 54 P P 10 12 39.6 +0.4
baz=252,SNR=6.6
U41A **Viola** 92.55 53 P P 10 12 39.4 0.0
baz=252,SNR=25
VNA2 **Neumayer--Watz** 92.56 175 P P 10 12 40.7 +1.8
baz=189,slow=3.3
UMPA **Umpang Tak** 92.58 286 P P 10 12 41.2 +1.3
Y43A **Makayla and Ka** 92.58 56 P P 10 12 40.4 +0.9
baz=252
FFC **Flin Flon** 92.59 33 eP P 10 12 38.5 -0.7
comp=Z,24nm,1.3s
FFC **Flin Flon** 92.59 33 i P P 10 12 38.7 -0.4
144A **Alexander Plac** 92.60 57 P P 10 12 40.7 +1.0
baz=253
NNA **Nana** 92.61 103 PFAKE 10 12 50.0 +10
NNA LR LR
comp=Z,1μm,20.0s
LCO **Las Campanas** 92.71 121 eP P 10 12 42.4 +1.7
comp=Z,26nm,1.0s
LCO **Las Campanas** 92.71 121 eP P 10 12 42.4 +1.7
LCO pmax pmax
comp=Z,29nm,1.0s
LCO **Las Campanas** 92.71 121 eP P 10 12 42.6 +1.9
VNA1 **Neumayer--Stat** 92.76 175 P P 10 12 41.6 +1.9
V42A **Cord** 92.80 54 P P 10 12 40.4 -0.1
baz=252,SNR=13
X43A **Marvell** 92.80 55 eP P 10 12 41.4 +0.8
comp=Z,196nm,1.9s
X43A LR LR
comp=Z,2μm,20.0s
X43A **Marvell** 92.80 55 P P 10 12 41.2 +0.7
baz=252
T41A **Mountain View** 92.89 52 P P 10 12 40.8 -0.2
baz=252,SNR=40
145A **Houston Renfro** 92.99 57 P P 10 12 42.3 +0.8
baz=253
346A **Big Creek Wild** 93.01 58 P P 10 12 42.9 +1.3
baz=253
S41A **Jillco Farms,** 93.07 52 P P 10 12 41.4 -0.3
baz=252,SNR=26
U42A **Revenden** 93.08 53 P P 10 12 41.3 -0.5
baz=252,SNR=14
CM01 **Chiang Mai Arr** 93.09 288 eP P 10 12 42.8 +0.5
W43A **Forest City** 93.11 54 P P 10 12 42.1 +0.2
baz=253
CM31 **Chiang Mai Arr** 93.12 288 eP P 10 12 41.2 -1.2
CM31 **Chiang Mai Arr** 93.12 288 P P 10 12 43.5 +1.2
SNR=24
CMAR **Chiang Mai Arr** 93.12 288 P P 10 12 43.5 +1.1
comp=Z,43nm,0.9s,baz=91,slow=2.6,SNR=200
CMAR PKiKP PKiKP 10 17 30.0 +0.4
comp=Z,1.2nm,0.4s,baz=29,slow=0.9,SNR=4.6
CMAR PKKPbc PKKPbc 10 29 52.5 +1.4
comp=Z,0.5nm,0.3s,baz=290,slow=5.5,SNR=6.1
CMAR LR LR 10 49 32.9
comp=Z,621nm,21.9s,baz=115,slow=32
CMAR **Chiang Mai Arr** 93.12 288 P P 10 12 43.5 +1.1
CMAR 10 29 52.6
CMAR pmax pmax
comp=Z,46nm,0.9s
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR pmax pmax
comp=Z,1.0nm,0.3s
Y44A **Strider, Charl** 93.17 56 P P 10 12 42.4 +0.2
baz=253
CMMT **Chiang Mai** 93.21 289 P P 10 12 43.5 +0.7
CHTO **Chiang Mai** 93.22 289 eP P 10 12 43.5 +0.7
comp=Z,52nm,0.8s
CHTO LR LR
comp=Z,800nm,22.0s
CHTO **Chiang Mai** 93.22 289 P P 10 12 43.5 +0.7
SNR=13
CHTO P P 10 12 43.5 +0.7
SNR=13
CHTO **Chiang Mai** 93.22 289 P P 10 12 43.6 +0.7
comp=Z,320nm,0.9s,comp=Z,3μm
CHTO **Chiang Mai** 93.22 289 eP P 10 12 43.5 +0.7
NVL **N'lazarevskaya** 93.22 182 eP P 10 12 41.7 -0.1
NVL eS SKSac 10 23 10.5 -3.6
NVL pmax pmax
comp=Z,33nm,1.1s
HBAR **Harrisburg** 93.29 54 PFAKE 10 12 50.0 +7.2
HBAR LR LR
comp=Z,2μm,20.0s
SCIA **State Center** 93.35 47 eP P 10 12 42.6 -0.3
comp=Z,204nm,1.9s
SCIA LR LR
comp=Z,2μm,19.0s
SCIA **State Center** 93.35 47 P P 10 12 42.9 0.0
baz=251
X44A **Crenshaw** 93.38 55 P P 10 12 43.5 +0.3
baz=253
T42A **Van Buren** 93.39 53 eP P 10 12 42.5 -0.7
comp=Z,22nm,0.9s
T42A LR LR
comp=Z,2μm,18.0s
T42A **Van Buren** 93.39 53 P P 10 12 42.7 -0.5
baz=252,SNR=17
Z45A **Winona** 93.41 56 PFAKE 10 12 50.0 +6.6
Z45A LR LR
comp=Z,1μm,21.0s
V43A **Jonesboro** 93.44 54 P P 10 12 43.5 0.0
baz=253
R41A **Rosebud** 93.56 51 P P 10 12 43.1 -0.9
baz=252,SNR=11
CCM **Cathedral Cave** 93.59 52 eP P 10 12 43.2 -0.9
comp=Z,35nm,1.3s
CCM LR LR
comp=Z,2μm,19.0s
CCM **Cathedral Cave** 93.59 52 eP P 10 12 43.2 -0.9
CCM pmax pmax
comp=Z,35nm,1.3s
CCM MLR MLR
comp=Z,2μm,19.0s
CCM **Cathedral Cave** 93.59 52 P P 10 12 43.0 -1.1
baz=252
Y45A **Yeager Farm, C** 93.67 56 P P 10 12 43.6 -0.9
baz=253
146A **Union** 93.70 57 eP P 10 12 44.5 -0.3
comp=Z,25nm,0.9s
146A LR LR
comp=Z,1μm,19.0s
146A **Union** 93.70 57 P P 10 12 45.3 +0.6
baz=253
U43A **Rector** 93.72 53 P P 10 12 44.6 -0.2
baz=253,SNR=6.2
W44A **Shelby Farms P** 93.82 55 P P 10 12 45.3 +0.1
baz=253
S42A **Caledonia** 93.84 52 P P 10 12 44.5 -0.8
baz=253,SNR=12
Q41A **Truxton** 93.87 51 P P 10 12 45.1 -0.3
baz=252,SNR=9.0
LZH **Lanzhou** 93.90 306 ⇑ P P 10 12 45.5 -0.3
LZH pP pP 10 12 50.0 -3.3
LZH sP sP 10 12 53.3 -2.7
LZH PP PP 10 16 35.0 +3.0
LZH SKS SKSac 10 23 16.5 -2.9
LZH S S 10 23 52.3 -2.3
LZH sS ScS 10 24 01.0 +5.0
LZH SS SS 10 30 12.3 -2.3
LZH pmax pmax
comp=Z,84nm,1.1s
LZH pmax pmax
comp=Z,640nm,4.9s
LZH LR LR
comp=Z,770nm,17.0s
LZH LR LR
comp=Z,1μm,17.6s
LZH LR LR
comp=Z,2μm,18.1s
GNAR **Gosnell** 93.91 54 PFAKE 10 13 00.0 +14
GNAR LR LR
comp=Z,2μm,19.0s
X45A **UM Field Stati** 93.95 55 P P 10 12 45.7 -0.2
baz=253
M39A **Webster** 93.95 48 P P 10 12 45.1 -0.6
baz=252,SNR=17
OXF **Oxford** 93.96 55 eP P 10 12 45.5 -0.4
comp=Z,67nm,1.5s
OXF LR LR
comp=Z,2μm,20.0s
OXF **Oxford** 93.96 55 eP P 10 12 45.5 -0.4
OXF pmax pmax
comp=Z,67nm,1.5s
OXF MLR MLR
comp=Z,2μm,20.0s
OXF **Oxford** 93.96 55 P P 10 12 45.5 -0.4
baz=253
V44A **Blytheville** 93.96 54 P P 10 12 45.7 -0.2
baz=253
R42A **Luebbering** 94.00 51 P P 10 12 45.1 -0.9
baz=253
T43A **Greenville** 94.03 53 P P 10 12 45.5 -0.6
baz=253,SNR=18
FVM **French Village** 94.19 52 PFAKE 10 13 00.0 +13
FVM LR LR
comp=Z,3μm,19.0s
N40A **Mertquake, Sal** 94.19 49 P P 10 12 46.3 -0.5
baz=252,SNR=12
P41A **Barry, Barry** 94.21 50 P P 10 12 46.7 -0.2
baz=253,SNR=17
Y46A **Houston** 94.22 56 P P 10 12 47.2 +0.1
baz=254
L39A **Vinton** 94.27 47 P P 10 12 46.5 -0.7
baz=252,SNR=12
PVMO **Portageville** 94.28 53 PFAKE 10 13 00.0 +13
PVMO LR LR
comp=Z,3μm,20.0s
PARMO **Parma** 94.31 53 eP P 10 12 47.5 +0.1
comp=Z,81nm,0.9s
PARMO LR LR
comp=Z,2μm,19.0s
U44A **Portageville** 94.32 53 P P 10 12 47.6 +0.1
baz=253
W45A **Hickory Valley** 94.32 55 P P 10 12 47.5 -0.1
baz=253,SNR=6.6
S43A **Fulton Ridge,** 94.33 52 P P 10 12 47.2 -0.4
baz=253,SNR=12
147A **Livingston** 94.35 57 PFAKE 10 13 00.0 +12
147A LR LR
comp=Z,2μm,19.0s
147A **Livingston** 94.35 57 P P 10 12 47.6 -0.2
baz=254
ULM **Lac du Bonnet** 94.36 39 P P 10 12 46.2 -1.1
comp=Z,23nm,0.9s,baz=250,slow=4.9,SNR=41
ULM LR LR 10 48 42.3
comp=Z,2μm,21.0s,baz=256,slow=31
ULM **Lac du Bonnet** 94.36 39 eP P 10 12 46.0 -1.3
comp=Z,39nm,1.0s
ULM **Lac du Bonnet** 94.36 39 eP P 10 12 46.0 -1.3
ULM pmax pmax
comp=Z,39nm,1.0s
Q42A **Golden Eagle** 94.38 51 P P 10 12 47.4 -0.4
baz=253
M40A **Post Highland** 94.40 48 P P 10 12 47.5 -0.3
baz=252,SNR=22
HALT **Halls** 94.42 54 PFAKE 10 13 00.0 +12
HALT LR LR
comp=Z,2μm,20.0s
O41A **Passleys Farm,** 94.47 50 P P 10 12 47.6 -0.6
baz=253,SNR=21
SLM **Saint Louis** 94.52 51 PFAKE 10 13 00.0 +12
SLM LR LR
comp=Z,2μm,20.0s
K39A **Oelwein** 94.53 47 P P 10 12 47.4 -1.0
baz=252,SNR=12
U44B **Burton Farm, H** 94.53 54 P P 10 12 48.4 0.0
baz=253
OTAV **Otavalo** 94.54 91 eP P 10 12 51.4 +1.8
comp=Z,18nm,1.5s
OTAV LR LR
comp=Z,500nm,19.0s
OTAV **Otavalo** 94.54 91 eP P 10 12 51.5 +1.8
GLAT **Glass** 94.56 54 PFAKE 10 13 00.0 +11
GLAT LR LR
comp=Z,2μm,19.0s
X46A **Booneville** 94.63 56 P P 10 12 48.4 -0.6
baz=254
R43A **Red Bud** 94.64 52 P P 10 12 48.7 -0.3
baz=253,SNR=5.8
Z47A **Carrollton** 94.66 57 P P 10 12 49.0 -0.2
baz=254
V45A **Humboldt** 94.67 54 P P 10 12 48.7 -0.4
baz=254
N41A **Harden Midland** 94.67 49 eP P 10 12 48.4 -0.6
comp=Z,56nm,0.9s
N41A LR LR
comp=Z,3μm,18.0s
N41A **Harden Midland** 94.67 49 P P 10 12 48.5 -0.5
baz=253,SNR=10
SPMN **Marine on St.** 94.67 44 eP P 10 12 49.0 +0.1
comp=Z,61nm,1.0s
SPMN LR LR
comp=Z,3μm,22.0s
SPMN **Marine on St.** 94.67 44 P P 10 12 48.4 -0.6
baz=252,SNR=16
PB10 **IPOC Station P** 94.70 116 PFAKE 10 13 00.0 +10
PB10 LR LR
comp=Z,2μm,20.0s
P42A **Winchester** 94.72 50 eP P 10 12 49.1 -0.2
comp=Z,98nm,1.3s
P42A LR LR
comp=Z,3μm,19.0s
P42A **Winchester** 94.72 50 P P 10 12 48.9 -0.3
baz=253,SNR=15
BOD **Bodaibo** 94.73 329 eP P 10 12 47.4 -1.5
BOD pmax pmax
comp=Z,14nm,2.1s
CMBY **CAMPBELL BAY** 94.75 276 eP P 10 12 46.4 -3.6
L40A **Anamosa** 94.81 48 eP P 10 12 49.4 -0.2
comp=Z,65nm,0.8s
L40A **Anamosa** 94.81 48 P P 10 12 49.1 -0.5
baz=253,SNR=10
J39A **Decorah** 94.85 46 P P 10 12 48.9 -0.9
baz=252,SNR=25
H38A **Maiden Rock** 94.86 45 P P 10 12 49.1 -0.7
baz=252,SNR=8.7
349A **Repton** 94.86 59 P P 10 12 50.6 +0.5
baz=254
UTMT **University of** 94.91 54 eP P 10 12 50.5 +0.3
comp=Z,123nm,1.2s
148A **Greensboro** 94.91 58 P P 10 12 50.2 -0.1
baz=254
BRAL **Brewton** 94.93 59 P P 10 12 49.9 -0.5
baz=254
F37A **Hinrichs Farm,** 94.95 44 P P 10 12 49.8 -0.4
baz=252,SNR=10
GO02 **Mina Guanaco** 94.97 118 PFAKE 10 13 00.0 +8.8
GO02 LR LR
comp=Z,2μm,22.0s
U45A **Rockin P Farm,** 94.99 54 P P 10 12 50.6 +0.1
baz=254,SNR=7.3
S44A **Carbondale** 94.99 52 P P 10 12 50.5 0.0
baz=254,SNR=5.7
Q43A **New Douglas** 95.01 51 P P 10 12 50.3 -0.3
baz=253
SIUC **Southern Illin** 95.02 52 eP P 10 12 51.1 +0.4
comp=Z,72nm,1.7s
Y47A **UCPARC, Winfie** 95.03 56 P P 10 12 50.5 -0.3
baz=254
K40A **Colesburg** 95.06 47 P P 10 12 49.7 -1.0
baz=253,SNR=11
O42A **Bath** 95.08 50 P P 10 12 50.3 -0.6
baz=253
M41A **Milan** 95.09 49 P P 10 12 50.3 -0.7
baz=253,SNR=7.5
I39A **Houston** 95.13 46 eP P 10 12 50.1 -1.0
comp=Z,45nm,0.8s

I39A LR LR
comp=Z,2µm,19.0s
I39A Houston 95.13 46 P **P** **10 12 50.1 -1.0**
baz=253,SNR=12
ULN Ulaanbaatar 95.19 318 *eP* **P** **10 12 50.9 -0.5**
ULN LR LR
comp=Z,800nm,21.0s
ULN Ulaanbaatar 95.19 318 *d iP* **P** **10 12 51.0 -0.5**
ULN pmax pmax
comp=Z,10.0nm,0.9s
X47A Russelville 95.19 56 P **P** **10 12 50.9 -0.7**
baz=254
T45A Paducah 95.27 53 PFAKE 10 13 00.0 +8.2
T45A LR LR
comp=Z,2µm,20.0s
T45A Paducah 95.27 53 P **P** **10 12 51.7 -0.1**
baz=254
R44A Waltonville 95.28 52 P **P** **10 12 51.4 -0.4**
baz=254,SNR=7.1
G38A Ridgeland 95.30 45 P **P** **10 12 50.9 -0.9**
baz=253,SNR=20
N42A Yates City 95.30 49 P **P** **10 12 51.2 -0.7**
baz=253,SNR=5.6
L41A Preston 95.33 48 P **P** **10 12 51.2 -0.8**
baz=253
P43A Skaggs, Pawnee 95.34 50 P **P** **10 12 51.9 -0.2**
baz=254,SNR=6.1
V46A Holladay 95.34 54 P **P** **10 12 51.7 -0.5**
baz=254
U46A Springville 95.44 54 P **P** **10 12 52.5 -0.1**
baz=254
LRAL Lakeview Retre 95.48 57 P **P** **10 12 52.2 -0.7**
baz=254
S45A Carrier Mills 95.50 53 P **P** **10 12 52.8 -0.1**
baz=254
Q44A Meyer Farm, Va 95.51 51 *eP* **P** **10 12 52.7 -0.2**
comp=Z,18nm,1.0s
Q44A LR LR
comp=Z,3µm,18.0s
Q44A Meyer Farm, Va 95.51 51 P **P** **10 12 52.3 -0.6**
baz=254
F38A Pierce - Schro 95.52 44 P **P** **10 12 52.4 -0.4**
baz=253,SNR=13
149A Jones 95.53 58 P **P** **10 12 52.9 -0.2**
baz=254
J40A Soldiers Grove 95.54 47 P **P** **10 12 52.2 -0.7**
baz=253,SNR=21
H39A Augusta 95.54 45 P **P** **10 12 52.1 -0.8**
baz=253,SNR=13
W47A Westpoint 95.60 55 P **P** **10 12 53.0 -0.4**
baz=254
SONA1 Songino Array 95.60 318 *eP* **P** **10 12 52.6 -0.7**
SONA0 Songino Array 95.60 318 *eP* **P** **10 12 52.7 -0.6**
SONM Songino Array 95.60 318 P **P** **10 12 52.7 -0.6**
comp=Z,4.9nm,0.8s,baz=133,slow=4.1,SNR=29
SONM PP **PP** **10 16 49.1 +4.2**
comp=Z,1.7nm,1.0s,baz=94,slow=6.4,SNR=4.5
SONM PKiKP **PKiKP** **10 17 34.1 +0.9**
comp=Z,0.8nm,0.7s,baz=162,slow=1.7,SNR=3.9
SONM PKKPbc **PKKPdf** **10 29 49.6 +2.9**
comp=Z,0.7nm,1.0s,baz=349,slow=1.5,SNR=3.8
SONM LR LR 10 51 03.5
comp=Z,581nm,21.8s,baz=123,slow=32
K41A Shullsburg 95.62 47 P **P** **10 12 52.6 -0.7**
baz=253,SNR=14
WVT Waverly 95.65 54 *eP* **P** **10 12 53.5 -0.1**
comp=Z,9.5nm,0.9s
WVT LR LR
comp=Z,2µm,21.0s
WVT Waverly 95.65 54 P **P** **10 12 53.2 -0.4**
baz=254
O43A Sugar Creek Fa 95.67 50 P **P** **10 12 52.8 -0.8**
baz=254
M42A Sheffield 95.68 49 P **P** **10 12 52.8 -0.8**
baz=254
JFWS Jewell Farm 95.75 47 *eP* **P** **10 12 53.1 -0.8**
comp=Z,56nm,0.8s
JFWS LR LR
comp=Z,2µm,20.0s
JFWS Jewell Farm 95.75 47 *eP* **P** **10 12 53.1 -0.8**
JFWS pmax pmax
comp=Z,56nm,0.8s
JFWS MLR MLR
comp=Z,2µm,20.0s
JFWS Jewell Farm 95.75 47 P **P** **10 12 53.2 -0.8**
baz=254,SNR=13
HDIL Hopedale 95.76 50 *eP* **P** **10 12 53.7 -0.3**
comp=Z,53nm,1.3s
HDIL LR LR
comp=Z,3µm,20.0s
HDIL Hopedale 95.76 50 P **P** **10 12 53.1 -0.9**
baz=254
I40A Norwalk 95.77 46 P **P** **10 12 53.2 -0.8**
baz=253,SNR=12
250A Grady 95.79 59 P **P** **10 12 54.1 -0.3**
baz=255
G39A Holcombe 95.79 45 P **P** **10 12 53.1 -1.0**
baz=253,SNR=12
V47A Nunnelly 95.81 55 P **P** **10 12 54.0 -0.3**
baz=254
TIXI Tiksi 95.82 344 LR LR 10 52 10.0
comp=Z,956nm,20.8s,baz=54,slow=33
TIXI Tiksi 95.82 344 *eP* **P** **10 12 53.1 -0.4**
comp=Z,21nm,1.2s
TIXI Tiksi 95.82 344 *d iP* **P** **10 12 52.7 -0.8**
TIXI pmax pmax
comp=Z,17nm,1.0s
X48A Hartselle 95.82 56 PFAKE 10 13 10.0 +16
X48A LR LR
comp=Z,2µm,20.0s
X48A Hartselle 95.82 56 P **P** **10 12 54.1 -0.3**
baz=255
T46A Princeton 95.85 53 P **P** **10 12 54.5 0.0**
baz=254
R45A Skylar, Fairfi 95.89 52 P **P** **10 12 54.0 -0.7**
baz=254
L42A Oliver, Polo 95.90 48 *eP* **P** **10 12 53.8 -0.8**
comp=Z,41nm,0.9s
L42A LR LR
comp=Z,2µm,18.0s
L42A Oliver, Polo 95.90 48 P **P** **10 12 53.7 -0.8**
baz=254,SNR=6.1
Z49A Columbiana 95.90 57 P **P** **10 12 54.2 -0.6**
baz=255
E38A The Farm, Brul 95.92 43 *eP* **P** **10 12 53.9 -0.7**
comp=Z,25nm,1.2s
E38A LR LR
comp=Z,3µm,21.0s
E38A The Farm, Brul 95.92 43 P **P** **10 12 53.6 -1.0**
baz=253
TRQA Tornquist 95.94 132 PFAKE 10 13 10.0 +15
TRQA LR LR
comp=Z,2µm,20.0s
TRQA Tornquist 95.94 132 *eP* **P** **10 12 57.8 +2.7**
N43A Stutzman Famil 95.96 49 P **P** **10 12 54.1 -0.8**
baz=254
P44A Sand Creek, Wi 95.96 51 P **P** **10 12 53.8 -1.1**
baz=254
J41A Loganville 96.04 47 P **P** **10 12 54.3 -0.9**
baz=254,SNR=15
W48A Pulaski 96.09 55 P **P** **10 12 55.3 -0.4**
baz=255
552A Lynn Haven 96.12 61 P **P** **10 12 54.3 -1.5**
baz=255
H40A Chili 96.13 45 P **P** **10 12 55.0 -0.6**
baz=254,SNR=19
F39A Loretta 96.14 44 P **P** **10 12 54.9 -0.8**
baz=253,SNR=21
OLIL Olney 96.15 52 PFAKE 10 13 10.0 +14
OLIL LR LR
comp=Z,3µm,20.0s
Q45A Warren Harvey, 96.15 51 P **P** **10 12 55.3 -0.5**
baz=254
U47A Clarksville 96.16 54 P **P** **10 12 55.5 -0.4**
baz=255
150A Eclectic 96.16 58 P **P** **10 12 55.5 -0.5**
baz=255
S46A Don Dixon Farm 96.16 53 P **P** **10 12 55.3 -0.6**
baz=254
Y49A Blount Mountai 96.17 57 PFAKE 10 13 10.0 +14
Y49A LR LR
comp=Z,2µm,20.0s
Y49A Blount Mountai 96.17 57 P **P** **10 12 55.2 -0.9**
baz=255
M43A Waltham Townsh 96.25 49 P **P** **10 12 55.3 -0.9**
baz=254,SNR=6.3
O44A Mansfield 96.26 50 P **P** **10 12 55.6 -0.6**
baz=254
USIN University of 96.27 52 PFAKE 10 13 10.0 +14
USIN LR LR
comp=Z,2µm,20.0s
I41A Arkdale 96.33 46 *eP* **P** **10 12 56.0 -0.6**
comp=Z,33nm,0.9s
I41A Arkdale 96.33 46 P **P** **10 12 55.7 -0.9**
baz=254,SNR=6.1
V48A Smith Brothers 96.34 55 PFAKE 10 13 10.0 +13
V48A LR LR
comp=Z,2µm,20.0s
V48A Smith Brothers 96.34 55 P **P** **10 12 55.9 -0.8**
baz=255
K42A Prairie Point, 96.34 47 P **P** **10 12 56.0 -0.7**
baz=254,SNR=14
EYMN Ely 96.36 42 *eP* **P** **10 12 55.6 -0.9**
comp=Z,102nm,1.9s
EYMN LR LR
comp=Z,2µm,20.0s
EYMN Ely 96.36 42 P **P** **10 12 55.3 -1.3**
baz=253
452A Marianna 96.39 60 P **P** **10 12 55.0 -2.1**
baz=255
X49A Woodville 96.41 56 P **P** **10 12 55.5 -1.6**
baz=255
LVC Limon Verde 96.43 116 PFAKE 10 13 10.0 +12
LVC LR LR
comp=Z,2µm,20.0s
LVC Limon Verde 96.43 116 *eP* **P** **10 13 00.7 +2.7**
T47A Sharon Grove 96.44 53 P **P** **10 12 56.7 -0.5**
baz=255
G40A Rib Lake 96.44 45 *eP* **P** **10 12 56.7 -0.4**
comp=Z,39nm,1.3s
G40A LR LR
comp=Z,2µm,22.0s
G40A Rib Lake 96.44 45 P **P** **10 12 56.4 -0.6**
baz=254,SNR=6.2
E39A Mellen 96.52 44 P **P** **10 12 56.4 -1.0**
baz=254,SNR=10
251A Midway 96.53 59 P **P** **10 12 57.0 -0.7**
baz=255
L43A Garden Prairie 96.61 48 P **P** **10 12 57.2 -0.6**
baz=254,SNR=5.1
W49A Belvidere 96.61 55 P **P** **10 12 57.5 -0.5**
baz=255
P45A Graceland, Par 96.63 51 PFAKE 10 13 10.0 +12
P45A LR LR
comp=Z,2µm,20.0s
P45A Graceland, Par 96.63 51 P **P** **10 12 57.2 -0.8**
baz=255
H41A Junction City 96.64 46 *eP* **P** **10 12 57.2 -0.7**
comp=Z,40nm,1.0s
H41A Junction City 96.64 46 P **P** **10 12 57.0 -0.9**
baz=254,SNR=7.4
J42A Columbus 96.65 47 P **P** **10 12 56.9 -1.1**
baz=254,SNR=6.0
N44A Piper City 96.68 50 P **P** **10 12 57.4 -0.8**
baz=255
F40A Park Falls 96.68 44 P **P** **10 12 57.2 -0.9**
baz=254,SNR=10
PB11 IPOC Station P 96.75 113 PFAKE 10 13 10.0 +11
PB11 LR LR
comp=Z,2µm,20.0s
U48A Cassie Pea, Po 96.76 54 P **P** **10 12 58.0 -0.6**
baz=255
352A Blakely 96.77 59 *eP* **P** **10 13 01.0 +2.2**
352A Blakely 96.77 59 P **P** **10 13 00.1 +1.3**
baz=255
S47A Hartford 96.78 53 P **P** **10 12 58.1 -0.6**
baz=255
M44A Midewin, Midew 96.90 49 PFAKE 10 13 10.0 +11
M44A LR LR
comp=Z,2µm,20.0s
M44A Midewin, Midew 96.90 49 P **P** **10 12 58.6 -0.5**
baz=255
SWET Sewanee 96.90 55 *eP* **P** **10 12 58.7 -0.7**
comp=Z,50nm,2.0s
SWET LR LR
comp=Z,1µm,20.0s
X50B Fort Payne 96.94 56 P **P** **10 12 59.4 -0.1**
baz=255
I42A Draeger Farm, 96.95 46 *eP* **P** **10 12 58.4 -0.9**
comp=Z,24nm,0.9s
I42A LR LR
comp=Z,2µm,21.0s
I42A Draeger Farm, 96.95 46 P **P** **10 12 58.3 -1.0**
baz=254
MNMC Minye Minye 97.02 112 PFAKE 10 13 10.0 +9.3
MNMC LR LR
comp=Z,2µm,21.0s
T48A Bowling Green 97.03 54 P **P** **10 12 59.5 -0.4**
baz=255
K43A Burlington 97.04 48 PFAKE 10 13 10.0 +10
K43A LR LR
comp=Z,1µm,20.0s
K43A Burlington 97.04 48 P **P** **10 12 58.9 -0.9**
baz=255
P46A Rosedale 97.05 51 P **P** **10 12 58.9 -1.0**
baz=255
V49A McMinnville 97.07 55 P **P** **10 12 58.5 -1.6**
baz=255
PBA Port Blair 97.10 280 *eP* P 10 12 59.7 -0.9
453A Whigham 97.11 60 P **P** **10 12 59.0 -1.4**
baz=256
G41A Antigo 97.12 45 P **P** **10 12 59.2 -0.9**
baz=254
N45A Kentland 97.15 50 P **P** **10 12 59.6 -0.7**
baz=255
J43A Natural Harves 97.16 47 P **P** **10 12 59.3 -1.0**
baz=255
L44A Lake County Fo 97.20 48 P **P** **10 12 58.9 -1.6**
baz=255
R47A Wooly Knot Far 97.23 52 P **P** **10 12 59.8 -0.9**
baz=255
152A Waverly Hall 97.24 58 PFAKE 10 13 10.0 +9.0
152A LR LR
comp=Z,1µm,20.0s
152A Waverly Hall 97.24 58 P **P** **10 13 00.3 -0.6**
baz=256
Y51A Rockmart 97.26 57 P **P** **10 13 00.0 -1.0**
baz=256
F41A Three Lakes 97.31 45 *eP* **P** **10 13 00.8 -0.1**
comp=Z,47nm,1.1s
F41A LR LR
comp=Z,3µm,22.0s
F41A Three Lakes 97.31 45 P **P** **10 13 00.5 -0.5**
baz=255,SNR=11
SFIN Lafayette 97.33 50 *eP* **P** **10 13 00.7 -0.4**
comp=Z,75nm,2.0s
SFIN LR LR
comp=Z,2µm,20.0s
SFIN Lafayette 97.33 50 P **P** **10 13 00.7 -0.4**
baz=255
U49A Red Boiling Sp 97.35 54 P **P** **10 13 00.6 -0.7**
baz=256
H42A Shiocton 97.38 46 PFAKE 10 13 10.0 +8.7
H42A LR LR
comp=Z,2µm,19.0s
H42A Shiocton 97.38 46 P **P** **10 13 00.3 -0.9**
baz=255
WCI Wyandotte Cave 97.39 52 PFAKE 10 13 10.0 +8.5
WCI LR LR
comp=Z,2µm,20.0s
WCI Wyandotte Cave 97.39 52 P **P** **10 13 00.6 -0.9**
baz=255
COWI Conover 97.39 44 *eP* **P** **10 13 00.8 -0.5**
comp=Z,39nm,0.8s
COWI LR LR
comp=Z,3µm,20.0s
W50A Signal Mountai 97.39 56 PFAKE 10 13 10.0 +8.3
W50A LR LR
comp=Z,2µm,21.0s
S48A Wiedeman Farm, 97.42 53 P **P** **10 13 01.0 -0.7**
baz=256
BLO Bloomington 97.45 51 PFAKE 10 13 10.0 +8.2
BLO LR LR
comp=Z,2µm,19.0s
554A Perry 97.45 61 P **P** **10 13 01.5 -0.4**
baz=256
Q47A Bedord North L 97.47 52 P **P** **10 13 01.3 -0.5**
baz=255
X51A Calhoun 97.59 56 PFAKE 10 13 10.0 +7.5
X51A LR LR
comp=Z,2µm,20.0s
X51A Calhoun 97.59 56 P **P** **10 13 01.6 -0.9**
baz=256
E41A Kenton 97.60 44 P **P** **10 13 01.4 -0.8**
baz=255,SNR=8.5
G42A Mountain 97.64 45 *eP* **P** **10 13 01.9 -0.6**
comp=Z,28nm,0.9s
G42A LR LR
comp=Z,2µm,21.0s
G42A Mountain 97.64 45 P **P** **10 13 01.0 -1.5**
baz=255
V50A Pikevile 97.67 55 P **P** **10 13 02.0 -0.8**
baz=256
T49A Edmonton 97.69 54 PFAKE 10 13 10.0 +7.1
T49A LR LR
comp=Z,2µm,20.0s
T49A Edmonton 97.69 54 P **P** **10 13 01.8 -1.1**
baz=256
P47A Martinsville 97.72 51 P **P** **10 13 01.9 -1.0**
baz=256
N46A Monticello 97.73 50 P **P** **10 13 02.0 -0.9**
baz=256
GTA Gaotai 97.88 309 *eP* **P** **10 13 03.5 -0.3**
GTA pP pP 10 13 07.8 -3.5
GTA sP sP 10 13 10.5 -3.5
GTA SKS **SKSac** **10 23 37.5 -2.6**
GTA pmax pmax
comp=Z,11nm,1.0s
GTA pmax pmax
comp=Z,200nm,6.8s
GTA LR LR
comp=Z,340nm,24.5s
GTA LR LR
comp=Z,1µm,22.5s
GTA LR LR
comp=Z,2µm,23.8s
F42A Maple Grove Fa 97.98 45 P **P** **10 13 03.0 -0.9**
baz=255
O47A Sheridan 97.98 51 P **P** **10 13 03.0 -1.1**
baz=256
Q48A North Vernon 97.99 52 P **P** **10 13 03.3 -0.8**
baz=256
D41A Chassel 98.02 43 PFAKE 10 13 20.0 +16
D41A LR LR
comp=Z,3µm,20.0s
D41A Chassel 98.02 43 P **P** **10 13 03.2 -0.9**
baz=255
S49A Springfield 98.05 53 P **P** **10 13 03.6 -0.8**
baz=256
U50A Jamestown 98.06 55 P **P** **10 13 03.4 -1.2**
baz=256
Y52A Lilburn 98.06 57 PFAKE 10 13 20.0 +15
Y52A LR LR
comp=Z,2µm,20.0s
Y52A Lilburn 98.06 57 P **P** **10 13 03.9 -0.7**
baz=256
555A McAlpin 98.07 61 P **P** **10 13 04.1 -0.6**
baz=256
FCC Fort Churchill 98.10 31 *eP* **P** **10 13 03.3 -0.8**
comp=Z,12nm,0.8s
FCC LR LR
comp=Z,1µm,18.0s
FCC Fort Churchill 98.10 31 *eP* **P** **10 13 03.3 -0.8**
FCC pmax pmax
comp=Z,12nm,0.8s
FCC MLR MLR
comp=Z,1µm,18.0s
M46A Old House Fiel 98.14 49 PFAKE 10 13 20.0 +15
M46A LR LR
comp=Z,3µm,19.0s
G43A Wallace 98.15 45 PFAKE 10 13 20.0 +15
G43A LR LR
comp=Z,1µm,21.0s
R49A Shelbyville 98.26 53 P **P** **10 13 04.6 -0.8**
baz=256
ZAK Zakamensk 98.29 320 *eP* **P** **10 13 04.1 -1.2**
ZAK pmax pmax
comp=Z,3.0nm,1.1s
E42A Champion 98.30 44 P **P** **10 13 04.3 -1.1**
baz=256
V51A Loudon 98.30 55 PFAKE 10 13 20.0 +14
V51A LR LR
comp=Z,2µm,21.0s
V51A Loudon 98.30 55 P **P** **10 13 04.5 -1.2**
baz=256
P48A Milroy 98.35 51 P **P** **10 13 04.6 -1.1**
baz=256
W52A Murphy 98.47 56 PFAKE 10 13 20.0 +14
W52A LR LR
comp=Z,2µm,20.0s
N47A Urbana 98.49 50 P **P** **10 13 04.9 -1.5**
baz=256
154A Montrose 98.54 59 PFAKE 10 13 20.0 +13
154A LR LR
comp=Z,1µm,21.0s
F43A Flat Rock, Esc 98.65 45 P **P** **10 13 05.9 -1.0**
baz=256
M47A Cromwell 98.66 50 P **P** **10 13 05.9 -1.2**
baz=256
TKL Tuckaleechee C 98.72 55 PFAKE 10 13 20.0 +12
TKL LR LR
comp=Z,2µm,21.0s
O48A Farmland 98.74 51 P **P** **10 13 06.0 -1.4**
baz=256
059A Moore Haven 98.88 65 P **P** **10 13 07.3 -1.1**
baz=256
T51A Gray 98.89 54 P **P** **10 13 06.9 -1.4**
baz=257
E43A Lone Tree Farm 98.90 44 PFAKE 10 13 20.0 +12
E43A LR LR
comp=Z,3µm,20.0s
E43A Lone Tree Farm 98.90 44 P **P** **10 13 07.2 -0.8**
baz=256
V52A Sevierville 98.90 55 PFAKE 10 13 20.0 +12
V52A LR LR
comp=Z,2µm,20.0s
TZTN Tazewell 99.10 55 PFAKE 10 13 20.0 +11
TZTN LR LR
comp=Z,2µm,20.0s
L47A Sherwood 99.11 49 P **Pdif** **10 13 07.7 -1.4**
baz=257
J46A Howard City 99.11 48 P **Pdif** **10 13 07.8 -1.2**
baz=257
F44A Big Bay de Noc 99.19 45 P **Pdif** **10 13 08.2 -1.2**
baz=256
LPAZ La Paz 99.29 110 *eP* **Pdif** **10 13 13.9 +2.6**
LPAZ La Paz 99.29 110 *eP* **Pdif** **10 13 13.9 +2.6**
LPAZ La Paz 99.29 110 *eP* **Pdif** **10 13 13.8 +2.6**
S51A Beattyville 99.32 54 PFAKE 10 13 20.0 +10
S51A LR LR
comp=Z,2µm,20.0s
O49A Covington 99.33 51 PFAKE 10 13 20.0 +10
O49A LR LR
comp=Z,3µm,18.0s
O49A Covington 99.33 51 P **Pdif** **10 13 09.2 -1.0**
baz=257
M48A Edgerton 99.35 50 PFAKE 10 13 20.0 +10
M48A LR LR
comp=Z,2µm,20.0s
K47A Vermontville 99.42 48 P **Pdif** **10 13 09.8 -0.6**
baz=257
V53A Saluda 99.48 56 PFAKE 10 13 20.0 +9.0
V53A LR LR
comp=Z,2µm,20.0s
G45A Suttons Bay 99.49 46 P **Pdif** **10 13 09.5 -1.2**
baz=257
060A Indiantown 99.57 65 PFAKE 10 13 20.0 +8.5
060A LR LR
comp=Z,2µm,20.0s
HODGE Hodges 99.61 57 PFAKE 10 13 20.0 +8.5
HODGE LR LR
comp=Z,2µm,22.0s
P50A Jamestown 99.61 52 P **Pdif** **10 13 09.9 -1.5**
baz=257
N49A Columbus Grove 99.61 50 PFAKE 10 13 20.0 +8.6
N49A LR LR
comp=Z,3µm,20.0s
N49A Columbus Grove 99.61 50 P **Pdif** **10 13 10.4 -1.0**
baz=257
L48A N Adams 99.66 49 P **Pdif** **10 13 10.1 -1.4**
baz=257
J47A Sunmer 99.67 48 P **Pdif** **10 13 11.0 -0.6**
baz=257
E44A Grand Marais A 99.68 44 PFAKE 10 13 20.0 +8.5
E44A LR LR
comp=Z,3µm,20.0s
E44A Grand Marais A 99.68 44 P **Pdif** **10 13 11.0 -0.5**
baz=257
S52A Salyersville 99.72 54 P **Pdif** **10 13 12.9 +0.9**
baz=257
F45A CMU Biological 99.74 45 P **Pdif** **10 13 11.4 -0.4**
baz=257

ROSC El Rosal 99.76 88 LR LR 10 48 36.7
comp=Z,668nm,21.8s,baz=242,slow=30

Q51A Peebles 99.82 52 PFAKE 10 13 20.0 +7.7
Q51A LR LR
comp=Z,2µm,19.0s

Q51A Peebles 99.82 52 P **Pdif** **10 13 11.5 -0.9**
baz=257

U53A Fall Branch 99.83 55 P **Pdif** **10 13 13.6 +1.1**
baz=257

O50A Cable 99.86 51 P **Pdif** **10 13 12.9 +0.4**
baz=257

T53A Wise 99.99 54 P **Pdif** **10 13 12.9 -0.4**
baz=257

I47A Gladwin 100.06 47 P **Pdif** **10 13 13.0 -0.3**
baz=257

K48A Perry 100.08 48 P **Pdif** **10 13 12.9 -0.5**
baz=257

PAULI Pauline 100.09 57 PFAKE 10 13 30.0 +16
PAULI LR LR
comp=Z,2µm,20.0s

E45A Wooded Hills, 100.12 45 P **Pdif** **10 13 12.9 -0.5**
baz=257

P51A Williamsport 100.14 52 PFAKE 10 13 30.0 +16
P51A LR LR
comp=Z,2µm,20.0s

GLMI Grayling 100.17 46 PFAKE 10 13 30.0 +16
GLMI LR LR
comp=Z,2µm,18.0s

F46A Macinaw City C 100.28 45 P **Pdif** **10 13 13.9 -0.2**
baz=258

AAM Ann Arbor 100.30 49 PFAKE 10 13 30.0 +16
AAM LR LR
comp=Z,2µm,20.0s

AAM Ann Arbor 100.30 49 P **Pdif** **10 13 13.4 -0.9**
baz=258

ACSO Alum Creek Sta 100.36 51 PFAKE 10 13 30.0 +15
ACSO LR LR
comp=Z,2µm,19.0s

ACSO Alum Creek Sta 100.36 51 P **Pdif** **10 13 13.7 -1.0**
baz=258

H47A Mio 100.40 47 P **Pdif** **10 13 14.0 -0.8**
baz=258

JSC Jenkinsville 100.42 57 PFAKE 10 13 30.0 +15
JSC LR LR
comp=Z,2µm,20.0s

KMSC Kings Mountain 100.55 56 PFAKE 10 13 30.0 +14
KMSC LR LR
comp=Z,2µm,18.0s

K49A Clarkson 100.55 48 P **Pdif** **10 13 15.0 -0.5**
baz=258

M50A Fremont 100.56 50 PFAKE 10 13 30.0 +14
M50A LR LR
comp=Z,3µm,20.0s

Q52A Bidwell 100.63 52 P **Pdif** **10 13 16.0 +0.1**
baz=258

E46A Sault Ste Mari 100.71 45 P **Pdif** **10 13 15.8 -0.2**
baz=258

R53A Hurricane 100.73 53 P **Pdif** **10 13 16.4 0.0**
baz=258

P52A Corning 100.87 52 P **Pdif** **10 13 17.4 +0.4**
baz=258

N51A Ashland 100.95 51 PFAKE 10 13 30.0 +13
N51A LR LR
comp=Z,3µm,20.0s

N51A Ashland 100.95 51 P **Pdif** **10 13 16.6 -0.7**
baz=258

D46A Sault St. Mari 101.00 44 P **Pdif** **10 13 17.3 -0.1**
baz=258

M51A Elyria 101.18 50 P **Pdif** **10 13 17.6 -0.7**
baz=258

O52A Adamsville 101.19 51 PFAKE 10 13 30.0 +12
O52A LR LR
comp=Z,2µm,18.0s

O52A Adamsville 101.19 51 P **Pdif** **10 13 17.4 -1.0**
baz=258

SHL Shillong 101.22 293 *eP* **Pdif** **10 13 17.4 -1.7**

P53A Whipple 101.40 52 PFAKE 10 13 30.0 +11
P53A LR LR
comp=Z,2µm,20.0s

P53A Whipple 101.40 52 P **Pdif** **10 13 18.8 -0.6**
baz=258

E47A Iron Bridge 101.42 45 P **Pdif** **10 13 18.9 -0.4**
baz=259

N52A McGinn's Farm, 101.44 51 P **Pdif** **10 13 19.5 0.0**
baz=259

R54A Victor 101.44 53 P **Pdif** **10 13 19.6 -0.1**
baz=258

D47A Chapleau 101.66 44 P **Pdif** **10 13 19.9 -0.5**
baz=259

BLA Blacksburg 101.69 55 PFAKE 10 13 30.0 +9.2
BLA LR LR
comp=Z,2µm,20.0s

O54A Avella 102.30 52 P **Pdif** **10 13 22.4 -1.0**
baz=259

RES Resolute Bay 102.40 15 PFAKE 10 13 30.0 +7.1
RES LR LR
comp=Z,2µm,20.0s

I51A Listowel 102.49 48 P **Pdif** **10 13 23.2 -0.9**
baz=260

D48A Paudash Townsh 102.55 44 P **Pdif** **10 13 23.5 -0.8**
baz=260

MCWV Mont Chateau 102.60 52 PFAKE 10 13 40.0 +15
MCWV LR LR
comp=Z,1µm,19.0s

LSA Lhasa 102.71 297 PFAKE 10 13 40.0 +14
LSA LR LR
comp=Z,700nm,22.0s

N54A Moraine State 102.73 51 PFAKE 10 13 40.0 +15
N54A LR LR
comp=Z,2µm,20.0s

ALLY Alegheny Colle 102.74 50 PFAKE 10 13 40.0 +15
ALLY LR LR
comp=Z,2µm,18.0s

ERPA Erie 102.94 50 PFAKE 10 13 40.0 +14
ERPA LR LR
comp=Z,3µm,19.0s

M54A Oil Creek Stat 103.07 50 PFAKE 10 13 40.0 +13
M54A LR LR
comp=Z,3µm,20.0s

E50A Wahnapitae 103.14 45 P **Pdif** **10 13 26.6 -0.3**
baz=260

CNNC Cliffs of the 103.33 57 PFAKE 10 13 40.0 +12
CNNC LR LR
comp=Z,1µm,20.0s

O56A Blue Knob Stat 103.68 52 PFAKE 10 13 40.0 +10
O56A LR LR
comp=Z,2µm,19.0s

R58B Mineral 103.82 54 PFAKE 10 13 40.0 +10
R58B LR LR
comp=Z,2µm,21.0s

D50A G1974 Best Tow 103.87 45 P **Pdif** **10 13 28.9 -1.3**
baz=261

SSPA Standing Stone 104.25 51 PFAKE 10 13 40.0 +8.0
SSPA LR LR
comp=Z,2µm,19.0s

CBN Corbin Frederi 104.25 54 PFAKE 10 13 40.0 +8.0
CBN LR LR
comp=Z,2µm,21.0s

E52A Mattawa 104.55 46 P **Pdif** **10 13 33.3 +0.1**
baz=262

SDMD Soldier's Deli 104.85 53 PFAKE 10 13 50.0 +15
SDMD LR LR
comp=Z,1µm,20.0s

PAGS Pennsylvania G 105.07 52 PFAKE 10 18 00.0 +10
PAGS LR LR
comp=Z,2µm,18.0s

PLVO Plevna 105.48 47 PFAKE 10 18 00.0 +9.1
PLVO LR LR
comp=Z,2µm,20.0s

VLDQ Val d'Or 105.60 44 PFAKE 10 18 00.0 +9.0
VLDQ LR LR
comp=Z,3µm,20.0s

N59A State Game Lan 105.88 51 PFAKE 10 18 00.0 +8.2
N59A LR LR
comp=Z,2µm,19.0s

BINY Binghamton 105.89 50 PFAKE 10 18 00.0 +8.2
BINY LR LR
comp=Z,3µm,18.0s

KSPA Keystone Colle 105.97 51 PFAKE 10 18 00.0 +8.1
KSPA LR LR
comp=Z,3µm,19.0s

SDDR Presa de Saban 106.01 74 PFAKE 10 18 00.0 +7.3
SDDR LR LR
comp=Z,2µm,21.0s

RAMN Ramite 106.14 294 *eP* **PKiKP** **10 17 52.8 -0.2**
comp=Z,12nm,0.8s

BOK Bokaro 106.20 291 *eP* **Pdif** **10 13 39.4 -1.7**

JIRN Jiri 106.62 295 *eP* **PKiKP** **10 17 53.6 -0.4**

BRNJ Basking Ridge 106.76 52 PFAKE 10 18 10.0 +17
BRNJ LR LR
comp=Z,2µm,20.0s

ODNJ Ogdensburg 106.78 51 PFAKE 10 18 10.0 +17
ODNJ LR LR
comp=Z,2µm,19.0s

PKI Pulchoki 107.29 294 *eP* **PKiKP** **10 17 54.8 -0.4**

PAL Palisades 107.29 51 PFAKE 10 18 10.0 +16
PAL LR LR
comp=Z,2µm,18.0s

NCB Newcomb 107.38 48 PFAKE 10 18 10.0 +16
NCB LR LR
comp=Z,2µm,20.0s

PALK Pallekele 107.49 273 PFAKE 10 18 10.0 +14
PALK LR LR
comp=Z,900nm,19.0s

WMQ Urumqi 107.58 311 *e*Pdif **Pdif** **10 13 45.3 -1.5**
WMQ SS SS 10 33 23.5 -0.9
WMQ AMB AMB
comp=Z,860nm,5.7s
WMQ LR LR
comp=Z,1µm,19.9s
WMQ LR LR
comp=Z,1µm,21.7s
WMQ LR LR
comp=Z,1µm,23.7s

ACCN Adirondack Com 107.72 49 PFAKE 10 18 10.0 +15
ACCN LR LR
comp=Z,2µm,19.0s

DANN Dangsing 108.85 295 *eP* **PKiKP** **10 17 57.2 -0.8**
comp=Z,15nm,0.7s

KOLN Koldanda 108.91 294 *eP* **PKiKP** **10 17 56.8 -1.2**
comp=Z,9.5nm,0.9s

HRV Adam Dziewonsk 109.19 50 PFAKE 10 18 10.0 +12
HRV LR LR
comp=Z,3µm,20.0s

HRV Adam Dziewonsk 109.19 50 P **PKiKP** **10 17 57.7 -0.1**
baz=266

MDRS Chennai 109.29 278 *eP* **Pdif** **10 13 55.2 +0.3**

WES Weston 109.35 50 PFAKE 10 18 10.0 +12
WES LR LR
comp=Z,3µm,20.0s

PYUN Piuthan 109.49 295 *eP* **PKiKP** **10 17 58.2 -0.9**
comp=Z,14nm,0.9s

ZAA1 Zalesovo Array 110.00 322 *e*Pdif **Pdif** **10 13 56.2 -1.0**
ZAA1 *e*PKiKP **PKiKP** **10 17 58.2 -0.8**

ZALV Zalesovo Beam 110.00 322 Pdiff **Pdif** **10 13 56.2 -1.0**
comp=Z,1.4nm,0.9s,baz=99,slow=3.8,SNR=4.2
ZALV PKiKP **PKiKP** **10 17 58.2 -0.8**
comp=Z,4.2nm,0.6s,baz=205,slow=0.9,SNR=12

NVS Novosibirsk 110.92 323 *e*PKiKP **PKiKP** **10 18 00.0 -0.7**

PKME Peaks-Kenny Pk 110.98 47 PFAKE 10 18 10.0 +8.9
PKME LR LR
comp=Z,2µm,21.0s

MTP Monte Pirata 111.17 77 PFAKE 10 18 10.0 +7.7
MTP LR LR
comp=Z,1µm,20.0s

TRD Trivandrum 111.39 273 *eP* **PKiKP** **10 17 59.8 -3.0**
TRD IAMs_20 IAMs_20 11 08 37.1
comp=Z,1µm,19.6s

MK01 Makanchi Array 111.56 314 *e*Pdif **Pdif** **10 14 04.9 +0.6**

MK31 Makanchi Array 111.56 314 *e*Pdif **Pdif** **10 14 05.2 +0.8**

MK31 Makanchi Array 111.56 314 *e*P **Pdif** **10 14 05.2 +0.8**

MKAR Makanchi Array 111.56 314 Pdiff **Pdif** **10 14 04.6 +0.2**
comp=Z,0.9nm,0.8s,baz=76,slow=5.1,SNR=7.6
MKAR PKKPbc **PKKPbc** **10 28 57.6 -0.2**
comp=Z,2.2nm,1.0s,baz=282,slow=2.4,SNR=7.9

HYB Hyderabad 111.77 283 *eP* **PKiKP** **10 18 02.2 -1.3**

MAKZ Makanchi 111.78 314 PFAKE 10 18 10.0 +7.3
MAKZ LR LR
comp=Z,1µm,22.0s

PTGA Pitinga 111.97 97 PFAKE 10 18 20.0 +16
PTGA LR LR
comp=Z,1µm,19.0s

GGN Saint George 112.71 47 PFAKE 10 18 20.0 +16
GGN LR LR
comp=Z,3µm,20.0s

BATG Bathurst New B 113.24 45 PFAKE 10 18 20.0 +15
BATG LR LR
comp=Z,3µm,22.0s

SABA Saba 113.25 77 PFAKE 10 18 20.0 +14
SABA LR LR
comp=Z,1µm,22.0s

SEUS St. Eustatius 113.47 78 PFAKE 10 18 20.0 +13
SEUS LR LR
comp=Z,600nm,19.0s

SMRT St. Maarten 113.48 77 PFAKE 10 18 20.0 +13
SMRT LR LR
comp=Z,1µm,18.0s

SPB Sao Paulo 113.83 125 PFAKE 10 18 20.0 +13
SPB LR LR
comp=Z,2µm,18.0s

KURK Kurchatov 113.90 319 *e*PKiKP **PKiKP** **10 18 06.3 -0.2**
KURK PP **PP** **10 18 56.7 -3.7**
KURK PKKPbc **PKKPbc** **10 28 47.1 -2.9**
KURK LR LR
comp=Z,1µm,20.0s

KURK Kurchatov 113.90 319 *d* *i*PKIKP **PKiKP** **10 18 05.5 -1.0**
KURK pmax pmax
comp=Z,23nm,1.0s

KURK Kurchatov 113.90 319 P **PKiKP** **10 18 05.8 -0.7**
SNR=5.3

KURBB Kurchatov Arra 113.96 319 PKiKP **PKiKP** **10 18 06.3 -0.3**
comp=Z,11nm,0.9s,baz=94,slow=1.8,SNR=46
KURBB PP **PP** **10 18 56.7 -4.1**
comp=Z,1.9nm,0.8s,baz=84,slow=5.7,SNR=4.8
KURBB PKKPbc **PKKPbc** **10 28 47.1 -2.7**
comp=Z,1.9nm,0.9s,baz=258,slow=4.2,SNR=5.4

DDI Dehra Dun 114.03 296 *eP* **PKiKP** **10 18 06.1 -1.4**

TARG Taragay, Kyrgy 114.75 309 PFAKE 10 18 20.0 +11
TARG LR LR
comp=Z,700nm,21.0s

SMLA Simla 114.86 297 *eP* PKPdf 10 18 06.5 -2.4
SMLA IAMs_20 IAMs_20 11 03 02.3
comp=Z,930nm,17.4s

MNCY Minicoy 115.10 272 *eP* **PKPdf** **10 18 08.5 -1.4**

KDJ Kajisay 115.22 309 PFAKE 10 18 20.0 +10
KDJ LR LR
comp=Z,1µm,22.0s

DHRM DHARAMSHALA 115.68 298 *eP* **PKPdf** **10 18 09.1 -1.7**
DHRM IAMs_20 IAMs_20 11 03 50.8
comp=Z,913nm,16.9s

GOA Goa 115.88 280 *eP* **PKPdf** **10 18 09.2 -2.0**
GOA IAMs_20 IAMs_20 11 12 05.1
comp=Z,746nm,13.2s

ULHL Ulahol 115.91 309 P **PKiKP** **10 18 11.3 +0.3**
SNR=5.2

NRN Naryn 116.11 309 *e*PKPdf **PKPdf** **10 18 11.6 +0.1**
NRN LR LR
comp=Z,700nm,22.0s

NRN Naryn 116.11 309 *e*PKIKP **PKPdf** **10 18 11.6 +0.1**
NRN MLR MLR
comp=Z,700nm,22.0s

KSH Kashi 116.15 306 PKP **PKiKP** **10 18 12.8 +1.4**
KSH PP **PP** **10 19 21.3 +4.5**
KSH PKS **PKSdf** **10 21 50.5 +2.3**
KSH SKS **SKSdf** **10 25 23.8 +1.7**
KSH SKKS **SKKSac** **10 26 17.5 +1.1**
KSH SS **SS** **10 35 24.3 +5.5**
KSH AMB AMB
comp=Z,490nm,6.8s
KSH LR LR
comp=Z,380nm,7.6s
KSH LR LR
comp=Z,360nm,7.5s
KSH LR LR
comp=Z,1µm,9.1s

TKM2 Tokmak 2 116.37 310 P **PKPdf** **10 18 11.7 -0.1**
SNR=5.3

POO Poona 116.38 283 *eP* **PKPdf** **10 18 10.1 -2.2**

POO Poona 116.38 283 *ex* PKPpre 10 18 08.0

KBK Karagaybulak 116.86 310 P **PKPdf** **10 18 12.6 -0.1**
SNR=5.1

CHMS Chumysh 116.98 310 P **PKPdf** **10 18 12.8 0.0**
SNR=5.9

USP Ospenovka 117.15 311 P **PKPdf** **10 18 13.1 0.0**
SNR=6.7

AAK Ala-Archa 117.19 310 PKP **PKPdf** **10 18 12.8 -0.5**
comp=Z,5.6nm,0.9s,baz=220,slow=1.6,SNR=8.6
AAK PKKPbc **PKKPbc** **10 28 38.4 -0.2**
comp=Z,0.6nm,0.3s,baz=222,slow=8.3,SNR=4.5

AAK Ala-Archa 117.19 310 *e*PKPdf **PKPdf** **10 18 13.3 -0.1**
AAK PKKPbc **PKKPbc** **10 28 38.4 -0.2**

AAK Ala-Archa 117.19 310 PKiKP **PKPdf** **10 18 12.9 -0.4**

AAK Ala-Archa 117.19 310 *c* *i*PKIKP **PKPdf** **10 18 13.2 -0.1**
AAK pmax pmax
comp=Z,4.0nm,0.8s

UCH Uchtor 117.19 309 P **PKPdf** **10 18 13.9 +0.2**
SNR=7.9

BDFB Brasilia 117.27 118 PKP **PKPdf** **10 18 14.6 +0.4**
comp=Z,2.6nm,0.7s,baz=188,slow=20,SNR=3.8

BDFB Brasilia 117.27 118 PFAKE 10 18 30.0 +16
BDFB LR LR
comp=Z,1µm,20.0s

EKS2 Erkin-Say 117.72 310 P **PKPdf** **10 18 14.3 0.0**
SNR=6.8

SPA0 Spitsbergen Ar 117.79 358 *e*PKPdf **PKPdf** **10 18 13.2 -0.1**

AML Almayashu 117.81 309 P **PKPdf** **10 18 14.8 -0.1**
SNR=9.7

NIL Nilore 118.30 300 *e*PKPdf **PKPdf** **10 18 14.7 -0.9**

NIL Nilore 118.30 300 *e*PKIKP **PKPdf** **10 18 14.7 -0.9**

ARSB Arslanbob 118.38 308 *e*PKPdf **PKPdf** **10 18 15.6 -0.1**

BVAR Borovoye Array 118.66 322 PKP **PKPdf** **10 18 15.4 -0.3**
comp=Z,17nm,0.7s,baz=88,slow=1.0,SNR=96
BVAR PKKPbc **PKKPab** **10 28 35.9 +2.3**
comp=Z,0.8nm,0.7s,baz=260,slow=5.9,SNR=5.2

BRVK Borovoye 118.71 322 *e*PKPdf **PKPdf** **10 18 15.3 -0.4**
BRVK LR LR
comp=Z,1µm,20.0s

BRVK Borovoye 118.71 322 *d* *i*PKIKP **PKPdf** **10 18 15.4 -0.4**

BRVK Borovoye 118.71 322 P **PKPdf** **10 18 15.3 -0.4**
SNR=7.6

KK31 Karatay Array 120.08 311 *e*PKPdf **PKPdf** **10 18 18.4 -0.3**

KK31 Karatay Array 120.08 311 *e*PKIKP **PKPdf** **10 18 18.4 -0.3**

KKAR Karatay Array 120.08 311 *e*PKPdf **PKPdf** **10 18 18.4 -0.2**

KKAR Karatay Array 120.08 311 *e*PKIKP **PKPdf** **10 18 18.5 -0.2**

BTK Batken 120.10 307 PFAKE 10 18 30.0 +11
BTK LR LR
comp=Z,800nm,21.0s

MCI6 Montes Claros 120.16 121 *e*P **PKPdf** **10 18 20.0 +0.3**

MCI8 Montes Claros 120.21 121 *e*P **PKPdf** **10 18 20.2 +0.4**

MCI9 Montes Claros 120.22 121 *e*P **PKPdf** **10 18 20.0 +0.2**

MCI7 Montes Claros 120.23 121 *e*P **PKPdf** **10 18 19.7 -0.1**

GAR Garm 120.56 306 *e*PKPdf **PKPdf** **10 18 19.9 0.0**

GAR Garm 120.56 306 *e*PKIKP **PKPdf** **10 18 19.9 0.0**

ALF01 Guarapari-ES 120.66 126 *e*P **PKiKP** **10 18 22.4 +1.9**

JANB Januaria 120.68 119 *e*P **PKPdf** **10 18 20.3 -0.4**

BHJ Bhuj 120.87 288 *e*P **PKPdf** **10 18 18.3 -2.4**

SJMB Sao Joao De Ma 121.36 124 *e*P **PKPdf** **10 18 21.7 -0.1**

CHGR Chuyangaron 121.48 306 *e*PKPdf **PKPdf** **10 18 21.6 -0.1**

BSFB Barra de Sao F 121.56 125 *e*P **PKPdf** **10 18 21.6 -0.6**

RIB01 Linhares ES 121.64 125 *e*P **PKPdf** **10 18 22.6 +0.2**

KBL Kabul 121.78 301 *e*PKPdf **PKPdf** **10 18 22.7 +0.2**
KBL LR LR
comp=Z,600nm,20.0s

KBL Kabul 121.78 301 *e*PKIKP **PKPdf** **10 18 22.7 +0.2**
KBL MLR MLR
comp=Z,600nm,20.0s

SVE Sverdlovsk 122.93 328 *i* PKIKP **PKPdf** **10 18 23.9 +0.2**
SVE pmax pmax
comp=Z,35nm,0.9s
SVE MLR MLR
comp=Z,905nm,20.0s

ARU Arti 124.14 328 *e*PKPdf **PKPdf** **10 18 25.9 -0.2**

ARU Arti 124.14 328 *d* *i*PKIKP **PKPdf** **10 18 25.6 -0.4**
ARU pmax pmax
comp=Z,105nm,0.7s

HAMF Hammerfest 124.59 353 *e*PKPdf **PKPdf** **10 18 23.9 -2.6**

KEV Kevo 125.00 352 *e*PKPdf **PKPdf** **10 18 27.1 -0.2**

KEV Kevo 125.00 352 *e*PKIKP **PKPdf** **10 18 27.1 -0.2**

KEV Kevo 125.00 352 *e*P **PKPdf** **10 18 27.3 0.0**

LVZ Lovozero 125.31 348 *e*PKPdf **PKPdf** **10 18 27.4 -0.6**

LVZ Lovozero 125.31 348 ||| *i*PKIKP **PKPdf** **10 18 27.3 -0.7**
LVZ pmax pmax
comp=Z,2.0nm,0.8s

ARA0 ARCESS Array S 125.41 352 *e*PKPdf **PKPdf** **10 18 28.2 0.0**

ARCES ARCESS Array B 125.41 352 PKP **PKPdf** **10 18 28.2 0.0**
comp=Z,32nm,0.7s,baz=11,slow=1.3,SNR=87

ARCES ARCESS Array B 125.41 352 *e*PKPdf **PKPdf** **10 18 27.8 -0.3**

ARE0 ARCESS Array S 125.41 352 *e*PKPdf **PKPdf** **10 18 28.1 0.0**
ARE0 LR LR
comp=Z,100nm,22.0s

ARE0 ARCESS Array S 125.41 352 *e*PKPdf **PKPdf** **10 18 28.3 +0.2**

ABKAR Akbulak array 125.98 320 *e*PKPdf **PKPdf** **10 18 29.9 +0.2**

TRO Tromso 126.04 355 *e*PKPdf **PKPdf** **10 18 29.4 +0.1**

KTK1 Kautokeino 126.19 353 *e*PKPdf **PKPdf** **10 18 29.4 -0.2**

AKTO Aktyubinsk 126.76 322 PKP **PKPdf** **10 18 31.1 -0.1**
comp=Z,13nm,0.8s,baz=69,slow=2.9,SNR=45

PRGR Permogore 126.95 338 ||| *i*PKIKP **PKPdf** **10 18 30.3 -0.9**
PRGR pmax pmax
comp=Z,66nm,0.9s

ABPO Ambohimpanom 127.11 230 *e*PKPdf **PKiKP** **10 18 34.4 +0.8**
ABPO LR LR
comp=Z,2µm,20.0s

OPO Ambohidratompo 127.41 231 PKP **PKiKP** **10 18 34.4 +0.1**
comp=Z,23nm,0.7s,baz=135,slow=2.0,SNR=27

STEI Steigen 127.99 356 *e*PKPdf **PKPdf** **10 18 32.4 -0.6**

KONS Konsvik 129.54 357 *e*PKPdf **PKiKP** **10 18 36.9 +0.1**

KLMR Klimovskoe 129.61 340 *e*PKIKP **PKPdf** **10 18 34.5 -1.8**
KLMR pmax pmax
comp=Z,67nm,1.2s

KLMR Klimovskoe 129.61 340 *e*PKPdf **PKPdf** **10 18 34.5 -1.8**
KLMR AMP 10 18 37.8
comp=Z,67nm,1.2s

NBMO Morrinhos-CE 129.74 108 *e*P **PKPdf** **10 18 37.4 -0.7**

SUR Sutherland 129.92 195 PKP **PKiKP** **10 18 39.4 +0.4**
comp=Z,15nm,0.8s,baz=160,slow=4.6,SNR=9.8

GEYT Alibeck 130.19 306 PKhKP PKPpre 10 18 27.4
comp=Z,2.5nm,0.7s,baz=299,slow=1.5,SNR=4.3
GEYT PKP **PKPdf** **10 18 38.5 +0.2**
comp=Z,12nm,0.8s,baz=268,slow=4.2,SNR=15

GYA0B ALIBECK ARRAY 130.19 306 *e*PKPdf **PKPdf** **10 18 38.6 +0.3**
GYA0B LR LR
comp=Z,600nm,22.0s

JLN Jalan Bani Buh 130.23 286 P **PKPdf** **10 18 38.6 -0.1**
SNR=8.2

WSAR Wadi Sarin 130.99 287 PKP **PKPdf** **10 18 40.1 -0.1**
comp=Z,9.8nm,1.0s,baz=210,slow=3.6,SNR=14

WSAR Wadi Sarin 130.99 287 P **PKPdf** **10 18 40.2 +0.1**
SNR=7.8

BIDO Bidbid 131.46 287 P **PKiKP** **10 18 42.1 +0.2**
SNR=6.9

MHTO MHTO 131.50 284 P **PKiKP** **10 18 42.0 -0.1**
SNR=6.9

NSS Namsos 131.56 357 *e*PKPdf **PKPdf** **10 18 39.8 -0.2**

BOSA Boshof 132.06 202 PKP **PKiKP** **10 18 43.3 0.0**
comp=Z,17nm,1.0s,baz=165,slow=5.6,SNR=13

BOSA Boshof 132.06 202 *e*PKPdf **PKiKP** **10 18 43.3 0.0**

BOSA *e*PKPdf **PKPdf** **10 18 44.0 +1.8**

BOSA Boshof 132.06 202 *e*P **PKiKP** **10 18 44.2 +0.9**

RCBR Riachuelo 132.35 114 PFAKE 10 19 00.0 +16
RCBR LR LR
comp=Z,36µm,21.0s

RCBR Riachuelo 132.35 114 *e*P **PKiKP** **10 18 45.5 +1.4**

FIA0 FINESS Array S 132.75 348 *e*PKPdf **PKPdf** **10 18 42.1 -0.1**

FINES FINESS Array B 132.75 348 PKP **PKPdf** **10 18 42.1 -0.1**
comp=Z,19nm,0.7s,baz=39,slow=2.7,SNR=43

SOHO SOHO 132.92 288 P **PKPdf** **10 18 43.5 -0.2**
SNR=21

MDH Madha 133.12 290 *i* PKiKP **PKPdf** **10 18 44.6 +0.5**
SNR=6.2

MDH Madha 133.12 290 P **PKPdf** **10 18 43.0 -1.1**
SNR=5.7

UOSS Minazif 133.22 289 *e*PKPdf **PKPdf** **10 18 43.7 -0.6**

UOSS Minazif 133.22 289 *i* PKPdf **PKPdf** **10 18 43.4 -0.9**
SNR=12

UOSS Minazif 133.22 289 P **PKPdf** **10 18 43.4 -0.9**
SNR=7.9

PUL Pulkovo 133.23 344 ||| *i*PKIKP **PKiKP** **10 18 44.5 +0.1**

MSFE Esma-Masafi 133.25 290 *i* PKiKP **PKPdf** **10 18 44.6 +0.2**
SNR=16

HATD Hatta, Dubai 133.28 289 *i* PKiKP **PKPdf** **10 18 44.8 +0.3**
SNR=14

HATD Hatta, Dubai 133.28 289 P **PKPdf** **10 18 44.7 +0.3**
SNR=13

ASHO Ashiyiah 133.35 289 *i* PKiKP **PKPdf** **10 18 44.4 -0.2**
SNR=19

ASHO Ashiyiah 133.35 289 P **PKPdf** **10 18 44.6 -0.1**
SNR=12

ALNE Al Ain 133.64 288 PKiKP **PKPdf** **10 18 44.9 -0.2**

NAZ Nazwa, Dubai 133.71 289 *i* PKiKP **PKPdf** **10 18 45.9 +0.7**
SNR=5.7

NAZ Nazwa, Dubai 133.71 289 P **PKPdf** **10 18 45.1 -0.1**
SNR=10

FAQ Al Faqa, Dubai 133.78 289 PKiKP **PKiKP** **10 18 46.3 -0.3**

FAQ Al Faqa, Dubai 133.78 289 P **PKPdf** **10 18 45.7 +0.4**
SNR=6.3

ASUD Al Ashush, Dub 134.02 289 *i* PKiKP **PKiKP** **10 18 47.0 -0.1**

SNR=14
ASUD Al Ashush, Dub 134.02 289 P **PKiKP** **10 18 48.0 +0.9**
SNR=6.9
MOS Moscow 134.06 336 *e*PKIKP **PKPdf** **10 18 45.3 +0.4**
MOS *e* 10 18 52.3
MOS pmax pmax
comp=Z,55nm,0.8s
OBN Obninsk 134.93 336 *e*PKPdf **PKPdf** **10 18 46.7 +0.1**
OBN Obninsk 134.93 336*d*PKIKP **PKPdf** **10 18 46.6 +0.1**
OBN *e* 10 18 53.7
OBN *e* 10 18 58.1
OBN pmax pmax
comp=Z,29nm,1.1s
OBN pmax pmax
comp=Z,53nm,0.9s
OBN MLR MLR
comp=Z,882nm,20.0s
NB2 NORSAR Subarra135.08 357 PKP PKPpre 10 18 34.1
comp=Z,0.7nm,0.6s,baz=10,slow=3.2
NB200 NORSAR Array S 135.08 357 *e*PKPdf **PKPdf** **10 18 46.5 -0.2**
NOA NORSAR Array B 135.08 357 PKhKP PKPpre 10 18 32.5
comp=Z,0.8nm,0.7s,baz=16,slow=4.2,SNR=4.6
NOA PKP **PKPdf** **10 18 46.5 -0.2**
comp=Z,4.9nm,0.8s,baz=14,slow=4.1,SNR=8.1
LBTB Lobatse 135.18 204 PKP **PKPdf** **10 18 48.4 +0.2**
comp=Z,7.3nm,0.9s,baz=118,slow=5.4,SNR=6.7
VSU Vasula 135.28 345⇓*i*PKIKP **PKPdf** **10 18 47.9 +0.8**
VSU pmax pmax
comp=Z,60nm,0.8s
VSU Vasula 135.28 345 *e*P PKPpre 10 18 40.5
VRH Novokhopyorsk 135.35 329 *e*PKIKP **PKPdf** **10 18 48.0 +0.6**
VRH pmax pmax
comp=Z,30nm,0.6s
NC602 NORSAR Array S 135.37 357 *e*PKPdf **PKPdf** **10 18 47.2 0.0**
NC602 NORSAR Array S 135.37 357 *e*Pdif **Pdif** **10 15 48.1 -1.8**
MZR Muzera 135.73 286 *i* PKiKP **PKiKP** **10 18 50.6 0.0**
SNR=6.3
MZR Muzera 135.73 286 P **PKiKP** **10 18 51.0 +0.4**
SNR=7.2
LPSR Galich'ya Gora 135.74 332 *e*PKIKP **PKiKP** **10 18 49.6 -0.1**
LPSR pmax pmax
comp=Z,30nm,0.9s
KONO Kongsberg 136.54 358 *e*PKPdf **PKPdf** **10 18 49.7 +0.3**
VSR Storozhevoye 136.57 331 *e*PKIKP **PKPdf** **10 18 48.6 -1.1**
VSR pmax pmax
comp=Z,20nm,1.6s
GROC Groznyy 137.36 317 *e*PKIKP **PKPdf** **10 18 49.8 -1.7**
GROC *e* 10 26 00.1
GROC pmax pmax
comp=Z,72nm,1.5s
IZAR Zarasai 137.81 344 *e*P PKPpre 10 18 47.7
MATP Matopo 137.89 211 PKhKP PKPpre 10 18 42.2
comp=Z,3.2nm,0.8s,baz=142,slow=4.3,SNR=7.2
MATP PKP **PKPdf** **10 18 53.3 0.0**
comp=Z,18nm,0.9s,baz=203,slow=1.5,SNR=18
ISAL Salakas 138.00 344 *e*P PKPpre 10 18 48.0
IDID Didziasalis 138.06 343 *e*P PKPpre 10 18 44.1
IIGN Ignalina 138.17 344 *e*P PKPpre 10 18 44.7
GOF Gofitskoye 138.17 321 *e*PKHKP PKPpre 10 18 32.1
NACGM Naroch 138.40 343 *e* PKPpre 10 18 46.0
NACGM *e*LR LR 11 11 20.0
PABE Paberze 138.61 345 *e*P **PKPdf** **10 18 52.2 -1.1**
TBLG Delisi 138.72 316 *e*PKPdf **PKPdf** **10 18 54.9 +0.8**
ZEI Tsey 138.78 318 *i* PKHKP PKPpre 10 18 46.8
ZEI pmax pmax
comp=Z,10.0nm,0.9s
KBZ Khabaz 138.95 320 PKhKP PKPpre 10 18 47.5
comp=Z,5.1nm,0.9s,baz=175,slow=3.6,SNR=9.5
KIV Kislovodsk 138.97 320 *e*PKPdf **PKPdf** **10 18 54.3 -0.3**
KIV LR LR
comp=Z,800nm,18.0s
KIV Kislovodsk 138.97 320⇑*i*P **PKiKP** **10 18 57.9 +1.1**
KIV Kislovodsk 138.97 320 *i* PKIKP **PKPdf** **10 18 54.5 0.0**
KIV pmax pmax
comp=Z,17nm,1.0s
KIV MLR MLR
comp=Z,937nm,24.0s
NEY Neytrino 139.31 319⇓*i*PKIKP **PKiKP** **10 18 56.9 -0.7**
GNI Garni 139.41 314 *e*PKPdf **PKPdf** **10 18 56.6 +1.0**
GNI Garni 139.41 314*d*PKIKP **PKPdf** **10 18 56.3 +0.7**
KARS Kars 140.34 315 PFAKE 10 19 10.0 +10
KARS LR LR
comp=Z,3μm,22.0s
SOC Sochi 140.98 321 *i* PKIKP **PKiKP** **10 19 00.2 -0.5**
SOC *e* 10 21 58.6
SOC pmax pmax
comp=Z,34nm,1.0s
SOC MLR MLR
comp=Z,869nm,20.0s
AKASG Malin Array Be 141.15 337 PKhKP PKPpre 10 18 51.2
comp=Z,4.5nm,0.6s,baz=39,slow=4.1,SNR=22
AKASG PKP **PKPdf** **10 18 57.5 -0.6**
comp=Z,17nm,0.8s,baz=41,slow=3.6,SNR=29
AKBB Malin Array Si 141.15 337 *e*PKPdf **PKPdf** **10 18 58.0 -0.1**
AKBB Malin Array Si 141.15 337 *e*PKIKP **PKPdf** **10 18 58.0 -0.1**
KIEV Kiev 141.17 337 PFAKE 10 19 10.0 +9.1
KIEV LR LR
comp=Z,1μm,19.0s
AK11 Malin Array Si 141.19 337 *e*PKPdf **PKPdf** **10 18 58.1 -0.1**
LSZ Lusaka 142.33 215 PKhKP PKPpre 10 18 58.2
comp=Z,6.9nm,0.7s,baz=78,slow=1.2,SNR=14
LSZ Lusaka 142.33 215 PKPpre PKPpre 10 18 58.2
LSZ LR LR
comp=Z,1μm,19.0s
LSZ Lusaka 142.33 215 P **PKPdf** **10 19 00.1 -1.4**
SNR=5.2
BEL Belsk 142.74 346 *e*PKP **PKiKP** **10 19 04.8 +0.7**
BEL Belsk 142.74 346 *e*PKIKP **PKiKP** **10 19 04.8 +0.7**
RAYN Ar Rayn 143.04 288 *e*PKPpre PKPpre 10 18 59.3
RAYN LR LR
comp=Z,800nm,20.0s
RAYN Ar Rayn 143.04 288 *i* PKPdf PKPbc 10 18 58.7 -0.5
SNR=22
RAYN Ar Rayn 143.04 288 *e*PKIKP PKPpre 10 18 59.3
RAYN MLR MLR
comp=Z,800nm,20.0s
SIM Simferopol' 143.29 327 *e*PKIKP PKPbc 10 18 59.8 +0.6
SIM *e* 10 19 05.0
SIM *e* 10 22 18.0
SIM pmax pmax
comp=Z,26nm,0.8s
SIM pmax pmax
comp=Z,160nm,9.4s
TSUM Tsumeb 143.31 197 PKhKP PKPpre 10 19 00.4
comp=Z,24nm,0.8s,baz=142,slow=4.8,SNR=28
TSUM PP **PP** **10 22 13.5 +1.2**
comp=Z,7.6nm,0.9s,baz=226,slow=17,SNR=4.2
TSUM Tsumeb 143.31 197 *e*PKPdf PKPbc 10 19 01.5 +1.4
TSUM PP **PP** **10 22 13.5 +1.2**
TSUM LR LR
comp=Z,1μm,21.0s
RUE Ruedersdorf 143.37 353 *e*P PKPab 10 18 57.6 -0.3
LVV L'vov 143.67 341 *e*PKIKP PKPab 10 18 59.3 0.0
LVV MLR MLR
comp=E,500nm,21.0s
LVV MLR MLR
comp=N,800nm,23.0s
LVV MLR MLR
comp=Z,1μm,23.0s
DAMY Dhamar 143.83 273 *e*PKPdf PKPbc 10 19 03.4 +1.4
DAMY LR LR
comp=Z,900nm,20.0s
CUZAR Zara_SIVAS 144.23 318 *i* P **PKPdf** **10 19 04.0 -0.1**
KWP Kalwaria Pacla 144.24 342 *e*PKP **PKPab** **10 19 01.8 +0.3**
KWP Kalwaria Pacla 144.24 342 *e*PKPdf PKPbc 10 19 02.0 +0.1
KWP Kalwaria Pacla 144.24 342 *e*PKIKP **PKPab** **10 19 01.8 +0.3**
KIS Kishinev 144.28 334 *e*PKP **PKPab** **10 19 00.0 -1.7**
KIS Kishinev 144.28 334 *e*PP PP 10 22 18.0 -0.3
KIS *e*SKS **SKSdf** **10 26 08.0 -3.7**
KIS *e*L L 11 11 52.0
comp=Z,800nm,28.0s
KIS LRM MLR 11 28 52.0
comp=Z,600nm,19.0s
KIS Kishinev 144.28 334 *e*PKHKP PKPpre 10 19 00.0
KIS *e* 10 19 05.0
KIS *e* 10 19 09.5
KIS *e* 10 22 18.0
KIS *e* 10 26 08.0
WTSB Winterswijk 144.29 0 *e*PKP **PKPab** **10 19 01.9 +0.3**
OJC Ojcow 144.47 346 *e*PKP PKPbc 10 19 02.7 +0.1
OJC Ojcow 144.47 346 *e*PKPdf **PKPab** **10 19 02.2 -0.2**
OJC Ojcow 144.47 346 *e*PKIKP **PKPab** **10 19 02.2 -0.2**
SNOP Sinop 144.58 322 *e*PKPdf PKPbc 10 19 03.8 +0.6
KSP Ksiaz 144.60 350 *e*PKP **PKPab** **10 19 03.0 +0.2**
KSP Ksiaz 144.60 350 *e*PKIKP **PKPab** **10 19 03.0 +0.2**
CLL Collm 144.61 353 *e*PKPdf **PKPab** **10 19 02.4 -0.4**
CLL Collm 144.61 353⇓*i*PKPdf **PKPab** **10 19 02.4 -0.4**
comp=Z,53nm,0.7s
CLL *e*PKPlp 10 19 09.0
comp=Z,600nm,18.0s
CLL *i* pPKiKP **sPKPdf** **10 19 13.5 -1.1**
CLL *e*sPKiKP **pPKPdf** **10 19 16.0 +4.0**
CLL *e*PP PP 10 22 12.0 -7.9
CLL *i* pPP 10 22 24.3
CLL *e*PSKS 10 32 30.0
CLL *e*SS SS 10 41 06.0 +1.0
CLL *e*SSS SSS 10 46 12.0
CLL *e*SSSS 10 50 12.0
CLL LmH 11 21 00.0
comp=N,400nm,20.9s
CLL LmH 11 21 00.0
comp=E,800nm,20.8s
CLL LmV 11 27 00.0
comp=Z,800nm,18.4s
CLL Collm 144.61 353⇓*i*PKIKP **PKPab** **10 19 02.4 -0.4**
CLL *i* 10 19 13.5
CLL pmax pmax
comp=Z,53nm,0.7s
CLL MLR MLR
comp=Z,800nm,18.4s
CUKAN kangal_SIVAS 144.73 317 *i* P **PKPdf** **10 19 05.2 +0.1**
ATD Arta Tunnel 144.81 267 PKP **PKPdf** **10 19 05.8 +0.1**
comp=Z,23nm,0.9s,baz=134,slow=6.8,SNR=4.1
ATD Arta Tunnel 144.81 267 PKP **PKPdf** **10 19 05.8 +0.1**
ATD LR LR
comp=Z,800nm,19.0s
BRG Berggiesshubel 144.92 352⇓*i*PKP **PKPab** **10 19 03.8 -0.2**
comp=Z,32nm,0.9s
BRG *e* 10 19 19.1
comp=Z,44nm,1.1s
BRG Berggiesshubel 144.92 352⇓*i*PKIKP **PKPab** **10 19 03.8 -0.2**
BRG *e* 10 19 19.1
BRG pmax pmax
comp=Z,33nm,0.9s
BRG pmax pmax
comp=Z,45nm,1.1s
RAC Raciborz 144.96 347 *e*PKIKP PKPbc 10 19 04.7 +0.6
UPC Upice 144.97 350 *e*PKP PKPbc 10 19 04.7 +0.5
UPC Upice 144.97 350 *e*PKIKP PKPbc 10 19 04.7 +0.5
DPC Dobruska-Polom 145.07 349 *e*PKP **PKPdf** **10 19 05.2 +0.1**
DPC AMS AMS 11 19 20.0
comp=Z,1μm,23.8s
DPC Dobruska-Polom 145.07 349 *e*PKIKP **PKPdf** **10 19 05.2 +0.1**
DPC MLR MLR
comp=Z,1μm,23.8s
NIE Niedzica 145.09 345 *e*PKP **PKPdf** **10 19 05.2 0.0**
NIE Niedzica 145.09 345 *e*PKIKP **PKPdf** **10 19 05.2 0.0**
BUR08 Bucovina Ar. S 145.16 338 *e*PKPbc **PKPbc** **10 19 05.0 0.0**
CUGUR Gurin_SVAS 145.17 316 *i* P **PKPdf** **10 19 07.5 +1.7**
PVCC Panska Ves 145.17 351 *e*PKP **PKPdf** **10 19 05.4 +0.1**
PVCC AMS AMS 11 22 00.0
comp=Z,1μm,19.8s
PVCC Panska Ves 145.17 351 *e*PKIKP **PKPdf** **10 19 05.4 +0.1**
PVCC MLR MLR
comp=Z,1μm,19.8s
BUR04 Bucovina Ar. S 145.18 338 *e*PKPbc **PKPbc** **10 19 05.0 0.0**
BURAR Bucovina Array 145.18 338⇓*i*P **PKPab** **10 19 05.4 +0.2**
BURAR Bucovina Array 145.18 338⇓PKIKP **PKPab** **10 19 05.4 +0.2**
OKC Ostrava-Krasne 145.20 347 *e*PKP **PKPdf** **10 19 05.4 +0.1**
OKC AMS AMS 11 18 40.0
comp=Z,1μm,17.5s
OKC Ostrava-Krasne 145.20 347 *e*PKIKP **PKPdf** **10 19 05.4 +0.1**
OKC MLR MLR
comp=Z,1μm,17.5s
CUALT Altinyayla-SIV 145.22 317 *i* P **PKPdf** **10 19 07.6 +1.7**
KRLC Kraliky 145.25 349 *e*PKP **PKPdf** **10 19 05.7 +0.2**
KRLC Kraliky 145.25 349 *e*PKIKP **PKPdf** **10 19 05.7 +0.2**
UZH Uzhgorod 145.25 342*c i*PKIKP **PKPdf** **10 19 06.0 +0.6**
UZH *e* 10 19 15.0
MORC Moravsky Berou 145.38 348 *e*PKPbc **PKPbc** **10 19 05.6 0.0**
MORC Moravsky Berou 145.38 348⇓*i*P **PKPdf** **10 19 06.1 +0.4**
MORC Moravsky Berou 145.38 348⇓PKIKP **PKPdf** **10 19 06.1 +0.4**
MORC Moravsky Berou 145.38 348 *e*PKP **PKPdf** **10 19 06.0 +0.4**
UCC Uccle 145.40 3 *e*PKPbc **PKPbc** **10 19 05.4 0.0**
UCC Uccle 145.40 3 *e*PKIKP **PKPbc** **10 19 05.4 0.0**
UCC Uccle 145.40 3⇓PKP **PKPbc** **10 19 05.5 0.0**
BIZ Bicaz 145.42 337⇓*i*P **PKPab** **10 19 06.3 +0.4**
BEBN Eben Emael 145.45 1⇓PKP **PKPbc** **10 19 05.4 -0.3**
CUSAR Sarkisla-SIVAS 145.47 318 *i* P **PKiKP** **10 19 08.8 -1.5**
HGN Heimansgroeve 145.49 1 *e*PKP **PKPbc** **10 19 05.1 -0.7**
comp=Z,569nm,1.8s
LANS Liptovska Anna 145.54 345 *e*PKIKP **PKPab** **10 19 07.2 +0.8**
LANS Liptovska Anna 145.54 345 *e*PKP **PKPab** **10 19 07.2 +0.8**
TRPA Tarpa 145.63 341⇑*i*P **PKPdf** **10 19 06.3 +0.2**
TRPA Tarpa 145.63 341⇓*e*P **PKPdf** **10 19 06.0 -0.1**
PRA Prague 145.64 351 *e*PKP **PKPab** **10 19 07.1 +0.5**
PRA AMS AMS 11 22 30.0
comp=Z,2μm,22.5s
PRA Prague 145.64 351 *e*PKIKP **PKPab** **10 19 07.1 +0.5**
PRA MLR MLR
comp=Z,2μm,22.5s
MEM Membach 145.64 1⇓PKP **PKPdf** **10 19 06.2 +0.2**
SNF Seneffe 145.69 3⇓PKP **PKPbc** **10 19 06.6 +0.2**
TLCR 145.70 332⇑*i*P **PKPab** **10 19 07.2 +0.2**
TLCR 145.70 332⇑PKIKP **PKPab** **10 19 07.2 +0.2**
PRU Pruhonice 145.70 351 *e*PKP **PKPbc** **10 19 06.8 +0.3**
PRU *ex* x 10 19 17.7
PRU AMS AMS 11 22 30.0
comp=Z,2μm,24.5s
PRU Pruhonice 145.70 351 *e*PKIKP **PKPbc** **10 19 06.8 +0.3**
PRU *e* 10 19 17.7
PRU MLR MLR
comp=Z,2μm,24.5s
BMR Baia Mare 145.72 340⇑*i*P **PKPab** **10 19 07.3 +0.3**
BMR Baia Mare 145.72 340⇑PKIKP **PKPab** **10 19 07.3 +0.3**
SHEL Horse Pasture 145.73 158 *e*PKPdf **PKPab** **10 19 09.0 +1.0**
SHEL Horse Pasture 145.73 158 *i* PKP2 **PKPab** **10 19 10.0 +2.1**
NKC Novy Kostel 145.73 354 *e*PKP **PKPab** **10 19 07.1 +0.1**
NKC Novy Kostel 145.73 354 *e*PKIKP **PKPab** **10 19 07.1 +0.1**
GOPC GO Pecny, Ondr 145.74 351 *e*PKP **PKPab** **10 19 07.3 +0.3**
GOPC *ex* x 10 19 17.5
GOPC AMS AMS 11 23 00.0
comp=Z,1μm,21.0s
GOPC GO Pecny, Ondr 145.74 351 *e*PKIKP **PKPab** **10 19 07.3 +0.3**
GOPC *e* 10 19 17.5
GOPC MLR MLR
comp=Z,1μm,21.0s
ARCR ARČALIA 145.94 339⇑*i*P **PKPab** **10 19 08.3 +0.4**
PETR Petresti 145.97 334⇑*i*P **PKPab** **10 19 08.8 +0.8**
CFR Carcaliu 146.01 333⇓*i*P **PKPab** **10 19 07.5 -0.1**
CFR Carcaliu 146.01 333⇓PKP2 **PKPbc** **10 19 07.5 -0.1**
VRAC Vranov 146.02 349⇑*i*P **PKPbc** **10 19 07.6 +0.1**
VRAC Vranov 146.02 349⇑PKP2 **PKPbc** **10 19 07.6 +0.1**
VRAC Vranov 146.02 349 *e*PKP **PKPbc** **10 19 08.0 +0.5**
VRI Vrincioaia 146.06 335⇓*i*P **PKPbc** **10 19 07.8 0.0**
VRI Vrincioaia 146.06 335⇓PKP2 **PKPbc** **10 19 07.8 0.0**
PLOR Plostina 146.10 335⇓*i*P **PKPbc** **10 19 08.2 +0.2**
PLOR Plostina 146.10 335⇓PKP2 **PKPbc** **10 19 08.2 +0.2**
DOU Dourbes 146.11 3⇓PKP **PKPdf** **10 19 07.1 +0.3**
JAVC Velka Javorina 146.23 347 *e*PKP **PKPab** **10 19 09.8 +0.8**
TREC Trest 146.23 350 *e*PKP **PKPbc** **10 19 08.7 +0.5**
TREC *ex* x 10 19 21.2
TREC Trest 146.23 350 *e*PKP2 **PKPbc** **10 19 08.7 +0.5**
OZUR 146.25 336⇑*i*P **PKPab** **10 19 09.1 0.0**
KRUC Moravsky 146.29 349 *e*PKP **PKPbc** **10 19 08.8 +0.4**
VYHS Vyhne 146.31 346 *e*PKP2 **PKPdf** **10 19 08.0 +0.7**
VYHS Vyhne 146.31 346 *e*PKP **PKPdf** **10 19 08.0 +0.7**
VYHS *e* 10 19 09.1
KOLL Kolacno 146.33 346 *e*PKP2 **PKPbc** **10 19 08.3 -0.2**
KOLL Kolacno 146.33 346 *e*PKP **PKPbc** **10 19 08.3 -0.2**
KOLL *e* 10 19 09.2
GRER 146.35 334⇑*i*P **PKPab** **10 19 10.3 +0.8**
GRA1 Grafenberg Arr 146.38 355 *e*PKPdf **PKPbc** **10 19 09.0 +0.3**
GRFO Grafenberg 146.38 355 *e*PKPdf **PKPbc** **10 19 08.9 +0.3**
TIRR Tirgusor 146.44 332 *e*PKPdf **PKPbc** **10 19 08.8 -0.2**
TIRR LR LR
comp=Z,1μm,22.0s
TIRR Tirgusor 146.44 332⇑*i*P **PKPbc** **10 19 08.7 -0.2**
TIRR Tirgusor 146.44 332⇑PKP2 **PKPbc** **10 19 08.7 -0.2**
HARR Harsova 146.48 332⇑*i*P **PKPab** **10 19 09.9 -0.1**
HARR Harsova 146.48 332⇑PKP2 **PKPab** **10 19 09.9 -0.1**
LTVH Ltavrtes, Hu 146.49 341⇓*e*P **PKPbc** **10 19 09.0 +0.1**
TLB Topalu 146.51 332⇑*i*P **PKPab** **10 19 10.0 -0.1**
TLB Topalu 146.51 332⇑PKP2 **PKPab** **10 19 10.0 -0.1**
CJR Cluj-Napoca 146.53 339⇑*i*P **PKPab** **10 19 09.9 -0.3**
CJR Cluj-Napoca 146.53 339⇑PKP2 **PKPab** **10 19 09.9 -0.3**
PSZ Piszkesteto 146.58 344 *e*PKPdf **PKPdf** **10 19 08.4 +0.6**
PSZ Piszkesteto 146.58 344⇓*i*P **PKPbc** **10 19 09.1 -0.2**
PSZ Piszkesteto 146.58 344 *e*P **PKPbc** **10 19 09.1 -0.2**
PSZ Piszkesteto 146.58 344⇓PKP2 **PKPbc** **10 19 09.1 -0.2**
DELI KIRIKKALE 146.59 321 *i* P **PKPab** **10 19 11.1 +0.3**
WLF Walferdange 146.59 1 *e*PKPdf **PKPab** **10 19 10.0 -0.2**
WLF Walferdange 146.59 1⇑PKP **PKPbc** **10 19 09.9 +0.7**
SMOL Smolenice 146.61 347 *e*PKP2 **PKPab** **10 19 10.5 +0.1**
SMOL Smolenice 146.61 347 *e*PKP **PKPab** **10 19 10.5 +0.1**
KHC Kasperske Hory 146.68 352 *e*PKPdf **PKPbc** **10 19 09.5 0.0**
KHC Kasperske Hory 146.68 352 *e*PKP **PKPab** **10 19 10.4 -0.3**
KHC AMS AMS 11 23 00.0
comp=Z,2μm,21.5s
KHC Kasperske Hory 146.68 352 *e*PKP2 **PKPab** **10 19 10.4 -0.3**
KHC MLR MLR
comp=Z,2μm,21.5s
MLR Muntele Rosu 146.68 335 *e*PKPdf **PKPdf** **10 19 07.2 -0.9**
MLR LR LR
comp=Z,1μm,22.0s
MLR Muntele Rosu 146.68 335⇑*i*P **PKPdf** **10 19 09.2 +1.0**
MLR Muntele Rosu 146.68 335⇑PKP2 **PKPdf** **10 19 09.2 +1.0**
MDB Medias 146.74 338⇑*i*P **PKPab** **10 19 11.2 +0.3**
MDB Medias 146.74 338⇑PKP2 **PKPab** **10 19 11.2 +0.3**
ISR Istrita 146.74 334⇓*i*P **PKPbc** **10 19 10.6 +0.7**
ISR Istrita 146.74 334⇓PKP2 **PKPbc** **10 19 10.6 +0.7**
DRGR 146.76 340⇓*i*P **PKPbc** **10 19 10.2 +0.3**
DRGR 146.76 340⇓PKP2 **PKPbc** **10 19 10.2 +0.3**
MODS Modra-Piesok 146.77 347 *e*PKP2 **PKPbc** **10 19 09.3 -0.5**
MODS Modra-Piesok 146.77 347 *e*PKP **PKPbc** **10 19 09.3 -0.5**
MODS *e* 10 19 11.0
AMRR Amara 146.81 333⇓*i*P **PKPab** **10 19 11.5 +0.3**
AMRR Amara 146.81 333⇓PKP2 **PKPab** **10 19 11.5 +0.3**
BR101 Keskin Array S 146.93 320 *e*PKPdf **PKPbc** **10 19 10.6 -0.1**
BR131 Keskin Array S 146.93 320 *e*PKPdf **PKPdf** **10 19 08.4 -0.3**
BR131 Keskin Array S 146.93 320 P **PKPdf** **10 19 08.8 0.0**
SNR=66
BRTR Keskin Array B 146.93 320 PKP **PKPdf** **10 19 08.4 -0.3**
comp=Z,106nm,0.9s,baz=141,slow=2.1,SNR=138
BRTR PKPbc **PKPbc** **10 19 10.6 -0.1**
comp=Z,103nm,0.9s,baz=339,slow=4.2,SNR=268
GEC2 GERESS Array S 146.94 352 *e*PKPdf **PKPdf** **10 19 09.0 +0.5**
GERES GERESS Array B 146.94 352 PKP **PKPdf** **10 19 08.1 -0.3**
comp=Z,36nm,0.7s,baz=28,slow=3.2,SNR=42
GERES PKPbc **PKPbc** **10 19 10.7 +0.3**
comp=Z,36nm,0.7s,baz=22,slow=3.2,SNR=34
GEA0 GERESS Array S 146.95 352 *e*PKPdf **PKPdf** **10 19 08.4 0.0**
ZST Bratislava 146.98 347 *e*PKP2 **PKPdf** **10 19 09.6 +1.2**
ZST Bratislava 146.98 347 *e*PKP **PKPdf** **10 19 09.5 +1.2**
ZST *e* 10 19 10.4
SECR 147.00 335⇑*i*P **PKPbc** **10 19 11.1 +0.5**
VOIR 147.08 336⇓*i*P **PKPbc** **10 19 11.5 +0.6**
VOIR 147.08 336⇓PKP2 **PKPbc** **10 19 11.5 +0.6**
LEHL Lehliu 147.14 333⇓*i*P **PKPab** **10 19 12.2 +0.3**
PSN Preselentsi 147.15 331 *i* P **PKPbc** **10 19 11.3 +0.3**
RASA Rasa 147.20 333⇑*i*P **PKPbc** **10 19 11.6 +0.5**
BUD Budapest 147.20 345⇓*e*P **PKPdf** **10 19 10.1 +1.3**
YURE YUREGIR 147.27 314 *i* P **PKPab** **10 19 13.7 +0.3**
ARR Arges 147.30 337⇑*i*P **PKPab** **10 19 13.0 -0.2**
ANTO Ankara 147.35 321 *e*PKPdf **PKPdf** **10 19 09.9 +0.5**
ANTO Ankara 147.35 321⇑*i*P **PKPbc** **10 19 12.9 +1.1**
ANTO Ankara 147.35 321⇑PKP2 **PKPbc** **10 19 12.9 +1.1**
ANTO Ankara 147.35 321 P **PKPdf** **10 19 10.5 +1.1**
SNR=31
ANTO Ankara 147.35 321 *e*P **PKPdf** **10 19 10.0 +0.6**
BR231 Keskin MP Arra 147.38 321 *e*PKPbc **PKPbc** **10 19 12.6 +0.7**
STU Stuttgart 147.43 357 *e*PKPbc **PKPbc** **10 19 12.0 +0.4**
CONA Conrad Observa 147.48 349 *i* PKPbc **PKPdf** **10 19 10.0 +0.6**
comp=Z,22nm,1.4s,SNR=56
DEV Deva 147.49 339⇑*i*P **PKPbc** **10 19 12.3 +0.4**
DEV Deva 147.49 339⇑PKP2 **PKPbc** **10 19 12.3 +0.4**
LOT Lotru 147.55 338⇑*i*P **PKPbc** **10 19 12.1 -0.1**
SIRR Siria 147.56 341⇓*i*P **PKPbc** **10 19 12.8 +0.7**
SOP Sopron 147.58 348 *e*P **PKPbc** **10 19 12.0 0.0**
MOA Molln 147.83 351 *i* PKPbc **PKPbc** **10 19 11.6 -1.1**
comp=Z,109nm,0.9s,SNR=12
HUMR Humele 147.86 335⇑*i*P **PKPbc** **10 19 12.9 0.0**
PRD Provadia 147.88 331 *i* P **PKPbc** **10 19 13.2 +0.2**
BFO Black Forest 147.91 358 *e*PKPdf **PKPdf** **10 19 07.5 -2.5**
BFO *e*PKPbc **PKPbc** **10 19 13.2 +0.2**
GZR Gura Zlata 147.96 339⇓*i*P **PKPbc** **10 19 13.4 +0.1**
GZR Gura Zlata 147.96 339⇓PKP2 **PKPbc** **10 19 13.4 +0.1**
CLF Chambon-Foret 148.01 6 *e*PKPbc **PKPbc** **10 19 12.2 -1.0**
TIH Tihany 148.03 346⇓*e*P **PKPbc** **10 19 13.1 -0.2**
ECH Echery 148.04 360 *e*PKPdf **PKPdf** **10 19 10.3 +0.2**
ECH Echery 148.04 360 *e*PKIKP **PKPdf** **10 19 10.4 +0.2**
ASCN Ascension 148.12 137 *e*PKPbc **PKPbc** **10 19 15.6 +1.0**
ASCN LR LR
comp=Z,55μm,21.0s
BZS Buzias 148.15 340⇑*i*P **PKPbc** **10 19 14.2 +0.5**
BZS Buzias 148.15 340⇑PKP2 **PKPbc** **10 19 14.2 +0.5**
FURI Furi 148.17 261 PFAKE 10 19 20.0 +2.0
FURI LR LR
comp=Z,700nm,19.0s
ARSA Arzberg 148.19 349 *i* PKPdf **PKPdf** **10 19 10.8 +0.3**
comp=Z,13nm,1.2s,SNR=18
TOTH TOTAH 148.34 308 *e*P **PKiKP** **10 19 16.9 +0.7**
QASN Qassioun 148.38 309 *e*P **PKiKP** **10 19 15.9 -0.5**
SRE Strehaia 148.43 337⇑*i*P **PKPbc** **10 19 15.4 +1.0**
SRE Strehaia 148.43 337⇑PKP2 **PKPbc** **10 19 15.4 +1.0**
ASF Jabal al Asfar 148.47 306 P **PKPdf** **10 19 11.5 0.0**
ASF Jabal al Asfar 148.47 306 PKP **PKPbc** **10 19 16.0 +0.9**
MORH Mrgy, Hungar 148.48 344⇓*e*P **PKPbc** **10 19 14.1 -0.4**
MORH Mrgy, Hungar 148.48 344⇓*i*P **PKPbc** **10 19 13.7 -0.8**
BANR Banloc 148.51 341⇑*i*P **PKiKP** **10 19 15.9 -0.2**
HERR Herculane 148.53 339⇓*i*P **PKPbc** **10 19 15.1 +0.4**
RETA Reutte 148.61 355 *i* PKiKP **PKPbc** **10 19 15.1 +0.2**
comp=Z,129nm,1.1s,SNR=16
BRBR Barbar 148.68 309 *e*P **PKPbc** **10 19 16.6 +0.9**
BHL Bhannes 148.68 310 *e*P **PKPbc** **10 19 16.3 +0.7**
WATA Walderalm 148.68 354 *i* PKiKP **PKPbc** **10 19 15.2 0.0**
comp=Z,139nm,1.2s,SNR=21
KBA Koelnbreinsper 148.72 351 *i* PKiKP **PKPbc** **10 19 15.2 -0.2**
comp=Z,76nm,0.8s,SNR=17
MOTA Moosalm 148.72 354 *i* PKiKP **PKPbc** **10 19 15.6 +0.3**
comp=Z,140nm,1.0s,SNR=29
WTTA Wattenberg 148.75 354 *i* PKiKP **PKPbc** **10 19 15.8 +0.4**
SNR=22
KOGS Kog 148.82 347 *i* PKPbc **PKPbc** **10 19 15.2 -0.2**
JMB Yambol 148.83 331 *i* P **PKPbc** **10 19 15.2 -0.3**
SQTA Sankt Quirin 148.83 354 *i* PKiKP **PKPbc** **10 19 15.8 +0.2**
comp=Z,108nm,0.9s,SNR=19
SOKA Soboth 148.84 349 *i* PKPbc **PKPbc** **10 19 15.3 -0.2**
comp=Z,122nm,0.9s,SNR=22
SHBL Chebaa 148.86 309 *e*P **PKiKP** **10 19 17.1 -0.4**
DAVA Damuels 148.88 356 *i* PKiKP **PKPbc** **10 19 16.2 +0.5**
comp=Z,72nm,0.9s,SNR=27
KSDI Kefar Szold 148.99 308 P **PKiKP** **10 19 17.8 +0.3**
KSDI Kefar Szold 148.99 308 PKP **PKPdf** **10 19 12.9 +0.7**
HSUJ Al Zarqa 149.04 306 P **PKPdf** **10 19 11.3 -1.1**
HSUJ Al Zarqa 149.04 306 PKP **PKiKP** **10 19 17.6 -0.2**
FETA Feichten 149.07 355 *i* PKPdf **PKPdf** **10 19 12.6 +0.5**
comp=Z,21nm,1.0s,SNR=16
OBKA Obir 149.09 350 *i* PKPbc **PKPbc** **10 19 15.8 -0.4**
comp=Z,48nm,0.8s,SNR=7.6
MYKA Terra Mystica 149.11 351 *i* PKPbc **PKPbc** **10 19 15.6 -0.6**
comp=Z,98nm,0.7s,SNR=14
SHMJ Saham 149.12 308 P **PKPbc** **10 19 16.8 +0.2**
SHMJ Saham 149.12 308 PKP **PKiKP** **10 19 17.8 0.0**
FRGS Fruska Gora 149.12 342⇓*i*P **PKPbc** **10 19 16.5 +0.3**
ABTA Abfaltersbach 149.16 352 *i* PKiKP **PKPbc** **10 19 16.3 -0.1**
comp=Z,95nm,0.8s,SNR=25
MPEP Malo Peshtene 149.33 336 P **PKPbc** **10 19 17.1 +0.3**
SWQJ Swaqa 149.49 305 P **PKiKP** **10 19 18.5 -0.2**
SWQJ Swaqa 149.49 305 PKP **PKiKP** **10 19 18.7 -0.1**
CADS Cadrg 149.49 351 *i* PKPbc **PKPbc** **10 19 16.3 -0.8**
MMLI Mount Malkishu 149.50 307 P **PKiKP** **10 19 18.5 -0.2**
MMLI Mount Malkishu 149.50 307 PKP **PKPdf** **10 19 10.5 -2.6**
FUORN Ofenpass-Fuorn 149.51 355 *e*PKPbc **PKPbc** **10 19 17.7 +0.3**
LJU Ljubljana 149.54 349 *i* PKPdf **PKPdf** **10 19 13.0 +0.3**
LJU *i* PKPbc **PKPbc** **10 19 17.4 +0.2**
LJU Ljubljana 149.54 349⇓*i*P **PKPbc** **10 19 17.2 0.0**
WALJ Wala 149.56 305 P **PKPdf** **10 19 12.1 -1.0**
WALJ Wala 149.56 305 PKP **PKiKP** **10 19 18.8 +0.1**
CRES Cresnjev 149.58 348⇓*i*P **PKPbc** **10 19 17.2 -0.1**
DIM Dimitrovgrad 149.64 332 *i* P **PKPb

CEY	Cerknica	149.85	349	⇓	*i*	P	PKPbc	10 19 18.1	+0.1
GHAJ	Ghor Haditha	149.85	305			P	PKPdf	10 19 13.6	0.0
GHAJ	Ghor Haditha	149.85	305		PKP		PKPdf	10 19 14.2	+0.6
KARJ		149.86	305			P	PKPdf	10 19 13.3	-0.3
SENIN	Lac Senin/Sane	149.90	359		*e*PKPbc		PKPbc	10 19 18.6	+0.3
BOJS	Bojanci	149.93	348		*e*PKPdf		PKPdf	10 19 13.7	+0.4
BOJS					*i* PKPbc		PKPbc	10 19 18.7	+0.5
LISJ	El Lisan	149.94	305			P	PKiKP	10 19 20.1	+0.6
JDRJ	Daraweish	150.00	304			P	PKPdf	10 19 10.8	-3.3
ISP	Isparta	150.01	321		*e*PKPdf		PKPdf	10 19 13.3	-0.6
ISP					*e*PKPbc		PKPbc	10 19 18.0	-0.8
ISP	Isparta	150.01	321	⇑	*i*P		PKPbc	10 19 18.8	0.0
DIVS	Divibare	150.03	341		*e*PKPdf		PKPdf	10 19 13.2	-0.4
DIVS					*e*PKPbc		PKPbc	10 19 18.9	+0.3
DIVS					LR		LR		
	comp=Z,1μm,22.0s								
DIVS	Divibare	150.03	341	⇓	*i*P		PKPbc	10 19 18.9	+0.3
HSNJ	Maan	150.16	303			P	PKiKP	10 19 20.7	+0.5
HSNJ	Maan	150.16	303		PKP		PKiKP	10 19 20.8	+0.5
VTS	Vitosha	150.19	335		*e*PKPdf		PKPdf	10 19 13.3	-0.7
VTS					*e*PKPbc		PKPbc	10 19 19.2	+0.1
VTS					*e*PKPbc		PKPbc	10 19 19.6	+0.5
VTS					LR		LR		
	comp=Z,800nm,20.0s								
VTS	Vitosha	150.19	335	⇑	*i*P		PKPbc	10 19 19.3	+0.2
VTS	Vitosha	150.19	335			P	PKPbc	10 19 19.6	+0.5
VTS	Vitosha	150.19	335		*e*PKIKP		PKPdf	10 19 13.3	-0.7
VTS					*e*			10 19 19.2	
VTS					*e*			10 19 19.6	
VTS					MLR		MLR		
	comp=Z,800nm,20.0s								
VTS	Vitosha	150.19	335		*i* P		PKPbc	10 19 19.4	+0.3
BLY	Banja Luka	150.22	345		*e*PKPdf		PKPdf	10 19 14.3	+0.5
BLY					*e*PKPbc		PKPbc	10 19 19.3	+0.4
BLY	Banja Luka	150.22	345	⇓	*i*P		PKiKP	10 19 19.6	-0.1
BLY	Banja Luka	150.22	345	⇓	*i*P		PKPbc	10 19 19.2	+0.4
AMAZ	Amatzia	150.27	306		P		PKiKP	10 19 20.8	+0.5
RZN	Rozhen	150.29	332		*i* P		PKPbc	10 19 19.5	+0.1
ALN	Alexandroupoli	150.30	330		P		PKPbc	10 19 19.2	0.0
ALN	Alexandroupoli	150.30	330		P		PKPbc	10 19 19.2	0.0
RDO	Rodhopi	150.35	331		*e*PKPbc		PKPbc	10 19 19.4	+0.1
RDO	Rodhopi	150.35	331		P		PKPbc	10 19 19.4	+0.1
HAPS	Han Pijesak,BI	150.35	342		*e*P		PKPbc	10 19 19.1	-0.3
BBLS	Lazići	150.42	341		P		PKPbc	10 19 20.1	+0.6
SACV	Santiago Islan	150.61	88		*e*PKPbc		PKPbc	10 19 21.0	+0.3
MANT	Manisa	150.73	324		*e*PKPdf		PKPdf	10 19 14.4	-0.7
MANT					*e*PKPbc		PKPbc	10 19 20.8	+0.1
HRFI	Mount Harif	150.76	303		P		PKiKP	10 19 21.4	+0.1
HRFI	Mount Harif	150.76	303		PKP		PKPdf	10 19 15.5	+0.4
MMB	Musomiste	150.80	334		*i* P		PKPbc	10 19 20.8	+0.4
KKB	Krupnik	150.84	335		*i* P		PKiKP	10 19 21.2	+0.1
AQBJ	Aqaba	150.86	303		P		PKiKP	10 19 22.3	+0.7
AQBJ	Aqaba	150.86	303		PKP		PKiKP	10 19 22.2	+0.7
PLE	Pljevlja	150.91	341	⇓	*i*P		PKPbc	10 19 20.9	+0.2
SSB	Saint Sauveur	150.91	3		*e*PKPdf		PKPdf	10 19 15.2	+0.3
SSB					*e*PKPbc		PKiKP	10 19 21.2	0.0
SSB	Saint Sauveur	150.91	3		*e*PKIKP		PKPdf	10 19 15.2	+0.3
SSB					*e*			10 19 21.2	
KZIT	Kziot	150.93	305		P		PKiKP	10 19 22.1	+0.5
KZIT	Kziot	150.93	305		PKP		PKiKP	10 19 21.9	+0.3
KAVA	Kavala	150.94	332		*e*PKPbc		PKPbc	10 19 20.8	+0.1
KAVA	Kavala	150.94	332		P		PKPbc	10 19 20.8	+0.1
NVR	Nevrokopi	150.94	333		P		PKPbc	10 19 20.9	+0.1
NVR	Nevrokopi	150.94	333		P		PKPbc	10 19 20.9	+0.1
EIL	Elat	150.96	302		P		PKiKP	10 19 21.9	+0.2
EIL	Elat	150.96	302		PKP		PKiKP	10 19 21.9	+0.2
THAS	Thassos island	151.15	331		P		PKPbc	10 19 21.2	0.0
MBAR	Mbarara	151.16	237		PKP		PKPdf	10 19 17.3	+0.9
	comp=Z,3.4nm,0.2s,baz=57,slow=4.7,SNR=5.5								
MBAR					PKPbc		PKPbc	10 19 23.6	+1.3
	comp=Z,53nm,1.0s,baz=134,slow=1.8,SNR=48								
MBAR	Mbarara	151.16	237		*e*PKPdf		PKPdf	10 19 17.3	+0.9
MBAR					*e*PKPbc		PKiKP	10 19 23.2	+0.3
IVA	Berane	151.16	340	⇑	*i*P		PKPbc	10 19 21.6	+0.3
UPM	Unac-Piva	151.17	342	⇑	*i*P		PKPbc	10 19 21.1	-0.3
PGAV	Gavieira, Arco	151.18	24		*e*PKPdf		PKPdf	10 19 16.8	+1.3
PGAV	Gavieira, Arco	151.18	24		*e*PKPbc		PKPbc	10 19 21.8	+0.4
BNI	Bardonecchia	151.21	0		*e*PKPdf		PKPdf	10 19 15.8	+0.3
BNI					*e*PKPbc		PKPbc	10 19 22.6	+1.1
BNI	Bardonecchia	151.21	0		*e*PKIKP		PKPdf	10 19 15.8	+0.3
BNI					*e*			10 19 22.6	
SRS	Serrai	151.25	333		*e*PKPbc		PKPbc	10 19 20.7	-0.8
SRS	Serrai	151.25	333		P		PKPbc	10 19 20.7	-0.8
SRS	Serrai	151.25	333		*e*PKIKP		PKPbc	10 19 20.7	-0.8
KOME	Kolasin	151.30	340	⇑	*i*P		PKPbc	10 19 21.6	0.0
STIP	Stip	151.35	336		*i* PKP		PKPbc	10 19 21.2	-0.5
SKO	Skopje	151.40	337		*i* PKP		PKPbc	10 19 22.1	+0.3
LIA	Limnos Island	151.49	330		P		PKPbc	10 19 22.1	+0.1
LIA	Limnos Island	151.49	330		P		PKPbc	10 19 22.1	+0.1
PCAB	Cabril	151.49	24		*e*PKPbc		PKiKP	10 19 22.6	+0.1
PCAB	Cabril	151.49	24		*e*PKPab		PKPab	10 19 31.2	+0.9
NKY	Niksic	151.50	341	⇑	*i*P		PKPbc	10 19 22.2	+0.1
KNT	Kendrikon	151.51	334		P		PKPbc	10 19 22.4	+0.3
KNT	Kendrikon	151.51	334		P		PKPbc	10 19 22.4	+0.3
VAY	Valandovo	151.51	335		*i* PKP		PKPbc	10 19 21.9	-0.1
BRY	Bratogost	151.56	342	⇓	*i*P		PKPbc	10 19 22.1	-0.2
BRY	Bratogost	151.56	342	⇓	*i*P		PKPbc	10 19 21.8	-0.5
PDG	Podgorica	151.76	340	⇑	*i*P		PKPbc	10 19 22.6	0.0
PDG	Podgorica	151.76	340	⇓	*i*P		PKPbc	10 19 22.5	0.0
TTG	Podgorica	151.76	340	⇓	*i*P		PKPbc	10 19 22.4	0.0
TTG	Podgorica	151.76	340		*e*PKPbc		PKPbc	10 19 22.5	0.0
TTG					LR		LR		
	comp=Z,2μm,22.0s								
TREB	Trebinje	151.78	342	⇓	*i*P		PKPbc	10 19 22.0	-0.6
POLO	Lamas de Olo	151.87	24		*e*PKPbc		PKiKP	10 19 23.8	+0.4
POLO	Lamas de Olo	151.87	24		*e*PKPab		PKPab	10 19 32.5	+0.5
GRG	Griva	151.89	335		*e*PKPbc		PKPbc	10 19 22.4	-0.6
GRG	Griva	151.89	335		P		PKPbc	10 19 22.4	-0.6
GRG	Griva	151.89	335		*e*PKIKP		PKPbc	10 19 22.4	-0.6
PBRG	Braganca	151.89	22		*e*PKPdf		PKPdf	10 19 16.7	+0.2
PBRG	Braganca	151.89	22		*e*PKPbc		PKPbc	10 19 23.2	+0.2
PBRG	Braganca	151.89	22		*e*PKPab		PKPab	10 19 31.9	-0.1
PLG	Polygyros	151.92	332		P		PKPbc	10 19 22.4	-0.7
VLC	Villacollemand	151.94	355		*e*PKPbc		PKPbc	10 19 22.5	-0.5
VLC					LR		LR		
	comp=Z,2μm,20.0s								
PVRL	Vila Real	151.98	24		*e*PKPbc		PKPbc	10 19 23.6	+0.4
PVRL	Vila Real	151.98	24		*e*PKPab		PKPab	10 19 32.8	+0.4
HCY	Herceg Novi	151.98	342	⇑	*i*P		PKPbc	10 19 21.8	-1.3
HCY	Herceg Novi	151.98	342		*e*P		PKPbc	10 19 22.9	-0.2
BUM	Brajici-Budva	151.99	341	⇑	*i*P		PKPbc	10 19 23.2	0.0
KRUS	Krusevo	151.99	337		*i* PKP		PKPbc	10 19 23.2	-0.1
DRME	Dracevica, Mon	152.00	340	⇑	*i*P		PKPbc	10 19 22.0	-1.1
DRME	Dracevica, Mon	152.00	340	⇓	*i*P		PKPbc	10 19 23.2	+0.1
PHP	Peshkopia	152.02	338		*e*PKPbc		PKPbc	10 19 23.1	-0.2
PHP	Peshkopia	152.02	338		P		PKPbc	10 19 23.1	-0.2
PHP	Peshkopia	152.02	338		*e*PKIKP		PKPbc	10 19 23.1	-0.2
SMG	Samos	152.25	324		P		PKPbc	10 19 23.4	-0.5
BIA	Bitola	152.26	336		*i* PKP		PKPbc	10 19 23.9	+0.1
MVO	Moncorvo	152.34	23		*e*PKPdf		PKPdf	10 19 16.7	-0.5
MVO	Moncorvo	152.34	23		*e*PKPbc		PKiKP	10 19 24.9	+0.6
MVO	Moncorvo	152.34	23		*e*PKPab		PKPab	10 19 34.4	+0.4
PVIS	Viseu	152.39	25		*e*PKPbc		PKPbc	10 19 24.4	+0.3
PVIS	Viseu	152.39	25		*e*PKPab		PKPab	10 19 34.5	+0.3
TIR	Tirane	152.52	339		*e*PKPbc		PKPbc	10 19 24.3	-0.1
TIR					LR		LR		
	comp=Z,2μm,22.0s								
TIR	Tirane	152.52	339	⇓	*i*P		PKiKP	10 19 24.8	+0.2
TIR	Tirane	152.52	339		⇓PKIKP		PKiKP	10 19 24.8	+0.2
LIT	Litokhoron	152.56	333		*e*PKPbc		PKPbc	10 19 23.6	-0.9
LIT	Litokhoron	152.56	333		P		PKPbc	10 19 23.9	-0.6
LIT	Litokhoron	152.56	333		*e*PKIKP		PKPbc	10 19 23.6	-0.9
PCAS	Casmilo, Conde	152.69	26		*e*PKPdf		PKPdf	10 19 17.2	-0.5
PCAS	Casmilo, Conde	152.69	26		*e*PKPbc		PKPbc	10 19 25.1	+0.3
PCAS	Casmilo, Conde	152.69	26		*e*PKPab		PKPab	10 19 35.6	+0.2
MTE	Manteigas	152.80	25		*e*PKPbc		PKiKP	10 19 25.5	+0.2
MTE	Manteigas	152.80	25		*e*PKPab		PKPab	10 19 35.6	-0.3
MTE	Manteigas	152.80	25		*e*PKPdf		PKPdf	10 19 17.5	-0.5
PMAR	Madeira	152.88	48		*e*PKPbc		PKiKP	10 19 27.5	+1.7
PMAR	Madeira	152.88	48		*e*PKPab		PKPab	10 19 37.1	+0.4
NEST	Nestorio	152.89	336		P		PKPbc	10 19 25.4	+0.1
PENT	Pentalofos	153.04	335		P		PKPbc	10 19 25.4	-0.3
PTOM	Tomar	153.09	27		*e*PKPbc		PKiKP	10 19 26.3	+0.5
PTOM	Tomar	153.09	27		*e*PKPab		PKPab	10 19 37.0	-0.1
KPRO	Kipourio	153.16	335		P		PKiKP	10 19 26.5	+0.5
PMAFR	Mafra	153.24	29		*e*PKPab		PKPab	10 19 38.5	+0.8
PCBR	Castelo Branco	153.30	25		*e*PKPdf		PKPdf	10 19 19.6	+1.0
PCBR	Castelo Branco	153.30	25		*e*PKPbc		PKiKP	10 19 26.6	+0.4
PCBR	Castelo Branco	153.30	25		*e*PKPab		PKPab	10 19 37.4	-0.5
AQU	L'Aquila	153.31	349		*e*PKPbc		PKPbc	10 19 26.3	+0.2
AQU					LR		LR		
	comp=Z,1μm,22.0s								
AQU	L'Aquila	153.31	349	⇓	*i*P		PKPbc	10 19 25.9	-0.2
APE	Apeiranthos	153.43	325	⇓	*i*P		PKPbc	10 19 25.5	-1.0
APE	Apeiranthos	153.43	325	⇓	PKIKP		PKPbc	10 19 25.5	-1.0
ATAL	Atalanti	153.47	331		*e*PKPbc		PKPbc	10 19 25.8	-0.7
ATAL	Atalanti	153.47	331		P		PKPbc	10 19 25.8	-0.7
LIS	Lisbon	153.50	29		*e*PKPdf		PKPdf	10 19 18.2	-0.6
LIS					AMS		AMS	11 21 48.3	
	comp=E,2μm,21.1s								
LIS	Lisbon	153.50	29		*e*PKIKP		PKPdf	10 19 18.2	-0.6
AGG	Agios Georgios	153.52	332		*e*PKPbc		PKPbc	10 19 26.1	-0.6
AGG	Agios Georgios	153.52	332		*e*PKIKP		PKPbc	10 19 26.1	-0.6
KARP	Karpathos	153.54	321		*e*PKPbc		PKPbc	10 19 26.5	-0.3
AXAR	Agios Charalam	153.58	331		*e*PKPbc		PKiKP	10 19 28.7	+1.8
AXAR	Agios Charalam	153.58	331		P		PKiKP	10 19 28.7	+1.8
MAKR	Makrakomi, Fth	153.61	333		*e*PKPbc		PKPbc	10 19 26.5	-0.4
MAKR	Makrakomi, Fth	153.61	333		P		PKPbc	10 19 26.5	-0.4
PMTG	Montargil	153.63	27		*e*PKPdf		PKPdf	10 19 19.1	0.0
PMTG	Montargil	153.63	27		*e*PKPbc		PKiKP	10 19 28.0	+1.1
PMTG	Montargil	153.63	27		*e*PKPab		PKPab	10 19 38.9	-0.4
PMRV	Marv??o	153.68	26		*e*PKPbc		PKPbc	10 19 27.2	+0.2
PMRV	Marv??o	153.68	26		*e*PKPab		PKPab	10 19 39.1	-0.5
SANT	Santorini	153.97	324		*e*PKPbc		PKPbc	10 19 27.0	-0.7
SANT	Santorini	153.97	324	⇑	*i*P		PKPbc	10 19 27.0	-0.7
ANX	Ano Chora	154.05	332		P		PKiKP	10 19 29.0	+1.0
PESTR	Estremoz	154.07	27		*e*PKPdf		PKPdf	10 19 20.6	+0.9
PESTR	Estremoz	154.07	27		*e*PKPab		PKPab	10 19 41.0	-0.3
KALE	Kalithea	154.12	332		*e*PKPbc		PKPbc	10 19 27.8	-0.2
KALE	Kalithea	154.12	332		P		PKPbc	10 19 27.8	-0.2
EVO	Evora	154.16	28		*e*PKPab		PKPab	10 19 43.6	+2.0
EVO	Evora	154.16	28		PKP		PKiKP	10 19 32.0	+3.9
EVO	Evora	154.16	28		PKS		PP	10 23 21.9	+6.2
MATE	Matera	154.16	343	⇑	*i*P		PKiKP	10 19 28.3	+0.3
PNCL	Nicolau / Gran	154.27	29		*e*PKPab		PKPab	10 19 42.2	+0.1
DID	Didima	154.30	329		*e*PKPbc		PKPbc	10 19 27.3	-1.1
DID	Didima	154.30	329		P		PKPbc	10 19 27.3	-1.1
LAKA	Lakka	154.31	332		*e*PKPbc		PKiKP	10 19 28.8	+0.4
LAKA	Lakka	154.31	332		P		PKiKP	10 19 28.8	+0.4
UCM	Universidad Co	154.39	18		PKP		PKPbc	10 19 27.7	-0.8
GUR	Goura	154.39	331		*e*PKPbc		PKPbc	10 19 28.6	-0.1
GUR	Goura	154.39	331		P		PKPbc	10 19 28.6	-0.1
PTEO	Sao Teotonio	154.63	30		*e*PKPdf		PKPdf	10 19 19.2	-1.3
PTEO	Sao Teotonio	154.63	30		*e*PKPab		PKPab	10 19 44.1	+0.4
MESJ	Messejana	154.63	29		*e*PKPdf		PKPdf	10 19 19.8	-0.8
MESJ					AMS		AMS	11 20 53.7	
	comp=Z,1μm,20.3s								
MESJ	Messejana	154.63	29		*e*PKPdf		PKPdf	10 19 21.8	+1.3
MESJ	Messejana	154.63	29		*e*PKPab		PKPab	10 19 43.6	-0.1
MESJ	Messejana	154.63	29		*e*PKIKP		PKPdf	10 19 19.7	-0.8
PBEJ	Beja	154.64	28		*e*PKPdf		PKPdf	10 19 23.1	+2.6
PBEJ	Beja	154.64	28		*e*PKPab		PKPab	10 19 44.9	+1.2
ES19	SONSECA Array	154.74	20		*e*PKPdf		PKPdf	10 19 21.2	+0.5
ES19					*e*PKPbc		PKPbc	10 19 29.1	-0.1
ESDC	Sonseca Array	154.74	20		PKP		PKPdf	10 19 20.6	-0.1
	comp=Z,2.2nm,0.8s,baz=342,slow=2.6,SNR=12								
ESDC					PKPbc		PKPbc	10 19 29.5	+0.2
	comp=Z,3.3nm,0.7s,baz=337,slow=3.1,SNR=13								
ESDC					PKPab		PKPab	10 19 42.3	-1.8
	comp=Z,3.3nm,0.6s,baz=324,slow=2.9,SNR=12								
MORF	Marmelete	154.86	30		*e*PKPdf		PKPdf	10 19 20.1	-0.9
MORF					AMS		AMS	11 22 58.5	
	comp=Z,1μm,17.9s								
MORF	Marmelete	154.86	30		*e*PKPdf		PKPdf	10 19 22.7	+1.8
MORF	Marmelete	154.86	30		*e*PKPab		PKPab	10 19 45.0	+0.3
MORF	Marmelete	154.86	30		*e*PKIKP		PKPdf	10 19 20.0	-0.9
PFVI	Vila Bisbo	154.91	31		*e*PKPdf		PKPdf	10 19 22.6	+1.7
PFVI	Vila Bisbo	154.91	31		*e*PKPbc		PKiKP	10 19 31.8	+2.2
PFVI	Vila Bisbo	154.91	31		*e*PKPab		PKPab	10 19 45.5	+0.6
PVAQ	Vaqueiros	155.22	29		*e*PKPab		PKPab	10 19 46.2	0.0
PBDV	Barranco-do-Ve	155.25	29		*e*PKPdf		PKPdf	10 19 23.6	+2.2
PBDV	Barranco-do-Ve	155.25	29		*e*PKPab		PKPab	10 19 46.0	-0.4
TIP	Timpagrande	155.50	341		*e*PKPdf		PKPdf	10 19 22.0	+0.2
TIP					*e*PKPbc		PKPbc	10 19 31.4	
TIP	Timpagrande	155.50	341	⇑	*i*P		PKPbc	10 19 31.4	
MAHO	Mahon	156.25	5		PKP		PKPpre	10 19 10.3	
MAHO	Mahon	156.25	5		PP		PP	10 23 25.4	-1.4
CEL	Celeste	156.61	342		PFAKE			10 19 30.0	+6.8
CEL					LR		LR		
	comp=Z,900nm,22.0s								
EMAL	Malaga-Limoner	157.16	24		PKP		PKPdf	10 19 24.0	+0.1
EMAL	Malaga-Limoner	157.16	24		PP		PP	10 23 46.3	+14
CEU	Ceuta	157.52	27		PKP		PKPdf	10 19 22.8	-1.6
CART	Cartagena	157.56	17		PKP		PKPdf	10 19 30.9	+6.5
CART	Cartagena	157.56	17		PP		PP	10 23 45.3	+11
CLTB	Caltabellotta	157.96	347		PFAKE			10 19 40.0	+15
CLTB					LR		LR		
	comp=Z,2μm,21.0s								
AVE	Averroes	158.61	35		PKP		PKPdf	10 19 28.1	+2.3
AVE	Averroes	158.61	35		PP		PP	10 23 47.9	+7.3
IFR	Ifrane	159.61	30		PKP		PKPdf	10 19 25.7	-1.6
KEST	Kesra	160.40	354		PKP		PKPdf	10 19 27.3	-0.6
	comp=Z,7.5nm,1.0s,baz=261,slow=7.1,SNR=4.3								
KEST					PKPab		PKPab	10 20 08.2	-0.4
	comp=Z,14nm,0.9s,baz=0.8,slow=2.6,SNR=7.7								
KEST	Kesra	160.40	354		*e*PKPab		PKPab	10 20 08.9	+0.3
LIC	Lamto	164.70	129		*e*PKIKP		PKPdf	10 19 32.0	-0.7
	comp=Z,50nm,0.9s								
TIC	Toumodi	164.98	128		*e*PKIKP		PKPdf	10 19 32.3	-0.6
KIC	Kosan Boka	165.00	129		*e*PKIKP		PKPdf	10 19 31.8	-1.2
	comp=Z,97nm,1.2s								
DBIC	Dimbokro	165.12	128		PKP		PKPdf	10 19 31.5	-1.6
	comp=Z,16nm,0.9s,baz=130,slow=0.4,SNR=14								
DBIC					PKPab		PKPab	10 20 30.9	+1.0
	comp=Z,9.1nm,1.0s,baz=318,slow=1.2,SNR=4.6								
DBIC	Dimbokro	165.12	128		*e*PKPdf		PKPdf	10 19 32.3	-0.7
DBIC					*e*PKPab		PKPab	10 20 30.5	+0.6
DBIC	Dimbokro	165.12	128		*e*P		PKPdf	10 19 32.9	-0.1
TAM	Tamanrasset	173.29	11		*e*PKPdf		PKPdf	10 19 39.4	+1.4
TAM	Tamanrasset	173.29	11		*e*PKIKP		PKPdf	10 19 39.4	+1.4
TOA0	Torodi Ar. Sit	174.14	120		*e*PKPdf		PKPdf	10 19 37.3	-1.1
TOA0					*e*PKPab		PKPab	10 21 09.8	-0.1
TOA0	Torodi Ar. Sit	174.14	120		P		PKPdf	10 19 37.1	-1.2
	SNR=8.3								
TOA1	Torodi Ar. Sit	174.14	120		*e*PKPdf		PKPdf	10 19 36.6	-1.8
TOA1					*e*PKPab		PKPab	10 21 09.8	-0.2
TORD	Torodi Ar. Bea	174.14	120		PKP		PKPdf	10 19 36.6	-1.7
	comp=Z,17nm,1.0s,baz=306,slow=2.5,SNR=54								
TORD					PKPab		PKPab	10 21 09.8	-0.1
	comp=Z,5.4nm,0.8s,baz=265,slow=4.1,SNR=8.4								
TORD					PP		PP	10 25 00.8	-1.1
	comp=Z,4.4nm,1.3s,baz=167,slow=7.2,SNR=5.8								

*ISCJB **27** 10:04:17.7±0.2, 15°.23S×0°.06×173°.95W±0°.09, h10km, mb4.5/56, Error ellipse: s-maj=14.4km s-min=5.1km az=34.7*

*IDC **27** 10:04:17.5±0.6, 15°.26S×173°.83W, h0km, mb4.4/11, mb1 4.7/11, mb1mx4.3/42, mbtmp4.5/11, Error ellipse: s-maj=34.5km s-min=15.9km az=131.0*

*NEIC **27** 10:04:19.3±0.2, 15°.18S×173°.93W, h10km, mb4.6/47, Error ellipse: s-maj=11.8km s-min=4.2km az=123.0*

ISC 27 10:04:19.1±0.5, 15°.2S±0°.1×173°.9W±0°.2, h10km, n83, σ0s96/83, mb4.6/56, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OUZ	Omahuta	22.90	207	*e*P		P		10 09 24.9	+1.9
	30nm,1.2s								
MXZ	Matakaoa Point	23.34	196	*e*P		P		10 09 29.9	+2.3
	79nm,1.1s								
URZ	Urewera	24.33	197	P		P		10 09 37.4	+0.4
	19nm,0.3s,baz=255,slow=3.9,SNR=11								
URZ	Urewera	24.33	197	*e*P		P		10 09 37.4	+0.4
	31nm,0.7s								
HIZ	Hauiti	25.27	201	*e*P		P		10 09 47.1	+1.5
	48nm,0.9s								
BKZ	Black Stump Fm	25.35	198	*e*P		P		10 09 47.4	+1.1
	19nm,1.0s								
BFZ	Birch Farm	26.82	197	*e*P		P		10 09 59.6	0.0
	34nm,1.0s								
SNZO	South Karori	27.85	199	*e*P		P		10 10 09.7	+0.9
	38nm,1.1s								
THZ	Tophouse	28.84	201	*e*P		P		10 10 18.2	+0.4
	15nm,0.8s								
KHZ	Kahutara	29.22	199	*e*P		P		10 10 20.2	-0.7
	14nm,0.5s								
LHI	Lord Howe Isla	29.56	232	*e*P		P		10 10 24.6	+0.4
	104nm,0.9s								
OXZ	Oxford	30.53	200	*e*P		P		10 10 30.4	-2.2
	18nm,0.7s								
MQZ	McQueen's Vall	30.66	199	*e*P		P		10 10 34.3	+0.5
	17nm,1.1s								
RPZ	Rata Peaks	31.21	201	P		P		10 10 37.9	-0.8
	3.6nm,0.5s,baz=0.0,slow=3.0,SNR=5.5								
RPZ	Rata Peaks	31.21	201	*e*P		P		10 10 37.8	-0.8
	14nm,1.1s								
FOZ	Fox Glacier	31.50	203	*e*P		P		10 10 42.0	+0.9
	21nm,1.2s								
ODZ	Otahua Downs	32.52	201	*e*P		P		10 10 49.8	-0.3
WKZ	Wanaka	32.91	203	*e*P		P		10 10 50.9	-2.6
	16nm,1.2s								
MLZ	Mavora Lakes	33.70	203	*e*P		P		10 10 58.8	-1.7
DCZ	Deep Cove	34.16	204	*e*P		P		10 11 03.6	-0.7
	11nm,1.1s								
WHZ	Wether Hill Ro	34.21	203	*e*P		P		10 11 04.2	-0.7
	20nm,0.5s								
CAN	Canberra	38.78	232	*e*P		P		10 11 44.3	+0.2
	14nm,1.1s								
KKH	Kailua Kona	38.83	27	*e*P		P		10 11 42.5	-1.9
TOO	Toolangi	42.23	230	*e*P		P		10 12 12.6	0.0
	18nm,

ASAR	**Alice Springs**	**78.02 111**	P	P	10 23 35.3	+0.3
	1.2nm,0.8s,baz=228,slow=5.1,SNR=12					
WRA	**Warramunga Arr**	**80.86 109**	P	P	10 23 50.1	-0.3
	0.8nm,0.8s,baz=216,slow=4.7,SNR=5.8					
AKTO	**Aktyubinsk**	**95.84 13**	LR	LR	11 10 39.4	
	comp=Z,93nm,21.7s,baz=63,slow=37					
TXAR	**Lajitas Array**	**146.14 257**	PKPbc	PKPdf	10 31 15.8	+0.1
	0.9nm,0.8s,baz=132,slow=5.4,SNR=5.5					

*SOME **27** 10:15:09.3, 43˚.58N×86˚.20E, h20km*
*IDC **27** 10:15:09.8±1.6, 44˚.00N×85˚.67E, h0km, mb3.4/3, mb1 3.5/7, mb1mx3.3/48, mbtmp3.3/7, ML2.8/4, Error ellipse: s-maj=51.0km s-min=18.4km az=45.0*
*NNC **27** 10:15:12.0±2.2, 44˚.01N×85˚.96E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=16.2km s-min=8.9km az=115.0*
ISC 27 10:15:11.7±1.0, 43˚.89N±0˚.05×85˚.86E±0˚.05, h17km, n24, σ2s96/35, mb3.5/3, 10C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**3.62 349**		Pg	**Pb**	**10 16 15.3**	**-0.1**
	12nm,0.7s						
ZSN				Lg	Lg	10 17 01.2	
	23nm,0.4s						
ZSN	**Zaisan**	**3.62 349**		*e*P	**Pg**	**10 16 22.3**	**+1.2**
	12nm,0.7s						
ZSN				*e*S	**Sg**	**10 17 13.3**	**+5.2**
	23nm,0.4s						
MK31	**Makanchi Array**	**3.84 320**		⇓Pn	**Pn**	**10 16 11.7**	**+1.6**
	0.3nm,0.2s,baz=141,slow=14,SNR=105						
MK31				⇑Pg	**Pg**	**10 16 22.0**	**-3.3**
	2.9nm,0.3s,baz=129,slow=17,SNR=34						
MK31				⇓Sn	**Sn**	**10 16 58.3**	**+3.5**
	3.1nm,0.2s,baz=120,slow=15,SNR=5.1						
MK31				⇓Lg	Lg	10 17 14.2	
	70nm,0.7s,baz=140,slow=29,SNR=11						
MKAR	**Makanchi Array**	**3.84 320**		Pn	**Pn**	**10 16 10.6**	**+0.5**
	0.9nm,0.3s,baz=133,slow=14,SNR=25						
MKAR				Pg	**Pb**	**10 16 17.1**	**-1.9**
	1.6nm,0.3s,baz=135,slow=13,SNR=23						
MKAR				Sn	**Sb**	**10 16 58.9**	**-6.3**
	8.2nm,0.3s,baz=132,slow=26,SNR=5.4						
MKAR				Lg	Lg	10 17 12.8	
	13nm,0.3s,baz=129,slow=30,SNR=9.0						
MAKZ	**Makanchi**	**4.00 318**		⇓Pn	**Pn**	**10 16 13.8**	**+1.6**
	2.7nm,0.3s						
MAKZ				⇑Pg	**Pb**	**10 16 23.9**	**+2.1**
	3.6nm,0.5s						
MAKZ				⇑Sn	**Sn**	**10 17 02.6**	**+3.9**
	4.3nm,0.3s						
MAKZ				⇑Lg	Lg	10 17 15.8	
	46nm,0.8s						
KTMS	**Ketmen**	**4.02 266**		Pg	**Pb**	**10 16 25.1**	**+2.9**
	10nm,0.3s						
KTMS				Lg	Lg	10 17 18.2	
	44nm,0.5s						
KTMS	**Ketmen**	**4.02 266**		*e*P	**Pb**	**10 16 25.1**	**+2.9**
	10nm,0.3s						
KTMS				*e*S	**Sg**	**10 17 18.2**	**-2.7**
	44nm,0.5s						
DJR	**Jarkent**	**4.39 278**		*e*P	**Pg**	**10 16 34.2**	**-1.7**
	2.0nm,0.3s						
DJR				*e*S	**Sg**	**10 17 33.3**	**+0.5**
	18nm,0.6s						
PDGK	**Podgornoye**	**4.66 265**		Pg	**Pg**	**10 16 39.2**	**-1.8**
	3.9nm,0.5s						
PDGK				Lg	Lg	10 17 41.8	
	16nm,0.7s						
PDGK	**Podgornoye**	**4.66 265**		⇓Pn	**Pn**	**10 16 23.3**	**+1.9**
	9.0nm,0.8s						
PDGK				⇑Sn	**Sn**	**10 17 23.5**	**+8.3**
	9.0nm,0.6s						
PDGK				⇑Lg	Lg	10 17 41.1	
	50nm,0.8s						
SHLS	**Shalkode**	**4.71 263**		Pg	**Pb**	**10 16 32.8**	**-1.1**
	21nm,0.3s						
SHLS				Lg	Lg	10 17 30.6	
	70nm,0.4s						
SHLS	**Shalkode**	**4.71 263**		*e*P	**Pb**	**10 16 32.5**	**-1.4**
	22nm,0.3s						
SHLS				*e*S	**Sb**	**10 17 30.6**	**+0.2**
	70nm,0.4s						
KAPS	**Kapalarasan**	**4.85 289**		Pg	**Pg**	**10 16 42.6**	**-2.0**
	3.8nm,0.3s						
KAPS				Lg	Lg	10 17 47.7	
	16nm,0.4s						
KAPS	**Kapalarasan**	**4.85 289**		*e*P	**Pg**	**10 16 42.6**	**-2.0**
	3.8nm,0.3s						
KAPS				*e*S	**Sg**	**10 17 47.7**	**+0.4**
	16nm,0.4s						
UZB	**Uzynbulak**	**5.03 264**		Pg	**Pg**	**10 16 46.3**	**-1.7**
	3.6nm,0.3s						
UZB				Lg	Lg	10 17 53.7	
	22nm,0.6s						
UZB	**Uzynbulak**	**5.03 264**		*e*P	Pb	10 16 44.6	+5.2
	3.6nm,0.3s						
UZB				*e*S	**Sg**	**10 17 51.0**	**-2.2**
	22nm,0.6s						
KURBB	**Kurchatov Arra**	**8.37 326**		Pn	**Pn**	**10 17 11.0**	**-1.2**
	0.1nm,0.3s,baz=133,slow=13,SNR=3.5						
KURBB	**Kurchatov Arra**	**8.37 326**		⇑Pn	**Pn**	**10 17 15.2**	**+3.0**
	0.9nm,0.4s						
KURBB				⇑Lg	Lg	10 19 35.1	
	26nm,0.6s						
KURK	**Kurchatov**	**8.41 327**		⇑Pn	Pn	10 17 16.8	+4.1
	3.3nm,1.0s						
KURK				⇑Lg	Lg	10 19 37.4	
	16nm,0.7s						
ZALV	**Zalesovo Beam**	**10.09 356**		Pn	**Pn**	**10 17 32.8**	**-2.9**
	0.5nm,0.3s,baz=176,slow=13,SNR=4.4						
SONM	**Songino Array**	**14.83 67**		Pn	**P**	**10 18 43.1**	**-3.4**
	0.0nm,0.3s,baz=270,slow=12,SNR=2.2						
NOA	**NORSAR Array B**	**45.84 319**		P	**P**	**10 23 30.5**	**-1.9**
	0.6nm,0.7s,baz=75,slow=7.9,SNR=2.4						
YKA	**Yellowknife Ar**	**72.70 10**		P	**P**	**10 26 38.6**	**+0.4**
	0.1nm,0.8s,baz=341,slow=5.4,SNR=3.0						
WRA	**Warramunga Arr**	**77.49 134**		P	**P**	**10 27 08.6**	**+2.2**
	0.3nm,0.6s,baz=308,slow=3.1,SNR=4.7						

*VIE **27** 10:17:46.7±0.1, 47˚.34N×11˚.80E, h9km±1km, mb1.9/15, ml2.7/21, Error ellipse: s-maj=1.6km s-min=0.9km az=4.0*
6 km SSE of Jenbach felt 4 ems98 near Fuegen / Tyrol
*ISCJB **27** 10:17:46.3±0.3, 47˚.39N±0˚.01×11˚.83E±0˚.02, h2km±2km, Error ellipse: s-maj=2.1km s-min=2.0km az=37.8*
*BGR **27** 10:17:48.1±0.2, 47˚.33N×11˚.79E, h10km, ML2.5/9, Error ellipse: s-maj=3.3km s-min=2.2km az=2.0*
BGR Felt IV EMS.
*PRU **27** 10:17:48.7±0.0, 47˚.34N×11˚.81E, h0km*
*ROM **27** 10:17:48.7±0.3, 47˚.29N±0˚.02×11˚.76E±0˚.01, h10km, ML2.3/20*
*STR **27** 10:17:55.3±1.0, 48˚.N±8˚×1˚.1E±˚, h10km, M3.8/5, MLv3.8/5*
ISC 27 10:17:47.4±0.8, 47˚.36N±0˚.02×11˚.78E±0˚.01, h9km±6km, n69, σ0s70/112, 5C, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WTTA	**Wattenberg**	**0.14 226**		*e*Pg	**Pg**	**10 17 50.7**	**+0.1**
WTTA				*e*Sg	**Sg**	**10 17 52.7**	**-0.1**
WTTA	**Wattenberg**	**0.14 226**		*e*Pg	**Pg**	**10 17 50.6**	**+0.1**
	46nm,0.1s						
WTTA				*e*Sg	**Sg**	**10 17 52.3**	**-0.5**
	180nm,0.1s						
WTTA	**Wattenberg**	**0.14 226**		P	**Pg**	**10 17 50.6**	**+0.1**
WTTA				S	**Sg**	**10 17 52.7**	**-0.1**
WTTA				AML	AML		
	comp=E,1030μm,0.3s						
WTTA				AML	AML		
	comp=N,862μm,0.2s						
WTTA				AML	AML		
	comp=E,1030μm,0.3s						
WTTA				AML	AML		
	comp=N,862μm,0.2s						
WTTA				AML	AML		
	comp=E,1030μm,0.3s						
WTTA				AML	AML		
	comp=N,862μm,0.2s						
WATA	**Walderalm**	**0.14 261**		*e*Pg	**Pg**	**10 17 50.2**	**-0.4**
	comp=N,77nm,0.1s,SNR=716						
WATA				*e*Sg	**Sg**	**10 17 52.6**	**-0.3**
	comp=N,315nm,0.1s						
SQTA	**Sankt Quirin**	**0.41 251**		*e*Pg	**Pg**	**10 17 55.1**	**-0.5**
	comp=N,0.5nm,0.1s,SNR=99						
SQTA				*e*Sg	**Sg**	**10 18 01.1**	**+0.2**
	comp=N,25nm,0.1s						
RISI	**Rein**	**0.46 154**		P	**Pg**	**10 17 56.4**	**+0.1**
RISI				S	**Sg**	**10 18 02.6**	**+0.1**
RISI				AML	AML		
	comp=E,964μm,0.3s						
RISI				AML	AML		
	comp=N,848μm,0.4s						
RISI				AML	AML		
	comp=E,964μm,0.3s						
RISI				AML	AML		
	comp=N,848μm,0.4s						
RISI				AML	AML		
	comp=E,964μm,0.3s						
RISI				AML	AML		
	comp=N,848μm,0.4s						
MOTA	**Moosalm**	**0.46 269**		*e*Pg	**Pg**	**10 17 55.6**	**-0.8**
	comp=N,15nm,0.1s,SNR=112						
MOTA				*e*Sg	**Sg**	**10 18 02.9**	**+0.4**
	comp=N,18nm,0.1s						
PART	**Garmisch-Parte**	**0.47 287**		*e*Pg	**Pg**	**10 17 56.4**	**-0.2**
PART				*e*Sg	**Sb**	**10 18 03.9**	**-1.2**
ROSI	**Rosskopf**	**0.50 210**		P	**Pg**	**10 17 56.9**	**-0.2**
ROSI				S	**Sg**	**10 18 04.2**	**+0.5**
ROSI				AML	AML		
	comp=E,280μm,1.2s						
ROSI				AML	AML		
	comp=N,294μm,1.1s						
ROSI				AML	AML		
	comp=E,280μm,1.2s						
ROSI				AML	AML		
	comp=N,294μm,1.1s						
ROSI				AML	AML		
	comp=E,280μm,1.2s						
ROSI				AML	AML		
	comp=N,294μm,1.1s						
BRES	**Bressanone**	**0.66 183**		P	**Pg**	**10 18 00.4**	**+0.2**
BRES				S	**Sg**	**10 18 09.0**	**+0.1**
BRES				AML	AML		
	comp=E,133μm,1.5s						
BRES				AML	AML		
	comp=N,148μm,0.2s						
BRES				AML	AML		
	comp=E,133μm,1.5s						
BRES				AML	AML		
	comp=N,148μm,0.2s						
BRES				AML	AML		
	comp=E,133μm,1.5s						
BRES				AML	AML		
	comp=N,148μm,0.2s						
RETA	**Reutte**	**0.70 281**		*e*Pg	**Pg**	**10 17 59.8**	**-1.2**
	comp=N,0.2nm,0.1s,SNR=16						
RETA				*e*Sg	**Sb**	**10 18 10.8**	**-0.8**
	comp=N,4.6nm,0.1s						
ABSI	**Aberstueckl**	**0.70 207**		P	**Pg**	**10 18 00.7**	**-0.3**
ABSI				AML	AML		
	comp=E,174μm,0.4s						
ABSI				AML	AML		
	comp=N,287μm,0.3s						
ABSI				AML	AML		
	comp=E,174μm,0.4s						
ABSI				AML	AML		
	comp=N,287μm,0.3s						
ABSI				AML	AML		
	comp=N,287μm,0.3s						
ABSI				AML	AML		
	comp=E,174μm,0.4s						
RJOB	**Jochberg**	**0.79 61**		*e*Pg	**Pg**	**10 18 02.7**	**+0.1**
RJOB				*e*Sg	**Sb**	**10 18 14.8**	**+0.8**
ABTA	**Abfaltersbach**	**0.79 140**		*e*Pg	**Pg**	**10 18 02.4**	**-0.2**
	comp=E,2.0nm,0.0s,SNR=34						
ABTA				*e*Sg	**Sg**	**10 18 12.5**	**-0.4**
	comp=E,15nm,0.1s						
FETA	**Feichten**	**0.79 245**		*e*Pg	**Pg**	**10 18 02.1**	**-0.6**
	comp=E,2.4nm,0.2s,SNR=17						
FETA				*e*Sg	**Sg**	**10 18 12.9**	**-0.1**
	comp=E,19nm,0.2s						
AFL	**Alpe Faloria**	**0.87 162**	⇑	*e*Pg	**Pg**	**10 18 04.6**	**+0.4**
AFL				*e*Sg	**Sb**	**10 18 16.6**	**-0.1**
FUR	**Furstenfeldbru**	**0.88 337**		*e*Pg	**Pb**	**10 18 05.1**	**+0.3**
FUR				*e*Sg	**Sn**	**10 18 17.8**	**-1.0**
KOSI	**Kohlern**	**0.94 197**		P	**Pg**	**10 18 05.3**	**-0.1**
KOSI				S	**Sg**	**10 18 17.9**	**+0.3**
KOSI				AML	AML		
	comp=E,198μm,1.0s						
KOSI				AML	AML		
	comp=N,109μm,0.8s						
KOSI				AML	AML		
	comp=N,109μm,0.8s						
KOSI				AML	AML		
	comp=E,198μm,1.0s						
APPI	**Appiano**	**0.96 203**		P	**Pg**	**10 18 05.6**	**-0.2**
APPI				S	**Sg**	**10 18 18.1**	**-0.2**
APPI				AML	AML		
	comp=E,120μm,1.6s						
APPI				AML	AML		
	comp=N,187μm,1.4s						
APPI				AML	AML		
	comp=N,187μm,1.4s						
APPI				AML	AML		
	comp=E,120μm,1.6s						
FVI	**Forni Avoltri**	**1.02 138**		P	**Pg**	**10 18 06.9**	**-0.2**
FVI				S	**Sg**	**10 18 20.4**	**0.0**
FVI				AML	AML		
	comp=E,115μm,0.8s						
FVI				AML	AML		
	comp=N,99μm,0.7s						
FVI				AML	AML		
	comp=E,115μm,0.8s						
FVI				AML	AML		
	comp=N,99μm,0.7s						
CSMI	**Casera Mimoias**	**1.04 144**	⇑	*e*Pg	**Pg**	**10 18 07.2**	**-0.1**
CSMI				*e*Sg	**Sg**	**10 18 20.8**	**+0.1**
OZOL	**Ozolo**	**1.08 208**		*e*Pg	**Pg**	**10 18 07.7**	**-0.4**
AGOR	**Agordo**	**1.09 170**	⇑	*e*Pg	**Pg**	**10 18 08.2**	**-0.1**
AGOR	**Agordo**	**1.09 170**		P	**Pg**	**10 18 08.2**	**-0.1**
AGOR				S	**Sg**	**10 18 22.7**	**+0.2**
AGOR				AML	AML		
	comp=E,228μm,0.7s						
AGOR				AML	AML		
	comp=N,122μm,1.4s						
AGOR				AML	AML		
	comp=N,122μm,1.4s						
AGOR				AML	AML		
	comp=E,228μm,0.7s						
KBA	**Koelnbreinsper**	**1.10 104**		*e*Pg	**Pg**	**10 18 08.2**	**-0.4**
KBA				*e*Sg	**Sg**	**10 18 22.3**	**-0.6**
KBA	**Koelnbreinsper**	**1.10 104**		*e*Pg	**Pg**	**10 18 08.2**	**-0.4**
	comp=E,1.4nm,0.1s,SNR=9.0						
KBA				*e*Sg	**Sg**	**10 18 22.3**	**-0.6**
	comp=E,13nm,0.2s						
KBA				*e*Sg	**Sg**	**10 18 22.3**	**-0.6**
MOSI	**Grossmontoni**	**1.12 229**		P	**Pg**	**10 18 08.4**	**-0.5**
MOSI				AML	AML		
	comp=E,614μm,0.7s						
MOSI				AML	AML		
	comp=N,961μm,1.0s						
MOSI				AML	AML		
	comp=N,961μm,1.0s						
MOSI				AML	AML		
	comp=E,614μm,0.7s						
CIMO	**Cimolais**	**1.14 156**		*e*Pg	**Pb**	**10 18 09.1**	**-0.2**
CIMO				*e*Sg	**Sb**	**10 18 24.8**	**+0.5**
ZOU	**Zoufplan**	**1.15 134**		*e*Pg	**Pg**	**10 18 08.9**	**-0.5**
ZOU	**Zoufplan**	**1.15 134**		*e*Pg	**Pg**	**10 18 08.9**	**-0.5**
CLUD	**Cludinico**	**1.18 140**	⇑	*e*Pg	**Pb**	**10 18 09.7**	**-0.2**
UBR	**Ueberruh**	**1.18 286**		*e*Pn	**Pn**	**10 18 10.3**	**+0.1**
UBR				*e*Sg	**Sn**	**10 18 26.7**	**+0.4**
CARE	**Lago del Cares**	**1.19 219**	⇑	*e*Pg	**Pg**	**10 18 09.4**	**-0.9**
STAL	**STALIGIAL**	**1.27 149**		P	**Pb**	**10 18 11.6**	**+0.1**
STAL				AML	AML		
	comp=E,236μm,0.7s						
STAL				AML	AML		
	comp=N,268μm,0.9s						
STAL				AML	AML		
	comp=E,236μm,0.7s						
STAL				AML	AML		
	comp=N,268μm,0.9s						
DAVA	**Damuels**	**1.29 268**		*e*Pg	**Pg**	**10 18 13.2**	**+0.9**
DAVA				*e*Sg	**Sn**	**10 18 31.3**	**+2.0**
DAVA	**Damuels**	**1.29 268**		*e*Pn	**Pn**	**10 18 11.3**	**-0.5**
	comp=N,7.8nm,0.1s,SNR=10						
DAVA				Sg	**Sn**	**10 18 30.4**	**+1.1**
	comp=N,2.9nm,0.2s						
CTI	**Castel Tesino**	**1.31 184**		P	**Pn**	**10 18 12.2**	**+0.2**
CTI				AML	AML		
	comp=E,166μm,0.6s						
CTI				AML	AML		
	comp=N,152μm,0.6s						
CTI				AML	AML		
	comp=N,152μm,0.6s						
CTI				AML	AML		
	comp=E,166μm,0.6s						
DAVOX	**Davos/Dischmat**	**1.42 247**		P	**Pb**	**10 18 14.0**	**-0.1**
DAVOX				AML	AML		
	comp=E,172μm,0.3s						
DAVOX				AML	AML		
	comp=N,140μm,0.7s						
DAVOX				AML	AML		
	comp=N,140μm,0.7s						
DAVOX				AML	AML		
	comp=E,172μm,0.3s						
POLC	**Polcenigo**	**1.42 159**		AML	AML		
	comp=N,220μm,0.8s						
POLC				AML	AML		
	comp=E,186μm,0.7s						
POLC				AML	AML		
	comp=N,220μm,0.8s						
POLC				AML	AML		
	comp=E,186μm,0.7s						
ACOM	**Acomizza, Ital**	**1.44 124**		P	**Pb**	**10 18 14.7**	**+0.2**
ACOM				S	**Sb**	**10 18 33.3**	**+0.4**
ACOM				AML	AML		
	comp=E,378μm,0.8s						
ACOM				AML	AML		
	comp=N,282μm,0.8s						
ACOM				AML	AML		
	comp=N,282μm,0.8s						
ACOM				AML	AML		
	comp=E,378μm,0.8s						
PTCC	**Patocco-Chiusa**	**1.44 131**		P	**Pb**	**10 18 14.3**	**0.0**
PTCC				AML	AML		
	comp=E,60μm,1.0s						
PTCC				AML	AML		
	comp=N,84μm,1.1s						
PTCC				AML	AML		
	comp=E,60μm,1.0s						
PTCC				AML	AML		
	comp=N,84μm,1.1s						
MYKA	**Terra Mystica**	**1.47 119**		*e*Pg	**Pn**	**10 18 14.5**	**+0.5**
	comp=N,1.2nm,0.2s						
MYKA				*e*Sn	**Sn**	**10 18 33.1**	**-0.3**
	comp=N,1.0nm,0.1s						
CGRP	**Cima Grappa**	**1.48 179**		AML	AML		
	comp=N,336μm,0.8s						
CGRP				AML	AML		
	comp=E,262μm,0.9s						
CGRP				AML	AML		
	comp=N,336μm,0.8s						
CGRP				AML	AML		
	comp=E,262μm,0.9s						
NORI	**Noerdlinger Ri**	**1.57 331**		*e*Pn	**Pn**	**10 18 15.3**	**-0.1**
NORI				*e*Sg	**Sb**	**10 18 36.4**	**0.0**
MABI	**Malga Bissina**	**1.57 214**		P	**Pb**	**10 18 16.5**	**-0.1**
MABI				AML	AML		
	comp=E,82μm,0.8s						
MABI				AML	AML		
	comp=N,68μm,1.6s						
MABI				AML	AML		
	comp=E,82μm,0.8s						
MABI				AML	AML		
	comp=N,68μm,1.6s						
PLONS	**Plons/SG**	**1.67 260**		P	**Pg**	**10 18 19.2**	**-0.1**
PLONS				AML	AML		
	comp=E,85μm,1.2s						
PLONS				AML	AML		
	comp=N,95μm,1.2s						
PLONS				AML	AML		
	comp=E,85μm,1.2s						
PLONS				AML	AML		
	comp=N,95μm,1.2s						
MOA	**Molln**	**1.75 73**		*e*Pg	**Pb**	**10 18 20.2**	**+0.5**
MOA				*e*Sg	**Sg**	**10 18 44.6**	**+0.9**
MOA	**Molln**	**1.75 73**		*e*Pg	**Pb**	**10 18 20.1**	**+0.4**
	comp=N,1.4nm,0.2s,SNR=15						
MOA				Sg	**Sg**	**10 18 44.2**	**+0.5**
	comp=N,18nm,0.2s						
MAGA	**Magasa**	**1.77 207**		AML	AML		
	comp=N,230μm,0.7s						
MAGA				AML	AML		
	comp=E,788μm,0.8s						
MAGA				AML	AML		
	comp=N,230μm,0.7s						
MAGA				AML	AML		
	comp=E,788μm,0.8s						
ROVR	**Rover Verones**	**1.78 196**		P	**Pb**	**10 18 20.5**	**+0.3**
WET	**Wettzell**	**1.93 22**		*e*Pn	**Pn**	**10 18 20.5**	**+0.1**
WET				*e*Sn	**Sn**	**10 18 44.5**	**-0.3**
GEC2	**GERESS Array S**	**1.97 40**		*e*Pn	**Pn**	**10 18 21.7**	**+0.7**
GEC2				*e*Sg	**Sg**	**10 18 50.5**	**-0.1**
OBKA	**Obir**	**2.08 113**		*e*Pg	**Pb**	**10 18 25.8**	**+0.5**
OBKA				*e*Sg	**Sg**	**10 18 53.6**	**-0.6**
OBKA	**Obir**	**2.08 113**		*e*Pg	**Pb**	**10 18 25.5**	**+0.2**
	comp=E,0.8nm,0.1s						
OBKA				Sg	**Sg**	**10 18 53.8**	**-0.4**
	comp=E,4.0nm,0.2s						
KHC	**Kasperske Hory**	**2.14 33**		*e*PG	**Pb**	**10 18 27.2**	**+0.8**
KHC				*e*SG	**Sg**	**10 18 55.7**	**-0.5**
	comp=E,16nm,0.3s						
SOKA	**Soboth**	**2.33 106**		Pn	**Pn**	**10 18 25.8**	**-0.1**
	comp=E,0.1nm,0.1s						
SOKA				*e*Sn	**Sn**	**10 18 53.4**	**-1.2**
	comp=E,0.6nm,0.2s						
GRF	**Grafenberg Arr**	**2.36 351**		*e*Pg	**Pg**	**10 18 32.8**	**+0.2**
GRF				*e*Sg	**Sg**	**10 19 04.2**	**+0.9**
GRFO	**Grafenberg**	**2.36 351**		*e*Sg	**Sg**	**10 19 04.2**	**+0.9**
ROTZ	**Rotzenmuhle**	**2.43 7**		*e*Sn	**Sn**	**10 18 55.8**	**-1.2**
ROTZ				*e*Sg	**Sg**	**10 19 04.8**	**-0.5**
BFO	**Black Forest**	**2.52 294**		*e*Pn	**Pn**	**10 18 29.7**	**+1.2**
BFO				*e*Sn	**Sn**	**10 18 57.6**	**-1.8**
ARSA	**Arzberg**	**2.55 91**		*e*Pn	**Pn**	**10 18 28.5**	**-0.4**
	comp=E,0.1nm,0.1s						
ARSA				Sn	**Sn**	**10 19 01.2**	**+1.2**
	comp=E,0.1nm,0.1s						
OPP	**Oppenau**	**2.67 297**		P	**Pn**	**10 18 31.6**	**+1.0**
OPP				S	**Sn**	**10 19 01.0**	**-2.0**
KIZ	**Kirchzarten**	**2.68 284**		P	**Pn**	**10 18 32.2**	**+1.5**
CONA	**Conrad Observa**	**2.82 77**		*e*Pn	**Pn**	**10 18 31.9**	**-0.8**
CONA				*e*Sn	**Sn**	**10 19 07.9**	**+1.2**
	comp=E,0.7nm,0.2s						
ECH	**Echery**	**3.23 287**		P	**Pn**	**10 18 39.0**	**+0.7**
KRUC	**Moravsky**	**3.52 59**		*e*PN	**Pn**	**10 18 42.5**	**+0.2**
KRUC				*e*SG	**Sg**	**10 19 37.7**	**-2.8**
TNS	**Taunus Mts**	**3.62 324**		*e*Pn	**Pn**	**10 18 44.3**	**+0.7**
VRAC	**Vranov**	**3.76 57**		*e*PN	**Pn**	**10 18 45.5**	**0.0**
ABH	**Alteburg**	**3.78 314**		P	**Pn**	**10 18 46.6**	**+0.8**

MAN 27 10:35:21.9, 11˚.92N×124˚.06E, h8km, mb4.5, ML3.4, MS3.2, 3D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.61 316**	⇓	*i*P	Pg	10 35 33.6	0.0
MMPH				*i* S	Sg	10 35 42.4	+0.9
CNP	**Catarman**	**0.83 45**		*e*P	Pg	10 35 37.9	0.0
CNP				*e*S	Sb	10 35 50.6	+0.7
OCLP	**Ormoc**	**1.02 148**		*e*P	Pg	10 35 41.1	-0.4
OCLP				*e*S	Sn	10 35 57.3	+0.3
PLP	**Palo**	**1.17 130**	⇓	*e*P	Pb	10 35 43.7	-0.8
PLP				*e*S	Sn	10 36 00.7	-0.1
RCP	**Roxas**	**1.34 255**	⇓	*e*P	Pn	10 35 45.9	-1.0
RCP				*e*S	Sb	10 36 04.5	+0.1
BESP	**Borongan**	**1.39 103**		*e*P	Pn	10 35 46.6	-1.0
LLP	**Lapu-Lapu**	**1.60 183**		*e*P	Pn	10 35 48.8	-1.7
LLP				*e*S	Sb	10 36 12.2	+0.2
PVCP	**Virac**	**1.67 3**		*e*P	Pn	10 35 51.0	-0.4
GUIM	**Jordan**	**1.93 228**		*e*P	Pn	10 35 55.6	+0.6
GUIM				*e*S	Sn	10 36 20.5	+0.9
MSLP	**Maasin**	**1.94 156**		*e*P	Pn	10 35 55.4	+0.2
MSLP				*e*S	Sg	10 36 24.2	-0.1
OTRP	**Odiongan**	**2.04 283**		*e*P	Pn	10 35 56.8	+0.2
TBP	**Tagbilaran**	**2.23 185**		*e*P	Pn	10 35 58.5	-0.6
TBP				*i* S	Sn	10 36 27.7	+0.9
SJMP	**San Jose**	**2.92 281**		*e*P	Pn	10 36 10.1	+1.4

*JMA **27** 10:35:44.8±0.2, 38˚.63N×143˚.00E, h4km±2km, M3.5*
*IDC **27** 10:35:48.5±2.1, 38˚.93N×142˚.70E, h0km, mb3.5/2, mb1 3.5/4, mb1mx3.2/58, mbtmp3.3/4, ML2.6/2, Error ellipse: s-

ISC 27 10:35:48.0±2.7, 38.71N±0.05×142.77E±0.08, h5km±16km, n17, σ1950/28, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.94**	**294**	P	**Pn**	**10 36 06.4**	**-1.4**
OFUJ				*e*S	**Sn**	**10 36 21.7**	**+0.1**
JKMT	**Kesennumamotoy**	**1.02**	**276**	P	**Pb**	**10 36 07.6**	**-0.5**
JKMT				S	**Sn**	**10 36 23.5**	**-0.1**
JIKH	**Ishinomakikobu**	**1.10**	**249**	P	**Pb**	**10 36 08.0**	**-1.5**
JIKH				*e*S	**Sn**	**10 36 24.5**	**-1.1**
JIO	**Ouri**	**1.15**	**258**	P	**Pb**	**10 36 09.0**	**-1.3**
JIO				S	**Sn**	**10 36 26.0**	**-0.7**
JMK	**Ichinoseki**	**1.24**	**282**	P	**Pb**	**10 36 11.2**	**-0.6**
JMK				*e*S	**Sn**	**10 36 29.8**	**+0.8**
JOM	**Ohasama**	**1.38**	**304**	P	**Pb**	**10 36 13.4**	**-0.9**
JOM				*e*S	**Sg**	**10 36 33.6**	**+1.2**
JTH	**Tanohata**	**1.42**	**330**	P	**Pb**	**10 36 14.0**	**-0.9**
JTH				*e*S	**Sg**	**10 36 36.0**	**+2.5**
JOU	**Okura**	**1.69**	**259**	P	**Pn**	**10 36 17.8**	**-0.4**
JMM	**Marumori**	**1.77**	**242**	P	**Pn**	**10 36 17.8**	**-1.5**
JMM				*e*S	**Sb**	**10 36 43.3**	**-0.2**
JRG	**Rokugo**	**1.80**	**293**	P	**Pb**	**10 36 20.4**	**-1.1**
JRG				*e*S	**Sg**	**10 36 47.2**	**+1.3**
JYK	**Kaneyama**	**1.90**	**277**	P	**Pb**	**10 36 21.8**	**-1.3**
JANG	**Nango**	**1.92**	**330**	P	**Pb**	**10 36 21.8**	**-1.8**
JANG				*e*S	**Sg**	**10 36 48.6**	**-1.3**
JFK	**Kawauchi**	**2.01**	**229**	P	**Pn**	**10 36 20.2**	**-2.4**
JFK				*e*S	**Sn**	**10 36 47.2**	**-1.0**
MJAR	**Matsushiro Arr**	**4.22**	**241**	Pn	**Pn**	**10 36 56.0**	**+3.0**
	0.1nm,0.3s,baz=66,slow=11,SNR=5.5						
ASAJ	**Asahikawa**	**5.40**	**359**	Pn	**Pn**	**10 37 08.6**	**-0.6**
	0.3nm,0.3s,baz=142,slow=8.9,SNR=4.3						
SONM	**Songino Array**	**27.79**	**301**	P	**P**	**10 41 37.2**	**-0.8**
	0.5nm,1.0s,baz=94,slow=9.7,SNR=2.4						
WRA	**Warramunga Arr**	**58.88**	**189**	P	**P**	**10 45 50.5**	**+2.6**
	0.6nm,0.6s,baz=7.6,slow=7.0,SNR=9.4						

*NNC **27** 10:37:39.8±1.8, 53.49N×87.40E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=13.6km s-min=12.1km az=61.0, Suspected Mining explosion.*

KRAR 27 10:37:35.0±0.3, 53.50N×87.59E, M2.6, 6C-5D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**6.19**	**247**	↑P	Pn	10 39 10.1	+2.6
	5.1nm,1.4s						
KURK				↓Lg	Lg	10 40 51.9	
	11nm,1.3s						
KURBB	**Kurchatov Arra**	**6.29**	**246**	↓P	Pn	10 39 12.7	+3.8
	5.1nm,0.5s						
KURBB				↓Sn	Sn	10 40 24.9	+3.6
	7.4nm,0.6s						
KURBB				↑Lg	Lg	10 40 54.7	
	16nm,0.7s						
MK31	**Makanchi Array**	**7.53**	**209**	↓P	Pn	10 39 30.4	+4.5
	1.2nm,0.5s,baz=30,slow=13,SNR=48						
MK31				↓Sn	Sn	10 40 56.4	+4.5
	1.2nm,0.5s,baz=37,slow=27,SNR=3.4						
MK31				↑Lg	Lg	10 41 36.2	
	3.1nm,0.7s,baz=33,slow=30,SNR=5.4						
MAKZ	**Makanchi**	**7.61**	**211**	↑P	Pn	10 39 30.5	+3.4
	2.0nm,0.5s						
MAKZ				↑Sn	Sn	10 40 58.5	+4.7
	1.2nm,0.6s						
MAKZ				↑Lg	Lg	10 41 39.3	
	2.6nm,0.7s						

IDC 27 10:42:27.3±7.0, 17.89S×173.86W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.6/36, mbtmp3.9/2, Error ellipse: s-maj=321.5km s-min=64.2km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**48.89**	**259**	P	P	10 51 15.1	-0.2
	1.0nm,0.8s,baz=95,slow=8.2,SNR=16						
ASAR	**Alice Springs**	**48.96**	**254**	P	P	10 51 15.9	0.0
	2.0nm,0.9s,baz=90,slow=8.4,SNR=24						
BRTR	**Keskin Array B**	**147.76**	**318**	PKPbc	PKPbc	11 02 13.8	-0.8
	1.0nm,1.0s,baz=48,slow=2.1,SNR=4.2						

*SJA **27** 11:17:02.9±0.7, 31.82S×72.27W, h40km±999km, ML3.2, MW4.2*
*GUC **27** 11:17:05.3±1.0, 31.72S×71.47W, h26km±11km, ML3.1*

ISC 27 11:17:02.4±3.0, 31.69S±0.04×71.9W±0.1, h10km±15km, n18, σ0997/28, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**0.91**	**56**	*e*P	**Pn**	**11 17 22.0**	**+0.7**
CMCH				*e*S	**Sn**	**11 17 33.5**	**-1.0**
CMCH				IAML		11 17 36.0	
	comp=E,2µm,0.6s						
ROCH	**El Roble**	**1.48**	**150**	*e*P	**Pn**	**11 17 29.8**	**+0.5**
ROCH				*e*S	**Sn**	**11 17 48.4**	**-0.4**
ROCH				IAML		11 17 57.7	
	comp=E,408nm,0.3s						
ROC1	**El Roble**	**1.48**	**151**	*i* P	**Pn**	**11 17 30.0**	**+0.7**
ROC1				*i* S	**Sg**	**11 17 49.7**	**-0.3**
PEL	**Peldehue**	**1.77**	**146**	*e*P	**Pn**	**11 17 33.6**	**+0.4**
PEL				*e*S	**Sn**	**11 17 54.7**	**-1.0**
PEL				IAML		11 18 00.7	
	comp=E,350nm,0.3s						
GO04	**Tololo Observa**	**1.77**	**32**	↑*e*P	**Pb**	**11 17 35.0**	**-0.2**
GO04				*e*S	**Sb**	**11 17 57.7**	**+0.2**
GO04				IAML		11 18 06.3	
	comp=N,729nm,0.6s						
CLCH	**Cerro Calan**	**2.05**	**147**	*e*P	**Pn**	**11 17 38.3**	**+1.3**
CLCH				*e*S	**Sn**	**11 18 02.6**	**-0.1**
CLCH				IAML		11 18 11.4	
	comp=N,494nm,0.5s						
FCH	**Farellones**	**2.12**	**141**	*e*P	**Pn**	**11 17 39.2**	**+1.0**
FCH				*e*S	**Sn**	**11 18 04.6**	**-0.1**
FCH				IAML		11 18 12.6	
	comp=E,170nm,0.2s						
AUSP	**Uspallata**	**2.18**	**105**	*i* P	**Pb**	**11 17 43.0**	**+0.8**
AUSP				*i* S	**Sg**	**11 18 13.6**	**+0.9**
AROD	**Rodeo**	**2.56**	**54**	*i* P	**Pb**	**11 17 49.2**	**+0.5**
AROD				*i* S	**Sg**	**11 18 24.4**	**-0.4**
LMEL	**Las Melosas**	**2.58**	**147**	*e*P	**Pn**	**11 17 45.2**	**+0.8**
LMEL				*e*S	**Sn**	**11 18 16.3**	**+0.5**
LMEL				IAML		11 18 26.4	
	comp=N,142nm,0.3s						
ACCO	**Cerro Coronel**	**2.65**	**66**	*i* P	**Pb**	**11 17 51.3**	**+1.1**
ASAL	**Salagasta**	**2.73**	**110**	*i* P	**Pb**	**11 17 50.6**	**-0.9**
ARCO	**CERRO ARCO**	**2.75**	**116**	*i* P	**Pb**	**11 17 50.7**	**-1.0**
ARCO				IAML		11 18 37.5	
	comp=Z,64nm,0.5s						
ACDV	**Cuesta del Vie**	**2.81**	**58**	*i* P	**Pb**	**11 17 53.0**	**+0.2**
RTCV	**Cerro Valdivia**	**2.85**	**94**	*i* P	**Pb**	**11 17 52.8**	**-0.6**
AAGR	**Agrelo**	**2.93**	**119**	↓*i* P	**Pb**	**11 17 53.2**	**-1.6**
AMOG	**MOGNA**	**2.99**	**76**	*i* P	**Pb**	**11 17 55.1**	**-0.8**
AGUA	**GUANDACOL**	**3.65**	**54**	*i* P	**Pb**	**11 18 04.6**	**-2.6**

IDC 27 11:19:56.5±2.2, 1.10N×127.20E, h0km, mb3.0/3, mb1 3.2/3, mb1mx3.1/40, mbtmp3.1/3, Error ellipse: s-maj=187.0km s-min=25.8km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.05**	**162**	P	P	11 24 52.9	-0.2
	0.2nm,0.6s,baz=340,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**25.46**	**166**	P	P	11 25 26.6	+0.1
	0.2nm,0.6s,baz=349,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**59.98**	**326**	P	P	11 30 04.8	-0.1
	0.2nm,0.4s,baz=114,slow=7.9,SNR=6.3						

*IDC **27** 11:20:46.0±1.9, 6.68S×150.21E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/38, mbtmp3.8/5, ML1.5/1, MS4.0/2, Ms1 4.0/2, ms1mx3.0/35, Error ellipse: s-maj=97.7km s-min=22.8km az=130.0*

ISC 27 11:20:50.1±2.0, 7.0S±0.6×150.6E±0.6, h35km, n8, σ0978/7, mb3.6/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.14**	**235**	Pn	**Pn**	**11 21 50.7**	**-0.2**
	2.4nm,0.3s,baz=28,slow=8.7,SNR=9.5						
PMG				Sn	**Sn**	**11 22 39.0**	**+0.9**
	8.7nm,0.3s,baz=256,slow=21,SNR=9.0						
WRA	**Warramunga Arr**	**20.34**	**229**	P	**P**	**11 25 23.2**	**-0.3**
	3.6nm,0.6s,baz=54,slow=11,SNR=26						
ASAR	**Alice Springs**	**23.05**	**222**	P	**P**	**11 25 52.8**	**+0.2**
	1.3nm,0.8s,baz=51,slow=9.9,SNR=10						
FITZ	**Fitzroy Crossi**	**26.68**	**243**	P	**P**	**11 26 25.0**	**-1.1**
	2.3nm,0.8s,baz=55,slow=9.9,SNR=4.4						
USRK	**Ussuriysk Ar.**	**53.66**	**343**	LR	LR	11 50 07.1	
	comp=Z,132nm,20.9s,baz=154,slow=33						
PETK	**Petropavlovsk-**	**60.18**	**5**	LR	LR	11 54 36.3	
	comp=Z,150nm,19.3s,baz=256,slow=34						
ILAR	**Eielson Array**	**85.02**	**22**	P	**P**	**11 33 22.0**	**+0.3**
	0.4nm,1.0s,baz=235,slow=6.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**148.78**	**284**	PKPbc	**PKPbc**	**11 40 35.3**	**+0.4**
	0.6nm,0.6s,baz=69,slow=3.6,SNR=3.3						

IDC 27 11:22:19.2±2.1, 3.16N×127.62E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/40, mbtmp3.1/3, MS3.7/1, Ms1 3.7/1, ms1mx2.7/22, Error ellipse: s-maj=152.6km s-min=25.2km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.88**	**164**	P	P	11 27 34.6	-0.1
	0.3nm,0.5s,baz=344,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**27.35**	**167**	P	P	11 28 06.4	+0.2
	0.1nm,0.6s,baz=349,slow=8.0,SNR=2.5						
ASAR				LR	LR	11 39 13.7	
	comp=Z,134nm,18.1s,baz=206,slow=37						
MKAR	**Makanchi Array**	**58.53**	**325**	P	P	11 32 17.5	-0.1
	0.1nm,0.4s,baz=114,slow=5.8,SNR=3.0						

*ISCJB **27** 11:23:21.8±1.2, 52.54N±0.09×169.51W±0.09, h9km±7km, mb3.7/8, MS4.1/2, Error ellipse: s-maj=17.4km s-min=4.1km az=151.4*
*IDC **27** 11:23:21.3±1.0, 52.47N×169.53W, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.7/54, mbtmp3.7/10, ML3.1/2, MS3.9/3, Ms1 3.9/3, ms1mx3.2/51, Error ellipse: s-maj=29.6km s-min=17.8km az=160.0*
*NEIC **27** 11:23:23.1±0.0, 52.72N×169.58W, h5km, ML3.7(AEIC), After AEIC.*

ISC 27 11:23:22.7±1.8, 52.6N±0.1×169.49W±0.07, h6km±11km, n40, σ0989/39, mb3.7/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.54**	**45**	P	**Pg**	**11 23 33.5**	**+0.5**
NIKH				S	**Sg**	**11 23 41.4**	**+1.3**
OKSO	**Okmok South**	**1.11**	**46**	P	**Pg**	**11 23 42.8**	**-1.1**
OKSO				S	**Sg**	**11 23 57.8**	**-0.5**
OKRE	**Okmok R'deer P**	**1.23**	**40**	P	**Pg**	**11 23 45.2**	**-1.0**
MGOD	**Makushin Gods**	**1.98**	**52**	P	**Pn**	**11 23 57.0**	**+0.2**
MGOD				S	**Sn**	**11 24 22.4**	**+0.4**
MREP	**Makushin Rep't**	**2.05**	**52**	P	**Pn**	**11 23 58.0**	**+0.3**
MREP				S	**Sn**	**11 24 24.1**	**+0.5**
MCIR	**Makushin Cirqu**	**2.07**	**48**	P	**Pn**	**11 23 58.4**	**+0.4**
MSW	**Makushin Switc**	**2.10**	**50**	P	**Pn**	**11 23 58.3**	**-0.1**
MSW				S	**Sn**	**11 24 26.1**	**+1.4**
MNAT	**Makushin Natee**	**2.12**	**51**	P	**Pn**	**11 23 58.5**	**-0.2**
MTBL	**Makushin Table**	**2.18**	**50**	P	**Pn**	**11 23 59.3**	**-0.2**
UNV	**Unalaska Valle**	**2.19**	**54**	P	**Pn**	**11 23 59.0**	**-0.5**
UNV				S	**Sn**	**11 24 28.3**	**+1.3**
AKRB	**Akutan Reef Bi**	**2.56**	**52**	P	**Pn**	**11 24 05.8**	**+1.1**
AKRB				S	**Sn**	**11 24 36.8**	**+0.6**
AKMO	**Akutan Morgan**	**2.57**	**53**	P	**Pn**	**11 24 05.2**	**+0.4**
AKLV	**Akutan Long Va**	**2.64**	**52**	P	**Pn**	**11 24 06.2**	**+0.5**
AKGG	**Akutan Green G**	**2.64**	**51**	P	**Pn**	**11 24 06.2**	**+0.5**
KOFP	**Korovin Flat P**	**2.84**	**265**	P	**Pn**	**11 24 08.5**	**-0.1**
ATKA	**Atka Island**	**2.91**	**264**	P	**Pn**	**11 24 09.6**	**+0.1**
GSTD	**Great Sitkin T**	**4.12**	**265**	P	**Pn**	**11 24 26.3**	**+0.2**
ADAG	**Mount Adagdak**	**4.41**	**265**	P	**Pn**	**11 24 31.3**	**+1.2**
ADK	**Adak**	**4.48**	**264**	P	**Pn**	**11 24 31.9**	**+0.9**
SPIA	**Saint Paul Isl**	**4.62**	**355**	P	**Pn**	**11 24 32.7**	**-0.1**
KIMD	**Kanaga Island**	**4.84**	**263**	P	**Pn**	**11 24 36.9**	**+0.9**
KDAK	**Kodiak Island**	**10.96**	**55**	Pn	**Pn**	**11 25 59.8**	**0.0**
	0.4nm,0.3s,baz=256,slow=8.8,SNR=5.6						
KDAK				LR	LR	11 30 29.0	
	comp=Z,206nm,18.2s,baz=212,slow=39						
ILAR	**Eielson Array**	**16.81**	**35**	Pn	**Pn**	**11 27 17.2**	**-1.2**
	0.1nm,0.3s,baz=230,slow=11,SNR=8.3						
PETK	**Petropavlovsk-**	**19.73**	**285**	P	**P**	**11 27 53.1**	**+0.3**
	0.2nm,0.3s,baz=102,slow=14,SNR=4.4						
SEY	**Seymchan**	**22.46**	**312**	P	**P**	**11 28 23.7**	**+1.5**
	1.8nm,0.9s,baz=93,slow=17,SNR=5.1						
DLBC	**Dease Lake**	**22.83**	**59**	P	**P**	**11 28 27.9**	**+1.7**
	5.8nm,1.1s,baz=252,slow=8.1,SNR=3.9						
INK	**Inuvik**	**23.20**	**34**	P	**P**	**11 28 28.9**	**-0.9**
	0.9nm,0.5s,baz=241,slow=11,SNR=7.6						
YKA	**Yellowknife Ar**	**30.15**	**49**	P	**P**	**11 29 32.0**	**-0.9**
	0.3nm,0.5s,baz=273,slow=7.7,SNR=24						
H11N2	**WAKE ISLAND Hy**	**37.58**	**218**	T	T	12 10 41.6	
	baz=24,slow=76,SNR=33						
H11N3	**WAKE ISLAND Hy**	**37.59**	**218**	T	T	12 10 34.9	
	baz=24,slow=76,SNR=40						
H11N1	**WAKE ISLAND Hy**	**37.60**	**218**	T	T	12 10 44.0	
	baz=24,slow=76,SNR=38						
H11S1	**WAKE ISLAND Hy**	**38.77**	**218**	T	T	12 12 03.6	
	baz=23,slow=76,SNR=581						
H11S2	**WAKE ISLAND Hy**	**38.79**	**218**	T	T	12 12 04.7	
	baz=23,slow=76,SNR=306						
H11S3	**WAKE ISLAND Hy**	**38.79**	**218**	T	T	12 12 04.9	
	baz=23,slow=76,SNR=289						
PDAR	**Pinedale Array**	**40.43**	**79**	P	**P**	**11 31 02.2**	**+0.4**
	0.9nm,0.6s,baz=294,slow=4.0,SNR=9.8						
TXAR	**Lajitas Array**	**52.81**	**89**	P	**P**	**11 32 39.2**	**+0.4**
	2.1nm,0.7s,baz=296,slow=5.7,SNR=34						
GUMO	**Guam**	**53.15**	**240**	LR	LR	11 52 22.2	
	comp=Z,160nm,20.2s,baz=47,slow=33						
WRA	**Warramunga Arr**	**87.09**	**231**	P	**P**	**11 36 07.2**	**-2.0**
	0.5nm,0.8s,baz=37,slow=5.5,SNR=4.1						
SDV	**Santo Domingo**	**88.35**	**78**	LR	LR	12 17 38.5	
	comp=Z,86nm,19.2s,baz=88,slow=37						
ASAR	**Alice Springs**	**90.48**	**230**	P	**P**	**11 36 24.4**	**-0.8**
	0.5nm,0.8s,baz=33,slow=4.8,SNR=4.3						

*NIED **27** 11:39:00, 32.60N×141.90E, h5km, Mw4.5 Best double couple: M0 6.74000×10^15 NP1:φ=359.00000°, δ=49.00000°, λ=44.00000°. NP2:φ=236.00000°, δ=58.00000°, λ=130.00000°.*
*IDC **27** 11:39:06.6±0.6, 32.41N×141.91E, h0km, mb4.1/22, mb1 4.2/26, mb1mx4.1/48, mbtmp4.1/26, ML3.5/2, MS3.9/11, Ms1 3.9/11, ms1mx3.6/46, Error ellipse: s-maj=15.8km s-min=13.1km az=77.0*
*JMA **27** 11:39:09.0±0.2, 32.56N×141.93E, h19km, M4.2*
*NEIC **27** 11:39:10.6±0.8, 32.39N×141.83E, h22km±5km, mb4.6/42, Error ellipse: s-maj=5.6km s-min=4.8km az=48.0*
*MOS **27** 11:39:10.4±1.1, 32.41N×141.75E, h33km, mb4.5/27, MS4.2/5, Error ellipse: s-maj=13.0km s-min=6.2km az=108.9*
*ISCJB **27** 11:39:11.4±0.2, 32.45N±0.03×141.82E±0.03, h39km, mb4.4/78, MS4.1/13, Error ellipse: s-maj=4.7km s-min=3.5km az=34.8*

ISC 27 11:39:12.5±0.4, 32.45N±0.04×141.98E±0.05, h39km, n192, σ1969/199, mb4.5/82, MS4.2/13, 8C-4D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.87**	**271**	P	**Pn**	**11 39 40.4**	**-1.6**
JAOM				*e*S	**Sn**	**11 40 03.3**	**-1.1**
JHJ2	**Mitsune**	**1.94**	**291**	*e*Pn	**Pn**	**11 39 41.0**	**-1.9**
JHJ2	**Mitsune**	**1.94**	**291**	P	**Pn**	**11 39 40.7**	**-2.2**
JHCJ	**Hachijojimakas**	**1.94**	**289**	P	**Pn**	**11 39 40.6**	**-2.3**
JHCJ				S	**Sn**	**11 40 03.9**	**-2.2**
JHJ	**Hachijo jima 2**	**1.97**	**291**	Pn	**Pn**	**11 39 40.8**	**-2.5**
	58nm,0.3s,baz=296,slow=17,SNR=42						
JHJ				Sn	**Sn**	**11 40 04.8**	**-2.0**
	121nm,0.3s,baz=80,slow=24,SNR=9.6						
BSO1	**Boso 1**	**2.35**	**340**	P	**Pn**	**11 39 46.3**	**-1.8**
BSO3	**Boso 3**	**2.65**	**333**	P	**Pn**	**11 39 50.6**	**-1.8**
JOD2	**Odawara 2**	**3.70**	**320**	P	**Pn**	**11 40 06.7**	**-0.4**
JYN	**Shimob**	**4.17**	**318**	P	**Pn**	**11 40 13.9**	**+0.2**
JYN				*e*S	**Sn**	**11 41 00.1**	**-1.1**
JRY	**Ryogami san**	**4.38**	**325**	P	**Pn**	**11 40 14.9**	**-1.6**
JAG	**Ashikaga**	**4.48**	**333**	P	**Pn**	**11 40 16.0**	**-1.9**
JAG				*e*S	**Sn**	**11 41 06.4**	**-2.4**
JIE	**Ise**	**4.81**	**295**	P	**Pn**	**11 40 21.4**	**-1.0**
INU	**Inuyama**	**5.04**	**306**	*e*Pn	**Pn**	**11 40 26.7**	**+1.2**
MJAR	**Matsushiro Arr**	**5.13**	**324**	Pn	**Pn**	**11 40 24.8**	**-2.1**
	1.0nm,0.3s,baz=160,slow=14,SNR=38						
MJAR				LR	LR	11 42 30.0	
	comp=Z,1µm,18.9s,baz=150,slow=40						
MJAR	**Matsushiro Arr**	**5.13**	**324**	P	**Pn**	**11 40 24.8**	**-2.1**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,1µm,18.9s						
MAJO	**Matsushiro**	**5.14**	**324**	*e*Pn	**Pn**	**11 40 26.2**	**-0.7**
MAJO	**Matsushiro**	**5.14**	**324**	↓*i*P	**Pn**	**11 40 25.8**	**-1.1**
MAT	**Matsushiro**	**5.14**	**324**	P	**Pn**	**11 40 25.9**	**-1.0**
MAT				S	**Sn**	**11 41 25.9**	**+1.0**
MAT	**Matsushiro**	**5.14**	**324**	P	**Pn**	**11 40 25.0**	**-1.9**
MJB9	**Matsu-Tunnel**	**5.14**	**324**	*e*Pn	**Pn**	**11 40 26.1**	**-0.8**
JFT	**Otama**	**5.24**	**346**	P	**Pn**	**11 40 26.0**	**-2.2**
JFT				S	**Sn**	**11 41 23.4**	**-3.9**
CBIJ	**Chichi jima**	**5.34**	**178**	*e*Pn	**Pn**	**11 40 27.8**	**-1.9**
CBIJ				*e*Sn	**Sn**	**11 41 27.8**	**-2.1**
CBIJ	**Chichi jima**	**5.34**	**178**	P	**Pn**	**11 40 28.2**	**-1.4**
JCJ	**Chichijima**	**5.34**	**178**	Pn	**Pn**	**11 40 28.1**	**-1.5**
	comp=Z,53nm,0.3s,baz=284,slow=21,SNR=10						
JCJ				Sn	**Sn**	**11 41 26.4**	**-3.5**
	comp=Z,71nm,0.3s,baz=299,slow=22,SNR=6.5						
JNU	**Nakatsue**	**9.37**	**277**	LR	LR	11 44 48.6	
	comp=Z,295nm,19.6s,baz=116,slow=37						
ERM	**Erimo**	**9.60**	**5**	*e*Pn	Pn	11 41 22.3	-5.7
ERM				*e*Sn	**Sn**	**11 43 11.5**	**-3.0**
ERM	**Erimo**	**9.60**	**5**	*e*P	Pn	11 41 22.3	-5.7
ERM				*e*		11 43 11.5	
ASAJ	**Asahikawa**	**11.66**	**2**	Pn	**Pn**	**11 41 52.2**	**-4.0**
	comp=Z,3.3nm,0.3s,baz=243,slow=11,SNR=34						
ASAJ	**Asahikawa**	**11.66**	**2**	*e*Pn	**Pn**	**11 41 51.9**	**-4.3**
SHO	**Shikotan**	**12.02**	**17**	*e*P	**Pn**	**11 41 57.1**	**-4.1**
SHO				pmax	pmax		
	comp=Z,5.0nm,0.4s						
SHO				pmax	pmax		
	comp=N,6.0nm,0.3s						
SHO				pmax	pmax		
	comp=E,4.0nm,0.2s						
KSRS	**Korea Array**	**12.56**	**297**	Pn	**Pn**	**11 42 11.3**	**+2.8**
	comp=E,0.1nm,0.3s,baz=93,slow=14,SNR=2.9						
KS15	**Wonju Array Si**	**12.59**	**297**	*e*Pn	**Pn**	**11 42 08.9**	**0.0**
KSAR	**Wonju Array Be**	**12.59**	**297**	Pn	**Pn**	**11 42 11.3**	**+2.4**
KSAR	**Wonju Array Be**	**12.59**	**297**	P	**Pn**	**11 42 11.4**	**+2.4**
KUR	**Kuril'sk**	**13.56**	**18**	*e*Pn	Pn	11 42 08.9	-13
USRK	**Ussuriysk Ar.**	**14.10**	**329**	Pn	**Pn**	**11 42 28.9**	**-0.7**
	comp=E,0.1nm,0.3s,baz=141,slow=14,SNR=2.5						
YSS	**Yuzh-Sakhalins**	**14.50**	**2**	*e*P	**Pn**	**11 42 33.9**	**-1.0**
YSS				*e*S	**Sn**	**11 45 14.5**	**+0.2**
YSS				MLR	MLR		
	comp=Z,700nm,17.0s						
YSS				MLR	MLR		
	comp=N,500nm,14.0s						
YSS				MLR	MLR		
	comp=E,500nm,14.0s						
MDJ	**Mudanjiang**	**15.52**	**325**	P	**Pn**	**11 42 49.8**	**+1.4**
MDJ				pP	P	11 42 56.3	+4.0
MDJ				sP	pP	11 43 02.3	+0.3
MDJ				S	**Sn**	**11 45 38.0**	**-1.1**
MDJ				sS	S	11 45 50.0	-3.6
MDJ				ScP	**ScP**	**11 51 24.8**	**+4.5**
MDJ				PcS	**PcS**	**11 51 28.3**	**+3.8**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,270nm,4.3s						
MDJ				LR	LR		
	comp=N,830nm,4.9s						
MDJ				LR	LR		
	comp=E,520nm,4.7s						
MDJ				LR	LR		
	comp=Z,790nm,10.7s						
KLR	**Kul'dur**	**18.43**	**338**	P	**P**	**11 43 22.9**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=162,slow=8.3,SNR=6.7						
KLR				LR	LR	11 51 08.7	
	comp=Z,207nm,18.0s,baz=144,slow=39						
KLR	**Kul'dur**	**18.43**	**338**	↓*e*P	**Pn**	**11 43 24.7**	**-0.1**
GRNR	**Gornyy**	**18.76**	**349**	*e*P	**P**	**11 43 28.0**	**-0.1**
NJ2	**Nanjing**	**19.56**	**275**	*e*P	**Pn**	**11 43 37.8**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NKL	**Nikolayevsk**	**20.71**	**358**	*e*P	Pn	11 43 52.0	+0.2
NKL				pmax	pmax		
	comp=Z,27nm,1.0s						
WHN	**Wuhan**	**23.61**	**273**	P	**P**	**11 44 21.0**	**+1.1**
ZEA	**Zeya**	**23.75**	**338**	*e*P	**P**	**11 44 20.8**	**-0.2**
ZEA				pmax	pmax		
	comp=N,31nm,0.8s						
ZEA				pmax	pmax		
	comp=E,21nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,64nm,1.0s						
ZEA				MLR	MLR		
	comp=N,400nm,13.0s						
ZEA				MLR	MLR		
	comp=E,500nm,13.0s						
HHC	**Hu-ho-hao-te**	**25.70**	**298**	*e*P	**P**	**11 44 39.8**	**+0.7**
HHC	

KMI	**Kunming**	**35.01**	**268**	P	**P**	**11 46 03.0**	**+1.4**		
KMI	comp=Z,11nm,0.6s			pmax	pmax				
BILL	**Bilibino**	**38.31**	**14**⇓	*e*P	**P**	**11 46 28.3**	**-0.7**		
BILL	comp=Z,1.0nm,1.1s			pmax	pmax				
TIXI	**Tiksi**	**39.89**	**354**	P	**P**	**11 46 41.7**	**-0.4**		
	comp=Z,0.6nm,0.3s,baz=166,slow=8.8,SNR=2.6								
TIXI	**Tiksi**	**39.89**	**354**⇓	*e*P	**P**	**11 46 40.8**	**-1.3**		
TIXI	comp=Z,1.0nm,0.9s			pmax	pmax				
CMAR	**Chiang Mai Arr**	**41.01**	**261**	LR	LR	12 04 13.2			
	comp=Z,81nm,19.1s,baz=28,slow=37								
PMG	**Port Moresby**	**41.91**	**172**	LR	LR	12 04 14.4			
	comp=Z,65nm,18.3s,baz=8.0,slow=36								
WMQ	**Urumqi**	**43.47**	**301**	*e*P	**P**	**11 47 14.3**	**+2.4**		
WMQ				sP	sP	11 47 28.0	+0.3		
WMQ	comp=Z,27nm,0.7s			pmax	pmax				
WMQ	comp=Z,160nm,3.6s			pmax	pmax				
WMQ	comp=N,340nm,19.9s			LR	LR				
WMQ	comp=E,240nm,22.3s			LR	LR				
WMQ	comp=Z,260nm,13.7s			LR	LR				
SHL	**Shillong**	**44.02**	**274**	*e*P	**P**	**11 47 16.1**	**-0.6**		
	comp=Z,12nm,0.4s								
SHL	**Shillong**	**44.02**	**274**	*e*P	**P**	**11 47 16.1**	**-0.6**		
SHL	comp=Z,12nm,0.4s			pmax	pmax				
HNR	**Honiara**	**45.04**	**155**	LR	LR	12 05 19.6			
	comp=Z,69nm,19.3s,baz=348,slow=35								
ZAA0	**Zalesovo Array**	**45.43**	**316**	*e*P	**P**	**11 47 28.3**	**+1.0**		
	comp=Z,4.9nm,1.0s								
ZAA1	**Zalesovo Array**	**45.43**	**316**	*e*P	**P**	**11 47 26.2**	**-1.1**		
ZALV	**Zalesovo Beam**	**45.43**	**316**	P	**P**	**11 47 26.2**	**-1.1**		
	comp=Z,1.1nm,0.2s,baz=79,slow=7.5,SNR=4.3								
BATI	**Baumata**	**45.88**	**206**	LR	LR	12 04 50.2			
	comp=Z,102nm,21.3s,baz=20,slow=34								
NVS	**Novosibirsk**	**46.42**	**317**	*e*P	**P**	**11 47 35.2**	**+0.1**		
MK01	**Makanchi Array**	**47.06**	**306**	*e*P	**P**	**11 47 40.1**	**-0.2**		
MK31	**Makanchi Array**	**47.06**	**306**	*e*P	**P**	**11 47 40.3**	**0.0**		
MK31	**Makanchi Array**	**47.06**	**306**	*e*P	**P**	**11 47 40.3**	**0.0**		
MK32	**Makanchi Array**	**47.06**	**306**	*e*P	**P**	**11 47 39.4**	**-0.9**		
MKAR	**Makanchi Array**	**47.06**	**306**	P	**P**	**11 47 39.4**	**-0.9**		
	comp=Z,3.0nm,0.7s,baz=89,slow=9.1,SNR=19								
MKAR	**Makanchi Array**	**47.06**	**306**	*e*P	**P**	**11 47 40.3**	**0.0**		
	comp=Z,48nm,0.9s								
MAKZ	**Makanchi**	**47.28**	**306**	*e*P	**P**	**11 47 42.1**	**+0.1**		
	comp=Z,5.7nm,0.8s								
MAKZ	**Makanchi**	**47.28**	**306**	*e*P	**P**	**11 47 42.1**	**+0.1**		
MAKZ	comp=Z,6.0nm,0.8s			pmax	pmax				
JIRN	**Jiri**	**48.07**	**280**	*e*P	**P**	**11 47 47.6**	**-1.1**		
	comp=Z,20nm,0.6s								
GUN	**Gumba**	**48.24**	**280**	*e*P	**P**	**11 47 47.8**	**-2.3**		
	comp=Z,10.0nm,0.6s								
KURK	**Kurchatov**	**49.22**	**311**	*e*P	**P**	**11 47 56.3**	**-0.5**		
	comp=Z,8.8nm,0.9s								
KURK	**Kurchatov**	**49.22**	**311**⇑	*e*P	**P**	**11 47 55.8**	**-1.0**		
KURK	comp=Z,4.0nm,1.1s			pmax	pmax				
KURBB	**Kurchatov Arra**	**49.28**	**311**	P	**P**	**11 47 56.5**	**-0.8**		
	comp=Z,1.5nm,0.5s,baz=88,slow=7.7,SNR=14								
DANN	**Dangsing**	**49.85**	**281**	*e*P	**P**	**11 47 59.2**	**-3.1**		
	comp=Z,6.1nm,0.5s								
PYUN	**Piuthan**	**50.58**	**281**	*e*P	**P**	**11 48 07.0**	**-0.7**		
	comp=Z,8.1nm,0.5s								
MLY	**Manley**	**51.53**	**30**	*e*P	**P**	**11 48 11.7**	**-2.5**		
	comp=Z,2.7nm,1.2s								
WRAB	**Tennant Creek**	**52.59**	**189**	*e*P	**P**	**11 48 22.3**	**-0.1**		
	comp=Z,9.1nm,0.8s								
WRAB	**Tennant Creek**	**52.59**	**189**⇑	*e*P	**P**	**11 48 21.3**	**-1.1**		
WRAB	comp=Z,4.0nm,0.7s			pmax	pmax				
WB2	**Warramunga Arr**	**52.60**	**189**	*e*P	**P**	**11 48 22.3**	**-0.2**		
	comp=Z,9.9nm,0.8s								
WR1	**Warramunga Arr**	**52.60**	**189**	*e*P	**P**	**11 48 22.2**	**-0.3**		
	comp=Z,9.3nm,0.9s								
WRA	**Warramunga Arr**	**52.60**	**189**	P	**P**	**11 48 22.2**	**-0.3**		
	comp=Z,4.3nm,0.7s,baz=5.6,slow=7.6,SNR=64								
FITZ	**Fitzroy Crossi**	**52.64**	**200**	P	**P**	**11 48 22.4**	**-0.3**		
	comp=Z,1.2nm,0.7s,baz=9.5,slow=12,SNR=4.7								
FITZ	**Fitzroy Crossi**	**52.64**	**200**	*e*P	**P**	**11 48 23.1**	**+0.3**		
	comp=Z,3.0nm,0.8s								
KSH	**Kashi**	**52.82**	**298**	P	**P**	**11 48 28.0**	**+3.8**		
KSH				pP	sP	11 48 41.0	+0.9		
KSH				PcP	**PcP**	**11 49 35.0**	**+1.8**		
KSH				S	**S**	**11 55 53.0**	**+2.9**		
KSH				sS	sS	11 56 09.0	0.0		
KSH				ScS	**ScS**	**11 58 10.0**	**-0.9**		
KSH	comp=Z,8.0nm,0.5s			pmax	pmax				
KSH	comp=Z,350nm,6.8s			pmax	pmax				
KSH	comp=N,190nm,6.2s			LR	LR				
KSH	comp=E,290nm,10.8s			LR	LR				
KSH	comp=Z,460nm,11.9s			LR	LR				
HDA	**Harding Lake**	**53.12**	**31**	*e*P	**P**	**11 48 26.5**	**+0.6**		
ILAR	**Eielson Array**	**53.16**	**30**	P	**P**	**11 48 26.3**	**+0.1**		
	comp=Z,0.9nm,0.7s,baz=265,slow=5.4,SNR=14								
ILB	**Eielson Array**	**53.16**	**30**	*e*P	**P**	**11 48 27.3**	**+1.1**		
IL1	**Eielson Array**	**53.16**	**30**	*e*P	**P**	**11 48 26.3**	**+0.1**		
AAK	**Ala-Archa**	**53.18**	**302**	P	**P**	**11 48 27.6**	**+0.7**		
	comp=Z,0.9nm,0.4s,baz=167,slow=6.8,SNR=4.7								
AAK	**Ala-Archa**	**53.18**	**302**⇑	*e*P	**P**	**11 48 26.4**	**-0.5**		
AAK	comp=Z,2.0nm,1.1s			pmax	pmax				
BVAR	**Borovoye Array**	**54.07**	**315**	P	**P**	**11 48 32.4**	**-0.6**		
	comp=Z,2.0nm,0.7s,baz=96,slow=8.2,SNR=11								
BRVK	**Borovoye**	**54.12**	**315**⇑	*e*P	**P**	**11 48 32.7**	**-0.7**		
BRVK	comp=Z,8.0nm,2.1s			pmax	pmax				
ARSB	**Arslanbob**	**54.58**	**300**	*e*pP	pP	11 48 43.3	-5.2		
KK31	**Karatay Array**	**55.92**	**303**	*e*P	**P**	**11 48 46.4**	**-0.2**		
KK31	**Karatay Array**	**55.92**	**303**	*e*P	**P**	**11 48 46.4**	**-0.2**		
KKAR	**Karatay Array**	**55.92**	**303**	*e*P	**P**	**11 48 46.6**	**+0.1**		
KSAR	**Karatay Array**	**55.92**	**303**	*e*P	**P**	**11 48 46.6**	**+0.1**		
AS01	**Alice Springs**	**56.32**	**189**	*e*P	**P**	**11 48 50.0**	**+0.5**		
AS31	**Alice Springs**	**56.33**	**189**	*e*P	**P**	**11 48 49.3**	**-0.2**		
	comp=Z,0.9nm,0.8s								
ASAR	**Alice Springs**	**56.33**	**189**	P	**P**	**11 48 48.5**	**-1.0**		
	comp=Z,1.2nm,0.8s,baz=4.8,slow=6.7,SNR=18								
CHGR	**Chuyangaron**	**58.15**	**298**	*e*P	**P**	**11 49 04.0**	**+1.5**		
	comp=Z,33nm,0.9s								
INK	**Inuvik**	**58.28**	**26**	P	**P**	**11 49 02.6**	**-0.1**		
	comp=Z,0.9nm,0.5s,baz=322,slow=3.9,SNR=8.1								
INK	**Inuvik**	**58.28**	**26**	*e*P	**P**	**11 49 03.5**	**+0.8**		
	comp=Z,4.3nm,1.1s								
INK	**Inuvik**	**58.28**	**26**	*e*P	**P**	**11 49 03.5**	**+0.8**		
INK	comp=Z,4.0nm,1.1s			pmax	pmax				
SVE	**Sverdlovsk**	**58.94**	**321**	*e*P	P	11 49 20.3	+13		
SVE	comp=Z,14nm,1.0s			pmax	pmax				
ARU	**Arti**	**60.14**	**320**	*e*P	**P**	**11 49 16.6**	**+0.7**		
	comp=Z,16nm,1.0s								
ARU	**Arti**	**60.14**	**320**⇓	*e*P	**P**	**11 49 15.5**	**-0.4**		
ARU	comp=Z,1.0nm,1.0s			pmax	pmax				
ABKAR	**Akbulak array**	**61.30**	**312**	*e*P	**P**	**11 49 23.4**	**-0.5**		
FORT	**Forrest**	**64.25**	**193**	*e*P	**P**	**11 49 43.5**	**0.0**		
	comp=Z,18nm,0.8s								
GEYT	**Alibeck**	**66.52**	**301**	P	**P**	**11 49 57.3**	**-1.2**		
	comp=Z,1.3nm,0.5s,baz=104,slow=10,SNR=3.2								
RES	**Resolute Bay**	**66.92**	**14**	*e*P	**P**	**11 50 01.3**	**+1.0**		
	comp=Z,3.7nm,1.1s								
RES	**Resolute Bay**	**66.92**	**14**	*e*P	**P**	**11 50 01.3**	**+1.0**		
RES	comp=Z,4.0nm,1.1s			pmax	pmax				
YKA	**Yellowknife Ar**	**67.55**	**29**	P	**P**	**11 50 05.1**	**+0.7**		
	comp=Z,0.7nm,0.7s,baz=297,slow=6.3,SNR=19								
YKB5	**Yellowknife Ar**	**67.55**	**29**	*e*P	**P**	**11 50 05.4**	**+0.9**		
NLWA	**Neilton Lookou**	**69.50**	**46**	*e*P	**P**	**11 50 20.0**	**+3.0**		
	comp=Z,8.6nm,0.9s								
B08A	**Colville Reser**	**71.78**	**44**	*e*P	**P**	**11 50 33.0**	**+2.1**		
	comp=Z,2.5nm,0.8s								
KBZ	**Khabaz**	**74.27**	**312**	P	**P**	**11 50 45.6**	**0.0**		
	comp=Z,2.1nm,0.8s,baz=26,slow=2.1,SNR=5.3								
KBZ				LR	LR	12 28 28.0			
	comp=Z,179nm,19.8s,baz=330,slow=40								

KIV	**Kislovodsk**	**74.29**	**312**	*e*P	**P**	**11 50 45.5**	**-0.4**		
KIV	comp=Z,10.0nm,1.0s			pmax	pmax				
GNI	**Garni**	**74.85**	**308**⇑	*e*P	**P**	**11 50 51.2**	**+1.9**		
GNI	comp=Z,30nm,1.2s			pmax	pmax				
DLMT	**Dillon**	**77.28**	**44**	*e*P	**P**	**11 51 03.5**	**+0.5**		
	comp=Z,3.8nm,1.0s								
FFC	**Flin Flon**	**77.32**	**32**	*e*P	**P**	**11 51 04.1**	**+1.3**		
	comp=Z,3.9nm,0.7s								
FFC	**Flin Flon**	**77.32**	**32**	*ce*P	**P**	**11 51 06.2**	**+3.4**		
NV01	**Mina Array Sit**	**77.39**	**52**	*e*P	**P**	**11 51 04.1**	**+0.3**		
NVAR	**Mina Array Bea**	**77.39**	**52**	P	**P**	**11 51 04.1**	**+0.3**		
	comp=Z,1.3nm,0.7s,baz=266,slow=7.8,SNR=6.3								
BOZ	**Bozeman (W)**	**77.72**	**44**	*e*P	**P**	**11 51 06.7**	**+1.2**		
	comp=Z,1.8nm,0.8s								
BOZ	**Bozeman (W)**	**77.72**	**44**	*e*P	**P**	**11 51 06.7**	**+1.2**		
BOZ	comp=Z,2.0nm,0.8s			pmax	pmax				
FCC	**Fort Churchill**	**77.89**	**26**	*e*P	**P**	**11 51 07.2**	**+1.3**		
	comp=Z,5.2nm,1.1s								
FCC	**Fort Churchill**	**77.89**	**26**	*e*P	**P**	**11 51 07.2**	**+1.3**		
FCC	comp=Z,5.0nm,1.1s			pmax	pmax				
AKASG	**Malin Array Be**	**78.22**	**323**	P	**P**	**11 51 07.8**	**-0.1**		
	comp=Z,0.5nm,0.5s,baz=51,slow=5.8,SNR=5.6								
AKASG				LR	LR	12 28 55.9			
	comp=Z,286nm,18.2s,baz=295,slow=38								
AKBB	**Malin Array Si**	**78.22**	**323**	*e*P	**P**	**11 51 07.8**	**-0.1**		
AKBB	comp=Z,4.0nm,1.1s			pmax	pmax				
NB2	**NORSAR Subarra**	**78.59**	**338**	P	**P**	**11 51 09.7**	**-0.1**		
	comp=Z,15nm,1.4s,baz=40,slow=5.6								
NB200	**NORSAR Array S**	**78.59**	**338**	*e*P	**P**	**11 51 09.8**	**0.0**		
NOA	**NORSAR Array B**	**78.59**	**338**	P	**P**	**11 51 09.8**	**0.0**		
	comp=Z,1.3nm,0.9s,baz=40,slow=5.1,SNR=2.9								
NOA				LR	LR	12 30 24.7			
	comp=Z,97nm,19.9s,baz=240,slow=39								
HVU	**Hansel Valley**	**79.16**	**47**	*e*P	**P**	**11 51 15.5**	**+2.0**		
	comp=Z,3.5nm,1.0s								
HVU	**Hansel Valley**	**79.16**	**47**	*e*P	**P**	**11 51 15.5**	**+2.0**		
HVU	comp=Z,4.0nm,1.0s			pmax	pmax				
TPAW	**Teton Pass**	**79.31**	**45**	*e*P	**P**	**11 51 16.1**	**+1.7**		
	comp=Z,2.3nm,0.8s								
PD31	**Pinedale Array**	**80.56**	**45**	*e*P	**P**	**11 51 21.9**	**+0.8**		
PDAR	**Pinedale Array**	**80.56**	**45**	P	**P**	**11 51 21.5**	**+0.4**		
	comp=Z,4.4nm,0.7s,baz=207,slow=0.9,SNR=5.6								
NLU	**North Lily Min**	**80.62**	**49**	*e*P	**P**	**11 51 23.5**	**+2.0**		
	comp=Z,3.6nm,0.9s								
MPU	**Maple Canyon**	**80.87**	**48**	*e*P	**P**	**11 51 25.0**	**+2.2**		
	comp=Z,2.7nm,0.8s								
MTPU	**Mount Pierson**	**81.64**	**50**	*e*P	**P**	**11 51 29.7**	**+2.6**		
	comp=Z,2.6nm,0.9s								
P17A	**Butcher Ranch,**	**81.74**	**48**	*e*P	**P**	**11 51 29.7**	**+2.3**		
	comp=Z,6.4nm,0.8s								
Q16A	**Castle Valley**	**81.79**	**49**	*e*P	**P**	**11 51 29.8**	**+2.1**		
	comp=Z,4.3nm,0.9s								
KNB	**Kanab**	**81.80**	**51**	*e*P	**P**	**11 51 30.4**	**+2.6**		
	comp=Z,4.9nm,0.9s								
KNB	**Kanab**	**81.80**	**51**	*e*P	**P**	**11 51 30.4**	**+2.6**		
KNB	comp=Z,5.0nm,0.9s			pmax	pmax				
SRU	**San Rafael Swe**	**82.09**	**49**	*e*P	**P**	**11 51 31.0**	**+1.7**		
	comp=Z,8.3nm,0.7s								
SRU	**San Rafael Swe**	**82.09**	**49**	*e*P	**P**	**11 51 31.0**	**+1.7**		
SRU	comp=Z,8.0nm,0.7s			pmax	pmax				
PPT	**Papeete**	**82.18**	**116**	LR	LR	12 24 25.2			
	comp=Z,132nm,18.6s,baz=284,slow=33								
BR101	**Keskin Array S**	**82.26**	**312**	*e*P	**P**	**11 51 30.6**	**+0.5**		
BRTR	**Keskin Array B**	**82.26**	**312**	P	**P**	**11 51 30.6**	**+0.5**		
	comp=Z,1.0nm,0.7s,baz=116,slow=3.2,SNR=6.0								
PV21	**Cone Mtn., Par**	**83.39**	**48**	*e*P	**P**	**11 51 38.0**	**+2.0**		
	comp=Z,8.0nm,0.9s								
PV23	**Carpenter Ridg**	**83.43**	**48**	*e*P	**P**	**11 51 38.3**	**+2.0**		
	comp=Z,8.8nm,0.8s								
PV14	**Lion Creek, Pa**	**83.47**	**48**	*e*P	**P**	**11 51 38.7**	**+2.2**		
	comp=Z,9.5nm,0.9s								
PV19	**Morning Glory**	**83.53**	**48**	*e*P	**P**	**11 51 39.1**	**+2.3**		
	comp=Z,7.1nm,0.7s								
PV17	**East Wray Mesa**	**83.56**	**48**	*e*P	**P**	**11 51 39.2**	**+2.2**		
	comp=Z,9.3nm,0.9s								
PV16	**Nyswonger Mesa**	**83.57**	**48**	*e*P	**P**	**11 51 38.9**	**+1.8**		
	comp=Z,7.2nm,1.0s								
PV12	**Sauer Basin,**	**83.64**	**48**	*e*P	**P**	**11 51 39.9**	**+2.5**		
	comp=Z,7.8nm,1.0s								
PV13	**Radium Mtn., P**	**83.72**	**48**	*e*P	**P**	**11 51 39.2**	**+1.4**		
	comp=Z,5.0nm,0.9s								
SMCO	**Snowmass**	**84.27**	**47**	*e*P	**P**	**11 51 42.9**	**+2.1**		
	comp=Z,5.0nm,1.1s								
VYHS	**Vyhne**	**84.77**	**326**	*e*P	**P**	**11 51 42.8**	**+0.2**		
VYHS	**Vyhne**	**84.77**	**326**	*e*P	**P**	**11 51 42.8**	**+0.2**		
CLL	**Collm**	**85.31**	**331**	*i* P	**P**	**11 51 43.8**	**-1.4**		
	comp=Z,27nm,1.9s								
CLL				*e*pP	**pP**	**11 51 53.0**	**-4.2**		
CLL	**Collm**	**85.31**	**331**	*i* P	**P**	**11 51 43.8**	**-1.4**		
CLL	comp=Z,27nm,1.9s			pmax	pmax				
TX31	**Lajitas Ar. Si**	**92.53**	**53**	*e*P	**P**	**11 52 21.7**	**+1.6**		
LTX	**Lajitas**	**92.53**	**53**	*e*P	**P**	**11 52 20.8**	**+0.7**		
LTX	**Lajitas**	**92.53**	**53**	*e*P	**P**	**11 52 20.8**	**+0.7**		
TXAR	**Lajitas Array**	**92.53**	**53**	P	**P**	**11 52 20.8**	**+0.7**		
	comp=Z,0.9nm,0.7s,baz=288,slow=3.2,SNR=12								
BANI	**BANI**	**120.72**	**36**	*e*PKPdf	**PKPdf**	**11 57 59.0**	**-2.0**		
TOA1	**Torodi Ar. Sit**	**120.85**	**314**	*e*PKPdf	**PKPdf**	**11 57 59.7**	**-1.5**		
TORD	**Torodi Ar. Bea**	**120.85**	**314**	PKP	**PKPdf**	**11 57 59.7**	**-1.5**		
	comp=Z,0.3nm,0.8s,baz=147,slow=2.9,SNR=2.8								
QSPA	**South Pole Qui**	**122.20**	**180**	*e*PKPdf	**PKPdf**	**11 58 02.8**	**+0.5**		
LPAZ	**La Paz**	**148.35**	**67**	PKPbc	**PKPbc**	**11 58 56.4**	**+0.4**		
	comp=Z,1.6nm,0.7s,baz=350,slow=5.9,SNR=7.4								
LPAZ	**La Paz**	**148.35**	**67**	*e*PKPbc	**PKPbc**	**11 58 57.0**	**+1.0**		
MNMC	**Minye Minye**	**148.76**	**73**	*e*PKPbc	**PKPab**	**11 58 58.5**	**-1.9**		
PB11	**IPOC Station P**	**149.03**	**74**	*e*PKPbc	**PKPbc**	**11 58 58.8**	**+1.7**		
LCO	**Las Campanas**	**151.76**	**92**	*e*PKPbc	**PKPbc**	**11 59 04.9**	**+1.4**		
LCO	**Las Campanas**	**151.76**	**92**	*e*PKIKP	**PKPbc**	**11 59 04.9**	**+1.4**		

IDC 27 11:39:33.5±6.0, 2°.85N×128°.15E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/44, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=115.8km s-min=56.8km az=30.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.83**	**140**	Pn	Pn	11 40 49.3	+1.7
	1.9nm,0.3s,baz=108,slow=24,SNR=11						
SIJI				Sn	Sn	11 41 42.6	-1.8
	2.7nm,0.3s,baz=13,slow=23,SNR=7.9						
WRA	**Warramunga Arr**	**23.45**	**165**	P	P	11 44 44.6	-0.2
	0.9nm,0.4s,baz=346,slow=11,SNR=18						
ASAR	**Alice Springs**	**26.95**	**168**	P	P	11 45 16.4	-0.5
	0.6nm,0.9s,baz=351,slow=8.2,SNR=4.9						
STKA	**Stephens Creek**	**36.83**	**161**	P	P	11 46 43.7	+0.2
	0.8nm,0.4s,baz=358,slow=12,SNR=4.5						

ISCJB 27 11:54:39.2±1.2, 5°.64S±0°.09×147°.7E±0°.3, h170km, mb3.5/4, Error ellipse: s-maj=36.9km s-min=12.0km az=6.0
IDC 27 11:54:39.3±3.3, 5°.60S×147°.73E, h156km±37km, mb3.3/4, mb1 3.5/6, mb1mx3.2/34, mbtmp3.8/6, MS3.5/1, Ms1 3.5/1, ms1mx2.7/21, Error ellipse: s-maj=54.4km s-min=24.8km az=123.0

ISC 27 11:54:40.5±1.3, 5°.7S±0°.1×147°.8E±0°.3, h170km, n7, σ0s66/8, mb3.6/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.76**	**190**	P	**Pn**	**11 55 38.9**	**+0.6**
	3.2nm,0.3s,baz=40,slow=9.8,SNR=18						
PMG				S	**Sn**	**11 56 22.4**	**-1.0**
	7.4nm,0.3s,baz=10,slow=22,SNR=8.1						
WRA	**Warramunga Arr**	**19.30**	**221**	P	**P**	**11 58 52.4**	**-0.2**
	0.5nm,0.3s,baz=45,slow=12,SNR=32						
ASAR	**Alice Springs**	**22.34**	**215**	P	**P**	**11 59 25.2**	**+0.7**
	2.7nm,0.8s,baz=4,slow=8.6,SNR=21						
FITZ	**Fitzroy Crossi**	**24.92**	**238**	P	**P**	**11 59 47.8**	**-0.2**
	1.2nm,0.4s,baz=34,slow=9.3,SNR=5.8						
FITZ				LR	LR	12 10 05.6	
	comp=Z,96nm,18.1s,baz=20,slow=37						
SONM	**Songino Array**	**64.51**	**330**	P	**P**	**12 04 58.9**	**-0.3**
	0.5nm,0.8s,baz=124,slow=3.7,SNR=2.9						
ILAR	**Eielson Array**	**84.87**	**23**	P	**P**	**12 06 55.5**	**-0.2**
	0.3nm,0.7s,baz=250,slow=5.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**145.78**	**285**	PKPbc	**PKPdf**	**12 14 00.1**	**+0.3**
	0.2nm,0.5s,baz=62,slow=4.3,SNR=3.6						

HLW 27 11:55:16.9, 29°.95N×36°.70E, h10km±9km, Ml3.6
ISCJB 27 11:55:20.4±1.6, 29°.88N±0°.09×36°.3E±0°.1, h3km, Error ellipse: s-maj=18.2km s-min=7.4km az=38.2
JSO 27 11:55:24.1±1.1, 30°.N±8°.×3°.6E±°, h10km, M3.0/10, Mjma3.0/10, ML2.9/6, MLv3.0/10

ISC 27 11:55:22.6±1.8, 29°.94N±0°.08×36°.1E±0°.1, h3km, n12, σ1s19/14, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSNJ	**Maan**	**0.50**	**310**	P	**Pg**	**11 55 32.2**	**+0.1**
JDRJ	**Daraweish**	**0.88**	**333**	P	**Pg**	**11 55 39.4**	**-0.1**
HRFI	**Mount Harif**	**0.95**	**276**	P	**Pb**	**11 55 41.3**	**-0.4**
AQBJ	**Aqaba**	**0.96**	**258**	P	**Pg**	**11 55 40.6**	**-0.4**
SWQJ	**Swaqa**	**1.30**	**357**	P	**Pb**	**11 55 47.7**	**0.0**
HBST	**Basata**	**1.41**	**240**	P	**Pn**	**11 55 48.2**	**-0.9**
	baz=248						
HBST				AMP		11 56 00.0	
	baz=248						
HBST				S	**Sn**	**11 56 11.0**	**+2.7**
	baz=248						
LISJ	**El Lisan**	**1.41**	**337**	P	**Pn**	**11 55 47.9**	**-1.2**
GHAJ	**Ghor Haditha**	**1.44**	**341**	P	**Pn**	**11 55 48.2**	**-1.4**
WALJ	**Wala**	**1.64**	**351**	P	**Pn**	**11 55 51.3**	**-1.0**
HNKL	**Nakhl**	**1.86**	**270**	P	**Pn**	**11 55 55.1**	**-0.3**
	baz=271						
HNKL				S	**Sg**	**11 56 23.1**	**+0.6**
	baz=271						
ASF	**Jabal al Asfar**	**2.32**	**16**	P	**Pn**	**11 56 02.2**	**+0.4**
HKAT	**Jabal Katrina**	**2.34**	**233**	P	**Pn**	**11 56 00.8**	**-1.3**
	baz=240						

DJA 27 12:00:35.4±6.4, 8°.S±50°.×13°.0E±5°.4, h291km±106km, M4.0/4, mb4.0/4, mB4.5/2, MLv3.9/1, Mw(mB)3.7/2
ISCJB 27 12:00:39.8±0.4, 7°.33S±0°.05×129°.40E±0°.05, h150km, mb3.6/6, Error ellipse: s-maj=7.4km s-min=6.4km az=166.8
IDC 27 12:00:39.4±2.1, 7°.32S×129°.45E, h125km±20km, mb3.5/6, mb1 3.6/11, mb1mx3.5/40, mbtmp4.0/11, Error ellipse: s-maj=23.4km s-min=18.2km az=111.0

ISC 27 12:00:40.8±0.7, 7°.31S±0°.06×129°.44E±0°.07, h150km, n25, σ2s35/29, mb4.4/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.96**	**110**	P	**Pn**	**12 01 17.1**	**+1.6**
SAUI				S	**Sn**	**12 01 44.1**	**+1.9**
FAKI	**Fak Fak**	**5.19**	**33**	P	**Pn**	**12 01 54.6**	**-2.1**
SOEI	**Soe**	**5.66**	**244**	P	**Pn**	**12 02 03.9**	**+0.8**
BATI	**Baumata**	**6.39**	**243**	P	**Pn**	**12 02 13.0**	**+0.2**
	15nm,0.3s,baz=105,slow=4.2,SNR=11						
BATI				S	**Sn**	**12 03 22.8**	**-2.0**
	12nm,0.3s,baz=274,slow=22,SNR=10						
BATI	**Baumata**	**6.39**	**243**	P	**Pn**	**12 02 12.9**	**+0.2**
SIJI	**Sorong**	**6.66**	**16**	P	**Pn**	**12 02 15.0**	**-1.3**
	2.0nm,0.3s,baz=243,slow=23,SNR=18						
SIJI				S	**Sn**	**12 03 24.4**	**-6.8**
	2.1nm,0.3s,baz=60,slow=20,SNR=4.2						
FITZ	**Fitzroy Crossi**	**11.34**	**199**	P	**Pn**	**12 03 17.4**	**-1.2**
	0.4nm,0.3s,baz=32,slow=10,SNR=20						
FITZ				S	Sn	12 05 12.2	-12
	0.7nm,0.3s,baz=86,slow=13,SNR=4.1						
WRA	**Warramunga Arr**	**13.43**	**160**	P	**Pn**	**12 03 43.6**	**-2.0**
	0.7nm,0.3s,baz=339,slow=13,SNR=41						
WRA				S	Sn	12 06 03.1	-11
	2.0nm,0.3s,baz=339,slow=22,SNR=13						
ASAR	**Alice Springs**	**16.82**	**166**	P	**Pn**	**12 04 27.6**	**+0.1**
	0.5nm,0.3s,baz=337,slow=9.5,SNR=28						
ASAR				S	**S**	**12 07 27.3**	**-7.4**
	0.5nm,

	12nm,0.7s									
KK31	**Karatay Array**	**5.51**	**355**	⇓	Pn		Pn	12 21 56.4	**+2.3**
	0.6nm,0.2s,baz=176,slow=12,SNR=16									
KK31					Sn		Sn	12 23 00.8	**+2.6**
	1.9nm,0.3s,baz=186,slow=24,SNR=13									
AAK	**Ala-Archa**	**5.66**	**26**	⇓	Pn		Pn	12 21 54.4	**-1.8**
	1.8nm,0.5s									
AAK				⇑	Sn		Sn	12 23 01.1	**-0.8**
	8.8nm,0.6s									

ISCJB ***27*** *12:25:15.3±1.8, 19.9°S×0.3°×67.1°E×0.3°, h15km, mb3.7/7, MS3.6/2, Error ellipse: s-maj=57.2km s-min=24.0km az=40.6*

IDC ***27*** *12:25:15.5±1.7, 19.7°S×67.1°E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/36, mbtmp3.7/7, MS3.6/2, Ms1 3.7/2, ms1mx3.1/50, Error ellipse: s-maj=57.7km s-min=24.2km az=37.0*

ISC 27 12:25:17.9±1.9, 19.8S±0.4×67.1E±0.3, h15km, n16, σ0.96/8, mb3.8/7, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**13.14**	**24**	T	T	12 42 15.5	
	baz=204,slow=76,SNR=77						
H08S2	**Diego Garcia H**	**13.15**	**24**	T	T	12 42 19.7	
	baz=204,slow=76,SNR=28						
H08S3	**Diego Garcia H**	**13.16**	**24**	T	T	12 42 22.5	
	baz=204,slow=76,SNR=50						
H08N3	**Diego Garcia H**	**13.89**	**16**	T	T	12 43 09.8	
	baz=200,slow=74,SNR=23						
H08N1	**Diego Garcia H**	**13.90**	**16**	T	T	12 43 08.8	
	baz=200,slow=74,SNR=13						
H08N2	**Diego Garcia H**	**13.91**	**16**	T	T	12 43 10.7	
	baz=200,slow=74,SNR=21						
CMAR	**Chiang Mai Arr**	**49.18**	**41**	P	**P**	**12 34 05.7**	**+0.1**
	0.5nm,0.4s,baz=242,slow=7.8,SNR=6.4						
CMAR				LR	LR	12 55 07.9	
	comp=Z,23nm,18.1s,baz=190,slow=36						
ASAR	**Alice Springs**	**61.64**	**107**	P	**P**	**12 35 35.1**	**-0.4**
	0.5nm,0.8s,baz=262,slow=6.0,SNR=4.5						
WRA	**Warramunga Arr**	**62.77**	**103**	P	**P**	**12 35 43.4**	**+0.2**
	0.6nm,0.9s,baz=258,slow=5.4,SNR=3.7						
BRTR	**Keeskin Array B**	**66.97**	**332**	P	**P**	**12 36 10.8**	**+0.7**
	0.4nm,0.6s,baz=161,slow=9.2,SNR=3.3						
H09N1	**TRISTAN DA CUN**	**70.13**	**237**	T	T	13 48 41.4	
	SNR=8.3						
ZALV	**Zalesovo Beam**	**75.01**	**11**	P	**P**	**12 36 57.8**	**-0.6**
	0.9nm,0.6s,baz=197,slow=4.6,SNR=4.8						
DBIC	**Dimbokro**	**75.51**	**283**	LR	LR	13 08 12.3	
	comp=Z,90nm,19.1s,baz=339,slow=34						
SONM	**Songino Array**	**75.97**	**26**	P	**P**	**12 37 04.9**	**+0.7**
	0.8nm,0.8s,baz=205,slow=6.9,SNR=5.3						
AKASG	**Malin Array Be**	**77.73**	**336**	P	**P**	**12 37 12.5**	**-1.4**
	0.4nm,0.6s,baz=148,slow=5.4,SNR=3.6						
TXAR	**Lajitas Array**	**167.36**	**320**	PKPab	**PKPab**	**12 46 30.1**	**+1.1**
	0.4nm,0.8s,baz=10,slow=5.6,SNR=3.4						

WEL 27 12:36:04.0, 37°S±10°×177°E±°, h5km, ML3.5/32, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.74**	**168**	P	Pb	12 36 19.3	-0.1
HAZ	**Te Kaha**	**0.95**	**196**	P	Pb	12 36 22.9	0.0
WMGZ	**Waiomatatini S**	**1.01**	**166**	P	Pn	12 36 24.6	-0.3
PKGZ	**Pakihiroa**	**1.05**	**181**	P	Pn	12 36 25.1	-0.3
RUGZ	**Raukumara Rang**	**1.18**	**197**	P	Pn	12 36 27.4	+0.1
PUZ	**Puketiti**	**1.24**	**175**	P	Pn	12 36 28.0	0.0
PUZ				S	Sn	12 36 46.5	+1.4
TWGZ	**Tauwhareparae**	**1.34**	**184**	P	Pg	12 36 30.5	+0.7
MYRZ	**Mayor Island**	**1.56**	**253**	P	Pn	12 36 32.8	+0.4
MWZ	**Matawai**	**1.56**	**197**	P	Pn	12 36 32.6	+0.1
OPRZ	**Ohinepanea**	**1.59**	**230**	P	Pn	12 36 33.2	+0.4
TKGZ	**Te Karaka**	**1.61**	**187**	P	Pb	12 36 33.9	-0.3
TKGZ				S	Sg	12 36 56.7	+0.8
MARZ	**Manawahe**	**1.62**	**224**	P	Pb	12 36 34.0	-0.4
URZ	**Urewera**	**1.62**	**209**	P	Pn	12 36 33.2	-0.1
URZ				S	Sn	12 36 54.8	+0.2
CNGZ	**Carnagh Statio**	**1.64**	**177**	P	Pn	12 36 33.7	+0.1
EDRZ	**Edgecumbe**	**1.67**	**220**	P	Pg	12 36 35.9	-0.1
TGRZ	**Tauranga**	**1.72**	**238**	P	Pn	12 36 35.1	+0.5
RAGZ	**Rawiri**	**1.74**	**198**	P	Pn	12 36 35.7	+0.7
LIRZ	**Lichensteins R**	**1.80**	**229**	P	Pb	12 36 37.2	-0.2
OMRZ	**Omania**	**1.87**	**227**	P	Pb	12 36 37.8	-1.0
RIGZ	**Rimuhau**	**1.88**	**188**	P	Pn	12 36 37.0	+0.1
TARZ	**Mount Tarawera**	**1.89**	**222**	P	Pb	12 36 38.7	-0.3
KARZ	**Kaharoa**	**1.90**	**231**	P	Pn	12 36 37.7	+0.7
KUZ	**Kuaotunu**	**1.92**	**272**	P	Pn	12 36 37.0	-0.3
KUZ				S	Sn	12 37 01.2	-0.7
MUGZ	**Murupara**	**1.95**	**213**	P	Pn	12 36 37.8	0.0
RRRZ	**Republican Roa**	**1.96**	**220**	P	Pb	12 36 39.1	-1.1
NGRZ	**Ngongotaha**	**1.98**	**230**	P	Pn	12 36 39.4	+1.2
HLRZ	**Highlands Stat**	**1.98**	**224**	P	Pb	12 36 39.5	-1.1
RTZ	**Ruatahuna**	**1.99**	**206**	P	Pn	12 36 38.3	0.0
KMRZ	**Kaimai**	**2.00**	**239**	P	Pn	12 36 39.0	+0.6
SNGZ	**Shannon Statio**	**2.03**	**197**	P	Pn	12 36 39.8	+0.8
SNGZ				S	Sb	12 37 07.8	+0.8
HSRZ	**Hossack Road**	**2.09**	**225**	P	Pb	12 36 42.5	+0.1
PRGZ	**Paritu Road**	**2.09**	**185**	P	Pn	12 36 39.2	-0.5
PRRZ	**Plateau Road**	**2.14**	**219**	P	Pn	12 36 40.9	+0.4
GRRZ	**Galatos Road**	**2.19**	**226**	P	Pn	12 36 42.3	+1.2
KNZ	**Kokohu**	**2.21**	**189**	P	Pn	12 36 40.3	-1.0
GRZ	**Great Barrier**	**2.21**	**285**	P	Pn	12 36 40.7	-0.6
ALRZ	**Allen Road**	**2.22**	**219**	P	Pn	12 36 42.2	+0.7
RAHZ	**Arahi**	**2.23**	**201**	P	Pn	12 36 42.4	+0.8
MTHZ	**Maungataniwha**	**2.25**	**206**	P	Pn	12 36 42.0	+0.1
TOZ	**Tahuroa Road**	**2.26**	**246**	P	Pn	12 36 42.8	+0.8
TOZ				S	Sn	12 37 10.4	+0.1
MHGZ	**Mahia Peninsul**	**2.31**	**184**	P	Pn	12 36 42.1	-0.8
WHHZ	**Waihua**	**2.34**	**197**	P	Pn	12 36 43.4	+0.3
MKAZ	**Moumakai**	**2.38**	**263**	P	Pn	12 36 44.0	+0.4
WIAZ	**Waiheke Island**	**2.39**	**270**	P	Pn	12 36 43.9	+0.2
MRHZ	**Matea Rd**	**2.40**	**213**	P	Pn	12 36 44.7	+0.6
KUTZ	**Kaahu Road**	**2.45**	**227**	P	Pn	12 36 45.9	+1.2
NMHZ	**Naumai**	**2.48**	**204**	P	Pn	12 36 45.8	+0.6
ETAZ	**East Tamaki Re**	**2.55**	**266**	P	Pn	12 36 46.6	+0.6
ARHZ	**Aropaoanui**	**2.58**	**200**	P	Pn	12 36 46.2	-0.2
MBAZ	**Motutapu North**	**2.58**	**271**	P	Pn	12 36 46.7	+0.3
KBAZ	**Karaka Road Bo**	**2.59**	**263**	P	Pn	12 36 47.6	+1.0
BKZ	**Black Stump Fm**	**2.65**	**208**	P	Pn	12 36 47.7	+0.2
EPAZ	**Eden Park BICE**	**2.70**	**268**	P	Pn	12 36 49.0	+1.0
HBAZ	**Herne Bay Bore**	**2.71**	**269**	P	Pn	12 36 49.2	+1.0
RATZ	**Rangitukua**	**2.74**	**222**	P	Pb	12 36 52.0	-1.5
RITZ	**Rihia Road**	**2.78**	**219**	P	Pn	12 36 51.6	+2.4
AWAZ	**Awhitu Peninsu**	**2.79**	**264**	P	Pn	12 36 50.0	+0.8
MCHZ	**McNeill Hill**	**2.83**	**203**	P	Pn	12 36 49.9	0.0
WTAZ	**Waiatarua**	**2.83**	**267**	P	Pn	12 36 50.9	+0.9
KATZ	**Kakaramea**	**2.86**	**221**	P	Pb	12 36 54.1	-1.5
KWHZ	**Kaweka Forest**	**2.90**	**207**	P	Pn	12 36 50.4	-0.6
CKHZ	**Cape Kidnapper**	**2.93**	**196**	P	Pn	12 36 50.3	-0.9
KRVZ	**Karewarewa**	**2.98**	**220**	P	Pn	12 36 54.3	+2.3
WTVZ	**West Tongariro**	**3.02**	**220**	P	Pn	12 36 55.1	+2.5
NGZ	**Ngauruhoe**	**3.06**	**220**	P	Pn	12 36 54.5	+1.4
TWVZ	**Taurewa**	**3.07**	**223**	P	Pb	12 36 56.2	-2.9
HIZ	**Hauiti**	**3.07**	**236**	P	Pn	12 36 54.4	+1.1
BHHZ	**Black Hill Sta**	**3.10**	**211**	P	Pn	12 36 53.5	-0.1
TUVZ	**Tukino**	**3.10**	**218**	P	Pn	12 36 55.4	+1.6
KAHZ	**Kahuranaki**	**3.11**	**198**	P	Pn	12 36 52.6	-1.1
COVZ	**Chateau Observ**	**3.11**	**220**	P	Pn	12 36 55.9	+2.1
FWVZ	**Far West T-bar**	**3.14**	**219**	P	Pn	12 36 56.7	+2.3
MOVZ	**Moawhango**	**3.17**	**215**	P	Pn	12 36 55.1	+0.5
WCZ	**Waipu Caves**	**3.17**	**285**	P	Pn	12 36 54.1	-0.3
TRVZ	**Turoa**	**3.18**	**219**	P	Pn	12 36 56.9	+2.0
PKVZ	**Pokaka**	**3.28**	**221**	P	Pn	12 36 57.9	+1.9
MTVZ	**Mangateitei**	**3.28**	**218**	P	Pn	12 36 57.6	+1.4
PXZ	**Pawanui**	**3.33**	**197**	P	Pn	12 36 54.5	-2.3
VRZ	**Vera Road**	**3.49**	**228**	P	Pn	12 37 01.1	+2.1
PRHZ	**Porangahau**	**3.61**	**198**	P	Pn	12 36 58.1	-2.5
TSZ	**Takapari Road**	**3.63**	**207**	P	Pn	12 36 58.6	-2.3
MHEZ	**Mangahewa**	**3.73**	**232**	P	Pb	12 37 10.6	+0.1
DVHZ	**Dannevirke**	**3.77**	**203**	P	Pn	12 37 01.2	-1.7
WAZ	**Wanganui**	**3.81**	**219**	P	Pn	12 37 05.6	+2.3
ANWZ	**Angora Road**	**3.83**	**199**	P	Pn	12 37 01.3	-2.4
LREZ	**Lake Rotokare**	**3.92**	**227**	P	Pn	12 37 08.1	+3.2
POWZ	**Post Office Ro**	**3.99**	**207**	P	Pn	12 37 05.2	-0.7
OUZ	**Omahuta**	**4.00**	**293**	P	Pn	12 37 05.4	-0.5
OHWZ	**Ohakea**	**4.01**	**212**	P	Pn	12 37 06.0	-0.1
KHEZ	**Kahui Hut**	**4.05**	**232**	P	Pn	12 37 10.5	+3.7
PRWZ	**Pori Road**	**4.07**	**204**	P	Pn	12 37 06.2	-0.7
BFZ	**Birch Farm**	**4.10**	**200**	P	Pn	12 37 04.1	-3.3
TIWZ	**Tintock**	**4.30**	**203**	P	Pn	12 37 07.4	-2.6
MRZ	**Mangatainoka R**	**4.30**	**207**	P	Pn	12 37 07.0	-3.0
HOWZ	**Holdsworth Sta**	**4.53**	**206**	P	Pn	12 37 10.2	-3.0
OGWZ	**Otaki Gorge**	**4.59**	**209**	P	Pn	12 37 11.2	-2.8
TMWZ	**Te Maipa**	**4.60**	**201**	P	Pn	12 37 11.8	-2.4
KIW	**Kapiti Island**	**4.73**	**211**	P	Pn	12 37 13.1	-2.8
MTW	**Mount Morrison**	**4.77**	**204**	P	Pn	12 37 14.3	-2.2
CAW	**Cannon Point**	**4.88**	**208**	P	Pn	12 37 14.4	-3.6
TRWZ	**Traveller**	**4.93**	**202**	P	Pn	12 37 15.8	-2.9
MSWZ	**Moikau Station**	**5.08**	**205**	P	Pn	12 37 18.2	-2.6
DUWZ	**D'Urville Isla**	**5.13**	**218**	P	Pn	12 37 20.3	-1.3
BHW	**Baring Head**	**5.21**	**208**	P	Pn	12 37 19.4	-3.2
PLWZ	**Palliser**	**5.22**	**204**	P	Pn	12 37 18.8	-3.9
TCW	**Tory Channel**	**5.29**	**213**	P	Pn	12 37 20.3	-3.3
TUWZ	**Tuamarina**	**5.61**	**214**	P	Pn	12 37 25.1	-2.9
NNZ	**Nelson**	**5.71**	**219**	P	Pn	12 37 27.4	-2.0
BSWZ	**Blackbirch Sta**	**5.87**	**213**	P	Pn	12 37 29.2	-2.5
QRZ	**Quartz Range**	**5.90**	**226**	P	Pn	12 37 30.0	-2.1
THZ	**Tophouse**	**6.36**	**218**	P	Pn	12 37 35.8	-2.6
KHZ	**Kahutara**	**6.59**	**211**	P	Pn	12 37 38.1	-3.5
LTZ	**Lake Taylor**	**7.44**	**215**	P	Pn	12 37 50.4	-2.9
INZ	**Inchbonnie**	**7.80**	**219**	P	Pn	12 37 55.0	-3.1
OKCZ	**Okains Bay**	**7.88**	**208**	P	Pn	12 37 54.3	-5.0
OXZ	**Oxford**	**7.97**	**214**	P	Pn	12 37 56.4	-4.1
MQZ	**McQueen's Vall**	**8.03**	**210**	P	Pn	12 37 56.0	-5.2
AKCZ	**Akaroa Harbour**	**8.07**	**208**	P	Pn	12 37 56.4	-5.4
ODZ	**Otahua Downs**	**9.95**	**212**	P	Pn	12 38 22.0	-5.6
JCZ	**Jackson Bay**	**10.13**	**222**	P	Pn	12 38 27.4	-2.7

ISK ***27*** *12:40:29.3, 38.6°N×43.1°E, h19km, ML2.0/5*

ISCJB ***27*** *12:40:30.3±1.6, 38.6°N±0.06×43.1°E±0.06, h27km±15km, Error ellipse: s-maj=11.5km s-min=6.0km az=142.4*

DDA ***27*** *12:40:30.9, 38.6°N×43.1°E, h7km±4km, ML2.6*

ISC 27 12:40:30.2±1.1, 38.6°N±0.03×43.1°E±0.03, h16km±9km, n10, σ0.70/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**105**	PG	**Pb**	**12 40 35.1**	**0.0**
VANB				SG	**Sb**	**12 40 39.4**	**+1.0**
TVAN	**Van**	**0.21**	**121**	IAML_P			
	comp=Z,4μm,0.1s						
TVAN				*i* P	**Pg**	**12 40 35.1**	**-0.2**
TVAN				*i* S	**Sb**	**12 40 39.5**	**-0.2**
GEVA	**Gevas**	**0.34**	**195**	IAML_P			
	comp=Z,5μm,0.1s						
GEVA				*i* P	**Pb**	**12 40 38.4**	**+0.4**
GEVA				*i* S	**Sb**	**12 40 44.6**	**+1.3**
AKDM	**Akdamar-Van**	**0.35**	**206**	PG	**Pg**	**12 40 37.0**	**-0.4**
AKDM				SG	**Sb**	**12 40 42.6**	**-0.8**
ADCV	**BITLIS_Adilcev**	**0.39**	**296**	*i* P	**Pb**	**12 40 39.4**	**+0.5**
VMUR	**Van-Muradiye**	**0.47**	**42**	IAML_P			
	comp=Z,663nm,0.1s						
VMUR				*i* P	**Pb**	**12 40 40.4**	**+0.2**
VMUR				*i* S	**Sn**	**12 40 49.5**	**-1.1**
MLAZ	**Malazgirt-MUS**	**0.70**	**316**	PG	**Pg**	**12 40 43.5**	**-0.4**
MLAZ				SG	**Sg**	**12 40 53.6**	**+0.4**
CLDR	**Caldiran**	**0.77**	**49**	PG	**Pg**	**12 40 44.8**	**-0.4**
CLDR				SG	**Sb**	**12 40 56.2**	**+0.6**
CLDR	**Caldiran**	**0.77**	**49**	IAML_P			
	comp=Z,509nm,0.1s						
CLDR				*i* P	**Pn**	**12 40 46.4**	**-0.2**
CLDR				*i* S	**Sn**	**12 40 58.5**	**+0.5**
GURO	**Guroymak-BITLI**	**0.90**	**265**	PG	**Pg**	**12 40 47.0**	**-0.6**

IDC ***27*** *12:41:09.4±1.3, 11.0°S×165.4°E, h0km, mb4.0/7, mb1 4.3/9, mb1mx4.0/33, mbtmp4.2/9, ML4.3/2, MS3.6/3, Ms1 3.6/3, ms1mx3.0/41, Error ellipse: s-maj=31.9km s-min=23.0km az=135.0*

NEIC ***27*** *12:41:11.3±0.4, 11.0°S×165.4°E, h10km, mb4.6/15, Error ellipse: s-maj=9.0km s-min=7.7km az=78.0*

ISCJB ***27*** *12:41:12.5±0.5, 11.1°S±0.06×165.4°E±0.06, h30km, mb4.3/21, MS3.8/1, Error ellipse: s-maj=9.7km s-min=7.5km az=39.6*

ISC 27 12:41:14.2±0.8, 11.1°S±0.1×165.46°E±0.09, h30km, n34, σ1.15/34, mb4.5/21, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.67**	**286**	Pn	**Pn**	**12 42 33.5**	**-2.8**
	4.8nm,0.3s,baz=270,slow=6.1,SNR=2.5						
HNR				Sn	**Sn**	**12 43 41.6**	**+1.1**
	baz=180,slow=20,SNR=1.7						
HNR				LR	LR	12 44 57.2	
	comp=Z,244nm,19.3s,baz=93,slow=40						
HNR	**Honiara**	**5.67**	**286**	*e*Pn	**Pn**	**12 42 35.1**	**-1.3**
HNR				*e*Sn	**Sn**	**12 43 41.6**	**+1.1**
DZM	**Mont Dzumac**	**10.96**	**175**	Pn	**Pn**	**12 43 47.7**	**-1.4**
	4.6nm,0.3s,baz=183,slow=19,SNR=47						
DZM	**Mont Dzumac**	**10.96**	**175**	*e*Pn	**Pn**	**12 43 48.9**	**-0.3**
ONTNC	**Ouen Toro**	**11.20**	**175**	*e*Pn	**Pn**	**12 43 52.8**	**+0.5**
PMG	**Port Moresby**	**18.09**	**274**	LR	LR	12 52 30.0	
	comp=Z,247nm,18.1s,baz=188,slow=38						
CTA	**Charters Tower**	**20.53**	**242**	P	**P**	**12 45 49.7**	**-0.6**
	12nm,0.9s,baz=61,slow=14,SNR=6.4						
COEN	**Coen**	**21.94**	**260**	*e*P	**P**	**12 46 06.6**	**+1.1**
	18nm,1.1s						
BKZ	**Black Stump Fm**	**29.64**	**162**	*e*P	**P**	**12 47 17.8**	**+0.7**
	6.0nm,0.6s						
STKA	**Stephens Creek**	**30.22**	**223**	P	**P**	**12 47 22.6**	**+0.4**
	1.8nm,0.8s,baz=24,slow=11,SNR=5.3						
BFZ	**Birch Farm**	**30.98**	**164**	*e*P	**P**	**12 47 29.0**	**+0.2**
WRAB	**Tennant Creek**	**31.19**	**250**	*e*P	**P**	**12 47 30.6**	**-0.3**
	9.5nm,1.0s						
WB2	**Warramunga Arr**	**31.19**	**250**	*e*P	**P**	**12 47 30.8**	**-0.2**
	6.3nm,0.9s						
WR1	**Warramunga Arr**	**31.20**	**250**	*e*P	**P**	**12 47 30.8**	**-0.3**
	6.5nm,0.9s						
WRA	**Warramunga Arr**	**31.20**	**250**	P	**P**	**12 47 30.8**	**-0.3**
	5.5nm,0.9s,baz=80,slow=9.2,SNR=21						
THZ	**Tophouse**	**31.25**	**169**	*e*P	**P**	**12 47 31.8**	**+0.6**
	9.4nm,1.0s						
KHZ	**Kahutara**	**32.00**	**169**	*e*P	**P**	**12 47 36.3**	**-1.5**
	7.8nm,1.0s						
AS31	**Alice Springs**	**32.52**	**243**	*e*P	**P**	**12 47 41.9**	**-0.8**
	1.1nm,1.1s						
ASAR	**Alice Springs**	**32.52**	**243**	P	**P**	**12 47 41.8**	**-0.9**
	0.8nm,0.9s,baz=65,slow=11,SNR=7.9						
OXZ	**Oxford**	**32.62**	**171**	*e*P	**P**	**12 47 45.0**	**+1.8**
	5.2nm,0.7s						
MQZ	**McQueen's Vall**	**33.09**	**170**	*e*P	**P**	**12 47 48.4**	**+1.1**
	24nm,1.2s						
DCZ	**Deep Cove**	**34.29**	**178**	*e*P	**P**	**12 47 58.4**	**+0.7**
	5.2nm,1.0s						
BBOO	**Buckleboo**	**34.59**	**227**	*e*P	**P**	**12 48 00.7**	**+0.1**
	6.0nm,0.9s						
JOW	**Kunigami**	**52.19**	**317**	LR	LR	13 10 14.5	
	comp=Z,91nm,21.1s,baz=274,slow=33						
CMAR	**Chiang Mai Arr**	**71.87**	**294**	P	**P**	**12 52 36.9**	**+2.0**
	0.4nm,0.3s,baz=99,slow=5.8,SNR=4.2						
QSPA	**South Pole Qui**	**78.92**	**180**	*e*P	**P**	**12 53 14.9**	**+0.2**
SEW	**Seward**	**79.53**	**21**	*e*P	**P**	**12 53 16.6**	**-1.2**
	14nm,1.0s						
GLI	**Glacier Island**	**80.91**	**21**	*e*P	**P**	**12 53 27.1**	**+1.9**
	65nm,1.2s						
DHY	**Denali Highway**	**82.32**	**20**	*e*P	**P**	**12 53 32.7**	**-0.2**
	4.4nm,1.0s						
IM3	**Indian Mountai**	**82.54**	**16**	*e*P	**P**	**12 53 35.1**	**+1.4**
ILAR	**Eielson Array**	**83.64**	**19**	P	**P**	**12 53 39.8**	**+0.3**
	0.6nm,0.8s,baz=234,slow=5.2,SNR=6.4						
YKA	**Yellowknife Ar**	**95.14**	**27**	P	**P**	**12 54 32.3**	**-1.9**
	0.2nm,0.8s,baz=253,slow=4.4,SNR=4.5						
YKB5	**Yellowknife Ar**	**95.14**	**27**	*e*P	**P**	**12 54 33.7**	**-0.6**
SANT	**Santorini**	**136.03**	**312**	*e*PKPdf	**PKPdf**	**13 00 32.9**	**0.0**

IDC ***27*** *12:50:35.1±1.4, 29.6°S×72.9°W, h0km, mb4.0/3, mb1 4.0/5, mb1mx3.7/30, mbtmp3.8/5, ML3.5/2, Error ellipse: s-maj=48.4km s-min=32.8km az=63.0*

GUC ***27*** *12:50:36.9±0.8, 29.7°S×72.7°W, h30km, ML3.9*

ISCJB ***27*** *12:50:37.6±0.8, 29.7°S±0.04×72.91°W±0.07, h33km, mb4.0/3, Error ellipse: s-maj=8.4km s-min=5.5km az=2.4*

ISC 27 12:50:39.8±1.0, 29.69°S±0.05×72.86°W±0.09, h35km, n24, σ1.54/31, mb4.3/3, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**1.42**	**99**	⇑ *i*P	**Pn**	**12 51 01.7**	**-1.5**
LSCH				*i* S	**Sn**	**12 51 17.9**	**-2.8**
GO04	**Tololo Observa**	**1.85**	**106**	*e*P	**Pn**	**12 51 07.9**	**-1.5**
GO04				*i* S	**Sn**	**12 51 30.4**	**-1.3**
GO04				IAML		12 51 32.8	
	comp=N,3μm,0.3s						
LCO	**Las Campanas**	**2.00**	**71**	*i* P	**Pn**	**12 51 10.5**	**-0.9**
LCO	**Las Campanas**	**2.00**	**71**	⇑ *i*P	**Pn**	**12 51 10.7**	**-0.7**
LCO				*i* S	**Sn**	**12 51 35.3**	**-0.1**
LCO				IAML		12 51 36.2	
	comp=E,712nm,0.4s						
CMCH	**Combarbala**	**2.19**	**133**	*e*P	**Pn**	**12 51 12.3**	**-1.4**
CMCH				*i* S	**Sn**	**12 51 36.9**	**-2.8**
CMCH				IAML		12 51 41.2	
	comp=E,1μm,0.6s						
GO03	**Copiap**	**3.11**	**49**	*e*P	**Pn**	**12 51 25.8**	**-0.7**
GO03				*i* S	**Sn**	**12 52 02.6**	**+0.1**
GO03				IAML		12 52 04.0	
	comp=E,161nm,0.2s						
ACDV	**Cuesta del Vie**	**3.28**	**99**	*i* P	**Pn**	**12 51 29.8**	**+0.8**
ROCH	**El Roble**	**3.64**	**155**	IAML		12 52 14.3	
	comp=N,130nm,0.4s						
ROC1	**El Roble**	**3.64**	**155**	*i* P	**Pn**	**12 51 32.5**	**-1.4**
ROC1				*i* S	**Sn**	**12 52 16.2**	**+0.4**
AGUA	**GUANDACOL**	**3.81**	**88**	*i* P	**Pn**	**12 51 37.2**	**+1.1**
AUSP	**Uspallata**	**3.91**	**131**	*i* P	**Pn**	**12 51 38.3**	**+0.7**
AUSP				*i* S	**Sn**	**12 52 26.1**	**+3.6**
PEL	**Peldehue**	**3.92**	**152**	*e*P	**Pn**	**12 51 35.9**	**-1.6**
PEL				IAML		12 52 24.3	
	comp=N,99nm,0.2s						
AMOG	**MOGNA**	**3.98**	**109**	*i* P	**Pn**	**12 51 39.3**	**+0.9**
FCH	**Farellones**	**4.24**	**149**	*e*P	**Pn**	**12 51 41.5**	**-0.8**
FCH				*i* S	**Sn**	**12 52 30.7**	**0.0**
FCH				IAML		12 52 32.5	
	comp=E,143nm,0.3s						
RTCV	**Cerro Valdivia**	**4.30**	**121**	*i* P	**Pn**	**12 51 43.7**	**+0.8**
ASAL	**Salagasta**	**4.50**	**131**	*i* P	**Pn**	**12 51 45.9**	**+0.3**
ARCO	**CERRO ARCO**	**4.60**	**134**	*i* P	**Pn**	**12 51 47.4**	**+0.3**
ARCO				IAML		12 51 54.6	
	comp=Z,28nm,0.3s						
PLCA	**Paso Flores**	**11.18**	**171**	Pn	**Pn**	**12 53 15.2**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=6.4,slow=15,SNR=4.3						
LPAZ	**La Paz**	**14.03**	**19**	Pn	**Pn**	**12 53 54.8**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=172,slow=7.1,SNR=3.4						
TXAR	**Lajitas Array**	**65.64**	**331**	P	**P**	**13 01 20.5**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=123,slow=6.6,SNR=3.3						
DBIC	**Dimbokro**	**74.52**	**73**	P	**P**	**13 02 17.2**	**+1.9**
	comp=Z,1.6nm,0.5s,baz=250,slow=3.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	**83.43**	**71**	P	**P**	**13 03 04.1**	**0.0**
	comp=Z,2.2nm,0.6s,baz=257,slow=3.1,SNR=18						
KURBB	**Kurchatov Arra**	**150.05**	**38**	PKPbc	**PKPbc**	**13 10 28.6**	**+2.2**
	comp=Z,0.3nm,0.7s,baz=296,slow=3.3,SNR=4.2						
ZALV	**Zalesovo Beam**	**150.84**	**27**	PKPbc	**PKPbc**	**13 10 29.8**	**+1.6**
	comp=Z,1.1nm,0.5s,baz=321,slow=2.0,SNR=8.2						

JMA ***27*** *12:50:52.8±0.2, 23.5°N×121.7°E, h21km±4km, M2.8*

ISCJB ***27*** *12:50:53.7±0.3, 23.5°N±0.02×121.6°E±0.02, h28km±2km, Error ellipse: s-maj=2.9km s-min=2.1km az=135.1*

TAP ***27*** *12:50:53.8, 23.5°N×121.6°E, h

	baz=255									
CHN4					*e*S		**Sn**	12 51 25.2	**+0.8**
	baz=255									
WGK	**Gukeng**	**0.99**	**277**	*e*P			**Pn**	12 51 12.0	**+0.4**
	baz=275									
WTP	**Ta-pu**	**1.00**	**251**	*e*P			**Pn**	12 51 11.9	**+0.1**
	baz=249									
WDLH	**Douliu**	**1.01**	**277**	*e*P			**Pn**	12 51 12.1	**+0.2**
	baz=275									
WDLH					*e*S		**Sn**	12 51 26.2	**+1.1**
	baz=275									
NDT	**Datong Townshi**	**1.03**	**354**	P			**Pn**	12 51 11.6	**-0.6**
	baz=355									
NDT					*e*S		**Sb**	12 51 24.6	**-1.7**
	baz=355									
TWC	**Suao**	**1.05**	**11**	*e*P			**Pb**	12 51 13.3	**-0.1**
	baz=12									
TWC					*e*S		**Sn**	12 51 27.0	**+1.1**
	baz=12									
ENTT	**Nioudou**	**1.06**	**356**	*e*P			**Pn**	12 51 12.0	**-0.6**
	baz=358									
ENTT					*e*S		**Sb**	12 51 25.8	**-1.4**
	baz=358									
EOS1	**EOS1**	**1.07**	**25**	*e*P			**Pb**	12 51 13.4	**-0.4**
	baz=26									
EOS1					*e*S		**Sn**	12 51 28.4	**+2.0**
	baz=26									
SLGT	**Liugui**	**1.08**	**238**	*e*P			**Pn**	12 51 13.4	**+0.5**
	baz=236									
SLGT					*e*S		**Sn**	12 51 27.7	**+0.9**
	baz=236									
SGST	**Jiashian**	**1.09**	**243**	P			**Pb**	12 51 13.7	**-0.4**
	baz=241									
SGST					*e*S		**Sb**	12 51 27.6	**-0.4**
	baz=241									
CHN1	**Nanshi**	**1.09**	**249**	P			**Pb**	12 51 13.6	**-0.6**
	baz=247									
TWK	**Hsinying**	**1.10**	**254**	P			**Pn**	12 51 13.8	**+0.6**
	baz=252									
TWK					S		**Sn**	12 51 28.9	**+1.6**
	baz=252									
SNST	**Tainan City**	**1.11**	**252**	*e*P			**Pn**	12 51 13.8	**+0.5**
	baz=250									
SNST					*e*S		**Sn**	12 51 28.7	**+1.2**
	baz=250									
WCHH	**Zhanghua**	**1.11**	**297**	*e*P			**Pb**	12 51 14.6	**+0.1**
	baz=296									
WCHH					*e*S		**Sb**	12 51 28.4	**-0.2**
	baz=296									
YHNB	**Yeheng**	**1.11**	**348**	*e*P			**Pn**	12 51 13.1	**-0.3**
	baz=348									
YHNB					*e*S		**Sb**	12 51 26.8	**-2.1**
	baz=348									
CHY	**Chiayi**	**1.12**	**266**	*e*P			**Pn**	12 51 13.8	**+0.4**
	baz=264									
CHY					*e*S		**Sb**	12 51 28.2	**-0.6**
	baz=264									
NSK	**Sanguang**	**1.12**	**347**	P			**Pn**	12 51 13.5	**0.0**
	baz=348									
NSK					S		**Sb**	12 51 27.2	**-1.9**
	baz=348									
TWE	**Neicheng**	**1.14**	**1**	*e*P			**Pn**	12 51 14.0	**+0.4**
	baz=3.0									
TWE					*e*S		**Sn**	12 51 29.0	**+0.8**
	baz=3.0									
NSY	**Sanyi**	**1.16**	**316**	P			**Pb**	12 51 15.0	**-0.3**
	baz=316									
NSY					S		**Sb**	12 51 30.7	**+0.7**
	baz=316									
WDJ	**Dajia District**	**1.19**	**310**	*e*P			**Pn**	12 51 15.2	**+0.8**
	baz=310									
WDJ					*e*S		**Sn**	12 51 30.4	**+0.8**
	baz=310									
NSTT	**Nanjuang**	**1.20**	**331**	P			**Pn**	12 51 15.2	**+0.7**
	baz=332									
NSTT					S		**Sn**	12 51 29.8	**0.0**
	baz=332									
NWLT	**Wulai**	**1.20**	**354**	*e*P			**Pn**	12 51 14.7	**+0.2**
	baz=355									
NWLT					*e*S		**Sn**	12 51 30.4	**+0.6**
	baz=355									
LIOB	**Emei**	**1.21**	**332**	P			**Pb**	12 51 15.5	**-0.6**
	baz=332									
LIOB					*e*S		**Sn**	12 51 30.6	**+0.6**
	baz=332									
PTSB	**Yuanli**	**1.22**	**316**	*e*P			**Pn**	12 51 15.5	**+0.8**
	baz=315									
PTSB					S		**Sb**	12 51 31.4	**-0.3**
	baz=315									
NMLH	**Miaoli**	**1.23**	**321**	*e*P			**Pn**	12 51 15.2	**+0.3**
	baz=321									
NMLH					*e*S		**Sn**	12 51 31.3	**+0.7**
	baz=321									
WTCT	**Ta-ch'eng**	**1.28**	**283**	*e*P			**Pn**	12 51 16.2	**+0.7**
	baz=282									
WTCT					*e*S		**Sn**	12 51 32.9	**+1.3**
	baz=282									
WSF	**Szhu**	**1.30**	**273**	*e*S			**Sn**	12 51 33.3	**+1.1**
	baz=272									
TIPB	**Shuangxi**	**1.40**	**7**	*e*P			**Pn**	12 51 18.1	**+0.8**
	baz=8.0									
TIPB					*e*S		**Sb**	12 51 36.1	**-0.8**
	baz=8.0									
WFSB	**Wu-fen Shan**	**1.49**	**5**	*e*P			**Pn**	12 51 19.6	**+1.0**
	baz=6.0									
YOJ	**Yonaguni jima**	**1.53**	**55**	P			**Pn**	12 51 19.5	**+0.4**
YM01	**YM01**	**1.56**	**358**	*e*P			**Pn**	12 51 20.7	**+1.1**
	baz=358									
YM01					*e*S		**Sn**	12 51 39.8	**+1.0**
	baz=358									
YM05	**YM05**	**1.58**	**358**	*e*P			**Pn**	12 51 20.5	**+0.7**
	baz=358									
YM05					*e*S		**Sn**	12 51 40.6	**+1.3**
	baz=358									
HATJ	**Hateruma jima**	**2.04**	**76**	P			**Pn**	12 51 26.9	**+0.9**
HATJ					S		**Sn**	12 51 51.0	**+0.5**
IRIF	**Iriomote-Funau**	**2.06**	**68**	P			**Pn**	12 51 27.6	**+1.3**
IRIF					S		**Sn**	12 51 52.0	**+1.1**
JKRS	**Kuro-shima**	**2.27**	**73**	P			**Pn**	12 51 30.0	**+0.8**
JKRS					S		**Sn**	12 51 57.6	**+1.5**
JIJ	**Ishigaki jima**	**2.42**	**71**	P			**Pn**	12 51 31.6	**+0.3**
JIJ					S		**Sn**	12 52 00.6	**+0.7**
JISG	**Ishigakijimahi**	**2.64**	**67**	P			**Pn**	12 51 34.6	**+0.3**
JISG					S		**Sn**	12 52 04.6	**-0.7**
JTJ	**Tarama**	**2.99**	**69**	P			**Pn**	12 51 40.0	**+0.9**
JTJ					S		**Sn**	12 52 15.6	**+1.6**

NIED ***27*** *12:55:00.24˚10N×123˚60E.h26km.Mw3.8 Best double couple: M₀5.12000×10¹⁴ NP1:ϕ₀188.00000°,δ37.00000°, λ144.00000°. NP2:ϕ₀308.00000°,δ70.00000°,λ59.00000°.*
IDC ***27*** *12:55:02.3±0.7,24˚19N×123˚52E.h0km,mb3.9/14, mb1 4.0/15,mb1mx3.7/74,mbtmp3.9/15,ML3.3/1,MS3.5/2, Ms1 3.5/2,ms1mx2.8/42,Error ellipse: s-maj=27.8km s-min=17.0km az=62.0*
ISCJB ***27*** *12:55:07.8±0.3,24˚11N±0˚05×123˚63E±0˚03,h56km±2km, mb4.0/26,MS3.5/2,Error ellipse: s-maj=7.6km s-min=5.0km az=175.8*
NEIC ***27*** *12:55:08.7±0.7,24˚15N×123˚61E,h49km±5km,mb4.2/13, Error ellipse: s-maj=7.7km s-min=5.8km az=67.0*
JMA ***27*** *12:55:08.8±0.2,24˚10N×123˚62E,h45km±2km,M3.6*
JMA Felt I J1.

ISC 27 12:55:08.5±0.8,24˚08N±0˚07×123˚64E±0˚03,h50km±5km, n62,σ0§97/71,mb4.0/26,Southwestern Ryukyu Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
HATJ	**Hateruma jima**	**0.16**	**100**	P	**Pn**		12 55 16.2	**-0.4**
HATJ				S	**Sn**		12 55 21.9	**-0.4**
IRIF	**Iriomote-Funau**	**0.27**	**19**	P	**Pn**		12 55 16.7	**-0.6**
IRIF				S	**Sn**		12 55 22.9	**-0.7**
JKRS	**Kuro-shima**	**0.37**	**66**	P	**Pn**		12 55 18.5	**+0.2**
JKRS				S	**Sn**		12 55 26.0	**+0.6**
JIJ	**Ishigaki jima**	**0.54**	**59**	P	**Pn**		12 55 20.1	**-0.1**
JIJ				S	**Sn**		12 55 28.8	**+0.1**
YOJ	**Yonaguni jima**	**0.68**	**304**	*e*Pn	**Pn**		12 55 22.1	**0.0**
YOJ				*e*Sn	**Sn**		12 55 32.1	**+0.3**
YOJ	**Yonaguni jima**	**0.68**	**304**	P	**Pn**		12 55 22.0	**0.0**
YOJ				S	**Sn**		12 55 32.2	**+0.3**
JYNG	**Yonagunijimaku**	**0.73**	**300**	P	**Pn**		12 55 22.7	**+0.1**
JYNG				S	**Sn**		12 55 33.2	**+0.3**
JISG	**Ishigakijimahi**	**0.79**	**51**	P	**Pn**		12 55 23.4	**-0.1**
JISG				S	**Sn**		12 55 34.7	**+0.3**
JTJ	**Tarama**	**1.12**	**60**	P	**Pn**		12 55 28.2	**+0.4**

NACB	**Ninganchiao**	**1.87**	**273**	*e*Pn			**Pn**	12 55 37.5	**-0.6**
YHNB	**Yeheng**	**2.14**	**286**	*e*Pn			**Pn**	12 55 42.9	**+1.0**
TATO	**Taipei**	**2.15**	**295**	*e*Pn			**Pn**	12 55 42.2	**+0.4**
YULB	**Yu-li**	**2.25**	**253**	*e*Pn			**Pn**	12 55 42.2	**-1.1**
TWG	**Pinlang**	**2.67**	**242**	*e*Pn			**Pn**	12 55 47.9	**-1.1**
TPUB	**Ta-pu**	**2.86**	**255**	*e*Pn			**Pn**	12 55 52.7	**+1.0**
JOW	**Kunigami**	**5.01**	**56**	Pn			**Pn**	12 56 20.3	**-0.8**
	2.2nm,0.3s,baz=146,slow=18,SNR=4.6								
JOW					Sn		**Sn**	12 57 19.7	**+2.0**
	1.5nm,0.3s,baz=112,slow=19,SNR=1.8								
CMAR	**Chiang Mai Arr**	**23.67**	**261**	LR			LR	13 09 32.4	
	comp=Z,24nm,18.6s,baz=325,slow=37								
ASAJ	**Asahikawa**	**25.30**	**33**	*e*P			**P**	13 00 31.6	**+1.3**
	8.8nm,1.1s								
MK01	**Makanchi Array**	**39.97**	**315**	*e*P			**P**	13 02 37.7	**-0.4**
MK31	**Makanchi Array**	**39.98**	**315**	*e*P			**P**	13 02 38.4	**+0.2**
MK32	**Makanchi Array**	**39.98**	**315**	*e*P			**P**	13 02 38.5	**+0.2**
MKAR	**Makanchi Array**	**39.98**	**315**	P			**P**	13 02 38.5	**+0.3**
	0.7nm,0.6s,baz=101,slow=10,SNR=9.5								
MKAR	**Makanchi Array**	**39.98**	**315**	*e*P			**P**	13 02 38.5	**+0.3**
	4.4nm,0.8s								
MAKZ	**Makanchi**	**40.19**	**315**	*e*P			**P**	13 02 39.8	**-0.1**
	0.8nm,0.8s								
ZALV	**Zalesovo Beam**	**41.56**	**326**	P			**P**	13 02 50.0	**-1.0**
	1.0nm,0.5s,baz=117,slow=10,SNR=5.8								
ZALV	**Zalesovo Beam**	**41.56**	**326**	*e*P			**P**	13 02 50.2	**-0.8**
ZAA1	**Zalesovo Array**	**41.56**	**326**	*e*P			**P**	13 02 50.0	**-1.1**
FITZ	**Fitzroy Crossi**	**41.97**	**177**	*e*P			**P**	13 02 53.1	**-1.6**
	12nm,1.5s								
KURK	**Kurchatov**	**43.62**	**319**	*e*P			**P**	13 03 07.5	**-0.3**
	2.8nm,1.1s								
KURBB	**Kurchatov Arra**	**43.64**	**319**	P			**P**	13 03 07.4	**-0.6**
	0.5nm,0.3s,baz=99,slow=9.0,SNR=5.0								
WRAB	**Tennant Creek**	**44.98**	**166**	*e*P			**P**	13 03 20.2	**+1.3**
	7.7nm,1.3s								
WR1	**Warramunga Arr**	**44.98**	**166**	*e*P			**P**	13 03 20.2	**+1.2**
	4.7nm,1.1s								
WRA	**Warramunga Arr**	**44.98**	**166**	P			**P**	13 03 20.2	**+1.2**
	2.3nm,0.8s,baz=346,slow=8.9,SNR=14								
WB2	**Warramunga Arr**	**44.99**	**166**	*e*P			**P**	13 03 20.4	**+1.4**
	5.4nm,1.1s								
AS31	**Alice Springs**	**48.50**	**167**	*e*P			**P**	13 03 48.5	**+2.0**
	0.8nm,1.0s								
ASAR	**Alice Springs**	**48.50**	**167**	P			**P**	13 03 48.5	**+2.0**
	0.6nm,0.4s,baz=352,slow=7.3,SNR=28								
AS01	**Alice Springs**	**48.51**	**167**	*e*P			**P**	13 03 48.6	**+2.0**
BVAR	**Borovoye Array**	**49.18**	**320**	P			**P**	13 03 50.7	**-0.7**
	0.4nm,0.4s,baz=104,slow=11,SNR=3.3								
ABKAR	**Akbulak array**	**55.12**	**314**	*e*P			**P**	13 04 36.2	**+0.7**
TRF	**Thorofare Moun**	**67.01**	**29**	*e*P			**P**	13 05 56.2	**+0.1**
	1.6nm,0.9s								
DOT	**DonLake**	**69.71**	**28**	*e*P			**P**	13 06 10.9	**-1.9**
	3.7nm,1.2s								
DOT					*e*S		**S**	13 15 13.9	**-3.9**
ARA0	**ARCESS Array S**	**70.46**	**338**	*e*P			**P**	13 06 17.5	**+0.2**
ARCES	**ARCESS Array B**	**70.46**	**338**	P			**P**	13 06 17.5	**+0.2**
	1.4nm,0.9s,baz=76,slow=7.5,SNR=3.2								
FIA0	**FINESS Array S**	**72.66**	**330**	*e*P			**P**	13 06 31.0	**+0.4**
FINES	**FINESS Array B**	**72.66**	**330**	P			**P**	13 06 31.0	**+0.4**
	1.2nm,0.7s,baz=59,slow=6.7,SNR=7.6								
AKASG	**Malin Array Be**	**74.43**	**319**	P			**P**	13 06 41.1	**-0.1**
	0.3nm,0.4s,baz=67,slow=6.4,SNR=2.4								
BR101	**Keskin Array S**	**75.03**	**307**	*e*P			**P**	13 06 46.0	**+0.9**
BRTR	**Keskin Array B**	**75.03**	**307**	P			**P**	13 06 46.0	**+0.9**
	0.7nm,0.8s,baz=93,slow=4.1,SNR=3.2								
BRTR					LR		LR	13 46 22.8	
	comp=Z,122nm,18.1s,baz=302,slow=41								
HFS	**Hagfors**	**78.74**	**331**	P			**P**	13 07 05.4	**0.0**
	3.6nm,0.9s,baz=81,slow=11,SNR=5.9								
NC405	**NORSAR Array S**	**79.10**	**333**	*e*P			**P**	13 07 08.0	**+0.5**
NB201	**NORSAR Array S**	**79.31**	**333**	*e*P			**P**	13 07 08.7	**+0.2**
NB2	**NORSAR Subarra**	**79.35**	**333**	P			**P**	13 07 08.9	**+0.1**
	comp=Z,1.0nm,0.5s,baz=54,slow=6.2								
NB200	**NORSAR Array S**	**79.35**	**333**	*e*P			**P**	13 07 08.1	**-0.7**
NOA	**NORSAR Array B**	**79.35**	**333**	P			**P**	13 07 08.1	**-0.7**
	comp=Z,1.0nm,0.5s,baz=72,slow=6.1,SNR=6.0								
NC602	**NORSAR Array S**	**79.37**	**332**	*e*P			**P**	13 07 08.8	**0.0**
NC204	**NORSAR Array S**	**79.42**	**333**	*e*P			**P**	13 07 09.3	**+0.1**
YKA	**Yellowknife Ar**	**82.18**	**23**	P			**P**	13 07 24.6	**+0.8**
	comp=Z,0.3nm,0.5s,baz=303,slow=5.2,SNR=9.4								
GERES	**GERESS Array B**	**84.33**	**321**	P			**P**	13 07 34.8	**-0.5**
	comp=Z,0.3nm,0.5s,baz=44,slow=6.0,SNR=2.8								
ITM	**Ithomi**	**84.49**	**308**	*e*P			**P**	13 07 36.0	**-0.2**
	comp=Z,28nm,1.2s								
GRA1	**Grafenberg Arr**	**85.28**	**323**	*e*P			**P**	13 07 38.9	**-1.1**
	comp=Z,2.6nm,0.5s								
JTS	**JuntasAbangare**	**135.87**	**43**	*e*PKPdf		**PKPdf**		13 14 24.0	**-0.6**
RCBR	**Riachuelo**	**153.24**	**309**	*e*PKPbc		**PKPbc**		13 15 01.6	**-0.2**

ISCJB ***27*** *13:00:27.0±0.3,6˚96S±0˚05×155˚66E±0˚05,h100km, mb4.0/21,Error ellipse: s-maj=7.0km s-min=6.4km az=167.3*
IDC ***27*** *13:00:27.8±1.9,6˚96S×155˚67E,h90km±18km,mb3.8/18, mb1 4.0/21,mb1mx3.8/55,mbtmp4.2/21,MS3.1/6, Ms1 3.1/6,ms1mx2.9/26,Error ellipse: s-maj=13.7km s-min=11.5km az=7.0*
NEIC ***27*** *13:00:27.5±0.8,6˚99S×155˚74E,h93km±7km,mb4.6/9, Error ellipse: s-maj=7.8km s-min=6.5km az=102.0*

ISC 27 13:00:28.4±0.4,6˚97S±0˚06×155˚68E±0˚06,h100km,n56, σ1§03/63,mb4.1/21,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
RABL	**Rabaul**	**4.45**	**308**	*e*Pn	**Pn**		13 01 34.1	**+0.3**
HNR	**Honiara**	**4.89**	**120**	P	**Pn**		13 01 38.6	**-1.0**
	20nm,0.3s,baz=236,slow=8.0,SNR=18							
HNR					S		**Sn**	13 02 35.9	**+0.8**
	33nm,0.3s,baz=66,slow=18,SNR=6.0							
HNR					LR		LR	13 02 57.9	
	comp=Z,60nm,20.7s,baz=306,slow=31								
HNR	**Honiara**	**4.89**	**120**	*e*P	Pn			13 01 51.0	+11
HNR					*e*S		**Sn**	13 02 38.0	**+3.0**
PMG	**Port Moresby**	**8.77**	**253**	P	**Pn**		13 02 31.0	**-1.5**
	6.3nm,0.3s,baz=65,slow=9.9,SNR=19								
PMG					S		**Sn**	13 04 10.5	**+0.9**
	0.4nm,0.3s,baz=144,slow=19,SNR=2.0								
PMG					LR		LR	13 05 44.3	
	comp=Z,154nm,18.8s,baz=188,slow=36								
PMG	**Port Moresby**	**8.77**	**253**	*e*Pn	**Pn**		13 02 32.0	**-0.5**
PMG					S		**Sn**	13 04 10.5	**+0.9**
PMG				*e*				13 05 44.2	
PATS	**Pohnpei**	**13.96**	**11**	*e*Pn	**Pn**		13 03 40.0	**-2.0**
COEN	**Coen**	**14.11**	**240**	*e*Pn	**Pn**		13 03 43.7	**-0.2**
CTAO	**Charters Tower**	**15.93**	**214**	*e*Pn	**Pn**		13 04 06.1	**-0.8**
	62nm,1.8s								
DZM	**Mont Dzumac**	**18.26**	**146**	P	**Pn**		13 04 35.7	**+0.3**
	0.9nm,0.3s,baz=285,slow=12,SNR=8.8								
DZM	**Mont Dzumac**	**18.26**	**146**	*e*P	**P**		13 04 32.5	**-1.8**
	57nm,1.7s								
GUMO	**Guam**	**23.07**	**332**	LR	LR		13 14 16.8	
	comp=Z,30nm,18.8s,baz=74,slow=36								
WR1	**Warramunga Arr**	**24.39**	**236**	*e*P	**P**		13 05 38.2	**+0.6**
	11nm,1.1s								
WR1					*e*PcP		**PcP**	13 09 15.8	**+1.3**
WRA	**Warramunga Arr**	**24.39**	**236**	P	**P**		13 05 38.2	**+0.6**
	2.1nm,0.4s,baz=62,slow=10,SNR=36								
WRA					PcP		**PcP**	13 09 15.8	**+1.3**
	0.5nm,0.3s,baz=62,slow=2.6,SNR=9.3								
SIJI	**Sorong**	**25.08**	**283**	P	**P**		13 05 43.6	**-0.4**
	6.7nm,0.6s,baz=130,slow=22,SNR=4.1								
AS31	**Alice Springs**	**26.70**	**229**	*e*P	**P**		13 05 57.3	**-1.2**
	1.0nm,0.9s								
ASAR	**Alice Springs**	**26.70**	**229**	P	**P**		13 05 58.0	**-0.5**
	0.5nm,0.3s,baz=59,slow=9.6,SNR=29								
ASAR					PcP		**PcP**	13 09 20.9	**+1.1**
	0.4nm,0.5s,baz=79,slow=2.9,SNR=4.3								
STKA	**Stephens Creek**	**28.05**	**206**	P	**P**		13 06 11.4	**+1.0**
	1.6nm,0.9s,baz=32,slow=15,SNR=2.1								
STKA					LR		LR	13 16 21.0	
	comp=Z,70nm,20.8s,baz=26,slow=34								
STKA	**Stephens Creek**	**28.05**	**206**	*e*P	**P**		13 06 12.5	**+2.0**
	5.0nm,2.0s								
FITZ	**Fitzroy Crossi**	**31.28**	**246**	P	**P**		13 06 38.2	**-1.0**
	5.1nm,0.6s,baz=53,slow=8.7,SNR=16								
FITZ	**Fitzroy Crossi**	**31.28**	**246**	*e*P	**P**		13 06 38.7	**-0.5**
	59nm,2.0s								
DAV	**Davao City (W)**	**33.10**	**294**	LR	LR		13 17 20.6	
	comp=Z,71nm,21.2s,baz=334,slow=31								
URZ	**Urewera**	**36.70**	**151**	P	**P**		13 07 25.4	**-0.4**
	26nm,1.2s,baz=161,slow=18,SNR=4.5								
MJAR	**Matsushiro Arr**	**46.28**	**340**	P	**P**		13 08 43.2	**-0.8**
	0.9nm,0.5s,baz=170,slow=8.1,SNR=4.4								
MAJO	**Matsushiro**	**46.28**	**340**	*e*P	**P**		13 08 43.2	**-0.8**

USRK	**Ussuriysk Ar.**	**55.24**	**339**	P			**P**	13 09 52.1	**+1.0**
	1.0nm,0.6s,baz=160,slow=4.6,SNR=4.0								
PETK	**Petropavlovsk-**	**59.87**	**1**	P			**P**	13 10 24.9	**+1.4**
	1.4nm,0.8s,baz=149,slow=5.9,SNR=5.1								
PETK					LR		LR	13 30 25.5	
	comp=Z,25nm,22.0s,baz=287,slow=30								
PEA1	**Petropavlovsk-**	**59.87**	**1**	*e*P			**P**	13 10 24.9	**+1.4**
PEA1				*e*				13 30 25.5	
CM01	**Chiang Mai Arr**	**61.35**	**295**	*e*P			**P**	13 10 34.2	**-0.1**
CM31	**Chiang Mai Arr**	**61.38**	**295**	*e*P			**P**	13 10 34.8	**+0.4**
CMAR	**Chiang Mai Arr**	**61.38**	**295**	P			**P**	13 10 35.7	**+1.3**
	1.7nm,0.7s,baz=123,slow=5.5,SNR=17								
SONA0	**Songino Array**	**69.68**	**327**	*e*P			**P**	13 11 28.0	**+0.5**
SONM	**Songino Array**	**69.68**	**327**	P			**P**	13 11 28.0	**+0.5**
	1.0nm,0.5s,baz=136,slow=5.6,SNR=12								
SONA1	**Songino Array**	**69.68**	**327**	*e*P			**P**	13 11 27.8	**+0.3**
BILL	**Bilibino**	**75.20**	**4**	*e*P			**P**	13 12 00.2	**+0.6**
	4.9nm,1.0s								
QSPA	**South Pole Qui**	**83.01**	**180**	P			**P**	13 12 43.2	**+0.7**
	2.2nm,0.6s,baz=197,slow=1.6,SNR=36								
QSPA	**South Pole Qui**	**83.01**	**180**	*e*P			**P**	13 12 42.8	**+0.2**
	19nm,1.7s								
ILAR	**Eielson Array**	**83.10**	**21**	P			**P**	13 12 41.5	**-1.2**
	0.4nm,0.4s,baz=246,slow=4.9,SNR=11								
MK01	**Makanchi Array**	**83.82**	**319**	*e*P			**P**	13 12 46.1	**-0.8**
MK32	**Makanchi Array**	**83.83**	**319**	*e*P			**P**	13 12 46.9	**0.0**
MKAR	**Makanchi Array**	**83.83**	**319**	P			**P**	13 12 46.9	**0.0**
	1.4nm,0.6s,baz=102,slow=5.3,SNR=6.3								
MKAR	**Makanchi Array**	**83.83**	**319**	*e*P			**P**	13 12 47.1	**+0.1**
	12nm,0.4s								
ZALV	**Zalesovo Beam**	**84.53**	**326**	P			**P**	13 12 51.0	**+0.8**
	0.6nm,0.3s,baz=127,slow=3.9,SNR=3.9								
ZAA1	**Zalesovo Array**	**84.53**	**326**	*e*P			**P**	13 12 51.0	**+0.8**
KURK	**Kurchatov**	**87.23**	**322**	*e*P			**P**	13 13 05.5	**+1.8**
KURBB	**Kurchatov Arra**	**87.26**	**322**	P			**P**	13 13 05.5	**+1.7**
	0.3nm,0.4s,baz=91,slow=6.1,SNR=3.4								
INK	**Inuvik**	**89.46**	**21**	P			**P**	13 13 13.8	**0.0**
	0.5nm,0.4s,baz=78,slow=2.3,SNR=5.5								
INK	**Inuvik**	**89.46**	**21**	*e*P			**P**	13 13 13.4	**-0.4**
	11nm,1.7s								
YKB5	**Yellowknife Ar**	**96.00**	**28**	*e*P			**P**	13 13 43.4	**-0.7**
YKA	**Yellowknife Ar**	**96.00**	**28**	P			**P**	13 13 44.0	**0.0**
	0.3nm,0.5s,baz=266,slow=4.5,SNR=12								
AKASG	**Malin Array Be**	**117.91**	**325**	PKP		**PKiKP**		13 19 03.1	**-0.2**
	0.1nm,0.3s,baz=49,slow=2.5,SNR=3.5								
HFS	**Hagfors**	**119.72**	**339**	PKP		**PKiKP**		13 19 05.8	**-0.8**
	0.8nm,0.7s,baz=35,slow=5.3,SNR=3.2								
GERES	**GERESS Array B**	**127.38**	**329**	PKP		**PKiKP**		13 19 22.6	**+0.3**
	0.6nm,0.6s,baz=70,slow=1.6,SNR=5.5								
TOA0	**Torodi Ar. Sit**	**153.67**	**286**	*e*PKPbc		**PKPbc**		13 20 14.4	**-2.3**
TOA0				*e*PKPab		**PKPab**		13 20 28.8	**-1.0**
TORD	**Torodi Ar. Bea**	**153.67**	**286**	PKPbc		**PKPbc**		13 20 16.4	**-0.3**
	0.6nm,0.4s,baz=92,slow=1.9,SNR=5.1								
TORD				PKPab		**PKPab**		13 20 29.4	**-0.3**
	1.1nm,0.7s,baz=76,slow=3.5,SNR=6.5								
TOA1	**Torodi Ar. Sit**	**153.67**	**286**	*e*PKPbc		**PKiKP**		13 20 16.4	**-0.4**
TOA1				*e*PKPab		**PKPab**		13 20 29.4	**-0.3**
DBIC	**

GO02				*i* S		**Sn**	**13 36 19.2**	**+1.8**		
GO02				IAML			13 36 23.4			
	comp=E,189nm,0.3s									
CYA	**Choya**	**3.11**	**96**	*i* P		**Pn**	**13 35 43.7**	**+0.4**		
CYA				IAML			13 35 44.4			
	comp=Z,324nm,0.5s									
CYA	**Choya**	**3.11**	**96⇑**	*i* P		**Pn**	**13 35 44.1**	**+0.8**		
CYA				*i* S		**Sn**	**13 36 18.1**	**-1.7**		
CYA				IAML			13 36 20.4			
	comp=E,96nm,0.3s									
RTLL	**Cerro Villicun**	**3.25**	**167⇑**	*i* P		**Pn**	**13 35 46.0**	**+0.9**		
RTLL				*i* S		**Sn**	**13 36 22.6**	**-0.5**		
RTLL				IAML			13 36 25.2			
	comp=N,502nm,0.3s									
CMCH	**Combarbala**	**3.35**	**206⇓**	*i* P		**Pn**	**13 35 46.0**	**-0.5**		
CMCH				*i* S		Sn	13 36 17.1	-8.5		
RTCV	**Cerro Valdivia**	**3.76**	**170**	*i* P		**Pn**	**13 35 52.3**	**+0.3**		
RTCV				*i* S		**Sn**	**13 36 36.4**	**+1.1**		
LVC	**Limon Verde**	**5.53**	**4**	P		**Pn**	**13 36 15.8**	**-0.5**		
	comp=N,1.5nm,0.3s,baz=142,slow=11,SNR=16									
LVC				S		**Sn**	**13 37 16.2**	**-2.6**		
	comp=N,2.5nm,0.3s,baz=219,slow=13,SNR=3.0									
CPUP	**Villa Florida**	**10.82**	**83**	P		**Pn**	**13 37 24.1**	**-3.6**		
	comp=N,0.2nm,0.3s,baz=253,slow=14,SNR=4.5									
TXAR	**Lajitas Array**	**65.93**	**327**	P		**P**	**13 45 31.6**	**+0.7**		
	comp=N,0.1nm,0.5s,baz=150,slow=7.3,SNR=3.2									
PDAR	**Pinedale Array**	**79.70**	**331**	P		**P**	**13 46 53.2**	**+1.1**		
	comp=N,0.2nm,0.5s,baz=131,slow=7.7,SNR=2.9									
TORD	**Torodi Ar. Bea**	**79.99**	**69**	P		**P**	**13 46 52.9**	**-1.1**		
	comp=N,0.3nm,0.4s,baz=271,slow=6.8,SNR=4.4									
YKA	**Yellowknife Ar**	**97.31**	**341**	P		Pdif	13 48 16.9	+0.4		
	comp=N,0.1nm,0.6s,baz=147,slow=4.5,SNR=3.0									
ASAR	**Alice Springs**	**123.83**	**206**	PKP		**PKPdf**	**13 53 41.8**	**-0.4**		
	comp=N,0.2nm,0.5s,baz=128,slow=1.6,SNR=5.6									
WRA	**Warramunga Arr**	**127.00**	**208**	PKP		**PKPdf**	**13 53 48.0**	**-0.2**		
	comp=N,0.5nm,0.6s,baz=149,slow=1.8,SNR=10									
ZALV	**Zalesovo Beam**	**148.02**	**29**	PKPbc		**PKPbc**	**13 54 29.6**	**+1.0**		
	comp=N,1.7nm,0.5s,baz=294,slow=3.0,SNR=7.5									
MKAR	**Makanchi Array**	**151.01**	**42**	PKPbc		**PKPbc**	**13 54 37.0**	**+0.6**		
	comp=N,1.1nm,0.4s,baz=342,slow=1.6,SNR=28									

MAN 27 13:44:51.7, 16.44N×120.51E, h31km, mb4.6, ML3.4, MS3.3, Luzon

IDC ***27*** *13:50:32.2±0.6, 34.77S×109.16W, h0km, mb4.2/18, mb1 4.3/18, mb1mx4.3/37, mbtmp4.2/18, MS4.1/11, Ms1 4.1/11, ms1mx3.9/25, Error ellipse: s-maj=20.5km s-min=16.8km az=51.0*

ISCJB ***27*** *13:50:35.5±0.3, 35.25S±0.05×108.73W±0.07, h10km, mb5.0/212, MS4.2/11, Error ellipse: s-maj=9.8km s-min=5.0km az=44.9*

NEIC ***27*** *13:50:36.5±0.3, 35.25S×108.56W, h10km, mb5.1/200, Error ellipse: s-maj=7.8km s-min=5.5km az=41.0*

BJI ***27*** *13:50:36.1, 34.91S×108.52W, h10km, mB5.2/2, Ms5.2/2, Ms7 5.0/3*

MOS ***27*** *13:50:38.2±0.9, 34.63S×108.17W, h10km, mb5.2/34, Error ellipse: s-maj=19.4km s-min=8.5km az=83.8*

GCMT ***27*** *13:50:38.5±0.3, 34.84S±0.02×108.99W±0.02, h15km±1km, MW4.9/79, Moment Tensor Solution. s23,c26; s79,c101; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=0.76±.14; Mθθ=0.10±.11; Mϕϕ0.86±.12; Mrθ=0.73±.37; Mϕr=-2.13±.09; Mϕr=1.50±.41; Best double couple: Mo2.61900×1016 NP1:ϕs0.00000°, δ86.00000°, λ-37.00000°. NP2: ϕs94.00000°, δ53.00000°, λ-175.00000°. Principal axes: T 3.2300, Plg22.0000°, Azm53.0000°; N -1.2230, Plg52.0000°, Azm175.0000°; P -2.0070, Plg29.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 13:50:36.2±0.3, 35.26S±0.08×108.69W±0.08, h10km, n809, σ1§49/789, mb5.1/212, MS4.2/11, 10C-2D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**8.12**	**356**		LR		LR	13 54 36.7	
	comp=Z,742nm,20.4s,baz=172,slow=32								
RKT	**Rikitea**	**25.85**	**291**	*e*T			T	14 22 05.9	
	2.0nm,0.2s								
GO06	**Curarrehue**	**29.73**	**110**	*e*P		**P**	**P**	**13 56 42.1**	**-0.7**
	33nm,1.5s								
PLCA	**Paso Flores**	**30.38**	**112**	P		**P**	**P**	**13 56 50.8**	**+2.3**
	6.0nm,1.1s,baz=284,slow=9.0,SNR=7.0								
PLCA					LR		LR	14 06 49.0	
	comp=Z,118nm,20.4s,baz=278,slow=32								
PLCA	**Paso Flores**	**30.38**	**112**	*e*P		**P**	**P**	**13 56 47.6**	**-0.9**
	34nm,1.5s								
PLCA	**Paso Flores**	**30.38**	**112**	*e*P		**P**	**P**	**13 56 47.6**	**-0.9**
PLCA					pmax		pmax		
	comp=Z,34nm,1.5s								
PLCA	**Paso Flores**	**30.38**	**112**	*e*P		**P**	**P**	**13 56 50.6**	**+2.1**
ROC1	**El Roble**	**31.16**	**97**	*e*P		**P**	**P**	**13 56 56.0**	**+0.4**
	comp=Z,12nm,0.8s								
PEL	**Peldehue**	**31.38**	**97**	*e*P		**P**	**P**	**13 56 56.1**	**-1.1**
	comp=Z,26nm,1.0s								
PEL	**Peldehue**	**31.38**	**97**	*e*P		**P**	**P**	**13 56 56.2**	**-1.1**
PEL					pmax		pmax		
	comp=Z,26nm,1.0s								
GO04	**Tololo Observa**	**32.15**	**92**	*e*P		**P**	**P**	**13 57 03.4**	**-1.0**
	comp=Z,64nm,1.3s								
LCO	**Las Campanas**	**32.63**	**90**	*e*P		**P**	**P**	**13 57 08.2**	**-0.4**
	comp=Z,15nm,1.2s								
LCO	**Las Campanas**	**32.63**	**90**	*ce*P		**P**	**P**	**13 57 09.6**	**+1.1**
LCO	**Las Campanas**	**32.63**	**90**	*e*P		**P**	**P**	**13 57 10.1**	**+1.5**
GO02	**Mina Guanaco**	**35.06**	**84**	*e*P		**P**	**P**	**13 57 29.9**	**+0.1**
	comp=Z,12nm,1.0s								
LVC	**Limon Verde**	**36.79**	**81**	P		**P**	**P**	**13 57 45.3**	**+0.6**
	comp=Z,5.4nm,0.8s,baz=207,slow=8.9,SNR=4.1								
LVC	**Limon Verde**	**36.79**	**81**	*e*P		**P**	**P**	**13 57 44.6**	**-0.1**
	comp=Z,34nm,1.5s								
LVC	**Limon Verde**	**36.79**	**81**	*ce*P		**P**	**P**	**13 57 47.7**	**+3.0**
LVC					pmax		pmax		
	comp=Z,14nm,1.7s								
LVC	**Limon Verde**	**36.79**	**81**	*e*P		**P**	**P**	**13 57 45.5**	**+0.8**
NNA	**Nana**	**36.98**	**59**	*e*P		**P**	**P**	**13 57 43.2**	**-2.9**
	comp=Z,14nm,0.9s								
NNA	**Nana**	**36.98**	**59**	*e*P		**P**	**P**	**13 57 43.1**	**-2.9**
TBI	**Tubuai**	**37.24**	**277**	*e*LR		LR	LR	14 07 37.1	
	comp=Z,345nm,26.5s								
TBI	**Tubuai**	**37.24**	**277**	*e*T			T	14 37 41.6	
	comp=Z,7.9nm,0.3s								
TRQA	**Tornquist**	**37.28**	**108**	*e*P		**P**	**P**	**13 57 50.3**	**+2.0**
MNMC	**Minye Minye**	**38.03**	**75**	*e*P		P	P	13 57 49.9	-5.2
	comp=Z,25nm,0.8s								
TAOE	**Nuku Hiva Isla**	**38.94**	**305**	*e*LR		LR	LR	14 08 29.2	
	comp=Z,332nm,26.9s								
PMSA	**Palmer Station**	**39.76**	**152**	*e*P		**P**	**P**	**13 58 08.6**	**-0.2**
LPAZ	**La Paz**	**40.77**	**73**	P		**P**	**P**	**13 58 18.6**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=205,slow=2.1,SNR=14								
LPAZ					LR		LR	14 11 24.9	
	comp=Z,145nm,18.2s,baz=231,slow=31								
LPAZ	**La Paz**	**40.77**	**73**	*e*P		**P**	**P**	**13 58 17.2**	**-1.2**
	comp=Z,19nm,0.9s								
LPAZ	**La Paz**	**40.77**	**73**	*e*P		**P**	**P**	**13 58 17.2**	**-1.2**
LPAZ	**La Paz**	**40.77**	**73**	*e*P		**P**	**P**	**13 58 19.2**	**+0.8**
CPUP	**Villa Florida**	**44.59**	**93**	LR		LR	LR	14 14 37.6	
	comp=Z,66nm,18.0s,baz=238,slow=32								
OTAV	**Otavalo**	**45.20**	**45**	*e*P		**P**	**P**	**13 58 50.0**	**-4.0**
	comp=Z,16nm,1.1s								
OTAV	**Otavalo**	**45.20**	**45**	*e*P		**P**	**P**	**13 58 50.1**	**-4.0**
OTAV					pmax		pmax		
	comp=Z,15nm,1.1s								
OTAV	**Otavalo**	**45.20**	**45**	*e*P		**P**	**P**	**13 58 54.1**	**+0.1**
PLTB	**Pedras Altas**	**45.57**	**102**	*e*P		**P**	**P**	**13 58 58.6**	**+2.2**
CPSB	**Cacapava Do Su**	**46.18**	**100**	*e*P		**P**	**P**	**13 59 01.9**	**+0.7**
SIV	**San Ignacio**	**46.54**	**78**	P		**P**	**P**	**13 59 03.2**	**-1.0**
	comp=Z,2.9nm,0.9s,baz=261,slow=11,SNR=9.9								
RAR	**Rarotonga**	**46.65**	**273**	LR		LR	LR	14 12 17.4	
	comp=Z,599nm,21.4s,baz=126,slow=28								
CNLB	**Canela**	**48.67**	**100**	*e*P		**P**	**P**	**13 59 22.6**	**+1.9**
TRCB	**Terra Rica**	**49.98**	**91**	*e*P		**P**	**P**	**13 59 32.2**	**+1.4**
TER01	**Tubaro-SC**	**50.37**	**100**	*e*P		**P**	**P**	**13 59 35.1**	**+1.4**
JTS	**JuntasAbangare**	**50.56**	**31**	*e*P		P	P	13 59 29.5	-5.6
	comp=Z,26nm,1.0s								
JTS	**JuntasAbangare**	**50.56**	**31⇑**	*e*P		**P**	**P**	**13 59 34.4**	**-0.7**
ROSC	**El Rosal**	**51.32**	**46**	P		**P**	**P**	**13 59 39.7**	**-1.6**
	comp=Z,4.7nm,0.4s,baz=162,slow=20,SNR=2.8								
ROSC					LR		LR	14 17 13.1	
	comp=Z,199nm,21.5s,baz=271,slow=31								
ROSC	**El Rosal**	**51.32**	**46**	*e*P		**P**	**P**	**13 59 38.8**	**-2.5**
	comp=Z,35nm,1.0s								
C2SB	**Chapadao do Su**	**51.76**	**87**	*e*P		**P**	**P**	**13 59 46.0**	**+1.9**
FRTB	**Fartura**	**52.24**	**94**	*e*P		**P**	**P**	**13 59 49.3**	**+1.5**
BB19B	**Bebedouro**	**54.15**	**92**	*e*P		**P**	**P**	**14 00 03.5**	**+1.6**
QSPA	**South Pole Qui**	**54.95**	**180**	P		**P**	**P**	**14 00 09.0**	**+1.9**
	comp=Z,3.8nm,0.8s,baz=129,slow=2.2,SNR=18								
QSPA	**South Pole Qui**	**54.95**	**180**	*e*P		**P**	**P**	**14 00 05.3**	**-1.8**
	comp=Z,50nm,1.9s								
VNDA	**Vanda**	**55.77**	**195**	LR		LR	LR	14 19 04.3	
	comp=Z,188nm,20.7s,baz=116,slow=30								
SDV	**Santo Domingo**	**56.73**	**47**	*e*P		**P**	**P**	**14 00 18.4**	**-2.1**
	comp=Z,20nm,1.1s								
SDV	**Santo Domingo**	**56.73**	**47**	*e*P		**P**	**P**	**14 00 21.9**	**+1.4**
PTGA	**Pitinga**	**56.83**	**64**	*e*P		**P**	**P**	**14 00 17.5**	**-3.7**
	comp=Z,17nm,0.9s								
BSCB	**Bom Sucesso**	**57.25**	**94**	*e*P		**P**	**P**	**14 00 25.3**	**+1.1**
BDFB	**Brasilia**	**57.31**	**86**	P		**P**	**P**	**14 00 24.0**	**-0.7**
	comp=Z,5.1nm,0.9s,baz=275,slow=2.3,SNR=4.9								
BDFB					LR		LR	14 23 09.3	
	comp=Z,213nm,18.2s,baz=234,slow=34								
BDFB	**Brasilia**	**57.31**	**86**	*e*P		**P**	**P**	**14 00 22.1**	**-2.6**
	comp=Z,36nm,1.2s								
BDFB	**Brasilia**	**57.31**	**86**	*e*P		**P**	**P**	**14 00 22.1**	**-2.6**
BDFB					pmax		pmax		
	comp=Z,36nm,1.2s								
ZAIG	**Zacatecas**	**58.00**	**7**	*e*P		**P**	**P**	**14 00 28.2**	**-1.3**
	comp=Z,9.0nm,0.9s								
DUB01	**Friburgo-RJ**	**58.69**	**96**	*e*P		**P**	**P**	**14 00 36.4**	**+2.2**
VNA3	**Neumayer Olymp**	**59.85**	**158**	P		**P**	**P**	**14 00 43.2**	**+1.7**
MCI7	**Montes Claros**	**60.15**	**90**	*e*P		**P**	**P**	**14 00 44.5**	**+0.2**
LNIG	**Linares**	**60.46**	**10**	*e*P		**P**	**P**	**14 00 45.8**	**-0.3**
	comp=Z,28nm,1.0s								
VNA1	**Neumayer--Stat**	**60.50**	**158**	P		**P**	**P**	**14 00 48.9**	**+3.0**
JANB	**Januaria**	**60.65**	**88**	*e*P		**P**	**P**	**14 00 47.8**	**0.0**
VNA2	**Neumayer--Watz**	**60.66**	**158**	P		**P**	**P**	**14 00 48.8**	**+1.8**
	baz=262,slow=6.4								
SJMB	**Sao Joao De Ma**	**61.32**	**93**	*e*P		**P**	**P**	**14 00 53.8**	**+1.5**
BSFB	**Barra de Sao F**	**61.53**	**94**	*e*P		**P**	**P**	**14 00 54.7**	**+1.0**
HPIG		**61.92**	**3**	*e*P		**P**	**P**	**14 00 55.5**	**-0.7**
	comp=Z,8.2nm,1.0s								
TX31	**Lajitas Ar. Si**	**64.42**	**5**	*e*P		**P**	**P**	**14 01 12.2**	**-0.4**
TXAR	**Lajitas Array**	**64.42**	**5**	P		P	P	14 01 07.5	-5.1
	comp=Z,0.5nm,0.8s,baz=188,slow=7.6,SNR=6.6								
JCT	**Junction City**	**65.92**	**8**	*e*P		**P**	**P**	**14 01 22.0**	**-0.3**
	comp=Z,58nm,0.8s								
JCT	**Junction City**	**65.92**	**8**	*e*P		**P**	**P**	**14 01 22.0**	**-0.3**
JCT					pmax		pmax		
	comp=Z,58nm,0.8s								
JCT	**Junction City**	**65.92**	**8**	P		**P**	**P**	**14 01 23.3**	**+1.0**
	baz=188								
NVL	**N'lazarevskaya**	**66.15**	**162**	*e*P		**P**	**P**	**14 01 24.4**	**+1.1**
NVL					pmax		pmax		
	comp=Z,14nm,1.2s								
319A	**Douglas**	**66.28**	**359**	*e*P		**P**	**P**	**14 01 24.7**	**0.0**
	comp=Z,16nm,1.0s								
MSVF	**Nonsavu**	**66.51**	**264**	*e*P		**P**	**P**	**14 01 24.6**	**-2.0**
	comp=Z,54nm,1.4s								
MSVF	**Nonsavu**	**66.51**	**264**	*e*P		**P**	**P**	**14 01 24.6**	**-2.0**
MSVF					pmax		pmax		
	comp=Z,54nm,1.4s								
435B	**Jarrell**	**66.51**	**10**	*e*P		**P**	**P**	**14 01 25.5**	**-0.6**
	comp=Z,53nm,0.9s								
435B	**Jarrell**	**66.51**	**10**	P		**P**	**P**	**14 01 27.7**	**+1.6**
	baz=190								
MNTX	**Cornudas Mount**	**66.67**	**3**	*e*P		**P**	**P**	**14 01 26.4**	**-0.6**
	comp=Z,18nm,1.2s								
MNTX	**Cornudas Mount**	**66.67**	**3**	P		**P**	**P**	**14 01 27.6**	**+0.5**
	baz=183								
214A	**Organ Pipe Nat**	**66.97**	**356**	P		**P**	**P**	**14 01 30.0**	**+1.1**
	baz=176								
TUC	**Tucson**	**67.24**	**358**	*e*P		**P**	**P**	**14 01 30.4**	**-0.4**
	comp=Z,12nm,1.1s								
TUC	**Tucson**	**67.24**	**358**	*e*P		**P**	**P**	**14 01 30.4**	**-0.4**
TUC					pmax		pmax		
	comp=Z,12nm,1.1s								
TUC	**Tucson**	**67.24**	**358**	P		**P**	**P**	**14 01 32.0**	**+1.2**
	baz=178								
121A	**Cookes Peak, D**	**67.44**	**1**	P		**P**	**P**	**14 01 33.4**	**+1.3**
	baz=181								
WHTX	**Lake Whitney,**	**67.72**	**10**	*e*P		**P**	**P**	**14 01 33.9**	**+0.2**
	comp=Z,73nm,0.9s								
WHTX	**Lake Whitney,**	**67.72**	**10**	P		**P**	**P**	**14 01 34.8**	**+1.1**
	baz=190								
IKP	**In-Ko-Pah, Jac**	**67.91**	**353**	P		**P**	**P**	**14 01 36.7**	**+1.7**
	baz=173								
NATX	**Nacogdoches**	**67.95**	**13**	*e*P		**P**	**P**	**14 01 35.2**	**+0.1**
	comp=Z,67nm,0.8s								
NATX	**Nacogdoches**	**67.95**	**13**	P		**P**	**P**	**14 01 37.0**	**+1.8**
	baz=192								
BAR	**Barett**	**67.99**	**353**	*e*P		**P**	**P**	**14 01 34.4**	**-1.0**
	comp=Z,32nm,1.4s								
ABTX	**Abilene, Hawle**	**68.06**	**8**	*e*P		**P**	**P**	**14 01 35.5**	**-0.3**
	comp=Z,20nm,0.9s								
ABTX	**Abilene, Hawle**	**68.06**	**8**	P		**P**	**P**	**14 01 36.6**	**+0.8**
	baz=188								
DWPF	**Disney Wildern**	**68.08**	**26**	*e*P		**P**	**P**	**14 01 36.4**	**+0.4**
SWSC	**Sam W. Stewart**	**68.17**	**354**	P		**P**	**P**	**14 01 37.5**	**+1.1**
	baz=174								
MONP2	**Monument Peak**	**68.18**	**353**	P		**P**	**P**	**14 01 38.2**	**+1.4**
	baz=173,SNR=6.1								
GLA	**Glamis**	**68.19**	**354**	P		**P**	**P**	**14 01 38.1**	**+1.4**
	baz=174								
109C	**Camp Elliot, M**	**68.25**	**352**	P		**P**	**P**	**14 01 38.0**	**+1.1**
	baz=172								
BC3	**Big Chuckawall**	**68.84**	**354**	P		**P**	**P**	**14 01 42.5**	**+1.7**
	baz=174,SNR=9.7								
Y12C	**Blythe**	**68.86**	**355**	*e*P		**P**	**P**	**14 01 41.0**	**+0.2**
	comp=Z,18nm,1.1s								
Y12C	**Blythe**	**68.86**	**355**	P		**P**	**P**	**14 01 42.5**	**+1.7**
	baz=175								
XPFO	**Pion Flat**	**68.89**	**353**	*e*P		**P**	**P**	**14 01 41.8**	**+0.6**
	comp=Z,20nm,1.1s								
PFO	**Pinyon Flats O**	**68.89**	**353**	P		P	P	14 01 35.4	-5.8
	comp=Z,0.8nm,0.4s,baz=158,slow=19,SNR=1.8								
PFO	**Pinyon Flats O**	**68.89**	**353**	*e*P		**P**	**P**	**14 01 41.6**	**+0.4**
PFO	**Pinyon Flats O**	**68.89**	**353**	*e*P		**P**	**P**	**14 01 41.6**	**+0.4**
PFO	**Pinyon Flats O**	**68.89**	**353**	P		**P**	**P**	**14 01 42.9**	**+1.7**
	baz=173,SNR=7.5								
450A	**Crestview**	**68.92**	**20**	P		**P**	**P**	**14 01 43.2**	**+1.9**
	baz=199								
Y14A	**Wickenburg**	**68.95**	**356**	*e*P		**P**	**P**	**14 01 41.8**	**+0.4**
	comp=Z,19nm,1.3s								
MURC	**Murrieta**	**68.96**	**352**	P		**P**	**P**	**14 01 43.2**	**+1.7**
	baz=172								
BNM	**Barren Site**	**69.07**	**2**	*e*P		**P**	**P**	**14 01 42.2**	**-0.2**
LENM	**Lemitar**	**69.08**	**2**	*e*P		**P**	**P**	**14 01 42.9**	**+0.5**
MSTX	**Muleshoe**	**69.09**	**5**	*e*P		**P**	**P**	**14 01 42.3**	**0.0**
	comp=Z,29nm,1.0s								
MSTX	**Muleshoe**	**69.09**	**5**	P		**P**	**P**	**14 01 43.0**	**+0.6**
	baz=185								
BELC	**Belle Mtn. Jos**	**69.23**	**354**	P		**P**	**P**	**14 01 45.0**	**+1.7**
	baz=174,SNR=7.4								
349A	**Repton**	**69.27**	**20**	P		**P**	**P**	**14 01 45.5**	**+2.1**
	baz=198								
LAZ	**Ladron**	**69.31**	**1**	*e*P		**P**	**P**	**14 01 43.5**	**-0.3**
IRM	**Iron Mountain**	**69.32**	**354**	P		**P**	**P**	**14 01 45.3**	**+1.6**
	baz=174								
X16A	**Lo Mia Camp, P**	**69.36**	**358**	*e*P		**P**	**P**	**14 01 44.2**	**+0.1**
	comp=Z,12nm,1.1s								
452A	**Marianna**	**69.38**	**22**	P		**P**	**P**	**14 01 45.7**	**+1.7**
	baz=200								
PDMCI	**Parker Dam,Lak**	**69.39**	**355**	P		**P**	**P**	**14 01 45.8**	**+1.7**
	baz=175,SNR=7.2								
X18A	**Snowflake**	**69.43**	**359**	*e*P		**P**	**P**	**14 01 44.9**	**+0.3**
	comp=Z,28nm,1.1s								
556A	**Lake Butler**	**69.47**	**24**	P		**P**	**P**	**14 01 46.8**	**+2.2**
	baz=203,SNR=5.1								
350A	**Dozier**	**69.58**	**20**	P		**P**	**P**	**14 01 47.1**	**+1.8**
	baz=199								
BFSC	**Mount Baldy Ra**	**69.64**	**352**	P		**P**	**P**	**14 01 47.6**	**+1.8**
	baz=172								
453A	**Whigham**	**69.64**	**22**	P		**P**	**P**	**14 01 47.6**	**+1.9**
	baz=201								
351A	**Pinckard**	**69.65**	**21**	P		**P**	**P**	**14 01 47.7**	**+1.9**
	baz=200,SNR=6.3								
454A	**Quitman**	**69.73**	**23**	P		**P**	**P**	**14 01 48.3**	**+2.1**
	baz=202								
DECC	**Green Verdugo**	**69.73**	**351**	P		**P**	**P**	**14 01 48.4**	**+2.2**
	baz=172								
145A	**Houston Renfro**	**69.76**	**17**	P		**P**	**P**	**14 01 48.5**	**+2.1**
	baz=196								
Z41A	**Richland Creek**	**69.76**	**14**	*e*P		**P**	**P**	**14 01 47.0**	**+0.6**
	comp=Z,46nm,0.9s								
Z41A	**Richland Creek**	**69.76**	**14**	P		**P**	**P**	**14 01 48.1**	**+1.7**
	baz=194								
ANMO	**Albuquerque**	**69.87**	**2**	P		P	P	14 01 42.1	-5.2
	comp=Z,0.3nm,0.4s,baz=288,slow=7.1,SNR=3.2								
ANMO	**Albuquerque**	**69.87**	**2**	*e*P		**P**	**P**	**14 01 47.2**	**-0.1**
ANMO	**Albuquerque**	**69.87**	**2⇓**	*e*P		**P**	**P**	**14 01 47.8**	**+0.5**
ANMO					pmax		pmax		
	comp=Z,3.0nm,0.8s								
ANMO	**Albuquerque**	**69.87**	**2**	P		**P**	**P**	**14 01 48.7**	**+1.4**
	baz=182								
249A	**Camden**	**69.88**	**19**	P		**P**	**P**	**14 01 49.0**	**+1.9**
	baz=198,SNR=7.0								
GMRC	**Granite Mounta**	**69.98**	**354**	P		**P**	**P**	**14 01 49.6**	**+1.7**
	baz=174,SNR=7.7								
146A	**Union**	**70.00**	**18**	*e*P		**P**	**P**	**14 01 48.0**	**+0.2**
	comp=Z,48nm,1.3s								
146A	**Union**	**70.00**	**18**	P		**P**	**P**	**14 01 49.8**	**+1.9**
	baz=197								
352A	**Blakely**	**70.04**	**21**	*e*P		**P**	**P**	**14 01 48.8**	**+0.7**
	comp=Z,24nm,0.9s								
352A	**Blakely**	**70.04**	**21**	P		**P**	**P**	**14 01 50.3**	**+2.1**
	baz=200								
AMTX	**Amarillo**	**70.08**	**6**	*e*P		**P**	**P**	**14 01 48.3**	**-0.2**
	comp=Z,20nm,1.1s								
AMTX	**Amarillo**	**70.08**	**6**	P		**P**	**P**	**14 01 49.0**	**+0.5**
	baz=186								
HEC	**Hector,Ludlow**	**70.09**	**353**	P		**P**	**P**	**14 01 50.3**	**+1.8**
	baz=173,SNR=8.1								
250A	**Grady**	**70.12**	**20**	*e*P		**P**	**P**	**14 01 49.2**	**+0.6**
	comp=Z,36nm,0.9s								
250A	**Grady**	**70.12**	**20**	P		**P**	**P**	**14 01 50.4**	**+1.8**
	baz=199,SNR=5.3								
353A	**Camilla**	**70.13**	**22**	P		**P**	**P**	**14 01 50.7**	**+2.0**
	baz=201								
W13A	**Hualapai Mount**	**70.16**	**355**	*e*P		**P**	**P**	**14 01 48.8**	**-0.2**
	comp=Z,12nm,1.3s								
RRX	**Edison Barstow**	**70.20**	**353**	P		**P**	**P**	**14 01 50.4**	**+1.3**
	baz=173								
LDFC	**Landfair**	**70.23**	**354**	*e*P		**P**	**P**	**14 01 50.5**	**+1.1**
	comp=Z,57nm,1.1s								
147A	**Livingston**	**70.24**	**18**	*e*P		**P**	**P**	**14 01 49.8**	**+0.5**
	comp=Z,72nm,1.0s								
147A	**Livingston**	**70.24**	**18**	P		**P**	**P**	**14 01 51.3**	**+2.0**
	baz=198,SNR=9.6								
EDW2	**Edwards Air Fo**	**70.31**	**352**	P		**P**	**P**	**14 01 51.2**	**+1.4**
	baz=172								
148A	**Greensboro**	**70.39**	**19**	P		**P**	**P**	**14 01 51.9**	**+1.7**
	baz=198								
TIGA	**Tifton**	**70.42**	**23**	P		**P**	**P**	**14 01 50.8**	**+0.4**
	baz=201								
WUAZ	**Wupatki**	**70.45**	**358**	*e*P		**P**	**P**	**14 01 51.2**	**+0.4**
	comp=Z,17nm,1.4s								
WUAZ	**Wupatki**	**70.45**	**358**	P		**P**	**P**	**14 01 52.2**	**+1.4**
	baz=178,SNR=6.4								
251A	**Midway**	**70.47**	**21**	P		**P**	**P**	**14 01 51.5**	**+0.7**
	baz=200,SNR=5.7								
Y42A	**Garnett, Star**	**70.53**	**15**	P		**P**	**P**	**14 01 52.8**	**+1.7**
	baz=194								
PKM	**Mcpherson Peak**	**70.55**	**350**	P		**P**	**P**	**14 01 52.6**	**+1.2**
	baz=170								
Z45A	**Winona**	**70.55**	**17**	P		**P**	**P**	**14 01 52.9**	**+1.6**
	baz=196								
149A	**J

comp=Z,45nm,1.1s
OXF **Oxford** 71.71 17 eP P 14 01 58.5 +0.3
OXF pmax pmax
comp=Z,45nm,1.1s
OXF **Oxford** 71.71 17 P P 14 01 59.0 +0.8
baz=196,SNR=5.9
W41B **Gary Mavity, V** 71.73 14 eP P 14 01 57.8 -0.5
comp=Z,41nm,0.9s
W41B **Gary Mavity, V** 71.73 14 P P 14 01 59.7 +1.4
baz=194,SNR=18
FURC **Furnace Creek,** 71.76 353 P P 14 02 00.3 +1.8
baz=173,SNR=9.3
Z52A **Williamson** 71.79 21 P P 14 02 00.3 +1.6
baz=201,SNR=8.2
TUL1 **Leonard** 71.82 11 P P 14 01 59.9 +1.0
baz=191,SNR=12
WHAR **Wooly Hollow** 71.83 14 eP P 14 01 59.3 +0.4
comp=Z,29nm,1.0s
Y49A **Blount Mountai** 71.85 19 eP P 14 01 60.0 +0.9
comp=Z,16nm,1.0s
Y49A **Blount Mountai** 71.85 19 P P 14 02 00.5 +1.4
baz=199
CWC **Cottonwood Cre** 71.86 352 P P 14 02 01.0 +1.7
baz=172
155A **Kite** 71.86 23 P P 14 02 01.0 +1.8
baz=202,SNR=6.3
X46A **Booneville** 71.95 17 P P 14 02 00.6 +0.9
baz=197,SNR=7.6
W42A **Bald Knob** 71.97 15 P P 14 02 01.1 +1.3
baz=195
KNB **Kanab** 72.01 357 eP P 14 02 01.0 +0.8
comp=Z,25nm,1.3s
KNB **Kanab** 72.01 357 eP P 14 02 01.0 +0.8
KNB pmax pmax
comp=Z,25nm,1.3s
LCMT **Little Creek M** 72.03 356 eP P 14 02 00.6 +0.4
comp=Z,10.0nm,1.2s
Y50A **Piedmont** 72.07 20 P P 14 02 01.5 +1.1
baz=199,SNR=11
X47A **Russelville** 72.09 18 P P 14 02 01.5 +0.9
baz=198,SNR=12
MVCO **Mesa Verde** 72.10 0 P P 14 02 02.0 +1.2
baz=180,SNR=12
Z53A **Monticello** 72.13 22 P P 14 02 01.9 +1.1
baz=201
T25A **Trinidad** 72.14 4 eP P 14 02 01.3 +0.3
comp=Z,17nm,1.3s
T25A **Trinidad** 72.14 4 P P 14 02 02.2 +1.1
baz=184
TPNV **Topopah Spring** 72.18 354 eP P 14 02 01.9 +0.7
comp=Z,30nm,1.3s
TPNV **Topopah Spring** 72.18 354 eP P 14 02 01.9 +0.7
TPNV pmax pmax
comp=Z,30nm,1.3s
TPNV **Topopah Spring** 72.18 354 P P 14 02 03.2 +1.9
baz=173,SNR=7.1
X48A **Hartselle** 72.24 19 eP P 14 02 02.0 +0.6
comp=Z,18nm,1.2s
X48A **Hartselle** 72.24 19 P P 14 02 02.7 +1.3
baz=198
Y51A **Rockmart** 72.26 20 P P 14 02 02.9 +1.3
baz=200,SNR=8.2
GOGA **Godfrey** 72.28 22 eP P 14 02 02.9 +1.2
comp=Z,18nm,1.1s
GOGA **Godfrey** 72.28 22 eP P 14 02 02.9 +1.2
GOGA pmax pmax
comp=Z,18nm,1.1s
GOGA **Godfrey** 72.28 22 P P 14 02 03.4 +1.7
baz=201
Z54A **Sparta** 72.31 23 P P 14 02 03.4 +1.5
baz=202,SNR=6.0
GRAC **Grapevine Rang** 72.34 353 P P 14 02 04.0 +2.0
baz=172
V41A **Mountainview** 72.34 14 P P 14 02 03.2 +1.2
baz=194,SNR=12
W45A **Hickory Valley** 72.38 17 P P 14 02 03.0 +0.8
baz=196
PLAL **Pickwick Lake** 72.48 18 eP P 14 02 02.8 0.0
comp=Z,16nm,0.9s
TIN **Tinemaha, Big** 72.49 352 P P 14 02 04.7 +1.7
baz=172,SNR=6.4
X49A **Woodville** 72.49 19 P P 14 02 04.2 +1.4
baz=199
V42A **Cord** 72.52 15 P P 14 02 04.0 +1.0
baz=195,SNR=8.7
Y52A **Lilburn** 72.52 21 eP P 14 02 03.5 +0.4
comp=Z,28nm,1.1s
Y52A **Lilburn** 72.52 21 P P 14 02 05.0 +1.8
baz=201
Z55A **Blythe** 72.52 23 P P 14 02 04.9 +1.8
baz=202
SZCU **Shurtz Canyon** 72.60 356 eP P 14 02 04.2 +0.4
comp=Z,18nm,1.1s
X50B **Fort Payne** 72.62 20 P P 14 02 05.1 +1.3
baz=199,SNR=6.0
S22A **4UR Ranch, Cre** 72.65 2 eP P 14 02 04.8 +0.6
comp=Z,22nm,1.3s
S22A **4UR Ranch, Cre** 72.65 2 P P 14 02 06.0 +1.8
baz=182,SNR=14
Y53A **Monroe** 72.66 22 P P 14 02 05.4 +1.5
baz=201
SDCO **Great Sand Dun** 72.69 3 eP P 14 02 04.7 +0.3
comp=Z,10nm,1.0s
SDCO **Great Sand Dun** 72.69 3 P P 14 02 05.7 +1.2
baz=183,SNR=11
U40A **Yellville** 72.76 13 P P 14 02 05.7 +1.3
baz=193,SNR=11
W47A **Westpoint** 72.86 18 P P 14 02 06.2 +1.1
baz=198,SNR=8.5
W48A **Pulaski** 72.92 19 P P 14 02 06.5 +1.1
baz=198,SNR=11
U41A **Viola** 72.93 14 P P 14 02 07.0 +1.5
baz=194
Y54A **Tignall** 72.94 22 P P 14 02 07.3 +1.7
baz=202,SNR=5.6
X51A **Calhoun** 72.95 20 eP P 14 02 05.7 +0.1
comp=Z,30nm,1.1s
X51A **Calhoun** 72.95 20 P P 14 02 06.9 +1.3
baz=200
PV01 **Paradox Valley** 73.02 0 eP P 14 02 05.8 -0.5
PV13 **Radium Mtn., P** 73.05 360 eP P 14 02 06.5 0.0
comp=Z,7.6nm,1.1s
U42A **Revenden** 73.07 15 P P 14 02 07.4 +1.1
baz=195,SNR=14
W49A **Belvidere** 73.08 19 P P 14 02 07.6 +1.2
baz=199,SNR=6.3
PV02 **Paradox Valley** 73.09 360 eP P 14 02 07.1 +0.4
comp=Z,12nm,1.1s
MLAC **Mammoth, Mammo** 73.13 352 P P 14 02 08.4 +1.5
baz=171
PV03 **Paradox Valley** 73.14 360 eP P 14 02 07.3 +0.3
PV17 **East Wray Mesa** 73.17 360 eP P 14 02 06.8 -0.3
comp=Z,13nm,1.1s
PV11 **David Mesa, Pa** 73.19 360 eP P 14 02 06.6 -0.6
comp=Z,26nm,1.3s
PV19 **Morning Glory** 73.20 360 eP P 14 02 07.8 +0.5
comp=Z,14nm,1.0s
PV16 **Nyswonger Mesa** 73.20 360 eP P 14 02 07.5 +0.2
comp=Z,13nm,1.2s
PV12 **Saucer Basin,** 73.20 360 eP P 14 02 07.8 +0.4
comp=Z,24nm,1.1s
PV20 **West Nyswonger** 73.23 360 eP P 14 02 07.0 -0.5
comp=Z,13nm,1.0s
V46A **Holladay** 73.25 17 P P 14 02 07.9 +0.5
baz=197,SNR=9.7
SWET **Sewanee** 73.26 19 eP P 14 02 07.8 +0.3
comp=Z,24nm,0.9s
PV14 **Lion Creek, Pa** 73.26 360 eP P 14 02 07.3 -0.4
comp=Z,24nm,1.1s
X52A **Dahlonega** 73.26 21 P P 14 02 08.2 +0.7
baz=201
PV10 **Paradox Valley** 73.26 360 eP P 14 02 07.6 -0.2
U43A **Rector** 73.27 15 P P 14 02 08.7 +1.3
baz=195
PV23 **Carpenter Ridg** 73.34 360 eP P 14 02 07.7 -0.5
comp=Z,22nm,1.0s
X53A **Estanollee** 73.35 22 P P 14 02 09.3 +1.3
baz=201
PV09 **Paradox Valley** 73.39 360 eP P 14 02 06.2 -2.3
W50A **Signal Mountai** 73.41 20 eP P 14 02 08.0 -0.4
comp=Z,12nm,0.9s
W50A **Signal Mountai** 73.41 20 P P 14 02 09.6 +1.2
baz=200
HODGE **Hodges** 73.42 23 eP P 14 02 09.6 +1.2
comp=Z,19nm,1.1s
V47A **Nunnelly** 73.42 18 P P 14 02 09.3 +0.9
baz=198,SNR=5.8
SYO **Syowa Base** 73.43 169⇑ eP P 14 02 04.8 -3.3

PV21 **Cone Mtn., Par** 73.45 360 eP P 14 02 08.5 -0.3
comp=Z,19nm,1.1s
MSU **Marysvale** 73.47 357 eP P 14 02 09.0 +0.1
MSU **Marysvale** 73.47 357 eP P 14 02 09.0 +0.1
U44B **Burton Farm, H** 73.47 16 P P 14 02 10.1 +1.5
baz=196
R11A **Troy Canyon, C** 73.51 354 eP P 14 02 07.8 -1.3
comp=Z,17nm,1.1s
R11A **Troy Canyon, C** 73.51 354 P P 14 02 10.8 +1.7
baz=174,SNR=17
V48A **Smith Brothers** 73.52 18 eP P 14 02 08.1 -0.9
comp=Z,20nm,1.0s
V48A **Smith Brothers** 73.52 18 P P 14 02 09.9 +0.9
baz=198,SNR=7.1
W51A **Cleveland** 73.53 20 P P 14 02 10.4 +1.3
baz=200,SNR=6.4
DZM **Mont Dzumac** 73.58 254 eLR LR 14 24 39.0
comp=Z,268nm,30.4s
UTMT **University of** 73.59 17 eP P 14 02 10.2 +0.9
comp=Z,92nm,0.9s
U45A **Rockin P Farm,** 73.62 17 P P 14 02 10.9 +1.3
baz=197,SNR=5.7
WVT **Waverly** 73.63 17 eP P 14 02 10.0 +0.4
comp=Z,8.0nm,0.8s
WVT **Waverly** 73.63 17 eP P 14 02 10.0 +0.4
WVT pmax pmax
comp=Z,8.0nm,0.8s
WVT **Waverly** 73.63 17 P P 14 02 10.4 +0.8
baz=198
T41A **Mountain View** 73.63 14 P P 14 02 10.9 +1.3
baz=194,SNR=14
W52A **Murphy** 73.71 21 eP P 14 02 10.9 +0.8
comp=Z,14nm,0.9s
W52A **Murphy** 73.71 21 P P 14 02 12.1 +1.9
baz=201
CMB **Columbia Colle** 73.72 350 eP P 14 02 10.3 +0.1
comp=Z,20nm,1.3s
CMB **Columbia Colle** 73.72 350 eP P 14 02 10.3 +0.1
CMB pmax pmax
comp=Z,20nm,1.3s
T42A **Van Buren** 73.76 15 eP P 14 02 10.1 -0.2
comp=Z,26nm,1.1s
T42A **Van Buren** 73.76 15 P P 14 02 11.3 +1.0
baz=195,SNR=12
U46A **Springville** 73.77 17 P P 14 02 11.6 +1.2
baz=197
JSC **Jenkinsville** 73.78 23 eP P 14 02 10.7 +0.1
comp=Z,26nm,1.0s
JSC **Jenkinsville** 73.78 23 eP P 14 02 10.7 +0.1
JSC pmax pmax
comp=Z,26nm,1.0s
V49A **McMinnville** 73.78 19 P P 14 02 11.6 +1.0
baz=199,SNR=6.5
NVAR **Mina Array Bea** 73.86 352 P P 14 02 07.0 -4.2
comp=Z,2.5nm,0.8s,baz=191,slow=7.3,SNR=10.0
CPCT **Cooper Cave** 73.87 20 eP P 14 02 12.2 +1.1
comp=Z,16nm,1.0s
BG3 **Lake Jocassee** 73.91 22 eP P 14 02 12.3 +1.0
comp=Z,26nm,1.1s
V50A **Pikevile** 73.91 20 P P 14 02 12.8 +1.5
baz=200,SNR=7.0
Q24A **Divide** 73.92 3 eP P 14 02 11.9 +0.2
comp=Z,11nm,1.0s
Q24A **Divide** 73.92 3 P P 14 02 13.1 +1.4
baz=183,SNR=5.7
T43A **Greenville** 73.98 15 P P 14 02 12.3 +0.7
baz=195,SNR=10
W53A **Cullowhee** 74.01 22 P P 14 02 13.8 +1.8
baz=201
WAKR **Walker** 74.06 351 eP P 14 02 12.9 +0.5
comp=Z,20nm,1.1s
U47A **Clarksville** 74.06 18 P P 14 02 13.1 +1.0
baz=198,SNR=6.7
RYN **Ryan** 74.08 352 eP P 14 02 13.3 +0.9
comp=Z,22nm,1.1s
PAULI **Pauline** 74.10 23 eP P 14 02 14.1 +1.7
comp=Z,32nm,1.1s
KSCO **Kaye Shedlock'** 74.11 5 eP P 14 02 13.5 +1.0
comp=Z,27nm,0.8s
KSCO **Kaye Shedlock'** 74.11 5 P P 14 02 13.9 +1.4
baz=185
CBKS **Cedar Bluff** 74.16 7 eP P 14 02 12.4 -0.3
comp=Z,33nm,1.0s
CBKS **Cedar Bluff** 74.16 7 eP P 14 02 12.4 -0.3
CBKS pmax pmax
comp=Z,33nm,1.0s
CBKS **Cedar Bluff** 74.16 7 P P 14 02 14.4 +1.6
baz=188,SNR=7.2
S41A **Jillco Farms,** 74.16 14 P P 14 02 14.0 +1.3
baz=194,SNR=6.6
V51A **Loudon** 74.25 20 eP P 14 02 13.5 +0.2
comp=Z,18nm,1.1s
V51A **Loudon** 74.25 20 P P 14 02 14.8 +1.6
baz=200
TKL **Tuckaleechee C** 74.28 21 eP P 14 02 13.9 +0.5
comp=Z,12nm,1.0s
TKL **Tuckaleechee C** 74.28 21 eP P 14 02 13.9 +0.5
TKL pmax pmax
comp=Z,12nm,1.0s
T45A **Paducah** 74.28 17 P P 14 02 14.8 +1.4
baz=197
U48A **Cassie Pea, Po** 74.32 18 P P 14 02 14.7 +1.1
baz=198
P17A **Butcher Ranch,** 74.38 358 eP P 14 02 14.5 +0.4
comp=Z,22nm,1.1s
T46A **Princeton** 74.48 17 P P 14 02 15.8 +1.2
baz=197,SNR=7.1
S43A **Fulton Ridge,** 74.49 15 P P 14 02 15.6 +1.0
baz=196,SNR=5.3
YERR **Yerington** 74.51 351 eP P 14 02 15.9 +1.0
comp=Z,32nm,1.2s
U49A **Red Boiling Sp** 74.52 19 P P 14 02 16.1 +1.3
baz=199,SNR=7.5
S42A **Caledonia** 74.53 15 P P 14 02 16.2 +1.3
baz=195,SNR=12
KMSC **Kings Mountain** 74.55 23 eP P 14 02 15.5 +0.5
comp=Z,11nm,0.8s
KMSC **Kings Mountain** 74.55 23 P P 14 02 17.0 +2.0
baz=203
V53A **Saluda** 74.58 22 P P 14 02 17.1 +1.9
baz=202,SNR=6.3
PNTR **Pine Nut** 74.66 351 eP P 14 02 15.0 -0.8
comp=Z,21nm,1.0s
U50A **Jamestown** 74.68 20 P P 14 02 17.3 +1.5
baz=200,SNR=8.4
RUBR **Rubicon Trail** 74.69 351 eP P 14 02 15.0 -1.1
comp=Z,42nm,1.2s
AFDM **Forest Hills D** 74.70 350 eP P 14 02 15.6 -0.2
comp=Z,22nm,1.2s
CCM **Cathedral Cave** 74.72 14 eP P 14 02 15.8 -0.1
comp=Z,23nm,1.1s
CCM **Cathedral Cave** 74.72 14 eP P 14 02 15.8 -0.1
CCM pmax pmax
comp=Z,23nm,1.1s
CCM **Cathedral Cave** 74.72 14 P P 14 02 17.2 +1.3
baz=195
ISCO **Idaho Springs** 74.74 2 eP P 14 02 17.1 +0.7
comp=Z,8.8nm,1.1s
ISCO **Idaho Springs** 74.74 2 eP P 14 02 17.1 +0.7
ISCO pmax pmax
comp=Z,9.0nm,1.1s
ISCO **Idaho Springs** 74.74 2 P P 14 02 17.8 +1.4
baz=182,SNR=7.9
S44A **Carbondale** 74.79 16 P P 14 02 17.7 +1.4
baz=196,SNR=7.6
SIUC **Southern Illin** 74.82 16 eP P 14 02 17.4 +0.9
comp=Z,32nm,1.0s
KSU1 **Kansas State U** 74.83 10 eP P 14 02 17.4 +0.9
comp=Z,16nm,0.8s
KSU1 **Kansas State U** 74.83 10 P P 14 02 18.0 +1.5
baz=190,SNR=5.5
GDXM **Geysers** 74.84 349 eP P 14 02 19.6 +2.9
comp=Z,594nm,0.5s
VCNR **Virginia City** 74.87 351 eP P 14 02 17.7 +0.7
comp=Z,15nm,1.1s
U51A **La Follette** 74.88 20 P P 14 02 18.5 +1.5
baz=200,SNR=5.6
T48A **Bowling Green** 74.92 18 P P 14 02 18.3 +1.1
baz=199,SNR=12
R41A **Rosebud** 74.92 14 P P 14 02 18.5 +1.4
baz=194
S45A **Carrier Mills** 74.93 16 P P 14 02 18.5 +1.4
baz=197
MPU **Maple Canyon** 74.95 358 eP P 14 02 18.1 +0.6
comp=Z,10nm,1.1s
O20A **White River Ci** 75.02 0 eP P 14 02 18.6 +0.7
comp=Z,19nm,1.1s
O20A **White River Ci** 75.02 0 P P 14 02 19.5 +1.6
baz=180,SNR=8.2
R42A **Luebbering** 75.02 14 P P 14 02 19.3 +1.6
baz=195,SNR=11
HOPS **Hopland Field** 75.07 348 eP P 14 02 18.9 +0.9
comp=Z,28nm,0.8s
S46A **Don Dixon Farm** 75.14 17 P P 14 02 19.6 +1.3
baz=198
T49A **Edmonton** 75.14 19 P P 14 02 18.8 +0.4
baz=199
TZTN **Tazewell** 75.17 21 eP P 14 02 19.1 +0.5
comp=Z,16nm,1.1s
TZTN **Tazewell** 75.17 21 P P 14 02 20.1 +1.5
baz=201
DUG **Dugway, Tooele** 75.17 357 eP P 14 02 18.7 0.0
comp=Z,11nm,1.0s
DUG **Dugway, Tooele** 75.17 357 P P 14 02 20.0 +1.3
baz=176,SNR=9.0
R43A **Red Bud** 75.20 15 P P 14 02 19.9 +1.2
baz=196
PAHR **Pah Rah Range** 75.24 351 eP P 14 02 18.9 -0.2
comp=Z,25nm,1.2s
T50A **Nancy** 75.25 20 P P 14 02 20.0 +0.9
baz=200
S47A **Hartford** 75.26 18 P P 14 02 20.1 +1.0
baz=198,SNR=11
U53A **Fall Branch** 75.29 22 P P 14 02 20.5 +1.1
baz=202
ORV **Oroville** 75.37 350 eP P 14 02 18.6 -1.1
comp=Z,19nm,1.4s
ORV **Oroville** 75.37 350 eP P 14 02 18.6 -1.1
ORV pmax pmax
comp=Z,19nm,1.4s
T51A **Gray** 75.45 20 P P 14 02 21.6 +1.5
baz=201,SNR=5.4
BEKR **Beckworth** 75.52 351 eP P 14 02 21.2 +0.4
comp=Z,28nm,1.3s
S48A **Wiedeman Farm,** 75.53 18 P P 14 02 21.5 +0.9
baz=199,SNR=7.3
JLU **Jordanelle** 75.53 358 eP P 14 02 21.0 +0.1
comp=Z,27nm,1.2s
R45A **Skylar, Fairfi** 75.58 16 P P 14 02 22.4 +1.5
baz=197,SNR=5.3
Q41A **Truxton** 75.59 14 P P 14 02 22.2 +1.3
baz=194,SNR=11
CTU **Camp Tracy** 75.63 358 eP P 14 02 21.2 -0.2
comp=Z,18nm,1.2s
Q42A **Golden Eagle** 75.69 15 P P 14 02 22.9 +1.5
baz=195
R46A **Gibon Southern** 75.69 17 P P 14 02 22.8 +1.3
baz=198
N23A **Red Feather La** 75.82 2 eP P 14 02 22.7 +0.2
comp=Z,22nm,1.1s
N23A **Red Feather La** 75.82 2 P P 14 02 24.3 +1.7
baz=182,SNR=9.9
S49A **Springfield** 75.85 19 P P 14 02 22.9 +0.5
baz=199
T52A **Hallie** 75.86 21 P P 14 02 24.0 +1.4
baz=201
ELK **Elko** 75.87 355 P P 14 02 17.7 -5.1
comp=Z,0.3nm,0.4s,baz=254,slow=7.1,SNR=2.9
ELK **Elko** 75.87 355 eP P 14 02 22.6 -0.2
comp=Z,13nm,1.4s
ELK **Elko** 75.87 355 eP P 14 02 22.6 -0.2
ELK pmax pmax
comp=Z,13nm,1.4s
Q43A **New Douglas** 75.89 15 P P 14 02 24.2 +1.5
baz=196
S50A **Richmond** 75.99 20 P P 14 02 24.4 +1.1
baz=200
Q44A **Meyer Farm, Va** 76.00 16 eP P 14 02 23.0 -0.2
comp=Z,38nm,0.9s
Q44A **Meyer Farm, Va** 76.00 16 P P 14 02 24.8 +1.5
baz=196,SNR=8.4
WCI **Wyandotte Cave** 76.01 18 eP P 14 02 22.9 -0.4
comp=Z,17nm,1.0s
WCI **Wyandotte Cave** 76.01 18 eP P 14 02 22.9 -0.4
WCI pmax pmax
comp=Z,17nm,1.0s
WCI **Wyandotte Cave** 76.01 18 P P 14 02 24.7 +1.3
baz=199
R47A **Wooly Knot Far** 76.01 18 P P 14 02 24.0 +0.7
baz=198
TCUT **Toone Canyon** 76.04 358 eP P 14 02 23.7 -0.1
comp=Z,23nm,1.2s
OGNE **Ogallala** 76.08 5 eP P 14 02 24.8 +1.0
comp=Z,45nm,0.9s
OGNE **Ogallala** 76.08 5 P P 14 02 25.6 +1.8
baz=186,SNR=7.4
O03E **Paynes Creek** 76.14 350 P P 14 02 25.2 +1.1
baz=169
O02D **Mt. Diablo Mer** 76.18 349 P P 14 02 26.3 +2.0
baz=168
S51A **Beattyville** 76.18 20 eP P 14 02 25.3 +1.0
comp=Z,16nm,1.0s
S51A **Beattyville** 76.18 20 P P 14 02 25.9 +1.6
baz=201
Q45A **Warren Harvey,** 76.19 16 P P 14 02 25.8 +1.5
baz=197
PHWY **Pilot Hill** 76.24 3 eP P 14 02 25.5 +0.5
comp=Z,10nm,1.0s
R48A **Northridge Ran** 76.28 18 P P 14 02 26.0 +1.1
baz=199
P41A **Barry, Barry** 76.32 14 P P 14 02 26.4 +1.4
baz=195,SNR=8.1
R49A **Shelbyville** 76.36 19 P P 14 02 26.4 +1.1
baz=200
S52A **Salyersville** 76.36 21 P P 14 02 27.0 +1.6
baz=201
P42A **Winchester** 76.37 14 eP P 14 02 24.8 -0.6
comp=Z,17nm,0.8s
P42A **Winchester** 76.37 14 P P 14 02 26.7 +1.3
baz=195,SNR=6.1
WDC **Whiskeytown Da** 76.53 349 eP P 14 02 26.3 0.0
comp=Z,26nm,1.1s
WDC **Whiskeytown Da** 76.53 349 eP P 14 02 26.3 0.0
WDC pmax pmax
comp=Z,26nm,1.1s
HWUT **Hardware Ranch** 76.53 358 eP P 14 02 26.0 -0.5
comp=Z,2.6nm,0.9s
R50A **Paris** 76.57 19 P P 14 02 27.3 +0.7
baz=200
RWWY **Rawlins** 76.58 1 eP P 14 02 26.2 -0.6
comp=Z,14nm,0.9s
P43A **Skaggs, Pawnee** 76.60 15 P P 14 02 27.7 +1.1
baz=196
P44A **Sand Creek, Wi** 76.63 16 P P 14 02 28.5 +1.6
baz=197,SNR=6.6
Q47A **Bedord North L** 76.64 18 P P 14 02 28.0 +1.1
baz=198
BLA **Blacksburg** 76.74 23 P P 14 02 29.2 +1.7
baz=203
HVU **Hansel Valley** 76.75 357 eP P 14 02 27.6 -0.1
comp=Z,15nm,1.4s
HVU **Hansel Valley** 76.75 357 eP P 14 02 27.6 -0.1
HVU pmax pmax
comp=Z,15nm,1.4s
O41A **Passleys Farm,** 76.78 14 P P 14 02 28.9 +1.3
baz=195,SNR=7.0
R51A **Hillsboro** 76.80 20 P P 14 02 29.5 +1.7
baz=201,SNR=6.2
Q48A **North Vernon** 76.81 18 P P 14 02 29.2 +1.3
baz=199
BLO **Bloomington** 76.84 18 eP P 14 02 28.4 +0.3
comp=Z,25nm,1.3s
BLO **Bloomington** 76.84 18 eP P 14 02 28.4 +0.3
BLO pmax pmax
comp=Z,25nm,1.3s
P45A **Graceland, Par** 76.89 16 eP P 14 02 27.6 -0.6
comp=Z,16nm,0.8s
P45A **Graceland, Par** 76.89 16 P P 14 02 29.8 +1.5
baz=197
BGNE **Belgrade** 76.90 8 eP P 14 02 27.0 -1.4
comp=Z,36nm,1.1s
BGNE **Belgrade** 76.90 8 P P 14 02 29.7 +1.3
baz=189
N02D **Trinity Center** 76.94 349 P P 14 02 30.3 +1.6
baz=168
KHMM **Horse Mountain** 77.01 348 eP P 14 02 30.3 +1.1
comp=Z,52nm,1.1s
P46A **Rosedale** 77.10 17 P P 14 02 31.1 +1.6
baz=198
Q49A **Aurora** 77.10 19 P P 14 02 30.6 +1.1
baz=200
R52A **Catlettsburg** 77.10 21 P P 14 02 31.3 +1.8
baz=201
P47A **Martinsville** 77.20 18 P P 14 02 31.3 +1.2
baz=198
O43A **Sugar Creek Fa** 77.26 15 P P 14 02 32.0 +1.7

baz=196
R53A **Hurricane** 77.30 21 P P 14 02 31.9 +1.2
baz=202
O44A **Mansfield** 77.32 16 P P 14 02 32.3 +1.7
baz=197
N41A **Harden Midland** 77.35 14 P P 14 02 31.9 +1.0
baz=195
M02C **Callahan** 77.38 349 P P 14 02 32.6 +1.5
baz=168,SNR=7.1
N40A **Mertquake, Sal** 77.39 13 P P 14 02 32.3 +1.3
baz=194
P48A **Milroy** 77.39 18 P P 14 02 31.3 +0.2
baz=199
R54A **Victor** 77.45 22 P P 14 02 33.7 +2.2
baz=203
MOD **Modoc Plateau** 77.52 351 eP P 14 02 31.8 -0.2
comp=Z,33nm,1.1s
HDIL **Hopedale** 77.53 15 eP P 14 02 31.4 -0.4
comp=Z,28nm,1.0s
HDIL **Hopedale** 77.53 15 P P 14 02 33.2 +1.3
baz=196
Q51A **Peebles** 77.54 20 eP P 14 02 30.8 -1.2
comp=Z,22nm,1.0s
Q51A **Peebles** 77.54 20 P P 14 02 33.7 +1.7
baz=201
K22A **Casper** 77.56 2 eP P 14 02 31.9 -0.3
comp=Z,37nm,1.1s
K22A **Casper** 77.56 2 P P 14 02 33.6 +1.4
baz=182,SNR=11
O45A **Potomac** 77.58 16 P P 14 02 33.3 +1.2
baz=197
M04C **Macdoel** 77.61 350 P P 14 02 33.9 +1.5
baz=169,SNR=6.9
N42A **Yates City** 77.63 14 P P 14 02 33.6 +1.2
baz=195,SNR=7.6
P49A **Miami Univ. Ec** 77.64 19 P P 14 02 33.1 +0.5
baz=200
BW06 **Boulder Array** 77.65 359 eP P 14 02 32.8 0.0
comp=Z,32nm,1.1s
BW06 **Boulder Array** 77.65 359 P P 14 02 33.4 +0.6
baz=179,SNR=15
PDAR **Pinedale Array** 77.65 359 P P 14 02 27.3 -5.5
comp=Z,1.5nm,0.7s,baz=149,slow=6.0,SNR=16
YBH **Yreka Blue Hor** 77.69 349 P P 14 02 27.5 -5.4
comp=Z,1.6nm,0.8s,baz=270,slow=13,SNR=2.5
YBH **Yreka Blue Hor** 77.69 349 eP P 14 02 33.1 +0.2
YBH **Yreka Blue Hor** 77.69 349 eP P 14 02 33.1 +0.2
Q52A **Bidwell** 77.79 21 P P 14 02 34.4 +1.0
baz=202
SFIN **Lafayette** 77.85 17 P P 14 02 34.6 +0.9
baz=198
WVOR **Wild Horse Val** 77.85 352 eP P 14 02 34.4 +0.6
comp=Z,31nm,1.1s
WVOR **Wild Horse Val** 77.85 352 eP P 14 02 34.4 +0.6
WVOR pmax pmax
comp=Z,31nm,1.1s
M39A **Webster** 77.85 13 P P 14 02 34.6 +1.0
baz=194,SNR=7.0
M40A **Post Highland** 77.90 13 P P 14 02 35.1 +1.2
baz=194
N43A **Stutzman Famil** 77.92 15 P P 14 02 35.5 +1.4
baz=196
O47A **Sheridan** 77.94 17 P P 14 02 35.4 +1.2
baz=198
P50A **Jamestown** 77.96 19 P P 14 02 35.8 +1.5
baz=200
P51A **Williamsport** 78.05 20 eP P 14 02 35.5 +0.7
comp=Z,10nm,0.8s
P51A **Williamsport** 78.05 20 P P 14 02 36.5 +1.7
baz=201
M41A **Milan** 78.06 14 P P 14 02 35.7 +0.9
baz=195
SCIA **State Center** 78.09 12 P P 14 02 36.5 +1.5
baz=193
L04D **Klamath Falls** 78.10 350 P P 14 02 36.3 +1.1
baz=169,SNR=6.3
L02E **Cave Junction** 78.24 349 P P 14 02 37.5 +1.7
baz=168
R58B **Mineral** 78.25 24 P P 14 02 37.8 +1.8
baz=205
REDW **Red Top Meadow** 78.27 358 eP P 14 02 36.0 -0.3
comp=Z,22nm,1.2s
M42A **Sheffield** 78.29 14 P P 14 02 37.4 +1.4
baz=196
O49A **Covington** 78.36 19 P P 14 02 37.9 +1.4
baz=200
SNOW **Snow King Moun** 78.37 358 eP P 14 02 37.1 +0.3
comp=Z,19nm,1.1s
K04D **Chiloquin, OR** 78.42 350 P P 14 02 38.6 +1.7
baz=169
N46A **Monticello** 78.42 17 P P 14 02 38.3 +1.4
baz=198,SNR=5.2
M43A **Waltham Townsh** 78.44 15 P P 14 02 38.0 +1.1
baz=196
P52A **Corning** 78.45 21 P P 14 02 38.9 +1.9
baz=202,SNR=7.5
Q55A **Buckhannon** 78.48 22 P P 14 02 39.5 +2.3
baz=203
L39A **Vinton** 78.51 13 P P 14 02 38.7 +1.4
baz=194,SNR=5.4
O50A **Cable** 78.51 19 P P 14 02 38.6 +1.3
baz=201
LOHW **Long Hollow** 78.51 359 eP P 14 02 37.5 -0.1
FXWY **Fox Creek** 78.55 358 eP P 14 02 38.0 +0.3
comp=Z,20nm,1.1s
HUMO **Hull Mountain** 78.58 349 eP P 14 02 38.6 +0.9
comp=Z,14nm,0.9s
L40A **Anamosa** 78.59 13 eP P 14 02 36.7 -1.0
comp=Z,27nm,1.0s
L40A **Anamosa** 78.59 13 P P 14 02 39.2 +1.5
baz=194,SNR=5.8
M44A **Midewin, Midew** 78.59 16 P P 14 02 39.4 +1.7
baz=197
HLID **Hailey** 78.62 356 eP P 14 02 39.0 +0.9
comp=Z,47nm,1.1s
HLID **Hailey** 78.62 356 P P 14 02 39.8 +1.8
baz=175,SNR=34
N47A **Urbana** 78.66 18 P P 14 02 38.5 +0.3
baz=199
J08A **Circle Bar Ran** 78.75 353 eP P 14 02 39.4 +0.7
comp=Z,39nm,1.1s
ACSO **Alum Creek Sta** 78.77 20 P P 14 02 40.6 +1.9
baz=201
K02D **Willamette Mer** 78.78 349 P P 14 02 40.9 +2.1
baz=168
O51A **Pataskala** 78.79 20 P P 14 02 40.9 +2.0
baz=201,SNR=5.5
N48A **Decatur** 78.81 18 P P 14 02 40.8 +1.8
baz=199
L42A **Oliver, Polo** 78.84 14 eP P 14 02 41.0 +1.9
comp=Z,29nm,1.1s
L42A **Oliver, Polo** 78.84 14 P P 14 02 40.4 +1.4
baz=196
O52A **Adamsville** 78.98 21 eP P 14 02 40.9 +0.9
comp=Z,39nm,1.0s
O52A **Adamsville** 78.98 21 P P 14 02 42.3 +2.3
baz=202,SNR=6.6
J05D **Fort Rock, OR** 79.00 351 P P 14 02 42.0 +1.8
baz=170,SNR=16
P55A **Reedsville** 79.03 22 P P 14 02 42.1 +1.8
baz=204
J04D **Umpqua Nationa** 79.08 350 P P 14 02 42.3 +1.7
baz=169
N49A **Columbus Grove** 79.09 19 P P 14 02 41.9 +1.4
baz=200
K39A **Oelwein** 79.09 13 P P 14 02 42.2 +1.7
baz=194
RSSD **Black Hills** 79.12 3 eP P 14 02 41.2 +0.3
comp=Z,15nm,0.9s
RSSD **Black Hills** 79.12 3 eP P 14 02 41.2 +0.3
RSSD pmax pmax
comp=Z,15nm,0.9s
RSSD **Black Hills** 79.12 3 P P 14 02 42.5 +1.6
baz=184
M47A **Cromwell** 79.13 17 P P 14 02 42.4 +1.7
baz=199
YPP **Pitchstone Pla** 79.17 358 eP P 14 02 41.5 +0.3
comp=Z,5.0nm,1.0s
L43A **Garden Prairie** 79.20 15 P P 14 02 42.3 +1.2
baz=196
N50A **Nevada** 79.22 19 P P 14 02 42.3 +1.1
baz=201
O53A **New Philadelph** 79.29 21 P P 14 02 44.0 +2.4
baz=202
H17A **Grant Village** 79.30 359 eP P 14 02 45.7 +3.8
comp=Z,18nm,1.6s
ECSD **EROS Data Cent** 79.38 9 eP P 14 02 42.7 +0.7
comp=Z,17nm,0.9s
ECSD **EROS Data Cent** 79.38 9 P P 14 02 43.3 +1.3
baz=190,SNR=10
LKWY **Lake** 79.46 359 eP P 14 02 43.9 +1.1
comp=Z,12nm,1.2s
LKWY **Lake** 79.46 359 eP P 14 02 43.9 +1.1
LKWY pmax pmax
comp=Z,12nm,1.2s
N51A **Ashland** 79.57 20 eP P 14 02 45.8 +2.6
comp=Z,24nm,0.9s
N51A **Ashland** 79.57 20 P P 14 02 45.1 +1.9
baz=202,SNR=5.5
YMR **Madison River** 79.58 358 eP P 14 02 44.0 +0.7
comp=Z,20nm,1.2s
L46A **Eue Claire** 79.59 17 P P 14 02 45.0 +1.9
baz=198
K42A **Prairie Point,** 79.65 14 P P 14 02 45.0 +1.5
baz=196
M49A **Liberty Center** 79.66 19 P P 14 02 45.0 +1.5
baz=200
I04A **Tendick Farm,** 79.66 350 P P 14 02 44.8 +1.2
baz=169
YHB **Horse Butte** 79.67 358 eP P 14 02 44.4 +0.6
comp=Z,15nm,1.2s
N52A **McGinn's Farm,** 79.67 21 P P 14 02 45.7 +2.1
baz=202
I03D **Drain, OR** 79.70 349 P P 14 02 45.1 +1.3
baz=168
J39A **Decorah** 79.74 13 P P 14 02 45.5 +1.5
baz=194,SNR=6.5
QLMT **Earthquake Lak** 79.75 358 eP P 14 02 45.0 +0.7
MCMT **McKenzie Canyo** 79.80 357 eP P 14 02 43.4 -1.2
SUSD **Miller** 79.82 7 P P 14 02 46.1 +1.7
baz=188
L47A **Sherwood** 79.82 18 P P 14 02 46.0 +1.5
baz=199,SNR=6.2
M50A **Fremont** 79.84 19 eP P 14 02 44.7 +0.2
comp=Z,29nm,1.0s
M50A **Fremont** 79.84 19 P P 14 02 46.1 +1.5
baz=201
SDMD **Soldier's Deli** 79.91 25 eP P 14 02 46.1 +1.1
comp=Z,14nm,1.2s
N53A **Lisbon** 79.91 21 P P 14 02 47.3 +2.3
baz=203,SNR=5.6
J40A **Soldiers Grove** 79.97 13 P P 14 02 47.2 +1.9
baz=
RLMT **Red Lodge** 80.00 360 P P 14 02 47.2 +1.5
baz=179,SNR=9.3
I05D **Terrebonne, OR** 80.05 351 P P 14 02 47.6 +1.9
baz=169,SNR=6.9
J41A **Loganville** 80.08 14 P P 14 02 47.4 +1.6
baz=195
O56A **Blue Knob Stat** 80.11 23 P P 14 02 47.5 +1.3
baz=204
BMO **Blue Mountains** 80.12 354 eP P 14 02 46.6 +0.5
comp=Z,19nm,1.1s
BMO **Blue Mountains** 80.12 354 eP P 14 02 46.6 +0.5
BMO pmax pmax
comp=Z,19nm,1.1s
I39A **Houston** 80.27 13 eP P 14 02 46.9 0.0
comp=Z,29nm,1.0s
I39A **Houston** 80.27 13 P P 14 02 48.4 +1.5
baz=194,SNR=6.1
L49A **Milan** 80.31 19 P P 14 02 49.1 +2.0
baz=200
N54A **Moraine State** 80.31 22 eP P 14 02 50.2 +3.0
comp=Z,30nm,1.0s
N54A **Moraine State** 80.31 22 P P 14 02 49.7 +2.6
baz=203,SNR=5.6
DLMT **Dillon** 80.32 357 eP P 14 02 47.8 +0.5
comp=Z,12nm,1.2s
K46A **Dorr** 80.35 17 P P 14 02 49.4 +2.1
baz=199
J43A **Natural Harves** 80.42 15 P P 14 02 49.8 +2.1
baz=197
M52A **Chesterland** 80.44 20 P P 14 02 50.1 +2.3
baz=202
N55A **Marion Center** 80.45 22 P P 14 02 50.3 +2.4
baz=204
I40A **Norwalk** 80.47 13 P P 14 02 49.8 +1.8
baz=195
L50A **Kingsville** 80.50 19 P P 14 02 49.9 +1.8
baz=201
H04A **Detroit Lake** 80.50 350 eP P 14 02 49.0 +0.9
comp=Z,22nm,1.1s
AAM **Ann Arbor** 80.52 19 P P 14 02 50.4 +2.3
baz=200
BOZ **Bozeman (W)** 80.52 358 P P 14 02 50.0 +1.6
baz=178,SNR=12
K47A **Vermontville** 80.52 17 P P 14 02 50.2 +1.9
baz=199
M53A **Willer and** 80.54 21 P P 14 02 50.6 +2.3
baz=203
GCMT **Greycliff** 80.68 359 eP P 14 02 48.2 -1.0
I41A **Arkdale** 80.78 14 eP P 14 02 49.6 +0.1
comp=Z,25nm,1.1s
I41A **Arkdale** 80.78 14 P P 14 02 50.9 +1.4
baz=195
I42A **Draeger Farm,** 80.80 14 P P 14 02 50.9 +1.2
baz=196
G06A **Carlson Farm,** 80.84 351 eP P 14 02 52.1 +2.2
comp=Z,36nm,1.5s
K48A **Perry** 80.87 18 P P 14 02 51.6 +1.6
baz=200
M54A **Oil Creek Stat** 80.90 22 P P 14 02 52.0 +1.6
baz=204
G05D **Wamic, OR** 80.94 351 P P 14 02 52.2 +1.8
baz=170
H38A **Maiden Rock** 80.94 12 P P 14 02 52.2 +1.7
baz=193
J47A **Sumner** 81.10 17 P P 14 02 52.8 +1.5
baz=199
H39A **Augusta** 81.11 12 P P 14 02 53.1 +1.7
baz=194
F10A **Beach Ranch, E** 81.22 354 eP P 14 02 51.6 -0.4
comp=Z,21nm,1.2s
H40A **Chili** 81.22 13 P P 14 02 53.5 +1.6
baz=195
H41A **Junction City** 81.36 14 eP P 14 02 51.9 -0.7
comp=Z,18nm,1.0s
H41A **Junction City** 81.36 14 P P 14 02 54.4 +1.8
baz=196
ERPA **Erie** 81.36 21 P P 14 02 54.1 +1.3
baz=203
SPMN **Marine on St.** 81.39 11 eP P 14 02 51.9 -0.9
comp=Z,17nm,1.1s
SPMN **Marine on St.** 81.39 11 P P 14 02 54.2 +1.4
baz=193
J48A **Bridge Port** 81.42 18 P P 14 02 55.7 +2.7
baz=201
G38A **Ridgeland** 81.49 12 P P 14 02 54.5 +1.2
baz=194
F05D **White Salmon** 81.59 351 P P 14 02 55.4 +1.6
baz=169
H43A **Windswept, Lux** 81.60 15 P P 14 02 55.6 +1.7
baz=197
LAO **LASA Array** 81.60 2 P P 14 02 55.5 +1.5
baz=188
I46A **Reed City** 81.61 17 P P 14 02 55.7 +1.7
baz=199
N59A **State Game Lan** 81.62 25 P P 14 02 55.7 +1.5
baz=206
HRY **Holter Researc** 81.64 358 eP P 14 02 54.0 -0.2
G39A **Holcombe** 81.72 12 P P 14 02 56.4 +1.8
baz=194
K52A **Tillsonburg** 81.76 20 P P 14 02 56.6 +1.7
baz=203
E09A **Wood Farm, Sta** 81.84 353 eP P 14 02 55.6 +0.5
comp=Z,15nm,1.3s
MSO **Missoula** 81.85 356 eP P 14 02 55.7 +0.4
comp=Z,24nm,1.6s
MSO **Missoula** 81.85 356 P P 14 02 56.7 +1.4
baz=176
HAWA **Hanford** 81.86 352 eP P 14 02 55.5 +0.2
comp=Z,19nm,1.0s
G40A **Rib Lake** 81.88 13 eP P 14 02 57.8 +2.3
comp=Z,20nm,1.1s
G40A **Rib Lake** 81.88 13 P P 14 02 57.4 +2.0
baz=195
E08A **Dider Farm, El** 81.91 353 eP P 14 02 55.8 +0.3
comp=Z,24nm,1.2s
I47A **Gladwin** 81.91 17 P P 14 02 57.4 +1.8
baz=200
ELFO **Elginfield** 81.97 20 P P 14 02 57.4 +1.5
baz=202
F04D **Rainier, OR** 81.99 350 P P 14 02 58.3 +2.4
baz=168
E07A **Sunnyside** 82.06 352 eP P 14 02 57.4 +1.0
comp=Z,18nm,1.2s
H46A **Fife Lake** 82.24 17 P P 14 02 59.1 +1.8
baz=199
F38A **Pierce - Schro** 82.25 12 P P 14 02 58.6 +1.3
baz=194
J52A **Paris** 82.26 20 P P 14 02 59.0 +1.6
baz=203
I48A **Sherman Twp** 82.27 18 P P 14 02 59.0 +1.6
baz=200
TYNO **Tyneside** 82.30 21 P P 14 02 59.4 +1.8
baz=203
PAL **Palisades** 82.35 26 P P 14 02 59.7 +1.8
baz=208
G43A **Wallace** 82.37 15 P P 14 02 59.5 +1.6
baz=197
F39A **Loretta** 82.38 12 P P 14 02 59.9 +1.9
baz=194
E04D **Cinebar** 82.39 350 P P 14 02 60.0 +2.0
baz=168
K55A **Perry** 82.50 22 P P 14 03 00.3 +1.5
baz=205
F40A **Park Falls** 82.52 13 P P 14 03 00.7 +1.9
baz=195
MMNY **Mt. Morris Dam** 82.56 22 eP P 14 03 02.0 +3.0
comp=Z,37nm,1.1s
I51A **Listowel** 82.62 20 P P 14 03 01.1 +1.8
baz=202
BASO **Ashfield** 82.64 19 P P 14 03 00.8 +1.4
baz=202
F42A **Maple Grove Fa** 82.75 14 P P 14 03 01.6 +1.7
baz=197
MEDO **Medina** 82.78 22 P P 14 03 01.7 +1.6
baz=204
LTY **Liberty** 82.84 352 eP P 14 03 01.1 +0.7
comp=Z,20nm,1.4s
BWLO **Walkerton** 82.88 20 P P 14 03 02.8 +2.2
baz=202
COWI **Conover** 82.88 14 eP P 14 03 03.5 +2.9
comp=Z,19nm,1.1s
E39A **Mellen** 82.89 13 P P 14 03 02.5 +1.8
baz=195
EGMT **Eagleton** 82.91 359 eP P 14 03 01.6 +0.7
comp=Z,16nm,1.1s
EGMT **Eagleton** 82.91 359 P P 14 03 03.0 +2.2
baz=179,SNR=5.9
D05A **Enumclaw** 82.93 351 eP P 14 03 00.9 +0.1
comp=Z,30nm,1.1s
F43A **Flat Rock, Esc** 83.02 15 P P 14 03 03.3 +2.0
baz=197
I53A **Kortright Cn E** 83.05 21 P P 14 03 03.2 +1.7
baz=204
J55A **Hilton** 83.07 22 P P 14 03 03.6 +2.0
baz=205
I52A **Shelburne** 83.10 20 P P 14 03 04.2 +2.4
baz=203
C09A **Chrisman Ranch** 83.13 354 eP P 14 03 02.7 +0.9
comp=Z,25nm,1.3s
MDND **Maddock** 83.13 6 eP P 14 03 01.8 -0.1
comp=Z,26nm,1.2s
MDND **Maddock** 83.13 6 P P 14 03 03.7 +1.8
baz=187
G47A **Hillman** 83.16 17 P P 14 03 04.6 +2.6
baz=200
E41A **Kenton** 83.27 14 P P 14 03 04.2 +1.6
baz=196
F44A **Big Bay de Noc** 83.32 15 P P 14 03 04.8 +2.0
baz=198
PKRO **Pickering** 83.33 21 P P 14 03 04.8 +1.8
baz=204
DRWO **Darlington Wes** 83.34 21 P P 14 03 04.7 +1.7
baz=204
DRCO **St. Marys Ceme** 83.36 21 P P 14 03 05.2 +2.2
baz=204
D03D **Eldon** 83.42 350 P P 14 03 05.5 +2.2
baz=168
E42A **Champion** 83.44 14 P P 14 03 05.4 +1.9
baz=197
NEW **Newport** 83.49 354 P P 14 02 59.3 -4.5
comp=Z,1.5nm,1.0s,baz=98,slow=14,SNR=2.7
NEW **Newport** 83.49 354 eP P 14 03 04.5 +0.8
NEW **Newport** 83.49 354 eP P 14 03 04.5 +0.8
NEW **Newport** 83.49 354 P P 14 03 05.3 +1.6
baz=173,SNR=12
WLVO **Wesleyville** 83.49 22 P P 14 03 06.3 +2.5
baz=204
E43A **Lone Tree Farm** 83.58 15 P P 14 03 05.8 +1.6
baz=198
H52A **Wyevale** 83.71 20 P P 14 03 06.5 +1.6
baz=203
B08A **Colville Reser** 83.78 353 eP P 14 03 05.8 +0.5
comp=Z,16nm,1.4s
D41A **Chassel** 83.92 14 P P 14 03 07.6 +1.7
baz=196
E45A **Wooded Hills,** 83.96 16 P P 14 03 08.1 +2.0
baz=199
I55A **Frankford** 83.97 22 P P 14 03 07.9 +1.7
baz=205
B05A **Bryant** 84.00 351 P P 14 03 08.5 +2.2
baz=169
SADO **Sadowa** 84.04 21 P P 14 03 02.7 -3.9
comp=Z,16nm,0.8s,baz=72,slow=3.0,SNR=3.6
SADO **Sadowa** 84.04 21 eP P 14 03 06.9 +0.3
comp=Z,30nm,0.9s
WALA **Waterton Lakes** 84.07 357 eP P 14 03 07.6 +0.8
E46A **Sault Ste Mari** 84.17 17 P P 14 03 09.6 +2.4
baz=200
B06A **Marblemount** 84.18 351 eP P 14 03 07.8 +0.6
comp=Z,12nm,0.9s
DELO **Deloro Mine** 84.26 22 P P 14 03 09.7 +2.0
baz=205
KLBO **Killbear Provi** 84.28 20 P P 14 03 10.1 +2.3
baz=203
H55A **Tweed** 84.43 22 P P 14 03 10.7 +2.1
baz=205
E47A **Iron Bridge** 84.50 17 P P 14 03 11.1 +2.3
baz=200
G53A **Haliburton** 84.51 21 P P 14 03 10.9 +1.9
baz=204
A04D **Lummi Island** 84.53 351 P P 14 03 11.1 +2.2
baz=168
PGC **Sidney** 84.56 350 eP P 14 03 10.6 +1.5
comp=Z,36nm,1.1s
BANO **Bancroft** 84.62 21 P P 14 03 11.7 +2.1
baz=205
D46A **Sault St. Mari** 84.73 17 P P 14 03 11.8 +1.8
baz=200
H56A **Elgin** 84.75 23 P P 14 03 11.8 +1.6
baz=206
E48A **Lockeyer** 84.80 18 P P 14 03 12.7 +2.3
baz=201
F51A **Arnstein** 84.88 20 P P 14 03 12.4 +1.6
baz=203
PLVO **Plevna** 84.90 22 P P 14 03 12.8 +1.9
baz=205
F52A **Sundridge** 84.93 20 P P 14 03 12.9 +1.8
baz=204
D47A **Chapleau** 85.10 17 P P 14 03 14.0 +2.1
baz=201
E50A **Wahnapitae** 85.12 19 P P 14 03 14.0 +2.0
baz=202
LONY **Lake Ozonia** 85.31 24 eP P 14 03 13.8 +0.7
comp=Z,25nm,1.1s
LONY **Lake Ozonia** 85.31 24 P P 14 03 14.8 +1.8
baz=207
ALGO **Algonquin Park** 85.44 21 P P 14 03 15.6 +2.0
baz=205
D48A **Paudash Townsh** 85.53 18 P P 14 03 16.3 +2.2
baz=202
E51A **G1948 Merrick** 85.56 20 P P 14 03 16.4 +2.2
baz=203
E52A **Mattawa** 85.56 20 P P 14 03 15.7 +1.5
baz=204
ORIO **Orleans, Innes** 85.76 23 P P 14 03 16.7 +1.5
baz=206
F55A **Otter Lake** 85.84 22 P P 14 03 17.2 +1.6
baz=206
ULM **Lac du Bonnet** 85.89 8 P P 14 03 10.3 -5.4
comp=Z,0.6nm,0.3s,baz=315,slow=11,SNR=4.1
ULM **Lac du Bonnet** 85.89 8 eP P 14 03 16.0 +0.3
ULM **Lac du Bonnet** 85.89 8 eP P 14 03 16.0 +0.3
LBNH **Lisbon** 85.89 26 P P 14 03 16.7 +0.8
baz=209
E53A **Dumoine, Ponti** 85.94 21 P P 14 03 17.7 +1.7
baz=205
D50A **G1974 Best Tow** 86.04 19 P P 14 03 18.3 +1.7
baz=203
D51A **Lot 18 Range I** 86.10 20 P P 14 03 18.5 +1.6
baz=204

E54A	**Lac Daplat, Po**	**86.13**	**21**	P		**P**		**14 03 18.6**	**+1.5**
	baz=205								
STKA	**Stephens Creek**	**86.15**	**233**	LR		LR		14 35 21.8	
	comp=Z,155nm,18.5s,baz=205,slow=31								
D52A	**ZEK Kipawa Sen**	**86.26**	**20**	P		**P**		**14 03 18.9**	**+1.2**
	baz=204								
LLLB	**Lillooet**	**86.28**	**352**	*eP*		**P**		**14 03 18.5**	**+0.8**
	comp=Z,22nm,1.5s								
D54A	**Lac Fusel, La**	**86.93**	**21**	P		**P**		**14 03 22.1**	**+1.2**
	baz=206								
MATQ	**Matagami**	**89.01**	**20**	P		**P**		**14 03 32.1**	**+1.3**
	baz=205								
FFC	**Flin Flon**	**89.80**	**4**	*eP*		**P**		**14 03 33.6**	**-0.8**
	comp=Z,5.8nm,1.0s								
FFC	**Flin Flon**	**89.80**	**4**	*ceP*		**P**		**14 03 35.6**	**+1.2**
FFC				pmax		pmax			
	comp=Z,27nm,1.7s								
CHGQ	**Chibougamau**	**90.08**	**21**	P		**P**		**14 03 37.3**	**+1.5**
	baz=207								
PMG	**Port Moresby**	**95.97**	**254**	⇑*eP*		**P**		**14 04 02.4**	**-1.6**
PMG				pmax		pmax			
	comp=Z,63nm,1.2s								
H11S2	**WAKE ISLAND Hy**	**96.20**	**288**	T		T		15 50 24.5	
	baz=125								
H11S1	**WAKE ISLAND Hy**	**96.22**	**288**	T		T		15 50 24.7	
	baz=125								
H11S3	**WAKE ISLAND Hy**	**96.22**	**288**	T		T		15 50 26.4	
	baz=125								
ASAR	**Alice Springs**	**96.66**	**235**	LR		LR		14 41 10.9	
	comp=Z,78nm,20.3s,baz=264,slow=32								
YKA	**Yellowknife Ar**	**97.53**	**357**	P		P		14 04 03.9	-5.9
	comp=Z,0.2nm,0.8s,baz=174,slow=4.2,SNR=3.4								
YKB5	**Yellowknife Ar**	**97.53**	**357**	*eP*		Pdif		14 04 10.1	+0.4
WRA	**Warramunga Arr**	**98.88**	**238**	LR		LR		14 45 37.4	
	comp=Z,165nm,18.2s,baz=135,slow=34								
TORD	**Torodi Ar. Bea**	**114.05**	**91**	PP		**PP**		**14 10 09.6**	**-1.0**
	comp=Z,2.7nm,1.1s,baz=249,slow=6.4,SNR=5.3								
SEY	**Seymchan**	**124.69**	**327**	PKIP		**PKPdf**		**14 09 30.8**	**-4.3**
	comp=Z,1.5nm,1.0s,baz=94,slow=23,SNR=5.0								
SEY	**Seymchan**	**124.69**	**327**	⇑*iP*	KIP	**PKPdf**		**14 09 35.0**	**-0.1**
TIXI	**Tiksi**	**133.16**	**338**	*eP*	KPdf	**PKiKP**		**14 09 52.6**	**+0.4**
TIXI	**Tiksi**	**133.16**	**338**	⇓*eP*	KIKP	**PKiKP**		**14 09 52.8**	**+0.6**
GEA0	**GERESS Array S**	**136.14**	**54**	*eP*	KPdf	**PKiKP**		**14 09 58.4**	**-0.7**
ZEA	**Zeya**	**137.27**	**314**	*eP*	KIKP	**PKiKP**		**14 10 04.6**	**+3.5**
VYHS	**Vyhne**	**139.53**	**54**	*eP*	KIKP	**PKiKP**		**14 10 09.2**	**+3.3**
VYHS	**Vyhne**	**139.53**	**54**	*eP*	KP	**PKiKP**		**14 10 09.2**	**+3.3**
NJ2	**Nanjing**	**140.59**	**279**	*eP*	KIKP	**PKiKP**		**14 10 07.5**	**-1.0**
UZH	**Uzhgorod**	**141.82**	**54**	*cP*	HKP	PKPpre		14 10 01.4	
WHN	**Wuhan**	**143.76**	**275**	PKP		**PKiKP**		**14 10 14.5**	**-0.6**
BUR04	**Bucovina Ar. S**	**143.82**	**56**	*eP*	KPdf	**PKPdf**		**14 10 12.4**	**+1.0**
BOD	**Bodaibo**	**143.83**	**322**	*eP*	KHKP	PKPpre		14 10 09.0	
BOD				pmax		pmax			
	comp=Z,26nm,1.5s								
AK11	**Malin Array Si**	**146.04**	**50**	*eP*	KPdf	**PKPab**		**14 10 16.9**	**+0.5**
AKASG	**Malin Array Be**	**146.07**	**50**	PKPbc		**PKPdf**		**14 10 11.2**	**-3.8**
	comp=Z,1.4nm,0.8s,baz=274,slow=3.6,SNR=6.8								
AKBB	**Malin Array Si**	**146.07**	**50**	*eP*	KPdf	**PKPab**		**14 10 17.6**	**+1.1**
AKBB	**Malin Array Si**	**146.07**	**50**	*eP*	KIKP	**PKPab**		**14 10 17.6**	**+1.1**
KIS	**Kishinev**	**146.31**	**56**	*eP*	KP	**PKiKP**		**14 10 20.0**	**+0.2**
	comp=Z,110nm,1.0s								
KIS	**Kishinev**	**146.31**	**56**	*eP*	KIKP	**PKiKP**		**14 10 20.0**	**+0.2**
KIS				pmax		pmax			
	comp=Z,110nm,1.0s								
KLMR	**Klimovskoe**	**147.31**	**29**	*eP*	KP2	**PKPbc**		**14 10 19.5**	**+0.3**
KLMR				pmax		pmax			
	comp=Z,60nm,1.5s								
KLMR	**Klimovskoe**	**147.31**	**29**	*eP*	KPdf	**PKPbc**		**14 10 19.5**	**+0.3**
KLMR				AMP				14 10 25.8	
	comp=Z,60nm,1.4s								
ENH	**Enshi**	**147.65**	**272**	*eP*	KPdf	**PKPdf**		**14 10 18.9**	**+0.5**
ENH				*eP*	KPbc	**PKiKP**		**14 10 22.6**	**-0.6**
HHC	**Hu-ho-hao-te**	**148.02**	**292**	*eP*	KPbc	**PKPbc**		**14 10 20.5**	**-1.4**
OBN	**Obninsk**	**148.95**	**39**	*ce*	PKHKP	PKPpre		14 10 19.7	
OBN				*i*				14 10 26.3	
OBN								14 17 19.0	
OBN					PPS	PPS		14 26 36.0	
OBN					SS	SS		14 32 58.0	-7.7
OBN					pmax	pmax			
	comp=Z,13nm,0.7s								
OBN					pmax	pmax			
	comp=Z,31nm,0.8s								
PRGR	**Permogore**	**148.99**	**24**	*eP*	KIKP	**PKPbc**		**14 10 22.0**	**-1.6**
PRGR				pmax		pmax			
	comp=Z,18nm,1.0s								
XAN	**Xi'an**	**149.15**	**279**	PKPbc		**PKiKP**		**14 10 26.3**	**+0.1**
XAN				SKKS				14 20 50.0	
XAN				AMB		AMB			
	comp=Z,88nm,6.9s								
XAN	**Xi'an**	**149.15**	**279**	*eP*	KPbc	**PKiKP**		**14 10 25.9**	**-0.3**
MOS	**Moscow**	**149.21**	**38**	*eP*	KP2	**PKiKP**		**14 10 26.5**	**+1.0**
BR231	**Keskin MP Arra**	**149.27**	**70**	*eP*	KPdf	**PKPdf**		**14 10 21.7**	**+0.8**
ANTO	**Ankara**	**149.29**	**70**	*eP*		**PKPdf**		**14 10 20.4**	**-0.5**
BRTR	**Keskin Array B**	**149.93**	**70**	PKPbc		**PKPdf**		**14 10 23.5**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=248,slow=2.3,SNR=5.6								
CM01	**Chiang Mai Arr**	**150.31**	**243**	*eP*	KPdf	**PKPdf**		**14 10 24.6**	**+1.6**
CM31	**Chiang Mai Arr**	**150.35**	**243**	*eP*	KPdf	**PKPdf**		**14 10 24.3**	**+1.3**
CMAR	**Chiang Mai Arr**	**150.35**	**243**	PKPbc		**PKPdf**		**14 10 25.6**	**+2.5**
	comp=Z,14nm,1.2s,baz=177,slow=1.5,SNR=32								
CHTO	**Chiang Mai**	**150.57**	**243**	*eP*	KPdf	**PKPdf**		**14 10 25.3**	**+1.9**
ULN	**Ulaanbaatar**	**150.70**	**306**	*eP*	KPdf	**PKPdf**		**14 10 23.5**	**+0.6**
ULN				*eP*	KPbc	**PKiKP**		**14 10 29.6**	**+0.5**
ULN	**Ulaanbaatar**	**150.70**	**306**	*ce*	PKIKP	**PKPdf**		**14 10 24.2**	**+1.3**
ULN				pmax		pmax			
	comp=Z,11nm,2.5s								
PALK	**Pallekele**	**150.84**	**199**	PKPbc		**PKPbc**		**14 10 27.9**	**-1.7**
	comp=Z,7.1nm,0.9s,baz=119,slow=2.0,SNR=2.4								
IRK	**Irkutsk**	**151.09**	**316**	*eP*	KIKP	**PKPdf**		**14 10 24.6**	**+1.4**
IRK				pmax		pmax			
	comp=Z,73nm,3.5s								
SONA1	**Songino Array**	**151.13**	**307**	*eP*	KPdf	**PKPdf**		**14 10 24.2**	**+0.6**
SONA1				*eP*	KPbc	**PKiKP**		**14 10 30.5**	**+0.5**
SONM	**Songino Array**	**151.14**	**307**	PKPbc		**PKPdf**		**14 10 25.0**	**+1.4**
	comp=Z,2.5nm,0.8s,baz=126,slow=1.7,SNR=14								
LPSR	**Galich'ya Gora**	**151.27**	**43**	*eP*	KIKP	**PKiKP**		**14 10 31.5**	**+1.6**
LPSR				pmax		pmax			
	comp=Z,20nm,0.8s								
VSR	**Storozhevoye**	**151.96**	**45**	*eP*	KIKP	**PKiKP**		**14 10 33.0**	**+1.7**
VSR				pmax		pmax			
	comp=Z,20nm,1.0s								
ZAK	**Zakamensk**	**152.36**	**313**	*eP*	KIKP	**PKPdf**		**14 10 26.9**	**+1.6**
ZAK				pmax		pmax			
	comp=Z,13nm,1.2s								
CD2	**Chengdu**	**152.54**	**270**	PKPbc		**PKPdf**		**14 10 25.5**	**-0.6**
MOY	**Mondy**	**153.18**	**317**	*eP*	KIKP	**PKPdf**		**14 10 28.8**	**+2.4**
MOY				pmax		pmax			
	comp=Z,20nm,4.0s								
VRH	**Novokhopyorsk**	**153.43**	**44**	*eP*	KIKP	**PKPbc**		**14 10 33.2**	**-1.0**
VRH				pmax		pmax			
	comp=Z,6.0nm,0.4s								
LZH	**Lanzhou**	**153.62**	**281**	*eP*	KPbc	**PKPdf**		**14 10 25.3**	**-2.4**
LZH				pPKP		PKPbc		14 10 33.5	-1.9
LZH				LR		LR			
	comp=Z,98nm,17.8s								
LZH				LR		LR			
	comp=Z,190nm,18.2s								
LZH				LR		LR			
	comp=Z,200nm,20.1s								
GTA	**Gaotai**	**157.00**	**289**	*eP*	KP	**PKPdf**		**14 10 34.8**	**+2.7**
ARU	**Arti**	**157.11**	**18**	*eP*	KPdf	**PKPdf**		**14 10 31.7**	**+0.2**
NVS	**Novosibirsk**	**158.74**	**341**	*eP*	KIKP	**PKPdf**		**14 10 34.7**	**+1.2**
NVS				*e*				14 11 09.5	
ZAA0	**Zalesovo Array**	**159.05**	**337**	*eP*	KPdf	**PKPdf**		**14 10 35.3**	**+1.4**
ZALV	**Zalesovo Beam**	**159.05**	**337**	PKP		PKPpre		14 10 26.3	
	comp=Z,0.2nm,0.3s,baz=336,slow=3.2,SNR=2.7								
ZALV				PKPab		**PKPab**		**14 11 05.3**	**-5.1**
	comp=Z,1.0nm,0.8s,baz=24,slow=3.9,SNR=2.5								
KURK	**Kurchatov**	**163.66**	**343**	PKP		**PKPdf**		**14 10 34.5**	**-4.4**
KURK				*eP*	KPdf	**pPKPdf**		**14 10 40.6**	**-0.5**
KURK	**Kurchatov**	**163.66**	**343**	PKIKP		**PKPdf**		**14 10 34.5**	**-4.4**
KURK				*e*				14 10 40.6	
KURBB	**Kurchatov Arra**	**163.77**	**343**	PKP		**PKPdf**		**14 10 34.5**	**-4.5**
	comp=Z,0.5nm,0.7s,baz=12,slow=1.2,SNR=3.3								
WMQ	**Urumqi**	**164.75**	**309**	*eP*	KP	**PKPdf**		**14 10 40.3**	**+0.1**
MK31	**Makanchi Array**	**165.82**	**328**	*eP*	KPab	**PKPab**		**14 11 41.2**	**+0.8**
MK31	**Makanchi Array**	**165.82**	**328**	*eP*	KP2	**PKPab**		**14 11 41.2**	**+0.8**
MKAR	**Makanchi Array**	**165.82**	**328**	PKPab		**PKPab**		**14 11 36.0**	**-4.4**
	comp=Z,0.7nm,0.9s,baz=349,slow=4.4,SNR=3.3								
MKAR				PP		**PP**		**14 15 25.7**	**-1.7**
	comp=Z,1.5nm,1.1s,baz=50,slow=6.5,SNR=6.2								
MKAR	**Makanchi Array**	**165.82**	**328**	*eP*	KPab	**PKPab**		**14 11 41.2**	**+0.7**
MKAR				PP		**PP**		**14 15 25.7**	**-1.7**
MKAR	**Makanchi Array**	**165.82**	**328**	*eP*	KP2	**PKPab**		**14 11 41.2**	**+0.7**
MKAR								14 15 25.7	
MK01	**Makanchi Array**	**165.83**	**328**	*eP*	KPdf	**PKPdf**		**14 10 41.1**	**+0.2**
MK01				*eP*	KPab	**PKPab**		**14 11 41.1**	**+0.6**
MAKZ	**Makanchi**	**165.94**	**328**	*eP*	KPab	**PKPab**		**14 11 42.3**	**+1.3**
MAKZ	**Makanchi**	**165.94**	**328**	*eP*	KP2	**PKPab**		**14 11 42.3**	**+1.3**
GEYT	**Alibeck**	**169.06**	**72**	PKP		**PKPdf**		**14 10 39.8**	**-3.8**
	comp=Z,0.8nm,0.6s,baz=256,slow=5.8,SNR=2.3								
NRN	**Naryn**	**172.81**	**331**	*eP*	KPab	**PKPab**		**14 12 12.2**	**+0.3**
NRN	**Naryn**	**172.81**	**331**	*eP*	KP2	**PKPab**		**14 12 12.2**	**+0.3**
KSH	**Kashi**	**174.35**	**320**	PKP		**PKPdf**		**14 10 49.5**	**+3.3**
KSH				PKS		**PKSdf**		**14 14 17.8**	**-0.6**
KSH				PP		PP		14 16 19.0	+8.3
KSH				SKS		**SKSdf**		**14 17 51.0**	**+1.6**
KSH				LR		LR			
	comp=Z,120nm,8.5s								
KSH				LR		LR			
	comp=Z,100nm,6.6s								
KSH				LR		LR			
	comp=Z,580nm,11.6s								
GAR	**Garm**	**176.18**	**12**	*eP*	KPab	**PKPab**		**14 12 28.0**	**+1.4**
GAR	**Garm**	**176.18**	**12**	*eP*	KP2	**PKPab**		**14 12 28.0**	**+1.4**

NNC 27 13:53:36.5±4.7, 38.56N×72.33E, h0km, mb3.9, mpv3.5, 6C-1D, Error ellipse: s-maj=35.8km s-min=26.7km az=167.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.71**	**32**	⇑		Pn	Pn	13 54 07.6	-0.2
	13nm,0.3s								
SFK				⇓		Sn	Sg	13 54 32.4	+0.9
	27nm,0.3s								
MNAS	**Manas**	**3.93**	**2**	⇑		Pn	Pn	13 54 38.8	+0.6
MNAS	3.8nm,0.4s								
				⇑		Sn	Sn	13 55 26.2	+1.1
	13nm,0.6s								
AAK	**Ala-Archa**	**4.40**	**21**	⇑		Pn	Pn	13 54 42.4	-2.2
	2.4nm,0.5s								
AAK						Sn	Sn	13 55 34.0	-2.6
	3.7nm,0.5s								
KK31	**Karatay Array**	**4.75**	**344**	⇑		Pn	Pn	13 54 51.1	+1.8
	12nm,0.5s,baz=147,slow=11,SNR=161								
KK31				⇑		Sn	Sn	13 55 46.5	+1.4
	5.0nm,0.4s,baz=157,slow=23,SNR=19								

IDC 27 14:03:58.6±1.7, 6.69N×124.05E, h585km±20km, mb2.8/5, mb1 3.0/5, mb1mx2.6/49, mbtmp3.9/5, Error ellipse: s-maj=38.9km s-min=10.0km az=71.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.34**	**159**	P		P		14 09 07.1	+0.2
	0.8nm,0.5s,baz=341,slow=9.2,SNR=16								
WRA				PcP		PcP		14 12 00.8	+0.4
	0.3nm,0.5s,baz=333,slow=2.5,SNR=3.8								
WRA				S		S		14 13 12.0	-1.6
	0.3nm,0.6s,baz=329,slow=16,SNR=6.2								
WRA				ScP		ScP		14 14 47.4	+0.6
	0.8nm,0.6s,baz=341,slow=3.2,SNR=9.0								
ASAR	**Alice Springs**	**31.67**	**163**	P		P		14 09 36.5	+0.9
	1.9nm,0.3s,baz=338,slow=7.7,SNR=136								
ASAR				PcP		PcP		14 12 09.6	+0.4
	0.2nm,0.5s,baz=340,slow=2.8,SNR=4.9								
ASAR				S		S		14 14 04.2	-0.6
	0.9nm,0.8s,baz=348,slow=21,SNR=7.3								
ASAR				ScP		ScP		14 14 57.8	0.0
	0.3nm,0.5s,baz=338,slow=3.4,SNR=8.0								
MJAR	**Matsushiro Arr**	**32.41**	**22**	P		P		14 09 41.3	-0.3
	0.9nm,0.8s,baz=206,slow=10,SNR=2.9								
MKAR	**Makanchi Array**	**53.62**	**325**	P		P		14 12 25.8	-0.4
	0.4nm,0.3s,baz=118,slow=7.3,SNR=11								
KURBB	**Kurchatov Arra**	**57.83**	**328**	P		P		14 12 54.4	-0.7
	0.4nm,0.4s,baz=132,slow=6.7,SNR=4.2								

*NEIC **27** 14:24:08.0±0.3, 4.88N×95.69E, h10km, mb4.6/11, Error ellipse: s-maj=9.2km s-min=4.9km az=46.0*
*ISCJB **27** 14:24:10.5±0.2, 4.98N±0.03×95.78E±0.03, h35km, mb4.3/43, MS4.0/12, Error ellipse: s-maj=5.6km s-min=3.4km az=140.1*
*DJA **27** 14:24:10.3±0.6, 5.N±4°×9.6E±°, h22km±10km, M4.6/5, mb4.6/1, MLv4.7/5*
*IDC **27** 14:24:14.0±2.4, 5.01N×95.76E, h53km±22km, mb4.0/19, mb1 4.1/22, mb1mx4.0/40, mbtmp4.2/22, ML3.8/2, MS3.8/13, Ms1 3.8/13, ms1mx3.6/43, Error ellipse: s-maj=26.9km s-min=10.1km az=49.0*
*KLM **27** 14:24:17.7, 4.78N×96.47E, h9km, mb4.5*

ISC 27 14:24:12.4±0.4, 5.03N±0.04×95.73E±0.05, h35km, n119, σt1.976/113, mb4.4/46, MS4.0/12, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**0.63**	**317**	P		**Pn**		**14 24 23.2**	**-1.7**
LHMI	**Lhok Sumawe**	**1.23**	**81**	*ePn*		**Pn**		**14 24 30.1**	**-3.0**
LHMI	**Lhok Sumawe**	**1.23**	**81**	P		**Pn**		**14 24 30.2**	**-2.9**
LHMI				S		**Sn**		**14 24 46.3**	**-2.2**
TPTI		**2.28**	**140**	P		**Pn**		**14 24 47.1**	**-0.4**
TPTI				S		**Sn**		**14 25 14.4**	**0.0**
KCSI	**Kotacane, Aceh**	**2.53**	**126**	P		**Pn**		**14 24 50.6**	**-0.4**
SNSI	**Sinabang, Aceh**	**2.67**	**167**	P		**Pn**		**14 24 51.6**	**-1.3**
TSI	**Tuntungan**	**3.21**	**118**	P		Pn		14 25 06.7	+6.4
PKDT	**Phuket**	**3.85**	**42**	P		**Pn**		**14 25 07.9**	**-1.2**
PSI	**Prapat**	**3.88**	**125**	P		**Pn**		**14 25 10.6**	**+0.9**
	8.6nm,0.3s,baz=359,slow=5.8,SNR=57								
PSI				S		**Sn**		**14 25 57.0**	**+2.8**
	11nm,0.3s,baz=0.0,slow=3.0,SNR=5.2								
PSI				LR		LR		14 26 26.7	
	comp=Z,508nm,20.3s,baz=270,slow=34								
PSI	**Prapat**	**3.88**	**125**	*ePn*		**Pn**		**14 25 09.8**	**+0.1**
PSI				S		**Sn**		**14 25 57.0**	**+2.8**
GSI	**Gunungsitoli**	**4.13**	**153**	*ePn*		**Pn**		**14 25 11.8**	**-1.2**
GSI	**Gunungsitoli**	**4.13**	**153**	P		**Pn**		**14 25 11.9**	**-1.2**
GSI				S		**Sn**		**14 26 01.0**	**+0.8**
TRTT	**Trang**	**4.83**	**54**	P		**Pn**		**14 25 21.0**	**-1.6**
KULM	**Kulim**	**4.91**	**87**	*ePn*		**Pn**		**14 25 21.1**	**-2.6**
KULM	**Kulim**	**4.91**	**87**	P		**Pn**		**14 25 21.4**	**-2.3**
IPM	**Ipoh**	**5.31**	**96**	*ePn*		**Pn**		**14 25 26.7**	**-2.6**
SKLT	**Songkhla**	**5.31**	**66**	P		Pn		14 25 42.3	+13
BKNI	**Bangkinang**	**7.07**	**131**	*ePn*		**Pn**		**14 25 52.4**	**-1.1**
PBA	**Port Blair**	**7.22**	**336**	*ePn*		Pn		14 25 56.9	+1.5
KTGM	**Kuala Trenggan**	**7.38**	**87**	P		**Pn**		**14 25 56.4**	**-1.4**
KGM	**Kluang**	**8.14**	**111**	P		**Pn**		**14 26 05.7**	**-2.5**
MYKOM	**Kota Tinggi**	**8.72**	**111**	*ePn*		**Pn**		**14 26 13.1**	**-3.0**
SRAK	**Srakaew**	**10.88**	**34**	P		Pn		14 26 50.9	+5.2
	83nm,0.6s,2μm								
UTHA	**Uthaitani**	**11.08**	**19**	P		Pn		14 26 52.7	+4.2
	2.9nm,1.0s								
UMPA	**Umpang Tak**	**11.53**	**15**	P		**Pn**		**14 26 56.2**	**+1.6**
	7.3nm,1.0s								
PBKT	**Sadao Pong**	**12.57**	**24**	*ePn*		**Pn**		**14 27 10.1**	**+1.3**
PBKT	**Sadao Pong**	**12.57**	**24**	P		**Pn**		**14 27 10.7**	**+1.9**
	16nm,1.1s								
SUKH	**Sukhothai**	**12.95**	**17**	P		P		14 27 33.1	+8.9
UTTA	**Uttaradit**	**13.49**	**20**	P		P		14 27 34.1	+4.0
CM01	**Chiang Mai Arr**	**13.68**	**13**	*ePn*		**Pn**		**14 27 26.2**	**+2.2**
CM31	**Chiang Mai Arr**	**13.71**	**13**	*ePn*		**Pn**		**14 27 26.3**	**+1.8**
CMAR	**Chiang Mai Arr**	**13.71**	**13**	P		**Pn**		**14 27 26.4**	**+1.9**
	baz=199,slow=14,SNR=13								
CMAR				Lg		Lg		14 31 24.9	
	0.1nm,0.3s,baz=200,slow=33,SNR=5.1								
CMAR				LR		LR		14 33 17.5	
	comp=Z,252nm,21.1s,baz=212,slow=40								
CHTO	**Chiang Mai**	**14.06**	**13**	*ePn*		**Pn**		**14 27 30.6**	**+1.5**
CHTO	**Chiang Mai**	**14.06**	**13**	P		**P**		**14 27 39.5**	**+3.0**
CMMT	**Chiang Mai**	**14.06**	**13**	P		**P**		**14 27 39.4**	**+2.9**
NONG	**Nongkai**	**14.85**	**29**	P		P		14 27 56.6	+11
KSM	**Kuchinang**	**14.98**	**103**	*ePn*		**Pn**		**14 27 40.1**	**-1.5**
PALK	**Pallekele**	**15.11**	**279**	P		**P**		**14 27 46.6**	**-1.6**
	0.4nm,0.3s,baz=114,slow=13,SNR=3.0								
PALK				S		**Sn**		**14 30 23.6**	**-6.1**
	0.6nm,0.3s,baz=116,slow=12,SNR=3.1								
PALK				LR		LR		14 33 17.7	
	comp=Z,245nm,19.7s,baz=116,slow=36								
SBUM	**Sibu**	**16.65**	**98**	*eP*		**Pn**		**14 28 02.9**	**-0.4**
	17nm,1.9s								
LEM	**Lembang**	**16.72**	**135**	LR		LR		14 35 24.3	
	comp=Z,525nm,19.4s,baz=256,slow=40								
BRDH	**Bariadhala**	**17.98**	**348**	LR		LR		14 37 18.8	
	comp=Z,414nm,18.1s,baz=142,slow=44								
QIZ	**Qiongzhong**	**19.57**	**44**	P		**Pn**		**14 28 37.8**	**-1.2**
QIZ				S		**Sn**		**14 32 17.8**	**-0.1**
QIZ				LR		LR			
	comp=N,490nm,19.0s								
QIZ				LR		LR			
	comp=E,520nm,15.3s								
SHL	**Shillong**	**20.75**	**350**	*eP*		Pn		14 28 51.5	-1.5
	comp=E,23nm,0.6s								
SHL	**Shillong**	**20.75**	**350**	*eP*		Pn		14 28 54.0	+1.0
HYB	**Hyderabad**	**20.84**	**308**	*iP*		Pn		14 28 54.0	+0.1
KMI	**Kunming**	**21.08**	**18**	P		**P**		**14 28 57.8**	**+3.7**
KMI				pP		sP		14 29 06.5	-1.4
KMI				pmax		pmax			
	comp=Z,18nm,0.5s								
KMI				LR		LR			
	comp=N,270nm,11.6s								
KMI				LR		LR			
	comp=E,280nm,10.2s								
KMI				LR		LR			
	comp=Z,280nm,12.3s								
GYA	**Guiyang**	**23.73**	**25**	P		**P**		**14 29 23.0**	**+1.4**
GYA				pmax		pmax			
	comp=Z,10.0nm,0.9s								
JIRN	**Jiri**	**24.27**	**339**	*eP*		P		14 29 34.0	+7.1
PKI	**Pulchoki**	**24.48**	**337**	*eP*		**P**		**14 29 34.7**	**+6.0**
LSA	**Lhasa**	**24.92**	**351**	*eP*		**P**		**14 29 33.2**	**+0.3**
	comp=Z,6.4nm,0.9s								
KOLN	**Koldanda**	**25.39**	**334**	*eP*		**P**		**14 29 38.2**	**+1.3**
	comp=Z,8.0nm,0.8s								
DANN	**Dangsing**	**25.83**	**335**	*eP*		**P**		**14 29 40.9**	**0.0**
	comp=Z,7.6nm,0.6s								
PYUN	**Piuthan**	**25.95**	**334**	*eP*		**P**		**14 29 41.0**	**-0.9**
	comp=Z,7.9nm,0.7s								
H08S2	**Diego Garcia H**	**26.38**	**242**	T		T		14 56 48.4	
	baz=61,slow=76,SNR=116								
H08S3	**Diego Garcia H**	**26.38**	**242**	T		T		14 56 48.6	
	baz=61,slow=76,SNR=108								
H08S1	**Diego Carcia H**	**26.40**	**242**	T		T		14 56 49.7	
	baz=61,slow=76,SNR=98								
CD2	**Chengdu**	**26.83**	**15**	*eP*		**P**		**14 29 50.0**	**+0.3**
CD2				S		**S**		**14 34 25.0**	**+1.2**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2				pmax		pmax			
	comp=Z,120nm,4.8s								
CD2				LR		LR			
	comp=E,460nm,11.9s								
CD2				LR		LR			
	comp=Z,550nm,12.9s								
WHN	**Wuhan**	**30.85**	**32**	P		**P**		**14 30 27.0**	**+1.6**
XAN	**Xi'an**	**31.36**	**21**	P		**P**		**14 30 30.0**	**+0.1**
XAN				pP		sP		14 30 42.0	-2.4
XAN				sP		pP		14 30 47.5	+7.4
XAN				S		**S**		**14 35 33.5**	**-1.5**
XAN				pmax		pmax			
	comp=Z,9.0nm,0.7s								
XAN				pmax		pmax			
	comp=Z,170nm,7.3s								
XAN				LR		LR			
	comp=N,300nm,6.3s								
XAN				LR		LR			
	comp=E,230nm,7.7s								
LZH	**Lanzhou**	**31.80**	**13**	*eP*		**P**		**14 30 37.5**	**+3.6**
LZH				pP		sP		14 30 51.3	+2.9
LZH				sP		pP		14 30 54.0	+10
LZH			

ABKAR	**Akbulak array**	**53.47**	**332**	*eP*		**P**		**14 33 28.5**	**-0.6**
CTA	**Charters Tower**	**55.56**	**118**	P		**P**		**14 33 44.4**	**-0.4**
	comp=Z,5.3nm,1.0s,baz=304,slow=11,SNR=2.6								
STKA	**Stephens Creek**	**57.02**	**133**	P		**P**		**14 33 54.8**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=301,slow=6.6,SNR=7.1								
STKA					LR	LR		15 02 51.8	
	comp=Z,100nm,18.7s,baz=293,slow=41								
GNI	**Garni**	**57.55**	**315**	LR		LR		15 01 01.6	
	comp=Z,95nm,19.1s,baz=359,slow=38								
KBZ	**Khabaz**	**60.24**	**318**	P		**P**		**14 34 17.5**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=84,slow=2.4,SNR=6.9								
BR131	**Keskin Array S**	**65.48**	**311**	*eP*		**P**		**14 34 51.4**	**-1.0**
BRTR	**Keskin Array B**	**65.48**	**311**	P		**P**		**14 34 52.0**	**-0.4**
	comp=Z,3.0nm,0.5s,baz=133,slow=7.6,SNR=24								
AKASG	**Malin Array Be**	**71.35**	**322**	P		**P**		**14 35 27.0**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=93,slow=5.4,SNR=6.7								
BUR04	**Bucovina Ar. S**	**73.21**	**318**	*eP*		**P**		**14 35 39.4**	**-0.6**
BUR08	**Bucovina Ar. S**	**73.22**	**318**	*eP*		**P**		**14 35 39.4**	**-0.7**
FINES	**FINESS Array B**	**75.95**	**332**	P		**P**		**14 35 54.1**	**-1.3**
	comp=Z,1.9nm,0.7s,baz=102,slow=6.6,SNR=13								
VYHS	**Vyhne**	**77.57**	**318**	*eP*		**P**		**14 36 05.2**	**+0.3**
ARCES	**ARCESS Array B**	**78.46**	**340**	P		**P**		**14 36 08.7**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=96,slow=6.2,SNR=9.5								
CONA	**Conrad Observa**	**79.50**	**318**	*eP*		**P**		**14 36 15.9**	**+0.2**
	comp=Z,0.9nm,0.5s								
OBKA	**Obir**	**80.30**	**316**	*eP*		**P**		**14 36 19.1**	**-1.0**
	comp=Z,1.6nm,0.6s								
GERES	**GERESS Array B**	**80.99**	**319**	P		**P**		**14 36 23.5**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=110,slow=4.9,SNR=11								
ABTA	**Abfaltersbach**	**81.71**	**316**	*eP*		**P**		**14 36 28.3**	**+0.7**
	comp=Z,0.7nm,0.5s								
SQTA	**Sankt Quirin**	**82.61**	**317**	*eP*		**P**		**14 36 31.8**	**-0.5**
	comp=Z,0.8nm,0.2s								
MOTA	**Moosalm**	**82.69**	**317**	*eP*		**P**		**14 36 30.2**	**-2.5**
	comp=Z,0.9nm,0.4s								
RETA	**Reutte**	**82.92**	**317**	*eP*		**P**		**14 36 33.7**	**-0.2**
	comp=Z,1.7nm,0.4s								
NOA	**NORSAR Array B**	**82.97**	**331**	LR		LR		15 17 31.2	
	comp=Z,82nm,18.8s,baz=265,slow=38								
SYO	**Syowa Base**	**83.18**	**198**	*eP*		**P**		**14 36 34.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**92.78**	**283**	P		**P**		**14 37 23.1**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=75,slow=5.8,SNR=5.2								
ESDC	**Sonseca Array**	**94.25**	**310**	P		**P**		**14 37 28.5**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=49,slow=5.0,SNR=4.8								
ULM	**Lac du Bonnet**	**124.03**	**9**	PKP		**PKPdf**		**14 43 05.3**	**-1.9**
	comp=Z,1.4nm,0.7s,baz=356,slow=1.6,SNR=4.0								
TXAR	**Lajitas Array**	**141.08**	**27**	PKP		**PKPdf**		**14 43 37.1**	**-2.9**
	comp=Z,0.2nm,0.7s,baz=251,slow=2.8,SNR=2.8								

*IDC **27** 14:34:30.6±0.7, 34.°75S×109.°06W, h0km, mb4.0/10, mb1 4.2/10, mb1mx4.1/24, mbtmp4.0/10, MS3.7/6, Ms1 3.8/6, ms1mx3.5/22, Error ellipse: s-maj=27.1km s-min=21.0km az=55.0*
*NEIC **27** 14:34:32.3±0.4, 34.°76S×109.°02W, h10km, mb4.7/19, Error ellipse: s-maj=15.9km s-min=13.0km az=199.0*
*ISCJB **27** 14:34:34.1±0.6, 35.°17S±0.°09×108.°5W±0.°2, h10km, mb4.4/28, MS3.9/7, Error ellipse: s-maj=21.0km s-min=10.5km az=157.4*

ISC 27 14:34:35.3±0.6, 35.°0S±0.°1×108.°6W±0.°1, h10km, n54, σ1ᵍ75/45, mb4.6/28, MS3.9/7, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
PLCA	**Paso Flores**	**30.38**	**112**	P		**P**	**14 40 49.3**	**+1.8**
	3.2nm,0.9s,baz=310,slow=7.1,SNR=6.6							
GO04	**Tololo Observa**	**32.06**	**92**	*eP*		**P**	**14 41 02.3**	**-0.4**
	22nm,1.2s							
LPAZ	**La Paz**	**40.63**	**73**	P		**P**	**14 42 16.1**	**-0.3**
	2.7nm,0.8s,baz=235,slow=4.4,SNR=13							
LPAZ					LR	LR	14 55 25.2	
	comp=Z,53nm,21.0s,baz=294,slow=31							
LPAZ	**La Paz**	**40.63**	**73**	*eP*		**P**	**14 42 16.2**	**-0.1**
	17nm,1.6s							
CPUP	**Villa Florida**	**44.52**	**93**	P		**P**	**14 42 46.5**	**-0.7**
	1.3nm,0.8s,baz=258,slow=6.3,SNR=3.1							
ROSC	**El Rosal**	**51.11**	**46**	LR		LR	15 01 38.1	
	comp=Z,67nm,18.0s,baz=116,slow=32							
QSPA	**South Pole Qui**	**55.16**	**180**	P		**P**	**14 44 07.3**	**-0.5**
	3.1nm,1.0s,baz=139,slow=3.0,SNR=7.7							
QSPA	**South Pole Qui**	**55.16**	**180**	*eP*		**P**	**14 44 07.4**	**-0.4**
VNDA	**Vanda**	**55.99**	**195**	LR		LR	15 04 31.0	
	comp=Z,82nm,18.1s,baz=164,slow=32							
BDFB	**Brasilia**	**57.20**	**87**	P		**P**	**14 44 22.6**	**-0.5**
	2.7nm,0.8s,baz=196,slow=8.1,SNR=3.6							
URZ	**Urewera**	**58.18**	**243**	LR		LR	15 03 45.3	
	comp=Z,71nm,18.3s,baz=96,slow=30							
VNA3	**Neumayer Olymp**	**60.02**	**158**	P		**P**	**14 44 41.6**	**-0.1**
LNIG	**Linares**	**60.24**	**10**	*eP*		**P**	**14 44 45.1**	**+1.4**
	6.9nm,0.9s							
RPZ	**Rata Peaks**	**60.45**	**235**	LR		LR	15 05 16.3	
	comp=Z,86nm,20.1s,baz=62,slow=31							
VNA1	**Neumayer--Stat**	**60.66**	**158**	P		**P**	**14 44 46.2**	**0.0**
VNA2	**Neumayer--Watz**	**60.82**	**158**	P		**P**	**14 44 47.2**	**0.0**
	baz=264,slow=6.7							
TX31	**Lajitas Ar. Si**	**64.20**	**5**	*eP*		**P**	**14 45 10.5**	**+0.1**
TXAR	**Lajitas Array**	**64.20**	**5**	P		P	14 45 05.6	-4.7
	0.2nm,0.7s,baz=174,slow=8.8,SNR=2.9							
MNTX	**Cornudas Mount**	**66.46**	**3**	*eP*		**P**	**14 45 25.5**	**+0.7**
	3.3nm,0.8s							
WHTX	**Lake Whitney,**	**67.50**	**10**	*eP*		**P**	**14 45 33.3**	**+1.9**
	18nm,0.8s							
Y14A	**Wickenburg**	**68.75**	**356**	*eP*		**P**	**14 45 41.1**	**+1.8**
	7.5nm,1.4s							
LENM	**Lemitar**	**68.87**	**1**	*eP*		**P**	**14 45 41.6**	**+1.4**
MSTX	**Muleshoe**	**68.87**	**5**	*eP*		**P**	**14 45 40.8**	**+0.6**
	13nm,1.3s							
TUL1	**Leonard**	**71.59**	**11**	*eP*		**P**	**14 45 57.8**	**+1.2**
	15nm,0.8s							
WHAR	**Wooly Hollow**	**71.61**	**14**	*eP*		**P**	**14 45 58.7**	**+2.0**
	13nm,1.2s							
MVCO	**Mesa Verde**	**71.89**	**0**	*eP*		**P**	**14 46 00.3**	**+1.7**
	8.6nm,1.1s							
S22A	**4UR Ranch, Cre**	**72.44**	**1**	*eP*		**P**	**14 46 04.4**	**+2.3**
	5.4nm,1.1s							
SDCO	**Great Sand Dun**	**72.48**	**3**	*eP*		**P**	**14 46 04.5**	**+2.2**
	1.7nm,0.8s							
T42A	**Van Buren**	**73.53**	**15**	*eP*		**P**	**14 46 10.2**	**+2.1**
	23nm,1.6s							
NVAR	**Mina Array Bea**	**73.66**	**352**	P		P	14 46 05.0	-4.1
	1.2nm,0.7s,baz=185,slow=7.3,SNR=8.2							
DUG	**Dugway, Tooele**	**74.97**	**357**	*eP*		**P**	**14 46 18.1**	**+1.4**
	6.4nm,1.1s							
BGU	**Big Grassy Mou**	**75.71**	**357**	*eP*		**P**	**14 46 21.8**	**+0.8**
	8.1nm,1.5s							
OGNE	**Ogallala**	**75.86**	**5**	*eP*		**P**	**14 46 23.3**	**+1.6**
	15nm,0.8s							
PDAR	**Pinedale Array**	**77.44**	**359**	P		P	14 46 25.5	-5.3
	1.1nm,0.7s,baz=165,slow=6.2,SNR=10							
LOHW	**Long Hollow**	**78.31**	**358**	*eP*		**P**	**14 46 37.3**	**+1.8**
	4.7nm,1.1s							
J08A	**Circle Bar Ran**	**78.55**	**353**	*eP*		**P**	**14 46 38.7**	**+1.9**
	12nm,1.3s							
G08A	**Pilot Rock**	**80.51**	**353**	*eP*		**P**	**14 46 48.1**	**+0.7**
	4.8nm,0.9s							
ULM	**Lac du Bonnet**	**85.67**	**8**	P		**P**	**14 47 10.2**	**-3.6**
	0.6nm,0.6s,baz=191,slow=9.6,SNR=2.1							
STKA	**Stephens Creek**	**86.35**	**233**	LR		LR	15 19 21.0	
	comp=Z,64nm,18.1s,baz=202,slow=31							
YKA	**Yellowknife Ar**	**97.32**	**357**	P		**P**	**14 48 04.3**	**-3.6**
	0.1nm,0.7s,baz=164,slow=5.5,SNR=2.4							
AKASG	**Malin Array Be**	**145.87**	**50**	PKPbc		**PKPdf**	**14 54 09.4**	**-4.4**
	0.9nm,0.6s,baz=281,slow=3.8,SNR=6.2							
PBKT	**Sadao Pong**	**147.84**	**243**	*e*PKPdf		**PKPdf**	**14 54 16.4**	**-1.7**
XAN	**Xi'an**	**149.21**	**279**	PKPbc		**PKPdf**	**14 54 21.0**	**+1.0**
BRTR	**Keskin Array B**	**149.77**	**70**	PKPbc		**PKPdf**	**14 54 21.4**	**+0.6**
	0.9nm,0.8s,baz=154,slow=3.4,SNR=4.7							
MMAI	**Mount Meron Ar**	**150.18**	**83**	PKPbc		**PKPdf**	**14 54 24.0**	**+2.4**
	0.6nm,0.3s,baz=184,slow=4.0,SNR=3.7							
CM01	**Chiang Mai Arr**	**150.49**	**243**	*e*PKPbc		**PKPdf**	**14 54 24.1**	**+1.7**
CM31	**Chiang Mai Arr**	**150.52**	**243**	*e*PKPbc		**PKPdf**	**14 54 24.1**	**+1.7**
CMAR	**Chiang Mai Arr**	**150.52**	**243**	PKPbc		**PKPdf**	**14 54 24.4**	**+1.9**
	7.4nm,1.1s,baz=177,slow=1.5,SNR=36							
ULN	**Ulaanbaatar**	**150.65**	**307**	*e*PKPdf		**PKPdf**	**14 54 21.7**	**-0.2**
CHTO	**Chiang Mai**	**150.75**	**244**	*e*PKPbc		**PKPdf**	**14 54 24.4**	**+1.6**
SONA1	**Songino Array**	**151.08**	**307**	*e*PKPdf		**PKPdf**	**14 54 22.4**	**-0.2**
SONM	**Songino Array**	**151.09**	**307**	PKPbc		**PKPdf**	**14 54 22.9**	**+0.3**
	3.3nm,1.1s,baz=123,slow=1.6,SNR=10							
ASF	**Jabal al Asfar**	**151.19**	**86**	PKPbc		**PKPdf**	**14 54 26.3**	**+3.1**
	1.0nm,0.3s,baz=35,slow=0.8,SNR=3.7							
LZH	**Lanzhou**	**153.67**	**282**	*e*PKPbc		PKPdf	14 54 19.0	-7.9
LZH				pPKP		sPKPdf	14 54 30.5	+0.5
LZH				sPKP			14 54 35.5	
LZH				LR		LR		
	comp=N,69nm,18.1s							
LZH				LR		LR		
	comp=E,72nm,17.9s							
LZH				LR		LR		
	comp=Z,81nm,20.0s							

IDC 27 14:51:13.9±5.1, 17.°67S×175.°45W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.5/37, mbtmp3.8/2, Error ellipse: s-maj=295.4km s-min=69.3km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**47.45**	**259**	P		P	14 59 50.9	+0.2
	0.4nm,0.3s,baz=95,slow=7.7,SNR=15							
ASAR	**Alice Springs**	**47.57**	**254**	P		P	14 59 51.2	-0.4
	0.8nm,0.5s,baz=90,slow=7.4,SNR=22							
FINES	**FINESS Array B**	**133.68**	**346**	PKP		PKPdf	15 10 31.7	-0.5
	3.9nm,1.1s,baz=31,slow=3.2,SNR=3.4							

*ISCJB **27** 14:54:02.2±1.1, 21.°65N±0.°08×143.°6E±0.°3, h150km, Error ellipse: s-maj=40.9km s-min=10.2km az=173.6*
*IDC **27** 14:54:04.5±2.7, 21.°71N×143.°67E, h157km±24km, mb3.1/8, mb1 3.3/10, mb1mx3.1/55, mbtmp3.7/10, MS2.9/1, Ms1 2.9/1, ms1mx2.3/17, Error ellipse: s-maj=38.3km s-min=15.2km az=84.0*

ISC 27 14:54:03.8±1.2, 21.°7N±0.°1×143.°7E±0.°3, h150km, n11, σ1ᵍ12/11, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
JCJ	**Chichijima**	**5.58**	**346**	P		**Pn**	**14 55 26.4**	**+1.6**
	20nm,0.3s,baz=270,slow=20,SNR=5.3							
JCJ				S		**Sn**	**14 56 26.8**	**-1.4**
	12nm,0.3s,baz=270,slow=20,SNR=3.3							
MJAR	**Matsushiro Arr**	**15.57**	**343**	P		**Pn**	**14 57 34.8**	**-0.4**
	0.1nm,0.3s,baz=168,slow=11,SNR=8.9							
JNU	**Nakatsue**	**16.09**	**318**	LR		LR	15 02 43.0	
	comp=Z,42nm,18.9s,baz=125,slow=32							
KSRS	**Korea Array**	**20.82**	**323**	P		**P**	**14 58 35.2**	**+1.9**
	1.5nm,0.5s,baz=150,slow=8.7,SNR=9.1							
KLR	**Kul'dur**	**29.10**	**344**	P		**P**	**14 59 50.0**	**-0.2**
	1.1nm,0.4s,baz=161,slow=8.4,SNR=8.4							
WRA	**Warramunga Arr**	**42.35**	**193**	P		**P**	**15 01 43.4**	**+0.2**
	0.2nm,0.3s,baz=13,slow=8.6,SNR=10							
ASAR	**Alice Springs**	**46.05**	**192**	P		**P**	**15 02 12.5**	**-0.2**
	0.1nm,0.3s,baz=11,slow=7.0,SNR=5.9							
MKAR	**Makanchi Array**	**55.06**	**313**	P		**P**	**15 03 19.8**	**-0.2**
	0.1nm,0.4s,baz=86,slow=9.6,SNR=3.1							
KURBB	**Kurchatov Arra**	**57.86**	**317**	P		**P**	**15 03 39.0**	**-0.7**
	1.4nm,0.5s,baz=98,slow=7.5,SNR=5.4							
BVAR	**Borovoye Array**	**62.99**	**320**	P		**P**	**15 04 13.4**	**-1.1**
	0.6nm,0.4s,baz=95,slow=6.2,SNR=5.3							
YKA	**Yellowknife Ar**	**76.27**	**28**	P		**P**	**15 05 35.7**	**+0.1**
	0.1nm,0.4s,baz=291,slow=5.7,SNR=5.5							

*IDC **27** 15:44:07.2±1.1, 10.°99S×165.°47E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/30, mbtmp3.8/6, ML3.9/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/36, Error ellipse: s-maj=33.3km s-min=25.9km az=116.0*
*ISCJB **27** 15:44:09.5±0.7, 11.°1S±0.°1×165.°52E±0.°09, h30km, mb4.0/8, MS3.2/1, Error ellipse: s-maj=14.9km s-min=12.8km az=156.3*
*NEIC **27** 15:44:09.5±7.3, 10.°95S×165.°46E, h15km±48km, mb4.6/3, Error ellipse: s-maj=20.8km s-min=9.4km az=146.0*

ISC 27 15:44:11.4±0.9, 11.°0S±0.°1×165.°5E±0.°1, h30km, n14, σ0ᵍ69/13, mb3.9/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**11.06**	**175**	Pn		**Pn**	**15 46 47.8**	**0.0**
	0.8nm,0.3s,baz=342,slow=20,SNR=18							
DZM	**Mont Dzumac**	**11.06**	**175**	*e*Pn		**Pn**	**15 46 47.6**	**-0.1**
ONTNC	**Ouen Toro**	**11.30**	**175**	*e*Pn		**Pn**	**15 46 51.7**	**+0.8**
FUNA	**Funafuti**	**13.74**	**81**	*e*Pn		**Pn**	**15 47 23.7**	**-0.6**
URZ	**Urewera**	**29.09**	**161**	P		**P**	**15 50 09.6**	**+0.2**
	4.0nm,0.9s,baz=124,slow=3.6,SNR=2.5							
WR1	**Warramunga Arr**	**31.26**	**250**	*eP*		**P**	**15 50 29.4**	**+0.6**
	21nm,1.5s							
WRA	**Warramunga Arr**	**31.26**	**250**	P		**P**	**15 50 29.4**	**+0.6**
	1.3nm,0.8s,baz=83,slow=8.8,SNR=6.8							
AS31	**Alice Springs**	**32.59**	**243**	*eP*		**P**	**15 50 40.3**	**-0.2**
	3.0nm,1.6s							
ASAR	**Alice Springs**	**32.59**	**243**	P		**P**	**15 50 40.1**	**-0.4**
	0.4nm,0.7s,baz=68,slow=10.0,SNR=9.0							
FITZ	**Fitzroy Crossi**	**39.14**	**255**	LR		LR	16 08 36.0	
	comp=Z,35nm,18.6s,baz=116,slow=38							
FITZ	**Fitzroy Crossi**	**39.14**	**255**	*eP*		**P**	**15 51 36.3**	**-0.3**
	27nm,1.5s							
ILAR	**Eielson Array**	**83.54**	**19**	P		**P**	**15 56 37.6**	**+1.5**
	0.5nm,0.7s,baz=234,slow=5.1,SNR=6.5							
ILB	**Eielson Array**	**83.54**	**19**	*eP*		**P**	**15 56 36.8**	**+0.6**
YKA	**Yellowknife Ar**	**95.04**	**27**	P		**P**	**15 57 30.5**	**-0.5**
	0.1nm,0.7s,baz=260,slow=4.8,SNR=2.7							

*ISCJB **27** 15:46:10.0±0.3, 67.°12N±0.°02×20.°80E±0.°05, h0km, Error ellipse: s-maj=2.9km s-min=2.6km az=3.1*
*IDC **27** 15:46:11.9±0.7, 67.°17N×21.°08E, h0km, mb1 3.4/6, mb1mx3.1/45, mbtmp3.4/6, ML2.5/5, Error ellipse: s-maj=13.3km s-min=5.9km az=112.0*
*HEL **27** 15:46:12.1±0.0, 67.°19N×20.°69E, h0km, ML2.3, ML2.7(UPP), Explosion*
*NAO **27** 15:46:12.0±0.8, 67.°14N×20.°97E, ML2.6*
*BER **27** 15:46:14.1±4.0, 67.°09N×20.°98E, h0km, ML2.1, ML2.6(NAO), Suspected explosion*

ISC 27 15:46:10.5±0.6, 67.°14N±0.°02×20.°64E±0.°02, h0km, n56, σ1ᵍ48/92, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
MASU	**Masugnsbyn**	**0.62**	**58**	*i* P		**Pg**	**15 46 22.7**	**+0.3**
MASU				*i* S		**Sg**	**15 46 30.5**	**+0.2**
RATU	**Laukkuluspa**	**0.80**	**330**	*i* P		**Pg**	**15 46 25.8**	**0.0**
RATU				*i* S		**Sg**	**15 46 36.4**	**+0.3**
KUA	**Kurravaara**	**0.83**	**352**	*i* P		**Pg**	**15 46 26.1**	**-0.3**
SALU	**Saltoluokta**	**0.86**	**287**	*i* P		**Pg**	**15 46 27.7**	**+0.7**
NIKU	**Nikkaluokta**	**0.96**	**321**	*eP*		**Pg**	**15 46 28.8**	**0.0**
PAJU	**Pajala**	**0.98**	**96**	*eP*		**Pg**	**15 46 29.4**	**+0.2**
LANU	**Lannavaara**	**1.05**	**29**	*eP*		**Pg**	**15 46 30.0**	**-0.7**
SJUU	**Sjulsmark**	**1.68**	**166**	*eP*		**Pb**	**15 46 42.7**	**+0.4**
KALU	**Kalix**	**1.69**	**138**	*eP*		**Pb**	**15 46 42.5**	**+0.2**
HEF	**Hetta**	**1.72**	**41**	*eP*		**Pn**	**15 46 41.8**	**+0.1**
HEF				*e*S		**Sn**	**15 47 02.8**	**-1.5**
HEF	**Hetta**	**1.72**	**41**	*eP*		**Pn**	**15 46 41.3**	**-0.4**
	baz=225							
HEF				MSG			15 47 01.7	
	comp=Z,18nm,0.2s							
HEF				*e*SG		**Sn**	**15 47 03.2**	**-1.0**
TOF	**Tornio**	**1.82**	**124**	*eP*		**Pn**	**15 46 44.4**	**+1.4**
TOF				MSG			15 47 07.1	
	comp=Z,29nm,0.2s							
TOF				*e*SN		**Sb**	**15 47 08.8**	**+1.0**
KIF	**Kilpisjarvi**	**1.88**	**2**	Pn		**Pb**	**15 46 44.9**	**-0.7**
KIF				Sn		**Sg**	**15 47 10.6**	**-0.1**
KIF	**Kilpisjarvi**	**1.88**	**2**	*eP*		**Pb**	**15 46 45.0**	**-0.6**
KIF				Sn		**Sg**	**15 47 10.6**	**-0.1**
KIF	**Kilpisjarvi**	**1.88**	**2**	*eP*		**Pb**	**15 46 44.7**	**-0.9**
	baz=183							
KIF				MSG			15 47 06.8	
	comp=Z,37nm,0.2s							
KIF				*e*SG		**Sg**	**15 47 10.6**	**-0.1**
LILU	**Lilltraesk**	**1.89**	**190**	*eP*		**Pb**	**15 46 45.9**	**+0.1**
KTK1	**Kautokeino**	**2.12**	**26**	*eP*		**Pb**	**15 46 48.7**	**-1.1**
KTK1				*e*S		**Sb**	**15 47 15.9**	**-0.7**
KTK1				IAML			15 47 16.9	
	comp=Z,46nm,0.3s							
RNF	**Rovaniemi**	**2.19**	**102**	*e*PB		**Pn**	**15 46 49.9**	**+1.8**
RNF				*e*SG		**Sb**	**15 47 19.6**	**+1.0**
STEI	**Steigen**	**2.22**	**293**	*eP*		**Pb**	**15 46 51.8**	**+0.4**
STEI				*e*S		**Sg**	**15 47 20.8**	**-1.0**
SGF	**Sodankyl**	**2.31**	**80**	*eP*		**Pn**	**15 46 51.2**	**+1.4**
	baz=266							
SGF				*e*SG		**Sb**	**15 47 22.1**	**+0.1**
TRO	**Tromso**	**2.58**	**347**	*eP*		**Pn**	**15 46 55.2**	**+1.7**
TRO				*e*S		**Sb**	**15 47 27.4**	**-2.5**
TRO				IAML			15 47 32.2	
	comp=Z,19nm,0.5s							
MOR8	**Moi Rana**	**2.65**	**251**	*eP*		**Pn**	**15 46 55.8**	**+1.3**
MOR8				*e*S		**Sn**	**15 47 28.9**	**+1.6**
MOR8				IAML			15 47 38.0	
	comp=Z,20nm,0.6s							

LOF	**Lofoten**	**2.89**	**293**	*eP*		**Pb**		**15 47 04.4**	**+1.5**
LOF				IAML				15 47 51.2	
	comp=Z,8.8nm,0.3s								
OUL	**Oulu**	**2.97**	**131**	*eP*		**Pn**		**15 47 00.9**	**+2.0**
	baz=313								
OUL				*e*SG		**Sb**		**15 47 43.6**	**+2.6**
ARA0	**ARCESS Array S**	**3.01**	**35**	Pn		**Pn**		**15 46 59.9**	**+0.5**
	baz=212,slow=14								
ARA0				Sn		**Sn**		**15 47 36.3**	**+0.2**
	baz=218,slow=22								
ARA0	**ARCESS Array S**	**3.01**	**35**	Pn		**Pn**		**15 46 59.9**	**+0.5**
	baz=212,slow=14								
ARA0				Sn		**Sn**		**15 47 36.3**	**+0.2**
	baz=218,slow=22								
ARCES	**ARCESS Array B**	**3.01**	**35**	Pn		**Pn**		**15 47 00.0**	**+0.6**
	comp=Z,2.0nm,0.3s,baz=214,slow=13,SNR=115								
ARCES				Sn		**Sn**		**15 47 35.5**	**-0.6**
	comp=Z,2.9nm,0.3s,baz=219,slow=27,SNR=14								
ARCES				Lg		Lg		15 47 40.9	
	comp=Z,3.5nm,0.3s,baz=214,slow=30,SNR=11								
ARE0	**ARCESS Array S**	**3.01**	**35**	*eP*		**Pn**		**15 47 00.5**	**+1.1**
ARE0	**ARCESS Array S**	**3.01**	**35**	*eP*		**Pn**		**15 46 59.9**	**+0.5**
KONS	**Konsvik**	**3.04**	**261**	*eP*		**Pn**		**15 47 01.7**	**+1.8**
KONS				IAML				15 47 58.2	
	comp=Z,17nm,0.5s								
OUF	**Merijarvi**	**3.26**	**147**	*eP*		**Pn**		**15 47 05.0**	**+2.2**
	baz=329								
OUF				*e*SG		**Sg**		**15 47 54.8**	**-0.2**
UMAU	**Umeaa**	**3.27**	**180**	*e*SG		**Sg**		**15 47 54.8**	**-0.7**
VRF	**Varrio**	**3.51**	**76**	*eP*		**Pn**		**15 47 07.2**	**+0.9**
KEV	**Kevo**	**3.52**	**39**	Pn		**Pn**		**15 47 07.0**	**+0.5**
KEV				Pg		**Pb**		**15 47 14.9**	**+1.2**
KEV				Sn		**Sn**		**15 47 48.2**	**-0.6**
KEV				Lg		Lg		15 48 02.6	
KEV	**Kevo**	**3.52**	**39**	*eP*		**Pn**		**15 47 07.2**	**+0.7**
KEV				*e*S		**Sn**		**15 47 48.4**	**-0.4**
KEV				Sg		**Sg**		**15 48 02.6**	**-1.0**
KEV	**Kevo**	**3.52**	**39**	*eP*		**Pn**		**15 47 07.0**	**+0.5**
MSF	**Maaselka**	**3.58**	**106**	*eP*		**Pn**		**15 47 08.6**	**+1.3**
	baz=294								
VAF	**Ylistaro**	**4.20**	**167**	*eP*		**Pn**		**15 47 18.3**	**+2.5**
VAF				*e*SG		**Sg**		**15 48 24.1**	**-1.3**
APA0	**Apatity Array**	**4.80**	**79**	Pn		**Pn**		**15 47 23.8**	**-0.1**
	baz=270,slow=6.9								
APA0				Sn		**Sn**		**15 48 18.6**	**-1.5**
	baz=270,slow=22								
APA0				Lg		Lg		15 48 35.7	
APA0	**Apatity Array**	**4.80**	**79**	Pn		**Pn**		**15 47 23.8**	**-0.1**
	baz=270,slow=6.9								
APA0				Sn		**Sn**		**15 48 18.6**	**-1.5**
	baz=270,slow=22								
APA0				Sg		**Sb**		**15 48 35.7**	**+2.2**
FIA0	**FINESS Array S**	**6.19**	**155**	Pn		**Pn**		**15 47 45.5**	**+2.5**
	baz=344,slow=16								
FIA0				Sn		**Sn**		**15 48 54.2**	**-0.1**
	baz=350,slow=28								
FIA0				Lg		Lg		15 49 23.0	
	baz=342,slow=28								
FIA0	**FINESS Array S**	**6.19**	**155**	Pn		**Pn**		**15 47 45.5**	**+2.5**
	baz=344,slow=16								
FIA0				Sn		**

0.9nm,0.6s,baz=130,slow=2.4,SNR=25
YKB5 Yellowknife Ar 138.80 315 *e*PKPdf **PKPdf 16 13 30.6 +0.5**
ZALV Zalesovo Beam 142.44 66 PKhKP PKPpre 16 13 33.4
0.4nm,0.5s,baz=236,slow=4.2,SNR=3.0
ZAA1 Zalesovo Array 142.45 66 *e*PKPpre PKPpre 16 13 33.4
INK Inuvik 148.47 318 *e*PKPbc **PKPbc 16 13 50.8 +0.2**
SONA0 Songino Array 149.70 89 *e*PKPbc **PKPbc 16 13 54.7 +0.2**
SONM Songino Array 149.70 89 PKPbc **PKPbc 16 13 54.7 +0.2**
1.3nm,0.6s,baz=223,slow=3.1,SNR=7.5
SONA1 Songino Array 149.71 89 *e*PKPbc **PKPbc 16 13 54.3 -0.2**
DOT Dot Lake 151.11 306 *e*PKPbc **PKPbc 16 13 57.8 +0.6**
SCRK Sand Creek 151.18 307 *e*PKPbc **PKPbc 16 13 58.5 +1.0**
RIDG Independ'e Rid 151.47 306 *e*PKPbc **PKPbc 16 13 59.3 +1.2**
FYU Fort Yukon 152.37 312 *e*PKPbc **PKPbc 16 14 01.0 +1.1**
FYU *e*PKPab **sPKPbc 16 14 11.3 -1.0**
IL1 Eielson Array 152.61 308 *e*PKPbc **PKPbc 16 14 00.7 +0.2**
ILAR Eielson Array 152.61 308 PKPbc **PKPbc 16 14 01.6 +1.0**
4.7nm,0.8s,baz=146,slow=2.7,SNR=24
ILAR PKPab **PKPab 16 14 10.1 -1.3**
1.0nm,0.5s,baz=77,slow=30,SNR=6.1
ILB Eielson Array 152.61 308 *e*PKPbc **PKPbc 16 14 00.9 +0.3**
WRH Wood River Hil 153.04 307 *e*PKPbc **PKPbc 16 14 02.1 +0.7**
MCK McKinley 153.21 305 *e*PKPbc **PKPbc 16 14 02.6 +0.7**
BPAW Bear Paw Mtn. 154.18 305 *e*PKPbc **PKPbc 16 14 04.2 +0.2**

IDC 27 16:03:32.0±2.6, 3°30.5'×133°78.E, h0km, mb3.5/2, mb1 3.8/5, mb1mx3.5/37, mbtmp3.6/5, ML3.1/3, MS3.4/1, Ms1 3.4/1, ms1mx2.5/36, Error ellipse: s-maj=80.2km s-min=22.5km az=70.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.48 314**		Pn	Pn	16 04 29.5	+2.0
	1.6nm,0.3s,baz=218,slow=22,SNR=17						
SIJI				Sn	Sn	16 05 10.1	+0.6
	2.4nm,0.3s,baz=290,slow=24,SNR=9.7						
WRA	**Warramunga Arr**	**16.55 178**		Pn	P	16 07 27.4	-1.1
	0.1nm,0.3s,baz=353,slow=13,SNR=4.9						
FITZ	**Fitzroy Crossi**	**16.73 208**		Pn	Pn	16 07 26.0	-2.0
	0.1nm,0.3s,baz=24,slow=13,SNR=4.8						
ASAR	**Alice Springs**	**20.25 180**		P	P	16 08 09.6	+0.4
	1.9nm,0.7s,baz=5.4,slow=12,SNR=21						
JOW	**Kunigami**	**30.42 350**		LR	LR	16 21 03.9	
	comp=Z,66nm,20.9s,baz=336,slow=35						
MKAR	**Makanchi Array**	**67.32 324**		P	P	16 14 28.2	-0.6
	0.3nm,0.5s,baz=120,slow=7.2,SNR=5.3						

ISCJB ***27*** *16:21:28.5±0.3, 24°.43N±0°.02×122°.02E±0°.02, h2km±3km, Error ellipse: s-maj=2.6km s-min=2.3km az=154.6*
JMA ***27*** *16:21:28.7±0.1, 24°.40N×121°.97E, h18km, M2.9*
TAP ***27*** *16:21:28.8, 24°.45N×121°.96E, h13km, ML3.3, B*
ISC 27 16:21:28.4±0.9, 24°43N±0°02×122°00E±0°02, h13km±6km, n92, σ0s73/132, 22C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.17**	**44**	⇓P	**Pg**	**16 21 33.3**	**+0.9**
	baz=48						
EOS1				S	**Sb**	**16 21 36.9**	**+0.1**
	baz=48						
TWC	**Suao**	**0.23 324**		⇑*i*P	**Pg**	**16 21 33.3**	**-0.1**
	baz=336						
TWC				*i* S	**Sg**	**16 21 36.0**	**-0.8**
	baz=336						
ENA	**Nanau**	**0.23 271**		⇑P	**Pg**	**16 21 33.5**	**0.0**
	baz=271						
ENA				*i* S	**Sg**	**16 21 36.4**	**-0.5**
	baz=271						
ILA	**Ilan**	**0.41 326**		⇑*i*P	**Pg**	**16 21 37.0**	**+0.4**
	baz=328						
ILA				*e*S	**Sb**	**16 21 43.3**	**-0.3**
	baz=328						
TWE	**Neicheng**	**0.42 314**		⇑*i*P	**Pg**	**16 21 36.9**	**0.0**
	baz=320						
TWE				*e*S	**Sb**	**16 21 43.4**	**-0.6**
	baz=320						
EGS		**0.42 352**		*e*P	**Pb**	**16 21 38.2**	**+0.4**
	baz=350						
NACB	**Ninganchiao**	**0.45 236**		⇓P	**Pg**	**16 21 37.4**	**+0.2**
	baz=231						
NACB				S	**Sb**	**16 21 43.7**	**-1.0**
	baz=231						
ENTT	**Nioudou**	**0.45 299**		⇑*i*P	**Pg**	**16 21 37.4**	**+0.1**
	baz=298						
ENTT				S	**Sg**	**16 21 42.9**	**-0.5**
	baz=298						
NTC	**Toucheng**	**0.45 340**		*e*P	**Pg**	**16 21 37.9**	**+0.4**
	baz=352						
NDT	**Datong Townshi**	**0.48 292**		⇑P	**Pb**	**16 21 38.1**	**-0.6**
	baz=290						
NDT				S	**Sg**	**16 21 44.0**	**-0.3**
	baz=290						
TWD	**Chiawan**	**0.50 227**		⇓P	**Pg**	**16 21 38.5**	**+0.2**
	baz=228						
TWD				*e*S	**Sb**	**16 21 45.5**	**-0.9**
	baz=228						
NNSB	**Datong**	**0.56 271**		⇑P	**Pb**	**16 21 39.6**	**-0.6**
	baz=268						
NNSB				S	**Sg**	**16 21 46.3**	**-0.6**
	baz=268						
TIPB	**Shuangxi**	**0.57 344**		⇑P	**Pg**	**16 21 39.7**	**+0.1**
	baz=352						
TIPB				S	**Sg**	**16 21 46.9**	**-0.2**
	baz=352						
NNS	**Nan Shan**	**0.57 272**		⇑*i*P	**Pg**	**16 21 39.7**	**0.0**
	baz=269						
NNS				S	**Sg**	**16 21 46.6**	**-0.7**
	baz=269						
HWA	**Hwalien**	**0.57 219**		*e*P	**Pb**	**16 21 40.7**	**+0.3**
	baz=223						
NWLT	**Wulai**	**0.57 308**		*e*P	**Pb**	**16 21 40.0**	**-0.3**
	baz=308						
TWB1	**Santiao Chiao**	**0.58 359**		*e*P	**Pg**	**16 21 39.8**	**-0.1**
	baz=352						
YHNB	**Yeheng**	**0.62 293**		⇑P	**Pb**	**16 21 40.9**	**-0.3**
	baz=292						
YHNB				S	**Sg**	**16 21 47.9**	**-0.8**
	baz=292						
ENLB	**Shoufeng**	**0.63 215**		*e*P	**Pn**	**16 21 43.1**	**0.0**
	baz=221						
NSK	**Sanguang**	**0.63 293**		⇑*i*P	**Pb**	**16 21 41.0**	**-0.4**
	baz=297						
NSK				S	**Sg**	**16 21 48.3**	**-1.0**
	baz=297						
TWA	**Mucha**	**0.67 326**		⇑*i*P	**Pb**	**16 21 41.8**	**-0.2**
	baz=327						
TWA				S	**Sg**	**16 21 50.5**	**+0.1**
	baz=327						
NWF	**Wu-fen Shan**	**0.67 343**		P	**Pb**	**16 21 42.3**	**+0.2**
	baz=333						
NWF				S	**Sg**	**16 21 50.3**	**-0.2**
	baz=333						
WFSB	**Wu-fen Shan**	**0.67 343**		⇑P	**Pb**	**16 21 42.0**	**0.0**
	baz=333						
WFSB				S	**Sg**	**16 21 50.6**	**+0.1**
	baz=333						
NHDH	**Xindian Distri**	**0.69 321**		*e*P	**Pb**	**16 21 42.5**	**+0.2**
	baz=315						
TATO	**Taipei**	**0.72 320**		⇑P	**Pb**	**16 21 42.9**	**+0.1**
	baz=313						
WHF	**Hehuan Shan**	**0.72 248**		⇓*i*P	**Pg**	**16 21 42.7**	**0.0**
	baz=255						
WHF				S	**Sb**	**16 21 53.1**	**0.0**
	baz=255						
TAP	**Taipei**	**0.76 324**		*e*P	**Pb**	**16 21 44.0**	**+0.5**
	baz=325						
ESL	**Shilin**	**0.80 220**		*e*P	**Pg**	**16 21 43.6**	**-0.3**
	baz=225						
WLTB	**Daxi**	**0.80 302**		⇑P	**Pn**	**16 21 45.1**	**-0.3**
	baz=301						
WLTB				*e*S	**Sb**	**16 21 55.0**	**0.0**
	baz=301						
YM01	**YM01**	**0.82 332**		⇑*e*P	**Pn**	**16 21 46.1**	**+0.4**
	baz=342						
YM07	**YM07**	**0.82 335**		*e*P	**Pb**	**16 21 45.0**	**+0.4**
	baz=344						
YM10	**YM10**	**0.83 331**		*e*P	**Pn**	**16 21 45.3**	**-0.6**
	baz=341						
YM11	**YM11**	**0.83 332**		⇑P	**Pn**	**16 21 45.4**	**-0.5**
	baz=332						
YM11				*e*S	**Sn**	**16 21 57.2**	**-0.9**
	baz=332						
CHGB	**Renai**	**0.83 244**		⇓P	**Pb**	**16 21 44.7**	**-0.2**
	baz=253						
CHGB				S	**Sb**	**16 21 56.1**	**0.0**
	baz=253						
YM05	**YM05**	**0.83 332**		⇑P	**Pb**	**16 21 45.3**	**+0.5**
	baz=332						
YM05				*e*S	**Sb**	**16 21 56.7**	**+0.7**
	baz=332						
YM04	**YM04**	**0.84 330**		⇑P	**Pn**	**16 21 45.4**	**-0.6**
	baz=316						
YM04				*e*S	**Sn**	**16 21 57.5**	**-0.7**
	baz=316						
YM08	**YM08**	**0.85 334**		*e*P	**Pg**	**16 21 45.1**	**+0.3**
	baz=334						
YM08				*e*S	**Sn**	**16 21 57.4**	**-1.0**
	baz=334						
TWS1	**Kuangyinshan**	**0.85 322**		P	**Pn**	**16 21 46.2**	**+0.1**
	baz=322						
JYNG	**Yonagunijimaku**	**0.86 88**		P	**Pb**	**16 21 45.8**	**+0.5**
JYNG				*e*S	**Sb**	**16 21 56.8**	**+0.1**
NTST	**Danshui**	**0.89 326**		*e*P	**Pn**	**16 21 46.8**	**+0.1**
	baz=326						
EGFH	**Guangfu**	**0.92 215**		*e*P	**Pn**	**16 21 46.6**	**-0.4**
	baz=226						
NCU	**National Centr**	**0.92 307**		P	**Pn**	**16 21 47.5**	**+0.5**
	baz=306						
NCU				*e*S	**Sn**	**16 22 00.8**	**+0.7**
	baz=306						
NCUH	**Zhongli**	**0.92 306**		*e*P	**Pn**	**16 21 47.6**	**+0.6**
	baz=296						
LIOB	**Emei**	**0.92 284**		⇑*e*P	**Pn**	**16 21 47.1**	**0.0**
	baz=283						
LIOB				*e*S	**Sn**	**16 21 58.7**	**-1.5**
	baz=283						
TWY	**Chenhua**	**0.92 337**		*e*P	**Pn**	**16 21 46.8**	**-0.3**
	baz=337						
TWY				*e*S	**Sb**	**16 21 57.7**	**-0.7**
	baz=337						
YOJ	**Yonaguni jima**	**0.92 88**		*e*P	**Pb**	**16 21 46.2**	**-0.1**
	baz=89						
YOJ				*e*S	**Sb**	**16 21 58.9**	**+0.4**
	baz=89						
YOJ	**Yonaguni jima**	**0.92 88**		P	**Pb**	**16 21 46.6**	**+0.3**
YOJ				*e*S	**Sb**	**16 21 59.2**	**+0.7**
NSTT	**Nanjuang**	**0.93 283**		⇑P	**Pn**	**16 21 47.0**	**-0.2**
	baz=282						
NSTT				*e*S	**Sg**	**16 21 58.1**	**-0.5**
	baz=282						
WHP	**Taichung City**	**0.97 262**		*e*P	**Pn**	**16 21 48.0**	**+0.1**
	baz=260						
SBCB	**Hsinchu**	**0.99 292**		P	**Pn**	**16 21 48.9**	**+0.9**
	baz=284						
SBCB				*e*S	**Sn**	**16 22 03.5**	**+1.6**
	baz=284						
VWDT	**VWDT**	**1.03 230**		*e*P	**Pn**	**16 21 48.5**	**-0.1**
	baz=232						
VWDT				*e*S	**Sn**	**16 22 02.3**	**-0.5**
	baz=232						
HGSD	**Ruisui**	**1.07 210**		*e*P	**Pg**	**16 21 50.4**	**+1.4**
	baz=209						
EHY	**Hungye**	**1.10 214**		*e*P	**Pn**	**16 21 49.4**	**-0.2**
	baz=225						
NMLH	**Miaoli**	**1.11 276**		*e*P	**Pg**	**16 21 51.8**	**+2.1**
	baz=275						
TWQ1	**Liyutan**	**1.12 266**		*e*P	**Pg**	**16 21 51.7**	**+1.7**
	baz=265						
NSY	**Sanyi**	**1.13 270**		*e*P	**Pg**	**16 21 51.8**	**+1.6**
	baz=269						
SMLT	**Sun Moon Lake**	**1.14 242**		⇑P	**Pg**	**16 21 50.7**	**+0.2**
	baz=247						
SMLT				S	**Sn**	**16 22 05.3**	**-0.5**
	baz=247						
TYC	**Yuchr**	**1.16 244**		*e*P	**Pg**	**16 21 50.8**	**-0.1**
	baz=242						
PTSB	**Yuanli**	**1.18 271**		*e*P	**Pg**	**16 21 53.7**	**+2.5**
	baz=270						
YULB	**Yu-li**	**1.21 212**		P	**Pg**	**16 21 51.7**	**-0.1**
	baz=212						
TCU	**Taichung**	**1.24 257**		*e*P	**Pg**	**16 21 53.4**	**+1.1**
	baz=256						
WDJ	**Dajia District**	**1.24 267**		*e*P	**Pg**	**16 21 53.3**	**+0.9**
	baz=266						
TWF1	**Yuli**	**1.25 211**		*e*P	**Pb**	**16 21 51.8**	**0.0**
	baz=226						
WHYT	**Xinyi Township**	**1.27 236**		*e*P	**Pg**	**16 21 53.0**	**0.0**
	baz=235						
WJS	**Zhushan**	**1.31 243**		*e*P	**Pg**	**16 21 54.3**	**+0.7**
	baz=235						
WNT	**Mingjian**	**1.32 246**		*e*P	**Pg**	**16 21 55.1**	**+1.3**
	baz=260						
WNT				*e*S	**Sg**	**16 22 13.6**	**+2.6**
	baz=260						
CHN5	**Tsauling**	**1.46 236**		*e*P	**Pg**	**16 21 57.1**	**+0.5**
	baz=236						
WGK	**Gukeng**	**1.50 241**		*e*P	**Pb**	**16 21 56.1**	**-0.2**
	baz=241						
ELDTW	**Lidau**	**1.52 216**		*e*P	**Pb**	**16 21 56.8**	**+0.2**
	baz=204						
WDLH	**Douliu**	**1.52 242**		*e*P	**Pg**	**16 21 57.9**	**+0.2**
	baz=242						
IRIF	**Iriomote-Funau**	**1.58 93**		P	**Pn**	**16 21 55.9**	**-0.3**
IRIF				S	**Sn**	**16 22 15.3**	**-1.2**
CHN4	**Tsaushan**	**1.67 231**		*e*P	**Pg**	**16 22 00.5**	**-0.1**
	baz=232						
TPUB	**Ta-pu**	**1.68 229**		*e*P	**Pg**	**16 22 00.3**	**-0.4**
	baz=230						
STYT	**Tauyuan**	**1.69 222**		*e*P	**Pb**	**16 21 59.7**	**+0.2**
	baz=223						
WTP	**Ta-pu**	**1.73 227**		*e*P	**Pg**	**16 22 00.8**	**-0.8**
	baz=229						
TWK	**Hsinying**	**1.80 230**		*e*P	**Pg**	**16 22 02.1**	**-0.9**
	baz=232						
WSF	**Szhu**	**1.80 245**		*e*P	**Pb**	**16 22 01.9**	**+0.6**
	baz=246						
WLGB	**Puzi**	**1.82 239**		*e*P	**Pg**	**16 22 02.8**	**-0.6**
	baz=241						
SNST	**Tainan City**	**1.82 229**		*e*P	**Pg**	**16 22 03.1**	**-0.4**
	baz=231						
CHN1	**Nanshi**	**1.83 228**		*e*P	**Pg**	**16 22 02.5**	**-1.0**
	baz=230						
JKRS	**Kuro-shima**	**1.84 95**		P	**Pn**	**16 22 00.1**	**+0.3**
JKRS				*e*S	**Sn**	**16 22 22.9**	**0.0**
SGST	**Jiashian**	**1.86 224**		*e*P	**Pb**	**16 22 03.0**	**+0.6**
	baz=226						
SGST				*e*S	**Sg**	**16 22 30.2**	**+1.9**
	baz=226						
SLGT	**Liugui**	**1.89 221**		*e*P	**Pb**	**16 22 03.5**	**+0.7**
	baz=223						
JIJ	**Ishigaki jima**	**1.96 91**		P	**Pn**	**16 22 01.6**	**+0.3**
JIJ				S	**Sn**	**16 22 24.1**	**-1.6**
SSD	**Sandimen**	**2.09 217**		*e*P	**Pb**	**16 22 06.0**	**-0.2**
	baz=219						
JISG	**Ishigakijimahi**	**2.11 85**		P	**Pn**	**16 22 03.2**	**-0.3**
JISG				*e*S	**Sn**	**16 22 28.3**	**-1.3**
MASBT	**Mashibuluo**	**2.20 215**		*e*P	**Pb**	**16 22 08.3**	**+0.2**
	baz=218						
VWUC	**VWUC**	**2.39 284**		*e*P	**Pn**	**16 22 07.3**	**+0.1**
	baz=283						
PHUB	**P'eng-hu**	**2.40 248**		*e*P	**Pn**	**16 22 07.0**	**-0.4**
	baz=250						
MATB	**Ma-tsu**	**2.53 313**		*e*P	**Pn**	**16 22 09.6**	**+0.4**
	baz=311						
KNMB	**Chin-men Tao**	**3.29 271**		*e*P	**Pn**	**16 22 20.5**	**+0.8**
	baz=270						
AXDP	**Jialang**	**3.69 278**		*e*P	**Pn**	**16 22 26.4**	**+1.2**
	baz=276						

SOME ***27*** *16:24:55.1, 49°.60N×87°.38E, h5km*
ISCJB ***27*** *16:24:55.6±0.3, 49°.85N±0°.03×87°.71E±0°.04, h10km, mb3.6/17, MS3.6/1, Error ellipse: s-maj=4.2km s-min=3.7km az=12.3*
IDC ***27*** *16:24:55.8±0.7, 49°.81N×87°.84E, h0km, mb3.7/15, mb1 4.0/22, mb1mx3.8/44, mbtmp3.9/22, ML4.1/6, MS3.3/2, Ms1 3.3/2, ms1mx2.8/44, Error ellipse: s-maj=11.0km s-min=9.7km az=174.0*
ASRS ***27*** *16:24:58.3±2.1, 49°.84N×87°.66E, h15km, Ms3.8/1*
MOS ***27*** *16:24:58.5±1.2, 49°.81N×87°.73E, h33km, mb4.1/8, Error ellipse: s-maj=8.4km s-min=6.8km az=76.4*
NNC ***27*** *16:24:58.7±1.2, 49°.81N×87°.53E, h0km, mb4.7, mpv4.3, Error ellipse: s-maj=10.6km s-min=5.4km az=97.0*
NEIC ***27*** *16:25:01.3±0.7, 49°.88N×87°.77E, h37km±7km, mb4.1/2, Error ellipse: s-maj=8.0km s-min=6.7km az=98.0*
ISC 27 16:24:57.7±0.5, 49°82N±0°03×87°67E±0°04, h10km, n94, σ2s35/111, mb3.7/17, 21C-14D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGZ	**Jazzator, Alta**	**0.19 232**		*c i*PG	**Pg**	**16 24 59.7**	**-2.1**
UKR	**Ust'-Kan**	**2.16 302**		*e*Pg	**Pn**	**16 25 36.0**	**+2.1**
UKR				*e*Sg	**Sb**	**16 26 06.5**	**+2.6**
UKR	**Ust'-Kan**	**2.16 302**		*e*PN	**Pn**	**16 25 36.0**	**+2.1**
UKR				*e*		16 26 06.5	
TASR	**Tashtagol**	**2.95**	**3**	*e*Pn	**Pb**	**16 25 49.2**	**-1.1**
TASR				*e*Pg	Pn	16 25 50.6	+6.0
TASR				*e*Sg	**Sb**	**16 26 30.1**	**+3.7**
TASR	**Tashtagol**	**2.95**	**3**	*e*PN	**Pb**	**16 25 49.2**	**-1.1**
TASR				*e*		16 26 30.1	
ZSN	**Zaisan**	**3.01 219**		*e*P	**Pn**	**16 25 49.2**	**+3.7**
	10nm,0.3s						
ZSN				*e*S	**Sb**	**16 26 30.1**	**+1.9**
	527nm,0.7s						
ZAA0	**Zalesovo Array**	**4.50 338**		*e*Pn	**Pn**	**16 26 06.9**	**+1.2**
ZAA0	**Zalesovo Array**	**4.50 338**		⇑Pn	**Pn**	**16 26 07.0**	**+1.2**
	12nm,0.5s						
ZAA0				⇑Sn	**Sn**	**16 27 02.0**	**+4.0**
	30nm,0.7s						
ZAA0				⇓Lg	Lg	16 27 18.5	
	292nm,1.0s						
ZALV	**Zalesovo Beam**	**4.50 338**		Pn	**Pn**	**16 26 07.2**	**+1.4**
	12nm,0.3s,baz=160,slow=13,SNR=110						
ZALV				Pg	**Pb**	**16 26 19.4**	**+2.7**
	8.9nm,0.3s,baz=155,slow=15,SNR=18						
ZALV				Sn	**Sn**	**16 27 00.2**	**+2.2**
	9.5nm,0.3s,baz=163,slow=24,SNR=10						
ZALV				Lg	Lg	16 27 20.3	
	17nm,0.3s,baz=147,slow=27,SNR=11						
ZALV	**Zalesovo Beam**	**4.50 338**		*e*Pn	**Pn**	**16 26 06.8**	**+1.1**
ZALV				Pg	**Pb**	**16 26 19.4**	**+2.7**
ZALV				Sn	**Sn**	**16 27 00.2**	**+2.2**
ZALV				Lg	Lg	16 27 20.3	
ZALV	**Zalesovo Beam**	**4.50 338**		*e*PN	**Pn**	**16 26 06.8**	**+1.1**
ZALV						16 26 19.4	
ZALV						16 27 00.3	
ZALV						16 27 20.3	
MK31	**Makanchi Array**	**4.69 232**		*e*Pn	**Pn**	**16 26 11.1**	**+2.6**
MK31	**Makanchi Array**	**4.69 232**		⇓Pn	**Pn**	**16 26 11.2**	**+2.6**
	18nm,0.4s,baz=64,slow=13,SNR=844						
MK31				⇑Pg	**Pb**	**16 26 23.6**	**+3.5**
	27nm,0.4s,baz=56,slow=18,SNR=12						
MK31				⇑Lg	Lg	16 27 24.7	
	104nm,0.5s						
MK31	**Makanchi Array**	**4.69 232**		*e*PN	**Pn**	**16 26 11.1**	**+2.6**
MKAR	**Makanchi Array**	**4.69 232**		Pn	**Pn**	**16 26 11.3**	**+2.7**
	17nm,0.3s,baz=56,slow=13,SNR=670						
MKAR				Pg	**Pb**	**16 26 23.0**	**+3.0**
	28nm,0.3s,baz=56,slow=17,SNR=40						
MKAR				Lg	Lg	16 27 24.3	
	29nm,0.3s,baz=51,slow=25,SNR=15						
MKAR				LR	LR	16 28 05.4	
	comp=Z,156nm,21.4s,baz=330,slow=40						
MK01	**Makanchi Array**	**4.71 232**		*e*Pn	**Pn**	**16 26 11.2**	**+2.4**
SEM	**Semipalatinsk**	**4.81 280**		*e*P	**Pb**	**16 26 20.3**	**-1.8**
	13nm,0.3s						
SEM				*e*S	**Sb**	**16 27 24.8**	**+4.7**
	514nm,0.6s						
MAKZ	**Makanchi**	**4.85 234**		*e*Pn	**Pn**	**16 26 13.1**	**+2.4**
MAKZ	**Makanchi**	**4.85 234**		⇑Pn	**Pn**	**16 26 13.1**	**+2.4**
	13nm,0.4s						
MAKZ				⇓Pg	**Pb**	**16 26 25.1**	**+2.4**
	53nm,0.8s						
MAKZ				⇑Lg	Lg	16 27 28.8	
	122nm,0.7s						
MAKZ	**Makanchi**	**4.85 234**		*e*PN	**Pn**	**16 26 13.1**	**+2.4**
NVS	**Novosibirsk**	**5.71 333**		*e*Pn	**Pn**	**16 26 23.9**	**+1.4**
NVS				*e*Pg	Pb	16 26 42.8	+5.4
NVS				*e*Sn	**Sn**	**16 27 29.8**	**+1.7**
NVS				*e*Sg	**Sg**	**16 27 54.9**	**-6.1**
NVS	**Novosibirsk**	**5.71 333**		*e*PN	**Pn**	**16 26 23.9**	**+1.4**
NVS				*e*		16 26 42.8	
NVS				*e*		16 27 29.8	
NVS				*e*		16 27 54.9	
KURK	**Kurchatov**	**5.87 282**		⇑*i*P	**Pn**	**16 26 26.0**	**+1.3**
KURK				Sn	**Sn**	**16 27 36.9**	**+5.0**
KURK				Lg	Lg	16 28 04.8	
KURK	**Kurchatov**	**5.87 282**		⇑Pn	**Pn**	**16 26 26.0**	**+1.3**
	66nm,0.9s						
KURK				⇓Sn	**Sn**	**16 27 34.6**	**+2.7**
	49nm,0.7s						
KURK				⇓Lg	Lg	16 28 00.1	
	126nm,0.7s						
KURK	**Kurchatov**	**5.87 282**		⇑*i*PN	**Pn**	**16 26 26.0**	**+1.3**
KURK						16 27 36.9	
KURBB	**Kurchatov Arra**	**5.92 281**		Pn	**Pn**	**16 26 26.9**	**+1.6**
	5.2nm,0.3s,baz=92,slow=15,SNR=517						
KURBB				Sn	**Sn**	**16 27 36.9**	**+3.8**
	3.0nm,0.3s,baz=89,slow=28,SNR=8.8						
KURBB				Lg	Lg	16 28 04.8	
	3.7nm,0.3s,baz=96,slow=34,SNR=8.8						
KURBB	**Kurchatov Arra**	**5.92 281**		⇑Pn	**Pn**	**16 26 26.7**	**+1.4**
	65nm,0.6s						
KURBB				⇓Sn	**Sn**	**16 27 35.4**	**+2.3**
	119nm,0.6s						
KURBB				⇓Lg	Lg	16 28 03.5	
	367nm,0.7s						
WMQ	**Urumqi**	**6.00 180**		*e*Pn	Pb	16 26 38.5	-3.8
WMQ	**Urumqi**	**6.00 180**		*e*PN	Pb	16 26 38.5	-3.8
KNGR	**Kungurtug, Tuv**	**6.37 79**		*c e*PN	**Pn**	**16 26 32.0**	**+0.3**
KAPS	**Kapalarasan**	**7.22 234**		*e*P	**Pb**	**16 27 05.2**	**+2.1**
	8.1nm,0.7s						
KAPS				*e*S	**Sg**	**16 28 43.7**	**-5.7**
	27nm,0.6s						
KTMS	**Ketmen**	**8.12 221**		*e*P	**Pb**	**16 27 21.6**	**+3.2**
	2.3nm,0.2s						
KTMS				*e*S	**Sg**	**16 29 13.1**	**-5.0**
	29nm,0.8s						
MNBS	**Baschi**	**8.55 231**		*e*P	Pg	16 27 29.9	-11
	5.2nm,0.3s						
MNBS				*e*S	**Sg**	**16 29 27.9**	**-4.0**
	36nm,1.0s						
PDGK	**Podgornoye**	**8.59 224**		⇑Pn	**Pn**	**16 27 02.2**	**+0.1**
	2.3nm,0.5s						
PDGK				⇓Sn	**Sn**	**16 28 41.5**	**+2.4**
	15nm,0.7s						
PDGK				⇑Lg	Lg	16 29 28.7	
	53nm,0.9s						
PDGK	**Podgornoye**	**8.59 224**		P	**Pn**	**16 27 02.0**	**-0.1**
SHLS	**Shalkode**	**8.74 223**		*e*P	Pg	16 27 29.7	-15
	7.5nm,0.5s						
SHLS				*e*S	Sg	16 29 25.3	-13
	49nm,0.6s						
PRZ	**Przheval'sk**	**9.75 225**		*e*Pn	**Pn**	**16 27 21.0**	**+2.9**
PRZ	**Przheval'sk**	**9.75 225**		*e*P	**Pn**	**16 27 21.0**	**+2.9**
KDJ	**Kajisay**	**10.59 227**		*e*Pn	**Pn**	**16 27 32.2**	**+2.6**
KDJ	**Kajisay**	**10.59 227**		*e*P	**Pn**	**16 27 32.2**	**+2.6**
TKM2	**Tokmak 2**	**10.81 235**		P	**Pn**

NRN	Naryn	11.69	229	*e*Pn	Pn	16 27 47.7	+2.9
NRN	Naryn	11.69	229	*e*P	Pn	16 27 47.7	+2.9
EKS2	Erkin-Say	11.98	239	P	Pn	16 27 48.4	-0.1
	SNR=6.6						
AML	Almayashu	12.38	237	P	Pn	16 27 55.8	+1.6
	SNR=5.2						
SONM	Songino Array	12.50	92	Pn	Pn	16 27 54.6	-1.0
	baz=289,slow=14,SNR=4.9						
SONM				Lg	Lg	16 31 29.6	
	0.3nm,0.3s,baz=279,slow=30,SNR=11						
ULN	Ulaanbaatar	12.92	91⇑	*e*P	Pn	16 28 01.7	+0.3
KK31	Karatay Array	13.58	247	*e*Pn	Pn	16 28 07.6	-2.7
KK31	Karatay Array	13.58	247	*e*P	Pn	16 28 07.6	-2.7
KKAR	Karatay Array	13.58	247	*e*Pn	Pn	16 28 07.8	-2.5
KKAR	Karatay Array	13.58	247	*e*P	Pn	16 28 07.8	-2.5
BTK	Batken	15.38	237	*e*Pn	Pn	16 28 34.1	-0.6
BTK	Batken	15.38	237	*e*P	Pn	16 28 34.1	-0.6
GAR	Garm	16.41	235	*e*Pn	Pn	16 28 46.9	-1.2
	23nm,1.3s						
GAR	Garm	16.41	235	*e*P	Pn	16 28 46.9	-1.2
GAR				pmax	pmax		
	comp=Z,23nm,1.3s						
CHGR	Chuyangaron	17.28	237	*e*Pn	Pn	16 28 58.3	-0.7
	comp=Z,10nm,0.9s						
SVE	Sverdlovsk	17.52	304	*e*P	Pn	16 28 59.9	-1.9
SVE				*e*S	Sn	16 32 08.2	-8.5
SVE				pmax	pmax		
	comp=Z,17nm,1.1s						
ABKAR	Akbulak array	17.97	279	*e*Pn	Pn	16 29 05.7	-1.7
ARU	Arti	18.58	302	*e*Pn	P	16 29 13.9	-0.7
ARU	Arti	18.58	302	*e*P	P	16 29 15.3	+0.7
AKTO	Aktyubinsk	18.97	283	P	P	16 29 20.3	+1.4
	comp=Z,0.7nm,0.3s,baz=89,slow=11,SNR=55						
NIL	Nilore	19.35	219	*e*P	P	16 29 23.9	+0.6
	comp=Z,1.8nm,0.7s						
NIL	Nilore	19.35	219	*e*P	P	16 29 23.9	+0.6
NIL				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GEYT	Alibeck	24.23	252	P	P	16 30 16.8	+2.3
	comp=Z,1.1nm,0.5s,baz=93,slow=8.8,SNR=3.6						
PRGR	Permogore	25.96	313	*e*P	P	16 30 31.3	+1.4
PRGR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TIXI	Tiksi	28.72	26⇑	*e*P	P	16 30 54.6	0.0
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.1s						
CMAR	Chiang Mai Arr	32.57	160	P	P	16 31 29.0	0.0
	comp=Z,0.2nm,0.7s,baz=339,slow=9.7,SNR=3.6						
ARCES	ARCESS Array B	34.96	327	P	P	16 31 49.9	+0.5
	comp=Z,5.0nm,1.0s,baz=94,slow=12,SNR=3.2						
FINES	FINESS Array B	35.29	313	P	P	16 31 52.0	-0.3
	comp=Z,0.8nm,0.5s,baz=64,slow=13,SNR=6.5						
AKASG	Malin Array Be	36.53	294	P	P	16 32 02.9	-0.1
	comp=Z,1.5nm,0.5s,baz=82,slow=8.9,SNR=6.6						
BRTR	Keskin Array B	38.88	276	P	P	16 32 22.8	-0.5
	comp=Z,1.0nm,0.6s,baz=65,slow=5.5,SNR=9.6						
NB2	NORSAR Subarra	42.32	315	P	P	16 32 51.0	-0.3
	comp=Z,0.8nm,0.5s,baz=66,slow=7.9						
NOA	NORSAR Array B	42.32	315	P	P	16 32 51.3	+0.1
	comp=Z,0.5nm,0.6s,baz=69,slow=9.1,SNR=6.3						
PALK	Pallekele	42.81	190	LR	LR	16 54 08.6	
	comp=Z,69nm,19.6s,baz=233,slow=41						
PALK	Pallekele	42.81	190	*i* P	P	16 32 53.5	-2.1
GERES	GERESS Array B	46.36	299	P	P	16 33 23.2	-0.6
	comp=Z,0.2nm,0.6s,baz=71,slow=8.8,SNR=2.0						
ILAR	Eielson Array	58.17	24	P	P	16 34 52.6	+1.4
	comp=Z,0.4nm,0.8s,baz=307,slow=5.0,SNR=4.2						
INK	Inuvik	58.26	17	P	P	16 34 51.6	-0.1
	comp=Z,0.8nm,0.9s,baz=297,slow=4.6,SNR=3.7						
ESDC	Sonseca Array	61.95	299	P	P	16 35 17.3	-0.3
	comp=Z,0.3nm,0.4s,baz=77,slow=6.7,SNR=4.3						
YKA	Yellowknife Ar	66.54	11	P	P	16 35 47.2	-0.6
	comp=Z,0.2nm,0.7s,baz=340,slow=6.7,SNR=4.4						
TORD	Torodi Ar. Bea	77.50	276	P	P	16 36 52.4	-1.2
	comp=Z,0.4nm,0.7s,baz=56,slow=4.5,SNR=3.2						
WRA	Warramunga Arr	80.81	136	P	P	16 37 11.3	-0.1
	comp=Z,0.4nm,0.8s,baz=342,slow=5.7,SNR=3.5						
ASAR	Alice Springs	83.88	138	P	P	16 37 25.3	-2.2
	comp=Z,0.4nm,0.7s,baz=333,slow=4.6,SNR=5.0						

IDC ***27*** *16:29:48.8±1.9, 16°.38S×173°.16W, h0km, mb3.8/8, mb1 4.2/8, mb1mx4.0/27, mbtmp3.8/8, MS3.6/6, Ms1 3.6/6, ms1mx3.2/42, Error ellipse: s-maj=109.8km s-min=21.6km az=151.0*

NEIC ***27*** *16:29:50.1±0.3, 16°.35S×173°.22W, h10km, mb4.2/3, Error ellipse: s-maj=11.0km s-min=7.8km az=176.0*

ISCJB ***27*** *16:29:51.6±0.5, 16°.5S±0°.1×173°.26W±0°.09, h32km, mb4.0/11, MS3.6/4, Error ellipse: s-maj=17.7km s-min=11.6km az=167.6*

ISC 27 16:29:53.3±0.7, 16°.4S±0°.1×173°.2W±0°.1, h32km, n37, σ0s76/25, mb4.0/11, MS3.7/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIUE	Niue	4.14	131	*e*Pn		Pn	Pn	16 30 53.5	-0.9
FUNA	Funafuti	10.75	316	*e*Pn		Pn	Pn	16 32 23.7	-1.4
RAR	Rarotonga	13.62	113	LR		LR	LR	16 36 57.1	
	comp=Z,126nm,18.9s,baz=288,slow=32								
PINNC	Pines Island,	19.24	248	*e*P		P	P	16 34 13.9	-1.1
	140nm,1.3s								
DZM	Mont Dzumac	20.00	250	LR		LR	LR	16 40 59.8	
	comp=Z,218nm,20.0s,baz=110,slow=33								
HNR	Honiara	27.02	281	LR		LR	LR	16 44 47.7	
	comp=Z,222nm,20.4s,baz=112,slow=33								
H11S2	WAKE ISLAND Hy	39.88	329	T		T	T	17 19 43.4	
	baz=149,slow=76,SNR=6.1								
H11S3	WAKE ISLAND Hy	39.89	329	T		T	T	17 19 29.7	
	baz=149,slow=76,SNR=3.9								
H11S1	WAKE ISLAND Hy	39.90	329	T		T	T	17 19 32.7	
	baz=149,slow=76,SNR=3.4								
H11N3	WAKE ISLAND Hy	40.83	331	T		T	T	17 20 15.4	
	baz=150,slow=76,SNR=7.7								
H11N1	WAKE ISLAND Hy	40.84	331	T		T	T	17 20 12.8	
	baz=150,slow=76,SNR=6.2								
H11N2	WAKE ISLAND Hy	40.85	331	T		T	T	17 20 17.2	
	baz=150,slow=76,SNR=8.0								
WR1	Warramunga Arr	49.79	258	*e*P		P	P	16 38 43.7	+0.3
	27nm,1.6s								
WRA	Warramunga Arr	49.79	258	P		P	P	16 38 43.7	+0.3
	0.3nm,0.4s,baz=97,slow=6.6,SNR=12								
ASAR	Alice Springs	49.97	253	P		P	P	16 38 45.4	+0.6
	1.0nm,0.4s,baz=87,slow=7.9,SNR=14								
FITZ	Fitzroy Crossi	58.17	259	LR		LR	LR	17 03 36.3	
	comp=Z,53nm,18.1s,baz=116,slow=35								
BATI	Baumata	61.53	267	LR		LR	LR	17 05 04.8	
	comp=Z,46nm,18.5s,baz=264,slow=34								
MJAR	Matsushiro Arr	69.79	320	LR		LR	LR	17 06 19.4	
	comp=Z,26nm,21.5s,baz=315,slow=31								
NV01	Mina Array Sit	74.94	42	*e*P		P	P	16 41 30.5	-1.2
NVAR	Mina Array Bea	74.94	42	P		P	P	16 41 32.2	+0.6
	0.9nm,0.5s,baz=235,slow=7.6,SNR=4.8								
HLID	Hailey	80.28	39	*e*P		P	P	16 42 01.8	+0.5
	2.0nm,1.1s								
LTX	Lajitas	81.02	56	*e*P		P	P	16 42 05.7	+0.2
TXAR	Lajitas Array	81.02	56	P		P	P	16 42 05.7	+0.2
	0.8nm,1.0s,baz=243,slow=5.5,SNR=5.2								
BW06	Boulder Array	82.88	42	*e*P		P	P	16 42 15.4	+0.3
	1.6nm,1.0s								
PD31	Pinedale Array	82.88	42	*e*P		P	P	16 42 14.5	-0.7
PDAR	Pinedale Array	82.88	42	P		P	P	16 42 15.6	+0.4
	0.8nm,0.8s,baz=222,slow=2.0,SNR=7.9								
ILAR	Eielson Array	83.36	11	P		P	P	16 42 17.1	+0.2
	0.5nm,0.6s,baz=235,slow=6.0,SNR=8.9								
YKA	Yellowknife Ar	90.92	23	P		P	P	16 42 53.0	-0.6
	0.3nm,0.9s,baz=249,slow=5.7,SNR=4.1								
CMAR	Chiang Mai Arr	93.08	288	P		P	P	16 43 06.4	+1.8
	0.2nm,0.3s,baz=79,slow=2.3,SNR=4.2								
BR101	Keskin Array S	147.01	320	*e*PKPbc		PKPbc	PKPbc	16 49 33.5	+0.2
BRTR	Keskin Array B	147.01	320	PKPbc		PKPbc	PKPbc	16 49 33.5	+0.2
	1.6nm,0.8s,baz=31,slow=8.9,SNR=6.4								
GERES	GERESS Array B	147.12	352	PKPbc		PKPbc	PKPbc	16 49 33.7	+0.4
	0.6nm,0.8s,baz=28,slow=3.2,SNR=5.4								
CONA	Conrad Observa	147.66	349	*e*P		PKPbc	PKPbc	16 49 35.6	+0.9
	0.9nm,0.5s								
WATA	Walderalm	148.87	354	*e*PKPdf		PKPdf	PKPdf	16 49 34.4	+0.3
	1.4nm,0.4s								
KBA	Koelnbreinsper	148.90	351	*e*PKiKP		PKPbc	PKPbc	16 49 38.9	+0.7
	0.7nm,0.4s								
SOKA	Soboth	149.01	349	*e*PKPbc		PKPbc	PKPbc	16 49 37.8	-0.5
	0.1nm,0.1s								
ABTA	Abfaltersbach	149.34	352	*e*PKiKP		PKiKP	PKiKP	16 49 40.4	+0.1
	1.1nm,0.6s								

MAN 27 16:30:54.3, 16°.30N×120°.62E, h21km, mb4.3, ML3.1, MS2.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SMPP	San Manuel, Pa	0.16	158	*e*P		Pb	Pb	16 30 57.8	-2.5
SMPP				*e*S		Sb	Sb	16 31 00.9	-3.7
BOLP	Bolinao	0.68	277	*e*P		Pb	Pb	16 31 06.9	-0.6
SCZP	Santa Cruz	0.86	232	*e*P		Pn	Pn	16 31 11.7	+0.6
PCPH	Palayan	0.87	148⇑	*e*P		Pb	Pb	16 31 09.8	-0.8
PCPH				*i* S		Sb	Sb	16 31 21.9	+0.1
BALP	Baler	1.08	121	*e*P		Pn	Pn	16 31 13.0	-1.2
BALP				*e*S		Sn	Sn	16 31 28.9	+0.5
CAUP	Cauayan	1.32	61	*e*P		Pn	Pn	16 31 17.6	+0.1
CAUP				*e*S		Sb	Sb	16 31 38.0	+3.1
APYP	Conner	1.66	21	*e*P		Pn	Pn	16 31 22.4	+0.2
APYP				*e*S		Sn	Sn	16 31 43.3	+0.4

GUC 27 16:43:04.4±0.7, 25°.30S×69°.07W, h126km±5km, ML3.6, 6C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO02	Mina Guanaco	0.49	286⇑	*i* P		Pn	Pn	16 43 23.5	+0.1
GO02				*i* S		Sn	Sn	16 43 37.2	-0.5
GO02				IAML				16 43 38.5	
	comp=E,6μm,0.1s								
PB14	IPOC Station P	1.39	299	*e*P		Pn	Pn	16 43 31.9	+0.5
PB14				*i* S		Sn	Sn	16 43 51.9	+0.1
PB14				IAML				16 43 53.9	
	comp=N,598nm,0.1s								
PB10	IPOC Station P	2.24	322⇑	*i* P		Pn	Pn	16 43 41.6	+0.5
PB10				*i* S		Sn	Sn	16 44 08.9	-0.5
PB10				IAML				16 44 10.8	
	comp=E,207nm,0.1s								
GO03	Copiap	2.51	204⇑	*i* P		Pn	Pn	16 43 44.9	+0.3
GO03				*i* S		Sn	Sn	16 44 15.6	0.0
GO03				IAML				16 44 18.6	
	comp=E,165nm,0.2s								
PB06	IPOC Station P	2.62	350⇑	*i* P		Pn	Pn	16 43 46.5	+0.3
PB06				*i* S		Sn	Sn	16 44 18.3	-0.1
PB06				IAML				16 44 18.8	
	comp=N,360nm,0.4s								
PB05	IPOC Station P	2.65	337⇑	*i* P		Pn	Pn	16 43 46.4	-0.1
PB05				*i* S		Sn	Sn	16 44 17.6	-1.3
PB05				IAML				16 44 22.6	
	comp=E,166nm,0.3s								
PB09	IPOC Station P	3.49	357⇑	*i* P		Pn	Pn	16 43 58.0	+0.5
PB09				IAML				16 44 42.4	
	comp=N,93nm,0.3s								

ISK ***27*** *16:47:42.1, 42°.32N×40°.91E, h9km, ML2.9/6*

TIF ***27*** *16:47:42.2, 42°.34N×40°.97E, h25km±2km*

NORS ***27*** *16:47:43.9±0.0, 42°.59N×41°.37E, h6km, MPVA3.8*

MOS ***27*** *16:47:43.2±0.0, 42°.44N×41°.08E, h10km, MPVA3.6*

DDA ***27*** *16:47:44.1, 42°.03N×40°.72E, h7km±3km, ML3.1*

ISC 27 16:47:42.0±1.3, 42°.35N±0°.02×40°.96E±0°.03, h3km±10km, n50, σ1s30/85, 4C-1D, Black Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATM	Batumi	0.93	144	PG		Pg	Pg	16 48 00.5	+0.8
BATM				SG		Sb	Sb	16 48 13.8	+0.4
BATM	Batumi	0.93	144	P		Pg	Pg	16 48 00.5	+0.8
BATM				S		Sg	Sg	16 48 12.9	+1.1
BCA	Borcka	1.03	151	PG		Pg	Pg	16 48 17.8	0.0
BCA				SG		Sb	Sb	16 48 16.7	+0.2
DOMR	Dombai	1.06	27	*ce*PG		Pg	Pg	16 48 02.0	-0.3
DOMR	Dombai	1.06	27	*e*Pg		Pg	Pg	16 48 02.1	-0.2
DOMR				*e*Sg		Sg	Sg	16 48 14.7	-1.2
DBOC	Borcka	1.14	152	*i* P		Pg	Pg	16 48 04.0	+0.2
DBOC				*i* S		Sb	Sb	16 48 19.9	+0.4
ARXR	Arkhyz	1.23	11	*e*Pg		Pn	Pn	16 48 04.5	-1.8
ARXR				*e*Sg		Sb	Sb	16 48 19.9	-2.4
CHOM	Cayeli-Rize	1.27	187	PN		Pn	Pn	16 48 05.9	-0.7
CHOM				SN		Sg	Sg	16 48 23.4	+0.8
ARTV	Artvin	1.37	148	*i* P		Pn	Pn	16 48 07.0	-1.3
RPOR	Krasnaya Polya	1.44	339	*e*PG		Pn	Pn	16 48 08.8	-0.2
RPOR				*e*S		Sn	Sn	16 48 28.0	-0.5
RPOR	Krasnaya Polya	1.44	339	*e*Pg		Pn	Pn	16 48 09.0	-0.1
RPOR				*e*Sg		Sn	Sn	16 48 28.0	-0.5
DBAD	Bademkaya	1.44	157	*i* P		Pn	Pn	16 48 08.3	-0.8
DBAD				*i* S		Sn	Sn	16 48 26.4	-2.3
DAGI	Agillar	1.46	151	IAML_P					
	comp=Z,812nm,0.1s								
DAGI				*i* P		Pn	Pn	16 48 08.9	-0.5
DAGI				*i* S		Sn	Sn	16 48 27.4	-1.6
SOC	Sochi	1.53	324	*e*PG		Pn	Pn	16 48 10.5	+0.2
SOC				*e*				16 48 31.8	
SOC				pmax	pmax				
	comp=Z,40nm,0.3s								
SOC				smax	smax				
	comp=N,70nm,0.2s								
SOC				smax	smax				
	comp=E,236nm,0.3s								
SOC	Sochi	1.53	324	*e*Pg		Pn	Pn	16 48 11.0	+0.7
SOC				*e*Sg		Sb	Sb	16 48 31.6	+0.8
NEY	Neytrino	1.57	55	*e*PG		Pn	Pn	16 48 09.8	-1.2
NEY				*e*S		Sn	Sn	16 48 28.5	-3.5
NEY				pmax	pmax				
	comp=Z,136nm,0.7s								
NEY				smax	smax				
	comp=N,133nm,0.4s								
NEY	Neytrino	1.57	55	*e*Pg		Pn	Pn	16 48 09.7	-1.4
NEY				*e*Sg		Sn	Sn	16 48 28.9	-3.1
DDEM	Demirkent	1.57	158	*i* P		Pn	Pn	16 48 10.7	-0.3
KTUT	Trabzon	1.63	214	PN		Pn	Pn	16 48 11.0	-0.7
KTUT				SN		Sn	Sn	16 48 31.9	-1.3
GUZR	Guzeripl'	1.75	340	*i* Pg		Pn	Pn	16 48 14.2	+0.8
GUZR				*e*Sg		Sn	Sn	16 48 36.9	+0.6
SHA1	Shidzhatmaz	1.86	41	*e*PN		Pn	Pn	16 48 15.1	+0.1
SHA1				*e*S		Sn	Sn	16 48 38.3	-0.8
SHA1	Shidzhatmaz	1.86	41	*e*Pg		Pn	Pn	16 48 15.2	+0.3
SHA1				*e*Sg		Sn	Sn	16 48 38.2	-0.9
LZRR	Lazarevskoye	1.96	324	*e*Pg		Pn	Pn	16 48 17.4	+1.3
LZRR				*e*Sg		Sb	Sb	16 48 44.4	+1.2
DIGR	Digorskoe uzhe	2.01	73	*e*PN		Pn	Pn	16 48 16.6	-0.4
DIGR				*e*S		Sn	Sn	16 48 41.9	-0.8
DIGR				pmax	pmax				
	comp=Z,35nm,0.3s								
DIGR				smax	smax				
	comp=N,10.0nm,0.3s								
DIGR	Digorskoe uzhe	2.01	73	*e*Pg		Pn	Pn	16 48 16.3	-0.7
DIGR				*e*Sg		Sn	Sn	16 48 42.3	-0.4
KIV	Kislovodsk	2.04	38	PN		Pn	Pn	16 48 18.2	+0.9
KIV	Kislovodsk	2.04	38	*i*PN		Pn	Pn	16 48 18.4	+1.1
KIV				*e*S		Sn	Sn	16 48 43.6	+0.3
KIV0	Kislovodsk Arr	2.04	38	*e*Pg		Pn	Pn	16 48 18.2	+0.9
KIV0				*e*Sg		Sn	Sn	16 48 43.1	-0.3
BAYT	Aydıntepe-Bayb	2.05	198	PN		Pn	Pn	16 48 17.1	-0.5
BAYT				SN		Sn	Sn	16 48 42.5	-1.3
BEYR	Belyy Ugol+	2.14	39	*e*PN		Pn	Pn	16 48 20.1	+1.4
BEYR				*e*S		Sn	Sn	16 48 46.4	+0.6
ESPY	Espiye-Giresun	2.21	230	PN		Pn	Pn	16 48 19.2	-0.4
ZEI	Tsey	2.21	78	*e*PN		Pn	Pn	16 48 19.7	-0.1
ZEI				*e*S		Sn	Sn	16 48 47.9	+0.1
ZEI				pmax	pmax				
	comp=Z,24nm,0.4s								
ZEI				smax	smax				
	comp=E,58nm,0.4s								
ZEI	Tsey	2.21	78	*e*Pg		Pn	Pn	16 48 19.8	-0.1
ZEI				*e*Sg		Sn	Sn	16 48 47.8	-0.1
NCK	Nalchik	2.25	59⇓	*e*PN		Pn	Pb	16 48 22.8	-0.4
LSNR	Lesken	2.30	65	*e*Pg		Pn	Pn	16 48 22.6	+1.7
KBTC	Kuba-Taba	2.31	50	*e*PN		Pn	Pn	16 48 21.3	+0.3
KBTC				*e*S		Sn	Sn	16 48 50.0	0.0
KBTC	Kuba-Taba	2.31	50	*e*Pg		Pb	Pb	16 48 23.5	-0.9
KBTC				*e*Sg		Sb	Sb	16 48 53.1	-0.2
PYA1	Pyatigorsk	2.31	42	*e*PN		Pn	Pn	16 48 20.5	-0.5
PYA1				*e*S		Sn	Sn	16 48 49.7	-0.3
PYA1	Pyatigorsk	2.31	42	*e*Pg		Pn	Pn	16 48 23.2	+2.2
PYA1				*e*Sg		Sn	Sn	16 48 51.8	+1.8
KOPR	Koprukoy-ERZUR	2.45	164	PN		Pn	Pn	16 48 23.4	+0.3
TRLG	Trialeti	2.48	108	P		Pb	Pb	16 48 25.9	-1.4
TRLG				S		Sn	Sn	16 48 55.9	+1.6
LACR	Lac	2.51	78	*e*PN		Pn	Pn	16 48 24.6	+0.8
LACR				*e*S		Sn	Sn	16 48 56.0	+1.1
LACR				pmax	pmax				
	comp=Z,24nm,0.3s								
LACR				smax	smax				
	comp=N,33nm,0.4s								
LACR	Lac	2.51	78	*e*Pn		Pn	Pn	16 48 24.4	+0.6
LACR				*e*Sn		Sb	Sb	16 48 57.6	-1.4
TBLG	Delisi	2.88	101	PN		Pn	Pn	16 48 29.8	+1.0
TBLG	Delisi	2.88	101	P		Sb	Sb	16 49 05.8	-3.9
GOF	Gofitskoye	3.10	28	*e*PN		Pn	Pn	16 48 28.8	-3.0
GOF				*e*S		Sb	Sb	16 49 17.4	+1.6
GOF				pmax	pmax				
	comp=Z,10.0nm,0.7s								
GOF				smax	smax				
	comp=E,20nm,0.7s								
ANN	Anapa	3.54	315	*e*PN		Pb	Pb	16 48 43.8	-1.5
ANN				*e*				16 49 26.9	
ANN				pmax	pmax				
	comp=Z,7.0nm,0.7s								
ANN				smax	smax				
	comp=N,19nm,1.4s								
GNI	Garni	3.60	126⇑	*e*PN		Pn	Pn	16 48 41.2	+2.3
LGD	Lagodekhi	3.96	96	P		Sb	Sb	16 49 42.7	+1.9
BRVK	Borovoye	22.29	51⇑	*e*P		P	P	16 52 43.3	+3.0
BRVK				pmax	pmax				
	comp=Z,2.0nm,1.3s								

ISCJB ***27*** *16:51:56.5±0.3, 4°.77N±0°.03×127°.41E±0°.04, h108km, mb4.0/21, Error ellipse: s-maj=6.8km s-min=3.4km az=154.4*

MAN ***27*** *16:51:58.6, 4°.91N×127°.27E, h32km, mb4.7, ML3.6, MS3.5*

IDC ***27*** *16:51:58.7±2.0, 4°.80N×127°.49E, h112km±19km, mb3.7/20, mb1 3.8/22, mb1mx3.7/43, mbtmp4.1/22, MS3.0/2, Ms1 3.1/2, ms1mx2.6/32, Error ellipse: s-maj=20.6km s-min=9.8km az=71.0*

DJA ***27*** *16:52:05.8±1.1, 4°.7N±10°×12°.7E±°, h83km±6km, M4.3/6, mb4.2/6, MLv4.3/3*

ISC 27 16:51:57.9±0.5, 4°.76N±0°.04×127°.42E±0°.06, h108km, n49, σ1s57/62, mb4.1/27, 1C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	2.16	308	*e*P		Pn	Pn	16 52 30.8	-2.0
DDMP				*e*S		Sn	Sn	16 52 58.4	-1.2
MATI	Mati	2.46	332	*e*P		Pn	Pn	16 52 33.6	-3.2
MATI				*e*S		Sn	Sn	16 53 01.1	-5.5
DAV	Davao City (W)	2.93	322	P		Pn	Pn	16 52 42.7	-0.3
	51nm,0.3s,baz=143,slow=6.8,SNR=3.8								
DAV				S		Sn	Sn	16 53 17.6	-0.1
	53nm,0.3s,baz=251,slow=23,SNR=5.0								
DMPH	Davao City--Mi	2.99	321⇑	*e*P		Pn	Pn	16 52 43.4	-0.4
DMPH				*e*S		Sn	Sn	16 53 19.5	+0.5
SKMP	Bagumbayan, Su	3.35	302	*e*P		Pn	Pn	16 52 47.6	-0.9
SKMP				*e*S		Sn	Sn	16 53 30.4	+2.7
BIPH	Bislig	3.56	343⇓	*e*P		Pn	Pn	16 52 47.6	-3.8
BIPH				*e*S		Sn	Sn	16 53 22.7	-10
TNTI	Ternate	3.96	181	P		Pn	Pn	16 52 57.7	+0.9
TNTI				S		Sn	Sn	16 53 41.2	-1.1
BUTP	Butuan	4.55	337	*e*P		Pn	Pn	16 53 04.3	-0.4
BUTP				*e*S		Sn	Sn	16 53 53.9	-2.5
CGP	Cagayan de Oro	4.56	324⇓	*e*P		Pn	Pn	16 53 05.9	+1.1
CGP				*e*S		Sn	Sn	16 53 55.2	-1.5
PAGZ	Pagadian	5.05	308	*e*P		Pn	Pn	16 53 10.4	-1.0
KMSI	Cibinong	5.39	220	P		Pn	Pn	16 53 15.8	-0.2
IPIL	Ipil	5.68	302	*e*P		Pn	Pn	16 53 19.6	-0.3
IPIL				*e*S		Sn	Sn	16 54 22.9	-1.0
MSLP	Maasin	5.91	335	*e*P		Pn	Pn	16 53 23.7	+0.6
SIJI	Sorong	6.79	145	P		Pn	Pn	16 53 35.2	+0.3
	6.4nm,0.3s,baz=260,slow=20,SNR=44								
SIJI				S		Sn	Sn	16 54 48.3	-2.6
	5.7nm,0.3s,baz=213,slow=23,SNR=12								
SANI	Sanana	6.91	192	P		Pn	Pn	16 53 36.2	-0.5
	13nm,0.5s,0.2nm								
SANI				S		Sn	Sn	16 54 49.6	-4.3
	13nm,0.5s,0.2nm								
MRSI	Marisa	6.93	232	P		Pn	Pn	16 53 37.4	+0.5
MRSI				S		Sn	Sn	16 54 51.1	-3.1
NLAI	Namlea	7.95	182	P		Pn	Pn	16 53 52.0

Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function

ISC 27 17:03:50.0±0.8, 34°9S±0.1×111.7W±0.2, h10km, n36, σ1s31/16, mb4.0/8, MS4.0/14, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**8.04**	**15**	LR	LR	17 07 59.4	
	comp=Z,446nm,19.2s,baz=226,slow=31						
RKT	**Rikitea**	**23.47**	**294**	*e*LQ	LQ	17 13 30.4	
	442nm,28.8s						
TBI	**Tubuai**	**34.78**	**279**	*e*LR	LR	17 19 38.6	
	comp=Z,406nm,25.2s						
USHA	**Ushuaia**	**35.78**	**137**	P	**P**	**17 10 47.4**	**-1.6**
	13nm,1.0s,baz=343,slow=11,SNR=3.5						
TAOE	**Nuku Hiva Isla**	**36.79**	**308**	*e*LR	LR	17 20 42.1	
	comp=Z,300nm,26.7s						
PPT2	**Papeete2**	**37.86**	**287**	*e*LR	LR	17 20 58.3	
	comp=Z,205nm,26.2s						
PPT	**Papeete**	**37.87**	**287**	LR	LR	17 22 31.1	
	comp=Z,131nm,18.2s,baz=234,slow=30						
LVC	**Limon Verde**	**39.16**	**83**	P	**P**	**17 11 18.6**	**+0.1**
	4.2nm,0.9s,baz=282,slow=6.8,SNR=2.7						
LPAZ	**La Paz**	**43.04**	**76**	P	**P**	**17 11 51.7**	**+0.9**
	3.5nm,1.0s,baz=249,slow=2.3,SNR=9.0						
LPAZ				LR	LR	17 24 13.4	
	comp=Z,87nm,18.2s,baz=236,slow=28						
CPUP	**Villa Florida**	**47.05**	**95**	P	**P**	**17 12 23.1**	**+1.2**
	4.7nm,1.3s,baz=222,slow=12,SNR=3.0						
CPUP				LR	LR	17 28 24.1	
	comp=Z,117nm,21.6s,baz=224,slow=31						
SIV	**San Ignacio**	**48.88**	**81**	LR	LR	17 29 08.8	
	comp=Z,147nm,21.1s,baz=288,slow=31						
ROSC	**El Rosal**	**52.91**	**49**	LR	LR	17 31 35.7	
	comp=Z,101nm,19.1s,baz=272,slow=32						
QSPA	**South Pole Qui**	**55.26**	**180**	P	**P**	**17 13 24.2**	**+1.0**
	1.7nm,1.1s,baz=80,slow=6.4,SNR=3.2						
VNDA	**Vanda**	**55.43**	**195**	LR	LR	17 32 00.4	
	comp=Z,75nm,19.0s,baz=160,slow=31						
URZ	**Urewera**	**55.96**	**244**	LR	LR	17 31 57.7	
	comp=Z,266nm,20.2s,baz=93,slow=30						
SDV	**Santo Domingo**	**58.34**	**50**	LR	LR	17 34 53.0	
	comp=Z,200nm,21.4s,baz=276,slow=32						
RPZ	**Rata Peaks**	**58.42**	**236**	LR	LR	17 34 09.5	
	comp=Z,115nm,19.0s,baz=89,slow=31						
BDFB	**Brasilia**	**59.73**	**88**	LR	LR	17 35 32.4	
	comp=Z,122nm,20.6s,baz=225,slow=32						
VNA3	**Neumayer Olymp**	**61.04**	**159**	P	**P**	**17 14 03.5**	**+0.1**
VNA1	**Neumayer--Stat**	**61.71**	**158**	P	**P**	**17 14 06.4**	**-1.5**
VNA2	**Neumayer--Watz**	**61.85**	**159**	P	**P**	**17 14 08.6**	**-0.3**
	baz=243,slow=6.3						
TXAR	**Lajitas Array**	**64.37**	**8**	P	**P**	**17 14 26.3**	**+0.2**
	0.5nm,1.0s,baz=168,slow=4.6,SNR=3.4						
TXAR				LR	LR	17 36 52.2	
	comp=Z,112nm,18.9s,baz=0.0,slow=31						
SJG	**San Juan**	**68.20**	**47**	LR	LR	17 42 37.3	
	comp=Z,61nm,18.3s,baz=282,slow=34						
DZM	**Mont Dzumac**	**71.31**	**256**	*e*LR	LR	17 36 32.0	
	comp=Z,230nm,29.4s						
NVAR	**Mina Array Bea**	**73.25**	**355**	P	**P**	**17 15 22.1**	**+0.6**
	1.3nm,0.9s,baz=188,slow=4.9,SNR=3.7						
PDAR	**Pinedale Array**	**77.35**	**2**	P	**P**	**17 15 42.5**	**-2.5**
	1.4nm,1.0s,baz=160,slow=4.7,SNR=7.3						
STKA	**Stephens Creek**	**84.36**	**235**	LR	LR	17 49 02.5	
	comp=Z,97nm,19.2s,baz=202,slow=32						
ULM	**Lac du Bonnet**	**85.96**	**10**	LR	LR	17 51 37.1	
	comp=Z,146nm,18.5s,baz=60,slow=33						
H11S2	**WAKE ISLAND Hy**	**93.79**	**290**	T	T	19 00 52.2	
	baz=126,slow=76,SNR=5.6						
H11S1	**WAKE ISLAND Hy**	**93.81**	**290**	T	T	19 00 54.0	
	baz=126,slow=76,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**93.81**	**290**	T	T	19 00 55.8	
	baz=126,slow=76,SNR=5.5						
AKASG	**Malin Array Be**	**147.71**	**49**	PKPbc	**PKPdf**	**17 23 30.7**	**-0.9**
	0.1nm,0.4s,baz=279,slow=3.3,SNR=2.6						
CMAR	**Chiang Mai Arr**	**148.28**	**247**	PKPbc	**PKPdf**	**17 23 35.1**	**+1.6**
	2.2nm,0.9s,baz=169,slow=1.9,SNR=18						
SONM	**Songino Array**	**148.99**	**306**	PKPbc	**PKPdf**	**17 23 35.5**	**+1.5**
	1.1nm,0.9s,baz=119,slow=1.5,SNR=6.4						
BRTR	**Keskin Array B**	**152.11**	**70**	PKPbc	**PKPbc**	**17 23 46.0**	**+0.2**
	3.8nm,1.2s,baz=217,slow=0.7,SNR=4.1						
ZALV	**Zalesovo Beam**	**157.74**	**334**	PKPab	**PKPab**	**17 24 17.2**	**-1.5**
	0.3nm,0.4s,baz=44,slow=4.4,SNR=2.8						

*ISCJB **27** 17:08:25.8±0.5, 67°.85N±0°.02×20°.22E±0°.08, h0km, Error ellipse: s-maj=4.3km s-min=3.3km az=12.9*
*HEL **27** 17:08:26.6±0.1, 67°.88N×20°.21E, h0km, ML1.7, ML2.1(UPP), Explosion*
*IDC **27** 17:08:28.0±1.4, 67°.80N×20°.50E, h0km, mb1 2.9/3, mb1mx2.8/31, mbtmp2.8/3, ML2.1/3, Error ellipse: s-maj=20.2km s-min=9.4km az=111.0*

ISC 27 17:08:26.4±0.8, 67°.85N±0°.03×20°.24E±0°.03, h0km, n24, σ1s15/35, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.12**	**18**	*i* P	**Pg**	**17 08 28.1**	**-0.5**
KUA				*i* S	**Sg**	**17 08 29.6**	**-0.5**
RATU	**Laukkuluspa**	**0.25**	**265**	*i* P	**Pg**	**17 08 30.9**	**-0.3**
NIKU	**Nikkaluokta**	**0.46**	**273**	*i* P	**Pg**	**17 08 34.6**	**-0.5**
LANU	**Lannavaara**	**0.69**	**72**	*e*P	**Pg**	**17 08 38.8**	**-0.7**
	baz=256						
LANU				*e*S	**Sg**	**17 08 48.3**	**-0.2**
DUNU	**Dundret**	**0.74**	**170**	*i* P	**Pg**	**17 08 40.6**	**+0.2**
MASU	**Masugnsbyn**	**0.78**	**119**	*i* P	**Pg**	**17 08 41.7**	**+0.4**
SALU	**Saltoluokta**	**0.81**	**236**	*i* P	**Pg**	**17 08 41.2**	**-0.7**
KIF	**Kilpisjarvi**	**1.18**	**10**	*e*P	**Pb**	**17 08 49.5**	**-0.2**
KIF	**Kilpisjarvi**	**1.18**	**10**	*e*PB	**Pg**	**17 08 48.7**	**-0.3**
KIF				MSG		17 09 01.4	
	comp=Z,5.1nm,0.2s						
KIF				*e*SB	**Sb**	**17 09 05.4**	**-0.1**
PAJU	**Pajala**	**1.38**	**125**	*e*P	**Pg**	**17 08 51.5**	**-1.4**
HEF	**Hetta**	**1.40**	**65**	*e*P	**Pn**	**17 08 53.0**	**-0.2**
HEF	**Hetta**	**1.40**	**65**	*e*PG	**Pn**	**17 08 51.9**	**-1.3**
	baz=253						
HEF				MSG		17 09 08.9	
	comp=Z,7.1nm,0.2s						
HEF				*e*SN	**Sn**	**17 09 12.2**	**0.0**
KALU	**Kalix**	**2.34**	**147**	*e*P	**Pn**	**17 09 06.5**	**+0.5**
	baz=325						
KALU				*e*SB	**Sb**	**17 09 38.0**	**-0.8**
TOF	**Tornio**	**2.39**	**136**	*e*P	**Pn**	**17 09 07.7**	**+1.0**
	baz=314						
TOF				MSG		17 09 38.2	
	comp=Z,5.5nm,0.2s						
TOF				*e*SB	**Sb**	**17 09 40.3**	**+0.1**
SGF	**Sodankyl**	**2.44**	**97**	*e*PB	**Pb**	**17 09 09.7**	**-1.3**
	baz=281						
SGF				*e*SG	**Sb**	**17 09 42.6**	**+1.1**
ARCES	**ARCESS Array B**	**2.56**	**46**	Pn	**Pn**	**17 09 10.5**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=231,slow=14,SNR=54						
ARCES				Sn	**Sn**	**17 09 43.1**	**+2.1**
	comp=Z,2.5nm,0.3s,baz=227,slow=25,SNR=20						
ARE0	**ARCESS Array S**	**2.56**	**46**	*e*PB	**Pn**	**17 09 10.4**	**+1.3**
ARE0				*e*SB	**Sb**	**17 09 44.1**	**-1.1**
RNF	**Rovaniemi**	**2.56**	**116**	*e*P	**Pn**	**17 09 10.4**	**+1.3**
	baz=300						
RNF				*e*SB	**Sb**	**17 09 44.4**	**-0.8**
KEV	**Kevo**	**3.12**	**49**	*e*S	**Sn**	**17 09 56.1**	**+1.5**
KEV				MSG		17 09 57.9	
	comp=Z,2.1nm,0.2s						
BURU	**Burvik**	**3.31**	**171**	*e*P	**Pn**	**17 09 21.1**	**+1.8**
OUL	**Oulu**	**3.58**	**138**	*e*SB	**Sb**	**17 10 15.3**	**+0.9**
MSF	**Maaselka**	**3.98**	**115**	*e*P	**Pn**	**17 09 31.2**	**+2.7**
FINES	**FINESS Array B**	**6.89**	**156**	Pn	**Pn**	**17 10 10.2**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=343,slow=12,SNR=4.2						
FINES				Sn	**Sn**	**17 11 25.5**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=346,slow=22,SNR=2.9						
FINES				Lg	Lg	17 12 00.9	
	comp=Z,0.2nm,0.3s,baz=346,slow=29,SNR=3.6						
NOA	**NORSAR Array B**	**7.86**	**214**	Pn	**Pn**	**17 10 21.7**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=22,slow=11,SNR=2.5						
NOA				Lg	Lg	17 12 34.8	
	comp=Z,0.0nm,0.3s,baz=244,slow=19,SNR=2.5						

*IDC **27** 17:34:03.8±1.1, 52°.46N×170°.57W, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.5/41, mbtmp3.7/8, ML3.3/2, Error ellipse: s-maj=42.9km s-min=20.4km az=167.0*
*ISCJB **27** 17:34:09.7±0.7, 52°.5N±0°.2×170°.6W±0°.1, h55km, mb3.5/6, Error ellipse: s-maj=27.9km s-min=4.2km az=163.5*
*NEIC **27** 17:34:09.5±0.0, 52°.43N×170°.57W, h26km, ML2.9(AEIC), After AEIC.*

ISC 27 17:34:11.1±0.9, 52°.5N±0°.2×170°.57W±0°.07, h55km, n22, σ0s88/20, mb3.6/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**1.15**	**65**	P	**Pn**	**17 34 29.7**	**-1.2**
NIKH				S	**Sn**	**17 34 44.0**	**-1.5**
OKSP	**Okmok Steeple**	**1.57**	**61**	P	**Pn**	**17 34 36.2**	**-0.5**
KOFP	**Korovin Flat P**	**2.17**	**265**	P	**Pn**	**17 34 44.1**	**-0.8**
ATKA	**Atka Island**	**2.25**	**264**	P	**Pn**	**17 34 45.2**	**-0.6**
ATKA				S	**Sn**	**17 35 11.2**	**-1.1**
MSW	**Makushin Switc**	**2.68**	**57**	P	**Pn**	**17 34 52.3**	**+0.5**
UNV	**Unalaska Valle**	**2.79**	**60**	P	**Pn**	**17 34 53.9**	**+0.6**
UNV				S	**Sn**	**17 35 27.3**	**+1.6**
GSMY	**Great Sitkin M**	**3.40**	**264**	P	**Pn**	**17 35 02.1**	**+0.5**
ADK	**Adak**	**3.81**	**263**	P	**Pn**	**17 35 07.2**	**-0.1**
ADK				S	**Sn**	**17 35 51.9**	**+1.1**
KDAK	**Kodiak Island**	**11.55**	**56**	Pn	**Pn**	**17 36 53.1**	**+0.1**
	0.3nm,0.3s,baz=265,slow=12,SNR=3.2						
PETK	**Petropavlovsk-**	**19.12**	**284**	P	**Pn**	**17 38 30.0**	**-0.6**
	0.3nm,0.3s,baz=85,slow=14,SNR=11						
YKA	**Yellowknife Ar**	**30.71**	**49**	P	**P**	**17 40 20.7**	**+0.4**
	0.1nm,0.5s,baz=271,slow=9.0,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**37.11**	**217**	T	T	18 20 25.9	
	baz=31,slow=78,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**37.12**	**217**	T	T	18 20 29.0	
	baz=31,slow=78,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	**37.13**	**217**	T	T	18 20 34.9	
	baz=31,slow=78,SNR=5.5						
H11S1	**WAKE ISLAND Hy**	**38.30**	**216**	T	T	18 22 20.0	
	baz=22,slow=76,SNR=44						
H11S2	**WAKE ISLAND Hy**	**38.32**	**216**	T	T	18 22 17.3	
	baz=22,slow=76,SNR=38						
H11S3	**WAKE ISLAND Hy**	**38.32**	**216**	T	T	18 22 09.3	
	baz=22,slow=76,SNR=30						
PDAR	**Pinedale Array**	**41.10**	**78**	P	**P**	**17 41 50.4**	**+0.8**
	0.3nm,0.8s,baz=298,slow=1.9,SNR=3.5						
TXAR	**Lajitas Array**	**53.48**	**88**	P	**P**	**17 43 25.5**	**-0.3**
	0.4nm,0.8s,baz=289,slow=3.8,SNR=3.6						
ARCES	**ARCESS Array B**	**57.71**	**353**	P	**P**	**17 43 54.6**	**-0.8**
	2.6nm,0.9s,baz=17,slow=6.6,SNR=2.6						
CMAR	**Chiang Mai Arr**	**75.87**	**282**	P	**P**	**17 45 52.2**	**+0.5**
	0.4nm,0.3s,baz=33,slow=6.4,SNR=4.2						
ASAR	**Alice Springs**	**89.92**	**229**	P	**P**	**17 47 03.7**	**-0.4**
	0.4nm,0.8s,baz=39,slow=6.1,SNR=3.8						

IDC 27 17:44:00.5±8.7, 31°.06S×179°.98W, h410km±103km, mb2.4/2, mb1 2.8/3, mb1mx2.7/20, mbtmp3.5/3, Error ellipse: s-maj=100.4km s-min=46.4km az=6.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.57**	**198**	P	P	17 45 50.9	0.0
	3.3nm,0.3s,baz=283,slow=3.9,SNR=33						
URZ				S	S	17 47 20.6	-0.2
	1.5nm,0.3s,baz=50,slow=21,SNR=10						
ASAR	**Alice Springs**	**41.38**	**269**	P	P	17 51 08.7	-0.5
	0.1nm,0.6s,baz=102,slow=7.0,SNR=3.2						
WRA	**Warramunga Arr**	**42.43**	**274**	P	P	17 51 17.6	+0.1
	0.5nm,0.9s,baz=110,slow=8.1,SNR=6.0						
FINES	**FINESS Array B**	**145.16**	**338**	PKPbc	PKPdf	18 02 49.0	-0.3
	2.0nm,1.0s,baz=67,slow=3.6,SNR=5.8						

*ISCJB **27** 17:54:41.3±0.6, 24°.06N±0°.02×122°.30E±0°.01, h10km±4km, Error ellipse: s-maj=2.6km s-min=1.9km az=158.8*
*JMA **27** 17:54:42.1±0.1, 24°.03N×122°.28E, h26km±2km, M3.3*
*TAP **27** 17:54:42.1, 24°.11N×122°.30E, h25km, ML3.5, C*

ISC 27 17:54:41.2±1.0, 24°.06N±0°.02×122°.27E±0°.02, h12km±9km, n100, σ0s73/155, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.51**	**345**	*e*P	**Pb**	**17 54 51.9**	**-0.1**
	baz=333						
EOS1				S	**Sb**	**17 54 58.8**	**-0.5**
	baz=333						
ENA	**Nanau**	**0.61**	**307**	P	**Pb**	**17 54 53.5**	**-0.3**
	baz=309						
ENA				*e*S	**Sb**	**17 55 02.7**	**+0.4**
	baz=309						
HWA	**Hwalien**	**0.61**	**262**	*e*P	**Pb**	**17 54 54.8**	**+0.9**
	baz=244						
TWD	**Chiawan**	**0.61**	**272**	P	**Pb**	**17 54 54.4**	**+0.5**
	baz=267						
NACB	**Ninganchiao**	**0.63**	**281**	*e*P	**Pb**	**17 54 54.5**	**+0.4**
	baz=260						
NACB				*e*S	**Sb**	**17 55 04.2**	**+1.3**
	baz=260						
ENLB	**Shoufeng**	**0.63**	**256**	*e*P	**Pb**	**17 54 55.3**	**+1.1**
	baz=241						
ENLB				*e*S	**Sn**	**17 55 05.3**	**-0.7**
	baz=241						
TWC	**Suao**	**0.67**	**325**	P	**Pg**	**17 54 54.1**	**-0.1**
	baz=326						
JYNG	**Yonagunijimaku**	**0.73**	**58**	P	**Pg**	**17 54 55.8**	**+0.4**
JYNG				*e*S	**Sb**	**17 55 05.8**	**-0.1**
YOJ	**Yonaguni jima**	**0.79**	**59**	*e*P	**Pb**	**17 54 57.0**	**+0.1**
	baz=60						
YOJ				*e*S	**Sg**	**17 55 07.4**	**+0.7**
	baz=60						
YOJ	**Yonaguni jima**	**0.79**	**59**	P	**Pb**	**17 54 56.9**	**+0.1**
YOJ				S	**Sb**	**17 55 07.7**	**+0.2**
ILA	**Ilan**	**0.85**	**326**	*e*P	**Pb**	**17 54 58.3**	**+0.3**
	baz=321						
ILA				S	**Sb**	**17 55 09.5**	**+0.2**
	baz=321						
TWE	**Neicheng**	**0.86**	**320**	P	**Pg**	**17 54 58.0**	**+0.2**
	baz=316						
TWE				*e*S	**Sb**	**17 55 09.8**	**+0.3**
	baz=316						
EGFH	**Guangfu**	**0.86**	**243**	P	**Pg**	**17 54 57.9**	**0.0**
	baz=231						
EGFH				*e*S	**Sb**	**17 55 09.9**	**+0.2**
	baz=231						
ENTT	**Nioudou**	**0.86**	**312**	P	**Pb**	**17 54 58.3**	**+0.1**
	baz=314						
ENTT				*e*S	**Sb**	**17 55 10.0**	**+0.3**
	baz=314						
NDT	**Datong Townshi**	**0.88**	**308**	P	**Pb**	**17 54 58.8**	**+0.4**
	baz=304						
NTC	**Toucheng**	**0.89**	**333**	*e*P	**Pb**	**17 54 58.7**	**+0.1**
	baz=329						
NNSB	**Datong**	**0.89**	**295**	*e*P	**Pb**	**17 54 58.8**	**+0.1**
	baz=290						
NNSB				*e*S	**Sb**	**17 55 11.4**	**+0.9**
	baz=290						
WHF	**Hehuan Shan**	**0.92**	**276**	*e*S	**Sb**	**17 55 12.7**	**+0.9**
	baz=260						
HGSD	**Ruisui**	**0.96**	**234**	*e*P	**Pg**	**17 54 59.7**	**0.0**
	baz=232						
TWB1	**Santiao Chiao**	**0.98**	**345**	P	**Pg**	**17 54 59.9**	**-0.2**
	baz=328						
TWB1				*e*S	**Sg**	**17 55 12.6**	**-0.3**
	baz=328						
TIPB	**Shuangxi**	**0.99**	**336**	P	**Pg**	**17 55 00.2**	**-0.2**
	baz=332						
TIPB				*e*S	**Sg**	**17 55 12.7**	**-0.7**
	baz=332						
NWLT	**Wulai**	**1.00**	**316**	P	**Pb**	**17 55 00.8**	**+0.2**
	baz=311						
CHGB	**Renai**	**1.00**	**270**	*e*P	**Pg**	**17 55 00.6**	**+0.1**
	baz=255						
CHGB				*e*S	**Sb**	**17 55 14.1**	**+0.2**
	baz=255						
YHNB	**Yeheng**	**1.02**	**307**	*e*P	**Pb**	**17 55 00.9**	**+0.1**
	baz=303						
EHY	**Hungye**	**1.03**	**238**	*e*P	**Pg**	**17 55 00.9**	**-0.1**
	baz=251						
NSK	**Sanguang**	**1.03**	**307**	P	**Pg**	**17 55 01.1**	**0.0**
	baz=290						
NSK				*e*S	**Sb**	**17 55 14.9**	**+0.2**
	baz=290						
VWDT	**VWDT**	**1.08**	**254**	*e*P	**Pg**	**17 55 01.9**	**-0.1**
	baz=252						
NWF	**Wu-fen Shan**	**1.10**	**336**	P	**Pg**	**17 55 01.9**	**-0.5**
	baz=332						
NWF				S	**Sg**	**17 55 16.3**	**-0.5**
	baz=332						
WFSB	**Wu-fen Shan**	**1.10**	**336**	*e*P	**Pg**	**17 55 01.9**	**-0.5**
	baz=331						
WFSB				*e*S	**Sg**	**17 55 16.3**	**-0.4**
	baz=331						
TWA	**Mucha**	**1.11**	**326**	*e*P	**Pn**	**17 55 03.0**	**+0.4**
	baz=322						
TWA				*e*S	**Sb**	**17 55 16.9**	**+0.1**
	baz=322						
YULB	**Yu-li**	**1.11**	**233**	*e*P	**Pg**	**17 55 01.6**	**-1.0**
	baz=248						
NHDH	**Xindian Distri**	**1.13**	**323**	*e*P	**Pn**	**17 55 03.1**	**+0.3**
	baz=333						
TWF1	**Yuli**	**1.14**	**232**	*e*P	**Pb**	**17 55 02.1**	**-0.7**
	baz=220						
TATO	**Taipei**	**1.16**	**322**	*e*P	**Pb**	**17 55 03.1**	**0.0**
	baz=318						
TATO				*e*S	**Sb**	**17 55 18.2**	**+0.1**
	baz=318						
WLTB	**Daxi**	**1.22**	**311**	*e*P	**Pg**	**17 55 04.8**	**+0.2**
	baz=307						
WHP	**Taichung City**	**1.23**	**280**	*e*P	**Pg**	**17 55 04.9**	**0.0**
	baz=267						
YM01	**YM01**	**1.26**	**330**	*e*P	**Pg**	**17 55 05.5**	**+0.2**
	baz=342						
YM07	**YM07**	**1.26**	**332**	*e*P	**Pn**	**17 55 04.8**	**+0.1**
	baz=328						
YM07				*e*S	**Sb**	**17 55 21.0**	**-0.1**
	baz=328						
CHKT	**Chengkung**	**1.27**	**221**	*e*P	**Pn**	**17 55 03.2**	**-1.5**
	baz=211						
CHKT				*e*S	**Sb**	**17 55 18.6**	**-2.6**
	baz=211						
SMLT	**Sun Moon Lake**	**1.27**	**262**	P	**Pn**	**17 55 04.8**	**-0.1**
	baz=260						
SMLT				*e*S	**Sn**	**17 55 22.1**	**+0.3**
	baz=260						
YM10	**YM10**	**1.27**	**330**	*e*P	**Pn**	**17 55 04.7**	**-0.2**
	baz=341						
YM11	**YM11**	**1.27**	**330**	*e*P	**Pg**	**17 55 06.5**	**+0.8**
	baz=341						
YM05	**YM05**	**1.27**	**330**	*e*P	**Pn**	**17 55 04.3**	**-0.7**
	baz=341						
YM04	**YM04**	**1.28**	**329**	*e*P	**Pn**	**17 55 05.2**	**+0.2**
	baz=341						
YM08	**YM08**	**1.28**	**331**	*e*P	**Pg**	**17 55 06.5**	**+0.6**
	baz=327						
LIOB	**Emei**	**1.28**	**297**	*e*P	**Pg**	**17 55 05.8**	**-0.1**
	baz=294						
NSTT	**Nanjuang**	**1.29**	**296**	*e*P	**Pb**	**17 55 05.7**	**+0.2**
	baz=293						
NSTT				*e*S	**Sb**	**17 55 22.1**	**+0.2**
	baz=293						
TWS1	**Kuangyinshan**	**1.29**	**323**	P	**Pn**	**17 55 05.3**	**+0.2**
	baz=336						
TYC	**Yuchr**	**1.30**	**263**	P	**Pn**	**17 55 05.2**	**0.0**
	baz=261						
NTST	**Danshui**	**1.33**	**326**	*e*P	**Pn**	**17 55 05.9**	**+0.3**
	baz=338						
NCUH	**Zhongli**	**1.34**	**313**	*e*P	**Pn**	**17 55 05.9**	**+0.2**
	baz=309						
WHYT	**Xinyi Township**	**1.34**	**255**	*e*P	**Pn**	**17 55 06.3**	**+0.4**
	baz=245						
WHYT				*e*S	**Sg**	**17 55 24.4**	**-0.2**
	baz=245						
TWY	**Chenhua**	**1.36**	**333**	*e*P	**Pb**	**17 55 06.9**	**+0.4**
	baz=345						
IRIF	**Iriomote-Funau**	**1.36**	**78**	P	**Pn**	**17 55 06.1**	**0.0**
IRIF				S	**Sb**	**17 55 24.0**	**-0.1**
SBCB	**Hsinchu**	**1.38**	**302**	*e*P	**Pn**	**17 55 06.1**	**-0.2**
	baz=299						
TWQ1	**Liyutan**	**1.40**	**282**	P	**Pb**	**17 55 07.6**	**+0.4**
	baz=280						
HATJ	**Hateruma jima**	**1.40**	**90**	P	**Pb**	**17 55 08.0**	**+0.6**
HATJ				S	**Sb**	**17 55 26.0**	**+0.7**
NSY	**Sanyi**	**1.42**	**285**	*e*P	**Pg**	**17 55 08.3**	**-0.2**
	baz=282						
NMLH	**Miaoli**	**1.43**	**290**	*e*P	**Pb**	**17 55 07.8**	**-0.1**
	baz=287						
WJS	**Zhushan**	**1.43**	**261**	*e*P	**Pg**	**17 55 08.6**	**-0.1**
	baz=259						
WJS				*e*S	**Sg**	**17 55 28.6**	**+1.3**
	baz=259						
ELDTW	**Lidau**	**1.44**	**233**	*e*P	**Pn**	**17 55 06.1**	**-1.2**
	baz=233						
WNT	**Mingjian**	**1.46**	**263**	P	**Pg**	**17 55 09.1**	**-0.1**
	baz=262						
WNT				*e*S	**Sg**	**17 55 28.0**	**-0.2**
	baz=262						
CHN5	**Tsauling**	**1.53**	**253**	⇑P	**Pb**	**17 55 09.4**	**-0.1**
	baz=242						
CHN5				*e*S	**Sb**	**17 55 29.4**	**+0.4**
	baz=242						
WCHH	**Zhanghua**	**1.56**	**271**	*e*P	**Pb**	**17 55 10.6**	**+0.5**
	baz=269						
WCHH				*e*S	**Sg**	**17 55 31.5**	**0.0**
	baz=269						
JKRS	**Kuro-shima**	**1.60**	**83**	P	**Pn**	**17 55 09.8**	**+0.5**
JKRS				*e*S	**Sn**	**17 55 30.6**	**+0.7**
WGK	**Gukeng**	**1.61**	**257**	*e*P	**Pg**	**17 55 11.8**	**-0.3**
	baz=256						
WGK				*e*S	**Sb**	**17 55 32.0**	**+0.9**
	baz=256						
WDLH	**Douliu**	**1.63**	**257**	*e*P	**Pb**	**17 55 11.0**	**-0.2**
	baz=244						
WDLH				*e*S	**Sb**	**17 55 32.1**	**+0.5**
	baz=244						
STYT	**Tauyuan**	**1.65**	**238**	*e*P	**Pn**	**17 55 10.3**	**+0.2**
	baz=238						
STYT				*e*S	**Sn**	**17 55 32.0**	**+0.7**
	baz=238						
TWG	**Pinlang**	**1.65**	**222**	*e*P	**Pn**	**17 55 09.6**	**-0.5**
	baz=222						
TPUB	**Ta-pu**	**1.68**	**244**	*e*P	**Pn**	**17 55 11.6**	**+1.0**
	baz=244						
TPUB				*e*S	**Sb**	**17 55 34.3**	**+1.0**
	baz=244						
CHN4	**Tsaushan**	**1.69**	**246**	*e*P	**Pb**	**17 55 12.3**	**+0.1**
	baz=235						
CHN4				*e*S	**Sg**	**17 55 34.8**	**-0.8**

JTJ				S		Sn	17 55 46.7	-0.4
TWKBT	Hengchun	2.50	213	*e*P		Pn	17 55 21.3	-0.5
	baz=214							
TWK1	Hengchun	2.50	213	*e*P		Pn	17 55 23.7	+1.9
	baz=214							
WDGT	Dungji	2.52	252	*e*P		Pn	17 55 23.4	+1.4
	baz=241							
WDGT				*e*S		Sn	17 55 52.9	+0.2
	baz=241							
PHUB	P'eng-hu	2.53	258	*e*P		Pn	17 55 23.1	+0.9
	baz=258							
PHUB				*e*S		Sn	17 55 53.1	+0.2
	baz=258							
PNG	Penghu	2.53	259	*e*P		Pn	17 55 23.6	+1.4
	baz=259							
PNG				*e*S		Sn	17 55 53.4	+0.4
	baz=259							
VWUC	VWUC	2.73	290	*e*P		Pn	17 55 24.0	-0.9
	baz=288							
VWUC				*e*S		Sn	17 55 54.7	-3.2
	baz=288							
VCHM	Qimei	2.74	253	*e*P		Pn	17 55 27.0	+2.0
	baz=241							
VCHM				*e*S		Sn	17 55 58.7	+0.7
	baz=241							
JIRB	Irabujima	2.75	73	P		Pn	17 55 25.9	+0.7
JIRB				*e*S		Sn	17 55 57.4	-1.1
JMJ	Miyako jima 2	2.86	74	P		Pn	17 55 28.0	+1.4
MATB	Ma-tsu	2.96	315	*e*P		Pn	17 55 27.1	-1.0
	baz=312							
KNMB	Chin-men Tao	3.56	277	*e*P		Pn	17 55 35.5	-0.9
	baz=276							

IDC ***27*** *18:15:40.2±1.2,55.˙66S×26.˙81W,h0km,mb3.8/3, mb1 3.9/3,mb1mx3.7/24,mbtmp3.8/3,Error ellipse: s-maj=64.9km s-min=27.1km az=57.0*

ISC 27 18:15:43.9±1.2,55.˙7S±0.˙3×26.˙8W±0.˙4,h25km,n6,σ0$63/6, mb3.7/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QSPA	South Pole Qui	34.60	180	P	P	18 22 30.4	-0.2
	0.6nm,0.6s,baz=154,slow=17,SNR=4.5						
MAW	Mawson	40.34	144	P	P	18 23 19.2	+0.4
	2.7nm,0.6s,baz=240,slow=8.1,SNR=2.7						
LPAZ	La Paz	50.34	304	P	P	18 24 39.8	+0.5
	0.3nm,0.4s,baz=166,slow=4.2,SNR=2.1						
YKA	Yellowknife Ar	136.03	318	PKP	PKPdf	18 35 00.6	-0.5
	0.1nm,0.6s,baz=131,slow=2.5,SNR=2.9						
ILAR	Eielson Array	150.02	312	PKPbc	PKPbc	18 35 30.0	-0.7
	0.6nm,0.7s,baz=132,slow=4.5,SNR=8.9						
SONM	Songino Array	150.47	85	PKPbc	PKPbc	18 35 32.5	+0.1
	0.3nm,0.4s,baz=244,slow=3.0,SNR=4.2						

IDC ***27*** *18:15:45.9±1.4,1˙.32N×126˙.32E,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.4/37,mbtmp3.6/4,ML3.3/1,MS3.2/1, Ms1 3.2/1,ms1mx2.6/28,Error ellipse: s-maj=65.5km s-min=22.6km az=59.0*

DJA ***27*** *18:16:07.8±0.6,1˙N±5˙×12˙7E±˚,h10km,M2.8/1,MLv2.8/1*

ISC 27 18:16:00.6±1.4,1˙.3N±0˙.1×127˙.1E±0˙.1,h150km,n7, σ3$12/7,mb3.3/3,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	0.53	153	P	Pn	18 16 21.2	-1.0
SANI	Sanana	3.47	199	P	Pn	18 16 55.3	+1.3
SANI				S	Sn	18 17 31.4	-4.0
SIJI	Sorong	4.64	117	Pn	Pn	18 17 08.9	-0.5
	1.0nm,0.3s,baz=330,slow=18,SNR=4.5						
LEM	Lembang	21.05	247	LR	LR	18 28 56.5	
	comp=Z,59nm,19.0s,baz=306,slow=39						
WRA	Warramunga Arr	22.22	162	P	P	18 20 46.5	+1.3
	0.7nm,0.6s,baz=340,slow=11,SNR=15						
ASAR	Alice Springs	25.63	166	P	P	18 21 20.6	+4.2
	0.2nm,0.3s,baz=348,slow=12,SNR=6.8						
MKAR	Makanchi Array	59.81	326	P	P	18 25 49.5	-0.6
	0.8nm,0.6s,baz=122,slow=8.5,SNR=15						

IDC ***27*** *18:36:31.9±0.8,58.˙69S×25.˙39W,h0km,mb4.0/8, mb1 4.1/8,mb1mx4.0/25,mbtmp4.0/8,Error ellipse: s-maj=27.5km s-min=23.9km az=147.0*

ISCJB ***27*** *18:36:35.5±0.7,58.˙79S±0.˙09×25.˙3W±0.˙2,h38km,mb4.0/8, Error ellipse: s-maj=18.7km s-min=11.4km az=161.7*

ISC 27 18:36:37.3±0.7,58.˙8S±0.˙1×25.˙3W±0.˙1,h38km,n21, σ0$70/15,mb4.0/8,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	13.89	156	P	Pn	18 39 50.8	-0.4
VNA3	Neumayer Olymp	14.09	159	P	Pn	18 39 53.5	-0.4
VNA3				S	Sn	18 42 14.6	-14
VNA2	Neumayer--Watz	14.29	156	P	Pn	18 39 55.8	-0.9
	baz=319,slow=15						
PLCA	Paso Flores	33.52	282	P	P	18 43 12.5	-0.5
	2.0nm,1.1s,baz=162,slow=13,SNR=2.4						
VNDA	Vanda	43.89	182	P	P	18 44 41.2	+1.8
	3.1nm,0.8s,baz=179,slow=5.4,SNR=7.1						
BOSA	Boshof	45.78	71	P	P	18 44 54.7	-0.4
	2.0nm,0.8s,baz=207,slow=10,SNR=3.7						
TSUM	Tsumeb	50.23	57	P	P	18 45 29.9	+0.3
	1.1nm,0.6s,baz=173,slow=8.2,SNR=5.2						
H10S2	ASCENSION HYDR	50.37	14	T	T	19 39 59.7	
	baz=188,slow=75,SNR=14						
H10S3	ASCENSION HYDR	50.37	14	T	T	19 40 00.0	
	baz=188,slow=75,SNR=15						
H10S1	ASCENSION HYDR	50.38	14	T	T	19 40 01.0	
	baz=188,slow=75,SNR=16						
H10N1	ASCENSION HYDR	51.48	14	T	T	19 41 16.5	
	baz=201						
H10N3	ASCENSION HYDR	51.49	14	T	T	19 41 22.5	
	baz=201						
H10N2	ASCENSION HYDR	51.50	14	T	T	19 41 23.9	
	baz=201						
LPAZ	La Paz	52.77	305	P	P	18 45 48.9	-0.2
	0.6nm,0.7s,baz=138,slow=2.9,SNR=3.3						
DBIC	Dimbokro	67.27	22	P	P	18 47 28.0	+0.3
	3.8nm,1.0s,baz=171,slow=8.3,SNR=2.4						
TORD	Torodi Ar. Bea	74.98	27	P	P	18 48 14.9	+0.6
	0.6nm,0.5s,baz=198,slow=6.3,SNR=7.1						
ASAR	Alice Springs	96.09	161	P	P	18 50 00.2	-0.5
	0.3nm,0.7s,baz=181,slow=4.5,SNR=7.1						
YKA	Yellowknife Ar	138.84	315	PKP	PKPdf	18 55 57.7	0.0
	0.7nm,0.6s,baz=126,slow=2.2,SNR=14						
INK	Inuvik	148.52	317	PKPbc	PKPbc	18 56 17.9	-0.3
	1.6nm,0.7s,baz=52,slow=0.8,SNR=5.8						
SONM	Songino Array	149.81	90	PKPbc	PKPbc	18 56 21.9	-0.3
	0.3nm,0.6s,baz=270,slow=1.4,SNR=2.0						
ILAR	Eielson Array	152.62	307	PKPbc	PKPbc	18 56 27.8	-0.3
	0.5nm,0.6s,baz=144,slow=4.0,SNR=11						

MEX 27 18:37:50.2±0.6,16.˙34N×98.˙00W,h3km±90km,MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.14	292	*i* P	Pg	18 37 52.5	-0.4
PNIG				*e*S	Sg	18 37 55.0	+0.3

NIED ***27*** *18:41:00,36.˙60N×140.˙60E,h71km,Mw4.8 Best double couple: M0 1.58000×10¹⁶ NP1:φs131.00000°,δ25.00000°, λ-126.00000°. NP2:φs350.00000°,δ70.00000°, λ-74.00000°.*

BJI ***27*** *18:41:44.7,36.˙50N×140.˙71E,h73km,mb5.0/74,mB5.2/44, Ms4.5/30,Ms7 4.2/27*

ISCJB ***27*** *18:41:48.8±0.2,36.˙57N±0.˙02×140.˙47E±0.˙03,h82km±1km, mb4.9/193,Error ellipse: s-maj=3.9km s-min=3.1km az=140.7*

MOS ***27*** *18:41:49.9±0.9,36.˙87N×140.˙36E,h81km,mb5.1/58,Error ellipse: s-maj=7.3km s-min=4.1km az=110.1*

IDC ***27*** *18:41:49.1±0.5,36.˙58N×140.˙49E,h73km±3km,mb4.6/31, mb1 4.7/34,mb1mx4.7/43,mbtmp4.9/34,MS3.7/15, Ms1 3.7/15,ms1mx3.5/36,Error ellipse: s-maj=10.4km s-min=9.2km az=124.0*

JMA ***27*** *18:41:49.5,36.˙57N×140.˙56E,h74km±1km,M4.8 Broadband fault plane solution: P waves. NP1: φs341.00000°,δ67.00000°,λ-71.00000°. NP2: φs120.00000°,δ29.00000°,λ-127.00000°. Principal axes:*

T Plg20.0000°, Azm57.0000°; N Plg17.0000°, Azm153.0000°; P Plg63.0000°, Azm281.0000°;

NEIC ***27*** *18:41:50.9±0.4,36.˙56N×140.˙45E,h89km±3km,mb5.0/71 Error ellipse: s-maj=4.2km s-min=3.6km az=140.0*

NEIC Felt [V] at Mito and Tsuchiura; [IV] at Narita and Hitachi; [III] at Tokyo. Felt throughout east-central Honshu. Recorded [5L JMA] in Ibaraki.

GCMT ***27*** *18:41:50.9±0.4,36.˙72N±0.˙03×140.˙60E±0.˙03,h76km±3km, MW4.8/70,Moment Tensor Solution. s27,c28; s70,c95; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.51±.11; Mθθ0.49±.10; Mφφ 1.02±.10; Mrθ -0.06±.06; Mrφ -0.76±.07; Mθφ~1.08±.05; Best double couple: M0 1.87300×10¹⁶ NP1:φs344.00000°,δ62.00000°,λ-71.00000°. NP2: φs127.00000°,δ33.00000°,λ-122.00000°. Principal axes: T 1.7950, Plg15.0000°, Azm60.0000°; N 0.1570, Plg17.0000°, Azm155.0000°; P -1.9520, Plg67.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 18:41:48.7±0.3,36.˙60N±0.˙03×140.˙61E±0.˙03,h73km±2km, h73km:pP-P,n610,σ1$41/676,mb5.0/210,30C-82D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	Hitachi	0.03	292	⇓P	Pn	18 42 00.1	+0.8
JHO				S	Sn	18 42 07.7	+0.7
JHYU	Hitachinakayam	0.26	183	P	Pn	18 42 00.7	+0.7
JHYU				S	Sn	18 42 09.3	+1.0
JFK	Kawauchi	0.80	16	⇓P	Pn	18 42 06.0	+1.0
JFK				S	Sn	18 42 18.1	+1.0
JFT	Otama	0.94	347	⇓P	Pn	18 42 07.9	+1.2
JFT				S	Sn	18 42 21.7	+1.6
JAG	Ashikaga	0.94	260	⇑P	Pn	18 42 07.2	+0.5
JAG				S	Sn	18 42 20.1	0.0
JFY	Yanaizu	1.08	318	⇑P	Pn	18 42 09.4	+1.0
JFY				S	Sn	18 42 24.7	+1.5
JKT	Katashina	1.10	279	⇑P	Pn	18 42 09.4	+0.6
JKT				S	Sn	18 42 24.9	+1.2
JMM	Marumori	1.27	7	⇑P	Pn	18 42 12.0	+1.2
JMM				S	Sn	18 42 28.3	+0.9
JHK	Hiroka	1.43	297	⇑P	Pn	18 42 13.7	+0.9
JHK				*e*S	Sn	18 42 32.5	+1.5
JRY	Ryogami san	1.49	248	⇑P	Pn	18 42 14.3	+0.6
MJAR	Matsushiro Arr	1.93	269	P	Pn	18 42 20.0	+0.5
	69nm,0.3s,baz=91,slow=15,SNR=6191						
MJAR				S	Sn	18 42 37.8	-5.2
	77nm,0.3s,baz=97,slow=15,SNR=16						
MJAR				LR	LR	18 43 02.9	
	comp=Z,2μm,20.6s,baz=85,slow=41						
MAJO	Matsushiro	1.93	269	*e*Pn	Pn	18 42 21.0	+1.4
MAJO				*e*Sn	Sn	18 42 40.9	-2.1
MAJO	Matsushiro	1.93	269	*c i*P	Pn	18 42 20.8	+1.3
MAT	Matsushiro	1.93	269	P	Pn	18 42 20.9	+1.4
MAT				S	Sn	18 42 39.4	-3.6
MJB9	Matsu-Tunnel	1.94	269	*e*Pn	Pn	18 42 21.0	+1.4
MJB9				*e*Sn	Sn	18 42 41.0	-2.1
INU	Inuyama	3.17	248	*e*Pn	Pn	18 42 37.9	+1.7
JHJ	Hachijo jima 2	3.54	191	P	Pn	18 42 41.7	+0.5
	426nm,0.3s,baz=9.0,slow=3.7,SNR=119						
JHJ				S	Sn	18 43 21.8	-0.1
	425nm,0.3s,baz=125,slow=23,SNR=12						
JHJ				LR	LR	18 43 59.0	
	comp=Z,716nm,18.8s,baz=283,slow=37						
JHJ2	Mitsune	3.54	191	*e*Pn	Pn	18 42 41.2	-0.1
ERM	Erimo	5.76	19	*e*Pn	Pn	18 43 10.2	-1.3
ERM	Erimo	5.76	19	*d i*P	Pn	18 43 10.4	-1.1
ASAJ	Asahikawa	7.66	11	P	Pn	18 43 35.6	-1.9
	31nm,0.3s,baz=208,slow=11,SNR=351						
ASAJ				S	Sn	18 44 59.9	-2.8
	6.9nm,0.3s,baz=108,slow=19,SNR=4.0						
ASAJ	Asahikawa	7.66	11	*e*Pn	Pn	18 43 35.3	-2.2
ASAJ				S	Sn	18 44 59.9	-2.8
GLVR	Golovnino	8.06	26	*e*P	Pn	18 43 40.3	-2.7
GLVR				*i* S	Sn	18 45 05.5	-7.0
GLVR				pmax	pmax		
	comp=Z,553nm,0.6s						
GLVR				pmax	pmax		
	comp=N,201nm,0.3s						
GLVR				pmax	pmax		
	comp=E,148nm,0.5s						
GRPR	Tuman	8.37	27	⇑*i*P	Pn	18 43 44.0	-3.2
GRPR				*e*S	Sn	18 45 12.0	-8.1
GRPR				pmax	pmax		
	comp=Z,361nm,0.5s						
GRPR				pmax	pmax		
	comp=N,175nm,0.3s						
GRPR				pmax	pmax		
	comp=E,310nm,0.5s						
YUK	Yuzh-Kuril'sk	8.44	27	*e*P	Pn	18 43 45.6	-2.5
YUK				*i* S	Sn	18 45 14.6	-7.2
YUK				pmax	pmax		
	comp=Z,613nm,0.5s						
YUK				pmax	pmax		
	comp=N,353nm,0.4s						
YUK				pmax	pmax		
	comp=E,116nm,0.2s						
SHO	Shikotan	8.68	31	*e*P	Pn	18 43 47.8	-3.6
SHO				pmax	pmax		
	comp=Z,113nm,0.6s						
SHO				pmax	pmax		
	comp=N,53nm,0.5s						
SHO				pmax	pmax		
	comp=E,92nm,0.4s						
JNU	Nakatsue	8.71	249	P	Pn	18 43 52.9	+0.8
	comp=E,0.9nm,0.3s,baz=34,slow=10,SNR=10						
JNU				LR	LR	18 47 21.0	
	comp=E,581nm,19.7s,baz=67,slow=38						
JNU	Nakatsue	8.71	249	*e*Pn	Pn	18 43 54.4	+2.4
TEY	Ternei	8.96	341	⇑*e*P	Pn	18 43 56.8	+1.6
TEY				pmax	pmax		
	comp=N,70nm,0.6s						
TEY				pmax	pmax		
	comp=Z,60nm,0.6s						
TEY				pmax	pmax		
	comp=E,20nm,0.7s						
TEY				pmax	pmax		
	comp=N,170nm,1.0s						
TEY				pmax	pmax		
	comp=Z,180nm,1.0s						
TEY				pmax	pmax		
	comp=E,110nm,0.8s						
MSHR	Mys Shultsa	9.42	312	⇑*e*P	Pn	18 44 02.7	+1.1
CBIJ	Chichi jima	9.57	172	*e*Pn	Pn	18 43 59.7	-4.0
CBIJ				*e*Sn	Sn	18 45 40.0	-10
JCJ	Chichijima	9.57	172	P	Pn	18 43 59.7	-4.0
	comp=E,62nm,0.3s,baz=257,slow=23,SNR=11						
JCJ				S	Sn	18 45 37.4	-12
	comp=E,20nm,0.3s,baz=143,slow=20,SNR=3.9						
USA0B	Ussuriysk Arra	10.04	322	*e*Pn	Pn	18 44 12.3	+2.4
USRK	Ussuriysk Ar.	10.04	322	P	Pn	18 44 11.5	+1.5
	comp=E,2.2nm,0.3s,baz=137,slow=13,SNR=52						
USRK				LR	LR	18 48 00.9	
	comp=E,146nm,18.4s,baz=124,slow=37						
KSRS	Korea Array	10.18	279	P	Pn	18 44 16.1	+4.2
	comp=E,0.6nm,0.3s,baz=89,slow=14,SNR=22						
KSRS				LR	LR	18 47 58.1	
	comp=E,437nm,18.0s,baz=94,slow=36						
KS01	Wonju Array Si	10.20	279	*e*Pn	Pn	18 44 15.2	+3.0
KSAR	Wonju Array Be	10.21	279	P	Pn	18 44 16.1	+3.8
KUR	Kuril'sk	10.22	30	*d i*P	Pn	18 44 10.6	-1.8
KUR				*i* S	Sn	18 45 58.8	-6.5
KUR				pmax	pmax		
	comp=N,76nm,0.6s						
KUR				pmax	pmax		
	comp=Z,158nm,0.6s						
KUR				pmax	pmax		
	comp=E,36nm,0.3s						
KUR				smax	smax		
	comp=E,565nm,0.5s						
KUR				smax	smax		
	comp=N,412nm,0.6s						
YSS	Yuzh-Sakhalins	10.47	8	*e*Pn	Pn	18 44 13.8	-2.1
YSS	Yuzh-Sakhalins	10.47	8	*α i*P	Pn	18 44 14.1	-1.7
YSS				*e*S	Sn	18 46 08.1	-3.2
YSS				pmax	pmax		
	comp=Z,70nm,0.5s						
YSS				pmax	pmax		
	comp=N,80nm,0.4s						
YSS				pmax	pmax		
	comp=Z,400nm,4.3s						
YSS				smax	smax		
	comp=N,20nm,0.7s						
YSS				smax	smax		
	comp=E,40nm,0.9s						
MDJ	Mudanjiang	11.58	317	P	Pn	18 44 31.5	+0.6
MDJ				sP		18 44 52.5	
MDJ				S	Sn	18 46 43.8	+5.5
MDJ				pmax	pmax		
	comp=E,16nm,2.2s						
MDJ				pmax	pmax		
	comp=E,630nm,5.7s						
MDJ				LR	LR		
	comp=E,470nm,5.6s						
MDJ				LR	LR		
	comp=E,310nm,4.9s						
MDJ				LR	LR		
	comp=E,340nm,6.8s						
MDJ	Mudanjiang	11.58	317	*e*Pn	Pn	18 44 29.4	-1.5
	comp=E,46nm,1.3s						
MDJ				*e*Sn	Sn	18 46 37.2	-1.2
CN2	Changchun	13.63	307	*e*P	Pn	18 45 00.0	+1.4
CN2				pmax	pmax		
	comp=E,20nm,1.0s						
KLR	Kul'dur	14.18	336	P	Pn	18 45 03.1	-2.7
	comp=E,0.5nm,0.3s,baz=142,slow=11,SNR=21						
KLR				LR	LR	18 50 32.0	
	comp=E,113nm,19.5s,baz=144,slow=37						
SNY	Shenyang	14.19	297	⇓P	Pn	18 45 05.8	-0.2
SNY				pP	P	18 45 16.8	+5.6
SNY				sP		18 45 30.3	
SNY				ScS	ScS	18 57 18.8	-4.9
SNY				pmax	pmax		
	comp=E,29nm,0.9s						
SNY				pmax	pmax		
	comp=E,350nm,4.7s						
SNY				LR	LR		
	comp=E,380nm,6.4s						
SNY				LR	LR		
	comp=E,260nm,4.1s						
SNY				LR	LR		
	comp=E,380nm,7.3s						
JOW	Kunigami	14.30	231	LR	LR	18 50 24.7	
	comp=E,116nm,19.4s,baz=342,slow=36						
TYV	Tymovskoe	14.34	5	*e*P	Pn	18 45 05.5	-2.3
TYV				pmax	pmax		
	comp=Z,300nm,5.2s						
TYV				pmax	pmax		
	comp=E,29nm,0.8s						
GRNR	Gornyy	14.48	349	*e*P	Pn	18 45 06.6	-3.1
GRNR				pmax	pmax		
	comp=E,11nm,1.0s						
DL2	Dalian	15.19	284	P	Pn	18 45 19.8	+0.9
DL2				pP	P	18 45 29.5	+7.1
DL2				*e*S	Sn	18 48 09.0	+2.8
DL2				pmax	pmax		
	comp=Z,70nm,0.7s						
DL2				LR	LR		
	comp=Z,360nm,18.0s						
DL2				LR	LR		
	comp=Z,450nm,19.2s						
DL2				LR	LR		
	comp=Z,480nm,18.6s						
NKL	Nikolayevsk	16.55	0	*e*P	Pn	18 45 30.0	-5.9
NKL				pmax	pmax		
	comp=Z,13nm,0.8s						
SKR	Severo-Kuril's	17.95	34	⇑*e*P	Pn	18 45 53.9	+0.8
NJ2	Nanjing	18.52	262	*e*P	P	18 45 58.0	-1.2
NJ2				pmax	pmax		
	comp=Z,21nm,0.5s						
TIA	Tai'an	18.90	276	P	P	18 46 02.0	-1.4
TIA				pmax	pmax		
	comp=Z,15nm,0.8s						
BJI	Beijing	19.46	288	P	P	18 46 07.0	-2.4
BJI				pmax	pmax		
	comp=Z,22nm,1.9s						
BJT	Baijiatuau	19.46	288	*e*P	P	18 46 08.5	-1.0
	comp=Z,57nm,0.7s						
BJT	Baijiatuau	19.46	288	*e*P	P	18 46 08.5	-1.0
BJT				pmax	pmax		
	comp=Z,57nm,0.7s						
ZEA	Zeya	19.50	336	*e*P	P	18 46 06.2	-3.5
ZEA				pmax	pmax		
	comp=N,62nm,0.8s						
ZEA				pmax	pmax		
	comp=E,31nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,82nm,0.8s						
ZEA				pmax	pmax		
	comp=N,35nm,1.0s						
ZEA				pmax	pmax		
	comp=E,58nm,1.2s						
ZEA				MLR	MLR		
	comp=Z,200nm,10.0s						
HIA	Hailar	19.76	316	*e*P	P	18 46 09.5	-3.1
	comp=Z,21nm,0.8s						
HIA	Hailar	19.76	316	*e*P	P	18 46 09.5	-3.1
HIA				pmax	pmax		
	comp=Z,21nm,0.8s						
PETK	Petropavlovsk-	20.39	31	P	P	18 46 20.7	+1.3
	comp=Z,7.9nm,0.6s,baz=202,slow=4.9,SNR=18						
PETK				LR	LR	18 53 52.3	
	comp=Z,125nm,21.6s,baz=229,slow=35						
PET	Petropavlovsk	20.73	32	*e*P	P	18 46 24.4	+1.4
PET				*e*S	S	18 50 11.0	+0.9
PET				pmax	pmax		
	comp=Z,52nm,1.3s						
PET				MLR	MLR		
	comp=Z,800nm,15.0s						
TIY	Taiyuan	22.45	281	*e*P	P	18 46 42.5	+0.8
TIY				pmax	pmax		
	comp=Z,42nm,0.5s						
WHN	Wuhan	22.66	262	⇓P	P	18 46 41.5	-2.4
WHN				pmax	pmax		
	comp=Z,66nm,0.9s						
WHN				LR	LR		
	comp=Z,640nm,10.0s						
WHN				LR	LR		
	comp=Z,810nm,7.2s						
WHN				LR	LR		
	comp=Z,890nm,30.8s						
HHC	Hu-ho-hao-te	23.00	290	*e*P	P	18 46 46.0	-1.5
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,320nm,6.0s						
MA2	Magadan	23.92	13	P	P	18 46 56.5	+0.9
	comp=Z,26nm,0.7s,baz=190,slow=10,SNR=22						
MA2				LR	LR	18 56 08.3	
	comp=Z,114nm,21.8s,baz=115,slow=36						
MA2	Magadan	23.92	13	*e*P	P	18 46 55.8	+0.3
	comp=Z,32nm,1.0s						
MA2	Magadan	23.92	13	⇑*e*P	P	18 46 56.2	+0.7
MA2				pmax	pmax		
	comp=Z,30nm,1.0s						
CIT	Chita	24.55	317	*e*P	P	18 46 59.7	-1.7
CIT				*e*		18 47 14.6	
CIT				*e*		18 47 42.9	
CIT				pmax	pmax		
	comp=Z,61nm,1.1s						
XAN	Xi'an	25.92	274	P	P	18 47 13.0	-1.1
XAN				pP	pP	18 47 30.0	-1.2
XAN				PP	PnPn	18 47 54.5	-0.8
XAN				S	S	18 51 33.0	-6.0
XAN				SS	SnSn	18 52 45.5	+3.0
XAN				pmax	pmax		
	comp=Z,16nm,0.8s						
XAN				pmax	pmax		
	comp=Z,160nm,7.8s						
XAN				LR	LR		
	comp=Z,330nm,10.0s						
XAN				LR	LR		
	comp=Z,190nm,8.4s						
XAN				LR	LR		
	comp=Z,350nm,8.6s						
XAN	Xi'an	25.92	274	*e*P	P	18 47 13.2	-0.8
	comp=Z,12nm,0.7s						
XAN	Xi'an	25.92	274	*e*P	P	18 47 13.2	-0.8
XAN				pmax	pmax		
	comp=Z,12nm,0.7s						
YAK	Yakutsk	26.36	348	*d i*P	P	18 47 16.7	-0.9
YAK				*e**PP	sP	18 47 41.8	-1.8
YAK				*e*		18 48 07.6	
YAK				*e*		18 50 47.3	
YAK				*e*S	S	18 51 41.2	-4.0
YAK				*e**SS	sS	18 52 17.0	+2.1
YAK				pmax	pmax		
	comp=Z,81nm,1.0s						

YAK pmax pmax
comp=N,39nm,1.1s
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK pmax pmax
comp=Z,25nm,0.8s
YAK pmax pmax
comp=N,38nm,1.3s
YAK smax smax
comp=E,112nm,2.2s
YAK smax smax
comp=N,74nm,2.0s
ENH Enshi 26.65 265 *e*P **P 18 47 19.3 -1.4**
comp=N,53nm,0.8s
ULN Ulaanbaatar 27.07 305 *e*P **P 18 47 23.1 -1.3**
comp=N,19nm,0.8s
ULN Ulaanbaatar 27.07 305 *de*P **P 18 47 23.1 -1.3**
ULN pmax pmax
comp=Z,20nm,0.8s
ULN Ulaanbaatar 27.07 305 P **P 18 47 23.3 -1.1**
SNR=7.0
SEY Seymchan 27.34 12 P **P 18 47 27.6 +1.2**
comp=Z,15nm,0.8s,baz=202,slow=6.7,SNR=23
SEY Seymchan 27.34 12⇓ *e*P **P 18 47 27.4 +0.9**
SONA1 Songino Array 27.49 305 *e*P **P 18 47 26.8 -1.3**
SONM Songino Array 27.50 305 P **P 18 47 27.2 -1.0**
comp=Z,30nm,0.8s,baz=106,slow=9.1,SNR=157
SONM pP **pP 18 47 45.3 -0.2**
comp=Z,5.5nm,0.6s,baz=107,slow=8.5,SNR=5.2
SONM PcP **PcP 18 50 44.5 -0.1**
comp=Z,2.6nm,0.6s,baz=121,slow=1.8,SNR=5.9
SONM LR LR 18 58 13.0
comp=Z,146nm,19.2s,baz=148,slow=36
BOD Bodaibo 27.56 329⇓ *i*P **P 18 47 28.1 -0.3**
BOD pmax pmax
comp=Z,54nm,0.8s
H11N2 WAKE ISLAND Hy 28.49 119 T T 19 17 44.5
baz=313,slow=75,SNR=164
H11N1 WAKE ISLAND Hy 28.50 119 T T 19 17 49.0
baz=313,slow=75,SNR=112
H11N3 WAKE ISLAND Hy 28.51 119 T T 19 17 45.4
baz=313,slow=75,SNR=204
H11S1 WAKE ISLAND Hy 29.18 121 T T 19 18 34.6
baz=314,slow=76,SNR=281
H11S3 WAKE ISLAND Hy 29.18 121 T T 19 18 37.1
baz=314,slow=76,SNR=132
H11S2 WAKE ISLAND Hy 29.20 121 T T 19 18 29.7
baz=314,slow=76,SNR=230
LZH Lanzhou 29.50 280 ⇑P **P 18 47 45.5 -0.7**
LZH pP pP 18 48 04.5 +0.9
LZH sP sP 18 48 13.5 +1.3
LZH PP **PnPn 18 48 44.5 +0.9**
LZH S **S 18 52 33.8 -1.8**
LZH pmax pmax
comp=Z,31nm,1.0s
LZH pmax pmax
comp=Z,200nm,6.0s
LZH LR LR
comp=Z,680nm,12.5s
LZH LR LR
comp=Z,530nm,11.8s
LZH LR LR
comp=Z,750nm,13.6s
ZAK Zakamensk 30.04 309 *e*P **P 18 47 49.9 -0.8**
ZAK pmax pmax
comp=Z,8.0nm,1.3s
GYA Guiyang 30.51 260⇓ *i*P **P 18 47 53.5 -1.6**
GYA pP pP 18 48 10.3 -2.2
GYA sP sP 18 48 20.5 -0.6
GYA PP **PnPn 18 48 53.8 -3.0**
GYA S **S 18 52 44.8 -6.6**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=Z,530nm,16.9s
GYA LR LR
comp=Z,560nm,17.2s
GYA LR LR
comp=Z,510nm,17.0s
CD2 Chengdu 31.03 270 P **P 18 47 58.8 -0.7**
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 pmax pmax
comp=Z,220nm,4.8s
MOY Mondy 31.73 311 *e*P **P 18 48 04.9 -0.7**
GTA Gaotai 32.07 288 *e*P **P 18 48 07.0 -1.8**
GTA pP pP 18 48 24.5 -1.7
GTA sP sP 18 48 33.5 -1.3
GTA PcP **PcP 18 50 57.5 +0.9**
GTA pmax pmax
comp=Z,5.0nm,0.7s
KMI Kunming 34.26 261 P **P 18 48 28.8 +0.8**
KMI pP pP 18 48 46.5 +1.0
KMI sP sP 18 48 52.5 -1.6
KMI pmax pmax
comp=Z,41nm,0.9s
BILL Bilibino 34.63 17 *e*P P 18 48 25.3 -5.2
comp=Z,10nm,1.0s
BILL Bilibino 34.63 17⇓ *e*P **P 18 48 30.5 +0.1**
BILL *i* *PP **pP 18 48 48.7 +0.7**
BILL *i* *SP **sP 18 48 57.4 +0.8**
BILL *i* 18 49 49.7
BILL *e* 18 51 03.3
BILL S **S 18 53 59.0 +4.7**
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL MLR MLR
comp=Z,163nm,22.0s
TIXI Tiksi 35.65 354 P **P 18 48 38.9 -0.3**
comp=Z,18nm,0.6s,baz=142,slow=6.7,SNR=86
TIXI Tiksi 35.65 354 *e*P **P 18 48 38.8 -0.3**
comp=Z,19nm,0.7s
TIXI Tiksi 35.65 354 *d i*P **P 18 48 38.8 -0.3**
TIXI pmax pmax
comp=Z,21nm,0.8s
SDKM Sandakan 37.54 220 P **P 18 48 55.6 -0.3**
SKNT Sakolnakorn 37.78 249 P **P 18 48 58.6 +0.7**
comp=Z,14nm,1.3s
TSM Tawau 38.34 218 P **P 18 49 02.6 0.0**
UTTA Uttaradit 39.93 253 P **P 18 49 15.4 -0.4**
comp=Z,6.6nm,0.8s,comp=Z,61nm
CHAI Chaiyaphum 39.95 249 P **P 18 49 15.5 -0.5**
comp=Z,18nm,0.9s,comp=Z,152nm
DGZ Jazzator, Alta 40.12 306 *ce*P **P 18 49 18.4 +1.1**
PBKT Sadao Pong 40.31 251 *e*P **P 18 49 19.1 +0.1**
comp=Z,26nm,0.8s
PBKT Sadao Pong 40.31 251 P **P 18 49 18.7 -0.3**
comp=Z,37nm,0.8s,comp=Z,805nm
WMQ Urumqi 40.46 297 P **P 18 49 20.5 +0.4**
WMQ pP pP 18 49 38.0 0.0
WMQ sP sP 18 49 47.8 +1.3
WMQ pmax pmax
comp=Z,170nm,1.1s
WMQ pmax pmax
comp=Z,1μm,11.8s
WMQ LR LR
comp=Z,180nm,14.7s
WMQ LR LR
comp=Z,270nm,20.3s
WMQ LR LR
comp=Z,240nm,23.7s
WMQ Urumqi 40.46 297 *e*P **P 18 49 21.1 +1.0**
comp=Z,62nm,0.8s
CMMT Chiang Mai 40.55 256 P **P 18 49 20.4 -0.6**
comp=Z,16nm,0.9s
CHTO Chiang Mai 40.56 256 *e*P **P 18 49 20.5 -0.6**
comp=Z,13nm,0.9s
CHTO Chiang Mai 40.56 256 *e*P **P 18 49 20.5 -0.6**
CHTO pmax pmax
comp=Z,13nm,0.9s
CHTO Chiang Mai 40.56 256 P **P 18 49 20.5 -0.6**
comp=Z,71nm,1.1s
CM31 Chiang Mai Arr 40.76 255 *e*P **P 18 49 22.7 0.0**
CMAR Chiang Mai Arr 40.76 255 P **P 18 49 22.3 -0.4**
comp=Z,4.8nm,0.9s,baz=49,slow=5.4,SNR=25
CMAR PcP **PcP 18 51 23.8 +1.0**
comp=Z,2.9nm,0.9s,baz=14,slow=2.5,SNR=5.4
CMAR LR LR 19 06 07.3
comp=Z,82nm,18.4s,baz=28,slow=36
CM01 Chiang Mai Arr 40.77 255 *e*P **P 18 49 22.0 -0.8**
SANI Sanana 40.79 203 P **P 18 49 22.0 -0.9**
SUKH Sukhothai 40.79 253 P **P 18 49 22.8 -0.2**
comp=Z,11nm,0.7s
LUWI Luwuk 40.95 208 *e*P **P 18 49 22.9 -1.4**
comp=Z,30nm,0.7s
SRAK Srakaew 41.10 247 P **P 18 49 22.4 -3.1**
comp=Z,70nm,0.8s,comp=Z,647nm
LSA Lhasa 41.60 275 P **P 18 49 30.0 -0.1**
LSA pmax pmax
comp=Z,18nm,1.2s
LSA Lhasa 41.60 275 *e*P **P 18 49 30.4 +0.4**
comp=Z,27nm,1.0s
LSA Lhasa 41.60 275 *i* P **P 18 49 30.5 +0.4**
SNR=6.7
ZAA0 Zalesovo Array 41.73 313 *e*P **P 18 49 29.8 -0.5**
comp=Z,52nm,0.8s
ZALV Zalesovo Beam 41.73 313 P **P 18 49 30.3 +0.1**
comp=Z,68nm,0.8s,baz=91,slow=6.7,SNR=221
ZALV PcP **PcP 18 51 25.2 -0.2**
comp=Z,7.5nm,0.4s,baz=106,slow=3.0,SNR=8.7
PCI Palu 42.01 212 P **P 18 49 32.1 -0.8**
UTHA Uthaitani 42.08 251 P **P 18 49 33.7 +0.1**
comp=Z,9.5nm,0.8s,comp=Z,86nm
UMPA Umpang Tak 42.14 252 P **P 18 49 35.2 +1.1**
comp=Z,12nm,1.0s,comp=Z,111nm
ANM Nome 42.30 31 *e*P **P 18 49 37.5 +2.7**
comp=Z,4.8nm,0.5s
ANM Nome 42.30 31 *e*P **P 18 49 37.5 +2.7**
ANM pmax pmax
comp=Z,5.0nm,0.5s
NVS Novosibirsk 42.67 314⇑ *i*P **P 18 49 38.2 +0.3**
NVS *i* *PP **pP 18 49 57.3 +1.3**
NVS *e* 18 51 28.5
NVS *e*S **S 18 55 53.9 -1.7**
NVS pmax pmax
comp=Z,40nm,0.8s
NVS pmax pmax
comp=N,7.0nm,0.7s
NVS pmax pmax
comp=E,29nm,0.8s
NVS smax smax
comp=E,11nm,2.1s
SHL Shillong 42.75 269 *e*P **P 18 49 41.0 +1.8**
SBUM Sibu 42.90 224 P **P 18 49 41.0 +0.9**
PHET Kaeng Krachan 43.60 248 P **P 18 49 46.4 +0.6**
comp=E,30nm,0.8s,comp=E,199nm
MK01 Makanchi Array 43.80 302 *e*P **P 18 49 46.9 -0.3**
MK31 Makanchi Array 43.80 302 *e*P **P 18 49 47.0 -0.2**
MK31 Makanchi Array 43.80 302 *i* P **P 18 49 46.9 -0.3**
MK31 pmax pmax
comp=Z,34nm,0.7s
MKAR Makanchi Array 43.80 302 P **P 18 49 47.0 -0.2**
comp=Z,30nm,0.7s,baz=88,slow=9.3,SNR=252
MKAR PcP **PcP 18 51 32.5 0.0**
comp=Z,5.1nm,0.8s,baz=70,slow=5.3,SNR=3.6
MKAR LR LR 19 08 19.9
comp=Z,89nm,19.6s,baz=16,slow=36
MAKZ Makanchi 44.01 302 *e*P **P 18 49 48.7 -0.2**
comp=Z,30nm,0.8s
MAKZ Makanchi 44.01 302 *e*P **P 18 49 48.7 -0.2**
MAKZ pmax pmax
comp=Z,31nm,0.8s
MTKI Muara Teweh, K 44.33 218 P **P 18 49 52.5 +0.8**
comp=Z,63nm,0.7s,comp=Z,5um
KSM Kuching 44.78 226 P **P 18 49 56.0 +0.7**
BNSI Bone 45.06 210 P **P 18 49 58.4 +1.0**
comp=Z,39nm,1.1s
STKI Sintang 45.28 223 P **P 18 49 59.8 +0.6**
comp=Z,28nm,1.0s
KURK Kurchatov 45.69 308 *e*P **P 18 50 01.5 -0.5**
comp=Z,52nm,0.8s
KURK Kurchatov 45.69 308 *ce*P **P 18 50 01.8 -0.3**
KURK pmax pmax
comp=Z,57nm,0.8s
KURK Kurchatov 45.69 308 P **P 18 50 01.6 -0.5**
SNR=11
BKSI Bulukumba 45.90 209 P **P 18 50 03.5 -0.5**
comp=Z,16nm,1.0s
KTGM Kuala Trenggan 46.31 237 P **P 18 50 07.7 +0.3**
RAMN Ramite 46.39 274 *e*P **P 18 50 08.1 -0.1**
comp=Z,230nm,0.7s
PDGK Podgornoye 46.41 298 P **P 18 50 06.2 -1.8**
PDGK pmax pmax
comp=Z,81nm,0.8s
JIRN Jiri 46.41 275 *e*P **P 18 50 08.8 +0.3**
comp=Z,224nm,0.8s
GUN Gumba 46.55 276 *e*P **P 18 50 09.6 0.0**
comp=Z,110nm,0.7s
PKI Pulchoki 47.08 275 *e*P **P 18 50 13.2 -0.4**
comp=Z,77nm,0.9s
PKIN Phulchoki 47.08 275 *e*P **P 18 50 13.1 -0.5**
comp=Z,53nm,0.9s
KKN Kakani 47.08 276 *e*P **P 18 50 13.4 -0.2**
comp=Z,82nm,0.8s
DMN Daman 47.30 276 *e*P **P 18 50 15.1 -0.2**
comp=Z,42nm,1.0s
KDAK Kodiak Island 47.85 42 P **P 18 50 20.1 +1.3**
comp=Z,13nm,0.6s,baz=274,slow=5.3,SNR=16
KDAK pP **pP 18 50 38.9 +1.9**
comp=Z,5.4nm,0.4s,baz=252,slow=9.7,SNR=1.7
PKDT Phuket 47.86 244 P **P 18 50 20.4 +1.0**
comp=Z,38nm,0.9s
DANN Dangsing 48.06 277 *e*P **P 18 50 21.5 +0.3**
comp=Z,300nm,0.7s
IPM Ipoh 48.36 238 P **P 18 50 22.9 -0.4**
KOLN Koldanda 48.44 277 *e*P **P 18 50 23.9 -0.1**
comp=Z,112nm,1.1s
EDFI Ende, Flores 48.48 205 P **P 18 50 23.8 -0.5**
comp=Z,14nm,0.7s
MLY Manley 48.56 32 *e*P **P 18 50 26.8 +2.5**
comp=Z,7.4nm,0.6s
SOEI Soe 48.60 202 P **P 18 50 25.4 +0.2**
comp=Z,64nm,1.2s
KGM Kluang 48.65 234 P **P 18 50 26.3 +0.8**
PYUN Piuthan 48.78 277 *e*P **P 18 50 26.7 0.0**
comp=Z,293nm,1.1s
FRIM Kepong 48.86 237 P **P 18 50 27.4 +0.3**
ULHL Ulahol 48.99 297 P **P 18 50 28.5 +0.3**
SNR=12
BATI Baumata 49.21 202 P **P 18 50 30.6 +0.9**
comp=Z,20nm,0.7s
TKM2 Tokmak 2 49.27 299 P **P 18 50 31.0 +0.8**
SNR=34
TKM2 Tokmak 2 49.27 299 P **P 18 50 29.3 -0.9**
TKM2 pmax pmax
comp=Z,28nm,1.1s
WRH Wood River Hil 49.70 33 *e*P **P 18 50 34.9 +2.0**
comp=Z,51nm,2.0s
KZA Kyzart 49.75 298 P **P 18 50 35.4 +1.3**
SNR=18
TCOL CIGO, UAF Yank 49.79 32 P **P 18 50 35.9 +2.4**
baz=272
COLA College 49.79 32 *de*P **P 18 50 36.1 +2.6**
COLA pmax pmax
comp=Z,5.0nm,0.8s
KBK Karagaybulak 49.80 298 P **P 18 50 34.8 +0.6**
SNR=30
CHMS Chumysh 49.84 299 P **P 18 50 34.6 +0.3**
SNR=10
USP Ospenovka 49.95 299 P **P 18 50 35.3 +0.1**
SNR=21
POKR Poker Plat Res 49.96 32 P **P 18 50 37.4 +2.5**
baz=272
FRU Bishkek 49.98 299 *e*P **P 18 50 34.0 -1.4**
FRU *e* 18 51 01.0
FRU pmax pmax
comp=Z,40nm,1.6s
KSH Kashi 49.99 294 P **P 18 50 39.5 +3.9**
KSH pP sP 18 50 59.0 -3.5
KSH PcP **PcP 18 51 57.3 +2.6**
KSH PP **PP 18 52 34.0 +3.0**
KSH PcS **PcS 18 55 53.3 +1.5**
KSH S **S 18 57 42.5 +1.5**
KSH sS sS 18 58 17.8 +5.4
KSH ScS **ScS 19 00 21.3 +1.2**
KSH SS **SS 19 01 15.0 +0.6**
KSH pmax pmax
comp=Z,38nm,1.0s
KSH pmax pmax
comp=Z,560nm,10.1s
KSH LR LR
comp=Z,730nm,10.5s
KSH LR LR
comp=Z,200nm,10.1s
KSH LR LR
comp=Z,580nm,11.0s
AAK Ala-Archa 50.13 298 P **P 18 50 37.0 +0.3**
SNR=8.6
AAK Ala-Archa 50.13 298 *e*P **P 18 50 36.7 0.0**
comp=Z,10nm,0.9s
AAK Ala-Archa 50.13 298 *i* P **P 18 50 36.2 -0.4**
SNR=19
AAK Ala-Archa 50.13 298 P **P 18 50 36.8 +0.1**
AAK pmax pmax
comp=Z,11nm,1.0s
AAK Ala-Archa 50.13 298 P **P 18 50 36.4 -0.3**
SNR=6.1
PPBI Pangkal Pinang 50.15 227 P **P 18 50 37.3 +0.4**
comp=Z,22nm,0.8s
HDA Harding Lake 50.20 33 P **P 18 50 38.0 +1.3**
baz=273
IL1 Eielson Array 50.21 32 *e*P **P 18 50 37.8 +1.1**
ILAR Eielson Array 50.21 32 P **P 18 50 38.0 +1.2**
comp=Z,9.1nm,0.7s,baz=268,slow=5.9,SNR=153
ILAR pP **pP 18 50 57.1 +1.9**
comp=Z,3.9nm,0.9s,baz=274,slow=7.3,SNR=3.7
ILAR LR LR 19 13 09.0
comp=Z,55nm,18.8s,baz=26,slow=37
ILB Eielson Array 50.21 32 *e*P **P 18 50 38.0 +1.2**
UCH Uchtor 50.23 298 P **P 18 50 38.4 +0.6**
SNR=8.9
BVA0 Borovoye Array 50.39 312 *i* P **P 18 50 37.9 -0.4**
BVA0 pmax pmax
comp=Z,8.0nm,0.6s
BRVK Borovoye 50.44 313 *e*P **P 18 50 38.5 -0.2**
comp=Z,11nm,0.8s
BRVK Borovoye 50.44 313 *d i*P **P 18 50 38.1 -0.6**
BRVK pmax pmax
comp=Z,14nm,1.1s
BRVK Borovoye 50.44 313 P **P 18 50 38.4 -0.2**
SNR=6.0
EKS2 Erkin-Say 50.62 299 P **P 18 50 40.5 +0.2**
SNR=13
AML Almayashu 50.84 298 P **P 18 50 43.0 +0.7**
SNR=50
SCRK Sand Creek 51.52 33 *e*P **P 18 50 48.2 +1.4**
comp=Z,10.0nm,0.8s
DOT Dot Lake 51.52 33 *e*P **P 18 50 47.9 +1.2**
comp=Z,10.0nm,0.7s
MNAS Manas 51.58 299 P **P 18 50 48.3 +0.8**
MNAS pmax pmax
comp=Z,23nm,0.9s
ARSB Arslanbob 51.59 297 *e*P **P 18 50 48.5 +0.8**
comp=Z,49nm,1.4s
SFK Sufi-Kurgan 51.64 296 P **P 18 50 47.6 -0.5**
SFK pmax pmax
comp=Z,21nm,0.9s
EGAK Eagle 52.65 32 *e*P **P 18 50 55.5 +0.6**
comp=Z,6.5nm,0.6s
KK31 Karatay Array 52.78 300 *e*P **P 18 50 56.5 +0.2**
KK31 Karatay Array 52.78 300 *i* P **P 18 50 56.2 -0.1**
KK31 pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 52.78 300 *e*P **P 18 50 56.5 +0.2**
KKAR Karatay Array 52.78 300 *e*P **P 18 50 56.5 +0.2**
GSI Gunungsitoli 53.02 239 *e*P **P 18 50 57.8 -0.5**
comp=Z,113nm,0.7s
GSI Gunungsitoli 53.02 239 P **P 18 50 58.1 -0.2**
BTK Batken 53.56 296 *e*P **P 18 51 03.0 +0.8**
comp=Z,9.3nm,0.6s
BTK Batken 53.56 296 P **P 18 51 03.0 +0.8**
BTK pmax pmax
comp=Z,9.0nm,0.6s
NIL Nilore 54.14 288 *e*P **P 18 51 06.6 +0.2**
comp=Z,125nm,1.4s
NIL Nilore 54.14 288 *e*P **P 18 51 06.6 +0.2**
NIL pmax pmax
comp=Z,125nm,1.4s
GAR Garm 54.30 295 *e*P **P 18 51 07.6 0.0**
comp=Z,108nm,1.4s
GAR Garm 54.30 295 *e*P **P 18 51 07.6 0.0**
GAR pmax pmax
comp=Z,109nm,1.4s
SVE Sverdlovsk 55.05 319⇑ *i*P **P 18 51 12.7 +0.2**
SVE pmax pmax
comp=Z,46nm,1.3s
INK Inuvik 55.07 27 P **P 18 51 14.0 +1.5**
comp=Z,8.9nm,0.6s,baz=295,slow=6.7,SNR=41
INK Inuvik 55.07 27 *e*P **P 18 51 14.2 +1.7**
comp=Z,9.7nm,0.7s
INK Inuvik 55.07 27 *e*P **P 18 51 14.2 +1.7**
INK pmax pmax
comp=Z,10.0nm,0.7s
CHGR Chuyangaron 55.27 295 *e*P **P 18 51 14.7 +0.1**
comp=Z,108nm,0.6s
ARU Arti 56.26 319 *e*P **P 18 51 20.2 -1.0**
comp=Z,52nm,0.9s
ARU Arti 56.26 319 *d i*P **P 18 51 20.9 -0.3**
ARU pmax pmax
comp=Z,8.0nm,0.9s
WRAB Tennant Creek 56.53 187 *e*P **P 18 51 23.2 -0.4**
comp=Z,34nm,0.8s
WRAB Tennant Creek 56.53 187 *d i*P **P 18 51 22.9 -0.6**
WRAB pmax pmax
comp=Z,55nm,1.3s
WB2 Warramunga Arr 56.55 187 *e*P **P 18 51 23.2 -0.4**
WRA Warramunga Arr 56.55 187 P **P 18 51 23.2 -0.4**
comp=Z,30nm,0.7s,baz=3.2,slow=7.4,SNR=156
KBL Kabul 56.97 291 *e*P **P 18 51 26.0 -0.9**
comp=Z,21nm,1.0s
KBL Kabul 56.97 291 *e*P **P 18 51 26.0 -0.9**
KBL pmax pmax
comp=Z,21nm,1.0s
HYB Hyderabad 57.54 268 *i* P **P 18 51 30.0 -0.9**
HYB *e* 18 51 49.5
HYB *e*PcP **PcP 18 52 23.5 -0.2**
AB31 Akbulak array 57.72 310 *i* P **P 18 51 31.4 -0.3**
AB31 pmax pmax
comp=Z,23nm,0.7s
ABKAR Akbulak array 57.72 310 *e*P **P 18 51 31.3 -0.4**
AKTO Aktyubinsk 58.48 312 P **P 18 51 36.5 -0.5**
AKTO pmax pmax
comp=Z,12nm,1.0s
AS01 Alice Springs 60.27 187 *e*P **P 18 51 48.7 -0.8**
AS31 Alice Springs 60.27 187 *e*P **P 18 51 49.8 +0.2**
comp=Z,4.3nm,0.8s
ASAR Alice Springs 60.27 187 P **P 18 51 49.4 -0.1**
comp=Z,16nm,0.7s,baz=13,slow=6.7,SNR=174
POO Poona 60.74 272 *e*P **P 18 51 51.0 -2.0**
PRGR Permogore 60.78 327 *e*P **P 18 51 49.1 -3.4**
PRGR pmax pmax
comp=Z,14nm,0.6s
PALK Pallekele 61.64 257 P **P 18 51 58.9 -0.2**
PALK Pallekele 61.64 257 *i* P **P 18 51 57.3 -1.8**
RES Resolute Bay 63.18 14 *e*P **P 18 52 08.9 +0.4**
comp=Z,13nm,0.8s
RES Resolute Bay 63.18 14 *e*P **P 18 52 08.9 +0.4**
RES pmax pmax
comp=Z,13nm,0.8s
DZM Mont Dzumac 63.25 153 P **P 18 52 10.7 +1.1**
comp=Z,15nm,0.9s,baz=63,slow=8.0,SNR=4.6
GEYT Alibeck 63.48 299 P **P 18 52 11.3 +0.2**
comp=Z,10.0nm,0.5s,baz=20,slow=1.7,SNR=24
GYA0B ALIBECK ARRAY 63.48 299 *e*P **P 18 52 11.5 +0.4**
KLMR Klimovskoe 63.78 328 *e*P **P 18 52 11.3 -1.3**
KLMR *e* 18 54 31.7
KLMR pmax pmax
comp=Z,25nm,0.6s
KLMR Klimovskoe 63.78 328 *e*P **P 18 52 11.3 -1.3**
KLMR AMP 18 52 13.1
comp=Z,25nm,0.7s
KLMR *e*PP **PP 18 54 31.8 -1.3**
ARCES ARCESS Array B 64.17 339 P **P 18 52 15.2 +0.2**
comp=Z,10nm,0.8s,baz=52,slow=5.9,SNR=20
ARCES pP **pP 18 52 33.9 -0.4**
comp=Z,4.2nm,0.6s,baz=66,slow=9.0,SNR=4.1
ARCES ARCESS Array B 64.17 339 P **P 18 52 15.3 +0.2**
ARCES *PP **pP 18 52 33.9 -0.4**
ARCES pmax pmax
comp=Z,10.0nm,0.8s
ARCES pmax pmax
comp=Z,5.0nm,0.7s
YKA Yellowknife Ar 64.51 30 P **P 18 52 18.1 +0.8**
comp=Z,2.7nm,0.7s,baz=303,slow=6.7,SNR=53
YKA pP **pP 18 52 36.1 -0.3**
comp=Z,2.0nm,0.7s,baz=302,slow=5.9,SNR=8.1
YKB5 Yellowknife Ar 64.51 30 *e*P **P 18 52 17.4 +0.1**
TULEG Thule 65.61 7 *e*P **P 18 52 24.4 +0.1**
comp=Z,17nm,1.0s
DAG Danmarks Havn 66.15 355 *i* P **P 18 52 27.9 +0.2**
comp=Z,17nm,0.8s
DAG *i* 18 52 46.3
DAG Danmarks Havn 66.15 355 *i* P **P 18 52 27.9 +0.2**
DAG *i* 18 52 46.3
DAG pmax pmax
comp=Z,13nm,0.8s
MOS Moscow 67.21 323 *e*P **P 18 52 33.5 -1.3**

MOS *e* 18 53 01.1
MOS pmax pmax
comp=Z,48nm,1.0s
VRH Novokhopyorsk 67.47 318 *e*P **P 18 52 35.4 -1.1**
VRH pmax pmax
comp=Z,60nm,0.6s
OBN Obninsk 68.05 323 *e*P **P 18 52 39.0 -1.1**
comp=Z,54nm,0.7s
OBN Obninsk 68.05 323 *de*P **P 18 52 39.7 -0.4**
OBN *e* 18 53 06.3
OBN pmax pmax
comp=Z,28nm,0.6s
STKA Stephens Creek 68.13 179 P **P 18 52 41.0 +0.3**
comp=Z,9.3nm,0.7s,baz=354,slow=6.7,SNR=19
STKA Stephens Creek 68.13 179 *e*P **P 18 52 41.2 +0.5**
comp=Z,1.7nm,0.8s
STKA Stephens Creek 68.13 179 *e*P **P 18 52 41.2 +0.5**
STKA pmax pmax
comp=Z,2.0nm,0.8s
LPSR Galich'ya Gora 68.22 320 *e*P **P 18 52 40.6 -0.6**
LPSR pmax pmax
comp=Z,60nm,0.8s
KULLO Kullorsuaq 68.47 5 *i*P **P 18 52 42.7 +0.3**
KULLO Kullorsuaq 68.47 5 *i*P **P 18 52 42.7 +0.3**
VSR Storozhevoye 68.83 319 *d i*P **P 18 52 44.2 -0.8**
VSR pmax pmax
comp=Z,57nm,0.8s
FINES FINESS Array B 68.89 332 P **P 18 52 45.2 -0.1**
comp=Z,36nm,0.8s,baz=46,slow=6.8,SNR=91
FINES LR LR 19 26 40.4
comp=Z,269nm,20.3s,baz=252,slow=39
B08A Colville Reser 69.60 44 *e*P **P 18 52 51.8 +1.8**
comp=Z,7.0nm,1.1s
GOF Gofitskoye 69.90 312 ⇓*i*P **P 18 52 51.8 0.0**
GOF pmax pmax
comp=Z,40nm,0.7s
VSU Vasula 70.50 329 *d i*P **P 18 52 54.9 -0.2**
VSU pmax pmax
comp=Z,100nm,0.9s
VSU Vasula 70.50 329 *e*P **P 18 52 55.0 -0.2**
VSU IAmb IAmb 18 52 56.1
comp=Z,114nm,0.9s
ZEI Tsey 70.57 309 *e*P **P 18 52 54.4 -1.8**
ZEI pmax pmax
comp=Z,9.0nm,0.8s
BIDO Bidbid 70.59 285 P **P 18 52 57.2 +0.8**
SNR=6.5
TBLG Delisi 70.61 308 *e*P **P 18 52 56.6 +0.4**
comp=Z,18nm,1.0s
KBZ Khabaz 70.69 310 P **P 18 52 56.8 +0.2**
comp=Z,22nm,0.9s,baz=40,slow=3.4,SNR=39
KBZ pP **pP 18 53 16.0 -0.1**
comp=Z,2.4nm,0.7s,baz=180,slow=7.1,SNR=1.3
KIV Kislovodsk 70.70 311 *e*P **P 18 52 56.5 -0.3**
comp=Z,52nm,0.7s
KIV Kislovodsk 70.70 311 ⇓*i*P **P 18 52 56.8 0.0**
KIV Kislovodsk 70.70 311 *i* P **P 18 52 57.0 +0.2**
SNR=19
KIV Kislovodsk 70.70 311 *e*P **P 18 52 56.8 0.0**
KIV pmax pmax
comp=Z,79nm,1.1s
KIV Kislovodsk 70.70 311 P **P 18 52 57.0 +0.2**
SNR=9.1
BANOM Banah 70.73 288 *i*P **P 18 52 57.7 +0.5**
SNR=20
BANOM Banah 70.73 288 P **P 18 52 57.7 +0.5**
SNR=8.5
SHME Shamm 70.79 289 *i* P **P 18 52 57.7 +0.2**
SNR=6.2
NEW Newport 70.89 44 P **P 18 52 59.5 +1.6**
baz=304
SUMG Summit 71.12 360 *i*P **P 18 53 00.4 +1.2**
comp=Z,5.2nm,0.5s
SUMG Summit 71.12 360 *i*P **P 18 53 00.4 +1.2**
SUMG pmax pmax
comp=Z,5.0nm,0.5s
MSFE Esma-Masafi 71.14 288 *i* P **P 18 52 59.9 +0.2**
SNR=9.9
UOSS Minazif 71.32 288 *e*P **P 18 53 00.9 +0.2**
comp=Z,21nm,0.9s
UOSS Minazif 71.32 288 *i*P **P 18 52 59.8 -0.9**
SNR=11
HATD Hatta, Dubai 71.44 287 *i*P **P 18 53 01.5 0.0**
SNR=19
HATD Hatta, Dubai 71.44 287 P **P 18 53 01.7 +0.2**
SNR=7.5
GNI Garni 71.44 306 *e*P **P 18 53 01.9 +0.4**
comp=Z,121nm,0.9s
GNI Garni 71.44 306 ⇓*e*P **P 18 53 02.1 +0.6**
GNI pmax pmax
comp=Z,150nm,1.2s
ASHO Ashiyiah 71.57 287 *i*P **P 18 53 02.0 -0.3**
SNR=12
ASHO Ashiyiah 71.57 287 P **P 18 53 02.3 0.0**
SNR=7.4
BSY Bisya 71.73 285 P **P 18 53 04.4 +1.2**
SNR=6.5
FAQ Al Faqa, Dubai 71.90 288 *i*P **P 18 53 04.0 -0.2**
SNR=12
FAQ Al Faqa, Dubai 71.90 288 P **P 18 53 04.2 0.0**
SNR=5.5
MHTO MHTO 72.08 283 P **P 18 53 05.1 -0.2**
SNR=9.6
ALNE Al Ain 72.15 287 *i*P **P 18 53 05.8 +0.1**
SNR=7.0
ASUD Al Ashush, Dub 72.16 288 *i*P **P 18 53 05.9 +0.1**
SNR=17
ASUD Al Ashush, Dub 72.16 288 P **P 18 53 05.4 -0.3**
SNR=6.0
IZAR Zarasai 72.42 327 *e*P **P 18 53 06.9 +0.1**
IZAR IAmb IAmb 18 53 07.9
comp=Z,15nm,0.5s
SCO Scoresbysund 72.48 354 *i*P **P 18 53 07.9 +1.0**
SCO Scoresbysund 72.48 354 *i*P **P 18 53 07.9 +1.0**
IDID Didziasalis 72.49 327 *e*P **P 18 53 07.2 0.0**
IDID IAmb IAmb 18 53 08.3
comp=Z,18nm,1.0s
ISAL Salakas 72.59 327 *e*P **P 18 53 08.1 +0.3**
ISAL IAmb IAmb 18 53 10.1
comp=Z,19nm,0.7s
IIGN Ignalina 72.69 327 *e*P **P 18 53 08.4 0.0**
IIGN IAmb IAmb 18 53 09.6
comp=Z,12nm,0.5s
NACGM Naroch 72.73 326 *e* **P 18 53 09.0 +0.4**
ANN Anapa 73.36 314 *e*P **P 18 53 11.5 -1.0**
ANN pmax pmax
comp=Z,83nm,1.2s
PABE Paberze 73.56 328 *e*P **P 18 53 13.4 -0.1**
PABE IAmb IAmb 18 53 14.4
comp=Z,56nm,0.7s
PBUR Paburg 74.07 329 *e*P **P 18 53 15.9 -0.5**
PBUR IAmb IAmb 18 53 17.3
comp=Z,56nm,0.6s
NC405 NORSAR Array S 74.12 337 *e*P **P 18 53 17.1 +0.4**
NC303 NORSAR Array S 74.14 337 *e*P **P 18 53 17.3 +0.4**
AKASG Malin Array Be 74.24 322 P **P 18 53 17.2 -0.4**
comp=Z,20nm,0.6s,baz=47,slow=6.1,SNR=148
AKASG LR LR 19 28 46.8
comp=Z,128nm,18.1s,baz=300,slow=38
AKASG Malin Array Be 74.24 322 P **P 18 53 17.2 -0.4**
AKASG pmax pmax
comp=Z,21nm,0.6s
AKASG MLR MLR
comp=Z,128nm,18.1s
AKBB Malin Array Si 74.24 322 *e*P **P 18 53 17.1 -0.5**
comp=Z,35nm,0.9s
AKBB Malin Array Si 74.24 322 *e*P **P 18 53 17.1 -0.5**
AKBB pmax pmax
comp=Z,35nm,0.9s
AK11 Malin Array Si 74.28 322 *e*P **P 18 53 17.2 -0.6**
NC204 NORSAR Array S 74.29 337 *e*P **P 18 53 18.2 +0.4**
NB201 NORSAR Array S 74.30 337 *e*P **P 18 53 18.1 +0.2**
NB2 NORSAR Subarra 74.33 337 P **P 18 53 18.1 +0.1**
comp=Z,24nm,0.7s,baz=40,slow=6.2
NB2 NORSAR Subarra 74.33 337 P **P 18 53 18.1 +0.1**
baz=40,slow=6.2
NOA NORSAR Array B 74.33 337 P **P 18 53 18.1 +0.1**
comp=Z,18nm,0.7s,baz=39,slow=5.8,SNR=54
NOA pP **pP 18 53 37.6 0.0**
comp=Z,6.3nm,0.8s,baz=39,slow=5.8,SNR=4.2
NOA LR LR 19 29 12.2
comp=Z,77nm,19.0s,baz=275,slow=38
FFC Flin Flon 74.42 32 *e*P **P 18 53 19.6 +1.0**
comp=Z,9.9nm,0.9s
FFC Flin Flon 74.42 32 *i*P **P 18 53 19.7 +1.1**
NBO00 NORSAR Array S 74.48 337 *e*P **P 18 53 19.3 +0.5**

FCC Fort Churchill 74.68 26 *e*P **P 18 53 20.6 +0.7**
comp=Z,16nm,1.1s
FCC Fort Churchill 74.68 26 *e*P **P 18 53 20.6 +0.7**
FCC pmax pmax
comp=Z,16nm,1.1s
HRY Holter Researc 74.71 43 *e*P **P 18 53 21.1 +0.5**
SUW Suwalki 74.90 327 *e*P **P 18 53 21.0 -0.4**
SUW Suwalki 74.90 327 *e*P **P 18 53 21.0 -0.4**
EGMT Eagleton 75.02 41 *e*P **P 18 53 22.6 +0.2**
comp=Z,5.7nm,0.8s
EGMT Eagleton 75.02 41 P **P 18 53 23.8 +1.5**
baz=308
DLMT Dillon 75.11 44 *e*P **P 18 53 25.1 +2.1**
comp=Z,11nm,0.8s
HLID Hailey 75.14 47 P **P 18 53 25.1 +1.9**
baz=307
SIM Simferopol' 75.18 315 *c i*P **P 18 53 22.3 -0.8**
SIM pmax pmax
comp=Z,26nm,0.8s
BOZ Bozeman (W) 75.50 44 P **P 18 53 26.8 +1.6**
baz=308
NV01 Mina Array Sit 75.77 53 *e*P **P 18 53 28.8 +1.8**
NVAR Mina Array Bea 75.77 53 P **P 18 53 28.6 +1.7**
comp=Z,2.8nm,0.7s,baz=294,slow=5.7,SNR=10
NVAR pP **pP 18 53 47.2 +0.7**
comp=Z,4.5nm,0.7s,baz=289,slow=5.4,SNR=8.2
H17A Grant Village 76.83 44 *e*P **P 18 53 36.7 +3.8**
comp=Z,13nm,0.9s
H17A Grant Village 76.83 44 P **P 18 53 36.4 +3.5**
baz=309
RLMT Red Lodge 77.10 43 P **P 18 53 35.8 +1.5**
baz=309
IAS Iasi 77.33 320 ⇓*i*P **P 18 53 35.3 0.0**
LVV L'vov 77.35 324 *e*P **P 18 53 35.5 +0.2**
BEL Belsk 77.45 327 *e*P **P 18 53 36.6 +0.7**
BEL Belsk 77.45 327 *e*P **P 18 53 36.6 +0.7**
BSD Bornholm Skovb 77.52 331 *i* P **P 18 53 36.2 +0.1**
comp=Z,4.5nm,0.4s
BSD Bornholm Skovb 77.52 331 *i* P **P 18 53 36.2 +0.1**
BSD pmax pmax
comp=Z,5.0nm,0.4s
R11A Troy Canyon, C 77.54 51 *e*P **P 18 53 39.0 +2.2**
comp=Z,13nm,1.6s
R11A Troy Canyon, C 77.54 51 P **P 18 53 38.7 +1.8**
baz=307
DGMT Dagmar 77.58 38 P **P 18 53 39.1 +2.4**
baz=312
LAO LASA Array 77.72 40 P **P 18 53 39.7 +2.1**
baz=311
ILGA Ilgaz 77.79 312 *e*P **P 18 53 39.4 +1.2**
BIR Birlad 77.90 319 ⇓*i*P **P 18 53 39.6 +1.1**
PRAR RASCA 77.91 321 ⇓*i*P **P 18 53 38.3 -0.2**
TPNV Topopah Spring 77.95 53 P **P 18 53 41.4 +2.2**
baz=307
TLCR 77.97 318 ⇓*i*P **P 18 53 38.7 -0.1**
HWUT Hardware Ranch 78.00 47 P **P 18 53 39.3 -0.1**
comp=Z,4.6nm,1.1s
KWP Kalwaria Pacla 78.10 324 *e*P **P 18 53 40.4 +0.8**
KWP Kalwaria Pacla 78.10 324 *e*P **P 18 53 40.4 +0.8**
DUG Dugway, Tooele 78.13 49 *e*P **P 18 53 37.6 -2.4**
comp=Z,5.9nm,0.9s
DUG Dugway, Tooele 78.13 49 *e*P **P 18 53 37.6 -2.4**
DUG pmax pmax
comp=Z,6.0nm,0.9s
DUG Dugway, Tooele 78.13 49 P **P 18 53 42.4 +2.3**
baz=308
BUR08 Bucovina Ar. S 78.24 321 *e*P **P 18 53 40.9 +0.4**
BIZ Bicaz 78.25 320 ⇓*i*P **P 18 53 40.8 +0.4**
BUR04 Bucovina Ar. S 78.25 321 *e*P **P 18 53 40.6 +0.1**
BURAR Bucovina Array 78.25 321 ⇓*i*P **P 18 53 40.9 +0.4**
CFR Carcaliu 78.34 318 ⇓*i*P **P 18 53 40.9 0.0**
BW06 Boulder Array 78.43 45 P **P 18 53 43.0 +1.2**
baz=310
PD31 Pinedale Array 78.43 45 *e*P **P 18 53 43.2 +1.4**
PDAR Pinedale Array 78.43 45 P **P 18 53 42.9 +1.1**
comp=Z,1.7nm,0.7s,baz=253,slow=2.2,SNR=15
PDAR pP **pP 18 54 02.4 +0.9**
comp=Z,1.3nm,0.6s,baz=316,slow=4.1,SNR=5.1
PETR Petresti 78.47 319 ⇓*i*P **P 18 53 43.1 +1.5**
ODBI Odobesti 78.53 319 ⇓*i*P **P 18 53 43.5 +1.6**
VRI Vrincioaia 78.64 319 ⇓*i*P **P 18 53 42.7 +0.1**
BR131 Keskin Array S 78.65 311 *e*P **P 18 53 43.3 +0.4**
BR131 Keskin Array S 78.65 311 P **P 18 53 42.9 -0.1**
SNR=6.1
BRTR Keskin Array B 78.65 311 P **P 18 53 43.1 +0.2**
comp=Z,15nm,1.0s,baz=108,slow=4.1,SNR=45
TIRR Tirgusor 78.66 317 ⇓*i*P **P 18 53 42.8 +0.1**
PLOR Plostina 78.69 319 ⇓*i*P **P 18 53 43.3 +0.4**
HARR Harsova 78.77 318 ⇓*i*P **P 18 53 43.6 +0.3**
TLB Topalu 78.78 318 ⇑*i*P **P 18 53 43.7 +0.4**
GRER 78.83 319 ⇓*i*P **P 18 53 44.9 +1.3**
MFTR Murfatlar 78.83 317 ⇓*i*P **P 18 53 43.9 +0.3**
OZUR 78.97 320 ⇓*i*P **P 18 53 45.6 +1.1**
UZH Uzhgorod 78.99 323 *e*P **P 18 53 46.2 +1.8**
OJC Ojcow 79.04 326 *e*P **P 18 53 45.3 +0.6**
OJC Ojcow 79.04 326 *e*P **P 18 53 45.2 +0.5**
comp=Z,59nm,1.2s
OJC Ojcow 79.04 326 *e*P **P 18 53 45.2 +0.5**
OJC pmax pmax
comp=Z,59nm,1.2s
ARCR ARCALIA 79.04 321 ⇓*i*P **P 18 53 45.9 +1.2**
ANTO Ankara 79.07 312 *e*P **P 18 53 46.0 +0.8**
comp=Z,20nm,0.8s
ANTO Ankara 79.07 312 *e*P **P 18 53 46.0 +0.8**
ANTO pmax pmax
comp=Z,21nm,0.8s
BR231 Keskin MP Arra 79.10 312 *e*P **P 18 53 46.2 +0.8**
PGOR Pogoanele 79.13 318 ⇓*i*P **P 18 53 46.5 +1.2**
AMRR Amara 79.14 318 ⇓*i*P **P 18 53 45.2 -0.1**
ICOR Ion Corvin 79.21 317 ⇓*i*P **P 18 53 46.0 +0.3**
TRPA Tarpa 79.22 323 ⇓*i*P **P 18 53 46.4 +0.8**
TRPA Tarpa 79.22 323 ⇓*i*eP **P 18 53 46.0 +0.4**
ISR Istrita 79.23 319 ⇓*i*P **P 18 53 46.1 +0.2**
DOPR Dopca 79.27 320 ⇓*i*P **P 18 53 47.3 +1.3**
MLR Muntele Rosu 79.30 319 ⇓*i*P **P 18 53 46.5 +0.2**
NIE Niedzica 79.38 325 *e*P **P 18 53 47.6 +1.0**
NIE Niedzica 79.38 325 *e*P **P 18 53 47.6 +1.0**
SECR 79.53 319 ⇓*i*P **P 18 53 48.3 +0.8**
GMRC Granite Mounta 79.64 54 P **P 18 53 50.3 +1.9**
baz=308
CJR Cluj-Napoca 79.67 321 ⇓*i*P **P 18 53 49.4 +1.2**
SULR 79.67 319 ⇓*i*P **P 18 53 48.6 +0.4**
VOIR 79.80 320 ⇓*i*P **P 18 53 49.3 +0.3**
RUE Ruedersdorf 79.94 330 *e*P **P 18 53 50.2 +0.7**
comp=Z,14nm,0.9s,baz=38,slow=5.2
RUE Ruedersdorf 79.94 330 *e*P **P 18 53 50.4 +1.0**
RUE IAmb IAmb 18 53 51.8
comp=Z,20nm,1.0s
LANS Liptovska Anna 79.95 325 *e*P **P 18 53 50.9 +1.2**
LANS Liptovska Anna 79.95 325 *e*P **P 18 53 50.9 +1.2**
OKC Ostrava-Krasne 80.05 326 *e*P **P 18 53 50.8 +0.6**
OKC Ostrava-Krasne 80.05 326 *e*P **P 18 53 50.8 +0.6**
DRGR 80.06 322 ⇓*i*P **P 18 53 50.7 +0.3**
ARR Arges 80.06 320 ⇓*i*P **P 18 53 51.5 +1.1**
KSP Ksiaz 80.13 328 *e*P **P 18 53 51.2 +0.6**
KSP Ksiaz 80.13 328 *e*P **P 18 53 51.2 +0.6**
BSEG Bad Segeberg 80.15 333 *e*P **P 18 53 51.4 +0.8**
comp=Z,20nm,0.8s,baz=38,slow=5.2
SRU San Rafael Swe 80.19 48 *e*P **P 18 53 53.3 +1.9**
comp=Z,8.2nm,0.8s
RAYN Ar Rayn 80.22 292 *e*P **P 18 53 51.6 0.0**
comp=Z,20nm,0.7s
RAYN Ar Rayn 80.22 292 *i* P **P 18 53 50.9 -0.7**
SNR=27
ULM Lac du Bonnet 80.22 33 P **P 18 53 50.6 -0.4**
comp=Z,4.6nm,0.7s,baz=324,slow=6.8,SNR=11
ULM pP **pP 18 54 10.5 -0.3**
comp=Z,5.1nm,0.7s,baz=306,slow=7.1,SNR=6.7
ULM Lac du Bonnet 80.22 33 *e*P **P 18 53 51.4 +0.3**
ULM pP **pP 18 54 10.5 -0.3**
MORC Moravsky Berou 80.37 327 *e*P **P 18 53 52.5 +0.6**
comp=Z,17nm,1.0s
MORC Moravsky Berou 80.37 327 ⇓*i*P **P 18 53 52.5 +0.6**
MORC Moravsky Berou 80.37 327 *e*P **P 18 53 52.5 +0.6**
MORC pmax pmax
comp=Z,17nm,1.0s
MORC Moravsky Berou 80.37 327 *e*P **P 18 53 52.2 +0.3**
HUMR Humele 80.45 319 ⇓*i*P **P 18 53 52.8 +0.4**
DPC Dobruska-Polom 80.48 328 *e*P **P 18 53 53.2 +0.7**
DPC Dobruska-Polom 80.48 328 *e*P **P 18 53 53.2 +0.7**
KRLC Kraliky 80.48 327 *e*P **P 18 53 53.3 +0.8**
KRLC Kraliky 80.48 327 *e*P **P 18 53 53.3 +0.8**
UPC Upice 80.50 328 *e*P **P 18 53 53.1 +0.5**
UPC Upice 80.50 328 *e*P **P 18 53 53.1 +0.5**

DEV Deva 80.59 321 ⇓*i*P **P 18 53 53.8 +0.7**
PSZ Piszkesteto 80.63 324 *e*P **P 18 53 54.2 +0.8**
comp=Z,33nm,1.0s
PSZ Piszkesteto 80.63 324 ⇓*i*P **P 18 53 54.4 +1.0**
PSZ Piszkesteto 80.63 324 *e*P **P 18 53 54.2 +0.8**
PSZ pmax pmax
comp=Z,33nm,1.0s
PSZ Piszkesteto 80.63 324 *e*P **P 18 53 54.0 +0.6**
VYHS Vyhne 80.71 325 *e*P **P 18 53 54.3 +0.5**
VYHS pmax pmax
comp=Z,8.0nm,1.1s
VYHS Vyhne 80.71 325 *e*P **P 18 53 54.3 +0.5**
ZIMR 80.83 318 ⇑*i*P **P 18 53 55.3 +0.9**
PDMCI Parker Dam,Lak 80.92 54 P **P 18 53 57.0 +1.9**
baz=308
JAVC Velka Javorina 80.98 326 *e*P **P 18 53 56.7 +1.5**
GZR Gura Zlata 81.00 321 ⇓*i*P **P 18 53 55.6 +0.2**
PVCC Panska Ves 81.09 329 *e*P **P 18 53 56.5 +0.8**
PVCC Panska Ves 81.09 329 *e*P **P 18 53 56.5 +0.8**
BRG Berggiesshubel 81.09 329 *i* P **P 18 53 56.0 +0.3**
comp=Z,29nm,1.2s
BRG *e* 18 54 15.2
comp=Z,10.0nm,1.1s
BRG Berggiesshubel 81.09 329 *e*P **P 18 53 56.3 +0.6**
comp=Z,20nm,1.1s,baz=38,slow=5.2
BRG Berggiesshubel 81.09 329 *i* P **P 18 53 56.0 +0.3**
BRG *e* 18 54 15.2
BRG pmax pmax
comp=Z,29nm,1.2s
BRG pmax pmax
comp=Z,10.0nm,1.1s
VLAD Vladila 81.11 319 ⇓*i*P **P 18 53 56.2 +0.3**
VRAC Vranov 81.13 327 ⇓*i*P **P 18 53 56.9 +0.9**
VRAC Vranov 81.13 327 *e*P **P 18 53 56.7 +0.7**
CLL Collm 81.15 330 *e*P **P 18 53 56.0 0.0**
comp=Z,31nm,0.9s
CLL Collm 81.15 330 *e*P **P 18 53 56.3 +0.3**
comp=Z,23nm,0.9s,baz=38,slow=5.2
CLL *e*pP **pP 18 54 15.8 -0.1**
CLL Collm 81.15 330 ⇓*i*P **P 18 53 56.0 0.0**
comp=Z,39nm,1.0s
CLL *e* 18 54 15.0
CLL *e*pP **sP 18 54 23.0 -1.0**
CLL Collm 81.15 330 ⇓*i*P **P 18 53 56.0 0.0**
CLL *e**PP **pP 18 54 15.0 -0.9**
CLL pmax pmax
comp=Z,39nm,1.0s
ASF Jabal al Asfar 81.21 304 P **P 18 53 57.4 +0.6**
SMOL Smolenice 81.34 326 *e*P **P 18 53 58.3 +1.2**
SMOL Smolenice 81.34 326 *e*P **P 18 53 58.3 +1.2**
NRDL Niedersach Rie 81.36 332 *e*P **P 18 53 57.6 +0.6**
comp=Z,7.6nm,0.8s,baz=38,slow=5.2
KRUC Moravsky 81.40 327 *e*P **P 18 53 57.7 +0.3**
BZS Buzias 81.42 322 ⇓*i*P **P 18 53 57.6 0.0**
SRO Srobarova 81.45 325 *e*P **P 18 53 58.5 +0.9**
SRO Srobarova 81.45 325 *e*P **P 18 53 58.5 +0.9**
GOPC GO Pecny, Ondr 81.46 328 *e*P **P 18 53 58.2 +0.5**
GOPC GO Pecny, Ondr 81.46 328 *e*P **P 18 53 58.2 +0.5**
PRA Prague 81.50 328 *e*P **P 18 53 58.6 +0.8**
PRA Prague 81.50 328 *e*P **P 18 53 58.6 +0.8**
MODS Modra-Piesok 81.51 326 *e*P **P 18 53 59.1 +1.1**
MODS pmax pmax
comp=Z,15nm,0.9s
MODS Modra-Piesok 81.51 326 *e*P **P 18 53 59.1 +1.1**
PRU Pruhonice 81.51 328 *e*P **P 18 53 58.7 +0.8**
PRU Pruhonice 81.51 328 *e*P **P 18 53 58.7 +0.8**
HERR Herculane 81.53 321 ⇓*i*P **P 18 53 58.2 0.0**
PV20 West Nyswonger 81.61 48 *e*P **P 18 54 01.2 +2.2**
comp=Z,12nm,0.7s
PV17 East Wray Mesa 81.66 48 *e*P **P 18 54 01.3 +2.1**
comp=Z,19nm,1.1s
PUNG Punghina 81.69 320 ⇓*i*P **P 18 53 59.4 +0.4**
N23A Red Feather La 81.70 45 P **P 18 54 01.5 +2.0**
baz=312
NEUB Neuenburg 81.72 330 *e*P **P 18 53 59.6 +0.7**
comp=Z,30nm,0.8s,baz=38,slow=5.2
ISP Isparta 81.74 311 ⇓*i*P **P 18 53 59.1 -0.4**
URZ Urewera 81.77 152 P **P 18 53 59.0 -0.1**
comp=Z,2.4nm,0.4s,baz=311,slow=9.3,SNR=2.0
CLZ Clausthal 81.77 331 *e*P **P 18 53 59.7 +0.3**
comp=Z,18nm,0.9s,baz=38,slow=5.2
CLZ *e*pP **pP 18 54 19.7 +0.4**
CSS Mathiatis 81.82 308 *e*P **P 18 53 59.4 -0.4**
comp=Z,26nm,0.9s
MDVR Moldovita 81.96 321 ⇓*i*P **P 18 54 00.4 -0.1**
TANN Tannenbergstha 82.05 329 *e*P **P 18 54 01.3 +0.4**
comp=Z,7.6nm,0.8s,baz=38,slow=5.2
GUNZ Gunzen 82.15 329 *e*P **P 18 54 02.1 +0.7**
comp=Z,14nm,1.0s,baz=38,slow=5.2
GTTG Gvttingen 82.16 331 *e*P **P 18 54 02.0 +0.7**
comp=Z,26nm,0.9s,baz=38,slow=5.2
WERN Wernitzgruen 82.19 329 *e*P **P 18 54 02.3 +0.8**
comp=Z,16nm,1.0s,baz=38,slow=5.2
NKC Novy Kostel 82.20 329 *e*P **P 18 54 02.0 +0.4**
NKC Novy Kostel 82.20 329 *e*P **P 18 54 02.0 +0.4**
MOX Moxa 82.22 330 *e*P **P 18 54 02.2 +0.5**
comp=Z,17nm,1.1s,baz=38,slow=5.2
TIH Tihany 82.31 324 *e*P **P 18 54 03.0 +0.9**
SOP Sopron 82.35 326 *i* Pg **P 18 54 02.1 -0.3**
IBBN Ibbenburen 82.39 333 *e*P **P 18 54 02.9 +0.5**
comp=Z,23nm,0.8s,baz=38,slow=5.2
IBBN epP **pP 18 54 22.5 +0.1**
CONA Conrad Observa 82.48 326 *i* P **P 18 54 03.6 +0.4**
comp=Z,15nm,1.0s,SNR=6.8
RZN Rozhen 82.52 317 *e*P **P 18 54 04.5 +0.8**
KHC Kasperske Hory 82.57 328 *e*P **P 18 54 03.8 +0.2**
comp=Z,8.2nm,1.0s
KHC Kasperske Hory 82.57 328 *e*P **P 18 54 04.0 +0.4**
KHC Kasperske Hory 82.57 328 *e*P **P 18 54 04.0 +0.4**
ISCO Idaho Springs 82.62 45 P **P 18 54 05.9 +1.6**
baz=312
MVCO Mesa Verde 82.63 49 *e*P **P 18 54 04.8 +0.5**
comp=Z,2.2nm,0.8s
MVCO Mesa Verde 82.63 49 P **P 18 54 05.7 +1.3**
baz=311
FRGS Fruska Gora 82.65 322 ⇓*i*P **P 18 54 04.1 +0.1**
ROTZ Rotzenmuhle 82.66 329 *e*P **P 18 54 04.9 +0.9**
comp=Z,8.3nm,0.8s,baz=38,slow=5.2
VTS Vitosha 82.71 319 *e*P **P 18 54 05.2 +0.6**
comp=Z,14nm,0.8s
VTS Vitosha 82.71 319 ⇓*i*P **P 18 54 05.2 +0.6**
VTS Vitosha 82.71 319 *e*P **P 18 54 05.2 +0.6**
UBBA Unterbreizbach 82.72 331 *e*P **P 18 54 04.4 +0.3**
comp=Z,3.4nm,0.9s,baz=38,slow=5.2
GEC2 GERESS Array S 82.74 328 *e*P **P 18 54 04.5 0.0**
GEC2 GERESS Array S 82.74 328 *e*P **P 18 54 04.8 +0.3**
comp=Z,12nm,1.1s,baz=38,slow=5.2
GEC2 GERESS Array S 82.74 328 *e*P **P 18 54 04.6 +0.1**
GERES GERESS Array B 82.74 328 P **P 18 54 04.5 0.0**
comp=Z,6.1nm,0.6s,baz=40,slow=6.0,SNR=58
GEA0 GERESS Array S 82.74 328 *e*P **P 18 54 04.3 -0.2**
WET Wettzell 82.86 328 *e*P **P 18 54 05.7 +0.7**
comp=Z,8.3nm,0.9s,baz=38,slow=5.2
GRA1 Grafenberg Arr 83.12 330 *e*P **P 18 54 07.4 +1.0**
comp=Z,45nm,0.9s
GRF Grafenberg Arr 83.12 330 *e*P **P 18 54 07.4 +1.0**
comp=Z,32nm,0.8s,baz=38,slow=5.2
GRF Grafenberg Arr 83.12 330 *e*P **P 18 54 07.4 +1.0**
GRF pmax pmax
comp=Z,45nm,0.9s
GRFO Grafenberg 83.12 330 *e*P **P 18 54 07.2 +0.8**
comp=Z,40nm,0.9s
GRFO Grafenberg 83.12 330 *e*P **P 18 54 07.2 +0.8**
GRFO pmax pmax
comp=Z,40nm,0.9s
MMB Musomiste 83.13 318 *e*P **P 18 54 07.2 +0.6**
ARSA Arzberg 83.14 326 *i* P **P 18 54 06.9 +0.4**
comp=Z,15nm,1.5s,SNR=5.9
MOA Molln 83.25 327 *i* P **P 18 54 07.4 +0.3**
comp=Z,16nm,1.1s
BUG Bochum--Univer 83.26 333 *e*P **P 18 54 07.1 +0.1**
comp=Z,14nm,0.8s,baz=38,slow=5.2
S22A 4UR Ranch, Cre 83.28 47 P **P 18 54 09.6 +1.8**
baz=312
KKB Krupnik 83.28 318 *e*P **P 18 54 08.3 +0.9**
BBLS Lazići 83.78 322 ⇓*i*P **P 18 54 10.2 +0.3**
PERS Pernice 83.78 326 *i* P **P 18 54 09.9 +0.1**
SOKA Soboth 83.79 326 *i* P **P 18 54 10.0 0.0**
comp=Z,28nm,1.0s,SNR=12
TNS Taunus Mts 83.80 331 *e*P **P 18 54 10.3 +0.4**
comp=Z,7.2nm,0.8s,baz=38,slow=5.2
HAPS Han Pijesak,Bl 83.84 322 ⇓*i*P **P 18 54 10.3 0.0**
EYMN Ely 83.85 32 P **P 18 54 11.1 +0.9**
baz=320
STIP Stip 83.88 319 *i* P **P 18 54 09.8 -0.6**

VAY	**Valandovo**	**83.94**	**318**	*i* P		**P**	**18 54 11.2**	**+0.5**
RJOB	**Jochberg**	**83.97**	**328**	*e*P		**P**	**18 54 11.6**	**+0.8**
	comp=Z,17nm,1.0s,baz=38,slow=5.2							
RJOB				*e*pP		**pP**	**18 54 31.2**	**+0.3**
SDCO	**Great Sand Dun**	**84.06**	**47**	P		**P**	**18 54 13.1**	**+1.3**
	baz=312							
AHRW	**Bad Neuenahr-A**	**84.06**	**332**	*e*P		**P**	**18 54 12.2**	**+1.0**
	comp=Z,12nm,0.9s,baz=38,slow=5.2							
SKO	**Skopje**	**84.08**	**319**	*i* P		**P**	**18 54 12.5**	**+1.0**
OBKA	**Obir**	**84.14**	**326**	*e*P		**P**	**18 54 11.6**	**-0.2**
	comp=Z,5.0nm,0.8s							
CRES	**Cresnjev**	**84.24**	**325**	*e*P		**P**	**18 54 12.1**	**-0.1**
KBA	**Koelnbreinsper**	**84.24**	**327**	*i* P		**P**	**18 54 12.4**	**+0.1**
	comp=Z,9.9nm,0.7s							
FUR	**Furstenfeldbru**	**84.29**	**329**	*e*P		**P**	**18 54 13.1**	**+0.7**
	comp=Z,33nm,0.8s,baz=38,slow=5.2							
TUC	**Tucson**	**84.36**	**54**	P		**P**	**18 54 14.5**	**+1.4**
	baz=310							
BEBN	**Eben Emael**	**84.37**	**333**	⇓P		**P**	**18 54 12.4**	**-0.2**
MEM	**Membach**	**84.40**	**333**	⇑P		**P**	**18 54 12.1**	**-0.8**
	comp=Z,14nm,1.0s							
MYKA	**Terra Mystica**	**84.45**	**326**	*i* P		**P**	**18 54 12.6**	**-0.7**
	comp=Z,7.2nm,0.6s							
LJU	**Ljubljana**	**84.50**	**326**	⇑*i*P		**P**	**18 54 13.3**	**-0.2**
UPM	**Unac-Piva**	**84.51**	**321**	⇑*i*P		**P**	**18 54 13.5**	**-0.3**
KRUS	**Krusevo**	**84.61**	**319**	*i* P		**P**	**18 54 14.4**	**+0.1**
ECSD	**EROS Data Cent**	**84.66**	**38**	P		**P**	**18 54 15.1**	**+0.7**
	baz=317							
STU	**Stuttgart**	**84.66**	**330**	*e*P		**P**	**18 54 14.4**	**+0.2**
	comp=Z,30nm,0.9s,baz=38,slow=5.2							
CEY	**Cerknica**	**84.78**	**325**	⇓*i*P		**P**	**18 54 14.3**	**-0.6**
WATA	**Walderalm**	**84.81**	**328**	*i* P		**P**	**18 54 14.7**	**-0.5**
	comp=Z,2.7nm,0.4s,SNR=5.0							
JAVS	**Javornik**	**84.82**	**326**	*i* P		**P**	**18 54 14.3**	**-0.9**
LIT	**Litokhoron**	**84.84**	**317**	*e*P		**P**	**18 54 15.3**	**0.0**
	comp=Z,57nm,0.9s							
E38A	**The Farm, Brul**	**84.86**	**33**	P		**P**	**18 54 15.7**	**+0.5**
	baz=320							
ABTA	**Abfaltersbach**	**84.86**	**327**	*i* P		**P**	**18 54 14.8**	**-0.6**
	comp=Z,14nm,1.2s							
PDG	**Podgorica**	**84.89**	**321**	⇓*i*P		**P**	**18 54 15.7**	**+0.2**
PDG	**Podgorica**	**84.89**	**321**	⇓*i*P		**P**	**18 54 15.5**	**0.0**
TTG	**Podgorica**	**84.89**	**321**	*e*P		**P**	**18 54 14.1**	**-1.3**
	comp=Z,52nm,1.0s							
TTG	**Podgorica**	**84.89**	**321**	*e*P		**P**	**18 54 14.1**	**-1.3**
TTG				pmax	pmax			
	comp=Z,53nm,1.0s							
MOTA	**Moosalm**	**85.00**	**328**	*i* P		**P**	**18 54 16.0**	**-0.1**
	comp=Z,3.4nm,0.5s,SNR=5.7							
RETA	**Reutte**	**85.03**	**328**	*i* P		**P**	**18 54 16.2**	**0.0**
	comp=Z,19nm,0.9s,SNR=6.7							
SQTA	**Sankt Quirin**	**85.06**	**328**	*i* P		**P**	**18 54 16.2**	**-0.1**
	comp=Z,6.1nm,0.6s							
DRME	**Dracevica, Mon**	**85.10**	**320**	⇓*i*P		**P**	**18 54 16.6**	**0.0**
T25A	**Trinidad**	**85.11**	**47**	P		**P**	**18 54 18.4**	**+1.5**
	baz=313							
SNF	**Seneffe**	**85.11**	**334**	⇑P		**P**	**18 54 16.4**	**0.0**
WLF	**Walferdange**	**85.12**	**332**	⇓P		**P**	**18 54 17.0**	**+0.5**
UBR	**Ueberruh**	**85.16**	**329**	*e*P		**P**	**18 54 16.8**	**0.0**
	comp=Z,4.5nm,0.9s,baz=38,slow=5.2							
F38A	**Pierce - Schro**	**85.21**	**34**	P		**P**	**18 54 18.3**	**+1.3**
	baz=309							
DOU	**Dourbes**	**85.34**	**333**	⇓P		**P**	**18 54 17.3**	**-0.2**
ANMO	**Albuquerque**	**85.36**	**49**	⇑*e*P		**P**	**18 54 20.3**	**+2.0**
ANMO				pmax	pmax			
	comp=Z,5.0nm,1.3s							
ANMO	**Albuquerque**	**85.36**	**49**	P		**P**	**18 54 20.3**	**+2.0**
	baz=312							
BFO	**Black Forest**	**85.36**	**330**	*e*P		**P**	**18 54 17.8**	**0.0**
	comp=Z,38nm,1.0s							
BFO	**Black Forest**	**85.36**	**330**	*e*P		**P**	**18 54 18.1**	**+0.3**
	comp=Z,22nm,0.8s,baz=38,slow=5.2							
BFO	**Black Forest**	**85.36**	**330**	*i* P		**P**	**18 54 18.1**	**+0.3**
FETA	**Feichten**	**85.42**	**328**	*i* P		**P**	**18 54 18.1**	**-0.1**
	comp=Z,9.7nm,0.9s							
DAVA	**Damuels**	**85.56**	**329**	*i* PcP		**P**	**18 54 18.9**	**0.0**
	comp=Z,22nm,0.9s,SNR=5.5							
E40A	**Wakefield**	**85.70**	**32**	P		**P**	**18 54 20.7**	**+1.2**
	baz=322							
FUORN	**Ofenpass-Fuorn**	**85.93**	**328**	*e*P		**P**	**18 54 21.4**	**+0.5**
IDI	**Anoyia**	**86.81**	**312**	*e*P		**P**	**18 54 22.7**	**-2.5**
	comp=Z,102nm,1.8s							
IDI	**Anoyia**	**86.81**	**312**	⇓*i*P		**P**	**18 54 24.0**	**-1.2**
I39A	**Houston**	**86.99**	**35**	P		**P**	**18 54 26.1**	**+0.3**
	baz=321							
ITM	**Ithomi**	**87.21**	**315**	*e*P		**P**	**18 54 26.3**	**-0.7**
	comp=Z,162nm,1.8s							
J39A	**Decorah**	**87.31**	**35**	P		**P**	**18 54 27.4**	**+0.1**
	baz=321							
AQU	**L'Aquila**	**87.83**	**324**	*e*P		**P**	**18 54 29.9**	**-0.1**
AQU	**L'Aquila**	**87.83**	**324**	*e*P		**P**	**18 54 29.9**	**-0.1**
AQU	**L'Aquila**	**87.83**	**324**	⇑*i*P		**P**	**18 54 30.4**	**+0.4**
E47A	**Iron Bridge**	**88.40**	**29**	P		**P**	**18 54 32.4**	**-0.1**
	baz=326							
LSQQ	**Lebel-sur-Quev**	**88.42**	**24**	P		**P**	**18 54 33.1**	**+0.6**
	baz=331							
CHGQ	**Chibougamau**	**88.48**	**22**	P		**P**	**18 54 32.4**	**-0.4**
	baz=333							
M40A	**Post Highland**	**88.89**	**36**	P		**P**	**18 54 35.3**	**+0.4**
	baz=321							
VLDQ	**Val d'Or**	**89.08**	**24**	*e*P		**P**	**18 54 35.8**	**+0.1**
D52A	**ZEK Kipawa Sen**	**89.74**	**26**	P		**P**	**18 54 38.9**	**+0.1**
	baz=330							
WMOK	**Wichita Mounta**	**90.04**	**45**	P		**P**	**18 54 40.9**	**+0.4**
	baz=316							
TX31	**Lajitas Ar. Si**	**90.90**	**52**	*e*P		**P**	**18 54 46.1**	**+1.5**
TXAR	**Lajitas Array**	**90.90**	**52**	P		**P**	**18 54 45.8**	**+1.1**
	comp=Z,1.8nm,0.6s,baz=299,slow=2.9,SNR=27							
TXAR				pP		**pP**	**18 55 05.7**	**+1.0**
	comp=Z,1.8nm,0.5s,baz=301,slow=2.7,SNR=11							
TXAR	**Lajitas Array**	**90.90**	**52**	P		**P**	**18 54 45.8**	**+1.1**
TXAR				*PP		**pP**	**18 55 05.7**	**+1.0**
TXAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
TXAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
ABTX	**Abilene, Hawle**	**91.06**	**47**	P		**P**	**18 54 45.8**	**+0.5**
	baz=316							
U40A	**Yellville**	**92.09**	**40**	P		**P**	**18 54 50.2**	**+0.3**
	baz=320							
L50A	**Kingsville**	**92.25**	**31**	P		**P**	**18 54 51.4**	**+0.9**
	baz=327							
KEST	**Kesra**	**94.97**	**322**	P		**P**	**18 55 03.0**	**-0.3**
	comp=Z,2.7nm,0.6s,baz=342,slow=3.2,SNR=4.1							
ESDC	**Sonseca Array**	**97.39**	**333**	P		**P**	**18 55 13.8**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=12,slow=4.0,SNR=9.1							
TORD	**Torodi Ar. Bea**	**117.17**	**314**	PKP		**PKPdf**	**19 00 25.2**	**-0.8**
	comp=Z,1.1nm,0.9s,baz=347,slow=4.2,SNR=5.1							
TORD				PP	PP		19 01 24.7	-11
	comp=Z,0.8nm,0.9s,baz=10,slow=4.8,SNR=3.6							
TORD				PKKPbc		**PKKPbc**	**19 10 50.6**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=207,slow=3.4,SNR=6.6							
BOSA	**Boshof**	**125.86**	**259**	PKP		**PKPdf**	**19 00 42.5**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=296,slow=1.5,SNR=4.1							
BOSA				pPKP		**pPKPdf**	**19 01 02.6**	**-0.7**
	comp=Z,2.8nm,1.0s,baz=169,slow=5.2,SNR=1.5							
DBIC	**Dimbokro**	**126.16**	**316**	PKP		**PKPdf**	**19 00 43.2**	**-0.1**
	comp=Z,3.7nm,0.9s,baz=198,slow=2.1,SNR=4.7							
SYO	**Syowa Base**	**127.53**	**206**	⇑*i*PKPdf		**PKiKP**	**19 00 44.6**	**-0.1**
SYO	**Syowa Base**	**127.53**	**206**	⇓*i*pPKPdf		pPKPdf	19 01 05.0	0.0
SYO	**Syowa Base**	**127.53**	**206**	⇑*es*PKiKP		sPKiKP	19 01 16.0	+2.7
LPAZ	**La Paz**	**147.47**	**59**	PKPbc		**PKPbc**	**19 01 26.1**	**+0.6**
	comp=Z,4.2nm,0.9s,baz=315,slow=2.1,SNR=16							

JMA 27 18:42:36.0, 35°03N×132°83E, h7km±1km, M1.2, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHS	**Saijyo**	**0.24**	**97**	P		Pg	18 42 40.8	+0.1
JHS				S		Sg	18 42 44.1	+0.2
JGT2	**ShimaneMisato**	**0.27**	**277**	P		Pg	18 42 41.4	+0.1
JGT2				S		Sg	18 42 45.1	+0.3
JJG	**Jouge**	**0.47**	**145**	P		Pg	18 42 45.3	+0.2
JJG				*e*S		Sg	18 42 51.5	+0.2
JNM	**Ikuma**	**0.49**	**19**	P		Pg	18 42 46.0	+0.5

*IDC **27** 19:11:04.6±0.9, 10°.50N×126°.76E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/34, mbtmp3.7/8, Error ellipse: s-maj=73.4km s-min=17.8km az=72.0*
*MAN **27** 19:11:07.1, 10°.74N×126°.84E, h12km, mb4.9, ML3.8, MS3.8*
ISC 27 19:11:06.3±2.2, 10°.68N±0°.06×126°.84E±0°.07, h10km±13km, n16, σ1821/24, mb3.7/8, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BESP	**Borongan**	**1.66**	**304**	*e*P		Pn	**19 11 34.5**	**-1.0**
BESP				*e*S		Sn	**19 11 57.1**	**+0.3**
PLP	**Palo**	**1.89**	**285**	⇓*e*P		Pn	**19 11 38.5**	**-0.3**
PLP				*e*S		Sn	**19 12 01.3**	**-1.4**
MSLP	**Maasin**	**2.02**	**255**	*e*P		Pb	**19 11 42.2**	**-1.1**
MSLP				*e*S		Sb	**19 12 07.7**	**-0.8**
BUTP	**Butuan**	**2.08**	**215**	*e*P		Pb	**19 11 42.7**	**-1.5**
BUTP				*e*S		Sn	**19 12 07.5**	**+0.2**
OCLP	**Ormoc**	**2.23**	**280**	*e*P		Pb	**19 11 45.6**	**-1.1**
OCLP				*e*S		Sb	**19 12 13.8**	**-0.5**
CGP	**Cagayan de Oro**	**3.06**	**224**	⇓*e*P		Pg	**19 12 05.9**	**+0.9**
CGP				*e*S		Sn	**19 12 32.9**	**+1.4**
DCPH	**Dipolog City**	**4.02**	**239**	*e*P		Sn	**19 12 55.6**	**+0.4**
GUIM	**Jordan**	**4.18**	**270**	*e*P		Pn	**19 12 12.6**	**+2.4**
GUIM				*e*S		Sn	**19 12 59.6**	**+0.4**
WRA	**Warramunga Arr**	**31.31**	**166**	P		P	**19 17 24.4**	**-2.6**
	0.5nm,1.0s,baz=350,slow=9.3,SNR=2.6							
ASAR	**Alice Springs**	**34.82**	**169**	P		P	**19 17 56.9**	**-0.7**
	0.4nm,0.8s,baz=351,slow=6.9,SNR=7.2							
ASAR				PcP		**PcP**	**19 20 31.0**	**0.0**
	0.2nm,0.5s,baz=349,slow=2.4,SNR=4.9							
KLR	**Kul'dur**	**38.65**	**5**	P		P	**19 18 31.5**	**+1.5**
	1.0nm,0.7s,baz=188,slow=6.8,SNR=4.4							
SONM	**Songino Array**	**40.84**	**339**	P		P	**19 18 49.1**	**+0.7**
	0.3nm,0.8s,baz=152,slow=6.5,SNR=2.5							
MKAR	**Makanchi Array**	**52.05**	**322**	P		P	**19 20 17.7**	**+1.4**
	1.2nm,0.6s,baz=117,slow=8.5,SNR=16							
ZALV	**Zalesovo Beam**	**54.55**	**331**	P		P	**19 20 34.5**	**0.0**
	0.4nm,0.5s,baz=147,slow=8.1,SNR=3.0							
BRTR	**Keskin Array B**	**85.71**	**309**	P		P	**19 23 45.7**	**-0.4**
	0.7nm,0.7s,baz=94,slow=5.1,SNR=4.2							
FINES	**FINESS Array B**	**85.80**	**332**	P		P	**19 23 45.8**	**-0.1**
	1.4nm,0.8s,baz=83,slow=6.0,SNR=9.8							

IDC 27 19:20:49.4±1.6, 2°.92N×127°.98E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.3/40, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=92.2km s-min=22.9km az=63.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**5.00**	**139**	Pn		Pn	19 22 06.6	+0.9
	1.3nm,0.3s,baz=115,slow=12,SNR=41							
SIJI				Sn		Sn	19 22 59.1	-5.2
	1.8nm,0.3s,baz=14,slow=23,SNR=8.2							
WRA	**Warramunga Arr**	**23.56**	**165**	P		P	19 26 01.9	+0.1
	0.5nm,0.4s,baz=346,slow=11,SNR=13							
ASAR	**Alice Springs**	**27.05**	**168**	P		P	19 26 33.1	-0.5
	0.4nm,0.8s,baz=349,slow=8.1,SNR=3.3							
MKAR	**Makanchi Array**	**58.93**	**325**	P		P	19 30 50.5	0.0
	0.1nm,0.5s,baz=111,slow=7.4,SNR=2.7							

*IDC **27** 19:32:38.4±0.6, 34°.83S×109°.13W, h0km, mb4.4/16, mb1 4.5/16, mb1mx4.5/34, mbtmp4.4/16, MS4.7/13, Ms1 4.7/13, ms1mx4.5/20, Error ellipse: s-maj=20.7km s-min=18.5km az=54.0*
*MOS **27** 19:32:39.0±1.2, 34°.65S×109°.00W, h10km, mb5.3/34, Error ellipse: s-maj=14.9km s-min=9.2km az=91.5*
*ISCJB **27** 19:32:39.6±0.2, 34°.82S±0°.04×108°.90W±0°.05, h15km, mb5.0/144, MS4.7/14, Error ellipse: s-maj=6.7km s-min=4.3km az=41.0*
*NEIC **27** 19:32:40.4±0.3, 34°.75S×108°.96W, h10km, mb5.2/133, Error ellipse: s-maj=7.8km s-min=6.8km az=217.0*
*BJI **27** 19:32:42.2, 34°.70S×108°.90W, h10km, mB5.3/3, Ms5.4/2, Ms7 5.3/4*
*GCMT **27** 19:32:44.4±0.1, 34°.81S±0°.01×108°.97W±0°.01, h16km, MW5.3/122, Moment Tensor Solution. s85,c131; s122,c190; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr=0.19±.02; Mθθ=0.22±.02; Mφφ=0.40±.02; Mrθ=0.01±.05; Mrφ=-0.93±.02; Mθφ=-0.73±.07; Best double couple: M=1.22000×10^17 NP1:φ=6.00000°, δ=86.00000°, λ=-38.00000°. NP2:φ=99.00000°, δ=53.00000°, λ=-175.00000°. Principal axes: T 1.3240, Plg22.0000°, Azm59.0000°; N -0.2080, Plg52.0000°, Azm181.0000°; P -1.1160, Plg28.0000°, Azm316.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 27 19:32:40.9±0.3, 34°.91S±0°.08×108°.90W±0°.06, h15km, n731, σ0898/718, mb5.2/144, MS4.7/14, 9C-4D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RKT	**Rikitea**	**25.57**	**290**	*e*LQ		LQ	19 43 12.5	
	1μm,36.2s							
RKT				*e*LR		LR	19 44 09.0	
	comp=Z,570nm,29.0s							
RKT	**Rikitea**	**25.57**	**290**	*e*T		T	20 04 10.5	
	2.6nm,0.3s							
PLCA	**Paso Flores**	**30.67**	**112**	P		P	**19 38 56.5**	**+1.6**
	9.0nm,1.1s,baz=283,slow=8.3,SNR=7.1							
PLCA				LR		LR	19 47 29.9	
	comp=Z,604nm,22.0s,baz=297,slow=29							
PLCA	**Paso Flores**	**30.67**	**112**	*e*P		P	**19 38 56.8**	**+1.9**
	36nm,1.6s							
PLCA	**Paso Flores**	**30.67**	**112**	*e*P		P	**19 38 56.8**	**+1.9**
PLCA				pmax	pmax			
	comp=Z,36nm,1.6s							
PLCA	**Paso Flores**	**30.67**	**112**	*e*P		P	**19 38 55.6**	**+0.7**
ROC1	**El Roble**	**31.36**	**97**	*e*P		P	**19 39 02.8**	**+1.4**
	comp=Z,16nm,1.0s							
PEL	**Peldehue**	**31.59**	**98**	*e*P		P	**19 39 04.2**	**+1.1**
	comp=Z,49nm,1.4s							
PEL	**Peldehue**	**31.59**	**98**	*e*P		P	**19 39 04.2**	**+1.1**
PEL				pmax	pmax			
	comp=Z,49nm,1.4s							
GO04	**Tololo Observa**	**32.33**	**92**	*e*P		P	**19 39 11.3**	**+1.4**
	comp=Z,96nm,1.5s							
LCO	**Las Campanas**	**32.80**	**90**	*e*P		P	**19 39 15.7**	**+1.7**
	comp=Z,19nm,1.2s							
LCO	**Las Campanas**	**32.80**	**90**	*ce*P		P	**19 39 17.7**	**+3.7**
LCO	**Las Campanas**	**32.80**	**90**	*e*P		P	**19 39 16.7**	**+2.7**
GO02	**Mina Guanaco**	**35.20**	**85**	*e*P		P	**19 39 36.3**	**+1.4**
	comp=Z,26nm,1.3s							
LVC	**Limon Verde**	**36.90**	**81**	P		P	**19 39 51.1**	**+1.5**
	comp=Z,4.1nm,0.9s,baz=236,slow=9.8,SNR=7.0							
LVC	**Limon Verde**	**36.90**	**81**	*e*P		P	**19 39 49.8**	**+0.2**
	comp=Z,30nm,1.2s							
LVC	**Limon Verde**	**36.90**	**81**	*e*P		P	**19 39 49.8**	**+0.2**
LVC				pmax	pmax			
	comp=Z,30nm,1.2s							
LVC	**Limon Verde**	**36.90**	**81**	*e*P		P	**19 39 51.2**	**+1.6**
TBI	**Tubuai**	**37.03**	**277**	*e*S		S	**19 45 34.5**	**-0.9**
	comp=Z,511nm,30.0s							
TBI				*e*LQ		LQ	19 48 10.7	
	comp=Z,2μm,30.5s							
TBI				*e*LR		LR	19 49 44.0	
	comp=Z,2μm,26.0s,baz=113							
PB01	**IPOC Station P**	**37.20**	**79**	*e*P		P	**19 39 52.4**	**+0.6**
	comp=Z,36nm,1.4s							
TRQA	**Tornquist**	**37.55**	**109**	*e*P		P	**19 39 55.1**	**+0.6**
PB11	**IPOC Station P**	**37.73**	**77**	*e*P		P	**19 39 57.0**	**+0.6**
	comp=Z,39nm,1.3s							
MNMC	**Minye Minye**	**38.11**	**76**	*e*P		P	**19 40 00.3**	**+0.6**
	comp=Z,33nm,1.1s							
TAOE	**Nuku Hiva Isla**	**38.61**	**305**	*e*S		S	**19 46 00.2**	**+0.5**
	comp=Z,215nm,27.1s							
TAOE				*e*LR		LR	19 50 29.1	
	comp=Z,1μm,27.1s							
EFI	**East Falkland**	**39.74**	**131**	⇑*e*P		P	**19 40 13.5**	**+0.9**
EFI				pmax	pmax			
	comp=Z,22nm,1.0s							
TIAR	**Tiarei**	**39.87**	**285**	*e*T		T	20 22 10.3	
	comp=Z,5.5nm,0.3s							
PPT2	**Papeete2**	**40.04**	**285**	*e*S		S	**19 46 20.4**	**-0.8**
	comp=Z,104nm,25.8s							
PPT2				*e*LQ		LQ	19 49 25.2	
	comp=Z,4μm,28.5s							
PPT2				*e*LR		LR	19 51 04.8	
	comp=Z,888nm,24.0s							
PPT	**Papeete**	**40.05**	**285**	LR		LR	19 51 57.3	
	comp=Z,600nm,22.0s,baz=185,slow=29							
PMSA	**Palmer Station**	**40.14**	**152**	*e*P		P	19 40 09.4	-6.4
LPAZ	**La Paz**	**40.84**	**74**	P		**P**	**19 40 24.0**	**+1.1**
	comp=Z,8.2nm,1.0s,baz=242,slow=6.0,SNR=23							
LPAZ				LR		LR	19 53 20.7	
	comp=Z,856nm,18.8s,baz=232,slow=30							
LPAZ	**La Paz**	**40.84**	**74**	*e*P		**P**	**19 40 23.2**	**+0.3**
	comp=Z,40nm,1.4s							
LPAZ	**La Paz**	**40.84**	**74**	*e*P		**P**	**19 40 23.2**	**+0.3**
LPAZ				pmax	pmax			
	comp=Z,40nm,1.4s							
LPAZ	**La Paz**	**40.84**	**74**	*e*P		**P**	**19 40 24.3**	**+1.4**
CPUP	**Villa Florida**	**44.78**	**94**	P		**P**	**19 40 52.0**	**-2.1**
	comp=Z,1.8nm,0.8s,baz=240,slow=8.4,SNR=4.8							
CPUP				LR		LR	19 56 38.7	
	comp=Z,541nm,18.5s,baz=249,slow=32							
CPUP	**Villa Florida**	**44.78**	**94**	*e*P		**P**	**19 40 54.8**	**+0.7**
	comp=Z,29nm,1.6s							
CPUP	**Villa Florida**	**44.78**	**94**	*e*P		**P**	**19 40 54.8**	**+0.7**
CPUP				pmax	pmax			
	comp=Z,29nm,1.6s							
CPUP	**Villa Florida**	**44.78**	**94**	*e*P		**P**	**19 40 55.0**	**+0.8**
PLTB	**Pedras Altas**	**45.81**	**102**	*e*P		**P**	**19 41 02.6**	**+0.4**
CPSB	**Cacapava Do Su**	**46.41**	**101**	*e*P		**P**	**19 41 07.1**	**+0.2**
ITAB	**Concordia**	**48.67**	**97**	*e*P		**P**	**19 41 24.7**	**+0.1**
AQDB	**Aquidauana**	**48.72**	**87**	*e*P		**P**	**19 41 25.6**	**+0.6**
CNLB	**Canela**	**48.90**	**100**	*e*P		**P**	**19 41 26.4**	**0.0**
YOTC	**Yotoco, Valle**	**49.33**	**45**	*e*P		**P**	**19 41 28.9**	**-0.9**
YOTC	**Yotoco, Valle**	**49.33**	**45**	*e*P		**P**	**19 41 28.9**	**-0.9**
PTGB	**Pitanga**	**49.77**	**94**	*e*P		**P**	**19 41 34.2**	**+1.0**
TRCB	**Terra Rica**	**50.16**	**92**	*e*P		**P**	**19 41 37.3**	**+1.3**
JTS	**JuntasAbangare**	**50.35**	**31**	P		**P**	**19 41 35.9**	**-1.6**
	comp=Z,51nm,1.4s							
JTS	**JuntasAbangare**	**50.35**	**31**	⇑*e*P		**P**	**19 41 37.1**	**-0.3**
TER01	**Tubaro-SC**	**50.59**	**100**	*e*P		**P**	**19 41 39.6**	**+0.3**
ROSC	**El Rosal**	**51.20**	**47**	P		**P**	**19 41 45.0**	**+0.7**
	comp=Z,6.9nm,0.7s,baz=131,slow=8.9,SNR=13							
ROSC				LR		LR	19 59 18.8	
	comp=Z,899nm,21.9s,baz=240,slow=31							
ROSC	**El Rosal**	**51.20**	**47**	*e*P		**P**	**19 41 44.0**	**-0.4**
	comp=Z,54nm,1.5s							
CHIC	**Chingaza**	**51.39**	**47**	*e*P		**P**	**19 41 46.2**	**+0.5**
CHIC	**Chingaza**	**51.39**	**47**	*e*P		**P**	**19 41 46.2**	**+0.5**
NORC	**Norcasia**	**51.46**	**45**	*e*P		P	19 41 53.9	+8.0
NORC	**Norcasia**	**51.46**	**45**	*e*P		P	19 41 53.9	+8.0
HELC	**Santa Helena**	**51.58**	**44**	*e*P		**P**	**19 41 47.0**	**-0.2**
HELC	**Santa Helena**	**51.58**	**44**	*e*P		**P**	**19 41 47.0**	**-0.2**
FRTB	**Fartura**	**52.43**	**94**	*e*P		**P**	**19 41 55.1**	**+2.0**
RUSC	**La Rusia**	**52.78**	**47**	*e*P		**P**	**19 41 54.1**	**-2.1**
RUSC	**La Rusia**	**52.78**	**47**	*e*P		**P**	**19 41 54.1**	**-2.1**
BB19B	**Bebedouro**	**54.33**	**92**	*e*P		**P**	**19 42 08.0**	**+0.9**
RCLB	**Rio Claro- Sao**	**54.52**	**94**	*e*P		**P**	**19 42 09.9**	**+1.5**
QSPA	**South Pole Qui**	**55.29**	**180**	P		**P**	**19 42 14.7**	**+1.2**
	comp=Z,3.0nm,0.8s,baz=117,slow=2.6,SNR=8.3							
VNDA	**Vanda**	**56.05**	**195**	LR		LR	20 01 11.4	
	comp=Z,714nm,20.9s,baz=98,slow=30							
IPMB	**Ipameri, GO**	**56.10**	**89**	*e*P		**P**	**19 42 20.2**	**+0.3**
SDV	**Santo Domingo**	**56.62**	**47**	*e*P		**P**	**19 42 21.7**	**-2.0**
	comp=Z,19nm,1.3s							
SDV	**Santo Domingo**	**56.62**	**47**	*e*P		**P**	**19 42 22.3**	**-1.4**
PTGA	**Pitinga**	**56.83**	**64**	*e*P		**P**	**19 42 23.7**	**-1.4**
	comp=Z,60nm,1.7s							
PTGA	**Pitinga**	**56.83**	**64**	*e*P		**P**	**19 42 24.2**	**-0.8**
BSCB	**Bom Sucesso**	**57.45**	**94**	*e*P		**P**	**19 42 29.2**	**-0.3**
BDFB	**Brasilia**	**57.46**	**87**	P		**P**	**19 42 30.6**	**+1.0**
	comp=Z,5.9nm,0.9s,baz=214,slow=2.3,SNR=5.9							
BDFB				LR		LR	20 05 04.4	
	comp=Z,662nm,18.6s,baz=247,slow=34							
BDFB	**Brasilia**	**57.46**	**87**	*e*P		**P**	**19 42 30.3**	**+0.7**
	comp=Z,65nm,1.8s							
BDFB	**Brasilia**	**57.46**	**87**	*e*P		**P**	**19 42 30.3**	**+0.7**
BDFB				pmax	pmax			
	comp=Z,65nm,1.8s							
ZAIG	**Zacatecas**	**57.68**	**7**	*e*P		**P**	**19 42 30

baz=205
SCl2 **San Clemente I** 68.14 351 P P 19 43 40.7 +0.5
baz=172
757A **Oxford** 68.38 25 P P 19 43 42.1 +0.4
baz=204
552A **Lynn Haven** 68.42 22 P P 19 43 42.2 +0.2
baz=201
449A **Pace** 68.44 20 P P 19 43 42.4 +0.2
baz=199
BC3 **Big Chuckawall** 68.49 354 P P 19 43 42.9 +0.4
baz=174
655A **Horseshoe Beac** 68.49 24 P P 19 43 42.8 +0.3
baz=202
Y12C **Blythe** 68.51 355 P P 19 43 43.2 +0.7
baz=175
XPFO **Pion Flat** 68.53 353 eP P 19 43 40.7 -2.1
comp=Z,19nm,1.2s
PFO **Pinyon Flats O** 68.53 353 eP P 19 43 41.0 -1.8
comp=Z,16nm,1.1s
PFO **Pinyon Flats O** 68.53 353 eP P 19 43 41.0 -1.8
PFO pmax pmax
comp=Z,16nm,1.1s
PFO **Pinyon Flats O** 68.53 353 P P 19 43 42.2 -0.7
baz=173
MURC **Murrieta** 68.60 353 P P 19 43 43.5 +0.4
baz=173
Y14A **Wickenburg** 68.60 356 eP P 19 43 45.3 +2.2
comp=Z,28nm,1.4s
656A **Willston** 68.61 25 P P 19 43 43.4 +0.2
baz=203
758A **Lake Helen** 68.70 26 P P 19 43 43.6 -0.2
baz=204
451A **Vernon** 68.73 21 P P 19 43 43.9 0.0
baz=200
LENM **Lemitar** 68.74 2 eP P 19 43 43.1 -1.1
MSTX **Muleshoe** 68.76 5 eP P 19 43 42.5 -1.8
comp=Z,34nm,1.1s
MSTX **Muleshoe** 68.76 5 P P 19 43 43.8 -0.4
baz=185
BRAL **Brewton** 68.87 20 P P 19 43 44.5 -0.3
baz=199
BELC **Belle Mtn. Jos** 68.88 354 P P 19 43 44.9 0.0
baz=174,SNR=5.7
554A **Perry** 68.88 23 P P 19 43 44.9 +0.1
baz=202
IRM **Iron Mountain** 68.96 354 P P 19 43 44.9 -0.4
baz=175
349A **Repton** 69.00 20 P P 19 43 44.8 -0.8
baz=199
X16A **Lo Mia Camp, P** 69.01 358 eP P 19 43 44.8 -1.0
comp=Z,15nm,1.3s
PDMCI **Parker Dam,Lak** 69.03 355 P P 19 43 45.1 -0.6
baz=175
X18A **Snowflake** 69.09 359 eP P 19 43 45.4 -1.0
comp=Z,47nm,1.4s
452A **Marianna** 69.12 22 P P 19 43 46.0 -0.3
baz=201
556A **Lake Butler** 69.23 24 P P 19 43 46.9 -0.1
baz=203
BFSC **Mount Baldy Ra** 69.28 352 P P 19 43 47.6 +0.1
baz=172
350A **Dozier** 69.31 21 P P 19 43 47.2 -0.3
baz=200
BLG **Laguna Peak, P** 69.32 351 P P 19 43 47.1 -0.4
baz=171
DECC **Green Verdugo** 69.37 352 P P 19 43 47.3 -0.6
baz=172
351A **Pinckard** 69.39 21 P P 19 43 47.6 -0.4
baz=200
144A **Alexander Plac** 69.39 17 P P 19 43 47.8 -0.1
baz=196
Z41A **Richland Creek** 69.47 14 P P 19 43 48.7 +0.2
baz=194
145A **Houston Renfro** 69.48 17 P P 19 43 48.4 -0.1
baz=197
ANMO **Albuquerque** 69.53 2 P P 19 43 48.9 -0.2
comp=Z,1.2nm,0.8s,baz=196,slow=18
ANMO **Albuquerque** 69.53 2⇑ eP P 19 43 48.6 -0.5
ANMO pmax pmax
comp=Z,11nm,3.7s
ANMO **Albuquerque** 69.53 2 P P 19 43 48.6 -0.5
baz=182
249A **Camden** 69.61 20 P P 19 43 49.3 -0.1
baz=199
GMRC **Granite Mounta** 69.62 354 P P 19 43 49.6 0.0
baz=174,SNR=5.2
146A **Union** 69.73 18 P P 19 43 50.4 +0.3
baz=197
HEC **Hector,Ludlow** 69.73 353 P P 19 43 50.6 +0.4
baz=174,SNR=5.5
Z43A **Armstrong Fami** 69.76 16 P P 19 43 50.2 0.0
baz=195
AMTX **Amarillo** 69.76 6 P P 19 43 50.4 +0.1
baz=186
OSI **Osito Audit: C** 69.78 351 P P 19 43 50.8 +0.4
baz=172
352A **Blakely** 69.78 22 P P 19 43 49.1 -1.4
baz=201
250A **Grady** 69.86 20 P P 19 43 50.2 -0.6
baz=200
353A **Camilla** 69.88 22 P P 19 43 50.7 -0.3
baz=202
WMOK **Wichita Mounta** 69.93 9 eP P 19 43 49.6 -1.7
comp=Z,3.2nm,0.8s
WMOK **Wichita Mounta** 69.93 9 eP P 19 43 49.7 -1.7
WMOK pmax pmax
comp=Z,3.0nm,0.8s
WMOK **Wichita Mounta** 69.93 9 P P 19 43 50.6 -0.7
baz=189
EDW2 **Edwards Air Fo** 69.95 352 P P 19 43 50.8 -0.7
baz=172
147A **Livingston** 69.97 18 eP P 19 43 50.9 -0.6
comp=Z,82nm,1.2s
147A **Livingston** 69.97 18 P P 19 43 51.7 +0.2
baz=198
WUAZ **Wupatki** 70.11 358 eP P 19 43 51.3 -1.2
comp=Z,40nm,1.6s
WUAZ **Wupatki** 70.11 358 P P 19 43 52.5 0.0
baz=178
Y41A **Eaglette Beard** 70.11 14 P P 19 43 52.6 +0.2
baz=194
148A **Greensboro** 70.12 19 P P 19 43 52.9 +0.4
baz=199,SNR=5.0
PKM **Mcpherson Peak** 70.19 350 P P 19 43 51.7 -1.4
baz=171
251A **Midway** 70.21 21 P P 19 43 51.7 -1.3
baz=200,SNR=5.4
GSC **Goldstone, Bar** 70.24 353 eP P 19 43 51.6 -1.7
comp=Z,67nm,1.4s
GSC **Goldstone, Bar** 70.24 353 eP P 19 43 51.6 -1.7
GSC pmax pmax
comp=Z,67nm,1.4s
GSC **Goldstone, Bar** 70.24 353 P P 19 43 52.2 -1.1
baz=173,SNR=6.4
Y42A **Garnett, Star** 70.24 15 P P 19 43 52.4 -0.8
baz=195
Z45A **Winona** 70.27 17 P P 19 43 52.0 -1.4
baz=197
Z46A **Louisville** 70.29 18 P P 19 43 52.9 -0.6
baz=197
X37A **Clayton** 70.29 12 eP P 19 43 52.9 -0.6
comp=Z,29nm,0.9s
149A **Jones** 70.29 20 P P 19 43 53.3 -0.3
baz=199,SNR=6.0
ARVC **Arvin** 70.29 351 P P 19 43 52.6 -1.0
baz=171
TUQ **Turquoise Moun** 70.29 354 P P 19 43 52.5 -1.2
baz=174
252A **Lumpkin** 70.32 22 P P 19 43 53.7 -0.1
baz=201
Y43A **Makayla and Ka** 70.50 16 P P 19 43 55.6 +0.8
baz=196
LRMC **Laurel Mtn Rad** 70.51 352 P P 19 43 55.1 +0.1
baz=172
150A **Eclectic** 70.52 20 P P 19 43 55.0 +0.1
baz=200
Z47A **Carrollton** 70.52 18 P P 19 43 54.5 -0.4
baz=198
MIAR **Mount Ida** 70.57 13 eP P 19 43 53.8 -1.4
comp=Z,18nm,1.0s
MIAR **Mount Ida** 70.57 13 eP P 19 43 53.8 -1.4
MIAR pmax pmax
comp=Z,18nm,1.0s
MIAR **Mount Ida** 70.57 13 P P 19 43 54.8 -0.4
baz=193,SNR=6.7
253A **Americus** 70.57 22 P P 19 43 54.2 -1.1
baz=201
151A **Opelika** 70.64 21 P P 19 43 55.4 -0.3
baz=200
LRAL **Lakeview Retre** 70.65 19 eP P 19 43 54.2 -1.5
comp=Z,19nm,1.0s
LRAL **Lakeview Retre** 70.65 19 P P 19 43 55.0 -0.7
baz=199
X40A **Basin Creek Fa** 70.66 14 P P 19 43 55.4 -0.3
baz=194
Y44A **Strider, Charl** 70.72 16 P P 19 43 56.0 -0.1
baz=196
X41A **Kaden, Bauxite** 70.73 14 P P 19 43 56.6 +0.4
baz=194
ISA **Isabella, Lake** 70.78 352 eP P 19 43 55.1 -1.4
comp=Z,44nm,1.3s
ISA **Isabella, Lake** 70.78 352 eP P 19 43 55.1 -1.4
ISA pmax pmax
comp=Z,44nm,1.3s
ISA **Isabella, Lake** 70.78 352 P P 19 43 55.4 -1.1
baz=172
Y45A **Yeager Farm, C** 70.78 17 P P 19 43 55.8 -0.7
baz=197
SHOC **Shoshone, Teco** 70.78 354 P P 19 43 55.6 -0.9
baz=174
Z48A **Northport** 70.82 19 P P 19 43 55.9 -0.8
baz=198
Z49A **Columbiana** 70.92 20 P P 19 43 57.0 -0.4
baz=199,SNR=5.9
152A **Waverly Hall** 70.96 21 eP P 19 43 56.0 -1.6
comp=Z,20nm,1.0s
152A **Waverly Hall** 70.96 21 P P 19 43 57.5 -0.1
baz=201
Y46A **Houston** 70.97 18 P P 19 43 57.2 -0.5
baz=197
X42A **Stuttgart** 70.97 15 P P 19 43 57.1 -0.5
baz=195
VES **Vestal, Richgr** 71.03 351 P P 19 43 58.3 +0.4
baz=171
U15A **North Rim** 71.05 357 eP P 19 43 58.6 +0.2
comp=Z,34nm,1.3s
MPMC **Manual Prospec** 71.06 353 P P 19 43 58.3 -0.1
baz=173,SNR=7.1
X43A **Marvell** 71.10 16 P P 19 43 58.5 +0.1
baz=196
Z50A **Ashland** 71.15 20 P P 19 43 57.8 -1.0
baz=200
W39A **Magazine** 71.16 13 eP P 19 43 58.1 -0.6
comp=Z,23nm,0.9s
W39A **Magazine** 71.16 13 P P 19 43 58.1 -0.6
baz=193,SNR=6.2
153A **Fort Valley** 71.21 22 P P 19 43 58.8 -0.3
baz=202
Y47A **UCPARC, Winfie** 71.24 18 P P 19 43 59.5 +0.2
baz=198
DAC **Darwin (Calif)** 71.29 353 eP P 19 43 59.6 -0.2
comp=Z,42nm,1.4s
SHPR **Shoop Range** 71.29 355 eP P 19 43 59.7 -0.1
comp=Z,40nm,1.4s
X45A **UM Field Stati** 71.35 17 P P 19 43 59.7 -0.2
baz=197
FURC **Furnace Creek,** 71.40 353 P P 19 43 59.9 -0.3
baz=173
154A **Montrose** 71.40 23 P P 19 43 59.6 -0.7
baz=202
Z51A **Franklin** 71.43 21 P P 19 43 59.6 -0.8
baz=200
Y48A **Jasper** 71.43 19 P P 19 44 00.2 -0.2
baz=199
OXF **Oxford** 71.43 17 eP P 19 43 59.6 -0.8
comp=Z,37nm,1.1s
OXF **Oxford** 71.43 17 eP P 19 43 59.6 -0.8
OXF pmax pmax
comp=Z,37nm,1.1s
OXF **Oxford** 71.43 17 P P 19 44 00.2 -0.2
baz=197
W41B **Gary Mavity, V** 71.44 14 eP P 19 43 59.0 -1.4
comp=Z,50nm,1.0s
W41B **Gary Mavity, V** 71.44 14 P P 19 44 00.1 -0.3
baz=194,SNR=7.0
CWC **Cottonwood Cre** 71.50 352 P P 19 44 00.4 -0.7
baz=172
TUL1 **Leonard** 71.51 11 eP P 19 43 59.3 -1.6
comp=Z,44nm,0.8s
TUL1 **Leonard** 71.51 11 P P 19 44 00.1 -0.7
baz=191,SNR=6.3
Z52A **Williamson** 71.53 21 P P 19 44 00.9 -0.2
baz=201
VOG **Valley Oaks Go** 71.54 351 P P 19 44 00.6 -0.4
baz=171
WHAR **Wooly Hollow** 71.54 14 eP P 19 43 59.9 -1.2
comp=Z,78nm,1.5s
Y49A **Blount Mountai** 71.58 20 P P 19 44 00.8 -0.6
baz=199
155A **Kite** 71.62 23 P P 19 44 01.0 -0.6
baz=203
KNB **Kanab** 71.66 357 eP P 19 43 59.8 -2.2
comp=Z,37nm,1.4s
KNB **Kanab** 71.66 357 eP P 19 43 59.8 -2.2
KNB pmax pmax
comp=Z,37nm,1.4s
LCMT **Little Creek M** 71.67 356 eP P 19 44 01.3 -0.7
comp=Z,15nm,1.3s
X46A **Booneville** 71.67 18 P P 19 44 01.7 -0.2
baz=198
W42A **Bald Knob** 71.69 15 P P 19 44 02.0 0.0
baz=195
MVCO **Mesa Verde** 71.76 0 eP P 19 44 01.8 -0.8
comp=Z,29nm,1.2s
MVCO **Mesa Verde** 71.76 0 P P 19 44 01.8 -0.8
baz=180
Y50A **Piedmont** 71.80 20 P P 19 44 01.7 -0.9
baz=200
T25A **Trinidad** 71.81 4 P P 19 44 02.3 -0.6
baz=184
X47A **Russelville** 71.82 18 P P 19 44 01.4 -1.4
baz=198,SNR=5.6
TPNV **Topopah Spring** 71.82 354 eP P 19 44 02.5 -0.4
comp=Z,30nm,1.3s
TPNV **Topopah Spring** 71.82 354 eP P 19 44 02.5 -0.4
TPNV pmax pmax
comp=Z,30nm,1.3s
TPNV **Topopah Spring** 71.82 354 P P 19 44 01.8 -1.2
baz=174
Z53A **Monticello** 71.87 22 P P 19 44 01.7 -1.4
baz=202
X48A **Hartselle** 71.97 19 eP P 19 44 02.7 -0.9
comp=Z,15nm,1.0s
X48A **Hartselle** 71.97 19 P P 19 44 02.9 -0.8
baz=199
GRAC **Grapevine Rang** 71.98 353 P P 19 44 02.4 -1.3
baz=173,SNR=5.2
Y51A **Rockmart** 72.00 21 P P 19 44 02.8 -1.1
baz=200,SNR=5.4
V41A **Mountainview** 72.05 14 P P 19 44 03.5 -0.6
baz=194
Z54A **Sparta** 72.06 23 P P 19 44 03.8 -0.5
baz=202
W45A **Hickory Valley** 72.10 17 P P 19 44 03.8 -0.7
baz=197
TIN **Tinnaha, Big** 72.13 352 P P 19 44 04.2 -0.5
baz=172
HHAR **Hobbs** 72.19 13 eP P 19 44 03.8 -1.2
comp=Z,53nm,1.1s
CCUT **Cedar City** 72.22 356 eP P 19 44 05.0 -0.4
comp=Z,38nm,1.3s
X49A **Woodville** 72.22 19 P P 19 44 05.0 -0.2
baz=199
V42A **Cord** 72.23 15 P P 19 44 04.9 -0.3
baz=195,SNR=5.4
Y52A **Lilburn** 72.27 22 P P 19 44 05.1 -0.4
baz=201,SNR=5.0
W46A **Michie** 72.27 18 P P 19 44 06.1 +0.6
baz=198
S22A **4UR Ranch, Cre** 72.32 2 eP P 19 44 05.3 -0.7
comp=Z,24nm,1.3s
S22A **4UR Ranch, Cre** 72.32 2 P P 19 44 06.4 +0.3
baz=182
SDCO **Great Sand Dun** 72.36 3 eP P 19 44 04.8 -1.5
comp=Z,16nm,1.3s
SDCO **Great Sand Dun** 72.36 3 P P 19 44 06.0 -0.3
baz=183
X50B **Fort Payne** 72.36 20 P P 19 44 05.9 -0.2
baz=200,SNR=5.1
V43A **Jonesboro** 72.39 16 P P 19 44 06.6 +0.4
baz=196
Y53A **Monroe** 72.40 22 P P 19 44 06.6 +0.3
baz=202
U40A **Yellville** 72.46 14 P P 19 44 06.0 -0.6
baz=194,SNR=7.0
W47A **Westpoint** 72.58 18 P P 19 44 07.3 0.0
baz=198
U41A **Viola** 72.64 14 P P 19 44 07.2 -0.4
baz=195
W48A **Pulaski** 72.65 19 P P 19 44 07.5 -0.2
baz=199
MTPU **Mount Pierson** 72.65 357 eP P 19 44 07.4 -0.8
comp=Z,12nm,1.3s
PV01 **Paradox Valley** 72.68 0 eP P 19 44 07.8 -0.3
Y54A **Tignall** 72.69 23 P P 19 44 07.5 -0.5
baz=202
V45A **Humboldt** 72.71 17 P P 19 44 07.5 -0.5
baz=197
RCBR **Riachuelo** 72.75 85 eP P 19 44 07.2 -1.8
MLAC **Mammoth, Mammo** 72.76 352 P P 19 44 08.3 -0.4
baz=172
U42A **Revenden** 72.78 15 P P 19 44 08.0 -0.5
baz=195,SNR=6.5
PV03 **Paradox Valley** 72.80 0 eP P 19 44 07.8 -1.0
PV16 **Nyswonger Mesa** 72.86 360 eP P 19 44 07.4 -1.8
comp=Z,14nm,1.1s
PV14 **Lion Creek, Pa** 72.92 360 eP P 19 44 07.9 -1.7
comp=Z,38nm,1.2s
V46A **Holladay** 72.97 18 P P 19 44 09.1 -0.5
baz=198,SNR=6.5
U43A **Rector** 72.98 16 P P 19 44 09.5 -0.1
baz=196
SWET **Sewanee** 72.99 20 eP P 19 44 08.2 -1.6
comp=Z,26nm,1.1s
PV23 **Carpenter Ridg** 73.00 360 eP P 19 44 08.4 -1.6
comp=Z,35nm,1.3s
X52A **Dahlonega** 73.00 21 P P 19 44 10.0 +0.1
baz=201
X53A **Estanollee** 73.09 22 P P 19 44 10.7 +0.3
baz=202
PV21 **Cone Mtn., Par** 73.11 360 eP P 19 44 09.7 -1.0
comp=Z,32nm,1.4s
V47A **Nunnelly** 73.15 18 P P 19 44 11.1 +0.4
baz=196
W50A **Signal Mountai** 73.15 20 P P 19 44 11.3 +0.5
baz=200
R11A **Troy Canyon, C** 73.16 355 eP P 19 44 09.7 -1.2
comp=Z,32nm,1.4s
R11A **Troy Canyon, C** 73.16 355 P P 19 44 10.5 -0.4
baz=174,SNR=6.0
U44B **Burton Farm, H** 73.19 16 P P 19 44 11.3 +0.4
baz=197
V48A **Smith Brothers** 73.25 19 eP P 19 44 10.2 -1.0
comp=Z,21nm,1.1s
V48A **Smith Brothers** 73.25 19 P P 19 44 10.9 -0.3
baz=199,SNR=5.3
W51A **Cleveland** 73.27 20 P P 19 44 11.2 -0.2
baz=201
U44A **Portageville** 73.27 16 P P 19 44 11.6 +0.3
baz=196
U45A **Rockett Farm,** 73.34 17 P P 19 44 11.4 -0.4
baz=197
WVT **Waverly** 73.36 18 P P 19 44 11.4 -0.5
baz=198
CMB **Columbia Colle** 73.36 351 eP P 19 44 11.5 -0.4
comp=Z,46nm,1.5s
CMB **Columbia Colle** 73.36 351 eP P 19 44 11.5 -0.4
CMB pmax pmax
comp=Z,46nm,1.5s
W52A **Murphy** 73.45 21 P P 19 44 11.9 -0.6
baz=201
T42A **Van Buren** 73.47 15 eP P 19 44 11.2 -1.3
comp=Z,32nm,1.1s
T42A **Van Buren** 73.47 15 P P 19 44 11.8 -0.7
baz=195,SNR=7.5
NV11 **Mina Array Sit** 73.48 352 eP P 19 44 11.8 -0.9
comp=Z,4.6nm,1.2s
U46A **Springville** 73.49 17 P P 19 44 12.5 -0.2
baz=198
Q16A **Castle Valley** 73.49 358 eP P 19 44 12.1 -0.8
comp=Z,22nm,1.1s
NV01 **Mina Array Sit** 73.49 352 eP P 19 44 12.0 -1.0
NVAR **Mina Array Bea** 73.49 352 P P 19 44 13.4 +0.5
comp=Z,3.7nm,0.7s,baz=191,slow=7.9,SNR=14
NVAR LR LR 20 10 04.6
comp=Z,258nm,19.5s,baz=122,slow=31
DZM **Mont Dzumac** 73.51 254 eS S 19 53 42.2 -0.8
comp=Z,306nm,25.9s
DZM **Mont Dzumac** 73.51 254 eLR LR 20 06 35.3
comp=Z,1um,29.8s
V49A **McMinnville** 73.52 19 P P 19 44 13.1 +0.2
baz=200
JSC **Jenkinsville** 73.53 24 eP P 19 44 12.7 -0.3
comp=Z,36nm,1.3s
Q24A **Divide** 73.59 3 P P 19 44 13.5 -0.1
baz=183
CPCT **Cooper Cave** 73.61 21 eP P 19 44 12.8 -0.6
comp=Z,17nm,1.1s
V50A **Pikeville** 73.65 20 P P 19 44 13.0 -0.6
baz=200
SRU **San Rafael Swe** 73.67 359 eP P 19 44 12.5 -1.4
comp=Z,23nm,1.0s
SRU **San Rafael Swe** 73.67 359 eP P 19 44 12.5 -1.4
SRU pmax pmax
comp=Z,23nm,1.0s
T43A **Greenville** 73.69 15 P P 19 44 13.2 -0.6
baz=196,SNR=5.9
WAKR **Walker** 73.70 351 eP P 19 44 13.7 -0.5
comp=Z,55nm,1.5s
RYN **Ryan** 73.71 352 eP P 19 44 13.0 -1.2
comp=Z,32nm,1.2s
SMCO **Snowmass** 73.74 2 eP P 19 44 13.5 -1.1
comp=Z,25nm,1.1s
KSCO **Kaye Shedlock'** 73.78 5 eP P 19 44 13.1 -1.4
comp=Z,52nm,1.3s
KSCO **Kaye Shedlock'** 73.78 5 P P 19 44 14.2 -0.3
baz=185
U47A **Clarksville** 73.79 18 P P 19 44 13.7 -0.8
baz=198
SYO **Syowa Base** 73.80 169⇑ eP P 19 44 14.3 +0.1
SYO **Syowa Base** 73.80 169 ‖ pP pP 19 44 17.4 -0.7
SYO **Syowa Base** 73.80 169 ‖ PcP PcP 19 44 29.0 -0.7
CBKS **Cedar Bluff** 73.85 7 eP P 19 44 14.3 -0.5
comp=Z,36nm,1.0s
CBKS **Cedar Bluff** 73.85 7 eP P 19 44 14.3 -0.5
CBKS pmax pmax
comp=Z,36nm,1.0s
CBKS **Cedar Bluff** 73.85 7 P P 19 44 14.4 -0.5
baz=188
PAULI **Pauline** 73.85 23 eP P 19 44 14.1 -0.7
comp=Z,41nm,1.3s
S41A **Jillco Farms,** 73.87 14 P P 19 44 14.5 -0.4
baz=195,SNR=5.0
V51A **Loudon** 73.99 21 P P 19 44 15.2 -0.4
baz=201
P17A **Butcher Ranch,** 74.03 359 eP P 19 44 14.7 -1.3
comp=Z,19nm,1.0s
U48A **Cassie Pea, Po** 74.05 19 P P 19 44 16.0 0.0
baz=199
KVN **Kaiserville** 74.09 353 eP P 19 44 15.7 -0.7
comp=Z,55nm,1.2s
KVN **Kaiserville** 74.09 353 eP P 19 44 15.7 -0.7
KVN pmax pmax
comp=Z,55nm,1.2s
YERR **Yerington** 74.15 352 eP P 19 44 16.7 -0.1
comp=Z,52nm,1.4s
S43A **Fulton Ridge,** 74.21 15 P P 19 44 16.5 -0.3
baz=196
T46A **Princeton** 74.21 17 P P 19 44 16.3 -0.5
baz=198
V52A **Sevierville** 74.24 21 P P 19 44 16.4 -0.7
baz=201
S42A **Caledonia** 74.24 15 P P 19 44 16.1 -0.9
baz=195,SNR=6.5
U49A **Red Boiling Sp** 74.25 19 P P 19 44 15.5 -1.7
baz=200
KMSC **Kings Mountain** 74.30 23 P P 19 44 16.6 -0.8
baz=203
V53A **Saluda** 74.32 22 eP P 19 44 17.3 -0.3
comp=Z,34nm,1.2s
V53A **Saluda** 74.32 22 P P 19 44 17.3 -0.3
baz=202,SNR=5.7
AFDM **Forest Hills D** 74.34 350 eP P 19 44 17.4 -0.2
comp=Z,37nm,1.4s
T47A **Sharon Grove** 74.35 18 P P 19 44 17.2 -0.6
baz=198
ISCO **Idaho Springs** 74.40 3 eP P 19 44 16.9 -1.5
comp=Z,23nm,1.5s
ISCO **Idaho Springs** 74.40 3 eP P 19 44 16.9 -1.5
ISCO pmax pmax
comp=Z,23nm,1.5s
ISCO **Idaho Springs** 74.40 3 P P 19 44 17.9 -0.5
baz=183
U50A **Jamestown** 74.42 20 P P 19 44 17.7 -0.4

	baz=200									
CCM	**Cathedral Cave**	74.43	14	eP		P		19 44 17.2	-0.9	
	comp=Z,23nm,1.1s									
CCM	**Cathedral Cave**	74.43	14	P		P		19 44 18.0	-0.1	
	baz=195									
S44A	**Carbondale**	74.51	16	P		P		19 44 18.9	+0.3	
	baz=197,SNR=6.9									
KSU1	**Kansas State U**	74.52	10	P		P		19 44 18.7	+0.1	
	baz=190									
SIUC	**Southern Illin**	74.54	16	eP		P		19 44 17.4	-1.3	
	comp=Z,27nm,1.0s									
NLU	**North Lily Min**	74.56	357	eP		P		19 44 17.9	-1.2	
	comp=Z,22nm,1.0s									
U51A	**La Follette**	74.62	21	P		P		19 44 19.1	-0.2	
	baz=201									
R41A	**Rosebud**	74.63	14	P		P		19 44 19.4	+0.1	
	baz=195									
S45A	**Carrier Mills**	74.65	17	P		P		19 44 19.5	+0.1	
	baz=197									
T48A	**Bowling Green**	74.65	18	P		P		19 44 19.2	-0.3	
	baz=199									
O20A	**White River Ci**	74.68	1	eP		P		19 44 22.2	+2.4	
	comp=Z,59nm,1.6s									
O20A	**White River Ci**	74.68	1	P		P		19 44 19.9	+0.1	
	baz=181									
R42A	**Luebbering**	74.73	15	P		P		19 44 20.5	+0.6	
	baz=195,SNR=5.9									
U52A	**Thorn Hill**	74.82	21	P		P		19 44 20.5	0.0	
	baz=202									
DUG	**Dugway, Tooele**	74.82	357	P		P		19 44 17.0	-3.6	
	comp=Z,15nm,1.1s									
DUG	**Dugway, Tooele**	74.82	357	P		P		19 44 17.0	-3.6	
DUG				pmax		pmax				
	comp=Z,15nm,1.1s									
DUG	**Dugway, Tooele**	74.82	357	P		P		19 44 20.6	0.0	
	baz=177,SNR=5.8									
S46A	**Don Dixon Farm**	74.86	17	P		P		19 44 20.6	0.0	
	baz=198									
T49A	**Edmonton**	74.88	19	P		P		19 44 21.0	+0.2	
	baz=200									
PAHR	**Pah Rah Range**	74.88	352	eP		P		19 44 20.3	-0.6	
	comp=Z,35nm,1.3s									
R43A	**Red Bud**	74.92	15	P		P		19 44 21.0	+0.1	
	baz=196									
S47A	**Hartford**	74.98	18	P		P		19 44 21.2	-0.1	
	baz=199,SNR=6.5									
T50A	**Nancy**	74.99	20	P		P		19 44 21.7	+0.3	
	baz=200									
ORV	**Oroville**	75.01	350	eP		P		19 44 20.7	-0.8	
	comp=Z,24nm,1.4s									
ORV	**Oroville**	75.01	350	eP		P		19 44 20.7	-0.8	
ORV				pmax		pmax				
	comp=Z,24nm,1.4s									
U53A	**Fall Branch**	75.03	22	P		P		19 44 22.5	+0.7	
	baz=202									
BEKR	**Beckworth**	75.16	351	eP		P		19 44 22.6	+0.1	
	comp=Z,35nm,1.3s									
JLU	**Jordanelle**	75.18	358	eP		P		19 44 22.4	-0.4	
	comp=Z,38nm,1.3s									
T51A	**Gray**	75.19	20	P		P		19 44 23.2	+0.6	
	baz=201									
S48A	**Wiedeman Farm,**	75.26	19	P		P		19 44 23.3	+0.4	
	baz=199,SNR=6.0									
Q41A	**Truxton**	75.30	14	P		P		19 44 23.2	+0.1	
	baz=195,SNR=7.0									
R45A	**Skylar, Fairfi**	75.31	17	P		P		19 44 23.5	+0.3	
	baz=197									
Q42A	**Golden Eagle**	75.40	15	P		P		19 44 24.2	+0.5	
	baz=196									
R46A	**Gibon Southern**	75.41	17	P		P		19 44 24.3	+0.5	
	baz=198									
N23A	**Red Feather La**	75.48	2	eP		P		19 44 24.8	+0.2	
	comp=Z,27nm,1.2s									
N23A	**Red Feather La**	75.48	2	P		P		19 44 24.5	0.0	
	baz=183,SNR=7.6									
ELK	**Elko**	75.51	355	P		P		19 44 24.8	+0.1	
	comp=Z,3.8nm,1.1s,baz=212,slow=6.8,SNR=4.8									
ELK	**Elko**	75.51	355	eP		P		19 44 24.6	0.0	
	comp=Z,10nm,1.1s									
ELK	**Elko**	75.51	355	eP		P		19 44 24.6	0.0	
ELK				pmax		pmax				
	comp=Z,10.0nm,1.1s									
S49A	**Springfield**	75.58	19	P		P		19 44 24.9	+0.1	
	baz=200									
T52A	**Hallie**	75.60	21	P		P		19 44 25.3	+0.3	
	baz=202									
T53A	**Wise**	75.62	22	P		P		19 44 25.5	+0.4	
	baz=202									
Q44A	**Meyer Farm, Va**	75.72	16	P		P		19 44 25.8	+0.2	
	baz=197,SNR=5.1									
S50A	**Richmond**	75.72	20	P		P		19 44 25.5	-0.2	
	baz=201									
WCI	**Wyandotte Cave**	75.73	18	P		P		19 44 25.3	-0.3	
	baz=199									
R47A	**Wooly Knot Far**	75.74	18	P		P		19 44 25.3	-0.3	
	baz=199									
OGNE	**Ogallala**	75.75	5	P		P		19 44 25.8	0.0	
	baz=186									
O03E	**Paynes Creek**	75.78	350	P		P		19 44 25.6	-0.4	
	baz=169									
O02D	**Mt. Diablo Mer**	75.81	349	P		P		19 44 26.1	-0.1	
	baz=168									
Q45A	**Warren Harvey,**	75.91	17	P		P		19 44 26.3	-0.3	
	baz=198									
S51A	**Beattyville**	75.92	20	P		P		19 44 26.9	+0.2	
	baz=201									
R48A	**Northridge Ran**	76.00	18	P		P		19 44 28.1	+0.9	
	baz=199									
P41A	**Barry, Barry**	76.03	14	P		P		19 44 26.8	-0.4	
	baz=195,SNR=5.3									
P42A	**Winchester**	76.08	15	P		P		19 44 27.9	+0.3	
	baz=196									
R49A	**Shelbyville**	76.09	19	P		P		19 44 27.6	0.0	
	baz=200									
WDC	**Whiskeytown Da**	76.17	349	eP		P		19 44 27.9	-0.2	
	comp=Z,35nm,1.2s									
WDC	**Whiskeytown Da**	76.17	349	eP		P		19 44 27.9	-0.2	
WDC				pmax		pmax				
	comp=Z,35nm,1.2s									
R50A	**Paris**	76.31	20	P		P		19 44 28.8	-0.1	
	baz=201									
P43A	**Skaggs, Pawnee**	76.31	15	P		P		19 44 29.4	+0.5	
	baz=196									
P44A	**Sand Creek, Wi**	76.35	16	P		P		19 44 28.9	-0.2	
	baz=197,SNR=6.1									
Q47A	**Bedord North L**	76.37	18	P		P		19 44 29.5	+0.2	
	baz=199									
O41A	**Passleys Farm,**	76.49	14	P		P		19 44 30.2	+0.3	
	baz=195									
R51A	**Hillsboro**	76.53	20	P		P		19 44 30.9	+0.7	
	baz=201									
Q48A	**North Vernon**	76.54	18	P		P		19 44 30.4	+0.2	
	baz=199									
N02D	**Trinity Center**	76.58	349	P		P		19 44 30.8	+0.3	
	baz=168									
BGNE	**Belgrade**	76.59	8	P		P		19 44 30.8	+0.3	
	baz=189									
P45A	**Graceland, Par**	76.61	17	P		P		19 44 31.5	+0.9	
	baz=198									
O42A	**Bath**	76.73	15	P		P		19 44 32.0	+0.7	
	baz=196									
P46A	**Rosedale**	76.82	17	P		P		19 44 32.5	+0.7	
	baz=198									
Q49A	**Aurora**	76.83	19	P		P		19 44 32.3	+0.5	
	baz=200									
R52A	**Catlettsburg**	76.84	21	P		P		19 44 32.6	+0.6	
	baz=202									
P47A	**Martinsville**	76.93	18	P		P		19 44 33.1	+0.7	
	baz=199									
Q50A	**Georgetown**	76.93	20	P		P		19 44 32.9	+0.5	
	baz=201									
O43A	**Sugar Creek Fa**	76.98	15	P		P		19 44 33.0	+0.3	
	baz=196									
M02C	**Callahan**	77.01	349	P		P		19 44 33.2	+0.3	
	baz=168,SNR=8.1									
O44A	**Mansfield**	77.04	16	P		P		19 44 33.9	+0.9	
	baz=197									
R53A	**Hurricane**	77.04	21	P		P		19 44 33.5	+0.4	
	baz=202									
N41A	**Harden Midland**	77.06	14	P		P		19 44 33.7	+0.6	
	baz=195									
N40A	**Mertquake, Sal**	77.09	13	P		P		19 44 34.2	+0.9	
	baz=195									
P48A	**Milroy**	77.12	18	P		P		19 44 34.4	+0.9	
	baz=200									
MOD	**Modoc Plateau**	77.16	351	eP		P		19 44 32.9	-1.0	
	comp=Z,51nm,1.3s									
R54A	**Victor**	77.19	22	P		P		19 44 34.7	+0.7	
	baz=203									
K22A	**Casper**	77.22	2	eP		P		19 44 32.8	-1.4	
	comp=Z,59nm,1.3s									
K22A	**Casper**	77.22	2	P		P		19 44 34.4	+0.2	
	baz=182,SNR=6.9									
HDIL	**Hopedale**	77.24	15	P		P		19 44 34.9	+0.8	
	baz=196									
M04C	**Macdoel**	77.24	350	P		P		19 44 34.6	+0.3	
	baz=169									
Q51A	**Peebles**	77.28	20	eP		P		19 44 33.0	-1.4	
	comp=Z,21nm,1.0s									
Q51A	**Peebles**	77.28	20	P		P		19 44 35.1	+0.7	
	baz=201									
O45A	**Potomac**	77.30	16	P		P		19 44 35.2	+0.7	
	baz=198									
BW06	**Boulder Array**	77.31	360	eP		P		19 44 33.0	-1.8	
BW06	**Boulder Array**	77.31	360	P		P		19 44 35.2	+0.4	
	baz=180,SNR=6.5									
PD31	**Pinedale Array**	77.31	360	eP		P		19 44 32.5	-2.2	
PDAR	**Pinedale Array**	77.31	360	P		P		19 44 33.7	-1.1	
	comp=Z,3.6nm,0.8s,baz=151,slow=5.3,SNR=28									
PDAR	**Pinedale Array**	77.31	360	eP		P		19 44 32.8	-2.0	
N42A	**Yates City**	77.34	15	P		P		19 44 35.4	+0.7	
	baz=196									
P49A	**Miami Univ. Ec**	77.37	19	P		P		19 44 35.4	+0.5	
	baz=200									
WVOR	**Wild Horse Val**	77.49	353	eP		P		19 44 34.6	-1.0	
	comp=Z,39nm,1.2s									
WVOR	**Wild Horse Val**	77.49	353	eP		P		19 44 34.6	-1.0	
WVOR				pmax		pmax				
	comp=Z,39nm,1.2s									
M39A	**Webster**	77.56	13	P		P		19 44 36.5	+0.6	
	baz=194,SNR=5.7									
R55A	**Marlinton**	77.56	23	P		P		19 44 36.6	+0.5	
	baz=204									
SFIN	**Lafayette**	77.57	17	P		P		19 44 36.6	+0.6	
	baz=198									
M40A	**Post Highland**	77.61	13	P		P		19 44 36.9	+0.8	
	baz=195									
MAW	**Mawson**	77.61	177	LR		LR		20 16 14.9		
	comp=Z,298nm,18.6s,baz=194,slow=34									
N43A	**Stutzman Famil**	77.63	15	P		P		19 44 36.7	+0.4	
	baz=196									
O47A	**Sheridan**	77.66	18	P		P		19 44 36.7	+0.2	
	baz=199									
P50A	**Jamestown**	77.69	20	P		P		19 44 37.0	+0.3	
	baz=201									
N44A	**Piper City**	77.72	16	P		P		19 44 37.2	+0.3	
	baz=197									
L04D	**Klamath Falls**	77.74	350	P		P		19 44 37.3	+0.3	
	baz=169									
M41A	**Milan**	77.77	14	P		P		19 44 37.6	+0.5	
	baz=195									
P51A	**Williamsport**	77.78	20	P		P		19 44 37.7	+0.5	
	baz=202									
SCIA	**State Center**	77.79	12	P		P		19 44 37.3	+0.2	
	baz=193									
L02E	**Cave Junction**	77.87	349	P		P		19 44 38.3	+0.6	
	baz=168									
N45A	**Kentland**	77.92	16	P		P		19 44 38.8	+0.9	
	baz=198									
REDW	**Red Top Meadow**	77.92	359	eP		P		19 44 38.2	0.0	
	comp=Z,40nm,1.4s									
O48A	**Farmland**	77.94	18	P		P		19 44 38.0	0.0	
	baz=200									
M42A	**Sheffield**	78.00	15	P		P		19 44 38.8	+0.4	
	baz=196									
R58B	**Mineral**	78.01	25	P		P		19 44 39.1	+0.6	
	baz=206									
SNOW	**Snow King Moun**	78.02	359	eP		P		19 44 41.1	+2.4	
	comp=Z,41nm,1.5s									
TPAW	**Teton Pass**	78.05	358	eP		P		19 44 37.4	-1.6	
	comp=Z,39nm,1.3s									
K04D	**Chiloquin, OR**	78.06	350	P		P		19 44 38.8	-0.1	
	baz=169									
N46A	**Monticello**	78.14	17	P		P		19 44 39.9	+0.7	
	baz=198									
M43A	**Waltham Townsh**	78.16	15	P		P		19 44 39.8	+0.6	
	baz=197									
LOHW	**Long Hollow**	78.17	359	eP		P		19 44 38.9	-0.6	
	comp=Z,26nm,1.3s									
P52A	**Corning**	78.19	21	P		P		19 44 39.5	+0.1	
	baz=202									
FXWY	**Fox Creek**	78.20	358	eP		P		19 44 39.1	-0.7	
	comp=Z,19nm,1.0s									
HUMO	**Hull Mountain**	78.21	349	eP		P		19 44 41.2	+1.6	
	comp=Z,25nm,1.1s									
L39A	**Vinton**	78.21	13	P		P		19 44 39.7	+0.2	
	baz=194									
O50A	**Cable**	78.24	20	P		P		19 44 40.4	+0.7	
	baz=201									
HLID	**Hailey**	78.26	356	eP		P		19 44 39.6	-0.4	
	comp=Z,37nm,1.0s									
HLID	**Hailey**	78.26	356	P		P		19 44 39.9	-0.1	
	baz=175,SNR=48									
P53A	**Whipple**	78.27	21	P		P		19 44 40.6	+0.7	
	baz=203									
L40A	**Anamosa**	78.30	13	eP		P		19 44 42.4	+2.4	
	comp=Z,55nm,1.3s									
L40A	**Anamosa**	78.30	13	P		P		19 44 40.6	+0.6	
	baz=195,SNR=7.1									
M44A	**Midewin, Midew**	78.31	16	P		P		19 44 40.2	+0.1	
	baz=197									
J08A	**Circle Bar Ran**	78.39	353	eP		P		19 44 41.3	+0.7	
	comp=Z,59nm,1.4s									
N47A	**Urbana**	78.39	18	P		P		19 44 40.8	+0.3	
	baz=199									
M45A	**Boilermakers S**	78.49	16	P		P		19 44 41.8	+0.7	
	baz=198									
O51A	**Pataskala**	78.53	20	P		P		19 44 41.6	+0.3	
	baz=202									
N48A	**Decatur**	78.54	18	P		P		19 44 42.4	+1.1	
	baz=200									
J05D	**Fort Rock, OR**	78.64	351	P		P		19 44 42.3	+0.3	
	baz=170,SNR=8.1									
FLWY	**Flagg Ranch**	78.64	359	eP		P		19 44 42.2	0.0	
	comp=Z,31nm,1.0s									
J04D	**Umpqua Nationa**	78.71	350	P		P		19 44 42.8	+0.3	
	baz=169									
O52A	**Adamsville**	78.72	21	P		P		19 44 42.9	+0.5	
	baz=202									
P55A	**Reedsville**	78.77	23	P		P		19 44 43.3	+0.6	
	baz=204									
RSSD	**Black Hills**	78.78	4	eP		P		19 44 42.7	-0.2	
	comp=Z,520nm,0.4s									
RSSD	**Black Hills**	78.78	4	eP		P		19 44 42.7	-0.2	
RSSD				pmax		pmax				
	comp=Z,520nm,0.4s									
RSSD	**Black Hills**	78.78	4	P		P		19 44 43.0	+0.1	
	baz=184									
K39A	**Oelwein**	78.80	13	P		P		19 44 43.5	+0.8	
	baz=194									
N49A	**Columbus Grove**	78.82	19	P		P		19 44 43.5	+0.6	
	baz=200									
M47A	**Cromwell**	78.86	18	P		P		19 44 43.6	+0.5	
	baz=199									
MCWV	**Mont Chateau**	78.90	22	P		P		19 44 43.6	+0.2	
	baz=204									
J01E	**Myrtle Point**	78.91	349	P		P		19 44 43.9	+0.6	
	baz=168									
H17A	**Grant Village**	78.95	359	P		P		19 44 43.9	0.0	
	baz=179									
N50A	**Nevada**	78.95	20	P		P		19 44 43.9	+0.3	
	baz=201									
K41A	**Shullsburg**	79.00	14	P		P		19 44 44.2	+0.4	
	baz=196									
O53A	**New Philadelph**	79.03	21	P		P		19 44 44.8	+0.8	
	baz=203									
ECSD	**EROS Data Cent**	79.07	9	eP		P		19 44 44.2	0.0	
	comp=Z,29nm,1.3s									
ECSD	**EROS Data Cent**	79.07	9	P		P		19 44 45.0	+0.7	
	baz=190,SNR=6.5									
L44A	**Lake County Fo**	79.09	16	P		P		19 44 45.0	+0.6	
	baz=198									
PINE	**Pine Mountain**	79.10	351	eP		P		19 44 45.7	+1.1	
	comp=Z,44nm,1.1s									
M48A	**Edgerton**	79.20	18	P		P		19 44 45.9	+0.9	
	baz=200									
I07A	**Izee**	79.21	352	eP		P		19 44 46.3	+1.2	
	comp=Z,55nm,1.1s									
O54A	**Avella**	79.22	22	P		P		19 44 45.9	+0.7	
	baz=204									
YMR	**Madison River**	79.23	358	eP		P		19 44 45.6	+0.3	
	comp=Z,41nm,1.4s									
I04A	**Tendick Farm,**	79.30	350	P		P		19 44 45.3	-0.2	
	baz=169									
JFWS	**Jewell Farm**	79.31	14	P		P		19 44 45.5	-0.1	
	baz=196									
N51A	**Ashland**	79.31	20	P		P		19 44 46.6	+1.0	
	baz=202									
I03D	**Drain, OR**	79.34	349	P		P		19 44 45.3	-0.3	
	baz=168									
K42A	**Prairie Point,**	79.36	15	P		P		19 44 46.9	+1.1	
	baz=196									
M49A	**Liberty Center**	79.39	19	P		P		19 44 47.1	+1.1	
	baz=201									
N52A	**McGinn's Farm,**	79.41	21	P		P		19 44 46.7	+0.5	
	baz=202									
J39A	**Decorah**	79.44	13	P		P		19 44 47.2	+1.0	
	baz=194,SNR=5.4									
MCMT	**McKenzie Canyo**	79.45	357	eP		P		19 44 47.2	+0.7	
SUSD	**Miller**	79.50	7	P		P		19 44 47.5	+1.0	
	baz=188									
L47A	**Sherwood**	79.54	18	P		P		19 44 47.9	+1.0	
	baz=200									
M50A	**Fremont**	79.57	19	P		P		19 44 47.8	+0.8	
	baz=201									
N53A	**Lisbon**	79.65	21	P		P		19 44 47.9	+0.4	
	baz=203									
RLMT	**Red Lodge**	79.66	360	eP		P		19 44 47.4	-0.3	
	comp=Z,20nm,1.2s									
RLMT	**Red Lodge**	79.66	360	P		P		19 44 47.6	-0.1	
	baz=180,SNR=7.3									
I05D	**Terrebonne, OR**	79.69	351	P		P		19 44 48.1	+0.5	
	baz=170,SNR=5.9									
L48A	**N Adams**	79.71	18	P		P		19 44 48.8	+1.0	
	baz=200									
M51A	**Elyria**	79.75	20	P		P		19 44 49.2	+1.2	
	baz=202									
BMO	**Blue Mountains**	79.76	354	eP		P		19 44 48.7	+0.6	
	comp=Z,31nm,1.4s									
BMO	**Blue Mountains**	79.76	354	eP		P		19 44 48.7	+0.6	
BMO				pmax		pmax				
	comp=Z,31nm,1.4s									
O56A	**Blue Knob Stat**	79.87	23	P		P		19 44 49.9	+1.2	
	baz=205									
I39A	**Houston**	79.98	13	eP		P		19 44 51.0	+1.8	
	comp=Z,23nm,1.0s									
I39A	**Houston**	79.98	13	P		P		19 44 50.3	+1.1	
	baz=194									
L49A	**Milan**	80.04	19	P		P		19 44 50.4	+0.9	
	baz=201									
N54A	**Moraine State**	80.05	22	eP		P		19 44 53.0	+3.3	
	comp=Z,59nm,1.4s									
BOZ	**Bozeman (W)**	80.17	358	eP		P		19 44 50.3	-0.1	
	comp=Z,27nm,1.4s									
BOZ	**Bozeman (W)**	80.17	358	eP		P		19 44 50.3	-0.1	
BOZ				pmax		pmax				
	comp=Z,27nm,1.4s									
BOZ	**Bozeman (W)**	80.17	358	P		P		19 44 51.2	+0.8	
	baz=178,SNR=6.8									
M52A	**Chesterland**	80.17	21	P		P		19 44 50.9	+0.6	
	baz=203									
I40A	**Norwalk**	80.18	13	P		P		19 44 51.0	+0.7	
	baz=195									
AAM	**Ann Arbor**	80.25	19	P		P		19 44 50.7	+0.1	
	baz=201									
K47A	**Vermontville**	80.25	18	P		P		19 44 51.3	+0.7	
	baz=200									
M53A	**WI Miller and**	80.28	21	P		P		19 44 51.9	+1.1	
	baz=203									
G08A	**Pilot Rock**	80.35	353	eP		P		19 44 51.8	+0.5	
	comp=Z,41nm,1.2s									
I41A	**Arkdale**	80.48	14	P		P		19 44 52.8	+1.0	
	baz=196									
G05D	**Wamic, OR**	80.57	351	P		P		19 44 53.0	+0.7	
	baz=170									
K48A	**Perry**	80.59	18	P		P		19 44 53.2	+0.7	
	baz=200									
H38A	**Maiden Rock**	80.64	12	P		P		19 44 53.9	+1.2	
	baz=194									
I43A	**Langenfeld Bro**	80.67	15	P		P		19 44 53.6	+0.7	
	baz=197									
G03D	**McMinnville, O**	80.81	350	P		P		19 44 54.3	+0.7	
	baz=168									
H39A	**Augusta**	80.82	13	P		P		19 44 54.2	+0.6	
	baz=195									
J47A	**Sunmer**	80.83	18	P		P		19 44 54.4	+0.7	
	baz=200									
F10A	**Beach Ranch, E**	80.86	354	eP		P		19 44 53.5	-0.5	
	comp=Z,24nm,1.1s									
L53A	**Girard**	80.88	21	P		P		19 44 54.3	+0.3	
	baz=204									
H40A	**Chili**	80.93	13	P		P		19 44 54.6	+0.4	
	baz=195									
H41A	**Junction City**	81.06	14	P		P		19 44 55.9	+1.0	
	baz=196									
SPMN	**Marine on St.**	81.09	11	P		P		19 44 55.6	+0.6	
	baz=193									
ERPA	**Erie**	81.11	21	P		P		19 44 55.3	+0.1	
	baz=204									
J48A	**Bridge Port**	81.14	18	P		P		19 44 57.5	+2.1	
	baz=202									
H42A	**Shiocton**	81.19	15	P		P		19 44 56.0	+0.4	
	baz=197									
G38A	**Ridgeland**	81.19	12	P		P		19 44 56.6	+1.0	
	baz=194									
F05D	**White Salmon**	81.22	351	P		P		19 44 56.7	+0.9	
	baz=170									
LAO	**LASA Array**	81.26	2	P		P		19 44 56.8	+0.7	
	baz=182,SNR=5.6									
HRY	**Holter Researc**	81.29	358	eP		P		19 44 58.2	+2.0	
N59A	**State Game Lan**	81.38	25	P		P		19 44 57.6	+0.8	
	baz=207									
G39A	**Holcombe**	81.43	13	P		P		19 44 57.2	+0.3	
	baz=195									
MSO	**Missoula**	81.50	357	eP		P		19 44 59.5	+2.2	
	comp=Z,22nm,1.4s									
MSO	**Missoula**	81.50	357	P		P		19 44 57.8	+0.5	
	baz=176,SNR=5.2									
HAWA	**Hanford**	81.50	353	eP		P		19 44 59.8	+2.6	
	comp=Z,38nm,1.3s									
K52A	**Tillsonburg**	81.50	21	P		P		19 44 57.6	+0.3	
	baz=203									
G40A	**Rib Lake**	81.59	13	P		P		19 44 58.1	+0.3	
	baz=196									
F37A	**Hinrichs Farm,**	81.60	11	P		P		19 44 58.8	+1.0	
	baz=194									
F04D	**Rainier, OR**	81.62	350	P		P		19 44 58.6	+0.7	
	baz=168									
I47A	**Gladwin**	81.64	18	P		P		19 44 58.8	+0.8	
	baz=200						

MDND	**Maddock**	**82.81**	**6**	P	**P**	**19 45 05.5 +1.4**
	baz=188						
J55A	**Hilton**	**82.82**	**22**	P	**P**	**19 45 04.9 +0.7**
	baz=205						
I52A	**Shelburne**	**82.84**	**20**	P	**P**	**19 45 05.1 +0.8**
	baz=204						
F45A	**CMU Biological**	**82.96**	**16**	P	**P**	**19 45 05.8 +0.9**
	baz=199						
E41A	**Kenton**	**82.97**	**14**	P	**P**	**19 45 06.0 +1.1**
	baz=196						
D03D	**Eldon**	**83.06**	**350**	P	**P**	**19 45 06.9 +1.5**
	baz=168						
PKRO	**Pickering**	**83.07**	**21**	P	**P**	**19 45 07.2 +1.7**
	baz=204						
DRWO	**Darlington Wes**	**83.08**	**21**	P	**P**	**19 45 05.9 +0.3**
	baz=205						
DRCO	**St. Marys Ceme**	**83.10**	**21**	P	**P**	**19 45 06.2 +0.6**
	baz=205						
DGMT	**Dagmar**	**83.12**	**3**	P	**P**	**19 45 06.5 +0.9**
	baz=184						
NEW	**Newport**	**83.13**	**354**	P	**P**	**19 45 05.7 -0.2**
	comp=Z,3.0nm,1.0s,baz=125,slow=6.6,SNR=6.0						
NEW	**Newport**	**83.13**	**354**	*e*P	**P**	**19 45 05.6 -0.2**
	comp=Z,40nm,1.3s						
NEW	**Newport**	**83.13**	**354**	*e*P	**P**	**19 45 05.6 -0.2**
NEW				pmax	pmax		
	comp=Z,40nm,1.3s						
NEW	**Newport**	**83.13**	**354**	P	**P**	**19 45 06.1 +0.3**
	baz=173						
E42A	**Champion**	**83.15**	**14**	P	**P**	**19 45 06.5 +0.6**
	baz=197						
C06D	**Leavenworth**	**83.16**	**352**	P	**P**	**19 45 06.8 +0.9**
	baz=170						
F46A	**Macinaw City C**	**83.22**	**17**	P	**P**	**19 45 07.1 +0.9**
	baz=200						
WLVO	**Wesleyville**	**83.23**	**22**	P	**P**	**19 45 06.9 +0.6**
	baz=205						
E43A	**Lone Tree Farm**	**83.29**	**15**	P	**P**	**19 45 07.1 +0.5**
	baz=198						
B08A	**Colville Reser**	**83.42**	**353**	*e*P	**P**	**19 45 08.8 +1.5**
	comp=Z,14nm,1.2s						
H52A	**Wyevale**	**83.45**	**20**	P	**P**	**19 45 08.5 +1.1**
	baz=204						
D41A	**Chassel**	**83.62**	**14**	P	**P**	**19 45 09.4 +1.1**
	baz=197						
B05A	**Bryant**	**83.64**	**351**	P	**P**	**19 45 09.4 +1.1**
	baz=169						
E45A	**Wooded Hills,**	**83.68**	**16**	P	**P**	**19 45 08.7 +0.2**
	baz=200						
E46A	**Sault Ste Mari**	**83.89**	**17**	P	**P**	**19 45 10.6 +1.0**
	baz=200						
F49A	**Sandfield**	**83.89**	**19**	P	**P**	**19 45 10.3 +0.6**
	baz=202						
DELO	**Delore Mine**	**84.01**	**22**	P	**P**	**19 45 11.0 +0.7**
	baz=205						
H55A	**Tweed**	**84.17**	**22**	P	**P**	**19 45 11.6 +0.4**
	baz=206						
G53A	**Haliburton**	**84.25**	**21**	P	**P**	**19 45 12.3 +0.8**
	baz=205						
HRV	**Adam Dziewonsk**	**84.28**	**27**	P	**P**	**19 45 12.0 +0.2**
	baz=210						
BANO	**Bancroft**	**84.37**	**22**	P	**P**	**19 45 12.3 +0.2**
	baz=205						
D46A	**Sault St. Mari**	**84.45**	**17**	P	**P**	**19 45 13.9 +1.4**
	baz=200						
H56A	**Elgin**	**84.50**	**23**	P	**P**	**19 45 13.9 +1.1**
	baz=206						
F51A	**Arnstein**	**84.62**	**20**	P	**P**	**19 45 14.7 +1.3**
	baz=204						
PLVO	**Plevna**	**84.65**	**22**	P	**P**	**19 45 14.8 +1.3**
	baz=206						
F52A	**Sundridge**	**84.66**	**20**	P	**P**	**19 45 14.9 +1.3**
	baz=204						
D47A	**Chapleau**	**84.83**	**17**	P	**P**	**19 45 15.6 +1.1**
	baz=201						
E50A	**Wahnapitae**	**84.85**	**19**	P	**P**	**19 45 15.7 +1.2**
	baz=203						
G55A	**Calabogie**	**84.95**	**22**	P	**P**	**19 45 16.7 +1.7**
	baz=206						
LONY	**Lake Ozonia**	**85.07**	**24**	*e*P	**P**	**19 45 18.1 +2.3**
	comp=Z,32nm,1.3s						
LONY	**Lake Ozonia**	**85.07**	**24**	P	**P**	**19 45 16.8 +1.1**
	baz=206						
PEMO	**Pembroke**	**85.17**	**22**	P	**P**	**19 45 17.6 +1.5**
	baz=206						
D48A	**Paudash Townsh**	**85.26**	**18**	P	**P**	**19 45 17.6 +1.0**
	baz=202						
E51A	**G1948 Merrick**	**85.29**	**20**	P	**P**	**19 45 17.6 +0.9**
	baz=204						
ORIO	**Orleans, Innes**	**85.51**	**23**	P	**P**	**19 45 18.4 +0.6**
	baz=207						
ULM	**Lac du Bonnet**	**85.57**	**8**	P	**P**	**19 45 16.9 -1.2**
	comp=Z,3.4nm,0.9s,baz=176,slow=6.5,SNR=4.8						
ULM	**Lac du Bonnet**	**85.57**	**8**	*e*P	**P**	**19 45 19.1 +1.0**
	comp=Z,27nm,1.4s						
ULM	**Lac du Bonnet**	**85.57**	**8**	*e*P	**P**	**19 45 19.1 +1.0**
ULM				pmax	pmax		
	comp=Z,27nm,1.4s						
E53A	**Dumoine, Ponti**	**85.68**	**21**	P	**P**	**19 45 19.1 +0.4**
	baz=205						
D51A	**Lot 18 Range I**	**85.83**	**20**	P	**P**	**19 45 20.5 +1.0**
	baz=204						
D52A	**ZEK Kipawa Sen**	**86.00**	**20**	P	**P**	**19 45 20.8 +0.5**
	baz=205						
STKA	**Stephens Creek**	**86.22**	**233**	P	**P**	**19 45 20.8 -1.2**
	comp=Z,0.9nm,0.3s,baz=28,slow=3.8,SNR=4.5						
STKA				LR	LR	20 17 39.6	
	comp=Z,698nm,19.3s,baz=160,slow=31						
D54A	**Lac Fusel, La**	**86.67**	**21**	P	**P**	**19 45 24.5 +0.9**
	baz=206						
BBB	**Bella Bella**	**88.35**	**348**	P	**P**	**19 45 30.9 -0.5**
	comp=Z,17nm,0.9s,baz=130,slow=7.9						
MATQ	**Matagami**	**88.74**	**20**	P	**P**	**19 45 34.7 +1.3**
	baz=205						
CHGQ	**Chibougamau**	**89.82**	**21**	P	**P**	**19 45 39.9 +1.4**
	baz=208						
SCHQ	**Schefferville**	**96.41**	**23**	LR	LR	20 23 53.7	
	comp=Z,530nm,20.7s,baz=276,slow=32						
ASAR	**Alice Springs**	**96.72**	**235**	L	LR	20 23 07.2	
	comp=Z,326nm,20.9s,baz=150,slow=31						
YKA	**Yellowknife Ar**	**97.18**	**357**	P	**P**	**19 46 10.9 -1.1**
	comp=Z,0.4nm,1.0s,baz=172,slow=4.2,SNR=4.5						
WRA	**Warramunga Arr**	**98.92**	**238**	LR	LR	20 27 44.9	
	comp=Z,740nm,18.1s,baz=155,slow=34						
HDA	**Harding Lake**	**103.42**	**344**	P	**Pdif**	**19 46 41.4 +1.6**
	baz=149						
TORD	**Torodi Ar. Bea**	**114.23**	**91**	PP	**PP**	**19 52 12.1 -3.6**
	comp=Z,2.0nm,1.1s,baz=213,slow=6.1,SNR=4.5						
BILL	**Bilibino**	**120.00**	**334**	⇑*i*PKIKP	**PKiKP**	**19 51 30.3 +0.4**
BILL				*e*		20 02 37.8	
BILL				pmax	pmax		
	comp=Z,8.0nm,1.6s						
SEY	**Seymchan**	**124.31**	**327**	PKP	**PKPdf**	**19 51 37.6 -0.6**
	comp=Z,2.2nm,0.9s,baz=53,slow=20						
MAJO	**Matsushiro**	**126.53**	**293**	*e*P	PKPpre	19 51 30.8	
TIXI	**Tiksi**	**132.78**	**339**	PKP	**PKPdf**	**19 51 53.3 -0.9**
	comp=Z,1.2nm,0.8s,baz=64,slow=2.3,SNR=4.5						
TIXI	**Tiksi**	**132.78**	**339**	*e*PKPdf	**PKPdf**	**19 51 53.5 -0.7**
KLR	**Kul'dur**	**133.97**	**307**	⇓*i*PKIKP	**PKiKP**	**19 51 58.3 -0.1**
NJ2	**Nanjing**	**140.36**	**280**	*e*PKP	**PKPdf**	**19 52 10.0 +0.6**
BOD	**Bodaibo**	**143.46**	**322**	*e*PKHKP	PKPpre	19 52 09.2	
BOD				pmax	pmax		
	comp=Z,22nm,1.5s						
BUR04	**Bucovina Ar. S**	**143.76**	**55**	*e*PKPdf	**PKPdf**	**19 52 15.4 +0.3**
CIT	**Chita**	**145.35**	**313**	*e*PKHKP	PKPpre	19 52 13.0	
AKASG	**Malin Array Be**	**145.98**	**49**	PKPbc	**PKPdf**	**19 52 17.9 -0.7**
	comp=Z,0.6nm,0.4s,baz=279,slow=3.7,SNR=10						
AKASG	**Malin Array Be**	**145.98**	**49**	PKP2	**PKPdf**	**19 52 18.0 -0.7**
KIS	**Kishinev**	**146.25**	**56**	*e*PKP	**PKPdf**	**19 52 19.5 +0.2**
	comp=Z,110nm,1.8s						
KIS	**Kishinev**	**146.25**	**56**	*e*PKP2	**PKPdf**	**19 52 19.5 +0.2**
KIS				pmax	pmax		
	comp=Z,110nm,1.8s						
KLMR	**Klimovskoe**	**147.09**	**28**	*e*PKP2	**PKPbc**	**19 52 22.8 +0.4**
KLMR				pmax	pmax		
	comp=Z,44nm,1.3s						
KLMR	**Klimovskoe**	**147.09**	**28**	*e*PKPdf	**PKPbc**	**19 52 22.8 +0.4**
KLMR				AMP		19 52 41.9	
	comp=Z,44nm,1.2s						
PBKT	**Sadao Pong**	**147.66**	**243**	*e*PKPbc	**PKPbc**	**19 52 25.7 +0.4**
HHC	**Hu-ho-hao-te**	**147.73**	**293**	*e*PKPbc	**PKPbc**	**19 52 24.8 -0.2**
PRGR	**Permogore**	**148.75**	**23**	*e*PKP2	**PKPbc**	**19 52 25.1 -1.7**
PRGR				pmax	pmax		
	comp=Z,23nm,1.5s						
OBN	**Obninsk**	**148.79**	**39**	*e*PKPdf	**PKPbc**	**19 52 25.9 -1.2**
OBN	**Obninsk**	**148.79**	**39**	⇓*e*PKP2	**PKPbc**	**19 52 26.2 -0.9**
OBN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
OBN				pmax	pmax		
	comp=Z,42nm,2.0s						
BTO	**Baotou**	**148.89**	**292**	*e*PKPbc	**PKPbc**	**19 52 28.0 0.0**
XAN	**Xi'an**	**148.93**	**279**	PKPbc	**PKPbc**	**19 52 28.8 +0.5**
MOS	**Moscow**	**149.04**	**37**	*e*PKP2	**PKPab**	**19 52 33.6 +1.6**
ANTO	**Ankara**	**149.33**	**69**	*e*PKPbc	**PKPbc**	**19 52 29.2 +0.1**
BRTR	**Keskin Array B**	**149.97**	**70**	PKP	**PKPdf**	**19 52 25.6 -0.3**
	comp=Z,0.7nm,0.7s,baz=331,slow=4.6,SNR=3.6						
BRTR				PKPbc	**pPKPdf**	**19 52 30.0 +0.1**	
	comp=Z,1.5nm,0.8s,baz=192,slow=2.1,SNR=8.3						
BRTR				PKPab	**PKPab**	**19 52 37.0 +0.5**	
	comp=Z,1.9nm,0.7s,baz=174,slow=1.2,SNR=3.6						
CMAR	**Chiang Mai Arr**	**150.35**	**244**	PKPbc	**PKPbc**	**19 52 32.0 -0.1**
	comp=Z,10.0nm,1.0s,baz=186,slow=1.8,SNR=39						
ULN	**Ulaanbaatar**	**150.37**	**307**	*e*PKPdf	**PKPdf**	**19 52 28.1 +1.9**
ULN	**Ulaanbaatar**	**150.37**	**307**	⇑*e*PKIKP	**PKPbc**	**19 52 30.5 -1.0**
CHTO	**Chiang Mai**	**150.57**	**244**	*e*PKPbc	**PKPbc**	**19 52 32.7 +0.1**
SONM	**Songino Array**	**150.80**	**307**	PKPbc	**PKPbc**	**19 52 31.2 -1.3**
	comp=Z,5.1nm,0.9s,baz=167,slow=1.8,SNR=3.8						
KMI	**Kunming**	**151.02**	**259**	PKPbc	**PKPdf**	**19 52 26.0 -2.1**
VSR	**Storozhevoye**	**151.83**	**45**	⇑*e*PKIKP	**PKPbc**	**19 52 32.8 -1.8**
ZAK	**Zakamensk**	**152.01**	**313**	*e*PKIKP	**PKPbc**	**19 52 34.9 -0.2**
ZAK				pmax	pmax		
	comp=Z,13nm,1.1s						
CD2	**Chengdu**	**152.37**	**271**	PKPbc	**PKPdf**	**19 52 29.0 -0.7**
LZH	**Lanzhou**	**153.38**	**282**	*e*PKPbc	**PKPdf**	**19 52 27.5 -3.7**
LZH				pPKP	PKPbc	19 52 38.5 -0.3	
LZH				sPKP		19 52 41.5	
LZH				LR	LR		
	comp=Z,200nm,17.8s						
LZH				LR	LR		
	comp=Z,200nm,18.2s						
LZH				LR	LR		
	comp=Z,250nm,20.1s						
GTA	**Gaotai**	**156.73**	**290**	*e*PKP	**PKPdf**	**19 52 37.5 +1.9**
ARU	**Arti**	**156.84**	**18**	⇑*e*PKIKP	**PKPdf**	**19 52 34.8 -0.2**
NVS	**Novosibirsk**	**158.36**	**341**	*e*PKIKP	**PKPdf**	**19 52 37.1 +0.2**
ZALV	**Zalesovo Beam**	**158.67**	**337**	PKP	**PKPdf**	**19 52 37.3 0.0**
	comp=Z,1.3nm,0.8s,baz=50,slow=2.3,SNR=4.7						
ZALV				PP	**PP**	**19 56 56.2 +3.3**	
	comp=Z,0.3nm,0.4s,baz=46,slow=4.3,SNR=3.7						
WMQ	**Urumqi**	**164.41**	**310**	*e*PKP	**PKPdf**	**19 52 43.5 -0.2**
MKAR	**Makanchi Array**	**165.44**	**328**	PP	PP	19 57 32.9 +3.6	
	comp=Z,1.7nm,1.0s,baz=43,slow=5.5,SNR=8.2						
KSH	**Kashi**	**173.98**	**321**	PKP	**PKPdf**	**19 52 52.3 +2.4**
KSH				PP	**PP**	**19 58 16.5 +3.8**
KSH				SKKS		20 05 04.0	
KSH				SS	**SS**	**20 19 34.8 +4.1**

NIED ***27*** *19:35:00,23.˚90N×122.˚40E,h8km,Mw4.1 Best double couple: M₀1.46000×10¹⁵ NP1:φs8.00000°,δ7.00000°, λ-142.00000°. NP2:φs240.00000°,δ85.00000°, λ-84.00000°.*

BJI ***27*** *19:35:19.5,24.˚01N×122.˚53E,h12km,mb3.9/6,ML3.7/2*

JMA ***27*** *19:35:21.8±0.2,23.˚94N×122.˚43E,h22km±5km,M3.9*

ISCJB ***27*** *19:35:21.4±0.3,23.˚92N±0.˚01×122.˚48E±0.˚01,h19km±2km, mb4.0/11,MS4.2/2,Error ellipse: s-maj=2.5km s-min=1.7km az=152.1*

TAP ***27*** *19:35:22.4,23.˚98N×122.˚44E,h26km,ML4.2,C*

IDC ***27*** *19:35:25.5±4.5,24.˚14N×122.˚63E,h55km±44km, mb3.7/9, mb1 3.8/11,mb1mx3.5/62,mbtmp4.0/11,ML3.5/2,MS3.7/3, Ms1 3.8/3,ms1mx3.0/50,Error ellipse: s-maj=38.1km s-min=16.9km az=63.0*

ISC 27 19:35:21.1±1.1,23.˚91N±0.˚02×122.˚45E±0.˚02,h18km±6km, n144,σ1$06/243,mb4.1/11,32C-8D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.70**	**335**	⇓P		**Pg**	**19 35 35.2**	**+0.4**
	baz=327							
EOS1				S		**Sg**	**19 35 44.5**	**+0.4**
	baz=327							
JYNG	**Yonagunijimaku**	**0.70**	**40**	P		**Pg**	**19 35 35.0**	**+0.1**
JYNG				S		**Sg**	**19 35 43.4**	**-0.8**
YOJ	**Yonaguni jima**	**0.75**	**43**	⇓P		**Pg**	**19 35 36.1**	**+0.3**
	baz=55							
YOJ				*e*S		**Sg**	**19 35 44.8**	**-1.0**
	baz=55							
YOJ	**Yonaguni jima**	**0.75**	**43**	P		**Pg**	**19 35 36.1**	**+0.3**
YOJ				S		**Sg**	**19 35 45.0**	**-0.7**
HWA	**Hwalien**	**0.78**	**275**	P		**Pg**	**19 35 37.0**	**+0.7**
	baz=257							
HWA				*e*S		**Sb**	**19 35 48.0**	**+1.8**
	baz=257							
ENLB	**Shoufeng**	**0.78**	**269**	⇑P		**Pg**	**19 35 36.9**	**+0.6**
	baz=252							
ENLB				*e*S		**Sb**	**19 35 47.5**	**+1.2**
	baz=252							
TWD	**Chiawan**	**0.80**	**282**	⇑*i*P		**Pg**	**19 35 36.8**	**+0.1**
	baz=277							
TWD				S		**Sg**	**19 35 47.5**	**+0.2**
	baz=277							
NACB	**Ninganchiao**	**0.82**	**289**	⇑P		**Pb**	**19 35 37.2**	**+0.3**
	baz=270							
NACB				*e*S		**Sb**	**19 35 48.1**	**+0.5**
	baz=270							
ENA	**Nanau**	**0.82**	**309**	⇓*i*P		**Pb**	**19 35 37.1**	**+0.2**
	baz=315							
ENA				*e*S		**Sb**	**19 35 47.9**	**+0.1**
	baz=315							
TWC	**Suao**	**0.88**	**322**	P		**Pb**	**19 35 37.7**	**-0.2**
	baz=320							
TWC				*e*S		**Sb**	**19 35 48.7**	**-0.7**
	baz=320							
ESL	**Shilin**	**0.94**	**264**	⇑*i*P		**Pb**	**19 35 38.6**	**-0.2**
	baz=259							
ESL				*e*S		**Sb**	**19 35 50.9**	**0.0**
	baz=259							
EGFH	**Guangfu**	**0.97**	**256**	*e*P		**Pb**	**19 35 39.4**	**+0.1**
	baz=251							
EGFH				*e*S		**Sb**	**19 35 51.9**	**+0.1**
	baz=251							
HGSD	**Ruisui**	**1.03**	**246**	P		**Pb**	**19 35 40.4**	**0.0**
	baz=242							
HGSD				*e*S		**Sb**	**19 35 53.2**	**-0.3**
	baz=242							
EGS		**1.04**	**333**	P		**Pb**	**19 35 40.9**	**+0.3**
	baz=323							
EGS				S		**Sb**	**19 35 54.6**	**+0.7**
	baz=323							
ILA	**Ilan**	**1.06**	**323**	P		**Pb**	**19 35 41.5**	**+0.5**
	baz=321							
ILA				S		**Sb**	**19 35 55.4**	**+0.9**
	baz=321							
TWE	**Neicheng**	**1.07**	**319**	⇓*i*P		**Pb**	**19 35 41.4**	**+0.3**
	baz=317							
TWE				S		**Sb**	**19 35 55.2**	**+0.3**
	baz=317							
ENTT	**Nioudou**	**1.08**	**312**	⇑P		**Pb**	**19 35 41.7**	**+0.3**
	baz=294							
ENTT				*e*S		**Sb**	**19 35 56.0**	**+0.9**
	baz=294							
NTC	**Toucheng**	**1.09**	**329**	*e*P		**Pb**	**19 35 41.8**	**+0.3**
	baz=327							
NTC				*e*S		**Sb**	**19 35 55.7**	**+0.2**
	baz=327							
NDT	**Datong Townshi**	**1.10**	**309**	*e*P		**Pb**	**19 35 41.8**	**+0.3**
	baz=305							
NNSB	**Datong**	**1.10**	**298**	⇑P		**Pb**	**19 35 41.9**	**+0.2**
	baz=282							
NNSB				*e*S		**Sb**	**19 35 56.0**	**+0.2**
	baz=282							
WHF	**Hehuan Shan**	**1.11**	**282**	⇑*i*P		**Pb**	**19 35 41.8**	**-0.2**
	baz=265							
WHF				S		**Sb**	**19 35 56.4**	**+0.2**
	baz=265							
EHY	**Hungye**	**1.11**	**249**	P		**Pb**	**19 35 41.7**	**-0.1**
	baz=244							
EHY				*e*S		**Sb**	**19 35 55.4**	**-0.5**
	baz=244							
NNS	**Nan Shan**	**1.11**	**298**	⇑P		**Pb**	**19 35 42.0**	**+0.1**
	baz=283							
NNS				*e*S		**Sb**	**19 35 56.3**	**+0.1**
	baz=283							
TWB1	**Santiao Chiao**	**1.17**	**339**	*e*P		**Pn**	**19 35 42.4**	**-0.2**
	baz=356							
TWB1				*e*S		**Sb**	**19 35 57.6**	**+0.1**
	baz=356							
CHGB	**Renai**	**1.18**	**277**	⇑P		**Pn**	**19 35 43.0**	**+0.1**
	baz=262							
CHGB				S		**Sb**	**19 35 57.4**	**-0.7**
	baz=262							
YULB	**Yu-li**	**1.18**	**244**	⇑P		**Pn**	**19 35 42.9**	**+0.2**
	baz=240							
YULB				*e*S		**Sb**	**19 35 57.8**	**0.0**
	baz=240							
TWF1	**Yuli**	**1.20**	**242**	⇓P		**Pn**	**19 35 43.2**	**+0.3**
	baz=238							
TWF1				S		**Sb**	**19 35 58.9**	**+0.5**
	baz=238							
TIPB	**Shuangxi**	**1.20**	**332**	⇑P		**Pn**	**19 35 43.2**	**+0.2**
	baz=331							
TIPB				S		**Sb**	**19 35 57.9**	**-0.6**
	baz=331							
VWDT	**VWDT**	**1.21**	**263**	⇑P		**Pn**	**19 35 43.5**	**+0.4**
	baz=258							
VWDT				*e*S		**Sb**	**19 35 58.5**	**-0.2**
	baz=258							
NWLT	**Wulai**	**1.22**	**315**	*e*P		**Pn**	**19 35 43.8**	**+0.5**
	baz=312							
YHNB	**Yeheng**	**1.24**	**308**	⇑P		**Pn**	**19 35 43.9**	**+0.4**
	baz=291							
YHNB				*e*S		**Sb**	**19 36 00.1**	**+0.4**
	baz=291							
IRIF	**Iriomote-Funau**	**1.24**	**70**	P		**Pn**	**19 35 44.4**	**+0.8**
IRIF				S		**Sb**	**19 36 00.7**	**+1.0**
HATJ	**Hateruma jima**	**1.25**	**83**	P		**Pn**	**19 35 44.8**	**+1.1**
HATJ				S		**Sb**	**19 36 01.5**	**+1.6**
NSK	**Sanguang**	**1.25**	**308**	⇑P		**Pn**	**19 35 44.1**	**+0.3**
	baz=305							
NSK				*e*S		**Sb**	**19 36 00.5**	**+0.4**
	baz=305							
CHKT	**Chengkung**	**1.28**	**231**	*e*P		**Pn**	**19 35 43.9**	**-0.2**
	baz=227							
CHKT				*e*S		**Sb**	**19 35 58.9**	**-1.9**
	baz=227							
NWF	**Wu-fen Shan**	**1.30**	**332**	⇑*i*P		**Pn**	**19 35 44.7**	**+0.2**
	baz=331							
NWF				S		**Sn**	**19 36 01.9**	**+0.4**
	baz=331							
WFSB	**Wu-fen Shan**	**1.30**	**332**	⇑P		**Pn**	**19 35 44.7**	**+0.2**
	baz=331							
WFSB				S		**Sn**	**19 36 01.4**	**0.0**
	baz=331							
TWA	**Mucha**	**1.32**	**324**	P		**Pn**	**19 35 45.5**	**+0.8**
	baz=322							
TWA				*e*S		**Sn**	**19 36 03.0**	**+1.0**
	baz=322							
NHDH	**Xindian Distri**	**1.34**	**321**	*e*P		**Pn**	**19 35 45.9**	**+1.0**
	baz=333							
TAP	**Taipei**	**1.41**	**323**	*e*P		**Pn**	**19 35 46.9**	**+0.9**
	baz=321							
TAP				*e*S		**Sn**	**19 36 06.1**	**+2.0**
	baz=321							
SMLT	**Sun Moon Lake**	**1.42**	**269**	⇑P		**Pn**	**19 35 46.9**	**+0.7**
	baz=265							
SMLT				S		**Sn**	**19 36 04.2**	**-0.2**
	baz=265							
WHP	**Taichung City**	**1.42**	**285**	*e*P		**Pn**	**19 35 47.3**	**+1.1**
	baz=271							
WLTB	**Daxi**	**1.44**	**311**	⇑*e*P		**Pn**	**19 35 47.7**	**+1.4**
	baz=295							
WLTB				*e*S		**Sn**	**19 36 06.2**	**+1.5**
	baz=295							
TYC	**Yuchr**	**1.46**	**270**	⇑*i*P		**Pn**	**19 35 47.3**	**+0.8**
	baz=266							
TYC				S		**Sn**	**19 36 05.6**	**+0.4**
	baz=266							
JKRS	**Kuro-shima**	**1.46**	**77**	P		**Pn**	**19 35 47.9**	**+1.3**
JKRS				S		**Sn**	**19 36 07.1**	**+1.8**
YM01	**YM01**	**1.47**	**327**	*e*P		**Pn**	**19 35 47.6**	**+0.9**
	baz=325							
WHYT	**Xinyi Township**	**1.48**	**262**	⇑*e*P		**Pn**	**19 35 47.8**	**+1.0**
	baz=258							
YM11	**YM11**	**1.48**	**328**	*e*P		**Pn**	**19 35 47.2**	**+0.3**
	baz=326							
YM05	**YM05**	**1.48**	**327**	⇑*e*P		**Pn**	**19 35 47.0**	**0.0**
	baz=325							
YM04	**YM04**	**1.49**	**326**	*e*P		**Pn**	**19 35 47.3**	**+0.3**
	baz=324							
YM08	**YM08**	**1.49**	**329**	*e*P		**Pn**	**19 35 47.7**	**+0.7**
	baz=327							
LIOB	**Emei**	**1.50**	**299**	⇑*i*P		**Pn**	**19 35 48.8**	**+1.7**
	baz=296							
LIOB				*e*S		**Sn**	**19 36 07.7**	**+1.4**
	baz=296							
ELDTW	**Lidau**	**1.50**	**242**	⇑P		**Pn**	**19 35 47.3**	**+0.1**
	baz=238							
ELDTW				*e*S		**Sn**	**19 36 05.2**	**-1.2**
	baz=238							
NSTT	**Nanjuang**	**1.50**	**299**	⇑*i*P		**Pn**	**19 35 48.6**	**+1.4**
	baz=283							
NSTT				S		**Sn**	**19 36 07.2**	**+0.9**
	baz=283							
TWS1	**Kuangyinshan**	**1.51**	**322**	⇓P		**Pn**	**19 35 48.0**	**+0.8**
	baz=337							
NTST	**Danshui**	**1.54**	**324**	*e*P		**Pn**	**19 35 48.5**	**+0.8**
	baz=338							
NCU	**National Centr**	**1.56**	**313**	*e*P		**Pn**	**19 35 49.1**	**+1.1**
	baz=310							
NCUH	**Zhongli**	**1.56**	**313**	*e*P		**Pn**	**19 35 49.2**	**+1.2**
	baz=310							
TWY	**Chenhua**	**1.56**	**330**	*e*P		**Pn**	**19 35 49.2**	**+1.3**
	baz=329							
TWY				*e*S		**Sn**	**19 36 08.4**	**+0.6**
	baz=329							
WJS	**Zhushan**	**1.58**	**267**	*e*P		**Pb**	**19 35 50.2**	**+0.4**
	baz=263							
WJS				*e*S		**Sb**	**19 36 10.8**	**+1.4**
	baz=263							
SBCB	**Hsinchu**	**1.60**	**304**	*e*P		**Pn**	**19 35 49.9**	**+1.4**
	baz=300							
SBCB				*e*S		**Sn**	**19 36 10.6**	**+1.9**
	baz=300							
JIJ	**Ishigaki jima**	**1.61**	**73**	P		**Pn**	**19 35 49.3**	**+0.7**
JIJ				S		**Sn**	**19 36 08.7**	**-0.3**
HSN	**Hsinchu**	**1.61**	**304**	*e*P		**Pn**	**19 35 49.1**	**+0.5**
	baz=302							
WNT	**Mingjian**	**1.62**	**269**	*e*P		**Pb**	**19 35 50.7**	**+0.3**
	baz=265							
WNT				*e*S		**Sb**	**19 36 11.1**	**+0.6**
	baz=265							
NSY	**Sanyi**	**1.62**	**288**	*e

baz=259
TPUB Ta-pu 1.78 250 ⇑P Pn 19 35 53.0 +2.0
baz=247
TPUB eS Sb 19 36 15.1 -0.1
baz=247
CHN4 Tsaushan 1.79 252⇑eP Pn 19 35 53.2 +2.0
baz=249
CHN4 S Sb 19 36 16.6 +1.0
baz=249
WTP Ta-pu 1.81 249 eP Pn 19 35 53.4 +2.0
baz=235
WTP eS Sb 19 36 16.2 +0.1
baz=235
JISG Ishigakijimahi 1.83 68 P Pn 19 35 52.2 +0.6
JISG S Sn 19 36 14.3 0.0
CHN2 Minshiung 1.85 259 eP Pb 19 35 54.3 -0.1
baz=255
CHN2 eS Sb 19 36 18.1 +0.9
baz=255
SLGT Liugui 1.89 241 eP Pn 19 35 54.2 +1.6
baz=230
SLGT eS Sb 19 36 18.5 +0.1
baz=230
ECL Taimali 1.90 227 eP Pn 19 35 52.6 0.0
baz=224
ECL eS Sn 19 36 15.2 -0.9
baz=224
CHY Chiayi 1.90 258 eP Pn 19 35 54.9 +2.3
baz=254
CHY eS Sb 19 36 18.9 +0.1
baz=254
SGST Jiashian 1.90 245 eP Pb 19 35 55.0 -0.3
baz=232
SGST eS Sb 19 36 19.2 +0.5
baz=232
CHN1 Nanshi 1.91 248 eP Pb 19 35 55.0 -0.4
baz=245
CHN1 eS Sb 19 36 19.5 +0.6
baz=245
TWK Hsinying 1.91 251 eP Pn 19 35 55.0 +2.2
baz=247
TWK eS Sb 19 36 19.3 +0.2
baz=247
SNST Tainan City 1.92 249 eP Pn 19 35 55.1 +2.2
baz=246
SNST eS Sb 19 36 19.2 0.0
baz=246
WTCT Ta-ch'eng 1.98 269 eP Pn 19 35 55.5 +1.7
baz=265
WTCT S Sb 19 36 21.3 +0.2
baz=265
WLGB Puzi 2.02 258 eP Pb 19 35 56.8 -0.4
baz=255
WLGB eS Sb 19 36 22.2 +0.1
baz=255
SSD Sandimen 2.04 236 eP Pn 19 35 55.8 +1.3
baz=226
SSD eS Sn 19 36 21.6 +2.1
baz=226
LAY Lan-yu 2.04 204 eP Pn 19 35 54.8 +0.2
baz=202
LAY eS Sn 19 36 17.4 -2.2
baz=202
WSF Szhu 2.06 263 eP Pn 19 35 57.1 +2.3
baz=259
WSF eS Sb 19 36 23.1 -0.1
baz=259
CHN3 Shinhua 2.09 247 eP Pb 19 35 58.3 -0.1
baz=244
CHN3 eS Sb 19 36 25.6 +1.6
baz=244
TAW Tawu 2.11 223 eP Pn 19 35 56.4 +0.9
baz=231
TAW eS Sn 19 36 20.7 -0.5
baz=231
MASBT Mashibuluo 2.11 233 eP Pn 19 35 57.1 +1.5
baz=224
MASBT eS Sn 19 36 22.9 +1.4
baz=224
EAST Anshuo 2.12 224 P Pn 19 35 56.1 +0.4
baz=222
EAST eS Sn 19 36 21.4 -0.2
baz=222
CHN8 Yiju 2.13 255 P Pn 19 35 58.0 +2.2
baz=252
CHN8 S Sn 19 36 24.3 +2.5
baz=252
TWM1 Shoushan 2.15 240 eP Pn 19 35 57.4 +1.2
baz=237
TWM1 eS Sb 19 36 28.5 +2.4
baz=237
JTJ Tarama 2.18 70 P Pn 19 35 57.4 +0.9
JTJ eS Sn 19 36 23.4 +0.4
SCLT Jiali 2.20 251 eP Pn 19 35 59.3 +2.6
baz=248
SCLT eS Sb 19 36 26.7 -0.5
baz=248
SNJT Kaohsiung City 2.26 240 eP Pb 19 36 01.6 +0.2
baz=237
SCZT Fangliau 2.28 228 eP Pn 19 36 00.1 +2.3
baz=218
SCZT eS Sn 19 36 26.9 +1.4
baz=218
WLCH Liuqiu 2.46 231 eP Pb 19 36 03.9 -0.9
baz=244
HEN Hengchun 2.47 220 eP Pn 19 36 01.2 +0.8
baz=218
HEN eS Sn 19 36 31.6 +1.4
baz=218
TWP Hsiaoliuchiu 2.47 231 eP Pb 19 36 04.5 -0.6
baz=244
TWKBT Hengchun 2.48 218 eP Pn 19 36 02.0 +1.5
baz=216
TWKBT eS Sn 19 36 31.7 +1.4
baz=216
TWK1 Hengchun 2.48 218 eP Pn 19 36 02.2 +1.6
baz=216
TWK1 eS Sn 19 36 31.5 +1.1
baz=216
WDGT Dungji 2.64 256 eP Pn 19 36 04.2 +1.4
baz=254
JIRB Irabujima 2.65 69 P Pn 19 36 04.1 +1.2
JIRB eS Sn 19 36 34.9 +0.4
PHUB P'eng-hu 2.67 262 eP Pn 19 36 04.6 +1.4
baz=259
PHUB eS Sn 19 36 36.0 +1.0
baz=259
PNG Penghu 2.67 263 eP Pn 19 36 04.7 +1.4
baz=260
PNG eS Sn 19 36 36.4 +1.1
baz=260
JIKM Ikemajima 2.74 68 P Pn 19 36 06.2 +2.0
JIKM S Sn 19 36 37.9 +1.0
VCHM Qimei 2.86 256 eP Pn 19 36 07.3 +1.5
baz=253
VCHM eS Sn 19 36 39.6 -0.2
baz=253
PTTC Pingtan 2.90 304 eP Pn 19 36 05.9 -0.5
baz=301
VWUC VWUC 2.94 292⇑eP Pn 19 36 07.1 +0.2
baz=288
VWUC eS Sn 19 36 39.9 -1.8
baz=288
MATB Ma-tsu 3.18 315 eP Pn 19 36 09.8 -0.4
baz=312
PTMZ Houxiangcun 3.23 291⇑eP Pn 19 36 11.2 +0.2
baz=287
PTMZ eS Sn 19 36 47.2 -1.9
baz=287
LYJJ Jianjiangzhen 3.58 318 eP Pn 19 36 15.5 -0.3
baz=315
XPSS Dashiqiu 3.63 326⇑eP Pn 19 36 16.6 +0.2
baz=334
QZH Quanzhou 3.66 287⇑*i*Pn Pn 19 36 17.0 +0.1
QZH Sn Sn 19 36 57.0 -2.6
QZH smax smax
comp=N,76nm,0.3s
QZH smax smax
comp=E,89nm,0.4s
KNM Kinmen 3.70 279 eP Pn 19 36 19.6 +2.2
baz=274
KNM eS Sn 19 37 01.1 +0.5
baz=274
KNMB Chin-men Tao 3.75 279 eP Pn 19 36 18.4 +0.4
baz=275
KNMB eS Sn 19 36 59.7 -2.1
baz=275
MHZQ Yeshan 3.79 306 eP Pn 19 36 18.4 -0.2
baz=303
AXDP Jialang 4.20 284⇑eP Pn 19 36 24.7 +0.4
baz=282
ZPLA Ao Xicun 4.30 271 eP Pn 19 36 26.4 +0.7
baz=267
ZPLA eS Sn 19 37 13.7 -1.6
baz=267
ZZJH Jiuhuzhen 4.43 278 eP Pn 19 36 28.0 +0.5
baz=276
JOW Kunigami 6.02 60 P Pn 19 36 48.6 -0.6
3.1nm,0.3s,baz=108,slow=21,SNR=5.2
KSRS Korea Array 14.29 18 P Pn 19 38 42.4 -0.2
0.2nm,0.3s,baz=197,slow=12,SNR=3.3
KSRS LR LR 19 45 12.1
comp=Z,39nm,20.8s,baz=170,slow=42
GTA Gaotai 24.60 314 eP P 19 40 40.8 +0.4
GTA pP pP 19 40 45.0 -0.8
GTA sP sP 19 40 48.3 +0.2
GTA pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 27.08 336 P P 19 41 01.4 -1.4
1.7nm,0.6s,baz=149,slow=9.2,SNR=16
WMQ Urumqi 34.68 314 eP P 19 42 10.8 +1.0
MKAR Makanchi Array 39.34 316 P P 19 42 48.9 -0.4
1.6nm,0.4s,baz=101,slow=9.5,SNR=42
ZALV Zalesovo Beam 41.10 327 P P 19 43 02.1 -1.7
3.4nm,0.6s,baz=122,slow=8.1,SNR=13
WRA Warramunga Arr 45.10 164 P P 19 43 37.1 +0.7
1.3nm,0.3s,baz=344,slow=8.9,SNR=7.0
ASAR Alice Springs 48.59 166 P P 19 44 05.3 +1.6
0.9nm,0.8s,baz=342,slow=7.9,SNR=5.8
GEYT Alibeck 55.93 301 P P 19 44 59.5 +1.2
2.1nm,0.7s,baz=45,slow=4.4,SNR=5.9
ARCES ARCESS Array B 70.22 338 P P 19 46 31.5 -1.2
5.6nm,1.2s,baz=64,slow=5.5,SNR=3.6
FINES FINESS Array B 72.26 330 P P 19 46 43.8 -1.3
1.9nm,0.9s,baz=59,slow=4.9,SNR=4.0
BRTR Keskin Array B 74.26 307 P P 19 46 57.5 0.0
2.1nm,0.9s,baz=116,slow=4.4,SNR=9.1
MLR Muntele Rosu 77.67 314 LR LR 20 26 36.8
comp=Z,89nm,20.9s,baz=324,slow=40
YKA Yellowknife Ar 82.77 23 P P 19 47 42.4 -1.4
0.3nm,0.7s,baz=307,slow=5.0,SNR=7.4
ESDC Sonseca Array 99.38 321 LR LR 20 35 06.8
comp=Z,120nm,19.1s,baz=315,slow=36

*IDC **27** 19:44:04.8±3.6,2°.84S×100°.28E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/51, mbtmp3.6/5, Error ellipse: s-maj=143.6km s-min=20.9km az=58.0*
*ISCJB **27** 19:44:06.0±1.4,2°.96S±0°.09×100°.0E±0°.1, h30km±8km, mb3.5/5, Error ellipse: s-maj=20.9km s-min=8.2km az=139.3*
*DJA **27** 19:44:06.4±0.8,3°S±6°×10°0E±°, h20km±5km, M3.9/4, MLv3.9/4*
ISC 27 19:44:06.9±1.0,2°.92S±0°.09×100°.02E±0°.09,h20km±2km, n25,σ0°72/19,mb3.5/5,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.15**	**356**	P		**Pg**	**19 44 12.1**	**+0.6**
KRJI	**Kerinci**	**1.66**	**60**	P		**Pn**	**19 44 34.6**	**-0.4**
SISI	**Saibi**	**1.83**	**330**	P		**Pn**	**19 44 36.7**	**-0.7**
PDSI	**Padang**	**2.04**	**12**	P		**Pn**	**19 44 38.5**	**-1.8**
MASI	**Maura Aman, Be**	**2.23**	**96**	P		**Pn**	**19 44 42.1**	**-0.7**
SDSI	**Sungai Dareh**	**2.42**	**36**	P		**Pn**	**19 44 45.6**	**+0.1**
PPI	**Padang Panjang**	**2.47**	**9**	P		**Pn**	**19 44 46.1**	**-0.1**
MNAI	**Manna**	**3.26**	**116**	P		**Pn**	**19 44 56.5**	**-0.5**
PBSI	**Pulau Batu**	**3.33**	**329**	P		**Pn**	**19 44 57.9**	**-0.1**
BKNI	**Bangkinang**	**3.38**	**18**	P		**Pn**	**19 44 58.3**	**-0.4**
LHSI	**Lahat**	**3.61**	**105**	P		**Pn**	**19 45 02.4**	**+0.6**
MDSI	**Maura Dua**	**4.43**	**111**	P		**Pn**	**19 45 13.1**	**0.0**
LWLI	**Liwa**	**4.54**	**117**	P		**Pn**	**19 45 14.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**21.27**	**357**	P		**P**	**19 48 52.3**	**+0.1**
	0.4nm,0.7s,baz=186,slow=10,SNR=6.0							
H08S2	**Diego Garcia H**	**27.80**	**259**	T		T	20 19 01.7	
	baz=82,slow=75,SNR=169							
H08S3	**Diego Garcia H**	**27.81**	**259**	T		T	20 19 02.3	
	baz=82,slow=75,SNR=220							
H08S1	**Diego Carcia H**	**27.82**	**259**	T		T	20 19 04.0	
	baz=82,slow=75,SNR=167							
H01W3	**Cape Leeuwin H**	**34.41**	**159**	T		T	20 26 55.3	
	baz=337							
H01W2	**Cape Leeuwin H**	**34.42**	**159**	T		T	20 27 01.0	
	baz=337							
H01W1	**Cape Leeuwin H**	**34.42**	**159**	T		T	20 26 55.8	
	baz=337							
WRA	**Warramunga Arr**	**37.52**	**119**	P		**P**	**19 51 18.9**	**-1.1**
	0.3nm,0.4s,baz=292,slow=7.8,SNR=10							
ASAR	**Alice Springs**	**38.70**	**125**	P		**P**	**19 51 29.4**	**-0.5**
	0.6nm,0.7s,baz=304,slow=7.8,SNR=7.1							
SONM	**Songino Array**	**50.85**	**6**	P		**P**	**19 53 06.6**	**+0.2**
	1.1nm,0.6s,baz=192,slow=9.8,SNR=2.7							
MKAR	**Makanchi Array**	**51.91**	**345**	P		**P**	**19 53 14.8**	**+0.5**
	1.4nm,0.6s,baz=147,slow=8.1,SNR=14							
TXAR	**Lajitas Array**	**145.41**	**38**	PKPbc		**PKPab**	**20 03 44.9**	**+0.4**
	1.0nm,0.7s,baz=217,slow=1.4,SNR=11							

*ISCJB **27** 19:47:02.5±0.2, 44°.23N±0°.02×105°.15W±0°.02, h0km, mb4.0/6, Error ellipse: s-maj=3.1km s-min=2.2km az=174.3*
*IDC **27** 19:47:04.0±0.8, 44°.03N×105°.33W, h0km, mb4.0/6, mb1 4.0/14, mb1mx3.8/52, mbtmp3.8/14, ML3.5/7, Error ellipse: s-maj=15.7km s-min=7.3km az=148.0*
*NEIC **27** 19:47:05.1±0.2, 44°.22N×105°.21W, h0km, ML3.8, Error ellipse: s-maj=2.8km s-min=2.0km az=175.0*
NEIC 25 km [15 miles] ESE of Gillette. Felt [III] at Gillette.
ISC 27 19:47:04.4±0.6, 44°.21N±0°.07×105°.19W±0°.07, h0km, n167, σ1°30/166, mb4.2/6, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.83**	**96**	*e*Pg		**Pn**	**19 47 23.8**	**+0.2**
K22A	**Casper**	**1.84**	**212**	*e*Pn		**Pn**	**19 47 37.8**	**+0.5**
LAO	**LASA Array**	**2.58**	**344**	*e*Pn		**Pn**	**19 47 48.9**	**+1.3**
PHWY	**Pilot Hill**	**2.91**	**184**	*e*Pn		**Pn**	**19 47 53.7**	**+1.5**
RWWY	**Rawlins**	**2.92**	**211**	*e*Pn		**Pn**	**19 47 54.2**	**+1.8**
RLMT	**Red Lodge**	**3.05**	**289**	*e*Pn		**Pn**	**19 47 55.0**	**+0.9**
N23A	**Red Feather La**	**3.36**	**190**	*e*Pn		**Pn**	**19 48 00.3**	**+2.0**
BW06	**Boulder Array**	**3.49**	**247**	*e*Pn		**Pn**	**19 48 00.5**	**+0.4**
PD31	**Pinedale Array**	**3.49**	**247**	*e*Pn		**Pn**	**19 48 00.5**	**+0.4**
PDAR	**Pinedale Array**	**3.49**	**247**	Pn		**Pn**	**19 48 00.6**	**+0.4**
	11nm,0.3s,baz=71,slow=15,SNR=197							
PDAR				Lg		Lg	19 48 47.4	
	27nm,0.3s,baz=64,slow=33,SNR=5.6							
GCMT	**Greycliff**	**3.55**	**298**	*e*Pn		**Pn**	**19 48 01.8**	**+1.0**
LKWY	**Lake**	**3.75**	**277**	*e*Pn		**Pn**	**19 48 06.2**	**+2.5**
H17A	**Grant Village**	**3.87**	**275**	*e*Pn		**Pn**	**19 48 06.2**	**+0.8**
LOHW	**Long Hollow**	**3.96**	**263**	*e*Pn		**Pn**	**19 48 08.4**	**+1.9**
YNR	**Norris Junctio**	**3.96**	**279**	*e*Pn		**Pn**	**19 48 07.7**	**+1.1**
FLWY	**Flagg Ranch**	**3.97**	**270**	*e*Pn		**Pn**	**19 48 07.6**	**+0.9**
OGNE	**Ogallala**	**4.01**	**143**	*e*Pn		**Pn**	**19 48 09.9**	**+2.8**
YPP	**Pitchstone Pla**	**4.04**	**273**	*e*Pn		**Pn**	**19 48 08.0**	**+0.3**
MOOW	**Moose Ponds**	**4.04**	**265**	*e*Pn		**Pn**	**19 48 07.9**	**+0.3**
YFT	**Old Faithful**	**4.06**	**275**	*e*Pn		**Pn**	**19 48 08.0**	**0.0**
SNOW	**Snow King Moun**	**4.10**	**261**	*e*Pn		**Pn**	**19 48 09.8**	**+1.4**
YMR	**Madison River**	**4.16**	**278**	*e*Pn		**Pn**	**19 48 09.5**	**+0.2**
REDW	**Red Top Meadow**	**4.19**	**260**	*e*Pn		**Pn**	**19 48 10.3**	**+0.6**
TPAW	**Teton Pass**	**4.23**	**262**	*e*Pn		**Pn**	**19 48 10.8**	**+0.5**
FXWY	**Fox Creek**	**4.26**	**264**	*e*Pn		**Pn**	**19 48 11.2**	**+0.6**
DGMT	**Dagmar**	**4.32**	**9**	*e*Pn		**Pn**	**19 48 14.6**	**+3.3**
YHB	**Horse Butte**	**4.33**	**279**	*e*Pn		**Pn**	**19 48 11.7**	**0.0**
ISCO	**Idaho Springs**	**4.42**	**184**	*e*Pn		**Pn**	**19 48 13.7**	**+0.8**
QLMT	**Earthquake Lak**	**4.51**	**280**	*e*Pn		**Pn**	**19 48 14.8**	**+0.7**
AHID	**Auburn Hatcher**	**4.54**	**254**	*e*Pn		**Pn**	**19 48 14.9**	**+0.4**
O20A	**White River Ci**	**4.66**	**210**	*e*Pn		**Pn**	**19 48 17.6**	**+1.4**
BOZ	**Bozeman (W)**	**4.78**	**289**	*e*Pn		**Pn**	**19 48 17.9**	**+0.1**
EGMT	**Eagleton**	**4.96**	**322**	*e*Pn		**Pn**	**19 48 20.9**	**+0.7**
SMCO	**Snowmass**	**5.20**	**196**	*e*Pn		**Pn**	**19 48 24.6**	**+0.8**
Q24A	**Divide**	**5.24**	**180**	*e*Pn		**Pn**	**19 48 25.0**	**+0.7**
HRY	**Holter Researc**	**5.30**	**300**	*e*Pn		**Pn**	**19 48 25.3**	**+0.4**
MDND	**Maddock**	**5.33**	**45**	*e*Pn		**Pn**	**19 48 27.8**	**+2.7**
HWUT	**Hardware Ranch**	**5.36**	**243**	*e*Pn		**Pn**	**19 48 25.9**	**+0.2**
LRM	**Limekiln Ridge**	**5.40**	**290**	*e*Pn		**Pn**	**19 48 26.5**	**+0.2**
DLMT	**Dillon**	**5.40**	**285**	*e*Pn		**Pn**	**19 48 26.9**	**+0.6**
MCMT	**McKenzie Canyo**	**5.51**	**279**	*e*Pn		**Pn**	**19 48 30.1**	**+2.2**
TCUT	**Toone Canyon**	**5.53**	**238**	*e*Pn		**Pn**	**19 48 29.3**	**+1.1**
KSCO	**Kaye Shedlock'**	**5.54**	**159**	*e*Pn		**Pn**	**19 48 29.8**	**+1.7**
JLU	**Jordanelle**	**5.87**	**234**	*e*Pn		**Pn**	**19 48 33.8**	**+0.9**
BGNE	**Belgrade**	**5.88**	**116**	*e*Pn		**Pn**	**19 48 35.7**	**+2.9**
CTU	**Camp Tracy**	**5.99**	**236**	*e*Pn		**Pn**	**19 48 35.3**	**+0.9**
HVU	**Hansel Valley**	**6.07**	**249**	*e*Pn		**Pn**	**19 48 35.3**	**-0.2**
SPUT	**South Promonto**	**6.08**	**244**	*e*Pn		**Pn**	**19 48 36.1**	**+0.5**
ECSD	**EROS Data Cent**	**6.21**	**91**	*e*Pn		**Pn**	**19 48 40.9**	**+3.7**
P17A	**Butcher Ranch,**	**6.29**	**223**	*e*Pn		**Pn**	**19 48 39.5**	**+0.9**
PV21	**Cone Mtn., Par**	**6.32**	**208**	*e*Pn		**Pn**	**19 48 40.5**	**+1.5**
MPU	**Maple Canyon**	**6.37**	**231**	*e*Pn		**Pn**	**19 48 39.9**	**+0.3**
PV09	**Paradox Valley**	**6.43**	**209**	*e*Pn		**Pn**	**19 48 41.4**	**+0.8**
PV23	**Carpenter Ridg**	**6.43**	**208**	*e*Pn		**Pn**	**19 48 41.9**	**+1.3**
SDCO	**Great Sand Dun**	**6.46**	**182**	*e*Pn		**Pn**	**19 48 42.7**	**+1.7**
SRU	**San Rafael Swe**	**6.47**	**220**	*e*Pn		**Pn**	**19 48 41.5**	**+0.4**
PV12	**Saucer Basin,**	**6.49**	**206**	*e*Pn		**Pn**	**19 48 42.7**	**+1.5**
PV14	**Lion Creek, Pa**	**6.51**	**208**	*e*Pn		**Pn**	**19 48 42.9**	**+1.3**
PV10	**Paradox Valley**	**6.51**	**208**	*e*Pn		**Pn**	**19 48 43.5**	**+1.9**
PV20	**West Nyswonger**	**6.52**	**207**	*e*Pn		**Pn**	**19 48 43.6**	**+1.9**
PV11	**David Mesa, Pa**	**6.52**	**206**	*e*Pn		**Pn**	**19 48 43.1**	**+1.3**
PV16	**Nyswonger Mesa**	**6.53**	**207**	*e*Pn		**Pn**	**19 48 43.0**	**+1.2**
PV19	**Morning Glory**	**6.55**	**207**	*e*Pn		**Pn**	**19 48 42.8**	**+0.7**
PV03	**Paradox Valley**	**6.56**	**206**	*e*Pn		**Pn**	**19 48 43.3**	**+1.1**
PV02	**Paradox Valley**	**6.56**	**205**	*e*Pn		**Pn**	**19 48 44.1**	**+1.7**
PV17	**East Wray Mesa**	**6.57**	**207**	*e*Pn		**Pn**	**19 48 43.5**	**+1.1**
S22A	**4UR Ranch, Cre**	**6.58**	**191**	*e*Pn		**Pn**	**19 48 44.4**	**+1.8**
PV01	**Paradox Valley**	**6.58**	**204**	*e*Pn		**Pn**	**19 48 44.6**	**+2.0**
PV13	**Radium Mtn., P**	**6.64**	**206**	*e*Pn		**Pn**	**19 48 44.8**	**+1.5**
BGU	**Big Grassy Mou**	**6.65**	**243**	*e*Pn		**Pn**	**19 48 43.4**	**-0.1**
NLU	**North Lily Min**	**6.66**	**233**	*e*Pn		**Pn**	**19 48 43.5**	**-0.1**
MSO	**Missoula**	**6.68**	**296**	*e*Pn		**Pn**	**19 48 43.9**	**+0.1**
HLID	**Hailey**	**6.70**	**268**	*e*Pn		**Pn**	**19 48 45.8**	**+1.7**
CBKS	**Cedar Bluff**	**6.76**	**141**	*e*Pn		**Pn**	**19 48 46.6**	**+1.7**
PV05	**Paradox Valley**	**6.80**	**207**	*e*Pn		**Pn**	**19 48 45.2**	**-0.3**
Q16A	**Castle Valley**	**6.93**	**222**	*e*Pn		**Pn**	**19 48 48.2**	**+0.9**
DUG	**Dugway, Tooele**	**6.94**	**237**	*e*Pn		**Pn**	**19 48 47.8**	**+0.4**
T25A	**Trinidad**	**7.09**	**175**	*e*Pn		**Pn**	**19 48 51.4**	**+1.8**
MVCO	**Mesa Verde**	**7.43**	**201**	*e*Pn		**Pn**	**19 48 55.3**	**+1.1**
WALA	**Waterton Lakes**	**7.72**	**312**	*e*Pn		**Pn**	**19 48 58.4**	**+0.4**
MFID	**Camas Ranch**	**7.74**	**268**	*e*Pn		**Pn**	**19 48 58.6**	**+0.3**
MSU	**Marysvale**	**7.75**	**225**	*e*Pn		**Pn**	**19 48 59.3**	**+0.7**
TCRU	**Three Creeks R**	**7.81**	**227**	*e*Pn		**Pn**	**19 48 55.6**	**-3.9**
MTPU	**Mount Pierson**	**8.11**	**223**	*e*Pn		**Pn**	**19 49 04.6**	**+0.9**
ELK	**Elko**	**8.20**	**248**	Pn		**Pn**	**19 49 04.8**	**0.0**
	0.6nm,0.3s,baz=58,slow=13,SNR=10							
ELK				Lg		Lg	19 51 16.0	
	0.1nm,0.3s,baz=196,slow=20,SNR=2.2							
ELK	**Elko**	**8.20**	**248**	*e*Pn		**Pn**	**19 49 05.2**	**+0.5**
ELK				Lg		Lg	19 51 16.0	
KSU1	**Kansas State U**	**8.20**	**126**	*e*Pn		**Pn**	**19 49 07.7**	**+3.1**
PSUT	**Pine Spring**	**8.63**	**232**	*e*Pn		**Pn**	**19 49 11.8**	**+1.1**
I10CA	**LAC DU BONNET**	**8.65**	**43**	*i*			20 36 55.0	
	baz=226,slow=326,SNR=6.9							
PKCU	**Pink Cliffs**	**8.65**	**221**	*e*Pn		**Pn**	**19 49 09.8**	**-1.2**
BMO	**Blue Mountains**	**8.68**	**278**	*e*Pn		**Pn**	**19 49 12.8**	**+1.5**
F10A	**Beach Ranch, E**	**8.70**	**286**	*e*Pn		**Pn**	**19 49 12.0**	**+0.5**
ULM	**Lac du Bonnet**	**8.75**	**43**	Pn		**Pn**	**19 49 12.4**	**+0.3**
	4.4nm,0.3s,baz=231,slow=12,SNR=50							
ULM				Lg		Lg	19 51 41.0	
	2.2nm,0.3s,baz=149,slow=18,SNR=2.5							
ULM	**Lac du Bonnet**	**8.75**	**43**	*e*Pn		**Pn**	**19 49 13.0**	**+0.9**
ULM				Lg		Lg	19 51 41.0	
SPMN	**Marine on St.**	**8.88**	**79**	*e*Pn		**Pn**	**19 49 15.5**	**+1.6**
SZCU	**Shurtz Canyon**	**8.91**	**225**	*e*Pn		**Pn**	**19 49 14.4**	**-0.1**
SCIA	**State Center**	**9.06**	**101**	*e*Pn		**Pn**	**19 49 19.0**	**+2.7**
CCUT	**Cedar City**	**9.08**	**226**	*e*Pn		**Pn**	**19 49 18.5**	**+1.6**
NEW	**Newport**	**9.21**	**300**	Pn		**Pn**	**19 49 16.9**	**-1.6**
	0.2nm,0.3s,baz=113,slow=17,SNR=4.6							
NEW				Lg		Lg	19 51 49.3	
	0.2nm,0.3s,baz=41,slow=20,SNR=2.3							
NEW	**Newport**	**9.21**	**300**	*e*Pn		**Pn**	**19 49 18.2**	**-0.2**
NEW				Lg		Lg	19 51 49.3	
KNB	**Kanab**	**9.23**	**222**	*e*Pn		**Pn**	**19 49 19.6**	**+0.7**
E09A	**Wood Farm, Sta**	**9.41**	**289**	*e*Pn		**Pn**	**19 49 21.3**	**+0.2**
LCMT	**Little Creek M**	**9.44**	**223**	*e*Pn		**Pn**	**19 49 22.6**	**+0.9**
U15A	**North Rim**	**9.47**	**217**	*e*Pn		**Pn**	**19 49 21.9**	**-0.4**
J08A	**Circle Bar Ran**	**9.65**	**270**	*e*Pn		**Pn**	**19 49 24.5**	**-0.1**
AMTX	**Amarillo**	**9.70**	**163**	*e*Pn		**Pn**	**19 49 25.3**	**+0.1**
R11A	**Troy Canyon, C**	**9.77**	**237**	*e*Pn		**Pn**	**19 49 26.3**	**0.0**
C09A	**Chrisman Ranch**	**9.79**	**296**	*e*Pn		**Pn**	**19 49 25.8**	**-0.5**
I39A	**Houston**	**9.85**	**87**	*e*Pn		**Pn**	**19 49 29.2**	**+2.0**
G08A	**Pilot Rock**	**9.86**	**281**	*e*Pn		**Pn**	**19 49 26.2**	**-1.2**
E38A	**The Farm, Brul**	**9.88**	**71**	*e*Pn		**Pn**	**19 49 28.7**	**+1.0**
WUAZ	**Wupatki**	**9.89**	**211**	*e*Pn		**Pn**	**19 49 27.9**	**0.0**
EYMN	**Ely**	**10.22**	**64**	*e*Pn		**Pn**	**19 49 32.8**	**+0.6**
HAWA	**Hanford**	**10.34**	**287**	*e*Pn		**Pn**	**19 49 32.9**	**-1.0**
X18A	**Snowflake**	**10.34**	**202**	*e*Pn		**Pn**	**19 49 34.2**	**+0.1**
L40A	**Anamosa**	**10.43**	**97**	*e*Pn		**Pn**	**19 49 36.2**	**+1.0**
E07A	**Sunnyside**	**10.58**	**288**	*e*Pn		**Pn**	**19 49 36.9**	**-0.3**
B08A	**Colville Reser**	**10.63**	**298**	*e*Pn		**Pn**	**19 49 36.3**	**-1.6**
WMOK	**Wichita Mounta**	**10.67**	**150**	*e*Pn		**Pn**	**19 49 37.8**	**-0.7**
G40A	**Rib Lake**	**10.72**	**79**	*e*Pn		**Pn**	**19 49 39.8**	**+0.7**
FFC	**Flin Flon**	**10.73**	**10**	*e*Pn		**Pn**	**19 49 38.8**	**-0.4**
SHRR	**Sheep Range**	**10.81**	**220**	*e*Pn		**Pn**	**19 49 40.2**	**-0.3**
JFWS	**Jewell Farm**	**10.92**	**92**	*e*Pn		**Pn**	**19 49 43.7**	**+1.9**
KVN	**Kaiserville**	**10.95**	**246**	*e*Pn		**Pn**	**19 49 40.8**	**-1.6**
TUL1	**Leonard**	**10.97**	**136**	*e*Pn		**Pn**	**19 49 42.7**	**+0.1**
TPNV	**Topopah Spring**	**11.10**	**233**	*e*Pn		**Pn**	**19 49 43.5**	**-0.9**
H41A	**Junction City**	**11.12**	**82**	*e*Pn		**Pn**	**19 49 45.9**	**+1.3**
LTY	**Liberty**	**11.24**	**291**	*e*Pn		**Pn**	**19 49 44.9**	**-1.4**
NV11	**Mina Array Sit**	**11.33**	**244**	*e*Pn		**Pn**	**19 49 43.6**	**-3.9**
NV01	**Mina Array Sit**	**11.42**	**244**	*e*Pn		**Pn**	**19 49 48.5**	**-0.4**
NVAR	**Mina Array Bea**	**11.42**	**244**	Pn		**Pn**	**19 49 48.7**	**-0.2**
	0.3nm,0.3s,baz=56,slow=12,SNR=5.8							
RYN	**Ryan**	**11.46**	**245**	*e*Pn		**Pn**	**19 49 49.9**	**+0.6**
COWI	**Conover**	**11.49**	**75**	*e*Pn		**Pn**	**19 49 49.3**	**-0.4**
F41A	**Three Lakes**	**11.50**	**77**	*e*Pn		**Pn**	**19 49 49.1**	**-0.7**
HHAR	**Hobbs**	**11.68**	**129**	*e*Pn		**Pn**	**19 49 52.1**	**-0.1**
I42A	**Draeger Farm,**	**11.72**	**86**	*e*Pn		**Pn**	**19 49 53.0**	**+0.2**
C40A	**Isle Royale Na**	**11.74**	**66**	*e*Pn		**Pn**	**19 49 52.7**	**-0.3**
G42A	**Mountain**	**11.97**	**79**	*e*Pn		**Pn**	**19 49 58.3**	**+2.1**
D41A	**Chassel**	**11.98**	**70**	*e*Pn		**Pn**	**19 49 56.9**	**+0.6**
P42A	**Winchester**	**11.98**	**108**	*e*Pn		**Pn**	**19 49 56.8**	**+0.4**
WAKR	**Walker**	**12.12**	**247**	*e*Pn		**Pn**	**19 49 59.6**	**+1.1**
CCM	**Cathedral Cave**	**12.17**	**116**	*e*Pn		**Pn**	**19 49 58.6**	**-0.3**
DAC	**Darwin (Calif)**	**12.34**	**234**	*e*Pn		**Pn**	**19 49 59.8**	**-1.7**
K43A	**Burlington**	**12.34**	**91**	*e*Pn		**Pn**	**19 50 02.5**	**+1.2**
H43A	**Windswept, L

TIPB				S	Sg	20 02 39.0	+1.1
	baz=303						
TWC	**Suao**	**0.29**	**217**	*eP*	Pg	20 02 35.9	+0.2
	baz=215						
EOS1	**EOS1**	**0.30**	**165**	*eP*	Pg	20 02 36.8	+0.9
	baz=164						
TWE	**Neicheng**	**0.36**	**251**	*eP*	Pg	20 02 37.6	+0.6
	baz=249						
ENTT	**Nioudou**	**0.48**	**245**	P	Pg	20 02 39.9	+0.6
	baz=244						
ENTT				*eS*	Sb	20 02 48.4	+0.2
	baz=244						
ENA	**Nanau**	**0.49**	**214**	*eP*	Pb	20 02 41.5	+0.3
	baz=212						
ENA				*eS*	Sb	20 02 47.6	-1.0
	baz=212						
NDT	**Datong Townshi**	**0.54**	**244**	*eP*	Pg	20 02 40.9	+0.5
	baz=243						
YM05	**YM05**	**0.54**	**307**	*eP*	Pb	20 02 42.0	0.0
	baz=306						
YHNB	**Yeheng**	**0.63**	**255**	*eP*	Pg	20 02 42.8	+0.6
	baz=254						
NNSB	**Datong**	**0.73**	**236**	*eP*	Pb	20 02 45.5	+0.2
	baz=235						
NACB	**Ninganchiao**	**0.78**	**212**	*eP*	Pb	20 02 45.6	-0.4
	baz=211						
LIOB	**Emei**	**0.95**	**258**	*eP*	Pn	20 02 49.7	-0.4
	baz=258						
NSTT	**Nanjuang**	**0.97**	**258**	*eP*	Pb	20 02 49.5	+0.2
	baz=257						

TAP 27 20:02:31.5, 23.76N×120.62E, h23km, ML2.0, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WGK	**Gukeng**	**0.09**	**216**	P	Pb	20 02 36.2	+0.6
	baz=210						
WGK				S	Sb	20 02 39.8	+1.3
	baz=210						
WDLH	**Douliu**	**0.10**	**227**	*eP*	Pb	20 02 36.2	+0.4
	baz=226						
WDLH				*eS*	Sb	20 02 39.6	+0.9
	baz=226						
WJS	**Zhushan**	**0.12**	**58**	*eP*	Pb	20 02 36.4	+0.4
	baz=57						
WJS				*eS*	Sb	20 02 39.6	+0.5
	baz=57						
WNT	**Mingjian**	**0.14**	**27**	P	Pb	20 02 36.5	+0.4
	baz=29						
WNT				*eS*	Sb	20 02 40.1	+0.8
	baz=29						
CHN5	**Tsauling**	**0.17**	**161**	P	Pb	20 02 36.9	+0.3
	baz=160						
CHN5				*eS*	Sb	20 02 40.6	+0.6
	baz=160						
WHYT	**Xinyi Township**	**0.23**	**106**	*eP*	Pb	20 02 37.6	+0.3
	baz=105						
WHYT				*eS*	Sb	20 02 41.8	+0.6
	baz=105						
TYC	**Yuchr**	**0.26**	**56**	P	Pb	20 02 38.4	+0.6
	baz=57						
TYC				*eS*	Sb	20 02 43.2	+1.1
	baz=57						
SMLT	**Sun Moon Lake**	**0.29**	**64**	P	Pb	20 02 38.9	+0.6
	baz=65						
SMLT				S	Sb	20 02 44.0	+1.1
	baz=65						
ALS	**Alishan**	**0.30**	**145**	P	Pb	20 02 39.2	+0.6
	baz=144						
ALS				*eS*	Sb	20 02 44.4	+1.1
	baz=144						
WCHH	**Zhanghua**	**0.33**	**351**	*eP*	Pb	20 02 39.2	+0.5
	baz=350						
WCHH				*eS*	Sb	20 02 44.8	+1.1
	baz=350						
WSF	**Szhu**	**0.38**	**252**	*eP*	Pb	20 02 39.8	+0.2
	baz=251						
WSF				S	Sb	20 02 46.2	+1.1
	baz=251						
TCU	**Taichung**	**0.39**	**8**	*eP*	Pb	20 02 40.4	+0.6
	baz=8.0						
TCU				*eS*	Sb	20 02 46.5	+1.0
	baz=8.0						
CHN4	**Tsaushan**	**0.41**	**183**	*eP*	Pb	20 02 40.7	+0.7
	baz=183						
CHN4				*eS*	Sb	20 02 47.3	+1.5
	baz=183						
TPUB	**Ta-pu**	**0.46**	**179**	*eP*	Pb	20 02 41.3	+0.4
	baz=178						
TPUB				*eS*	Sb	20 02 48.2	+0.9
	baz=178						
VWDT	**VWDT**	**0.48**	**90**	*eP*	Pn	20 02 42.2	-0.8
	baz=90						
VWDT				*eS*	Sn	20 02 49.5	-1.2
	baz=90						
TWK	**Hsinying**	**0.50**	**194**	*eP*	Pb	20 02 42.3	+0.6
	baz=192						
TWK				*eS*	Sn	20 02 50.2	-1.1
	baz=192						
WTP	**Ta-pu**	**0.51**	**180**	*eP*	Pb	20 02 42.2	+0.4
	baz=179						
WTP				*eS*	Sb	20 02 49.9	+1.1
	baz=179						
SNST	**Tainan City**	**0.55**	**192**	*eS*	Sb	20 02 50.9	+1.1
	baz=191						
CHN8	**Yiju**	**0.55**	**222**	*eP*	Pb	20 02 42.8	+0.2
	baz=221						
CHN8				*eS*	Sn	20 02 51.5	-1.0
	baz=221						
CHN1	**Nanshi**	**0.57**	**188**	*eP*	Pb	20 02 43.3	+0.4
	baz=188						
CHN1				*eS*	Sn	20 02 51.9	-1.2
	baz=188						
CHGB	**Renai**	**0.59**	**59**	*eP*	Pb	20 02 43.7	+0.4
	baz=59						
CHGB				*eS*	Sn	20 02 52.7	-1.1
	baz=59						
WHP	**Taichung City**	**0.60**	**30**	*eS*	Sb	20 02 52.4	+0.9
	baz=22						
STYT	**Tauyuan**	**0.60**	**168**	*eP*	Pb	20 02 43.9	+0.4
	baz=167						
STYT				*eS*	Sb	20 02 52.7	+1.1
	baz=167						
TWQ1	**Liyutan**	**0.60**	**14**	*eP*	Pb	20 02 44.1	+0.6
	baz=13						
TWQ1				*eS*	Sn	20 02 53.1	-0.7
	baz=13						
SGST	**Jiashian**	**0.67**	**183**	*eP*	Pn	20 02 45.6	0.0
	baz=182						
SGST				*eS*	Sn	20 02 56.3	+0.8
	baz=182						
ELDTW	**Lidau**	**0.67**	**147**	P	Pb	20 02 45.0	+0.4
	baz=146						
ELDTW				*eS*	Sb	20 02 54.5	+0.9
	baz=146						
EHY	**Hungye**	**0.69**	**111**	*eP*	Pn	20 02 45.5	-0.5
	baz=111						
EHY				*eS*	Sn	20 02 57.3	+1.3
	baz=111						
YULB	**Yu-li**	**0.72**	**120**	*eP*	Pb	20 02 45.8	+0.4
	baz=120						
YULB				*eS*	Sn	20 02 56.7	0.0
	baz=120						
TWF1	**Yuli**	**0.74**	**123**	*eP*	Pn	20 02 46.2	-0.4
	baz=122						
TWF1				*eS*	Sn	20 02 57.3	+0.1
	baz=122						
ESL	**Shilin**	**0.75**	**85**	*eP*	Pn	20 02 46.6	-0.1
	baz=85						
ESL				*eS*	Sn	20 02 56.8	-0.6
	baz=85						
SLGT	**Liugui**	**0.76**	**178**	*eS*	Sn	20 02 58.0	+0.4
	baz=177						
NSTT	**Nanjuang**	**0.94**	**22**	*eS*	Sn	20 03 02.1	0.0
	baz=22						
NSTT	**Nanjuang**	**0.94**	**22**	*eS*	Sn	20 03 02.0	0.0
	baz=257						

*ISCJB **27** 20:03:02.5±0.5, 17.9S±0.1×176.8W±0.1, h350km, mb4.0/16, Error ellipse: s-maj=15.9km s-min=12.2km az=141.6*
*IDC **27** 20:03:04.0±4.8, 17.82S×176.74W, h351km±46km, mb3.7/15, mb1 3.9/16, mb1mx3.9/23, mbtmp4.3/16, Error ellipse: s-maj=18.2km s-min=16.0km az=114.0*
ISC 27 20:03:03.5±0.5, **17.9S**±0.1×**176.8W**±0.1, **h350**km, **n76,**

σ0991/78, mb4.0/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.32**	**253**	P	**P**	**20 06 34.5**	**+1.8**
	0.8nm,0.3s,baz=133,slow=19,SNR=6.7						
URZ	**Urewera**	**20.95**	**194**	P	**P**	**20 07 17.0**	**-3.1**
	4.2nm,0.3s,baz=275,slow=3.5,SNR=12						
STKA	**Stephens Creek**	**40.00**	**242**	P	**P**	**20 10 06.7**	**+1.0**
	2.0nm,0.4s,baz=80,slow=9.1,SNR=17						
WRA	**Warramunga Arr**	**46.18**	**259**	P	**P**	**20 10 54.1**	**-0.8**
	2.2nm,0.3s,baz=97,slow=8.1,SNR=78						
WRA				PcP	**PcP**	**20 12 24.1**	**-0.2**
	1.0nm,0.7s,baz=94,slow=4.3,SNR=4.8						
ASAR	**Alice Springs**	**46.30**	**254**	P	**P**	**20 10 56.0**	**+0.1**
	11nm,0.5s,baz=89,slow=8.4,SNR=232						
ASAR				PcP	**PcP**	**20 12 24.6**	**-0.1**
	2.4nm,0.5s,baz=105,slow=3.7,SNR=7.7						
ASAR				S	**S**	**20 17 13.3**	**-2.8**
	1.7nm,0.9s,baz=86,slow=15,SNR=6.8						
VNDA	**Vanda**	**60.56**	**185**	P	**P**	**20 12 39.1**	**+1.6**
	4.3nm,1.0s,baz=42,slow=8.6,SNR=5.5						
MJAR	**Matsushiro Arr**	**68.88**	**322**	P	**P**	**20 13 31.0**	**-0.4**
	3.5nm,0.9s,baz=164,slow=6.0,SNR=7.9						
PETK	**Petropavlovsk-**	**74.12**	**344**	P	**P**	**20 14 01.5**	**-0.5**
	4.2nm,0.7s,baz=120,slow=8.4,SNR=9.3						
KSRS	**Korea Array**	**75.78**	**318**	P	**P**	**20 14 13.1**	**+1.4**
	1.0nm,0.6s,baz=126,slow=6.8,SNR=4.2						
NVAR	**Mina Array Bea**	**78.36**	**43**	P	**P**	**20 14 26.2**	**-0.1**
	3.0nm,0.7s,baz=226,slow=9.0,SNR=8.6						
TXAR	**Lajitas Array**	**84.68**	**57**	P	**P**	**20 14 59.6**	**+0.4**
	2.6nm,0.8s,baz=218,slow=5.9,SNR=15						
ILAR	**Eielson Array**	**85.56**	**12**	P	**P**	**20 15 01.3**	**-1.3**
	2.6nm,0.5s,baz=228,slow=5.3,SNR=97						
PDAR	**Pinedale Array**	**86.29**	**43**	P	**P**	**20 15 05.9**	**-1.0**
	0.8nm,0.8s,baz=204,slow=3.3,SNR=4.1						
PLCA	**Paso Flores**	**90.17**	**133**	P	**P**	**20 15 25.7**	**+0.6**
	2.4nm,0.8s,baz=270,slow=4.0,SNR=6.7						
CMAR	**Chiang Mai Arr**	**90.38**	**289**	P	**P**	**20 15 26.8**	**+0.4**
	0.7nm,0.8s,baz=123,slow=2.6,SNR=7.5						
SNAA	**Sanae**	**90.53**	**178**	P	**P**	**20 15 26.0**	**-0.2**
VNA3	**Neumayer Olymp**	**90.61**	**176**	P	**P**	**20 15 26.7**	**+0.2**
VNA2	**Neumayer--Watz**	**91.07**	**177**	P	**P**	**20 15 29.0**	**+0.5**
	baz=196,slow=3.6						
YKA	**Yellowknife Ar**	**93.70**	**24**	P	**P**	**20 15 39.7**	**-0.9**
	0.9nm,0.6s,baz=241,slow=4.5,SNR=18						
SONM	**Songino Array**	**94.60**	**319**	P	**P**	**20 15 46.3**	**+1.0**
	0.2nm,0.4s,baz=125,slow=5.0,SNR=3.1						
ZALV	**Zalesovo Beam**	**109.23**	**322**	PKiKP	**PKiKP**	**20 20 51.6**	**-0.4**
	0.4nm,0.4s,baz=52,slow=2.4,SNR=2.8						
MKAR	**Makanchi Array**	**110.29**	**314**	PKiKP	**PKiKP**	**20 20 53.1**	**-1.2**
	0.3nm,0.4s,baz=48,slow=2.1,SNR=9.8						
ARCES	**ARCESS Array B**	**126.61**	**350**	PKP	**PKPdf**	**20 21 24.2**	**-0.7**
	4.3nm,0.7s,baz=353,slow=0.3,SNR=40						
FINES	**FINESS Array B**	**133.63**	**345**	PKP	**PKPdf**	**20 21 38.2**	**-0.2**
	3.1nm,0.8s,baz=16,slow=3.2,SNR=7.8						
NOA	**NORSAR Array B**	**136.57**	**354**	PKP	**PKPdf**	**20 21 44.3**	**+0.3**
	0.9nm,0.8s,baz=13,slow=4.2,SNR=2.2						
HFS	**Hagfors**	**137.18**	**352**	PKhKP	PKPpre	20 21 36.4	
	4.0nm,1.0s,baz=100,slow=4.5,SNR=4.0						
HFS				PKP	**PKPdf**	**20 21 44.8**	**-0.3**
	2.2nm,0.8s,baz=60,slow=6.0,SNR=4.6						
AKASG	**Malin Array Be**	**141.30**	**334**	PKhKP	PKPpre	20 21 46.4	
	0.6nm,0.4s,baz=41,slow=3.9,SNR=4.6						
RUE	**Ruedersdorf**	**144.54**	**349**	*e*PKPbc	PKPbc	20 21 57.1	-0.9
	baz=16,slow=2.8						
NRDL	**Niedersach Rie**	**145.09**	**353**	*e*PKPbc	**PKPdf**	**20 21 59.5**	**+0.1**
	baz=16,slow=2.8						
IBBN	**Ibbenburen**	**145.51**	**355**	*e*PKPbc	**PKPdf**	**20 22 01.5**	**+1.3**
	baz=16,slow=2.8						
CLZ	**Clausthal**	**145.70**	**352**	*e*PKPbc	**PKPdf**	**20 22 01.8**	**+1.2**
	baz=16,slow=2.8						
CLL	**Collm**	**145.81**	**349**	*e*PKPbc	**PKPdf**	**20 22 01.9**	**+1.2**
	baz=16,slow=2.8						
CLL	**Collm**	**145.81**	**349**	*i* PKPbc	**PKPdf**	**20 22 01.4**	**+0.7**
	comp=Z,11nm,0.8s						
BRTR	**Kekin Array B**	**145.91**	**316**	PKPbc	**PKPdf**	**20 22 02.5**	**+1.0**
	comp=Z,5.2nm,0.7s,baz=130,slow=4.5,SNR=37						
UPC	**Upice**	**145.93**	**345**	*e*PKP	**PKPdf**	**20 22 02.5**	**+1.5**
DPC	**Dobruska-Polom**	**146.00**	**345**	*e*PKP	**PKPbc**	**20 22 02.9**	**+0.3**
DPC				*ex*	x	20 22 13.2	
GTTG	**Gvttingen**	**146.04**	**352**	*e*PKPbc	**PKPbc**	**20 22 03.1**	**+0.5**
	baz=16,slow=2.8						
BRG	**Berggiesshubel**	**146.04**	**348**	*e*PKPbc	**PKPdf**	**20 22 02.7**	**+1.6**
	baz=16,slow=2.8						
PVCC	**Panska Ves**	**146.24**	**347**	*e*PKP	**PKPbc**	**20 22 03.9**	**+0.7**
MLR	**Muntele Rosu**	**146.65**	**330**	PKPbc	**PKPdf**	**20 22 04.4**	**+1.9**
	comp=Z,2.1nm,0.5s,baz=335,slow=8.5,SNR=12						
MOX	**Moxa**	**146.69**	**350**	*e*PKPbc	**PKPbc**	**20 22 04.4**	**-0.1**
	baz=16,slow=2.8						
UBBA	**Unterbreizbach**	**146.75**	**352**	*e*PKPbc	**PKPdf**	**20 22 03.9**	**+1.7**
	baz=16,slow=2.8						
PRU	**Pruhonice**	**146.76**	**347**	*e*PKP	**PKPbc**	**20 22 04.5**	**-0.2**
PRU				*ex*	x	20 22 06.5	
TANN	**Tannenbergstha**	**146.76**	**349**	*e*PKPbc	**PKPbc**	**20 22 04.9**	**+0.2**
	baz=16,slow=2.8						
GOPC	**GO Pecny, Ondr**	**146.77**	**346**	*e*PKP	**PKPbc**	**20 22 04.7**	**-0.1**
GUNZ	**Gunzen**	**146.84**	**349**	*e*PKPbc	**PKPbc**	**20 22 04.9**	**0.0**
	baz=16,slow=2.8						
VRAC	**Vranov**	**146.89**	**344**	*e*PKP	**PKPbc**	**20 22 05.1**	**0.0**
NKC	**Novy Kostel**	**146.94**	**349**	*e*PKP	**PKPbc**	**20 22 05.3**	**+0.1**
KRUC	**Moravsky**	**147.17**	**344**	*e*PKP	**PKPbc**	**20 22 05.6**	**-0.3**
MANZ	**Manzenberg**	**147.24**	**349**	*e*PKPbc	**PKPbc**	**20 22 06.0**	**0.0**
	baz=16,slow=2.8						
ROTZ	**Rotzenmuhle**	**147.43**	**349**	*e*PKPbc	**PKPbc**	**20 22 06.6**	**0.0**
	baz=16,slow=2.8						
TNS	**Taunus Mts**	**147.52**	**354**	*e*PKPbc	**PKPbc**	**20 22 07.0**	**+0.2**
	baz=16,slow=2.8						
GRF	**Grafenberg Arr**	**147.67**	**350**	*e*PKPbc	**PKPbc**	**20 22 07.2**	**0.0**
	baz=16,slow=2.8						
KHC	**Kasperske Hory**	**147.77**	**347**	*e*PKP	**PKPbc**	**20 22 07.7**	**+0.2**
KHC				*ex*	x	20 22 15.5	
GEC2	**GERESS Array S**	**148.02**	**347**	*e*PKPbc	**PKPbc**	**20 22 08.0**	**-0.2**
	baz=16,slow=2.8						
GERES	**GERESS Array B**	**148.02**	**347**	PKPbc	**PKPbc**	**20 22 08.0**	**-0.2**
	comp=Z,4.1nm,0.6s,baz=18,slow=3.1,SNR=38						
WLF	**Walferdange**	**148.26**	**356**	*e*PKPbc	**PKPbc**	**20 22 09.3**	**+0.6**
	baz=16,slow=2.8						
CONA	**Conrad Observa**	**148.35**	**344**	*i* PKPbc	**PKPbc**	**20 22 09.2**	**+0.1**
	comp=Z,6.4nm,0.6s,SNR=9.7						
MOA	**Molln**	**148.83**	**346**	*i* PKPbc	**PKPbc**	**20 22 09.9**	**-0.3**
	comp=Z,4.8nm,1.1s						
ARSA	**Arzberg**	**149.07**	**344**	*e*PKPbc	**PKPbc**	**20 22 10.1**	**-0.7**
	comp=Z,3.0nm,1.0s						
RJOB	**Jochberg**	**149.26**	**347**	*e*PKPbc	**PKPbc**	**20 22 10.9**	**-0.4**
	baz=16,slow=2.8						
SOKA	**Soboth**	**149.72**	**344**	*i* PKPbc	**PKPbc**	**20 22 11.7**	**-0.8**
	comp=Z,5.8nm,0.9s						
KBA	**Kobnbreinsper**	**149.77**	**346**	*i* PKPbc	**PKPbc**	**20 22 11.8**	**-0.9**
	comp=Z,7.6nm,0.5s,SNR=20						
UBR	**Ueberruh**	**149.80**	**351**	*e*PKPbc	**PKPbc**	**20 22 12.6**	**0.0**
	baz=16,slow=2.8						
RETA	**Reutte**	**149.88**	**350**	*i* PKPbc	**PKPbc**	**20 22 12.5**	**-0.3**
	comp=Z,2.6nm,0.6s						
WATA	**Walderalm**	**149.89**	**349**	*i* PKPbc	**PKPbc**	**20 22 12.5**	**-0.4**
	comp=Z,4.2nm,0.5s,SNR=5.3						
WTTA	**Wattenberg**	**149.94**	**349**	*i* PKPbc	**PKPbc**	**20 22 12.9**	**-0.3**
	comp=Z,12nm,0.5s,SNR=5.8						
MOTA	**Moosalm**	**149.96**	**349**	*i* PKPbc	**PKPbc**	**20 22 12.7**	**-0.4**
	comp=Z,4.2nm,0.7s,SNR=6.5						
OBKA	**Obir**	**150.01**	**344**	*e*PKPbc	**PKPbc**	**20 22 12.2**	**-1.0**
	comp=Z,1.7nm,0.6s						
SQTA	**Sankt Quirin**	**150.06**	**349**	*i* PKPbc	**PKPbc**	**20 22 13.1**	**-0.2**
	comp=Z,9.1nm,0.8s,SNR=7.2						
MYKA	**Terra Mystica**	**150.12**	**346**	*i* PKPbc	**PKPbc**	**20 22 12.5**	**-0.9**
	comp=Z,8.2nm,0.5s,SNR=6.2						
DAVA	**Damuels**	**150.22**	**351**	*i* PKiKP	**PKPbc**	**20 22 14.1**	**+0.3**
	comp=Z,10nm,0.9s						
ABTA	**Abfaltersbach**	**150.26**	**347**	*i* PKPbc	**PKPbc**	**20 22 12.9**	**-0.9**
	comp=Z,12nm,0.6s,SNR=18						
FETA	**Feichten**	**150.34**	**350**	*i* PKPbc	**PKPbc**	**20 22 14.0**	**-0.1**
	comp=Z,14nm,1.1s,SNR=9.6						
DAVOX	**Davos/Dischmat**	**150.71**	**351**	PKPbc	**PKPbc**	**20 22 15.0**	**0.0**
	comp=Z,17nm,0.5s,baz=242,slow=3.4,SNR=58						
TORD	**Torodi Ar. Bea**	**175.01**	**162**	PKP	**PKPdf**	**20 22 30.9**	**-1.8**
	comp=Z,0.7nm,0.8s,baz=345,slow=3,SNR=3.8						
TORD				PKPab	**PKPab**	**20 24 09.8**	**0.0**
	comp=Z,1.5nm,0.9s,baz=192,slow=2.8,SNR=7.4						

IDC 27 20:07:10.5±5.4, **50.27N**×**114.07W, h0**km, **mb1 3.8**/1, **mb1mx3.0**/41, **mbtmp3.5**/1, **ML3.4**/1, **Error ellipse: s-maj=83.0km s-min=41.3km az=74.0, Alberta**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I56US	**NEWPORT INFRAS**	**2.83**	**226**	*i*		20 25 20.0	
	baz=42,slow=329,SNR=2.1						
I10CA	**LAC DU BONNET**	**11.56**	**83**	*i*		21 25 20.0	
	baz=275,slow=377,SNR=1.2						
YKA	**Yellowknife Ar**	**12.26**	**359**	Pn	Pn	20 10 02.2	-3.9
	0.3nm,0.3s,baz=180,slow=13,SNR=15						
YKA				Sn	Sn	20 12 13.7	-10
	0.1nm,0.3s,baz=177,slow=22,SNR=4.3						
YKA				Lg	Lg	20 13 30.2	
	baz=173,slow=28,SNR=3.2						

*UCR **27** 20:27:20.3±1.6, 13.97N×91.91W, h22km±16km, MD4.1, ML4.0, mb4.4(NEIC)*
*NEIC **27** 20:27:20.8±0.0, 14.27N×91.95W, h77km, mb4.4/29, MD4.5(MEX), After MEX.*
*MEX **27** 20:27:20.8±0.5, 14.27N×91.95W, h77km±11km, MD4.5*
*IDC **27** 20:27:26.4±2.1, 14.28N×91.45W, h100km±16km, mb3.9/14, mb1 4.0/16, mb1mx3.8/46, mbtmp4.2/16, MS3.4/4, Ms1 3.4/4, ms1mx3.2/37, Error ellipse: s-maj=32.0km s-min=13.2km az=50.0*
ISC 27 20:27:20.1±1.2, **14.09N**±0.07×**92.03W**±0.05, **h51**km±10km, **n306,** σ1°**46**/320, **mb4.4**/36, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.85**	**345**	*eP*	**Pn**	**20 27 34.9**	**-0.9**
THIG				*eS*	**Sn**	**20 27 46.2**	**-1.1**
THIG		**0.85**	**345**	*eP*	**Pn**	**20 27 34.9**	**-0.9**
THIG				*eS*	**Sn**	**20 27 46.2**	**-1.1**
FUG	**Fuego 3**	**1.21**	**73**	*eP*	**Pn**	**20 27 40.7**	**-0.1**
PCG	**Pacaya**	**1.42**	**77**	*eP*	**Pn**	**20 27 44.2**	**+0.5**
PCG				*eS*	**Sn**	**20 28 02.1**	**+0.7**
IXG	**Ixpaco**	**1.53**	**87**	*eP*	**Pn**	**20 27 44.8**	**-0.4**
NBG	**Las Nubes**	**1.71**	**73**	*eP*	**Pn**	**20 27 49.3**	**+1.6**
APG	**El Apazote**	**1.77**	**59**	P	**Pn**	**20 27 49.6**	**+1.1**
	112nm,0.3s,baz=188,slow=12,SNR=1276						
APG				S	**Sn**	**20 28 12.9**	**+2.9**
	207nm,0.3s,baz=101,slow=17,SNR=9.2						
PCIG		**1.98**	**325**	*eP*	**Pn**	**20 27 49.5**	**-1.6**
PCIG				*eS*	**Sn**	**20 28 12.7**	**-2.0**
PCIG		**1.98**	**325**	*eP*	**Pn**	**20 27 49.5**	**-1.6**
PCIG				*eS*	**Sn**	**20 28 12.7**	**-2.0**
CCIG	**Comitan**	**2.19**	**357**	*e*Pn	**Pn**	**20 27 57.1**	**+2.9**
CCIG				*e*Sn	**Sn**	**20 28 12.5**	**-7.6**
CCIG	**Comitan**	**2.19**	**357**	*i* P	**Pn**	**20 27 52.6**	**-1.5**
CCIG				*eP*		20 27 57.0	
CCIG				*i* S	**Sn**	**20 28 15.8**	**-4.3**
RTR	**El Retiro**	**2.33**	**94**	*eP*	**Pn**	**20 27 55.6**	**-0.5**
CEVE	**Cerro Verde**	**2.35**	**96**	*eP*	**Pn**	**20 27 55.9**	**-0.6**
CEVE				*eS*	**Sn**	**20 28 25.2**	**+0.9**
CEVE				IAML		20 28 36.5	
	comp=Z,8μm,0.5s						
SBLS	**San Blas**	**2.35**	**96**	*eP*	**Pn**	**20 27 56.1**	**-0.4**
SNJE	**San Jose**	**2.37**	**95**	*eP*	**Pn**	**20 27 56.3**	**-0.4**
MRL	**Marmol**	**2.47**	**66**	*eP*	**Pn**	**20 27 58.9**	**+0.9**
BOQS	**Boqueron**	**2.70**	**97**	*eP*	**Pn**	**20 28 01.8**	**+0.6**
UEES	**San Salvador**	**2.73**	**97**	*eP*	**Pn**	**20 28 01.6**	**+0.1**
UEES				*eS*	**Sn**	**20 28 34.0**	**+0.5**
SNET	**Serv Nac Est T**	**2.75**	**98**	*eP*	**Pn**	**20 28 01.4**	**-0.4**
SNET				*eS*	**Sn**	**20 28 32.0**	**-1.9**
SNET				IAML		20 28 45.2	
	comp=Z,1μm,0.4s						
LFU	**La Fuente**	**2.85**	**96**	*eP*	**Pn**	**20 28 02.8**	**-0.4**
LFRS	**El Faro**	**2.92**	**99**	*eP*	**Pn**	**20 28 03.3**	**-0.8**
LBRS	**Las Brisas**	**2.92**	**96**	*eP*	**Pn**	**20 28 04.8**	**+0.6**
PAVA	**Las Pavas**	**3.03**	**97**	*eP*	**Pn**	**20 28 05.3**	**-0.4**
TECA	**Tecapa**	**3.48**	**99**	*eP*	**Pn**	**20 28 13.1**	**+1.2**
VSM	**San Miguel**	**3.71**	**100**	*eP*	**Pn**	**20 28 14.2**	**-0.9**
CAHU	**Cacacuatique**	**3.73**	**94**	*eP*	**Pn**	**20 28 14.7**	**-0.6**
CMIG	**Matias Romero**	**4.06**	**318**	P	**Pn**	**20 28 19.1**	**-0.5**
	comp=Z,4.9nm,0.3s,baz=151,slow=11,SNR=37						
CMIG				S	**Sn**	**20 29 12.9**	**+7.0**
	comp=Z,55nm,0.3s,baz=267,slow=18,SNR=7.8						
CMIG				LR	LR	20 30 25.7	
	comp=Z,668nm,19.8s,baz=102,slow=41						
CNCH	**Conchagua**	**4.16**	**101**	*eP*	**Pn**	**20 28 21.1**	**-0.1**
TGUH	**Tegucigalpa,Un**	**4.62**	**90**	*e*Pn	**Pn**	**20 28 27.0**	**-0.4**
TGUH				*e*Sn	Sn	20 29 05.1	-15
TGUH	**Tegucigalpa,Un**	**4.62**	**90**	*eP*	**Pn**	**20 28 26.8**	**-0.5**
CNGN	**Cerro Negro**	**5.43**	**106**	*eP*	**Pn**	**20 28 38.5**	**0.0**
ESTN	**Estel**	**5.59**	**99**	*e*Pn	**Pn**	**20 28 41.0**	**+0.2**
ESTN				*e*Sn	Sn	20 29 24.8	-19
ESTN	**Estel**	**5.59**	**99**	*eP*	**Pn**	**20 28 42.0**	**+1.1**
MGAN	**Managua**	**5.96**	**108**	IAML		20 30 08.1	
	comp=N,42nm,0.8s						
MATN	**Matagalpa**	**6.05**	**100**	*eP*	**Pn**	**20 28 46.9**	**-0.3**
TEIG	**Tepich**	**7.08**	**30**	*e*Pn	**Pn**	**20 29 02.6**	**+1.4**
TEIG	**Tepich**	**7.08**	**30**	*eP*	**Pn**	**20 29 03.0**	**+1.9**
MYIG	**Mrida**	**7.17**	**17**	*e*Pn	**Pn**	**20 29 04.7**	**+2.2**

Z48A	Northport baz=193	19.63	11	P	Pn	20 31 45.7	-0.5
Y42A	Garnett, Star baz=180	19.66	1	P	P	20 31 45.6	+0.9
152A	Waverly Hall baz=201,SNR=6.5	19.66	19	P	P	20 31 45.5	+0.7
Z49A	Columbiana baz=196	19.67	14	P	Pn	20 31 46.2	-0.5
Y41A	Eaglette Beard baz=178	19.71	359	P	P	20 31 45.8	+0.5
ABTX	Abilene, Hawle comp=N,9.8nm,0.6s	19.72	341	eP	P	20 31 44.9	-0.5
ABTX	Abilene, Hawle baz=157	19.72	341	P	Pn	20 31 47.9	+0.6
255A	Hazlehurst baz=208	19.80	25	P	P	20 31 46.4	+0.2
Y45A	Yeager Farm, C baz=187	19.82	6	P	P	20 31 46.8	+0.3
Z50A	Ashland baz=198,SNR=6.2	19.88	15	P	P	20 31 47.5	+0.4
LPIG	La Paz comp=N,75nm,21.4s,baz=57,slow=36	19.91	303	LR	LR	20 39 35.8	
Y46A	Houston baz=189,SNR=7.8	19.92	8	P	Pn	20 31 48.9	-0.7
Z51A	Franklin baz=200	20.14	17	P	P	20 31 51.0	+1.1
Y48A	Jasper baz=194	20.23	12	P	P	20 31 51.9	+1.0
Z52A	Williamson baz=202	20.24	19	P	P	20 31 52.1	+1.0
X41A	Kaden, Bauxite baz=178,SNR=5.1	20.32	359	P	P	20 31 53.1	+1.2
X40A	Basin Creek Fa comp=N,24nm,1.5s	20.32	358	eP	P	20 31 52.9	+0.9
X40A	Basin Creek Fa baz=178	20.32	358	P	P	20 31 53.5	+1.6
Y49A	Blount Mountai baz=196	20.33	14	P	P	20 31 53.4	+1.3
X43A	Marvell baz=183	20.37	3	P	P	20 31 53.9	+1.5
X44A	Crenshaw baz=185	20.40	4	P	P	20 31 53.8	+1.1
155A	Kite baz=207	20.41	24	P	P	20 31 52.9	0.0
MIAR	Mount Ida comp=N,12nm,0.9s	20.42	356	eP	P	20 31 50.3	-2.7
MIAR	Mount Ida baz=175	20.42	356	P	P	20 31 53.9	+0.9
OXF	Oxford baz=187	20.48	6	P	P	20 31 53.8	+0.2
Y50A	Piedmont baz=198	20.53	15	P	P	20 31 54.6	+0.4
Z53A	Monticello baz=204,SNR=6.5	20.60	21	P	P	20 31 54.8	-0.1
X46A	Booneville baz=189,SNR=5.9	20.62	8	P	P	20 31 56.0	+0.9
X47A	Russelville baz=191	20.69	10	P	P	20 31 56.7	+0.8
Y51A	Rockmart baz=199	20.71	17	P	P	20 31 57.0	+0.8
GOGA	Godfrey comp=N,14nm,0.9s	20.76	21	eP	P	20 31 57.6	+1.0
GOGA	Godfrey baz=204	20.76	21	P	P	20 31 57.2	+0.6
X48A	Hartselle comp=N,30nm,1.4s	20.77	12	eP	P	20 31 57.6	+0.8
X48A	Hartselle baz=194	20.77	12	P	P	20 31 57.9	+1.1
Z54A	Sparta baz=206	20.82	22	P	P	20 31 58.0	+0.7
Y52A	Lilburn baz=202	20.98	19	P	P	20 31 59.4	+0.4
X49A	Woodville baz=195	20.98	13	P	P	20 32 00.2	+1.1
W41B	Gary Mavity, V baz=179	21.00	360	P	P	20 32 00.4	+1.2
X50B	Fort Payne baz=197,SNR=9.4	21.09	15	P	P	20 32 01.2	+0.9
Y53A	Monroe baz=203	21.12	20	P	P	20 32 00.8	+0.3
W45A	Hickory Valley baz=188	21.14	6	P	P	20 32 01.8	+1.1
MNTX	Cornudas Mount comp=N,12nm,0.8s	21.38	327	eP	P	20 32 05.3	+2.0
MNTX	Cornudas Mount baz=142,SNR=19	21.38	327	P	P	20 32 05.3	+2.0
X51A	Calhoun baz=199	21.40	16	P	P	20 32 03.9	+0.4
Y54A	Tignall baz=205	21.44	22	P	P	20 32 04.0	+0.1
WMOK	Wichita Mounta comp=N,6.6nm,0.8s	21.45	345	eP	P	20 32 04.3	+0.3
WMOK	Wichita Mounta baz=162,SNR=6.3	21.45	345	P	P	20 32 04.4	+0.4
W47A	Westpoint baz=192	21.45	10	P	P	20 32 04.3	+0.2
W48A	Pulaski baz=193	21.46	11	P	P	20 32 04.2	0.0
W49A	Belvidere baz=195,SNR=7.3	21.58	13	P	P	20 32 05.9	+0.5
SDV	Santo Domingo comp=N,1.7nm,0.3s,baz=315,slow=14,SNR=3.6	21.59	102	P	P	20 32 02.9	-3.0
V41A	Mountainview baz=179	21.61	360	P	P	20 32 05.9	+0.1
V42A	Cord baz=182,SNR=5.3	21.64	1	P	P	20 32 06.1	+0.1
X52A	Dahlonega baz=202	21.71	18	P	P	20 32 06.8	-0.1
V45A	Humboldt baz=188	21.74	7	P	P	20 32 07.8	+0.7
X53A	Estanollee baz=203	21.81	20	P	P	20 32 07.6	-0.3
W50A	Signal Mountai baz=198	21.88	15	P	P	20 32 09.1	+0.4
V46A	Holladay baz=190,SNR=10	21.91	9	P	P	20 32 08.5	-0.5
W51A	Cleveland baz=199	21.98	16	P	P	20 32 09.3	-0.5
TUL1	Leonard baz=170	21.99	352	P	P	20 32 10.0	+0.1
V47A	Nunnelly baz=192	22.03	10	P	P	20 32 09.8	-0.5
MSTX	Muleshoe baz=151	22.06	336	P	P	20 32 11.7	+1.0
V48A	Smith Brothers baz=193,SNR=9.3	22.07	11	P	P	20 32 10.2	-0.5
U41A	Viola baz=180	22.16	0	P	P	20 32 12.7	+1.0
U42A	Revenden baz=182,SNR=5.4	22.18	2	P	P	20 32 11.9	0.0
U40A	Yellville baz=178	22.19	358	P	P	20 32 12.3	+0.3
WVT	Waverly comp=N,11nm,0.8s	22.27	9	eP	P	20 32 13.0	+0.2
WVT	Waverly baz=191	22.27	9	P	P	20 32 13.1	+0.2
V49A	McMinnville baz=196,SNR=5.7	22.28	13	P	P	20 32 13.3	+0.3
U44B	Burton Farm, H baz=187	22.29	6	P	P	20 32 12.6	-0.5
V50A	Pikevile baz=198	22.38	15	P	P	20 32 13.9	-0.2
U46A	Springville baz=190,SNR=5.4	22.45	8	P	P	20 32 14.1	-0.6
AMTX	Amarillo comp=N,24nm,0.6s	22.46	339	P	P	20 32 11.1	-4.0
AMTX	Amarillo baz=154	22.46	339	P	P	20 32 15.5	+0.5
U47A	Clarksville baz=192	22.66	10	P	P	20 32 16.2	-0.9
TKL	Tuckaleechee C comp=N,7.3nm,0.6s,baz=187,slow=9.9,SNR=12	22.73	18	P	P	20 32 17.7	-0.1
T42A	Van Buren baz=182	22.86	2	P	P	20 32 18.1	-1.0
U48A	Cassie Pea, Po baz=194,SNR=5.7	22.87	11	P	P	20 32 18.3	-0.8
T43A	Greenville baz=184,SNR=6.0	22.95	4	P	P	20 32 19.4	-0.7
U49A	Red Boiling Sp baz=196,SNR=6.2	23.02	13	P	P	20 32 20.0	-0.8
KMSC	Kings Mountain baz=207	23.08	23	P	P	20 32 19.7	-1.6
U50A	Jamestown baz=198,SNR=9.2	23.15	15	P	P	20 32 21.0	-1.1
T46A	Princeton baz=190,SNR=7.7	23.16	8	P	P	20 32 21.8	-0.3
T47A	Sharon Grove baz=192	23.23	10	P	P	20 32 22.3	-0.4
121A	Cookes Peak, D baz=138,SNR=8.2	23.32	325	P	P	20 32 27.0	+3.0
U51A	La Follette baz=200,SNR=8.3	23.33	17	P	P	20 32 23.6	-0.2
S41A	Jillco Farms, baz=180	23.41	1	P	P	20 32 24.4	-0.2
S43A	Fulton Ridge, baz=185	23.45	4	P	P	20 32 24.1	-0.9
T48A	Bowling Green baz=194	23.48	11	P	P	20 32 24.8	-0.4
U52A	Thorn Hill baz=201	23.53	18	P	P	20 32 24.9	-0.8
S42A	Caledonia baz=183	23.61	2	P	P	20 32 25.5	-1.0
TZTN	Tazewell baz=201	23.62	17	P	P	20 32 26.4	-0.1
S44A	Carbondale baz=186,SNR=17	23.64	6	P	P	20 32 26.2	-0.4
T49A	Edmonton baz=196	23.65	13	P	P	20 32 26.5	-0.3
SIUC	Southern Illin comp=N,45nm,0.8s	23.67	6	eP	P	20 32 26.6	-0.3
S45A	Carrier Mills baz=188	23.70	7	P	P	20 32 26.3	-0.8
T50A	Nancy baz=197	23.73	14	P	P	20 32 26.7	-0.8
U53A	Fall Branch baz=203	23.75	19	P	P	20 32 26.8	-0.9
S46A	Don Dixon Farm baz=190	23.82	9	P	P	20 32 27.9	-0.4
S47A	Hartford baz=192	23.86	10	P	P	20 32 28.3	-0.3
CCM	Cathedral Cave comp=N,6.7nm,0.6s	23.88	2	eP	P	20 32 28.0	-0.9
CCM	Cathedral Cave baz=182	23.88	2	P	P	20 32 28.3	-0.6
T51A	Gray baz=200,SNR=8.1	23.90	16	P	P	20 32 28.3	-0.8
BNM	Barren Site	23.95	329	eP	P	20 32 33.2	+3.3
S48A	Wiedeman Farm, baz=194	24.07	12	P	P	20 32 29.7	-0.9
R41A	Rosebud baz=181	24.12	1	P	P	20 32 30.7	-0.4
R42A	Luebbering baz=183	24.12	2	P	P	20 32 30.0	-1.1
R43A	Red Bud baz=185	24.16	4	P	P	20 32 30.3	-1.2
R44A	Waltonville baz=187	24.21	6	P	P	20 32 31.4	-0.4
T52A	Hallie baz=202	24.31	18	P	P	20 32 32.2	-0.6
T53A	Wise baz=203	24.33	19	P	P	20 32 32.5	-0.6
R45A	Skylar, Fairfi baz=189,SNR=13	24.34	7	P	P	20 32 32.5	-0.5
S49A	Springfield baz=196,SNR=7.3	24.35	13	P	P	20 32 32.9	-0.3
R46A	Gibon Southern baz=190	24.36	9	P	P	20 32 32.7	-0.6
LAZ	Ladron	24.41	329	eP	P	20 32 34.6	+0.6
S50A	Richmond baz=198	24.46	15	P	P	20 32 33.2	-1.0
ANMO	Albuquerque comp=N,8.9nm,0.7s,baz=143,slow=12,SNR=42	24.51	330	P	P	20 32 37.6	+2.7
ANMO	Albuquerque baz=144	24.51	330	P	P	20 32 37.4	+2.5
WCI	Wyandotte Cave comp=N,20nm,0.9s	24.58	11	eP	P	20 32 34.7	-0.5
R47A	Wooly Knot Far baz=193	24.60	10	P	P	20 32 34.9	-0.6
S51A	Beattyville baz=200	24.63	16	P	P	20 32 35.4	-0.4
Q41A	Truxton baz=182	24.78	1	P	P	20 32 36.5	-0.6
OLIL	Olney comp=N,40nm,0.8s	24.80	7	eP	P	20 32 37.4	+0.2
S52A	Salyersville baz=201	24.81	17	P	P	20 32 36.6	-0.8
R48A	Northridge Ran baz=194	24.82	12	P	P	20 32 37.5	0.0
Q43A	New Douglas baz=185	24.84	4	P	P	20 32 36.8	-0.8
Q44A	Meyer Farm, Va baz=187	24.86	6	P	P	20 32 37.2	-0.7
R49A	Shelbyville baz=196	24.86	13	P	P	20 32 36.8	-1.1
Q45A	Warren Harvey, baz=189,SNR=6.6	24.95	7	P	P	20 32 38.5	-0.1
TUC	Tucson baz=132	24.95	320	P	P	20 32 41.4	+2.6
R50A	Paris baz=198	25.05	14	P	P	20 32 38.8	-0.7
KSU1	Kansas State U comp=N,7.1nm,0.7s	25.24	352	P	P	20 32 37.1	-4.2
KSU1	Kansas State U baz=169	25.24	352	P	P	20 32 41.6	+0.3
Q47A	Bedord North L baz=193	25.24	10	P	P	20 32 40.4	-0.9
R51A	Hillsboro baz=199	25.25	16	P	P	20 32 40.4	-1.0
Q48A	North Vernon baz=194	25.36	12	P	P	20 32 42.0	-0.4
P42A	Winchester baz=184	25.44	3	P	P	20 32 42.9	-0.2
P44A	Sand Creek, Wi baz=188	25.46	6	P	P	20 32 43.7	+0.5
T25A	Trinidad baz=151,SNR=5.3	25.48	337	P	P	20 32 46.0	+2.3
P41A	Barry, Barry baz=182	25.50	2	P	P	20 32 43.0	-0.7
R52A	Cattlettsburg baz=201	25.55	17	P	P	20 32 42.8	-1.3
P45A	Graceland, Par baz=190	25.62	8	P	P	20 32 44.8	0.0
P46A	Rosedale baz=191,SNR=6.3	25.79	9	P	P	20 32 45.6	-0.6
P47A	Martinsville baz=193	25.81	10	P	P	20 32 45.3	-1.1
P48A	Milroy baz=195	25.94	12	P	P	20 32 46.5	-1.1
Q51A	Peebles baz=199	26.00	16	P	P	20 32 46.6	-1.6
214A	Organ Pipe Nat baz=128	26.03	317	P	P	20 32 48.9	+0.3
O44A	Mansfield baz=188	26.16	6	P	P	20 32 49.0	-0.6
P50A	Jamestown baz=198	26.44	14	P	P	20 32 49.4	-2.7
KSCO	Kaye Shedlock' baz=156	26.53	341	P	P	20 32 53.7	+0.6
SFIN	Lafayette baz=191	26.55	8	P	P	20 32 52.2	-0.9
O47A	Sheridan baz=193	26.55	10	P	P	20 32 51.4	-1.7
O48A	Farmland baz=195	26.76	12	P	P	20 32 53.9	-1.1
N44A	Piper City baz=188	26.83	7	P	P	20 32 54.9	-0.7
P53A	Whipple baz=203	26.98	18	P	P	20 32 55.2	-1.8
S22A	4UR Ranch, Cre baz=147	26.99	334	P	P	20 32 58.6	+1.1
O50A	Cable baz=198	26.99	14	P	P	20 32 56.7	-0.3
N46A	Monticello baz=191	27.11	9	P	P	20 32 56.8	-1.3
ACSO	Alum Creek Sta baz=199	27.23	15	P	P	20 32 58.6	-0.6
O51A	Pataskala baz=200	27.25	16	P	P	20 32 58.7	-0.7
MVCO	Mesa Verde comp=N,11nm,0.9s	27.31	330	eP	P	20 33 01.8	+1.5
MVCO	Mesa Verde baz=143,SNR=9.7	27.31	330	P	P	20 33 02.9	+2.6
N48A	Decatur baz=195	27.37	12	P	P	20 32 59.1	-1.3
M43A	Waltham Townsh baz=186	27.38	5	P	P	20 33 01.1	+0.5
ISCO	Idaho Springs baz=151	28.26	338	P	P	20 33 10.7	+1.9
M50A	Fremont baz=198	28.32	14	P	P	20 33 08.1	-0.9
L48A	N Adams baz=195	28.53	12	P	P	20 33 10.0	-0.8
SSPA	Standing Stone baz=209	29.20	22	P	P	20 33 14.9	-1.9
GMRC	Granite Mounta baz=128	29.65	318	P	P	20 33 21.1	+0.1
ECSD	EROS Data Cent baz=171	29.81	353	P	P	20 33 22.3	+0.2
J49A	Marlette baz=197	30.16	13	P	P	20 33 24.4	-0.8
P17A	Butcher Ranch, comp=N,4.9nm,0.8s	30.18	330	eP	P	20 33 28.7	+3.1
MPMC	Manual Prospec baz=127	31.61	318	P	P	20 33 40.7	+2.4
RSSD	Black Hills comp=N,3.3nm,0.6s	31.64	343	eP	P	20 33 39.7	+1.2
RSSD	Black Hills baz=157	31.64	343	P	P	20 33 39.2	+0.6
DRCO	St. Marys Ceme baz=205	31.81	18	P	P	20 33 39.1	-0.6
R11A	Troy Canyon, C baz=133	31.92	324	P	P	20 33 43.3	+2.2
PDAR	Pinedale Array comp=N,0.5nm,0.5s,baz=128,slow=9.6,SNR=6.3	32.33	336	P	P	20 33 47.0	+2.3
PDAR	comp=N,0.5nm,0.5s,baz=127,slow=5.1,SNR=6.7			PcP	PcP	20 36 33.5	+1.8
PDAR	comp=N,120nm,18.6s,baz=61,slow=42			LR	LR	20 50 08.2	
E46A	Sault Ste Mari baz=194	32.83	10	P	P	20 33 49.4	+0.7
REDW	Red Top Meadow comp=N,6.6nm,0.8s	33.35	335	eP	P	20 33 55.7	+2.1
ELK	Elko comp=N,4.5nm,0.8s	33.40	327	eP	P	20 33 55.6	+1.5
NV11	Mina Array Sit comp=N,0.4nm,0.9s	33.49	321	eP	P	20 33 57.8	+3.0
NV01	Mina Array Sit	33.58	321	eP	P	20 33 57.8	+2.2
NVAR	Mina Array Bea comp=N,4.7nm,0.6s,baz=135,slow=8.6,SNR=20	33.58	321	P	P	20 33 59.5	+3.9
NVAR	comp=N,1.3nm,0.8s,baz=114,slow=4.0,SNR=3.9			PcP	PcP	20 36 37.3	+2.1
H17A	Grant Village baz=146	34.10	336	P	P	20 34 02.2	+2.1
RLMT	Red Lodge baz=149	34.22	338	P	P	20 34 02.4	+1.4
E54A	Lac Daplat, Po baz=206	34.58	18	P	P	20 34 03.6	-0.2
LAO	LASA Array baz=155	34.61	343	P	P	20 34 05.1	+0.9
PTGA	Pitinga comp=N,7.7nm,0.8s	35.00	112	eP	P	20 34 05.7	-2.2
HLID	Hailey comp=N,4.7nm,1.0s	35.09	331	eP	P	20 34 09.9	+1.3
HLID	Hailey baz=140,SNR=7.1	35.09	331	P	P	20 34 10.7	+2.2
MCMT	McKenzie Canyo	35.38	334	eP	P	20 34 14.5	+3.4
BOZ	Bozeman (W) baz=146	35.51	336	P	P	20 34 14.2	+2.1
ULM	Lac du Bonnet comp=N,1.3nm,0.7s,baz=147,slow=9.9,SNR=4.1	36.20	356	P	P	20 34 17.9	+0.2
EGMT	Eagleton baz=150	36.90	340	P	P	20 34 24.7	+0.9
O02D	Mt. Diablo Mer baz=125	37.41	320	P	P	20 34 30.0	+1.7
MATQ	Matagami baz=203	37.48	15	P	P	20 34 27.0	-1.6
M04C	Macdoel baz=128	37.79	323	P	P	20 34 33.6	+2.0
F10A	Beach Ranch, E comp=N,18nm,1.0s	38.22	331	eP	P	20 34 37.0	+1.9
I05D	Terrebonne, OR baz=131	39.14	326	P	P	20 34 44.6	+1.9
G05D	Wamic, OR baz=132	39.73	327	P	P	20 34 50.7	+3.1
I03D	Drain, OR baz=128	39.85	324	P	P	20 34 50.2	+1.6
NEW	Newport baz=140	39.91	334	P	P	20 34 50.3	+1.2
H04D	Lebanon baz=129	40.02	325	P	P	20 34 52.9	+2.8
D04E	Lakebay baz=132	41.77	328	P	P	20 35 05.9	+1.5
B05A	Bryant baz=134	42.18	330	P	P	20 35 09.2	+1.6
SIV	San Ignacio comp=N,1.6nm,0.7s,baz=308,slow=7.2,SNR=9.9	42.77	133	P	P	20 35 11.8	-1.1
YKA	Yellowknife Ar comp=N,3.3nm,0.7s,baz=147,slow=7.4,SNR=58	50.94	347	P	P	20 36 16.1	+0.1
YKA	comp=N,0.9nm,0.6s,baz=147,slow=3.9,SNR=11			PcP	PcP	20 37 32.3	+0.6
YKB5	Yellowknife Ar	50.94	347	eP	P	20 36 15.1	-0.9
FRB	Frobisher Bay comp=N,3.1nm,0.9s,baz=223,slow=7.5,SNR=4.3	52.24	13	P	P	20 36 23.9	-1.8
INK	Inuvik comp=N,4.3nm,0.7s,baz=128,slow=5.0,SNR=15	60.35	344	P	P	20 37 24.1	+0.7
INK	Inuvik comp=N,4.7nm,0.8s	60.35	344	eP	P	20 37 24.2	+0.8
RES	Resolute Bay comp=N,1.0nm,0.6s,baz=181,slow=7.7,SNR=5.7	60.61	359	P	P	20 37 24.1	-1.0
HDA	Harding Lake baz=116	62.61	336	P	P	20 37 39.3	+0.5
ILAR	Eielson Array comp=N,5.5nm,1.1s,baz=126,slow=4.7,SNR=24	62.75	337	P	P	20 37 40.8	+1.1
ILAR	comp=N,0.7nm,0.7s,baz=134,slow=2.7,SNR=6.1			PcP	PcP	20 38 18.9	+1.0
ILB	Eielson Array	62.75	337	eP	P	20 37 40.8	+1.1
RND	Reindeer comp=N,1.5nm,1.0s	62.94	335	eP	P	20 37 43.4	+2.3
POKR	Poker Plat Res baz=116	63.11	337	P	P	20 37 42.4	+0.2
TCOL	CIGO, UAF Yank baz=116	63.17	337	P	P	20 37 42.8	+0.4
TRF	Thorofare Moun comp=N,39nm,1.8s	63.55	335	eP	P	20 37 47.2	+2.0
MLY	Manley comp=N,7.0nm,0.8s	64.35	336	eP	P	20 37 51.7	+1.4
ARCES	ARCESS Array B comp=N,3.5nm,1.0s,baz=302,slow=5.2,SNR=3.0	86.07	18	P	P	20 39 54.8	-0.1
TIXI	Tiksi comp=N,3.3nm,0.8s	90.17	348	eP	P	20 40 14.1	-0.3
TORD	Torodi Ar. Bea comp=N,0.3nm,0.6s,baz=279,slow=4.5,SNR=3.4	90.39	76	P	P	20 40 13.3	-3.3
SONM	Songino Array comp=N,0.3nm,0.7s,baz=101,slow=0.1,SNR=2.7	116.20	346	PKP	PKPdf	20 45 57.9	-0.1
LZH	Lanzhou	127.89	344	ePKP	PKPdf	20 46 17.0	-3.8
LZH				pPKP	pPKPdf	20 46 44.3	+8.0
LZH				sPKP		20 46 54.0	
WRA	Warramunga Arr comp=N,0.4nm,0.7s,baz=90,slow=2.8,SNR=5.5	135.38	256	PKP	PKPdf	20 46 35.8	+0.7
ASAR	Alice Springs comp=N,0.2nm,0.6s,baz=78,slow=2.3,SNR=3.1	135.66	251	PKP	PKPdf	20 46 35.2	-0.4
CMAR	Chiang Mai Arr comp=N,6.2nm,0.7s,baz=326,slow=3.1,SNR=40	145.90	341	PKPbc	PKPdf	20 46 55.6	+1.5
HYB	Hyderabad	147.35	17	*i* PKP	PKPdf	20 46 59.0	+2.4

IDC 27 20:31:10.4±1.5, 12°.64N×142°.62E, h176^{km}±18^{km}, mb3.1/9, mb1 3.3/9, mb1mx3.1/52, mbtmp3.6/9, Error ellipse: s-maj=24.7km s-min=14.7km az=100.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam 192nm,0.3s,baz=71,slow=3.5,SNR=84	2.39	66	P	Pn	20 31 51.9	+0.3
GUMO	47nm,0.3s,baz=0.1,slow=23,SNR=4.9			S	Sn	20 32 23.8	+0.3
USRK	Ussuriysk Ar. 1.2nm,0.5s,baz=193,slow=5.8,SNR=5.2	32.75	346	P	P	20 37 27.0	+0.4
WRA	Warramunga Arr 1.2nm,0.6s,baz=13,slow=9.4,SNR=11	33.39	194	P	P	20 37 31.9	-0.4
ASAR	Alice Springs 0.3nm,0.5s,baz=24,slow=9.8,SNR=6.6	37.08	193	P	P	20 38 04.2	+0.3
CMAR	Chiang Mai Arr 0.8nm,0.7s,baz=89,slow=7.3,SNR=7.8	42.40	284	P	P	20 38 47.6	-0.3
MKAR	Makanchi Array 0.2nm,0.6s,baz=108,slow=7.2,SNR=3.3	60.66	317	P	P	20 41 03.3	+0.2
KURBB	Kurchatov Arra 0.7nm,0.6s,baz=103,slow=6.2,SNR=3.8	63.94	320	P	P	20 41 24.4	-0.2
BVAR	Borovoye Array 0.3nm,0.4s,baz=107,slow=7.5,SNR=3.5	69.32	322	P	P	20 41 58.5	-0.2
ILAR	Eielson Array 0.2nm,0.6s,baz=251,slow=5.9,SNR=6.3	70.36	25	P	P	20 42 04.5	-0.4
YKA	Yellowknife Ar 0.1nm,0.5s,baz=285,slow=5.6,SNR=2.5	84.70	27	P	P	20 43 24.7	+0.4

*JMA **27** 20:36:38.0±0.3, 24°.36N×120°.96E, h0^{km}, M3.1*
*TAP **27** 20:36:38.7, 24°.35N×120°.98E, h7^{km}, ML3.6, B*
*ISCJB **27** 20:36:39.7±0.2, 24°.344N±0°.009×121°.0°.01, h7^{km}±1^{km}, Error ellipse: s-maj=2.1km s-min=1.3km az=34.3*

ISC 27 20:36:38.7±0.8, 24°35N±0°01×120°99E±0°01, h14km±5km, n115, σ0.89/181, 45C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WHP	**Taichung City**	**0.08**	**207**	P		**Pg**	**20 36 41.6**	**-0.2**
	baz=201							
WHP				S		**Sg**	**20 36 43.2**	**-0.5**
	baz=201							
TWQ1	**Liyutan**	**0.19**	**270**	⇑*iP*		**Pb**	**20 36 43.4**	**-0.5**
	baz=270							
TWQ1				*i* S		**Sg**	**20 36 46.5**	**+0.4**
	baz=270							
NSY	**Sanyi**	**0.21**	**288**	⇓*iP*		**Pb**	**20 36 44.2**	**-0.2**
	baz=290							
NSY				*i* S		**Sg**	**20 36 48.0**	**+1.2**
	baz=290							
NMLH	**Miaoli**	**0.26**	**317**	⇓*iP*		**Pb**	**20 36 45.2**	**+0.2**
	baz=318							
NMLH				*e*S		**Sg**	**20 36 49.3**	**+1.3**
	baz=318							
NSTT	**Nanjuang**	**0.28**	**3**	⇑*iP*		**Pb**	**20 36 45.2**	**-0.3**
	baz=6.0							
NSTT				*i* S		**Sb**	**20 36 49.2**	**-0.9**
	baz=6.0							
LIOB	**Emei**	**0.30**	**5**	⇑*iP*		**Pb**	**20 36 45.6**	**-0.2**
	baz=7.0							
LIOB				*i* S		**Sb**	**20 36 50.0**	**-0.6**
	baz=7.0							
WDJ	**Dajia District**	**0.31**	**270**	P		**Pb**	**20 36 46.3**	**+0.3**
	baz=283							
WHF	**Hehuan Shan**	**0.33**	**128**	⇓*iP*		**Pb**	**20 36 46.9**	**+0.4**
	baz=127							
WHF				S		**Sb**	**20 36 52.1**	**+0.4**
	baz=127							
CHGB	**Renai**	**0.34**	**149**	⇓P		**Pb**	**20 36 46.6**	**0.0**
	baz=147							
CHGB				S		**Sb**	**20 36 51.0**	**-0.8**
	baz=147							
TCU	**Taichung**	**0.35**	**235**	⇑P		**Pb**	**20 36 47.2**	**+0.6**
	baz=233							
NNS	**Nan Shan**	**0.37**	**76**	⇑*iP*		**Pb**	**20 36 47.0**	**0.0**
	baz=76							
NNS				*i* S		**Sg**	**20 36 51.8**	**+0.5**
	baz=76							
NNSB	**Datong**	**0.37**	**78**	⇑P		**Pb**	**20 36 47.0**	**-0.1**
	baz=78							
NNSB				S		**Sg**	**20 36 51.5**	**+0.1**
	baz=78							
SBCB	**Hsinchu**	**0.44**	**0**	⇑*eP*		**Pb**	**20 36 48.8**	**+0.6**
	baz=11							
SBCB				*e*S		**Sb**	**20 36 56.5**	**+1.8**
	baz=11							
HSN	**Hsinchu**	**0.45**	**358**	*eP*		**Pn**	**20 36 49.6**	**-1.1**
	baz=5.0							
HSN				S		**Sb**	**20 36 57.7**	**+2.7**
	baz=5.0							
TYC	**Yuchr**	**0.46**	**195**	P		**Pb**	**20 36 48.7**	**+0.3**
	baz=183							
TYC				S		**Sb**	**20 36 55.0**	**-0.1**
	baz=183							
SMLT	**Sun Moon Lake**	**0.47**	**189**	⇓*iP*		**Pb**	**20 36 49.0**	**+0.2**
	baz=178							
SMLT				*e*S		**Sb**	**20 36 54.9**	**-0.7**
	baz=178							
NSK	**Sanguang**	**0.47**	**46**	⇑*iP*		**Pb**	**20 36 48.5**	**-0.2**
	baz=48							
WCHH	**Zhanghua**	**0.47**	**236**	⇑*iP*		**Pn**	**20 36 50.0**	**-1.0**
	baz=234							
WCHH				*e*S		**Sb**	**20 36 57.5**	**+2.0**
	baz=234							
YHNB	**Yeheng**	**0.48**	**48**	⇑P		**Pb**	**20 36 48.5**	**-0.4**
	baz=48							
YHNB				S		**Sg**	**20 36 54.6**	**0.0**
	baz=48							
WNT	**Mingjian**	**0.54**	**210**	⇑*iP*		**Pn**	**20 36 51.2**	**-0.7**
	baz=208							
WNT				*e*S		**Sn**	**20 36 59.3**	**-1.5**
	baz=208							
NDT	**Datong Townshi**	**0.54**	**62**	⇑P		**Pb**	**20 36 50.0**	**0.0**
	baz=72							
NDT				S		**Sg**	**20 36 56.8**	**+0.1**
	baz=72							
WLTB	**Daxi**	**0.56**	**26**	⇑*iP*		**Pn**	**20 36 51.2**	**-0.9**
	baz=36							
WLTB				*e*S		**Sb**	**20 36 59.2**	**+1.2**
	baz=36							
WJS	**Zhushan**	**0.57**	**204**	⇑*iP*		**Pn**	**20 36 51.7**	**-0.7**
	baz=202							
WJS				*e*S		**Sn**	**20 37 00.2**	**-1.3**
	baz=202							
NACB	**Ninganchiao**	**0.58**	**107**	⇓P		**Pb**	**20 36 51.2**	**+0.6**
	baz=107							
NACB				S		**Sb**	**20 36 58.8**	**+0.1**
	baz=107							
ENTT	**Nioudou**	**0.60**	**61**	⇑*iP*		**Pb**	**20 36 51.2**	**+0.2**
	baz=72							
ENTT				S		**Sg**	**20 36 58.6**	**+0.1**
	baz=72							
VWDT	**VWDT**	**0.61**	**166**	⇓P		**Pb**	**20 36 51.3**	**+0.2**
	baz=158							
VWDT				S		**Sg**	**20 36 58.6**	**-0.1**
	baz=158							
TWD	**Chiawan**	**0.62**	**115**	⇓*iP*		**Pb**	**20 36 52.1**	**+0.8**
	baz=107							
TWD				S		**Sb**	**20 36 59.8**	**0.0**
	baz=107							
NWLT	**Wulai**	**0.64**	**48**	⇑*eP*		**Pb**	**20 36 51.3**	**-0.2**
	baz=49							
NCUH	**Zhongli**	**0.64**	**16**	*eP*		**Pn**	**20 36 53.1**	**-0.2**
	baz=18							
NCU	**National Centr**	**0.65**	**17**	⇑P		**Pn**	**20 36 53.1**	**-0.3**
	baz=18							
NCU				S		**Sn**	**20 37 03.2**	**-0.2**
	baz=18							
WHYT	**Xinyi Township**	**0.66**	**190**	⇑*eP*		**Pn**	**20 36 53.3**	**-0.3**
	baz=180							
ESL	**Shilin**	**0.67**	**142**	⇓*iP*		**Pb**	**20 36 52.8**	**+0.7**
	baz=141							
ESL				S		**Sg**	**20 37 00.6**	**-0.1**
	baz=141							
HWA	**Hwalien**	**0.68**	**123**	⇓P		**Pn**	**20 36 53.5**	**-0.2**
	baz=123							
ENA	**Nanau**	**0.69**	**83**	⇑*iP*		**Pb**	**20 36 53.0**	**+0.5**
	baz=94							
ENA				*e*S		**Sg**	**20 37 01.0**	**-0.4**
	baz=94							
ENLB	**Shoufeng**	**0.72**	**128**	P		**Pn**	**20 36 54.0**	**-0.4**
	baz=128							
TWE	**Neicheng**	**0.72**	**59**	⇑*iP*		**Pb**	**20 36 53.4**	**+0.4**
	baz=67							
TWE				*e*S		**Sg**	**20 37 02.2**	**-0.1**
	baz=67							
WGK	**Gukeng**	**0.76**	**210**	P		**Pn**	**20 36 54.8**	**-0.2**
	baz=209							
WGK				*e*S		**Sn**	**20 37 06.4**	**+0.1**
	baz=209							
WDLH	**Douliu**	**0.77**	**212**	⇑P		**Pn**	**20 36 55.0**	**-0.1**
	baz=211							
WDLH				*e*S		**Sn**	**20 37 06.4**	**-0.1**
	baz=211							
TATO	**Taipei**	**0.77**	**36**	⇑P		**Pn**	**20 36 54.8**	**-0.3**
	baz=37							
TATO				*e*S		**Sn**	**20 37 06.1**	**-0.4**
	baz=37							
NHDH	**Xindian Distri**	**0.79**	**39**	⇑P		**Pn**	**20 36 54.8**	**-0.5**
	baz=33							
NHDH				*e*S		**Sn**	**20 37 06.3**	**-0.5**
	baz=33							
EGFH	**Guangfu**	**0.79**	**149**	*eP*		**Pn**	**20 36 54.9**	**-0.5**
	baz=148							
EGFH				*e*S		**Sg**	**20 37 04.2**	**-0.2**
	baz=148							
CHN5	**Tsauling**	**0.80**	**201**	⇑*iP*		**Pn**	**20 36 55.5**	**0.0**
	baz=214							
CHN5				S		**Sn**	**20 37 06.7**	**-0.6**
	baz=214							
WTCT	**Ta-ch'eng**	**0.80**	**233**	⇑*iP*		**Pn**	**20 36 55.1**	**-0.4**
	baz=232							
WTCT				S		**Sn**	**20 37 07.0**	**-0.3**
	baz=232							
ILA	**Ilan**	**0.81**	**59**	*eP*		**Pb**	**20 36 54.9**	**+0.4**
	baz=60							
TWC	**Suao**	**0.83**	**72**	P		**Pb**	**20 36 55.2**	**+0.4**
	baz=72							
TWC				*e*S		**Sg**	**20 37 05.2**	**-0.5**
	baz=72							
TWA	**Mucha**	**0.83**	**41**	⇑P		**Pn**	**20 36 55.7**	**-0.2**
	baz=41							
TWA				S		**Sn**	**20 37 07.8**	**-0.2**
	baz=41							
TWS1	**Kuangyinshan**	**0.85**	**28**	⇑P		**Pn**	**20 36 56.7**	**+0.6**
	baz=29							
TWS1				*e*S		**Sn**	**20 37 09.1**	**+0.8**
	baz=29							
EHY	**Hungye**	**0.89**	**160**	*eP*		**Pn**	**20 36 56.4**	**-0.4**
	baz=148							
NTST	**Danshui**	**0.92**	**27**	*eP*		**Pn**	**20 36 57.6**	**+0.5**
	baz=29							
NTC	**Toucheng**	**0.92**	**57**	*eP*		**Pb**	**20 36 56.6**	**+0.2**
	baz=57							
CHN2	**Minshiung**	**0.94**	**210**	⇓*eP*		**Pn**	**20 36 58.0**	**+0.6**
	baz=209							
CHN2				*e*S		**Sn**	**20 37 11.4**	**+0.8**
	baz=209							
HGSD	**Ruisui**	**0.94**	**155**	P		**Pn**	**20 36 58.0**	**+0.6**
	baz=146							
YM04	**YM04**	**0.95**	**32**	*eP*		**Pn**	**20 36 58.2**	**+0.7**
	baz=43							
YM01	**YM01**	**0.96**	**34**	*eP*		**Pn**	**20 36 59.3**	**+1.6**
	baz=45							
YM01				*e*S		**Sn**	**20 37 12.8**	**+1.7**
	baz=45							
YM10	**YM10**	**0.96**	**33**	*eP*		**Pn**	**20 36 58.2**	**+0.4**
	baz=44							
YM10				*e*S		**Sn**	**20 37 12.2**	**+1.0**
	baz=44							
YM05	**YM05**	**0.97**	**33**	⇑P		**Pn**	**20 36 58.3**	**+0.4**
	baz=44							
YM05				S		**Sn**	**20 37 12.0**	**+0.5**
	baz=44							
YM11	**YM11**	**0.97**	**33**	⇑P		**Pn**	**20 36 58.4**	**+0.4**
	baz=44							
YM11				*e*S		**Sn**	**20 37 11.9**	**+0.3**
	baz=44							
TIPB	**Shuangxi**	**0.98**	**51**	⇑P		**Pn**	**20 36 58.1**	**0.0**
	baz=61							
TIPB				*e*S		**Sn**	**20 37 12.2**	**+0.4**
	baz=61							
CHY	**Chiayi**	**0.99**	**211**	*eP*		**Pn**	**20 36 58.3**	**+0.2**
	baz=209							
WSF	**Szhu**	**0.99**	**225**	⇑P		**Pn**	**20 36 58.4**	**+0.3**
	baz=223							
WSF				S		**Sn**	**20 37 12.7**	**+0.8**
	baz=223							
YULB	**Yu-li**	**0.99**	**163**	⇓P		**Pn**	**20 36 58.0**	**-0.2**
	baz=155							
YULB				*e*S		**Sn**	**20 37 11.9**	**-0.1**
	baz=155							
YM08	**YM08**	**1.00**	**33**	*eP*		**Pn**	**20 36 58.4**	**+0.1**
	baz=20							
YM07	**YM07**	**1.01**	**35**	⇑P		**Pn**	**20 36 58.8**	**+0.4**
	baz=46							
NWF	**Wu-fen Shan**	**1.02**	**45**	⇑*eP*		**Pn**	**20 36 59.1**	**+0.5**
	baz=59							
NWF				*e*S		**Sn**	**20 37 12.9**	**+0.1**
	baz=59							
WFSB	**Wu-fen Shan**	**1.02**	**45**	⇑P		**Pn**	**20 36 59.2**	**+0.6**
	baz=59							
WFSB				*e*S		**Sn**	**20 37 13.0**	**+0.3**
	baz=59							
TWF1	**Yuli**	**1.03**	**164**	⇓P		**Pn**	**20 36 58.8**	**+0.1**
	baz=157							
TWF1				*e*S		**Sn**	**20 37 14.0**	**+1.1**
	baz=157							
CHN4	**Tsaushan**	**1.06**	**200**	⇑P		**Pn**	**20 36 59.7**	**+0.7**
	baz=198							
CHN4				*e*S		**Sn**	**20 37 14.9**	**+1.4**
	baz=198							
EOS1	**EOS1**	**1.06**	**79**	*eP*		**Pn**	**20 37 00.5**	**+1.5**
	baz=79							
EOS1				*e*S		**Sn**	**20 37 13.7**	**+0.2**
	baz=79							
WLGB	**Puzi**	**1.07**	**216**	*eP*		**Pn**	**20 36 59.6**	**+0.5**
	baz=214							
TWY	**Chenhua**	**1.08**	**31**	*eP*		**Pn**	**20 37 00.5**	**+1.2**
	baz=20							
TWY				*e*S		**Sn**	**20 37 15.1**	**+1.1**
	baz=20							
TPUB	**Ta-pu**	**1.09**	**197**	⇑P		**Pn**	**20 37 00.1**	**+0.6**
	baz=196							
TWB1	**Santiao Chiao**	**1.12**	**54**	*eP*		**Pn**	**20 37 00.3**	**+0.4**
	baz=54							
TWB1				*e*S		**Sn**	**20 37 16.6**	**+1.4**
	baz=54							
WTP	**Ta-pu**	**1.15**	**197**	⇑P		**Pg**	**20 37 01.0**	**+0.2**
	baz=195							
ELDTW	**Lidau**	**1.16**	**179**	⇑P		**Pg**	**20 37 01.7**	**+0.7**
	baz=171							
TWK	**Hsinying**	**1.17**	**203**	⇑*iP*		**Pg**	**20 37 01.6**	**+0.3**
	baz=201							
TWK				S		**Sn**	**20 37 17.9**	**+1.6**
	baz=201							
STYT	**Tauyuan**	**1.20**	**190**	⇑P		**Pg**	**20 37 02.2**	**+0.5**
	baz=188							
SNST	**Tainan City**	**1.21**	**202**	*eP*		**Pg**	**20 37 02.2**	**+0.2**
	baz=200							
CHN8	**Yiju**	**1.22**	**216**	*eP*		**Pg**	**20 37 01.9**	**-0.3**
	baz=213							
CHN1	**Nanshi**	**1.23**	**200**	⇑P		**Pg**	**20 37 02.4**	**0.0**
	baz=198							
CHN1				S		**Sn**	**20 37 19.5**	**+1.6**
	baz=198							
CHKT	**Chengkung**	**1.29**	**164**	*eP*		**Pg**	**20 37 03.8**	**+0.3**
	baz=147							
SGST	**Jiashian**	**1.31**	**196**	*eP*		**Pg**	**20 37 03.9**	**-0.1**
	baz=194							
SGST				*e*S		**Sg**	**20 37 23.1**	**+2.0**
	baz=194							
SCLT	**Jiali**	**1.38**	**212**	*eP*		**Pg**	**20 37 04.7**	**-0.4**
	baz=210							
SCLT				*e*S		**Sg**	**20 37 24.7**	**+1.7**
	baz=210							
SLGT	**Liugui**	**1.38**	**193**	⇑*eP*		**Pg**	**20 37 05.3**	**0.0**
	baz=191							
CHN3	**Shinhua**	**1.39**	**204**	*eP*		**Pg**	**20 37 05.2**	**-0.2**
	baz=215							
TAI1	**Yung-k'ang**	**1.48**	**208**	*eP*		**Pg**	**20 37 06.6**	**-0.5**
	baz=206							
PNG	**Penghu**	**1.52**	**240**	*eP*		**Pb**	**20 37 06.4**	**-0.2**
	baz=238							
PNG				*e*S		**Sg**	**20 37 26.3**	**-1.4**
	baz=238							
TWG	**Pinlang**	**1.52**	**177**	*eP*		**Pg**	**20 37 07.9**	**-0.1**
	baz=185							
TWGBT	**Beinan**	**1.53**	**177**	⇑*eP*		**Pg**	**20 37 08.0**	**0.0**
	baz=168							
TWGBT				*e*S		**Sg**	**20 37 28.4**	**+0.5**
	baz=168							
VWUC	**VWUC**	**1.54**	**295**	*eP*		**Pn**	**20 37 04.7**	**-0.9**
	baz=296							
PHUB	**P'eng-hu**	**1.54**	**238**	*eP*		**Pn**	**20 37 05.2**	**-0.4**
	baz=247							
PTTC	**Pingtan**	**1.59**	**316**	*eP*		**Pn**	**20 37 05.7**	**-0.7**
	baz=318							
WDGT	**Dungji**	**1.63**	**228**	*eP*		**Pb**	**20 37 08.0**	**-0.4**
	baz=227							
SSD	**Sandimen**	**1.63**	**192**	⇑*eP*		**Pg**	**20 37 08.8**	**-1.1**
	baz=190							
SSD				*e*S		**Sg**	**20 37 31.3**	**+0.2**
	baz=190							
ECL	**Taimali**	**1.74**	**181**	*eP*		**Pg**	**20 37 11.3**	**-0.9**
	baz=162							
MASBT	**Mashibuluo**	**1.76**	**191**	⇑*eP*		**Pb**	**20 37 10.7**	**0.0**
	baz=188							
JYNG	**Yonagunijimaku**	**1.79**	**86**	P		**Pg**	**20 37 12.1**	**-1.0**
JYNG				*e*S		**Sg**	**20 37 35.2**	**-1.1**
VCHM	**Qimei**	**1.82**	**232**	*eP*		**Pb**	**20 37 11.1**	**-0.6**
	baz=231							
PTMZ	**Houxiangcun**	**1.83**	**292**	*eP*		**Pn**	**20 37 09.2**	**-0.5**
	baz=294							
YOJ	**Yonaguni jima**	**1.85**	**86**	*eP*		**Pg**	**20 37 13.2**	**-1.0**
	baz=69							
YOJ	**Yonaguni jima**	**1.85**	**86**	P		**Pg**	**20 37 13.2**	**-1.0**
YOJ				*e*S		**Sg**	**20 37 36.9**	**-1.4**
EAST	**Anshuo**	**1.96**	**184**	*eP*		**Pb**	**20 37 13.7**	**-0.5**
	baz=181							
SCZT	**Fangliau**	**2.00**	**190**	*eP*		**Pb**	**20 37 13.8**	**-0.9**
	baz=186							
MATB	**Ma-tsu**	**2.03**	**333**	*eP*		**Pn**	**20 37 12.2**	**-0.2**
	baz=334							
WLCH	**Liuqiu**	**2.06**	**196**	*eP*		**Pb**	**20 37 15.5**	**-0.4**
	baz=192							
KNM	**Kinmen**	**2.33**	**272**	*eP*		**Pb**	**20 37 19.1**	**-1.3**
	baz=273							
KNMB	**Chin-men Tao**	**2.37**	**273**	*eP*		**Pn**	**20 37 17.2**	**+0.1**
	baz=274							
TWKBT	**Hengchun**	**2.40**	**184**	*eP*		**Pb**	**20 37 20.1**	**-1.6**
	baz=199							
LYJJ	**Jianjiangzhen**	**2.46**	**333**	*eP*		**Pn**	**20 37 18.2**	**0.0**
	baz=334							
MHZQ	**Yeshan**	**2.48**	**315**	*eP*		**Pn**	**20 37 18.4**	**-0.3**
	baz=317							
IRIF	**Iriomote-Funau**	**2.50**	**90**	P		**Pb**	**20 37 22.4**	**-1.0**
IRIF				*e*S		**Sb**	**20 37 52.1**	**-2.0**
XPSS	**Dashiqiu**	**2.67**	**345**	*eP*		**Pn**	**20 37 20.8**	**-0.4**
	baz=345							
JKRS	**Kuro-shima**	**2.76**	**92**	P		**Pb**	**20 37 26.3**	**-1.5**
JKRS				*e*S		**Sb**	**20 37 59.2**	**-2.3**
AXDP	**Jialang**	**2.80**	**282**	*eP*		**Pn**	**20 37 22.8**	**-0.1**
	baz=283							
JIJ	**Ishigaki jima**	**2.88**	**89**	P		**Pb**	**20 37 27.1**	**-2.7**
JIJ				*e*S		**Sn**	**20 38 01.0**	**+2.5**
JISG	**Ishigakijimahi**	**3.04**	**85**	P		**Pn**	**20 37 29.3**	**+3.0**
JISG				S		**Sn**	**20 38 05.9**	**+3.4**

IDC 27 20:37:45.6±2.3, 50°02N×114°65W, h0km, mb1 3.4/2, mb1mx3.0/45, mbtmp3.0/2, ML2.9/2, Error ellipse: s-maj=43.1km s-min=10.2km az=119.0, Alberta

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEW	**Newport**	**2.40**	**224**	Pn	Pb	20 38 28.4	-1.2
	1.1nm,0.3s,baz=48,slow=12,SNR=10						
NEW				Lg	Lg	20 38 59.3	
	1.7nm,0.3s,baz=331,slow=12,SNR=7.2						
I56US	**NEWPORT INFRAS**	**2.40**	**224**	*i*		20 56 39.6	
	baz=44,slow=330,SNR=14						
I10CA	**LAC DU BONNET**	**11.96**	**82**	*i*		21 51 00.0	
	baz=274,slow=306,SNR=2.0						
YKA	**Yellowknife Ar**	**12.51**	**0**	Pn	Pn	20 40 40.1	-4.5
	0.1nm,0.3s,baz=182,slow=13,SNR=5.9						
YKA				Lg	Lg	20 44 12.2	
	0.0nm,0.3s,baz=168,slow=28,SNR=4.0						

ISCJB 27 20:42:50.5±0.4, 37°25N±0°03×71°95E±0°06, h150km, mb3.6/4, Error ellipse: s-maj=6.8km s-min=3.4km az=159.4
NNC 27 20:42:54.9±2.5, 37°84N×71°51E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=19.9km s-min=14.4km az=168.0
IDC 27 20:42:54.5±4.8, 37°53N×71°90E, h153km±27km, mb3.4/4, mb1 3.5/11, mb1mx3.2/53, mbtmp4.0/11, Error ellipse: s-maj=54.5km s-min=22.4km az=154.0

ISC 27 20:42:49.0±0.6, 37°20N±0°05×71°89E±0°06, h150km, n50, σ2.54/53, mb3.7/4, 6C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.08**	**24**	⇓P		**Pn**	**20 43 40.1**	**+2.5**
	114nm,0.4s							
SFK				⇓S		**Sn**	**20 44 14.1**	**-1.2**
	159nm,0.4s							
CEP	**Cherat**	**3.37**	**180**	P		Pn	20 43 49.4	+8.2
CEP				S		Sn	20 44 30.0	+8.4
CHCP	**Chirah Chowk**	**3.70**	**162**	P		Pn	20 43 52.0	+7.4
THW	**Thamme Wali**	**4.39**	**182**	P		Pn	20 44 01.4	+6.9
AML	**Almayashu**	**5.12**	**15**	P		**Pn**	**20 44 06.0**	**+1.7**
	SNR=160							
MNAS	**Manas**	**5.31**	**5**	⇑P		**Pn**	**20 44 08.4**	**+1.9**
	28nm,0.7s							
MNAS				⇓S		**Sn**	**20 45 03.9**	**-3.2**
	136nm,0.7s							
UCH	**Uchtor**	**5.42**	**21**	P		**Pn**	**20 44 10.0**	**+1.7**
	SNR=57							
KZA	**Kyzart**	**5.52**	**27**	P		**Pn**	**20 44 10.7**	**+1.1**
	SNR=7.9							
EKS2	**Erkin-Say**	**5.65**	**14**	P		**Pn**	**20 44 12.9**	**+1.9**
	SNR=17							
AAK	**Ala-Archa**	**5.79**	**19**	P		**Pn**	**20 44 15.0**	**+2.0**
	6.3nm,0.3s,baz=171,slow=5.9,SNR=134							
AAK				S		**Sn**	**20 45 15.9**	**-2.7**
	2.5nm,0.3s,baz=311,slow=20,SNR=20							
AAK	**Ala-Archa**	**5.79**	**19**	P		**Pn**	**20 44 15.1**	**+2.0**
	SNR=24							
AAK	**Ala-Archa**	**5.79**	**19**	⇑P		**Pn**	**20 44 14.7**	**+1.7**
	7.2nm,0.3s							
AAK				⇓S		**Sn**	**20 45 17.7**	**-1.0**
	48nm,0.8s							
KBK	**Karagaybulak**	**5.94**	**22**	P		**Pn**	**20 44 18.1**	**+3.2**
	SNR=6.8							
KK31	**Karatay Array**	**5.99**	**350**	P		**Pn**	**20 44 17.6**	**+2.1**
	8.4nm,0.5s,baz=21,slow=9.3,SNR=70							
KK31				⇑S		**Sn**	**20 45 19.7**	**-3.6**
	165nm,0.6s,baz=161,slow=16,SNR=40							
ULHL	**Ulahol**	**6.06**	**32**	P		**Pn**	**20 44 17.8**	**+1.2**
	SNR=6.3							
DHRM	**DHARAMSHALA**	**6.12**	**142**	*eP*		Pn	20 44 21.5	+3.9
DHRM				*e*S		**Sn**	**20 45 27.7**	**+0.8**
DHRM					IAML		20 45 30.2	
	comp=N,185nm,0.5s							
DHRM					IAML		20 45 31.9	
	comp=E,423nm,0.3s							
CHMS	**Chumysh**	**6.20**	**20**	P		**Pn**	**20 44 20.3**	**+2.0**
	SNR=15							
USP	**Ospenovka**	**6.38**	**17**	P		**Pn**	**20 44 23.2**	**+2.4**
	SNR=8.4							
TKM2	**Tokmak 2**	**6.38**	**25**	⇑P		**Pn**	**20 44 22.2**	**+1.2**
	comp=E,3.6nm,0.8s							
TKM2				⇓S		**Sn**	**20 45 33.9**	**+1.0**
	comp=E,8.1nm,0.7s							
SMLA	**Simla**	**7.46**	**143**	*eP*		Pn	20 44 39.2	+4.0
SMLA				*e*S		**Sn**	**20 45 54.8**	**-3.8**
SMLA					IAML		20 46 01.6	
	comp=E,87nm,0.5s							
SMLA					IAML		20 46 03.0	
	comp=N,96nm,0.3s							
DDI	**Dehra Dun**	**8.56**	**141**	*eP*		Pn	20 44 54.1	+4.2
DDI				*e*S		**Sn**	**20 46 20.0**	**-5.2**
DDI					IAML		20 46 34.4	
	comp=N,78nm,0.4s							
DDI					IAML		20 46 34.8	
	comp=E,64nm,0.2s							
NDI	**New Delhi**	**9.59**	**151**	*eS*		Sn	20 46 37.0	-13
GEYT	**Alibeck**	**10.96**	**278**	P		Pn	20 45 25.4	+3.8
	comp=E,0.5nm,0.3s,baz=123,slow=11,SNR=5.0							
GEYT				S		**Sn**	**20 47 21.9**	**-0.9**
	comp=E,1.9nm,0.3s,baz=81,slow=33,SNR=7.5							
MKAR	**Makanchi Array**	**12.31**	**36**	P		**P**	**20 45 42.8**	**-2.4**
	comp=E,0.1nm,0.3s,baz=213,slow=9.2,SNR=10							
PYUN	**Piuthan**	**13.02**	**131**	*eP*		**Pn**	**20 45 49.5**	**+0.9**
	comp=E,6.7nm,0.3s							
DANN	**Dangsing**	**13.31**	**128**	*eP*		**Pn**	**20 45 53.7**	**+1.2**
	comp=E,13nm,0.4s							
KOLN	**Koldanda**	**13.63**	**130**	*eP*		**P**	**20 45 58.0**	**-2.2**
	comp=E,5.3nm,0.3s							
WMQ	**Urumqi**	**13.71**	**56**	*eP*		P	20 46 10.5	+10
WMQ					LR	LR		
	comp=N,490nm,21.7s							
WMQ					LR	LR		
	comp=E,750nm,26

comp=Z,7.3nm,0.9s
AKTO ⇑S **S** **20 49 33.8 -2.3**
comp=Z,6.8nm,0.8s
BOK Bokaro 17.97 134 *e*P Pn 20 47 00.7 +11
POO Poona 18.68 174 *e*P **P** **20 46 53.4 -2.4**
ZALV Zalesovo Beam 18.99 24 P **Pn** **20 47 00.4 -0.7**
comp=Z,0.3nm,0.3s,baz=226,slow=10,SNR=17
HYB Hyderabad 20.56 162 *e*P Pn 20 47 20.1 +0.1
GOA Goa 21.69 175 *e*P **P** **20 47 28.8 +0.8**
FINES FINESS Array B 37.31 325 P **P** **20 49 49.6 +3.3**
comp=Z,2.3nm,0.9s,baz=110,slow=11,SNR=4.8
ARCES ARCESS Array B 40.78 337 P **P** **20 50 18.2 +3.2**
comp=Z,3.0nm,0.9s,baz=119,slow=7.3,SNR=3.1
NOA NORSAR Array B 44.26 323 P **P** **20 50 46.4 +3.2**
comp=Z,1.3nm,0.9s,baz=93,slow=7.5,SNR=2.6
YKA Yellowknife Ar 80.52 3 P **P** **20 54 46.4 +2.5**
comp=Z,0.3nm,0.6s,baz=351,slow=5.1,SNR=8.3

NIED ***27*** *20:57:00,27.30N×128.40E,h50km,Mw5.0 Best double couple: M0 3.68000×10^16 NP1:φs210.00000°,δ22.00000°, λ78.00000°. NP2:φs43.00000°,δ69.00000°,λ95.00000°.*
BJI ***27*** *20:57:29.8,26.93N×128.77E,h53km,mb5.2/70,mB5.0/49, Ms4.4/70,Ms7 4.2/65*
MOS ***27*** *20:57:32.4±1.0,27.40N×128.36E,h45km,mb5.5/65, MS4.0/20,Error ellipse: s-maj=6.7km s-min=4.2km az=107.1*
ISCJB ***27*** *20:57:33.4±0.2,27.35N±0.02×128.37E±0.02,h52km±1km, mb5.2/154,MS4.2/36,Error ellipse: s-maj=3.8km s-min=2.2km az=137.6*
IDC ***27*** *20:57:33.3±1.0,27.41N×128.38E,h40km±9km,mb4.9/35, mb1 5.0/36,mb1mx4.9/43,mbtmp5.1/36,ML3.3/2,MS4.1/30, Ms1 4.1/30,ms1mx4.0/38,Error ellipse: s-maj=12.2km s-min=8.6km az=95.0*
JMA ***27*** *20:57:34.3±0.1,27.29N×128.44E,h48km±1km,M4.9 JMA Felt IV J1.*
GCMT ***27*** *20:57:34.5±0.3,27.28N±0.02×128.52E±0.02,h49km±1km, MW5.0/81,Moment Tensor Solution. s56,c73; s81,c124; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.77±.17; Mθθ-1.67±.11; Mφφ-2.10±.12; Mrθ1.40±.09; Mφθ-2.13±.07; Mφr1.01±.09; Best double couple: M0 4.26400×10^16 NP1:φs47.00000°,δ57.00000°,λ96.00000°. NP2: φs217.00000°,δ34.00000°,λ81.00000°. Principal axes: T 4.1520, Plg77.0000°, Azm336.0000°; N 0.2250, Plg5.0000°, Azm224.0000°; P -4.3770, Plg12.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***27*** *20:57:35.5±0.4,27.31N×128.35E,h61km±3km,mb5.2/38 Error ellipse: s-maj=4.7km s-min=3.3km az=134.0*
NEIC Felt [II] at Chatan and Okinawa, Okinawa. Also felt at Ginowan, Kadena, Kitanakagusuku and Yomitan. Recorded [4 JMA] on Tokuno-shima.

ISC 27 20:57:34.5±0.4,27.31N±0.03×128.44E±0.03,h56km±2km, h56km:pP-P,n853,σ1s23/915,mb5.3/184,MS4.2/38, 88C-29D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
JOKE	**Okinoerabujima**	**0.13**	**64**	P	**Pn**	**20 57 42.1**	**-1.0**
JOKE				S	**Sn**	**20 57 47.3**	**-2.0**
JYRO	**Yoronjima**	**0.28**	**179**	P	**Pn**	**20 57 42.9**	**-1.1**
JYRO				S	**Sn**	**20 57 48.7**	**-2.1**
JOW	**Kunigami**	**0.49**	**198**	P	**Pn**	**20 57 45.1**	**-1.0**
	10μm,0.3s,baz=128,slow=24						
JOW				S	**Sn**	**20 57 53.0**	**-1.5**
	22μm,0.3s,baz=142,slow=19,SNR=118						
JOW	**Kunigami**	**0.49**	**198**	⇑P	**Pn**	**20 57 45.2**	**-0.9**
JOW				S	**Sn**	**20 57 52.7**	**-1.8**
JIH	**Iheya**	**0.50**	**238**	⇑P	**Pn**	**20 57 45.3**	**-0.9**
JIH				*i* S	**Sn**	**20 57 52.8**	**-1.8**
JTK	**Tokunoshima**	**0.66**	**43**	⇑P	**Pn**	**20 57 47.6**	**-0.4**
JTK				*e*S	**Sn**	**20 57 56.7**	**-1.1**
JNTH	**Nagotoyohara**	**0.87**	**206**	P	**Pn**	**20 57 50.0**	**-0.7**
JNTH				S	**Sn**	**20 58 01.3**	**-1.2**
JAMN	**Amaminishikomi**	**1.14**	**35**	⇓P	**Pn**	**20 57 53.8**	**-0.4**
JAMN				S	**Sn**	**20 58 07.5**	**-1.4**
JAGN	**Aguni-jima**	**1.29**	**237**	⇓P	**Pn**	**20 57 55.7**	**-0.5**
JAGN				S	**Sn**	**20 58 11.2**	**-1.3**
JJT3	**Tamagusuku3**	**1.30**	**207**	P	**Pn**	**20 57 57.1**	**+0.7**
JJT3				S	**Sn**	**20 58 14.0**	**+1.3**
JAM	**Amami Oshima**	**1.51**	**43**	⇓P	**Pn**	**20 57 59.3**	**+0.1**
JAM				*e*S	**Sn**	**20 58 17.3**	**-0.5**
JZK	**Kikaishima**	**1.69**	**53**	⇓P	**Pn**	**20 58 02.8**	**+1.2**
JZK				S	**Sn**	**20 58 24.6**	**+2.4**
JKE	**Kume jima 2**	**1.77**	**237**	⇓P	**Pn**	**20 58 02.2**	**-0.6**
JKE				S	**Sn**	**20 58 23.2**	**-1.1**
JTAJ	**Takarajima**	**1.96**	**20**	⇓P	**Pn**	**20 58 05.2**	**-0.1**
JTAJ				S	**Sn**	**20 58 27.7**	**-1.1**
JNN	**Nakanoshima**	**2.82**	**26**	P	**Pn**	**20 58 17.2**	**0.0**
JNN				*e*S	**Sn**	**20 58 48.0**	**-2.0**
JMZ	**Minamidaito 2**	**2.90**	**120**	⇓P	**Pn**	**20 58 16.2**	**-1.9**
JMZ				S	**Sn**	**20 58 48.3**	**-3.4**
JYAK	**Yakushimahirau**	**3.44**	**31**	P	**Pn**	**20 58 26.0**	**+0.4**
JYAK				S	**Sn**	**20 59 02.9**	**-2.2**
JKC	**Kuchinoerabu**	**3.50**	**26**	P	**Pn**	**20 58 26.9**	**+0.5**
YOJ	**Yonaguni jima**	**5.65**	**241**	*e*Pn	**Pn**	**20 58 55.4**	**-0.5**
YOJ	**Yonaguni jima**	**5.65**	**241**	*e*P	**Pn**	**20 58 55.4**	**-0.5**
JNU	**Nakatsue**	**6.17**	**19**	P	**Pn**	**20 59 05.5**	**+2.5**
	27nm,0.3s,baz=228,slow=4.3,SNR=223						
JNU				S	**Sn**	**21 00 15.2**	**+3.0**
	baz=130,slow=7.9,SNR=1.2						
JNU				LR	LR	21 01 46.5	
	comp=Z,750nm,21.6s,baz=180,slow=42						
TATO	**Taipei**	**6.67**	**251**	*e*Pn	**Pn**	**20 59 11.4**	**+1.6**
YHNB	**Yeheng**	**6.88**	**249**	*e*Pn	**Pn**	**20 59 13.2**	**+0.3**
NACB	**Ninganchiao**	**6.92**	**245**	*e*Pn	**Pn**	**20 59 11.6**	**-1.7**
SSE	**Sheshan**	**7.38**	**302**	*e*Pn	**Pn**	**20 59 20.7**	**+1.1**
YULB	**Yu-li**	**7.55**	**240**	*e*Pn	**Pn**	**20 59 18.4**	**-3.5**
TWG	**Pinlang**	**8.04**	**238**	*e*Pn	Pn	20 59 23.6	-5.0
TPUB	**Ta-pu**	**8.12**	**242**	*e*Pn	**Pn**	**20 59 27.9**	**-1.8**
QZH	**Quanzhou**	**9.16**	**257**	⇓*i*P	**Pn**	**20 59 45.0**	**+1.0**
QZH				sP		21 00 06.5	
QZH				*e*S	**Sn**	**21 01 26.5**	**+0.9**
QZH				pmax	pmax		
	comp=Z,40nm,0.6s						
QZH				LR	LR		
	comp=N,1μm,18.5s						
QZH				LR	LR		
	comp=E,750nm,25.1s						
QZH				LR	LR		
	comp=Z,1μm,19.4s						
NJ2	**Nanjing**	**9.59**	**302**	*e*P	**Pn**	**20 59 51.0**	**+1.2**
NJ2				S	**Sn**	**21 01 41.8**	**+5.8**
NJ2				pmax	pmax		
	comp=Z,55nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,380nm,3.6s						
NJ2				LR	LR		
	comp=N,1μm,17.9s						
NJ2				LR	LR		
	comp=E,1μm,19.0s						
NJ2				LR	LR		
	comp=Z,2μm,20.1s						
KS15	**Wonju Array Si**	**10.12**	**357**	*e*Pn	**Pn**	**20 59 59.3**	**+2.2**
KSAR	**Wonju Array Be**	**10.12**	**357**	P	**Pn**	**20 59 58.1**	**+1.1**
KSAR	**Wonju Array Be**	**10.12**	**357**	P	**Pn**	**20 59 58.1**	**+1.1**
KSRS	**Korea Array**	**10.13**	**358**	P	**Pn**	**20 59 58.1**	**+0.9**
	4.1nm,0.3s,baz=177,slow=13,SNR=84						
KSRS				LR	LR	21 03 57.6	
	comp=Z,1μm,21.0s,baz=172,slow=38						
KS01	**Wonju Array Si**	**10.15**	**358**	*e*Pn	**Pn**	**21 00 00.0**	**+2.5**
INU	**Inuyama**	**10.86**	**40**	*e*Pn	Pn	21 00 12.2	+5.0
JHJ	**Hachijo jima 2**	**11.39**	**57**	LR	LR	21 04 48.1	
	comp=Z,636nm,19.3s,baz=46,slow=38						
MAJO	**Matsushiro**	**12.38**	**40**	*e*Pn	**Pn**	**21 00 29.2**	**+1.1**
MAJO	**Matsushiro**	**12.38**	**40**	⇑*e*P	**Pn**	**21 00 29.9**	**+1.9**
MAT	**Matsushiro**	**12.38**	**40**	P	**Pn**	**21 00 29.5**	**+1.5**
MAT				*e*S	S	21 02 58.4	-11
MJAR	**Matsushiro Arr**	**12.38**	**40**	P	**Pn**	**21 00 27.7**	**-0.4**
	0.1nm,0.3s,baz=238,slow=13,SNR=7.3						
MJAR				LR	LR	21 05 18.6	
	comp=Z,478nm,22.0s,baz=215,slow=38						
MJB9	**Matsu-Tunnel**	**12.38**	**40**	*e*Pn	**Pn**	**21 00 29.2**	**+1.2**
WHN	**Wuhan**	**12.76**	**288**	⇑P	**Pn**	**21 00 35.0**	**+1.9**
WHN				S	Sn	21 03 03.0	+9.4
WHN				pmax	pmax		
	comp=Z,140nm,0.8s						
WHN				LR	LR		
	comp=N,1μm,4.0s						
WHN				LR	LR		
	comp=E,1μm,10.0s						
WHN				LR	LR		
	comp=Z,2μm,21.6s						
DL2	**Dalian**	**12.90**	**335**	P	**Pn**	**21 00 38.3**	**+3.4**
DL2				pP	**P**	**21 00 45.8**	**+1.8**
DL2				S	**Sn**	**21 03 04.0**	**+7.2**
DL2				pmax	pmax		
	comp=Z,50nm,1.1s						
DL2				LR	LR		
	comp=N,640nm,22.0s						
DL2				LR	LR		
	comp=E,660nm,20.9s						
DL2				LR	LR		
	comp=Z,1μm,22.3s						
TIA	**Tai'an**	**13.09**	**316**	P	**Pn**	**21 00 40.8**	**+3.2**
TIA				pmax	pmax		
	comp=Z,14nm,1.0s						
GZH	**Guangzhou**	**14.30**	**256**	P	**Pn**	**21 00 51.5**	**-2.5**
GZH				S	**Sn**	**21 03 24.8**	**-6.3**
GZH				LR	LR		
	comp=N,710nm,15.9s						
GZH				LR	LR		
	comp=E,690nm,15.2s						
SNY	**Shenyang**	**15.03**	**346**	⇑P	**P**	**21 01 08.0**	**+0.4**
SNY				S	**Sn**	**21 03 49.5**	**+0.9**
SNY				pmax	pmax		
	comp=Z,35nm,0.7s						
SNY				pmax	pmax		
	comp=Z,600nm,5.9s						
SNY				LR	LR		
	comp=N,820nm,16.3s						
SNY				LR	LR		
	comp=E,570nm,5.9s						
SNY				LR	LR		
	comp=Z,1μm,20.6s						
BJT	**Baijiatuao**	**16.26**	**324**	*e*Pn	**P**	**21 01 21.2**	**-0.2**
	194nm,0.8s						
BJT	**Baijiatuao**	**16.26**	**324**	*e*P	**P**	**21 01 21.2**	**-0.2**
BJT				pmax	pmax		
	comp=Z,194nm,0.8s						
BJI	**Beijing**	**16.27**	**324**	P	**P**	**21 01 20.8**	**-0.7**
BJI				S	**Sn**	**21 04 17.5**	**-1.4**
BJI				pmax	pmax		
	comp=Z,12nm,1.0s						
BJI				LR	LR		
	comp=Z,840nm,20.9s						
BJI				LR	LR		
	comp=Z,560nm,18.0s						
BJI				LR	LR		
	comp=Z,710nm,28.0s						
CN2	**Changchun**	**16.64**	**352**	*e*P	**P**	**21 01 25.8**	**+0.3**
CN2				*es*P	sP	21 01 45.0	+0.5
CN2				*e*S	**Sn**	**21 04 29.3**	**+1.6**
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,720nm,16.0s						
CN2				LR	LR		
	comp=Z,430nm,16.0s						
CN2				LR	LR		
	comp=Z,710nm,17.0s						
ENH	**Enshi**	**16.88**	**285**	*e*Pn	**P**	**21 01 29.2**	**+0.9**
	comp=Z,42nm,0.8s						
TIY	**Taiyuan**	**17.01**	**312**	*e*P	**P**	**21 01 33.0**	**+3.3**
TIY				pmax	pmax		
	comp=Z,66nm,0.6s						
USRK	**Ussuriysk Ar.**	**17.10**	**9**	P	**Pn**	**21 01 29.5**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=182,slow=10,SNR=23						
USRK				LR	LR	21 07 35.0	
	comp=Z,492nm,20.8s,baz=180,slow=35						
MDJ	**Mudanjiang**	**17.30**	**3**	P	**P**	**21 01 32.8**	**0.0**
MDJ				pP	pP	21 01 43.8	-1.0
MDJ				sP	sP	21 01 52.3	+0.4
MDJ				S	**S**	**21 04 48.5**	**-1.3**
MDJ				sS	sS	21 05 02.8	-6.3
MDJ				SS	**SnSn**	**21 05 04.0**	**+6.0**
MDJ				PcS	**PcS**	**21 09 45.5**	**-2.5**
MDJ				pmax	pmax		
	comp=Z,190nm,4.0s						
MDJ				LR	LR		
	comp=Z,420nm,5.7s						
MDJ				LR	LR		
	comp=Z,510nm,7.9s						
MDJ				LR	LR		
	comp=Z,590nm,10.4s						
MDJ	**Mudanjiang**	**17.30**	**3**	*e*Pn	**Pn**	**21 01 29.6**	**-2.5**
	comp=Z,20nm,1.1s						
XAN	**Xi'an**	**18.07**	**297**	P	**Pn**	**21 01 42.0**	**+0.4**
XAN				pP	pP	21 01 52.8	-0.7
XAN				PP	**sP**	**21 01 58.5**	**-2.0**
XAN				pmax	pmax		
	comp=Z,71nm,0.5s						
XAN				pmax	pmax		
	comp=Z,490nm,6.5s						
XAN				LR	LR		
	comp=Z,500nm,13.1s						
XAN				LR	LR		
	comp=Z,720nm,22.6s						
XAN				LR	LR		
	comp=Z,880nm,23.7s						
XAN	**Xi'an**	**18.07**	**297**	*e*P	**Pn**	**21 01 42.1**	**+0.4**
	comp=Z,150nm,1.1s						
XAN	**Xi'an**	**18.07**	**297**	*e*P	**Pn**	**21 01 42.1**	**+0.4**
XAN				pmax	pmax		
	comp=Z,150nm,1.1s						
QIZ	**Qiongzhong**	**18.97**	**248**	P	**P**	**21 01 50.5**	**-0.8**
QIZ				pP	**pP**	**21 02 02.0**	**-1.5**
QIZ				sP	**sP**	**21 02 09.5**	**-1.0**
QIZ				S	**S**	**21 05 20.3**	**-3.6**
QIZ				LR	LR		
	comp=Z,390nm,5.7s						
QIZ				LR	LR		
	comp=Z,620nm,16.7s						
QIZ				LR	LR		
	comp=Z,600nm,21.0s						
ERM	**Erimo**	**18.98**	**36**	⇑*e*P	**P**	**21 01 50.7**	**-0.6**
ERM				pmax	pmax		
	comp=Z,56nm,1.0s						
HHC	**Hu-ho-hao-te**	**19.39**	**318**	*e*P	**Pn**	**21 01 57.3**	**-0.3**
HHC				pP	pP	21 02 10.5	+2.4
HHC				sP	sP	21 02 18.5	+3.4
HHC				S	**S**	**21 05 30.5**	**-1.9**
HHC				pmax	pmax		
	comp=Z,31nm,1.4s						
HHC				pmax	pmax		
	comp=Z,320nm,6.4s						
GYA	**Guiyang**	**19.45**	**272**	⇑*i*P	**Pn**	**21 01 58.5**	**+0.2**
GYA				pP	pP	21 02 09.0	+0.2
GYA				PP	**sP**	**21 02 15.8**	**0.0**
GYA				S	**S**	**21 05 32.0**	**-1.7**
GYA				pmax	pmax		
	comp=Z,30nm,0.9s						
GYA				pmax	pmax		
	comp=Z,110nm,5.0s						
GYA				LR	LR		
	comp=Z,470nm,15.1s						
GYA				LR	LR		
	comp=Z,530nm,19.2s						
GYA				LR	LR		
	comp=Z,730nm,20.1s						
BTO	**Baotou**	**20.18**	**316**	*e*P	Pn	21 02 06.5	-0.4
ASAJ	**Asahikawa**	**20.28**	**31**	P	**P**	**21 02 03.6**	**-1.9**
	comp=Z,13nm,0.7s,baz=229,slow=18,SNR=7.6						
ASAJ				LR	LR	21 10 07.8	
	comp=Z,459nm,22.0s,baz=238,slow=37						
DAV	**Davao City (W)**	**20.31**	**188**	LR	LR	21 09 34.0	
	comp=Z,431nm,22.0s,baz=27,slow=35						
GUMO	**Guam**	**20.54**	**128**	P	**P**	**21 02 09.6**	**+1.2**
	comp=Z,80nm,0.7s,baz=251,slow=7.7,SNR=3.7						
GUMO				LR	LR	21 08 34.7	
	comp=Z,522nm,20.7s,baz=346,slow=32						
YUK	**Yuzh-Kuril'sk**	**21.81**	**36**	*e*P	**P**	**21 02 16.0**	**-5.8**
YUK				*i* *PP	**pP**	**21 02 33.9**	**-0.4**
YUK				*i* S	**S**	**21 06 12.1**	**-7.8**
YUK				pmax	pmax		
	comp=E,169nm,1.5s						
YUK				pmax	pmax		
	comp=Z,396nm,1.5s						
YUK				pmax	pmax		
	comp=N,228nm,0.7s						
YUK				MLR	MLR		
	comp=Z,812nm,21.0s						
CD2	**Chengdu**	**21.85**	**285**	P	**P**	**21 02 22.0**	**-0.5**
CD2				pP	pP	21 02 34.8	-0.1
CD2				sP	sP	21 02 42.5	+0.7
CD2				S	**S**	**21 06 20.3**	**-0.8**
CD2				sS	sS	21 06 42.0	+1.0
CD2				pmax	pmax		
	comp=Z,160nm,0.5s						
CD2				pmax	pmax		
	comp=Z,460nm,5.0s						
CD2				LR	LR		
	comp=Z,900nm,20.4s						
CD2				LR	LR		
	comp=Z,1μm,17.9s						
CD2				LR	LR		
	comp=Z,1μm,14.9s						
KLR	**Kul'dur**	**22.04**	**6**	P	**P**	**21 02 21.6**	**-2.6**
	comp=Z,1.6nm,0.3s,baz=202,slow=11,SNR=11						
KLR	**Kul'dur**	**22.04**	**6**	⇑*e*P	**P**	**21 02 22.9**	**-1.4**
YSS	**Yuzh-Sakhalins**	**22.62**	**26**	*e*P	**P**	**21 02 31.3**	**+0.7**
	comp=Z,77nm,1.3s						
YSS	**Yuzh-Sakhalins**	**22.62**	**26**	⇑*i*P	**P**	**21 02 31.4**	**+0.9**
YSS				*e*		21 02 56.8	
YSS				*e*S	**S**	**21 06 31.0**	**-3.3**
YSS				pmax	pmax		
	comp=Z,40nm,0.7s						
YSS				MLR	MLR		
	comp=Z,400nm,13.0s						
LZH	**Lanzhou**	**22.64**	**299**	⇑P	**P**	**21 02 31.3**	**+0.2**
LZH				pP	pP	21 02 45.3	+1.9
LZH				sP	sP	21 02 52.5	+2.2
LZH				PP	**PnPn**	**21 03 03.8**	**+7.1**
LZH				S	**S**	**21 06 30.8**	**-4.4**
LZH				sS	Sn	21 06 52.5	+0.1
LZH				pmax	pmax		
	comp=Z,160nm,1.1s						
LZH				pmax	pmax		
	comp=Z,690nm,6.1s						
LZH				LR	LR		
	comp=Z,2μm,14.6s						
LZH				LR	LR		
	comp=Z,2μm,15.7s						
LZH				LR	LR		
	comp=Z,2μm,16.7s						
HIA	**Hailar**	**22.93**	**345**	*e*P	**P**	**21 02 35.0**	**+1.2**
	comp=Z,15nm,0.8s						
HIA	**Hailar**	**22.93**	**345**	*e*P	**P**	**21 02 35.1**	**+1.2**
HIA				pmax	pmax		
	comp=Z,15nm,0.8s						
KMI	**Kunming**	**23.15**	**270**	P	**P**	**21 02 38.0**	**+1.6**
KMI				pP	pP	21 02 52.3	+3.2
KMI				S	**S**	**21 06 43.5**	**-0.5**
KMI				pmax	pmax		
	comp=Z,54nm,0.9s						
KMI				pmax	pmax		
	comp=Z,69nm,3.1s						
KMI				LR	LR		
	comp=Z,200nm,9.4s						
KMI				LR	LR		
	comp=Z,540nm,12.4s						
KMI				LR	LR		
	comp=Z,470nm,15.2s						
KMI	**Kunming**	**23.15**	**270**	*e*P	**P**	**21 02 38.2**	**+1.8**
	comp=Z,46nm,0.9s						
KMI	**Kunming**	**23.15**	**270**	*e*P	**P**	**21 02 38.2**	**+1.8**
KMI				pmax	pmax		
	comp=Z,47nm,0.9s						
KKM	**Kota Kinabalu**	**24.13**	**211**	P	**P**	**21 02 47.3**	**+1.8**
SKNT	**Sakolnakorn**	**24.84**	**251**	P	**P**	**21 02 53.5**	**+1.7**
	comp=Z,55nm,1.0s						
NONG	**Nongkai**	**25.05**	**254**	P	**P**	**21 02 55.0**	**+1.3**
	comp=Z,1.3nm,1.0s,comp=Z,110nm						
TYV	**Tymovskoe**	**25.89**	**21**	*e*P	**P**	**21 03 00.9**	**-0.1**
TYV				*e*		21 07 24.9	
TYV				pmax	pmax		
	comp=Z,15nm,1.1s						
TYV				MLR	MLR		
	comp=Z,500nm,21.0s						
ZEA	**Zeya**	**26.42**	**358**	*e*P	**P**	**21 03 06.4**	**+0.7**
ZEA				*e*		21 03 27.6	
ULN	**Ulaanbaatar**	**26.46**	**327**	*e*P	**P**	**21 03 05.8**	**-0.6**
	comp=Z,43nm,0.9s						
ULN	**Ulaanbaatar**	**26.46**	**327**	*ce*P	**P**	**21 03 05.6**	**-0.8**
ULN				pmax	pmax		
	comp=Z,45nm,0.8s						
ULN	**Ulaanbaatar**	**26.46**	**327**	P	**P**	**21 03 05.9**	**-0.6**
	SNR=23						
GTA	**Gaotai**	**26.67**	**304**	P	**P**	**21 03 06.8**	**-1.6**
GTA				pP	pP	21 03 20.8	-1.2
GTA				sP	sP	21 03 27.8	-0.8
GTA				PcP	**PcP**	**21 06 32.3**	**+1.4**
GTA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GTA				pmax	pmax		
	comp=Z,190nm,7.5s						
GTA				LR	LR		
	comp=Z,340nm,12.9s						
GTA				LR	LR		
	comp=Z,470nm,18.1s						
GTA				LR	LR		
	comp=Z,700nm,18.0s						
SONM	**Songino Array**	**26.76**	**326**	P	**P**	**21 03 08.7**	**-0.4**
	comp=Z,2.2nm,0.5s,baz=151,slow=9.8,SNR=55						
SONM				PcP	**PcP**	**21 06 31.1**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=146,slow=2.5,SNR=6.3						
SONM				ScP	**ScP**	**21 10 06.0**	**-0.4**
	comp=Z,0.7nm,1.0s,baz=154,slow=3.2,SNR=3.6						
SONM				LR	LR	21 14 58.0	
	comp=Z,544nm,20.4s,baz=156,slow=39						
SONM	**Songino Array**	**26.76**	**326**	P	**P**	**21 03 08.7**	**-0.4**
SONM						21 06 31.1	
SONM				pmax	pmax		
	comp=Z,23nm,0.5s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM				pmax	pmax		
	comp=N,1.0nm,1.0s						
SONM				MLR	MLR		
	comp=Z,544nm,20.4s						
SONA1	**Songino Array**	**26.77**	**326**	*e*P	**P**	**21 03 08.4**	**-0.8**
CHAI	**Chaiyaphum**	**27.03**	**251**	P	**P**	**21 03 12.4**	**+0.8**
	comp=Z,24nm,0.6s,comp=Z,238nm						
NKL	**Nikolayevsk**	**27.38**	**16**	*e*P	**P**	**21 03 13.5**	**-0.8**
UTTA	**Uttaradit**	**27.41**	**256**	P	**P**	**21 03 15.7**	**+0.7**
	comp=Z,12nm,0.9s,comp=Z,132nm						
PBKT	**Sadao Pong**	**27.57**	**253**	P	**P**	**21 03 17.6**	**+1.2**
	comp=Z,50nm,1.1s,comp=Z,868nm						
SUKH	**Sukhothai**	**28.32**	**256**	P	**P**	**21 03 24.3**	**+1.2**
	comp=Z,9.4nm,0.7s						
CMMT	**Chiang Mai**	**28.37**	**259**	P	**P**	**21 03 24.2**	**+0.6**
	comp=Z,63nm,0.8s						
CHTO	**Chiang Mai**	**28.37**	**259**	*e*P	**P**	**21 03 24.1**	**+0.5**
	comp=Z,60nm,1.1s						
CHTO	**Chiang Mai**	**28.37**	**259**	*e*P	**P**	**21 03 24.1**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,60nm,1.1s						
CHTO	**Chiang Mai**	**28.37**	**259**	P	**P**	**21 03 24.4**	**+0.8**
	SNR=12						
CHTO				P	**P**	**21 03 24.4**	**+0.8**
	SNR=12						
CHTO	**Chiang Mai**	**28.37**	**259**	P	**P**	**21 03 24.3**	**+0.7**
	comp=Z,267nm,1.1s						
CMAR	**Chiang Mai Arr**	**28.51**	**258**	P	**P**	**21 03 25.8**	**+0.9**
	comp=Z,11nm,0.6s,baz=58,slow=7.4,SNR=70						
CMAR				PcP	**PcP**	**21 06 37.1**	**+1.6**
	comp=Z,5.9nm,0.8s,baz=39,slow=1.4,SNR=21						
CMAR				ScP	**ScP**	**21 10 13.7**	**+1.6**
	comp=Z,1.2nm,0.9s,baz=44,slow=1.5,SNR=4.9						
CMAR				LR	LR	21 14 36.1	
	comp=Z,290nm,20.4s,baz=69,slow=36						
CMAR	**Chiang Mai Arr**	**28.51**	**258**	P	**P**	**21 03 25.8**	**+0.9**
CMAR						21 06 37.1	
CMAR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CMAR				pmax	pmax		
	comp=N,1.0nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,290nm,20.4s						
UTHA	**Uthaitani**	**29.34**	**252**	P	**P**	**21 03 34.3**	**+2.1**
	comp=Z,8.7nm,1.2s,comp=Z,76nm						
UMPA	**Umpang Tak**	**29.54**	**254**	P	**P**	**21 03 36.5**	**+2.5**
	comp=Z,14nm,1.0s,comp=Z,116nm						
ZAK	**Zakamensk**	**29.99**	**327**	*e*P	**P**	**21 03 37.1**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,3.0

PHET **Kaeng Krachan** 30.51 248 P **P** 21 03 45.3 +2.7
comp=Z,9.1nm,0.8s,comp=Z,105nm
KSM **Kuching** 31.02 217 P **P** 21 03 48.6 +1.6
MOY **Mondy** 31.92 327 *e*P **P** 21 03 54.7 -0.1
BOD **Bodaibo** 32.15 345 *e*P **P** 21 03 56.1 -0.5
BOD pmax pmax
comp=Z,5.0nm,1.3s
KTGM **Kuala Trenggan** 32.53 232 P **P** 21 04 02.0 +1.7
SHL **Shillong** 32.71 275 *i* P **P** 21 04 04.5 +2.4
LSA **Lhasa** 32.77 283 P **P** 21 04 03.5 +0.6
LSA pmax pmax
comp=Z,38nm,0.6s
LSA **Lhasa** 32.77 283 *e*P **P** 21 04 02.5 -0.4
comp=Z,17nm,0.4s
LSA **Lhasa** 32.77 283 *i* P **P** 21 04 03.7 +0.8
SNR=13
LSA **Lhasa** 32.77 283 *e*P **P** 21 04 02.5 -0.4
LSA pmax pmax
comp=Z,17nm,0.4s
TRTT **Trang** 33.41 240 P **P** 21 04 11.2 +3.2
comp=Z,6.6nm,1.1s
PEA0B **Petropavlovsk-** 33.69 32 *e*P **P** 21 04 10.4 +0.4
comp=Z,55nm,0.8s
PETK **Petropavlovsk-** 33.69 32 P **P** 21 04 10.0 -0.1
comp=Z,38nm,0.8s,baz=207,slow=7.1,SNR=31
PETK **Petropavlovsk-** 33.69 32 P **P** 21 04 10.0 -0.1
PETK pmax pmax
comp=Z,38nm,0.8s
PET **Petropavlovsk** 34.09 33⇑ *i*P **P** 21 04 14.0 +0.5
PET *e*S **S** 21 09 36.6 +1.4
PET pmax pmax
comp=Z,75nm,0.6s
PET MLR MLR
comp=Z,800nm,16.0s
PET MLR MLR
comp=Z,1µm,16.0s
KULM **Kulim** 34.34 235 P **P** 21 04 18.1 +1.9
IPM **Ipoh** 34.62 234 *e*P **P** 21 04 18.4 -0.2
comp=Z,44nm,1.0s
IPM **Ipoh** 34.62 234 P **P** 21 04 19.8 +1.2
YAK **Yakutsk** 34.73 1 *e*P **P** 21 04 17.9 -1.0
YAK *e**PP **sP** 21 04 39.6 +0.2
YAK *e* 21 05 37.9
YAK *e* 21 06 49.6
YAK *e*S **S** 21 09 37.2 -7.7
YAK pmax pmax
comp=Z,31nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=Z,180nm,4.3s
YAK pmax pmax
comp=N,178nm,5.9s
YAK pmax pmax
comp=E,128nm,5.3s
YAK smax smax
comp=E,127nm,4.2s
YAK smax smax
comp=N,225nm,4.9s
KGM **Kluang** 34.81 228 P **P** 21 04 21.9 +1.8
FRIM **Kepong** 35.07 232 P **P** 21 04 24.0 +1.6
H11N2 **WAKE ISLAND Hy** 35.95 94 T T 21 42 18.0
baz=290,slow=74,SNR=96
H11N1 **WAKE ISLAND Hy** 35.95 94 T T 21 42 18.0
baz=290,slow=74,SNR=102
H11N3 **WAKE ISLAND Hy** 35.96 94 T T 21 42 19.1
baz=290,slow=74,SNR=127
WMQ **Urumqi** 36.60 308⇓ *i*P **P** 21 04 36.0 +0.7
WMQ pP pP 21 04 51.3 +2.0
WMQ sP sP 21 05 00.0 +4.2
WMQ PcP **PcP** 21 06 58.5 +1.0
WMQ pmax pmax
comp=N,55nm,0.9s
WMQ pmax pmax
comp=N,210nm,7.7s
WMQ LR LR
comp=N,470nm,20.5s
WMQ LR LR
comp=N,810nm,26.3s
WMQ LR LR
comp=N,930nm,27.3s
WMQ **Urumqi** 36.60 308 *e*P **P** 21 04 34.3 -1.0
comp=N,12nm,0.6s
WMQ **Urumqi** 36.60 308 *e*P **P** 21 04 34.3 -1.0
WMQ pmax pmax
comp=Z,12nm,0.6s
RAMN **Ramite** 37.12 279 *e*P **P** 21 04 40.1 0.0
comp=Z,78nm,0.5s
PSI **Prapat** 37.29 234 P **P** 21 04 42.8 +1.3
comp=Z,6.7nm,0.7s,baz=360,slow=6.3,SNR=6.7
JIRN **Jiri** 37.35 281 *e*P **P** 21 04 42.4 +0.1
comp=Z,112nm,0.4s
JMBI **JAMBI** 37.39 224 P P 21 04 47.2 +5.0
BATI **Baumata** 37.58 188 P **P** 21 04 44.2 +0.5
comp=Z,17nm,0.6s,baz=264,slow=3.2,SNR=4.7
BKNI **Bangkinang** 37.58 229 P **P** 21 04 46.1 +2.3
comp=Z,148nm,0.5s
GUN **Gumba** 37.58 281 *e*P **P** 21 04 44.8 +0.6
comp=Z,193nm,0.3s
PKI **Pulchoki** 38.05 281 *e*P **P** 21 04 47.8 -0.3
comp=Z,175nm,0.3s
PKIN **Phulchoki** 38.06 281 *e*P **P** 21 04 48.0 -0.1
comp=Z,168nm,0.4s
KKN **Kakani** 38.13 281 *e*P **P** 21 04 48.8 +0.2
comp=Z,114nm,0.3s
DMN **Daman** 38.31 281 *e*P **P** 21 04 50.3 +0.1
comp=Z,76nm,0.4s
GKN **Gorkha** 38.65 281 *e*P **P** 21 04 53.2 +0.2
comp=Z,0.9nm,0.3s
SEY **Seymchan** 38.94 17⇑ *e*P **P** 21 04 54.7 0.0
GSI **Gunungsitoli** 39.29 234 P **P** 21 04 59.4 +1.2
comp=Z,24nm,1.0s
DANN **Dangsing** 39.36 282 *e*P **P** 21 04 59.1 +0.1
comp=Z,304nm,0.6s
LEM **Lembang** 39.47 214 P **P** 21 05 01.3 +1.5
comp=Z,19nm,0.7s,baz=107,slow=20,SNR=5.3
LEM LR LR 21 21 21.9
comp=Z,70nm,22.0s,baz=38,slow=36
LEM **Lembang** 39.47 214 P **P** 21 05 01.3 +1.5
LEM pmax pmax
comp=Z,22nm,0.8s
LEM MLR MLR
comp=Z,70nm,22.0s
KOLN **Koldanda** 39.60 281 *e*P **P** 21 05 00.9 0.0
comp=Z,119nm,0.5s
PYUN **Piuthan** 40.07 282 *e*P **P** 21 05 05.3 +0.5
comp=Z,124nm,0.4s
MKAR **Makanchi Array** 40.97 311 P **P** 21 05 11.0 -0.8
comp=Z,20nm,0.5s,baz=89,slow=11,SNR=173
MKAR PcP **PcP** 21 07 11.7 +0.6
comp=Z,6.3nm,0.6s,baz=73,slow=4.2,SNR=6.3
MKAR ScP **ScP** 21 10 55.0 -1.2
comp=Z,0.6nm,0.8s,baz=112,slow=1.6,SNR=2.8
MKAR LR LR 21 23 15.2
comp=Z,292nm,20.1s,baz=91,slow=38
MKAR **Makanchi Array** 40.97 311 *e*P **P** 21 05 10.7 -1.1
comp=Z,151nm,0.5s
MKAR PcP **PcP** 21 07 11.7 +0.6
MKAR ScP **ScP** 21 10 55.0 -1.2
MAKZ **Makanchi** 41.18 311 *e*P **P** 21 05 13.1 -0.5
comp=Z,15nm,0.5s
MAKZ **Makanchi** 41.18 311 *e*P **P** 21 05 13.1 -0.5
MAKZ pmax pmax
comp=Z,15nm,0.5s
ZALV **Zalesovo Beam** 41.51 322 P **P** 21 05 14.3 -1.8
comp=Z,30nm,0.5s,baz=111,slow=8.5,SNR=158
ZALV PcP **PcP** 21 07 12.2 -0.4
comp=Z,5.4nm,0.4s,baz=124,slow=4.8,SNR=8.8
ZALV ScP **ScP** 21 10 56.8 -1.3
comp=Z,1.4nm,0.5s,baz=125,slow=4.2,SNR=3.8
ZALV LR LR 21 24 27.5
comp=Z,566nm,18.1s,baz=68,slow=39
NVS **Novosibirsk** 42.71 323 *e*P **P** 21 05 25.5 -0.3
NVS *e* 21 07 16.1
NVS pmax pmax
comp=E,10.0nm,0.9s
NVS pmax pmax
comp=Z,15nm,0.9s
KURK **Kurchatov** 44.18 316 *e*P **P** 21 05 36.3 -1.4
comp=Z,53nm,0.6s
KURK PcP **PcP** 21 07 21.8 +0.1
KURK **Kurchatov** 44.18 316 *ce*P **P** 21 05 36.1 -1.6
KURK pmax pmax
comp=Z,37nm,0.6s
KURK **Kurchatov** 44.18 316 P **P** 21 05 36.3 -1.4
SNR=7.5
KURBB **Kurchatov Arra** 44.21 316 P **P** 21 05 37.1 -0.9
comp=Z,68nm,0.5s,baz=102,slow=8.8,SNR=18
KURBB PcP **PP** 21 07 21.8 0.0
comp=Z,4.1nm,0.7s,baz=104,slow=3.2,SNR=4.0
TIXI **Tiksi** 44.38 0 P **P** 21 05 38.0 -1.0
comp=Z,2.9nm,0.4s,baz=143,slow=3.8,SNR=12
TIXI PcP **PcP** 21 07 21.6 -0.4
comp=Z,7.0nm,0.6s,baz=146,slow=4.7,SNR=7.2
TIXI **Tiksi** 44.38 0 P **P** 21 05 38.0 -1.0
comp=Z,0.6nm,0.9s
TIXI PcP **PcP** 21 07 21.6 -0.4
TIXI **Tiksi** 44.38 0⇑ *e*P **P** 21 05 37.2 -1.8
TIXI pmax pmax
comp=Z,15nm,1.7s
ULHL **Ulahol** 44.72 304 P **P** 21 05 43.5 +1.1
SNR=42
KSH **Kashi** 44.89 300 P **P** 21 05 47.5 +3.8
KSH pP sP 21 06 03.5 -1.0
KSH PcP **PP** 21 07 28.0 -1.3
KSH PcS **PcS** 21 11 20.5 +2.2
KSH S **S** 21 12 20.0 +2.3
KSH sS sS 21 12 47.3 +5.6
KSH pmax pmax
comp=Z,35nm,0.8s
KSH LR LR
comp=Z,450nm,7.3s
KSH LR LR
comp=Z,870nm,9.1s
KSH LR LR
comp=Z,210nm,10.6s
NDI **New Delhi** 44.97 284 *e*P **P** 21 05 43.6 -0.7
FITZ **Fitzroy Crossi** 45.22 184 P **P** 21 05 47.3 +1.1
comp=Z,5.4nm,0.4s,baz=0.7,slow=7.2,SNR=30
FITZ PcP **PcP** 21 07 25.7 +0.1
comp=Z,3.8nm,0.9s,baz=350,slow=4.7,SNR=2.9
FITZ **Fitzroy Crossi** 45.22 184 *e*P **P** 21 05 47.4 +1.2
comp=Z,24nm,1.3s
FITZ PcP **PcP** 21 07 25.7 +0.1
TKM2 **Tokmak 2** 45.22 304 P **P** 21 05 47.7 +1.3
SNR=90
TKM2 **Tokmak 2** 45.22 304 *i* P **P** 21 05 47.3 +0.9
TKM2 pmax pmax
comp=Z,63nm,0.6s
KZA **Kyzart** 45.45 303 P **P** 21 05 50.2 +1.8
SNR=64
KBK **Karagaybulak** 45.69 304 P **P** 21 05 51.0 +0.9
SNR=54
CHMS **Chumysh** 45.84 305 P **P** 21 05 52.0 +0.9
SNR=41
FRU **Bishkek** 45.94 304 *e*P **P** 21 05 51.0 -0.9
UCH **Uchtor** 46.00 303 P **P** 21 05 54.6 +1.7
SNR=146
AAK **Ala-Archa** 46.02 304 P **P** 21 05 53.6 +0.9
SNR=29
AAK **Ala-Archa** 46.02 304 *e*P **P** 21 05 52.6 -0.1
comp=Z,28nm,0.5s
AAK **Ala-Archa** 46.02 304 *i* P **P** 21 05 53.0 +0.3
SNR=58
AAK **Ala-Archa** 46.02 304 *c i*P **P** 21 05 53.3 +0.6
AAK pmax pmax
comp=Z,16nm,0.5s
AAK **Ala-Archa** 46.02 304 P **P** 21 05 52.1 -0.6
SNR=5.5
USP **Ospenovka** 46.04 305 P **P** 21 05 53.4 +0.7
SNR=36
EKS2 **Erkin-Say** 46.55 304 P **P** 21 05 57.6 +0.8
SNR=28
BILL **Bilibino** 46.59 19 *e*P **P** 21 05 56.7 +0.1
comp=Z,26nm,1.2s
BILL **Bilibino** 46.59 19 *d i*P **P** 21 05 56.9 +0.3
BILL *e**PP **pP** 21 06 12.4 +1.5
BILL *i* 21 07 30.9
BILL *e* 21 07 46.3
BILL *e*S **S** 21 12 36.1 -5.1
BILL pmax pmax
comp=Z,20nm,1.0s
BILL MLR MLR
comp=Z,184nm,17.0s
AML **Almayashu** 46.61 303 P **P** 21 05 59.2 +1.6
SNR=11
SFK **Sufi-Kurgan** 46.78 300 *i* P **P** 21 05 58.9 +0.1
SFK pmax pmax
comp=Z,9.0nm,0.4s
HYB **Hyderabad** 46.92 269 *i* P **P** 21 05 58.0 -1.8
WRAB **Tennant Creek** 47.31 172 *e*P **P** 21 06 03.2 +0.6
comp=Z,57nm,1.4s
WRAB **Tennant Creek** 47.31 172 *d i*P **P** 21 06 03.8 +1.1
WRAB pmax pmax
comp=Z,13nm,1.3s
WRA **Warramunga Arr** 47.31 172 P **P** 21 06 03.4 +0.6
comp=Z,5.4nm,0.5s,baz=352,slow=8.4,SNR=66
WRA LR LR 21 25 23.9
comp=Z,143nm,21.0s,baz=325,slow=35
WB2 **Warramunga Arr** 47.32 172 *e*P **P** 21 06 04.0 +1.3
MNAS **Manas** 47.49 304 *i* P **P** 21 06 05.0 +0.8
MNAS pmax pmax
comp=Z,16nm,0.6s
HNR **Honiara** 47.60 136 LR LR 21 25 33.2
comp=Z,113nm,18.2s,baz=318,slow=35
KKAR **Karatay Array** 48.95 305 *e*P **P** 21 06 16.0 +0.7
KKAR **Karatay Array** 48.95 305 *e*P **P** 21 06 16.0 +0.7
GAR **Garm** 49.30 299 *e*P **P** 21 06 18.7 +0.6
comp=Z,48nm,0.8s
PALK **Pallekele** 49.38 255 P **P** 21 06 20.0 +1.1
comp=Z,10nm,0.5s,baz=115,slow=4.7,SNR=14
PALK **Pallekele** 49.38 255 *e*P **P** 21 06 18.4 -0.5
comp=Z,13nm,0.7s
PALK **Pallekele** 49.38 255 P **P** 21 06 19.5 +0.6
PALK **Pallekele** 49.38 255 *e*P **P** 21 06 18.4 -0.5
PALK pmax pmax
comp=Z,13nm,0.7s
BVAR **Borovoye Array** 49.60 318 P **P** 21 06 19.4 -0.7
comp=Z,33nm,0.5s,baz=89,slow=10,SNR=11
BVAR PcP **PcP** 21 07 41.3 +0.4
comp=Z,19nm,0.5s,baz=117,slow=2.9,SNR=14
BVAR **Borovoye Array** 49.60 318 P **P** 21 06 19.4 -0.7
BVAR 21 07 41.3
BVAR pmax pmax
comp=Z,34nm,0.5s
BVAR pmax pmax
comp=Z,19nm,0.5s
BRVK **Borovoye** 49.67 318 *e*P **P** 21 06 19.5 -1.1
comp=Z,71nm,0.6s
BRVK **Borovoye** 49.67 318 *ce*P **P** 21 06 19.3 -1.3
BRVK pmax pmax
comp=Z,52nm,0.8s
BRVK **Borovoye** 49.67 318 P **P** 21 06 19.4 -1.1
SNR=20
CHGR **Chuyangaron** 50.23 299 *e*P **P** 21 06 25.6 +0.4
comp=Z,59nm,0.5s
AS31 **Alice Springs** 50.95 174 *e*P **P** 21 06 31.8 +1.3
ASAR **Alice Springs** 50.95 174 P **P** 21 06 31.8 +1.3
comp=Z,4.3nm,0.5s,baz=6.6,slow=14,SNR=65
ASAR LR LR 21 27 12.2
comp=Z,69nm,21.6s,baz=356,slow=35
ASAR **Alice Springs** 50.95 174 P **P** 21 06 31.8 +1.3
ASAR pmax pmax
comp=Z,5.0nm,0.9s
ASAR MLR MLR
comp=Z,69nm,21.6s
AS01 **Alice Springs** 50.95 173 *e*P **P** 21 06 31.4 +0.9
GAMB **Gambell** 52.60 29 *e*P **P** 21 06 43.6 +1.3
comp=Z,20nm,0.8s
ANM **Nome** 55.48 29 *e*P **P** 21 07 05.1 +1.8
ANM **Nome** 55.48 29 *e*P **P** 21 07 05.1 +1.8
SVE **Sverdlovsk** 55.53 322⇓ *e*P **P** 21 07 03.6 -0.2
SVE pmax pmax
comp=Z,41nm,0.7s
ABKAR **Akbulak array** 56.05 313 *e*P **P** 21 07 06.7 -0.9
ARU **Arti** 56.67 321 *e*P **P** 21 07 10.1 -1.8
ARU **Arti** 56.67 321 *ce*P **P** 21 07 11.0 -0.9
ARU pmax pmax
comp=Z,5.0nm,0.8s
GEYT **Alibeck** 58.92 300 P **P** 21 07 28.9 +0.9
comp=Z,18nm,0.5s,baz=60,slow=3.6,SNR=25
GEYT LR LR 21 35 52.8
comp=Z,205nm,19.1s,baz=125,slow=39
STKA **Stephens Creek** 60.17 167 P **P** 21 07 37.6 +1.1
comp=Z,4.7nm,0.7s,baz=341,slow=7.3,SNR=12
STKA LR LR 21 33 54.4
comp=Z,76nm,19.8s,baz=18,slow=36
IM3 **Indian Mountai** 60.45 27 *e*P **P** 21 07 39.2 +1.2
RSO **Redoubt South** 61.19 34 *e*P **P** 21 07 44.8 +1.4
PPLA **Purkeypile** 61.26 31 *e*P **P** 21 07 45.6 +1.8
DZM **Mont Dzumac** 61.32 139 *e*S **S** 21 15 57.8 -3.3
comp=Z,159nm,29.6s
DZM *e*LR LR 21 25 55.2
comp=Z,346nm,22.9s
DZM **Mont Dzumac** 61.32 139 LR LR 21 30 16.3
comp=Z,208nm,21.0s,baz=240,slow=32
KDAK **Kodiak Island** 61.54 37 P **P** 21 07 46.2 +0.6
comp=Z,55nm,0.7s,baz=278,slow=4.9,SNR=33
KDAK **Kodiak Island** 61.54 37 *e*P **P** 21 07 46.5 +0.9
KDAK **Kodiak Island** 61.54 37 *i* P **P** 21 07 46.3 +0.7
BPAW **Bear Paw Mtn.** 61.71 29 *e*P **P** 21 07 48.2 +1.5
MLY **Manley** 61.74 28 *e*P **P** 21 07 48.7 +1.8
COLD **Coldfoot** 61.81 26 *e*P **P** 21 07 49.2 +1.9
SUA **Susitna One** 62.06 32 *e*P **P** 21 07 50.2 +1.0
TRF **Thorofare Moun** 62.07 30 *e*P **P** 21 07 50.6 +1.3
BRLK **Bradley Lake** 62.19 34 *e*P **P** 21 07 50.7 +0.7
JLN **Jalan Bani Buh** 62.21 282 P **P** 21 07 51.0 +0.3
SNR=9.3
RC01 **Rabbit Creek A** 62.59 33 *e*P **P** 21 07 53.8 +1.3
MCK **McKinley** 62.65 30 *e*P **P** 21 07 53.9 +0.9
MCK **McKinley** 62.65 30 *e*P **P** 21 07 53.9 +0.9
RND **Reindeer** 62.72 30 *e*P **P** 21 07 54.3 +0.8
RND **Reindeer** 62.72 30 *e*P **P** 21 07 54.3 +0.8
MDM **Murphy Dome** 62.81 28 *e*P **P** 21 07 55.5 +1.5
PMR **Palmer** 62.82 32 *e*P **P** 21 07 54.6 +0.6
PMR **Palmer** 62.82 32 *e*P **P** 21 07 54.6 +0.6
BIDO **Bidbid** 62.86 284 P **P** 21 07 56.2 +1.2
SNR=12
GHO **Glory Hole Cre** 62.89 32 *e*P **P** 21 07 55.8 +1.2
WRH **Wood River Hil** 62.93 29 *e*P **P** 21 07 55.7 +0.9
TCOL **CIGO, UAF Yank** 62.98 28 P **P** 21 07 56.2 +1.1
baz=277,SNR=6.4
COLA **College** 62.98 28 *e*P **P** 21 07 56.9 +1.9
COLA **College** 62.98 28⇓ *e*P **P** 21 07 56.5 +1.4
COLA pmax pmax
comp=Z,12nm,0.7s
PRGR **Permogore** 63.00 328⇑ *i*P **P** 21 07 54.3 -0.9
PRGR *e* 21 08 32.0
PRGR pmax pmax
comp=Z,32nm,0.8s
SMDO **Samad** 63.08 283 P **P** 21 07 57.4 +0.8
SNR=8.7
POKR **Poker Plat Res** 63.13 28 P **P** 21 07 57.4 +1.3
baz=277,SNR=28
KNK **Knik Glacier** 63.16 32 *e*P **P** 21 07 57.7 +1.3
SML **Sawmill** 63.16 32 *e*P **P** 21 07 57.7 +1.3
SML **Sawmill** 63.16 32 *e*P **P** 21 07 57.7 +1.3
IL1 **Eielson Array** 63.40 29 *e*P **P** 21 07 57.1 -0.8
ILAR **Eielson Array** 63.40 29 P **P** 21 07 57.9 0.0
comp=Z,10nm,0.7s,baz=271,slow=5.8,SNR=48
ILB **Eielson Array** 63.40 29 *e*P **P** 21 07 57.9 0.0
DHY **Denali Highway** 63.43 30 *e*P **P** 21 07 59.6 +1.3
HDA **Harding Lake** 63.43 29 *e*P **P** 21 07 58.3 +0.2
HDA **Harding Lake** 63.43 29 P **P** 21 07 58.1 0.0
baz=278,SNR=27
BANOM **Banah** 63.63 287 *i* P **P** 21 08 00.8 +0.7
SNR=29
SCM **Sheep Creek Mo** 63.63 32 *e*P **P** 21 08 00.9 +1.3
SCM **Sheep Creek Mo** 63.63 32 *e*P **P** 21 08 00.9 +1.3
SHME **Shamm** 63.73 287 *i* P **P** 21 08 02.1 +1.3
SNR=12
FYU **Fort Yukon** 63.83 26 *e*P **P** 21 08 03.1 +2.5
MDH **Madha** 63.84 286 *i* P **P** 21 08 00.8 -0.6
SNR=5.6
PRP **Porcupine Dome** 63.87 28 *e*P **P** 21 08 02.0 +0.9
MHTO **MHTO** 63.87 281 P **P** 21 08 01.4 -0.3
SNR=10.0
MSFE **Esma-Masafi** 63.94 286 *i* P **P** 21 08 02.7 +0.6
SNR=12
SOHO **SOHO** 64.03 285 P **P** 21 08 02.8 +0.1
SNR=7.2
UOSS **Minazif** 64.04 286 *e*P **P** 21 08 02.5 -0.3
UOSS **Minazif** 64.04 286 *i* P **P** 21 08 02.0 -0.8
SNR=6.1
HATD **Hatta, Dubai** 64.14 286 *i* P **P** 21 08 04.0 +0.6
SNR=12
HATD **Hatta, Dubai** 64.14 286 P **P** 21 08 04.0 +0.6
SNR=5.1
ASHO **Ashiyiah** 64.25 286 *i* P **P** 21 08 04.6 +0.4
SNR=12
ASHO **Ashiyiah** 64.25 286 P **P** 21 08 04.6 +0.4
SNR=10.0
RIDG **Independ'e Rid** 64.45 29 *e*P **P** 21 08 05.2 +0.3
NAZ **Nazwa, Dubai** 64.49 286 *i* P **P** 21 08 06.1 +0.3
SNR=8.9
NAZ **Nazwa, Dubai** 64.49 286 P **P** 21 08 06.0 +0.3
SNR=7.7
DIV **Divide** 64.49 32 *e*P **P** 21 08 06.9 +1.7
HARP **HAARP** 64.54 31 *e*P **P** 21 08 07.5 +2.0
FAQ **Al Faqa, Dubai** 64.63 286 *i* P **P** 21 08 06.9 +0.2
SNR=48
FAQ **Al Faqa, Dubai** 64.63 286 P **P** 21 08 06.8 +0.2
SNR=12
ALNE **Al Ain** 64.72 285 *i* P **P** 21 08 07.7 +0.4
SNR=27
SCRK **Sand Creek** 64.78 29 *e*P **P** 21 08 07.7 +0.7
ASUD **Al Ashush, Dub** 64.89 286 *i* P **P** 21 08 09.1 +0.7
SNR=7.0
EGAK **Eagle** 65.82 28 *e*P **P** 21 08 14.4 +0.8
KLMR **Klimovskoe** 66.04 328 *e*P **P** 21 08 13.7 -1.4
KLMR pmax pmax
comp=Z,15nm,0.6s
KLMR **Klimovskoe** 66.04 328 *e*P **P** 21 08 13.7 -1.4
KLMR AMP 21 08 15.1
comp=Z,15nm,0.7s
DAWY **Dawson** 66.73 29 *e*P **P** 21 08 19.2 -0.3
comp=Z,12nm,0.9s
GROC **Groznyy** 66.76 308 *e*P **P** 21 08 18.8 -1.3
GROC *e**PP **pP** 21 08 36.5 +1.3
GROC *e* 21 08 46.3
GROC pmax pmax
comp=Z,37nm,0.7s
EPYK **Eagle Plains** 67.21 26 *e*P **P** 21 08 23.9 +1.3
EPYK **Eagle Plains** 67.21 26 P **P** 21 08 23.8 +1.3
baz=286
VRH **Novokhopyorsk** 67.25 317 *e*P **P** 21 08 22.1 -0.9
VRH pmax pmax
comp=Z,60nm,0.6s
SPA0 **Spitsbergen Ar** 67.82 348 *e*P **P** 21 08 26.0 -0.2
INK **Inuvik** 67.83 23 P **P** 21 08 27.4 +1.1
comp=Z,14nm,0.6s,baz=294,slow=6.4,SNR=39
GOF **Gofitskoye** 68.13 310⇑ *i*P **P** 21 08 28.8 +0.1
GOF pmax pmax
comp=Z,60nm,0.8s
ZEI **Tsey** 68.21 308 *e*P **P** 21 08 28.4 -1.1
ZEI pmax pmax
comp=Z,53nm,0.6s
NCK **Nalchik** 68.22 309⇓ *e*P **P** 21 08 29.6 +0.3
NCK pmax pmax
comp=Z,16nm,0.9s
MOS **Moscow** 68.34 323 *e*P **P** 21 08 28.4 -1.3
MOS *e* 21 08 43.2
MOS *e* 21 08 45.9
MOS *e* 21 08 54.1
MOS *e* 21 12 38.7
MOS pmax pmax
comp=Z,61nm,0.6s
GNI **Garni** 68.41 305 *e*P **P** 21 08 31.9 +1.2
GNI **Garni** 68.41 305 *i* P **P** 21 08 31.6 +0.8
SNR=7.5
GNI **Garni** 68.41 305 *ce*P **P** 21 08 31.8 +1.0
GNI pmax pmax
comp=Z,173nm,1.3s
KEV **Kevo** 68.51 338 *e*P **P** 21 08 30.1 -0.5
KEV **Kevo** 68.51 338 *e*P **P** 21 08 30.1 -0.5
LPSR **Galich'ya Gora** 68.52 319 *e*P **P** 21 08 30.1 -0.8
LPSR pmax pmax
comp=Z,40nm,0.6s
HSPB **Hornsund (broa** 68.53 347 *e*P **P** 21 08 31.4 +0.8
VORR **Voronezh** 68.63 318 P **P** 21 08 30.0 -1.6
VORR pmax pmax
comp=Z,250nm,1.4s
KBZ **Khabaz** 68.63 309 P **P** 21 08 32.3 +0.5
comp=Z,55nm,0.9s,baz=113,slow=4.0,SNR=114
KBZ LR LR 21 41 51.2
comp=Z,186nm,18.6s,baz=22,slow=39
KIV **Kislovodsk** 68.70 309 *e*P **P** 21 08 33.1 +0.7
KIV **Kislovodsk** 68.70 309 *i* P **P** 21 08 33.1 +0.7
SNR=16
KIV **Kislovodsk** 68.70 309 *e*P **P** 21 08 33.0 +0.6
KIV pmax pmax
comp=Z,71nm,1.0s
KIV MLR MLR
comp=Z,161nm,17.0s
KIV **Kislovodsk** 68.70 309 P **P** 21 08 33.0 +0.6

SNR=13
VSR Storozhevoye 68.79 318*c i*P P 21 08 31.6 -1.0
VSR pmax pmax
comp=Z,68nm,1.0s
TASB TASBURUN-IGDIR 68.83 305 *e*P P 21 08 33.5 +0.2
TASB TASBURUN-IGDIR 68.83 305 *e*P P 21 08 33.5 +0.2
NEY Neytrino 68.90 309*de*P P 21 08 34.6 +0.9
NEY pmax pmax
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 69.08 338 P P 21 08 33.7 -0.5
comp=Z,19nm,0.9s,baz=64,slow=7.9,SNR=114
ARE0 ARCESS Array S 69.08 338 *e*P P 21 08 34.3 +0.2
OBN Obninsk 69.10 322 *e*P P 21 08 34.1 -0.4
OBN Obninsk 69.10 322*c i*P P 21 08 33.9 -0.6
OBN *e* 21 08 47.8
OBN *e**PP **sP** 21 08 53.7 -2.0
OBN 21 08 59.0
OBN *e* 21 11 08.6
OBN *e* 21 18 28.1
OBN pmax pmax
comp=Z,50nm,1.3s
OBN MLR MLR
comp=Z,366nm,15.0s
HAMF Hammerfest 69.23 340 *e*P P 21 08 34.5 -0.6
CLDR Caldiran 69.34 304 *e*P P 21 08 37.3 +0.7
CLDR Caldiran 69.34 304 *e*P P 21 08 37.3 +0.7
KARS Kars 69.47 306 *e*P P 21 08 38.2 +0.9
KARS Kars 69.47 306 *e*P P 21 08 38.2 +0.9
KTK1 Kautokeino 70.03 338 *e*P P 21 08 39.8 -0.2
CUKT Cukurca 70.19 302 *e*P P 21 08 41.9 +0.2
CUKT Cukurca 70.19 302 *e*P P 21 08 41.9 +0.2
BCA Borcka 70.25 307 *e*P P 21 08 41.8 -0.1
BCA Borcka 70.25 307 *e*P P 21 08 41.8 -0.1
AKDM Akdamar-Van 70.30 304 *e*P P 21 08 43.3 +0.9
AKDM Akdamar-Van 70.30 304 *e*P P 21 08 43.3 +0.9
PUL Pulkovo 70.74 328*de*P P 21 08 44.7 +0.3
PUL pmax pmax
comp=Z,44nm,0.4s
SOC Sochi 70.86 310 *e*P P 21 08 45.3 -0.2
SOC *e*S S 21 17 57.0 +0.4
SOC pmax pmax
comp=Z,79nm,0.6s
GURO Guroymak-BITLI 70.92 304 *e*P P 21 08 46.7 +0.5
GURO Guroymak-BITLI 70.92 304 *e*P P 21 08 46.7 +0.5
SIRT Sirnak 70.98 303 *e*P P 21 08 46.9 +0.4
SIRT Sirnak 70.98 303 *e*P P 21 08 46.9 +0.4
TRO Tromso 71.13 340 *e*P P 21 08 46.1 -0.6
BAYT Aydıntepe-Bayb 71.66 306 *e*P P 21 08 51.6 +0.9
BAYT Aydıntepe-Bayb 71.66 306 *e*P P 21 08 51.6 +0.9
ANN Anapa 71.98 312 *e*P P 21 08 51.1 -1.2
ANN *e**PP **PcP** 21 09 10.0 -0.6
ANN *e*S S 21 18 04.2 -5.2
ANN pmax pmax
comp=Z,148nm,1.2s
FINES FINESS Array B 72.02 330 P P 21 08 51.2 -1.0
comp=Z,320nm,0.5s,baz=66,slow=5.5,SNR=250
FINES LR LR 21 44 48.6
comp=Z,336nm,20.7s,baz=38,slow=39
MAZI Mazidag 72.48 303 *e*P P 21 08 55.3 -0.2
MAZI Mazidag 72.48 303 *e*P P 21 08 55.3 -0.2
ESPY Espiye-Giresun 72.48 307 *e*P P 21 08 54.9 -0.4
ESPY Espiye-Giresun 72.48 307 *e*P P 21 08 54.9 -0.4
PTK Pertek 72.73 305 *i*P P 21 08 57.4 +0.3
PTK Pertek 72.73 305 *i*P P 21 08 57.4 +0.3
VSU Vasula 72.95 327*ce*P P 21 08 57.7 0.0
VSU pmax pmax
comp=Z,141nm,0.8s
VSU Vasula 72.95 327 *e*P P 21 08 57.0 -0.7
VSU IAmb IAmb 21 08 58.8
comp=Z,154nm,0.6s
STEI Steigen 73.14 339 *e*P P 21 08 58.4 -0.3
CUZAR Zara_SIVAS 73.53 307 *i*P P 21 09 02.5 +0.7
LOF Lofoten 73.58 339 *e*P P 21 09 00.5 -0.8
RAYN Ar Rayn 73.65 288 *e*P P 21 09 03.0 +0.4
comp=Z,74nm,1.0s
RAYN Ar Rayn 73.65 288 *i*P P 21 09 02.6 0.0
SNR=58
RAYN Ar Rayn 73.65 288 *e*P P 21 09 03.0 +0.4
RAYN pmax pmax
comp=Z,74nm,1.0s
URFA Urfa 73.69 304 *e*P P 21 09 03.4 +0.8
URFA Urfa 73.69 304 *e*P P 21 09 03.4 +0.8
SIM Simferopol' 74.12 313*c i*P P 21 09 03.6 -1.3
SIM pmax pmax
comp=Z,58nm,0.1s
DAG Danmarks Havn 74.22 353 *i*P P 21 09 04.4 -0.5
comp=Z,15nm,0.7s
DAG Danmarks Havn 74.22 353 *i*P P 21 09 04.4 -0.5
DAG pmax pmax
comp=Z,10.0nm,0.7s
DARE Darende-Malaty 74.24 305 *e*P P 21 09 06.4 +0.5
DARE Darende-Malaty 74.24 305 *e*P P 21 09 06.4 +0.5
TOKT Tokat 74.24 307 *e*P P 21 09 05.7 -0.1
TOKT Tokat 74.24 307 *e*P P 21 09 05.7 -0.1
IDID Didziasalis 74.26 324 *e*P P 21 09 05.6 +0.1
IDID IAmb IAmb 21 09 07.2
comp=Z,25nm,0.4s
KVT Kavak 74.30 308 *e*P P 21 09 06.1 0.0
KVT Kavak 74.30 308 *e*P P 21 09 06.1 0.0
IZAR Zarasai 74.33 325 *e*P P 21 09 06.0 +0.1
IZAR IAmb IAmb 21 09 07.6
comp=Z,14nm,0.9s
MOR8 Moi Rana 74.34 337 *e*P P 21 09 04.2 -1.7
NACGM Naroch 74.42 324 *e* P 21 09 07.0 +0.6
RES Resolute Bay 74.46 11 *e*P P 21 09 06.8 +0.5
comp=Z,39nm,0.8s
RES Resolute Bay 74.46 11 *e*P P 21 09 06.8 +0.5
RES pmax pmax
comp=Z,39nm,0.8s
ISAL Salakas 74.47 325 *e*P P 21 09 06.7 0.0
ISAL IAmb IAmb 21 09 08.5
comp=Z,18nm,1.0s
IIGN Ignalina 74.52 325 *e*P P 21 09 06.8 -0.1
IIGN IAmb IAmb 21 09 07.8
comp=Z,8.8nm,0.8s
KONS Konsvik 74.61 338 *e*P P 21 09 06.5 -0.8
CUSAR Sarkisla-SIVAS 74.80 307 *i*P P 21 09 10.7 +1.5
AKASG Malin Array Be 74.84 319 P P 21 09 08.0 -0.9
comp=Z,43nm,0.5s,baz=59,slow=6.3,SNR=170
AKASG LR LR 21 44 37.0
comp=Z,612nm,18.9s,baz=275,slow=38
GAZ Gaziantep 74.97 304 *e*P P 21 09 10.5 +0.4
GAZ Gaziantep 74.97 304 *e*P P 21 09 10.5 +0.4
KMRS Kahramanmaras 75.07 305 *e*P P 21 09 10.5 -0.1
KMRS Kahramanmaras 75.07 305 *e*P P 21 09 10.5 -0.1
BNN Bunyan 75.31 306 *e*P P 21 09 11.8 -0.3
BNN Bunyan 75.31 306 *e*P P 21 09 11.8 -0.3
BZK Bozkurt 75.37 310 *e*P P 21 09 12.6 +0.4
BZK Bozkurt 75.37 310 *e*P P 21 09 12.6 +0.4
YOZ Yozgat 75.37 307 *e*P P 21 09 12.2 -0.3
YOZ Yozgat 75.37 307 *e*P P 21 09 12.2 -0.3
PABE Paberze 75.60 325 *e*P P 21 09 12.5 -0.7
PABE IAmb IAmb 21 09 13.8
comp=Z,36nm,0.6s
KOZT Kozan 75.87 305 *e*P P 21 09 14.9 -0.3
KOZT Kozan 75.87 305 *e*P P 21 09 14.9 -0.3
TAHT Tahtakopru-Hat 76.05 304 *e*P P 21 09 15.9 -0.3
TAHT Tahtakopru-Hat 76.05 304 *e*P P 21 09 15.9 -0.3
NSS Namsos 76.12 337 *e*P P 21 09 15.5 -0.5
DELI KIRIKKALE 76.22 308 *i*P P 21 09 17.2 0.0
YURE YUREGIR 76.27 304 *e*P P 21 09 18.4 +0.9
YURE YUREGIR 76.27 304 *e*P P 21 09 18.4 +0.9
YURE YUREGIR 76.27 304 *i*P P 21 09 18.1 +0.6
PBUR Paburg 76.37 326 *e*P P 21 09 16.4 -1.2
PBUR IAmb IAmb 21 09 19.2
comp=Z,106nm,0.7s
KARA Karaisali 76.52 305 *e*P P 21 09 18.9 0.0
KARA Karaisali 76.52 305 *e*P P 21 09 18.9 0.0
BR131 Keskin Array S 76.53 308 P P 21 09 19.1 +0.2
SNR=21
BRTR Keskin Array B 76.53 308 P P 21 09 19.2 +0.2
comp=Z,47nm,0.8s,baz=102,slow=4.9,SNR=262
BRTR LR LR 21 47 12.6
comp=Z,158nm,19.8s,baz=344,slow=39
BRTR Keskin Array B 76.53 308 P P 21 09 19.2 +0.2
BRTR pmax pmax
comp=Z,48nm,0.8s
BRTR MLR MLR
comp=Z,158nm,19.8s
SUW Suwalki 76.70 324 *e*P P 21 09 19.5 0.0
SUW Suwalki 76.70 324 *e*P P 21 09 19.5 0.0
YAYX Yaylak 76.73 307 *e*P P 21 09 19.3 -0.8
YAYX Yaylak 76.73 307 *e*P P 21 09 19.3 -0.8

SERE Sereflikochisa 76.90 307 *e*P P 21 09 21.2 +0.1
SERE Sereflikochisa 76.90 307 *e*P P 21 09 21.2 +0.1
AFSR Afar-Bala (An 77.04 308 *e*P P 21 09 21.8 -0.1
AFSR Afar-Bala (An 77.04 308 *e*P P 21 09 21.8 -0.1
ANTO Ankara 77.06 308 P P 21 09 22.3 +0.3
SNR=5.5
LEOM Leova 77.24 316⇃ *i*P P 21 09 22.9 +0.2
SULT Sultanhani-AKS 77.25 306 *e*P P 21 09 22.9 -0.1
SULT Sultanhani-AKS 77.25 306 *e*P P 21 09 22.9 -0.1
KULU Kulu 77.26 307 *e*P P 21 09 22.7 -0.4
KULU Kulu 77.26 307 *e*P P 21 09 22.7 -0.4
IAS Iasi 77.34 317⇃ *i*P P 21 09 23.5 +0.3
TLCR 77.44 314⇑ *i*P P 21 09 23.8 0.0
YKA Yellowknife Ar 77.47 25 P P 21 09 24.8 +1.2
comp=Z,17nm,0.6s,baz=304,slow=5.9,SNR=321
YKA LR LR 21 47 44.8
comp=Z,11nm,18.3s,baz=28,slow=39
TBLU Trondheim 77.48 336 *e*P P 21 09 22.9 -0.8
CHBY Cihanbeyli 77.53 307 *e*P P 21 09 24.4 -0.2
CHBY Cihanbeyli 77.53 307 *e*P P 21 09 24.4 -0.2
BIR Birlad 77.71 316⇑ *i*P P 21 09 26.5 +1.2
CFR Carcaliu 77.88 315⇑ *i*P P 21 09 26.3 0.0
MDUB Mudurnu 77.91 309 *e*P P 21 09 26.9 +0.2
MDUB Mudurnu 77.91 309 *e*P P 21 09 26.9 +0.2
TIRR Tirgusor 78.02 314⇑ *i*P P 21 09 27.4 +0.3
TEVE Tevekalti-Mers 78.04 305 *e*P P 21 09 27.3 -0.1
TEVE Tevekalti-Mers 78.04 305 *e*P P 21 09 27.3 -0.1
LADK Ladik-KONYA 78.07 307 *e*P P 21 09 26.6 -1.0
LADK Ladik-KONYA 78.07 307 *e*P P 21 09 26.6 -1.0
PRAR RASCA 78.07 317⇑ *i*P P 21 09 27.2 -0.2
SVRH Sivrihisar-ESK 78.13 308 *e*P P 21 09 27.1 -0.8
SVRH Sivrihisar-ESK 78.13 308 *e*P P 21 09 27.1 -0.8
MFTR Murfatlar 78.14 314⇑ *i*P P 21 09 27.6 -0.1
KONT Konya--Tatoy 78.18 307 *e*P P 21 09 27.2 -1.0
KONT Konya--Tatoy 78.18 307 *e*P P 21 09 27.2 -1.0
PETR Petresti 78.20 315⇑ *i*P P 21 09 29.5 +1.4
TLB Topalu 78.20 314⇑ *i*P P 21 09 28.5 +0.4
LVV L'vov 78.22 320 *e*P P 21 09 28.5 +0.4
HARR Harsova 78.23 314⇑ *i*P P 21 09 28.6 +0.4
BERE Bereket-Mersin 78.23 305 *e*P P 21 09 28.1 -0.5
BERE Bereket-Mersin 78.23 305 *e*P P 21 09 28.1 -0.5
ODBI Odobesti 78.30 316⇑ *i*P P 21 09 30.3 +1.7
KULLO Kullorsuaq 78.30 2 *i*P P 21 09 27.4 -0.7
comp=Z,32nm,0.8s
KULLO pmax pmax
KULLO Kullorsuaq 78.30 2 *i*P P 21 09 27.4 -0.7
comp=Z,32nm,0.8s
BIZ Bicaz 78.34 317⇑ *i*P P 21 09 29.3 +0.4
GULT Gulveren 78.40 309 *e*P P 21 09 28.6 -0.8
GULT Gulveren 78.40 309 *e*P P 21 09 28.6 -0.8
NB2 NORSAR Subarra 78.44 334 P P 21 09 28.4 -0.7
comp=Z,50nm,0.7s,baz=52,slow=5.9
NB2 NORSAR Subarra 78.44 334 P P 21 09 28.4 -0.7
baz=52,slow=5.9
NOA NORSAR Array B 78.44 334 P P 21 09 28.7 -0.4
comp=Z,49nm,0.7s,baz=51,slow=5.6,SNR=166
NOA LR LR 21 46 24.1
comp=Z,100nm,19.4s,baz=270,slow=37
VRI Vrincioaia 78.45 316⇑ *i*P P 21 09 30.1 +0.6
NC602 NORSAR Array S 78.49 333 *e*P P 21 09 28.6 -0.7
PLOR Plostina 78.51 316⇑ *i*P P 21 09 30.4 +0.6
GRER 78.52 315⇑ *i*P P 21 09 31.5 +1.7
BURAR Bucovina Array 78.56 318⇑ *i*P P 21 09 30.4 +0.2
ICOR Ion Corvin 78.57 314⇑ *i*P P 21 09 31.1 +1.0
AMRR Amara 78.64 314⇑ *i*P P 21 09 31.6 +1.1
DOMB Dombas 78.65 335 *e*P P 21 09 30.2 -0.1
PGOR Pogoanele 78.73 315⇑ *i*P P 21 09 32.6 +1.6
CSS Mathiatis 78.73 305 P P 21 09 31.4 +0.1
MOL Molde 78.88 336 *e*P P 21 09 31.9 +0.6
ISR Istrita 78.91 315⇑ *i*P P 21 09 33.5 +1.4
OZUR 78.93 316⇑ *i*P P 21 09 33.0 +0.9
HSNJ Maan 78.94 298 P P 21 09 33.7 +1.1
BEL Belsk 79.02 323 *e*P P 21 09 33.2 +0.8
BEL Belsk 79.02 323 *e*P P 21 09 33.3 +0.8
LEHL Lehliu 79.03 314⇑ *i*P P 21 09 33.8 +1.1
KWP Kalwaria Pacla 79.06 320 *e*P P 21 09 33.5 +0.7
KWP Kalwaria Pacla 79.06 320 *e*P P 21 09 33.5 +0.7
MLR Muntele Rosu 79.11 316⇑ *i*P P 21 09 33.5 +0.2
YLV Yalova 79.12 310 *e*P P 21 09 33.3 0.0
YLV Yalova 79.12 310 *e*P P 21 09 33.3 0.0
SHUT Suhut-Afyon 79.20 308 *e*P P 21 09 33.6 -0.3
SHUT Suhut-Afyon 79.20 308 *e*P P 21 09 33.6 -0.3
DOPR Dopca 79.23 316⇑ *i*P P 21 09 34.8 +1.0
SECR 79.25 315⇑ *i*P P 21 09 34.8 +0.9
OSL Oslo 79.29 333 *e*P P 21 09 34.0 +0.3
SULR 79.30 315⇑ *i*P P 21 09 35.0 +0.9
AKN Aaknes 79.33 336 *e*P P 21 09 34.5 +0.5
ARCR ARCALIA 79.33 318⇑ *i*P P 21 09 35.4 +1.1
ISP Isparta 79.54 307⇑ *i*P P 21 09 35.4 -0.3
BMR Baia Mare 79.56 318⇑ *i*P P 21 09 36.6 +1.1
SLVT Silivri 79.61 311 *e*P P 21 09 35.5 -0.4
SLVT Silivri 79.61 311 *e*P P 21 09 35.5 -0.4
VOIR 79.69 316⇂ *i*P P 21 09 36.2 -0.2
MDB Medias 79.77 317⇑ *i*P P 21 09 38.0 +1.3
UZH Uzhgorod 79.79 320 *e*P P 21 09 37.7 +1.0
UZH *e* 21 09 45.2
TRPA Tarpa 79.90 319⇑ *i*P P 21 09 37.9 +0.6
TRPA Tarpa 79.90 319⇑ *e*P P 21 09 37.1 -0.2
KONO Kongsberg 79.92 333 *e*P P 21 09 37.3 +0.1
CJR Cluj-Napoca 79.97 318⇂ *i*P P 21 09 39.1 +1.3
SUMG Summit 79.98 356 *i*P P 21 09 38.4 +0.6
comp=Z,154nm,0.8s
SUMG Summit 79.98 356 *i*P P 21 09 38.4 +0.6
SUMG pmax pmax
comp=Z,150nm,0.8s
ARR Arges 79.98 316⇑ *i*P P 21 09 38.9 +1.0
KORT Korkueli 80.03 306 *e*P P 21 09 37.8 -0.6
KORT Korkueli 80.03 306 *e*P P 21 09 37.8 -0.6
GKP Gorka Klasztor 80.12 325 *e*P P 21 09 39.0 +0.7
GKP Gorka Klasztor 80.12 325 *e*P P 21 09 39.1 +0.7
HUMR Humele 80.17 315⇑ *i*P P 21 09 38.8 0.0
SCO Scoresbysund 80.23 350 *i*P P 21 09 39.6 +1.0
comp=Z,29nm,1.1s
SCO Scoresbysund 80.23 350 *i*P P 21 09 39.6 +1.0
SCO pmax pmax
comp=Z,29nm,1.1s
BSD Bornholm Skovb 80.25 328⇑ *i*P P 21 09 39.2 +0.2
comp=Z,90nm,0.7s
BSD Bornholm Skovb 80.25 328⇑ *i*P P 21 09 39.2 +0.2
BSD pmax pmax
comp=Z,90nm,0.7s
HYA Hoyanger 80.28 335 *e*P P 21 09 39.5 +0.4
EDRB Edirne 80.30 312 *e*P P 21 09 39.6 0.0
EDRB Edirne 80.30 312 *e*P P 21 09 39.6 0.0
ZIMR 80.34 314⇂ *i*P P 21 09 40.5 +0.7
OJC Ojcow 80.39 322 *e*P P 21 09 40.5 +0.6
OJC Ojcow 80.39 322 *e*P P 21 09 40.5 +0.6
DRGR 80.46 318⇂ *i*P P 21 09 40.6 +0.1
ELL Elmali 80.46 306 *e*P P 21 09 40.1 -0.6
ELL Elmali 80.46 306 *e*P P 21 09 40.1 -0.6
LOT Lotru 80.48 316⇑ *i*P P 21 09 41.3 +0.7
NIE Niedzica 80.53 321 *e*P P 21 09 41.8 +1.0
NIE Niedzica 80.53 321 *e*P P 21 09 41.7 +1.0
KULA Kula-Manisa 80.54 308 *e*P P 21 09 40.2 -0.9
KULA Kula-Manisa 80.54 308 *e*P P 21 09 40.2 -0.9
BALB Balikesir 80.56 310 *e*P P 21 09 40.8 -0.2
BALB Balikesir 80.56 310 *e*P P 21 09 40.8 -0.2
LTVH Ltavrtes, Hu 80.64 319 *e*P P 21 09 48.1 +6.8
VLAD Vladila 80.79 315⇑ *i*P P 21 09 42.4 +0.2
DEV Deva 80.79 317⇑ *i*P P 21 09 43.0 +0.8
SUE Sulen 80.87 336 *e*P P 21 09 42.5 +0.3
ODD1 Odda 80.92 334 *e*P P 21 09 42.9 +0.3
DIM Dimitrovgrad 81.00 313 *e*P P 21 09 44.3 +1.0
ERIK Erikli-Kesan 81.01 311 *e*P P 21 09 43.9 +0.5
ERIK Erikli-Kesan 81.01 311 *e*P P 21 09 43.9 +0.5
FETY Fethiye 81.10 307 *e*P P 21 09 42.6 -1.4
FETY Fethiye 81.10 307 *e*P P 21 09 42.6 -1.4
GZR Gura Zlata 81.11 317⇑ *i*P P 21 09 44.5 +0.5
LANS Liptovska Anna 81.13 321 *e*P P 21 09 45.0 +1.0
LANS Liptovska Anna 81.13 321 *e*P P 21 09 45.0 +1.0
GELI Tayfur-Gelibol 81.16 311 *e*P P 21 09 43.7 -0.5
GELI Tayfur-Gelibol 81.16 311 *e*P P 21 09 43.7 -0.5
ENEZ Enez 81.22 311 *e*P P 21 09 44.6 +0.1
ENEZ Enez 81.22 311 *e*P P 21 09 44.6 +0.1
BLS5 Blasjo 81.30 334 *e*P P 21 09 45.1 +0.5
RGN Rugen 81.33 328 *e*P P 21 09 46.0 +1.2
comp=Z,115nm,0.9s,baz=53,slow=5.0
TURN Turunc 81.33 307 *e*P P 21 09 47.0 +1.8
TURN Turunc 81.33 307 *e*P P 21 09 47.0 +1.8
AYDB Zeytinkoy-Aydi 81.34 308 *e*P P 21 09 45.8 +0.4
AYDB Zeytinkoy-Aydi 81.34 308 *e*P P 21 09 45.8 +0.4

SIRR Siria 81.35 318⇑ *i*P P 21 09 45.6 +0.5
RDO Rodhopi 81.43 312 P P 21 09 46.0 +0.4
OKC Ostrava-Krasne 81.50 322 *e*P P 21 09 46.4 +0.6
OKC *e*PCP **PcP** 21 09 50.9 -0.8
OKC Ostrava-Krasne 81.50 322 *e*P P 21 09 46.4 +0.6
PLD Plovdiv 81.52 313 *e*P P 21 09 46.6 +0.5
EZN Ezine 81.53 310 *e*P P 21 09 45.9 -0.3
EZN Ezine 81.53 310 *e*P P 21 09 45.9 -0.3
PSZ Piszkesteto 81.53 320 *e*P P 21 09 46.1 -0.1
PUNG Punghina 81.57 316⇑ *i*P P 21 09 47.2 +0.9
PGB Panagyurishte 81.64 314 *e*P P 21 09 47.6 +0.8
SNART Snartemo 81.70 333 *e*P P 21 09 46.8 +0.1
BZS Buzias 81.71 317⇑ *i*P P 21 09 47.0 0.0
RZN Rozhen 81.71 313 *e*P P 21 09 48.1 +0.7
MLSB Milas 81.72 308 *e*P P 21 09 47.3 0.0
MLSB Milas 81.72 308 *e*P P 21 09 47.3 0.0
BLCB Balcova 81.72 309 *e*P P 21 09 46.9 -0.3
BLCB Balcova 81.72 309 *e*P P 21 09 46.9 -0.3
VYHS Vyhne 81.83 321 *e*P P 21 09 48.6 +1.0
VYHS pmax pmax
comp=Z,22nm,0.7s
VYHS Vyhne 81.83 321 *e*P P 21 09 48.6 +1.0
MORC Moravsky Berou 81.86 322⇑ *i*P P 21 09 48.5 +0.7
MORC Moravsky Berou 81.86 322 *e*P P 21 09 48.4 +0.7
B05A Bryant 81.87 40 P P 21 09 49.1 +1.3
baz=302
GCAM G?zelcaml? 81.91 308 *e*P P 21 09 48.8 +0.6
GCAM G?zelcaml? 81.91 308 *e*P P 21 09 48.8 +0.6
KSP Ksiaz 81.94 324 *e*P P 21 09 49.1 +0.9
KSP Ksiaz 81.94 324 *e*P P 21 09 49.1 +0.9
MUD Monsted U'grnd 82.07 331 *i*P P 21 09 48.9 +0.3
comp=Z,116nm,1.0s
MUD Monsted U'grnd 82.07 331 *i*P P 21 09 48.9 +0.3
MUD pmax pmax
comp=Z,120nm,1.0s
MDVR Moldovita 82.07 316⇑ *i*P P 21 09 49.3 +0.3
KRLC Kraliky 82.11 323 *e*P P 21 09 49.9 +0.8
KRLC *e*PCP **PcP** 21 09 55.6 +1.2
KRLC Kraliky 82.11 323 *e*P P 21 09 49.9 +0.8
BANR Banloc 82.12 317⇑ *i*P P 21 09 48.2 -0.9
DAT Datca 82.13 307 *e*P P 21 09 48.8 -0.7
DAT Datca 82.13 307 *e*P P 21 09 48.8 -0.7
DPC Dobruska-Polom 82.20 323 *e*P P 21 09 50.6 +1.0
DPC Dobruska-Polom 82.20 323 *e*P P 21 09 50.6 +1.0
VTS Vitosha 82.24 314⇑ *i*P P 21 09 50.8 +0.7
VTS Vitosha 82.24 314 P P 21 09 50.6 +0.5
VTS Vitosha 82.24 314 *e*P P 21 09 50.9 +0.8
UPC Upice 82.28 323 *e*P P 21 09 51.0 +1.1
UPC Upice 82.28 323 *e*P P 21 09 51.0 +1.1
JAVC Velka Javorina 82.29 321 *e*P P 21 09 51.8 +1.7
RUE Ruedersdorf 82.30 326 *e*P P 21 09 51.2 +1.2
comp=Z,28nm,0.8s,baz=53,slow=5.0
RUE Ruedersdorf 82.30 326 *e*P P 21 09 50.1 +0.1
RUE IAmb IAmb 21 09 52.1
comp=Z,38nm,0.8s
MMB Musomiste 82.40 313 *e*P P 21 09 51.5 +0.7
SRO Srobarava 82.49 320 *e*P P 21 09 51.8 +0.7
SRO Srobarova 82.49 320 *e*P P 21 09 51.8 +0.7
E04D Cinebar 82.50 41 P P 21 09 53.0 +1.9
baz=302
SMOL Smolenice 82.61 321 *e*P P 21 09 52.9 +1.2
SMOL Smolenice 82.61 321 *e*P P 21 09 52.9 +1.2
VRAC Vranov 82.63 322⇑ *i*P P 21 09 52.9 +1.1
VRAC Vranov 82.63 322 *e*P P 21 09 52.7 +0.9
KKB Krupnik 82.68 313 *e*P P 21 09 52.6 +0.4
SRS Serrai 82.73 313 P P 21 09 51.5 -1.0
SRS Serrai 82.73 313 P P 21 09 51.5 -1.0
SRS Serrai 82.73 313 P P 21 09 51.5 -1.0
MODS Modra-Piesok 82.77 321 *e*P P 21 09 53.7 +1.1
MODS pmax pmax
comp=Z,35nm,1.2s
MODS Modra-Piesok 82.77 321 *e*P P 21 09 53.7 +1.1
KRUC Moravsky 82.88 322 *e*P P 21 09 53.8 +0.7
ZST Bratislava 82.97 321 *e*P P 21 09 53.3 -0.2
ZST pmax pmax
comp=Z,2.0nm,0.7s
ZST Bratislava 82.97 321 *e*P P 21 09 53.3 -0.2
PVCC Panska Ves 83.03 324 *e*P P 21 09 54.9 +1.1
PVCC *ex* x 21 10 04.0
PVCC Panska Ves 83.03 324 *e*P P 21 09 54.9 +1.1
PVCC *e* 21 10 04.0
FRGS Fruska Gora 83.03 318⇑ *i*P P 21 09 54.3 +0.3
BSEG Bad Segeberg 83.11 328 *e*P P 21 09 55.2 +1.1
comp=Z,53nm,0.8s,baz=53,slow=5.0
BRG Berggiesshubel 83.15 325 *i*P P 21 09 55.2 +0.7
comp=Z,18nm,0.8s
BRG *e* 21 10 10.6
comp=Z,8.6nm,0.8s
BRG Berggiesshubel 83.15 325 *e*P P 21 09 55.0 +0.5
comp=Z,9.7nm,0.7s,baz=53,slow=5.0
BRG Berggiesshubel 83.15 325 *i*P P 21 09 55.2 +0.7
BRG *e* 21 10 10.6
BRG pmax pmax
comp=Z,18nm,0.8s
BRG pmax pmax
comp=Z,9.0nm,0.8s
PLG Polygyros 83.19 312 P P 21 09 54.4 -0.5
PLG Polygyros 83.19 312 P P 21 09 54.4 -0.5
PLG Polygyros 83.19 312 P P 21 09 54.4 -0.5
TIH Tihany 83.23 320 *e*P P 21 09 55.0 +0.1
TREC Trest 83.24 323 *e*P P 21 09 55.7 +0.7
TREC Trest 83.24 323 *e*P P 21 09 55.7 +0.7
GOPC GO Pecny, Ondr 83.26 323 *e*P P 21 09 56.1 +1.0
GOPC *ex* x 21 10 02.4
GOPC GO Pecny, Ondr 83.26 323 *e*P P 21 09 56.1 +1.0
VAY Valandovo 83.29 313 P P 21 09 55.4 +0.1
VAY Valandovo 83.29 313 P P 21 09 55.4 +0.1
VAY Valandovo 83.29 313 *i*P P 21 09 55.5 +0.1
VAY Valandovo 83.29 313 P P 21 09 55.4 +0.1
STIP Stip 83.35 314 *i*P P 21 09 54.8 +0.1
PRU Pruhonice 83.35 324 *e*P P 21 09 56.2 +0.7
PRU Pruhonice 83.35 324 *e*P P 21 09 56.2 +0.7
PRA Prague 83.36 324 *e*P P 21 09 56.4 +0.9
PRA Prague 83.36 324 *e*P P 21 09 56.4 +0.9
CLL Collm 83.38 325 *e*P P 21 09 56.2 +0.6
comp=Z,46nm,0.7s,baz=53,slow=5.0
CLL Collm 83.38 325⇑ *i*P P 21 09 56.1 +0.5
comp=Z,62nm,0.6s
CLL Collm 83.38 325⇑ *i*P P 21 09 56.1 +0.5
CLL pmax pmax
comp=Z,62nm,0.6s
DIVS Divibara 83.48 317⇑ *i*P P 21 09 56.4 0.0
I03D Drain, OR 83.54 44 P P 21 09 58.2 +1.6
baz=302
SOP Sopron 83.55 321 *e*P P 21 09 57.1 +0.5
SKO Skopje 83.69 314 *i*P P 21 09 58.1 +0.8
ILULI Ilulissat 83.77 360 *i*P P 21 09 56.8 -0.4
comp=Z,34nm,0.7s
ILULI Ilulissat 83.77 360 *i*P P 21 09 56.8 -0.4
ILULI pmax pmax
comp=Z,34nm,0.7s
SANT Santorini 83.80 308⇑ *i*P P 21 09 57.1 -1.0
CONA Conrad Observa 83.81 321 *i*PcP P 21 09 59.2 +1.2
comp=Z,24nm,0.7s,SNR=14
THR6 Thira Island, 83.85 308 P P 21 09 56.9 -1.4
K02D Willamette Mer 83.87 45 P P 21 09 59.8 +1.4
baz=302
G05D Wamic, OR 83.95 42 P P 21 10 00.3 +1.7
baz=303
BBLS Lazići 83.96 317⇑ *i*P P 21 09 59.2 +0.4
LIT Litokhoron 83.96 312 P P 21 09 58.3 -0.6
LIT Litokhoron 83.96 312 P P 21 09 58.3 -0.6
LIT Litokhoron 83.96 312 P P 21 09 58.3 -0.6
ASSE Asse, Remlinge 84.05 327 *e*P P 21 10 00.1 +1.2
comp=Z,16nm,0.9s,baz=53,slow=5.0
NEUB Neuenburg 84.06 326 *e*P P 21 10 00.3 +1.2
comp=Z,58nm,0.7s,baz=53,slow=5.0
I04A Tendick Farm, 84.07 43 P P 21 10 00.7 +1.4
baz=302
NRDL Niedersach Rie 84.10 327 *e*P P 21 10 00.6 +1.4
comp=Z,23nm,0.9s,baz=53,slow=5.0
KRUS Krusevo 84.12 314 *i*P P 21 09 59.4 -0.4
HAPS Han Pijesak,Bl 84.12 317⇂ *i*P P 21 09 59.2 -0.5
TANN Tannenbergstha 84.19 325 *e*P P 21 10 00.6 +0.7
comp=Z,29nm,1.0s,baz=53,slow=5.0
NPS Neapolis 84.23 307 P P 21 09 59.6 -0.7
BIA Bitola 84.25 313 *i*P P 21 09 59.8 -0.5
GUNZ Gunzen 84.28 325 *e*P P 21 10 01.2 +0.9
comp=Z,30nm,0.8s,baz=53,slow=5.0
NKC Novy Kostel 84.30 325 *e*P P 21 10 01.0 +0.6
NKC *e*PCP **PcP** 21 10 05.5 +1.5
NKC Novy Kostel 84.30 325 *e*P P 21 10 01.0 +0.6

WERN	Wernitzgruen	84.31	325	eP	P	21 10 01.3	+0.9	
	comp=Z,34nm,0.9s,baz=53,slow=5.0							
KZN	Kozani	84.33	313	P	P	21 10 00.5	-0.3	
KZN	Kozani	84.33	313	P	P	21 10 00.5	-0.3	
KZN	Kozani	84.33	313	P	P	21 10 00.5	-0.3	
HAWA	Hanford	84.35	40	eP	P	21 10 01.4	+0.7	
	comp=Z,30nm,1.4s							
KHC	Kasperske Hory	84.36	323	eP	P	21 10 01.4	+0.7	
KHC				ex	x	21 10 08.0		
KHC	Kasperske Hory	84.36	323	eP	P	21 10 01.4	+0.7	
CLZ	Clausthal	84.37	327	eP	P	21 10 02.3	+1.6	
	comp=Z,57nm,0.8s,baz=53,slow=5.0							
LAST	Lasithi	84.37	307	P	P	21 10 01.3	+0.2	
ARSA	Arzberg	84.38	321	iP	P	21 10 01.2	+0.4	
	comp=Z,5.9nm,0.9s							
I05D	Terrebonne, OR	84.42	43	P	P	21 10 02.5	+1.4	
	baz=303							
GEC2	GERESS Array S	84.46	323	eP	P	21 10 01.9	+0.6	
	comp=Z,12nm,0.8s,baz=53,slow=5.0							
GERES	GERESS Array B	84.46	323	P	P	21 10 01.7	+0.4	
	comp=Z,12nm,0.8s,baz=46,slow=5.3,SNR=91							
GERES				LR	LR	21 52 33.2		
	comp=Z,206nm,19.5s,baz=306,slow=39							
PHP	Peshkopia	84.47	314	P	P	21 10 01.4	0.0	
MOX	Moxa	84.48	325	eP	P	21 10 02.2	+0.9	
	comp=Z,11nm,0.8s,baz=53,slow=5.0							
J04D	Umpqua Nationa	84.55	44	P	P	21 10 03.4	+1.4	
	baz=303							
UPM	Unac-Piva	84.62	316	⇓iP	P	21 10 02.3	-0.1	
NEW	Newport	84.63	38	eP	P	21 10 01.8	-0.3	
	comp=Z,18nm,1.1s							
NEW	Newport	84.63	38	eP	P	21 10 01.8	-0.3	
NEW				pmax	pmax			
	comp=Z,18nm,1.1s							
NEW	Newport	84.63	38	P	P	21 10 03.5	+1.4	
	baz=306							
ROTZ	Rotzenmuhle	84.70	324	eP	P	21 10 03.8	+1.4	
	comp=Z,29nm,0.8s,baz=53,slow=5.0							
WET	Wettzell	84.72	323	eP	P	21 10 03.5	+1.0	
	comp=Z,6.1nm,0.8s,baz=53,slow=5.0							
IDI	Anovia	84.73	307	⇓iP	P	21 10 02.4	-0.5	
MOA	Molln	84.73	322	iPcP	P	21 10 03.9	+1.3	
	comp=Z,22nm,1.0s,SNR=5.9							
GTTG	Gvttingen	84.75	327	eP	P	21 10 04.0	+1.5	
	comp=Z,66nm,0.8s,baz=53,slow=5.0							
MAKR	Makrakomi, Fth	84.76	311	P	P	21 10 01.6	-1.3	
MAKR	Makrakomi, Fth	84.76	311	P	P	21 10 01.6	-1.3	
BLY	Banja Luka	84.82	318	⇓iP	P	21 10 03.9	+0.8	
BLY	Banja Luka	84.82	318	eP	P	21 10 03.7	+0.6	
PDG	Podgorica	84.82	315	⇑iP	P	21 10 03.1	-0.1	
PDG	Podgorica	84.82	315	⇑iP	P	21 10 03.0	-0.1	
PERS	Pernice	84.96	321	iP	P	21 10 04.0	+0.2	
L04D	Klamath Falls	84.98	45	P	P	21 10 05.1	+1.0	
	baz=303,SNR=5.1							
SOKA	Soboth	84.98	321	iPcP	P	21 10 04.5	+0.6	
	comp=Z,19nm,0.8s,SNR=10							
DRME	Dracevica, Mon	85.00	315	⇑iP	P	21 10 04.0	0.0	
BRY	Bratogost	85.01	316	⇑iP	P	21 10 03.9	-0.4	
J05D	Fort Rock, OR	85.06	43	P	P	21 10 05.8	+1.2	
	baz=303,SNR=6.9							
KALE	Kalithea	85.07	311	P	P	21 10 03.6	-0.9	
KALE	Kalithea	85.07	311	P	P	21 10 03.6	-0.9	
M02C	Callahan	85.07	46	P	P	21 10 05.6	+1.1	
	baz=302							
K04D	Chiloquin, OR	85.10	44	P	P	21 10 06.2	+1.5	
	baz=303							
ANX	Ano Chora	85.11	311	P	P	21 10 04.1	-0.7	
SERG	Sergoula	85.12	311	P	P	21 10 03.4	-1.3	
TRIZ	Trizonia	85.13	311	P	P	21 10 03.9	-0.8	
UBBA	Unterbreizbach	85.19	326	eP	P	21 10 05.5	+0.9	
	comp=Z,12nm,0.8s,baz=53,slow=5.0							
CRES	Cresnjev	85.23	320	⇑iP	P	21 10 05.2	+0.1	
TREB	Trebinje	85.23	316	eP	P	21 10 04.7	-0.5	
LAKA	Lakka	85.26	311	P	P	21 10 04.7	-0.7	
LAKA	Lakka	85.26	311	P	P	21 10 04.7	-0.7	
GRF	Grafenberg Arr	85.26	325	eP	P	21 10 06.5	+1.3	
	comp=Z,33nm,0.9s,baz=53,slow=5.0							
GRFO	Grafenberg	85.26	325	eP	P	21 10 04.8	-0.4	
	comp=Z,122nm,1.4s							
GRFO	Grafenberg	85.26	325	eP	P	21 10 04.8	-0.4	
GRFO				pmax	pmax			
	comp=Z,122nm,1.4s							
HCY	Herceg Novi	85.29	316	⇑iP	P	21 10 05.2	-0.3	
IBBN	Ibbenburen	85.33	328	eP	P	21 10 07.0	+1.5	
	comp=Z,36nm,0.7s,baz=53,slow=5.0							
OZLJ	Ozalj	85.34	320	P	P	21 10 05.9	+0.3	
OBKA	Obir	85.35	321	iPcP	P	21 10 06.3	+0.5	
	comp=Z,18nm,0.9s,SNR=8.9							
N02D	Trinity Center	85.39	46	P	P	21 10 07.4	+1.3	
	baz=302							
VLX	Vlachokerasia	85.43	310	P	P	21 10 05.0	-1.4	
VLX	Vlachokerasia	85.43	310	P	P	21 10 05.0	-1.4	
M04C	Macdoel	85.50	45	P	P	21 10 07.4	+0.7	
	baz=303,SNR=7.1							
BOJS	Bojanci	85.53	320	iP	P	21 10 07.0	+0.4	
STON	Ston	85.55	316	P	P	21 10 06.3	-0.4	
RJOB	Jochberg	85.60	322	eP	P	21 10 08.4	+1.4	
	comp=Z,23nm,0.8s,baz=53,slow=5.0							
PDO	Prodromos	85.61	311	P	P	21 10 06.4	-0.7	
LJU	Ljubljana	85.63	320	iP	P	21 10 07.3	+0.2	
LJU	Ljubljana	85.63	320	⇑iP	P	21 10 07.2	+0.1	
IGT	Igoumenitsa	85.68	313	P	P	21 10 07.0	-0.5	
IGT	Igoumenitsa	85.68	313	P	P	21 10 07.0	-0.5	
IGT	Igoumenitsa	85.68	313	P	P	21 10 07.0	-0.5	
KBA	Koelnbreinsper	85.69	322	iPcP	P	21 10 08.0	+0.4	
	comp=Z,12nm,0.6s,SNR=8.2							
GBAS	Gorenja Brezov	85.74	320	iP	P	21 10 07.7	0.0	
O02D	Mt. Diablo Mer	85.76	47	P	P	21 10 10.0	+2.0	
	baz=302							
UDBI	Udbina	85.78	319	P	P	21 10 08.3	+0.3	
MYKA	Terra Mystica	85.79	321	iPcP	P	21 10 08.2	+0.2	
	comp=Z,12nm,0.8s							
AMT	Artemida-Makis	85.81	310	P	P	21 10 07.8	-0.4	
ITM	Ithomi	85.84	310	P	P	21 10 07.7	-0.6	
ITM	Ithomi	85.84	310	P	P	21 10 07.7	-0.6	
CEY	Cerknica	85.87	320	⇑iP	P	21 10 08.2	-0.1	
EVGI	Lefkada island	85.94	312	P	P	21 10 09.7	+0.9	
CADS	Cadrg	85.97	321	iP	P	21 10 08.1	-0.8	
SFJD	Kangerlussuaq	85.99	360	iP	P	21 10 08.0	-0.4	
	comp=Z,22nm,0.6s							
SFJD	Kangerlussuaq	85.99	360	iP	P	21 10 08.0	-0.4	
SFJD				pmax	pmax			
	comp=Z,22nm,0.6s							
FUR	Furstenfeldbru	86.16	323	eP	P	21 10 10.7	+1.0	
	comp=Z,51nm,0.9s,baz=53,slow=5.0							
NVLJ	Novalja	86.29	319	P	P	21 10 10.1	-0.3	
TNS	Taunus Mts	86.33	326	eP	P	21 10 11.3	+0.7	
	comp=Z,9.2nm,0.7s,baz=53,slow=5.0							
O03E	Paynes Creek	86.34	46	P	P	21 10 11.4	+0.6	
	baz=303							
ABTA	Abfaltersbach	86.35	322	iPcP	P	21 10 10.7	0.0	
	comp=Z,36nm,1.2s,SNR=7.2							
MOD	Modoc Plateau	86.40	44	eP	P	21 10 11.6	+0.4	
	comp=Z,25nm,1.1s							
WATA	Walderalm	86.50	323	iPcP	P	21 10 11.8	+0.2	
	comp=Z,26nm,1.1s,SNR=11							
WTTA	Wattenberg	86.51	322	ePcP	P	21 10 12.2	+0.6	
	comp=Z,37nm,1.3s,SNR=7.9							
BMO	Blue Mountains	86.52	41	eP	P	21 10 12.8	+1.2	
	comp=Z,16nm,1.3s							
BMO	Blue Mountains	86.52	41	eP	P	21 10 12.8	+1.2	
BMO				pmax	pmax			
	comp=Z,16nm,1.3s							
MOTA	Moosalm	86.75	323	iPcP	P	21 10 12.7	-0.1	
	comp=Z,18nm,0.6s,SNR=23							
SQTA	Sankt Quirin	86.77	323	iPcP	P	21 10 12.9	+0.1	
	comp=Z,18nm,0.7s,SNR=7.9							
AHRW	Bad Neuenahr-A	86.80	327	eP	P	21 10 14.5	+1.8	
	comp=Z,10.0nm,0.9s,baz=53,slow=5.0							
RETA	Reutte	86.85	323	iPcP	P	21 10 13.9	+0.7	
	comp=Z,7.5nm,0.5s							
STU	Stuttgart	86.87	325	eP	P	21 10 13.7	+0.5	
	comp=Z,12nm,0.7s,baz=53,slow=5.0							
UBR	Ueberruh	87.08	323	eP	P	21 10 14.8	+0.5	
	comp=Z,16nm,0.8s,baz=53,slow=5.0							
FETA	Feichten	87.15	323	iPcP	P	21 10 14.8	+0.1	
	comp=Z,12nm,0.7s							
MSO	Missoula	87.22	38	P	P	21 10 16.0	+1.0	
	baz=308							
FCC	Fort Churchill	87.27	21	eP	P	21 10 15.1	+0.3	
	comp=Z,29nm,0.9s							
FCC	Fort Churchill	87.27	21	eP	P	21 10 15.1	+0.3	
FCC				pmax	pmax			
	comp=Z,29nm,0.9s							
MEM	Membach	87.27	327	⇓P	P	21 10 14.5	-0.5	
DAVA	Damuels	87.44	323	iPcP	P	21 10 16.0	-0.1	
	comp=Z,21nm,0.5s,SNR=11							
FFC	Flin Flon	87.55	27	eP	P	21 10 17.1	+0.8	
	comp=Z,47nm,0.8s							
FFC	Flin Flon	87.55	27	iP	P	21 10 17.0	+0.8	
BFO	Black Forest	87.60	325	eP	P	21 10 16.8	+0.1	
	comp=Z,4.8nm,0.7s,baz=53,slow=5.0							
BFO	Black Forest	87.60	325	iP	P	21 10 18.1	+1.4	
WLF	Walferdange	87.82	327	eP	P	21 10 18.5	+0.8	
	comp=Z,30nm,0.8s,baz=53,slow=5.0							
WLF	Walferdange	87.82	327	⇑P	P	21 10 18.2	+0.5	
TIP	Timpagrande	88.19	314	⇑iP	P	21 10 19.7	-0.1	
DOU	Dourbes	88.29	328	⇑P	P	21 10 19.4	-0.5	
AQU	L'Aquila	88.45	318	eP	P	21 10 21.3	+0.4	
EGMT	Eagleton	88.66	35	P	P	21 10 23.0	+1.2	
	baz=311							
HLID	Hailey	88.95	40	eP	P	21 10 24.0	+0.6	
	comp=Z,11nm,1.0s							
HLID	Hailey	88.95	40	P	P	21 10 24.7	+1.3	
	baz=308,SNR=16							
BOZ	Bozeman (W)	89.24	37	P	P	21 10 25.7	+1.0	
	baz=310,SNR=7.7							
NVAR	Mina Array Bea	89.62	46	P	P	21 10 28.1	+1.4	
	comp=Z,1.9nm,0.8s,baz=282,slow=6.1,SNR=5.6							
NVAR				LR	LR	21 45 09.0		
	comp=Z,100nm,18.9s,baz=44,slow=32							
H17A	Grant Village	90.59	38	P	P	21 10 33.7	+2.5	
	baz=310,SNR=11							
PKM	Mcpherson Peak	90.64	50	P	P	21 10 32.6	+1.2	
	baz=304							
RLMT	Red Lodge	90.82	37	P	P	21 10 33.7	+1.6	
	baz=311,SNR=8.6							
PPT	Papeete	91.06	109	LR	LR	21 43 53.8		
	comp=Z,70nm,21.0s,baz=263,slow=30							
PPT2	Papeete2	91.07	109	eLR	LR	21 39 39.2		
	comp=Z,267nm,26.8s							
DGMT	Dagmar	91.08	32	P	P	21 10 34.1	+1.1	
	baz=315,SNR=5.2							
ARVC	Arvin	91.17	49	P	P	21 10 35.2	+1.5	
	baz=305							
LAO	LASA Array	91.33	34	P	P	21 10 35.6	+1.3	
	baz=314,SNR=5.7							
R11A	Troy Canyon, C	91.40	45	P	P	21 10 36.3	+1.4	
	baz=307							
MPMC	Manual Prospec	91.53	48	P	P	21 10 36.6	+1.0	
	baz=306							
BLG	Laguna Peak, P	91.59	50	P	P	21 10 36.8	+1.1	
	baz=305							
FURC	Furnace Creek,	91.70	47	P	P	21 10 37.5	+1.4	
	baz=306							
TPNV	Topopah Spring	91.81	46	P	P	21 10 38.2	+1.4	
	baz=307							
DUG	Dugway, Tooele	91.97	42	eP	P	21 10 37.8	+0.3	
	comp=Z,9.6nm,1.2s							
DUG	Dugway, Tooele	91.97	42	eP	P	21 10 37.8	+0.3	
DUG				pmax	pmax			
	comp=Z,10.0nm,1.2s							
DUG	Dugway, Tooele	91.97	42	P	P	21 10 38.9	+1.4	
	baz=309							
BW06	Boulder Array	92.21	39	eP	P	21 10 39.5	+0.9	
	comp=Z,3.4nm,0.8s							
BW06	Boulder Array	92.21	39	P	P	21 10 39.5	+0.9	
	baz=311							
GSC	Goldstone, Bar	92.42	48	P	P	21 10 40.8	+1.2	
	baz=306							
BFSC	Mount Baldy Ra	92.47	49	P	P	21 10 40.5	+0.6	
	baz=306							
HEC	Hector,Ludlow	93.01	48	P	P	21 10 43.8	+1.5	
	baz=306							
ULM	Lac du Bonnet	93.37	27	P	P	21 10 43.9	+0.3	
	comp=Z,17nm,0.9s,baz=320,slow=5.0,SNR=26							
GMRC	Granite Mounta	93.48	48	P	P	21 10 45.9	+1.4	
	baz=307							
PFO	Pinyon Flats O	93.64	49	P	P	21 10 46.8	+1.5	
	baz=306							
BELC	Belle Mtn. Jos	93.72	49	P	P	21 10 47.1	+1.4	
	baz=307							
MONP2	Monument Peak	94.09	50	P	P	21 10 49.0	+1.5	
	baz=306							
IRM	Iron Mountain	94.20	48	P	P	21 10 49.2	+1.5	
	baz=307							
RSSD	Black Hills	94.23	35	P	P	21 10 48.8	+0.9	
	baz=315							
BC3	Big Chuckawall	94.29	49	P	P	21 10 50.0	+1.7	
	baz=307							
IKP	In-Ko-Pah, Jac	94.45	50	P	P	21 10 50.0	+1.1	
	baz=306							
SWSC	Sam W. Stewart	94.48	49	P	P	21 10 49.9	+0.9	
	baz=307							
PDMCI	Parker Dam,Lak	94.77	48	P	P	21 10 51.5	+1.2	
	baz=308							
Y12C	Blythe	94.86	48	P	P	21 10 52.4	+1.8	
	baz=308							
KEST	Kesra	94.98	314	P	P	21 10 51.8	+0.5	
	comp=Z,4.9nm,0.5s,baz=300,slow=0.1,SNR=16							
KEST				LR	LR	22 02 00.3		
	comp=Z,96nm,18.2s,baz=310,slow=41							
GLA	Glamis	95.07	49	P	P	21 10 53.6	+1.8	
	baz=307							
N23A	Red Feather La	95.46	38	P	P	21 10 54.2	+0.5	
	baz=314							
WUAZ	Wupatki	95.80	45	P	P	21 10 57.4	+2.2	
	baz=310							
EYMN	Ely	96.94	26	P	P	21 11 00.2	+0.3	
	baz=325							
S22A	4UR Ranch, Cre	97.10	41	P	Pdif	21 11 02.5	+1.1	
	baz=313							
SCHQ	Schefferville	97.15	9	P	P	21 11 00.1	-0.5	
	comp=Z,5.0nm,0.9s,baz=16,slow=13,SNR=3.1							
SCHQ				LR	LR	21 57 52.7		
	comp=Z,139nm,20.1s,baz=34,slow=37							
C40A	Isle Royale Na	97.86	24	P	Pdif	21 11 04.2	+0.2	
	baz=327							
E38A	The Farm, Brul	98.02	27	P	P	21 11 04.6	-0.2	
	baz=325							
F38A	Pierce - Schro	98.41	27	P	Pdif	21 11 07.4	+0.8	
	baz=325							
E39A	Mellen	98.60	26	P	Pdif	21 11 07.7	+0.3	
	baz=326							
E40A	Wakefield	98.80	26	P	Pdif	21 11 08.7	+0.4	
	baz=326							
G40A	Rib Lake	99.65	27	P	Pdif	21 11 11.7	-0.4	
	baz=326							
ESDC	Sonseca Array	99.96	325	P	Pdif	21 11 12.6	-1.0	
	comp=Z,0.8nm,0.6s,baz=30,slow=4.0,SNR=9.1							
LSQQ	Lebel-sur-Quev	100.66	17	P	Pdif	21 11 15.9	-0.5	
	baz=337							
I41A	Arkdale	100.79	27	P	Pdif	21 11 16.4	-0.7	
	baz=326							
GLMI	Grayling	102.13	23	P	Pdif	21 11 22.4	-0.7	
	baz=330							
TXAR	Lajitas Array	104.76	45	PKiKP	PKiKP	21 15 51.1	+0.5	
	comp=Z,0.3nm,0.7s,baz=298,slow=2.7,SNR=3.4							
Z46A	Louisville	110.13	33	P	PKiKP	21 15 59.6	-0.7	
	baz=325							
LRAL	Lakeview Retre	111.19	31	P	PKiKP	21 16 02.1	-0.2	
	baz=327							
Z50A	Ashland	111.50	31	P	PKiKP	21 16 02.1	-0.8	
	baz=328							
BOSA	Bochof	113.32	249	PKiKP	PKiKP	21 16 06.8	+0.3	
	comp=Z,2.5nm,0.8s,baz=69,slow=0.4,SNR=4.1							
TORD	Torodi Ar. Bea	114.55	301	PKiKP	PKPdf	21 16 08.5	-0.6	
	comp=Z,1.8nm,0.7s,baz=24,slow=2.3,SNR=9.4							
TORD				PP	PP	21 17 05.0	-1.1	
	comp=Z,0.9nm,0.8s,baz=25,slow=5.1,SNR=4.3							
DBIC	Dimbokro	123.61	300	PKP	PKiKP	21 16 26.7	-0.1	
	comp=Z,2.9nm,0.5s,baz=360,slow=1.5,SNR=12							
KIC	Kosan Boka	123.71	299	ePKIKP	PKPdf	21 16 26.5	-0.3	
	comp=Z,6.2nm,0.4s							
TIC	Toumodi	123.75	300	ePKIKP	PKPdf	21 16 26.5	-0.4	
LIC	Lamto	124.02	299	ePKIKP	PKPdf	21 16 26.9	-0.5	
	comp=Z,43nm,1.1s							
SNAA	Sanae	128.21	198	PKP	PKiKP	21 16 34.2	-0.2	
VNA2	Neumayer--Watz	129.85	197	PKP	PKiKP	21 16 37.8	+0.2	
VNA3	Neumayer Olymp	130.25	196	PKP	PKiKP	21 16 38.2	-0.1	
VNA1	Neumayer--Stat	130.25	197	PKP	PKiKP	21 16 39.4	+1.0	
NNA	Nana	151.81	62	PKPbc	PKiKP	21 17 24.2	0.0	
	comp=Z,22nm,0.6s,baz=308,slow=4.7,SNR=12							
PTGA	Pitinga	152.37	18	PKP	PKPdf	21 17 18.8	+0.6	
	comp=Z,3.1nm,0.6s,baz=120,slow=1.6,SNR=6.2							
PTGA				PKPbc	PKiKP	21 17 25.8	+0.5	
	comp=Z,7.9nm,0.4s,baz=329,slow=23,SNR=16							
SIV	San Ignacio	165.69	40	PKP	PKPdf	21 17 34.4	+0.7	
	comp=Z,4.2nm,1.0s,baz=289,slow=8.3,SNR=6.0							
BDFB	Brasilia	167.94	343	PKP	PKPdf	21 17 36.0	+0.5	
	comp=Z,2.7nm,0.6s,baz=20,slow=4.7,SNR=4.7							
BDFB				PKPab	PKPab	21 18 41.9	-0.7	
	comp=Z,3.3nm,0.5s,baz=102,slow=2.9,SNR=6.2							
CPUP	Villa Florida	174.75	81	PKP	PKPdf	21 17 38.9	+0.5	
	comp=Z,2.6nm,1.1s,baz=128,slow=2.1,SNR=4.4							

WEL 27 21:11:43.4, 47.5°S ± 17.×16.6°E ± 1.2, h5 km, ML3.7/10, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	Puysegur Point	0.94	22	P	Pg	21 11 58.4	-3.0
APZ	The Paps	1.26	81	P	Pg	21 12 06.8	-0.7
APZ				S	Sb	21 12 24.2	+0.1
WHZ	Wether Hill Ro	1.68	47	P	Pn	21 12 11.3	-2.1
WHZ				S	Sn	21 12 33.6	-1.7
DCZ	Deep Cove	1.72	23	P	Pn	21 12 09.2	-4.7
SYZ	Scrubby Hill	2.09	77	P	Pn	21 12 19.5	+0.4
SYZ				S	Sn	21 12 46.5	+1.0
MLZ	Mavora Lakes	2.15	39	P	Pn	21 12 18.1	-1.8
TUZ	Tuapeka	2.62	67	P	Pn	21 12 26.0	-0.3
TUZ				S	Sn	21 12 57.7	-0.7
MSZ	Milford Sound	2.67	28	P	Pn	21 12 26.6	-0.3
EAZ	Earnscleugh	2.83	51	P	Pn	21 12 28.4	-0.8
EAZ				S	Sn	21 13 02.6	-1.1
WKZ	Wanaka	2.97	43	P	Pn	21 12 30.7	-0.5
JCZ	Jackson Bay	3.49	33	P	Pn	21 12 37.7	-0.7
ODZ	Otahua Downs	3.70	59	P	Pn	21 12 38.4	-2.7
LBZ	Lake Benmore	3.86	48	P	Pn	21 12 41.1	-2.3
FOZ	Fox Glacier	4.35	37	P	Pn	21 12 49.5	-0.6

*ISCJB **27** 21:14:54.6±0.6, 20.51S±0.03×69.21W±0.09, h101 km±5 km, mb3.2/2, Error ellipse: s-maj=14.1km s-min=4.5km az=179.0*
*GUC **27** 21:14:55.0±0.7, 20.51S×69.18W, h96 km±3 km, ML3.7*
*IDC **27** 21:14:56.7±1.7, 20.53S×69.00W, h111 km±16 km, mb3.2/2, mb1 3.6/5, mb1mx3.2/23, mbtmp3.8/5, MS3.9/1, Ms1 3.9/1, ms1mx2.8/7, Error ellipse: s-maj=41.1km s-min=15.5km az=101.0*

ISC 27 21:14:55.3±0.8, 20.51S±0.03×69.25W±0.09, h96 km±6 km, n21, σ1s10/33, 5C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	IPOC Station P	0.37	14	⇓iP	Pn	21 15 09.6	-0.7
PB08				iS	Sn	21 15 20.8	-0.7
PB08				IAML		21 15 21.6	
	comp=E,3μm,0.2s						
PB01	IPOC Station P	0.58	203	⇑iP	Pn	21 15 10.8	-0.7
PB01				iS	Sn	21 15 23.2	-0.2
PB01				IAML		21 15 25.1	
	comp=E,6μm,0.3s						
PB11	IPOC Station P	0.83	333	⇓iP	Pn	21 15 13.7	-0.2
PB11				iS	Sn	21 15 27.9	+0.1
PB11				IAML		21 15 29.7	
	comp=N,2μm,0.2s						
PSGC	Pisagua	1.22	318	eP	Pn	21 15 17.9	-0.2
PSGC				iS	Sn	21 15 36.0	+0.8
PSGC				IAML		21 15 39.3	
	comp=N,646nm,0.3s						
PB09	IPOC Station P	1.28	180	⇑iP	Pn	21 15 18.9	0.0
PB09				iS	Sn	21 15 36.8	+0.1
PB09				IAML		21 15 39.4	
	comp=N,2μm,0.6s						
PB07	IPOC Station P	1.35	206	⇑iP	Pn	21 15 19.6	-0.2
PB07				iS	Sn	21 15 38.3	+0.1
PB07				IAML		21 15 45.4	
	comp=E,1μm,0.2s						
MNMC	Minye Minye	1.41	346	⇓iP	Pn	21 15 20.8	+0.3
MNMC				iS	Sn	21 15 40.4	+0.9
MNMC				IAML		21 15 43.5	
	comp=N,2μm,0.3s						
PB03	IPOC Station P	1.61	197	⇑iP	Pn	21 15 22.6	-0.3
PB03				iS	Sn	21 15 43.9	+0.1
PB03				IAML		21 15 48.3	
	comp=E,737nm,0.2s						
PB04	IPOC Station P	2.00	205	⇓iP	Pn	21 15 28.1	+0.2
PB04				iS	Sn	21 15 53.4	+0.6
PB04				IAML		21 15 59.2	
	comp=E,935nm,0.3s						
LVC	Limon Verde	2.12	172	P	Pn	21 15 31.2	+1.6
	comp=E,23nm,0.3s,baz=350,slow=9.0,SNR=182						
LVC				S	Sn	21 15 57.7	+1.9
	comp=E,70nm,0.3s,baz=97,slow=23,SNR=35						
LVC	Limon Verde	2.12	172	eP	Pn	21 15 30.0	+0.3
LVC				eS	Sn	21 15 56.3	+0.5
PB12	IPOC Station P	2.14	331	⇓iP	Pn	21 15 29.5	-0.2
PB12				IAML		21 16 05.8	
	comp=E,422nm,0.3s						
PB06	IPOC Station P	2.21	188	⇑iP	Pn	21 15 30.7	0.0
PB06				iS	Sn	21 15 56.5	-1.2
PB05	IPOC Station P	2.50	201	eP	Pn	21 15 34.1	-0.3
PB05				IAML		21 16 13.2	
	comp=E,498nm,0.6s						
LPAZ	La Paz	4.33	14	P	Pn	21 16 01.6	+2.1
	comp=E,4.8nm,0.3s,baz=184,slow=7.4,SNR=84						
SIV	San Ignacio	8.97	61

H11N2	**WAKE ISLAND Hy**	**22.19**	**70**	T	T	22 13 43.1		
	baz=256,slow=75,SNR=30							
H11N3	**WAKE ISLAND Hy**	**22.20**	**70**	T	T	22 13 31.9		
	baz=256,slow=75,SNR=81							
JNU	**Nakatsue**	**23.56**	**330**	P	**P**	**21 50 55.0**	**+0.2**	
	11nm,0.8s,baz=152,slow=8.2,SNR=4.2							
MJAR	**Matsushiro Arr**	**24.01**	**347**	P	**P**	**21 50 58.4**	**-0.6**	
	1.5nm,0.7s,baz=172,slow=7.6,SNR=5.6							
MJAR				LR	LR	21 59 21.7		
	comp=Z,73nm,21.8s,baz=165,slow=34							
HNR	**Honiara**	**27.05**	**145**	LR	LR	22 01 23.8		
	comp=Z,89nm,21.7s,baz=340,slow=35							
KSRS	**Korea Array**	**28.48**	**331**	P	**P**	**21 51 39.0**	**-0.4**	
	2.0nm,0.6s,baz=143,slow=9.9,SNR=8.0							
KSAR	**Wonju Array Be**	**28.49**	**331**	P	**P**	**21 51 39.0**	**-0.5**	
BATI	**Baumata**	**31.27**	**223**	LR	LR	22 04 46.8		
	comp=Z,58nm,19.1s,baz=272,slow=36							
WB2	**Warramunga Arr**	**34.46**	**197**	*e*P	**P**	**21 52 33.7**	**+1.6**	
WRA	**Warramunga Arr**	**34.47**	**198**	P	**P**	**21 52 33.8**	**+1.6**	
	4.6nm,0.8s,baz=22,slow=9.9,SNR=33							
WRA				LR	LR	22 07 35.4		
	comp=Z,64nm,19.9s,baz=260,slow=38							
FITZ	**Fitzroy Crossi**	**36.35**	**212**	LR	LR	22 08 45.5		
	comp=Z,26nm,19.5s,baz=164,slow=38							
AS31	**Alice Springs**	**38.12**	**196**	*e*P	**P**	**21 53 05.2**	**+1.8**	
	2.0nm,0.6s							
ASAR	**Alice Springs**	**38.12**	**196**	P	**P**	**21 53 04.9**	**+1.6**	
	2.6nm,0.6s,baz=22,slow=11,SNR=46							
KMI	**Kunming**	**41.28**	**293**	P	**P**	**21 53 29.0**	**-1.0**	
KMI				pmax	pmax			
	comp=Z,5.0nm,0.5s							
CD2	**Chengdu**	**41.63**	**302**	*e*P	**P**	**21 53 32.0**	**-0.5**	
CMAR	**Chiang Mai Arr**	**44.31**	**283**	P	**P**	**21 53 55.2**	**+0.8**	
	comp=Z,1.5nm,0.6s,baz=84,slow=6.5,SNR=10.0							
CMAR				PcP	**PcP**	**21 55 38.6**	**+0.3**	
	comp=Z,0.9nm,0.5s,baz=107,slow=2.1,SNR=6.0							
CMAR				LR	LR	22 11 01.7		
	comp=Z,30nm,19.6s,baz=346,slow=34							
STKA	**Stephens Creek**	**44.89**	**184**	P	**P**	**21 53 59.1**	**+0.5**	
	comp=Z,2.4nm,0.8s,baz=291,slow=11,SNR=2.9							
SONM	**Songino Array**	**47.02**	**325**	P	**P**	**21 54 15.6**	**+0.1**	
	comp=Z,0.9nm,0.7s,baz=141,slow=8.8,SNR=12							
GTA	**Gaotai**	**47.38**	**312**	*e*P	**P**	**21 54 18.5**	**+0.1**	
GTA				pP	pP	21 54 23.0	-5.5	
GTA				sP	sP	21 54 26.3	-6.2	
GTA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
LSA	**Lhasa**	**52.10**	**297**	*e*P	**P**	**21 54 55.0**	**0.0**	
	comp=Z,3.4nm,0.8s							
JIRN	**Jiri**	**56.29**	**295**	*e*P	**P**	**21 55 24.0**	**-1.4**	
	comp=Z,13nm,0.9s							
GUN	**Gumba**	**56.57**	**295**	*e*P	**P**	**21 55 26.6**	**-0.8**	
	comp=Z,8.3nm,0.8s							
PKI	**Pulchoki**	**56.98**	**294**	*e*P	**P**	**21 55 28.6**	**-1.7**	
	comp=Z,6.7nm,0.9s							
WMQ	**Urumqi**	**57.35**	**314**	*e*P	**P**	**21 55 33.5**	**+1.2**	
DANN	**Dangsing**	**58.46**	**295**	*e*P	**P**	**21 55 39.7**	**-0.9**	
	comp=Z,12nm,0.7s							
KOLN	**Koldanda**	**58.59**	**295**	*e*P	**P**	**21 55 41.1**	**-0.3**	
	comp=Z,9.9nm,0.8s							
PYUN	**Piuthan**	**59.13**	**295**	*e*P	**P**	**21 55 44.7**	**-0.5**	
	comp=Z,7.5nm,0.7s							
MKAR	**Makanchi Array**	**61.72**	**316**	P	**P**	**21 56 01.9**	**-0.4**	
	comp=Z,0.8nm,0.5s,baz=92,slow=8.7,SNR=24							
ZALV	**Zalesovo Beam**	**61.91**	**325**	P	**P**	**21 56 02.2**	**-1.2**	
	comp=Z,0.3nm,0.3s,baz=75,slow=5.1,SNR=2.6							
MAKZ	**Makanchi**	**61.94**	**316**	*e*P	**P**	**21 56 03.7**	**0.0**	
	comp=Z,2.2nm,0.8s							
NIL	**Nilore**	**67.51**	**301**	*e*P	**P**	**21 56 40.3**	**-0.1**	
	comp=Z,5.5nm,0.8s							
ILAR	**Eielson Array**	**68.99**	**25**	P	P	21 56 45.1	-3.9	
	comp=Z,1.3nm,0.6s,baz=249,slow=5.9,SNR=25							
YKA	**Yellowknife Ar**	**83.28**	**27**	P	**P**	**21 58 07.5**	**-2.7**	
	comp=Z,0.7nm,0.6s,baz=285,slow=5.3,SNR=11							
PINE	**Pine Mountain**	**84.07**	**47**	*e*P	**P**	**21 58 15.5**	**+0.5**	
	comp=Z,9.3nm,0.7s							
BEKR	**Beckworth**	**85.36**	**50**	*e*P	**P**	**21 58 22.1**	**+0.4**	
	comp=Z,5.7nm,0.7s							
NV01	**Mina Array St**	**87.26**	**51**	*e*P	**P**	**21 58 31.3**	**+0.3**	
NVAR	**Mina Array Bea**	**87.26**	**51**	P	**P**	**21 58 28.5**	**-2.6**	
	comp=Z,1.6nm,0.6s,baz=275,slow=5.5,SNR=6.5							
MFID	**Camas Ranch**	**87.77**	**46**	*e*P	**P**	**21 58 33.1**	**-0.1**	
	comp=Z,4.9nm,0.6s							
HLID	**Hailey**	**88.71**	**46**	*e*P	**P**	**21 58 37.8**	**0.0**	
	comp=Z,2.2nm,0.8s							
ELK	**Elko**	**88.93**	**48**	*e*P	**P**	**21 58 38.7**	**-0.3**	
	comp=Z,3.0nm,0.7s							
FINES	**FINESS Array B**	**91.50**	**335**	P	P	21 58 46.9	-3.3	
	comp=Z,4.5nm,1.1s,baz=72,slow=4.5,SNR=3.2							
PDAR	**Pinedale Array**	**92.33**	**45**	P	P	21 58 51.2	-3.5	
	comp=Z,0.3nm,0.6s,baz=209,slow=2.7,SNR=4.0							
TOA0	**Torodi Ar. St**	**135.02**	**304**	*e*PKPdf	**PKPdf**	**22 05 03.0**	**-1.0**	
TORD	**Torodi Ar. Bea**	**135.02**	**304**	PKP	**PKPdf**	**22 05 03.2**	**-0.8**	
	comp=Z,1.6nm,0.9s,baz=14,slow=3.1,SNR=7.3							
DBIC	**Dimbokro**	**143.95**	**301**	PKP	PKPab	22 05 17.0	-0.5	
	comp=Z,3.0nm,0.6s,baz=35,slow=5.5,SNR=6.6							
GO02	**Mina Guanaco**	**145.53**	**115**	*e*PKPdf	**PKPdf**	**22 05 23.3**	**+0.2**	
PB11	**IPOC Station P**	**146.39**	**106**	*e*PKPdf	**PKPdf**	**22 05 25.7**	**+1.2**	
MNMC	**Minye Minye**	**146.51**	**105**	*e*PKPdf	**PKPdf**	**22 05 26.1**	**+1.2**	
LPAZ	**La Paz**	**148.06**	**100**	PKPbc	**PKPdf**	**22 05 28.6**	**+0.7**	
	comp=Z,3.2nm,1.1s,baz=297,slow=1.7,SNR=5.8							
LPAZ	**La Paz**	**148.06**	**100**	*e*PKPbc	**PKPbc**	**22 05 31.8**	**+0.7**	

*ISCJB **27** 21:49:11.2±0.7, 11°.4N±0°.2×41°.08E±0°.05, h10km, Error ellipse: s-maj=32.9km s-min=5.7km az=171.1*
*ARO **27** 21:49:12.2, 11°.N±23°×4°.1E±°, h15km±90km, Ml3.1*
ISC 27 21:49:09.5±1.1, 11°.3N±0°.2×41°.10E±0°.04, h10km, n11, σ0°.50/14, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSDD	**Koussour**	**1.34**	**79**		*e*P		**Pg**	**21 49 36.0**	**+0.6**
GBR	**Grand-Bara**	**1.34**	**96**		*e*P		**Pb**	**21 49 35.3**	**+0.4**
MAOD	**Malaho**	**1.36**	**54**		*e*P		**Pg**	**21 49 35.6**	**-0.1**
LDLD	**Lac de Lave**	**1.40**	**78**		*e*P		**Pg**	**21 49 36.8**	**+0.4**
DESE	**Dese**	**1.45**	**263**		*i* P		**Pg**	**21 49 37.2**	**-0.1**
DESE					*i* S		**Sg**	**21 49 56.3**	**+0.1**
DESE	**Dese**	**1.45**	**263**		*i* P		**Pg**	**21 49 37.2**	**-0.1**
DESE					*i* S		**Sg**	**21 49 56.3**	**+0.1**
SGH	**Sud-Ghoubbet**	**1.51**	**84**		*e*P		**Pg**	**21 49 38.3**	**-0.2**
ATD	**Arta Tunnel**	**1.73**	**82**		*e*P		**Pg**	**21 49 41.8**	**-1.0**
ATD	**Arta Tunnel**	**1.73**	**82**		*e*P		**Pg**	**21 49 41.8**	**-1.0**
ATD					eS		**Sg**	**21 50 05.4**	**+0.2**
TDD	**Tadjoura Ara**	**1.84**	**74**		*e*P		**Pb**	**21 49 43.2**	**-0.1**
ATA	**Atar**	**2.07**	**85**		*e*P		**Pb**	**21 49 47.3**	**+0.1**

TAP 27 21:58:21.8, 24°.86N×121°.99E, h18km, ML1.9, 1C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.14**	**268**		P		Pg	21 58 26.2	+0.2
	baz=269								
NTC					eS		Sg	21 58 28.6	-0.2
	baz=269								
TWB1	**Santiao Chiao**	**0.15**	**0**		P		Pg	21 58 25.9	-0.1
	baz=1.0								
TWB1					*i* S		Sb	21 58 28.3	+0.5
	baz=1.0								
TIPB	**Shuangxi**	**0.18**	**307**		↑*i* P		Pg	21 58 26.8	+0.3
	baz=307								
TIPB					*i* S		Sg	21 58 29.8	0.0
	baz=307								
TWC	**Suao**	**0.28**	**207**		*e*P		Pg	21 58 28.1	+0.1
	baz=200								
NWF	**Wu-fen Shan**	**0.28**	**318**		P		Pb	21 58 28.8	+0.5
	baz=318								
NWF					S		Sb	21 58 33.5	+0.8
	baz=318								
WFSB	**Wu-fen Shan**	**0.28**	**318**		*e*P		Pb	21 58 28.7	+0.4
	baz=318								
WFSB					eS		Sb	21 58 33.4	+0.8
	baz=318								
TWE	**Neicheng**	**0.32**	**245**		*i* P		Pb	21 58 28.9	-0.1
	baz=240								
TWE					eS		Sg	21 58 33.3	-0.1
	baz=240								
EOS1	**EOS1**	**0.34**	**157**		P		Pb	21 58 29.7	+0.5
	baz=159								
EOS1					eS		Sb	21 58 34.3	+0.1
	baz=159								
ENTT	**Nioudou**	**0.44**	**240**		P		Pb	21 58 31.2	+0.1
	baz=241								
ENTT					S		Sg	21 58 36.9	0.0
	baz=241								
NWLT	**Wulai**	**0.45**	**259**		*e*P		Pb	21 58 31.6	+0.3
	baz=260								
NWLT					S		Sg	21 58 37.3	+0.2
	baz=260								
YM07	**YM07**	**0.46**	**313**		P		Pb	21 58 32.4	+1.1
	baz=313								
YM11	**YM11**	**0.48**	**309**		*e*P		Pb	21 58 32.6	+0.7
	baz=309								
ENA	**Nanau**	**0.48**	**208**		*e*P		Pb	21 58 32.4	+0.6
	baz=210								
ENA					eS		Sb	21 58 38.5	-0.1
	baz=210								
YM08	**YM08**	**0.49**	**312**		*e*P		Pb	21 58 32.5	+0.7
	baz=312								
YM10	**YM10**	**0.49**	**307**		*e*P		Pb	21 58 32.2	+0.3
	baz=307								
YM05	**YM05**	**0.49**	**308**		*e*P		Pg	21 58 31.8	+0.1
	baz=308								
NDT	**Datong Townshi**	**0.50**	**239**		*e*P		Pb	21 58 32.1	0.0
	baz=240								
YM04	**YM04**	**0.50**	**306**		*e*P		Pb	21 58 32.9	+0.8
	baz=306								
YHNB	**Yeheng**	**0.59**	**251**		P		Pb	21 58 33.8	+0.2
	baz=252								
YHNB					eS		Sg	21 58 40.4	-1.1
	baz=252								
NSK	**Sanguang**	**0.60**	**252**		*e*P		Pg	21 58 33.5	-0.2
	baz=253								
NSK					eS		Sg	21 58 40.9	-0.9
	baz=253								
NNS	**Nan Shan**	**0.70**	**233**		*e*P		Pn	21 58 36.9	0.0
	baz=234								
NNS					eS		Sg	21 58 45.0	+0.1
	baz=234								
NNS	**Nan Shan**	**0.70**	**233**		S		Sg	21 58 44.9	0.0
	baz=81								
NNSB	**Datong**	**0.70**	**232**		*e*P		Pg	21 58 36.0	+0.4
	baz=234								
NNSB					eS		Sg	21 58 45.0	+0.1
	baz=234								
NNSB	**Datong**	**0.70**	**232**		*e*S		Sg	21 58 45.0	+0.1
	baz=82								
NACB	**Ninganchiao**	**0.77**	**208**		*e*P		Pg	21 58 37.3	+0.4
	baz=210								
NACB					eS		Sg	21 58 47.6	+0.5
	baz=210								

TAP 27 21:58:30.3, 24°.37N×120°.93E, h6km, ML1.3, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WHP	**Taichung City**	**0.09**	**173**		P		Pg	21 58 33.6	+1.2
	baz=172								
WHP					S		Sg	21 58 35.4	+1.5
	baz=172								
NSY	**Sanyi**	**0.16**	**286**		P		Pg	21 58 34.9	+1.3
	baz=286								
NSY					S		Sg	21 58 38.1	+2.2
	baz=286								
NMLH	**Miaoli**	**0.21**	**322**		P		Pg	21 58 36.0	+1.5
	baz=321								
NMLH					eS		Sg	21 58 39.9	+2.6
	baz=321								
NSTT	**Nanjuang**	**0.27**	**13**		P		Pb	21 58 36.7	-0.8
	baz=15								
NSTT					S		Sb	21 58 40.9	-1.5
	baz=15								
WDJ	**Dajia District**	**0.27**	**265**		*e*P		Pb	21 58 37.2	-0.4
	baz=265								
WDJ					eS		Sb	21 58 41.8	-0.6
	baz=265								
LIOB	**Emei**	**0.28**	**15**		*e*P		Pb	21 58 37.1	-0.8
	baz=16								
LIOB					S		Sg	21 58 41.2	+1.6
	baz=16								
CHGB	**Renai**	**0.38**	**145**		P		Pb	21 58 39.2	-0.4
	baz=144								
CHGB					S		Sb	21 58 44.3	-1.5
	baz=144								
NNS	**Nan Shan**	**0.41**	**80**		P		Pb	21 58 39.4	-0.6
	baz=81								
NNSB	**Datong**	**0.41**	**82**		*e*P		Pb	21 58 39.5	-0.6
	baz=82								
TYC	**Yuchr**	**0.47**	**189**		*e*P		Pb	21 58 40.9	-0.1
	baz=174								
NSK	**Sanguang**	**0.49**	**52**		*e*P		Pb	21 58 42.3	+0.8
	baz=53								

IDC 27 21:59:39.1±3.0, 6°.64S×129°.41E, h114km±39km, mb3.1/1, mb1 3.3/5, mb1mx3.1/33, mbtmp3.6/5, Error ellipse: s-maj=65.6km s-min=21.6km az=91.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.02**	**18**		P		Pn	22 01 05.9	0.0
	1.2nm,0.3s,baz=310,slow=23,SNR=25								
SIJI					S		Sn	22 02 08.2	-5.4
	0.9nm,0.3s,baz=239,slow=19,SNR=4.1								
FITZ	**Fitzroy Crossi**	**11.97**	**198**		P		Pn	22 02 26.4	+0.3
	0.1nm,0.3s,baz=27,slow=12,SNR=3.1								
FITZ					S		Sn	22 04 31.4	-6.5
	0.0nm,0.3s,baz=345,slow=19,SNR=2.5								
WRA	**Warramunga Arr**	**14.06**	**161**		P		Pn	22 02 52.5	-1.0
	0.1nm,0.3s,baz=339,slow=13,SNR=6.2								
WRA					S		Sn	22 05 16.8	-12
	0.1nm,0.3s,baz=279,slow=8.6,SNR=3.9								
ASAR	**Alice Springs**	**17.47**	**166**		P		Pn	22 03 35.9	+0.1
	0.1nm,0.3s,baz=347,slow=12,SNR=7.5								
ASAR					S		Sn	22 06 45.3	-5.4
	0.0nm,0.3s,baz=357,slow=28,SNR=2.9								
MKAR	**Makanchi Array**	**67.61**	**327**		P		P	22 10 23.6	0.0
	0.2nm,0.5s,baz=119,slow=7.6,SNR=6.3								

TAP 27 22:39:14.1, 23°.19N×120°.83E, h5km, ML1.6, 6D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.07**	**249**		↓*i* P		Pg	22 39 16.1	+0.3
	baz=243								
STYT					*i* S		Sg	22 39 17.3	+0.3
	baz=243								
ELDTW	**Lidau**	**0.17**	**90**		↓*i* P		Pg	22 39 18.5	+0.9
	baz=92								
ELDTW					*i* S		Sg	22 39 21.2	+1.2
	baz=92								
WTP	**Ta-pu**	**0.20**	**286**		↓*i* P		Pg	22 39 19.0	+0.9
	baz=286								
WTP					S		Sg	22 39 22.6	+1.7
	baz=286								
TPUB	**Ta-pu**	**0.21**	**302**		↓P		Pg	22 39 19.3	+1.0
	baz=312								
TPUB					S		Sg	22 39 22.8	+1.6
	baz=312								
SGST	**Jiashian**	**0.25**	**245**		*e*P		Pg	22 39 19.8	+0.8
	baz=242								
SGST					eS		Sg	22 39 24.0	+1.8
	baz=242								
SLGT	**Liugui**	**0.26**	**221**		*e*P		Pg	22 39 19.9	+0.8
	baz=214								
SLGT					eS		Sb	22 39 24.3	-1.6
	baz=214								
CHN4	**Tsaushan**	**0.27**	**307**		↓P		Pb	22 39 20.6	-0.8
	baz=316								
CHN4					S		Sb	22 39 25.0	-1.3
	baz=316								
CHN1	**Nanshi**	**0.28**	**269**		↓*i* P		Pb	22 39 20.8	-0.7
	baz=269								
CHN1					S		Sb	22 39 25.4	-1.0
	baz=269								
SNST	**Tainan City**	**0.30**	**276**		*e*P		Pb	22 39 21.2	-0.8
	baz=276								
TWK	**Hsinying**	**0.32**	**284**		*e*P		Pb	22 39 21.5	-0.8
	baz=284								
TWG	**Pinlang**	**0.43**	**148**		*e*P		Pg	22 39 23.2	+0.9
	baz=148								
TWGBT	**Beinan**	**0.44**	**148**		*e*P		Pg	22 39 23.1	+0.6
	baz=148								
TWF1	**Yuli**	**0.46**	**69**		P		Pg	22 39 23.8	+0.8
	baz=72								
TWF1					S		Sg	22 39 29.6	+0.5
	baz=72								
SSD	**Sandimen**	**0.47**	**202**		P		Pg	22 39 23.9	+0.7
	baz=194								
YULB	**Yu-li**	**0.48**	**65**		P		Pg	22 39 23.8	+0.5
	baz=67								
YULB					S		Sg	22 39 29.5	0.0
	baz=67								
WLGB	**Puzi**	**0.56**	**301**		*e*P		Pg	22 39 24.9	0.0
	baz=302								
ECL	**Taimali**	**0.60**	**169**		*e*P		Pg	22 39 26.2	+0.6
	baz=158								
ECL					eS		Sb	22 39 34.9	-0.9
	baz=158								
MASBT	**Mashibuluo**	**0.60**	**197**		*e*P		Pg	22 39 26.0	+0.4
	baz=201								
HGSD	**Ruisui**	**0.63**	**61**		*e*P		Pb	22 39 28.0	+0.6
	baz=61								
VWDT	**VWDT**	**0.63**	**27**		*e*P		Pg	22 39 26.6	+0.4
	baz=36								
TYC	**Yuchr**	**0.71**	**2**		*e*P		Pb	22 39 28.9	-0.1
	baz=11								

TAP 27 22:39:21.2, 23°.16N×120°.83E, h3km±1km, ML1.8, 1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.07**	**270**		*i* P		Pg	22 39 22.3	-0.3
	baz=268								
STYT					*i* S		Sg	22 39 23.5	-0.2
	baz=268								
ELDTW	**Lidau**	**0.17**	**81**		↓P		Pg	22 39 24.7	0.0
	baz=82								
ELDTW					eS		Sg	22 39 27.4	+0.4
	baz=82								
WTP	**Ta-pu**	**0.21**	**293**		P		Pg	22 39 25.2	-0.2
	baz=293								
TPUB	**Ta-pu**	**0.23**	**307**		P		Pg	22 39 25.5	-0.2
	baz=306								
TPUB					S		Sg	22 39 28.9	+0.2
	baz=306								
SLGT	**Liugui**	**0.24**	**225**		*e*P		Pg	22 39 25.8	0.0
	baz=225								
SGST	**Jiashian**	**0.24**	**250**		*e*P		Pg	22 39 25.4	-0.5
	baz=249								
SGST					eS		Sg	22 39 30.2	+1.2
	baz=249								
CHN1	**Nanshi**	**0.28**	**275**		*e*P		Pg	22 39 26.7	+0.1
	baz=274								
CHN1					eS		Sg	22 39 31.5	+1.2
	baz=274								
CHN4	**Tsaushan**	**0.29**	**311**		*e*P		Pg	22 39 26.7	-0.1
	baz=311								
CHN4					eS		Sg	22 39 31.1	+0.6
	baz=311								
SNST	**Tainan City**	**0.31**	**281**		*e*P		Pg	22 39 27.9	+0.6
	baz=280								
SNST	**Tainan City**	**0.31**	**281**		eS		Pg	22 39 27.8	+0.6
	baz=276								
TWK	**Hsinying**	**0.33**	**288**		*e*P		Pg	22 39 27.9	+0.2
	baz=288								
TWG	**Pinlang**	**0.41**	**147**		*e*P		Pg	22 39 29.5	+0.4
	baz=146								
TWG	**Pinlang**	**0.41**	**147**		*e*S		Pg	22 39 29.3	+0.2
	baz=148								
TWGBT	**Beinan**	**0.41**	**146**		*e*P		Pg	22 39 29.2	0.0
	baz=146								
TWGBT					eS		Sg	22 39 35.3	+0.7
	baz=146								
TWGBT	**Beinan**	**0.41**	**146**		*e*S		Pg	22 39 29.0	-0.2
	baz=148								
SSD	**Sandimen**	**0.45**	**204**		*e*P		Pg	22 39 29.9	-0.1
	baz=202								
SSD	**Sandimen**	**0.45**	**204**		*e*S		Pg	22 39 29.8	-0.1
	baz=194								
MASBT	**Mashibuluo**	**0.58**	**198**		*e*P		Pg	22 39 31.9	-0.4
	baz=198								

IGQ 27 22:42:59.3±0.7, 3°.5S×8°.1W±°, h2km, MLv4.1, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MORR	**Playas El Morr**	**0.77**	**40**		P		Pb	22 43 14.9	-0.6
MORR					S		Sb	22 43 26.1	-0.3
MORR	**Playas El Morr**	**0.77**	**40**		P		Pb	22 43 14.9	-0.6
MORR					S		Sb	22 43 26.0	-0.4
MILO	**Milagro-Astudi**	**1.59**	**53**		P		Pn	22 43 26.5	-2.1
MILO					S		Sn	22 43 47.6	-2.0
MILO	**Milagro-Astudi**	**1.59**	**53**		P		Pn	22 43 26.4	-2.1
MILO					S		Sn	22 43 47.8	-1.9
AMIL	**Milagro (Trans**	**1.65**	**49**		P		Pn	22 43 26.9	-2.4
AMIL					S		Sn	22 43 46.7	-4.5
COHC	**Cochancay**	**1.75**	**64**		P		Pn	22 43 27.3	-3.4
COHC					S		Sn	22 43 49.6	-4.1
COHC	**Cochancay**	**1.75**	**64**		P		Pn	22 43 27.3	-3.4
COHC					S		Sn	22 43 49.4	-4.3
CHIS	**Cerro-Chispas-**	**2.18**	**3**		P		Pn	22 43 35.2	-1.3
CHIS					S		Sn	22 44 01.9	-2.2
BIL2	**Estacion Bilba**	**2.93**	**53**		P		Pn	22 43 46.9	-0.2
BIL2	**Estacion Bilba**	**2.93**	**53**		P		Pn	22 43 46.9	-0.3
BIL2					S		Sn	22 44 23.5	+0.4
ARRY	**Arrayan**	**2.94**	**54**		P		Pn	22 43 45.4	-1.9
ARRY	**Arrayan**	**2.94**	**54**		P		Pn	22 43 45.3	-2.0
ARRY					S		Sn	22 44 21.0	-2.3
PAT1	**Patacocha**	**2.95**	**54**		P		Pn	22 43 46.4	-1.2
PAT1	**Patacocha**	**2.95**	**54**		P		Pn	22 43 46.3	-1.3
JUI6	**Juive**	**2.97**	**53**		P		Pn	22 43 46.3	-1.5
RUN5	**Runtun**	**3.01**	**53**		P		Pn	22 43 46.8	-1.6
RUN5					S		Sn	22 44 23.4	-1.8
PIS1	**Pisayambo**	**3.27**	**49**		P		Pn	22 43 49.7	-2.3
PIS1					S		Sn	22 44 31.2	-0.6
PIS1	**Pisayambo**	**3.27**	**49**		P		Pn	22 43 49.7	-2.3
PIS1					S		Sn	22 44 31.1	-1.6
PISA	**Pisayambo**	**3.27**	**49**		P		Pn	22 43 51.7	-0.3
PISA	**Pisayambo**	**3.27**	**49**		P		Pn	22 43 51.5	-0.5
PISA					S		Sn	22 44 31.1	-0.7
MAG1	**Magdalena**	**3.32**	**19**

TPUB				S		Sg	22 43 37.0	+1.5
	baz=303							
SGST	**Jiashian**	**0.24**	**248**	*e*P		Pg	22 43 32.1	-0.8
	baz=246							
SLGT	**Liugui**	**0.25**	**223**	*e*P		Pg	22 43 34.0	+1.1
	baz=222							
CHN1	**Nanshi**	**0.28**	**272**	*e*P		Pb	22 43 34.9	-0.5
	baz=271							
CHN4	**Tsaushan**	**0.28**	**309**	*e*P		Pb	22 43 34.6	-0.8
	baz=310							

TAP 27 22:43:33.3, 23.22N×120.79E, h8km, ML1.7, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
STYT	**Tauyuan**	**0.06**	**210**	*i* P		Pg	22 43 35.6	+0.5
	baz=202							
STYT				*i* S		Sg	22 43 37.2	+0.7
	baz=202							
WTP	**Ta-pu**	**0.17**	**281**	*e*P		Pg	22 43 37.1	+0.4
	baz=280							
WTP	**Ta-pu**	**0.17**	**281**	S		Pg	22 43 36.7	-0.1
	baz=289							
TPUB	**Ta-pu**	**0.17**	**300**	P		Pg	22 43 37.5	+0.7
	baz=299							
TPUB				*e*S		Sg	22 43 41.0	+1.7
	baz=299							
ELDTW	**Lidau**	**0.21**	**97**	*e*P		Pg	22 43 38.3	+0.8
	baz=97							
ELDTW				*e*S		Sg	22 43 41.1	+0.6
	baz=97							
CHN4	**Tsaushan**	**0.23**	**307**	*e*P		Pg	22 43 38.9	+1.0
	baz=306							
SGST	**Jiashian**	**0.23**	**235**	P		Pg	22 43 38.6	+0.7
	baz=233							
SGST				*e*S		Sg	22 43 42.4	+1.3
	baz=233							
CHN1	**Nanshi**	**0.24**	**263**	*e*P		Pg	22 43 39.1	+1.0
	baz=262							
CHN1				*e*S		Sg	22 43 44.3	+2.9
	baz=262							
CHN1	**Nanshi**	**0.24**	**263**	*e*S		Pg	22 43 39.1	+1.0
	baz=271							
SLGT	**Liugui**	**0.26**	**211**	*e*P		Pb	22 43 39.7	-0.5
	baz=210							
SLGT				S		Sb	22 43 44.0	-0.8
	baz=210							
TWK	**Hsinying**	**0.28**	**281**	*e*P		Pb	22 43 40.3	-0.4
	baz=280							
SSD	**Sandimen**	**0.49**	**197**	*e*P		Pb	22 43 43.8	-0.4
	baz=196							

TAP 27 23:02:06.3, 24.13N×121.40E, h10km±1km, ML1.5, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
WHF	**Hehuan Shan**	**0.12**	**279**	*i* P		Pg	23 02 10.3	+0.8
	baz=278							
WHF				*i* S		Sg	23 02 12.1	+0.3
	baz=278							
NACB	**Ninganchiao**	**0.19**	**76**	P		Pg	23 02 11.6	+1.3
	baz=75							
NACB				S		Sg	23 02 14.4	+1.4
	baz=75							
TWD	**Chiawan**	**0.19**	**104**	*e*P		Pg	23 02 11.8	+1.5
	baz=103							
TWD				*e*S		Sg	23 02 14.5	+1.5
	baz=103							
CHGB	**Renai**	**0.21**	**252**	P		Pg	23 02 12.1	+1.3
	baz=251							
CHGB				S		Sg	23 02 15.2	+1.3
	baz=251							
NNSB	**Datong**	**0.30**	**358**	*e*P		Pb	23 02 13.5	-0.3
	baz=357							
NNSB				*i* S		Sb	23 02 18.3	-0.7
	baz=357							
ESL	**Shilin**	**0.31**	**174**	*e*P		Pg	23 02 13.3	+0.7
	baz=172							
ESL				*e*S		Sb	23 02 18.0	-1.2
	baz=172							
SMLT	**Sun Moon Lake**	**0.51**	**242**	*e*S		Sb	23 02 24.7	-0.4
	baz=241							
YHNB	**Yeheng**	**0.54**	**358**	*e*P		Pb	23 02 18.4	+0.4
	baz=358							
YHNB				S		Sb	23 02 25.8	-0.1
	baz=358							
NSK	**Sanguang**	**0.55**	**356**	*e*S		Sb	23 02 26.2	+0.2
	baz=357							
HGSD	**Ruisui**	**0.63**	**178**	*e*P		Pb	23 02 19.9	+0.5
	baz=177							
HGSD				*e*S		Sb	23 02 29.4	+1.0
	baz=177							
NWLT	**Wulai**	**0.66**	**9**	*e*P		Pb	23 02 19.8	-0.1
	baz=8.0							
NWLT				*e*S		Sb	23 02 29.8	+0.7
	baz=8.0							

TAP 27 23:02:07.5, 23.53N×120.75E, h12km, ML1.7, 1C, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
ALS	**Alishan**	**0.05**	**106**	⇑*i*P		Pg	23 02 10.7	+0.5
	baz=105							
ALS				S		Sg	23 02 12.9	+0.9
	baz=105							
CHN5	**Tsauling**	**0.10**	**317**	*i* P		Pg	23 02 10.3	-0.1
	baz=317							
CHN5				S		Sg	23 02 12.8	+0.2
	baz=317							
WHYT	**Xinyi Township**	**0.19**	**29**	P		Pg	23 02 12.4	+0.6
	baz=28							
WHYT				S		Sg	23 02 16.2	+1.4
	baz=28							
CHN4	**Tsaushan**	**0.23**	**220**	*i* P		Pg	23 02 12.9	+0.6
	baz=219							
CHN4				S		Sg	23 02 17.8	+2.2
	baz=219							
TPUB	**Ta-pu**	**0.25**	**207**	*e*P		Pg	23 02 13.3	+0.6
	baz=206							
TPUB				S		Sg	23 02 17.5	+1.2
	baz=206							
WDLH	**Douliu**	**0.25**	**310**	P		Pb	23 02 13.7	-0.4
	baz=309							
WDLH				S		Sb	23 02 19.1	+0.6
	baz=309							
WJS	**Zhushan**	**0.30**	**356**	*e*S		Sb	23 02 20.4	+0.7
	baz=355							
CHY	**Chiayi**	**0.30**	**265**	P		Pb	23 02 14.4	-0.5
	baz=264							
CHY				S		Sb	23 02 19.5	-0.3
	baz=264							
WTP	**Ta-pu**	**0.30**	**204**	P		Pb	23 02 14.4	-0.6
	baz=202							
WTP				S		Sb	23 02 19.5	-0.4
	baz=202							
TWK	**Hsinying**	**0.35**	**223**	P		Pg	23 02 15.1	+0.5
	baz=221							
TWK				*i* S		Sb	23 02 21.4	+0.1
	baz=221							
STYT	**Tauyuan**	**0.36**	**179**	P		Pg	23 02 15.3	+0.5
	baz=177							
STYT				S		Sb	23 02 21.4	-0.2
	baz=177							
SMLT	**Sun Moon Lake**	**0.38**	**21**	*e*P		Pb	23 02 16.7	+0.3
	baz=22							
SMLT				*e*S		Sb	23 02 22.2	0.0
	baz=22							
SMLT	**Sun Moon Lake**	**0.38**	**21**	*e*P		Pb	23 02 16.7	+0.3
	baz=241							
SNST	**Tainan City**	**0.38**	**218**	*e*P		Pg	23 02 15.5	+0.4
	baz=217							
SNST				S		Sb	23 02 22.3	+0.2
	baz=217							
CHN1	**Nanshi**	**0.40**	**211**	P		Pg	23 02 15.9	+0.5
	baz=211							
CHN1				*i* S		Sb	23 02 22.6	+0.1
	baz=211							
ELDTW	**Lidau**	**0.41**	**144**	*e*P		Pb	23 02 16.7	-0.2
	baz=143							
ELDTW				*e*S		Sb	23 02 23.2	0.0
	baz=143							
WLGB	**Puzi**	**0.42**	**264**	*e*S		Sb	23 02 23.4	+0.2
	baz=263							
VWDT	**VWDT**	**0.42**	**57**	*i* P		Pg	23 02 16.1	+0.2
	baz=212							
VWDT				*e*S		Sg	23 02 22.4	+0.8
	baz=212							
VWDT	**VWDT**	**0.42**	**57**	P		Pg	23 02 16.0	+0.1
	baz=57							
VWDT				*e*S		Sb	23 02 22.5	-0.9
	baz=57							
YULB	**Yu-li**	**0.52**	**105**	P		Pb	23 02 18.7	+0.1
	baz=104							
YULB				*e*S		Sb	23 02 26.8	+0.7
	baz=104							
TWF1	**Yuli**	**0.53**	**109**	P		Pb	23 02 19.1	+0.4
	baz=108							
TWF1				*e*S		Sb	23 02 26.1	-0.3
	baz=108							
SLGT	**Liugui**	**0.54**	**190**	*e*P		Pb	23 02 19.1	+0.2
	baz=190							
SLGT				*e*S		Sb	23 02 27.9	+1.3
	baz=190							
WHP	**Taichung City**	**0.77**	**13**	*e*P		Pb	23 02 23.0	+0.1
	baz=13							

*ISCJB **27** 23:04:14.7±0.6, 47.62N±0.09×152.28E±0.1, h128km, mb4.0/24, Error ellipse: s-maj=15.0km s-min=7.3km az=143.6*
*IDC **27** 23:04:18.1±2.1, 47.70N×152.60E, h144km±19km, mb3.6/21, mb1 3.8/26, mb1mx3.7/42, mbtmp4.0/26, Error ellipse: s-maj=15.5km s-min=10.3km az=142.0*
ISC 27 23:04:16.5±0.8, 47.7N±0.1×152.6E±0.1, h128km, n79, σ1825/75, mb4.2/43, 14C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
PETK	**Petropavlovsk-**	**6.35**	**29**	P		**Pn**	**23 05 47.3**	**-0.3**
	1.1nm,0.3s,baz=201,slow=15,SNR=16							
PETK				S		**Sn**	**23 07 03.2**	**+4.4**
	0.2nm,0.3s,baz=172,slow=20,SNR=2.0							
ASAJ	**Asahikawa**	**7.83**	**247**	P		**Pn**	**23 06 10.3**	**+2.9**
	2.1nm,0.3s,baz=72,slow=14,SNR=10							
KLR	**Kul'dur**	**13.93**	**284**	P		**P**	**23 07 30.2**	**-1.9**
	0.0nm,0.3s,baz=72,slow=11,SNR=2.3							
USRK	**Ussuriysk Ar.**	**14.75**	**264**	P		**P**	**23 07 40.3**	**-1.0**
	0.3nm,0.3s,baz=53,slow=13,SNR=5.4							
SEY	**Seymchan**	**15.31**	**360**	P		**P**	**23 07 46.7**	**-0.6**
	0.5nm,0.3s,baz=169,slow=9.0,SNR=13							
KSRS	**Korea Array**	**20.76**	**250**	P		**P**	**23 08 48.1**	**+1.1**
	2.4nm,0.8s,baz=60,slow=9.8,SNR=6.3							
H11N2	**WAKE ISLAND Hy**	**30.19**	**152**	T		T	23 41 58.5	
	baz=341,slow=76,SNR=70							
H11N1	**WAKE ISLAND Hy**	**30.20**	**152**	T		T	23 42 10.4	
	baz=341,slow=76,SNR=84							
H11N3	**WAKE ISLAND Hy**	**30.20**	**152**	T		T	23 42 21.9	
	baz=341,slow=76,SNR=47							
SONM	**Songino Array**	**30.71**	**288**	P		**P**	**23 10 19.0**	**-0.2**
	0.5nm,0.5s,baz=62,slow=7.7,SNR=5.4							
H11S1	**WAKE ISLAND Hy**	**31.28**	**154**	T		T	23 43 23.9	
	baz=342,slow=76,SNR=97							
H11S3	**WAKE ISLAND Hy**	**31.29**	**154**	T		T	23 43 22.6	
	baz=342,slow=76,SNR=93							
H11S2	**WAKE ISLAND Hy**	**31.29**	**154**	T		T	23 43 49.4	
	baz=342,slow=76,SNR=85							
ILAR	**Eielson Array**	**36.06**	**39**	P		**P**	**23 11 05.0**	**-0.2**
	1.3nm,0.9s,baz=262,slow=6.4,SNR=12							
INK	**Inuvik**	**41.07**	**33**	P		**P**	**23 11 47.5**	**+0.6**
	2.0nm,0.6s,baz=301,slow=5.9,SNR=19							
ZALV	**Zalesovo Beam**	**41.80**	**305**	P		**P**	**23 11 51.8**	**-1.2**
	2.5nm,0.5s,baz=64,slow=6.8,SNR=13							
MKAR	**Makanchi Array**	**46.22**	**296**	P		**P**	**23 12 27.4**	**-1.0**
	1.3nm,0.8s,baz=68,slow=8.7,SNR=13							
RES	**Resolute Bay**	**50.09**	**19**	P		**P**	**23 12 57.6**	**0.0**
	1.6nm,0.6s,baz=43,slow=1.4,SNR=9.3							
YKA	**Yellowknife Ar**	**50.41**	**37**	P		**P**	**23 13 00.4**	**+0.2**
	0.6nm,0.5s,baz=298,slow=7.1,SNR=10							
CMAR	**Chiang Mai Arr**	**52.26**	**255**	P		**P**	**23 13 15.7**	**+1.1**
	0.9nm,0.6s,baz=35,slow=7.1,SNR=5.4							
JIRN	**Jiri**	**54.53**	**274**	*e*P		**P**	**23 13 32.5**	**+0.9**
	14nm,0.7s							
GUN	**Gumba**	**54.58**	**274**	*e*P		**P**	**23 13 32.7**	**+0.8**
	4.2nm,0.4s							
RAMN	**Ramite**	**54.72**	**273**	*e*P		**P**	**23 13 33.5**	**+0.7**
	24nm,0.6s							
KKN	**Kakani**	**55.06**	**274**	*e*P		**P**	**23 13 36.2**	**+1.0**
	8.3nm,0.6s							
PKIN	**Phulchoki**	**55.12**	**274**	*e*P		**P**	**23 13 36.3**	**+0.6**
	6.5nm,0.8s							
DMN	**Daman**	**55.30**	**274**	*e*P		**P**	**23 13 37.9**	**+1.0**
	8.3nm,0.7s							
DANN	**Dangsing**	**55.73**	**276**	*e*P		**P**	**23 13 41.0**	**+1.0**
	8.4nm,0.6s							
KOLN	**Koldanda**	**56.21**	**275**	*e*P		**P**	**23 13 44.2**	**+0.8**
	12nm,0.9s							
PYUN	**Piuthan**	**56.41**	**276**	*e*P		**P**	**23 13 45.5**	**+0.7**
	2.5nm,0.3s							
ARCES	**ARCESS Array B**	**56.88**	**340**	P		**P**	**23 13 46.5**	**-0.7**
	2.8nm,0.9s,baz=40,slow=9.6,SNR=6.7							
SUMG	**Summit**	**59.82**	**4**	*i* P		**P**	**23 14 08.3**	**+0.2**
	60nm,0.9s							
FINES	**FINESS Array B**	**63.07**	**334**	P		**P**	**23 14 28.6**	**-0.9**
	2.1nm,0.4s,baz=34,slow=8.0,SNR=22							
PDAR	**Pinedale Array**	**64.49**	**54**	P		**P**	**23 14 39.0**	**-0.6**
	0.2nm,0.5s,baz=332,slow=3.1,SNR=1.7							
NB2	**NORSAR Subarra**	**67.25**	**341**	P		**P**	**23 14 56.0**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**67.25**	**341**	P		**P**	**23 14 56.2**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=29,slow=6.6,SNR=8.0							
WRA	**Warramunga Ar**	**69.26**	**198**	P		**P**	**23 15 08.6**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=15,slow=6.7,SNR=3.9							
KBZ	**Khabaz**	**69.98**	**313**	P		**P**	**23 15 14.2**	**+0.5**
	comp=Z,3.0nm,0.8s,baz=39,slow=4.8,SNR=9.6							
AKASG	**Malin Array Be**	**70.60**	**326**	P		**P**	**23 15 16.4**	**-1.0**
	comp=Z,1.8nm,0.5s,baz=33,slow=6.3,SNR=13							
ASAR	**Alice Springs**	**72.96**	**198**	P		**P**	**23 15 32.2**	**+0.4**
	comp=Z,2.7nm,0.8s,baz=10,slow=5.4,SNR=18							
BURAR	**Bucovina Array**	**74.64**	**326**	⇑*i*P		**P**	**23 15 41.4**	**-0.1**
TRPA	**Tarpa**	**75.19**	**328**	⇑*i*P		**P**	**23 15 45.0**	**+0.5**
UPC	**Upice**	**75.31**	**333**	*e*P		**P**	**23 15 45.2**	**0.0**
DPC	**Dobruska-Polom**	**75.36**	**333**	*e*P		**P**	**23 15 46.1**	**+0.6**
ODBI	**Odobesti**	**75.46**	**324**	⇓*i*P		**P**	**23 15 47.4**	**+1.3**
MORC	**Moravsky Berou**	**75.47**	**332**	⇑*i*P		**P**	**23 15 46.3**	**+0.1**
CLL	**Collm**	**75.49**	**335**	*i* P		**P**	**23 15 45.9**	**-0.3**
	comp=Z,10.0nm,0.8s							
OZUR		**75.68**	**325**	⇑*i*P		**P**	**23 15 48.2**	**+0.8**
MLR	**Muntele Rosu**	**76.12**	**324**	⇑*i*P		**P**	**23 15 50.7**	**+0.6**
VYHS	**Vyhne**	**76.16**	**330**	*e*P		**P**	**23 15 50.0**	**-0.1**
ISR	**Istrita**	**76.19**	**324**	⇑*i*P		**P**	**23 15 51.0**	**+0.6**
GOPC	**GO Pecny, Ondr**	**76.21**	**333**	*e*P		**P**	**23 15 50.8**	**+0.5**
PRU	**Pruhonice**	**76.22**	**334**	*e*P		**P**	**23 15 50.5**	**+0.2**
DRGR		**76.26**	**327**	⇑*i*P		**P**	**23 15 50.8**	**0.0**
VOIR		**76.52**	**325**	⇑*i*P		**P**	**23 15 52.6**	**+0.4**
ARR	**Arges**	**76.73**	**325**	⇑*i*P		**P**	**23 15 54.6**	**+1.2**
KHC	**Kasperske Hory**	**77.27**	**334**	*e*P		**P**	**23 15 56.6**	**+0.3**
KHC				*e*pP		**PcP**	**23 16 01.6**	**-4.9**
TXAR	**Lajitas Array**	**77.35**	**60**	P		**P**	**23 15 56.3**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=296,slow=4.9,SNR=7.7							
GZR	**Gura Zlata**	**77.42**	**326**	⇓*i*P		**P**	**23 15 57.2**	**-0.1**
GERES	**GERESS Array B**	**77.49**	**334**	P		**P**	**23 15 57.5**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=32,slow=5.9,SNR=13							
BRTR	**Keskin Array B**	**77.49**	**316**	P		**P**	**23 15 57.6**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=79,slow=6.7,SNR=6.7							
CONA	**Conrad Observa**	**77.63**	**332**	*i* pP		**P**	**23 15 58.6**	**+0.2**
	comp=Z,3.8nm,0.7s							
BZS	**Buzias**	**77.66**	**327**	⇑*i*P		**P**	**23 15 58.4**	**-0.1**
VLAD	**Vladila**	**77.97**	**325**	⇑*i*P		**P**	**23 16 00.0**	**-0.2**
PUNG	**Punghina**	**78.31**	**326**	⇓*i*P		**P**	**23 16 01.9**	**-0.2**
ARSA	**Arzberg**	**78.33**	**332**	*e*pP		**P**	**23 16 02.9**	**+0.6**
	comp=Z,2.3nm,0.7s							
MDVR	**Moldovita**	**78.34**	**327**	⇑*i*P		**P**	**23 16 02.0**	**-0.3**
SOKA	**Soboth**	**79.00**	**332**	*i* pP		**P**	**23 16 06.1**	**+0.2**
	comp=Z,5.9nm,1.1s,SNR=8.4							
KBA	**Koelnbreinsper**	**79.17**	**333**	*i* pP		**P**	**23 16 08.0**	**+1.0**
	comp=Z,8.1nm,0.7s							
OBKA	**Obir**	**79.30**	**332**	*i* pP		**P**	**23 16 07.6**	**0.0**
	comp=Z,2.4nm,0.7s							
WATA	**Walderalm**	**79.47**	**334**	*e*pP		**P**	**23 16 09.3**	**+0.7**
	comp=Z,4.0nm,0.6s							
MYKA	**Terra Mystica**	**79.48**	**333**	*e*P		**P**	**23 16 04.9**	**-3.7**
	comp=Z,1.2nm,0.4s							
WTTA	**Wattenberg**	**79.52**	**334**	*e*pP		**P**	**23 16 09.1**	**+0.2**
	comp=Z,5.4nm,0.5s							
MOTA	**Moosalm**	**79.60**	**335**	*i* pP		**P**	**23 16 09.9**	**+0.6**
	comp=Z,4.1nm,0.7s,SNR=6.5							
VTS	**Vitosha**	**79.63**	**325**	⇑*i*P		**P**	**23 16 09.1**	**-0.4**
SQTA	**Sankt Quirin**	**79.68**	**334**	P		**P**	**23 16 05.9**	**-3.9**
	comp=Z,3.9nm,0.8s							
ABTA	**Abfaltersbach**	**79.72**	**333**	*e*pP		**P**	**23 16 10.4**	**+0.5**
	comp=Z,6.7nm,1.5s							
DAVA	**Damuels**	**80.01**	**335**	*e*pP		**P**	**23 16 12.0**	**+0.5**
	comp=Z,5.9nm,0.8s							
PDG	**Podgorica**	**81.27**	**327**	⇑*i*P		**P**	**23 16 17.6**	**-0.5**
KEST	**Kesra**	**90.71**	**331**	P		**P**	**23 17 06.2**	**+1.4**
	comp=Z,2.5nm,0.7s,baz=312,slow=5.6,SNR=4.0							

*JMA **27** 23:14:32.2±0.1, 24.69N×121.90E, h69km, M3.1*
*TAP **27** 23:14:32.8, 24.80N×121.99E, h8km, ML3.3, B*
ISC 27 23:14:32.8±0.8, 24.82N±0.02×122.03E±0.02, h12km±5km, n84, σ982/137, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
EGS		**0.09**	**286**	*e*P		**Pg**	**23 14 35.1**	**-0.3**
	baz=315							
EGS				*e*S		**Sg**	**23 14 36.8**	**-0.7**
	baz=315							
NTC	**Toucheng**	**0.18**	**281**	*e*P		**Pg**	**23 14 37.0**	**+0.1**
	baz=290							
NTC				*e*S		**Sg**	**23 14 39.9**	**+0.2**
	baz=290							
TWB1	**Santiao Chiao**	**0.19**	**349**	P		**Pg**	**23 14 37.3**	**+0.3**
TWB1				*e*S		**Sg**	**23 14 39.8**	**-0.1**
TIPB	**Shuangxi**	**0.24**	**309**	*e*P		**Pg**	**23 14 38.1**	**+0.3**
	baz=318							
TIPB				S		**Sg**	**23 14 41.4**	**+0.1**
	baz=318							
ILA	**Ilan**	**0.26**	**258**	*e*P		**Pg**	**23 14 38.2**	**0.0**
	baz=261							
TWC	**Suao**	**0.27**	**218**	*i* P		**Pg**	**23 14 37.8**	**-0.5**
	baz=213							
TWC				*i* S		**Sg**	**23 14 40.8**	**-1.2**
	baz=213							
EOS1	**EOS1**	**0.28**	**162**	P		**Pg**	**23 14 39.1**	**+0.5**
	baz=143							
EOS1				*e*S		**Sg**	**23 14 43.3**	**+0.8**
	baz=143							
NWF	**Wu-fen Shan**	**0.34**	**318**	P		**Pb**	**23 14 40.2**	**-0.6**
	baz=316							
NWF				S		**Sb**	**23 14 45.0**	**-1.1**
	baz=316							
WFSB	**Wu-fen Shan**	**0.34**	**318**	P		**Pb**	**23 14 40.2**	**-0.5**
	baz=316							
WFSB				S		**Sb**	**23 14 45.0**	**-1.1**
	baz=316							
TWE	**Neicheng**	**0.34**	**253**	P		**Pg**	**23 14 39.3**	**-0.4**
	baz=254							
TWE				*e*S		**Sg**	**23 14 43.8**	**-0.5**
	baz=254							
TWA	**Mucha**	**0.43**	**292**	*e*P		**Pb**	**23 14 41.7**	**-0.8**
	baz=295							
TWA				*e*S		**Sg**	**23 14 46.6**	**-0.5**
	baz=295							
ENTT	**Nioudou**	**0.46**	**247**	*e*P		**Pg**	**23 14 41.6**	**-0.2**
	baz=248							
ENTT				*e*S		**Sg**	**23 14 47.3**	**-0.6**
	baz=248							
ENA	**Nanau**	**0.47**	**214**	*e*P		**Pg**	**23 14 41.4**	**-0.6**
	baz=218							
ENA				*e*S		**Sg**	**23 14 47.1**	**-1.2**
	baz=218							
NHDH	**Xindian Distri**	**0.48**	**287**	*e*P		**Pb**	**23 14 42.6**	**-0.5**
	baz=282							
NHDH				*e*S		**Sb**	**23 14 48.6**	**-1.6**
	baz=282							
NWLT	**Wulai**	**0.48**	**265**	*e*P		**Pg**	**23 14 42.0**	**-0.2**
	baz=267							
NWLT				*e*S		**Sg**	**23 14 48.1**	**-0.5**
	baz=267							
YM07	**YM07**	**0.51**	**314**	*e*P		**Pb**	**23 14 43.8**	**0.0**
	baz=317							
TATO	**Taipei**	**0.52**	**288**	*e*P		**Pb**	**23 14 43.1**	**-0.6**
	baz=283							
NDT	**Datong Townshi**	**0.52**	**245**	*e*P		**Pg**	**23 14 42.9**	**0.0**
	baz=246							
NDT				*e*S		**Sg**	**23 14 49.4**	**-0.4**
	baz=246							
YM01	**YM01**	**0.53**	**308**	*e*P		**Pb**	**23 14 44.9**	**+0.9**
	baz=312							
YM11	**YM11**	**0.54**	**310**	*e*P		**Pb**	**23 14 43.9**	**-0.3**
	baz=313							
YM10	**YM10**	**0.54**	**308**	*e*P		**Pb**	**23 14 44.2**	**0.0**
	baz=312							
YM08	**YM08**	**0.54**	**313**	*e*P		**Pb**	**23 14 44.1**	**-0.1**
	baz=316							
YM05	**YM05**	**0.54**	**309**	*e*P		**Pb**	**23 14 44.1**	**-0.2**
	baz=313							
YM04	**YM04**	**0.56**	**307**	*e*P		**Pb**	**23 14 44.5**	**0.0**
	baz=310							
TWY	**Chenhua**	**0.60**	**319**	*e*P		**Pb**	**23 14 45.7**	**+0.5**
	baz=323							
YHNB	**Yeheng**	**0.61**	**256**	*e*P		**Pg**	**23 14 44.5**	**-0.3**
	baz=249							
YHNB				*e*S		**Sg**	**23 14 51.5**	**-1.3**
	baz=249							
TWS1	**Kuangyinshan**	**0.62**	**297**	*e*P		**Pb**	**23 14 46.0**	**+0.4**
	baz=300							
NSK	**Sanguang**	**0.63**	**257**	P		**Pg**	**23 14 44.5**	**-0.5**
	baz=258							
NSK				*e*S		**Sg**	**23 14 51.8**	**-1.4**
	baz=258							
NTST	**Danshui**	**0.63**	**303**	*e*P		**Pb**	**23 14 46.0**	**+0.2**
	baz=306							
NNSB	**Datong**	**0.71**	**237**	*e*P		**Pg**	**23 14 46.2**	**-0.3**
	baz=237							
NNS	**Nan Shan**	**0.71**	**238**	*e*P		**Pg**	**23 14 46.2**	**-0.3**
	baz=238							
NNS				*e*S		**Sg**	**23 14 55.1**	**-0.7**
	baz=238							
WLTB	**Daxi**	**0.71**	**273**	*e*P		**Pb**	**23 14 46.7**	**-0.3**
	baz=275							
NACB	**Ninganchiao**	**0.76**	**212**	*e*P		**Pg**	**23 14 46.9**	**-0.5**
	baz=201							
NACB				S		**Sg**	**23 14 56.5**	**-0.8**
	baz=201							
NCU	**National Centr**	**0.78**	**281**	*e*P		**Pn**	**23 14 49.3**	**-0.3**
	baz=283							
PCYT	**Pengchaiyu**	**0.81**	**3**	P		**Pb**	**23 14 49.5**	**+0.7**
	baz=4.0							
TWD	**Chiawan**	**0.84**	**208**	*e*P		**Pg**	**23 14 48.2**	**-0.7**
	baz=200							
TWD				*e*S		**Sg**	**23 14 59.0**	**-0.9**
	baz=200							
JYNG	**Yonaguni jima**	**0.91**	**114**	P

	baz=249							
TWQ1				*e*S		**Sn**	**23 15 14.0**	**+1.4**
	baz=249							
EGFH	**Guangfu**	**1.27**	**206**	*e*P		**Pg**	**23 14 55.8**	**-1.5**
	baz=212							
EGFH				*e*S		**Sg**	**23 15 11.9**	**-1.8**
	baz=212							
VWDT	**VWDT**	**1.34**	**218**	P		**Pn**	**23 14 57.4**	**+0.1**
	baz=227							
VWDT				*e*S		**Sn**	**23 15 16.1**	**+1.2**
	baz=227							
WDJ	**Dajia District**	**1.35**	**250**	*e*P		**Pg**	**23 14 58.5**	**-0.2**
	baz=268							
SMLT	**Sun Moon Lake**	**1.39**	**228**	*e*P		**Pn**	**23 14 58.7**	**+0.6**
	baz=229							
TCU	**Taichung**	**1.40**	**242**	*e*P		**Pg**	**23 14 59.6**	**-0.2**
	baz=243							
TCU				*e*S		**Sn**	**23 15 18.0**	**+1.4**
	baz=243							
TYC	**Yuchr**	**1.41**	**230**	*e*P		**Pb**	**23 14 59.0**	**+0.1**
	baz=220							
HGSD	**Ruisui**	**1.43**	**203**	*e*P		**Pb**	**23 15 00.1**	**+0.7**
	baz=218							
HGSD				*e*S		**Sg**	**23 15 18.9**	**0.0**
	baz=218							
EHY	**Hungye**	**1.46**	**206**	*e*P		**Pn**	**23 14 59.2**	**+0.2**
	baz=219							
EHY				*e*S		**Sn**	**23 15 19.0**	**+0.9**
	baz=219							
YULB	**Yu-li**	**1.57**	**205**	*e*P		**Pn**	**23 15 00.7**	**+0.1**
	baz=207							
TWF1	**Yuli**	**1.61**	**205**	P		**Pn**	**23 15 01.8**	**+0.8**
	baz=216							
TWF1				*e*S		**Sn**	**23 15 22.4**	**+0.7**
	baz=216							
IRIF	**Iriomote-Funau**	**1.62**	**107**	P		**Pn**	**23 15 00.5**	**-0.7**
IRIF				S		**Sn**	**23 15 20.9**	**-1.1**
CHN5	**Tsauling**	**1.73**	**226**	*e*P		**Pg**	**23 15 05.7**	**-0.4**
	baz=229							
CHN5				*e*S		**Sg**	**23 15 29.4**	**+0.8**
	baz=229							
HATJ	**Hateruma jima**	**1.79**	**115**	P		**Pn**	**23 15 03.3**	**-0.2**
HATJ				*e*S		**Sn**	**23 15 24.8**	**-1.3**
ELDTW	**Lidau**	**1.87**	**210**	*e*P		**Pn**	**23 15 05.9**	**+1.2**
	baz=213							
ELDTW				*e*S		**Sn**	**23 15 29.0**	**+0.6**
	baz=213							
JKRS	**Kuro-shima**	**1.89**	**107**	P		**Pn**	**23 15 04.9**	**0.0**
JKRS				S		**Sn**	**23 15 27.6**	**-1.2**
CHN4	**Tsaushan**	**1.96**	**222**	*e*P		**Pb**	**23 15 09.1**	**+0.6**
	baz=226							
CHN4				*e*S		**Sg**	**23 15 35.1**	**-0.9**
	baz=226							
JIJ	**Ishigaki jima**	**1.98**	**103**	P		**Pn**	**23 15 05.9**	**-0.2**
JIJ				*e*S		**Sn**	**23 15 29.2**	**-1.6**
TPUB	**Ta-pu**	**1.98**	**221**	*e*P		**Pb**	**23 15 08.5**	**-0.3**
	baz=223							
STYT	**Tauyuan**	**2.02**	**215**	*e*P		**Pb**	**23 15 08.9**	**-0.6**
	baz=205							
WTP	**Ta-pu**	**2.03**	**220**	P		**Pb**	**23 15 09.7**	**0.0**
	baz=210							
WTP				*e*S		**Sb**	**23 15 36.5**	**+1.5**
	baz=210							
JISG	**Ishigakijimahi**	**2.09**	**96**	P		**Pn**	**23 15 07.8**	**+0.2**
TWK	**Hsinying**	**2.09**	**223**	*e*P		**Pb**	**23 15 10.4**	**-0.3**
	baz=226							
TWK				*e*S		**Sg**	**23 15 38.7**	**-1.3**
	baz=226							
CHN1	**Nanshi**	**2.13**	**220**	*e*P		**Pb**	**23 15 11.3**	**0.0**
	baz=211							
CHN1				*e*S		**Sb**	**23 15 39.3**	**+1.5**
	baz=211							
TWG	**Pinlang**	**2.17**	**204**	*e*P		**Pn**	**23 15 10.3**	**+1.4**
	baz=208							
TWG				*e*S		**Sn**	**23 15 37.2**	**+1.4**
	baz=208							
TWGBT	**Beinan**	**2.17**	**204**	*e*P		**Pn**	**23 15 09.2**	**+0.3**
	baz=208							
TWGBT				*e*S		**Sn**	**23 15 37.2**	**+1.5**
	baz=208							
SGST	**Jiashian**	**2.18**	**218**	*e*P		**Pb**	**23 15 11.8**	**-0.4**
	baz=209							
SGST				*e*S		**Sb**	**23 15 40.1**	**+0.9**
	baz=209							
SLGT	**Liugui**	**2.22**	**215**	*e*P		**Pn**	**23 15 11.1**	**+1.7**
	baz=221							
SLGT				*e*S		**Sb**	**23 15 41.1**	**+0.9**
	baz=221							
MATB	**Ma-tsu**	**2.30**	**306**	*e*P		**Pn**	**23 15 11.4**	**+0.8**
	baz=302							
MATB				*e*S		**Sn**	**23 15 39.9**	**+1.0**
	baz=302							
VWUC	**VWUC**	**2.35**	**275**	*e*P		**Pn**	**23 15 12.0**	**+0.8**
	baz=273							
SSD	**Sandimen**	**2.43**	**212**	*e*P		**Pn**	**23 15 14.0**	**+1.7**
	baz=217							
SSD				*e*S		**Sb**	**23 15 45.2**	**-1.2**
	baz=217							
JTJ	**Tarama**	**2.44**	**94**	P		**Pn**	**23 15 13.1**	**+0.7**
MASBT	**Mashibuluo**	**2.54**	**210**	*e*P		**Pn**	**23 15 16.4**	**+2.5**
	baz=217							
MASBT				*e*S		**Sb**	**23 15 49.5**	**-0.1**
	baz=217							
EAST	**Anshuo**	**2.66**	**204**	*e*P		**Pb**	**23 15 18.8**	**-1.6**
	baz=195							

*ISCJB **27** 23:27:55.6±0.6,53.°40N±0.°04×142.°69E±0.°06,h10km, mb4.0/1,Error ellipse: s-maj=5.5km s-min=5.1km az=164.7*
*MOS **27** 23:27:55.9±2.2,53.°39N×142.°56E,h11km,mb3.8/2,Error ellipse: s-maj=24.1km s-min=8.6km az=82.3*
MOS Felt (II) at Okha.
*SKHL **27** 23:27:57.2±0.2,53.°33N×142.°60E,h10km,mb3.8/5*
SKHL Felt (II) at Okha.

ISC 27 23:27:59.2±0.7,53.°40N±0.°05×142.°62E±0.°04,h10km,n17, σ2s43/24,4C-5D,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
OKH	**Okha**	**0.24**	**51**	⇓*i*	Pg		**Pg**	**23 28 05.0**	**+0.9**
OKH					AMB		AMB	23 28 05.3	
	1µm,0.2s								
OKH				*i*	Sg		**Sg**	**23 28 10.6**	**+3.2**
OKH					A		A	23 28 10.9	
	5µm,0.5s								
OKH					A		A	23 28 10.9	
	5µm,0.5s								
OKH	**Okha**	**0.24**	**51**	⇓*i*	PN		**Pg**	**23 28 05.0**	**+0.9**
OKH				*i*	S		**Sg**	**23 28 10.4**	**+3.0**
OKH					pmax		pmax		
	comp=N,2.0nm,0.4s								
OKH					smax		smax		
	comp=N,5.0nm,0.5s								
OKH					smax		smax		
	comp=E,4.0nm,0.7s								
NKL	**Nikolayevsk**	**1.19**	**259**		AMB		AMB	23 28 20.8	
	comp=E,32nm,0.3s								
NKL					AMB		AMB	23 28 20.8	
	comp=E,60nm,0.3s								
NKL					AMB		AMB	23 28 20.8	
	comp=E,80nm,0.3s								
NKL				*e*Pg			**Pn**	**23 28 21.3**	**-0.6**
NKL				*e*Sg			**Sb**	**23 28 38.0**	**+0.7**
NKL					A		A	23 28 39.0	
	comp=E,380nm,0.3s								
NKL	**Nikolayevsk**	**1.19**	**259**	*e*PN			**Pn**	**23 28 20.3**	**-1.6**
NKL					pmax		pmax		
	comp=N,32nm,0.3s								
NKL					pmax		pmax		
	comp=E,60nm,0.3s								
NKL					pmax		pmax		
	comp=Z,80nm,0.3s								
TYV	**Tymovskoe**	**2.54**	**179**	*e*P			**Pn**	**23 28 38.8**	**-1.6**
TYV					AMB		AMB	23 28 40.4	
	comp=Z,6.0nm,0.4s								
TYV				*e*Pg			**Pb**	**23 28 46.2**	**+1.4**
TYV					AMB		AMB	23 28 46.6	
	comp=Z,4.0nm,0.4s								
TYV				*e*Sg			**Sb**	**23 29 19.5**	**+3.4**
TYV					A		A	23 29 22.5	
	comp=Z,20nm,0.4s								
TYV					A		A	23 29 22.5	
	comp=Z,13nm,0.4s								
TYV	**Tymovskoe**	**2.54**	**179**	*e*PN			**Pn**	**23 28 39.4**	**-1.0**
TYV				*e*S			**Sn**	**23 29 12.1**	**+0.7**
TYV					pmax		pmax		
	comp=Z,6.0nm,0.4s								
TYV					smax		smax		
	comp=N,14nm,0.5s								
UGL	**Uglegorsk**	**4.34**	**185**	*e*PN			**Pn**	**23 29 04.5**	**-0.7**
GRNR	**Gornyy**	**4.64**	**238**	*e*Pg			**Pg**	**23 29 27.8**	**-0.2**
GRNR					AMB		AMB	23 29 30.8	
	comp=N,5.0nm,0.5s								
GRNR				*e*Sg			**Sg**	**23 30 31.0**	**+2.9**
GRNR					A		A	23 30 33.7	
	comp=N,20nm,0.6s								
GRNR					A		A	23 30 33.7	
	comp=N,21nm,0.6s								
EKMR	**Ekimchan**	**5.82**	**271**	*e*Pg			**Pg**	**23 29 51.0**	**+0.5**
EKMR					AMB		AMB	23 29 56.9	
	comp=N,2.0nm,0.4s								
EKMR				*e*Sg			**Sg**	**23 31 11.0**	**+5.2**
EKMR					A		A	23 31 17.1	
	comp=N,15nm,0.7s								
EKMR					A		A	23 31 17.1	
	comp=N,5.0nm,0.7s								
EKMR					A		A	23 31 17.1	
	comp=N,12nm,0.7s								
YSS	**Yuzh-Sakhalins**	**6.45**	**179**	*e*PN			**Pn**	**23 29 36.6**	**+2.4**
YSS				*e*				23 30 51.3	
YUK	**Yuzh-Kuril'sk**	**9.61**	**166**	⇑*e*PN			**Pn**	**23 30 14.1**	**-3.4**
SEY	**Seymchan**	**10.85**	**24**	⇓*e*PN			**Pn**	**23 30 34.2**	**-0.1**
MSHR	**Mys Shultsa**	**13.25**	**220**	⇑*e*PN			Pn	23 31 03.0	-4.2
MAJO	**Matsushiro**	**17.14**	**192**	⇓*e*P			**Pn**	**23 31 54.9**	**-3.8**
MAJO					pmax		pmax		
	comp=Z,6.0nm,1.2s								
TIXI	**Tiksi**	**19.29**	**347**	⇓*e*P			**P**	**23 32 21.9**	**-1.8**
TIXI					pmax		pmax		
	comp=Z,1.0nm,1.3s								
DGZ	**Jazzator, Alta**	**33.79**	**287**	⇑*e*P			**P**	**23 34 38.0**	**-3.2**
KURK	**Kurchatov**	**38.27**	**293**	⇑*e*P			**P**	**23 35 17.8**	**-1.5**
KURK					pmax		pmax		
	comp=Z,3.0nm,0.9s								

MEX 27 23:28:41.7±0.5,16.°73N×99.°93W,h6km±2km,MD3.9,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
ACP2	**Acapulco**	**0.15**	**15**	*e*P			Pg	23 28 44.1	-0.6
ACP2				*e*S			Sg	23 28 46.8	0.0
CAIG	**El Cayaco**	**0.45**	**314**	*e*P			Pg	23 28 50.1	-0.4
CAIG				*e*S			Sg	23 28 57.0	+0.5
MEIG	**Mezcala**	**1.23**	**14**	*e*P			Pg	23 29 01.4	-3.8
MEIG				*e*S			Sg	23 29 17.6	-3.6
ARIG	**Puente Sto Nin**	**1.59**	**345**	*e*P			Pn	23 29 06.3	-4.2
ARIG				*e*S			Sn	23 29 25.8	-5.7
PLIG	**Platanillo**	**1.70**	**14**	*e*P			Pn	23 29 08.9	-3.2
PLIG				*e*S			Sn	23 29 29.4	-4.9
YAIG	**Yautepec**	**2.27**	**21**	*e*P			Pn	23 29 16.9	-3.1
YAIG				*i* S			Sn	23 29 43.6	-4.9

IDC 27 23:28:58.0±2.7,6.°71S×129.°94E,h145km±35km,mb3.4/1, mb1 3.3/5,mb1mx3.1/34,mbtmp3.7/5,Error ellipse: s-maj=67.2km s-min=20.2km az=89.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
SIJI	**Sorong**	**5.95**	**13**	P			Pn	23 30 24.4	+0.2
	3.4nm,0.3s,baz=342,slow=20,SNR=13								
SIJI				S			Sn	23 31 26.4	-5.0
	2.9nm,0.3s,baz=225,slow=22,SNR=11								
FITZ	**Fitzroy Crossi**	**12.07**	**200**	P			Pn	23 31 45.0	-0.5
	0.4nm,0.3s,baz=26,slow=11,SNR=20								
FITZ				S			Sn	23 33 54.8	-4.0
	0.2nm,0.3s,baz=147,slow=16,SNR=3.1								
WRA	**Warramunga Arr**	**13.83**	**162**	P			Pn	23 32 07.5	-0.6
	0.4nm,0.3s,baz=347,slow=13,SNR=13								
WRA				S			Sn	23 34 36.7	-4.6
	0.4nm,0.3s,baz=336,slow=22,SNR=4.0								
ASAR	**Alice Springs**	**17.29**	**168**	P			Pn	23 32 51.0	+0.3
	0.1nm,0.3s,baz=342,slow=9.6,SNR=7.5								
MKAR	**Makanchi Array**	**67.95**	**327**	P			P	23 39 41.2	0.0
	0.4nm,0.4s,baz=116,slow=8.0,SNR=16								

IDC 27 23:31:41.9±14.0,12.°67S×167.°05E,h0km,mb3.8/3, mb1 3.9/3,mb1mx3.6/37,mbtmp3.7/3,Error ellipse: s-maj=487.0km s-min=88.4km az=169.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
SONM	**Songino Array**	**80.72**	**323**	P			P	23 43 57.2	+0.1
	0.2nm,0.6s,baz=116,slow=5.5,SNR=2.9								
ILAR	**Eielson Array**	**84.64**	**18**	P			P	23 44 17.0	0.0
	0.5nm,0.7s,baz=231,slow=5.7,SNR=4.7								
MKAR	**Makanchi Array**	**95.57**	**317**	P			P	23 45 08.9	-0.2
	0.4nm,0.6s,baz=102,slow=5.8,SNR=4.8								

MEX 27 23:40:14.4±0.6,15.°22N×92.°95W,h95km±7km,MD3.6, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PCIG		**0.55**	**332**	*e*P			Pn	23 40 28.9	-1.2
PCIG				*e*S			Sn	23 40 40.0	-1.8
THIG		**0.73**	**115**	*e*P			Pn	23 40 30.2	-1.4
THIG				*e*S			Sn	23 40 43.3	-1.3
CCIG	**Comitan**	**1.32**	**36**	*i* P			Pn	23 40 37.5	-0.9
CCIG				*i* S			Sn	23 40 54.3	-2.1

*IDC **27** 23:50:00.2±2.7,30.°38S×176.°45W,h0km,mb4.1/4, mb1 4.2/5,mb1mx3.9/33,mbtmp4.1/5,ML3.7/1,MS3.0/2, Ms1 3.0/2,ms1mx2.8/22,Error ellipse: s-maj=50.6km s-min=36.2km az=95.0*
*ISCJB **27** 23:50:03.6±2.5,30.°54S±0.°07×176.°6W±0.°3,h33km, mb4.1/4,Error ellipse: s-maj=34.4km s-min=9.0km az=174.6*

ISC 27 23:50:05.1±2.2,30.°44S±0.°09×176.°5W±0.°2,h35km,n8, σ1s39/9,mb4.1/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
RAO	**Raoul Island**	**1.72**	**313**	Pn			**Pn**	**23 50 31.3**	**-1.2**
	238nm,0.3s,baz=90,slow=20,SNR=4.9								
RAO							**Sn**	**23 50 52.9**	**-0.3**
	317nm,0.3s,baz=73,slow=19,SNR=3.3								
URZ	**Urewera**	**9.42**	**212**	Pn			**Pn**	**23 52 16.5**	**-1.7**
	0.7nm,0.3s,baz=23,slow=7.7,SNR=5.2								
URZ							**Sn**	**23 54 03.1**	**+0.2**
	3.1nm,0.3s,baz=10,slow=20,SNR=13								
URZ					LR		LR	23 55 44.2	
	comp=Z,42nm,21.1s,baz=46,slow=36								
DZM	**Mont Dzumac**	**17.41**	**295**		LR		LR	00 00 17.7	
	comp=Z,98nm,18.4s,baz=106,slow=35								
CTA	**Charters Tower**	**35.09**	**278**	P			**P**	**23 56 56.1**	**+1.0**
	2.3nm,0.4s,baz=95,slow=9.6,SNR=4.7								
STKA	**Stephens Creek**	**35.74**	**257**	P			**P**	**23 57 03.0**	**+2.4**
	2.0nm,0.7s,baz=83,slow=8.1,SNR=3.0								
ASAR	**Alice Springs**	**44.41**	**266**	P			**P**	**23 58 12.7**	**+0.1**
	1.3nm,0.7s,baz=103,slow=7.5,SNR=13								
WRA	**Warramunga Arr**	**45.40**	**271**	P			**P**	**23 58 19.9**	**-0.7**
	1.7nm,0.7s,baz=110,slow=8.0,SNR=9.7								
FINES	**FINESS Array B**	**145.62**	**341**	PKPbc			**PKPbc**	**00 09 39.1**	**-0.1**
	1.0nm,0.5s,baz=22,slow=2.1,SNR=9.4								

IDC 27 23:52:16.2±1.1,2.°02S×125.°87E,h0km,mb3.5/4, mb1 3.8/5,mb1mx3.5/38,mbtmp3.6/5,ML3.6/1,Error ellipse: s-maj=82.7km s-min=21.9km az=67.0,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**19.65**	**156**	P			P	23 56 46.9	+0.2
	0.2nm,0.3s,baz=332,slow=12,SNR=15								
ASAR	**Alice Springs**	**22.89**	**161**	P			P	23 57 21.6	-0.1
	0.9nm,0.7s,baz=346,slow=12,SNR=10.0								
MKAR	**Makanchi Array**	**61.83**	**328**	P			P	00 02 38.0	+0.8
	0.1nm,0.3s,baz=128,slow=7.9,SNR=6.0								
KURBB	**Kurchatov Arra**	**66.14**	**329**	P			P	00 03 04.6	-0.8
	0.4nm,0.9s,baz=133,slow=5.2,SNR=4.0								
ILAR	**Eielson Array**	**90.63**	**25**	P			P	00 05 20.4	0.0
	0.5nm,0.6s,baz=252,slow=4.9,SNR=12								

MEX 28 00:07:20.8±0.7,16.°29N×98.°26W,h14km±3km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PNIG	**Pinotepa**	**0.17**	**51**	*i* P			Pg	00 07 24.2	-0.7
PNIG				*i* S			Sg	00 07 27.2	-0.4
CAIG	**El Cayaco**	**2.06**	**292**	*e*P			Pn	00 07 51.9	-3.2
CAIG				*e*S			Sn	00 08 15.8	-4.8

*SOME **28** 00:13:44.4,42.°15N×73.°65E,h15km*
*KRNET **28** 00:13:44.4±0.1,42.°14N×73.°68E,h17km,mb1.8*
*NNC **28** 00:13:44.4±0.5,42.°18N×73.°66E,h0km,mb2.6,mpv2.3, Error ellipse: s-maj=4.8km s-min=1.9km az=172.0*

ISC 28 00:13:43.3±0.8,42.°08N±0.°02×73.°68E±0.°02,h13km±5km, n36,σ0s68/63,19C-27D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
AML	**Almayashu**	**0.05**	**9**	⇓P			**Pg**	**00 13 46.6**	**+0.3**
	SNR=228								
AML	**Almayashu**	**0.05**	**9**	⇓*i*P			**Pg**	**00 13 46.6**	**+0.3**
	baz=43								
AML				⇓*i*S			**Sg**	**00 13 48.0**	**-0.4**
	baz=43								
ARLS	**Aral**	**0.52**	**114**	⇑*e*P			**Pb**	**00 13 55.0**	**+0.5**
	baz=19								
ARLS				⇑*i*S			**Sb**	**00 14 02.5**	**+0.4**
	baz=19								
EKS2	**Erkin-Say**	**0.59**	**7**	P			**Pg**	**00 13 54.7**	**-0.2**
	SNR=16								
EKS2	**Erkin-Say**	**0.59**	**7**	⇓*i*P			**Pg**	**00 13 54.7**	**-0.2**
	baz=8.0								
EKS2				⇓*i*S			**Sg**	**00 14 01.9**	**-0.8**
	baz=8.0								
UCH	**Uchtor**	**0.64**	**76**	P			**Pb**	**00 13 56.5**	**-0.1**
	SNR=9.0								
UCH	**Uchtor**	**0.64**	**76**	⇑*i*P			**Pb**	**00 13 56.4**	**-0.2**
	baz=82								
UCH				⇑*i*S			**Sb**	**00 14 04.9**	**-0.7**
	baz=82								
MRKS	**Merke**	**0.75**	**333**	P			**Pg**	**00 13 57.6**	**-0.3**
	6.4nm,0.1s								
MRKS				S			**Sg**	**00 14 06.9**	**-0.8**
	14nm,0.3s								
MRKS	**Merke**	**0.75**	**333**	⇓*i*P			**Pg**	**00 13 57.6**	**-0.3**
	6.4nm,0.1s								
MRKS				⇓*i*S			**Sg**	**00 14 06.9**	**-0.8**
	14nm,0.3s								
AAK	**Ala-Archa**	**0.82**	**47**	P			**Pg**	**00 13 59.3**	**+0.1**
	SNR=5.0								
AAK	**Ala-Archa**	**0.82**	**47**	⇓P			**Pg**	**00 13 59.0**	**-0.2**
	1.8nm,0.6s								
AAK				⇑S			**Sg**	**00 14 09.5**	**-0.6**
	1.3nm,0.7s								
AAK	**Ala-Archa**	**0.82**	**47**	⇓*i*P			**Pg**	**00 13 59.2**	**-0.1**
	baz=50								
AAK				⇓*i*S			**Sg**	**00 14 09.8**	**-0.3**
	baz=50								
ARSB	**Arslanbob**	**0.92**	**215**	⇓*e*P			**Pn**	**00 14 02.6**	**+0.5**
	baz=13								
ARSB				⇓*i*S			**Sn**	**00 14 16.2**	**+0.9**
	baz=13								
MNAS	**Manas**	**0.97**	**295**	⇓P			**Pg**	**00 14 01.9**	**-0.1**
	1.1nm,0.6s								
MNAS				⇑S			**Sg**	**00 14 15.0**	**+0.3**
	3.4nm,0.4s								
MNAS	**Manas**	**0.97**	**295**	P			**Pg**	**00 14 02.1**	**+0.1**
	0.5nm,0.1s								
MNAS				S			**Sg**	**00 14 14.9**	**+0.3**
	3.3nm,0.2s								
MNAS	**Manas**	**0.97**	**295**	⇓*i*P			**Pg**	**00 14 02.1**	**+0.1**
	baz=92								
MNAS				⇓*i*S			**Sg**	**00 14 15.1**	**+0.5**
	baz=92								
FRU1	**Bishkek**	**1.01**	**43**	⇑*i*P			**Pg**	**00 14 02.5**	**-0.4**
	baz=46								
FRU1				⇑*i*S			**Sg**	**00 14 15.8**	**-0.3**
	baz=46								
KBK	**Karagaybulak**	**1.10**	**58**	⇑*i*P			**Pb**	**00 14 04.6**	**+0.2**
	baz=61								
KBK				⇑*i*S			**Sb**	**00 14 19.1**	**+0.4**
	baz=61								
KZA	**Kyzart**	**1.17**	**90**	⇑*i*P			**Pn**	**00 14 06.4**	**+0.6**
	baz=93								
KZA				⇑*i*S			**Sn**	**00 14 22.2**	**+0.4**
	baz=93								
CHMS	**Chumysh**	**1.21**	**40**	⇑*i*P			**Pb**	**00 14 06.0**	**-0.2**
	baz=42								
CHMS				⇑*i*S			**Sb**	**00 14 21.6**	**-0.2**
	baz=42								
USP	**Ospenovka**	**1.33**	**27**	P			**Pn**	**00 14 08.2**	**+0.5**
	SNR=18								
USP	**Ospenovka**	**1.33**	**27**	⇓*i*P			**Pn**	**00 14 08.2**	**+0.5**
	baz=28								
USP				⇓*i*S			**Sb**	**00 14 25.5**	**+0.3**
	baz=28								
SGDS	**Sogindy**	**1.54**	**27**	P			**Pb**	**00 14 12.0**	**+0.2**
	2.0nm,0.2s								
SGDS				S			**Sb**	**00 14 31.9**	**+0.6**
	1.9nm,0.2s								
TKM2	**Tokmak 2**	**1.65**	**59**	⇓P			**Pg**	**00 14 15.0**	**0.0**
	0.2nm,0.1s								
TKM2				⇑S			**Sg**	**00 14 36.4**	**+0.1**
	0.8nm,0.4s								
BOOM	**Boomskoye usch**	**1.72**	**75**	⇑*i*P			**Pg**	**00 14 16.0**	**-0.5**
	baz=78								
BOOM				⇑*i*S			**Sg**	**00 14 38.8**	**0.0**
	baz=78								
NRN	**Naryn**	**1.85**	**110**	⇑*e*P			**Pg**	**00 14 18.7**	**-0.2**
	baz=12								
NRN				⇑*i*S			**Sg**	**00 14 43.2**	**+0.3**
	baz=12								
ULHL	**Ulahol**	**1.91**	**84**	⇓*i*P			**Pg**	**00 14 19.0**	**-1.0**
	baz=86								
ULHL				⇓*i*S			**Sg**	**00 14 44.1**	**-0.7**
	baz=86								
DGS	**Degeres**	**1.93**	**52**	P			**Pg**	**00 14 20.1**	**-0.3**
	1.7nm,0.2s								
DGS				S			**Sg**	**00 14 45.6**	**+0.1**
	1.6nm,0.4s								
DGS	**Degeres**	**1.93**	**52**	*e*P			**Pg**	**00 14 20.1**	**-0.3**
	1.7nm,0.2s								
DGS				*e*S			**Sg**	**00 14 45.6**	**+0.1**
	1.6nm,0.4s								
SFK	**Sufi-Kurgan**	**2.07**	**184**	⇓Pg			**Pg**	**00 14 24.2**	**+1.2**
	0.6nm,0.6s								
SFK				⇓Lg			Lg	00 14 52.8	
	2.5nm,0.9s								
SFK	**Sufi-Kurgan**	**2.07**	**184**	Pg			**Pg**	**00 14 24.1**	**+1.2**
	0.3nm,0.2s								
SFK				Lg			Lg	00 14 52.3	
	0.9nm,0.3s								
SFK	**Sufi-Kurgan**	**2.07**	**184**	⇓*i*P			**Pg**	**00 14 22.3**	**-0.7**
	baz=84								
SFK				⇓*i*S			**Sg**	**00 14 49.8**	**-0.1**
	baz=84								
IZV	**Izvestkoviy**	**2.37**	**65**	Pg			**Pg**	**00 14

BATM	**Batumi**	**0.90**	**147**	P	**Pn**	**00 16 26.2**	**-0.3**
BATM				S	**Sn**	**00 16 40.1**	**+0.7**
BCA	**Borcka**	**1.01**	**154**	PG	**Pb**	**00 16 27.4**	**0.0**
BCA				SG	**Sn**	**00 16 41.7**	**-0.5**
DOMR	**Dombai**	**1.02**	**25**	*e*Pg	**Pg**	**00 16 27.6**	**0.0**
DOMR				*e*Sg	**Sg**	**00 16 40.1**	**-0.9**
DBOC	**Borcka**	**1.12**	**155**	IAML_P			
	comp=Z,1μm,0.2s						
DBOC				*i* P	**Pn**	**00 16 30.0**	**+0.6**
DBOC				*i* S	**Sn**	**00 16 44.8**	**0.0**
ARXR	**Arkhyz**	**1.21**	**8**	*i* Pg	**Pb**	**00 16 29.9**	**-0.9**
ARXR				*e*Sg	**Sb**	**00 16 45.3**	**-1.3**
CHOM	**Cayeli-Rize**	**1.28**	**190**	PN	**Pn**	**00 16 31.4**	**-0.2**
CHOM				SN	**Sn**	**00 16 49.2**	**+0.4**
ARTV	**Artvin**	**1.35**	**150**	IAML_P			
	comp=Z,864nm,0.1s						
ARTV				*i* P	**Pb**	**00 16 33.2**	**0.0**
ARTV				*i* S	**Sb**	**00 16 50.1**	**-0.5**
DBAD	**Bademkaya**	**1.43**	**160**	IAML_P			
	comp=Z,595nm,0.1s						
DBAD				*i* P	**Pn**	**00 16 34.1**	**+0.3**
DBAD				*i* S	**Sn**	**00 16 52.7**	**+0.1**
DAGI	**Agillar**	**1.44**	**153**	IAML_P			
	comp=Z,197nm,0.1s						
DAGI				*i* P	**Pn**	**00 16 33.1**	**-0.8**
RPOR	**Krasnaya Polya**	**1.45**	**337**	*e*Pg	**Pn**	**00 16 34.6**	**+0.5**
RPOR				*e*Sg	**Sn**	**00 16 52.9**	**-0.2**
NEY	**Neytrino**	**1.52**	**54**	*e*Pg	**Pn**	**00 16 35.2**	**0.0**
NEY				*e*Sg	**Sn**	**00 16 54.5**	**-0.6**
DDEM	**Demirkent**	**1.56**	**160**	IAML_P			
	comp=Z,570nm,0.2s						
DDEM				*i* P	**Pb**	**00 16 36.5**	**-0.2**
SOC	**Sochi**	**1.56**	**322**	*e*Pg	**Pb**	**00 16 36.6**	**-0.1**
SOC				*e*Sg	**Sn**	**00 16 56.1**	**+0.4**
MACK	**Trabzon**	**1.71**	**214**	IAML_P			
	comp=Z,960nm,0.1s						
MACK				*i* P	**Pg**	**00 16 41.9**	**+1.3**
SHA1	**Shidzhatmaz**	**1.82**	**40**	*e*Pg	**Pb**	**00 16 41.0**	**-0.2**
SHA1				*e*Sg	**Sn**	**00 17 03.6**	**+1.2**
LZRR	**Lazarevskoye**	**1.99**	**323**	*e*Pg	**Pb**	**00 16 44.3**	**+0.3**
LZRR				*e*Sg	**Sb**	**00 17 09.2**	**+0.5**
KIV	**Kislovodsk**	**2.00**	**37**	PN	**Pb**	**00 16 43.9**	**-0.3**
KIV0	**Kislovodsk Arr**	**2.00**	**37**	*e*Pg	**Pb**	**00 16 43.7**	**-0.6**
KIV0				*e*Sg	**Sb**	**00 17 08.9**	**-0.4**
ZEI	**Tsey**	**2.16**	**78**	*e*Pg	**Pn**	**00 16 45.8**	**+1.9**
ZEI				*e*Sg	**Sb**	**00 17 13.7**	**-0.1**
BAYB	**BAYBURT**	**2.18**	**196**	*i* P	**Pn**	**00 16 43.8**	**-0.4**
ESPY	**Espiye-Giresun**	**2.25**	**231**	PN	**Pn**	**00 16 45.3**	**+0.2**
LACR	**Lac**	**2.45**	**78**	*e*Pn	**Pb**	**00 16 51.5**	**-0.5**
LACR				*e*Sn	**Sb**	**00 17 23.0**	**+0.9**
KELT	**Kelkit**	**2.59**	**212**	IAML_P			
	comp=Z,13nm,0.1s						
KELT				*i* P	**Pb**	**00 16 54.5**	**+0.2**
KELT				*i* S	**Sb**	**00 17 23.7**	**-2.5**

*KRNET **28** 00:27:51.1±0.1, 41.86N×80.12E, mb2.0*
*SOME **28** 00:27:53.4, 41.90N×79.93E, h5km*
*NNC **28** 00:27:54.0±2.1, 41.94N×79.91E, h0km, mb2.4, mpv2.7, Error ellipse: s-maj=14.1km s-min=10.4km az=150.0*

ISC 28 00:27:53.6±2.3, 41.96N±0.09×79.93E±0.08, h8km±12km, n11, σ0961/22, 2C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**1.25**	**344**	P	**Pb**	**00 28 17.3**	**-0.2**
	1.8nm,0.1s						
SHLS				S	**Sn**	**00 28 34.8**	**+0.2**
	5.1nm,0.2s						
SHLS	**Shalkode**	**1.25**	**344**	*e*P	**Pb**	**00 28 17.3**	**-0.2**
	1.8nm,0.1s						
SHLS				*e*S	**Sn**	**00 28 34.6**	**0.0**
	5.1nm,0.2s						
PDGK	**Podgornoye**	**1.41**	**347**	P	**Pb**	**00 28 19.9**	**-0.3**
	0.5nm,0.2s						
PDGK				S	**Sg**	**00 28 39.1**	**+0.2**
	0.8nm,0.2s						
PDGK	**Podgornoye**	**1.41**	**347**	⇑*i*P	**Pn**	**00 28 19.3**	**-0.5**
	baz=42						
PDGK				⇑*i*S	**Sg**	**00 28 39.6**	**+0.7**
	baz=42						
KTMS	**Ketmen**	**1.52**	**12**	P	**Pg**	**00 28 22.5**	**-0.3**
KTMS				S	**Sg**	**00 28 43.5**	**+1.0**
KTMS	**Ketmen**	**1.52**	**12**	*e*P	**Pg**	**00 28 22.5**	**-0.3**
	0.4nm,0.1s						
KTMS				*e*S	**Sg**	**00 28 43.5**	**+1.0**
	4.0nm,0.1s						
SATY	**Saty**	**1.58**	**315**	P	**Pb**	**00 28 23.1**	**-0.1**
	2.0nm,0.2s						
SATY				S	**Sg**	**00 28 44.4**	**+0.1**
	3.2nm,0.2s						
SATY	**Saty**	**1.58**	**315**	*e*P	**Pb**	**00 28 23.0**	**-0.1**
	2.6nm,0.1s						
SATY				*e*S	**Sg**	**00 28 44.4**	**+0.1**
	2.4nm,0.1s						
TARG	**Taragay, Kyrgy**	**1.61**	**263**	⇓*e*P	**Pn**	**00 28 22.3**	**-0.4**
	baz=66						
TARG				⇓*i*S	**Sg**	**00 28 45.6**	**+0.3**
	baz=66						
KDJ	**Kajisay**	**2.06**	**276**	⇓*i*P	**Pn**	**00 28 28.9**	**+0.2**
	baz=78						
KDJ				⇓*i*S	**Sb**	**00 28 56.2**	**-1.0**
	baz=78						
ULHL	**Ulahol**	**2.76**	**277**	⇓*i*P	**Pn**	**00 28 38.8**	**+0.4**
	baz=79						
ULHL				⇓*e*S	**Sn**	**00 29 13.6**	**+1.5**
	baz=79						

IDC 28 00:54:56.7±3.2, 4.85S×153.34E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/25, mbtmp3.8/7, Error ellipse: s-maj=94.2km s-min=24.4km az=109.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.82**	**229**	P	P	01 00 12.3	+0.7
	0.6nm,0.3s,baz=52,slow=9.9,SNR=12						
ASAR	**Alice Springs**	**26.48**	**223**	P	P	01 00 35.9	0.0
	0.2nm,0.6s,baz=54,slow=9.6,SNR=4.3						
FITZ	**Fitzroy Crossi**	**30.11**	**242**	P	P	01 01 07.8	-0.4
	1.8nm,0.3s,baz=53,slow=8.3,SNR=11						
CMAR	**Chiang Mai Arr**	**58.38**	**295**	P	P	01 04 54.0	-0.5
	0.5nm,0.3s,baz=108,slow=5.8,SNR=3.9						
SONM	**Songino Array**	**66.65**	**328**	P	P	01 05 50.0	+0.6
	0.4nm,0.5s,baz=138,slow=5.9,SNR=6.2						
MKAR	**Makanchi Array**	**80.72**	**319**	P	P	01 07 12.1	+0.1
	1.1nm,0.7s,baz=99,slow=6.7,SNR=8.2						
ZALV	**Zalesovo Beam**	**81.49**	**326**	P	P	01 07 15.8	-0.1
	1.3nm,0.4s,baz=103,slow=6.4,SNR=7.6						
TORD	**Torodi Ar. Bea**	**150.83**	**288**	PKPbc	PKPbc	01 14 51.3	-1.0
	1.7nm,0.8s,baz=68,slow=2.3,SNR=3.7						

*ISCJB **28** 01:12:58.0±1.9, 46.6N±0.3×152.0E±0.2, h80km, mb3.4/9, Error ellipse: s-maj=44.8km s-min=20.1km az=162.8*
*IDC **28** 01:13:09.3±8.3, 47.19N×152.13E, h140km±52km, mb3.1/9, mb1 3.3/10, mb1mx3.1/40, mbtmp3.5/10, Error ellipse: s-maj=91.1km s-min=25.2km az=179.0*

ISC 28 01:12:59.1±2.1, 46.4N±0.3×152.1E±0.2, h80km, n16, σ1935/10, mb3.4/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**7.59**	**26**	P	**Pn**	**01 14 48.4**	**+1.5**
	0.2nm,0.3s,baz=188,slow=16,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**29.28**	**151**	T	T	01 50 52.1	
	baz=340,slow=76,SNR=7.0						
H11N1	**WAKE ISLAND Hy**	**29.29**	**151**	T	T	01 50 57.3	
	baz=340,slow=76,SNR=4.7						
H11N3	**WAKE ISLAND Hy**	**29.30**	**151**	T	T	01 50 57.5	
	baz=340,slow=76,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**30.35**	**152**	T	T	01 52 08.7	
	baz=340,slow=76,SNR=4.0						
H11S3	**WAKE ISLAND Hy**	**30.36**	**152**	T	T	01 52 16.5	
	baz=340,slow=76,SNR=3.9						
H11S2	**WAKE ISLAND Hy**	**30.37**	**152**	T	T	01 52 12.7	
	baz=340,slow=76,SNR=4.2						
ILAR	**Eielson Array**	**37.23**	**38**	P	**P**	**01 20 00.6**	**-1.8**
	0.2nm,0.8s,baz=262,slow=7.2,SNR=4.9						
MKAR	**Makanchi Array**	**46.46**	**297**	P	**P**	**01 21 19.1**	**+1.3**
	0.2nm,0.7s,baz=56,slow=5.8,SNR=2.8						
YKA	**Yellowknife Ar**	**51.59**	**36**	P	**P**	**01 21 56.8**	**+0.1**
	0.1nm,0.6s,baz=299,slow=7.1,SNR=2.7						
ARCES	**ARCESS Array B**	**57.91**	**341**	P	**P**	**01 22 41.1**	**-1.2**
	3.0nm,0.9s,baz=34,slow=8.8,SNR=2.8						
FINES	**FINESS Array B**	**64.02**	**334**	P	**P**	**01 23 22.9**	**-0.8**
	2.4nm,0.9s,baz=39,slow=6.1,SNR=6.6						
NOA	**NORSAR Array B**	**68.29**	**341**	P	**P**	**01 23 49.6**	**-1.6**
	0.4nm,0.5s,baz=30,slow=6.7,SNR=4.0						
AKASG	**Malin Array Be**	**71.41**	**326**	P	**P**	**01 24 10.4**	**+0.1**
	0.8nm,0.4s,baz=35,slow=6.1,SNR=7.3						
TXAR	**Lajitas Array**	**78.25**	**60**	P	**P**	**01 24 51.4**	**+1.1**
	0.1nm,0.5s,baz=335,slow=4.0,SNR=2.3						
GERES	**GERESS Array B**	**78.42**	**333**	P	**P**	**01 24 51.4**	**+0.5**
	0.3nm,0.6s,baz=53,slow=5.0,SNR=2.6						

*ISK **28** 01:16:11.7, 42.33N×40.89E, h10km, ML3.4/7*
*TIF **28** 01:16:12.2, 42.33N×40.93E, h30km±3km*
*NORS **28** 01:16:12.5±0.0, 42.52N×41.04E, h2km, MPVA4.0*
*MOS **28** 01:16:13.7±0.0, 42.51N×41.11E, h12km, MPVA4.1*
*DDA **28** 01:16:14.5, 42.08N×40.83E, h13km±4km, ML2.7*

ISC 28 01:16:12.3±1.3, 42.35N±0.02×40.97E±0.02, h7km±10km, n52, σ1826/76, 5C-3D, Black Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATM	**Batumi**	**0.92**	**144**	PG	**Pg**	**01 16 30.4**	**+0.5**
BATM				SG	**Sn**	**01 16 44.1**	**-0.9**
BATM	**Batumi**	**0.92**	**144**	P	**Pg**	**01 16 30.4**	**+0.5**
BATM				S	**Sb**	**01 16 43.1**	**+0.1**
BCA	**Borcka**	**1.03**	**151**	PG	**Pb**	**01 16 31.7**	**-0.7**
BCA				SG	**Sb**	**01 16 46.4**	**+0.3**
DOMR	**Dombai**	**1.06**	**27**	*c i*PG	**Pb**	**01 16 31.6**	**-1.4**
DOMR	**Dombai**	**1.06**	**27**	*i* Pg	**Pb**	**01 16 31.8**	**-1.2**
DOMR				*i* Sg	**Sb**	**01 16 44.4**	**-2.7**
DBOC	**Borcka**	**1.13**	**152**	*i* Pg	**Pn**	**01 16 33.8**	**-0.4**
DBOC				*i* S	**Sg**	**01 16 49.3**	**+0.6**
ARXR	**Arkhyz**	**1.23**	**10**	*i* Pg	**Pn**	**01 16 34.1**	**-1.9**
ARXR				*e*Sg	**Sb**	**01 16 49.2**	**-2.9**
CHOM	**Cayeli-Rize**	**1.26**	**187**	PN	**Pn**	**01 16 35.7**	**-0.6**
CHAY	**Cayeli-Rize**	**1.28**	**188**	PN	**Pb**	**01 16 36.2**	**-0.4**
CHAY				SN	**Sg**	**01 16 53.3**	**0.0**
ARTV	**Artvin**	**1.37**	**148**	IAML_P			
	comp=Z,4μm,0.1s						
ARTV				*i* P	**Pn**	**01 16 38.0**	**-0.3**
DBAD	**Bademkaya**	**1.44**	**158**	*i* P	**Pb**	**01 16 38.9**	**-0.5**
RPOR	**Krasnaya Polya**	**1.44**	**339**	*de*PG	**Pn**	**01 16 38.2**	**-0.6**
RPOR	**Krasnaya Polya**	**1.44**	**339**	*e*Pg	**Pn**	**01 16 38.4**	**-0.4**
RPOR				*i* Sg	**Sn**	**01 16 56.9**	**-1.2**
DAGI	**Agillar**	**1.46**	**151**	IAML_P			
	comp=Z,640nm,0.2s						
DAGI				*i* P	**Pn**	**01 16 38.6**	**-0.4**
DAGI				*i* S	**Sn**	**01 16 57.5**	**-0.8**
SOC	**Sochi**	**1.54**	**324**	*e*PG	**Pb**	**01 16 40.8**	**-0.2**
SOC				*e*		01 17 00.5	
SOC				pmax	pmax		
	comp=Z,10.0nm,0.1s						
SOC				smax	smax		
	comp=E,510nm,0.3s						
SOC				smax	smax		
	comp=N,202nm,0.2s						
SOC	**Sochi**	**1.54**	**324**	*e*Pg	**Pb**	**01 16 41.1**	**+0.1**
SOC				*i* Sg	**Sb**	**01 17 00.6**	**-0.1**
DDEM	**Demirkent**	**1.57**	**158**	*i* P	**Pn**	**01 16 40.6**	**0.0**
NEY	**Neytrino**	**1.57**	**55**	*e*PG	**Pn**	**01 16 39.6**	**-1.1**
NEY				*i* S	**Sn**	**01 16 59.1**	**-2.3**
NEY				pmax	pmax		
	comp=Z,63nm,0.2s						
NEY				smax	smax		
	comp=N,227nm,0.3s						
NEY	**Neytrino**	**1.57**	**55**	*i* Pg	**Pn**	**01 16 39.7**	**-1.0**
NEY				*i* Sg	**Sn**	**01 16 58.5**	**-2.8**
MACK	**Trabzon**	**1.67**	**213**	IAML_P			
	comp=Z,2μm,0.1s						
MACK				*i* P	**Pn**	**01 16 41.3**	**-0.6**
MACK				*i* S	**Sg**	**01 17 04.5**	**-1.4**
SHA1	**Shidzhatmaz**	**1.86**	**41**	*e*PN	**Pn**	**01 16 44.2**	**-0.5**
SHA1				*e*S	**Sn**	**01 17 08.5**	**0.0**
SHA1	**Shidzhatmaz**	**1.86**	**41**	*e*Pg	**Pn**	**01 16 44.3**	**-0.4**
SHA1				*i* Sg	**Sn**	**01 17 07.0**	**-1.6**
LZRR	**Lazarevskoye**	**1.96**	**324**	*e*Pg	**Pb**	**01 16 47.5**	**-0.9**
LZRR				*e*Sg	**Sb**	**01 17 13.5**	**+0.5**
DIGR	**Digorskoe uzhe**	**2.00**	**73**	*e*PN	**Pn**	**01 16 47.1**	**+0.4**
DIGR				pmax	pmax		
	comp=Z,18nm,0.3s						
KIV	**Kislovodsk**	**2.04**	**38**	PN	**Pn**	**01 16 47.7**	**+0.7**
KIV	**Kislovodsk**	**2.04**	**38**	*e*PN	**Pn**	**01 16 48.0**	**+1.0**
KIV				*e*S	**Sn**	**01 17 13.3**	**+0.5**
BEYR	**Belyy Ugol+**	**2.14**	**39**	*e*PN	**Pn**	**01 16 49.9**	**+1.5**
BAYB	**BAYBURT**	**2.16**	**195**	IAML_P			
	comp=Z,109nm,0.1s						
BAYB				*i* P	**Pb**	**01 16 50.5**	**-1.3**
ESPY	**Espiye-Giresun**	**2.21**	**230**	PN	**Pn**	**01 16 48.7**	**-0.6**
ZEI	**Tsey**	**2.21**	**78**	*e*PN	**Pn**	**01 16 50.1**	**+0.6**
ZEI				pmax	pmax		
	comp=Z,17nm,0.3s						
NCK	**Nalchik**	**2.24**	**58**	⇓*e*PN	**Pb**	**01 16 52.2**	**-0.9**
BGD	**Bogdanovka**	**2.25**	**118**	P	**Pn**	**01 16 50.6**	**+0.6**
BGD				S	**Sb**	**01 17 21.6**	**+0.2**
PYA1	**Pyatigorsk**	**2.31**	**42**	*e*PN	**Pn**	**01 16 51.9**	**+1.1**
PYA1				*e*S	**Sn**	**01 17 19.3**	**-0.1**
KORR	**Kora**	**2.40**	**71**	*e*PN	**Pb**	**01 16 56.4**	**+0.6**
KORR				*e*S	**Sb**	**01 17 27.2**	**+1.7**
HOMI	**Horasan**	**2.41**	**163**	IAML_P			
	comp=Z,52nm,0.1s						
HOMI				*i* P	**Pn**	**01 16 52.4**	**+0.1**
TRLG	**Trialeti**	**2.47**	**108**	P	**Pb**	**01 16 56.6**	**-0.6**
TRLG				S	**Sb**	**01 17 26.9**	**-1.0**
KELT	**Kelkit**	**2.55**	**211**	IAML_P			
	comp=Z,155nm,0.2s						
KELT				*i* P	**Pn**	**01 16 54.8**	**+0.6**
KELT				*i* S	**Sb**	**01 17 27.5**	**-2.6**
EAK	**Akyaka**	**2.59**	**129**	IAML_P			
	comp=Z,160nm,0.3s						
EAK				*i* P	**Pb**	**01 16 59.9**	**+0.9**
TBLG	**Delisi**	**2.88**	**101**	P	**Sb**	**01 17 38.4**	**-0.9**
VOZR	**Vozrozhdenie**	**2.97**	**319**	⇑*e*PN	**Pn**	**01 16 59.7**	**-0.1**
VOZR	**Vozrozhdenie**	**2.97**	**319**	*e*Pn	**Pn**	**01 17 01.8**	**+2.0**
VOZR				*e*Sn	**Sn**	**01 17 37.7**	**+2.1**
GOF	**Gofitskoye**	**3.10**	**28**	⇑*i*PN	**Pb**	**01 17 09.7**	**+2.1**
GOF				*e*S	**Sg**	**01 17 51.5**	**-0.2**
GOF				pmax	pmax		
	comp=Z,30nm,0.6s						
GOF				smax	smax		
	comp=E,40nm,0.8s						
ANN	**Anapa**	**3.55**	**315**	*e*PN	**Pb**	**01 17 12.9**	**-2.4**
ANN				*e*		01 17 53.5	
ANN				*e*		01 18 04.7	
ANN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ANN				smax	smax		
	comp=E,9.0nm,0.5s						
ANN				smax	smax		
	comp=N,12nm,0.5s						
ANN				smax	smax		
	comp=N,30nm,2.3s						
ANN	**Anapa**	**3.55**	**315**	*e*Pn	**Pn**	**01 17 10.8**	**+3.1**
ANN				*e*Sn	**Sn**	**01 17 53.1**	**+3.3**
KVT	**Kavak**	**3.90**	**253**	PN	**Pn**	**01 17 12.6**	**+0.1**
SNOP	**Sinop**	**4.29**	**268**	PN	**Pn**	**01 17 18.1**	**+0.2**
DIKM	**Dikmen**	**4.31**	**263**	PN	**Pn**	**01 17 18.7**	**+0.5**
VSR	**Storozhevoye**	**8.95**	**353**	⇓*e*P	**Pn**	**01 18 21.3**	**-0.6**
OBN	**Obninsk**	**13.10**	**349**	*e*P	**Pn**	**01 19 18.9**	**+0.4**
OBN				pmax	pmax		
	comp=Z,36nm,2.2s						
BRVK	**Borovoye**	**22.29**	**51**	⇑*e*P	**P**	**01 21 10.3**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
KURK	**Kurchatov**	**26.97**	**59**	⇑*e*P	**P**	**01 21 55.9**	**+1.6**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FFC	**Flin Flon**	**78.26**	**339**	*i* P	P	01 28 17.7	+5.3

MEX 28 01:38:50.3±0.3, 14.92N×93.27W, h28km±42km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.78**	**3**	*i* P	Pb	01 39 02.9	-2.4
PCIG				*e*S	Sb	01 39 12.6	-3.0
THIG		**0.97**	**91**	*e*P	Pn	01 39 05.3	-2.8
THIG				*e*S	Sn	01 39 17.5	-3.4
CCIG	**Comitan**	**1.74**	**39**	*e*P	Pn	01 39 16.4	-2.4
CCIG				*i* S	Sn	01 39 37.5	-2.6

*SJA **28** 01:45:59.6±0.5, 34.16S×73.99W, h62km±14km, ML3.5, MW3.9*
*ISCJB **28** 01:46:02.2±1.2, 34.49S±0.10×73.76W±0.1, h35km, mb3.7/2, MS3.4/1, Error ellipse: s-maj=17.2km s-min=11.5km az=37.5*
*IDC **28** 01:46:14.7±3.1, 34.96S×71.94W, h183km±34km, mb3.3/3, mb1 3.4/5, mb1mx3.2/27, mbtmp3.8/5, MS3.4/1, Ms1 3.3/1, ms1mx2.8/9, Error ellipse: s-maj=45.4km s-min=24.4km az=81.0*

ISC 28 01:46:02.2±1.4, 34.65S±0.1×73.7W±0.1, h35km, n14, σ2948/13, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**2.75**	**54**	*i* P	**Pn**	**01 46 43.7**	**-0.3**
ROC1				*i* S	**Sn**	**01 47 16.4**	**+0.3**
AUSP	**Uspallata**	**4.30**	**57**	*i* P	**Pn**	**01 47 05.5**	**+0.1**
AAGR	**Agrelo**	**4.30**	**70**	*i* P	**Pn**	**01 47 06.7**	**+1.4**
ARCO	**CERRO ARCO**	**4.32**	**67**	*i* P	**Pn**	**01 47 07.1**	**+1.5**
ARCO				IAML		01 48 13.4	
	comp=Z,22nm,0.6s						
ASAL	**Salagasta**	**4.50**	**65**	*i* P	**Pn**	**01 47 09.0**	**+1.0**
RTCV	**Cerro Valdivia**	**5.09**	**59**	*i* P	**Pn**	**01 47 16.0**	**-0.2**
RTLL	**Cerro Villicun**	**5.45**	**54**	*i* P	**Pn**	**01 47 20.6**	**-0.5**
RTLL				IAML		01 48 27.4	
	comp=N,54nm,0.5s						
AMOG	**MOGNA**	**5.69**	**51**	*i* P	**Pn**	**01 47 23.0**	**-1.4**
PLCA	**Paso Flores**	**6.58**	**159**	P	**Pn**	**01 47 40.8**	**+4.3**
	comp=N,1.1nm,0.3s,baz=347,slow=10,SNR=23						
LPAZ	**La Paz**	**18.92**	**17**	P	**Pn**	**01 50 21.3**	**-0.2**
	comp=N,0.1nm,0.3s,baz=191,slow=10,SNR=5.1						
USHA	**Ushuaia**	**20.53**	**171**	P	**P**	**01 50 31.9**	**-5.5**
	comp=N,15nm,1.0s,baz=350,slow=8.9,SNR=3.3						
BDFB	**Brasilia**	**29.79**	**57**	LR	LR	02 05 58.9	
	comp=N,79nm,19.6s,baz=196,slow=41						
TXAR	**Lajitas Array**	**69.64**	**332**	P	**P**	**01 57 10.4**	**+2.2**
	comp=N,0.5nm,0.5s,baz=152,slow=8.5,SNR=7.9						
TORD	**Torodi Ar. Bea**	**85.68**	**71**	P	P	01 58 27.4	-10
	comp=N,0.5nm,1.1s,baz=250,slow=4.2,SNR=2.0						

IDC 28 01:53:22.4±2.9, 7.03S×129.79E, h75km±39km, mb2.9/1, mb1 3.5/5, mb1mx3.2/35, mbtmp3.6/5, ML3.7/4, Error ellipse: s-maj=65.8km s-min=23.7km az=93.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.29**	**14**	P	Pn	01 54 52.4	-0.2
	1.4nm,0.3s,baz=172,slow=14,SNR=5.6						
SIJI				S	Sn	01 55 57.0	-6.1
	1.2nm,0.3s,baz=270,slow=20,SNR=3.2						
FITZ	**Fitzroy Crossi**	**11.72**	**200**	P	Pn	01 56 07.6	+0.8
	0.2nm,0.3s,baz=29,slow=12,SNR=19						
FITZ				S	Sn	01 58 10.2	-5.7
	0.2nm,0.3s,baz=74,slow=20,SNR=2.8						
WRA	**Warramunga Arr**	**13.58**	**161**	P	Pn	01 56 30.5	-1.3
	0.6nm,0.3s,baz=339,slow=13,SNR=24						
WRA				S	Sn	01 58 53.1	-7.9
	0.7nm,0.3s,baz=353,slow=23,SNR=8.6						
ASAR	**Alice Springs**	**17.01**	**167**	P	P	01 57 16.0	-0.3
	0.2nm,0.3s,baz=346,slow=14,SNR=10						
MKAR	**Makanchi Array**	**68.13**	**327**	P	P	02 04 14.4	0.0
	0.1nm,0.4s,baz=119,slow=8.2,SNR=5.0						

*ISCJB **28** 01:56:52.8±0.8, 6.95S±0.1×124.8E±0.2, h543km, mb3.4/4, Error ellipse: s-maj=26.7km s-min=11.1km az=155.1*
*IDC **28** 01:56:53.8±2.5, 7.04S×124.80E, h542km±40km, mb3.0/4, mb1 3.2/6, mb1mx2.9/33, mbtmp4.0/6, Error ellipse: s-maj=113.8km s-min=15.9km az=58.0*

ISC 28 01:56:53.7±1.0, 7.05S±0.1×124.9E±0.2, h543km, n7, σ0991/9, mb3.4/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**3.41**	**201**	P	**P**	**01 58 11.6**	**+0.8**
	98nm,0.3s,baz=90,slow=2.3,SNR=38						
BATI				S	**S**	**01 59 12.5**	**-1.1**
	7.5nm,0.3s,baz=214,slow=6.2,SNR=7.8						
WRA	**Warramunga Arr**	**15.78**	**145**	P	**P**	**02 00 11.3**	**-0.1**
	1.1nm,0.3s,baz=323,slow=11,SNR=9.1						
WRA				S	**S**	**02 02 52.9**	**-0.3**
	0.1nm,0.3s,baz=313,slow=19,SNR=3.4						
ASAR	**Alice Springs**	**18.68**	**153**	P	**P**	**02 00 39.3**	**+1.1**
	1.1nm,0.3s,baz=330,slow=9.4,SNR=19						
STKA	**Stephens Creek**	**29.24**	**150**	P	**P**	**02 02 11.6**	**-0.3**
	1.4nm,0.3s,baz=315,slow=7.8,SNR=4.9						
SONM	**Songino Array**	**57.00**	**345**	P	**P**	**02 05 48.0**	**+0.2**
	0.9nm,1.0s,baz=168,slow=7.8,SNR=6.1						
MKAR	**Makanchi Array**	**65.55**	**329**	P	**P**	**02 06 44.3**	**+0.5**
	1.0nm,0.6s,baz=126,slow=8.0,SNR=16						
ZALV	**Zalesovo Beam**	**69.44**	**336**	P	**P**	**02 07 06.1**	**-1.2**
	0.4nm,0.5s,baz=153,slow=10.0,SNR=3.9						

*NEIC **28** 02:03:36.9±0.0, 52.78N×169.43W, h0km, ML3.5(AEIC), After AEIC.*
*IDC **28** 02:03:45.1±2.1, 52.84N×167.55W, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.4/49, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=40.7km s-min=33.7km az=22.0*

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MEX 28 02:05:03.9±0.6, 13°93N×92°18W, h93km±23km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.97**	**355**	*eP*	Pn	02 05 22.1	-1.4
THIG				*eS*	Sn	02 05 37.1	-1.1
PCIG		**2.03**	**331**	*eP*	Pn	02 05 35.9	-0.7
PCIG				*i S*	Sn	02 05 59.4	-2.1
CCIG	**Comitan**	**2.34**	**1**	*i P*	Pn	02 05 39.4	-1.5
CCIG				*eP*		02 05 44.4	
CCIG				*i S*	Sn	02 06 08.1	-0.9

*ISCJB **28** 02:15:01.5±0.7, 19°.5S±0°.1×169°.6E±0°.1, h33km, mb4.0/10, Error ellipse: s-maj=18.9km s-min=11.3km az=135.6*
*IDC **28** 02:15:11.2±3.8, 19°.66S×169°.35E, h99km±30km, mb3.7/10, mb1 3.9/11, mb1mx3.7/40, mbtmp4.1/11, Error ellipse: s-maj=27.9km s-min=25.5km az=113.0*

ISC 28 02:15:03.3±0.9, 19°.5S±0°.1×169°.6E±0°.2, h35km, n17, σ0s95/17, mb4.0/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.90**	**229**	P	Pn	02 16 06.7	+6.0
	9.1nm,0.3s,baz=74,slow=8.9,SNR=118						
DZM				S	**Sn**	**02 16 46.9**	**+1.5**
	17nm,0.3s,baz=109,slow=22,SNR=6.1						
CTA	**Charters Tower**	**21.99**	**265**	P	**P**	**02 19 54.6**	**+0.2**
	2.2nm,0.5s,baz=91,slow=13,SNR=7.0						
STKA	**Stephens Creek**	**27.99**	**238**	P	**P**	**02 20 50.0**	**-0.9**
	1.3nm,0.5s,baz=60,slow=8.1,SNR=2.8						
WRA	**Warramunga Arr**	**33.17**	**263**	P	**P**	**02 21 35.5**	**-1.2**
	1.3nm,0.5s,baz=88,slow=8.5,SNR=30						
ASAR	**Alice Springs**	**33.41**	**256**	P	**P**	**02 21 38.1**	**-0.7**
	3.4nm,0.6s,baz=86,slow=9.1,SNR=44						
FITZ	**Fitzroy Crossi**	**41.57**	**264**	P	**P**	**02 22 47.5**	**-0.4**
	2.0nm,0.5s,baz=107,slow=11						
VNDA	**Vanda**	**58.15**	**182**	P	**P**	**02 24 53.6**	**+0.5**
	1.7nm,0.9s,baz=349,slow=6.1,SNR=4.0						
PETK	**Petropavlovsk-**	**73.07**	**353**	P		**02 26 31.9**	**+2.3**
	2.9nm,0.8s,baz=137,slow=5.0,SNR=5.4						
CMAR	**Chiang Mai Arr**	**78.95**	**294**	P	**P**	**02 27 04.0**	**+0.2**
	0.7nm,0.4s,baz=123,slow=6.6,SNR=3.4						
SONM	**Songino Array**	**87.67**	**323**	P	**P**	**02 27 48.1**	**-0.1**
	0.5nm,0.9s,baz=132,slow=6.0,SNR=3.0						
SNAA	**Sanae**	**88.89**	**182**	P	**P**	**02 27 53.5**	**-0.2**
VNA3	**Neumayer Olymp**	**89.46**	**180**	P	**P**	**02 27 56.0**	**-0.3**
VNA2	**Neumayer--Watz**	**89.76**	**181**	P	**P**	**02 27 57.7**	**+0.1**
	baz=184,slow=5.0						
VNA1	**Neumayer--Stat**	**90.05**	**181**	P	**P**	**02 27 59.2**	**+0.2**
ILAR	**Eielson Array**	**90.40**	**17**	P	**P**	**02 27 60.0**	**-0.5**
	0.5nm,1.0s,baz=243,slow=5.4,SNR=2.9						
ARCES	**ARCESS Array B**	**125.44**	**345**	PKP	**PKPdf**	**02 33 59.1**	**-0.8**
	4.0nm,1.0s,baz=83,slow=2.2,SNR=4.0						
GERES	**GERESS Array B**	**144.92**	**332**	PKP	**PKPdf**	**02 34 36.2**	**-0.5**
	0.4nm,0.5s,baz=35,slow=4.9,SNR=7.0						

*NORS **28** 02:17:52.7±0.0, 42°.84N×45°.47E, h10km, MPVA3.4*
*MOS **28** 02:17:52.7±0.0, 42°.84N×45°.47E, h10km, MPVA3.4*
*DRS **28** 02:17:55.3±0.0, 42°.85N×45°.47E, h15km*

ISC 28 02:17:54.5±1.1, 42°.87N±0°.03×45°.47E±0°.02, h10km±10km, n18, σ1s11/35, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.41**	**35**	*ePg*	**Pg**	**02 18 02.1**	**-0.5**
GROC				*eSg*	**Sb**	**02 18 09.9**	**-0.3**
KMGR	**Komgaron**	**0.48**	**293**	*ePg*	**Pg**	**02 18 03.6**	**-0.3**
KMGR				*eSg*	**Sb**	**02 18 13.4**	**+1.1**
BTLR	**Botlikh**	**0.59**	**110**	*ePg*	**Pb**	**02 18 06.3**	**-0.6**
BTLR				*eSg*	**Sb**	**02 18 15.8**	**+0.4**
BTKR	**Batakoyurt**	**0.85**	**307**	*ePg*	**Pn**	**02 18 11.5**	**-1.0**
BTKR				*eSg*	**Sn**	**02 18 24.8**	**-0.2**
LACR	**Lac**	**0.86**	**268**	*ePg*	**Pb**	**02 18 10.9**	**-0.7**
LACR				*eSg*	**Sn**	**02 18 24.8**	**-0.7**
ARNR	**Ardon**	**0.92**	**290**	*ePg*	**Pg**	**02 18 11.7**	**-0.6**
ARNR				*eSg*	**Sn**	**02 18 26.6**	**-0.2**
XNZR	**Khunzakh**	**0.97**	**109**	*ePg*	**Pn**	**02 18 14.0**	**-0.2**
XNZR				*eSg*	**Sn**	**02 18 27.3**	**-0.8**
KORR	**Kora**	**1.05**	**283**	*ePg*	**Pn**	**02 18 15.3**	**0.0**
KORR				*eSg*	**Sn**	**02 18 32.2**	**+2.2**
STDR	**Stavd-Durt**	**1.15**	**296**	*ePg*	**Pg**	**02 18 17.6**	**+1.1**
STDR				*eSg*	**Sn**	**02 18 35.0**	**+2.7**
ZEI	**Tsey**	**1.16**	**267**	*ePg*	**Pn**	**02 18 16.1**	**-0.8**
ZEI				*eSg*	**Sn**	**02 18 33.3**	**+0.5**
GNBR	**Gunib**	**1.20**	**113**	*ePg*	**Pg**	**02 18 17.7**	**+0.1**
GNBR				*eSg*	**Sn**	**02 18 35.5**	**+1.8**
PRTR	**Priterechnaya**	**1.24**	**316**	*ePg*	**Pn**	**02 18 17.4**	**-0.4**
PRTR				*eSg*	**Sg**	**02 18 36.8**	**+2.4**
TBLG	**Delisi**	**1.26**	**206**	P	**Pg**	**02 18 19.9**	**+1.3**
DIGR	**Digorskoe uzhe**	**1.39**	**272**	*ePg*	**Pg**	**02 18 20.5**	**-0.6**
DIGR				*eSg*	**Sg**	**02 18 39.4**	**+0.2**
TRLG	**Trialeti**	**1.67**	**218**	P	**Pg**	**02 18 26.3**	**-0.2**
TRLG				S	**Sg**	**02 18 49.5**	**+1.3**
NEY	**Neytrino**	**2.05**	**282**	*ePg*	**Pb**	**02 18 31.3**	**-0.5**
NEY				*eSg*	**Sb**	**02 18 57.9**	**+0.4**
BGD	**Bogdanovka**	**2.12**	**222**	P	**Pg**	**02 18 33.6**	**-1.5**
BGD				S	**Sg**	**02 19 02.5**	**-0.2**
SHA1	**Shidzhatmaz**	**2.23**	**294**	*ePg*	**Pb**	**02 18 33.5**	**-1.5**
SHA1				*eSg*	**Sb**	**02 19 02.4**	**-0.3**

*IDC **28** 02:23:56.2±0.6, 0°.45N×129°.25E, h0km, mb4.2/14, mb1 4.3/16, mb1mx4.1/38, mbtmp4.1/16, ML3.6/2, MS3.5/5, Ms1 3.5/5, ms1mx3.2/31, Error ellipse: s-maj=26.5km s-min=11.6km az=71.0*
*DJA **28** 02:23:58.6±2.6, 0°.N±10°×12°9E±°, h13km±19km, M4.0/6, MLv4.0/6*
*ISCJB **28** 02:23:59.1±0.3, 0°.42N±0°.04×129°.28E±0°.04, h33km, mb4.3/20, MS3.4/2, Error ellipse: s-maj=6.8km s-min=4.5km az=42.8*
*NEIC **28** 02:24:01.2±0.3, 0°.42N×129°.28E, h35km, mb4.3/6, Error ellipse: s-maj=13.1km s-min=5.7km az=70.0*

ISC 28 02:24:01.5±0.5, 0°.30N±0°.06×129°.18E±0°.05, h35km, n62, σ1s40/59, mb4.5/26, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.88**	**284**	*ePn*	**Pn**	**02 24 30.4**	**-0.7**
TNTI				*eSn*	**Sn**	**02 24 55.3**	**+1.8**
TNTI	**Ternate**	**1.88**	**284**	P	**Pn**	**02 24 30.2**	**-0.9**
TNTI				S	**Sn**	**02 24 54.6**	**+1.1**
SWI	**Sorong**	**2.38**	**119**	P	**Pn**	**02 24 37.4**	**-0.6**
SIJI	**Sorong**	**2.38**	**119**	Pn	**Pn**	**02 24 37.4**	**-0.7**
	40nm,0.3s,baz=180,slow=18,SNR=51						
SIJI				Sn	**Sn**	**02 25 08.1**	**+1.9**
	17nm,0.3s,baz=356,slow=23,SNR=9.6						
SIJI				LR	LR	02 25 46.6	
	comp=Z,2μm,18.1s,baz=230,slow=46						
SANI	**Sanana**	**3.96**	**234**	P	**Pn**	**02 24 59.6**	**-0.1**
SANI				S	**Sn**	**02 25 40.4**	**-4.5**
NLAI	**Namlea**	**4.08**	**211**	P	**Pn**	**02 25 02.5**	**+1.0**
FAKI	**Fak Fak**	**4.43**	**136**	*ePn*	**Pn**	**02 25 06.4**	**+0.2**
FAKI	**Fak Fak**	**4.43**	**136**	P	**Pn**	**02 25 06.2**	**0.0**
SPSI	**Sidrap Palu**	**10.32**	**246**	P	**Pn**	**02 26 28.9**	**+1.8**
JAY	**Jayapura**	**11.85**	**104**	LR	LR	02 31 43.7	
	comp=Z,272nm,20.9s,baz=174,slow=40						
MTN	**Manton Dam**	**13.20**	**172**	*ePn*	**Pn**	**02 27 03.9**	**-2.7**
FITZ	**Fitzroy Crossi**	**18.61**	**191**	P	**Pn**	**02 28 17.1**	**+0.6**
	0.1nm,0.3s,baz=27,slow=11,SNR=2.3						
FITZ				LR	LR	02 36 30.4	
	comp=Z,93nm,19.6s,baz=56,slow=40						
PMG	**Port Moresby**	**20.33**	**119**	LR	LR	02 38 25.0	
	comp=Z,196nm,19.1s,baz=309,slow=43						
WR1	**Warramunga Arr**	**20.74**	**166**	*eP*	**P**	**02 28 39.1**	**-0.2**
	4.8nm,0.6s						
WRA	**Warramunga Arr**	**20.74**	**166**	P	**P**	**02 28 39.1**	**-0.2**
	4.0nm,0.6s,baz=347,slow=12,SNR=32						
WB2	**Warramunga Arr**	**20.75**	**166**	*eP*	**P**	**02 28 38.8**	**-0.5**
	10.0nm,1.0s						
AS31	**Alice Springs**	**24.26**	**169**	*eP*	**P**	**02 29 17.0**	**+1.5**
	4.3nm,0.8s						
ASAR	**Alice Springs**	**24.26**	**169**	P	**P**	**02 29 16.7**	**+1.2**
	8.8nm,0.8s,baz=351,slow=8.9,SNR=74						
ASAR				PcP	**PcP**	**02 32 55.1**	**-0.2**
	0.9nm,0.6s,baz=1.8,slow=2.8,SNR=4.4						
AS01	**Alice Springs**	**24.27**	**169**	*eP*	**P**	**02 29 16.6**	**+1.1**
STKA	**Stephens Creek**	**34.09**	**161**	P	**P**	**02 30 43.1**	**+0.3**
	4.7nm,0.7s,baz=332,slow=9.3,SNR=12						
CMAR	**Chiang Mai Arr**	**34.75**	**303**	P	**P**	**02 30 48.8**	**0.0**
	1.0nm,0.4s,baz=115,slow=6.1,SNR=4.1						
KSAR	**Wonju Array Be**	**36.98**	**358**	P	**P**	**02 31 06.2**	**-1.3**
KSRS	**Korea Array**	**36.99**	**358**	P	**P**	**02 31 06.2**	**-1.4**
	1.6nm,0.9s,baz=184,slow=8.9,SNR=5.2						
KSRS				LR	LR	02 44 22.4	
	comp=Z,54nm,21.2s,baz=274,slow=33						
MAJO	**Matsushiro**	**37.02**	**12**	*eP*	**P**	**02 31 04.9**	**-3.0**
MJAR	**Matsushiro Arr**	**37.02**	**12**	P	**P**	**02 31 04.9**	**-3.0**
	1.0nm,0.3s,baz=199,slow=9.5,SNR=4.3						
XAN	**Xi'an**	**38.57**	**333**	P	**P**	**02 31 25.0**	**+3.9**
XAN				pP	pP	02 31 30.8	-0.2
XAN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,450nm,6.7s						
H11S3	**WAKE ISLAND Hy**	**41.02**	**62**	T	T	03 15 19.5	
	baz=248						
H11S2	**WAKE ISLAND Hy**	**41.04**	**62**	T	T	03 15 23.9	
	baz=248						
H11S1	**WAKE ISLAND Hy**	**41.04**	**62**	T	T	03 15 17.1	
	baz=248						
H11N1	**WAKE ISLAND Hy**	**41.66**	**60**	T	T	03 16 01.1	
	baz=247,slow=75,SNR=10						
H11N2	**WAKE ISLAND Hy**	**41.67**	**60**	T	T	03 16 11.3	
	baz=247,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**41.68**	**60**	T	T	03 16 11.3	
	baz=247,slow=75,SNR=17						
USRK	**Uesuriysk Ar.**	**43.78**	**3**	P	**P**	**02 32 02.9**	**-0.8**
	comp=Z,2.4nm,0.8s,baz=162,slow=6.8,SNR=4.5						
SHL	**Shillong**	**43.89**	**308**	*eP*	**P**	**02 32 04.8**	**-0.3**
	comp=Z,7.4nm,0.8s						
GTA	**Gaotai**	**47.28**	**329**	*eP*	**P**	**02 32 32.0**	**+0.3**
GTA				pP	pP	02 32 35.5	-6.3
GTA				sP	sP	02 32 38.0	-7.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
RAMN	**Ramite**	**48.73**	**307**	*eP*	**P**	**02 32 43.7**	**+0.4**
KLR	**Kul'dur**	**48.79**	**2**	P	**P**	**02 32 41.3**	**-1.8**
	comp=Z,0.8nm,0.8s,baz=201,slow=8.6,SNR=3.1						
JIRN	**Jiri**	**49.37**	**307**	*eP*	**P**	**02 32 48.5**	**+0.2**
	comp=Z,18nm,0.6s						
GUN	**Gumba**	**49.73**	**307**	*eP*	**P**	**02 32 51.2**	**+0.2**
	comp=Z,17nm,0.7s						
KKN	**Kakani**	**50.15**	**307**	*eP*	**P**	**02 32 54.3**	**+0.2**
	comp=Z,13nm,0.6s						
DMN	**Daman**	**50.22**	**307**	*eP*	**P**	**02 32 55.1**	**+0.5**
SONA0	**Songino Array**	**51.32**	**340**	*eP*	**P**	**02 33 02.0**	**-0.4**
SONM	**Songino Array**	**51.32**	**340**	P	**P**	**02 33 02.0**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=146,slow=8.4,SNR=9.2						
KOLN	**Koldanda**	**51.50**	**306**	*eP*	**P**	**02 33 04.6**	**+0.4**
	comp=Z,19nm,0.7s						
DANN	**Dangsing**	**51.61**	**307**	*eP*	**P**	**02 33 04.9**	**-0.2**
	comp=Z,21nm,0.7s						
PYUN	**Piuthan**	**52.12**	**306**	*eP*	**P**	**02 33 09.1**	**+0.2**
	comp=Z,21nm,0.8s						
MK31	**Makanchi Array**	**61.75**	**325**	*eP*	**P**	**02 34 16.1**	**-0.4**
MK32	**Makanchi Array**	**61.75**	**325**	*eP*	**P**	**02 34 16.1**	**-0.4**
MKAR	**Makanchi Array**	**61.75**	**325**	P	**P**	**02 34 16.1**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=116,slow=8.2,SNR=13						
MAKZ	**Makanchi**	**61.94**	**325**	*eP*	**P**	**02 34 18.3**	**+0.5**
	comp=Z,3.5nm,0.9s						
ZALV	**Zalesovo Beam**	**64.74**	**333**	P	**P**	**02 34 35.1**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=104,slow=6.3,SNR=5.8						
ZAA1	**Zalesovo Array**	**64.74**	**333**	*eP*	**P**	**02 34 35.1**	**-1.0**
SEY	**Seymchan**	**64.84**	**11**	P	**P**	**02 34 36.4**	**-0.3**
	comp=Z,5.4nm,0.8s,baz=206,slow=4.9,SNR=8.5						
KURBB	**Kurchatov Arra**	**65.93**	**327**	P	**P**	**02 34 42.9**	**-1.0**
	comp=Z,6.4nm,0.8s,baz=122,slow=6.0,SNR=18						
KURK	**Kurchatov**	**65.93**	**327**	P	**P**	**02 34 42.9**	**-1.0**
GAR	**Garm**	**66.04**	**313**	*eP*	**P**	**02 34 47.1**	**+2.1**
	comp=Z,6.9nm,1.0s						
KK31	**Karatay Array**	**67.40**	**317**	*eP*	**P**	**02 34 52.2**	**-1.3**
KKAR	**Karatay Array**	**67.40**	**317**	*eP*	**P**	**02 34 51.9**	**-1.6**
GEYT	**Alibeck**	**74.94**	**309**	P	**P**	**02 35 39.1**	**-0.3**
	comp=Z,21nm,0.4s,baz=110,slow=6.5,SNR=4.5						
VNDA	**Vanda**	**79.74**	**173**	P	**P**	**02 36 06.5**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=288,slow=6.4,SNR=2.7						
TORD	**Torodi Ar. Bea**	**126.28**	**287**	PKP	**PKiKP**	**02 43 03.2**	**+1.2**
	comp=Z,1.1nm,0.9s,baz=83,slow=4.6,SNR=4.6						
CPUP	**Villa Florida**	**153.37**	**167**	PKPbc	**PKiKP**	**02 43 58.8**	**+1.9**
	comp=Z,1.9nm,0.9s,baz=173,slow=6.0,SNR=3.8						

*IDC **28** 02:45:15.5±1.0, 4°.64N×95°.64E, h0km, mb3.7/8, mb1 3.8/10, mb1mx3.6/34, mbtmp3.7/10, ML4.0/2, MS3.6/3, Ms1 3.6/3, ms1mx3.1/38, Error ellipse: s-maj=33.5km s-min=16.9km az=50.0*
*ISCJB **28** 02:45:19.3±0.6, 4°.80N±0°.06×95°.76E±0°.08, h31km, mb3.7/8, MS4.3/1, Error ellipse: s-maj=12.9km s-min=6.6km az=156.6*
*DJA **28** 02:45:22.2±0.9, 5°N±4°×9°6E±°, h10km, M4.3/9, mb4.7/4, MLv4.2/9*

ISC 28 02:45:21.9±0.7, 4°.89N±0°.06×95°.87E±0°.08, h31km, n27, σ2s90/23, mb3.7/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**0.83**	**317**	P	**Pb**	**02 45 39.2**	**+1.3**
LHMI	**Lhok Sumawe**	**1.13**	**73**	P	**Pn**	**02 45 38.1**	**-3.5**
TPTI		**2.08**	**141**	P	**Pn**	**02 45 52.1**	**-2.6**
KCSI	**Kotacane, Aceh**	**2.34**	**125**	P	**Pn**	**02 45 57.3**	**-1.0**
SNSI	**Sinabang, Aceh**	**2.50**	**169**	P	**Pn**	**02 45 59.3**	**-1.3**
TSI	**Tuntungan**	**3.02**	**117**	P	**Pn**	**02 46 07.7**	**0.0**
PSI	**Prapat**	**3.69**	**124**	Pn	**Pn**	**02 46 16.6**	**-0.3**
	3.0nm,0.3s,baz=359,slow=8.1,SNR=12						
PSI				Sn	**Sn**	**02 47 02.8**	**+3.3**
	4.1nm,0.3s,baz=180,slow=18,SNR=2.4						
PSI				LR	LR	02 48 02.1	
	comp=Z,348nm,20.0s,baz=96,slow=44						
GSI	**Gunungsitoli**	**3.95**	**154**	P	**Pn**	**02 46 22.6**	**+2.1**
TRTT	**Trang**	**4.80**	**52**	P	**Pn**	**02 46 32.5**	**+0.4**
PBSI	**Pulau Batu**	**5.47**	**154**	P	**Pn**	**02 46 41.3**	**-0.1**
PMBI	**Palembang**	**11.81**	**131**	P	**Pn**	**02 48 07.1**	**-1.3**
	643nm,0.6s						
PBKT	**Sadao Pong**	**12.64**	**23**	P	**Pn**	**02 48 22.0**	**+2.3**
	15nm,0.5s						
CMAR	**Chiang Mai Arr**	**13.82**	**12**	Pn	**Pn**	**02 48 38.4**	**+2.6**
	0.5nm,0.3s,baz=196,slow=13,SNR=3.6						
PAYA	**Payao**	**14.90**	**15**	P	**Pn**	**02 48 53.6**	**+3.0**
LEM	**Lembang**	**16.52**	**135**	LR	LR	02 56 19.9	
	comp=Z,81nm,18.3s,baz=232,slow=40						
H08S2	**Diego Garcia H**	**26.43**	**242**	T	T	03 17 56.9	
	baz=62,slow=76,SNR=103						
H08S3	**Diego Garcia H**	**26.43**	**242**	T	T	03 17 56.9	
	baz=62,slow=76,SNR=117						
H08S1	**Diego Garcia H**	**26.45**	**242**	T	T	03 17 58.2	
	baz=62,slow=76,SNR=76						
MKAR	**Makanchi Array**	**43.37**	**346**	P	**P**	**02 53 20.6**	**-0.9**
	0.2nm,0.4s,baz=158,slow=7.7,SNR=4.6						
KSRS	**Korea Array**	**43.67**	**38**	P	**P**	**02 53 25.5**	**+1.5**
	1.1nm,0.7s,baz=218,slow=10,SNR=3.5						
SONM	**Songino Array**	**43.73**	**10**	P	**P**	**02 53 24.7**	**+0.2**
	0.6nm,0.7s,baz=178,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**45.16**	**124**	P	**P**	**02 53 33.7**	**-2.5**
	1.1nm,0.7s,baz=303,slow=9.2,SNR=7.0						
ASAR	**Alice Springs**	**46.70**	**129**	P	**P**	**02 53 46.5**	**-1.8**
	2.5nm,0.7s,baz=298,slow=7.8,SNR=22						
ZALV	**Zalesovo Beam**	**49.73**	**351**	P	**P**	**02 54 09.7**	**-1.5**
	0.2nm,0.3s,baz=183,slow=8.5,SNR=2.4						
CTA	**Charters Tower**	**55.38**	**118**	LR	LR	03 20 33.8	
	comp=Z,267nm,18.9s,baz=69,slow=38						
BRTR	**Keskin Array B**	**65.67**	**312**	P	**P**	**02 56 02.4**	**-1.4**
	0.3nm,0.6s,baz=121,slow=7.1,SNR=2.7						
TORD	**Torodi Ar. Bea**	**92.95**	**283**	P	**P**	**02 58 31.7**	**-1.3**
	0.7nm,1.1s,baz=90,slow=4.7,SNR=3.2						

MAN 28 03:10:08.4, 7°.52N×123°.24E, h33km, mb3.7, ML2.4, MS1.9, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.36**	**23**	*eP*	Pn	03 10 18.5	+1.1
PAGZ				*eS*	Sn	03 10 25.4	+2.3
IPIL	**Ipil**	**0.72**	**292**	*eP*	Pb	03 10 23.1	+0.4
IPIL				*eS*	Sb	03 10 33.7	+1.5
DCPH	**Dipolog City**	**1.07**	**6**	*eP*	Pb	03 10 32.7	+4.3
DCPH				*eS*	Sb	03 10 47.0	+4.9
SKMP	**Bagumbayan, Su**	**1.63**	**127**	*eP*	Pn	03 10 35.4	+0.6
SKMP				*eS*	Sn	03 10 54.8	+0.2
CGP	**Cagayan de Oro**	**1.71**	**57**	*eP*	Pb	03 10 41.0	+1.7
CGP				*eS*	Sb	03 11 04.7	+4.1

SJA 28 03:29:23.7±0.4, 28°.57S×67°.59W, h144km±3km, ML2.9, MW3.6, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACLC	**CERRO LA CRUZ**	**1.02**	**147**	*i P*	Pn	03 29 49.0	+0.7
AGUA	**GUANDACOL**	**1.21**	**220**	*i P*	Pn	03 29 50.5	+0.6
AGUA				*i S*	Sn	03 30 10.4	+0.5
CYA	**Choya**	**1.58**	**86**	*i P*	Pn	03 29 54.6	+0.9
CYA				IAML		03 29 55.3	
	comp=Z,69nm,0.3s						
CYA				*i S*	Sn	03 30 16.8	+0.2
ACDV	**Cuesta del Vie**	**2.08**	**219**	*i P*	Pn	03 30 00.5	+0.9
AROD	**Rodeo**	**2.29**	**225**	*i P*	Pn	03 30 03.7	+1.4
AROD				*i S*	Sn	03 30 33.2	+1.3
ACCO	**Cerro Coronel**	**2.39**	**212**	*i P*	Pn	03 30 04.7	+1.2
ACCO				*i S*	Sn	03 30 35.1	+1.0
AMOG	**MOGNA**	**2.49**	**198**	*i P*	Pn	03 30 05.3	+0.8
AMOG				*i S*	Sn	03 30 36.2	+0.3
RTLL	**Cerro Villicun**	**2.86**	**195**	*i P*	Pn	03 30 10.1	+1.0
RTLL				IAML		03 30 10.9	
	comp=Z,37nm,0.1s						
RTLL				*i S*	Sn	03 30 44.4	+0.2
RTCV	**Cerro Valdivia**	**3.39**	**194**	*i P*	Pn	03 30 16.7	+0.9

IDC 28 03:35:21.5±13.0, 16°.73S×174°.16W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.6/39, mbtmp3.9/2, MS3.3/2, Ms1 3.3/2, ms1mx2.9/29, Error ellipse: s-maj=656.2km s-min=42.4km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.05**	**251**	LR	LR	03 44 36.1	
	comp=Z,49nm,21.7s,baz=58,slow=29						
ASAR	**Alice Springs**	**49.02**	**253**	P	P	03 44 10.1	-0.4
	1.7nm,0.8s,baz=86,slow=8.3,SNR=13						
FITZ	**Fitzroy Crossi**	**57.23**	**259**	LR	LR	04 08 33.1	
	comp=Z,45nm,18.1s,baz=153,slow=35						
ILAR	**Eielson Array**	**83.89**	**11**	P	P	03 47 52.1	-0.6
	0.9nm,1.1s,baz=212,slow=5.0,SNR=4.2						
BRTR	**Keskin Array B**	**146.71**	**319**	PKPbc	PKPbc	03 55 06.1	+0.3
	0.8nm,0.8s,baz=42,slow=1.0,SNR=5.1						

*IDC **28** 03:39:24.9±3.0, 20°.51S×178°.23W, h574km±33km, mb3.2/8, mb1 3.5/8, mb1mx3.1/36, mbtmp4.1/8, Error ellipse: s-maj=50.7km s-min=14.4km az=154.0*

ISC 28 03:39:21.2±1.4, 20°.5S±0°.4×178°.2W±0°.2, h534km, n12, σ1s12/15, mb3.8/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.30**	**264**	P	**P**	**03 45 16.0**	**+1.1**
	1.4nm,0.4s,baz=67,slow=7.7,SNR=4.1						
ASAR	**Alice Springs**	**44.34**	**257**	P	**P**	**03 46 44.9**	**+0.7**
	1.9nm,0.5s,baz=94,slow=7.6,SNR=30						
ASAR				PcP	**PcP**	**03 48 16.8**	**0.0**
	0.6nm,0.6s,baz=108,slow=4.1,SNR=6.2						
WRA	**Warramunga Arr**	**44.42**	**262**	P	**P**	**03 46 45.0**	**+0.2**
	1.6nm,0.3s,baz=97,slow=7.6,SNR=89						
WRA				S	**S**	**03 52 39.6**	**-1.3**
	0.6nm,0.9s,baz=97,slow=13,SNR=2.8						
FITZ	**Fitzroy Crossi**	**52.84**	**262**	P	**P**	**03 47 47.9**	**+0.6**
	2.3nm,0.9s,baz=129,slow=6.5,SNR=3.1						
PETK	**Petropavlovsk-**	**76.20**	**345**	P	**P**	**03 50 14.7**	**+0.4**
	5.1nm,1.0s,baz=145,slow=8.9,SNR=3.9						
TXAR	**Lajitas Array**	**87.20**	**57**	P	**P**	**03 51 12.1**	**+0.9**
	0.6nm,1.0s,baz=216,slow=6.2,SNR=3.9						
ILAR	**Eielson Array**	**88.33**	**13**	P	**P**	**03 51 15.1**	**-0.3**
	0.4nm,0.4s,baz=218,slow=5.3,SNR=15						
PDAR	**Pinedale Array**	**89.08**	**43**	P	**P**	**03 51 20.1**	**+0.3**
	0.7nm,0.8s,baz=179,slow=1.9,SNR=5.3						
ARCES	**ARCESS Array B**	**128.87**	**350**	PKP	**PKPdf**	**03 57 26.5**	**-0.9**
	3.7nm,1.0s,baz=336,slow=2.0,SNR=6.3						
AKASG	**Malin Array Be**	**142.90**	**331**	PKP	**PKPdf**	**03 57 51.0**	**-2.8**
	0.2nm,0.3s,baz=44,slow=4.2,SNR=19						
BRTR	**Keskin Array B**	**146.68**	**312**	PKPbc	**PKPbc**

MBWA	**Marble Bar**	**18.64 210**	*e*P	**P**		**04 06 59.3 +0.4**
AS31	**Alice Springs**	**19.06 167**	*e*P	**P**		**04 07 04.7 +1.1**
ASAR	**Alice Springs**	**19.06 167**	P	**P**		**04 07 05.0 +1.5**
	15nm,0.3s,baz=350,slow=11,SNR=489					
ASAR			S	**S**		**04 10 25.8 -0.6**
	1.0nm,0.3s,baz=348,slow=23,SNR=15					
AS01	**Alice Springs**	**19.07 167**	*e*P	**P**		**04 07 04.5 +0.9**
AS01			*e*S	**S**		**04 10 26.9 +0.3**
CISI	**Cisompet, Garu**	**21.65 262**	*e*P	**P**		**04 07 29.3 -1.2**
	31nm,0.9s					
CTA	**Charters Tower**	**22.20 134**	P	**P**		**04 07 38.0 +2.7**
	8.3nm,0.8s,baz=310,slow=12,SNR=7.6					
CTAO	**Charters Tower**	**22.20 134**	*e*P	**P**		**04 07 37.3 +2.0**
BBOO	**Buckleboo**	**28.36 168**	*e*P	**P**		**04 08 31.4 +0.8**
	32nm,1.2s					
STKA	**Stephens Creek**	**29.07 158**	P	**P**		**04 08 37.9 +1.0**
	2.2nm,0.3s,baz=341,slow=8.0,SNR=9.1					
STKA	**Stephens Creek**	**29.07 158**	*e*P	**P**		**04 08 38.6 +1.7**
	1.2nm,1.0s					
PSI	**Prapat**	**31.46 284**	*e*P	**P**		**04 08 54.8 -3.4**
	9.9nm,1.4s					
CAN	**Canberra**	**35.17 152**	*e*P	**P**		**04 09 32.4 +2.5**
	28nm,1.3s					
CMAR	**Chiang Mai Arr**	**38.04 309**	P	**P**		**04 09 54.3 +0.1**
	1.9nm,0.4s,baz=136,slow=6.9,SNR=7.9					
NJ2	**Nanjing**	**38.19 345**	*e*P	**P**		**04 09 54.8 -0.4**
NJ2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
KMI	**Kunming**	**39.62 320**	P	**P**		**04 10 09.3 +1.8**
KMI			pmax	pmax		
	comp=Z,7.0nm,0.5s					
CD2	**Chengdu**	**43.32 327**	*e*P	**P**		**04 10 38.0 +0.9**
HHC	**Hu-ho-hao-te**	**48.47 342**	*e*P	**P**		**04 11 20.0 +2.9**
HHC			S	**S**		**04 18 03.0 +4.3**
HHC			pmax	pmax		
	comp=Z,11nm,1.0s					
HHC			pmax	pmax		
	comp=Z,240nm,3.8s					
CN2	**Changchun**	**48.70 356**	*e*P	**P**		**04 11 22.0 +3.4**
GTA	**Gaotai**	**51.96 331**	*e*P	**P**		**04 11 42.0 -1.3**
GTA			pP	pP		04 12 31.0 -6.5
GTA			sP	PcP		04 12 56.8 +4.7
JIRN	**Jiri**	**52.87 310**	*e*P	**P**		**04 11 49.9 -0.5**
	6.7nm,0.3s					
GUN	**Gumba**	**53.23 310**	*e*P	**P**		**04 11 52.6 -0.5**
	19nm,0.6s					
PKI	**Pulchoki**	**53.42 310**	*e*P	**P**		**04 11 53.6 -0.8**
	5.0nm,0.4s					
PKIN	**Phulchoki**	**53.43 310**	*e*P	**P**		**04 11 53.4 -1.0**
	4.0nm,0.4s					
DMN	**Daman**	**53.67 310**	*e*P	**P**		**04 11 55.7 -0.4**
	6.5nm,0.3s					
BKZ	**Black Stump Fm**	**54.40 136**	*e*P	**P**		**04 12 03.0 +2.0**
	6.7nm,0.8s					
KOLN	**Koldanda**	**54.91 309**	*e*P	**P**		**04 12 04.6 -0.4**
	8.1nm,0.5s					
DANN	**Dangsing**	**55.07 310**	*e*P	**P**		**04 12 05.6 -0.6**
	6.8nm,0.4s					
PYUN	**Piuthan**	**55.54 309**	*e*P	**P**		**04 12 09.0 -0.5**
	13nm,0.6s					
ULN	**Ulaanbaatar**	**56.19 342**	*e*P	**P**		**04 12 14.4 +0.8**
	1.7nm,0.4s					
SONM	**Songino Array**	**56.37 342**	P	**P**		**04 12 16.1 +1.3**
	0.6nm,0.5s,baz=159,slow=7.2,SNR=8.9					
WMQ	**Urumqi**	**61.42 327**	*e*P	**P**		**04 12 50.5 +1.0**
WMQ			pmax	pmax		
	comp=Z,22nm,0.9s					
WMQ			pmax	pmax		
	comp=Z,520nm,6.1s					
KSH	**Kashi**	**66.18 317**	P	P		04 13 26.5 +5.9
KSH			PcP	**PcP**		**04 13 50.5 +1.7**
KSH			PP	PP		04 15 57.3 +7.4
KSH			S	**S**		**04 21 53.8 +4.7**
KSH			ScS	**ScS**		**04 22 53.0 +0.3**
KSH			sS	sS		04 23 25.0 -3.3
KSH			pmax	pmax		
	comp=Z,35nm,0.8s					
KSH			pmax	pmax		
	comp=Z,840nm,6.9s					
KSH			LR	LR		
	comp=N,130nm,6.5s					
KSH			LR	LR		
	comp=E,200nm,7.9s					
KSH			LR	LR		
	comp=Z,850nm,10.2s					
MK01	**Makanchi Array**	**66.23 327**	*e*P	**P**		**04 13 21.0 +0.3**
MK31	**Makanchi Array**	**66.25 327**	*e*P	**P**		**04 13 21.4 +0.5**
MKAR	**Makanchi Array**	**66.25 327**	P	**P**		**04 13 21.3 +0.5**
	4.0nm,0.7s,baz=125,slow=8.0,SNR=45					
MKAR	**Makanchi Array**	**66.25 327**	*e*P	**P**		**04 13 21.4 +0.5**
	19nm,0.7s					
NRN	**Naryn**	**67.09 319**	*e*P	**P**		**04 13 29.9 +3.2**
	6.8nm,0.4s					
ZALV	**Zalesovo Beam**	**69.55 334**	P	**P**		**04 13 41.0 -0.1**
	1.1nm,0.4s,baz=136,slow=5.3,SNR=5.7					
ZALV	**Zalesovo Beam**	**69.55 334**	*e*P	**P**		**04 13 40.8 -0.3**
KURK	**Kurchatov**	**70.53 328**	*e*P	**P**		**04 13 47.6 +0.5**
	6.3nm,1.0s					
VNDA	**Vanda**	**74.50 173**	P	**P**		**04 14 10.8 +0.8**
	0.9nm,0.6s,baz=319,slow=9.8,SNR=7.9					
AKTO	**Aktyubinsk**	**82.16 322**	P	**P**		**04 14 52.9 +0.5**
	0.5nm,0.5s,baz=76,slow=4.2,SNR=2.6					
SYO	**Syowa Base**	**85.33 201**‖	*e*X	P		04 15 16.4 +8.4
CPUP	**Villa Florida**	**148.18 168**	PKPbc	**PKiKP**		**04 22 17.5 -0.6**
	1.3nm,0.6s,baz=111,slow=3.2,SNR=4.9					

*GEN **28** 04:12:30.0,44.47N×7.28E,h7km±1km,MI1.0*
*LDG **28** 04:12:30.0±0.0,44.48N×7.28E,h7km,Md1.8/2,MI1.8/6,*
Error ellipse: s-maj=1.0km s-min=0.7km az=57.0
*STR **28** 04:12:30.3±0.6,44.5N×7.5E±,h10km,M1.4/6,MLv1.4/6*
ROM 28 04:12:29.2±0.1**, 44.47N**±0.01×**7.27E**±0.02**, h11**km±1km,
ML1.7/3, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	**San Damiano**	**0.04**	**339**	P	Pg	04 12 31.7	+0.3
DOI				S	Sg	04 12 32.7	-0.3
DOI				AML	AML		
	comp=E,1520μm,0.2s						
DOI				AML	AML		
	comp=N,1245μm,0.2s						
DOI				AML	AML		
	comp=E,1520μm,0.2s						
DOI				AML	AML		
	comp=N,1245μm,0.2s						
PZZ	**Stroppo**	**0.11**	**289**	P	Pg	04 12 32.9	+0.6
PZZ				S	Sg	04 12 34.7	+0.3
PZZ	**Stroppo**	**0.11**	**289**	P	Pb	04 12 32.9	-0.6
PZZ				S	Sg	04 12 34.8	+0.3
PZZ				AML	AML		
	comp=E,681μm,0.4s						
PZZ				AML	AML		
	comp=N,428μm,0.2s						
PZZ				AML	AML		
	comp=N,428μm,0.2s						
PZZ				AML	AML		
	comp=E,681μm,0.4s						
STV	**Sant Anna di V**	**0.23**	**169**	P	Pb	04 12 34.8	-0.7
STV				S	Sg	04 12 37.4	+0.2
STV	**Sant Anna di V**	**0.23**	**169**	P	Pb	04 12 34.8	-0.6
STV				S	Sg	04 12 37.8	+0.6
ENR	**Entracque**	**0.27**	**155**	P	Pb	04 12 35.4	-0.6
ENR				S	Sg	04 12 38.8	+0.4
ENR	**Entracque**	**0.27**	**155**	P	Pg	04 12 35.4	+0.7
ENR				S	Sg	04 12 38.9	+0.5
ENR				AML	AML		
	comp=E,201μm,0.1s						
ENR				AML	AML		
	comp=N,128μm,0.7s						
ENR				AML	AML		
	comp=E,201μm,0.1s						
ENR				AML	AML		
	comp=N,128μm,0.7s						
SURF	**Saint Ours**	**0.32**	**272**	Pg	Pb	04 12 36.8	-0.4
SURF				Sg	Sb	04 12 41.6	-0.8
ISO	**Isola**	**0.33**	**209**	Pg	Pb	04 12 36.7	-0.4
ISO				Sg	Sg	04 12 41.2	+1.0
BHB	**Bricherasio**	**0.37**	**360**	P	Pg	04 12 37.1	+0.5
BHB				S	Sg	04 12 41.6	0.0
BHB	**Bricherasio**	**0.37**	**360**	P	Pg	04 12 37.1	+0.5
BHB				S	Sg	04 12 41.9	+0.2
MBDF	**Montbardon**	**0.44**	**306**	*e*Pg	Pb	04 12 38.8	-0.2
MBDF				*e*Sg	Sb	04 12 44.7	-1.0
	comp=N,7.8nm,0.2s						
GBOS	**Grotte di Boss**	**0.47**	**119**	P	Pb	04 12 39.2	-0.4
GBOS				S	Sg	04 12 45.3	+0.7
OGAG	**Argentiere**	**0.52**	**269**	Pg	Pn	04 12 42.1	-0.6
OGAG				Sg	Sn	04 12 50.6	-0.9
SAOF	**Saorge**	**0.53**	**157**	Pg	Pb	04 12 40.4	0.0
SAOF				Sg	Sg	04 12 47.0	+0.6
RRL	**Rocca Remolon**	**0.56**	**323**	P	Pb	04 12 40.8	-0.5
RRL				S	Sb	04 12 48.7	-0.7
SBF	**Sospel**	**0.62**	**169**	*e*Pg	Pb	04 12 42.4	+0.3
SBF				*e*Sg	Sg	04 12 49.5	+0.1
	comp=N,4.2nm,0.2s						
ESCA	**l'Escarene**	**0.64**	**173**	Pg	Pb	04 12 42.1	-0.4
ESCA				Sg	Sb	04 12 51.4	-0.1
RORO	**Rocca Rossa**	**0.68**	**122**	P	Pb	04 12 42.7	-0.3
RORO				S	Sg	04 12 51.7	+0.5
NEGI	**Seborga**	**0.70**	**153**	P	Pb	04 12 43.5	+0.1
NEGI				S	Sg	04 12 52.2	+0.4
CALF	**Calern**	**0.76**	**199**	Pg	Pb	04 12 45.1	+0.6
CALF				Sg	Sb	04 12 55.2	+0.4
PCP	**Piancastagn**	**0.92**	**85**	P	Pb	04 12 47.4	+0.2
PCP				S	Sb	04 12 59.3	-0.1
FRF	**La Foret Royal**	**1.01**	**206**	*e*Pg	Pn	04 12 49.3	0.0
FRF				*e*Sg	Sb	04 13 02.7	+0.7
	comp=N,4.4nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.09**	**295**	*e*Pg	Pn	04 12 51.0	+0.5
ORIF				*e*Sg	Sn	04 13 05.1	-0.4
	comp=N,1.8nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.09**	**295**	Pg	Pn	04 12 51.0	+0.5
LPG	**La Plagne**	**1.09**	**341**	*e*Pg	Pn	04 12 51.0	+0.3
LPG				*e*Sg	Sb	04 13 05.1	+0.5
	comp=N,1.0nm,0.2s						
LPL	**La Plagne**	**1.11**	**340**	*e*Pg	Pn	04 12 51.2	+0.2
LPL				*e*Sg	Sg	04 13 05.1	-0.1
	comp=N,1.6nm,0.3s						
LMR	**La Mourre**	**1.26**	**206**	*e*Pg	Pg	04 12 54.0	+0.6
LMR				*e*Sg	Sg	04 13 10.3	+0.5
	comp=N,4.1nm,0.2s						
SMRF	**Simiane la Rot**	**1.31**	**249**	*e*Pg	Pg	04 12 54.8	+0.4
SMRF				*e*Sg	Sg	04 13 12.3	+0.9
	comp=N,2.2nm,0.4s						
ARTF	**Artigues**	**1.37**	**231**	Pg	Pg	04 12 56.5	+0.9

*TIR **28** 04:14:01.6,38.15N×22.29E,h7km,Md4.0/7*
*ATH **28** 04:14:06.8,38.32N×22.16E,h12km±1km,ML3.6/14,Error*
ellipse: s-maj=1.6km s-min=0.6km az=299.0
*THE **28** 04:14:06.7,38.33N×22.17E,h11km±1km,ML3.6/7,Error*
ellipse: s-maj=1.0km s-min=0.4km az=344.0
*ISCJB **28** 04:14:06.9±0.2,38.35N±0.01×22.14E±0.02,h17km±1km,*
mb3.8/13,MS3.9/1,Error ellipse: s-maj=2.5km
s-min=2.0km az=36.1
*IDC **28** 04:14:10.6±3.1,38.41N×22.25E,h32km±24km,mb3.7/14,*
mb1 3.7/20,mb1mx3.6/36,mbtmp3.8/20,ML3.5/6,MS4.0/1,
Ms1 4.0/1,ms1mx2.9/44,Error ellipse: s-maj=14.8km
s-min=12.7km az=65.0
*PDG **28** 04:14:16.0±0.3,38.81N×22.12E,h12km±7km,ML4.1/12,*
Error ellipse: s-maj=7.6km s-min=2.2km az=90.0
ISC 28 04:14:06.9±0.7**,38.33N**±0.02×**22.17E**±0.01**, h9**km±4km,
n171,σ1s20/216, mb3.8/13, 23C-10D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.07**	**338**	P	**Pg**	**04 14 08.9**	**-0.1**
KALE				S	**Sg**	**04 14 10.6**	**0.0**
KALE				AML	AML	04 14 10.9	
KALE				AML	AML	04 14 11.9	
KALE	**Kalithea**	**0.07**	**338**	P	**Pg**	**04 14 08.9**	**-0.1**
ALIK	**Aliki, Aigiali**	**0.08**	**214**	P	**Pg**	**04 14 09.3**	**+0.2**
ALIK				S	**Sg**	**04 14 11.3**	**+0.6**
TRIZ	**Trizonia**	**0.09**	**295**	P	**Pg**	**04 14 09.0**	**-0.1**
TRIZ				S	**Sg**	**04 14 11.1**	**+0.3**
TRIZ	**Trizonia**	**0.09**	**295**	P	**Pg**	**04 14 09.0**	**-0.1**
TRIZ				S	**Sg**	**04 14 11.1**	**+0.3**
SERG	**Sergoula**	**0.12**	**313**	P	**Pg**	**04 14 09.6**	**-0.1**
SERG				S	**Sg**	**04 14 11.8**	**0.0**
SERG				AML	AML	04 14 12.3	
SERG				AML	AML	04 14 12.6	
SERG	**Sergoula**	**0.12**	**313**	P	**Pg**	**04 14 09.6**	**-0.1**
LAKA	**Lakka**	**0.18**	**239**	P	**Pg**	**04 14 10.7**	**+0.1**
LAKA				S	**Sg**	**04 14 13.5**	**+0.4**
LAKA				AML	AML	04 14 14.1	
	comp=E,50787μm,0.3s						
LAKA				AML	AML	04 14 14.1	
	comp=N,48870μm,0.3s						
EFP	**Efpalio**	**0.23**	**295**	P	**Pg**	**04 14 11.4**	**-0.1**
EFP				S	**Sg**	**04 14 15.3**	**+0.6**
EFP				AML	AML	04 14 15.7	
	comp=E,71380μm,0.3s						
EFP				AML	AML	04 14 15.7	
	comp=N,92930μm,0.3s						
EFP	**Efpalio**	**0.23**	**295**	P	**Pg**	**04 14 11.3**	**-0.3**
EFP				S	**Sg**	**04 14 15.1**	**+0.4**
KLV	**Kalavryta, Ach**	**0.29**	**183**	P	**Pg**	**04 14 12.5**	**-0.2**
KLV				S	**Sg**	**04 14 16.9**	**+0.4**
KLV				AML	AML	04 14 17.2	
	comp=N,12930μm,0.3s						
KLV				AML	AML	04 14 24.3	
	comp=E,16268μm,0.5s						
KLV	**Kalavryta, Ach**	**0.29**	**183**	P	**Pg**	**04 14 12.4**	**-0.2**
KLV				S	**Sg**	**04 14 16.6**	**+0.1**
DSF	**Desfina**	**0.29**	**74**	P	**Pg**	**04 14 12.7**	**0.0**
DSF				S	**Sg**	**04 14 17.5**	**+0.8**
DSF				AML	AML	04 14 19.3	
	comp=N,14852μm,0.2s						
DSF				AML	AML	04 14 21.4	
	comp=E,19524μm,0.3s						
DSF	**Desfina**	**0.29**	**74**	P	**Pg**	**04 14 12.5**	**-0.2**
DSF				S	**Sg**	**04 14 17.5**	**+0.8**
DLFA	**Delphi**	**0.29**	**60**	P	**Pb**	**04 14 13.6**	**-0.8**
DLFA				S	**Sb**	**04 14 18.3**	**-1.1**
DLFA				AML	AML	04 14 22.9	
	comp=E,17054μm,0.5s						
DLFA				AML	AML	04 14 23.3	
	comp=N,19559μm,0.5s						
UPR	**University Cam**	**0.31**	**261**	P	**Pg**	**04 14 13.2**	**+0.2**
UPR	**University Cam**	**0.31**	**261**	P	**Pg**	**04 14 13.1**	**+0.2**
UPR				S	**Sg**	**04 14 17.9**	**+0.8**
ANX	**Ano Chora**	**0.33**	**323**	P	**Pg**	**04 14 13.2**	**-0.2**
ANX				S	**Sg**	**04 14 18.6**	**+0.8**
ANX				AML	AML	04 14 20.6	
	comp=E,55921μm,0.2s						
ANX				AML	AML	04 14 22.6	
	comp=N,67752μm,0.4s						
ANX	**Ano Chora**	**0.33**	**323**	P	**Pg**	**04 14 13.1**	**-0.4**
GUR	**Goura**	**0.41**	**161**	P	**Pg**	**04 14 14.8**	**-0.2**
GUR	**Goura**	**0.41**	**161**	P	**Pg**	**04 14 14.6**	**-0.4**
GUR				S	**Sg**	**04 14 20.8**	**+0.3**
DRO	**Drossia**	**0.52**	**224**	P	**Pg**	**04 14 16.7**	**-0.3**
PROD	**Prodromos**	**0.58**	**97**	P	**Pb**	**04 14 18.9**	**-0.2**
PVO	**Paravola**	**0.58**	**300**	P	**Pg**	**04 14 18.6**	**+0.4**
PVO				S	**Sb**	**04 14 26.7**	**-0.9**
PVO				AML	AML	04 14 29.7	
	comp=E,11280μm,0.3s						
PVO				AML	AML	04 14 30.9	
	comp=N,10145μm,0.3s						
PVO	**Paravola**	**0.58**	**300**	P	**Pg**	**04 14 17.8**	**-0.4**
RLS	**Riolos of Patr**	**0.62**	**244**	P	**Pg**	**04 14 18.5**	**-0.3**
RLS				S	**Sb**	**04 14 28.5**	**-0.1**
RLS				AML	AML	04 14 30.9	
	comp=E,12646μm,0.2s						
RLS				AML	AML	04 14 31.0	
	comp=N,10913μm,0.2s						
AXS	**Araxos**	**0.64**	**258**	P	**Pg**	**04 14 19.3**	**0.0**
AXS	**Araxos**	**0.64**	**258**	P	**Pg**	**04 14 19.1**	**-0.1**
AXS				S	**Sg**	**04 14 28.0**	**+0.4**
EVR	**Evrytania**	**0.65**	**334**	P	**Pg**	**04 14 19.1**	**-0.4**
EVR				S	**Sb**	**04 14 29.0**	**-0.7**
EVR				AML	AML	04 14 32.0	
	comp=E,37799μm,0.4s						
EVR				AML	AML	04 14 32.5	
	comp=N,27434μm,0.4s						
MAKR	**Makrakomi, Fth**	**0.68**	**357**	P	**Pg**	**04 14 20.1**	**0.0**
MAKR				S	**Sb**	**04 14 30.2**	**-0.4**
LTK	**Loutraki**	**0.70**	**116**	P	**Pg**	**04 14 20.4**	**+0.1**
AGG	**Agios Georgios**	**0.70**	**10**	P	**Pg**	**04 14 20.1**	**-0.3**
LOUT	**Loutraki**	**0.72**	**118**	P	**Pg**	**04 14 20.7**	**-0.1**
ATAL	**Atalanti**	**0.76**	**61**	P	**Pg**	**04 14 21.1**	**-0.4**
ATAL				S	**Sb**	**04 14 32.2**	**-0.5**
ATAL				AML	AML	04 14 36.8	
	comp=N,6392μm,0.6s						
ATAL				AML	AML	04 14 39.8	
	comp=E,3648μm,0.5s						
TRIP	**Tripoli**	**0.81**	**174**	P	**Pg**	**04 14 21.7**	**-0.7**
VIL2	**Platees**	**0.87**	**97**	P	**Pn**	**04 14 24.7**	**-0.6**
AMT	**Artemida-Makis**	**0.88**	**205**	P	**Pg**	**04 14 23.4**	**-0.4**
AMT	**Artemida-Makis**	**0.88**	**205**	P	**Pg**	**04 14 22.9**	**-0.8**
AMT				S	**Sb**	**04 14 36.1**	**0.0**
VTN	**Vitineika**	**0.88**	**242**	P	**Pb**	**04 14 24.1**	**-0.2**
VLX	**Vlachokerasia**	**0.97**	**170**	P	**Pg**	**04 14 24.8**	**-0.8**
SMIA	**Simia**	**0.98**	**56**	P	**Pg**	**04 14 25.8**	**0.0**
SMIA				S	**Sn**	**04 14 40.0**	**-0.9**
SMIA				AML	AML	04 14 44.9	
	comp=E,13816μm,0.4s						
SMIA				AML	AML	04 14 45.9	
	comp=N,13123μm,0.5s						
ITM	**Ithomi**	**1.16**	**190**	P	**Pb**	**04 14 28.0**	**-1.1**
MRKA	**Markates**	**1.17**	**71**	P	**Pg**	**04 14 29.3**	**-0.1**
DID	**Didima**	**1.18**	**134**	P	**Pb**	**04 14 29.0**	**-0.4**
KRND	**KRANIDI**	**1.22**	**140**	P	**Pn**	**04 14 30.0**	**-0.1**
EVGI	**Lefkada island**	**1.22**	**284**	P	**Pg**	**04 14 30.9**	**+0.5**
FYTO	**Fytoko, Volos**	**1.23**	**29**	P	**Pn**	**04 14 30.1**	**-0.2**
THL	**Klokotos Trika**	**1.24**	**354**	P	**Pg**	**04 14 31.0**	**+0.3**
VLS	**Valsamata**	**1.25**	**264**	P	**Pn**	**04 14 29.6**	**-1.0**
ATH	**Athens Observa**	**1.27**	**106**	P	**Pg**	**04 14 31.1**	**-0.1**
LKD2	**Lefkada island**	**1.27**	**292**	*i* PN	**Pn**	**04 14 30.4**	**-0.5**
LKD2				*i* SN	**Sn**	**04 14 49.9**	**+1.8**
NEO	**Neokhori**	**1.28**	**40**	P	**Pn**	**04 14 30.8**	**-0.2**
XOR	**Xorichti**	**1.31**	**37**	P	**Pn**	**04 14 31.2**	**-0.1**
SKIA	**Skiathos**	**1.31**	**50**	P	**Pb**	**04 14 31.5**	**-0.2**
LRSO	**Larissa Observ**	**1.35**	**7**	P	**Pb**	**04 14 32.4**	**+0.1**
PTL	**Penteli**	**1.36**	**101**	P	**Pb**	**04 14 32.6**	**0.0**
PTL				S	**Sg**	**04 14 50.7**	**-0.1**
PTL				AML	AML	04 14 56.9	
	comp=E,3076μm,0.8s						
PTL				AML	AML	04 14 58.4	
	comp=N,3118μm,0.6s						
VLY	**Voula,Athens**	**1.37**	**110**	P	**Pb**	**04 14 32.3**	**-0.3**
EREA	**Eretria**	**1.39**	**86**	P	**Pb**	**04 14 32.7**	**-0.3**
DION	**Dionisos Attik**	**1.41**	**100**	P	**Pb**	**04 14 33.3**	**-0.1**
YDRA	**Hydra**	**1.42**	**133**	P	**Pg**	**04 14 34.6**	**+0.6**
PYL	**PYLOS**	**1.47**	**194**	P	**Pn**	**04 14 33.8**	**+0.3**
VLI	**Veliai**	**1.72**	**159**	P	**Pn**	**04 14 37.3**	**+0.3**
KPRO	**Kipourio**	**1.74**	**339**	P	**Pb**	**04 14 39.0**	**0.0**
IGT	**Igoumenitsa**	**1.87**	**311**	*i* PN	**Pg**	**04 14 42.2**	**-0.5**
IGT				*i* SN	**Sg**	**04 15 11.2**	**+4.2**
KZN	**Kozani**	**2.00**	**351**	P	**Pn**	**04 14 41.9**	**+1.0**
KYTH	**Kithira**	**2.18**	**161**	P	**Pn**	**04 14 44.7**	**+1.5**
TPE	**Tepelena**	**2.58**	**320**	*i* PN	**Pb**	**04 14 53.1**	**-0.2**
BIA	**Bitola**	**2.77**	**347**	*e*Pn	**Pn**	**04 14 52.2**	**+0.8**
APE	**Apeiranthos**	**2.95**	**114**‖	*j*P	**Pn**	**04 14 54.5**	**+0.6**
APE	**Apeiranthos**	**2.95**	**114**	S	**Sn**	**04 15 27.6**	**-1.8**
VLO	**Vlora**	**2.98**	**317**	*i* PN	**Pb**	**04 14 57.4**	**-2.6**
VAY	**Valandovo**	**3.00**	**6**	*e*Pn	**Pn**	**04 14 54.0**	**-0.7**
KRUS	**Krusevo**	**3.12**	**347**	*i* Pn	**Pn**	**04 14 57.4**	**+1.1**
STIP	**Stip**	**3.36**	**0**	*i* Pn	**Pn**	**04 14 59.8**	**+0.3**
MMB	**Musomiste**	**3.47**	**20**	*e*P	**Pn**	**04 15 01.3**	**+0.2**
TIR	**Tirane**	**3.50**	**330**⇑	*i*P	**Pn**	**04 15 04.3**	**+2.9**
TIR	**Tirane**	**3.50**	**330**	*i* PN	**Pb**	**04 15 05.2**	**-3.8**
KKB	**Krupnik**	**3.60**	**11**	*e*Pn	**Pn**	**04 15 03.6**	**+0.7**
SKO	**Skopje**	**3.68**	**351**	*e*Pn	**Pn**	**04 15 06.5**	**+2.5**
IDI	**Anoyia**	**3.74**	**143**	Pn	**Pn**	**04 15 05.6**	**+0.8**
	comp=N,1.6nm,0.3s,baz=336,slow=11,SNR=37						
IDI				Sn	**Sn**	**04 15 45.4**	**-3.6**
	comp=N,3.7nm,0.3s,baz=319,slow=20,SNR=2.4						
IDI	**Anoyia**	**3.74**	**143**⇑	*i*P	**Pn**	**04 15 05.4**	**+0.6**
IDI	**Anoyia**	**3.74**	**143**	S	**Sn**	**04 15 48.0**	**-1.0**
RZN	**Rozhen**	**3.88**	**29**	*e*P	**Pn**	**04 15 08.9**	**+2.0**
ULC	**Ulcinj**	**4.27**	**329**⇑	*i*Pn	**Pn**	**04 15 14.8**	**+2.8**
ULC				*i* Sn	**Sn**	**04 16 00.8**	**-1.1**
CGL1	**Ceglie Messapi**	**4.31**	**304**	*e*Pn	**Pn**	**04 15 14.7**	**+2.1**
TIP	**Timpagrande**	**4.32**	**283**‖	*j*P	**Pn**	**04 15 14.7**	**+2.0**
TIP	**Timpagrande**	**4.32**	**283**	S	**Sn**	**04 16 05.7**	**+2.5**
VTS	**Vitosha**	**4.33**	**10**‖	*j*P	**Pn**	**04 15 14.6**	**+1.6**
VTS	**Vitosha**	**4.33**	**10**	S	**Sn**	**04 16 06.0**	**+2.3**
VTS	**Vitosha**	**4.33**	**10**	*e*P	**Pn**	**04 15 14.9**	**+1.9**
TAR1	**Taranto**	**4.37**	**302**	*e*Pn	**Pn**	**04 15 14.9**	**+1.5**
DRME	**Dracevica, Mon**	**4.48**	**330**‖	*j*Pn	**Pn**	**04 15 16.5**	**+1.5**
DRME				*i* Sn	**Sn**	**04 16 05.8**	**-1.3**
DRME	**Dracevica, Mon**	**4.48**	**330**	*e*Pn	**Pn**	**04 15 16.4**	**+1.5**
MASS	**Massafra**	**4.52**	**302**	*e*Pn	**Pn**	**04 15 16.6**	**+1.1**
PDG	**Podgorica**	**4.66**	**332**⇑	*i*P	**Pn**	**04 15 19.3**	**+1.9**
PDG	**Podgorica**	**4.66**	**332**	*e*Pn	**Pn**	**04 15 19.6**	**+2.2**
TTG	**Podgorica**	**4.66**	**332**‖	*j*Pn	**Pn**	**04 15 19.3**	**+1.9**
TTG				*i* Sn	**Sn**	**04 16 10.5**	**-1.1**
BUM	**Brajici-Budva**	**4.69**	**329**‖	*j*Pn	**Pn**	**04 15 19.1**	**+1.2**
BUM				*i* Sn	**Sn**	**04 16 11.3**	**-1.1**
MATE	**Matera**	**4.82**	**300**⇑	*i*P	**Pn**	**04 15 20.8**	**+1.2**
IVA	**Berane**	**4.86**	**340**‖	*j*Pn	**Pn**	**04 15 22.9**	**+2.7**
IVA				*i* Sn	**Sn**	**04 16 14.3**	**-2.3**
SG1	**Sgolgore (BA)**	**4.93**	**302**	*e*Pn	**Pn**	**04 15 22.5**	**+1.4**
SG1				Sn	**Sn**	**04 16 17.8**	**-0.4**
BAI	**Bari**	**4.93**	**306**	*e*Pn	**Pn**	**04 15 22.7**	**+1.6**
KOME	**Kolasin**	**4.95**

comp=N,0.7nm,0.3s,baz=306,slow=10,SNR=2.4
FETA Feichten 12.09 320 *e*Pn **Pn 04 17 01.4 +2.1**
comp=N,1.1nm,0.8s
MOTA Moosalm 12.12 322 *e*Pn **Pn 04 17 00.8 +1.0**
comp=N,3.6nm,0.9s
GERES GERESS Array B 12.16 332 Pn **Pn 04 17 02.0 +1.7**
comp=N,0.1nm,0.3s,baz=154,slow=16,SNR=3.7
GERES Sn **Sn 04 19 14.7 -1.4**
comp=N,0.1nm,0.3s,baz=155,slow=19,SNR=3.0
DAVOX Davos/Dischmat 12.38 317 Pn **Pn 04 17 03.9 +0.6**
comp=N,0.1nm,0.3s,baz=162,slow=20,SNR=3.2
DAVOX Sn **Sn 04 19 21.4 0.0**
comp=N,0.1nm,0.3s,baz=335,slow=18,SNR=3.7
ESDC Sonseca Array 20.34 282 P Pn 04 18 44.9 -0.6
comp=N,3.4nm,0.7s,baz=79,slow=11,SNR=15
HFS Hagfors 22.48 349 P **P 04 19 04.5 -1.7**
comp=N,1.7nm,0.5s,baz=155,slow=11,SNR=7.9
FINES FINESS Array B 23.27 5 P **P 04 19 12.3 -2.1**
comp=N,0.7nm,0.5s,baz=179,slow=7.8,SNR=3.9
FINES PcP **PcP 04 23 01.6 -0.1**
comp=N,2.7nm,1.1s,baz=172,slow=3.9,SNR=4.4
NB2 NORSAR Subarra 23.75 347 P **P 04 19 18.3 -0.9**
comp=Z,0.6nm,0.5s,baz=159,slow=9.3
NOA NORSAR Array B 23.75 347 P **P 04 19 18.4 -0.8**
comp=Z,0.7nm,0.8s,baz=138,slow=22,SNR=6.6
EKA Eskdalemuir Ar 24.07 323 P **P 04 19 23.1 +0.8**
comp=Z,5.6nm,0.9s,baz=121,slow=9.0,SNR=5.8
TORD Torodi Ar. Bea 30.98 221 P **P 04 20 26.1 +1.5**
comp=Z,0.9nm,0.7s,baz=31,slow=8.5,SNR=10
ARCES ARCESS Array B 31.32 2 P **P 04 20 26.6 -0.5**
comp=Z,1.6nm,0.8s,baz=186,slow=8.2,SNR=6.4
ARCES LR LR 04 35 04.0
comp=Z,228nm,18.2s,baz=270,slow=40
DBIC Dimbokro 39.90 225 P **P 04 21 42.3 +1.1**
comp=Z,0.8nm,0.5s,baz=38,slow=12,SNR=2.3
MKAR Makanchi Array 44.11 59 P **P 04 22 15.2 -0.2**
comp=Z,2.4nm,0.4s,baz=274,slow=7.3,SNR=88
ZALV Zalesovo Beam 44.62 48 P **P 04 22 18.8 -0.5**
comp=Z,2.2nm,0.6s,baz=269,slow=9.0,SNR=9.9
SCHQ Schefferville 59.23 318 P **P 04 24 08.4 +0.2**
comp=Z,3.6nm,1.0s,baz=84,slow=9.2,SNR=3.8
SONM Songino Array 59.35 51 P **P 04 24 09.2 -0.2**
comp=Z,0.4nm,0.5s,baz=286,slow=6.9,SNR=5.1
BOSA Boshof 66.66 177 P **P 04 24 59.0 +1.0**
comp=Z,1.2nm,0.6s,baz=333,slow=2.3,SNR=3.6
YKA Yellowknife Ar 73.68 341 P **P 04 25 40.4 -0.1**
comp=Z,0.2nm,0.6s,baz=50,slow=6.9,SNR=6.5
WRA Warramunga Arr 119.25 93 PKP **PKPdf 04 32 55.9 -0.9**
comp=Z,0.6nm,1.1s,baz=325,slow=1.8,SNR=3.3
ASAR Alice Springs 120.90 97 PKP **PKPdf 04 32 58.6 -1.3**
comp=Z,0.2nm,0.4s,baz=313,slow=1.5,SNR=3.7

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*IDC **28** 04:32:34.8±1.1,25.°72N×125.°53E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.4/45, mbtmp3.4/6, MS2.7/2, Ms1 2.7/2, ms1mx2.5/28, Error ellipse: s-maj=48.4km s-min=24.0km az=76.0*
*JMA **28** 04:32:35.2±0.2, 25.°78N×125.°30E, h19km±3km, M3.4*
*ISCJB **28** 04:32:36.4±1.3, 25.°72N±0.°07×125.°34E±0.°09, h24km±11km, mb3.3/6, Error ellipse: s-maj=16.2km s-min=6.8km az=41.6*
ISC 28 04:32:35.5±2.5, 25.°67N±0.°06×125.°37E±0.°07, h7km±16km, n19, σ0°77/24, mb3.5/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.75**	**188**	P		**Pb**		**04 32 51.3**	**+0.4**
JIKM				S		**Sn**		**04 33 03.0**	**-1.1**
JMJ	**Miyako jima 2**	**0.85**	**184**	P		**Pb**		**04 32 52.7**	**+0.1**
JMJ				*e*S		**Sb**		**04 33 05.5**	**+1.2**
JIRB	**Irabujima**	**0.86**	**192**	P		**Pb**		**04 32 52.7**	**0.0**
JIRB				*e*S		**Sb**		**04 33 04.9**	**+0.6**
JOGS	**Gusukube**	**0.91**	**178**	P		**Pn**		**04 32 54.1**	**-0.6**
JOGS				*e*S		**Sn**		**04 33 07.5**	**-0.5**
JTJ	**Tarama**	**1.19**	**211**	P		**Pb**		**04 32 58.2**	**-0.1**
JTJ				*e*S		**Sg**		**04 33 13.5**	**-0.2**
JKE	**Kume jima 2**	**1.44**	**63**	P		**Pn**		**04 33 00.6**	**-1.4**
JISG	**Ishigakijimahi**	**1.44**	**222**	P		**Pn**		**04 33 01.2**	**-0.8**
JISG				*e*S		**Sb**		**04 33 20.7**	**-0.5**
JIJ	**Ishigaki jima**	**1.71**	**221**	P		**Pn**		**04 33 05.0**	**-0.7**
JIJ				S		**Sn**		**04 33 26.7**	**-1.1**
JKRS	**Kuro-shima**	**1.88**	**221**	P		**Pn**		**04 33 07.6**	**-0.5**
JAGN	**Aguni-jima**	**1.92**	**61**	P		**Pn**		**04 33 08.2**	**-0.4**
IRIF	**Iriomote-Funau**	**1.99**	**228**	P		**Pn**		**04 33 09.4**	**-0.2**
JNU	**Nakatsue**	**8.85**	**32**	LR		LR		04 38 24.2	
	comp=Z,73nm,21.5s,baz=281,slow=40								
KSRS	**Korea Array**	**11.95**	**10**	LR		LR		04 40 44.7	
	comp=Z,29nm,18.0s,baz=345,slow=41								
SONM	**Songino Array**	**26.70**	**331**	P		**P**		**04 38 16.6**	**+1.1**
	0.5nm,0.7s,baz=148,slow=8.5,SNR=4.1								
MKAR	**Makanchi Array**	**46.01**	**313**	P		**P**		**04 40 11.4**	**+0.5**
	0.2nm,0.5s,baz=100,slow=10,SNR=2.6								
WRA	**Warramunga Arr**	**46.17**	**168**	P		**P**		**04 41 01.2**	**+0.2**
	0.3nm,0.6s,baz=350,slow=8.8,SNR=2.3								
ASAR	**Alice Springs**	**49.74**	**170**	P		**P**		**04 41 29.4**	**+0.7**
	0.2nm,0.4s,baz=355,slow=9.3,SNR=1.3								
ILAR	**Eielson Array**	**66.14**	**28**	P		**P**		**04 43 23.8**	**+0.5**
	0.2nm,0.6s,baz=283,slow=5.4,SNR=1.3								
YKA	**Yellowknife Ar**	**80.10**	**24**	P		**P**		**04 44 45.0**	**-0.8**
	0.5nm,0.6s,baz=298,slow=5.6,SNR=10								

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*IDC **28** 04:36:44.2±3.1, 54.°07N×162.°69W, h0km, mb3.8/9, mb1 3.9/12, mb1mx3.6/64, mbtmp3.7/12, ML3.4/3, Error ellipse: s-maj=76.7km s-min=20.2km az=161.0*
*NEIC **28** 04:36:48.8±0.0, 54.°14N×162.°53W, h10km, ML3.2(AEIC), After AEIC.*
ISC 28 04:36:44.9±1.8, 53.°99N±0.°07×162.°42W±0.°05, h8km±10km, n42, σ2°14/46, mb4.0/9, South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DRIA	**Deer Island**	**0.98**	**5**	P		**Pb**		**04 37 04.7**	**+0.5**
FALS	**False Pass**	**1.05**	**327**	P		**Pn**		**04 37 05.8**	**0.0**
FALS				S		**Sn**		**04 37 18.9**	**-1.6**
DT1	**Dutton Round H**	**1.12**	**4**	P		**Pg**		**04 37 06.9**	**+0.3**
DT1				S		**Sb**		**04 37 20.7**	**-0.6**
DOL	**Dolgoi Island**	**1.21**	**15**	P		**Pb**		**04 37 08.4**	**+0.4**
SSLN	**Shishaldin Nor**	**1.24**	**313**	P		**Pn**		**04 37 09.8**	**+1.4**
SSBA	**Shishaldin**	**1.27**	**309**	P		**Pn**		**04 37 09.6**	**+0.7**
SSBA				S		**Sn**		**04 37 25.2**	**-1.0**
PS4A	**Pavlof South-4**	**1.40**	**13**	P		**Pg**		**04 37 11.9**	**+0.2**
PVV	**Pavlof Volcano**	**1.44**	**15**	P		**Pg**		**04 37 12.8**	**+0.3**
PVV				S		**Sn**		**04 37 30.6**	**+0.3**
WESP	**Westdahl Peak**	**1.44**	**292**	P		**Pb**		**04 37 12.7**	**+0.7**
WESP				S		**Sn**		**04 37 30.7**	**+0.3**
SDPT	**Sand Point**	**1.77**	**39**	P		**Pn**		**04 37 18.2**	**+2.4**
SDPT				S		**Sn**		**04 37 40.1**	**+1.6**
AKSA	**Akutan Strait**	**1.94**	**276**	P		**Pb**		**04 37 19.6**	**-0.8**
AKSA				S		**Sg**		**04 37 44.3**	**-2.7**
AKLV	**Akutan Long Va**	**2.09**	**276**	P		**Pb**		**04 37 22.1**	**-0.9**
AKLV				S		**Sb**		**04 37 48.1**	**-1.0**
AKMO	**Akutan Morgan**	**2.12**	**274**	P		**Pn**		**04 37 22.9**	**-0.5**
UNV	**Unalaska Valle**	**2.42**	**268**	P		**Pn**		**04 37 26.9**	**+2.3**
MTBL	**Makushin Table**	**2.51**	**271**	P		**Pb**		**04 37 28.9**	**-1.3**
VNSS	**Veniaminof 8**	**2.82**	**36**	P		**Pn**		**04 37 33.9**	**+3.6**
VNFG	**Veniaminof 2**	**2.83**	**34**	P		**Pn**		**04 37 34.2**	**+3.8**
CHGN	**Chignik**	**3.27**	**43**	P		**Pn**		**04 37 39.3**	**+3.0**
OKTU	**Okmok Mt. Tuli**	**3.40**	**262**	P		**Pn**		**04 37 41.8**	**+3.6**
ANPB	**Aniakchak Plen**	**3.68**	**38**	P		**Pn**		**04 37 44.9**	**+2.9**
ANPK	**Aniakchak Peak**	**3.77**	**39**	P		**Pn**		**04 37 46.2**	**+3.0**
KDAK	**Kodiak Island**	**6.71**	**52**	Pn		**Pn**		**04 38 24.4**	**+0.8**
	0.6nm,0.3s,baz=192,slow=4.8,SNR=16								
KDAK						**Sn**		**04 39 34.5**	**-5.6**
	baz=324,slow=14,SNR=3.5								
KDAK	**Kodiak Island**	**6.71**	**52**	Pn		**Pn**		**04 38 25.6**	**+2.0**
KDAK				Sn		**Sn**		**04 39 34.5**	**-5.6**
ADK	**Adak**	**8.87**	**262**	*e*Pn		**Pn**		**04 38 57.2**	**+4.0**
ILAR	**Eielson Array**	**13.35**	**30**	Pn		**Pn**		**04 39 52.9**	**-1.5**
	0.1nm,0.3s,baz=210,slow=13,SNR=7.1								
INK	**Inuvik**	**19.72**	**32**	P		**P**		**04 41 13.6**	**-0.8**
	0.2nm,0.3s,baz=229,slow=12,SNR=7.1								
INK	**Inuvik**	**19.72**	**32**	*e*P		**P**		**04 41 13.9**	**-0.4**
PETK	**Petropavlovsk-**	**23.50**	**284**	P		**P**		**04 41 54.6**	**-0.2**
	2.1nm,0.4s,baz=87,slow=12,SNR=5.3								
YKA	**Yellowknife Ar**	**25.99**	**52**	P		**P**		**04 42 19.5**	**+1.9**
	0.3nm,0.4s,baz=271,slow=9.2,SNR=20								
H11N2	**WAKE ISLAND Hy 41.47 227**			T		T		05 28 54.5	
	baz=26,slow=76,SNR=77								
H11N3	**WAKE ISLAND Hy 41.48 227**			T		T		05 28 55.2	
	baz=26,slow=76,SNR=76								
H11N1	**WAKE ISLAND Hy 41.49 227**			T		T		05 29 01.3	
	baz=26,slow=76,SNR=30								
H11S1	**WAKE ISLAND Hy 42.64 226**			T		T		05 30 30.5	
	baz=26,slow=76,SNR=64								
H11S2	**WAKE ISLAND Hy 42.66 226**			T		T		05 30 31.6	
	baz=26,slow=76,SNR=58								
H11S3	**WAKE ISLAND Hy 42.66 226**			T		T		05 30 29.9	
	baz=26,slow=76,SNR=40								
BVAR	**Borovoye Array 64.69 328**			P		**P**		**04 47 23.1**	**+0.2**
	0.9nm,0.6s,baz=28,slow=3.5,SNR=5.3								
FINES	**FINESS Array B 64.72 355**			P		**P**		**04 47 22.1**	**-0.7**
	4.6nm,1.1s,baz=26,slow=9.1,SNR=3.4								
NOA	**NORSAR Array B 65.21 3**			P		**P**		**04 47 26.0**	**-0.2**
	0.9nm,0.9s,baz=352,slow=7.3,SNR=2.4								
MKAR	**Makanchi Array 65.60 317**			P		**P**		**04 47 28.2**	**-0.8**
	0.3nm,0.7s,baz=43,slow=6.4,SNR=3.4								
HFS	**Hagfors 66.19 2**			P		**P**		**04 47 31.8**	**-0.6**
	4.6nm,1.0s,baz=49,slow=4.5,SNR=6.9								
GERES	**GERESS Array B 77.49 3**			P		**P**		**04 48 41.1**	**+0.5**
	0.5nm,0.8s,baz=311,slow=7.7,SNR=3.3								
BRTR	**Keskin Array B 85.64 348**			P		**P**		**04 49 24.4**	**+0.5**
	0.4nm,0.8s,baz=19,slow=9.2,SNR=3.0								

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*SKHL **28** 04:57:01.9±0.4, 53.°29N×142.°63E, h10km, mb4.3/6, Ms3.8/4*
SKHL Felt (II-III) at Moskal'vo, Okha.
*ISCJB **28** 04:57:03.0±0.6, 53.°26N±0.°03×142.°63E±0.°05, h13km±4km, mb3.9/11, Error ellipse: s-maj=4.8km s-min=4.2km az=34.1*
*MOS **28** 04:57:02.0±1.6, 53.°29N×142.°71E, h9km, mb4.2/7, Error ellipse: s-maj=13.6km s-min=7.2km az=80.5*
MOS Felt (II-III) Moskal'vo, Okha.
*IDC **28** 04:57:04.6±1.5, 53.°50N×142.°51E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.6/54, mbtmp3.7/10, ML2.9/2, MS2.7/1, Ms1 2.7/1, ms1mx2.3/51, Error ellipse: s-maj=39.8km s-min=17.7km az=161.0*
ISC 28 04:57:05.0±1.0, 53.°30N±0.°03×142.°67E±0.°04, h11km±7km, n36, σ1°68/42, mb3.9/11, 5C-5D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**0.30**	**31**	↓*i* Pg		**Pg**		**04 57 10.5**	**-0.5**
OKH					AMB	AMB		04 57 10.8	
	6μm,0.4s								
OKH				*i* Sg		**Sg**		**04 57 16.3**	**+1.3**
OKH				A		A		04 57 16.8	
	23μm,0.4s								
OKH				A		A		04 57 16.8	
	18μm,0.4s								
OKH	**Okha**	**0.30**	**31**	↓*i* PN		**Pg**		**04 57 10.5**	**-0.5**
OKH				*i* S		**Sg**		**04 57 15.8**	**+0.8**
OKH				pmax		pmax			
	comp=Z,6.0nm,0.3s								
OKH				smax		smax			
	comp=N,21nm,0.6s								
OKH				smax		smax			
	comp=E,14nm,0.6s								
NKL	**Nikolayevsk**	**1.21**	**264**	*i* Pg		**Pb**		**04 57 26.2**	**-1.6**
	comp=Z,30nm,0.3s,comp=E,20nm,0.3s								
NKL					AMB	AMB		04 57 27.3	
	comp=E,60nm,0.3s								
NKL					AMB	AMB		04 57 27.3	
	comp=E,170nm,0.3s								
NKL					AMB	AMB		04 57 27.3	
	comp=E,240nm,0.3s								
NKL				*e*Sg		**Sn**		**04 57 43.5**	**-0.6**
NKL				A		A		04 57 45.0	
	comp=E,2μm,0.5s								
NKL					AMS	AMS		04 58 17.0	
	comp=E,1μm,5.0s								
NKL					AMS	AMS		04 58 17.0	
	comp=E,900nm,5.0s								
NKL	**Nikolayevsk**	**1.21**	**264**	*i* PN		**Pb**		**04 57 26.2**	**-1.6**
NKL				*e*S		**Sn**		**04 57 43.5**	**-0.6**
NKL				pmax		pmax			
	comp=N,60nm,0.3s								
NKL				pmax		pmax			
	comp=E,170nm,0.3s								
NKL				pmax		pmax			
	comp=Z,240nm,0.3s								
NKL				smax		smax			
	comp=N,2μm,0.5s								
TYV	**Tymovskoe**	**2.44**	**180**	*e*Pb		**Pn**		**04 57 44.8**	**+0.1**
TYV					AMB	AMB		04 57 45.0	
	comp=N,33nm,0.5s								
TYV				*e*Pg		**Pg**		**04 57 50.4**	**-1.3**
TYV					AMB	AMB		04 57 51.0	
	comp=N,23nm,0.4s								
TYV				*e*Sg		**Sg**		**04 58 23.6**	**+0.3**
TYV				A		A		04 58 24.4	
	comp=N,50nm,0.4s								
TYV				A		A		04 58 24.4	
	comp=N,90nm,0.4s								
TYV					AMS	AMS		04 59 10.2	
	comp=N,780nm,9.0s								
TYV					AMS	AMS		04 59 10.2	
	comp=N,790nm,9.0s								
TYV					AMS	AMS		04 59 10.2	
	comp=N,560nm,9.0s								
TYV	**Tymovskoe**	**2.44**	**180**	*e*PN		**Pn**		**04 57 44.7**	**+0.1**
TYV				*e*S		**Sn**		**04 58 15.2**	**+0.8**
TYV				pmax		pmax			
	comp=Z,33nm,0.5s								
TYV				smax		smax			
	comp=N,34nm,0.5s								
UGL	**Uglegorsk**	**4.24**	**185**	*e*Sg		**Sg**		**04 59 23.8**	**+2.7**
UGL				A		A		04 59 25.6	
	comp=N,80nm,0.5s								
UGL					AMS	AMS		04 59 55.0	
	comp=N,3μm,14.0s								
UGL					AMS	AMS		04 59 55.0	
	comp=N,2μm,14.0s								
UGL					AMS	AMS		04 59 55.0	
	comp=N,2μm,14.0s								
UGL	**Uglegorsk**	**4.24**	**185**	*e*PN		**Pn**		**04 58 08.0**	**-1.4**
GRNR	**Gornyy**	**4.62**	**239**	*e*Pg		**Pg**		**04 58 32.0**	**-1.3**
GRNR					AMB	AMB		04 58 35.2	
	comp=N,10.0nm,0.4s								
GRNR				*e*Sg		**Sg**		**04 59 36.0**	**+2.9**
GRNR				A		A		04 59 40.0	
	comp=N,42nm,0.6s								
GRNR				A		A		04 59 40.0	
	comp=N,50nm,0.6s								
GRNR	**Gornyy**	**4.62**	**239**	*e*PN		**Pn**		**04 58 18.2**	**+3.6**
GRNR				*e*				04 59 11.4	
GRNR				pmax		pmax			
	comp=Z,11nm,1.0s								
EKMR	**Ekimchan**	**5.85**	**272**	*e*Pg		**Pg**		**04 58 56.2**	**-0.8**
EKMR					AMB	AMB		04 59 10.0	
	comp=Z,5.0nm,0.8s								
EKMR					AMB	AMB		04 59 10.0	
	comp=Z,11nm,0.8s								
EKMR				*e*Sg		**Sg**		**05 00 16.5**	**+3.8**
EKMR				A		A		05 00 17.2	
	comp=Z,96nm,0.9s								
EKMR				A		A		05 00 17.2	
	comp=Z,24nm,0.9s								
EKMR				A		A		05 00 17.2	
	comp=Z,60nm,0.9s								
YSS	**Yuzh-Sakhalins**	**6.35**	**179**	*e*PN		Pb		04 58 49.5	-5.9
YSS					MLR	MLR			
	comp=Z,100nm,14.0s								
MA2	**Magadan**	**7.72**	**32**	LR		LR		05 02 25.8	
	comp=Z,52nm,20.0s,baz=306,slow=42								
MA2	**Magadan**	**7.72**	**32**	↑*e*PN		**Pn**		**04 58 58.7**	**+1.5**
KLR	**Kul'dur**	**7.97**	**244**	Pn		**Pn**		**04 59 00.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=41,slow=10,SNR=3.3								
KLR				Pg		Pg		04 59 30.6	-6.8
	comp=Z,0.5nm,0.3s,baz=48,slow=19,SNR=7.7								
KLR				Lg		Lg		05 01 18.2	
	comp=Z,0.6nm,0.3s,baz=128,slow=18,SNR=7.1								
KLR	**Kul'dur**	**7.97**	**244**	↓*e*PN		**Pn**		**04 58 58.1**	**-2.5**
BMKR	**Bomnak**	**8.27**	**285**	*e*Sg		**Sg**		**05 01 32.5**	**+2.3**
BMKR				A		A		05 01 34.9	
	comp=Z,16nm,0.8s								
PETK	**Petropavlovsk-**	**9.02**	**85**	Pn		**Pn**		**04 59 15.2**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=276,slow=12,SNR=24								
ZEA	**Zeya**	**9.20**	**279**	*e*Sg				05 02 09.5	
YUK	**Yuzh-Kuril'sk**	**9.51**	**166**	↑*e*PN		**Pn**		**04 59 20.4**	**-1.3**
PET	**Petropavlovsk**	**9.61**	**85**	*e*PN		**Pn**		**04 59 23.0**	**0.0**
SEY	**Seymchan**	**10.93**	**24**	↓*e*PN		**Pn**		**04 59 38.6**	**-2.4**
BILL	**Bilibino**	**18.56**	**28**	*e*P		**Pn**		**05 01 22.9**	**+1.3**
BILL				pmax		pmax			
	comp=Z,2.0nm,1.0s								
TIXI	**Tiksi**	**19.39**	**347**	↓*e*P		**Pn**		**05 01 31.4**	**-0.2**
TIXI				pmax		pmax			
	comp=Z,1.0nm,0.9s								
ZALV	**Zalesovo Beam**	**33.50**	**295**	P		**P**		**05 03 45.6**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=39,slow=9.3,SNR=1.6								
DGZ	**Jazzator, Alta**	**33.85**	**287**	↑*e*P		**P**		**05 03 43.9**	**-3.4**
ILAR	**Eielson Array**	**36.02**	**43**	P		**P**		**05 04 06.5**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=277,slow=6.3,SNR=8.1								
MKAR	**Makanchi Array**	**38.28**	**285**	P		**P**		**05 04 24.6**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=57,slow=9.0,SNR=4.6								
KURK	**Kurchatov**	**38.34**	**293**	↑*e*P		**P**		**05 04 25.7**	**+0.3**
KURK				pmax		pmax			
	comp=Z,4.0nm,0.9s								
BRVK	**Borovoye**	**41.64**	**300**	↑*e*P		**P**		**05 04 52.1**	**-0.8**
BRVK				pmax		pmax			
	comp=Z,1.0nm,1.0s								
FINES	**FINESS Array B**	**55.09**	**328**	P		**P**		**05 06 35.7**	**-0.6**
	comp=Z,2.4nm,0.6s,baz=31,slow=8.3,SNR=13								
NOA	**NORSAR Array B**	**59.65**	**335**	P		**P**		**05 07 08.2**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=34,slow=6.4,SNR=2.0								
HFS	**Hagfors**	**59.77**	**333**	P		**P**		**05 07 08.4**	**-1.0**
	comp=Z,2.1nm,0.6s,baz=46,slow=4.3,SNR=7.1								
KIV	**Kislovodsk**	**61.44**	**306**	*e*P		**P**		**05 07 19.9**	**-1.3**
KIV				pmax		pmax			
	comp=Z,6.0nm,1.0s								
BRTR	**Keskin Array B**	**69.01**	**309**	P		**P**		**05 08 10.4**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=96,slow=4.8,SNR=4.1								
TXAR	**Lajitas Array**	**79.66**	**54**	P		**P**		**05 09 15.1**	**+2.6**
	comp=Z,0.4nm,0.9s,baz=329,slow=3.4,SNR=3.6								

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*ISCJB **28** 05:03:58.8±0.2, 38.°30N±0.°02×22.°12E±0.°02, h11km±1km, mb3.5/7, MS3.4/1, Error ellipse: s-maj=2.7km s-min=2.6km az=167.4*
*THE **28** 05:03:58.9, 38.°31N×22.°12E, h12km±1km, ML3.2/9, Error ellipse: s-maj=1.0km s-min=0.4km az=87.0*
*IDC **28** 05:03:58.5±1.0, 38.°24N×22.°31E, h0km, mb3.6/8, mb1 3.7/11, mb1mx3.5/53, mbtmp3.6/11, ML3.2/3, MS3.6/1, Ms1 3.7/1, ms1mx2.6/49, Error ellipse: s-maj=22.1km s-min=18.5km az=145.0*
*ATH **28** 05:03:58.6, 38.°30N×22.°11E, h13km±1km, ML3.2/18, Error ellipse: s-maj=1.4km s-min=0.6km az=315.0*
ISC 28 05:03:59.3±0.7, 38.°29N±0.°02×22.°13E±0.°02, h9km±4km, n100, σ1°14/123, mb3.6/7, 7C-6D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ALIK	**Aliki, Aigiali**	**0.03**	**203**	P		**Pg**		**05 04 00.8**	**-0.1**
ALIK				S		**Sg**		**05 04 02.7**	**+0.7**
TRIZ	**Trizonia**	**0.09**	**331**	P		**Pg**		**05 04 00.9**	**-0.7**
TRIZ				S		**Sg**		**05 04 02.4**	**-0.8**
TRIZ	**Trizonia**	**0.09**	**331**	P		**Pg**		**05 04 00.8**	**-0.7**
KALE	**Kalithea**	**0.10**	**6**	P		**Pg**		**05 04 01.4**	**-0.5**
KALE				S		**Sg**		**05 04 03.4**	**-0.3**
KALE	**Kalithea**	**0.10**	**6**	P		**Pg**		**05 04 01.4**	**-0.5**
LAKA	**Lakka**	**0.13**	**248**	P		**Pg**		**05 04 01.9**	**-0.3**
LAKA				S		**Sg**		**05 04 03.9**	**-0.3**
LAKA	**Lakka**	**0.13**	**248**	P		**Pg**		**05 04 01.8**	**-0.3**
LAKA				S		**Sg**		**05 04 04.8**	**+0.6**
SERG	**Sergoula**	**0.14**	**336**	P		**Pg**		**05 04 01.7**	**-0.6**
SERG				S		**Sg**		**05 04 03.9**	**-0.6**
SERG				AML		AML		05 04 04.2	
	comp=E,93754μm,0.2s								
SERG				AML		AML		05 04 04.3	
SERG	**Sergoula**	**0.14**	**336**	P		**Pg**		**05 04 01.7**	**-0.6**
EFP	**Efpalio**	**0.22**	**309**	P		**Pg**		**05 04 03.2**	**-0.7**
EFP				S		**Sg**		**05 04 06.9**	**0.0**
EFP				AML		AML		05 04 07.0	
	comp=N,24048μm,0.4s								
EFP				AML		AML		05 04 07.7	
	comp=E,18787μm,0.2s								
EFP	**Efpalio**	**0.22**	**309**	P		**Pg**		**05 04 03.1**	**-0.7**
EFP				S		**Sg**		**05 04 06.7**	**-0.2**
KLV	**Kalavryta, Ach**	**0.24**	**176**	P		**Pg**		**05 04 04.1**	**-0.2**
KLV				S		**Sg**		**05 04 08.5**	**+1.0**
KLV				AML		AML		05 04 09.4	
	comp=E,7646μm,0.3s								
KLV				AML		AML		05 04 11.2	
	comp=N,5380μm,0.5s								
KLV	**Kalavryta, Ach**	**0.24**	**176**	P		**Pg**		**05 04 04.0**	**-0.2**
KLV				S		**Sg**		**05 04 08.8**	**+1.2**
UPR	**University Cam**	**0.27**	**269**	P		**Pg**		**05 04 04.4**	**-0.3**
UPR	**University Cam**	**0.27**	**269**	P		**Pg**		**05 04 04.4**	**-0.3**
UPR				S		**Sg**		**05 04 08.8**	**+0.6**
DSF	**Desfina**	**0.34**	**69**	P		**Pg**		**05 04 05.6**	**-0.5**
DSF				S		**Sg**		**05 04 11.3**	**+0.8**
DSF				AML		AML		05 04 11.5	
	comp=N,8996μm,0.3s								
DSF				AML		AML		05 04 12.7	
	comp=E,14190μm,0.3s								
DSF	**Desfina**	**0.34**	**69**	P		**Pg**		**05 04 05.5**	**-0.5**
DSF				S		**Sg**		**05 04 11.1**	**+0.6**
ANX	**Ano Chora**	**0.34**	**332**	P		**Pg**		**05 04 05.3**	**-0.

DID				AML	AML	05 04 40.9		
	comp=N,3191µm,0.7s							
EVGI	**Lefkada island**	**1.20**	**287**	P	**Pb**	**05 04 21.9**	**-0.3**	
KRND	**KRANIDI**	**1.21**	**138**	P	**Pn**	**05 04 21.9**	**-0.6**	
VLS	**Valsamata**	**1.22**	**265**	P	**Pn**	**05 04 20.6**	**-1.9**	
MRKA	**Markates**	**1.22**	**70**	P	**Pn**	**05 04 22.2**	**-0.4**	
MRKA				AML	AML	05 04 43.6		
	comp=E,1372µm,0.7s							
MRKA				AML	AML	05 04 45.6		
	comp=N,1221µm,0.6s							
LKD2	**Lefkada island**	**1.26**	**294**	P	**Pn**	**05 04 22.0**	**-1.1**	
THL	**Klokotos Trika**	**1.28**	**356**	P	**Pn**	**05 04 22.6**	**-0.8**	
FYTO	**Fytoko, Volos**	**1.29**	**29**	P	**Pn**	**05 04 23.0**	**-0.4**	
ATH	**Athens Observa**	**1.29**	**104**	P	**Pb**	**05 04 23.6**	**-0.2**	
ATH				AML	AML	05 04 46.4		
	comp=E,1398µm,0.5s							
ATH				AML	AML	05 04 48.0		
	comp=N,1523µm,0.9s							
NEO	**Neokhori**	**1.33**	**40**	P	**Pn**	**05 04 23.5**	**-0.6**	
ATHU	**Athens Univers**	**1.35**	**103**	P	**Pb**	**05 04 24.4**	**-0.3**	
ATHU				AML	AML	05 04 46.2		
	comp=E,290µm,0.6s							
ATHU				AML	AML	05 04 49.2		
	comp=N,654µm,0.6s							
XOR	**Xorichti**	**1.36**	**37**	P	**Pn**	**05 04 23.6**	**-1.0**	
SKIA	**Skiathos**	**1.37**	**50**	P	**Pn**	**05 04 24.1**	**-0.5**	
VLY	**Voula,Athens**	**1.39**	**108**	P	**Pn**	**05 04 24.7**	**-0.1**	
PTL	**Penteli**	**1.39**	**99**	P	**Pn**	**05 04 25.0**	**+0.1**	
PTL				S	**Sg**	**05 04 44.0**	**0.0**	
PTL				AML	AML	05 04 47.6		
	comp=E,863µm,0.6s							
PTL				AML	AML	05 04 49.7		
	comp=N,1099µm,0.8s							
PYL	**PYLOS**	**1.42**	**193**	P	**Pn**	**05 04 25.0**	**-0.3**	
EREA	**Eretria**	**1.43**	**84**	P	**Pn**	**05 04 25.2**	**-0.2**	
DION	**Dionisos Attik**	**1.44**	**98**	P	**Pn**	**05 04 25.6**	**0.0**	
DION				AML	AML	05 04 49.1		
	comp=N,985µm,0.5s							
DION				AML	AML	05 04 51.2		
	comp=E,1294µm,0.4s							
MES2	**Methoni**	**1.50**	**193**	P	**Pn**	**05 04 26.6**	**+0.3**	
VLI	**Veliai**	**1.69**	**157**	P	**Pn**	**05 04 29.2**	**+0.1**	
LIT	**Litokhoron**	**1.83**	**9**	P	**Pn**	**05 04 30.7**	**-0.4**	
BIA	**Bitola**	**2.80**	**347**	*eP*n	**Pn**	**05 04 45.6**	**+1.3**	
APE	**Apeiranthos**	**2.96**	**113**	*i*P	**Pn**	**05 04 47.4**	**+0.8**	
APE	**Apeiranthos**	**2.96**	**113**	S	**Sn**	**05 05 19.8**	**-2.5**	
VAY	**Valandovo**	**3.05**	**6**	*e*Pn	**Pn**	**05 04 48.1**	**+0.4**	
KRUS	**Krusevo**	**3.15**	**348**	*i* Pn	**Pn**	**05 04 50.1**	**+0.9**	
STIP	**Stip**	**3.40**	**1**	*e*Pn	**Pn**	**05 04 53.5**	**+1.0**	
MMB	**Musomiste**	**3.52**	**20**	*e*P	**Pn**	**05 04 54.9**	**+0.7**	
IDI	**Anoyia**	**3.73**	**143**	Pn	**Pn**	**05 04 57.6**	**+0.5**	
	comp=E,1.3nm,0.3s,baz=311,slow=14,SNR=8.1							
IDI				Sn	**Sn**	**05 05 36.9**	**-4.3**	
	comp=E,1.3nm,0.3s,baz=246,slow=20,SNR=2.7							
IDI	**Anoyia**	**3.73**	**143**	*i*P	**Pb**	**05 05 03.5**	**-1.8**	
RZN	**Rozhen**	**3.94**	**30**	*e*P	**Pn**	**05 05 00.6**	**+0.5**	
VTS	**Vitosha**	**4.38**	**11**	*i*P	**Pn**	**05 05 07.9**	**+1.8**	
VTS	**Vitosha**	**4.38**	**11**	S	**Sn**	**05 05 58.0**	**+0.7**	
VTS	**Vitosha**	**4.38**	**11**	*e*P	**Pb**	**05 05 15.6**	**-0.9**	
PDG	**Podgorica**	**4.68**	**333**	*i*P	**Pb**	**05 05 18.3**	**-3.3**	
MATE	**Matera**	**4.81**	**301**	*i*P	**Pb**	**05 05 26.7**	**+2.9**	
SG1	**Sgolgore (BA)**	**4.92**	**303**	*e*Pn	**Pn**	**05 05 14.8**	**+1.3**	
MDVR	**Moldovita**	**6.50**	**357**	*i*P	Pn	05 05 40.3	+5.2	
GZR	**Gura Zlata**	**7.12**	**4**	*i*P	**Pn**	**05 05 48.0**	**+4.4**	
ARR	**Arges**	**7.32**	**14**	*i*P	**Pn**	**05 05 47.4**	**+1.0**	
BZS	**Buzias**	**7.33**	**357**	*i*P	**Pn**	**05 05 48.6**	**+2.1**	
VOIR		**7.47**	**16**	*i*P	**Pn**	**05 05 49.7**	**+1.2**	
MLR	**Muntele Rosu**	**7.74**	**20**	Pn	**Pn**	**05 05 53.4**	**+1.1**	
	comp=E,0.2nm,0.3s,baz=137,slow=12,SNR=5.5							
MLR	**Muntele Rosu**	**7.74**	**20**	*i*P	**Pn**	**05 05 53.6**	**+1.4**	
PLOR	**Plostina**	**8.27**	**23**	*i*P	**Pn**	**05 06 00.9**	**+1.5**	
VRI	**Vrincioaia**	**8.31**	**23**	*i*P	**Pn**	**05 06 00.3**	**+0.4**	
BRTR	**Keskin Array B**	**9.08**	**77**	Pn	**Pn**	**05 06 12.0**	**+1.4**	
	comp=E,0.1nm,0.3s,baz=267,slow=11,SNR=4.0							
ESDC	**Sonseca Array**	**20.31**	**282**	P	Pn	05 08 36.9	-0.6	
	comp=E,1.1nm,0.7s,baz=80,slow=11,SNR=5.5							
ESDC				LR	LR	05 15 30.8		
	comp=E,149nm,19.2s,baz=270,slow=34							
NOA	**NORSAR Array B**	**23.78**	**347**	P	**P**	**05 09 14.8**	**+2.8**	
	comp=E,1.0nm,0.8s,baz=182,slow=9.5,SNR=3.3							
EKA	**Eskdalemuir Ar**	**24.08**	**323**	P	**P**	**05 09 17.7**	**+2.8**	
	comp=E,1.0nm,0.6s,baz=122,slow=8.9,SNR=4.4							
TORD	**Torodi Ar. Bea**	**30.93**	**221**	P	**P**	**05 10 17.4**	**+0.8**	
	comp=E,0.8nm,0.8s,baz=32,slow=9.7,SNR=11							
KURBB	**Kurchatov Arra**	**41.15**	**54**	P	**P**	**05 11 43.3**	**-0.4**	
	comp=E,0.4nm,0.5s,baz=275,slow=8.8,SNR=3.7							
MKAR	**Makanchi Array**	**44.16**	**59**	P	**P**	**05 12 07.4**	**-0.9**	
	comp=E,0.6nm,0.5s,baz=272,slow=8.0,SNR=14							
ZALV	**Zalesovo Beam**	**44.67**	**48**	P	**P**	**05 12 11.5**	**-0.7**	
	comp=E,1.1nm,0.5s,baz=272,slow=8.7,SNR=3.3							
YKA	**Yellowknife Ar**	**73.71**	**341**	P	**P**	**05 15 33.6**	**+0.5**	
	comp=E,0.1nm,0.5s,baz=36,slow=5.4,SNR=2.8							

*SJA **28** 05:14:31.5±0.6,27.34S×71.62W,h40km±28km,ML3.4, MW3.6*
*ISCJB **28** 05:14:33.0±2.0,27.41S±0.04×71.4W±0.1,h20km±14km, Error ellipse: s-maj=17.9km s-min=6.6km az=9.3*
*GUC **28** 05:14:33.6±0.7,27.42S×71.28W,h65km±69km,ML3.8*
ISC 28 05:14:29.9±3.4,**27.40S**±0.05×**71.5W**±0.1,**h2**km±19km,**n15, σ2s19/19,1C,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO03	**Copiap**	**1.17**	**100**	*e*P	Pg	05 14 52.2	-0.1
GO03				*i* S	**Sg**	**05 15 05.6**	**-1.9**
GO03				IAML		05 15 06.2	
	comp=N,6µm,0.3s						
CRCH	**Chaqaral**	**1.32**	**38**	*i* S	**Sg**	**05 15 11.8**	**-0.7**
LCO	**Las Campanas**	**1.77**	**156**	*i*P	Pn	05 15 02.3	+0.4
LCO				*i* S	**Sn**	**05 15 25.8**	**+0.8**
LCO	**Las Campanas**	**1.77**	**156**	*i*P	**Pn**	**05 15 02.5**	**+0.7**
LCO				*i* S	**Sn**	**05 15 22.4**	**-2.7**
LCO				IAML		05 15 25.6	
	comp=E,1µm,0.3s						
LSCH	**La Serena**	**2.51**	**174**	*e*P	**Pn**	**05 15 12.5**	**+0.7**
LSCH				*i* S	**Sn**	**05 15 40.1**	**-3.0**
GO02	**Mina Guanaco**	**2.83**	**38**	*e*P	**Pn**	**05 15 17.6**	**+1.2**
GO02				*i* S	**Sn**	**05 15 49.7**	**-1.6**
GO04	**Tololo Observa**	**2.84**	**167**	*e*P	**Pn**	**05 15 17.2**	**+0.6**
GO04				*i* S	**Sn**	**05 15 49.6**	**-1.8**
AROD	**Rodeo**	**3.30**	**147**	*i* P	**Pn**	**05 15 25.4**	**+2.4**
AGUA	**GUANDACOL**	**3.39**	**129**	*i* P	**Pn**	**05 15 26.2**	**+2.2**
AMOG	**MOGNA**	**4.42**	**144**	*i* P	**Pn**	**05 15 40.4**	**+2.3**
RTLL	**Cerro Villicun**	**4.74**	**146**	*i* P	**Pn**	**05 15 44.9**	**+2.4**
RTLL				IAML		05 16 58.9	
	comp=Z,33nm,0.5s						
RTCV	**Cerro Valdivia**	**5.15**	**150**	*i* P	**Pn**	**05 15 50.3**	**+2.1**
AUSP	**Uspallata**	**5.16**	**159**	*i* P	**Pn**	**05 15 51.3**	**+2.8**
CYA	**Choya**	**5.17**	**103**	*i* P	**Pn**	**05 15 50.3**	**+1.8**
CYA				IAML		05 16 00.0	
	comp=Z,19nm,0.4s						
ASAL	**Salagasta**	**5.68**	**156**	*i* P	**Pn**	**05 15 57.8**	**+2.3**

IDC 28 05:14:58.0±3.9,**30.10S**×**138.67E**,**h0km**,**mb1 3.0/3, mb1mx3.0/33,mbtmp2.7/3,ML2.1/3,Error ellipse: s-maj=127.1km s-min=16.9km az=45.0,South Australia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.08**	**126**	Pn	Pn	05 15 47.9	+0.1
	0.1nm,0.3s,baz=300,slow=14,SNR=1.6						
STKA				Pg	Pg	05 15 57.2	+0.2
	0.8nm,0.3s,baz=294,slow=16,SNR=9.5						
STKA				Sn	Sn	05 16 27.2	+1.9
	0.7nm,0.3s,baz=236,slow=12,SNR=4.7						
STKA				Lg	Lg	05 16 35.2	
	1.0nm,0.3s,baz=5.6,slow=24,SNR=4.5						
ASAR	**Alice Springs**	**7.69**	**325**	Pn	Pn	05 16 50.9	-0.4
	0.1nm,0.3s,baz=150,slow=13,SNR=1.9						
ASAR				Sn	Sn	05 18 18.4	-0.7
	0.0nm,0.3s,baz=145,slow=21,SNR=2.9						
WRA	**Warramunga Arr**	**10.85**	**338**	Pn	Pn	05 17 35.7	+1.1
	0.0nm,0.3s,baz=148,slow=13,SNR=2.2						

IDC 28 05:15:35.5±2.4,**54.11N**×**86.38E**,**h0km**,**mb1 3.1/2, mb1mx2.9/55,mbtmp3.1/2,ML2.7/2,Error ellipse: s-maj=19.2km s-min=11.6km az=60.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**261**	*i*		05 22 30.0	
	baz=82,slow=354,SNR=3.0						
ZALV	**Zalesovo Beam**	**0.94**	**261**	Pg	Pg	05 15 52.5	-1.0
	1.2nm,0.3s,baz=75,slow=17,SNR=8.8						
ZALV				Lg	Lg	05 16 06.7	
	2.2nm,0.3s,baz=78,slow=28,SNR=13						
ZALV				Rg	Rg	05 16 12.7	
	152nm,1.2s,baz=76,slow=30,SNR=38						
KURBB	**Kurchatov Arra**	**5.94**	**237**	Pn	Pn	05 17 05.8	+1.1
	0.1nm,0.3s,baz=53,slow=14,SNR=9.8						
KURBB				Lg	Lg	05 18 43.2	
	0.0nm,0.3s,baz=54,slow=31,SNR=4.1						
MKAR	**Makanchi Array**	**7.78**	**201**	Pn	Pn	05 17 30.7	+0.8
	0.1nm,0.3s,baz=24,slow=13,SNR=11						
MKAR				Sn	Sn	05 18 58.8	+0.2
	0.1nm,0.3s,baz=28,slow=28,SNR=4.2						
MKAR				Lg	Lg	05 19 41.4	
	0.0nm,0.3s,baz=30,slow=30,SNR=12						

*ISCJB **28** 05:22:06.4±0.7,13.0N±0.1×144.5E±0.1,h54km,mb3.8/11, MS3.3/6, Error ellipse: s-maj=23.0km s-min=10.1km az=31.3*
*IDC **28** 05:22:07.5±1.2,13.06N×144.69E,h51km±9km,mb3.7/9, mb1 3.9/9,mb1mx3.6/46,mbtmp3.9/9,MS3.4/6,Ms1 3.4/6, ms1mx3.1/37,Error ellipse: s-maj=28.7km s-min=16.9km az=101.0*
ISC 28 05:22:08.4±0.8,**13.0N**±0.1×**144.6E**±0.2,**h54**km,**n25, σ1s20/15,mb3.9/11,MS3.2/6,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.61**	**24**	P	**Pn**	**05 22 21.0**	**-0.3**
	1µm,0.3s,baz=157,slow=13,SNR=345						
GUMO				S	**Sn**	**05 22 30.2**	**-0.4**
	2µm,0.3s,baz=180,slow=20,SNR=28						
H11S3	**WAKE ISLAND Hy**	**21.92**	**73**	T	T	05 49 32.5	
	baz=259,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**21.93**	**73**	T	T	05 49 32.2	
	baz=259,slow=75,SNR=9.9						
H11S2	**WAKE ISLAND Hy**	**21.94**	**73**	T	T	05 49 34.1	
	baz=259,slow=75,SNR=9.2						
H11N1	**WAKE ISLAND Hy**	**22.37**	**70**	T	T	05 50 05.2	
	baz=256,slow=75,SNR=43						
H11N2	**WAKE ISLAND Hy**	**22.38**	**70**	T	T	05 50 07.0	
	baz=256,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**22.39**	**70**	T	T	05 50 07.2	
	baz=256,slow=75,SNR=42						
PMG	**Port Moresby**	**22.43**	**173**	LR	LR	05 35 22.3	
	comp=Z,51nm,19.3s,baz=70,slow=35						
MJAR	**Matsushiro Arr**	**24.11**	**347**	LR	LR	05 37 05.3	
	comp=Z,68nm,18.2s,baz=110,slow=37						
KSRS	**Korea Array**	**28.53**	**331**	LR	LR	05 36 19.8	
	comp=Z,75nm,20.4s,baz=2.0,slow=30						
ASAJ	**Asahikawa**	**31.03**	**357**	LR	LR	05 40 07.5	
	comp=Z,78nm,19.4s,baz=4.0,slow=35						
WRA	**Warramunga Arr**	**34.29**	**197**	P	**P**	**05 28 49.1**	**-0.7**
	1.6nm,0.7s,baz=20,slow=9.6,SNR=12						
WRA				LR	LR	05 43 17.5	
	comp=Z,44nm,20.6s,baz=165,slow=37						
KLR	**Kul'dur**	**37.63**	**346**	P	**P**	**05 29 19.6**	**+1.6**
	1.2nm,0.8s,baz=148,slow=8.3,SNR=4.1						
ASAR	**Alice Springs**	**37.94**	**196**	P	**P**	**05 29 20.2**	**-0.7**
	0.3nm,0.7s,baz=16,slow=11,SNR=4.4						
CMAR	**Chiang Mai Arr**	**44.20**	**283**	LR	LR	05 48 12.5	
	comp=Z,78nm,19.4s,baz=328,slow=35						
MKAR	**Makanchi Array**	**61.72**	**316**	P	**P**	**05 32 22.2**	**+0.9**
	0.2nm,0.6s,baz=89,slow=8.8,SNR=4.1						
ZALV	**Zalesovo Beam**	**61.94**	**325**	P	**P**	**05 32 21.1**	**-1.5**
	0.8nm,0.6s,baz=97,slow=8.9,SNR=3.1						
KURBB	**Kurchatov Arra**	**64.89**	**320**	P	**P**	**05 32 41.6**	**-0.5**
	0.5nm,0.4s,baz=104,slow=6.5,SNR=5.0						
ILAR	**Eielson Array**	**69.18**	**25**	P	**P**	**05 33 07.6**	**-1.5**
	1.4nm,0.5s,baz=249,slow=5.8,SNR=35						
BVAR	**Borovoye Array**	**70.21**	**322**	P	**P**	**05 33 14.6**	**-1.1**
	0.4nm,0.4s,baz=86,slow=8.8,SNR=7						
INK	**Inuvik**	**74.98**	**22**	P	**P**	**05 33 42.6**	**-1.0**
	2.7nm,0.9s,baz=267,slow=6.0,SNR=7.3						
YKA	**Yellowknife Ar**	**83.47**	**27**	P	**P**	**05 34 29.8**	**-0.3**
	1.3nm,0.8s,baz=287,slow=5.5,SNR=17						
NVAR	**Mina Array Bea**	**87.46**	**51**	P	**P**	**05 34 52.1**	**+1.3**
	0.7nm,0.8s,baz=335,slow=4.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**134.97**	**304**	PKP	**PKPdf**	**05 41 23.8**	**+1.2**
	0.4nm,0.9s,baz=61,slow=3.5,SNR=2.6						
LPAZ	**La Paz**	**148.18**	**100**	PKPab	**PKPbc**	**05 41 51.7**	**+1.6**
	1.5nm,0.7s,baz=281,slow=2.5,SNR=7.8						

*PRE **28** 05:25:22.5±1.4,28.05S×26.68E,h2km,ML2.7*
*EAF **28** 05:25:27.4±0.7,28.31S×26.87E,h39km,MD3.5*
ISC 28 05:25:23.4±1.3,**28.21S**±0.05×**26.86E**±0.05,**h26**km±15km, **n17,σ1s72/32,South Africa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**1.36**	**19**	*e*P	**Pn**	**05 25 46.4**	**-0.4**
PRYS				*e*S	**Sn**	**05 26 04.1**	**+0.1**
PRYS				AML	AML	05 26 05.6	
	comp=Z,322nm,0.2s						
BOSA	**Boshof**	**1.47**	**254**	*i* P	**Pb**	**05 25 51.4**	**+1.2**
BOSA				*i* S	**Sb**	**05 26 08.0**	**-0.5**
BOSA	**Boshof**	**1.47**	**254**	*e*P	**Pn**	**05 25 49.5**	**+1.1**
BOSA				*e*S	**Sn**	**05 26 07.2**	**+0.3**
BOSA				AML	AML	05 26 12.1	
	comp=Z,63nm,0.3s						
BOSA	**Boshof**	**1.47**	**254**	*i* P	**Pb**	**05 25 51.4**	**+1.2**
BOSA				*i* S	**Sb**	**05 26 08.0**	**-0.5**
SWZ	**Schweizer**	**1.70**	**307**	*e*P	**Pn**	**05 25 51.2**	**-0.4**
SWZ				*e*S	**Sn**	**05 26 11.1**	**-1.5**
SWZ				AML	AML	05 26 13.0	
	comp=Z,256nm,0.4s						
WDLM	**Western Deep L**	**1.85**	**16**	*e*P	**Pn**	**05 25 54.8**	**+1.1**
WDLM				*e*S	**Sn**	**05 26 17.5**	**+1.2**
WDLM				AML	AML	05 26 21.7	
	comp=Z,150nm,0.1s						
KLOF	**Kloof**	**1.97**	**20**	*e*P	**Pn**	**05 25 57.1**	**+1.8**
KLOF				*e*S	**Sn**	**05 26 20.9**	**+1.6**
KLOF				AML	AML	05 26 22.7	
	comp=Z,249nm,0.2s						
ERPM	**east rand prop**	**2.23**	**34**	*e*P	**Pb**	**05 26 02.3**	**-0.9**
ERPM				*e*S	**Sb**	**05 26 30.1**	**-0.3**
ERPM				AML	AML	05 26 33.8	
	comp=Z,39nm,0.4s						
KSR	**Koster**	**2.35**	**1**	*e*P	**Pn**	**05 26 00.8**	**+0.3**
KSR				*e*S	**Sn**	**05 26 29.6**	**+0.9**
KSR				AML	AML	05 26 31.5	
	comp=Z,75nm,0.2s						
HVD	**Gariep Dam**	**2.67**	**206**	*e*P	**Pb**	**05 26 09.5**	**-1.1**
HVD				*e*S	**Sb**	**05 26 41.9**	**-1.0**
HVD				AML	AML	05 26 56.7	
	comp=Z,18nm,0.6s						
SLR	**Silverton**	**2.77**	**27**	*e*P	**Pn**	**05 26 07.1**	**+0.8**
SLR				*e*S	**Sn**	**05 26 40.5**	**+1.5**
SLR				AML	AML	05 26 53.8	
	comp=Z,42nm,0.3s						
LBTB	**Lobatse**	**3.38**	**340**	*e*P	**Pn**	**05 26 14.2**	**-0.5**
LBTB				*e*S	**Sn**	**05 26 52.6**	**-1.4**
LBTB				AML	AML	05 27 06.5	
	comp=Z,24nm,0.6s						
GRAN	**Grantham**	**5.75**	**224**	*e*P	**Pn**	**05 26 49.6**	**+2.4**
GRAN				*e*S	**Sn**	**05 27 53.0**	**+0.6**
GRAN				AML	AML	05 28 27.9	
	comp=Z,8.4nm,0.4s						
MATP	**Matopo**	**7.89**	**11**	*i* P	**Pn**	**05 27 19.6**	**+2.9**
MATP				*i* S	**Sn**	**05 28 41.4**	**-3.8**
MATP	**Matopo**	**7.89**	**11**	*i* P	**Pn**	**05 27 19.6**	**+2.9**
MATP				*i* S	**Sn**	**05 28 41.4**	**-3.8**
BLWY	**Bulawayo**	**8.19**	**12**	*i* P	**Pn**	**05 27 22.6**	**+1.8**
BLWY	**Bulawayo**	**8.19**	**12**	*i* P	**Pn**	**05 27 22.6**	**+1.8**

*ISCJB **28** 05:28:08.0±0.4,25.48N±0.07×123.50E±0.06, h199km±6km,mb3.6/11,Error ellipse: s-maj=13.4km s-min=6.5km az=152.3*
*JMA **28** 05:28:10.7±0.2,25.32N×123.48E,h191km±3km,M4.5*
*IDC **28** 05:28:11.3±4.5,25.53N×123.45E,h218km±45km, mb3.4/11,mb1 3.6/12,mb1mx3.4/41,mbtmp4.0/12,MS3.3/1, Ms1 3.3/1,ms1mx2.7/28,Error ellipse: s-maj=31.4km s-min=11.4km az=66.0*
ISC 28 05:28:09.2±0.7,**25.48N**±0.09×**123.50E**±0.06,**h199**km±7km, **n28,σ1s16/43,mb3.6/11,Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**1.10**	**204**	P	Pn	**05 28 39.5**	**0.0**
YOJ				*e*S	**S**	**05 29 01.8**	**-1.2**
JYNG	**Yonagunijimaku**	**1.14**	**206**	P	Pn	**05 28 39.8**	**0.0**
JYNG				S	**S**	**05 29 02.1**	**-1.4**
JISG	**Ishigakijimahi**	**1.15**	**140**	P	Pn	**05 28 40.0**	**+0.1**
JISG				S	**S**	**05 29 02.4**	**-1.2**
IRIF	**Iriomote-Funau**	**1.15**	**170**	P	Pn	**05 28 39.6**	**-0.3**
IRIF				S	**S**	**05 29 01.9**	**-1.8**
JIJ	**Ishigaki jima**	**1.25**	**152**	P	Pn	**05 28 40.6**	**-0.1**
JIJ				S	**S**	**05 29 03.2**	**-1.9**
JKRS	**Kuro-shima**	**1.32**	**159**	P	Pn	**05 28 41.5**	**+0.3**
JKRS				S	**S**	**05 29 04.7**	**-1.3**
JTJ	**Tarama**	**1.37**	**127**	P	Pn	**05 28 42.2**	**+0.6**
JTJ				S	**S**	**05 29 05.9**	**-0.8**
HATJ	**Hateruma jima**	**1.44**	**169**	P	Pn	**05 28 42.4**	**+0.2**
HATJ				*e*S	**S**	**05 29 06.3**	**-1.6**
JIRB	**Irabujima**	**1.65**	**113**	P	Pn	**05 28 44.5**	**+0.4**
JIRB				S	**S**	**05 29 09.8**	**-1.3**
JIKM	**Ikemajima**	**1.68**	**109**	P	Pn	**05 28 45.1**	**+0.7**
JIKM				S	**S**	**05 29 10.4**	**-1.2**
JMJ	**Miyako jima 2**	**1.75**	**112**	P	Pn	**05 28 45.9**	**+0.8**
JMJ				S	**S**	**05 29 12.3**	**-0.6**
JOGS	**Gusukube**	**1.87**	**112**	P	Pn	**05 28 47.5**	**+1.3**
JOGS				S	**S**	**05 29 14.7**	**-0.3**
JKE	**Kume jima 2**	**3.08**	**73**	P	Pn	**05 28 59.7**	**+0.1**
JKE				*e*S	**S**	**05 29 37.5**	**-1.6**
JAGN	**Aguni-jima**	**3.54**	**71**	P	Pn	**05 29 04.9**	**-0.4**
JAGN				*e*S	**S**	**05 29 45.8**	**-3.4**
JJT3	**Tamagusuku3**	**3.92**	**79**	P	Pn	**05 29 09.9**	**0.0**
JJT3				*e*S	**S**	**05 29 55.7**	**-1.8**
KSRS	**Korea Array**	**12.52**	**16**	P	**Pn**	**05 31 02.2**	**+1.7**
	0.7nm,0.3s,baz=198,slow=11,SNR=14						
USRK	**Ussuriysk Ar.**	**19.92**	**18**	LR	LR	05 39 53.5	
	comp=Z,81nm,20.4s,baz=222,slow=35						
SONM	**Songino Array**	**26.08**	**333**	P	**P**	**05 33 24.2**	**-0.3**
	0.7nm,0.5s,baz=150,slow=10,SNR=5.0						
MKAR	**Makanchi Array**	**38.92**	**314**	P	**P**	**05 35 15.5**	**-0.2**
	0.5nm,0.4s,baz=97,slow=8.8,SNR=16						
ZALV	**Zalesovo Beam**	**40.35**	**325**	P	**P**	**05 35 26.1**	**-1.1**
	2.2nm,0.4s,baz=110,slow=8.4,SNR=11						
KURBB	**Kurchatov Arra**	**42.52**	**318**	P	**P**	**05 35 44.3**	**-0.6**
	0.8nm,0.3s,baz=104,slow=7.7,SNR=2.8						
WRA	**Warramunga Arr**	**46.36**	**166**	P	**P**	**05 36 16.0**	**+0.4**
	4.4nm,0.7s,baz=348,slow=8.8,SNR=41						
BVAR	**Borovoye Array**	**48.04**	**319**	P	**P**	**05 36 27.6**	**-0.7**
	0.8nm,0.4s,baz=132,slow=9.0,SNR=5.8						
ASAR	**Alice Springs**	**49.88**	**167**	P	**P**	**05 36 43.3**	**+0.8**
	1.2nm,0.7s,baz=354,slow=14,SNR=13						
FINES	**FINESS Array B**	**71.40**	**330**	P	**P**	**05 39 07.3**	**0.0**
	1.7nm,0.5s,baz=46,slow=6.2,SNR=10						
BRTR	**Keskin Array B**	**74.10**	**307**	P	**P**	**05 39 24.1**	**+0.3**
	1.1nm,0.8s,baz=75,slow=6.5,SNR=6.6						
NOA	**NORSAR Array B**	**78.06**	**333**	P	**P**	**05 39 45.2**	**-0.5**
	1.2nm,0.9s,baz=12,slow=8.1,SNR=3.5						
YKA	**Yellowknife Ar**	**80.96**	**24**	P	**P**	**05 40 00.9**	**-0.3**
	0.7nm,0.6s,baz=307,slow=5.3,SNR=15						
YKA				pP	**pP**	**05 40 51.6**	**+2.3**
	0.3nm,0.8s,baz=310,slow=5.4,SNR=3.2						

SJA 28 05:30:38.7±0.7,**32.64S**×**68.65W**,**h26**km±2km,**ML2.7, MW3.8,Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARCO	**CERRO ARCO**	**0.31**	**230**	*i* P	Pb	05 30 46.1	+0.1
ARCO				IAML		05 30 51.8	
	comp=Z,718nm,0.1s						
ARCO				*i* S	Sb	05 30 52.2	+1.1
AAGR	**Agrelo**	**0.47**	**199**	*i* P	Pb	05 30 49.0	+0.6
AAGR				*i* S	Sn	05 30 56.8	-0.6
AUSP	**Uspallata**	**0.75**	**304**	*i* P	Pn	05 30 53.9	0.0
AUSP				*i* S	Sn	05 31 06.1	+1.5
RTCV	**Cerro Valdivia**	**0.78**	**7**	*i* P	Pn	05 30 54.3	+0.2
ROC1	**El Roble**	**2.02**	**260**	*i* P	Pb	05 31 14.1	-0.7
ROC1				*i* S	Sb	05 31 39.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.44**	**186**	P	Pn	05 55 35.7	+1.1
	3.6nm,0.3s,baz=342,slow=13,SNR=30						
DZM				S	Sn	05 56 56.2	-1.4
	2.7nm,0.3s,baz=333,slow=23,SNR=6.3						
STKA	**Stephens Creek**	**29.05**	**229**	P	P	05 59 37.1	+1.3
	2.7nm,0.7s,baz=34,slow=7.3,SNR=4.8						
WRA	**Warramunga Arr**	**31.84**	**256**	P	P	06 00 00.2	-0.4
	0.3nm,0.5s,baz=84,slow=7.8,SNR=5.6						
ASAR	**Alice Springs**	**32.70**	**249**	P	P	06 00 07.4	-0.7
	0.4nm,0.3s,baz=75,slow=9.4,SNR=12						
ASAR				pP	pwP	06 00 42.1	-1.0
	0.4nm,0.5s,baz=70,slow=9.4,SNR=2.1						
FITZ	**Fitzroy Crossi**	**40.02**	**259**	P	P	06 01 10.5	+0.2
	3.1nm,1.0s,baz=111,slow=8.6,SNR=1.8						
ARCES	**ARCESS Array B**	**120.16**	**345**	PKP	PKPdf	06 12 22.0	-0.5
	1.3nm,0.8s,baz=67,slow=2.3,SNR=12						

IDC 28 06:05:42.4±8.2, 22°57N×145°24E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.2/40, mbtmp3.6/3, Error ellipse: s-maj=306.6km s-min=32.6km az=76.0, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.91**	**319**	P	P	06 13 18.2	-0.1
	0.4nm,0.4s,baz=126,slow=7.3,SNR=1.8						
WRA	**Warramunga Arr**	**43.57**	**195**	P	P	06 13 48.5	+0.2
	0.5nm,0.6s,baz=17,slow=8.9,SNR=9.8						
ASAR	**Alice Springs**	**47.26**	**194**	P	P	06 14 17.1	-0.5
	0.3nm,0.7s,baz=15,slow=6.7,SNR=5.3						

*IDC **28** 06:09:43.5±2.5, 21°.07S×70°.55W, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.5/21, mbtmp3.5/3, ML3.3/1, MS3.0/1, Ms1 2.9/1, ms1mx2.7/13, Error ellipse: s-maj=72.9km s-min=64.0km az=118.0*

*ISCJB **28** 06:09:49.6±1.5, 20°.16S±0°.03×70°.54W±0°.07, h4km±9km, mb3.3/2, MS2.9/1, Error ellipse: s-maj=11.5km s-min=5.2km az=7.6*

*GUC **28** 06:09:51.5±0.6, 20°.17S×70°.51W, h27km±5km, ML3.3*

ISC 28 06:09:49.2±1.5, 20°.14S±0°.03×70°.58W±0°.08, h22km±11km, n21, σ1s14/21, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.69**	**38**	*eP*	**Pn**	**06 10 03.6**	**-0.1**
PSGC				*i* S	**Sn**	**06 10 13.2**	**-0.6**
PSGC				IAML		06 10 18.4	
	comp=E,2μm,0.8s						
PB11	**IPOC Station P**	**0.95**	**66**	*eP*	**Pn**	**06 10 07.5**	**+0.3**
PB11				*i* S	**Sn**	**06 10 20.0**	**-0.2**
PB08	**IPOC Station P**	**1.34**	**90**	*eP*	**Pb**	**06 10 13.9**	**+0.1**
PB08				*i* S	**Sb**	**06 10 31.1**	**+0.5**
PB08				IAML		06 10 37.2	
	comp=N,626nm,0.2s						
PB01	**IPOC Station P**	**1.36**	**131**	*eP*	**Pb**	**06 10 13.8**	**-0.2**
PB01				*i* S	**Sb**	**06 10 31.1**	**+0.2**
PB01				IAML		06 10 36.7	
	comp=E,2μm,0.1s						
MNMC	**Minye Minye**	**1.37**	**43**	*eP*	**Pb**	**06 10 14.6**	**+0.3**
MNMC				*i* S	**Sb**	**06 10 33.0**	**+1.5**
PB12	**IPOC Station P**	**1.54**	**9**	*i* S	**Sb**	**06 10 38.2**	**+2.0**
PB07	**IPOC Station P**	**1.70**	**158**	*eP*	**Pb**	**06 10 19.9**	**0.0**
PB07				*i* S	**Sb**	**06 10 41.3**	**+0.3**
PB07				IAML		06 10 49.6	
	comp=E,1μm,0.5s						
PB03	**IPOC Station P**	**2.05**	**158**	*i* S	**Sb**	**06 10 51.1**	**+0.2**
PB09	**IPOC Station P**	**2.06**	**143**	*eP*	**Pb**	**06 10 25.2**	**-0.8**
PB09				*i* S	**Sb**	**06 10 52.1**	**+0.7**
PB04	**IPOC Station P**	**2.22**	**170**	*i* S	**Sb**	**06 10 55.9**	**+0.2**
LPAZ	**La Paz**	**4.48**	**32**	Pn	**Pb**	**06 11 04.5**	**-3.2**
	comp=E,0.6nm,0.3s,baz=202,slow=0.7,SNR=27						
LPAZ				Sn	Sb	06 12 14.7	+13
	comp=E,0.3nm,0.3s,baz=102,slow=21,SNR=1.7						
BDFB	**Brasilia**	**21.93**	**82**	LR	LR	06 24 03.6	
	comp=E,41nm,19.5s,baz=232,slow=39						
TORD	**Torodi Ar. Bea**	**78.39**	**71**	P	**P**	**06 21 47.4**	**-1.1**
	comp=E,0.1nm,0.3s,baz=238,slow=8.3,SNR=2.3						
YKA	**Yellowknife Ar**	**89.40**	**341**	P	**P**	**06 22 44.9**	**+1.2**
	comp=E,0.1nm,0.6s,baz=135,slow=4.7,SNR=2.8						
H11S2	**WAKE ISLAND Hyl**	**26.15**	**279**	T	T	08 48 14.8	
	baz=104						
H11S1	**WAKE ISLAND Hyl**	**26.16**	**279**	T	T	08 48 17.7	
	baz=104						
H11S3	**WAKE ISLAND Hyl**	**26.17**	**279**	T	T	08 48 16.2	
	baz=104						
H11N3	**WAKE ISLAND Hyl**	**26.20**	**280**	T	T	08 48 12.1	
	baz=100						
H11N2	**WAKE ISLAND Hyl**	**26.21**	**280**	T	T	08 48 13.1	
	baz=100						
H11N1	**WAKE ISLAND Hyl**	**26.21**	**280**	T	T	08 48 19.0	
	baz=100						
MKAR	**Makanchi Array**	**145.41**	**34**	PKPbc	**PKPab**	**06 29 26.2**	**+0.7**
	comp=E,0.4nm,0.5s,baz=334,slow=5.3,SNR=5.1						

*ISCJB **28** 06:25:56.5±0.9, 6°.66S±0°.07×129°.9E±0°.1, h146km, mb3.9/1, Error ellipse: s-maj=19.6km s-min=9.8km az=175.0*

*IDC **28** 06:25:57.4±2.2, 6°.65S×129°.76E, h132km±25km, mb3.8/1, mb1 3.6/6, mb1mx3.3/36, mbtmp4.0/6, Error ellipse: s-maj=38.4km s-min=20.2km az=96.0*

ISC 28 06:25:55.4±0.9, 6°.76S±0°.06×129°.9E±0°.1, h146km, n6, σ4s53/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.00**	**13**	P	**Pn**	**06 27 22.8**	**+0.6**
	2.6nm,0.3s,baz=46,slow=9.8,SNR=29						
SIJI				S	**Sn**	**06 28 24.1**	**-6.0**
	5.1nm,0.3s,baz=245,slow=23,SNR=6.5						
BATI	**Baumata**	**7.08**	**241**	P	**Pn**	**06 27 38.5**	**+2.0**
	9.3nm,0.3s,baz=136,slow=3.0,SNR=4.0						
BATI				S	**Sn**	**06 28 51.8**	**-4.1**
	5.2nm,0.3s,baz=105,slow=12,SNR=1.8						
FITZ	**Fitzroy Crossi**	**12.02**	**200**	P	**Pn**	**06 28 44.5**	**+2.3**
	0.4nm,0.3s,baz=18,slow=10.0,SNR=24						
FITZ				S	**Sn**	**06 30 49.3**	**-5.7**
	0.9nm,0.3s,baz=122,slow=22,SNR=9.5						
WRA	**Warramunga Arr**	**13.79**	**162**	P	**Pn**	**06 29 07.6**	**+2.7**
	0.5nm,0.3s,baz=339,slow=12,SNR=22						
WRA				S	**Sn**	**06 31 33.0**	**-4.6**
	1.2nm,0.3s,baz=335,slow=23,SNR=9.5						
ASAR	**Alice Springs**	**17.24**	**168**	P	**Pn**	**06 29 53.2**	**+5.7**
	0.1nm,0.3s,baz=341,slow=8.3,SNR=3.0						
ASAR				S	**S**	**06 32 57.1**	**-2.0**
	0.3nm,0.3s,baz=346,slow=24,SNR=4.6						
MKAR	**Makanchi Array**	**67.98**	**327**	P	**P**	**06 36 41.1**	**+2.3**
	1.4nm,0.6s,baz=116,slow=8.5,SNR=16						

MAN 28 06:27:00.5, 17°.10N×121°.88E, h32km, mb3.9, ML2.6, MS2.1, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.16**	**199**	*eP*	Pn	06 27 08.4	+1.6
PALP	**Palanan**	**0.52**	**94**	*eP*	Pn	06 27 12.2	+0.5
PALP				*eS*	Sn	06 27 21.2	+1.7
CVP	**Callao Caves**	**0.60**	**355**	*eP*	Pb	06 27 10.9	-1.9
CVP				*eS*	Sb	06 27 17.1	-4.0
APYP	**Conner**	**0.97**	**321**	*eP*	Pn	06 27 18.2	+0.2
APYP				*eS*	Sn	06 27 30.8	+0.1

*ISCJB **28** 06:31:55.5±0.7, 13°.1N±0°.1×144°.4E±0°.1, h54km, mb3.9/10, MS3.4/5, Error ellipse: s-maj=20.2km s-min=10.4km az=37.9*

*IDC **28** 06:31:56.5±1.4, 13°.12N×144°.47E, h46km±12km, mb3.6/10, mb1 3.9/10, mb1mx3.6/42, mbtmp3.9/10, MS3.4/5, Ms1 3.4/5, ms1mx3.0/52, Error ellipse: s-maj=26.3km s-min=17.3km az=106.0*

ISC 28 06:31:57.2±0.9, 13°.1N±0°.1×144°.5E±0°.2, h54km, n22, σ0s59/13, mb3.9/10, MS3.3/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.62**	**39**	P	**Pn**	**06 32 09.8**	**-0.4**
	1μm,0.3s,baz=173,slow=1.8,SNR=300						
GUMO				S	**Sn**	**06 32 19.7**	**+0.1**
	1μm,0.3s,baz=342,slow=20,SNR=74						
GUMO				LR	LR	06 32 35.3	
	comp=Z,304nm,18.5s,baz=214,slow=64						
H11S3	**WAKE ISLAND Hy**	**22.04**	**73**	T	T	06 59 21.3	
	baz=259,slow=75,SNR=6.5						
H11S1	**WAKE ISLAND Hy**	**22.05**	**73**	T	T	06 59 27.4	
	baz=259,slow=75,SNR=5.7						
H11S2	**WAKE ISLAND Hy**	**22.05**	**73**	T	T	06 59 23.2	
	baz=259,slow=75,SNR=7.3						
H11N1	**WAKE ISLAND Hy**	**22.48**	**70**	T	T	06 59 52.0	
	baz=257,slow=75,SNR=20						
H11N2	**WAKE ISLAND Hy**	**22.49**	**70**	T	T	06 59 54.6	
	baz=257,slow=75,SNR=9.0						
H11N3	**WAKE ISLAND Hy**	**22.50**	**70**	T	T	06 59 55.3	
	baz=257,slow=75,SNR=19						
JNU	**Nakatsue**	**23.47**	**330**	LR	LR	06 45 06.4	
	comp=Z,91nm,18.9s,baz=311,slow=34						
MJAR	**Matsushiro Arr**	**24.01**	**348**	P	**P**	**06 37 07.3**	**+0.3**
	3.0nm,0.8s,baz=151,slow=4.9,SNR=4.6						
MJAR				LR	LR	06 44 20.5	
	comp=Z,37nm,21.6s,baz=205,slow=31						
HNR	**Honiara**	**27.16**	**145**	LR	LR	06 49 08.5	
	comp=Z,50nm,18.2s,baz=320,slow=38						
USRK	**Ussuriysk Ar.**	**32.78**	**343**	LR	LR	06 49 28.9	
	comp=Z,123nm,21.8s,baz=350,slow=32						
WRA	**Warramunga Arr**	**34.32**	**197**	P	**P**	**06 38 38.3**	**-0.5**
	1.6nm,0.9s,baz=21,slow=9.6,SNR=6.3						
ASAR	**Alice Springs**	**37.98**	**196**	P	**P**	**06 39 10.0**	**0.0**
	0.2nm,0.6s,baz=27,slow=12,SNR=4.4						
SONM	**Songino Array**	**46.90**	**325**	P	**P**	**06 40 22.6**	**+0.1**
	0.3nm,0.4s,baz=107,slow=4.8,SNR=4.1						
MKAR	**Makanchi Array**	**61.57**	**316**	P	**P**	**06 42 09.0**	**0.0**
	0.3nm,0.4s,baz=94,slow=9.0,SNR=5.2						
KURBB	**Kurchatov Arra**	**64.74**	**320**	P	**P**	**06 42 29.8**	**-0.1**
	1.1nm,0.2s,baz=92,slow=6.7,SNR=3.7						
ILAR	**Eielson Array**	**69.17**	**25**	P	**P**	**06 42 56.6**	**-1.2**
	1.8nm,0.6s,baz=250,slow=5.9,SNR=29						
INK	**Inuvik**	**74.96**	**22**	P	**P**	**06 43 32.4**	**+0.1**
	2.0nm,0.9s,baz=248,slow=11,SNR=5.7						
YKA	**Yellowknife Ar**	**83.47**	**27**	P	**P**	**06 44 18.7**	**-0.1**
	1.1nm,0.6s,baz=287,slow=5.2,SNR=18						
YBH	**Yreka Blue Hor**	**83.48**	**49**	LR	LR	07 16 29.6	
	comp=Z,56nm,18.7s,baz=8.0,slow=32						
NVAR	**Mina Array Bea**	**87.53**	**51**	P	**P**	**06 44 40.9**	**+1.0**
	0.3nm,0.5s,baz=282,slow=4.5,SNR=2.9						
LPAZ	**La Paz**	**148.33**	**100**	PKPbc	**PKPbc**	**06 51 40.0**	**+0.7**
	1.5nm,0.7s,baz=264,slow=4.1,SNR=7.2						

MAN 28 06:34:46.0, 9°.31N×125°.46E, h1km, mb4.5, ML3.3, MS3.1, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.38**	**155**	*eP*	Pg	06 34 53.2	-0.1
MSLP	**Maasin**	**1.01**	**324**	*eP*	Pg	06 35 05.2	-0.2
CGP	**Cagayan de Oro**	**1.14**	**222**	⇓*iP*	Pb	06 35 08.8	+0.3
CGP				*i* S	Sn	06 35 25.2	-0.2
BIPH	**Bislig**	**1.43**	**141**	⇓*eP*	Pn	06 35 11.4	-1.8
BIPH				*eS*	Sg	06 35 26.2	-5.9
BUKP	**Musuan**	**1.48**	**195**	*eP*	Pn	06 35 13.6	-0.2
BUKP				*eS*	Sn	06 35 36.3	+2.5
PLP	**Palo**	**1.90**	**346**	⇓*eP*	Pn	06 35 19.7	+0.1
PLP				*eS*	Sg	06 35 46.9	-0.2
DCPH	**Dipolog City**	**2.21**	**251**	⇑*eP*	Pb	06 35 26.0	-0.7
MATI	**Mati**	**2.48**	**161**	*eP*	Pn	06 35 28.3	+0.7
MATI				*eS*	Sn	06 35 59.9	+1.3
PAGZ	**Pagadian**	**2.52**	**235**	*eP*	Pn	06 35 29.8	+1.7

MAN 28 06:36:03.0, 16°.22N×119°.99E, h31km, mb4.5, ML3.3, MS3.1, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.18**	**336**	*eP*	Pn	06 36 10.5	+0.9
BOLP				*eS*	Sn	06 36 15.6	+1.9
SCZP	**Santa Cruz**	**0.45**	**189**	*eP*	Pn	06 36 13.9	+0.6
SCZP				*eS*	Sn	06 36 21.2	+0.9
SMPP	**San Manuel, Pa**	**0.67**	**96**	*eP*	Pn	06 36 16.9	+0.5
SMPP				*eS*	Sn	06 36 26.0	+0.1
APYP	**Conner**	**2.03**	**36**	*eP*	Pn	06 36 35.1	0.0
APYP				*eS*	Sb	06 37 05.4	+1.3

*IDC **28** 06:39:25.6±2.2, 4°.75N×95°.83E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/47, mbtmp3.4/5, ML3.3/1, MS3.8/1, Ms1 3.8/1, ms1mx2.7/35, Error ellipse: s-maj=78.0km s-min=18.2km az=50.0*

*DJA **28** 06:39:30.1±0.5, 5°.N±5°.×9°.6E±°, h10km, M3.7/6, MLv3.7/6*

ISC 28 06:39:26.5±1.3, 4°.52N±0°.09×95°.5E±0°.2, h10km, n14, σ1s26/12, mb3.4/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**0.99**	**348**	P	**Pb**	**06 39 48.0**	**+2.3**
LHMI	**Lhok Sumawe**	**1.61**	**64**	P	Pn	06 39 48.0	-6.9
TPTI		**2.10**	**127**	P	**Pn**	**06 40 01.9**	**+0.2**
TPTI				S	**Sn**	**06 40 27.5**	**-0.3**
SNSI	**Sinabang, Aceh**	**2.26**	**158**	P	**Pb**	**06 40 09.1**	**+1.8**
KCSI	**Kotacane, Aceh**	**2.48**	**114**	P	**Pn**	**06 40 07.3**	**+0.4**
KCSI				S	**Sn**	**06 40 37.3**	**0.0**
PSI	**Prapat**	**3.83**	**116**	Pn	**Pn**	**06 40 26.2**	**+0.6**
	2.4nm,0.3s,baz=360,slow=12,SNR=10.0						
PSI				Sn	**Sn**	**06 41 11.1**	**+0.4**
	3.1nm,0.3s,baz=360,slow=11,SNR=4.0						
PSI				Lg	Lg	06 41 21.7	
	2.9nm,0.3s,baz=360,slow=2.1,SNR=4.9						
H08S2	**Diego Garcia H**	**25.94**	**242**	T	T	07 12 19.1	
	baz=61,slow=74						
H08S3	**Diego Garcia H**	**25.94**	**242**	T	T	07 12 22.0	
	baz=61,slow=74						
H08S1	**Diego Carcia H**	**25.95**	**242**	T	T	07 12 20.4	
	baz=61						
MKAR	**Makanchi Array**	**43.64**	**347**	P	**P**	**06 47 30.6**	**-0.6**
	0.1nm,0.4s,baz=156,slow=8.6,SNR=2.8						
SONM	**Songino Array**	**44.16**	**11**	P	**P**	**06 47 33.7**	**-1.8**
	0.2nm,0.4s,baz=219,slow=9.7,SNR=2.8						
WRA	**Warramunga Arr**	**45.26**	**124**	P	**P**	**06 47 43.4**	**-1.1**
	0.3nm,0.5s,baz=302,slow=9.4,SNR=9.1						
ASAR	**Alice Springs**	**46.76**	**129**	P	**P**	**06 47 56.1**	**-0.3**
	1.1nm,0.6s,baz=299,slow=7.6,SNR=16						
JHJ	**Hachijo jima 2**	**50.10**	**50**	LR	LR	07 08 42.1	
	comp=Z,100nm,21.1s,baz=88,slow=35						

*NNC **28** 06:50:52.6±0.8, 47°.42N×80°.96E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=6.1km s-min=3.3km az=8.0*

*SOME **28** 06:50:54.0, 47°.27N×80°.80E, h0km*

ISC 28 06:50:53.2±1.1, 47°.36N±0°.06×80°.92E±0°.03, h10km, n27, σ2s16/39, 5C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**0.91**	**127**	⇓P	**Pg**	**06 51 09.9**	**-0.8**
	2.8nm,0.5s						
MAKZ				⇓S	**Sg**	**06 51 23.5**	**+0.9**
	2.7nm,0.1s						
MK31	**Makanchi Array**	**1.10**	**120**	⇓P	**Pb**	**06 51 13.0**	**-1.2**
	0.8nm,0.2s,baz=295,slow=18,SNR=127						
MK31				S	**Sg**	**06 51 29.1**	**+0.6**
	9.7nm,0.3s,baz=330,slow=15,SNR=24						
KAPS	**Kapalarasan**	**2.34**	**208**	Pg	**Pb**	**06 51 36.6**	**+1.1**
	2.5nm,0.1s						
KAPS				Lg	Lg	06 52 07.7	
	22nm,0.4s						
KAPS	**Kapalarasan**	**2.34**	**208**	*eP*	**Pb**	**06 51 36.5**	**+1.1**
	0.9nm,0.1s						
KAPS				⇓*iS*	**Sg**	**06 52 07.7**	**-0.6**
	22nm,0.3s						
ZSN	**Zaisan**	**2.69**	**87**	⇑*iP*	**Pb**	**06 51 41.0**	**-0.3**
	1.1nm,0.3s						
ZSN				*eS*	**Sb**	**06 52 15.9**	**+1.6**
	3.7nm,0.3s						
DJR	**Jarkent**	**3.13**	**195**	Pg	**Pg**	**06 51 52.6**	**-0.5**
	0.6nm,0.1s						
DJR				Lg	Lg	06 52 32.7	
	6.2nm,0.5s						
DJR				Lg	Lg	06 52 32.9	
	6.4nm,0.3s						
DJR	**Jarkent**	**3.13**	**195**	*eP*	**Pb**	**06 51 50.0**	**+1.1**
	0.3nm,0.2s						
DJR				*eS*	**Sg**	**06 52 31.3**	**-2.3**
	6.2nm,0.5s						
KURK	**Kurchatov**	**3.68**	**337**	⇑Pn	**Pn**	**06 51 50.6**	**+0.4**
	0.9nm,0.3s						
KURK				⇑Lg	Lg	06 52 46.8	
	4.9nm,0.6s						
MNBS	**Baschi**	**3.72**	**209**	Pg	**Pg**	**06 52 04.7**	**+0.2**
	1.1nm,0.3s						
MNBS				Lg	Lg	06 52 53.2	
	17nm,0.3s						
MNBS				Lg	Lg	06 52 53.2	
	18nm,0.4s						
MNBS	**Baschi**	**3.72**	**209**	*eP*	**Pg**	**06 52 02.5**	**-1.9**
	1.3nm,0.3s						
MNBS				*eS*	**Sg**	**06 52 53.2**	**+0.5**
	17nm,0.3s						
PDGK	**Podgornoye**	**4.15**	**195**	Pg	**Pg**	**06 52 12.3**	**-0.4**
	0.5nm,0.4s						
PDGK				Lg	Lg	06 53 06.2	
	5.6nm,0.6s						
PDGK				Lg	Lg	06 53 06.3	
	5.4nm,0.7s						
SHLS	**Shalkode**	**4.32**	**194**	Pg	**Pg**	**06 52 15.3**	**-0.7**
	4.1nm,0.3s						
SHLS				Lg	Lg	06 53 11.5	
	4.2nm,0.5s						
UZB	**Uzynbulak**	**4.42**	**198**	Pg	**Pg**	**06 52 16.6**	**-1.1**
	0.8nm,0.3s						
UZB				Lg	Lg	06 53 13.5	
	3.0nm,0.2s						
UZB				Lg	Lg	06 53 13.6	
	3.1nm,0.3s						
UZB	**Uzynbulak**	**4.42**	**198**	*eP*	**Pb**	**06 52 14.1**	**+3.2**
	2.0nm,0.7s						
UZB				*eS*	**Sg**	**06 53 13.6**	**-1.4**
	3.1nm,0.3s						
CHKK	**Chushkaly**	**4.46**	**220**	Pg	**Pg**	**06 52 16.6**	**-2.0**
	1.0nm,0.2s						
CHKK				Lg	Lg	06 53 13.8	
	11nm,0.3s						
CHKK				Lg	Lg	06 53 13.9	
	11nm,0.3s						
CHKK	**Chushkaly**	**4.46**	**220**	*eP*	**Pb**	**06 52 14.2**	**+2.7**
	1.0nm,0.3s						
CHKK				*eS*	**Sg**	**06 53 13.8**	**-2.4**
	11nm,0.3s						
SATY	**Saty**	**4.65**	**203**	Pg	**Pg**	**06 52 21.5**	**-0.7**
	1.7nm,0.2s						
SATY				Lg	Lg	06 53 22.1	
	10nm,0.2s						
SATY	**Saty**	**4.65**	**203**	*eP*	**Pb**	**06 52 17.6**	**+2.7**
	3.1nm,0.5s						
SATY				⇑*iS*	**Sg**	**06 53 19.3**	**-3.1**
	10nm,0.3s						
KTBS	**Karatobe**	**4.71**	**221**	Pg	**Pg**	**06 52 21.0**	**-2.3**
	1.0nm,0.6s						
KTBS				Lg	Lg	06 53 21.8	
	12nm,0.5s						
KTBS				Lg	Lg	06 53 21.8	
	12nm,0.5s						
KTBS	**Karatobe**	**4.71**	**221**	*eP*	**Pb**	**06 52 19.0**	**+3.2**
	1.0nm,0.3s						
KTBS				*eS*	**Sg**	**06 53 21.8**	**-2.4**
	12nm,0.5s						
KUU	**Kurty**	**4.72**	**224**	Pg	**Pb**	**06 52 18.9**	**+2.9**
	0.9nm,0.4s						
KUU				Lg	Lg	06 53 21.8	
	11nm,0.5s						
KUU	**Kurty**	**4.72**	**224**	*eP*	**Pb**	**06 52 18.9**	**+2.9**
	0.9nm,0.4s						
KUU				*eS*	**Sg**	**06 53 21.8**	**-3.0**
	11nm,0.5s						
KOTS	**Kotyrbulak**	**4.92**	**214**	Pg	**Pg**	**06 52 25.5**	**-1.8**
	1.3nm,0.3s						
KOTS				Lg	Lg	06 53 29.6	
	6.5nm,0.6s						
KOTS				Lg	Lg	06 53 29.6	
	6.5nm,0.6s						
KOTS	**Kotyrbulak**	**4.92**	**214**	*eP*	**Pb**	**06 52 23.5**	**+4.0**
	1.3nm,0.4s						
KOTS				*eS*	**Sg**	**06 53 29.6**	**-1.5**
	6.5nm,0.6s						
IZV	**Izvestkoviy**	**5.28**	**217**	Pg	**Pg**	**06 52 32.6**	**-1.8**
	0.5nm,0.2s						
IZV				Lg	Lg	06 53 41.4	
	4.4nm,0.5s						
KST	**Kastek**	**5.55**	**221**	Lg	Lg	06 53 47.5	
	5.1nm,1.0s						
KST	**Kastek**	**5.55**	**221**	*eP*	**Pb**	**06 52 34.0**	**+3.7**
	5.1nm,0.9s						
KST				⇑*iS*	**Sg**	**06 53 47.5**	**-3.9**
	5.1nm,1.0s						

*MOS **28** 06:58:46.5±2.4, 49°.17N×156°.76E, h8km, mb4.1/1, Error ellipse: s-maj=50.9km s-min=6.1km az=81.2*

KRSC 28 06:58:46.5±1.7, 49°.17N×156°.76E, h8km±27km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.57**	**345**	*eP*	Pn	06 59 13.9	-0.7
SKR				*eS*	Sn	06 59 33.5	-1.6
SKR	**Severo-Kuril's**	**1.57**	**345**	*ePN*	Pn	06 59 14.3	-0.3
SKR				*eS*	Sn	06 59 34.7	-0.4
SKR				pmax	pmax		
	comp=Z,108nm,0.6s						
SKR				smax	smax		
	comp=N,481nm,0.6s						
SKR				smax	smax		
	comp=E,591nm,0.7s						
PAU	**Pauzhetka**	**2.30**	**1**	*eP*	Pn	06 59 26.1	+1.5
PAU				*eS*	Sb	06 59 54.9	-1.8
PAU	**Pauzhetka**	**2.30**	**1**	PN	Pn	06 59 26.1	+1.5
PAU				S	Sb	06 59 54.9	-1.8
KDTR	**Khodutka, Kamc**	**2.77**	**17**	*eP*	Pb	06 59 34.1	-2.1
KDTR				*eS*	Sb	07 00 08.7	-1.6
KDTR	**Khodutka, Kamc**	**2.77**	**17**	PN	Pb	06 59 34.1	-2.1
KDTR				S	Sb	07 00 08.7	-1.6
MTVR	**Mutnovka**	**3.43**	**15**	*eP*	Pn	06 59 43.8	+3.4
MTVR				*eS*	Sn	07 00 25.2	+3.8
MTVR	**Mutnovka**	**3.43**	**15**	PN	Pn	06 59 43.8	+3.4
MTVR				S	Sn	07 00 25.2	+3.8
RUS	**Russkaya**	**3.45**	**18**	*eP*	Pn	06 59 42.5	+2.0
RUS				*eS*	Sn	07 00 24.9	+3.4
RUS	**Russkaya**	**3.45**	**18**	PN	Pn	06 59 42.5	+2.0
RUS				S	Sn	07 00 24.9	+3.4
KRMR	**Karymshinskiy**	**3.76**	**13**	*eP*	Pn	06 59 48.8	+4.0
KRMR	**Karymshinskiy**	**3.76**	**13**	PN	Pn	06 59 48.8	+4.0
PET	**Petropavlovsk**	**4.04**	**16**	*ePN*	Pb	06 59 55.6

GUMO					LR	LR	07 01 56.3		
	comp=Z,108nm,19.3s,baz=268,slow=57								
H11N1	**WAKE ISLAND Hy**	**21.67**	**69**		T	T	07 29 12.2		
	baz=256,slow=75,SNR=6.5								
H11N2	**WAKE ISLAND Hy**	**21.68**	**69**		T	T	07 29 10.4		
	baz=256,slow=75,SNR=3.5								
H11N3	**WAKE ISLAND Hy**	**21.69**	**69**		T	T	07 29 10.9		
	baz=256,slow=75,SNR=6.4								
WRA	**Warramunga Arr**	**34.39**	**199**		P	P	07 07 53.1	-0.4	
	0.2nm,0.6s,baz=19,slow=9.9,SNR=1.8								
ASAR	**Alice Springs**	**38.02**	**197**		P	P	07 08 24.8	+0.2	
	0.6nm,1.0s,baz=31,slow=11,SNR=4.0								
ILAR	**Eielson Array**	**68.98**	**25**		P	P	07 12 11.1	-0.2	
	0.4nm,0.5s,baz=249,slow=6.0,SNR=10								
YKA	**Yellowknife Ar**	**83.24**	**27**		P	P	07 13 32.9	+0.3	
	0.4nm,0.6s,baz=287,slow=4.9,SNR=5.5								

*DDA **28** 07:02:46.4,40.°88N×34.°22E,h7km±2km,ML2.8*
*ISCJB **28** 07:02:47.5±0.7,40.°88N±0.°03×34.°26E±0.°03,h4km±6km, Error ellipse: s-maj=5.5km s-min=3.8km az=153.7*
*ISK **28** 07:02:47.2,40.°91N×34.°23E,h13km,ML2.4/6*
ISC 28 07:02:47.3±1.0,40.°88N±0.°03×34.°24E±0.°02,h12km±8km, n19,σ0°65/31,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TOS	**Tosya**	**0.23**	**313**	PG		**Pg**	**07 02 51.9**	**-0.2**
TOS				SG		**Sg**	**07 02 55.5**	**+0.1**
ELDT	**Eldivan**	**0.73**	**238**	*i* P		**Pb**	**07 03 02.4**	**+0.3**
ELDT				*i* S		**Sn**	**07 03 13.8**	**-1.1**
COAL	**Corum-Alaca**	**0.85**	**138**	*i* P		**Pg**	**07 03 03.4**	**-0.2**
COAL				*i* S		**Sn**	**07 03 17.6**	**+0.1**
DELI	**KIRIKKALE**	**0.92**	**196**	*i* P		**Pb**	**07 03 05.0**	**-0.2**
DELI				*i* S		**Sb**	**07 03 17.8**	**+0.4**
DIKM	**Dikmen**	**1.08**	**45**	PG		**Pn**	**07 03 09.2**	**+0.9**
DIKM				SG		**Sn**	**07 03 22.9**	**-0.4**
HAVZ	**Havza**	**1.13**	**80**	*i* P		**Pb**	**07 03 08.4**	**-0.4**
HAVZ				*i* S		**Sn**	**07 03 25.4**	**+0.9**
CDAG	**Cicekdag**	**1.26**	**175**	IAML_P				
	comp=Z,724nm,0.3s							
CDAG				*i* P		**Pg**	**07 03 11.3**	**-0.2**
KBUK	**KARABUK-Merkez**	**1.27**	**287**	IAML_P				
	comp=Z,549nm,0.1s							
KBUK				*e*P		**Pn**	**07 03 10.0**	**-0.9**
KBUK				*i* S		**Sn**	**07 03 28.2**	**+0.3**
SINO	**SINOP_Merkez**	**1.34**	**32**	IAML_P				
	comp=Z,402nm,0.1s							
SINO				*e*P		**Pg**	**07 03 12.7**	**-0.4**
SINO				*i* S		**Sg**	**07 03 32.1**	**+1.6**
SNOP	**Sinop**	**1.35**	**32**	PN		**Pb**	**07 03 12.3**	**-0.2**
KVT	**Kavak**	**1.38**	**81**	PN		**Pn**	**07 03 12.5**	**+0.1**
KVT				SN		**Sg**	**07 03 31.5**	**-0.2**
YOZ	**Yozgat**	**1.49**	**146**	PN		**Pg**	**07 03 15.8**	**-0.1**
ANTO	**Ankara**	**1.50**	**228**	PN		**Pb**	**07 03 14.7**	**-0.4**
BCAM	**Yenicaga**	**1.65**	**268**	*i* P		**Pg**	**07 03 18.4**	**-0.5**
BCAM				*i* S		**Sg**	**07 03 41.2**	**+0.8**
AFSR	**Afar-Bala (An**	**1.69**	**212**	PN		**Pn**	**07 03 17.1**	**+0.3**
ERBA	**Erbaa**	**1.92**	**95**	*e*P		**Pg**	**07 03 23.1**	**-0.9**
ERBA				*e*S		**Sn**	**07 03 43.6**	**-0.4**
YAYX	**Yaylak**	**1.97**	**190**	PN		**Pn**	**07 03 21.4**	**+0.8**
SERE	**Serefiikochisa**	**2.00**	**195**	PN		**Pn**	**07 03 21.7**	**+0.6**
CUSAR	**Sarkisla-SIVAS**	**2.12**	**133**	*i* P		**Pb**	**07 03 24.7**	**-1.0**
CUSAR				*i* S		**Sg**	**07 03 55.9**	**+0.4**

IDC 28 07:08:38.6±3.2,10.°29N×93.°10E,h0km,mb3.6/5, mb1 3.8/5,mb1mx3.5/41,mbtmp3.6/5,Error ellipse: s-maj=136.3km s-min=23.1km az=66.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**27.17**	**230**	T		T	07 41 09.3	
	baz=52,slow=74							
H08S2	**Diego Garcia H**	**27.18**	**230**	T		T	07 41 08.2	
	baz=52,slow=74							
H08S1	**Diego Carcia H**	**27.19**	**230**	T		T	07 41 31.8	
	baz=52							
MKAR	**Makanchi Array**	**37.52**	**348**	P		P	07 15 54.2	-0.1
	0.2nm,0.3s,baz=163,slow=8.9,SNR=4.5							
SONM	**Songino Array**	**39.06**	**14**	P		P	07 16 07.4	0.0
	0.2nm,0.4s,baz=207,slow=9.0,SNR=2.0							
WRA	**Warramunga Arr**	**50.51**	**127**	P		P	07 17 38.2	-0.8
	0.3nm,0.4s,baz=307,slow=8.3,SNR=12							
ASAR	**Alice Springs**	**52.25**	**131**	P		P	07 17 52.5	+0.4
	1.1nm,0.6s,baz=304,slow=7.0,SNR=19							
STKA	**Stephens Creek**	**62.51**	**134**	P		P	07 19 04.5	+0.1
	1.3nm,0.7s,baz=310,slow=7.9,SNR=2.4							

*NIED **28** 07:12:00,37.°00N×143.°20E,h5km,Mw4.2 Best double couple: M0≥2.34000×10^15 NP1:φ±25.00000°,δ19.00000°, λ-94.00000°. NP2:φ±210.00000°,δ71.00000°, λ-88.00000°.*
*IDC **28** 07:12:32.8±0.6,36.°82N×143.°37E,h0km,mb4.1/19, mb1 4.3/22,mb1mx4.2/41,mbtmp4.1/22,ML3.1/3,MS3.2/3, Ms1 3.2/3,ms1mx2.8/44,Error ellipse: s-maj=16.5km s-min=14.2km az=129.0*
*JMA **28** 07:12:35.7±0.2,36.°97N×143.°24E,h49km,M4.2*
*ISCJB **28** 07:12:36.4±0.3,36.°91N±0.°03×143.°15E±0.°03,h33km, mb4.2/30,Error ellipse: s-maj=4.7km s-min=3.5km az=165.3*
*NEIC **28** 07:12:38.4±0.3,36.°95N×143.°29E,h35km,mb4.4/12,Error ellipse: s-maj=8.2km s-min=7.2km az=156.0*
ISC 28 07:12:38.1±0.5,36.°97N±0.°05×143.°24E±0.°06,h35km,n79, σ1°73/91,mb4.2/30,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.93**	**283**	P		**Pn**	**07 13 07.0**	**-1.6**
JFK				*e*S		**Sn**	**07 13 29.7**	**-1.9**
JIKH	**Ishinomakibobu**	**1.94**	**314**	P		**Pn**	**07 13 07.1**	**-1.6**
JIKH				S		**Sn**	**07 13 30.0**	**-1.9**
ONAJ	**Iwakimizuishiy**	**1.96**	**275**	P		**Pn**	**07 13 07.3**	**-1.6**
JIO	**Ouri**	**2.11**	**315**	P		**Pn**	**07 13 09.6**	**-1.3**
JIO				S		**Sn**	**07 13 34.4**	**-1.5**
JMM	**Marumori**	**2.15**	**295**	P		**Pn**	**07 13 10.2**	**-1.2**
JMM				*e*S		**Sn**	**07 13 35.5**	**-1.3**
JFT	**Otama**	**2.38**	**284**	P		**Pn**	**07 13 14.2**	**-0.5**
JMK	**Ichinoseki**	**2.54**	**322**	P		**Pn**	**07 13 15.7**	**-1.2**
JOM	**Ohasama**	**2.93**	**329**	P		**Pn**	**07 13 20.8**	**-1.5**
BSO1	**Boso 1**	**2.95**	**219**	P		**Pn**	**07 13 20.8**	**-1.3**
BSO1				*e*S		**Sn**	**07 13 55.0**	**-1.0**
JYK	**Kaneyama**	**3.00**	**311**	P		**Pn**	**07 13 22.5**	**-0.6**
JAG	**Ashikaga**	**3.09**	**261**	P		**Pn**	**07 13 23.4**	**-1.1**
JRY	**Ryogami san**	**3.62**	**256**	P		**Pn**	**07 13 30.6**	**-1.2**
JRY				*e*S		**Sn**	**07 14 10.6**	**-2.8**
JANG	**Nango**	**3.66**	**339**	P		**Pn**	**07 13 30.2**	**-2.0**
JANG				*e*S		**Sn**	**07 14 10.9**	**-3.3**
JOD2	**Odawara 2**	**3.77**	**244**	P		**Pn**	**07 13 32.5**	**-1.3**
JOD2				*e*S		**Sn**	**07 14 14.0**	**-2.9**
MJAR	**Matsushiro Arr**	**4.07**	**265**	Pn		**Pn**	**07 13 37.8**	**-0.1**
	1.7nm,0.3s,baz=92,slow=8.4,SNR=66							
MJAR				Sn		**Sn**	**07 14 20.9**	**-3.4**
	0.8nm,0.3s,baz=57,slow=26,SNR=4.9							
MAJO	**Matsushiro**	**4.07**	**266**	*e*Pn		**Pn**	**07 13 38.4**	**+0.5**
MAJO				*e*Sn		**Sn**	**07 14 20.6**	**-3.7**
MAT	**Matsushiro**	**4.07**	**266**	P		**Pn**	**07 13 38.3**	**+0.4**
MAT				*e*S		**Sn**	**07 14 20.4**	**-3.9**
MAT	**Matsushiro**	**4.07**	**266**	P		**Pn**	**07 13 38.0**	**+0.1**
JYN	**Shimob**	**4.07**	**250**	P		**Pn**	**07 13 37.6**	**-0.4**
JYN				*e*S		**Sn**	**07 14 24.0**	**-0.5**
JHJ	**Hachijo jima 2**	**4.78**	**217**	Sn		**Sn**	**07 14 35.6**	**-6.1**
	63nm,0.3s,baz=73,slow=19,SNR=4.2							
ERM	**Erimo**	**5.04**	**359**	*e*Pn		**Pn**	**07 13 48.8**	**-2.4**
ERM				*e*Sn		**Sn**	**07 14 44.6**	**-3.6**
INU	**Inuyama**	**5.29**	**254**	*e*Pn		**Pn**	**07 13 55.5**	**+0.9**
ASAJ	**Asahikawa**	**7.16**	**356**	Pn		**Pn**	**07 14 18.4**	**-1.9**
	9.1nm,0.3s,baz=217,slow=11,SNR=36							
ASAJ				Sn		**Sn**	**07 15 35.3**	**-5.0**
	1.5nm,0.3s,baz=60,slow=20,SNR=2.0							
ASAJ				LR		LR	07 18 06.9	
	comp=Z,154nm,18.0s,baz=204,slow=46							
ASAJ	**Asahikawa**	**7.16**	**356**	*e*Pn		**Pn**	**07 14 18.4**	**-1.9**
ASAJ				*e*Sn		**Sn**	**07 15 38.7**	**-1.6**
USRK	**Ussuriysk Ar.**	**11.19**	**314**	Pn		**Pn**	**07 15 14.7**	**-0.8**
	0.5nm,0.3s,baz=121,slow=14,SNR=9.8							
USRK				LR		LR	07 19 30.3	
	comp=Z,102nm,18.2s,baz=141,slow=37							
KSRS	**Korea Array**	**12.23**	**277**	Pn		**Pn**	**07 15 31.3**	**+1.6**
	0.2nm,0.3s,baz=90,slow=14,SNR=18							
KSRS				LR		LR	07 19 18.0	
	comp=Z,134nm,21.8s,baz=21,slow=33							
KSAR	**Wonju Array Be**	**12.26**	**277**	Pn		**Pn**	**07 15 31.3**	**+1.1**
KLR	**Kul'dur**	**14.83**	**329**	Pn		**Pn**	**07 16 02.1**	**-3.1**
	0.4nm,0.3s,baz=130,slow=13,SNR=23							
MA2	**Magadan**	**23.14**	**10**	P		**P**	**07 17 41.6**	**+0.5**
	5.3nm,0.7s,baz=191,slow=17,SNR=3.4							
SEY	**Seymchan**	**26.59**	**9**	P		**P**	**07 18 14.7**	**+1.9**
	2.1nm,0.7s,baz=191,slow=7.1,SNR=8.3							
H11N2	**WAKE ISLAND Hy**	**26.87**	**123**	T		T	07 46 23.9	
	baz=314,slow=76,SNR=7.9							
H11N1	**WAKE ISLAND Hy**	**26.88**	**123**	T		T	07 46 15.8	
	baz=314,slow=76,SNR=5.1							
H11N3	**WAKE ISLAND Hy**	**26.89**	**123**	T		T	07 46 23.0	
	baz=314,slow=76,SNR=5.6							
SONA1	**Songino Array**	**29.03**	**304**	*e*P		**P**	**07 18 37.1**	**+2.2**
SONA0	**Songino Array**	**29.04**	**304**	*e*P		**P**	**07 18 37.1**	**+2.2**
SONM	**Songino Array**	**29.04**	**304**	P		**P**	**07 18 37.1**	**+2.2**
	5.5nm,0.7s,baz=100,slow=7.5,SNR=47							
ZAA1	**Zalesovo Array**	**43.04**	**312**	*e*P		**P**	**07 20 34.8**	**+0.7**
ZALV	**Zalesovo Beam**	**43.04**	**312**	P		**P**	**07 20 34.8**	**+0.7**
	1.8nm,0.7s,baz=95,slow=8.8,SNR=3.8							
MK01	**Makanchi Array**	**45.39**	**302**	*e*P		**P**	**07 20 54.5**	**+1.3**
MK31	**Makanchi Array**	**45.39**	**302**	*e*P		**P**	**07 20 53.5**	**+0.4**
MK32	**Makanchi Array**	**45.39**	**302**	*e*P		**P**	**07 20 54.3**	**+1.2**
MKAR	**Makanchi Array**	**45.39**	**302**	P		**P**	**07 20 54.3**	**+1.2**
	2.1nm,0.8s,baz=92,slow=8.5,SNR=12							
MKAR	**Makanchi Array**	**45.39**	**302**	*e*P		**P**	**07 20 53.1**	**0.0**
	16nm,0.8s							
MAKZ	**Makanchi**	**45.60**	**303**	*e*P		P	07 20 59.4	+4.6
	1.7nm,0.8s							
KDAK	**Kodiak Island**	**46.17**	**42**	P		**P**	**07 20 58.3**	**-0.7**
	4.7nm,0.8s,baz=287,slow=14,SNR=4.1							
KURK	**Kurchatov**	**47.12**	**308**	*e*P		**P**	**07 21 07.9**	**+1.3**
	13nm,0.6s							
ILAR	**Eielson Array**	**48.77**	**32**	P		**P**	**07 21 19.4**	**+0.3**
	1.1nm,0.6s,baz=260,slow=6.3,SNR=25							
ILB	**Eielson Array**	**48.77**	**32**	*e*P		**P**	**07 21 19.1**	**0.0**
INK	**Inuvik**	**53.78**	**27**	P		**P**	**07 21 57.7**	**+1.1**
	1.8nm,0.6s,baz=306,slow=6.6,SNR=15							
WB2	**Warramunga Arr**	**57.22**	**190**	*e*P		**P**	**07 22 20.0**	**-1.9**
WR1	**Warramunga Arr**	**57.22**	**190**	*e*P		**P**	**07 22 20.6**	**-1.4**
WRA	**Warramunga Arr**	**57.23**	**190**	P		**P**	**07 22 20.6**	**-1.4**
	5.3nm,0.8s,baz=8.9,slow=7.4,SNR=33							
FITZ	**Fitzroy Crossi**	**57.23**	**200**	*e*P		**P**	**07 22 22.1**	**+0.1**
ABKAR	**Akbulak array**	**59.10**	**311**	*e*P		**P**	**07 22 36.2**	**+1.4**
AS01	**Alice Springs**	**60.94**	**190**	*e*P		**P**	**07 22 46.9**	**-0.7**
AS31	**Alice Springs**	**60.95**	**190**	*e*P		**P**	**07 22 48.4**	**+0.7**
	0.9nm,0.6s							
ASAR	**Alice Springs**	**60.95**	**190**	P		**P**	**07 22 46.8**	**-0.9**
	2.5nm,0.7s,baz=18,slow=8.4,SNR=26							
RES	**Resolute Bay**	**62.29**	**15**	P		**P**	**07 22 56.0**	**-0.1**
	0.8nm,0.6s,baz=292,slow=9.4,SNR=4.3							
YKA	**Yellowknife Ar**	**63.12**	**31**	P		**P**	**07 23 02.3**	**+0.5**
	0.4nm,0.6s,baz=302,slow=6.7,SNR=6.9							
YKA				PcP		**PcP**	**07 23 39.9**	**+0.7**
	0.2nm,0.5s,baz=298,slow=4.0,SNR=5.2							
GEYT	**Alibeck**	**65.14**	**300**	P		**P**	**07 23 16.8**	**+1.2**
	8.3nm,0.3s,baz=95,slow=7.2,SNR=3.0							
STKA	**Stephens Creek**	**68.51**	**182**	P		**P**	**07 23 36.0**	**-0.7**
	4.2nm,0.9s,baz=342,slow=6.1,SNR=3.4							
FIA0	**FINESS Array S**	**69.55**	**333**	*e*P		**P**	**07 23 43.4**	**+0.4**
FINES	**FINESS Array B**	**69.55**	**333**	P		**P**	**07 23 43.4**	**+0.4**
	4.6nm,1.0s,baz=354,slow=5.6,SNR=3.6							
DLMT	**Dillon**	**73.35**	**46**	*e*P		**P**	**07 24 07.4**	**+1.0**
	2.0nm,0.8s							
BOZ	**Bozeman (W)**	**73.76**	**45**	*e*P		**P**	**07 24 09.3**	**+0.4**
	2.5nm,0.8s							
NV01	**Mina Array Sit**	**73.85**	**54**	*e*P		**P**	**07 24 10.5**	**+0.9**
NVAR	**Mina Array Bea**	**73.85**	**54**	P		**P**	**07 24 10.6**	**+1.0**
	1.6nm,0.7s,baz=287,slow=6.1,SNR=10							
ELK	**Elko**	**74.47**	**51**	P		**P**	**07 24 13.7**	**+0.5**
	0.4nm,0.5s,baz=292,slow=5.4,SNR=2.3							
AKASG	**Malin Array Be**	**75.24**	**323**	P		**P**	**07 24 17.6**	**+0.5**
	0.3nm,0.4s,baz=48,slow=6.1,SNR=3.8							
PDAR	**Pinedale Array**	**76.66**	**46**	P		**P**	**07 24 24.9**	**-0.8**
	0.6nm,0.7s,baz=265,slow=2.1,SNR=9.0							
LCMT	**Little Creek M**	**77.93**	**53**	*e*P		**P**	**07 24 34.5**	**+1.7**
	1.9nm,0.7s							
P17A	**Butcher Ranch,**	**77.99**	**50**	*e*P		**P**	**07 24 33.5**	**+0.4**
	2.6nm,0.8s							
SRU	**San Rafael Swe**	**78.34**	**50**	*e*P		**P**	**07 24 36.5**	**+1.4**
	3.7nm,0.7s							
PV21	**Cone Mtn., Par**	**79.63**	**49**	*e*P		**P**	**07 24 42.5**	**+0.2**
	5.4nm,0.7s							
PV11	**David Mesa, Pa**	**79.86**	**50**	*e*P		**P**	**07 24 43.1**	**-0.3**
	5.0nm,0.7s							
TX31	**Lajitas Ar. Si**	**88.99**	**53**	*e*P		**P**	**07 25 30.2**	**+0.6**
LTX	**Lajitas**	**88.99**	**53**	*e*P		**P**	**07 25 30.1**	**+0.5**
TXAR	**Lajitas Array**	**88.99**	**53**	P		**P**	**07 25 30.1**	**+0.5**
	0.8nm,0.6s,baz=296,slow=3.6,SNR=14							
LPAZ	**La Paz**	**145.45**	**62**	PKPbc		**PKPab**	**07 32 13.3**	**-0.5**
	1.6nm,0.7s,baz=295,slow=1.8,SNR=8.0							

*IDC **28** 07:17:57.6±1.4,34.°70N×24.°07E,h0km,mb3.7/4, mb1 3.5/6,mb1mx3.3/38,mbtmp3.5/6,ML3.3/2,Error ellipse: s-maj=78.8km s-min=22.9km az=137.0*
*ISCJB **28** 07:18:00.1±1.5,34.°57N±0.°07×23.°96E±0.°05,h21km±8km, mb3.7/4,Error ellipse: s-maj=12.3km s-min=5.6km az=20.2*
*THE **28** 07:18:00.6,34.°65N×23.°89E,h16km±1km,ML3.5/4,Error ellipse: s-maj=2.5km s-min=1.4km az=222.0*
*ATH **28** 07:18:01.9,34.°75N×24.°03E,h25km±1km,ML3.3/5,Error ellipse: s-maj=3.9km s-min=1.2km az=27.0*
ISC 28 07:18:01.9±1.1,34.°72N±0.°07×24.°01E±0.°04,h25km±5km, n55,σ1°57/64,mb3.7/4,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.13**	**28**	P		**Pb**	**07 18 06.5**	**-0.3**
GVD				S		**Sb**	**07 18 10.3**	**+0.2**
GVD				AML	AML		07 18 10.6	
GVD				AML	AML		07 18 10.7	
GVD	**Gavdhos**	**0.13**	**28**	P		**Pb**	**07 18 06.5**	**-0.3**
GVD				S		**Sb**	**07 18 10.3**	**+0.2**
VAM	**Vamos**	**0.70**	**13**	P		**Pb**	**07 18 14.9**	**-0.5**
VAM				AML	AML		07 18 33.3	
	comp=N,5132μm,0.4s							
VAM				AML	AML		07 18 33.5	
	comp=E,4360μm,0.5s							
VAM	**Vamos**	**0.70**	**13**	P		**Pb**	**07 18 14.9**	**-0.5**
VAM				S		**Sn**	**07 18 27.4**	**+1.2**
TMBK	**Timbaki Herakl**	**0.71**	**60**	P		**Pb**	**07 18 16.0**	**+0.4**
TMBK				S		**Sn**	**07 18 27.6**	**+1.2**
IMMV	**Iera Moni Meta**	**0.73**	**358**	P		**Pb**	**07 18 15.5**	**-0.6**
IMMV				S		**Sb**	**07 18 26.8**	**+0.1**
IMMV	**Iera Moni Meta**	**0.73**	**358**	P		**Pb**	**07 18 15.5**	**-0.6**
IMMV				S		**Sn**	**07 18 27.4**	**+0.3**
KERA	**Keramoti**	**0.74**	**330**	P		**Pb**	**07 18 15.5**	**-0.7**
KERA				AML	AML		07 18 30.6	
	comp=E,5158μm,0.3s							
KERA				AML	AML		07 18 32.5	
	comp=N,4450μm,0.4s							
CHAN	**Chania**	**0.79**	**2**	P		**Pn**	**07 18 16.3**	**-1.2**
CHAN				S		**Sn**	**07 18 29.8**	**+1.3**
IACM	**Heraklion**	**1.04**	**56**	P		**Pb**	**07 18 22.2**	**+0.9**
LAST	**Lasithi**	**1.28**	**70**	P		**Pb**	**07 18 25.3**	**-0.1**
LAST	**Lasithi**	**1.28**	**70**	P		**Pb**	**07 18 25.2**	**-0.1**
LAST				S		**Sb**	**07 18 43.3**	**+1.9**
ANKY	**Antikythira Is**	**1.28**	**333**	P		**Pb**	**07 18 26.4**	**+1.1**
NPS	**Neapolis**	**1.42**	**67**	P		**Pb**	**07 18 28.1**	**+0.5**
KYTH	**Kithira**	**1.73**	**333**	P		**Pb**	**07 18 33.4**	**+0.4**
KYTH				AML	AML		07 19 06.8	
	comp=E,652μm,1.1s							
KYTH				AML	AML		07 19 08.8	
	comp=N,709μm,1.0s							
ZKR	**Zakros**	**1.85**	**77**	P		**Pb**	**07 18 34.4**	**-0.6**
ZKR				AML	AML		07 19 19.8	
	comp=N,226μm,0.7s							
ZKR				AML	AML		07 19 23.1	
	comp=E,845μm,1.1s							
MHLO	**Agia Marina, M**	**1.99**	**9**	P		**Pb**	**07 18 36.2**	**-1.2**
SANT	**Santorini**	**2.02**	**35**	P		**Pn**	**07 18 36.4**	**+2.0**
ANAF	**Anafi Island**	**2.17**	**41**	P		**Pn**	**07 18 37.9**	**+1.5**
VLI	**Veliai**	**2.17**	**337**	P		**Pn**	**07 18 39.4**	**-1.2**
IOSP	**Ios island**	**2.25**	**27**	P		**Pn**	**07 18 37.6**	**+0.1**
AMGA	**Amorgos Island**	**2.60**	**35**	P		**Pn**	**07 18 43.7**	**+1.4**
APE	**Apeiranthos**	**2.64**	**27**	P		**Pn**	**07 18 44.2**	**+1.2**
KARP	**Karpathos**	**2.71**	**71**	P		**Pn**	**07 18 46.0**	**+2.1**
KRND	**KRANIDI**	**2.74**	**345**	P		**Pn**	**07 18 46.8**	**+2.5**
DID	**Didima**	**2.85**	**347**	P		**Pn**	**07 18 47.2**	**+1.5**
PYL	**PYLOS**	**2.85**	**320**	P		**Pn**	**07 18 48.3**	**+2.5**
VLY	**Voula,Athens**	**3.13**	**357**	P		**Pn**	**07 18 51.0**	**+1.4**
PTL	**Penteli**	**3.32**	**358**	P		**Pn**	**07 18 53.9**	**+1.6**
DION	**Dionisos Attik**	**3.35**	**359**	P		**Pn**	**07 18 54.0**	**+1.3**
LTK	**Loutraki**	**3.40**	**346**	P		**Pn**	**07 18 55.0**	**+1.7**
GUR	**Goura**	**3.48**	**338**	P		**Pn**	**07 18 56.7**	**+2.2**
DAT	**Datca**	**3.52**	**54**	PG		**Pn**	**07 18 56.6**	**+1.5**
DAT				SG		Pb	07 19 08.8	+5.2
KLV	**Kalavryta, Ach**	**3.64**	**336**	P		**Pn**	**07 18 59.5**	**+2.8**
ARG	**Arkhangelos**	**3.67**	**65**	P		**Pn**	**07 18 59.0**	**+2.0**
BBRN	**Bozburun-Marma**	**3.83**	**58**	PG		**Pn**	**07 18 59.4**	**+0.2**
SERG	**Sergoula**	**4.00**	**337**	P		**Pn**	**07 19 03.9**	**+2.2**
ANX	**Ano Chora**	**4.21**	**337**	P		**Pn**	**07 19 06.4**	**+1.8**
TURN	**Turunc**	**4.30**	**59**	PN		**Pn**	**07 19 02.8**	**-2.9**
TURN	**Turunc**	**4.30**	**59**	IAML_P				
	comp=Z,2μm,0.1s							
TURN				*i* P		**Pn**	**07 19 04.0**	**-1.7**
DALY	**Dalyan (Mula)**	**4.31**	**60**	PN		**Pn**	**07 19 08.3**	**+2.5**
DALY	**Dalyan (Mula)**	**4.31**	**60**	IAML_P				
	comp=Z,2μm,0.2s							
DALY				*i* P		**Pn**	**07 19 08.3**	**+2.5**
DALY				*i* S		**Pb**	**07 19 13.3**	**-3.6**
FETY	**Fethiye**	**4.54**	**64**	PN		**Pn**	**07 19 09.9**	**+0.8**
FETY	**Fethiye**	**4.54**	**64**	IAML_P				
	comp=Z,2μm,0.3s							
FETY				*i* P		**Pn**	**07 19 10.7**	**+1.5**
AKAS	**Kas**	**4.80**	**70**	PN		**Pn**	**07 19 14.0**	**+1.2**
TAVA	**DENIZLI_Tavas**	**4.82**	**54**	*i* P		**Pn**	**07 19 16.4**	**+3.4**
GOLH	**Golhisar**	**5.15**	**59**	*i* P		**Pb**	**07 19 31.1**	**-0.2**
ELL	**Elmali**	**5.20**	**65**	PN		**Pn**	**07 19 19.5**	**+1.3**
KORT	**Korkueli**	**5.62**	**64**	PN		**Pn**	**07 19 25.3**	**+1.3**
BRTR	**Keskin Array B**	**9.15**	**54**	Pn		**Pn**	**07 20 12.3**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=219,slow=16,SNR=1.9							
AKASG	**Malin Array Be**	**16.41**	**12**	Pn		**Pn**	**07 21 48.1**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=204,slow=10,SNR=1.9							
TORD	**Torodi Ar. Bea**	**29.49**	**229**	P		**P**	**07 24 03.6**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=37,slow=8.7,SNR=8.4							
MKAR	**Makanchi Array**	**44.80**	**56**	P		**P**	**07 26 12.4**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=267,slow=4.6,SNR=4.5							
ZALV	**Zalesovo Beam**	**45.98**	**46**	P		**P**	**07 26 22.0**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=261,slow=8.6,SNR=3.1							
SONM	**Songino Array**	**60.49**	**50**	P		**P**	**07 28 09.7**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=287,slow=8.2,SNR=5.0							

*IDC **28** 07:25:44.4±0.7,7.°28N×127.°15E,h0km,mb4.0/9, mb1 4.1/9,mb1mx3.9/36,mbtmp3.9/9,MS3.8/2,Ms1 3.8/2, ms1mx2.9/45,Error ellipse: s-maj=21.8km s-min=17.6km az=78.0*
*ISCJB **28** 07:25:46.4±1.4,7.°12N±0.°04×127.°22E±0.°04,h20km±10km, mb4.2/15,MS3.8/2,Error ellipse: s-maj=7.5km s-min=6.1km az=24.1*
*MAN **28** 07:25:47.2,6.°91N×127.°14E,h14km,mb4.5,ML3.3,MS3.2*
*NEIC **28** 07:25:50.8±1.3,7.°14N×126.°86E,h43km±12km,mb4.8/6, Error ellipse: s-maj=13.6km s-min=6.8km az=69.0*
ISC 28 07:25:49.0±1.8,7.°17N±0.°04×127.°07E±0.°07,h27km±12km, n47,σ1°50/56,mb4.1/15,1C-2D,Philippine Islands region

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

mb3.6/9,MS3.8/2, Error ellipse: s-maj=5.8km s-min=5.3km az=10.0

ISC 28 07:26:11.2±0.8, 36°99N±0°05×143°24E±0°07, h35km, n30, σ1°48/39, mb3.5/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.92**	**282**	P	**Pn**	**07 26 40.1**	**-1.4**
JIKH	**Ishinomakiboku**	**1.93**	**314**	P	**Pn**	**07 26 39.9**	**-1.5**
JIO	**Ouri**	**2.09**	**315**	P	**Pn**	**07 26 42.4**	**-1.3**
JIO				*e*S	**Sn**	**07 27 07.1**	**-1.4**
JMM	**Marumori**	**2.13**	**295**	P	**Pn**	**07 26 43.3**	**-1.0**
JMM				*e*S	**Sn**	**07 27 08.6**	**-0.9**
JFFD	**Fukushimafurud**	**2.14**	**273**	P	**Pn**	**07 26 43.1**	**-1.4**
JFFD				*e*S	**Sn**	**07 27 08.1**	**-1.8**
JHO	**Hitachi**	**2.18**	**261**	P	**Pn**	**07 26 43.5**	**-1.4**
JFT	**Otama**	**2.37**	**284**	P	**Pn**	**07 26 47.2**	**-0.4**
JFT				S	**Sn**	**07 27 15.7**	**+0.2**
JMK	**Ichinoseki**	**2.52**	**321**	P	**Pn**	**07 26 48.5**	**-1.2**
JMK				*e*S	**Sn**	**07 27 18.4**	**-0.8**
JOM	**Ohasama**	**2.91**	**329**	P	**Pn**	**07 26 54.0**	**-1.0**
JOM				*e*S	**Sn**	**07 27 28.4**	**-0.4**
BSO1	**Boso 1**	**2.97**	**219**	P	**Pn**	**07 26 53.7**	**-1.6**
BSO1				*e*S	**Sn**	**07 27 28.4**	**-1.1**
JYK	**Kaneyama**	**2.98**	**311**	P	**Pn**	**07 26 55.5**	**-0.4**
JAG	**Ashikaga**	**3.09**	**261**	P	**Pn**	**07 26 56.7**	**-0.8**
JRY	**Ryogami san**	**3.63**	**256**	P	**Pn**	**07 27 03.9**	**-1.0**
JANG	**Nango**	**3.63**	**339**	P	**Pn**	**07 27 04.5**	**-0.4**
JANG				*e*S	**Sn**	**07 27 44.1**	**-2.5**
MJAR	**Matsushiro Arr**	**4.06**	**265**	Pn	**Pn**	**07 27 10.8**	**0.0**
	0.2nm,0.3s,baz=95,slow=8.2,SNR=14						
MJAR				S	**Sn**	**07 27 54.8**	**-2.4**
	0.1nm,0.3s,baz=43,slow=14,SNR=3.0						
MAT	**Matsushiro**	**4.06**	**265**	P	**Pn**	**07 27 11.6**	**+0.7**
MAT				*e*S	**Sn**	**07 27 54.5**	**-2.8**
ASAJ	**Asahikawa**	**7.13**	**356**	Pn	**Pn**	**07 27 51.6**	**-1.3**
	2.6nm,0.3s,baz=208,slow=10.0,SNR=8.7						
ASAJ				S	**Sn**	**07 29 09.0**	**-3.7**
	0.4nm,0.3s,baz=49,slow=20,SNR=2.3						
ASAJ				LR	LR	07 31 07.8	
	comp=Z,56nm,20.8s,baz=184,slow=41						
USRK	**Ussuriysk Ar.**	**11.17**	**314**	Pn	**Pn**	**07 28 49.2**	**+0.9**
	0.2nm,0.3s,baz=116,slow=13,SNR=3.4						
USRK				LR	LR	07 33 03.8	
	comp=Z,69nm,18.5s,baz=349,slow=37						
KSRS	**Korea Array**	**12.22**	**277**	Pn	**Pn**	**07 29 05.5**	**+2.8**
	0.2nm,0.3s,baz=95,slow=13,SNR=4.9						
KSRS				LR	LR	07 33 28.8	
	comp=Z,26nm,20.9s,baz=335,slow=36						
SONM	**Songino Array**	**29.02**	**304**	P	**P**	**07 32 09.3**	**+1.5**
	1.2nm,0.7s,baz=100,slow=8.3,SNR=11						
ZALV	**Zalesovo Beam**	**43.02**	**312**	P	**P**	**07 34 08.2**	**+1.2**
	0.5nm,0.5s,baz=93,slow=6.1,SNR=2.8						
MKAR	**Makanchi Array**	**45.38**	**302**	P	**P**	**07 34 27.1**	**+1.1**
	0.5nm,0.7s,baz=91,slow=8.6,SNR=3.9						
BRDH	**Bariadhala**	**46.45**	**267**	LR	LR	07 56 46.0	
	comp=Z,58nm,18.1s,baz=317,slow=40						
ILAR	**Eielson Array**	**48.75**	**32**	P	**P**	**07 34 52.3**	**+0.2**
	0.3nm,0.7s,baz=266,slow=6.5,SNR=4.8						
CTA	**Charters Tower**	**56.84**	**177**	LR	LR	07 57 56.7	
	comp=Z,114nm,20.8s,baz=236,slow=34						
WRA	**Warramunga Arr**	**57.25**	**190**	P	**P**	**07 35 53.6**	**-1.5**
	1.0nm,0.7s,baz=8.3,slow=7.4,SNR=6.5						
ASAR	**Alice Springs**	**60.97**	**190**	P	**P**	**07 36 19.9**	**-1.0**
	0.8nm,0.8s,baz=15,slow=7.2,SNR=5.1						
YKA	**Yellowknife Ar**	**63.10**	**31**	P	**P**	**07 36 34.7**	**-0.1**
	0.1nm,0.7s,baz=303,slow=7.0,SNR=3.4						
NVAR	**Mina Array Bea**	**73.84**	**54**	P	**P**	**07 37 43.2**	**+0.6**
	0.2nm,0.4s,baz=310,slow=5.6,SNR=3.2						
TXAR	**Lajitas Array**	**88.98**	**53**	P	**P**	**07 39 03.4**	**+0.7**
	0.2nm,0.6s,baz=313,slow=3.2,SNR=3.3						

KRSC 28 07:29:51.9±1.4, 49°89N×156°89E, h61km±25km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.93**	**328**	P	Pn	07 30 09.7	+0.6
SKR				*e*S	Sn	07 30 22.7	+0.9
PAU	**Pauzhetka**	**1.58**	**358**	P	Pn	07 30 20.1	+2.5
PAU				*e*S	Sn	07 30 40.0	+3.0
KDTR	**Khodutka, Kamc**	**2.06**	**21**	P	Pn	07 30 26.4	+2.3
KDTR				*e*S	Sn	07 30 51.7	+3.0
MTVR	**Mutnovka**	**2.72**	**17**	*e*P	Pn	07 30 35.6	+2.3
MTVR				*e*S	Sn	07 31 08.7	+3.7
RUS	**Russkaya**	**2.74**	**21**	*e*S	Sn	07 31 07.1	+1.8

*NIED **28** 07:32:00,37.50N×143.60E,h5km,Mw3.6 Best double couple: M◻2.61000×10^14 NP1:φ◻=85.00000°,δ42.00000°, λ-35.00000°. NP2:φ◻=203.00000°,δ67.00000°, λ-126.00000°.*

*IDC **28** 07:32:09.6±1.1,37.28N×143.94E,h0km,mb3.4/5, mb1 3.7/8,mb1mx3.5/41,mbtmp3.5/8,ML3.6/2,Error ellipse: s-maj=29.2km s-min=20.8km az=81.0*

*ISCJB **28** 07:32:13.1±0.8,37.55N±0.04×143.64E±0.06,h33km, mb3.5/5,Error ellipse: s-maj=6.6km s-min=6.1km az=6.9*

*JMA **28** 07:32:13.4±0.2,37.51N×143.56E,h46km,M3.7*

ISC 28 07:32:15.0±1.1, 37°55N±0°06×143°67E±0°08, h35km, n27, σ2°08/37, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakiboku**	**1.90**	**294**	P	**Pn**	**07 32 43.5**	**-1.4**
JIKH				*e*S	**Sn**	**07 33 05.7**	**-2.0**
JIO	**Ouri**	**2.05**	**297**	P	**Pn**	**07 32 45.7**	**-1.2**
JIO				*e*S	**Sn**	**07 33 09.3**	**-1.9**
JKMT	**Kesennumamotoy**	**2.14**	**307**	P	**Pn**	**07 32 47.0**	**-1.2**
JKMT				*e*S	**Sn**	**07 33 12.0**	**-1.6**
OFUJ	**Ofunato**	**2.19**	**315**	P	**Pn**	**07 32 47.8**	**-1.2**
OFUJ				S	**Sn**	**07 33 13.5**	**-1.4**
JFK	**Kawauchi**	**2.23**	**266**	P	**Pn**	**07 32 47.5**	**-2.1**
JFK				S	**Sn**	**07 33 12.8**	**-3.1**
JMK	**Ichinoseki**	**2.38**	**307**	P	**Pn**	**07 32 50.7**	**-0.9**
JMK				*e*S	**Sn**	**07 33 18.5**	**-1.1**
JFT	**Otama**	**2.65**	**270**	P	**Pn**	**07 32 54.5**	**-0.8**
JFT				*e*S	**Sn**	**07 33 25.3**	**-0.9**
JOM	**Ohasama**	**2.68**	**317**	P	**Pn**	**07 32 54.9**	**-0.7**
JOM				S	**Sn**	**07 33 26.2**	**-0.6**
JYK	**Kaneyama**	**2.94**	**299**	P	**Pn**	**07 32 58.8**	**-0.5**
JYK				*e*S	**Sn**	**07 33 33.0**	**-0.4**
JANG	**Nango**	**3.28**	**330**	*e*S	**Sn**	**07 33 40.5**	**-1.2**
JAG	**Ashikaga**	**3.56**	**253**	P	**Pn**	**07 33 06.5**	**-1.3**
JRY	**Ryogami san**	**4.12**	**250**	P	**Pn**	**07 33 13.9**	**-1.6**
JOT	**Ohata**	**4.33**	**333**	P	**Pn**	**07 33 18.6**	**+0.3**
JOT				*e*S	**Sn**	**07 34 04.9**	**-2.7**
JOD2	**Odawara 2**	**4.35**	**240**	*e*S	**Sn**	**07 34 03.2**	**-4.8**
MJAR	**Matsushiro Arr**	**4.49**	**259**	Pn	**Pn**	**07 33 21.2**	**+0.7**
	0.7nm,0.3s,baz=90,slow=15,SNR=16						
MJAR				S	**Sn**	**07 34 12.2**	**+0.7**
	baz=80,slow=16,SNR=2.3						
MAT	**Matsushiro**	**4.49**	**259**	P	**Pn**	**07 33 21.5**	**+1.0**
MAT				S	Sn	07 33 32.7	-39
JCH	**Churui**	**5.06**	**357**	P	**Pn**	**07 33 27.1**	**-1.3**
JCH				*e*S	**Sn**	**07 34 21.4**	**-4.2**
ASAJ	**Asahikawa**	**6.61**	**353**	Pn	**Pn**	**07 33 50.2**	**+0.6**
	2.2nm,0.3s,baz=206,slow=15,SNR=7.2						
ASAJ				S	**Sn**	**07 34 59.4**	**-4.3**
	1.5nm,0.3s,baz=345,slow=29,SNR=5.5						
USRK	**Ussuriysk Ar.**	**11.06**	**311**	Pn	**Pn**	**07 34 53.9**	**+3.4**
	0.1nm,0.3s,baz=110,slow=14,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**26.91**	**125**	T	T	08 06 02.6	
	baz=319						
H11N1	**WAKE ISLAND Hy**	**26.92**	**125**	T	T	08 06 01.1	
	baz=319						
H11N3	**WAKE ISLAND Hy**	**26.93**	**125**	T	T	08 06 00.9	
	baz=319						
SONM	**Songino Array**	**29.01**	**303**	P	**P**	**07 38 14.7**	**+3.1**
	0.2nm,0.4s,baz=90,slow=3.5,SNR=2.2						
MKAR	**Makanchi Array**	**45.37**	**302**	P	**P**	**07 40 31.5**	**+1.7**
	0.3nm,0.9s,baz=83,slow=4.5,SNR=2.4						
ILAR	**Eielson Array**	**48.09**	**33**	P	**P**	**07 40 52.0**	**+1.1**
	0.9nm,0.7s,baz=264,slow=6.6,SNR=8.7						
WRA	**Warramunga Arr**	**57.86**	**190**	P	**P**	**07 42 01.9**	**-1.3**
	0.4nm,0.6s,baz=11,slow=7.5,SNR=3.7						
ASAR	**Alice Springs**	**61.58**	**190**	P	**P**	**07 42 26.4**	**-2.4**
	0.2nm,0.6s,baz=8.6,slow=6.8,SNR=2.8						

*IDC **28** 07:51:22.0±3.3,6.08S×103.61E,h0km,mb3.7/6, mb1 3.9/6,mb1mx3.5/49,mbtmp3.7/6, Error ellipse: s-maj=118.3km s-min=26.5km az=52.0*

*ISCJB **28** 07:51:24.8±3.1,6.2S±0.5×103.6E±0.6,h38km,mb3.8/6, Error ellipse: s-maj=104.6km s-min=22.0km az=142.3*

ISC 28 07:51:27.2±3.6, 6.1S±0.5×103.6E±0.7, h38km, n10, σ0s63/7, mb3.8/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**24.86**	**349**	P	**P**	**07 56 45.5**	**-0.8**
	1.0nm,0.6s,baz=181,slow=9.7,SNR=6.3						
H08S2	**Diego Garcia H**	**30.90**	**265**	T	T	08 30 11.2	
	baz=88						
H08S3	**Diego Garcia H**	**30.91**	**265**	T	T	08 30 19.6	
	baz=88						
H08S1	**Diego Garcia H**	**30.92**	**265**	T	T	08 30 02.4	
	baz=88						
WRA	**Warramunga Arr**	**32.87**	**118**	P	**P**	**07 57 57.7**	**-0.1**
	0.2nm,0.5s,baz=284,slow=7.7,SNR=2.3						
SONM	**Songino Array**	**53.79**	**2**	P	**P**	**08 00 46.9**	**+0.9**
	0.9nm,0.7s,baz=179,slow=9.1,SNR=7.4						
MKAR	**Makanchi Array**	**55.98**	**342**	P	**P**	**08 01 01.8**	**0.0**
	0.4nm,0.6s,baz=145,slow=6.6,SNR=6.0						
KLR	**Kul'dur**	**60.36**	**21**	P	**P**	**08 01 32.0**	**-0.3**
	0.7nm,0.5s,baz=180,slow=6.0,SNR=4.6						
ZALV	**Zalesovo Beam**	**61.91**	**348**	P	**P**	**08 01 42.7**	**0.0**
	0.7nm,0.4s,baz=158,slow=6.2,SNR=5.6						
TXAR	**Lajitas Array**	**145.45**	**45**	PKPbc	**PKPab**	**08 11 02.5**	**+0.3**
	0.3nm,0.5s,baz=329,slow=1.9,SNR=6.2						

MEX 28 07:59:20.9±0.6, 16°27N×98°26W, h12km±3km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.17**	**46**	*i* P	Pg	07 59 24.1	-0.7
PNIG				*e*S	Sg	07 59 27.2	-0.3

*MOS **28** 08:00:24.6±2.3,49.19N×156.85E,h15km,mb4.4/3, Error ellipse: s-maj=17.5km s-min=4.7km az=82.8*

*KRSC **28** 08:00:24.6±2.3,49.19N×156.85E,h16km±42km,ML4.4*

*IDC **28** 08:00:33.4±3.5,49.50N×155.69E,h103km±29km,mb3.4/9, mb1 3.5/13,mb1mx3.3/47,mbtmp3.7/13,MS3.2/2, Ms1 3.2/2,ms1mx2.8/26,Error ellipse: s-maj=31.0km s-min=17.4km az=157.0*

ISC 28 08:00:18.7±1.1, 49°03N±0°07×156°79E±0°10, h10km, n54, σ3s18/63, mb3.6/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.71**	**346**	*e*P	**Pn**	**08 00 50.4**	**+1.8**
SKR				*e*S	**Sn**	**08 01 10.4**	**-0.1**
SKR	**Severo-Kuril's**	**1.71**	**346**	*e*PN	**Pn**	**08 00 50.9**	**+2.3**
SKR				*e*S	**Sn**	**08 01 11.2**	**+0.7**
SKR				pmax	pmax		
	comp=Z,373nm,0.4s						
SKR				smax	smax		
	comp=E,1µm,0.4s						
SKR				smax	smax		
	comp=N,974nm,0.5s						
PAU	**Pauzhetka**	**2.44**	**0**	*e*P	**Pb**	**08 01 03.0**	**+0.3**
PAU				*e*S	**Sn**	**08 01 31.8**	**+3.3**
PAU	**Pauzhetka**	**2.44**	**0**	PN	**Pb**	**08 01 03.0**	**+0.3**
PAU				S	**Sn**	**08 01 31.8**	**+3.3**
KDTR	**Khodutka, Kamc**	**2.90**	**16**	*e*P	**Pb**	**08 01 10.4**	**-0.2**
KDTR				*e*S	**Sb**	**08 01 44.8**	**-1.3**
KDTR	**Khodutka, Kamc**	**2.90**	**16**	PN	**Pb**	**08 01 10.4**	**-0.2**
KDTR				S	**Sb**	**08 01 44.8**	**-1.3**
MTVR	**Mutnovka**	**3.57**	**14**	*e*P	**Pb**	**08 01 20.5**	**-1.5**
MTVR				*e*S	**Sb**	**08 02 02.3**	**-3.2**
MTVR	**Mutnovka**	**3.57**	**14**	PN	**Pb**	**08 01 20.5**	**-1.5**
MTVR				S	**Sb**	**08 02 02.3**	**-3.2**
RUS	**Russkaya**	**3.58**	**17**	*e*P	**Pb**	**08 01 20.2**	**-1.9**
RUS				*e*S	**Sn**	**08 02 01.0**	**+4.4**
RUS	**Russkaya**	**3.58**	**17**	PN	**Pb**	**08 01 20.2**	**-1.9**
RUS				S	**Sn**	**08 02 01.0**	**+4.4**
GRL	**Gorelyy**	**3.62**	**13**	*e*P	**Pb**	**08 01 22.2**	**-0.7**
GRL	**Gorelyy**	**3.62**	**13**	PN	**Pb**	**08 01 22.2**	**-0.7**
KRMR	**Karymshinskiy**	**3.90**	**12**	*e*P	**Pb**	**08 01 25.4**	**-2.2**
KRMR	**Karymshinskiy**	**3.90**	**12**	PN	**Pb**	**08 01 25.4**	**-2.2**
APC	**Apacha**	**3.91**	**3**	*e*P	**Pb**	**08 01 24.6**	**-3.1**
APC	**Apacha**	**3.91**	**3**	PN	**Pb**	**08 01 24.6**	**-3.1**
PETK	**Petropavlovsk-**	**4.13**	**8**	P	**Pb**	**08 01 28.5**	**-2.9**
	comp=N,3.6nm,0.3s,baz=197,slow=14,SNR=31						
PETK				S	**Sn**	**08 02 16.0**	**+6.0**
	comp=N,0.7nm,0.3s,baz=238,slow=23,SNR=2.1						
PET	**Petropavlovsk**	**4.17**	**16**	*e*P	**Pb**	**08 01 28.7**	**-3.5**
PET				*e*S	**Sn**	**08 02 16.7**	**+5.6**
PET	**Petropavlovsk**	**4.17**	**16**	*e*PN	**Pb**	**08 01 28.9**	**-3.3**
PET				*e*S	**Sn**	**08 02 16.6**	**+5.5**
PET				smax	smax		
	comp=N,136nm,0.6s						
PET				smax	smax		
	comp=E,139nm,0.6s						
DALK	**Dalny**	**4.20**	**16**	*e*P	**Pb**	**08 01 29.1**	**-3.5**
DALK				*e*S	**Sn**	**08 02 17.5**	**+5.8**
DALK	**Dalny**	**4.20**	**16**	PN	**Pb**	**08 01 29.1**	**-3.5**
DALK				S	**Sn**	**08 02 17.5**	**+5.8**
UGLR	**Uglovaya**	**4.38**	**16**	*e*P	**Pb**	**08 01 32.6**	**-3.2**
UGLR	**Uglovaya**	**4.38**	**16**	PN	**Pb**	**08 01 32.6**	**-3.2**
AVH	**Avacha**	**4.42**	**15**	*e*P	**Pb**	**08 01 34.1**	**-2.3**
AVH	**Avacha**	**4.42**	**15**	PN	**Pb**	**08 01 34.1**	**-2.3**
KOK	**Koryaka**	**4.42**	**15**	*e*P	**Pb**	**08 01 33.8**	**-2.8**
KOK	**Koryaka**	**4.42**	**15**	PN	**Pb**	**08 01 33.8**	**-2.8**
SMAR	**Somma**	**4.43**	**16**	*e*P	**Pb**	**08 01 33.7**	**-3.0**
SMAR	**Somma**	**4.43**	**16**	PN	**Pb**	**08 01 33.7**	**-3.0**
NLC	**Nalytchevo**	**4.45**	**20**	P	Pb	08 01 31.7	-5.2
NLC				S	**Sn**	**08 02 21.4**	**+3.4**
NLC	**Nalytchevo**	**4.45**	**20**	PN	Pb	08 01 31.7	-5.2
NLC				S	**Sn**	**08 02 21.4**	**+3.4**
KRX	**Arik**	**4.49**	**14**	*e*P	**Pb**	**08 01 35.5**	**-2.2**
KRX	**Arik**	**4.49**	**14**	PN	**Pb**	**08 01 35.5**	**-2.2**
SPN	**Mys Shipunski**	**4.56**	**25**	*e*P	**Pb**	**08 01 34.6**	**-4.1**
SPN				*e*S	**Sb**	**08 02 28.3**	**-5.4**
SPN	**Mys Shipunski**	**4.56**	**25**	PN	**Pb**	**08 01 34.6**	**-4.1**
SPN				S	**Sb**	**08 02 28.3**	**-5.4**
GNL	**Ganaly**	**4.73**	**8**	*e*P	Pb	08 01 37.6	-4.2
GNL	**Ganaly**	**4.73**	**8**	PN	Pb	08 01 37.6	-4.2
KBTR	**Krutoberegovo**	**8.07**	**25**	P	Pn	08 02 22.6	+6.7
KBTR	**Krutoberegovo**	**8.07**	**25**	PN	Pn	08 02 22.6	+6.7
ASAJ	**Asahikawa**	**10.93**	**249**	P	**Pn**	**08 02 54.5**	**-0.6**
	comp=E,0.7nm,0.3s,baz=131,slow=20,SNR=5.6						
MA2	**Magadan**	**11.13**	**344**	P	**Pn**	**08 02 59.1**	**+1.4**
	comp=E,0.7nm,0.3s,baz=150,slow=11,SNR=4.0						
MA2				LR	LR	08 06 59.3	
	comp=E,91nm,21.5s,baz=218,slow=37						
SEY	**Seymchan**	**14.15**	**352**	P	**Pn**	**08 03 42.3**	**+3.4**
	comp=E,0.2nm,0.3s,baz=116,slow=12,SNR=4.5						
KLR	**Kul'dur**	**16.37**	**280**	P	**Pn**	**08 04 08.5**	**0.0**
	comp=E,0.1nm,0.3s,baz=100,slow=12,SNR=3.2						
KLR				LR	LR	08 10 16.9	
	comp=E,124nm,19.6s,baz=336,slow=37						
ILAR	**Eielson Array**	**33.22**	**41**	P	P	08 07 01.1	+5.7
	comp=E,0.5nm,0.8s,baz=262,slow=6.2,SNR=6.5						
INK	**Inuvik**	**38.39**	**34**	P	P	08 07 43.9	+4.2
	comp=E,0.5nm,0.6s,baz=281,slow=12						
MKAR	**Makanchi Array**	**48.09**	**297**	P	**P**	**08 08 55.4**	**-2.9**
	comp=E,0.4nm,0.7s,baz=68,slow=8.0,SNR=3.2						
KURK	**Kurchatov**	**48.17**	**303**	P	**P**	**08 08 56.9**	**-1.9**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.2s						
KURBB	**Kurchatov Arra**	**48.26**	**303**	P	**P**	**08 08 56.9**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=57,slow=7.9,SNR=2.8						
BVAR	**Borovoye Array**	**51.32**	**309**	P	**P**	**08 09 20.6**	**-2.2**
	comp=Z,0.3nm,0.4s,baz=70,slow=6.3,SNR=3.1						
CMAR	**Chiang Mai Arr**	**55.29**	**258**	P	**P**	**08 09 52.3**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=38,slow=6.0,SNR=3.1						
AKASG	**Malin Array Be**	**70.98**	**328**	P	**P**	**08 11 33.7**	**-2.4**
	comp=Z,0.4nm,0.5s,baz=33,slow=6.7,SNR=2.0						
WRA	**Warramunga Arr**	**71.52**	**202**	P	**P**	**08 11 44.1**	**+4.5**
	comp=Z,0.4nm,0.9s,baz=16,slow=6.1,SNR=3.7						
TXAR	**Lajitas Array**	**74.24**	**63**	P	P	08 12 01.9	+5.9
	comp=Z,0.2nm,0.5s,baz=291,slow=5.5,SNR=4.6						
TXAR	**Lajitas Array**	**74.24**	**63**	P	P	08 12 02.0	+6.0

*ISCJB **28** 08:03:49.4±0.5,35.66N±0.03×140.24E±0.06,h74km±4km, mb3.7/9,Error ellipse: s-maj=8.1km s-min=5.3km az=164.0*

*JMA **28** 08:03:50.6±0.2,35.73N×140.18E,h63km±2km,M3.1*

*IDC **28** 08:03:55.0±1.6,35.39N×139.48E,h84km±12km,mb3.4/9, mb1 3.6/10,mb1mx3.4/42,mbtmp3.8/10,Error ellipse: s-maj=35.9km s-min=10.0km az=71.0*

ISC 28 08:03:50.7±0.9, 35°67N±0°04×140°21E±0°06, h66km±7km, n31, σ0s68/36, mb3.7/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSMT	**Sammumatsuo**	**0.19**	**99**	P	**Pn**	**08 04 01.2**	**+0.5**
JCN	**Nagara**	**0.26**	**182**	P	**Pn**	**08 04 01.8**	**+0.7**
JIHU	**Itakohorinouch**	**0.39**	**41**	P	**Pn**	**08 04 02.1**	**+0.1**
JYT	**Yasato**	**0.55**	**358**	P	**Pn**	**08 04 02.9**	**-0.7**
JYT				S	**Sn**	**08 04 11.8**	**-1.3**
BSO3	**Boso 3**	**0.90**	**164**	P	**Pn**	**08 04 07.7**	**+0.2**
JAG	**Ashikaga**	**0.97**	**321**	P	**Pn**	**08 04 08.0**	**-0.6**
JAG				S	**Sn**	**08 04 21.0**	**-0.9**
JOD2	**Odawara 2**	**1.00**	**246**	P	**Pn**	**08 04 08.7**	**-0.3**
JOD2				S	**Sn**	**08 04 21.8**	**-0.9**
JRY	**Ryogami san**	**1.12**	**288**	P	**Pn**	**08 04 10.8**	**+0.3**
JIM2	**Oshima 3**	**1.15**	**214**	P	**Pn**	**08 04 10.2**	**-0.7**
JIM2				*e*S	**Sn**	**08 04 25.4**	**-0.6**
BSO1	**Boso 1**	**1.20**	**148**	P	**Pn**	**08 04 11.4**	**+0.5**
JFNN	**Fujinakano**	**1.34**	**249**	P	**Pn**	**08 04 13.4**	**+0.1**
JFNN				S	**Sn**	**08 04 30.6**	**+0.3**
JKT	**Katashina**	**1.34**	**325**	P	**Pn**	**08 04 13.1**	**-0.4**
JKT				*e*S	**Sn**	**08 04 30.5**	**-0.1**
MJAR	**Matsushiro Arr**	**1.84**	**299**	P	**Pn**	**08 04 20.5**	**+0.4**
	4.2nm,0.3s,baz=101,slow=14,SNR=112						
MJAR				S	**Sn**	**08 04 44.0**	**+1.6**
	3.2nm,0.3s,baz=154,slow=21,SNR=7.9						
MAT	**Matsushiro**	**1.84**	**299**	P	**Pn**	**08 04 20.6**	**+0.5**
MAT				*e*S	**Sn**	**08 04 43.5**	**+1.1**
JHJ	**Hachijo jima 2**	**2.57**	**188**	P	**Pn**	**08 04 29.9**	**-0.1**
	22nm,0.3s,baz=119,slow=22,SNR=4.0						
JHJ				S	**Sn**	**08 04 58.9**	**-1.2**
	37nm,0.3s,baz=81,slow=18,SNR=3.6						
KSRS	**Korea Array**	**10.04**	**284**	P	**Pn**	**08 06 12.9**	**+0.8**
	0.2nm,0.3s,baz=97,slow=14,SNR=3.1						
SONM	**Songino Array**	**27.77**	**306**	P	**P**	**08 09 32.8**	**-0.5**
	0.3nm,0.7s,baz=110,slow=8.1,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**28.34**	**117**	T	T	08 39 21.0	
	baz=305						
H11N1	**WAKE ISLAND Hy**	**28.35**	**117**	T	T	08 39 21.6	
	baz=305						
H11N3	**WAKE ISLAND Hy**	**28.36**	**117**	T	T	08 39 17.7	
	baz=305						
H11S1	**WAKE ISLAND Hy**	**28.99**	**119**	T	T	08 40 26.3	
	baz=346,slow=76,SNR=64						
H11S3	**WAKE ISLAND Hy**	**28.99**	**119**	T	T	08 40 28.6	
	baz=346,slow=76,SNR=63						
H11S2	**WAKE ISLAND Hy**	**29.01**	**119**	T	T	08 40 28.6	
	baz=346,slow=76,SNR=66						
ZALV	**Zalesovo Beam**	**42.13**	**314**	P	**P**	**08 11 36.5**	**+0.2**
	0.6nm,0.4s,baz=118,slow=9.1,SNR=3.9						
MKAR	**Makanchi Array**	**44.03**	**303**	P	**P**	**08 11 51.7**	**-0.1**
	0.9nm,0.7s,baz=93,slow=10.0,SNR=9.4						
MKAR				PcP	**PcP**	**08 13 36.6**	**+0.4**
	0.4nm,0.9s,baz=83,slow=2.3,SNR=2.7						
KURBB	**Kurchatov Arra**	**46.09**	**309**	P	**P**	**08 12 08.2**	**+0.3**
	1.3nm,0.5s,baz=85,slow=7.8,SNR=8.9						
KURBB				PcP	**PcP**	**08 13 43.2**	**+0.1**
	0.3nm,0.7s,baz=64,slow=2.4,SNR=2.6						
BVAR	**Borovoye Array**	**50.78**	**313**	P	**P**	**08 12 44.0**	**0.0**
	0.3nm,0.4s,baz=108,slow=9.7,SNR=2.1						
ILAR	**Eielson Array**	**51.16**	**32**	P	P	08 12 53.4	+6.7
	0.4nm,0.9s,baz=262,slow=6.3,SNR=3.6						
FITZ	**Fitzroy Crossi**	**55.23**	**197**	P	**P**	**08 13 16.3**	**-0.7**
	1.9nm,0.6s,baz=23,slow=6.9,SNR=7.2						
WRA	**Warramunga Arr**	**55.59**	**187**	P	**P**	**08 13 18.9**	**-0.7**
	1.6nm,0.5s,baz=2.2,slow=7.6,SNR=34						
WRA				PcP	**PcP**	**08 14 19.1**	**+0.5**
	0.6nm,0.8s,baz=3.0,slow=4.9,SNR=3.1						
ASAR	**Alice Springs**

ASTR				⇓S		Sg	08 26 56.2	+1.6		
LKRN	**Lenkeran, Azer**	**1.54**	**80**	⇑P		**Pb**	**08 26 33.8**	**-0.3**		
LKRN				⇑S		**Sg**	**08 26 57.0**	**+2.1**		
BRDA	**Brd**	**1.83**	**8**	⇑S		**Sg**	**08 27 04.7**	**+0.8**		
MAKU	**Maku**	**1.91**	**299**	*e*Pn		**Pb**	**08 26 39.7**	**-0.7**		
MAKU	**Maku**	**1.91**	**299**	Pn		**Pb**	**08 26 39.7**	**-0.7**		
ZRD	**Zardab**	**1.94**	**20**	⇓S		**Sg**	**08 27 06.9**	**-0.6**		
HYR	**Heyderabad**	**2.00**	**310**	⇓P		**Pb**	**08 26 41.5**	**-0.4**		
HYR				⇑S		**Sg**	**08 27 09.2**	**-0.1**		
GANJ	**Ganja**	**2.23**	**350**	⇑P		**Pb**	**08 26 44.4**	**-1.4**		
GANJ				⇑S		**Sg**	**08 27 14.9**	**-1.8**		
ALIB	**Äli-Bayra**	**2.26**	**48**	⇑P		**Pb**	**08 26 44.3**	**-2.0**		
ALIB				⇓S		**Sg**	**08 27 15.9**	**-1.9**		
ZNJK	**Zanjan**	**2.31**	**140**	*e*Pn		**Pb**	**08 26 45.1**	**-2.2**		
ZNJK	**Zanjan**	**2.31**	**140**	Pn		**Pb**	**08 26 45.1**	**-2.2**		
ZNJK				Sg		**Sg**	**08 27 18.0**	**-1.4**		
GNI	**Garni**	**2.35**	**317**	*e*P		**Pb**	**08 26 47.8**	**-0.1**		
GNI	**Garni**	**2.35**	**317**	⇑*i*P		**Pb**	**08 26 48.7**	**+0.8**		
GNI				⇑*i*S		**Sg**	**08 27 21.1**	**+0.5**		
CLDR	**Caldiran**	**2.38**	**288**	*e*P		**Pg**	**08 26 49.7**	**-1.1**		
GDB	**GEDABAY**	**2.41**	**340**	⇑P		**Pb**	**08 26 47.3**	**-1.8**		
GDB				⇑S		**Sg**	**08 27 20.8**	**-1.9**		
PQL	**Pirkuli**	**2.70**	**30**	⇑P		**Pn**	**08 26 50.5**	**+1.4**		
PQL				⇓S		**Sb**	**08 27 28.0**	**+0.8**		
SEKA	**Sheki**	**2.77**	**6**	⇓P		**Pb**	**08 26 51.8**	**-3.2**		
SEKA				⇑S		**Sb**	**08 27 29.9**	**+0.7**		
CUKT	**Cukurca**	**2.82**	**246**	*e*P		**Pb**	**08 26 55.6**	**-0.4**		
QZX	**Qazax, Azerbai**	**2.83**	**337**	⇓P		**Pn**	**08 26 52.4**	**+1.5**		
QZX				⇑S		**Sb**	**08 27 30.7**	**-0.4**		
XNQ	**Khinaliq**	**2.90**	**20**	⇓P		**Pn**	**08 26 53.6**	**+1.7**		
XNQ				⇓S		**Sb**	**08 27 32.8**	**-0.2**		
ATGJ	**Altiaghaj**	**2.90**	**33**	⇑P		**Pn**	**08 26 53.6**	**+1.7**		
AKDM	**Akdamar-Van**	**3.03**	**269**	*e*P		**Pb**	**08 26 59.1**	**-0.5**		
SIZA	**Siyzn**	**3.06**	**31**	⇑P		**Pn**	**08 26 56.0**	**+1.9**		
SIZA				⇓S		**Sb**	**08 27 36.4**	**-1.3**		

*DDA **28** 08:34:15.9,37.°03N×43.°35E,h6km,±3km,ML3.1*
*ISK **28** 08:34:16.2,37.°12N×43.°34E,h5km,ML3.1/10*
*ISN **28** 08:34:16.1±0.3,36.°95N×43.°36E,h0km,ML3.1*
ISC 28 08:34:14.8±1.6,**37.°00N**±0.°04×**43.°45E**±0.°04,**h0**km±13km,
n22,σ1§**62**/32,**Iraq**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CUKT	**Cukurca**	**0.28**	**26**	PG	**Pb**	**08 34 27.7**	**-1.1**
CUKT				SG	**Sb**	**08 34 27.0**	**-1.1**
CUKT	**Cukurca**	**0.28**	**26**	*i* P	**Pb**	**08 34 22.1**	**-0.7**
MSL	**Mosul**	**0.66**	**205**	*e*Pg	**Pb**	**08 34 29.0**	**-0.2**
	baz=20						
MSL				*e*Sg	**Sb**	**08 34 38.0**	**-0.9**
YOVA	**Hakkari_Yksek**	**0.89**	**48**	*i* P	**Pn**	**08 34 34.6**	**-0.2**
YOVA				*i* S	**Sn**	**08 34 48.4**	**-0.1**
SIRT	**Sirnak**	**0.95**	**302**	PG	**Pb**	**08 34 33.3**	**-1.0**
SIRT				SG	**Sg**	**08 34 45.3**	**-0.2**
SIRN	**Sırnak**	**0.97**	**301**	IAML_P			
	comp=Z,563nm,0.1s						
SIRN				*i* P	**Pg**	**08 34 30.5**	**-2.9**
SIRN				*i* S	**Sb**	**08 34 47.2**	**-0.7**
BASK	**Baskale_VAN**	**1.14**	**22**	*i* P	**Pn**	**08 34 40.2**	**+2.0**
BASK				*i* S	**Sn**	**08 34 54.8**	**+0.1**
GEVA	**Gevas**	**1.35**	**347**	IAML_P			
	comp=Z,860nm,0.2s						
GEVA				*i* P	**Pb**	**08 34 40.2**	**-0.9**
GEVA				*i* S	**Sn**	**08 35 00.1**	**+0.3**
AKDM	**Akdamar-Van**	**1.38**	**344**	PN	**Pb**	**08 34 41.7**	**+0.1**
SRTM	**Siirt_Merkez**	**1.57**	**310**	IAML_P			
	comp=Z,4μm,0.2s						
SRTM				*i* P	**Pb**	**08 34 44.0**	**-0.8**
SRTM				*i* S	**Sg**	**08 35 07.7**	**+2.4**
VANB	**Van**	**1.59**	**358**	PN	**Pn**	**08 34 43.6**	**-0.8**
ADCV	**BITLIS_Adilcev**	**1.90**	**343**	*i* P	**Pb**	**08 34 49.4**	**-1.1**
GURO	**Guroymak-BITLI**	**1.92**	**324**	PN	**Pb**	**08 34 49.4**	**-1.3**
BTMN	**Batman**	**1.95**	**298**	IAML_P			
	comp=Z,1μm,0.3s						
BTMN				*i* P	**Pg**	**08 34 52.6**	**+0.3**
BTMN				*i* S	**Sg**	**08 35 18.4**	**+0.8**
VMUR	**Van-Muradiye**	**1.99**	**3**	*i* S	**Sg**	**08 35 24.4**	**+5.6**
SVAN	**Silvan-Diyarba**	**2.13**	**303**	PN	**Pb**	**08 34 53.1**	**-1.2**
SVAN	**Silvan-Diyarba**	**2.13**	**303**	IAML_P			
	comp=Z,963nm,0.3s						
SVAN				*i* P	**Pg**	**08 34 54.9**	**-0.8**
SVAN				*i* S	**Sb**	**08 35 20.4**	**-1.0**
CLDR	**Caldiran**	**2.17**	**10**	PN	**Pb**	**08 34 53.6**	**-1.6**
MAZI	**Mazidag**	**2.44**	**282**	PN	**Pn**	**08 34 57.1**	**+1.0**
DIYA	**Diyarbakir**	**2.81**	**290**	*i* S	**Sb**	**08 35 41.1**	**+0.3**
URFA	**Urfa**	**3.72**	**278**	PN	**Pn**	**08 35 15.8**	**+2.1**
PTK	**Pertek**	**3.73**	**302**	PN	**Pn**	**08 35 14.9**	**+1.1**

SJA 28 08:36:32.3±0.6,**30.°24S**×**67.°70W,h20**km±2km,**ML2.2,**
MW3.6,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMOG	**MOGNA**	**0.98**	**224**	*i* P	Pg	08 36 51.4	0.0
AMOG				*i* S	Sn	08 37 05.3	+0.9
AGUA	**GUANDACOL**	**1.02**	**317**	*i* P	Pg	08 36 52.0	-0.2
AGUA				*i* S	Sg	08 37 06.5	+0.9
APLL	**PUNTA DE LOS L**	**1.02**	**99**	*i* P	Pg	08 36 52.0	-0.2
APLL				*i* S	Sg	08 37 06.1	+0.4
APLL				IAML		08 37 10.4	
	comp=Z,55nm,0.3s						
ACLC	**CERRO LA CRUZ**	**1.04**	**39**	*i* P	Pg	08 36 52.5	0.0
ACLC				*i* S	Sg	08 37 07.6	+1.4
ACCO	**Cerro Coronel**	**1.23**	**253**	*i* P	Pg	08 36 56.0	-0.2
ACCO				*i* S	Sg	08 37 14.2	+1.7
RTLL	**Cerro Villicun**	**1.27**	**212**	*i* P	Pg	08 36 56.6	-0.4
RTLL				*i* S	Sg	08 37 14.7	+1.0
AROD	**Rodeo**	**1.54**	**272**	*i* P	Pg	08 37 01.6	-0.5
AROD				*i* S	Sg	08 37 23.3	+1.1
RTCV	**Cerro Valdivia**	**1.77**	**204**	*i* P	Pb	08 37 04.6	+0.4
RTCV				*i* S	Sb	08 37 27.5	+1.5

MEX 28 08:56:02.3±0.6,**16.°06N**×**97.°15W,h16**km±5km,**MD3.7,**
Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**1.00**	**290**	*e*P	Pb	08 56 17.8	-3.5
PNIG				*e*S	Sb	08 56 30.0	-4.3
HUIG	**Huatulco**	**1.04**	**106**	*e*P	Pb	08 56 18.2	-3.7
HUIG				*e*S	Sb	08 56 30.7	-4.6
VHO	**Vista Hermosa**	**1.09**	**21**	*e*P	Pb	08 56 19.2	-3.7
VHO				*e*S	Sb	08 56 32.6	-4.3
CMIG	**Matias Romero**	**2.40**	**64**	*e*P	Pn	08 56 38.2	-2.7
CMIG				*e*S	Sn	08 57 05.8	-4.2

*ISK **28** 09:07:20.6,37.°09N×43.°34E,h5km,ML2.9/4*
*ISN **28** 09:07:21.7±0.3,37.°03N×43.°33E,h0km,ML2.9*
*DDA **28** 09:07:23.2,37.°25N×43.°33E,h7km±5km,ML2.5*
ISC 28 09:07:21.1±1.5,**36.°98N**±0.°06×**43.°39E**±0.°04,**h7**km±13km,
n14,σ0§**83**/22,**Iraq**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CUKT	**Cukurca**	**0.32**	**34**	PG	**Pg**	**09 07 26.7**	**-0.8**
CUKT				SG	**Sg**	**09 07 32.0**	**+0.3**
CUKT	**Cukurca**	**0.32**	**34**	IAML_P			
	comp=Z,11μm,0.2s						
CUKT				*i* P	**Pg**	**09 07 27.6**	**+0.2**
MSL	**Mosul**	**0.62**	**201**	*e*Pg	**Pn**	**09 07 36.0**	**-0.4**
	baz=16						
MSL				*e*Sg	**Sn**	**09 07 46.0**	**-0.6**
SIRT	**Sirnak**	**0.92**	**305**	PG	**Pg**	**09 07 37.6**	**-1.1**
SIRT				SG	**Sg**	**09 07 49.9**	**-0.7**
SIRN	**Sırnak**	**0.93**	**304**	IAML_P			
	comp=Z,226nm,0.2s						
SIRN				*i* P	**Pg**	**09 07 38.6**	**-0.4**
YOVA	**Hakkari_Yksek**	**0.94**	**50**	IAML_P			
	comp=Z,2μm,0.3s						
YOVA				*i* P	**Pg**	**09 07 39.1**	**-0.1**
YOVA				*i* S	**Sg**	**09 07 52.1**	**+0.6**
AKDM	**Akdamar-Van**	**1.38**	**347**	PN	**Pn**	**09 07 45.6**	**-1.4**
AKDM				SN	**Sb**	**09 08 04.7**	**-0.6**
SRTM	**Siirt_Merkez**	**1.54**	**311**	IAML_P			
	comp=Z,1μm,0.3s						
SRTM				*i* P	**Pb**	**09 07 50.3**	**+0.2**
SRTM				*i* S	**Sg**	**09 08 12.4**	**+1.8**
GURO	**Guroymak-BITLI**	**1.90**	**326**	PN	**Pn**	**09 07 54.3**	**+0.2**

BTMN	**Batman**	**1.91**	**299**	IAML_P						
	comp=Z,18nm,0.2s									
BTMN				*i* P		**Pb**	**09 07 56.9**	**+0.5**		
BTMN				*i* S		**Sb**	**09 08 21.1**	**+0.6**		
SVAN	**Silvan-Diyarba**	**2.09**	**305**	PN		**Pn**	**09 07 57.4**	**+0.7**		
SVAN	**Silvan-Diyarba**	**2.09**	**305**	IAML_P						
	comp=Z,380nm,0.3s									
SVAN				*i* P		**Pb**	**09 07 59.9**	**+0.4**		
SVAN				*i* S		**Sg**	**09 08 27.6**	**-0.8**		
MARD	**Mardin**	**2.11**	**280**	*i* S		**Sb**	**09 08 26.5**	**+0.3**		
MAZI	**Mazidag**	**2.39**	**282**	PN		**Pn**	**09 08 01.9**	**+1.0**		

KRSC 28 09:11:03.3±1.3,**50.°39N**×**157.°46E,h82**km±22km,**ML3.6,**
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.91**	**289**	*e*P	Pn	09 11 22.3	+1.0
SKR				*e*S	Sn	09 11 35.3	+0.5
PAU	**Pauzhetka**	**1.16**	**339**	*e*P	Pn	09 11 26.3	+2.0
PAU				*e*S	Sn	09 11 41.8	+1.8
KDTR	**Khodutka, Kamc**	**1.48**	**15**	*e*P	Pn	09 11 30.7	+2.4
KDTR				*e*S	Sn	09 11 49.9	+2.8
MTVR	**Mutnovka**	**2.15**	**12**	*e*P	Pn	09 11 39.4	+2.2
MTVR				*e*S	Sn	09 12 05.5	+2.3
RUS	**Russkaya**	**2.15**	**17**	*e*P	Pn	09 11 39.0	+1.8
RUS				*e*S	Sn	09 12 04.4	+1.4
KRMR	**Karymshinskiy**	**2.48**	**9**	S	Sn	09 12 14.3	+3.4
DALK	**Dalny**	**2.77**	**16**	*e*P	Pn	09 11 47.3	+1.9
DALK				*e*S	Sn	09 12 19.6	+1.8
KOK	**Koryaka**	**3.00**	**14**	*e*P	Pn	09 11 51.3	+2.7
SPN	**Mys Shipunski**	**3.15**	**29**	S	Sn	09 12 27.9	+0.9

IDC 28 09:17:01.8±3.0,**32.°31S**×**178.°44W,h0**km,**mb3.4/2,**
mb1 3.7/3,mb1mx3.5/28,mbtmp3.5/3,Error ellipse:
s-maj=69.7km s-min=36.4km az=113.0,South of
Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.96**	**210**	Pn	Pn	09 18 45.9	+0.8
	baz=95,slow=12,SNR=2.7						
URZ				Sn	Sn	09 20 03.9	-1.0
	0.3nm,0.3s,baz=5.7,slow=18,SNR=2.1						
ASAR	**Alice Springs**	**42.67**	**269**	P	P	09 24 59.5	-0.9
	0.2nm,0.7s,baz=108,slow=7.4,SNR=4.1						
WRA	**Warramunga Arr**	**43.83**	**274**	P	P	09 25 10.4	+0.6
	0.3nm,0.3s,baz=115,slow=7.7,SNR=11						
FINES	**FINESS Array B**	**146.79**	**339**	PKPbc	PKPdf	09 36 44.0	+0.8
	1.3nm,0.7s,baz=64,slow=4.4,SNR=6.1						

*KRSC **28** 09:19:32.6±1.5,49.°14N×156.°05E,h44km±22km,ML3.9*
*IDC **28** 09:19:38.4±19.0,49.°67N×154.°77E,h106km±70km,*
mb3.1/5,mb1 3.5/6,mb1mx3.1/37,mbtmp3.5/6,ML2.7/1,
Error ellipse: s-maj=300.6km s-min=105.2km az=79.0
ISC 28 09:19:33.2±1.9,**49.°1N**±0.°1×**155.°5E**±0.°3,**h54**km,**n22,**
σ1§**25**/22,**mb3.5/5,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.62**	**14**	*e*P	**Pn**	**09 19 58.9**	**-0.4**
SKR				*e*S	**Sn**	**09 20 17.9**	**-1.1**
PAU	**Pauzhetka**	**2.50**	**19**	*e*P	**Pn**	**09 20 11.5**	**+0.2**
PAU				*e*S	**Sn**	**09 20 41.2**	**+0.7**
KDTR	**Khodutka, Kamc**	**3.16**	**30**	*e*P	**Pn**	**09 20 21.4**	**+1.1**
KDTR				*e*S	**Sn**	**09 20 55.5**	**-1.2**
MTVR	**Mutnovka**	**3.77**	**26**	*e*P	**Pn**	**09 20 29.8**	**+0.9**
MTVR				*e*S	**Sn**	**09 21 13.3**	**+1.2**
RUS	**Russkaya**	**3.83**	**29**	*e*P	**Pn**	**09 20 29.3**	**-0.2**
RUS				*e*S	**Sn**	**09 21 12.6**	**-0.6**
KRMR	**Karymshinskiy**	**4.07**	**23**	*e*P	**Pn**	**09 20 33.8**	**+1.0**
PETK	**Petropavlovsk-**	**4.23**	**18**	P	**Pn**	**09 20 36.3**	**+1.2**
	2.5nm,0.3s,baz=186,slow=14,SNR=49						
DALK	**Dalny**	**4.42**	**26**	*e*P	**Pn**	**09 20 38.4**	**+0.7**
DALK				*e*S	**Sn**	**09 21 27.0**	**-0.8**
KOK	**Koryaka**	**4.62**	**24**	*e*P	**Pn**	**09 20 43.0**	**+2.5**
KRX	**Arik**	**4.68**	**24**	*e*P	**Pn**	**09 20 43.9**	**+2.5**
GNL	**Ganaly**	**4.83**	**18**	*e*P	**Pn**	**09 20 45.0**	**+1.6**
H11N2	**WAKE ISLAND Hy**	**30.72**	**159**	T	T	09 58 17.1	
	baz=338						
H11N1	**WAKE ISLAND Hy**	**30.73**	**159**	T	T	09 58 19.4	
	baz=339						
H11N3	**WAKE ISLAND Hy**	**30.73**	**159**	T	T	09 58 16.5	
	baz=338						
H11S1	**WAKE ISLAND Hy**	**31.85**	**160**	T	T	09 59 39.1	
	baz=346,slow=76,SNR=6.2						
H11S3	**WAKE ISLAND Hy**	**31.86**	**160**	T	T	09 59 36.9	
	baz=346,slow=76,SNR=7.0						
H11S2	**WAKE ISLAND Hy**	**31.87**	**160**	T	T	09 59 36.9	
	baz=346,slow=76,SNR=4.6						
ILAR	**Eielson Array**	**33.70**	**41**	P	**P**	**09 26 07.6**	**-1.1**
	0.4nm,0.8s,baz=260,slow=6.2,SNR=5.1						
YKA	**Yellowknife Ar**	**48.07**	**39**	P	**P**	**09 28 05.6**	**-1.2**
	0.4nm,0.7s,baz=300,slow=7.4,SNR=5.4						
NVAR	**Mina Array Bea**	**59.94**	**65**	P	**P**	**09 29 34.7**	**+0.8**
	0.3nm,0.6s,baz=280,slow=8.0,SNR=3.1						
PDAR	**Pinedale Array**	**62.07**	**56**	P	**P**	**09 29 49.1**	**+0.8**
	0.2nm,0.6s,baz=292,slow=5.7,SNR=3.4						
TXAR	**Lajitas Array**	**74.95**	**63**	P	**P**	**09 31 08.7**	**+0.1**
	0.3nm,0.5s,baz=294,slow=4.6,SNR=6.6						

*ISK **28** 09:24:29.8,38.°56N×44.°03E,h3km,ML2.9/6*
*DDA **28** 09:24:31.8,38.°57N×44.°03E,h7km±6km,ML2.9*
ISC 28 09:24:31.4±1.3,**38.°57N**±0.°03×**44.°02E**±0.°05,**h8**km±10km,
n15,σ1§**11**/25,**Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TVAN	**Van**	**0.48**	**265**	IAML_P			
	comp=Z,4μm,0.2s						
TVAN				*i* P	**Pb**	**09 24 41.2**	**-1.2**
VANB	**Van**	**0.49**	**273**	PG	**Pg**	**09 24 40.1**	**-0.9**
VANB				SG	**Sg**	**09 24 47.8**	**+0.3**
BASK	**Baskale_VAN**	**0.52**	**181**	IAML_P			
	comp=Z,16μm,0.2s						
BASK				*i* P	**Pg**	**09 24 41.5**	**-0.1**
BASK				*i* S	**Sb**	**09 24 51.1**	**+0.3**
VMUR	**Van-Muradiye**	**0.54**	**320**	IAML_P			
	comp=Z,683nm,0.3s						
VMUR				*i* P	**Pb**	**09 24 42.7**	**-0.6**
VMUR				*i* S	**Sn**	**09 24 55.0**	**-0.2**
CLDR	**Caldiran**	**0.57**	**352**	PG	**Pg**	**09 24 42.1**	**-0.5**
CLDR				SG	**Sg**	**09 24 50.9**	**+0.8**
CLDR	**Caldiran**	**0.57**	**352**	IAML_P			
	comp=Z,2μm,0.2s						
CLDR				*i* P	**Pb**	**09 24 43.5**	**-0.4**
CLDR				*i* S	**Sb**	**09 24 53.4**	**+1.0**
GEVA	**Gevas**	**0.80**	**251**	IAML_P			
	comp=Z,3μm,0.3s						
GEVA				*i* P	**Pg**	**09 24 45.7**	**-1.2**
GEVA				*i* S	**Sb**	**09 24 59.1**	**+0.4**
AKDM	**Akdamar-Van**	**0.85**	**254**	PG	**Pg**	**09 24 46.9**	**-0.9**
AKDM				SG	**Sb**	**09 24 59.5**	**-0.8**
DYDN	**Diyadin**	**1.00**	**345**	IAML_P			
	comp=Z,1μm,0.2s						
DYDN				*i* P	**Pn**	**09 24 51.6**	**-0.4**
DYDN				*i* S	**Sn**	**09 25 06.9**	**+0.4**
ADCV	**BITLIS_Adilcev**	**1.04**	**283**	IAML_P			
	comp=Z,379nm,0.2s						
ADCV				*i* P	**Pn**	**09 24 53.1**	**+0.5**
AGRB	**Hanur-Agry**	**1.28**	**322**	PN	**Pg**	**09 24 55.4**	**-0.6**
AGRB				SN	**Sn**	**09 25 14.0**	**+0.6**
CUKT	**Cukurca**	**1.36**	**194**	PN	**Pn**	**09 24 56.2**	**-0.7**
TASB	**TASBURUN-IGDIR**	**1.42**	**7**	PN	**Pn**	**09 24 57.5**	**-0.1**
SIRT	**Sirnak**	**1.65**	**230**	PN	**Pn**	**09 25 00.9**	**+0.1**
SRTM	**Siirt_Merkez**	**1.75**	**251**	IAML_P			
	comp=Z,546nm,0.3s						
SRTM				*i* P	**Pg**	**09 25 04.7**	**-0.3**
SRTM				*i* S	**Sg**	**09 25 31.7**	**+4.0**

GUC 28 09:29:09.0±0.6,**37.°60S**×**74.°13W,h13**km±9km,**ML3.7,Off**
coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TMU	**Temuco**	**1.66**	**134**	*e*P	Pn	09 29 37.2	-0.5
TMU				*e*S	Sn	09 29 57.9	-0.9
CCHI	**Chillan**	**1.92**	**59**	*e*P	Pn	09 29 41.0	-0.3
CCHI				*e*S	Sn	09 30 04.9	-0.4
CCHI				IAML		09 30 13.1	
	comp=N,956nm,0.3s						
GO06	**Curarrehue**	**2.88**	**134**	*e*P	Pn	09 29 54.9	+0.3
GO06				*e*S	Sn	09 30 30.4	+1.3
GO05	**Huala**	**3.13**	**35**	*e*P	Pn	09 29 58.1	0.0
GO05				IAML		09 30 57.0	
	comp=E,146nm,1.4s						
PLCA	**Paso Flores**	**4.19**	**139**	*e*P	Pn	09 30 13.3	+0.7
LMEL	**Las Melosas**	**4.92**	**42**	*e*P	Pn	09 30 23.3	+0.6

IDC 28 09:29:59.7±23.0,**5.°53S**×**149.°80E,h264**km±241km,
mb2.9/3,mb1 3.2/3,mb1mx2.8/38,mbtmp3.5/3,Error
ellipse: s-maj=132.7km s-min=75.3km az=116.0,New
Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.77**	**225**	P	P	09 34 21.8	+0.6
	3.5nm,0.5s,baz=49,slow=9.6,SNR=62						
ASAR	**Alice Springs**	**23.65**	**219**	P	P	09 34 46.6	-1.2
	0.2nm,0.5s,baz=50,slow=8.2,SNR=4.1						
ILAR	**Eielson Array**	**83.97**	**23**	P	P	09 42 00.2	+0.1
	0.4nm,1.0s,baz=232,slow=6.5,SNR=3.3						

KRSC 28 09:36:21.0±1.4,**49.°21N**×**156.°86E,h8**km±25km,**ML4.0,**
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.55**	**342**	*e*P	Pn	09 36 47.9	-1.0
SKR				*e*S	Sn	09 37 08.2	-0.9
PAU	**Pauzhetka**	**2.26**	**359**	*e*P	Pn	09 37 00.1	+1.5
PAU				*e*S	Sb	09 37 28.8	-1.3
KDTR	**Khodutka, Kamc**	**2.71**	**16**	*e*P	Pb	09 37 07.4	-2.3
KDTR				*e*S	Sb	09 37 41.6	-1.5
MTVR	**Mutnovka**	**3.38**	**14**	*e*P	Pn	09 37 16.9	+2.7
MTVR				*e*S	Sb	09 37 59.5	-3.0
RUS	**Russkaya**	**3.39**	**17**	*e*P	Pn	09 37 16.8	+2.7
RUS				S	Sn	09 37 57.6	+3.1
KRMR	**Karymshinskiy**	**3.71**	**12**	*e*P	Pn	09 37 22.3	+3.8
DALK	**Dalny**	**4.01**	**17**	*e*P	Pn	09 37 25.9	+3.3
DALK				*e*S	Sn	09 38 14.9	+5.2
UGLR	**Uglovaya**	**4.19**	**16**	*e*P	Pn	09 37 29.8	+4.6
AVH	**Avacha**	**4.23**	**15**	*e*P	Pn	09 37 30.5	+4.8
KOK	**Koryaka**	**4.24**	**15**	*e*P	Pn	09 37 30.2	+4.3
KRX	**Arik**	**4.30**	**14**	*e*P	Pn	09 37 31.3	+4.5
SPN	**Mys Shipunski**	**4.37**	**26**	*e*P	Pn	09 37 30.8	+3.2
SPN				*e*S	Sn	09 38 24.4	+5.7
GNL	**Ganaly**	**4.54**	**8**	*e*P	Pn	09 37 34.1	+4.0

*IDC **28** 09:36:54.1±2.2,37.°97N×144.°19E,h0km,mb3.6/3,*
mb1 3.7/6,mb1mx3.4/59,mbtmp3.6/6,ML3.4/2,Error
ellipse: s-maj=53.3km s-min=25.8km az=72.0
*ISCJB **28** 09:36:57.8±0.9,38.°09N±0.°05×143.°87E±0.°06,h33km,*
mb3.6/3,Error ellipse: s-maj=7.8km s-min=6.8km
az=135.3
*JMA **28** 09:36:58.5±0.1,38.°15N×143.°81E,h37km,M3.4*
ISC 28 09:36:59.7±1.3,**38.°12N**±0.°06×**143.°90E**±0.°08,**h35**km,**n18,**
σ1§**72**/31,**mb3.4/3,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.93**	**277**	P	**Pn**	**09 37 28.7**	**-1.2**
JIKH				*e*S	**Sn**	**09 37 50.6**	**-2.3**
OFUJ	**Ofunato**	**2.00**	**300**	P	**Pn**	**09 37 30.2**	**-0.7**
OFUJ				*e*S	**Sn**	**09 37 53.4**	**-1.3**
JKMT	**Kesennumamotoy**	**2.03**	**291**	P	**Pn**	**09 37 30.3**	**-1.0**
JKMT				*e*S	**Sn**	**09 37 53.7**	**-1.7**
JIO	**Ouri**	**2.03**	**280**	P	**Pn**	**09 37 30.4**	**-1.0**
JIO				*e*S	**Sn**	**09 37 53.7**	**-1.9**
JMK	**Ichinoseki**	**2.26**	**293**	P	**Pn**	**09 37 34.1**	**-0.4**
JMK				*e*S	**Sn**	**09 38 00.1**	**-1.1**
JOM	**Ohasama**	**2.45**	**304**	P	**Pn**	**09 37 36.5**	**-0.6**
JOM				S	**Sn**	**09 38 05.2**	**-0.6**
JFT	**Otama**	**2.88**	**259**	P	**Pn**	**09 37 43.1**	**0.0**
JFT				*e*S	**Sn**	**09 38 16.3**	**-0.3**
JYK	**Kaneyama**	**2.89**	**287**	P	**Pn**	**09 37 43.0**	**-0.2**
JYK				*e*S	**Sn**	**09 38 16.2**	**-0.5**
JAG	**Ashikaga**	**3.93**	**246**	P	**Pn**	**09 37 56.7**	**-0.8**
JAG				*e*S	**Sn**	**09 38 41.7**	**-0.6**
JRY	**Ryogami san**	**4.51**	**244**	P	**Pn**	**09 38 05.1**	**-0.4**
JRY				*e*S	**Sn**	**09 38 53.8**	**-3.0**
JCH	**Churui**	**4.51**	**355**	P	**Pn**	**09 38 04.8**	**-0.7**
JCH				S	**Sn**	**09 38 53.4**	**-

DANN	**Dangsing**	**13.59**	**128**	*eP*	**Pn**	09 51 20.1	-6.5
	12nm,0.5s							
KOLN	**Koldanda**	**13.90**	**130**	*eP*	**Pn**	09 51 24.5	-6.2
	4.9nm,0.4s							
KURBB	**Kurchatov Arra**	**14.06**	**18**	P	**Pn**	**09 51 32.3**	**-0.1**
	0.1nm,0.3s,baz=207,slow=11,SNR=7.7							
AB31	**Akbulak array**	**14.56**	**328**	⇑P	**Pn**	**09 51 38.3**	**-0.4**
	0.4nm,0.3s,baz=133,slow=15,SNR=29							
AB31				S	Sn	09 54 09.4	-10	
	0.5nm,0.4s,baz=158,slow=22,SNR=5.3							
DMN	**Daman**	**14.95**	**127**	*eP*	**Pn**	09 51 38.2	-6.0	
	7.5nm,0.5s							
PKIN	**Phulchoki**	**15.16**	**126**	*eP*	**Pn**	09 51 40.4	-6.4	
	6.6nm,0.5s							
PKI	**Pulchoki**	**15.17**	**126**	*eP*	**Pn**	09 51 40.4	-6.6	
	3.2nm,0.3s							
GUN	**Gumba**	**15.25**	**124**	*eP*	**Pn**	09 51 41.5	-6.5	
	6.3nm,0.5s							
BVAR	**Borovoye Array**	**15.62**	**357**	P	**Pn**	**09 51 49.7**	**-2.4**
	0.3nm,0.3s,baz=179,slow=10,SNR=3.1							
JIRN	**Jiri**	**15.62**	**124**	*eP*	**Pn**	09 51 46.9	-5.8	
	19nm,0.4s							
AKTO	**Aktyubinsk**	**16.27**	**327**	P	**Pn**	**09 52 00.8**	**+0.6**
	0.6nm,0.3s,baz=131,slow=12,SNR=7.4							
AKTO	**Aktyubinsk**	**16.27**	**327**	⇑P	**Pn**	**09 52 02.1**	**+1.8**
	2.4nm,0.8s							
ZALV	**Zalesovo Beam**	**18.84**	**25**	P	**P**	**09 52 27.3**	**-2.2**
	0.4nm,0.3s,baz=214,slow=12,SNR=6.5							
YKA	**Yellowknife Ar**	**80.28**	**3**	P	P	10 00 14.7	-2.5	
	0.1nm,0.3s,baz=349,slow=5.4,SNR=4.2							

IDC 28 10:09:14.3±999.0, 50.61N×54.35E, h0km, Error ellipse: s-maj=864.7km s-min=56.7km az=93.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**2.36**	**93**	*i*		10 24 00.0	
	baz=276,slow=298,SNR=0.7						
I46RU	**ZALESOVO INFRA**	**18.86**	**68**	*i*		12 03 00.0	
	baz=274,slow=324,SNR=1.0						
I34MN	**SONGINO INFRAS**	**33.55**	**74**	*i*		13 35 50.0	
	baz=294,slow=336,SNR=0.3						

*GUC **28** 10:19:39.4±0.3, 37.70S×73.93W, h28km, ML3.5*
*IDC **28** 10:19:40.6±1.6, 37.34S×72.57W, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.5/19, mbtmp3.3/5, ML2.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.8/10, Error ellipse: s-maj=51.3km s-min=18.7km az=72.0*
ISC 28 10:19:42.4±1.3, 37.66S±0.05×73.7W±0.1, h35km, n10, σ2s64/13, mb3.4/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMU	**Temuco**	**1.39**	**141**	*eP*	**Pn**	**10 20 04.2**	**-1.1**
TMU				*i* S	**Sn**	**10 20 23.0**	**+0.6**
TMU				IAML		10 20 28.4	
	comp=N,611nm,0.5s						
CCHI	**Chillan**	**1.69**	**52**	*eP*	**Pn**	**10 20 09.8**	**+0.3**
CCHI				*i* S	**Sn**	**10 20 32.5**	**+2.7**
CCHI				IAML		10 20 40.2	
	comp=N,2μm,0.4s						
GO06	**Curarrehue**	**2.61**	**138**	*eP*	**Pn**	**10 20 21.7**	**-0.4**
GO06				*i* S	**Sn**	**10 20 54.3**	**+1.6**
GO06				IAML		10 21 03.6	
	comp=N,104nm,0.5s						
GO05	**Huala**	**3.02**	**29**	*eP*	**Pn**	**10 20 24.6**	**-3.2**
GO05				*i* S	**Sn**	**10 21 05.3**	**+2.6**
PLCA	**Paso Flores**	**3.94**	**142**	Pn	**Pn**	**10 20 40.1**	**-0.3**
	comp=N,0.2nm,0.3s,baz=330,slow=11,SNR=11						
PLCA				Lg	Lg	10 21 40.9	
	comp=N,1.4nm,0.3s,baz=60,slow=14,SNR=2.3						
CPUP	**Villa Florida**	**17.89**	**56**	LR	LR	10 29 34.7	
	comp=N,66nm,19.2s,baz=176,slow=35						
LPAZ	**La Paz**	**21.86**	**15**	P	**P**	**10 24 30.8**	**-1.9**
	comp=N,0.6nm,0.6s,baz=185,slow=6.2,SNR=2.2						
SIV	**San Ignacio**	**24.31**	**31**	P	**P**	**10 24 53.8**	**-3.0**
	comp=N,0.9nm,0.9s,baz=163,slow=18,SNR=4.3						
TXAR	**Lajitas Array**	**72.31**	**333**	P	**P**	**10 31 09.1**	**+4.7**
	comp=N,0.4nm,0.8s,baz=156,slow=6.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**86.73**	**71**	P	**P**	**10 32 20.4**	**-2.7**
	comp=N,0.3nm,0.8s,baz=226,slow=3.5,SNR=2.4						

*ISCJB **28** 10:38:14.9±0.7, 38.59N±0.05×27.26E±0.05, h12km, Error ellipse: s-maj=7.2km s-min=5.8km az=149.7*
*ISK **28** 10:38:14.5, 38.62N×27.25E, h9km, ML2.1/7*
*DDA **28** 10:38:15.1, 38.60N×27.24E, h7km±2km, ML2.5*
ISC 28 10:38:15.2±1.0, 38.61N±0.05×27.25E±0.04, h12km, n16, σ0s35/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.27**	**217**	PG	**Pg**	**10 38 20.9**	**+0.1**
BLCB				SG	**Sg**	**10 38 25.2**	**+0.6**
FOCM	**Foa**	**0.42**	**285**	PG	**Pg**	**10 38 23.2**	**-0.3**
AKHS	**Akhisar**	**0.52**	**58**	IAML_P			
	comp=Z,1μm,0.1s						
AKHS				*i* P	**Pb**	**10 38 25.9**	**-0.4**
KRBN	**Karaburun**	**0.55**	**269**	PG	**Pg**	**10 38 25.5**	**-0.3**
URLA	**Izmir**	**0.57**	**245**	PG	**Pg**	**10 38 26.1**	**-0.2**
URLA				SG	**Sb**	**10 38 34.6**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**0.83**	**142**	PG	**Pg**	**10 38 31.1**	**-0.1**
STEP	**BALIKESIR_Sava**	**0.85**	**25**	*i* P	**Pb**	**10 38 32.3**	**+0.3**
GCAM	**G?zelcaml?**	**0.90**	**181**	PG	**Pg**	**10 38 32.1**	**-0.5**
CHOS	**Chios island**	**0.96**	**257**	PG	**Pg**	**10 38 33.6**	**-0.2**
MANT	**Manisa**	**1.03**	**96**	IAML_P			
	comp=Z,287nm,0.2s						
MANT				*i* P	**Pb**	**10 38 35.4**	**+0.3**
AYDN	**Tasoluk**	**1.06**	**152**	IAML_P			
	comp=Z,472nm,0.1s						
AYDN				*i* P	**Pn**	**10 38 36.2**	**+0.2**
KULA	**Kula-Manisa**	**1.11**	**94**	PN	**Pb**	**10 38 36.1**	**-0.2**
SIGR	**SIGRI**	**1.25**	**300**	PN	**Pn**	**10 38 38.4**	**0.0**
BAYC	**CANAKKALE_Bayr**	**1.26**	**334**	IAML_P			
	comp=Z,285nm,0.2s						
BAYC				*i* P	**Pb**	**10 38 39.0**	**+0.1**
DURS	**Dursunbey**	**1.38**	**43**	IAML_P			
	comp=Z,367nm,0.1s						
DURS				*i* P	**Pb**	**10 38 40.9**	**0.0**
BOZC	**Bozcaada**	**1.55**	**323**	PN	**Pn**	**10 38 42.9**	**+0.4**

IDC 28 10:40:41.8±7.6, 22.01S×176.02W, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.4/25, mbtmp3.2/2, Error ellipse: s-maj=320.2km s-min=57.8km az=146.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.99**	**258**	P	P	10 49 06.5	-0.6
	0.2nm,0.4s,baz=102,slow=7.3,SNR=5.0						
WRA	**Warramunga Arr**	**46.23**	**263**	P	P	10 49 09.4	+0.3
	0.3nm,0.7s,baz=100,slow=7.3,SNR=8.9						
AKASG	**Malin Array Be**	**145.22**	**332**	PKPbc	PKPbc	11 00 20.0	-0.8
	0.8nm,0.5s,baz=42,slow=4.5,SNR=7.7						

IDC 28 10:46:06.2±2.6, 19.03S×177.06W, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.8/24, mbtmp4.0/3, Error ellipse: s-maj=281.4km s-min=31.1km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.70**	**260**	P	P	10 54 28.7	-0.6
	0.6nm,0.6s,baz=97,slow=6.8,SNR=9.4						
ASAR	**Alice Springs**	**45.73**	**255**	P	P	10 54 29.9	+0.3
	3.9nm,0.7s,baz=90,slow=8.5,SNR=66						
TXAR	**Lajitas Array**	**85.52**	**57**	P	P	10 58 46.6	+0.1
	0.6nm,0.8s,baz=208,slow=5.1,SNR=7.6						

*ISCJB **28** 10:49:27.8±0.5, 42.44N±0.02×41.10E±0.04, h3km±8km, Error ellipse: s-maj=4.8km s-min=3.5km az=141.2*
*ISK **28** 10:49:29.7, 42.29N×40.91E, h8km, ML3.0/4*
*TIF **28** 10:49:29.9, 42.34N×41.01E, h29km±4km*
*NORS **28** 10:49:31.3±0.0, 42.55N×41.39E, h2km, MPVA3.5*
*MOS **28** 10:49:31.5±0.0, 42.49N×41.05E, h10km, MPVA3.6*
*DDA **28** 10:49:41.4, 41.40N×41.04E, h6km±8km, ML2.8*
ISC 28 10:49:29.7±1.3, 42.38N±0.03×41.08E±0.03, h13km±11km, n25, σ0s73/40, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.90**	**149**	PG	**Pg**	**10 49 47.7**	**+0.6**
BATM				SG	**Sn**	**10 50 00.3**	**-0.6**
BATM	**Batumi**	**0.90**	**149**	P	**Pg**	**10 49 47.6**	**+0.5**
BATM				S	**Sn**	**10 50 01.1**	**+0.3**
DOMR	**Dombai**	**1.00**	**23**	*e*Pg	**Pb**	**10 49 49.1**	**+0.2**
DOMR				*e*Sg	**Sb**	**10 50 02.1**	**0.0**
BCA	**Borcka**	**1.02**	**156**	PG	**Pb**	**10 49 48.9**	**-0.3**
BCA				SG	**Sn**	**10 50 03.5**	**-0.3**
DBOC	**Borcka**	**1.12**	**157**	*i* P	**Pn**	**10 49 51.3**	**+0.1**
DBOC				*i* S	**Sg**	**10 50 06.4**	**+0.5**
ARXR	**Arkhyz**	**1.19**	**7**	*e*Pg	**Pn**	**10 49 51.7**	**-0.6**
ARXR				*e*Sg	**Sb**	**10 50 07.2**	**-0.4**
CHOM	**Cayeli-Rize**	**1.30**	**191**	PN	**Pn**	**10 49 53.0**	**-0.6**
DBAD	**Bademkaya**	**1.43**	**161**	*i* P	**Pn**	**10 49 55.1**	**-0.4**
DAGI	**Agillar**	**1.44**	**154**	*i* P	**Pn**	**10 49 55.6**	**+0.1**
RPOR	**Krasnaya Polya**	**1.45**	**336**	*e*Pg	**Pn**	**10 49 55.8**	**+0.2**
RPOR				*e*Sg	**Sb**	**10 50 15.0**	**0.0**
NEY	**Neytrino**	**1.49**	**54**	*i* Pg	**Pn**	**10 49 56.9**	**+0.6**
NEY				*e*Sg	**Sb**	**10 50 16.2**	**0.0**
SOC	**Sochi**	**1.57**	**321**	*e*Pg	**Pb**	**10 49 58.0**	**-0.5**
SOC				*e*Sg	**Sb**	**10 50 18.3**	**+0.1**
DDEM	**Demirkent**	**1.57**	**161**	IAML_P			
	comp=Z,1μm,0.1s						
DDEM				*i* P	**Pb**	**10 49 58.9**	**+0.2**
KTUT	**Trabzon**	**1.70**	**216**	PN	**Pn**	**10 49 58.4**	**-0.7**
SHA1	**Shidzhatmaz**	**1.78**	**40**	*i* Pg	**Pb**	**10 50 03.0**	**+0.6**
SHA1				*e*Sg	**Sb**	**10 50 25.7**	**+0.9**
DIGR	**Digorskoe uzhe**	**1.92**	**73**	*e*Pg	**Pb**	**10 50 04.3**	**-0.4**
DIGR				*e*Sg	**Sb**	**10 50 29.4**	**+0.8**
KIV0	**Kislovodsk Arr**	**1.97**	**36**	*e*Pg	**Pb**	**10 50 05.2**	**-0.3**
KIV0				*e*Sg	**Sb**	**10 50 30.4**	**+0.4**
LZRR	**Lazarevskoye**	**1.99**	**322**	*e*Pg	**Pb**	**10 50 06.1**	**+0.3**
LZRR				*i* Sg	**Sb**	**10 50 31.5**	**+1.0**
BAYT	**Aydıntepe-Bayb**	**2.10**	**200**	PN	**Pn**	**10 50 04.6**	**-0.2**
ZEI	**Tsey**	**2.12**	**78**	*e*Pg	**Pb**	**10 50 08.9**	**+0.7**
ZEI				*e*Sg	**Sb**	**10 50 35.7**	**+1.2**
BGD	**Bogdanovka**	**2.19**	**120**	P	**Sg**	**10 50 38.3**	**-1.7**
LSNR	**Lesken**	**2.21**	**65**	*e*Pg	**Pb**	**10 50 08.7**	**-0.9**
LSNR				*e*Sg	**Sb**	**10 50 36.3**	**-0.6**
ESPY	**Espiye-Giresun**	**2.29**	**231**	PN	**Pn**	**10 50 06.2**	**-1.0**
TRLG	**Trialeti**	**2.40**	**109**	P	**Sg**	**10 50 45.4**	**-1.6**
KELT	**Kelkit**	**2.62**	**212**	*i* P	**Pn**	**10 50 13.5**	**+1.6**

IDC 28 11:01:22.8±2.6, 2.46S×67.99E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/34, mbtmp3.6/4, MS3.5/7, Ms1 3.5/7, ms1mx3.2/45, Error ellipse: s-maj=89.7km s-min=32.2km az=64.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**4.87**	**142**	T	T	11 07 42.3	
	baz=324,slow=75,SNR=2302						
H08N3	**Diego Garcia H**	**4.88**	**142**	T	T	11 07 43.5	
	baz=324,slow=75,SNR=1580						
H08N1	**Diego Garcia H**	**4.89**	**142**	T	T	11 07 41.8	
	baz=324,slow=75,SNR=2077						
H08S3	**Diego Garcia H**	**6.81**	**139**	T	T	11 10 17.0	
	baz=300,slow=80,SNR=4.9						
H08S1	**Diego Garcia H**	**6.81**	**139**	T	T	11 10 14.0	
	baz=300,slow=80,SNR=10						
H08S2	**Diego Garcia H**	**6.83**	**139**	T	T	11 10 15.3	
	baz=300,slow=80,SNR=6.2						
PALK	**Pallekele**	**15.95**	**53**	LR	LR	11 09 48.5	
	comp=Z,89nm,19.4s,baz=295,slow=32						
OPO	**Ambohidratompo**	**25.91**	**230**	LR	LR	11 14 55.2	
	comp=Z,101nm,20.3s,baz=140,slow=31						
PSI	**Prapat**	**31.36**	**81**	LR	LR	11 19 45.4	
	comp=Z,71nm,19.6s,baz=270,slow=35						
CMAR	**Chiang Mai Arr**	**36.89**	**54**	LR	LR	11 22 03.0	
	comp=Z,49nm,21.4s,baz=298,slow=34						
LEM	**Lembang**	**39.72**	**98**	LR	LR	11 23 12.5	
	comp=Z,51nm,19.2s,baz=273,slow=33						
BOSA	**Boshof**	**48.27**	**233**	LR	LR	11 26 56.6	
	comp=Z,79nm,18.3s,baz=24,slow=32						
MKAR	**Makanchi Array**	**50.64**	**13**	P	P	11 10 25.1	+1.3
	0.3nm,0.7s,baz=193,slow=7.3,SNR=3.7						
SONM	**Songino Array**	**60.27**	**29**	P	P	11 11 32.0	-1.3
	0.6nm,0.8s,baz=225,slow=7.3,SNR=4.8						
SONM				LR	LR	11 36 45.9	
	comp=Z,110nm,18.9s,baz=338,slow=35						
WRA	**Warramunga Arr**	**66.95**	**111**	P	P	11 12 17.9	+0.1
	0.7nm,0.6s,baz=289,slow=5.8,SNR=10						
ASAR	**Alice Springs**	**66.99**	**115**	P	P	11 12 18.2	+0.2
	0.8nm,0.8s,baz=274,slow=6.3,SNR=8.1						
TXAR	**Lajitas Array**	**152.12**	**344**	PKPbc	PKPbc	11 21 20.7	-0.5
	0.5nm,0.9s,baz=0.0,slow=2.5,SNR=3.8						

*ISCJB **28** 11:07:01.9±0.6, 24.92N±0.04×122.55E±0.02, h146km±4km, Error ellipse: s-maj=6.3km s-min=3.1km az=168.7*
*JMA **28** 11:07:01.8±0.2, 25.11N×122.58E, h142km±3km, M2.7*
*TAP **28** 11:07:01.2, 24.97N×122.55E, h158km, ML3.3, D*
ISC 28 11:07:01.1±1.8, 24.98N±0.07×122.54E±0.03, h156km±10km, n70, σ0s68/115, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.50**	**274**	*eP*	**Pn**	**11 07 23.2**	**+0.2**
	baz=275						
EOS1	**EOS1**	**0.56**	**221**	*eP*	**Pn**	**11 07 24.0**	**+0.7**
	baz=215						
EOS1				*e*S	**Sn**	**11 07 41.8**	**+1.4**
	baz=215						
EGS		**0.56**	**257**	*eP*	**Pn**	**11 07 24.1**	**+0.7**
	baz=250						
JYNG	**Yonagunijimaku**	**0.64**	**145**	P	**Pn**	**11 07 23.8**	**0.0**
JYNG				*e*S	**Sn**	**11 07 40.8**	**-0.4**
TIPB	**Shuangxi**	**0.65**	**270**	*eP*	**Pn**	**11 07 24.4**	**+0.5**
	baz=260						
TIPB				*e*S	**Sn**	**11 07 41.0**	**-0.3**
	baz=260						
NTC	**Toucheng**	**0.65**	**260**	P	**Pn**	**11 07 24.3**	**+0.4**
	baz=253						
NWF	**Wu-fen Shan**	**0.69**	**278**	*eP*	**Pn**	**11 07 24.8**	**+0.6**
	baz=273						
WFSB	**Wu-fen Shan**	**0.69**	**278**	*eP*	**Pn**	**11 07 24.9**	**+0.8**
	baz=273						
TWC	**Suao**	**0.72**	**240**	P	**Pn**	**11 07 24.4**	**0.0**
	baz=243						
ILA	**Ilan**	**0.75**	**254**	*eP*	**Pn**	**11 07 24.9**	**+0.4**
	baz=248						
TWE	**Neicheng**	**0.83**	**252**	*eP*	**Pn**	**11 07 25.2**	**+0.1**
	baz=253						
TWE				*e*S	**Sn**	**11 07 43.4**	**0.0**
	baz=253						
TWA	**Mucha**	**0.87**	**271**	*eP*	**Pn**	**11 07 25.5**	**+0.1**
	baz=264						
YM08	**YM08**	**0.89**	**284**	*eP*	**Pn**	**11 07 25.6**	**+0.1**
	baz=277						
YM01	**YM01**	**0.89**	**281**	*eP*	**Pn**	**11 07 26.6**	**+1.0**
	baz=274						
YM11	**YM11**	**0.89**	**282**	*eP*	**Pn**	**11 07 26.0**	**+0.4**
	baz=275						
TWY	**Chenhua**	**0.90**	**290**	*eP*	**Pn**	**11 07 25.9**	**+0.4**
	baz=286						
YM05	**YM05**	**0.90**	**282**	*eP*	**Pn**	**11 07 26.0**	**+0.3**
	baz=274						
ENA	**Nanau**	**0.91**	**233**	*eP*	**Pn**	**11 07 26.1**	**+0.4**
	baz=232						
ENA				*e*S	**Sn**	**11 07 44.4**	**0.0**
	baz=232						
NHDH	**Xindian Distri**	**0.92**	**269**	*eP*	**Pn**	**11 07 25.9**	**+0.2**
	baz=263						
YM04	**YM04**	**0.93**	**281**	P	**Pn**	**11 07 26.1**	**+0.3**
	baz=273						
ENTT	**Nioudou**	**0.94**	**250**	*eP*	**Pn**	**11 07 26.2**	**+0.2**
	baz=250						
ENTT				*e*S	**Sn**	**11 07 45.7**	**+0.7**
	baz=250						
NWLT	**Wulai**	**0.96**	**258**	*eP*	**Pn**	**11 07 25.7**	**-0.4**
	baz=263						
NWLT				*e*S	**Sn**	**11 07 44.5**	**-0.8**
	baz=263						
NDT	**Datong Townshi**	**1.00**	**248**	*i* P	**Pn**	**11 07 27.1**	**+0.7**
	baz=249						
NDT				*e*S	**Sn**	**11 07 46.0**	**+0.2**
	baz=249						
YHNB	**Yeheng**	**1.10**	**254**	*i* P	**Pn**	**11 07 27.5**	**+0.2**
	baz=254						
YHNB				*e*S	**Sn**	**11 07 46.5**	**-0.9**
	baz=254						
NSK	**Sanguang**	**1.11**	**255**	*eP*	**Pn**	**11 07 27.4**	**0.0**
	baz=255						
NSK				*e*S	**Sn**	**11 07 46.6**	**-1.0**
	baz=255						
NACB	**Ninganchiao**	**1.17**	**227**	P	**Pn**	**11 07 27.8**	**-0.1**
	baz=224						
NACB				*e*S	**Sn**	**11 07 47.7**	**-0.7**
	baz=224						
WLTB	**Daxi**	**1.17**	**264**	*eS*	**Sn**	**11 07 48.6**	**+0.3**
	baz=265						
NNSB	**Datong**	**1.18**	**243**	P	**Pn**	**11 07 28.8**	**+0.7**
	baz=243						
NNSB				*e*S	**Sn**	**11 07 48.5**	**-0.3**
	baz=243						
NNS	**Nan Shan**	**1.19**	**244**	*eP*	**Pn**	**11 07 28.9**	**+0.7**
	baz=250						
NNS				*e*S	**Sn**	**11 07 48.8**	**-0.1**
	baz=250						
TWD	**Chiawan**	**1.24**	**224**	*eP*	**Pn**	**11 07 28.4**	**-0.1**
	baz=223						
TWD				*e*S	**Sn**	**11 07 48.6**	**-0.8**
	baz=223						
IRIF	**Iriomote-Funau**	**1.26**	**120**	P	**Pn**	**11 07 28.6**	**-0.1**
IRIF				S	**Sn**	**11 07 49.9**	**+0.1**
ENLB	**Shoufeng**	**1.37**	**219**	*eP*	**Pn**	**11 07 30.0**	**+0.3**
	baz=213						
LIOB	**Emei**	**1.42**	**257**	P	**Pn**	**11 07 30.6**	**+0.3**
	baz=257						
LIOB				*e*S	**Sn**	**11 07 52.0**	**-0.7**
	baz=257						
WHF	**Hehuan Shan**	**1.42**	**235**	*eP*	**Pn**	**11 07 31.1**	**+0.3**
	baz=229						
WHF				*e*S	**Sn**	**11 07 53.1**	**-0.4**
	baz=229						
TWT	**Tachien**	**1.43**	**240**	*eP*	**Pn**	**11 07 31.8**	**+1.2**
	baz=240						
TWT				*e*S	**Sn**	**11 07 53.1**	**-0.1**
	baz=240						
NSTT	**Nanjuang**	**1.44**	**257**	*eP*	**Pn**	**11 07 30.1**	**-0.4**
	baz=256						
NSTT				*e*S	**Sn**	**11 07 52.1**	**-0.9**
	baz=256						
TDCB	**Techi**	**1.45**	**240**	P	**Pn**	**11 07 31.4**	**+0.7**
	baz=240						
TDCB				*e*S	**Sn**	**11 07 52.9**	**-0.5**
	baz=240						
HATJ	**Hateruma jima**	**1.47**	**128**	P	**Pn**	**11 07 31.4**	**+0.6**
HATJ				*e*S	**Sn**	**11 07 53.9**	**+0.3**
JKRS	**Kuro-shima**	**1.53**	**118**	P	**Pn**	**11 07 32.0**	**+0.7**
JKRS				S	**Sn**	**11 07 54.5**	**-0.1**
ESL	**Shilin**	**1.53**	**221**	*eP*	**Pn**	**11 07 31.7**	**+0.2**
	baz=227						
ESL				*e*S	**Sn**	**11 07 52.9**	**-1.9**
	baz=227						
CHGB	**Renai**	**1.54**	**234**	P	**Pn**	**11 07 32.2**	**+0.5**
	baz=239						
CHGB				*e*S	**Sn**	**11 07 53.5**	**-1.7**
	baz=239						
JIJ	**Ishigaki jima**	**1.58**	**112**	P	**Pn**	**11 07 32.1**	**+0.2**
JIJ				S	**Sn**	**11 07 54.4**	**-1.2**
WHP	**Taichung City**	**1.61**	**245**	⇑P	**Pn**	**11 07 32.9**	**+0.6**
	baz=253						
WHP				*e*S	**Sn**	**11 07 55.4**	**-0.9**
	baz=253						
EGFH	**Guangfu**	**1.65**	**218**	P	**Pn**	**11 07 33.0**	**+0.3**
	baz=226						
EGFH				S	**Sn**	**11 07 55.2**	**-1.7**
	baz=226						
JISG	**Ishigakijimahi**	**1.66**	**103**	P	**Pn**	**11 07 32.9**	**+0.2**
JISG				S	**Sn**	**11 07 56.1**	**-0.9**
NSY	**Sanyi**	**1.71**	**251**	*eP*	**Pn**	**11 07 33.9**	**+0.6**
	baz=251						
TWQ1	**Liyutan**	**1.72**	**249**	*eP*	**Pn**	**11 07 33.2**	**-0.3**
	baz=249						
TWQ1				*e*S	**Sn**	**11 07 57.6**	**-0.8**
	baz=249						
PTSB	**Yuanli**	**1.75**	**253**	*eP*	**Pn**	**11 07 33.6**	**-0.1**
	baz=253						
VWDT	**VWDT**	**1.76**	**227**	*eP*	**Pn**	**11 07 34.7**	**+0.8**
	baz=222						
VWDT				*e*S	**Sn**	**11 07 58.5**	**-0.5**
	baz=222						
HGSD	**Ruisui**	**1.79**	**215**	*eP*	**Pn**	**11 07 34.0**	**-0.2**
	baz=211						
HGSD				*e*S	**Sn**	**11 07 58.7**	**-1.0**
	baz=211						
EHY	**Hungye**	**1.84**	**217**	*eP*	**Pn**	**11 07 35.3**	**+0.5**
	baz=223						
SMLT	**Sun Moon Lake**	**1.85**	**234**	*eP*	**Pn**	**11 07 35.6**	**+0.6**
	baz=243						
SMLT				*e*S	**Sn**	**11 08 02.4**	**+1.4**
	baz=243						
TYC	**Yuchr**	**1.87**	**236**	*eP*	**Pn**	**11 07 35.7**	**+0.7**
	baz=243						
TYC				*e*S	**Sn**	**11 08 00.9**	**-0.3**
	baz=243						
YULB	**Yu-li**	**1.94**	**216**	*eP*	**Pn**	**11 07 34.8**	**-1.1**
	baz=222						
YULB				*e*S	**Sn**	**11 08 01.5**	**-1.2**
	baz=222						
TWF1	**Yuli**	**1.97**	**215**	*eP*	**Pn**	**11 07 35.8**	**-0.5**
	baz=221						
TWF1				*e*S	**Sn**	**11 08 02.9**	**-0.4**
	baz=221						
JTJ	**Tarama**	**2.00**	**99**	P	**Pn**	**11 07 37.0**	**+0.5**
JTJ				S	**Sn**	**11 08 02.9**	**-0.8**
WHYT	**Xinyi Township**	**2.00**	**231**	*eP*	**Pn**	**11 07 37.4**	**+0.8**
	baz=238						
WHYT				*e*S	**Sn**	**11 08 03.8**	**0.0**
	baz=238						
WJS	**Zhushan**	**2.01**	**236**	*eP*	**Pn**	**11 07 36.4**	**-0.3**
	baz=244						
WJS				*e*S	**Sn**	**11 08 04.7**	**+0.6**
	baz=244						
CHN5	**Tsauling**	**2.18**	**231**	*eP*	**Pn**	**11 07 39.3**	**+0.5**
	baz=231						
CHN5				*e*S	**Sn**	**11 08 06.5**	**-1.3**
	baz=231						
ELDTW	**Lidau**	**2.26**	**218**	*eP*	**Pn**	**11 07 39.6**	**0.0**
	baz=214						
ELDTW				*e*S	**Sn**	**11 08 08.7**	**-0.7**
	baz=214						
RLNB	**Erlin**	**2.26**	**242**	*eS*	**Sn**	**11 08 09.0**	**-0.3**
	baz=242						
JIRB	**Irabujima**	**2.40**	**93**	S	**Sn**	**11 08 11.6**	**-

SOEI	**Soe**	**0.83**	**292**	P	**Pn**	**11 15 22.3**	**-3.5**
BATI	**Baumata**	**1.37**	**264**	Pg	**Pn**	**11 15 32.8**	**-0.3**
	169nm,0.3s,baz=101,slow=1.8,SNR=145						
BATI				Lg	Lg	11 15 49.6	
	178nm,0.3s,baz=162,slow=20,SNR=23						
BATI	**Baumata**	**1.37**	**264**	P	**Pn**	**11 15 32.7**	**-0.3**
BATI				S	**Sn**	**11 15 50.4**	**+0.3**
MMRI	**Maumere**	**3.12**	**297**	P	**Pn**	**11 15 57.5**	**+0.3**
EDFI	**Ende, Flores**	**3.57**	**291**	P	**Pn**	**11 16 03.0**	**-0.4**
PLAI	**Plampang**	**7.28**	**279**	P	**Pn**	**11 16 53.2**	**-1.2**
FITZ	**Fitzroy Crossi**	**8.00**	**176**	Pn	**Pn**	**11 17 07.2**	**+3.0**
	0.8nm,0.3s,baz=354,slow=8.7,SNR=42						
FITZ				Sn	**Sn**	**11 18 32.5**	**-1.0**
	2.9nm,0.3s,baz=269,slow=14,SNR=9.4						
WRA	**Warramunga Arr**	**13.29**	**139**	Pn	**Pn**	**11 18 20.0**	**+3.3**
	0.4nm,0.3s,baz=318,slow=13,SNR=27						
WRA				Sn	**Sn**	**11 20 39.5**	**-3.8**
	0.2nm,0.3s,baz=305,slow=23,SNR=3.7						
ASAR	**Alice Springs**	**15.94**	**149**	Pn	**P**	**11 18 54.9**	**-0.6**
	0.2nm,0.3s,baz=322,slow=12,SNR=19						
ASAR				Sn	**Sn**	**11 21 43.7**	**-4.3**
	0.1nm,0.3s,baz=313,slow=21,SNR=2.9						
SONM	**Songino Array**	**59.99**	**346**	P	**P**	**11 25 13.0**	**-0.5**
	0.7nm,1.0s,baz=171,slow=7.9,SNR=4.1						
MKAR	**Makanchi Array**	**68.25**	**330**	P	**P**	**11 26 09.0**	**+1.4**
	0.6nm,0.6s,baz=132,slow=7.6,SNR=7.9						

MAN 28 11:21:02.5, 17.52N×121.38E, h21km, mb4.4, ML3.3, MS3.1, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APYP	**Conner**	**0.36**	**340**	*e*P	Pn	11 21 11.7	-0.9
APYP				*e*S	Sn	11 21 20.1	+1.0
CVP	**Callao Caves**	**0.46**	**67**	*i*P	Pb	11 21 12.2	+0.3
CVP				*i* S	Sb	11 21 19.3	+1.0
CAUP	**Cauayan**	**0.71**	**143**	*e*P	Pb	11 21 16.7	+0.4
CAUP				*e*S	Sn	11 21 28.7	+0.9
SGCP	**Mt. Cagua**	**0.96**	**42**	*e*P	Pb	11 21 20.2	-0.3
SGCP				*e*S	Sn	11 21 33.9	0.0
PALP	**Palanan**	**1.10**	**114**	*e*P	Pn	11 21 22.1	-0.6
PALP				*e*S	Sn	11 21 38.5	+1.3
BOLP	**Bolinao**	**1.80**	**231**	*e*P	Pn	11 21 32.4	0.0
BOLP				*e*S	Sb	11 21 55.9	-1.1

*MOS **28** 11:39:19.8±2.6, 53.30N×143.11E, h10km, mb4.1/2, Error ellipse: s-maj=17.7km s-min=7.8km az=79.8*
MOS Felt (II-III) Moskal'vo.
*SKHL **28** 11:39:19.5±0.5, 53.28N×142.63E, h10km, mb4.3/7*
SKHL Felt (II-III) at Moskal'vo.
*ISCJB **28** 11:39:20.4±0.6, 53.27N±0.03×142.58E±0.05, h11km±5km, mb3.5/6, Error ellipse: s-maj=5.6km s-min=4.5km az=139.6*
*IDC **28** 11:39:20.6±0.8, 53.33N×142.50E, h0km, mb3.6/6, mb1 3.7/12, mb1mx3.5/41, mbtmp3.5/12, ML3.5/5, Error ellipse: s-maj=23.7km s-min=13.7km az=128.0*

ISC 28 11:39:22.7±1.0, 53.28N±0.03×142.71E±0.04, h14km±7km, n27, σ1$77/35, mb3.5/6, 2D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKH	**Okha**	**0.31**	**26**	*i*Pg	**Pg**	**11 39 27.9**	**-1.2**
OKH				AMB	AMB	11 39 28.3	
	4μm,0.2s						
OKH				*i* Sg	**Sg**	**11 39 33.5**	**+0.1**
OKH				A	A	11 39 33.9	
	24μm,0.5s						
OKH				A	A	11 39 33.9	
	16μm,0.5s						
OKH	**Okha**	**0.31**	**26**	*i*PN	**Pg**	**11 39 27.9**	**-1.2**
OKH				*i* S	**Sg**	**11 39 33.1**	**-0.3**
OKH				pmax	pmax		
	comp=Z,6.0nm,0.4s						
OKH				smax	smax		
	comp=N,24nm,0.5s						
OKH				smax	smax		
	comp=E,16nm,0.5s						
NKL	**Nikolayevsk**	**1.23**	**265**	*i* Pg	**Pn**	**11 39 44.0**	**-1.4**
	comp=Z,17nm,0.5s						
NKL				AMB	AMB	11 39 44.8	
	comp=Z,170nm,0.5s						
NKL				AMB	AMB	11 39 44.8	
	comp=Z,240nm,0.5s						
NKL				*e*Sg	**Sb**	**11 40 01.0**	**-0.3**
NKL				A	A	11 40 38.0	
	comp=Z,1μm,6.0s						
NKL	**Nikolayevsk**	**1.23**	**265**	*i* PN	**Pn**	**11 39 43.2**	**-2.2**
NKL				pmax	pmax		
	comp=E,170nm,0.5s						
NKL				pmax	pmax		
	comp=Z,240nm,0.5s						
TYV	**Tymovskoe**	**2.42**	**181**	*e*Pb	**Pn**	**11 40 02.3**	**+0.5**
TYV				*e*Pg	**Pg**	**11 40 07.8**	**-1.2**
TYV				AMB	AMB	11 40 08.1	
	comp=Z,10.0nm,0.3s						
TYV				*e*S	**Sn**	**11 40 28.2**	**-2.9**
TYV				*e*Sg	**Sg**	**11 40 40.7**	**+0.4**
TYV				A	A	11 40 42.3	
	comp=Z,50nm,0.5s						
TYV				A	A	11 40 42.3	
	comp=Z,70nm,0.5s						
TYV	**Tymovskoe**	**2.42**	**181**	*e*PN	**Pn**	**11 40 02.1**	**+0.3**
TYV				*e*S	**Sb**	**11 40 34.9**	**-0.7**
TYV				pmax	pmax		
	comp=Z,18nm,0.5s						
TYV				smax	smax		
	comp=N,59nm,0.6s						
UGL	**Uglegorsk**	**4.22**	**186**	*e*PN	**Pn**	**11 40 27.0**	**+0.4**
GRNR	**Gornyy**	**4.62**	**240**	*e*Pg	**Pg**	**11 40 50.0**	**-1.2**
GRNR				AMB	AMB	11 40 53.0	
	comp=N,12nm,0.4s						
GRNR				*e*Sg	**Sg**	**11 41 53.5**	**+2.5**
GRNR				A	A	11 41 58.0	
	comp=N,45nm,0.5s						
GRNR				A	A	11 41 58.0	
	comp=N,43nm,0.5s						
GRNR	**Gornyy**	**4.62**	**240**	*e*PN	**Pb**	**11 40 46.5**	**+3.0**
GRNR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
EKMR	**Ekimchan**	**5.87**	**272**	*e*Pg	**Pg**	**11 41 13.5**	**-1.6**
EKMR				AMB	AMB	11 41 27.0	
	comp=Z,5.0nm,0.5s						
EKMR				AMB	AMB	11 41 27.0	
	comp=Z,8.0nm,0.5s						
EKMR				*e*Sg	**Sg**	**11 42 33.8**	**+2.7**
EKMR				A	A	11 42 45.1	
	comp=Z,45nm,0.7s						
EKMR				A	A	11 42 45.1	
	comp=Z,23nm,0.7s						
EKMR				A	A	11 42 45.1	
	comp=Z,24nm,0.7s						
YSS	**Yuzh-Sakhalins**	**6.33**	**180**	*e*PN	**Pn**	**11 40 56.4**	**+0.9**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.3s						
MA2	**Magadan**	**7.73**	**32**	Pn	**Pn**	**11 41 16.0**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=188,slow=19,SNR=3.6						
MA2	**Magadan**	**7.73**	**32**	PN	**Pn**	**11 41 16.0**	**+1.2**
MA2				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	**Kul'dur**	**7.98**	**244**	Pn	**Pn**	**11 41 18.4**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=347,slow=18,SNR=2.3						
KLR				Pg	**Pb**	**11 41 38.8**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=67,slow=6.1,SNR=4.1						
KLR				Lg	Lg	11 41 30.8	
	comp=Z,0.3nm,0.3s,baz=66,slow=18,SNR=2.6						
BMKR	**Bomnak**	**8.30**	**286**	*e*Pg	Pg	11 42 07.2	+5.8
BMKR				AMB	AMB	11 42 08.5	
	comp=Z,2.0nm,0.5s						
BMKR				*e*Sg	**Sg**	**11 43 52.0**	**+3.3**
BMKR				A	A	11 43 53.0	
	comp=Z,3.0nm,0.7s						
PETK	**Petropavlovsk-**	**9.01**	**85**	Pn	**Pn**	**11 41 32.5**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=315,slow=6.8,SNR=8.8						
ZEA	**Zeya**	**9.23**	**279**	*e*Sg	Sn	11 44 18.0	+59
ZEA				A	A	11 44 18.8	
	comp=Z,31nm,0.8s						
KROS	**Kirovskiy**	**9.37**	**283**	*e*Sg	Sn	11 44 18.8	+56
KROS				A	A	11 44 34.8	
	comp=Z,8.0nm,0.5s						
SEY	**Seymchan**	**10.94**	**24**	Pn	**Pn**	**11 42 01.9**	**+3.3**
	comp=Z,0.1nm,0.3s,baz=252,slow=23,SNR=4.1						
KSRS	**Korea Array**	**18.86**	**219**	P	**P**	**11 43 40.1**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=21,slow=10,SNR=2.9						
TIXI	**Tiksi**	**19.42**	**347**	P	**P**	**11 43 45.2**	**-3.0**
	baz=92,slow=11,SNR=2.5						
ILAR	**Eielson Array**	**36.03**	**43**	P	**P**	**11 46 25.3**	**+2.2**
	comp=Z,0.6nm,0.8s,baz=275,slow=7.5,SNR=6.0						
MKAR	**Makanchi Array**	**38.31**	**285**	P	**P**	**11 46 42.2**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=60,slow=7.3,SNR=3.5						
FINES	**FINESS Array B**	**55.12**	**328**	P	**P**	**11 48 52.9**	**-0.9**
	comp=Z,1.5nm,0.5s,baz=28,slow=8.6,SNR=7.7						
BRTR	**Keskin Array B**	**69.04**	**309**	P	**P**	**11 50 26.9**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=40,slow=6.0,SNR=2.6						
WRA	**Warramunga Arr**	**73.27**	**188**	P	**P**	**11 50 53.2**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=6.9,slow=6.9,SNR=4.3						
ASAR	**Alice Springs**	**77.00**	**188**	P	**P**	**11 51 15.6**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=1.7,slow=5.3,SNR=12						

*MOS **28** 11:46:23.5±0.8, 53.29N×142.68E, h10km, mb3.9/1, Error ellipse: s-maj=83.4km s-min=28.3km az=79.2*
MOS Felt (II) at Okha.
*SKHL **28** 11:46:23.5±0.3, 53.28N×142.67E, h10km, mb4.1/4*
SKHL Felt (II) at Okha.
*ISCJB **28** 11:46:24.6±0.7, 53.22N±0.04×142.66E±0.06, h10km, Error ellipse: s-maj=5.8km s-min=4.8km az=139.0*

ISC 28 11:46:26.3±0.9, 53.29N±0.05×142.73E±0.05, h10km, n9, σ1$89/15, 2D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKH	**Okha**	**0.28**	**25**	*i*Pg	**Pg**	**11 46 31.9**	**-0.1**
OKH				AMB	AMB	11 46 32.3	
	1μm,0.2s						
OKH				*i* Sg	**Sg**	**11 46 37.6**	**+1.8**
OKH				A	A	11 46 38.2	
	3μm,0.3s						
OKH				A	A	11 46 38.2	
	3μm,0.3s						
OKH	**Okha**	**0.28**	**25**	*i*PN	**Pg**	**11 46 31.9**	**-0.1**
OKH				*i* S	**Sg**	**11 46 37.2**	**+1.4**
OKH				pmax	pmax		
	comp=Z,1.0nm,0.3s						
OKH				smax	smax		
	comp=N,3.0nm,0.4s						
OKH				smax	smax		
	comp=E,3.0nm,0.5s						
NKL	**Nikolayevsk**	**1.24**	**264**	*e*Pg	**Pn**	**11 46 47.8**	**-1.8**
NKL				AMB	AMB	11 46 48.8	
	comp=E,35nm,0.5s						
NKL				AMB	AMB	11 46 48.8	
	comp=E,54nm,0.5s						
NKL				*e*Sg	**Sb**	**11 47 05.0**	**-0.8**
NKL				A	A	11 47 06.4	
	comp=E,380nm,0.3s						
NKL				A	A	11 47 06.4	
	comp=E,340nm,0.3s						
NKL	**Nikolayevsk**	**1.24**	**264**	*e*PN	**Pn**	**11 46 47.6**	**-2.0**
NKL				*e*S	**Sb**	**11 47 05.0**	**-0.8**
NKL				pmax	pmax		
	comp=E,35nm,0.5s						
NKL				pmax	pmax		
	comp=Z,54nm,0.5s						
NKL				smax	smax		
	comp=N,380nm,0.3s						
NKL				smax	smax		
	comp=E,340nm,0.3s						
TYV	**Tymovskoe**	**2.44**	**181**	*e*Pb	**Pn**	**11 47 06.2**	**+0.2**
TYV				*e*Pg	**Pb**	**11 47 11.4**	**+1.3**
TYV				AMB	AMB	11 47 12.4	
	comp=E,4.0nm,0.4s						
TYV	**Tymovskoe**	**2.44**	**181**	*e*PN	**Pn**	**11 47 05.3**	**-0.7**
TYV				S	**Sn**	**11 47 33.0**	**-2.8**
UGL	**Uglegorsk**	**4.24**	**186**	*e*PN	**Pn**	**11 47 29.9**	**-1.0**
GRNR	**Gornyy**	**4.64**	**240**	*e*Sg	**Sg**	**11 48 57.7**	**+2.4**
GRNR				A	A	11 48 59.3	
	comp=E,5.0nm,0.6s						
EKMR	**Ekimchan**	**5.89**	**272**	*e*Sg	**Sg**	**11 49 38.5**	**+3.4**
EKMR				A	A	11 49 39.2	
	comp=E,8.0nm,0.5s						
EKMR				A	A	11 49 39.2	
	comp=E,4.0nm,0.5s						

*IDC **28** 11:49:18.1±2.7, 6.98S×108.42E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/39, mbtmp3.5/4, Error ellipse: s-maj=152.8km s-min=25.3km az=51.0*
*DJA **28** 11:49:22.1±0.3, 7.3×10.9E±, h10km, M3.6/7, MLv3.6/7*
*ISCJB **28** 11:49:23.8±0.9, 7.16S±0.09×108.60E±0.07, h33km, mb3.3/4, Error ellipse: s-maj=12.9km s-min=9.2km az=163.5*

ISC 28 11:49:24.4±1.0, 7.19S±0.08×108.57E±0.05, h35km, n10, σ1$76/11, mb3.3/4, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KPJI	**Karang Pucung**	**0.39**	**111**	P	**Pn**	**11 49 31.3**	**-2.2**
CMJI	**Cimerak**	**0.60**	**191**	P	**Pn**	**11 49 36.0**	**-0.4**
CMJI				S	**Sn**	**11 49 46.6**	**+1.6**
CISI	**Cisompet, Garu**	**0.83**	**244**	P	**Pn**	**11 49 38.4**	**-1.2**
SMRI	**Semarang**	**1.86**	**86**	P	**Pn**	**11 49 54.6**	**+0.8**
DBJI	**Dramaga**	**1.91**	**289**	P	**Pn**	**11 49 56.0**	**+1.5**
PCJI	**Pacitan**	**2.77**	**111**	P	**Pn**	**11 50 07.5**	**+1.2**
WRA	**Warramunga Arr**	**28.02**	**119**	P	**P**	**11 55 14.2**	**+1.7**
	0.2nm,0.4s,baz=293,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**29.32**	**127**	P	**P**	**11 55 25.0**	**+1.0**
	0.2nm,0.7s,baz=303,slow=8.0,SNR=4.5						
STKA	**Stephens Creek**	**39.37**	**133**	P	**P**	**11 56 50.5**	**-0.2**
	1.0nm,0.4s,baz=305,slow=8.2,SNR=3.4						
MKAR	**Makanchi Array**	**58.60**	**339**	P	**P**	**11 59 15.1**	**-2.7**
	0.2nm,0.6s,baz=153,slow=6.4,SNR=3.1						

IDC 28 11:52:54.8±2.2, 5.97S×130.36E, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.4/31, mbtmp3.4/4, ML2.8/3, Error ellipse: s-maj=83.7km s-min=29.4km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.90**	**201**	Pn	Pn	11 55 59.6	0.0
	0.1nm,0.3s,baz=27,slow=11,SNR=4.2						
FITZ				Sn	Sn	11 58 06.7	-17
	0.1nm,0.3s,baz=343,slow=17,SNR=4.5						
WRA	**Warramunga Arr**	**14.42**	**165**	Pn	Pn	11 56 21.5	+1.2
	0.0nm,0.3s,baz=345,slow=14,SNR=2.8						
WRA				Sn	Sn	11 58 48.4	-13
	0.1nm,0.3s,baz=343,slow=23,SNR=4.7						
ASAR	**Alice Springs**	**17.92**	**169**	P	Pn	11 57 04.8	-0.8
	0.1nm,0.3s,baz=344,slow=9.3,SNR=5.8						
ASAR				S	Sn	12 00 14.6	-12
	0.0nm,0.3s,baz=340,slow=11,SNR=2.6						
MKAR	**Makanchi Array**	**67.57**	**326**	P	P	12 03 53.2	0.0
	0.3nm,0.5s,baz=125,slow=7.2,SNR=4.4						

*IDC **28** 12:00:12.7±0.5, 11.11S×165.60E, h0km, mb4.5/19, mb1 4.7/21, mb1mx4.6/31, mbtmp4.5/21, ML4.8/2, MS4.5/24, Ms1 4.5/24, ms1mx4.3/41, Error ellipse: s-maj=17.4km s-min=13.5km az=93.0*
*NEIC **28** 12:00:14.0±0.1, 11.00S×165.45E, h10km, mb5.0/86, Error ellipse: s-maj=3.3km s-min=2.3km az=109.0*
*ISCJB **28** 12:00:15.4±0.1, 11.13S±0.03×165.37E±0.03, h30km, mb4.8/110, MS4.5/27, Error ellipse: s-maj=4.8km s-min=4.1km az=21.7*
*MOS **28** 12:00:16.0±0.8, 11.07S×165.36E, h33km, mb5.0/31, Error ellipse: s-maj=11.2km s-min=9.0km az=147.5*
*BJI **28** 12:00:18.1, 11.10S×165.40E, h35km, mb4.7/28, mB5.1/18, Ms5.2/11, Ms7 4.9/11*
*GCMT **28** 12:00:19.0±0.2, 11.14S±0.02×165.32E±0.02, h19km±1km, MW5.1/77, Moment Tensor Solution. s53,c68; s77,c109; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.10±.19; $M_{\theta\theta}$-1.38±.12; $M_{\phi\phi}$-1.72±.13; $M_{r\theta}$2.47±.32; $M_{r\phi}$1.72±.09; $M_{\theta\phi}$-4.32±.44; Best double couple: M_o5.91200×10^{16} NP1:ϕs148.00000°, δ74.00000°, λ96.00000°. NP2: ϕs307.00000°, δ17.00000°, λ69.00000°. Principal axes: T 5.8800, Plg61.0000°, Azm67.0000°; N 0.0650, Plg6.0000°, Azm327.0000°; P -5.9450, Plg29.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 12:00:17.3±0.3, 11.13S±0.05×165.41E±0.05, h30km, n257, σ1$27/251, mb4.9/110, MS4.4/27, 3D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.64**	**287**	Pn	**Pn**	**12 01 40.5**	**+1.4**
	23nm,0.3s,baz=302,slow=2.9,SNR=8.0						
HNR				Sn	**Sn**	**12 02 42.4**	**-0.5**
	6.0nm,0.3s,baz=210,slow=23,SNR=1.7						
HNR				LR	LR	12 03 59.6	
	comp=Z,5μm,19.6s,baz=109,slow=39						
HNR	**Honiara**	**5.64**	**287**	*e*P	**Pn**	**12 01 40.0**	**+0.8**
HNR				*e*S	**Sn**	**12 02 46.0**	**+3.0**
HNR	**Honiara**	**5.64**	**287**	*e*Pn	**Pn**	**12 01 38.6**	**-0.6**
HNR				*e*Sn	**Sn**	**12 02 42.4**	**-0.5**
HNR	**Honiara**	**5.64**	**287**	*e*P	**Pn**	**12 01 38.6**	**-0.6**
HNR				*e*		12 02 42.4	
MARNC	**Mare, Loyalty**	**10.59**	**167**	*e*Pn	**Pn**	**12 02 48.4**	**+1.2**
DZM	**Mont Dzumac**	**10.92**	**175**	*e*Pn	**Pn**	**12 02 52.0**	**+0.3**
	20nm,0.3s						
DZM				*e*Sn	**Sn**	**12 04 45.2**	**-7.8**
	2.8nm,0.3s						
DZM				*e*LR	LR	12 05 23.6	
	comp=Z,2μm,26.1s						
DZM	**Mont Dzumac**	**10.92**	**175**	Pn	**Pn**	**12 02 52.3**	**+0.6**
	6.7nm,0.3s,baz=14,slow=12,SNR=36						
DZM				Sn	**Sn**	**12 04 49.1**	**-3.9**
	0.4nm,0.3s,baz=16,slow=17,SNR=1.1						
DZM	**Mont Dzumac**	**10.92**	**175**	*e*Pn	**Pn**	**12 02 52.1**	**+0.4**
DZM				*e*Sn	**Sn**	**12 04 52.9**	**-0.2**
ONTNC	**Ouen Toro**	**11.16**	**175**	*e*Pn	**Pn**	**12 02 55.7**	**+0.8**
OUENC	**Ouen Island, N**	**11.30**	**173**	*e*Pn	**Pn**	**12 02 57.8**	**+0.9**
PINNC	**Pines Island,**	**11.58**	**171**	*e*Pn	**Pn**	**12 03 01.8**	**+1.1**
TARA	**Tarawa**	**14.48**	**32**	*e*Pn	**Pn**	**12 03 37.5**	**-2.8**
PMG	**Port Moresby**	**18.04**	**274**	*i* P	LR	12 11 23.8	
	comp=Z,3μm,19.0s,baz=122,slow=37						
PMG	**Port Moresby**	**18.04**	**274**	*i* P	**Pn**	**12 04 24.5**	**-1.5**
MANU	**Manus Island**	**20.06**	**295**	*e*P	**P**	**12 04 48.4**	**0.0**
	231nm,1.1s						
CTA	**Charters Tower**	**20.47**	**242**	P	Pn	12 04 54.7	-0.3
	44nm,1.0s,baz=68,slow=12,SNR=31						
CTAO	**Charters Tower**	**20.47**	**242**	*e*P	**P**	**12 04 52.4**	**-0.4**
	58nm,1.0s						
CTAO	**Charters Tower**	**20.47**	**242**	*e*P	**P**	**12 04 52.4**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,58nm,1.0s						
COEN	**Coen**	**21.89**	**260**	*e*P	**P**	**12 05 07.8**	**-0.2**
	comp=Z,53nm,1.1s						
HIZ	**Hauiti**	**28.54**	**164**	*e*P	**P**	**12 06 10.8**	**+0.4**
	comp=Z,54nm,1.2s						
URZ	**Urewera**	**28.97**	**161**	P	**P**	**12 06 13.9**	**-0.3**
	comp=Z,20nm,0.8s,baz=173,slow=0.7,SNR=8.0						
URZ	**Urewera**	**28.97**	**161**	*e*P	**P**	**12 06 15.0**	**+0.8**
	comp=Z,39nm,1.1s						
H11S2	**WAKE ISLAND Hy**	**29.46**	**2**	T	T	12 36 52.8	
	baz=181,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**29.47**	**2**	T	T	12 36 46.3	
	baz=181,slow=76,SNR=19						
H11S1	**WAKE ISLAND Hy**	**29.48**	**2**	T	T	12 36 55.1	
	baz=181,slow=76,SNR=4.8						
BKZ	**Black Stump Fm**	**29.61**	**162**	*e*P	**P**	**12 06 20.4**	**+0.4**
	comp=Z,62nm,1.3s						
STKA	**Stephens Creek**	**30.15**	**223**	P	**P**	**12 06 25.6**	**+0.7**
	comp=Z,6.2nm,0.6s,baz=39,slow=8.1,SNR=11						
STKA				LR	LR	12 18 18.6	
	comp=Z,2μm,18.1s,baz=50,slow=36						
STKA	**Stephens Creek**	**30.15**	**223**	*e*P	**P**	**12 06 25.5**	**+0.7**
	comp=Z,2.9nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**30.69**	**3**	T	T	12 38 26.0	
	baz=182,slow=76,SNR=33						
H11N3	**WAKE ISLAND Hy**	**30.69**	**3**	T	T	12 38 28.0	
	baz=182,slow=76,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**30.70**	**3**	T	T	12 38 25.8	
	baz=182,slow=76,SNR=4.4						
BFZ	**Birch Farm**	**30.95**	**164**	*e*P	**P**	**12 06 31.8**	**+0.1**
	comp=Z,38nm,0.9s						
WRAB	**Tennant Creek**	**31.14**	**250**	*e*P	**P**	**12 06 33.1**	**-0.6**
	comp=Z,23nm,1.0s						
WRAB	**Tennant Creek**	**31.14**	**250**	*e*P	**P**	**12 06 33.1**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,30nm,1.1s						
WB2	**Warramunga Arr**	**31.14**	**250**	*e*P	**P**	**12 06 33.3**	**-0.4**
WR1	**Warramunga Arr**	**31.15**	**250**	*e*P	**P**	**12 06 34.1**	**+0.4**
	comp=Z,45nm,1.1s						
WRA	**Warramunga Arr**	**31.15**	**250**	P	**P**	**12 06 34.1**	**+0.3**
	comp=Z,16nm,1.0s,baz=79,slow=9.2,SNR=44						
WRA				PcP	**PcP**	**12 09 29.4**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=71,slow=2.6,SNR=4.9						
WRA				LR	LR	12 18 06.1	
	comp=Z,706nm,21.8s,baz=85,slow=34						
SNZO	**South Karori**	**31.15**	**166**	*e*P	**P**	**12 06 34.4**	**+1.0**
	comp=Z,46nm,1.1s						
THZ	**Tophouse**	**31.21**	**169**	*e*P	**P**	**12 06 35.8**	**+1.7**
	comp=Z,17nm,0.8s						
TOO	**Toolangi**	**31.83**	**211**	*e*P	**P**	**12 06 39.8**	**+0.2**
	comp=Z,17nm,1.1s						
TOO	**Toolangi**	**31.83**	**211**	*e*P	**P**	**12 06 39.8**	**+0.2**
TOO				pmax	pmax		
	comp=Z,17nm,1.1s						
KHZ	**Kahutara**	**31.96**	**169**	*e*P	**P**	**12 06 41.6**	**+1.0**
	comp=Z,20nm,1.1s						
LTZ	**Lake Taylor**	**32.09**	**170**	*e*P	**P**	**12 06 42.9**	**+1.1**
	comp=Z,23nm,1.0s						
AS01	**Alice Springs**	**32.42**	**243**	*e*P	**P**	**12 06 44.4**	**-0.5**
AS31	**Alice Springs**	**32.46**	**243**	*e*P	**P**	**12 06 45.2**	**-0.1**
	comp=Z,2.5nm,0.9s						
ASAR	**Alice Springs**	**32.46**	**243**	P	**P**	**12 06 45.1**	**-0.2**
	comp=Z,5.4nm,0.8s,baz=62,slow=10,SNR=48						
ASAR				PcP	**PcP**	**12 09 32.3**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=70,slow=2.2,SNR=4.2						
ASAR				LR	LR	12 18 50.5	
	comp=Z,1μm,20.4s,baz=74,slow=34						
FOZ	**Fox Glacier**	**32.50**	**174**	*e*P	**P**	**12 06 46.5**	**+1.1**
	comp=Z,44nm,1.2s						
OXZ	**Oxford**	**32.59**	**171**	*e*P	**P**	**12 06 47.0**	**+0.9**
	comp=Z,14nm,0.8s						
RPZ	**Rata Peaks**	**32.83**	**172**	P	**P**	**12 06 47.8**	**-0.4**
	comp=Z,4.6nm,0.8s,baz=43,slow=17,SNR=3.4						
RPZ				LR	LR	12 19 17.9	
	comp=Z,684nm,18.1s,baz=344,slow=35						
RPZ	**Rata Peaks**	**32.83**	**172**	*e*P	**P**	**12 06 48.9**	**+0.7**
	comp=Z,23nm,0.9s						
MQZ	**McQueen's Vall**	**33.05**	**170**	*e*P	**P**	**12 06 51

	comp=Z,333nm,28.2s										
RKT					*e*LR	LR	12 27 08.7				
	comp=Z,593nm,27.2s,baz=283										
KSRS	**Korea Array**	**59.77**	**326**		P	**P**	**12 10 20.3**	**+0.7**			
	comp=Z,1.3nm,0.8s,baz=123,slow=8.2,SNR=3.4										
KSRS					LR	LR	12 35 25.1				
	comp=Z,177nm,18.5s,baz=145,slow=35										
YSS	**Yuzh-Sakhalins**	**61.27**	**342**		*e*P	P	12 10 35.4	+5.7			
YSS					*e*		12 18 56.1				
YSS					pmax	pmax					
	comp=Z,10.0nm,1.1s										
NJ2	**Nanjing**	**61.85**	**316**		*e*P	**P**	**12 10 33.8**	**-0.1**			
NJ2					pmax	pmax					
	comp=Z,8.0nm,0.5s										
USRK	**Ussuriysk Ar.**	**62.88**	**334**		P	**P**	**12 10 41.3**	**+0.8**			
	comp=Z,2.3nm,0.9s,baz=132,slow=8.0,SNR=4.4										
CN2	**Changchun**	**65.65**	**329**		*e*P	**P**	**12 11 03.3**	**+4.6**			
CN2					pmax	pmax					
	comp=Z,10.0nm,0.7s										
CN2					LR	LR					
	comp=Z,330nm,16.0s										
CN2					LR	LR					
	comp=Z,410nm,16.0s										
CN2					LR	LR					
	comp=Z,460nm,18.0s										
VNDA	**Vanda**	**66.40**	**181**		P	**P**	**12 11 03.2**	**+0.2**			
	comp=Z,2.1nm,1.0s,baz=349,slow=10,SNR=3.5										
VNDA					LR	LR	12 36 53.1				
	comp=Z,215nm,18.6s,baz=356,slow=33										
SBA	**Scott Base**	**66.71**	**180**		*e*P	**P**	**12 11 05.6**	**+0.5**			
	comp=Z,22nm,1.1s										
SBA	**Scott Base**	**66.71**	**180**		*e*P	**P**	**12 11 05.6**	**+0.5**			
SBA					pmax	pmax					
	comp=Z,22nm,1.1s										
KLR	**Kul'dur**	**67.01**	**337**		*i* P	**P**	**12 11 06.1**	**-1.2**			
XAN	**Xi'an**	**69.94**	**313**		P	P	12 11 36.8	+11			
XAN					pP	PcP	12 11 47.0	-1.3			
XAN					pmax	pmax					
	comp=Z,8.0nm,0.8s										
XAN					pmax	pmax					
	comp=Z,220nm,6.3s										
KMI	**Kunming**	**70.89**	**302**		P	**P**	**12 11 33.0**	**+0.7**			
KMI					pmax	pmax					
	comp=Z,7.0nm,0.5s										
HHC	**Hu-ho-hao-te**	**71.69**	**320**		*e*P	**P**	**12 11 38.3**	**+1.7**			
HHC					S	**S**	**12 20 55.0**	**+0.3**			
HHC					pmax	pmax					
	comp=Z,13nm,1.0s										
HHC					pmax	pmax					
	comp=Z,200nm,4.8s										
HHC					LR	LR					
	comp=Z,310nm,11.2s										
HHC					LR	LR					
	comp=Z,340nm,11.2s										
HHC					LR	LR					
	comp=Z,350nm,10.4s										
CM01	**Chiang Mai Arr**	**71.82**	**294**		*e*P	**P**	**12 11 36.8**	**-1.0**			
CMAR	**Chiang Mai Ar**	**71.85**	**294**		P	**P**	**12 11 40.7**	**+2.8**			
	comp=Z,2.0nm,0.8s,baz=128,slow=4.2,SNR=9.7										
ZEA	**Zeya**	**72.30**	**337**		*e*P	**P**	**12 11 40.0**	**+0.2**			
ZEA					pmax	pmax					
	comp=Z,14nm,1.2s										
CD2	**Chengdu**	**72.40**	**307**		*e*P	**P**	**12 11 40.5**	**-0.5**			
CD2					pmax	pmax					
	comp=Z,10.0nm,0.5s										
LZH	**Lanzhou**	**74.58**	**312**		*e*P	**P**	**12 11 54.0**	**+0.1**			
LZH					pP	pP	12 12 03.3	+1.0			
LZH					sP	pwP	12 12 07.3	+0.8			
LZH					pmax	pmax					
	comp=Z,28nm,1.3s										
GAMB	**Gambell**	**76.71**	**10**		*e*P	**P**	**12 12 04.7**	**-0.5**			
	comp=Z,8.6nm,0.9s										
KDAK	**Kodiak Island**	**76.78**	**22**		LR	LR	12 39 46.3				
	comp=Z,149nm,19.7s,baz=230,slow=31										
ULN	**Ulaanbaatar**	**78.18**	**324**		*e*P	**P**	**12 12 13.4**	**-0.7**			
	comp=Z,5.2nm,1.0s										
ULN	**Ulaanbaatar**	**78.18**	**324**		*i* P	**P**	**12 12 13.1**	**-1.0**			
ULN					pmax	pmax					
	comp=Z,6.0nm,1.1s										
SONA0	**Songino Array**	**78.54**	**324**		*e*P	**P**	**12 12 16.0**	**0.0**			
SONM	**Songino Array**	**78.54**	**324**		P	**P**	**12 12 16.0**	**0.0**			
	comp=Z,0.5nm,0.6s,baz=139,slow=4.7,SNR=3.3										
SONA1	**Songino Array**	**78.55**	**324**		*e*P	**P**	**12 12 15.6**	**-0.5**			
ANM	**Nome**	**78.65**	**12**		*e*P	**P**	**12 12 15.7**	**-0.3**			
	comp=Z,13nm,1.6s										
ANM	**Nome**	**78.65**	**12**		*e*P	**P**	**12 12 15.7**	**-0.3**			
ANM					pmax	pmax					
	comp=Z,13nm,1.6s										
BRLK	**Bradley Lake**	**78.84**	**21**		*e*P	**P**	**12 12 16.8**	**-0.5**			
QSPA	**South Pole Qui**	**78.87**	**180**		P	**P**	**12 12 18.4**	**+0.8**			
	comp=Z,11nm,1.1s,baz=342,slow=2.6,SNR=14										
QSPA	**South Pole Qui**	**78.87**	**180**		*e*P	**P**	**12 12 17.8**	**+0.2**			
	comp=Z,21nm,1.0s										
GTA	**Gaotai**	**78.88**	**314**		*e*P	**P**	**12 12 19.5**	**+1.4**			
GTA					pP	PcP	12 12 27.0	+0.3			
GTA					sP	pwP	12 12 31.0	+0.2			
GTA					S	**S**	**12 22 12.5**	**-2.2**			
GTA					pmax	pmax					
	comp=Z,180nm,7.3s										
GTA					LR	LR					
	comp=Z,380nm,19.6s										
GTA					LR	LR					
	comp=Z,300nm,21.3s										
GTA					LR	LR					
	comp=Z,280nm,19.2s										
BILL	**Bilibino**	**78.97**	**0**		*e*P	**P**	**12 12 17.1**	**-0.6**			
	comp=Z,8.6nm,0.9s										
BILL	**Bilibino**	**78.97**	**0**		*e*P	**P**	**12 12 17.2**	**-0.5**			
BILL					*e*		12 12 27.0				
BILL					*e*		12 15 12.9				
BILL					*e*PPP	PPP	12 17 03.4				
BILL					pmax	pmax					
	comp=Z,6.0nm,0.9s										
BILL					MLR	MLR					
	comp=Z,173nm,19.0s										
ZAK	**Zakamensk**	**81.59**	**325**		*e*P	**P**	**12 12 28.6**	**-3.8**			
ZAK					pmax	pmax					
	comp=Z,2.0nm,1.3s										
DIV	**Divide**	**81.61**	**22**		*e*P	**P**	**12 12 31.5**	**-0.7**			
	comp=Z,23nm,1.2s										
BMRM	**Bremner River**	**81.93**	**22**		*e*P	**P**	**12 12 33.9**	**0.0**			
	comp=Z,22nm,1.1s										
RND	**Reindeer**	**82.13**	**19**		*e*P	**P**	**12 12 34.4**	**-0.5**			
	comp=Z,18nm,1.2s										
RND	**Reindeer**	**82.13**	**19**		*e*P	**P**	**12 12 34.4**	**-0.5**			
RND					pmax	pmax					
	comp=Z,18nm,1.2s										
IM3	**Indian Mountai**	**82.60**	**16**		*e*P	**P**	**12 12 36.4**	**-0.8**			
WRH	**Wood River Hil**	**83.12**	**18**		*e*P	**P**	**12 12 38.9**	**-1.0**			
	comp=Z,8.8nm,0.8s										
MDM	**Murphy Dome**	**83.42**	**18**		*e*P	**P**	**12 12 40.7**	**-0.8**			
	comp=Z,9.3nm,0.9s										
HDA	**Harding Lake**	**83.43**	**19**		*e*P	**P**	**12 12 40.6**	**-1.0**			
	comp=Z,16nm,0.8s										
HDA	**Harding Lake**	**83.43**	**19**		P	**P**	**12 12 40.5**	**-1.0**			
	baz=227										
TCOL	**CIGO, UAF Yank**	**83.47**	**18**		P	**P**	**12 12 40.7**	**-1.0**			
	baz=226										
COLA	**College**	**83.47**	**18**		*e*P	**P**	**12 12 41.1**	**-0.5**			
	comp=Z,12nm,0.8s										
COLA	**College**	**83.47**	**18**		*i* P	**P**	**12 12 40.1**	**-1.6**			
COLA					pmax	pmax					
	comp=Z,12nm,0.9s										
O02D	**Mt. Diablo Mer**	**83.59**	**47**		P	**P**	**12 12 43.6**	**+0.5**			
	baz=250										
RIDG	**Independ'e Rid**	**83.67**	**20**		*e*P	**P**	**12 12 42.3**	**-0.6**			
	comp=Z,21nm,1.1s										
IL1	**Eielson Array**	**83.70**	**19**		*e*P	**P**	**12 12 41.3**	**-1.7**			
ILAR	**Eielson Array**	**83.70**	**19**		P	**P**	**12 12 42.7**	**-0.2**			
	comp=Z,2.5nm,0.7s,baz=241,slow=5.1,SNR=19										
ILAR					LR	LR	12 42 34.4				
	comp=Z,148nm,21.1s,baz=246,slow=30										
ILB	**Eielson Array**	**83.70**	**19**		*e*P	**P**	**12 12 42.1**	**-0.8**			
POKR	**Poker Flat Res**	**83.77**	**18**		P	**P**	**12 12 41.7**	**-1.5**			
	baz=226										
K02D	**Willamette Mer**	**83.86**	**44**		P	**P**	**12 12 44.8**	**+0.4**			
	baz=249										
DOT	**Dot Lake**	**83.87**	**20**		*e*P	**P**	**12 12 43.7**	**-0.2**			
	comp=Z,14nm,1.0s										
M02C	**Callahan**	**83.97**	**46**		P	**P**	**12 12 45.4**	**+0.5**			
	baz=250										
SCRK	**Sand Creek**	**84.11**	**20**		*e*P	**P**	**12 12 44.4**	**-0.8**			
	comp=Z,13nm,1.1s										
YBH	**Yreka Blue Hor**	**84.19**	**46**		*e*P	**P**	**12 12 45.3**	**-0.8**			
	comp=Z,11nm,0.9s										
YBH	**Yreka Blue Hor**	**84.19**	**46**		*e*P	**P**	**12 12 45.3**	**-0.8**			
	comp=Z,11nm,0.9s										
ORV	**Oroville**	**84.31**	**48**		*e*P	**P**	**12 12 46.2**	**-0.4**			
	comp=Z,6.9nm,1.0s										
ORV	**Oroville**	**84.31**	**48**		*e*P	**P**	**12 12 46.2**	**-0.4**			
ORV					pmax	pmax					
	comp=Z,7.0nm,1.0s										
HUMO	**Hull Mountain**	**84.32**	**45**		*e*P	**P**	**12 12 45.8**	**-0.8**			
	comp=Z,26nm,1.2s										
O03E	**Paynes Creek**	**84.34**	**47**		P	**P**	**12 12 46.5**	**-0.3**			
	baz=250										
AFDM	**Forest Hills D**	**84.50**	**49**		*e*P	**P**	**12 12 46.6**	**-1.0**			
	comp=Z,14nm,1.0s										
MAW	**Mawson**	**84.52**	**202**		LR	LR	12 44 11.7				
	comp=Z,199nm,19.9s,baz=90,slow=31										
HYT	**Haines Junctio**	**84.60**	**24**		*e*P	**P**	**12 12 47.4**	**-0.4**			
	comp=Z,20nm,1.3s										
CMB	**Columbia Colle**	**84.65**	**50**		*e*P	**P**	**12 12 47.6**	**-0.8**			
	comp=Z,7.6nm,0.9s										
CMB	**Columbia Colle**	**84.65**	**50**		*e*P	**P**	**12 12 47.6**	**-0.8**			
CMB					pmax	pmax					
	comp=Z,8.0nm,0.9s										
J04D	**Umpqua Nationa**	**85.12**	**44**		P	**P**	**12 12 51.4**	**+0.5**			
	baz=250										
BEKR	**Beckworth**	**85.25**	**48**		*e*P	**P**	**12 12 50.5**	**-1.1**			
	comp=Z,5.4nm,0.8s										
WAKR	**Walker**	**85.50**	**50**		*e*P	**P**	**12 12 52.6**	**-0.3**			
	comp=Z,7.4nm,1.0s										
MDPB	**Devils Postpil**	**85.51**	**50**		*e*P	**P**	**12 12 52.4**	**-0.7**			
	comp=Z,9.5nm,1.0s										
EDW2	**Edwards Air Fo**	**85.53**	**53**		P	**P**	**12 12 53.4**	**+0.4**			
	baz=253										
PNTR	**Pine Nut**	**85.56**	**49**		*e*P	**P**	**12 12 52.9**	**-0.3**			
	comp=Z,7.8nm,0.9s										
EGAK	**Eagle**	**85.57**	**20**		*e*P	**P**	**12 12 52.2**	**-0.2**			
	comp=Z,15nm,0.8s										
BFSC	**Mount Baldy Ra**	**85.62**	**54**		P	**P**	**12 12 52.9**	**-0.5**			
	baz=254										
J05D	**Fort Rock, OR**	**85.74**	**45**		P	**P**	**12 12 54.0**	**+0.1**			
	baz=251										
DAWY	**Dawson**	**85.76**	**21**		*e*P	**P**	**12 12 53.0**	**-0.4**			
	comp=Z,12nm,1.3s										
PAHR	**Pah Rah Range**	**85.91**	**48**		*e*P	**P**	**12 12 54.2**	**-0.6**			
	comp=Z,4.4nm,0.8s										
CWC	**Cottonwood Cre**	**85.92**	**52**		P	**P**	**12 12 54.7**	**-0.2**			
	baz=253										
MOD	**Modoc Plateau**	**85.94**	**46**		*e*P	**P**	**12 12 53.9**	**-1.0**			
	comp=Z,5.5nm,1.0s										
LRMC	**Laurel Mtn Rad**	**85.95**	**53**		P	**P**	**12 12 55.0**	**-0.1**			
	baz=253										
E04D	**Cinebar**	**85.97**	**41**		P	**P**	**12 12 55.5**	**+0.8**			
	baz=249										
PINE	**Pine Mountain**	**86.11**	**44**		*e*P	**P**	**12 12 55.2**	**-0.6**			
	comp=Z,15nm,0.9s										
TIXI	**Tiksi**	**86.11**	**349**		*e*P	**P**	**12 12 54.4**	**-0.4**			
	comp=Z,4.2nm,1.1s										
TIXI	**Tiksi**	**86.11**	**349**		*i* P	**P**	**12 12 53.7**	**-1.2**			
TIXI					pmax	pmax					
	comp=Z,9.0nm,2.0s										
RYN	**Ryan**	**86.22**	**50**		*e*P	**P**	**12 12 55.8**	**-0.6**			
	comp=Z,5.7nm,1.0s										
DAC	**Darwin (Calif)**	**86.25**	**52**		*e*P	**P**	**12 12 55.6**	**-1.0**			
	comp=Z,6.9nm,1.2s										
DAC	**Darwin (Calif)**	**86.25**	**52**		*e*P	**P**	**12 12 55.6**	**-1.0**			
DAC					pmax	pmax					
	comp=Z,7.0nm,1.2s										
MPMC	**Manual Prospec**	**86.27**	**52**		P	**P**	**12 12 56.7**	**-0.1**			
	baz=254										
NV01	**Mina Array Sit**	**86.33**	**50**		*e*P	**P**	**12 12 56.0**	**-1.0**			
NVAR	**Mina Array Bea**	**86.33**	**50**		P	**P**	**12 12 56.4**	**-0.6**			
	comp=Z,6.6nm,0.9s,baz=233,slow=7.3,SNR=24										
NVAR					LR	LR	12 45 53.6				
	comp=Z,607nm,18.9s,baz=292,slow=32										
NV11	**Mina Array Sit**	**86.44**	**50**		*e*P	**P**	**12 12 56.2**	**-1.2**			
	comp=Z,5.5nm,1.0s										
GRAC	**Grapevine Rang**	**86.63**	**51**		P	**P**	**12 12 58.7**	**+0.4**			
	baz=254										
KVN	**Kaiserville**	**86.66**	**49**		*e*P	**P**	**12 12 57.3**	**-1.3**			
	comp=Z,4.9nm,0.9s										
KVN	**Kaiserville**	**86.66**	**49**		*e*P	**P**	**12 12 57.3**	**-1.3**			
KVN					pmax	pmax					
	comp=Z,5.0nm,0.9s										
HEC	**Hector,Ludlow**	**86.83**	**54**		P	**P**	**12 12 59.5**	**+0.1**			
	baz=254										
FURC	**Furnace Creek,**	**86.86**	**52**		P	**P**	**12 12 59.9**	**+0.5**			
	baz=254										
BELC	**Belle Mtn. Jos**	**86.87**	**55**		P	**P**	**12 12 59.7**	**0.0**			
	baz=254										
BC3	**Big Chuckawall**	**87.22**	**55**		P	**P**	**12 13 01.4**	**+0.1**			
	baz=255										
WVOR	**Wild Horse Val**	**87.28**	**46**		*e*P	**P**	**12 13 00.5**	**-1.0**			
	comp=Z,8.1nm,1.1s										
WVOR	**Wild Horse Val**	**87.28**	**46**		*e*P	**P**	**12 13 00.5**	**-1.0**			
WVOR					pmax	pmax					
	comp=Z,8.0nm,1.1s										
GMRC	**Granite Mounta**	**87.35**	**54**		P	**P**	**12 13 01.8**	**-0.2**			
	baz=255										
TPNV	**Topopah Spring**	**87.47**	**52**		P	**P**	**12 13 02.3**	**-0.2**			
	baz=254										
GLA	**Glamis**	**87.57**	**56**		P	**P**	**12 13 03.7**	**+0.8**			
	baz=255										
IRM	**Iron Mountain**	**87.60**	**55**		P	**P**	**12 13 03.1**	**0.0**			
	baz=255										
J08A	**Circle Bar Ran**	**87.67**	**45**		*e*P	**P**	**12 13 02.5**	**-0.8**			
	comp=Z,13nm,1.1s										
E07A	**Sunnyside**	**87.74**	**42**		*e*P	**P**	**12 13 02.9**	**-0.5**			
	comp=Z,6.9nm,0.9s										
HAWA	**Hanford**	**87.90**	**42**		*e*P	**P**	**12 13 03.3**	**-0.9**			
	comp=Z,8.2nm,1.0s										
G08A	**Pilot Rock**	**87.93**	**43**		*e*P	**P**	**12 13 03.9**	**-0.6**			
	comp=Z,9.4nm,1.0s										
Y12C	**Blythe**	**87.99**	**55**		P	**P**	**12 13 05.1**	**+0.2**			
	baz=255										
SHPR	**Sheep Range**	**88.20**	**52**		*e*P	**P**	**12 13 05.5**	**-0.6**			
	comp=Z,4.2nm,1.2s										
E08A	**Dider Farm, El**	**88.24**	**42**		*e*P	**P**	**12 13 05.3**	**-0.4**			
	comp=Z,13nm,1.1s										
R11A	**Troy Canyon, C**	**88.36**	**51**		P	**P**	**12 13 06.4**	**-0.3**			
	baz=255										
PDMCI	**Parker Dam,Lak**	**88.44**	**55**		P	**P**	**12 13 07.2**	**+0.2**			
	baz=256										
WMQ	**Urumqi**	**88.93**	**315**		*e*P	**P**	**12 13 08.0**	**-1.2**			
WMQ					LR	LR					
	comp=Z,330nm,23.5s										
WMQ					LR	LR					
	comp=Z,460nm,20.5s										
WMQ					LR	LR					
	comp=Z,340nm,14.1s										
F10A	**Beach Ranch, E**	**89.30**	**43**		*e*P	**P**	**12 13 10.2**	**-0.7**			
	comp=Z,5.5nm,1.0s										
PSUT	**Pine Spring**	**89.72**	**51**		*e*P	**P**	**12 13 12.7**	**-0.5**			
	comp=Z,3.7nm,0.8s										
LCMT	**Little Creek M**	**89.81**	**52**		*e*P	**P**	**12 13 13.3**	**-0.3**			
	comp=Z,4.6nm,0.9s										
CCUT	**Cedar City**	**89.85**	**52**		*e*P	**P**	**12 13 13.8**	**-0.1**			
	comp=Z,5.4nm,0.9s										
NEW	**Newport**	**90.02**	**41**		P	**P**	**12 13 13.4**	**-0.8**			
	baz=253										
SZCU	**Shurtz Canyon**	**90.08**	**52**		*e*P	**P**	**12 13 14.4**	**-0.5**			
	comp=Z,6.5nm,1.0s										
KNB	**Kanab**	**90.14**	**52**		*e*P	**P**	**12 13 14.6**	**-0.6**			
	comp=Z,8.4nm,1.1s										
KNB	**Kanab**	**90.14**	**52**		*e*P	**P**	**12 13 14.6**	**-0.6**			
KNB					pmax	pmax					
	comp=Z,8.0nm,1.1s										
U15A	**North Rim**	**90.42**	**53**		*e*P	**P**	**12 13 15.4**	**-1.2**			
	comp=Z,9.1nm,0.9s										
HLID	**Hailey**	**90.57**	**46**		*e*P	**P**	**12 13 16.3**	**-0.7**			
	comp=Z,6.8nm,1.3s										
HLID	**Hailey**	**90.57**	**46**		P	**P**	**12 13 17.1**	**+0.1**			
	baz=255										
X16A	**Lo Mia Camp, P**	**90.64**	**55**		*e*P	**P**	**12 13 16.5**	**-1.1**			
	comp=Z,5.2nm,0.8s										
TUC	**Tucson**	**90.71**	**57**		P	**P**	**12 13 18.6**	**+0.8**			
	baz=257										
MTPU	**Mount Pierson**	**90.88**	**52**		*e*P	**P**	**12 13 18.1**	**-0.7**			
	comp=Z,6.7nm,0.9s										
DUG	**Dugway, Tooele**	**90.90**	**49**		P	**P**	**12 13 18.2**	**-0.3**			
	baz=256										
MSU	**Marysvale**	**90.99**	**51**		*e*P	**P**	**12 13 18.5**	**-0.6**			
MSU	**Marysvale**	**90.99**	**51**		*e*P	**P**	**12 13 18.5**	**-0.6**			
HVU	**Hansel Valley**	**91.31**	**48**		*e*P	**P**	**12 13 19.1**	**-1.3**			
	comp=Z,6.0nm,0.9s										
HVU	**Hansel Valley**	**91.31**	**48**		*e*P	**P**	**12 13 19.1**	**-1.3**			
HVU					pmax	pmax					
	comp=Z,6.0nm,0.9s										
NLU	**North Lily Min**	**91.40**	**50**		*e*P	**P**	**12 13 20.0**	**-1.0**			
	comp=Z,6.0nm,1.0s										
SYO	**Syowa Base**	**91.61**	**197**	‖	*e*P	**P**	**12 13 19.4**	**-1.7**			
SYO	**Syowa Base**	**91.61**	**197**	‖	*e*PcP	**PcP**	**12 13 24.2**	**+2.2**			
JLU	**Jordanelle**	**92.01**	**49**		*e*P	**P**	**12 13 22.2**	**-1.6**			
	comp=Z,4.4nm,1.0s										
W18A	**Petrified Fore**	**92.16**	**55**		*e*P	**P**	**12 13 23.7**	**-0.9**			
	comp=Z,5.2nm,1.0s										
DLMT	**Dillon**	**92.27**	**44**		*e*P	**P**	**12 13 24.0**	**-0.8**			
	comp=Z,11nm,1.1s										
LRM	**Limekiln Ridge**	**92.48**	**44**		*e*P	**P**	**12 13 25.5**	**-0.4**			
FXWY	**Fox Creek**	**92.98**	**46**		*e*P	**P**	**12 13 26.7**	**-1.5**			
	comp=Z,2.6nm,0.9s										
BOZ	**Bozeman (W)**	**92.99**	**44**		*e*P	**P**	**12 13 27.1**	**-1.0**			
	comp=Z,5.5nm,1.1s										
BOZ	**Bozeman (W)**	**92.99**	**44**		*e*P	**P**	**12 13 27.1**	**-1.0**			
BOZ					pmax	pmax					
	comp=Z,6.0nm,1.1s										
BOZ	**Bozeman (W)**	**92.99**	**44**		P	**P**	**12 13 28.2**	**+0.1**			
	baz=257										
HRY	**Holter Researc**	**93.10**	**43**		*e*P	**P**	**12 13 27.9**	**-0.6**			
121A	**Cookes Peak, D**	**93.23**	**58**		P	**P**	**12 13 30.1**	**+0.5**			
	baz=259										
MK01	**Makanchi Array**	**93.35**	**317**		*e*P	**P**	**12 13 28.7**	**-0.9**			
MK31	**Makanchi Array**	**93.36**	**317**		*e*P	**P**	**12 13 29.5**	**-0.2**			
MK31	**Makanchi Array**	**93.36**	**317**		*e*P	**P**	**12 13 29.5**	**-0.2**			
MK32	**Makanchi Array**	**93.36**	**317**		*e*P	**P**	**12 13 29.8**	**+0.2**			
MKAR	**Makanchi Array**	**93.36**	**317**		P	**P**	**12 13 29.8**	**+0.1**			
	comp=Z,1.1nm,0.8s,baz=100,slow=6.7,SNR=8.5										
MKAR	**Makanchi Array**	**93.36**	**317**		*e*P	**P**	**12 13 29.8**	**+0.1**			
	comp=Z,23nm,1.3s										
ZALV	**Zalesovo Beam**	**93.44**	**324**		P	**P**	**12 13 27.4**	**-2.4**			
	comp=Z,0.4nm,0.4s,baz=116,slow=3.4,SNR=3.3										
ZALV					LR	LR	12 53 00.4				
	comp=Z,90nm,20.9s,baz=256,slow=34										
ZAA1	**Zalesovo Array**	**93.44**	**324**		*e*P	**P**	**12 13 27.4**	**-2.4**			
H17A	**Grant Village**	**93.46**	**46**		*e*P	**P**	**12 13 30.3**	**-0.1**			
H17A	**Grant Village**	**93.46**	**46**		P	**P**	**12 13 31.9**	**+1.4**			
	baz=258										
BW06	**Boulder Array**	**93.85**	**47**		P	**P**	**12 13 32.2**	**-0.1**			
	baz=258										
PD31	**Pinedale Array**	**93.85**	**47**		*e*P	**P**	**12 13 30.9**	**-1.4**			
PDAR	**Pinedale Array**	**93.85**	**47**		P	**P**	**12 13 31.4**	**-0.9**			
	comp=Z,2.0nm,0.9s,baz=222,slow=2.0,SNR=12										
PDAR					LR	LR	12 52 24.2				
	comp=Z,138nm,18.0s,baz=336,slow=33										
PDAR	**Pinedale Array**	**93.85**	**47**		*e*P	**P**	**12 13 30.7**	**-1.6**			
EGMT	**Eagleton**	**94.75**	**42**		*e*P	**P**	**12 13 35.0**	**-1.1**			
	comp=Z,8.8nm,1.1s										
EGMT	**Eagleton**	**94.75**	**42**		P	**P**	**12 13 36.0**	**-0.1**			
	baz=259										
MNTX	**Cornudas Mount**	**95.09**	**59**		*e*P	**P**	**12 13 36.8**	**-1.2**			
	comp=Z,2.3nm,1.0s										
MNTX	**Cornudas Mount**	**95.09**	**59**		P	**P**	**12 13 37.5**	**-0.4**			
	baz=260										
YKA	**Yellowknife Ar**	**95.20**	**27**		P	**P**	**12 13 35.9**	**-1.8**			
	comp=Z,1.4nm,0.8s,baz=256,slow=4.6,SNR=18										
YKA					LR	LR	12 54 01.5				
	comp=Z,34nm,18.1s,baz=259,slow=34										
YKB5	**Yellowknife Ar**	**95.20**	**27**		*e*P	**P**	**12 13 35.9**	**-1.8**			
LTX	**Lajitas**	**96.16**	**61**		*e*P	**P**	**12 13 42.4**	**-0.6**			
LTX	**Lajitas**	**96.16**	**61**		*e*P	**P**	**12 13 42.4**	**-0.6**			
TXAR	**Lajitas Array**

57nm,0.9s

BATI	**Baumata**	**16.95**	**246**	P	**Pn**	**12 19 30.9**	**+1.3**
	2.6nm,0.3s,baz=69,slow=8.6,SNR=2.8							
WRAB	**Tennant Creek**	**17.17**	**196**	*e*Pn	**Pn**	**12 19 30.7**	**-1.6**
	60nm,1.5s							
WB2	**Warramunga Arr**	**17.18**	**196**	*e*Pn	**Pn**	**12 19 31.3**	**-1.1**
WR1	**Warramunga Arr**	**17.18**	**196**	*e*Pn	**Pn**	**12 19 32.8**	**+0.4**
	78nm,1.4s							
WR1				*e*Sn	Sn	12 22 31.7	-11	
WRA	**Warramunga Arr**	**17.18**	**196**	P	**Pn**	**12 19 32.8**	**+0.4**
	2.3nm,0.3s,baz=17,slow=13,SNR=43							
WRA				S	Sn	12 22 31.7	-11	
	0.4nm,0.3s,baz=21,slow=22,SNR=4.0							
WRA				LR	LR	12 26 30.7		
	comp=Z,374nm,19.3s,baz=70,slow=38							
WC3	**Warramunga Arr**	**17.19**	**196**	*e*Pn	**Pn**	**12 19 31.5**	**-1.0**
	16nm,0.8s							
GUMO	**Guam**	**17.72**	**18**	LR	LR	12 25 01.4		
	comp=Z,204nm,21.5s,baz=172,slow=32							
CTA	**Charters Tower**	**17.96**	**158**	P	**P**	**12 19 41.4**	**-0.3**
	0.1nm,0.3s,baz=333,slow=9.0,SNR=2.7							
CTAO	**Charters Tower**	**17.96**	**158**	*e*P	**P**	**12 19 41.2**	**-0.5**
	21nm,1.5s							
FITZ	**Fitzroy Crossi**	**19.85**	**221**	P	**P**	**12 20 03.8**	**+1.4**
	0.5nm,0.3s,baz=32,slow=9.6,SNR=17							
FITZ				S	**S**	**12 23 37.0**	**-5.5**
	0.4nm,0.3s,baz=148,slow=9.9,SNR=4.2							
FITZ	**Fitzroy Crossi**	**19.85**	**221**	*e*P	**P**	**12 20 02.3**	**0.0**
	22nm,0.9s							
FITZ				*e*S	**S**	**12 23 36.6**	**-5.9**
AS01	**Alice Springs**	**20.84**	**194**	*e*P	**P**	**12 20 14.4**	**+1.2**
AS31	**Alice Springs**	**20.86**	**194**	*e*P	**P**	**12 20 14.4**	**+1.1**
	5.2nm,1.0s							
ASAR	**Alice Springs**	**20.86**	**194**	P	Pn	12 20 15.8	-0.5	
	13nm,0.9s,baz=25,slow=9.8,SNR=86							
ASAR				S	**S**	**12 24 06.2**	**+3.8**	
	2.1nm,0.7s,baz=16,slow=28,SNR=4.7							
ASAR				LR	LR	12 29 05.7		
	comp=Z,239nm,21.1s,baz=24,slow=39							
HNR	**Honiara**	**21.37**	**107**	LR	LR	12 27 41.3		
	comp=Z,176nm,18.4s,baz=352,slow=34							
MBWA	**Marble Bar**	**26.00**	**226**	*e*P	**P**	**12 21 02.5**	**-1.1**
	23nm,1.4s							
STKA	**Stephens Creek**	**28.45**	**176**	LR	LR	12 33 59.1		
	comp=Z,254nm,20.4s,baz=16,slow=39							
STKA	**Stephens Creek**	**28.45**	**176**	*e*P	**P**	**12 21 25.3**	**-0.1**
	2.4nm,1.6s							
KSAR	**Wonju Array Be**	**41.96**	**346**	P	**P**	**12 23 21.5**	**+0.4**
KSRS	**Korea Array**	**41.96**	**346**	P	**P**	**12 23 21.5**	**+0.4**
	1.1nm,0.7s,baz=154,slow=10,SNR=3.9							
KSRS				pP	**pP**	**12 23 38.2**	**+0.9**	
	1.8nm,0.8s,baz=152,slow=10.0,SNR=4.5							
CM01	**Chiang Mai Arr**	**45.25**	**300**	*e*P	**P**	**12 23 48.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**45.27**	**300**	P	**P**	**12 23 48.9**	**+0.8**
	0.9nm,0.8s,baz=120,slow=4.9,SNR=8.5							
CMAR				pP	**pP**	**12 24 05.5**	**+1.0**	
	1.1nm,0.8s,baz=119,slow=6.7,SNR=3.3							
USRK	**Ussuriysk Ar.**	**47.80**	**353**	pP	pP	12 24 23.4	-0.5	
	2.6nm,0.8s,baz=126,slow=7.4,SNR=4.0							
RPZ	**Rata Peaks**	**49.03**	**150**	P	**P**	**12 24 17.0**	**0.0**
	6.7nm,0.9s,baz=315,slow=4.3,SNR=2.9							
BKZ	**Black Stump Fm**	**49.09**	**142**	*e*P	**P**	**12 24 17.8**	**+0.2**
	17nm,1.4s							
KLR	**Kul'dur**	**52.78**	**354**	P	**P**	**12 24 45.9**	**+0.9**
	baz=163,slow=11							
SONA0	**Songino Array**	**58.55**	**335**	*e*P	**P**	**12 25 26.8**	**+0.2**
SONM	**Songino Array**	**58.55**	**335**	P	**P**	**12 25 26.8**	**+0.2**
	0.2nm,0.5s,baz=153,slow=9.7,SNR=2.2							
MK01	**Makanchi Array**	**70.64**	**322**	*e*P	**P**	**12 26 45.1**	**-0.2**
MK31	**Makanchi Array**	**70.66**	**322**	*e*P	**P**	**12 26 45.0**	**-0.4**
MK32	**Makanchi Array**	**70.66**	**322**	*e*P	**P**	**12 26 45.0**	**-0.4**
MKAR	**Makanchi Array**	**70.66**	**322**	P	**P**	**12 26 45.0**	**-0.3**
	0.6nm,0.7s,baz=109,slow=7.2,SNR=9.0							
MKAR				pP	**pP**	**12 27 03.4**	**+0.5**	
	2.4nm,0.8s,baz=112,slow=8.0,SNR=8.0							
MKAR	**Makanchi Array**	**70.66**	**322**	*e*P	**P**	**12 26 45.1**	**-0.3**
	9.4nm,0.8s							
VNDA	**Vanda**	**75.09**	**175**	P	**P**	**12 27 11.3**	**+0.3**
	0.9nm,0.9s,baz=333,slow=11,SNR=2.7							
VNDA				pP	**pP**	**12 27 29.1**	**+0.3**	
	0.8nm,0.7s,baz=339,slow=5.1,SNR=2.2							
VNDA	**Vanda**	**75.09**	**175**	*e*P	**P**	**12 27 11.2**	**+0.2**
SBA	**Scott Base**	**75.85**	**174**	*e*P	**P**	**12 27 15.0**	**-0.3**
	36nm,1.5s							
BTK	**Batken**	**75.90**	**313**	*e*P	**P**	**12 27 16.8**	**+0.3**
	14nm,1.6s							
GAR	**Garm**	**75.97**	**311**	*e*P	**P**	**12 27 17.2**	**+0.2**
	9.5nm,1.1s							
CHGR	**Chuyangaron**	**76.75**	**311**	*e*P	**P**	**12 27 21.3**	**0.0**
	8.9nm,0.9s							
GEYT	**Alibeck**	**85.11**	**308**	LR	LR	13 09 27.6		
	comp=Z,145nm,19.7s,baz=345,slow=38							
IL1	**Eielson Array**	**86.17**	**24**	*e*P	**P**	**12 28 09.8**	**-0.6**
ILAR	**Eielson Array**	**86.17**	**24**	P	**P**	**12 28 09.9**	**-0.5**
	2.4nm,0.8s,baz=266,slow=4.4,SNR=22							
ILAR				pP	**pP**	**12 28 26.7**	**-1.7**	
	2.2nm,0.8s,baz=259,slow=4.2,SNR=9.0							
ILB	**Eielson Array**	**86.17**	**24**	*e*P	**P**	**12 28 10.1**	**-0.3**
DBIC	**Dimbokro**	**144.16**	**277**	*e*PKPdf	**PKPdf**	**12 35 05.9**	**-0.2**
	5.0nm,0.9s,baz=40,slow=3.8,SNR=3.1							
DBIC	**Dimbokro**	**144.16**	**277**	*e*PKPdf	PKPbc	12 35 05.1	+0.7	
LPAZ	**La Paz**	**146.58**	**127**	pPKPbc	pPKPbc	12 35 31.8	+0.7	
	3.0nm,0.9s,baz=203,slow=0.2,SNR=7.7							

*IDC **28** 12:24:12.7±3.8,5.°49S×147.°37E,h181km±45km,mb3.2/4, mb1 3.4/6,mb1mx3.2/37,mbtmp3.7/6, Error ellipse: s-maj=64.1km s-min=25.5km az=130.0*
*ISCJB **28** 12:24:13.5±1.3,5.°58S±0.°09×147.°4E±0.°2,h200km, mb3.4/4,Error ellipse: s-maj=33.0km s-min=12.8km az=1.1*

ISC 28 12:24:14.0±1.3,5.°6S±0.°1×147.°3E±0.°3,h200km,n7, σ2°15/8,mb3.5/4,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.80**	**182**	P	**Pn**	**12 25 14.3**	**+0.9**
	9.3nm,0.3s,baz=5.2,slow=11,SNR=42						
PMG				S	**Sn**	**12 25 59.0**	**-1.1**
	11nm,0.3s,baz=198,slow=16,SNR=8.1						
WRA	**Warramunga Arr**	**19.02**	**220**	P	**Pn**	**12 28 22.6**	**-1.6**
	0.6nm,0.3s,baz=40,slow=12,SNR=31						
ASAR	**Alice Springs**	**22.11**	**214**	P	**P**	**12 28 55.1**	**+1.6**
	1.9nm,0.7s,baz=56,slow=7.2,SNR=6.9						
FITZ	**Fitzroy Crossi**	**24.52**	**238**	P	**P**	**12 29 16.9**	**+1.6**
	1.0nm,0.4s,baz=46,slow=7.4,SNR=9.0						
MKAR	**Makanchi Array**	**77.35**	**320**	P	**P**	**12 35 46.8**	**+0.1**
	0.2nm,0.5s,baz=97,slow=6.1,SNR=3.3						
ILAR	**Eielson Array**	**84.99**	**23**	P	**P**	**12 36 27.4**	**+0.8**
	0.4nm,0.7s,baz=229,slow=8.2,SNR=4.1						
TORD	**Torodi Ar. Bea**	**145.25**	**285**	PKPbc	**PKiKP**	**12 43 29.3**	**-3.6**
	0.3nm,0.6s,baz=56,slow=4.5,SNR=4.3						

*IDC **28** 12:40:35.3±1.0,52.°80N×169.°77W,h0km,mb3.9/10, mb1 4.2/12,mb1mx3.8/58,mbtmp3.9/12,ML3.1/2,MS3.6/2, Ms1 3.6/2,ms1mx3.1/39,Error ellipse: s-maj=38.7km s-min=17.9km az=143.0*
*ISCJB **28** 12:40:38.4±1.0,52.°67N±0.°06×169.°55W±0.°07,h26km±7km, mb4.1/22,MS3.6/2,Error ellipse: s-maj=10.6km s-min=6.0km az=153.9*
*NEIC **28** 12:40:40.1±0.0,52.°75N×169.°37W,h10km,mb4.0/28, ML3.8(AEIC),After AEIC.*

ISC 28 12:40:38.5±1.9,52.°67N±0.°10×169.°45W±0.°07, h14km±10km,n78,σ1°05/81,mb4.2/22,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.47**	**50**	*e*Pg	**Pb**	**12 40 48.2**	**-0.3**
NIKH				*e*Sg	**Sb**	**12 40 55.7**	**+0.4**
OKSO	**Okmok South**	**1.04**	**48**	*e*Pg	**Pg**	**12 40 57.6**	**-0.9**
OKSO				*e*Sg	**Sb**	**12 41 12.7**	**+1.0**
OKRE	**Okmok R'deer P**	**1.15**	**42**	P	**Pb**	**12 40 59.8**	**-0.4**
OKRE				S	**Sn**	**12 41 15.8**	**0.0**
MGOD	**Makushin Gods**	**1.91**	**53**	*e*Pn	**Pn**	**12 41 11.6**	**+0.9**
MGOD				*e*Sn	**Sb**	**12 41 37.3**	**+0.4**
MSW	**Makushin Switc**	**2.02**	**51**	*e*Pn	**Pn**	**12 41 13.7**	**+1.4**
MNAT	**Makushin Natee**	**2.06**	**53**	P	**Pn**	**12 41 14.2**	**+1.5**
MTBL	**Makushin Table**	**2.11**	**51**	*e*Pn	**Pn**	**12 41 14.6**	**+1.2**
UNV	**Unalaska Valle**	**2.12**	**55**	*e*Pn	**Pn**	**12 41 13.7**	**+0.2**
UNV				*e*Sn	**Sn**	**12 41 40.0**	**+0.3**
AKMO	**Akutan Morgan**	**2.50**	**54**	*e*Pn	**Pn**	**12 41 20.6**	**+1.8**
AKUT	**Akutan**	**2.64**	**55**	*e*Pn	**Pn**	**12 41 21.9**	**+1.2**
AKUT				*e*Sn	**Sn**	**12 41 53.5**	**+1.0**
ATKA	**Atka Island**	**2.94**	**263**	*e*Pn	**Pn**	**12 41 25.7**	**+0.9**
ADK	**Adak**	**4.51**	**263**	*e*Pn	**Pn**	**12 41 46.5**	**+0.1**
SPIA	**Saint Paul Isl**	**4.54**	**354**	*e*Pn	**Pn**	**12 41 47.6**	**+0.9**
KDAK	**Kodiak Island**	**10.89**	**55**	Pn	**Pn**	**12 43 14.3**	**+0.5**
	0.4nm,0.3s,baz=250,slow=9.7,SNR=6.1						
KDAK				Sn	**Sn**	**12 45 10.9**	**-4.4**
	0.3nm,0.3s,baz=16,slow=19,SNR=1.8						
GAMB	**Gambell**	**11.20**	**355**	*e*Pn	**Pn**	**12 43 19.0**	**+1.1**
BRLK	**Bradley Lake**	**12.50**	**48**	*e*Pn	**Pn**	**12 43 35.7**	**-0.2**
SEW	**Seward**	**13.30**	**48**	*e*Pn	**Pn**	**12 43 46.9**	**+0.2**
RC01	**Rabbit Creek A**	**13.63**	**44**	*e*Pn	**Pn**	**12 43 52.0**	**+0.8**
SCM	**Sheep Creek Mo**	**15.00**	**44**	*e*Pn	**Pn**	**12 44 10.1**	**+0.1**
	9.7nm,0.9s						
RND	**Reindeer**	**15.23**	**37**	*e*Pn	**Pn**	**12 44 14.2**	**+1.3**
	4.3nm,1.1s						
KLU	**Klutina**	**15.46**	**46**	*e*Pn	**Pn**	**12 44 15.8**	**-0.2**
	17nm,1.3s						
IM3	**Indian Mountai**	**15.49**	**24**	*e*Pn	**Pn**	**12 44 17.5**	**+1.2**
DHY	**Denali Highway**	**15.60**	**40**	*e*Pn	**Pn**	**12 44 18.8**	**+0.8**
	9.9nm,1.4s						
MLY	**Manley**	**15.63**	**30**	*e*Pn	**Pn**	**12 44 19.0**	**+0.9**
	8.9nm,0.9s						
WRH	**Wood River Hil**	**16.13**	**35**	*e*Pn	**Pn**	**12 44 24.2**	**-0.3**
	3.9nm,1.0s						
MDM	**Murphy Dome**	**16.38**	**33**	*e*Pn	**Pn**	**12 44 28.5**	**+0.7**
	8.2nm,1.2s						
HDA	**Harding Lake**	**16.50**	**36**	*e*Pn	**P**	**12 44 30.6**	**-1.2**
	3.3nm,1.2s						
IL1	**Eielson Array**	**16.73**	**35**	*e*Pn	**P**	**12 44 33.3**	**-1.1**
ILAR	**Eielson Array**	**16.73**	**35**	Pn	**Pn**	**12 44 28.3**	**-3.9**
	0.0nm,0.3s,baz=230,slow=11,SNR=2.9						
ILB	**Eielson Array**	**16.73**	**35**	*e*Pn	**Pn**	**12 44 32.7**	**+0.6**
RIDG	**Independ'e Rid**	**16.92**	**40**	*e*Pn	**P**	**12 44 36.1**	**-0.5**
	3.6nm,0.9s						
DOT	**Dot Lake**	**17.18**	**40**	*e*Pn	**Pn**	**12 44 38.7**	**+0.8**
	3.4nm,1.3s						
SCRK	**Sand Creek**	**17.37**	**39**	*e*Pn	**Pn**	**12 44 40.6**	**+0.3**
	10nm,1.5s						
EGAK	**Eagle**	**18.83**	**39**	*e*P	**P**	**12 44 57.7**	**+0.1**
	11nm,1.5s						
HYT	**Haines Junctio**	**19.15**	**52**	*e*P	**P**	**12 45 01.8**	**+0.5**
	9.2nm,0.9s						
DAWY	**Dawson**	**19.23**	**42**	*e*P	**P**	**12 45 02.6**	**+0.5**
	2.5nm,1.0s						
BILL	**Bilibino**	**19.31**	**332**	*e*P	**Pn**	**12 45 02.9**	**-1.0**
	9.9nm,1.1s						
SKAG	**Skagway**	**20.04**	**57**	*e*P	**P**	**12 45 11.4**	**+0.6**
	26nm,1.0s						
DLBC	**Dease Lake**	**22.77**	**60**	P	**P**	**12 45 39.7**	**-0.6**
	9.6nm,1.1s,baz=266,slow=10,SNR=2.0						
DLBC	**Dease Lake**	**22.77**	**60**	*e*P	**P**	**12 45 40.8**	**+0.5**
	22nm,1.4s						
INK	**Inuvik**	**23.12**	**34**	P	**P**	**12 45 43.1**	**-0.6**
	1.1nm,0.7s,baz=217,slow=8.4,SNR=4.9						
INK	**Inuvik**	**23.12**	**34**	*e*P	**P**	**12 45 44.1**	**+0.5**
	1.9nm,0.9s						
YKA	**Yellowknife Ar**	**30.08**	**49**	P	**P**	**12 46 46.9**	**0.0**
	0.2nm,0.4s,baz=272,slow=8.4,SNR=7.9						
YKA				PcP	**PcP**	**12 49 48.2**	**0.0**
	0.3nm,0.8s,baz=285,slow=2.2,SNR=4.7						
YKA				ScP	**ScP**	**12 53 29.2**	**-0.5**
	0.2nm,0.5s,baz=260,slow=2.9,SNR=3.6						
YKB5	**Yellowknife Ar**	**30.08**	**49**	*e*P	**P**	**12 46 47.5**	**+0.6**
NEW	**Newport**	**32.98**	**76**	P	**P**	**12 47 13.5**	**+0.7**
	2.4nm,0.9s,baz=279,slow=6.2,SNR=4.5						
WVOR	**Wild Horse Val**	**35.10**	**86**	*e*P	**P**	**12 47 32.1**	**+0.8**
	5.8nm,1.3s						
PNTR	**Pine Nut**	**36.52**	**92**	*e*P	**P**	**12 47 44.5**	**+0.9**
	4.9nm,1.0s						
HRY	**Holter Researc**	**36.87**	**76**	*e*P	**P**	**12 47 46.7**	**+0.3**
BOZ	**Bozeman (W)**	**37.58**	**77**	*e*P	**P**	**12 47 52.8**	**+0.4**
	1.8nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**37.66**	**218**	T	T	13 27 43.2		
	baz=24							
H11N3	**WAKE ISLAND Hy**	**37.67**	**218**	T	T	13 27 45.8		
	baz=24,slow=74							
H11N1	**WAKE ISLAND Hy**	**37.68**	**218**	T	T	13 27 50.3		
	baz=24,slow=74							
NV01	**Mina Array Sit**	**37.72**	**91**	*e*P	**P**	**12 47 54.3**	**+0.6**
NVAR	**Mina Array Bea**	**37.72**	**91**	P	**P**	**12 47 54.0**	**+0.3**
	0.8nm,0.8s,baz=306,slow=7.7,SNR=3.4						
NVAR				PcP	**PcP**	**12 50 10.7**	**+0.1**
	0.3nm,0.4s,baz=305,slow=3.2,SNR=3.1						
H11S1	**WAKE ISLAND Hy**	**38.85**	**218**	T	T	13 29 10.6		
	baz=23,slow=76,SNR=174							
H11S2	**WAKE ISLAND Hy**	**38.87**	**218**	T	T	13 29 03.9		
	baz=23,slow=76,SNR=424							
H11S3	**WAKE ISLAND Hy**	**38.87**	**218**	T	T	13 29 19.0		
	baz=23,slow=76,SNR=170							
MJAR	**Matsushiro Arr**	**39.66**	**267**	LR	LR	13 07 56.0		
	comp=Z,53nm,18.4s,baz=110,slow=42							
DUG	**Dugway, Tooele**	**39.96**	**85**	*e*P	**P**	**12 48 13.4**	**+1.0**
	6.9nm,1.4s							
BW06	**Boulder Array**	**40.39**	**79**	*e*P	**P**	**12 48 16.2**	**+0.1**
	3.0nm,1.1s							
PD31	**Pinedale Array**	**40.39**	**79**	*e*P	**P**	**12 48 16.2**	**0.0**
PDAR	**Pinedale Array**	**40.39**	**79**	P	**P**	**12 48 16.6**	**+0.5**
	1.0nm,0.9s,baz=296,slow=5.1,SNR=10							
PDAR	**Pinedale Array**	**40.39**	**79**	*e*P	**P**	**12 48 16.2**	**0.0**
FCC	**Fort Churchill**	**40.78**	**51**	*e*P	**P**	**12 48 19.4**	**+0.6**
	6.4nm,1.4s							
U15A	**North Rim**	**42.66**	**89**	*e*P	**P**	**12 48 35.6**	**+0.7**
	4.7nm,1.2s							
O20A	**White River Ci**	**42.76**	**82**	*e*P	**P**	**12 48 35.7**	**+0.2**
	5.5nm,0.8s							
PV11	**David Mesa, Pa**	**43.53**	**84**	*e*P	**P**	**12 48 42.3**	**+0.6**
	7.4nm,1.2s							
ULM	**Lac du Bonnet**	**44.05**	**62**	P	**P**	**12 48 45.1**	**-0.4**
	1.7nm,0.8s,baz=297,slow=12,SNR=3.5							
MNTX	**Cornudas Mount**	**50.08**	**88**	*e*P	**P**	**12 49 33.4**	**+0.6**
	2.8nm,0.8s							
SONM	**Songino Array**	**51.10**	**301**	PcP	**PcP**	**12 50 54.9**	**-1.1**
	0.6nm,0.6s,baz=64,slow=3.4,SNR=3.1							
WMOK	**Wichita Mounta**	**51.98**	**81**	*e*P	**P**	**12 49 47.1**	**0.0**
	3.7nm,1.0s							
TX31	**Lajitas Ar. Si**	**52.79**	**89**	*e*P	**P**	**12 49 53.7**	**+0.5**
LTX	**Lajitas Array**	**52.79**	**89**	*e*P	**P**	**12 49 53.9**	**+0.6**
TXAR	**Lajitas Array**	**52.79**	**89**	P	**P**	**12 49 53.9**	**+0.6**
	2.5nm,0.8s,baz=296,slow=5.4,SNR=32							
TXAR				PcP	**PcP**	**12 51 01.7**	**-0.9**
	0.4nm,0.7s,baz=288,slow=0.9,SNR=2.1							
KMI	**Kunming**	**69.14**	**284**	P	**P**	**12 51 47.0**	**+2.4**
KMI				pmax	pmax			
	comp=Z,13nm,0.5s							
WRA	**Warramunga Arr**	**87.16**	**232**	P	**P**	**12 53 21.9**	**-2.1**
	comp=Z,0.7nm,0.9s,baz=33,slow=6.0,SNR=3.5							
ROSC	**El Rosal**	**89.30**	**83**	LR	LR	13 36 22.2		
	comp=Z,36nm,18.6s,baz=98,slow=37							
ASAR	**Alice Springs**	**90.55**	**230**	P	**P**	**12 53 38.8**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=20,slow=5.1,SNR=9.3							

*IDC **28** 12:40:45.5±8.7,5.°00S×153.°83E,h123km±63km,mb3.3/4, mb1 3.6/5,mb1mx3.2/32,mbtmp3.8/5, Error ellipse: s-maj=76.7km s-min=33.6km az=93.0*

ISC 28 12:40:42.7±1.6,5.°0S±0.°2×154.°0E±0.°2,h105km,n6, σ0°59/7,mb3.4/4,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.09**	**237**	P	**Pn**	**12 42 38.2**	**+0.6**
	4.9nm,0.3s,baz=45,slow=5.7,SNR=13						
PMG				S	**Sn**	**12 44 06.7**	**-0.7**
	0.9nm,0.3s,baz=111,slow=15,SNR=2.2						
WRA	**Warramunga Arr**	**24.24**	**231**	P	**P**	**12 45 50.4**	**+0.4**
	1.4nm,0.7s,baz=54,slow=9.8,SNR=14						
ASAR	**Alice Springs**	**26.83**	**224**	P	**P**	**12 46 13.3**	**-0.2**
	0.6nm,0.7s,baz=54,slow=9.0,SNR=13						
STKA	**Stephens Creek**	**29.14**	**202**	P	**P**	**12 46 33.9**	**-0.1**
	2.0nm,0.7s,baz=39,slow=6.5,SNR=3.0						
MKAR	**Makanchi Array**	**81.32**	**319**	P	**P**	**12 52 47.6**	**0.0**
	0.2nm,0.5s,baz=90,slow=6.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**151.56**	**288**	PKPbc	**PKPbc**	**13 00 25.2**	**-0.5**
	0.2nm,0.4s,baz=74,slow=2.4,SNR=3.1						

IDC 28 12:46:46.0±999.0,50.°51N×56.°46E,h0km,Error ellipse: s-maj=727.1km s-min=24.3km az=95.0,Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**1.01**	**95**	*i*		12 52 00.0	
	baz=277,slow=310,SNR=5.9						
I46RU	**ZALESOVO INFRA**	**17.66**	**68**	*i*		14 32 40.0	
	baz=270,slow=325,SNR=1.3						
I34MN	**SONGINO INFRAS**	**32.29**	**75**	*i*		16 07 30.0	

baz=294,slow=333,SNR=0.2

IDC 28 13:03:12.8±3.6,30.°03S×75.°87E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.4/35,mbtmp3.5/3,MS3.4/2,Ms1 3.5/2, ms1mx3.1/22,Error ellipse: s-maj=105.0km s-min=46.0km az=47.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**22.49**	**351**	T	T	13 31 46.4	
	baz=174,slow=76,SNR=12						
H08S1	**Diego Garcia H**	**22.49**	**351**	T	T	13 31 40.9	
	baz=174,slow=76,SNR=7.8						
H08S3	**Diego Garcia H**	**22.51**	**351**	T	T	13 31 44.8	
	baz=174,slow=76,SNR=11						
LEM	**Lembang**	**37.71**	**59**	LR	LR	13 22 36.0	
	comp=Z,59nm,18.3s,baz=242,slow=31						
ASAR	**Alice Springs**	**51.70**	**98**	P	P	13 12 21.8	-0.3
	0.5nm,0.9s,baz=250,slow=6.7,SNR=4.8						
CMAR	**Chiang Mai Arr**	**53.08**	**28**	P	P	13 12 32.3	+0.2
	0.2nm,0.4s,baz=210,slow=7.1,SNR=3.0						
CMAR				LR	LR	13 33 02.7	
	comp=Z,25nm,19.8s,baz=230,slow=34						
MKAR	**Makanchi Array**	**76.68**	**5**	P	P	13 15 05.0	-0.4
	0.5nm,0.9s,baz=174,slow=5.1,SNR=2.6						
YKA	**Yellowknife Ar**	**146.81**	**9**	PKPbc	PKPbc	13 22 56.0	-0.2
	0.3nm,0.8s,baz=352,slow=3.4,SNR=4.0						

*ISCJB **28** 13:12:14.6±0.7,39.°66N±0.°05×28.°81E±0.°06,h12km±7km, Error ellipse: s-maj=9.9km s-min=6.1km az=149.8*
*DDA **28** 13:12:14.6,39.°64N×28.°86E,h7km±2km,ML2.5*
*ISK **28** 13:12:14.3,39.°64N×28.°83E,h14km,ML2.0/8*

ISC 28 13:12:14.4±1.3,39.°64N±0.°04×28.°84E±0.°04,h10km±12km, n14,σ0°44/16,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**0.17**	**257**	PG	**Pg**	**13 12 18.1**	**0.0**
DURS	**Dursunbey**	**0.28**	**262**	IAML_P			
	comp=Z,1μm,0.1s						
DURS				*i* P	**Pb**	**13 12 21.3**	**-0.3**
GDZ	**Gediz**	**0.74**	**138**	IAML_P			
	comp=Z,1μm,0.2s						
GDZ				*i* P	**Pg**	**13 12 28.9**	**+0.1**
CAVI	**Cavuskoy**	**0.95**	**54**	PG	**Pn**	**13 12 34.4**	**+0.5**
CAVI				SG	**Sn**	**13 12 47.2**	**-0.4**
GONE	**Gonen-Balikesi**	**0.97**	**295**	PG	**Pg**	**13 12 33.2**	**+0.1**
YLV	**Yalova**	**1.01**	**24**	PG	**Pb**	**13 12 34.0**	**0.0**
YLV				SG	**Sb**	**13 12 48.2**	**+0.8**
EDC	**Edincik**	**1.03**	**313**	PG	**Pn**	**13 12 34.9**	**0.0**
KULA	**Kula-Manisa**	**1.14**	**187**	PN	**Pb**	**13 12 36.0**	**-0.2**
MANT	**Manisa**	**1.17**	**191**	*i* P	**Pn**	**13 12 37.4**	**+0.3**
BORA	**Eskisehir**	**1.27**	**79**	PN	**Pn**	**13 12 37.6**	**-0.7**
MRMT	**Marmara Adasi**	**1.35**	**316**	PN	**Pn**	**13 12 38.8**	**-0.6**
GULT	**Gulveren**	**1.51**	**58**	PN	**Pn**	**13 12 41.4**	**-0.2**
LPK	**Lapseki**	**1.75**	**295**	PN	**Pn**	**13 12 45.0**	**+0.1**
BOZC	**Bozcaada**	**2.16**	**276**	PN	**Pn**	**13 12 50.8**	**+0.4**

MAN 28 13:25:45.2,13.°06N×124.°62E,h1km,mb4.9,ML3.8,MS3.8, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.55**	**176**	*e*P	Pg	13 25 56.0	+0.2
CNP				*e*S	Sn	13 26 10.0	0.0
PVCP	**Virac**	**0.70**	**319**	*e*P	Pg	13 25 58.1	-0.5
PVCP				*e*S	Sn	13 26 14.2	+0.5
RCP	**Roxas**	**2.37**	**231**	*e*P	Pn	13 26 25.9	+0.7
MSLP	**Maasin**	**2.92**	**175**	*e*P	Pn	13 26 34.3	+1.

ILAR	Eielson Array	83.22	20	P		P	13 40 52.7	-0.6	
	0.2nm,0.5s,baz=241,slow=4.7,SNR=6.4								
MKAR	Makanchi Array	87.66	318	P		P	13 41 15.4	-0.4	
	0.9nm,0.8s,baz=102,slow=5.5,SNR=6.5								
NVAR	Mina Array Bea	89.12	51	P		P	13 41 24.0	+0.8	
	0.2nm,0.4s,baz=240,slow=5.1,SNR=3.3								
YKA	Yellowknife Ar	95.60	28	P		P	13 41 52.9	+0.7	
	0.6nm,0.8s,baz=262,slow=4.4,SNR=9.4								

*IDC **28** 13:44:40.5±2.4, 6°.69N×127°.02E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/26, mbtmp3.2/3, Error ellipse: s-maj=166.3km s-min=27.6km az=66.0*
*ISCJB **28** 13:44:44.8±1.3, 6°.32N±0°.06×126°.43E±0°.07, h32km±8km, mb3.1/3, Error ellipse: s-maj=13.0km s-min=8.1km az=28.1*
*MAN **28** 13:44:45.4, 6°.42N×126°.30E, h20km, mb4.3, ML3.1, MS2.8*
ISC 28 13:44:45.1±2.3, 6°.31N±0°.08×126°.42E±0°.09, h25km±16km, n8, σ1°51/13, mb3.1/3, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.65	346	eP	Pb	13 44 57.0	-0.9
MATI				eS	Sb	13 45 05.7	-1.0
DDMP	Don Marcelino,	0.73	254	eP	Pn	13 44 59.5	-0.3
DDMP				eS	Sn	13 45 10.1	-0.2
DMPH	Davao City--Mi	1.19	311⇑	eP	Pb	13 45 07.2	+0.3
DMPH				iS	Sb	13 45 25.3	+3.4
BIPH	Bislig	1.86	358⇑	iP	Pn	13 45 15.6	+0.1
BIPH				iS	Sn	13 45 38.5	+0.3
SKMP	Bagumbayan, Su	1.87	277	eP	Pn	13 45 13.8	-1.8
SKMP				eS	Sn	13 45 37.7	-0.8
WRA	Warramunga Arr	27.23	164	P	P	13 50 28.9	+1.6
	0.3nm,0.8s,baz=346,slow=10,SNR=6.9						
ASAR	Alice Springs	30.68	166	P	P	13 50 58.5	+0.5
	0.2nm,0.6s,baz=340,slow=7.4,SNR=4.8						
MKAR	Makanchi Array	55.28	324	P	P	13 54 16.1	-0.4
	0.1nm,0.4s,baz=129,slow=6.5,SNR=4.6						

IDC 28 13:47:49.0±11.0, 10°.42S×66°.20E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/33, mbtmp3.5/5, Error ellipse: s-maj=374.2km s-min=31.8km az=63.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	Diego Garcia H	6.23	50	T	T	13 55 37.2	
	baz=228,slow=75,SNR=809						
H08N1	Diego Garcia H	6.25	50	T	T	13 55 38.6	
	baz=228,slow=75,SNR=641						
H08N2	Diego Garcia H	6.25	50	T	T	13 55 38.7	
	baz=228,slow=75,SNR=524						
H08S1	Diego Garcia H	6.79	67	T	T	13 56 19.0	
	baz=245,slow=76,SNR=20						
H08S3	Diego Garcia H	6.80	66	T	T	13 56 20.0	
	baz=245,slow=76,SNR=10						
H08S2	Diego Garcia H	6.80	67	T	T	13 56 20.2	
	baz=245,slow=76,SNR=19						
MKAR	Makanchi Array	58.74	13	P	P	13 57 48.8	+0.1
	0.1nm,0.5s,baz=187,slow=5.8,SNR=2.9						
ASAR	Alice Springs	65.55	111	P	P	13 58 34.9	-0.2
	0.3nm,0.9s,baz=276,slow=6.5,SNR=4.9						
ZALV	Zalesovo Beam	66.04	12	P	P	13 58 37.4	0.0
	0.3nm,0.4s,baz=197,slow=4.4,SNR=2.5						
WRA	Warramunga Arr	66.08	107	P	P	13 58 38.8	+0.2
	0.3nm,0.7s,baz=274,slow=5.5,SNR=5.5						
SONM	Songino Array	68.07	28	P	P	13 58 50.5	-0.1
	0.4nm,0.7s,baz=226,slow=5.6,SNR=3.3						

*ISCJB **28** 13:52:23.6±0.5, 56°.11S±0°.09×27°.0W±0°.2, h63km, mb4.5/12, Error ellipse: s-maj=19.5km s-min=8.1km az=146.0*
*NEIC **28** 13:52:24.9±1.5, 56°.17S×26°.95W, h66km±13km, mb4.7/9, Error ellipse: s-maj=15.6km s-min=7.1km az=56.0*
*IDC **28** 13:52:26.3±2.7, 56°.15S×26°.89W, h75km±22km, mb4.1/9, mb1 4.2/10, mb1mx3.9/22, mbtmp4.4/10, MS3.6/6, Ms1 3.5/6, ms1mx3.3/22, Error ellipse: s-maj=30.5km s-min=14.5km az=64.0*
ISC 28 13:52:24.7±0.5, 56°.1S±0°.1×26°.9W±0°.1, h63km, n54, σ0°71/46, mb4.6/12, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.78	285	ePn	Pn	13 53 47.5	-0.2
VNA1	Neumayer--Stat	16.66	158	P	P	13 56 15.6	+0.5
VNA3	Neumayer Olymp	16.86	161	P	P	13 56 17.6	+0.3
VNA2	Neumayer--Watz	17.06	158	P	P	13 56 20.0	+0.5
	baz=317,slow=15						
SNAA	Sanae	18.61	156	P	P	13 56 36.2	-0.4
SNAA	Sanae	18.61	156	P	P	13 56 35.9	-0.7
	1.6nm,0.3s,baz=310,slow=9.3,SNR=28						
SNAA	Sanae	18.61	156	eP	P	13 56 35.7	-0.8
	51nm,1.7s						
USHA	Ushuaia	23.31	256	LR	LR	14 04 28.1	
	comp=Z,112nm,18.3s,baz=177,slow=31						
PLCA	Paso Flores	32.16	280	LR	LR	14 12 37.9	
	comp=Z,128nm,18.4s,baz=194,slow=38						
QSPA	South Pole Qui	34.12	180	P	P	13 59 03.5	+0.4
	9.7nm,0.5s,baz=212,slow=1.8,SNR=190						
QSPA	South Pole Qui	34.12	180	eP	P	13 59 03.5	+0.4
	12nm,0.6s						
CPUP	Villa Florida	36.98	311	P	P	13 59 27.6	-0.1
	1.7nm,0.6s,baz=154,slow=6.7,SNR=6.6						
CPUP				LR	LR	14 16 29.5	
	comp=Z,39nm,19.0s,baz=146,slow=39						
CPUP	Villa Florida	36.98	311	eP	P	13 59 27.7	-0.1
	5.8nm,1.1s						
MAW	Mawson	39.99	143	P	P	13 59 52.4	-0.2
	8.9nm,1.0s,baz=220,slow=7.9,SNR=4.3						
MAW	Mawson	39.99	143	eP	P	13 59 52.2	-0.3
	28nm,1.8s						
BDFB	Brasilia	43.51	330	P	P	14 00 22.5	+0.5
	1.6nm,0.5s,baz=132,slow=1.8,SNR=3.0						
BDFB				LR	LR	14 17 57.4	
	comp=Z,81nm,18.2s,baz=256,slow=35						
GO02	Mina Guanaco	43.66	297	eP	P	14 00 23.2	-0.1
	12nm,0.6s						
BOSA	Boshof	45.85	75	LR	LR	14 18 29.6	
	comp=Z,81nm,18.3s,baz=216,slow=34						
VNDA	Vanda	46.50	183	P	P	14 00 45.6	+0.8
	5.5nm,0.7s,baz=182,slow=7.2,SNR=38						
VNDA	Vanda	46.50	183	eP	P	14 00 45.5	+0.6
	5.9nm,0.7s						
H10S2	ASCENSION HYDR	48.04	16	T	T	14 53 22.0	
	baz=190,slow=74,SNR=24						
H10S3	ASCENSION HYDR	48.04	16	T	T	14 53 22.8	
	baz=190,slow=74,SNR=27						
H10S1	ASCENSION HYDR	48.05	16	T	T	14 53 23.4	
	baz=190,slow=74,SNR=20						
MNMC	Minye Minye	48.77	302	eP	P	14 01 04.0	+0.5
	8.2nm,0.8s						
H10N1	ASCENSION HYDR	49.16	16	T	T	14 54 46.2	
	baz=189,slow=71						
H10N3	ASCENSION HYDR	49.16	16	T	T	14 54 42.5	
	baz=189,slow=71						
H10N2	ASCENSION HYDR	49.17	16	T	T	14 54 48.2	
	baz=189,slow=71						
LPAZ	La Paz	50.55	305	P	P	14 01 18.1	+0.8
	5.4nm,0.5s,baz=151,slow=6.3,SNR=24						
LPAZ				LR	LR	14 24 53.4	
	comp=Z,39nm,18.8s,baz=85,slow=38						
LPAZ	La Paz	50.55	305	eP	P	14 01 17.8	+0.5
	5.5nm,0.7s						
TORD	Torodi Ar. Bea	73.06	29	P	P	14 03 48.6	+0.8
	0.6nm,0.5s,baz=204,slow=6.3,SNR=6.4						
TOA1	Torodi Ar. Sit	73.06	29	eP	P	14 03 48.6	+0.8
STKA	Stephens Creek	91.79	170	P	P	14 05 26.5	+1.1
	1.1nm,0.5s,baz=202,slow=5.4,SNR=2.5						
ASAR	Alice Springs	98.86	162	P	P	14 05 56.9	-0.9
	0.3nm,0.5s,baz=187,slow=4.7,SNR=9.9						
AS31	Alice Springs	98.87	162	eP	P	14 05 57.5	-0.3
	2.6nm,1.5s						
WRA	Warramunga Arr	102.58	162	P	Pdif	14 06 13.6	-0.8
	0.6nm,1.0s,baz=194,slow=4.2,SNR=2.2						
WR1	Warramunga Arr	102.58	162	ePdif	Pdif	14 06 13.6	-0.8
NV01	Mina Array Sit	121.57	293	ePKPdf	PKPdf	14 11 10.3	-0.3
NVAR	Mina Array Bea	121.57	293	PKP	PKPdf	14 11 11.1	+0.5
	0.2nm,0.5s,baz=158,slow=5.5,SNR=2.5						
FIA0	FINESS Array S	124.39	28	ePKPdf	PKPdf	14 11 14.6	-0.3
FINES	FINESS Array B	124.39	28	PKP	PKPdf	14 11 14.6	-0.3
	2.8nm,1.0s,baz=201,slow=2.4,SNR=2.8						
ARA0	ARCESS Array S	130.97	22	ePKPdf	PKPdf	14 11 27.4	+0.2
ARCES	ARCESS Array B	130.97	22	PKP	PKPdf	14 11 27.4	+0.2
	1.6nm,0.8s,baz=242,slow=1.9,SNR=2.6						
YKA	Yellowknife Ar	136.33	318	PKP	PKPdf	14 11 37.3	-0.2
	0.3nm,0.6s,baz=124,slow=2.5,SNR=6.1						
YKA				SKPbc	SKPbc	14 15 01.6	-2.2
	0.4nm,0.7s,baz=132,slow=3.3,SNR=6.4						
YKB5	Yellowknife Ar	136.33	318	ePKPdf	PKPdf	14 11 36.8	-0.7
MK32	Makanchi Array	136.77	71	ePKPdf	PKPdf	14 11 39.5	+0.6
MKAR	Makanchi Array	136.77	71	PKP	PKPdf	14 11 39.5	+0.6
	0.2nm,0.5s,baz=231,slow=2.4,SNR=2.2						
IL1	Eielson Array	150.28	311	ePKPbc	PKPbc	14 12 06.5	-0.6
ILAR	Eielson Array	150.28	311	PKPbc	PKPbc	14 12 06.6	-0.4
	1.4nm,0.8s,baz=142,slow=3.1,SNR=19						
ILB	Eielson Array	150.28	311	ePKPbc	PKPbc	14 12 07.0	0.0
SONA0	Songino Array	150.58	86	ePKPbc	PKPbc	14 12 08.3	-0.2
SONM	Songino Array	150.58	86	PKPbc	PKPbc	14 12 08.3	-0.2
	2.6nm,0.6s,baz=216,slow=3.5,SNR=21						
SONA1	Songino Array	150.59	86	ePKPbc	PKPbc	14 12 07.7	-0.8
MAJO	Matsushiro	157.97	147	ePKPdf	PKPdf	14 12 12.1	-1.5
MJAR	Matsushiro Arr	157.97	147	PKP	PKPdf	14 12 12.1	-1.5
	1.0nm,0.7s,baz=222,slow=2.5,SNR=3.2						

*DDA **28** 13:53:03.6, 38°.26N×27°.18E, h7km±5km, ML2.5*
*ISK **28** 13:53:03.9, 38°.21N×27°.17E, h7km, ML1.8/8*
*ISCJB **28** 13:53:04.1±0.7, 38°.23N±0°.05×27°.19E±0°.06, h4km±12km, Error ellipse: s-maj=8.4km s-min=6.8km az=35.1*
ISC 28 13:53:04.3±1.0, 38°.23N±0°.04×27°.16E±0°.03, h15km±9km, n15, σ0°42/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	Balcova	0.18	331	PG	Pg	13 53 08.4	-0.3
GMLD	Gumuldur	0.24	232	PG	Pg	13 53 09.4	-0.1
GMLD				SG	Sg	13 53 13.1	0.0
DGB	zmir	0.28	232	iP	Pb	13 53 10.5	-0.5
DGB				iS	Sg	13 53 14.5	+0.4
URLA	Izmir	0.46	287	PG	Pg	13 53 13.6	+0.1
URLA				SG	Sb	13 53 20.8	-0.1
URLA	Izmir	0.46	287	IAML_P			
	comp=Z,3μm,0.1s						
URLA				iP	Pb	13 53 14.1	-0.1
URLA				iS	Sg	13 53 20.3	+0.6
GCAM	G?zelcaml?	0.53	173	PG	Pg	13 53 14.0	-0.7
FOCM	Foa	0.59	326	PG	Pb	13 53 16.1	-0.3
KRBN	Karaburun	0.60	308	PG	Pb	13 53 16.3	-0.2
AYDB	Zeytinkoy-Aydi	0.64	115	PG	Pb	13 53 16.8	-0.5
AYDN	Tasoluk	0.80	134	IAML_P			
	comp=Z,344nm,0.1s						
AYDN				iP	Pb	13 53 20.6	+0.6
CHOS	Chios island	0.88	281	PG	Pb	13 53 21.5	+0.1
MANT	Manisa	1.13	76	IAML_P			
	comp=Z,456nm,0.1s						
MANT				iP	Pn	13 53 26.0	+0.1
MANT				iS	Sb	13 53 40.5	+0.1
KULA	Kula-Manisa	1.22	76	PN	Pn	13 53 27.4	+0.5
STEP	BALIKESIR_Sava	1.23	21	IAML_P			
	comp=Z,311nm,0.3s						
STEP				iP	Pb	13 53 27.1	-0.2
SIGR	SIGRI	1.42	314	PN	Pg	13 53 30.9	-0.6

IDC 28 14:03:56.9±5.2, 6°.76S×154°.95E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.5/27, mbtmp3.4/4, Error ellipse: s-maj=131.5km s-min=41.0km az=107.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.91	235	P	P	14 09 12.8	+0.1
	0.6nm,0.8s,baz=59,slow=9.6,SNR=2.5						
ASAR	Alice Springs	26.29	228	P	P	14 09 34.2	-0.1
	0.3nm,0.8s,baz=58,slow=8.8,SNR=1.9						
CMAR	Chiang Mai Arr	60.64	295	P	P	14 14 11.1	+0.9
	0.4nm,0.4s,baz=127,slow=7.2,SNR=2.9						
MKAR	Makanchi Array	83.20	319	P	P	14 16 24.3	-0.9
	0.3nm,0.8s,baz=104,slow=5.5,SNR=2.6						

*ISCJB **28** 14:30:54.4±0.8, 52°.99S±0°.10×140°.5E±0°.5, h10km, mb4.0/9, MS3.6/5, Error ellipse: s-maj=42.3km s-min=12.8km az=171.1*
*IDC **28** 14:30:54.6±0.9, 53°.03S×140°.43E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/34, mbtmp4.0/7, MS3.7/5, Ms1 3.7/5, ms1mx3.3/23, Error ellipse: s-maj=56.7km s-min=17.0km az=79.0*
*NEIC **28** 14:30:57.0±6.2, 53°.04S×140°.50E, h16km±37km, mb4.0/3, Error ellipse: s-maj=24.9km s-min=10.0km az=78.0*
ISC 28 14:30:55.9±0.7, 53°.1S±0°.1×140°.5E±0°.3, h10km, n26, σ0°67/24, mb3.8/9, MS3.5/5, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	21.18	3	P	P	14 35 42.0	+0.8
	2.5nm,0.7s,baz=171,slow=9.1,SNR=4.4						
STKA	Stephens Creek	21.18	3	eP	P	14 35 42.4	+1.1
	7.5nm,1.5s						
VNDA	Vanda	25.79	169	P	P	14 36 27.0	+0.6
	1.2nm,0.6s,baz=321,slow=12,SNR=8.1						
VNDA				LR	LR	14 45 14.7	
	comp=Z,214nm,18.8s,baz=320,slow=33						
VNDA	Vanda	25.79	169	eP	P	14 36 26.6	+0.2
H01W1	Cape Leeuwin H	26.00	304	T	T	15 03 36.3	
	baz=141,slow=75,SNR=4.0						
H01W2	Cape Leeuwin H	26.01	304	T	T	15 03 37.2	
	baz=141,slow=75,SNR=4.4						
H01W3	Cape Leeuwin H	26.02	304	T	T	15 03 44.8	
	baz=141,slow=75,SNR=3.2						
NWAO	Narrogin (SRO)	26.13	311	P	P	14 36 29.8	-0.1
	3.2nm,0.8s,baz=129,slow=13,SNR=2.8						
ASAR	Alice Springs	29.76	348	P	P	14 37 02.6	+0.1
	1.0nm,0.6s,baz=168,slow=9.9,SNR=20						
ASAR				PcP	PcP	14 40 05.8	-0.3
	0.4nm,0.6s,baz=161,slow=2.9,SNR=6.5						
ASAR				LR	LR	14 47 23.7	
	comp=Z,94nm,20.2s,baz=191,slow=33						
AS31	Alice Springs	29.76	348	eP	P	14 37 02.2	-0.3
	1.0nm,0.6s						
WR1	Warramunga Arr	33.39	349	eP	P	14 37 34.1	-0.2
	23nm,1.5s						
WR1				ePcP	PcP	14 40 15.4	-0.4
WRA	Warramunga Arr	33.39	349	P	P	14 37 34.1	-0.2
	1.5nm,0.6s,baz=171,slow=7.6,SNR=18						
WRA				PcP	PcP	14 40 15.4	-0.4
	0.7nm,0.8s,baz=176,slow=2.1,SNR=8.5						
WRA				LR	LR	14 49 48.8	
	comp=Z,76nm,20.9s,baz=95,slow=34						
DZM	Mont Dzumac	36.75	43	LR	LR	14 50 04.3	
	comp=Z,240nm,18.4s,baz=216,slow=31						
QSPA	South Pole Qui	37.06	180	P	P	14 38 06.3	+0.5
	3.5nm,0.8s,baz=339,slow=1.1,SNR=16						
CM01	Chiang Mai Arr	79.70	320	eP	P	14 43 03.9	+0.2
CMAR	Chiang Mai Arr	79.74	320	P	P	14 43 04.4	+0.6
	0.4nm,0.5s,baz=161,slow=5.7,SNR=5.6						
KSRS	Korea Array	90.79	350	LR	LR	15 24 10.5	
	comp=Z,20nm,20.3s,baz=345,slow=35						
YKA	Yellowknife Ar	141.10	46	PKP	PKPdf	14 50 25.7	+0.7
	0.1nm,0.5s,baz=237,slow=2.3,SNR=3.5						
YKB5	Yellowknife Ar	141.10	46	ePKPdf	PKPdf	14 50 26.2	+1.2
FIA0	FINESS Array S	144.98	310	ePKPbc	PKPdf	14 50 31.7	-0.1
FINES	FINESS Array B	144.98	310	PKP	PKPdf	14 50 31.7	-0.1
	2.6nm,0.8s,baz=116,slow=3.2,SNR=5.3						
ARA0	ARCESS Array S	146.71	324	ePKPdf	PKPbc	14 50 35.9	-0.5
ARCES	ARCESS Array B	146.71	324	PKPbc	PKPbc	14 50 35.9	-0.5
	1.6nm,0.6s,baz=106,slow=2.9,SNR=9.0						
GERES	GERESS Array B	146.85	285	PKPbc	PKPbc	14 50 37.2	-0.3
	0.6nm,0.8s,baz=95,slow=1.1,SNR=3.0						
BLA	Blacksburg	147.61	103	ePKPdf	PKPdf	14 50 36.1	-1.1
FCC	Fort Churchill	149.63	57	ePKPbc	PKPbc	14 50 42.9	-1.4

*IDC **28** 14:52:37.0±2.2, 23°.38N×94°.51E, h121km±23km, mb3.6/11, mb1 3.7/13, mb1mx3.4/45, mbtmp4.0/13, Error ellipse: s-maj=32.9km s-min=11.5km az=58.0*
*ISCJB **28** 14:52:39.5±1.0, 23°.82N±0°.05×94°.45E±0°.08, h132km±5km, mb3.8/11, Error ellipse: s-maj=13.3km s-min=6.2km az=29.8*
*NDI **28** 14:52:40.0±2.8, 23°.73N×94°.57E, h21km±13km, ML3.9*
ISC 28 14:52:40.2±0.9, 23°.77N±0°.05×94°.33E±0°.07, h151km±7km, n34, σ3°15/53, mb3.9/11, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	Imphal	1.11	342	eP	Pn	14 53 03.6	-2.5
IMP				eS	Sn	14 53 20.1	-6.0
IMP				IAML		14 53 24.7	
	comp=N,392nm,0.2s						
IMP				IAML		14 53 27.3	
	comp=E,503nm,0.3s						
AZL	Aizawl	1.50	269	eP	Pn	14 53 08.8	-1.1
AZL				eS	Sn	14 53 31.9	-0.9
AZL				IAML		14 53 34.0	
	comp=N,1μm,0.2s						
SILR	SILCHAR	1.72	306	eS	Sn	14 53 38.7	+2.0
SAIH	SAIHA	1.77	224	eP	Pn	14 53 12.7	-0.3
KOHI	KOHIMA	1.95	354	eP	Pn	14 53 14.1	-0.9
KOHI				eS	Sn	14 53 38.1	-3.8
KOHI				IAML		14 53 41.2	
	comp=E,12μm,0.4s						
BELO	BELONIA	2.70	260	eP	Pn	14 53 24.1	+0.3
BELO				eS	Sn	14 53 58.0	+0.6
BRDH	Bariadhala	2.70	247	P	Pn	14 53 19.9	-4.0
	comp=E,42nm,0.3s,baz=76,slow=12,SNR=2.6						
BRDH				S	Sn	14 53 58.8	+1.3
	comp=E,148nm,0.3s,baz=110,slow=21,SNR=19						
SHL	Shillong	2.86	309	eP	Pn	14 53 27.8	+1.8
SHL				eS	Sn	14 54 01.8	+0.4
JORH	JORHAT	2.96	359	eS	Sn	14 54 02.0	-1.5
TEZP	TEZPUR	3.16	334	eP	Pn	14 53 29.3	-0.3
TEZP				eS	Sn	14 54 05.9	-1.9
ZIRO	ZIRO	3.77	353	eP	Pn	14 53 37.0	-0.7
ZIRO				eS	Sn	14 54 19.5	-2.8
ZIRO				IAML		14 54 23.1	
	comp=N,1μm,0.3s						
ZIRO				IAML		14 54 23.6	
	comp=E,673nm,0.2s						
TAWA	Tawang	4.41	330	eP	Pn	14 53 47.0	+0.8
TAWA				eS	Sn	14 54 35.9	-1.7
CMAR	Chiang Mai Arr	6.81	140	P	Pn	14 54 08.8	-9.1
	comp=E,0.2nm,0.3s,baz=315,slow=13,SNR=13						
RAMN	Ramite	7.68	296	ePn	Pn	14 54 30.8	+1.3
RAMN				eSn	Sn	14 55 49.4	-6.0
	comp=E,104nm,0.6s						
JIRN	Jiri	8.30	300	ePn	Pn	14 54 40.1	+2.1
JIRN				eSn	Sn	14 56 06.4	-4.2
	comp=E,99nm,0.3s						
GUN	Gumba	8.66	300	ePn	Pn	14 54 44.5	+1.8
GUN				eSn	Sn	14 56 15.4	-3.7
	comp=E,152nm,0.8s						
PKI	Pulchoki	8.89	297	ePn	Pn	14 54 47.5	+1.7
PKI				eSn	Sn	14 56 18.6	-6.2
	comp=E,15nm,0.2s						
PKIN	Phulchoki	8.91	297	ePn	Pn	14 54 47.3	+1.3
PKIN				eSn	Sn	14 56 19.9	-5.1
	comp=E,58nm,0.7s						
KKN	Kakani	9.09	298	ePn	Pn	14 54 50.0	+1.7
KKN				eSn	Sn	14 56 25.0	-4.3
	comp=E,23nm,0.2s						
DMN	Daman	9.16	297	ePn	Pn	14 54 50.5	+1.2
DMN				eSn	Sn	14 56 25.0	-6.0
	comp=E,33nm,0.5s						
KOLN	Koldanda	10.46	295	ePn	Pn	14 55 07.6	+1.1
KOLN				eSn	Sn	14 56 55.5	-6.8
	comp=E,43nm,0.6s						
DANN	Dangsing	10.54	298	ePn	Pn	14 55 09.0	+1.4
DANN				eSn	Sn	14 56 58.5	-5.9
	comp=E,38nm,0.5s						
PYUN	Piuthan	11.08	295	ePn	Pn	14 55 15.4	+0.7
PYUN				eSn	Sn	14 57 10.4	-6.9
	comp=E,28nm,0.5s						
MKAR	Makanchi Array	24.93	340	P	P	14 57 53.2	+3.9
	comp=E,1.7nm,0.4s,baz=150,slow=11,SNR=26						
MKAR				pP	pP	14 58 22.3	+1.4
	comp=E,1.4nm,0.5s,baz=148,slow=10,SNR=5.6						
SONM	Songino Array	25.87	19	P	P	14 58 00.4	+2.4
	comp=E,0.1nm,0.4s,baz=204,slow=12,SNR=3.3						
KURBB	Kurchatov Array	29.49	339	P	P	14 58 33.1	+3.1
	comp=E,0.4nm,0.4s,baz=143,slow=9.8,SNR=6.3						
KURBB				pP	pP	14 59 03.1	+1.0
	comp=E,0.5nm,0.7s,baz=150,slow=8.7,SNR=2.6						
ZALV	Zalesovo Beam	30.98	349	P	P	14 58 45.9	+2.9
	comp=E,0.8nm,0.4s,baz=172,slow=9.0,SNR=4.5						
FITZ	Fitzroy Crossi	51.63	141	P	P	15 01 28.1	-3.4
	comp=E,2.6nm,0.8s,baz=326,slow=16,SNR=3.5						
WRA	Warramunga Arr	58.38	135	P	P	15 02 17.1	-2.9
	comp=E,3.2nm,0.6s,baz=325,slow=7.5,SNR=52						
FINES	FINESS Array B	59.03	329	P	P	15 02 26.6	+2.7
	comp=E,1.1nm,0.5s,baz=85,slow=5.9,SNR=7.8						
NWAO	Narrogin (SRO)	60.46	158	P	P	15 02 31.4	-2.7
	comp=E,4.6nm,0.9s,baz=346,slow=19,SNR=2.9						
ASAR	Alice Springs	60.82	138	P	P	15 02 34.1	-2.6
	comp=E,2.3nm,0.5s,baz=320,slow=6.8,SNR=91						
NOA	NORSAR Array B	66.20	328	P	P	15 03 13.4	+1.9
	comp=E,0.4nm,0.4s,baz=92,slow=5.6,SNR=2.6						
GERES	GERESS Array B	66.46	315	P	P	15 03 16.0	+2.5
	comp=E,0.2nm,0.3s,baz=70,slow=8.7,SNR=6.1						

IDC 28 14:53:27.7±4.9, 52°.45S×142°.62E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/26, mbtmp3.3/2, Error ellipse: s-maj=280.7km s-min=79.2km az=84.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	29.50	344	P	P	14 59 34.1	+0.6
	0.5nm,1.0s,baz=164,slow=10.0,SNR=7.0						
WRA	Warramunga Arr	33.08	346	P	P	15 00 04.3	-0.7
	0.5nm,1.0s,baz=170,slow=7.7,SNR=3.3						
ARCES	ARCESS Array B	146.97	325	PKPbc	PKPbc	15 13 09.9	-0.8
	5.3nm,1.1s,baz=75,slow=3.8,SNR=3.3						

*ISCJB **28** 14:54:04.4±1.1, 52°.8S±0°.2×14°.1E±°, h10km, mb3.9/5, Error ellipse

TWC				*i* S		Sg	15 06 01.2	-0.9
	baz=325							
ENA	**Nanau**	**0.25**	**272**	*i* P		Pg	15 05 58.7	-0.1
	baz=271							
ENA				*i* S		Sg	15 06 02.0	-0.3
	baz=271							
ILA	**Ilan**	**0.42**	**325**	*i* P		Pg	15 06 02.1	+0.2
	baz=326							
ILA				*e*S		Sg	15 06 08.1	+0.6
	baz=326							
EGS		**0.43**	**350**	P		Pg	15 06 02.2	+0.2
	baz=346							
EGS				S		Sb	15 06 09.6	+0.2
	baz=346							
TWE	**Neicheng**	**0.44**	**313**	P		Pg	15 06 02.0	-0.1
	baz=317							
TWE				S		Sg	15 06 06.9	-1.1
	baz=317							
NACB	**Ninganchiao**	**0.46**	**238**	*e*P		Pg	15 06 02.4	0.0
	baz=234							
NACB				*e*S		Sg	15 06 08.7	+0.2
	baz=234							
NTC	**Toucheng**	**0.47**	**339**	*e*P		Pg	15 06 02.8	+0.1
	baz=339							
NTC				*e*S		Sb	15 06 09.8	-0.5
	baz=339							
ENTT	**Nioudou**	**0.47**	**298**	P		Pg	15 06 02.7	0.0
	baz=296							
ENTT				*i* S		Sg	15 06 08.4	-0.5
	baz=296							
SLBB	**Yuanshan**	**0.48**	**314**	P		Pg	15 06 03.3	+0.3
	baz=316							
SLBB				S		Sg	15 06 09.6	+0.2
	baz=316							
TWD	**Chiawan**	**0.51**	**229**	*i* P		Pg	15 06 03.7	+0.3
	baz=230							
TWD				*i* S		Sg	15 06 10.7	+0.4
	baz=230							
TIPB	**Shuangxi**	**0.58**	**342**	P		Pg	15 06 04.9	+0.2
	baz=343							
TIPB				*e*S		Sb	15 06 13.6	0.0
	baz=343							
NNSB	**Datong**	**0.58**	**271**	*e*P		Pg	15 06 04.7	-0.1
	baz=268							
NNSB				*e*S		Sg	15 06 11.8	-0.7
	baz=268							
TWB1	**Santiao Chiao**	**0.59**	**357**	P		Pb	15 06 05.5	-0.1
	baz=352							
TWB1				*e*S		Sb	15 06 14.7	+0.8
	baz=352							
NNS	**Nan Shan**	**0.59**	**272**	*i* P		Pg	15 06 04.8	-0.1
	baz=269							
NNS				S		Sg	15 06 12.4	-0.4
	baz=269							
NWLT	**Wulai**	**0.59**	**307**	*e*P		Pb	15 06 05.4	-0.3
	baz=298							
NWLT				*e*S		Sg	15 06 12.8	0.0
	baz=298							
YHNB	**Yeheng**	**0.64**	**293**	*e*P		Pb	15 06 06.1	-0.3
	baz=292							
YHNB				*e*S		Sg	15 06 13.4	-0.9
	baz=292							
ENLB	**Shoufeng**	**0.64**	**217**	*e*P		Pb	15 06 06.8	+0.4
	baz=212							
NSK	**Sanguang**	**0.65**	**293**	P		Pg	15 06 06.3	+0.2
	baz=297							
NSK				*i* S		Sg	15 06 14.0	-0.8
	baz=297							
NWF	**Wu-fen Shan**	**0.68**	**342**	*i* P		Pb	15 06 07.6	+0.3
	baz=331							
NWF				*e*S		Sb	15 06 16.5	-0.3
	baz=331							
TWA	**Mucha**	**0.68**	**325**	P		Pb	15 06 07.3	0.0
	baz=325							
TWA				S		Sb	15 06 16.2	-0.4
	baz=325							
WFSB	**Wu-fen Shan**	**0.68**	**342**	*e*P		Pb	15 06 07.4	+0.2
	baz=331							
WFSB				*e*S		Sb	15 06 17.1	+0.4
	baz=331							
TATO	**Taipei**	**0.73**	**319**	*e*P		Pb	15 06 08.3	+0.2
	baz=308							
TATO				*e*S		Sg	15 06 17.2	-0.2
	baz=308							
WHF	**Hehuan Shan**	**0.74**	**248**	P		Pg	15 06 07.8	0.0
	baz=256							
WHF				S		Sg	15 06 17.8	+0.2
	baz=256							
TWT	**Tachien**	**0.79**	**258**	P		Pb	15 06 09.2	+0.1
	baz=256							
TWT				S		Sb	15 06 19.8	+0.1
	baz=256							
TDCB	**Techi**	**0.80**	**258**	*e*P		Pb	15 06 09.4	+0.1
	baz=256							
TDCB				*e*S		Sg	15 06 19.1	-0.4
	baz=256							
ESL	**Shilin**	**0.81**	**222**	*e*P		Pg	15 06 09.1	+0.1
	baz=225							
ESL				*e*S		Sb	15 06 20.0	-0.1
	baz=225							
WLTB	**Daxi**	**0.82**	**302**	*e*P		Pn	15 06 10.6	-0.1
	baz=301							
WLTB				*e*S		Sb	15 06 20.7	+0.2
	baz=301							
YM01	**YM01**	**0.83**	**331**	*e*P		Pn	15 06 11.4	+0.5
	baz=330							
YM01				*e*S		Sn	15 06 23.2	+0.2
	baz=330							
JYNG	**Yonagunijimaku**	**0.85**	**88**	P		Pg	15 06 10.2	+0.4
JYNG				S		Sg	15 06 21.5	+0.6
YM11	**YM11**	**0.85**	**332**	*e*P		Pn	15 06 10.7	-0.4
	baz=332							
YM05	**YM05**	**0.85**	**331**	*e*P		Pn	15 06 10.7	-0.5
	baz=332							
CHGB	**Renai**	**0.85**	**245**	*e*P		Pb	15 06 10.0	-0.2
	baz=254							
CHGB				*e*S		Sb	15 06 21.3	-0.3
	baz=254							
YM04	**YM04**	**0.85**	**329**	*e*P		Pn	15 06 10.7	-0.5
	baz=339							
YM08	**YM08**	**0.86**	**333**	*e*P		Pb	15 06 10.5	+0.2
	baz=334							
TWS1	**Kuangyinshan**	**0.87**	**321**	*e*P		Pn	15 06 11.5	0.0
	baz=313							
TWS1				*e*S		Sb	15 06 22.4	+0.4
	baz=313							
NTST	**Danshui**	**0.90**	**325**	*e*P		Pn	15 06 12.5	+0.6
	baz=324							
NTST				*e*S		Sn	15 06 25.7	+0.9
	baz=324							
YOJ	**Yonaguni jima**	**0.91**	**87**	*e*P		Pb	15 06 10.8	-0.2
	baz=89							
YOJ	**Yonaguni jima**	**0.91**	**87**	P		Pb	15 06 11.1	+0.1
YOJ				*e*S		Sb	15 06 23.6	+0.6
EGFH	**Guangfu**	**0.92**	**216**	*e*P		Pn	15 06 11.9	-0.2
	baz=226							
NCU	**National Centr**	**0.93**	**306**	*e*S		Sg	15 06 23.2	-0.5
	baz=305							
TWY	**Chenhua**	**0.93**	**336**	P		Pn	15 06 12.0	-0.2
	baz=336							
TWY				*e*S		Sn	15 06 25.1	-0.4
	baz=336							
LIOB	**Emei**	**0.94**	**284**	P		Pn	15 06 12.2	-0.2
	baz=282							
LIOB				*e*S		Sb	15 06 24.2	+0.1
	baz=282							
NSTT	**Nanjuang**	**0.95**	**283**	P		Pn	15 06 12.3	-0.2
	baz=281							
NSTT				S		Sg	15 06 23.9	-0.2
	baz=281							
VWDT	**VWDT**	**1.04**	**231**	*e*P		Pg	15 06 13.5	+0.1
	baz=234							
VWDT				*e*S		Sn	15 06 28.2	+0.1
	baz=234							
HGSD	**Ruisui**	**1.07**	**211**	*e*P		Pn	15 06 14.6	+0.4
	baz=207							
EHY	**Hungye**	**1.11**	**215**	*e*P		Pg	15 06 15.2	+0.4
	baz=212							
TWQ1	**Liyutan**	**1.14**	**267**	*e*P		Pg	15 06 16.5	+1.2
	baz=265							
TWQ1				*e*S		Sn	15 06 33.0	+2.5
	baz=265							
SMLT	**Sun Moon Lake**	**1.15**	**243**	P		Pg	15 06 15.8	+0.1
	baz=248							
TYC	**Yuchr**	**1.18**	**244**	*e*P		Pg	15 06 15.9	-0.2
	baz=249							
TYC				*e*S		Sn	15 06 31.9	+0.3
	baz=249							
YULB	**Yu-li**	**1.22**	**213**	*e*P		Pn	15 06 16.2	0.0
	baz=210							
TWF1	**Yuli**	**1.25**	**212**	*e*P		Pb	15 06 16.8	-0.1
	baz=225							
ALS	**Alishan**	**1.43**	**231**	*e*P		Pb	15 06 20.2	+0.1
	baz=215							
ELDTW	**Lidau**	**1.53**	**217**	*e*P		Pg	15 06 22.3	-0.5
	baz=214							
IRIF	**Iriomote-Funau**	**1.56**	**93**	P		Pn	15 06 20.5	-0.4
IRIF				S		Sn	15 06 40.2	-0.9
JKRS	**Kuro-shima**	**1.83**	**95**	P		Pn	15 06 24.8	+0.3
JKRS				*e*S		Sn	15 06 47.2	-0.3
JIJ	**Ishigaki jima**	**1.94**	**91**	P		Pn	15 06 25.6	-0.5
JIJ				S		Sn	15 06 49.1	-1.2
JISG	**Ishigakijimahi**	**2.10**	**85**	P		Pn	15 06 27.8	-0.5
JISG				*e*S		Sn	15 06 53.3	-0.9
JTJ	**Tarama**	**2.46**	**84**	P		Pn	15 06 33.8	+0.6
JTJ				*e*S		Sn	15 07 02.3	-0.8

IDC 28 15:14:55.5±12.0, 16.70S×177.17W, h436km±97km, mb3.2/4, mb1 3.4/5, mb1mx3.0/47, mbtmp4.2/5, Error ellipse: s-maj=119.2km s-min=105.5km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.35**	**248**	P	P	15 18 21.1	-0.4
	0.2nm,0.3s,baz=70,slow=12,SNR=3.6						
DZM				S	S	15 21 12.1	+0.3
	0.3nm,0.3s,baz=17,slow=19,SNR=5.6						
CTA	**Charters Tower**	**34.82**	**259**	P	P	15 21 08.6	+0.3
	1.4nm,0.6s,baz=90,slow=9.0,SNR=3.0						
STKA	**Stephens Creek**	**40.25**	**240**	P	P	15 21 53.2	+0.3
	0.9nm,0.4s,baz=78,slow=9.3,SNR=4.2						
WRA	**Warramunga Arr**	**46.02**	**258**	P	P	15 22 38.0	-0.6
	0.6nm,0.6s,baz=95,slow=6.8,SNR=19						
ASAR	**Alice Springs**	**46.26**	**253**	P	P	15 22 40.2	-0.2
	4.0nm,0.4s,baz=88,slow=8.1,SNR=154						

*ISCJB **28** 15:20:20.8±0.3, 24.7°N±0.01°×121.76E±0.02, h8km±2km, Error ellipse: s-maj=2.5km s-min=1.8km az=25.9*
*JMA **28** 15:20:20.4±0.1, 24.13N×121.67E, h16km±1km, M2.2*
*TAP **28** 15:20:20.6, 24.18N×121.74E, h12km, ML3.1, B*
ISC 28 15:20:20.8±0.9, 24.16N±0.02×121.73E±0.02, h14km±7km, n96, σ0.76/140, 2C-17D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**0.12**	**275**	⇓P	Pb	15 20 24.1	-0.8
	baz=268						
NACB				S	Sb	15 20 26.5	-1.1
	baz=268						
TWD	**Chiawan**	**0.15**	**235**	⇑*i*P	Pb	15 20 24.6	-0.7
	baz=240						
TWD				*i* S	Sb	15 20 27.4	-0.8
	baz=240						
HWA	**Hwalien**	**0.22**	**211**	*e*P	Pb	15 20 26.1	-0.3
	baz=222						
HWA				*e*S	Sb	15 20 31.2	+0.9
	baz=222						
ENA	**Nanau**	**0.26**	**3**	⇓*i*P	Pg	15 20 25.9	-0.5
ENA				*i* S	Sg	15 20 29.7	-0.5
ENLB	**Shoufeng**	**0.28**	**204**	*e*P	Pb	15 20 28.1	+0.4
	baz=215						
ENLB				*e*S	Sn	15 20 33.8	-2.8
	baz=215						
NNSB	**Datong**	**0.41**	**310**	⇓P	Pb	15 20 29.1	-0.7
	baz=307						
NNSB				S	Sb	15 20 34.9	-1.2
	baz=307						
WHF	**Hehuan Shan**	**0.42**	**268**	⇓*i*P	Pb	15 20 29.6	-0.7
	baz=266						
WHF				S	Sb	15 20 35.5	-1.1
	baz=266						
NNS	**Nan Shan**	**0.42**	**310**	⇓*i*P	Pb	15 20 29.4	-0.8
	baz=307						
NNS				S	Sg	15 20 35.2	+0.1
	baz=307						
ESL	**Shilin**	**0.44**	**218**	⇓P	Pb	15 20 29.7	-0.6
	baz=225						
ESL				*e*S	Sb	15 20 36.0	-0.7
	baz=225						
TWC	**Suao**	**0.46**	**14**	⇓*i*P	Pg	15 20 29.6	-0.3
	baz=10.0						
NDT	**Datong Townshi**	**0.48**	**336**	⇓P	Pb	15 20 30.4	-0.6
	baz=333						
NDT				*e*S	Sb	15 20 37.1	-0.8
	baz=333						
ENTT	**Nioudou**	**0.50**	**343**	⇓*i*P	Pg	15 20 30.6	0.0
	baz=340						
ENTT				S	Sg	15 20 37.4	+0.2
	baz=340						
TWT	**Tachien**	**0.51**	**280**	⇓*i*P	Pb	15 20 31.7	+0.1
	baz=278						
TWT				*i* S	Sb	15 20 38.9	0.0
	baz=278						
CHGB	**Renai**	**0.52**	**259**	⇓P	Pb	15 20 31.4	-0.3
	baz=251						
CHGB				S	Sb	15 20 38.3	-0.8
	baz=251						
TDCB	**Techi**	**0.53**	**280**	⇓P	Pb	15 20 31.8	-0.1
	baz=278						
TDCB				S	Sb	15 20 39.1	-0.3
	baz=278						
EOS1	**EOS1**	**0.53**	**44**	*e*P	Pb	15 20 31.8	0.0
	baz=34						
EOS1				*e*S	Sb	15 20 39.8	+0.5
	baz=34						
TWE	**Neicheng**	**0.56**	**354**	⇓*i*P	Pg	15 20 31.7	0.0
	baz=353						
TWE				S	Sg	15 20 38.9	-0.3
	baz=353						
EGFH	**Guangfu**	**0.56**	**209**	*e*P	Pb	15 20 32.2	-0.2
	baz=218						
SLBB	**Yuanshan**	**0.59**	**352**	P	Pb	15 20 32.6	-0.4
	baz=349						
SLBB				*e*S	Sb	15 20 41.0	-0.2
	baz=349						
YHNB	**Yeheng**	**0.60**	**328**	⇓P	Pb	15 20 32.6	-0.4
	baz=325						
YHNB				S	Sg	15 20 40.5	0.0
	baz=325						
ILA	**Ilan**	**0.60**	**2**	*e*P	Pg	15 20 32.2	-0.3
	baz=355						
ILA				*e*S	Sb	15 20 41.5	+0.1
	baz=355						
NSK	**Sanguang**	**0.61**	**327**	⇓*i*P	Pb	15 20 32.7	-0.5
	baz=325						
NSK				S	Sg	15 20 40.9	0.0
	baz=325						
NWLT	**Wulai**	**0.64**	**342**	*e*P	Pb	15 20 33.5	-0.4
	baz=339						
NWLT				*e*S	Sg	15 20 41.6	-0.3
	baz=339						
VWDT	**VWDT**	**0.67**	**233**	P	Pb	15 20 34.3	+0.1
	baz=234						
VWDT				*e*S	Sb	15 20 43.5	0.0
	baz=234						
NTC	**Toucheng**	**0.69**	**8**	*e*P	Pg	15 20 33.9	-0.4
	baz=6.0						
EGS		**0.70**	**15**	*e*P	Pg	15 20 34.4	-0.1
	baz=21						
WHP	**Taichung City**	**0.72**	**279**	*e*P	Pn	15 20 35.6	-1.0
	baz=278						
WHP				*e*S	Sn	15 20 45.8	-1.7
	baz=278						
HGSD	**Ruisui**	**0.72**	**203**	*e*P	Pn	15 20 36.1	-0.4
	baz=194						
EHY	**Hungye**	**0.75**	**210**	*e*P	Pg	15 20 34.8	-0.6
	baz=223						
SMLT	**Sun Moon Lake**	**0.81**	**250**	⇑P	Pn	15 20 36.7	-1.1
	baz=250						
SMLT				S	Sb	15 20 47.5	+0.1
	baz=250						
LIOB	**Emei**	**0.81**	**307**	*e*P	Pn	15 20 36.8	-0.9
	baz=305						
LIOB				*e*S	Sb	15 20 47.5	+0.1
	baz=305						
NSTT	**Nanjuang**	**0.81**	**305**	*e*P	Pn	15 20 36.9	-0.8
	baz=304						
NSTT				*e*S	Sb	15 20 47.1	-0.3
	baz=304						
TIPB	**Shuangxi**	**0.81**	**6**	⇓P	Pg	15 20 36.3	-0.2
	baz=4.0						
TIPB				*e*S	Sg	15 20 46.1	-1.1
	baz=4.0						
WLTB	**Daxi**	**0.81**	**328**	*e*P	Pn	15 20 37.1	-0.6
	baz=326						
WLTB				*e*S	Sb	15 20 48.1	+0.7
	baz=326						
NHDH	**Xindian Distri**	**0.82**	**347**	*e*P	Pb	15 20 36.6	-0.1
	baz=345						
TWA	**Mucha**	**0.82**	**351**	*e*P	Pb	15 20 36.7	-0.1
	baz=349						
TWA				*e*S	Sb	15 20 47.9	+0.1
	baz=349						
TATO	**Taipei**	**0.84**	**345**	*e*P	Pb	15 20 37.1	+0.1
	baz=343						
TATO				*e*S	Sb	15 20 48.0	-0.2
	baz=343						
YULB	**Yu-li**	**0.86**	**207**	*e*P	Pg	15 20 36.2	-1.2
	baz=220						
TWB1	**Santiao Chiao**	**0.87**	**16**	*e*P	Pb	15 20 36.9	-0.8
	baz=8.0						
TWQ1	**Liyutan**	**0.89**	**282**	*e*P	Pn	15 20 39.4	+0.5
	baz=282						
TWF1	**Yuli**	**0.90**	**206**	*e*P	Pb	15 20 37.0	-1.1
	baz=220						
NWF	**Wu-fen Shan**	**0.91**	**3**	*e*P	Pg	15 20 38.6	+0.3
	baz=348						
WFSB	**Wu-fen Shan**	**0.91**	**3**	*e*P	Pg	15 20 38.5	+0.2
	baz=1.0						
NSY	**Sanyi**	**0.92**	**286**	*e*P	Pn	15 20 39.2	0.0
	baz=285						
NSY				*e*S	Sn	15 20 53.9	+1.6
	baz=285						
SBCB	**Hsinchu**	**0.92**	**313**	*e*P	Pn	15 20 40.0	+0.7
	baz=312						
WHYT	**Xinyi Township**	**0.93**	**240**	⇓*e*P	Pn	15 20 39.4	0.0
	baz=242						
NMLH	**Miaoli**	**0.93**	**294**	*e*P	Pn	15 20 39.8	+0.4
	baz=293						
HSN	**Hsinchu**	**0.94**	**313**	*e*P	Pn	15 20 40.2	+0.7
	baz=314						
NCUH	**Zhongli**	**0.94**	**328**	*e*P	Pn	15 20 39.8	+0.2
	baz=322						
NCU	**National Centr**	**0.94**	**329**	*e*P	Pn	15 20 39.9	+0.4
	baz=327						
NCU				*e*S	Sn	15 20 54.1	+1.2
	baz=327						
TCU	**Taichung**	**0.96**	**269**	*e*P	Pn	15 20 40.6	+0.8
	baz=269						
TWS1	**Kuangyinshan**	**0.97**	**343**	*e*P	Pn	15 20 40.3	+0.3
	baz=349						
TWS1				*e*S	Sn	15 20 53.4	-0.2
	baz=349						
WJS	**Zhushan**	**0.97**	**250**	*e*P	Pn	15 20 40.5	+0.5
	baz=245						
YM01	**YM01**	**0.99**	**352**	*e*P	Pn	15 20 41.3	+1.1
	baz=350						
YM01				*e*S	Sn	15 20 54.4	+0.4
	baz=350						
WNT	**Mingjian**	**0.99**	**254**	*e*P	Pn	15 20 41.0	+0.7
	baz=247						
YM04	**YM04**	**1.00**	**350**	*e*P	Pn	15 20 40.3	-0.1
	baz=348						
YM05	**YM05**	**1.01**	**352**	*e*P	Pn	15 20 40.5	0.0
	baz=350						
YM11	**YM11**	**1.01**	**352**	*e*P	Pb	15 20 39.7	-0.3
	baz=350						
WDJ	**Dajia District**	**1.01**	**281**	*e*P	Pn	15 20 41.6	+1.2
	baz=281						
YM08	**YM08**	**1.03**	**353**	*e*P	Pn	15 20 40.0	-0.4
	baz=351						
NTST	**Danshui**	**1.03**	**346**	*e*P	Pn	15 20 40.6	-0.1
	baz=344						
ALS	**Alishan**	**1.07**	**233**	*e*P	Pn	15 20 41.6	0.0
	baz=241						
WCHH	**Zhanghua**	**1.07**	**266**	*e*P	Pg	15 20 42.1	+0.6
	baz=266						
CHKT	**Chengkung**	**1.11**	**197**	*e*P	Pb	15 20 40.5	-1.2
	baz=186						
CHN5	**Tsauling**	**1.11**	**240**	*e*P	Pg	15 20 42.7	+0.4
	baz=242						
CHN5				*e*S	Sn	15 20 59.1	+1.9
	baz=242						
JYNG	**Yonagunijimaku**	**1.15**	**75**	P	Pg	15 20 43.4	+0.5
JYNG				*e*S	Sg	15 20 59.1	+1.2
ELDTW	**Lidau**	**1.17**	**214**	*e*P	Pb	15 20 42.3	-0.5
	baz=216						
WDLH	**Douliu**	**1.19**	**247**	*e*P	Pg	15 20 44.4	+0.8
	baz=249						
YOJ	**Yonaguni jima**	**1.21**	**76**	*e*P	Pn	15 20 42.9	-0.3
	baz=67						
YOJ				S	Sn	15 20 59.9	+0.5
	baz=67						
YOJ	**Yonaguni jima**	**1.21**	**76**	P	Pn	15 20 43.1	-0.1
YOJ				*e*S	Sn	15 20 59.9	+0.5
RLNB	**Erlin**	**1.28**	**258**	*e*P	Pg	15 20 45.8	+0.4
	baz=259						
CHN4	**Tsaushan**	**1.32**	**232**	*e*P	Pg	15 20 46.1	0.0
	baz=235						
TPUB	**Ta-pu**	**1.32**	**230**	*e*P	Pg	15 20 46.0	-0.2
	baz=232						
STYT	**Tauyuan**	**1.33**	**222**	*e*P	Pg	15 20 45.5	-1.0
	baz=224						
WTP	**Ta-pu**	**1.37**	**228**	*e*P	Pg	15 20 46.8	-0.4
	baz=231						
TWG	**Pinlang**	**1.47**	**204**	*e*P	Pb	15 20 47.6	-0.2
	baz=207						
TWGBT	**Beinan**	**1.47**	**204**	*e*P	Pb	15 20 47.5	-0.4
	baz=207						
SNST	**Tainan City**	**1.47**	**230**	*e*P	Pg	15 20 48.4	-0.6
	baz=233						
CHN1	**Nanshi**	**1.47**	**229**	*e*P	Pg	15 20 48.2	-0.8
	baz=222						
CHN1				*e*S	Sg	15 21 10.4	+2.2
	baz=222						
WSF	**Szhu**	**1.47**	**249**	*e*P	Pg	15 20 48.2	-0.9
	baz=252						
WSF				*e*S	Sg	15 21 10.2	+2.0
	baz=252						
SLGT	**Liugui**	**1.53**	**221**	*e*P	Pb	15 20 48.9	0.0
	baz=223						
CHN8	**Yiju**	**1.61**	**240**	*e*P	Pg	15 20 52.0	+0.3
	baz=243						
ECL	**Taimali**	**1.71**	**205**	*e*P	Pb	15 20 51.5	-0.6
	baz=193						
SSD	**Sandimen**	**1.73**	**216**	*e*P	Pb	15 20 51.0	-1.3
	baz=231						
IRIF	**Iriomote-Funau**	**1.84**	**84**	P	Pb	15 20 53.6	-0.5
IRIF				*e*S	Sn	15 21 15.3	+0.4
MASBT	**Mashibuluo**	**1.84**	**213**	*e*P	Pb	15 20 52.9	-1.3
	baz=216						
EAST	**Anshuo**	**1.95**	**205**	*e*P	Pb	15 20 55.1	-0.9
	baz=195						
SCZT	**Fangliau**	**2.05**	**210**	*e*P	Pb	15 20 56.3	-1.6
	baz=196						
PNG	**Penghu**	**2.08**	**254**	*e*P	Pn	15 20 55.9	+0.7
	baz=257						
PHUB	**P'eng-hu**	**2.08**	**252**	*e*P	Pn	15 20 56.0	+0.8
	baz=256						
JKRS	**Kuro-shima**	**2.08**	**88**	P	Pn	15 20 56.4	+1.1
JKRS				*e*S	Sn	15 21 22.3	+1.3
WDGT	**Dungji**	**2.10**	**245**	*e*P	Pn	15 20 56.2	+0.8
	baz=249						
JIJ	**Ishigaki jima**	**2.21**	**84**	P	Pn	15 20 56.9	-0.2
JIJ				*e*S	Sn	15 21 23.4	-0.8
VWUC	**VWUC**	**2.23**	**292**	*e*P	Pn	15 20 57.4	+0.1
	baz=292						
JISG	**Ishigakijimahi**	**2.39**	**79**	P	Pn	15 20 59.4	-0.1
JISG				*e*S	Sn	15 21 28.2	-0.4
KNMB	**Chin-men Tao**	**3.06**	**276**	*e*P	Pn	15 21 09.3	+0.6
	baz=277						

IDC 28 15:21:31.6±2.5, 4.03S×135.51E, h0km, mb3.6/1, mb1 3.8/4, mb1mx3.5/26, mbtmp3.6/4, ML3.4/4, Error ellipse: s-maj=67.9km s-min=26.5km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.28**	**306**	Pn	Pn	15 22 52.7	+0.8
	2.7nm,0.3s,baz=156,slow=23,SNR=44						
SIJI				Sn	Sn	15 23 45.9	-7.6
	1.1nm,0.3s,baz=94,slow=15,SNR=7.3						
WRA	**Warramunga Arr**	**15.85**	**184**	Pn	Pn	15 25 15.7	-0.6
	0.1nm,0.3s,baz=5.6,slow=13,SNR=4.4						
WRA				Sn	Sn	15 27 56.6	-16
	0.0nm,0.3s,baz=3.2,slow=23,SNR=2.8						
FITZ	**Fitzroy Crossi**	**16.99**	**214**	Pn	Pn	15 25 29.5	-1.3
	0.2nm,0.3s,baz=36,slow=12,SNR=11						

ASAR	**Alice Springs**	**19.58**	**184**	P	Pn	15 26 02.3	-0.3
	0.3nm,0.3s,baz=9.4,slow=11,SNR=32						
MKAR	**Makanchi Array**	**68.93**	**324**	P	P	15 32 38.3	-0.3
	0.2nm,0.4s,baz=111,slow=7.9,SNR=4.9						

MAN 28 15:29:02.7, 9.20N×126.41E, h29km, mb4.3, ML3.2, MS2.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.81**	**254**	*e*P	Pn	15 29 17.9	-0.4
BUTP				*e*S	Sn	15 29 29.6	+0.4
BIPH	**Bislig**	**1.01**	**183**	⇑*i*P	Pn	15 29 20.7	-0.2
BIPH				*i* S	Sn	15 29 33.0	-1.1
BUKP	**Musuan**	**1.87**	**226**	*e*P	Pn	15 29 33.0	+0.2
BUKP				*e*S	Sn	15 29 56.5	+1.0
BESP	**Borongan**	**2.58**	**338**	*e*P	Pn	15 29 43.1	+0.6
BESP				*e*S	Sn	15 30 14.0	+1.1

*ISCJB **28** 15:35:53.1±1.3, 10.4S±0.2×66.5E±0.2, h14km, mb3.7/9, MS3.8/14, Error ellipse: s-maj=39.1km s-min=20.7km az=37.4*
*IDC **28** 15:35:53.1±1.2, 10.44S×66.49E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.6/52, mbtmp3.7/9, MS3.8/14, Ms1 3.8/14, ms1mx3.6/41, Error ellipse: s-maj=41.4km s-min=22.2km az=37.0*
ISC 28 15:35:55.0±1.5, 10.5S±0.3×66.4E±0.2, h14km, n27, σ1§07/13, mb3.7/9, MS3.8/14, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**6.09**	**48**	T	T	15 43 44.8	
	baz=228,slow=75,SNR=4114						
H08N1	**Diego Garcia H**	**6.11**	**48**	T	T	15 43 45.3	
	baz=228,slow=75,SNR=3728						
H08N2	**Diego Garcia H**	**6.11**	**48**	T	T	15 43 41.4	
	baz=229,slow=75,SNR=3928						
H08S1	**Diego Garcia H**	**6.59**	**65**	T	T	15 44 26.0	
	baz=245,slow=76,SNR=55						
H08S3	**Diego Garcia H**	**6.61**	**65**	T	T	15 44 26.7	
	baz=245,slow=76,SNR=40						
H08S2	**Diego Garcia H**	**6.61**	**65**	T	T	15 44 27.4	
	baz=245,slow=76,SNR=45						
OPO	**Ambohidratompo**	**20.28**	**244**	LR	LR	15 47 04.8	
	comp=Z,158nm,18.9s,baz=68,slow=33						
PALK	**Pallekele**	**22.64**	**39**	LR	LR	15 47 37.2	
	comp=Z,248nm,21.5s,baz=296,slow=31						
KMBO	**Kilima Mbogo**	**30.45**	**286**	LR	LR	15 51 31.3	
	comp=Z,126nm,21.1s,baz=96,slow=31						
BOSA	**Boshof**	**42.53**	**239**	LR	LR	15 58 07.5	
	comp=Z,94nm,19.5s,baz=42,slow=31						
CMAR	**Chiang Mai Arr**	**43.07**	**48**	P	**P**	**15 43 55.9**	**+1.0**
	0.3nm,0.4s,baz=238,slow=9.5,SNR=3.9						
CMAR				LR	LR	16 00 29.5	
	comp=Z,80nm,18.1s,baz=226,slow=34						
GNI	**Garni**	**54.23**	**340**	LR	LR	16 05 53.1	
	comp=Z,116nm,18.1s,baz=332,slow=33						
MAW	**Mawson**	**57.12**	**182**	LR	LR	16 05 38.4	
	comp=Z,178nm,18.8s,baz=36,slow=31						
FITZ	**Fitzroy Crossi**	**57.68**	**105**	LR	LR	16 09 59.8	
	comp=Z,63nm,18.2s,baz=260,slow=36						
BRTR	**Keskin Array B**	**58.49**	**331**	P	**P**	**15 45 51.2**	**+0.3**
	0.7nm,1.0s,baz=140,slow=6.9,SNR=3.3						
MKAR	**Makanchi Array**	**58.74**	**13**	P	**P**	**15 45 50.5**	**-1.9**
	0.5nm,0.7s,baz=213,slow=9.4,SNR=5.0						
MKAR				LR	LR	16 08 32.1	
	comp=Z,126nm,18.7s,baz=305,slow=33						
ASAR	**Alice Springs**	**65.31**	**111**	P	**P**	**15 46 37.0**	**-0.2**
	1.0nm,0.9s,baz=284,slow=5.5,SNR=6.3						
ASAR				LR	LR	16 12 46.4	
	comp=Z,44nm,19.0s,baz=6.5,slow=34						
WRA	**Warramunga Arr**	**65.84**	**107**	P	**P**	**15 46 40.2**	**-0.4**
	2.3nm,1.0s,baz=270,slow=5.7,SNR=4.8						
WRA				LR	LR	16 11 05.2	
	comp=Z,91nm,21.9s,baz=95,slow=32						
ZALV	**Zalesovo Beam**	**66.04**	**12**	P	**P**	**15 46 40.1**	**-1.0**
	1.5nm,0.8s,baz=193,slow=5.8,SNR=6.9						
SONM	**Songino Array**	**68.01**	**28**	P	**P**	**15 46 54.3**	**+0.4**
	1.2nm,0.8s,baz=212,slow=6.0,SNR=6.5						
SONM				LR	LR	16 15 48.4	
	comp=Z,217nm,21.8s,baz=196,slow=35						
AKASG	**Malin Array Be**	**68.98**	**336**	P	**P**	**15 47 00.6**	**+0.8**
	0.1nm,0.3s,baz=142,slow=4.7,SNR=3.5						
DBIC	**Dimbokro**	**72.99**	**280**	LR	LR	16 18 22.2	
	comp=Z,57nm,19.4s,baz=5.5,slow=35						
QSPA	**South Pole Qui**	**79.58**	**180**	LR	LR	16 17 52.8	
	comp=Z,78nm,19.7s,baz=259,slow=32						
ESDC	**Sonseca Array**	**81.96**	**313**	P	**P**	**15 48 14.7**	**0.0**
	0.2nm,0.3s,baz=118,slow=4.6,SNR=3.9						
PDAR	**Pinedale Array**	**147.64**	**354**	PKPbc	**PKPab**	**15 55 40.2**	**-1.6**
	0.7nm,0.9s,baz=11,slow=3.0,SNR=5.3						
NVAR	**Mina Array Bea**	**151.84**	**8**	PKPbc	**PKPbc**	**15 55 51.2**	**+1.0**
	1.9nm,0.8s,baz=323,slow=1.4,SNR=8.6						
NVAR				PKPab	**PKPab**	**15 55 59.8**	**+0.8**
	1.8nm,0.7s,baz=261,slow=1.5,SNR=6.6						
TXAR	**Lajitas Array**	**159.08**	**335**	PKPab	**PKPab**	**15 56 29.6**	**-0.4**
	0.7nm,0.9s,baz=98,slow=2.7,SNR=4.6						

*ISCJB **28** 15:36:52.7±0.9, 10.7S±0.1×166.0E±0.2, h150km, mb3.7/10, Error ellipse: s-maj=23.0km s-min=15.2km az=177.1*
*IDC **28** 15:36:56.3±5.7, 10.80S×166.03E, h170km±53km, mb3.5/10, mb1 3.7/11, mb1mx3.5/33, mbtmp4.0/11, Error ellipse: s-maj=28.0km s-min=22.4km az=5.0*
ISC 28 15:36:54.1±0.9, 10.7S±0.1×166.0E±0.2, h150km, n12, σ0§91/13, mb3.8/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.31**	**178**	P	**Pn**	**15 39 32.2**	**+0.7**
	2.0nm,0.3s,baz=320,slow=10,SNR=41						
CTA	**Charters Tower**	**21.20**	**242**	P	**P**	**15 41 29.2**	**+1.2**
	3.0nm,0.7s,baz=112,slow=5.2,SNR=3.7						
URZ	**Urewera**	**29.18**	**162**	P	**P**	**15 42 40.8**	**-0.5**
	7.7nm,0.9s,baz=293,slow=7.9,SNR=4.3						
STKA	**Stephens Creek**	**30.87**	**223**	P	**P**	**15 42 55.1**	**-1.3**
	2.0nm,0.8s,baz=352,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**31.86**	**249**	P	**P**	**15 43 05.5**	**+0.3**
	1.0nm,0.6s,baz=82,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**33.19**	**243**	P	**P**	**15 43 16.6**	**-0.2**
	1.0nm,0.7s,baz=65,slow=10,SNR=16						
ASAR				PcP	**PcP**	**15 45 56.7**	**+0.5**
	0.2nm,0.7s,baz=79,slow=2.4,SNR=3.7						
CMAR	**Chiang Mai Arr**	**72.23**	**293**	P	**P**	**15 48 02.2**	**-1.1**
	0.6nm,0.5s,baz=222,slow=13,SNR=4.4						
SONM	**Songino Array**	**78.56**	**324**	P	**P**	**15 48 40.2**	**+1.1**
	0.2nm,0.3s,baz=98,slow=8.9,SNR=2.1						
ILAR	**Eielson Array**	**83.11**	**18**	P	**P**	**15 49 03.0**	**+0.3**
	0.5nm,0.6s,baz=233,slow=5.2,SNR=11						
ZALV	**Zalesovo Beam**	**93.44**	**324**	P	**P**	**15 49 51.6**	**-0.8**
	0.4nm,0.3s,baz=128,slow=9.5,SNR=2.9						
MKAR	**Makanchi Array**	**93.47**	**317**	P	**P**	**15 49 53.2**	**+0.5**
	0.4nm,0.6s,baz=98,slow=5.5,SNR=4.1						
ARCES	**ARCESS Array B**	**116.08**	**346**	PKP	**PKPdf**	**15 55 18.2**	**-0.6**
	1.9nm,0.9s,baz=73,slow=2.7,SNR=7.6						

*ISCJB **28** 15:54:45.2±0.7, 13.54N±0.08×93.05W±0.06, h10km, mb4.1/13, MS3.1/1, Error ellipse: s-maj=12.7km s-min=6.5km az=23.9*
*NEIC **28** 15:54:46.8±2.9, 13.60N×93.02W, h6km±19km, mb4.6/6, Error ellipse: s-maj=11.7km s-min=6.5km az=201.0*
*IDC **28** 15:54:46.0±1.1, 13.65N×93.00W, h0km, mb3.9/8, mb1 4.2/12, mb1mx3.9/43, mbtmp3.9/12, ML3.6/4, MS3.0/3, Ms1 3.0/3, ms1mx2.7/33, Error ellipse: s-maj=22.0km s-min=15.0km az=20.0*
ISC 28 15:54:47.3±0.8, 13.7N±0.1×93.03W±0.08, h10km, n31, σ1§40/34, mb4.0/13, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**2.75**	**18**	*e*Pn	**Pn**	**15 55 32.4**	**+0.7**
APG	**El Apazote**	**2.83**	**61**	Pn	**Pn**	**15 55 33.2**	**+0.4**
	5.9nm,0.3s,baz=234,slow=9.1,SNR=43						
APG				Sn	**Sn**	**15 56 09.7**	**+2.5**
	6.9nm,0.3s,baz=282,slow=14,SNR=4.4						
APG				Lg	Lg	15 56 15.7	
	3.8nm,0.3s,baz=325,slow=17,SNR=4.2						
CMIG	**Matias Romero**	**3.85**	**333**	Pn	**Pn**	**15 55 45.8**	**-1.0**
	3.6nm,0.3s,baz=146,slow=8.4,SNR=28						
CMIG				Pg	Pb	15 55 54.1	-1.4
	4.8nm,0.3s,baz=157,slow=13,SNR=16						
CMIG				Sn	**Sn**	**15 56 28.0**	**-4.1**
	4.0nm,0.3s,baz=110,slow=14,SNR=5.3						
CMIG				LR	LR	15 57 18.7	
	comp=Z,142nm,21.1s,baz=112,slow=39						
ESTN	**Estel**	**6.51**	**94**	*e*Pn	**Pn**	**15 56 22.5**	**-0.9**
LVIG	**Laguna Verde**	**6.85**	**332**	*e*Pn	**Pn**	**15 56 29.3**	**+1.4**
TEIG	**Tepich**	**7.96**	**34**	*e*Pn	**Pn**	**15 56 42.5**	**-0.7**
JTS	**JuntasAbangare**	**8.58**	**112**	Pn	**Pn**	**15 56 53.2**	**+1.4**
	2.0nm,0.3s,baz=316,slow=7.9,SNR=8.1						
JTS				Sn	**Sn**	**15 58 26.3**	**-2.5**
	0.8nm,0.3s,baz=342,slow=20,SNR=2.3						
JTS				LR	LR	15 58 54.8	
	comp=Z,56nm,18.1s,baz=287,slow=29						
MOIG	**Morelia**	**9.84**	**309**	*e*Pn	**Pn**	**15 57 10.8**	**+1.6**
TXAR	**Lajitas Array**	**18.45**	**329**	P	**P**	**15 59 05.4**	**+2.0**
	0.0nm,0.3s,baz=152,slow=14,SNR=8.2						
LTX	**Lajitas**	**18.45**	**329**	*e*P	**P**	**15 59 05.4**	**+2.0**
TX31	**Lajitas Ar. Si**	**18.45**	**329**	*e*P	**P**	**15 59 04.5**	**+1.1**
MNTX	**Cornudas Mount**	**21.23**	**330**	*e*P	**P**	**15 59 34.8**	**+1.2**
	5.9nm,1.2s						
SDV	**Santo Domingo**	**22.47**	**100**	P	**P**	**15 59 45.9**	**-1.3**
	2.1nm,0.6s,baz=255,slow=18,SNR=2.8						
AMTX	**Amarillo**	**22.54**	**341**	*e*P	**P**	**15 59 48.0**	**+0.4**
	32nm,1.3s						
TKL	**Tuckaleechee C**	**23.44**	**19**	P	**P**	**15 59 56.1**	**-0.8**
	2.9nm,0.6s,baz=204,slow=12,SNR=2.8						
TKL				LR	LR	16 10 51.3	
	comp=Z,62nm,18.7s,baz=316,slow=41						
TKL	**Tuckaleechee C**	**23.44**	**19**	*e*P	**P**	**15 59 55.6**	**-1.3**
	47nm,1.9s						
KSU1	**Kansas State U**	**25.54**	**354**	*e*P	**P**	**16 00 15.7**	**-0.6**
	17nm,0.8s						
PD31	**Pinedale Array**	**32.33**	**337**	*e*P	**P**	**16 01 16.7**	**-0.3**
PDAR	**Pinedale Array**	**32.33**	**337**	P	**P**	**16 01 17.7**	**+0.6**
	0.4nm,0.9s,baz=142,slow=14,SNR=2.7						
AHID	**Auburn Hatcher**	**32.94**	**335**	*e*P	**P**	**16 01 22.8**	**+0.5**
	13nm,0.8s						
NV01	**Mina Array Sit**	**33.32**	**322**	*e*P	**P**	**16 01 27.0**	**+1.3**
NVAR	**Mina Array Bea**	**33.32**	**322**	P	**P**	**16 01 27.5**	**+1.8**
	3.0nm,1.0s,baz=136,slow=9.5,SNR=11						
HLID	**Hailey**	**35.00**	**332**	*e*P	**P**	**16 01 41.0**	**+0.7**
	2.4nm,1.0s						
YKA	**Yellowknife Ar**	**51.13**	**347**	P	**P**	**16 03 50.1**	**-0.1**
	1.4nm,0.8s,baz=146,slow=7.8,SNR=15						
CPUP	**Villa Florida**	**52.78**	**139**	P	**P**	**16 04 03.1**	**+0.2**
	0.7nm,0.4s,baz=338,slow=5.4,SNR=2.5						
IL1	**Eielson Array**	**62.76**	**337**	*e*P	**P**	**16 05 12.4**	**-0.2**
ILAR	**Eielson Array**	**62.76**	**337**	P	**P**	**16 05 12.6**	**0.0**
	2.4nm,1.1s,baz=145,slow=4.4,SNR=10						
ILB	**Eielson Array**	**62.76**	**337**	*e*P	**P**	**16 05 12.0**	**-0.6**
NB200	**NORSAR Array S**	**84.92**	**28**	*e*P	**P**	**16 07 22.9**	**+0.4**
NOA	**NORSAR Array B**	**84.92**	**28**	P	**P**	**16 07 22.9**	**+0.4**
	0.6nm,0.8s,baz=315,slow=6.3,SNR=2.7						
CMAR	**Chiang Mai Arr**	**145.98**	**339**	PKPbc	**PKPdf**	**16 14 27.1**	**-0.5**
	0.9nm,0.4s,baz=353,slow=4.9,SNR=12						

*ISCJB **28** 15:59:11.9±0.4, 5.55S±0.05×152.59E±0.07, h40km, mb4.4/25, MS3.5/2, Error ellipse: s-maj=10.5km s-min=5.7km az=26.4*
*NEIC **28** 15:59:14.1±0.8, 5.53S×152.52E, h46km±6km, mb4.7/17, Error ellipse: s-maj=8.4km s-min=4.6km az=101.0*
*IDC **28** 15:59:14.5±4.0, 5.52S×152.58E, h51km±37km, mb3.9/14, mb1 4.1/16, mb1mx3.9/35, mbtmp4.2/16, ML2.9/2, MS3.3/4, Ms1 3.3/4, ms1mx3.0/38, Error ellipse: s-maj=21.9km s-min=19.2km az=91.0*
ISC 28 15:59:13.5±0.6, 5.51S±0.07×152.63E±0.09, h40km, n63, σ0§91/64, mb4.4/25, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.39**	**341**	*e*Pn	**Pn**	**15 59 36.2**	**-0.2**
MANU	**Manus Island**	**6.28**	**303**	*e*Pn	**Pn**	**16 00 44.1**	**+0.4**
PMG	**Port Moresby**	**6.66**	**234**	P	**Pn**	**16 00 50.2**	**+1.3**
	3.4nm,0.3s,baz=40,slow=6.5,SNR=12						
PMG				S	**Sn**	**16 02 05.0**	**+1.3**
	16nm,0.3s,baz=66,slow=20,SNR=11						
PMG				LR	LR	16 02 51.7	
	comp=Z,116nm,20.4s,baz=346,slow=33						
PMG	**Port Moresby**	**6.66**	**234**	*e*Pn	**Pn**	**16 00 48.2**	**-0.7**
PMG				eSn	**Sn**	**16 02 05.0**	**+1.3**
HNR	**Honiara**	**8.24**	**119**	LR	LR	16 04 36.1	
	comp=Z,66nm,18.3s,baz=286,slow=39						
COEN	**Coen**	**12.54**	**227**	*e*Pn	**Pn**	**16 02 09.2**	**-0.2**
CTA	**Charters Tower**	**15.76**	**203**	P	**Pn**	**16 02 52.8**	**0.0**
	0.1nm,0.3s,baz=15,slow=20,SNR=2.0						
EIDS	**Eidsvold**	**19.81**	**184**	*e*P	**P**	**16 03 40.6**	**-0.1**
	77nm,1.8s						
DZM	**Mont Dzumac**	**21.21**	**142**	P	**P**	**16 03 55.8**	**-0.2**
	5.7nm,0.8s,baz=319,slow=19,SNR=2.8						
DZM				LR	LR	16 10 30.6	
	comp=Z,166nm,19.6s,baz=4.5,slow=32						
DZM	**Mont Dzumac**	**21.21**	**142**	*e*P	**P**	**16 03 55.9**	**-0.2**
	142nm,2.0s						
SIJI	**Sorong**	**21.82**	**281**	P	**P**	**16 04 02.7**	**+0.2**
	6.3nm,0.6s,baz=107,slow=11,SNR=4.8						
WB2	**Warramunga Arr**	**22.84**	**229**	*e*P	**P**	**16 04 12.2**	**-1.3**
WR1	**Warramunga Arr**	**22.85**	**229**	*e*P	**P**	**16 04 11.7**	**-1.9**
	43nm,1.5s						
WRA	**Warramunga Arr**	**22.85**	**229**	P	**P**	**16 04 11.7**	**-1.9**
	2.8nm,0.8s,baz=54,slow=10.0,SNR=20						
AS01	**Alice Springs**	**25.48**	**223**	*e*P	**P**	**16 04 37.7**	**-0.5**
AS31	**Alice Springs**	**25.52**	**223**	*e*P	**P**	**16 04 38.5**	**0.0**
	2.2nm,0.8s						
ASAR	**Alice Springs**	**25.52**	**223**	P	**P**	**16 04 38.4**	**-0.2**
	6.5nm,0.8s,baz=55,slow=9.0,SNR=46						
STKA	**Stephens Creek**	**28.20**	**200**	P	**P**	**16 05 03.2**	**+0.7**
	0.5nm,0.3s,baz=8.3,slow=0.8,SNR=3.5						
STKA				LR	LR	16 17 18.8	
	comp=Z,143nm,18.3s,baz=10,slow=38						
STKA	**Stephens Creek**	**28.20**	**200**	*e*P	**P**	**16 05 01.7**	**-0.8**
	6.8nm,1.7s						
FITZ	**Fitzroy Crossi**	**29.18**	**242**	P	**P**	**16 05 10.3**	**-1.0**
	5.1nm,0.8s,baz=69,slow=8.6,SNR=15						
FITZ	**Fitzroy Crossi**	**29.18**	**242**	*e*P	**P**	**16 05 10.1**	**-1.2**
	52nm,1.6s						
JNU	**Nakatsue**	**43.61**	**333**	P	**P**	**16 07 13.4**	**-0.7**
	4.6nm,0.8s,baz=162,slow=3.2,SNR=3.8						
JNU	**Nakatsue**	**43.61**	**333**	*e*P	**P**	**16 07 12.9**	**-1.2**
	44nm,1.4s						
CM31	**Chiang Mai Arr**	**58.02**	**296**	*e*P	**P**	**16 09 01.4**	**-1.5**
CMAR	**Chiang Mai Arr**	**58.02**	**296**	P	**P**	**16 09 02.3**	**-0.6**
	0.6nm,0.7s,baz=112,slow=6.2,SNR=5.4						
PETK	**Petropavlovsk-**	**58.55**	**4**	P	**P**	**16 09 06.5**	**+0.6**
	4.4nm,0.9s,baz=158,slow=8.1,SNR=3.6						
PEA1	**Petropavlovsk-**	**58.56**	**4**	*e*P	**P**	**16 09 06.5**	**+0.6**
SONA0	**Songino Array**	**66.83**	**328**	*e*P	**P**	**16 10 01.5**	**+0.1**
SONM	**Songino Array**	**66.83**	**328**	P	**P**	**16 10 01.5**	**+0.1**
	1.3nm,0.5s,baz=145,slow=5.6,SNR=10						
SONA1	**Songino Array**	**66.83**	**328**	*e*P	**P**	**16 10 00.9**	**-0.5**
BILL	**Bilibino**	**74.01**	**5**	*e*P	**P**	**16 10 45.0**	**+0.4**
	6.6nm,1.0s						
GAMB	**Gambell**	**74.11**	**16**	*e*P	**P**	**16 10 46.5**	**+1.3**
	12nm,1.2s						
ANM	**Nome**	**76.50**	**17**	*e*P	**P**	**16 11 00.8**	**+1.8**
	14nm,1.4s						
MK01	**Makanchi Array**	**80.73**	**319**	*e*P	**P**	**16 11 22.4**	**-0.4**
MK31	**Makanchi Array**	**80.74**	**319**	*e*P	**P**	**16 11 22.7**	**-0.1**
MK32	**Makanchi Array**	**80.74**	**319**	*e*P	**P**	**16 11 22.6**	**-0.2**
MKAR	**Makanchi Array**	**80.74**	**319**	P	**P**	**16 11 22.6**	**-0.2**
	1.0nm,0.7s,baz=105,slow=6.7,SNR=13						
MKAR	**Makanchi Array**	**80.74**	**319**	*e*P	**P**	**16 11 22.9**	**+0.1**
	8.1nm,0.7s						
MAKZ	**Makanchi**	**80.95**	**319**	*e*P	**P**	**16 11 23.8**	**-0.2**
	2.6nm,0.8s						
IM3	**Indian Mountai**	**81.10**	**19**	*e*P	**P**	**16 11 24.9**	**+0.6**
MLY	**Manley**	**81.60**	**21**	*e*P	**P**	**16 11 27.5**	**+0.5**
	10nm,1.3s						
ZAA0	**Zalesovo Array**	**81.64**	**326**	*e*P	**P**	**16 11 26.2**	**-1.1**
	2.5nm,0.7s						
ZALV	**Zalesovo Beam**	**81.64**	**326**	P	**P**	**16 11 26.0**	**-1.3**
	2.4nm,0.6s,baz=114,slow=5.1,SNR=9.3						
ZALV	**Zalesovo Beam**	**81.64**	**326**	*e*P	**P**	**16 11 26.3**	**-1.0**
ZAA1	**Zalesovo Array**	**81.64**	**326**	*e*P	**P**	**16 11 26.0**	**-1.4**
ILAR	**Eielson Array**	**82.87**	**22**	P	**P**	**16 11 32.3**	**-1.3**
	1.4nm,0.7s,baz=246,slow=5.5,SNR=15						
ILB	**Eielson Array**	**82.87**	**22**	*e*P	**P**	**16 11 33.4**	**-0.2**
IL1	**Eielson Array**	**82.88**	**22**	*e*P	**P**	**16 11 33.0**	**-0.7**
KURK	**Kurchatov**	**84.22**	**322**	*e*P	**P**	**16 11 40.8**	**0.0**
	10nm,1.3s						
TKM2	**Tokmak 2**	**84.29**	**314**	P	**P**	**16 11 42.4**	**+0.8**
	SNR=5.1						
KZA	**Kyzart**	**84.36**	**313**	P	**P**	**16 11 44.2**	**+2.0**
	SNR=5.5						
CHMS	**Chumysh**	**84.92**	**314**	P	**P**	**16 11 44.8**	**+0.2**
	SNR=6.6						
UCH	**Uchtor**	**84.93**	**313**	P	**P**	**16 11 46.7**	**+1.5**
	SNR=7.0						
AAK	**Ala-Archa**	**85.03**	**314**	*e*P	**P**	**16 11 45.1**	**-0.2**
	4.1nm,0.8s						
USP	**Ospenovka**	**85.15**	**314**	P	**P**	**16 11 46.5**	**+0.7**
	SNR=6.4						
AML	**Almayashu**	**85.50**	**313**	P	**P**	**16 11 49.4**	**+1.4**
	SNR=7.7						
ARSB	**Arslanbob**	**85.87**	**312**	*e*P	**P**	**16 11 49.7**	**+0.2**
	24nm,1.4s						
YKA	**Yellowknife Ar**	**96.13**	**28**	P	**P**	**16 12 37.8**	**+1.0**
	0.6nm,0.6s,baz=269,slow=4.8,SNR=12						
YKB5	**Yellowknife Ar**	**96.13**	**28**	*e*P	**P**	**16 12 37.2**	**+0.4**
BR101	**Keskin Array S**	**115.64**	**312**	*e*PKPdf	**PKPdf**	**16 17 52.5**	**+0.5**
BRTR	**Keskin Array B**	**115.64**	**312**	PKP	**PKPdf**	**16 17 52.5**	**+0.5**
	0.2nm,0.5s,baz=70,slow=4.7,SNR=2.7						
TORD	**Torodi Ar. Bea**	**150.35**	**287**	PKPbc	**PKPbc**	**16 19 01.1**	**-0.5**
	0.5nm,0.6s,baz=86,slow=3.5,SNR=3.6						
TOA1	**Torodi Ar. Sit**	**150.36**	**287**	*e*PKPbc	**PKPbc**	**16 19 01.1**	**-0.5**

*ISCJB **28** 16:26:53.9±0.7, 7.47S±0.05×128.98E±0.08, h131km, mb3.5/1, Error ellipse: s-maj=11.1km s-min=6.8km az=17.3*
*IDC **28** 16:26:54.8±1.7, 7.49S×129.00E, h127km±20km, mb3.3/1, mb1 3.5/6, mb1mx3.1/40, mbtmp3.9/6, Error ellipse: s-maj=25.2km s-min=13.6km az=119.0*
ISC 28 16:26:54.4±0.9, 7.62S±0.06×129.11E±0.10, h131km, n6, σ2§56/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.96**	**244**	P	**Pn**	**16 28 20.9**	**+0.3**
	4.8nm,0.3s,baz=73,slow=5.1,SNR=7.9						
BATI				S	**Sn**	**16 29 27.7**	**-0.1**
	13nm,0.3s,baz=60,slow=20,SNR=12						
SIJI	**Sorong**	**7.04**	**18**	P	**Pn**	**16 28 34.4**	**-0.7**
	1.8nm,0.3s,baz=180,slow=20,SNR=10						
SIJI				S	**Sn**	**16 29 52.4**	**-1.5**
	0.4nm,0.3s,baz=110,slow=23,SNR=2.9						
FITZ	**Fitzroy Crossi**	**10.95**	**198**	P	**Pn**	**16 29 27.6**	**+0.2**
	1.4nm,0.3s,baz=24,slow=9.4,SNR=43						
FITZ				S	**Sn**	**16 31 23.9**	**-4.4**
	0.3nm,0.3s,baz=3.4,slow=19,SNR=3.3						
WRA	**Warramunga Arr**	**13.25**	**158**	P	**Pn**	**16 30 00.1**	**+2.5**
	0.3nm,0.3s,baz=334,slow=13,SNR=32						
WRA				S	**Sn**	**16 32 20.3**	**-3.7**
	1.2nm,0.3s,baz=340,slow=20,SNR=14						
ASAR	**Alice Springs**	**16.60**	**164**	P	**P**	**16 30 43.0**	**+3.2**
	0.1nm,0.3s,baz=340,slow=10.0,SNR=25						
ASAR				S	**Sn**	**16 33 44.0**	**-0.6**
	0.3nm,0.3s,baz=331,slow=15,SNR=7.3						
MKAR	**Makanchi Array**	**68.27**	**327**	P	**P**	**16 37 41.0**	**-0.3**
	0.4nm,0.5s,baz=119,slow=8.1,SNR=11						

*ISCJB **28** 16:38:50.8±0.4, 42.57N±0.01×79.80E±0.01, h6km±2km, mb6.0/538, MS6.1/717, Error ellipse: s-maj=1.9km s-min=1.4km az=8.2*
*IDC **28** 16:38:51.4±0.3, 42.58N×79.72E, h0km, mb5.5/51, mb1 5.6/59, mb1mx5.5/62, mbtmp5.5/59, ML5.1/8, MS5.9/44, Ms1 5.9/44, ms1mx5.7/59, Error ellipse: s-maj=7.5km s-min=6.6km az=158.0*
*MOS **28** 16:38:51.2±1.1, 42.59N×79.77E, h8km, mb6.2/117, MS6.1/124, Error ellipse: s-maj=4.4km s-min=3.4km az=43.7*
MOS Felt (VI-VII) Jergalan; (VI) at Karakol; (IV-V) at Almaty, Tokmok, Kemin; (IV) at Bishkek.
*BJI **28** 16:38:52.0, 42.55N×79.75E, h15km, mb5.6/40, mB6.1/64, ML6.4/8, Ms6.3/85, Ms7 6.3/73*
*SOME **28** 16:38:52.4, 42.52N×79.67E, h10km, MS6.0*
*NNC **28** 16:38:53.8±0.8, 42.61N×79.64E, h0km, mb6.8, mpv6.4, Error ellipse: s-maj=5.8km s-min=3.1km az=131.0*
*NEIC **28** 16:38:53.6±0.1, 42.61N×79.71E, h15km, mb6.1/297, ME6.8, MS6.2/297, MW6.1, MW6.1, Error ellipse: s-maj=2.1km s-min=1.6km az=179.0, Moment Tensor Solution. s53 Moment tensor: Scale 10¹⁸Nm; Mrr0.02; Mθθ-1.34; Mφφ

comp=E,57µm,1.1s
DJR Jarkent 1.75 2 P **Pb 16 39 25.4 -0.4**
comp=E,25µm,1.0s
DJR Jarkent 1.75 2 *e*P **Pb 16 39 25.4 -0.4**
comp=E,25µm,1.0s
MNBS Baschi 1.78 328 P **Pn 16 39 25.0 +0.8**
MNBS S **Sb 16 39 48.4 -0.1**
MNBS Baschi 1.78 328 *e*P **Pn 16 39 25.0 +0.8**
MNBS *e*S **Sb 16 39 48.4 -0.1**
KDJ Kajisay 1.94 257 *e*Pn **Pb 16 39 28.8 -0.2**
KDJ Kajisay 1.94 257 *e*PN **Pb 16 39 28.8 -0.2**
KDJ Kajisay 1.94 257⇑*i*P **Pb 16 39 28.8 -0.2**
baz=56
KDJ ⇑*i*S **Sb 16 39 53.0 -0.1**
baz=56
KOTS Kotyrbulak 2.02 290 Pg **Pb 16 39 30.3 -0.2**
comp=E,41µm,0.4s
KOTS Lg Lg 16 39 58.1
comp=E,378µm,0.7s
KOTS Kotyrbulak 2.02 290 *e*P **Pb 16 39 30.3 -0.2**
baz=89
KOTS *e*S **Sg 16 39 58.1 -0.9**
baz=89
KOTS Kotyrbulak 2.02 290 *e*P **Pb 16 39 30.3 -0.2**
comp=E,41µm,0.4s
KOTS *e*S **Sg 16 39 58.1 -0.9**
comp=E,378µm,0.7s
MDOK Medeo 2.05 287 Pg **Pb 16 39 29.6 -1.2**
comp=E,26µm,0.5s
MDOK Lg Lg 16 39 57.0
comp=E,242µm,1.1s
MDOK Medeo 2.05 287 *e*P **Pb 16 39 29.7 -1.2**
baz=87
MDOK *e*S **Sb 16 39 57.0 +0.7**
baz=87
MDOK Medeo 2.05 287 *e*P **Pb 16 39 29.6 -1.2**
comp=E,26µm,0.5s
MDOK *e*S **Sb 16 39 57.0 +0.7**
comp=E,242µm,1.1s
TNSS Tian-Shan 2.09 283 Pg **Pb 16 39 30.4 -1.4**
TNSS Lg Lg 16 39 58.4
TNSS Tian-Shan 2.09 283 *e*P **Pb 16 39 30.4 -1.4**
TNSS *e*S **Sb 16 39 58.4 +0.6**
ARXS Arharly 2.14 320 Pg **Pb 16 39 31.5 -0.9**
comp=E,14µm,0.5s
ARXS Lg Lg 16 39 59.4
comp=E,299µm,0.8s
ARXS Arharly 2.14 320 *e*P **Pb 16 39 31.5 -0.9**
comp=E,14µm,0.5s
ARXS *e*S **Sb 16 39 59.4 +0.7**
comp=E,299µm,0.8s
AAA Alma-Ata 2.15 288 P **Pb 16 39 32.0 -0.7**
comp=E,54µm,0.5s
AAA Alma-Ata 2.15 288 *e*PN **Pb 16 39 32.0 -0.7**
AAA *e*S **Sg 16 40 01.6 -1.6**
AAA pmax pmax
comp=Z,70µm,0.5s
AAA smax smax
comp=N,94µm,0.4s
AAA Alma-Ata 2.15 288 *e*P **Pb 16 39 32.0 -0.7**
comp=N,54µm,0.5s
AAA *e*S **Sg 16 40 01.3 -1.8**
IZV Izvestkoviy 2.33 282 Pg **Pb 16 39 34.1 -1.7**
IZV Lg Lg 16 40 04.8
IZV Izvestkoviy 2.33 282 *e*P **Pb 16 39 34.1 -1.7**
IZV *e*S **Sb 16 40 04.8 +0.4**
CHKK Chushkaly 2.37 303 Pg **Pb 16 39 35.7 -0.6**
comp=N,27µm,0.5s
CHKK Lg Lg 16 40 06.5
comp=N,106µm,0.6s
CHKK Chushkaly 2.37 303 *e*P **Pb 16 39 35.7 -0.6**
baz=4.0
CHKK *e*S **Sb 16 40 06.5 +1.2**
baz=4.0
CHKK Chushkaly 2.37 303 *e*P **Pb 16 39 35.7 -0.6**
comp=N,27µm,0.5s
CHKK *e*S **Sb 16 40 06.5 +1.2**
comp=N,106µm,0.6s
MTBS Maitube 2.48 284 Pg **Pb 16 39 37.5 -0.8**
comp=N,66µm,0.5s
MTBS Lg Lg 16 40 09.9
comp=N,146µm,0.5s
MTBS Maitube 2.48 284 *e*P **Pb 16 39 37.5 -0.8**
baz=84
MTBS *e*S **Sb 16 40 09.9 +1.2**
baz=84
MTBS Maitube 2.48 284 *e*P **Pb 16 39 37.5 -0.8**
comp=N,66µm,0.5s
MTBS *e*S **Sb 16 40 09.9 +1.2**
comp=N,146µm,0.5s
KTBS Karatobe 2.50 298 Pg **Pb 16 39 37.0 -1.4**
comp=N,18µm,1.1s
KTBS Lg Lg 16 40 09.9
comp=N,205µm,0.7s
KTBS Karatobe 2.50 298 *e*P **Pb 16 39 37.0 -1.4**
baz=97
KTBS *e*S **Sb 16 40 09.8 +0.8**
baz=97
KTBS Karatobe 2.50 298 *e*P **Pb 16 39 37.0 -1.4**
comp=N,18µm,1.1s
KTBS *e*S **Sb 16 40 09.9 +0.8**
comp=N,205µm,0.7s
ULHL Ulahol 2.60 264 P **Pn 16 39 36.6 +1.0**
SNR=3575
ULHL Ulahol 2.60 264⇑*i*P **Pn 16 39 36.8 +1.2**
baz=63
ULHL ⇑*i*S **Sn 16 40 08.7 +1.6**
baz=63
TDK Taldyqorghan 2.60 339 Pg **Pb 16 39 39.9 -0.3**
comp=N,38µm,0.6s
TDK Lg Lg 16 40 13.5
comp=N,199µm,0.8s
TDK Taldyqorghan 2.60 339 *e*P **Pb 16 39 39.9 -0.3**
comp=N,38µm,0.6s
TDK *e*S **Sb 16 40 13.5 +1.5**
comp=N,199µm,0.8s
KAPS Kapalarasan 2.71 355 P **Pb 16 39 43.2 +1.0**
comp=N,18µm,0.8s
KAPS Kapalarasan 2.71 355 *e*P **Pb 16 39 43.2 +1.0**
comp=N,18µm,0.8s
BOOM Boomskoye usch 2.80 269⇑*e*P **Pn 16 39 40.0 +1.7**
baz=69
BOOM ⇑*i*S **Sn 16 40 13.4 +1.5**
baz=69
KUU Kurty 2.80 299 P **Pb 16 39 42.8 -0.8**
comp=N,8µm,0.5s
KUU Kurty 2.80 299 *e*P **Pb 16 39 42.8 -0.8**
comp=N,8µm,0.5s
DGS Degeres 2.98 284 Pg **Pb 16 39 45.9 -0.8**
comp=N,51µm,0.6s
DGS Lg Lg 16 40 25.2
comp=N,279µm,0.6s
DGS Degeres 2.98 284 *e*P **Pb 16 39 45.9 -0.8**
baz=84
DGS *e*S **Sb 16 40 25.1 +2.2**
baz=84
DGS Degeres 2.98 284 *e*P **Pb 16 39 45.9 -0.8**
comp=N,51µm,0.6s
DGS *e*S **Sb 16 40 25.1 +2.2**
comp=N,279µm,0.6s
NRN Naryn 3.00 249 *e*Pn **Pn 16 39 43.4 +2.1**
NRN Naryn 3.00 249 *e*PN **Pn 16 39 43.4 +2.1**
NRN Naryn 3.00 249⇓*i*P **Pn 16 39 43.9 +2.6**
baz=48
NRN ⇓*i*S **Sn 16 40 19.3 +2.1**
baz=48
TKM2 Tokmak 2 3.06 278 P **Pn 16 39 44.0 +2.1**
SNR=9666
TKM2 Tokmak 2 3.06 278 ⇑Pn **Pn 16 39 42.2 +0.2**
comp=N,41µm,0.8s
TKM2 Tokmak 2 3.06 278 PN **Pn 16 39 44.0 +2.1**
TKM2 pmax pmax
comp=Z,41µm,0.8s
TKM2 Tokmak 2 3.06 278⇑*e*P **Pn 16 39 44.1 +2.1**
baz=77
TKM2 ⇑*i*S **Sn 16 40 19.7 +1.3**
baz=77
KZA Kyzart 3.35 263 P **Pn 16 39 48.2 +2.1**
SNR=1827
KZA Kyzart 3.35 263⇑*i*P **Pn 16 39 48.5 +2.3**
baz=62
KZA ⇑*i*S **Sn 16 40 27.1 +1.1**
baz=62
KBK Karagaybulak 3.52 273 P **Pn 16 39 50.0 +1.7**
SNR=7452
KBK Karagaybulak 3.52 273⇑*i*P **Pn 16 39 50.3 +2.0**
baz=72
KBK ⇑*i*S **Sn 16 40 31.0 +1.2**
baz=72
CHMS Chumysh 3.68 278 P **Pn 16 39 52.0 +1.7**
SNR=157
CHMS Chumysh 3.68 278⇑*i*P **Pn 16 39 51.9 +1.6**
baz=78
CHMS ⇑*i*S **Sn 16 40 34.7 +1.2**
baz=78
FRU1 Bishkek 3.76 275 *e*Pn **Pn 16 39 53.1 +1.6**
FRU1 Bishkek 3.76 275 *e*PN **Pn 16 39 53.1 +1.6**
FRU1 Bishkek 3.76 275⇑*i*P **Pn 16 39 53.4 +2.0**
baz=75
FRU1 ⇑*i*S **Sn 16 40 36.3 +0.8**
baz=75
FRU Bishkek 3.77 276⇑*e*PN **Pn 16 39 53.0 +1.4**
SGDS Sogindy 3.83 285 Pg **Pb 16 40 00.3 -1.0**
comp=Z,42µm,0.9s
SGDS Lg Lg 16 40 48.8
comp=Z,76µm,1.3s
AAK Ala-Archa 3.86 273 Pn **Pn 16 39 54.3 +1.5**
comp=Z,242nm,0.3s,baz=107,slow=5.8,SNR=558
AAK Lg Lg 16 40 51.9
comp=Z,6µm,0.3s,baz=17,slow=19,SNR=13
AAK Ala-Archa 3.86 273 P **Pn 16 39 54.4 +1.5**
SNR=874
AAK Ala-Archa 3.86 273 *i* P **Pn 16 39 54.0 +1.1**
SNR=1088
AAK Ala-Archa 3.86 273 PN **Pn 16 39 54.5 +1.6**
AAK 16 40 03.1
AAK pmax pmax
comp=Z,1µm,0.4s
AAK pmax pmax
comp=Z,21µm,0.8s
AAK Ala-Archa 3.86 273 P **Pn 16 39 54.3 +1.5**
SNR=7279
AAK S **Sg 16 40 54.4 -3.3**
UCH Uchtor 3.87 267 P **Pn 16 39 55.4 +2.0**
SNR=2793
UCH Uchtor 3.87 267⇑*i*P **Pn 16 39 55.6 +2.2**
baz=66
UCH ⇑*i*S **Sn 16 40 39.6 +0.8**
baz=66
USP Ospenovka 3.90 282 P **Pn 16 39 54.8 +1.5**
SNR=506
USP Ospenovka 3.90 282⇑*i*P **Pn 16 39 54.7 +1.5**
baz=82
USP ⇑*i*S **Sn 16 40 39.4 +0.6**
baz=82
KSH Kashi 4.17 224 Pn **Pb 16 40 05.3 -1.8**
KSH Sn **Sb 16 40 59.5 +2.1**
KSH LR LR
comp=Z,829µm,8.9s
EKS2 Erkin-Say 4.39 273 P **Pn 16 40 01.5 +1.4**
SNR=808
EKS2 Erkin-Say 4.39 273⇑*i*P **Pn 16 40 01.7 +1.6**
baz=73
EKS2 ⇑*i*S **Sn 16 40 51.8 +0.7**
baz=73
AML Almayashu 4.49 266 P **Pn 16 40 03.9 +2.1**
SNR=215
AML Almayashu 4.49 266⇑*i*P **Pn 16 40 03.7 +1.9**
baz=66
AML ⇑*i*S **Sn 16 40 54.5 +0.5**
baz=66
MAKZ Makanchi 4.52 20 *e*Pn **Pn 16 40 03.6 +1.7**
MAKZ Makanchi 4.52 20 ⇓Pn **Pn 16 40 03.5 +1.7**
comp=Z,10µm,1.4s
MAKZ ⇓Lg Lg 16 41 17.1
comp=Z,24µm,1.4s
MAKZ Makanchi 4.52 20 PN **Pn 16 40 03.4 +1.6**
MAKZ pmax pmax
comp=Z,10µm,1.4s
MK01 Makanchi Array 4.57 23 *e*Pn **Pn 16 40 03.9 +1.3**
MK31 Makanchi Array 4.59 23 *e*Pn **Pn 16 40 04.8 +1.9**
MK31 Makanchi Array 4.59 23 Pn **Pn 16 40 04.5 +1.7**
comp=Z,9µm,0.9s,baz=204,slow=11
MK31 ⇑Lg Lg 16 41 19.0
comp=Z,16µm,0.7s
MK31 Makanchi Array 4.59 23 *e*PN **Pn 16 40 04.5 +1.7**
MK31 pmax pmax
comp=Z,9µm,0.9s
MKAR Makanchi Array 4.59 23 Pn **Pn 16 40 04.4 +1.6**
comp=Z,713nm,0.3s,baz=206,slow=13
MKAR Sn **Sn 16 40 58.9 +2.9**
comp=Z,674nm,0.3s,baz=196,slow=22,SNR=5.1
MKAR Lg Lg 16 41 18.3
comp=Z,1µm,0.3s,baz=201,slow=26,SNR=7.9
MKAR LR LR 16 41 35.2
comp=Z,68µm,21.0s,baz=172,slow=36
MKAR Makanchi Array 4.59 23 *e*Pn **Pn 16 40 04.7 +1.9**
MKAR Sn **Sn 16 40 58.9 +2.9**
MKAR Lg Lg 16 41 18.3
MRKS Merke 4.79 274 Pg **Pb 16 40 19.0 +1.3**
comp=Z,12µm,0.5s
MRKS Lg Lg 16 41 21.0
comp=Z,30µm,0.6s
MRKS Merke 4.79 274 *e*P **Pb 16 40 19.0 +1.3**
baz=74
MRKS *e*S **Sb 16 41 21.1 +5.9**
baz=74
MRKS Merke 4.79 274 *e*P **Pb 16 40 19.0 +1.3**
comp=Z,12µm,0.5s
MRKS *e*S **Sb 16 41 21.0 +5.9**
comp=Z,30µm,0.6s
ARSB Arslanbob 5.18 258 *e*Pn **Pn 16 40 12.9 +1.9**
ARSB Arslanbob 5.18 258⇑*i*P **Pn 16 40 12.4 +1.4**
baz=58
ARSB ⇑*i*S **Sn 16 41 10.7 +0.1**
baz=58
MNAS Manas 5.33 271 ⇑Pn **Pn 16 40 14.1 +0.9**
comp=Z,553nm,0.7s
MNAS ⇑Pg **Pb 16 40 30.5 +3.6**
comp=Z,24µm,1.4s
MNAS ⇑Lg Lg 16 41 42.9
comp=Z,56µm,0.9s
MNAS Manas 5.33 271 Pg **Pb 16 40 29.1 +2.2**
comp=Z,5µm,1.5s
MNAS Lg Lg 16 41 38.7
comp=Z,21µm,0.8s
MNAS Manas 5.33 271 PN **Pn 16 40 14.0 +0.9**
MNAS 16 40 30.4
MNAS pmax pmax
comp=Z,553nm,0.7s
MNAS pmax pmax
comp=Z,24µm,1.4s
MNAS Manas 5.33 271⇑*i*P **Pn 16 40 14.3 +1.2**
baz=71
MNAS ⇑*e*S **Sn 16 41 13.9 -0.5**
baz=71
SFK Sufi-Kurgan 5.34 243 ⇓Pn **Pn 16 40 15.2 +1.8**
comp=Z,750nm,1.0s
SFK ⇑Pg **Pb 16 40 29.2 +2.1**
comp=Z,13µm,0.9s
SFK Sufi-Kurgan 5.34 243 Pg **Pb 16 40 29.5 +2.4**
comp=Z,2µm,0.9s
SFK Lg Lg 16 41 39.8
comp=Z,25µm,1.1s
SFK Sufi-Kurgan 5.34 243 PN **Pb 16 40 29.7 +2.6**
SFK pmax pmax
comp=Z,13µm,0.9s
WMQ Urumqi 5.96 75 Pn **Pn 16 40 23.5 +1.9**
WMQ Sg **Sg 16 42 02.8 -2.2**
WMQ smax smax
comp=Z,41µm,1.1s
WMQ smax smax
comp=Z,48µm,1.5s
WMQ LR LR
comp=Z,406µm,12.1s
WMQ LR LR
comp=Z,238µm,12.9s
WMQ LR LR
comp=Z,69µm,20.7s
WMQ Urumqi 5.96 75 *e*Pn **Pn 16 40 24.3 +2.7**
WMQ Urumqi 5.96 75 *e*PN **Pn 16 40 24.3 +2.7**
ZSN Zaisan 6.08 35 P **Pb 16 40 42.0 +2.5**
comp=Z,775nm,0.8s
ZSN Zaisan 6.08 35 *e*P **Pb 16 40 42.0 +2.5**
comp=Z,775nm,0.8s
KK31 Karatay Array 6.79 278 *e*Pn **Pn 16 40 36.1 +3.1**
KK31 Karatay Array 6.79 278 ⇓Pn **Pn 16 40 33.0 0.0**
comp=Z,722nm,0.9s
KK31 ⇑Pg **Pb 16 40 57.5 +5.9**
comp=Z,10µm,1.0s
KK31 ⇓Lg Lg 16 42 27.6
comp=Z,7µm,0.6s,baz=95,slow=27,SNR=6.6
KK31 Karatay Array 6.79 278 PN **Pn 16 40 35.4 +2.4**
KK31 16 40 55.2
KK31 pmax pmax
comp=Z,723nm,1.0s
KK31 pmax pmax
comp=Z,10µm,1.0s
KKAR Karatay Array 6.79 278 *e*Pn **Pn 16 40 36.0 +3.0**
KKAR Karatay Array 6.79 278 *e*PN **Pn 16 40 36.0 +3.0**
BTK Batken 7.16 252 *e*Pn **Pn 16 40 39.5 +1.3**
BTK Batken 7.16 252 *e*P **Pn 16 40 39.5 +1.3**
OTUK Ortayu 7.68 320 ⇓Pn **Pn 16 40 45.0 -0.3**
comp=Z,3µm,1.2s
OTUK ⇑Lg Lg 16 42 55.9
comp=Z,38µm,1.2s
OTUK Ortayu 7.68 320 P **Pn 16 40 44.9 -0.3**
OTUK pmax pmax
comp=Z,3µm,1.2s
GAR Garm 7.98 247 *e*Pn **Pn 16 40 51.4 +1.9**
KURBB Kurchatov Arra 8.09 355 Pn **Pn 16 40 50.0 -0.7**
comp=Z,4.6nm,0.3s,baz=162,slow=10,SNR=90
KURBB Sn **Sn 16 42 19.4 -2.4**
comp=Z,23nm,0.3s,baz=193,slow=24,SNR=5.0
KURBB Lg Lg 16 43 08.0
comp=Z,106nm,0.3s,baz=192,slow=28,SNR=16
KURBB Kurchatov Arra 8.09 355 ⇓Pn **Pn 16 40 52.1 +1.4**
comp=Z,7.8nm,0.2s
KURBB ⇑Pg Pb 16 41 20.6 +7.0
comp=Z,2µm,1.2s
KURBB ⇑Lg Lg 16 43 08.6
comp=Z,76µm,1.4s
KURK Kurchatov 8.17 355 *e*Pn **Pn 16 40 51.0 -0.8**
KURK Sn **Sn 16 42 19.4 -4.5**
KURK Lg Lg 16 43 08.0
KURK Kurchatov 8.17 355*c*eP **Pn 16 40 51.9 0.0**
KURK pmax pmax
comp=Z,297nm,1.3s
KURK Kurchatov 8.17 355 P **Pn 16 40 51.1 -0.8**
SNR=212
DGZ Jazzator, Alta 8.90 34 *i* P **Pn 16 41 03.5 +1.4**
CHGR Chuyangaron 8.94 248 *e*Pn **Pn 16 41 02.3 -0.2**
CHCP Chirah Chowk 10.26 212 P **Pn 16 41 22.0 +1.4**
NIL Nilore 10.27 212 *e*Pn **Pn 16 41 21.6 +0.9**
NIL Nilore 10.27 212 *e*P **Pn 16 41 21.6 +0.9**
DHRM DHARAMSHALA 10.66 196 *e*P **Pn 16 41 27.4 +1.1**
DHRM *e*S **Sn 16 43 18.6 -7.0**
CEP Cherat 10.68 218 P **Pn 16 41 26.6 +0.1**
KBL Kabul 11.58 230 *e*Pn **Pn 16 41 37.4 -1.5**
KBL Kabul 11.58 230 *e*P **Pn 16 41 37.4 -1.5**
SMLA Simla 11.61 191 *e*P **Pn 16 41 38.2 -0.9**
SMLA *e*S **Sn 16 43 41.8 -6.7**
SMLA IAML 16 43 48.0
comp=E,4µm,0.6s
SMLA IAML 16 43 48.2
comp=N,4µm,0.5s
THW Thamme Wali 11.63 215 P **Pn 16 41 38.4 -1.0**
ZAA0 Zalesovo Array 11.87 15 *e*Pn **Pn 16 41 41.2 -1.2**
ZAA0 Zalesovo Array 11.87 15 ⇓Pn **Pn 16 41 40.8 -1.7**
comp=N,5µm,1.1s
ZAA0 ⇓Sn **Sn 16 43 56.9 +2.4**
comp=N,2µm,1.0s
ZAA0 ⇓Lg Lg 16 45 05.5
comp=N,7µm,1.3s
ZALV Zalesovo Beam 11.87 15 Pn **Pn 16 41 41.1 -1.3**
comp=N,34nm,0.3s,baz=199,slow=11,SNR=295
ZALV Sn **Sn 16 43 49.0 -5.5**
comp=N,39nm,0.3s,baz=192,slow=20,SNR=3.0
ZALV LR LR 16 45 57.3
comp=N,38µm,18.6s,baz=185,slow=36
ZALV Zalesovo Beam 11.87 15 *e*Pn **Pn 16 41 41.6 -0.8**
ZALV Sn **Sn 16 43 49.0 -5.5**
BVA0 Borovoye Array 12.17 332 ⇑Pn **Pn 16 41 47.0 +0.4**
comp=N,751nm,0.9s,baz=148,slow=12,SNR=2217
BVA0 ⇑Lg Lg 16 45 18.6
comp=N,12µm,1.5s,baz=139,slow=27,SNR=4.3
BVA0 Borovoye Array 12.17 332 *i* P **Pn 16 41 44.2 -2.5**
BVA0 pmax pmax
comp=Z,751nm,0.9s
BVAR Borovoye Array 12.17 332 Pn **Pn 16 41 45.1 -1.6**
comp=Z,14nm,0.3s,baz=142,slow=14,SNR=115
BVAR Sn **Sn 16 44 01.6 -0.5**
comp=Z,42nm,0.3s,baz=150,slow=28,SNR=4.9
BVAR Lg Lg 16 45 12.8
comp=Z,56nm,0.3s,baz=168,slow=21,SNR=5.1
BRVK Borovoye 12.24 332 *e*Pn **Pn 16 41 46.3 -1.3**
BRVK Borovoye 12.24 332 *i* P **Pn 16 41 45.4 -2.2**
BRVK Borovoye 12.24 332 P **Pn 16 41 46.2 -1.3**
SNR=267
DDI Dehra Dun 12.31 187 *e*P **Pn 16 41 46.2 -2.5**
DDI *e*P P 16 41 48.2 -13
DDI *e*S **Sn 16 43 58.8 -6.9**
NVS Novosibirsk 12.48 9 *e*P **Pn 16 41 51.7 +0.8**
NVS *e* 16 44 02.6
NDI New Delhi 14.02 189 *e*P **Pn 16 42 11.0 -1.0**
NDI *ex* x 16 44 36.0
DANN Dangsing 14.57 166 *e*P **Pn 16 42 16.7 -3.2**
comp=Z,885nm,0.6s
KNGR Kungurtug, Tuv 14.60 51 *i* P **Pn 16 42 19.4 -0.6**
PYUN Piuthan 14.69 169 *e*P **Pn 16 42 16.8 -4.6**
comp=Z,2µm,1.0s
PYUN *e*S **Sn 16 45 00.8 -3.3**
KOLN Koldanda 15.11 167 *e*P **Pn 16 42 23.2 -3.9**
comp=Z,2µm,0.9s
AB31 Akbulak array 15.27 303 ⇑Pn **Pn 16 42 27.1 -1.8**
comp=Z,2µm,1.3s,baz=108,slow=9.1,SNR=3313
AB31 ⇑Lg Lg 16 46 58.6
comp=Z,4µm,1.1s
AB31 Akbulak array 15.27 303 *i* P **Pn 16 42 25.4 -3.5**
AB31 pmax pmax
comp=Z,2µm,1.3s
ABKAR Akbulak array 15.27 303 *e*Pn **Pn 16 42 25.7 -3.2**
KKN Kakani 15.44 161 *e*P **Pn 16 42 28.4 -2.9**
comp=Z,641nm,0.7s
GUN Gumba 15.47 159 *e*P **Pn 16 42 29.5 -2.4**
comp=Z,2µm,0.9s
GTA Gaotai 15.50 95 ⇑P **Pn 16 42 28.5 -3.5**
GTA pP P 16 42 35.3 -1.1
GTA sP pP 16 42 39.5 -1.8
GTA S **Sn 16 45 21.8 -1.6**
GTA sS S 16 45 28.8 -10
GTA SS **SnSn 16 45 40.0 +4.0**
GTA pmax pmax
comp=Z,3µm,6.6s
GTA LR LR
comp=Z,111µm,13.4s
GTA LR LR
comp=Z,101µm,11.3s
GTA LR LR
comp=Z,101µm,13.7s
DMN Daman 15.57 162 *e*P **Pn 16 42 30.6 -2.5**
PKIN Phulchoki 15.67 161 *e*P **Pn 16 42 31.6 -2.8**
comp=Z,3µm,1.2s
PKI Pulchoki 15.68 161 *e*P **Pn 16 42 31.8 -2.8**
JIRN Jiri 15.79 158 *e*P **Pn 16 42 33.7 -2.4**
LSA Lhasa 15.81 141 P **Pn 16 42 36.3 -0.1**
LSA S **Sn 16 45 34.0 +2.5**
LSA LR LR
comp=Z,47µm,19.0s
LSA LR LR
comp=Z,59µm,19.0s
LSA LR LR
comp=Z,64µm,17.8s
LSA Lhasa 15.81 141 *e*Pn **Pn 16 42 37.1 +0.7**
comp=Z,543nm,1.0s
LSA Lhasa 15.81 141 *i* P **Pn 16 42 36.6 +0.2**
SNR=151
LSA Lhasa 15.81 141 *e*P **Pn 16 42 37.1 +0.7**
LSA pmax pmax
comp=Z,543nm,1.0s
RAMN Ramite 16.58 158 *e*P **Pn 16 42 44.2 -1.8**
comp=Z,3µm,1.1s
AKTO Aktyubinsk 16.84 305 Pn **Pn 16 42 46.7 -2.2**
comp=Z,3.0nm,0.3s,baz=113,slow=13,SNR=90
AKTO Sn **Sn 16 45 56.8 +1.1**
comp=Z,4.5nm,0.3s,baz=72,slow=16,SNR=2.9
AKTO Lg Lg 16 47 44.3
comp=Z,4.5nm,0.3s,baz=180,slow=20,SNR=2.1
AKTO LR LR 16 49 50.5
comp=Z,38µm,18.8s,baz=117,slow=39
AKTO Aktyubinsk 16.84 305 ⇑Pn **Pn 16 42 49.9 +0.9**
comp=Z,2µm,1.3s
AKTO ⇓Sn **Sn 16 45 59.4 +3.7**
AKTO ⇑Lg Lg 16 47 47.6
comp=Z,8µm,1.4s
GTK Tadong 16.86 152 *e*P **P 16 42 50.7 -0.9**
GTK *ex* x 16 45 57.9
MOY Mondy 17.04 50 *e*P **Pn 16 42 51.5 -0.1**
MOY pmax pmax

comp=Z,1μm,2.1s
GEYT Alibeck 17.12 261 P Pn 16 42 50.2 -2.4
comp=Z,1.2nm,0.3s,baz=76,slow=6.3,SNR=42
GEYT S **Sn 16 46 07.1 +4.3**
comp=Z,2.4nm,0.3s,baz=35,slow=5.3,SNR=2.7
GEYT Lg Lg 16 48 04.6
baz=70,slow=22,SNR=3.0
GEYT LR LR 16 50 04.9
comp=Z,60μm,20.7s,baz=60,slow=39
GYA0B ALIBECK ARRAY 17.12 261 *e*Pn **Pn 16 42 49.2 -3.5**
comp=Z,2μm,1.4s
GYA0B ALIBECK ARRAY 17.12 261 ⇑Pn **Pn 16 42 53.1 +0.4**
comp=Z,1μm,1.4s
GYA0B ⇑Lg Lg 16 47 57.4
TAWA Tawang 17.93 143 *e*P **Pn 16 43 02.8 -0.2**
TAWA *ex* x 16 46 19.6
ZAK Zakamensk 17.95 56 *e*P **Pn 16 43 01.6 -1.3**
ZAK pmax pmax
comp=Z,365nm,1.4s
SVE Sverdlovsk 18.76 326 *c i*P **Pn 16 43 13.1 +0.5**
SVE *e*S **S 16 46 44.5 -0.6**
SVE pmax pmax
comp=Z,1μm,1.5s
SVE MLR MLR
comp=Z,38μm,8.0s
ZIRO ZIRO 18.92 138 *e*P **P 16 43 13.5 -0.8**
ZIRO *ex* x 16 46 33.4
IRK Irkutsk 19.14 51 *e*P **P 16 43 15.8 -0.5**
IRK pmax pmax
comp=Z,1μm,2.3s
TEZP TEZPUR 19.18 142 *e*P **P 16 43 15.7 -1.4**
TEZP *ex* x 16 46 40.3
JBP Jabalpur 19.36 179⇑ *e*P **Pn 16 43 20.1 0.0**
JBP *ex* x 16 45 29.9
BHPL Bhopal 19.38 186 *e*P **P 16 43 16.4 -2.9**
BHPL IAmb IAmb 16 43 29.0
comp=Z,4μm,1.4s
ARU Arti 19.40 323 *e*P **P 16 43 19.1 -0.1**
comp=Z,2μm,1.0s
ARU Arti 19.40 323 *c i*P **P 16 43 19.5 +0.3**
ARU *e*S **Sn 16 46 57.0 -0.6**
ARU pmax pmax
comp=Z,745nm,2.0s
ARU MLR MLR
comp=Z,62μm,19.0s
BOK Bokaro 19.42 163 *e*P **P 16 43 17.5 -2.2**
BOK *e*P **Pn 16 43 18.8 -2.1**
BOK IAmb IAmb 16 43 23.8
comp=Z,821nm,1.4s
SONM Songino Array 19.46 65 P **P 16 43 20.7 +0.6**
comp=Z,34nm,0.3s,baz=265,slow=11,SNR=358
SONM S **Sn 16 46 54.2 -5.3**
baz=264,slow=23,SNR=3.0
SONM Lg Lg 16 49 04.6
comp=Z,1.1nm,0.3s,baz=269,slow=31,SNR=5.1
SONM LR LR 16 51 23.1
comp=Z,133μm,19.1s,baz=270,slow=39
SHL Shillong 19.70 146 *e*P **P 16 43 21.5 -1.4**
comp=Z,3μm,1.7s
SHL Shillong 19.70 146 *e*P **P 16 43 21.5 -1.4**
SHL pmax pmax
comp=Z,3μm,1.7s
SHL Shillong 19.70 146 *e*P **P 16 43 20.9 -1.9**
SHL *e*P **P 16 43 21.5 -1.4**
SHL IAmb IAmb 16 43 28.5
comp=Z,251nm,0.9s
SHL *ex* x 16 44 01.4
LZH Lanzhou 19.72 101 ⇑P **P 16 43 23.8 +0.8**
LZH pP pP 16 43 27.0 -1.0
LZH sP sP 16 43 31.3 +1.0
LZH PP **PnPn 16 43 44.8 +6.7**
LZH S **S 16 47 05.3 +0.3**
LZH sS sS 16 47 11.8 -1.2
LZH SS **SnSn 16 47 27.3 +7.4**
LZH pmax pmax
comp=Z,590nm,1.4s
LZH pmax pmax
comp=Z,18μm,4.9s
LZH LR LR
comp=Z,120μm,14.1s
LZH LR LR
comp=Z,197μm,15.7s
JORH JORHAT 19.77 138 *e*P **P 16 43 23.7 +0.4**
ULN Ulaanbaatar 19.91 65 *e*P **P 16 43 24.9 -0.1**
comp=Z,1μm,1.3s
ULN Ulaanbaatar 19.91 65 *c e*P **P 16 43 25.2 +0.2**
ULN pmax pmax
comp=Z,483nm,1.3s
ULN Ulaanbaatar 19.91 65 P **P 16 43 25.6 +0.6**
SNR=624
LKP Lekhapani 20.10 134 *e*P **P 16 43 27.0 0.0**
MOKO MOKOCHONG 20.25 139 *e*P **P 16 43 29.1 +0.3**
KOHI KOHIMA 20.56 140 *e*P **P 16 43 32.7 +0.5**
SILR SILCHAR 20.78 145 *e*P **P 16 43 33.5 -0.9**
BHJ Bhuj 21.02 207 *e*P **P 16 43 36.5 -0.5**
BHJ IAmb IAmb 16 43 46.7
comp=Z,1μm,1.3s
NGP Nagpur 21.38 182⇓ *e*P **P 16 43 40.5 -0.4**
NGP *ex* x 16 47 37.3
BELO BELONIA 21.61 149 *e*P **P 16 43 44.0 +0.7**
AZL Aizawl 21.66 146 *e*P **P 16 43 43.1 -0.8**
BRDH Bariadhala 22.20 150 P **P 16 43 50.1 +0.4**
comp=Z,143nm,0.4s,baz=26,slow=9.0,SNR=26
BRDH S **S 16 47 51.6 -2.1**
comp=Z,85nm,0.3s,baz=282,slow=14,SNR=2.2
CD2 Chengdu 22.43 113⇑ *i*P **P 16 43 52.5 +0.3**
CD2 pP pP 16 43 57.0 -0.2
CD2 sP sP 16 43 59.0 -0.5
CD2 PcP **PcP 16 47 50.5 +3.9**
CD2 S **S 16 47 58.8 +0.7**
CD2 sS sS 16 48 06.0 -0.4
CD2 pmax pmax
comp=Z,720nm,0.9s
CD2 pmax pmax
comp=Z,8μm,5.2s
CD2 LR LR
comp=Z,62μm,13.9s
CD2 LR LR
comp=Z,56μm,11.1s
CD2 LR LR
comp=Z,58μm,12.1s
BTO Baotou 22.69 85 *e*P **P 16 43 48.8 -6.2**
BTO S S 16 47 42.8 -20
BTO pmax pmax
comp=Z,3849μm,2.4s
BTO LR LR
comp=N,53166μm,8.0s
BTO LR LR
comp=E,42757μm,10.3s
SAIH SAIHA 22.89 147 *e*P **P 16 43 57.4 +0.2**
MAK Makhachkala 23.58 282 *e*P **P 16 44 04.7 +0.8**
MAK *e*S **S 16 48 21.4 +3.9**
MAK pmax pmax
comp=Z,2μm,1.4s
MAK MLR MLR
comp=Z,77μm,16.0s
HHC Hu-ho-hao-te 23.76 83 *e*P **P 16 44 06.5 +0.7**
HHC pP pP 16 44 11.0 +0.1
HHC sP sP 16 44 14.8 +1.7
HHC S **S 16 48 19.3 -1.5**
HHC sS pS 16 48 26.5 +0.2
HHC ScP **ScP 16 51 29.8 +2.8**
HHC pmax pmax
comp=Z,360nm,1.7s
HHC pmax pmax
comp=Z,9μm,3.7s
HHC LR LR
comp=Z,29μm,9.9s
HHC LR LR
comp=Z,36μm,11.0s
HHC LR LR
comp=Z,36μm,11.8s
BOM Bombay 24.33 196 *e*P **P 16 44 09.1 -1.9**
BOM *ex* x 16 48 36.1
XAN Xi'an 24.36 101 P **P 16 44 11.3 0.0**
XAN sP sP 16 44 18.5 -0.4
XAN PcP **PcP 16 47 52.8 +2.2**
XAN S **S 16 48 30.8 +0.6**
XAN SS **SnSn 16 49 21.5 +8.1**
XAN ScS **ScS 16 55 16.8 +0.6**
XAN pmax pmax
comp=Z,12μm,6.0s
XAN LR LR
comp=Z,56μm,13.7s
XAN LR LR
comp=Z,69μm,12.3s
XAN LR LR
comp=Z,56μm,11.8s
XAN Xi'an 24.36 101 *e*P **P 16 44 11.1 -0.2**
comp=Z,570nm,1.1s
XAN Xi'an 24.36 101 *e*P **P 16 44 11.1 -0.2**
XAN pmax pmax
comp=Z,570nm,1.1s
POO Poona 24.49 194 *e*P **P 16 44 12.7 +0.1**
POO IAmb IAmb 16 44 21.6
comp=Z,508nm,0.6s
CIT Chita 24.61 56 *e*P **P 16 44 13.3 -0.2**
CIT *e* 16 44 59.7
CIT pmax pmax
comp=Z,932nm,1.5s
VIS Vishakhapatnam 24.97 172 *i*P **P 16 44 16.2 -0.7**
HYB Hyderabad 25.10 183 *i*P **P 16 44 19.0 +0.8**
comp=Z,350nm,1.0s
HYB *e*S **S 16 48 42.0 -0.4**
HYB LR LR
comp=Z,16nm,20.0s
HYB Hyderabad 25.10 183 *e*P **P 16 44 18.2 0.0**
HYB IAmb IAmb 16 44 27.0
comp=Z,696nm,1.0s
TIY Taiyuan 25.38 90 *e*P **P 16 44 21.3 +0.7**
TIY SS S 16 49 43.5 +57
TIY pmax pmax
comp=Z,7μm,6.2s
TIY LR LR
comp=Z,99μm,15.2s
TIY LR LR
comp=Z,57μm,13.7s
TIY LR LR
comp=Z,63μm,15.9s
BANOM Banah 25.39 237 *i*P **P 16 44 21.7 +1.0**
SNR=34
BANOM Banah 25.39 237 P **P 16 44 21.7 +1.0**
SNR=99
SHME Shamm 25.39 237 *i*P **P 16 44 20.8 +0.1**
SNR=56
KMI Kunming 25.73 125 P **P 16 44 24.5 +0.5**
KMI pP pP 16 44 28.3 -1.0
KMI sP sP 16 44 31.0 -0.5
KMI PP **PnPn 16 45 03.5 +3.0**
KMI S **S 16 48 49.3 -3.3**
KMI sS pS 16 48 58.3 -0.9
KMI pmax pmax
comp=Z,87nm,1.0s
KMI pmax pmax
comp=Z,5μm,5.4s
KMI LR LR
comp=Z,48μm,16.4s
KMI LR LR
comp=Z,36μm,17.1s
KMI LR LR
comp=Z,34μm,18.1s
KMI Kunming 25.73 125 *e*P **P 16 44 23.7 -0.3**
comp=Z,407nm,1.0s
KMI LR LR
comp=Z,32μm,19.0s
KMI Kunming 25.73 125 *e*P **P 16 44 23.7 -0.3**
KMI pmax pmax
comp=Z,407nm,1.0s
KMI MLR MLR
comp=Z,32μm,19.0s
TBLG Delisi 25.84 280 *e*P **P 16 44 25.2 +0.5**
comp=Z,2μm,1.3s
TBLG Delisi 25.84 280 *e*P **P 16 44 25.2 +0.5**
TBLG pmax pmax
comp=Z,2μm,1.3s
MDH Madha 25.84 236 *i*P **P 16 44 25.6 +0.8**
SNR=45
MDH Madha 25.84 236 P **P 16 44 23.7 -1.1**
SNR=45
MDH P **P 16 44 23.7 -1.1**
SNR=45
MSFE Esma-Masafi 25.89 236 *i*P **P 16 44 27.2 +1.9**
SNR=33
WSAR Wadi Sarin 26.06 229 P **P 16 44 28.1 +1.3**
comp=Z,146nm,1.2s,baz=64,slow=8.6,SNR=106
WSAR S **S 16 48 59.0 +1.5**
comp=Z,21nm,1.1s,baz=45,slow=2.9,SNR=1.4
WSAR LR LR 16 57 14.2
comp=Z,44μm,18.2s,baz=84,slow=42
WSAR Wadi Sarin 26.06 229 P **P 16 44 27.8 +1.0**
SNR=173
WSAR S **S 16 48 58.5 +1.0**
UMQ Umm Al-Quwin 26.07 237 *i*P **P 16 44 28.4 +1.6**
SNR=80
UMQ Umm Al-Quwin 26.07 237 P **P 16 44 27.9 +1.1**
SNR=68
UMQ S **S 16 49 03.1 +5.5**
BIDO Bidbid 26.12 230 P **P 16 44 28.2 +0.8**
SNR=56
BIDO P **P 16 44 28.2 +0.8**
SNR=56
BIDO S **S 16 49 00.4 +2.0**
BIDO S **S 16 49 00.4 +2.0**
UOSS Minazif 26.16 235 *e*P **P 16 44 26.5 -1.2**
comp=Z,910nm,1.8s
UOSS LR LR
comp=Z,420μm,20.0s
UOSS Minazif 26.16 235 *i*P **P 16 44 27.9 +0.2**
SNR=30
UOSS Minazif 26.16 235 P **P 16 44 26.6 -1.1**
SNR=69
UOSS P **P 16 44 26.6 -1.1**
SNR=69
ZEI Tsey 26.21 283 *e*P **P 16 44 26.2 -2.1**
ZEI pmax pmax
comp=Z,475nm,1.2s
GNI Garni 26.25 277 P **P 16 44 30.2 +1.5**
comp=Z,523nm,1.1s,baz=119,slow=0.8,SNR=83
GNI S **S 16 49 09.4 +8.8**
comp=Z,57nm,1.0s,baz=153,slow=9.0,SNR=1.7
GNI Garni 26.25 277 *e*P **P 16 44 30.3 +1.7**
comp=Z,4μm,1.4s
GNI S **S 16 49 09.4 +8.8**
GNI Garni 26.25 277 *i*P **P 16 44 30.1 +1.5**
SNR=172
GNI Garni 26.25 277 *c i*P **P 16 44 30.3 +1.7**
GNI pmax pmax
comp=Z,6μm,1.6s
GNI Garni 26.25 277 P **P 16 44 30.8 +2.2**
SNR=351
NCK Nalchik 26.30 284 *i*P **P 16 44 28.0 -0.8**
NCK pmax pmax
comp=Z,375nm,1.1s
NCK MLR MLR
comp=Z,36μm,15.0s
HATD Hatta, Dubai 26.30 235 *i*P **P 16 44 31.0 +2.0**
SNR=44
HATD Hatta, Dubai 26.30 235 P **P 16 44 29.0 +0.1**
SNR=86
HATD P **P 16 44 29.0 +0.1**
SNR=86
HATD S **S 16 49 02.4 +1.2**
HATD S **S 16 49 02.4 +1.2**
BOD Bodaibo 26.35 43⇓ *i*P **P 16 44 28.8 -0.3**
BOD pmax pmax
comp=Z,435nm,1.4s
WBK Wadi Bani Khal 26.37 227 P **P 16 44 30.1 +0.4**
SNR=40
GOF Gofitskoye 26.44 288⇑ *i*P **P 16 44 30.1 +0.1**
GOF pmax pmax
comp=Z,540nm,1.5s
ASHO Ashiyiah 26.45 235 *i*P **P 16 44 31.8 +1.5**
SNR=125
ASHO Ashiyiah 26.45 235 P **P 16 44 30.5 +0.2**
SNR=211
ASHO P **P 16 44 30.5 +0.2**
SNR=211
ASHO S **S 16 49 11.8 +8.2**
ASHO S **S 16 49 11.8 +8.2**
NAZ Nazwa, Dubai 26.46 236 *i*P **P 16 44 32.0 +1.6**
SNR=25
NAZ Nazwa, Dubai 26.46 236 P **P 16 44 30.5 +0.1**
SNR=98
NAZ P **P 16 44 30.5 +0.1**
SNR=98
NAZ S **S 16 49 11.8 +8.1**
NAZ S **S 16 49 11.8 +8.1**
JLN Jalan Bani Buh 26.51 226 P **P 16 44 32.1 +1.3**
SNR=111
JLN P **P 16 44 32.1 +1.3**
SNR=111
SMDO Samad 26.53 230 P **P 16 44 33.0 +1.9**
SNR=85
HOQ Hoqain 26.54 232 P **P 16 44 32.3 +1.2**
SNR=71
SOHO SOHO 26.57 234 P **P 16 44 31.4 0.0**
SNR=55
SOHO P **P 16 44 31.4 0.0**
SNR=55
TASB TASBURUN-IGDIR 26.67 277 *e*P **P 16 44 34.4 +2.1**
TASB TASBURUN-IGDIR 26.67 277 *e*P **P 16 44 34.4 +2.1**
FAQ Al Faqa, Dubai 26.68 236 *i*P **P 16 44 34.0 +1.6**
SNR=54
FAQ Al Faqa, Dubai 26.68 236 P **P 16 44 33.0 +0.6**
SNR=122
FAQ P **P 16 44 33.0 +0.6**
SNR=122
KBZ Khabaz 26.75 285 P **P 16 44 32.9 +0.1**
comp=Z,26nm,0.9s,baz=88,slow=8.6,SNR=41
KBZ S **S 16 49 16.7 +8.7**
comp=Z,76nm,1.0s,baz=42,slow=12,SNR=2.0
KBZ LR LR 16 57 14.9
comp=Z,38μm,18.0s,baz=236,slow=41
KBZ Khabaz 26.75 285 P **P 16 44 32.9 +0.1**
KBZ S **S 16 49 16.7 +8.7**
KBZ pmax pmax
comp=Z,27nm,0.7s
KBZ smax smax
comp=N,76nm,1.0s
KBZ MLR MLR
comp=Z,38μm,18.0s
ENH Enshi 26.77 108 *e*P **P 16 44 33.2 0.0**
comp=Z,594nm,1.0s
KVAR Kislovodsk Arr 26.85 286 P **P 16 44 35.2 +1.3**
comp=Z,7.3nm,0.6s,baz=90,slow=20,SNR=17
KVAR LR LR 16 56 12.2
comp=Z,39μm,20.6s,baz=212,slow=39
KIV Kislovodsk 26.86 286 *e*P **P 16 44 33.6 -0.4**
comp=Z,2μm,1.1s
KIV LR LR
comp=Z,52μm,21.0s
KIV Kislovodsk 26.86 286 *i*P **P 16 44 35.7 +1.7**
SNR=49
KIV Kislovodsk 26.86 286 *e*P **P 16 44 32.4 -1.6**
KIV *e* 16 47 54.3
KIV *e*S **S 16 49 07.0 -3.0**
KIV pmax pmax
comp=Z,202nm,1.0s
KIV pmax pmax
comp=Z,503nm,4.8s
KIV MLR MLR
comp=Z,33μm,15.0s
KIV Kislovodsk 26.86 286 P **P 16 44 33.3 -0.7**
SNR=84
ASUD Al Ashush, Dub 26.93 236 *i*P **P 16 44 36.3 +1.6**
SNR=46
ASUD Al Ashush, Dub 26.93 236 P **P 16 44 34.8 +0.2**
SNR=123
ASUD P **P 16 44 34.8 +0.2**
SNR=123
NEY Neytrino 26.97 284 *c i*P **P 16 44 35.6 +0.5**
NEY pmax pmax
comp=Z,153nm,1.5s
JMDO Jabal Madar 27.04 229 P **P 16 44 38.8 +3.1**
SNR=37
ALNE Al Ain 27.10 235 *i*P **P 16 44 37.6 +1.4**
SNR=17
VRH Novokhopyorsk 27.10 302 *e*P **P 16 44 36.0 +0.1**
VRH *e* 16 44 36.9
VRH pmax pmax
comp=Z,470nm,0.8s
CLDR Caldiran 27.17 275 *i*P **P 16 44 39.1 +2.1**
CLDR Caldiran 27.17 275 *i*P **P 16 44 39.1 +2.1**
ARQ Araqi 27.19 232 P **P 16 44 39.1 +2.1**
SNR=76
AJN Ajban 27.19 236 *i*P **P 16 44 38.7 +1.7**
SNR=50
AJN Ajban 27.19 236 P **P 16 44 37.1 +0.2**
SNR=77
AJN P **P 16 44 37.1 +0.2**
SNR=77
AJN S **S 16 49 21.5 +6.3**
AJN S **S 16 49 21.5 +6.3**
GYA Guiyang 27.25 118⇑ *i*P **P 16 44 38.0 +0.3**
GYA PP **PnPn 16 45 23.5 +2.2**
GYA PcP **PcP 16 48 02.0 +4.6**
GYA S **S 16 49 17.5 +1.0**
GYA SS **SnSn 16 50 27.5 +2.9**
GYA pmax pmax
comp=Z,1μm,5.7s
GYA LR LR
comp=Z,49μm,14.6s
GYA LR LR
comp=Z,39μm,16.7s
GYA LR LR
comp=Z,26μm,17.3s
BSY Bisya 27.25 231 P **P 16 44 39.0 +1.4**
SNR=49
KARS Kars 27.34 278 *e*P **P 16 44 41.1 +2.7**
KARS Kars 27.34 278 *e*P **P 16 44 41.1 +2.7**
KARS Kars 27.34 278 *e*P **P 16 44 40.0 +1.6**
comp=Z,9μm,1.6s
BJT Baijiatuao 27.37 83 *e*P **P 16 44 38.6 +0.2**
comp=Z,840nm,2.0s
BJT LR LR
comp=Z,10μm,19.0s
BJT Baijiatuao 27.37 83 *e*P **P 16 44 38.6 +0.2**
BJT pmax pmax
comp=Z,840nm,2.0s
BJT MLR MLR
comp=Z,10μm,19.0s
GOA Goa 27.47 192 *e*P **P 16 44 39.7 +0.2**
GOA IAmb IAmb 16 44 47.8
comp=Z,338nm,1.1s
AGRB Hanur-Agry 27.71 276 *e*P **P 16 44 44.2 +2.4**
AGRB Hanur-Agry 27.71 276 *e*P **P 16 44 44.2 +2.4**
VANB Van 27.74 274 *e*P **P 16 44 44.0 +2.0**
VANB Van 27.74 274 *e*P **P 16 44 44.0 +2.0**
PRGR Permogore 27.82 325⇑ *i*P **P 16 44 42.0 -0.3**
PRGR *e*S **S 16 49 25.9 +1.4**
PRGR pmax pmax
comp=Z,156nm,0.9s
CUKT Cukurca 28.06 271 *e*P **P 16 44 45.9 +1.0**
CUKT Cukurca 28.06 271 *e*P **P 16 44 45.9 +1.0**
AKDM Akdamar-Van 28.13 274 *e*P **P 16 44 47.5 +2.0**
AKDM Akdamar-Van 28.13 274 *e*P **P 16 44 47.5 +2.0**
BCA Borcka 28.18 281 *e*P **P 16 44 47.9 +2.2**
BCA Borcka 28.18 281 *e*P **P 16 44 47.9 +2.2**
MLAZ Malazgirt-MUS 28.18 276 *e*P **P 16 44 48.7 +2.8**
MLAZ Malazgirt-MUS 28.18 276 *e*P **P 16 44 48.7 +2.8**
MHTO MHTO 28.23 227 P **P 16 44 47.0 +0.8**
SNR=206
MHTO P **P 16 44 47.0 +0.8**
SNR=206
MHTO S **S 16 49 35.1 +3.4**
MHTO S **S 16 49 35.1 +3.4**
HIA Hailar 28.37 62 *e*P **P 16 44 47.2 -0.2**
comp=Z,151nm,1.1s
HIA LR LR
comp=Z,75μm,18.0s
HIA Hailar 28.37 62 *e*P **P 16 44 47.2 -0.2**
HIA pmax pmax
comp=Z,151nm,1.1s
HIA MLR MLR
comp=Z,75μm,18.0s
KOPR Koprukoy-ERZUR 28.42 278 *e*P **P 16 44 50.4 +2.3**
KOPR Koprukoy-ERZUR 28.42 278 *e*P **P 16 44 50.4 +2.3**
VORR Voronezh 28.70 303 *e*P **P 16 44 49.0 -1.2**
VORR pmax pmax
comp=Z,300nm,0.8s
VSR Storozhevoye 28.71 302 *e*P **P 16 44 50.0 -0.3**
VSR *e* 16 44 50.9
VSR pmax pmax
comp=Z,210nm,0.9s
VSR MLR MLR
comp=Z,42μm,13.0s
CHTO Chiang Mai 28.75 140 *e*P **P 16 44 50.1 -0.8**
comp=Z,124nm,1.0s
CHTO LR LR
comp=Z,21μm,19.0s
CHTO Chiang Mai 28.75 140 *e*P **P 16 44 50.2 -0.8**
CHTO pmax pmax
comp=Z,124nm,1.0s
CHTO MLR MLR
comp=Z,21μm,19.0s
CHTO Chiang Mai 28.75 140 P **P 16 44 50.7 -0.2**
SNR=34
CHTO Chiang Mai 28.75 140 P **P 16 44 50.8 -0.2**

comp=Z,627nm,1.1s,comp=Z,9µm
CHTO Chiang Mai 28.75 140 *e*P **P 16 44 50.7 -0.3**
GURO Guroymak-BITLI 28.75 275 *e*P **P 16 44 52.9 +1.9**
GURO Guroymak-BITLI 28.75 275 *e*P **P 16 44 52.9 +1.9**
CMMT Chiang Mai 28.76 140 P **P 16 44 50.8 -0.2**
comp=Z,138nm,1.1s,comp=Z,2µm
SIRT Sirnak 28.83 273 *e*P **P 16 44 53.6 +1.9**
SIRT Sirnak 28.83 273 *e*P **P 16 44 53.6 +1.9**
CHOM Cayeli-Rize 28.89 280 *e*P **P 16 44 53.4 +1.3**
CHOM Cayeli-Rize 28.89 280 *e*P **P 16 44 53.4 +1.3**
LPSR Galich'ya Gora 28.92 305 *e*P **P 16 44 51.6 -0.6**
LPSR *e* 16 44 52.8
LPSR pmax pmax
comp=Z,370nm,0.8s
LPSR MLR MLR
comp=Z,5µm,5.0s
SOC Sochi 29.04 286*c i*P **P 16 44 53.5 +0.1**
SOC *e* 16 45 46.0
SOC *e*S **S 16 49 46.1 +1.9**
SOC pmax pmax
comp=Z,88nm,0.7s
SOC MLR MLR
comp=Z,41µm,14.0s
CM31 Chiang Mai Arr 29.06 140 *e*P **P 16 44 53.2 -0.4**
CM31 Chiang Mai Arr 29.06 140 P **P 16 44 53.5 -0.2**
SNR=71
CMAR Chiang Mai Arr 29.06 140 P **P 16 44 53.3 -0.4**
comp=Z,18nm,0.8s,baz=316,slow=9.0,SNR=51
CMAR S **S 16 49 53.4 +8.6**
comp=Z,9.6nm,1.1s,baz=341,slow=5.1,SNR=1.9
CMAR LR LR 16 57 30.7
comp=Z,23µm,19.9s,baz=328,slow=38
CMAR Chiang Mai Arr 29.06 140 P **P 16 44 53.3 -0.4**
CMAR S **S 16 49 53.4 +8.6**
CMAR pmax pmax
comp=Z,16nm,0.8s
CMAR smax smax
comp=N,10.0nm,1.1s
CMAR MLR MLR
comp=Z,23µm,19.9s
CM01 Chiang Mai Arr 29.10 140 *e*P **P 16 44 53.2 -0.8**
MZR Muzera 29.27 236 *i*P **P 16 44 56.5 +1.0**
SNR=56
MZR Muzera 29.27 236 P **P 16 44 55.4 -0.1**
SNR=136
DQM DQM 29.32 226 P **P 16 44 56.3 +0.3**
SNR=46
DQM P **P 16 44 56.3 +0.3**
SNR=46
MDRS Chennai 29.41 179 *e*P **P 16 44 55.7 -1.1**
MDRS IAmb IAmb 16 45 05.9
comp=Z,374nm,1.7s
TIA Tai'an 29.42 90 P **P 16 44 57.8 +1.0**
TIA S **S 16 49 53.8 +3.5**
TIA sS **sS 16 50 02.8 +3.6**
TIA pmax pmax
comp=Z,780nm,5.3s
TIA LR LR
comp=Z,32µm,13.7s
TIA LR LR
comp=Z,24µm,15.7s
TIA LR LR
comp=Z,29µm,16.3s
SVAN Silvan-Diyarba 29.51 274 *e*P **P 16 44 59.5 +1.9**
SVAN Silvan-Diyarba 29.51 274 *e*P **P 16 44 59.5 +1.9**
BAYT Aydıntepe-Bayb 29.55 279 *e*P **P 16 45 00.8 +2.7**
BAYT Aydıntepe-Bayb 29.55 279 *e*P **P 16 45 00.8 +2.7**
KTUT Trabzon 29.65 281 *e*P **P 16 44 59.7 +1.0**
KTUT Trabzon 29.65 281 *e*P **P 16 44 59.7 +1.0**
MOS Moscow 30.01 311 *e*P **P 16 45 00.7 -1.1**
MOS *e*S **S 16 49 58.2 -0.9**
MOS *e* 16 51 35.9
MOS pmax pmax
comp=Z,864nm,1.3s
MOS pmax pmax
comp=Z,2µm,1.6s
MOS MLR MLR
comp=Z,52µm,11.0s
MOS MLR MLR
comp=E,54µm,10.0s
WHN Wuhan 30.09 102 ⇑P **P 16 45 03.5 +0.7**
WHN S **S 16 50 04.0 +3.2**
WHN LR LR
comp=E,48µm,10.3s
KLMR Klimovskoe 30.23 321 ⇓*i*P **P 16 45 03.1 -0.6**
KLMR pmax pmax
comp=Z,462nm,1.0s
KLMR Klimovskoe 30.23 321 *e*P **P 16 45 03.1 -0.6**
KLMR ⇓*i*P **P 16 45 03.1 -0.6**
KLMR *e*P **P 16 45 03.1 -0.6**
KLMR AMP 16 45 14.2
comp=Z,462nm,1.1s
MAZI Mazidag 30.32 274 *e*P **P 16 45 06.2 +1.4**
MAZI Mazidag 30.32 274 *e*P **P 16 45 06.2 +1.4**
ANN Anapa 30.41 289 *e*P **P 16 45 05.2 -0.2**
ANN *e* 16 46 07.4
ANN *e*S **S 16 50 10.5 +4.9**
ANN *e*SS **SnSn 16 51 40.8 -0.1**
ANN pmax pmax
comp=Z,241nm,0.9s
ANN MLR MLR
comp=Z,57µm,15.0s
ANN MLR MLR
comp=E,6µm,15.0s
ANN MLR MLR
comp=N,45µm,15.0s
ESPY Espiye-Giresun 30.42 281 *e*P **P 16 45 06.7 +1.1**
ESPY Espiye-Giresun 30.42 281 *e*P **P 16 45 05.3 -0.3**
UTTA Uttaradit 30.45 138 P **P 16 45 07.0 +1.0**
comp=N,50nm,1.2s,comp=N,467nm
OBN Obninsk 30.53 309 *e*P **P 16 45 05.4 -0.9**
comp=N,1µm,1.6s
OBN LR LR
comp=Z,6µm,22.0s
OBN Obninsk 30.53 309⇑*i*P **P 16 45 05.5 -0.9**
OBN Obninsk 30.53 309*c i*P **P 16 45 05.9 -0.5**
OBN *e* 16 46 04.6
OBN *e*PPP PPP 16 46 15.0
OBN *e* 16 48 04.8
OBN *e*S **S 16 50 05.7 -1.5**
OBN *e*SS **SnSn 16 51 42.1 -1.4**
OBN pmax pmax
comp=Z,466nm,1.2s
OBN MLR MLR
comp=Z,29µm,21.0s
PTK Pertek 30.58 277 *e*P **P 16 45 09.0 +1.8**
PTK Pertek 30.58 277 *e*P **P 16 45 09.0 +1.8**
UMPA Umpang Tak 30.98 142 P **P 16 45 13.6 +2.9**
comp=Z,42nm,1.1s,comp=Z,358nm
NONG Nongkai 31.52 134 P **P 16 45 16.2 +0.8**
comp=Z,6.6nm,1.2s,comp=Z,231nm
URFA Urfa 31.52 275 *e*P **P 16 45 16.8 +1.4**
URFA Urfa 31.52 275 *e*P **P 16 45 16.8 +1.4**
RSDY Resadiye-TOKAT 31.59 281 *i*P **P 16 45 16.9 +0.9**
RSDY Resadiye-TOKAT 31.59 281 *i*P **P 16 45 16.9 +0.9**
PBKT Sadao Pong 31.66 139 *e*P **P 16 45 17.3 +0.7**
PBKT Sadao Pong 31.66 139 P **P 16 45 17.5 +0.9**
comp=Z,149nm,1.2s,comp=Z,3µm
DL2 Dalian 31.73 82⇑*i*P **P 16 45 18.0 +0.9**
DL2 S **S 16 50 28.8 +2.5**
DL2 pmax pmax
comp=Z,780nm,6.0s
DL2 LR LR
comp=Z,90µm,18.1s
DL2 LR LR
comp=Z,61µm,16.9s
DL2 LR LR
comp=Z,39µm,13.9s
UTHA Uthaitani 31.81 142 P **P 16 45 19.1 +1.1**
comp=Z,89nm,0.9s,comp=Z,738nm
SVSK Karacayir 31.98 280 *e*P **P 16 45 21.3 +1.9**
SVSK Karacayir 31.98 280 *e*P **P 16 45 21.3 +1.9**
DARE Darende-Malaty 32.09 277 *e*P **P 16 45 22.5 +2.1**
DARE Darende-Malaty 32.09 277 *e*P **P 16 45 22.5 +2.1**
TOKT Tokat 32.19 281 *e*P **P 16 45 22.5 +1.3**
TOKT Tokat 32.19 281 *e*P **P 16 45 22.5 +1.3**
SNY Shenyang 32.23 76 ⇓P **P 16 45 21.5 0.0**
SNY S **S 16 50 33.8 -0.2**
SNY pmax pmax
comp=Z,760nm,3.5s
SNY LR LR
comp=Z,70µm,20.6s
SNY LR LR
comp=Z,92µm,12.6s
KVT Kavak 32.31 282 *e*P **P 16 45 23.6 +1.3**
KVT Kavak 32.31 282 *e*P **P 16 45 23.6 +1.3**
DMTO DMTO 32.53 228 P **P 16 45 24.2 -0.1**
SNR=20
DMTO P **P 16 45 24.2 -0.1**
SNR=20
NJ2 Nanjing 32.59 96 *e*P **P 16 45 25.5 +0.7**
NJ2 sP **sP 16 45 32.0 -0.3**
NJ2 S **S 16 50 36.0 -3.9**
NJ2 sS **sS 16 50 48.3 -0.5**
NJ2 pmax pmax
comp=Z,3µm,6.2s
NJ2 LR LR
comp=Z,59µm,16.1s
NJ2 LR LR
comp=Z,66µm,16.3s
SNOP Sinop 32.64 284 *e*P **P 16 45 23.8 -1.3**
SNOP Sinop 32.64 284 *e*P **P 16 45 23.8 -1.3**
SIM Simferopol' 32.69 290*ce*P **P 16 45 26.0 +0.5**
SIM *e* 16 46 30.0
SIM S **S 16 50 36.0 -5.3**
SIM pmax pmax
comp=Z,282nm,1.0s
SIM MLR MLR
comp=Z,22µm,15.9s
DIKM Dikmen 32.71 284 *e*P **P 16 45 26.0 +0.2**
DIKM Dikmen 32.71 284 *e*P **P 16 45 26.0 +0.2**
CHAI Chaiyaphum 32.73 138 P **P 16 45 26.8 +0.7**
comp=Z,33nm,0.9s,comp=Z,320nm
SRDT SRDT 32.73 143 P **P 16 45 27.0 +0.9**
comp=Z,157nm,1.6s,comp=Z,3µm
GAZ Gaziantep 32.81 275 *e*P **P 16 45 28.5 +1.8**
GAZ Gaziantep 32.81 275 *e*P **P 16 45 28.5 +1.8**
PBA Port Blair 32.83 156 *e*P P 16 45 28.1 +1.2
PBA LR LR
comp=Z,28µm,22.0s
PBA Port Blair 32.83 156 *e*P P 16 45 26.2 -0.7
PBA IAmb IAmb 16 45 35.9
comp=Z,554nm,1.7s
SKNT Sakolnakorn 32.86 134 P **P 16 45 27.6 +0.4**
comp=Z,116nm,0.7s,comp=Z,2µm
KMRS Kahramanmaras 32.91 276 P **P 16 45 29.2 +1.6**
KMRS Kahramanmaras 32.91 276 P **P 16 45 29.2 +1.6**
ZEA Zeya 33.01 54 *e*P **P**
ZEA *e* 16 46 35.0
ZEA *e*PPP PPP 16 46 59.0
ZEA *e*S **S 16 50 50.0 +4.0**
ZEA pmax pmax
comp=E,58nm,1.2s
ZEA pmax pmax
comp=Z,120nm,1.2s
ZEA pmax pmax
comp=Z,1µm,5.0s
ZEA pmax pmax
comp=E,700nm,7.0s
ZEA pmax pmax
comp=Z,900nm,7.0s
ZEA smax smax
comp=N,3µm,9.0s
ZEA MLR MLR
comp=Z,54µm,15.0s
ZEA MLR MLR
comp=E,37µm,15.0s
ZEA MLR MLR
comp=N,26µm,11.0s
WHFO Wadi Hawf 33.02 230 P **P 16 45 29.1 +0.4**
SNR=12
CN2 Changchun 33.04 72⇑*i*P **P 16 45 29.3 +0.7**
CN2 *e*sP sP 16 45 36.5 +0.6
CN2 *e*PP **PP 16 46 41.0 -2.2**
CN2 *e*S **S 16 50 46.0 -0.6**
CN2 SS **SnSn 16 52 48.8 +4.0**
CN2 pmax pmax
comp=N,200nm,5.0s
CN2 LR LR
comp=N,62µm,17.0s
CN2 LR LR
comp=N,80µm,13.0s
RBK Rabkut 33.12 229 P **P 16 45 29.7 +0.2**
SNR=23
BNN Bunyan 33.19 279 P **P 16 45 31.4 +1.3**
BNN Bunyan 33.19 279 P **P 16 45 31.4 +1.3**
YOZ Yozgat 33.30 280 *e*P **P 16 45 31.9 +0.8**
YOZ Yozgat 33.30 280 *e*P **P 16 45 31.9 +0.8**
BZK Bozkurt 33.52 285 *e*P **P 16 45 33.7 +0.9**
BZK Bozkurt 33.52 285 *e*P **P 16 45 33.7 +0.9**
KOZT Kozan 33.71 276 *e*P **P 16 45 35.9 +1.4**
KOZT Kozan 33.71 276 *e*P **P 16 45 35.9 +1.4**
ABTO Aybut 33.74 230 P **P 16 45 35.1 +0.1**
SNR=25
TAHT Tahtakopru-Hat 33.88 274 *e*P **P 16 45 37.6 +1.6**
TAHT Tahtakopru-Hat 33.88 274 *e*P **P 16 45 37.6 +1.6**
CEYT Ceyhan 33.95 276 *e*P **P 16 45 39.2 +2.6**
CEYT Ceyhan 33.95 276 *e*P **P 16 45 39.2 +2.6**
GZH Guangzhou 33.98 114 P **P 16 45 36.0 -1.0**
GZH PP **PnPn 16 46 51.3 +1.2**
GZH S **S 16 51 01.5 -0.1**
GZH SS **SnSn 16 53 09.5 +1.3**
GZH ScS **ScS 16 56 00.0 -1.2**
GZH LR LR
comp=N,31µm,14.4s
GZH LR LR
comp=N,43µm,14.9s
TRD Trivandrum 34.03 185 *e*P **P 16 45 38.1 +0.7**
TRD IAmb IAmb 16 45 45.8
comp=Z,174nm,0.6s
RAYN Ar Rayn 34.09 247 *e*P **P 16 45 37.5 -0.5**
comp=Z,320nm,1.0s
RAYN LR LR
comp=Z,22µm,21.0s
RAYN Ar Rayn 34.09 247 *i*P **P 16 45 37.5 -0.5**
SNR=37
RAYN Ar Rayn 34.09 247 *e*P **P 16 45 37.5 -0.5**
RAYN pmax pmax
comp=Z,320nm,1.0s
RAYN MLR MLR
comp=Z,22µm,21.0s
YURE YUREGIR 34.11 275 *e*P **P 16 45 40.7 +2.7**
YURE YUREGIR 34.11 275 *e*P **P 16 45 40.7 +2.7**
CANT Cankiri 34.21 283 *e*P **P 16 45 40.1 +1.2**
CANT Cankiri 34.21 283 *e*P **P 16 45 40.1 +1.2**
PHET Kaeng Krachan 34.23 144 P **P 16 45 40.8 +1.6**
comp=Z,69nm,1.1s,comp=Z,639nm
KARA Karaisali 34.36 276 *e*P **P 16 45 41.6 +1.4**
KARA Karaisali 34.36 276 *e*P **P 16 45 41.6 +1.4**
SRAK Srakaew 34.38 139 P **P 16 45 44.3 +3.9**
comp=Z,171nm,0.8s,comp=Z,2µm
KRTS Karatas 34.40 275 *e*P P 16 45 45.9 +5.5
KRTS Karatas 34.40 275 *e*P P 16 45 45.9 +5.5
PUL Pulkovo 34.44 317*ce*P **P 16 45 41.1 +0.5**
PUL pmax pmax
comp=Z,562nm,1.3s
PUL MLR MLR
comp=Z,32µm,17.0s
PUL Pulkovo 34.44 317 *e*P **P 16 45 41.0 +0.4**
KURC Kurucasile-Bar 34.45 285 *e*P **P 16 45 43.2 +2.3**
KURC Kurucasile-Bar 34.45 285 *e*P **P 16 45 43.2 +2.3**
BR131 Keskin Array S 34.49 281 *e*P **P 16 45 41.9 +0.5**
BR131 Keskin Array S 34.49 281 P **P 16 45 42.2 +0.8**
SNR=496
BRTR Keskin Array B 34.49 281 P **P 16 45 41.6 +0.2**
comp=Z,301nm,0.8s,baz=100,slow=7.9,SNR=270
BRTR LR LR 17 00 53.4
comp=Z,9µm,18.6s,baz=50,slow=38
BRTR Keskin Array B 34.49 281 P **P 16 45 41.6 +0.2**
BRTR pmax pmax
comp=Z,291nm,0.8s
BRTR MLR MLR
comp=Z,9µm,18.6s
QIZ Qiongzhong 34.63 123 P **P 16 45 41.8 -0.8**
QIZ PP **PP 16 47 01.0 -0.1**
QIZ S **S 16 51 07.0 -4.7**
QIZ pmax pmax
comp=Z,930nm,7.7s
QIZ LR LR
comp=Z,33µm,16.7s
QIZ LR LR
comp=Z,34µm,16.2s
QIZ LR LR
comp=Z,18µm,15.7s
QIZ Qiongzhong 34.63 123 *e*P **P 16 45 42.7 +0.1**
comp=Z,198nm,1.1s
QIZ LR LR
comp=Z,20µm,18.0s
YAYX Yaylak 34.64 280 *e*P **P 16 45 43.4 +0.7**
YAYX Yaylak 34.64 280 *e*P **P 16 45 43.4 +0.7**
MNCI Minicoy 34.66 192 PFAKE 16 45 50.0 +7.1
MNCI LR LR
comp=Z,31µm,22.0s
MNCY Minicoy 34.68 192 *e*P **P 16 45 41.7 -1.3**
MNCY IAmb IAmb 16 45 53.4
comp=Z,2µm,1.9s
LVZ Lovozero 34.77 332 *e*P **P 16 45 43.1 -0.3**
comp=Z,296nm,1.1s
LVZ LR LR
comp=Z,27µm,18.0s
LVZ Lovozero 34.77 332*c i*P **P 16 45 43.3 -0.1**
LVZ pmax pmax
comp=Z,140nm,1.0s
PATY Pattaya 34.77 142 P **P 16 45 46.9 +3.1**
comp=Z,38nm,1.2s,comp=Z,1µm
MCO Taipa Grande 34.79 115 P **P 16 45 47.0 +3.1**
SSE Sheshan 34.79 95 P **P 16 45 45.0 +1.1**
SSE S **S 16 51 10.8 -3.2**
SSE LR LR
comp=Z,9µm,16.9s
SSE LR LR
comp=Z,9µm,16.9s
SSE Sheshan 34.79 95 *e*P **P 16 45 43.6 -0.3**
comp=Z,503nm,0.9s
SSE LR LR
comp=Z,36µm,18.0s
SERE Sereflikochisa 34.82 280 *e*P **P 16 45 45.5 +1.3**
SERE Sereflikochisa 34.82 280 *e*P **P 16 45 45.5 +1.3**
MERS Mersin 34.91 276 *e*P **P 16 45 46.4 +1.4**
MERS Mersin 34.91 276 *e*P **P 16 45 46.4 +1.4**
HWQ Hawqa 34.96 271 *e*P **P 16 45 45.8 +0.3**
AFSR Afar-Bala (An 35.00 281 *i*P **P 16 45 46.6 +0.9**
AFSR Afar-Bala (An 35.00 281 *i*P **P 16 45 46.6 +0.9**
AKASG Malin Array Be 35.01 301 P **P 16 45 44.7 -0.9**
comp=Z,39nm,0.8s,baz=71,slow=8.9,SNR=30
AKASG S **S 16 51 16.9 -0.1**
comp=Z,13nm,0.9s,baz=69,slow=11,SNR=3.3
AKASG LR LR 17 00 14.8
comp=Z,23µm,20.0s,baz=100,slow=37
AKBB Malin Array Si 35.01 301 *e*P **P 16 45 44.5 -1.0**
comp=Z,361nm,1.2s
AKBB LR LR
comp=Z,30µm,18.0s
KIEV Kiev 35.02 301 *e*P **P 16 45 44.5 -1.2**
comp=Z,349nm,1.2s
KIEV LR LR
comp=Z,28µm,18.0s
KIEV Kiev 35.02 301⇓*i*P **P 16 45 44.6 -1.1**
KIEV Kiev 35.02 301 *i*P **P 16 45 45.4 -0.3**
SNR=14
KIEV Kiev 35.02 301⇑*e*P **P 16 45 44.9 -0.8**
KIEV pmax pmax
comp=Z,119nm,0.8s
KIEV MLR MLR
comp=Z,22µm,15.0s
AK11 Malin Array Si 35.05 301 *e*P **P 16 45 44.5 -1.4**
ANTO Ankara 35.05 282 *e*P **P 16 45 46.6 +0.4**
comp=Z,316nm,0.8s
ANTO LR LR
comp=Z,13µm,21.0s
ANTO Ankara 35.05 282⇑*i*P **P 16 45 47.2 +1.0**
ANTO Ankara 35.05 282 *e*P **P 16 45 46.6 +0.4**
ANTO pmax pmax
comp=Z,316nm,0.8s
ANTO MLR MLR
comp=Z,13µm,21.0s
ANTO Ankara 35.05 282 P **P 16 45 47.3 +1.1**
SNR=114
ANTO Ankara 35.05 282 *e*P **P 16 45 47.4 +1.2**
YAK Yakutsk 35.06 39*d i*P **P 16 45 45.3 -0.6**
YAK *e* 16 47 04.6
YAK *e* 16 48 15.0
YAK *e*S **S 16 51 15.5 -2.0**
YAK *e*SS **SnSn 16 53 33.2 -0.1**
YAK *e* 16 56 03.2
YAK pmax pmax
comp=Z,202nm,1.1s
YAK pmax pmax
comp=N,25nm,1.1s
YAK pmax pmax
comp=E,139nm,1.1s
YAK pmax pmax
comp=Z,441nm,1.3s
YAK pmax pmax
comp=N,112nm,1.4s
YAK pmax pmax
comp=E,433nm,1.3s
YAK smax smax
comp=N,1µm,3.4s
YAK smax smax
comp=E,830nm,2.2s
YAK MLR MLR
comp=Z,14µm,13.0s
YAK MLR MLR
comp=N,13µm,14.0s
YAK MLR MLR
comp=E,11µm,14.0s
LOD Lodumlu 35.06 282 *e*P **P 16 45 47.5 +1.2**
LOD Lodumlu 35.06 282 *e*P **P 16 45 47.5 +1.2**
BR231 Keskin MP Arra 35.07 282 *e*P **P 16 45 47.1 +0.7**
APA Apatity 35.08 331⇓*i*P **P 16 45 44.6 -1.4**
APA *i* 16 46 59.0
APA *i*S **S 16 51 12.0 -5.7**
APA MLR MLR
comp=Z,68µm,12.0s
SULT Sultanhani-AKS 35.12 279 P **P 16 45 48.6 +1.7**
SULT Sultanhani-AKS 35.12 279 P **P 16 45 48.6 +1.7**
PALK Pallekele 35.18 178 P **P 16 45 47.3 0.0**
comp=Z,36nm,0.9s,baz=296,slow=5.3,SNR=13
PALK Pallekele 35.18 178 *e*P **P 16 45 48.2 +0.8**
comp=Z,637nm,1.6s
PALK LR LR
comp=Z,18µm,20.0s
PALK Pallekele 35.18 178 *i*P **P 16 45 48.4 +1.0**
SNR=19
PALK Pallekele 35.18 178 *e*P **P 16 45 48.2 +0.8**
PALK pmax pmax
comp=Z,637nm,1.6s
PALK MLR MLR
comp=Z,18µm,20.0s
KULU Kulu 35.19 280 *e*P **P 16 45 48.2 +0.8**
KULU Kulu 35.19 280 *e*P **P 16 45 48.2 +0.8**
ASF Jabal al Asfar 35.25 267 P **P 16 45 50.7 +2.7**
KIZK Mersin 35.34 276 *e*P **P 16 45 50.2 +1.6**
KIZK Mersin 35.34 276 *e*P **P 16 45 50.2 +1.6**
BHL Bhannes 35.34 271 *e*P **P 16 45 48.9 0.0**
CHBY Cihanbeyli 35.44 280 *e*P **P 16 45 50.7 +1.1**
CHBY Cihanbeyli 35.44 280 *e*P **P 16 45 50.7 +1.1**
MICGM Minsk 35.53 308⇓*e*P **P 16 45 50.0 0.0**
MICGM PM 16 45 52.0
comp=Z,0.7nm,0.8s
MICGM *e*PP **PP 16 47 20.0 +9.4**
MICGM *e*PPP PPP 16 47 40.0
MICGM *e*S **S 16 51 22.0 -2.9**
MICGM *e*SS **SnSn 16 53 31.0 -14**
MICGM *e*SSS SSS 16 54 06.0
MICGM *e*LQ LQ 16 56 27.0
MICGM *e*LR LR 17 00 25.0
MICGM LRM MLR 17 01 49.0
comp=E,25nm,11.0s
MICGM LRM MLR 17 01 50.0
comp=Z,65nm,10.0s
MICGM LRM MLR 17 01 50.0
comp=Z,72nm,12.0s
MICGM LRM MLR 17 01 52.0
comp=N,32nm,12.0s
MNK Minsk 35.53 308*de*P **P 16 45 50.0 0.0**
KSDI Kefar Szold 35.67 270 P **P 16 45 53.0 +1.5**
EREN Erenkoy 35.72 274 *i*P **P 16 45 53.2 +1.3**
EREN Erenkoy 35.72 274 *i*P **P 16 45 53.2 +1.3**
MDJ Mudanjiang 35.72 69 P **P 16 45 51.0 -0.8**
MDJ pP pP 16 45 55.5 -1.6
MDJ sP sP 16 45 57.5 -1.7
MDJ S **S 16 51 30.5 +2.4**
MDJ sS sS 16 51 38.5 +1.9
MDJ pmax pmax
comp=N,1µm,4.3s
MDJ LR LR
comp=N,46µm,22.6s
MDJ Mudanjiang 35.72 69 *e*P **P 16 45 51.5 -0.3**
comp=N,207nm,1.4s
MDJ LR LR
comp=Z,85µm,20.0s
IKL Isikli 35.78 276 *e*P **P 16 45 53.4 +1.0**
IKL Isikli 35.78 276 *e*P **P 16 45 53.4 +1.0**

HSUJ **Al Zarqa** 35.80 268 P P 16 45 55.6 +2.9
TEVE **Tevekalti-Mers** 35.87 276 *e*P P 16 45 54.0 +0.7
TEVE **Tevekalti-Mers** 35.87 276 *e*P P 16 45 54.0 +0.7
KIS **Kishinev** 35.87 295 ⇓*i*P P 16 45 52.0 -1.1
comp=Z,540nm,1.6s
KIS **Kishinev** 35.87 295 *e*PP PP 16 46 58.0 -16
KIS **Kishinev** 35.87 295 *i* PcP PcP 16 47 40.0 -40
KIS *i* S S 16 51 26.0 -4.3
comp=Z,2µm,5.0s
KIS *i* SS SnSn 16 53 32.0 -21
KIS *i* LQ LQ 16 58 20.0
comp=Z,30µm,18.0s
KIS LRM MLR 17 04 44.0
comp=Z,28µm,14.0s
KIS **Kishinev** 35.87 295 ⇓*i*P P 16 45 52.0 -1.1
KIS *i* PPP PPP 16 47 12.0
KIS *i* 16 47 40.0
KIS *i* S S 16 51 26.0 -4.3
KIS pmax pmax
comp=Z,540nm,1.6s
KIS smax smax
comp=N,2µm,5.0s
KIS MLR MLR
comp=Z,28µm,14.0s
KIS MLR MLR
comp=N,9µm,16.0s
AKKU **Akkuyu-Mersin** 35.91 275 *e*P P 16 45 54.5 +1.0
AKKU **Akkuyu-Mersin** 35.91 275 *e*P P 16 45 54.5 +1.0
LADK **Ladik-KONYA** 35.96 279 *e*P P 16 45 55.4 +1.3
LADK **Ladik-KONYA** 35.96 279 *e*P P 16 45 55.4 +1.3
MDUB **Mudurnu** 36.00 283 *e*P P 16 45 54.8 +0.5
MDUB **Mudurnu** 36.00 283 *e*P P 16 45 54.8 +0.5
PHNC **Paralimni** 36.05 273 P P 16 45 55.5 +0.8
KONT **Konya--Tatoy** 36.06 279 *e*P P 16 45 55.6 +0.7
KONT **Konya--Tatoy** 36.06 279 *e*P P 16 45 55.6 +0.7
BERE **Bereket-Mersin** 36.07 276 *e*P P 16 45 55.7 +0.6
BERE **Bereket-Mersin** 36.07 276 *e*P P 16 45 55.7 +0.6
SVRH **Sivrihisar-ESK** 36.12 282 *i* P P 16 45 57.2 +1.8
SVRH **Sivrihisar-ESK** 36.12 282 *i* P P 16 45 57.2 +1.8
NACGM **Naroch** 36.15 309 *e*P P 16 45 54.0 -1.4
NACGM *e*PP PP 16 47 20.0 +2.6
NACGM *e*PPP PPP 16 47 40.0
NACGM *e*S S 16 51 25.0 -9.4
NACGM *e*SS SnSn 16 53 54.0 -5.9
NACGM *e*SSS SSS 16 54 32.0
NACGM *e*LQ LQ 16 57 33.0
NACGM *e*LR LR 16 59 13.0
IDID **Didziasalis** 36.16 309 *e*P P 16 45 55.6 +0.2
IDID IAmb IAmb 16 46 04.6
comp=Z,77nm,1.1s
VSU **Vasula** 36.17 315 *ce*P P 16 45 55.2 -0.3
VSU pmax pmax
comp=Z,682nm,1.0s
VSU **Vasula** 36.17 315 *e*P P 16 45 55.1 -0.3
VSU IAmb IAmb 16 45 58.4
comp=Z,608nm,0.9s
KLR **Kul'dur** 36.20 61 P P 16 45 56.2 +0.4
comp=Z,76nm,0.9s,baz=281,slow=8.5,SNR=150
KLR S S 16 51 34.9 -0.3
comp=Z,7.7nm,1.1s,baz=309,slow=13,SNR=1.6
MMLI **Mount Malkishu** 36.21 269 P P 16 45 57.5 +1.3
TLCR ⇑*i*P P 16 45 57.5 +0.9
WALJ **Wala** 36.35 267 P P 16 46 00.3 +3.0
HDMB **Hadim** 36.36 277 *e*P P 16 45 58.9 +1.3
HDMB **Hadim** 36.36 277 *e*P P 16 45 58.9 +1.3
LEOM **Leova** 36.37 294 ⇓*i*P P 16 45 58.1 +0.8
QZH **Quanzhou** 36.41 106 ⇑*i*P P 16 45 58.0 +0.1
QZH S S 16 51 37.8 -1.2
QZH pmax pmax
comp=Z,3µm,5.2s
QZH LR LR
comp=Z,49µm,14.2s
QZH LR LR
comp=Z,26µm,15.2s
QZH LR LR
comp=Z,54µm,16.6s
IZAR **Zarasai** 36.43 310 *e*P P 16 45 57.7 0.0
IZAR IAmb IAmb 16 46 01.1
comp=Z,80nm,0.5s
IIGN **Ignalina** 36.45 309 IAmb IAmb 16 45 58.8
comp=Z,98nm,1.3s
GULT **Gulveren** 36.50 284 *e*P P 16 45 59.8 +1.2
GULT **Gulveren** 36.50 284 *e*P P 16 45 59.8 +1.2
ISAL **Salakas** 36.50 310 *e*P P 16 45 58.7 +0.3
ISAL IAmb IAmb 16 46 01.7
comp=Z,83nm,0.9s
SAUV **Serdivan-Sakar** 36.53 284 *i* P P 16 45 56.3 -2.5
SAUV **Serdivan-Sakar** 36.53 284 *i* P P 16 45 56.3 -2.5
SPNC **Sapanca-Adapaz** 36.56 284 *e*P P 16 46 00.3 +1.3
SPNC **Sapanca-Adapaz** 36.56 284 *e*P P 16 46 00.3 +1.3
MAMC **Mammari** 36.58 274 P P 16 46 00.3 +1.1
CSS **Mathiatis** 36.58 274 *e*P P 16 45 59.7 +0.4
comp=Z,370nm,1.1s
CSS LR LR
comp=Z,14µm,21.0s
CSS **Mathiatis** 36.58 274 P P 16 45 58.9 -0.4
CSS **Mathiatis** 36.58 274 P P 16 45 59.5 +0.2
comp=Z,88nm,1.1s
GIUM **Giurgiulesti** 36.63 293 ⇑*i*P P 16 46 01.5 +2.0
GHAJ **Ghor Haditha** 36.66 267 P P 16 46 01.2 +1.2
comp=Z,309nm,1.3s
IAS **Iasi** 36.67 296 ⇑*i*P P 16 45 59.8 -0.1
EFOR **EFORIE** 36.71 290 ⇑*i*P P 16 46 02.2 +2.0
FIA1 **FINESS Array S** 36.71 320 *e*P P 16 45 59.8 -0.2
FINES **FINESS Array B** 36.71 320 P P 16 45 59.0 -1.0
comp=Z,72nm,0.6s,baz=96,slow=9.6,SNR=111
FINES LR LR 17 01 43.8
comp=Z,22µm,18.3s,baz=96,slow=37
TIRR **Tirgusor** 36.76 291 *e*P P 16 46 00.3 -0.2
comp=Z,135nm,1.0s
TIRR LR LR
comp=Z,12µm,20.0s
TIRR **Tirgusor** 36.76 291 ⇓*i*P P 16 46 00.8 +0.2
TIRR **Tirgusor** 36.76 291 *e*P P 16 46 00.4 -0.2
TIRR pmax pmax
comp=Z,135nm,1.0s
TIRR MLR MLR
comp=Z,12µm,20.0s
CFR **Carcaliu** 36.76 292 ⇓*i*P P 16 46 00.5 -0.1
LISJ **El Lisan** 36.76 267 P P 16 46 04.0 +3.3
MFTR **Murfatlar** 36.83 290 ⇑*i*P P 16 46 02.8 +1.6
BIR **Birlad** 36.84 294 ⇓*i*P P 16 46 03.0 +1.7
LEF **Lefka** 36.84 274 P P 16 46 02.7 +1.3
LEF **Lefka** 36.84 274 P P 16 46 02.7 +1.3
KS15 **Wonju Array Si** 36.85 81 *e*P P 16 46 00.5 -1.0
KSAR **Wonju Array Be** 36.85 81 P P 16 46 01.3 -0.2
KSAR S S 16 51 44.7 -0.7
KSAR **Wonju Array Be** 36.85 81 P P 16 46 01.3 -0.2
KSAR S S 16 51 44.7 -0.7
KSRS **Korea Array** 36.87 81 P P 16 46 01.3 -0.4
comp=Z,25nm,0.8s,baz=282,slow=8.0,SNR=74
KSRS S S 16 51 44.7 -1.0
comp=Z,2.8nm,1.0s,baz=284,slow=4.1,SNR=2.9
KSRS LR LR 17 01 22.5
comp=Z,15µm,19.0s,baz=300,slow=37
SILT **Sile** 36.88 285 *e*P P 16 46 02.6 +0.9
SILT **Sile** 36.88 285 *e*P P 16 46 02.6 +0.9
JDRJ **Daraweish** 36.89 266 P P 16 46 04.0 +1.9
TLB **Topalu** 36.98 291 ⇑*i*P P 16 46 02.5 0.0
SZAC **Souni** 37.01 274 P P 16 46 04.0 +1.1
HARR **Harsova** 37.02 291 ⇑*i*P P 16 46 03.9 +1.0
AMAZ **Amatzia** 37.03 268 P P 16 46 04.7 +1.6
ALFC **Alefka** 37.04 275 P P 16 46 03.9 +0.7
CAVI **Cavuskoy** 37.06 284 *e*P P 16 46 05.1 +1.8
CAVI **Cavuskoy** 37.06 284 *e*P P 16 46 05.1 +1.8
HSNJ **Maan** 37.12 265 P P 16 46 07.6 +3.6
PSN **Preselentsi** 37.13 290 *e*P P 16 46 05.0 +1.2
SHUT **Suhut-Afyon** 37.15 281 *e*P P 16 46 05.7 +1.5
SHUT **Suhut-Afyon** 37.15 281 *e*P P 16 46 05.7 +1.5
PETR **Petresti** 37.24 293 ⇑*i*P P 16 46 07.3 +2.6
ICOR **Ion Corvin** 37.27 291 ⇑*i*P P 16 46 07.6 +2.6
YLV **Yalova** 37.27 284 *e*P P 16 46 06.2 +1.0
YLV **Yalova** 37.27 284 *e*P P 16 46 06.2 +1.0
KLYT **Kilyos** 37.28 286 *e*P P 16 46 06.5 +1.4
KLYT **Kilyos** 37.28 286 *e*P P 16 46 06.5 +1.4
ISK **Istanbul-Kandi** 37.33 285 *e*P P 16 46 06.8 +1.3
ISK **Istanbul-Kandi** 37.33 285 *e*P P 16 46 06.8 +1.3
KAVV **Kandilli-Istan** 37.33 285 *e*P P 16 46 06.8 +1.3
KAVV **Kandilli-Istan** 37.33 285 *e*P P 16 46 06.8 +1.3
PPCY **Paphos** 37.34 274 P P 16 46 06.6 +0.9
ODBI **Odobesti** 37.34 293 ⇑*i*P P 16 46 08.4 +2.8
MSHR **Mys Shultsa** 37.39 72 *di*P P 16 46 07.0 +1.0
GEMT **Gemlik** 37.45 284 *e*P P 16 46 05.3 -1.3
GEMT **Gemlik** 37.45 284 *e*P P 16 46 05.3 -1.3
USA0B **Ussuriysk Arra** 37.49 69 *e*P P 16 46 06.8 -0.1
comp=Z,68nm,0.9s
USA0B LR LR
comp=Z,55µm,21.0s
USRK **Ussuriysk Ar.** 37.49 69 P P 16 46 07.0 +0.2
comp=Z,14nm,0.7s,baz=297,slow=8.4,SNR=24
USRK S S 16 51 54.3 -0.7
comp=Z,3.4nm,0.8s,baz=320,slow=3.8,SNR=2.2
USRK LR LR 17 03 09.1
comp=Z,38µm,19.6s,baz=280,slow=39
BGKT **Bogazkoy** 37.49 286 *e*P P 16 46 08.5 +1.6
BGKT **Bogazkoy** 37.49 286 *e*P P 16 46 08.5 +1.6
GRER 37.50 293 ⇑*i*P P 16 46 09.9 +3.0
PRAR **RASCA** 37.52 296 ⇑*i*P P 16 46 08.3 +1.2
VRI **Vrincioaia** 37.54 294 ⇓*i*P P 16 46 07.2 -0.1
BCK **Bucak** 37.55 279 *e*P P 16 46 11.1 +3.6
BCK **Bucak** 37.55 279 *e*P P 16 46 11.1 +3.6
TIXI **Tiksi** 37.58 23 P P 16 46 07.0 -0.3
comp=Z,67nm,0.4s,baz=255,slow=5.4,SNR=110
TIXI S S 16 51 54.4 -1.4
comp=Z,20nm,1.0s,baz=274,slow=19,SNR=1.8
TIXI **Tiksi** 37.58 23 *e*P P 16 46 07.0 -0.3
comp=Z,532nm,1.3s
TIXI S S 16 51 54.4 -1.4
TIXI LR LR
comp=Z,20µm,21.0s
PLOR **Plostina** 37.60 294 ⇑*i*P P 16 46 08.6 +0.8
SBT5 **Esenkoy-Cinarc** 37.60 285 *e*P P 16 46 08.9 +1.1
SBT5 **Esenkoy-Cinarc** 37.60 285 *e*P P 16 46 08.9 +1.1
CTKS **Kestanelik-??a** 37.66 286 *e*P P 16 46 09.2 +0.8
CTKS **Kestanelik-??a** 37.66 286 *e*P P 16 46 09.2 +0.8
MDNY **Mudanya-Bursa** 37.69 284 *i* P P 16 46 10.2 +1.6
MDNY **Mudanya-Bursa** 37.69 284 *i* P P 16 46 10.2 +1.6
RASA **Rasa** 37.69 291 ⇓*i*P P 16 46 10.1 +1.5
BIZ **Bicaz** 37.70 296 ⇑*i*P P 16 46 08.9 +0.3
HRFI **Mount Harif** 37.71 266 P P 16 46 10.1 +1.2
KZIT **Kziot** 37.73 267 P P 16 46 10.2 +1.1
PABE **Paberze** 37.73 310 *e*P P 16 46 08.7 0.0
PABE IAmb IAmb 16 46 19.2
comp=Z,532nm,1.3s
VLA **Vladivostok** 37.73 71 *di*P P 16 46 08.6 -0.3
VLA pmax pmax
comp=Z,257nm,1.9s
CTYL **Yalikoy Yolu** 37.74 286 *e*P P 16 46 10.5 +1.5
CTYL **Yalikoy Yolu** 37.74 286 *e*P P 16 46 10.5 +1.5
GEDZ **Gediz** 37.79 282 *e*P P 16 46 10.8 +1.2
GEDZ **Gediz** 37.79 282 *e*P P 16 46 10.8 +1.2
LEHL **Lehliu** 37.85 291 ⇑*i*P P 16 46 12.5 +2.6
ISR **Istrita** 37.86 293 ⇓*i*P P 16 46 11.8 +1.7
AQBJ **Aqaba** 37.86 265 P P 16 46 13.7 +3.5
SLVT **Silivri** 37.88 286 *e*P P 16 46 11.2 +1.0
SLVT **Silivri** 37.88 286 *e*P P 16 46 11.2 +1.0
KORT **Korkueli** 37.91 279 *e*P P 16 46 11.2 +0.5
KORT **Korkueli** 37.91 279 *e*P P 16 46 11.2 +0.5
EIL **Elat** 37.97 265 P P 16 46 11.3 +0.3
comp=Z,66nm,0.9s,baz=22,slow=5.1,SNR=27
EIL **Elat** 37.97 265 P P 16 46 12.1 +1.0
comp=Z,446nm,1.8s
KEV **Kevo** 38.02 333 *e*P P 16 46 10.9 -0.2
comp=Z,241nm,1.3s
KEV LR LR
comp=Z,40µm,19.0s
KEV **Kevo** 38.02 333 *e*P P 16 46 10.9 -0.2
KEV pmax pmax
comp=Z,241nm,1.3s
KEV MLR MLR
comp=Z,40µm,19.0s
KEV **Kevo** 38.02 333 *e*P P 16 46 11.3 +0.3
KCTX **Karacabey (Bur** 38.10 284 *e*P P 16 46 13.0 +0.8
KCTX **Karacabey (Bur** 38.10 284 *e*P P 16 46 13.0 +0.8
OZUR 38.12 294 ⇓*i*P P 16 46 13.3 +1.1
BURAR **Bucovina Array** 38.13 297 ⇑*i*P P 16 46 12.5 +0.1
BUR04 **Bucovina Ar. S** 38.13 297 *e*P P 16 46 11.6 -0.8
BUR08 **Bucovina Ar. S** 38.14 297 *e*P P 16 46 12.2 -0.3
MLR **Muntele Rosu** 38.17 293 LR LR 17 02 58.7
comp=Z,26µm,21.8s,baz=42,slow=38
MLR **Muntele Rosu** 38.17 293 *e*P P 16 46 13.1 +0.3
comp=Z,234nm,0.9s
MLR **Muntele Rosu** 38.17 293 ⇑*i*P P 16 46 13.6 +0.8
SULR 38.18 292 ⇓*i*P P 16 46 15.6 +2.9
SECR 38.21 293 ⇑*i*P P 16 46 15.4 +2.4
PHSR **Pinarhisar** 38.23 287 P P 16 46 14.1 +1.0
PHSR **Pinarhisar** 38.23 287 P P 16 46 14.1 +1.0
CRLT **Corlu** 38.25 286 *e*P P 16 46 13.4 +0.1
CRLT **Corlu** 38.25 286 *e*P P 16 46 13.4 +0.1
PKDT **Phuket** 38.25 149 P P 16 46 16.6 +3.1
comp=Z,68nm,1.0s,comp=Z,931nm
KRAB **Krabi** 38.28 148 P P 16 46 23.1 +9.4
SUW **Suwalki** 38.32 307 *e*P P 16 46 13.0 -0.7
SUW LMZ LR 17 02 10.3
comp=Z,38µm,19.4s
SUW **Suwalki** 38.32 307 *e*P P 16 46 12.9 -0.8
comp=Z,864nm,1.1s
SUW LR LR
comp=Z,39µm,18.0s
SUW **Suwalki** 38.32 307 *e*P P 16 46 12.9 -0.8
SUW pmax pmax
comp=Z,864nm,1.1s
SUW MLR MLR
comp=Z,39µm,18.0s
ELL **Elmali** 38.33 278 *e*P P 16 46 14.9 +0.6
ELL **Elmali** 38.33 278 *e*P P 16 46 14.9 +0.6
DOPR **Dopca** 38.42 294 ⇓*i*P P 16 46 15.6 +0.9
EDC **Edincik** 38.43 285 *e*P P 16 46 15.9 +1.1
EDC **Edincik** 38.43 285 *e*P P 16 46 15.9 +1.1
LVV **L'vov** 38.44 301 *e*P P 16 46 15.3 +0.5
LVV *e* 16 47 43.1
LVV *e* 16 48 29.7
LVV *e*S S 16 52 05.5 -3.8
LVV *e* 16 54 55.5
LVV MLR MLR
comp=E,18µm,16.0s
LVV MLR MLR
comp=N,8µm,14.0s
LVV MLR MLR
comp=Z,19µm,16.0s
ARCES **ARCESS Array B** 38.46 333 P P 16 46 14.4 -0.4
comp=Z,70nm,0.8s,baz=99,slow=7.1,SNR=69
ARCES **ARCESS Array B** 38.46 333 *e*P P 16 46 13.1 -1.7
ARCES **ARCESS Array B** 38.46 333 *e*P P 16 46 13.1 -1.7
ARE0 **ARCESS Array S** 38.46 333 *e*P P 16 46 14.5 -0.3
comp=Z,9.8nm,0.9s
ARE0 LR LR
comp=Z,2µm,19.0s
ARE0 **ARCESS Array S** 38.46 333 *e*P P 16 46 14.9 +0.1
KULA **Kula-Manisa** 38.53 282 P P 16 46 16.2 +0.3
KULA **Kula-Manisa** 38.53 282 P P 16 46 16.2 +0.3
SLIT **Slitere, Latvi** 38.54 313 *e*P P 16 46 14.5 -1.0
SLIT IAmb IAmb 16 46 17.6
comp=Z,565nm,0.7s
YHNB **Yeheng** 38.57 104 *e*P P 16 46 16.4 +0.2
comp=Z,160nm,1.0s
YHNB LR LR
comp=Z,16µm,19.0s
JMB **Yambol** 38.62 288 *e*P P 16 46 17.5 +1.1
MANT **Manisa** 38.62 282 *e*P P 16 46 16.4 -0.3
comp=Z,2µm,1.5s
BALB **Balikesir** 38.67 284 *i* P P 16 46 17.9 +1.0
BALB **Balikesir** 38.67 284 *i* P P 16 46 17.9 +1.0
EDRB **Edirne** 38.71 287 *e*P P 16 46 17.7 +0.5
EDRB **Edirne** 38.71 287 *e*P P 16 46 17.7 +0.5
AKAS **Kas** 38.77 278 *e*P P 16 46 17.3 -0.6
AKAS **Kas** 38.77 278 *e*P P 16 46 17.3 -0.6
VOIR 38.79 294 ⇑*i*P P 16 46 18.8 +0.9
KRBG **Karabiga-Canak** 38.81 285 *e*P P 16 46 18.7 +0.6
KRBG **Karabiga-Canak** 38.81 285 *e*P P 16 46 18.7 +0.6
SZH **Strazhica** 38.82 290 *e*P P 16 46 18.5 +0.4
KSL **Kastellorizon** 38.82 278 *e*P P 16 46 14.5 -3.7
KSL **Kastellorizon** 38.82 278 P P 16 46 14.5 -3.7
TRTT **Trang** 38.82 147 P P 16 46 21.3 +3.0
comp=Z,46nm,1.2s
ARCR **ARCALIA** 38.83 296 ⇑*i*P P 16 46 19.4 +1.3
MTUR **Matau** 38.84 293 ⇓*i*P P 16 46 19.6 +1.2
PBUR **Paburg** 38.84 311 *e*P P 16 46 17.9 -0.2
PBUR IAmb IAmb 16 46 21.0
comp=Z,303nm,0.9s
TPUB **Ta-pu** 38.89 106 *e*P P 16 46 19.9 +1.0
comp=Z,133nm,1.2s
TPUB LR LR
comp=Z,35µm,19.0s
GRNR **Gornyy** 38.90 58 ⇓*i*P P 16 46 20.0 +1.3
GRNR pmax pmax
comp=Z,78nm,1.0s
FETY **Fethiye** 38.98 279 *e*P P 16 46 21.5 +1.9
FETY **Fethiye** 38.98 279 *e*P P 16 46 21.5 +1.9
GOLR 39.02 293 ⇓*i*P P 16 46 20.9 +1.2
NACB **Ninganchiao** 39.03 105 PFAKE 16 46 30.0 +10
NACB LR LR
comp=Z,18µm,18.0s
ZIMR 39.09 291 ⇓*i*P P 16 46 21.6 +1.3
ARR **Arges** 39.09 294 ⇑*i*P P 16 46 21.1 +0.7
HUMR **Humele** 39.09 292 ⇑*i*P P 16 46 20.6 +0.2
LPK **Lapseki** 39.21 285 *e*P P 16 46 22.5 +1.1
LPK **Lapseki** 39.21 285 *e*P P 16 46 22.5 +1.1
DALY **Dalyan (Mula)** 39.22 279 *e*P P 16 46 21.1 -0.4
DALY **Dalyan (Mula)** 39.22 279 *e*P P 16 46 21.1 -0.4
TURN **Turunc** 39.23 279 *e*P P 16 46 24.4 +2.8
TURN **Turunc** 39.23 279 *e*P P 16 46 24.4 +2.8
BMR **Baia Mare** 39.25 297 ⇑*i*P P 16 46 23.4 +1.8
PVL **Pavlikeni** 39.25 290 *e*P P 16 46 23.6 +1.9
ERIK **Erikli-Kesan** 39.27 286 *e*P P 16 46 23.1 +1.2
ERIK **Erikli-Kesan** 39.27 286 *e*P P 16 46 23.1 +1.2
YULB **Yu-li** 39.30 106 *e*P P 16 46 23.1 +0.7
comp=Z,76nm,1.0s
YULB LR LR
comp=Z,54µm,18.0s
AYDB **Zeytinkoy-Aydi** 39.31 281 *e*P P 16 46 22.4 -0.1
AYDB **Zeytinkoy-Aydi** 39.31 281 *e*P P 16 46 22.4 -0.1
KWP **Kalwaria Pacla** 39.32 301 *e*P P 16 46 22.8 +0.6
KWP *e*S S 16 52 29.2 +6.7
KWP LMZ LR 17 02 04.6
comp=Z,20µm,24.5s
KWP **Kalwaria Pacla** 39.32 301 PFAKE 16 46 30.0 +7.8
KWP LR LR
comp=Z,212µm,20.0s
KWP **Kalwaria Pacla** 39.32 301 *e*P P 16 46 22.8 +0.6
KWP *e*S S 16 52 29.3 +6.7
KWP MLR MLR
comp=Z,20µm,24.5s
HAMF **Hammerfest** 39.36 334 *e*P P 16 46 22.7 +0.5
GELI **Tayfur-Gelibol** 39.40 285 *e*P P 16 46 24.1 +1.1
GELI **Tayfur-Gelibol** 39.40 285 *e*P P 16 46 24.1 +1.1
CJR **Cluj-Napoca** 39.42 296 ⇓*i*P P 16 46 23.8 +0.6
ENEZ **Enez** 39.51 286 *e*P P 16 46 30.1 +6.2
ENEZ **Enez** 39.51 286 *e*P P 16 46 30.1 +6.2
TWG **Pinlang** 39.51 107 *e*P P 16 46 25.1 +1.1
comp=Z,753nm,0.9s
TWG LR LR
comp=Z,114µm,19.0s
ALN **Alexandroupoli** 39.53 286 *e*P P 16 46 24.9 +0.9
comp=Z,303nm,1.4s
ALN LR LR
comp=Z,7µm,22.0s
ALN **Alexandroupoli** 39.53 286 P P 16 46 21.2 -2.8
ALN **Alexandroupoli** 39.53 286 *e*P P 16 46 24.9 +0.9
ALN pmax pmax
comp=Z,303nm,1.4s
ALN MLR MLR
comp=Z,7µm,22.0s
VLAD **Vladila** 39.65 292 ⇑*i*P P 16 46 25.9 +0.9
LOT **Lotru** 39.65 294 ⇑*i*P P 16 46 26.9 +1.7
MLSB **Milas** 39.66 280 *e*P P 16 46 26.1 +0.9
MLSB **Milas** 39.66 280 *e*P P 16 46 26.1 +0.9
EZN **Ezine** 39.72 285 *e*P P 16 46 26.4 +0.8
EZN **Ezine** 39.72 285 *e*P P 16 46 26.4 +0.8
BLCB **Balcova** 39.75 282 *e*P P 16 46 26.0 0.0
BLCB **Balcova** 39.75 282 *e*P P 16 46 26.0 0.0
TRPA **Tarpa** 39.76 298 ⇑*i*P P 16 46 26.2 +0.3
TRPA **Tarpa** 39.76 298 *e*P P 16 46 27.0 +1.1
TRPA *e*PP PP 16 47 56.0 -1.1
TRPA *e*SS SS 16 55 30.1 +5.2
RDO **Rodhopi** 39.80 287 *e*P P 16 46 23.2 -3.1
RDO **Rodhopi** 39.80 287 P P 16 46 23.2 -3.1
SKLT **Songkhla** 39.80 146 P P 16 46 37.9 +11
UZH **Uzhgorod** 39.80 299 *c*⇓*i*P P 16 46 27.0 +0.8
UZH *e* 16 46 32.5
UZH *e* 16 47 56.9
UZH *e*S S 16 52 31.2 +1.4
UZH *e*SS SS 16 55 13.2 -12
UZH MLR MLR
comp=N,11µm,15.0s
UZH MLR MLR
comp=E,6µm,15.0s
UZH MLR MLR
comp=Z,2µm,15.0s
ARG **Arkhangelos** 39.86 279 *e*P P 16 46 25.7 -1.2
ARG **Arkhangelos** 39.86 279 P P 16 46 25.7 -1.2
ARG **Arkhangelos** 39.86 279 *e*P P 16 46 25.7 -1.2
GADA **Gvkgeada** 39.89 285 *e*P P 16 46 27.6 +0.6
GADA **Gvkgeada** 39.89 285 *e*P P 16 46 27.6 +0.6
GCAM **G?zelcaml?** 39.89 281 *e*P P 16 46 27.6 +0.5
GCAM **G?zelcaml?** 39.89 281 *e*P P 16 46 27.6 +0.5
BOZC **Bozcaada** 39.91 285 *e*P P 16 46 28.3 +1.1
BOZC **Bozcaada** 39.91 285 *e*P P 16 46 28.3 +1.1
KLNR **Kaliningrad** 39.97 309 ⇑*i*P P 16 46 27.8 +0.3
KLNR pmax pmax
comp=Z,463nm,0.8s
KLNR MLR MLR
comp=Z,21µm,16.0s
PRK **Paraskevi** 39.97 284 P P 16 46 28.5 +0.7
PRK **Paraskevi** 39.97 284 P P 16 46 28.5 +0.7
PRK **Paraskevi** 39.97 284 P P 16 46 28.5 +0.7
DAT **Datca** 40.04 280 *e*P P 16 46 28.2 -0.3
DAT **Datca** 40.04 280 *e*P P 16 46 28.2 -0.3
SMTH **Samothraki Isl** 40.05 286 P P 16 46 23.2 -5.2
SMTH **Samothraki Isl** 40.05 286 P P 16 46 23.2 -5.2
BEL **Belsk** 40.08 304 *e*P P 16 46 28.8 +0.3
BEL *e*PP PnPn 16 48 06.6 +2.7
BEL LMZ LR 17 03 25.8
comp=Z,46µm,19.0s
BEL **Belsk** 40.08 304 *e*P P 16 46 28.8 +0.3
BEL *e* 16 48 06.6
BEL MLR MLR
comp=Z,46µm,19.0s
URLA **Izmir** 40.09 282 *e*P P 16 46 29.5 +0.7
URLA **Izmir** 40.09 282 *e*P P 16 46 29.5 +0.7
BODT **Bodrum** 40.10 280 *e*P P 16 46 28.8 -0.1
BODT **Bodrum** 40.10 280 *e*P P 16 46 28.8 -0.1
SMG **Samos** 40.17 281 P P 16 46 29.7 +0.2
SMG **Samos** 40.17 281 P P 16 46 29.7 +0.2
RZN **Rozhen** 40.19 288 *e*P P 16 46 30.6 +0.9
LHMI **Lhok Sumawe** 40.22 153 PFAKE 16 46 40.0 +10
LHMI LR LR
comp=Z,17µm,20.0s
LHMI **Lhok Sumawe** 40.22 153 P P 16 46 32.1 +2.1
comp=Z,391nm,1.0s,comp=Z,7µm
SRE **Strehaia** 40.27 293 ⇑*i*P P 16 46 30.4 +0.3
PGB **Panagyurishte** 40.28 290 *e*P P 16 46 31.0 +0.7
SIGR **SIGRI** 40.29 284 *e*P P 16 46 29.9 -0.4
SIGR **SIGRI** 40.29 284 P P 16 46 29.9 -0.4
GZR **Gura Zlata** 40.34 294 ⇓*i*P P 16 46 31.5 +0.7
LTVH **Ltavrtes, Hu** 40.37 297 *e*P P 16 46 32.1 +1.2
LTVH *e*PP PnPn 16 48 07.1 -0.4
TEY **Ternei** 40.40 66 ⇓*e*P P 16 46 39.1 +7.9
TEY *e* 16 52 41.7
TEY pmax pmax
comp=E,40nm,1.3s
TEY pmax pmax
comp=N,20nm,1.4s
TEY pmax pmax
comp=Z,300nm,1.3s
TEY MLR MLR
comp=E,5µm,15.0s
TEY MLR MLR
comp=N,2µm,12.0s
CHOS **Chios island** 40.47 283 P P 16 46 31.9 -0.1
CHOS **Chios island** 40.47 283 P P 16 46 31.9 -0.1
LIA **Limnos Island** 40.50 285 P P 16 46 32.1 0.0
LIA **Limnos Island** 40.50 285 P P 16 46 32.1 0.0
PUNG **Punghina** 40.57 292 ⇑*i*P P 16 46 34.1 +1.5
THAS **Thassos island** 40.57 286 P P 16 46 25.8 -6.9
KAVA **Kavala** 40.57 287 *e*P P 16 46 33.0 +0.3
KAVA **Kavala** 40.57 287 P P 16 46 33.0 +0.3
HERR **Herculane** 40.73 294 ⇓*i*P P 16 46 34.2 +0.2
TRO **Tromso** 40.74 332 *e*P P 16 46 33.6 -0.1
SIRR **Siria** 40.83 296 ⇓*i*P P 16 46 35.5 +0.7
KARP **Karpathos** 40.86 278 *e*P P 16 46 35.6 +0.4
comp=N,3µm,1.4s
KARP **Karpathos** 40.86 278 P P 16 46 34.8 -0.4
NIE **Niedzica** 40.89 301 *e*P P 16 46 36.1 +0.8
NIE *e*PP PnPn 16 48 13.9 +0.3
NIE *e*S S 16 53 00.3 +14
NIE LMZ LR 17 03 18.5
comp=N,13µm,21.1s
NIE **Niedzica** 40.89 301 *e*P P 16 46 36.1 +0.8

NIE				*e*			16 48 13.9		
NIE				MLR	MLR				
	comp=Z,13µm,21.1s								
NVR	**Nevrokopi**	**40.91 288**		*e*P	**P**		**16 46 35.8**	**+0.3**	
NVR	**Nevrokopi**	**40.91 288**		P	**P**		**16 46 35.8**	**+0.3**	
MMB	**Musomiste**	**40.91 288**		*e*P	**P**		**16 46 36.2**	**+0.6**	
VTS	**Vitosha**	**40.93 290**		*e*P	**P**		**16 46 36.3**	**+0.4**	
	comp=Z,518nm,1.4s								
VTS				LR	LR				
	comp=Z,14µm,19.0s								
VTS	**Vitosha**	**40.93 290**	⇑	*i*P	**P**		**16 46 36.7**	**+0.9**	
VTS	**Vitosha**	**40.93 290**		P	**P**		**16 46 36.6**	**+0.8**	
VTS	**Vitosha**	**40.93 290**		*e*P	**P**		**16 46 36.6**	**+0.8**	
HOPEN	**Hopen**	**40.93 343**		*e*P	**P**		**16 46 35.4**	**+0.2**	
JNU	**Nakatsue**	**40.94 86**		P	**P**		**16 46 35.8**	**-0.1**	
	comp=Z,45nm,0.8s,baz=321,slow=1.2,SNR=21								
JNU	**Nakatsue**	**40.94 86**		*e*P	**P**		**16 46 36.0**	**+0.1**	
	comp=Z,146nm,1.0s								
OJC	**Ojcow**	**41.02 302**		*e*P	**P**		**16 46 37.1**	**+0.8**	
OJC				LMN			17 01 18.4		
	comp=Z,98µm,19.3s								
OJC	**Ojcow**	**41.02 302**		*e*P	**P**		**16 46 35.9**	**-0.4**	
	comp=Z,461nm,1.2s								
OJC	**Ojcow**	**41.02 302**		*e*P	**P**		**16 46 35.9**	**-0.4**	
OJC				pmax	pmax				
	comp=Z,461nm,1.2s								
BZS	**Buzias**	**41.05 295**	⇓	*i*P	**P**		**16 46 36.9**	**+0.3**	
NKL	**Nikolayevsk**	**41.05 53**		*i* P	**P**		**16 46 36.0**	**-0.5**	
NKL				*e*S	**S**		**16 52 50.0**	**+1.7**	
NKL				pmax	pmax				
	comp=E,51nm,1.3s								
NKL				pmax	pmax				
	comp=Z,170nm,1.3s								
NKL				pmax	pmax				
	comp=Z,1µm,5.0s								
NKL				smax	smax				
	comp=N,3µm,7.0s								
NKL				MLR	MLR				
	comp=E,65µm,10.0s								
NKL				MLR	MLR				
	comp=N,33µm,10.0s								
NKL				MLR	MLR				
	comp=Z,50µm,13.0s								
SRS	**Serrai**	**41.18 288**		*e*P	**P**		**16 46 36.4**	**-1.3**	
SRS	**Serrai**	**41.18 288**		P	**P**		**16 46 36.4**	**-1.3**	
OUR	**Ouranopolis**	**41.19 286**		*e*P	**P**		**16 46 38.3**	**+0.5**	
OUR	**Ouranopolis**	**41.19 286**		P	**P**		**16 46 38.3**	**+0.5**	
AMGA	**Amorgos Island**	**41.22 281**		P	**P**		**16 46 36.6**	**-1.5**	
DAMY	**Dhamar**	**41.24 238**		*e*P	**P**		**16 46 39.6**	**+0.8**	
	comp=Z,386nm,1.2s								
DAMY				LR	LR				
	comp=Z,28µm,20.0s								
MDVR	**Moldovita**	**41.24 294**	⇓	*i*P	**P**		**16 46 38.8**	**+0.5**	
KKB	**Krupnik**	**41.27 289**		*e*P	**P**		**16 46 39.0**	**+0.5**	
SKY	**Skiros Island**	**41.35 284**		*e*P	**P**		**16 46 38.8**	**-0.4**	
SKY	**Skiros Island**	**41.35 284**		P	**P**		**16 46 38.8**	**-0.4**	
APE	**Apeiranthos**	**41.39 281**		*e*P	**P**		**16 46 36.9**	**-2.6**	
APE	**Apeiranthos**	**41.39 281**	⇑	*i*P	**P**		**16 46 39.7**	**+0.2**	
APE	**Apeiranthos**	**41.39 281**		P	**P**		**16 46 36.9**	**-2.6**	
APE	**Apeiranthos**	**41.39 281**	*c*	*i*P	**P**		**16 46 39.8**	**+0.2**	
APE				pmax	pmax				
	comp=Z,589nm,0.7s								
APE				MLR	MLR				
	comp=Z,7µm,17.0s								
SOH	**Sokhos**	**41.46 287**		*e*P	**P**		**16 46 40.1**	**0.0**	
SOH	**Sokhos**	**41.46 287**		P	**P**		**16 46 40.1**	**0.0**	
LANS	**Liptovska Anna**	**41.49 301**		*e*P	**P**		**16 46 42.1**	**+1.9**	
LANS				*e*			16 46 49.8		
LANS				*e*			16 48 22.9		
LANS	**Liptovska Anna**	**41.49 301**		*e*P	**P**		**16 46 42.1**	**+1.9**	
LANS				*es*P	**sP**		**16 46 49.8**	**+1.9**	
LANS				*e*PP	**PnPn**		**16 48 22.9**	**+2.3**	
ANAF	**Anafi Island**	**41.52 280**		P	**P**		**16 46 38.0**	**-2.5**	
KULM	**Kulim**	**41.52 148**		*e*P	**P**		**16 46 40.0**	**-0.7**	
	comp=Z,115nm,0.9s								
KULM				LR	LR				
	comp=Z,13µm,19.0s								
KULM	**Kulim**	**41.52 148**		P	**P**		**16 46 40.6**	**-0.1**	
PSZ	**Piszkesteto**	**41.53 299**		*e*P	**P**		**16 46 40.5**	**-0.1**	
	comp=Z,576nm,1.9s								
PSZ				LR	LR				
	comp=Z,31µm,19.0s								
PSZ	**Piszkesteto**	**41.53 299**	⇑	*i*P	**P**		**16 46 41.0**	**+0.3**	
PLG	**Polygyros**	**41.56 287**		P	**P**		**16 46 39.7**	**-1.2**	
PLG	**Polygyros**	**41.56 287**		P	**P**		**16 46 39.7**	**-1.2**	
PAIG	**Paliouri**	**41.56 286**		*e*P	P		16 46 36.0	-4.9	
PAIG	**Paliouri**	**41.56 286**		P	P		16 46 36.0	-4.9	
PAIG	**Paliouri**	**41.56 286**		*e*P	P		16 46 36.0	-4.9	
KNT	**Kendrikon**	**41.65 288**		P	**P**		**16 46 41.9**	**+0.3**	
KNT	**Kendrikon**	**41.65 288**		P	**P**		**16 46 41.9**	**+0.3**	
BJO	**Bjornoya**	**41.67 339**		*e*P	**P**		**16 46 44.1**	**+2.9**	
THR8	**Santorini-Mono**	**41.71 280**		P	**P**		**16 46 42.4**	**+0.3**	
IOSP	**Ios island**	**41.71 281**		P	**P**		**16 46 40.4**	**-1.7**	
AOS	**Alonnisos**	**41.72 285**		P	P		16 46 36.9	-5.2	
AOS	**Alonnisos**	**41.72 285**		P	P		16 46 36.9	-5.2	
HORT	**Hortiatis**	**41.72 287**		P	**P**		**16 46 41.8**	**-0.5**	
HORT	**Hortiatis**	**41.72 287**		P	**P**		**16 46 41.8**	**-0.5**	
THR2	**Thira island,**	**41.72 280**		*e*P	**P**		**16 46 42.6**	**+0.4**	
THR2	**Thira island,**	**41.72 280**		P	**P**		**16 46 42.6**	**+0.4**	
THR7	**Fira-Santorini**	**41.74 280**		P	**P**		**16 46 43.7**	**+1.3**	
THT2	**Imerovigli**	**41.74 280**		P	**P**		**16 46 42.3**	**-0.1**	
SANT	**Santorini**	**41.74 280**		*e*P	**P**		**16 46 40.3**	**-2.1**	
	comp=Z,1µm,1.2s								
SANT	**Santorini**	**41.74 280**	⇓	*i*P	**P**		**16 46 39.8**	**-2.6**	
SANT	**Santorini**	**41.74 280**		P	**P**		**16 46 41.1**	**-1.3**	
ZKR	**Zakros**	**41.74 278**		*e*P	**P**		**16 46 42.6**	**+0.2**	
ZKR	**Zakros**	**41.74 278**		P	**P**		**16 46 42.6**	**+0.2**	
THR3	**Thira Island,**	**41.76 280**		*e*P	**P**		**16 46 42.2**	**-0.3**	
THR3	**Thira Island,**	**41.76 280**		P	**P**		**16 46 42.2**	**-0.3**	
THR6	**Thira Island,**	**41.79 280**		*e*P	**P**		**16 46 42.4**	**-0.4**	
THR6	**Thira Island,**	**41.79 280**		P	**P**		**16 46 42.4**	**-0.4**	
SAP3	**Santorini-Thir**	**41.79 280**		P	**P**		**16 46 39.6**	**-3.2**	
STIA	**Sitia Lasithi**	**41.79 278**		P	**P**		**16 46 44.1**	**+1.3**	
THR5	**Thira Island,**	**41.80 280**		P	**P**		**16 46 42.6**	**-0.2**	
THE	**Thessaloniki**	**41.80 287**		*e*P	**P**		**16 46 39.8**	**-3.0**	
THE	**Thessaloniki**	**41.80 287**		P	**P**		**16 46 39.8**	**-3.0**	
THE	**Thessaloniki**	**41.80 287**		*e*P	**P**		**16 46 39.8**	**-3.0**	
THR9	**Santorini-Faro**	**41.82 280**		P	**P**		**16 46 43.4**	**+0.4**	
VAY	**Valandovo**	**41.82 288**		*e*P	**P**		**16 46 43.5**	**+0.5**	
VAY	**Valandovo**	**41.82 288**		P	**P**		**16 46 43.5**	**+0.5**	
VAY	**Valandovo**	**41.82 288**		*i* P	**P**		**16 46 43.4**	**+0.4**	
STEI	**Steigen**	**41.89 329**		*e*P	**P**		**16 46 43.5**	**+0.3**	
GKP	**Gorka Klasztor**	**41.93 307**		*e*P	**P**		**16 46 43.9**	**+0.2**	
GKP				*e*PP	**PP**		**16 48 22.2**	**+1.7**	
GKP				LMZ	LR		17 04 25.5		
	comp=Z,42µm,18.5s								
GKP	**Gorka Klasztor**	**41.93 307**		*e*P	**P**		**16 46 43.9**	**+0.2**	
GKP				*e*			16 48 22.2		
GKP				MLR	MLR				
	comp=Z,42µm,18.5s								
STIP	**Stip**	**41.96 289**		*i* P	**P**		**16 46 43.0**	**-1.1**	
EREA	**Eretria**	**41.98 284**		P	**P**		**16 46 44.6**	**+0.3**	
SKIA	**Skiathos**	**42.01 285**		P	**P**		**16 46 44.5**	**-0.1**	
RAC	**Raciborz**	**42.06 302**		*e*P	**P**		**16 46 44.3**	**-0.5**	
RAC				*e*S	**S**		**16 53 03.6**	**+0.3**	
RAC				MLR	MLR				
	comp=Z,18µm,18.5s								
VYHS	**Vyhne**	**42.06 300**		*e*P	**P**		**16 46 45.4**	**+0.5**	
VYHS				*e*			16 46 52.7		
VYHS				pmax	pmax				
	comp=Z,135nm,1.4s								
VYHS				MLR	MLR				
	comp=Z,10µm,19.0s								
VYHS	**Vyhne**	**42.06 300**		*e*P	**P**		**16 46 45.3**	**+0.4**	
VYHS				*es*P	**sP**		**16 46 52.7**	**+0.1**	
VYHS				*e*L	L		17 05 55.0		
GRG	**Griva**	**42.08 288**		*e*P	**P**		**16 46 41.5**	**-3.6**	
GRG	**Griva**	**42.08 288**		P	**P**		**16 46 41.5**	**-3.6**	
GRG	**Griva**	**42.08 288**		*e*P	**P**		**16 46 41.5**	**-3.6**	
KCSI	**Kotacane, Aceh**	**42.09 153**		P	**P**		**16 46 45.2**	**-0.2**	
	comp=Z,31nm,1.3s,comp=Z,713nm								
SERI	**Serifos**	**42.10 282**		P	**P**		**16 46 43.4**	**-2.0**	
MRKA	**Markates**	**42.11 284**		P	P		16 46 38.3	-7.1	
NPS	**Neapolis**	**42.12 279**		P	**P**		**16 46 44.4**	**-1.1**	
NPS	**Neapolis**	**42.12 279**		P	**P**		**16 46 44.4**	**-1.1**	
NPS	**Neapolis**	**42.12 279**		P	**P**		**16 46 44.4**	**-1.1**	
XOR	**Xorichti**	**42.13 285**		P	**P**		**16 46 45.5**	**-0.1**	
XOR	**Xorichti**	**42.13 285**		P	**P**		**16 46 45.5**	**-0.1**	
NEO	**Neokhori**	**42.13 285**		P	**P**		**16 46 44.7**	**-0.9**	
NEO	**Neokhori**	**42.13 285**		P	**P**		**16 46 44.7**	**-0.9**	
MOR8	**Moi Rana**	**42.14 327**		*e*P	**P**		**16 46 44.2**	**-1.0**	
TPTI		**42.14 153**		P	P		16 46 39.0	-6.8	
OKC	**Ostrava-Krasne**	**42.15 302**		*e*P	**P**		**16 46 48.0**	**+2.5**	
OKC				AMS	AMS		17 04 30.0		
	comp=Z,32µm,11.4s								
OKC	**Ostrava-Krasne**	**42.15 302**		*e*P	**P**		**16 46 48.0**	**+2.5**	
OKC				MLR	MLR				
	comp=Z,32µm,11.4s								
PTL	**Penteli**	**42.18 283**		*e*P	**P**		**16 46 45.5**	**-0.5**	
PTL	**Penteli**	**42.18 283**		P	**P**		**16 46 45.5**	**-0.5**	
BUD	**Budapest**	**42.22 298**		*e*P	**P**		**16 46 46.1**	**-0.1**	
BUD				*e*PP	**PP**		**16 48 24.1**	**+0.3**	
LAST	**Lasithi**	**42.26 279**		*e*P	**P**		**16 46 46.6**	**-0.1**	
LAST	**Lasithi**	**42.26 279**		P	**P**		**16 46 46.6**	**-0.1**	
ATHU	**Athens Univers**	**42.27 283**		*e*P	**P**		**16 46 46.1**	**-0.6**	
ATHU	**Athens Univers**	**42.27 283**		P	**P**		**16 46 46.1**	**-0.6**	
FYTO	**Fytoko, Volos**	**42.29 286**		*e*P	**P**		**16 46 44.9**	**-1.9**	
FYTO	**Fytoko, Volos**	**42.29 286**		P	**P**		**16 46 44.9**	**-1.9**	
JOW	**Kunigami**	**42.31 96**		*e*P	**P**		**16 46 46.5**	**-0.7**	
	comp=Z,75nm,1.0s								
SMIA	**Simia**	**42.31 285**		P	**P**		**16 46 45.5**	**-1.5**	
VLY	**Voula,Athens**	**42.31 283**		*e*P	**P**		**16 46 48.2**	**+1.2**	
VLY	**Voula,Athens**	**42.31 283**		P	**P**		**16 46 48.2**	**+1.2**	
KOLL	**Kolacno**	**42.32 300**		*e*P	**P**		**16 46 47.6**	**+0.7**	
KOLL				*e*			16 46 55.7		
KOLL	**Kolacno**	**42.32 300**		*e*P	**P**		**16 46 47.6**	**+0.7**	
KOLL				*es*P	**sP**		**16 46 55.7**	**+1.1**	
ATH	**Athens Observa**	**42.32 283**		P	**P**		**16 46 46.7**	**-0.3**	
ATH	**Athens Observa**	**42.32 283**		P	**P**		**16 46 46.7**	**-0.3**	
ATH	**Athens Observa**	**42.32 283**		P	**P**		**16 46 46.7**	**-0.3**	
LIT	**Litokhoron**	**42.34 287**		*e*P	**P**		**16 46 46.7**	**-0.5**	
LIT	**Litokhoron**	**42.34 287**		P	**P**		**16 46 44.2**	**-3.1**	
LIT	**Litokhoron**	**42.34 287**		*e*P	**P**		**16 46 46.7**	**-0.5**	
SKO	**Skopje**	**42.38 290**		*e*P	**P**		**16 46 47.4**	**-0.1**	
SKO	**Skopje**	**42.38 290**		P	**P**		**16 46 47.4**	**-0.1**	
SKO	**Skopje**	**42.38 290**		*i* P	**P**		**16 46 47.8**	**+0.3**	
SKO	**Skopje**	**42.38 290**		*e*P	**P**		**16 46 47.4**	**-0.1**	
TSI	**Tuntungan**	**42.39 151**		P	**P**		**16 46 45.1**	**-2.7**	
	comp=Z,140nm,1.3s								
FRGS	**Fruska Gora**	**42.40 295**	⇑	*i*P	**P**		**16 46 47.8**	**+0.1**	
IPM	**Ipoh**	**42.41 148**		*e*P	**P**		**16 46 46.2**	**-1.8**	
	comp=Z,148nm,1.3s								
IPM				LR	LR				
	comp=Z,9µm,20.0s								
IACM	**Heraklion**	**42.49 279**		P	**P**		**16 46 48.5**	**0.0**	
KSTL	**Kastelli Herak**	**42.49 279**		P	**P**		**16 46 49.2**	**+0.7**	
ATAL	**Atalanti**	**42.52 285**		*e*P	**P**		**16 46 46.1**	**-2.6**	
ATAL	**Atalanti**	**42.52 285**		P	**P**		**16 46 46.1**	**-2.6**	
KTGM	**Kuala Trenggan**	**42.52 144**		P	**P**		**16 46 49.7**	**+0.9**	
VILL	**Villia**	**42.53 284**		P	**P**		**16 46 48.4**	**-0.4**	
LOF	**Lofoten**	**42.54 330**		*e*P	**P**		**16 46 48.3**	**-0.1**	
MORC	**Moravsky Berou**	**42.54 302**		*e*P	**P**		**16 46 48.5**	**-0.2**	
	comp=Z,244nm,1.2s								
MORC				LR	LR				
	comp=Z,29µm,20.0s								
MORC	**Moravsky Berou**	**42.54 302**	⇓	*i*P	**P**		**16 46 48.9**	**+0.1**	
MORC	**Moravsky Berou**	**42.54 302**		*e*P	**P**		**16 46 48.6**	**-0.2**	
MORC				pmax	pmax				
	comp=Z,244nm,1.2s								
MORC				MLR	MLR				
	comp=Z,29µm,20.0s								
MORC	**Moravsky Berou**	**42.54 302**		*e*P	**P**		**16 46 50.3**	**+1.5**	
MORC				*e*PP	**PcP**		**16 48 37.0**	**-4.1**	
MORC				*e*SS	SS		16 56 16.6	-3.4	
LKR	**Lokris**	**42.55 285**		P	**P**		**16 46 46.7**	**-2.3**	
LKR	**Lokris**	**42.55 285**		P	**P**		**16 46 46.7**	**-2.3**	
SRO	**Srobarova**	**42.59 299**		*e*P	**P**		**16 46 50.4**	**+1.3**	
SRO				*e*			16 46 57.6		
SRO	**Srobarova**	**42.59 299**		*e*P	**P**		**16 46 50.4**	**+1.3**	
SRO				*es*P	**sP**		**16 46 57.6**	**+0.8**	
DIVS	**Divibare**	**42.63 293**		*e*P	**P**		**16 46 49.6**	**-0.1**	
	comp=Z,444nm,1.1s								
DIVS				LR	LR				
	comp=Z,20µm,19.0s								
DIVS	**Divibare**	**42.63 293**	⇑	*i*P	**P**		**16 46 49.6**	**-0.1**	
IDI	**Anoyia**	**42.63 279**		P	**P**		**16 46 48.9**	**-0.9**	
	comp=Z,295nm,0.8s,baz=33,slow=9.3,SNR=84								
IDI				LR	LR		17 07 18.4		
	comp=Z,8µm,19.4s,baz=70,slow=40								
IDI	**Anoyia**	**42.63 279**		*e*P	**P**		**16 46 49.1**	**-0.6**	
	comp=Z,917nm,1.0s								
IDI	**Anoyia**	**42.63 279**	⇑	*i*P	**P**		**16 46 48.7**	**-1.0**	
SNSI	**Sinabang, Aceh**	**42.67 155**		P	**P**		**16 46 50.2**	**+0.1**	
	comp=Z,341nm,1.1s,comp=Z,8µm								
KONS	**Konsvik**	**42.67 327**		*e*P	**P**		**16 46 50.8**	**+1.2**	
JAVC	**Velka Javorina**	**42.70 301**		*e*P	**P**		**16 46 52.3**	**+2.1**	
JAVC				*e*PP	**PcP**		**16 48 40.4**	**-1.3**	
JAVC				*e*SS	SS		16 56 26.6	+3.3	
KRUS	**Krusevo**	**42.73 289**		*i* P	**P**		**16 46 50.5**	**0.0**	
TYV	**Tymovskoe**	**42.74 56**		*e*P	**P**		**16 46 51.4**	**+1.1**	
TYV				*e*S	**S**		**16 53 14.4**	**+1.1**	
TYV				pmax	pmax				
	comp=Z,68nm,1.3s								
TYV				pmax	pmax				
	comp=Z,900nm,3.3s								
TYV				smax	smax				
	comp=E,13nm,1.6s								
TYV				smax	smax				
	comp=E,2µm,9.2s								
AXAR	**Agios Charalam**	**42.75 285**		*e*P	**P**		**16 46 51.7**	**+1.1**	
AXAR	**Agios Charalam**	**42.75 285**		P	**P**		**16 46 51.7**	**+1.1**	
KZN	**Kozani**	**42.77 287**		P	**P**		**16 46 50.4**	**-0.4**	
KZN	**Kozani**	**42.77 287**		P	**P**		**16 46 50.4**	**-0.4**	
KZN	**Kozani**	**42.77 287**		P	**P**		**16 46 50.4**	**-0.4**	
PROD	**Prodromos**	**42.78 284**		P	P		16 46 42.8	-8.1	
TEKS	**Tekeris**	**42.79 294**		*e*P	**P**		**16 46 51.2**	**+0.3**	
BIA	**Bitola**	**42.81 288**		*i* P	**P**		**16 46 52.5**	**+1.4**	
TMBK	**Timbaki Herakl**	**42.82 279**		P	**P**		**16 46 52.4**	**+1.2**	
LTK	**Loutraki**	**42.83 284**		*e*P	**P**		**16 46 47.5**	**-3.8**	
LTK	**Loutraki**	**42.83 284**		P	**P**		**16 46 47.5**	**-3.8**	
LOUT	**Loutraki**	**42.84 284**		P	**P**		**16 46 49.8**	**-1.6**	
MORH	**Mrgy, Hungar**	**42.85 297**	⇑	*i*P	**P**		**16 46 51.1**	**-0.2**	
DID	**Didima**	**42.86 283**		*e*P	**P**		**16 46 49.8**	**-1.7**	
DID	**Didima**	**42.86 283**		P	**P**		**16 46 49.8**	**-1.7**	
AGG	**Agios Georgios**	**42.88 285**		*e*P	**P**		**16 46 50.8**	**-0.9**	
AGG				LR	LR				
	comp=Z,5µm,21.0s								
AGG	**Agios Georgios**	**42.88 285**		P	**P**		**16 46 50.0**	**-1.7**	
AGG	**Agios Georgios**	**42.88 285**		*e*P	**P**		**16 46 50.8**	**-0.9**	
AGG				MLR	MLR				
	comp=Z,5µm,21.0s								
THL	**Klokotos Trika**	**42.89 286**		P	**P**		**16 46 48.1**	**-3.6**	
BSD	**Bornholm Skovb**	**42.91 310**		*i* P	**P**		**16 46 51.9**	**+0.3**	
	comp=Z,106nm,0.9s								
BSD				*e*			16 48 36.1		
BSD	**Bornholm Skovb**	**42.91 310**		*i* P	**P**		**16 46 51.9**	**+0.3**	
BSD				*e*			16 48 36.1		
BSD				pmax	pmax				
	comp=Z,110nm,0.9s								
KRLC	**Kraliky**	**42.94 303**		*e*P	**P**		**16 46 53.0**	**+1.0**	
KRLC				AMS	AMS		17 05 00.0		
KRLC	**Kraliky**	**42.94 303**		*e*P	**P**		**16 46 53.0**	**+1.0**	
SMOL	**Smolenice**	**42.95 300**		*e*P	**P**		**16 46 53.3**	**+1.1**	
SMOL				*e*			16 47 00.4		
SMOL	**Smolenice**	**42.95 300**		*e*P	**P**		**16 46 53.2**	**+1.1**	
SMOL				*es*P	**sP**		**16 47 00.4**	**+0.6**	
KRND	**KRANIDI**	**42.97 283**		P	**P**		**16 46 50.3**	**-2.1**	
DSF	**Desfina**	**42.99 284**		*e*P	**P**		**16 46 49.8**	**-2.8**	
DSF	**Desfina**	**42.99 284**		P	**P**		**16 46 49.8**	**-2.8**	
MAKR	**Makrakomi, Fth**	**43.02 285**		*e*P	**P**		**16 46 51.7**	**-1.1**	
MAKR	**Makrakomi, Fth**	**43.02 285**		P	**P**		**16 46 51.7**	**-1.1**	
KSP	**Ksiaz**	**43.05 304**		*e*P	**P**		**16 46 52.5**	**-0.3**	
KSP				LMN			17 02 20.7		
	comp=Z,86µm,18.6s								
KSP	**Ksiaz**	**43.05 304**		*e*P	**P**		**16 46 52.5**	**-0.3**	
KSP				MLR	MLR				
	comp=N,86µm,18.6s								
VAM	**Vamos**	**43.08 280**		P	**P**		**16 46 52.4**	**-0.9**	
VAM	**Vamos**	**43.08 280**		P	**P**		**16 46 52.4**	**-0.9**	
VAM	**Vamos**	**43.08 280**		P	**P**		**16 46 52.4**	**-0.9**	
MODS	**Modra-Piesok**	**43.09 300**		*e*P	**P**		**16 46 54.2**	**+0.9**	
MODS				*e*			16 47 01.7		
MODS				*e*			16 48 42.3		
MODS				pmax	pmax				
	comp=Z,266nm,1.3s								
MODS				MLR	MLR				
	comp=Z,28µm,20.1s								
MODS	**Modra-Piesok**	**43.09 300**		*e*P	**P**		**16 46 54.2**	**+0.9**	
MODS				*es*P	**sP**		**16 47 01.7**	**+0.8**	
MODS				*e*PP	**PcP**		**16 48 42.3**	**-0.6**	
MODS				*e*L	L		17 05 42.0		
BBLS	**Lazići**	**43.11 293**	⇑	*i*P	**P**		**16 46 53.7**	**+0.2**	
IVA	**Berane**	**43.12 292**	⇑	*i*P	**P**		**16 46 54.6**	**+0.9**	
CHAN	**Chania**	**43.14 280**		P	P		16 46 58.9	+5.1	
DPC	**Dobruska-Polom**	**43.15 303**		*e*P	**P**		**16 46 55.2**	**+1.4**	
DPC				*e*PP	**PcP**		**16 48 42.0**	**-1.1**	
DPC				*ex*	x		16 53 38.5		
DPC				AMS	AMS		17 03 50.0		
	comp=Z,27µm,14.0s								
DPC	**Dobruska-Polom**	**43.15 303**		*e*P	**P**		**16 46 55.2**	**+1.4**	
DPC				*e*			16 48 42.0		
DPC				MLR	MLR				
	comp=Z,27µm,14.0s								
HSPB	**Hornsund (broa**	**43.16 343**		*e*P	**P**		**16 46 54.5**	**+1.1**	
HSPB				*e*			16 48 40.1		
HSPB				*e*SS	SS		16 56 30.6	-0.6	
HSPB				MLR	MLR				
	comp=Z,26µm,23.6s								
HSPB	**Hornsund (broa**	**43.16 343**		*e*P	**P**		**16 46 54.2**	**+0.8**	
PSI	**Prapat**	**43.17 151**		P	**P**		**16 46 52.4**	**-1.9**	
	comp=Z,32nm,0.8s,baz=360,slow=9.0,SNR=17								
PSI				LR	LR		17 08 03.7		
	comp=Z,13µm,20.1s,baz=271,slow=40								
PSI	**Prapat**	**43.17 151**		*e*P	**P**		**16 46 52.5**	**-1.7**	
	comp=Z,101nm,0.9s								
PSI	**Prapat**	**43.17 151**		*e*P	**P**		**16 46 52.5**	**-1.7**	
PSI				pmax	pmax				
	comp=Z,101nm,0.9s								
PHP	**Peshkopia**	**43.17 290**		*e*P	**P**		**16 46 53.7**	**-0.4**	
PHP	**Peshkopia**	**43.17 290**		P	**P**		**16 46 53.7**	**-0.4**	
PHP	**Peshkopia**	**43.17 290**		*i* PN	**P**		**16 46 55.8**	**+1.7**	
PVY	**Plav**	**43.17 291**	⇑	*i*P	**P**		**16 46 55.3**	**+1.2**	
BCI	**Bajram Curri**	**43.18 291**		*i* PN	**P**		**16 46 55.8**	**+1.7**	
KPRO	**Kipourio**	**43.19 287**		P	**P**		**16 46 52.9**	**-1.3**	
NSS	**Namsos**	**43.21 324**		*e*P	**P**		**16 46 53.8**	**-0.2**	
IMMV	**Iera Moni Meta**	**43.22 280**		P	**P**		**16 46 52.6**	**-1.8**	
NEST	**Nestorio**	**43.23 288**		P	**P**		**16 46 53.7**	**-0.9**	
ZST	**Bratislava**	**43.26 300**		*e*P	**P**		**16 46 54.2**	**-0.3**	
ZST				*e*			16 47 01.5		
ZST				*e*			16 48 42.9		
ZST	**Bratislava**	**43.26 300**		*e*P	**P**		**16 46 54.2**	**-0.3**	
ZST				*es*P	**sP**		**16 47 01.5**	**-0.7**	
ZST				*e*PP	**PcP**		**16 48 42.9**	**-0.6**	
PENT	**Pentalofos**	**43.26 287**		P	**P**		**16 46 53.4**	**-1.4**	
VRAC	**Vranov**	**43.26 302**		LR	LR		17 04 48.8		
	comp=Z,23µm,21.2s,baz=78,slow=36								
VRAC	**Vranov**	**43.26 302**	⇑	*i*P	**P**		**16 46 54.6**	**0.0**	
VRAC	**Vranov**	**43.26 302**		*e*P	**P**		**16 46 55.3**	**+0.7**	
VRAC				*e*PP	**PcP**		**16 48 42.5**	**-1.0**	
VRAC				*e*SS	SS		16 56 33.9	-0.2	
KALE	**Kalithea**	**43.27 285**		*e*P	**P**		**16 46 52.5**	**-2.4**	
KALE	**Kalithea**	**43.27 285**		P	**P**		**16 46 52.5**	**-2.4**	
SPA0	**Spitsbergen Ar**	**43.28 344**		*e*P	**P**		**16 46 54.8**	**+0.4**	
SPA0	**Spitsbergen Ar**	**43.28 344**		*e*P	**P**		**16 46 56.1**	**+1.7**	
SPITS	**Spitsbergen Ar**	**43.28 344**		P	**P**		**16 46 54.7**	**

ULC **Ulcinj** 43.90 291⇑ *i*P P 16 47 00.7 +0.8
comp=E,35µm,16.0s
RGN **Rugen** 43.93 310 *e*P P 16 46 58.3 -1.5
comp=E,1µm,1.4s
RGN LR LR
comp=Z,14µm,18.0s
RGN **Rugen** 43.93 310 *e*P P 16 47 00.6 +0.7
comp=Z,1µm,1.4s,baz=72,slow=7.8
RGN **Rugen** 43.93 310 *e*P P 16 47 00.5 +0.7
RGN IAmb IAmb 16 47 10.0
comp=Z,2µm,1.5s
ITM **Ithomi** 43.94 283 *e*P P 16 46 58.8 -1.5
comp=Z,580nm,1.1s
ITM LR LR
comp=Z,8µm,21.0s
ITM **Ithomi** 43.94 283 P P 16 46 57.9 -2.3
AMT **Artemida-Makis** 43.95 284 P P 16 46 54.8 -5.5
TREC **Trest** 43.96 302 *e*P P 16 47 02.9 +2.6
TREC *ex* x 16 48 54.2
TREC *eS* S 16 53 56.9 +25
TREC AMS AMS 17 05 40.0
comp=Z,31µm,13.0s
TREC **Trest** 43.96 302 *e*P P 16 47 02.9 +2.6
TREC *e* 16 48 54.2
TREC MLR MLR
comp=Z,31µm,13.0s
TPE **Tepelena** 44.01 288 *e*P P 16 47 00.7 0.0
TPE **Tepelena** 44.01 288 P P 16 47 00.7 0.0
TPE **Tepelena** 44.01 288 *i* PN P 16 47 00.2 -0.5
BUM **Brajici-Budva** 44.02 291⇑ *i*P P 16 47 01.3 +0.5
BRY **Bratogost** 44.04 292⇑ *i*P P 16 47 01.0 -0.1
BRY **Bratogost** 44.04 292⇑ *i*P P 16 46 59.9 -1.2
TRLU **Trondheim** 44.07 322 *e*P P 16 47 01.7 +0.8
NAO01 **NORSAR Array S** 44.08 319 *e*P P 16 47 00.0 -1.0
NAO01 **NORSAR Array S** 44.08 319 *e*P P 16 47 00.2 -0.8
NC204 **NORSAR Array S** 44.08 320 *e*P P 16 47 00.4 -0.7
IGT **Igoumenitsa** 44.09 287 *e*P P 16 46 57.8 -3.6
IGT **Igoumenitsa** 44.09 287 P P 16 46 57.8 -3.6
IGT **Igoumenitsa** 44.09 287 *e*P P 16 46 57.8 -3.6
NBO00 **NORSAR Array S** 44.10 319 *e*P P 16 47 00.5 -0.7
GSI **Gunungsitoli** 44.11 154 *e*P P 16 47 01.5 -0.2
comp=Z,517nm,1.1s
GSI LR LR
comp=Z,22µm,20.0s
GSI **Gunungsitoli** 44.11 154 P P 16 47 00.7 -1.0
comp=Z,452nm,1.1s,comp=Z,5µm
CONA **Conrad Observa** 44.13 300 *i* pP P 16 47 02.7 +1.0
comp=Z,293nm,1.2s,SNR=34
RUE **Ruedersdorf** 44.15 307 *e*P P 16 47 01.6 -0.1
comp=Z,421nm,1.5s,baz=72,slow=7.8
RUE **Ruedersdorf** 44.15 307 *e*P P 16 47 01.1 -0.5
RUE IAmb IAmb 16 47 10.6
comp=Z,342nm,1.4s
LKD2 **Lefkada island** 44.16 286 P P 16 46 55.9 -6.1
COP **Copenhagen** 44.18 311 *i* P P 16 47 03.8 +1.9
comp=Z,234nm,1.0s
COP **Copenhagen** 44.18 311 *i* P P 16 47 03.8 +1.9
COP pmax pmax
comp=Z,230nm,1.0s
SRN **Sarande** 44.18 288 *e*P P 16 47 00.6 -1.5
SRN **Sarande** 44.18 288 P P 16 47 00.6 -1.5
SRN **Sarande** 44.18 288 *i* PN P 16 47 00.9 -1.2
PVCC **Panska Ves** 44.19 304 *e*P P 16 47 03.5 +1.5
PVCC AMS AMS 17 04 30.0
comp=Z,31µm,11.4s
PVCC **Panska Ves** 44.19 304 *e*P P 16 47 03.5 +1.5
PVCC MLR MLR
comp=Z,31µm,11.4s
PYL **PYLOS** 44.20 283 *e*P P 16 46 58.7 -3.6
PYL **PYLOS** 44.20 283 P P 16 46 58.7 -3.6
GOPC **GO Pecny, Ondr** 44.22 303 *e*P P 16 47 04.1 +1.8
GOPC *eS* S 16 53 43.6 +8.4
GOPC AMS AMS 17 04 30.0
comp=Z,26µm,12.0s
GOPC **GO Pecny, Ondr** 44.22 303 *e*P P 16 47 04.1 +1.8
GOPC *eS* S 16 53 43.6 +8.4
GOPC MLR MLR
comp=Z,26µm,12.0s
TREB **Trebinje** 44.23 292 *e*P P 16 47 02.9 +0.4
EVGI **Lefkada island** 44.24 286 P P 16 47 02.4 -0.2
HCY **Herceg Novi** 44.24 292⇑ *i*P P 16 47 03.4 +0.9
HCY **Herceg Novi** 44.24 292 *e*P P 16 47 02.0 -0.5
OSL **Oslo** 44.29 318 *e*P P 16 47 03.8 +1.1
BLY **Banja Luka** 44.30 295 *e*P P 16 47 02.4 -0.6
comp=Z,243nm,1.5s
BLY LR LR
comp=Z,17µm,20.0s
BLY **Banja Luka** 44.30 295⇑ *i*P P 16 47 03.1 +0.1
BLY **Banja Luka** 44.30 295⇑ *i*P P 16 47 02.8 -0.2
VLO **Vlora** 44.30 289 *i* PN P 16 47 03.7 +0.6
KBS **Kingsbay** 44.32 345 *e*P P 16 47 02.9 +0.2
comp=Z,87nm,0.8s
KBS LR LR
comp=Z,23µm,19.0s
KBS **Kingsbay** 44.32 345 *e*P P 16 47 03.6 +0.9
PRU **Pruhonice** 44.35 303 *e*P P 16 47 04.8 +1.4
PRU AMS AMS 17 04 40.0
comp=Z,27µm,19.0s
PRU **Pruhonice** 44.35 303 *e*P P 16 47 04.8 +1.4
PRU MLR MLR
comp=Z,27µm,19.0s
KEK **Kerkira** 44.39 287 *e*P P 16 47 00.1 -3.7
KEK **Kerkira** 44.39 287 P P 16 47 00.1 -3.7
INU **Inuyama** 44.40 79 *e*P P 16 47 03.3 -0.6
comp=Z,204nm,1.3s
INU LR LR
comp=Z,10µm,18.0s
PRA **Prague** 44.40 303 *e*P P 16 47 06.4 +2.7
PRA AMS AMS 17 04 50.0
comp=Z,30µm,14.7s
PRA **Prague** 44.40 303 *e*P P 16 47 06.4 +2.7
PRA MLR MLR
comp=Z,30µm,14.7s
VLS **Valsamata** 44.47 285 P P 16 47 02.4 -2.1
VLS **Valsamata** 44.47 285 P P 16 47 02.4 -2.1
VLS **Valsamata** 44.47 285 P P 16 47 02.4 -2.1
BRG **Berggiesshubel** 44.47 304 *i* P P 16 47 04.5 +0.2
comp=Z,517nm,1.8s
BRG PP PP 16 48 49.3 +1.4
comp=Z,433nm,1.6s
BRG S S 16 53 38.0 -0.7
BRG SS SS 16 56 58.0 +0.3
comp=Z,36µm,16.6s
comp=N,36µm,11.4s
comp=E,30µm,11.4s
BRG **Berggiesshubel** 44.47 304 *e*P P 16 47 04.6 +0.3
comp=E,512nm,1.8s,baz=72,slow=7.8
BRG **Berggiesshubel** 44.47 304 *i* P P 16 47 04.5 +0.2
BRG 16 48 49.3
BRG S S 16 53 38.0 -0.7
BRG SS SS 16 56 58.0 +0.3
BRG pmax pmax
comp=Z,517nm,1.8s
BRG pmax pmax
comp=Z,433nm,1.6s
BRG MLR MLR
comp=Z,36µm,16.6s
BRG MLR MLR
comp=N,36µm,11.4s
BRG MLR MLR
comp=E,30µm,11.4s
ATD **Arta Tunnel** 44.53 237 P P 16 47 05.5 +0.4
comp=E,97nm,1.1s,baz=22,slow=4.4,SNR=19
ATD **Arta Tunnel** 44.53 237 *e*P P 16 47 04.7 -0.4
comp=E,533nm,1.4s
ATD LR LR
comp=Z,13µm,20.0s
ARSA **Arzberg** 44.56 299 *e*P P 16 47 05.6 +0.5
comp=Z,115nm,1.4s,SNR=14
STON **Ston** 44.62 292 P P 16 47 03.5 -2.1
MJB9 **Matsu-Tunnel** 44.71 77 *e*P P 16 47 05.6 -0.8
comp=Z,465nm,1.9s
MJB9 LR LR
comp=Z,20µm,22.0s
MAJO **Matsushiro** 44.72 77 *e*P P 16 47 05.5 -1.0
comp=Z,458nm,1.9s
MAJO LR LR
comp=Z,19µm,22.0s
MAJO **Matsushiro** 44.72 77 *i* P P 16 47 06.8 +0.3
MAJO **Matsushiro** 44.72 77 *e*P P 16 47 05.3 -1.1
MAT **Matsushiro** 44.72 77 P P 16 47 05.2 -1.3
MAT S S 16 53 42.4 -0.3
MJAR **Matsushiro Arr** 44.72 77 P P 16 47 05.4 -1.1
comp=Z,40nm,1.0s,baz=292,slow=8.9,SNR=19
MJAR LR LR 17 06 25.6
comp=Z,16µm,21.3s,baz=315,slow=37
MJAR PKPPKP P'P'df 17 18 44.8 -6.1
comp=Z,1.7nm,1.0s,baz=122,slow=8.2,SNR=4.7
ASAJ **Asahikawa** 44.75 66 P P 16 47 05.7 -0.8
comp=Z,18nm,0.7s,baz=289,slow=5.6,SNR=28
ASAJ S S 16 53 41.7 -1.1
comp=Z,7.5nm,1.1s,baz=270,slow=20,SNR=1.8
DOMB **Dombas** 44.77 321 *e*P P 16 47 06.3 -0.2
KONO **Kongsberg** 44.90 317 *e*P P 16 47 07.1 -0.5
comp=Z,178nm,0.9s
KONO LR LR
comp=Z,37µm,19.0s
KONO **Kongsberg** 44.90 317 *ce*P P 16 47 07.0 -0.5
KONO pmax pmax
comp=Z,200nm,1.3s
KONO **Kongsberg** 44.90 317 *e*P P 16 47 08.2 +0.6
CLL **Collm** 44.92 305 *e*P P 16 47 07.3 -0.5
comp=Z,210nm,1.0s
CLL LR LR
comp=Z,18µm,20.0s
CLL **Collm** 44.92 305 *e*P P 16 47 07.8 -0.1
comp=Z,344nm,1.3s,baz=72,slow=7.8
CLL **Collm** 44.92 305 *e*P P 16 47 08.0 +0.1
comp=Z,120nm,0.9s
CLL ⇓ *i*sP sP 16 47 15.7 +0.3
comp=Z,344nm,1.3s
CLL *e*PP PP 16 48 51.0 -1.6
CLL *es*PcP 16 48 56.0
CLL *eS* S 16 53 44.0 -1.2
CLL *eSS* SS 16 57 09.0 +2.6
CLL LmH 17 03 00.0
comp=N,65µm,21.9s
CLL LmH 17 03 00.0
comp=E,23µm,20.7s
CLL LmV 17 05 00.0
comp=Z,21µm,18.4s
CLL **Collm** 44.92 305⇓ *e*P P 16 47 08.0 +0.1
CLL *i* 16 47 15.7
CLL *eS* S 16 53 44.0 -1.2
CLL pmax pmax
comp=Z,344nm,1.3s
CLL MLR MLR
comp=Z,21µm,18.4s
PERS **Pernice** 45.02 298 *e*P P 16 47 08.7 -0.1
PERS *i* pP pP 16 47 15.4 +1.1
PERS *i* PP PP 16 49 00.8 +7.0
SOKA **Soboth** 45.06 298 *i* P P 16 47 09.5 +0.3
comp=Z,253nm,1.3s,SNR=44
CRES **Cresnjev** 45.07 297⇑ *i*P P 16 47 09.2 0.0
OZLJ **Ozalj** 45.14 297 P P 16 47 10.4 +0.8
MOA **Molln** 45.17 300 *i* pP P 16 47 10.7 +0.7
comp=Z,111nm,1.6s,SNR=11
KHC **Kasperske Hory** 45.21 302 *e*P P 16 47 09.9 -0.3
comp=Z,81nm,1.4s
KHC LR LR
comp=Z,14µm,18.0s
KHC **Kasperske Hory** 45.21 302 *e*P P 16 47 11.6 +1.4
KHC *eS* S 16 53 51.7 +2.2
KHC AMS AMS 17 05 10.0
comp=Z,27µm,13.8s
KHC **Kasperske Hory** 45.21 302 *e*P P 16 47 09.9 -0.3
KHC pmax pmax
comp=Z,81nm,1.4s
KHC MLR MLR
comp=Z,14µm,18.0s
GEC2 **GERESS Array S** 45.22 302 *e*P P 16 47 10.4 0.0
comp=Z,387nm,1.6s
GEC2 LR LR
comp=Z,21µm,19.0s
GEC2 **GERESS Array S** 45.22 302 *e*P P 16 47 11.0 +0.6
comp=Z,429nm,1.8s,baz=72,slow=7.8
GEC2 **GERESS Array S** 45.22 302 *e*P P 16 47 10.4 0.0
GEC2 pmax pmax
comp=Z,387nm,1.6s
GEC2 MLR MLR
comp=Z,21µm,19.0s
GERES **GERESS Array B** 45.22 302 P P 16 47 10.5 +0.2
comp=Z,18nm,0.7s,baz=64,slow=8.2,SNR=97
GERES LR LR 17 07 28.9
comp=Z,18µm,18.9s,baz=82,slow=38
GEA0 **GERESS Array S** 45.22 302 *e*P P 16 47 10.3 0.0
MNSI **Mandailing Nat** 45.26 151 P P 16 47 10.0 -0.9
comp=Z,292nm,0.9s,comp=Z,3µm
BOJS **Bojanci** 45.32 297 *i* P P 16 47 11.3 +0.2
BOJS *ep*P sP 16 47 18.0 -0.8
BOJS *i* 16 47 31.3
BOJS *e*PP PP 16 49 06.9 +10
BOJS *i* 16 49 27.2
BOJS *eS* S 16 53 50.6 -0.5
BOJS *i* SS SS 16 57 20.1 +6.3
UDBI **Udbina** 45.33 295 P P 16 47 10.8 -0.5
MA2 **Magadan** 45.38 43 P P 16 47 11.4 0.0
comp=Z,45nm,1.1s,baz=244,slow=5.5,SNR=19
MA2 **Magadan** 45.38 43 *e*P P 16 47 11.2 -0.2
comp=Z,179nm,1.1s
MA2 LR LR
comp=Z,15µm,21.0s
MA2 **Magadan** 45.38 43 *d*iP P 16 47 11.2 -0.2
MA2 pmax pmax
comp=Z,198nm,2.5s
MA2 MLR MLR
comp=Z,13µm,15.0s
TGY **Tagaytay City** 45.39 116 P P 16 47 11.7 -0.4
comp=Z,84nm,0.3s,baz=270,slow=8.1,SNR=2.0
MOL **Molde** 45.39 322 *e*P P 16 47 12.1 +0.6
OBKA **Obir** 45.43 298 *i* pP P 16 47 12.9 +0.8
comp=Z,234nm,1.3s,SNR=20
VISS **Visnje** 45.49 297 *i* P P 16 47 12.7 +0.2
VISS *i* pP sP 16 47 20.0 -0.1
VISS *i* PP PP 16 49 04.7 +5.9
TANN **Tannenbergstha** 45.51 304 *e*P P 16 47 13.0 +0.4
comp=Z,575nm,1.4s,baz=72,slow=7.8
SEY **Seymchan** 45.56 38 P P 16 47 12.7 -0.1
comp=Z,41nm,1.1s,baz=275,slow=5.9,SNR=48
SEY **Seymchan** 45.56 38 *ce*P P 16 47 11.8 -0.9
NKC **Novy Kostel** 45.57 304 *e*P P 16 47 15.6 +2.5
NKC AMS AMS 17 05 30.0
comp=Z,38µm,11.0s
NKC **Novy Kostel** 45.57 304 *e*P P 16 47 15.6 +2.5
NKC MLR MLR
comp=Z,38µm,11.0s
KGM **Kluang** 45.58 146 P P 16 47 15.4 +1.9
WERN **Wernitzgruen** 45.60 304 *e*P P 16 47 13.8 +0.5
comp=Z,354nm,1.7s,baz=72,slow=7.8
GUNZ **Gunzen** 45.60 304 *e*P P 16 47 13.8 +0.4
comp=Z,315nm,1.4s,baz=72,slow=7.8
LJU **Ljubljana** 45.61 298⇑ *i*P P 16 47 13.3 -0.1
PBSI **Pulau Batu** 45.61 154 P P 16 47 15.5 +1.8
comp=Z,382nm,1.3s,comp=Z,4µm
WET **Wettzell** 45.64 302 *e*P P 16 47 14.1 +0.4
comp=Z,210nm,1.3s,baz=72,slow=7.8
FASA **Fasano** 45.66 290 *e*P P 16 47 14.4 +0.6
PLN **Plauen** 45.67 304 *e*P P 16 47 14.2 +0.3
comp=Z,169nm,1.2s,baz=72,slow=7.8
NEUB **Neuenburg** 45.69 305 *e*P P 16 47 14.1 +0.1
comp=Z,384nm,1.3s,baz=72,slow=7.8
AKN **Aaknes** 45.71 321 *e*P P 16 47 15.2 +1.2
CEY **Cerknica** 45.78 297⇑ *i*P P 16 47 14.6 -0.2
BSEG **Bad Segeberg** 45.79 309 *e*P P 16 47 15.5 +0.8
comp=Z,322nm,1.4s,baz=72,slow=7.8
MUD **Monsted U'grnd** 45.79 313⇓ *i*P P 16 47 17.4 +2.8
comp=Z,151nm,0.9s
MUD **Monsted U'grnd** 45.79 313⇓ *i*P P 16 47 17.4 +2.8
MUD pmax pmax
comp=Z,150nm,0.9s
TAR1 **Taranto** 45.82 290 *e*P P 16 47 14.3 -0.8
MANZ **Manzenberg** 45.85 304 *e*P P 16 47 15.7 +0.4
comp=Z,2µm,1.4s,baz=72,slow=7.8
ROTZ **Rotzenmuhle** 45.86 303 *e*P P 16 47 16.0 +0.6
comp=Z,315nm,1.6s,baz=72,slow=7.8
BAI **Bari** 45.87 290 *e*P P 16 47 16.8 +1.3
MASS **Massafra** 45.88 290 *e*P P 16 47 15.2 -0.4
NVLJ **Novalja** 45.91 296 P P 16 47 14.2 -1.5
ERM **Erimo** 45.92 68 *e*P P 16 47 16.1 +0.3
comp=Z,693nm,1.8s
ERM LR LR
comp=Z,44µm,21.0s
ERM **Erimo** 45.92 68 *e*P P 16 47 16.2 +0.3
ERM pmax pmax
comp=Z,693nm,1.8s
ERM MLR MLR
comp=Z,44µm,21.0s
MOX **Moxa** 45.95 305 *e*P P 16 47 16.5 +0.4
comp=Z,326nm,1.4s,baz=72,slow=7.8
MOX *eL* L 17 06 07.3
comp=Z,26µm,18.3s
JAVS **Javornik** 45.96 298 *e*P P 16 47 16.7 +0.4
JAVS *ep*P pP 16 47 22.3 +0.5
JAVS *i* PP PP 16 49 08.7 +4.9
MYKA **Terra Mystica** 45.98 299 *i* P P 16 47 16.7 +0.3
comp=Z,167nm,1.3s,SNR=15
MYKOM **Kota Tinggi** 46.00 145 *e*P P 16 47 16.6 -0.2
comp=Z,98nm,1.1s
MYKOM LR LR
comp=Z,11µm,19.0s
MYKOM **Kota Tinggi** 46.00 145 P P 16 47 17.8 +1.0
KBA **Koelnbreinsper** 46.02 300 *i* pP P 16 47 17.3 +0.5
comp=Z,232nm,1.5s,SNR=21
ASSE **Asse, Remlinge** 46.08 307 *e*P P 16 47 17.2 +0.3
comp=Z,279nm,1.9s,baz=72,slow=7.8
SG1 **Sgolgore (BA)** 46.12 290 *e*P P 16 47 18.1 +0.6
RJOB **Jochberg** 46.15 301 *e*P P 16 47 17.8 +0.1
comp=Z,278nm,1.9s,baz=72,slow=7.8
MATE **Matera** 46.17 290⇑ *i*P P 16 47 17.8 -0.1
TRI **Trieste** 46.22 298 *e*P P 16 47 17.5 -0.7
comp=Z,477nm,1.4s
TRI LR LR
comp=Z,21µm,20.0s
TRI **Trieste** 46.22 298 *e*P P 16 47 17.5 -0.7
TRI pmax pmax
comp=Z,477nm,1.4s
TRI MLR MLR
comp=Z,21µm,20.0s
BKNI **Bangkinang** 46.23 150 PFAKE 16 47 30.0 +11
BKNI LR LR
comp=Z,17µm,19.0s
BKNI **Bangkinang** 46.23 150 P P 16 47 16.9 -1.6
comp=Z,216nm,1.0s,comp=Z,3µm
HYA **Hoyanger** 46.28 320 *e*P P 16 47 20.0 +1.6
NRDL **Niedersach Rie** 46.31 308 *e*P P 16 47 19.6 +0.9
comp=Z,523nm,1.4s,baz=72,slow=7.8
ODD1 **Odda** 46.33 318 *e*P P 16 47 20.5 +1.6
CLZ **Clausthal** 46.34 307 *e*P P 16 47 19.3 +0.2
comp=Z,242nm,1.6s,baz=72,slow=7.8
SNART **Snartemo** 46.38 316 *e*P P 16 47 20.5 +1.2
GRA1 **Grafenberg Arr** 46.49 304 *e*P P 16 47 20.6 +0.3
comp=Z,440nm,1.1s
GRA1 LR LR
comp=Z,30µm,19.0s
GRF **Grafenberg Arr** 46.49 304 *e*P P 16 47 21.3 +0.9
comp=Z,816nm,1.5s,baz=72,slow=7.8
GRF *eL* L 17 06 25.7
comp=Z,22µm,19.5s
GRF **Grafenberg Arr** 46.49 304 *e*P P 16 47 20.6 +0.3
GRF pmax pmax
comp=Z,440nm,1.1s
GRF MLR MLR
comp=Z,30µm,19.0s
GRFO **Grafenberg** 46.49 304 *e*P P 16 47 20.8 +0.5
comp=Z,405nm,1.1s
GRFO LR LR
comp=Z,28µm,19.0s
GRFO **Grafenberg** 46.49 304 *e*P P 16 47 20.8 +0.5
GRFO pmax pmax
comp=Z,405nm,1.1s
GRFO MLR MLR
comp=Z,28µm,19.0s
BLS5 **Blasjo** 46.52 318 *e*P P 16 47 22.7 +2.3
ABTA **Abfaltersbach** 46.67 299 *i* P P 16 47 21.4 -0.5
comp=Z,70nm,1.2s,SNR=14
RETH **Rethem/Aller,** 46.67 308 *e*P P 16 47 22.2 +0.6
comp=Z,253nm,1.4s,baz=72,slow=7.8
GTTG **Gvttingen** 46.67 306 *e*P P 16 47 22.3 +0.6
comp=Z,775nm,1.3s,baz=72,slow=7.8
PPI **Padang Panjang** 46.71 151 P P 16 47 21.1 -1.2
comp=Z,105nm,1.6s,comp=Z,2µm
FOO **Floro** 46.73 321 *e*P P 16 47 24.2 +2.3
TIP **Timpagrande** 46.75 288 P P 16 47 22.5 -0.1
TIP **Timpagrande** 46.75 288⇓ *i*P P 16 47 22.5 -0.1
TIP **Timpagrande** 46.75 288 P P 16 47 22.5 -0.1
BER **Bergen** 46.85 319 *e*P P 16 47 24.5 +1.5
UBBA **Unterbreizbach** 46.88 305 *e*P P 16 47 23.4 +0.2
comp=Z,266nm,1.5s,baz=72,slow=7.8
ASK **Askoy** 46.90 319 *e*P P 16 47 23.8 +0.5
FUR **Furstenfeldbru** 46.96 302 *e*P P 16 47 25.1 +1.1
comp=Z,852nm,1.5s,baz=72,slow=7.8
YUK **Yuzh-Kuril'sk** 46.96 64 *e*P P 16 47 23.0 -1.0
YUK 16 49 18.5
YUK *i* S S 16 54 16.5 +1.8
YUK *eSS* ScS 16 57 20.4 +2.5
YUK pmax pmax
comp=E,425nm,1.1s
YUK pmax pmax
comp=Z,618nm,1.1s
YUK pmax pmax
comp=N,182nm,1.0s
YUK MLR MLR
comp=N,11µm,14.0s
YUK MLR MLR
comp=Z,28µm,14.0s
WTTA **Wattenberg** 47.05 300 *i* P P 16 47 24.6 -0.3
comp=Z,251nm,1.2s,SNR=27
WATA **Walderalm** 47.06 300 *i* P P 16 47 24.6 -0.3
comp=Z,264nm,1.1s,SNR=33
SISI **Saibi** 47.07 153 P P 16 47 24.6 -0.5
comp=Z,193nm,1.5s,comp=Z,3µm
TPRI **Tanjung Pinang** 47.07 145 P P 16 47 26.7 +1.5
comp=Z,84nm,0.5s,comp=Z,7µm
PDSI **Padang** 47.16 151 P P 16 47 24.9 -1.0
comp=Z,284nm,1.3s,comp=Z,3µm
RGRI **Rengat** 47.34 148 P P 16 47 27.3 +0.1
comp=Z,295nm,0.4s,comp=Z,69µm
SQTA **Sankt Quirin** 47.34 300 *i* P P 16 47 27.3 +0.2
comp=Z,319nm,1.5s,SNR=32
MOTA **Moosalm** 47.36 301 *i* P P 16 47 26.9 -0.4
comp=Z,457nm,1.2s,SNR=54
RETA **Reutte** 47.52 301 *i* P P 16 47 28.6 +0.1
comp=Z,338nm,1.1s,SNR=28
SDSI **Sungai Dareh** 47.53 150 P P 16 47 28.5 -0.2
comp=Z,34nm,0.7s,comp=Z,2µm
FETA **Feichten** 47.71 300 *i* P P 16 47 30.4 +0.3
comp=Z,184nm,1.1s,SNR=30
IBBN **Ibbenburen** 47.74 308 *e*P P 16 47 30.2 +0.2
comp=Z,439nm,1.6s,baz=72,slow=7.8
AQU **L'Aquila** 47.75 293 *e*P P 16 47 30.3 0.0
comp=Z,460nm,1.1s
AQU LR LR
comp=Z,16µm,20.0s
AQU **L'Aquila** 47.75 293 *e*P P 16 47 30.3 0.0
AQU pmax pmax
comp=Z,460nm,1.1s
AQU MLR MLR
comp=Z,16µm,20.0s
AQU **L'Aquila** 47.75 293⇑ *i*P P 16 47 30.6 +0.3
CEL **Celeste** 47.76 287 *e*P P 16 47 30.6 +0.2
comp=Z,1µm,1.2s
CEL LR LR
comp=Z,8µm,18.0s
KUR **Kuril'sk** 47.83 62 *e*P P 16 47 36.7 +5.9
KUR *e* 16 49 03.4
KUR *eS* S 16 54 26.2 -0.8
KUR *i* SSS SSS 16 59 01.3
KUR pmax pmax
comp=Z,397nm,1.5s
KUR MLR MLR
comp=N,12µm,16.0s
KUR MLR MLR
comp=E,4µm,16.0s
KUR MLR MLR
comp=Z,26µm,16.0s
UBR **Ueberruh** 47.87 301 *e*P P 16 47 31.4 +0.2
comp=Z,580nm,1.5s,baz=72,slow=7.8
TNS **Taunus Mts** 48.01 305 *e*P P 16 47 32.6 +0.4
comp=Z,266nm,1.7s,baz=72,slow=7.8
STU **Stuttgart** 48.05 303 *e*P P 16 47 32.7 +0.2
comp=Z,280nm,1.2s
STU LR LR
comp=Z,36µm,20.0s
STU **Stuttgart** 48.05 303 *e*P P 16 47 32.8 +0.2
comp=Z,415nm,1.4s,baz=72,slow=7.8
STU **Stuttgart** 48.05 303 *e*P P 16 47 32.7 +0.2
STU pmax pmax
comp=Z,280nm,1.2s
STU MLR MLR
comp=Z,36µm,20.0s
DAVA **Damuels** 48.16 301 *i* pP P 16 47 34.1 +0.6
comp=Z,216nm,1.1s,SNR=21
FUORN **Ofenpass-Fuorn** 48.16 300 *e*P P 16 47 33.3 -0.4
comp=Z,481nm,1.6s
FUORN LR LR
comp=Z,29µm,19.0s
KDM **Kudat** 48.29 127 P P 16 47 36.0 +1.4
BUG **Bochum--Univer** 48.30 307 *e*P P 16 47 34.7 +0.4

comp=Z,385nm,1.5s,baz=72,slow=7.8
DAVOX **Davos/Dischmat** 48.34 300 LR LR 17 08 31.6
comp=Z,24µm,21.6s,baz=70,slow=37
DSRI **Dabo** 48.35 146 P **P** **16 47 33.7 -1.4**
comp=Z,579nm,1.1s,comp=Z,10µm
WTSB **Winterswijk** 48.41 308 *e*P **P** **16 47 35.6 +0.5**
KRJI **Kerinci** 48.61 150 P **P** **16 47 37.9 +0.7**
AHRW **Bad Neuenahr-A** 48.73 306 *e*P **P** **16 47 38.0 +0.4**
baz=72,slow=7.8
PPSI **Pulau Pagai** 48.73 153 P **P** **16 47 39.1 +1.2**
comp=Z,600nm,1.4s,comp=Z,11µm
BFO **Black Forest** 48.75 303 *e*P **P** **16 47 37.7 -0.2**
comp=Z,259nm,1.3s
BFO LR LR
comp=Z,32µm,19.0s
BFO **Black Forest** 48.75 303 *e*P **P** **16 47 38.0 +0.1**
comp=Z,332nm,1.4s,baz=72,slow=7.8
BFO **Black Forest** 48.75 303 *i*P **P** **16 47 38.5 +0.6**
TUE **Stuetta** 48.80 300 *e*P **P** **16 47 36.9 -1.7**
comp=Z,192nm,1.2s
TUE LR LR
comp=Z,33µm,21.0s
JMBI **JAMBI** 49.02 148 P **P** **16 47 41.3 +1.1**
comp=Z,881nm,1.2s,comp=Z,10µm
VLC **Villacollemand** 49.03 297 *e*P **P** **16 47 40.2 +0.1**
comp=Z,274nm,0.9s
VLC LR LR
comp=Z,31µm,19.0s
FURI **Furi** 49.16 239 *e*P **P** **16 47 41.7 0.0**
comp=Z,417nm,1.8s
FURI LR LR
comp=Z,21µm,21.0s
VAE **Valguarnera** 49.16 287 LR LR 17 13 32.2
comp=Z,7µm,18.4s,baz=37,slow=42
BTM **Bintulu** 49.21 134 P **P** **16 47 43.9 +2.1**
KSM **Kuching** 49.25 138 *e*P **P** **16 47 40.8 -1.2**
comp=Z,226nm,1.3s
KSM LR LR
comp=Z,11µm,21.0s
KSM **Kuching** 49.25 138 P **P** **16 47 43.6 +1.6**
HGN **Heimansgroeve** 49.33 306 *e*P **P** **16 47 42.5 +0.3**
HGN *e*S **S** **16 54 49.1 +1.0**
HGN *e*SS SS 16 58 45.9 +27
MEM **Membach** 49.34 306 ⇑P **P** **16 47 41.9 -0.4**
comp=Z,67nm,1.7s
SBUM **Sibu** 49.38 135 *e*P **P** **16 47 42.5 -0.6**
comp=Z,61nm,1.0s
SBUM LR LR
comp=Z,10µm,20.0s
SBUM **Sibu** 49.38 135 P **P** **16 47 44.8 +1.8**
BEBN **Eben Emael** 49.47 307 ⇓P **P** **16 47 44.1 +0.8**
ECH **Echery** 49.52 303 *e*P **P** **16 47 43.6 -0.2**
comp=Z,202nm,1.3s
ECH LR LR
comp=Z,33µm,18.0s
ECH **Echery** 49.52 303 *e*P **P** **16 47 43.6 -0.2**
ECH pmax pmax
comp=Z,202nm,1.3s
ECH MLR MLR
comp=Z,33µm,18.0s
SDKM **Sandakan** 49.52 127 P **P** **16 47 46.1 +2.0**
WLF **Walferdange** 49.59 305 *e*P **P** **16 47 44.5 +0.2**
comp=Z,787nm,1.1s
WLF LR LR
comp=Z,80µm,18.0s
WLF **Walferdange** 49.59 305 *e*P **P** **16 47 44.9 +0.6**
comp=Z,720nm,1.3s,baz=72,slow=7.8
WLF **Walferdange** 49.59 305 *e*P **P** **16 47 44.5 +0.2**
WLF pmax pmax
comp=Z,787nm,1.1s
WLF MLR MLR
comp=Z,80µm,18.0s
WLF **Walferdange** 49.59 305 ⇑P **P** **16 47 44.5 +0.2**
WLF ⇓sP **sP** **16 47 52.2 +0.4**
comp=Z,149nm,1.5s
WDD **Wied Dalam** 49.85 285 *e*P **P** **16 47 46.4 -0.1**
comp=Z,872nm,1.2s
WDD LR LR
comp=Z,7µm,22.0s
MASI **Maura Aman, Be** 49.87 150 P **P** **16 47 46.6 -0.1**
comp=Z,742nm,1.2s,comp=Z,8µm
JMIC **Jan Mayen** 49.88 335 LR LR 17 10 27.2
comp=Z,12µm,18.8s,baz=76,slow=38
CLTB **Caltabellotta** 49.96 288 *e*P **P** **16 47 46.6 -0.7**
comp=Z,319nm,1.4s
CLTB LR LR
comp=Z,11µm,21.0s
BILL **Bilibino** 50.10 29 *e*P **P** **16 47 48.2 +0.3**
comp=Z,187nm,1.1s
BILL LR LR
comp=Z,26µm,20.0s
BILL **Bilibino** 50.10 29 *d*/P **P** **16 47 48.5 +0.6**
BILL *e* 16 49 03.0
BILL *e* 16 49 40.5
BILL *e*PPP PPP 16 50 37.4
BILL */S* **S** **16 55 00.1 +1.6**
BILL *e*SS **SS** **16 58 33.0 +2.0**
BILL */SSS* SSS 16 59 56.5
BILL pmax pmax
comp=Z,119nm,1.3s
BILL MLR MLR
comp=Z,23µm,15.0s
SENIN **Lac Senin/Sane** 50.15 301 PFAKE 16 48 00.0 +11
SENIN LR LR
comp=Z,29µm,20.0s
LLP **Lapu-Lapu** 50.16 117 *e*P **P** **16 47 48.2 -0.8**
DGAR **Diego Garcia** 50.19 189 *e*P **P** **16 47 49.0 0.0**
comp=Z,624nm,1.5s
DGAR **Diego Garcia** 50.19 189 *e*P **P** **16 47 49.1 0.0**
DGAR pmax pmax
comp=Z,625nm,1.5s
UCC **Uccle** 50.25 307 PFAKE 16 48 00.0 +11
UCC LR LR
comp=Z,25µm,22.0s
UCC **Uccle** 50.25 307 ⇑P **P** **16 47 49.0 -0.2**
DOU **Dourbes** 50.37 306 ⇑P **P** **16 47 49.1 -1.1**
comp=Z,103nm,1.6s
SNF **Seneffe** 50.40 307 ⇑P **P** **16 47 50.4 0.0**
PPBI **Pangkal Pinang** 50.53 145 P **P** **16 47 51.4 -0.3**
comp=Z,83nm,1.3s,comp=Z,1µm
PMBI **Palembang** 50.65 147 P **P** **16 47 52.5 -0.1**
comp=Z,662nm,1.0s,comp=Z,7µm
DAG **Danmarks Havn** 50.85 343 ⇓/P **P** **16 47 53.4 -0.1**
comp=Z,283nm,1.0s
comp=Z,17µm,19.0s
DAG **Danmarks Havn** 50.85 343 ⇓/P **P** **16 47 53.4 -0.1**
DAG pmax pmax
comp=Z,280nm,1.0s
DAG MLR MLR
comp=Z,18µm,19.0s
PEA0B **Petropavlovsk-** 50.90 49 *e*P **P** **16 47 53.4 -0.8**
comp=Z,159nm,1.0s
PEA0B LR LR
comp=Z,18µm,19.0s
PETK **Petropavlovsk-** 50.90 49 P **P** **16 47 53.2 -0.9**
comp=Z,15nm,0.9s,baz=296,slow=4.8,SNR=10
PETK LR LR 17 11 31.4
comp=Z,17µm,18.1s,baz=290,slow=38
PETK **Petropavlovsk-** 50.90 49 *e*P **P** **16 47 53.4 -0.8**
PETK **Petropavlovsk-** 50.90 49 *e*P **P** **16 47 53.4 -0.8**
LHSI **Lahat** 50.98 149 P **P** **16 47 53.8 -1.3**
comp=Z,101nm,1.1s,comp=Z,3µm
TSM **Tawau** 51.00 128 P **P** **16 47 57.2 +1.9**
STKI **Sintang** 51.04 137 P **P** **16 47 55.5 -0.1**
comp=Z,247nm,1.2s,comp=Z,7µm
BNI **Bardonecchia** 51.08 299 *e*P **P** **16 47 54.7 -1.1**
comp=Z,354nm,1.1s
BNI LR LR
comp=Z,25µm,20.0s
BNI **Bardonecchia** 51.08 299 *e*P **P** **16 47 54.7 -1.1**
BNI pmax pmax
comp=Z,354nm,1.1s
BNI MLR MLR
comp=Z,25µm,20.0s
MNAI **Manna** 51.26 150 PFAKE 16 48 10.0 +13
MNAI LR LR
comp=Z,12µm,19.0s
PET **Petropavlovsk** 51.47 49 PFAKE 16 48 10.0 +12
PET LR LR
comp=Z,14µm,19.0s
PET **Petropavlovsk** 51.47 49 *e*P **P** **16 47 58.4 0.0**
PET *e*S **S** **16 55 16.5 -1.2**
PET pmax pmax
comp=Z,600nm,14.0s
PET pmax pmax
comp=Z,124nm,1.0s
PET MLR MLR
comp=Z,16µm,14.0s
PET MLR MLR
comp=Z,17µm,14.0s
WACR **West Acre** 51.67 310 *e*P **P** **16 48 01.0 +1.1**
WACR IAmb IAmb 16 48 03.2
comp=Z,386nm,0.9s
DRUM **Mains of Drumt** 51.78 316 *e*P **P** **16 48 01.6 +0.9**
MDSI **Maura Dua** 51.84 148 P **P** **16 47 59.3 -2.2**
comp=Z,59nm,1.3s,comp=Z,712nm
BIGH **Upper Bighouse** 51.92 318 *e*P **P** **16 48 02.2 +0.6**
BIGH IAmb IAmb 16 48 05.1
comp=Z,135nm,1.0s
MCD **Coleburn Disti** 51.93 317 *e*P **P** **16 48 03.3 +1.6**
EDU **Dundee** 52.19 316 *e*P **P** **16 48 04.5 +0.8**
ESY **Stoneypath** 52.22 315 *e*P **P** **16 48 04.9 +1.0**
LWLI **Liwa** 52.28 149 P **P** **16 48 01.8 -3.1**
comp=Z,184nm,0.8s,comp=Z,17µm
EDMD **Edmundbyers** 52.29 314 *e*P **P** **16 48 05.0 +0.5**
EDMD IAmb IAmb 16 48 12.4
comp=Z,353nm,1.5s
SSB **Saint Sauveur** 52.35 300 *e*P **P** **16 48 04.1 -1.0**
comp=Z,236nm,1.3s
SSB LR LR
comp=Z,20µm,19.0s
SSB **Saint Sauveur** 52.35 300 *e*P **P** **16 48 04.1 -1.0**
SSB pmax pmax
comp=Z,236nm,1.3s
SSB MLR MLR
comp=Z,20µm,19.0s
HPK **Haverah Park** 52.44 313 *e*P **P** **16 48 06.5 +0.8**
HPK IAmb IAmb 16 48 08.3
comp=Z,132nm,0.7s
KLI **Kotabumi** 52.45 148 P **P** **16 48 04.6 -1.5**
comp=Z,153nm,0.4s,comp=Z,5µm
EDI **Edinburgh** 52.51 315 *e*P **P** **16 48 06.9 +0.8**
EDI IAmb IAmb 16 48 08.6
comp=Z,74nm,0.7s
MDO **Dochfour** 52.53 317 *e*P **P** **16 48 07.6 +1.3**
CLF **Chambon-Foret** 52.60 304 *e*P **P** **16 48 06.8 -0.1**
comp=Z,877nm,1.5s
CLF LR LR
comp=Z,27µm,19.0s
EKA **Eskdalemuir Ar** 52.73 315 LR LR 17 10 47.4
comp=Z,25µm,18.4s,baz=40,slow=36
CWF **Charnwood Fore** 52.75 311 *e*P **P** **16 48 08.5 +0.6**
ESK **Eskdalemuir** 52.76 315 *e*P **P** **16 48 08.2 +0.3**
comp=Z,133nm,1.0s
ESK LR LR
comp=Z,28µm,18.0s
ESK **Eskdalemuir** 52.76 315 *e*P **P** **16 48 09.4 +1.5**
ESK IAmb IAmb 16 48 10.6
comp=Z,69nm,0.7s
ESK **Eskdalemuir** 52.76 315 *i*P **P** **16 48 10.1 +2.1**
KASI **Kota Agung** 52.91 148 P **P** **16 48 07.4 -2.1**
comp=Z,192nm,1.0s,comp=Z,2µm
KAC **Achnashellach** 52.98 318 *e*P **P** **16 48 10.9 +1.4**
KESW **Keswick, Cumbr** 52.99 314 *e*P **P** **16 48 10.5 +0.8**
KESW IAmb IAmb 16 48 14.1
comp=Z,154nm,1.1s
BLSI **Bandar Lampung** 53.06 148 P **P** **16 48 08.4 -2.2**
comp=Z,151nm,0.4s,comp=Z,7µm
TAMR **Tamra** 53.09 289 PFAKE 16 48 20.0 +9.4
TAMR LR LR
comp=Z,6µm,20.0s
KPL **Plockton** 53.22 318 *e*P **P** **16 48 12.0 +0.8**
KPL IAmb IAmb 16 48 13.8
comp=Z,78nm,0.9s
PGBU **Glenifferbraes** 53.23 315 *e*P **P** **16 48 12.6 +1.2**
PGBU IAmb IAmb 16 48 14.2
comp=Z,92nm,0.7s
KEST **Kesra** 53.57 288 P **P** **16 48 14.7 +0.4**
comp=Z,64nm,0.7s,baz=3.3,slow=0.6,SNR=23
KEST S **S** **16 55 45.5 -1.7**
comp=Z,3.8nm,0.4s,baz=347,slow=17,SNR=2.0
KEST LR LR 17 15 21.7
comp=Z,4µm,18.4s,baz=359,slow=41
KEST **Kesra** 53.57 288 *e*P **P** **16 48 14.8 +0.4**
comp=Z,669nm,1.4s
KEST S **S** **16 55 45.5 -1.7**
DAV **Davao City (W)** 53.63 118 ⇓*e*P **P** **16 48 16.8 +1.9**
MTKI **Muara Teweh, K** 53.66 134 P **P** **16 48 16.5 +1.5**
comp=Z,153nm,2.8s,comp=Z,4µm
GAL1 **Galloway** 53.73 314 *e*P **P** **16 48 15.6 +0.5**
FOEL **Foel Wylfa** 53.74 312 *e*P **P** **16 48 15.9 +0.7**
IOMK **Kirk Michael** 53.91 314 *e*P **P** **16 48 17.2 +0.8**
IOMK IAmb IAmb 16 48 19.4
comp=Z,83nm,0.9s
MCH1 **Michaelchurch** 54.00 311 *e*P **P** **16 48 17.3 +0.2**
MCH1 IAmb IAmb 16 48 19.9
comp=Z,132nm,0.9s
SCO **Scoresbysund** 54.21 336 *e*P **P** **16 48 18.6 +0.2**
comp=Z,109nm,1.1s
SCO **Scoresbysund** 54.21 336 *i*P **P** **16 48 20.1 +1.7**
SCO **Scoresbysund** 54.21 336 *i*P **P** **16 48 20.1 +1.7**
CLGH **Cloghs, Cushen** 54.38 315 *e*P **P** **16 48 21.3 +1.5**
CMAH **Djebel Manchou** 54.47 290 P **P** **16 48 20.3 -0.6**
SMKI **Samarinda** 54.49 132 P **P** **16 48 23.1 +2.0**
ABSA **Djebel Ababsia** 54.61 289 P **P** **16 48 22.2 +0.3**
DBJI **Dramaga** 54.74 146 P P 16 48 17.3 -5.6
comp=Z,53nm,0.9s,comp=Z,2µm
CAEH **'Ain El Ouahch** 54.79 290 P **P** **16 48 22.9 -0.2**
RSBS **Rosebush, Pemb** 55.00 311 *e*P **P** **16 48 25.0 +0.6**
MAHO **Mahon** 55.01 295 *e*P P 16 48 30.9 +6.2
MAHO *e*S S 16 55 49.2 -17
CKFL **Kef-Lekhel** 55.07 290 P **P** **16 48 26.4 +1.1**
IDGL **Inch Island, C** 55.11 316 *e*P **P** **16 48 27.0 +1.9**
CASM **Ain Smara** 55.30 290 P **P** **16 48 27.2 +0.3**
DSB **Dublin** 55.31 313 *e*P **P** **16 48 23.6 -3.0**
DSB **Dublin** 55.31 313 PFAKE 16 48 40.0 +13
DSB LR LR
comp=Z,24µm,19.0s
CTEI **Djebel Teioual** 55.46 290 P **P** **16 48 29.6 +1.5**
DFRA **Djebel Bou Aff** 55.58 290 P **P** **16 48 29.6 +0.6**
CISI **Cisompet, Garu** 56.09 146 PFAKE 16 48 40.0 +7.3
CISI LR LR
comp=Z,10µm,19.0s
SET **Setif** 56.09 290 P **P** **16 48 33.0 +0.4**
CKHR **Kef el Ahmar** 56.11 290 P **P** **16 48 33.2 +0.4**
KBKI **Kotabaru** 56.32 135 P **P** **16 48 34.5 +0.3**
PCI **Palu** 56.35 129 P **P** **16 48 33.5 -1.0**
KPJI **Karang Pucung** 56.36 144 P **P** **16 48 34.0 -0.5**
COCO **West Island** 56.72 160 *e*P **P** **16 48 36.5 -0.5**
comp=Z,234nm,1.3s
COCO LR LR
comp=Z,6µm,22.0s
COCO **West Island** 56.72 160 *i*P **P** **16 48 39.6 +2.6**
SMRI **Semarang** 56.77 143 PFAKE 16 48 50.0 +13
SMRI LR LR
comp=Z,11µm,21.0s
AKET **Djebel Ketaf** 57.22 291 P **P** **16 48 42.5 +1.8**
ABA **Alger-Bouzarea** 57.41 292 P **P** **16 48 46.0 +4.1**
SUMG **Summit** 57.47 342 *e*P **P** **16 48 42.3 +0.1**
comp=Z,178nm,1.0s
SUMG LR LR
comp=Z,15µm,19.0s
SUMG **Summit** 57.47 342 *i*P **P** **16 48 42.8 +0.6**
comp=Z,448nm,1.0s
SUMG **Summit** 57.47 342 *i*P **P** **16 48 42.8 +0.6**
SUMG pmax pmax
comp=Z,450nm,1.0s
ADJB **Djebel Djouab** 57.47 291 P **P** **16 48 43.2 +0.8**
NGJI **Ngawi** 57.51 142 P **P** **16 48 40.5 -2.2**
UGM **Wanagama** 57.57 143 PFAKE 16 49 00.0 +17
UGM LR LR
comp=Z,12µm,19.0s
KMBO **Kilima Mbogo** 57.89 233 *i*P **P** **16 48 42.8 -3.0**
KMBO **Kilima Mbogo** 57.89 233 *i*P **P** **16 48 45.1 -0.6**
comp=Z,47nm,1.2s,baz=23,slow=8.1,SNR=48
KMBO S **S** **16 56 43.2 -2.2**
comp=Z,0.5nm,0.3s,baz=55,slow=18,SNR=2.0
KMBO LR LR 17 17 07.5
comp=Z,10µm,18.5s,baz=30,slow=40
KMBO **Kilima Mbogo** 57.89 233 *i*P **P** **16 48 42.8 -3.0**
XMIS **Christmas Isla** 57.90 149 *e*P **P** **16 48 45.3 -0.1**
comp=Z,113nm,0.9s
XMIS LR LR
comp=Z,5µm,22.0s
EBNR **Beni Rached** 58.71 292 P **P** **16 48 52.9 +1.9**
ECHA **Ech Chlef** 58.89 292 P **P** **16 48 54.1 +1.9**
EANR **'Ain N'Sour** 59.18 292 P **P** **16 48 56.5 +2.2**
ETRT **Tiaret** 59.35 291 P **P** **16 48 58.7 +3.1**
OKGL **Djebel Kef Gue** 59.45 292 P P 16 49 05.0 +8.9
TULEG **Thule** 59.48 352 *e*P **P** **16 48 54.8 -0.8**
comp=Z,276nm,1.3s
TULEG LR LR
comp=Z,20µm,18.0s
TNTI **Ternate** 59.56 121 *e*P **P** **16 48 56.6 -0.5**
comp=Z,546nm,1.3s
TNTI LR LR
comp=Z,2µm,20.0s
KULLO **Kullorsuaq** 59.65 348 *i*P **P** **16 48 56.9 0.0**
comp=Z,201nm,1.0s
comp=Z,20µm,18.0s
KULLO **Kullorsuaq** 59.65 348 *i*P **P** **16 48 56.9 0.0**
KULLO pmax pmax
comp=Z,200nm,1.0s
KULLO MLR MLR
comp=Z,20µm,18.0s
OJGS **Djebel Guires** 59.66 292 P **P** **16 49 02.0 +4.3**
KAPI **Kappang** 59.68 132 PFAKE 16 49 10.0 +12
KAPI LR LR
comp=Z,5µm,21.0s
CART **Cartagena** 59.73 295 *e*P **P** **16 48 57.4 -0.6**
comp=Z,600nm,1.3s
CART LR LR
comp=Z,10µm,18.0s
JAGI **Jajag, Banyuwa** 59.74 140 *e*P **P** **16 48 57.7 -0.5**
comp=Z,141nm,1.2s
JAGI LR LR
comp=Z,7µm,20.0s
UCM **Universidad Co** 59.76 299 *i*P P 16 49 15.3 +17
UCM *e*S **S** **16 57 12.7 +3.8**
SMY **Shemya** 59.94 44 PFAKE 16 49 10.0 +11
SMY LR LR
comp=Z,10µm,18.0s
GAMB **Gambell** 60.03 29 *e*P **P** **16 48 59.0 -0.6**
comp=Z,132nm,1.2s
GAMB LR LR
comp=Z,22µm,19.0s
RDOG **Red Dog Mine** 60.19 23 PFAKE 16 49 10.0 +9.3
RDOG LR LR
comp=Z,12µm,19.0s
ODJA **Bouhanifia** 60.38 292 P **P** **16 49 03.0 +0.5**
ES19 **SONSECA Array** 60.51 298 *e*P **P** **16 49 02.5 -0.9**
ESDC **Sonseca Array** 60.57 298 P **P** **16 49 03.4 -0.4**
comp=Z,96nm,0.9s,baz=54,slow=7.1,SNR=145
ESDC PKP2bc 17 18 35.6
comp=Z,0.3nm,0.4s,baz=327,slow=2.5,SNR=4.7
ESLA **Sonseca Array** 60.57 298 *e*P **P** **16 49 03.1 -0.6**
comp=Z,489nm,1.5s
ESLA LR LR
comp=Z,12µm,18.0s
PAB **San Pablo** 60.89 298 *e*P **P** **16 49 05.3 -0.7**
comp=Z,364nm,1.4s
PAB LR LR
comp=Z,13µm,21.0s
PAB **San Pablo** 60.89 298 *e*P **P** **16 49 05.3 -0.7**
PAB pmax pmax
comp=Z,364nm,1.4s
PAB MLR MLR
comp=Z,13µm,21.0s
PBRG **Braganca** 61.20 302 *e*P **P** **16 49 09.7 +1.7**
comp=Z,216nm,1.5s
PBRG **Braganca** 61.20 302 *e*SS SS 17 01 42.3 +16
OLHC **Oulhaca** 61.29 293 P **P** **16 49 04.0 -4.7**
SARN **Sarigan** 61.33 93 PFAKE 16 49 20.0 +11
SARN LR LR
comp=Z,7µm,19.0s
MBAR **Mbarara** 61.47 239 *e*P **P** **16 49 09.3 -1.0**
comp=Z,105nm,0.8s
MBAR LR LR
comp=Z,500nm,20.0s
MBAR **Mbarara** 61.47 239 *d*/P **P** **16 49 10.0 -0.3**
MBAR pmax pmax
comp=Z,77nm,1.1s
ANA2 **Anatahan** 61.51 94 PFAKE 16 49 20.0 +10
ANA2 LR LR
comp=Z,7µm,22.0s
ANM **Nome** 61.72 26 *e*P **P** **16 49 11.7 +0.6**
comp=Z,235nm,1.1s
ANM LR LR
comp=Z,24µm,20.0s
ANM **Nome** 61.72 26 *e*P **P** **16 49 11.7 +0.6**
ANM pmax pmax
comp=Z,235nm,1.1s
ANM MLR MLR
comp=Z,24µm,20.0s
MVO **Moncorvo** 61.73 301 *e*P **P** **16 49 12.8 +1.2**
comp=Z,323nm,1.7s
MVO **Moncorvo** 61.73 301 *e*SS SS 17 01 33.7 -1.4
MVO *e*LQ LQ 17 11 28.6
MVO *e*LR LR 17 13 13.3
comp=Z,8µm,18.0s
PCAB **Cabril** 62.05 302 *e*P **P** **16 49 15.1 +1.3**
comp=Z,617nm,1.6s
PGAV **Gavieira, Arco** 62.07 302 *e*P **P** **16 49 15.4 +1.4**
comp=Z,415nm,1.5s
PGAV **Gavieira, Arco** 62.07 302 *e*SS SS 17 01 49.5 +9.1
PGAV *e*LQ LQ 17 08 15.3
PGAV *e*LR LR 17 12 02.9
comp=Z,12µm,20.0s
POLO **Lamas de Olo** 62.09 302 *e*P **P** **16 49 15.2 +1.1**
comp=Z,117nm,1.6s
POLO **Lamas de Olo** 62.09 302 *e*SS SS 17 01 53.6 +13
PVRL **Vila Real** 62.10 302 *e*P **P** **16 49 15.1 +1.0**
comp=Z,216nm,1.4s
EMAL **Malaga-Limoner** 62.47 296 *e*P P 16 49 35.0 +18
EMAL *e*S **S** **16 57 50.2 +6.9**
MTE **Manteigas** 62.47 301 *e*P **P** **16 49 18.2 +1.5**
comp=Z,366nm,1.3s
MTE **Manteigas** 62.47 301 *e*SS SS 17 01 57.9 +11
MTE *e*LQ LQ 17 08 19.1
MTE *e*LR LR 17 13 11.3
comp=Z,16µm,18.0s
MTE **Manteigas** 62.47 301 *e*P **P** **16 49 16.0 -0.7**
comp=Z,384nm,1.3s
MTE LR LR
comp=Z,16µm,19.0s
PVIS **Viseu** 62.52 301 *e*P **P** **16 49 18.4 +1.4**
comp=Z,388nm,1.5s
GUMO **Guam** 62.66 97 LR LR 17 15 45.2
comp=Z,555nm,21.7s,baz=316,slow=35
PCBR **Castelo Branco** 62.74 300 *e*P **P** **16 49 20.1 +1.7**
comp=Z,271nm,1.3s
ILULI **Ilulissat** 62.78 342 *i*P **P** **16 49 18.0 -0.1**
comp=Z,220nm,0.9s
ILULI **Ilulissat** 62.78 342 *i*P **P** **16 49 18.0 -0.1**
ILULI pmax pmax
comp=Z,220nm,0.9s
PMRV **Marv??o** 62.92 300 *e*P **P** **16 49 20.1 +0.5**
comp=Z,522nm,1.4s
PMRV **Marv??o** 62.92 300 *e*SS SS 17 02 11.1 +17
PMRV *e*LQ LQ 17 07 43.7
PMRV *e*LR LR 17 09 13.3
comp=Z,11µm,18.0s
RES **Resolute Bay** 62.97 358 P **P** **16 49 18.9 -0.4**
comp=Z,11nm,0.9s,baz=13,slow=8.7,SNR=23
RES **Resolute Bay** 62.97 358 *e*P **P** **16 49 18.9 -0.4**
comp=Z,116nm,1.3s
RES LR LR
comp=Z,11µm,18.0s
RES **Resolute Bay** 62.97 358 *e*P **P** **16 49 18.9 -0.4**
RES pmax pmax
comp=Z,116nm,1.3s
RES MLR MLR
comp=Z,11µm,18.0s
LIJA **Lijar** 63.04 296 ⇑*e*P **P** **16 49 21.0 +0.5**
REAL **Reales** 63.15 296 ⇑*e*P **P** **16 49 20.9 -0.4**
PCAS **Casmilo, Conde** 63.27 301 *e*P **P** **16 49 22.6 +0.7**
comp=Z,568nm,1.5s
PCAS **Casmilo, Conde** 63.27 301 *e*SS SS 17 02 12.8 +14
PESTR **Estremoz** 63.36 299 *e*P **P** **16 49 23.4 +0.9**
comp=Z,383nm,1.3s
PESTR **Estremoz** 63.36 299 *e*SS SS 17 02 15.5 +15
PESTR **Estremoz** 63.36 299 *e*P **P** **16 49 22.1 -0.5**
comp=Z,160nm,1.2s
PESTR LR LR
comp=Z,7µm,18.0s
ALJ **Aljibe** 63.41 296 ⇑*e*P **P** **16 49 22.9 0.0**
GIBL **Gibalbin** 63.45 297 ⇑*e*P **P** **16 49 23.1 0.0**
PTOM **Tomar** 63.46 300 *e*P **P** **16 49 24.2 +1.0**
comp=Z,290nm,1.2s
TAM **Tamanrasset** 63.56 277 *e*P **P** **16 49 23.6 -0.6**
comp=Z,476nm,1.7s
TAM LR LR
comp=Z,8µm,21.0s
TAM **Tamanrasset** 63.56 277 *e*P **P** **16 49 23.6 -0.6**
TAM pmax pmax
comp=Z,476nm,1.7s
TAM MLR MLR

comp=Z,8µm,21.0s
PMTG Montargil 63.65 300 *e*P **P 16 49 25.4 +1.0**
comp=Z,315nm,1.3s
PMTG Montargil 63.65 300 *e*SS SS 17 02 20.8 +16
CNIL Conil 63.77 296fl *e*P **P 16 49 26.3 +1.1**
SFS San Fernando 63.82 296 *e*P **P 16 49 24.6 -0.9**
comp=Z,543nm,1.2s
SFS LR LR
comp=Z,12µm,19.0s
SFS San Fernando 63.82 296 *e*P **P 16 49 24.6 -0.9**
SFS pmax pmax
comp=Z,543nm,1.2s
SFS MLR MLR
comp=Z,12µm,19.0s
SFS San Fernando 63.82 296 *e*P **P 16 49 26.0 +0.5**
EVO Evora 63.82 299 *e*P **P 16 49 28.9 +3.3**
comp=Z,221nm,1.6s
EVO Evora 63.82 299 *e*P P 16 49 38.0 +12
EVO *e*S S 16 58 18.9 +19
PBEJ Beja 64.02 299 *e*P **P 16 49 29.2 +2.4**
comp=Z,477nm,1.5s
MMRI Maumere 64.04 132 *e*P **P 16 49 25.8 -1.4**
comp=Z,183nm,0.9s
MMRI LR LR
comp=Z,5µm,22.0s
COLD Coldfoot 64.16 19 *e*P **P 16 49 27.1 -0.2**
comp=Z,201nm,1.0s
COLD LR LR
comp=Z,15µm,22.0s
IM3 Indian Mountai 64.20 21 *e*P **P 16 49 27.4 -0.2**
PVAQ Vaqueiros 64.27 298 *e*P **P 16 49 29.5 +1.0**
comp=Z,449nm,1.3s
PVAQ Vaqueiros 64.27 298 *e*SS SS 17 02 35.1 +20
PVAQ *e*LQ LQ 17 08 44.9
PVAQ *e*LR LR 17 12 17.3
comp=Z,8µm,18.0s
MESJ Messejana 64.35 299 *e*P **P 16 49 29.0 0.0**
MESJ *e*SS SS 17 02 18.4 +2.3
MESJ AMS AMS 17 15 23.2
comp=N,29µm,19.9s
MESJ Messejana 64.35 299 *e*P **P 16 49 30.5 +1.5**
comp=N,429nm,1.3s
MESJ Messejana 64.35 299 *e*P **P 16 49 29.0 0.0**
MESJ *e*SS SS 17 02 18.3 +2.3
PNCL Nicolau / Gran 64.39 299 *e*P **P 16 49 30.8 +1.5**
comp=N,425nm,1.4s
PNCL Nicolau / Gran 64.39 299 *e*SS SS 17 02 32.8 +16
PMAFR Mafra 64.40 300 *e*P **P 16 49 31.8 +2.5**
comp=N,761nm,1.4s
PMAFR Mafra 64.40 300 *e*SS SS 17 02 31.7 +15
SFJD Kangerlussuaq 64.40 341 P **P 16 49 29.1 +0.2**
comp=N,66nm,0.9s,baz=49,slow=5.4,SNR=14
SFJD Kangerlussuaq 64.40 341 *e*P **P 16 49 28.3 -0.6**
comp=N,153nm,0.9s
SFJD LR LR
comp=Z,20µm,19.0s
SFJD Kangerlussuaq 64.40 341 *i* P **P 16 49 30.9 +2.0**
SFJD Kangerlussuaq 64.40 341 *i* P **P 16 49 30.9 +2.0**
SFJD Kangerlussuaq 64.40 341 *e*P **P 16 49 28.5 -0.3**
LIS Lisbon 64.45 300 *e*P **P 16 49 29.6 -0.1**
LIS AMS AMS 17 17 18.8
comp=N,22µm,22.8s
LIS Lisbon 64.45 300 *e*P **P 16 49 29.5 -0.1**
PMST Lisbon--Monsan 64.46 300 *e*P **P 16 49 31.9 +2.2**
comp=N,406nm,1.3s
PBDV Barranco-do-Ve 64.51 298 *e*P **P 16 49 31.6 +1.5**
comp=N,830nm,1.4s
PBDV Barranco-do-Ve 64.51 298 *e*SS SS 17 02 33.0 +14
SPIA Saint Paul Isl 64.68 34 PFAKE 16 49 40.0 +9.2
SPIA LR LR
comp=Z,27µm,22.0s
IFR Ifrane 64.79 293 *e*S S 16 58 41.0 +28
PTEO Sao Teotonio 64.85 299 *e*P **P 16 49 34.4 +2.1**
comp=Z,406nm,1.4s
MORF Marmelete 64.94 298 *e*P **P 16 49 32.9 -0.1**
MORF *e*S **S 16 58 14.8 +0.7**
MORF *e*SS **SS 17 02 27.5 +2.1**
MORF AMS AMS 17 15 48.3
comp=N,28µm,17.8s
MORF Marmelete 64.94 298 *e*P **P 16 49 34.8 +1.8**
comp=N,308nm,1.4s
MORF Marmelete 64.94 298 *e*SS SS 17 02 45.3 +20
MORF Marmelete 64.94 298 *e*P **P 16 49 32.8 -0.1**
MORF *e*S **S 16 58 14.8 +0.7**
MORF *e*SS **SS 17 02 27.4 +2.1**
ADK Adak 65.07 42 PFAKE 16 49 50.0 +17
ADK LR LR
comp=Z,12µm,19.0s
PFVI Vila Bisbo 65.15 298 *e*P **P 16 49 36.9 +2.6**
comp=Z,605nm,1.6s
PFVI Vila Bisbo 65.15 298 *e*SS SS 17 02 37.7 +9.2
PFVI Vila Bisbo 65.15 298 *e*P **P 16 49 33.9 -0.4**
comp=Z,414nm,1.2s
PFVI LR LR
comp=Z,16µm,19.0s
FAKI Fak Fak 65.50 119 *e*P **P 16 49 36.8 0.0**
comp=Z,168nm,1.0s
RTC Rabat Centre 65.68 294 *e*P **P 16 49 37.3 -0.5**
comp=Z,7µm,1.6s
RTC LR LR
comp=Z,21µm,18.0s
MLY Manley 65.74 21 *e*P **P 16 49 37.8 +0.1**
comp=Z,236nm,1.1s
MLY LR LR
comp=Z,11µm,20.0s
MRIV Mauritius Mete 65.84 203 *e*P **P 16 49 39.3 +0.5**
comp=Z,72nm,1.4s
MRIV LR LR
comp=Z,3µm,20.0s
FYU Fort Yukon 65.87 18 *e*P **P 16 49 39.0 +0.7**
comp=Z,408nm,1.2s
FYU LR LR
comp=Z,10µm,19.0s
ATKA Atka Island 66.08 40 PFAKE 16 49 50.0 +10
ATKA LR LR
comp=Z,17µm,19.0s
SOEI Soe 66.09 131 *e*P **P 16 49 40.9 +0.3**
comp=Z,351nm,1.0s
BPAW Bear Paw Mtn. 66.41 22 *e*P **P 16 49 41.9 -0.1**
comp=Z,366nm,1.1s
BPAW LR LR
comp=Z,13µm,19.0s
MDM Murphy Dome 66.45 20 *e*P **P 16 49 42.0 -0.2**
comp=Z,224nm,1.1s
MDM LR LR
comp=Z,11µm,18.0s
AVE Averroes 66.47 294 *i* P P 16 49 59.2 +16
AVE *e*S S 16 59 03.5 +31
POKR Poker Flat Res 66.52 20 P **P 16 49 43.1 +0.4**
baz=324,SNR=88
TCOL CIGO, UAF Yank 66.61 20 P **P 16 49 43.4 +0.2**
baz=324,SNR=19
COLA College 66.61 20 *e*P **P 16 49 43.1 -0.1**
comp=Z,294nm,0.9s
COLA LR LR
comp=Z,11µm,18.0s
COLA College 66.61 20*d* *i*P **P 16 49 43.3 +0.1**
COLA pmax pmax
comp=Z,152nm,1.0s
COLA College 66.61 20 *e*P **P 16 49 43.2 0.0**
CAST Castle Rocks 66.63 23 PFAKE 16 50 00.0 +17
CAST LR LR
comp=Z,10µm,19.0s
INK Inuvik 66.66 13 P **P 16 49 43.6 +0.2**
comp=Z,116nm,1.0s,baz=345,slow=8.1,SNR=136
INK PKPPKP P'P'df 17 18 13.4 -8.3
comp=Z,5.5nm,1.1s,baz=116,slow=3.4,SNR=5.1
INK LR LR 17 22 08.1
comp=Z,5µm,20.6s,baz=316,slow=39
INK Inuvik 66.66 13 *e*P **P 16 49 43.4 0.0**
comp=Z,473nm,1.1s
INK P'P' 17 18 13.4
INK Inuvik 66.66 13 *e*P **P 16 49 43.4 0.0**
INK pmax pmax
comp=Z,473nm,1.1s
PRP Porcupine Dome 66.66 19 *e*P **P 16 49 43.8 +0.1**
comp=Z,169nm,1.0s
PRP LR LR
comp=Z,9µm,20.0s
WRH Wood River Hil 66.88 20 *e*P **P 16 49 44.1 -0.8**
comp=Z,118nm,1.0s
WRH LR LR
comp=Z,12µm,19.0s
IL1 Eielson Array 66.94 20 *e*P **P 16 49 44.6 -0.7**
ILAR Eielson Array 66.94 20 P **P 16 49 44.6 -0.7**
comp=Z,78nm,0.9s,baz=314,slow=4.8,SNR=280
ILAR PKPPKP P'P'df 17 18 12.1 -9.1
comp=Z,1.3nm,1.1s,baz=173,slow=2.2,SNR=6.6
ILAR LR LR 17 23 38.3
comp=Z,7µm,18.0s,baz=318,slow=40
ILB Eielson Array 66.94 20 *e*P **P 16 49 44.4 -0.9**
PPLA Purkeypile 67.01 23 *e*P **P 16 49 45.4 -0.5**
comp=Z,525nm,1.2s
PPLA LR LR
comp=Z,14µm,19.0s
TRF Thorofare Moun 67.11 22 *e*P **P 16 49 45.9 -0.7**
comp=Z,102nm,1.0s
TRF LR LR
comp=Z,12µm,18.0s
HDA Harding Lake 67.22 20 *e*P **P 16 49 45.5 -1.6**
comp=Z,155nm,1.1s
HDA LR LR
comp=Z,8µm,19.0s
HDA Harding Lake 67.22 20 P **P 16 49 46.1 -1.1**
baz=324,SNR=37
MCK McKinley 67.25 21 *e*P **P 16 49 46.3 -1.0**
comp=Z,155nm,1.2s
MCK LR LR
comp=Z,15µm,18.0s
MCK McKinley 67.25 21 *e*P **P 16 49 46.3 -1.0**
MCK pmax pmax
comp=Z,155nm,1.2s
MCK MLR MLR
comp=Z,15µm,18.0s
SVW2 Sparrevohn 67.35 26 *e*P **P 16 49 48.5 +0.5**
comp=Z,53nm,0.6s
SVW2 LR LR
comp=Z,11µm,20.0s
NRS Narsarsuaq 67.45 335 *i* P **P 16 49 50.7 +2.2**
comp=Z,338nm,1.0s
NRS Narsarsuaq 67.45 335 *i* P **P 16 49 50.7 +2.2**
NRS pmax pmax
comp=Z,340nm,1.0s
RND Reindeer 67.54 21 *e*P **P 16 49 48.1 -1.1**
comp=Z,119nm,1.1s
RND LR LR
comp=Z,13µm,18.0s
RND Reindeer 67.54 21 *e*P **P 16 49 48.1 -1.1**
RND pmax pmax
comp=Z,119nm,1.1s
RND MLR MLR
comp=Z,13µm,18.0s
ABPO Ambohimpanom 68.22 213 *e*P **P 16 49 53.5 -0.6**
comp=Z,97nm,1.1s
ABPO LR LR
comp=Z,6µm,20.0s
ABPO Ambohimpanom 68.22 213 *e*P **P 16 49 53.5 -0.6**
ABPO pmax pmax
comp=Z,97nm,1.1s
ABPO MLR MLR
comp=Z,6µm,20.0s
IVI Ivigtut 68.27 336 *e*P **P 16 49 53.4 -0.3**
comp=Z,230nm,1.3s
EGAK Eagle 68.29 18 *e*P **P 16 49 53.6 -0.3**
comp=Z,156nm,1.1s
EGAK LR LR
comp=Z,6µm,19.0s
RIDG Independ'e Rid 68.30 20 *e*P **P 16 49 53.1 -0.9**
comp=Z,713nm,1.1s
RIDG LR LR
comp=Z,9µm,20.0s
SCRK Sand Creek 68.31 19 *e*P **P 16 49 53.6 -0.5**
comp=Z,274nm,1.2s
SCRK LR LR
comp=Z,8µm,19.0s
UNV Unalaska Valle 68.49 36 PFAKE 16 50 10.0 +15
UNV LR LR
comp=Z,10µm,19.0s
DOT Dot Lake 68.57 19 *e*P **P 16 49 54.8 -0.9**
comp=Z,186nm,1.3s
DOT LR LR
comp=Z,8µm,19.0s
AKUT Akutan 68.60 35 PFAKE 16 50 10.0 +14
AKUT LR LR
comp=Z,16µm,20.0s
RSO Redoubt South 68.73 25 *e*P **P 16 49 56.8 -0.1**
PAX Paxson 68.78 20 *e*P **P 16 49 56.3 -0.8**
comp=Z,245nm,1.2s
PAX Paxson 68.78 20 *e*P **P 16 49 56.3 -0.8**
PAX pmax pmax
comp=Z,245nm,1.2s
SAUI Saumlaki 68.80 124 *e*P **P 16 49 57.8 +0.1**
comp=Z,826nm,1.0s
GHO Glory Hole Cre 68.83 23 *e*P **P 16 49 56.9 -0.5**
comp=Z,451nm,1.0s
GHO LR LR
comp=Z,10µm,18.0s
PMR Palmer 68.92 23 *e*P **P 16 49 56.7 -1.0**
comp=Z,248nm,1.2s
PMR LR LR
comp=Z,11µm,18.0s
PMR Palmer 68.92 23 *e*P **P 16 49 56.7 -1.0**
PMR pmax pmax
comp=Z,248nm,1.2s
PMR MLR MLR
comp=Z,11µm,18.0s
SML Sawmill 68.97 22 *e*P **P 16 49 57.2 -1.0**
comp=Z,659nm,1.0s
SML LR LR
comp=Z,9µm,19.0s
SML Sawmill 68.97 22 *e*P **P 16 49 57.2 -1.0**
SML pmax pmax
comp=Z,659nm,1.0s
SML MLR MLR
comp=Z,9µm,19.0s
FALS False Pass 69.08 34 PFAKE 16 50 10.0 +11
FALS LR LR
comp=Z,21µm,20.0s
RC01 Rabbit Creek A 69.15 23 *e*P **P 16 49 58.5 -0.7**
comp=Z,368nm,1.1s
RC01 LR LR
comp=Z,11µm,18.0s
SCM Sheep Creek Mo 69.23 22 *e*P **P 16 49 59.3 -0.5**
comp=Z,321nm,0.8s
SCM LR LR
comp=Z,8µm,18.0s
SCM Sheep Creek Mo 69.23 22 *e*P **P 16 49 59.3 -0.5**
SCM pmax pmax
comp=Z,321nm,0.8s
SCM MLR MLR
comp=Z,8µm,18.0s
KNK Knik Glacier 69.26 23 *e*P **P 16 49 59.7 -0.2**
comp=Z,578nm,1.2s
KNK LR LR
comp=Z,12µm,20.0s
DAWY Dawson 69.30 17 *e*P **P 16 49 59.5 -0.7**
comp=Z,168nm,1.1s
DAWY LR LR
comp=Z,9µm,19.0s
HARP HAARP 69.33 21 *e*P **P 16 50 00.9 +0.5**
comp=Z,845nm,1.1s
HARP LR LR
comp=Z,10µm,20.0s
HOM Homer 69.71 25 PFAKE 16 50 10.0 +7.3
HOM LR LR
comp=Z,11µm,18.0s
BRLK Bradley Lake 69.86 25 *e*P **P 16 50 03.0 -0.7**
comp=Z,221nm,1.4s
BRLK LR LR
comp=Z,13µm,18.0s
KLU Klutina 69.89 21 PFAKE 16 50 20.0 +16
KLU LR LR
comp=Z,11µm,18.0s
SDPT Sand Point 69.89 32 PFAKE 16 50 20.0 +16
SDPT LR LR
comp=Z,13µm,20.0s
CHGN Chignik 69.98 30 PFAKE 16 50 20.0 +16
CHGN LR LR
comp=Z,15µm,18.0s
SEW Seward 70.03 24 PFAKE 16 50 20.0 +15
SEW LR LR
comp=Z,15µm,21.0s
GLI Glacier Island 70.08 22 *e*P **P 16 50 04.5 -0.4**
comp=Z,201nm,1.0s
GLI LR LR
comp=Z,10µm,18.0s
DIV Divide 70.23 22 *e*P **P 16 50 05.8 -0.2**
comp=Z,173nm,1.1s
DIV LR LR
comp=Z,11µm,19.0s
BMRM Bremner River 70.68 21 *e*P **P 16 50 09.0 +0.3**
comp=Z,364nm,1.1s
BMRM LR LR
comp=Z,10µm,20.0s
KDAK Kodiak Island 70.89 27 P **P 16 50 10.2 +0.3**
comp=Z,123nm,0.7s,baz=315,slow=4.0,SNR=54
KDAK Kodiak Island 70.89 27 *e*P **P 16 50 09.9 0.0**
comp=Z,184nm,0.6s
KDAK LR LR
comp=Z,15µm,19.0s
KDAK Kodiak Island 70.89 27 *i* P **P 16 50 10.0 0.0**
FRB Frobisher Bay 71.07 346 P **P 16 50 10.4 -0.4**
comp=Z,48nm,0.9s,baz=14,slow=7.1,SNR=19
OHAK Old Harbor 71.09 27 *e*P **P 16 50 11.2 0.0**
comp=Z,159nm,0.9s
OHAK LR LR
comp=Z,12µm,20.0s
HMT Hamilton 71.31 21 *e*P **P 16 50 12.7 +0.2**
comp=Z,175nm,1.2s
HMT LR LR
comp=Z,12µm,20.0s
MID Middleton Isla 71.49 23 PFAKE 16 50 20.0 +6.5
MID LR LR
comp=Z,12µm,18.0s
GIRL Giralia 72.29 147 PFAKE 16 50 30.0 +11
GIRL LR LR
comp=Z,7µm,22.0s
TOC2 Torodi Ar. Sit 72.42 272 PFAKE 16 50 30.0 +10
TOC2 LR LR
comp=Z,9µm,18.0s
TOC1 Torodi Ar. Sit 72.42 272 PFAKE 16 50 30.0 +10
TOC1 LR LR
comp=Z,9µm,19.0s
TOB2 Torodi Ar. Sit 72.43 272 PFAKE 16 50 30.0 +10
TOB2 LR LR
comp=Z,9µm,18.0s
TOC3 Torodi Ar. Sit 72.43 272 PFAKE 16 50 30.0 +10
TOC3 LR LR
comp=Z,9µm,18.0s
TOA2 Torodi Ar. Sit 72.44 272 PFAKE 16 50 30.0 +10
TOA2 LR LR
comp=Z,9µm,18.0s
TOA1 Torodi Ar. Sit 72.44 272 PFAKE 16 50 30.0 +10
TOA1 LR LR
comp=Z,9µm,18.0s
TOB3 Torodi Ar. Sit 72.44 272 PFAKE 16 50 30.0 +10
TOB3 LR LR
comp=Z,9µm,18.0s
TOA0 Torodi Ar. Sit 72.44 272 *e*P **P 16 50 18.6 -1.4**
TOA0 LR LR
comp=Z,9µm,18.0s
TOA0 Torodi Ar. Sit 72.44 272 P **P 16 50 19.4 -0.5**
SNR=46
TOA0 S **S 16 59 37.5 -6.2**
TORD Torodi Ar. Bea 72.44 272 P **P 16 50 18.4 -1.6**
comp=Z,82nm,0.6s,baz=304,slow=16,SNR=129
TORD LR LR 17 26 15.5
comp=Z,8µm,19.2s,baz=350,slow=39
TOC7 Torodi Ar. Sit 72.45 272 PFAKE 16 50 30.0 +10
TOC7 LR LR
comp=Z,8µm,18.0s
TOA3 Torodi Ar. Sit 72.45 272 PFAKE 16 50 30.0 +10
TOA3 LR LR
comp=Z,9µm,18.0s
TOB5 Torodi Ar. Sit 72.45 272 PFAKE 16 50 30.0 +10
TOB5 LR LR
comp=Z,8µm,18.0s
TOB4 Torodi Ar. Sit 72.46 272 PFAKE 16 50 30.0 +10
TOB4 LR LR
comp=Z,8µm,18.0s
TOC4 Torodi Ar. Sit 72.46 272 PFAKE 16 50 30.0 +10
TOC4 LR LR
comp=Z,9µm,18.0s
TOC5 Torodi Ar. Sit 72.47 272 PFAKE 16 50 30.0 +10
TOC5 LR LR
comp=Z,10µm,18.0s
PMPS Porto Santo 72.51 299 *e*P **P 16 50 21.2 +1.1**
comp=Z,1µm,1.3s
HYT Haines Junctio 72.57 18 *e*P **P 16 50 20.2 0.0**
comp=Z,325nm,1.1s
PMAR Madeira 73.09 299 *e*P **P 16 50 24.4 +0.5**
comp=Z,1µm,1.4s
PMOZ Porto Moniz, M 73.21 299 *e*P **P 16 50 27.0 +2.5**
comp=Z,503nm,1.4s
PMOZ Porto Moniz, M 73.21 299 *e*LR LR 17 14 38.2
comp=Z,6µm,22.0s
WHY Whitehorse 73.30 17 *e*P **P 16 50 23.8 -0.7**
comp=Z,98nm,1.0s
MBWA Marble Bar 73.38 141 *e*P **P 16 50 24.9 -0.3**
comp=Z,119nm,1.0s
MBWA LR LR
comp=Z,4µm,21.0s
MBWA Marble Bar 73.38 141 P **P 16 50 25.5 +0.3**
SNR=12
MBWA P **P 16 50 25.5 +0.3**
SNR=12
MBWA Marble Bar 73.38 141 *e*P **P 16 50 25.2 0.0**
FITZ Fitzroy Crossi 73.71 135 *e*P **P 16 50 26.9 -0.3**
comp=Z,86nm,0.9s
FITZ LR LR
comp=Z,2µm,22.0s
SKAG Skagway 74.28 18 *e*P **P 16 50 30.5 +0.4**
comp=Z,413nm,1.1s
SKAG LR LR
comp=Z,9µm,19.0s
LSZ Lusaka 74.52 232 *e*P **P 16 50 31.8 -0.4**
comp=Z,408nm,1.9s
LSZ LR LR
comp=Z,14µm,20.0s
LSZ Lusaka 74.52 232 P **P 16 50 32.6 +0.4**
SNR=28
LSZ P **P 16 50 32.6 +0.4**
SNR=28
YKW3 Yellowknife Ar 74.57 7 *e*P **P 16 50 31.4 -0.4**
comp=Z,592nm,1.3s
YKA Yellowknife Ar 74.64 7 P **P 16 50 31.7 -0.5**
comp=Z,95nm,0.7s,baz=346,slow=5.7,SNR=365
YKA PKPPKP P'P'df 17 17 57.3 -10
comp=Z,1.0nm,0.9s,baz=146,slow=3.0,SNR=7.2
YKA LR LR 17 24 06.9
comp=Z,840nm,21.1s,baz=354,slow=36
YKB5 Yellowknife Ar 74.64 7 *e*P **P 16 50 31.1 -1.0**
MANU Manus Island 75.12 107 PFAKE 16 50 50.0 +14
MANU LR LR
comp=Z,6µm,21.0s
BESE Bessie Mountai 75.19 18 *e*P **P 16 50 35.1 -0.3**
comp=Z,134nm,1.0s
BESE LR LR
comp=Z,12µm,18.0s
JIS Juneau Island 75.57 18 *e*P **P 16 50 38.5 +1.0**
comp=Z,193nm,1.2s
JIS LR LR
comp=Z,11µm,18.0s
ROSA Rosais 76.01 310 PFAKE 16 50 50.0 +10
ROSA LR LR
comp=Z,16µm,19.0s
DLBC Dease Lake 76.34 16 P **P 16 50 42.5 +0.4**
comp=Z,31nm,0.7s,baz=325,slow=8.3,SNR=13
DLBC LR LR 17 29 11.0
comp=Z,10µm,18.5s,baz=320,slow=40
DLBC Dease Lake 76.34 16 *e*P **P 16 50 42.1 0.0**
comp=Z,180nm,1.2s
SIT Sitka 76.45 19 PFAKE 16 50 50.0 +7.4
SIT LR LR
comp=Z,8µm,18.0s
PATS Pohnpei 77.01 93 PFAKE 16 51 00.0 +14
PATS LR LR
comp=Z,5µm,18.0s
WRAK Wrangell Islan 77.72 18 PFAKE 16 51 00.0 +10
WRAK LR LR
comp=Z,9µm,19.0s
BLWY Bulawayo 78.18 228 *i* P **P 16 50 54.0 +1.2**
BLWY Bulawayo 78.18 228 *i* P **P 16 50 54.0 +1.2**
CRAG Craig 78.41 18 PFAKE 16 51 00.0 +6.4
CRAG LR LR
comp=Z,7µm,19.0s
MATP Matopo 78.47 228 *i* P **P 16 50 55.4 +0.9**
MATP Matopo 78.47 228 *i* P **P 16 50 55.4 +0.9**
MORW Morawa 78.75 148 *e*P **P 16 50 55.5 -0.2**
comp=Z,242nm,1.3s
MORW LR LR
comp=Z,5µm,21.0s
SCHQ Schefferville 78.85 341 P **P 16 50 55.7 -0.4**
comp=Z,40nm,0.9s,baz=34,slow=5.3,SNR=16
SCHQ LR LR 17 29 38.4
comp=Z,7µm,18.6s,baz=26,slow=39
SCHQ Schefferville 78.85 341 *e*P **P 16 50 55.1 -1.0**
comp=Z,203nm,1.3s
FCC Fort Churchill 78.89 357 *e*P **P 16 50 55.6 -0.6**
comp=Z,352nm,1.2s

FCC LR LR
comp=Z,16µm,18.0s
FCC Fort Churchill 78.89 357 *e*P **P 16 50 55.6 -0.6**
FCC pmax pmax
comp=Z,352nm,1.2s
FCC MLR MLR
comp=Z,16µm,18.0s
WB0 Warramunga Arr 79.89 129 PFAKE 16 51 10.0 +7.9
WB0 LR LR
comp=Z,2µm,21.0s
WB9 Warramunga Arr 79.90 129 PFAKE 16 51 10.0 +7.8
WB9 LR LR
comp=Z,6µm,21.0s
WRAB Tennant Creek 79.99 129 *e*P **P 16 51 02.3 -0.4**
WRAB LR LR
comp=Z,4µm,20.0s
WRAB Tennant Creek 79.99 129⇓ *i*P **P 16 51 04.2 +1.5**
WRAB pmax pmax
comp=Z,163nm,1.2s
WRA Warramunga Arr 80.00 129 P **P 16 51 02.5 -0.2**
comp=Z,52nm,1.0s,baz=327,slow=5.2,SNR=73
WRA S **S 17 01 09.8 +3.4**
comp=Z,1.9nm,1.0s,baz=317,slow=11,SNR=3.6
WRA PKPPKP **P'P'df 17 17 53.2 +5.5**
comp=Z,0.6nm,0.8s,baz=147,slow=1.7,SNR=2.9
WRA LR LR 17 31 29.3
comp=Z,3µm,20.6s,baz=335,slow=40
WB2 Warramunga Arr 80.00 129 *e*P **P 16 51 02.4 -0.4**
WB2 LR LR
comp=Z,4µm,21.0s
WR8 Warramunga Arr 80.10 129 PFAKE 16 51 10.0 +6.7
WR8 LR LR
comp=Z,3µm,22.0s
WR0 Warramunga Arr 80.12 129 PFAKE 16 51 10.0 +6.6
WR0 LR LR
comp=Z,2µm,21.0s
DIB Dawson Inlet, 80.64 19 PFAKE 16 51 20.0 +14
DIB LR LR
comp=Z,9µm,18.0s
COEN Coen 80.86 118 *e*P **P 16 51 07.2 -0.2**
comp=Z,94nm,0.9s
COEN LR LR
comp=Z,4µm,21.0s
DRLN Deer Lake 81.14 333 *e*P **P 16 51 08.3 -0.2**
comp=Z,482nm,1.4s
DRLN LR LR
comp=Z,9µm,21.0s
DBIC Dimbokro 81.54 271 P **P 16 51 10.7 -0.5**
comp=Z,52nm,0.7s,baz=27,slow=6.7,SNR=73
DBIC S **S 17 01 16.8 -6.0**
comp=Z,4.2nm,1.0s,baz=5.5,slow=9.1,SNR=2.4
DBIC LR LR 17 31 32.1
comp=Z,7µm,19.6s,baz=38,slow=39
DBIC Dimbokro 81.54 271 *e*P **P 16 51 10.0 -1.2**
comp=Z,895nm,1.8s
DBIC S **S 17 01 16.8 -6.0**
DBIC Dimbokro 81.54 271 *e*P **P 16 51 10.0 -1.2**
DBIC S **S 17 01 16.8 -6.0**
DBIC pmax pmax
comp=Z,895nm,1.8s
DBIC Dimbokro 81.54 271 *e*P **P 16 51 10.6 -0.6**
KIC Kosan Boka 81.66 271 *e*P **P 16 51 11.4 -0.5**
comp=Z,592nm,1.1s
TIC Toumodi 81.68 271 *e*P **P 16 51 11.4 -0.6**
LIC Lamto 81.96 271 *e*P **P 16 51 12.8 -0.6**
comp=Z,847nm,1.6s
BBB Bella Bella 82.58 17 LR LR 17 32 04.3
comp=Z,4µm,18.9s,baz=336,slow=39
NWAO Narrogin (SRO) 82.65 149 *e*P **P 16 51 16.3 -0.1**
comp=Z,168nm,1.0s
NWAO LR LR
comp=Z,5µm,22.0s
NWAO Narrogin (SRO) 82.65 149 P **P 16 51 16.8 +0.3**
SNR=9.3
NWAO P **P 16 51 16.8 +0.3**
SNR=9.3
AS31 Alice Springs 82.69 131 *e*P **P 16 51 15.9 -1.1**
comp=Z,13nm,0.8s
ASAR Alice Springs 82.69 131 P **P 16 51 16.2 -0.7**
comp=Z,22nm,1.0s,baz=323,slow=4.7,SNR=66
ASAR S **S 17 01 33.0 -1.3**
comp=Z,0.6nm,0.9s,baz=348,slow=4.2,SNR=2.4
ASAR PKPPKP P'P'df 17 17 53.1 +11
comp=Z,1.2nm,1.0s,baz=147,slow=1.8,SNR=3.5
ASAR LR LR 17 33 22.7
comp=Z,3µm,20.2s,baz=316,slow=40
AS01 Alice Springs 82.72 131 *e*P **P 16 51 16.1 -1.0**
FFC Flin Flon 83.06 1 *e*P **P 16 51 17.8 -0.7**
comp=Z,425nm,1.1s
FFC LR LR
comp=Z,9µm,20.0s
FFC Flin Flon 83.06 1 *e*P **P 16 51 17.8 -0.7**
FFC pmax pmax
comp=Z,425nm,1.1s
FFC MLR MLR
comp=Z,9µm,20.0s
LBTB Lobatse 83.73 228 *e*P **P 16 51 22.0 -0.4**
comp=Z,167nm,1.5s
LBTB Lobatse 83.73 228 *e*P **P 16 51 22.0 -0.4**
LBTB pmax pmax
comp=Z,167nm,1.5s
TSUM Tsumeb 83.93 237 *e*P **P 16 51 23.4 -0.2**
comp=Z,97nm,1.1s
TSUM LR LR
comp=Z,11µm,20.0s
CHGQ Chibougamau 85.13 344 P **P 16 51 28.4 -0.8**
baz=19,SNR=23
LLLB Lillooet 85.29 14 *e*P **P 16 51 30.2 +0.2**
comp=Z,84nm,1.0s
LLLB LR LR
comp=Z,10µm,18.0s
FORT Forrest 85.45 140 *e*P **P 16 51 31.1 +0.3**
comp=Z,197nm,0.8s
FORT LR LR
comp=Z,4µm,22.0s
BATG Bathurst New B 85.53 337 *e*P **P 16 51 30.7 -0.6**
comp=Z,274nm,1.2s
BATG LR LR
comp=Z,10µm,18.0s
GBN Guysborough 85.82 334 PFAKE 16 51 40.0 +7.3
GBN LR LR
comp=Z,9µm,19.0s
MATQ Matagami 85.92 346 P **P 16 51 32.8 -0.3**
baz=16,SNR=57
LMN Caledonia Moun 86.46 336 *e*P **P 16 51 35.5 -0.4**
comp=Z,138nm,1.0s
LSQQ Lebel-sur-Quev 86.47 345 P **P 16 51 34.9 -0.9**
baz=17
PQI Presque Isle 86.63 338 *e*P **P 16 51 36.7 0.0**
comp=Z,152nm,0.9s
BOSA Boshof 86.78 226 *i* P **P 16 51 38.1 +0.6**
BOSA Boshof 86.78 226 P **P 16 51 37.0 -0.6**
comp=Z,39nm,1.1s,baz=30,slow=5.4,SNR=15
BOSA LR LR 17 30 36.4
comp=Z,6µm,21.6s,baz=24,slow=36
BOSA Boshof 86.78 226 *e*P **P 16 51 37.3 -0.2**
comp=Z,177nm,1.4s
BOSA Boshof 86.78 226 P **P 16 51 37.0 -0.6**
BOSA pmax pmax
comp=Z,39nm,1.2s
BOSA MLR MLR
comp=Z,6µm,21.6s
BOSA Boshof 86.78 226 *i* P **P 16 51 38.1 +0.6**
BOSA Boshof 86.78 226 *e*P **P 16 51 37.7 +0.1**
PGC Sidney 86.89 15 *e*P **P 16 51 38.0 +0.1**
comp=Z,118nm,1.2s
A04D Lummi Island 86.96 15 P **P 16 51 37.6 -0.6**
baz=344
LATQ La Tuque 87.17 342 P **P 16 51 39.1 -0.1**
baz=20,SNR=9.0
CTAO Charters Tower 87.35 120 *e*P **P 16 51 39.4 -1.0**
comp=Z,97nm,1.1s
CTAO LR LR
comp=Z,3µm,20.0s
B06A Marblemount 87.38 14 *e*P **P 16 51 39.4 -0.8**
comp=Z,85nm,1.1s
B06A LR LR
comp=Z,9µm,18.0s
VLDQ Val d'Or 87.47 345 *e*P **P 16 51 39.9 -0.8**
comp=Z,133nm,0.9s
VLDQ LR LR
comp=Z,10µm,20.0s
ULM Lac du Bonnet 87.47 357 P **P 16 51 39.5 -1.2**
comp=Z,48nm,0.9s,baz=357,slow=4.9,SNR=34
ULM LR LR 17 33 37.9
comp=Z,6µm,18.8s,baz=10,slow=38
ULM Lac du Bonnet 87.47 357 *e*P **P 16 51 39.1 -1.6**
comp=Z,185nm,1.1s
ULM Lac du Bonnet 87.47 357 *e*P **P 16 51 39.1 -1.6**
ULM pmax pmax
comp=Z,185nm,1.1s
B05A Bryant 87.51 14 P **P 16 51 40.7 -0.1**
baz=344
GGN Saint George 87.72 337 *e*P **P 16 51 40.2 -1.7**
comp=Z,74nm,1.0s
GGN LR LR
comp=Z,8µm,19.0s
B08A Colville Reser 87.89 13 *e*P **P 16 51 42.0 -0.9**
comp=Z,175nm,1.3s
B08A LR LR
comp=Z,6µm,18.0s
WALA Waterton Lakes 87.96 9 *e*P **P 16 51 41.8 -1.4**
comp=Z,231nm,1.5s
WALA LR LR
comp=Z,12µm,21.0s
NLWA Neilton Lookou 88.01 16 *e*P **P 16 51 43.4 0.0**
comp=Z,164nm,1.3s
NLWA LR LR
comp=Z,7µm,18.0s
D03D Eldon 88.02 15 P **P 16 51 44.0 +0.7**
baz=343
C06D Leavenworth 88.06 14 P **P 16 51 43.5 -0.1**
baz=345,SNR=6.0
D54A Lac Fusel, La 88.23 344 P **P 16 51 44.0 -0.4**
baz=17,SNR=14
PKME Peaks-Kenny Pk 88.27 339 *e*P **P 16 51 44.8 +0.3**
comp=Z,83nm,0.9s
PKME LR LR
comp=Z,9µm,19.0s
PKME Peaks-Kenny Pk 88.27 339 P **P 16 51 44.9 +0.3**
baz=22,SNR=6.1
EMMW East Machias 88.27 337 *e*P **P 16 51 45.1 +0.6**
comp=Z,71nm,1.0s
NEW Newport 88.32 11 P **P 16 51 44.6 -0.3**
comp=Z,30nm,0.8s,baz=337,slow=4.8,SNR=18
NEW Newport 88.32 11 *e*P **P 16 51 44.4 -0.5**
comp=Z,82nm,1.1s
NEW LR LR
comp=Z,11µm,22.0s
NEW Newport 88.32 11 *e*P **P 16 51 44.4 -0.5**
NEW pmax pmax
comp=Z,82nm,1.1s
NEW MLR MLR
comp=Z,11µm,22.0s
NEW Newport 88.32 11 P **P 16 51 44.6 -0.3**
baz=348,SNR=40
D04E Lakebay 88.43 15 P **P 16 51 45.5 +0.2**
baz=344
D05A Enumclaw 88.57 15 *e*P **P 16 51 46.1 +0.1**
comp=Z,235nm,1.3s
D05A LR LR
comp=Z,7µm,21.0s
C09A Chrisman Ranch 88.60 12 *e*P **P 16 51 45.8 -0.3**
comp=Z,187nm,1.3s
C09A LR LR
comp=Z,8µm,19.0s
TRQ Mont Tremblant 88.67 342 *e*P **P 16 51 46.2 -0.4**
LTY Liberty 88.74 14 *e*P **P 16 51 45.8 -1.0**
comp=Z,33nm,1.0s
LTY LR LR
comp=Z,6µm,21.0s
MOQ Mont Orford 88.99 341 *e*P **P 16 51 47.9 -0.2**
WVL Waterville 89.02 339 *e*P **P 16 51 47.8 -0.3**
comp=Z,56nm,0.9s
LON Longmire 89.02 15 *e*P **P 16 51 47.8 -0.4**
comp=Z,63nm,0.9s
LON LR LR
comp=Z,8µm,18.0s
LON Longmire 89.02 15 *e*P **P 16 51 47.8 -0.4**
LON pmax pmax
comp=Z,63nm,0.9s
LON MLR MLR
comp=Z,8µm,18.0s
E54A Lac Daplat, Po 89.02 344 P **P 16 51 47.9 -0.2**
baz=17
E04D Cinebar 89.06 15 P **P 16 51 48.9 +0.6**
baz=344,SNR=11
D48A Paudash Townsh 89.14 348 P **P 16 51 48.4 -0.2**
baz=14,SNR=15
E53A Dumoine, Ponti 89.17 345 P **P 16 51 48.7 -0.1**
baz=16
HNR Honiara 89.20 103 PFAKE 16 52 00.0 +11
HNR LR LR
comp=Z,4µm,22.0s
DGMT Dagmar 89.26 3 *e*P **P 16 51 49.3 +0.1**
comp=Z,208nm,1.0s
DGMT LR LR
comp=Z,12µm,19.0s
DGMT Dagmar 89.26 3 P **P 16 51 49.3 +0.1**
baz=357
ALFO Alfred 89.30 342 P **P 16 51 49.2 -0.2**
baz=18,SNR=34
C40A Isle Royale Na 89.35 353 *e*P **P 16 51 48.8 -0.8**
comp=Z,104nm,1.1s
C40A LR LR
comp=Z,12µm,18.0s
C40A Isle Royale Na 89.35 353 P **P 16 51 48.9 -0.7**
baz=8.2
E51A G1948 Merrick 89.37 346 P **P 16 51 49.3 -0.5**
baz=15,SNR=19
EGMT Eagleton 89.39 6 *e*P **P 16 51 49.1 -0.8**
comp=Z,227nm,1.3s
EGMT LR LR
comp=Z,9µm,20.0s
EGMT Eagleton 89.39 6 P **P 16 51 49.3 -0.7**
baz=353
F55A Otter Lake 89.42 344 P **P 16 51 49.9 -0.1**
baz=17
F04D Rainier, OR 89.43 16 P **P 16 51 50.2 +0.2**
baz=344
E52A Mattawa 89.45 345 P **P 16 51 49.7 -0.4**
baz=16,SNR=9.5
SACV Santiago Islan 89.51 290 PFAKE 16 52 00.0 +9.1
SACV LR LR
comp=Z,6µm,18.0s
EYMN Ely 89.52 354 *e*P **P 16 51 49.6 -0.8**
comp=Z,209nm,1.1s
EYMN LR LR
comp=Z,10µm,22.0s
EYMN Ely 89.52 354 P **P 16 51 49.9 -0.6**
baz=6.5
ORIO Orleans, Innes 89.61 343 P **P 16 51 50.9 +0.1**
baz=18
ALGO Algonquin Park 89.65 345 P **P 16 51 50.8 -0.3**
baz=16,SNR=19
E50A Wahnapitae 89.69 347 P **P 16 51 51.4 +0.1**
baz=14,SNR=26
D46A Sault St. Mari 89.75 349 P **P 16 51 51.4 -0.1**
baz=12,SNR=19
E08A Dider Farm, El 89.75 13 *e*P **P 16 51 51.0 -0.5**
comp=Z,71nm,1.0s
E08A LR LR
comp=Z,5µm,20.0s
FRNY Flat Rock 89.76 341 *e*P **P 16 51 50.8 -0.8**
comp=Z,60nm,1.1s
FRNY LR LR
comp=Z,9µm,19.0s
PEMO Pembroke 89.76 344 P **P 16 51 51.2 -0.4**
baz=17,SNR=11
HAWA Hanford 89.77 13 *e*P **P 16 51 51.1 -0.6**
comp=Z,105nm,1.8s
HAWA LR LR
comp=Z,6µm,20.0s
E48A Lockeyer 89.87 348 P **P 16 51 52.0 -0.1**
baz=13,SNR=11
E09A Wood Farm, Sta 89.88 12 *e*P **P 16 51 51.7 -0.4**
comp=Z,129nm,1.1s
E09A LR LR
comp=Z,8µm,20.0s
LBNH Lisbon 89.91 340 *e*P **P 16 51 52.3 0.0**
comp=Z,50nm,0.9s
LBNH LR LR
comp=Z,9µm,19.0s
LBNH Lisbon 89.91 340 *e*P **P 16 51 52.3 0.0**
LBNH pmax pmax
comp=Z,50nm,0.9s
LBNH MLR MLR
comp=Z,9µm,19.0s
LBNH Lisbon 89.91 340 P **P 16 51 52.8 +0.4**
baz=20,SNR=6.1
F05D White Salmon 89.92 15 P **P 16 51 52.7 +0.3**
baz=345,SNR=7.5
MDND Maddock 89.95 360 *e*P **P 16 51 51.8 -0.6**
comp=Z,229nm,1.1s
MDND LR LR
comp=Z,13µm,21.0s
MDND Maddock 89.95 360 P **P 16 51 51.6 -0.8**
baz=0.5
F51A Arnstein 90.03 346 P **P 16 51 52.9 +0.1**
baz=15,SNR=12
F52A Sundridge 90.05 346 P **P 16 51 53.2 +0.3**
baz=15,SNR=14
G55A Calabogie 90.06 344 P **P 16 51 52.9 0.0**
baz=17,SNR=6.9
E47A Iron Bridge 90.07 348 P **P 16 51 52.3 -0.7**
baz=12,SNR=7.3
D41A Chassel 90.14 352 *e*P **P 16 51 52.1 -1.2**
comp=Z,214nm,1.8s
D41A LR LR
comp=Z,7µm,19.0s
D41A Chassel 90.14 352 P **P 16 51 52.7 -0.6**
baz=8.6
MSO Missoula 90.15 9 *e*P **P 16 51 52.4 -1.2**
comp=Z,119nm,1.3s
MSO LR LR
comp=Z,10µm,21.0s
MSO Missoula 90.15 9 P **P 16 51 52.8 -0.8**
baz=350,SNR=25
F07A Phinny Hill Vi 90.19 14 *e*P **P 16 51 53.5 -0.1**
comp=Z,102nm,1.2s
F07A LR LR
comp=Z,8µm,20.0s
LONY Lake Ozonia 90.19 342 *e*P **P 16 51 53.0 -0.6**
comp=Z,160nm,1.2s
LONY LR LR
comp=Z,8µm,18.0s
LONY Lake Ozonia 90.19 342 P **P 16 51 53.8 +0.2**
baz=19,SNR=22
G03D McMinnville, O 90.21 16 P **P 16 51 54.2 +0.5**
baz=343
E44A Grand Marais A 90.27 350 PFAKE 16 52 00.0 +6.1
E44A LR LR
comp=Z,11µm,20.0s
E44A Grand Marais A 90.27 350 P **P 16 51 53.7 -0.2**
baz=10
E46A Sault Ste Mari 90.30 349 P **P 16 51 53.6 -0.5**
baz=12,SNR=7.3
PLVO Plevna 90.33 344 *e*P **P 16 51 53.3 -0.9**
comp=Z,139nm,1.3s
PLVO Plevna 90.33 344 P **P 16 51 54.2 0.0**
baz=17,SNR=13
E45A Wooded Hills, 90.43 350 P **P 16 51 53.8 -0.9**
baz=11
HRY Holter Researc 90.50 8 *e*P **P 16 51 54.6 -0.6**
HNH Hanover 90.50 340 *e*P **P 16 51 54.9 -0.1**
comp=Z,125nm,1.4s
BANO Bancroft 90.53 344 P **P 16 51 55.0 -0.1**
baz=16,SNR=19
F10A Beach Ranch, E 90.55 12 *e*P **P 16 51 54.5 -0.9**
comp=Z,71nm,0.9s
F10A LR LR
comp=Z,8µm,20.0s
F49A Sandfield 90.55 347 P **P 16 51 55.3 0.0**
baz=13
G53A Haliburton 90.56 345 P **P 16 51 55.3 0.0**
baz=16,SNR=18
G05D Wamic, OR 90.57 15 P **P 16 51 56.4 +1.0**
baz=345
F48A Evansville 90.58 348 P **P 16 51 54.8 -0.6**
baz=13
H56A Elgin 90.59 343 P **P 16 51 55.7 +0.2**
baz=17,SNR=9.5
E43A Lone Tree Farm 90.64 351 *e*P **P 16 51 54.9 -0.7**
comp=Z,49nm,1.1s
E43A LR LR
comp=Z,6µm,18.0s
E43A Lone Tree Farm 90.64 351 P **P 16 51 55.0 -0.7**
baz=9.8
E42A Champion 90.69 351 P **P 16 51 55.2 -0.7**
baz=9.1
G06A Carlson Farm, 90.70 14 *e*P **P 16 51 55.3 -0.7**
comp=Z,66nm,1.3s
G06A LR LR
comp=Z,6µm,19.0s
NCB Newcomb 90.72 342 *e*P **P 16 51 56.2 0.0**
comp=Z,41nm,0.9s
NCB LR LR
comp=Z,7µm,18.0s
E41A Kenton 90.77 352 P **P 16 51 55.1 -1.2**
baz=8.3
COR Corvallis 90.81 16 *e*P **P 16 51 56.5 +0.1**
comp=Z,512nm,1.7s
COR LR LR
comp=Z,6µm,19.0s
COR Corvallis 90.81 16 *e*P **P 16 51 56.5 +0.1**
COR pmax pmax
comp=Z,512nm,1.7s
COR MLR MLR
comp=Z,6µm,19.0s
H55A Tweed 90.83 344 P **P 16 51 56.6 +0.1**
baz=17,SNR=9.4
E38A The Farm, Brul 90.86 354 *e*P **P 16 51 56.0 -0.7**
comp=Z,119nm,1.3s
E38A LR LR
comp=Z,6µm,21.0s
E38A The Farm, Brul 90.86 354 P **P 16 51 56.0 -0.7**
baz=6.4,SNR=15
G08A Pilot Rock 90.94 13 *e*P **P 16 51 57.1 -0.1**
comp=Z,36nm,1.4s
G08A LR LR
comp=Z,8µm,22.0s
H04A Detroit Lake 90.94 15 *e*P **P 16 51 57.0 -0.2**
comp=Z,85nm,1.0s
DELO Deloro Mine 90.94 344 P **P 16 51 57.0 -0.1**
baz=16,SNR=14
F46A Macinaw City C 90.95 349 P **P 16 51 56.2 -0.9**
baz=11
LAO LASA Array 90.96 4 *e*P **P 16 51 57.3 +0.1**
comp=Z,294nm,1.4s
LAO LR LR
comp=Z,10µm,19.0s
LAO LASA Array 90.96 4 P **P 16 51 57.6 +0.3**
baz=356
F44A Big Bay de Noc 90.97 350 P **P 16 51 56.7 -0.5**
baz=10
H04D Lebanon 90.98 16 P **P 16 51 57.7 +0.4**
baz=344
E39A Mellen 91.00 353 P **P 16 51 56.9 -0.5**
baz=7.2,SNR=21
SADO Sadowa 91.00 345 P **P 16 51 56.7 -0.7**
comp=Z,25nm,0.9s,baz=29,slow=5.1,SNR=6.4
SADO Sadowa 91.00 345 *e*P **P 16 51 56.4 -1.0**
comp=Z,82nm,1.3s
SADO LR LR
comp=Z,13µm,20.0s
BBOO Buckleboo 91.08 135 PFAKE 16 52 10.0 +12
BBOO LR LR
comp=Z,4µm,21.0s
F45A CMU Biological 91.14 350 P **P 16 51 57.1 -0.9**
baz=11
ACCN Adirondack Com 91.14 341 *e*P **P 16 51 57.9 -0.2**
comp=Z,112nm,1.2s
ACCN LR LR
comp=Z,8µm,20.0s
COWI Conover 91.15 352 *e*P **P 16 51 57.3 -0.7**
comp=Z,73nm,1.1s
COWI LR LR
comp=Z,7µm,20.0s
F43A Flat Rock, Esc 91.20 351 P **P 16 51 57.8 -0.5**
baz=9.6
I55A Frankford 91.25 344 P **P 16 51 58.3 -0.2**
baz=16
H52A Wyevale 91.27 346 P **P 16 51 58.2 -0.3**
baz=15
F42A Maple Grove Fa 91.38 352 P **P 16 51 58.5 -0.6**
baz=8.9
G47A Hillman 91.41 348 P **P 16 51 58.8 -0.5**
baz=12
F40A Park Falls 91.42 353 P **P 16 51 58.5 -0.9**
baz=7.5
I05D Terrebonne, OR 91.43 15 P **P 16 51 59.5 +0.1**
baz=345
HRV Adam Dziewonsk 91.44 339 PFAKE 16 52 10.0 +11
HRV LR LR
comp=Z,10µm,21.0s
HRV Adam Dziewonsk 91.44 339 P **P 16 51 58.9 -0.6**
baz=21
WES Weston 91.49 339 PFAKE 16 52 10.0 +10
WES LR LR
comp=Z,9µm,18.0s
F39A Loretta 91.49 353 P **P 16 51 59.1 -0.6**
baz=6.9,SNR=15

F41A **Three Lakes** 91.50 352 eP P 16 51 59.0 -0.7
comp=Z,83nm,1.0s
F41A LR LR
comp=Z,9µm,19.0s
F41A **Three Lakes** 91.50 352 P P 16 51 59.2 -0.5
baz=8.2,SNR=16
F38A **Pierce - Schro** 91.53 354 P P 16 51 59.7 -0.1
baz=6.2,SNR=30
BMRO **Merriville Lake** 91.55 347 P P 16 51 59.2 -0.7
baz=14
GCMT **Greycliff** 91.61 7 eP P 16 51 59.9 -0.5
BOZ **Bozeman (W)** 91.62 8 eP P 16 51 59.5 -1.0
comp=Z,85nm,1.1s
BOZ LR LR
comp=Z,6µm,18.0s
BOZ **Bozeman (W)** 91.62 8 P P 16 52 00.3 -0.2
baz=352,SNR=73
BMO **Blue Mountains** 91.63 12 eP P 16 51 59.3 -1.1
comp=Z,45nm,1.3s
BMO **Blue Mountains** 91.63 12 eP P 16 51 59.3 -1.1
BMO pmax pmax
comp=Z,45nm,1.3s
I03D **Drain, OR** 91.65 17 P P 16 52 01.2 +0.8
baz=343,SNR=7.9
WLVO **Wesleyville** 91.67 344 P P 16 52 00.5 0.0
baz=16
DLMT **Dillon** 91.75 9 eP P 16 52 00.1 -0.9
comp=Z,126nm,1.1s
DLMT LR LR
comp=Z,6µm,18.0s
TRY **Troy** 91.76 341 eP P 16 52 00.1 -0.9
comp=Z,77nm,1.1s
PKRO **Pickering** 91.77 345 P P 16 52 01.1 +0.1
baz=16,SNR=6.4
DRCO **St. Marys Ceme** 91.78 345 P P 16 52 01.0 0.0
baz=16,SNR=6.2
DRWO **Darlington Wes** 91.79 345 P P 16 52 01.3 +0.3
baz=16,SNR=5.6
H48A **Harrisville** 91.79 348 P P 16 52 00.5 -0.5
baz=12
G45A **Suttons Bay** 91.79 350 P P 16 52 00.2 -0.8
baz=11
F37A **Hinrichs Farm,** 91.81 355 P P 16 52 00.8 -0.3
baz=5.6,SNR=7.0
G43A **Wallace** 91.83 351 eP P 16 52 00.5 -0.6
comp=Z,106nm,1.1s
G43A LR LR
comp=Z,10µm,18.0s
G43A **Wallace** 91.83 351 P P 16 52 00.7 -0.5
baz=9.2
QUA2 **Belchertown** 91.86 340 eP P 16 52 01.2 -0.2
comp=Z,53nm,1.0s
GLMI **Grayling** 91.86 349 PFAKE 16 52 10.0 +8.6
GLMI LR LR
comp=Z,9µm,20.0s
GLMI **Grayling** 91.86 349 P P 16 52 00.6 -0.7
baz=12
I52A **Shelburne** 91.87 346 P P 16 52 01.3 -0.2
baz=15
G42A **Mountain** 91.92 352 eP P 16 52 01.0 -0.6
comp=Z,68nm,1.0s
G42A LR LR
comp=Z,10µm,18.0s
G42A **Mountain** 91.92 352 P P 16 52 01.1 -0.5
baz=8.7
BRCO **Bruce Peninsul** 91.93 347 P P 16 52 01.4 -0.3
baz=14
PAF **Port-aux-Franc** 91.93 186 PFAKE 16 52 10.0 +8.9
PAF LR LR
comp=Z,9µm,19.0s
BRYW **Bryant College** 91.98 339 eP P 16 52 01.4 -0.6
comp=Z,60nm,0.8s
BWLO **Walkerton** 92.00 346 P P 16 52 02.0 0.0
baz=14
I07A **Izee** 92.02 14 eP P 16 52 02.2 -0.1
comp=Z,58nm,0.9s
I07A LR LR
comp=Z,7µm,22.0s
H47A **Mio** 92.02 349 P P 16 52 01.9 -0.2
baz=12
G41A **Antigo** 92.03 352 P P 16 52 01.6 -0.5
baz=8.2
J01E **Myrtle Point** 92.03 17 P P 16 52 02.8 +0.6
baz=343
PINE **Pine Mountain** 92.03 15 eP P 16 52 02.7 +0.3
comp=Z,105nm,1.1s
PINE LR LR
comp=Z,4µm,19.0s
G40A **Rib Lake** 92.07 353 eP P 16 52 01.8 -0.6
comp=Z,96nm,1.0s
G40A LR LR
comp=Z,9µm,19.0s
G40A **Rib Lake** 92.07 353 P P 16 52 01.8 -0.6
baz=7.4,SNR=21
M65A **Busby, Falmout** 92.07 338 P P 16 52 01.9 -0.4
baz=21
SUR **Sutherland** 92.10 226 PFAKE 16 52 10.0 +7.4
SUR LR LR
comp=Z,8µm,20.0s
G39A **Holcombe** 92.14 354 P P 16 52 02.0 -0.7
baz=6.7,SNR=16
TORO **Toronto--Lesli** 92.16 345 P P 16 52 02.1 -0.6
baz=15
J55A **Hilton** 92.19 344 P P 16 52 02.8 -0.1
baz=16,SNR=6.6
BASO **Ashfield** 92.19 347 P P 16 52 02.3 -0.6
baz=14
H46A **Fife Lake** 92.22 349 P P 16 52 02.3 -0.7
baz=11
KEBM **Edson Butte** 92.22 17 PFAKE 16 52 10.0 +6.8
KEBM LR LR
comp=Z,6µm,19.0s
H45A **Beulah** 92.25 350 P P 16 52 02.5 -0.6
baz=10
MCMT **McKenzie Canyo** 92.25 9 eP P 16 52 03.0 -0.5
I51A **Listowel** 92.28 346 P P 16 52 03.2 -0.2
baz=14
ACTO **Acton** 92.30 345 P P 16 52 03.6 +0.2
baz=15,SNR=6.7
G38A **Ridgeland** 92.31 354 P P 16 52 02.7 -0.8
baz=6.2,SNR=15
RLMT **Red Lodge** 92.31 6 eP P 16 52 03.3 -0.4
comp=Z,155nm,1.4s
RLMT LR LR
comp=Z,10µm,19.0s
RLMT **Red Lodge** 92.31 6 P P 16 52 03.7 -0.1
baz=353,SNR=33
SPMN **Marine on St.** 92.32 355 eP P 16 52 02.9 -0.6
comp=Z,86nm,1.2s
SPMN LR LR
comp=Z,10µm,19.0s
SPMN **Marine on St.** 92.32 355 P P 16 52 03.2 -0.3
baz=5.5,SNR=8.7
J04D **Umpqua Nationa** 92.34 16 P P 16 52 04.1 +0.2
baz=344,SNR=5.9
I48A **Sherman Twp** 92.35 348 P P 16 52 03.1 -0.5
baz=12
QLMT **Earthquake Lak** 92.40 8 eP P 16 52 03.9 -0.3
MEDO **Medina** 92.41 344 P P 16 52 03.6 -0.4
baz=16
I49A **Point Hope** 92.45 347 P P 16 52 03.3 -0.8
baz=13
J05D **Fort Rock, OR** 92.47 15 P P 16 52 05.0 +0.6
baz=345,SNR=16
YHB **Horse Butte** 92.50 8 eP P 16 52 04.5 -0.2
comp=Z,98nm,1.3s
YHB LR LR
comp=Z,7µm,20.0s
STCO **Saint Catharin** 92.51 345 P P 16 52 04.6 +0.2
baz=15,SNR=5.4
K02D **Willamette Mer** 92.54 17 P P 16 52 04.5 -0.1
baz=343
YNR **Norris Junctio** 92.59 7 eP P 16 52 04.8 -0.3
comp=Z,43nm,1.2s
YNR LR LR
comp=Z,14µm,18.0s
YMR **Madison River** 92.61 8 PFAKE 16 52 20.0 +15
YMR LR LR
comp=Z,11µm,19.0s
H43A **Windswept, Lux** 92.61 351 PFAKE 16 52 10.0 +5.2
H43A LR LR
comp=Z,9µm,20.0s
H43A **Windswept, Lux** 92.61 351 P P 16 52 03.9 -1.0
baz=9.2
I47A **Gladwin** 92.63 349 P P 16 52 04.7 -0.3
baz=12
H42A **Shiocton** 92.66 352 eP P 16 52 04.8 -0.2
comp=Z,162nm,1.4s

H42A **Shiocton** 92.66 352 P P 16 52 04.4 -0.6
baz=8.6
H41A **Junction City** 92.67 352 eP P 16 52 03.9 -1.2
comp=Z,101nm,1.3s
H41A LR LR
comp=Z,10µm,18.0s
H41A **Junction City** 92.67 352 P P 16 52 04.7 -0.4
baz=7.8
MMNY **Mt. Morris Dam** 92.72 344 eP P 16 52 04.8 -0.6
comp=Z,199nm,1.2s
MMNY LR LR
comp=Z,12µm,21.0s
J52A **Paris** 92.73 346 P P 16 52 05.2 -0.2
baz=14
H40A **Chili** 92.73 353 P P 16 52 05.0 -0.3
baz=7.3,SNR=18
H39A **Augusta** 92.75 354 P P 16 52 05.2 -0.3
baz=6.6,SNR=12
K55A **Perry** 92.75 344 P P 16 52 05.4 -0.1
baz=16,SNR=12
TYNO **Tyneside** 92.76 345 P P 16 52 05.5 0.0
baz=15,SNR=7.5
LKWY **Lake** 92.77 7 PFAKE 16 52 20.0 +14
LKWY LR LR
comp=Z,19µm,19.0s
HUMO **Hull Mountain** 92.77 17 PFAKE 16 52 20.0 +14
HUMO LR LR
comp=Z,5µm,18.0s
BINY **Binghamton** 92.81 342 eP P 16 52 04.8 -1.0
comp=Z,61nm,1.0s
BINY LR LR
comp=Z,13µm,20.0s
BINY **Binghamton** 92.81 342 P P 16 52 05.9 +0.1
baz=18,SNR=7.2
H38A **Maiden Rock** 92.83 354 P P 16 52 05.6 -0.3
baz=5.9,SNR=21
YFT **Old Faithful** 92.84 8 eP P 16 52 06.7 +0.5
comp=Z,60nm,1.2s
YFT LR LR
comp=Z,26µm,18.0s
I46A **Reed City** 92.84 349 P P 16 52 05.8 -0.1
baz=11
I45A **Fountain** 92.85 350 P P 16 52 06.8 +0.9
baz=10
J08A **Circle Bar Ran** 92.90 13 eP P 16 52 06.2 -0.2
comp=Z,44nm,0.8s
J08A LR LR
comp=Z,10µm,21.0s
YLE **Yale** 92.91 340 eP P 16 52 05.4 -0.9
comp=Z,90nm,1.1s
YLE LR LR
comp=Z,10µm,19.0s
H17A **Grant Village** 92.92 7 eP P 16 52 08.0 +1.4
comp=Z,99nm,1.2s
H17A LR LR
comp=Z,15µm,19.0s
H17A **Grant Village** 92.92 7 P P 16 52 08.2 +1.6
baz=352,SNR=60
ELFO **Elginfield** 92.92 346 P P 16 52 06.2 -0.1
baz=14,SNR=7.0
K04D **Chiloquin, OR** 93.00 16 P P 16 52 06.1 -0.7
baz=344
YPP **Pitchstone Pla** 93.02 8 eP P 16 52 07.4 +0.3
comp=Z,72nm,1.2s
YPP LR LR
comp=Z,14µm,19.0s
L02E **Cave Junction** 93.06 17 P P 16 52 07.1 +0.1
baz=343
J49A **Marlette** 93.07 348 P P 16 52 06.6 -0.4
baz=13
FLWY **Flagg Ranch** 93.22 8 eP P 16 52 07.0 -0.9
comp=Z,88nm,1.0s
FLWY LR LR
comp=Z,8µm,20.0s
K52A **Tillsonburg** 93.22 346 P P 16 52 07.1 -0.5
baz=14
J48A **Bridge Port** 93.23 348 P P 16 52 07.3 -0.4
baz=13
I43A **Langenfeld Bro** 93.23 351 P P 16 52 07.1 -0.6
baz=8.9
I41A **Arkdale** 93.24 353 eP P 16 52 07.1 -0.7
comp=Z,168nm,1.2s
I41A LR LR
comp=Z,9µm,18.0s
I41A **Arkdale** 93.24 353 P P 16 52 07.5 -0.2
baz=7.7,SNR=16
MFID **Camas Ranch** 93.25 11 eP P 16 52 07.1 -0.9
comp=Z,139nm,1.8s
MFID LR LR
comp=Z,6µm,19.0s
L04D **Klamath Falls** 93.28 16 P P 16 52 08.0 -0.2
baz=344
HLID **Hailey** 93.31 10 eP P 16 52 06.6 -1.7
comp=Z,69nm,1.5s
HLID LR LR
comp=Z,11µm,21.0s
HLID **Hailey** 93.31 10 P P 16 52 08.2 -0.1
baz=350,SNR=34
I42A **Draeger Farm,** 93.31 352 eP P 16 52 07.2 -0.9
comp=Z,78nm,1.0s
I42A LR LR
comp=Z,9µm,18.0s
I42A **Draeger Farm,** 93.31 352 P P 16 52 07.5 -0.5
baz=8.4,SNR=5.2
STKA **Stephens Creek** 93.33 131 P P 16 52 08.2 +0.1
comp=Z,6.0nm,1.0s,baz=315,slow=1.4,SNR=3.1
STKA LR LR 17 41 29.2
comp=Z,3µm,19.4s,baz=303,slow=40
KSPA **Keystone Colle** 93.37 342 eP P 16 52 08.0 -0.4
comp=Z,63nm,1.0s
KSPA LR LR
comp=Z,13µm,19.0s
K51A **Iona Station** 93.42 346 P P 16 52 07.9 -0.6
baz=14
J47A **Sunmer** 93.44 349 P P 16 52 08.4 -0.3
baz=11
PAL **Palisades** 93.45 340 eP P 16 52 07.0 -1.7
comp=Z,60nm,1.3s
PAL LR LR
comp=Z,10µm,18.0s
PAL **Palisades** 93.45 340 eP P 16 52 07.0 -1.7
PAL pmax pmax
comp=Z,60nm,1.3s
PAL MLR MLR
comp=Z,10µm,18.0s
PAL **Palisades** 93.45 340 P P 16 52 07.0 -1.7
baz=19
J46A **Howard City** 93.45 349 P P 16 52 08.0 -0.8
baz=11
J45A **Montague** 93.46 350 P P 16 52 08.5 -0.3
baz=10
I40A **Norwalk** 93.47 353 P P 16 52 08.8 -0.1
baz=7.1,SNR=9.0
MOOW **Moose Ponds** 93.54 8 eP P 16 52 08.9 -0.5
comp=Z,36nm,1.0s
MOOW LR LR
comp=Z,8µm,19.0s
ODNJ **Ogdensburg** 93.55 341 eP P 16 52 08.5 -0.7
comp=Z,54nm,1.0s
ODNJ LR LR
comp=Z,11µm,20.0s
I39A **Houston** 93.59 354 eP P 16 52 08.6 -0.8
comp=Z,94nm,0.8s
I39A LR LR
comp=Z,11µm,18.0s
I39A **Houston** 93.59 354 P P 16 52 08.8 -0.6
baz=6.5,SNR=18
RSSD **Black Hills** 93.61 3 eP P 16 52 09.2 -0.5
comp=Z,127nm,1.0s
RSSD LR LR
comp=Z,12µm,18.0s
RSSD **Black Hills** 93.61 3 P P 16 52 09.5 -0.3
baz=357
FXWY **Fox Creek** 93.62 8 eP P 16 52 09.6 -0.3
comp=Z,36nm,1.2s
YBH **Yreka Blue Hor** 93.66 17 PFAKE 16 52 20.0 +10
YBH LR LR
comp=Z,6µm,19.0s
K49A **Clarkson** 93.68 348 P P 16 52 09.0 -0.8
baz=12
LOHW **Long Hollow** 93.69 7 eP P 16 52 09.2 -1.0
comp=Z,38nm,1.1s
LOHW LR LR
comp=Z,7µm,18.0s
ERPA **Erie** 93.72 345 eP P 16 52 09.0 -1.0
comp=Z,82nm,0.9s
ERPA LR LR
comp=Z,7µm,18.0s

ERPA **Erie** 93.72 345 P P 16 52 09.7 -0.4
baz=15,SNR=5.3
J43A **Natural Harves** 93.76 351 P P 16 52 09.4 -0.8
baz=8.7
K48A **Perry** 93.76 348 P P 16 52 09.9 -0.3
baz=12
WVOR **Wild Horse Val** 93.77 14 eP P 16 52 09.1 -1.3
comp=Z,41nm,0.9s
WVOR LR LR
comp=Z,5µm,19.0s
WVOR **Wild Horse Val** 93.77 14 eP P 16 52 09.1 -1.3
WVOR pmax pmax
comp=Z,41nm,0.9s
WVOR MLR MLR
comp=Z,5µm,19.0s
TPAW **Teton Pass** 93.78 8 eP P 16 52 09.5 -1.1
comp=Z,51nm,1.3s
TPAW LR LR
comp=Z,8µm,18.0s
M04C **Macdoel** 93.80 16 P P 16 52 10.0 -0.5
baz=344,SNR=8.2
SNOW **Snow King Moun** 93.82 8 eP P 16 52 10.4 -0.4
comp=Z,41nm,1.1s
SNOW LR LR
comp=Z,7µm,20.0s
J42A **Columbus** 93.90 352 P P 16 52 10.3 -0.5
baz=8.2,SNR=8.3
REDW **Red Top Meadow** 93.91 8 eP P 16 52 11.1 0.0
comp=Z,52nm,1.3s
REDW LR LR
comp=Z,7µm,20.0s
BRNJ **Basking Ridge** 93.92 341 PFAKE 16 52 20.0 +9.1
BRNJ LR LR
comp=Z,11µm,20.0s
L53A **Girard** 93.93 345 P P 16 52 10.9 0.0
baz=15,SNR=5.4
J41A **Loganville** 93.94 353 P P 16 52 10.5 -0.5
baz=7.6,SNR=24
M02C **Callahan** 93.96 17 P P 16 52 11.7 +0.5
baz=344,SNR=6.5
J40A **Soldiers Grove** 93.98 353 P P 16 52 10.6 -0.6
baz=7.0,SNR=16
N59A **State Game Lan** 93.98 342 eP P 16 52 10.9 -0.4
comp=Z,45nm,1.1s
N59A LR LR
comp=Z,11µm,18.0s
N59A **State Game Lan** 93.98 342 P P 16 52 11.3 0.0
baz=18,SNR=5.5
MOD **Modoc Plateau** 93.98 15 eP P 16 52 11.2 -0.2
comp=Z,101nm,1.4s
MOD LR LR
comp=Z,4µm,19.0s
ECSD **EROS Data Cent** 94.00 357 eP P 16 52 10.8 -0.5
comp=Z,67nm,1.0s
ECSD LR LR
comp=Z,10µm,18.0s
ECSD **EROS Data Cent** 94.00 357 P P 16 52 11.0 -0.3
baz=2.7,SNR=43
K47A **Vermontville** 94.02 349 P P 16 52 10.7 -0.7
baz=11
K46A **Dorr** 94.12 349 P P 16 52 10.6 -1.2
baz=11
J39A **Decorah** 94.12 354 P P 16 52 10.9 -0.9
baz=6.3,SNR=26
AAM **Ann Arbor** 94.18 348 PFAKE 16 52 20.0 +7.9
AAM LR LR
comp=Z,8µm,19.0s
AAM **Ann Arbor** 94.18 348 P P 16 52 11.3 -0.8
baz=12
ALLY **Alegheny Colle** 94.20 345 PFAKE 16 52 20.0 +7.8
ALLY LR LR
comp=Z,8µm,20.0s
EIDS **Eidsvold** 94.23 121 PFAKE 16 52 20.0 +7.6
EIDS LR LR
comp=Z,4µm,22.0s
JCC **Jacoby Creek,** 94.25 18 PFAKE 16 52 20.0 +7.6
JCC LR LR
comp=Z,5µm,18.0s
M54A **Oil Creek Stat** 94.25 345 eP P 16 52 12.3 -0.2
comp=Z,100nm,0.8s
M54A LR LR
comp=Z,12µm,20.0s
M54A **Oil Creek Stat** 94.25 345 P P 16 52 12.1 -0.3
baz=15,SNR=18
KHMM **Horse Mountain** 94.26 18 PFAKE 16 52 20.0 +7.3
KHMM LR LR
comp=Z,5µm,19.0s
L50A **Kingsville** 94.30 347 P P 16 52 12.4 -0.2
baz=13,SNR=5.7
L49A **Milan** 94.39 348 P P 16 52 12.6 -0.4
baz=12
N02D **Trinity Center** 94.39 17 P P 16 52 13.7 +0.5
baz=344,SNR=7.6
JFWS **Jewell Farm** 94.41 353 eP P 16 52 12.5 -0.6
comp=Z,151nm,0.8s
JFWS LR LR
comp=Z,9µm,18.0s
JFWS **Jewell Farm** 94.41 353 eP P 16 52 12.5 -0.6
JFWS pmax pmax
comp=Z,151nm,0.8s
JFWS MLR MLR
comp=Z,9µm,18.0s
JFWS **Jewell Farm** 94.41 353 P P 16 52 12.6 -0.6
baz=7.4,SNR=22
K43A **Burlington** 94.42 351 PFAKE 16 52 20.0 +6.8
K43A LR LR
comp=Z,11µm,21.0s
K43A **Burlington** 94.42 351 P P 16 52 12.3 -0.9
baz=8.8
K42A **Prairie Point,** 94.45 352 P P 16 52 12.3 -1.0
baz=8.1
AHID **Auburn Hatcher** 94.48 8 PFAKE 16 52 20.0 +6.3
AHID LR LR
comp=Z,8µm,18.0s
M53A **WI Miller and** 94.51 345 P P 16 52 13.2 -0.4
baz=14,SNR=7.8
M52A **Chesterland** 94.53 346 P P 16 52 13.6 -0.1
baz=14,SNR=7.3
BW06 **Boulder Array** 94.62 7 eP P 16 52 13.5 -1.0
comp=Z,33nm,1.3s
BW06 LR LR
comp=Z,8µm,19.0s
BW06 **Boulder Array** 94.62 7 P P 16 52 13.7 -0.8
baz=353,SNR=23
PD31 **Pinedale Array** 94.62 7 eP P 16 52 13.3 -1.2
PDAR **Pinedale Array** 94.62 7 P P 16 52 13.6 -0.9
comp=Z,14nm,0.8s,baz=42,slow=2.9,SNR=36
PDAR PKKP PKKPdf 17 09 08.0 -0.9
comp=Z,0.7nm,0.8s,baz=56,slow=2.3,SNR=3.1
PDAR PKPPKP P'P'df 17 17 25.9 -4.7
comp=Z,1.5nm,1.0s,baz=108,slow=3.3,SNR=7.2
PDAR LR LR 17 38 17.6
comp=Z,7µm,19.0s,baz=1.0,slow=38
L48A **N Adams** 94.65 348 P P 16 52 13.8 -0.5
baz=12,SNR=5.9
K40A **Colesburg** 94.70 353 P P 16 52 13.6 -0.9
baz=6.7,SNR=26
K41A **Shullsburg** 94.72 353 P P 16 52 13.8 -0.8
baz=7.3,SNR=7.6
SSPA **Standing Stone** 94.72 343 eP P 16 52 13.5 -1.1
comp=Z,58nm,1.1s
SSPA LR LR
comp=Z,11µm,19.0s
SSPA **Standing Stone** 94.72 343 P P 16 52 13.8 -0.8
baz=16
L47A **Sherwood** 94.73 349 P P 16 52 14.0 -0.7
baz=11,SNR=6.6
K39A **Oelwein** 94.76 354 P P 16 52 13.6 -1.2
baz=6.2,SNR=39
WDC **Whiskeytown Da** 94.80 17 eP P 16 52 14.5 -0.5
comp=Z,23nm,0.9s
WDC LR LR
comp=Z,5µm,20.0s
WDC **Whiskeytown Da** 94.80 17 eP P 16 52 14.5 -0.5
WDC pmax pmax
comp=Z,23nm,0.9s
WDC MLR MLR
comp=Z,5µm,20.0s
N55A **Marion Center** 94.81 344 P P 16 52 14.8 -0.3
baz=16,SNR=12
N54A **Moraine State** 94.84 345 eP P 16 52 14.1 -1.1
comp=Z,128nm,1.3s
N54A LR LR
comp=Z,10µm,18.0s
N54A **Moraine State** 94.84 345 P P 16 52 14.7 -0.5
baz=15,SNR=5.0
L46A **Eue Claire** 94.85 350 P P 16 52 14.4 -0.8
baz=10

PAGS **Pennsylvania G** 94.86 342 *eP* **P** 16 52 14.2 -1.0
comp=Z,22nm,1.0s
PAGS LR LR
comp=Z,10µm,18.0s
M51A Elyria 94.88 346 P **P** 16 52 14.4 -0.9
baz=13
KMRM Mail Ridge 94.89 18 PFAKE 16 52 30.0 +15
KMRM LR LR
comp=Z,8µm,18.0s
L44A Lake County Fo 94.89 351 P **P** 16 52 14.4 -0.9
baz=9.1
M50A Fremont 94.96 347 *eP* **P** 16 52 14.6 -1.1
comp=Z,76nm,1.1s
M50A LR LR
comp=Z,9µm,20.0s
M50A Fremont 94.96 347 P **P** 16 52 14.8 -0.9
baz=13
K22A Casper 94.96 5 *eP* **P** 16 52 14.7 -1.2
comp=Z,51nm,1.0s
K22A LR LR
comp=Z,12µm,19.0s
K22A Casper 94.96 5 P **P** 16 52 15.1 -0.9
baz=355,SNR=7.1
L43A Garden Prairie 94.98 351 P **P** 16 52 15.1 -0.7
baz=8.5
MVL Millersville 94.99 342 *eP* **P** 16 52 14.9 -0.9
comp=Z,63nm,1.5s
MVL LR LR
comp=Z,13µm,20.0s
M49A Liberty Center 95.04 348 P **P** 16 52 15.5 -0.6
baz=12,SNR=6.0
O02D Mt. Diablo Mer 95.14 17 P **P** 16 52 16.5 -0.2
baz=344
M48A Edgerton 95.14 348 *eP* **P** 16 52 15.8 -0.8
comp=Z,75nm,0.8s
M48A LR LR
comp=Z,13µm,18.0s
M48A Edgerton 95.14 348 P **P** 16 52 15.5 -1.0
baz=11
N53A Lisbon 95.15 345 P **P** 16 52 16.2 -0.4
baz=14
O56A Blue Knob Stat 95.22 343 *eP* **P** 16 52 15.9 -1.0
comp=Z,83nm,1.1s
O56A LR LR
comp=Z,10µm,19.0s
O56A Blue Knob Stat 95.22 343 P **P** 16 52 16.5 -0.5
baz=16,SNR=13
O03E Paynes Creek 95.23 16 P **P** 16 52 16.3 -0.7
baz=344
L42A Oliver, Polo 95.25 352 *eP* **P** 16 52 16.2 -0.8
comp=Z,131nm,1.0s
L42A LR LR
comp=Z,11µm,18.0s
L42A Oliver, Polo 95.25 352 P **P** 16 52 16.2 -0.8
baz=7.8,SNR=8.8
L41A Preston 95.27 353 P **P** 16 52 16.2 -0.9
baz=7.2,SNR=13
HVU Hansel Valley 95.27 9 *eP* **P** 16 52 16.9 -0.4
comp=Z,57nm,1.0s
HVU LR LR
comp=Z,6µm,20.0s
HVU Hansel Valley 95.27 9 *eP* **P** 16 52 16.9 -0.4
HVU pmax pmax
comp=Z,57nm,1.0s
HVU MLR MLR
comp=Z,6µm,20.0s
N52A McGinn's Farm, 95.30 346 P **P** 16 52 16.7 -0.6
baz=14,SNR=7.9
N51A Ashland 95.32 346 *eP* **P** 16 52 16.6 -0.7
comp=Z,87nm,0.8s
N51A LR LR
comp=Z,10µm,19.0s
N51A Ashland 95.32 346 P **P** 16 52 16.7 -0.7
baz=13,SNR=11
L40A Anamosa 95.34 353 PFAKE 16 52 30.0 +13
L40A LR LR
comp=Z,8µm,19.0s
L40A Anamosa 95.34 353 P **P** 16 52 16.4 -1.0
baz=6.7
L39A Vinton 95.35 354 P **P** 16 52 16.5 -1.0
baz=6.1,SNR=14
M47A Cromwell 95.40 349 P **P** 16 52 16.8 -0.9
baz=11
KCPM Cahto Peak 95.43 18 PFAKE 16 52 30.0 +12
KCPM LR LR
comp=Z,7µm,19.0s
O55A Ligonier 95.43 344 P **P** 16 52 17.1 -0.8
baz=15,SNR=7.6
M46A Old House Fiel 95.45 350 PFAKE 16 52 30.0 +12
M46A LR LR
comp=Z,11µm,20.0s
M46A Old House Fiel 95.45 350 P **P** 16 52 17.1 -0.8
baz=10
M45A Boilermakers S 95.59 350 P **P** 16 52 18.2 -0.3
baz=9.6
N50A Nevada 95.59 347 P **P** 16 52 17.9 -0.7
baz=13,SNR=8.5
N49A Columbus Grove 95.61 348 *eP* **P** 16 52 18.0 -0.7
comp=Z,62nm,0.8s
N49A LR LR
comp=Z,9µm,20.0s
N49A Columbus Grove 95.61 348 P **P** 16 52 17.9 -0.7
baz=12,SNR=8.8
SCIA State Center 95.65 355 *eP* **P** 16 52 17.8 -1.1
comp=Z,74nm,0.8s
SCIA LR LR
comp=Z,16µm,18.0s
SCIA State Center 95.65 355 P **P** 16 52 18.7 -0.1
baz=5.2,SNR=6.0
O54A Avella 95.67 345 P **P** 16 52 18.4 -0.6
baz=15,SNR=7.1
M44A Midewin, Midew 95.69 351 *eP* **P** 16 52 18.2 -0.7
comp=Z,90nm,1.1s
M44A LR LR
comp=Z,10µm,19.0s
M44A Midewin, Midew 95.69 351 P **P** 16 52 18.3 -0.7
baz=9.0
M43A Waltham Townsh 95.74 351 P **P** 16 52 18.8 -0.4
baz=8.3,SNR=8.5
O53A New Philadelph 95.76 345 P **P** 16 52 19.1 -0.3
baz=14,SNR=8.5
SPUT South Promonto 95.77 9 *eP* **P** 16 52 18.8 -0.8
comp=Z,44nm,1.1s
SPUT LR LR
comp=Z,6µm,18.0s
N48A Decatur 95.80 348 P **P** 16 52 18.7 -0.8
baz=11,SNR=5.5
M42A Sheffield 95.81 352 P **P** 16 52 19.4 -0.1
baz=7.8
N47A Urbana 95.88 349 P **P** 16 52 19.1 -0.8
baz=11,SNR=6.1
RWWY Rawlins 95.88 5 *eP* **P** 16 52 19.3 -1.0
comp=Z,102nm,1.1s
RWWY LR LR
comp=Z,10µm,20.0s
BEKR Beckworth 95.94 15 *eP* **P** 16 52 19.7 -0.7
comp=Z,28nm,1.1s
BEKR LR LR
comp=Z,6µm,18.0s
BMN Battle Mountai 95.96 13 PFAKE 16 52 30.0 +10
BMN LR LR
comp=Z,6µm,22.0s
ELK Elko 95.96 11 PKPPKP **P'P'df** 17 17 24.3 -3.7
comp=Z,0.4nm,0.4s,baz=93,slow=4.2,SNR=4.6
ELK Elko 95.96 11 *eP* **P** 16 52 20.4 -0.2
comp=Z,43nm,1.3s
ELK P'P' 17 17 24.3
ELK LR LR
comp=Z,11µm,19.0s
M41A Milan 95.96 353 P **P** 16 52 18.6 -1.6
baz=7.2
M39A Webster 96.00 354 P **P** 16 52 19.8 -0.7
baz=6.0,SNR=13
O52A Adamsville 96.00 346 *eP* **P** 16 52 19.8 -0.8
comp=Z,67nm,1.1s
O52A LR LR
comp=Z,9µm,21.0s
O52A Adamsville 96.00 346 P **P** 16 52 19.7 -0.8
baz=14,SNR=6.4
N46A Monticello 96.01 350 P **P** 16 52 19.5 -0.9
baz=10.0
ORV Oroville 96.01 16 *eP* **P** 16 52 19.4 -1.0
comp=Z,19nm,1.1s
ORV LR LR
comp=Z,4µm,22.0s
ORV Oroville 96.01 16 *eP* **P** 16 52 19.5 -1.0
ORV pmax pmax
comp=Z,19nm,1.1s
ORV MLR MLR
comp=Z,4µm,22.0s
M40A Post Highland 96.02 353 P **P** 16 52 19.8 -0.8
baz=6.5,SNR=14
MCWV Mont Chateau 96.07 344 PFAKE 16 52 30.0 +9.2
MCWV LR LR
comp=Z,5µm,20.0s
MCWV Mont Chateau 96.07 344 P **P** 16 52 20.0 -0.8
baz=15
TCUT Toone Canyon 96.08 8 *eP* **P** 16 52 20.9 -0.2
comp=Z,195nm,1.3s
TCUT LR LR
comp=Z,12µm,19.0s
BGU Big Grassy Mou 96.08 10 *eP* **P** 16 52 20.8 -0.2
comp=Z,30nm,1.2s
BGU LR LR
comp=Z,6µm,20.0s
ACSO Alum Creek Sta 96.09 347 *eP* **P** 16 52 20.2 -0.6
comp=Z,92nm,1.1s
ACSO LR LR
comp=Z,9µm,20.0s
ACSO Alum Creek Sta 96.09 347 P **P** 16 52 20.1 -0.8
baz=13,SNR=6.9
O51A Pataskala 96.11 346 P **P** 16 52 20.4 -0.6
baz=13,SNR=8.9
N45A Kentland 96.15 350 P **P** 16 52 20.9 -0.2
baz=9.4,SNR=5.6
HOPS Hopland Field 96.21 18 PFAKE 16 52 30.0 +8.6
HOPS LR LR
comp=Z,6µm,19.0s
P55A Reedsville 96.21 344 P **P** 16 52 21.1 -0.4
baz=15
N43A Stutzman Famil 96.26 352 P **P** 16 52 21.0 -0.6
baz=8.2,SNR=7.3
PAHR Pah Rah Range 96.28 15 *eP* **P** 16 52 21.6 -0.4
comp=Z,35nm,1.4s
PAHR LR LR
comp=Z,5µm,22.0s
N44A Piper City 96.28 351 P **P** 16 52 21.6 -0.1
baz=9.0,SNR=11
O50A Cable 96.28 347 P **P** 16 52 21.2 -0.6
baz=12,SNR=5.9
O49A Covington 96.36 348 *eP* **P** 16 52 21.5 -0.6
comp=Z,60nm,0.8s
O49A LR LR
comp=Z,10µm,20.0s
O49A Covington 96.36 348 P **P** 16 52 21.2 -0.8
baz=12,SNR=10
PHWY Pilot Hill 96.37 4 *eP* **P** 16 52 21.8 -0.7
comp=Z,84nm,1.1s
PHWY LR LR
comp=Z,8µm,21.0s
BGNE Belgrade 96.37 358 *eP* **P** 16 52 21.6 -0.5
comp=Z,288nm,1.3s
BGNE LR LR
comp=Z,6µm,21.0s
BGNE Belgrade 96.37 358 P **P** 16 52 22.1 -0.1
baz=1.6,SNR=12
O48A Farmland 96.41 348 P **P** 16 52 21.4 -0.9
baz=11,SNR=9.1
GDXM Geysers 96.45 18 PFAKE 16 52 30.0 +7.4
GDXM LR LR
comp=Z,6µm,20.0s
N42A Yates City 96.45 352 P **P** 16 52 21.8 -0.7
baz=7.6,SNR=7.3
CTU Camp Tracy 96.46 9 *eP* **P** 16 52 22.4 -0.3
comp=Z,21nm,1.1s
CTU LR LR
comp=Z,9µm,19.0s
P52A Corning 96.53 346 P **P** 16 52 22.0 -0.8
baz=13,SNR=10
P53A Whipple 96.53 345 *eP* **P** 16 52 22.4 -0.5
comp=Z,47nm,0.9s
P53A LR LR
comp=Z,9µm,21.0s
P53A Whipple 96.53 345 P **P** 16 52 22.4 -0.5
baz=14
N40A Mertquake, Sal 96.54 353 P **P** 16 52 22.3 -0.6
baz=6.4,SNR=23
SFIN Lafayette 96.56 350 PFAKE 16 52 30.0 +7.0
SFIN LR LR
comp=Z,10µm,20.0s
SFIN Lafayette 96.56 350 P **P** 16 52 21.8 -1.2
baz=9.7
O47A Sheridan 96.58 349 P **P** 16 52 22.1 -1.0
baz=10
JLU Jordanelle 96.58 9 *eP* **P** 16 52 23.3 -0.1
comp=Z,74nm,1.4s
JLU LR LR
comp=Z,10µm,19.0s
VCNR Virginia City 96.63 15 *eP* **P** 16 52 23.2 -0.4
comp=Z,13nm,1.0s
VCNR LR LR
comp=Z,6µm,19.0s
N41A Harden Midland 96.66 353 *eP* **P** 16 52 22.7 -0.7
comp=Z,194nm,1.3s
N41A LR LR
comp=Z,8µm,20.0s
N41A Harden Midland 96.66 353 P **P** 16 52 22.7 -0.7
baz=7.0,SNR=7.5
AFDM Forest Hills D 96.70 16 *eP* **P** 16 52 23.0 -0.7
comp=Z,73nm,2.0s
AFDM LR LR
comp=Z,3µm,20.0s
N23A Red Feather La 96.75 4 *eP* **P** 16 52 23.7 -0.5
comp=Z,62nm,1.1s
N23A LR LR
comp=Z,10µm,19.0s
N23A Red Feather La 96.75 4 P **P** 16 52 23.9 -0.3
baz=356,SNR=30
Q55A Buchannon 96.76 344 P **P** 16 52 23.2 -0.8
baz=15
RUBR Rubicon Trail 96.77 15 PFAKE 16 52 30.0 +5.8
RUBR LR LR
comp=Z,4µm,19.0s
O45A Potomac 96.77 350 P **P** 16 52 23.0 -1.0
baz=9.3
DUG Dugway, Tooele 96.83 10 *eP* **P** 16 52 23.1 -1.3
comp=Z,65nm,1.2s
DUG LR LR
comp=Z,6µm,18.0s
DUG Dugway, Tooele 96.83 10 *eP* **P** 16 52 23.1 -1.3
DUG pmax pmax
comp=Z,65nm,1.2s
DUG MLR MLR
comp=Z,6µm,18.0s
DUG Dugway, Tooele 96.83 10 P **P** 16 52 24.3 -0.1
baz=351,SNR=19
P50A Jamestown 96.83 347 P **P** 16 52 23.5 -0.8
baz=12,SNR=6.5
P51A Williamsport 96.84 347 PFAKE 16 52 30.0 +5.7
P51A LR LR
comp=Z,7µm,21.0s
P51A Williamsport 96.84 347 P **P** 16 52 23.2 -1.1
baz=13
PNTR Pine Nut 96.84 15 *eP* **P** 16 52 23.9 -0.6
comp=Z,35nm,0.9s
PNTR LR LR
comp=Z,6µm,19.0s
OGNE Ogallala 96.84 1 *eP* **P** 16 52 23.1 -1.2
comp=Z,85nm,1.1s
OGNE LR LR
comp=Z,8µm,19.0s
OGNE Ogallala 96.84 1 P **P** 16 52 23.6 -0.8
baz=359,SNR=8.4
O43A Sugar Creek Fa 96.92 352 P **P** 16 52 23.6 -1.0
baz=8.1,SNR=8.0
CBN Corbin Frederi 96.94 342 PFAKE 16 52 40.0 +15
CBN LR LR
comp=Z,13µm,21.0s
CBN Corbin Frederi 96.94 342 P **P** 16 52 23.9 -0.8
baz=17
O44A Mansfield 96.95 351 P **P** 16 52 24.4 -0.4
baz=8.7
YERR Yerington 97.00 15 PFAKE 16 52 40.0 +15
YERR LR LR
comp=Z,6µm,20.0s
P49A Miami Univ. Ec 97.05 348 P **P** 16 52 24.2 -1.1
baz=12
MCCM Marconi Confer 97.06 18 PFAKE 16 52 40.0 +15
MCCM LR LR
comp=Z,4µm,18.0s
O42A Bath 97.09 352 P **P** 16 52 24.6 -0.7
baz=7.5
MPU Maple Canyon 97.14 9 PFAKE 16 52 40.0 +14
MPU LR LR
comp=Z,13µm,18.0s
KVN Kaiserville 97.15 14 *eP* **P** 16 52 24.8 -1.2
comp=Z,14nm,1.0s
KVN LR LR
comp=Z,6µm,20.0s
KVN Kaiserville 97.15 14 *eP* **P** 16 52 24.8 -1.2
KVN pmax pmax
comp=Z,14nm,1.0s
KVN MLR MLR
comp=Z,6µm,20.0s
NLU North Lily Min 97.15 9 *eP* **P** 16 52 25.4 -0.6
comp=Z,29nm,1.2s
NLU LR LR
comp=Z,7µm,19.0s
Q52A Bidwell 97.20 346 P **P** 16 52 24.8 -1.1
baz=13
P48A Milroy 97.23 348 P **P** 16 52 24.3 -1.8
baz=11
O41A Passleys Farm, 97.24 353 P **P** 16 52 25.2 -0.8
baz=7.0,SNR=16
R58B Mineral 97.28 342 *eP* **P** 16 52 25.9 -0.4
comp=Z,24nm,0.9s
R58B LR LR
comp=Z,10µm,19.0s
R58B Mineral 97.28 342 P **P** 16 52 24.8 -1.5
baz=16
P46A Rosedale 97.33 350 P **P** 16 52 25.5 -1.0
baz=9.7
P47A Martinsville 97.33 349 P **P** 16 52 25.6 -0.9
baz=10
Q51A Peebles 97.33 347 *eP* **P** 16 52 25.5 -1.0
comp=Z,125nm,1.8s
Q51A LR LR
comp=Z,7µm,20.0s
Q51A Peebles 97.33 347 P **P** 16 52 25.7 -0.8
baz=12
O20A White River Ci 97.35 6 *eP* **P** 16 52 26.5 -0.4
comp=Z,70nm,1.1s
O20A LR LR
comp=Z,12µm,19.0s
O20A White River Ci 97.35 6 P **P** 16 52 26.4 -0.5
baz=354,SNR=14
SHEL Horse Pasture 97.36 255 PFAKE 16 52 40.0 +13
SHEL LR LR
comp=Z,6µm,21.0s
WAKR Walker 97.43 15 PFAKE 16 52 40.0 +13
WAKR LR LR
comp=Z,8µm,21.0s
R55A Marlinton 97.45 344 P **P** 16 52 25.1 -2.1
baz=15
P45A Graceland, Par 97.48 350 *eP* **P** 16 52 26.3 -0.8
comp=Z,81nm,1.2s
P45A LR LR
comp=Z,8µm,20.0s
P45A Graceland, Par 97.48 350 P **P** 16 52 26.7 -0.5
baz=9.3,SNR=6.6
RYN Ryan 97.48 14 *eP* **P** 16 52 26.4 -1.0
comp=Z,20nm,1.0s
RYN LR LR
comp=Z,7µm,21.0s
P43A Skaggs, Pawnee 97.58 352 P **P** 16 52 27.3 -0.3
baz=8.0,SNR=7.5
Q49A Aurora 97.60 348 P **P** 16 52 26.8 -0.9
baz=11
Q50A Georgetown 97.61 347 P **P** 16 52 26.8 -1.0
baz=12
P44A Sand Creek, Wi 97.65 351 P **P** 16 52 27.3 -0.7
baz=8.6,SNR=9.0
BLO Bloomington 97.67 349 PFAKE 16 52 40.0 +12
BLO LR LR
comp=Z,8µm,20.0s
P41A Barry, Barry 97.70 353 P **P** 16 52 27.5 -0.6
baz=6.8,SNR=7.5
CMB Columbia Colle 97.70 16 PFAKE 16 52 40.0 +12
CMB LR LR
comp=Z,5µm,18.0s
NV01 Mina Array Sit 97.72 14 *eP* **P** 16 52 27.9 -0.7
NVAR Mina Array Bea 97.72 14 P **P** 16 52 28.5 -0.1
comp=Z,5.4nm,0.8s,baz=350,slow=3.9,SNR=20
NVAR PKKPbc **PKKPdf** 17 09 04.7 +1.2
comp=Z,1.4nm,0.8s,baz=180,slow=4.5,SNR=3.2
NVAR LR LR 17 41 47.4
comp=Z,4µm,20.6s,baz=1.5,slow=39
P42A Winchester 97.72 352 *eP* **P** 16 52 27.5 -0.8
comp=Z,123nm,1.1s
P42A LR LR
comp=Z,11µm,21.0s
P42A Winchester 97.72 352 P **P** 16 52 27.7 -0.6
baz=7.4,SNR=15
R54A Victor 97.72 345 P **P** 16 52 27.3 -1.0
baz=14
NV11 Mina Array Sit 97.74 14 *eP* **P** 16 52 27.7 -0.9
comp=Z,2.1nm,1.3s
NV11 LR LR
comp=Z,500nm,19.0s
R53A Hurricane 97.76 346 P Pdif 16 52 28.8 +0.3
baz=14,SNR=5.9
P17A Butcher Ranch, 97.78 8 PFAKE 16 52 40.0 +11
P17A LR LR
comp=Z,6µm,19.0s
Q48A North Vernon 97.80 349 P Pdif 16 52 29.2 +0.6
baz=11
ISCO Idaho Springs 97.86 4 *eP* **P** 16 52 28.7 -0.6
comp=Z,47nm,1.1s
ISCO LR LR
comp=Z,12µm,20.0s
ISCO Idaho Springs 97.86 4 *eP* **P** 16 52 28.7 -0.6
ISCO pmax pmax
comp=Z,47nm,1.1s
ISCO MLR MLR
comp=Z,12µm,20.0s
ISCO Idaho Springs 97.86 4 P **P** 16 52 29.2 -0.1
baz=356,SNR=37
R52A Catlettsburg 97.88 346 P **P** 16 52 28.6 -0.4
baz=13
Q47A Bedord North L 97.89 349 P **P** 16 52 28.5 -0.5
baz=10
Q46A CEJHS Indians, 97.93 350 P **P** 16 52 28.0 -1.2
baz=9.6
R51A Hillsboro 98.08 347 P **P** 16 52 29.1 -0.8
baz=12
ARMA Armidale 98.14 124 PFAKE 16 52 40.0 +10
ARMA LR LR
comp=Z,4µm,22.0s
SRU San Rafael Swe 98.16 8 *eP* **P** 16 52 29.8 -0.7
comp=Z,15nm,0.9s
SRU LR LR
comp=Z,6µm,19.0s
SRU San Rafael Swe 98.16 8 *eP* **P** 16 52 29.8 -0.7
SRU pmax pmax
comp=Z,15nm,0.9s
SRU MLR MLR
comp=Z,6µm,19.0s
Q45A Warren Harvey, 98.16 350 P **P** 16 52 30.1 -0.1
baz=9.0,SNR=13
R50A Paris 98.22 347 P **P** 16 52 29.5 -1.0
baz=12
Q44A Meyer Farm, Va 98.25 351 *eP* **P** 16 52 30.0 -0.7
comp=Z,71nm,1.1s
Q44A LR LR
comp=Z,13µm,19.0s
Q44A Meyer Farm, Va 98.25 351 P **P** 16 52 30.1 -0.5
baz=8.3,SNR=7.0
R11A Troy Canyon, C 98.25 12 *eP* **P** 16 52 30.5 -0.4
comp=Z,19nm,1.3s
R11A LR LR
comp=Z,5µm,20.0s
R11A Troy Canyon, C 98.25 12 P **P** 16 52 30.5 -0.4
baz=349,SNR=9.9
Q16A Castle Valley 98.28 9 *eP* **P** 16 52 30.8 -0.2
comp=Z,36nm,1.2s
Q16A LR LR
comp=Z,6µm,18.0s
Q43A New Douglas 98.29 352 P **P** 16 52 29.4 -1.4
baz=7.8
OLIL Olney 98.31 350 *eP* **P** 16 52 30.2 -0.7
comp=Z,130nm,1.3s
OLIL LR LR
comp=Z,9µm,20.0s
PSUT Pine Spring 98.33 11 *eP* **P** 16 52 30.6 -0.7
comp=Z,28nm,1.2s
PSUT LR LR
comp=Z,7µm,21.0s
R48A Northridge Ran 98.34 349 P **P** 16 52 30.4 -0.7
baz=11
R49A Shelbyville 98.34 348 P **P** 16 52 29.8 -1.3
baz=11
MDPB Devils Postpil 98.35 15 PFAKE 16 52 40.0 +8.5
MDPB LR LR
comp=Z,4µm,21.0s

OMMB	**Old Mammoth Mi**	**98.38**	**15**	PFAKE		16 52 40.0	+8.3	CCM			MLR	MLR			
OMMB				LR	LR				comp=Z,8μm,20.0s						
	comp=Z,5μm,22.0s							**CCM**	**Cathedral Cave**	**99.32**	**353**	Pdiff	**Pdif**	**16 52 34.7**	**-0.7**
SMCO	**Snowmass**	**98.39**	**5**	*e*P	**P**	**16 52 31.3**	**-0.5**		baz=6.7						
	comp=Z,32nm,1.1s							**SZCU**	**Shurtz Canyon**	**99.35**	**10**	*e*P	**Pdif**	**16 52 35.6**	**-0.3**
SMCO				LR	LR				comp=Z,29nm,1.3s						
	comp=Z,11μm,18.0s							SZCU				LR	LR		
Q42A	**Golden Eagle**	**98.40**	**352**	P	**P**	**16 52 30.9**	**-0.5**		comp=Z,6μm,19.0s						
	baz=7.2,SNR=15							**CCUT**	**Cedar City**	**99.36**	**11**	PFAKE		16 52 50.0	+14
Q41A	**Truxton**	**98.43**	**353**	P	**P**	**16 52 31.1**	**-0.3**	CCUT				LR	LR		
	baz=6.7,SNR=9.6								comp=Z,7μm,21.0s						
TCRU	**Three Creeks R**	**98.43**	**10**	PFAKE		16 52 40.0	+8.2	**S45A**	**Carrier Mills**	**99.41**	**351**	Pdiff	**Pdif**	**16 52 34.8**	**-1.1**
TCRU				LR	LR				baz=8.7						
	comp=Z,7μm,19.0s							**T51A**	**Gray**	**99.44**	**347**	Pdiff	**Pdif**	**16 52 35.3**	**-0.7**
R47A	**Wooly Knot Far**	**98.53**	**349**	P	**P**	**16 52 31.2**	**-0.7**		baz=12						
	baz=10							**SIUC**	**Southern Illin**	**99.45**	**351**	*e*P	**Pdif**	**16 52 35.5**	**-0.5**
BLA	**Blacksburg**	**98.55**	**344**	PFAKE		16 52 40.0	+7.9		comp=Z,59nm,1.3s						
BLA				LR	LR			SIUC				LR	LR		
	comp=Z,8μm,19.0s								comp=Z,10μm,18.0s						
BLA	**Blacksburg**	**98.55**	**344**	P	**P**	**16 52 31.1**	**-1.0**	**S44A**	**Carbondale**	**99.47**	**351**	Pdiff	**Pdif**	**16 52 34.9**	**-1.2**
	baz=15								baz=8.2						
MSU	**Marysvale**	**98.56**	**9**	*e*P	**P**	**16 52 31.5**	**-0.8**	**TPNV**	**Topopah Spring**	**99.52**	**13**	PFAKE		16 52 50.0	+13
MSU	**Marysvale**	**98.56**	**9**	*e*P	**P**	**16 52 31.5**	**-0.8**	TPNV				LR	LR		
WCI	**Wyandotte Cave**	**98.57**	**349**	*e*P	**P**	**16 52 30.2**	**-1.9**		comp=Z,8μm,20.0s						
	comp=Z,31nm,1.0s							**TPNV**	**Topopah Spring**	**99.52**	**13**	Pdiff	**Pdif**	**16 52 36.0**	**-0.6**
WCI				LR	LR				baz=348						
	comp=Z,12μm,18.0s							**T50A**	**Nancy**	**99.53**	**348**	Pdiff	**Pdif**	**16 52 34.4**	**-2.0**
WCI	**Wyandotte Cave**	**98.57**	**349**	*e*P	**P**	**16 52 30.2**	**-1.9**		baz=12						
WCI				pmax	pmax			**T49A**	**Edmonton**	**99.56**	**348**	PFAKE		16 52 50.0	+13
	comp=Z,31nm,1.0s							T49A				LR	LR		
WCI				MLR	MLR				comp=Z,9μm,19.0s						
	comp=Z,12μm,18.0s							**T49A**	**Edmonton**	**99.56**	**348**	Pdiff	**Pdif**	**16 52 35.7**	**-0.9**
WCI	**Wyandotte Cave**	**98.57**	**349**	P	**P**	**16 52 31.6**	**-0.5**		baz=11						
	baz=10							**S42A**	**Caledonia**	**99.56**	**352**	Pdiff	**Pdif**	**16 52 34.5**	**-2.0**
BBSR	**BB Station**	**98.57**	**330**	PFAKE		16 52 40.0	+7.8		baz=7.1						
BBSR				LR	LR			**PKCU**	**Pink Cliffs**	**99.60**	**10**	*e*P	**Pdif**	**16 52 36.9**	**-0.2**
	comp=Z,4μm,20.0s								comp=Z,103nm,1.9s						
S52A	**Salyersville**	**98.59**	**346**	P	**P**	**16 52 31.5**	**-0.7**	PKCU				LR	LR		
	baz=13								comp=Z,5μm,20.0s						
KSU1	**Kansas State U**	**98.63**	**357**	*e*P	**P**	**16 52 31.0**	**-1.3**	**T48A**	**Bowling Green**	**99.68**	**349**	Pdiff	**Pdif**	**16 52 36.8**	**-0.3**
	comp=Z,51nm,1.1s								baz=10						
KSU1				LR	LR			**CWC**	**Cottonwood Cre**	**99.69**	**14**	Pdiff	**Pdif**	**16 52 37.0**	**-0.3**
	comp=Z,8μm,20.0s								baz=347						
KSU1	**Kansas State U**	**98.63**	**357**	P	**P**	**16 52 31.6**	**-0.7**	**TOO**	**Toolangi**	**99.70**	**133**	PFAKE		16 52 50.0	+13
	baz=2.7							TOO				LR	LR		
SLM	**Saint Louis**	**98.65**	**352**	PFAKE		16 52 40.0	+7.6		comp=Z,5μm,20.0s						
SLM				LR	LR			**KHLU**	**Kahalu`u**	**99.70**	**52**	PFAKE		16 52 50.0	+12
	comp=Z,9μm,21.0s							KHLU				LR	LR		
SAO	**San Andreas Ge**	**98.70**	**17**	PFAKE		16 52 40.0	+7.3		comp=Z,6μm,20.0s						
SAO				LR	LR			**TZTN**	**Tazewell**	**99.78**	**346**	PFAKE		16 52 50.0	+12
	comp=Z,5μm,19.0s							TZTN				LR	LR		
Q24A	**Divide**	**98.71**	**4**	*e*P	**P**	**16 52 32.3**	**-0.8**		comp=Z,7μm,19.0s						
	comp=Z,54nm,1.2s							**TZTN**	**Tazewell**	**99.78**	**346**	Pdiff	**Pdif**	**16 52 37.4**	**-0.2**
Q24A				LR	LR				baz=12						
	comp=Z,15μm,19.0s							**U53A**	**Fall Branch**	**99.78**	**346**	Pdiff	**Pdif**	**16 52 37.3**	**-0.3**
Q24A	**Divide**	**98.71**	**4**	P	**P**	**16 52 32.0**	**-1.1**		baz=13						
	baz=356							**S22A**	**4UR Ranch, Cre**	**99.83**	**5**	*e*Pdif	**Pdif**	**16 52 37.6**	**-0.5**
S51A	**Beattyville**	**98.72**	**347**	PFAKE		16 52 40.0	+7.2		comp=Z,32nm,1.1s						
S51A				LR	LR			S22A				LR	LR		
	comp=Z,9μm,19.0s								comp=Z,12μm,19.0s						
S51A	**Beattyville**	**98.72**	**347**	P	**P**	**16 52 31.8**	**-1.0**	**S22A**	**4UR Ranch, Cre**	**99.83**	**5**	Pdiff	**Pdif**	**16 52 38.2**	**+0.1**
	baz=12,SNR=7.3								baz=355						
R46A	**Gibon Southern**	**98.75**	**350**	P	**P**	**16 52 31.7**	**-1.1**	**S41A**	**Jillco Farms,**	**99.83**	**353**	Pdiff	**Pdif**	**16 52 37.1**	**-0.7**
	baz=9.5								baz=6.4						
KSCO	**Kaye Shedlock'**	**98.76**	**2**	*e*P	**P**	**16 52 32.8**	**-0.3**	**FURC**	**Furnace Creek,**	**99.88**	**14**	Pdiff	**Pdif**	**16 52 37.7**	**-0.2**
	comp=Z,108nm,1.4s								baz=348						
KSCO				LR	LR			**CNNC**	**Cliffs of the**	**99.89**	**342**	PFAKE		16 52 50.0	+12
	comp=Z,10μm,22.0s							CNNC				LR	LR		
KSCO	**Kaye Shedlock'**	**98.76**	**2**	P	**P**	**16 52 31.5**	**-1.6**		comp=Z,12μm,18.0s						
	baz=358							**U52A**	**Thorn Hill**	**99.90**	**346**	Pdiff	**Pdif**	**16 52 37.8**	**-0.3**
R45A	**Skylar, Fairfi**	**98.77**	**350**	Pdiff	**P**	**16 52 31.8**	**-1.1**		baz=13						
	baz=8.9							**T47A**	**Sharon Grove**	**99.90**	**349**	Pdiff	**Pdif**	**16 52 37.4**	**-0.6**
S50A	**Richmond**	**98.82**	**347**	Pdiff	**P**	**16 52 31.5**	**-1.7**		baz=9.8						
	baz=12							**LCMT**	**Little Creek M**	**99.90**	**11**	*e*Pdif	**Pdif**	**16 52 37.8**	**-0.5**
PV21	**Cone Mtn., Par**	**98.85**	**7**	*e*P	**P**	**16 52 33.6**	**-0.1**		comp=Z,42nm,1.9s						
	comp=Z,39nm,1.1s							**SDCO**	**Great Sand Dun**	**99.91**	**4**	*e*Pdif	**Pdif**	**16 52 38.0**	**-0.4**
PV21				LR	LR				comp=Z,42nm,1.4s						
	comp=Z,12μm,19.0s							**SDCO**	**Great Sand Dun**	**99.91**	**4**	Pdiff	**Pdif**	**16 52 37.8**	**-0.7**
S49A	**Springfield**	**98.85**	**348**	Pdiff	**P**	**16 52 32.3**	**-1.0**		baz=356						
	baz=11							**DAC**	**Darwin (Calif)**	**99.94**	**14**	PFAKE		16 52 50.0	+12
PV09	**Paradox Valley**	**98.90**	**7**	*e*P	**P**	**16 52 33.8**	**-0.2**	DAC				LR	LR		
R44A	**Waltonville**	**98.91**	**351**	Pdiff	**P**	**16 52 32.9**	**-0.7**		comp=Z,8μm,20.0s						
	baz=8.3							**PAGB**	**Antelope Grade**	**99.95**	**16**	PFAKE		16 52 50.0	+12
PV23	**Carpenter Ridg**	**98.95**	**7**	*e*P	**P**	**16 52 34.0**	**-0.2**	PAGB				LR	LR		
	comp=Z,39nm,1.1s								comp=Z,4μm,19.0s						
PV23				LR	LR			**T46A**	**Princeton**	**99.95**	**350**	Pdiff	**Pdif**	**16 52 37.3**	**-1.0**
	comp=Z,13μm,19.0s								baz=9.2						
R43A	**Red Bud**	**98.97**	**352**	Pdiff	**P**	**16 52 33.5**	**-0.4**	**KNB**	**Kanab**	**99.96**	**10**	*e*Pdif	**Pdif**	**16 52 38.2**	**-0.3**
	baz=7.7								comp=Z,24nm,1.2s						
CBKS	**Cedar Bluff**	**98.98**	**360**	*e*P	**P**	**16 52 33.0**	**-1.0**	KNB				LR	LR		
	comp=Z,89nm,1.1s								comp=Z,6μm,18.0s						
CBKS				LR	LR			**KNB**	**Kanab**	**99.96**	**10**	*e*P	**Pdif**	**16 52 38.2**	**-0.3**
	comp=Z,7μm,18.0s							KNB				pmax	pmax		
CBKS	**Cedar Bluff**	**98.98**	**360**	*e*P	**P**	**16 52 33.0**	**-1.0**		comp=Z,24nm,1.2s						
CBKS				pmax	pmax			KNB				MLR	MLR		
	comp=Z,89nm,1.1s								comp=Z,6μm,18.0s						
CBKS				MLR	MLR			**U51A**	**La Follette**	**100.02**	**347**	Pdiff	**Pdif**	**16 52 37.5**	**-1.1**
	comp=Z,7μm,18.0s								baz=12						
CBKS	**Cedar Bluff**	**98.98**	**360**	Pdiff	**P**	**16 52 33.2**	**-0.8**	**CAN**	**Canberra**	**100.04**	**129**	PFAKE		16 52 50.0	+12
	baz=0.4							CAN				LR	LR		
USIN	**University of**	**99.01**	**350**	PFAKE		16 52 40.0	+5.9		comp=Z,3μm,21.0s						
USIN				LR	LR			**T45A**	**Paducah**	**100.07**	**351**	PFAKE		16 52 50.0	+11
	comp=Z,9μm,21.0s							T45A				LR	LR		
MTPU	**Mount Pierson**	**99.03**	**9**	*e*P	**Pdif**	**16 52 35.2**	**+0.6**		comp=Z,10μm,19.0s						
	comp=Z,33nm,1.5s							**SHPR**	**Sheep Range**	**100.12**	**12**	PFAKE		16 52 50.0	+11
MTPU				LR	LR			SHPR				LR	LR		
	comp=Z,7μm,19.0s								comp=Z,7μm,20.0s						
PV10	**Paradox Valley**	**99.03**	**7**	*e*P	**Pdif**	**16 52 34.6**	**+0.1**	**U50A**	**Jamestown**	**100.12**	**347**	Pdiff	**Pdif**	**16 52 38.0**	**-1.1**
PV14	**Lion Creek, Pa**	**99.03**	**7**	PFAKE		16 52 50.0	+16		baz=12						
PV14				LR	LR			**MPMC**	**Manual Prospec**	**100.17**	**14**	Pdiff	**Pdif**	**16 52 38.8**	**-0.7**
	comp=Z,11μm,19.0s								baz=347						
R42A	**Luebbering**	**99.06**	**352**	Pdiff	**Pdif**	**16 52 33.9**	**-0.4**	**U49A**	**Red Boiling Sp**	**100.17**	**348**	Pdiff	**Pdif**	**16 52 38.3**	**-1.0**
	baz=7.1								baz=11						
PV20	**West Nyswonger**	**99.07**	**7**	PFAKE		16 52 50.0	+15	**T43A**	**Greenville**	**100.19**	**352**	Pdiff	**Pdif**	**16 52 38.5**	**-0.9**
PV20				LR	LR				baz=7.5						
	comp=Z,6μm,19.0s							**UWB**	**Uwekahuna B**	**100.19**	**52**	PFAKE		16 52 50.0	+10
R41A	**Rosebud**	**99.09**	**353**	Pdiff	**Pdif**	**16 52 33.6**	**-0.8**	UWB				LR	LR		
	baz=6.6								comp=Z,5μm,22.0s						
S48A	**Wiedeman Farm,**	**99.09**	**349**	Pdiff	**Pdif**	**16 52 33.6**	**-0.8**	**OBL**	**Observatory Le**	**100.19**	**52**	PFAKE		16 52 50.0	+10
	baz=11							OBL				LR	LR		
PV19	**Morning Glory**	**99.10**	**7**	*e*P	**Pdif**	**16 52 34.1**	**-0.6**		comp=Z,7μm,22.0s						
	comp=Z,24nm,1.2s							**HATHI**	**Halema`uma`u T**	**100.20**	**52**	PFAKE		16 52 50.0	+10
PV19				LR	LR			HATHI				LR	LR		
	comp=Z,9μm,18.0s								comp=Z,5μm,18.0s						
PV16	**Nyswonger Mesa**	**99.10**	**7**	*e*P	**Pdif**	**16 52 34.6**	**-0.2**	**SDHHI**	**Sand Hill**	**100.21**	**52**	PFAKE		16 52 50.0	+10
	comp=Z,27nm,1.1s							SDHHI				LR	LR		
PV16				LR	LR				comp=Z,6μm,20.0s						
	comp=Z,9μm,18.0s							**BYL**	**Byron's Ledge**	**100.21**	**52**	PFAKE		16 52 50.0	+10
PV12	**Saucer Basin,**	**99.11**	**7**	*e*P	**Pdif**	**16 52 34.9**	**+0.1**	BYL				LR	LR		
	comp=Z,64nm,1.2s								comp=Z,4μm,22.0s						
PV12				LR	LR			**RIM**	**Rim**	**100.22**	**52**	PFAKE		16 52 50.0	+10
	comp=Z,12μm,19.0s							RIM				LR	LR		
PV11	**David Mesa, Pa**	**99.12**	**7**	*e*P	**Pdif**	**16 52 34.2**	**-0.6**		comp=Z,7μm,22.0s						
	comp=Z,48nm,1.1s							**KKO**	**Keanakako`i**	**100.22**	**52**	PFAKE		16 52 50.0	+10
PV11				LR	LR			KKO				LR	LR		
	comp=Z,12μm,18.0s								comp=Z,4μm,22.0s						
PV17	**East Wray Mesa**	**99.13**	**7**	*e*P	**Pdif**	**16 52 33.8**	**-1.1**	**MVCO**	**Mesa Verde**	**100.23**	**7**	PFAKE		16 52 50.0	+10
	comp=Z,26nm,1.0s							MVCO				LR	LR		
PV17				LR	LR				comp=Z,7μm,18.0s						
	comp=Z,11μm,18.0s							**MVCO**	**Mesa Verde**	**100.23**	**7**	Pdiff	**Pdif**	**16 52 39.1**	**-0.7**
T52A	**Hallie**	**99.13**	**346**	Pdiff	**Pdif**	**16 52 33.4**	**-1.3**		baz=354						
	baz=13							**U48A**	**Cassie Pea, Po**	**100.29**	**349**	Pdiff	**Pdif**	**16 52 39.3**	**-0.5**
PV03	**Paradox Valley**	**99.17**	**7**	*e*P	**Pdif**	**16 52 34.3**	**-0.7**		baz=10						
T53A	**Wise**	**99.17**	**346**	Pdiff	**Pdif**	**16 52 34.0**	**-0.9**	**NPOC**	**North of Pu`u**	**100.31**	**52**	PFAKE		16 52 50.0	+10
	baz=13							NPOC				LR	LR		
PV02	**Paradox Valley**	**99.22**	**7**	*e*P	**Pdif**	**16 52 34.8**	**-0.6**		comp=Z,6μm,20.0s						
	comp=Z,41nm,1.2s							**T42A**	**Van Buren**	**100.32**	**353**	*e*Pdif	**Pdif**	**16 52 38.5**	**-1.5**
PV13	**Radium Mtn., P**	**99.26**	**7**	*e*P	**Pdif**	**16 52 35.0**	**-0.5**	T42A				LR	LR		
	comp=Z,66nm,1.4s								comp=Z,7μm,20.0s						
PV13				LR	LR			**T42A**	**Van Buren**	**100.32**	**353**	Pdiff	**Pdif**	**16 52 39.5**	**-0.4**
	comp=Z,10μm,18.0s								baz=6.9						
GRAC	**Grapevine Rang**	**99.28**	**14**	Pdiff	**Pdif**	**16 52 35.2**	**-0.2**	**JCUZ**	**Jacuzzi**	**100.33**	**52**	PFAKE		16 52 50.0	+10
	baz=347							JCUZ				LR	LR		
S46A	**Don Dixon Farm**	**99.30**	**350**	Pdiff	**Pdif**	**16 52 35.6**	**+0.3**		comp=Z,6μm,19.0s						
	baz=9.3							**T41A**	**Mountain View**	**100.37**	**353**	Pdiff	**Pdif**	**16 52 39.6**	**-0.5**
PV01	**Paradox Valley**	**99.31**	**7**	*e*P	**Pdif**	**16 52 35.2**	**-0.5**		baz=6.4						
FVM	**French Village**	**99.31**	**352**	PFAKE		16 52 50.0	+15	**ISA**	**Isabella, Lake**	**100.37**	**15**	PFAKE		16 52 50.0	+10
FVM				LR	LR			ISA				LR	LR		
	comp=Z,8μm,19.0s								comp=Z,5μm,20.0s						
PV05	**Paradox Valley**	**99.32**	**7**	*e*P	**Pdif**	**16 52 35.2**	**-0.5**	**ISA**	**Isabella, Lake**	**100.37**	**15**	Pdiff	**Pdif**	**16 52 39.5**	**-0.8**
CCM	**Cathedral Cave**	**99.32**	**353**	*e*P	**Pdif**	**16 52 34.0**	**-1.4**		baz=346						
	comp=Z,23nm,0.9s							**U47A**	**Clarksville**	**100.46**	**349**	Pdiff	**Pdif**	**16 52 39.6**	**-1.0**
CCM				LR	LR				baz=9.7						
	comp=Z,8μm,20.0s							**V52A**	**Sevierville**	**100.47**	**346**	PFAKE		16 52 50.0	+9.4
CCM	**Cathedral Cave**	**99.32**	**353**	*e*P	**Pdif**	**16 52 34.0**	**-1.4**	V52A				LR	LR		
CCM				pmax	pmax				comp=Z,8μm,19.0s						
	comp=Z,23nm,0.9s							**V52A**	**Sevierville**	**100.47**	**346**	Pdiff	**Pdif**	**16 52 39.5**	**-1.1**
									baz=12						
								V53A	**Saluda**	**100.50**	**346**	*e*Pdif	**Pdif**	**16 52 39.0**	**-1.8**
								V53A				LR	LR		
									comp=Z,13μm,22.0s						
								V53A	**Saluda**	**100.50**	**346**	Pdiff	**Pdif**	**16 52 39.3**	**-1.5**
									baz=13						
								T25A	**Trinidad**	**100.57**	**3**	PFAKE		16 52 50.0	+8.7
								T25A				LR	LR		
									comp=Z,8μm,19.0s						
								T25A	**Trinidad**	**100.57**	**3**	Pdiff	**Pdif**	**16 52 40.8**	**-0.5**
									baz=357						
								U15A	**North Rim**	**100.60**	**10**	PFAKE		16 52 50.0	+8.4
								U15A				LR	LR		
									comp=Z,10μm,18.0s						
								V51A	**Loudon**	**100.64**	**347**	PFAKE		16 52 50.0	+8.6
								V51A				LR	LR		
									comp=Z,7μm,20.0s						
								V51A	**Loudon**	**100.64**	**347**	Pdiff	**Pdif**	**16 52 41.4**	**0.0**
									baz=12						
								TKL	**Tuckaleechee C**	**100.69**	**346**	P	**Pdif**	**16 52 41.0**	**-0.5**
									comp=Z,9.8nm,0.8s,baz=202,slow=0.8,SNR=5.7						
								TKL	**Tuckaleechee C**	**100.69**	**346**	*e*Pdif	**Pdif**	**16 52 40.4**	**-1.2**
								TKL				LR	LR		
									comp=Z,9μm,18.0s						
								TKL	**Tuckaleechee C**	**100.69**	**346**	*e*P	**Pdif**	**16 52 40.4**	**-1.2**
								TKL				MLR	MLR		
									comp=Z,9μm,18.0s						
								U44A	**Portageville**	**100.70**	**351**	Pdiff	**Pdif**	**16 52 41.0**	**-0.6**
									baz=7.8						
								LRMC	**Laurel Mtn Rad**	**100.70**	**14**	Pdiff	**Pdif**	**16 52 41.3**	**-0.5**
									baz=347						
								KMSC	**Kings Mountain**	**100.73**	**344**	*e*Pdif	**Pdif**	**16 52 41.2**	**-0.5**
								KMSC				LR	LR		
									comp=Z,9μm,20.0s						
								KMSC	**Kings Mountain**	**100.73**	**344**	Pdiff	**Pdif**	**16 52 41.0**	**-0.7**
									baz=14						
								PVMO	**Portageville**	**100.79**	**351**	PFAKE		16 52 50.0	+8.0
								PVMO				LR	LR		
									comp=Z,10μm,20.0s						
								WVT	**Waverly**	**100.84**	**350**	PFAKE		16 52 50.0	+7.8
								WVT				LR	LR		
									comp=Z,8μm,19.0s						
								WVT	**Waverly**	**100.84**	**350**	Pdiff	**Pdif**	**16 52 41.4**	**-0.9**
									baz=9.3						
								PKM	**Mcpherson Peak**	**100.86**	**16**	Pdiff	**Pdif**	**16 52 40.3**	**-2.3**
									baz=346						
								V50A	**Pikevile**	**100.89**	**347**	Pdiff	**Pdif**	**16 52 41.3**	**-1.2**
									baz=11						
								V49A	**McMinnville**	**100.93**	**348**	Pdiff	**Pdif**	**16 52 41.9**	**-0.8**
									baz=11						
								U42A	**Revenden**	**101.01**	**353**	Pdiff	**Pdif**	**16 52 42.5**	**-0.5**
									baz=6.8						
								CPCT	**Cooper Cave**	**101.02**	**347**	*e*Pdif	**Pdif**	**16 52 42.3**	**-0.7**
								CPCT				LR	LR		
									comp=Z,8μm,20.0s						
								GSC	**Goldstone, Bar**	**101.03**	**14**	PFAKE		16 52 50.0	+6.8
								GSC				LR	LR		
									comp=Z,6μm,20.0s						
								GSC	**Goldstone, Bar**	**101.03**	**14**	Pdiff	**Pdif**	**16 52 42.8**	**-0.4**
									baz=348						
								TUQ	**Turquoise Moun**	**101.05**	**13**	Pdiff	**Pdif**	**16 52 42.5**	**-0.9**
									baz=348						
								W53A	**Cullowhee**	**101.05**	**346**	Pdiff	**Pdif**	**16 52 42.6**	**-0.8**
									baz=13						
								U41A	**Viola**	**101.08**	**353**	Pdiff	**Pdif**	**16 52 42.8**	**-0.6**
									baz=6.3						
								V48A	**Smith Brothers**	**101.09**	**349**	PFAKE		16 52 50.0	+6.6
								V48A				LR	LR		
									comp=Z,10μm,19.0s						
								V48A	**Smith Brothers**	**101.09**	**349**	Pdiff	**Pdif**	**16 52 42.6**	**-0.8**
									baz=10						
								V47A	**Nunnelly**	**101.10**	**349**	Pdiff	**Pdif**	**16 52 43.4**	**0.0**
									baz=9.5						
								PAULI	**Pauline**	**101.14**	**345**	*e*Pdif	**Pdif**	**16 52 42.9**	**-0.7**
								U40A	**Yellville**	**101.14**	**354**	Pdiff	**Pdif**	**16 52 42.6**	**-1.0**
									baz=5.6						
								BG3	**Lake Jocassee**	**101.18**	**346**	*e*Pdif	**Pdif**	**16 52 43.3**	**-0.5**
								BG3				LR	LR		
									comp=Z,10μm,20.0s						
								V46A	**Holladay**	**101.20**	**350**	Pdiff	**Pdif**	**16 52 42.6**	**-1.2**
									baz=9.1						
								EDW2	**Edwards Air Fo**	**101.22**	**15**	Pdiff	**Pdif**	**16 52 42.8**	**-1.3**
									baz=347						
								W52A	**Murphy**	**101.26**	**346**	PFAKE		16 52 50.0	+5.8
								W52A				LR	LR		
									comp=Z,8μm,18.0s						
								W51A	**Cleveland**	**101.34**	**347**	Pdiff	**Pdif**	**16 52 43.8**	**-0.7**
									baz=12						
								OSI	**Osito Audit: C**	**101.34**	**15**	PFAKE		16 53 00.0	+15
								OSI				LR	LR		
									comp=Z,6μm,20.0s						
								W50A	**Signal Mountai**	**101.39**	**348**	PFAKE		16 53 00.0	+15
								W50A				LR	LR		
									comp=Z,11μm,18.0s						
								U32A	**Winter Ranch,**	**101.41**	**359**	PFAKE		16 53 00.0	+15
								U32A				LR	LR		
									comp=Z,9μm,18.0s						
								LDFC	**Landfair**	**101.53**	**12**	PFAKE		16 53 00.0	+15
								LDFC				LR	LR		
									comp=Z,6μm,18.0s						
								V42A	**Cord**	**101.56**	**353**	Pdiff	**Pdif**	**16 52 44.9**	**-0.5**
									baz=6.7						
								HEC	**Hector,Ludlow**	**101.57**	**13**	Pdiff	**Pdif**	**16 52 45.2**	**-0.4**
									baz=348						
								W49A	**Belvidere**	**101.61**	**348**	Pdiff	**Pdif**	**16 52 45.2**	**-0.5**
									baz=10						
								WUAZ	**Wupatki**	**101.61**	**9**	PFAKE		16 53 00.0	+14
								WUAZ				LR	LR		
									comp=Z,7μm,19.0s						
								WUAZ	**Wupatki**	**101.61**	**9**	Pdiff	**Pdif**	**16 52 45.3**	**-0.6**
									baz=352						
								V41A	**Mountainview**	**101.65**	**353**	Pdiff	**Pdif**	**16 52 45.1**	**-0.8**
									baz=6.1						
								W47A	**Westpoint**	**101.67**	**349**	Pdiff	**Pdif**	**16 52 45.3**	**-0.7**
									baz=9.5						
								W48A	**Pulaski**	**101.69**	**349**	Pdiff	**Pdif**	**16 52 46.3**	**+0.2**
									baz=10.0						
								W13A	**Hualapai Mount**	**101.69**	**11**	PFAKE		16 53 00.0	+14
								W13A				LR	LR		
									comp=Z,6μm,18.0s						
								X53A	**Estanollee**	**101.73**	**346**	Pdiff	**Pdif**	**16 52 46.1**	**-0.1**
									baz=13						
								GMRC	**Granite Mounta**	**101.73**	**13**	Pdiff	**Pdif**	**16 52 46.4**	**0.0**
									baz=348						

comp=Z,16µm,19.0s
W39A Magazine 102.37 355 Pdiff Pdif 16 52 49.5 +0.5
baz=4.9
X48A Hartselle 102.38 349 PFAKE 16 53 00.0 +11
X48A LR LR
comp=Z,9µm,20.0s
X48A Hartselle 102.38 349 Pdiff Pdif 16 52 48.0 -1.1
baz=9.9
Y53A Monroe 102.41 346 Pdiff Pdif 16 52 48.0 -1.2
baz=12
X47A Russelville 102.43 350 Pdiff Pdif 16 52 48.7 -0.7
baz=9.3
NHSC New Hope 102.45 343 PFAKE 16 53 00.0 +11
NHSC LR LR
comp=Z,8µm,19.0s
Y52A Lilburn 102.48 346 PFAKE 16 53 00.0 +10
Y52A LR LR
comp=Z,8µm,18.0s
Y51A Rockmart 102.62 347 Pdiff Pdif 16 52 49.3 -0.9
baz=11
OXF Oxford 102.63 351 PFAKE 16 53 00.0 +10
OXF LR LR
comp=Z,12µm,18.0s
ANMO Albuquerque 102.64 5 Pdiff Pdif 16 52 50.7 +0.1
comp=Z,2.4nm,0.7s,baz=354,slow=9.1,SNR=6.0
ANMO Albuquerque 102.64 5 Pdif Pdif 16 52 50.7 +0.1
ANMO LR LR
comp=Z,10µm,18.0s
UALR University of 102.67 353 PFAKE 16 53 00.0 +10
UALR LR LR
comp=Z,14µm,18.0s
X16A Lo Mia Camp, P 102.69 9 PFAKE 16 53 00.0 +9.2
X16A LR LR
comp=Z,7µm,20.0s
PFO Pinyon Flats O 102.74 14 PFAKE 16 53 00.0 +9.1
PFO LR LR
comp=Z,6µm,18.0s
Y50A Piedmont 102.74 348 Pdiff Pdif 16 52 51.0 +0.2
baz=11
XPFO Pion Flat 102.74 14 PFAKE 16 53 00.0 +9.1
XPFO LR LR
comp=Z,6µm,18.0s
X18A Snowflake 102.75 8 PFAKE 16 53 00.0 +9.0
X18A LR LR
comp=Z,6µm,18.0s
X43A Marvell 102.79 352 PFAKE 16 53 00.0 +9.1
X43A LR LR
comp=Z,10µm,20.0s
GOGA Godfrey 102.82 346 *e*Pdif **Pdif 16 52 49.6 -1.4**
GOGA LR LR
comp=Z,8µm,22.0s
GOGA Godfrey 102.82 346 *e*P **Pdif 16 52 49.7 -1.4**
GOGA MLR MLR
comp=Z,8µm,22.0s
GOGA Godfrey 102.82 346 Pdiff Pdif 16 52 50.1 -1.0
baz=13
Z54A Sparta 102.87 345 Pdiff Pdif 16 52 50.2 -1.1
baz=13
Y49A Blount Mountai 102.87 348 PFAKE 16 53 00.0 +8.6
Y49A LR LR
comp=Z,13µm,18.0s
AMTX Amarillo 102.89 1 PFAKE 16 53 00.0 +8.5
AMTX LR LR
comp=Z,6µm,18.0s
Y12C Blythe 102.92 12 PFAKE 16 53 00.0 +8.5
Y12C LR LR
comp=Z,4µm,19.0s
Y14A Wickenburg 102.96 11 PFAKE 16 53 00.0 +8.2
Y14A LR LR
comp=Z,9µm,18.0s
MIAR Mount Ida 103.00 354 PFAKE 16 53 00.0 +8.1
MIAR LR LR
comp=Z,10µm,18.0s
X40A Basin Creek Fa 103.00 354 *e*Pdif **Pdif 16 52 49.2 -2.7**
X40A LR LR
comp=Z,8µm,20.0s
WMOK Wichita Mounta 103.04 359 *e*Pdif **Pdif 16 52 50.7 -1.4**
WMOK LR LR
comp=Z,8µm,19.0s
WMOK Wichita Mounta 103.04 359 *e*P **Pdif 16 52 50.7 -1.4**
WMOK MLR MLR
comp=Z,8µm,19.0s
WMOK Wichita Mounta 103.04 359 Pdiff Pdif 16 52 51.6 -0.5
baz=1.1
X37A Clayton 103.07 356 PFAKE 16 53 00.0 +7.8
X37A LR LR
comp=Z,10µm,19.0s
CPE Camp Elliot 103.32 14 PFAKE 16 53 00.0 +6.7
CPE LR LR
comp=Z,5µm,19.0s
Z50A Ashland 103.39 348 PFAKE 16 53 00.0 +6.3
Z50A LR LR
comp=Z,10µm,18.0s
Z50A Ashland 103.39 348 Pdiff Pdif 16 52 52.6 -1.1
baz=11
CCAR Cane Creek 103.47 353 PFAKE 16 53 00.0 +6.0
CCAR LR LR
comp=Z,9µm,19.0s
Z48A Northport 103.51 349 Pdiff Pdif 16 52 53.0 -1.1
baz=9.6
154A Montrose 103.53 345 PFAKE 16 53 00.0 +5.7
154A LR LR
comp=Z,8µm,21.0s
GLA Glamis 103.56 13 PFAKE 16 53 10.0 +16
GLA LR LR
comp=Z,5µm,18.0s
BAR Barrett 103.61 14 PFAKE 16 53 10.0 +15
BAR LR LR
comp=Z,6µm,20.0s
257A Skidaway Islan 103.73 343 PFAKE 16 53 10.0 +15
257A LR LR
comp=Z,8µm,20.0s
152A Waverly Hall 103.77 347 PFAKE 16 53 10.0 +15
152A LR LR
comp=Z,8µm,21.0s
LRAL Lakeview Retre 103.77 349 PFAKE 16 53 10.0 +15
LRAL LR LR
comp=Z,10µm,19.0s
MSTX Muleshoe 103.78 2 *e*Pdif **Pdif 16 52 54.1 -1.4**
MSTX LR LR
comp=Z,10µm,19.0s
MSTX Muleshoe 103.78 2 Pdiff Pdif 16 52 54.1 -1.4
baz=358
Z45A Winona 103.79 351 PFAKE 16 53 10.0 +15
Z45A LR LR
comp=Z,11µm,18.0s
113A Mohawk Valley, 104.00 12 PFAKE 16 53 10.0 +14
113A LR LR
comp=Z,4µm,20.0s
255A Hazlehurst 104.07 344 PFAKE 16 53 10.0 +13
255A LR LR
comp=Z,9µm,20.0s
Z41A Richland Creek 104.22 354 PFAKE 16 53 10.0 +13
Z41A LR LR
comp=Z,10µm,19.0s
253A Americus 104.25 346 PFAKE 16 53 10.0 +13
253A LR LR
comp=Z,11µm,20.0s
147A Livingston 104.30 350 PFAKE 16 53 10.0 +12
147A LR LR
comp=Z,10µm,20.0s
146A Union 104.44 350 PFAKE 16 53 10.0 +12
146A LR LR
comp=Z,11µm,18.0s
250A Grady 104.69 348 PFAKE 16 53 10.0 +11
250A LR LR
comp=Z,9µm,20.0s
TIGA Tifton 104.76 345 PFAKE 16 53 10.0 +10
TIGA LR LR
comp=Z,11µm,19.0s
TUC Tucson 104.85 9 PFAKE 16 53 10.0 +10
TUC LR LR
comp=Z,7µm,19.0s
352A Blakely 104.96 346 PFAKE 16 53 10.0 +9.3
352A LR LR
comp=Z,10µm,19.0s
VBMS Vicksburg 105.03 351 PFAKE 16 57 30.0 +14
VBMS LR LR
comp=Z,8µm,18.0s
456A Hilliard 105.14 344 PFAKE 16 57 30.0 +14
456A LR LR
comp=Z,7µm,18.0s
ABTX Abilene, Hawle 105.16 359 PFAKE 16 57 30.0 +14
ABTX LR LR
comp=Z,10µm,18.0s
453A Whigham 105.46 346 PFAKE 16 57 30.0 +14
453A LR LR
comp=Z,10µm,19.0s
BRAL Brewton 105.61 348 PFAKE 16 57 30.0 +13
BRAL LR LR
comp=Z,8µm,18.0s
346A Big Creek Wild 105.72 350 PFAKE 16 57 30.0 +13
346A LR LR
comp=Z,10µm,20.0s
WHTX Lake Whitney, 105.75 358 PFAKE 16 57 30.0 +13
WHTX LR LR
comp=Z,8µm,19.0s
NATX Nacogdoches 105.84 355 PFAKE 16 57 30.0 +13
NATX LR LR
comp=Z,12µm,18.0s
555A McAlpin 105.92 344 PFAKE 16 57 30.0 +13
555A LR LR
comp=Z,9µm,18.0s
MNTX Cornudas Mount 105.93 5 PFAKE 16 57 30.0 +13
MNTX LR LR
comp=Z,10µm,21.0s
319A Douglas 105.94 8 PFAKE 16 57 30.0 +13
319A LR LR
comp=Z,9µm,18.0s
451A Vernon 105.94 347 PFAKE 16 57 30.0 +13
451A LR LR
comp=Z,8µm,20.0s
658A Bunnell 106.24 343 PFAKE 16 57 30.0 +12
658A LR LR
comp=Z,9µm,18.0s
656A Willston 106.56 344 PFAKE 16 57 30.0 +12
656A LR LR
comp=Z,11µm,18.0s
435B Jarrell 106.95 358 PFAKE 16 57 30.0 +11
435B LR LR
comp=Z,7µm,20.0s
JCT Junction City 107.30 360 PFAKE 16 57 30.0 +10
JCT LR LR
comp=Z,9µm,20.0s
DWPF Disney Wildern 107.54 343 PFAKE 16 57 30.0 +10
DWPF LR LR
comp=Z,8µm,18.0s
957A Wimauma 108.14 343 PFAKE 16 57 30.0 +8.6
957A LR LR
comp=Z,9µm,18.0s
060A Indiantown 108.33 341 PFAKE 16 57 30.0 +8.2
060A LR LR
comp=Z,8µm,20.0s
TXAR Lajitas Array 108.37 3 Pdiff **Pdif 16 53 16.6 +0.5**
comp=Z,1.0nm,0.7s,baz=39,slow=2.6,SNR=8.8
TXAR PKKPbc **PKKPbc 17 08 29.9 -1.4**
comp=Z,0.2nm,0.4s,baz=179,slow=6.3,SNR=3.0
059A Moore Haven 108.58 342 PFAKE 16 57 30.0 +7.7
059A LR LR
comp=Z,7µm,18.0s
SRIG Santa Rosalia 109.58 11 PFAKE 16 57 40.0 +16
SRIG LR LR
comp=Z,4µm,19.0s
061Z Ochoppi 109.59 342 PFAKE 16 57 40.0 +16
061Z LR LR
comp=Z,9µm,21.0s
KVTX Kingsville 110.19 358 PFAKE 16 57 40.0 +15
KVTX LR LR
comp=Z,7µm,19.0s
ANWB Willy Bob 110.35 321 PFAKE 16 57 40.0 +14
ANWB LR LR
comp=Z,3µm,21.0s
ABVI Anegada Island 110.58 324 PFAKE 16 57 40.0 +14
ABVI LR LR
comp=Z,4µm,22.0s
MAW Mawson 110.60 187 PFAKE 16 57 40.0 +15
MAW LR LR
comp=Z,1µm,19.0s
SMRT St. Maarten 110.61 322 PFAKE 16 57 40.0 +14
SMRT LR LR
comp=Z,5µm,22.0s
GRTK Grand Turk 110.79 331 PFAKE 16 57 40.0 +13
GRTK LR LR
comp=Z,6µm,21.0s
SEUS St. Eustatius 111.06 322 PFAKE 16 57 40.0 +13
SEUS LR LR
comp=Z,4µm,21.0s
STVI Saint Thomas 111.18 324 PFAKE 16 57 40.0 +13
STVI LR LR
comp=Z,3µm,21.0s
CUPR Culebra, Puert 111.36 324 PFAKE 16 57 40.0 +12
CUPR LR LR
comp=Z,4µm,20.0s
CBYP Canovanas 111.64 325 PFAKE 16 57 40.0 +12
CBYP LR LR
comp=Z,3µm,21.0s
MTP Monte Pirata 111.67 324 PFAKE 16 57 40.0 +12
MTP LR LR
comp=Z,4µm,22.0s
HUMP Col San Antoni 111.75 325 PFAKE 16 57 40.0 +12
HUMP LR LR
comp=Z,3µm,22.0s
SJG San Juan 111.91 325 PFAKE 16 57 40.0 +11
SJG LR LR
comp=Z,4µm,20.0s
XMAS Kiritimati 112.11 65 PFAKE 16 57 40.0 +11
XMAS LR LR
comp=Z,12µm,21.0s
MPR Mayaguez 112.24 326 PFAKE 16 57 40.0 +11
MPR LR LR
comp=Z,4µm,19.0s
ICMP Isla Caja de M 112.27 325 PFAKE 16 57 40.0 +11
ICMP LR LR
comp=Z,5µm,21.0s
CRPR Cabo Rojo, PR 112.41 326 PFAKE 16 57 40.0 +10
CRPR LR LR
comp=Z,6µm,18.0s
FDF Fort de France 112.58 319 PFAKE 16 57 40.0 +10
FDF LR LR
comp=Z,4µm,21.0s
RCBR Riachuelo 112.69 284 PFAKE 16 57 40.0 +10
RCBR LR LR
comp=Z,52µm,19.0s
SDD Santo Domingo 113.12 329 PFAKE 16 57 40.0 +9.0
SDD LR LR
comp=Z,4µm,21.0s
BBGH Gun Hill 113.14 316 PFAKE 16 57 40.0 +8.8
BBGH LR LR
comp=Z,8µm,21.0s
SDDR Presa de Saban 113.16 330 PFAKE 16 57 40.0 +8.8
SDDR LR LR
comp=Z,6µm,22.0s
SLBS Sierra La Lagu 113.46 10 PFAKE 16 57 40.0 +8.3
SLBS LR LR
comp=Z,6µm,21.0s
GTBY Guantanamo Bay 113.61 334 PFAKE 16 57 40.0 +8.0
GTBY LR LR
comp=Z,5µm,22.0s
ZAIG Zacatecas 114.94 2 PFAKE 16 57 50.0 +15
ZAIG LR LR
comp=Z,7µm,20.0s
GRGR Grenville 115.06 318 PFAKE 16 57 50.0 +15
GRGR LR LR
comp=Z,3µm,21.0s
SYO Syowa Base 115.18 195↑ *i*PKPdf **PKiKP 16 57 34.5 +1.2**
SYO Syowa Base 115.18 195↑ *i*pPKPdf **PKiKP 16 57 38.0 +4.7**
SYO Syowa Base 115.18 195↑ *e*P **PKKPbc 17 08 06.2 -3.4**
SYO Syowa Base 115.18 195↓ *e*P **PKKPab 17 08 14.8 +3.7**
OUZ Omahuta 115.34 115 PFAKE 16 57 50.0 +15
OUZ LR LR
comp=Z,3µm,20.0s
MTDJ Mount Denham 115.96 336 PFAKE 16 57 50.0 +13
MTDJ LR LR
comp=Z,4µm,21.0s
MYIG Mrida 116.03 349 PFAKE 16 57 50.0 +13
MYIG LR LR
comp=Z,6µm,21.0s
TEIG Tepich 116.53 347 PFAKE 16 57 50.0 +12
TEIG LR LR
comp=Z,6µm,21.0s
JRQG Juriquilla Cam 117.03 0 PFAKE 16 57 50.0 +11
JRQG LR LR
comp=Z,12µm,22.0s
DCZ Deep Cove 117.11 128 PFAKE 16 57 50.0 +12
DCZ LR LR
comp=Z,2µm,20.0s
PYZ Puysegur Point 117.23 129 PFAKE 16 57 50.0 +12
PYZ LR LR
comp=Z,2µm,21.0s
FOZ Fox Glacier 117.62 125 PFAKE 16 57 50.0 +11
FOZ LR LR
comp=Z,3µm,22.0s
MLZ Mavora Lakes 117.62 127 PFAKE 16 57 50.0 +11
MLZ LR LR
comp=Z,2µm,20.0s
WHZ Wether Hill Ro 117.81 128 PFAKE 16 57 50.0 +11
WHZ LR LR
comp=Z,3µm,22.0s
WKZ Wanaka 117.85 126 PFAKE 16 57 50.0 +11
WKZ LR LR
comp=Z,4µm,22.0s
HIZ Hauiti 118.03 118 PFAKE 16 57 50.0 +10
HIZ LR LR
comp=Z,2µm,20.0s
MOIG Morelia 118.05 1 PFAKE 16 57 50.0 +9.2
MOIG LR LR
comp=Z,7µm,22.0s
LBZ Lake Benmore 118.31 125 PFAKE 16 57 50.0 +10
LBZ LR LR
comp=Z,2µm,21.0s
UNM Universidad Na 118.39 359 PFAKE 16 57 50.0 +8.4
UNM LR LR
comp=Z,4µm,22.0s
RPZ Rata Peaks 118.47 124 PFAKE 16 57 50.0 +9.5
RPZ LR LR
comp=Z,4µm,21.0s
THZ Tophouse 118.56 122 PFAKE 16 57 50.0 +9.2
THZ LR LR
comp=Z,4µm,22.0s
LTZ Lake Taylor 118.71 123 PFAKE 16 57 50.0 +8.9
LTZ LR LR
comp=Z,3µm,22.0s
OXZ Oxford 118.86 124 PFAKE 16 57 50.0 +8.7
OXZ LR LR
comp=Z,2µm,21.0s
ODZ Otahua Downs 118.94 126 PFAKE 16 57 50.0 +8.6
ODZ LR LR
comp=Z,3µm,22.0s
KHZ Kahutara 119.31 122 PFAKE 16 57 50.0 +7.9
KHZ LR LR
comp=Z,3µm,21.0s
CRLZ Canterbury Las 119.36 124 PFAKE 16 57 50.0 +7.8
CRLZ LR LR
comp=Z,3µm,22.0s
URZ Urewera 119.37 116 PFAKE 16 57 50.0 +7.6
URZ LR LR
comp=Z,2µm,20.0s
MQZ McQueen's Vall 119.44 124 PFAKE 16 57 50.0 +7.6
MQZ LR LR
comp=Z,3µm,22.0s
SNZO South Karori 119.45 120 PFAKE 16 57 50.0 +7.6
SNZO LR LR
comp=Z,2µm,20.0s
BKZ Black Stump Fm 119.46 118 PFAKE 16 57 50.0 +7.4
BKZ LR LR
comp=Z,3µm,21.0s
MXZ Matakaoa Point 119.79 115 PFAKE 16 57 50.0 +6.7
MXZ LR LR
comp=Z,3µm,21.0s
CCIG Comitan 120.95 351 PFAKE 16 58 00.0 +14
CCIG LR LR
comp=Z,6µm,19.0s
SDV Santo Domingo 122.06 325 *e*PKPdf **PKPdf 16 57 48.2 -0.4**
SDV LR LR
comp=Z,4µm,21.0s
SDV Santo Domingo 122.06 325 *e*P **PKiKP 16 57 49.8 +1.1**
SDV Santo Domingo 122.06 325 *e*P **PKiKP 16 57 49.8 +1.1**
SDV Santo Domingo 122.06 325 *e*P **PKiKP 16 57 49.1 +0.3**
TGUH Tegucigalpa,Un 122.39 345 PFAKE 16 58 00.0 +11
TGUH LR LR
comp=Z,4µm,20.0s
NVL N'lazarevskaya 122.95 201 *e*PKIKP **PKiKP 16 57 50.1 +1.7**
NVL *e* 17 04 59.0
NVL *e*PS **PS 17 09 20.8 -2.6**
NVL *e*SS SS 17 16 18.3 +7.3
NVL MLR MLR
comp=Z,3µm,19.0s
ESTN Estel 123.14 344 PFAKE 16 58 00.0 +9.3
ESTN LR LR
comp=Z,5µm,20.0s
ESPN Las Esperanzas 123.55 341 PFAKE 16 58 00.0 +8.6
ESPN LR LR
comp=Z,5µm,21.0s
RIB01 Linhares ES 124.86 275 *e*P **PKiKP 16 57 54.5 +0.7**
PTGA Pitinga 124.87 308 PKP **PKPdf 16 57 53.3 -0.4**
comp=Z,4.0nm,0.7s,baz=117,slow=5.6,SNR=3.7
PTGA Pitinga 124.87 308 *e*PKPdf **PKPdf 16 57 53.0 -0.7**
PTGA LR LR
comp=Z,5µm,18.0s
PTGA Pitinga 124.87 308 *e*P **PKiKP 16 57 54.0 0.0**
BSFB Barra de Sao F 124.89 276 *e*P **PKiKP 16 57 54.9 +1.0**
JANB Januaria 124.99 282 *e*P **PKiKP 16 57 55.1 +0.8**
SJMB Sao Joao De Ma 125.06 277 *e*P **PKiKP 16 57 55.4 +1.1**
BCIP Isla Barro Col 125.21 335 PFAKE 16 58 10.0 +15
BCIP LR LR
comp=Z,2µm,19.0s
JTS JuntasAbangare 125.54 341 PFAKE 16 58 10.0 +15
JTS LR LR
comp=Z,5µm,20.0s
HDC Heredia 125.62 340 PFAKE 16 58 10.0 +14
HDC LR LR
comp=Z,6µm,20.0s
PTBC PUERTO BERRIO 125.75 328 *e*P **PKiKP 16 57 56.5 +0.6**
PTBC PUERTO BERRIO 125.75 328 *e*P **PKiKP 16 57 56.5 +0.6**
MCI8 Montes Claros 125.75 280 *e*P **PKiKP 16 57 55.9 +0.2**
MCI7 Montes Claros 125.76 280 *e*P **PKiKP 16 57 56.5 +0.8**
MCI9 Montes Claros 125.76 280 *e*P **PKiKP 16 57 55.8 +0.1**
RUSC La Rusia 125.78 326 *e*P **PKiKP 16 57 57.8 +1.3**
RUSC La Rusia 125.78 326 *e*P **PKiKP 16 57 57.8 +1.3**
MCI6 Montes Claros 125.83 280 *e*P **PKiKP 16 57 56.4 +0.5**
ALF01 Guarapari-ES 125.92 274 *e*P **PKiKP 16 57 56.5 +0.7**
DBBC Dabeiba 125.98 330 *e*P **PKiKP 16 57 58.5 +2.1**
DBBC Dabeiba 125.98 330 *e*P **PKiKP 16 57 58.5 +2.1**
CHIC Chingaza 127.19 326 *e*P **PKiKP 16 57 59.8 +0.6**
CHIC Chingaza 127.19 326 *e*P **PKiKP 16 57 59.8 +0.6**
ROSC El Rosal 127.24 327 PKP **PKiKP 16 57 59.1 -0.2**
comp=Z,20nm,0.7s,baz=73,slow=8.7,SNR=7.0
ROSC El Rosal 127.24 327 PKP **PKiKP 16 57 59.1 -0.2**
ROSC LR LR
comp=Z,800nm,21.0s
ROSC El Rosal 127.24 327 *e*P **PKiKP 16 58 00.5 +1.2**
ROSC El Rosal 127.24 327 *e*P **PKiKP 16 58 00.5 +1.2**
CAM01 Campos-RJ 127.34 274 *e*P **PKiKP 16 57 59.4 +0.8**
SNAA Sanae 127.54 203 PKiKP **PKiKP 16 57 59.0 +1.3**
SNAA Sanae 127.54 203 *e*PKPdf **PKPdf 16 57 56.8 -0.3**
SNAA LR LR
comp=Z,3µm,20.0s
SNAA Sanae 127.54 203 *e*PKIKP **PKPdf 16 57 56.8 -0.3**
SNAA MLR MLR
comp=Z,3µm,20.0s
DUB01 Friburgo-RJ 128.02 274 *e*P **PKiKP 16 58 00.5 +0.3**
BDFB Brasilia 128.03 285 PKP **PKPdf 16 57 58.5 -1.3**
comp=Z,1.3nm,0.3s,baz=180,slow=15,SNR=2.2
BDFB PP **PP 17 00 00.5 -2.3**
comp=Z,19nm,1.0s,baz=79,slow=7.9,SNR=5.2
VNA2 Neumayer--Watz 128.64 205 PKiKP **PKiKP 16 58 01.1 +1.3**
PMNB Patos De Minas 128.79 281 *e*P **PKiKP 16 58 02.6 +0.8**
YOTC Yotoco, Valle 128.82 329 *e*P **PKiKP 16 58 05.8 +3.7**
YOTC Yotoco, Valle 128.82 329 *e*P **PKiKP 16 58 05.8 +3.7**
VNA1 Neumayer--Stat 128.83 205 PKiKP **PKPdf 16 57 56.0 -3.4**
VAS01 Vassouras-RJ 128.93 275 *e*P **PKiKP 16 58 02.4 +0.5**
BSCB Bom Sucesso 129.12 277 *e*P **PKiKP 16 58 02.9 +0.5**
VNA3 Neumayer Olymp 129.45 205 PKiKP **PKiKP 16 58 02.4 +1.0**
VNDA Vanda 129.50 164 PKP **PKPdf 16 58 00.9 +0.3**
comp=Z,6.2nm,1.1s,baz=289,slow=6.2,SNR=3.5
VNDA Vanda 129.50 164 *e*PKPdf **PKPdf 16 58 00.7 +0.1**
IPMB Ipameri, GO 129.72 283 *e*P **PKiKP 16 58 03.7 0.0**
POPC Popayan, Colom 130.27 328 *e*P **PKiKP 16 58 05.8 +0.6**
POPC Popayan, Colom 130.27 328 *e*P **PKiKP 16 58 05.8 +0.6**
PCON Cinco Dias 130.36 328 *e*P **PKiKP 16 58 05.8 0.0**
PCON Cinco Dias 130.36 328 *e*P **PKiKP 16 58 05.8 0.0**
SBA Scott Base 130.60 164 PFAKE 16 58 10.0 +6.4
SBA LR LR
comp=Z,3µm,20.0s
FLOC Florencia 130.74 327 *e*P **PKiKP 16 58 07.1 +1.2**
FLOC Florencia 130.74 327 *e*P **PKiKP 16 58 07.1 +1.2**
PPT2 Papeete2 131.44 75 *e*PP PP 17 00 25.3 +0.3
comp=Z,424nm,26.8s
PPT2 Papeete2 131.44 75 *e*SS SS 17 17 58.2 -0.1
comp=Z,4µm,32.8s
PPT2 Papeete2 131.44 75 *e*LQ LQ 17 34 16.3
comp=Z,21µm,36.0s
PPT2 *e*LR LR 17 39 52.5
comp=Z,5µm,23.5s
TAOE Nuku Hiva Isla 131.55 58 *e*PP PP 17 00 24.4 -0.9

comp=Z,339nm,26.7s
TAOE Nuku Hiva Isla 131.55 58 *e*SS SS 17 17 57.7 -1.3
comp=Z,405nm,33.3s
TAOE Nuku Hiva Isla 131.55 58 *e*LR LR 17 39 55.3
comp=Z,6μm,22.3s
BB19B Bebedouro 131.91 280 *e*P **PKiKP 16 58 08.0 +0.1**
RCLB Rio Claro- Sao 132.02 278 *e*P **PKiKP 16 58 08.6 +0.5**
QSPA South Pole Qui 132.36 180 *e*PKPdf **PKPdf 16 58 05.4 -1.0**
QSPA LR LR
comp=Z,4μm,20.0s
ITRB Iturama 132.38 283 *e*P **PKPdf 16 58 08.2 +0.4**
SPB Sao Paulo 132.65 276 PFAKE 16 58 20.0 +11
SPB LR LR
comp=Z,5μm,20.0s
OTAV Otavalo 133.06 329 *e*PKPdf **PKPdf 16 58 09.0 -0.9**
OTAV LR LR
comp=Z,4μm,22.0s
OTAV Otavalo 133.06 329 *e*PKIKP **PKPdf 16 58 09.0 -0.9**
OTAV MLR MLR
comp=Z,4μm,22.0s
OTAV Otavalo 133.06 329 *e*P **PKPdf 16 58 07.8 -2.2**
FRTB Fartura 134.06 278 *e*P **PKiKP 16 58 12.7 +0.5**
TBI Tubuai 135.19 81 *e*SS SS 17 18 41.4 -2.2
comp=Z,2μm,35.5s
TBI Tubuai 135.19 81 *e*LQ LQ 17 35 54.0
comp=Z,6μm,36.2s
TBI *e*LR LR 17 41 30.3
comp=Z,6μm,22.5s
TRCB Terra Rica 135.96 281 *e*P **PKPdf 16 58 14.6 +0.1**
AQDB Aquidauana 136.69 286 *e*P **PKPdf 16 58 15.3 -0.5**
TER01 Tubaro-SC 136.72 272 *e*P **PKPdf 16 58 16.2 +0.5**
SIV San Ignacio 137.31 296 PKhKP PKPpre 16 58 10.5
comp=Z,0.7nm,0.6s,baz=119,slow=9.6,SNR=5.2
SIV PKP **PKiKP 16 58 18.8 -0.2**
comp=Z,3.5nm,0.9s,baz=83,slow=5.7,SNR=12
PAYG Puerto Ayora 137.32 345 PFAKE 16 58 30.0 +11
PAYG LR LR
comp=Z,2μm,21.0s
HOPE Hope Point 137.51 231 PFAKE 16 58 30.0 +12
HOPE LR LR
comp=Z,5μm,20.0s
ITAB Concordia 138.22 276 *e*P **PKPdf 16 58 18.2 -0.2**
CNLB Canela 138.41 272 *e*P **PKPdf 16 58 19.0 +0.1**
CPUP Villa Florida 141.50 281 PKhKP PKPpre 16 58 18.0
comp=Z,7.2nm,0.8s,baz=58,slow=3.4,SNR=20
CPUP Villa Florida 141.50 281 PKPpre PKPpre 16 58 18.0
CPUP *e*PKPdf **PKPdf 16 58 23.5 -1.0**
CPUP Villa Florida 141.50 281 PKHKP PKPpre 16 58 18.0
CPUP pmax pmax
comp=Z,7.0nm,0.9s
CPUP Villa Florida 141.50 281 *e*P **PKPdf 16 58 25.3 +0.8**
PLTB Pedras Altas 141.71 271 *e*P **PKPdf 16 58 25.3 +0.6**
LPAZ La Paz 142.04 304 PKhKP PKPpre 16 58 21.2
comp=Z,2.5nm,0.6s,baz=31,slow=7.0,SNR=8.5
LPAZ La Paz 142.04 304 *e*PKPpre PKPpre 16 58 19.4
LPAZ La Paz 142.04 304 *e*P **PKiKP 16 58 36.4 +6.9**
LPAZ La Paz 142.04 304 *e*P **PKPdf 16 58 26.6 +0.1**
NNA Nana 143.34 319 PKhKP PKPpre 16 58 24.6
comp=Z,42nm,0.9s,baz=2.5,slow=3.6,SNR=13
NNA Nana 143.34 319 PKPpre PKPpre 16 58 24.6
NNA LR LR
comp=Z,4μm,21.0s
YJA Yavi 144.63 294 *e*P **PKPdf 16 58 30.7 0.0**
MNMC Minye Minye 145.10 303 *e*PKPbc **PKPbc 16 58 29.4 -1.4**
MNMC LR LR
comp=Z,3μm,21.0s
MNMCX Minye Minye 145.10 303 *e*P **PKPbc 16 58 30.8 0.0**
PB12 IPOC Station P 145.16 304 *e*P **PKPbc 16 58 30.4 -0.4**
HJA Humahuaca 145.25 293 *e*P **PKPdf 16 58 31.8 +0.1**
RKT Rikitea 145.31 67 *e*PKPbc **PKPdf 16 58 32.3 +1.1**
comp=Z,283nm,1.2s
RKT Rikitea 145.31 67 *e*SS SS 17 20 41.7 -0.2
comp=Z,1μm,36.0s
RKT Rikitea 145.31 67 *e*LQ LQ 17 40 09.0
comp=Z,5μm,31.5s
RKT *e*LR LR 17 46 14.5
comp=Z,3μm,23.8s
PB08 IPOC Station P 145.57 301 *e*P **PKPab 16 58 32.6 -0.1**
PB11 IPOC Station P 145.61 302 *e*PKPdf **PKPdf 16 58 31.8 -0.3**
PB11 LR LR
comp=Z,3μm,20.0s
PB11 IPOC Station P 145.61 302 *e*P **PKPdf 16 58 32.0 0.0**
PSGCX Pisagua 145.78 303 *e*P **PKPdf 16 58 32.3 0.0**
SLA San Lorenzo 146.31 291 *e*P **PKPab 16 58 35.0 -0.2**
PB01 IPOC Station P 146.44 300 *e*PKPdf **PKPdf 16 58 34.0 +0.7**
PB01 LR LR
comp=Z,3μm,20.0s
PB01 IPOC Station P 146.44 300 *e*P **PKiKP 16 58 37.1 -0.6**
PB09 IPOC Station P 146.83 299 *e*P **PKPbc 16 58 36.4 +0.5**
LVC Limon Verde 147.19 297 PKPbc **PKPdf 16 58 35.8 +0.9**
comp=Z,59nm,0.8s,baz=13,slow=1.7,SNR=41
LVC PP PP 17 02 10.4 +8.2
comp=Z,14nm,0.9s,baz=115,slow=7.5,SNR=3.4
LVC Limon Verde 147.19 297 PKPbc **PKPdf 16 58 35.8 +0.9**
LVC PP PP 17 02 10.4 +8.2
LVC LR LR
comp=Z,3μm,22.0s
LVC Limon Verde 147.19 297 *e*P **PKPbc 16 58 37.4 +0.3**
LVC Limon Verde 147.19 297 *e*P **PKPdf 16 58 35.6 +0.7**
PB07 IPOC Station P 147.19 300 *e*P **PKPbc 16 58 37.5 +0.6**
PB03 IPOC Station P 147.34 299 *e*P **PKPbc 16 58 37.2 -0.1**
AHML Horco Molle 147.50 288 *e*P **PKPbc 16 58 36.7 -0.9**
PB06 IPOC Station P 147.69 298 *e*P **PKPbc 16 58 39.2 +1.0**
PB04 IPOC Station P 147.80 299 PFAKE 16 58 50.0 +9.0
PB04 LR LR
comp=Z,3μm,20.0s
PB04 IPOC Station P 147.80 299 *e*P **PKPbc 16 58 39.1 +0.5**
PB05 IPOC Station P 148.20 299 *e*P **PKPbc 16 58 39.7 +0.1**
CYA Choya 148.82 286 *e*P **PKPbc 16 58 40.9 0.0**
CYA *e*P **PKiKP 16 58 41.8 -0.6**
PB10 IPOC Station P 148.89 298 PFAKE 16 58 50.0 +4.8
PB10 LR LR
comp=Z,2μm,20.0s
PB10 IPOC Station P 148.89 298 *e*P **PKiKP 16 58 42.1 -0.5**
GO02 Mina Guanaco 149.39 295 PFAKE 16 58 50.0 +2.5
GO02 LR LR
comp=Z,4μm,22.0s
TCA Tanti 149.57 280 *e*P **PKPbc 16 58 42.8 -0.1**
TCA Tanti 149.57 280 *e*P **PKPbc 16 58 42.1 -0.7**
PMSA Palmer Station 149.82 210 *e*P **PKPbc 16 58 40.0 -2.2**
EFI East Falkland 150.24 237 *e*PKPbc **PKPbc 16 58 42.7 -0.9**
EFI LR LR
comp=Z,4μm,21.0s
EFI East Falkland 150.24 237 *e*PKIKP **PKPbc 16 58 42.7 -0.9**
EFI MLR MLR
comp=Z,4μm,21.0s
TRQA Tornquist 150.62 266 PFAKE 16 58 50.0 -2.0
TRQA LR LR
comp=Z,5μm,20.0s
TRQA Tornquist 150.62 266 *e*P **PKPdf 16 58 42.2 +2.6**
MRA San Martin 150.94 279 *e*P **PKiKP 16 58 47.4 +0.7**
AGUA GUANDACOL 151.34 287 *e*P **PKiKP 16 58 47.4 -0.2**
ACAN Cantantal 151.94 281 *e*P **PKiKP 16 58 49.7 +1.0**
AMOG MOGNA 152.17 284 *e*P **PKPbc 16 58 48.8 -0.1**
ACDV Cuesta del Vie 152.18 286 *e*P **PKiKP 16 58 51.2 +1.8**
CFA Coronel Fontan 152.35 283 *e*P **PKiKP 16 58 51.0 +1.5**
RTLL Cerro Villicun 152.37 283 *e*P **PKiKP 16 58 49.7 +0.1**
ACCO Cerro Coronel 152.38 285 *e*P **PKiKP 16 58 51.0 +1.0**
AROD Rodeo 152.43 287 *e*P **PKiKP 16 58 51.8 +1.7**
LCO Las Campanas 152.61 290 *e*PKPbc **PKPbc 16 58 49.8 -0.4**
LCO LR LR
comp=Z,3μm,20.0s
LCO Las Campanas 152.61 290 *e*P **PKiKP 16 58 52.0 +1.6**
LCO Las Campanas 152.61 290 *e*P **PKPdf 16 58 44.8 +1.6**
RTCV Cerro Valdivia 152.70 283 *e*P **PKiKP 16 58 51.7 +1.4**
RTLS Leoncito 153.21 283 *e*P **PKPbc 16 58 51.5 +0.1**
ASAL Salagasta 153.29 282 *e*P **PKiKP 16 58 52.9 +1.4**
GO04 Tololo Observa 153.37 288 PFAKE 16 58 50.0 -1.8
GO04 LR LR
comp=Z,3μm,20.0s
GO04 Tololo Observa 153.37 288 *e*P **PKPab 16 58 59.0 -4.9**
ARCO CERRO ARCO 153.49 281 *e*P **PKPab 16 58 58.5 -5.8**
AUSP Uspallata 153.50 283 *e*P **PKiKP 16 58 53.6 +1.4**
AAGR Agrelo 153.54 281 *e*P **PKPbc 16 58 51.8 -0.1**
CMCH Combarbala 154.09 286 *e*P **PKPbc 16 58 50.5 -2.6**
PEL Peldehue 154.91 282 PFAKE 16 59 00.0 +5.2
PEL LR LR
comp=Z,3μm,20.0s
PEL Peldehue 154.91 282 *e*P **PKiKP 16 58 57.6 +2.8**
ROCH El Roble 155.06 283 *e*P **PKPdf 16 58 43.0 -3.5**
ROC1 El Roble 155.07 283 *e*PKPbc PKPdf 16 58 54.5 +7.9
ROC1 El Roble 155.07 283 *e*P PKPdf 16 58 55.0 +8.5
GO05 Huala 156.72 280 PFAKE 16 59 00.0 +12
GO05 LR LR
comp=Z,4μm,20.0s
GO05 Huala 156.72 280 *e*P **PKPdf 16 58 54.4 +6.0**
PLCA Paso Flores 157.76 265 PKP **PKPdf 16 58 50.6 +1.1**
comp=Z,10nm,1.1s,baz=167,slow=0.4,SNR=8.9
PLCA Paso Flores 157.76 265 *e*PKPdf **PKPdf 16 58 49.7 +0.1**
PLCA Paso Flores 157.76 265 *e*P **PKPdf 16 58 51.1 +1.5**
GO06 Curarrehue 158.13 268 *e*PKPdf **PKPdf 16 58 50.0 -0.1**
GO06 LR LR
comp=Z,5μm,21.0s
GO09 Cerro Castillo 159.14 236 PFAKE 16 59 00.0 +9.2
GO09 LR LR
comp=Z,5μm,19.0s

*IDC **28** 16:46:50.8±1.1,42.°54N×79.°46E,h0km,mb4.1/5, mb1 4.4/7,mb1mx4.0/40,mbtmp4.3/7,Error ellipse: s-maj=28.6km s-min=14.9km az=123.0*
*SOME **28** 16:46:52.3,42.°48N×79.°60E,h20km*
*NEIC **28** 16:46:52.8±0.5,42.°49N×79.°42E,h10km,ML4.3,Error ellipse: s-maj=12.9km s-min=5.8km az=134.0*
*NNC **28** 16:46:52.6±1.5,42.°58N×79.°66E,h0km,mb5.3,mpv4.9, Error ellipse: s-maj=9.7km s-min=6.7km az=127.0*
*KRNET **28** 16:46:52.5±0.1,42.°52N×79.°59E,h22km,mb4.8*
ISC 28 16:46:51.3±1.4,42.°48N±0.°04×79.°53E±0.°03,h3km±9km, n53,σ1°03/85,mb4.1/6,19C-3D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** baz=18	**0.68**	**356**	*e*P		**Pb**	**16 47 05.4**	**-0.5**
SHLS				*e*S		**Sb**	**16 47 14.9**	**-0.8**
	baz=18							
SHLS	**Shalkode** 6μm,0.1s	**0.68**	**356**	*e*P		**Pb**	**16 47 05.4**	**-0.5**
SHLS				*e*S		**Sb**	**16 47 14.9**	**-0.8**
	6μm,0.3s							
UZB	**Uzynbulak** 357nm,0.2s	**0.76**	**331**	P		**Pg**	**16 47 06.7**	**+0.7**
UZB				S		**Sg**	**16 47 16.9**	**+1.0**
	5μm,0.3s							
UZB	**Uzynbulak** baz=26	**0.76**	**331**	*e*P		**Pg**	**16 47 06.6**	**+0.7**
UZB				*e*S		**Sg**	**16 47 16.9**	**+1.0**
	baz=26							
UZB	**Uzynbulak** 364nm,0.2s	**0.76**	**331**	*e*P		**Pg**	**16 47 06.6**	**+0.7**
UZB				*e*S		**Sg**	**16 47 16.9**	**+1.0**
	5μm,0.3s							
PRZ	**Przheval'sk** baz=68	**0.83**	**271**	⇑*i*P		**Pn**	**16 47 09.9**	**-0.3**
PRZ				⇑*i*S		**Sn**	**16 47 22.1**	**-1.0**
	baz=68							
PDGK	**Podgornoye** 523nm,0.2s	**0.85**	**358**	P		**Pg**	**16 47 07.4**	**-0.2**
PDGK				S		**Sg**	**16 47 18.4**	**-0.2**
	991nm,0.4s							
PDGK	**Podgornoye** 394nm,0.3s	**0.85**	**358**	⇓P		**Pg**	**16 47 07.3**	**-0.3**
PDGK				⇓S		**Sg**	**16 47 17.9**	**-0.7**
	952nm,0.4s							
SATY	**Saty** 268nm,0.2s	**1.01**	**305**	*e*P		**Pb**	**16 47 11.5**	**0.0**
SATY				*e*S		**Sb**	**16 47 25.2**	**-0.1**
	3μm,0.1s							
KTMS	**Ketmen** 217nm,0.1s	**1.14**	**32**	P		**Pg**	**16 47 12.0**	**-1.1**
KTMS				S		**Sg**	**16 47 26.4**	**-1.5**
	1μm,0.3s							
KURS	**Kuram** baz=13	**1.42**	**316**	*e*P		**Pg**	**16 47 18.8**	**+0.4**
KURS				*e*S		**Sn**	**16 47 37.8**	**+0.5**
	baz=13							
KURS	**Kuram** 368nm,0.3s	**1.42**	**316**	*e*P		**Pg**	**16 47 18.8**	**+0.4**
KURS				*e*S		**Sn**	**16 47 37.8**	**+0.5**
	1μm,0.9s							
TARG	**Taragay, Kyrgy**	**1.49**	**240**	*e*Pn		**Pg**	**16 47 20.6**	**+0.8**
TARG	**Taragay, Kyrgy** baz=40	**1.49**	**240**	⇑*i*P		**Pg**	**16 47 20.3**	**+0.5**
TARG				⇑*i*S		**Sn**	**16 47 40.4**	**+1.0**
	baz=40							
KDJ	**Kajisay**	**1.78**	**259**	*e*Pn		**Pn**	**16 47 22.9**	**-0.2**
KDJ	**Kajisay** baz=58	**1.78**	**259**	⇑*i*P		**Pg**	**16 47 26.3**	**+1.0**
KDJ				⇑*i*S		**Sg**	**16 47 51.0**	**+2.6**
	baz=58							
MNBS	**Baschi** 158nm,0.2s	**1.80**	**333**	P		**Pb**	**16 47 24.9**	**-0.1**
MNBS				S		**Sb**	**16 47 48.4**	**+0.4**
	104nm,0.3s							
DJR	**Jarkent** 226nm,0.2s	**1.86**	**6**	*e*P		**Pb**	**16 47 25.5**	**-0.5**
DJR				*e*S		**Sb**	**16 47 49.3**	**-0.4**
	540nm,0.2s							
MDOK	**Medeo** baz=90	**1.95**	**291**	*e*P		**Pb**	**16 47 27.7**	**+0.1**
MDOK				*e*S		**Sb**	**16 47 53.2**	**+0.9**
	baz=90							
MDOK	**Medeo** 362nm,0.7s	**1.95**	**291**	*e*P		**Pb**	**16 47 27.7**	**+0.1**
MDOK				*e*S		**Sb**	**16 47 53.2**	**+0.9**
	2μm,0.9s							
TNSS	**Tian-Shan** baz=86	**1.98**	**287**	*e*P		**Pb**	**16 47 28.5**	**+0.3**
TNSS				*e*S		**Sg**	**16 47 54.8**	**-0.2**
	baz=86							
TNSS	**Tian-Shan** 703nm,0.3s	**1.98**	**287**	*e*P		**Pb**	**16 47 28.5**	**+0.3**
TNSS				*e*S		**Sg**	**16 47 54.8**	**-0.2**
	895nm,0.3s							
KNDC	**Almaty** 3μm,1.1s	**2.02**	**292**	⇑Pn		**Pg**	**16 47 29.7**	**-0.4**
KNDC				⇓Lg		Lg	16 47 58.4	
	3μm,0.7s							
ARXS	**Arharly** 248nm,0.5s	**2.13**	**325**	*e*P		**Pb**	**16 47 31.0**	**+0.4**
ARXS				*e*S		**Sb**	**16 47 58.7**	**+1.2**
	2μm,0.4s							
IZV	**Izvestkoviy** 189nm,0.1s	**2.22**	**285**	Pg		**Pg**	**16 47 33.6**	**-0.2**
IZV				Lg		Lg	16 48 03.7	
	24nm,0.3s							
MTBS	**Maitube** baz=86	**2.37**	**287**	*e*P		**Pb**	**16 47 35.6**	**+0.9**
MTBS				*e*S		**Sg**	**16 48 07.0**	**-0.5**
	baz=86							
MTBS	**Maitube** 318nm,0.2s	**2.37**	**287**	*e*P		**Pb**	**16 47 35.6**	**+0.9**
MTBS				*e*S		**Sg**	**16 48 07.0**	**-0.5**
	562nm,0.3s							
ULHL	**Ulahol** baz=65	**2.45**	**266**	⇑*i*P		**Pb**	**16 47 36.8**	**+0.7**
ULHL				⇑*i*S		**Sb**	**16 48 08.3**	**+1.6**
	baz=65							
BOOM	**Boomskoye usch** baz=71	**2.66**	**271**	⇑*i*P		**Pb**	**16 47 39.5**	**-0.1**
BOOM				⇑*i*S		**Sb**	**16 48 13.4**	**+0.8**
	baz=71							
KUU	**Kurty** baz=1.0	**2.73**	**302**	*e*P		**Pb**	**16 47 41.8**	**+1.1**
KUU				*e*S		**Sg**	**16 48 17.2**	**-1.7**
	baz=1.0							
KUU	**Kurty** 106nm,0.5s	**2.73**	**302**	*e*P		**Pb**	**16 47 41.8**	**+1.1**
KUU				*e*S		**Sg**	**16 48 17.2**	**-1.7**
	1μm,0.4s							
NRN	**Naryn**	**2.83**	**250**	*e*Pn		**Pb**	**16 47 42.3**	**-0.4**
TKM2	**Tokmak 2** 978nm,1.1s	**2.93**	**280**	⇑Pg		**Pg**	**16 47 46.5**	**-1.0**
TKM2				⇑Lg		Lg	16 48 26.8	
	474nm,0.6s							
TKM2	**Tokmak 2** baz=79	**2.93**	**280**	⇑*i*P		**Pb**	**16 47 43.5**	**-0.8**
TKM2				⇑*i*S		**Sb**	**16 48 21.0**	**+0.3**
	baz=79							
KZA	**Kyzart** baz=64	**3.20**	**264**	⇑*i*P		**Pb**	**16 47 47.2**	**-1.8**
KZA				⇑*e*S		**Sb**	**16 48 26.6**	**-2.0**
	baz=64							
FRU1	**Bishkek** baz=76	**3.63**	**277**	⇑*e*P		**Pb**	**16 47 53.5**	**-2.6**
FRU1				⇑*i*S		**Sb**	**16 48 37.5**	**-3.1**
	baz=76							
AAK	**Ala-Archa** 313nm,0.8s	**3.72**	**274**	Pg		**Pg**	**16 48 01.4**	**-1.3**
AAK				Lg		Lg	16 48 53.4	
	1μm,1.1s							
MAKZ	**Makanchi**	**4.67**	**21**	*e*Pn		**Pn**	**16 48 04.3**	**+1.7**
MK31	**Makanchi Array**	**4.74**	**24**	*e*Pn		**Pn**	**16 48 05.0**	**+1.3**
MK32	**Makanchi Array**	**4.74**	**24**	*e*Pn		**Pn**	**16 48 05.0**	**+1.4**
MK32				*e*Sn		**Sn**	**16 49 00.3**	**+1.1**
MK32				*e*Lg		Lg	16 49 19.0	
MKAR	**Makanchi Array** baz=198,slow=13,SNR=6.5	**4.74**	**24**	Pn		**Pn**	**16 48 05.0**	**+1.4**
MKAR				Sn		**Sn**	**16 49 00.3**	**+1.1**
	10nm,0.3s,baz=207,slow=29,SNR=4.0							
MKAR				Lg		Lg	16 49 19.0	
	8.8nm,0.3s,baz=205,slow=25,SNR=2.9							
WMQ	**Urumqi**	**6.12**	**75**	*e*P		**Pn**	**16 48 24.3**	**+1.6**
WMQ				smax		smax		
	comp=N,1μm,1.1s							
WMQ				smax		smax		
	comp=E,2μm,1.5s							
ZALV	**Zalesovo Beam** baz=200,slow=15,SNR=3.1	**12.00**	**15**	Pn		**Pn**	**16 49 44.0**	**+0.9**
ZAA1	**Zalesovo Array**	**12.01**	**15**	*e*Pn		**Pn**	**16 49 44.0**	**+0.8**
BR101	**Keskin Array S**	**34.37**	**281**	*e*P		**P**	**16 53 39.5**	**0.0**
BRTR	**Keskin Array B** comp=E,5.0nm,1.0s,baz=72,slow=9.4,SNR=5.8	**34.37**	**281**	P		**P**	**16 53 39.5**	**0.0**
NB200	**NORSAR Array S**	**43.88**	**319**	*e*P		**P**	**16 54 58.3**	**-0.4**
NOA	**NORSAR Array B** comp=E,1.1nm,0.5s,baz=84,slow=8.0,SNR=2.3	**43.88**	**319**	P		**P**	**16 54 58.3**	**-0.4**
TOA1	**Torodi Ar. Sit**	**72.30**	**272**	*e*P		**P**	**16 58 17.2**	**-1.3**
TORD	**Torodi Ar. Bea** comp=E,0.8nm,0.4s,baz=36,slow=5.1,SNR=4.2	**72.31**	**272**	P		**P**	**16 58 17.2**	**-1.3**
YKA	**Yellowknife Ar** comp=E,0.8nm,0.6s,baz=358,slow=6.8,SNR=3.1	**74.76**	**7**	P		**P**	**16 58 31.7**	**-0.5**
WR1	**Warramunga Arr** comp=E,52nm,1.7s	**80.04**	**129**	*e*P		**P**	**16 59 03.0**	**+0.7**
WRA	**Warramunga Arr** comp=E,1.5nm,1.1s,baz=320,slow=6.2,SNR=2.4	**80.04**	**129**	P		**P**	**16 59 03.0**	**+0.7**

*SOME **28** 16:50:15.9,42.°57N×79.°65E,h20km*
*KRNET **28** 16:50:15.7±0.1,42.°55N×79.°61E,h15km,mb3.9*
ISC 28 16:50:14.7±2.3,42.°50N±0.°06×79.°6E±0.°1,h16km±11km, n10,σ0°77/20,8C-4D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** baz=18	**0.66**	**351**	*e*P		**Pg**	**16 50 27.9**	**0.0**
SHLS				*e*S		**Sg**	**16 50 37.3**	**+0.6**
	baz=18							
SHLS	**Shalkode** 290nm,0.1s	**0.66**	**351**	*e*P		**Pg**	**16 50 27.9**	**0.0**
SHLS				*e*S		**Sg**	**16 50 37.2**	**+0.6**
	1μm,0.2s							
UZB	**Uzynbulak** baz=24	**0.78**	**327**	*e*P		**Pg**	**16 50 29.3**	**-0.6**
UZB				*e*S		**Sb**	**16 50 39.6**	**-0.7**
	baz=24							
UZB	**Uzynbulak** 29nm,0.1s	**0.78**	**327**	*e*P		**Pg**	**16 50 29.3**	**-0.6**
UZB				*e*S		**Sb**	**16 50 39.6**	**-0.7**
	124nm,0.1s							
PRZ	**Przheval'sk** baz=66	**0.89**	**269**	⇑*e*P		**Pn**	**16 50 33.4**	**+0.6**
PRZ				⇑*i*S		**Sn**	**16 50 45.5**	**0.0**
	baz=66							
TARG	**Taragay, Kyrgy** baz=39	**1.55**	**241**	⇑*i*P		**Pg**	**16 50 44.7**	**+0.1**
TARG				⇑*i*S		**Sg**	**16 51 04.4**	**-0.3**
	baz=39							
KDJ	**Kajisay** baz=57	**1.84**	**259**	⇑*i*P		**Pg**	**16 50 50.1**	**0.0**
KDJ				⇑*i*S		**Sg**	**16 51 14.1**	**+0.2**
	baz=57							
ULHL	**Ulahol** baz=64	**2.51**	**265**	⇑*e*P		**Pb**	**16 51 00.2**	**+0.7**
ULHL				⇑*i*S		**Sb**	**16 51 31.7**	**+1.5**
	baz=64							
NRN	**Naryn** baz=49	**2.89**	**250**	⇓*e*P		**Pb**	**16 51 04.9**	**-1.2**
NRN				⇓*e*S		**Sb**	**16 51 40.1**	**-1.3**
	baz=49							
TKM2	**Tokmak 2** baz=78	**2.98**	**279**	⇓*i*P		**Pb**	**16 51 07.2**	**-0.4**
TKM2				⇓*i*S		**Sb**	**16 51 44.2**	**+0.3**
	baz=78							

*SOME **28** 16:52:08.3,42.°55N×79.°57E,h0km*
*KRNET **28** 16:52:09.3±0.1,42.°52N×79.°57E,h8km,mb3.7*
*NNC **28** 16:52:10.7±1.2,42.°71N×79.°59E,h12km±19km,mb4.3, mpv3.9,Error ellipse: s-maj=12.2km s-min=6.2km az=159.0*
ISC 28 16:52:07.8±1.5,42.°52N±0.°04×79.°63E±0.°05,h9km±11km, n21,σ0°75/40,16C-4D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 214nm,0.1s	**0.65**	**349**	P		**Pg**	**16 52 20.9**	**+0.5**
SHLS				S		**Sb**	**16 52 30.1**	**-0.5**
	745nm,0.2s							
SHLS	**Shalkode** baz=19	**0.65**	**349**	*e*P		**Pb**	**16 52 22.2**	**+0.8**
SHLS				*e*S		**Sn**	**16 52 34.1**	**+0.3**
	baz=19							
SHLS	**Shalkode** 340nm,0.1s	**0.65**	**349**	*e*P		**Pb**	**16 52 22.2**	**+0.8**
SHLS				*e*S		**Sn**	**16 52 34.1**	**+0.3**
	240nm,0.4s							
SHLS	**Shalkode** 209nm,0.1s	**0.65**	**349**	*e*P		**Pg**	**16 52 20.9**	**+0.5**
SHLS				*e*S		**Sb**	**16 52 30.0**	**-0.5**
	739nm,0.2s							
UZB	**Uzynbulak** 26nm,0.1s	**0.77**	**324**	P		**Pg**	**16 52 22.6**	**0.0**
UZB				S		**Sg**	**16 52 32.9**	**+0.1**
	466nm,0.3s							
UZB	**Uzynbulak** baz=28	**0.77**	**324**	*e*P		**Pg**	**16 52 22.2**	**-0.5**
UZB				*e*S		**Sb**	**16 52 34.0**	**-0.1**
	baz=28							
UZB	**Uzynbulak** 59nm,0.1s	**0.77**	**324**	*e*P		**Pg**	**16 52 22.2**	**-0.5**
UZB				*e*S		**Sb**	**16 52 33.9**	**-0.2**
	466nm,0.3s							
UZB	**Uzynbulak** 59nm,0.1s	**0.77**	**324**	*e*P		**Pg**	**16 52 22.5**	**-0.2**
UZB				*e*S		**Sg**	**16 52 32.8**	**+0.1**
	461nm,0.3s							
PDGK	**Podgornoye** 68nm,0.2s	**0.81**	**353**	P		**Pg**	**16 52 23.0**	**-0.5**
PDGK				S		**Sg**	**16 52 33.5**	**-0.6**
	92nm,0.3s							
PDGK	**Podgornoye** 40nm,0.3s	**0.81**	**353**	⇓P		**Pb**	**16 52 24.2**	**0.0**
PDGK				⇑S		**Sg**	**16 52 33.0**	**-1.1**
	344nm,0.7s							
PRZ	**Przheval'sk** baz=68	**0.91**	**268**	⇓*i*P		**Pb**	**16 52 26.4**	**+0.4**
PRZ				⇓*i*S		**Sb**	**16 52 38.9**	**+0.6**
	baz=68							
KTMS	**Ketmen** 30nm,0.1s	**1.06**	**30**	P		**Pg**	**16 52 28.1**	**-0.2**
KTMS				S		**Sg**	**16 52 42.5**	**+0.5**
	316nm,0.2s							
TARG	**Taragay, Kyrgy** baz=40	**1.57**	**240**	⇑*i*P		**Pb**	**16 52 37.6**	**+0.2**
TARG				⇑*i*S		**Sg**	**16 52 59.9**	**+1.4**
	baz=40							
KDJ	**Kajisay** baz=58	**1.86**	**259**	⇑*i*P		**Pg**	**16 52 43.7**	**+0.2**
KDJ				⇑*i*S		**Sg**	**16 53 08.4**	**+0.7**
	baz=58							
TNSS	**Tian-Shan** 34nm,0.2s	**2.04**	**285**	*e*P		**Pb**	**16 52 46.3**	**+1.0**
TNSS				*e*S		**Sg**	**16 53 13.5**	**0.0**
	61nm,0.4s							
KNDC	**Almaty** 80nm,0.8s	**2.08**	**290**	⇓Pg		**Pg**	**16 52 47.8**	**+0.1**
KNDC				⇑Lg		Lg	16 53 16.0	
	189nm,0.9s							
ULHL	**Ulahol** baz=65	**2.53**	**265**	⇑*i*P		**Pb**	**16 52 53.3**	**-0.2**
ULHL				⇑*i*S		**Sb**	**16 53 25.3**	**+0.5**
	baz=65							
BOOM	**Boomskoye usch** baz=71	**2.73**	**271**	⇑*e*P		**Pb**	**16 52 56.0**	**-1.0**
BOOM				⇑*i*S		**Sb**	**16 53 30.1**	**-0.5**

	baz=71						
NRN	**Naryn**	**2.92**	**249**⇑	*e*P	**Pb**	**16 52 58.6**	**-1.7**
	baz=49						
NRN			⇑	*i*S	**Sb**	**16 53 35.2**	**-1.0**
	baz=49						
TKM2	**Tokmak 2**	**3.00**	**279**	⇑Pg	**Pb**	**16 53 03.1**	**+1.5**
	61nm,0.9s						
TKM2				⇑Lg	Lg	16 53 42.5	
	34nm,0.6s						
TKM2	**Tokmak 2**	**3.00**	**279**	⇑*i*P	**Pb**	**16 53 00.3**	**-1.3**
	baz=79						
TKM2				⇑*i*S	**Sb**	**16 53 37.0**	**-1.4**
	baz=79						

MAN 28 16:52:11.1, 18.54N×120.76E, h44km, mb4.2, ML3.1, MS2.8, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.81**	**146**	*e*P	Pn	16 52 27.0	+0.8
APYP				*e*S	Sn	16 52 39.0	+2.0
SGCP	**Mt. Cagua**	**1.25**	**103**	*e*P	Pn	16 52 33.2	+1.0
SGCP				*e*S	Sn	16 52 49.2	+1.4
CVP	**Callao Caves**	**1.30**	**129**	*e*P	Pn	16 52 33.4	+0.5
CVP				*e*S	Sn	16 52 50.1	+1.0

*SOME **28** 16:53:12.0, 42.52N×79.70E, h15km*
*KRNET **28** 16:53:12.4±0.1, 42.54N×79.68E, h17km, mb3.8*
ISC 28 16:53:13.2±2.4, 42.57N±0.08×79.6E±0.1, h15km±14km, n8, σ0§65/16, 4C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.59**	**350**	*e*P	**Pg**	**16 53 24.7**	**-0.2**
	baz=14						
SHLS				*e*S	**Sg**	**16 53 33.7**	**+0.9**
	baz=14						
SHLS	**Shalkode**	**0.59**	**350**	*e*P	**Pg**	**16 53 24.7**	**-0.2**
	126nm,0.1s						
SHLS				*e*S	**Sg**	**16 53 33.8**	**+0.9**
	453nm,0.2s						
UZB	**Uzynbulak**	**0.71**	**324**	*e*P	**Pg**	**16 53 26.6**	**-0.6**
	baz=22						
UZB				*e*S	**Sg**	**16 53 36.9**	**+0.3**
	baz=22						
UZB	**Uzynbulak**	**0.71**	**324**	*e*P	**Pg**	**16 53 26.6**	**-0.6**
	24nm,0.1s						
UZB				*e*S	**Sg**	**16 53 37.0**	**+0.3**
	105nm,0.2s						
PRZ	**Przheval'sk**	**0.89**	**265**	⇑*i*P	**Pg**	**16 53 30.6**	**+0.1**
	baz=67						
PRZ				⇑*i*S	**Sn**	**16 53 44.2**	**+0.1**
	baz=67						
TARG	**Taragay, Kyrgy**	**1.58**	**238**	⇓*i*P	**Pb**	**16 53 41.9**	**-0.5**
	baz=40						
TARG				⇓*i*S	**Sb**	**16 54 03.1**	**+0.8**
	baz=40						
KDJ	**Kajisay**	**1.85**	**257**	⇑*i*P	**Pb**	**16 53 46.9**	**+0.1**
	baz=58						
KDJ				⇑*i*S	**Sg**	**16 54 12.8**	**+0.1**
	baz=58						
ULHL	**Ulahol**	**2.51**	**264**	⇓*i*P	**Pb**	**16 53 56.9**	**-1.2**
	baz=64						
ULHL				⇓*i*S	**Sb**	**16 54 29.3**	**+0.5**
	baz=64						

*GII **28** 16:55:52.7±0.1, 23.02N×35.87E, h150km*
*SGS **28** 16:56:20, 25.25N×36.53E, h28km, Ml3.4*
ISC 28 16:56:17.8±2.4, 25.2N±0.1×36.5E±0.1, h10km, n11, σ2§16/14, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNY07	**LNY07**	**0.95**	**94**	P	**Pg**	**16 56 35.9**	**-0.2**
EWJHS	**Al Wajh**	**0.96**	**7**	P	**Pg**	**16 56 35.4**	**-0.9**
LNY16	**LNY16**	**0.98**	**81**	P	**Pg**	**16 56 36.5**	**-0.2**
LNY16				S	**Sg**	**16 56 48.6**	**-0.8**
LNY05	**LNY05**	**1.07**	**98**	P	**Pg**	**16 56 37.7**	**-0.7**
LNY12	**LNY12**	**1.13**	**86**	P	**Pb**	**16 56 38.9**	**-0.6**
EIL	**Elat**	**4.67**	**343**	Pn	**Pn**	**16 57 28.3**	**-0.1**
EIL				Sn	**Sg**	**16 58 43.5**	**-4.3**
MBRI	**Mt Berech**	**4.80**	**343**	Pn	**Pn**	**16 57 30.5**	**+0.3**
HRFI	**Mount Harif**	**5.00**	**345**	Pn	**Pn**	**16 57 33.0**	**+0.1**
PRNI	**Paran**	**5.31**	**346**	Pn	**Pn**	**16 57 37.6**	**+0.4**
PRNI				Sn	**Sb**	**16 58 59.9**	**+5.4**
ZFRI	**Zfri**	**5.47**	**348**	Pn	**Pn**	**16 57 40.0**	**+0.7**
GHAJ	**Ghor Haditha**	**6.14**	**352**	Pn	**Pn**	**16 57 49.4**	**+0.8**

*SOME **28** 16:57:27.0, 42.57N×79.63E, h5km*
*KRNET **28** 16:57:27.4±0.1, 42.58N×79.65E, h13km, mb3.8*
ISC 28 16:57:30.1±1.9, 42.62N±0.06×79.59E±0.09, h10km, n16, σ1§83/32, 12C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.55**	**351**	*e*P	**Pg**	**16 57 39.2**	**-1.5**
	baz=16						
SHLS				*e*S	**Sg**	**16 57 48.1**	**+0.2**
	baz=16						
SHLS	**Shalkode**	**0.55**	**351**	*e*P	**Pg**	**16 57 39.2**	**-1.5**
	375nm,0.2s						
SHLS				*e*S	**Sg**	**16 57 48.1**	**+0.2**
	874nm,0.3s						
UZB	**Uzynbulak**	**0.67**	**322**	*e*P	**Pg**	**16 57 41.2**	**-1.8**
	baz=21						
UZB				*e*S	**Sg**	**16 57 51.6**	**-0.3**
	baz=21						
UZB	**Uzynbulak**	**0.67**	**322**	*e*P	**Pg**	**16 57 41.2**	**-1.8**
	88nm,0.1s						
UZB				*e*S	**Sg**	**16 57 51.6**	**-0.3**
	617nm,0.4s						
PRZ	**Przheval'sk**	**0.89**	**262**	⇑*i*P	**Pg**	**16 57 45.2**	**-1.9**
	baz=65						
PRZ				⇑*i*S	**Sg**	**16 57 58.4**	**-0.3**
	baz=65						
SATY	**Saty**	**0.97**	**297**	*e*P	**Pg**	**16 57 47.2**	**-1.6**
	81nm,0.1s						
SATY				*e*S	**Sg**	**16 58 01.7**	**+0.2**
	330nm,0.1s						
KDJ	**Kajisay**	**1.85**	**255**	⇑*i*P	**Pb**	**16 58 02.5**	**-1.5**
	baz=57						
KDJ				⇑*i*S	**Sb**	**16 58 27.5**	**+0.2**
	baz=57						
ULHL	**Ulahol**	**2.50**	**263**	⇑*i*P	**Pn**	**16 58 12.0**	**+1.0**
	baz=64						
ULHL				⇑*i*S	**Sb**	**16 58 44.9**	**-1.3**
	baz=64						
BOOM	**Boomskoye usch**	**2.70**	**268**	⇓*i*P	**Pn**	**16 58 15.0**	**+1.4**
	baz=70						
BOOM				⇓*i*S	**Sb**	**16 58 49.7**	**-2.0**
	baz=70						
NRN	**Naryn**	**2.92**	**247**	⇓*e*P	**Pn**	**16 58 17.7**	**+0.8**
	baz=48						
NRN				⇓*e*S	**Sn**	**16 58 54.0**	**+1.8**
	baz=48						
TKM2	**Tokmak 2**	**2.95**	**277**	⇓*i*P	**Pn**	**16 58 18.9**	**+1.7**
	baz=78						
TKM2				⇓*i*S	**Sb**	**16 58 56.5**	**-2.6**
	baz=78						
KZA	**Kyzart**	**3.26**	**262**	⇓*e*P	**Pn**	**16 58 22.7**	**+1.1**
	baz=63						
KZA				⇓*e*S	**Sn**	**16 59 03.3**	**+2.7**
	baz=63						
KBK	**Karagaybulak**	**3.42**	**272**	⇓*i*P	**Pn**	**16 58 25.5**	**+1.9**
	baz=73						
KBK				⇓*i*S	**Sn**	**16 59 07.4**	**+3.1**
	baz=73						
CHMS	**Chumysh**	**3.58**	**278**	⇑*i*P	**Pn**	**16 58 27.6**	**+2.0**
	baz=78						
CHMS				⇑*i*S	**Sn**	**16 59 11.2**	**+3.3**
	baz=78						
FRU1	**Bishkek**	**3.66**	**275**	⇑*i*P	**Pn**	**16 58 29.1**	**+2.4**
	baz=75						
FRU1				⇑*e*S	**Sn**	**16 59 12.8**	**+2.9**
	baz=75						
ARLS	**Aral**	**3.98**	**261**	⇑*e*P	**Pn**	**16 58 32.4**	**+1.1**
	baz=62						
ARLS				⇑*i*S	**Sn**	**16 59 20.1**	**+2.0**
	baz=62						

*ISCJB **28** 16:59:02.5±1.4, 42.55N±0.05×79.68E±0.07, h3km±7km,*
Error ellipse: s-maj=10.8km s-min=5.9km az=44.4
*NNC **28** 16:59:02.7±2.1, 42.55N×79.69E, h0km, mb4.3, mpv4.0,*
Error ellipse: s-maj=14.2km s-min=7.5km az=151.0
*SOME **28** 16:59:03.0, 42.50N×79.70E, h20km*
*KRNET **28** 16:59:03.1±0.1, 42.54N×79.69E, h24km, mb3.8*
ISC 28 16:59:03.2±1.5, 42.58N±0.05×79.70E±0.05, h10km±10km, n22, σ0§52/40, 10C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.60**	**343**	P	**Pg**	**16 59 15.7**	**+0.8**
	158nm,0.1s						
SHLS				S	**Sb**	**16 59 24.9**	**+0.4**
	428nm,0.2s						
SHLS	**Shalkode**	**0.60**	**343**	*e*P	**Pg**	**16 59 15.7**	**+0.8**
	baz=13						
SHLS				*e*S	**Sb**	**16 59 24.9**	**+0.4**
	baz=13						
SHLS	**Shalkode**	**0.60**	**343**	*e*P	**Pg**	**16 59 15.7**	**+0.8**
	158nm,0.1s						
SHLS				*e*S	**Sb**	**16 59 24.9**	**+0.4**
	428nm,0.2s						
UZB	**Uzynbulak**	**0.75**	**319**	P	**Pg**	**16 59 17.4**	**-0.4**
	39nm,0.1s						
UZB				S	**Sg**	**16 59 27.8**	**+0.1**
	220nm,0.2s						
UZB	**Uzynbulak**	**0.75**	**319**	*e*P	**Pg**	**16 59 17.4**	**-0.4**
	baz=21						
UZB				*e*S	**Sg**	**16 59 27.8**	**+0.1**
	baz=21						
UZB	**Uzynbulak**	**0.75**	**319**	*e*P	**Pg**	**16 59 17.4**	**-0.4**
	39nm,0.1s						
UZB				*e*S	**Sg**	**16 59 27.8**	**+0.1**
	220nm,0.2s						
PDGK	**Podgornoye**	**0.76**	**349**	P	**Pg**	**16 59 17.7**	**-0.2**
	5.3nm,0.1s						
PDGK				S	**Sg**	**16 59 28.4**	**+0.5**
	49nm,0.5s						
PRZ	**Przheval'sk**	**0.96**	**265**	⇑*i*P	**Pg**	**16 59 21.1**	**-0.7**
	baz=67						
PRZ				⇑*e*S	**Sg**	**16 59 33.9**	**-0.4**
	baz=67						
KTMS	**Ketmen**	**0.99**	**29**	P	**Pg**	**16 59 22.1**	**-0.2**
	32nm,0.1s						
KTMS				S	**Sb**	**16 59 35.8**	**+0.1**
	62nm,0.2s						
KTMS	**Ketmen**	**0.99**	**29**	*e*P	**Pg**	**16 59 22.1**	**-0.2**
	baz=27						
KTMS				*e*S	**Sb**	**16 59 35.8**	**+0.1**
	baz=27						
KTMS	**Ketmen**	**0.99**	**29**	*e*P	**Pg**	**16 59 22.1**	**-0.2**
	32nm,0.1s						
KTMS				*e*S	**Sb**	**16 59 35.8**	**+0.1**
	62nm,0.2s						
MNBS	**Baschi**	**1.77**	**328**	P	**Pb**	**16 59 35.6**	**-0.2**
	21nm,0.2s						
MNBS				S	**Sb**	**16 59 58.9**	**+0.8**
	178nm,0.4s						
MNBS	**Baschi**	**1.77**	**328**	*e*P	**Pn**	**16 59 33.7**	**-0.3**
	baz=29						
MNBS				*e*S	**Sn**	**16 59 55.9**	**-0.8**
	baz=29						
MNBS	**Baschi**	**1.77**	**328**	*e*P	**Pn**	**16 59 33.7**	**-0.3**
	21nm,0.2s						
MNBS				*e*S	**Sn**	**16 59 55.9**	**-0.8**
	178nm,0.4s						
KDJ	**Kajisay**	**1.92**	**257**	⇑*i*P	**Pn**	**16 59 36.5**	**+0.4**
	baz=58						
KDJ				⇑*i*S	**Sn**	**17 00 00.5**	**+0.1**
	baz=58						
KNDC	**Almaty**	**2.10**	**289**	⇓Pg	**Pb**	**16 59 41.7**	**+0.2**
	70nm,0.9s						
KNDC				⇑Lg	Lg	17 00 11.7	
	119nm,0.5s						
IZV	**Izvestkoviy**	**2.31**	**282**	Pg	**Pb**	**16 59 44.6**	**-0.5**
	36nm,0.2s						
IZV				Lg	Lg	17 00 14.5	
	86nm,0.3s						
IZV	**Izvestkoviy**	**2.31**	**282**	*e*P	**Pb**	**16 59 44.6**	**-0.5**
	36nm,0.2s						
IZV				*e*S	**Sb**	**17 00 14.5**	**+0.6**
	86nm,0.3s						
CHKK	**Chushkaly**	**2.35**	**304**	Pg	**Pb**	**16 59 45.2**	**-0.5**
	44nm,0.2s						
CHKK				Lg	Lg	17 00 15.4	
	39nm,0.2s						
ULHL	**Ulahol**	**2.58**	**264**	⇑*i*P	**Pn**	**16 59 45.4**	**+0.2**
	baz=64						
ULHL				⇑*i*S	**Sn**	**17 00 16.9**	**+0.2**
	baz=64						
NRN	**Naryn**	**2.98**	**249**	⇑*i*P	**Pn**	**16 59 52.2**	**+1.3**
	baz=49						
NRN				⇑*i*S	**Sn**	**17 00 27.2**	**+0.3**
	baz=49						
TKM2	**Tokmak 2**	**3.04**	**278**	⇑Pg	**Pb**	**16 59 56.6**	**-0.9**
	23nm,1.1s						
TKM2				⇓Lg	Lg	17 00 38.9	
	25nm,0.7s						

*SOME **28** 17:00:30.3, 42.55N×79.60E, h0km*
*KRNET **28** 17:00:31.1±0.1, 42.44N×79.65E, mb3.4*
ISC 28 17:00:28.2±2.9, 42.6N±0.1×79.7E±0.1, h10km±17km, n9, σ0§88/18, 10C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.56**	**341**	*e*P	**Pn**	**17 00 42.7**	**+0.4**
	266nm,0.1s						
SHLS				*e*S	**Sn**	**17 00 51.8**	**0.0**
	2µm,0.2s						
UZB	**Uzynbulak**	**0.72**	**316**	*e*P	**Pn**	**17 00 44.6**	**-0.1**
	134nm,0.1s						
UZB				*e*S	**Sn**	**17 00 54.9**	**-1.0**
	303nm,0.3s						
PRZ	**Przheval'sk**	**0.98**	**262**	⇑*e*P	**Pn**	**17 00 48.6**	**+0.4**
	baz=73						
PRZ				⇑*i*S	**Sb**	**17 01 01.3**	**+0.8**
	baz=73						
SATY	**Saty**	**1.05**	**294**	*e*P	**Pn**	**17 00 50.0**	**+0.9**
	28nm,0.1s						
SATY				*e*S	**Sn**	**17 01 04.1**	**+0.2**
	233nm,0.1s						
KDJ	**Kajisay**	**1.94**	**256**	⇑*i*P	**Pg**	**17 01 05.4**	**0.0**
	baz=61						
KDJ				⇑*i*S	**Sg**	**17 01 30.6**	**0.0**
	baz=61						
ULHL	**Ulahol**	**2.60**	**263**	⇑*i*P	**Pb**	**17 01 15.5**	**+0.5**
	baz=67						
ULHL				⇑*i*S	**Sb**	**17 01 48.0**	**+0.9**
	baz=67						
BOOM	**Boomskoye usch**	**2.79**	**268**	⇑*i*P	**Pb**	**17 01 18.7**	**+0.5**
	baz=72						
BOOM				⇑*i*S	**Sb**	**17 01 52.5**	**-0.1**
	baz=72						
TKM2	**Tokmak 2**	**3.04**	**277**	⇓*i*P	**Pb**	**17 01 22.4**	**-0.2**
	baz=80						
TKM2				⇓*i*S	**Sb**	**17 02 00.4**	**+0.5**
	baz=80						
KZA	**Kyzart**	**3.35**	**262**	⇑*i*P	**Pb**	**17 01 26.4**	**-1.6**
	baz=65						
KZA				⇑*i*S	**Sb**	**17 02 07.0**	**-2.0**
	baz=65						

*IDC **28** 17:02:05.0±2.2, 42.47N×79.65E, h0km, mb3.4/1,*
mb1 3.6/6, mb1mx3.3/60, mbtmp3.6/6, ML3.3/5, Error
ellipse: s-maj=26.8km s-min=11.9km az=146.0
*SOME **28** 17:02:07.8, 42.57N×79.67E, h25km*
*KRNET **28** 17:02:07.5±0.1, 42.57N×79.63E, h16km, mb4.2*
*NNC **28** 17:02:07.4±1.4, 42.57N×79.66E, h0km, mb4.5, mpv4.6,*
Error ellipse: s-maj=9.0km s-min=5.2km az=155.0
ISC 28 17:02:07.9±1.4, 42.63N±0.04×79.65E±0.03, h8km±8km, n65, σ1§29/127, 22C-14D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.55**	**345**	P	**Pb**	**17 02 19.8**	**-0.1**
	1µm,0.2s						
SHLS				P	**Pb**	**17 02 19.8**	**-0.1**
	1µm,0.1s						
SHLS				S	**Sb**	**17 02 28.8**	**+0.8**
	9µm,0.3s						
SHLS				S	**Sb**	**17 02 28.8**	**+0.8**
	9µm,0.2s						
SHLS	**Shalkode**	**0.55**	**345**	*e*P	**Pb**	**17 02 19.8**	**-0.1**
	baz=17						
SHLS				*e*S	**Sb**	**17 02 28.8**	**+0.8**
	baz=17						
SHLS	**Shalkode**	**0.55**	**345**	*e*P	**Pb**	**17 02 19.8**	**-0.1**
	1µm,0.1s						
SHLS				*e*S	**Sb**	**17 02 28.8**	**+0.8**
	9µm,0.2s						
UZB	**Uzynbulak**	**0.70**	**319**	P	**Pg**	**17 02 21.4**	**0.0**
	540nm,0.1s						
UZB				P	**Pg**	**17 02 21.4**	**0.0**
	549nm,0.2s						
UZB				S	**Sg**	**17 02 31.5**	**+1.0**
	1µm,0.3s						
UZB				S	**Sg**	**17 02 31.6**	**+1.0**
	1µm,0.2s						
UZB	**Uzynbulak**	**0.70**	**319**	*e*P	**Pg**	**17 02 21.4**	**0.0**
	baz=22						
UZB				*e*S	**Sg**	**17 02 31.5**	**+1.0**
	baz=22						
UZB	**Uzynbulak**	**0.70**	**319**	*e*P	**Pg**	**17 02 21.4**	**0.0**
	540nm,0.1s						
UZB				*e*S	**Sg**	**17 02 31.5**	**+1.0**
	1µm,0.3s						
PDGK	**Podgornoye**	**0.71**	**350**	P	**Pg**	**17 02 21.9**	**+0.2**
	284nm,0.2s						
PDGK				P	**Pg**	**17 02 21.9**	**+0.2**
	284nm,0.2s						
PDGK				S	**Sb**	**17 02 32.5**	**-0.2**
	162nm,0.3s						
PDGK				S	**Sb**	**17 02 32.6**	**-0.2**
	160nm,0.3s						
PRZ	**Przheval'sk**	**0.94**	**262**	⇑*i*P	**Pg**	**17 02 24.9**	**-1.0**
	baz=65						
PRZ				⇑*i*S	**Sg**	**17 02 37.2**	**-0.9**
	baz=65						
KTMS	**Ketmen**	**0.97**	**32**	P	**Pg**	**17 02 26.3**	**-0.2**
	179nm,0.1s						
KTMS				P	**Pg**	**17 02 26.4**	**0.0**
	179nm,0.1s						
KTMS				S	**Sb**	**17 02 40.1**	**0.0**
	358nm,0.2s						
KTMS				S	**Sb**	**17 02 40.1**	**0.0**
	363nm,0.2s						
KTMS	**Ketmen**	**0.97**	**32**	*e*P	**Pg**	**17 02 26.5**	**0.0**
	baz=30						
KTMS				*e*S	**Sb**	**17 02 40.1**	**0.0**
	baz=30						
KTMS	**Ketmen**	**0.97**	**32**	*e*P	**Pg**	**17 02 26.4**	**0.0**
	179nm,0.1s						
KTMS				*e*S	**Sb**	**17 02 40.1**	**0.0**
	363nm,0.2s						
SATY	**Saty**	**1.01**	**296**	*e*P	**Pg**	**17 02 26.7**	**-0.7**
	35nm,0.1s						
SATY				*e*S	**Sg**	**17 02 40.5**	**-0.1**
	772nm,0.2s						
KURS	**Kuram**	**1.39**	**309**	P	**Pn**	**17 02 33.4**	**-0.2**
	59nm,0.2s						
KURS				S	**Sb**	**17 02 52.3**	**+0.3**
	339nm,0.4s						
KURS	**Kuram**	**1.39**	**309**	*e*P	**Pn**	**17 02 33.5**	**-0.2**
	baz=11						
KURS				*e*S	**Sb**	**17 02 52.3**	**+0.3**
	baz=11						
KURS	**Kuram**	**1.39**	**309**	*e*P	**Pn**	**17 02 33.5**	**-0.1**
	37nm,0.2s						
KURS				*e*S	**Sb**	**17 02 52.3**	**+0.3**
	391nm,0.5s						
DJR	**Jarkent**	**1.71**	**3**	*e*P	**Pb**	**17 02 39.5**	**-0.2**
	73nm,0.3s						
DJR				*e*S	**Sg**	**17 03 02.8**	**0.0**
	122nm,0.2s						
MNBS	**Baschi**	**1.72**	**328**	P	**Pb**	**17 02 39.6**	**-0.2**
	175nm,0.3s						
MNBS				P	**Pb**	**17 02 39.6**	**-0.2**
	175nm,0.3s						
MNBS				S	**Sg**	**17 03 03.1**	**+0.1**
	640nm,0.3s						
MNBS				S	**Sb**	**17 03 03.3**	**+1.7**
	1µm,0.3s						
MNBS	**Baschi**	**1.72**	**328**	*e*P	**Pn**	**17 02 37.7**	**-0.5**
	baz=30						
MNBS				*e*S	**Sn**	**17 03 00.0**	**-0.4**
	baz=30						
MNBS	**Baschi**	**1.72**	**328**	*e*P	**Pn**	**17 02 37.7**	**-0.5**
	175nm,0.3s						
MNBS				*e*S	**Sn**	**17 03 00.0**	**-0.4**
	1µm,0.3s						
KDJ	**Kajisay**	**1.90**	**256**	⇑*i*P	**Pb**	**17 02 42.2**	**-0.7**
	baz=57						
KDJ				⇑*i*S	**Sb**	**17 03 06.6**	**-0.2**
	baz=57						
KOTS	**Kotyrbulak**	**1.96**	**289**	*e*P	**Pb**	**17 02 44.0**	**0.0**
	baz=90						
KOTS				*e*S	**Sg**	**17 03 10.4**	**-0.5**
	baz=90						
KOTS	**Kotyrbulak**	**1.96**	**289**	*e*P	**Pb**	**17 02 44.0**	**0.0**
	171nm,0.4s						
KOTS				*e*S	**Sg**	**17 03 10.5**	**-0.5**
	2µm,0.6s						
MDOK	**Medeo**	**1.99**	**287**	*e*P	**Pb**	**17 02 43.3**	**-1.1**
	baz=88						
MDOK				*e*S	**Sb**	**17 03 09.7**	**+0.3**
	baz=88						
MDOK	**Medeo**	**1.99**	**287**	*e*P	**Pb**	**17 02 43.3**	**-1.1**
	52nm,0.4s						
MDOK				*e*S	**Sb**	**17 03 09.7**	**+0.3**
	642nm,0.5s						
TNSS	**Tian-Shan**	**2.03**	**283**	Pg	**Pn**	**17 02 44.1**	**+1.2**
	110nm,0.3s						
TNSS				Lg	Lg	17 03 11.1	
	764nm,0.5s						
TNSS	**Tian-Shan**	**2.03**	**283**	*e*P	**Pn**	**17 02 43.9**	**+1.1**
	baz=84						
TNSS				*e*S	**Sb**	**17 03 10.7**	**-0.2**
	baz=84						
TNSS	**Tian-Shan**	**2.03**	**283**	*e*P	**Pn**	**17 02 43.9**	**+1.1**
	100nm,0.5s						
TNSS				*e*S	**Sb**	**17 03 10.7**	**-0.2**
	495nm,0.5s						
KNDC	**Almaty**	**2.06**	**288**	⇓Pg	**Pb**	**17 02 45.2**	**-0.4**
	118nm,0.3s						
ARXS	**Arharly**	**2.07**	**321**	*e*P	**Pb**	**17 02 45.2**	**-0.6**
	90nm,0.5s						
ARXS				*e*S	**Sb**	**17 03 12.9**	**+1.2**
	868nm,0.4s						
IZV	**Izvestkoviy**	**2.27**	**281**	Pg	**Pb**	**17 02 48.4**	**-0.9**
	130nm,0.2s						
IZV				Lg	Lg	17 03 18.5	
	802nm,0.4s						
IZV	**Izvestkoviy**	**2.27**	**281**	*e*P	**Pb**	**17 02 48.4**	**-0.9**
	baz=83						
IZV				*e*S	**Sb**	**17 03 18.5**	**+0.8**
	baz=83						
IZV	**Izvestkoviy**	**2.27**	**281**	*e*P	**Pb**	**17 02 48.4**	**-0.9**
	130nm,0.2s						
IZV				*e*S	**Sb**	**17 03 18.4**	**+0.8**
	802nm,0.4s						
CHKK	**Chushkaly**	**2.30**	**303**	Pg	**Pb**	**17 02 49.1**	**-0.6**
	104nm,0.2s						
CHKK				Lg	Lg	17 03 19.7	
	407nm,0.3s						
MTBS	**Maitube**	**2.42**	**283**	*e*P	**Pb**	**17 02 51.1**	**-0.7**
	baz=84						
MTBS				*e*S	**Sb**	**17 03 23.1**	**+1.2**
	baz=84						
MTBS	**Maitube**	**2.42**	**283**	*e*P	**Pb**	**17 02 51.1**	**-0.7**
	139nm,0.4s						
MTBS				*e*S	**Sb**	**17 03 23.0**	**+1.2**
	521nm,0.6s						
KTBS	**Karatobe**	**2.43**	**298**	*e*P	**Pb**	**17 02 50.9**	**-1.0**
	baz=98						
KTBS				*e*S	**Sb**	**17 03 22.5**	**+0.5**
	baz=98						
KTBS	**Karatobe**	**2.43**	**298**	*e*P	**Pb**	**17 02 50.9**	**-1.0**
	29nm,0.1s						
KTBS				*e*S	**Sb**	**17 03 22.5**	**+0.5**
	962nm,0.5s						
ULHL	**Ulahol**	**2.55**	**263**	⇓*e*P	**Pn**	**17 02 51.3**	**+1.5**
	baz=64						
ULHL				⇓*i*S	**Sb**	**17 03 23.7**	**-2.0**
	baz=64						
KAPS	**Kapalarasan**	**2.67**	**356**	*e*P	**Pb**	**17 02 56.3**	**+0.4**
	30nm,0.2s						
KAPS				*e*S	**Sg**	**17 03 31.8**	**-1.8**
	151nm,0.2s						
KUU	**Kurty**	**2.73**	**299**	*e*P	**Pb**	**17 02 56.4**	**-0.6**
	baz=0.0						
KUU				*e*S	**Sb**	**17 03 32.2**	**+1.5**
	baz=0.0						

KUU	**Kurty**	**2.73**	**299**	*e*P	**Pb**	**17 02 56.4**	**-0.6**
	12nm,0.2s						
KUU				*e*S	**Sb**	**17 03 32.3**	**+1.5**
	408nm,0.5s						
KST	**Kastek**	**2.75**	**280**	*e*P	**Pb**	**17 02 55.6**	**-1.8**
	baz=81						
KST				*e*S	**Sb**	**17 03 30.7**	**-0.6**
	baz=81						
KST	**Kastek**	**2.75**	**280**	*e*P	**Pb**	**17 02 55.5**	**-1.8**
	76nm,0.3s						
KST				*e*S	**Sb**	**17 03 30.6**	**-0.6**
	332nm,0.6s						
BOOM	**Boomskoye usch**	**2.75**	**268**	⇑*i*P	**Pn**	**17 02 54.7**	**+2.3**
	baz=70						
BOOM				⇑*i*S	**Sn**	**17 03 28.2**	**+2.3**
	baz=70						
NRN	**Naryn**	**2.97**	**248**	⇑*i*P	**Pn**	**17 02 57.3**	**+1.6**
	baz=48						
NRN				⇑*i*S	**Sn**	**17 03 33.4**	**+1.8**
	baz=48						
TKM2	**Tokmak 2**	**3.00**	**277**	⇓Pn	**Pn**	**17 02 58.1**	**+2.1**
	15nm,0.2s						
TKM2				⇑Lg	Lg	17 03 40.3	
	109nm,0.4s						
TKM2	**Tokmak 2**	**3.00**	**277**	⇑*i*P	**Pn**	**17 02 58.1**	**+2.1**
	baz=78						
TKM2				⇑*i*S	**Sn**	**17 03 34.8**	**+2.5**
	baz=78						
KZA	**Kyzart**	**3.31**	**262**	⇑*e*P	**Pn**	**17 03 02.4**	**+2.0**
	baz=63						
KZA				⇑*i*S	**Sn**	**17 03 41.8**	**+1.7**
	baz=63						
KBK	**Karagaybulak**	**3.47**	**272**	⇑*i*P	**Pn**	**17 03 04.2**	**+1.8**
	baz=73						
KBK				⇑*i*S	**Sn**	**17 03 45.8**	**+2.0**
	baz=73						
CHMS	**Chumysh**	**3.63**	**278**	⇑*i*P	**Pn**	**17 03 06.8**	**+2.4**
	baz=78						
CHMS				⇑*i*S	**Sn**	**17 03 49.9**	**+2.5**
	baz=78						
FRU1	**Bishkek**	**3.71**	**275**	⇓*e*P	**Pn**	**17 03 07.9**	**+2.4**
	baz=75						
FRU1				⇓*i*S	**Sn**	**17 03 51.7**	**+2.3**
	baz=75						
AAK	**Ala-Archa**	**3.81**	**272**	Pn	**Pn**	**17 03 07.8**	**+0.8**
	5.2nm,0.3s,baz=92,slow=10,SNR=6.2						
AAK				Sn	**Sn**	**17 03 54.7**	**+2.6**
	14nm,0.3s,baz=92,slow=8.1,SNR=5.4						
AAK				Lg	Lg	17 04 05.4	
	17nm,0.3s,baz=325,slow=19,SNR=8.2						
AAK	**Ala-Archa**	**3.81**	**272**	⇓Lg	Lg	17 04 08.5	
	69nm,0.5s						
AAK	**Ala-Archa**	**3.81**	**272**	⇓*i*P	**Pn**	**17 03 09.4**	**+2.4**
	baz=73						
AAK				⇓*i*S	**Sn**	**17 03 54.1**	**+2.1**
	baz=73						
UCH	**Uchtor**	**3.83**	**266**	⇑*i*P	**Pn**	**17 03 09.4**	**+1.9**
	baz=67						
UCH				⇑*i*S	**Sn**	**17 03 54.7**	**+1.8**
	baz=67						
ARLS	**Aral**	**4.03**	**261**	⇓*i*P	**Pn**	**17 03 12.3**	**+2.2**
	baz=62						
ARLS				⇓*i*S	**Sn**	**17 03 59.0**	**+1.4**
	baz=62						
EKS2	**Erkin-Say**	**4.33**	**272**	⇑*e*P	**Pn**	**17 03 16.9**	**+2.7**
	baz=73						
EKS2				⇑*i*S	**Sn**	**17 04 06.5**	**+1.5**
	baz=73						
AML	**Almayashu**	**4.44**	**266**	⇓*e*P	**Pn**	**17 03 18.0**	**+2.1**
	baz=66						
AML				⇓*e*S	**Sn**	**17 04 09.3**	**+1.3**
	baz=66						
MAKZ	**Makanchi**	**4.50**	**21**	⇓Pn	**Pn**	**17 03 18.8**	**+2.4**
	4.3nm,0.3s						
MK31	**Makanchi Array**	**4.57**	**23**	⇑Pn	**Pn**	**17 03 19.3**	**+1.9**
	1.9nm,0.3s						
MKAR	**Makanchi Array**	**4.57**	**23**	Pn	**Pn**	**17 03 19.5**	**+2.1**
	4.1nm,0.3s,baz=207,slow=13,SNR=9.3						
MKAR				Lg	Lg	17 04 31.6	
	8.6nm,0.3s,baz=197,slow=28,SNR=8.2						
KURBB	**Kurchatov Arra**	**8.04**	**355**	Pn	**Pn**	**17 04 05.9**	**+1.0**
	0.1nm,0.3s,baz=187,slow=18,SNR=3.0						
KURBB				Lg	Lg	17 06 22.2	
	0.5nm,0.3s,baz=241,slow=37,SNR=4.9						
ZALV	**Zalesovo Beam**	**11.84**	**15**	Pn	**Pn**	**17 04 57.3**	**+0.4**
	0.4nm,0.3s,baz=201,slow=14,SNR=3.8						
BVAR	**Borovoye Array**	**12.11**	**332**	Pn	**Pn**	**17 04 59.6**	**-1.1**
	0.1nm,0.3s,baz=145,slow=16,SNR=2.5						
BVAR				Sn	**Sn**	**17 07 12.0**	**-3.9**
	0.2nm,0.3s,baz=152,slow=25,SNR=2.7						
BVAR				Lg	Lg	17 08 26.3	
	0.2nm,0.3s,baz=133,slow=28,SNR=2.4						
BRTR	**Keskin Array B**	**34.43**	**281**	P	**P**	**17 08 54.4**	**-1.6**
	0.5nm,0.8s,baz=62,slow=6.7,SNR=3.0						

*SOME **28** 17:02:46.2, 42.°55N × 79.°63E, h10km*
*KRNET **28** 17:02:47.1±0.1, 42.°58N × 79.°62E, h18km, mb4.4*
ISC 28 17:02:47.5±1.8**, 42.°55N**±0.°06×**79.°57E**±0.°08**, h10**km**, n23,**
σ1§88/46, 24C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.62**	**353**	*e*P	**Pg**	**17 02 58.6**	**-0.9**
	baz=19						
SHLS				*e*S	**Sb**	**17 03 07.8**	**-1.5**
	baz=19						
SHLS	**Shalkode**	**0.62**	**353**	*e*P	**Pg**	**17 02 58.6**	**-0.9**
	1μm,0.1s						
SHLS				*e*S	**Sb**	**17 03 07.8**	**-1.5**
	3μm,0.3s						
UZB	**Uzynbulak**	**0.72**	**327**	*e*P	**Pg**	**17 03 00.3**	**-1.2**
	baz=23						
UZB				*e*S	**Sg**	**17 03 10.6**	**-0.4**
	baz=23						
UZB	**Uzynbulak**	**0.72**	**327**	*e*P	**Pg**	**17 03 00.3**	**-1.2**
	259nm,0.2s						
UZB				*e*S	**Sg**	**17 03 10.6**	**-0.4**
	3μm,0.3s						
PRZ	**Przheval'sk**	**0.86**	**266**	⇑*i*P	**Pb**	**17 03 03.9**	**-0.8**
	baz=64						
PRZ				⇑*i*S	**Sb**	**17 03 16.9**	**+0.5**
	baz=64						
SATY	**Saty**	**1.00**	**301**	*e*P	**Pg**	**17 03 05.6**	**-1.1**
	133nm,0.1s						
SATY				*e*S	**Sb**	**17 03 19.8**	**-0.4**
	1μm,0.1s						
KDJ	**Kajisay**	**1.82**	**258**	⇓*e*P	**Pg**	**17 03 21.4**	**-1.0**
	baz=57						
KDJ				⇓*i*S	**Sg**	**17 03 45.8**	**-0.1**
	baz=57						
MDOK	**Medeo**	**1.95**	**289**	*e*P	**Pb**	**17 03 22.7**	**-0.6**
	baz=88						
MDOK				*e*S	**Sg**	**17 03 49.0**	**-1.3**
	baz=88						
MDOK	**Medeo**	**1.95**	**289**	*e*P	**Pb**	**17 03 22.7**	**-0.5**
	115nm,0.3s						
MDOK				*e*S	**Sg**	**17 03 49.0**	**-1.2**
	276nm,0.5s						
TNSS	**Tian-Shan**	**1.99**	**285**	*e*P	**Pb**	**17 03 23.8**	**-0.3**
	baz=84						
TNSS				*e*S	**Sg**	**17 03 50.8**	**-0.7**
	baz=84						
TNSS	**Tian-Shan**	**1.99**	**285**	*e*P	**Pb**	**17 03 23.8**	**-0.2**
	231nm,0.3s						
TNSS				*e*S	**Sg**	**17 03 50.9**	**-0.6**
	391nm,0.3s						
ULHL	**Ulahol**	**2.48**	**264**	⇑*i*P	**Pb**	**17 03 30.3**	**-2.0**
	baz=63						
ULHL				⇑*i*S	**Sb**	**17 04 02.1**	**-0.9**
	baz=63						
BOOM	**Boomskoye usch**	**2.68**	**270**	⇑*i*P	**Pb**	**17 03 32.8**	**-2.9**
	baz=69						
BOOM				⇑*i*S	**Sb**	**17 04 06.2**	**-2.5**
	baz=69						
NRN	**Naryn**	**2.88**	**249**	⇑*i*P	**Pb**	**17 03 36.4**	**-2.8**
	baz=48						
NRN				⇑*i*S	**Sb**	**17 04 12.6**	**-2.0**
	baz=48						
TKM2	**Tokmak 2**	**2.95**	**279**	⇑*i*P	**Pn**	**17 03 36.7**	**+2.1**
	baz=78						
TKM2				⇑*i*S	**Sb**	**17 04 13.2**	**-3.2**
	baz=78						
KZA	**Kyzart**	**3.23**	**263**	⇑*e*P	**Pn**	**17 03 41.0**	**+2.3**
	baz=63						
KZA				⇑*i*S	**Sn**	**17 04 20.7**	**+3.2**
	baz=63						
KBK	**Karagaybulak**	**3.41**	**273**	⇑*i*P	**Pn**	**17 03 42.8**	**+1.8**
	baz=73						
KBK				⇑*i*S	**Sn**	**17 04 24.2**	**+2.7**
	baz=73						
CHMS	**Chumysh**	**3.57**	**279**	⇑*i*P	**Pn**	**17 03 45.5**	**+2.4**
	baz=78						
CHMS				⇑*i*S	**Sn**	**17 04 27.7**	**+2.4**
	baz=78						
FRU1	**Bishkek**	**3.65**	**276**	⇓*i*P	**Pn**	**17 03 45.9**	**+1.8**
	baz=75						
FRU1				⇓*i*S	**Sn**	**17 04 29.8**	**+2.5**
	baz=75						
AAK	**Ala-Archa**	**3.75**	**273**	⇑*e*P	**Pn**	**17 03 47.6**	**+2.1**
	baz=73						
AAK				⇑*i*S	**Sn**	**17 04 32.1**	**+2.3**
	baz=73						
UCH	**Uchtor**	**3.75**	**267**	⇑*e*P	**Pn**	**17 03 48.2**	**+2.3**
	baz=66						
UCH				⇑*i*S	**Sn**	**17 04 33.0**	**+2.6**
	baz=66						
USP	**Ospenovka**	**3.79**	**283**	⇑*i*P	**Pn**	**17 03 48.1**	**+2.0**
	baz=82						
USP				⇑*i*S	**Sn**	**17 04 33.2**	**+2.5**
	baz=82						
AML	**Almayashu**	**4.37**	**267**	⇑*e*P	**Pn**	**17 03 56.9**	**+2.5**
	baz=66						
AML				⇑*i*S	**Sn**	**17 04 47.3**	**+1.8**
	baz=66						

*IDC **28** 17:03:08.6±0.8, 10.°93S × 165.°52E, h0km, mb4.0/10, mb1 4.2/12, mb1mx4.0/46, mbtmp4.1/12, ML4.5/2, MS4.5/1, Ms1 4.5/1, ms1mx3.8/30, Error ellipse: s-maj=29.0km s-min=18.0km az=143.0*
*ISCJB **28** 17:03:11.2±0.6, 11.°17S±0.°07×165.°46E±0.°07, h30km, mb3.9/10, MS4.4/1, Error ellipse: s-maj=10.5km s-min=9.0km az=31.8*
*NEIC **28** 17:03:12.5±4.4, 11.°08S × 165.°57E, h28km±31km, mb4.5/2, Error ellipse: s-maj=13.7km s-min=12.8km az=204.0*
ISC 28 17:03:12.8±0.7**, 11.°11S**±0.°08×**165.°52E**±0.°09**, h30**km**, n29,**
σ1§18/26, mb4.0/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.73**	**286**	Pn	**Pn**	**17 04 35.8**	**-0.1**
	19nm,0.3s,baz=171,slow=4.8,SNR=10.0						
HNR				Sn	**Sn**	**17 05 40.0**	**-0.6**
	8.9nm,0.3s,baz=180,slow=20,SNR=4.0						
HNR	**Honiara**	**5.73**	**286**	*e*P	**Pn**	**17 04 36.0**	**+0.1**
HNR				*e*S	**Sn**	**17 05 39.0**	**-1.6**
DZM	**Mont Dzumac**	**10.94**	**175**	Pn	**Pn**	**17 05 49.4**	**+2.0**
	2.8nm,0.3s,baz=351,slow=12,SNR=27						
DZM				Sn	**Sn**	**17 07 46.8**	**-2.1**
	0.1nm,0.3s,baz=96,slow=19,SNR=1.8						
DZM	**Mont Dzumac**	**10.94**	**175**	*e*Pn	**Pn**	**17 05 47.6**	**+0.1**
DZM				Sn	**Sn**	**17 07 46.8**	**-2.1**
MANU	**Manus Island**	**20.14**	**295**	*e*P	Pn	17 07 46.0	-0.7
	47nm,0.9s						
CTA	**Charters Tower**	**20.57**	**242**	P	Pn	17 07 51.1	-0.6
	3.8nm,0.8s,baz=57,slow=15,SNR=3.2						
RAO	**Raoul Island**	**23.77**	**142**	LR	LR	17 14 45.0	
	comp=Z,1μm,20.8s,baz=116,slow=29						
H11S2	**WAKE ISLAND Hy**	**29.43**	**2**	T	T	17 39 51.8	
	baz=182,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**29.44**	**2**	T	T	17 39 50.3	
	baz=182,slow=76,SNR=4.6						
H11S1	**WAKE ISLAND Hy**	**29.45**	**2**	T	T	17 39 51.0	
	baz=182,slow=76,SNR=3.7						
STKA	**Stephens Creek**	**30.24**	**223**	P	**P**	**17 09 22.9**	**+1.8**
	2.7nm,0.8s,baz=353,slow=9.5,SNR=4.1						
H11N1	**WAKE ISLAND Hy**	**30.66**	**3**	T	T	17 41 22.1	
	baz=182,slow=76,SNR=6.5						
H11N3	**WAKE ISLAND Hy**	**30.66**	**3**	T	T	17 41 26.7	
	baz=182,slow=76,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**30.68**	**3**	T	T	17 41 27.4	
	baz=182,slow=76,SNR=5.7						
WR1	**Warramunga Arr**	**31.25**	**250**	*e*P	**P**	**17 09 29.8**	**-0.4**
WR1				*e*PcP	**PcP**	**17 12 25.5**	**+1.1**
WRA	**Warramunga Arr**	**31.25**	**250**	P	**P**	**17 09 29.8**	**-0.4**
	1.1nm,0.6s,baz=80,slow=8.9,SNR=12						
WRA				PcP	**PcP**	**17 12 25.5**	**+1.1**
	0.6nm,0.8s,baz=72,slow=3.0,SNR=3.1						
AS01	**Alice Springs**	**32.52**	**243**	*e*P	**P**	**17 09 42.5**	**+1.2**
AS31	**Alice Springs**	**32.56**	**243**	*e*P	**P**	**17 09 40.0**	**-1.7**
	5.5nm,1.8s						
ASAR	**Alice Springs**	**32.56**	**243**	P	**P**	**17 09 42.0**	**+0.3**
	1.4nm,0.7s,baz=66,slow=9.9,SNR=22						
ASAR				PcP	**PcP**	**17 12 29.0**	**+1.1**
	1.0nm,0.9s,baz=79,slow=2.5,SNR=4.6						
CMAR	**Chiang Mai Arr**	**71.93**	**294**	P	**P**	**17 14 33.7**	**-0.2**
	0.9nm,0.9s,baz=131,slow=5.2,SNR=7.1						
SONA0	**Songino Array**	**78.58**	**324**	*e*P	**P**	**17 15 12.6**	**+0.8**
SONM	**Songino Array**	**78.58**	**324**	P	**P**	**17 15 12.6**	**+0.8**
	0.7nm,0.7s,baz=145,slow=6.3,SNR=3.0						
ILAR	**Eielson Array**	**83.64**	**19**	P	**P**	**17 15 37.6**	**-0.5**
	0.5nm,0.5s,baz=244,slow=4.7,SNR=23						
ILB	**Eielson Array**	**83.64**	**19**	*e*P	**P**	**17 15 37.6**	**-0.5**
NV01	**Mina Array Sit**	**86.24**	**50**	*e*P	**P**	**17 15 51.5**	**-0.5**
NVAR	**Mina Array Bea**	**86.24**	**50**	P	**P**	**17 15 52.5**	**+0.5**
	1.9nm,0.9s,baz=249,slow=4.7,SNR=6.2						
PDAR	**Pinedale Array**	**93.76**	**47**	P	**P**	**17 16 26.6**	**-0.8**
	0.6nm,0.9s,baz=107,slow=1.5,SNR=3.5						
YKA	**Yellowknife Ar**	**95.13**	**27**	P	**P**	**17 16 31.6**	**-1.2**
	0.1nm,0.4s,baz=252,slow=4.5,SNR=4.3						
KKAR	**Karatay Array**	**101.13**	**312**	*e*Sdif	Sdif	17 28 39.5	+2.0

*SOME **28** 17:05:03.3, 42.°50N × 79.°67E, h25km*
*KRNET **28** 17:05:03.1±0.1, 42.°57N × 79.°69E, h9km, mb4.4*
*NNC **28** 17:05:03.4±0.8, 42.°60N × 79.°64E, h0km, mb4.6, mpv4.4, Error ellipse: s-maj=5.2km s-min=2.9km az=137.0*
*ISCJB **28** 17:05:04.6±0.6, 42.°60N±0.°03×79.°76E±0.°04, h10km, Error ellipse: s-maj=5.1km s-min=3.0km az=142.2*
*BJI **28** 17:05:04.0, 42.°63N × 79.°57E, h7km, ML3.7/7*
ISC 28 17:05:03.9±1.0**, 42.°56N**±0.°04×**79.°69E**±0.°03**, h10**km**, n76,**
σ1§51/131, 33C-13D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.62**	**345**	P	**Pg**	**17 05 15.5**	**-0.5**
	858nm,0.1s						
SHLS				S	**Sb**	**17 05 24.4**	**-1.3**
	10μm,0.4s						
SHLS	**Shalkode**	**0.62**	**345**	*e*P	**Pg**	**17 05 15.5**	**-0.5**
	baz=14						
SHLS				*e*S	**Sb**	**17 05 24.5**	**-1.3**
	baz=14						
SHLS	**Shalkode**	**0.62**	**345**	*e*P	**Pg**	**17 05 15.5**	**-0.5**
	858nm,0.1s						
SHLS				*e*S	**Sb**	**17 05 24.4**	**-1.3**
	10μm,0.4s						
UZB	**Uzynbulak**	**0.76**	**321**	P	**Pg**	**17 05 17.5**	**-1.2**
	336nm,0.1s						
UZB				S	**Sg**	**17 05 27.5**	**-1.1**
	3μm,0.3s						
UZB	**Uzynbulak**	**0.76**	**321**	*e*P	**Pg**	**17 05 17.5**	**-1.2**
	baz=20						
UZB				*e*S	**Sg**	**17 05 27.6**	**-1.1**
	baz=20						
UZB	**Uzynbulak**	**0.76**	**321**	*e*P	**Pg**	**17 05 17.5**	**-1.2**
	336nm,0.1s						
UZB				*e*S	**Sg**	**17 05 27.6**	**-1.1**
	3μm,0.3s						
PDGK	**Podgornoye**	**0.78**	**350**	P	**Pg**	**17 05 17.7**	**-1.4**
	206nm,0.1s						
PDGK				S	**Sg**	**17 05 28.0**	**-1.3**
	294nm,0.1s						
PDGK	**Podgornoye**	**0.78**	**350**	⇑P	**Pg**	**17 05 17.7**	**-1.4**
	200nm,0.4s						
PDGK				⇑S	**Sg**	**17 05 28.1**	**-1.2**
	284nm,0.5s						
PDGK	**Podgornoye**	**0.78**	**350**	⇓*i*P	**Pg**	**17 05 17.8**	**-1.2**
	baz=49						
PDGK				⇓*i*S	**Sg**	**17 05 28.1**	**-1.2**
	baz=49						
PRZ	**Przheval'sk**	**0.95**	**266**	⇑*i*P	**Pg**	**17 05 21.2**	**-1.1**
	baz=65						
PRZ				⇑*i*S	**Sg**	**17 05 33.9**	**-0.8**
	baz=65						
KTMS	**Ketmen**	**1.01**	**29**	P	**Pg**	**17 05 22.1**	**-1.3**
	176nm,0.1s						
KTMS				S	**Sg**	**17 05 35.3**	**-1.3**
	455nm,0.2s						
KTMS	**Ketmen**	**1.01**	**29**	*e*P	**Pg**	**17 05 22.1**	**-1.3**
	baz=28						
KTMS				*e*S	**Sg**	**17 05 35.3**	**-1.3**
	baz=28						
KTMS	**Ketmen**	**1.01**	**29**	*e*P	**Pg**	**17 05 22.1**	**-1.3**
	176nm,0.1s						
KTMS				*e*S	**Sg**	**17 05 35.3**	**-1.3**
	455nm,0.2s						
SATY	**Saty**	**1.07**	**298**	P	**Pg**	**17 05 22.9**	**-1.5**
	104nm,0.2s						
SATY				S	**Sg**	**17 05 37.1**	**-1.2**
	762nm,0.2s						
SATY	**Saty**	**1.07**	**298**	*e*P	**Pg**	**17 05 22.9**	**-1.5**
	104nm,0.2s						
SATY				*e*S	**Sg**	**17 05 37.1**	**-1.2**
	762nm,0.2s						
DJR	**Jarkent**	**1.77**	**2**	P	**Pb**	**17 05 35.7**	**-0.8**
	146nm,0.3s						
DJR				S	**Sb**	**17 05 58.7**	**-0.3**
	316nm,0.4s						
DJR	**Jarkent**	**1.77**	**2**	*e*P	**Pb**	**17 05 35.8**	**-0.8**
	146nm,0.3s						
DJR				*e*S	**Sb**	**17 05 58.7**	**-0.3**
	316nm,0.4s						
MNBS	**Baschi**	**1.79**	**329**	P	**Pb**	**17 05 35.5**	**-1.3**
	91nm,0.2s						
MNBS				S	**Sb**	**17 05 58.7**	**-0.6**
	986nm,0.3s						
MNBS	**Baschi**	**1.79**	**329**	*e*P	**Pb**	**17 05 35.5**	**-1.3**
	baz=29						
MNBS				*e*S	**Sb**	**17 05 58.7**	**-0.6**
	baz=29						
MNBS	**Baschi**	**1.79**	**329**	*e*P	**Pb**	**17 05 35.5**	**-1.3**
	91nm,0.2s						
MNBS				*e*S	**Sb**	**17 05 58.7**	**-0.6**
	986nm,0.3s						
KDJ	**Kajisay**	**1.91**	**258**	⇑*i*P	**Pb**	**17 05 38.8**	**-0.1**
	baz=57						
KDJ				⇑*i*S	**Sg**	**17 06 04.0**	**-1.2**
	baz=57						
KOTS	**Kotyrbulak**	**2.01**	**291**	Pg	**Pb**	**17 05 40.1**	**-0.5**
	79nm,0.2s						
KOTS				Lg	Lg	17 06 06.9	
	2μm,0.6s						
KOTS	**Kotyrbulak**	**2.01**	**291**	*e*P	**Pb**	**17 05 40.1**	**-0.5**
	baz=90						
KOTS				*e*S	**Sg**	**17 06 07.0**	**-1.5**
	baz=90						
KOTS	**Kotyrbulak**	**2.01**	**291**	*e*P	**Pb**	**17 05 40.1**	**-0.5**
	79nm,0.2s						
KOTS				*e*S	**Sg**	**17 06 06.9**	**-1.5**
	2μm,0.6s						
MDOK	**Medeo**	**2.03**	**288**	Pg	**Pb**	**17 05 39.6**	**-1.3**
	120nm,0.3s						
MDOK				Lg	Lg	17 06 06.2	
	750nm,0.5s						
MDOK	**Medeo**	**2.03**	**288**	*e*P	**Pb**	**17 05 39.7**	**-1.3**
	baz=88						
MDOK				*e*S	**Sb**	**17 06 06.2**	**-0.2**
	baz=88						
MDOK	**Medeo**	**2.03**	**288**	*e*P	**Pb**	**17 05 39.6**	**-1.3**
	120nm,0.3s						
MDOK				*e*S	**Sb**	**17 06 06.2**	**-0.2**
	750nm,0.5s						
TNSS	**Tian-Shan**	**2.07**	**284**	Pg	**Pb**	**17 05 40.7**	**-1.1**
	179nm,0.2s						
TNSS				Lg	Lg	17 06 07.8	
	344nm,0.2s						
TNSS	**Tian-Shan**	**2.07**	**284**	*e*P	**Pb**	**17 05 40.7**	**-1.1**
	baz=84						
TNSS				*e*S	**Sb**	**17 06 07.7**	**0.0**
	baz=84						
TNSS	**Tian-Shan**	**2.07**	**284**	*e*P	**Pb**	**17 05 40.7**	**-1.1**
	179nm,0.2s						
TNSS				*e*S	**Sb**	**17 06 07.8**	**0.0**
	344nm,0.2s						
KNDC	**Almaty**	**2.10**	**289**	⇑Pg	**Pb**	**17 05 42.0**	**-0.2**
	102nm,0.3s						
KNDC				⇓Lg	Lg	17 06 10.0	
	2μm,0.6s						
AAA	**Alma-Ata**	**2.14**	**289**	Pg	**Pb**	**17 05 42.7**	**-0.1**
	280nm,0.5s						
AAA				Lg	Lg	17 06 10.8	
	1μm,0.6s						
AAA	**Alma-Ata**	**2.14**	**289**	*e*P	**Pb**	**17 05 42.7**	**-0.1**
	baz=88						
AAA				*e*S	**Sg**	**17 06 10.8**	**-1.8**
	baz=88						
AAA	**Alma-Ata**	**2.14**	**289**	*e*P	**Pb**	**17 05 42.7**	**-0.1**
	280nm,0.5s						
AAA				*e*S	**Sg**	**17 06 10.8**	**-1.8**
	1μm,0.6s						
ARXS	**Arharly**	**2.14**	**321**	Pg	**Pb**	**17 05 41.2**	**-1.5**
	136nm,0.2s						
ARXS				Lg	Lg	17 06 09.2	
	1μm,0.5s						
ARXS	**Arharly**	**2.14**	**321**	*e*P	**Pb**	**17 05 41.2**	**-1.5**
	136nm,0.2s						
ARXS				*e*S	**Sb**	**17 06 09.2**	**-0.2**
	1μm,0.5s						
IZV	**Izvestkoviy**	**2.31**	**283**	Pg	**Pb**	**17 05 44.7**	**-1.0**
	169nm,0.2s						
IZV				Lg	Lg	17 06 14.8	
	564nm,0.3s						
IZV	**Izvestkoviy**	**2.31**	**283**	*e*P	**Pb**	**17 05 44.8**	**-1.0**
	baz=83						
IZV				*e*S	**Sb**	**17 06 14.8**	**+0.4**
	baz=83						
IZV	**Izvestkoviy**	**2.31**	**283**	*e*P	**Pb**	**17 05 44.8**	**-1.0**
	169nm,0.2s						
IZV				*e*S	**Sb**	**17 06 14.8**	**+0.4**
	564nm,0.3s						
CHKK	**Chushkaly**	**2.36**	**304**	Pg	**Pb**	**17 05 45.4**	**-1.1**
	19nm,0.3s						
CHKK				Lg	Lg	17 06 15.6	
	882nm,0.4s						
CHKK	**Chushkaly**	**2.36**	**304**	*e*P	**Pb**	**17 05 45.4**	**-1.1**
	baz=4.0						
CHKK				*e*S	**Sb**	**17 06 15.6**	**-0.1**
	baz=4.0						
CHKK	**Chushkaly**	**2.36**	**304**	*e*P	**Pb**	**17 05 45.4**	**-1.1**
	19nm,0.3s						
CHKK				*e*S	**Sb**	**17 06 15.6**	**-0.1**
	882nm,0.4s						
MTBS	**Maitube**	**2.46**	**285**	Pg	**Pb**	**17 05 47.5**	**-0.8**
	144nm,0.4s						
MTBS				Lg	Lg	17 06 19.1	
	636nm,0.4s						
MTBS	**Maitube**	**2.46**	**285**	*e*P	**Pb**	**17 05 47.5**	**-0.8**
	baz=84						
MTBS				*e*S	**Sb**	**17 06 19.1**	**+0.4**
	baz=84						
MTBS	**Maitube**	**2.46**	**285**	*e*P	**Pb**	**17 05 47.5**	**-0.8**
	144nm,0.4s						
MTBS				*e*S	**Sb**	**17 06 19.1**	**+0.4**
	636nm,0.4s						
KTBS	**Karatobe**	**2.48**	**299**	Pg	**Pb**	**17 05 46.7**	**-1.9**
	28nm,0.2s						
KTBS				Lg	Lg	17 06 17.7	
	510nm,0.3s				

KUU	**Kurty**	**2.79**	**300**	*e*P	**Pb**	**17 05 52.0**	**-1.8**
	8.3nm,0.4s						
KUU				*e*S	**Sb**	**17 06 27.4**	**-0.6**
	328nm,0.3s						
DGS	**Degeres**	**2.96**	**285**	Pg	**Pb**	**17 05 55.4**	**-1.3**
	95nm,0.3s						
DGS				Lg	Lg	17 06 33.2	
	580nm,0.7s						
DGS	**Degeres**	**2.96**	**285**	*e*P	**Pb**	**17 05 55.4**	**-1.3**
	baz=85						
DGS				*e*S	**Sb**	**17 06 33.2**	**+0.3**
	baz=85						
DGS	**Degeres**	**2.96**	**285**	*e*P	**Pb**	**17 05 55.4**	**-1.3**
	95nm,0.3s						
DGS				*e*S	**Sb**	**17 06 33.2**	**+0.3**
	580nm,0.7s						
NRN	**Naryn**	**2.97**	**249**	⇑*i*P	**Pb**	**17 05 54.0**	**-3.1**
	baz=49						
NRN				⇑*i*S	**Sb**	**17 06 31.4**	**-2.1**
	baz=49						
TKM2	**Tokmak 2**	**3.03**	**278**	⇑Pg	**Pb**	**17 05 57.3**	**-0.8**
	27nm,0.4s						
TKM2				⇓Lg	Lg	17 06 37.9	
	223nm,0.6s						
TKM2	**Tokmak 2**	**3.03**	**278**	⇓*i*P	**Pb**	**17 05 54.5**	**-3.6**
	baz=78						
TKM2				⇓*i*S	**Sb**	**17 06 31.4**	**-3.9**
	baz=78						
KZA	**Kyzart**	**3.32**	**263**	⇑*i*P	**Pn**	**17 05 58.7**	**+2.4**
	baz=63						
KZA				⇑*i*S	**Sn**	**17 06 39.0**	**+2.9**
	baz=63						
KBK	**Karagaybulak**	**3.50**	**273**	⇑*i*P	**Pn**	**17 06 00.8**	**+2.3**
	baz=73						
KBK				⇑*i*S	**Sn**	**17 06 43.0**	**+2.9**
	baz=73						
CHMS	**Chumysh**	**3.66**	**279**	⇑*i*P	**Pn**	**17 06 03.1**	**+2.5**
	baz=78						
CHMS				⇑*i*S	**Sn**	**17 06 46.1**	**+2.3**
	baz=78						
FRU1	**Bishkek**	**3.73**	**276**	⇑*e*P	**Pn**	**17 06 03.9**	**+2.2**
	baz=75						
FRU1				⇑*e*S	**Sn**	**17 06 47.9**	**+2.2**
	baz=75						
SGDS	**Sogindy**	**3.81**	**285**	Pg	**Pb**	**17 06 10.2**	**-1.2**
	24nm,0.3s						
SGDS				Lg	Lg	17 06 58.0	
	57nm,0.6s						
AAK	**Ala-Archa**	**3.83**	**273**	⇑Pg	**Pb**	**17 06 12.5**	**+0.8**
	22nm,0.6s						
AAK				⇑Lg	Lg	17 07 03.1	
	89nm,0.5s						
AAK	**Ala-Archa**	**3.83**	**273**	⇑*i*P	**Pn**	**17 06 05.3**	**+2.2**
	baz=73						
AAK				⇑*e*S	**Sn**	**17 06 50.6**	**+2.3**
	baz=73						
USP	**Ospenovka**	**3.87**	**282**	⇓*i*P	**Pn**	**17 06 06.0**	**+2.4**
	baz=82						
USP				⇓*i*S	**Sn**	**17 06 51.7**	**+2.6**
	baz=82						
ARLS	**Aral**	**4.04**	**262**	⇓*i*P	**Pn**	**17 06 08.1**	**+2.1**
	baz=62						
ARLS				⇓*i*S	**Sn**	**17 06 55.6**	**+2.1**
	baz=62						
EKS2	**Erkin-Say**	**4.36**	**273**	⇑*i*P	**Pn**	**17 06 13.1**	**+2.8**
	baz=73						
EKS2				⇑*i*S	**Sn**	**17 07 03.6**	**+2.3**
	baz=73						
AML	**Almayashu**	**4.46**	**267**	⇑*i*P	**Pn**	**17 06 14.5**	**+2.6**
	baz=66						
AML				⇑*i*S	**Sn**	**17 07 06.3**	**+2.2**
	baz=66						
MAKZ	**Makanchi**	**4.55**	**20**	⇓Pn	**Pn**	**17 06 14.2**	**+1.4**
	5.1nm,0.2s						
MAKZ				⇓Lg	Lg	17 07 26.8	
	23nm,0.6s						
MK31	**Makanchi Array**	**4.62**	**23**	⇑Pn	**Pn**	**17 06 15.1**	**+1.3**
	2.0nm,0.2s,baz=101,slow=30,SNR=4.2						
MK31				⇑Lg	Lg	17 07 28.1	
	21nm,0.4s						
WMQ	**Urumqi**	**5.99**	**75**	*e*Pn	**Pn**	**17 06 33.8**	**+1.2**
WMQ				smax	smax		
	comp=N,130nm,1.1s						
WMQ				smax	smax		
	comp=E,160nm,0.7s						
KK31	**Karatay Array**	**6.77**	**278**	⇑Pg	Pb	17 07 05.8	+4.2
	7.9nm,0.6s,baz=95,slow=15,SNR=4.5						
KK31				⇓Lg	Lg	17 08 36.2	
	13nm,0.6s,baz=86,slow=25,SNR=5.1						

*SOME **28** 17:06:08.8,42°.55N×79°.53E,h0km*
*ISCJB **28** 17:06:09.9±1.2,42°.63N±0°.04×79°.75E±0°.05,h15km±8km,*
Error ellipse: s-maj=7.0km s-min=5.3km az=147.1
*KRNET **28** 17:06:09.5±0.1,42°.59N×79°.60E,h18km,mb4.3*
*BJI **28** 17:06:11.5,42°.53N×79°.65E,h8km,ML3.4/5*
ISC 28 17:06:08.8±1.6, 42°.55N±0°.05×79°.52E±0°.04, h5km±11km, n26,σ2s57°/52, 20C-12D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.61**	**356**	*e*P	**Pb**	**17 06 21.3**	**-0.8**
	baz=20						
SHLS				*e*S	**Sb**	**17 06 30.4**	**-0.7**
	baz=20						
SHLS	**Shalkode**	**0.61**	**356**	*e*P	**Pb**	**17 06 21.3**	**-0.8**
	800nm,0.2s						
SHLS				*e*S	**Sb**	**17 06 30.4**	**-0.7**
	5μm,0.3s						
UZB	**Uzynbulak**	**0.70**	**329**	*e*P	**Pg**	**17 06 22.8**	**+0.4**
	baz=23						
UZB				*e*S	**Sb**	**17 06 32.9**	**-0.9**
	baz=23						
UZB	**Uzynbulak**	**0.70**	**329**	*e*P	**Pg**	**17 06 22.8**	**+0.4**
	232nm,0.2s						
UZB				*e*S	**Sb**	**17 06 32.9**	**-0.9**
	2μm,0.3s						
PDGK	**Podgornoye**	**0.78**	**358**	⇑*i*P	**Pg**	**17 06 23.4**	**-0.5**
	baz=53						
PDGK				⇑*i*S	**Sg**	**17 06 34.0**	**0.0**
	baz=53						
PRZ	**Przheval'sk**	**0.83**	**266**	⇑*i*P	**Pb**	**17 06 26.1**	**+0.2**
	baz=64						
PRZ				⇑*i*S	**Sn**	**17 06 38.7**	**-1.5**
	baz=64						
SATY	**Saty**	**0.97**	**302**	*e*P	**Pb**	**17 06 28.0**	**-0.2**
	136nm,0.1s						
SATY				*e*S	**Sn**	**17 06 41.8**	**-1.6**
	2μm,0.2s						
KDJ	**Kajisay**	**1.79**	**257**	⇑*i*P	**Pg**	**17 06 43.7**	**+0.6**
	baz=56						
KDJ				⇑*i*S	**Sg**	**17 07 08.6**	**+2.3**
	baz=56						
MDOK	**Medeo**	**1.92**	**290**	*e*P	**Pg**	**17 06 45.0**	**-0.7**
	baz=88						
MDOK				*e*S	**Sg**	**17 07 10.9**	**+0.3**
	baz=88						
MDOK	**Medeo**	**1.92**	**290**	*e*P	**Pg**	**17 06 45.0**	**-0.7**
	79nm,0.1s						
MDOK				*e*S	**Sg**	**17 07 10.9**	**+0.3**
	499nm,0.5s						
TNSS	**Tian-Shan**	**1.96**	**285**	*e*P	**Pg**	**17 06 45.9**	**-0.5**
	baz=84						
TNSS				*e*S	**Sg**	**17 07 12.4**	**+0.6**
	baz=84						
TNSS	**Tian-Shan**	**1.96**	**285**	*e*P	**Pg**	**17 06 45.9**	**-0.5**
	178nm,0.2s						
TNSS				*e*S	**Sg**	**17 07 12.4**	**+0.6**
	445nm,0.3s						
ULHL	**Ulahol**	**2.45**	**264**	⇑*i*P	**Pb**	**17 06 53.3**	**-0.2**
	baz=63						
ULHL				⇑*i*S	**Sb**	**17 07 25.1**	**+1.0**
	baz=63						
BOOM	**Boomskoye usch**	**2.65**	**270**	⇓*i*P	**Pb**	**17 06 55.7**	**-1.2**
	baz=69						
BOOM				⇓*i*S	**Sb**	**17 07 30.1**	**+0.3**
	baz=69						
NRN	**Naryn**	**2.85**	**248**	⇓*i*P	**Pb**	**17 06 59.0**	**-1.4**
	baz=48						
NRN				⇓*i*S	**Sb**	**17 07 35.4**	**-0.4**
	baz=48						
TKM2	**Tokmak 2**	**2.92**	**279**	⇓*i*P	**Pb**	**17 06 59.7**	**-1.8**
	baz=78						
TKM2				⇓*i*S	**Sb**	**17 07 36.2**	**-1.3**
	baz=78						
KZA	**Kyzart**	**3.21**	**263**	⇑*e*P	**Pb**	**17 07 03.8**	**-2.7**
	baz=62						
KZA				⇑*i*S	**Sb**	**17 07 43.8**	**-2.2**
	baz=62						
KBK	**Karagaybulak**	**3.38**	**273**	⇑*i*P	**Pb**	**17 07 06.0**	**-3.3**
	baz=73						
KBK				⇑*i*S	**Sb**	**17 07 47.5**	**-3.3**
	baz=73						
CHMS	**Chumysh**	**3.54**	**279**	⇓*i*P	**Pn**	**17 07 07.7**	**+3.2**
	baz=78						
CHMS				⇓*i*S	**Sb**	**17 07 50.8**	**-4.5**
	baz=78						
FRU1	**Bishkek**	**3.62**	**276**	⇓*i*P	**Pn**	**17 07 09.0**	**+3.4**
	baz=75						
FRU1				⇓*i*S	**Sb**	**17 07 52.9**	**-4.6**
	baz=75						
AAK	**Ala-Archa**	**3.71**	**273**	⇑*i*P	**Pb**	**17 07 10.6**	**-4.4**
	baz=72						
AAK				⇑*i*S	**Sb**	**17 07 55.7**	**-4.7**
	baz=72						
UCH	**Uchtor**	**3.73**	**267**	⇑*i*P	**Pn**	**17 07 10.9**	**+3.5**
	baz=66						
UCH				⇑*i*S	**Sb**	**17 07 56.1**	**-4.9**
	baz=66						
USP	**Ospenovka**	**3.76**	**283**	⇓*i*P	**Pn**	**17 07 11.1**	**+3.6**
	baz=82						
USP				⇓*i*S	**Sn**	**17 07 56.0**	**+3.8**
	baz=82						
ARLS	**Aral**	**3.92**	**262**	⇑*i*P	**Pn**	**17 07 13.3**	**+3.4**
	baz=61						
ARLS				⇑*i*S	**Sb**	**17 08 01.0**	**-5.4**
	baz=61						
AML	**Almayashu**	**4.34**	**266**	⇑*i*P	**Pn**	**17 07 19.6**	**+3.8**
	baz=66						
AML				⇑*i*S	**Sn**	**17 08 11.0**	**+4.0**
	baz=66						
WMQ	**Urumqi**	**6.11**	**75**	*e*Pn	**Pn**	**17 07 39.5**	**-0.3**
WMQ				Sn	**Sn**	**17 08 46.0**	**-4.1**

*KRNET **28** 17:08:18.0±0.1,42°.48N×79°.92E,mb3.5*
*SOME **28** 17:08:20.5,42°.47N×79°.55E,h15km*
ISC 28 17:08:20.2±2.8, 42°.50N±0°.09×79°.6E±0°.1, h3km±14km, n8, σ1s80°/16, 10C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.67**	**352**	*e*P	**Pg**	**17 08 33.8**	**+0.8**
	164nm,0.1s						
SHLS				*e*S	**Sg**	**17 08 43.4**	**+1.8**
	349nm,0.3s						
UZB	**Uzynbulak**	**0.77**	**328**	*e*P	**Pg**	**17 08 34.9**	**-0.1**
	30nm,0.1s						
UZB				*e*S	**Sg**	**17 08 45.2**	**+0.2**
	104nm,0.2s						
PDGK	**Podgornoye**	**0.83**	**355**	⇓*i*P	**Pg**	**17 08 35.5**	**-0.7**
	baz=40						
PDGK				⇓*i*S	**Sg**	**17 08 47.8**	**+0.8**
	baz=40						
PRZ	**Przheval'sk**	**0.88**	**269**	⇑*i*P	**Pn**	**17 08 39.5**	**-0.1**
	baz=71						
PRZ				⇑*i*S	**Sn**	**17 08 54.3**	**+1.3**
	baz=71						
KDJ	**Kajisay**	**1.82**	**259**	⇑*i*P	**Pg**	**17 08 55.7**	**+0.6**
	baz=61						
KDJ				⇑*i*S	**Sg**	**17 09 22.8**	**+4.0**
	baz=61						
ULHL	**Ulahol**	**2.49**	**265**	⇑*i*P	**Pb**	**17 09 04.7**	**-1.0**
	baz=66						
ULHL				⇑*i*S	**Sg**	**17 09 39.2**	**-1.1**
	baz=66						
BOOM	**Boomskoye usch**	**2.70**	**271**	⇑*i*P	**Pb**	**17 09 07.8**	**-1.4**
	baz=72						
BOOM				⇑*i*S	**Sg**	**17 09 44.4**	**-2.4**
	baz=72						
TKM2	**Tokmak 2**	**2.97**	**280**	⇑*i*P	**Pb**	**17 09 11.8**	**-2.1**
	baz=79						
TKM2				⇑*i*S	**Sb**	**17 09 51.7**	**+1.0**
	baz=79						

*IDC **28** 17:09:18.0±2.5,42°.50N×79°.64E,h0km,mb1 3.6/4,*
mb1mx3.3/48,mbtmp3.6/4,ML3.5/4,Error ellipse:
s-maj=36.9km s-min=10.9km az=152.0
*BJI **28** 17:09:20.5,42°.62N×79°.46E,h11km,ML3.6/8*
*SOME **28** 17:09:20.3,42°.53N×79°.57E,h10km*
*KRNET **28** 17:09:21.0±0.1,42°.58N×79°.60E,h21km,mb4.0*
*NNC **28** 17:09:21.2±0.9,42°.61N×79°.60E,h0km,mb4.7,mpv4.4,*
Error ellipse: s-maj=5.8km s-min=3.5km az=133.0
ISC 28 17:09:21.6±1.5, 42°.60N±0°.04×79°.63E±0°.04, h5km±10km, n54,σ1s20°/87, 40C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.57**	**348**	P	**Pg**	**17 09 33.2**	**+0.5**
	3μm,0.1s						
SHLS				S	**Sb**	**17 09 42.6**	**-0.2**
	9μm,0.2s						
SHLS	**Shalkode**	**0.57**	**348**	*e*P	**Pg**	**17 09 33.1**	**+0.5**
	baz=20						
SHLS				*e*S	**Sb**	**17 09 42.2**	**-0.5**
	baz=20						
SHLS	**Shalkode**	**0.57**	**348**	*e*P	**Pg**	**17 09 33.1**	**+0.5**
	3μm,0.1s						
SHLS				*e*S	**Sb**	**17 09 42.3**	**-0.5**
	9μm,0.2s						
UZB	**Uzynbulak**	**0.71**	**321**	P	**Pg**	**17 09 34.5**	**-0.7**
	537nm,0.1s						
UZB				S	**Sg**	**17 09 44.5**	**+0.2**
	1μm,0.2s						
UZB	**Uzynbulak**	**0.71**	**321**	*e*P	**Pg**	**17 09 34.4**	**-0.7**
	baz=23						
UZB				*e*S	**Sg**	**17 09 44.6**	**+0.2**
	baz=23						
UZB	**Uzynbulak**	**0.71**	**321**	*e*P	**Pg**	**17 09 34.4**	**-0.7**
	537nm,0.2s						
UZB				*e*S	**Sg**	**17 09 44.6**	**+0.2**
	1μm,0.2s						
PDGK	**Podgornoye**	**0.74**	**352**	P	**Pg**	**17 09 35.1**	**-0.6**
	57nm,0.2s						
PDGK				S	**Sg**	**17 09 45.8**	**+0.5**
	961nm,0.2s						
PDGK	**Podgornoye**	**0.74**	**352**	⇑P	**Pg**	**17 09 35.0**	**-0.8**
	54nm,0.5s						
PDGK				⇑S	**Sg**	**17 09 45.3**	**-0.1**
	656nm,0.3s						
PDGK	**Podgornoye**	**0.74**	**352**	⇑*i*P	**Pg**	**17 09 35.1**	**-0.6**
	baz=54						
PDGK				⇑*i*S	**Sg**	**17 09 45.8**	**+0.5**
	baz=54						
PRZ	**Przheval'sk**	**0.92**	**263**	⇑*i*P	**Pg**	**17 09 37.6**	**-1.5**
	baz=64						
PRZ				⇑*i*S	**Sg**	**17 09 50.3**	**-0.7**
	baz=64						
KTMS	**Ketmen**	**1.00**	**32**	P	**Pg**	**17 09 39.7**	**-1.1**
	196nm,0.1s						
KTMS				S	**Sg**	**17 09 53.6**	**-0.2**
	646nm,0.3s						
SATY	**Saty**	**1.01**	**298**	*e*P	**Pg**	**17 09 39.8**	**-1.1**
	82nm,0.1s						
SATY				*e*S	**Sg**	**17 09 53.8**	**-0.3**
	778nm,0.1s						
KURS	**Kuram**	**1.39**	**310**	P	**Pn**	**17 09 46.5**	**-1.3**
	160nm,0.3s						
KURS				S	**Sb**	**17 10 05.4**	**-0.8**
	432nm,0.5s						
MNBS	**Baschi**	**1.73**	**329**	P	**Pn**	**17 09 52.6**	**+0.2**
	147nm,0.1s						
MNBS				S	**Sb**	**17 10 16.1**	**+0.1**
	1μm,0.3s						
KDJ	**Kajisay**	**1.87**	**256**	⇑*i*P	**Pn**	**17 09 54.8**	**+0.3**
	baz=57						
KDJ				⇑*i*S	**Sn**	**17 10 19.3**	**+0.6**
	baz=57						
KOTS	**Kotyrbulak**	**1.95**	**290**	Pg	**Pn**	**17 09 56.2**	**+0.6**
KOTS				Lg	Lg	17 10 23.3	
MDOK	**Medeo**	**1.98**	**287**	*e*P	**Pn**	**17 09 56.0**	**+0.1**
	baz=88						
MDOK				*e*S	**Sn**	**17 10 21.8**	**+0.6**
	baz=88						
MDOK	**Medeo**	**1.98**	**287**	*e*P	**Pn**	**17 09 56.0**	**+0.1**
	144nm,0.3s						
MDOK				*e*S	**Sn**	**17 10 21.8**	**+0.6**
	338nm,0.4s						
TNSS	**Tian-Shan**	**2.02**	**283**	Pg	**Pn**	**17 09 56.8**	**+0.1**
	170nm,0.3s						
TNSS				Lg	Lg	17 10 24.1	
	561nm,0.3s						
TNSS	**Tian-Shan**	**2.02**	**283**	*e*P	**Pn**	**17 09 56.8**	**+0.1**
	baz=84						
TNSS				*e*S	**Sb**	**17 10 23.4**	**-1.3**
	baz=84						
TNSS	**Tian-Shan**	**2.02**	**283**	*e*P	**Pn**	**17 09 56.8**	**+0.1**
	167nm,0.3s						
TNSS				*e*S	**Sb**	**17 10 23.4**	**-1.3**
	265nm,0.2s						
KNDC	**Almaty**	**2.05**	**288**	⇑Pn	**Pn**	**17 09 58.0**	**+1.2**
	202nm,0.3s						
KNDC				⇑Lg	Lg	17 10 26.8	
	584nm,0.7s						
ARXS	**Arharly**	**2.08**	**321**	Pg	**Pn**	**17 09 57.8**	**+0.5**
	167nm,0.4s						
ARXS				Lg	Lg	17 10 26.2	
	816nm,0.4s						
AAA	**Alma-Ata**	**2.08**	**288**	Pg	**Pb**	**17 09 59.1**	**-0.9**
	477nm,0.2s						
AAA				Lg	Lg	17 10 26.8	
	373nm,0.3s						
IZV	**Izvestkoviy**	**2.26**	**282**	Pg	**Pn**	**17 10 01.3**	**+1.5**
	313nm,0.3s						
IZV				Lg	Lg	17 10 30.7	
	390nm,0.6s						
CHKK	**Chushkaly**	**2.30**	**304**	Pg	**Pb**	**17 10 02.2**	**-1.4**
	172nm,0.2s						
CHKK				Lg	Lg	17 10 32.5	
	249nm,0.3s						
KTBS	**Karatobe**	**2.43**	**298**	Pg	**Pn**	**17 10 02.7**	**+0.7**
KTBS				Lg	Lg	17 10 34.4	
ULHL	**Ulahol**	**2.53**	**263**	⇑*i*P	**Pn**	**17 10 04.1**	**+0.5**
	baz=64						
ULHL				⇑*i*S	**Sn**	**17 10 35.6**	**+0.7**
	baz=64						
BOOM	**Boomskoye usch**	**2.73**	**269**	⇑*i*P	**Pn**	**17 10 06.6**	**+0.4**
	baz=69						
BOOM				⇑*i*S	**Sn**	**17 10 40.7**	**+1.0**
	baz=69						
DGS	**Degeres**	**2.90**	**284**	Pg	**Pb**	**17 10 11.7**	**-2.3**
DGS				Lg	Lg	17 10 49.8	
NRN	**Naryn**	**2.94**	**248**	⇑*i*P	**Pn**	**17 10 10.2**	**+0.8**
	baz=48						
NRN				⇑*i*S	**Sn**	**17 10 45.9**	**+0.7**
	baz=48						
TKM2	**Tokmak 2**	**2.99**	**278**	⇑Pn	**Pn**	**17 10 11.9**	**+2.1**
	69nm,0.7s						
TKM2				⇓Lg	Lg	17 10 55.8	
	61nm,0.3s						
TKM2	**Tokmak 2**	**2.99**	**278**	⇑*i*P	**Pn**	**17 10 10.5**	**+0.7**
	baz=78						
TKM2				⇑*i*S	**Sn**	**17 10 46.9**	**+0.8**
	baz=78						
KZA	**Kyzart**	**3.29**	**262**	⇑*e*P	**Pn**	**17 10 14.8**	**+0.6**
	baz=63						
KZA				⇑*i*S	**Sn**	**17 10 54.1**	**+0.2**
	baz=63						
KBK	**Karagaybulak**	**3.45**	**273**	⇑*i*P	**Pn**	**17 10 16.7**	**+0.5**
	baz=73						
KBK				⇑*i*S	**Sn**	**17 10 58.0**	**+0.4**
	baz=73						
CHMS	**Chumysh**	**3.61**	**278**	⇑*i*P	**Pn**	**17 10 19.1**	**+0.8**
	baz=78						
CHMS				⇑*i*S	**Sn**	**17 11 01.5**	**+0.2**
	baz=78						
FRU1	**Bishkek**	**3.69**	**275**	⇑*i*P	**Pn**	**17 10 20.6**	**+1.2**
	baz=75						
FRU1				⇑*i*S	**Sn**	**17 11 03.6**	**+0.3**
	baz=75						
AAK	**Ala-Archa**	**3.79**	**272**	Pn	**Pn**	**17 10 20.5**	**-0.3**
	1.7nm,0.3s,baz=90,slow=15,SNR=3.0						
AAK				Pg	**Pb**	**17 10 29.4**	**+0.3**
	9.1nm,0.3s,baz=106,slow=11,SNR=14						
AAK				Lg	Lg	17 11 16.3	
	23nm,0.3s,baz=290,slow=19,SNR=10						
AAK	**Ala-Archa**	**3.79**	**272**	⇓Pg	**Pb**	**17 10 29.3**	**+0.3**
	23nm,0.5s						
AAK				⇓Lg	Lg	17 11 20.1	
	57nm,0.5s						
AAK	**Ala-Archa**	**3.79**	**272**	⇑*i*P	**Pn**	**17 10 21.6**	**+0.8**
	baz=73						
AAK				⇑*i*S	**Sn**	**17 11 06.0**	**+0.1**
	baz=73						
ARLS	**Aral**	**4.01**	**261**	⇑*i*P	**Pn**	**17 10 24.1**	**+0.3**
	baz=62						
ARLS				⇑*i*S	**Sn**	**17 11 11.4**	**+0.1**
	baz=62						
EKS2	**Erkin-Say**	**4.32**	**273**	⇓*i*P	**Pn**	**17 10 28.9**	**+0.8**
	baz=73						
EKS2				⇓*i*S	**Sn**	**17 11 18.8**	**-0.1**
	baz=73						
AML	**Almayashu**	**4.42**	**266**	⇓*i*P	**Pn**	**17 10 30.5**	**+0.8**
	baz=66						
AML				⇓*i*S	**Sn**	**17 11 21.2**	**-0.6**
	baz=66						
MAKZ	**Makanchi**	**4.53**	**21**	⇑Pn	**Pn**	**17 10 31.8**	**+0.9**
	5.0nm,0.1s						
MAKZ				⇓Lg	Lg	17 11 45.3	
	16nm,0.8s						
MK31	**Makanchi Array**	**4.60**	**23**	⇑Pn	**Pn**	**17 10 32.2**	**+0.3**
	2.2nm,0.2s,baz=207,slow=13,SNR=35						
MK31				⇑Pg	**Pb**	**17 10 44.7**	**+1.9**
	2.1nm,0.2s,baz=194,slow=15,SNR=6.2						
MK31				⇑Lg	Lg	17 11 46.7	
	24nm,0.8s,baz=206,slow=26,SNR=8.3						
MKAR	**Makanchi Array**	**4.60**	**23**	Pn	**Pn**	**17 10 32.0**	**+0.2**
	8.4nm,0.3s,baz=213,slow=15,SNR=18						
MKAR				Pg	**Pb**	**17 10 46.4**	**+3.5**
	3.6nm,0.3s,baz=192,slow=15,SNR=5.6						
MKAR				Sn	**Sn**	**17 11 26.9**	**+1.2**
	4.1nm,0.3s,baz=202,slow=26,SNR=3.5						
MKAR				Lg	Lg	17 11 47.0	
	4.8nm,0.3s,baz=209,slow=24,SNR=5.2						
MNAS	**Manas**	**5.26**	**271**	⇑Pg	**Pb**	**17 10 57.4**	**+3.2**
	17nm,1.3s						
MNAS				⇑Lg	Lg	17 12 07.8	
	19nm,0.5s						
SFK	**Sufi-Kurgan**	**5.29**	**243**	⇑Pg	**Pb**	**17 10 59.1**	**+4.4**
	9.9nm,0.6s						
SFK				⇓Lg	Lg	17 12 10.2	
	58nm,1.0s						
WMQ	**Urumqi**	**6.02**	**76**	*e*Pn	**Pn**	**17 10 52.0**	**+0.6**
WMQ				smax	smax		
	comp=N,130nm,1.1s						
WMQ				smax	smax		
	comp=E,160nm,0.7s						
KK31	**Karatay Array**	**6.72**	**277**	⇑Pg	**Pb**	**17 11 23.1**	**+4.2**
	3.3nm,0.5s,baz=90,slow=17,SNR=5.2						
KK31				⇑Lg	Lg	17 12 54.6	
	8.8nm,0.6s,baz=85,slow=28,SNR=4.8						
KURBB	**Kurchatov Arra**	**8.06**	**355**	Lg	Lg	17 13 34.0	
	0.7nm,0.3s,baz=174,slow=29,SNR=7.6						
ZALV	**Zalesovo Beam**	**11.87**	**15**	Pn	**Pn**	**17 12 10.8**	**-0.6**
	0.4nm,0.3s,baz=200,slow=15,SNR=2.8						
BVAR	**Borovoye Array**	**12.13**	**333**	Lg	Lg	17 15 41.3	
	0.4nm,0.3s,baz=147,slow=27,SNR=3.9						
SONM	**Songino Array**	**19.52**	**65**	P	**P**	**17 13 46.9**	**-3.0**
	0.2nm,0.3s,baz=261,slow=12,SNR=3.3						

KRNET 28 17:10:27.2±0.1, 42°.59N×79°.65E, h16km, mb3.7, 6C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**0.75**	**351**	⇓*i*P	Pg	17 10 41.7	-0.1
	baz=51						
PDGK				⇓*i*S	Sb	17 10 52.3	+0.4
	baz=51						
PRZ	**Przheval'sk**	**0.93**	**264**	⇑*i*P	Pg	17 10 45.1	-0.1
	baz=64						
PRZ				⇑*i*S	Sg	17 10 57.9	+0.5
	baz=64						
KDJ	**Kajisay**	**1.88**	**257**	⇓*i*P	Pb	17 11 02.2	+0.9
	baz=57						
KDJ				⇓*i*

*SOME **28** 17:12:20.9, 42°.55N×79°.67E, h20km*
*KRNET **28** 17:12:20.9±0.1, 42°.55N×79°.71E, h18km, mb4.6*
*BJI **28** 17:12:21.0, 42°.64N×79°.54E, h6km, ML3.8/9*
*NNC **28** 17:12:21.4±0.7, 42°.60N×79°.64E, h0km, mb4.9, mpv4.5, Error ellipse: s-maj=4.5km s-min=2.6km az=133.0*

ISC 28 17:12:23.0±1.2, 42.72N±0.03×79.68E±0.03, h10km±8km, n95, σ1§58/151, 44C-12D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.46**	**340**	P	**Pb**	**17 12 33.5**	**+0.2**
	2μm,0.2s						
SHLS				S	**Sb**	**17 12 42.8**	**+2.5**
	4μm,0.2s						
SHLS	**Shalkode**	**0.46**	**340**	*e*P	**Pb**	**17 12 33.6**	**+0.2**
	baz=12						
SHLS				*e*S	**Sb**	**17 12 42.8**	**+2.5**
	baz=12						
SHLS	**Shalkode**	**0.46**	**340**	*e*P	**Pb**	**17 12 33.5**	**+0.2**
	2μm,0.2s						
SHLS				*e*S	**Sb**	**17 12 42.8**	**+2.5**
	4μm,0.2s						
PDGK	**Podgornoye**	**0.62**	**347**	P	**Pb**	**17 12 35.8**	**-0.2**
	74nm,0.2s						
PDGK				S	**Sb**	**17 12 46.3**	**+1.4**
	467nm,0.3s						
PDGK	**Podgornoye**	**0.62**	**347**	⇑P	**Pb**	**17 12 35.6**	**-0.4**
	86nm,0.5s						
PDGK				⇓S	**Sb**	**17 12 46.1**	**+1.2**
	3μm,0.7s						
PDGK	**Podgornoye**	**0.62**	**347**	⇑*i*P	**Pb**	**17 12 35.6**	**-0.4**
	baz=48						
PDGK				⇑*i*S	**Sb**	**17 12 46.8**	**+1.9**
	baz=48						
UZB	**Uzynbulak**	**0.64**	**312**	P	**Pg**	**17 12 35.5**	**0.0**
	922nm,0.3s						
UZB				S	**Sb**	**17 12 45.6**	**+0.1**
	4μm,0.4s						
UZB	**Uzynbulak**	**0.64**	**312**	*e*P	**Pg**	**17 12 35.5**	**0.0**
	baz=20						
UZB				*e*S	**Sb**	**17 12 46.6**	**+1.1**
	baz=20						
UZB	**Uzynbulak**	**0.64**	**312**	*e*P	**Pg**	**17 12 35.5**	**0.0**
	922nm,0.3s						
UZB				*e*S	**Sb**	**17 12 45.6**	**+0.1**
	4μm,0.4s						
KTMS	**Ketmen**	**0.88**	**34**	P	**Pb**	**17 12 40.0**	**-0.4**
	152nm,0.1s						
KTMS				S	**Sn**	**17 12 53.5**	**-0.9**
	816nm,0.3s						
KTMS	**Ketmen**	**0.88**	**34**	*e*P	**Pb**	**17 12 40.0**	**-0.4**
	baz=27						
KTMS				*e*S	**Sn**	**17 12 53.5**	**-0.9**
	baz=27						
KTMS	**Ketmen**	**0.88**	**34**	*e*P	**Pb**	**17 12 40.0**	**-0.4**
	152nm,0.1s						
KTMS				*e*S	**Sn**	**17 12 53.5**	**-0.9**
	816nm,0.3s						
PRZ	**Przheval'sk**	**0.97**	**256**	⇑*i*P	**Pg**	**17 12 39.2**	**-2.5**
	baz=67						
PRZ				⇑*i*S	**Sg**	**17 12 52.4**	**-2.0**
	baz=67						
SATY	**Saty**	**0.99**	**290**	P	**Pg**	**17 12 40.5**	**-1.6**
	345nm,0.3s						
SATY				S	**Sg**	**17 12 54.9**	**-0.2**
	2μm,0.3s						
SATY	**Saty**	**0.99**	**290**	*e*P	**Pg**	**17 12 40.5**	**-1.6**
	345nm,0.3s						
SATY				*e*S	**Sg**	**17 12 54.9**	**-0.2**
	2μm,0.3s						
DJR	**Jarkent**	**1.61**	**3**	P	**Pg**	**17 12 53.3**	**-0.7**
	186nm,0.2s						
DJR				S	**Sg**	**17 13 17.0**	**+2.1**
	543nm,0.3s						
DJR	**Jarkent**	**1.61**	**3**	*e*P	**Pg**	**17 12 53.3**	**-0.7**
	186nm,0.2s						
DJR				*e*S	**Sg**	**17 13 17.0**	**+2.1**
	543nm,0.3s						
MNBS	**Baschi**	**1.65**	**326**	P	**Pb**	**17 12 53.5**	**+0.1**
	175nm,0.2s						
MNBS				S	**Sg**	**17 13 16.8**	**+0.9**
	2μm,0.5s						
MNBS	**Baschi**	**1.65**	**326**	*e*P	**Pb**	**17 12 53.5**	**+0.1**
	175nm,0.2s						
MNBS				*e*S	**Sg**	**17 13 16.8**	**+0.9**
	2μm,0.5s						
KDJ	**Kajisay**	**1.94**	**253**	⇓*i*P	**Pn**	**17 12 55.8**	**-0.3**
	baz=58						
KDJ				⇓*i*S	**Sn**	**17 13 21.7**	**+1.1**
	baz=58						
KOTS	**Kotyrbulak**	**1.95**	**286**	Pg	**Pb**	**17 12 58.1**	**-0.6**
	442nm,0.2s						
KOTS				Lg	Lg	17 13 25.3	
	2μm,0.3s						
KOTS	**Kotyrbulak**	**1.95**	**286**	*e*P	**Pb**	**17 12 58.1**	**-0.6**
	baz=91						
KOTS				*e*S	**Sg**	**17 13 25.3**	**-0.4**
	baz=91						
KOTS	**Kotyrbulak**	**1.95**	**286**	*e*P	**Pb**	**17 12 58.1**	**-0.6**
	442nm,0.2s						
KOTS				*e*S	**Sg**	**17 13 25.3**	**-0.4**
	2μm,0.3s						
MDOK	**Medeo**	**1.98**	**284**	Pg	**Pn**	**17 12 57.3**	**+0.7**
	377nm,0.3s						
MDOK				Lg	Lg	17 13 23.8	
	725nm,0.5s						
MDOK	**Medeo**	**1.98**	**284**	*e*P	**Pn**	**17 12 57.3**	**+0.7**
	377nm,0.3s						
MDOK				*e*S	**Sb**	**17 13 23.8**	**-0.1**
	725nm,0.5s						
ARXS	**Arharly**	**2.01**	**319**	Pg	**Pb**	**17 12 59.1**	**-0.5**
	275nm,0.4s						
ARXS				Lg	Lg	17 13 27.1	
	2μm,0.7s						
ARXS	**Arharly**	**2.01**	**319**	*e*P	**Pb**	**17 12 59.1**	**-0.5**
	275nm,0.4s						
ARXS				*e*S	**Sg**	**17 13 27.1**	**-0.5**
	2μm,0.7s						
TNSS	**Tian-Shan**	**2.03**	**280**	Pg	**Pn**	**17 12 58.0**	**+0.4**
	432nm,0.2s						
TNSS				Lg	Lg	17 13 25.2	
	848nm,0.3s						
TNSS	**Tian-Shan**	**2.03**	**280**	*e*P	**Pn**	**17 12 58.0**	**+0.4**
	432nm,0.2s						
TNSS				*e*S	**Sn**	**17 13 25.2**	**+2.0**
	848nm,0.3s						
KNDC	**Almaty**	**2.05**	**285**	⇑Pn	**Pn**	**17 12 58.3**	**+0.7**
	434nm,0.6s						
KNDC				⇑Lg	Lg	17 13 27.7	
	2μm,0.8s						
AAA	**Alma-Ata**	**2.09**	**284**	Pg	**Pb**	**17 13 00.2**	**-0.7**
	704nm,0.2s						
AAA				Lg	Lg	17 13 28.6	
	1μm,0.4s						
AAA	**Alma-Ata**	**2.09**	**284**	*e*P	**Pb**	**17 13 00.2**	**-0.7**
	baz=89						
AAA				*e*S	**Sb**	**17 13 28.6**	**+1.7**
	baz=89						
AAA	**Alma-Ata**	**2.09**	**284**	*e*P	**Pb**	**17 13 00.2**	**-0.7**
	704nm,0.2s						
AAA				*e*S	**Sb**	**17 13 28.6**	**+1.7**
	1μm,0.4s						
CHKK	**Chushkaly**	**2.27**	**301**	Pg	**Pb**	**17 13 03.4**	**-0.5**
	204nm,0.2s						
CHKK				Lg	Lg	17 13 33.6	
	921nm,0.2s						
CHKK	**Chushkaly**	**2.27**	**301**	*e*P	**Pb**	**17 13 03.5**	**-0.5**
	baz=4.0						
CHKK				*e*S	**Sb**	**17 13 33.6**	**+1.5**
	baz=4.0						
CHKK	**Chushkaly**	**2.27**	**301**	*e*P	**Pb**	**17 13 03.5**	**-0.5**
	204nm,0.2s						
CHKK				*e*S	**Sb**	**17 13 33.6**	**+1.5**
	921nm,0.2s						
IZV	**Izvestkoviy**	**2.27**	**279**	Pg	**Pn**	**17 13 02.3**	**+1.6**
	315nm,0.1s						
IZV				Lg	Lg	17 13 32.5	
	912nm,0.2s						
IZV	**Izvestkoviy**	**2.27**	**279**	*e*P	**Pn**	**17 13 02.3**	**+1.6**
	baz=83						
IZV				*e*S	**Sb**	**17 13 32.5**	**+0.1**
	baz=83						
IZV	**Izvestkoviy**	**2.27**	**279**	*e*P	**Pn**	**17 13 02.3**	**+1.6**
	315nm,0.1s						
IZV				*e*S	**Sb**	**17 13 32.5**	**+0.1**
	912nm,0.2s						
KTBS	**Karatobe**	**2.40**	**295**	Pg	**Pb**	**17 13 05.2**	**-1.1**
	94nm,0.2s						
KTBS				Lg	Lg	17 13 37.0	
	1μm,0.2s						
KTBS	**Karatobe**	**2.40**	**295**	*e*P	**Pb**	**17 13 05.2**	**-1.1**
	94nm,0.2s						
KTBS				*e*S	**Sb**	**17 13 37.0**	**+1.0**
	1μm,0.2s						
MTBS	**Maitube**	**2.42**	**281**	Pg	**Pb**	**17 13 05.1**	**-1.6**
	352nm,0.3s						
MTBS				Lg	Lg	17 13 36.8	
	1μm,0.4s						
MTBS	**Maitube**	**2.42**	**281**	*e*P	**Pb**	**17 13 05.1**	**-1.6**
	352nm,0.3s						
MTBS				*e*S	**Sb**	**17 13 36.8**	**+0.2**
	1μm,0.4s						
KAPS	**Kapalarasan**	**2.58**	**355**	Pg	**Pb**	**17 13 09.8**	**+0.6**
	37nm,0.2s						
KAPS				Lg	Lg	17 13 45.1	
	1μm,0.5s						
KAPS	**Kapalarasan**	**2.58**	**355**	*e*P	**Pb**	**17 13 09.8**	**+0.6**
	37nm,0.2s						
KAPS				*e*S	**Sg**	**17 13 45.1**	**-0.6**
	1μm,0.5s						
ULHL	**Ulahol**	**2.58**	**261**	P	**Pb**	**17 13 08.0**	**-1.6**
	SNR=24						
ULHL	**Ulahol**	**2.58**	**261**	⇓*i*P	**Pn**	**17 13 04.7**	**-0.3**
	baz=64						
ULHL				⇓*i*S	**Sn**	**17 13 37.5**	**+0.9**
	baz=64						
KUU	**Kurty**	**2.70**	**297**	Pg	**Pb**	**17 13 10.1**	**-1.3**
	64nm,0.2s						
KUU				Lg	Lg	17 13 45.3	
	494nm,0.3s						
KUU	**Kurty**	**2.70**	**297**	*e*P	**Pb**	**17 13 10.1**	**-1.3**
	64nm,0.2s						
KUU				*e*S	**Sb**	**17 13 45.3**	**+0.6**
	494nm,0.3s						
BOOM	**Boomskoye usch**	**2.77**	**266**	⇑*i*P	**Pn**	**17 13 07.9**	**+0.4**
	baz=70						
BOOM				⇑*i*S	**Sn**	**17 13 42.6**	**+1.5**
	baz=70						
DGS	**Degeres**	**2.91**	**282**	Pg	**Pb**	**17 13 13.2**	**-1.9**
	189nm,0.3s						
DGS				Lg	Lg	17 13 51.2	
	990nm,0.5s						
DGS	**Degeres**	**2.91**	**282**	*e*P	**Pb**	**17 13 13.2**	**-1.9**
	189nm,0.3s						
DGS				*e*S	**Sb**	**17 13 51.2**	**+0.5**
	990nm,0.5s						
TKM2	**Tokmak 2**	**3.01**	**275**	P	**Pn**	**17 13 12.3**	**+1.5**
	SNR=18						
TKM2	**Tokmak 2**	**3.01**	**275**	⇓Pn	**Pn**	**17 13 11.5**	**+0.6**
	87nm,0.6s						
TKM2				⇑Lg	Lg	17 13 56.8	
	442nm,0.6s						
TKM2	**Tokmak 2**	**3.01**	**275**	⇓*i*P	**Pn**	**17 13 11.4**	**+0.6**
	baz=78						
TKM2				⇓*i*S	**Sn**	**17 13 49.2**	**+2.2**
	baz=78						
NRN	**Naryn**	**3.02**	**246**	⇑*i*P	**Pn**	**17 13 10.7**	**-0.5**
	baz=49						
NRN				⇑*i*S	**Sn**	**17 13 47.5**	**-0.1**
	baz=49						
KZA	**Kyzart**	**3.34**	**260**	P	**Pn**	**17 13 19.1**	**+3.5**
	SNR=15						
KZA	**Kyzart**	**3.34**	**260**	⇑*i*P	**Pn**	**17 13 15.7**	**+0.1**
	baz=63						
KZA				⇑*i*S	**Sn**	**17 13 56.1**	**+0.6**
	baz=63						
KBK	**Karagaybulak**	**3.49**	**271**	P	**Pn**	**17 13 18.3**	**+0.9**
	SNR=9.3						
KBK	**Karagaybulak**	**3.49**	**271**	⇑*i*P	**Pn**	**17 13 17.8**	**+0.4**
	baz=73						
KBK				⇑*i*S	**Sn**	**17 13 59.9**	**+1.1**
	baz=73						
CHMS	**Chumysh**	**3.63**	**276**	P	**Pb**	**17 13 24.3**	**-2.9**
	SNR=15						
CHMS	**Chumysh**	**3.63**	**276**	⇑*e*P	**Pn**	**17 13 20.1**	**+0.8**
	baz=79						
CHMS				⇑*e*S	**Sn**	**17 14 03.4**	**+1.2**
	baz=79						
FRU1	**Bishkek**	**3.72**	**273**	⇑*e*P	**Pn**	**17 13 21.1**	**+0.6**
	baz=76						
FRU1				⇑*i*S	**Sn**	**17 14 05.6**	**+1.3**
	baz=76						
SGDS	**Sogindy**	**3.77**	**283**	Pg	**Pb**	**17 13 27.8**	**-1.8**
	43nm,0.3s						
SGDS				Lg	Lg	17 14 15.9	
	140nm,0.4s						
AAK	**Ala-Archa**	**3.82**	**271**	Pn	**Pn**	**17 13 21.9**	**0.0**
	5.1nm,0.3s,baz=94,slow=15,SNR=10						
AAK				Pg	**Pb**	**17 13 31.1**	**+0.5**
	27nm,0.3s,baz=96,slow=14,SNR=23						
AAK	**Ala-Archa**	**3.82**	**271**	P	**Pn**	**17 13 24.3**	**+2.3**
	SNR=6.4						
AAK	**Ala-Archa**	**3.82**	**271**	⇑Pn	**Pn**	**17 13 22.5**	**+0.5**
	6.1nm,0.3s						
AAK				⇑Pg	**Pb**	**17 13 30.8**	**+0.2**
	60nm,0.8s						
AAK				⇓Lg	Lg	17 14 22.6	
	168nm,0.8s						
AAK	**Ala-Archa**	**3.82**	**271**	⇑*e*P	**Pn**	**17 13 22.4**	**+0.5**
	baz=73						
AAK				⇑*i*S	**Sn**	**17 14 08.3**	**+1.3**
	baz=73						
USP	**Ospenovka**	**3.84**	**280**	P	**Pn**	**17 13 23.9**	**+1.8**
	SNR=6.9						
USP	**Ospenovka**	**3.84**	**280**	⇑*e*P	**Pn**	**17 13 22.9**	**+0.8**
	baz=82						
USP				⇑*e*S	**Sn**	**17 14 08.7**	**+1.5**
	baz=82						
UCH	**Uchtor**	**3.85**	**264**	P	**Pn**	**17 13 23.9**	**+1.2**
	SNR=7.7						
UCH	**Uchtor**	**3.85**	**264**	⇑*i*P	**Pn**	**17 13 22.6**	**-0.1**
	baz=67						
UCH				⇑*e*S	**Sn**	**17 14 08.6**	**+0.4**
	baz=67						
ARLS	**Aral**	**4.06**	**260**	⇑*i*P	**Pn**	**17 13 25.8**	**+0.5**
	baz=62						
ARLS				⇑*i*S	**Sn**	**17 14 14.3**	**+1.3**
	baz=62						
KSH	**Kashi**	**4.25**	**222**	Pg	**Pg**	**17 13 44.3**	**-0.1**
KSH				Sg	**Sg**	**17 14 44.0**	**+4.5**
KSH				smax	smax		
	comp=N,170nm,0.9s						
KSH				smax	smax		
	comp=E,180nm,0.7s						
EKS2	**Erkin-Say**	**4.35**	**271**	P	**Pb**	**17 13 36.6**	**-2.9**
	SNR=7.7						
EKS2	**Erkin-Say**	**4.35**	**271**	⇓*e*P	**Pn**	**17 13 29.9**	**+0.7**
	baz=73						
EKS2				⇓*i*S	**Sn**	**17 14 20.6**	**+0.6**
	baz=73						
MAKZ	**Makanchi**	**4.40**	**21**	⇑Pn	**Pn**	**17 13 32.1**	**+2.3**
	12nm,0.2s						
MAKZ				⇑Lg	Lg	17 14 44.4	
	18nm,0.9s						
AML	**Almayashu**	**4.47**	**264**	P	**Pb**	**17 13 44.1**	**+2.4**
	SNR=11						
MK31	**Makanchi Array**	**4.48**	**24**	Pn	**Pn**	**17 13 32.8**	**+1.9**
	2.8nm,0.2s,baz=199,slow=12,SNR=49						
MK31				⇑Pg	**Pb**	**17 13 44.5**	**+2.8**
	2.7nm,0.2s,baz=204,slow=14,SNR=5.6						
MK31				⇑Sn	**Sn**	**17 14 26.7**	**+3.7**
	21nm,0.5s						
MK31				⇑Lg	Lg	17 14 46.9	
	24nm,0.7s,baz=202,slow=24,SNR=5.0						
MKAR	**Makanchi Array**	**4.48**	**24**	Pn	**Pn**	**17 13 33.0**	**+2.1**
	13nm,0.3s,baz=209,slow=12,SNR=26						
MKAR				Pg	**Pg**	**17 13 44.6**	**-4.1**
	6.9nm,0.3s,baz=200,slow=15,SNR=6.2						
MKAR				Sn	**Sn**	**17 14 25.7**	**+2.7**
	8.2nm,0.3s,baz=204,slow=25,SNR=5.5						
MKAR				Lg	Lg	17 14 45.5	
	10.0nm,0.3s,baz=201,slow=27,SNR=7.2						
MRKS	**Merke**	**4.75**	**272**	Pg	**Pb**	**17 13 46.8**	**+0.5**
	68nm,0.3s						
MRKS	**Merke**	**4.75**	**272**	*e*P	**Pb**	**17 13 46.8**	**+0.5**
	68nm,0.3s						
MRKS				*e*S	**Sb**	**17 14 48.0**	**+4.4**
	119nm,0.5s						
ARSB	**Arslanbob**	**5.18**	**257**	⇑*e*P	**Pn**	**17 13 40.8**	**+0.2**
	baz=59						
ARSB				⇑*i*S	**Sn**	**17 14 39.4**	**-1.0**
	baz=59						
MNAS	**Manas**	**5.30**	**270**	⇑Pg	**Pb**	**17 13 57.6**	**+1.9**
	14nm,0.5s						
MNAS				⇑Lg	Lg	17 15 08.9	
	58nm,0.7s						
MNAS	**Manas**	**5.30**	**270**	Pg	**Pb**	**17 13 56.8**	**+1.1**
	6.5nm,0.5s						
SFK	**Sufi-Kurgan**	**5.38**	**242**	⇓Pg	**Pb**	**17 13 58.5**	**+1.4**
	13nm,0.5s						
SFK				⇑Lg	Lg	17 15 09.7	
	94nm,1.1s						
SFK	**Sufi-Kurgan**	**5.38**	**242**	Pg	**Pb**	**17 13 58.7**	**+1.6**
	2.6nm,0.5s						
WMQ	**Urumqi**	**5.96**	**77**	*e*Pn	**Pn**	**17 13 50.5**	**-0.7**
WMQ				smax	smax		
	comp=N,130nm,1.1s						
WMQ				smax	smax		
	comp=E,160nm,0.7s						
KK31	**Karatay Array**	**6.74**	**276**	⇑Pg	Pb	17 14 25.9	+5.7
	3.9nm,0.4s,baz=93,slow=16,SNR=13						
KK31				⇑Lg	Lg	17 15 57.0	
	10nm,0.4s,baz=94,slow=28,SNR=6.4						
OTUK	**Ortayu**	**7.55**	**320**	⇑Lg	Lg	17 16 24.4	
	41nm,0.7s						
KURBB	**Kurchatov Arra**	**7.95**	**355**	Pn	**Pn**	**17 14 22.5**	**+4.2**
	baz=190,slow=4.7,SNR=1.5						
KURBB				Lg	Lg	17 16 34.7	
	0.9nm,0.3s,baz=188,slow=30,SNR=7.5						
KURK	**Kurchatov**	**8.03**	**355**	⇑Lg	Lg	17 16 39.0	
	56nm,0.9s						
ZALV	**Zalesovo Beam**	**11.74**	**15**	Pn	**Pn**	**17 15 09.9**	**-0.4**
	0.5nm,0.3s,baz=198,slow=18,SNR=3.6						
ZALV				Sn	**Sn**	**17 17 16.8**	**-4.6**
	0.5nm,0.3s,baz=203,slow=25,SNR=2.6						
BVAR	**Borovoye Array**	**12.04**	**332**	Sn	**Sn**	**17 17 22.9**	**-5.7**
	0.1nm,0.3s,baz=140,slow=21,SNR=2.3						
SONM	**Songino Array**	**19.44**	**66**	P	**P**	**17 16 48.8**	**-0.8**
	0.8nm,0.3s,baz=265,slow=11,SNR=7.2						

SOME 28 17:15:04.4, 42°.70N×79°.57E, h0km, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.46**	**350**	*e*P	Pg	17 15 14.3	+1.0
	21nm,0.1s						
SHLS				*e*S	Sb	17 15 21.5	-1.5
	178nm,0.2s						
UZB	**Uzynbulak**	**0.60**	**318**	*e*P	Pg	17 15 15.8	-0.1
	10nm,0.1s						
UZB				*e*S	Sg	17 15 24.1	+0.4
	35nm,0.1s						

*SOME **28** 17:15:28.5, 42°.48N×79°.58E, h15km*
*KRNET **28** 17:15:29.4±0.1, 42°.57N×79°.59E, h13km, mb3.2*

ISC 28 17:15:30.3±2.6, 42°.61N±0°.10×79°.5E±0°.1, h12km±16km, n10, σ1§02/19, 7C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.55**	**357**	*e*P	**Pb**	**17 15 41.7**	**-0.3**
	baz=20						
SHLS				*e*S	**Sb**	**17 15 51.2**	**+1.3**
	baz=20						
SHLS	**Shalkode**	**0.55**	**357**	*e*P	**Pb**	**17 15 41.7**	**-0.3**
	113nm,0.1s						
SHLS				*e*S	**Sb**	**17 15 51.2**	**+1.3**
	248nm,0.4s						
UZB	**Uzynbulak**	**0.65**	**327**	*e*P	**Pg**	**17 15 43.0**	**+0.1**
	baz=24						
UZB				*e*S	**Sb**	**17 15 53.4**	**+0.7**
	baz=24						
UZB	**Uzynbulak**	**0.65**	**327**	*e*P	**Pg**	**17 15 43.0**	**+0.2**
	14nm,0.1s						
UZB				*e*S	**Sb**	**17 15 53.4**	**+0.7**
	50nm,0.2s						
PDGK	**Podgornoye**	**0.72**	**359**	⇑*i*P	**Pg**	**17 15 43.6**	**-0.7**
	baz=54						
PDGK				⇑*i*S	**Sb**	**17 15 54.7**	**-0.2**
	baz=54						
PRZ	**Przheval'sk**	**0.82**	**262**	⇑*i*P	**Pg**	**17 15 46.4**	**+0.1**
	baz=65						
KDJ	**Kajisay**	**1.79**	**255**	⇑*i*P	**Pb**	**17 16 03.8**	**+0.7**
	baz=57						
KDJ				⇑*i*S	**Sg**	**17 16 28.8**	**+1.0**
	baz=57						
ULHL	**Ulahol**	**2.44**	**263**	⇓*i*P	**Pb**	**17 16 13.2**	**-1.1**
	baz=64						
ULHL				⇓*i*S	**Sb**	**17 16 45.5**	**+1.1**
	baz=64						
BOOM	**Boomskoye usch**	**2.64**	**269**	⇓*i*P	**Pb**	**17 16 16.3**	**-1.3**
	baz=70						
BOOM				⇓*i*S	**Sb**	**17 16 50.4**	**+0.4**
	baz=70						
TKM2	**Tokmak 2**	**2.89**	**278**	⇑*i*P	**Pb**	**17 16 19.8**	**-2.2**
	baz=78						
TKM2				⇑*i*S	**Sb**	**17 16 56.9**	**-0.6**
	baz=78						

KRNET 28 17:15:41.3±0.1, 42°.60N×79°.65E, h15km, mb3.3, 7C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**0.73**	**351**	⇓*i*P	Pg	17 15 55.3	-0.4
	baz=51						
PDGK				⇓*i*S	Sg	17 16 05.6	+0.1
	baz=51						
PRZ	**Przheval'sk**	**0.93**	**263**	⇑*i*P	Pb	17 15 58.7	-0.5
	baz=63						
PRZ				⇑*e*S	Sb	17 16 11.5	0.0
	baz=63						
PRZ	**Przheval'sk**	**0.93**	**263**	⇑*i*S	Pb	17 15 58.7	-0.5
	baz=65						
KDJ	**Kajisay**	**1.89**	**256**	⇑*i*P	Pb	17 16 16.2	+0.6
	baz=56						
KDJ				⇑*e*S	Sg	17 16 41.1	-1.0
	baz=56						
ULHL	**Ulahol**	**2.54**	**263**	⇓*e*P	Pb	17 16 25.8	-1.0
	baz=63						
ULHL				⇓*i*S	Sb	17 16 58.4	+0.4
	baz=63						
BOOM	**Boomskoye usch**	**2.74**	**269**	⇑*i*P	Pb	17 16 28.9	-1.2
	baz=69						
BOOM				⇑*i*S	Sb	17 17 03.0	-0.6
	baz=69						

*SOME **28** 17:17:45.6, 42°.57N×79°.65E, h5km*
*KRNET **28** 17:17:46.6±0.1, 42°.62N×79°.64E, h14km, mb3.5*
*ISCJB **28** 17:17:48.4±0.7, 42°.65N±0°.04×79°.66E±0°.05, h10km, Error ellipse: s-maj=6.6km s-min=3.3km az=43.6*
*NNC **28** 17:17:48.2±1.1, 42°.62N×79°.56E, h0km, mb3.8, mpv3.8, Error ellipse: s-maj=6.9km s-min=3.9km az=149.0*

ISC 28 17:17:48.5±1.3, 42°.64N±0°.05×79°.60E±0°.05, h10km, n32, σ1§51/58, 26C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.53**	**349**	P	**Pb**	**17 17 59.4**	**-0.7**
	217nm,0.1s						
SHLS				S	**Sb**	**17 18 08.1**	**+0.3**
	3μm,0.2s						
SHLS	**Shalkode**	**0.53**	**349**	*e*P	**Pg**	**17 17 57.6**	**-1.3**
	baz=19						
SHLS				*e*S	**Sb**	**17 18 06.6**	**-1.2**
	baz=19						
SHLS	**Shalkode**	**0.53**	**349**	*e*P	**Pg**	**17 17 57.6**	**-1.3**
	236nm,0.1s						
SHLS				*e*S	**Sb**	**17 18 06.7**	**-1.2**
	1μm,0.2s						
UZB	**Uzynbulak**	**0.67**	**320**	P	**Pg**	**17 18 01.0**	**-0.5**
	140nm,0.1s						
UZB				S	**Sg**	**17 18 10.7**	**+0.5**
	203nm,0.2s						
UZB	**Uzynbulak**	**0.67**	**320**	*e*P	**Pg**	**17 17 59.8**	**-1.6**
	baz=19						
UZB				*e*S	**Sg**	**17 18 10.1**	**-0.1**
	baz=19						
UZB	**Uzynbulak**	**0.67**	**320**	*e*P	**Pg**	**17 17 59.8**	**-1.6**
	8.3nm,0.1s						
U

	70nm,0.5s							
PDGK	**Podgornoye**	**0.70**	**353**	⇑	*i*P	**Pg**	**17 17 59.9**	**-2.1**
	baz=51							
PDGK				⇑	*i*S	**Sg**	**17 18 10.6**	**-0.6**
	baz=51							
PRZ	**Przheval'sk**	**0.90**	**261**	⇑	*i*P	**Pg**	**17 18 04.3**	**-1.6**
	baz=62							
PRZ				⇑	*i*S	**Sg**	**17 18 17.5**	**-0.1**
	baz=62							
SATY	**Saty**	**0.98**	**296**		*e*P	**Pg**	**17 18 05.3**	**-1.9**
	7.9nm,0.1s							
SATY					*e*S	**Sg**	**17 18 19.7**	**-0.3**
	384nm,0.2s							
KTMS	**Ketmen**	**0.98**	**34**		P	**Pn**	**17 18 08.9**	**+0.5**
	51nm,0.1s							
KTMS					S	**Sn**	**17 18 24.3**	**+1.8**
	204nm,0.1s							
KURS	**Kuram**	**1.35**	**310**		P	**Pb**	**17 18 13.4**	**-0.5**
	20nm,0.3s							
KURS					S	**Sg**	**17 18 32.0**	**0.0**
	110nm,0.3s							
MNBS	**Baschi**	**1.69**	**329**		P	**Pb**	**17 18 18.9**	**-0.8**
	117nm,0.2s							
MNBS					S	**Sb**	**17 18 41.6**	**+0.6**
	139nm,0.3s							
KDJ	**Kajisay**	**1.86**	**255**	⇑	*i*P	**Pb**	**17 18 21.5**	**-1.3**
	baz=55							
KDJ				⇑	*i*S	**Sb**	**17 18 47.0**	**+0.8**
	baz=55							
TNSS	**Tian-Shan**	**1.99**	**283**		Pg	**Pb**	**17 18 24.8**	**-0.3**
	14nm,0.1s							
TNSS					Lg	Lg	17 18 52.1	
	670nm,0.4s							
KNDC	**Almaty**	**2.02**	**288**	⇓	Pg	**Pb**	**17 18 24.3**	**-1.1**
	15nm,0.3s							
KNDC				⇑	Lg	Lg	17 18 53.1	
	254nm,0.5s							
IZV	**Izvestkoviy**	**2.23**	**281**		Pg	**Pb**	**17 18 28.5**	**-0.5**
	27nm,0.2s							
IZV					Lg	Lg	17 18 58.5	
	178nm,0.4s							
CHKK	**Chushkaly**	**2.27**	**303**		Pg	**Pb**	**17 18 28.1**	**-1.4**
	20nm,0.1s							
CHKK					Lg	Lg	17 18 58.9	
	64nm,0.3s							
ULHL	**Ulahol**	**2.52**	**262**	⇑	*i*P	**Pn**	**17 18 30.7**	**+1.0**
	baz=63							
ULHL				⇑	*i*S	**Sb**	**17 19 04.0**	**-1.0**
	baz=63							
BOOM	**Boomskoye usch**	**2.71**	**268**	⇑	*i*P	**Pn**	**17 18 33.6**	**+1.3**
	baz=68							
BOOM				⇑	*i*S	**Sb**	**17 19 08.3**	**-2.2**
	baz=68							
NRN	**Naryn**	**2.94**	**247**	⇑	*i*P	**Pn**	**17 18 37.0**	**+1.4**
	baz=48							
NRN				⇑	*i*S	**Sb**	**17 19 14.2**	**-3.1**
	baz=48							
TKM2	**Tokmak 2**	**2.96**	**277**	⇓	Pg	**Pb**	**17 18 40.4**	**-1.1**
	7.9nm,0.5s							
TKM2				⇑	Lg	Lg	17 19 20.7	
	31nm,0.4s							
TKM2	**Tokmak 2**	**2.96**	**277**	⇑	*e*P	**Pn**	**17 18 37.2**	**+1.4**
	baz=77							
TKM2				⇑	*i*S	**Sb**	**17 19 14.8**	**-3.0**
	baz=77							
KZA	**Kyzart**	**3.27**	**262**	⇓	*e*P	**Pn**	**17 18 41.4**	**+1.2**
	baz=62							
KZA				⇓	*i*S	**Sn**	**17 19 21.9**	**+2.5**
	baz=62							
KBK	**Karagaybulak**	**3.43**	**272**	⇑	*i*P	**Pn**	**17 18 43.6**	**+1.4**
	baz=72							
KBK				⇑	*i*S	**Sn**	**17 19 25.9**	**+2.8**
	baz=72							
CHMS	**Chumysh**	**3.59**	**277**	⇑	*e*P	**Pn**	**17 18 45.2**	**+1.0**
	baz=78							
CHMS				⇑	*i*S	**Sn**	**17 19 29.4**	**+2.8**
	baz=78							
AAK	**Ala-Archa**	**3.77**	**272**		Pg	**Pb**	**17 18 56.0**	**+0.8**
	4.8nm,0.6s							
AAK				⇑	Lg	Lg	17 19 47.1	
	20nm,0.5s							
UCH	**Uchtor**	**3.79**	**266**	⇑	*e*P	**Pn**	**17 18 48.6**	**+1.2**
	baz=66							
UCH				⇑	*i*S	**Sn**	**17 19 34.7**	**+2.5**
	baz=66							
ARLS	**Aral**	**4.00**	**261**	⇓	*i*P	**Pn**	**17 18 51.0**	**+1.1**
	baz=61							
ARLS				⇓	*i*S	**Sn**	**17 19 39.0**	**+2.1**
	baz=61							
MAKZ	**Makanchi**	**4.50**	**21**	⇓	Pn	**Pn**	**17 18 56.6**	**-0.1**
	1.8nm,0.6s							
MAKZ				⇑	Sn	**Sn**	**17 19 52.4**	**+3.3**
	2.5nm,0.6s							
MAKZ				⇓	Lg	Lg	17 20 10.1	
	5.1nm,0.6s							
MK31	**Makanchi Array**	**4.58**	**24**	⇑	Pn	**Pn**	**17 18 58.0**	**+0.2**
	0.6nm,0.3s,baz=202,slow=14,SNR=20							
MK31				⇓	Sn	**Sn**	**17 19 53.4**	**+2.3**
	1.3nm,0.3s,baz=209,slow=28,SNR=3.9							
MK31					Lg	Lg	17 20 13.2	
	6.3nm,0.3s,baz=205,slow=26,SNR=8.5							

*SOME **28** 17:19:39.6,42°.57N×79°.62E,h10km*
*NNC **28** 17:19:39.4±1.7,42°.56N×79°.66E,h0km,mb4.0,mpv3.9,*
Error ellipse: s-maj=11.4km s-min=5.9km az=152.0
*KRNET **28** 17:19:40.3±0.1,42°.61N×79°.59E,h15km,mb3.4*
ISC 28 17:19:36.6±2.0,42°.50N±0'.05×79°.74E±0'.07,h7km±11km,
n24,σ1§16/43,17C-5D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SHLS	**Shalkode**	**0.69**	**343**	P	**Pn**	**17 19 51.9**		**-1.0**
	251nm,0.1s							
SHLS				S	**Sb**	**17 20 01.1**		**+0.3**
	204nm,0.3s							
SHLS	**Shalkode**	**0.69**	**343**	*e*P	**Pn**	**17 19 51.9**		**-1.0**
	baz=22							
SHLS				*e*S	**Sb**	**17 20 00.9**		**0.0**
	baz=22							
SHLS	**Shalkode**	**0.69**	**343**	*e*P	**Pn**	**17 19 51.9**		**-1.0**
	251nm,0.1s							
SHLS				*e*S	**Sb**	**17 20 00.9**		**0.0**
	540nm,0.3s							
UZB	**Uzynbulak**	**0.84**	**321**	P	**Pb**	**17 19 53.7**		**+0.1**
	26nm,0.1s							
UZB				S	**Sg**	**17 20 03.9**		**+0.4**
	300nm,0.2s							
UZB	**Uzynbulak**	**0.84**	**321**	*e*P	**Pb**	**17 19 53.7**		**+0.1**
	baz=22							
UZB				*e*S	**Sg**	**17 20 03.9**		**+0.4**
	baz=22							
UZB	**Uzynbulak**	**0.84**	**321**	*e*P	**Pb**	**17 19 53.7**		**+0.1**
	26nm,0.1s							
UZB				*e*S	**Sg**	**17 20 03.9**		**+0.4**
	391nm,0.2s							
PDGK	**Podgornoye**	**0.85**	**348**	P	**Pb**	**17 19 54.1**		**+0.3**
	73nm,0.1s							
PDGK				S	**Sg**	**17 20 04.7**		**+0.7**
	83nm,0.4s							
PDGK	**Podgornoye**	**0.85**	**348**	⇑	*i*P	**Pb**	**17 19 53.8**	**0.0**
	baz=54							
PDGK				⇑	*i*S	**Sg**	**17 20 03.6**	**-0.4**
	baz=54							
PRZ	**Przheval'sk**	**0.99**	**270**	⇑	*i*P	**Pn**	**17 19 57.1**	**0.0**
	baz=62							
PRZ				⇑	*i*S	**Sg**	**17 20 09.6**	**+1.1**
	baz=62							
KTMS	**Ketmen**	**1.05**	**25**	P		**Pn**	**17 19 58.5**	**+0.6**
	33nm,0.1s							
KTMS				S		**Sn**	**17 20 12.2**	**-0.7**
	72nm,0.2s							
KURS	**Kuram**	**1.52**	**311**	P		**Pb**	**17 20 05.6**	**+0.4**
	9.1nm,0.2s							
KURS				S		**Sn**	**17 20 24.5**	**+0.2**
	52nm,0.4s							
MNBS	**Baschi**	**1.86**	**329**	P		**Pg**	**17 20 11.9**	**-0.3**
	16nm,0.1s							
MNBS				S		**Sb**	**17 20 35.3**	**+0.8**
	163nm,0.2s							
KDJ	**Kajisay**	**1.93**	**260**	⇑	*i*P	**Pg**	**17 20 14.7**	**+1.1**
	baz=55							
KDJ				⇑	*i*S	**Sg**	**17 20 39.5**	**+0.8**
	baz=55							
TNSS	**Tian-Shan**	**2.13**	**286**		Pg	**Pb**	**17 20 16.6**	**+0.9**
	20nm,0.3s							
TNSS					Lg	Lg	17 20 43.3	
	458nm,0.4s							

KNDC	**Almaty**	**2.16**	**290**	⇑	Pg	**Pg**	**17 20 17.4**	**-0.6**
	12nm,0.3s							
KNDC				⇓	Lg	Lg	17 20 44.8	
	161nm,0.7s							
IZV	**Izvestkoviy**	**2.36**	**284**		Pg	**Pg**	**17 20 21.3**	**-0.6**
	31nm,0.1s							
IZV					Lg	Lg	17 20 51.3	
	136nm,0.5s							
CHKK	**Chushkaly**	**2.43**	**305**		Pg	**Pb**	**17 20 21.9**	**+1.3**
	21nm,0.3s							
CHKK					Lg	Lg	17 20 52.3	
	74nm,0.3s							
ULHL	**Ulahol**	**2.60**	**266**	⇑	*i*P	**Pb**	**17 20 24.1**	**+0.4**
	baz=63							
ULHL				⇑	*i*S	**Sb**	**17 20 56.7**	**+0.7**
	baz=63							
BOOM	**Boomskoye usch**	**2.81**	**271**	⇓	*i*P	**Pb**	**17 20 26.9**	**-0.3**
	baz=69							
BOOM				⇓	*i*S	**Sb**	**17 21 01.1**	**-0.8**
	baz=69							
NRN	**Naryn**	**2.98**	**250**	⇑	*i*P	**Pb**	**17 20 30.3**	**0.0**
	baz=47							
NRN				⇑	*i*S	**Sb**	**17 21 07.4**	**+0.3**
	baz=47							
TKM2	**Tokmak 2**	**3.08**	**279**	⇑	Pg	**Pg**	**17 20 35.7**	**+0.1**
	7.4nm,0.6s							
TKM2				⇑	Lg	Lg	17 21 14.7	
	16nm,0.3s							
TKM2	**Tokmak 2**	**3.08**	**279**	⇓	*i*P	**Pb**	**17 20 30.8**	**-1.1**
	baz=77							
TKM2				⇓	*i*S	**Sb**	**17 21 07.4**	**-2.4**
	baz=77							
KZA	**Kyzart**	**3.36**	**264**	⇑	*i*P	**Pb**	**17 20 35.0**	**-1.7**
	baz=62							
KZA				⇑	*i*S	**Sb**	**17 21 15.2**	**-2.7**
	baz=62							
CHMS	**Chumysh**	**3.71**	**279**	⇑	*i*P	**Pb**	**17 20 39.3**	**-3.1**
	baz=78							
CHMS				⇑	*i*S	**Sn**	**17 21 21.7**	**+3.4**
	baz=78							

*SOME **28** 17:21:00.9,42°.50N×79°.60E,h35km*
*NNC **28** 17:21:00.5±1.8,42°.52N×79°.64E,h0km,mb4.2,mpv4.1,*
Error ellipse: s-maj=12.1km s-min=6.2km az=151.0
*KRNET **28** 17:21:02.2±0.1,42°.57N×79°.58E,h19km,mb3.7*
ISC 28 17:20:59.5±1.8,42°.43N±0'.06×79°.70E±0'.06,h20km±4km,
n22,σ1§39/38,14C-3D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SHLS	**Shalkode**	**0.75**	**346**	P	**Pb**	**17 21 14.2**		**+0.2**
	443nm,0.2s							
SHLS				S	**Sg**	**17 21 23.8**		**-0.6**
	1μm,0.4s							
SHLS	**Shalkode**	**0.75**	**346**	*e*P	**Pb**	**17 21 14.2**		**+0.2**
	baz=21							
SHLS				*e*S	**Sg**	**17 21 23.8**		**-0.6**
	baz=21							
SHLS	**Shalkode**	**0.75**	**346**	*e*P	**Pb**	**17 21 14.2**		**+0.2**
	443nm,0.2s							
SHLS				*e*S	**Sg**	**17 21 23.7**		**-0.6**
	1μm,0.4s							
UZB	**Uzynbulak**	**0.88**	**325**	P	**Pb**	**17 21 15.3**		**-0.9**
	135nm,0.2s							
UZB				S	**Sb**	**17 21 25.7**		**-1.9**
	436nm,0.3s							
UZB	**Uzynbulak**	**0.88**	**325**	*e*P	**Pb**	**17 21 15.3**		**-0.9**
	baz=25							
UZB				*e*S	**Sb**	**17 21 25.7**		**-1.9**
	baz=25							
UZB	**Uzynbulak**	**0.88**	**325**	*e*P	**Pb**	**17 21 15.3**		**-0.9**
	135nm,0.2s							
UZB				*e*S	**Sb**	**17 21 25.7**		**-1.9**
	436nm,0.4s							
PDGK	**Podgornoye**	**0.92**	**350**	P	**Pb**	**17 21 16.1**		**-0.7**
	74nm,0.2s							
PDGK				S	**Sb**	**17 21 27.0**		**-1.7**
	39nm,0.2s							
PDGK	**Podgornoye**	**0.92**	**350**	⇑	*i*P	**Pb**	**17 21 16.1**	**-0.7**
	baz=55							
PDGK				⇑	*i*S	**Sb**	**17 21 26.8**	**-1.8**
	baz=55							
PRZ	**Przheval'sk**	**0.96**	**274**	⇑	*i*P	**Pg**	**17 21 18.2**	**-0.2**
	baz=65							
PRZ				⇑	*i*S	**Sg**	**17 21 30.6**	**-0.5**
	baz=65							
KTMS	**Ketmen**	**1.12**	**25**	P		**Pn**	**17 21 20.5**	**+0.2**
	64nm,0.1s							
KTMS				S		**Sb**	**17 21 34.8**	**+0.2**
	264nm,0.3s							
KURS	**Kuram**	**1.55**	**314**	P		**Pb**	**17 21 27.5**	**0.0**
	18nm,0.2s							
KURS				S		**Sb**	**17 21 46.8**	**+0.1**
	186nm,0.3s							
KDJ	**Kajisay**	**1.90**	**262**	⇑	*i*P	**Pg**	**17 21 35.2**	**-0.8**
	baz=57							
KDJ				⇑	*i*S	**Sg**	**17 21 58.9**	**-1.7**
	baz=57							
MNBS	**Baschi**	**1.91**	**331**	P		**Pb**	**17 21 33.7**	**0.0**
	64nm,0.2s							
MNBS				S		**Sb**	**17 21 57.2**	**+0.1**
	307nm,0.3s							
TNSS	**Tian-Shan**	**2.12**	**288**	Pg		**Pb**	**17 21 37.9**	**+0.4**
	26nm,0.3s							
TNSS				Lg		Lg	17 22 04.5	
	543nm,0.4s							
KNDC	**Almaty**	**2.16**	**292**	⇓	Pg	**Pb**	**17 21 39.0**	**+1.0**
	23nm,0.3s							
KNDC				⇑	Lg	Lg	17 22 06.6	
	177nm,0.6s							
IZV	**Izvestkoviy**	**2.36**	**286**	Pg		**Pb**	**17 21 42.1**	**+0.7**
	74nm,0.2s							
IZV				Lg		Lg	17 22 11.6	
	208nm,0.4s							
CHKK	**Chushkaly**	**2.45**	**307**	Pg		**Pb**	**17 21 43.3**	**+0.5**
	23nm,0.3s							
ULHL	**Ulahol**	**2.57**	**267**	⇑	*e*P	**Pb**	**17 21 44.1**	**-1.0**
	baz=64							
BOOM	**Boomskoye usch**	**2.79**	**273**	⇓	*i*P	**Pb**	**17 21 46.6**	**-2.1**
	baz=70							
BOOM				⇓	*i*S	**Sb**	**17 22 20.0**	**-2.5**
	baz=70							
NRN	**Naryn**	**2.94**	**251**	⇑	*i*P	**Pb**	**17 21 49.8**	**-1.6**
	baz=48							
NRN				⇑	*i*S	**Sb**	**17 22 25.2**	**-1.7**
	baz=48							
TKM2	**Tokmak 2**	**3.07**	**281**	⇑	Pg	**Pb**	**17 21 54.1**	**+0.6**
	6.1nm,0.3s							
TKM2				⇑	Lg	Lg	17 22 34.2	
	62nm,0.5s							
ARLS	**Aral**	**4.04**	**264**	⇑	*i*P	**Pn**	**17 22 04.1**	**+3.7**
	baz=62							
ARLS				⇑	*i*S	**Sn**	**17 22 50.0**	**+2.8**
	baz=62							

*SOME **28** 17:21:30.4,42°.52N×79°.63E,h30km*
*KRNET **28** 17:21:31.5±0.1,42°.61N×79°.57E,h17km,mb3.7*
ISC 28 17:21:31.7±2.1,42°.57N±0'.07×79°.59E±0'.10,h10km,n12,
σ1§51/23,11C-4D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SHLS	**Shalkode**	**0.59**	**351**	*e*P	**Pg**	**17 21 43.2**		**0.0**
	baz=22							
SHLS				*e*S	**Sb**	**17 21 52.5**		**-0.3**
	baz=22							
SHLS	**Shalkode**	**0.59**	**351**	*e*P	**Pg**	**17 21 43.2**		**0.0**
	553nm,0.1s							
SHLS				*e*S	**Sb**	**17 21 52.5**		**-0.3**
	1μm,0.2s							
UZB	**Uzynbulak**	**0.71**	**324**	*e*P	**Pg**	**17 21 44.8**		**-0.7**
	baz=23							
UZB				*e*S	**Sg**	**17 21 55.1**		**+0.3**
	baz=23							
UZB	**Uzynbulak**	**0.71**	**324**	*e*P	**Pg**	**17 21 44.8**		**-0.7**
	52nm,0.1s							
UZB				*e*S	**Sg**	**17 21 55.1**		**+0.3**
	666nm,0.3s							
PDGK	**Podgornoye**	**0.76**	**354**	⇑	*i*P	**Pg**	**17 21 44.9**	**-1.5**
	baz=55							
PDGK				⇑	*i*S	**Sg**	**17 21 54.9**	**-1.5**
	baz=55							
PRZ	**Przheval'sk**	**0.89**	**265**	⇑	*i*P	**Pg**	**17 21 48.0**	**-0.8**
	baz=62							
PRZ				⇑	*i*S	**Sg**	**17 22 00.8**	**+0.5**
	baz=62							

KDJ	**Kajisay**	**1.84**	**257**	⇑	*i*P	**Pb**	**17 22 05.4**	**-0.2**
	baz=55							
KDJ				⇑	*i*S	**Sg**	**17 22 30.3**	**-0.6**
	baz=55							
ULHL	**Ulahol**	**2.50**	**264**	⇑	*i*P	**Pb**	**17 22 15.3**	**-1.5**
	baz=63							
ULHL				⇑	*i*S	**Sb**	**17 22 47.5**	**-0.3**
	baz=63							
ULHL	**Ulahol**	**2.50**	**264**	⇑	*i*S	**Pb**	**17 22 15.6**	**-1.2**
	baz=64							
NRN	**Naryn**	**2.91**	**248**	⇑	*i*P	**Pb**	**17 22 21.2**	**-2.6**
	baz=47							
NRN				⇑	*i*S	**Sb**	**17 22 58.0**	**-1.6**
	baz=47							
TKM2	**Tokmak 2**	**2.96**	**278**	⇓	*i*P	**Pn**	**17 22 21.5**	**+2.5**
	baz=77							
TKM2				⇓	*i*S	**Sb**	**17 22 58.6**	**-2.5**
	baz=77							
ARLS	**Aral**	**3.98**	**261**	⇓	*i*P	**Pn**	**17 22 35.3**	**+2.4**
	baz=61							
ARLS				⇓	*i*S	**Sn**	**17 23 22.3**	**+2.7**
	baz=61							

*IDC **28** 17:24:48.4±1.5,38°.70N×142°.83E,h0km,mb3.4/2,*
mb1 3.6/4,mb1mx3.3/39,mbtmp3.3/4,ML2.8/2,Error
ellipse: s-maj=57.8km s-min=25.4km az=115.0
*JMA **28** 17:24:52.6±0.1,38°.92N×142°.43E,h34km±2km,M3.2*
ISC 28 17:24:53.1±1.9,38°.92N±0'.05×142°.38E±0'.09,h32km±12km,
n22,σ1§01/23,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
OFUJ	**Ofunato**	**0.57**	**286**	P	**Pb**	**17 25 04.9**		**0.0**
OFUJ				S	**Sb**	**17 25 13.5**		**+0.6**
JKMT	**Kesennumamotoy**	**0.71**	**261**	P	**Pb**	**17 25 06.8**		**-0.4**
JKMT				S	**Sb**	**17 25 16.4**		**-0.3**
MIYJ	**Miyakonagasawa**	**0.78**	**327**	P	**Pn**	**17 25 07.4**		**-0.6**
MIYJ				*e*S	**Sb**	**17 25 18.0**		**-0.7**
JMK	**Ichinoseki**	**0.90**	**272**	P	**Pn**	**17 25 09.9**		**+0.3**
JMK				S	**Sn**	**17 25 21.9**		**+0.4**
JIO	**Ouri**	**0.93**	**240**	P	**Pn**	**17 25 09.5**		**-0.5**
JIO				S	**Sn**	**17 25 21.3**		**-0.9**
JOM	**Ohasama**	**1.00**	**303**	P	**Pn**	**17 25 11.4**		**+0.4**
JOM				*e*S	**Sn**	**17 25 24.7**		**+0.6**
JTH	**Tanohata**	**1.09**	**339**	P	**Pn**	**17 25 11.9**		**-0.3**
JOU	**Okura**	**1.45**	**248**	P	**Pn**	**17 25 17.9**		**+0.7**
JYK	**Kaneyama**	**1.57**	**270**	P	**Pb**	**17 25 20.8**		**-0.8**
JANG	**Nango**	**1.59**	**336**	P	**Pn**	**17 25 20.1**		**+1.0**
JMM	**Marumori**	**1.63**	**230**	P	**Pn**	**17 25 19.9**		**+0.3**
MAT	**Matsushiro**	**4.07**	**236**	P	**Pn**	**17 25 55.8**		**+2.6**
MJAR	**Matsushiro Arr**	**4.07**	**236**	Pn	**Pn**	**17 25 55.1**		**+1.9**
	0.4nm,0.3s,baz=48,slow=9.7,SNR=25							
ASAJ	**Asahikawa**	**5.19**	**2**	Pn	**Pn**	**17 26 09.4**		**+0.9**
	0.3nm,0.3s,baz=207,slow=9.0,SNR=6.5							
ASAJ				Sn	**Sn**	**17 27 08.0**		**+0.7**
	0.2nm,0.3s,baz=270,slow=20,SNR=2.3							
H11N2	**WAKE ISLAND Hy**	**28.54**	**125**	T	T	18 01 11.5		
	baz=317,slow=75							
H11N1	**WAKE ISLAND Hy**	**28.54**	**125**	T	T	18 01 14.8		
	baz=317,slow=75							
H11N3	**WAKE ISLAND Hy**	**28.55**	**125**	T	T	18 01 19.4		
	baz=317,slow=75							
H11S1	**WAKE ISLAND Hy**	**29.32**	**127**	T	T	18 02 11.6		
	baz=318							
H11S3	**WAKE ISLAND Hy**	**29.32**	**127**	T	T	18 02 14.0		
	baz=318,slow=74							
H11S2	**WAKE ISLAND Hy**	**29.33**	**127**	T	T	18 02 11.2		
	baz=318,slow=74							
ILAR	**Eielson Array**	**47.50**	**33**	P	**P**	**17 33 25.2**		**+0.5**
	0.4nm,0.7s,baz=258,slow=6.2,SNR=5.1							
WRA	**Warramunga Arr**	**59.04**	**189**	P	**P**	**17 34 48.6**		**-1.4**
	0.2nm,0.4s,baz=5.9,slow=7.1,SNR=5.6							

*SOME **28** 17:25:04.4,42°.52N×79°.67E,h20km*
*NNC **28** 17:25:04.0±1.7,42°.53N×79°.63E,h0km,mb3.8,mpv3.8,*
Error ellipse: s-maj=11.8km s-min=6.0km az=152.0
*KRNET **28** 17:25:05.5±0.1,42°.60N×79°.56E,h17km,mb3.4*
ISC 28 17:25:02.6±1.7,42°.47N±0'.05×79°.66E±0'.06,h9km±14km,
n23,σ0§94/41,14C-6D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SHLS	**Shalkode**	**0.70**	**348**	P	**Pb**	**17 25 17.4**		**+0.3**
	281nm,0.1s							
SHLS				S	**Sb**	**17 25 26.8**		**0.0**
	1μm,0.2s							
SHLS	**Shalkode**	**0.70**	**348**	*e*P	**Pb**	**17 25 17.3**		**+0.3**
	baz=23							
SHLS				*e*S	**Sb**	**17 25 26.7**		**-0.1**
	baz=23							
SHLS	**Shalkode**	**0.70**	**348**	*e*P	**Pb**	**17 25 17.3**		**+0.3**
	281nm,0.1s							
SHLS				*e*S	**Sb**	**17 25 26.7**		**-0.1**
	1μm,0.3s							
UZB	**Uzynbulak**	**0.82**	**325**	P	**Pg**	**17 25 18.6**		**+0.2**
	33nm,0.2s							
UZB				S	**Sg**	**17 25 28.9**		**-0.2**
	124nm,0.3s							
UZB	**Uzynbulak**	**0.82**	**325**	*e*P	**Pg**	**17 25 18.6**		**+0.2**
	baz=24							
UZB				*e*S	**Sg**	**17 25 28.9**		**-0.2**
	baz=24							
UZB	**Uzynbulak**	**0.82**	**325**	*e*P	**Pg**	**17 25 18.6**		**+0.2**
	33nm,0.2s							
UZB				*e*S	**Sg**	**17 25 28.9**		**-0.2**
	122nm,0.4s							
PDGK	**Podgornoye**	**0.86**	**352**	P	**Pg**	**17 25 19.3**		**+0.1**
	29nm,0.2s							
PDGK				S	**Sg**	**17 25 30.1**		**-0.4**
	28nm,0.2s							
PDGK	**Podgornoye**	**0.86**	**352**	⇓	*i*P	**Pg**	**17 25 19.1**	**-0.2**
	baz=56							
PDGK				⇓	*i*S	**Sg**	**17 25 29.4**	**-1.1**
	baz=56							
PRZ	**Przheval'sk**	**0.93**	**271**	⇑	*i*P	**Pb**	**17 25 21.9**	**+0.8**
	baz=62							
PRZ				⇑	*i*S	**Sb**	**17 25 34.3**	**+0.7**
	baz=62							
KTMS	**Ketmen**	**1.09**	**27**	P		**Pg**	**17 25 23.9**	**+0.2**
	25nm,0.1s							
KTMS				S		**Sg**	**17 25 37.9**	**0.0**
	44nm,0.3s							
KURS	**Kuram**	**1.49**	**313**	P		**Pb**	**17 25 30.7**	**+0.1**
	5.8nm,0.3s							
KURS				S		**Sb**	**17 25 49.7**	**+0.1**
	46nm,0.3s							
MNBS	**Baschi**	**1.85**	**331**	P		**Pb**	**17 25 37.1**	**+0.5**
	32nm,0.3s							
MNBS				S		**Sb**	**17 26 00.5**	**+0.5**
	95nm,0.3s							
KDJ	**Kajisay**	**1.87**	**260**	⇑	*i*P	**Pg**	**17 25 39.0**	**+0.5**
	baz=56

TKM2			⇑Lg	Lg	17 26 38.0		
	26nm,0.8s						
TKM2	**Tokmak 2**	**3.03 280**	⇑*i*P	**Pb**	**17 25 54.7**	**-2.1**	
TKM2	baz=78		⇑*i*S	**Sb**	**17 26 31.9**	**-2.1**	
	baz=78						
KZA	**Kyzart**	**3.30 265**	⇑*e*P	**Pb**	**17 25 59.3**	**-2.2**	
KZA	baz=62		⇑*i*S	**Sb**	**17 26 39.7**	**-2.2**	
	baz=62						

*SOME **28** 17:26:42.9, 42°.53N×79°.65E, h35km*
*KRNET **28** 17:26:43.5±0.1, 42°.61N×79°.62E, h14km, mb3.1*
*NNC **28** 17:26:43.8±2.0, 42°.56N×79°.56E, h0km, mb3.9, mpv3.8, Error ellipse: s-maj=13.7km s-min=7.4km az=158.0*
ISC 28 17:26:43.4±1.8, **42°.58N**±0°.05×**79°.57E**±0°.06, **h2**km±12km, **n22**, σ1§**17**/38, **17C-3D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.59**	**353**	P		**Pg**	**17 26 55.2**	**+0.5**
	495nm,0.1s							
SHLS				S		**Sb**	**17 27 04.4**	**-0.9**
	922nm,0.4s							
SHLS	**Shalkode**	**0.59**	**353**	*e*P		**Pg**	**17 26 55.2**	**+0.5**
	495nm,0.1s							
SHLS				*e*S		**Sb**	**17 27 04.2**	**-1.1**
	922nm,0.4s							
UZB	**Uzynbulak**	**0.70**	**325**	P		**Pg**	**17 26 57.2**	**+0.4**
	95nm,0.1s							
UZB				S		**Sb**	**17 27 07.5**	**-1.1**
	195nm,0.3s							
UZB	**Uzynbulak**	**0.70**	**325**	*e*P		**Pg**	**17 26 57.2**	**+0.4**
	95nm,0.1s							
UZB				*e*S		**Sb**	**17 27 07.5**	**-1.1**
	281nm,0.3s							
PDGK	**Podgornoye**	**0.76**	**356**	P		**Pg**	**17 26 57.5**	**-0.4**
	10nm,0.1s							
PDGK				S		**Sg**	**17 27 08.0**	**+0.3**
	151nm,0.4s							
PDGK	**Podgornoye**	**0.76**	**356**	⇑*i*P		**Pg**	**17 26 57.4**	**-0.5**
	baz=52							
PDGK				⇑*i*S		**Sg**	**17 27 07.8**	**+0.1**
	baz=52							
PRZ	**Przheval'sk**	**0.87**	**264**	⇑*i*P		**Pb**	**17 27 00.8**	**-0.5**
	baz=62							
PRZ				⇑*i*S		**Sb**	**17 27 13.3**	**-0.1**
	baz=62							
KTMS	**Ketmen**	**1.04**	**33**	P		**Pn**	**17 27 05.5**	**+0.3**
	58nm,0.1s							
KTMS				S		**Sn**	**17 27 21.9**	**+1.5**
	150nm,0.1s							
KURS	**Kuram**	**1.37**	**312**	P		**Pn**	**17 27 09.5**	**-0.1**
	29nm,0.6s							
KURS				S		**Sn**	**17 27 29.0**	**+0.6**
	62nm,0.5s							
MNBS	**Baschi**	**1.73**	**331**	P		**Pb**	**17 27 15.4**	**-0.5**
	24nm,0.2s							
MNBS				S		**Sg**	**17 27 39.4**	**+0.5**
	255nm,0.4s							
KDJ	**Kajisay**	**1.82**	**257**	⇑*i*P		**Pg**	**17 27 18.3**	**-0.1**
	baz=56							
KDJ				⇑*i*S		**Sg**	**17 27 43.3**	**+1.3**
	baz=56							
TNSS	**Tian-Shan**	**1.98**	**284**	Pg		**Pb**	**17 27 20.3**	**-0.1**
	25nm,0.3s							
TNSS				Lg		Lg	17 27 47.9	
	908nm,0.6s							
IZV	**Izvestkoviy**	**2.22**	**283**	Pg		**Pb**	**17 27 24.3**	**-0.1**
	49nm,0.2s							
IZV				Lg		Lg	17 27 54.8	
	98nm,0.3s							
CHKK	**Chushkaly**	**2.28**	**305**	Pg		**Pb**	**17 27 24.7**	**-0.5**
	23nm,0.3s							
CHKK				Lg		Lg	17 27 55.7	
	45nm,0.3s							
ULHL	**Ulahol**	**2.48**	**263**	⇑*i*P		**Pb**	**17 27 28.1**	**-0.8**
	baz=63							
ULHL				⇑*i*S		**Sb**	**17 28 00.3**	**+0.3**
	baz=63							
BOOM	**Boomskoye usch**	**2.68**	**269**	⇑*i*P		**Pb**	**17 27 30.3**	**-1.9**
	baz=69							
BOOM				⇑*e*S		**Sb**	**17 28 04.3**	**-1.3**
	baz=69							
NRN	**Naryn**	**2.89**	**248**	⇑*i*P		**Pb**	**17 27 33.9**	**-2.0**
	baz=48							
NRN				⇑*i*S		**Sb**	**17 28 10.9**	**-0.9**
	baz=48							
TKM2	**Tokmak 2**	**2.94**	**278**	⇑Pg		**Pb**	**17 27 36.3**	**-0.4**
	4.1nm,0.5s							
TKM2				⇑Lg		Lg	17 28 16.1	
	18nm,0.4s							
TKM2	**Tokmak 2**	**2.94**	**278**	⇓*i*P		**Pb**	**17 27 34.4**	**-2.3**
	baz=77							
TKM2				⇓*i*S		**Sb**	**17 28 11.4**	**-1.8**
	baz=77							
KZA	**Kyzart**	**3.24**	**263**	⇑*i*P		**Pn**	**17 27 38.4**	**+2.8**
	baz=62							
KZA				⇑*i*S		**Sb**	**17 28 19.3**	**-2.6**
	baz=62							
MAKZ	**Makanchi**	**4.57**	**21**	⇑Pn		**Pn**	**17 27 54.4**	**+0.9**
	1.5nm,0.2s							
MK31	**Makanchi Array**	**4.64**	**24**	⇓Pn		**Pn**	**17 27 54.9**	**+0.4**
	0.4nm,0.2si,baz=0.0,slow=0.1,SNR=6.8							

*SOME **28** 17:28:55.3, 42°.50N×79°.55E, h10km*
*KRNET **28** 17:28:56.8±0.1, 42°.61N×79°.59E, h19km, mb2.8*
*NNC **28** 17:28:57.1±2.5, 42°.57N×79°.51E, h0km, mb3.5, mpv3.5, Error ellipse: s-maj=17.0km s-min=8.8km az=157.0*
ISC 28 17:28:57.0±1.5, **42°.57N**±0°.04×**79°.45E**±0°.05, **h10**km±10km, **n20**, σ1§**33**/37, **15C-7D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.59**	**1**	P		**Pg**	**17 29 08.4**	**-0.1**
	36nm,0.1s							
SHLS				S		**Sb**	**17 29 17.7**	**-0.2**
	237nm,0.3s							
SHLS	**Shalkode**	**0.59**	**1**	*e*P		**Pg**	**17 29 08.3**	**-0.1**
	33nm,0.1s							
SHLS				*e*S		**Sb**	**17 29 17.8**	**-0.1**
	237nm,0.4s							
UZB	**Uzynbulak**	**0.66**	**332**	P		**Pg**	**17 29 09.7**	**-0.1**
	20nm,0.1s							
UZB				S		**Sg**	**17 29 19.9**	**+1.5**
	45nm,0.1s							
UZB	**Uzynbulak**	**0.66**	**332**	*e*P		**Pg**	**17 29 09.6**	**-0.1**
	20nm,0.1s							
UZB				*e*S		**Sg**	**17 29 19.9**	**+1.5**
	70nm,0.2s							
PDGK	**Podgornoye**	**0.76**	**2**	P		**Pg**	**17 29 10.3**	**-1.3**
	14nm,0.1s							
PDGK				S		**Sg**	**17 29 21.1**	**-0.5**
	31nm,0.3s							
PDGK	**Podgornoye**	**0.76**	**2**	⇓*i*P		**Pg**	**17 29 10.4**	**-1.3**
	baz=54							
PDGK				⇓*i*S		**Sg**	**17 29 20.7**	**-0.9**
	baz=54							
PRZ	**Przheval'sk**	**0.78**	**264**	⇑*i*P		**Pn**	**17 29 14.0**	**-0.2**
	baz=62							
PRZ				⇑*i*S		**Sn**	**17 29 25.7**	**-0.4**
	baz=62							
KTMS	**Ketmen**	**1.10**	**37**	P		**Pn**	**17 29 18.9**	**+0.4**
	17nm,0.1s							
KTMS				S		**Sn**	**17 29 36.0**	**+2.1**
	46nm,0.2s							
KURS	**Kuram**	**1.31**	**315**	P		**Pb**	**17 29 22.0**	**+0.2**
KURS				S		**Sg**	**17 29 41.3**	**+2.0**
TARG	**Taragay, Kyrgy**	**1.48**	**236**	⇓*i*P		**Pg**	**17 29 26.5**	**+1.0**
	baz=37							
TARG				⇓*i*S		**Sg**	**17 29 46.8**	**+2.0**
	baz=37							
MNBS	**Baschi**	**1.69**	**333**	P		**Pb**	**17 29 28.1**	**-0.2**
	7.3nm,0.2s							
MNBS				S		**Sb**	**17 29 51.7**	**+2.1**
	53nm,0.2s							
KDJ	**Kajisay**	**1.74**	**256**	⇑*i*P		**Pg**	**17 29 30.4**	**0.0**
	baz=56							
KDJ				⇑*i*S		**Sg**	**17 29 55.4**	**+2.5**
	baz=56							
KNDC	**Almaty**	**1.94**	**290**	⇑Pg		**Pb**	**17 29 32.3**	**-0.1**
	9.7nm,0.5s							
KNDC				⇑Lg		Lg	17 30 00.5	
	35nm,0.6s							
IZV	**Izvestkoviy**	**2.14**	**284**	Pg		**Pg**	**17 29 36.9**	**-1.1**
	8.1nm,0.1s							
IZV				Lg		Lg	17 30 06.8	
	46nm,0.5s							
ULHL	**Ulahol**	**2.40**	**263**	⇑*i*P		**Pb**	**17 29 39.6**	**-0.8**
	baz=63							
ULHL				⇑*i*S		**Sb**	**17 30 11.2**	**+1.2**
	baz=63							
BOOM	**Boomskoye usch**	**2.59**	**269**	⇓*e*P		**Pb**	**17 29 42.1**	**-1.6**
	baz=69							
BOOM				⇓*i*S		**Sb**	**17 30 15.4**	**-0.3**
	baz=69							
NRN	**Naryn**	**2.81**	**247**	⇑*i*P		**Pb**	**17 29 46.3**	**-1.2**
	baz=48							
NRN				⇑*i*S		**Sb**	**17 30 21.8**	**-0.2**
	baz=48							
TKM2	**Tokmak 2**	**2.86**	**278**	⇑Pg		**Pg**	**17 29 51.2**	**-0.6**
	4.5nm,0.8s							
TKM2				⇓Lg		Lg	17 30 29.9	
	7.9nm,0.6s							
TKM2	**Tokmak 2**	**2.86**	**278**	⇑*i*P		**Pb**	**17 29 46.2**	**-2.0**
	baz=77							
TKM2				⇑*i*S		**Sb**	**17 30 21.9**	**-1.4**
	baz=77							
KZA	**Kyzart**	**3.15**	**262**	⇑*i*P		**Pb**	**17 29 50.6**	**-2.7**
	baz=62							
KZA				⇑*i*S		**Sb**	**17 30 30.2**	**-1.8**
	baz=62							

*KRNET **28** 17:30:45.4±0.1, 42°.55N×79°.87E, mb2.6*
*SOME **28** 17:30:47.0, 42°.55N×79°.63E, h35km*
ISC 28 17:30:45.9±3.0, **42°.59N**±0°.08×**79°.8E**±0°.1, **h0**km±13km, **n7**, σ0§**74**/14, **6C-4D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.62**	**336**	*e*P		**Pb**	**17 30 59.5**	**-0.3**
	23nm,0.1s							
SHLS				*e*S		**Sb**	**17 31 08.4**	**-0.6**
	211nm,0.3s							
PDGK	**Podgornoye**	**0.78**	**343**	⇓*i*P		**Pg**	**17 31 01.3**	**+0.5**
	baz=40							
PDGK				⇓*i*S		**Sb**	**17 31 12.1**	**-1.4**
	baz=40							
UZB	**Uzynbulak**	**0.80**	**315**	*e*P		**Pg**	**17 31 01.3**	**0.0**
	11nm,0.1s							
UZB				*e*S		**Sg**	**17 31 11.5**	**-0.1**
	38nm,0.3s							
PRZ	**Przheval'sk**	**1.04**	**265**	⇓*i*P		**Pg**	**17 31 05.2**	**-0.7**
	baz=67							
PRZ				⇓*i*S		**Sg**	**17 31 20.2**	**+0.8**
	baz=67							
KDJ	**Kajisay**	**2.00**	**258**	⇑*i*P		**Pn**	**17 31 20.7**	**-0.3**
	baz=59							
KDJ				⇑*i*S		**Sn**	**17 31 46.9**	**+0.1**
	baz=59							
ULHL	**Ulahol**	**2.66**	**264**	⇑*i*P		**Pn**	**17 31 30.6**	**+0.4**
	baz=65							
ULHL				⇑*i*S		**Sn**	**17 32 03.4**	**+0.2**
	baz=65							
TKM2	**Tokmak 2**	**3.12**	**278**	⇑*i*P		**Pn**	**17 31 37.4**	**+1.0**
	baz=78							
TKM2				⇑*i*S		**Sn**	**17 32 15.1**	**+0.7**
	baz=78							

*BJI **28** 17:31:43.6, 42°.65N×79°.54E, h10km, mb4.2/16, ML4.5/2*
*SOME **28** 17:31:44.3, 42°.50N×79°.68E, h20km, MS3.4*
*IDC **28** 17:31:45.0±0.8, 42°.83N×79°.48E, h0km, mb3.6/6, mb1 3.8/13, mb1mx3.6/45, mbtmp3.7/13, ML3.6/7, Error ellipse: s-maj=11.7km s-min=7.6km az=148.0*
*NNC **28** 17:31:44.9±0.7, 42°.60N×79°.64E, h0km, mb4.9, mpv4.6, Error ellipse: s-maj=4.4km s-min=2.5km az=132.0*
*NEIC **28** 17:31:45.5±0.6, 42°.70N×79°.54E, h10km, mb4.3/1, Error ellipse: s-maj=10.9km s-min=6.0km az=144.0*
*KRNET **28** 17:31:45.0±0.1, 42°.58N×79°.62E, h10km, mb4.8*
ISC 28 17:31:44.4±1.2, **42°.68N**±0°.02×**79°.62E**±0°.02, **h1**km±8km, **n151**, σ1§**74**/220, **mb3.8**/11, **39C-20D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.49**	**346**	P		**Pb**	**17 31 56.9**	**+1.0**
	4μm,0.2s							
SHLS				S		**Sb**	**17 32 06.0**	**+2.4**
	12μm,0.3s							
SHLS	**Shalkode**	**0.49**	**346**	*e*P		**Pb**	**17 31 56.9**	**+1.0**
	baz=18							
SHLS				*e*S		**Sb**	**17 32 06.0**	**+2.4**
	baz=18							
SHLS	**Shalkode**	**0.49**	**346**	*e*P		**Pb**	**17 31 56.9**	**+1.0**
	4μm,0.2s							
SHLS				*e*S		**Sb**	**17 32 06.0**	**+2.4**
	12μm,0.3s							
UZB	**Uzynbulak**	**0.64**	**317**	P		**Pb**	**17 31 58.9**	**+0.5**
	1μm,0.2s							
UZB				S		**Sb**	**17 32 09.1**	**+1.2**
	7μm,0.4s							
UZB	**Uzynbulak**	**0.64**	**317**	*e*P		**Pb**	**17 31 58.9**	**+0.5**
	baz=22							
UZB				*e*S		**Sb**	**17 32 09.1**	**+1.2**
	baz=22							
UZB	**Uzynbulak**	**0.64**	**317**	*e*P		**Pb**	**17 31 58.9**	**+0.5**
	1μm,0.2s							
UZB				*e*S		**Sb**	**17 32 09.1**	**+1.2**
	7μm,0.4s							
PDGK	**Podgornoye**	**0.65**	**351**	P		**Pb**	**17 31 59.2**	**+0.5**
	228nm,0.3s							
PDGK				S		**Sb**	**17 32 09.7**	**+1.4**
	3μm,0.6s							
PDGK	**Podgornoye**	**0.65**	**351**	⇑P		**Pb**	**17 31 59.1**	**+0.5**
	236nm,0.4s							
PDGK				⇑S		**Sb**	**17 32 09.4**	**+1.1**
	6μm,0.7s							
PDGK	**Podgornoye**	**0.65**	**351**	⇓*i*P		**Pb**	**17 31 59.2**	**+0.5**
	baz=52							
PDGK				⇓*i*S		**Sb**	**17 32 09.2**	**+0.9**
	baz=52							
PRZ	**Przheval'sk**	**0.92**	**258**	*e*Pg		**Pg**	**17 32 02.5**	**+0.4**
PRZ	**Przheval'sk**	**0.92**	**258**	⇑*i*P		**Pg**	**17 32 02.6**	**+0.5**
	baz=64							
PRZ				⇑*i*S		**Sg**	**17 32 14.9**	**+0.8**
	baz=64							
KTMS	**Ketmen**	**0.93**	**35**	P		**Pb**	**17 32 03.2**	**-0.2**
KTMS				S		**Sb**	**17 32 16.4**	**+0.1**
KTMS	**Ketmen**	**0.93**	**35**	*e*P		**Pb**	**17 32 03.2**	**-0.2**
KTMS				*e*S		**Sb**	**17 32 16.4**	**+0.1**
SATY	**Saty**	**0.97**	**293**	P		**Pb**	**17 32 03.9**	**-0.2**
	712nm,0.5s							
SATY				S		**Sb**	**17 32 18.4**	**+1.0**
	2μm,0.3s							
SATY	**Saty**	**0.97**	**293**	*e*P		**Pb**	**17 32 03.9**	**-0.2**
	712nm,0.5s							
SATY				*e*S		**Sb**	**17 32 18.4**	**+1.0**
	2μm,0.3s							
TARG	**Taragay, Kyrgy**	**1.65**	**235**	*e*Pn		**Pn**	**17 32 13.6**	**-1.3**
DJR	**Jarkent**	**1.65**	**4**	P		**Pg**	**17 32 16.7**	**+0.6**
	348nm,0.4s							
DJR				S		**Sg**	**17 32 40.4**	**+2.8**
	1μm,0.3s							
DJR	**Jarkent**	**1.65**	**4**	*e*P		**Pg**	**17 32 16.7**	**+0.6**
	348nm,0.4s							
DJR				*e*S		**Sg**	**17 32 40.4**	**+2.8**
	1μm,0.3s							
MNBS	**Baschi**	**1.66**	**328**	P		**Pg**	**17 32 16.9**	**+0.8**
	196nm,0.3s							
MNBS				S		**Sg**	**17 32 40.1**	**+2.5**
	2μm,0.5s							
MNBS	**Baschi**	**1.66**	**328**	*e*P		**Pg**	**17 32 16.9**	**+0.8**
	baz=30							
MNBS				*e*S		**Sg**	**17 32 40.1**	**+2.5**
	baz=30							
MNBS	**Baschi**	**1.66**	**328**	*e*P		**Pg**	**17 32 16.9**	**+0.8**
	196nm,0.3s							
MNBS				*e*S		**Sg**	**17 32 40.1**	**+2.5**
	2μm,0.5s							
KDJ	**Kajisay**	**1.89**	**254**	*e*Pn		**Pb**	**17 32 19.5**	**-0.3**
KDJ	**Kajisay**	**1.89**	**254**	⇑*i*P		**Pb**	**17 32 20.0**	**+0.2**
	baz=57							
KDJ				⇑*i*S		**Sb**	**17 32 44.5**	**+0.5**
	baz=57							
KOTS	**Kotyrbulak**	**1.92**	**288**	Pg		**Pg**	**17 32 21.3**	**+0.1**
	394nm,0.3s							
KOTS				Lg		Lg	17 32 48.2	
	4μm,0.6s							
KOTS	**Kotyrbulak**	**1.92**	**288**	*e*P		**Pg**	**17 32 21.4**	**+0.1**
	baz=90							
KOTS				*e*S		**Sg**	**17 32 48.3**	**+2.1**
	baz=90							
KOTS	**Kotyrbulak**	**1.92**	**288**	*e*P		**Pg**	**17 32 21.4**	**+0.1**
	394nm,0.3s							
KOTS				*e*S		**Sg**	**17 32 48.2**	**+2.1**
	4μm,0.6s							
MDOK	**Medeo**	**1.95**	**285**	Pg		**Pb**	**17 32 20.8**	**0.0**
	780nm,0.5s							
MDOK				Lg		Lg	17 32 47.5	
	1μm,0.5s							
MDOK	**Medeo**	**1.95**	**285**	*e*P		**Pb**	**17 32 20.8**	**0.0**
	baz=88							
MDOK				*e*S		**Sg**	**17 32 47.5**	**+0.4**
	baz=88							
MDOK	**Medeo**	**1.95**	**285**	*e*P		**Pb**	**17 32 20.8**	**0.0**
	780nm,0.5s							
MDOK				*e*S		**Sg**	**17 32 47.5**	**+0.4**
	1μm,0.5s							
TNSS	**Tian-Shan**	**2.00**	**281**	Pg		**Pb**	**17 32 21.4**	**-0.3**
	763nm,0.4s							
TNSS				Lg		Lg	17 32 48.4	
	1μm,0.6s							
TNSS	**Tian-Shan**	**2.00**	**281**	*e*P		**Pb**	**17 32 21.5**	**-0.3**
	baz=84							
TNSS				*e*S		**Sg**	**17 32 48.4**	**-0.2**
	baz=84							
TNSS	**Tian-Shan**	**2.00**	**281**	*e*P		**Pb**	**17 32 21.4**	**-0.3**
	763nm,0.4s							
TNSS				*e*S		**Sg**	**17 32 48.4**	**-0.2**
	1μm,0.6s							
ARXS	**Arharly**	**2.01**	**320**	Pg		**Pg**	**17 32 22.6**	**-0.3**
	408nm,0.4s							
ARXS				Lg		Lg	17 32 50.3	
	4μm,0.5s							
ARXS	**Arharly**	**2.01**	**320**	*e*P		**Pg**	**17 32 22.6**	**-0.3**
	408nm,0.4s							
ARXS				*e*S		**Sg**	**17 32 50.3**	**+1.2**
	4μm,0.5s							
KNDC	**Almaty**	**2.02**	**286**	⇑Pn		**Pb**	**17 32 21.9**	**-0.1**
	674nm,0.5s							
KNDC				⇓Lg		Lg	17 32 51.6	
	4μm,0.7s							
AAA	**Alma-Ata**	**2.06**	**286**	Pg		**Pg**	**17 32 23.7**	**-0.1**
	857nm,0.3s							
AAA				Lg		Lg	17 32 52.7	
	2μm,0.6s							
AAA	**Alma-Ata**	**2.06**	**286**	*e*P		**Pg**	**17 32 23.7**	**-0.1**
	baz=88							
AAA				*e*S		**Sg**	**17 32 52.7**	**+2.3**
	baz=88							
AAA	**Alma-Ata**	**2.06**	**286**	*e*P		**Pg**	**17 32 23.6**	**-0.1**
	857nm,0.3s							
AAA				*e*S		**Sg**	**17 32 52.7**	**+2.3**
	2μm,0.6s							
IZV	**Izvestkoviy**	**2.24**	**280**	Pg		**Pb**	**17 32 25.8**	**+0.1**
	262nm,0.3s							
IZV				Lg		Lg	17 32 55.9	
	2μm,0.5s							
IZV	**Izvestkoviy**	**2.24**	**280**	*e*P		**Pb**	**17 32 25.8**	**+0.1**
	baz=83							
IZV				*e*S		**Sg**	**17 32 55.9**	**-0.4**
	baz=83							
IZV	**Izvestkoviy**	**2.24**	**280**	*e*P		**Pb**	**17 32 25.8**	**+0.1**
	262nm,0.3s							
IZV				*e*S		**Sg**	**17 32 55.9**	**-0.4**
	2μm,0.5s							
CHKK	**Chushkaly**	**2.25**	**302**	Pg		**Pb**	**17 32 26.5**	**+0.7**
	159nm,0.4s							
CHKK				Lg		Lg	17 32 57.0	
	1μm,0.4s							
CHKK	**Chushkaly**	**2.25**	**302**	*e*P		**Pb**	**17 32 26.5**	**+0.7**
	baz=4.0							
CHKK				*e*S		**Sg**	**17 32 57.0**	**+0.3**
	baz=4.0							
CHKK	**Chushkaly**	**2.25**	**302**	*e*P		**Pb**	**17 32 26.5**	**+0.7**
	159nm,0.4s							
CHKK				*e*S		**Sg**	**17 32 57.0**	**+0.3**
	1μm,0.4s							
KTBS	**Karatobe**	**2.38**	**297**	Pg		**Pb**	**17 32 28.3**	**+0.2**
	67nm,0.2s							
KTBS				Lg		Lg	17 33 00.0	
	1μm,0.3s							
KTBS	**Karatobe**	**2.38**	**297**	*e*P		**Pb**	**17 32 28.3**	**+0.2**
	baz=98							
KTBS				*e*S		**Sg**	**17 33 00.8**	**-0.2**
	baz=98							
KTBS	**Karatobe**	**2.38**	**297**	*e*P		**Pb**	**17 32 28.3**	**+0.2**
	67nm,0.2s							
KTBS				*e*S		**Sg**	**17 33 00.9**	**0.0**
	1μm,0.3s							
MTBS	**Maitube**	**2.39**	**282**	Pg		**Pb**	**17 32 28.5**	**+0.3**
	492nm,0.4s							
MTBS				Lg		Lg	17 33 00.4	
	2μm,0.5s							
MTBS	**Maitube**	**2.39**	**282**	*e*P		**Pb**	**17 32 28.5**	**+0.3**
	baz=84							
MTBS				*e*S		**Sg**	**17 33 00.4**	**-0.7**
	baz=84							
MTBS	**Maitube**	**2.39**	**282**	*e*P		**Pb**	**17 32 28.5**	**+0.3**
	492nm,0.4s							
MTBS				*e*S		**Sg**	**17 33 00.4**	**-0.7**
	2μm,0.5s							
ULHL	**Ulahol**	**2.54**	**261**	P		**Pb**	**17 32 29.1**	**-1.7**
	SNR=55							
ULHL	**Ulahol**	**2.54**	**261**	⇑*i*P		**Pn**	**17 32 28.9**	**+2.0**
	baz=63							
ULHL				⇑*i*S		**Sn**	**17 33 00.6**	**+2.0**
	baz=63							
KAPS	**Kapalarasan**	**2.61**	**356**	Pg		**Pb**	**17 32 32.9**	**+1.0**
	84nm,0.3s							
KAPS				Lg		Lg	17 33 08.0	
	2μm,0.5s							
KAPS	**Kapalarasan**	**2.61**	**356**	*e*P		**Pb**	**17 32 32.9**	**+1.0**
	84nm,0.3s							
KAPS				*e*S		**Sg**	**17 33 08.0**	**-0.2**
	2μm,0.5s							
KUU	**Kurty**	**2.69**	**298**	Pg		**Pb**	**17 32 34.0**	**+0.8**
	111nm,0.7s							
KUU				Lg		Lg	17 33 09.2	
	880nm,0.5s							
KUU	**Kurty**	**2.69**	**298**	*e*P		**Pb**	**17 32 34.0**	**+0.8**
	baz=0.0							
KUU				*e*S		**Sg**	**17 33 09.1**	**-1.5**
	baz=0.0							
KUU	**Kurty**	**2.69**	**298**	*e*P		**Pb**	**17 32 34.0**	**+0.8**
	111nm,0.7s							
KUU				*e*S		**Sg**	**17 33 09.2**	**-1.5**
	880nm,0.5s							
BOOM	**Boomskoye usch**	**2.73**	**267**	⇑*i*P		**Pb**	**17 32 32.1**	**-1.9**
	baz=69							
BOOM				⇑*i*S		**Sn**	**17 33 05.4**	**+2.3**
	baz=69							
DGS	**Degeres**	**2.88**	**282**	Pg		**Pb**	**17 32 36.4**	**-0.3**
	246nm,0.4s							
DGS				Lg		Lg	17 33 14.2	
	2μm,0.6s							
DGS	**Degeres**	**2.88**	**282**	*e*P		**Pb**	**17 32 36.4**	**-0.3**
	baz=84							
DGS				*e*S		**Sb**	**17 33 14.2**	**+1.8**
	baz=84							
DGS	**Degeres**	**2.88**	**282**	*e*P		**Pb**	**17 32 36.4**	**-0.3**
	246nm,0.4s							
DGS				*e*S		**Sb**	**17 33 14.2**	**+1.8**
	2μm,0.6s							
NRN	**Naryn**	**2.97**	**246**	*e*Pn		**Pn**	**17 32 35.8**	**+2.8**
NRN	**Naryn**	**2.97**	**246**	⇑*i*P		**Pn**	**17 32 34.9**	**+2.0**
	baz=48							
NRN				⇑*i*S		**Sn**	**17 33 10.8**	**+1.4**
	baz=48							
TKM2

KBK	**Karagaybulak**	**3.45**	**271**	P		**Pn**	**17 32 41.5**	**+2.1**
	SNR=24								
KBK	**Karagaybulak**	**3.45**	**271**	⇑*i*P		**Pn**	**17 32 41.6**	**+2.3**
	baz=73								
KBK				⇑*i*S		**Sn**	**17 33 22.6**	**+1.7**
	baz=73								
CHMS	**Chumysh**	**3.60**	**277**	P		**Pb**	**17 32 47.6**	**-1.2**
	SNR=19								
CHMS	**Chumysh**	**3.60**	**277**	⇑*e*P		**Pn**	**17 32 43.5**	**+2.2**
	baz=78								
CHMS				⇑*i*S		**Sn**	**17 33 26.1**	**+1.7**
	baz=78								
FRU1	**Bishkek**	**3.68**	**274**	*e*Pn		**Pn**	**17 32 39.8**	**-2.6**
FRU1	**Bishkek**	**3.68**	**274**	⇑*e*P		**Pn**	**17 32 45.1**	**+2.7**
	baz=75								
FRU1				⇑*i*S		**Sn**	**17 33 28.3**	**+1.8**
	baz=75								
SGDS	**Sogindy**	**3.74**	**284**	Pg		**Pb**	**17 32 51.2**	**0.0**
	139nm,0.8s								
SGDS				Lg		Lg	17 33 39.1		
	195nm,0.5s								
AAK	**Ala-Archa**	**3.78**	**271**	Pn		**Pn**	**17 32 45.7**	**+1.8**
	3.9nm,0.3s,baz=103,slow=7.0,SNR=21								
AAK				Pg		**Pb**	**17 32 54.0**	**+2.0**
	24nm,0.3s,baz=104,slow=11,SNR=41								
AAK				Sn		**Sn**	**17 33 30.4**	**+1.2**
	15nm,0.3s,baz=126,slow=19,SNR=2.4								
AAK				Lg		Lg	17 33 41.2		
	35nm,0.3s,baz=259,slow=22,SNR=9.3								
AAK	**Ala-Archa**	**3.78**	**271**	P		**Pn**	**17 32 45.7**	**+1.8**
	SNR=17								
AAK	**Ala-Archa**	**3.78**	**271**	*e*Pn		**Pn**	**17 32 44.4**	**+0.5**
AAK	**Ala-Archa**	**3.78**	**271**	⇑Pn		**Pn**	**17 32 45.7**	**+1.8**
	6.3nm,0.3s								
AAK				⇓Pg		**Pg**	**17 32 54.8**	**-2.1**
	129nm,0.8s								
AAK				⇓Lg		Lg	17 33 46.4		
	197nm,0.5s								
AAK	**Ala-Archa**	**3.78**	**271**	⇑*e*P		**Pn**	**17 32 46.4**	**+2.5**
	baz=73								
AAK				⇑*i*S		**Sn**	**17 33 30.9**	**+1.8**
	baz=73								
USP	**Ospenovka**	**3.80**	**281**	P		**Pn**	**17 32 46.2**	**+2.1**
	SNR=14								
USP	**Ospenovka**	**3.80**	**281**	⇑*i*P		**Pn**	**17 32 46.6**	**+2.5**
	baz=82								
USP				⇑*i*S		**Sn**	**17 33 31.6**	**+2.1**
	baz=82								
UCH	**Uchtor**	**3.81**	**265**	P		**Pn**	**17 32 47.3**	**+2.8**
	SNR=8.5								
UCH	**Uchtor**	**3.81**	**265**	⇓*i*P		**Pn**	**17 32 47.0**	**+2.4**
	baz=66								
UCH				⇓*i*S		**Sn**	**17 33 31.6**	**+1.4**
	baz=66								
KSH	**Kashi**	**4.20**	**222**	P		**Pb**	**17 32 59.5**	**+0.5**
KSH				sP		Pg	17 33 06.8	+2.0
KSH				S		**Sb**	**17 33 53.8**	**+3.6**
KSH				pmax	pmax				
	comp=Z,8.0nm,0.9s								
KSH				pmax	pmax				
	comp=Z,3μm,7.2s								
KSH				LR	LR				
	comp=N,5μm,11.0s								
KSH				LR	LR				
	comp=E,16μm,21.9s								
KSH				LR	LR				
	comp=Z,5μm,13.0s								
KSH	**Kashi**	**4.20**	**222**	Pg		**Pg**	**17 33 07.0**	**+2.2**
KSH				Sn		**Sb**	**17 33 53.8**	**+3.6**
KSH				Sg		**Sg**	**17 34 01.0**	**+1.9**
KSH				smax	smax				
	comp=Z,790nm,1.3s								
KSH				smax	smax				
	comp=Z,480nm,0.8s								
EKS2	**Erkin-Say**	**4.31**	**272**	P		**Pb**	**17 33 00.3**	**-0.6**
	SNR=7								
EKS2	**Erkin-Say**	**4.31**	**272**	⇑*e*P		**Pn**	**17 32 53.6**	**+2.4**
	baz=73								
EKS2				⇑*i*S		**Sn**	**17 33 43.6**	**+1.5**
	baz=73								
AML	**Almayashu**	**4.42**	**265**	P		**Pn**	**17 32 57.5**	**+4.5**
	SNR=5.0								
AML	**Almayashu**	**4.42**	**265**	⇑*i*P		**Pn**	**17 32 55.7**	**+2.7**
	baz=66								
AML				⇑*e*S		**Sn**	**17 33 46.3**	**+1.0**
	baz=66								
MAKZ	**Makanchi**	**4.45**	**21**	*e*Pn		**Pn**	**17 32 55.0**	**+1.9**
MAKZ	**Makanchi**	**4.45**	**21**	⇓Pn		**Pn**	**17 32 54.8**	**+1.8**
	comp=Z,17nm,0.2s								
MAKZ				⇑Pg		**Pg**	**17 33 08.1**	**-1.6**
	comp=Z,16nm,0.4s								
MAKZ				⇓Lg		Lg	17 34 07.9		
	comp=Z,38nm,0.5s								
MK01	**Makanchi Array**	**4.51**	**24**	*e*Pn		**Pn**	**17 32 55.3**	**+1.5**
MK31	**Makanchi Array**	**4.53**	**24**	*e*Pn		**Pn**	**17 32 56.2**	**+2.1**
MK31	**Makanchi Array**	**4.53**	**24**	⇑Pn		**Pn**	**17 32 56.1**	**+2.1**
	comp=Z,12nm,0.3s,baz=205,slow=10,SNR=5.7								
MK31				⇓Pg		**Pg**	**17 33 08.4**	**-2.7**
	comp=Z,15nm,0.4s,baz=203,slow=15,SNR=4.0								
MK31				⇑Lg		Lg	17 34 09.7		
	comp=Z,26nm,0.4s,baz=202,slow=26,SNR=4.3								
MKAR	**Makanchi Array**	**4.53**	**24**	Pn		**Pn**	**17 32 56.2**	**+2.1**
	comp=Z,24nm,0.3s,baz=214,slow=15,SNR=241								
MKAR				Pg		**Pb**	**17 33 04.2**	**-0.4**
	comp=Z,17nm,0.3s,baz=203,slow=15,SNR=16								
MKAR				Sn		**Sn**	**17 33 47.7**	**+0.4**
	comp=Z,12nm,0.3s,baz=208,slow=27,SNR=5.9								
MKAR				Lg		Lg	17 34 05.1		
	comp=Z,13nm,0.3s,baz=201,slow=28,SNR=3.6								
MRKS	**Merke**	**4.71**	**273**	Pg		**Pb**	**17 33 10.3**	**+2.4**
	comp=Z,108nm,0.4s								
MRKS				Lg		Lg	17 34 11.7		
	comp=Z,96nm,0.6s								
MRKS	**Merke**	**4.71**	**273**	*e*P		**Pb**	**17 33 10.3**	**+2.4**
	baz=74								
MRKS				*e*S		**Sg**	**17 34 11.7**	**-4.1**
	baz=74								
MRKS	**Merke**	**4.71**	**273**	*e*P		**Pb**	**17 33 10.3**	**+2.4**
	comp=Z,108nm,0.4s								
MRKS				*e*S		**Sg**	**17 34 11.7**	**-4.1**
	comp=Z,96nm,0.6s								
ARSB	**Arslanbob**	**5.13**	**257**	*e*Pn		**Pn**	**17 33 01.7**	**-0.8**
MNAS	**Manas**	**5.26**	**270**	⇓Pg		**Pg**	**17 33 22.4**	**-2.7**
	comp=Z,32nm,0.6s								
MNAS				⇓Lg		Lg	17 34 33.0		
	comp=Z,103nm,0.7s								
MNAS	**Manas**	**5.26**	**270**	Pg		**Pb**	**17 33 19.5**	**+2.4**
	comp=Z,9.8nm,0.7s								
MNAS				Lg		Lg	17 34 28.6		
	comp=Z,38nm,0.8s								
SFK	**Sufi-Kurgan**	**5.32**	**242**	⇓Lg		Lg	17 34 35.1		
	comp=Z,125nm,0.8s								
SFK	**Sufi-Kurgan**	**5.32**	**242**	Pg		**Pb**	**17 33 22.2**	**+3.9**
	comp=Z,12nm,0.9s								
SFK				Lg		Lg	17 34 32.3		
	comp=Z,54nm,1.3s								
WMQ	**Urumqi**	**6.00**	**76**	Pn		**Pn**	**17 33 18.8**	**+4.4**
WMQ				Sn		**Sn**	**17 34 26.0**	**+2.2**
WMQ				smax	smax				
	comp=Z,250nm,0.9s								
WMQ				smax	smax				
	comp=Z,410nm,0.7s								
WMQ	**Urumqi**	**6.00**	**76**	*e*Pn		**Pn**	**17 33 14.6**	**+0.2**
KK31	**Karatay Array**	**6.71**	**277**	*e*Pn		**Pn**	**17 33 23.1**	**-0.9**
KK31	**Karatay Array**	**6.71**	**277**	⇑Pg		**Pg**	**17 33 48.6**	**-4.3**
	comp=Z,8.7nm,0.5s,baz=87,slow=14,SNR=57								
KK31				⇑Lg		Lg	17 35 18.1		
	comp=Z,41nm,0.6s,baz=92,slow=27,SNR=5.0								
KKAR	**Karatay Array**	**6.71**	**277**	*e*Pn		**Pn**	**17 33 22.6**	**-1.3**
BTK	**Batken**	**7.12**	**251**	*e*Pn		**Pn**	**17 33 29.6**	**-0.1**
OTUK	**Ortayu**	**7.56**	**320**	⇓Pn		**Pn**	**17 33 36.7**	**+1.1**
	comp=Z,14nm,1.0s								
OTUK				⇓Lg		Lg	17 35 47.8		
	comp=Z,88nm,0.8s								
GAR	**Garm**	**7.96**	**246**	*e*Pn		**Pn**	**17 33 44.0**	**+2.8**
KURBB	**Kurchatov Arra**	**7.98**	**355**	Pn		**Pn**	**17 33 41.7**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=180,slow=12,SNR=2.8								
KURBB				Pg		**Pb**	**17 34 01.8**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=181,slow=13,SNR=4.8								
KURBB				Sn		**Sn**	**17 35 10.4**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=53,slow=16,SNR=2.9								
KURBB				Lg		Lg	17 35 52.6		
	comp=Z,0.8nm,0.3s,baz=178,slow=29,SNR=5.4								
KURK	**Kurchatov**	**8.06**	**355**	*e*Pn		**Pn**	**17 33 41.7**	**-0.9**
KURK	**Kurchatov**	**8.06**	**355**	⇑Pn		**Pn**	**17 33 44.3**	**+1.7**
	comp=Z,9.3nm,1.0s								
KURK				⇑Lg		Lg	17 36 03.6		
	comp=Z,149nm,0.9s								
CHGR	**Chuyangaron**	**8.91**	**247**	*e*Pn		**Pn**	**17 33 55.6**	**+1.4**
CHCP	**Chirah Chowk**	**10.30**	**211**	P		Pn	17 34 22.2	+8.9
NIL	**Nilore**	**10.31**	**211**	*e*Pn		**Pn**	**17 34 13.9**	**+0.4**
ZAA0	**Zalesovo Array**	**11.79**	**15**	*e*Pn		**Pn**	**17 34 33.9**	**+0.4**
ZALV	**Zalesovo Beam**	**11.79**	**15**	Pn		**Pn**	**17 34 33.6**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=201,slow=13,SNR=10.0								
ZALV				Sn		**Sn**	**17 36 43.3**	**-2.3**
	comp=Z,0.9nm,0.3s,baz=205,slow=28,SNR=3.2								
ZALV				Lg		Lg	17 37 56.7		
	comp=Z,0.5nm,0.3s,baz=209,slow=23,SNR=2.7								
ZALV	**Zalesovo Beam**	**11.79**	**15**	*e*Pn		**Pn**	**17 34 33.5**	**0.0**
BVA0	**Borovoye Array**	**12.05**	**332**	⇓Pn		**Pn**	**17 34 39.8**	**+2.6**
	comp=Z,2.7nm,0.8s,baz=146,slow=15,SNR=6.5								
BVAR	**Borovoye Array**	**12.05**	**332**	Pn		**Pn**	**17 34 34.9**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=148,slow=14,SNR=3.0								
BVAR				Sn		Sn	17 36 41.8	-10	
	comp=Z,0.3nm,0.3s,baz=137,slow=21,SNR=2.3								
BVAR				Lg		Lg	17 38 02.7		
	comp=Z,1.0nm,0.3s,baz=137,slow=26,SNR=7.0								
BRVK	**Borovoye**	**12.12**	**332**	*e*Pn		**Pn**	**17 34 35.6**	**-2.4**
DANN	**Dangsing**	**14.69**	**165**	*e*P		Pn	17 35 08.8	-4.7
	comp=Z,11nm,0.6s								
PYUN	**Piuthan**	**14.80**	**168**	*e*P		**Pn**	**17 35 12.5**	**-2.5**
	comp=Z,3.9nm,0.4s								
AB31	**Akbulak array**	**15.16**	**302**	Pn		**P**	**17 35 22.5**	**-2.3**
	comp=Z,2.3nm,0.7s,baz=110,slow=12,SNR=23								
ABKAR	**Akbulak array**	**15.16**	**302**	*e*Pn		**Pn**	**17 35 16.9**	**-2.6**
GTA	**Gaotai**	**15.58**	**95**	*e*P		**P**	**17 35 28.0**	**-1.7**
GTA				pP		sP	17 35 35.5	+4.2
GTA				sP		pP	17 35 39.5	+8.7
GTA				pmax		pmax			
	comp=Z,2.0nm,1.0s								
GUN	**Gumba**	**15.59**	**159**	*e*P		**P**	**17 35 28.2**	**-1.9**
	comp=Z,7.2nm,0.4s								
DMN	**Daman**	**15.69**	**162**	*e*P		**Pn**	**17 35 24.5**	**-2.3**
	comp=Z,8.5nm,0.8s								
PKIN	**Phulchoki**	**15.79**	**161**	*e*P		**Pn**	**17 35 26.6**	**-1.5**
	comp=Z,5.2nm,0.7s								
PKI	**Pulchoki**	**15.79**	**161**	*e*P		**Pn**	**17 35 26.7**	**-1.6**
	comp=Z,4.3nm,0.5s								
JIRN	**Jiri**	**15.91**	**158**	*e*P		**P**	**17 35 32.9**	**-0.8**
	comp=Z,7.8nm,0.5s								
LSA	**Lhasa**	**15.93**	**141**	*e*Pn		**Pn**	**17 35 30.2**	**+0.1**
	comp=Z,2.6nm,0.8s								
AKTO	**Aktyubinsk**	**16.72**	**305**	Pn		**Pn**	**17 35 35.2**	**-4.5**
	comp=Z,0.2nm,0.3s,baz=101,slow=17,SNR=2.5								
AKTO				Lg		Lg	17 40 30.9		
	baz=49,slow=20,SNR=2.0								
AKTO	**Aktyubinsk**	**16.72**	**305**	⇓Pn		**Pn**	**17 35 39.8**	**+0.1**
	comp=Z,10nm,1.5s								
SONM	**Songino Array**	**19.49**	**65**	P		**P**	**17 36 12.2**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=264,slow=11,SNR=21								
SONA1	**Songino Array**	**19.50**	**65**	*e*P		**P**	**17 36 11.6**	**-1.3**
LZH	**Lanzhou**	**19.81**	**101**	*e*P		**Pn**	**17 36 18.8**	**+0.9**
LZH				pP		sP	17 36 22.8	+4.8
LZH				sP		pP	17 36 25.0	+7.5
LZH				pmax		pmax			
	comp=Z,16nm,1.2s								
HHC	**Hu-ho-hao-te**	**23.82**	**84**	*e*P		**P**	**17 36 59.0**	**+0.1**
HHC				pmax		pmax			
	comp=Z,16nm,1.0s								
KMI	**Kunming**	**25.85**	**125**	P		**P**	**17 37 19.0**	**+1.4**
KMI				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CN2	**Changchun**	**33.08**	**72**	*e*P		**P**	**17 38 25.0**	**+3.6**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.8s								
BRTR	**Keskin Array B**	**34.40**	**281**	P		**P**	**17 38 33.0**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=95,slow=9.7,SNR=3.3								
TIXI	**Tiksi**	**37.52**	**23**	*e*P		**P**	**17 38 57.8**	**-1.5**
	comp=Z,2.6nm,0.5s								
ILAR	**Eielson Array**	**66.87**	**20**	P		**P**	**17 42 35.8**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=304,slow=5.2,SNR=6.6								
TORD	**Torodi Ar. Bea**	**72.37**	**272**	P		**P**	**17 43 13.0**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=35,slow=6.0,SNR=2.4								
YKA	**Yellowknife Ar**	**74.55**	**7**	P		**P**	**17 43 22.9**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=344,slow=5.7,SNR=9.3								
WRA	**Warramunga Arr**	**80.11**	**129**	P		**P**	**17 43 59.3**	**+3.3**
	comp=Z,0.3nm,0.5s,baz=335,slow=5.3,SNR=3.9								
ASAR	**Alice Springs**	**82.81**	**131**	P		**P**	**17 44 12.0**	**+1.7**
	comp=Z,0.5nm,1.0s,baz=327,slow=6.6,SNR=3.9								
PV14	**Lion Creek, Pa**	**98.94**	**7**	*e*P		**P**	**17 45 24.6**	**-2.2**
	comp=Z,28nm,0.9s								

*SOME **28** 17:38:15.9, 42°.52N×79°.63E, h35km*
*KRNET **28** 17:38:16.7±0.1, 42°.58N×79°.60E, h13km, mb3.2*
*NNC **28** 17:38:16.2±0.9, 42°.57N×79°.62E, h0km, mb3.9, mpv3.7,*
Error ellipse: s-maj=5.8km s-min=3.5km az=140.0
ISC 28 17:38:15.6±1.7, 42°.53N±0°.05×79°.62E±0°.05, h3km±13km,
n33,σ1s22/51, 20C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.63**	**349**	P		**Pb**	**17 38 28.8**		**-0.6**
	251nm,0.1s								
SHLS				S		**Sb**	**17 38 38.3**		**-0.4**
	538nm,0.2s								
SHLS	**Shalkode**	**0.63**	**349**	*e*P		**Pb**	**17 38 28.9**		**-0.6**
	baz=20								
SHLS				*e*S		**Sb**	**17 38 38.3**		**-0.4**
	baz=20								
SHLS	**Shalkode**	**0.63**	**349**	*e*P		**Pb**	**17 38 28.9**		**-0.6**
	251nm,0.2s								
SHLS				*e*S		**Sb**	**17 38 38.3**		**-0.4**
	538nm,0.2s								
UZB	**Uzynbulak**	**0.76**	**324**	P		**Pg**	**17 38 30.3**		**+0.2**
	49nm,0.2s								
UZB				S		**Sb**	**17 38 40.7**		**-1.6**
	274nm,0.2s								
UZB	**Uzynbulak**	**0.76**	**324**	*e*P		**Pg**	**17 38 30.4**		**+0.2**
	baz=24								
UZB				*e*S		**Sb**	**17 38 40.7**		**-1.6**
	baz=24								
UZB	**Uzynbulak**	**0.76**	**324**	*e*P		**Pg**	**17 38 30.4**		**+0.2**
	49nm,0.2s								
UZB				*e*S		**Sb**	**17 38 40.7**		**-1.6**
	393nm,0.3s								
PDGK	**Podgornoye**	**0.80**	**353**	P		**Pg**	**17 38 31.0**		**0.0**
	38nm,0.1s								
PDGK				S		**Sb**	**17 38 41.7**		**-1.8**
	178nm,0.3s								
PDGK	**Podgornoye**	**0.80**	**353**	⇓P		**Pg**	**17 38 31.0**		**0.0**
	12nm,0.2s								
PDGK				⇓S		**Sb**	**17 38 41.6**		**-1.8**
	156nm,0.4s								
PDGK	**Podgornoye**	**0.80**	**353**	⇑*i*P		**Pg**	**17 38 31.0**		**0.0**
	baz=54								
PDGK				⇑*i*S		**Sb**	**17 38 41.8**		**-1.8**
	baz=54								
PRZ	**Przheval'sk**	**0.91**	**267**	⇑*i*P		**Pg**	**17 38 33.8**		**+0.8**
	baz=64								
PRZ				⇑*i*S		**Sb**	**17 38 46.5**		**-0.1**
	baz=64								
KTMS	**Ketmen**	**1.06**	**30**	P		**Pb**	**17 38 35.5**		**-1.1**
	33nm,0.1s								
KTMS				S		**Sg**	**17 38 49.7**		**+0.1**
	30nm,0.1s								
KURS	**Kuram**	**1.43**	**312**	P		**Pb**	**17 38 42.6**		**-0.4**
	12nm,0.3s								
KURS				S		**Sg**	**17 39 01.8**		**+0.2**
	47nm,0.4s								
MNBS	**Baschi**	**1.78**	**330**	P		**Pb**	**17 38 48.7**		**-0.3**
	16nm,0.2s								
MNBS				S		**Sg**	**17 39 12.3**		**-0.6**
	70nm,0.3s								
KDJ	**Kajisay**	**1.86**	**258**	⇑*i*P		**Pg**	**17 38 51.3**		**+0.1**
	baz=57								
KDJ				⇑*i*S		**Sg**	**17 39 16.3**		**+1.0**
	baz=57								
KOTS	**Kotyrbulak**	**1.97**	**292**	Pg		**Pb**	**17 38 52.2**		**-0.1**
	18nm,0.2s								
KOTS				Lg		Lg	17 39 18.1		
	102nm,0.2s								
TNSS	**Tian-Shan**	**2.03**	**285**	Pg		**Pb**	**17 38 53.3**		**-0.1**
	28nm,0.3s								
TNSS				Lg		Lg	17 39 20.3		
	913nm,0.3s								
KNDC	**Almaty**	**2.07**	**290**	⇑Pg		**Pb**	**17 38 54.1**		**+0.3**
	15nm,0.4s								
KNDC				⇑Lg		Lg	17 39 21.3		
	89nm,0.5s								
ARXS	**Arharly**	**2.13**	**323**	Pg		**Pb**	**17 38 54.4**		**-0.5**
	17nm,0.3s								
ARXS				Lg		Lg	17 39 22.2		
IZV	**Izvestkoviy**	**2.27**	**284**	Pg		**Pb**	**17 38 57.2**		**-0.1**
	40nm,0.2s								
IZV				Lg		Lg	17 39 27.5		
	112nm,0.5s								
CHKK	**Chushkaly**	**2.34**	**305**	Pg		**Pb**	**17 38 58.3**		**0.0**
	22nm,0.2s								
CHKK				Lg		Lg	17 39 28.8		
	39nm,0.2s								
KTBS	**Karatobe**	**2.45**	**300**	Pg		**Pb**	**17 39 00.2**		**-0.2**
KTBS				Lg		Lg	17 39 31.9		
ULHL	**Ulahol**	**2.52**	**265**	⇓*i*P		**Pb**	**17 39 00.5**		**-1.1**
	baz=64								
ULHL				⇓*i*S		**Sb**	**17 39 33.4**		**+0.3**
	baz=64								
BOOM	**Boomskoye usch**	**2.72**	**270**	⇑*e*P		**Pb**	**17 39 03.3**		**-1.8**
	baz=69								
BOOM				⇑*i*S		**Sb**	**17 39 37.8**		**-1.1**
	baz=69								
NRN	**Naryn**	**2.92**	**249**	⇑*i*P		**Pb**	**17 39 07.2**		**-1.2**
	baz=48								
NRN				⇑*i*S		**Sb**	**17 39 43.7**		**-0.9**
	baz=48								
DGS	**Degeres**	**2.92**	**285**	Pg		**Pb**	**17 39 08.1**		**-0.3**
	26nm,0.4s								
DGS				Lg		Lg	17 39 45.4		
	49nm,0.5s								
TKM2	**Tokmak 2**	**2.99**	**279**	⇑Pg		**Pb**	**17 39 10.0**		**+0.3**
	5.7nm,0.6s								
TKM2				⇓Lg		Lg	17 39 51.8		
	16nm,0.3s								
TKM2	**Tokmak 2**	**2.99**	**279**	⇑*i*P		**Pb**	**17 39 07.4**		**-2.3**
	baz=78								
TKM2				⇑*i*S		**Sb**	**17 39 44.7**		**-2.0**
	baz=78								
KZA	**Kyzart**	**3.28**	**263**	⇑*i*P		**Pb**	**17 39 11.8**		**-2.8**
	baz=63								
KZA				⇑*i*S		**Sb**	**17 39 51.8**		**-3.2**
	baz=63								
AAK	**Ala-Archa**	**3.79**	**273**	Pg		**Pb**	**17 39 25.6**		**+2.3**
	3.9nm,0.7s								
AAK				Lg		Lg	17 40 15.7		
	8.4nm,0.6s								
MAKZ	**Makanchi**	**4.59**	**21**	⇓Pn		**Pn**	**17 39 27.4**		**+1.5**
	2.2nm,0.2s								
MK31	**Makanchi Array**	**4.67**	**23**	⇓Pn		**Pn**	**17 39 28.1**		**+1.2**
	1.2nm,0.3s,baz=205,slow=14,SNR=33								
MK31				⇑Sn		**Sn**	**17 40 22.9**		**+1.3**
	0.4nm,0.2s,baz=204,slow=25,SNR=4.1								
MK31				⇑Lg		Lg	17 40 43.5		
	0.4nm,0.2s,baz=180,slow=12,SNR=5.4								
SFK	**Sufi-Kurgan**	**5.25**	**243**	⇑Lg		Lg	17 41 04.0		
	4.7nm,1.0s								
MNAS	**Manas**	**5.26**	**272**	⇓Lg		Lg	17 41 04.5		
	3.9nm,0.8s								

*NNC **28** 17:41:17.7±1.0, 42°.63N×79°.66E, h0km, mb3.8, mpv3.5,*
Error ellipse: s-maj=6.4km s-min=4.0km az=134.0
*KRNET **28** 17:41:17.7±0.1, 42°.63N×79°.64E, h17km, mb3.3*
*SOME **28** 17:41:17.0, 42°.55N×79°.73E, h25km*
ISC 28 17:41:18.3±1.7, 42°.72N±0°.05×79°.68E±0°.05, h1km±11km,
n35,σ1s20/55, 21C-13D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.47**	**340**	P		**Pb**	**17 41 29.0**		**-0.5**
	113nm,0.1s								
SHLS				S		**Sb**	**17 41 37.8**		**+0.9**
	1μm,0.2s								
SHLS	**Shalkode**	**0.47**	**340**	*e*P		**Pb**	**17 41 28.9**		**-0.5**
	113nm,0.1s								
SHLS				*e*S		**Sb**	**17 41 37.6**		**+0.7**
	1μm,0.2s								
PDGK	**Podgornoye**	**0.63**	**347**	P		**Pb**	**17 41 31.2**		**-0.9**
	23nm,0.2s								
PDGK				S		**Sb**	**17 41 41.5**		**0.0**
	33nm,0.3s								
PDGK	**Podgornoye**	**0.63**	**347**	⇑P		**Pb**	**17 41 31.1**		**-1.0**
	17nm,0.4s								
PDGK				⇑S		**Sb**	**17 41 41.2**		**-0.3**
	32nm,0.5s								
PDGK	**Podgornoye**	**0.63**	**347**	⇑*i*P		**Pb**	**17 41 31.1**		**-1.0**
	baz=51								
PDGK				⇑*i*S		**Sb**	**17 41 41.0**		**-0.5**
	baz=51								
UZB	**Uzynbulak**	**0.65**	**312**	P		**Pg**	**17 41 31.1**		**+0.4**
	16nm,0.2s								
UZB				S		**Sb**	**17 41 41.2**		**-0.9**
	277nm,0.2s								
UZB	**Uzynbulak**	**0.65**	**312**	*e*P		**Pg**	**17 41 31.1**		**+0.4**
	16nm,0.2s								
UZB				*e*S		**Sb**	**17 41 41.2**		**-0.9**
	277nm,0.2s								
KTMS	**Ketmen**	**0.88**	**34**	P		**Pb**	**17 41 35.5**		**-0.9**
	40nm,0.1s								
KTMS				S		**Sn**	**17 41

	baz=62						
CHMS	**Chumysh**	**3.63**	**276**	⇓*i*P	**Pn**	**17 42 16.6**	**+0.9**
	baz=77						
CHMS				⇓*i*S	**Sn**	**17 42 59.2**	**0.0**
	baz=77						
AAK	**Ala-Archa**	**3.82**	**271**	⇑Pg	**Pb**	**17 42 26.6**	**-0.1**
	5.0nm,0.6s						
AAK				⇑Lg	Lg	17 43 17.3	
	7.8nm,0.5s						
MAKZ	**Makanchi**	**4.41**	**21**	⇓Pn	**Pn**	**17 42 28.0**	**+1.7**
	5.6nm,1.1s						
MAKZ				⇑Lg	Lg	17 43 40.8	
	2.6nm,0.8s						
MK31	**Makanchi Array**	**4.48**	**24**	⇓Pn	**Pn**	**17 42 28.9**	**+1.6**
	0.2nm,0.2s,baz=197,slow=14,SNR=5.6						
MK31				⇑Lg	Lg	17 43 43.2	
	0.4nm,0.2s,baz=197,slow=28,SNR=6.0						
MNAS	**Manas**	**5.30**	**270**	⇑Pg	**Pb**	**17 42 54.4**	**+2.6**
	1.5nm,0.5s						
MNAS				⇓Lg	Lg	17 44 05.0	
	3.3nm,0.8s						
SFK	**Sufi-Kurgan**	**5.38**	**242**	⇓Pg	**Pb**	**17 42 55.1**	**+2.0**
	4.9nm,1.2s						
SFK				⇓Lg	Lg	17 44 07.2	
	4.2nm,1.1s						
KK31	**Karatay Array**	**6.74**	**276**	Pg	**Pb**	**17 43 20.1**	**+3.8**
	0.3nm,0.3s,baz=92,slow=16,SNR=7.2						
KK31				Lg	Lg	17 44 51.3	
	1.1nm,0.8s,baz=92,slow=26,SNR=3.6						

*SOME **28** 17:43:51.4, 42°.52N×79°.58E, h15km*
*KRNET **28** 17:43:52.0±0.1, 42°.58N×79°.62E, h15km, mb3.4*
*ISCJB **28** 17:43:52.8±0.8, 42°.60N±0°.04×79°.70E±0°.05, h10km, Error ellipse: s-maj=6.8km s-min=3.6km az=44.6*
*NNC **28** 17:43:52.2±1.0, 42°.60N×79°.65E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=6.7km s-min=4.4km az=137.0*

ISC 28 17:43:52.7±1.2, 42°.59N±0°.05×79°.59E±0°.05, h10km, n31, σ1§70/49, 19C-13D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.57**	**351**	P		**Pb**	**17 44 04.2**	**-0.7**
	660nm,0.1s							
SHLS				S		**Sb**	**17 44 13.5**	**+0.4**
	1μm,0.2s							
SHLS	**Shalkode**	**0.57**	**351**	*e*P		**Pb**	**17 44 04.2**	**-0.7**
	663nm,0.1s							
SHLS				*e*S		**Sb**	**17 44 13.5**	**+0.4**
	1μm,0.3s							
UZB	**Uzynbulak**	**0.69**	**323**	P		**Pg**	**17 44 05.8**	**-0.4**
	48nm,0.1s							
UZB				S		**Sb**	**17 44 16.0**	**-0.7**
	313nm,0.1s							
UZB	**Uzynbulak**	**0.69**	**323**	*e*P		**Pg**	**17 44 05.8**	**-0.4**
	28nm,0.1s							
UZB				*e*S		**Sb**	**17 44 15.9**	**-0.7**
	313nm,0.2s							
PDGK	**Podgornoye**	**0.74**	**354**	P		**Pg**	**17 44 06.2**	**-0.7**
	31nm,0.2s							
PDGK				S		**Sb**	**17 44 16.9**	**-1.0**
	76nm,0.2s							
PDGK	**Podgornoye**	**0.74**	**354**	⇓P		**Pg**	**17 44 06.2**	**-0.7**
	25nm,0.4s							
PDGK				⇓S		**Sb**	**17 44 16.7**	**-1.3**
	93nm,0.4s							
PDGK	**Podgornoye**	**0.74**	**354**	⇓*i*P		**Pg**	**17 44 06.3**	**-0.7**
	baz=53							
PDGK				⇓*i*S		**Sb**	**17 44 16.9**	**-1.0**
	baz=53							
PRZ	**Przheval'sk**	**0.89**	**263**	⇑*i*P		**Pg**	**17 44 08.9**	**-0.9**
	baz=64							
PRZ				⇑*i*S		**Sg**	**17 44 21.3**	**-0.1**
	baz=64							
KTMS	**Ketmen**	**1.02**	**33**	P		**Pg**	**17 44 10.9**	**-1.5**
	135nm,0.1s							
KTMS				S		**Sg**	**17 44 24.5**	**-1.1**
	88nm,0.2s							
KURS	**Kuram**	**1.37**	**311**	P		**Pb**	**17 44 17.9**	**-0.6**
	26nm,0.4s							
KURS				S		**Sg**	**17 44 36.9**	**+0.1**
	134nm,0.2s							
MNBS	**Baschi**	**1.72**	**330**	P		**Pb**	**17 44 24.1**	**-0.4**
	43nm,0.2s							
MNBS				S		**Sg**	**17 44 47.4**	**-0.6**
	450nm,0.3s							
KDJ	**Kajisay**	**1.84**	**256**	⇑*i*P		**Pb**	**17 44 26.4**	**-0.2**
	baz=57							
KDJ				⇑*i*S		**Sb**	**17 44 50.9**	**+1.0**
	baz=57							
MDOK	**Medeo**	**1.95**	**288**	*e*P		**Pb**	**17 44 27.3**	**-1.1**
	56nm,0.3s							
MDOK				*e*S		**Sg**	**17 44 54.0**	**-1.5**
	162nm,0.6s							
TNSS	**Tian-Shan**	**1.99**	**284**	Pg		**Pb**	**17 44 28.2**	**-1.1**
	55nm,0.3s							
TNSS				Lg		Lg	17 44 55.1	
	475nm,0.3s							
TNSS	**Tian-Shan**	**1.99**	**284**	*e*P		**Pb**	**17 44 28.1**	**-1.2**
TNSS				*e*S		**Sb**	**17 44 54.5**	**+0.2**
KNDC	**Almaty**	**2.03**	**289**	⇓Pn		**Pb**	**17 44 29.1**	**-0.6**
	52nm,0.3s							
KNDC				⇓Lg		Lg	17 44 59.9	
	161nm,0.6s							
IZV	**Izvestkoviy**	**2.23**	**282**	Pg		**Pb**	**17 44 32.4**	**-0.9**
	77nm,0.2s							
IZV				Lg		Lg	17 45 02.2	
	95nm,0.2s							
CHKK	**Chushkaly**	**2.28**	**304**	Pg		**Pb**	**17 44 33.0**	**-1.0**
	17nm,0.1s							
CHKK				Lg		Lg	17 45 03.0	
	100nm,0.3s							
ULHL	**Ulahol**	**2.50**	**263**	⇓*i*P		**Pn**	**17 44 35.3**	**+1.6**
	baz=64							
ULHL				⇓*i*S		**Sb**	**17 45 08.0**	**-0.8**
	baz=64							
NRN	**Naryn**	**2.92**	**248**	⇑*i*P		**Pn**	**17 44 41.9**	**+2.5**
	baz=48							
NRN				⇑*i*S		**Sb**	**17 45 18.2**	**-2.6**
	baz=48							
TKM2	**Tokmak 2**	**2.96**	**278**	⇑Pn		**Pn**	**17 44 41.7**	**+1.8**
	6.6nm,0.6s							
TKM2				⇓Lg		Lg	17 45 27.9	
	19nm,0.3s							
TKM2	**Tokmak 2**	**2.96**	**278**	⇑*i*P		**Pn**	**17 44 42.1**	**+2.2**
	baz=78							
TKM2				⇑*i*S		**Sb**	**17 45 18.7**	**-3.2**
	baz=78							
KZA	**Kyzart**	**3.26**	**262**	⇓*e*P		**Pn**	**17 44 46.2**	**+2.0**
	baz=63							
KZA				⇓*i*S		**Sn**	**17 45 26.9**	**+3.6**
	baz=63							
CHMS	**Chumysh**	**3.58**	**278**	⇑*i*P		**Pn**	**17 44 50.9**	**+2.5**
	baz=78							
CHMS				⇑*i*S		**Sn**	**17 45 34.3**	**+3.5**
	baz=78							
AAK	**Ala-Archa**	**3.76**	**272**	⇓Pg		**Pg**	**17 45 02.3**	**-2.4**
	6.1nm,0.6s							
AAK				⇑Lg		Lg	17 45 54.6	
	16nm,0.8s							
UCH	**Uchtor**	**3.78**	**266**	⇑*e*P		**Pn**	**17 44 53.8**	**+2.4**
	baz=66							
UCH				⇑*i*S		**Sn**	**17 45 38.7**	**+2.6**
	baz=66							
MAKZ	**Makanchi**	**4.54**	**21**	⇑Pn		**Pn**	**17 45 02.7**	**+1.2**
	2.1nm,0.2s							
MAKZ				⇑Lg		Lg	17 46 14.5	
	1.9nm,0.5s							
MK31	**Makanchi Array**	**4.62**	**24**	Pn		**Pn**	**17 45 03.5**	**+1.0**
	0.4nm,0.1s,baz=172,slow=14,SNR=44							
MK31				⇑Lg		Lg	17 46 17.4	
	0.9nm,0.3s,baz=197,slow=27,SNR=4.8							
MNAS	**Manas**	**5.24**	**271**	⇓Lg		Lg	17 46 42.4	
	4.4nm,0.6s							
SFK	**Sufi-Kurgan**	**5.26**	**243**	⇑Lg		Lg	17 46 42.6	
	9.6nm,1.1s							
KK31	**Karatay Array**	**6.69**	**277**	⇑Pg		**Pg**	**17 45 56.5**	**-4.3**
	0.5nm,0.4s,baz=92,slow=17,SNR=7.9							
KK31				Lg		Lg	17 47 28.2	
	3.5nm,0.7s,baz=94,slow=26,SNR=4.4							

*SOME **28** 17:48:48.3, 42°.52N×79°.57E, h35km*
*KRNET **28** 17:48:48.7±0.1, 42°.56N×79°.58E, h15km, mb3.0*
*NNC **28** 17:48:48.1±2.1, 42°.53N×79°.64E, h0km, mb3.3, mpv3.5, Error ellipse: s-maj=13.7km s-min=7.5km az=156.0*

ISC 28 17:48:47.3±1.9, 42°.50N±0°.06×79°.61E±0°.06, h4km±12km, n21, σ1§46/39, 14C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.67**	**351**	P		**Pb**	**17 49 01.4**	**-0.2**
	47nm,0.1s							
SHLS				S		**Sb**	**17 49 10.9**	**-0.5**
	512nm,0.2s							
SHLS	**Shalkode**	**0.67**	**351**	*e*P		**Pb**	**17 49 01.4**	**-0.2**
	baz=20							
SHLS				*e*S		**Sb**	**17 49 10.8**	**-0.5**
	baz=20							
SHLS	**Shalkode**	**0.67**	**351**	*e*P		**Pb**	**17 49 01.4**	**-0.2**
	49nm,0.1s							
SHLS				*e*S		**Sb**	**17 49 10.9**	**-0.5**
	512nm,0.3s							
UZB	**Uzynbulak**	**0.78**	**326**	P		**Pg**	**17 49 02.7**	**+0.4**
	16nm,0.1s							
UZB				S		**Sb**	**17 49 13.0**	**-1.6**
	35nm,0.3s							
UZB	**Uzynbulak**	**0.78**	**326**	*e*P		**Pg**	**17 49 02.6**	**+0.4**
	baz=25							
UZB				*e*S		**Sb**	**17 49 13.0**	**-1.6**
	baz=25							
UZB	**Uzynbulak**	**0.78**	**326**	*e*P		**Pg**	**17 49 02.6**	**+0.4**
	16nm,0.1s							
UZB				*e*S		**Sb**	**17 49 13.0**	**-1.6**
	36nm,0.3s							
PDGK	**Podgornoye**	**0.83**	**354**	P		**Pg**	**17 49 03.4**	**0.0**
	8.1nm,0.1s							
PDGK				S		**Sg**	**17 49 14.3**	**+0.2**
	18nm,0.2s							
PDGK	**Podgornoye**	**0.83**	**354**	⇑*i*P		**Pg**	**17 49 03.0**	**-0.3**
	baz=55							
PDGK				⇑*i*S		**Sg**	**17 49 14.2**	**0.0**
	baz=55							
PRZ	**Przheval'sk**	**0.90**	**269**	⇑*i*P		**Pb**	**17 49 05.2**	**-0.4**
	baz=65							
PRZ				⇑*i*S		**Sn**	**17 49 18.2**	**-2.2**
	baz=65							
KTMS	**Ketmen**	**1.09**	**30**	P		**Pb**	**17 49 08.0**	**-0.9**
	14nm,0.1s							
KTMS				S		**Sb**	**17 49 22.0**	**-1.6**
	14nm,0.3s							
KURS	**Kuram**	**1.45**	**314**	P		**Pg**	**17 49 14.9**	**-0.2**
	6.3nm,0.4s							
KURS				S		**Sg**	**17 49 33.8**	**0.0**
	14nm,0.2s							
MNBS	**Baschi**	**1.81**	**331**	P		**Pb**	**17 49 21.0**	**-0.1**
	14nm,0.2s							
MNBS				S		**Sg**	**17 49 44.6**	**-0.8**
	30nm,0.3s							
KDJ	**Kajisay**	**1.84**	**259**	⇑*i*P		**Pb**	**17 49 22.3**	**+0.6**
	baz=57							
KDJ				⇑*i*S		**Sg**	**17 49 47.7**	**+1.3**
	baz=57							
IZV	**Izvestkoviy**	**2.27**	**285**	Pg		**Pb**	**17 49 29.6**	**+0.6**
	9.0nm,0.2s							
IZV				Lg		Lg	17 49 59.0	
	21nm,0.4s							
CHKK	**Chushkaly**	**2.35**	**306**	Pg		**Pb**	**17 49 30.7**	**+0.5**
	4.7nm,0.1s							
CHKK				Lg		Lg	17 50 01.0	
	18nm,0.3s							
ULHL	**Ulahol**	**2.51**	**265**	⇑*i*P		**Pb**	**17 49 31.6**	**-1.5**
	baz=64							
ULHL				⇑*i*S		**Sb**	**17 50 04.8**	**+0.4**
	baz=64							
BOOM	**Boomskoye usch**	**2.71**	**271**	⇑*e*P		**Pb**	**17 49 35.0**	**-1.6**
	baz=70							
BOOM				⇑*i*S		**Sb**	**17 50 09.2**	**-1.1**
	baz=70							
TKM2	**Tokmak 2**	**2.99**	**279**	⇑Pg		**Pb**	**17 49 42.7**	**+1.5**
	1.6nm,0.4s							
TKM2				⇑Lg		Lg	17 50 23.3	
	7.0nm,0.5s							
TKM2	**Tokmak 2**	**2.99**	**279**	⇓*i*P		**Pb**	**17 49 38.7**	**-2.6**
	baz=78							
TKM2				⇓*i*S		**Sb**	**17 50 16.4**	**-1.8**
	baz=78							
KZA	**Kyzart**	**3.26**	**264**	⇑*i*P		**Pb**	**17 49 42.7**	**-3.4**
	baz=63							
KZA				⇑*i*S		**Sb**	**17 50 22.9**	**-3.4**
	baz=63							
ARLS	**Aral**	**3.98**	**263**	⇓*i*P		**Pn**	**17 49 51.9**	**+2.6**
	baz=62							
ARLS				⇓*i*S		**Sn**	**17 50 39.1**	**+2.6**
	baz=62							

SOME 28 17:51:57.1, 42°.53N×79°.67E, h30km, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.64**	**346**	*e*P		Pb	17 52 09.7	-0.3
	50nm,0.1s							
SHLS				*e*S		Sb	17 52 18.7	0.0
	92nm,0.2s							
UZB	**Uzynbulak**	**0.78**	**323**	*e*P		Pn	17 52 11.6	-0.6
	7.6nm,0.1s							
UZB				*e*S		Sb	17 52 21.9	-0.6
	26nm,0.3s							

*SOME **28** 17:52:09.6, 42°.50N×79°.57E, h15km*
*KRNET **28** 17:52:11.1±0.1, 42°.60N×79°.60E, h16km, mb3.0*

ISC 28 17:52:08.9±2.7, 42°.53N±0°.08×79°.7E±0°.1, h2km±13km, n9, σ1§27/18, 8C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.64**	**347**	*e*P		**Pb**	**17 52 22.7**	**-0.2**
	baz=20							
SHLS				*e*S		**Sb**	**17 52 32.2**	**-0.2**
	baz=20							
SHLS	**Shalkode**	**0.64**	**347**	*e*P		**Pb**	**17 52 22.7**	**-0.2**
	106nm,0.1s							
SHLS				*e*S		**Sb**	**17 52 32.2**	**-0.2**
	322nm,0.3s							
UZB	**Uzynbulak**	**0.77**	**323**	*e*P		**Pg**	**17 52 24.0**	**+0.3**
	baz=22							
UZB				*e*S		**Sg**	**17 52 34.3**	**+0.6**
	baz=22							
UZB	**Uzynbulak**	**0.77**	**323**	*e*P		**Pg**	**17 52 24.0**	**+0.3**
	13nm,0.1s							
UZB				*e*S		**Sg**	**17 52 34.3**	**+0.6**
	38nm,0.3s							
PDGK	**Podgornoye**	**0.81**	**351**	⇑*i*P		**Pg**	**17 52 23.4**	**-1.0**
	baz=53							
PDGK				⇑*i*S		**Sg**	**17 52 34.2**	**-0.7**
	baz=53							
PRZ	**Przheval'sk**	**0.93**	**268**	⇑*i*P		**Pb**	**17 52 27.3**	**-0.5**
	baz=63							
PRZ				⇑*i*S		**Sn**	**17 52 40.1**	**-3.1**
	baz=63							
KDJ	**Kajisay**	**1.88**	**259**	⇑*i*P		**Pg**	**17 52 44.8**	**-0.1**
	baz=56							
KDJ				⇑*i*S		**Sg**	**17 53 09.7**	**+0.5**
	baz=56							
ULHL	**Ulahol**	**2.54**	**265**	⇓*i*P		**Pb**	**17 52 53.7**	**-1.7**
	baz=63							
ULHL				⇓*i*S		**Sb**	**17 53 26.5**	**-0.7**
	baz=63							
ARLS	**Aral**	**4.02**	**262**	⇑*i*P		**Pn**	**17 53 13.7**	**+2.1**
	baz=61							
ARLS				⇑*e*S		**Sn**	**17 54 00.9**	**+1.6**
	baz=61							

*SOME **28** 17:55:59.0, 42°.50N×79°.73E, h25km*
*NNC **28** 17:55:59.2±2.1, 42°.56N×79°.66E, h0km, mb3.7, mpv3.8, Error ellipse: s-maj=13.7km s-min=7.3km az=158.0*
*KRNET **28** 17:55:59.9±0.1, 42°.57N×79°.63E, h16km, mb3.1*
*ISCJB **28** 17:56:00.2±1.0, 42°.59N±0°.04×79°.70E±0°.07, h10km, Error ellipse: s-maj=8.4km s-min=4.2km az=39.5*

ISC 28 17:55:59.8±1.4, 42°.57N±0°.05×79°.63E±0°.06, h10km, n20, σ1§13/36, 8C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.60**	**348**	P		**Pb**	**17 56 11.9**	**-0.6**
	352nm,0.1s							
SHLS				S		**Sb**	**17 56 21.1**	**-0.1**
	489nm,0.2s							
SHLS	**Shalkode**	**0.60**	**348**	*e*P		**Pb**	**17 56 11.9**	**-0.6**
	baz=18							
SHLS				*e*S		**Sb**	**17 56 21.0**	**-0.1**
	baz=18							
SHLS	**Shalkode**	**0.60**	**348**	*e*P		**Pb**	**17 56 11.9**	**-0.6**
	352nm,0.1s							
SHLS				*e*S		**Sb**	**17 56 21.0**	**-0.1**
	489nm,0.3s							
UZB	**Uzynbulak**	**0.73**	**323**	P		**Pb**	**17 56 13.8**	**-0.9**
	19nm,0.2s							
UZB				S		**Sb**	**17 56 24.1**	**-0.8**
	193nm,0.3s							
UZB	**Uzynbulak**	**0.73**	**323**	*e*P		**Pb**	**17 56 13.8**	**-0.9**
	baz=22							
UZB				*e*S		**Sb**	**17 56 24.1**	**-0.8**
	baz=22							
UZB	**Uzynbulak**	**0.73**	**323**	*e*P		**Pb**	**17 56 13.8**	**-0.9**
	15nm,0.2s							
UZB				*e*S		**Sb**	**17 56 24.1**	**-0.8**
	310nm,0.3s							
PDGK	**Podgornoye**	**0.77**	**353**	P		**Pg**	**17 56 14.1**	**-0.5**
	28nm,0.2s							
PDGK				S		**Sg**	**17 56 24.7**	**-0.1**
	58nm,0.2s							
PDGK	**Podgornoye**	**0.77**	**353**	⇑*i*P		**Pg**	**17 56 13.5**	**-1.2**
	baz=52							
PDGK				⇑*i*S		**Sg**	**17 56 24.6**	**-0.1**
	baz=52							
PRZ	**Przheval'sk**	**0.91**	**265**	⇑*i*P		**Pg**	**17 56 16.8**	**-0.6**
	baz=65							
PRZ				⇑*i*S		**Sb**	**17 56 30.0**	**-0.1**
	baz=65							
KTMS	**Ketmen**	**1.03**	**31**	P		**Pg**	**17 56 18.6**	**-0.9**
	30nm,0.1s							
KTMS				S		**Sg**	**17 56 32.4**	**-0.6**
	238nm,0.3s							
KURS	**Kuram**	**1.41**	**311**	P		**Pg**	**17 56 26.1**	**-0.8**
	8.3nm,0.2s							
KURS				S		**Sg**	**17 56 44.9**	**-0.2**
	51nm,0.4s							
MNBS	**Baschi**	**1.76**	**330**	P		**Pb**	**17 56 32.1**	**-0.1**
	21nm,0.1s							
MNBS				S		**Sg**	**17 56 55.4**	**-0.9**
	157nm,0.4s							
KDJ	**Kajisay**	**1.86**	**257**	⇑*i*P		**Pb**	**17 56 33.6**	**-0.5**
	baz=57							
KDJ				⇑*i*S		**Sg**	**17 56 59.3**	**-0.5**
	baz=57							
KOTS	**Kotyrbulak**	**1.96**	**291**	Pg		**Pb**	**17 56 35.8**	**+0.1**
KOTS				Lg		Lg	17 57 02.3	
ARXS	**Arharly**	**2.10**	**322**	Pg		**Pb**	**17 56 37.6**	**-0.5**
	9.5nm,0.4s							
ARXS				Lg		Lg	17 57 05.6	
	163nm,0.5s							
KTBS	**Karatobe**	**2.44**	**299**	Pg		**Pb**	**17 56 43.9**	**+0.1**
KTBS				Lg		Lg	17 57 16.1	
ULHL	**Ulahol**	**2.53**	**264**	⇓*e*P		**Pb**	**17 56 43.1**	**-2.3**
	baz=64							
ULHL				⇓*i*S		**Sb**	**17 57 15.3**	**-1.3**
	baz=64							
BOOM	**Boomskoye usch**	**2.73**	**270**	⇑*i*P		**Pb**	**17 56 46.4**	**-2.4**
	baz=70							
BOOM				⇑*i*S		**Sb**	**17 57 20.5**	**-1.8**
	baz=70							
DGS	**Degeres**	**2.91**	**285**	Pg		**Pb**	**17 56 51.7**	**-0.1**
	8.7nm,0.2s							
DGS				Lg		Lg	17 57 29.6	
	60nm,0.7s							
ARLS	**Aral**	**4.00**	**262**	⇓*i*P		**Pn**	**17 57 03.7**	**+2.4**
	baz=62							
ARLS				⇓*i*S		**Sn**	**17 57 51.5**	**+3.1**
	baz=62							

*SOME **28** 17:56:50.9, 42°.50N×79°.68E, h20km*
*KRNET **28** 17:56:52.6±0.1, 42°.61N×79°.57E, h16km, mb3.4*

ISC 28 17:56:53.7±2.4, 42°.66N±0°.08×79°.5E±0°.1, h3km±14km, n10, σ1§59/19, 8C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.50**	**357**	*e*P		**Pg**	**17 57 03.9**	**+0.5**
	baz=23							
SHLS				*e*S		**Sb**	**17 57 13.5**	**+0.4**
	baz=23							
SHLS	**Shalkode**	**0.50**	**357**	*e*P		**Pg**	**17 57 03.9**	**+0.5**
	296nm,0.2s							
SHLS				*e*S		**Sb**	**17 57 13.4**	**+0.4**
	484nm,0.3s							
UZB	**Uzynbulak**	**0.60**	**325**	*e*P		**Pb**	**17 57 05.3**	**-1.7**
	baz=23							
UZB				*e*S		**Sb**	**17 57 15.8**	**-0.2**
	baz=23							
UZB	**Uzynbulak**	**0.60**	**325**	*e*P		**Pb**	**17 57 05.2**	**-1.7**
	25nm,0.2s							
UZB				*e*S		**Sb**	**17 57 15.8**	**-0.2**
	555nm,0.4s							
PDGK	**Podgornoye**	**0.67**	**360**	⇓*i*P		**Pb**	**17 57 06.0**	**-2.2**
	baz=55							
PRZ	**Przheval'sk**	**0.83**	**258**	⇑*i*P		**Pb**	**17 57 09.2**	**-1.6**
	baz=62							
PRZ				⇑*i*S		**Sg**	**17 57 21.9**	**+1.6**
	baz=62							
KDJ	**Kajisay**	**1.79**	**254**	⇑*i*P		**Pb**	**17 57 26.3**	**-1.0**
	baz=55							
KDJ				⇑*i*S		**Sg**	**17 57 51.7**	**+0.4**
	baz=55							
ULHL	**Ulahol**	**2.44**	**261**	⇑*i*P		**Pb**	**17 57 35.7**	**-2.7**
	baz=63							
ULHL				⇑*i*S		**Sb**	**17 58 08.5**	**-0.5**
	baz=63							
BOOM	**Boomskoye usch**	**2.63**	**268**	⇓*i*P		**Pb**	**17 57 38.9**	**-2.7**
	baz=69							
BOOM				⇓*i*S		**Sb**	**17 58 13.2**	**-1.2**
	baz=69							
ARLS	**Aral**	**3.92**	**260**	⇑*i*P		**Pn**	**17 57 56.1**	**+1.2**
	baz=61							
ARLS				⇑*i*S		**Sn**	**17 58 43.2**	**+1.7**
	baz=61							

*SOME **28** 17:57:02.5, 42°.57N×79°.70E, h15km*
*KRNET **28** 17:57:03.7±0.1, 42°.60N×79°.65E, h16km, mb3.6*

ISC 28 17:57:04.9±2.1, 42°.66N±0°.07×79°.6E±0°.1, h10km, n13, σ1§49/25, 8C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.51**	**347**	*e*P		**Pb**	**17 57 14.8**	**-1.2**
	baz=17							
SHLS				*e*S		**Sb**	**17 57 23.9**	**+0.4**
	baz=17							
SHLS	**Shalkode**	**0.51**	**347**	*e*P		**Pb**	**17 57 14.8**	**-1.2**
	682nm,0.1s							
SHLS				*e*S		**Sb**	**17 57 23.9**	**+0.4**
	1μm,0.2s							
UZB	**Uzynbulak**	**0.66**	**318**	*e*P		**Pg**	**17 57 17.0**	**-0.6**
	baz=20							
UZB				*e*S		**Sb**	**17 57 27.5**	**-0.3**
	baz=20							
UZB	**Uzynbulak**	**0.66**	**318**	*e*P		**Pg**	**17 57 17.0**	**-0.6**
	146nm,0.2s							
UZB				*e*S		**Sb**	**17 57 27.5**	**-0.3**
	463nm,0.2s							
PDGK	**Podgornoye**	**0.67**	**352**	⇑*i*P		**Pg**	**17 57 16.9**	**-1.1**
	baz=51							
PDGK				⇑*i*S		**Sb**	**17 57 27.5**	**-0.8**
	baz=51							
PDGK	**Podgornoye**	**0.67**	**352**	⇓*i*S		**Pg**	**17 57 16.8**	**-1.2**
	baz=55							
PRZ	**Przheval'sk**	**0.92**	**259**	⇓*i*P		**Pg**	**17 57 21.2**	**-1.4**
	baz=63							
PRZ				⇓*i*S		**Sg**	**17 57 34.4**	**-0.2**
	baz=63							
KDJ	**Kajisay**	**1.88**	**254**	⇓*i*P		**Pb**	**17 57 38.1**	**-1.4**
	baz=56							
KDJ				⇓*i*S		**Sb**	**17 58

KZA	**Kyzart** baz=62	**3.29**	**261**	⇑*i*P	**Pn**	**17 57 58.2**	**+1.4**
KZA				⇑*i*S	**Sn**	**17 58 38.7**	**+2.5**
ARLS	**Aral** baz=61	**4.01**	**260**	⇓*i*P	**Pn**	**17 58 07.9**	**+1.4**
ARLS				⇓*i*S	**Sn**	**17 58 55.5**	**+1.8**

baz=61

IDC 28 18:01:41.4±8.0, 18°46N×107°39W, h0km, mb3.3/4, mb1 3.7/5, mb1mx3.5/31, mbtmp3.3/5, ML3.4/1, Error ellipse: s-maj=143.3km s-min=76.0km az=142.0, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=192,slow=16,SNR=2.8	**11.35**	**17**	Pn	Pn	18 04 26.6	+1.6
NVAR	**Mina Array Bea** 0.8nm,0.8s,baz=154,slow=13,SNR=4.5	**22.05**	**337**	P	P	18 06 38.3	+0.3
PDAR	**Pinedale Array** 0.2nm,0.5s,baz=174,slow=11,SNR=2.2	**24.30**	**356**	P	P	18 07 00.3	-0.6
INK	**Inuvik** 0.9nm,0.5s,baz=154,slow=10,SNR=3.6	**52.48**	**348**	P	P	18 10 55.8	0.0
ILAR	**Eielson Array** 0.3nm,0.6s,baz=148,slow=7.6,SNR=6.0	**53.25**	**340**	P	P	18 11 01.5	0.0

KRNET 28 18:02:58.6±0.1, 42°60N×79°55E, h14km, mb1.9, 4C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye** baz=56	**0.73**	**357**	⇓*i*P	Pg	18 03 12.7	-0.1
PDGK				⇓*i*S	Sb	18 03 23.0	-0.1
PRZ	**Przheval'sk** baz=62	**0.86**	**263**	⇓*i*P	Pg	18 03 14.8	-0.4
PRZ				⇓*i*S	Sb	18 03 26.7	0.0
KDJ	**Kajisay** baz=56	**1.82**	**256**	⇑*i*P	Pb	18 03 32.3	+0.6
KDJ				⇑*i*S	Sg	18 03 56.9	-0.1
BOOM	**Boomskoye usch** baz=69	**2.67**	**269**	⇑*i*P	Pb	18 03 44.3	-1.9
BOOM				⇑*i*S	Sb	18 04 18.6	-0.3

baz=69

*SOME **28** 18:03:19.9, 42°.57N×79°.72E, h20km*
*NNC **28** 18:03:20.5±0.8, 42°.61N×79°.65E, h0km, mb3.4, mpv3.4, Error ellipse: s-maj=5.1km s-min=3.4km az=133.0*
*KRNET **28** 18:03:20.8±0.1, 42°.62N×79°.60E, h15km, mb3.1*
*ISCJB **28** 18:03:21.5±0.8, 42°.63N±0°.04×79°.70E±0°.05, h10km, Error ellipse: s-maj=7.0km s-min=3.6km az=42.1*
ISC 28 18:03:21.2±1.2, 42°62N±0°.05×79°65E±0°.05, h10km, n32, σ1§41/49, 25C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 181nm,0.1s	**0.56**	**345**	P	**Pg**	**18 03 32.1**	**0.0**
SHLS	1μm,0.3s			S	**Sb**	**18 03 41.1**	**-0.2**
SHLS	**Shalkode** baz=21	**0.56**	**345**	*e*P	**Pg**	**18 03 32.0**	**0.0**
SHLS	baz=21			*e*S	**Sb**	**18 03 41.0**	**-0.2**
SHLS	**Shalkode** 181nm,0.1s	**0.56**	**345**	*e*P	**Pg**	**18 03 32.0**	**0.0**
SHLS	1μm,0.3s			*e*S	**Sb**	**18 03 41.0**	**-0.2**
UZB	**Uzynbulak** 62nm,0.1s	**0.70**	**319**	P	**Pg**	**18 03 33.9**	**-0.9**
UZB	68nm,0.3s			S	**Sg**	**18 03 44.2**	**0.0**
UZB	**Uzynbulak** baz=21	**0.70**	**319**	*e*P	**Pg**	**18 03 33.9**	**-0.9**
UZB	baz=21			*e*S	**Sg**	**18 03 44.1**	**0.0**
UZB	**Uzynbulak** 62nm,0.1s	**0.70**	**319**	*e*P	**Pg**	**18 03 33.9**	**-0.9**
UZB	68nm,0.2s			*e*S	**Sg**	**18 03 44.1**	**0.0**
PDGK	**Podgornoye** 12nm,0.2s	**0.72**	**350**	P	**Pg**	**18 03 34.3**	**-0.9**
PDGK	64nm,0.2s			S	**Sg**	**18 03 44.8**	**+0.2**
PDGK	**Podgornoye** 7.3nm,0.4s	**0.72**	**350**	⇑P	**Pg**	**18 03 34.3**	**-0.9**
PDGK	87nm,0.6s			⇓S	**Sg**	**18 03 44.7**	**+0.1**
PDGK	**Podgornoye** baz=53	**0.72**	**350**	⇑*i*P	**Pg**	**18 03 34.3**	**-0.9**
PDGK	baz=53			⇑*i*S	**Sg**	**18 03 44.5**	**-0.2**
PRZ	**Przheval'sk** baz=61	**0.94**	**262**	⇑*i*P	**Pg**	**18 03 37.9**	**-1.3**
PRZ	baz=61			⇑*i*S	**Sg**	**18 03 50.6**	**-0.8**
KTMS	**Ketmen** 46nm,0.1s	**0.97**	**31**	P	**Pg**	**18 03 39.2**	**-0.7**
KTMS	67nm,0.2s			S	**Sb**	**18 03 53.2**	**0.0**
KURS	**Kuram** 12nm,0.5s	**1.39**	**309**	P	**Pn**	**18 03 46.4**	**-0.4**
KURS	40nm,0.3s			S	**Sb**	**18 04 05.6**	**+0.4**
MNBS	**Baschi** 12nm,0.1s	**1.73**	**328**	P	**Pb**	**18 03 52.1**	**-0.9**
MNBS	101nm,0.2s			S	**Sb**	**18 04 15.5**	**+0.7**
KDJ	**Kajisay** baz=55	**1.90**	**256**	⇑*i*P	**Pb**	**18 03 55.2**	**-0.8**
KDJ	baz=55			⇑*i*S	**Sb**	**18 04 20.2**	**+0.4**
TNSS	**Tian-Shan** 11nm,0.2s	**2.04**	**283**	Pg	**Pn**	**18 03 56.9**	**+1.0**
TNSS	446nm,0.3s			Lg	Lg	18 04 24.0	
KNDC	**Almaty** 5.9nm,0.3s	**2.06**	**288**	⇑Pg	**Pb**	**18 03 58.2**	**-0.6**
KNDC	46nm,0.6s			⇑Lg	Lg	18 04 26.8	
IZV	**Izvestkoviy** 16nm,0.2s	**2.28**	**282**	Pg	**Pb**	**18 04 01.4**	**-1.0**
IZV	47nm,0.4s			Lg	Lg	18 04 31.3	
CHKK	**Chushkaly** 12nm,0.2s	**2.31**	**303**	Pg	**Pb**	**18 04 02.0**	**-0.9**
CHKK	26nm,0.2s			Lg	Lg	18 04 32.6	
ULHL	**Ulahol** baz=63	**2.55**	**263**	⇑*i*P	**Pn**	**18 04 04.4**	**+1.6**
ULHL	baz=63			⇑*i*S	**Sb**	**18 04 37.3**	**-1.4**
BOOM	**Boomskoye usch** baz=68	**2.75**	**269**	⇓*i*P	**Pn**	**18 04 07.0**	**+1.5**
BOOM	baz=68			⇓*i*S	**Sb**	**18 04 41.5**	**-2.8**
NRN	**Naryn** baz=47	**2.97**	**248**	⇑*i*P	**Pn**	**18 04 11.1**	**+2.5**
NRN	baz=47			⇑*i*S	**Sb**	**18 04 47.8**	**-3.0**
TKM2	**Tokmak 2** 2.0nm,0.3s	**3.00**	**277**	⇑Pn	**Pn**	**18 04 10.0**	**+0.9**
TKM2	8.8nm,0.3s			⇑Lg	Lg	18 04 56.5	
TKM2	**Tokmak 2** baz=77	**3.00**	**277**	⇑*i*P	**Pn**	**18 04 11.3**	**+2.3**
TKM2	baz=77			⇑*i*S	**Sb**	**18 04 48.6**	**-3.1**
KZA	**Kyzart** baz=62	**3.31**	**262**	⇑*i*P	**Pn**	**18 04 15.1**	**+1.7**
KZA	baz=62			⇑*i*S	**Sn**	**18 04 55.6**	**+2.6**
AAK	**Ala-Archa** 2.3nm,0.8s	**3.81**	**272**	⇑Pg	**Pb**	**18 04 30.8**	**+2.2**
AAK	7.3nm,0.6s			⇑Lg	Lg	18 05 22.6	
ARLS	**Aral** baz=61	**4.03**	**261**	⇓*i*P	**Pn**	**18 04 24.7**	**+1.6**
ARLS	baz=61			⇓*i*S	**Sn**	**18 05 11.8**	**+1.4**
MAKZ	**Makanchi** 1.3nm,0.3s	**4.51**	**21**	⇓Pn	**Pn**	**18 04 31.0**	**+1.5**
MAKZ				⇓Lg	Lg	18 05 44.4	
MK31	**Makanchi Array** 0.2nm,0.1s,baz=208,slow=9.7,SNR=32	**4.58**	**23**	Pn	**Pn**	**18 04 31.5**	**+1.0**
MK31	1.2nm,0.5s			⇑Pg	**Pg**	**18 04 45.6**	**-3.3**
MK31	0.6nm,0.5s,baz=207,slow=14,SNR=4.2			⇑Lg	Lg	18 05 46.4	
SFK	**Sufi-Kurgan** 3.1nm,1.0s	**5.31**	**243**	⇓Lg	Lg	18 06 09.8	
KK31	**Karatay Array** 0.8nm,0.5s,baz=83,slow=29,SNR=7.4	**6.74**	**277**	Lg	Lg	18 06 54.1	
KURBB	**Kurchatov Arra** 7.5nm,0.6s	**8.05**	**355**	⇑Lg	Lg	18 07 38.0	
KURK	**Kurchatov** 2.6nm,0.8s	**8.13**	**355**	⇑Lg	Lg	18 07 40.3	

SOME 28 18:04:10.3, 42°53N×79°68E, h30km, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 22nm,0.1s	**0.65**	**345**	*e*P	Pb	18 04 22.9	-0.3
SHLS	74nm,0.3s			*e*S	Sb	18 04 32.0	0.0
UZB	**Uzynbulak** 9.8nm,0.1s	**0.78**	**322**	*e*P	Pn	18 04 24.9	-0.6
UZB	23nm,0.3s			*e*S	Sb	18 04 35.3	-0.6

*SOME **28** 18:05:50.3, 42°.50N×79°.60E, h30km*
*NNC **28** 18:05:50.6±2.0, 42°.55N×79°.63E, h0km, mb2.9, mpv3.1, Error ellipse: s-maj=13.1km s-min=7.1km az=157.0*
*KRNET **28** 18:05:51.2±0.1, 42°.58N×79°.60E, h14km, mb2.7*
ISC 28 18:05:52.1±1.6, 42°61N±0°.05×79°55E±0°.05, h7km±13km, n25, σ1§18/42, 14C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 21nm,0.1s	**0.55**	**353**	P	**Pg**	**18 06 03.3**	**+0.5**
SHLS	153nm,0.2s			S	**Sb**	**18 06 12.7**	**+0.3**
SHLS	**Shalkode** baz=20	**0.55**	**353**	*e*P	**Pg**	**18 06 03.3**	**+0.5**
SHLS	baz=20			*e*S	**Sb**	**18 06 12.7**	**+0.3**
SHLS	**Shalkode** 21nm,0.2s	**0.55**	**353**	*e*P	**Pg**	**18 06 03.3**	**+0.5**
SHLS	78nm,0.2s			*e*S	**Sb**	**18 06 12.7**	**+0.3**
SHLS	**Shalkode** baz=37	**0.55**	**353**	*e*S	**Sb**	**18 06 12.8**	**+0.3**
SHLS	**Shalkode** 153nm,0.4s	**0.55**	**353**	*e*S	**Sb**	**18 06 12.8**	**+0.3**
UZB	**Uzynbulak** 5.5nm,0.1s	**0.67**	**324**	P	**Pg**	**18 06 04.7**	**-0.2**
UZB	21nm,0.2s			S	**Sb**	**18 06 15.1**	**-0.6**
UZB	**Uzynbulak** baz=23	**0.67**	**324**	*e*P	**Pg**	**18 06 04.7**	**-0.2**
UZB	baz=23			*e*S	**Sb**	**18 06 15.1**	**-0.6**
UZB	**Uzynbulak** 5.5nm,0.1s	**0.67**	**324**	*e*P	**Pg**	**18 06 04.7**	**-0.2**
UZB	22nm,0.2s			*e*S	**Sb**	**18 06 15.0**	**-0.6**
UZB	**Uzynbulak** 17nm,0.1s	**0.67**	**324**	*e*S	**Sb**	**18 06 15.0**	**-0.6**
UZB	**Uzynbulak** baz=12	**0.67**	**324**	*e*S	**Sb**	**18 06 15.1**	**-0.6**
PDGK	**Podgornoye** 4.7nm,0.2s	**0.72**	**356**	P	**Pg**	**18 06 05.4**	**-0.6**
PDGK	8.2nm,0.3s			S	**Sb**	**18 06 16.1**	**-1.2**
PDGK	**Podgornoye** baz=53	**0.72**	**356**	⇑*i*P	**Pg**	**18 06 05.4**	**-0.6**
PDGK	baz=53			⇑*i*S	**Sb**	**18 06 16.1**	**-1.2**
PDGK	**Podgornoye** baz=56	**0.72**	**356**	⇑*i*S	**Sg**	**18 06 15.9**	**+0.5**
PRZ	**Przheval'sk** baz=64	**0.86**	**262**	⇑*i*P	**Pg**	**18 06 08.4**	**-0.2**
PRZ	baz=64			⇑*i*S	**Sb**	**18 06 21.3**	**0.0**
KTMS	**Ketmen** 4.0nm,0.1s	**1.02**	**35**	P	**Pg**	**18 06 10.4**	**-1.3**
KTMS	7.1nm,0.3s			S	**Sg**	**18 06 25.0**	**0.0**
KURS	**Kuram** 2.4nm,0.2s	**1.34**	**311**	P	**Pn**	**18 06 17.0**	**-0.4**
KURS	16nm,0.2s			S	**Sg**	**18 06 36.0**	**+0.8**
MNBS	**Baschi** 3.0nm,0.2s	**1.69**	**331**	P	**Pb**	**18 06 23.2**	**-0.5**
MNBS	23nm,0.2s			S	**Sg**	**18 06 46.7**	**+0.2**
KDJ	**Kajisay** baz=57	**1.82**	**256**	⇑*i*P	**Pb**	**18 06 25.6**	**-0.3**
KDJ	baz=57			⇑*i*S	**Sg**	**18 06 50.9**	**+0.3**
IZV	**Izvestkoviy** 6.3nm,0.2s	**2.20**	**282**	Pg	**Pb**	**18 06 31.7**	**-0.7**
IZV	9.7nm,0.3s			Lg	Lg	18 07 01.4	
CHKK	**Chushkaly** 2.7nm,0.1s	**2.25**	**304**	Pg	**Pb**	**18 06 32.6**	**-0.5**
CHKK	6.1nm,0.2s			Lg	Lg	18 07 03.3	
ULHL	**Ulahol** baz=63	**2.48**	**263**	⇑*i*P	**Pn**	**18 06 34.9**	**+1.8**
ULHL	baz=63			⇑*i*S	**Sb**	**18 07 07.9**	**0.0**
BOOM	**Boomskoye usch** baz=69	**2.67**	**269**	⇑*i*P	**Pn**	**18 06 37.7**	**+2.0**
BOOM	baz=69			⇑*i*S	**Sb**	**18 07 12.1**	**-1.3**
TKM2	**Tokmak 2** 1.8nm,0.8s	**2.93**	**277**	⇑Pg	**Pb**	**18 06 46.0**	**+1.2**
TKM2	3.9nm,0.5s			⇓Lg	Lg	18 07 23.9	
TKM2	**Tokmak 2** baz=78	**2.93**	**277**	⇑*i*P	**Pb**	**18 06 41.9**	**-2.9**
TKM2	baz=78			⇑*i*S	**Sb**	**18 07 18.5**	**-2.4**
KZA	**Kyzart** baz=63	**3.23**	**262**	⇓*i*P	**Pn**	**18 06 46.4**	**+2.7**
KZA	baz=63			⇓*i*S	**Sb**	**18 07 26.6**	**-3.2**

*KRNET **28** 18:05:58.0±0.1, 42°.81N×79°.53E, h14km, mb2.7*
*SOME **28** 18:05:57.9, 42°.80N×79°.53E, h0km*
ISC 28 18:05:58.1±2.5, 42°80N±0°.09×79°5E±0°.1, h8km±17km, n10, σ0§62/15, 11C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** baz=37	**0.36**	**355**	*e*P	**Pb**	**18 06 06.5**	**-0.3**
SHLS	**Shalkode** 23nm,0.1s	**0.36**	**355**	*e*P	**Pb**	**18 06 06.5**	**-0.3**
UZB	**Uzynbulak** baz=12	**0.49**	**314**	*e*P	**Pg**	**18 06 07.9**	**+0.1**
UZB	**Uzynbulak** 5.4nm,0.1s	**0.49**	**314**	*e*P	**Pg**	**18 06 07.8**	**+0.1**
PDGK	**Podgornoye** baz=56	**0.53**	**359**	⇑*i*P	**Pg**	**18 06 08.5**	**+0.1**
PRZ	**Przheval'sk** baz=49	**0.88**	**249**	⇑*i*P	**Pg**	**18 06 15.0**	**0.0**
PRZ	baz=49			⇑*i*S	**Sb**	**18 06 27.9**	**+0.3**
KDJ	**Kajisay** baz=49	**1.85**	**249**	⇑*i*P	**Pb**	**18 06 32.4**	**+0.2**
KDJ	baz=49			⇑*i*S	**Sg**	**18 06 57.7**	**+0.2**
ULHL	**Ulahol** baz=58	**2.48**	**258**	⇑*i*P	**Pb**	**18 06 42.2**	**-0.8**
ULHL	baz=58			⇑*i*S	**Sb**	**18 07 14.4**	**+0.7**
BOOM	**Boomskoye usch** baz=64	**2.65**	**264**	⇑*i*P	**Pb**	**18 06 45.0**	**-0.9**
BOOM	baz=64			⇑*i*S	**Sb**	**18 07 19.4**	**+0.8**

TKM2	**Tokmak 2** baz=74	**2.88**	**274**	⇑*i*P	**Pb**	**18 06 48.7**	**-1.1**
TKM2	baz=74			⇑*i*S	**Sb**	**18 07 25.6**	**+0.4**

*ISCJB **28** 18:22:39.6±0.9, 7°.5N±0°.1×94°.0E±0°.2, h20km, mb3.6/7, Error ellipse: s-maj=26.8km s-min=12.5km az=145.7*
*IDC **28** 18:22:46.4±4.5, 7°.67N×94°.06E, h60km±37km, mb3.4/7, mb1 3.6/9, mb1mx3.3/59, mbtmp3.6/9, ML3.4/2, Error ellipse: s-maj=55.1km s-min=15.2km az=61.0*
ISC 28 18:22:41.0±1.1, 7°5N±0°.1×93°9E±0°.2, h20km, n22, σ0§85/20, mb4.0/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat** 0.7nm,0.3s,baz=0.0,slow=15,SNR=2.9	**6.86**	**132**	P	Pn	18 24 25.5	+4.9
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=211,slow=15,SNR=7.5	**11.99**	**24**	P	**Pn**	**18 25 31.4**	**+0.5**
RAMN	**Ramite** 13nm,0.7s	**20.56**	**341**	*e*P	**P**	**18 27 19.0**	**+0.2**
JIRN	**Jiri** 6.7nm,0.6s	**21.35**	**341**	*e*P	**P**	**18 27 28.6**	**+1.1**
PKI	**Pulchoki** 6.6nm,0.6s	**21.54**	**339**	*e*P	**P**	**18 27 30.4**	**+1.0**
PKIN	**Phulchoki** 3.8nm,0.5s	**21.55**	**339**	*e*P	**P**	**18 27 30.4**	**+1.0**
DMN	**Daman** 13nm,0.6s	**21.68**	**339**	*e*P	**P**	**18 27 31.6**	**+0.8**
GUN	**Gumba** 3.9nm,0.5s	**21.69**	**341**	*e*P	**P**	**18 27 32.4**	**+1.4**
KKN	**Kakani** 11nm,0.8s	**21.78**	**339**	*e*P	**P**	**18 27 32.8**	**+0.9**
KOLN	**Koldanda** 13nm,0.6s	**22.41**	**336**	*e*P	**P**	**18 27 37.6**	**-1.0**
DANN	**Dangsing** 23nm,0.9s	**22.86**	**337**	*e*P	**P**	**18 27 43.1**	**-0.4**
PYUN	**Piuthan** 0.6nm,1.0s,baz=316,slow=3.1,SNR=3.5	**22.95**	**335**	*e*P	**P**	**18 27 44.3**	**-0.1**
H08S3	**Diego Garcia H** baz=55,slow=76	**26.05**	**235**	T	T	18 55 09.2	
H08S2	**Diego Garcia H** baz=55,slow=76	**26.06**	**235**	T	T	18 55 06.5	
H08S1	**Diego Carcia H** baz=55,slow=76	**26.07**	**235**	T	T	18 55 08.5	
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=160,slow=7.6,SNR=2.4	**40.42**	**348**	P	**P**	**18 30 16.4**	**-1.4**
SONM	**Songino Array** 0.2nm,0.5s,baz=190,slow=7.3,SNR=3.7	**41.62**	**13**	P	**P**	**18 30 26.9**	**-0.9**
ZALV	**Zalesovo Beam** 0.8nm,0.4s,baz=153,slow=8.2,SNR=3.2	**46.92**	**353**	P	**P**	**18 31 09.8**	**-0.2**
WRA	**Warramunga Arr** 0.5nm,0.5s,baz=307,slow=8.4,SNR=16	**48.26**	**125**	P	**P**	**18 31 20.9**	**-0.1**
WRA	0.6nm,1.0s,baz=316,slow=3.1,SNR=3.5			PcP	**PcP**	**18 32 47.2**	**-0.8**
ASAR	**Alice Springs** 1.2nm,0.8s,baz=301,slow=7.9,SNR=23	**49.88**	**130**	P	**P**	**18 31 33.8**	**+0.4**
ASAR	0.3nm,0.8s,baz=322,slow=2.8,SNR=3.2			PcP	**PcP**	**18 32 54.3**	**+0.5**
FINES	**FINESS Array B** 1.8nm,0.7s,baz=101,slow=7.2,SNR=3.3	**72.93**	**332**	P	**P**	**18 34 08.9**	**+0.3**
GERES	**GERESS Array B** 0.2nm,0.6s,baz=76,slow=5.4,SNR=2.3	**77.94**	**318**	P	**P**	**18 34 38.4**	**+0.5**

*ISCJB **28** 18:25:52.9±1.4, 10°.4S±0°.2×66°.3E±0°.2, h14km, mb3.7/8, Error ellipse: s-maj=40.8km s-min=23.3km az=42.5*
*IDC **28** 18:25:52.4±1.2, 10°.43S×66°.25E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.6/50, mbtmp3.8/8, Error ellipse: s-maj=42.3km s-min=23.3km az=40.0*
ISC 28 18:25:54.9±1.4, 10°4S±0°.3×66°3E±0°.2, h14km, n17, σ0§81/12, mb3.9/8, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	**Diego Garcia H** baz=228,slow=75	**6.17**	**50**	T	T	18 33 39.6	
H08N1	**Diego Garcia H** baz=228,slow=75	**6.19**	**50**	T	T	18 33 45.7	
H08N2	**Diego Garcia H** baz=228,slow=75	**6.19**	**50**	T	T	18 33 45.2	
H08S1	**Diego Carcia H** baz=245,slow=75	**6.71**	**67**	T	T	18 34 21.1	
H08S3	**Diego Carcia H** baz=245,slow=75	**6.73**	**66**	T	T	18 34 21.6	
H08S2	**Diego Carcia H** baz=245,slow=75	**6.73**	**67**	T	T	18 34 21.7	
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=243,slow=10.0,SNR=6.6	**43.15**	**49**	P	**P**	**18 33 56.0**	**+0.7**
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=182,slow=8.5,SNR=4.3	**58.70**	**13**	P	**P**	**18 35 51.3**	**-0.8**
ASAR	**Alice Springs** 1.0nm,0.8s,baz=269,slow=5.7,SNR=9.1	**65.50**	**111**	P	**P**	**18 36 37.6**	**-0.7**
ZALV	**Zalesovo Beam** 1.0nm,0.7s,baz=197,slow=7.5,SNR=4.5	**66.00**	**12**	P	**P**	**18 36 40.2**	**-0.5**
WRA	**Warramunga Arr** 1.2nm,0.8s,baz=280,slow=5.3,SNR=10	**66.03**	**107**	P	**P**	**18 36 41.5**	**-0.2**
SONM	**Songino Array** 1.1nm,0.8s,baz=235,slow=4.8,SNR=6.3	**68.02**	**28**	P	**P**	**18 36 54.4**	**+0.5**
AKASG	**Malin Array Be** 0.4nm,0.6s,baz=138,slow=5.6,SNR=5.0	**68.83**	**336**	P	**P**	**18 36 58.0**	**-0.7**
ESDC	**Sonseca Array** 0.4nm,0.6s,baz=123,slow=5.2,SNR=2.5	**81.78**	**313**	P	**P**	**18 38 14.5**	**+0.8**
PDAR	**Pinedale Array** 0.5nm,0.7s,baz=5.7,slow=0.9,SNR=4.3	**147.54**	**354**	PKPbc	**PKPdf**	**18 45 36.7**	**-0.1**
NVAR	**Mina Array Bea** 1.6nm,0.8s,baz=260,slow=2.4,SNR=7.5	**151.78**	**8**	PKPbc	**PKPbc**	**18 45 51.4**	**+1.5**
NVAR	0.7nm,0.7s,baz=343,slow=2.8,SNR=3.5			PKPab	**PKPab**	**18 45 58.4**	**-0.3**
TXAR	**Lajitas Array** 0.3nm,0.6s,baz=46,slow=3.9,SNR=2.9	**158.93**	**335**	PKPab	**PKPab**	**18 46 28.6**	**-0.7**

*IDC **28** 18:28:07.9±0.9, 36°.98N×141°.33E, h0km, mb3.5/7, mb1 3.7/10, mb1mx3.5/51, mbtmp3.6/10, ML3.1/3, Error ellipse: s-maj=23.3km s-min=16.4km az=106.0*
*ISCJB **28** 18:28:09.1±1.0, 36°.98N±0°.04×141°.42E±0°.06, h22km±6km, mb3.5/7, Error ellipse: s-maj=8.6km s-min=6.0km az=32.9*
*JMA **28** 18:28:11.9±0.1, 36°.99N×141°.23E, h33km±1km, M3.7*
JMA Felt I J1.
ISC 28 18:28:10.5±2.0, 36°98N±0°.05×141°26E±0°.07, h17km±11km, n25, σ1§05/30, mb3.6/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.39**	**288**	P	**Pn**	**18 28 20.2**	**-1.2**
ONAJ				S	**Sb**	**18 28 25.9**	**+1.2**
JFK	**Kawauchi**	**0.49**	**321**	P	**Pn**	**18 28 21.6**	**-1.2**
JFK				S	**Sb**	**18 28 28.2**	**+0.5**
JFFD	**Fukushimafurud**	**0.57**	**281**	P	**Pn**	**18 28 22.7**	**-1.1**
JFFD				S	**Sb**	**18 28 30.0**	**+0.1**
JHO	**Hitachi**	**0.67**	**236**	P	**Pn**	**18 28 24.2**	**-0.9**
JHO				S	**Sb**	**18 28 33.2**	**+0.6**
JFT	**Otama**	**0.91**	**306**	P	**Pn**	**18 28 28.7**	**+0.2**
JFT				eS	**Sg**	**18 28 40.4**	**+0.2**
JMM	**Marumori**	**0.96**	**337**	P	**Pg**	**18 28 28.6**	**-0.5**
JMM				eS	**Sb**	**18 28 40.8**	**-0.2**
JSB	**Shiboa**	**1.07**	**270**	P	**Pg**	**18 28 31.7**	**+0.5**
JSB				S	**Sg**	**18 28 45.9**	**+0.6**
JFY	**Yanaizu**	**1.31**	**289**	P	**Pg**	**18 28 35.1**	**-0.7**
JFY				S	**Sb**	**18 28 51.9**	**+0.7**
MJAR	**Matsushiro Arr** 0.6nm,0.3s,baz=100,slow=32,SNR=31	**2.49**	**261**	Pn	**Pn**	**18 28 51.7**	**+1.4**
MJAR	2.0nm,0.3s,baz=69,slow=18,SNR=9.5			Sn	**Sb**	**18 29 22.6**	**-2.5**
MAT	**Matsushiro**	**2.49**	**261**	P	**Pn**	**18 28 52.2**	**+1.9**
MAT				S	**Sb**	**18 29 23.6**	**-1.6**
JHJ	**Hachijo jima 2** 9.0nm,0.3s,baz=15,slow=20,SNR=3.0	**4.04**	**198**	Pn	**Pn**	**18 29 09.8**	**-1.7**
ASAJ	**Asahikawa** 0.5nm,0.3s,baz=201,slow=12,SNR=11	**7.20**	**8**	Pn	**Pn**	**18 29 54.4**	**-0.5**
ASAJ	0.3nm,0.3s,baz=276,slow=19,SNR=2.8			Sn	**Sn**	**18 31 16.1**	**-0.2**
SONM	**Songino Array** 0.3nm,0.4s,baz=77,slow=5.7,SNR=3.3	**27.71**	**304**	P	**P**	**18 33 58.7**	**+0.8**
H11N2	**WAKE ISLAND Hy** baz=313,slow=75,SNR=42	**28.23**	**120**	T	T	19 03 29.6	
H11N1	**WAKE ISLAND Hy** baz=313,slow=75,SNR=52	**28.23**	**121**	T	T	19 03 35.0	
H11N3	**WAKE ISLAND Hy** baz=313,slow=75,SNR=58	**28.25**	**120**	T	T	19 03 36.8	
H11S1	**WAKE ISLAND Hy** baz=315,slow=76,SNR=28	**28.93**	**123**	T	T	19 04 28.0	
H11S3	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	19 04 27.4	

	baz=315,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	19 04 26.4	
	baz=315,slow=76,SNR=14						
MKAR	**Makanchi Array**	**44.04**	**302**	P	**P**	**18 36 16.9**	**-0.3**
	0.4nm,0.6s,baz=69,slow=14,SNR=4.1						
ILAR	**Eielson Array**	**49.60**	**32**	P	**P**	**18 37 01.4**	**+0.9**
	0.6nm,0.8s,baz=273,slow=6.4,SNR=5.3						
WRA	**Warramunga Arr**	**56.99**	**188**	P	**P**	**18 37 55.0**	**-0.2**
	0.7nm,0.5s,baz=5.3,slow=7.4,SNR=21						
ASAR	**Alice Springs**	**60.72**	**188**	P	**P**	**18 38 21.5**	**+0.4**
	0.3nm,0.5s,baz=2.8,slow=6.9,SNR=10						
YKA	**Yellowknife Ar**	**63.91**	**30**	P	**P**	**18 38 41.8**	**-0.3**
	0.1nm,0.4s,baz=281,slow=6.2,SNR=3.7						
AKASG	**Malin Array Be**	**74.26**	**322**	P	**P**	**18 39 46.1**	**-0.3**
	0.2nm,0.3s,baz=48,slow=6.1,SNR=4.9						

SOME 28 18:29:19.0, 42°.53N×79°.65E, h20km, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.64**	**348**	*e*P	Pb	18 29 31.4	-0.2
	9.4nm,0.1s						
SHLS				*e*S	Sb	18 29 40.3	+0.1
	27nm,0.2s						
UZB	**Uzynbulak**	**0.77**	**323**	*e*P	Pb	18 29 33.4	-0.4
	1.4nm,0.1s						
UZB				*e*S	Sb	18 29 43.6	-0.2
	7.2nm,0.3s						

*KRNET **28** 18:30:08.9±0.1, 42°.56N×79°.62E, h16km, mb2.6*
*SOME **28** 18:30:08.4, 42°.52N×79°.53E, h10km*
ISC 28 18:30:08.4±3.0, 42°.5N±0°.1×79°.6E±0°.1, h13km±12km, n9, σ0§80/18, 8C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.62**	**352**	*e*P	**Pb**	**18 30 21.4**	**+0.2**
	baz=18						
SHLS				*e*S	**Sb**	**18 30 30.9**	**+1.0**
	baz=18						
SHLS	**Shalkode**	**0.62**	**352**	*e*P	**Pb**	**18 30 21.4**	**+0.2**
	16nm,0.1s						
SHLS				*e*S	**Sb**	**18 30 30.9**	**+1.0**
	68nm,0.2s						
UZB	**Uzynbulak**	**0.73**	**326**	*e*P	**Pg**	**18 30 22.7**	**+0.1**
	baz=24						
UZB				*e*S	**Sb**	**18 30 33.0**	**0.0**
	baz=24						
UZB	**Uzynbulak**	**0.73**	**326**	*e*P	**Pg**	**18 30 22.7**	**+0.1**
	2.6nm,0.1s						
UZB				*e*S	**Sb**	**18 30 33.0**	**0.0**
	17nm,0.2s						
PDGK	**Podgornoye**	**0.79**	**355**	⇑*i*P	**Pg**	**18 30 22.8**	**-0.9**
	baz=53						
PDGK				⇑*i*S	**Sg**	**18 30 33.9**	**-0.2**
	baz=53						
PRZ	**Przheval'sk**	**0.87**	**267**	⇑*i*P	**Pg**	**18 30 25.6**	**+0.3**
	baz=65						
PRZ				⇑*i*S	**Sn**	**18 30 38.8**	**-0.3**
	baz=65						
KDJ	**Kajisay**	**1.82**	**258**	⇑*i*P	**Pb**	**18 30 42.6**	**+0.9**
	baz=57						
KDJ				⇑*i*S	**Sg**	**18 31 08.0**	**+0.9**
	baz=57						
ULHL	**Ulahol**	**2.49**	**264**	⇑*i*P	**Pb**	**18 30 51.9**	**-1.1**
	baz=64						
ULHL				⇑*i*S	**Sb**	**18 31 24.1**	**+0.5**
	baz=64						
BOOM	**Boomskoye usch**	**2.69**	**270**	⇓*i*P	**Pb**	**18 30 54.9**	**-1.5**
	baz=70						
BOOM				⇓*i*S	**Sb**	**18 31 29.1**	**-0.3**
	baz=70						

*SOME **28** 18:34:09.3, 42°.50N×79°.67E, h25km*
*KRNET **28** 18:34:11.0±0.1, 42°.61N×79°.62E, h14km, mb2.7*
ISC 28 18:34:11.4±2.6, 42°.62N±0°.08×79°.6E±0°.1, h8km±14km, n9, σ1§05/18, 6C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.54**	**351**	*e*P	**Pg**	**18 34 22.0**	**0.0**
	baz=20						
SHLS				*e*S	**Sb**	**18 34 31.2**	**-0.1**
	baz=20						
SHLS	**Shalkode**	**0.54**	**351**	*e*P	**Pg**	**18 34 21.9**	**0.0**
	30nm,0.1s						
SHLS				*e*S	**Sb**	**18 34 31.1**	**-0.1**
	53nm,0.3s						
UZB	**Uzynbulak**	**0.67**	**323**	*e*P	**Pg**	**18 34 23.7**	**-0.5**
	baz=21						
UZB				*e*S	**Sg**	**18 34 34.1**	**+1.1**
	baz=21						
UZB	**Uzynbulak**	**0.67**	**323**	*e*P	**Pg**	**18 34 23.7**	**-0.5**
	8.7nm,0.1s						
UZB				*e*S	**Sg**	**18 34 34.1**	**+1.1**
	21nm,0.2s						
PDGK	**Podgornoye**	**0.71**	**355**	⇓*i*P	**Pg**	**18 34 24.2**	**-0.9**
	baz=52						
PDGK				⇓*i*S	**Sg**	**18 34 34.2**	**-0.2**
	baz=52						
PRZ	**Przheval'sk**	**0.88**	**262**	⇑*i*P	**Pg**	**18 34 28.4**	**+0.2**
	baz=62						
PRZ				⇑*i*S	**Sg**	**18 34 40.6**	**+0.9**
	baz=62						
KDJ	**Kajisay**	**1.84**	**255**	⇑*i*P	**Pb**	**18 34 45.3**	**0.0**
	baz=56						
KDJ				⇑*i*S	**Sg**	**18 35 10.2**	**-0.3**
	baz=56						
ULHL	**Ulahol**	**2.49**	**263**	⇑*i*P	**Pb**	**18 34 54.5**	**-2.0**
	baz=63						
ULHL				⇑*i*S	**Sb**	**18 35 27.1**	**-0.3**
	baz=63						
BOOM	**Boomskoye usch**	**2.69**	**268**	⇓*i*P	**Pn**	**18 34 56.8**	**+1.8**
	baz=69						
BOOM				⇓*i*S	**Sb**	**18 35 31.2**	**-1.7**
	baz=69						

*NNC **28** 18:35:04.5±1.6, 42°.55N×79°.62E, h0km, mb3.0, mpv3.4, Error ellipse: s-maj=11.0km s-min=5.9km az=152.0*
*SOME **28** 18:35:04.4, 42°.50N×79°.62E, h35km*
*KRNET **28** 18:35:05.3±0.1, 42°.57N×79°.57E, h14km, mb3.2*
ISC 28 18:35:03.4±1.8, 42°.50N±0°.06×79°.65E±0°.06, h10km±14km, n20, σ0§61/35, 12C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.68**	**349**	P	**Pb**	**18 35 17.6**	**+0.2**
	148nm,0.1s						
SHLS				S	**Sb**	**18 35 26.7**	**-0.1**
	445nm,0.2s						
SHLS	**Shalkode**	**0.68**	**349**	*e*P	**Pb**	**18 35 17.6**	**+0.2**
	baz=21						
SHLS				*e*S	**Sb**	**18 35 27.2**	**+0.3**
	baz=21						
SHLS	**Shalkode**	**0.68**	**349**	*e*P	**Pb**	**18 35 17.6**	**+0.2**
	148nm,0.1s						
SHLS				*e*S	**Sb**	**18 35 27.1**	**+0.3**
	445nm,0.3s						
UZB	**Uzynbulak**	**0.80**	**325**	P	**Pg**	**18 35 18.8**	**+0.1**
	13nm,0.2s						
UZB				S	**Sg**	**18 35 29.2**	**0.0**
	52nm,0.3s						
UZB	**Uzynbulak**	**0.80**	**325**	*e*P	**Pg**	**18 35 18.8**	**0.0**
	baz=25						
UZB				*e*S	**Sg**	**18 35 29.1**	**-0.1**
	baz=25						
UZB	**Uzynbulak**	**0.80**	**325**	*e*P	**Pg**	**18 35 18.8**	**0.0**
	13nm,0.2s						
UZB				*e*S	**Sg**	**18 35 29.1**	**-0.1**
	53nm,0.3s						
PDGK	**Podgornoye**	**0.84**	**352**	P	**Pg**	**18 35 19.5**	**-0.1**
	12nm,0.3s						
PDGK				S	**Sg**	**18 35 30.4**	**-0.2**
	7.7nm,0.2s						
PDGK	**Podgornoye**	**0.84**	**352**	⇑*i*P	**Pg**	**18 35 19.5**	**-0.1**
	baz=55						
PDGK				⇑*i*S	**Sg**	**18 35 30.2**	**-0.4**
	baz=55						
PRZ	**Przheval'sk**	**0.92**	**270**	⇑*i*P	**Pb**	**18 35 22.1**	**+0.5**
	baz=64						
PRZ				⇑*i*S	**Sb**	**18 35 34.2**	**+0.2**
	baz=64						
KTMS	**Ketmen**	**1.08**	**28**	P	**Pg**	**18 35 24.3**	**+0.1**
	15nm,0.1s						
KTMS				S	**Sg**	**18 35 38.1**	**-0.2**
	17nm,0.3s						
KURS	**Kuram**	**1.47**	**313**	P	**Pb**	**18 35 31.1**	**+0.2**
	2.7nm,0.4s						
KURS				S	**Sb**	**18 35 49.9**	**+0.3**
	18nm,0.2s						
MNBS	**Baschi**	**1.82**	**331**	P	**Pb**	**18 35 37.2**	**+0.2**
	11nm,0.2s						
KDJ	**Kajisay**	**1.86**	**260**	⇑*i*P	**Pg**	**18 35 39.3**	**+0.2**
	baz=57						
KDJ				⇑*i*S	**Sg**	**18 36 04.2**	**+0.9**
	baz=57						
TNSS	**Tian-Shan**	**2.06**	**286**	Pg	**Pb**	**18 35 41.4**	**+0.3**
	4.9nm,0.2s						
IZV	**Izvestkoviy**	**2.30**	**285**	Pg	**Pb**	**18 35 45.7**	**+0.6**
	16nm,0.1s						
CHKK	**Chushkaly**	**2.37**	**306**	Pg	**Pb**	**18 35 46.8**	**+0.6**
	3.2nm,0.2s						
ULHL	**Ulahol**	**2.53**	**265**	⇑*i*P	**Pb**	**18 35 49.2**	**+0.1**
	baz=64						
ULHL				⇑*i*S	**Sb**	**18 36 21.2**	**+0.8**
	baz=64						
BOOM	**Boomskoye usch**	**2.74**	**271**	⇑*i*P	**Pb**	**18 35 51.6**	**-1.0**
	baz=70						
BOOM				⇑*i*S	**Sb**	**18 36 25.8**	**-0.5**
	baz=70						
TKM2	**Tokmak 2**	**3.01**	**279**	⇓Pg	**Pb**	**18 35 57.3**	**0.0**
	0.8nm,0.4s						
TKM2				⇓Lg	Lg	18 36 37.0	
	3.7nm,0.3s						
TKM2	**Tokmak 2**	**3.01**	**279**	⇑*i*P	**Pb**	**18 35 55.4**	**-1.9**
	baz=78						
TKM2				⇑*i*S	**Sb**	**18 36 32.4**	**-1.8**
	baz=78						

*NNC **28** 18:40:41.7±1.4, 42°.55N×79°.62E, h0km, mb3.4, mpv3.6, Error ellipse: s-maj=8.9km s-min=5.4km az=137.0*
*SOME **28** 18:40:41.6, 42°.50N×79°.58E, h10km*
*KRNET **28** 18:40:42.3±0.1, 42°.57N×79°.60E, h14km, mb3.0*
*ISCJB **28** 18:40:43.6±0.8, 42°.61N±0°.04×79°.67E±0°.06, h10km, Error ellipse: s-maj=7.0km s-min=3.7km az=40.0*
ISC 28 18:40:42.1±1.3, 42°.52N±0°.05×79°.60E±0°.05, h10km, n28, σ1§42/50, 21C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.64**	**351**	P	**Pb**	**18 40 54.9**	**-0.6**
	292nm,0.1s						
SHLS				S	**Sb**	**18 41 04.5**	**-0.1**
	571nm,0.2s						
SHLS	**Shalkode**	**0.64**	**351**	*e*P	**Pb**	**18 40 54.9**	**-0.6**
	292nm,0.1s						
SHLS				*e*S	**Sb**	**18 41 04.5**	**-0.1**
	571nm,0.3s						
UZB	**Uzynbulak**	**0.75**	**326**	P	**Pg**	**18 40 56.1**	**-0.6**
	28nm,0.1s						
UZB				S	**Sg**	**18 41 06.4**	**-0.2**
	151nm,0.2s						
UZB	**Uzynbulak**	**0.75**	**326**	*e*P	**Pg**	**18 40 56.1**	**-0.6**
	28nm,0.1s						
UZB				*e*S	**Sg**	**18 41 06.4**	**-0.2**
	151nm,0.2s						
PDGK	**Podgornoye**	**0.81**	**354**	P	**Pg**	**18 40 56.8**	**-1.0**
	22nm,0.2s						
PDGK				S	**Sg**	**18 41 07.6**	**-0.8**
	13nm,0.2s						
PDGK	**Podgornoye**	**0.81**	**354**	⇓P	**Pg**	**18 40 56.7**	**-1.0**
	16nm,0.4s						
PDGK				⇑S	**Sg**	**18 41 07.5**	**-0.8**
	14nm,0.5s						
PDGK	**Podgornoye**	**0.81**	**354**	⇑*i*P	**Pg**	**18 40 56.8**	**-1.0**
	baz=54						
PDGK				⇑*i*S	**Sg**	**18 41 07.7**	**-0.6**
	baz=54						
PRZ	**Przheval'sk**	**0.89**	**268**	⇑*i*P	**Pb**	**18 40 59.1**	**-0.7**
	baz=65						
PRZ				⇑*i*S	**Sb**	**18 41 11.6**	**-0.2**
	baz=65						
SATY	**Saty**	**1.03**	**302**	*e*P	**Pg**	**18 41 00.9**	**-1.0**
	10nm,0.3s						
SATY				*e*S	**Sg**	**18 41 14.8**	**-0.5**
	111nm,0.1s						
KTMS	**Ketmen**	**1.07**	**31**	P	**Pg**	**18 41 01.5**	**-1.3**
	39nm,0.1s						
KTMS				S	**Sg**	**18 41 15.6**	**-1.2**
	28nm,0.3s						
KURS	**Kuram**	**1.42**	**313**	P	**Pb**	**18 41 08.3**	**-0.6**
	4.7nm,0.4s						
KURS				S	**Sg**	**18 41 27.1**	**-0.8**
	31nm,0.2s						
KURS	**Kuram**	**1.42**	**313**	*e*P	**Pb**	**18 41 08.1**	**-0.7**
	2.1nm,0.2s						
KURS				*e*S	**Sg**	**18 41 27.1**	**-0.8**
	16nm,0.2s						
MNBS	**Baschi**	**1.78**	**331**	P	**Pb**	**18 41 14.3**	**-0.6**
	17nm,0.2s						
MNBS				S	**Sg**	**18 41 37.9**	**-1.6**
	110nm,0.3s						
KDJ	**Kajisay**	**1.84**	**258**	⇑*i*P	**Pg**	**18 41 16.7**	**-0.7**
	baz=57						
KDJ				⇑*i*S	**Sg**	**18 41 41.5**	**+0.3**
	baz=57						
MDOK	**Medeo**	**1.98**	**290**	*e*P	**Pb**	**18 41 17.7**	**-0.7**
	11nm,0.2s						
MDOK				*e*S	**Sb**	**18 41 43.7**	**+0.5**
	36nm,0.5s						
TNSS	**Tian-Shan**	**2.02**	**286**	Pg	**Pb**	**18 41 18.4**	**-0.8**
	11nm,0.3s						
TNSS				Lg	Lg	18 41 44.7	
	320nm,0.2s						
TNSS	**Tian-Shan**	**2.02**	**286**	*e*P	**Pb**	**18 41 18.2**	**-0.9**
	17nm,0.2s						
TNSS				*e*S	**Sg**	**18 41 45.1**	**-1.9**
	28nm,0.4s						
KNDC	**Almaty**	**2.06**	**291**	⇓Pg	**Pg**	**18 41 20.3**	**-1.3**
	11nm,0.3s						
KNDC				⇑Lg	Lg	18 41 48.9	
	32nm,0.6s						
IZV	**Izvestkoviy**	**2.26**	**284**	Pg	**Pb**	**18 41 23.0**	**-0.1**
	45nm,0.1s						
IZV				Lg	Lg	18 41 52.5	
	30nm,0.2s						
CHKK	**Chushkaly**	**2.33**	**306**	Pg	**Pb**	**18 41 24.0**	**-0.2**
	6.4nm,0.1s						
CHKK				Lg	Lg	18 41 54.1	
	30nm,0.2s						
ULHL	**Ulahol**	**2.50**	**265**	⇑*i*P	**Pb**	**18 41 26.4**	**-0.9**
	baz=64						
ULHL				⇑*i*S	**Sb**	**18 41 58.8**	**+0.5**
	baz=64						
BOOM	**Boomskoye usch**	**2.71**	**271**	⇑*e*P	**Pb**	**18 41 28.8**	**-1.9**
	baz=70						
BOOM				⇑*i*S	**Sb**	**18 42 02.9**	**-1.2**
	baz=70						
NRN	**Naryn**	**2.90**	**249**	⇑*i*P	**Pb**	**18 41 32.4**	**-1.7**
	baz=48						
NRN				⇑*i*S	**Sb**	**18 42 09.1**	**-0.6**
	baz=48						
TKM2	**Tokmak 2**	**2.98**	**279**	⇑Pg	**Pb**	**18 41 33.3**	**-2.0**
	1.7nm,0.3s						
TKM2				⇑Lg	Lg	18 42 14.7	
	5.9nm,0.2s						
TKM2	**Tokmak 2**	**2.98**	**279**	⇑*i*P	**Pb**	**18 41 32.8**	**-2.6**
	baz=78						
TKM2				⇑*i*S	**Sb**	**18 42 10.0**	**-1.9**
	baz=78						
KZA	**Kyzart**	**3.26**	**264**	⇑*i*P	**Pb**	**18 41 36.8**	**-3.5**
	baz=63						
KZA				⇑*i*S	**Sb**	**18 42 17.1**	**-3.1**
	baz=63						
AAK	**Ala-Archa**	**3.77**	**273**	⇓Pg	**Pb**	**18 41 49.2**	**+0.3**
	1.2nm,0.4s						
AAK				⇑Lg	Lg	18 42 41.4	
	5.4nm,0.6s						
ARLS	**Aral**	**3.98**	**262**	⇓*i*P	**Pn**	**18 41 47.2**	**+3.9**
	baz=62						
ARLS				⇓*i*S	**Sn**	**18 42 33.3**	**+3.2**
	baz=62						

*NNC **28** 18:42:17.4±0.8, 42°.59N×79°.65E, h0km, mb4.1, mpv4.0, Error ellipse: s-maj=5.3km s-min=3.4km az=134.0*
*SOME **28** 18:42:17.5, 42°.53N×79°.77E, h30km*
*ISCJB **28** 18:42:19.0±0.7, 42°.61N±0°.03×79°.74E±0°.04, h10km, Error ellipse: s-maj=5.8km s-min=2.8km az=137.6*
*KRNET **28** 18:42:18.1±0.1, 42°.61N×79°.60E, h14km, mb3.8*
ISC 28 18:42:20.3±1.0, 42°.71N±0°.04×79°.59E±0°.04, h10km, n68, σ1§42/116, 33C-18D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.45**	**348**	P	**Pb**	**18 42 29.6**	**-0.9**
	1μm,0.1s						
SHLS				S	**Sb**	**18 42 38.7**	**+1.4**
	4μm,0.3s						
SHLS	**Shalkode**	**0.45**	**348**	*e*P	**Pb**	**18 42 29.6**	**-0.9**
	baz=21						
SHLS				*e*S	**Sb**	**18 42 38.8**	**+1.4**
	baz=21						
SHLS	**Shalkode**	**0.45**	**348**	*e*P	**Pb**	**18 42 29.6**	**-0.9**
	1μm,0.1s						
SHLS				*e*S	**Sb**	**18 42 38.8**	**+1.4**
	4μm,0.3s						
UZB	**Uzynbulak**	**0.60**	**316**	P	**Pg**	**18 42 31.5**	**-0.5**
	325nm,0.2s						
UZB				S	**Sb**	**18 42 41.8**	**+0.2**
	683nm,0.2s						
UZB	**Uzynbulak**	**0.60**	**316**	*e*P	**Pg**	**18 42 31.5**	**-0.5**
	baz=22						
UZB				*e*S	**Sb**	**18 42 41.9**	**+0.2**
	baz=22						
UZB	**Uzynbulak**	**0.60**	**316**	*e*P	**Pg**	**18 42 31.5**	**-0.5**
	325nm,0.1s						
UZB				*e*S	**Sb**	**18 42 41.9**	**+0.2**
	684nm,0.3s						
PDGK	**Podgornoye**	**0.62**	**353**	P	**Pg**	**18 42 31.9**	**-0.4**
	40nm,0.1s						
PDGK				S	**Sb**	**18 42 42.3**	**+0.2**
	445nm,0.4s						
PDGK	**Podgornoye**	**0.62**	**353**	⇑P	**Pg**	**18 42 31.9**	**-0.4**
	9.3nm,0.2s						
PDGK				⇓S	**Sb**	**18 42 42.4**	**+0.2**
	480nm,0.5s						
PDGK	**Podgornoye**	**0.62**	**353**	⇑*i*P	**Pg**	**18 42 31.9**	**-0.4**
	baz=54						
PDGK				⇑*i*S	**Sb**	**18 42 42.3**	**+0.2**
	baz=54						
PRZ	**Przheval'sk**	**0.91**	**256**	⇑*i*P	**Pg**	**18 42 35.4**	**-2.5**
	baz=62						
PRZ				⇑*i*S	**Sg**	**18 42 47.8**	**-1.9**
	baz=62						
KTMS	**Ketmen**	**0.92**	**37**	P	**Pg**	**18 42 36.3**	**-1.7**
	183nm,0.1s						
KTMS				S	**Sb**	**18 42 49.8**	**-1.0**
	420nm,0.3s						
KURS	**Kuram**	**1.30**	**307**	P	**Pn**	**18 42 43.7**	**-0.8**
	88nm,0.2s						
KURS				S	**Sg**	**18 43 02.6**	**+0.5**
	178nm,0.6s						
KURS	**Kuram**	**1.30**	**307**	*e*P	**Pn**	**18 42 43.6**	**-0.9**
	baz=11						
KURS				*e*S	**Sg**	**18 43 02.6**	**+0.5**
	baz=11						
KURS	**Kuram**	**1.30**	**307**	*e*P	**Pn**	**18 42 43.6**	**-0.9**
	78nm,0.4s						
KURS				*e*S	**Sg**	**18 43 02.6**	**+0.5**
	102nm,0.4s						
MNBS	**Baschi**	**1.62**	**328**	P	**Pb**	**18 42 49.7**	**-0.6**
	67nm,0.2s						
MNBS				S	**Sg**	**18 43 13.3**	**+0.9**
	661nm,0.3s						
DJR	**Jarkent**	**1.62**	**5**	*e*P	**Pb**	**18 42 49.3**	**-1.1**
	20nm,0.2s						
DJR				*e*S	**Sg**	**18 43 12.3**	**-0.2**
	137nm,0.3s						
KDJ	**Kajisay**	**1.88**	**253**	⇑*i*P	**Pn**	**18 42 52.8**	**+0.1**
	baz=56						
KDJ				⇑*i*S	**Sb**	**18 43 17.7**	**-0.7**
	baz=56						
KOTS	**Kotyrbulak**	**1.89**	**287**	*e*P	**Pb**	**18 42 54.8**	**-0.2**
	baz=90						
KOTS				*e*S	**Sg**	**18 43 22.2**	**+1.0**
	baz=90						
KOTS	**Kotyrbulak**	**1.89**	**287**	*e*P	**Pb**	**18 42 54.8**	**-0.2**
	61nm,0.1s						
KOTS				*e*S	**Sg**	**18 43 22.1**	**+1.0**
	445nm,0.3s						
MDOK	**Medeo**	**1.92**	**284**	*e*P	**Pn**	**18 42 53.7**	**+0.5**
	baz=87						
MDOK				*e*S	**Sb**	**18 43 20.0**	**+0.4**
	baz=87						
MDOK	**Medeo**	**1.92**	**284**	*e*P	**Pn**	**18 42 53.7**	**+0.5**
	74nm,0.3s						
MDOK				*e*S	**Sb**	**18 43 20.0**	**+0.4**
	211nm,0.5s						
TNSS	**Tian-Shan**	**1.97**	**280**	Pg	**Pn**	**18 42 54.4**	**+0.2**
	90nm,0.3s						
TNSS				Lg	Lg	18 43 21.2	
	218nm,0.2s						
ARXS	**Arharly**	**1.98**	**320**	*e*P	**Pb**	**18 42 55.3**	**-1.1**
	77nm,0.5s						
ARXS				*e*S	**Sg**	**18 43 22.6**	**-1.2**
	451nm,0.5s						
KNDC	**Almaty**	**1.99**	**286**	⇑Pg	**Pb**	**18 42 54.9**	**-1.8**
	77nm,0.4s						
KNDC				⇑Lg	Lg	18 43 24.0	
	192nm,0.5s						
IZV	**Izvestkoviy**	**2.21**	**279**	Pg	**Pb**	**18 42 58.9**	**-1.7**
	148nm,0.2s						
IZV				Lg	Lg	18 43 28.8	
	260nm,0.3s						
CHKK	**Chushkaly**	**2.22**	**302**	Pg	**Pb**	**18 42 59.5**	**-1.0**
	130nm,0.4s						
CHKK				Lg	Lg	18 43 30.2	
	112nm,0.2s						
CHKK	**Chushkaly**	**2.22**	**302**	*e*P	**Pb**	**18 42 59.9**	**-0.6**
	baz=4.0						
CHKK				*e*S	**Sg**	**18 43 30.1**	**-1.4**
	baz=4.0						
CHKK	**Chushkaly**	**2.22**	**302**	*e*P	**Pb**	**18 42 59.9**	**-0.6**
	18nm,0.1s						
CHKK				*e*S	**Sg**	**18 43 30.1**	**-1.4**
	192nm,0.3s						
KTBS	**Karatobe**	**2.35**	**296**	*e*P	**Pb**	**18 43 02.0**	**-0.8**
	baz=97						
KTBS				*e*S	**Sg**	**18 43 33.8**	**-2.0**
	baz=97						
KTBS	**Karatobe**	**2.35**	**296**	*e*P	**Pb**	**18 43 01.9**	**-0.8**
	34nm,0.2s						
KTBS				*e*S	**Sg**	**18 43 33.8**	**-2.0**
	275nm,0.6s						
MTBS	**Maitube**	**2.36**	**281**	*e*P	**Pb**	**18 43 01.9**	**-1.1**
	baz=84						
MTBS				*e*S	**Sb**	**18 43 33.7**	**+1.5**
	baz=84						
MTBS	**Maitube**	**2.36**	**281**	*e*P	**Pb**	**18 43 01.9**	**-1.1**
	193nm,0.4s						
MTBS				*e*S	**Sb**	**18 43 33.6**	**+1.5**
	176nm,0.4s						
ULHL	**Ulahol**	**2.52**	**260**	P	**Sb**	**18 43 37.2**	**+0.2**
	SNR=11						
ULHL	**Ulahol**	**2.52**	**260**	⇑*i*P	**Pn**	**18 43 02.1**	**+0.6**
	baz=63						
ULHL				⇑*i*S	**Sb**	**18 43 34.5**	**-2.5**
	baz=63						
KAPS	**Kapalarasan**	**2.58**	**356**	*e*P	**Pb**	**18 43 05.1**	**-1.5**
	12nm,0.2s						
KAPS				*e*S	**Sb**	**18 43 39.2**	**+0.8**
	160nm,0.4s						
KUU	**Kurty**	**2.65**	**297**	*e*P	**Pb**	**18 43 06.5**	**-1.4**
	baz=99						
KUU				*e*S	**Sb**	**18 43 41.7**	**+1.2**
	baz=99						
KUU	**Kurty**	**2.65**	**297**	*e*P	**Pb**	**18 43 06.5**	**-1.4**
	8.6nm,0.2s						
KUU				*e*S	**Sb**	**18 43 41.7**	**+1.2**
	163nm,0.3s						
KST	**Kastek**	**2.69**	**278**	*e*P	**Pb**	**18 43 06.1**	**-2.5**
	baz=80						
KST				*e*S	**Sb**	**18 43 41.7**	**+0.1**
	baz=80						
KST	**Kastek**	**2.69**	**278**	*e*P	**Pb**	**18 43 06.1**	**-2.5**
	32nm,0.2s						
KST				*e*S	**Sb**	**18 43 41.8**	**+0.1**
	131nm,0.5s						
BOOM	**Boomskoye usch**	**2.71**	**266**	⇑*i*P	**Pn**	**18 43 04.6**	**+0.6**
	baz=69						
BOOM				⇑*i*S	**Sb**	**18 43 39.1**	**-3.1**
	baz=69						
DGS	**Degeres**	**2.85**	**282**	*e*P	**Pb**	**18 43 10.3**	**-1.1**

DGS	**Degeres**	**2.85**	**282**	*e*P	**Pb**	**18 43 10.3**	**-1.1**
	95nm,0.4s						
DGS				*e*S	**Sb**	**18 43 48.1**	**+1.7**
	157nm,0.7s						
TKM2	**Tokmak 2**	**2.95**	**275**	P	**Pn**	**18 43 08.8**	**+1.4**
	SNR=13						
TKM2	**Tokmak 2**	**2.95**	**275**	⇓Pg	**Pb**	**18 43 11.0**	**-2.0**
	9.6nm,0.3s						
TKM2				⇑Lg	Lg	18 43 51.8	
	48nm,0.4s						
TKM2	**Tokmak 2**	**2.95**	**275**	⇑*i*P	**Pn**	**18 43 08.5**	**+1.1**
	baz=77						
TKM2				⇑*i*S	**Sn**	**18 43 45.5**	**+2.6**
	baz=77						
NRN	**Naryn**	**2.97**	**246**	⇓*e*P	**Pn**	**18 43 08.7**	**+1.0**
	baz=48						
NRN				⇓*i*S	**Sn**	**18 43 45.0**	**+1.5**
	baz=48						
KZA	**Kyzart**	**3.28**	**260**	P	**Pb**	**18 43 18.1**	**-0.7**
	SNR=5.9						
KZA	**Kyzart**	**3.28**	**260**	⇑*i*P	**Pn**	**18 43 12.7**	**+0.6**
	baz=62						
KZA				⇑*i*S	**Sn**	**18 43 52.7**	**+1.3**
	baz=62						
KBK	**Karagaybulak**	**3.43**	**271**	P	**Pn**	**18 43 14.6**	**+0.7**
	SNR=7.3						
KBK	**Karagaybulak**	**3.43**	**271**	⇑*e*P	**Pn**	**18 43 15.1**	**+1.2**
	baz=72						
KBK				⇑*i*S	**Sn**	**18 43 56.9**	**+2.2**
	baz=72						
CHMS	**Chumysh**	**3.57**	**276**	P	**Pb**	**18 43 22.1**	**-1.5**
	SNR=7.8						
CHMS	**Chumysh**	**3.57**	**276**	⇓*e*P	**Pn**	**18 43 17.0**	**+1.2**
	baz=78						
CHMS				⇓*i*S	**Sn**	**18 44 00.4**	**+2.4**
	baz=78						
FRU1	**Bishkek**	**3.66**	**273**	⇑*i*P	**Pn**	**18 43 18.1**	**+1.1**
	baz=75						
FRU1				⇑*i*S	**Sn**	**18 44 02.3**	**+2.1**
	baz=75						
AAK	**Ala-Archa**	**3.76**	**271**	⇓Pg	**Pb**	**18 43 25.9**	**-1.0**
	7.0nm,0.5s						
AAK				⇑Lg	Lg	18 44 16.9	
	27nm,0.5s						
USP	**Ospenovka**	**3.78**	**280**	P	**Pb**	**18 43 24.8**	**-2.3**
	SNR=7.5						
USP	**Ospenovka**	**3.78**	**280**	⇑*i*P	**Pn**	**18 43 20.2**	**+1.6**
	baz=82						
USP				⇑*i*S	**Sn**	**18 44 05.5**	**+2.4**
	baz=82						
UCH	**Uchtor**	**3.79**	**264**	⇓*i*P	**Pn**	**18 43 20.2**	**+1.0**
	baz=66						
UCH				⇓*i*S	**Sn**	**18 44 05.4**	**+1.4**
	baz=66						
ARLS	**Aral**	**4.00**	**259**	⇓*i*P	**Pn**	**18 43 22.8**	**+1.0**
	baz=61						
ARLS				⇓*i*S	**Sn**	**18 44 09.8**	**+0.9**
	baz=61						
EKS2	**Erkin-Say**	**4.29**	**271**	P	**Pb**	**18 43 36.4**	**+0.6**
	SNR=7.7						
AML	**Almayashu**	**4.41**	**264**	P	**Pb**	**18 43 40.7**	**+2.7**
	SNR=8.6						
MAKZ	**Makanchi**	**4.43**	**22**	⇑Pn	**Pn**	**18 43 28.7**	**+1.1**
	4.4nm,0.2s						
MAKZ				⇓Sn	**Sn**	**18 44 21.8**	**+2.6**
	3.0nm,0.3s						
MAKZ				⇑Lg	Lg	18 44 41.8	
	4.1nm,0.4s						
MK31	**Makanchi Array**	**4.51**	**24**	Pn	**Pn**	**18 43 29.2**	**+0.6**
	1.4nm,0.2s,baz=204,slow=11,SNR=20						
MK31				⇓Sn	**Sn**	**18 44 22.7**	**+1.6**
	1.4nm,0.3s,baz=203,slow=24,SNR=4.0						
MK31				⇑Lg	Lg	18 44 43.7	
	6.4nm,0.5s,baz=215,slow=23,SNR=3.6						
MNAS	**Manas**	**5.24**	**270**	⇑Pg	**Pb**	**18 43 54.0**	**+2.0**
	4.3nm,0.8s						
MNAS				⇑Lg	Lg	18 45 03.7	
	16nm,0.7s						
SFK	**Sufi-Kurgan**	**5.32**	**242**	⇑Pg	**Pb**	**18 43 55.0**	**+1.6**
	5.2nm,0.8s						
SFK				⇑Lg	Lg	18 45 06.4	
	14nm,0.8s						
KK31	**Karatay Array**	**6.68**	**276**	Pg	**Pb**	**18 44 19.4**	**+2.9**
	0.7nm,0.3s,baz=86,slow=26,SNR=9.2						
KK31				Lg	Lg	18 45 52.4	
	4.4nm,0.4s,baz=92,slow=29,SNR=7.0						
OTUK	**Ortayu**	**7.52**	**320**	⇓Pn	**Pn**	**18 44 10.0**	**0.0**
	0.8nm,0.3s						
OTUK				⇓Pg	**Pg**	**18 44 39.4**	**-4.7**
	1.8nm,0.6s						
OTUK				⇓Sn	**Sn**	**18 45 35.4**	**+0.2**
	3.8nm,0.8s						
OTUK				⇓Lg	Lg	18 46 20.9	
	10nm,0.9s						
KURBB	**Kurchatov Arra**	**7.95**	**355**	⇑Lg	Lg	18 46 32.6	
	25nm,0.6s						
KURK	**Kurchatov**	**8.03**	**356**	⇓Lg	Lg	18 46 36.1	
	12nm,0.7s						

*IDC **28** 18:46:38.2±1.9, 42°.46N×79°.63E, h0km, mb3.4/1, mb1 3.3/7, mb1mx3.2/38, mbtmp3.3/7, ML3.3/5, Error ellipse: s-maj=25.2km s-min=11.5km az=145.0*
*SOME **28** 18:46:39.6, 42°.52N×79°.65E, h25km*
*NNC **28** 18:46:40.9±0.8, 42°.60N×79°.55E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=6.9km s-min=3.3km az=122.0*
*KRNET **28** 18:46:40.3±0.1, 42°.56N×79°.56E, h16km, mb4.1*
*BJI **28** 18:46:40.0, 42°.58N×79°.52E, h5km, ML3.5/9*
ISC 28 18:46:42.7±1.3, 42°.67N±0°.03×79°.54E±0°.04, h7km±9km, n64, σ1°.946/106, 31C-15D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.49**	**353**	*e*P	**Pg**	**18 46 53.0**	**+0.9**
	baz=22						
SHLS				*e*S	**Sb**	**18 47 02.6**	**+1.5**
	baz=22						
SHLS	**Shalkode**	**0.49**	**353**	*e*P	**Pg**	**18 46 53.0**	**+0.9**
	1μm,0.2s						
SHLS				*e*S	**Sb**	**18 47 02.5**	**+1.5**
	4μm,0.3s						
UZB	**Uzynbulak**	**0.61**	**322**	*e*P	**Pg**	**18 46 54.2**	**-0.2**
	baz=26						
UZB				*e*S	**Sb**	**18 47 04.6**	**0.0**
	baz=26						
UZB	**Uzynbulak**	**0.61**	**322**	*e*P	**Pg**	**18 46 54.2**	**-0.2**
	239nm,0.1s						
UZB				*e*S	**Sb**	**18 47 04.6**	**0.0**
	1μm,0.3s						
PDGK	**Podgornoye**	**0.66**	**357**	⇓P	**Pg**	**18 46 55.0**	**-0.4**
	111nm,0.3s						
PDGK				⇑S	**Sg**	**18 47 05.4**	**+1.4**
	223nm,0.7s						
PDGK	**Podgornoye**	**0.66**	**357**	⇓*i*P	**Pg**	**18 46 55.0**	**-0.4**
	baz=56						
PDGK				⇓*i*S	**Sb**	**18 47 05.9**	**-0.1**
	baz=56						
PRZ	**Przheval'sk**	**0.86**	**258**	⇑*i*P	**Pg**	**18 46 57.3**	**-1.9**
	baz=65						
PRZ				⇑*i*S	**Sg**	**18 47 09.9**	**-0.6**
	baz=65						
SATY	**Saty**	**0.92**	**295**	*e*P	**Pg**	**18 46 59.0**	**-1.3**
	34nm,0.3s						
SATY				*e*S	**Sg**	**18 47 13.0**	**+0.7**
	624nm,0.2s						
KURS	**Kuram**	**1.29**	**310**	*e*P	**Pn**	**18 47 06.6**	**-0.6**
	baz=13						
KURS				*e*S	**Sn**	**18 47 25.6**	**+0.8**
	baz=13						
KURS	**Kuram**	**1.29**	**310**	*e*P	**Pn**	**18 47 06.6**	**-0.6**
	12nm,0.2s						
KURS				*e*S	**Sn**	**18 47 25.6**	**+0.8**
	110nm,0.4s						
DJR	**Jarkent**	**1.67**	**6**	*e*P	**Pn**	**18 47 12.6**	**+0.2**
	33nm,0.3s						
DJR				*e*S	**Sg**	**18 47 36.6**	**+0.3**
	45nm,0.2s						
KDJ	**Kajisay**	**1.83**	**254**	⇑*i*P	**Pn**	**18 47 14.7**	**0.0**
	baz=57						
KDJ				⇑*i*S	**Sb**	**18 47 39.4**	**-0.3**
	baz=57						
KOTS	**Kotyrbulak**	**1.87**	**288**	*e*P	**Pn**	**18 47 16.1**	**+0.9**
	baz=91						
KOTS				*e*S	**Sg**	**18 47 42.8**	**+0.1**
	baz=91						
KOTS	**Kotyrbulak**	**1.87**	**288**	*e*P	**Pn**	**18 47 16.1**	**+0.9**
	37nm,0.2s						
KOTS				*e*S	**Sg**	**18 47 42.8**	**+0.1**
	826nm,0.4s						
MDOK	**Medeo**	**1.90**	**286**	*e*P	**Pn**	**18 47 16.1**	**+0.6**
	baz=89						
MDOK				*e*S	**Sb**	**18 47 42.2**	**+0.6**
	baz=89						
MDOK	**Medeo**	**1.90**	**286**	*e*P	**Pn**	**18 47 16.1**	**+0.6**
	94nm,0.2s						
MDOK				*e*S	**Sb**	**18 47 42.2**	**+0.6**
	459nm,0.6s						
TNSS	**Tian-Shan**	**1.94**	**282**	*e*P	**Pn**	**18 47 16.6**	**+0.2**
	baz=85						
TNSS				*e*S	**Sb**	**18 47 43.4**	**+0.3**
	baz=85						
TNSS	**Tian-Shan**	**1.94**	**282**	*e*P	**Pn**	**18 47 16.6**	**+0.2**
	83nm,0.2s						
TNSS				*e*S	**Sb**	**18 47 43.4**	**+0.3**
	253nm,0.1s						
KNDC	**Almaty**	**1.97**	**287**	⇑Pg	**Pn**	**18 47 18.0**	**+1.5**
	102nm,0.4s						
KNDC				⇓Lg	Lg	18 47 44.8	
	592nm,0.6s						
ARXS	**Arharly**	**1.98**	**322**	*e*P	**Pn**	**18 47 18.1**	**+1.4**
	38nm,0.3s						
ARXS				*e*S	**Sb**	**18 47 45.7**	**+1.6**
	594nm,0.5s						
MTBS	**Maitube**	**2.33**	**282**	*e*P	**Pn**	**18 47 23.2**	**+1.7**
	baz=85						
MTBS				*e*S	**Sb**	**18 47 54.5**	**+0.4**
	baz=85						
MTBS	**Maitube**	**2.33**	**282**	*e*P	**Pn**	**18 47 23.2**	**+1.7**
	95nm,0.3s						
MTBS				*e*S	**Sb**	**18 47 54.5**	**+0.4**
	354nm,0.2s						
KTBS	**Karatobe**	**2.33**	**297**	*e*P	**Pn**	**18 47 23.2**	**+1.7**
	baz=98						
KTBS				*e*S	**Sb**	**18 47 54.4**	**+0.3**
	baz=98						
KTBS	**Karatobe**	**2.33**	**297**	*e*P	**Pn**	**18 47 23.2**	**+1.7**
	54nm,0.3s						
KTBS				*e*S	**Sb**	**18 47 54.4**	**+0.3**
	985nm,0.8s						
ULHL	**Ulahol**	**2.48**	**261**	P	**Pn**	**18 47 23.7**	**+0.1**
	SNR=19						
ULHL	**Ulahol**	**2.48**	**261**	⇑*i*P	**Pn**	**18 47 23.7**	**+0.1**
	baz=64						
ULHL				⇑*i*S	**Sn**	**18 47 56.6**	**+2.4**
	baz=64						
KAPS	**Kapalarasan**	**2.62**	**357**	*e*P	**Pb**	**18 47 28.7**	**-1.2**
	26nm,0.3s						
KAPS				*e*S	**Sb**	**18 48 04.6**	**+2.4**
	53nm,0.2s						
KUU	**Kurty**	**2.64**	**299**	*e*P	**Pb**	**18 47 29.1**	**-1.1**
	baz=1.0						
KUU				*e*S	**Sb**	**18 48 05.1**	**+2.3**
	baz=1.0						
KUU	**Kurty**	**2.64**	**299**	*e*P	**Pb**	**18 47 29.1**	**-1.1**
	12nm,0.2s						
KUU				*e*S	**Sb**	**18 48 05.0**	**+2.3**
	286nm,0.5s						
BOOM	**Boomskoye usch**	**2.67**	**267**	⇓*i*P	**Pn**	**18 47 26.9**	**+0.8**
	baz=70						
BOOM				⇓*i*S	**Sn**	**18 48 00.8**	**+2.0**
	baz=70						
NRN	**Naryn**	**2.91**	**246**	⇑*i*P	**Pn**	**18 47 30.2**	**+0.5**
	baz=48						
NRN				⇑*i*S	**Sn**	**18 48 07.1**	**+2.0**
	baz=48						
TKM2	**Tokmak 2**	**2.91**	**276**	P	**Pn**	**18 47 30.7**	**+1.1**
	SNR=39						
TKM2	**Tokmak 2**	**2.91**	**276**	⇓Pg	**Pb**	**18 47 32.9**	**-2.1**
	20nm,0.4s						
TKM2				⇓Lg	Lg	18 48 14.3	
	139nm,0.6s						
TKM2	**Tokmak 2**	**2.91**	**276**	⇑*i*P	**Pn**	**18 47 30.5**	**+0.9**
	baz=78						
TKM2				⇑*i*S	**Sn**	**18 48 07.6**	**+2.7**
	baz=78						
KZA	**Kyzart**	**3.23**	**261**	P	**Pn**	**18 47 35.1**	**+0.9**
	SNR=30						
KZA	**Kyzart**	**3.23**	**261**	⇓*e*P	**Pn**	**18 47 34.8**	**+0.6**
	baz=63						
KZA				⇓*i*S	**Sn**	**18 48 15.1**	**+2.0**
	baz=63						
KBK	**Karagaybulak**	**3.39**	**271**	P	**Pn**	**18 47 36.9**	**+0.9**
	SNR=21						
KBK	**Karagaybulak**	**3.39**	**271**	⇑*i*P	**Pn**	**18 47 36.8**	**+0.7**
	baz=73						
KBK				⇑*i*S	**Sn**	**18 48 18.9**	**+2.3**
	baz=73						
CHMS	**Chumysh**	**3.54**	**277**	P	**Pn**	**18 47 38.8**	**+0.8**
	SNR=15						
CHMS	**Chumysh**	**3.54**	**277**	⇑*i*P	**Pn**	**18 47 39.0**	**+1.0**
	baz=79						
CHMS				⇑*i*S	**Sn**	**18 48 22.5**	**+2.4**
	baz=79						
FRU1	**Bishkek**	**3.62**	**274**	⇑*i*P	**Pn**	**18 47 40.2**	**+1.0**
	baz=76						
FRU1				⇑*i*S	**Sn**	**18 48 24.4**	**+2.2**
	baz=76						
AAK	**Ala-Archa**	**3.72**	**271**	Pn	**Pn**	**18 47 40.9**	**+0.3**
	1.7nm,0.3s,baz=92,slow=5.9,SNR=14						
AAK				Lg	Lg	18 48 36.4	
	4.6nm,0.3s,baz=354,slow=19,SNR=5.0						
AAK	**Ala-Archa**	**3.72**	**271**	P	**Pb**	**18 47 45.1**	**-3.6**
	SNR=8.6						
AAK	**Ala-Archa**	**3.72**	**271**	⇑Pn	**Pn**	**18 47 42.0**	**+1.3**
	3.5nm,0.3s						
AAK				⇑Pg	**Pb**	**18 47 47.3**	**-1.5**
	17nm,0.7s						
AAK				⇑Lg	Lg	18 48 38.7	
	31nm,0.4s						
UCH	**Uchtor**	**3.75**	**265**	P	**Pn**	**18 47 43.2**	**+1.9**
	SNR=8.1						
USP	**Ospenovka**	**3.75**	**281**	P	**Pn**	**18 47 41.8**	**+0.9**
	SNR=11						
ARLS	**Aral**	**3.96**	**260**	⇑*i*P	**Pn**	**18 47 44.8**	**+0.9**
	baz=62						
ARLS				⇑*i*S	**Sn**	**18 48 30.9**	**+0.3**
	baz=62						
KSH	**Kashi**	**4.15**	**222**	Pg	**Pg**	**18 48 03.8**	**+1.7**
KSH				Sg	**Sg**	**18 49 00.3**	**+4.5**
KSH				smax	smax		
	comp=N,74nm,0.9s						
KSH				smax	smax		
	comp=E,76nm,0.7s						
EKS2	**Erkin-Say**	**4.25**	**272**	P	**Pb**	**18 47 59.3**	**+1.5**
	SNR=11						
EKS2	**Erkin-Say**	**4.25**	**272**	⇑*e*P	**Pn**	**18 47 49.4**	**+1.5**
	baz=73						
EKS2				⇑*i*S	**Sn**	**18 48 39.3**	**+1.5**
	baz=73						
AML	**Almayashu**	**4.36**	**265**	P	**Pb**	**18 48 00.6**	**+0.8**
	SNR=17						
MAKZ	**Makanchi**	**4.49**	**22**	⇑Pn	**Pn**	**18 47 51.8**	**+0.7**
	4.7nm,0.3s						
MAKZ				⇑Sn	**Sn**	**18 48 46.1**	**+2.6**
	2.5nm,0.3s						
MAKZ				⇑Lg	Lg	18 49 04.9	
	16nm,0.8s						
MK31	**Makanchi Array**	**4.56**	**24**	⇓Pn	**Pn**	**18 47 52.8**	**+0.7**
	1.1nm,0.2s,baz=203,slow=13,SNR=83						
MK31				⇑Pg	**Pb**	**18 48 03.5**	**+0.5**
	2.1nm,0.3s,baz=202,slow=13,SNR=3.5						
MK31				Sn	**Sn**	**18 48 48.0**	**+2.6**
	9.8nm,0.4s,baz=202,slow=26,SNR=2.7						
MK31				⇓Lg	Lg	18 49 05.2	
	6.9nm,0.5s,baz=193,slow=27,SNR=6.4						
MKAR	**Makanchi Array**	**4.56**	**24**	Pn	**Pn**	**18 47 52.8**	**+0.7**
	4.1nm,0.3s,baz=204,slow=13,SNR=33						
MKAR				Sn	**Sn**	**18 48 47.5**	**+2.1**
	4.0nm,0.3s,baz=201,slow=28,SNR=6.6						
MKAR				Lg	Lg	18 49 04.4	
	5.4nm,0.3s,baz=194,slow=33,SNR=7.8						
MNAS	**Manas**	**5.20**	**270**	⇑Pg	**Pb**	**18 48 15.4**	**+1.4**
	8.3nm,0.5s						
MNAS				⇓Lg	Lg	18 49 26.3	
	9.8nm,0.6s						
SFK	**Sufi-Kurgan**	**5.26**	**242**	⇓Pg	**Pb**	**18 48 15.4**	**+0.3**
	7.2nm,0.5s						
SFK				⇑Lg	Lg	18 49 26.9	
	26nm,1.1s						
WMQ	**Urumqi**	**6.07**	**76**	*e*Pn	**Pn**	**18 48 11.8**	**-1.0**
WMQ				smax	smax		
	comp=N,38nm,0.7s						
WMQ				smax	smax		
	comp=E,45nm,0.7s						
KK31	**Karatay Array**	**6.65**	**277**	Pg	Pb	18 48 44.2	+5.7
	2.5nm,0.5s,baz=74,slow=18,SNR=9.2						
KK31				⇓Lg	Lg	18 50 12.7	
	8.0nm,0.5s,baz=98,slow=27,SNR=11						
KURBB	**Kurchatov Arra**	**7.98**	**355**	Pn	**Pn**	**18 48 39.8**	**+0.8**
	0.0nm,0.3s,baz=196,slow=6.8,SNR=2.9						
KURBB				Lg	Lg	18 50 54.8	
	0.2nm,0.3s,baz=165,slow=28,SNR=6.1						
ZALV	**Zalesovo Beam**	**11.81**	**15**	Pn	**Pn**	**18 49 30.3**	**-1.1**
	0.3nm,0.3s,baz=200,slow=13,SNR=4.3						
ZALV				Sn	**Sn**	**18 51 45.3**	**+1.9**
	0.3nm,0.3s,baz=204,slow=24,SNR=2.7						
BVAR	**Borovoye Array**	**12.03**	**333**	Pn	**Pn**	**18 49 33.5**	**-1.0**
	0.1nm,0.3s,baz=159,slow=16,SNR=3.7						
BVAR				Lg	Lg	18 53 07.2	
	0.3nm,0.3s,baz=147,slow=27,SNR=2.9						
GTA	**Gaotai**	**15.64**	**95**	*e*P	**Pn**	**18 50 23.0**	**-0.5**
GTA				pP	P	18 50 27.5	-0.3
GTA				sP	pP	18 50 30.3	-0.2
SONM	**Songino Array**	**19.55**	**65**	P	**P**	**18 51 07.1**	**-3.8**
	0.2nm,0.3s,baz=256,slow=40,SNR=3.8						
BRTR	**Keskin Array B**	**34.34**	**281**	P	**P**	**18 53 27.3**	**-2.7**
	0.4nm,0.7s,baz=89,slow=9.2,SNR=3.2						

*SOME **28** 18:47:50.5, 42°.58N×79°.63E, h15km*
*NNC **28** 18:47:50.8±3.2, 42°.62N×79°.65E, h3km±15km, mb3.7, mpv4.2, Error ellipse: s-maj=23.5km s-min=10.6km az=175.0*
*KRNET **28** 18:47:51.0±0.1, 42°.60N×79°.61E, h16km, mb3.8*
ISC 28 18:47:50.7±1.7, 42°.67N±0°.05×79°.69E±0°.05, h0km±11km, n33, σ0°.89/65, 8C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.51**	**341**	P	**Pb**	**18 48 02.4**	**-0.3**
	491nm,0.1s						
SHLS				S	**Sb**	**18 48 11.3**	**+0.6**
	2μm,0.2s						
SHLS	**Shalkode**	**0.51**	**341**	*e*P	**Pb**	**18 48 02.4**	**-0.3**
	baz=20						
SHLS				*e*S	**Sb**	**18 48 11.4**	**+0.6**
	baz=20						
SHLS	**Shalkode**	**0.51**	**341**	*e*P	**Pb**	**18 48 02.4**	**-0.3**
	482nm,0.1s						
SHLS				*e*S	**Sb**	**18 48 11.4**	**+0.6**
	2μm,0.4s						
PDGK	**Podgornoye**	**0.67**	**348**	P	**Pb**	**18 48 04.6**	**-0.8**
	17nm,0.2s						
PDGK				S	**Sb**	**18 48 15.1**	**-0.2**
	65nm,0.3s						
PDGK	**Podgornoye**	**0.67**	**348**	⇓*i*P	**Pb**	**18 48 04.6**	**-0.8**
	baz=53						
PDGK				⇓*i*S	**Sb**	**18 48 14.9**	**-0.4**
	baz=53						
UZB	**Uzynbulak**	**0.68**	**315**	P	**Pg**	**18 48 04.3**	**+0.5**
	102nm,0.1s						
UZB				S	**Sb**	**18 48 14.5**	**-1.1**
	154nm,0.2s						
UZB	**Uzynbulak**	**0.68**	**315**	*e*P	**Pg**	**18 48 04.3**	**+0.5**
	baz=22						
UZB				*e*S	**Sb**	**18 48 14.5**	**-1.1**
	baz=22						
UZB	**Uzynbulak**	**0.68**	**315**	*e*P	**Pg**	**18 48 04.3**	**+0.5**
	102nm,0.2s						
UZB				*e*S	**Sb**	**18 48 14.5**	**-1.1**
	154nm,0.2s						
KTMS	**Ketmen**	**0.92**	**32**	P	**Pb**	**18 48 09.2**	**-0.4**
	106nm,0.1s						
KTMS				S	**Sn**	**18 48 22.5**	**-2.4**
	169nm,0.1s						
PRZ	**Przheval'sk**	**0.97**	**259**	⇑*i*P	**Pg**	**18 48 08.4**	**-0.8**
	baz=63						
PRZ				⇑*i*S	**Sg**	**18 48 20.4**	**-1.4**
	baz=63						
SATY	**Saty**	**1.02**	**293**	*e*P	**Pg**	**18 48 09.9**	**-0.3**
	31nm,0.1s						
SATY				*e*S	**Sg**	**18 48 24.0**	**+0.6**
	200nm,0.3s						
KURS	**Kuram**	**1.38**	**307**	P	**Pn**	**18 48 16.1**	**-1.1**
	26nm,0.4s						
KURS				S	**Sb**	**18 48 34.9**	**-0.6**
	47nm,0.3s						
KURS	**Kuram**	**1.38**	**307**	*e*P	**Pn**	**18 48 16.6**	**-0.6**
	baz=11						
KURS				*e*S	**Sn**	**18 48 35.6**	**-0.6**
	baz=11						
KURS	**Kuram**	**1.38**	**307**	*e*P	**Pn**	**18 48 16.6**	**-0.6**
	26nm,0.3s						
KURS				*e*S	**Sn**	**18 48 35.6**	**-0.6**
	32nm,0.4s						
DJR	**Jarkent**	**1.66**	**3**	*e*P	**Pg**	**18 48 23.0**	**+0.4**
	25nm,0.3s						
DJR				*e*S	**Sg**	**18 48 46.3**	**+2.2**
	69nm,0.4s						
MNBS	**Baschi**	**1.69**	**327**	P	**Pb**	**18 48 22.8**	**0.0**
	89nm,0.2s						
KDJ	**Kajisay**	**1.93**	**255**	⇑*i*P	**Pn**	**18 48 25.4**	**+0.5**
	baz=56						
KDJ				⇑*i*S	**Sn**	**18 48 49.7**	**-0.3**
	baz=56						
KOTS	**Kotyrbulak**	**1.97**	**287**	*e*P	**Pb**	**18 48 27.6**	**+0.1**
	35nm,0.2s						
KOTS				*e*S	**Sg**	**18 48 55.0**	**+1.0**
	318nm,0.7s						
MDOK	**Medeo**	**2.00**	**285**	*e*P	**Pb**	**18 48 27.1**	**-0.9**
	baz=88						
MDOK				*e*S	**Sb**	**18 48 53.5**	**0.0**
	baz=88						
MDOK	**Medeo**	**2.00**	**285**	*e*P	**Pb**	**18 48 27.1**	**-0.9**
	34nm,0.4s						
MDOK				*e*S	**Sb**	**18 48 53.6**	**0.0**
	95nm,0.5s						
TNSS	**Tian-Shan**	**2.05**	**281**	*e*P	**Pn**	**18 48 28.0**	**+1.3**
	baz=84						
TNSS				*e*S	**Sb**	**18 48 55.1**	**0.0**
	baz=84						
TNSS	**Tian-Shan**	**2.05**	**281**	*e*P	**Pn**	**18 48 27.9**	**+1.3**
	30nm,0.2s						
TNSS				*e*S	**Sb**	**18 48 55.0**	**0.0**
	53nm,0.4s						
ARXS	**Arharly**	**2.05**	**319**	*e*P	**Pb**	**18 48 28.1**	**-0.7**
	42nm,0.2s						
ARXS				*e*S	**Sg**	**18 48 55.7**	**-1.0**
	67nm,0.3s						
CHKK	**Chushkaly**	**2.30**	**302**	*e*P	**Pb**	**18 48 32.7**	**-0.3**
	13nm,0.3s						
CHKK				*e*S	**Sb**	**18 49 03.0**	**+1.1**
	124nm,0.3s						
KTBS	**Karatobe**	**2.43**	**296**	*e*P	**Pb**	**18 48 33.8**	**-1.5**
	14nm,0.2s						
KTBS				*e*S	**Sb**	**18 49 04.8**	**-1.0**
	114nm,0.5s						
MTBS	**Maitube**	**2.44**	**282**	*e*P	**Pb**	**18 48 34.5**	**-0.9**
	53nm,0.4s						
MTBS				*e*S	**Sb**	**18 49 06.5**	**+0.5**
	100nm,0.5s						
ULHL	**Ulahol**	**2.58**	**262**	⇑*i*P	**Pn**	**18 48 34.6**	**+0.7**
	baz=63						
ULHL				⇑*i*S	**Sn**	**18 49 07.4**	**+1.3**
	baz=63						
KAPS	**Kapalarasan**	**2.62**	**355**	*e*P	**Pb**	**18 48 39.0**	**+0.4**
	14nm,0.4s						
KAPS				*e*S	**Sg**	**18 49 13.9**	**-1.1**
	61nm,0.4s						
KUU	**Kurty**	**2.73**	**298**	*e*P	**Pb**	**18 48 39.9**	**-0.5**
	8.4

mb1 3.6/7,mb1mx3.4/40,mbtmp3.6/7,ML3.4/6,Error ellipse: s-maj=30.7km s-min=11.5km az=151.0
*SOME **28** 18:49:36.5,42°.55N×79°.67E,h20km, MS2.7*
*BJI **28** 18:49:36.0,42°.64N×79°.48E,h11km, ML3.6/9*
*NNC **28** 18:49:37.5±0.9,42°.61N×79°.63E,h0km, mb4.4,mpv4.4, Error ellipse: s-maj=5.9km s-min=3.9km az=134.0*
*KRNET **28** 18:49:37.7±0.1,42°.60N×79°.61E,h20km,mb4.2*
*ISCJB **28** 18:49:37.3±0.7,42°.60N±0°.03×79°.74E±0°.03,h8km±4km, mb3.2/1,Error ellipse: s-maj=5.1km s-min=3.1km az=139.6*

ISC 28 18:49:38.6±1.2,42°.68N±0°.03×79°.65E±0°.03,h11km±8km, n69,σ1°.56/114,26C-19D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SHLS	**Shalkode** 2μm,0.1s	**0.49**	**344**	P		**Pb**	**18 49 49.0**	**-0.4**
SHLS	3μm,0.3s			S		**Sb**	**18 49 58.0**	**+1.4**
SHLS	**Shalkode** baz=20	**0.49**	**344**	*e*P		**Pb**	**18 49 49.0**	**-0.4**
SHLS	baz=20			*e*S		**Sb**	**18 49 58.2**	**+1.5**
SHLS	**Shalkode** 2μm,0.1s	**0.49**	**344**	*e*P		**Pb**	**18 49 49.0**	**-0.4**
SHLS	3μm,0.3s			*e*S		**Sb**	**18 49 58.1**	**+1.4**
UZB	**Uzynbulak** 257nm,0.1s	**0.65**	**316**	P		**Pg**	**18 49 50.9**	**-0.5**
UZB	2μm,0.2s			S		**Sg**	**18 50 01.1**	**+1.2**
UZB	**Uzynbulak** baz=22	**0.65**	**316**	*e*P		**Pg**	**18 49 50.8**	**-0.5**
UZB	baz=22			*e*S		**Sg**	**18 50 01.1**	**+1.2**
UZB	**Uzynbulak** 241nm,0.2s	**0.65**	**316**	*e*P		**Pg**	**18 49 50.8**	**-0.5**
UZB	2μm,0.2s			*e*S		**Sg**	**18 50 01.1**	**+1.2**
PDGK	**Podgornoye** 133nm,0.3s	**0.66**	**350**	P		**Pg**	**18 49 51.2**	**-0.2**
PDGK	611nm,0.3s			S		**Sb**	**18 50 01.8**	**+0.4**
PDGK	**Podgornoye** 103nm,0.4s	**0.66**	**350**	⇑P		**Pg**	**18 49 51.1**	**-0.3**
PDGK	1μm,0.8s			⇓S		**Sb**	**18 50 01.6**	**+0.2**
PDGK	**Podgornoye** baz=53	**0.66**	**350**	⇑*i*P		**Pg**	**18 49 51.1**	**-0.3**
PDGK	baz=53			⇑*i*S		**Sg**	**18 50 01.1**	**+1.1**
KTMS	**Ketmen** 133nm,0.1s	**0.92**	**34**	P		**Pn**	**18 49 57.3**	**-0.3**
KTMS	1μm,0.2s			S		**Sn**	**18 50 12.3**	**+1.3**
PRZ	**Przheval'sk** baz=63	**0.94**	**258**	⇑*i*P		**Pg**	**18 49 54.5**	**-2.3**
PRZ	baz=63			⇑*i*S		**Sg**	**18 50 07.4**	**-1.7**
SATY	**Saty** 167nm,0.3s	**0.99**	**293**	*e*P		**Pg**	**18 49 55.9**	**-1.8**
SATY	616nm,0.1s			*e*S		**Sg**	**18 50 10.0**	**-0.5**
KURS	**Kuram** 131nm,0.6s	**1.35**	**307**	P		**Pn**	**18 50 03.2**	**-0.3**
KURS	522nm,0.5s			S		**Sb**	**18 50 22.1**	**+0.9**
KURS	**Kuram** baz=10.0	**1.35**	**307**	*e*P		**Pn**	**18 50 03.1**	**-0.3**
KURS	baz=10.0			*e*S		**Sb**	**18 50 22.1**	**+0.9**
KURS	**Kuram** 67nm,0.5s	**1.35**	**307**	*e*P		**Pn**	**18 50 03.1**	**-0.3**
KURS	451nm,0.3s			*e*S		**Sb**	**18 50 22.1**	**+0.9**
DJR	**Jarkent** 180nm,0.2s	**1.65**	**4**	*e*P		**Pb**	**18 50 08.8**	**-0.3**
DJR	309nm,0.3s			*e*S		**Sg**	**18 50 32.3**	**+0.6**
MNBS	**Baschi** 108nm,0.2s	**1.67**	**327**	P		**Pn**	**18 50 09.1**	**+1.3**
MNBS	2μm,0.3s			S		**Sb**	**18 50 32.4**	**+2.0**
KDJ	**Kajisay** baz=56	**1.91**	**254**	⇑*i*P		**Pn**	**18 50 11.9**	**+0.7**
KDJ	baz=56			⇑*i*S		**Sn**	**18 50 36.5**	**+1.1**
MDOK	**Medeo** baz=87	**1.97**	**285**	*e*P		**Pn**	**18 50 12.7**	**+0.7**
MDOK	baz=87			*e*S		**Sn**	**18 50 38.9**	**+2.1**
MDOK	**Medeo** 198nm,0.3s	**1.97**	**285**	*e*P		**Pn**	**18 50 12.7**	**+0.7**
MDOK	512nm,0.7s			*e*S		**Sn**	**18 50 38.9**	**+2.1**
TNSS	**Tian-Shan** 181nm,0.5s	**2.02**	**281**	Pg		**Pn**	**18 50 13.6**	**+0.7**
TNSS	706nm,0.4s			Lg		Lg	18 50 40.3	
TNSS	**Tian-Shan** baz=83	**2.02**	**281**	*e*P		**Pn**	**18 50 13.6**	**+0.7**
TNSS	baz=83			*e*S		**Sn**	**18 50 40.4**	**+2.1**
TNSS	**Tian-Shan** 208nm,0.4s	**2.02**	**281**	*e*P		**Pn**	**18 50 13.6**	**+0.7**
TNSS	341nm,0.3s			*e*S		**Sn**	**18 50 40.5**	**+2.1**
ARXS	**Arharly** 51nm,0.4s	**2.02**	**320**	*e*P		**Pn**	**18 50 14.5**	**+1.7**
ARXS	950nm,0.6s			*e*S		**Sb**	**18 50 41.8**	**+1.1**
KNDC	**Almaty** 79nm,0.3s	**2.04**	**286**	⇓Pn		**Pn**	**18 50 13.8**	**+0.8**
KNDC	503nm,0.5s			⇑Lg		Lg	18 50 44.2	
IZV	**Izvestkoviy** 218nm,0.2s	**2.26**	**280**	Pg		**Pn**	**18 50 17.7**	**+1.6**
IZV	719nm,0.3s			Lg		Lg	18 50 47.4	
CHKK	**Chushkaly** 216nm,0.2s	**2.27**	**302**	Pg		**Pn**	**18 50 18.5**	**+2.5**
CHKK	287nm,0.2s			Lg		Lg	18 50 49.0	
CHKK	**Chushkaly** 29nm,0.2s	**2.27**	**302**	*e*P		**Pb**	**18 50 18.6**	**-0.9**
CHKK	504nm,0.3s			*e*S		**Sb**	**18 50 48.8**	**+1.2**
KTBS	**Karatobe** 55nm,0.2s	**2.40**	**296**	*e*P		**Pn**	**18 50 20.1**	**+2.2**
KTBS	449nm,0.4s			*e*S		**Sn**	**18 50 51.4**	**+4.1**
MTBS	**Maitube** 142nm,0.3s	**2.41**	**282**	*e*P		**Pn**	**18 50 20.4**	**+2.4**
MTBS	363nm,0.4s			*e*S		**Sb**	**18 50 52.1**	**+0.5**
ULHL	**Ulahol** SNR=18	**2.56**	**261**	P		**Pb**	**18 50 23.2**	**-1.4**
ULHL	**Ulahol** baz=63	**2.56**	**261**	⇑*e*P		**Pn**	**18 50 20.7**	**+0.5**
ULHL	baz=63			⇑*i*S		**Sn**	**18 50 52.9**	**+1.5**
KAPS	**Kapalarasan** 34nm,0.3s	**2.61**	**356**	*e*P		**Pb**	**18 50 25.3**	**-0.2**
KAPS	460nm,0.7s			*e*S		**Sb**	**18 51 00.6**	**+3.1**
KUU	**Kurty** 25nm,0.5s	**2.70**	**298**	*e*P		**Pb**	**18 50 26.2**	**-0.7**
KUU	286nm,0.3s			*e*S		**Sb**	**18 51 01.8**	**+1.7**
KST	**Kastek** 151nm,0.2s	**2.73**	**279**	*e*P		**Pb**	**18 50 25.8**	**-1.7**
KST	281nm,0.7s			*e*S		**Sb**	**18 51 01.4**	**+0.3**
BOOM	**Boomskoye usch** baz=69	**2.74**	**267**	⇑*e*P		**Pn**	**18 50 23.8**	**+1.1**
BOOM	baz=69			⇑*i*S		**Sn**	**18 50 57.5**	**+1.5**
DGS	**Degeres** 92nm,0.4s	**2.90**	**282**	*e*P		**Pb**	**18 50 28.4**	**-2.0**
DGS	476nm,0.5s			*e*S		**Sb**	**18 51 05.9**	**0.0**
NRN	**Naryn** baz=48	**2.99**	**247**	⇑*i*P		**Pn**	**18 50 27.1**	**+0.9**
NRN	baz=48			⇑*i*S		**Sn**	**18 51 03.5**	**+1.3**
TKM2	**Tokmak 2** SNR=7.8	**2.99**	**276**	P		**Pn**	**18 50 28.9**	**+2.8**
TKM2	**Tokmak 2** 32nm,0.5s	**2.99**	**276**	⇓Pn		**Pn**	**18 50 26.5**	**+0.3**
TKM2	106nm,0.3s			⇓Lg		Lg	18 51 13.0	
TKM2	**Tokmak 2** baz=77	**2.99**	**276**	⇑*i*P		**Pn**	**18 50 26.9**	**+0.8**
TKM2	baz=77			⇑*i*S		**Sn**	**18 51 03.7**	**+1.6**
KZA	**Kyzart** SNR=18	**3.31**	**261**	P		**Pb**	**18 50 37.1**	**-0.5**
KZA	**Kyzart** baz=62	**3.31**	**261**	⇑*i*P		**Pn**	**18 50 32.0**	**+1.2**
KZA	baz=62			⇑*i*S		**Sn**	**18 51 11.4**	**+1.1**
KBK	**Karagaybulak** SNR=11	**3.46**	**271**	P		**Pn**	**18 50 33.6**	**+1.0**
CHMS	**Chumysh** SNR=13	**3.61**	**277**	P		**Pb**	**18 50 40.7**	**-1.8**
CHMS	**Chumysh** baz=78	**3.61**	**277**	⇓*e*P		**Pn**	**18 50 35.7**	**+1.1**
CHMS	baz=78			⇓*i*S		**Sn**	**18 51 18.3**	**+1.1**
FRU1	**Bishkek** baz=75	**3.70**	**274**	⇓*i*P		**Pn**	**18 50 37.0**	**+1.3**
FRU1	baz=75			⇓*i*S		**Sn**	**18 51 20.5**	**+1.2**
AAK	**Ala-Archa** 2.2nm,0.3s,baz=97,slow=8.1,SNR=3.4	**3.80**	**271**	Pn		**Pn**	**18 50 37.5**	**+0.3**
AAK	10nm,0.3s,baz=87,slow=7.4,SNR=9.2			Pg		**Pb**	**18 50 45.4**	**-0.4**
AAK	8.5nm,0.3s,baz=185,slow=22,SNR=7.6			Lg		Lg	18 51 33.4	
AAK	**Ala-Archa** 1.5nm,0.2s	**3.80**	**271**	⇓Pg		**Pb**	**18 50 47.0**	**+1.2**
AAK	62nm,0.7s			⇓Lg		Lg	18 51 38.7	
AAK	**Ala-Archa** baz=72	**3.80**	**271**	⇓*i*P		**Pn**	**18 50 38.7**	**+1.5**
AAK	baz=72			⇓*i*S		**Sn**	**18 51 22.9**	**+0.9**
USP	**Ospenovka** SNR=7.4	**3.82**	**281**	P		**Pb**	**18 50 44.3**	**-1.7**
USP	**Ospenovka** baz=82	**3.82**	**281**	⇑*e*P		**Pn**	**18 50 38.8**	**+1.4**
USP	baz=82			⇑*i*S		**Sn**	**18 51 23.1**	**+0.7**
ARLS	**Aral** baz=61	**4.04**	**260**	⇑*i*P		**Pn**	**18 50 41.8**	**+1.3**
ARLS	baz=61			⇑*i*S		**Sn**	**18 51 28.0**	**+0.2**
KSH	**Kashi**	**4.21**	**222**	Pg		**Pg**	**18 51 01.0**	**+1.8**
KSH				Sg		**Sg**	**18 51 58.5**	**+4.8**
KSH	comp=N,160nm,1.2s			smax		smax		
KSH	comp=E,170nm,1.2s			smax		smax		
EKS2	**Erkin-Say** SNR=7.9	**4.33**	**272**	P		**Pb**	**18 50 52.2**	**-2.5**
AML	**Almayashu** SNR=9.4	**4.44**	**265**	P		**Pb**	**18 50 58.1**	**+1.2**
MAKZ	**Makanchi** 8.8nm,0.2s	**4.45**	**21**	⇑Pn		**Pn**	**18 50 47.5**	**+1.5**
MAKZ	6.8nm,0.6s			⇓Sn		**Sn**	**18 51 40.3**	**+2.6**
MAKZ	7.3nm,0.3s			⇑Lg		Lg	18 51 59.5	
MK31	**Makanchi Array** 2.7nm,0.2s,baz=208,slow=10,SNR=34	**4.52**	**24**	⇓Pn		**Pn**	**18 50 47.3**	**+0.3**
MK31	1.4nm,0.2s,baz=200,slow=24,SNR=3.5			⇓Sn		**Sn**	**18 51 41.6**	**+2.1**
MK31	7.2nm,0.3s,baz=195,slow=27,SNR=3.6			⇓Lg		Lg	18 52 00.8	
MKAR	**Makanchi Array** 10nm,0.3s,baz=197,slow=13,SNR=29	**4.52**	**24**	Pn		**Pn**	**18 50 48.4**	**+1.4**
MKAR	3.6nm,0.3s,baz=199,slow=14,SNR=4.6			Pg		**Pb**	**18 50 59.4**	**+1.4**
MKAR	5.1nm,0.3s,baz=206,slow=24,SNR=4.3			Sn		**Sn**	**18 51 42.3**	**+2.7**
MKAR	4.9nm,0.3s,baz=199,slow=22,SNR=4.1			Lg		Lg	18 51 59.0	
MNAS	**Manas** 6.5nm,0.5s	**5.28**	**270**	⇓Pg		**Pb**	**18 51 13.5**	**+2.6**
MNAS	19nm,0.5s			⇑Lg		Lg	18 52 27.8	
SFK	**Sufi-Kurgan** 45nm,1.1s	**5.34**	**242**	⇓Lg		Lg	18 52 29.5	
WMQ	**Urumqi**	**5.99**	**76**	*e*Pn		**Pn**	**18 51 06.5**	**-0.7**
WMQ				Sn		**Sn**	**18 52 14.3**	**-1.5**
WMQ	comp=N,67nm,0.7s			smax		smax		
WMQ	comp=E,77nm,0.7s			smax		smax		
KK31	**Karatay Array** 6.8nm,0.5s,baz=90,slow=27,SNR=4.7	**6.72**	**277**	⇑Lg		Lg	18 53 14.0	
OTUK	**Ortayu** 16nm,0.6s	**7.57**	**320**	⇓Lg		Lg	18 53 40.4	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=174,slow=26,SNR=2.6	**7.98**	**355**	Pn		**Pn**	**18 51 35.7**	**+1.3**
KURBB	0.3nm,0.3s,baz=187,slow=30,SNR=4.4			Lg		Lg	18 53 48.1	
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=202,slow=14,SNR=4.5	**11.78**	**15**	Pn		**Pn**	**18 52 25.3**	**-1.2**
ZALV	0.3nm,0.3s,baz=198,slow=23,SNR=3.0			Sn		**Sn**	**18 54 34.1**	**-3.8**
ZALV	0.2nm,0.3s,baz=165,slow=17,SNR=3.1			Lg		Lg	18 55 48.8	
BVAR	**Borovoye Array** 0.3nm,0.3s,baz=137,slow=11,SNR=2.7	**12.06**	**332**	Pn		**Pn**	**18 52 28.6**	**-1.7**
BVAR	0.3nm,0.3s,baz=148,slow=28,SNR=3.7			Lg		Lg	18 55 56.6	
SONM	**Songino Array** 0.2nm,0.3s,baz=270,slow=11,SNR=6.7	**19.47**	**65**	P		**P**	**18 54 03.8**	**-1.7**
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=346,slow=4.9,SNR=4.1	**74.55**	**7**	P		**P**	**19 01 13.7**	**-3.2**

*SOME **28** 18:50:42.7,42°.57N×79°.63E,h15km*
*KRNET **28** 18:50:43.4±0.1,42°.63N×79°.60E,h14km,mb3.7*

ISC 28 18:50:40.5±3.0,42°.60N±0°.09×79°.8E±0°.1,h14km±15km, n9,σ0°.61/18,4C-6D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SHLS	**Shalkode** baz=21	**0.60**	**339**	*e*P		**Pn**	**18 50 54.6**	**-0.2**
SHLS	baz=21			*e*S		**Sn**	**18 51 03.6**	**-0.8**
SHLS	**Shalkode** 533nm,0.1s	**0.60**	**339**	*e*P		**Pn**	**18 50 54.6**	**-0.2**
SHLS	701nm,0.2s			*e*S		**Sn**	**18 51 03.6**	**-0.8**
PDGK	**Podgornoye** baz=53	**0.76**	**346**	⇓*i*P		**Pn**	**18 50 56.9**	**0.0**
PDGK	baz=53			⇓*i*S		**Sb**	**18 51 06.9**	**+1.1**
UZB	**Uzynbulak** baz=21	**0.77**	**316**	*e*P		**Pb**	**18 50 56.2**	**+0.5**
UZB	baz=21			*e*S		**Sb**	**18 51 06.4**	**+0.3**
UZB	**Uzynbulak** 89nm,0.2s	**0.77**	**316**	*e*P		**Pb**	**18 50 56.2**	**+0.5**
UZB	317nm,0.3s			*e*S		**Sb**	**18 51 06.5**	**+0.3**
PRZ	**Przheval'sk** baz=61	**1.00**	**264**	⇓*i*P		**Pn**	**18 51 00.8**	**+0.4**
PRZ	baz=61			⇓*i*S		**Sb**	**18 51 13.6**	**+0.7**
KDJ	**Kajisay** baz=55	**1.96**	**257**	⇑*i*P		**Pg**	**18 51 17.8**	**-0.3**
KDJ	baz=55			⇑*i*S		**Sg**	**18 51 43.4**	**-0.2**
ULHL	**Ulahol** baz=62	**2.62**	**264**	⇓*i*P		**Pb**	**18 51 27.5**	**+0.1**
ULHL	baz=62			⇓*i*S		**Sb**	**18 52 00.4**	**+0.9**
BOOM	**Boomskoye usch** baz=68	**2.82**	**269**	⇑*i*P		**Pb**	**18 51 30.7**	**0.0**
BOOM	baz=68			⇑*i*S		**Sb**	**18 52 04.4**	**-0.7**

SOME 28 19:01:33.7,42°.50N×79°.60E,h15km,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SHLS	**Shalkode** 9.3nm,0.1s	**0.66**	**351**	*e*P		Pb	19 01 46.9	-0.2
SHLS	26nm,0.2s			*e*S		Sb	19 01 56.6	+0.4
UZB	**Uzynbulak** 1.0nm,0.1s	**0.77**	**327**	*e*P		Pg	19 01 48.1	-0.7
UZB	11nm,0.2s			*e*S		Sg	19 01 58.4	-0.6

*SOME **28** 19:01:48.4,42°.52N×79°.67E,h35km*
*KRNET **28** 19:01:50.6±0.1,42°.66N×79°.54E,mb2.4*

ISC 28 19:01:49.9±3.2,42°.6N±0°.1×79°.6E±0°.1,h10km,n6,σ0°76/12,6C-2D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SHLS	**Shalkode** 67nm,0.1s	**0.54**	**350**	*e*P		**Pb**	**19 02 01.2**	**-0.3**
SHLS	26nm,0.4s			*e*S		**Sb**	**19 02 10.5**	**+1.2**
UZB	**Uzynbulak** 3.0nm,0.1s	**0.66**	**322**	*e*P		**Pg**	**19 02 03.0**	**+0.3**
UZB	37nm,0.3s			*e*S		**Sb**	**19 02 13.5**	**+0.5**
PDGK	**Podgornoye** baz=57	**0.70**	**354**	⇓*i*P		**Pg**	**19 02 03.5**	**0.0**
PDGK	baz=57			⇓*i*S		**Sb**	**19 02 13.5**	**-0.6**
KDJ	**Kajisay** baz=54	**1.85**	**255**	⇑*i*P		**Pb**	**19 02 24.8**	**+0.9**
KDJ	baz=54			⇑*i*S		**Sg**	**19 02 49.3**	**-0.1**
ULHL	**Ulahol** baz=62	**2.50**	**262**	⇑*i*P		**Pb**	**19 02 34.5**	**-0.6**
ULHL	baz=62			⇑*i*S		**Sb**	**19 03 06.6**	**+0.6**
BOOM	**Boomskoye usch** baz=68	**2.70**	**268**	⇑*i*P		**Pb**	**19 02 37.2**	**-1.1**
BOOM	baz=68			⇑*i*S		**Sb**	**19 03 11.0**	**-0.5**

*IDC **28** 19:02:35.0±1.9,42°.48N×79°.63E,h0km,mb1 3.4/6, mb1mx3.2/51,mbtmp3.4/6,ML3.3/6,Error ellipse: s-maj=24.2km s-min=9.8km az=146.0*
*SOME **28** 19:02:36.7,42°.55N×79°.73E,h20km*
*BJI **28** 19:02:36.0,42°.63N×79°.54E,h11km,ML3.5/8*
*KRNET **28** 19:02:37.6±0.1,42°.61N×79°.60E,h16km,mb4.1*
*NNC **28** 19:02:37.4±0.5,42°.61N×79°.65E,h0km,mb4.1,mpv3.8, Error ellipse: s-maj=4.0km s-min=2.1km az=107.0*

ISC 28 19:02:37.7±1.6,42°.66N±0°.05×79°.65E±0°.04,h1km±10km, n68,σ1°.26/113,28C-16D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SHLS	**Shalkode** baz=21	**0.51**	**345**	*e*P		**Pb**	**19 02 49.0**	**-0.7**
SHLS	baz=21			*e*S		**Sb**	**19 02 57.8**	**+0.1**
SHLS	**Shalkode** 1μm,0.2s	**0.51**	**345**	*e*P		**Pb**	**19 02 49.0**	**-0.7**
SHLS	4μm,0.3s			*e*S		**Sb**	**19 02 57.8**	**+0.1**
UZB	**Uzynbulak** baz=22	**0.67**	**317**	*e*P		**Pg**	**19 02 51.0**	**+0.5**
UZB	baz=22			*e*S		**Sb**	**19 03 01.1**	**-1.1**
UZB	**Uzynbulak** 76nm,0.1s	**0.67**	**317**	*e*P		**Pg**	**19 02 51.0**	**+0.4**
UZB	2μm,0.3s			*e*S		**Sb**	**19 03 01.1**	**-1.1**
PDGK	**Podgornoye** 128nm,0.4s	**0.68**	**350**	⇓P		**Pg**	**19 02 51.3**	**+0.6**
PDGK	649nm,0.8s			⇓S		**Sb**	**19 03 01.8**	**-0.6**
PDGK	**Podgornoye** baz=53	**0.68**	**350**	⇓*i*P		**Pg**	**19 02 51.3**	**+0.6**
PDGK	baz=53			⇓*i*S		**Sb**	**19 03 01.6**	**-0.8**
PRZ	**Przheval'sk** baz=62	**0.94**	**259**	⇑*i*P		**Pg**	**19 02 54.7**	**-1.0**
PRZ	baz=62			⇑*i*S		**Sg**	**19 03 07.0**	**-0.9**
SATY	**Saty** 133nm,0.2s	**0.99**	**294**	*e*P		**Pg**	**19 02 56.0**	**-0.8**
SATY	598nm,0.3s			*e*S		**Sg**	**19 03 10.2**	**+0.5**
KURS	**Kuram** baz=10.0	**1.36**	**308**	*e*P		**Pg**	**19 03 03.2**	**-0.6**
KURS	baz=10.0			*e*S		**Sb**	**19 03 22.0**	**0.0**
KURS	**Kuram** 30nm,0.3s	**1.36**	**308**	*e*P		**Pg**	**19 03 03.2**	**-0.6**
KURS	413nm,0.4s			*e*S		**Sb**	**19 03 22.0**	**0.0**
DJR	**Jarkent** 99nm,0.3s	**1.67**	**4**	*e*P		**Pb**	**19 03 09.5**	**+0.1**
DJR	146nm,0.3s			*e*S		**Sg**	**19 03 33.0**	**+1.6**
KDJ	**Kajisay** baz=56	**1.90**	**255**	⇑*i*P		**Pn**	**19 03 12.3**	**+0.7**
KDJ	baz=56			⇑*i*S		**Sn**	**19 03 37.2**	**+0.9**
KOTS	**Kotyrbulak** baz=90	**1.95**	**288**	*e*P		**Pb**	**19 03 13.5**	**-0.6**
KOTS	baz=90			*e*S		**Sg**	**19 03 40.2**	**-0.1**
KOTS	**Kotyrbulak** 59nm,0.2s	**1.95**	**288**	*e*P		**Pb**	**19 03 13.5**	**-0.6**
KOTS	1μm,0.7s			*e*S		**Sg**	**19 03 40.2**	**-0.1**
MDOK	**Medeo** baz=87	**1.97**	**286**	*e*P		**Pn**	**19 03 13.1**	**+0.6**
MDOK	baz=87			*e*S		**Sb**	**19 03 39.3**	**-0.5**
MDOK	**Medeo** 73nm,0.4s	**1.97**	**286**	*e*P		**Pn**	**19 03 13.1**	**+0.6**
MDOK	337nm,0.5s			*e*S		**Sb**	**19 03 39.3**	**-0.4**
TNSS	**Tian-Shan** baz=83	**2.02**	**282**	*e*P		**Pn**	**19 03 13.7**	**+0.3**
TNSS	baz=83			*e*S		**Sb**	**19 03 41.6**	**+0.2**
TNSS	**Tian-Shan** 122nm,0.3s	**2.02**	**282**	*e*P		**Pn**	**19 03 13.7**	**+0.3**
TNSS	354nm,0.3s			*e*S		**Sb**	**19 03 41.6**	**+0.2**
ARXS	**Arharly** 87nm,0.4s	**2.04**	**320**	*e*P		**Pb**	**19 03 14.9**	**-0.8**
ARXS	1μm,0.6s			*e*S		**Sg**	**19 03 42.3**	**-0.9**
KNDC	**Almaty** 60nm,0.3s	**2.05**	**287**	⇑Pn		**Pn**	**19 03 14.0**	**+0.6**
KNDC	824nm,0.6s			⇑Lg		Lg	19 03 43.3	
CHKK	**Chushkaly** baz=4.0	**2.28**	**302**	*e*P		**Pb**	**19 03 19.1**	**-0.6**
CHKK	baz=4.0			*e*S		**Sb**	**19 03 49.6**	**+1.2**
CHKK	**Chushkaly** 14nm,0.2s	**2.28**	**302**	*e*P		**Pb**	**19 03 19.1**	**-0.6**
CHKK	550nm,0.5s			*e*S		**Sb**	**19 03 49.6**	**+1.2**
KTBS	**Karatobe** baz=97	**2.41**	**297**	*e*P		**Pn**	**19 03 20.2**	**+1.8**
KTBS	baz=97			*e*S		**Sb**	**19 03 51.4**	**-0.8**
KTBS	**Karatobe** 7.3nm,0.2s	**2.41**	**297**	*e*P		**Pn**	**19 03 20.2**	**+1.8**
KTBS	566nm,0.5s			*e*S		**Sb**	**19 03 51.5**	**-0.7**
MTBS	**Maitube** baz=84	**2.41**	**282**	*e*P		**Pb**	**19 03 20.8**	**-1.2**
MTBS	baz=84			*e*S		**Sb**	**19 03 53.0**	**+0.7**
MTBS	**Maitube** 164nm,0.3s	**2.41**	**282**	*e*P		**Pb**	**19 03 20.8**	**-1.2**
MTBS	396nm,0.4s			*e*S		**Sb**	**19 03 53.0**	**+0.7**
ULHL	**Ulahol** SNR=20	**2.56**	**262**	P		**Pb**	**19 03 23.7**	**-0.8**
ULHL	**Ulahol** baz=63	**2.56**	**262**	⇑*i*P		**Pn**	**19 03 21.5**	**+0.9**
ULHL	baz=63			⇑*i*S		**Sn**	**19 03 53.7**	**+1.3**
KAPS	**Kapalarasan** 30nm,0.2s	**2.63**	**356**	*e*P		**Pb**	**19 03 25.5**	**-0.2**
KAPS				*e*S		**Sg**	**19 04 01.1**	**-1.1**

	192nm,0.5s						
KUU	**Kurty**	**2.71**	**298**	*e*P	**Pb**	**19 03 26.0**	**-1.1**
	baz=99						
KUU				*e*S	**Sb**	**19 04 01.7**	**+0.9**
	baz=99						
KUU	**Kurty**	**2.71**	**298**	*e*P	**Pb**	**19 03 26.0**	**-1.0**
	13nm,0.5s						
KUU				*e*S	**Sb**	**19 04 01.7**	**+0.9**
	314nm,0.4s						
KST	**Kastek**	**2.74**	**279**	*e*P	**Pb**	**19 03 26.4**	**-1.2**
	baz=80						
KST				*e*S	**Sb**	**19 04 02.2**	**+0.5**
	baz=80						
KST	**Kastek**	**2.74**	**279**	*e*P	**Pb**	**19 03 26.4**	**-1.1**
	96nm,0.5s						
KST				*e*S	**Sb**	**19 04 02.3**	**+0.6**
	300nm,0.5s						
BOOM	**Boomskoye usch**	**2.74**	**268**	⇑*i*P	**Pn**	**19 03 24.2**	**+1.1**
	baz=69						
BOOM				⇑*i*S	**Sn**	**19 03 58.3**	**+1.3**
	baz=69						
DGS	**Degeres**	**2.90**	**283**	*e*P	**Pb**	**19 03 29.5**	**-0.9**
	baz=84						
DGS				*e*S	**Sb**	**19 04 07.4**	**+0.9**
	baz=84						
DGS	**Degeres**	**2.90**	**283**	*e*P	**Pb**	**19 03 29.4**	**-0.9**
	91nm,0.4s						
DGS				*e*S	**Sb**	**19 04 07.4**	**+0.9**
	455nm,0.7s						
TKM2	**Tokmak 2**	**2.99**	**276**	P	**Pn**	**19 03 26.5**	**-0.1**
	SNR=18						
TKM2	**Tokmak 2**	**2.99**	**276**	⇑Pg	**Pb**	**19 03 31.7**	**-0.3**
	34nm,0.6s						
TKM2				⇓Lg	Lg	19 04 12.6	
	153nm,0.5s						
TKM2	**Tokmak 2**	**2.99**	**276**	⇑*i*P	**Pn**	**19 03 27.9**	**+1.3**
	baz=77						
TKM2				⇑*i*S	**Sn**	**19 04 04.8**	**+1.6**
	baz=77						
KZA	**Kyzart**	**3.31**	**261**	P	**Pb**	**19 03 35.3**	**-2.3**
	SNR=27						
KZA	**Kyzart**	**3.31**	**261**	⇓*i*P	**Pn**	**19 03 32.7**	**+1.6**
	baz=62						
KZA				⇓*i*S	**Sn**	**19 04 12.6**	**+1.2**
	baz=62						
KBK	**Karagaybulak**	**3.47**	**271**	P	**Pn**	**19 03 34.0**	**+1.0**
	SNR=6.5						
KBK	**Karagaybulak**	**3.47**	**271**	⇓*i*P	**Pn**	**19 03 34.3**	**+1.2**
	baz=72						
KBK				⇓*i*S	**Sn**	**19 04 15.6**	**+0.7**
	baz=72						
CHMS	**Chumysh**	**3.62**	**277**	P	**Pb**	**19 03 40.7**	**-1.8**
	SNR=7.1						
CHMS	**Chumysh**	**3.62**	**277**	⇑*i*P	**Pn**	**19 03 36.8**	**+1.8**
	baz=78						
CHMS				⇑*i*S	**Sn**	**19 04 19.0**	**+0.6**
	baz=78						
FRU1	**Bishkek**	**3.70**	**274**	⇑*i*P	**Pn**	**19 03 37.9**	**+1.7**
	baz=75						
FRU1				⇑*e*S	**Sn**	**19 04 21.1**	**+0.7**
	baz=75						
AAK	**Ala-Archa**	**3.80**	**271**	Pn	**Pn**	**19 03 37.6**	**0.0**
	3.5nm,0.3s,baz=111,slow=8.6,SNR=18						
AAK				Pg	**Pb**	**19 03 45.8**	**0.0**
	7.9nm,0.3s,baz=108,slow=13,SNR=31						
AAK				Lg	Lg	19 04 33.6	
	12nm,0.3s,baz=213,slow=23,SNR=17						
AAK	**Ala-Archa**	**3.80**	**271**	P	**Pn**	**19 03 40.1**	**+2.5**
	SNR=16						
AAK	**Ala-Archa**	**3.80**	**271**	⇓Pg	**Pb**	**19 03 46.0**	**+0.3**
	6.1nm,0.4s						
AAK				⇑Lg	Lg	19 04 37.3	
	90nm,0.7s						
AAK	**Ala-Archa**	**3.80**	**271**	⇑*i*P	**Pn**	**19 03 39.6**	**+2.0**
	baz=72						
AAK				⇑*i*S	**Sn**	**19 04 24.3**	**+1.2**
	baz=72						
UCH	**Uchtor**	**3.83**	**265**	P	**Pb**	**19 03 46.5**	**+0.1**
	SNR=9.0						
USP	**Ospenovka**	**3.83**	**281**	P	**Pn**	**19 03 40.7**	**+2.8**
	SNR=17						
ARLS	**Aral**	**4.03**	**260**	⇑*i*P	**Pn**	**19 03 42.2**	**+1.4**
	baz=61						
ARLS				⇑*i*S	**Sn**	**19 04 28.9**	**+0.1**
	baz=61						
EKS2	**Erkin-Say**	**4.33**	**272**	P	**Pb**	**19 03 55.4**	**+0.7**
	SNR=29						
AML	**Almayashu**	**4.44**	**265**	P	**Pb**	**19 03 58.6**	**+1.8**
	SNR=8.6						
MAKZ	**Makanchi**	**4.46**	**21**	⇓Pn	**Pn**	**19 03 47.5**	**+0.9**
	3.5nm,0.3s						
MAKZ				⇑Sn	**Sn**	**19 04 41.2**	**+2.0**
	4.1nm,0.3s						
MAKZ				⇑Lg	Lg	19 05 00.5	
	18nm,0.8s						
MK31	**Makanchi Array**	**4.54**	**24**	⇓Pn	**Pn**	**19 03 48.6**	**+1.0**
	1.0nm,0.2s,baz=204,slow=12,SNR=131						
MK31				⇑Sn	**Sn**	**19 04 42.6**	**+1.5**
	6.8nm,0.3s,baz=54,slow=23,SNR=4.4						
MK31				⇑Lg	Lg	19 05 03.7	
	9.1nm,0.4s,baz=198,slow=28,SNR=8.2						
MKAR	**Makanchi Array**	**4.54**	**24**	Pn	**Pn**	**19 03 48.7**	**+1.1**
	4.3nm,0.3s,baz=205,slow=13,SNR=109						
MKAR				Sn	**Sn**	**19 04 42.0**	**+1.0**
	7.6nm,0.3s,baz=205,slow=26,SNR=10						
MKAR				Lg	Lg	19 05 02.8	
	6.5nm,0.3s,baz=211,slow=30,SNR=8.8						
MNAS	**Manas**	**5.28**	**270**	⇓Pg	**Pb**	**19 04 14.4**	**+3.5**
	6.0nm,0.5s						
MNAS				⇓Lg	Lg	19 05 24.3	
	18nm,0.6s						
WMQ	**Urumqi**	**5.99**	**76**	*e*Pn	**Pn**	**19 04 07.0**	**-0.6**
WMQ				smax	smax		
	comp=N,45nm,0.5s						
WMQ				smax	smax		
	comp=E,58nm,0.7s						
KK31	**Karatay Array**	**6.73**	**277**	Pg	**Pb**	**19 04 39.8**	**+4.3**
	2.6nm,0.3s,baz=89,slow=17,SNR=34						
KK31				Lg	Lg	19 06 11.9	
	21nm,0.8s,baz=97,slow=29,SNR=7.8						
OTUK	**Ortayu**	**7.58**	**320**	⇓Pn	**Pn**	**19 04 29.8**	**+0.4**
	2.4nm,0.6s						
OTUK				⇓Lg	Lg	19 06 39.6	
	18nm,0.7s						
KURBB	**Kurchatov Arra**	**8.00**	**355**	Pn	**Pn**	**19 04 35.8**	**+0.7**
	0.1nm,0.3s,baz=174,slow=17,SNR=18						
KURBB				Sn	**Sn**	**19 06 07.7**	**+1.5**
	0.1nm,0.3s,baz=164,slow=18,SNR=3.4						
KURBB				Lg	Lg	19 06 49.8	
	0.3nm,0.3s,baz=175,slow=31,SNR=6.7						
KURBB	**Kurchatov Arra**	**8.00**	**355**	⇑Lg	Lg	19 06 51.6	
	42nm,0.6s						
KURK	**Kurchatov**	**8.09**	**355**	⇑Lg	Lg	19 06 51.2	
	20nm,0.8s						
ZALV	**Zalesovo Beam**	**11.80**	**15**	Pn	**Pn**	**19 05 27.9**	**+0.8**
	0.5nm,0.3s,baz=203,slow=13,SNR=7.6						
ZALV				Sn	**Sn**	**19 07 34.9**	**-4.5**
	0.4nm,0.3s,baz=199,slow=22,SNR=3.8						
BVAR	**Borovoye Array**	**12.08**	**332**	Pn	**Pn**	**19 05 28.9**	**-2.0**
	0.1nm,0.3s,baz=143,slow=12,SNR=3.3						
BVAR				Lg	Lg	19 08 56.2	
	0.2nm,0.3s,baz=141,slow=28,SNR=3.6						
SONM	**Songino Array**	**19.48**	**65**	P	**P**	**19 07 05.1**	**-1.0**
	0.2nm,0.3s,baz=265,slow=11,SNR=9.2						

IDC ***28*** *19:03:28.2±1.6, 42.°30N×79.°50E, h0km, mb3.7/6, mb1 3.8/10, mb1mx3.6/49, mbtmp3.6/10, ML3.1/4, Error ellipse: s-maj=30.8km s-min=22.3km az=146.0*

ISCJB ***28*** *19:03:30.2±1.0, 42.°52N±0.°04×79.°81E±0.°04, h3km±6km, mb3.6/6, Error ellipse: s-maj=6.7km s-min=4.6km az=165.0*

SOME ***28*** *19:03:30.4, 42.°52N×79.°63E, h15km*

KRNET ***28*** *19:03:31.5±0.1, 42.°58N×79.°57E, h13km, mb4.0*

ISC 28 19:03:29.7±1.6, 42.47N±0.°04×79.65E±0.°04, h1km±10km, n43, σ1§35/72, mb3.7/6, 8C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.70**	**349**	*e*P		**Pg**		**19 03 43.7**	**+0.6**
	baz=22								
SHLS				*e*S		**Sg**		**19 03 53.2**	**+1.0**
	baz=22								
SHLS	**Shalkode**	**0.70**	**349**	*e*P		**Pg**		**19 03 43.7**	**+0.6**
	790nm,0.1s								
SHLS				*e*S		**Sg**		**19 03 53.2**	**+1.0**
	3μm,0.4s								
UZB	**Uzynbulak**	**0.82**	**326**	*e*P		**Pg**		**19 03 44.9**	**-0.4**
	baz=24								
UZB				*e*S		**Sg**		**19 03 55.3**	**-0.6**
	baz=24								
UZB	**Uzynbulak**	**0.82**	**326**	*e*P		**Pg**		**19 03 44.9**	**-0.4**
	178nm,0.3s								
UZB				*e*S		**Sg**		**19 03 55.4**	**-0.6**
	1μm,0.2s								
PDGK	**Podgornoye**	**0.87**	**353**	⇑*i*P		**Pg**		**19 03 45.5**	**-0.8**
	baz=55								
PDGK				⇑*i*S		**Sg**		**19 03 56.0**	**-1.5**
	baz=55								
PRZ	**Przheval'sk**	**0.92**	**271**	⇑*e*P		**Pg**		**19 03 48.0**	**+0.7**
	baz=64								
PRZ				⇑*i*S		**Sb**		**19 04 00.6**	**-0.7**
	baz=64								
KDJ	**Kajisay**	**1.86**	**260**	⇑*i*P		**Pg**		**19 04 05.4**	**+0.1**
	baz=56								
KDJ				⇑*i*S		**Sg**		**19 04 30.7**	**+1.3**
	baz=56								
DJR	**Jarkent**	**1.86**	**3**	*e*P		**Pb**		**19 04 04.0**	**-0.6**
	44nm,0.3s								
DJR				*e*S		**Sb**		**19 04 27.6**	**-0.8**
	164nm,0.3s								
KOTS	**Kotyrbulak**	**2.01**	**293**	*e*P		**Pg**		**19 04 08.5**	**+0.2**
	baz=90								
KOTS				*e*S		**Sg**		**19 04 35.0**	**+0.6**
	baz=90								
KOTS	**Kotyrbulak**	**2.01**	**293**	*e*P		**Pg**		**19 04 08.5**	**+0.2**
	92nm,0.2s								
KOTS				*e*S		**Sg**		**19 04 35.0**	**+0.6**
	513nm,0.3s								
MDOK	**Medeo**	**2.03**	**291**	*e*P		**Pb**		**19 04 07.3**	**-0.2**
	baz=88								
MDOK				*e*S		**Sb**		**19 04 33.9**	**+0.6**
	baz=88								
MDOK	**Medeo**	**2.03**	**291**	*e*P		**Pb**		**19 04 07.3**	**-0.2**
	46nm,0.3s								
MDOK				*e*S		**Sb**		**19 04 33.8**	**+0.6**
	268nm,0.6s								
TNSS	**Tian-Shan**	**2.07**	**287**	*e*P		**Pb**		**19 04 08.2**	**0.0**
	baz=84								
TNSS				*e*S		**Sg**		**19 04 35.1**	**-0.9**
	baz=84								
TNSS	**Tian-Shan**	**2.07**	**287**	*e*P		**Pb**		**19 04 08.2**	**0.0**
	100nm,0.5s								
TNSS				*e*S		**Sg**		**19 04 35.2**	**-0.9**
	198nm,0.5s								
ARXS	**Arharly**	**2.19**	**323**	*e*P		**Pb**		**19 04 09.6**	**-0.5**
	82nm,0.6s								
ARXS				*e*S		**Sb**		**19 04 37.3**	**-0.5**
	671nm,0.6s								
KTBS	**Karatobe**	**2.50**	**301**	*e*P		**Pb**		**19 04 15.5**	**+0.1**
	baz=98								
KTBS				*e*S		**Sb**		**19 04 47.3**	**+0.6**
	baz=98								
KTBS	**Karatobe**	**2.50**	**301**	*e*P		**Pb**		**19 04 15.5**	**+0.1**
	49nm,0.5s								
KTBS				*e*S		**Sb**		**19 04 47.3**	**+0.6**
	456nm,0.6s								
ULHL	**Ulahol**	**2.53**	**266**	⇑*e*P		**Pb**		**19 04 15.7**	**-0.3**
	baz=63								
ULHL				⇑*i*S		**Sb**		**19 04 47.7**	**0.0**
	baz=63								
BOOM	**Boomskoye usch**	**2.74**	**272**	⇓*i*P		**Pb**		**19 04 17.6**	**-1.9**
	baz=69								
BOOM				⇓*i*S		**Sb**		**19 04 52.2**	**-1.5**
	baz=69								
KST	**Kastek**	**2.77**	**283**	*e*P		**Pb**		**19 04 21.0**	**+1.0**
	baz=81								
KST				*e*S		**Sg**		**19 04 57.0**	**-1.7**
	baz=81								
KST	**Kastek**	**2.77**	**283**	*e*P		**Pb**		**19 04 21.0**	**+1.0**
	132nm,0.6s								
KST				*e*S		**Sg**		**19 04 57.0**	**-1.7**
	183nm,0.7s								
KUU	**Kurty**	**2.81**	**302**	*e*P		**Pb**		**19 04 20.2**	**-0.4**
	baz=0.0								
KUU				*e*S		**Sb**		**19 04 55.6**	**+0.2**
	baz=0.0								
KUU	**Kurty**	**2.81**	**302**	*e*P		**Pb**		**19 04 20.2**	**-0.4**
	38nm,0.6s								
KUU				*e*S		**Sb**		**19 04 55.6**	**+0.2**
	264nm,0.6s								
KAPS	**Kapalarasan**	**2.82**	**356**	*e*P		**Pb**		**19 04 20.4**	**-0.4**
	60nm,0.4s								
KAPS				*e*S		**Sb**		**19 04 55.9**	**-0.1**
	280nm,0.5s								
NRN	**Naryn**	**2.91**	**250**	⇓*i*P		**Pb**		**19 04 21.2**	**-1.3**
	baz=48								
NRN				⇓*i*S		**Sb**		**19 04 58.1**	**-0.6**
	baz=48								
DGS	**Degeres**	**2.95**	**286**	*e*P		**Pb**		**19 04 24.2**	**+1.1**
	baz=85								
DGS				*e*S		**Sg**		**19 05 02.2**	**-2.2**
	baz=85								
DGS	**Degeres**	**2.95**	**286**	*e*P		**Pb**		**19 04 24.1**	**+1.1**
	122nm,0.5s								
DGS				*e*S		**Sg**		**19 05 02.2**	**-2.2**
	524nm,0.8s								
TKM2	**Tokmak 2**	**3.02**	**280**	⇓*i*P		**Pn**		**19 04 21.3**	**+2.5**
	baz=78								
TKM2				⇓*i*S		**Sb**		**19 04 58.3**	**-3.4**
	baz=78								
FRU1	**Bishkek**	**3.71**	**277**	⇓*i*P		**Pn**		**19 04 31.1**	**+2.9**
	baz=75								
FRU1				⇓*i*S		**Sn**		**19 05 15.9**	**+3.3**
	baz=75								
AAK	**Ala-Archa**	**3.81**	**274**	Lg		Lg		19 05 25.9	
	3.7nm,0.3s,baz=62,slow=20,SNR=1.5								
ARLS	**Aral**	**4.00**	**263**	⇓*i*P		**Pn**		**19 04 35.8**	**+3.6**
	baz=61								
ARLS				⇓*i*S		**Sn**		**19 05 22.2**	**+2.4**
	baz=61								
MKAR	**Makanchi Array**	**4.72**	**23**	Lg		Lg		19 05 57.7	
	6.8nm,0.3s,baz=206,slow=27,SNR=4.4								
WMQ	**Urumqi**	**6.04**	**74**	*e*Pn		**Pn**		**19 05 02.0**	**+1.8**
WMQ				Sn		**Sn**		**19 06 09.8**	**-0.2**
WMQ				smax		smax			
	comp=N,34nm,1.1s								
WMQ				smax		smax			
	comp=E,50nm,0.9s								
KURBB	**Kurchatov Arra**	**8.19**	**355**	Pn		**Pn**		**19 05 29.9**	**+0.3**
	comp=E,0.1nm,0.3s,baz=173,slow=15,SNR=4.3								
KURBB				Lg		Lg		19 07 47.6	
	comp=E,0.5nm,0.3s,baz=176,slow=29,SNR=6.7								
ZALV	**Zalesovo Beam**	**11.99**	**15**	Pn		**Pn**		**19 06 24.1**	**+2.6**
	comp=E,0.5nm,0.3s,baz=200,slow=13,SNR=4.7								
BVAR	**Borovoye Array**	**12.25**	**333**	Pn		**Pn**		**19 06 23.5**	**-1.6**
	comp=E,0.2nm,0.3s,baz=150,slow=12,SNR=2.6								
SONM	**Songino Array**	**19.56**	**65**	P		**Pn**		**19 08 00.2**	**+0.1**
	comp=E,0.1nm,0.3s,baz=266,slow=11,SNR=5.7								
KBZ	**Khabaz**	**26.73**	**285**	P		**P**		**19 09 08.2**	**-2.2**
	comp=E,1.3nm,0.9s,baz=75,slow=5.3,SNR=3.8								
BRTR	**Keskin Array B**	**34.45**	**281**	P		**P**		**19 10 17.3**	**-1.7**
	comp=E,0.7nm,0.8s,baz=107,slow=10,SNR=4.5								
NOA	**NORSAR Array B**	**43.34**	**319**	P		**P**		**19 11 37.2**	**-0.6**
	comp=E,0.4nm,0.6s,baz=62,slow=5.7,SNR=2.7								
ILAR	**Eielson Array**	**67.07**	**20**	P		**P**		**19 14 22.9**	**-1.1**
	comp=E,0.5nm,0.9s,baz=318,slow=5.1,SNR=4.8								
TORD	**Torodi Ar. Bea**	**72.39**	**272**	P		**P**		**19 14 55.9**	**-1.7**
	comp=E,0.4nm,0.5s,baz=23,slow=6.1,SNR=4.2								
YKA	**Yellowknife Ar**	**74.76**	**7**	P		**P**		**19 15 10.8**	**0.0**
	comp=E,0.7nm,0.6s,baz=344,slow=5.8,SNR=12								

ISCJB ***28*** *19:03:49.1±0.3, 7.°02S±0.°05×155.°97E±0.°04, h62km, mb4.7/30, Error ellipse: s-maj=7.3km s-min=5.7km az=28.7*

NEIC ***28*** *19:03:51.9±1.0, 7.°12S×155.°99E, h76km±9km, mb4.8/10, Error ellipse: s-maj=8.9km s-min=7.1km az=56.0*

IDC ***28*** *19:03:52.9±1.8, 7.°11S×155.°96E, h85km±17km, mb4.3/17, mb1 4.3/22, mb1mx4.2/34, mbtmp4.6/22, Error ellipse: s-maj=14.3km s-min=10.6km az=20.0*

ISC 28 19:03:50.7±0.4, 7.04S±0.°07×155.97E±0.°06, h62km, n72, σ1§49/74, mb4.9/36, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.60**	**121**	P		**Pn**		**19 04 59.9**	**+2.2**
	16nm,0.3s,baz=235,slow=2.6,SNR=12								
HNR				S		**Sn**		**19 05 52.3**	**+2.5**
	28nm,0.3s,baz=229,slow=20,SNR=4.5								
HNR	**Honiara**	**4.60**	**121**	*e*Pn		**Pn**		**19 04 56.6**	**-1.1**
HNR				*e*Sn		**Sn**		**19 05 52.3**	**+2.5**
RABL	**Rabaul**	**4.73**	**307**	*e*Pn		**Pn**		**19 05 03.1**	**+3.5**
PMG	**Port Moresby**	**9.03**	**254**	P		**Pn**		**19 05 59.6**	**+1.1**
	8.9nm,0.3s,baz=66,slow=7.8,SNR=36								
PMG				S		**Sn**		**19 07 41.6**	**+2.8**
	1.2nm,0.3s,baz=204,slow=20,SNR=1.8								
PMG	**Port Moresby**	**9.03**	**254**	*e*Pn		**Pn**		**19 05 58.8**	**+0.3**
JAY	**Jayapura**	**15.86**	**286**	P		**Pn**		**19 07 31.3**	**+1.0**
	1.6nm,0.3s,baz=116,slow=9.3,SNR=6.4								
CTA	**Charters Tower**	**16.03**	**215**	P		**P**		**19 07 34.3**	**-0.5**
	0.4nm,0.3s,baz=43,slow=12,SNR=10								
DZM	**Mont Dzumac**	**18.04**	**147**	P		**Pn**		**19 07 58.1**	**+0.8**
	0.6nm,0.3s,baz=319,slow=17,SNR=4.3								
WRAB	**Tennant Creek**	**24.58**	**236**	*e*P		**P**		**19 09 04.6**	**-0.6**
	14nm,0.6s								
WB2	**Warramunga Arr**	**24.58**	**236**	*e*P		**P**		**19 09 02.1**	**-3.1**
WR1	**Warramunga Arr**	**24.59**	**236**	*e*P		**P**		**19 09 05.0**	**-0.2**
	63nm,1.8s								
WR1				*e*PcP		**PcP**		**19 12 41.5**	**-0.5**
WRA	**Warramunga Arr**	**24.59**	**236**	P		**P**		**19 09 05.0**	**-0.2**
	11nm,0.5s,baz=60,slow=9.3,SNR=214								
WRA				PcP		**PcP**		**19 12 41.5**	**-0.5**
	0.9nm,0.5s,baz=62,slow=2.4,SNR=5.2								
SIJI	**Sorong**	**25.39**	**283**	P		**P**		**19 09 12.4**	**-0.2**
	13nm,0.3s,baz=66,slow=12,SNR=18								
AS31	**Alice Springs**	**26.87**	**230**	*e*P		**P**		**19 09 24.9**	**-1.0**
	1.6nm,0.6s								
AS31				*e*PcP		**PcP**		**19 12 46.9**	**-0.3**
ASAR	**Alice Springs**	**26.87**	**230**	P		**P**		**19 09 24.9**	**-1.1**
	2.6nm,0.5s,baz=58,slow=9.9,SNR=73								
ASAR				PcP		**PcP**		**19 12 46.9**	**-0.3**
	1.0nm,0.6s,baz=70,slow=2.7,SNR=7.6								
H11S3	**WAKE ISLAND Hy**	**27.49**	**22**	T		T		19 37 46.8	
	baz=202,slow=76,SNR=255								
H11S2	**WAKE ISLAND Hy**	**27.49**	**23**	T		T		19 37 47.0	
	baz=202,slow=76,SNR=293								
H11S1	**WAKE ISLAND Hy**	**27.51**	**22**	T		T		19 37 47.5	
	baz=202,slow=76,SNR=205								
STKA	**Stephens Creek**	**28.11**	**207**	P		**P**		**19 09 35.9**	**-1.0**
	2.6nm,0.9s,baz=48,slow=13,SNR=4.1								
H11N1	**WAKE ISLAND Hy**	**28.68**	**22**	T		T		19 39 19.6	
	baz=202,slow=76,SNR=9.4								
H11N3	**WAKE ISLAND Hy**	**28.69**	**22**	T		T		19 39 20.7	
	baz=202,slow=76,SNR=8.5								
H11N2	**WAKE ISLAND Hy**	**28.70**	**22**	T		T		19 39 20.9	
	baz=202,slow=76,SNR=52								
THZ	**Tophouse**	**37.70**	**159**	*e*P		**P**		**19 10 60.0**	**-0.3**
	12nm,0.7s								
RPZ	**Rata Peaks**	**38.85**	**162**	P		**P**		**19 11 08.3**	**-1.5**
	7.9nm,0.7s,baz=157,slow=5.9,SNR=6.6								
KKM	**Kota Kinabalu**	**41.74**	**287**	*e*P		**P**		**19 11 34.1**	**-0.2**
	16nm,0.6s								
RAR	**Rarotonga**	**45.00**	**113**	P		**P**		**19 12 00.5**	**+0.2**
	8.9nm,0.5s,baz=324,slow=17,SNR=3.2								
MJAR	**Matsushiro Arr**	**46.45**	**340**	P		**P**		**19 12 10.7**	**-0.8**
	2.9nm,0.7s,baz=176,slow=7.7,SNR=8.1								
MAJO	**Matsushiro**	**46.45**	**340**	*e*P		**P**		**19 12 10.7**	**-0.8**
KSRS	**Korea Array**	**51.44**	**331**	P		**P**		**19 12 50.2**	**+0.5**
	3.7nm,0.5s,baz=147,slow=7.7,SNR=18								
KSAR	**Wonju Array Be**	**51.45**	**331**	P		**P**		**19 12 50.2**	**+0.5**
USRK	**Ussuriysk Ar.**	**55.41**	**339**	P		**P**		**19 13 19.1**	**+0.4**
	4.4nm,0.9s,baz=144,slow=6.8,SNR=5.1								
ENH	**Enshi**	**57.98**	**312**	*e*P		**P**		**19 13 36.9**	**-0.4**
	8.5nm,1.0s								
PHET	**Kaeng Krachan**	**59.38**	**289**	P		**P**		**19 13 48.2**	**+1.0**
PETK	**Petropavlovsk-**	**59.94**	**1**	P		**P**		**19 13 50.9**	**+0.5**
	6.1nm,1.1s,baz=159,slow=6.2,SNR=5.0								
PEA1	**Petropavlovsk-**	**59.94**	**1**	*e*P		**P**		**19 13 50.9**	**+0.5**
SRDT	**SRDT**	**60.26**	**291**	P		**P**		**19 13 54.3**	**+1.1**
UTHA	**Uthaitani**	**60.32**	**292**	P		**P**		**19 13 54.3**	**+0.7**
SUKH	**Sukhothai**	**60.75**	**294**	P		**P**		**19 13 57.7**	**+1.2**
CM01	**Chiang Mai Arr**	**61.65**	**295**	*e*P		**P**		**19 14 03.2**	**+0.6**
CM31	**Chiang Mai Arr**	**61.68**	**295**	*e*P		**P**		**19 14 03.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**61.68**	**295**	P		**P**		**19 14 03.5**	**+0.7**
	8.7nm,0.8s,baz=116,slow=5.0,SNR=82								
CMMT	**Chiang Mai**	**61.79**	**296**	P		**P**		**19 14 04.1**	**+0.5**
	12nm,1.2s								
CHTO	**Chiang Mai**	**61.79**	**296**	*e*P		**P**		**19 14 03.9**	**+0.3**
	14nm,1.2s								
CHTO	**Chiang Mai**	**61.79**	**296**	P		**P**		**19 14 04.2**	**+0.6**
	55nm,1.3s								
GTA	**Gaotai**	**69.44**	**317**	*e*P		**P**		**19 14 53.5**	**+0.8**
GTA				pP		pP		19 14 59.5	-10
GTA				sP		PcP		19 15 02.5	-13
ULN	**Ulaanbaatar**	**69.56**	**327**	*e*P		**P**		**19 14 54.3**	**+1.0**
	12nm,0.7s								
SONA0	**Songino Array**	**69.90**	**327**	*e*P		**P**		**19 14 56.3**	**+0.9**
SONM	**Songino Array**	**69.90**	**327**	P		**P**		**19 14 56.3**	**+0.9**
	18nm,0.7s,baz=145,slow=6.0,SNR=151								
SONA1	**Songino Array**	**69.91**	**327**	*e*P		**P**		**19 14 56.1**	**+0.7**
LSA	**Lhasa**	**72.10**	**304**	*e*P		**P**		**19 15 10.3**	**+0.8**
	6.0nm,1.5s								
RAMN	**Ramite**	**75.09**	**300**	*e*P		**P**		**19 15 26.7**	**-0.1**
	16nm,0.5s								
JIRN	**Jiri**	**75.64**	**301**	*e*P		**P**		**19 15 30.0**	**-0.1**
	28nm,0.6s

BOOM				⇑*i*S		**Sb**	**19 11 05.1**	**-1.0**
	baz=69							
TKM2	**Tokmak 2**	**3.00**	**279**	⇑*e*P		**Pb**	**19 10 34.6**	**-2.2**
	baz=77							
TKM2				⇑*i*S		**Sb**	**19 11 11.2**	**-2.6**
	baz=77							
KZA	**Kyzart**	**3.28**	**263**	⇓*i*P		**Pb**	**19 10 39.4**	**-2.4**
KZA				⇓*i*S		**Sn**	**19 11 18.7**	**+3.7**
	baz=62							

SOME ***28*** *19:11:49.6,42°.48N×79°.63E,h20km*
MOS ***28*** *19:11:49.3±1.4,42°.54N×79°.67E,h8km,mb4.3/8,Error ellipse: s-maj=6.7km s-min=5.7km az=83.5*
IDC ***28*** *19:11:49.1±0.8,42°.47N×79°.64E,h0km,mb3.8/11, mb1 3.9/19,mb1mx3.8/46,mbtmp3.8/19,ML3.5/8,Error ellipse: s-maj=12.7km s-min=10.1km az=122.0*
KRNET ***28*** *19:11:50.1±0.1,42°.53N×79°.64E,h19km,mb4.6*
NNC ***28*** *19:11:51.0±0.5,42°.60N×79°.59E,h0km,mb4.8,mpv4.5, Error ellipse: s-maj=3.3km s-min=1.8km az=135.0*
NEIC ***28*** *19:11:51.5±0.4,42°.56N×79°.56E,h10km,mb4.5/1,Error ellipse: s-maj=8.0km s-min=4.8km az=144.0*
NEIC Felt at Almaty.
BJI ***28*** *19:11:51.5,42°.58N×79°.45E,h10km,mb4.3/14,ML4.1/3, Ms3.9/1,Ms7 3.8/1*
ISC 28 19:11:52.2±1.1,42°.65N±0°.03×79°.55E±0°.02,h8km±7km, n204,σ1§57/271,mb4.1/20,44C-29D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.51**	**353**	P			**Pb**	**19 12 03.0**	**-0.5**
	1μm,0.2s								
SHLS				S			**Sb**	**19 12 12.7**	**+1.6**
	5μm,0.4s								
SHLS	**Shalkode**	**0.51**	**353**	*e*P			**Pb**	**19 12 03.0**	**-0.5**
	baz=16								
SHLS				*e*S			**Sb**	**19 12 12.7**	**+1.6**
	baz=16								
SHLS	**Shalkode**	**0.51**	**353**	*e*P			**Pb**	**19 12 03.0**	**-0.5**
	1μm,0.2s								
SHLS				*e*S			**Sb**	**19 12 12.7**	**+1.6**
	5μm,0.4s								
UZB	**Uzynbulak**	**0.63**	**322**	P			**Pg**	**19 12 04.5**	**+0.1**
	181nm,0.2s								
UZB				S			**Sb**	**19 12 15.0**	**+0.4**
	3μm,0.3s								
UZB	**Uzynbulak**	**0.63**	**322**	*e*P			**Pg**	**19 12 04.5**	**+0.1**
	baz=24								
UZB				*e*S			**Sb**	**19 12 15.0**	**+0.4**
	baz=24								
UZB	**Uzynbulak**	**0.63**	**322**	*e*P			**Pg**	**19 12 04.5**	**+0.1**
	181nm,0.2s								
UZB				*e*S			**Sb**	**19 12 15.0**	**+0.4**
	3μm,0.3s								
PDGK	**Podgornoye**	**0.68**	**356**	P			**Pg**	**19 12 05.1**	**-0.2**
	322nm,0.2s								
PDGK				S			**Sb**	**19 12 16.1**	**+0.1**
	1μm,0.3s								
PDGK	**Podgornoye**	**0.68**	**356**	⇓P			**Pg**	**19 12 05.0**	**-0.3**
	185nm,0.3s								
PDGK				⇑S			**Sb**	**19 12 15.5**	**-0.6**
	1μm,0.5s								
PDGK	**Podgornoye**	**0.68**	**356**	PG			**Pg**	**19 12 04.9**	**-0.3**
PDGK				S			**Sb**	**19 12 15.4**	**-0.6**
PDGK				pmax		pmax			
	comp=Z,185nm,0.3s								
PDGK				smax		smax			
	comp=E,1μm,0.5s								
PDGK	**Podgornoye**	**0.68**	**356**	⇑*i*P			**Pg**	**19 12 05.0**	**-0.3**
	baz=52								
PDGK				⇑*i*S			**Sb**	**19 12 16.0**	**0.0**
	baz=52								
PRZ	**Przheval'sk**	**0.86**	**259**	*e*Pg			**Pg**	**19 12 07.2**	**-1.6**
PRZ	**Przheval'sk**	**0.86**	**259**	*e*PG			**Pg**	**19 12 07.2**	**-1.6**
PRZ	**Przheval'sk**	**0.86**	**259**	⇑*i*P			**Pg**	**19 12 07.2**	**-1.6**
	baz=67								
PRZ				⇑*i*S			**Sg**	**19 12 19.9**	**-0.2**
	baz=67								
SATY	**Saty**	**0.93**	**296**	P			**Pg**	**19 12 09.3**	**-0.8**
	comp=E,143nm,0.5s								
SATY				S			**Sb**	**19 12 23.6**	**+0.3**
	comp=E,1μm,0.3s								
SATY	**Saty**	**0.93**	**296**	*e*P			**Pg**	**19 12 09.3**	**-0.8**
	comp=E,143nm,0.5s								
SATY				*e*S			**Sb**	**19 12 23.6**	**+0.3**
	comp=E,1μm,0.3s								
KTMS	**Ketmen**	**0.99**	**36**	P			**Pg**	**19 12 09.6**	**-1.6**
	comp=E,149nm,0.1s								
KTMS				S			**Sg**	**19 12 23.9**	**-0.1**
	comp=E,1μm,0.3s								
KTMS	**Ketmen**	**0.99**	**36**	*e*P			**Pg**	**19 12 09.6**	**-1.6**
	baz=29								
KTMS				*e*S			**Sg**	**19 12 23.9**	**-0.1**
	baz=29								
KTMS	**Ketmen**	**0.99**	**36**	*e*P			**Pg**	**19 12 09.6**	**-1.6**
	comp=E,149nm,0.1s								
KTMS				*e*S			**Sg**	**19 12 23.9**	**-0.1**
	comp=E,1μm,0.3s								
KURS	**Kuram**	**1.31**	**310**	P			**Pn**	**19 12 16.6**	**-0.3**
	comp=E,156nm,0.5s								
KURS				S			**Sg**	**19 12 35.9**	**+1.5**
	comp=E,808nm,0.7s								
TARG	**Taragay, Kyrgy**	**1.59**	**235**	*e*Pn			**Pn**	**19 12 17.9**	**-3.2**
TARG	**Taragay, Kyrgy**	**1.59**	**235**	⇓*i*P			**Pn**	**19 12 18.4**	**-2.6**
	baz=40								
TARG				⇓*i*S			**Sn**	**19 12 40.1**	**-1.9**
	baz=40								
DJR	**Jarkent**	**1.69**	**6**	P			**Pb**	**19 12 22.9**	**-0.7**
	comp=E,77nm,0.3s								
DJR				S			**Sg**	**19 12 47.1**	**+0.6**
	comp=E,491nm,0.3s								
DJR	**Jarkent**	**1.69**	**6**	*e*P			**Pb**	**19 12 22.9**	**-0.7**
	comp=E,77nm,0.3s								
DJR				*e*S			**Sg**	**19 12 47.1**	**+0.6**
	comp=E,491nm,0.3s								
KDJ	**Kajisay**	**1.83**	**254**	*e*Pn			**Pn**	**19 12 24.0**	**-0.2**
KDJ	**Kajisay**	**1.83**	**254**	*e*PN			**Pn**	**19 12 24.0**	**-0.2**
KDJ	**Kajisay**	**1.83**	**254**	⇑*i*P			**Pn**	**19 12 24.1**	**0.0**
	baz=58								
KDJ				⇑*i*S			**Sb**	**19 12 49.2**	**0.0**
	baz=58								
KOTS	**Kotyrbulak**	**1.88**	**289**	Pg			**Pb**	**19 12 26.3**	**-0.6**
	comp=E,447nm,0.3s								
KOTS				Lg		Lg		19 12 53.1	
	comp=E,2μm,0.4s								
KOTS	**Kotyrbulak**	**1.88**	**289**	*e*P			**Pb**	**19 12 26.3**	**-0.6**
	baz=91								
KOTS				*e*S			**Sg**	**19 12 53.0**	**+0.4**
	baz=91								
KOTS	**Kotyrbulak**	**1.88**	**289**	*e*P			**Pb**	**19 12 26.3**	**-0.6**
	comp=E,447nm,0.3s								
KOTS				*e*S			**Sg**	**19 12 53.1**	**+0.4**
	comp=E,2μm,0.4s								
MDOK	**Medeo**	**1.91**	**286**	Pg			**Pb**	**19 12 26.4**	**-0.9**
	comp=E,405nm,0.3s								
MDOK				Lg		Lg		19 12 52.9	
	comp=E,969nm,0.5s								
MDOK	**Medeo**	**1.91**	**286**	*e*P			**Pb**	**19 12 26.4**	**-0.9**
	baz=89								
MDOK				*e*S			**Sg**	**19 12 52.9**	**-0.6**
	baz=89								
MDOK	**Medeo**	**1.91**	**286**	*e*P			**Pb**	**19 12 26.4**	**-0.9**
	comp=E,405nm,0.3s								
MDOK				*e*S			**Sg**	**19 12 52.9**	**-0.6**
	comp=E,969nm,0.5s								
TNSS	**Tian-Shan**	**1.95**	**282**	Pg			**Pb**	**19 12 27.1**	**-1.2**
	comp=E,456nm,0.5s								
TNSS				Lg		Lg		19 12 54.1	
	comp=E,975nm,0.6s								
TNSS	**Tian-Shan**	**1.95**	**282**	*e*P			**Pb**	**19 12 27.1**	**-1.2**
	baz=85								
TNSS				*e*S			**Sg**	**19 12 54.1**	**-0.8**
	baz=85								
TNSS	**Tian-Shan**	**1.95**	**282**	*e*P			**Pb**	**19 12 27.1**	**-1.2**
	comp=E,456nm,0.5s								
TNSS				*e*S			**Sg**	**19 12 54.1**	**-0.8**
	comp=E,975nm,0.6s								
KNDC	**Almaty**	**1.98**	**287**	⇓Pn			**Pb**	**19 12 28.1**	**-0.4**
	comp=E,618nm,0.5s								
KNDC				⇓Lg		Lg		19 12 56.4	
	comp=E,1μm,0.7s								
ARXS	**Arharly**	**2.00**	**322**	Pg			**Pb**	**19 12 28.1**	**-0.8**
	comp=E,184nm,0.4s								
ARXS				Lg		Lg		19 12 56.0	
	comp=E,2μm,0.6s								
ARXS	**Arharly**	**2.00**	**322**	*e*P			**Pb**	**19 12 28.1**	**-0.8**
	comp=E,184nm,0.4s								
ARXS				*e*S			**Sg**	**19 12 56.0**	**-0.5**
	comp=E,2μm,0.6s								
AAA	**Alma-Ata**	**2.01**	**287**	Pg			**Pb**	**19 12 28.9**	**-0.2**
	comp=E,574nm,0.4s								
AAA				Lg		Lg		19 12 57.0	
	comp=E,1μm,0.3s								
AAA	**Alma-Ata**	**2.01**	**287**	*e*PN			**Pb**	**19 12 28.8**	**-0.2**
AAA				*e*S			**Sg**	**19 12 57.0**	**+0.2**
AAA				pmax		pmax			
	comp=Z,577nm,0.3s								
AAA				smax		smax			
	comp=E,778nm,0.4s								
AAA	**Alma-Ata**	**2.01**	**287**	*e*P			**Pb**	**19 12 28.9**	**-0.2**
	baz=90								
AAA				*e*S			**Sg**	**19 12 57.1**	**+0.2**
	baz=90								
AAA	**Alma-Ata**	**2.01**	**287**	*e*P			**Pb**	**19 12 28.9**	**-0.2**
	comp=E,574nm,0.4s								
AAA				*e*S			**Sg**	**19 12 57.0**	**+0.2**
	comp=E,1μm,0.3s								
IZV	**Izvestkoviy**	**2.19**	**281**	Pg			**Pb**	**19 12 31.1**	**-1.1**
	comp=E,397nm,0.3s								
IZV				Lg		Lg		19 13 01.2	
	comp=E,2μm,0.5s								
IZV	**Izvestkoviy**	**2.19**	**281**	*e*P			**Pb**	**19 12 31.1**	**-1.1**
	baz=84								
IZV				*e*S			**Sg**	**19 13 01.3**	**-1.4**
	baz=84								
IZV	**Izvestkoviy**	**2.19**	**281**	*e*P			**Pb**	**19 12 31.1**	**-1.1**
	comp=E,397nm,0.3s								
IZV				*e*S			**Sg**	**19 13 01.2**	**-1.4**
	comp=E,2μm,0.5s								
CHKK	**Chushkaly**	**2.22**	**304**	Pg			**Pb**	**19 12 32.0**	**-0.6**
	comp=E,74nm,0.2s								
CHKK				Lg		Lg		19 13 02.7	
	comp=E,1μm,0.3s								
CHKK	**Chushkaly**	**2.22**	**304**	*e*P			**Pb**	**19 12 32.0**	**-0.6**
	baz=5.0								
CHKK				*e*S			**Sg**	**19 13 02.7**	**-0.9**
	baz=5.0								
CHKK	**Chushkaly**	**2.22**	**304**	*e*P			**Pb**	**19 12 32.0**	**-0.6**
	comp=E,74nm,0.2s								
CHKK				*e*S			**Sg**	**19 13 02.7**	**-0.9**
	comp=E,1μm,0.3s								
MTBS	**Maitube**	**2.34**	**283**	Pg			**Pb**	**19 12 33.8**	**-0.9**
	comp=E,550nm,0.7s								
MTBS				Lg		Lg		19 13 06.1	
	comp=E,1μm,0.3s								
MTBS	**Maitube**	**2.34**	**283**	*e*P			**Pb**	**19 12 33.8**	**-0.9**
	baz=85								
MTBS				*e*S			**Sg**	**19 13 06.1**	**-1.3**
	baz=85								
MTBS	**Maitube**	**2.34**	**283**	*e*P			**Pb**	**19 12 33.8**	**-0.9**
	comp=E,550nm,0.7s								
MTBS				*e*S			**Sg**	**19 13 06.1**	**-1.3**
	comp=E,1μm,0.3s								
KTBS	**Karatobe**	**2.35**	**298**	Pg			**Pb**	**19 12 34.4**	**-0.4**
	comp=E,168nm,0.2s								
KTBS				Lg		Lg		19 13 06.6	
	comp=E,2μm,0.5s								
KTBS	**Katobe**	**2.35**	**298**	*e*P			**Pb**	**19 12 34.4**	**-0.4**
	baz=99								
KTBS				*e*S			**Sg**	**19 13 06.6**	**-1.0**
	baz=99								
KTBS	**Karatobe**	**2.35**	**298**	*e*P			**Pb**	**19 12 34.4**	**-0.4**
	comp=E,168nm,0.2s								
KTBS				*e*S			**Sg**	**19 13 06.6**	**-1.0**
	comp=E,2μm,0.5s								
ULHL	**Ulahol**	**2.48**	**262**	P			**Pn**	**19 12 34.0**	**+0.9**
	SNR=180								
ULHL	**Ulahol**	**2.48**	**262**	⇑*i*P			**Pn**	**19 12 33.0**	**-0.1**
	baz=65								
ULHL				⇑*i*S			**Sn**	**19 13 04.9**	**+1.2**
	baz=65								
KAPS	**Kapalarasan**	**2.64**	**357**	Pg			**Pb**	**19 12 39.4**	**-0.3**
	comp=E,54nm,0.5s								
KAPS				Lg		Lg		19 13 15.3	
	comp=E,666nm,0.7s								
KAPS	**Kapalarasan**	**2.64**	**357**	*e*P			**Pb**	**19 12 39.4**	**-0.3**
	comp=E,54nm,0.5s								
KAPS				*e*S			**Sg**	**19 13 15.3**	**-1.5**
	comp=E,666nm,0.7s								
KUU	**Kurty**	**2.65**	**299**	Pg			**Pb**	**19 12 39.6**	**-0.3**
	comp=E,46nm,0.3s								
KUU				Lg		Lg		19 13 15.4	
	comp=E,970nm,0.5s								
KUU	**Kurty**	**2.65**	**299**	*e*P			**Pb**	**19 12 39.6**	**-0.3**
	baz=1.0								
KUU				*e*S			**Sg**	**19 13 15.4**	**-1.9**
	baz=1.0								
KUU	**Kurty**	**2.65**	**299**	*e*P			**Pb**	**19 12 39.6**	**-0.3**
	comp=E,46nm,0.3s								
KUU				*e*S			**Sg**	**19 13 15.4**	**-1.9**
	comp=E,970nm,0.5s								
BOOM	**Boomskoye usch**	**2.67**	**268**	⇑*i*P			**Pn**	**19 12 36.2**	**+0.5**
	baz=70								
BOOM				⇑*i*S			**Sn**	**19 13 10.1**	**+1.8**
	baz=70								
DGS	**Degeres**	**2.83**	**283**	Pg			**Pb**	**19 12 42.0**	**-1.1**
	comp=E,411nm,0.4s								
DGS				Lg		Lg		19 13 20.1	
	comp=E,2μm,0.6s								
DGS	**Degeres**	**2.83**	**283**	*e*P			**Pb**	**19 12 42.1**	**-1.1**
	baz=85								
DGS				*e*S			**Sb**	**19 13 20.2**	**+2.1**
	baz=85								
DGS	**Degeres**	**2.83**	**283**	*e*P			**Pb**	**19 12 42.0**	**-1.1**
	comp=E,411nm,0.4s								
DGS				*e*S			**Sb**	**19 13 20.1**	**+2.1**
	comp=E,2μm,0.6s								
NRN	**Naryn**	**2.91**	**246**	*e*Pn			**Pn**	**19 12 40.1**	**+1.0**
NRN	**Naryn**	**2.91**	**246**	*e*PN			**Pn**	**19 12 40.1**	**+1.0**
NRN	**Naryn**	**2.91**	**246**	⇑*i*P			**Pn**	**19 12 39.2**	**+0.1**
	baz=49								
NRN				⇑*i*S			**Sn**	**19 13 15.2**	**+0.8**
	baz=49								
TKM2	**Tokmak 2**	**2.92**	**277**	P			**Pn**	**19 12 41.2**	**+2.1**
	SNR=116								
TKM2	**Tokmak 2**	**2.92**	**277**	⇑Pn			**Pn**	**19 12 40.5**	**+1.3**
	comp=E,44nm,0.4s								
TKM2				⇓Lg		Lg		19 13 25.8	
	comp=E,554nm,0.6s								
TKM2	**Tokmak 2**	**2.92**	**277**	PN			**Pn**	**19 12 40.5**	**+1.3**
TKM2				pmax		pmax			
	comp=Z,44nm,0.4s								
TKM2	**Tokmak 2**	**2.92**	**277**	⇓*i*P			**Pn**	**19 12 39.6**	**+0.4**
	baz=79								
TKM2				⇓*i*S			**Sn**	**19 13 16.8**	**+2.2**
	baz=79								
KZA	**Kyzart**	**3.24**	**261**	P			**Pn**	**19 12 45.5**	**+1.8**
	SNR=54								
KZA	**Kyzart**	**3.24**	**261**	⇓*i*P			**Pn**	**19 12 43.7**	**0.0**
	baz=64								
KZA				⇓*i*S			**Sn**	**19 13 23.7**	**+1.1**
	baz=64								
KBK	**Karagaybulak**	**3.39**	**272**	P			**Pn**	**19 12 47.5**	**+1.9**
	SNR=47								
KBK	**Karagaybulak**	**3.39**	**272**	⇑*i*P			**Pn**	**19 12 45.8**	**+0.2**
	baz=74								
KBK				⇑*i*S			**Sn**	**19 13 27.5**	**+1.3**
	baz=74								
CHMS	**Chumysh**	**3.55**	**277**	P			**Pn**	**19 12 51.0**	**+3.4**
	SNR=13								
CHMS	**Chumysh**	**3.55**	**277**	⇑*i*P			**Pn**	**19 12 48.3**	**+0.7**
	baz=79								
CHMS				⇑*i*S			**Sn**	**19 13 31.1**	**+1.4**
	baz=79								
FRU1	**Bishkek**	**3.63**	**274**	*e*Pn			**Pn**	**19 12 48.5**	**-0.3**
FRU1	**Bishkek**	**3.63**	**274**	*e*PN			**Pn**	**19 12 48.5**	**-0.3**
FRU1	**Bishkek**	**3.63**	**274**	⇑*i*P			**Pn**	**19 12 49.3**	**+0.6**
	baz=76								
FRU1				⇑*i*S			**Sn**	**19 13 33.2**	**+1.4**
	baz=76								
SGDS	**Sogindy**	**3.69**	**284**	Pg			**Pb**	**19 12 56.7**	**-1.0**
	comp=E,147nm,0.5s								
AAK	**Ala-Archa**	**3.73**	**271**	Pn			**Pn**	**19 12 51.6**	**+1.3**
	comp=Z,5.0nm,0.3s,baz=104,slow=3.9,SNR=21								
AAK				Lg		Lg		19 13 44.9	
	comp=Z,28nm,0.3s,baz=284,slow=19,SNR=10								
AAK	**Ala-Archa**	**3.73**	**271**	P			**Pn**	**19 12 51.5**	**+1.3**
	SNR=18								
AAK	**Ala-Archa**	**3.73**	**271**	*e*Pn			**Pn**	**19 12 50.5**	**+0.3**
AAK				Lg		Lg		19 13 44.9	
AAK	**Ala-Archa**	**3.73**	**271**	⇓Pn			**Pn**	**19 12 51.1**	**+0.9**
	comp=Z,29nm,0.4s								
AAK				⇑Lg		Lg		19 13 51.7	
	comp=Z,119nm,0.5s								
AAK	**Ala-Archa**	**3.73**	**271**	PN			**Pn**	**19 12 51.1**	**+0.9**
AAK				pmax		pmax			
	comp=Z,29nm,0.4s								
AAK	**Ala-Archa**	**3.73**	**271**	⇑*i*P			**Pn**	**19 12 50.7**	**+0.5**
	baz=73								
AAK				⇑*i*S			**Sn**	**19 13 35.8**	**+1.4**
	baz=73								
UCH	**Uchtor**	**3.75**	**265**	P			**Pn**	**19 12 52.7**	**+1.9**
	SNR=27								
UCH	**Uchtor**	**3.75**	**265**	⇓*i*P			**Pn**	**19 12 50.8**	**0.0**
	baz=67								
UCH				⇓*i*S			**Sn**	**19 13 36.0**	**+0.6**
	baz=67								
USP	**Ospenovka**	**3.76**	**281**	P			**Pn**	**19 12 52.2**	**+1.7**
	SNR=12								
USP	**Ospenovka**	**3.76**	**281**	⇑*i*P			**Pn**	**19 12 51.3**	**+0.8**
	baz=83								
USP				⇑*i*S			**Sn**	**19 13 36.6**	**+1.7**
	baz=83								
ARLS	**Aral**	**3.96**	**260**	⇓*i*P			**Pn**	**19 12 53.8**	**+0.4**
	baz=62								
ARLS				⇓*i*S			**Sn**	**19 13 40.1**	**0.0**
	baz=62								
KSH	**Kashi**	**4.14**	**222**	Pg			**Pg**	**19 13 09.5**	**-1.9**
KSH				Sg			**Sg**	**19 14 04.5**	**-0.5**
KSH				LR			LR		
	comp=Z,1μm,9.0s								
EKS2	**Erkin-Say**	**4.26**	**272**	P			**Pn**	**19 13 09.4**	**+2.1**
	SNR=17								
EKS2	**Erkin-Say**	**4.26**	**272**	⇑*e*P			**Pn**	**19 12 57.8**	**+0.4**
	baz=74								
EKS2				⇑*i*S			**Sn**	**19 13 48.0**	**+0.6**
	baz=74								
AML	**Almayashu**	**4.37**	**265**	P			Pn	19 13 03.9	+4.6
	SNR=10								
AML	**Almayashu**	**4.37**	**265**	⇓*i*P			**Pn**	**19 12 59.4**	**+0.2**
	baz=67								
AML				⇓*i*S			**Sn**	**19 13 50.7**	**+0.2**
	baz=67								
MAKZ	**Makanchi**	**4.50**	**22**	*e*Pn			**Pn**	**19 13 02.1**	**+1.4**
MAKZ	**Makanchi**	**4.50**	**22**	⇑Pn			**Pn**	**19 13 02.2**	**+1.4**
	comp=Z,8.0nm,0.2s								
MAKZ				⇑Sn			**Sn**	**19 13 55.5**	**+2.2**
	comp=Z,32nm,0.6s								
MAKZ				⇓Lg		Lg		19 14 14.7	
	comp=Z,32nm,0.8s								
MAKZ	**Makanchi**	**4.50**	**22**	PN			**Pn**	**19 13 02.1**	**+1.4**
MAKZ								19 13 55.4	
MAKZ				pmax		pmax			
	comp=Z,8.0nm,0.3s								
MAKZ				smax		smax			
	comp=E,33nm,0.6s								
MK01	**Makanchi Array**	**4.56**	**25**	*e*Pn			**Pn**	**19 13 03.0**	**+1.4**
MK31	**Makanchi Array**	**4.58**	**24**	*e*Pn			**Pn**	**19 13 03.1**	**+1.4**
MK31	**Makanchi Array**	**4.58**	**24**	⇑Pn			**Pn**	**19 13 03.0**	**+1.2**
	comp=E,8.6nm,0.4s,baz=205,slow=12,SNR=62								
MK31				⇓Sn			**Sn**	**19 13 57.1**	**+1.9**
	comp=E,30nm,0.6s,baz=200,slow=24,SNR=8.3								
MK31				⇑Lg		Lg		19 14 17.1	
	comp=E,36nm,0.6s,baz=201,slow=26,SNR=4.5								
MK31	**Makanchi Array**	**4.58**	**24**	PN			**Pn**	**19 13 02.9**	**+1.2**
MK31				*e*				19 13 57.0	
MK31				pmax		pmax			
	comp=Z,9.0nm,0.4s								
MK31				smax		smax			
	comp=N,30nm,0.6s								
MK32	**Makanchi Array**	**4.58**	**24**	*e*Pn			**Pn**	**19 13 03.3**	**+1.6**
MK32				*e*Sn			**Sn**	**19 13 57.0**	**+1.8**
MKAR	**Makanchi Array**	**4.58**	**24**	Pn			**Pn**	**19 13 03.3**	**+1.6**
	comp=N,7.6nm,0.3s,baz=213,slow=15,SNR=64								
MKAR				Sn			**Sn**	**19 13 57.0**	**+1.8**
	comp=N,13nm,0.3s,baz=204,slow=24,SNR=14								
MKAR				Lg		Lg		19 14 16.6	
	comp=N,13nm,0.3s,baz=201,slow=27,SNR=6.0								
MKAR	**Makanchi Array**	**4.58**	**24**	*e*Pn			**Pn**	**19 13 03.0**	**+1.2**
MKAR				Sn			**Sn**	**19 13 57.0**	**+1.8**
MKAR				Lg		Lg		19 14 16.6	
MKAR	**Makanchi Array**	**4.58**	**24**	*e*PN			**Pn**	**19 13 03.0**	**+1.2**
MKAR								19 13 57.0	
ARSB	**Arslanbob**	**5.07**	**257**	*e*Pn			**Pn**	**19 13 08.7**	**+0.1**
MNAS	**Manas**	**5.21**	**271**	⇑Pn			**Pn**	**19 13 11.9**	**+1.4**
	comp=N,4.5nm,0.6s								
MNAS				⇓Pg		Pb		**19 13 27.2**	**+3.7**
	comp=N,15nm,0.5s								
MNAS				⇑Lg		Lg		19 14 37.8	
	comp=N,52nm,0.6s								
MNAS	**Manas**	**5.21**	**271**	Pg			**Pb**	**19 13 25.1**	**+1.5**
	comp=N,11nm,0.5s								
MNAS	**Manas**	**5.21**	**271**	PN			**Pn**	**19 13 11.9**	**+1.4**
MNAS								19 13 24.6	
MNAS				pmax		pmax			
	comp=Z,5.0nm,0.6s								
MNAS				pmax		pmax			
	comp=Z,15nm,0.5s								
SFK	**Sufi-Kurgan**	**5.26**	**242**	⇑Pn			**Pn**	**19 13 10.9**	**-0.4**
	comp=Z,4.9nm,0.9s								
SFK				⇑Pg			**Pb**	**19 13 28.0**	**+3.5**
	comp=Z,18nm,0.6s								
SFK				⇑Lg		Lg		19 14 38.7	
	comp=Z,47nm,0.8s								
SFK	**Sufi-Kurgan**	**5.26**	**242**	PN			**Pn**	**19 13 10.9**	**-0.4**
SFK								19 13 28.0	
SFK				pmax		pmax			
	comp=Z,5.0nm,0.9s								
SFK				pmax		pmax			
	comp=Z,19nm,0.6s								
WMQ	**Urumqi**	**6.07**	**76**	*e*Pn			**Pn**	**19 13 23.8**	**+1.6**
WMQ				Sn			**Sn**	**19 14 35.3**	**+3.5**
WMQ				smax		smax			
	comp=Z,120nm,0.9s								
WMQ				smax		smax			
	comp=Z,140nm,0.9s								
WMQ	**Urumqi**	**

ZAA1	**Zalesovo Array**	**11.84**	**15**	*e*Pn		**Pn**	**19 14 42.2**	**+1.1**
ZAA1				*e*Sn		**Sn**	**19 16 51.0**	**-2.3**
BVAR	**Borovoye Array**	**12.05**	**333**	Pn		**Pn**	**19 14 44.2**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=143,slow=14,SNR=10							
BVAR				Lg	Lg		19 18 18.2	
	comp=Z,0.9nm,0.3s,baz=141,slow=35,SNR=7.4							
BRVK	**Borovoye**	**12.12**	**332**	*e*Pn		**Pn**	**19 14 44.8**	**-0.2**
	comp=Z,10nm,0.8s							
BRVK	**Borovoye**	**12.12**	**332**	*i* P		Pn	19 14 51.3	+6.3
NVS	**Novosibirsk**	**12.44**	**10**	*e*P		**Pn**	**19 14 52.6**	**+3.2**
NVS				*e*			19 17 02.1	
KNGR	**Kungurtug, Tuv**	**14.66**	**51**	*i* P		**Pn**	**19 15 16.9**	**-3.0**
AB31	**Akbulak array**	**15.13**	**303**	⇓Pn		**Pn**	**19 15 25.0**	**-1.1**
	comp=Z,2.2nm,0.7s,baz=110,slow=14,SNR=18							
ABKAR	**Akbulak array**	**15.13**	**303**	*e*Pn		**Pn**	**19 15 24.4**	**-1.7**
GUN	**Gumba**	**15.58**	**159**	*e*P		**Pn**	**19 15 32.0**	**-0.5**
	comp=Z,45nm,0.7s							
GTA	**Gaotai**	**15.63**	**95**	*e*P		**Pn**	**19 15 34.8**	**+1.9**
GTA				pP		pP	19 15 39.5	-0.8
GTA				sP		sP	19 15 42.0	+0.3
DMN	**Daman**	**15.68**	**161**	*e*P		**Pn**	**19 15 35.4**	**+1.8**
	comp=Z,37nm,0.7s							
PKIN	**Phulchoki**	**15.78**	**161**	*e*P		**Pn**	**19 15 33.4**	**-1.6**
	comp=Z,12nm,0.5s							
PKI	**Pulchoki**	**15.78**	**161**	*e*P		**Pn**	**19 15 33.3**	**-1.8**
	comp=Z,22nm,0.8s							
AKTO	**Aktyubinsk**	**16.69**	**305**	Pn		**Pn**	**19 15 45.1**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=115,slow=15,SNR=8.3							
AKTO				Lg	Lg		19 20 50.4	
	comp=Z,0.1nm,0.3s,baz=181,slow=23,SNR=4.2							
AKTO	**Aktyubinsk**	**16.69**	**305**	⇓Pn		**Pn**	**19 15 46.1**	**-0.2**
	comp=Z,5.7nm,1.1s							
GEYT	**Alibeck**	**17.01**	**261**	P		**Pn**	**19 15 48.6**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=80,slow=10,SNR=2.4							
ARU	**Arti**	**19.27**	**323**	*e*P		**Pn**	**19 16 20.4**	**+2.4**
	comp=Z,44nm,1.4s							
ARU	**Arti**	**19.27**	**323**	P		**P**	**19 16 16.4**	**-0.6**
ARU				S		**S**	**19 19 57.7**	**+2.5**
SONA0	**Songino Array**	**19.55**	**65**	*e*P		**P**	**19 16 19.3**	**-1.1**
SONM	**Songino Array**	**19.55**	**65**	P		**P**	**19 16 19.3**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=269,slow=11,SNR=11							
LZH	**Lanzhou**	**19.86**	**101**	*e*P		**Pn**	**19 16 31.0**	**+5.6**
LZH				pP		sP	19 16 36.0	+7.6
LZH				sP		pP	19 16 38.5	+12
LZH				pmax	pmax			
	comp=Z,25nm,1.0s							
ULN	**Ulaanbaatar**	**20.00**	**65**	*i* P		**P**	**19 16 22.2**	**-3.0**
ULN				pmax	pmax			
	comp=Z,4.0nm,1.5s							
CD2	**Chengdu**	**22.57**	**113**	*e*P		**P**	**19 16 57.5**	**+4.5**
HHC	**Hu-ho-hao-te**	**23.88**	**83**	*e*P		**P**	**19 17 09.0**	**+2.7**
HHC				S		**S**	**19 21 16.8**	**-5.8**
HHC				pmax	pmax			
	comp=Z,9.0nm,0.9s							
KMI	**Kunming**	**25.87**	**125**	P		**P**	**19 17 30.0**	**+5.3**
KMI				pmax	pmax			
	comp=Z,13nm,0.5s							
GNI	**Garni**	**26.12**	**276**	*i* P		**P**	**19 17 27.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**29.19**	**140**	P		**P**	**19 17 51.9**	**-2.3**
	comp=Z,0.2nm,0.6s,baz=308,slow=7.5,SNR=3.4							
OBN	**Obninsk**	**30.39**	**309**	*e*P		**P**	**19 18 07.1**	**+2.7**
OBN				pmax	pmax			
	comp=Z,3.0nm,0.9s							
NJ2	**Nanjing**	**32.73**	**96**	*e*P		**P**	**19 18 29.0**	**+3.7**
NJ2				pmax	pmax			
	comp=Z,11nm,0.5s							
BR101	**Keskin Array S**	**34.35**	**281**	*e*P		**P**	**19 18 39.9**	**+0.3**
BR131	**Keskin Array S**	**34.35**	**281**	*e*P		**P**	**19 18 39.5**	**0.0**
BRTR	**Keskin Array B**	**34.35**	**281**	P		**P**	**19 18 39.9**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=100,slow=9.6,SNR=20							
FIA0	**FINESS Array S**	**36.58**	**320**	*e*P		**P**	**19 18 57.1**	**-1.1**
FIA0	**FINESS Array S**	**36.58**	**320**	*e*P		**P**	**19 18 57.2**	**-1.1**
FINES	**FINESS Array B**	**36.58**	**320**	P		**P**	**19 18 57.1**	**-1.1**
	comp=Z,1.9nm,0.6s,baz=92,slow=11,SNR=8.0							
VRI	**Vrincioaia**	**37.40**	**294**	⇑*i*P		P	19 19 11.6	+6.2
VRI	**Vrincioaia**	**37.40**	**294**	⇑P		P	19 19 11.6	+6.2
TIXI	**Tiksi**	**37.57**	**23**	*ce*P		**P**	**19 19 06.4**	**-0.1**
TIXI				pmax	pmax			
	comp=Z,9.0nm,2.5s							
BURAR	**Bucovina Array**	**37.99**	**297**	⇓*i*P		**P**	**19 19 09.9**	**-0.6**
BURAR	**Bucovina Array**	**37.99**	**297**	⇓P		**P**	**19 19 10.0**	**-0.6**
MLR	**Muntele Rosu**	**38.02**	**293**	⇓*i*P		**P**	**19 19 10.9**	**0.0**
MLR	**Muntele Rosu**	**38.02**	**293**	⇓P		**P**	**19 19 10.9**	**0.0**
DOPR	**Dopca**	**38.27**	**294**	⇓*i*P		**P**	**19 19 13.7**	**+0.8**
ARA0	**ARCESS Array S**	**38.34**	**333**	*e*P		**P**	**19 19 11.7**	**-1.4**
ARCES	**ARCESS Array B**	**38.34**	**333**	P		**P**	**19 19 11.7**	**-1.4**
	comp=Z,1.9nm,0.8s,baz=90,slow=11,SNR=4.8							
NB2	**NORSAR Subarra**	**43.76**	**319**	P		**P**	**19 19 56.6**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=82,slow=8.6							
NB200	**NORSAR Array S**	**43.76**	**319**	*e*P		**P**	**19 19 56.4**	**-1.4**
NOA	**NORSAR Array B**	**43.76**	**319**	P		**P**	**19 19 56.4**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=83,slow=8.1,SNR=6.0							
YSS	**Yuzh-Sakhalins**	**43.98**	**62**	*e*P		**P**	**19 20 04.2**	**+4.5**
YSS				*e*			19 21 36.2	
YSS				MLR	MLR			
	comp=N,100nm,15.0s							
YSS				MLR	MLR			
	comp=Z,300nm,15.0s							
YSS				MLR	MLR			
	comp=E,300nm,17.0s							
KBS	**Kingsbay**	**44.22**	**345**	*ce*P		**P**	**19 20 03.8**	**+2.5**
KBS				pmax	pmax			
	comp=Z,303nm,2.5s							
GERES	**GERESS Array B**	**45.07**	**302**	P		**P**	**19 20 08.1**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=53,slow=8.7,SNR=3.0							
BILL	**Bilibino**	**50.11**	**29**	*e*P		**P**	**19 20 45.9**	**-1.4**
BILL				pmax	pmax			
	comp=Z,2.0nm,1.0s							
ILAR	**Eielson Array**	**66.92**	**20**	P		**P**	**19 22 43.0**	**-1.5**
	comp=Z,0.8nm,0.8s,baz=314,slow=4.9,SNR=9.5							
ILB	**Eielson Array**	**66.92**	**20**	*e*P		**P**	**19 22 43.0**	**-1.5**
NRS	**Narsarsuaq**	**67.33**	**334**	*e*P		**P**	**19 22 48.0**	**+0.8**
	comp=Z,59nm,0.8s							
NRS	**Narsarsuaq**	**67.33**	**334**	*e*P		**P**	**19 22 48.0**	**+0.8**
NRS				pmax	pmax			
	comp=Z,59nm,0.8s							
TOA1	**Torodi Ar. Sit**	**72.31**	**272**	*e*P		**P**	**19 23 15.9**	**-2.7**
TORD	**Torodi Ar. Bea**	**72.31**	**272**	P		**P**	**19 23 15.9**	**-2.7**
	comp=Z,1.2nm,0.5s,baz=39,slow=5.6,SNR=16							
YKA	**Yellowknife Ar**	**74.59**	**7**	P		**P**	**19 23 30.1**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=344,slow=5.8,SNR=30							
YKB5	**Yellowknife Ar**	**74.59**	**7**	*e*P		**P**	**19 23 30.1**	**-1.1**
WR1	**Warramunga Arr**	**80.14**	**129**	*e*P		**P**	**19 24 01.1**	**-1.8**
	comp=Z,82nm,2.0s							
WRA	**Warramunga Arr**	**80.14**	**129**	P		**P**	**19 24 01.1**	**-1.8**
	comp=Z,0.4nm,0.8s,baz=330,slow=5.5,SNR=2.7							
ASAR	**Alice Springs**	**82.83**	**131**	P		**P**	**19 24 14.6**	**-2.5**
	comp=Z,0.3nm,0.8s,baz=321,slow=5.4,SNR=3.4							
FFC	**Flin Flon**	**82.99**	**1**	*i* P		**P**	**19 24 16.3**	**-1.3**

*SOME **28** 19:21:59.2, 42°.52N×79°.63E, h30km*
*KRNET **28** 19:22:00.2±0.1, 42°.60N×79°.64E, h15km, mb2.5*
ISC 28 19:22:02.4±2.3, 42°.63N±0°.08×79°.6E±0°.1, h10km, n10, σ1°75/20, 12C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.53**	**351**	*e*P	**Pg**	**19 22 12.0**	**-0.8**
	74nm,0.1s						
SHLS				*e*S	**Sb**	**19 22 21.4**	**-0.3**
	51nm,0.3s						
UZB	**Uzynbulak**	**0.66**	**322**	*e*P	**Pg**	**19 22 13.6**	**-1.5**
	3.9nm,0.1s						
UZB				*e*S	**Sg**	**19 22 24.0**	**+0.3**
	48nm,0.3s						
PDGK	**Podgornoye**	**0.70**	**355**	⇓*i*P	**Pg**	**19 22 14.2**	**-1.7**
	baz=51						
PDGK				⇓*i*S	**Sg**	**19 22 24.5**	**-0.6**
	baz=51						
PRZ	**Przheval'sk**	**0.88**	**261**	⇑*i*P	**Pg**	**19 22 17.5**	**-1.9**
	baz=63						
PRZ				⇑*i*S	**Sg**	**19 22 30.2**	**-0.7**
	baz=63						
KDJ	**Kajisay**	**1.84**	**255**	⇑*i*P	**Pb**	**19 22 35.0**	**-1.3**
	baz=56						
KDJ				⇑*i*S	**Sb**	**19 23 00.0**	**+0.5**
	baz=56						
ULHL	**Ulahol**	**2.50**	**262**	⇑*i*P	**Pn**	**19 22 44.6**	**+1.3**
	baz=63						
ULHL				⇑*i*S	**Sb**	**19 23 16.8**	**-1.6**
	baz=63						
BOOM	**Boomskoye usch**	**2.69**	**268**	⇓*i*P	**Pn**	**19 22 47.5**	**+1.6**
	baz=69						
BOOM				⇓*i*S	**Sb**	**19 23 21.8**	**-2.0**
	baz=69						
TKM2	**Tokmak 2**	**2.94**	**277**	⇑*i*P	**Pn**	**19 22 51.0**	**+1.6**
	baz=77						
TKM2				⇑*i*S	**Sn**	**19 23 28.1**	**+3.2**
	baz=77						
KZA	**Kyzart**	**3.25**	**262**	⇑*i*P	**Pn**	**19 22 55.5**	**+1.6**
	baz=62						
KZA				⇑*i*S	**Sn**	**19 23 36.0**	**+3.1**
	baz=62						
ARLS	**Aral**	**3.98**	**261**	⇑*i*P	**Pn**	**19 23 04.9**	**+1.4**
	baz=61						
ARLS				⇑*e*S	**Sn**	**19 23 51.5**	**+1.2**
	baz=61						

*ISK **28** 19:25:47.9, 42°.34N×40°.91E, h7km, ML3.2/9*
*ISCJB **28** 19:25:47.8±0.3, 42°.40N±0°.02×40°.91E±0°.03, h10km, mb3.4/3, Error ellipse: s-maj=3.6km s-min=2.2km az=169.6*
*TIF **28** 19:25:48.4, 42°.33N×40°.96E, h25km±2km*
*DDA **28** 19:25:49.0, 42°.22N×40°.94E, h7km±2km, ML3.4*
*MOS **28** 19:25:49.1±0.0, 42°.44N×41°.02E, h8km, MPVA3.8*
*NORS **28** 19:25:50.3±0.0, 42°.50N×41°.18E, h5km, MPVA3.5*
ISC 28 19:25:48.8±0.6, 42°.39N±0°.02×40°.98E±0°.02, h10km, n49, σ1°41/78, mb3.3/3, 1D, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.95**	**145**	PG	**Pg**	**19 26 06.5**	**-0.5**
BATM				SG	**Sg**	**19 26 20.1**	**+0.8**
BATM	**Batumi**	**0.95**	**145**	P	**Pg**	**19 26 06.6**	**-0.5**
BATM				S	**Sg**	**19 26 19.4**	**0.0**
DOMR	**Dombai**	**1.02**	**27**	*i* PG	**Pb**	**19 26 08.0**	**-0.7**
DOMR	**Dombai**	**1.02**	**27**	*i* Pg	**Pb**	**19 26 08.0**	**-0.7**
DOMR				*e*Sg	**Sb**	**19 26 20.7**	**-1.6**
BCA	**Borcka**	**1.06**	**153**	PG	**Pg**	**19 26 07.8**	**-1.3**
BCA				SG	**Sg**	**19 26 22.4**	**-0.4**
DBOC	**Borcka**	**1.16**	**153**	IAML_P			
	comp=Z,5μm,0.1s						
DBOC				*i* P	**Pb**	**19 26 09.8**	**-1.1**
ARXR	**Arkhyz**	**1.19**	**10**	*e*Pg	**Pb**	**19 26 10.5**	**-1.2**
ARXR				*e*Sg	**Sb**	**19 26 25.9**	**-1.3**
CHOM	**Cayeli-Rize**	**1.30**	**187**	PN	**Pn**	**19 26 11.9**	**-1.1**
CHOM				SN	**Sb**	**19 26 29.6**	**-0.4**
CHAY	**Cayeli-Rize**	**1.31**	**188**	PN	**Pn**	**19 26 12.5**	**-0.7**
ARTV	**Artvin**	**1.40**	**149**	IAML_P			
	comp=Z,3μm,0.1s						
ARTV				*i* P	**Pn**	**19 26 13.1**	**-1.4**
ARTV				*i* S	**Sn**	**19 26 31.5**	**-1.6**
RPOR	**Krasnaya Polya**	**1.41**	**339**	*e*PG	**Pb**	**19 26 15.1**	**-0.2**
RPOR				*e*S	**Sg**	**19 26 33.8**	**-0.4**
RPOR	**Krasnaya Polya**	**1.41**	**339**	*e*Pg	**Pb**	**19 26 15.0**	**-0.3**
RPOR				*e*Sg	**Sg**	**19 26 34.0**	**-0.3**
DBAD	**Bademkaya**	**1.47**	**158**	IAML_P			
	comp=Z,2μm,0.1s						
DBAD				*i* P	**Pn**	**19 26 14.2**	**-1.2**
DBAD				*i* S	**Sn**	**19 26 33.2**	**-1.5**
DAGI	**Agillar**	**1.48**	**152**	IAML_P			
	comp=Z,740nm,0.1s						
DAGI				*i* P	**Pn**	**19 26 14.8**	**-0.9**
DAGI				*i* S	**Sn**	**19 26 33.9**	**-1.2**
SOC	**Sochi**	**1.51**	**323**	*e*PG	**Pb**	**19 26 16.6**	**-0.3**
SOC				*e*		19 26 37.1	
SOC				pmax	pmax		
	comp=Z,26nm,0.2s						
SOC				smax	smax		
	comp=E,379nm,0.2s						
SOC	**Sochi**	**1.51**	**323**	*e*Pg	**Pb**	**19 26 16.8**	**-0.1**
SOC				*e*Sg	**Sg**	**19 26 37.2**	**-0.2**
NEY	**Neytrino**	**1.54**	**56**	*i* PG	**Pn**	**19 26 15.8**	**-0.8**
NEY				pmax	pmax		
	comp=Z,111nm,0.6s						
NEY	**Neytrino**	**1.54**	**56**	*e*Pg	**Pn**	**19 26 15.6**	**-1.0**
NEY				*e*Sg	**Sn**	**19 26 34.7**	**-2.1**
DDEM	**Demirkent**	**1.60**	**159**	IAML_P			
	comp=Z,2μm,0.1s						
DDEM				*i* P	**Pn**	**19 26 16.9**	**-0.4**
DDEM				*i* S	**Sn**	**19 26 38.1**	**0.0**
KTUT	**Trabzon**	**1.67**	**213**	PN	**Pn**	**19 26 16.9**	**-1.2**
MACK	**Trabzon**	**1.70**	**213**	IAML_P			
	comp=Z,2μm,0.2s						
MACK				*i* P	**Pn**	**19 26 17.2**	**-1.4**
MACK				*i* S	**Sn**	**19 26 40.2**	**-0.2**
SHA1	**Shidzhatmaz**	**1.83**	**42**	⇓*i*PN	**Pb**	**19 26 21.2**	**-1.2**
SHA1				*e*S	**Sb**	**19 26 44.1**	**-1.4**
SHA1	**Shidzhatmaz**	**1.83**	**42**	*e*Pg	**Pb**	**19 26 21.0**	**-1.5**
SHA1				*e*Sg	**Sb**	**19 26 45.0**	**-0.5**
LZRR	**Lazarevskoye**	**1.94**	**323**	*e*Pg	**Pb**	**19 26 23.2**	**-1.0**
LZRR				*i* Sg	**Sb**	**19 26 48.6**	**+0.1**
DIGR	**Digorskoe uzhe**	**1.99**	**74**	*e*PN	**Pn**	**19 26 23.2**	**+0.5**
DIGR	**Digorskoe uzhe**	**1.99**	**74**	*e*Pg	**Pn**	**19 26 23.4**	**+0.7**
DIGR				*e*Sg	**Sb**	**19 26 48.6**	**-1.4**
KIV	**Kislovodsk**	**2.00**	**38**	PN	**Pb**	**19 26 23.9**	**-1.5**
KIV	**Kislovodsk**	**2.00**	**38**	*e*PN	**Pb**	**19 26 24.1**	**-1.3**
KIV				*e*S	**Sb**	**19 26 49.4**	**-1.0**
KIV0	**Kislovodsk Arr**	**2.01**	**38**	*e*Pg	**Pb**	**19 26 24.0**	**-1.5**
KIV0				*e*Sg	**Sb**	**19 26 49.3**	**-1.3**
BAYT	**Aydıntepe-Bayb**	**2.09**	**198**	PN	**Pn**	**19 26 23.7**	**-0.3**
BEYR	**Belyy Ugol+**	**2.11**	**39**	PN	**Pb**	**19 26 25.2**	**-1.9**
BEYR				*e*S	**Sb**	**19 26 51.5**	**-1.9**
ZEI	**Tsey**	**2.19**	**78**	*e*PN	**Pb**	**19 26 27.1**	**-1.6**
ZEI	**Tsey**	**2.19**	**78**	*e*Pg	**Pn**	**19 26 26.4**	**+0.9**
ZEI				*e*Sg	**Sb**	**19 26 54.5**	**-1.5**
NCK	**Nalchik**	**2.22**	**59**	*i* PN	**Pb**	**19 26 28.1**	**-0.9**
ESPY	**Espiye-Giresun**	**2.24**	**230**	PN	**Pn**	**19 26 25.1**	**-0.8**
BGD	**Bogdanovka**	**2.26**	**119**	P	**Pb**	**19 26 28.7**	**-1.1**
BGD				S	**Sn**	**19 26 56.4**	**+2.0**
LSNR	**Lesken**	**2.28**	**66**	*e*Pg	**Pb**	**19 26 29.2**	**-0.8**
LSNR				*e*Sg	**Sg**	**19 26 59.9**	**-2.0**
PYA1	**Pyatigorsk**	**2.28**	**42**	*e*Pg	**Pb**	**19 26 27.9**	**-2.1**
PYA1				*e*Sg	**Sb**	**19 26 56.2**	**-2.1**
TRLG	**Trialeti**	**2.48**	**109**	P	**Pb**	**19 26 32.2**	**-1.3**
TRLG				S	**Sb**	**19 27 04.3**	**+0.1**
KOPR	**Koprukoy-ERZUR**	**2.48**	**164**	PN	**Pn**	**19 26 29.5**	**+0.1**
LACR	**Lac**	**2.49**	**79**	*e*PN	**Pb**	**19 26 32.5**	**-1.2**
LACR				*e*S	**Sb**	**19 27 02.6**	**-1.8**
ANN	**Anapa**	**3.53**	**314**	*e*PN	**Pb**	**19 26 48.4**	**-2.9**
ANN				*e*		19 27 30.2	
ANN				*e*		19 27 37.4	
ANN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ANN				smax	smax		
	comp=E,8.0nm,0.3s						
ANN				smax	smax		
	comp=N,8.0nm,0.4s						
ANN				smax	smax		
	comp=N,13nm,0.5s						
ANN				smax	smax		
	comp=Z,12nm,1.0s						
ANN	**Anapa**	**3.53**	**314**	*e*Pn	**Pb**	**19 26 48.5**	**-2.7**
ANN				*i* Sn	**Sb**	**19 27 29.9**	**-4.2**
SNOP	**Sinop**	**4.30**	**267**	PN	**Pn**	**19 26 54.6**	**+0.3**
DIKM	**Dikmen**	**4.33**	**262**	PN	**Pn**	**19 26 55.6**	**+1.0**
OBN	**Obninsk**	**13.06**	**349**	*e*P	**Pn**	**19 28 55.4**	**+1.2**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRVK	**Borovoye**	**22.26**	**51**	*i* P	**P**	**19 30 48.8**	**+3.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.2s						
AAK	**Ala-Archa**	**24.62**	**78**	*i* P	**P**	**19 31 12.0**	**+2.6**
AAK				pmax	pmax		
	comp=Z,1.0nm,1.2s						
BILL	**Bilibino**	**62.53**	**20**	*e*P	**P**	**19 36 14.6**	**+2.5**
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s						

*IDC **28** 19:30:14.9±2.6, 36°.86N×142°.20E, h0km, mb3.8/4, mb1 3.8/8, mb1mx3.5/62, mbtmp3.9/8, ML2.5/3, Error ellipse: s-maj=50.9km s-min=29.6km az=89.0*
*NEIC **28** 19:30:17.0±1.0, 36°.92N×142°.60E, h35km, mb4.3/1, Error ellipse: s-maj=16.9km s-min=14.1km az=83.0*
*ISCJB **28** 19:30:23.7±1.0, 37°.37N±0°.04×141°.43E±0°.07, h23km±5km, mb4.0/6, Error ellipse: s-maj=10.0km s-min=4.8km az=26.8*
*JMA **28** 19:30:26.3±0.1, 37°.40N×141°.25E, h28km±1km, M3.7*
JMA Felt II J1.
ISC 28 19:30:23.8±1.8, 37°.36N±0°.05×141°.43E±0°.08, h16km±9km, n34, σ1°24/36, mb4.0/6, 1C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.44**	**271**	P	**Pb**	**19 30 33.3**	**+0.1**
JFK				*e*S	**Sg**	**19 30 38.1**	**-0.7**
ONAJ	**Iwakimizuishiy**	**0.57**	**243**	P	**Pg**	**19 30 35.6**	**+0.5**
ONAJ				S	**Sg**	**19 30 42.2**	**-0.5**
JMM	**Marumori**	**0.71**	**315**	P	**Pb**	**19 30 37.6**	**-0.2**
JMM				*e*S	**Sb**	**19 30 45.6**	**-1.7**
JFFD	**Fukushimafurud**	**0.74**	**249**	P	**Pb**	**19 30 38.2**	**-0.2**
JFFD				S	**Sb**	**19 30 46.7**	**-1.6**
JFT	**Otama**	**0.88**	**280**	P	**Pb**	**19 30 40.6**	**-0.1**
JFT				S	**Sb**	**19 30 50.7**	**-1.6**
JHO	**Hitachi**	**1.02**	**223**	P	**Pb**	**19 30 42.5**	**-0.5**
JHO				*e*S	**Sb**	**19 30 54.1**	**-2.1**
JIO	**Ouri**	**1.09**	**357**	P	**Pn**	**19 30 44.6**	**+0.2**
JIO				*e*S	**Sb**	**19 30 58.1**	**-0.1**
JOU	**Okura**	**1.17**	**329**	P	**Pn**	**19 30 45.8**	**+0.3**
JOU				S	**Sb**	**19 30 59.9**	**-0.6**
JFY	**Yanaizu**	**1.38**	**272**	P	**Pn**	**19 30 48.2**	**-0.1**
JFY				S	**Sn**	**19 31 04.8**	**-1.4**
JYS	**Shirataka**	**1.38**	**309**	P	**Pn**	**19 30 48.7**	**+0.3**
MJAR	**Matsushiro Arr**	**2.71**	**253**	Pn	**Pn**	**19 31 07.9**	**+1.3**
	0.8nm,0.3s,baz=79,slow=16,SNR=46						
MJAR				Sn	**Sn**	**19 31 40.5**	**+1.5**
	0.6nm,0.3s,baz=66,slow=24,SNR=3.9						
MAJO	**Matsushiro**	**2.71**	**253**	*e*Pn	**Pn**	**19 31 08.3**	**+1.7**
MAT	**Matsushiro**	**2.71**	**253**	P	**Pn**	**19 31 07.9**	**+1.3**
MAT				*e*S	**Sn**	**19 31 40.4**	**+1.3**
INU	**Inuyama**	**4.09**	**242**	*e*Pn	**Pn**	**19 31 27.3**	**+1.7**
ASAJ	**Asahikawa**	**6.80**	**7**	Pn	**Pn**	**19 32 03.6**	**+0.8**
	0.1nm,0.3s,baz=216,slow=8.7,SNR=2.3						
USRK	**Ussuriysk Ar.**	**9.89**	**317**	Pn	**Pn**	**19 32 49.4**	**+4.2**
	0.1nm,0.3s,baz=119,slow=14,SNR=4.2						
CBIJ	**Chichi jima**	**10.26**	**176**	*e*Pn	Pn	19 32 36.1	-14
JCJ	**Chichijima**	**10.26**	**176**	Pn	Pn	19 32 36.1	-14
	17nm,0.3s,baz=282,slow=19,SNR=3.1						
SONA0	**Songino Array**	**27.61**	**303**	*e*P	**P**	**19 36 09.7**	**-0.7**
SONM	**Songino Array**	**27.61**	**303**	P	**P**	**19 36 09.7**	**-0.7**
	0.3nm,0.5s,baz=111,slow=8.0,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**28.31**	**121**	T	T	20 06 21.2	
	baz=314,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy**	**28.32**	**121**	T	T	20 06 23.9	
	baz=314,slow=75,SNR=49						
H11N3	**WAKE ISLAND Hy**	**28.32**	**121**	T	T	20 06 22.4	
	baz=314,slow=75,SNR=41						
H11S1	**WAKE ISLAND Hy**	**29.03**	**123**	T	T	20 07 17.0	
	baz=316,slow=75,SNR=8.3						
H11S3	**WAKE ISLAND Hy**	**29.03**	**123**	T	T	20 07 11.6	
	baz=316,slow=75,SNR=7.1						
H11S2	**WAKE ISLAND Hy**	**29.04**	**123**	T	T	20 07 16.0	
	baz=316,slow=75,SNR=5.2						
ZAA1	**Zalesovo Array**	**41.70**	**312**	*e*P	**P**	**19 38 11.3**	**-0.2**
ZALV	**Zalesovo Beam**	**41.70**	**312**	P	**P**	**19 38 11.3**	**-0.2**
	0.9nm,0.5s,baz=103,slow=8.0,SNR=4.5						
MK32	**Makanchi Array**	**43.95**	**302**	*e*P	**P**	**19 38 29.7**	**-0.3**
MKAR	**Makanchi Array**	**43.95**	**302**	P	**P**	**19 38 29.7**	**-0.3**
	0.6nm,0.5s,baz=91,slow=9.9,SNR=6.3						
KURK	**Kurchatov**	**45.74**	**308**	*e*P	**P**	**19 38 43.5**	**-0.5**
	3.0nm,0.8s						
KURBB	**Kurchatov Arra**	**45.81**	**308**	P	**P**	**19 38 44.7**	**+0.1**
	1.8nm,0.6s,baz=83,slow=8.0,SNR=15						
KURBB	**Kurchatov Arra**	**45.81**	**308**	⇑Pn	**P**	**19 38 44.3**	**-0.3**
	2.0nm,0.7s						
PV21	**Cone Mtn., Par**	**80.47**	**48**	*e*P	P	19 42 21.3	-14
	11nm,1.0s						

*ISCJB **28** 19:33:15.7±0.3, 6°.99S±0°.03×129°.25E±0°.03, h156km, mb3.7/2, Error ellipse: s-maj=4.6km s-min=3.9km az=178.5*
*NEIC **28** 19:33:17.6±0.8, 7°.10S×129°.24E, h157km±9km, mb4.8/6, Error ellipse: s-maj=9.3km s-min=8.0km az=46.0*
*DJA **28** 19:33:17.7±0.3, 7°.5±4'×12°.9E±°, h208km±10km, M4.6/12, mB5.0/9, mb4.8/12, MLv4.9/11, Mw(mB)4.4/9*
*IDC **28** 19:33:17.8±1.6, 7°.08S×129°.18E, h158km±15km, mb3.6/11, mb1 3.7/15, mb1mx3.5/48, mbtmp4.2/15, MS3.8/1, Ms1 3.8/1, ms1mx2.9/30, Error ellipse: s-maj=13.6km s-min=11.2km az=55.

baz=18,SNR=112
MTSU Mount Surprise 18.36 128 P **Pn** 19 37 22.6 +1.0
baz=18,SNR=19
CTA Charters Tower 20.98 130 P **P** 19 37 49.9 +2.0
9.3nm,0.8s,baz=307,slow=12,SNR=13
CTA Charters Tower 20.98 130 P **P** 19 37 49.7 +1.8
baz=21
CTAO Charters Tower 20.98 130 *e*P **P** 19 37 50.3 +2.5
11nm,0.8s
LEM Lembang 21.46 269 P **P** 19 37 54.2 +1.0
13nm,0.6s,baz=11,slow=22,SNR=5.0
MEEK Meekatharra 21.93 206 P **P** 19 37 59.1 +1.2
baz=22,SNR=4.4
FORT Forrest 23.62 183 P **P** 19 38 15.4 +1.8
baz=24,SNR=38
FORT Forrest 23.62 183 *e*P **P** 19 38 15.2 +1.6
51nm,0.6s
QLP Quilpie 24.10 145 P **P** 19 38 21.1 +3.1
baz=24,SNR=7.9
BBOO Buckleboo 26.39 167 P **P** 19 38 40.0 +1.3
baz=26,SNR=22
BBOO Buckleboo 26.39 167 *e*P **P** 19 38 39.8 +1.1
131nm,2.0s
KLBR Kellerberrin 26.66 202 P **P** 19 38 42.7 +1.6
baz=27
STKA Stephens Creek 27.25 157 P **P** 19 38 46.9 +0.5
3.5nm,0.6s,baz=334,slow=8.9,SNR=11
STKA Stephens Creek 27.25 157 P **P** 19 38 48.1 +1.7
baz=27,SNR=8.5
STKA Stephens Creek 27.25 157 *e*P **P** 19 38 46.9 +0.5
1.9nm,1.1s
HTT Hallett 27.73 162 P **P** 19 38 52.5 +1.8
baz=28,SNR=8.9
CMSA Cobar Meteorol 28.80 150 P **P** 19 39 02.3 +2.1
baz=29,SNR=8.8
ARPS Mount Arapiles 31.73 161 P **P** 19 39 28.3 +2.5
baz=32,SNR=29
PSI Prapat 31.80 287 P **P** 19 39 27.1 +0.2
3.9nm,0.5s,baz=356,slow=1.4,SNR=4.4
PSI LR LR 19 53 13.9
comp=Z,170nm,19.0s,baz=272,slow=38
CMAR Chiang Mai Arr 39.19 311 P **P** 19 40 30.2 +0.4
0.3nm,0.5s,baz=141,slow=6.7,SNR=4.2
NJ2 Nanjing 40.13 346 *e*P **P** 19 40 35.0 -2.4
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
KMI Kunming 41.09 322 P **P** 19 40 43.5 -2.1
KMI pmax pmax
comp=Z,11nm,0.5s
CD2 Chengdu 44.95 328 *e*P **P** 19 41 14.0 -2.4
XAN Xi'an 45.18 336 P **P** 19 41 16.5 -1.6
XAN pP pP 19 41 52.0 +0.6
XAN pmax pmax
comp=Z,4.0nm,0.7s
XAN pmax pmax
comp=Z,300nm,5.6s
HHC Hu-ho-hao-te 50.37 343 *e*P **P** 19 41 57.3 -0.7
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,120nm,5.1s
SONA0 Songino Array 58.26 342 *e*P **P** 19 42 57.2 +2.3
SONM Songino Array 58.26 342 P **P** 19 42 57.2 +2.3
comp=Z,0.3nm,0.6s,baz=167,slow=6.2,SNR=3.4
WMQ Urumqi 63.03 327 *e*P **P** 19 43 27.0 -0.3
MK32 Makanchi Array 67.86 327 *e*P **P** 19 43 59.6 +1.4
MKAR Makanchi Array 67.86 327 P **P** 19 43 59.6 +1.4
comp=Z,0.5nm,0.5s,baz=114,slow=8.6,SNR=5.9
ZALV Zalesovo Beam 71.30 334 P **P** 19 44 19.4 +0.3
comp=Z,0.4nm,0.3s,baz=140,slow=7.2,SNR=3.0
ZAA1 Zalesovo Array 71.31 334 *e*P **P** 19 44 19.4 +0.3
SEY Seymchan 72.01 11 P **P** 19 44 24.1 +1.0
comp=Z,1.7nm,0.9s,baz=321,slow=18,SNR=3.8
VNDA Vanda 72.48 173 P **P** 19 44 25.8 0.0
comp=Z,1.1nm,0.9s,baz=344,slow=7.4,SNR=4.7
GEYT Alibeck 79.67 310 P **P** 19 45 06.1 -1.1
comp=Z,1.2nm,0.6s,baz=91,slow=5.8,SNR=2.5
SYO Syowa Base 83.33 201⇑*e*P **P** 19 45 27.0 +1.2
SYO Syowa Base 83.33 201⇑*e*PcP **PcP** 19 45 32.6 +2.8
CPUP Villa Florida 146.20 169 PKPbc **PKPdf** 19 52 39.3 +1.0
comp=Z,1.8nm,0.4s,baz=30,slow=2.7,SNR=4.6
LPAZ La Paz 151.13 144 PKPbc **PKiKP** 19 52 54.4 +0.7
comp=Z,0.9nm,0.4s,baz=45,slow=6.4,SNR=6.5
LPAZ PKPab **PKPab** 19 53 02.8 +1.4
comp=Z,1.9nm,0.5s,baz=254,slow=1.7,SNR=7.1

*SOME **28** 19:36:41.6,42°.52N×79°.65E,h20km*
*NNC **28** 19:36:42.5±1.2,42°.60N×79°.59E,h0km,mb3.4,mpv3.1,*
Error ellipse: s-maj=9.2km s-min=5.2km az=114.0
KRNET 28 19:36:42.2±0.1,42°.56N×79°.59E,h16km,mb3.0,25C-20D,
Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.60**	**351**	*e*P		Pb	19 36 54.5	0.0
SHLS	baz=20			*e*S		Sb	19 37 04.0	+1.1
SHLS	**Shalkode**	**0.60**	**351**	*e*P		Pb	19 36 54.5	0.0
SHLS	48nm,0.2s			*e*S		Sb	19 37 03.3	+0.4
UZB	**Uzynbulak**	**0.72**	**325**	*e*P		Pg	19 36 55.8	-0.6
UZB	baz=25			*e*S		Sb	19 37 06.2	-0.1
UZB	**Uzynbulak**	**0.72**	**325**	*e*P		Pg	19 36 55.8	-0.6
UZB	50nm,0.2s			*e*S		Sb	19 37 06.2	-0.1
PDGK	**Podgornoye**	**0.77**	**355**	⇓P		Pg	19 36 56.4	-0.9
PDGK	11nm,0.2s			⇓S		Sg	19 37 07.1	-0.5
PDGK	**Podgornoye**	**0.77**	**355**	⇓*i*P		Pg	19 36 56.5	-0.9
PDGK	baz=54			⇓*i*S		Sg	19 37 07.4	-0.2
PRZ	**Przheval'sk**	**0.88**	**265**	⇓*e*P		Pb	19 36 58.6	-0.7
PRZ	baz=65			⇓*i*S		Sg	19 37 11.4	+0.3
KDJ	**Kajisay**	**1.84**	**257**	⇑*i*P		Pb	19 37 16.0	+0.4
KDJ	baz=57			⇑*i*S		Sg	19 37 40.4	-1.1
KNDC	**Almaty**	**2.04**	**290**	⇓Pg		Pg	19 37 20.3	-1.0
KNDC	13nm,0.3s			⇓Lg		Lg	19 37 49.9	
ULHL	**Ulahol**	**2.50**	**264**	⇑*e*P		Pb	19 37 24.8	-2.1
ULHL	60nm,0.5s baz=64			⇑*i*S		Sb	19 37 56.5	-1.0
BOOM	**Boomskoye usch**	**2.70**	**270**	⇓*i*P		Pn	19 37 27.5	+2.3
BOOM	baz=70			⇓*i*S		Sb	19 38 01.6	-1.6
NRN	**Naryn**	**2.90**	**248**	⇑*e*P		Pb	19 37 31.0	-2.8
NRN	baz=48			⇑*i*S		Sb	19 38 06.7	-2.5
TKM2	**Tokmak 2**	**2.96**	**278**	⇑Pg		Pb	19 37 35.1	+0.3
TKM2	6.0nm,0.8s			⇑Lg		Lg	19 38 15.0	
TKM2	**Tokmak 2**	**2.96**	**278**	⇑*e*P		Pn	19 37 31.7	+2.9
TKM2	18nm,0.6s baz=78			⇑*i*S		Sb	19 38 08.1	-2.8
KZA	**Kyzart**	**3.26**	**263**	⇓*i*P		Pn	19 37 35.6	+2.6
KZA	baz=63			⇓*i*S		Sn	19 38 14.9	+3.3
KBK	**Karagaybulak**	**3.43**	**273**	⇑*e*P		Pn	19 37 37.9	+2.7
KBK	baz=73			⇑*e*S		Sn	19 38 19.2	+3.6
CHMS	**Chumysh**	**3.59**	**279**	⇑*i*P		Pn	19 37 39.9	+2.6
CHMS	baz=79			⇑*i*S		Sn	19 38 22.7	+3.3
FRU1	**Bishkek**	**3.67**	**276**	⇑*i*P		Pn	19 37 41.5	+3.1
FRU1	baz=76			⇑*i*S		Sn	19 38 24.6	+3.3
	baz=76							
AAK	**Ala-Archa**	**3.76**	**273**	⇓Pg		Pb	19 37 49.8	+1.4
AAK	3.0nm,0.8s 7.1nm,0.6s			⇑Lg		Lg	19 38 39.9	
UCH	**Uchtor**	**3.78**	**267**	⇓*e*P		Pn	19 37 43.2	+3.0
UCH	baz=67			⇓*i*S		Sn	19 38 28.0	+3.5
ARLS	**Aral**	**3.98**	**262**	⇑*i*P		Pn	19 37 45.9	+3.2
ARLS	baz=62			⇑*i*S		Sn	19 38 31.4	+2.4
EKS2	**Erkin-Say**	**4.29**	**273**	⇑*e*P		Pn	19 37 50.0	+3.0
EKS2	baz=73			⇑*i*S		Sn	19 38 39.6	+2.8
MAKZ	**Makanchi**	**4.58**	**21**	⇑Pn		Pn	19 37 54.0	+3.2
MAKZ	0.4nm,0.2s 1.7nm,0.7s			⇓Sn		Sn	19 38 47.9	+4.3
MAKZ	2.0nm,0.7s			⇓Lg		Lg	19 39 05.8	
MK31	**Makanchi Array**	**4.65**	**24**	⇓Pn		Pn	19 37 54.5	+2.7
MK31	0.5nm,0.3s,baz=198,slow=14,SNR=15			⇓Pg		Pb	19 38 04.9	+1.5
MK31	0.8nm,0.5s,baz=202,slow=12,SNR=6.1			⇑Sn		Sn	19 38 48.3	+2.9
MK31	1.7nm,0.2s,baz=205,slow=26,SNR=4.4			⇓Lg		Lg	19 39 09.0	
OTUK	**Ortayu**	**7.64**	**321**	⇑Lg		Lg	19 40 40.6	
KURBB	2.5nm,0.4s,baz=207,slow=27,SNR=4.2 3.3nm,1.3s **Kurchatov Arra** 4.0nm,0.7s	**8.10**	**355**	⇑Lg		Lg	19 40 59.7	

*AZER **28** 19:38:13.8±0.1,38°.44N×46°.82E,h9km,ml4.5/27,Error*
ellipse: s-maj=4.9km s-min=0.5km az=13.0
*NSSP **28** 19:38:15.6,38°.50N×46°.83E,h12km,Ms4.3*
*IDC **28** 19:38:17.0±0.9,38°.16N×46°.47E,h0km,mb4.1/15,*
mb1 4.1/21,mb1mx4.0/50,mbtmp4.0/21,ML3.0/6,MS3.6/3,
Ms1 3.6/3,ms1mx3.1/39,Error ellipse: s-maj=19.2km
s-min=11.7km az=13.0
*NEIC **28** 19:38:17.1±0.0,38°.40N×46°.83E,h4km,mb4.4/20,*
ML4.0(THR),MN4.5(TEH),After TEH.
NEIC Felt [II] at Tabriz. Also felt at Ahar.
*THR **28** 19:38:17.0,38°.45N×46°.82E,h14km,ML4.0*
*TEH **28** 19:38:17.2,38°.40N×46°.84E,h4km,ML4.3*
*MOS **28** 19:38:18.6±1.4,38°.10N×46°.73E,h18km,mb4.5/20,Error*
ellipse: s-maj=6.9km s-min=3.8km az=108.4
*ISCJB **28** 19:38:18.6±0.2,38°.36N±0°.02×46°.85E±0°.02,h10km,*
mb4.3/42,MS3.6/1,Error ellipse: s-maj=2.3km
s-min=1.8km az=29.1
*NNC **28** 19:38:29.3±3.1,38°.99N×47°.74E,h0km,mb4.5,mpv4.7,*
Error ellipse: s-maj=37.5km s-min=23.6km az=53.0
ISC 28 19:38:19.1±0.4,38°.45N±0°.02×46°.84E±0°.02,h10km,n312,
σ2s 10/333,mb4.4/43,49C-44D,Iran-Armenia-Azerbaijan
border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IHRS	**Heris**	**0.20**	**130**	*e*Pg		**Pg**	**19 38 21.6**	**-2.0**
IHRS				*e*Sg		**Sg**	**19 38 25.0**	**-1.6**
IHRS	comp=Z,3279μm,0.3s			IAMB		IAmb	19 38 26.6	
ITBZ	**Tabriz**	**0.59**	**249**	*e*Pg		**Pg**	**19 38 28.5**	**-2.1**
ITBZ	comp=Z,22μm,0.3s			IAMB		IAmb	19 38 40.9	
IBST	**Bostanabad**	**0.75**	**177**	*e*Pg		**Pg**	**19 38 29.8**	**-3.8**
IBST				*e*Sg		**Sg**	**19 38 40.3**	**-3.1**
IBST	comp=Z,8μm,0.4s			IAMB		IAmb	19 38 45.4	
ORD	**Ordubad**	**0.82**	**306**	⇑P		**Pg**	**19 38 32.5**	**-2.5**
ORD				⇑S		**Sg**	**19 38 43.8**	**-1.8**
GRMI	**Germi**	**0.90**	**66**	*e*Pg		**Pg**	**19 38 34.3**	**-2.2**
GRMI	**Germi**	**0.90**	**66**	AML		AML	19 38 48.5	
GRMI	comp=E,5μm,0.2s **Germi**	**0.90**	**66**	Pg		**Pg**	**19 38 34.3**	**-2.2**
ISRB	**Sarab**	**0.90**	**133**	*e*Pg		**Pg**	**19 38 33.7**	**-2.8**
ISRB	comp=Z,18μm,0.2s			IAMB		IAmb	19 38 50.6	
IMRD	**Marand**	**0.93**	**287**	*e*Pg		**Pg**	**19 38 34.6**	**-2.5**
IMRD	comp=Z,70μm,0.6s			IAMB		IAmb	19 38 50.0	
IAZR	**Azarshahr**	**1.03**	**222**	*e*Pg		**Pg**	**19 38 36.4**	**-2.5**
IAZR	comp=Z,15μm,0.3s			IAMB		IAmb	19 38 51.8	
GRS	**Goris**	**1.12**	**340**	⇑*i*P		Pb	19 38 36.0	-4.7
GRS				⇓*i*S		**Sg**	**19 38 51.0**	**-4.3**
LRK	**Lerik**	**1.19**	**80**	*e*Pg		**Pb**	**19 38 39.6**	**-2.3**
LRK	**Lerik**	**1.19**	**80**	⇓P		**Pb**	**19 38 39.6**	**-2.3**
LRK	SNR=118			⇑S		**Sb**	**19 38 56.7**	**-0.7**
SBZ	**Shahbuz**	**1.38**	**314**	*e*Pn		**Pn**	**19 38 43.3**	**-1.3**
SBZ	**Shahbuz**	**1.38**	**314**	⇑P		**Pn**	**19 38 42.2**	**-2.3**
SBZ				⇑S		**Sb**	**19 39 02.4**	**-0.4**
GLBA	**Clilabad**	**1.45**	**56**	*e*Pg		**Pn**	**19 38 45.4**	**0.0**
GLBA	**Clilabad**	**1.45**	**56**	⇓P		**Pn**	**19 38 44.7**	**-0.7**
GLBA	SNR=187			⇓S		**Sg**	**19 39 07.0**	**+1.3**
ASTR	**Astara**	**1.53**	**85**	*e*Pn		**Pn**	**19 38 45.7**	**-0.9**
ASTR	**Astara**	**1.53**	**85**	⇓P		**Pn**	**19 38 45.5**	**-1.0**
ASTR	SNR=761			⇓S		**Sg**	**19 39 08.0**	**-0.5**
LKRN	**Lenkeran, Azer**	**1.54**	**80**	*e*Pn		**Pn**	**19 38 46.0**	**-0.7**
LKRN	**Lenkeran, Azer**	**1.54**	**80**	⇑S		**Sb**	**19 39 07.7**	**+0.4**
BRDA	**Brd**	**1.83**	**8**	*e*Pn		**Pb**	**19 38 52.0**	**-0.7**
BRDA	**Brd**	**1.83**	**8**	⇓P		**Pn**	**19 38 49.5**	**-1.2**
BRDA	SNR=19			⇑S		**Sb**	**19 39 16.2**	**+0.6**
SAAT	**Saatly**	**1.87**	**41**	*e*Pn		**Pn**	**19 38 51.3**	**+0.1**
SAAT	**Saatly**	**1.87**	**41**	⇓P		**Pn**	**19 38 50.6**	**-0.6**
SAAT	SNR=4.8			⇑S		**Sb**	**19 39 17.7**	**+0.8**
MAKU	**Maku**	**1.91**	**299**	*e*Pn		**Pn**	**19 38 51.4**	**-0.6**
MAKU	**Maku**	**1.91**	**299**	AML		AML	19 39 23.6	
MAKU	comp=N,1μm,0.5s comp=E,1μm,0.8s			AML		AML	19 39 25.3	
MAKU	**Maku**	**1.91**	**299**	Pn		**Pn**	**19 38 51.4**	**-0.6**
MAKU				Sg		**Sn**	**19 39 16.9**	**+0.7**
ZRD	**Zardab**	**1.94**	**19**	*e*Pn		**Pb**	**19 38 54.0**	**-0.6**
ZRD	**Zardab**	**1.94**	**19**	⇓P		**Pn**	**19 38 51.0**	**-1.1**
ZRD	SNR=11			⇑S		**Sb**	**19 39 19.2**	**+0.4**
HYR	**Heyderabad**	**2.00**	**310**	*e*Pn		**Pn**	**19 38 53.1**	**0.0**
HYR	**Heyderabad**	**2.00**	**310**	⇑P		**Pn**	**19 38 51.9**	**-1.2**
HYR				⇑S		**Sb**	**19 39 20.4**	**-0.3**
KDMR	**Kurdemir**	**2.19**	**28**	*e*Pn		**Pb**	**19 38 57.6**	**-1.2**
KDMR	**Kurdemir**	**2.19**	**28**	⇓P		**Pn**	**19 38 54.2**	**-1.3**
KDMR	SNR=6.3			⇑S		**Sn**	**19 39 23.8**	**+1.2**
GANJ	**Ganja**	**2.23**	**350**	*e*Pn		**Pn**	**19 38 57.2**	**+1.0**
GANJ	**Ganja**	**2.23**	**350**	⇓P		**Pn**	**19 38 54.8**	**-1.4**
GANJ	SNR=42			⇓S		**Sn**	**19 39 24.7**	**+0.9**
ALIB	**Äli-Bayra**	**2.26**	**47**	*e*Pn		**Pb**	**19 38 58.9**	**-1.1**
ALIB	**Äli-Bayra**	**2.26**	**47**	⇑P		**Pn**	**19 38 55.3**	**-1.2**
ALIB	SNR=40							
ZNJK	**Zanjan**	**2.30**	**140**	*e*Pn		**Pn**	**19 38 56.7**	**-0.7**
ZNJK	**Zanjan**	**2.30**	**140**	Pn		**Pn**	**19 38 56.7**	**-0.7**
ZNJK				Sg		**Sb**	**19 39 29.7**	**+0.2**
MNGR	**Mingechevir, A**	**2.33**	**5**	*e*Pn		**Pb**	**19 38 59.8**	**-1.4**
MNGR	**Mingechevir, A**	**2.33**	**5**	⇓P		**Pn**	**19 38 56.4**	**-1.1**
MNGR	SNR=6.8			⇑S		**Sn**	**19 39 27.8**	**+1.6**
GNI	**Garni**	**2.35**	**317**	*e*P		**Pb**	**19 38 59.9**	**-1.8**
GNI	**Garni**	**2.35**	**317**	*e*Pn		**Pn**	**19 38 59.2**	**+1.2**
GNI	**Garni**	**2.35**	**317**	*i* Pn		**Pb**	**19 39 00.1**	**-1.6**
GNI	**Garni**	**2.35**	**317**	⇓*i*P		**Pn**	**19 38 59.6**	**+1.5**
GNI				⇑*i*S		**Sb**	**19 39 30.4**	**-0.5**
GNI	**Garni**	**2.35**	**317**	*e*Pn		**Pn**	**19 38 59.5**	**+1.5**
CLDR	**Caldiran**	**2.39**	**288**	*e*P		**Pn**	**19 38 58.9**	**+0.4**
CLDR	**Caldiran**	**2.39**	**288**	*i* P		**Pn**	**19 38 59.7**	**+1.2**
CLDR	**Caldiran**	**2.39**	**288**	*e*Pn		**Pn**	**19 38 59.5**	**+1.0**
GDB	**GEDABAY**	**2.42**	**340**	*e*Pn		**Pn**	**19 38 59.8**	**+0.9**
GDB	**GEDABAY**	**2.42**	**340**	⇓P		**Pn**	**19 38 57.7**	**-1.2**
GDB	SNR=619			⇑S		**Sn**	**19 39 29.7**	**+1.0**
TASB	**TASBURUN-IGDIR**	**2.54**	**308**	*e*P		**Pb**	**19 39 03.7**	**-1.1**
TASB	**TASBURUN-IGDIR**	**2.54**	**308**	*e*Pn		**Pn**	**19 39 01.8**	**+1.4**
IML	**Ismayilli**	**2.56**	**23**	*e*Pn		**Pn**	**19 39 02.1**	**+1.4**
IML	**Ismayilli**	**2.56**	**23**	⇑P		**Pn**	**19 38 59.8**	**-0.9**
QBL	**Gabala**	**2.61**	**17**	*e*Pn		**Pn**	**19 39 02.4**	**+1.0**
QBL	**Gabala**	**2.61**	**17**	⇑P		**Pn**	**19 39 00.5**	**-0.9**
QBL	SNR=55			⇑S		**Sb**	**19 39 36.1**	**-2.1**
GBS	**Qobustan**	**2.64**	**37**	*e*Pn		**Pn**	**19 39 04.1**	**+2.2**
GBS	**Qobustan**	**2.64**	**37**	⇑P		**Pn**	**19 39 00.4**	**-1.5**
GBS	SNR=231			⇑S		**Sb**	**19 39 37.2**	**-2.0**
PQL	**Pirkuli**	**2.70**	**30**	*e*Pn		**Pn**	**19 39 04.4**	**+1.6**
PQL	**Pirkuli**	**2.70**	**30**	⇑P		**Pn**	**19 39 00.8**	**-2.0**
VANB	**Van**	**2.71**	**274**	*e*P		**Pn**	**19 39 04.6**	**+1.7**
VANB	**Van**	**2.71**	**274**	*e*Pn		**Pn**	**19 39 04.0**	**+1.1**
SEKA	**Sheki**	**2.77**	**6**	*e*Pn		**Pn**	**19 39 04.5**	**+0.9**
SEKA	**Sheki**	**2.77**	**6**	⇓P		**Pn**	**19 39 02.1**	**-1.6**
SEKA	SNR=73			⇑S		**Sn**	**19 39 40.0**	**+2.8**
CUKT	**Cukurca**	**2.83**	**246**	*e*P		**Pb**	**19 39 08.1**	**-1.7**
CUKT	**Cukurca**	**2.83**	**246**	*e*Pn		**Pn**	**19 39 05.1**	**+0.6**
QZX	**Qazax, Azerbai**	**2.84**	**337**	*e*Pn		**Pn**	**19 39 06.1**	**+1.5**
QZX	**Qazax, Azerbai**	**2.84**	**337**	⇑P		**Pn**	**19 39 02.6**	**-1.9**
XNQ	**Khinaliq**	**2.90**	**20**	*e*Pn		**Pn**	**19 39 06.0**	**+0.5**
XNQ	**Khinaliq**	**2.90**	**20**	⇑P		**Pn**	**19 39 04.1**	**-1.4**
ATGJ	**Altiaghaj**	**2.90**	**33**	*e*Pn		**Pn**	**19 39 07.2**	**+1.7**
ATGJ	**Altiaghaj**	**2.90**	**33**	⇑P		**Pn**	**19 39 03.8**	**-1.6**
GEVA	**Gevas**	**2.98**	**269**	*i* P		**Pn**	**19 39 08.4**	**+1.9**
AKDM	**Akdamar-Van**	**3.04**	**269**	*e*P		**Pg**	**19 39 16.7**	**-0.6**
DDFL	**Dedoflistskaro**	**3.04**	**350**	P		**Pb**	**19 39 13.2**	**-0.2**
DDFL				S		**Sg**	**19 39 56.1**	**-0.8**
SIZA	**Siyzn**	**3.07**	**31**	*e*Pn		**Pn**	**19 39 10.4**	**+2.7**
SIZA	**Siyzn**	**3.07**	**31**	⇓P		**Pn**	**19 39 05.7**	**-2.0**
AKT	**Akhty**	**3.10**	**12**	*e*Pn		**Pn**	**19 39 09.8**	**+1.5**
QUB	**Quba**	**3.15**	**21**	*e*Pn		**Pn**	**19 39 11.6**	**+2.7**
QUBA	**Quba, Azerbaij**	**3.17**	**23**	⇑P		**Pn**	**19 39 07.1**	**-2.0**
STEZ	**Stepenevan**	**3.17**	**324**	*e*P		**Pn**	**19 39 10.0**	**+0.8**
STEZ				*e*S		**Sg**	**19 40 05.0**	**+4.1**
ZKTA	**Zakatala**	**3.19**	**357**	*e*Pn		**Pn**	**19 39 11.2**	**+1.8**
ZKTA	**Zakatala**	**3.19**	**357**	⇓P		**Pn**	**19 39 07.6**	**-1.8**
ZKTA	SNR=12			⇓S		**Sn**	**19 39 48.2**	**+0.8**
AGRB	**Hanur-Agry**	**3.20**	**292**	*e*P		**Pb**	**19 39 13.9**	**-2.3**
AGRB	**Hanur-Agry**	**3.20**	**292**	*e*Pn		**Pn**	**19 39 11.0**	**+1.3**
QSAR	**Qusar**	**3.25**	**19**	*e*Pn		**Pn**	**19 39 12.2**	**+2.0**
QSAR	**Qusar**	**3.25**	**19**	⇓P		**Pn**	**19 39 08.7**	**-1.6**
QSAR	SNR=159			⇑S		**Sn**	**19 39 49.7**	**+0.7**
HSRG	**Sareghieh**	**3.40**	**160**	*e*Pn		**Pn**	**19 39 12.7**	**+0.1**
HSRG	comp=Z,0.0nm,0.4s			IAMB		IAmb	19 39 19.6	
LGD	**Lagodekhi**	**3.41**	**352**	P		**Pb**	**19 39 16.7**	**-3.0**
LGD				S		**Sb**	**19 40 01.1**	**-0.1**
LGD	**Lagodekhi**	**3.41**	**352**	*e*PN		**Pb**	**19 39 16.7**	**-3.0**
LGD				*e*S		**Sb**	**19 40 01.1**	**-0.1**
MLAZ	**Malazgirt-MUS**	**3.42**	**283**	*e*P		**Pb**	**19 39 18.7**	**+1.0**
SIRT	**Sirnak**	**3.60**	**256**	*e*P		**Pn**	**19 39 15.2**	**+0.1**
SIRT	**Sirnak**	**3.60**	**256**	*e*Pn		**Pn**	**19 39 15.7**	**+0.5**
SIRT	**Sirnak**	**3.60**	**256**	*e*Pn		**Pn**	**19 39 16.6**	**+1.5**
KARS	**Kars**	**3.63**	**308**	*e*P		**Pn**	**19 39 17.6**	**+2.0**
KARS	**Kars**	**3.63**	**308**	*e*Pn		**Pn**	**19 39 15.7**	**+0.2**
KARS	**Kars**	**3.63**	**308**	*e*PN		**Pn**	**19 39 15.7**	**+0.2**
KARS	**Kars**	**3.63**	**308**	*e*Pn		**Pn**	**19 39 17.1**	**+1.5**
TBLG	**Delisi**	**3.65**	**334**	*e*P		**Pb**	**19 39 21.5**	**-2.3**
TBLG	**Delisi**	**3.65**	**334**	P		**Pb**	**19 39 22.0**	**-1.9**
TBLG				S		**Sb**	**19 40 11.5**	**+3.3**
TBLG	**Delisi**	**3.65**	**334**	*e*Pn		**Pn**	**19 39 17.9**	**+2.1**
TBLG	**Delisi**	**3.65**	**334**	*e*PN		**Pb**	**19 39 21.9**	**-1.9**
TBLG				*e*S		**Sb**	**19 40 11.4**	**+3.3**
SEAG	**Tbilisi Sea**	**3.66**	**335**	P		**Sg**	**19 40 14.0**	**-2.7**
TRLG	**Trialeti**	**3.73**	**327**	P		**Pb**	**19 39 24.5**	**-0.7**
TRLG				S		**Sb**	**19 40 13.1**	**+2.5**
BGD	**Bogdanovka**	**3.76**	**319**	P		**Pb**	**19 39 26.6**	**+0.9**
BGD				S		**Sg**	**19 40 22.2**	**+2.3**
GURO	**Guroymak-BITLI**	**3.77**	**273**	*e*P		**Pn**	**19 39 18.0**	**+0.5**
GURO	**Guroymak-BITLI**	**3.77**	**273**	*e*Pn		**Pn**	**19 39 19.2**	**+1.7**
IRAZ	**Razeghan**	**3.92**	**140**	*e*Pn		**Pn**	**19 39 19.2**	**-0.4**
IRAZ	comp=Z,9μm,0.4s			IAMB		IAmb	19 39 30.6	
GNBR	**Gunib**	**3.94**	**1**	PN		**Pb**	**19 39 25.7**	**-2.9**
HAGD	**Aghdareh**	**4.07**	**152**	*e*Pn		**Pn**	**19 39 21.7**	**+0.1**
IMHD	**Mahdasht**	**4.12**	**131**	*e*Pn		**Pn**	**19 39 21.9**	**-0.3**
IMHD	comp=Z,4μm,0.5s			IAMB		IAmb	19 40 29.8	
KOPR	**Koprukoy-ERZUR**	**4.17**	**293**	*e*P		**Pn**	**19 39 24.3**	**+1.3**
BTLR	**Botlikh**	**4.24**	**354**	PN		**Pb**	**19 39 30.6**	**-3.2**
IKOM	**Komasi**	**4.30**	**173**	*e*Pn		**Pn**	**19 39 26.4**	**+1.6**
IKOM	comp=Z,0.0nm,1.2s			IAMB		IAmb	19 40 58.0	
IR5	**Iran Long-Peri**	**4.41**	**136**	*e*Pn		**Pn**	**19 39 26.0**	**-0.2**
IR5	comp=Z,3μm,0.5s			IAMB		IAmb	19 40 48.1	
SVAN	**Silvan-Diyarba**	**4.45**	**268**	*e*P		**Pn**	**19 39 27.2**	**+0.5**
SVAN	**Silvan-Diyarba**	**4.45**	**268**	*e*Pn		**Pn**	**19 39 28.5**	**+1.8**
DVE	**Vedeno**	**4.54**	**353**	*ce*PN		**Pb**	**19 39 34.9**	**-4.0**
MAK	**Makhachkala**	**4.54**	**6**	*e*PN		**Pb**	**19 39 37.7**	**-1.1**
MAK				*e*			19 40 56.8	
MAK	comp=Z,69nm,0.9s			pmax		pmax		
MAK	comp=Z,473nm,14.0s			MLR		MLR		
IHSB	**Hasanabad**	**4.65**	**129**	IAMB		IAmb	19 39 46.1	
LACR	comp=Z,0.0nm,0.5s **Lac**	**4.78**	**337**	*ce*PN		**Pn**	**19 39 35.2**	**+3.9**
GROC	**Groznyy**	**4.81**	**351**	*e*PN		**Pn**	**19 39 35.5**	**+3.9**
GROC				*e*			19 39 53.3	
GROC				*e*S		**Sb**	**19 40 39.8**	**-1.7**
GROC				*e*			19 40 58.9	
GROC				*e*			19 41 13.6	
GROC	comp=Z,97nm,1.2s			pmax		pmax		
GROC	comp=E,426nm,1.3s			smax		smax		
GROC	comp=E,188nm,1.1s			smax		smax		
ZEI	**Tsey**	**4.88**	**334**	*ce*PN		**Pn**	**19 39 37.0**	**+4.3**
IPRN	**Peran**	**4.90**	**115**	*e*Pn		**Pn**	**19 39 33.6**	**+0.6**
IPRN	comp=Z,3μm,0.5s			IAMB		IAmb	19 39 56.0	
IKFM	**Kafar-mosalman**	**4.98**	**170**	*e*Pn		**Pn**	**19 39 34.3**	**+0.3**
IKFM	comp=Z,0.0nm,2.6s			IAMB		IAmb	19 41 31.6	
BCA	**Borcka**	**5.00**	**308**	*e*

KIV	**Kislovodsk**	**6.33**	**332**	*e*P		Pn		19 39 57.9	+5.3
KIV					pmax	pmax			
	comp=Z,17nm,1.0s								
IANJ	**Anjilo**	**6.40**	**116**	*e*Pn		**Pn**		**19 39 54.6**	**+0.9**
IKLH	**Kolahrood**	**6.40**	**142**	*e*Pn		**Pn**		**19 39 54.8**	**+1.1**
IKLH					IAMB	IAmb		19 40 13.2	
	comp=Z,670nm,0.5s								
IZEF	**Zefreh**	**7.12**	**139**	IAMB		IAmb		19 40 39.0	
	comp=Z,238nm,0.6s								
IZEF					*e*Pn	**Pn**		**19 40 04.0**	**+0.4**
SBZV	**Sabzevar**	**8.81**	**100**	*e*Pn		**Pn**		**19 40 27.2**	**+0.4**
GEYT	**Alibeck**	**8.89**	**90**	Pn		**Pn**		**19 40 26.9**	**-0.9**
	comp=Z,3.3nm,0.3s,baz=321,slow=8.0,SNR=28								
GEYT					Sn	**Sn**		**19 42 08.5**	**+0.5**
	comp=Z,2.5nm,0.3s,baz=265,slow=33,SNR=6.0								
GEYT					LR	LR		19 45 34.9	
	comp=Z,459nm,18.8s,baz=230,slow=48								
GYA0B	**ALIBECK ARRAY**	**8.89**	**90**	*e*Pn		**Pn**		**19 40 26.6**	**-1.1**
GYA0B	**ALIBECK ARRAY**	**8.89**	**90**	⇓Pn		**Pn**		**19 40 26.3**	**-1.5**
	comp=Z,20nm,0.6s								
GYA0B					⇓Sn	**Sn**		**19 42 05.3**	**-2.8**
	comp=Z,61nm,0.9s								
ISFR	**Sfrayin**	**8.95**	**96**	*e*Pn		**Pn**		**19 40 29.0**	**+0.3**
ISFR					IAMB	IAmb		19 40 35.5	
	comp=Z,1μm,0.4s								
IEMG	**Emamgholi**	**9.39**	**93**	*e*Pn		**Pn**		**19 40 33.9**	**-0.9**
IEMG					IAMB	IAmb		19 42 30.8	
	comp=Z,647nm,0.7s								
IKRD	**Kardeh**	**9.41**	**97**	*e*Pn		Pn		19 40 46.1	+11
IKRD					IAMB	IAmb		19 40 53.0	
	comp=Z,550nm,0.7s								
IPAY	**Payeh**	**9.87**	**98**	*e*Pn		**Pn**		**19 40 42.0**	**+0.7**
ASF	**Jabal al Asfar**	**10.25**	**235**	Pn		Pn		19 40 40.5	-5.9
	comp=Z,0.2nm,0.3s,baz=72,slow=9.6,SNR=1.8								
BR101	**Keskin Array S**	**10.34**	**281**	*e*Pn		**Pn**		**19 40 50.7**	**+3.0**
BR131	**Keskin Array S**	**10.34**	**281**	*e*Pn		**Pn**		**19 40 46.6**	**-1.1**
BRTR	**Keskin Array B**	**10.34**	**281**	Pn		**Pn**		**19 40 50.7**	**+3.0**
	comp=Z,0.0nm,0.3s,baz=109,slow=14,SNR=2.5								
MMAI	**Mount Meron Ar**	**10.76**	**243**	Pn		**Pn**		**19 40 52.3**	**-1.0**
	baz=76,slow=15,SNR=3.2								
IMYA	**Miami**	**10.76**	**97**	*e*Pn		**Pn**		**19 40 55.9**	**+2.5**
IMYA					IAMB	IAmb		19 41 05.4	
	comp=N,219nm,0.4s								
EIL	**Elat**	**13.17**	**232**	LR		LR		19 47 18.5	
	comp=N,132nm,18.7s,baz=214,slow=42								
VRH	**Novokhopyorsk**	**13.25**	**346**	*e*P		**P**		**19 41 32.8**	**-4.4**
VRH					pmax	pmax			
	comp=Z,10.0nm,1.0s								
VSR	**Storozhevoye**	**13.87**	**339**	*e*P		**Pn**		**19 41 39.3**	**+3.7**
VSR					pmax	pmax			
	comp=Z,10.0nm,1.6s								
AB31	**Akbulak array**	**14.33**	**37**	⇓P		**Pn**		**19 41 39.1**	**-2.9**
	comp=Z,6.1nm,0.5s,baz=222,slow=11,SNR=106								
AB31					P	P		19 41 42.0	-7.1
	comp=Z,4.5nm,0.4s,baz=220,slow=12,SNR=9.7								
AB31					⇑S	**Sn**		**19 44 13.5**	**-7.4**
	comp=Z,10nm,1.1s,baz=206,slow=22,SNR=4.4								
AB31	**Akbulak array**	**14.33**	**37**	*i* P		**Pn**		**19 41 39.1**	**-2.9**
AB31					pmax	pmax			
	comp=Z,6.0nm,0.5s								
ABKAR	**Akbulak array**	**14.33**	**37**	*e*Pn		**Pn**		**19 41 39.5**	**-2.5**
AKTO	**Aktyubinsk**	**14.38**	**30**	Pn		**Pn**		**19 41 39.9**	**-2.7**
	comp=Z,1.0nm,0.3s,baz=220,slow=13,SNR=41								
AKTO					Sn	Sn		19 44 13.3	-8.7
	comp=Z,0.3nm,0.3s,baz=292,slow=11,SNR=4.0								
AKTO	**Aktyubinsk**	**14.38**	**30**	⇓S		**Sn**		**19 44 15.9**	**-6.1**
	comp=Z,8.5nm,0.8s								
AKTO	**Aktyubinsk**	**14.38**	**30**	P		**Pn**		**19 41 40.7**	**-1.9**
AKTO					pmax	pmax			
	comp=Z,19nm,0.7s								
RAYN	**Ar Rayn**	**14.92**	**185**	*e*Pn		**Pn**		**19 41 46.6**	**-3.6**
RAYN	**Ar Rayn**	**14.92**	**185**	*e*P		**Pn**		**19 41 46.6**	**-3.6**
LPSR	**Galich'ya Gora**	**15.19**	**341**	*e*P		**P**		**19 41 57.9**	**-0.7**
LPSR					pmax	pmax			
	comp=Z,10.0nm,0.8s								
TLB	**Topalu**	**15.35**	**300**	⇑*i*P		**P**		**19 42 01.9**	**+1.5**
TLB	**Topalu**	**15.35**	**300**	⇑P		**P**		**19 42 01.9**	**+1.5**
HARR	**Harsova**	**15.45**	**300**	⇓*i*P		**P**		**19 42 01.7**	**+0.1**
HARR	**Harsova**	**15.45**	**300**	⇓P		**P**		**19 42 01.7**	**+0.1**
CFR	**Carcaliu**	**15.46**	**302**	⇓*i*P		**P**		**19 42 02.6**	**+0.9**
CFR	**Carcaliu**	**15.46**	**302**	⇑P		**Pn**		**19 41 56.8**	**-0.4**
UOSS	**Minazif**	**15.63**	**147**	*e*Pn		**Pn**		**19 41 57.7**	**-1.8**
	comp=Z,11nm,1.0s								
KARP	**Karpathos**	**15.99**	**266**	*e*Pn		**Pn**		**19 42 03.6**	**-0.5**
	comp=Z,92nm,0.8s								
ODBI	**Odobesti**	**16.38**	**303**	⇑*i*P		**P**		**19 42 13.9**	**+2.0**
VRI	**Vrincioaia**	**16.63**	**303**	⇓*i*P		**P**		**19 42 14.5**	**-0.2**
VRI	**Vrincioaia**	**16.63**	**303**	⇓P		**P**		**19 42 14.5**	**-0.2**
PLOR	**Plostina**	**16.67**	**303**	⇓*i*P		**P**		**19 42 15.3**	**+0.1**
PLOR	**Plostina**	**16.67**	**303**	⇓P		**P**		**19 42 15.3**	**+0.1**
MLR	**Muntele Rosu**	**17.03**	**301**	Pn		**Pn**		**19 42 15.6**	**-1.9**
	comp=Z,0.0nm,0.3s,baz=122,slow=12,SNR=1.9								
MLR	**Muntele Rosu**	**17.03**	**301**	⇓*i*P		**P**		**19 42 20.3**	**+1.0**
MLR	**Muntele Rosu**	**17.03**	**301**	⇓P		**P**		**19 42 20.3**	**+1.0**
BIZ	**Bicaz**	**17.41**	**306**	⇑*i*P		**P**		**19 42 24.4**	**+1.1**
CHGR	**Chuyangaron**	**17.46**	**82**	*e*Pn		**P**		**19 42 23.3**	**-0.7**
	comp=Z,13nm,0.8s								
AKASG	**Malin Array Be**	**17.48**	**320**	P		**Pn**		**19 42 21.8**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=124,slow=12,SNR=7.4								
AKBB	**Malin Array Si**	**17.48**	**320**	*e*Pn		**Pn**		**19 42 21.4**	**-1.5**
	comp=Z,11nm,1.3s								
AKBB	**Malin Array Si**	**17.48**	**320**	*e*P		**Pn**		**19 42 21.4**	**-1.5**
AKBB					pmax	pmax			
	comp=Z,11nm,1.3s								
KIEV	**Kiev**	**17.48**	**320**	*e*Pn		**Pn**		**19 42 21.3**	**-1.6**
	comp=Z,11nm,1.3s								
KIEV	**Kiev**	**17.48**	**320**	⇓*i*P		**Pn**		**19 42 21.9**	**-1.0**
KIEV	**Kiev**	**17.48**	**320**	*i* P		**P**		**19 42 25.2**	**+1.1**
KIEV					pmax	pmax			
	comp=Z,10.0nm,1.4s								
AK11	**Malin Array Si**	**17.50**	**320**	*e*Pn		**Pn**		**19 42 21.6**	**-1.5**
DOPR	**Dopca**	**17.55**	**302**	⇑*i*P		**P**		**19 42 25.1**	**+0.3**
VOIR		**17.62**	**300**	⇓*i*P		**P**		**19 42 26.9**	**+1.2**
VOIR		**17.62**	**300**	⇓P		**P**		**19 42 26.9**	**+1.2**
IDI	**Anoyia**	**17.84**	**267**	P		**Pn**		**19 42 23.9**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=60,slow=9.6,SNR=2.6								
IDI	**Anoyia**	**17.84**	**267**	⇓*i*P		**Pn**		**19 42 27.4**	**-0.1**
ARR	**Arges**	**17.89**	**300**	⇓*i*P		**P**		**19 42 29.3**	**+0.7**
OBN	**Obninsk**	**18.06**	**341**	*e*P		**P**		**19 42 34.1**	**+3.7**
OBN					pmax	pmax			
	comp=Z,4.0nm,1.0s								
BURAR	**Bucovina Array**	**18.22**	**307**	⇑*i*P		**Pn**		**19 42 31.3**	**-0.8**
BURAR	**Bucovina Array**	**18.22**	**307**	⇑P		**Pn**		**19 42 31.3**	**-0.8**
BUR04	**Bucovina Ar. S**	**18.23**	**307**	*e*Pn		**Pn**		**19 42 30.4**	**-1.8**
BUR08	**Bucovina Ar. S**	**18.24**	**307**	*e*Pn		**Pn**		**19 42 29.8**	**-2.6**
KBL	**Kabul**	**18.26**	**96**	*e*Pn		**Pn**		**19 42 32.5**	**-0.4**
	comp=Z,6.5nm,1.0s								
KBL	**Kabul**	**18.26**	**96**	*e*P		**Pn**		**19 42 32.5**	**-0.4**
KBL					pmax	pmax			
	comp=Z,7.0nm,1.0s								
GAR	**Garm**	**18.32**	**81**	*e*P		**P**		**19 42 33.8**	**+0.2**
	comp=Z,20nm,0.8s								
KK31	**Karatay Array**	**18.50**	**68**	*e*P		**P**		**19 42 33.6**	**-1.7**
KK31	**Karatay Array**	**18.50**	**68**	P		**Pn**		**19 42 36.3**	**+0.8**
	comp=Z,21nm,0.8s,baz=277,slow=12,SNR=138								
KK31	**Karatay Array**	**18.50**	**68**	*e*P		**P**		**19 42 33.7**	**-1.7**
KKAR	**Karatay Array**	**18.50**	**68**	*e*P		**P**		**19 42 33.6**	**-1.7**
KKAR	**Karatay Array**	**18.50**	**68**	*e*P		**P**		**19 42 33.7**	**-1.7**
BTK	**Batken**	**18.63**	**78**	*e*P		**Pn**		**19 42 38.8**	**+1.6**
	comp=Z,12nm,1.0s								
BTK	**Batken**	**18.63**	**78**	*e*P		**Pn**		**19 42 38.8**	**+1.6**
BTK					pmax	pmax			
	comp=Z,12nm,1.0s								
GZR	**Gura Zlata**	**19.16**	**299**	⇓*i*P		**P**		**19 42 42.3**	**-0.4**
ARU	**Arti**	**19.61**	**20**	*e*P		**P**		**19 42 46.8**	**-0.6**
	comp=Z,26nm,0.7s								
ARU	**Arti**	**19.61**	**20**	P		**P**		**19 42 47.4**	**0.0**
ARU					S	**Sn**		**19 46 33.2**	**+4.5**
MDVR	**Moldovita**	**19.78**	**297**	⇓*i*P		**Pn**		**19 42 50.6**	**-0.4**
MNAS	**Manas**	**19.91**	**70**	⇑P		**Pn**		**19 42 54.4**	**+1.8**
	comp=Z,7.8nm,1.1s								
BZS	**Buzias**	**20.01**	**299**	⇓*i*P		**P**		**19 42 51.7**	**-0.1**
BZS	**Buzias**	**20.01**	**299**	⇓P		**P**		**19 42 51.7**	**-0.1**
TRPA	**Tarpa**	**20.09**	**307**	⇑*i*P		**P**		**19 42 52.3**	**-0.4**
SIRR	**Siria**	**20.12**	**301**	⇓*i*P		**P**		**19 42 53.3**	**+0.2**
ARSB	**Arslanbob**	**20.24**	**74**	*e*P		Pn		19 42 55.8	-0.7
	comp=Z,35nm,1.4s								
SVE	**Sverdlovsk**	**20.53**	**22**	*e*P		Pn		19 43 00.5	+0.9
SVE					pmax	pmax			
	comp=Z,41nm,1.0s								
SFK	**Sufi-Kurgan**	**20.69**	**77**	⇓P		Pn		19 43 01.9	+0.1
OTUK	**Ortayu**	**20.88**	**54**	⇑P		Pn		19 43 03.8	0.0
	comp=Z,19nm,0.8s								
AAK	**Ala-Archa**	**21.39**	**70**	P		**P**		**19 43 10.1**	**+3.2**
	comp=Z,23nm,1.1s,baz=248,slow=9.6,SNR=17								
AAK	**Ala-Archa**	**21.39**	**70**	⇑P		**P**		**19 43 11.6**	**+4.6**
	comp=Z,31nm,1.1s								
FRU	**Bishkek**	**21.48**	**69**	*e*P		**P**		**19 43 13.0**	**+5.1**
FRU1	**Bishkek**	**21.49**	**69**	*e*P		**P**		**19 43 11.2**	**+3.2**
	comp=Z,88nm,1.5s								
FRU1	**Bishkek**	**21.49**	**69**	*e*P		**P**		**19 43 11.2**	**+3.2**
FRU1					pmax	pmax			
	comp=Z,88nm,1.5s								
PSZ	**Piszkesteto**	**21.71**	**305**	*e*P		**P**		**19 43 12.8**	**+2.5**
	comp=Z,17nm,1.4s								
PSZ	**Piszkesteto**	**21.71**	**305**	*e*P		**P**		**19 43 12.9**	**+2.5**
PSZ					pmax	pmax			
	comp=Z,17nm,1.4s								
BRVK	**Borovoye**	**21.79**	**40**	*e*P		**P**		**19 43 13.2**	**+2.2**
	comp=Z,23nm,0.9s								
BRVK	**Borovoye**	**21.79**	**40**	*i* P		**P**		**19 43 13.6**	**+2.6**
BRVK					pmax	pmax			
	comp=Z,9.0nm,0.8s								
BVA0	**Borovoye Array**	**21.83**	**40**	⇑P		**P**		**19 43 12.8**	**+1.3**
	comp=Z,23nm,1.4s,baz=232,slow=4.1,SNR=55								
BVA0	**Borovoye Array**	**21.83**	**40**	*i* P		**P**		**19 43 12.7**	**+1.3**
BVA0					pmax	pmax			
	comp=Z,23nm,1.5s								
BVAR	**Borovoye Array**	**21.83**	**40**	P		**P**		**19 43 13.9**	**+2.5**
	comp=Z,7.5nm,0.7s,baz=240,slow=8.4,SNR=44								
NIL	**Nilore**	**21.85**	**95**	*e*P		**P**		**19 43 13.4**	**+1.5**
	comp=Z,54nm,1.8s								
NIL	**Nilore**	**21.85**	**95**	*e*P		**P**		**19 43 13.4**	**+1.5**
NIL					pmax	pmax			
	comp=Z,54nm,1.8s								
TKM2	**Tokmak 2**	**22.21**	**69**	⇑P		**P**		**19 43 17.4**	**+1.6**
	comp=Z,53nm,0.8s								
SUW	**Suwalki**	**22.43**	**322**	*e*P		**P**		**19 43 19.2**	**+1.4**
	comp=Z,29nm,0.8s								
SUW	**Suwalki**	**22.43**	**322**	*e*P		**P**		**19 43 19.3**	**+1.4**
SUW					pmax	pmax			
	comp=Z,29nm,0.8s								
NRN	**Naryn**	**22.51**	**73**	*e*P		**P**		**19 43 21.2**	**+2.0**
	comp=Z,17nm,1.3s								
NRN	**Naryn**	**22.51**	**73**	*e*P		**P**		**19 43 21.2**	**+2.0**
NRN					pmax	pmax			
	comp=Z,17nm,1.3s								
VYHS	**Vyhne**	**22.55**	**305**	*e*P		**P**		**19 43 21.5**	**+2.2**
VYHS	**Vyhne**	**22.55**	**305**	*e*P		**P**		**19 43 21.5**	**+2.2**
KSH	**Kashi**	**22.63**	**78**	P		**P**		**19 43 21.0**	**+0.7**
KSH					pP	sP		19 43 24.3	-0.8
KSH					pmax	pmax			
	comp=Z,11nm,0.7s								
KSH					pmax	pmax			
	comp=Z,920nm,7.2s								
KLMR	**Klimovskoe**	**22.89**	**351**	*e*P		**P**		**19 43 23.6**	**+0.9**
KLMR					pmax	pmax			
	comp=Z,10.0nm,0.8s								
KLMR	**Klimovskoe**	**22.89**	**351**	*e*P		**P**		**19 43 23.6**	**+0.9**
KLMR					*e*P	**P**		**19 43 23.6**	**+0.9**
KLMR					*e*P	**P**		**19 43 23.6**	**+0.9**
KLMR					AMP			19 43 42.2	
	comp=Z,10.0nm,0.8s								
PRGR	**Permogore**	**23.23**	**359**	*e*P		**P**		**19 43 27.6**	**+1.5**
PRGR					pmax	pmax			
	comp=Z,22nm,0.6s								
VRAC	**Vranov**	**24.20**	**306**	P		**P**		**19 43 34.3**	**-1.4**
	comp=Z,1.0nm,0.4s,baz=96,slow=9.7,SNR=3.2								
VRAC					LR	LR		19 54 34.8	
	comp=Z,180nm,18.1s,baz=321,slow=40								
SOKA	**Soboth**	**24.70**	**300**	*e*P		**P**		**19 43 42.6**	**+2.3**
	comp=Z,7.8nm,1.0s								
OBKA	**Obir**	**25.01**	**299**	*e*pP		**P**		**19 43 44.4**	**+1.2**
	comp=Z,9.1nm,1.4s								
KURBB	**Kurchatov Arra**	**25.45**	**51**	P		**P**		**19 43 48.8**	**+1.8**
	comp=Z,5.6nm,0.8s,baz=260,slow=9.6,SNR=23								
KURK	**Kurchatov**	**25.53**	**51**	*e*P		**P**		**19 43 48.8**	**+1.1**
KURK	**Kurchatov**	**25.53**	**51**	P		**P**		**19 43 48.8**	**+1.1**
KURK					pmax	pmax			
	comp=Z,6.0nm,0.8s								
KBA	**Koelnbreinsper**	**25.90**	**300**	*e*P		**P**		**19 43 54.8**	**+3.5**
	comp=Z,8.3nm,1.1s								
GEA0	**GERESS Array S**	**25.94**	**304**	*e*P		**P**		**19 43 52.5**	**+0.9**
GEC2	**GERESS Array S**	**25.94**	**304**	*e*P		**P**		**19 43 53.4**	**+1.8**
	comp=Z,13nm,1.4s								
GEC2	**GERESS Array S**	**25.94**	**304**	*e*P		**P**		**19 43 53.4**	**+1.8**
GEC2					pmax	pmax			
	comp=Z,13nm,1.4s								
GERES	**GERESS Array B**	**25.94**	**304**	P		**P**		**19 43 51.2**	**-0.4**
	comp=Z,2.9nm,0.6s,baz=107,slow=9.0,SNR=21								
KHC	**Kasperske Hory**	**26.08**	**305**	*e*P		**P**		**19 43 56.7**	**+3.9**
KHC	**Kasperske Hory**	**26.08**	**305**	*e*P		**P**		**19 43 56.7**	**+3.9**
FIA0	**FINESS Array S**	**26.38**	**337**	*e*P		**P**		**19 43 56.5**	**+1.2**
FIA0	**FINESS Array S**	**26.38**	**337**	*e*P		**P**		**19 43 56.5**	**+1.2**
FINES	**FINESS Array B**	**26.38**	**337**	P		**P**		**19 43 56.5**	**+1.2**
	comp=Z,3.4nm,1.0s,baz=164,slow=7.2,SNR=2.7								
MAKZ	**Makanchi**	**26.99**	**61**	*e*P		**P**		**19 44 04.1**	**+3.1**
	comp=Z,8.4nm,1.0s								
MAKZ	**Makanchi**	**26.99**	**61**	*e*P		**P**		**19 44 04.1**	**+3.1**
MAKZ					pmax	pmax			
	comp=Z,8.0nm,1.0s								
WTTA	**Wattenberg**	**27.08**	**300**	*i* P		**P**		**19 44 05.7**	**+3.7**
	comp=Z,4.8nm,0.7s								
MK31	**Makanchi Array**	**27.20**	**61**	*e*P		**P**		**19 44 06.5**	**+3.6**
MK31	**Makanchi Array**	**27.20**	**61**	P		**P**		**19 44 07.8**	**+4.9**
	comp=Z,2.9nm,0.8s,baz=271,slow=5.8,SNR=38								
MK31	**Makanchi Array**	**27.20**	**61**	*e*P		**P**		**19 44 06.5**	**+3.6**
MK32	**Makanchi Array**	**27.20**	**61**	*e*P		**P**		**19 44 07.1**	**+4.2**
MKAR	**Makanchi Array**	**27.20**	**61**	P		**P**		**19 44 07.1**	**+4.2**
	comp=Z,6.5nm,0.8s,baz=260,slow=5.9,SNR=27								
MKAR	**Makanchi Array**	**27.20**	**61**	*e*P		**P**		**19 44 06.2**	**+3.3**
	comp=Z,44nm,0.8s								
MKAR	**Makanchi Array**	**27.20**	**61**	*e*P		**P**		**19 44 06.2**	**+3.3**
MKAR					pmax	pmax			
	comp=Z,44nm,0.8s								
MK01	**Makanchi Array**	**27.20**	**61**	*e*P		**P**		**19 44 06.5**	**+3.6**
MOTA	**Moosalm**	**27.45**	**300**	*i* P		**P**		**19 44 08.4**	**+3.1**
	comp=Z,4.5nm,1.0s								
NVS	**Novosibirsk**	**29.45**	**44**	*e*P		**P**		**19 44 25.1**	**+2.2**
ZALV	**Zalesovo Beam**	**30.08**	**47**	P		**P**		**19 44 30.6**	**+2.2**
	comp=Z,0.6nm,0.4s,baz=259,slow=11,SNR=4.3								
ZAA1	**Zalesovo Array**	**30.08**	**47**	*e*P		**P**		**19 44 30.6**	**+2.2**
WMQ	**Urumqi**	**31.00**	**67**	*e*P		**P**		**19 44 40.5**	**+3.7**
WMQ					pP	sP		19 44 44.8	+3.0
WMQ					pmax	pmax			
	comp=Z,16nm,0.7s								
WMQ					pmax	pmax			
	comp=Z,440nm,5.9s								
ARA0	**ARCESS Array S**	**33.18**	**346**	*e*P		**P**		**19 44 57.4**	**+1.8**
ARCES	**ARCESS Array B**	**33.18**	**346**	P		**P**		**19 44 57.3**	**+1.8**
	comp=Z,3.9nm,1.0s,baz=142,slow=9.1,SNR=3.5								
GTA	**Gaotai**	**40.72**	**71**	*e*P		**P**		**19 46 03.8**	**+3.6**
GTA					pP	sP		19 46 08.3	+3.1
GTA					sP	pP		19 46 11.0	+7.2
GTA					pmax	pmax			
	comp=Z,2.0nm,1.0s								
SONA0	**Songino Array**	**43.48**	**58**	*e*P		**P**		**19 46 26.7**	**+4.1**
SONM	**Songino Array**	**43.48**	**58**	P		**P**		**19 46 26.7**	**+4.1**
	comp=Z,0.2nm,0.5s,baz=286,slow=11,SNR=3.4								
ULN	**Ulaanbaatar**	**43.91**	**57**	*e*P		**P**		**19 46 28.8**	**+2.8**
	comp=Z,3.3nm,0.9s								
ULN	**Ulaanbaatar**	**43.91**	**57**	*e*P		**P**		**19 46 28.8**	**+2.8**
ULN					pmax	pmax			
	comp=Z,3.0nm,0.9s								
LZH	**Lanzhou**	**44.80**	**75**	*e*P		P		19 46 39.0	+5.6
LZH					pP	sP		19 46 42.3	+3.8
LZH					sP	pP		19 46 44.3	+7.3
LZH					pmax	pmax			
	comp=Z,26nm,1.2s								
BOD	**Bodaibo**	**46.67**	**43**	*e*P		**P**		**19 46 48.8**	**+1.2**
BOD					pmax	pmax			
	comp=Z,5.0nm,0.9s								
TOA1	**Torodi Ar. Sit**	**47.20**	**250**	*e*P		**P**		**19 46 48.1**	**-4.1**
TORD	**Torodi Ar. Bea**	**47.20**	**250**	P		**P**		**19 46 48.1**	**-4.1**
	comp=Z,1.3nm,0.8s,baz=32,slow=8.5,SNR=7.3								
KMI	**Kunming**	**48.66**	**89**	P		**P**		**19 47 06.8**	**+3.0**
KMI					pmax	pmax			
	comp=Z,14nm,0.7s								
HHC	**Hu-ho-hao-te**	**48.87**	**66**	*e*P		**P**		**19 47 06.8**	**+1.8**
HHC					pmax	pmax			
	comp=Z,14nm,0.8s								
HHC					pmax	pmax			
	comp=Z,390nm,6.5s								
CMAR	**Chiang Mai Arr**	**49.26**	**99**	P		**P**		**19 47 08.3**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=301,slow=7.9,SNR=7.8								
NJ2	**Nanjing**	**57.80**	**73**	*e*P		**P**		**19 48 12.0**	**+1.4**
NJ2					pmax	pmax			
	comp=Z,6.0nm,0.5s								
USRK	**Ussuriysk Ar.**	**61.45**	**55**	P		**P**		**19 48 37.9**	**+2.3**
	comp=Z,0.8nm,0.7s,baz=292,slow=7.6,SNR=4.8								
KSAR	**Wonju Array Be**	**61.82**	**63**	P		**P**		**19 48 40.1**	**+1.9**
KSAR	**Wonju Array Be**	**61.82**	**63**	P		**P**		**19 48 40.2**	**+1.9**
KSRS	**Korea Array**	**61.84**	**63**	P		**P**		**19 48 40.1**	**+1.7**
	comp=Z,1.3nm,0.5s,baz=296,slow=6.7,SNR=6.9								
SEY	**Seymchan**	**62.97**	**30**	P		**P**		**19 48 48.6**	**+3.0**
	comp=Z,2.5nm,1.0s,baz=311,slow=13,SNR=3.3								
BILL	**Bilibino**	**64.62**	**21**	*e*P		**P**		**19 48 56.5**	**+0.2**
BILL				*e*				19 49 30.5	
BILL				*e*				19 51 21.6	
BILL					pmax	pmax			
	comp=Z,1.0nm,1.2s								

*SOME **28** 19:41:55.6,42°.53N×79°.68E,h35km*
*KRNET **28** 19:41:56.7±0.1,42°.59N×79°.65E,h17km,mb2.7*
ISC 28 19:41:55.5±3.2,**42.7N**±0°.1×**79.6E**±0°.1,**h13**km±19km,**n9,**
σ0$53/18,8C-2D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.49**	**347**	*e*P			**Pn**	**19 42 08.2**	**-0.2**
	baz=17								
SHLS					*e*S		**Sn**	**19 42 17.4**	**+0.5**
	baz=17								
SHLS	**Shalkode**	**0.49**	**347**	*e*P			**Pn**	**19 42 08.2**	**-0.2**
	70nm,0.1s								
SHLS					*e*S		**Sn**	**19 42 17.4**	**+0.5**
	32nm,0.2s								
UZB	**Uzynbulak**	**0.64**	**317**	*e*P			**Pn**	**19 42 10.4**	**-0.1**
	baz=21								
UZB					*e*S		**Sn**	**19 42 21.0**	**+0.4**
	baz=21								
UZB	**Uzynbulak**	**0.64**	**317**	*e*P			**Pn**	**19 42 10.4**	**-0.1**
	4.4nm,0.1s								
UZB					*e*S		**Sn**	**19 42 20.9**	**+0.4**
	23nm,0.2s								
PDGK	**Podgornoye**	**0.66**	**352**	⇓*i*P			**Pn**	**19 42 10.4**	**-0.3**
	baz=51								
PDGK					⇓*i*S		**Sn**	**19 42 20.9**	**-0.1**
	baz=51								
PRZ	**Przheval'sk**	**0.92**	**258**	⇑*i*P			**Pn**	**19 42 14.2**	**-0.1**
	baz=64								
PRZ					⇑*i*S		**Sn**	**19 42 27.0**	**-0.5**
	baz=64								
KDJ	**Kajisay**	**1.89**	**254**	⇑*i*P			**Pb**	**19 42 31.1**	**+1.2**
	baz=57								
KDJ					⇑*i*S		**Sg**	**19 42 56.4**	**+0.2**
	baz=57								
ULHL	**Ulahol**	**2.53**	**261**

*SOME **28** 19:47:23.6, 42°.53N×79°.62E, h30km*
*KRNET **28** 19:47:24.5±0.1, 42°.62N×79°.63E, h30km, mb3.6*
ISC 28 19:47:25.1±2.8, **42°.65N**±0°.10×**79°.7E**±0°.1, **h23**km±15km, **n9**, σ0§81/18, **6C-4D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.53**	**344**		*e*P		**Pb**	**19 47 36.0**	**+0.2**
	baz=19								
SHLS					*e*S		**Sn**	**19 47 45.0**	**-0.7**
	baz=19								
SHLS	**Shalkode**	**0.53**	**344**		*e*P		**Pb**	**19 47 36.0**	**+0.2**
	210nm,0.2s								
SHLS					*e*S		**Sn**	**19 47 45.0**	**-0.7**
	869nm,0.3s								
UZB	**Uzynbulak**	**0.68**	**317**		*e*P		**Pb**	**19 47 37.8**	**-0.7**
	baz=20								
UZB					*e*S		**Sb**	**19 47 48.0**	**+0.4**
	baz=20								
UZB	**Uzynbulak**	**0.68**	**317**		*e*P		**Pb**	**19 47 37.8**	**-0.7**
	83nm,0.2s								
UZB					*e*S		**Sb**	**19 47 48.0**	**+0.4**
	634nm,0.3s								
PDGK	**Podgornoye**	**0.69**	**349**	⇓	*i*P		**Pb**	**19 47 38.3**	**-0.3**
	baz=51								
PDGK				⇓	*i*S		**Sb**	**19 47 48.8**	**+1.0**
	baz=51								
PRZ	**Przheval'sk**	**0.95**	**260**	⇑	*i*P		**Pn**	**19 47 41.6**	**-1.6**
	baz=62								
PRZ				⇑	*i*S		**Sb**	**19 47 54.4**	**-0.8**
	baz=62								
KDJ	**Kajisay**	**1.91**	**255**	⇑	*e*P		**Pn**	**19 47 56.5**	**+0.1**
	baz=56								
KDJ				⇑	*i*S		**Sn**	**19 48 20.8**	**+1.0**
	baz=56								
ULHL	**Ulahol**	**2.56**	**262**	⇓	*i*P		**Pn**	**19 48 06.0**	**+0.6**
	baz=63								
ULHL				⇓	*i*S		**Sn**	**19 48 36.8**	**+0.8**
	baz=63								
BOOM	**Boomskoye usch**	**2.75**	**268**	⇑	*e*P		**Pn**	**19 48 08.5**	**+0.5**
	baz=69								
BOOM				⇑	*i*S		**Sn**	**19 48 41.4**	**+0.8**
	baz=69								

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*ISCJB **28** 19:47:35.9±0.6, 42°.46N±0°.02×79°.81E±0°.02, h4km±3km, mb4.3/45, MS4.1/2, Error ellipse: s-maj=3.0km s-min=2.3km az=174.7*
*IDC **28** 19:47:36.4±0.5, 42°.41N×79°.70E, h0km, mb4.2/25, mb1 4.3/33, mb1mx4.2/61, mbtmp4.1/33, ML3.8/7, MS3.9/1, Ms1 3.9/1, ms1mx3.0/34, Error ellipse: s-maj=10.1km s-min=8.3km az=173.0*
*MOS **28** 19:47:36.6±1.0, 42°.44N×79°.57E, h13km, mb4.5/22, Error ellipse: s-maj=7.1km s-min=5.4km az=110.7*
*BJI **28** 19:47:37.0, 42°.58N×79°.47E, h6km, mb4.2/25, mB4.6/11, ML4.3/9, Ms4.0/5, Ms7 4.0/7*
*SOME **28** 19:47:38.3, 42°.50N×79°.67E, h25km, MS3.6*
*KRNET **28** 19:47:38.9±0.1, 42°.58N×79°.58E, h18km, mb4.6*
*NEIC **28** 19:47:38.5±1.1, 42°.45N×79°.57E, h13km±6km, mb4.6/16, Error ellipse: s-maj=5.3km s-min=3.3km az=156.0*
*NNC **28** 19:47:38.5±0.6, 42°.58N×79°.59E, h0km±2km, mb5.0, mpv4.8, Error ellipse: s-maj=3.9km s-min=2.0km az=144.0*
ISC 28 19:47:36.7±1.2, **42°.47N**±0°.03×**79°.60E**±0°.02, **h2**km±7km, **n267**, σ1§73/335, **mb4.4**/45, **49C-33D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.69**	**352**		P		**Pb**	**19 47 51.1**	**-0.5**
	3μm,0.2s								
SHLS					S		**Sb**	**19 48 00.4**	**-1.2**
	38μm,0.3s								
SHLS	**Shalkode**	**0.69**	**352**		*e*P		**Pb**	**19 47 51.0**	**-0.5**
	baz=21								
SHLS					*e*S		**Sb**	**19 48 00.3**	**-1.3**
	baz=21								
SHLS	**Shalkode**	**0.69**	**352**		*e*P		**Pb**	**19 47 51.0**	**-0.5**
	3μm,0.2s								
SHLS					*e*S		**Sb**	**19 48 00.3**	**-1.3**
	38μm,0.4s								
UZB	**Uzynbulak**	**0.80**	**328**		P		**Pg**	**19 47 52.5**	**+0.5**
	2μm,0.2s								
UZB					S		**Sb**	**19 48 02.9**	**-1.8**
	3μm,0.4s								
UZB	**Uzynbulak**	**0.80**	**328**		*e*P		**Pg**	**19 47 52.4**	**+0.4**
	baz=24								
UZB					*e*S		**Sg**	**19 48 02.8**	**+0.5**
	baz=24								
UZB	**Uzynbulak**	**0.80**	**328**		*e*P		**Pg**	**19 47 52.4**	**+0.5**
	2μm,0.3s								
UZB					*e*S		**Sb**	**19 48 02.8**	**-1.8**
	5μm,0.4s								
PDGK	**Podgornoye**	**0.86**	**355**		P		**Pg**	**19 47 53.2**	**0.0**
	1μm,0.2s								
PDGK					S		**Sg**	**19 48 04.1**	**-0.2**
	4μm,0.3s								
PDGK	**Podgornoye**	**0.86**	**355**	⇓	P		**Pg**	**19 47 52.9**	**-0.3**
	565nm,0.3s								
PDGK				⇑	S		**Sg**	**19 48 03.8**	**-0.6**
	4μm,0.4s								
PDGK	**Podgornoye**	**0.86**	**355**		PG		**Pg**	**19 47 52.9**	**-0.3**
PDGK					S		**Sg**	**19 48 03.8**	**-0.6**
PDGK					pmax		pmax		
	comp=Z,565nm,0.3s								
PDGK					smax		smax		
	comp=E,4μm,0.4s								
PDGK	**Podgornoye**	**0.86**	**355**	⇓	*i*P		**Pg**	**19 47 53.1**	**-0.1**
	baz=55								
PDGK				⇓	*i*S		**Sg**	**19 48 04.1**	**-0.3**
	baz=55								
PRZ	**Przheval'sk**	**0.89**	**271**		*e*Pg		**Pb**	**19 47 55.0**	**+0.1**
PRZ	**Przheval'sk**	**0.89**	**271**		*e*PG		**Pb**	**19 47 55.0**	**+0.1**
PRZ	**Przheval'sk**	**0.89**	**271**	⇓	*e*P		**Pn**	**19 47 55.8**	**-0.5**
	baz=64								
PRZ				⇓	*i*S		**Sn**	**19 48 08.1**	**-1.7**
	baz=64								
SATY	**Saty**	**1.06**	**304**		P		**Pg**	**19 47 57.4**	**+0.4**
	comp=E,328nm,0.1s								
SATY					S		**Sb**	**19 48 11.4**	**-0.6**
	comp=E,2μm,0.2s								
SATY	**Saty**	**1.06**	**304**		*e*P		**Pg**	**19 47 57.4**	**+0.4**
	comp=E,383nm,0.2s								
SATY					*e*S		**Sb**	**19 48 11.4**	**-0.6**
	comp=E,2μm,0.3s								
KTMS	**Ketmen**	**1.12**	**29**		P		**Pg**	**19 47 57.9**	**-0.3**
	comp=E,224nm,0.1s								
KTMS					S		**Sg**	**19 48 11.9**	**-0.8**
	comp=E,2μm,0.3s								
KURS	**Kuram**	**1.46**	**315**		P		**Pb**	**19 48 04.5**	**0.0**
	comp=E,257nm,0.4s								
KURS					S		**Sg**	**19 48 23.9**	**+0.2**
	comp=E,770nm,0.3s								
KURS	**Kuram**	**1.46**	**315**		*e*P		**Pb**	**19 48 04.6**	**0.0**
	baz=12								
KURS					*e*S		**Sg**	**19 48 23.8**	**+0.2**
	baz=12								
KURS	**Kuram**	**1.46**	**315**		*e*P		**Pb**	**19 48 04.6**	**0.0**
	comp=E,152nm,0.5s								
KURS					*e*S		**Sg**	**19 48 23.8**	**+0.2**
	comp=E,669nm,0.4s								
TARG	**Taragay, Kyrgy**	**1.53**	**242**		*e*Pn		**Pn**	**19 48 06.0**	**+0.7**
KDJ	**Kajisay**	**1.82**	**260**		*e*Pn		**Pg**	**19 48 12.9**	**+1.3**
KDJ	**Kajisay**	**1.82**	**260**		*e*PN		**Pg**	**19 48 12.9**	**+1.3**
KDJ	**Kajisay**	**1.82**	**260**	⇑	*i*P		**Pg**	**19 48 13.0**	**+1.3**
	baz=56								
KDJ				⇑	*i*S		**Sg**	**19 48 38.2**	**+2.9**
	baz=56								
DJR	**Jarkent**	**1.86**	**4**		P		**Pb**	**19 48 11.0**	**-0.5**
	comp=E,245nm,0.4s								
DJR					S		**Sb**	**19 48 34.6**	**-0.7**
	comp=E,2μm,0.3s								
DJR	**Jarkent**	**1.86**	**4**		*e*P		**Pb**	**19 48 10.9**	**-0.5**
	comp=E,245nm,0.4s								
DJR					*e*S		**Sb**	**19 48 34.7**	**-0.7**
	comp=E,2μm,0.3s								
KOTS	**Kotyrbulak**	**1.98**	**293**		Pg		**Pg**	**19 48 14.5**	**-0.2**
	comp=E,532nm,0.2s								
KOTS					Lg		Lg	19 48 41.2	
	comp=E,106nm,0.5s								
KOTS	**Kotyrbulak**	**1.98**	**293**		*e*P		**Pg**	**19 48 14.4**	**-0.2**
	baz=91								
KOTS					*e*S		**Sg**	**19 48 40.6**	**+0.3**
	baz=91								
KOTS	**Kotyrbulak**	**1.98**	**293**		*e*P		**Pg**	**19 48 14.4**	**-0.2**
	comp=E,540nm,0.3s								
KOTS					*e*S		**Sg**	**19 48 40.6**	**+0.3**
	comp=E,3μm,0.4s								
MDOK	**Medeo**	**2.00**	**291**		Pg		**Pb**	**19 48 14.4**	**+0.6**
	comp=E,420nm,0.3s								
MDOK					Lg		Lg	19 48 40.9	
	comp=E,2μm,0.8s								
MDOK	**Medeo**	**2.00**	**291**		*e*P		**Pb**	**19 48 14.3**	**+0.5**
	baz=88								
MDOK					*e*S		**Sg**	**19 48 40.3**	**-0.6**
	baz=88								
MDOK	**Medeo**	**2.00**	**291**		*e*P		**Pb**	**19 48 14.3**	**+0.5**
	comp=E,238nm,0.4s								
MDOK					*e*S		**Sg**	**19 48 40.3**	**-0.6**
	comp=E,2μm,0.8s								
TNSS	**Tian-Shan**	**2.03**	**287**		Pg		**Pb**	**19 48 15.1**	**+0.6**
	comp=E,494nm,0.3s								
TNSS					Pg		**Pg**	**19 48 15.6**	**-0.1**
TNSS					Lg		Lg	19 48 41.9	
	comp=E,2μm,0.4s								
TNSS					Lg		Lg	19 48 42.3	
TNSS	**Tian-Shan**	**2.03**	**287**		*e*P		**Pb**	**19 48 15.2**	**+0.7**
	baz=84								
TNSS					*e*S		**Sg**	**19 48 41.7**	**-0.3**
	baz=84								
TNSS	**Tian-Shan**	**2.03**	**287**		*e*P		**Pb**	**19 48 15.2**	**+0.6**
	comp=E,292nm,0.5s								
TNSS					*e*S		**Sg**	**19 48 41.7**	**-0.3**
	comp=E,2μm,0.5s								
KNDC	**Almaty**	**2.07**	**292**	⇑	Pn		**Pb**	**19 48 15.3**	**+0.2**
	comp=E,391nm,0.3s								
KNDC				⇑	Lg		Lg	19 48 45.0	
	comp=E,4μm,0.5s								
AAA	**Alma-Ata**	**2.11**	**291**		Pg		**Pg**	**19 48 17.6**	**+0.5**
	comp=E,781nm,0.4s								
AAA					Lg		Lg	19 48 45.7	
	comp=E,2μm,0.3s								
AAA	**Alma-Ata**	**2.11**	**291**		*e*PN		**Pg**	**19 48 17.4**	**+0.4**
AAA					*e*S		**Sg**	**19 48 44.8**	**+0.5**
AAA					pmax		pmax		
	comp=Z,750nm,0.4s								
AAA					smax		smax		
	comp=E,2μm,0.4s								
ARXS	**Arharly**	**2.17**	**324**		Pg		**Pb**	**19 48 16.6**	**-0.1**
	comp=E,661nm,0.5s								
ARXS					Lg		Lg	19 48 44.8	
	comp=E,4μm,0.8s								
ARXS	**Arharly**	**2.17**	**324**		*e*P		**Pb**	**19 48 16.6**	**-0.1**
	comp=E,617nm,0.5s								
ARXS					*e*S		**Sb**	**19 48 44.4**	**+0.4**
	comp=E,4μm,0.7s								
IZV	**Izvestkoviy**	**2.27**	**285**		Pg		**Pb**	**19 48 19.4**	**+1.0**
	comp=E,316nm,0.3s								
IZV					Lg		Lg	19 48 49.1	
	comp=E,2μm,0.4s								
CHKK	**Chushkaly**	**2.36**	**307**		Pg		**Pb**	**19 48 20.5**	**+0.6**
	comp=E,207nm,0.3s								
CHKK					Lg		Lg	19 48 51.3	
	comp=E,3μm,0.2s								
CHKK	**Chushkaly**	**2.36**	**307**		*e*P		**Pb**	**19 48 20.2**	**+0.4**
	baz=5.0								
CHKK					*e*S		**Sg**	**19 48 50.5**	**-1.9**
	baz=5.0								
CHKK	**Chushkaly**	**2.36**	**307**		*e*P		**Pb**	**19 48 20.2**	**+0.4**
	comp=E,184nm,0.2s								
CHKK					*e*S		**Sg**	**19 48 50.5**	**-1.9**
	comp=E,3μm,0.2s								
MTBS	**Maitube**	**2.42**	**287**		Pg		**Pb**	**19 48 22.1**	**+1.1**
	comp=E,456nm,0.2s								
MTBS					Lg		Lg	19 48 54.0	
	comp=E,2μm,0.5s								
MTBS	**Maitube**	**2.42**	**287**		*e*P		**Pg**	**19 48 22.4**	**-0.7**
	baz=84								
MTBS					*e*S		**Sg**	**19 48 54.0**	**-0.5**
	baz=84								
MTBS	**Maitube**	**2.42**	**287**		*e*P		**Pg**	**19 48 22.4**	**-0.7**
	comp=E,424nm,0.2s								
MTBS					*e*S		**Sg**	**19 48 54.0**	**-0.5**
	comp=E,2μm,0.5s								
KTBS	**Karatobe**	**2.47**	**301**		Pg		**Pb**	**19 48 22.1**	**+0.3**
	comp=E,217nm,0.3s								
KTBS					Lg		Lg	19 48 54.3	
	comp=E,3μm,0.6s								
KTBS	**Karatobe**	**2.47**	**301**		*e*P		**Pb**	**19 48 22.6**	**+0.8**
	baz=98								
KTBS					*e*S		**Sg**	**19 48 54.4**	**-1.6**
	baz=98								
KTBS	**Karatobe**	**2.47**	**301**		*e*P		**Pb**	**19 48 22.6**	**+0.9**
	comp=E,217nm,0.4s								
KTBS					*e*S		**Sg**	**19 48 54.4**	**-1.6**
	comp=E,3μm,0.5s								
ULHL	**Ulahol**	**2.50**	**266**		P		**Pb**	**19 48 22.7**	**+0.3**
	SNR=8.8								
ULHL	**Ulahol**	**2.50**	**266**	⇓	*i*P		**Pb**	**19 48 22.5**	**+0.1**
	baz=63								
ULHL				⇓	*i*S		**Sb**	**19 48 54.9**	**+1.3**
	baz=63								
TDK	**Taldyqorghan**	**2.67**	**342**		*e*P		**Pb**	**19 48 24.7**	**-0.6**
	comp=E,877nm,0.3s								
TDK					*e*S		**Sb**	**19 48 57.4**	**-1.0**
	comp=E,4μm,0.5s								
BOOM	**Boomskoye usch**	**2.71**	**272**	⇑	*i*P		**Pb**	**19 48 25.4**	**-0.5**
	baz=69								
BOOM				⇑	*i*S		**Sb**	**19 48 59.6**	**0.0**
	baz=69								
KST	**Kastek**	**2.74**	**283**		*e*P		**Pb**	**19 48 26.9**	**+0.5**
	baz=81								
KST					*e*S		**Sb**	**19 49 02.2**	**+1.8**
	baz=81								
KST	**Kastek**	**2.74**	**283**		*e*P		**Pb**	**19 48 26.9**	**+0.5**
	comp=E,200nm,0.2s								
KST					*e*S		**Sb**	**19 49 02.2**	**+1.8**
	comp=E,2μm,0.8s								
KUU	**Kurty**	**2.77**	**302**		Pg		**Pb**	**19 48 27.8**	**+0.9**
	comp=E,84nm,0.4s								
KUU					Lg		Lg	19 49 03.2	
	comp=E,3μm,0.5s								
KUU	**Kurty**	**2.77**	**302**		*e*P		**Pb**	**19 48 27.0**	**0.0**
	baz=0.0								
KUU					*e*S		**Sb**	**19 49 01.7**	**+0.3**
	baz=0.0								
KUU	**Kurty**	**2.77**	**302**		*e*P		**Pb**	**19 48 26.9**	**0.0**
	comp=E,84nm,0.5s								
KUU					*e*S		**Sb**	**19 49 01.7**	**+0.3**
	comp=E,3μm,0.5s								
KAPS	**Kapalarasan**	**2.82**	**357**		Pg		**Pb**	**19 48 27.8**	**+0.1**
	comp=E,207nm,0.3s								
KAPS					Lg		Lg	19 49 03.9	
	comp=E,2μm,0.4s								
KAPS	**Kapalarasan**	**2.82**	**357**		*e*P		**Pb**	**19 48 27.6**	**-0.1**
	comp=E,207nm,0.4s								
KAPS					*e*S		**Sb**	**19 49 03.2**	**+0.6**
	comp=E,2μm,0.4s								
NRN	**Naryn**	**2.88**	**250**		*e*Pn		**Pn**	**19 48 23.5**	**-0.3**
NRN	**Naryn**	**2.88**	**250**		*e*PN		**Pn**	**19 48 23.5**	**-0.3**
NRN	**Naryn**	**2.88**	**250**	⇑	*i*P		**Pb**	**19 48 28.6**	**-0.3**
	baz=48								
NRN				⇑	*i*S		**Sb**	**19 49 05.3**	**+0.7**
	baz=48								
DGS	**Degeres**	**2.92**	**287**		*e*P		**Pb**	**19 48 30.7**	**+1.3**
	baz=85								
DGS					*e*S		**Sg**	**19 49 08.3**	**-2.1**
	baz=85								
DGS	**Degeres**	**2.92**	**287**		*e*P		**Pb**	**19 48 30.7**	**+1.3**
	comp=E,383nm,0.6s								
DGS					*e*S		**Sg**	**19 49 08.3**	**-2.0**
	comp=E,5μm,0.7s								
TKM2	**Tokmak 2**	**2.98**	**280**		P		**Pb**	**19 48 29.8**	**-0.9**
	SNR=8.6								
TKM2	**Tokmak 2**	**2.98**	**280**	⇓	Pg		**Pb**	**19 48 30.2**	**-0.4**
	comp=E,77nm,0.3s								
TKM2				⇓	Lg		Lg	19 49 10.8	
	comp=E,740nm,0.6s								
TKM2	**Tokmak 2**	**2.98**	**280**		PN		**Pb**	**19 48 28.1**	**-2.5**
TKM2					pmax		pmax		
	comp=Z,77nm,0.3s								
TKM2	**Tokmak 2**	**2.98**	**280**	⇑	*e*P		**Pb**	**19 48 29.2**	**-1.4**
	baz=78								
TKM2				⇑	*i*S		**Sb**	**19 49 06.1**	**-1.5**
	baz=78								
KZA	**Kyzart**	**3.25**	**265**		P		**Pb**	**19 48 33.7**	**-1.6**
	SNR=6.9								
KZA	**Kyzart**	**3.25**	**265**	⇓	*i*P		**Pb**	**19 48 33.3**	**-2.0**
	baz=63								
KZA				⇓	*i*S		**Sb**	**19 49 13.2**	**-2.3**
	baz=63								
KBK	**Karagaybulak**	**3.44**	**275**		P		**Pb**	**19 48 35.4**	**-3.0**
	SNR=11								
KBK	**Karagaybulak**	**3.44**	**275**	⇑	*i*P		**Pb**	**19 48 35.4**	**-3.0**
	baz=73								
KBK				⇑	*i*S		**Sb**	**19 49 17.0**	**-3.7**
	baz=73								
CHMS	**Chumysh**	**3.61**	**280**	⇓	*i*P		**Pb**	**19 48 37.6**	**-3.6**
	baz=78								
CHMS				⇓	*i*S		**Sb**	**19 49 20.8**	**-4.6**
	baz=78								
FRU1	**Bishkek**	**3.68**	**277**		*e*Pn		**Pn**	**19 48 30.8**	**-3.8**
FRU1	**Bishkek**	**3.68**	**277**		*e*PN		**Pn**	**19 48 30.8**	**-3.8**
FRU1	**Bishkek**	**3.68**	**277**	⇑	*i*P		**Pb**	**19 48 38.8**	**-3.6**
	baz=75								
FRU1				⇑	*i*S		**Sb**	**19 49 22.5**	**-5.0**
	baz=75								
FRU	**Bishkek**	**3.69**	**277**		*e*PN		**Pb**	**19 48 43.0**	**+0.4**
FRU					*e*S		**Sb**	**19 49 30.0**	**+2.2**
FRU					pmax		pmax		
	comp=Z,130nm,1.4s								
FRU					smax		smax		
	comp=E,1μm,1.5s								
AAK	**Ala-Archa**	**3.77**	**274**		Pn		**Pn**	**19 48 40.0**	**+4.0**
	comp=E,9.4nm,0.3s,baz=65,slow=4.2,SNR=18								
AAK					Pg		**Pg**	**19 48 49.0**	**0.0**
	comp=E,31nm,0.3s,baz=69,slow=14,SNR=21								
AAK					Lg		Lg	19 49 32.9	
	comp=E,58nm,0.3s,baz=49,slow=22,SNR=9.1								
AAK	**Ala-Archa**	**3.77**	**274**		P		**Pb**	**19 48 41.1**	**-3.0**
	SNR=5.3								
AAK	**Ala-Archa**	**3.77**	**274**		*e*Pn		**Pn**	**19 48 35.0**	**-1.0**
AAK					*e*Pg		**Pg**	**19 48 49.0**	**0.0**
AAK					*e*Lg		Lg	19 49 32.9	
AAK	**Ala-Archa**	**3.77**	**274**	⇑	Pg		**Pb**	**19 48 46.7**	**+2.6**
	comp=E,44nm,0.4s								
AAK				⇑	Lg		Lg	19 49 35.1	
	comp=E,398nm,0.6s								
AAK	**Ala-Archa**	**3.77**	**274**		*e*PN		**Pn**	**19 48 35.0**	**-1.0**
AAK					*e*			19 48 49.0	
AAK					*e*			19 49 32.9	
AAK	**Ala-Archa**	**3.77**	**274**	⇑	*i*P		**Pn**	**19 48 40.0**	**+4.0**
	baz=73								
AAK				⇑	*i*S		**Sn**	**19 49 25.0**	**+4.0**
	baz=73								
SGDS	**Sogindy**	**3.77**	**287**		Pg		**Pb**	**19 48 45.9**	**+1.9**
	comp=E,122nm,0.4s								
SGDS					Lg		Lg	19 49 33.9	
	comp=E,453nm,0.7s								
UCH	**Uchtor**	**3.78**	**268**		P		**Pb**	**19 48 42.5**	**-1.8**
	SNR=8.0								
UCH	**Uchtor**	**3.78**	**268**	⇑	*e*P		**Pb**	**19 48 40.6**	**-3.7**
	baz=66								
UCH				⇑	*i*S		**Sb**	**19 49 25.8**	**-4.8**
	baz=66								
USP	**Ospenovka**	**3.83**	**284**		P		**Pn**	**19 48 32.4**	**-4.3**
	SNR=5.2								
USP	**Ospenovka**	**3.83**	**284**	⇓	*i*P		**Pn**	**19 48 40.4**	**+3.7**
	baz=82								
USP				⇓	*e*S		**Sn**	**19 49 26.3**	**+4.1**
	baz=82								
ARLS	**Aral**	**3.97**	**263**	⇑	*i*P		**Pn**	**19 48 42.8**	**+4.2**
	baz=61								
ARLS				⇑	*i*S		**Sb**	**19 49 30.6**	**-5.3**
	baz=61								
KSH	**Kashi**	**4.03**	**224**		Pg		Pg	19 48 59.5	+5.6
KSH					Sg		Sg	19 49 58.0	+12
KSH					smax		smax		
	comp=E,480nm,0.8s								
KSH					smax		smax		
	comp=E,510nm,0.8s								
EKS2	**Erkin-Say**	**4.30**	**274**		P		**Pg**	**19 49 01.8**	**+2.7**
	SNR=5.3								
EKS2	**Erkin-Say**	**4.30**	**274**	⇓	*i*P		**Pn**	**19 48 47.6**	**+4.4**
	baz=73								
EKS2				⇓	*i*S		**Sn**	**19 49 37.6**	**+3.6**
	baz=73								
AML	**Almayashu**	**4.39**	**268**		P		**Pg**	**19 49 00.0**	**-0.8**
	SNR=7.5								
AML	**Almayashu**	**4.39**	**268**	⇑	*e*P		**Pn**	**19 48 49.4**	**+4.7**
	baz=66								
AML				⇑	*i*S		**Sn**	**19 49 40.6**	**+4.0**
	baz=66								
MAKZ	**Makanchi**	**4.66**	**21**		*e*Pn		**Pn**	**19 48 49.5**	**+1.5**
MAKZ	**Makanchi**	**4.66**	**21**	⇑	Pn		**Pn**	**19 48 50.0**	**+2.0**
	comp=E,56nm,0.2s								
MAKZ				⇓	Sn		**Sn**	**19 49 44.2**	**+1.6**
	comp=E,94nm,0.5s								
MAKZ				⇑	Lg		Lg	19 49 59.5	
	comp=E,128nm,0.8s								
MAKZ	**Makanchi**	**4.66**	**21**		*e*PN		**Pn**	**19 48 49.5**	**+1.5**
MK01	**Makanchi Array**	**4.71**	**23**		*e*Pn		**Pn**	**19 48 50.1**	**+1.4**
MK31	**Makanchi Array**	**4.73**	**23**		*e*Pn		**Pn**	**19 48 51.0**	**+1.9**
MK31	**Makanchi Array**	**4.73**	**23**	⇑	Pn		**Pn**	**19 48 50.9**	**+1.9**
	comp=E,36nm,0.3s,baz=205,slow=13,SNR=132								
MK31				⇓	Sn		**Sn**	**19 49 44.5**	**+0.1**
	comp=E,79nm,0.5s,baz=203,slow=25,SNR=8.0								
MK31				⇑	Lg		Lg	19 50 03.7	
	comp=E,50nm,0.3s,baz=210,slow=29,SNR=5.7								
MK31	**Makanchi Array**	**4.73**	**23**		*e*PN		**Pn**	**19 48 50.9**	**+1.9**
MK31								19 49 44.5	
MK31					pmax		pmax		
	comp=Z,36nm,0.3s								
MK31					smax		smax		
	comp=E,79nm,0.5s								
MK32	**Makanchi Array**	**4.73**	**23**		*e*Pn		**Pn**	**19 48 51.3**	**+2.3**
MK32					*e*Sn		**Sn**	**19 49 44.5**	**+0.1**
MK32					*e*Lg		Lg	19 50 04.6	
MKAR	**Makanchi Array**	**4.73**	**23**		Pn		**Pn**	**19 48 51.3**	**+2.3**
	comp=E,71nm,0.3s,baz=209,slow=14,SNR=229								
MKAR					Sn		**Sn**	**19 49 44.5**	**+0.1**
	comp=E,55nm,0.3s,baz=207,slow=27,SNR=14								
MKAR					Lg		Lg	19 50 04.6	
	comp=E,64nm,0.3s,baz=206,slow=30,SNR=8.1								
MKAR	**Makanchi Array**	**4.73**	**23**		*e*Pn		**Pn**	**19 48 50.8**	**+1.8**
MKAR					Sn		**Sn**	**19 49 44.5**	**+0.1**
MKAR					Lg		Lg	19

KURK	**Kurchatov**	**8.27**	**356**	*e*Pn		**Pn**	19 49 38.1	+0.6		
KURK				*e*Sn		**Sn**	19 51 10.3	-1.2		
KURK				*e*Lg		Lg	19 51 52.9			
KURK	**Kurchatov** comp=E,6.2nm,0.5s	**8.27**	**356**	⇓Pn		**Pn**	19 49 38.9	+1.4		
KURK	comp=E,26nm,0.6s			⇑Pg		Pb	19 50 06.8	+6.2		
KURK	comp=E,392nm,1.2s			⇑Lg		Lg	19 51 54.7			
KURK	**Kurchatov**	**8.27**	**356**	*c*e P		**Pn**	19 49 38.9	+1.4		
KURK	comp=Z,9.0nm,0.7s			pmax	pmax					
CHGR	**Chuyangaron**	**8.81**	**248**	*e*Pn		Pn	19 49 40.0	-5.1		
NIL	**Nilore**	**10.12**	**212**	*e*Pn		**Pn**	19 49 59.5	-3.5		
NIL	**Nilore**	**10.12**	**212**	*e*P		**Pn**	19 49 59.5	-3.5		
ZAA0	**Zalesovo Array**	**12.00**	**15**	*e*Pn		**Pn**	19 50 28.9	+0.4		
ZAA0	**Zalesovo Array** comp=Z,21nm,0.8s	**12.00**	**15**	⇓Pn		**Pn**	19 50 28.2	-0.3		
ZALV	**Zalesovo Beam** comp=Z,2.5nm,0.3s,baz=204,slow=14,SNR=23	**12.00**	**15**	Pn		**Pn**	19 50 28.7	+0.2		
ZALV				Sn		**Sn**	19 52 38.0	-4.8		
	comp=Z,4.8nm,0.3s,baz=202,slow=27,SNR=8.8									
ZALV	**Zalesovo Beam**	**12.00**	**15**	*e*Pn		**Pn**	19 50 27.4	-1.1		
ZALV				Sn		**Sn**	19 52 38.0	-4.8		
ZALV	**Zalesovo Beam**	**12.00**	**15**	*e*P		**Pn**	19 50 27.4	-1.1		
ZALV							19 52 38.0			
ZAA1	**Zalesovo Array**	**12.00**	**15**	*e*Pn		**Pn**	19 50 28.7	+0.2		
ZAA1				*e*Sn		**Sn**	19 52 38.0	-4.9		
BVA0	**Borovoye Array** comp=Z,6.9nm,0.8s,baz=146,slow=14,SNR=24	**12.23**	**333**	Pn		**Pn**	19 50 32.0	+0.2		
BVA0				⇑Lg		Lg	19 54 02.4			
	comp=Z,34nm,0.8s,baz=135,slow=29,SNR=3.8									
BVA0	**Borovoye Array**	**12.23**	**333**	*e*P		**Pn**	19 50 31.9	+0.2		
BVA0	comp=Z,7.0nm,0.8s			pmax	pmax					
BVAR	**Borovoye Array** comp=Z,0.8nm,0.3s,baz=145,slow=14,SNR=17	**12.23**	**333**	Pn		**Sn**	19 50 32.0	+0.3		
BVAR				Sn		**Sn**	19 52 43.2	-5.4		
	comp=Z,1.2nm,0.3s,baz=142,slow=25,SNR=5.1									
BVAR				Lg		Lg	19 53 50.3			
	comp=Z,1.0nm,0.3s,baz=292,slow=26,SNR=4.5									
BRVK	**Borovoye**	**12.29**	**333**	*e*Pn		**Pn**	19 50 32.7	+0.1		
BRVK	**Borovoye**	**12.29**	**333**	*i* P		**Pn**	19 50 35.3	+2.7		
BRVK	comp=Z,4.0nm,0.8s			pmax	pmax					
NVS	**Novosibirsk**	**12.61**	**10**	*e*P		**Pn**	19 50 39.7	+2.9		
NVS				*e*			19 52 52.1			
DANN	**Dangsing** comp=Z,17nm,0.5s	**14.49**	**165**	*e*P		**Pn**	19 51 02.0	-1.0		
PYUN	**Piuthan** comp=Z,14nm,0.3s	**14.60**	**168**	*e*P		**Pn**	19 51 02.7	-1.7		
KOLN	**Koldanda** comp=Z,8.0nm,0.5s	**15.03**	**166**	*e*P		**Pn**	19 51 09.0	-1.2		
AB31	**Akbulak array** comp=Z,4.4nm,0.7s,baz=107,slow=13,SNR=42	**15.26**	**303**	⇑Pn		**Pn**	19 51 11.8	-1.1		
AB31	comp=Z,6.9nm,0.7s			⇑Lg		Lg	19 55 41.9			
AB31	**Akbulak array**	**15.26**	**303**	P		**Pn**	19 51 11.8	-1.1		
AB31	comp=Z,4.0nm,0.7s			pmax	pmax					
ABKAR	**Akbulak array**	**15.26**	**303**	*e*Pn		**Pn**	19 51 12.0	-1.0		
KKN	**Kakani** comp=Z,9.6nm,0.6s	**15.36**	**161**	*e*P		**Pn**	19 51 14.7	0.0		
GUN	**Gumba** comp=Z,17nm,0.4s	**15.40**	**159**	*e*P		**Pn**	19 51 15.8	+0.5		
DMN	**Daman** comp=Z,22nm,0.8s	**15.49**	**161**	*e*P		**Pn**	19 51 15.5	-0.9		
GTA	**Gaotai**	**15.58**	**95**	*e*P		**Pn**	19 51 15.0	-2.4		
GTA				pP		P	19 51 21.0	-0.8		
GTA				sP		pP	19 51 24.0	+0.5		
GTA	comp=Z,2.0nm,1.1s			pmax	pmax					
PKIN	**Phulchoki** comp=Z,8.2nm,0.5s	**15.59**	**161**	*e*P		**Pn**	19 51 17.5	-0.3		
PKI	**Pulchoki** comp=Z,14nm,0.6s	**15.60**	**160**	*e*P		**Pn**	19 51 17.9	0.0		
JIRN	**Jiri** comp=Z,14nm,0.4s	**15.72**	**158**	*e*P		**Pn**	19 51 19.4	-0.1		
LSA	**Lhasa** comp=Z,3.4nm,0.8s	**15.78**	**140**	*e*Pn		**P**	19 51 24.3	-0.1		
LSA	**Lhasa**	**15.78**	**140**	*e*P		**P**	19 51 24.3	-0.1		
LSA	comp=Z,3.0nm,0.8s			pmax	pmax					
RAMN	**Ramite** comp=Z,21nm,0.7s	**16.51**	**157**	*e*P		**Pn**	19 51 28.0	-1.5		
AKTO	**Aktyubinsk** comp=Z,0.4nm,0.3s,baz=109,slow=14,SNR=9.7	**16.83**	**306**	Pn		**Pn**	19 51 32.9	-0.4		
AKTO	baz=186,slow=22,SNR=3.6			Lg		Lg	19 56 36.2			
AKTO	**Aktyubinsk** comp=Z,5.7nm,0.9s	**16.83**	**306**	⇑Pn		**Pn**	19 51 33.0	-0.3		
GEYT	**Alibeck** comp=Z,0.1nm,0.3s,baz=87,slow=9.5,SNR=2.7	**17.02**	**262**	P		**Pn**	19 51 35.8	+0.1		
GYA0B	**ALIBECK ARRAY** comp=Z,6.0nm,1.1s	**17.02**	**262**	*e*Pn		**Pn**	19 51 35.9	+0.2		
MOY	**Mondy**	**17.18**	**50**	*e*P		**P**	19 51 41.7	+2.2		
ARU	**Arti** comp=Z,12nm,0.9s	**19.43**	**323**	P		**P**	19 52 04.1	0.0		
ARU	**Arti**	**19.43**	**323**	*c i*P		**Pn**	19 52 05.4	+0.2		
ARU	comp=Z,17nm,1.8s			pmax	pmax					
SONA0	**Songino Array**	**19.59**	**65**	*e*P		**P**	19 52 06.9	+0.8		
SONM	**Songino Array** comp=Z,1.3nm,0.3s,baz=264,slow=11,SNR=42	**19.59**	**65**	P		**P**	19 52 06.9	+0.8		
SONA1	**Songino Array**	**19.60**	**65**	*e*P		**P**	19 52 06.9	+0.7		
SHL	**Shillong** comp=Z,8.0nm,0.8s	**19.66**	**145**	*e*P		**P**	19 52 06.8	-0.2		
SHL	**Shillong**	**19.66**	**145**	*e*P		**P**	19 52 06.8	-0.2		
SHL	comp=Z,8.0nm,0.8s			pmax	pmax					
LZH	**Lanzhou**	**19.79**	**101**	*e*P		**Pn**	19 52 14.3	+4.5		
LZH				pP		sP	19 52 17.8	+7.0		
LZH				sP		pP	19 52 21.3	+11		
LZH	comp=Z,29nm,1.1s			pmax	pmax					
LZH	comp=Z,98nm,4.3s			pmax	pmax					
LZH	comp=Z,750nm,13.0s			LR	LR					
ULN	**Ulaanbaatar** comp=Z,33nm,1.7s	**20.04**	**65**	*e*P		**P**	19 52 11.1	+0.1		
ULN	**Ulaanbaatar**	**20.04**	**65**	*i* P		Pn	19 52 12.3	-0.3		
ULN	comp=Z,15nm,1.7s			pmax	pmax					
CD2	**Chengdu**	**22.47**	**113**	*e*P		**P**	19 52 37.5	+0.3		
HHC	**Hu-ho-hao-te**	**23.87**	**83**	*e*P		**P**	19 52 51.8	+0.4		
HHC				S		**S**	19 57 02.0	-6.2		
HHC	comp=Z,17nm,1.0s			pmax	pmax					
HHC	comp=Z,640nm,10.8s			LR	LR					
KMI	**Kunming**	**25.74**	**125**	P		**P**	19 53 11.5	+2.7		
KMI	comp=Z,20nm,0.5s			pmax	pmax					
GNI	**Garni** comp=Z,2.3nm,0.6s,baz=158,slow=19,SNR=2.4	**26.18**	**277**	P		**P**	19 53 12.4	-0.2		
GNI	**Garni**	**26.18**	**277**	*i* P		**P**	19 53 12.6	0.0		
BOD	**Bodaibo**	**26.49**	**43**	*e*P		**P**	19 53 15.2	+0.2		
BOD	comp=Z,5.0nm,1.6s			pmax	pmax					
KBZ	**Khabaz** comp=Z,1.0nm,0.8s,baz=107,slow=7.7,SNR=2.4	**26.69**	**285**	P		**P**	19 53 17.9	+1.0		
KIV	**Kislovodsk**	**26.80**	**286**	*e*P		**P**	19 53 16.5	-1.6		
KIV	comp=Z,4.0nm,1.0s			pmax	pmax					
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.8s,baz=316,slow=8.7,SNR=7.6	**29.03**	**140**	P		**P**	19 53 37.0	-1.1		
CMAR	**Chiang Mai Arr**	**29.03**	**140**	P		**P**	19 53 37.0	-1.1		
CMAR	comp=Z,1.0nm,0.8s			pmax	pmax					
ANN	**Anapa**	**30.36**	**289**	*e*P		**P**	19 53 49.8	+0.2		
ANN	comp=Z,23nm,1.6s			pmax	pmax					
OBN	**Obninsk**	**30.53**	**309**	*e*P		**P**	19 53 50.2	-0.8		
OBN				*e*PPP		PPP	19 54 55.2			
OBN	comp=Z,3.0nm,1.0s			pmax	pmax					
NJ2	**Nanjing** comp=Z,6.0nm,0.5s	**32.67**	**95**	*e*P		**P**	19 54 12.8	+2.7		
NJ2				pmax	pmax					
BR101	**Keskin Array S**	**34.42**	**281**	*e*P		**P**	19 54 27.1	+1.6		
BR131	**Keskin Array S**	**34.42**	**281**	*e*P		**P**	19 54 27.8	+2.3		
BRTR	**Keskin Array B** comp=Z,5.9nm,0.7s,baz=100,slow=9.6,SNR=38	**34.42**	**281**	P		**P**	19 54 27.1	+1.6		
AKASG	**Malin Array Be** comp=Z,1.6nm,0.5s,baz=66,slow=9.5,SNR=6.3	**34.99**	**301**	P		**P**	19 54 30.5	+0.4		
AKBB	**Malin Array Si** comp=Z,25nm,1.9s	**34.99**	**301**	*e*P		**P**	19 54 30.5	+0.4		
AKBB	**Malin Array Si**	**34.99**	**301**	*e*P		**P**	19 54 30.5	+0.4		
AKBB	comp=Z,25nm,1.9s			pmax	pmax					
KIEV	**Kiev**	**35.00**	**301**	*i* P		**P**	19 54 30.1	0.0		
KIEV	comp=Z,2.0nm,0.4s			pmax	pmax					
KLR	**Kul'dur**	**36.33**	**61**	*i* P		**P**	19 54 41.9	+0.3		
CFR	**Carcaliu**	**36.71**	**292**	⇓*i*P		**P**	19 54 45.3	+0.4		
FIA0	**FINESS Array S**	**36.74**	**320**	*e*P		**P**	19 54 45.4	+0.4		
FIA0	**FINESS Array S**	**36.74**	**320**	*e*P		**P**	19 54 45.4	+0.4		
FIA0	**FINESS Array S**	**36.74**	**320**	PG		**P**	19 54 44.9	0.0		
FINES	**FINESS Array B** comp=Z,2.4nm,0.5s,baz=93,slow=7.4,SNR=21	**36.74**	**320**	P		**P**	19 54 45.4	+0.4		
KSAR	**Wonju Array Be**	**36.95**	**81**	P		**P**	19 54 47.0	0.0		
KSAR	**Wonju Array Be**	**36.95**	**81**	P		**P**	19 54 47.1	0.0		
KSRS	**Korea Array** comp=Z,1.3nm,0.8s,baz=282,slow=7.5,SNR=5.7	**36.98**	**81**	P		**P**	19 54 47.0	-0.2		
VRI	**Vrincioaia**	**37.50**	**294**	⇑*i*P		**P**	19 54 54.0	+2.3		
PLOR	**Plostina**	**37.56**	**294**	⇓*i*P		**P**	19 54 54.0	+1.8		
USRK	**Ussuriysk Ar.** comp=Z,1.4nm,0.8s,baz=297,slow=5.8,SNR=4.3	**37.61**	**69**	P		**P**	19 54 53.1	+0.6		
TIXI	**Tiksi**	**37.72**	**23**	*c*e P		**P**	19 54 53.7	+0.6		
TIXI	comp=Z,5.0nm,0.7s			pmax	pmax					
BURAR	**Bucovina Array**	**38.10**	**297**	⇑*i*P		**P**	19 54 57.9	+1.1		
MLR	**Muntele Rosu** comp=Z,2.2nm,0.5s,baz=0.3,slow=7.2,SNR=18	**38.13**	**293**	P		**P**	19 54 57.9	+0.8		
MLR	**Muntele Rosu** comp=Z,18nm,1.8s	**38.13**	**293**	*e*P		**P**	19 54 57.9	+0.8		
MLR	**Muntele Rosu**	**38.13**	**293**	⇓*i*P		**P**	19 54 59.4	+2.3		
KRAB	**Krabi** comp=Z,86nm,0.7s,comp=Z,8µm	**38.23**	**148**	P		P	19 55 05.6	+7.6		
DOPR	**Dopca**	**38.38**	**294**	⇓*i*P		**P**	19 55 01.0	+1.9		
ARA0	**ARCESS Array S**	**38.52**	**333**	*e*P		**P**	19 55 00.6	+0.6		
ARCES	**ARCESS Array B** comp=Z,3.2nm,0.9s,baz=97,slow=9.9,SNR=13	**38.52**	**333**	P		**P**	19 55 00.6	+0.6		
VOIR		**38.75**	**294**	⇑*i*P		**P**	19 55 03.7	+1.4		
ARR	**Arges**	**39.05**	**294**	⇓*i*P		**P**	19 55 06.6	+1.8		
TRPA	**Tarpa**	**39.74**	**298**	⇓*i*P		**P**	19 55 11.7	+1.4		
DRGR		**39.96**	**296**	⇓*i*P		**P**	19 55 13.3	+1.0		
VTS	**Vitosha**	**40.88**	**290**	⇓*i*P		**P**	19 55 22.2	+2.1		
BZS	**Buzias**	**41.02**	**295**	⇓*i*P		**P**	19 55 22.0	+1.0		
APE	**Apeiranthos**	**41.32**	**281**	⇑*i*P		**P**	19 55 25.0	+1.4		
IDI	**Anoyia** comp=Z,8.3nm,0.8s,baz=39,slow=13,SNR=5.0	**42.56**	**279**	P		**P**	19 55 34.6	+0.7		
PDG	**Podgorica**	**43.67**	**291**	⇑*i*P		**P**	19 55 44.2	+1.5		
NB2	**NORSAR Subarra** comp=Z,2.5nm,0.5s,baz=82,slow=8.6	**43.92**	**319**	P		**P**	19 55 44.6	+0.1		
NB200	**NORSAR Array S**	**43.92**	**319**	*e*P		**P**	19 55 44.6	+0.1		
NOA	**NORSAR Array B** comp=Z,3.2nm,0.6s,baz=84,slow=8.0,SNR=16	**43.92**	**319**	P		**P**	19 55 44.6	+0.1		
MAJO	**Matsushiro**	**44.83**	**77**	*e*P		**P**	19 55 51.4	-0.7		
MAJO	**Matsushiro**	**44.83**	**77**	*e*P		**P**	19 55 51.4	-0.7		
MJAR	**Matsushiro Arr** comp=Z,1.4nm,0.7s,baz=308,slow=7.7,SNR=3.5	**44.83**	**77**	P		**P**	19 55 51.4	-0.7		
CLL	**Collm**	**44.91**	**305**	*e*P		**P**	19 55 53.0	+0.5		
CLL	**Collm**	**44.91**	**305**	*e*P		**P**	19 55 53.0	+0.5		
GERES	**GERESS Array B** comp=Z,0.6nm,0.6s,baz=73,slow=9.9,SNR=4.9	**45.20**	**302**	P		**P**	19 55 56.0	+1.1		
DAVOX	**Davos/Dischmat** comp=Z,3.2nm,0.8s,baz=53,slow=10,SNR=3.5	**48.32**	**300**	P		**P**	19 56 18.9	-0.6		
BILL	**Bilibino** comp=Z,7.9nm,1.2s	**50.25**	**29**	*e*P		**P**	19 56 34.8	+1.1		
BILL	**Bilibino**	**50.25**	**29**	*e*P		**P**	19 56 34.6	+0.9		
BILL				*e*			19 57 49.0			
BILL				*e*			19 58 25.8			
BILL	comp=Z,7.0nm,1.7s			pmax	pmax					
KMBO	**Kilima Mbogo** comp=Z,92nm,19.1s,baz=70,slow=39	**57.75**	**233**	LR		LR	20 25 08.1			
ES19	**SONSECA Array**	**60.48**	**298**	*e*P		**P**	19 57 46.9	-1.0		
ESDC	**Sonseca Array** comp=Z,0.6nm,0.4s,baz=60,slow=6.7,SNR=6.9	**60.54**	**298**	P		**P**	19 57 48.3	0.0		
COLD	**Coldfoot** comp=Z,3.4nm,0.8s	**64.29**	**19**	*e*P		**P**	19 58 13.6	+0.7		
IM3	**Indian Mountai**	**64.34**	**21**	*e*P		**P**	19 58 13.6	+0.3		
MLY	**Manley** comp=Z,10nm,1.2s	**65.88**	**21**	*e*P		**P**	19 58 23.5	+0.2		
INK	**Inuvik** comp=Z,3.3nm,0.6s,baz=334,slow=6.8,SNR=16	**66.79**	**13**	P		**P**	19 58 29.5	+0.5		
INK	**Inuvik** comp=Z,5.8nm,0.9s	**66.79**	**13**	*e*P		**P**	19 58 29.8	+0.8		
IL1	**Eielson Array**	**67.08**	**20**	*e*P		**P**	19 58 30.8	-0.2		
ILAR	**Eielson Array** comp=Z,3.8nm,0.9s,baz=316,slow=5.1,SNR=40	**67.08**	**20**	P		**P**	19 58 31.1	+0.1		
ILB	**Eielson Array**	**67.08**	**20**	*e*P		**P**	19 58 31.1	+0.1		
RIDG	**Independ'e Rid** comp=Z,39nm,1.8s	**68.44**	**20**	*e*P		**P**	19 58 38.8	-0.8		
KDAK	**Kodiak Island**	**71.03**	**27**	*i* P		**P**	19 58 56.3	+0.7		
TOA1	**Torodi Ar. Sit**	**72.36**	**272**	*e*P		**P**	19 59 03.5	-0.8		
TOA0	**Torodi Ar. Sit** comp=Z,3.4nm,0.6s	**72.36**	**272**	*e*P		**P**	19 59 03.9	-0.4		
TORD	**Torodi Ar. Bea** comp=Z,2.6nm,0.4s,baz=40,slow=5.5,SNR=37	**72.36**	**272**	P		**P**	19 59 03.5	-0.8		
YKW3	**Yellowknife Ar** comp=Z,5.5nm,0.8s	**74.69**	**7**	*e*P		**P**	19 59 17.5	+0.3		
YKA	**Yellowknife Ar** comp=Z,5.4nm,0.6s,baz=344,slow=5.7,SNR=86	**74.76**	**7**	P		**P**	19 59 18.0	+0.4		
YKA	**Yellowknife Ar**	**74.76**	**7**	P		**P**	19 59 18.0	+0.4		
YKA	comp=Z,5.0nm,0.6s			pmax	pmax					
YKB5	**Yellowknife Ar**	**74.76**	**7**	*e*P		**P**	19 59 17.5	-0.1		
FCC	**Fort Churchill** comp=Z,20nm,1.9s	**78.99**	**357**	*e*P		**P**	19 59 41.6	+0.1		
FCC	**Fort Churchill**	**78.99**	**357**	*e*P		**P**	19 59 41.6	+0.1		
FCC	comp=Z,20nm,1.9s			pmax	pmax					
WR1	**Warramunga Arr** comp=Z,7.3nm,1.9s	**80.00**	**129**	*e*P		**P**	19 59 47.8	+0.3		
WRA	**Warramunga Arr** comp=Z,1.1nm,1.0s,baz=329,slow=5.4,SNR=11	**80.00**	**129**	P		**P**	19 59 47.8	+0.3		
DBIC	**Dimbokro** comp=Z,2.3nm,0.6s,baz=35,slow=5.8,SNR=4.5	**81.45**	**271**	P		**P**	19 59 55.5	0.0		
ASAR	**Alice Springs** comp=Z,0.6nm,0.7s,baz=324,slow=5.5,SNR=8.0	**82.69**	**131**	P		**P**	20 00 02.3	+0.5		
FFC	**Flin Flon** comp=Z,4.5nm,0.8s	**83.17**	**1**	*e*P		**P**	20 00 04.3	+0.4		
FFC	**Flin Flon**	**83.17**	**1**	*i* P		**P**	20 00 04.6	+0.7		
PD31	**Pinedale Array**	**94.75**	**7**	*e*P		**P**	20 00 59.7	-0.1		
PDAR	**Pinedale Array** comp=Z,0.6nm,0.5s,baz=57,slow=4.0,SNR=7.5	**94.75**	**7**	P		**P**	20 00 59.7	-0.1		
NVAR	**Mina Array Bea** comp=Z,0.3nm,0.5s,baz=339,slow=2.3,SNR=2.6	**97.85**	**14**	P		**P**	20 01 13.8	-0.2		

*ISCJB **28** 19:48:29.2±0.7, 7.00N±0.04×123.80E±0.03, h10km, mb3.6/3, MS3.7/1, Error ellipse: s-maj=6.3km s-min=4.1km az=11.1*
*MAN **28** 19:48:29.8, 7.00N×123.81E, h25km, mb4.3, ML3.1, MS2.8*
*IDC **28** 19:49:11.3±9.4, 1.21N×123.79E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/42, mbtmp3.7/3, MS3.7/1, Ms1 3.6/1, ms1mx2.9/36, Error ellipse: s-maj=210.8km s-min=147.0km az=62.0*

ISC 28 19:48:28.3±0.8, 6.97N±0.05×123.79E±0.04, h10km, n12, σ1§29/19, mb3.5/3, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.52**	**61**	⇓*i*P	**Pb**	19 48 40.2	+0.7
CTBH				*i* S	**Sg**	19 48 46.7	+1.3
SKMP	**Bagumbayan, Su**	**0.87**	**121**	*e*P	**Pg**	19 48 46.4	+1.2
SKMP				*e*S	**Sg**	19 48 58.0	+1.5
PAGZ	**Pagadian**	**0.96**	**335**	*e*P	**Pg**	19 48 46.9	0.0
PAGZ				*e*S	**Sg**	19 48 59.7	+0.3
IPIL	**Ipil**	**1.46**	**304**	*e*P	**Pn**	19 48 55.4	+0.7
IPIL				*e*S	**Sn**	19 49 13.8	0.0
BUKP	**Musuan**	**1.55**	**54**	*e*P	**Pn**	19 48 56.0	-0.1
BUKP				*e*S	**Sn**	19 49 15.4	-1.0
DCPH	**Dipolog City**	**1.66**	**345**	⇑*e*P	**Pb**	19 48 59.7	+0.6
DCPH				*e*S	**Sn**	19 49 19.1	+0.1
ZCP	**Zamboanga City**	**1.70**	**269**	⇓*i*P	**Pn**	19 48 59.3	+1.2
ZCP				*i* S	**Sn**	19 49 21.6	+1.7
DMPH	**Davao City--Mi**	**1.71**	**86**	⇑*e*P	Pn	19 48 52.3	-6.0
DMPH				*e*S	Sn	19 49 05.0	-15
CGP	**Cagayan de Oro**	**1.73**	**31**	⇑*e*P	**Pn**	19 48 59.7	+1.2
CGP				*e*S	**Sn**	19 49 21.2	+0.6
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=329,slow=11,SNR=5.4	**28.69**	**159**	P	**P**	19 54 23.6	-2.1
ASAR	**Alice Springs** 0.4nm,0.6s,baz=346,slow=6.9,SNR=6.1	**32.01**	**162**	P	**P**	19 54 52.5	-2.6
STKA	**Stephens Creek** 4.0nm,0.9s,baz=353,slow=8.1,SNR=5.0	**42.20**	**157**	P	**P**	19 56 20.6	-1.0
STKA	comp=Z,95nm,18.5s,baz=242,slow=37			LR	LR	20 11 53.8	

HEL 28 19:54:02.9±0.1, 63.66N×26.05E, h0km, ML1.0, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUF	**Merijarvi** baz=140	**0.92**	**321**	PG	Pg	19 54 19.2	-1.2
OUF				MSG		19 54 31.2	
	comp=Z,1.1nm,0.2s						
OUF				SB	Sg	19 54 32.0	-0.3
SUF	**Sumiainen**	**0.95**	**177**	PG	Pg	19 54 20.0	-1.0
SUF				MSG		19 54 31.9	
	comp=Z,0.8nm,0.2s						
SUF				SB	Sg	19 54 32.9	-0.3
OUL	**Oulu**	**1.43**	**357**	PG	Pn	19 54 28.8	-1.3
OUL				SG	Sg	19 54 47.1	-1.7
KAF	**Kangasniemi**	**1.56**	**176**	PG	Pn	19 54 30.8	-1.0
KAF				MSG		19 54 49.6	
	comp=Z,0.8nm,0.2s						
KAF				SN	Sn	19 54 51.7	-1.0
KEF	**Keuruu**	**1.59**	**200**	PG	Pn	19 54 31.4	-0.9
KEF				SG	Sn	19 54 52.1	-1.5
VAF	**Ylistaro**	**1.64**	**249**	PG	Pn	19 54 32.7	-0.3
VAF				MSG		19 54 52.1	
	comp=Z,1.2nm,0.2s						
VAF				SN	Sn	19 54 54.3	-0.5
FIA0	**FINESS Array S**	**2.23**	**180**	SG	Sb	19 55 11.6	-0.4
BURU	**Burvik**	**2.25**	**296**	PG	Pb	19 54 43.1	-1.2
BURU				SG	Sb	19 55 13.3	+0.7
UMAU	**Umeaa**	**2.40**	**278**	SG	Sb	19 55 16.0	-0.8
MSF	**Maaselka**	**2.60**	**28**	SG	Sb	19 55 21.9	-0.8
LANU	**Lannavaara**	**4.71**	**341**	SG	Sb	19 56 26.5	+3.1

SJA 28 19:54:28.3±0.5, 23.52S×65.68W, h128km±5km, ML1.7, MW2.7, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HJA	**Humahuaca**	**0.40**	**39**	*e*P	Pn	19 54 48.2	+1.0
HJA				*e*S	Sn	19 55 03.0	+1.6
HJA				IAML		19 55 06.0	
	comp=Z,2.9nm,0.5s						
SLA	**San Lorenzo**	**1.21**	**172**	*e*P	Pn	19 54 54.1	+0.8
SLA				IAML		19 55 12.0	
	comp=Z,31nm,0.5s						
SLA				*e*S	Sn	19 55 13.4	+1.1
YJA	**Yavi**	**1.35**	**7**	*e*P	Pn	19 54 56.8	+1.7
YJA				IAML		19 55 16.7	
	comp=Z,9.1nm,0.4s						
YJA				*e*S	Sn	19 55 17.2	+1.8

*SJA **28** 19:54:35.8±0.4, 23.80S×66.32W, h176km±90km, ML3.5, MW2.7*
*ISCJB **28** 19:54:37.3±0.5, 23.74S×67.02W, h238km±15km, ML3.7*

ISC 28 19:54:36.0±1.9, 23.82S±0.07×66.7W±0.1, h195km, n17, σ1§69/30, 5C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.37**	**300**	*e*P	**Pn**	19 55 20.0	+1.4
LVC				*e*S	**Sn**	19 55 54.5	+2.8
PB06	**IPOC Station P**	**2.88**	**292**	⇑*i*P	**Pn**	19 55 25.3	+1.2
PB06				*i* S	**Sn**	19 56 01.2	-0.4
PB06				IAML		19 56 03.2	
	comp=E,120nm,0.1s						
GO02	**Mina Guanaco**	**2.96**	**243**	⇓*i*P	**Pn**	19 55 27.0	+1.8
GO02				*i* S	**Sn**	19 56 05.1	+1.5
GO02				IAML		19 56 06.1	
	comp=N,310nm,0.2s						
PB09	**IPOC Station P**	**3.10**	**310**	⇑*i*P	**Pn**	19 55 28.1	+1.3
PB09				*i* S	**Sn**	19 56 06.3	-0.1
PB09				IAML		19 56 12.6	
	comp=E,33nm,0.2s						
PB03	**IPOC Station P**	**3.33**	**301**	⇑*i*P	**Pn**	19 55 30.2	+0.6
PB03				*i* S	**Sn**	19 56 09.6	-1.8
PB05	**IPOC Station P**	**3.37**	**286**	*e*P	**Pn**	19 55 30.7	+0.7
PB05				*i* S	**Sn**	19 56 10.3	-1.8
PB04	**IPOC Station P**	**3.52**	**294**	*e*P	**Pn**	19 55 32.7	+0.9
PB04	**IPOC Station P**	**3.52**	**294**	*e*P	**Pn**	19 55 32.5	+0.

SHLS	**Shalkode**	**0.53**	**347**	*e*P	**Pg**	**20 01 01.6 +0.2**
	517nm,0.1s					
SHLS				*e*S	**Sb**	**20 01 10.6 -0.9**
	2µm,0.4s					
UZB	**Uzynbulak**	**0.67**	**319**	*e*P	**Pg**	**20 01 03.6 -0.5**
	baz=21					
UZB				*e*S	**Sg**	**20 01 14.0 +1.2**
	baz=21					
UZB	**Uzynbulak**	**0.67**	**319**	*e*P	**Pg**	**20 01 03.6 -0.5**
	325nm,0.2s					
UZB				*e*S	**Sg**	**20 01 13.9 +1.2**
	734nm,0.4s					
PDGK	**Podgornoye**	**0.69**	**352**	⇑P	**Pg**	**20 01 03.8 -0.6**
	22nm,0.4s					
PDGK				⇓S	**Sg**	**20 01 14.2 +0.7**
	628nm,0.8s					
PDGK	**Podgornoye**	**0.69**	**352**	⇑*i*P	**Pg**	**20 01 03.9 -0.6**
	baz=50					
PDGK				⇑*i*S	**Sb**	**20 01 14.5 -1.8**
	baz=50					
PRZ	**Przheval'sk**	**0.92**	**260**	⇓*i*P	**Pg**	**20 01 07.1 -1.7**
	baz=65					
PRZ				⇓*i*S	**Sg**	**20 01 20.6 -0.1**
	baz=65					
SATY	**Saty**	**0.99**	**295**	*e*P	**Pg**	**20 01 08.4 -1.7**
	90nm,0.3s					
SATY				*e*S	**Sg**	**20 01 22.5 -0.4**
	329nm,0.2s					
KURS	**Kuram**	**1.36**	**309**	*e*P	**Pn**	**20 01 15.7 -1.7**
	baz=10.0					
KURS				*e*S	**Sb**	**20 01 35.2 -0.2**
	baz=10.0					
KURS	**Kuram**	**1.36**	**309**	*e*P	**Pn**	**20 01 15.7 -1.7**
	62nm,0.5s					
KURS				*e*S	**Sb**	**20 01 35.2 -0.2**
	176nm,0.3s					
KDJ	**Kajisay**	**1.88**	**255**	⇓*i*P	**Pn**	**20 01 24.3 -0.4**
	baz=57					
KDJ				⇓*i*S	**Sn**	**20 01 49.7 +0.5**
	baz=57					
MDOK	**Medeo**	**1.96**	**286**	*e*P	**Pn**	**20 01 25.4 -0.4**
	baz=88					
MDOK				*e*S	**Sn**	**20 01 51.9 +0.7**
	baz=88					
MDOK	**Medeo**	**1.96**	**286**	*e*P	**Pn**	**20 01 25.4 -0.4**
	120nm,0.4s					
MDOK				*e*S	**Sn**	**20 01 51.8 +0.7**
	213nm,0.4s					
TNSS	**Tian-Shan**	**2.01**	**282**	*e*P	**Pn**	**20 01 26.1 -0.6**
	baz=84					
TNSS				*e*S	**Sn**	**20 01 53.7 +1.1**
	baz=84					
TNSS	**Tian-Shan**	**2.01**	**282**	*e*P	**Pn**	**20 01 26.1 -0.6**
	112nm,0.2s					
TNSS				*e*S	**Sn**	**20 01 53.7 +1.1**
	196nm,0.3s					
KNDC	**Almaty**	**2.03**	**287**	⇓Pn	**Pn**	**20 01 27.4 +0.7**
	82nm,0.3s					
KNDC				⇓Lg	Lg	20 01 56.4
	431nm,0.8s					
ULHL	**Ulahol**	**2.53**	**262**	P	**Pb**	**20 01 36.0 -1.6**
	SNR=10					
ULHL	**Ulahol**	**2.53**	**262**	⇓*i*P	**Pn**	**20 01 32.7 -1.0**
	baz=64					
ULHL				⇓*i*S	**Sn**	**20 02 06.0 +0.7**
	baz=64					
BOOM	**Boomskoye usch**	**2.73**	**268**	⇑*i*P	**Pn**	**20 01 36.5 +0.2**
	baz=70					
BOOM				⇑*i*S	**Sn**	**20 02 10.8 +0.8**
	baz=70					
NRN	**Naryn**	**2.96**	**247**	⇓*i*P	**Pn**	**20 01 38.9 -0.7**
	baz=49					
NRN				⇓*i*S	**Sn**	**20 02 15.8 -0.1**
	baz=49					
TKM2	**Tokmak 2**	**2.98**	**277**	P	**Pn**	**20 01 40.4 +0.6**
	SNR=28					
TKM2	**Tokmak 2**	**2.98**	**277**	⇑Pn	**Pn**	**20 01 40.3 +0.5**
	8.3nm,0.3s					
TKM2				⇓Lg	Lg	20 02 24.5
	63nm,0.5s					
TKM2	**Tokmak 2**	**2.98**	**277**	⇓*i*P	**Pn**	**20 01 39.6 -0.2**
	baz=78					
TKM2				⇓*i*S	**Sn**	**20 02 16.7 +0.4**
	baz=78					
KZA	**Kyzart**	**3.29**	**262**	P	**Pn**	**20 01 44.7 +0.4**
	SNR=11					
KZA	**Kyzart**	**3.29**	**262**	⇑*i*P	**Pn**	**20 01 43.9 -0.4**
	baz=63					
KZA				⇑*i*S	**Sn**	**20 02 24.5 +0.2**
	baz=63					
KBK	**Karagaybulak**	**3.45**	**272**	P	**Pn**	**20 01 46.1 -0.1**
	SNR=16					
KBK	**Karagaybulak**	**3.45**	**272**	⇓*i*P	**Pn**	**20 01 46.1 -0.1**
	baz=73					
KBK				⇓*i*S	**Sn**	**20 02 28.0 +0.1**
	baz=73					
CHMS	**Chumysh**	**3.60**	**277**	P	**Pn**	**20 01 49.7 +1.5**
	SNR=10					
CHMS	**Chumysh**	**3.60**	**277**	⇑*e*P	**Pn**	**20 01 48.3 +0.1**
	baz=78					
CHMS				⇑*i*S	**Sn**	**20 02 32.0 +0.6**
	baz=78					
FRU1	**Bishkek**	**3.68**	**274**	⇑*i*P	**Pn**	**20 01 49.6 +0.2**
	baz=75					
FRU1				⇑*i*S	**Sn**	**20 02 33.4 -0.1**
	baz=75					
AAK	**Ala-Archa**	**3.78**	**272**	⇑Pn	**Pn**	**20 01 51.0 +0.1**
	1.1nm,0.3s					
AAK				⇑Pg	**Pb**	**20 01 59.1 +0.1**
	17nm,0.8s					
AAK				⇑Lg	Lg	20 02 51.1
	37nm,0.5s					
AAK	**Ala-Archa**	**3.78**	**272**	⇑*i*P	**Pn**	**20 01 51.1 +0.3**
	baz=73					
AAK				⇑*i*S	**Sn**	**20 02 36.2 +0.1**
	baz=73					
UCH	**Uchtor**	**3.81**	**265**	P	**Pn**	**20 01 53.1 +1.7**
	SNR=6.8					
UCH	**Uchtor**	**3.81**	**265**	⇓*i*P	**Pn**	**20 01 51.4 0.0**
	baz=67					
UCH				⇓*i*S	**Sn**	**20 02 36.6 -0.4**
	baz=67					
USP	**Ospenovka**	**3.81**	**281**	P	**Pb**	**20 01 56.8 -2.5**
	SNR=6.1					
USP	**Ospenovka**	**3.81**	**281**	⇑*i*P	**Pn**	**20 01 51.5 +0.4**
	baz=82					
USP				⇑*i*S	**Sn**	**20 02 36.8 +0.2**
	baz=82					
ARLS	**Aral**	**4.01**	**261**	⇓*e*P	**Pn**	**20 01 53.8 -0.2**
	baz=62					
ARLS				⇓*i*S	**Sn**	**20 02 41.1 -0.6**
	baz=62					
EKS2	**Erkin-Say**	**4.31**	**272**	P	**Pb**	**20 02 08.8 +0.9**
	SNR=16					
EKS2	**Erkin-Say**	**4.31**	**272**	⇑*i*P	**Pn**	**20 01 58.0 -0.1**
	baz=73					
EKS2				⇑*i*S	**Sn**	**20 02 48.7 -0.4**
	baz=73					
AML	**Almayashu**	**4.42**	**265**	P	**Pb**	**20 02 12.2 +2.3**
	SNR=11					
AML	**Almayashu**	**4.42**	**265**	⇑*e*P	**Pn**	**20 02 00.2 +0.4**
	baz=66					
AML				⇑*i*S	**Sn**	**20 02 51.6 -0.5**
	baz=66					
MAKZ	**Makanchi**	**4.49**	**21**	⇑Pn	**Pn**	**20 02 00.0 -0.4**
	4.9nm,0.2s					
MAKZ				⇑Lg	Lg	20 03 11.9
	4.8nm,0.5s					
MK31	**Makanchi Array**	**4.56**	**24**	⇑Pn	**Pn**	**20 02 00.8 -0.6**
	1.0nm,0.1s,baz=25,slow=4.7,SNR=247					
MK31				⇑Lg	Lg	20 03 14.6
	4.5nm,0.4s,baz=210,slow=31,SNR=5.7					
MNAS	**Manas**	**5.26**	**271**	⇑Pg	**Pb**	**20 02 27.2 +3.2**
	3.1nm,0.4s					
MNAS				⇓Lg	Lg	20 03 38.9
	11nm,0.6s					
SFK	**Sufi-Kurgan**	**5.30**	**242**	⇑Pg	**Pb**	**20 02 26.9 +2.0**
	2.7nm,0.5s					
SFK				⇓Lg	Lg	20 03 37.8
	25nm,1.2s					
KK31	**Karatay Array**	**6.71**	**277**	⇑Pg	**Pb**	**20 02 52.0 +3.3**
	1.2nm,0.4s,baz=83,slow=15,SNR=12					
KK31				Lg	Lg	20 04 24.3
	3.3nm,0.5s,baz=93,slow=29,SNR=5.2					
OTUK	**Ortayu**	**7.59**	**320**	⇑Sn	**Sn**	**20 04 08.9 -0.7**
	3.0nm,0.6s					
OTUK				⇑Lg	Lg	20 04 53.2
	12nm,1.0s					
KURK	**Kurchatov**	**8.10**	**355**	⇑Lg	Lg	20 05 08.2
	18nm,0.9s					

*ISCJB **28** 20:01:09.0±0.4, 40.07°N±0.02×25.78°E±0.03, h6km±3km, Error ellipse: s-maj=4.0km s-min=3.2km az=166.6*
*DDA **28** 20:01:08.5, 40.07°N×25.77°E, h7km±6km, ML3.0*
*ATH **28** 20:01:09.0, 40.07°N×25.77°E, h32km±2km, ML1.6/4, Error ellipse: s-maj=3.0km s-min=1.0km az=270.0*
*ISK **28** 20:01:09.1, 40.07°N×25.84°E, h8km, ML2.0/14*
ISC 28 20:01:09.1±1.0, **40.07N**±0.02×**25.77E**±0.03, **h9**km±8km, **n34**, σ0**$48**/47, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.15**	**38**		PG		**Pg**	**20 01 12.6**	**+0.2**
GADA					SG		**Sg**	**20 01 14.8**	**+0.1**
BOZC	**Bozcaada**	**0.31**	**137**		PG		**Pg**	**20 01 15.5**	**+0.2**
BOZC	**Bozcaada**	**0.31**	**137**		IAML_P				
	comp=Z,8µm,0.1s								
SMTH	**Samothraki Isl**	**0.44**	**335**		P		**Pb**	**20 01 18.8**	**-0.3**
LIA	**Limnos Island**	**0.48**	**250**		P		**Pb**	**20 01 19.9**	**+0.1**
LIA					S		**Sb**	**20 01 27.0**	**0.0**
LIA					AML		AML	20 01 31.3	
	comp=N,75µm,0.3s								
LIA					AML		AML	20 01 33.0	
	comp=E,84µm,0.2s								
EZN	**Ezine**	**0.49**	**120**		PG		**Pg**	**20 01 18.4**	**-0.2**
EZN					SG		**Sg**	**20 01 24.7**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.63**	**58**		PG		**Pg**	**20 01 20.9**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**0.68**	**119**		IAML_P				
	comp=Z,1µm,0.1s								
BAYC				*i*	P		**Pb**	**20 01 22.7**	**-0.4**
BAYC				*i*	S		**Sg**	**20 01 31.6**	**+0.5**
ENEZ	**Enez**	**0.73**	**23**		PG		**Pb**	**20 01 23.6**	**-0.3**
LPK	**Lapseki**	**0.81**	**68**		PG		**Pg**	**20 01 24.2**	**-0.6**
ERIK	**Erikli-Kesan**	**0.82**	**43**		PG		**Pg**	**20 01 24.7**	**-0.3**
ALN	**Alexandroupoli**	**0.85**	**14**		PG		**Pg**	**20 01 25.7**	**+0.2**
ALN	**Alexandroupoli**	**0.85**	**14**		P		**Pg**	**20 01 25.7**	**+0.2**
ALN					S		**Sb**	**20 01 37.3**	**-0.3**
ALN					AML		AML	20 01 39.1	
	comp=E,46µm,0.2s								
ALN					AML		AML	20 01 39.4	
	comp=N,63µm,0.5s								
SIGR	**SIGRI**	**0.86**	**176**		PG		**Pg**	**20 01 25.7**	**+0.1**
SIGR	**SIGRI**	**0.86**	**176**		P		**Pg**	**20 01 25.5**	**-0.2**
SIGR					S		**Sb**	**20 01 37.6**	**-0.2**
SIGR					AML		AML	20 01 39.0	
	comp=E,140µm,0.5s								
SIGR					AML		AML	20 01 39.5	
	comp=N,170µm,0.4s								
PRK	**Paraskevi**	**0.91**	**155**		P		**Pb**	**20 01 27.1**	**+0.1**
PRK					S		**Sb**	**20 01 39.4**	**+0.3**
PRK					AML		AML	20 01 43.1	
	comp=N,77µm,0.3s								
PRK					AML		AML	20 01 43.4	
	comp=E,78µm,0.2s								
THAS	**Thassos island**	**0.97**	**304**		P		**Pg**	**20 01 27.3**	**-0.4**
KESN	**Edirne-Kesan**	**1.02**	**42**		IAML_P				
	comp=Z,227nm,0.1s								
KESN				*i*	P		**Pg**	**20 01 28.2**	**-0.6**
KESN				*i*	S		**Sb**	**20 01 43.9**	**+0.9**
AYVA	**Ayvalik**	**1.04**	**137**		IAML_P				
	comp=Z,224nm,0.1s								
AYVA				*i*	P		**Pn**	**20 01 30.1**	**+0.3**
AYVA				*i*	S		**Sn**	**20 01 44.9**	**+0.5**
RDO	**Rodhopi**	**1.09**	**351**		PN		**Pb**	**20 01 30.2**	**+0.1**
RDO	**Rodhopi**	**1.09**	**351**		P		**Pb**	**20 01 30.1**	**0.0**
RDO					S		**Sg**	**20 01 44.1**	**-0.2**
KRBG	**Karabiga-Canak**	**1.21**	**74**		PN		**Pb**	**20 01 31.4**	**-0.8**
SART	**Tekirdag**	**1.24**	**60**	*i*	P		**Pn**	**20 01 31.6**	**-1.1**
SART				*i*	S		**Sn**	**20 01 51.0**	**+1.4**
KAVA	**Kavala**	**1.33**	**314**		P		**Pn**	**20 01 34.0**	**+0.1**
KNL	**Balıkesir**	**1.36**	**81**		IAML_P				
	comp=Z,579nm,0.1s								
KNL				*i*	P		**Pn**	**20 01 34.5**	**+0.3**
KNL				*i*	S		**Sg**	**20 01 53.5**	**+0.8**
OUR	**Ouranopolis**	**1.40**	**281**		P		**Pn**	**20 01 34.4**	**-0.4**
GONE	**Gonen-Balikesi**	**1.47**	**90**		PN		**Pn**	**20 01 35.6**	**-0.1**
EDC	**Edincik**	**1.62**	**80**		PN		**Pn**	**20 01 37.7**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.65**	**114**	*i*	P		**Pb**	**20 01 39.2**	**-0.5**
STEP				*i*	S		**Sn**	**20 02 00.2**	**+0.6**
BALB	**Balikesir**	**1.68**	**104**		PN		**Pn**	**20 01 38.4**	**-0.2**
CHOS	**Chios island**	**1.69**	**173**		PN		**Pn**	**20 01 39.2**	**+0.3**
CHOS	**Chios island**	**1.69**	**173**		P		**Pn**	**20 01 38.7**	**-0.2**
CHOS					S		**Sn**	**20 01 59.7**	**-1.1**
EDRB	**Edirne**	**1.92**	**22**		PN		**Pn**	**20 01 42.4**	**+0.4**
KCTX	**Karacabey (Bur**	**1.99**	**84**		PN		**Pn**	**20 01 42.8**	**-0.1**

*IDC **28** 20:20:48.2±1.0, 9.19°N×82.65°W, h0km, mb4.1/9, mb1 4.4/14, mb1mx4.1/35, mbtmp4.2/14, ML3.9/4, MS3.0/3, Ms1 3.1/3, ms1mx2.8/35, Error ellipse: s-maj=28.7km s-min=14.9km az=31.0*
*ISCJB **28** 20:20:49.3±0.3, 8.80°N±0.04×82.85°W±0.02, h33km, mb4.6/56, Error ellipse: s-maj=5.7km s-min=3.1km az=16.8*
*UCR **28** 20:20:49.4±2.1, 8.94°N×82.82°W, h6km±6km, mb4.8(NEIC)*
*NEIC **28** 20:20:53.4±0.8, 8.95°N×82.95°W, h39km±8km, mb4.8/49, Error ellipse: s-maj=12.6km s-min=7.3km az=223.0*
NEIC Felt at Boquete, Potrerillos Arriba and Rio Sereno, Panama. Also felt at Corredor, Costa Rica.
ISC 28 20:20:50.3±0.7, **8.86N**±0.05×**82.82W**±0.03, **h24**km±4km, **n312**, σ1**$36**/323, **mb4.8**/56, **Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.14**	**115**	*e*P			**Pb**	**20 20 54.4**	**-1.0**
BRU2				*e*S			**Sb**	**20 20 58.2**	**-0.6**
EDSV	**San Vito**	**0.15**	**256**	*e*P			**Pb**	**20 20 54.0**	**-1.4**
EDSV				*e*S			**Sb**	**20 20 58.4**	**-0.5**
EDBA	**Buenos Aires**	**0.54**	**304**	*e*P			**Pb**	**20 21 00.0**	**-1.2**
EDBA				*e*S			**Sb**	**20 21 07.4**	**-1.2**
DVD	**David**	**0.56**	**139**	*e*P			**Pn**	**20 21 01.8**	**-0.9**
DVD				*e*S			**Sn**	**20 21 11.3**	**+0.1**
PTJ1	**Puerto Jimnez**	**0.57**	**236**	*e*P			**Pb**	**20 21 00.8**	**-0.9**
PTJ1				*e*S			**Sn**	**20 21 10.5**	**-1.0**
EDPN	**Palmar Norte**	**0.64**	**280**	*e*P			**Pb**	**20 21 01.2**	**-1.6**
EDLM	**Las Mercedes**	**0.87**	**299**	*e*P			**Pb**	**20 21 04.9**	**-1.8**
EDDO	**Dominical**	**1.10**	**291**	*e*P			**Pn**	**20 21 08.9**	**-1.3**
LCR2	**La Lucha 2**	**1.46**	**307**	*e*P			**Pn**	**20 21 14.2**	**-1.2**
LCR2				*e*S			**Sn**	**20 21 34.1**	**+0.3**
SJS	**Escuela Geolog**	**1.62**	**312**	*e*P			**Pn**	**20 21 18.0**	**+0.5**
HDC	**Heredia**	**1.71**	**312**	*e*Pn			**Pn**	**20 21 17.5**	**-1.2**
HDC	**Heredia**	**1.71**	**312**	*e*P			**Pn**	**20 21 18.3**	**-0.4**
HDC				*e*S			**Sb**	**20 21 41.5**	**-0.7**
SRA1	**San Ramn**	**2.04**	**307**	*e*P			**Pn**	**20 21 23.7**	**+0.4**
ARE1	**Arenal 1**	**2.46**	**311**	*e*P			**Pn**	**20 21 29.2**	**+0.3**
CEDE	**Laguna Cedeo**	**2.46**	**311**	*e*P			**Pn**	**20 21 30.6**	**+1.6**
PNME	**Penonome**	**2.49**	**98**	*e*P			**Pn**	**20 21 26.4**	**-3.0**
PNME				*e*S			**Sb**	**20 22 03.6**	**-1.1**
JTS	**JuntasAbangare**	**2.54**	**304**	Pn			**Pn**	**20 21 30.8**	**+0.8**
	48nm,0.3s,baz=91,slow=23,SNR=75								
JTS					LR		LR	20 21 50.3	
	comp=Z,117nm,21.2s,baz=124,slow=25								
JTS					Sn		**Sn**	**20 22 02.8**	**+2.6**
	67nm,0.3s,baz=53,slow=22,SNR=12								
JTS	**JuntasAbangare**	**2.54**	**304**	*e*Pn			**Pn**	**20 21 29.8**	**-0.3**
JTS				*e*Pg			**Pb**	**20 21 30.7**	**-4.5**
JTS				Sn			**Sn**	**20 22 02.8**	**+2.6**
JTS	**JuntasAbangare**	**2.54**	**304**	*e*P			**Pn**	**20 21 30.0**	**0.0**
JTS				*e*S			**Sb**	**20 22 04.1**	**-2.0**
AZU	**Azuero**	**2.73**	**113**	*e*P			**Pb**	**20 21 35.6**	**-2.9**
PLVR	**Palo Verde**	**2.90**	**301**	*e*P			**Pn**	**20 21 35.9**	**+0.7**
CUI	**Cuipilapa**	**2.92**	**308**	*e*P			**Pn**	**20 21 37.1**	**+1.8**
BCIP	**Isla Barro Col**	**2.96**	**84**	*e*Pn			**Pn**	**20 21 36.8**	**+1.0**
BCIP	**Isla Barro Col**	**2.96**	**84**	*e*P			**Pn**	**20 21 36.9**	**+1.0**
BCIP				*i*	S		**Sn**	**20 22 11.8**	**+1.1**
MESS	**Mesas**	**3.00**	**309**	*e*P			**Pn**	**20 21 37.9**	**+1.5**
UPA	**Univ. de Panam**	**3.25**	**88**	*e*P			**Pn**	**20 21 40.0**	**+0.2**
UPA				*e*S			**Sn**	**20 22 19.6**	**+1.8**
ESPN	**Las Esperanzas**	**3.62**	**336**	*e*P			**Pn**	**20 21 45.1**	**+0.2**
TGUH	**Tegucigalpa,Un**	**6.76**	**320**	*e*Pn			**Pn**	**20 22 28.2**	**+0.1**
OTAV	**Otavalo**	**9.61**	**153**	*e*Pn			Pn	20 23 13.8	+6.2
APG	**El Apazote**	**9.65**	**310**	Pn			**Pn**	**20 23 09.4**	**+1.4**
	0.4nm,0.3s,baz=101,slow=10,SNR=6.0								
SDV	**Santo Domingo**	**12.04**	**89**	Pn			**Pn**	**20 23 40.7**	**0.0**
	0.4nm,0.3s,baz=266,slow=7.4,SNR=6.8								
SDV					Sn		**Sn**	**20 25 51.1**	**-3.4**
	1.0nm,0.3s,baz=20,slow=18,SNR=3.1								
SDV	**Santo Domingo**	**12.04**	**89**	*e*Pn			**Pn**	**20 23 44.9**	**+4.2**
SDV				*e*Sn			**Sn**	**20 25 51.1**	**-3.4**
CMIG	**Matias Romero**	**14.32**	**306**	Pn			**Pn**	**20 24 11.5**	**-0.2**
	0.5nm,0.3s,baz=128,slow=9.7,SNR=3.8								
SJG	**San Juan**	**18.63**	**59**	P			**P**	**20 25 05.2**	**-1.1**
	1.0nm,0.3s,baz=235,slow=14,SNR=1.9								
656A	**Willston**	**20.41**	**1**	P			Pn	20 25 28.4	+0.6
	baz=181								
658A	**Bunnell**	**20.51**	**4**	P			Pn	20 25 29.6	+0.5
	baz=185								
657A	**Interlachen**	**20.64**	**2**	P			Pn	20 25 31.0	+0.4
	baz=183								
556A	**Lake Butler**	**21.04**	**1**	P			**P**	**20 25 35.9**	**+3.4**
	baz=182								
554A	**Perry**	**21.14**	**358**	P			**P**	**20 25 38.0**	**+4.4**
	baz=178								
555A	**McAlpin**	**21.16**	**360**	P			**P**	**20 25 37.4**	**+3.7**
	baz=180								
553A	**Crawfordville**	**21.28**	**356**	P			**P**	**20 25 39.6**	**+4.6**
	baz=176								
NNA	**Nana**	**21.54**	**164**	LR			LR	20 33 35.1	
	comp=Z,50nm,21.4s,baz=318,slow=35								
454A	**Quitman**	**21.76**	**358**	P			**P**	**20 25 44.0**	**+3.7**
	baz=178								
453A	**Whigham**	**21.93**	**357**	P			**P**	**20 25 45.7**	**+3.7**
	baz=176								
355A	**Pearson**	**22.38**	**360**	P			**P**	**20 25 49.9**	**+3.0**
	baz=180								
353A	**Camilla**	**22.42**	**357**	P			**P**	**20 25 49.4**	**+2.1**
	baz=177,SNR=5.0								
351A	**Pinckard**	**22.46**	**354**	P			**P**	**20 25 50.1**	**+2.4**
	baz=173								
TIGA	**Tifton**	**22.48**	**358**	P			**P**	**20 25 50.2**	**+2.3**
	baz=178								
352A	**Blakely**	**22.60**	**355**	P			**P**	**20 25 51.6**	**+2.4**
	baz=175								
350A	**Dozier**	**22.69**	**352**	P			**P**	**20 25 52.6**	**+2.4**
	baz=171								
349A	**Repton**	**22.75**	**350**	P			**P**	**20 25 52.6**	**+1.8**
	baz=169								
255A	**Hazlehurst**	**22.96**	**1**	P			**P**	**20 25 55.4**	**+2.5**
	baz=181								
254A	**Abbeville**	**22.98**	**359**	P			**P**	**20 25 54.6**	**+1.4**
	baz=179,SNR=6.5								
252A	**Lumpkin**	**23.09**	**356**	P			**P**	**20 25 56.1**	**+1.7**
	baz=176								
251A	**Midway**	**23.25**	**354**	P			**P**	**20 25 57.7**	**+1.7**
	baz=174,SNR=6.2								
249A	**Camden**	**23.35**	**351**	P			**P**	**20 25 58.9**	**+2.0**
	baz=170								
154A	**Montrose**	**23.64**	**359**	*e*P			**P**	**20 26 01.7**	**+1.9**
	90nm,0.8s								
154A	**Montrose**	**23.64**	**359**	P			**P**	**20 26 01.2**	**+1.4**
	baz=180								
155A	**Kite**	**23.65**	**1**	P			**P**	**20 26 01.4**	**+1.5**
	baz=181								
151A	**Opelika**	**23.67**	**355**	P			**P**	**20 26 01.5**	**+1.4**
	baz=174								
153A	**Fort Valley**	**23.70**	**358**	P			**P**	**20 26 01.5**	**+1.2**
	baz=178								
156A	**Sylvania**	**23.71**	**3**	P			**P**	**20 26 02.1**	**+1.6**
	baz=184								
152A	**Waverly Hall**	**23.76**	**356**	*e*P			**P**	**20 26 02.4**	**+1.5**
	27nm,0.8s								
152A	**Waverly Hall**	**23.76**	**356**	P			**P**	**20 26 01.9**	**+1.0**
	baz=176,SNR=9.2								
150A	**Eclectic**	**23.82**	**353**	P			**P**	**20 26 03.2**	**+1.7**
	baz=172,SNR=10								
149A	**Jones**	**23.91**	**352**	P			**P**	**20 26 03.8**	**+1.5**
	baz=171								
148A	**Greensboro**	**24.08**	**350**	P			**P**	**20 26 05.3**	**+1.4**
	baz=169								
Z52A	**Williamson**	**24.26**	**357**	P			**P**	**20 26 07.0**	**+1.3**
	baz=176,SNR=5.4								
Z54A	**Sparta**	**24.26**	**360**	P			**P**	**20 26 06.6**	**+1.0**
	baz=180								
Z53A	**Monticello**	**24.32**	**358**	P			**P**	**20 26 07.5**	**+1.4**
	baz=178,SNR=6.2								
LRAL	**Lakeview Retre**	**24.37**	**351**	*e*P			**P**	**20 26 08.6**	**+2.0**
	22nm,0.8s								
LRAL						*e*Sn	S	20 31 08.8	+44
LRAL	**Lakeview Retre**	**24.37**	**351**	P			**P**	**20 26 08.2**	**+1.6**
	baz=170,SNR=11								
Z51A	**Franklin**	**24.44**	**355**	P			**P**	**20 26 08.5**	**+1.3**
	baz=175								
GOGA	**Godfrey**	**24.44**	**359**	*e*P			**P**	**20 26 09.1**	**+1.8**
	44nm,1.0s								
GOGA	**Godfrey**	**24.44**	**359**	P			**P**	**20 26 08.8**	**+1.5**
	baz=179,SNR=11								
Z50A	**Ashland**	**24.45**	**354**	*e*P			**P**	**20 26 09.0**	**+1.6**
	31nm,0.8s								
Z50A	**Ashland**	**24.45**	**354**	P			**P**	**20 26 08.7**	**+1.3**
	baz=173,SNR=14								
Z49A	**Columbiana**	**24.46**	**352**	P			**P**	**20 26 08.9**	**+1.5**
	baz=171,SNR=11								
PTGA	**Pitinga**	**24.68**	**112**	P			**P**	**20 26 10.4**	**+0.8**
	3.8nm,0.9s,baz=294,slow=13,SNR=8.7								
Z48A	**Northport**	**24.79**	**351**	P			**P**	**20 26 11.0**	**+0.6**
	baz=169								
Y54A	**Tignall**	**24.89**	**0**	P			**P**	**20 26 12.5**	**+1.2**
	baz=181,SNR=7.5								
Y53A	**Monroe**	**24.89**	**358**	P			**P**	**20 26 12.5**	**+1.1**
	baz=178,SNR=12								
Y52A	**Lilburn**	**24.91**	**358**	*e*P			**P**	**20 26 13.3**	**+1.7**
	66nm,0.9s								
Y52A	**Lilburn**	**24.91**	**358**	P			**P**	**20 26 12.8**	**+1.2**
	baz=177,SNR

W47A	Westpoint baz=170	26.63	351	P	P	20 26 27.8	+0.7
V53A	Saluda 9.9nm,0.9s	26.69	0	eP	P	20 26 29.8	+2.1
TKL	Tuckaleechee C 4.7nm,0.9s,baz=181,slow=14,SNR=3.1	26.69	358	P	P	20 26 26.7	-1.0
TKL	Tuckaleechee C 22nm,1.3s	26.69	358	eP	P	20 26 26.7	-1.0
V50A	Pikevile baz=175	26.77	356	P	P	20 26 29.1	+0.8
V51A	Loudon 22nm,1.0s	26.86	357	eP	P	20 26 31.0	+1.8
V51A	Loudon baz=177	26.86	357	P	P	20 26 30.3	+1.2
V52A	Sevierville 11nm,0.8s	26.87	359	eP	P	20 26 29.8	+0.6
V52A	Sevierville baz=179	26.87	359	P	P	20 26 30.4	+1.2
V49A	McMinnville baz=174	26.93	354	P	P	20 26 30.4	+0.6
V48A	Smith Brothers 16nm,1.1s	27.01	353	eP	P	20 26 31.7	+1.2
V48A	Smith Brothers baz=172	27.01	353	P	P	20 26 31.3	+0.9
V47A	Nunnelly baz=170	27.19	352	P	P	20 26 32.9	+0.8
V46A	Holladay baz=169	27.25	351	P	P	20 26 32.9	+0.3
U53A	Fall Branch baz=181	27.38	0	P	P	20 26 34.5	+0.6
MIAR	Mount Ida baz=157	27.41	340	P	P	20 26 34.0	0.0
U50A	Jamestown baz=176	27.50	356	P	P	20 26 35.6	+0.7
WVT	Waverly baz=170	27.53	351	P	P	20 26 35.4	+0.3
W41B	Gary Mavity, V baz=160	27.58	343	P	P	20 26 35.4	-0.2
U49A	Red Boiling Sp baz=174	27.66	355	P	P	20 26 37.4	+1.1
U48A	Cassie Pea, Po baz=172	27.74	354	P	P	20 26 37.9	+0.9
U47A	Clarksville baz=171	27.76	352	P	P	20 26 37.6	+0.5
W39A	Magazine baz=157	28.07	341	P	P	20 26 39.5	-0.5
T50A	Nancy baz=176	28.10	357	P	P	20 26 41.2	+0.9
T52A	Hallie baz=180	28.12	360	P	P	20 26 41.3	+0.8
V41A	Mountainview baz=160	28.13	344	P	P	20 26 39.8	-0.7
T49A	Edmonton 14nm,1.1s	28.23	355	eP	P	20 26 41.8	+0.4
T49A	Edmonton baz=175	28.23	355	P	P	20 26 41.8	+0.4
T47A	Sharon Grove baz=171	28.27	353	P	P	20 26 42.1	+0.3
T48A	Bowling Green baz=173	28.31	354	P	P	20 26 42.6	+0.5
T46A	Princeton baz=170	28.43	351	P	P	20 26 43.9	+0.7
S51A	Beattyville 18nm,1.0s	28.66	359	eP	P	20 26 46.4	+1.2
S51A	Beattyville baz=179	28.66	359	P	P	20 26 46.1	+0.9
S48A	Wiedeman Farm, baz=174	28.82	355	P	P	20 26 46.8	+0.2
S47A	Hartford baz=172	28.85	353	P	P	20 26 47.2	+0.3
S49A	Springfield baz=175,SNR=7.9	28.89	356	P	P	20 26 48.0	+0.8
T43A	Greenville baz=165	28.91	348	P	P	20 26 48.1	+0.7
LPAZ	La Paz comp=Z,86nm,19.5s,baz=5.5,slow=36	28.91	150	LR	LR	20 38 23.5	
T42A	Van Buren 5.2nm,0.7s	29.03	346	eP	P	20 26 48.9	+0.3
T42A	Van Buren baz=163	29.03	346	P	P	20 26 48.5	0.0
S46A	Don Dixon Farm baz=170	29.04	352	P	P	20 26 49.3	+0.8
S44A	Carbondale baz=167	29.29	350	P	P	20 26 51.6	+0.7
R51A	Hillsboro baz=179	29.32	359	P	P	20 26 52.5	+1.4
R50A	Paris baz=177	29.33	358	P	P	20 26 51.7	+0.6
S43A	Fulton Ridge, baz=166	29.33	348	P	P	20 26 51.5	+0.4
R49A	Shelbyville baz=176,SNR=5.0	29.38	356	P	P	20 26 52.3	+0.7
WCI	Wyandotte Cave baz=173	29.41	354	P	P	20 26 52.3	+0.5
R47A	Wooly Knot Far baz=173	29.50	354	P	P	20 26 53.0	+0.4
S42A	Caledonia baz=164	29.67	347	P	P	20 26 54.3	0.0
R45A	Skylar, Fairfi baz=169	29.72	351	P	P	20 26 55.1	+0.5
R44A	Waltonville baz=168	29.80	350	P	P	20 26 55.7	+0.4
Q52A	Bidwell baz=181	29.98	1	P	P	20 26 57.8	+0.8
R43A	Red Bud baz=166	29.98	349	P	P	20 26 57.1	+0.1
Q51A	Peebles 20nm,1.0s	30.04	359	eP	P	20 26 59.5	+2.0
Q51A	Peebles baz=179	30.04	359	P	P	20 26 58.4	+0.9
CCM	Cathedral Cave baz=164	30.05	347	P	P	20 26 57.3	-0.2
Q48A	North Vernon baz=174	30.06	355	P	P	20 26 58.2	+0.6
Q55A	Buckhannon baz=186	30.11	4	P	P	20 26 59.8	+1.7
OLIL	Olney 36nm,0.9s	30.12	352	eP	P	20 26 58.5	+0.3
Q47A	Bedord North L baz=173,SNR=6.6	30.12	354	P	P	20 26 58.3	+0.1
R42A	Luebbering baz=164	30.16	347	P	P	20 26 59.2	+0.6
Q45A	Warren Harvey, baz=170,SNR=5.9	30.29	352	P	P	20 26 59.8	+0.1
R41A	Rosebud baz=163	30.31	347	P	P	20 27 00.2	+0.4
Q44A	Meyer Farm, Va baz=168	30.43	350	P	P	20 27 01.1	+0.2
P53A	Whipple 19nm,0.9s	30.53	2	eP	P	20 27 02.8	+1.1
P53A	Whipple baz=183	30.53	2	P	P	20 27 02.2	+0.5
P48A	Milroy baz=175	30.56	356	P	P	20 27 02.1	0.0
Q43A	New Douglas baz=167	30.59	349	P	P	20 27 02.1	-0.1
P49A	Miami Univ. Ec baz=177	30.59	357	P	P	20 27 02.7	+0.4
P50A	Jamestown baz=178	30.64	359	P	P	20 27 03.0	+0.3
P47A	Martinsville baz=174	30.66	355	P	P	20 27 03.1	+0.2
Q42A	Golden Eagle baz=165	30.72	348	P	P	20 27 03.7	+0.3
P45A	Graceland, Par 18nm,0.7s	30.86	353	eP	P	20 27 04.8	+0.1
P45A	Graceland, Par baz=171,SNR=5.4	30.86	353	P	P	20 27 04.6	-0.1
P46A	Rosedale baz=172	30.88	353	P	P	20 27 04.6	-0.3
Q41A	Truxton baz=164	30.91	347	P	P	20 27 05.0	-0.1
P44A	Sand Creek, Wi baz=169	30.92	351	P	P	20 27 05.0	-0.2
O51A	Pataskala baz=181	31.16	0	P	P	20 27 08.2	+0.8
O50A	Cable baz=179	31.17	359	P	P	20 27 08.0	+0.6
ACSO	Alum Creek Sta 20nm,0.9s	31.25	360	eP	P	20 27 08.8	+0.8
O54A	Avella baz=185	31.27	4	P	P	20 27 09.0	+0.7
P42A	Winchester baz=166	31.33	349	P	P	20 27 08.7	-0.1
O48A	Farmland baz=176	31.34	357	P	P	20 27 09.1	+0.2
O55A	Ligonier baz=187	31.38	5	P	P	20 27 10.3	+1.0
O47A	Sheridan baz=174	31.39	355	P	P	20 27 09.0	-0.3
SFIN	Lafayette 17nm,0.7s	31.62	354	eP	P	20 27 10.6	-0.8
SFIN	Lafayette baz=172	31.62	354	P	P	20 27 11.3	-0.1
N48A	Decatur baz=176	31.93	357	P	P	20 27 14.0	-0.1
N51A	Ashland baz=181	31.93	1	P	P	20 27 14.7	+0.5
O41A	Passleys Farm, baz=165	31.95	348	P	P	20 27 14.1	-0.1
N49A	Columbus Grove baz=178	31.96	358	P	P	20 27 14.3	-0.1
N46A	Monticello baz=173	32.10	354	P	P	20 27 15.2	-0.3
N45A	Kentland baz=172	32.13	353	P	P	20 27 15.3	-0.5
N44A	Piper City baz=170	32.16	352	P	P	20 27 15.3	-0.8
N43A	Stutzman Famil baz=168	32.45	351	P	P	20 27 17.8	-0.8
M47A	Cromwell baz=175	32.47	356	P	P	20 27 18.3	-0.5
N42A	Yates City baz=167,SNR=5.6	32.48	350	P	P	20 27 18.6	-0.3
M49A	Liberty Center baz=178	32.50	358	P	P	20 27 18.7	-0.4
N41A	Harden Midland 21nm,1.1s	32.51	349	eP	P	20 27 18.3	-0.9
N41A	Harden Midland baz=165	32.51	349	P	P	20 27 18.4	-0.9
M43A	Waltham Townsh baz=169	32.90	351	P	P	20 27 21.9	-0.7
L47A	Sherwood baz=176	33.05	357	P	P	20 27 23.5	-0.5
L50A	Kingsville baz=180	33.05	0	P	P	20 27 23.0	-0.9
M41A	Milan baz=166	33.10	349	P	P	20 27 23.6	-0.7
M40A	Post Highland baz=164	33.32	348	P	P	20 27 25.8	-0.4
L44A	Lake County Fo baz=171	33.49	353	P	P	20 27 26.9	-0.9
M39A	Webster baz=163	33.53	347	P	P	20 27 27.9	-0.2
L42A	Oliver, Polo 20nm,0.8s	33.56	351	eP	P	20 27 27.3	-1.0
L42A	Oliver, Polo baz=168	33.56	351	P	P	20 27 27.5	-0.9
L43A	Garden Prairie baz=170	33.60	352	P	P	20 27 27.8	-0.9
BINY	Binghamton baz=192	33.75	9	P	P	20 27 29.9	-0.1
L41A	Preston baz=166	33.77	350	P	P	20 27 29.3	-0.9
K52A	Tillsonburg baz=184	33.84	3	P	P	20 27 30.7	-0.1
L40A	Anamosa 24nm,1.0s	33.89	349	eP	P	20 27 31.0	-0.2
L40A	Anamosa baz=165	33.89	349	P	P	20 27 30.1	-1.1
K41A	Shullsburg baz=167	34.26	350	P	P	20 27 33.9	-0.5
K42A	Prairie Point, baz=169	34.27	351	P	P	20 27 33.5	-1.1
K40A	Colesburg baz=166,SNR=6.0	34.49	349	P	P	20 27 35.6	-0.8
JFWS	Jewell Farm baz=167	34.55	350	P	P	20 27 35.9	-1.0
K39A	Oelwein baz=164	34.64	348	P	P	20 27 36.6	-1.1
J42A	Columbus baz=169	34.77	352	P	P	20 27 38.0	-0.8
J41A	Loganville baz=168	34.95	351	P	P	20 27 39.2	-1.2
J40A	Soldiers Grove baz=166	35.10	350	P	P	20 27 40.5	-1.2
I43A	Langenfeld Bro baz=171	35.20	353	P	P	20 27 41.5	-1.1
J39A	Decorah baz=165	35.22	349	P	P	20 27 41.3	-1.4
I42A	Draeger Farm, baz=170	35.30	352	P	P	20 27 42.7	-0.7
I55A	Frankford baz=189	35.51	6	P	P	20 27 44.7	-0.5
I40A	Norwalk baz=167	35.56	350	P	P	20 27 44.6	-1.0
I41A	Arkdale 16nm,0.6s	35.60	351	eP	P	20 27 44.4	-1.6
I41A	Arkdale baz=168	35.60	351	P	P	20 27 45.2	-0.8
I39A	Houston 18nm,0.8s	35.68	349	eP	P	20 27 46.0	-0.7
I39A	Houston baz=165	35.68	349	P	P	20 27 45.3	-1.4
H43A	Windswept, Lux baz=172	35.74	354	P	P	20 27 46.2	-1.0
H55A	Tweed baz=190	35.90	7	P	P	20 27 48.2	-0.3
214A	Organ Pipe Nat baz=123	36.09	314	P	P	20 27 48.4	-2.0
H41A	Junction City baz=169	36.12	352	P	P	20 27 49.0	-1.4
H40A	Chili baz=168	36.23	351	P	P	20 27 50.5	-0.9
H39A	Augusta baz=166	36.44	350	P	P	20 27 52.2	-0.9
G42A	Mountain baz=172	36.57	353	P	P	20 27 53.0	-1.2
H38A	Maiden Rock baz=164	36.62	349	P	P	20 27 53.3	-1.3
ECSD	EROS Data Cent baz=157	36.77	343	P	P	20 27 54.6	-1.4
F49A	Sandfield baz=182	36.78	1	P	P	20 27 54.6	-1.4
G40A	Rib Lake 17nm,1.1s	36.83	351	eP	P	20 27 55.1	-1.4
G40A	Rib Lake baz=168	36.83	351	P	P	20 27 55.8	-0.8
F52A	Sundridge baz=186	36.93	4	P	P	20 27 56.2	-1.1
G39A	Holcombe baz=166,SNR=7.1	37.01	350	P	P	20 27 56.8	-1.2
G38A	Ridgeland baz=165	37.01	349	P	P	20 27 56.6	-1.4
F41A	Three Lakes baz=170	37.15	353	P	P	20 27 57.7	-1.4
SPMN	Marine on St. 12nm,0.9s	37.25	348	eP	P	20 27 58.3	-1.7
SPMN	Marine on St. baz=164	37.25	348	P	P	20 27 58.6	-1.5
F40A	Park Falls baz=168	37.46	352	P	P	20 28 00.7	-1.1
E43A	Lone Tree Farm baz=173	37.56	355	P	P	20 28 01.7	-0.9
F39A	Loretta baz=167	37.58	351	P	P	20 28 01.5	-1.3
E42A	Champion baz=172	37.69	354	P	P	20 28 03.3	-0.5
F38A	Pierce - Schro baz=166,SNR=5.5	37.78	350	P	P	20 28 03.3	-1.2
D46A	Sault St. Mari baz=178	37.92	359	P	P	20 28 05.5	-0.2
E40A	Wakefield baz=169	37.94	352	P	P	20 28 05.3	-0.6
E39A	Mellen baz=168	37.97	351	P	P	20 28 04.9	-1.2
E38A	The Farm, Brul baz=166	38.35	350	P	P	20 28 08.0	-1.3
D41A	Chassel baz=171	38.38	354	P	P	20 28 08.8	-0.8
D54A	Lac Fusel, La baz=190	38.52	7	P	P	20 28 10.7	-0.1
C40A	Isle Royale Na 20nm,0.9s	39.29	353	eP	P	20 28 15.9	-1.3
C40A	Isle Royale Na baz=170	39.29	353	P	P	20 28 16.0	-1.2
K22A	Casper baz=142	39.57	332	P	P	20 28 16.3	-3.5
EYMN	Ely baz=167	39.64	351	P	P	20 28 18.7	-1.4
PDAR	Pinedale Array 0.8nm,0.9s,baz=101,slow=8.7,SNR=2.5	41.11	330	P	P	20 28 32.0	-0.7
ULM	Lac du Bonnet 15nm,0.8s,baz=156,slow=7.7,SNR=34	42.67	348	P	P	20 28 43.5	-1.5
ULM	Lac du Bonnet 17nm,0.8s	42.67	348	eP	P	20 28 43.7	-1.3
RLMT	Red Lodge	42.74	332	eP	P	20 28 45.5	-0.4
RLMT	Red Lodge baz=140	42.74	332	P	P	20 28 44.2	-1.8
NVAR	Mina Array Bea 0.7nm,0.6s,baz=142,slow=6.7,SNR=4.7	43.39	318	P	P	20 28 52.4	+1.1
DGMT	Dagmar baz=149	43.40	339	P	P	20 28 50.2	-0.7
HLID	Hailey baz=132	44.20	327	P	P	20 28 56.0	-1.7
BOZ	Bozeman (W) baz=137	44.20	331	P	P	20 28 56.1	-1.6
EGMT	Eagleton baz=141	45.19	335	P	P	20 29 04.0	-1.4
WVOR	Wild Horse Val 24nm,1.8s	45.89	323	eP	P	20 29 10.9	-0.1
FFC	Flin Flon 4.4nm,0.8s	48.23	345	eP	P	20 29 28.5	-0.5
FCC	Fort Churchill 8.3nm,1.1s	50.53	352	eP	P	20 29 45.9	-0.5
PLCA	Paso Flores 3.0nm,0.9s,baz=1.9,slow=9.8,SNR=3.8	50.62	168	P	P	20 29 51.5	+4.1
YKA	Yellowknife Ar 4.0nm,0.9s,baz=135,slow=7.5,SNR=41	58.30	343	P	P	20 30 42.1	-0.7
YKB5	Yellowknife Ar	58.30	343	eP	P	20 30 41.8	-1.1
YKW3	Yellowknife Ar 8.1nm,1.2s	58.35	343	eP	P	20 30 42.3	-0.9
INK	Inuvik 17nm,1.4s	67.99	342	eP	P	20 31 47.5	+0.4
HDA	Harding Lake 7.5nm,0.9s	71.03	336	eP	P	20 32 06.2	+0.2
IL1	Eielson Array	71.13	336	eP	P	20 32 06.5	-0.1
ILAR	Eielson Array 2.5nm,1.0s,baz=106,slow=4.4,SNR=17	71.13	336	P	P	20 32 07.2	+0.6
ILB	Eielson Array	71.13	336	eP	P	20 32 06.4	-0.2
RND	Reindeer 8.8nm,1.0s	71.50	334	eP	P	20 32 09.1	+0.1
MLY	Manley 5.0nm,1.0s	72.77	336	eP	P	20 32 17.6	+1.2
ESDC	Sonseca Array 1.9nm,0.8s,baz=289,slow=5.4,SNR=7.9	75.84	51	P	P	20 32 34.9	0.0
ES19	SONSECA Array	75.89	51	eP	P	20 32 35.1	0.0
BR101	Keskin Array S	104.02	45	ePdif	Pdif	20 34 49.7	-2.2
BRTR	Keskin Array B 1.3nm,1.2s,baz=291,slow=6.0,SNR=3.7	104.02	45	Pdiff	Pdif	20 34 49.7	-2.2
WMQ	Urumqi	126.87	9	eP	PKiKP	20 39 56.8	+3.8
NJ2	Nanjing	134.35	334	eP	PKiKP	20 40 09.5	+1.2
NJ2	comp=Z,7.0nm,0.5s			pmax	pmax		
LZH	Lanzhou	134.86	352	ePKP	PKiKP	20 40 10.5	+1.1
LZH				pPKP	sPKPdf	20 40 21.3	+1.8
LZH				sPKP		20 40 25.8	
CD2	Chengdu	139.96	351	PKP	PKPdf	20 40 17.5	+0.1
ASAR	Alice Springs comp=Z,1.2nm,0.9s,baz=113,slow=2.6,SNR=4.3	141.93	243	PKP	PKPdf	20 40 20.8	-0.3

SOME ***28*** *20:22:50.9, 42°.57N × 79°.63E, h15km*
IDC ***28*** *20:22:50.6 ± 2.1, 42°.68N × 79°.56E, h0km, mb1 3.2/5, mb1mx3.0/45, mbtmp3.2/5, ML3.0/5, Error ellipse: s-maj=29.4km s-min=9.4km az=147.0*
KRNET ***28*** *20:22:51.6 ± 0.1, 42°.61N × 79°.60E, h17km, mb3.7*
NNC ***28*** *20:22:52.0 ± 0.9, 42°.65N × 79°.70E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=7.1km s-min=4.1km az=109.0*
ISCJB ***28*** *20:22:52.1 ± 0.6, 42°.64N ± 0'.03 × 79.72E ± 0'.04, h10km, Error ellipse: s-maj=5.7km s-min=2.8km az=141.7*

ISC 28 20:22:53.2 ± 1.1, 42°.68N ± 0'.04 × 79.63E ± 0'.04, h10km, n50, σ1 § 27/87, 35C-21D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode** baz=21	**0.49**	**346**		*eP*		**Pb**	**20 23 03.1**	**-1.0**
SHLS	baz=21				*eS*		**Sb**	**20 23 12.1**	**+0.6**
SHLS	**Shalkode** 86nm,0.1s	**0.49**	**346**		*eP*		**Pb**	**20 23 03.1**	**-1.0**
SHLS	5μm,0.4s				*eS*		**Sb**	**20 23 12.1**	**+0.6**
UZB	**Uzynbulak** baz=22	**0.65**	**317**		*eP*		**Pg**	**20 23 05.0**	**-0.8**
UZB	baz=22				*eS*		**Sb**	**20 23 15.2**	**-0.7**
UZB	**Uzynbulak** 254nm,0.2s	**0.65**	**317**		*eP*		**Pg**	**20 23 05.0**	**-0.8**
UZB	448nm,0.3s				*eS*		**Sb**	**20 23 15.2**	**-0.7**
PDGK	**Podgornoye** 69nm,0.4s	**0.66**	**351**		⇓*P*		**Pg**	**20 23 05.3**	**-0.7**
PDGK	258nm,0.6s				⇓*S*		**Sb**	**20 23 15.7**	**-0.5**
PDGK	**Podgornoye** baz=54	**0.66**	**351**		⇓*iP*		**Pg**	**20 23 05.3**	**-0.7**
PDGK	baz=54				⇓*iS*		**Sb**	**20 23 15.8**	**-0.5**
PRZ	**Przheval'sk** baz=62	**0.93**	**258**		⇑*iP*		**Pg**	**20 23 08.6**	**-2.5**
PRZ	baz=62				⇑*iS*		**Sg**	**20 23 21.5**	**-1.7**
SATY	**Saty** 24nm,0.2s	**0.98**	**293**		*eP*		**Pg**	**20 23 10.3**	**-1.7**
SATY	968nm,0.1s				*eS*		**Sg**	**20 23 24.4**	**-0.4**
KURS	**Kuram** baz=10.0	**1.34**	**308**		*eP*		**Pn**	**20 23 17.3**	**-0.8**
KURS	baz=10.0				*eS*		**Sg**	**20 23 36.1**	**-0.3**
KURS	**Kuram** 47nm,0.4s	**1.34**	**308**		*eP*		**Pn**	**20 23 17.2**	**-0.8**
KURS	81nm,0.3s				*eS*		**Sg**	**20 23 36.0**	**-0.3**
DJR	**Jarkent** 14nm,0.2s	**1.66**	**4**		*eP*		**Pb**	**20 23 23.6**	**-0.3**
DJR	132nm,0.3s				*eS*		**Sg**	**20 23 47.1**	**+0.5**
KDJ	**Kajisay** baz=56	**1.89**	**254**		⇓*iP*		**Pb**	**20 23 26.5**	**-1.5**
KDJ	baz=56				⇓*iS*		**Sb**	**20 23 51.2**	**-0.6**
MDOK	**Medeo** baz=87	**1.96**	**285**		*eP*		**Pn**	**20 23 27.1**	**+0.5**
MDOK	baz=87				*eS*		**Sb**	**20 23 53.4**	**-0.2**
MDOK	**Medeo** 57nm,0.4s	**1.96**	**285**		*eP*		**Pn**	**20 23 27.1**	**+0.5**
MDOK	202nm,0.5s				*eS*		**Sb**	**20 23 53.4**	**-0.2**
TNSS	**Tian-Shan** baz=83	**2.00**	**281**		*eP*		**Pn**	**20 23 27.9**	**+0.4**
TNSS	baz=83				*eS*		**Sb**	**20 23 55.0**	**-0.2**
TNSS	**Tian-Shan** 79nm,0.4s	**2.00**	**281**		*eP*		**Pn**	**20 23 27.9**	**+0.4**
TNSS	139nm,0.3s				*eS*		**Sb**	**20 23 55.0**	**-0.2**
KNDC	**Almaty** 79nm,0.5s	**2.03**	**286**		⇑Pn		**Pb**	**20 23 29.0**	**-1.2**
KNDC	397nm,0.7s				⇓Lg		Lg	20 23 59.2	
CHKK	**Chushkaly** baz=4.0	**2.26**	**302**		*eP*		**Pb**	**20 23 33.2**	**-0.9**
CHKK	baz=4.0				*eS*		**Sb**	**20 24 03.5**	**+1.4**
CHKK	**Chushkaly** 16nm,0.2s	**2.26**	**302**		*eP*		**Pb**	**20 23 33.2**	**-0.9**
CHKK	266nm,0.3s				*eS*		**Sb**	**20 24 03.4**	**+1.4**
ULHL	**Ulahol** baz=63	**2.54**	**261**		⇑*iP*		**Pn**	**20 23 35.6**	**+0.9**
ULHL	baz=63				⇑*iS*		**Sb**	**20 24 08.2**	**-2.3**
KAPS	**Kapalarasan** 15nm,0.3s	**2.62**	**356**		*eP*		**Pb**	**20 23 39.7**	**-0.5**
KAPS	147nm,0.4s				*eS*		**Sg**	**20 24 15.1**	**-2.2**
KUU	**Kurty** baz=99	**2.69**	**298**		*eP*		**Pb**	**20 23 40.3**	**-1.2**
KUU	baz=99				*eS*		**Sb**	**20 24 15.7**	**+1.1**
KUU	**Kurty** 11nm,0.4s	**2.69**	**298**		*eP*		**Pb**	**20 23 40.3**	**-1.2**
KUU	150nm,0.3s				*eS*		**Sb**	**20 24 15.7**	**+1.1**
BOOM	**Boomskoye usch** baz=69	**2.73**	**267**		⇑*iP*		**Pn**	**20 23 38.3**	**+1.0**
BOOM	baz=69				⇑*iS*		**Sb**	**20 24 12.9**	**-2.9**

NRN	**Naryn**	**2.97**	**247**	⇓*i*P	**Pn**	**20 23 41.5**	**+0.7**
	baz=47						
NRN				⇓*i*S	**Sn**	**20 24 18.5**	**+1.9**
	baz=47						
TKM2	**Tokmak 2**	**2.98**	**276**	⇑Pn	**Pn**	**20 23 42.4**	**+1.7**
	7.1nm,0.4s						
TKM2				⇑Lg	Lg	20 24 23.9	
	71nm,0.5s						
TKM2	**Tokmak 2**	**2.98**	**276**	⇑*i*P	**Pn**	**20 23 41.7**	**+1.0**
	baz=77						
TKM2				⇑*i*S	**Sn**	**20 24 18.9**	**+2.3**
	baz=77						
KZA	**Kyzart**	**3.30**	**261**	⇑*i*P	**Pn**	**20 23 46.6**	**+1.3**
	baz=62						
KZA				⇑*i*S	**Sn**	**20 24 26.6**	**+1.8**
	baz=62						
KBK	**Karagaybulak**	**3.45**	**271**	⇑*i*P	**Pn**	**20 23 48.7**	**+1.5**
	baz=72						
KBK				⇑*i*S	**Sn**	**20 24 30.2**	**+2.0**
	baz=72						
CHMS	**Chumysh**	**3.60**	**277**	⇑*i*P	**Pn**	**20 23 50.6**	**+1.5**
	baz=78						
CHMS				⇑*i*S	**Sn**	**20 24 33.8**	**+2.1**
	baz=78						
FRU1	**Bishkek**	**3.68**	**274**	⇓*i*P	**Pn**	**20 23 51.5**	**+1.2**
	baz=75						
FRU1				⇓*i*S	**Sn**	**20 24 35.6**	**+1.8**
	baz=75						
AAK	**Ala-Archa**	**3.79**	**271**	Pn	**Pn**	**20 23 52.5**	**+0.8**
	1.4nm,0.3s,baz=109,slow=15,SNR=12						
AAK				Pg	**Pb**	**20 24 00.3**	**+0.1**
	3.5nm,0.3s,baz=103,slow=8.3,SNR=23						
AAK				Lg	Lg	20 24 47.4	
	5.7nm,0.3s,baz=236,slow=19,SNR=18						
AAK	**Ala-Archa**	**3.79**	**271**	⇑Pg	**Pg**	**20 24 05.0**	**-0.7**
	3.8nm,0.3s						
AAK				⇑Lg	Lg	20 24 52.3	
	65nm,1.0s						
AAK	**Ala-Archa**	**3.79**	**271**	⇑*i*P	**Pn**	**20 23 53.0**	**+1.2**
	baz=72						
AAK				⇑*i*S	**Sn**	**20 24 38.3**	**+1.8**
	baz=72						
USP	**Ospenovka**	**3.81**	**281**	⇓*e*P	**Pn**	**20 23 53.4**	**+1.4**
	baz=82						
USP				⇓*i*S	**Sn**	**20 24 38.8**	**+1.9**
	baz=82						
UCH	**Uchtor**	**3.81**	**265**	⇓*e*P	**Pn**	**20 23 53.3**	**+0.9**
	baz=66						
UCH				⇓*i*S	**Sn**	**20 24 38.7**	**+1.2**
	baz=66						
ARLS	**Aral**	**4.02**	**260**	⇑*i*P	**Pn**	**20 23 56.3**	**+1.3**
	baz=61						
ARLS				⇑*i*S	**Sn**	**20 24 43.8**	**+1.6**
	baz=61						
EKS2	**Erkin-Say**	**4.31**	**272**	⇑*e*P	**Pn**	**20 24 00.2**	**+1.2**
	baz=73						
EKS2				⇑*i*S	**Sn**	**20 24 51.0**	**+1.6**
	baz=73						
AML	**Almayashu**	**4.43**	**265**	⇓*i*P	**Pn**	**20 24 01.9**	**+1.1**
	baz=66						
AML				⇓*i*S	**Sn**	**20 24 54.1**	**+1.5**
	baz=66						
MAKZ	**Makanchi**	**4.46**	**21**	⇓Pn	**Pn**	**20 24 02.0**	**+1.1**
	2.5nm,0.3s						
MAKZ				⇑Sn	**Sn**	**20 24 55.3**	**+2.5**
	2.5nm,0.3s						
MAKZ				⇑Lg	Lg	20 25 13.7	
	5.7nm,0.5s						
MK31	**Makanchi Array**	**4.53**	**24**	⇑Pn	**Pn**	**20 24 02.7**	**+0.8**
	0.6nm,0.2s,baz=203,slow=12,SNR=41						
MK31				⇑Sn	**Sn**	**20 24 56.0**	**+1.4**
	2.5nm,0.4s,baz=208,slow=25,SNR=5.8						
MK31				⇓Lg	Lg	20 25 14.4	
	2.0nm,0.3s,baz=210,slow=29,SNR=8.4						
MKAR	**Makanchi Array**	**4.53**	**24**	Pn	**Pn**	**20 24 02.8**	**+0.9**
	3.4nm,0.3s,baz=212,slow=15,SNR=89						
MKAR				Sn	**Sn**	**20 24 55.2**	**+0.6**
	3.3nm,0.3s,baz=205,slow=24,SNR=10						
MKAR				Lg	Lg	20 25 13.2	
	3.2nm,0.3s,baz=201,slow=26,SNR=7.5						
MNAS	**Manas**	**5.26**	**270**	⇓Pg	**Pb**	**20 24 27.0**	**+1.6**
	2.9nm,0.6s						
MNAS				⇑Lg	Lg	20 25 41.2	
	13nm,0.7s						
SFK	**Sufi-Kurgan**	**5.32**	**242**	⇑Pg	**Pb**	**20 24 27.7**	**+1.3**
	3.3nm,0.7s						
SFK				⇑Lg	Lg	20 25 40.7	
	13nm,1.1s						
KK31	**Karatay Array**	**6.71**	**277**	⇑Pg	Pg	20 24 55.5	-6.1
	2.3nm,0.7s,baz=87,slow=15,SNR=6.8						
KK31				Lg	Lg	20 26 25.6	
	5.1nm,0.5s,baz=103,slow=28,SNR=12						
OTUK	**Ortayu**	**7.56**	**320**	⇑Pn	**Pn**	**20 24 43.3**	**-0.2**
	2.6nm,0.6s						
OTUK				⇑Lg	Lg	20 26 51.9	
	6.9nm,0.8s						
KURBB	**Kurchatov Arra**	**7.98**	**355**	Pn	**Pn**	**20 24 49.0**	**-0.2**
	0.1nm,0.3s,baz=181,slow=12,SNR=4.2						
KURBB				Lg	Lg	20 27 01.3	
	0.2nm,0.3s,baz=176,slow=30,SNR=6.0						
KURK	**Kurchatov**	**8.07**	**355**	⇓Lg	Lg	20 27 07.1	
	10nm,1.0s						
ZALV	**Zalesovo Beam**	**11.79**	**15**	Pn	**Pn**	**20 25 41.9**	**+0.6**
	0.1nm,0.3s,baz=216,slow=14,SNR=2.6						
SONM	**Songino Array**	**19.49**	**65**	P	**P**	**20 27 18.9**	**-1.5**
	0.1nm,0.3s,baz=262,slow=10,SNR=4.4						

IDC 28 20:28:51.5±3.0, 11°.34S×162°.33E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/33, mbtmp3.7/4, Error ellipse: s-maj=98.3km s-min=32.4km az=131.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.01**	**309**	*e*P	Pn	20 29 34.0	-6.5
HNR				*e*S	Sn	20 30 03.0	-14
WRA	**Warramunga Arr**	**28.24**	**249**	P	P	20 34 46.8	+0.2
	0.4nm,0.5s,baz=79,slow=9.4,SNR=7.9						
ASAR	**Alice Springs**	**29.68**	**242**	P	P	20 34 59.2	-0.1
	0.4nm,0.9s,baz=65,slow=10,SNR=3.7						
SONM	**Songino Array**	**76.95**	**325**	P	P	20 40 46.0	-0.1
	1.3nm,0.7s,baz=134,slow=6.2,SNR=6.3						
ILAR	**Eielson Array**	**84.88**	**19**	P	P	20 41 28.0	+0.1
	0.7nm,1.0s,baz=232,slow=5.6,SNR=3.3						

*NIED **28** 20:29:00, 37°.50N×143°.50E, h5km, Mw4.3 Best double couple: M₀2.71000×10¹⁵ NP1:φs32.00000°, δ25.00000°, λ-122.00000°. NP2:φs247.00000°, δ69.00000°, λ-76.00000°.*

*IDC **28** 20:29:08.8±0.6, 37°.40N×143°.77E, h0km, mb4.1/24, mb1 4.3/32, mb1mx4.2/50, mbtmp4.1/32, ML3.8/6, MS3.4/8, Ms1 3.4/8, ms1mx3.1/49, Error ellipse: s-maj=16.2km s-min=12.6km az=131.0*

*BJI **28** 20:29:10.7, 37°.59N×143°.93E, h32km, mb4.4/27, mB5.0/17, Ms4.3/8, Ms7 4.1/8*

*NEIC **28** 20:29:12.5±1.8, 37°.42N×143°.76E, h24km±12km, mb4.7/16, Error ellipse: s-maj=8.1km s-min=4.6km az=134.0*

*ISCJB **28** 20:29:12.7±0.3, 37°.54N±0°.03×143°.62E±0°.03, h33km, mb4.3/44, MS3.4/4, Error ellipse: s-maj=4.0km s-min=3.3km az=178.1*

*JMA **28** 20:29:13.0±0.1, 37°.52N×143°.55E, h45km, M4.3*

ISC 28 20:29:14.5±0.5, 37°.51N±0°.05×143°.65E±0°.06, h35km, n119, σ1s51/131, mb4.4/49, MS3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.91**	**296**	P	**Pn**	**20 29 43.0**	**-1.5**
JIKH				*e*S	**Sn**	**20 30 04.8**	**-2.5**
JIO	**Ouri**	**2.05**	**298**	P	**Pn**	**20 29 45.1**	**-1.4**
JIO				S	**Sn**	**20 30 08.5**	**-2.4**
JKMT	**Kesennumamotoy**	**2.16**	**308**	P	**Pn**	**20 29 46.4**	**-1.5**
JKMT				S	**Sn**	**20 30 11.3**	**-2.1**
OFUJ	**Ofunato**	**2.22**	**316**	P	**Pn**	**20 29 47.1**	**-1.7**
OFUJ				S	**Sn**	**20 30 13.0**	**-1.9**
JMK	**Ichinoseki**	**2.40**	**308**	P	**Pn**	**20 29 50.0**	**-1.3**
JMK				*e*S	**Sn**	**20 30 17.9**	**-1.5**
JOU	**Okura**	**2.52**	**291**	P	**Pn**	**20 29 52.1**	**-0.8**
JOU				S	**Sn**	**20 30 20.8**	**-1.5**
JFT	**Otama**	**2.64**	**271**	P	**Pn**	**20 29 53.8**	**-0.8**
JFT				S	**Sn**	**20 30 23.6**	**-1.8**
JOM	**Ohasama**	**2.70**	**317**	P	**Pn**	**20 29 54.4**	**-1.0**
JOM				S	**Sn**	**20 30 25.6**	**-1.3**
JYK	**Kaneyama**	**2.95**	**300**	P	**Pn**	**20 29 58.3**	**-0.6**
JYK				*e*S	**Sn**	**20 30 32.0**	**-1.1**
JRG	**Rokugo**	**3.03**	**309**	P	**Pn**	**20 29 59.0**	**-1.0**
JRG				*e*S	**Sn**	**20 30 35.2**	**+0.2**
JANG	**Nango**	**3.31**	**330**	P	**Pn**	**20 30 03.2**	**-0.7**
JANG				*e*S	**Sn**	**20 30 38.9**	**-3.1**
JAG	**Ashikaga**	**3.53**	**253**	P	**Pn**	**20 30 05.6**	**-1.3**
JAG				S	**Sn**	**20 30 45.3**	**-2.1**
JAH	**Hinai**	**3.57**	**320**	P	**Pn**	**20 30 06.9**	**-0.4**
JAH				*e*S	**Sn**	**20 30 46.6**	**-1.7**
JTM	**Tenmabayashi**	**3.84**	**329**	S	**Sn**	**20 30 53.3**	**-1.8**
JRY	**Ryogami san**	**4.09**	**250**	P	**Pn**	**20 30 13.0**	**-1.6**
JOD2	**Odawara 2**	**4.31**	**240**	P	**Pn**	**20 30 15.7**	**-1.9**
JOT	**Ohata**	**4.37**	**333**	P	**Pn**	**20 30 18.2**	**-0.1**
MJAR	**Matsushiro Arr**	**4.46**	**259**	Pn	**Pn**	**20 30 20.0**	**+0.3**
	3.2nm,0.3s,baz=91,slow=15,SNR=128						
MJAR				Sn	**Sn**	**20 31 11.9**	**+1.5**
	baz=212,slow=37,SNR=3.6						
MAJO	**Matsushiro**	**4.46**	**259**	*e*Pn	**Pn**	**20 30 20.1**	**+0.4**
MAJO				*e*Sn	**Sn**	**20 31 11.9**	**+1.5**
MAT	**Matsushiro**	**4.46**	**259**	P	**Pn**	**20 30 19.9**	**+0.2**
MJB9	**Matsu-Tunnel**	**4.46**	**259**	*e*Pn	**Pn**	**20 30 20.0**	**+0.3**
ERM	**Erimo**	**4.52**	**355**	*e*Pn	**Pn**	**20 30 18.7**	**-1.7**
JCH	**Churui**	**5.11**	**358**	P	**Pn**	**20 30 26.5**	**-2.0**
JHJ	**Hachijo jima 2**	**5.40**	**217**	Pn	**Pn**	**20 30 29.8**	**-2.7**
	32nm,0.3s,baz=49,slow=14,SNR=3.4						
JHJ				Sn	**Sn**	**20 31 25.9**	**-7.5**
	47nm,0.3s,baz=108,slow=20,SNR=3.9						
INU	**Inuyama**	**5.77**	**250**	*e*Pn	**Pn**	**20 30 37.8**	**+0.2**
ASAJ	**Asahikawa**	**6.65**	**353**	Pn	**Pn**	**20 30 49.0**	**-0.7**
	7.7nm,0.3s,baz=196,slow=15,SNR=58						
ASAJ				Sn	**Sn**	**20 32 00.1**	**-4.2**
	8.2nm,0.3s,baz=94,slow=19,SNR=6.9						
ASAJ				LR	LR	20 33 52.2	
	comp=Z,193nm,20.2s,baz=210,slow=42						
YSS	**Yuzh-Sakhalins**	**9.47**	**356**	*e*Pn	**Pn**	**20 31 27.5**	**-0.8**
USA0B	**Ussuriysk Arra**	**11.07**	**311**	*e*Pn	**Pn**	**20 31 51.6**	**+1.4**
USRK	**Kassuriysk Ar.**	**11.07**	**311**	Pn	**Pn**	**20 31 51.2**	**+0.9**
	0.5nm,0.3s,baz=112,slow=13,SNR=9.5						
USRK				LR	LR	20 35 52.9	
	comp=Z,196nm,19.5s,baz=161,slow=36						
JNU	**Nakatsue**	**11.31**	**251**	Pn	**Pn**	**20 31 53.9**	**+0.2**
	0.2nm,0.3s,baz=77,slow=14,SNR=2.7						
KSRS	**Korea Array**	**12.50**	**275**	Pn	**Pn**	**20 32 11.2**	**+1.4**
	0.1nm,0.3s,baz=89,slow=14,SNR=10						
KSRS				LR	LR	20 37 06.8	
	comp=Z,158nm,18.8s,baz=357,slow=38						
KS15	**Wonju Array Si**	**12.53**	**275**	*e*Pn	**Pn**	**20 32 11.2**	**+1.0**
KSAR	**Wonju Array Be**	**12.53**	**275**	Pn	**Pn**	**20 32 11.2**	**+1.0**
KLR	**Kul'dur**	**14.55**	**327**	Pn	**Pn**	**20 32 36.0**	**-1.7**
	0.8nm,0.3s,baz=132,slow=12,SNR=20						
KLR				LR	LR	20 37 44.0	
	comp=Z,173nm,21.0s,baz=167,slow=35						
PETK	**Petropavlovsk-**	**18.41**	**28**	P	**P**	**20 33 24.6**	**-2.0**
	0.1nm,0.3s,baz=218,slow=11,SNR=2.5						
PEA1	**Petropavlovsk-**	**18.42**	**28**	*e*P	**P**	**20 33 24.6**	**-2.0**
NJ2	**Nanjing**	**21.06**	**262**	*e*P	**P**	**20 33 55.5**	**0.0**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
TIA	**Tai'an**	**21.25**	**275**	P	**P**	**20 33 57.3**	**-0.2**
MA2	**Magadan**	**22.56**	**9**	P	**P**	**20 34 10.5**	**-0.8**
	3.9nm,0.6s,baz=177,slow=18,SNR=2.9						
GUMO	**Guam**	**23.84**	**177**	LR	LR	20 42 05.8	
	comp=Z,42nm,21.0s,baz=330,slow=33						
HHC	**Hu-ho-hao-te**	**25.02**	**288**	*e*P	**P**	**20 34 35.0**	**-0.3**
HHC				S	**S**	**20 38 53.5**	**-3.6**
HHC				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC				pmax	pmax		
	comp=Z,230nm,5.6s						
HHC				LR	LR		
	comp=N,400nm,7.9s						
HHC				LR	LR		
	comp=E,470nm,7.2s						
HHC				LR	LR		
	comp=Z,350nm,9.4s						
SEY	**Seymchan**	**26.01**	**9**	P	**P**	**20 34 44.2**	**+0.3**
	4.3nm,0.3s,baz=173,slow=7.9,SNR=11						
H11N2	**WAKE ISLAND Hy**	**26.90**	**125**	T	T	21 03 09.7	
	baz=316,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**26.91**	**125**	T	T	21 03 13.6	
	baz=316,slow=75,SNR=7.1						
H11N3	**WAKE ISLAND Hy**	**26.92**	**125**	T	T	21 03 13.1	
	baz=316,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**27.66**	**127**	T	T	21 04 00.7	
	baz=318,slow=76,SNR=6.0						
H11S3	**WAKE ISLAND Hy**	**27.66**	**127**	T	T	21 04 07.0	
	baz=318,slow=76,SNR=5.3						
H11S2	**WAKE ISLAND Hy**	**27.68**	**127**	T	T	21 04 06.3	
	baz=318,slow=76,SNR=5.6						
XAN	**Xi'an**	**28.30**	**274**	*e*P	**P**	**20 35 05.0**	**+0.2**
	5.9nm,0.6s						
ULN	**Ulaanbaatar**	**28.58**	**303**	*e*P	**P**	**20 35 06.6**	**-0.7**
	5.2nm,0.9s						
SONA1	**Songino Array**	**29.02**	**303**	*e*P	**P**	**20 35 11.6**	**+0.4**
SONA0	**Songino Array**	**29.02**	**303**	*e*P	**P**	**20 35 12.6**	**+1.4**
SONA0				*e*PcP	**PcP**	**20 38 17.3**	**-1.6**
SONM	**Songino Array**	**29.02**	**303**	P	**P**	**20 35 12.6**	**+1.4**
	0.8nm,0.4s,baz=110,slow=8.3,SNR=8.6						
SONM				PcP	**PcP**	**20 38 17.3**	**-1.6**
	0.4nm,0.7s,baz=48,slow=2.1,SNR=2.7						
SONM				LR	LR	20 46 24.4	
	comp=Z,123nm,18.3s,baz=350,slow=36						
ENH	**Enshi**	**29.15**	**266**	*e*P	**P**	**20 35 09.9**	**-2.5**
	13nm,0.9s						
LZH	**Lanzhou**	**31.75**	**280**	*e*P	**P**	**20 35 37.8**	**+2.4**
LZH				pP	sP	20 35 48.0	+0.7
LZH				sP	pwP	20 35 53.8	+2.5
LZH				pmax	pmax		
	comp=Z,32nm,1.1s						
LZH				pmax	pmax		
	comp=Z,130nm,4.3s						
CD2	**Chengdu**	**33.46**	**271**	*e*P	**P**	**20 35 49.8**	**-0.5**
GTA	**Gaotai**	**34.13**	**287**	*e*P	**P**	**20 36 00.3**	**+4.1**
GTA				pP	sP	20 36 09.5	+1.5
GTA				sP	pwP	20 36 13.5	+1.3
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KMI	**Kunming**	**36.80**	**262**	P	**P**	**20 36 21.3**	**+2.0**
KMI				pmax	pmax		
	comp=Z,12nm,0.5s						
ANM	**Nome**	**40.27**	**31**	*e*P	**P**	**20 36 48.5**	**+0.8**
	9.5nm,1.1s						
WMQ	**Urumqi**	**42.22**	**297**	*e*P	**P**	**20 37 05.5**	**+1.4**
ZAA1	**Zalesovo Array**	**42.92**	**312**	*e*P	**P**	**20 37 10.5**	**+0.9**
ZAA1				*e*PcP	**PcP**	**20 38 59.7**	**0.0**
ZALV	**Zalesovo Beam**	**42.92**	**312**	P	**P**	**20 37 10.5**	**+0.9**
	1.4nm,0.5s,baz=91,slow=8.9,SNR=6.2						
ZALV				PcP	**PcP**	**20 38 59.7**	**0.0**
	2.1nm,0.6s,baz=75,slow=3.3,SNR=4.9						
ZALV	**Zalesovo Beam**	**42.92**	**312**	*e*P	**P**	**20 37 10.1**	**+0.5**
ZALV				PcP	**PcP**	**20 38 59.7**	**0.0**
CM31	**Chiang Mai Arr**	**43.34**	**257**	*e*P	**P**	**20 37 13.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**43.34**	**257**	P	**P**	**20 37 13.3**	**-0.1**
	1.0nm,0.7s,baz=34,slow=6.9,SNR=9.6						
CM01	**Chiang Mai Arr**	**43.35**	**257**	*e*P	**P**	**20 37 11.5**	**-2.0**
MK32	**Makanchi Array**	**45.38**	**302**	*e*P	**P**	**20 37 30.2**	**+0.7**
MKAR	**Makanchi Array**	**45.38**	**302**	P	**P**	**20 37 30.2**	**+0.7**
	1.6nm,0.8s,baz=82,slow=10,SNR=4.3						
MKAR				LR	LR	20 57 47.2	
	comp=Z,105nm,18.3s,baz=316,slow=38						
KURK	**Kurchatov**	**47.05**	**308**	*e*P	**P**	**20 37 42.5**	**+0.1**
	15nm,0.8s						
KURBB	**Kurchatov Arra**	**47.12**	**308**	P	**P**	**20 37 43.5**	**+0.5**
	3.2nm,0.6s,baz=82,slow=8.0,SNR=8.7						
MDM	**Murphy Dome**	**47.56**	**32**	*e*P	**P**	**20 37 47.9**	**+1.6**
	10nm,0.8s						
HDA	**Harding Lake**	**48.12**	**33**	*e*P	**P**	**20 37 51.0**	**+0.5**
	13nm,1.4s						
IL1	**Eielson Array**	**48.14**	**33**	*e*P	**P**	**20 37 51.2**	**+0.5**
ILAR	**Eielson Array**	**48.14**	**33**	P	**P**	**20 37 51.5**	**+0.8**
	4.8nm,0.7s,baz=264,slow=6.6,SNR=51						
ILB	**Eielson Array**	**48.14**	**33**	*e*P	**P**	**20 37 51.1**	**+0.4**
PRP	**Porcupine Dome**	**48.70**	**32**	*e*P	**P**	**20 37 54.9**	**-0.3**
	24nm,1.9s						
JIRN	**Jiri**	**48.75**	**276**	*e*P	P	20 38 05.0	+8.6
	18nm,0.9s						
GUN	**Gumba**	**48.88**	**276**	*e*P	P	20 38 04.7	+7.3
	12nm,0.7s						
HNR	**Honiara**	**49.12**	**159**	LR	LR	20 55 50.4	
	comp=Z,46nm,19.6s,baz=360,slow=33						
PKIN	**Phulchoki**	**49.41**	**276**	*e*P	P	20 38 08.7	+7.4
	2.1nm,0.5s						
DANN	**Dangsing**	**50.36**	**278**	*e*P	**P**	**20 38 09.4**	**+0.9**
	29nm,0.7s						
KOLN	**Koldanda**	**50.74**	**277**	*e*P	**P**	**20 38 13.4**	**+2.0**
PYUN	**Piuthan**	**51.08**	**278**	*e*P	**P**	**20 38 15.3**	**+1.5**
	21nm,0.9s						
BVAR	**Borovoye Array**	**51.58**	**312**	P	**P**	**20 38 17.9**	**+1.0**
	1.4nm,0.7s,baz=69,slow=8.1,SNR=5.3						
EPYK	**Eagle Plains**	**52.23**	**30**	*e*P	**P**	**20 38 23.4**	**+1.7**
	15nm,0.9s						
INK	**Inuvik**	**53.15**	**27**	P	**P**	**20 38 28.7**	**+0.3**
	2.9nm,0.6s,baz=292,slow=7.5,SNR=10						
INK	**Inuvik**	**53.15**	**27**	*e*P	**P**	**20 38 29.5**	**+1.1**
	3.5nm,0.6s						
ARU	**Arti**	**57.19**	**319**	*e*P	**P**	**20 38 58.4**	**+0.7**
	7.4nm,0.9s						
WB2	**Warramunga Arr**	**57.81**	**190**	*e*P	**P**	**20 39 01.3**	**-1.1**
WR1	**Warramunga Arr**	**57.81**	**190**	*e*P	**P**	**20 39 00.9**	**-1.5**
	91nm,2.0s						
WRA	**Warramunga Arr**	**57.81**	**190**	P	**P**	**20 39 00.9**	**-1.5**
	1.8nm,0.5s,baz=8.5,slow=7.3,SNR=28						
ABKAR	**Akbulak array**	**59.00**	**311**	*e*P	**P**	**20 39 10.6**	**+0.2**
AKTO	**Aktyubinsk**	**59.68**	**312**	P	**P**	**20 39 15.1**	**-0.2**
	2.9nm,1.1s,baz=79,slow=11,SNR=5.5						
AS31	**Alice Springs**	**61.53**	**190**	*e*P	**P**	**20 39 27.1**	**-0.9**
	1.0nm,0.8s						
ASAR	**Alice Springs**	**61.53**	**190**	P	**P**	**20 39 27.1**	**-0.9**
	1.9nm,0.7s,baz=8.8,slow=7.9,SNR=18						
RES	**Resolute Bay**	**61.69**	**15**	*e*P	**P**	**20 39 29.2**	**+0.7**
	3.1nm,0.9s						
YKA	**Yellowknife Ar**	**62.50**	**31**	P	**P**	**20 39 34.6**	**+0.6**
	1.1nm,0.7s,baz=302,slow=6.7,SNR=16						
YKB5	**Yellowknife Ar**	**62.50**	**31**	*e*P	**P**	**20 39 33.4**	**-0.7**
ARA0	**ARCESS Array S**	**64.18**	**340**	*e*P	**P**	**20 39 45.6**	**+0.5**
ARCES	**ARCESS Array B**	**64.18**	**340**	P	**P**	**20 39 45.6**	**+0.5**
	4.0nm,1.1s,baz=38,slow=6.1,SNR=5.3						
GEYT	**Alibeck**	**65.16**	**300**	P	**P**	**20 39 52.1**	**0.0**
	1.8nm,0.9s,baz=84,slow=14,SNR=4.2						
FIA0	**FINESS Array S**	**69.22**	**333**	*e*P	**P**	**20 40 17.5**	**+0.1**
FINES	**FINESS Array B**	**69.22**	**333**	P	**P**	**20 40 17.5**	**+0.2**
	2.7nm,0.7s,baz=38,slow=9.6,SNR=6.6						
KVAR	**Kislovodsk Ar**	**71.93**	**312**	P	**P**	**20 40 33.7**	**-0.7**
	1.2nm,0.7s,baz=27,slow=6.8,SNR=1.9						
KIV	**Kislovodsk**	**71.94**	**312**	*e*P	**P**	**20 40 35.6**	**+1.3**
	20nm,1.5s						
KBZ	**Khabaz**	**71.94**	**311**	P	**P**	**20 40 35.0**	**+0.8**
	2.2nm,0.9s,baz=9.5,slow=2.4,SNR=6.1						
FCC	**Fort Churchill**	**72.77**	**27**	*e*P	**P**	**20 40 39.1**	**+0.3**
	3.7nm,0.7s						
NB2	**NORSAR Subarra**	**74.43**	**338**	P	**P**	**20 40 49.1**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=38,slow=5.9						
NB200	**NORSAR Array S**	**74.43**	**338**	*e*P	**P**	**20 40 48.6**	**-0.1**
NOA	**NORSAR Array B**	**74.43**	**338**	P	**P**	**20 40 48.6**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=20,slow=2.5,SNR=3.6						
AKASG	**Malin Array Be**	**75.00**	**323**	P	**P**	**20 40 52.1**	**0.0**
	comp=Z,0.7nm,0.4s,baz=46,slow=6.0,SNR=11						
PDAR	**Pinedale Array**	**76.05**	**47**	P	**P**	**20 40 58.6**	**0.0**
	comp=Z,0.6nm,0.8s,baz=273,slow=2.7,SNR=5.3						
CLL	**Collm**	**81.56**	**331**	*e*P	**P**	**20 41 29.0**	**+0.6**
KHC	**Kasperske Hory**	**83.06**	**330**	*e*P	**P**	**20 41 37.6**	**+1.3**
GERES	**GERESS Array B**	**83.24**	**329**	P	**P**	**20 41 37.3**	**0.0**
	comp=Z,0.9nm,0.7s,baz=9.8,slow=8.7,SNR=3.9						
LTX	**Lajitas**	**88.41**	**54**	*e*P	**P**	**20 42 02.8**	**-0.5**
TXAR	**Lajitas Array**	**88.41**	**54**	P	**P**	**20 42 02.8**	**-0.5**
	comp=Z,1.2nm,1.0s,baz=310,slow=4.7,SNR=4.6						
MNMC	**Minye Minye**	**145.72**	**67**	*e*PKPdf	**PKPdf**	**20 48 48.2**	**-1.8**
PB11	**IPOC Station P**	**146.07**	**68**	*e*PKPdf	**PKPdf**	**20 48 49.0**	**-1.5**

*SOME **28** 20:31:18.7, 42°.55N×79°.68E, h20km*

*KRNET **28** 20:31:19.6±0.1, 42°.59N×79°.64E, h17km, mb3.7*

*NNC **28** 20:31:19.0±1.1, 42°.60N×79°.63E, h0km±6km, mb4.1, mpv3.8, Error ellipse: s-maj=8.6km s-min=3.9km az=135.0*

*ISCJB **28** 20:31:20.7±0.7, 42°.61N±0°.03×79°.68E±0°.05, h10km, Error ellipse: s-maj=6.0km s-min=3.2km az=44.2*

ISC 28 20:31:21.8±1.2, 42°.67N±0°.04×79°.60E±0°.05, h10km, n61, σ1s23/96, 38C-15D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.50**	**349**	*e*P	**Pg**	**20 31 31.1**	**-0.5**
	baz=18						
SHLS				*e*S	**Sb**	**20 31 40.2**	**0.0**
	baz=18						
SHLS	**Shalkode**	**0.50**	**349**	*e*P	**Pg**	**20 31 31.1**	**-0.5**
	568nm,0.1s						
SHLS				*e*S	**

	301nm,0.3s							
KTBS	**Karatobe**	**2.37**	**297**	Pg	**Pb**	**20**	**32**	**03.1 -1.5**
KTBS				Lg	Lg	20	32	35.2
KTBS	**Karatobe**	**2.37**	**297**	*e*P	**Pb**	**20**	**32**	**02.7 -1.9**
	24nm,0.2s							
KTBS				*e*S	**Sb**	**20**	**32**	**34.7 +0.7**
	274nm,0.5s							
MTBS	**Maitube**	**2.37**	**282**	*e*P	**Pb**	**20**	**32**	**03.0 -1.7**
	143nm,0.3s							
MTBS				*e*S	**Sb**	**20**	**32**	**34.8 +0.8**
	165nm,0.2s							
ULHL	**Ulahol**	**2.52**	**261**	P	**Sn**	**20**	**32**	**38.8 +5.0**
	SNR=22							
ULHL	**Ulahol**	**2.52**	**261**	⇑*i*P	**Pn**	**20**	**32**	**03.5 +0.5**
	baz=63							
ULHL				⇑*i*S	**Sn**	**20**	**32**	**35.4 +1.6**
	baz=63							
KAPS	**Kapalarasan**	**2.62**	**356**	*e*P	**Pb**	**20**	**32**	**07.7 -1.3**
	9.4nm,0.3s							
KAPS				*e*S	**Sb**	**20**	**32**	**43.1 +1.9**
	82nm,0.5s							
KUU	**Kurty**	**2.68**	**298**	*e*P	**Pb**	**20**	**32**	**08.5 -1.3**
	6.5nm,0.2s							
KUU				*e*S	**Sb**	**20**	**32**	**44.2 +1.6**
	141nm,0.4s							
KST	**Kastek**	**2.70**	**279**	*e*P	**Pb**	**20**	**32**	**08.5 -1.7**
	37nm,0.1s							
KST				*e*S	**Sb**	**20**	**32**	**44.3 +0.8**
	127nm,0.6s							
DGS	**Degeres**	**2.87**	**283**	Pg	**Pb**	**20**	**32**	**10.9 -2.2**
	48nm,0.4s							
DGS				Lg	Lg	20	32	48.6
	407nm,0.3s							
NRN	**Naryn**	**2.95**	**246**	⇑*i*P	**Pn**	**20**	**32**	**09.3 +0.3**
	baz=48							
NRN				⇑*e*S	**Sn**	**20**	**32**	**45.9 +1.3**
	baz=48							
TKM2	**Tokmak 2**	**2.96**	**276**	P	**Pn**	**20**	**32**	**07.6 -1.4**
	SNR=16							
TKM2	**Tokmak 2**	**2.96**	**276**	⇑Pg	**Pn**	**20**	**32**	**10.9 +1.9**
	10nm,0.3s							
TKM2				⇑Lg	Lg	20	32	54.0
	55nm,0.4s							
TKM2	**Tokmak 2**	**2.96**	**276**	⇑*e*P	**Pn**	**20**	**32**	**09.5 +0.5**
	baz=78							
TKM2				⇑*i*S	**Sn**	**20**	**32**	**46.3 +1.7**
	baz=78							
KZA	**Kyzart**	**3.27**	**261**	P	**Pn**	**20**	**32**	**15.4 +1.9**
	SNR=11							
KZA	**Kyzart**	**3.27**	**261**	⇑*e*P	**Pn**	**20**	**32**	**14.0 +0.5**
	baz=62							
KZA				⇑*i*S	**Sn**	**20**	**32**	**53.9 +1.2**
	baz=62							
KBK	**Karagaybulak**	**3.43**	**271**	P	**Pn**	**20**	**32**	**16.0 +0.6**
	SNR=19							
KBK	**Karagaybulak**	**3.43**	**271**	⇓*i*P	**Pn**	**20**	**32**	**15.9 +0.5**
	baz=73							
KBK				⇓*i*S	**Sn**	**20**	**32**	**57.5 +1.3**
	baz=73							
CHMS	**Chumysh**	**3.58**	**277**	P	**Sb**	**20**	**33**	**09.4 +0.7**
	SNR=7.6							
CHMS	**Chumysh**	**3.58**	**277**	⇑*e*P	**Pn**	**20**	**32**	**18.1 +0.7**
	baz=78							
CHMS				⇑*i*S	**Sn**	**20**	**33**	**01.2 +1.5**
	baz=78							
FRU1	**Bishkek**	**3.66**	**274**	⇑*i*P	**Pn**	**20**	**32**	**19.5 +1.0**
	baz=75							
FRU1				⇑*i*S	**Sn**	**20**	**33**	**03.1 +1.3**
	baz=75							
AAK	**Ala-Archa**	**3.76**	**271**	⇓Pn	**Pn**	**20**	**32**	**20.1 +0.1**
	4.1nm,0.3s							
AAK				⇑Lg	Lg	20	33	18.9
	43nm,0.5s							
AAK	**Ala-Archa**	**3.76**	**271**	⇑*i*P	**Pn**	**20**	**32**	**21.0 +1.0**
	baz=72							
AAK				⇑*i*S	**Sn**	**20**	**33**	**05.6 +1.1**
	baz=72							
UCH	**Uchtor**	**3.79**	**265**	P	**Pn**	**20**	**32**	**21.9 +1.2**
	SNR=12							
UCH	**Uchtor**	**3.79**	**265**	⇑*e*P	**Pn**	**20**	**32**	**21.2 +0.6**
	baz=66							
UCH				⇑*i*S	**Sn**	**20**	**33**	**06.2 +0.7**
	baz=66							
USP	**Ospenovka**	**3.79**	**281**	P	**Pn**	**20**	**32**	**20.6 +0.4**
	SNR=9.5							
USP	**Ospenovka**	**3.79**	**281**	⇓*e*P	**Pn**	**20**	**32**	**21.5 +1.2**
	baz=82							
USP				⇓*i*S	**Sn**	**20**	**33**	**06.8 +1.9**
	baz=82							
ARLS	**Aral**	**4.00**	**260**	⇑*i*P	**Pn**	**20**	**32**	**23.9 +0.7**
	baz=61							
ARLS				⇑*i*S	**Sn**	**20**	**33**	**09.9 -0.3**
	baz=61							
EKS2	**Erkin-Say**	**4.29**	**272**	P	**Pb**	**20**	**32**	**38.7 +1.4**
	SNR=8.5							
EKS2	**Erkin-Say**	**4.29**	**272**	⇓*i*P	**Pn**	**20**	**32**	**28.2 +0.9**
	baz=73							
EKS2				⇓*i*S	**Sn**	**20**	**33**	**18.6 +1.2**
	baz=73							
AML	**Almayashu**	**4.40**	**265**	⇑*i*P	**Pn**	**20**	**32**	**30.1 +1.1**
	baz=66							
AML				⇑*i*S	**Sn**	**20**	**33**	**20.7 +0.1**
	baz=66							
MAKZ	**Makanchi**	**4.47**	**21**	⇑Pn	**Pn**	**20**	**32**	**30.0 +0.3**
	3.9nm,0.3s							
MAKZ				⇑Lg	Lg	20	33	42.4
	7.0nm,0.7s							
MK31	**Makanchi Array**	**4.55**	**24**	Pn	**Pn**	**20**	**32**	**30.8 +0.1**
	5.9nm,0.5s,baz=200,slow=12,SNR=32							
MK31				⇑Sn	**Sn**	**20**	**33**	**23.9 +0.3**
	2.9nm,0.5s,baz=183,slow=15,SNR=4.1							
MK31				⇑Lg	Lg	20	33	44.2
	1.9nm,0.3s,baz=209,slow=30,SNR=4.5							
MNAS	**Manas**	**5.24**	**270**	⇓Pg	**Pb**	**20**	**32**	**54.1 +0.6**
	3.8nm,0.8s							
MNAS				⇑Lg	Lg	20	34	08.0
	18nm,1.0s							
SFK	**Sufi-Kurgan**	**5.30**	**242**	⇓Pg	**Pb**	**20**	**32**	**55.2 +0.6**
	5.2nm,1.0s							
SFK				⇓Lg	Lg	20	34	06.0
	16nm,1.2s							
KK31	**Karatay Array**	**6.69**	**277**	⇓Pg	Pb	20	33	22.8 +4.6
	2.8nm,0.7s,baz=87,slow=15,SNR=10							
KK31				⇑Lg	Lg	20	34	51.4
	3.5nm,0.5s,baz=100,slow=26,SNR=12							
OTUK	**Ortayu**	**7.56**	**320**	⇑Lg	Lg	20	35	21.7
	4.8nm,0.6s							
KURBB	**Kurchatov Arra**	**7.99**	**355**	⇑Lg	Lg	20	35	35.8
	19nm,0.6s							
KURK	**Kurchatov**	**8.08**	**356**	⇑Lg	Lg	20	35	38.0
	10nm,0.9s							

MAN 28 20:33:52.7,5.44N×126.04E,h26km,mb4.6,ML3.5,MS3.4, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
MATI	**Mati**	**1.52**	**8**	*e*P		Pn	20	34	17.4	-0.8
MATI				*e*S		Sn	20	34	34.8	-2.3
DMPH	**Davao City--Mi**	**1.72**	**342**	*e*P		Pn	20	34	22.1	+1.2
DMPH				*e*S		Sn	20	34	43.5	+1.3
SKMP	**Bagumbayan, Su**	**1.83**	**306**	*e*P		Pn	20	34	22.4	-0.2
SKMP				*e*S		Sn	20	34	45.7	+0.7
BUKP	**Musuan**	**2.61**	**338**	*e*P		Pn	20	34	34.4	+1.1
BUKP				*e*S		Sn	20	35	04.5	+0.2

IDC ***28*** *20:33:51.8±1.2,31°.20N×127°.27E,h0km,mb3.4/4, mb1 3.5/6,mb1mx3.4/46,mbtmp3.4/6,ML2.8/2, Error ellipse: s-maj=27.5km s-min=17.4km az=92.0*
ISCJB ***28*** *20:33:52.2±0.7,31°.20N±0°.05×127°.45E±0°.08,h10km, mb3.4/4,Error ellipse: s-maj=9.7km s-min=7.3km az=26.3*
JMA ***28*** *20:33:52.1±0.4,31°.23N×127°.43E,h9km,M3.8*
ISC 28 20:33:54.2±1.0,31°.22N±0°.06×127°.47E±0°.07,h10km,n13, σ1s67/18,mb3.5/4,Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
JFU	**Fukue jima 2**	**1.80**	**37**	P		**Pn**	**20**	**34**	**23.8**	**-1.5**
JFU				S		**Sn**	**20**	**34**	**48.2**	**0.0**
JSJ	**Shimokoshiki**	**1.97**	**76**	P		**Pn**	**20**	**34**	**26.6**	**-1.1**
JSJ				*e*S		**Sn**	**20**	**34**	**50.3**	**-2.2**
NGSJ	**Nagasakinomoza**	**2.43**	**54**	P		**Pn**	**20**	**34**	**33.5**	**-0.5**
JAMN	**Amaminishikomi**	**3.31**	**153**	P		**Pn**	**20**	**34**	**45.5**	**-0.6**
JNU	**Nakatsue**	**3.46**	**56**	Pn		**Pn**	**20**	**34**	**50.4**	**+2.2**
	0.4nm,0.3s,baz=270,slow=4.0,SNR=4.1									
JNU				Pg		**Pb**	**20**	**34**	**56.4**	**+0.9**
	4.1nm,0.3s,baz=297,slow=10,SNR=16									
JNU				Sn		**Sb**	**20**	**35**	**38.9**	**+1.3**
	3.4nm,0.3s,baz=113,slow=22,SNR=6.5									
JTK	**Tokunoshima**	**3.66**	**159**	P		**Pn**	**20**	**34**	**50.5**	**-0.3**
JTU	**Tsushima**	**3.67**	**26**	P		**Pn**	**20**	**34**	**50.8**	**-0.3**
KSRS	**Korea Array**	**6.23**	**3**	Pn		**Pn**	**20**	**35**	**25.4**	**-0.8**
	1.5nm,0.3s,baz=181,slow=14,SNR=15									
KSRS				Pg		**Pb**	**20**	**35**	**44.9**	**+2.1**
	0.9nm,0.3s,baz=184,slow=14,SNR=5.1									
KSRS				Sn		**Sn**	**20**	**36**	**33.4**	**-4.1**
	1.4nm,0.3s,baz=184,slow=25,SNR=4.3									
KSRS				Lg		Lg	20	37	11.8	
	4.5nm,0.3s,baz=185,slow=30,SNR=10									
SONM	**Songino Array**	**23.11**	**322**	P		**P**	**20**	**38**	**59.7**	**-0.7**
	0.2nm,0.4s,baz=134,slow=10,SNR=2.3									
WMQ	**Urumqi**	**33.65**	**303**	*e*P		**P**	**20**	**40**	**36.3**	**+1.2**
WRA	**Warramunga Arr**	**51.29**	**172**	P		**P**	**20**	**42**	**59.0**	**+0.5**
	0.6nm,1.1s,baz=354,slow=8.6,SNR=2.8									
ASAR	**Alice Springs**	**54.92**	**173**	P		**P**	**20**	**43**	**24.1**	**-1.2**
	0.4nm,0.6s,baz=355,slow=8.4,SNR=6.2									
AKASG	**Malin Array Be**	**71.34**	**318**	P		P	20	45	11.0	-3.1
	0.4nm,0.5s,baz=60,slow=5.3,SNR=3.0									

BJI ***28*** *20:37:05.7,42°.62N×79°.51E,h9km,mb4.3/24,mB4.6/7, ML4.3/9,Ms4.0/6,Ms7 4.0/8*
IDC ***28*** *20:37:06.9±0.7,42°.48N×79°.70E,h0km,mb3.8/14, mb1 4.0/20,mb1mx3.8/52,mbtmp3.9/20,ML4.0/6,MS3.7/3, Ms1 3.7/3,ms1mx3.0/55,Error ellipse: s-maj=12.2km s-min=10.2km az=125.0*
MOS ***28*** *20:37:07.8±1.4,42°.58N×79°.80E,h14km,mb4.0/12,Error ellipse: s-maj=7.2km s-min=6.0km az=103.7*
NEIC ***28*** *20:37:08.7±0.3,42°.50N×79°.66E,h10km,mb4.4/6,Error ellipse: s-maj=5.3km s-min=4.5km az=156.0*
NNC ***28*** *20:37:09.3±0.7,42°.59N×79°.62E,h0km,mb5.1,mpv4.8, Error ellipse: s-maj=4.7km s-min=2.7km az=137.0*
KRNET ***28*** *20:37:09.9±0.1,42°.60N×79°.58E,h17km,mb4.6*
SOME ***28*** *20:37:09.1,42°.55N×79°.63E,h20km,MS3.3*
ISC 28 20:37:08.7±1.0,42°.54N±0°.02×79°.66E±0°.02,h12km±6km, n195,σ2s00/261,mb3.9/22,47C-15D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
SHLS	**Shalkode**	**0.64**	**347**	P		**Pg**	**20**	**37**	**21.6**	**+0.4**
	5μm,0.1s									
SHLS				S		**Sb**	**20**	**37**	**30.7**	**-0.2**
	24μm,0.3s									
SHLS	**Shalkode**	**0.64**	**347**	*e*P		**Pg**	**20**	**37**	**21.6**	**+0.4**
	baz=22									
SHLS				*e*S		**Sb**	**20**	**37**	**30.6**	**-0.2**
	baz=22									
SHLS	**Shalkode**	**0.64**	**347**	*e*P		**Pg**	**20**	**37**	**21.6**	**+0.4**
	5μm,0.3s									
SHLS				*e*S		**Sb**	**20**	**37**	**30.6**	**-0.2**
	33μm,0.3s									
UZB	**Uzynbulak**	**0.77**	**323**	P		**Pg**	**20**	**37**	**23.3**	**-0.3**
	2μm,0.1s									
UZB				S		**Sg**	**20**	**37**	**33.5**	**-0.2**
	9μm,0.3s									
UZB	**Uzynbulak**	**0.77**	**323**	*e*P		**Pg**	**20**	**37**	**23.3**	**-0.3**
	baz=23									
UZB				*e*S		**Sg**	**20**	**37**	**33.4**	**-0.3**
	baz=23									
UZB	**Uzynbulak**	**0.77**	**323**	*e*P		**Pg**	**20**	**37**	**23.3**	**-0.3**
	2μm,0.1s									
UZB				*e*S		**Sg**	**20**	**37**	**33.4**	**-0.3**
	12μm,0.3s									
PDGK	**Podgornoye**	**0.80**	**351**	P		**Pg**	**20**	**37**	**23.8**	**-0.5**
	414nm,0.3s									
PDGK				S		**Sg**	**20**	**37**	**34.3**	**-0.5**
	3μm,0.7s									
PDGK	**Podgornoye**	**0.80**	**351**	⇓P		**Pg**	**20**	**37**	**23.7**	**-0.5**
	354nm,0.4s									
PDGK				⇓S		**Sg**	**20**	**37**	**34.1**	**-0.8**
	5μm,0.7s									
PDGK	**Podgornoye**	**0.80**	**351**	PG		**Pg**	**20**	**37**	**23.7**	**-0.5**
PDGK				S		**Sg**	**20**	**37**	**34.0**	**-0.8**
PDGK				pmax		pmax				
	comp=Z,354nm,0.4s									
PDGK				smax		smax				
	comp=E,5μm,0.7s									
PDGK	**Podgornoye**	**0.80**	**351**	⇑*i*P		**Pg**	**20**	**37**	**23.8**	**-0.5**
	baz=54									
PDGK				⇑*i*S		**Sg**	**20**	**37**	**34.3**	**-0.5**
	baz=54									
PRZ	**Przheval'sk**	**0.93**	**267**	*e*Pg		**Pg**	**20**	**37**	**26.4**	**-0.3**
PRZ	**Przheval'sk**	**0.93**	**267**	*e*PG		**Pg**	**20**	**37**	**26.4**	**-0.3**
PRZ	**Przheval'sk**	**0.93**	**267**	⇑*i*P		**Pg**	**20**	**37**	**26.7**	**0.0**
	baz=62									
PRZ				⇑*i*S		**Sb**	**20**	**37**	**39.5**	**+0.2**
	baz=62									
KTMS	**Ketmen**	**1.04**	**29**	P		**Pg**	**20**	**37**	**28.1**	**-0.8**
	comp=E,239nm,0.1s									
KTMS				S		**Sg**	**20**	**37**	**41.8**	**-0.7**
	comp=E,2μm,0.2s									
SATY	**Saty**	**1.06**	**300**	P		**Pb**	**20**	**37**	**28.2**	**-0.9**
	comp=E,1μm,0.2s									
SATY				S		**Sg**	**20**	**37**	**41.9**	**-1.0**
	comp=E,5μm,0.1s									
SATY	**Saty**	**1.06**	**300**	*e*P		**Pb**	**20**	**37**	**28.2**	**-0.9**
	comp=E,528nm,0.5s									
SATY				*e*S		**Sg**	**20**	**37**	**42.1**	**-0.8**
	comp=E,5μm,0.1s									
KURS	**Kuram**	**1.45**	**312**	*e*P		**Pn**	**20**	**37**	**35.3**	**+0.5**
	baz=11									
KURS				*e*S		**Sn**	**20**	**37**	**54.2**	**+0.5**
	baz=11									
KURS	**Kuram**	**1.45**	**312**	*e*P		**Pn**	**20**	**37**	**35.3**	**+0.5**
	comp=E,257nm,0.3s									
KURS				*e*S		**Sn**	**20**	**37**	**54.2**	**+0.5**
	comp=E,2μm,0.5s									
TARG	**Taragay, Kyrgy**	**1.59**	**240**	*e*Pn		**Pn**	**20**	**37**	**37.2**	**+0.1**
MNBS	**Baschi**	**1.79**	**330**	P		**Pb**	**20**	**37**	**41.5**	**0.0**
	comp=E,242nm,0.2s									
MNBS				S		**Sb**	**20**	**38**	**04.9**	**+0.8**
	comp=E,2μm,0.2s									
KDJ	**Kajisay**	**1.88**	**258**	*e*Pn		**Pb**	**20**	**37**	**44.0**	**+1.0**
KDJ	**Kajisay**	**1.88**	**258**	*e*PN		**Pb**	**20**	**37**	**44.1**	**+1.0**
KDJ	**Kajisay**	**1.88**	**258**	⇑*e*P		**Pb**	**20**	**37**	**44.0**	**+1.0**
	baz=56									
KDJ				⇑*i*S		**Sg**	**20**	**38**	**09.0**	**-0.2**
	baz=56									
KOTS	**Kotyrbulak**	**2.00**	**291**	Pg		**Pb**	**20**	**37**	**45.3**	**+0.2**
	comp=E,326nm,0.2s									
KOTS				Lg		Lg	20	38	12.3	
	comp=E,3μm,0.6s									
KOTS	**Kotyrbulak**	**2.00**	**291**	*e*P		**Pb**	**20**	**37**	**46.0**	**+1.0**
	baz=90									
KOTS				*e*S		**Sg**	**20**	**38**	**12.4**	**-0.5**
	baz=90									
KOTS	**Kotyrbulak**	**2.00**	**291**	*e*P		**Pb**	**20**	**37**	**46.0**	**+1.0**
	comp=E,328nm,0.3s									
KOTS				*e*S		**Sg**	**20**	**38**	**12.4**	**-0.5**
	comp=E,3μm,0.6s									
MDOK	**Medeo**	**2.02**	**289**	Pg		**Pb**	**20**	**37**	**45.1**	**-0.2**
	comp=E,294nm,0.3s									
MDOK				Lg		Lg	20	38	11.5	
	comp=E,2μm,0.4s									
MDOK	**Medeo**	**2.02**	**289**	*e*P		**Pb**	**20**	**37**	**45.2**	**-0.2**
	baz=88									
MDOK				*e*S		**Sb**	**20**	**38**	**11.3**	**+0.8**
	baz=88									
MDOK	**Medeo**	**2.02**	**289**	*e*P		**Pb**	**20**	**37**	**45.2**	**-0.2**
	comp=E,253nm,0.5s									
MDOK				*e*S		**Sb**	**20**	**38**	**11.3**	**+0.8**
	comp=E,1μm,0.5s									
TNSS	**Tian-Shan**	**2.06**	**285**	Pg		**Pb**	**20**	**37**	**45.9**	**-0.3**
	comp=E,429nm,0.3s									
TNSS				Lg		Lg	20	38	13.4	
	comp=E,2μm,0.5s									
TNSS	**Tian-Shan**	**2.06**	**285**	*e*P		**Pb**	**20**	**37**	**45.8**	**-0.4**
	baz=83									
TNSS				*e*S		**Sb**	**20**	**38**	**13.2**	**+1.3**
	baz=83									
TNSS	**Tian-Shan**	**2.06**	**285**	*e*P		**Pb**	**20**	**37**	**45.8**	**-0.4**
	comp=E,429nm,0.3s									
TNSS				*e*S		**Sb**	**20**	**38**	**13.2**	**+1.3**
	comp=E,2μm,0.3s									
KNDC	**Almaty**	**2.09**	**290**	⇑Pn		**Pb**	**20**	**37**	**46.3**	**-0.3**
	comp=E,453nm,0.3s									
KNDC				⇑Lg		Lg	20	38	14.8	
	comp=E,4μm,0.8s									
AAA	**Alma-Ata**	**2.12**	**289**	Pg		**Pb**	**20**	**37**	**47.6**	**+0.4**
	comp=E,401nm,0.2s									
AAA				Lg		Lg	20	38	16.1	
	comp=E,4μm,0.4s									
AAA	**Alma-Ata**	**2.12**	**289**	*e*PN		**Pb**	**20**	**37**	**47.6**	**+0.4**
AAA				*e*S		**Sg**	**20**	**38**	**16.1**	**-0.9**
AAA				pmax		pmax				
	comp=Z,401nm,0.2s									
AAA				smax		smax				
	comp=N,2μm,0.4s									
ARXS	**Arharly**	**2.14**	**322**	Pg		**Pb**	**20**	**37**	**47.2**	**-0.3**
	comp=N,412nm,0.5s									
ARXS				Lg		Lg	20	38	15.1	
	comp=N,8μm,0.4s									
ARXS	**Arharly**	**2.14**	**322**	*e*P		**Pb**	**20**	**37**	**47.8**	**+0.3**
	comp=N,412nm,0.5s									
ARXS				*e*S		**Sb**	**20**	**38**	**15.4**	**+1.3**
	comp=N,8μm,0.4s									
IZV	**Izvestkoviy**	**2.29**	**284**	Pg		**Pb**	**20**	**37**	**50.1**	**0.0**
	comp=N,621nm,0.4s									
IZV				Lg		Lg	20	38	20.4	
	comp=N,2μm,0.3s									
CHKK	**Chushkaly**	**2.35**	**305**	Pg		**Pb**	**20**	**37**	**50.9**	**-0.1**
	comp=N,247nm,0.4s									
CHKK				Lg		Lg	20	38	21.6	
	comp=N,5μm,0.3s									
CHKK	**Chushkaly**	**2.35**	**305**	*e*P		**Pb**	**20**	**37**	**51.3**	**+0.2**
	baz=4.0									
CHKK				*e*S		**Sb**	**20**	**38**	**21.6**	**+1.5**
	baz=4.0									
CHKK	**Chushkaly**	**2.35**	**305**	*e*P		**Pb**	**20**	**37**	**51.3**	**+0.2**
	comp=N,83nm,0.2s									
CHKK				*e*S		**Sb**	**20**	**38**	**21.6**	**+1.5**
	comp=N,5μm,0.3s									
MTBS	**Maitube**	**2.45**	**285**	Pg		**Pb**	**20**	**37**	**52.5**	**-0.1**
	comp=N,946nm,0.5s									
MTBS				Lg		Lg	20	38	24.6	
	comp=N,2μm,0.4s									
MTBS	**Maitube**	**2.45**	**285**	*e*P		**Pb**	**20**	**37**	**53.0**	**+0.3**
	baz=84									
MTBS				*e*S		**Sb**	**20**	**38**	**24.5**	**+1.7**
	baz=84									
MTBS	**Maitube**	**2.45**	**285**	*e*P		**Pb**	**20**	**37**	**53.0**	**+0.3**
	comp=N,455nm,0.3s									
MTBS				*e*S		**Sb**	**20**	**38**	**24.5**	**+1.7**
	comp=N,2μm,0.5s									
KTBS	**Karatobe**	**2.47**	**299**	Pg		**Pb**	**20**	**37**	**53.0**	**-0.2**
	comp=N,190nm,0.3s									
KTBS				Lg		Lg	20	38	25.3	
	comp=N,3μm,0.2s									
KTBS	**Karatobe**	**2.47**	**299**	*e*P		**Pb**	**20**	**37**	**53.5**	**+0.4**
	baz=98									
KTBS				*e*S		**Sb**	**20**	**38**	**25.2**	**+1.6**
	baz=98									
KTBS	**Karatobe**	**2.47**	**299**	*e*P		**Pb**	**20**	**37**	**53.5**	**+0.4**
	comp=N,135nm,0.2s									
KTBS				*e*S		**Sb**	**20**	**38**	**25.2**	**+1.6**
	comp=N,5μm,0.4s									
ULHL	**Ulahol**	**2.54**	**265**	P		**Pb**	**20**	**37**	**53.1**	**-1.3**
	SNR=41									
ULHL	**Ulahol**	**2.54**	**265**	⇑*i*P		**Pb**	**20**	**37**	**53.4**	**-1.1**
	baz=63									
ULHL				⇑*i*S		**Sb**	**20**	**38**	**25.9**	**+0.1**
	baz=63									
BOOM	**Boomskoye usch**	**2.75**	**270**	⇓*i*P		**Pb**	**20**	**37**	**56.3**	**-1.6**
	baz=69									
BOOM				⇓*i*S		**Sb**	**20**	**38**	**30.1**	**-1.5**
	baz=69									
KAPS	**Kapalarasan**	**2.76**	**356**	Pg		**Pb**	**20**	**37**	**57.9**	**-0.1**
	comp=N,132nm,0.2s									
KAPS				Lg		Lg	20	38	33.7	
	comp=N,2μm,0.3s									
KAPS	**Kapalarasan**	**2.76**	**356**	*e*P		**Pb**	**20**	**37**	**57.4**	**-0.6**
	comp=N,150nm,0.6s									
KAPS				*e*S		**Sb**	**20**	**38**	**32.2**	**+0.5**
	comp=N,2μm,0.3s									
KST	**Kastek**	**2.77**	**282**	*e*P		**Pb**	**20**	**37**	**58.6**	**+0.5**
	baz=81									
KST				*e*S		**Sb**	**20**	**38**	**34.1**	**+2.1**
	baz=81									
KST	**Kastek**	**2.77**	**282**	*e*P		**Pb**	**20**	**37**	**58.6**	**+0.5**
	comp=N,315nm,0.3s									
KST				*e*S		**Sb**	**20**	**38**	**34.1**	**+2.1**
	comp=N,2μm,0.6s									
KUU	**Kurty**	**2.78**	**300**	Pg		**Pb**	**20**	**37**	**57.9**	**-0.4**
	comp=N,92nm,0.4s									
KUU				Lg		Lg	20	38	33.9	
	comp=N,2μm,0.3s									
KUU	**Kurty**	**2.78**	**300**	*e*P		**Pb**	**20**	**37**	**58.4**	**+0.1**
	baz=0.0									
KUU				*e*S		**Sb**	**20**	**38**	**33.8**	**+1.5**
	baz=0.0									
KUU	**Kurty**	**2.78**	**300**	*e*P		**Pb**	**20**	**37**	**58.4**	**+0.1**
	comp=N,60nm,0.3s									
KUU				*e*S		**Sb**	**20**	**38**	**33.8**	**+1.5**
	comp=N,2μm,0.4s									
NRN	**Naryn**	**2.94**	**249**	*e*Pn		**Pb**	**20**	**37**	**59.1**	**-2.1**
NRN	**Naryn**	**2.94**	**249**	*e*PN		**Pb**	**20**	**37**	**59.1**	**-2.1**
NRN	**Naryn**	**2.94**	**249**	⇑*e*P	

SNR=14
AAK Ala-Archa 3.81 273 ⇓Pg Pb 20 38 17.9 +1.9
comp=E,96nm,0.7s
AAK ⇑Lg Lg 20 39 06.9
comp=E,468nm,0.7s
AAK Ala-Archa 3.81 273 PN Pb 20 38 17.9 +1.9
AAK pmax pmax
comp=E,96nm,0.7s
AAK Ala-Archa 3.81 273 ⇑*i*P Pn 20 38 10.6 +3.2
baz=72
AAK ⇑*i*S Sn 20 38 55.8 +3.6
baz=72
UCH Uchtor 3.82 267 P Pb 20 38 12.5 -3.8
SNR=15
UCH Uchtor 3.82 267 ⇑*i*P Pn 20 38 11.2 +3.4
baz=66
UCH ⇑*i*S Sn 20 38 56.7 +3.8
baz=66
USP Ospenovka 3.86 283 P Pb 20 38 15.2 -1.6
SNR=28
USP Ospenovka 3.86 283 ⇑*i*P Pn 20 38 11.4 +3.5
baz=82
USP ⇑*i*S Sn 20 38 57.0 +3.8
baz=82
ARLS Aral 4.02 262 ⇑*i*P Pn 20 38 13.3 +3.1
baz=61
ARLS ⇑*e*S Sn 20 39 00.6 +3.3
baz=61
KSH Kashi 4.11 224 Pg Pb 20 38 23.0 +2.0
KSH Sn **Sg 20 39 17.5 -3.0**
KSH LR LR
comp=Z,1μm,6.2s
KSH LR LR
comp=Z,2μm,7.8s
EKS2 Erkin-Say 4.34 274 P Pb 20 38 23.6 -1.4
SNR=15
EKS2 Erkin-Say 4.34 274 ⇑*i*P Pn 20 38 18.4 +3.8
baz=73
EKS2 ⇑*i*S Sn 20 39 08.6 +3.4
baz=73
AML Almayashu 4.44 267 P Pb 20 38 27.7 +0.9
SNR=20
AML Almayashu 4.44 267 ⇑*i*P Pn 20 38 19.8 +3.6
baz=66
AML ⇑*i*S Sn 20 39 11.6 +3.6
baz=66
MAKZ Makanchi 4.58 20 *e*Pn Pn 20 38 20.0 +2.1
MAKZ Makanchi 4.58 20 ⇑Pn Pn 20 38 19.9 +2.1
comp=Z,36nm,0.3s
MAKZ ⇑Sn Sn 20 39 14.4 +3.4
comp=Z,25nm,0.5s
MAKZ ⇑Lg Lg 20 39 32.2
comp=Z,86nm,0.8s
MAKZ Makanchi 4.58 20 PN Pn 20 38 19.9 +2.1
MAKZ 20 39 14.4
MAKZ pmax pmax
comp=Z,36nm,0.4s
MAKZ smax smax
comp=E,25nm,0.5s
MK01 Makanchi Array 4.63 23 *e*Pn Pn 20 38 20.7 +2.1
MK31 Makanchi Array 4.65 23 *e*Pn Pn 20 38 21.3 +2.5
MK31 Makanchi Array 4.65 23 ⇑Pn Pn 20 38 20.9 +2.1
comp=E,46nm,0.5s,baz=203,slow=13,SNR=229
MK31 ⇑Pg **Pb 20 38 32.2 +1.9**
comp=E,38nm,0.5s,baz=201,slow=14,SNR=8.3
MK31 ⇑Sn **Sn 20 39 13.8 +1.0**
comp=E,72nm,0.5s
MK31 ⇑Lg Lg 20 39 34.7
comp=E,60nm,0.5s
MK31 Makanchi Array 4.65 23 *e*PN Pn 20 38 20.9 +2.1
MK31 20 38 32.1
MK31 20 39 13.7
MK31 pmax pmax
comp=Z,46nm,0.5s
MK31 pmax pmax
comp=Z,38nm,0.5s
MK31 smax smax
comp=E,72nm,0.5s
MK32 Makanchi Array 4.65 23 *e*Pn Pn 20 38 21.2 +2.4
MK32 *e*Sn **Sn 20 39 14.6 +1.8**
MK32 *e*Lg Lg 20 39 36.5
MKAR Makanchi Array 4.65 23 Pn Pn 20 38 21.2 +2.4
comp=E,32nm,0.3s,baz=204,slow=13,SNR=212
MKAR Sn **Sn 20 39 14.6 +1.8**
comp=E,31nm,0.3s,baz=204,slow=25,SNR=9.3
MKAR Lg Lg 20 39 36.5
comp=E,28nm,0.3s,baz=204,slow=29,SNR=6.1
MRKS Merke 4.75 275 Pg Pb 20 38 33.9 +2.0
comp=E,80nm,0.4s
MRKS Lg Lg 20 39 35.8
comp=E,101nm,0.3s
ARSB Arslanbob 5.12 259 *e*Pn Pn 20 38 26.7 +1.3
SFK Sufi-Kurgan 5.28 244 ⇓Lg Lg 20 39 58.0
comp=E,166nm,1.0s
MNAS Manas 5.29 272 ⇑Pg Pb 20 38 45.7 +4.6
comp=E,40nm,0.7s
MNAS ⇑Lg Lg 20 39 57.0
comp=E,84nm,0.5s
MNAS Manas 5.29 272 Pg Pb 20 38 44.2 +3.0
comp=E,21nm,0.7s
MNAS Lg Lg 20 39 53.7
comp=E,44nm,0.5s
WMQ Urumqi 6.02 75 Pn Pn 20 38 41.3 +3.7
WMQ Sn **Sn 20 39 47.0 +0.6**
WMQ SS **SnSn 20 39 59.8 +2.3**
WMQ smax smax
comp=E,250nm,0.9s
WMQ smax smax
comp=E,340nm,1.1s
WMQ Urumqi 6.02 75 *e*Pn Pn 20 38 37.0 -0.6
WMQ Urumqi 6.02 75 *e*PN Pn 20 38 37.0 -0.6
ZSN Zaisan 6.15 35 Pg Pb 20 38 59.0 +3.3
comp=E,13nm,0.7s
KK31 Karatay Array 6.75 278 *e*Pn Pn 20 38 51.4 +3.8
KK31 Karatay Array 6.75 278 ⇑Pg Pg 20 39 14.0 -3.9
comp=E,8.8nm,0.5s,baz=86,slow=15,SNR=36
KK31 ⇑Lg Lg 20 40 40.3
comp=E,208nm,0.9s
KK31 Karatay Array 6.75 278 *e*PN Pn 20 38 51.4 +3.8
KKAR Karatay Array 6.75 278 *e*Pn Pn 20 38 51.5 +3.9
KKAR Karatay Array 6.75 278 *e*PN Pn 20 38 51.5 +3.9
BTK Batken 7.10 253 *e*Pn Pn 20 38 55.8 +3.3
BTK Batken 7.10 253 *e*P Pn 20 38 55.8 +3.3
OTUK Ortayu 7.69 320 ⇓Pn Pn 20 39 01.0 +0.6
comp=E,10nm,0.5s
OTUK ⇓Sn **Sn 20 40 27.0 -0.4**
comp=E,37nm,0.6s
OTUK ⇑Lg Lg 20 41 08.4
comp=E,163nm,1.1s
OTUK Ortayu 7.69 320 P Pn 20 39 01.0 +0.6
OTUK 20 40 25.6
OTUK pmax pmax
comp=Z,10.0nm,0.5s
OTUK smax smax
comp=E,37nm,0.6s
KURBB Kurchatov Arra 8.13 355 Pn Pn 20 39 07.3 +0.9
comp=E,0.3nm,0.3s,baz=192,slow=28,SNR=14
KURBB Sn **Sn 20 40 36.9 -1.2**
comp=E,0.7nm,0.3s,baz=339,slow=5.1,SNR=3.6
KURBB Lg Lg 20 41 20.8
comp=E,1.5nm,0.3s,baz=178,slow=32,SNR=7.4
KURK Kurchatov 8.21 355 *e*Pn Pn 20 39 07.3 -0.3
KURK *e*Sn **Sn 20 40 36.9 -3.4**
KURK Lg Lg 20 41 20.8
KURK Kurchatov 8.21 355 ⇑Pn Pn 20 39 08.8 +1.2
comp=E,5.5nm,0.7s
KURK ⇑Pg Pb 20 39 37.4 +6.6
comp=E,9.3nm,0.6s
KURK ⇓Lg Lg 20 41 26.2
comp=E,82nm,0.6s
KURK Kurchatov 8.21 355 P Pn 20 39 07.3 -0.3
KURK 20 40 36.9
KURK smax smax
comp=N,1.0nm,0.3s
NIL Nilore 10.20 212 *e*Pn Pn 20 39 36.6 +1.6
NIL Nilore 10.20 212 *e*P Pn 20 39 36.6 +1.6
ZAA0 Zalesovo Array 11.92 15 *e*Pn Pn 20 39 58.7 +0.4
ZAA0 Zalesovo Array 11.92 15 ⇑Pn Pn 20 39 58.4 0.0
comp=N,21nm,1.1s
ZALV Zalesovo Beam 11.92 15 Pn Pn 20 39 58.9 +0.5
comp=N,2.8nm,0.3s,baz=200,slow=12,SNR=38
ZALV Sn **Sn 20 42 04.9 -6.3**
comp=N,1.5nm,0.3s,baz=212,slow=20,SNR=4.1
ZALV Lg Lg 20 43 22.1
baz=193,slow=30,SNR=2.5
ZALV Zalesovo Beam 11.92 15 *e*Pn Pn 20 39 58.0 -0.4
ZALV Sn **Sn 20 42 04.9 -6.3**
ZALV Lg Lg 20 43 22.1
ZALV Zalesovo Beam 11.92 15 *e*P Pn 20 39 58.0 -0.4
ZALV 20 42 04.9
ZAA1 Zalesovo Array 11.93 15 *e*Pn Pn 20 39 58.9 +0.5
BVAR Borovoye Array 12.19 333 Pn Pn 20 40 02.2 +0.1
comp=N,0.9nm,0.3s,baz=143,slow=14,SNR=13
BVAR Sn **Sn 20 42 09.4 -8.5**
comp=N,0.4nm,0.3s,baz=139,slow=23,SNR=2.6
BVAR Lg Lg 20 43 28.4
comp=N,1.4nm,0.3s,baz=120,slow=26,SNR=5.9
NVS Novosibirsk 12.54 10 *e*P Pn 20 40 12.4 +5.6
NVS *e* 20 42 24.0
DANN Dangsing 14.54 165 *e*P Pn 20 40 31.4 -3.2
comp=N,10nm,0.5s
PYUN Piuthan 14.66 168 *e*P Pn 20 40 33.1 -3.0
comp=N,13nm,0.4s
KOLN Koldanda 15.08 166 *e*P Pn 20 40 39.0 -2.8
comp=N,7.0nm,0.5s
ABKAR Akbulak array 15.26 303 *e*Pn Pn 20 40 45.2 +1.4
DMN Daman 15.54 162 *e*P Pn 20 40 45.3 -2.6
comp=N,4.3nm,0.5s
GTA Gaotai 15.54 95 *e*P Pn 20 40 47.0 -0.7
GTA pP P 20 40 51.8 -0.3
GTA sP pP 20 40 54.0 -2.3
GTA pmax pmax
comp=N,3.0nm,1.4s
PKIN Phulchoki 15.64 161 *e*P Pn 20 40 47.5 -1.7
comp=N,6.8nm,0.6s
PKI Pulchoki 15.65 161 *e*P Pn 20 40 48.1 -1.3
comp=N,5.0nm,0.4s
JIRN Jiri 15.77 158 *e*P Pn 20 40 50.1 -0.8
comp=N,16nm,0.5s
LSA Lhasa 15.80 140 *e*Pn Pn 20 40 53.1 +1.6
comp=N,5.9nm,0.8s
LSA Lhasa 15.80 140 *e*P Pn 20 40 53.1 +1.6
LSA pmax pmax
comp=Z,6.0nm,0.8s
AKTO Aktyubinsk 16.82 305 Pn Pn 20 41 04.4 +0.4
comp=Z,0.6nm,0.3s,baz=98,slow=13,SNR=7.9
AKTO Sn **Sn 20 44 03.2 -7.5**
comp=Z,0.1nm,0.3s,baz=193,slow=11,SNR=2.4
AKTO Lg Lg 20 46 01.6
comp=Z,0.2nm,0.3s,baz=321,slow=5.1,SNR=2.8
ARU Arti 19.41 323 *e*P Pn 20 41 36.0 +0.3
comp=Z,6.7nm,0.5s
ARU Arti 19.41 323 *d i*P Pn 20 41 35.3 -0.3
ARU S **S 20 45 16.1 +2.5**
ARU pmax pmax
comp=Z,6.0nm,1.1s
SONA0 Songino Array 19.53 65 *e*P Pn 20 41 37.1 -0.2
SONM Songino Array 19.53 65 P Pn 20 41 37.1 -0.2
comp=Z,1.1nm,0.3s,baz=266,slow=11,SNR=35
SONA1 Songino Array 19.54 65 *e*P Pn 20 41 36.9 -0.5
SHL Shillong 19.69 145 *e*P P 20 41 37.7 -0.3
comp=Z,12nm,0.4s
SHL Shillong 19.69 145 *e*P P 20 41 37.7 -0.3
SHL pmax pmax
comp=Z,13nm,0.4s
LZH Lanzhou 19.76 101 *e*P Pn 20 41 41.3 +1.1
LZH pP sP 20 41 44.5 -0.5
LZH sP pP 20 41 46.8 +3.9
LZH pmax pmax
comp=Z,26nm,1.0s
LZH pmax pmax
comp=Z,98nm,4.1s
LZH LR LR
comp=Z,530nm,12.1s
ULN Ulaanbaatar 19.97 65 *e*P P 20 41 39.8 -1.1
comp=Z,17nm,1.9s
ULN Ulaanbaatar 19.97 65 *e*P P 20 41 39.8 -1.1
ULN pmax pmax
comp=Z,17nm,1.9s
CD2 Chengdu 22.45 113 *e*P P 20 42 07.5 -0.2
HHC Hu-ho-hao-te 23.82 83 *e*P P 20 42 21.0 -0.6
HHC pmax pmax
comp=Z,8.0nm,0.8s
HHC pmax pmax
comp=Z,240nm,5.1s
HHC LR LR
comp=Z,190nm,7.9s
HHC LR LR
comp=Z,160nm,10.1s
KMI Kunming 25.74 125 P P 20 42 41.0 +1.6
KMI pmax pmax
comp=Z,13nm,0.5s
GNI Garni 26.21 277 P P 20 42 44.3 +0.9
comp=Z,0.8nm,0.4s,baz=67,slow=7.7,SNR=1.8
KBZ Khabaz 26.72 285 P P 20 42 49.1 +1.4
comp=Z,0.2nm,0.4s,baz=68,slow=11,SNR=1.9
CM31 Chiang Mai Arr 29.05 140 *e*P P 20 43 08.9 0.0
CMAR Chiang Mai Arr 29.05 140 P P 20 43 10.1 +1.2
comp=Z,0.6nm,0.8s,baz=316,slow=10,SNR=6.1
OBN Obninsk 30.52 309 *e*P P 20 43 20.0 -1.5
OBN pmax pmax
comp=Z,3.0nm,1.0s
NJ2 Nanjing 32.63 96 *e*P P 20 43 42.0 +1.6
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
BR101 Keskin Array S 34.45 281 *e*P P 20 43 56.1 -0.2
BR131 Keskin Array S 34.45 281 *e*P P 20 43 56.1 -0.2
BRTR Keskin Array B 34.45 281 P P 20 43 56.1 -0.2
comp=Z,0.5nm,0.6s,baz=100,slow=8.1,SNR=4.2
KLR Kul'dur 36.26 61 P P 20 44 10.6 -1.0
comp=Z,1.3nm,0.6s,baz=289,slow=9.4,SNR=4.8
FIA0 FINESS Array S 36.72 320 *e*P P 20 44 15.3 0.0
FIA0 FINESS Array S 36.72 320 *e*P P 20 44 15.3 0.0
FINES FINESS Array B 36.72 320 P P 20 44 15.3 0.0
comp=Z,1.2nm,0.5s,baz=94,slow=7.6,SNR=4.8
ARA0 ARCESS Array S 38.48 333 *e*P P 20 44 31.6 +1.4
ARCES ARCESS Array B 38.48 333 P P 20 44 31.6 +1.4
comp=Z,2.5nm,0.8s,baz=97,slow=9.9,SNR=3.6
ARCES ARCESS Array B 38.48 333 P P 20 44 31.6 +1.4
ARCES pmax pmax
comp=Z,2.0nm,0.8s
NB2 NORSAR Subarra 43.90 319 P P 20 45 14.8 0.0
comp=Z,0.7nm,0.5s,baz=83,slow=7.9
NB200 NORSAR Array S 43.90 319 *e*P P 20 45 15.1 +0.2
NOA NORSAR Array B 43.90 319 P P 20 45 15.1 +0.2
comp=Z,0.9nm,0.5s,baz=84,slow=7.9,SNR=5.6
JHJ Hachijo jima 2 47.53 81 LR LR 21 08 27.0
comp=Z,384nm,18.8s,baz=84,slow=40
BILL Bilibino 50.17 29 *e*P P 20 46 03.3 -0.3
BILL pmax pmax
comp=Z,1.0nm,0.9s
INK Inuvik 66.72 13 P P 20 47 59.2 +0.2
comp=Z,1.1nm,0.7s,baz=321,slow=8.4
ILAR Eielson Array 67.00 20 P P 20 48 01.1 +0.1
comp=Z,0.6nm,0.8s,baz=321,slow=4.0,SNR=8.3
ILB Eielson Array 67.00 20 *e*P P 20 47 59.6 -1.4
TOA1 Torodi Ar. Sit 72.40 272 *e*P P 20 48 34.5 -0.5
TOA0 Torodi Ar. Sit 72.40 272 *e*P P 20 48 34.4 -0.6
TORD Torodi Ar. Bea 72.40 272 P P 20 48 34.5 -0.5
comp=Z,0.9nm,0.5s,baz=41,slow=5.5,SNR=16
YKA Yellowknife Ar 74.69 7 P P 20 48 47.5 -0.3
comp=Z,0.8nm,0.7s,baz=345,slow=5.9,SNR=12
YKB5 Yellowknife Ar 74.69 7 *e*P P 20 48 47.5 -0.3
WR1 Warramunga Arr 80.00 129 *e*P P 20 49 17.6 -0.4
comp=Z,56nm,1.7s
WRA Warramunga Arr 80.00 129 P P 20 49 17.6 -0.4
comp=Z,1.1nm,1.1s,baz=314,slow=7.2,SNR=4.1
PMG Port Moresby 80.23 112 LR LR 21 28 01.5
comp=Z,77nm,20.0s,baz=206,slow=38
ASAR Alice Springs 82.70 131 P P 20 49 32.0 -0.3
comp=Z,0.1nm,0.3s,baz=330,slow=5.4,SNR=3.9
ASAR Alice Springs 82.70 131 P P 20 49 32.0 -0.3
P53A Whipple 96.56 345 *e*P P 20 50 38.2 -0.1
comp=Z,60nm,1.3s
PV21 Cone Mtn., Par 98.90 7 *e*P P 20 50 49.1 0.0
comp=Z,13nm,1.1s

*IDC **28** 20:40:23.0±2.0, 42.˚53N×79.˚64E, h0km, mb3.4/2, mb1 3.8/6, mb1mx3.4/46, mbtmp3.7/6, ML3.8/3, Error ellipse: s-maj=32.0km s-min=10.1km az=151.0*
*BJI **28** 20:40:24.8, 42.˚64N×79.˚49E, h5km, ML3.8/7*
*SOME **28** 20:40:24.7, 42.˚52N×79.˚68E, h20km, MS2.8*
*NNC **28** 20:40:25.3±0.8, 42.˚59N×79.˚62E, h0km, mb4.9, mpv4.6, Error ellipse: s-maj=5.1km s-min=2.9km az=136.0*
*KRNET **28** 20:40:26.0±0.1, 42.˚60N×79.˚58E, h19km, mb4.4*
ISC 28 20:40:27.2±1.4, 42.70N±0.04×79.59E±0.04, h13km±8km, n82, σ1°67/137, 41C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time h m s	Res ISC
SHLS	**Shalkode** 2μm,0.1s	**0.46**	**348**	P		**Pb**	**20 40 37.7**	**+0.4**
SHLS				S		**Sn**	**20 40 47.0**	**-0.8**
SHLS	**Shalkode** 12μm,0.2s	**0.46**	**348**	*e*P		**Pb**	**20 40 37.7**	**+0.4**
SHLS	baz=21			*e*S		**Sn**	**20 40 47.1**	**-0.8**
SHLS	**Shalkode** baz=21	**0.46**	**348**	*e*P		**Pb**	**20 40 37.6**	**+0.4**
SHLS	2μm,0.3s			*e*S		**Sn**	**20 40 47.0**	**-0.8**
UZB	**Uzynbulak** 11μm,0.4s	**0.61**	**317**	P		**Pg**	**20 40 39.4**	**+0.2**
UZB	884nm,0.2s			S		**Sn**	**20 40 49.6**	**-1.8**
UZB	**Uzynbulak** 1μm,0.3s	**0.61**	**317**	*e*P		**Pg**	**20 40 39.3**	**+0.2**
UZB	baz=23			*e*S		**Sn**	**20 40 49.7**	**-1.8**
UZB	**Uzynbulak** baz=23	**0.61**	**317**	*e*P		**Pg**	**20 40 39.3**	**+0.2**
UZB	892nm,0.2s			*e*S		**Sn**	**20 40 49.7**	**-1.8**
PDGK	**Podgornoye** 1μm,0.3s	**0.63**	**353**	P		**Pg**	**20 40 39.7**	**+0.3**
PDGK	62nm,0.1s			S		**Sn**	**20 40 50.3**	**-1.6**
PDGK	**Podgornoye** 716nm,0.2s	**0.63**	**353**	⇑P		**Pg**	**20 40 39.7**	**+0.3**
PDGK	101nm,0.5s			⇑S		**Sn**	**20 40 50.2**	**-1.8**
PDGK	**Podgornoye** 884nm,0.5s	**0.63**	**353**	⇑*i*P		**Pg**	**20 40 39.8**	**+0.3**
PDGK	baz=54			⇑*i*S		**Sn**	**20 40 50.4**	**-1.6**
PRZ	**Przheval'sk** baz=63	**0.91**	**256**	⇓*i*P		**Pb**	**20 40 43.1**	**-1.8**
PRZ	baz=63			⇓*i*S		**Sb**	**20 40 55.8**	**-1.1**
KTMS	**Ketmen** 173nm,0.1s	**0.93**	**37**	P		**Pb**	**20 40 44.2**	**-1.1**
KTMS	596nm,0.2s			S		**Sb**	**20 40 58.2**	**+0.6**
SATY	**Saty** 249nm,0.4s	**0.94**	**293**	P		**Pb**	**20 40 44.3**	**-1.2**
SATY	876nm,0.2s			S		**Sn**	**20 40 58.9**	**-0.8**
SATY	**Saty** 256nm,0.4s	**0.94**	**293**	*e*P		**Pb**	**20 40 44.1**	**-1.3**
SATY	876nm,0.1s			*e*S		**Sn**	**20 40 58.3**	**-1.3**
KURS	**Kuram** 235nm,0.5s	**1.30**	**307**	P		**Pb**	**20 40 51.5**	**-0.1**
KURS	625nm,0.5s			S		**Sg**	**20 41 10.5**	**+1.4**
KURS	**Kuram** baz=11	**1.30**	**307**	*e*P		**Pb**	**20 40 51.3**	**-0.3**
KURS	baz=11			*e*S		**Sg**	**20 41 10.7**	**+1.5**
KURS	**Kuram** 192nm,0.7s	**1.30**	**307**	*e*P		**Pb**	**20 40 51.3**	**-0.3**
KURS	544nm,0.5s			*e*S		**Sg**	**20 41 10.7**	**+1.5**
MNBS	**Baschi** 257nm,0.2s	**1.62**	**328**	P		**Pg**	**20 40 57.6**	**-0.8**
MNBS	2μm,0.3s			S		**Sg**	**20 41 21.0**	**+1.5**
DJR	**Jarkent**	**1.63**	**5**	P		**Pb**	**20 40 57.6**	**+0.4**
DJR				S		**Sg**	**20 41 21.3**	**+1.6**
KDJ	**Kajisay** baz=56	**1.87**	**253**	⇑*i*P		**Pn**	**20 41 00.2**	**+1.1**
KDJ	baz=56			⇑*i*S		**Sn**	**20 41 24.6**	**+1.8**
KOTS	**Kotyrbulak** 530nm,0.2s	**1.89**	**287**	Pg		**Pn**	**20 41 01.2**	**+1.9**
KOTS	930nm,0.6s			Lg		Lg	20 41 27.8	
KOTS	**Kotyrbulak** baz=90	**1.89**	**287**	*e*P		**Pn**	**20 41 01.3**	**+1.9**
KOTS	baz=90			*e*S		**Sg**	**20 41 27.8**	**-0.3**
KOTS	**Kotyrbulak** 530nm,0.3s	**1.89**	**287**	*e*P		**Pn**	**20 41 01.3**	**+1.9**
KOTS	930nm,0.6s			*e*S		**Sg**	**20 41 27.8**	**-0.3**
MDOK	**Medeo** 389nm,0.4s	**1.92**	**285**	Pg		**Pn**	**20 41 01.3**	**+1.6**
MDOK	333nm,0.4s			Lg		Lg	20 41 27.8	
MDOK	**Medeo** baz=88	**1.92**	**285**	*e*P		**Pn**	**20 41 01.4**	**+1.6**
MDOK	baz=88			*e*S		**Sg**	**20 41 27.8**	**-1.2**
MDOK	**Medeo** 284nm,0.3s	**1.92**	**285**	*e*P		**Pn**	**20 41 01.4**	**+1.6**
MDOK	398nm,0.4s			*e*S		**Sg**	**20 41 27.7**	**-1.2**
TNSS	**Tian-Shan** 326nm,0.3s	**1.97**	**281**	Pg		**Pn**	**20 41 01.9**	**+1.2**
TNSS	451nm,0.5s			Lg		Lg	20 41 29.5	
TNSS	**Tian-Shan** baz=84	**1.97**	**281**	*e*P		**Pn**	**20 41 01.9**	**+1.2**
TNSS	baz=84			*e*S		**Sg**	**20 41 29.3**	**-1.3**
TNSS	**Tian-Shan** 315nm,0.3s	**1.97**	**281**	*e*P		**Pn**	**20 41 01.9**	**+1.2**
TNSS	377nm,0.3s			*e*S		**Sg**	**20 41 29.2**	**-1.3**
ARXS	**Arharly** 304nm,0.4s	**1.98**	**320**	Pg		**Pb**	**20 41 03.1**	**-0.1**
ARXS	1μm,0.5s			Lg		Lg	20 41 31.1	
ARXS	**Arharly** 307nm,0.4s	**1.98**	**320**	*e*P		**Pb**	**20 41 03.0**	**-0.1**
ARXS	1μm,0.5s			*e*S		**Sg**	**20 41 30.3**	**-0.5**
KNDC	**Almaty** 145nm,0.2s	**1.99**	**286**	⇑Pn		**Pb**	**20 41 03.2**	**-0.2**
KNDC	444nm,0.3s			⇓Lg		Lg	20 41 31.6	
AAA	**Alma-Ata** 694nm,0.3s	**2.03**	**285**	Pg		**Pb**	**20 41 03.7**	**-0.2**
AAA	759nm,0.5s			Lg		Lg	20 41 32.2	
IZV	**Izvestkoviy** 434nm,0.4s	**2.21**	**280**	Pg		**Pn**	**20 41 06.0**	**+2.3**
IZV	647nm,0.5s			Lg		Lg	20 41 36.4	
CHKK	**Chushkaly** 115nm,0.4s	**2.22**	**302**	Pg		**Pb**	**20 41 07.3**	**+0.1**
CHKK	622nm,0.2s			Lg		Lg	20 41 37.9	
CHKK	**Chushkaly** baz=5.0	**2.22**	**302**	*e*P		**Pb**	**20 41 06.7**	**-0.5**
CHKK	baz=5.0			*e*S		**Sg**	**20 41 36.9**	**-1.6**
CHKK	**Chushkaly** 39nm,0.2s	**2.22**	**302**	*e*P		**Pb**	**20 41 06.7**	**-0.5**
CHKK	622nm,0.3s			*e*S		**Sg**	**20 41 37.0**	**-1.6**
KTBS	**Karatobe** 101nm,0.2s	**2.35**	**296**	Pg		**Pb**	**20 41 08.7**	**-0.7**
KTBS	628nm,0.2s			Lg		Lg	20 41 41.4	
KTBS	**Karatobe** baz=98	**2.35**	**296**	*e*P		**Pb**	**20 41 09.4**	**-0.1**
KTBS	baz=98			*e*S		**Sg**	**20 41 41.3**	**-1.5**
KTBS	**Karatobe** 74nm,0.3s	**2.35**	**296**	*e*P		**Pb**	**20 41 09.4**	**-0.1**
KTBS	658nm,0.3s			*e*S		**Sg**	**20 41 41.3**	**-1.5**
MTBS	**Maitube** baz=84	**2.36**	**281**	*e*P		**Pb**	**20 41 09.1**	**-0.5**
MTBS	baz=84			*e*S		**Sg**	**20 41 41.0**	**-2.0**
MTBS	**Maitube** 609nm,0.4s	**2.36**	**281**	*e*P		**Pb**	**20 41 09.1**	**-0.5**
MTBS	584nm,0.5s			*e*S		**Sg**	**20 41 41.0**	**-2.0**
ULHL	**Ulahol** baz=63	**2.52**	**261**	⇑*i*P		**Pn**	**20 41 09.2**	**+1.2**
ULHL	baz=63			⇑*i*S		**Sn**	**20 41 41.5**	**+2.8**
KAPS	**Kapalarasan** 24nm,0.3s	**2.58**	**356**	Pg		**Pb**	**20 41 13.9**	**+0.4**

KAPS				Lg	Lg	20 41 49.6
	686nm,0.5s					
KAPS	**Kapalarasan**	**2.58**	**356**	*eP*	**Pb**	**20 41 14.1 +0.6**
	21nm,0.3s					
KAPS				*eS*	**Sg**	**20 41 49.4 -0.8**
	693nm,0.5s					
KUU	**Kurty**	**2.65**	**298**	Pg	**Pb**	**20 41 14.4 -0.2**
	63nm,0.4s					
KUU				Lg	Lg	20 41 50.4
	338nm,0.5s					
KUU	**Kurty**	**2.65**	**298**	*eP*	**Pb**	**20 41 14.4 -0.2**
	baz=0.0					
KUU				*eS*	**Sg**	**20 41 50.0 -2.5**
	baz=0.0					
KUU	**Kurty**	**2.65**	**298**	*eP*	**Pb**	**20 41 14.3 -0.2**
	41nm,0.2s					
KUU				*eS*	**Sg**	**20 41 49.9 -2.5**
	281nm,0.2s					
KST	**Kastek**	**2.69**	**278**	*eP*	**Pb**	**20 41 14.3 -0.9**
	baz=81					
KST				*eS*	**Sg**	**20 41 50.2 -3.3**
	baz=81					
KST	**Kastek**	**2.69**	**278**	*eP*	**Pb**	**20 41 14.3 -0.9**
	190nm,0.2s					
KST				*eS*	**Sg**	**20 41 50.2 -3.3**
	278nm,0.4s					
BOOM	**Boomskoye usch**	**2.70**	**267**	⇑*iP*	**Pn**	**20 41 11.8 +1.3**
	baz=69					
BOOM				⇑*iS*	**Sb**	**20 41 46.2 -2.4**
	baz=69					
DGS	**Degeres**	**2.85**	**282**	Pg	**Pb**	**20 41 17.0 -1.0**
	176nm,0.3s					
DGS				Lg	Lg	20 41 55.3
	495nm,0.6s					
DGS	**Degeres**	**2.85**	**282**	*eP*	**Pb**	**20 41 16.7 -1.3**
	baz=84					
DGS				*eS*	**Sb**	**20 41 54.4 +1.5**
	baz=84					
DGS	**Degeres**	**2.85**	**282**	*eP*	**Pb**	**20 41 16.7 -1.3**
	179nm,0.4s					
DGS				*eS*	**Sb**	**20 41 54.4 +1.5**
	506nm,0.7s					
TKM2	**Tokmak 2**	**2.94**	**276**	⇑Pg	**Pn**	**20 41 17.0 +3.1**
	38nm,0.5s					
TKM2				⇓Lg	Lg	20 41 57.8
	248nm,0.6s					
TKM2	**Tokmak 2**	**2.94**	**276**	⇑*iP*	**Pn**	**20 41 16.1 +2.2**
	baz=78					
TKM2				⇑*iS*	**Sb**	**20 41 52.8 -2.9**
	baz=78					
NRN	**Naryn**	**2.96**	**246**	⇑*iP*	**Pn**	**20 41 15.9 +1.7**
	baz=48					
NRN				⇑*iS*	**Sn**	**20 41 52.1 +2.4**
	baz=48					
KZA	**Kyzart**	**3.27**	**260**	⇑*iP*	**Pn**	**20 41 20.3 +1.7**
	baz=62					
KZA				⇑*iS*	**Sn**	**20 42 00.2 +2.6**
	baz=62					
KBK	**Karagaybulak**	**3.42**	**271**	⇑*iP*	**Pn**	**20 41 22.4 +2.0**
	baz=73					
KBK				⇑*iS*	**Sn**	**20 42 03.7 +2.8**
	baz=73					
CHMS	**Chumysh**	**3.57**	**276**	⇑*iP*	**Pn**	**20 41 24.6 +2.3**
	baz=78					
CHMS				⇑*iS*	**Sn**	**20 42 07.3 +2.9**
	baz=78					
FRU1	**Bishkek**	**3.65**	**273**	⇑*iP*	**Pn**	**20 41 26.0 +2.5**
	baz=75					
FRU1				⇑*iS*	**Sn**	**20 42 09.1 +2.6**
	baz=75					
SGDS	**Sogindy**	**3.71**	**283**	Pg	**Pb**	**20 41 31.8 -0.8**
	50nm,0.4s					
SGDS				Lg	Lg	20 42 20.3
	110nm,0.5s					
AAK	**Ala-Archa**	**3.76**	**271**	Pn	**Pn**	**20 41 25.9 +0.9**
	3.0nm,0.3s,baz=79,slow=10,SNR=3.3					
AAK				Pg	**Pb**	**20 41 33.7 +0.2**
	10nm,0.3s,baz=84,slow=10,SNR=13					
AAK				Lg	Lg	20 42 21.8
	34nm,0.3s,baz=246,slow=16,SNR=6.4					
AAK	**Ala-Archa**	**3.76**	**271**	⇓Pg	**Pb**	**20 41 34.7 +1.2**
	48nm,0.6s					
AAK				⇑Lg	Lg	20 42 24.6
	99nm,0.5s					
AAK	**Ala-Archa**	**3.76**	**271**	⇑*iP*	**Pn**	**20 41 27.0 +2.0**
	baz=72					
AAK				⇑*iS*	**Sn**	**20 42 11.9 +2.7**
	baz=72					
USP	**Ospenovka**	**3.78**	**280**	⇑*iP*	**Pn**	**20 41 27.6 +2.4**
	baz=82					
USP				⇑*iS*	**Sn**	**20 42 12.8 +3.3**
	baz=82					
UCH	**Uchtor**	**3.79**	**264**	⇑*iP*	**Pn**	**20 41 27.6 +1.9**
	baz=66					
UCH				⇑*iS*	**Sn**	**20 42 12.3 +2.0**
	baz=66					
ARLS	**Aral**	**4.00**	**260**	⇑*eP*	**Pn**	**20 41 29.6 +1.3**
	baz=61					
ARLS				⇑*iS*	**Sn**	**20 42 16.3 +1.2**
	baz=61					
EKS2	**Erkin-Say**	**4.29**	**271**	⇑*iP*	**Pn**	**20 41 34.6 +2.4**
	baz=73					
EKS2				⇑*iS*	**Sn**	**20 42 24.5 +2.4**
	baz=73					
AML	**Almayashu**	**4.40**	**265**	⇑*eP*	**Pn**	**20 41 36.1 +2.0**
	baz=66					
AML				⇑*iS*	**Sn**	**20 42 27.4 +2.0**
	baz=66					
MAKZ	**Makanchi**	**4.44**	**22**	⇑Pn	**Pn**	**20 41 35.7 +1.4**
	12nm,0.2s					
MAKZ				⇑Lg	Lg	20 42 48.1
	17nm,0.5s					
MK31	**Makanchi Array**	**4.52**	**24**	Pn	**Pn**	**20 41 37.0 +1.7**
	3.6nm,0.2s,baz=210,slow=12,SNR=24					
MK31				⇓Lg	Lg	20 42 50.5
	16nm,0.5s,baz=207,slow=27,SNR=8.3					
MKAR	**Makanchi Array**	**4.52**	**24**	Pn	**Pn**	**20 41 37.2 +1.8**
	16nm,0.3s,baz=210,slow=14,SNR=12					
MKAR				Pg	**Pb**	**20 41 47.2 +0.8**
	3.2nm,0.3s,baz=197,slow=13,SNR=3.4					
MKAR				Sn	**Sn**	**20 42 31.0 +3.2**
	4.8nm,0.3s,baz=212,slow=16,SNR=3.0					
MKAR				Lg	Lg	20 42 51.0
	7.2nm,0.3s,baz=203,slow=29,SNR=5.0					
MRKS	**Merke**	**4.69**	**273**	Pg	**Pb**	**20 41 51.0 +1.7**
	50nm,0.5s					
MRKS				Lg	Lg	20 42 53.0
	83nm,0.2s					
MNAS	**Manas**	**5.23**	**270**	⇓Lg	Lg	20 43 12.4
	55nm,1.1s					
SFK	**Sufi-Kurgan**	**5.31**	**242**	⇑Pg	**Pb**	**20 42 02.5 +2.5**
	10nm,0.6s					
SFK				⇓Lg	Lg	20 43 12.7
	62nm,1.3s					
WMQ	**Urumqi**	**6.02**	**77**	*e*Pn	**Pn**	**20 41 56.0 -0.1**
WMQ				smax	smax	
	comp=N,96nm,0.9s					
WMQ				smax	smax	
	comp=E,110nm,0.9s					
KK31	**Karatay Array**	**6.68**	**276**	⇓Pg	**Pb**	**20 42 27.7 +4.5**
	5.3nm,0.5s					
KK31				⇑Lg	Lg	20 43 58.2
	18nm,0.7s,baz=86,slow=29,SNR=6.5					
KURBB	**Kurchatov Arra**	**7.95**	**355**	Lg	Lg	20 44 41.0
	0.7nm,0.3s,baz=167,slow=26,SNR=6.0					
ZALV	**Zalesovo Beam**	**11.77**	**15**	Pn	**Pn**	**20 43 15.7 +1.0**
	baz=198,slow=15,SNR=3.0					
ZALV				Sn	**Sn**	**20 45 25.8 -0.1**
	0.5nm,0.3s,baz=216,slow=24,SNR=3.4					
SONM	**Songino Array**	**19.50**	**66**	P	**P**	**20 44 52.0 -2.1**
	0.2nm,0.3s,baz=264,slow=11,SNR=4.7					
BRTR	**Keskin Array B**	**34.37**	**281**	P	**P**	**20 47 14.2 +0.2**
	0.4nm,0.8s,baz=79,slow=9.0,SNR=2.8					
YKA	**Yellowknife Ar**	**74.53**	**7**	P	**P**	**20 52 02.4 -2.7**
	0.3nm,0.5s,baz=350,slow=5.5,SNR=4.6					

IDC 28 20:42:35.8±49.0, 22°54S×174°02W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/36, mbtmp4.2/3, Error ellipse: s-maj=923.3km s-min=173.5km az=87.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.33**	**247**	P		20 50 13.9	-1.3
	0.8nm,0.3s,baz=104,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**47.70**	**258**	P		20 51 14.8	+0.2
	0.8nm,0.4s,baz=94,slow=7.5,SNR=22						
WRA	**Warramunga Arr**	**48.02**	**263**	P		20 51 17.5	+0.5
	2.9nm,0.4s,baz=99,slow=7.0,SNR=27						

DJA 28 20:47:23.5±0.8, 8°S×7°×12°2E±°, h186km±7km, M3.6/7, MLv3.6/7, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDFI	**Ende, Flores**	**0.90**	**233**	P		20 47 51.6	+0.3
EDFI				S		20 48 13.3	+0.6
BATI	**Baumata**	**2.33**	**148**	P		20 48 04.8	+0.1
BATI				S		20 48 37.4	+0.6
SOEI	**Soe**	**2.38**	**130**	P		20 48 04.8	-0.6
SOEI				S		20 48 37.5	-0.5
WSI	**Waingapu**	**2.55**	**235**	P		20 48 08.1	+1.0
WSI				S		20 48 41.6	+0.5
BASI	**Baing, Sumba**	**2.70**	**222**	P		20 48 08.9	0.0
BASI				S		20 48 44.6	+0.3
PLAI	**Plampang**	**4.63**	**262**	P		20 48 32.8	-0.1
PLAI				S		20 49 26.7	-0.7

IDC 28 20:49:10.4±1.4, 54°.41N×164°.65W, h0km, mb3.9/15, mb1 4.0/17, mb1mx3.8/56, mbtmp3.9/17, ML3.4/2, MS3.8/4, Ms1 3.8/4, ms1mx3.1/56, Error ellipse: s-maj=35.3km s-min=16.1km az=166.0
NEIC 28 20:49:12.4±0.0, 53°.77N×164°.10W, h26km, mb4.1/6, ML3.7(AEIC), After AEIC.
ISCJB 28 20:49:13.1±0.8, 53°.84N±0°.08×164°.16W±0°.07, h55km±4km, mb4.0/16, MS3.8/4, Error ellipse: s-maj=14.7km s-min=4.6km az=156.2

ISC 28 20:49:13.9±1.5, 53°.38N±0°.1×164°.12W±0°.05, h50km±11km, n71, σ1§23/67, mb4.1/22, MS3.8/4, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WESP	**Westdahl Peak**	**0.77**	**333**	*e*Pg	**Pn**	**20 49 27.9**	**-0.7**
SSBA	**Shishaldin**	**0.96**	**360**	P	**Pn**	**20 49 30.3**	**-0.9**
SSBA				S	**Sn**	**20 49 43.5**	**-0.3**
AKSA	**Akutan Strait**	**0.99**	**290**	*e*Pn	**Pn**	**20 49 30.4**	**-1.0**
AKSA				*e*Sn	**Sn**	**20 49 43.8**	**-0.6**
SSLN	**Shishaldin Nor**	**1.00**	**4**	*e*Pn	**Pn**	**20 49 31.3**	**-0.4**
AKUT	**Akutan**	**1.03**	**289**	*e*Pn	**Pn**	**20 49 30.8**	**-1.1**
FALS	**False Pass**	**1.12**	**21**	*e*Pn	**Pn**	**20 49 32.4**	**-0.9**
FALS				S	**Sn**	**20 49 48.1**	**+0.5**
AKLV	**Akutan Long Va**	**1.14**	**289**	*e*Pn	**Pn**	**20 49 32.6**	**-0.9**
AKGG	**Akutan Green G**	**1.17**	**290**	P	**Pn**	**20 49 33.3**	**-0.6**
AKRB	**Akutan Reef Bi**	**1.20**	**286**	*e*Pn	**Pn**	**20 49 33.5**	**-0.7**
UNV	**Unalaska Valle**	**1.41**	**272**	*e*Pn	**Pn**	**20 49 35.5**	**-1.6**
MSW	**Makushin Switc**	**1.58**	**275**	*e*Pn	**Pn**	**20 49 38.6**	**-1.0**
DRIA	**Deer Island**	**1.58**	**42**	P	**Pn**	**20 49 38.6**	**-0.9**
DRIA				S	**Sn**	**20 49 58.3**	**-0.5**
DT1	**Dutton Round H**	**1.68**	**39**	*e*Pn	**Pn**	**20 49 40.4**	**-0.5**
DOL	**Dolgoi Island**	**1.88**	**44**	P	**Pn**	**20 49 43.1**	**-0.4**
PS4A	**Pavlof South-4**	**2.02**	**40**	P	**Pn**	**20 49 46.2**	**+0.7**
PS4A				S	**Sn**	**20 50 13.1**	**+3.5**
OKWE	**Okmok W'ng Wal**	**2.48**	**264**	P	**Pn**	**20 49 52.8**	**+1.0**
SDPT	**Sand Point**	**2.62**	**53**	*e*Pn	**Pn**	**20 49 54.2**	**+0.5**
SDPT				S	**Sn**	**20 50 25.4**	**+1.2**
NIKH	**Nikolski High**	**2.96**	**255**	*e*Pn	**Pn**	**20 49 58.6**	**+0.3**
KDAK	**Kodiak Island**	**7.62**	**54**	Pn	**Pn**	**20 51 01.3**	**-0.8**
	1.2nm,0.3s,baz=237,slow=11,SNR=15						
KDAK				Sn	**Sn**	**20 52 21.8**	**-5.2**
	baz=135,slow=19,SNR=4.2						
SUA	**Susitna One**	**10.48**	**38**	*e*Pn	**Pn**	**20 51 39.3**	**-2.0**
ANM	**Nome**	**10.80**	**357**	*e*Pn	**Pn**	**20 51 47.3**	**+1.7**
ILAR	**Eielson Array**	**14.01**	**32**	Pn	Pn	20 52 24.1	-5.3
	0.1nm,0.3s,baz=225,slow=12,SNR=5.0						
SCRK	**Sand Creek**	**14.48**	**37**	*e*Pn	**Pn**	**20 52 36.9**	**+1.2**
EGAK	**Eagle**	**15.95**	**37**	*e*P	**P**	**20 52 56.3**	**-1.1**
	5.5nm,0.9s						
DAWY	**Dawson**	**16.25**	**41**	*e*Pn	**P**	**20 53 02.4**	**+1.6**
	2.9nm,0.6s						
EPYK	**Eagle Plains**	**18.36**	**36**	*e*P	**Pn**	**20 53 25.3**	**+0.8**
	41nm,2.0s						
INK	**Inuvik**	**20.40**	**33**	P	**P**	**20 53 44.4**	**-1.8**
	2.5nm,0.4s,baz=223,slow=7.6,SNR=13						
INK	**Inuvik**	**20.40**	**33**	*e*P	**P**	**20 53 44.5**	**-1.7**
	7.6nm,1.2s						
PEA1	**Petropavlovsk-**	**22.57**	**284**	*e*P	**P**	**20 54 08.3**	**-1.3**
PETK	**Petropavlovsk-**	**22.57**	**284**	P	**P**	**20 54 08.3**	**-1.3**
	2.5nm,0.8s,baz=84,slow=13,SNR=10						
YKA	**Yellowknife Ar**	**26.88**	**51**	P	**P**	**20 54 50.0**	**+0.5**
	0.5nm,0.5s,baz=273,slow=9.4,SNR=10						
NVAR	**Mina Array Bea**	**34.61**	**97**	LR	LR	21 08 39.2	
	comp=Z,145nm,18.1s,baz=19,slow=33						
H11N2	**WAKE ISLAND Hy**	**40.64**	**225**	T	T	21 40 08.6	
	baz=26						
H11N3	**WAKE ISLAND Hy**	**40.64**	**224**	T	T	21 40 09.3	
	baz=26						
H11N1	**WAKE ISLAND Hy**	**40.65**	**224**	T	T	21 40 21.4	
	baz=26						
H11S1	**WAKE ISLAND Hy**	**41.81**	**224**	T	T	21 41 46.0	
	baz=27						
H11S2	**WAKE ISLAND Hy**	**41.83**	**224**	T	T	21 41 47.0	
	baz=27						
H11S3	**WAKE ISLAND Hy**	**41.83**	**224**	T	T	21 41 47.3	
	baz=27						
FRB	**Frobisher Bay**	**45.92**	**38**	LR	LR	21 15 44.4	
	comp=Z,142nm,19.6s,baz=208,slow=35						
SPITS	**Spitsbergen Ar**	**48.27**	**360**	P	**P**	**20 57 48.4**	**-0.7**
	6.8nm,0.8s,baz=31,slow=9.2,SNR=5.2						
LTX	**Lajitas**	**49.62**	**94**	*e*P	P	20 58 08.1	+7.8
TXAR	**Lajitas Array**	**49.62**	**94**	P	P	20 58 08.1	+7.8
	0.7nm,0.7s,baz=317,slow=4.9,SNR=4.4						
SCHQ	**Schefferville**	**52.17**	**47**	LR	LR	21 22 00.6	
	comp=Z,212nm,19.9s,baz=48,slow=38						
SONA0	**Songino Array**	**53.23**	**303**	*e*P	**P**	**20 58 27.4**	**+0.3**
SONA0				*e*PcP	**PcP**	**20 59 35.2**	**+0.9**
SONM	**Songino Array**	**53.23**	**303**	P	**P**	**20 58 27.4**	**+0.3**
	0.2nm,0.3s,baz=39,slow=6.9,SNR=4.1						
SONM				PcP	**PcP**	**20 59 35.2**	**+0.9**
	0.5nm,0.6s,baz=70,slow=1.8,SNR=5.2						
ARA0	**ARCESS Array S**	**56.76**	**356**	*e*P	**P**	**20 58 50.9**	**-1.2**
ARCES	**ARCESS Array B**	**56.76**	**356**	P	**P**	**20 58 50.9**	**-1.2**
	4.1nm,1.0s,baz=8.4,slow=8.0,SNR=9.0						
W52A	**Murphy**	**57.06**	**74**	*e*P	**P**	**20 58 56.2**	**+1.5**
	18nm,0.9s						
ZAA1	**Zalesovo Array**	**58.43**	**320**	*e*P	**P**	**20 59 03.3**	**-0.7**
ZALV	**Zalesovo Beam**	**58.43**	**320**	P	**P**	**20 59 03.3**	**-0.7**
	0.6nm,0.3s,baz=29,slow=7.0,SNR=3.7						
FIA0	**FINESS Array S**	**64.80**	**355**	*e*P	**P**	**20 59 45.9**	**-0.8**
FINES	**FINESS Array B**	**64.80**	**355**	P	**P**	**20 59 45.9**	**-0.8**
	0.6nm,0.4s,baz=6.8,slow=4.8,SNR=6.7						
MK32	**Makanchi Array**	**65.04**	**316**	*e*P	**P**	**20 59 47.9**	**-0.7**
MKAR	**Makanchi Array**	**65.04**	**316**	P	**P**	**20 59 47.9**	**-0.7**
	0.3nm,0.5s,baz=38,slow=7.4,SNR=6.1						
ABKAR	**Akbulak array**	**70.78**	**331**	*e*P	**P**	**21 00 25.3**	**+0.7**
LSA	**Lhasa**	**74.59**	**299**	*e*P	**P**	**21 00 49.2**	**+1.2**
	3.0nm,0.8s						
AKASG	**Malin Array Be**	**75.25**	**351**	P	**P**	**21 00 49.5**	**-1.5**
	0.9nm,0.3s,baz=14,slow=5.4,SNR=4.5						
GUN	**Gumba**	**78.73**	**302**	*e*P	**P**	**21 01 12.1**	**+0.8**
JIRN	**Jiri**	**78.78**	**302**	*e*P	**P**	**21 01 12.4**	**+0.8**
	13nm,0.4s						
PKI	**Pulchoki**	**79.25**	**302**	*e*P	**P**	**21 01 14.2**	**+0.1**
	2.3nm,0.5s						
PKIN	**Phulchoki**	**79.25**	**302**	*e*P	**P**	**21 01 14.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**79.32**	**286**	P	**P**	**21 01 14.8**	**+0.7**
	1.2nm,0.8s,baz=16,slow=6.3,SNR=8.4						
DMN	**Daman**	**79.37**	**302**	*e*P	**P**	**21 01 15.3**	**+0.6**
	5.4nm,0.6s						
DANN	**Dangsing**	**79.42**	**304**	*e*P	**P**	**21 01 15.9**	**+0.9**
	20nm,0.7s						
KOLN	**Koldanda**	**79.98**	**304**	*e*P	**P**	**21 01 18.6**	**+0.7**
	6.3nm,0.8s						
PYUN	**Piuthan**	**80.01**	**304**	*e*P	**P**	**21 01 18.6**	**+0.5**
	7.4nm,0.6s						
KBZ	**Khabaz**	**80.11**	**340**	P	**P**	**21 01 18.5**	**+0.4**
	2.1nm,0.9s,baz=307,slow=4.1,SNR=5.0						
ESDC	**Sonseca Array**	**85.32**	**15**	P	**P**	**21 01 45.6**	**+0.3**
	0.9nm,0.7s,baz=335,slow=4.7,SNR=4.1						
BR101	**Keskin Array S**	**85.58**	**346**	*e*P	**P**	**21 01 47.0**	**+0.3**
BRTR	**Keskin Array B**	**85.58**	**346**	P	**P**	**21 01 47.0**	**+0.3**
	1.1nm,0.8s,baz=15,slow=2.3,SNR=8.6						
NNA	**Nana**	**97.97**	**99**	LR	LR	21 40 54.8	
	comp=Z,15nm,18.1s,baz=176,slow=32						

TIR 28 20:50:43.3, 41°.15N×20°.08E, h8km, Md2.5/3
SKO 28 20:50:44.9, 41°.16N×20°.06E, h4km
ATH 28 20:50:44.7, 41°.28N×20°.07E, h19km±1km, ML2.0/1, Error ellipse: s-maj=3.3km s-min=1.2km az=23.0
BEO 28 20:50:44.1±1.2, 41°.08N×20°.05E, h0km, ML2.0/3

ISC 28 20:50:45.1±1.1, 41°.19N±0°.03×20°.09E±0°.03, h3km±12km, n19, σ0§95/30, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.23**	**314**	*e*Pg	**Pg**	**20 50 49.0**	**-0.6**
TIR				*e*Sg	**Sg**	**20 50 53.2**	**+0.6**
TIR	**Tirane**	**0.23**	**314**	P	**Pg**	**20 50 49.0**	**-0.6**
TIR				S	**Sg**	**20 50 52.8**	**+0.3**
TIR				AML	AML	20 50 54.1	
	comp=N,1343μm,0.5s						
TIR				AML	AML	20 50 55.4	
	comp=E,1053μm,0.3s						
TIR	**Tirane**	**0.23**	**314**	*e*Pg	**Pg**	**20 50 49.2**	**-0.3**
TIR	**Tirane**	**0.23**	**314**	*i* PG	**Pg**	**20 50 49.0**	**-0.6**
TIR				*i* SG	**Sg**	**20 50 52.9**	**+0.3**
PHP	**Peshkopia**	**0.56**	**28**	*i* PG	**Pg**	**20 50 55.1**	**-0.8**
PHP				*i* SG	**Sg**	**20 51 04.2**	**+1.0**
PUK	**Puka**	**0.86**	**350**	*i* PG	**Pg**	**20 51 00.9**	**-0.8**
PUK				*i* SG	**Sb**	**20 51 14.3**	**-0.5**
KRUS	**Krusevo**	**0.90**	**78**	*i* Pg	**Pg**	**20 51 01.4**	**-0.9**
KRUS				*i* Sg	**Sg**	**20 51 14.3**	**+0.4**
NEST	**Nestorio**	**1.06**	**136**	P	**Pn**	**20 51 06.2**	**-0.8**
NEST				S	**Sn**	**20 51 22.6**	**+0.2**
PENT	**Pentalofos**	**1.28**	**141**	P	**Pg**	**20 51 09.3**	**-0.3**
PDG	**Podgorica**	**1.39**	**334**	*e*Pg	**Pb**	**20 51 11.2**	**-0.4**
PDG				*e*Sg	**Sg**	**20 51 31.0**	**+1.3**
KEK	**Kerkira**	**1.49**	**189**	P	**Pg**	**20 51 13.9**	**+0.2**
KEK				S	**Sg**	**20 51 35.1**	**+2.1**
STIP	**Stip**	**1.66**	**72**	*i* Pg	**Pg**	**20 51 18.8**	**+1.9**
IGT	**Igoumenitsa**	**1.67**	**173**	P	**Pg**	**20 51 16.1**	**-1.0**
IGT				S	**Sg**	**20 51 39.8**	**+1.2**
GRG	**Griva**	**1.77**	**97**	P	**Pb**	**20 51 17.0**	**-1.1**
GRG	**Griva**	**1.77**	**97**	*i* Pg	**Pb**	**20 51 16.9**	**-1.2**
BARS	**Barje**	**2.08**	**38**	*e*Pn	**Pn**	**20 51 21.6**	**+0.2**
BARS				*e*Sn	**Sb**	**20 51 49.3**	**-0.3**
SELS	**Selova**	**2.17**	**20**	*e*Pn	**Pn**	**20 51 23.1**	**+1.0**
IVAS	**Ivanjica**	**2.39**	**1**	*e*Pn	**Pn**	**20 51 25.5**	**+0.4**
BBLS	**Lazići**	**2.72**	**350**	*e*Pn	**Pn**	**20 51 30.9**	**+1.2**

ISCJB 28 20:54:37.3±0.5, 36°.00N±0°.03×140°.15E±0°.06, h79km±4km, mb3.5/5, Error ellipse: s-maj=7.7km s-min=5.3km az=1.9
IDC 28 20:54:38.5±1.8, 35°.99N×140°.17E, h78km±16km, mb3.3/5, mb1 3.4/7, mb1mx3.2/42, mbtmp3.7/7, Error ellipse: s-maj=22.4km s-min=8.3km az=63.0
JMA 28 20:54:39.4±0.1, 36°.02N×140°.08E, h62km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs2.00000°, δ63.00000°, λ83.00000°. NP2: φs199.00000°, δ28.00000°, λ104.00000°. Principal axes: T Plg71.0000°, Azm256.0000°; N Plg7.0000°, Azm6.0000°; P Plg18.0000°, Azm98.0000°;
JMA Felt I J1.

ISC 28 20:54:38.1±0.9, 36°.03N±0°.05×140°.13E±0°.05, h69km±7km, n20, σ1§11/33, mb3.7/5, 1C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.20**	**14**	⇑P	**Pn**	**20 54 49.3**	**+0.6**
JYT				S	**Sn**	**20 54 56.6**	**+0.2**
JIHU	**Itakohorinouch**	**0.33**	**101**	P	**Pn**	**20 54 50.7**	**+1.3**
JAG	**Ashikaga**	**0.68**	**306**	⇓P	**Pn**	**20 54 53.5**	**+0.8**
JAG				S	**Sn**	**20 55 03.7**	**+0.2**
JRY	**Ryogami san**	**1.00**	**270**	⇓P	**Pn**	**20 54 57.2**	**+0.6**
JRY				S	**Sn**	**20 55 10.8**	**+0.5**
JKT	**Katashina**	**1.02**	**316**	⇓P	**Pn**	**20 54 57.6**	**+0.6**
JKT				S	**Sn**	**20 55 11.9**	**+0.9**
JOD2	**Odawara 2**	**1.14**	**228**	⇓P	**Pn**	**20 54 58.7**	**+0.2**
JOD2				S	**Sn**	**20 55 12.4**	**-1.2**
BSO3	**Boso 3**	**1.26**	**166**	P	**Pn**	**20 55 00.1**	**+0.4**
JYN	**Shimob**	**1.40**	**248**	⇓P	**Pn**	**20 55 02.7**	**+0.9**
JYN				S	**Sn**	**20 55 19.9**	**+0.4**
JFY	**Yanaizu**	**1.42**	**346**	⇓P	**Pn**	**20 55 03.4**	**+1.4**
JFY				S	**Sn**	**20 55 21.8**	**+1.8**
JIM2	**Oshima 3**	**1.43**	**204**	P	**Pn**	**20 55 01.8**	**-0.4**
JIM2				S	**Sn**	**20 55 18.9**	**-1.3**
JFNN	**Fujinakano**	**1.44**	**235**	P	**Pn**	**20 55 02.9**	**+0.6**
JFNN				S	**Sn**	**20 55 19.8**	**-0.7**
MJAR	**Matsushiro Arr**	**1.64**	**289**	P	**Pn**	**20 55 05.3**	**+0.4**
	7.3nm,0.3s,baz=96,slow=8.3,SNR=356						
MJAR				S	**Sn**	**20 55 26.5**	**+1.4**
	2.3nm,0.3s,baz=233,slow=24,SNR=9.1						
MAT	**Matsushiro**	**1.64**	**289**	P	**Pn**	**20 55 06.3**	**+1.4**
MAT				S	**Sn**	**20 55 26.3**	**+1.1**
JHJ	**Hachijo jima 2**	**2.92**	**186**	P	**Pn**	**20 55 23.9**	**+1.7**
	24nm,0.3s,baz=83,slow=19,SNR=2.9						
JHJ				S	**Sn**	**20 55 55.8**	**-0.3**
	21nm,0.3s,baz=68,slow=19,SNR=3.0						
ASAJ	**Asahikawa**	**8.29**	**12**	P	**Pn**	**20 56 35.2**	**-0.4**
	0.3nm,0.3s,baz=233,slow=10,SNR=4.6						
ASAJ				S	**Sn**	**20 58 04.6**	**-3.1**
	0.1nm,0.3s,baz=127,slow=20,SNR=2.0						
SONM	**Songino Array**	**27.51**	**306**	P	**P**	**21 00 16.8**	**-1.3**
	0.4nm,0.5s,baz=103,slow=8.7,SNR=3.4						
ZALV	**Zalesovo Beam**	**41.84**	**313**	P	**P**	**21 02 20.5**	**-0.4**

XAN	**Xi'an**	**28.54**	**328**	*e*P	**P**	**21 07 23.1**	**-1.2**
	5.8nm,0.8s							
WR1	**Warramunga Arr**	**31.21**	**166**	*e*P	**P**	**21 07 46.5**	**-1.5**
	1.3nm,0.7s							
WR1				*e*PcP	**PcP**	**21 10 42.5**	**-0.3**
WRA	**Warramunga Arr**	**31.21**	**166**	P	**P**	**21 07 46.5**	**-1.5**
	0.6nm,0.4s,baz=346,slow=9.1,SNR=11							
WRA				PcP	**PcP**	**21 10 42.5**	**-0.3**
	0.5nm,0.5s,baz=340,slow=3.0,SNR=6.3							
USRK	**Ussuriysk Ar.**	**33.80**	**7**	P	**P**	**21 08 11.0**	**+0.6**
	3.3nm,0.7s,baz=199,slow=8.8,SNR=11							
AS31	**Alice Springs**	**34.72**	**169**	*e*P	**P**	**21 08 17.8**	**-0.9**
	1.4nm,0.9s							
ASAR	**Alice Springs**	**34.73**	**169**	P	**P**	**21 08 17.8**	**-0.9**
	1.0nm,0.4s,baz=350,slow=7.1,SNR=22							
ASAR				PcP	**PcP**	**21 10 52.2**	**-0.3**
	0.6nm,0.5s,baz=342,slow=2.8,SNR=7.7							
AS01	**Alice Springs**	**34.73**	**169**	*e*P	**P**	**21 08 15.9**	**-2.8**
AS01				*e*PcP	**PcP**	**21 10 52.3**	**-0.2**
SONA0	**Songino Array**	**40.93**	**339**	*e*P	**P**	**21 09 11.2**	**+0.1**
SONM	**Songino Array**	**40.93**	**339**	P	**P**	**21 09 11.2**	**+0.1**
	0.4nm,0.5s,baz=155,slow=8.7,SNR=4.9							
STKA	**Stephens Creek**	**44.51**	**162**	P	**P**	**21 09 39.4**	**-0.7**
	2.5nm,0.7s,baz=338,slow=12,SNR=5.4							
STKA				PcP	**PcP**	**21 11 23.5**	**+0.1**
	1.4nm,0.6s,baz=341,slow=4.8,SNR=2.9							
PETK	**Petropavlovsk-**	**49.13**	**24**	P	**P**	**21 10 17.0**	**+1.0**
	4.0nm,0.8s,baz=180,slow=5.0,SNR=7.5							
PEA1	**Petropavlovsk-**	**49.13**	**24**	*e*P	**P**	**21 10 17.0**	**+1.0**
MK01	**Makanchi Array**	**52.11**	**322**	*e*P	**P**	**21 10 39.8**	**+1.1**
MK31	**Makanchi Array**	**52.13**	**322**	*e*P	**P**	**21 10 39.9**	**+1.1**
MK32	**Makanchi Array**	**52.13**	**322**	*e*P	**P**	**21 10 39.8**	**+1.0**
MK32				*e*PcP	**PcP**	**21 11 50.8**	**+0.2**
MKAR	**Makanchi Array**	**52.13**	**322**	P	**P**	**21 10 39.8**	**+1.0**
	3.6nm,0.7s,baz=119,slow=7.0,SNR=25							
MKAR				PcP	**PcP**	**21 11 50.8**	**+0.2**
	0.4nm,0.5s,baz=101,slow=4.6,SNR=4.0							
MAKZ	**Makanchi**	**52.32**	**322**	*e*P	**P**	**21 10 41.8**	**+1.6**
	5.2nm,0.9s							
NRN	**Naryn**	**54.05**	**314**	*e*P	**P**	**21 10 54.2**	**+0.8**
	2.3nm,0.8s							
ZALV	**Zalesovo Beam**	**54.63**	**331**	P	**P**	**21 10 57.2**	**+0.2**
	0.9nm,0.3s,baz=122,slow=6.6,SNR=5.6							
ZAA1	**Zalesovo Array**	**54.63**	**331**	*e*P	**P**	**21 10 57.2**	**+0.2**
SEY	**Seymchan**	**55.39**	**14**	P	**P**	**21 11 03.2**	**+0.9**
	1.8nm,0.8s,baz=123,slow=17,SNR=4.7							
KURK	**Kurchatov**	**56.14**	**325**	*e*P	**P**	**21 11 09.2**	**+1.3**
KURK				*e*PcP	PcP	21 11 56.4	-9.3
BRVK	**Borovoye**	**61.81**	**325**	*e*P	**P**	**21 11 48.3**	**+1.1**
	3.7nm,1.0s							
ABKAR	**Akbulak array**	**67.01**	**319**	*e*P	**P**	**21 12 22.0**	**+0.6**
ILAR	**Eielson Array**	**78.92**	**26**	P	**P**	**21 13 31.4**	**-0.3**
	0.4nm,0.7s,baz=237,slow=4.6,SNR=9.1							
ILB	**Eielson Array**	**78.92**	**26**	*e*P	**P**	**21 13 31.4**	**-0.3**
INK	**Inuvik**	**83.80**	**22**	P	**P**	**21 13 57.8**	**+0.4**
	0.7nm,0.7s,baz=267,slow=3.6,SNR=3.6							
ARA0	**ARCESS Array S**	**84.10**	**340**	*e*P	**P**	**21 13 59.2**	**+0.2**
ARCES	**ARCESS Array B**	**84.10**	**340**	P	**P**	**21 13 59.2**	**+0.2**
	1.6nm,0.5s,baz=85,slow=6.7,SNR=19							
BR101	**Keskin Array S**	**85.77**	**309**	*e*P	**P**	**21 14 07.8**	**-0.4**
BRTR	**Keskin Array B**	**85.77**	**309**	P	**P**	**21 14 07.8**	**-0.4**
	0.7nm,0.7s,baz=133,slow=5.7,SNR=5.9							
FIA0	**FINESS Array S**	**85.89**	**332**	*e*P	**P**	**21 14 08.1**	**0.0**
FINES	**FINESS Array B**	**85.89**	**332**	P	**P**	**21 14 08.1**	**0.0**
	1.7nm,0.4s,baz=72,slow=5.0,SNR=27							
AKASG	**Malin Array Be**	**86.68**	**321**	P	**P**	**21 14 12.3**	**+0.1**
	0.4nm,0.4s,baz=62,slow=4.2,SNR=3.4							
BURAR	**Bucovina Array**	**89.99**	**318**	*i*P	**P**	**21 14 28.6**	**+0.4**
BUR08	**Bucovina Ar. S**	**89.99**	**319**	*e*P	**P**	**21 14 28.8**	**+0.5**
RES	**Resolute Bay**	**91.10**	**10**	P	**P**	**21 14 33.0**	**+0.3**
	2.1nm,0.8s,baz=312,slow=5.1,SNR=9.5							
NB200	**NORSAR Array S**	**92.73**	**334**	*e*P	**P**	**21 14 39.7**	**-0.9**
NOA	**NORSAR Array B**	**92.73**	**334**	P	**P**	**21 14 39.7**	**-0.9**
	1.3nm,0.9s,baz=61,slow=4.6,SNR=3.2							
YKA	**Yellowknife Ar**	**93.25**	**24**	P	**P**	**21 14 43.2**	**+0.3**
	0.6nm,0.7s,baz=297,slow=4.5,SNR=4.6							
YKB5	**Yellowknife Ar**	**93.25**	**24**	*e*P	**P**	**21 14 43.2**	**+0.3**
TOA1	**Torodi Ar. Sit**	**120.67**	**292**	*e*PKPdf	**PKPdf**	**21 20 20.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**120.67**	**292**	PKP	**PKPdf**	**21 20 20.8**	**-0.6**
	0.2nm,0.4s,baz=114,slow=1.9,SNR=4.6							
PLCA	**Paso Flores**	**146.26**	**156**	PKPbc	**PKPdf**	**21 21 09.1**	**+0.7**
	2.9nm,0.7s,baz=216,slow=3.0,SNR=9.3							

IDC 28 21:05:14.8±2.6, 50.02N×114.46W, h0km, mb1 3.3/2, mb1mx3.0/40, mbtmp3.0/2, ML2.9/2, Error ellipse: s-maj=50.5km s-min=14.6km az=114.0, Alberta

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEW	**Newport**	**2.48**	**226**	Pn	Pn	21 05 58.4	+1.9
	1.2nm,0.3s,baz=40,slow=14,SNR=6.8						
NEW				Sn	Sn	21 06 29.0	+1.4
	1.4nm,0.3s,baz=9.4,slow=18,SNR=3.3						
I56US	**NEWPORT INFRAS**	**2.48**	**226**	*i*		21 24 20.0	
	baz=44,slow=324,SNR=5.6						
I10CA	**LAC DU BONNET**	**11.84**	**82**	*i*		22 23 30.0	
	baz=273,slow=293,SNR=1.0						
YKA	**Yellowknife Ar**	**12.50**	**360**	Pn	Pn	21 08 09.5	-4.2
	0.1nm,0.3s,baz=181,slow=13,SNR=3.8						
YKA				Lg	Lg	21 11 42.6	
	0.1nm,0.3s,baz=180,slow=28,SNR=3.2						

*ISCJB **28** 21:24:34.6±0.5, 22.24S±0.03×179.64W±0.03, h575km±6km, mb4.8/221, Error ellipse: s-maj=4.9km s-min=3.4km az=154.9*
*MOS **28** 21:24:34.2±2.8, 21.78S×179.74W, h536km, mb4.7/27, Error ellipse: s-maj=10.4km s-min=9.2km az=157.1*
*IDC **28** 21:24:35.7±0.4, 22.17S×179.63W, h573km±4km, mb4.2/30, mb1 4.4/32, mb1mx4.3/43, mbtmp5.2/32, Error ellipse: s-maj=8.9km s-min=7.8km az=151.0*
*BJI **28** 21:24:35.1, 21.93S×179.27W, h584km, mb4.9/40, mB5.2/24*
*NEIC **28** 21:24:36.0±0.1, 22.31S×179.61W, mb4.8/159, Error ellipse: s-maj=4.6km s-min=3.0km az=144.0*
*WEL **28** 21:24:36.0, 22.31S×179.61W, h584km*
ISC 28 21:24:35.7±0.3, 22.24S±0.04×179.57W±0.04, h583km±3km, h584km:pP-P, n585, σ191/7/653, mb4.8/221, 44C-32D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.01**	**333**	*e*P	**P**	**21 26 07.9**	**+0.1**
MSVF				*e*S	**S**	**21 27 24.6**	**+1.8**
MSVF	**Nonsavu**	**5.01**	**333**	*e*P	**P**	**21 26 07.9**	**+0.1**
RAO	**Raoul Island**	**7.14**	**168**	P	**P**	**21 26 27.2**	**+1.0**
	311nm,0.3s,baz=89,slow=22,SNR=4.0						
RAO				S	**S**	**21 27 56.3**	**-0.5**
	123nm,0.3s,baz=73,slow=19,SNR=2.4						
GLKZ	**Green Lake**	**7.15**	**168**	P	**P**	**21 26 24.3**	**-2.0**
GLKZ				S	**S**	**21 27 55.2**	**-1.7**
NIUE	**Niue**	**9.56**	**73**	*e*P	**P**	**21 26 47.8**	**-2.1**
NIUE				*e*S	**S**	**21 28 42.0**	**+2.1**
DZM	**Mont Dzumac**	**12.96**	**268**	*e*P	**P**	**21 27 24.4**	**0.0**
	86nm,0.8s						
DZM	**Mont Dzumac**	**12.96**	**268**	P	**P**	**21 27 23.7**	**-0.7**
	7.5nm,0.3s,baz=74,slow=20,SNR=38						
OUZ	**Omahuta**	**14.25**	**203**	*e*P	**P**	**21 27 36.0**	**-1.1**
OUZ	**Omahuta**	**14.25**	**203**	P	**P**	**21 27 38.5**	**+1.4**
WCZ	**Waipu Caves**	**14.65**	**200**	P	**P**	**21 27 43.7**	**+2.8**
KUZ	**Kuaotunu**	**15.03**	**195**	P	**P**	**21 27 46.4**	**+1.9**
WIAZ	**Waiheke Island**	**15.22**	**196**	P	**P**	**21 27 47.5**	**+1.2**
ETAZ	**East Tamaki Re**	**15.42**	**197**	P	**P**	**21 27 49.5**	**+1.2**
MKAZ	**Moumakai**	**15.50**	**196**	P	**P**	**21 27 50.0**	**+1.0**
KBAZ	**Karaka Road Bo**	**15.57**	**197**	P	**P**	**21 27 51.6**	**+2.0**
WMGZ	**Waiomatatini S**	**15.63**	**186**	P	**P**	**21 27 49.5**	**-0.7**
HAZ	**Te Kaha**	**15.64**	**188**	P	**P**	**21 27 49.3**	**-0.9**
HAZ				S	**S**	**21 30 26.3**	**-2.7**
RUGZ	**Raukumara Rang**	**15.86**	**188**	P	**P**	**21 27 51.1**	**-1.4**
TOZ	**Tahuroa Road**	**16.02**	**194**	P	**P**	**21 27 54.9**	**+1.1**
TWGZ	**Tauwhareparae**	**16.03**	**187**	P	**P**	**21 27 52.6**	**-1.4**
TWGZ				S	**S**	**21 30 33.4**	**-2.2**
URZ	**Urewera**	**16.22**	**189**	P	**P**	**21 27 54.0**	**-1.7**
	4.0nm,0.3s,baz=274,slow=1.6,SNR=17						
URZ				S	**S**	**21 30 34.5**	**-4.2**
	1.2nm,0.3s,baz=239,slow=22,SNR=10.0						
URZ	**Urewera**	**16.22**	**189**	P	**P**	**21 27 54.0**	**-1.7**
	42nm,0.9s						
URZ				*e*S	**S**	**21 30 37.2**	**-1.5**
URZ	**Urewera**	**16.22**	**189**	P	**P**	**21 27 53.4**	**-2.3**
URZ				S	**S**	**21 30 34.6**	**-4.1**
MWZ	**Matawai**	**16.24**	**188**	P	**P**	**21 27 54.4**	**-1.5**
MWZ				S	**S**	**21 30 35.6**	**-3.4**
RIGZ	**Rimuhau**	**16.58**	**187**	P	**P**	**21 27 58.2**	**-0.8**
SNGZ	**Shannon Statio**	**16.70**	**188**	P	**P**	**21 28 00.5**	**+0.3**
MTHZ	**Maungataniwha**	**16.85**	**190**	P	**P**	**21 28 00.7**	**-0.7**
HIZ	**Hauiti**	**16.91**	**195**	*e*P	**P**	**21 27 59.6**	**-2.4**
	31nm,1.1s						
HIZ	**Hauiti**	**16.91**	**195**	P	**P**	**21 28 04.6**	**+2.6**
BKZ	**Black Stump Fm**	**17.21**	**190**	*e*P	**P**	**21 28 02.0**	**-2.7**
	7.1nm,0.7s						
BKZ				*e*S	**S**	**21 30 54.0**	**-0.9**
BKZ	**Black Stump Fm**	**17.21**	**190**	P	**P**	**21 28 02.7**	**-2.0**
TWVZ	**Taurewa**	**17.32**	**193**	P	**P**	**21 28 04.9**	**-0.9**
KWHZ	**Kaweka Forest**	**17.47**	**190**	P	**P**	**21 28 06.0**	**-1.2**
VRZ	**Vera Road**	**17.52**	**195**	P	**P**	**21 28 10.3**	**+2.8**
MOVZ	**Moawhango**	**17.58**	**192**	P	**P**	**21 28 07.7**	**-0.5**
BHHZ	**Black Hill Sta**	**17.60**	**191**	P	**P**	**21 28 06.2**	**-2.1**
KAHZ	**Kahuranaki**	**17.76**	**189**	P	**P**	**21 28 09.1**	**-0.7**
BFZ	**Birch Farm**	**18.73**	**190**	*e*P	**P**	**21 28 17.0**	**-1.5**
	18nm,0.6s						
BFZ				*e*S	**S**	**21 31 21.2**	**+1.8**
SNZO	**South Karori**	**19.62**	**193**	*e*P	**P**	**21 28 25.8**	**-0.8**
	25nm,1.0s						
THZ	**Tophouse**	**20.47**	**196**	*e*P	**P**	**21 28 33.0**	**-1.4**
	13nm,0.6s						
THZ				*e*S	**S**	**21 31 49.6**	**+2.4**
KHZ	**Kahutara**	**20.93**	**194**	*e*P	**P**	**21 28 36.6**	**-1.8**
	11nm,0.6s						
LTZ	**Lake Taylor**	**21.59**	**196**	*e*P	**P**	**21 28 42.3**	**-2.0**
	34nm,0.7s						
OXZ	**Oxford**	**22.16**	**196**	*e*P	**P**	**21 28 47.2**	**-2.2**
	18nm,0.5s						
RPZ	**Rata Peaks**	**22.79**	**198**	P	**P**	**21 28 55.8**	**+0.8**
	10nm,0.7s,baz=327,slow=5.3,SNR=7.1						
RPZ	**Rata Peaks**	**22.79**	**198**	*e*P	**P**	**21 28 54.4**	**-0.7**
	9.7nm,0.7s						
FOZ	**Fox Glacier**	**22.99**	**200**	*e*P	**P**	**21 28 56.1**	**-0.7**
	23nm,0.8s						
TARA	**Tarawa**	**24.56**	**342**	*e*P	**P**	**21 29 10.7**	**-0.4**
	222nm,0.6s						
MLZ	**Mavora Lakes**	**25.18**	**201**	*e*P	**P**	**21 29 16.4**	**+0.2**
	14nm,0.6s						
DCZ	**Deep Cove**	**25.59**	**202**	*e*P	**P**	**21 29 19.6**	**-0.1**
	21nm,0.8s						
WHZ	**Wether Hill Ro**	**25.70**	**200**	*e*P	**P**	**21 29 20.8**	**+0.1**
	52nm,0.6s						
EIDS	**Eidsvold**	**27.01**	**258**	*e*P	**P**	**21 29 33.1**	**+0.6**
	73nm,0.7s						
ARMA	**Armidale**	**27.01**	**246**	*e*P	**P**	**21 29 34.0**	**+1.4**
	57nm,0.7s						
TBI	**Tubuai**	**27.76**	**98**	*e*P	**P**	**21 29 39.0**	**-0.1**
	119nm,0.6s						
PAE	**Paea**	**28.53**	**86**	*e*P	**P**	**21 29 45.0**	**-0.8**
	10.0nm,1.1s						
PPT2	**Papeete2**	**28.55**	**86**	*e*P	**P**	**21 29 45.9**	**-0.2**
	68nm,0.9s						
PPT	**Papeete**	**28.56**	**86**	P	**P**	**21 29 46.1**	**0.0**
	75nm,0.8s,baz=358,slow=6.9,SNR=8.5						
PPTF	**Pamatai, Papee**	**28.56**	**86**	*e*P	**P**	**21 29 46.4**	**+0.2**
	99nm,0.9s						
TIAR	**Tiarei**	**28.77**	**86**	*e*P	**P**	**21 29 47.7**	**-0.3**
	32nm,1.0s						
TVO	**Taravao**	**28.81**	**87**	*e*P	**P**	**21 29 47.8**	**-0.5**
	20nm,0.7s						
CAN	**Canberra**	**30.34**	**238**	*e*P	**P**	**21 30 02.6**	**+1.3**
	118nm,0.8s						
CAN	**Canberra**	**30.34**	**238**	*e*P	**P**	**21 30 02.6**	**+1.3**
CAN				pmax	pmax		
	comp=Z,118nm,0.8s						
PMOR	**Pomariorio Ree**	**30.82**	**82**	*e*P	**P**	**21 30 05.1**	**-0.5**
	comp=Z,196nm,1.0s						
VAH	**Vaihoa**	**31.00**	**83**	*e*P	**P**	**21 30 06.4**	**-0.7**
	comp=Z,159nm,0.9s						
CTA	**Charters Tower**	**31.90**	**267**	P	**P**		
	comp=Z,97nm,0.6s,baz=95,slow=11,SNR=163						
CTA				PcP	**PcP**	**21 32 47.9**	**+0.6**
	comp=Z,5.9nm,0.6s,baz=45,slow=2.9,SNR=4.2						
CTA				ScP	**ScP**	**21 35 38.4**	**+2.3**
	comp=Z,12nm,0.9s,baz=88,slow=2.7,SNR=8.4						
CTAO	**Charters Tower**	**31.90**	**267**	*e*P	**P**	**21 30 15.3**	**+0.5**
	comp=Z,108nm,0.8s						
CTAO	**Charters Tower**	**31.90**	**267**	*e*P	**P**	**21 30 15.3**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,108nm,0.8s						
TOO	**Toolangi**	**33.70**	**235**	*e*P	**P**	**21 30 30.6**	**+0.9**
	comp=Z,116nm,0.7s						
TOO	**Toolangi**	**33.70**	**235**	*e*P	**P**	**21 30 30.6**	**+0.9**
TOO				pmax	pmax		
	comp=Z,116nm,0.7s						
PMG	**Port Moresby**	**34.36**	**286**	P	**P**	**21 30 35.7**	**+0.1**
	comp=Z,182nm,0.8s,baz=91,slow=5.5,SNR=36						
PMG	**Port Moresby**	**34.36**	**286**	*e*P	**P**	**21 30 35.6**	**0.0**
	comp=Z,199nm,0.8s						
PMG	**Port Moresby**	**34.36**	**286**	*ce*P	**P**	**21 30 34.7**	**-0.8**
PMG				pmax	pmax		
	comp=Z,624nm,0.7s						
TAU	**Tasmania Unive**	**34.37**	**225**	*e*P	**P**	**21 30 35.6**	**+0.5**
	comp=Z,17nm,0.6s						
STKA	**Stephens Creek**	**35.73**	**246**	P	**P**	**21 30 47.5**	**+0.9**
	comp=Z,77nm,0.7s,baz=91,slow=9.8,SNR=171						
STKA				ScP	**ScP**	**21 35 52.5**	**+2.9**
	comp=Z,1.9nm,0.7s,baz=146,slow=6.6,SNR=4.7						
STKA	**Stephens Creek**	**35.73**	**246**	*e*P	**P**	**21 30 47.2**	**+0.6**
	comp=Z,18nm,0.8s						
STKA				ScP	**ScP**	**21 35 52.5**	**+2.9**
STKA	**Stephens Creek**	**35.73**	**246**	*e*P	**P**	**21 30 47.3**	**+0.6**
STKA						21 35 52.5	
STKA				pmax	pmax		
	comp=Z,18nm,0.8s						
COEN	**Coen**	**36.28**	**277**	*e*P	**P**	**21 30 51.9**	**+0.5**
	comp=Z,56nm,0.8s						
TAOE	**Nuku Hiva Isla**	**40.11**	**77**	*e*P	**P**	**21 31 21.9**	**-0.6**
	comp=Z,334nm,1.0s						
BBOO	**Buckleboo**	**40.48**	**245**	*e*P	**P**	**21 31 24.9**	**-0.2**
	comp=Z,113nm,0.8s						
RKT	**Rikitea**	**41.04**	**100**	*e*P	**P**	**21 31 29.2**	**-0.4**
	comp=Z,76nm,1.1s						
ASAR	**Alice Springs**	**42.72**	**259**	P	**P**	**21 31 43.0**	**+0.1**
	comp=Z,127nm,0.8s,baz=100,slow=7.7,SNR=750						
ASAR				PcP	**PcP**	**21 33 21.4**	**+0.4**
	comp=Z,4.8nm,0.6s,baz=108,slow=4.2,SNR=4.7						
ASAR				ScP	**ScP**	**21 36 18.0**	**+1.0**
	comp=Z,4.8nm,1.0s,baz=105,slow=4.9,SNR=6.3						
ASAR				S	**S**	**21 37 24.6**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=95,slow=15,SNR=6.2						
WRAB	**Tennant Creek**	**42.93**	**264**	*e*P	**P**	**21 31 44.0**	**-0.5**
	comp=Z,109nm,0.9s						
WRAB				*e*ScP	**ScP**	**21 36 20.0**	**+2.1**
WRAB	**Tennant Creek**	**42.93**	**264**	*ce*P	**P**	**21 31 44.2**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,126nm,1.0s						
WRA	**Warramunga Arr**	**42.94**	**264**	P	**P**	**21 31 44.1**	**-0.5**
	comp=Z,65nm,0.7s,baz=98,slow=7.7,SNR=442						
WRA				PcP	**PcP**	**21 33 22.4**	**+0.6**
	comp=Z,4.4nm,0.9s,baz=91,slow=4.2,SNR=3.8						
WRA				ScP	**ScP**	**21 36 19.9**	**+1.9**
	comp=Z,15nm,1.0s,baz=96,slow=4.2,SNR=13						
WRA				S	**S**	**21 37 25.8**	**-2.7**
	comp=Z,1.6nm,0.7s,baz=101,slow=14,SNR=3.6						
JAY	**Jayapura**	**43.25**	**291**	P	**P**	**21 31 47.0**	**-0.2**
	comp=Z,132nm,0.7s,baz=146,slow=5.1,SNR=38						
JAY	**Jayapura**	**43.25**	**291**	P	**P**	**21 31 47.0**	**-0.2**
JAY	**Jayapura**	**43.25**	**291**	P	**P**	**21 31 47.0**	**-0.2**
GENI	**Genyem**	**43.68**	**291**	P	**P**	**21 31 51.1**	**+0.7**
FORT	**Forrest**	**47.28**	**248**	*e*P	**P**	**21 32 17.2**	**-0.3**
	comp=Z,272nm,0.7s						
SAUI	**Saumlaki**	**49.28**	**279**	*e*P	**P**	**21 32 32.7**	**+0.1**
	comp=Z,246nm,0.9s						
GUMO	**Guam**	**49.83**	**312**	P	**P**	**21 32 36.5**	**0.0**
	comp=Z,167nm,0.8s,baz=154,slow=7.8,SNR=6.0						
GUMO	**Guam**	**49.83**	**312**	*e*P	**P**	**21 32 36.9**	**+0.3**
GUMO	**Guam**	**49.83**	**312**	*e*P	**P**	**21 32 36.9**	**+0.3**
FAKI	**Fak Fak**	**50.50**	**285**	*e*P	**P**	**21 32 41.2**	**-0.3**
	comp=Z,89nm,1.0s						
FAKI	**Fak Fak**	**50.50**	**285**	P	**P**	**21 32 42.5**	**+0.9**
	comp=Z,92nm,1.0s						
FITZ	**Fitzroy Crossi**	**51.37**	**264**	P	**P**	**21 32 48.1**	**+0.3**
	comp=Z,36nm,0.6s,baz=119,slow=4.1,SNR=62						
FITZ	**Fitzroy Crossi**	**51.37**	**264**	*e*P	**P**	**21 32 48.0**	**+0.2**
	comp=Z,89nm,1.1s						
SWI	**Sorong**	**52.31**	**287**	P	**P**	**21 32 54.8**	**+0.2**
	comp=Z,495nm,0.8s,comp=Z,4μm						
NLAI	**Namlea**	**55.00**	**282**	P	**P**	**21 33 13.8**	**+0.3**
	comp=Z,131nm,1.2s						
SOEI	**Soe**	**55.12**	**274**	*e*P	**P**	**21 33 15.7**	**+1.2**
	comp=Z,287nm,0.8s						
MBWA	**Marble Bar**	**56.06**	**259**	*e*P	**P**	**21 33 20.6**	**-0.2**
	comp=Z,168nm,0.8s						
MBWA				*e*pP	**pwP**	**21 35 15.8**	**-0.3**
VNDA	**Vanda**	**56.06**	**185**	P	**P**	**21 33 21.8**	**+1.9**
	comp=Z,2.4nm,0.8s,baz=5.1,slow=7.6,SNR=7.9						
NWAO	**Narrogin (SRO)**	**56.29**	**244**	P	**P**	**21 33 22.2**	**0.0**
	comp=Z,28nm,0.8s,baz=344,slow=5.3,SNR=16						
NWAO	**Narrogin (SRO)**	**56.29**	**244**	*e*P	**P**	**21 33 21.8**	**-0.4**
	comp=Z,152nm,0.9s						
NWAO	**Narrogin (SRO)**	**56.29**	**244**	*e*P	**P**	**21 33 21.8**	**-0.4**
NWAO				pmax	pmax		
	comp=Z,152nm,0.9s						
TNTI	**Ternate**	**56.52**	**287**	*e*P	**P**	**21 33 22.9**	**-1.2**
	comp=Z,109nm,0.9s						
MMRI	**Maumere**	**57.38**	**274**	*e*P	**P**	**21 33 29.3**	**-0.6**
	comp=Z,113nm,0.9s						
MORW	**Morawa**	**57.83**	**249**	*e*P	**P**	**21 33 32.8**	**+0.1**
	comp=Z,63nm,0.9s						
LUWI	**Luwuk**	**59.84**	**282**	*e*P	**P**	**21 33 46.4**	**-0.1**
	comp=Z,129nm,1.0s						
GIRL	**Giralia**	**60.69**	**256**	*e*P	**P**	**21 33 53.1**	**+1.2**
	comp=Z,178nm,0.8s						
DAV	**Davao City (W)**	**61.09**	**292**	*e*P	**P**	**21 33 55.2**	**+0.6**
IGBI	**Denpasar**	**63.88**	**271**	P	**P**	**21 34 12.5**	**-0.1**
	comp=Z,230nm,1.0s,comp=Z,2μm						
SRBI	**Singaraja**	**64.08**	**272**	P	**P**	**21 34 13.3**	**-0.6**
JAGI	**Jajag, Banyuwa**	**64.92**	**271**	*e*P	**P**	**21 34 17.8**	**-1.5**
	comp=Z,87nm,0.8s						
JAGI	**Jajag, Banyuwa**	**64.92**	**271**	P	**P**	**21 34 17.8**	**-1.5**
KMMI	**Kalianget**	**65.60**	**272**	P	**P**	**21 34 23.9**	**+0.5**
GMJI	**Gumukmas**	**65.65**	**271**	P	**P**	**21 34 22.9**	**-0.8**
TSM	**Tawau**	**66.56**	**285**	P	**P**	**21 34 30.5**	**+1.2**
GRJI	**Gresik**	**67.02**	**272**	P	**P**	**21 34 33.4**	**+1.2**
	comp=Z,252nm,0.8s,comp=Z,2μm						
PWJI	**Pagerwojo**	**67.26**	**270**	P	**P**	**21 34 34.0**	**+0.3**
	comp=Z,130nm,0.7s						
PCJI	**Pacitan**	**67.78**	**270**	P	**P**	**21 34 37.4**	**+0.6**
	comp=Z,495nm,0.7s,comp=Z,5μm						
NGJI	**Ngawi**	**67.81**	**271**	P	**P**	**21 34 37.4**	**+0.4**
	comp=Z,108nm,0.9s						
QSPA	**South Pole Qui**	**67.84**	**180**	P	**P**	**21 34 37.7**	**+1.3**
	comp=Z,12nm,0.8s,baz=28,slow=0.7,SNR=39						
QSPA				pP	**pP**	**21 36 33.8**	**+0.7**
	comp=Z,6.8nm,1.0s,baz=32,slow=4.4,SNR=4.6						
QSPA	**South Pole Qui**	**67.84**	**180**	*e*P	**P**	**21 34 37.5**	**+1.1**
	comp=Z,12nm,0.8s						
QSPA				*e*pP	**pwP**	**21 36 36.0**	**+0.1**
UGM	**Wanagama**	**68.48**	**270**	*e*P	**P**	**21 34 41.1**	**-0.1**
	comp=Z,125nm,0.7s						
KKM	**Kota Kinabalu**	**68.81**	**286**	*e*P	**P**	**21 34 43.1**	**-0.1**
	comp=Z,55nm,0.6s						
KKM	**Kota Kinabalu**	**68.81**	**286**	P	**P**	**21 34 43.4**	**+0.2**
KPJI	**Karang Pucung**	**70.16**	**270**	P	**P**	**21 34 51.0**	**-0.1**
	comp=Z,128nm,0.8s						
BTM	**Bintulu**	**70.40**	**282**	P	**P**	**21 34 53.5**	**+1.0**
MJAR	**Matsushiro Arr**	**70.76**	**325**	P	**P**	**21 34 54.1**	**-0.1**
	comp=Z,15nm,0.7s,baz=166,slow=6.2,SNR=36						
MJAR				pP	**pP**	**21 36 51.6**	**-0.3**
	comp=Z,2.1nm,1.0s,baz=154,slow=5.1,SNR=2.2						
MAJO	**Matsushiro**	**70.76**	**325**	*e*P	**P**	**21 34 53.9**	**-0.3**
	comp=Z,18nm,0.8s						
MAJO	**Matsushiro

comp=Z,20nm,0.8s
ISA Isabella, Lake 81.59 46 P P 21 35 54.6 +0.9
baz=235,SNR=10
SLBS Sierra La Lagu 81.64 60 *e*P P 21 35 55.1 +0.9
comp=Z,19nm,0.8s
CMB Columbia Colle 81.72 43 *e*P P 21 35 54.8 +0.5
comp=Z,19nm,0.9s
CMB Columbia Colle 81.72 43 *e*P P 21 35 54.8 +0.5
CMB pmax pmax
comp=Z,19nm,0.9s
PFO Pinyon Flats O 81.81 49 P P 21 35 55.6 +0.7
baz=236
MNSI Mandailing Nat 81.83 274 P P 21 35 54.1 -1.2
BBRC Big Bear Solar 81.85 48 P P 21 35 56.0 +0.7
baz=236
AFDM Forest Hills D 81.90 42 *e*P P 21 35 55.9 +0.7
comp=Z,19nm,1.0s
IPM Ipoh 81.91 278 *e*P P 21 35 55.8 0.0
comp=Z,45nm,0.8s
IPM *e*pP **pwP** 21 38 03.7 +0.3
IPM Ipoh 81.91 278 P P 21 35 56.6 +0.8
SWSC Sam W. Stewart 81.91 50 P P 21 35 56.0 +0.7
baz=237
WDC Whiskeytown Da 81.94 40 *e*P P 21 35 56.0 +0.8
comp=Z,26nm,1.1s
WDC Whiskeytown Da 81.94 40 *e*P P 21 35 56.0 +0.8
WDC pmax pmax
comp=Z,26nm,1.1s
ORV Oroville 81.94 42 *e*P P 21 35 55.8 +0.5
comp=Z,14nm,0.9s
ORV Oroville 81.94 42 *e*P P 21 35 55.8 +0.5
ORV pmax pmax
comp=Z,14nm,0.9s
LRMC Laurel Mtn Rad 82.02 47 P P 21 35 56.6 +0.6
baz=236,SNR=8.3
N02D Trinity Center 82.08 40 P P 21 35 57.7 +1.6
baz=231,SNR=7.0
O03E Paynes Creek 82.21 41 P P 21 35 57.4 +0.7
baz=232,SNR=7.4
M02C Callahan 82.26 39 P P 21 35 58.8 +1.8
baz=231,SNR=9.7
CWC Cottonwood Cre 82.29 46 P P 21 35 58.0 +0.6
baz=235
L02E Cave Junction 82.30 38 P P 21 35 58.7 +1.6
baz=231
BELC Belle Mtn. Jos 82.35 49 P P 21 35 58.4 +0.7
baz=237
OMMB Old Mammoth Mi 82.36 44 *e*P P 21 35 58.2 +0.3
comp=Z,7.7nm,0.8s
MPMC Manual Prospec 82.47 46 P P 21 35 59.0 +0.7
baz=236,SNR=9.1
GSC Goldstone, Bar 82.51 47 *e*P P 21 35 59.0 +0.6
comp=Z,19nm,1.0s
GSC Goldstone, Bar 82.51 47 P P 21 35 59.1 +0.6
baz=236,SNR=6.8
DAC Darwin (Calif) 82.53 46 *e*P P 21 35 58.8 +0.2
comp=Z,8.0nm,0.9s
DAC Darwin (Calif) 82.53 46 *e*P P 21 35 58.8 +0.2
DAC pmax pmax
comp=Z,8.0nm,0.9s
BC3 Big Chuckawall 82.54 49 P P 21 35 59.7 +1.1
baz=237,SNR=6.5
TIN Tinemaha, Big 82.55 45 P P 21 35 59.4 +0.8
baz=235
YBH Yreka Blue Hor 82.55 39 P P 21 35 60.0 +1.5
comp=Z,12nm,0.8s,baz=205,slow=2.0,SNR=22
YBH Yreka Blue Hor 82.55 39 *e*P P 21 35 59.7 +1.2
comp=Z,19nm,0.9s
YBH Yreka Blue Hor 82.55 39 *e*P P 21 35 59.7 +1.2
YBH pmax pmax
comp=Z,19nm,0.9s
HEC Hector,Ludlow 82.57 48 P P 21 35 59.3 +0.6
baz=236,SNR=8.6
KULM Kulim 82.57 279 P P 21 35 60.0 +0.9
NKL Nikolayevsk 82.60 337 *e*P P 21 35 58.0 -0.2
NKL pmax pmax
comp=Z,12nm,0.8s
WAKR Walker 82.60 43 *e*P P 21 35 59.2 +0.3
comp=Z,21nm,0.8s
K02D Willamette Mer 82.61 38 P P 21 36 00.2 +1.5
baz=231
GLA Glamis 82.66 50 P P 21 36 00.5 +1.4
baz=238,SNR=6.7
J01E Myrtle Point 82.75 38 P P 21 36 01.1 +1.8
baz=230
CN2 Changchun 82.79 323 *e*P P 21 35 59.8 +0.3
CN2 pmax pmax
comp=Z,30nm,1.1s
PNTR Pine Nut 82.84 43 *e*P P 21 36 00.7 +0.5
comp=Z,47nm,0.8s
HUMO Hull Mountain 82.96 38 *e*P P 21 36 01.4 +1.0
comp=Z,14nm,0.8s
HUMO *e*pP **pwP** 21 38 06.0 -1.2
GMRC Granite Mounta 83.01 48 P P 21 36 01.6 +0.7
baz=237,SNR=7.4
YERR Yerington 83.01 43 *e*P P 21 36 01.3 +0.4
comp=Z,24nm,0.7s
IRM Iron Mountain 83.03 49 P P 21 36 02.1 +1.1
baz=237,SNR=6.3
GRAC Grapevine Rang 83.08 46 P P 21 36 02.2 +1.1
baz=236,SNR=6.0
L04D Klamath Falls 83.09 39 P P 21 36 02.3 +1.1
baz=232,SNR=5.0
M04C Macdoel 83.10 40 P P 21 36 02.4 +1.2
baz=232
FURC Furnace Creek, 83.12 46 P P 21 36 02.4 +1.1
baz=236
TUQ Turquoise Moun 83.18 47 P P 21 36 02.8 +1.0
baz=237
PSI Prapat 83.20 276 P P 21 36 01.8 -0.5
comp=Z,14nm,0.7s,baz=181,slow=2.3,SNR=13
PSI pP **pP** 21 38 03.5 -1.6
comp=Z,6.7nm,0.8s,baz=180,slow=3.6,SNR=2.9
PSI Prapat 83.20 276 P P 21 36 01.8 -0.5
comp=Z,24nm,0.9s
PSI pP **pP** 21 38 03.5 -1.6
PSI Prapat 83.20 276 P P 21 36 01.8 -0.5
PSI *PP **pP** 21 38 03.6 -1.6
PSI pmax pmax
comp=Z,24nm,0.9s
Y12C Blythe 83.25 50 *e*P P 21 36 02.9 +1.0
comp=Z,12nm,0.8s
Y12C Blythe 83.25 50 P P 21 36 03.0 +1.0
baz=238
RYN Ryan 83.26 44 *e*P P 21 36 02.2 0.0
comp=Z,12nm,1.1s
113A Mohawk Valley, 83.27 51 *e*P P 21 36 02.8 +0.7
comp=Z,16nm,1.0s
KLR Kul'dur 83.28 330⇑ *i*P P 21 36 02.0 +0.2
NVAR Mina Array Bea 83.29 44 P P 21 36 03.3 +0.9
comp=Z,14nm,0.9s,baz=224,slow=9.1,SNR=28
NVAR pP **pP** 21 38 06.8 +1.1
comp=Z,1.9nm,0.7s,baz=228,slow=9.2,SNR=4.6
PAHR Pah Rah Range 83.34 42 *e*P P 21 36 03.0 +0.5
comp=Z,15nm,0.9s
TIA Tai'an 83.38 313 P P 21 36 03.5 +0.9
TIA pmax pmax
comp=Z,19nm,0.9s
I03D Drain, OR 83.42 37 P P 21 36 03.9 +1.3
baz=231
HSIG 83.44 55 *e*P P 21 36 03.2 +0.1
comp=Z,21nm,0.7s
214A Organ Pipe Nat 83.53 52 P P 21 36 04.9 +1.3
baz=239,SNR=5.9
NEE2 Needles Airpor 83.72 49 P P 21 36 05.4 +1.1
baz=238
KVN Kaiserville 83.77 43 *e*P P 21 36 05.0 +0.3
comp=Z,12nm,0.9s
KVN Kaiserville 83.77 43 *e*P P 21 36 05.0 +0.3
KVN pmax pmax
comp=Z,12nm,0.9s
TPNV Topopah Spring 83.80 46 *e*P P 21 36 05.0 +0.2
comp=Z,11nm,1.1s
TPNV *e*pP **pwP** 21 38 12.8 +0.7
TPNV Topopah Spring 83.80 46 *e*P P 21 36 05.1 +0.2
TPNV pmax pmax
comp=Z,11nm,1.1s
TPNV Topopah Spring 83.80 46 P P 21 36 05.6 +0.8
baz=236,SNR=5.6
PDMCI Parker Dam,Lak 83.81 49 P P 21 36 05.8 +1.0
baz=238,SNR=9.2
J04D Umpqua Nationa 83.84 38 P P 21 36 06.0 +1.1
baz=232
GSI Gunungsitoli 83.87 274 *e*P P 21 36 05.9 +0.3
comp=Z,71nm,1.1s
GSI *e*pP **pP** 21 38 08.8 +0.2
I04A Tendick Farm, 84.01 38 P P 21 36 06.6 +1.0
baz=231
MOD Modoc Plateau 84.08 40 *e*P P 21 36 06.9 +0.8
comp=Z,7.2nm,0.8s
H04D Lebanon 84.28 37 P P 21 36 08.3 +1.4
baz=231
SHPR Sheep Range 84.29 47 *e*P P 21 36 07.5 +0.2
comp=Z,9.9nm,1.2s
SKNT Salmakorn 84.34 291 P P 21 36 08.8 +1.1
comp=Z,74nm,0.8s,comp=Z,693nm
J05D Fort Rock, OR 84.37 39 P P 21 36 08.8 +1.3
baz=232
W13A Hualapai Mount 84.41 49 *e*P P 21 36 08.2 +0.2
comp=Z,9.6nm,0.8s
Y14A Wickenburg 84.42 50 *e*P P 21 36 08.4 +0.6
comp=Z,9.3nm,0.9s
G03D McMinnville, O 84.42 36 P P 21 36 08.7 +1.2
baz=231
TRTT Trang 84.44 281 P P 21 36 10.3 +2.0
comp=Z,14nm,1.1s
SYO Syowa Base 84.72 193⇑ *e*P P 21 36 06.2 -2.4
SYO Syowa Base 84.72 193⇑ *e*PcP P 21 36 08.7 +0.1
SRAK Srakaew 84.81 287 P P 21 36 09.7 -0.3
comp=Z,32nm,1.3s
PINE Pine Mountain 84.85 38 *e*P P 21 36 11.0 +1.1
comp=Z,20nm,0.8s
I05D Terrebonne, OR 84.95 38 P P 21 36 11.3 +1.1
baz=232
R11A Troy Canyon, C 85.01 45 P P 21 36 11.9 +1.1
baz=237
MA2 Magadan 85.07 345 P P 21 36 10.6 +0.3
comp=Z,8.5nm,0.7s,baz=148,slow=3.1,SNR=6.1
MA2 Magadan 85.07 345 *e*P P 21 36 10.0 -0.3
comp=Z,35nm,0.7s
MA2 Magadan 85.07 345 *ce*P P 21 36 09.8 -0.5
MA2 pmax pmax
comp=Z,7.0nm,0.8s
TUC Tucson 85.20 52 *e*P P 21 36 13.0 +1.3
comp=Z,23nm,0.9s
TUC Tucson 85.20 52 P P 21 36 13.1 +1.3
baz=240
WVOR Wild Horse Val 85.39 40 *e*P P 21 36 12.4 -0.1
comp=Z,11nm,0.9s
WVOR Wild Horse Val 85.39 40 *e*P P 21 36 12.4 -0.1
WVOR pmax pmax
comp=Z,11nm,0.9s
PATY Pattaya 85.41 286 P P 21 36 16.0 +3.1
comp=Z,17nm,0.9s,comp=Z,793nm
NONG Nongkai 85.52 291 P P 21 36 14.8 +1.4
comp=Z,1.2nm,1.0s
CHAI Chaiyaphum 85.63 289 P P 21 36 15.6 +1.6
comp=Z,8.3nm,0.7s
E04D Cinebar 85.65 35 P P 21 36 14.8 +1.4
baz=231
X16A Lo Mia Camp, P 85.78 50 *e*P P 21 36 15.3 +0.7
X16A *e*pP **pwP** 21 38 22.5 +0.1
ENH Enshi 85.81 305 *e*P P 21 36 14.6 0.0
comp=Z,42nm,0.8s
I07A Izee 85.85 39 *e*P P 21 36 15.2 +0.6
comp=Z,13nm,0.9s
319A Douglas 85.85 54 *e*P P 21 36 16.1 +1.2
comp=Z,38nm,0.9s
LCMT Little Creek M 85.86 47 *e*P P 21 36 15.5 +0.7
comp=Z,9.4nm,0.9s
D03D Eldon 85.99 34 P P 21 36 16.1 +1.1
baz=231
J08A Cie Bar Ran 86.03 40 *e*P P 21 36 16.1 +0.7
comp=Z,12nm,0.8s
CCUT Cedar City 86.06 47 *e*P P 21 36 16.6 +0.7
comp=Z,8.2nm,1.0s
BJT Baijiatuao 86.10 316 *e*P P 21 36 16.3 +0.6
comp=Z,15nm,0.8s
BJT Baijiatuao 86.10 316 *e*P P 21 36 16.3 +0.6
BJT pmax pmax
comp=Z,15nm,0.8s
BJI Beijing 86.11 316⇓ *i*P P 21 36 16.5 +0.8
BJI pmax pmax
comp=Z,15nm,0.8s
KNB Kanab 86.15 47 *e*P P 21 36 16.7 +0.5
comp=Z,12nm,1.1s
KNB Kanab 86.15 47 *e*P P 21 36 16.7 +0.5
KNB pmax pmax
comp=Z,12nm,1.1s
U15A North Rim 86.21 48 *e*P P 21 36 17.4 +0.7
comp=Z,21nm,0.8s
PSUT Pine Spring 86.25 46 *e*P P 21 36 16.8 0.0
comp=Z,24.1nm,0.7s
D05A Enumclaw 86.35 35 *e*P P 21 36 19.1 +2.5
comp=Z,36nm,1.0s
WUAZ Wupatki 86.38 49 *e*P P 21 36 18.8 +1.4
comp=Z,13nm,1.1s
WUAZ Wupatki 86.38 49 P P 21 36 18.2 +0.9
baz=239
PHET Kaeng Krachan 86.51 285 P P 21 36 20.6 +2.4
comp=Z,31nm,0.8s
VNA3 Neumayer Olymp 86.51 177 P P 21 36 17.1 -0.1
ELK Elko 86.54 43 *e*P P 21 36 19.0 +0.9
comp=Z,9.5nm,1.1s
ELK Elko 86.54 43 *e*P P 21 36 19.0 +0.9
ELK pmax pmax
comp=Z,10.0nm,1.1s
HPIG 86.57 59 *e*P P 21 36 18.1 -0.4
comp=Z,16nm,1.0s
SUA Susitna One 86.57 13 *e*P P 21 36 17.5 0.0
comp=Z,11nm,0.5s
PKCU Pink Cliffs 86.72 47 *e*P P 21 36 18.6 -0.5
comp=Z,26nm,1.0s
PBKT Sadao Pong 86.79 289 *e*P P 21 36 21.7 +2.3
PBKT Sadao Pong 86.79 289 P P 21 36 21.5 +2.1
comp=Z,26nm,1.2s
G08A Pilot Rock 86.88 38 *e*P P 21 36 20.4 +1.0
comp=Z,30nm,1.1s
G08A *e*pP **pwP** 21 38 28.2 +0.4
VNA2 Neumayer--Watz 86.93 177 P P 21 36 19.5 +0.3
baz=196,slow=3.2
A04D Lumni Island 86.94 34 P P 21 36 20.7 +1.3
baz=231
B05A Bryant 86.97 34 P P 21 36 20.7 +1.2
baz=231
KNK Knik Glacier 87.04 14 *e*P P 21 36 20.0 +0.4
comp=Z,10nm,0.7s
LTY Liberty 87.10 36 *e*P P 21 36 18.3 -2.1
comp=Z,17nm,0.9s
MTPU Mount Pierson 87.11 47 *e*P P 21 36 23.0 +2.0
comp=Z,13nm,1.0s
MTPU *e*pP **pwP** 21 38 30.1 +0.5
HAWA Hanford 87.21 37 *e*P P 21 36 21.6 +0.8
comp=Z,24nm,0.9s
GHO Glory Hole Cre 87.25 14 *e*P P 21 36 21.1 +0.4
comp=Z,26nm,0.7s
W18A Petrified Fore 87.34 50 P P 21 36 22.5 +0.6
baz=240
TIY Taiyuan 87.36 313 *e*P P 21 36 24.0 +2.2
MSU Marysvale 87.36 46 *e*P P 21 36 23.3 +1.4
C06D Leavenworth 87.39 35 P P 21 36 22.3 +0.7
baz=232
B06A Marblemount 87.44 34 *e*P P 21 36 22.7 +1.0
comp=Z,16nm,0.9s
121A Cookes Peak, D 87.52 53 P P 21 36 22.9 +0.1
baz=242
E08A Dider Farm, El 87.53 37 *e*P P 21 36 23.6 +1.4
comp=Z,18nm,0.9s
SRDT SRDT 87.53 286 P P 21 36 25.2 +2.2
comp=Z,35nm,1.1s
BMO Blue Mountains 87.58 39 *e*P P 21 36 23.2 +0.5
comp=Z,8.5nm,0.9s
BMO *e*pP **pwP** 21 38 30.6 -0.8
BMO Blue Mountains 87.58 39 *e*P P 21 36 23.2 +0.5
BMO pmax pmax
comp=Z,8.0nm,0.9s
UTTA Uttaradit 87.63 290 P P 21 36 25.3 +1.9
comp=Z,5.5nm,1.0s,comp=Z,56nm
MFID Camas Ranch 87.65 41 *e*P P 21 36 23.9 +0.8
comp=Z,20nm,0.9s
SCM Sheep Creek Mo 87.67 15 *e*P P 21 36 23.2 +0.6
comp=Z,21nm,0.7s
SCM Sheep Creek Mo 87.67 15 *e*P P 21 36 23.2 +0.6
SCM pmax pmax
comp=Z,21nm,0.7s
UTHA Uthaitani 87.73 288 P P 21 36 25.8 +2.0
comp=Z,7.8nm,1.1s,comp=Z,71nm
SEY Seymchan 87.73 348 P P 21 36 23.3 +0.5
comp=Z,5.2nm,0.7s,baz=168,slow=5.5,SNR=15
SEY Seymchan 87.73 348 *ce*P P 21 36 22.4 -0.4
DUG Dugway, Tooele 87.81 45 *e*P P 21 36 24.7 +0.8
comp=Z,3.0nm,1.1s
DUG Dugway, Tooele 87.81 45 *e*P P 21 36 24.7 +0.8
DUG pmax pmax
comp=Z,3.0nm,1.1s
DUG Dugway, Tooele 87.81 45 P P 21 36 24.8 +0.8
baz=238
NANT Nan 87.94 291 P P 21 36 26.4 +1.6
comp=Z,6.9nm,0.9s,comp=Z,71nm
D08A Wollman Farm, 87.94 37 *e*P P 21 36 25.1 +1.0
comp=Z,19nm,0.8s
XAN Xi'an 88.03 308 P P 21 36 26.0 +1.0
XAN pmax pmax
comp=Z,26nm,0.9s
XAN pmax pmax
comp=Z,190nm,5.0s
XAN Xi'an 88.03 308 *e*P P 21 36 26.5 +1.5
comp=Z,20nm,0.8s
XAN Xi'an 88.03 308 *e*P P 21 36 26.5 +1.5
XAN pmax pmax
comp=Z,20nm,0.8s
BGU Big Grassy Mou 88.05 44 *e*P P 21 36 26.7 +1.6
comp=Z,5.7nm,1.2s
E09A Wood Farm, Sta 88.06 37 *e*P P 21 36 25.7 +1.0
comp=Z,15nm,0.9s
NLU North Lily Min 88.17 45 *e*P P 21 36 27.4 +1.7
comp=Z,3.7nm,1.0s
F10A Beach Ranch, E 88.27 38 *e*P P 21 36 25.3 -0.6
comp=Z,28nm,0.9s
F10A *e*pP **pwP** 21 38 34.5 +0.5
SUKH Sukhothai 88.33 290 P P 21 36 28.7 +2.1
comp=Z,6.7nm,0.9s
TRF Thorofare Moun 88.45 13 *e*P P 21 36 26.0 -0.4
comp=Z,13nm,0.7s
B08A Colville Reser 88.49 35 *e*P P 21 36 27.0 +0.3
comp=Z,14nm,0.8s
MPU Maple Canyon 88.49 45 *e*P P 21 36 28.6 +1.4
comp=Z,11nm,1.1s
UMPA Umpang Tak 88.50 288 P P 21 36 30.2 +2.7
comp=Z,4.0nm,1.1s
LLLB Lilooet 88.54 33 *e*P P 21 36 28.0 +1.1
comp=Z,8.0nm,0.8s
HLID Hailey 88.59 41 *e*P P 21 36 27.8 +0.2
comp=Z,12nm,0.8s
HLID *e*pP **pwP** 21 38 35.6 -0.5
HLID Hailey 88.59 41 P P 21 36 28.5 +0.9
baz=237
SPUT South Promonto 88.63 44 *e*P P 21 36 28.8 +1.1
comp=Z,17nm,1.0s
HVU Hansel Valley 88.67 43 *e*P P 21 36 28.7 +0.8
comp=Z,17nm,1.0s
RND Reindeer 88.71 13 *e*P P 21 36 27.5 +0.1
comp=Z,12nm,0.8s
RND Reindeer 88.71 13 *e*P P 21 36 27.5 +0.1
RND pmax pmax
comp=Z,12nm,0.8s
C09A Chrisman Ranch 88.73 36 *e*P P 21 36 28.9 +1.0
comp=Z,8.6nm,0.8s
CTU Camp Tracy 88.76 45 *e*P P 21 36 29.6 +1.2
comp=Z,12nm,0.9s
KMI Kunming 88.84 298 P P 21 36 29.5 +0.3
KMI pmax pmax
comp=Z,15nm,0.5s
JLU Jordanelle 88.91 45 *e*P P 21 36 30.3 +1.1
comp=Z,5.8nm,0.9s
MNTX Cornudas Mount 88.94 55 *e*P P 21 36 30.0 +0.7
comp=Z,21nm,0.8s
MNTX Cornudas Mount 88.94 55 P P 21 36 30.3 +1.1
baz=243
GO06 Curarrehue 89.06 133 *e*P P 21 36 31.3 +1.4
comp=Z,12nm,0.9s
BNM Barren Site 89.13 52 *e*P P 21 36 31.3 +0.9
PLCA Paso Flores 89.14 134 P P 21 36 31.6 +1.5
comp=Z,6.6nm,0.8s,baz=228,slow=5.6,SNR=14
TCUT Toone Canyon 89.20 45 *e*P P 21 36 31.7 +1.2
comp=Z,37nm,0.9s
TXAR Lajitas Array 89.22 58 P P 21 36 31.9 +1.3
comp=Z,13nm,0.9s,baz=224,slow=5.2,SNR=51
TXAR pP **pP** 21 38 36.2 -0.2
comp=Z,1.9nm,0.9s,baz=214,slow=6.0,SNR=5.2
TXAR Lajitas Array 89.22 58 P P 21 36 32.0 +1.3
CM31 Chiang Mai Arr 89.32 290 *e*P P 21 36 33.6 +2.4
CMAR Chiang Mai Arr 89.32 290 P P 21 36 33.0 +1.7
comp=Z,22nm,0.8s,baz=135,slow=3.3,SNR=153
CMAR pP **pP** 21 38 35.1 -1.3
comp=Z,0.5nm,0.4s,baz=131,slow=4.1,SNR=1.8
CMAR PP **PP** 21 40 13.4 +0.1
comp=Z,2.6nm,0.9s,baz=126,slow=6.0,SNR=8.8
CMAR PKKPbc **PKKPbc** 21 54 04.2 +0.9
comp=Z,1.0nm,0.6s,baz=289,slow=4.5,SNR=4.9
HWUT Hardware Ranch 89.35 44 *e*P P 21 36 31.2 +0.1
comp=Z,7.0nm,0.7s
PV09 Paradox Valley 89.42 48 *e*P P 21 36 32.6 +0.9
PV10 Paradox Valley 89.42 48 *e*P P 21 36 31.9 +0.3
CMMT Chiang Mai 89.46 290 P P 21 36 33.4 +1.5
CHTO Chiang Mai 89.46 290 *e*P P 21 36 33.6 +1.7
comp=Z,35nm,0.8s
CHTO Chiang Mai 89.46 290 P P 21 36 33.4 +1.5
comp=Z,217nm,1.2s,comp=Z,2um
CHTO Chiang Mai 89.46 290 P P 21 36 33.4 +1.5
HHC Hu-ho-hao-te 89.52 315 *e*P P 21 36 32.8 +1.0
HHC S **S** 21 46 33.0 -0.9
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,220nm,6.3s
PV12 Saucer Basin, 89.56 48 *e*P P 21 36 33.1 +0.9
comp=Z,7.5nm,0.9s
ANMO Albuquerque 89.62 52 *e*P P 21 36 32.7 +0.2
comp=Z,15nm,1.0s
ANMO Albuquerque 89.62 52 *ce*P P 21 36 33.4 +0.8
ANMO pmax pmax
comp=Z,15nm,1.0s
ANMO Albuquerque 89.62 52 P P 21 36 33.4 +0.8
baz=242
PV01 Paradox Valley 89.63 48 *e*P P 21 36 33.2 +0.6
DLBC Dease Lake 90.22 24 P P 21 36 35.6 +1.1
comp=Z,3.2nm,0.8s,baz=195,slow=10,SNR=3.7
MCMT McKenzie Canyo 90.22 41 *e*P P 21 36 32.2 -2.9
AHID Auburn Hatcher 90.24 43 *e*P P 21 36 37.1 +1.9
comp=Z,15nm,0.8s
ILAR Eielson Array 90.33 13 P P 21 36 34.2 -0.6
comp=Z,1.2nm,0.8s,baz=218,slow=4.8,SNR=15
ILAR pP **pP** 21 38 41.2 +0.2
comp=Z,1.0nm,1.0s,baz=222,slow=7.1,SNR=3.4
CD2 Chengdu 90.50 303 *e*P P 21 36 37.0 +0.5
BILL Bilibino 90.61 355 *e*P P 21 36 36.2 +0.1
comp=Z,3.8nm,0.7s
BILL Bilibino 90.61 355⇑ *i*P P 21 36 35.5 -0.6
BILL *e* 21 40 19.0
BILL pmax pmax
comp=Z,15nm,2.2s
S22A 4UR Ranch, Cre 90.66 49 *e*P P 21 36 38.1 +0.7
comp=Z,12nm,1.1s
S22A 4UR Ranch, Cre 90.66 49 P P 21 36 38.0 +0.7
baz=242
REDW Red Top Meadow 90.70 43 *e*P P 21 36 38.4 +1.1
comp=Z,14nm,0.9s
TPAW Teton Pass 90.70 43 *e*P P 21 36 37.5 +0.1
comp=Z,8.9nm,0.9s
FXWY Fox Creek 90.73 43 *e*P P 21 36 38.5 +1.0
comp=Z,4.9nm,0.9s
LNIG Linares 90.74 63 *e*P P 21 36 37.5 -0.2
comp=Z,21nm,0.8s
SNOW Snow King Moun 90.81 43 *e*P P 21 36 39.1 +1.2
comp=Z,15nm,0.9s
O20A White River Ci 90.81 47 P P 21 36 38.2 +0.3
baz=241
MOOW Moose Ponds 90.96 43 *e*P P 21 36 39.2 +0.7
comp=Z,19nm,0.9s
QLMT Earthquake Lak 91.08 41 *e*P P 21 36 40.6 +1.6
FLWY Flagg Ranch 91.16 42 *e*P P 21 36 40.5 +1.1
comp=Z,5.4nm,0.9s
BW06 Boulder Array 91.22 44 *e*P P 21 36 39.6 -0.2
comp=Z,9.5nm,1.1s
BW06 Boulder Array 91.22 44 P P 21 36 40.0 +0.2
baz=240
PDAR Pinedale Array 91.22 44 P P 21 36 39.9 0.0
comp=Z,4.1nm,0.8s,baz=210,slow=3.3,SNR=26
PDAR pP **pP** 21 38 46.0 +0.1
comp=Z,0.2nm,0.6s,baz=157,slow=2.5,SNR=1.2
PDAR PP **PP** 21 40 23.5 -4.5
comp=Z,0.4nm,0.7s,baz=217,slow=7.1,SNR=3.6
SMCO Snowmass 91.22 48 *e*P P 21 36 40.8 +0.7
comp=Z,7.6nm,0.8s
BOZ Bozeman (W) 91.35 41 *e*P P 21 36 38.8 -1.4
comp=Z,6.5nm,1.0s
BOZ Bozeman (W) 91.35 41 *e*P P 21 36 38.8 -1.4
BOZ pmax pmax
comp=Z,7.0nm,1.0s
BOZ Bozeman (W) 91.35 41 P P 21 36 41.2 +1.0

baz=239
H17A Grant Village 91.39 42 *e*P **P 21 36 42.8 +2.3**
comp=Z,3.9nm,0.8s
H17A Grant Village 91.39 42 P **P 21 36 42.3 +1.7**
baz=240
SDCO Great Sand Dun 91.59 50 P **P 21 36 42.6 +0.9**
baz=243
MSTX Muleshoe 91.92 54 P **P 21 36 43.9 +0.9**
baz=244
T25A Trinidad 92.09 51 *e*P **P 21 36 44.5 +0.6**
comp=Z,8.2nm,0.9s
T25A Trinidad 92.09 51 P **P 21 36 44.0 0.0**
baz=244
833A Chaparral WMA, 92.19 60 P **P 21 36 44.7 +0.4**
baz=246
Q24A Divide 92.39 49 P **P 21 36 45.8 +0.4**
baz=243
ISCO Idaho Springs 92.44 48 P **P 21 36 46.0 +0.4**
baz=243
RLMT Red Lodge 92.56 42 *e*P **P 21 36 46.9 +1.0**
comp=Z,4.3nm,1.0s
RLMT Red Lodge 92.56 42 P **P 21 36 46.6 +0.8**
baz=241
LZH Lanzhou 92.67 308 *e*P **P 21 36 47.8 +1.3**
LZH pP pP 21 38 50.0 -2.1
LZH sP sP 21 39 52.5 +2.8
LZH pmax pmax
comp=Z,27nm,1.0s
N23A Red Feather La 92.72 47 P **P 21 36 47.5 +0.8**
baz=243
JCT Junction City 92.74 58 P **P 21 36 47.0 +0.1**
baz=246
RSSD Black Hills 95.41 44 *e*P **P 21 36 59.0 +0.2**
comp=Z,3.9nm,0.8s
RSSD *e*pP **pwP 21 39 11.0 +3.0**
RSSD Black Hills 95.41 44 *e*P **P 21 36 59.0 +0.2**
RSSD pmax pmax
comp=Z,4.0nm,0.8s
RSSD Black Hills 95.41 44 P **P 21 36 59.1 +0.2**
baz=244
ULN Ulaanbaatar 95.72 320 *ce*P **P 21 36 57.5 -2.6**
ULN pmax pmax
comp=Z,1.0nm,1.0s
SONM Songino Array 96.10 319 P **P 21 37 01.7 0.0**
comp=Z,0.4nm,0.6s,baz=136,slow=3.5,SNR=4.0
SONM PP PP 21 40 57.0 -8.1
comp=Z,0.5nm,0.8s,baz=114,slow=6.5,SNR=3.7
GTA Gaotai 96.94 310 *e*P **P 21 37 06.5 +0.8**
GTA pP pwP 21 39 18.5 +1.8
GTA pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 98.70 25 P Pdif 21 37 12.7 -0.1
comp=Z,0.4nm,0.7s,baz=247,slow=4.6,SNR=6.3
YKA pP pP 21 39 19.0 -0.9
comp=Z,0.1nm,0.5s,baz=236,slow=4.5,SNR=2.4
TIXI Tiksi 100.05 345 PP PP 21 41 30.0 -3.9
comp=Z,0.9nm,0.2s,baz=114,slow=7.4,SNR=3.5
ECSD EROS Data Cent 100.19 47 P **Pdif 21 37 20.9 +1.0**
baz=249
ZALV Zalesovo Beam 110.92 321 PKiKP **PKiKP 21 42 01.9 -1.1**
comp=Z,0.6nm,0.3s,baz=179,slow=1.5,SNR=4.7
ZALV PP **PP 21 42 49.4 -3.7**
comp=Z,0.7nm,0.6s,baz=76,slow=6.1,SNR=2.3
MKAR Makanchi Array 111.31 313 Pdiff **Pdif 21 38 09.9 +0.5**
comp=Z,0.5nm,0.7s,baz=90,slow=6.1,SNR=5.2
MKAR PKiKP **PKiKP 21 42 03.1 -1.0**
comp=Z,0.5nm,0.5s,baz=210,slow=1.4,SNR=11
MKAR PP **PP 21 42 49.0 -7.2**
comp=Z,0.5nm,0.7s,baz=105,slow=7.6,SNR=4.3
MKAR PKKPbc **PKKPbc 21 53 00.5 -1.6**
comp=Z,0.8nm,0.3s,baz=318,slow=4.1,SNR=11
KURK Kurchatov 114.27 317 PKiKP PKPdf 21 42 08.7 -0.8
KURK PP **PP 21 43 14.9 -1.7**
KURK Kurchatov 114.27 317 PKiKP PKPdf 21 42 08.7 -0.8
KURK 21 43 14.9
KURBB Kurchatov Arra 114.31 317 PKiKP PKPdf 21 42 08.7 -0.9
comp=Z,0.7nm,0.5s,baz=117,slow=1.7,SNR=8.7
KURBB PP **PP 21 43 14.9 -2.0**
comp=Z,0.4nm,0.3s,baz=97,slow=7.1,SNR=4.1
KSH Kashi 114.67 304 PKP **PKiKP 21 42 12.0 +1.1**
KSH PP PP 21 43 29.5 +10
KSH PKS **PKSdf 21 45 45.5 -2.1**
KSH SKS **SKSdf 21 48 28.0 -0.3**
KSH SKKS **SKKSac 21 49 15.3 -5.3**
KSH AMB AMB
comp=Z,390nm,7.5s
ARU Arti 125.77 324 *i* PKiKP **PKPdf 21 42 31.1 -0.4**
ARU 21 44 32.5
ARU 21 48 46.6
GEYT Alibeck 128.46 301 PKP **PKPdf 21 42 37.6 +0.3**
comp=Z,1.6nm,0.6s,baz=242,slow=3.2,SNR=5.0
GEYT PP **pPKPdf 21 44 49.7 -1.5**
comp=Z,3.1nm,1.0s,baz=96,slow=4.5,SNR=6.0
GEYT SKPbc SKPbc 21 45 04.6
comp=Z,3.8nm,1.0s,baz=222,slow=2.0,SNR=7.3
BANOM Banah 129.18 286 PP PP 21 45 09.7 +13
SNR=5.4
NAZ Nazwa, Dubai 129.61 285 PP PP 21 45 10.2 +10
SNR=6.2
FAQ Al Faqa, Dubai 129.63 284 PP PP 21 45 09.7 +10
SNR=6.8
ASUD Al Ashush, Dub 129.85 284 PP PP 21 45 11.0 +10
SNR=9.1
AJN Ajban 130.15 284 PP PP 21 45 11.4 +8.2
SNR=5.2
ARCES ARCESS Array B 130.34 349 PKP **PKPdf 21 42 39.2 -0.6**
comp=Z,4.4nm,1.0s,baz=360,slow=0.8,SNR=14
ARCES SKPbc **SKPab 21 45 10.0 +0.1**
comp=Z,11nm,1.0s,baz=33,slow=3.5,SNR=6.3
FINES FINESS Array B 136.99 342 PKhKP PKPpre 21 42 40.9
comp=Z,1.2nm,0.8s,baz=7.4,slow=4.4,SNR=5.5
FINES SKPbc **SKPbc 21 45 31.9 +0.6**
comp=Z,3.5nm,0.7s,baz=60,slow=4.6,SNR=7.3
KMBO Kilima Mbogo 137.24 342 SKPbc **SKPbc 21 45 34.9 +1.0**
comp=Z,1.8nm,0.8s,baz=64,slow=2.7,SNR=5.5
OBN Obninsk 137.55 330 *e*PKiKP **PKiKP 21 42 56.1 +0.4**
OBN *e*PPP PPP 21 48 54.6
OBN pmax pmax
comp=Z,3.0nm,1.0s
NB2 NORSAR Subarra 140.50 352 PKPdf PKPpre 21 42 52.1
comp=Z,0.3nm,0.6s,baz=6.6,slow=1.8
NOA NORSAR Array B 140.50 352 PKhKP PKPpre 21 42 52.3
comp=Z,0.2nm,0.5s,baz=5.5,slow=3.6,SNR=4.1
NOA SKPbc **SKPbc 21 45 41.7 +0.7**
comp=Z,2.1nm,0.7s,baz=17,slow=4.3,SNR=5.8
MBAR Mbarara 142.74 236 *e*PKPdf **PKPdf 21 43 03.3 -1.2**
AKASG Malin Array Be 143.77 329 PKhKP PKPpre 21 43 03.3
comp=Z,5.6nm,0.3s,baz=41,slow=4.5,SNR=85
AKASG SKPbc **SKiKP 21 45 49.9 -0.2**
comp=Z,5.4nm,0.9s,baz=44,slow=2.6,SNR=14
AKBB Malin Array Si 143.77 329 *e*PKPbc PKPbc 21 43 03.4 -0.8
KIEV Kiev 143.79 329 *e*PKPdf PKPbc 21 43 03.3 -0.9
KIEV Kiev 143.79 329 ⇓*i*P PKPbc 21 43 03.3 -0.9
AK11 Malin Array Si 143.82 329 *e*PKPbc PKPbc 21 43 03.4 -0.9
SUW Suwalki 143.90 337 *e*PKP PKPbc 21 43 04.4 0.0
SUW Suwalki 143.90 337 *e*PKPbc PKPbc 21 43 04.2 -0.2
SIM Simferopol' 144.33 318 *e*PKiKP **PKPab 21 43 06.6 0.0**
SIM pmax pmax
comp=Z,26nm,0.8s
BEL Belsk 146.51 337 *e*PKP **PKPbc 21 43 12.7 +0.5**
BEL Belsk 146.51 337 *e*PKiKP **PKPbc 21 43 12.7 +0.5**
LVV L'vov 146.78 332 *e*PKiKP **PKPbc 21 43 12.7 -0.3**
BR131 Keskin Array S 146.86 309 *e*PKPdf **PKPbc 21 43 13.4 -0.4**
BR131 Keskin Array S 146.86 309 PKPbc **PKPbc 21 43 13.7 0.0**
SNR=7.2
BRTR Keskin Array B 146.86 309 PKPbc **PKPbc 21 43 13.5 -0.2**
comp=Z,5.8nm,0.7s,baz=138,slow=4.4,SNR=43
BRTR pPKPbc **pPKPdf 21 45 24.6 -0.6**
comp=Z,1.3nm,1.0s,baz=151,slow=3.3,SNR=3.1
LEOM Leova 146.96 324 ⇑*i*P **PKPbc 21 43 13.5 0.0**
LEOM Leova 146.96 324 ⇑PKiKP **PKPbc 21 43 13.5 0.0**
TLCR 147.40 321 ⇑*i*P **PKPbc 21 43 14.8 +0.1**
TLCR 147.40 321 ⇑PKiKP **PKPbc 21 43 14.8 +0.1**
ANTO Ankara 147.41 310 *e*PKPdf **PKPdf 21 43 11.8 +0.2**
ANTO *e*PKPbc **PKPbc 21 43 15.0 -0.1**
ANTO *e*PKPab **PKPab 21 43 19.6 +0.5**
ANTO Ankara 147.41 310 ⇓*i*P **PKPbc 21 43 15.1 0.0**
ANTO Ankara 147.41 310 PKPbc **PKPbc 21 43 15.6 +0.5**
SNR=5.1
BR231 Keskin MP Arra 147.43 310 *e*PKPbc **PKPbc 21 43 15.8 +0.6**
KWP Kalwaria Pacla 147.49 333 *e*PKP **PKPbc 21 43 15.1 +0.2**
KWP Kalwaria Pacla 147.49 333 *e*PKiKP **PKPbc 21 43 15.1 +0.2**
CFR Carcaliu 147.79 322 ⇓*i*P **PKPbc 21 43 15.4 -0.3**
CFR Carcaliu 147.79 322 ⇓PKiKP **PKPbc 21 43 15.4 -0.3**
BURAR Bucovina Array 147.80 328 ⇓*i*P **PKPbc 21 43 16.0 +0.2**
BURAR Bucovina Array 147.80 328 ⇓PKiKP **PKPbc 21 43 16.0 +0.2**
BIZ Bicaz 147.80 326 ⇓*i*P **PKPbc 21 43 16.3 +0.6**
TIRR Tirgusor 148.05 321 ⇓*i*P **PKPbc 21 43 16.3 -0.1**
TIRR Tirgusor 148.05 321 ⇓PKiKP **PKPbc 21 43 16.3 -0.1**
VRI Vrincioaia 148.16 324 ⇑*i*P **PKPbc 21 43 16.7 0.0**
VRI Vrincioaia 148.16 324 ⇑PKHKP **PKPbc 21 43 16.7 0.0**
OJC Ojcow 148.19 336 *e*PKP **PKPbc 21 43 16.7 +0.1**
OJC Ojcow 148.19 336 *e*PKPbc **PKPbc 21 43 16.7 +0.1**
TLB Topalu 148.19 321 ⇑*i*P **PKPbc 21 43 16.8 0.0**
TLB Topalu 148.19 321 ⇑PKHKP **PKPbc 21 43 16.8 0.0**
HARR Harsova 148.20 321 ⇓*i*P **PKPbc 21 43 16.9 +0.1**
HARR Harsova 148.20 321 ⇓PKHKP **PKPbc 21 43 16.9 +0.1**
MFTR Murfatlar 148.20 320 ⇑*i*P **PKPbc 21 43 17.0 +0.2**
PLOR Plostina 148.21 324 ⇑*i*P **PKPbc 21 43 16.3 -0.6**
PLOR Plostina 148.21 324 ⇑PKHKP **PKPbc 21 43 16.3 -0.6**
UZH Uzhgorod 148.43 332 *e*PKiKP **PKPdf 21 43 09.5 -3.3**
UZH *e* 21 43 14.2
OZUR 148.52 325 ⇓*i*P **PKPbc 21 43 18.0 +0.4**
CSS Mathiatis 148.60 301 *e*PKPbc **PKPbc 21 43 17.9 -0.2**
ICOR Ion Corvin 148.61 321 ⇑*i*P **PKiKP 21 43 18.4 -0.4**
NIE Niedzica 148.65 335 *e*PKP **PKiKP 21 43 18.6 -0.3**
TRPA Tarpa 148.69 331 ⇓*i*P **PKPbc 21 43 18.1 +0.2**
ISR Istrita 148.73 323 ⇓*i*P **PKPbc 21 43 17.6 -0.6**
ISR Istrita 148.73 323 ⇓PKHKP **PKPbc 21 43 17.6 -0.6**
DOPR Dopca 148.81 325 ⇓*i*P **PKPbc 21 43 18.6 +0.3**
MLR Muntele Rosu 148.82 324 *e*PKPbc **PKPbc 21 43 18.1 -0.4**
MLR Muntele Rosu 148.82 324 ⇓*i*P **PKPbc 21 43 18.9 +0.4**
KSP Ksiaz 148.87 340 *e*PKP **PKiKP 21 43 18.9 -0.3**
SECR 149.04 323 ⇑*i*P **PKPbc 21 43 18.9 0.0**
LANS Liptovska Anna 149.19 335 *e*PKP **PKiKP 21 43 20.2 +0.2**
LANS *e* 21 43 25.8
CJR Cluj-Napoca 149.22 328 ⇑*i*P **PKPbc 21 43 19.3 0.0**
CJR Cluj-Napoca 149.22 328 ⇑PKHKP **PKPbc 21 43 19.3 0.0**
UPC Upice 149.25 340 ⇑*e*PKP **PKiKP 21 43 19.8 -0.2**
UPC *ex* x 21 44 13.2
DPC Dobruska-Polom 149.29 340 ⇑*e*PKP **PKiKP 21 43 20.1 0.0**
DPC *ex* x 21 44 13.4
VOIR 149.34 325 ⇑*i*P **PKPbc 21 43 19.7 0.0**
VOIR 149.34 325 ⇑PKHKP **PKPbc 21 43 19.7 0.0**
CLL Collm 149.37 344 *e*PKPbc **PKPbc 21 43 19.1 -0.4**
CLL Collm 149.37 344 ⇓*i*PKPbc **PKPbc 21 43 19.6 +0.2**
comp=Z,14nm,0.6s
CLL ⇑*i*PKPab **PKPab 21 43 26.7 0.0**
comp=Z,11nm,0.7s
CLL *e*pPKPbc **pPKPbc 21 45 33.0 +0.7**
CLL *e*pPKPab **pPKPab 21 45 37.0 +2.2**
CLL *e* 21 45 45.0
MORC Moravsky Berou 149.38 338 ⇓*i*P **PKPbc 21 43 19.4 -0.2**
MORC Moravsky Berou 149.38 338 ⇓PKHKP **PKPbc 21 43 19.4 -0.2**
KRLC Kraliky 149.38 339 ⇑*e*PKP **PKiKP 21 43 20.1 -0.2**
BRG Berggiesshubel 149.53 343 *i* PKP **PKiKP 21 43 20.3 -0.3**
comp=Z,11nm,0.6s
BRG *i* 21 43 27.7
comp=Z,7.8nm,0.7s
BRG *i* 21 44 13.4
comp=Z,8.7nm,0.9s
DRGR 149.59 329 ⇓*i*P **PKPbc 21 43 19.9 -0.3**
DRGR 149.59 329 ⇓PKHKP **PKPbc 21 43 19.9 -0.3**
ARR Arges 149.61 325 ⇑*i*P **PKiKP 21 43 21.2 +0.2**
PVCC Panska Ves 149.66 342 ⇑*e*PKP **PKiKP 21 43 20.9 +0.1**
PVCC *ex* x 21 44 14.2
VYHS Vyhne 149.96 335 *e*PKP **PKPbc 21 43 21.1 +0.1**
VYHS *e* 21 43 30.0
PSZ Piszkesteto 150.00 333 ⇓*i*P **PKPbc 21 43 21.3 +0.2**
PSZ Piszkesteto 150.00 333 ⇓PKHKP **PKPbc 21 43 21.3 +0.2**
VRAC Vranov 150.10 339 ⇑*i*P **PKiKP 21 43 21.9 +0.1**
VRAC Vranov 150.10 339 ⇑PKHKP **PKPbc 21 43 21.9 +0.7**
GOPC GO Pecny, Ondr 150.15 341 ⇑*e*PKP **PKiKP 21 43 21.8 -0.1**
GOPC *e*PKPAB **PKPab 21 43 30.5 +0.5**
GOPC *ex* x 21 44 15.3
PRU Pruhonice 150.15 342 ⇑*e*PKP **PKiKP 21 43 21.8 -0.1**
PRU *e*PKPAB **PKPab 21 43 31.0 +1.0**
SIRR Siria 150.47 329 ⇓*i*P **PKPbc 21 43 22.2 0.0**
TREC Trest 150.47 340 ⇑*e*PKP **PKiKP 21 43 22.4 -0.2**
GZR Gura Zlata 150.55 327 ⇑*i*P **PKPbc 21 43 21.8 -0.7**
GZR Gura Zlata 150.55 327 ⇑PKiKP **PKPbc 21 43 21.8 -0.7**
MODS Modra-Piesok 150.65 337 *e*PKiKP **PKiKP 21 43 23.5 +0.5**
MODS *e* 21 43 33.5
MODS Modra-Piesok 150.65 337 *e*PKP **PKiKP 21 43 23.5 +0.5**
MODS *e* 21 43 33.5
BZS Buzias 150.97 328 ⇓*i*P **PKPbc 21 43 22.9 -0.4**
BZS Buzias 150.97 328 ⇓PKiKP **PKPbc 21 43 22.9 -0.4**
MANT Manisa 150.97 310 *e*PKPbc **PKiKP 21 43 24.2 0.0**
HERR Herculane 151.09 327 ⇑*i*P **PKPbc 21 43 23.3 -0.3**
KHC Kasperske Hory 151.20 342 ⇑*e*PKP **PKiKP 21 43 24.1 0.0**
KHC *e*PKPAB **PKPab 21 43 35.1 +0.6**
KHC *ex* x 21 44 17.2
KHC Kasperske Hory 151.20 342 *e*PKiKP **PKiKP 21 43 24.1 0.0**
KHC *e* 21 43 35.1
PUNG Punghina 151.24 325 ⇑*i*P **PKPbc 21 43 23.6 -0.4**
GERES GERESS Array B 151.42 342 PKPbc **PKPbc 21 43 24.4 0.0**
comp=Z,1.2nm,0.5s,baz=27,slow=1.9,SNR=13
GERES PKPab **PKPab 21 43 35.5 +0.1**
comp=Z,1.4nm,0.6s,baz=29,slow=3.0,SNR=7.7
GERES pPKPbc **pPKPbc 21 45 37.3 -0.3**
comp=Z,0.7nm,0.7s,baz=90,slow=2.9,SNR=3.1
GEA0 GERESS Array S 151.43 342 *e*PKPbc **PKPbc 21 43 24.1 -0.3**
MDVR Moldovita 151.52 327 ⇓*i*P **PKPbc 21 43 24.0 -0.7**
CONA Conrad Observa 151.53 338 *i* PKPbc **PKiKP 21 43 24.8 -0.1**
comp=Z,4.1nm,1.1s
CONA *i* PKPab **PKPab 21 43 37.0 +1.0**
comp=Z,3.8nm,0.6s
CONA *e*pPKiKP **pPKPab 21 45 41.5 -2.2**
comp=Z,7.6nm,1.2s
MOA Molln 152.13 340 *i* PKPab **PKPab 21 43 39.0 +0.6**
comp=Z,6.5nm,1.0s
MOA *e*pPKiKP **pPKiKP 21 45 41.1 +1.4**
comp=Z,5.6nm,1.1s
VTS Vitosha 152.19 322 *e*PKPab **PKPab 21 43 39.4 +0.4**
VTS Vitosha 152.19 322 ⇓*i*P **PKPbc 21 43 26.2 -0.2**
VTS Vitosha 152.19 322 ⇓PKiKP **PKPbc 21 43 26.2 -0.2**
ARSA Arzberg 152.23 338 *e*PKPab **PKPab 21 43 38.9 0.0**
comp=Z,6.6nm,1.1s
ARSA *e*pPKiKP **pPKiKP 21 45 42.7 +2.7**
comp=Z,6.7nm,1.5s
SOKA Soboth 152.90 338 *e*PKPab **PKPab 21 43 42.0 +0.2**
comp=Z,4.3nm,1.0s
SOKA *e*pPKiKP **pPKiKP 21 45 45.0 +3.5**
comp=Z,6.4nm,1.1s
KBA Koelnbreinsper 153.11 340 *e*PKPab **PKPab 21 43 42.8 0.0**
comp=Z,5.6nm,0.7s
STIP Stip 153.35 322 *i* PKP **PKPab 21 43 43.6 -0.2**
VAY Valandovo 153.37 321 *i* PKP **PKPab 21 43 44.4 +0.6**
WATA Walderalm 153.39 343 *i* PKPab **PKPab 21 43 44.4 +0.4**
comp=Z,2.5nm,0.5s
MYKA Terra Mystica 153.41 339 *i* PKPab **PKPab 21 43 43.6 -0.3**
comp=Z,8.5nm,0.8s
WTTA Wattenberg 153.44 343 *i* PKPab **PKPab 21 43 44.8 +0.6**
comp=Z,5.5nm,0.5s
RETA Reutte 153.47 344 *i* PKPab **PKPab 21 43 44.6 +0.4**
comp=Z,5.6nm,1.0s
MOTA Moosalm 153.51 344 *e*PKPab **PKPab 21 43 44.7 +0.2**
comp=Z,5.9nm,0.8s
MOTA *i* pPKiKP **pPKiKP 21 45 46.7 +3.8**
comp=Z,7.0nm,1.2s
SKO Skopje 153.59 323 *i* PKP **PKPab 21 43 45.8 +1.0**
SQTA Sankt Quirin 153.60 343 *e*PKPab **PKPab 21 43 45.2 +0.4**
comp=Z,4.0nm,0.8s
ABTA Abfaltersbach 153.66 341 *e*PKPbc **PKPbc 21 43 28.5 -0.8**
comp=Z,2.9nm,0.6s
ABTA *e*PKPab **PKPab 21 43 44.6 -0.5**
comp=Z,6.3nm,1.0s
ABTA *i* pPKiKP **pPKiKP 21 45 44.6 +1.4**
comp=Z,9.2nm,1.3s
DAVA Damuels 153.87 345 *i* PKPab **PKPab 21 43 46.3 +0.3**
comp=Z,5.9nm,0.8s
FETA Feichten 153.91 344 *e*PKPab **PKPab 21 43 46.6 +0.4**
comp=Z,4.3nm,0.8s
FETA *i* pPKiKP **pPKiKP 21 45 45.7 +2.0**
comp=Z,6.5nm,1.2s
KRUS Krusevo 154.10 322 *i* PKP **PKPab 21 43 47.5 +0.3**
LIT Litokhoron 154.16 319 *e*PKPab **PKPab 21 43 47.6 +0.2**
LIT Litokhoron 154.16 319 *e*PKP2 **PKPab 21 43 47.6 +0.2**
FUORN Ofenpass-Fuorn 154.40 344 *e*PKPab **PKPab 21 43 49.2 +0.8**
TTG Podgorica 154.44 326 *e*PKPab **PKPab 21 43 48.5 +0.1**
TTG Podgorica 154.44 326 *e*PKP2 **PKPab 21 43 48.5 +0.1**
LIC Lamto 163.23 161 *e*PKP2 **PKPab 21 44 28.0 +0.7**
comp=Z,24nm,0.8s
KIC Kosan Boka 163.45 162 *e*PKP2 **PKPab 21 44 29.0 +0.7**
comp=Z,41nm,1.2s
TIC Toumodi 163.63 160 *e*PKP2 **PKPab 21 44 29.7 +0.6**
DBIC Dimbokro 163.71 161 PKPab **PKPab 21 44 30.3 +0.9**
comp=Z,5.2nm,0.9s,baz=135,slow=5.4,SNR=7.0
TORD Torodi Ar. Bea 170.88 188 PKP **PKPdf 21 43 37.5 -1.0**
comp=Z,0.8nm,0.8s,baz=305,slow=1.4,SNR=4.5
TORD PKPab **PKPab 21 45 01.8 +0.8**
comp=Z,0.9nm,0.9s,baz=174,slow=1.4,SNR=4.9
TAM Tamanrasset 175.26 278 *e*PKPab **PKPab 21 45 22.7 +1.6**
TAM Tamanrasset 175.26 278 *e*PKP2 **PKPab 21 45 22.7 +1.6**

*MOS **28** 21:39:43.6±0.0, 41°.44N×46°.78E, h11km, MPVA3.0*
*TIF **28** 21:39:44.8, 41°.69N×46°.85E, h49km±1km*
*ISCJB **28** 21:39:45.3±0.9, 41°.43N±0°.05×46°.75E±0°.03, h8km±7km, Error ellipse: s-maj=7.9km s-min=4.2km az=11.2*
*NORS **28** 21:39:45.2±0.0, 41°.48N×46°.86E, h20km, MPVA3.1*
*DRS **28** 21:39:48.4±0.0, 41°.32N×46°.64E, h24km*
ISC 28 21:39:46.2±1.3, **41°.45N**±0°.06×**46°.76E**±0°.02, **h25**km±13km, **n21**,σ1s**22**/35, **1C, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDFL	**Dedoflistskaro**	**0.48**	**270**	P	**Pn**	**21 39 56.9**	**-0.6**
DDFL				S	**Sn**	**21 40 07.8**	**+2.6**
LGD	**Lagodekhi**	**0.55**	**316**	P	**Pb**	**21 39 56.6**	**-0.7**
LGD				S	**Sb**	**21 40 05.5**	**+0.7**
LGD	**Lagodekhi**	**0.55**	**316**	*e*Pg	**Pb**	**21 39 56.6**	**-0.7**
LGD				*e*Sg	**Sb**	**21 40 05.5**	**+0.7**
KMKR	**Kumukh**	**0.73**	**20**	P	**Pn**	**21 40 01.0**	**-0.2**
KMKR	**Kumukh**	**0.73**	**20**	*e*Pg	**Pn**	**21 40 01.0**	**-0.2**
KMKR				*e*Sg	**Sn**	**21 40 11.0**	**-0.7**
AKT	**Akhty**	**0.73**	**87**	⇑*i*P	**Pn**	**21 39 59.4**	**-1.7**
AKT				pmax	pmax		
	comp=Z,9.0nm,0.2s						
AKT	**Akhty**	**0.73**	**87**	*e*Pg	**Pn**	**21 39 59.3**	**-1.8**
AKT				*e*Sg	**Sn**	**21 40 10.6**	**-1.0**
GNBR	**Gunib**	**0.95**	**9**	*e*P	**Pn**	**21 40 04.0**	**-0.1**
GNBR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GNBR	**Gunib**	**0.95**	**9**	*e*Pg	**Pn**	**21 40 03.9**	**-0.2**
GNBR				*e*Sg	**Sn**	**21 40 16.4**	**-0.6**
URKR	**Urkarakh**	**0.97**	**42**	*e*P	**Pn**	**21 40 04.5**	**+0.1**
URKR	**Urkarakh**	**0.97**	**42**	*e*Pg	**Pn**	**21 40 04.6**	**+0.1**
URKR				*e*Sg	**Sn**	**21 40 19.4**	**+1.8**
KSMR	**Kasumkent**	**1.04**	**81**	P	**Pb**	**21 40 05.5**	**-0.1**
KSMR	**Kasumkent**	**1.04**	**81**	*e*Pg	**Pb**	**21 40 05.5**	**-0.1**
KSMR				*e*Sg	**Sn**	**21 40 19.5**	**+0.4**
BTLR	**Botlikh**	**1.28**	**342**	*e*Pg	**Pb**	**21 40 08.9**	**-0.8**
BTLR				*e*Sg	**Sb**	**21 40 26.0**	**+0.2**
DRN	**Derbent**	**1.32**	**63**	*e*Pg	Pb	21 40 13.8	+3.6
DRN				*e*Sg	**Sb**	**21 40 30.2**	**+3.6**
TBLG	**Delisi**	**1.54**	**281**	P	**Pn**	**21 40 12.3**	**+0.2**
TBLG				S	**Sn**	**21 40 32.1**	**+0.8**
TBLG	**Delisi**	**1.54**	**281**	*e*P	**Pn**	**21 40 12.3**	**+0.2**
TBLG	**Delisi**	**1.54**	**281**	*e*Pg	**Pn**	**21 40 12.3**	**+0.2**
TBLG				*e*Sg	**Sn**	**21 40 32.1**	**+0.8**
TRLG	**Trialeti**	**2.00**	**274**	P	**Pn**	**21 40 18.9**	**+0.4**
TRLG				S	**Sn**	**21 40 43.3**	**+0.5**
LACR	**Lac**	**2.29**	**308**	*e*Pn	**Pb**	**21 40 25.7**	**-1.2**
LACR				*e*Sn	**Sb**	**21 40 55.1**	**+0.2**
ZEI	**Tsey**	**2.51**	**303**	*e*Pn	**Pb**	**21 40 27.9**	**-2.8**
ZEI				*e*Sn	**Sb**	**21 41 01.9**	**+0.6**

*ISCJB **28** 21:51:36.0±0.4, 39°.71N±0°.02×25°.69E±0°.03, h9km±4km, Error ellipse: s-maj=4.2km s-min=3.8km az=34.1*
*ATH **28** 21:51:35.7, 39°.70N×25°.66E, h29km±2km, ML2.2/2, Error ellipse: s-maj=2.9km s-min=1.3km az=242.0*
*ISK **28** 21:51:35.4, 39°.69N×25°.70E, h9km, ML2.3/16*
*DDA **28** 21:51:37.1, 39°.75N×25°.75E, h7km±2km, ML2.8*
ISC 28 21:51:36.0±1.0, **39°.70N**±0°.02×**25°.68E**±0°.03, **h11**km±9km, **n30**,σ0s**46**/39, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOZC	**Bozcaada**	**0.32**	**64**	PG	**Pg**	**21 51 42.3**	**-0.1**
BOZC	**Bozcaada**	**0.32**	**64**	IAML_P			
	comp=Z,5μm,0.1s						
BOZC				*i* P	**Pb**	**21 51 42.7**	**-1.0**
LIA	**Limnos Island**	**0.43**	**297**	P	**Pb**	**21 51 45.0**	**-0.6**
LIA				S	**Sg**	**21 51 51.3**	**+1.0**
SIGR	**SIGRI**	**0.51**	**165**	PG	**Pg**	**21 51 45.7**	**-0.2**
SIGR				SG	**Sg**	**21 51 52.9**	**+0.3**
SIGR	**SIGRI**	**0.51**	**165**	P	**Pg**	**21 51 45.7**	**-0.2**
SIGR				AML	AML	21 51 53.7	
	comp=E,512μm,0.4s						
SIGR				AML	AML	21 51 54.0	
	comp=N,562μm,0.5s						
EZN	**Ezine**	**0.51**	**76**	PG	**Pg**	**21 51 45.9**	**-0.1**
EZN				SG	**Sg**	**21 51 52.9**	**+0.1**
GADA	**Gvkgeada**	**0.52**	**19**	PG	**Pg**	**21 51 46.1**	**0.0**
EFSA	**Agios Efstrati**	**0.56**	**253**	P	**Pb**	**21 51 47.6**	**-0.2**
EFSA				S	**Sb**	**21 51 55.7**	**-0.1**
PRK	**Paraskevi**	**0.65**	**135**	P	**Pb**	**21 51 49.6**	**+0.3**
PRK				S	**Sb**	**21 51 59.0**	**+0.8**
PRK				AML	AML	21 51 59.2	
	comp=E,467μm,0.3s						
PRK				AML	AML	21 51 59.4	
	comp=N,465μm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.67**	**86**	IAML_P			
	comp=Z,2μm,0.1s						
BAYC				*i* P	**Pb**	**21 51 49.6**	**-0.2**
BAYC				*i* S	**Sb**	**21 51 58.9**	**-0.2**
SMTH	**Samothraki Isl**	**0.78**	**351**	P	**Pg**	**21 51 51.0**	**-0.1**
SMTH				S	**Sb**	**21 52 02.1**	**0.0**
AYVA	**Ayvalik**	**0.87**	**116**	IAML_P			
	comp=Z,496nm,0.2s						
AYVA				*i* P	**Pn**	**21 51 54.5**	**+0.2**
AYVA				*i* S	**Sn**	**21 52 07.1**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.92**	**41**	PG	**Pg**	**21 51 53.5**	**-0.3**
LPK	**Lapseki**	**1.06**	**51**	PG	**Pb**	**21 51 56.2**	**-0.3**
ENEZ	**Enez**	**1.09**	**19**	PN	**Pg**	**21 51 56.4**	**-0.7**
ERIK	**Erikli-Kesan**	**1.16**	**33**	PN	**Pb**	**21 51 57.7**	**-0.4**
PSRA	**Psara**	**1.16**	**185**	P	**Pn**	**21 51 58.4**	**+0.2**
ALN	**Alexandroupoli**	**1.23**	**13**	PN	**Pn**	**21 51 58.8**	**-0.3**
ALN	**Alexandroupoli**	**1.23**	**13**	P	**Pn**	**21 51 58.8**	**-0.3**
CHOS	**Chios island**	**1.34**	**167**	PN	**Pn**	**21 52 00.1**	**-0.7**
CHOS	**Chios island**	**1.34**	**167**	P	**Pn**	**21 52 00.1**	**-0.7**
KESN	**Edirne-Kesan**	**1.36**	**34**	IAML_P			
	comp=Z,129nm,0.1s						
KESN				*i* P	**Pg**	**21 52 01.9**	**-0.3**
KESN				*i* S	**Sn**	**21 52 20.1**	**+0.6**
KRBG	**Karabiga-Canak**	**1.42**	**60**	PN	**Pb**	**21 52 02.0**	**-0.5**
RDO	**Rodhopi**	**1.45**	**356**	PN	**Pn**	**21 52 02.2**	**+0.1**
OUR	**Ouranopolis**	**1.45**	**296**	PN	**Pb**	**21 52 02.7**	**-0.3**
URLA	**Izmir**	**1.52**	**152**	PN	**Pn**	**21 52 02.7**	**-0.4**
BALB	**Balikesir**	**1.70**	**91**	PN	**Pn**	**21 52 05.6**	**0.0**
EDC	**Edincik**	**1.79**	**68**	PN	**Pn**	**21 52 07.3**	**+0.4**
KCTX	**Karacabey (Bur**	**2.13**	**74**	PN	**Pn**	**21 52 11.7**	**+0.1**
EDRB	**Edirne**	**2

	2.0nm,0.2s							
PDGK				S		**Sg**	**21 53 59.1**	**-0.7**
	1.6nm,0.2s							
PDGK	**Podgornoye**	**0.85**	**351**	⇑*i*	P	**Pg**	**21 53 48.6**	**-0.3**
	baz=52							
PDGK				⇑*i*	S	**Sg**	**21 53 59.1**	**-0.7**
	baz=52							
PRZ	**Przheval'sk**	**0.94**	**270**	⇑*i*	P	**Pb**	**21 53 52.3**	**+0.6**
	baz=63							
PRZ				⇑*i*	S	**Sb**	**21 54 04.9**	**+0.2**
	baz=63							
KTMS	**Ketmen**	**1.08**	**27**	P		**Pg**	**21 53 53.1**	**-0.1**
	3.5nm,0.1s							
KTMS				S		**Sg**	**21 54 06.6**	**-0.6**
	18nm,0.2s							
SATY	**Saty**	**1.09**	**302**	P		**Pg**	**21 53 53.7**	**+0.2**
	2.0nm,0.2s							
SATY				S		**Sg**	**21 54 07.8**	**+0.2**
	9.5nm,0.1s							
DJR	**Jarkent**	**1.84**	**3**	P		**Pb**	**21 54 07.1**	**+0.1**
	1.2nm,0.2s							
DJR				S		**Sb**	**21 54 30.8**	**+0.2**
	2.9nm,0.4s							
KDJ	**Kajisay**	**1.88**	**260**	⇑*i*	P	**Pg**	**21 54 09.0**	**+0.3**
	baz=56							
KDJ				⇑*i*	S	**Sg**	**21 54 34.2**	**+1.1**
	baz=56							
TNSS	**Tian-Shan**	**2.08**	**286**	Pg		**Pg**	**21 54 12.3**	**-0.2**
	1.9nm,0.4s							
TNSS				Lg		Lg	21 54 39.7	
	1.4nm,0.2s							
ULHL	**Ulahol**	**2.55**	**266**	⇓*i*	P	**Pb**	**21 54 17.9**	**-1.3**
	baz=63							
ULHL				⇓*i*	S	**Sb**	**21 54 49.7**	**-1.4**
	baz=63							
BOOM	**Boomskoye usch**	**2.76**	**271**	⇑*i*	P	**Pn**	**21 54 20.5**	**+2.5**
	baz=69							
BOOM				⇑*i*	S	**Sb**	**21 54 54.7**	**-2.3**
	baz=69							
NRN	**Naryn**	**2.94**	**250**	⇓*e*	P	**Pb**	**21 54 24.0**	**-1.8**
	baz=48							
NRN				⇓*i*	S	**Sb**	**21 55 00.2**	**-2.0**
	baz=48							

ISCJB ***28*** *22:04:33.6±0.6, 16°.17S±0°.07×73°.51W±0°.08, h35km, mb3.8/6, MS3.1/3, Error ellipse: s-maj=14.4km s-min=5.5km az=136.6*
NEIC ***28*** *22:04:33.0±0.0, 16°.15S×73°.68W, h45km, mb4.2/3, ML4.3(ARE), ML4.4(GUC), After ARE.*
NEIC Felt [III] at Atico and [II] at Caraveli.
IDC ***28*** *22:04:37.2±1.7, 15°.99S×73°.56W, h86km±16km, mb3.6/6, mb1 3.9/10, mb1mx3.7/33, mbtmp4.0/10, MS3.3/3, Ms1 3.3/3, ms1mx2.8/28, Error ellipse: s-maj=23.9km s-min=13.2km az=48.0*
GUC ***28*** *22:04:38.7±0.4, 16°.77S×73°.55W, h27km±999km, ML4.8*
ISC 28 22:04:33.6±0.7, 16°.23S±0°.06×73°.62W±0°.09, h35km, n39, σ2$48/44, mb3.9/6, MS3.1/3, 3C-1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ARCH	**Arica**	**3.89**	**126**	IAML			22 06 35.0	
	comp=E,3μm,0.4s							
PB12	**IPOC Station P**	**3.94**	**127**	*e*P		**Pn**	**22 05 34.0**	**+2.2**
PB12				*i* S		**Sn**	**22 06 17.1**	**+0.3**
PB12				IAML			22 06 38.6	
	comp=N,595nm,0.4s							
PSGC	**Pisagua**	**4.72**	**136**	⇑*i*	P	**Pn**	**22 05 44.9**	**+2.3**
PSGC				*i*	S	**Sn**	**22 06 34.2**	**-2.0**
MNMC	**Minye Minye**	**4.80**	**128**	*e*	Pn	**Pn**	**22 05 45.4**	**+1.7**
MNMC				*e*	Sn	**Sn**	**22 06 41.0**	**+2.6**
MNMC	**Minye Minye**	**4.80**	**128**	⇓*i*	P	**Pn**	**22 05 46.5**	**+2.7**
MNMC				*i*	S	**Sn**	**22 06 38.9**	**+0.5**
PB11	**IPOC Station P**	**5.16**	**134**	*e*	Pn	**Pn**	**22 05 51.0**	**+2.5**
PB11				*e*	Sn	**Sn**	**22 06 46.8**	**-0.1**
PB11	**IPOC Station P**	**5.16**	**134**	⇑*i*	P	**Pn**	**22 05 51.0**	**+2.5**
PB11				*i*	S	**Sn**	**22 06 46.2**	**-0.7**
NNA	**Nana**	**5.25**	**323**	P		**Pn**	**22 05 51.6**	**+1.9**
	comp=N,48nm,0.3s,baz=153,slow=12,SNR=30							
NNA				S		**Sn**	**22 06 49.9**	**+0.9**
	comp=N,41nm,0.3s,baz=91,slow=11,SNR=3.5							
NNA	**Nana**	**5.25**	**323**	*e*	Pn	**Pn**	**22 05 51.9**	**+2.2**
LPAZ	**La Paz**	**5.28**	**91**	P		**Pn**	**22 05 54.3**	**+3.7**
	comp=N,2.2nm,0.3s,baz=269,slow=9.4,SNR=29							
LPAZ	**La Paz**	**5.28**	**91**	*e*	Pn	Pn	22 05 55.8	+5.2
PB08	**IPOC Station P**	**5.76**	**133**	*e*	P	**Pn**	**22 05 59.8**	**+2.8**
PB08				*i*	S	**Sn**	**22 07 02.0**	**-0.1**
PB01	**IPOC Station P**	**6.19**	**141**	*e*	Pn	**Pn**	**22 06 05.6**	**+3.0**
PB01				*e*	Sn	**Sn**	**22 07 10.3**	**-1.9**
PB01	**IPOC Station P**	**6.19**	**141**	*e*	P	**Pn**	**22 06 05.1**	**+2.4**
PB04	**IPOC Station P**	**6.90**	**152**	*e*	Pn	**Pn**	**22 06 15.3**	**+2.8**
PB04				*e*	Sn	**Sn**	**22 07 27.3**	**-2.6**
PB09	**IPOC Station P**	**6.92**	**144**	*i*	S	**Sn**	**22 07 29.8**	**-0.5**
LVC	**Limon Verde**	**7.75**	**146**	P		**Pn**	**22 06 28.6**	**+4.3**
	comp=N,3.6nm,0.3s,baz=334,slow=11,SNR=38							
LVC				S		**Sn**	**22 07 51.5**	**+0.4**
	comp=N,9.5nm,0.3s,baz=60,slow=21,SNR=13							
LVC	**Limon Verde**	**7.75**	**146**	*e*	Pn	**Pn**	**22 06 28.6**	**+4.3**
LVC				*e*	Sn	**Sn**	**22 07 50.2**	**-0.8**
PB10	**IPOC Station P**	**7.80**	**159**	*e*	Pn	**Pn**	**22 06 27.2**	**+2.5**
PB10				*e*	Sn	**Sn**	**22 07 47.9**	**-3.9**
GO02	**Mina Guanaco**	**9.65**	**158**	*e*	Pn	**Pn**	**22 06 54.6**	**+4.2**
GO02				*e*	Sn	**Sn**	**22 08 36.4**	**-1.4**
SIV	**San Ignacio**	**12.06**	**91**	P		**Pn**	**22 07 25.0**	**+1.7**
	comp=N,0.6nm,0.3s,baz=276,slow=15,SNR=5.1							
GO04	**Tololo Observa**	**14.12**	**170**	*e*	Pn	**Pn**	**22 07 54.2**	**+2.8**
GO04				*e*	Sn	**Sn**	**22 10 24.2**	**-2.7**
PTGA	**Pitinga**	**20.46**	**42**	P		**P**	**22 09 05.3**	**-3.1**
	comp=N,12nm,1.1s,baz=219,slow=16,SNR=11							
PTGA				LR		LR	22 17 18.0	
	comp=N,72nm,19.3s,baz=220,slow=38							
PTGA	**Pitinga**	**20.46**	**42**	*e*	P	**P**	**22 09 05.8**	**-2.6**
	comp=N,7.8nm,0.6s							
GO06	**Curarrehue**	**23.34**	**176**	*e*	P	**P**	**22 09 40.2**	**+1.3**
	comp=N,3.5nm,0.6s							
PLCA	**Paso Flores**	**24.56**	**174**	P		**P**	**22 09 51.5**	**+1.2**
	comp=N,5.3nm,0.8s,baz=15,slow=10,SNR=11							
PLCA	**Paso Flores**	**24.56**	**174**	*e*	P	**P**	**22 09 52.0**	**+1.7**
	comp=N,9.5nm,0.9s							
SDV	**Santo Domingo**	**25.13**	**7**	LR		LR	22 20 36.0	
	comp=N,81nm,19.0s,baz=239,slow=38							
MDP	**Montagnes des**	**29.67**	**46**	LR		LR	22 23 55.6	
	comp=N,41nm,18.2s,baz=191,slow=39							
TXAR	**Lajitas Array**	**53.79**	**327**	P		P	22 13 48.9	-4.1
	comp=N,0.2nm,0.3s,baz=143,slow=9.1,SNR=2.9							
TORD	**Torodi Ar. Bea**	**79.96**	**73**	P		**P**	**22 16 36.6**	**-3.2**
	comp=N,1.1nm,0.6s,baz=261,slow=6.2,SNR=21							
SYO	**Syowa Base**	**82.95**	**161**	⇑*e*	P	P	22 17 08.4	+14
YKA	**Yellowknife Ar**	**84.80**	**342**	P		P	22 17 00.1	-3.9
	comp=N,0.3nm,0.8s,baz=131,slow=5.1,SNR=5.2							
ESDC	**Sonseca Array**	**85.35**	**47**	P		**P**	**22 17 04.6**	**-2.8**
	comp=N,0.4nm,0.6s,baz=249,slow=4.9,SNR=3.1							
H11S2	**WAKE ISLAND Hyl**	**22.61**	**282**	T		T	00 38 47.2	
	baz=98,slow=75,SNR=20							
H11S1	**WAKE ISLAND Hyl**	**22.61**	**282**	T		T	00 38 48.3	
	baz=98,slow=75,SNR=16							
H11S3	**WAKE ISLAND Hyl**	**22.62**	**282**	T		T	00 38 50.9	
	baz=98,slow=75,SNR=18							
WRA	**Warramunga Arr**	**134.75**	**218**	PKP		**PKPdf**	**22 23 47.5**	**-2.1**
	comp=N,0.4nm,0.6s,baz=136,slow=2.1,SNR=4.5							
SONM	**Songino Array**	**148.49**	**360**	PKPbc		**PKPdf**	**22 24 14.0**	**+0.7**
	comp=N,0.5nm,0.7s,baz=306,slow=0.8,SNR=4.0							

NNC ***28*** *22:07:08.8±1.3, 42°.53N×79°.62E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=9.4km s-min=3.9km az=158.0*
SOME ***28*** *22:07:09.3, 42°.52N×79°.63E, h35km*
KRNET ***28*** *22:07:09.3±0.1, 42°.53N×79°.64E, h16km, mb2.9*
ISCJB ***28*** *22:07:10.1±0.9, 42°.57N±0°.04×79°.67E±0°.06, h10km, Error ellipse: s-maj=7.7km s-min=3.7km az=38.0*
ISC 28 22:07:09.5±1.3, 42°.53N±0°.05×79°.64E±0°.06, h10km, n21, σ1$37/39, 14C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHLS	**Shalkode**	**0.65**	**348**	P		**Pb**	**22 07 22.4**	**-0.6**
	80nm,0.1s							
SHLS				S		**Sb**	**22 07 31.9**	**-0.3**
	54nm,0.2s							
SHLS	**Shalkode**	**0.65**	**348**	*e*	P	**Pb**	**22 07 22.3**	**-0.7**
	baz=16							
SHLS				*e*	S	**Sb**	**22 07 31.8**	**-0.3**
	baz=16							
SHLS	**Shalkode**	**0.65**	**348**	*e*	P	**Pb**	**22 07 22.3**	**-0.7**
	80nm,0.1s							
SHLS				*e*	S	**Sb**	**22 07 31.8**	**-0.3**
	150nm,0.2s							
UZB	**Uzynbulak**	**0.77**	**324**	P		**Pg**	**22 07 23.8**	**-0.7**
	8.7nm,0.1s							
UZB				S		**Sg**	**22 07 34.0**	**-0.6**
	48nm,0.1s							
UZB	**Uzynbulak**	**0.77**	**324**	*e*	P	**Pg**	**22 07 23.8**	**-0.7**
	baz=24							
UZB				*e*	S	**Sg**	**22 07 34.1**	**-0.5**
	baz=24							
UZB	**Uzynbulak**	**0.77**	**324**	*e*	P	**Pg**	**22 07 23.8**	**-0.7**
	8.4nm,0.1s							
UZB				*e*	S	**Sg**	**22 07 34.1**	**-0.5**
	64nm,0.2s							
PDGK	**Podgornoye**	**0.81**	**352**	⇑*i*	P	**Pg**	**22 07 24.2**	**-1.0**
	baz=52							
PDGK				⇑*i*	S	**Sg**	**22 07 35.0**	**-0.8**
	baz=52							
PRZ	**Przheval'sk**	**0.92**	**268**	⇓*e*	P	**Pg**	**22 07 26.7**	**-0.6**
	baz=67							
PRZ				⇓*e*	S	**Sb**	**22 07 39.5**	**-0.6**
	baz=67							
SATY	**Saty**	**1.06**	**301**	P		**Pg**	**22 07 29.1**	**-0.8**
	7.1nm,0.1s							
SATY				S		**Sg**	**22 07 43.1**	**-0.5**
	58nm,0.2s							
KTMS	**Ketmen**	**1.06**	**29**	P		**Pb**	**22 07 29.1**	**-1.0**
	11nm,0.1s							
KTMS				S		**Sb**	**22 07 43.1**	**-0.9**
	32nm,0.2s							
TARG	**Taragay, Kyrgy**	**1.58**	**240**	⇑*i*	P	**Pn**	**22 07 37.9**	**-0.1**
	baz=40							
TARG				⇑*i*	S	**Sg**	**22 08 00.1**	**-0.4**
	baz=40							
KDJ	**Kajisay**	**1.87**	**259**	⇑*e*	P	**Pb**	**22 07 43.3**	**-0.6**
	baz=58							
KDJ				⇑*i*	S	**Sg**	**22 08 08.6**	**-1.0**
	baz=58							
MDOK	**Medeo**	**2.01**	**289**	Pg		**Pb**	**22 07 45.5**	**-0.8**
	6.7nm,0.1s							
MDOK				Lg		Lg	22 08 11.8	
	19nm,0.6s							
TNSS	**Tian-Shan**	**2.05**	**285**	Pg		**Pb**	**22 07 46.2**	**-0.9**
	12nm,0.3s							
TNSS				Lg		Lg	22 08 13.6	
	12nm,0.4s							
MTBS	**Maitube**	**2.44**	**285**	Pg		**Pb**	**22 07 52.6**	**-0.9**
	8.8nm,0.4s							
MTBS				Lg		Lg	22 08 23.9	
	14nm,0.5s							
ULHL	**Ulahol**	**2.54**	**265**	⇑*i*	P	**Pb**	**22 07 53.0**	**-2.3**
	baz=65							
ULHL				⇑*i*	S	**Sb**	**22 08 24.7**	**-1.9**
	baz=65							
BOOM	**Boomskoye usch**	**2.74**	**271**	⇑*e*	P	**Pn**	**22 07 55.5**	**+1.8**
	baz=70							
BOOM				⇑*i*	S	**Sb**	**22 08 29.9**	**-2.5**
	baz=70							
NRN	**Naryn**	**2.93**	**249**	⇑*i*	P	**Pn**	**22 07 58.3**	**+1.9**
	baz=49							
NRN				⇑*i*	S	**Sn**	**22 08 34.6**	**+2.8**
	baz=49							
TKM2	**Tokmak 2**	**3.01**	**279**	⇓*i*	P	**Pn**	**22 07 59.4**	**+1.9**
	baz=79							
TKM2				⇓*i*	S	**Sn**	**22 08 36.1**	**+2.4**
	baz=79							
KZA	**Kyzart**	**3.29**	**264**	⇓*i*	P	**Pn**	**22 08 03.3**	**+1.8**
	baz=64							
KZA				⇓*i*	S	**Sn**	**22 08 43.3**	**+2.4**
	baz=64							
ARLS	**Aral**	**4.01**	**262**	⇑*i*	P	**Pn**	**22 08 13.0**	**+1.8**
	baz=62							
ARLS				⇑*i*	S	**Sn**	**22 09 00.0**	**+1.7**
	baz=62							

SOME ***28*** *22:12:11.0, 42°.52N×79°.58E, h20km*
KRNET ***28*** *22:12:11.2±0.1, 42°.54N×79°.57E, h16km, mb2.5*
NNC ***28*** *22:12:11.3±1.3, 42°.57N×79°.62E, h0km, mb2.9, mpv2.9, Error ellipse: s-maj=9.7km s-min=4.2km az=153.0*
ISC 28 22:12:09.6±2.0, 42°.49N±0°.06×79°.63E±0°.06, h5km±15km, n18, σ1$04/32, 9C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHLS	**Shalkode**	**0.68**	**350**	P		**Pb**	**22 12 24.0**	**-0.1**
	25nm,0.1s							
SHLS				S		**Sb**	**22 12 33.2**	**-0.6**
	40nm,0.3s							
SHLS	**Shalkode**	**0.68**	**350**	*e*	P	**Pb**	**22 12 23.9**	**-0.1**
	baz=20							
SHLS				*e*	S	**Sb**	**22 12 33.1**	**-0.6**
	baz=20							
SHLS	**Shalkode**	**0.68**	**350**	*e*	P	**Pb**	**22 12 23.9**	**-0.1**
	25nm,0.1s							
SHLS				*e*	S	**Sb**	**22 12 33.1**	**-0.6**
	40nm,0.2s							
UZB	**Uzynbulak**	**0.79**	**326**	P		**Pg**	**22 12 25.1**	**+0.4**
	5.0nm,0.1s							
UZB				S		**Sg**	**22 12 35.3**	**+0.3**
	10nm,0.1s							
UZB	**Uzynbulak**	**0.79**	**326**	*e*	P	**Pg**	**22 12 25.2**	**+0.4**
	baz=26							
UZB				*e*	S	**Sg**	**22 12 35.4**	**+0.3**
	baz=26							
UZB	**Uzynbulak**	**0.79**	**326**	*e*	P	**Pg**	**22 12 25.2**	**+0.4**
	4.8nm,0.1s							
UZB				*e*	S	**Sg**	**22 12 35.4**	**+0.3**
	12nm,0.1s							
PDGK	**Podgornoye**	**0.84**	**353**	⇓*i*	P	**Pg**	**22 12 25.6**	**-0.2**
	baz=55							
PDGK				⇓*i*	S	**Sg**	**22 12 36.2**	**-0.5**
	baz=55							
PRZ	**Przheval'sk**	**0.91**	**270**	⇑*i*	P	**Pb**	**22 12 27.0**	**-1.0**
	baz=67							
PRZ				⇑*i*	S	**Sb**	**22 12 38.9**	**-1.5**
	baz=67							
KTMS	**Ketmen**	**1.09**	**29**	P		**Pb**	**22 12 30.6**	**-0.5**
	5.2nm,0.1s							
KTMS				S		**Sb**	**22 12 44.6**	**-1.1**
	13nm,0.2s							
TARG	**Taragay, Kyrgy**	**1.56**	**241**	⇑*i*	P	**Pb**	**22 12 39.4**	**+0.3**
	baz=39							
TARG				⇑*i*	S	**Sb**	**22 12 59.6**	**+0.3**
	baz=39							
DJR	**Jarkent**	**1.84**	**4**	P		**Pb**	**22 12 43.8**	**-0.1**
	0.8nm,0.3s							
DJR				S		**Sg**	**22 13 07.8**	**-1.0**
	1.6nm,0.3s							
KDJ	**Kajisay**	**1.85**	**260**	⇑*i*	P	**Pb**	**22 12 44.6**	**+0.6**
	baz=58							
KDJ				⇑*i*	S	**Sg**	**22 13 09.2**	**+0.2**
	baz=58							
KOTS	**Kotyrbulak**	**1.99**	**293**	Pg		**Pg**	**22 12 47.8**	**0.0**
	1.9nm,0.2s							
KOTS				Lg		Lg	22 13 14.5	
	13nm,0.4s							
MDOK	**Medeo**	**2.01**	**290**	Pg		**Pb**	**22 12 47.7**	**+1.0**
	0.8nm,0.1s							
MDOK				Lg		Lg	22 13 13.9	
	3.2nm,0.5s							
IZV	**Izvestkoviy**	**2.29**	**285**	Pg		**Pb**	**22 12 52.5**	**+1.0**
	1.8nm,0.2s							
IZV				Lg		Lg	22 13 21.9	
	6.8nm,0.1s							
ULHL	**Ulahol**	**2.52**	**266**	⇑*i*	P	**Pb**	**22 12 53.8**	**-1.7**
	baz=64							
ULHL				⇑*i*	S	**Sb**	**22 13 25.0**	**-1.9**
	baz=64							
BOOM	**Boomskoye usch**	**2.73**	**271**	⇓*i*	P	**Pn**	**22 12 56.2**	**+2.0**
	baz=70							
BOOM				⇓*i*	S	**Sb**	**22 13 29.8**	**-3.0**
	baz=70							
TKM2	**Tokmak 2**	**3.00**	**280**	⇓Pg		**Pg**	**22 13 06.4**	**-0.6**
	1.4nm,0.8s							
TKM2				⇑Lg		Lg	22 13 44.2	
	1.9nm,0.6s							

IDC ***28*** *22:12:46.1±1.0, 14°.44N×147°.10E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.7/48, mbtmp3.8/10, ML4.0/1, Error ellipse: s-maj=27.8km s-min=18.3km az=117.0*
ISCJB ***28*** *22:12:49.1±0.8, 14°.5N±0°.1×147°.1E±0°.1, h33km, mb3.8/9, Error ellipse: s-maj=18.7km s-min=10.1km az=141.3*
ISC 28 22:12:51.0±1.0, 14°.4N±0°.2×147°.1E±0°.1, h33km, n20, σ0$49/21, mb4.4/16, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**2.31**	**249**	Pn		**Pn**	**22 13 25.6**	**-1.1**
	35nm,0.3s,baz=314,slow=2.1,SNR=5.5							
GUMO				Sn		**Sn**	**22 13 55.2**	**+1.2**
	50nm,0.3s,baz=242,slow=23,SNR=5.2							
WRA	**Warramunga Arr**	**36.38**	**200**	P		**P**	**22 19 52.7**	**+0.3**
	0.8nm,0.8s,baz=19,slow=8.7,SNR=3.4							
ASAR	**Alice Springs**	**39.99**	**199**	P		**P**	**22 20 22.9**	**+0.1**
	0.4nm,0.8s,baz=22,slow=8.0,SNR=3.0							
CMAR	**Chiang Mai Arr**	**46.25**	**282**	P		**P**	**22 21 13.5**	**-0.1**
	0.7nm,0.3s,baz=76,slow=7.5,SNR=5.0							
SONM	**Songino Array**	**47.33**	**323**	P		**P**	**22 21 21.7**	**0.0**
	0.6nm,0.5s,baz=138,slow=5.6,SNR=5.7							
RAMN	**Ramite**	**57.48**	**293**	*e*	P	**P**	**22 22 37.7**	**+0.1**
JIRN	**Jiri**	**57.85**	**294**	*e*	P	**P**	**22 22 40.3**	**+0.1**
	6.9nm,0.6s							
GUN	**Gumba**	**58.12**	**294**	*e*	P	**P**	**22 22 42.2**	**+0.1**
	6.7nm,0.6s							
PKI	**Pulchoki**	**58.54**	**294**	*e*	P	**P**	**22 22 44.4**	**-0.6**
	2.6nm,0.4s							
PKIN	**Phulchoki**	**58.55**	**294**	*e*	P	**P**	**22 22 44.6**	**-0.5**
	2.4nm,0.3s							
KKN	**Kakani**	**58.65**	**294**	*e*	P	**P**	**22 22 45.3**	**-0.4**
	3.0nm,0.4s							
DMN	**Daman**	**58.81**	**294**	*e*	P	**P**	**22 22 46.7**	**-0.1**
DANN	**Dangsing**	**59.99**	**295**	*e*	P	**P**	**22 22 54.9**	**-0.1**
	8.1nm,0.5s							
PYUN	**Piuthan**	**60.67**	**294**	*e*	P	**P**	**22 22 59.5**	**-0.1**
	3.6nm,0.5s							
ZALV	**Zalesovo Beam**	**62.22**	**324**	P		**P**	**22 23 10.0**	**+0.7**
	1.0nm,0.6s,baz=110,slow=6.5,SNR=4.9							
MKAR	**Makanchi Array**	**62.41**	**315**	P		**P**	**22 23 11.0**	**+0.3**
	1.4nm,0.4s,baz=91,slow=8.2,SNR=49							
ILAR	**Eielson Array**	**66.90**	**25**	P		**P**	**22 23 39.8**	**+0.1**
	0.4nm,0.6s,baz=258,slow=6.2,SNR=7.7							
YKA	**Yellowknife Ar**	**81.13**	**28**	P		**P**	**22 25 03.1**	**+0.2**
	0.2nm,0.5s,baz=281,slow=4.9,SNR=4.1							
FINES	**FINESS Array B**	**91.31**	**336**	P		**P**	**22 25 52.7**	**-0.4**
	1.6nm,0.9s,baz=347,slow=5.7,SNR=3.1							
DBIC	**Dimbokro**	**145.17**	**305**	PKPbc		**PKPab**	**22 32 25.8**	**-0.1**
	2.6nm,0.7s,baz=20,slow=4.1,SNR=4.1							

SOME ***28*** *22:15:28.6, 42°.52N×79°.60E, h35km*
NNC ***28*** *22:15:28.6±1.4, 42°.56N×79°.62E, h0km±6km, mb3.0, mpv3.0, Error ellipse: s-maj=10.2km s-min=4.4km az=153.0*
KRNET ***28*** *22:15:28.5±0.1, 42°.53N×79°.62E, h16km, mb2.3*
ISCJB ***28*** *22:15:29.4±0.9, 42°.56N±0°.04×79°.66E±0°.07, h10km, Error ellipse: s-maj=8.4km s-min=3.5km az=38.8*
ISC 28 22:15:28.0±1.3, 42°.49N±0°.05×79°.63E±0°.05, h10km, n21, σ1$38/38, 10C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHLS	**Shalkode**	**0.68**	**349**	P		**Pb**	**22 15 41.6**	**-0.5**
	10nm,0.1s							
SHLS				S		**Sb**	**22 15 50.6**	**-1.0**
	83nm,0.2s							
SHLS	**Shalkode**	**0.68**	**349**	*e*	P	**Pb**	**22 15 41.6**	**-0.5**
	baz=17							
SHLS				*e*	S	**Sb**	**22 15 51.0**	**-0.7**
	baz=17							
SHLS	**Shalkode**	**0.68**	**349**	*e*	P	**Pb**	**22 15 41.6**	**-0.5**
	10nm,0.1s							
SHLS				*e*	S	**Sb**	**22 15 51.0**	**-0.7**
	83nm,0.3s							
UZB	**Uzynbulak**	**0.80**	**326**	P		**Pg**	**22 15 43.0**	**-0.4**
	2.8nm,0.1s							
UZB				S		**Sg**	**22 15 53.1**	**-0.7**
	18nm,0.1s							
UZB	**Uzynbulak**	**0.80**	**326**	*e*	P	**Pg**	**22 15 43.0**	**-0.4**
	baz=25							
UZB				*e*	S	**Sg**	**22 15 53.3**	**-0.6**
	baz=25							
UZB	**Uzynbulak**	**0.80**	**326**	*e*	P	**Pg**	**22 15 43.0**	**-0.4**
	3.2nm,0.1s							
UZB				*e*	S	**Sg**	**22 15 53.3**	**-0.6**
	24nm,0.2s							
PDGK	**Podgornoye**	**0.85**	**353**	⇑*i*	P	**Pg**	**22 15 43.4**	**-1.0**
	baz=53							
PDGK				⇑*i*	S	**Sg**	**22 15 54.2**	**-1.3**
	baz=53							
PRZ	**Przheval'sk**	**0.91**	**270**	⇓*e*	P	**Pb**	**22 15 45.5**	**-0.5**
	baz=67							
PRZ				⇓*i*	S	**Sb**	**22 15 58.4**	**+0.1**
	baz=67							
KTMS	**Ketmen**	**1.09**	**29**	P		**Pg**	**22 15 48.2**	**-0.9**
	4.3nm,0.1s							
KTMS				S		**Sg**	**22 16 02.0**	**-1.3**
	9.1nm,0.1s							
TARG	**Taragay, Kyrgy**	**1.56**	**242**	⇓*i*	P	**Pg**	**22 15 57.5**	**-0.4**
	baz=40							
TARG				⇓*i*	S	**Sg**	**22 16 18.5**	**+0.4**
	baz=40							
DJR	**Jarkent**	**1.85**	**4**	P		**Pb**	**22 16 01.5**	**-0.4**
	1.6nm,0.3s							
DJR				S		**Sb**	**22 16 24.9**	**-0.2**
	3.5nm,0.3s							
KDJ	**Kajisay**	**1.85**	**260**	⇑*i*	P	**Pg**	**22 16 02.8**	**-0.7**
	baz=58							
KDJ				⇑*i*	S	**Sg**	**22 16 27.7**	**+0.1**
	baz=58							
TNSS	**Tian-Shan**	**2.05**	**286**	Pg		**Pb**	**22 16 05.9**	**+0.3**
	3.9nm,0.3s							
TNSS				Lg		Lg	22 16 32.9	
	5.8nm,0.2s							
IZV	**Izvestkoviy**	**2.29**	**285**	Pg		**Pg**	**22 16 10.6**	**-1.3**

	comp=Z,500nm,0.1s								
ARTV				*i* P	**Pg**	**22 16 20.4**	**0.0**
ARTV				*i* S	**Sg**	**22 16 38.2**	**+0.4**
DBAD	**Bademkaya**	**1.42**	**160**	IAML_P			
	comp=Z,347nm,0.1s						
DBAD				*i* P	**Pg**	**22 16 21.6**	**-0.3**
DBAD				*i* S	**Sg**	**22 16 39.7**	**-0.6**
DAGI	**Agillar**	**1.43**	**153**	IAML_P			
	comp=Z,115nm,0.1s						
DAGI				*i* P	**Pb**	**22 16 21.1**	**-0.4**
DAGI				*i* S	**Sg**	**22 16 40.6**	**0.0**
NEY	**Neytrino**	**1.53**	**53**	*e*Pg	**Pn**	**22 16 22.5**	**+0.3**
NEY				*e*Sg	**Sn**	**22 16 41.8**	**-0.5**
DDEM	**Demirkent**	**1.55**	**160**	IAML_P			
	comp=Z,438nm,0.1s						
DDEM				*i* P	**Pb**	**22 16 23.1**	**-0.5**
DDEM				*i* S	**Sg**	**22 16 44.8**	**+0.3**
SHA1	**Shidzhatmaz**	**1.82**	**40**	*e*Pg	**Pb**	**22 16 28.4**	**+0.1**
SHA1				*e*Sg	**Sb**	**22 16 51.5**	**+0.2**
DIGR	**Digorskoe uzhe**	**1.95**	**73**	*e*Pg	**Pg**	**22 16 33.1**	**+1.0**
DIGR				*e*Sg	**Sg**	**22 16 58.0**	**+0.5**
LZRR	**Lazarevskoye**	**2.00**	**323**	*e*Pg	**Pb**	**22 16 31.9**	**+0.7**
LZRR				*i* Sg	**Sb**	**22 16 57.0**	**+0.9**
KIV	**Kislovodsk**	**2.01**	**36**	PN	**Pb**	**22 16 30.6**	**-0.7**
KIV0	**Kislovodsk Arr**	**2.01**	**36**	*e*Pg	**Pb**	**22 16 31.2**	**-0.3**
KIV0				*e*Sg	**Sb**	**22 16 56.2**	**-0.4**
BAYT	**Aydıntepe-Bayb**	**2.07**	**199**	PN	**Pn**	**22 16 29.3**	**-0.3**
ZEI	**Tsey**	**2.16**	**77**	*e*Pg	**Pb**	**22 16 33.4**	**-0.6**
ZEI				*e*Sg	**Sb**	**22 17 01.1**	**+0.3**
ESPY	**Espiye-Giresun**	**2.25**	**231**	PN	**Pn**	**22 16 31.7**	**-0.3**
LACR	**Lac**	**2.45**	**78**	*e*Pn	**Pb**	**22 16 38.5**	**-0.4**
LACR				*i* Sn	**Sb**	**22 17 09.8**	**+0.6**

*SOME **28** 22:27:39.9, 42°.52N×79°.63E, h35km*
*KRNET **28** 22:27:40.2±0.1, 42°.55N×79°.59E, h17km, mb2.6*
*NNC **28** 22:27:40.9±1.0, 42°.59N×79°.62E, h0km, mb3.4, mpv3.2, Error ellipse: s-maj=6.5km s-min=3.9km az=135.0*
*ISCJB **28** 22:27:41.1±0.7, 42°.56N±0°.04×79°.62E±0°.05, h10km, Error ellipse: s-maj=7.3km s-min=2.8km az=44.1*
ISC 28 22:27:40.0±1.1, **42°.51N**±0°.04×**79°.59E**±0°.05, **h10km, n38, σ1s 68/60, 21C-15D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.65**	**352**	P		**Pb**	**22 27 52.8**	**-0.8**
	43nm,0.1s							
SHLS				S		**Sb**	**22 28 02.4**	**-0.4**
	267nm,0.3s							
SHLS	**Shalkode**	**0.65**	**352**	*e*P		**Pb**	**22 27 52.8**	**-0.8**
	baz=19							
SHLS				*e*S		**Sb**	**22 28 02.2**	**-0.6**
	baz=19							
SHLS	**Shalkode**	**0.65**	**352**	*e*P		**Pb**	**22 27 52.8**	**-0.8**
	43nm,0.1s							
SHLS				*e*S		**Sb**	**22 28 02.2**	**-0.6**
	267nm,0.3s							
UZB	**Uzynbulak**	**0.76**	**327**	P		**Pg**	**22 27 54.3**	**-0.5**
	26nm,0.2s							
UZB				S		**Sb**	**22 28 04.7**	**-1.3**
	34nm,0.3s							
UZB	**Uzynbulak**	**0.76**	**327**	*e*P		**Pg**	**22 27 54.2**	**-0.5**
	baz=25							
UZB				*e*S		**Sb**	**22 28 04.5**	**-1.5**
	baz=25							
UZB	**Uzynbulak**	**0.76**	**327**	*e*P		**Pg**	**22 27 54.2**	**-0.5**
	26nm,0.1s							
UZB				*e*S		**Sb**	**22 28 04.5**	**-1.5**
	34nm,0.3s							
PDGK	**Podgornoye**	**0.82**	**355**	P		**Pg**	**22 27 54.9**	**-1.1**
	14nm,0.2s							
PDGK				S		**Sg**	**22 28 05.7**	**-0.9**
	16nm,0.2s							
PDGK	**Podgornoye**	**0.82**	**355**	⇑P		**Pg**	**22 27 54.8**	**-1.1**
	4.4nm,0.2s							
PDGK				⇑S		**Sg**	**22 28 05.7**	**-0.9**
	10nm,0.3s							
PDGK	**Podgornoye**	**0.82**	**355**	⇑*i*P		**Pg**	**22 27 54.8**	**-1.1**
	baz=54							
PDGK				⇑*i*S		**Sg**	**22 28 05.5**	**-1.1**
	baz=54							
PRZ	**Przheval'sk**	**0.88**	**269**	⇑*i*P		**Pg**	**22 27 56.8**	**-0.3**
	baz=66							
PRZ				⇑*i*S		**Sb**	**22 28 09.2**	**-0.3**
	baz=66							
KTMS	**Ketmen**	**1.09**	**31**	P		**Pg**	**22 27 59.3**	**-1.7**
	8.4nm,0.1s							
KTMS				S		**Sg**	**22 28 13.4**	**-1.7**
	38nm,0.2s							
TARG	**Taragay, Kyrgy**	**1.54**	**240**	⇓*i*P		**Pb**	**22 28 08.8**	**-0.2**
	baz=39							
TARG				⇓*i*S		**Sg**	**22 28 29.2**	**-0.5**
	baz=39							
MNBS	**Baschi**	**1.79**	**331**	P		**Pb**	**22 28 12.7**	**-0.4**
	14nm,0.1s							
MNBS				S		**Sg**	**22 28 36.8**	**-0.9**
	18nm,0.3s							
DJR	**Jarkent**	**1.82**	**4**	P		**Pb**	**22 28 12.8**	**-0.8**
	2.1nm,0.3s							
DJR				S		**Sg**	**22 28 37.0**	**-1.7**
	9.0nm,0.1s							
KDJ	**Kajisay**	**1.83**	**259**	⇑*i*P		**Pb**	**22 28 14.1**	**+0.4**
	baz=58							
KDJ				⇑*i*S		**Sg**	**22 28 38.8**	**-0.1**
	baz=58							
KOTS	**Kotyrbulak**	**1.96**	**292**	Pg		**Pg**	**22 28 16.4**	**-1.3**
	7.5nm,0.2s							
KOTS				Lg		Lg	22 28 43.1	
	18nm,0.3s							
MDOK	**Medeo**	**1.98**	**290**	Pg		**Pg**	**22 28 16.9**	**-1.1**
	4.4nm,0.2s							
MDOK				Lg		Lg	22 28 42.9	
	10nm,0.5s							
TNSS	**Tian-Shan**	**2.02**	**286**	Pg		**Pb**	**22 28 17.1**	**0.0**
	6.9nm,0.4s							
TNSS				Lg		Lg	22 28 44.8	
	13nm,0.5s							
KNDC	**Almaty**	**2.06**	**291**	⇓Pn		**Pg**	**22 28 18.6**	**-0.9**
	5.4nm,0.5s							
KNDC				⇓Lg		Lg	22 28 48.5	
	10nm,0.4s							
ARXS	**Arharly**	**2.13**	**323**	Pg		**Pb**	**22 28 18.5**	**-0.4**
	6.2nm,0.3s							
ARXS				Lg		Lg	22 28 46.8	
	12nm,0.3s							
IZV	**Izvestkoviy**	**2.26**	**284**	Pg		**Pb**	**22 28 21.4**	**+0.4**
	11nm,0.2s							
IZV				Lg		Lg	22 28 51.7	
	32nm,0.5s							
MTBS	**Maitube**	**2.41**	**286**	Pg		**Pg**	**22 28 24.5**	**-1.7**
	14nm,0.4s							
MTBS				Lg		Lg	22 28 56.3	
	14nm,0.3s							
KTBS	**Karatobe**	**2.45**	**300**	Pg		**Pb**	**22 28 24.3**	**+0.1**
	4.3nm,0.3s							
KTBS				Lg		Lg	22 28 56.7	
	18nm,0.4s							
ULHL	**Ulahol**	**2.50**	**265**	⇑*i*P		**Pb**	**22 28 23.4**	**-1.7**
	baz=64							
ULHL				⇑*i*S		**Sb**	**22 28 54.3**	**-1.7**
	baz=64							
BOOM	**Boomskoye usch**	**2.70**	**271**	⇑*i*P		**Pb**	**22 28 26.3**	**-2.3**
	baz=70							
BOOM				⇑*i*S		**Sb**	**22 28 59.2**	**-2.6**
	baz=70							
KST	**Kastek**	**2.73**	**282**	Pg		**Pb**	**22 28 28.9**	**0.0**
	17nm,4.6s							
KST				Lg		Lg	22 29 06.1	
	15nm,0.5s							
KAPS	**Kapalarasan**	**2.78**	**357**	Pg		**Pb**	**22 28 28.4**	**-1.4**
	1.8nm,0.2s							
KAPS				Lg		Lg	22 29 05.5	
	8.7nm,0.5s							
NRN	**Naryn**	**2.89**	**249**	⇑*i*P		**Pb**	**22 28 28.9**	**-2.9**
	baz=49							
NRN				⇑*i*S		**Sb**	**22 29 04.4**	**-2.9**
	baz=49							
DGS	**Degeres**	**2.90**	**286**	Pg		**Pb**	**22 28 32.3**	**+0.3**
	5.5nm,0.3s							
DGS				Lg		Lg	22 29 10.2	
	24nm,0.5s							
TKM2	**Tokmak 2**	**2.97**	**279**	⇑Pn		**Pb**	**22 28 31.4**	**-1.8**
	1.7nm,0.6s							
TKM2				⇓Lg		Lg	22 29 15.5	
	8.0nm,0.7s							
TKM2	**Tokmak 2**	**2.97**	**279**	⇓*i*P		**Pb**	**22 28 29.9**	**-3.3**
	baz=79							
TKM2				⇓*i*S		**Sb**	**22 29 05.9**	**-3.8**
	baz=79							
KZA	**Kyzart**	**3.25**	**264**	⇑*e*P		**Pn**	**22 28 34.3**	**+2.8**
	baz=63							
KZA				⇑*i*S		**Sn**	**22 29 13.1**	**+2.7**
	baz=63							
KBK	**Karagaybulak**	**3.43**	**274**	⇓*i*P		**Pn**	**22 28 36.2**	**+2.4**
	baz=73							
KBK				⇓*i*S		**Sn**	**22 29 17.1**	**+2.5**
	baz=73							
AAK	**Ala-Archa**	**3.77**	**274**	⇑Lg		Lg	22 29 40.6	
	2.2nm,0.4s							
ARLS	**Aral**	**3.97**	**262**	⇓*i*P		**Pn**	**22 28 44.0**	**+2.9**
	baz=62							
ARLS				⇓*i*S		**Sn**	**22 29 29.4**	**+1.6**
	baz=62							
MAKZ	**Makanchi**	**4.62**	**21**	⇓Pn		**Pn**	**22 28 52.5**	**+2.6**
	0.6nm,0.6s							
MAKZ				⇓Sn		**Sn**	**22 29 46.3**	**+2.7**
	0.1nm,0.2s							
MAKZ				⇓Lg		Lg	22 30 04.7	
	3.3nm,1.2s							
MK31	**Makanchi Array**	**4.69**	**23**	⇑Pn		**Pn**	**22 28 53.4**	**+2.4**
	0.2nm,0.3s,baz=180,slow=8.9,SNR=11							
MK31				⇑Sn		**Sn**	**22 29 47.5**	**+2.1**
	0.2nm,0.3s,baz=204,slow=25,SNR=4.9							
MK31				⇓Lg		Lg	22 30 06.6	
	0.8nm,0.6s,baz=195,slow=16,SNR=3.7							
MNAS	**Manas**	**5.24**	**272**	⇑Lg		Lg	22 30 30.0	
	2.4nm,1.2s							

*ARO **28** 22:45:49.2, 11°.N±38°×4°.1E±1°.1, h15km±99km, Ml3.8*
ISC 28 22:45:50.9±2.0, **11°.5N**±0°.2×**41°.0E**±0°.1, **h10km, n11, σ0s 97/14, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MAOD	**Malaho**	**1.35**	**63**	*e*P		**Pg**	**22 46 17.5**	**+0.7**
KSDD	**Koussour**	**1.42**	**88**	*e*P		**Pg**	**22 46 18.1**	**-0.1**
GBR	**Grand-Bara**	**1.47**	**103**	*e*P		**Pn**	**22 46 17.2**	**-0.3**
SGH	**Sud-Ghoubbet**	**1.60**	**91**	*e*P		**Pb**	**22 46 19.9**	**-0.7**
ATD	**Arta Tunnel**	**1.81**	**88**	*e*P		**Pb**	**22 46 23.7**	**-0.5**
ATD	**Arta Tunnel**	**1.81**	**88**	*e*P		**Pb**	**22 46 23.7**	**-0.5**
ATD				*e*S		**Sg**	**22 46 51.3**	**+2.0**
TDD	**Tadjoura Ara**	**1.90**	**80**	*e*P		**Pb**	**22 46 25.0**	**-0.6**
ATA	**Atar**	**2.16**	**90**	*e*P		**Pb**	**22 46 28.7**	**-1.5**
ANKE	**Ethiopia-Afar**	**2.25**	**214**	*e*P		**Pg**	**22 46 34.7**	**+0.6**
ANKE				*i* S		**Sg**	**22 47 03.5**	**+0.3**
ANKE	**Ethiopia-Afar**	**2.25**	**214**	*e*P		**Pg**	**22 46 34.7**	**+0.6**
ANKE				*i* S		**Sg**	**22 47 03.5**	**+0.3**
OBO	**Obock**	**2.30**	**77**	*e*P		**Pb**	**22 46 31.6**	**-0.9**

*NNC **28** 22:49:09.8±1.2, 42°.57N×79°.61E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=9.1km s-min=3.9km az=151.0*
*SOME **28** 22:49:10.1, 42°.52N×79°.57E, h10km*
*KRNET **28** 22:49:11.1±0.1, 42°.57N×79°.57E, h13km, mb2.4*
*ISCJB **28** 22:49:12.0±0.8, 42°.62N±0°.04×79°.62E±0°.06, h10km, Error ellipse: s-maj=7.4km s-min=3.4km az=40.3*
ISC 28 22:49:10.2±1.3, **42°.53N**±0°.05×**79°.62E**±0°.05, **h10km, n29, σ1s 59/48, 16C-6D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.64**	**350**	*e*P		**Pb**	**22 49 23.0**	**-0.6**
	baz=22							
SHLS				*e*S		**Sb**	**22 49 32.4**	**-0.2**
	baz=22							
SHLS	**Shalkode**	**0.64**	**350**	*e*P		**Pb**	**22 49 23.0**	**-0.6**
	8.4nm,0.1s							
SHLS				*e*S		**Sb**	**22 49 32.4**	**-0.2**
	70nm,0.2s							
UZB	**Uzynbulak**	**0.76**	**325**	*e*P		**Pg**	**22 49 24.4**	**-0.5**
	baz=25							
UZB				*e*S		**Sb**	**22 49 34.7**	**-1.4**
	baz=25							
UZB	**Uzynbulak**	**0.76**	**325**	*e*P		**Pg**	**22 49 24.4**	**-0.5**
	9.8nm,0.2s							
UZB				*e*S		**Sb**	**22 49 34.7**	**-1.4**
	7.9nm,0.2s							
PDGK	**Podgornoye**	**0.81**	**353**	P		**Pg**	**22 49 25.1**	**-0.7**
	6.6nm,0.2s							
PDGK				S		**Sg**	**22 49 35.8**	**-0.6**
	14nm,0.2s							
PDGK	**Podgornoye**	**0.81**	**353**	⇓*i*P		**Pg**	**22 49 25.1**	**-0.7**
	baz=56							
PDGK				⇓*i*S		**Sg**	**22 49 35.7**	**-0.6**
	baz=56							
PRZ	**Przheval'sk**	**0.90**	**268**	⇑*i*P		**Pb**	**22 49 27.5**	**-0.6**
	baz=64							
PRZ				⇑*i*S		**Sb**	**22 49 39.1**	**-1.2**
	baz=64							
SATY	**Saty**	**1.04**	**301**	P		**Pg**	**22 49 28.4**	**-1.8**
	3.4nm,0.1s							
SATY				S		**Sb**	**22 49 42.9**	**-1.3**
	20nm,0.1s							
KTMS	**Ketmen**	**1.06**	**30**	P		**Pg**	**22 49 29.4**	**-1.2**
	5.2nm,0.1s							
KTMS				S		**Sg**	**22 49 43.4**	**-1.1**
	7.8nm,0.2s							
TARG	**Taragay, Kyrgy**	**1.57**	**240**	⇑*i*P		**Pb**	**22 49 39.1**	**-0.5**
	baz=38							
TARG				⇑*i*S		**Sg**	**22 50 01.2**	**+0.5**
	baz=38							
DJR	**Jarkent**	**1.81**	**4**	P		**Pb**	**22 49 42.9**	**-0.5**
	0.9nm,0.2s							
DJR				S		**Sg**	**22 50 07.1**	**-1.2**
	3.5nm,0.3s							
KDJ	**Kajisay**	**1.85**	**258**	⇑*i*P		**Pg**	**22 49 45.3**	**-0.4**
	baz=57							
KDJ				⇑*i*S		**Sg**	**22 50 09.8**	**0.0**
	baz=57							
KOTS	**Kotyrbulak**	**1.98**	**292**	Pg		**Pg**	**22 49 47.7**	**-0.4**
	2.0nm,0.1s							
KOTS				Lg		Lg	22 50 14.7	
	21nm,0.4s							
TNSS	**Tian-Shan**	**2.03**	**285**	Pg		**Pb**	**22 49 47.2**	**-0.3**
	2.2nm,0.5s							
TNSS				Lg		Lg	22 50 14.5	
	7.2nm,0.4s							
ARXS	**Arharly**	**2.13**	**323**	Pg		**Pb**	**22 49 48.5**	**-0.5**
	2.5nm,0.3s							
ARXS				Lg		Lg	22 50 16.8	
	6.1nm,0.3s							
IZV	**Izvestkoviy**	**2.27**	**284**	Pg		**Pb**	**22 49 51.6**	**+0.2**
	3.6nm,0.2s							
IZV				Lg		Lg	22 50 21.8	
	26nm,0.5s							
KTBS	**Karatobe**	**2.46**	**300**	Pg		**Pb**	**22 49 54.8**	**+0.3**
	0.9nm,0.3s							
KTBS				Lg		Lg	22 50 27.0	
	11nm,0.3s							
ULHL	**Ulahol**	**2.52**	**265**	⇑*i*P		**Pb**	**22 49 54.8**	**-0.8**
	baz=64							
ULHL				⇑*i*S		**Sb**	**22 50 26.2**	**-0.6**
	baz=64							
BOOM	**Boomskoye usch**	**2.72**	**270**	*i* P		**Pb**	**22 49 57.2**	**-1.9**
	baz=69							
BOOM				*i* S		**Sb**	**22 50 31.0**	**-1.6**
	baz=69							
KST	**Kastek**	**2.74**	**282**	Pg		**Pb**	**22 49 59.7**	**+0.3**
	5.7nm,3.2s							
KST				Lg		Lg	22 50 34.8	
	6.5nm,0.6s							
KUU	**Kurty**	**2.76**	**301**	Pg		**Pb**	**22 49 59.8**	**+0.1**
	0.5nm,0.2s							
KUU				Lg		Lg	22 50 35.5	
	4.0nm,0.5s							
KAPS	**Kapalarasan**	**2.76**	**356**	Pg		**Pb**	**22 49 59.5**	**-0.2**
	0.6nm,0.1s							
KAPS				Lg		Lg	22 50 35.3	
	4.4nm,0.4s							
NRN	**Naryn**	**2.91**	**249**	⇑*i*P		**Pb**	**22 50 01.1**	**-1.3**
	baz=48							
NRN				⇑*i*S		**Sb**	**22 50 37.0**	**-1.2**
	baz=48							
DGS	**Degeres**	**2.92**	**285**	Pg		**Pb**	**22 50 01.7**	**-0.7**
	2.3nm,0.4s							
DGS				Lg		Lg	22 50 39.7	
	7.6nm,0.3s							
TKM2	**Tokmak 2**	**2.99**	**279**	⇓Pg		**Pb**	**22 50 03.6**	**-0.1**
	1.2nm,0.7s							
TKM2				⇓Lg		Lg	22 50 42.2	
	2.1nm,0.4s							
TKM2	**Tokmak 2**	**2.99**	**279**	⇑*i*P		**Pb**	**22 50 01.3**	**-2.4**
	baz=78							
TKM2				⇑*i*S		**Sb**	**22 50 37.3**	**-3.1**
	baz=78							
KZA	**Kyzart**	**3.27**	**264**	⇑*i*P		**Pb**	**22 50 05.8**	**-2.8**
	baz=63							
KZA				⇑*i*S		**Sb**	**22 50 44.5**	**-4.2**
	baz=63							
KBK	**Karagaybulak**	**3.45**	**274**	⇑*i*P		**Pb**	**22 50 07.7**	**-3.8**
	baz=73							
KBK				⇑*i*S		**Sn**	**22 50 48.1**	**+2.9**
	baz=73							
ARLS	**Aral**	**3.99**	**262**	⇓*i*P		**Pn**	**22 50 14.9**	**+3.3**
	baz=62							
ARLS				⇓*i*S		**Sn**	**22 51 01.7**	**+3.2**
	baz=62							

*ISCJB **28** 22:50:04.6±0.9, 44°.04N±0°.06×146°.86E±0°.08, h77km±7km, Error ellipse: s-maj=11.7km s-min=6.0km az=43.8*
*MOS **28** 22:50:04.7±1.2, 44°.02N×146°.91E, h79km, mb4.3/1, Error ellipse: s-maj=60.5km s-min=33.7km az=47.9*
*JMA **28** 22:50:05.2±0.3, 43°.94N×146°.91E, h71km±4km, M3.5*
*SKHL **28** 22:50:05.2±0.1, 43°.96N×146°.92E, h77km±1km, mb4.7/7*
ISC 28 22:50:04.9±1.5, **44°.00N**±0°.06×**146°.90E**±0°.06, **h72km**±9km, **n22, σ0s 66/37, 6C-5D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.14**	**203**	⇓*i*P		**Pn**	**22 50 16.0**	**+0.4**
SHO					AMB	AMB	22 50 17.0	
	250nm,0.3s							
SHO					AMB	AMB	22 50 17.0	
	470nm,0.3s							
SHO				*i* S		**Sn**	**22 50 24.0**	**+0.7**
SHO				A		A	22 50 24.0	
	8μm,0.2s							
SHO				A		A	22 50 24.0	
	6μm,0.2s							
SHO	**Shikotan**	**0.14**	**203**	*i* PN		**Pn**	**22 50 16.0**	**+0.4**
SHO				*i* S		**Sn**	**22 50 24.0**	**+0.7**
SHO					pmax	pmax		
	comp=E,247nm,0.3s							
SHO					pmax	pmax		
	comp=Z,466nm,0.3s							
SHO					pmax	pmax		
	comp=N,250nm,0.1s							
SHO					smax	smax		
	comp=N,8μm,0.2s							
SHO					smax	smax		
	comp=E,6μm,0.2s							
YUK	**Yuzh-Kuril'sk**	**0.75**	**273**	⇑*i*P		**Pn**	**22 50 20.7**	**+0.2**
YUK					AMB	AMB	22 50 21.0	
	comp=E,270nm,0.3s							
YUK					AMB	AMB	22 50 21.0	
	comp=E,110nm,0.3s							
YUK					AMB	AMB	22 50 21.0	
	comp=E,760nm,0.3s							
YUK				*i* S		**Sn**	**22 50 32.3**	**+0.2**
YUK				A		A	22 50 32.8	
	comp=E,3μm,0.2s							
YUK				A		A	22 50 32.8	
	comp=E,2μm,0.2s							
YUK	**Yuzh-Kuril'sk**	**0.75**	**273**	*c i* PN		**Pn**	**22 50 20.6**	**+0.1**
YUK				*i* S		**Sn**	**22 50 31.9**	**-0.2**
YUK					pmax	pmax		
	comp=Z,759nm,0.2s							
YUK					pmax	pmax		
	comp=N,274nm,0.1s							
YUK					pmax	pmax		
	comp=E,108nm,0.1s							
YUK					smax	smax		
	comp=N,3μm,0.1s							
YUK					smax	smax		
	comp=E,2μm,0.2s							
GRPR	**Tuman**	**0.82**	**270**	⇑*i*P		**Pn**	**22 50 21.0**	**-0.3**
GRPR					AMB	AMB	22 50 22.0	
	comp=E,320nm,0.2s							
GRPR					AMB	AMB	22 50 22.0	
	comp=E,60nm,0.2s							
GRPR					AMB	AMB	22 50 22.0	
	comp=E,650nm,0.2s							
GRPR				*i* S		**Sn**	**22 50 33.0**	**-0.4**
GRPR				A		A	22 50 34.0	
	comp=E,2μm,0.3s							
GRPR				A		A	22 50 34.0	
	comp=E,1μm,0.3s							
GRPR	**Tuman**	**0.82**	**270**	⇑*i*PN		**Pn**	**22 50 21.4**	**+0.1**
GRPR				*i* S		**Sn**	**22 50 33.1**	**-0.4**
GRPR					pmax	pmax		
	comp=Z,653nm,0.3s							
GRPR					pmax	pmax		
	comp=E,56nm,0.1s							
GRPR					pmax	pmax		
	comp=N,322nm,0.2s							
GRPR					smax	smax		
	comp=E,1μm,0.2s							
GRPR					smax	smax		
	comp=N,2μm,0.3s							
GLVR	**Golovnino**	**1.03**	**256**	⇑*i*P		**Pn**	**22 50 24.0**	**+0.1**
GLVR					AMB	AMB	22 50 24.0	
	comp=N,320nm,0.2s							
GLVR				*i* S		**Sn**	**22 50 38.0**	**-0.1**
GLVR				A		A	22 50 42.0	
	comp=N,1μm,0.3s							
GLVR				A		A	22 50 42.0	
	comp=N,750nm,0.3s							
GLVR	**Golovnino**	**1.03**	**256**	⇑*i*PN		**Pn**	**22 50 24.3**	**+0.4**
GLVR				*i* S		**Sn**	**22 50 39.0**	**+0.9**
GLVR					pmax	pmax		
	comp=Z,318nm,0.1s							
GLVR					smax	smax		
	comp=N,1μm,0.3s							
GLVR					smax	smax		
	comp=E,750nm,0.2s							
NEM2	**Nemuro 2**	**1.05**	**234**	P		**Pn**	**22 50 24.3**	**+0.1**
NEM2				*e*S		**Sn**	**22 50 38.2**	**-0.3**
JRA	**Rausu**	**1.29**	**268**	P		**Pn**	**22 50 27.8**	**+0.7**
KUR	**Kuril'sk**	**1.41**	**29**	⇓*e*P		**Pn**	**22 50 28.9**	**+0.1**
KUR					AMB	AMB	22 50 31.6	
	comp=E,180nm,0.4s							
KUR				*i* S		**Sn**	**22 50 46.7**	**-0.1**
KUR				A		A	22 50 47.0	
	comp=E,470nm,0.2s							
KUR				A		A	22 50 47.0	
	comp=E,260nm,0.2s							
KUR	**Kuril'sk**	**1.41**	**29**	*d i* PN		**Pn**	**22 50 29.7**	**+0.9**
KUR				*i* S		**Sn**	**22 50 46.7**	**-0.1**
KUR					smax	smax		
	comp=N,467nm,0.2s							
KUR					smax	smax		
	comp=E,260nm,0.2s							
JKHN	**Kushirohamanak**	**1.56**	**235**	P		**Pn**	**22 50 31.1**	**+0.4**
JKHN				*e*S		**Sn**	**22 50 50.1**	**-0.2**
JNK	**Nakash**	**1.64**	**256**	P		**Pn**	**22 50 32.4**	**+0.7**
JNK				*e*S		**Sn**	**22 50 52.5**	**+0.5**
JAK	**Akkeshi**	**1.89**	**239**	P		**Pn**	**22 50 35.3**	**+0.2**
JAK				*e*S		**Sn**	**22 50 58.1**	**0.0**
JTKR	**Abashiri--Toko**	**2.16**	**270**	P		**Pn**	**22 50 39.4**	**+0.7**
JAR	**Ashorobuto**	**2.38**	**254**	P		**Pn**	**22 50 43.1**	**+1.4**
JOB	**Onbets**	**2.49**	**245**	*e*S		**Sn**	**22 51 13.2**	**+0.7**
JMP	**Maruseppu**	**2.56**	**271**	P		**Pn**	**22 50 45.1**	**+1.0**
YSS	**Yuzh-Sakhalins**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode 230nm,0.1s	0.67	344	P	Pb	23 00 18.6	-1.3
SHLS	670nm,0.2s			S	Sg	23 00 26.8	-1.0
SHLS	Shalkode baz=13	0.67	344	eP	Pb	23 00 18.6	-1.3
SHLS	baz=13			eS	Sg	23 00 27.3	-0.5
SHLS	Shalkode 326nm,0.2s	0.67	344	eP	Pb	23 00 18.6	-1.3
SHLS	865nm,0.3s			eS	Sg	23 00 27.3	-0.5
UZB	Uzynbulak baz=20	0.81	322	eP	Pg	23 00 20.9	-0.7
UZB	baz=20			eS	Sg	23 00 31.2	-1.0
UZB	Uzynbulak 24nm,0.2s	0.81	322	eP	Pg	23 00 20.9	-0.7
UZB	536nm,0.3s			eS	Sg	23 00 31.2	-1.0
PDGK	Podgornoye 44nm,0.1s	0.83	349	P	Pg	23 00 21.0	-1.1
PDGK	115nm,0.1s			S	Sg	23 00 31.2	-1.6
PDGK	Podgornoye 38nm,0.4s	0.83	349	⇑P	Pg	23 00 20.9	-1.1
PDGK	52nm,0.2s			⇓S	Sg	23 00 31.4	-1.5
PDGK	Podgornoye baz=48	0.83	349	⇑iP	Pg	23 00 20.8	-1.2
PDGK	baz=48			⇑iS	Sg	23 00 31.5	-1.4
PRZ	Przheval'sk baz=66	0.97	269	⇑iP	Pb	23 00 24.9	-0.1
PRZ	baz=66			⇑iS	Sb	23 00 38.3	+0.4
KTMS	Ketmen 74nm,0.1s	1.04	27	P	Pg	23 00 25.2	-0.9
KTMS	154nm,0.1s			S	Sg	23 00 38.1	-1.6
SATY	Saty 34nm,0.3s	1.10	300	P	Pg	23 00 25.4	-1.9
SATY	243nm,0.2s			S	Sg	23 00 40.0	-1.6
SATY	Saty 33nm,0.4s	1.10	300	eP	Pg	23 00 26.5	-0.8
SATY	259nm,0.1s			eS	Sg	23 00 40.8	-0.8
KURS	Kuram baz=10.0	1.49	311	eP	Pb	23 00 33.0	-0.8
KURS	baz=10.0			eS	Sb	23 00 52.0	-0.8
KURS	Kuram 6.6nm,0.3s	1.49	311	eP	Pb	23 00 33.0	-0.8
KURS	108nm,0.5s			eS	Sb	23 00 52.0	-0.8
TARG	Taragay, Kyrgy baz=40	1.62	242	⇓iP	Pb	23 00 36.3	+0.1
TARG	baz=40			⇓iS	Sg	23 00 58.9	+0.8
DJR	Jarkent 32nm,0.2s	1.82	2	P	Pb	23 00 39.1	-0.3
DJR	32nm,0.2s			S	Sb	23 01 02.1	-0.1
MNBS	Baschi 51nm,0.1s	1.83	329	P	Pb	23 00 39.1	-0.6
MNBS	280nm,0.2s			S	Sb	23 01 02.6	-0.1
KDJ	Kajisay baz=58	1.91	259	⇓eP	Pb	23 00 41.3	+0.2
KDJ	baz=58			⇓iS	Sg	23 01 07.5	-0.1
KOTS	Kotyrbulak 18nm,0.2s	2.04	292	Pg	Pb	23 00 43.2	-0.1
KOTS	246nm,0.3s			Lg	Lg	23 01 10.9	
MDOK	Medeo 19nm,0.3s	2.06	289	Pg	Pb	23 00 43.7	+0.1
MDOK	98nm,0.4s			Lg	Lg	23 01 10.6	
MDOK	Medeo baz=88	2.06	289	eP	Pb	23 00 43.5	-0.1
MDOK	baz=88			eS	Sb	23 01 10.0	+0.7
MDOK	Medeo 21nm,0.3s	2.06	289	eP	Pb	23 00 43.5	-0.1
MDOK	118nm,0.6s			eS	Sb	23 01 10.1	+0.7
TNSS	Tian-Shan baz=84	2.10	285	eP	Pb	23 00 44.4	0.0
TNSS	baz=84			eS	Sg	23 01 12.3	-1.2
TNSS	Tian-Shan 42nm,0.3s	2.10	285	eP	Pb	23 00 44.4	0.0
TNSS	150nm,0.3s			eS	Sg	23 01 12.3	-1.2
KNDC	Almaty 15nm,0.3s	2.13	290	⇓Pn	Pb	23 00 43.1	-1.8
KNDC	245nm,0.6s			⇑Lg	Lg	23 01 15.0	
AAA	Alma-Ata 50nm,0.1s	2.17	290	Pg	Pg	23 00 46.3	-1.2
AAA	158nm,0.2s			Lg	Lg	23 01 16.2	
MTBS	Maitube 30nm,0.3s	2.49	285	Pg	Pb	23 00 50.8	-0.1
MTBS	136nm,0.5s			Lg	Lg	23 01 23.5	
KTBS	Karatobe 18nm,0.2s	2.52	299	Pg	Pb	23 00 50.7	-0.7
KTBS	185nm,0.4s			Lg	Lg	23 01 22.2	
ULHL	Ulahol baz=64	2.58	265	⇑iP	Pb	23 00 50.9	-1.6
ULHL	baz=64			⇑iS	Sb	23 01 23.7	-0.7
KAPS	Kapalarasan 13nm,0.3s	2.78	355	Pg	Pb	23 00 53.3	-2.6
KAPS	36nm,0.7s			Lg	Lg	23 01 31.0	
BOOM	Boomskoye usch baz=70	2.79	271	⇑eP	Pb	23 00 53.2	-2.8
BOOM	baz=70			⇑iS	Sb	23 01 27.6	-2.7
KST	Kastek 36nm,0.4s	2.81	282	Pg	Pb	23 00 55.6	-0.7
KST	74nm,0.6s			Lg	Lg	23 01 32.1	
NRN	Naryn baz=49	2.97	250	⇑eP	Pb	23 00 56.3	-2.9
NRN	baz=49			⇑iS	Sb	23 01 33.8	-1.8
TKM2	Tokmak 2 8.2nm,0.6s	3.06	279	⇑Pn	Pb	23 00 59.1	-1.5
TKM2	25nm,0.3s			⇑Lg	Lg	23 01 43.5	
TKM2	Tokmak 2 baz=78	3.06	279	⇑iP	Pn	23 00 56.9	+2.3
TKM2	baz=78			⇑iS	Sb	23 01 35.2	-2.9
KZA	Kyzart baz=63	3.34	264	⇑iP	Pn	23 01 00.9	+2.3
KZA	baz=63			⇑iS	Sb	23 01 42.1	-4.2
KBK	Karagaybulak baz=73	3.52	274	⇑eP	Pn	23 01 03.7	+2.8
KBK	baz=73			⇑iS	Sn	23 01 46.0	+3.3
CHMS	Chumysh baz=78	3.68	279	⇑eP	Pn	23 01 05.4	+2.4
CHMS	baz=78			⇑iS	Sn	23 01 50.0	+3.5
FRU1	Bishkek baz=75	3.76	276	⇑iP	Pn	23 01 06.6	+2.5
FRU1	baz=75			⇑iS	Sn	23 01 51.5	+3.1
AAK	Ala-Archa 4.6nm,0.5s	3.85	274	⇑Pg	Pg	23 01 16.9	-2.9
AAK	17nm,0.7s			⇑Lg	Lg	23 02 09.6	
UCH	Uchtor baz=67	3.86	267	⇓iP	Pn	23 01 08.6	+2.7
UCH	baz=67			⇓iS	Sn	23 01 54.4	+2.9
ARLS	Aral baz=62	4.05	263	⇑iP	Pn	23 01 10.9	+2.6
ARLS	baz=62			⇑iS	Sn	23 01 58.2	+2.3
MAKZ	Makanchi 1.3nm,0.2s	4.59	20	⇓Pn	Pn	23 01 17.4	+2.0
MAKZ	2.7nm,0.5s			⇑Lg	Lg	23 02 26.8	
MK31	Makanchi Array 0.9nm,0.3s,baz=205,slow=13,SNR=17	4.66	22	⇑Pn	Pn	23 01 18.2	+1.8
MK31	1.9nm,0.6s,baz=200,slow=13,SNR=4.6			Pg	Pb	23 01 28.3	+0.5
MK31	1.8nm,0.2s,baz=203,slow=24,SNR=5.3			⇑Sn	Sn	23 02 11.3	+0.8
MK31	1.7nm,0.7s,baz=195,slow=19,SNR=6.0			⇑Lg	Lg	23 02 29.2	
MRKS	Merke 8.6nm,0.6s	4.79	275	Pg	Pb	23 01 32.6	+2.5
MRKS	12nm,0.4s			Lg	Lg	23 02 35.2	
SFK	Sufi-Kurgan 3.4nm,0.9s	5.30	244	⇑Pg	Pg	23 01 44.6	-3.0
SFK	8.5nm,1.3s			⇑Lg	Lg	23 02 59.7	
MNAS	Manas 2.5nm,0.6s	5.33	272	⇓Pg	Pg	23 01 44.7	-3.3
MNAS	5.5nm,0.7s			⇓Lg	Lg	23 02 57.1	
KK31	Karatay Array 1.6nm,0.7s,baz=88,slow=16,SNR=6.4	6.79	278	⇑Pg	Pg	23 02 10.4	-5.6
KK31	1.7nm,0.5s,baz=90,slow=28,SNR=4.1			⇑Lg	Lg	23 03 43.3	
OTUK	Ortayu 7.5nm,0.9s	7.73	320	⇓Lg	Lg	23 04 09.0	
KURK	Kurchatov 6.6nm,0.9s	8.24	355	⇑Lg	Lg	23 04 26.7	

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*KRNET **28** 23:20:05.5±0.1, 42.55N×79.67E, h13km, mb2.3*
*NNC **28** 23:20:06.6±1.0, 42.60N×79.66E, h1km±5km, mb2.9, mpv2.7, Error ellipse: s-maj=6.8km s-min=3.5km az=155.0*
*SOME **28** 23:20:06.2, 42.53N×79.68E, h30km*
*ISCJB **28** 23:20:07.1±0.9, 42.60N±0.04×79.69E±0.06, h10km, Error ellipse: s-maj=8.2km s-min=3.5km az=38.1*
ISC 28 23:20:06.2±1.2**, 42.53N**±0.04×**79.70E**±0.05**, h10km, n25, σ1.30**/50**, 13C-7D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode 19nm,0.1s	0.65	344	P	Pg	23 20 18.4	-0.4
SHLS	19nm,0.1s			P	Pg	23 20 18.4	-0.4
SHLS	31nm,0.4s			S	Sg	23 20 27.1	-0.1
SHLS	31nm,0.3s			S	Sb	23 20 27.6	-1.2
SHLS	Shalkode baz=15	0.65	344	eP	Pg	23 20 18.4	-0.4
SHLS	baz=15			eS	Sg	23 20 27.2	-0.1
SHLS	Shalkode 19nm,0.1s	0.65	344	eP	Pg	23 20 18.4	-0.4
SHLS	31nm,0.4s			eS	Sg	23 20 27.0	-0.3
UZB	Uzynbulak 1.4nm,0.1s	0.79	321	P	Pg	23 20 20.5	-0.9
UZB	1.5nm,0.1s			P	Pg	23 20 20.6	-0.9
UZB	11nm,0.3s			S	Sg	23 20 30.9	-0.9
UZB	7.2nm,0.2s			S	Sg	23 20 30.9	-0.9
UZB	Uzynbulak baz=22	0.79	321	eP	Pg	23 20 20.6	-0.9
UZB	baz=22			eS	Sg	23 20 31.1	-0.8
UZB	Uzynbulak 1.5nm,0.1s	0.79	321	eP	Pg	23 20 20.6	-0.9
UZB	7.2nm,0.2s			eS	Sg	23 20 30.9	-0.9
PDGK	Podgornoye 0.8nm,0.4s	0.81	349	P	Pg	23 20 20.8	-1.1
PDGK	0.9nm,0.1s			P	Pg	23 20 20.8	-1.1
PDGK	3.0nm,0.2s			S	Sg	23 20 31.3	-1.1
PDGK	3.0nm,0.1s			S	Sg	23 20 31.3	-1.1
PDGK	Podgornoye baz=50	0.81	349	⇑eP	Pg	23 20 20.1	-1.7
PDGK	baz=50			⇑iS	Sg	23 20 31.0	-1.4
PRZ	Przheval'sk baz=67	0.96	267	⇑eP	Pg	23 20 22.9	-1.9
PRZ	baz=67			⇑iS	Sg	23 20 36.3	-1.1
KTMS	Ketmen 5.9nm,0.1s	1.03	27	P	Pg	23 20 25.2	-0.8
KTMS	15nm,0.1s			S	Sg	23 20 38.8	-0.6
KTMS	Ketmen 5.9nm,0.1s	1.03	27	eP	Pg	23 20 25.2	-0.8
KTMS	15nm,0.1s			eS	Sg	23 20 38.8	-0.6
TARG	Taragay, Kyrgy baz=40	1.62	241	⇑iP	Pb	23 20 35.7	-0.8
TARG	baz=40			⇑iS	Sg	23 20 57.7	-0.8
DJR	Jarkent 0.4nm,0.2s	1.80	2	P	Pb	23 20 38.7	-0.6
DJR	2.6nm,0.2s			S	Sb	23 21 02.1	+0.1
KDJ	Kajisay baz=58	1.91	259	⇑iP	Pb	23 20 40.1	-1.2
KDJ	baz=58			⇑iS	Sb	23 21 06.1	+0.8
KOTS	Kotyrbulak 2.0nm,0.2s	2.03	291	Pg	Pg	23 20 44.3	-0.8
KOTS	12nm,0.5s			Lg	Lg	23 21 12.6	
TNSS	Tian-Shan 2.0nm,0.3s	2.09	285	Pg	Pb	23 20 44.2	-0.2
TNSS	5.4nm,0.5s			Lg	Lg	23 21 12.2	
ARXS	Arharly 1.4nm,0.3s	2.17	321	Pg	Pb	23 20 44.7	-0.8
ARXS	4.0nm,0.4s			Lg	Lg	23 21 12.9	
ULHL	Ulahol baz=64	2.58	265	⇓eP	Pn	23 20 49.8	+1.6
ULHL	baz=64			⇓iS	Sb	23 21 22.3	-2.2
KAPS	Kapalarasan 0.5nm,0.5s	2.76	355	Pg	Pb	23 20 54.6	-1.1
KAPS	2.8nm,0.6s			Lg	Lg	23 21 30.2	
BOOM	Boomskoye usch baz=70	2.78	270	⇓iP	Pn	23 20 52.5	+1.5
BOOM	baz=70			⇓iS	Sn	23 21 26.6	+1.9
NRN	Naryn baz=49	2.97	250	⇑iP	Pn	23 20 55.8	+2.1
NRN	baz=49			⇑iS	Sb	23 21 32.8	-3.1
DGS	Degeres 1.2nm,0.4s	2.97	285	Pg	Pb	23 20 59.7	+0.3
DGS	5.3nm,0.5s			Lg	Lg	23 21 38.5	
TKM2	Tokmak 2 1.1nm,0.8s	3.05	279	⇓Pg	Pb	23 21 01.7	+1.0
TKM2	1.4nm,0.5s			⇑Lg	Lg	23 21 40.5	
TKM2	Tokmak 2 baz=79	3.05	279	⇓iP	Pn	23 20 56.5	+1.8
TKM2	baz=79			⇓iS	Sn	23 21 34.2	+2.8
KZA	Kyzart baz=63	3.33	264	⇑iP	Pn	23 21 00.1	+1.3
KZA	baz=63			⇑iS	Sn	23 21 41.1	+2.4

KRNET 28 23:34:43.2±0.1**, 42.62N×79.51E, h19km, mb1.7, 10C, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	Podgornoye baz=59	0.71	359	⇑iP	Pb	23 34 56.6	-0.5
PDGK	baz=59			⇑iS	Sb	23 35 06.6	+0.1
PRZ	Przheval'sk baz=61	0.83	261	⇑iP	Pb	23 34 59.0	-0.1
PRZ	baz=61			⇑eS	Sb	23 35 09.7	-0.2
TARG	Taragay, Kyrgy baz=36	1.54	236	⇑iP	Pb	23 35 11.5	+0.1
TARG	baz=36			⇑iS	Sb	23 35 31.9	+1.2
KDJ	Kajisay baz=55	1.79	255	⇑iP	Pb	23 35 15.6	+0.1
KDJ	baz=55			⇑iS	Sb	23 35 39.2	+1.6
BOOM	Boomskoye usch baz=69	2.64	268	⇑iP	Pn	23 35 27.4	+2.5
BOOM	baz=69			⇑iS	Sb	23 35 59.9	-2.1

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*KRNET **28** 23:35:19.5±0.1, 42.54N×79.57E, h13km, mb2.4*
*SOME **28** 23:35:19.7, 42.53N×79.67E, h30km*
*NNC **28** 23:35:20.2±1.3, 42.60N×79.67E, h0km, mb3.1, mpv3.1, Error ellipse: s-maj=8.8km s-min=4.4km az=152.0*
ISC 28 23:35:18.5±2.5**, 42.53N**±0.09×**79.78E**±0.08**, h10km**±13km**, n21, σ1.47**/38**, 14C-4D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode 19nm,0.1s	0.67	340	P	Pg	23 35 32.3	+0.8
SHLS	102nm,0.1s			S	Sg	23 35 41.1	+0.9
SHLS	Shalkode baz=21	0.67	340	eP	Pg	23 35 32.3	+0.8
SHLS	baz=21			eS	Sg	23 35 41.4	+1.2
SHLS	Shalkode 18nm,0.1s	0.67	340	eP	Pg	23 35 32.2	+0.8
SHLS	102nm,0.3s			eS	Sg	23 35 41.4	+1.2
PDGK	Podgornoye 4.2nm,0.1s	0.82	345	P	Pg	23 35 34.5	+0.1
PDGK	1.6nm,0.2s			S	Sg	23 35 45.0	-0.2
PDGK	Podgornoye baz=56	0.82	345	⇑iP	Pg	23 35 34.1	-0.3
PDGK	baz=56			⇑iS	Sg	23 35 44.1	-1.1
UZB	Uzynbulak 6.9nm,0.1s	0.83	318	P	Pg	23 35 34.2	-0.3
UZB	16nm,0.2s			S	Sg	23 35 44.3	-1.0
UZB	Uzynbulak baz=27	0.83	318	eP	Pg	23 35 34.2	-0.3
UZB	baz=27			eS	Sg	23 35 44.6	-0.7
UZB	Uzynbulak 6.8nm,0.1s	0.83	318	eP	Pg	23 35 34.2	-0.3
UZB	15nm,0.2s			eS	Sg	23 35 44.6	-0.7
KTMS	Ketmen 4.8nm,0.1s	1.01	25	P	Pn	23 35 38.9	+0.1
KTMS	5.9nm,0.2s			S	Sn	23 35 52.2	-0.9
PRZ	Przheval'sk baz=66	1.02	268	⇑eP	Pb	23 35 35.3	-3.0
PRZ	baz=66			⇑iS	Sb	23 35 46.8	-5.0
TARG	Taragay, Kyrgy baz=39	1.67	242	⇑eP	Pn	23 35 48.7	+0.6
TARG	baz=39			⇑iS	Sn	23 36 09.9	+0.1
KDJ	Kajisay baz=58	1.97	259	⇑eP	Pn	23 35 53.0	+1.0
KDJ	baz=58			⇑iS	Sn	23 36 17.3	+0.5
KOTS	Kotyrbulak 1.8nm,0.3s	2.08	291	Pg	Pb	23 35 57.4	+1.0
KOTS	18nm,0.3s			Lg	Lg	23 36 24.0	
MDOK	Medeo 1.9nm,0.3s	2.10	288	Pg	Pb	23 35 57.1	+0.3
MDOK	5.8nm,0.4s			Lg	Lg	23 36 23.2	
IZV	Izvestkoviy 2.4nm,0.2s	2.38	283	Pg	Pb	23 36 02.2	+0.7
KTBS	Karatobe 0.7nm,0.2s	2.55	299	Pg	Pb	23 36 04.9	+0.5
ULHL	Ulahol baz=64	2.63	265	⇓eP	Pn	23 36 02.8	+1.6
ULHL	baz=64			⇓eS	Sn	23 36 34.6	+1.3
BOOM	Boomskoye usch baz=70	2.84	270	⇑iP	Pn	23 36 06.0	+2.0
BOOM	baz=70			⇑iS	Sn	23 36 39.0	+0.7
NRN	Naryn baz=49	3.02	250	⇑eP	Pn	23 36 09.3	+2.7
NRN	baz=49			⇑iS	Sn	23 36 45.0	+2.0
TKM2	Tokmak 2 baz=79	3.10	279	⇑eP	Pn	23 36 09.3	+1.6
TKM2	baz=79			⇑iS	Sn	23 36 45.2	+0.3
KZA	Kyzart baz=63	3.39	264	⇓iP	Pn	23 36 13.5	+1.8
KZA	baz=63			⇓iS	Sn	23 36 52.4	+0.2

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*SOME **28** 23:36:18.9, 42.47N×79.58E, h25km*
*NNC **28** 23:36:19.1±2.4, 42.53N×79.67E, h0km, mb3.2, mpv3.2, Error ellipse: s-maj=15.6km s-min=8.5km az=154.0*
*KRNET **28** 23:36:20.8±0.1, 42.61N×79.45E, h18km, mb2.5*
ISC 28 23:36:16.8±1.7**, 42.54N**±0.05×**79.65E**±0.06**, h7km**±10km**, n25, σ1.46**/46**, 16C-8D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode 12nm,0.1s	0.63	348	P	Pn	23 36 32.3	0.0
SHLS	84nm,0.2s			S	Sn	23 36 42.0	-0.8
SHLS	Shalkode baz=30	0.63	348	eP	Pn	23 36 32.2	-0.1
SHLS	baz=30			eS	Sn	23 36 41.8	-0.9
SHLS	Shalkode 15nm,0.1s	0.63	348	eP	Pn	23 36 32.2	-0.1
SHLS	86nm,0.2s			eS	Sn	23 36 41.9	-0.9
UZB	Uzynbulak 7.9nm,0.1s	0.76	323	P	Pn	23 36 33.7	-0.5
UZB	14nm,0.3s			S	Sb	23 36 44.1	+1.0
UZB	Uzynbulak baz=30	0.76	323	eP	Pn	23 36 33.7	-0.5
UZB	baz=30			eS	Sb	23 36 44.3	+1.2
UZB	Uzynbulak 7.9nm,0.2s	0.76	323	eP	Pn	23 36 33.7	-0.5
UZB	18nm,0.3s			eS	Sb	23 36 44.2	+1.0
PDGK	Podgornoye 5.1nm,0.1s	0.80	352	P	Pn	23 36 34.3	-0.3
PDGK	4.8nm,0.4s			S	Sb	23 36 45.3	+1.2
PDGK	Podgornoye baz=2.0	0.80	352	⇓iP	Pn	23 36 34.3	-0.3
PDGK	baz=2.0			⇓iS	Sg	23 36 43.1	+0.5
PRZ	Przheval'sk baz=61	0.92	267	⇑iP	Pb	23 36 35.0	-0.3
PRZ	baz=61			⇑iS	Sg	23 36 44.4	-2.2
KTMS	Ketmen 4.5nm,0.1s	1.04	29	P	Pn	23 36 38.7	+0.7
KTMS	7.7nm,0.3s			S	Sn	23 36 52.8	-0.1
TARG	Taragay, Kyrgy baz=35	1.59	240	⇑iP	Pg	23 36 49.0	+1.6
TARG	baz=35			⇑iS	Sg	23 37 08.4	+0.4
MNBS	Baschi 4.5nm,0.1s	1.79	330	P	Pg	23 36 52.1	+1.0
MNBS				S	Sg	23 37 16.1	+1.8

	4.7nm,0.2s							
KDJ	**Kajisay**	**1.88**	**258**	⇑*e*P	**Pg**	**23**	**36**	**52.2 -0.6**
	baz=55							
KDJ				⇑*i*S	**Sb**	**23**	**37**	**14.6 -0.6**
	baz=55							
MDOK	**Medeo**	**2.01**	**289**	Pg	**Pg**	**23**	**36**	**56.6 +1.2**
	1.4nm,0.2s							
MDOK				Lg	Lg	23	37	23.6
	5.7nm,0.3s							
ARXS	**Arharly**	**2.13**	**322**	Pg	**Pg**	**23**	**36**	**57.9 +0.1**
	2.2nm,0.2s							
ARXS				Lg	Lg	23	37	25.7
	6.7nm,0.3s							
IZV	**Izvestkoviy**	**2.29**	**284**	Pg	**Pg**	**23**	**37**	**00.9 +0.2**
	2.1nm,0.1s							
IZV				Lg	Lg	23	37	31.4
	12nm,0.4s							
ULHL	**Ulahol**	**2.54**	**265**	⇑*e*P	**Pb**	**23**	**37**	**01.8 -1.0**
	baz=62							
ULHL				⇑*e*S	**Sn**	**23**	**37**	**31.4 +1.5**
	baz=62							
BOOM	**Boomskoye usch**	**2.74**	**270**	⇓*i*P	**Pb**	**23**	**37**	**04.5 -1.8**
	baz=69							
BOOM				⇓*i*S	**Sn**	**23**	**37**	**35.6 +0.8**
	baz=69							
DGS	**Degeres**	**2.93**	**285**	Pg	**Pg**	**23**	**37**	**12.6 -0.5**
	1.5nm,0.5s							
DGS				Lg	Lg	23	37	51.0
	5.5nm,0.3s							
NRN	**Naryn**	**2.94**	**249**	⇑*e*P	**Pb**	**23**	**37**	**08.3 -1.4**
	baz=47							
NRN				⇑*e*S	**Sb**	**23**	**37**	**42.8 -3.0**
	baz=47							
TKM2	**Tokmak 2**	**3.01**	**279**	⇓*i*P	**Pb**	**23**	**37**	**07.9 -2.9**
	baz=78							
TKM2				⇓*i*S	**Sn**	**23**	**37**	**41.4 -0.1**
	baz=78							
KZA	**Kyzart**	**3.29**	**263**	⇑*e*P	**Pb**	**23**	**37**	**12.6 -3.2**
	baz=62							
KZA				⇑*i*S	**Sn**	**23**	**37**	**49.4 +0.6**
	baz=62							
KBK	**Karagaybulak**	**3.47**	**274**	⇑*e*P	**Pn**	**23**	**37**	**14.5 +3.1**
	baz=72							
KBK				⇑*i*S	**Sn**	**23**	**37**	**52.7 -0.1**
	baz=72							
USP	**Ospenovka**	**3.85**	**283**	⇓*e*P	**Pn**	**23**	**37**	**19.5 +3.0**
	baz=82							
USP				⇓*i*S	**Sn**	**23**	**38**	**01.5 -0.5**
	baz=82							
EKS2	**Erkin-Say**	**4.33**	**274**	⇑*e*P	**Pn**	**23**	**37**	**26.3 +3.1**
	baz=73							
EKS2				⇑*i*S	**Sn**	**23**	**38**	**13.5 -0.6**
	baz=73							

*ISCJB **28** 23:40:53.6±0.8, 42°.53N±0°.03×79°.57E±0°.04, h2^{km}±4^{km}, Error ellipse: s-maj=7.3km s-min=3.3km az=137.3*
*SOME **28** 23:40:53.9, 42°.48N×79°.60E, h20^{km}*
*KRNET **28** 23:40:54.2±0.1, 42°.53N×79°.60E, h20^{km}, mb2.7*
*NNC **28** 23:40:54.1±1.1, 42°.56N×79°.60E, h0^{km}, mb3.3, mpv3.2, Error ellipse: s-maj=7.0km s-min=4.1km az=142.0*

ISC 28 23:40:53.5±1.6, 42°.50N±0°.05×79°.61E±0°.05, h0^{km}±10^{km}, n39, σ0^{s}81/68, 28C-11D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.66**	**351**	P		**Pg**	**23 41 07.1**	**+0.9**
	136nm,0.1s							
SHLS				S		**Sb**	**23 41 16.8**	**-1.1**
	126nm,0.2s							
SHLS	**Shalkode**	**0.66**	**351**	*e*P		**Pg**	**23 41 07.1**	**+0.9**
	baz=18							
SHLS				*e*S		**Sb**	**23 41 16.7**	**-1.1**
	baz=18							
SHLS	**Shalkode**	**0.66**	**351**	*e*P		**Pg**	**23 41 07.1**	**+0.9**
	136nm,0.1s							
SHLS				*e*S		**Sb**	**23 41 16.6**	**-1.2**
	126nm,0.2s							
UZB	**Uzynbulak**	**0.77**	**327**	*e*P		**Pg**	**23 41 08.4**	**+0.1**
	baz=26							
UZB				*e*S		**Sg**	**23 41 18.8**	**+0.5**
	baz=26							
UZB	**Uzynbulak**	**0.77**	**327**	*e*P		**Pg**	**23 41 08.3**	**+0.1**
	14nm,0.2s							
UZB				*e*S		**Sg**	**23 41 18.8**	**+0.5**
	73nm,0.2s							
PDGK	**Podgornoye**	**0.83**	**354**	P		**Pg**	**23 41 09.1**	**-0.3**
	12nm,0.2s							
PDGK				S		**Sg**	**23 41 19.9**	**-0.2**
	19nm,0.1s							
PDGK	**Podgornoye**	**0.83**	**354**	⇓P		**Pg**	**23 41 09.1**	**-0.3**
	11nm,0.4s							
PDGK				⇑S		**Sg**	**23 41 19.9**	**-0.2**
	34nm,0.7s							
PDGK	**Podgornoye**	**0.83**	**354**	⇑*i*P		**Pg**	**23 41 09.1**	**-0.3**
	baz=54							
PDGK				⇑*i*S		**Sg**	**23 41 19.6**	**-0.5**
	baz=54							
PRZ	**Przheval'sk**	**0.89**	**269**	⇑*i*P		**Pg**	**23 41 11.0**	**+0.5**
	baz=67							
PRZ				⇑*i*S		**Sg**	**23 41 22.9**	**+0.8**
	baz=67							
SATY	**Saty**	**1.04**	**303**	P		**Pg**	**23 41 13.7**	**+0.2**
	10nm,0.1s							
SATY				S		**Sb**	**23 41 28.4**	**-0.4**
	52nm,0.2s							
KTMS	**Ketmen**	**1.09**	**30**	P		**Pg**	**23 41 13.7**	**-0.7**
	22nm,0.1s							
KTMS				S		**Sg**	**23 41 27.9**	**-0.6**
	49nm,0.3s							
TARG	**Taragay, Kyrgy**	**1.55**	**241**	⇑*i*P		**Pn**	**23 41 22.5**	**-0.2**
	baz=40							
TARG				⇑*i*S		**Sg**	**23 41 43.4**	**+0.2**
	baz=40							
MNBS	**Baschi**	**1.80**	**331**	P		**Pn**	**23 41 26.7**	**+0.8**
	3.3nm,0.2s							
MNBS				S		**Sb**	**23 41 50.5**	**-0.2**
	30nm,0.2s							
DJR	**Jarkent**	**1.83**	**4**	P		**Pn**	**23 41 27.0**	**+0.7**
	2.2nm,0.3s							
DJR				S		**Sb**	**23 41 51.5**	**0.0**
	8.0nm,0.2s							
KDJ	**Kajisay**	**1.84**	**259**	⇑*i*P		**Pn**	**23 41 26.9**	**+0.5**
	baz=58							
KDJ				⇑*i*S		**Sb**	**23 41 51.5**	**-0.1**
	baz=58							
KOTS	**Kotyrbulak**	**1.97**	**293**	Pg		**Pb**	**23 41 30.1**	**-0.2**
	11nm,0.2s							
KOTS				Lg		Lg	23 41 57.3	
	51nm,0.4s							
MDOK	**Medeo**	**1.99**	**290**	Pg		**Pb**	**23 41 30.2**	**-0.5**
	5.1nm,0.2s							
MDOK				Lg		Lg	23 41 56.9	
	14nm,0.4s							
TNSS	**Tian-Shan**	**2.03**	**286**	Pg		**Pb**	**23 41 30.9**	**-0.6**
	7.7nm,0.4s							
TNSS				Lg		Lg	23 41 58.3	
	15nm,0.5s							
ARXS	**Arharly**	**2.15**	**323**	Pg		**Pb**	**23 41 32.3**	**-1.0**
	4.2nm,0.3s							
ARXS				Lg		Lg	23 42 00.3	
	30nm,0.3s							
CHKK	**Chushkaly**	**2.34**	**306**	Pg		**Pb**	**23 41 35.8**	**-0.8**
	1.7nm,0.2s							
CHKK				Lg		Lg	23 42 07.1	
	30nm,0.4s							
MTBS	**Maitube**	**2.42**	**286**	Pg		**Pb**	**23 41 37.0**	**-0.9**
	6.8nm,0.7s							
MTBS				Lg		Lg	23 42 09.3	
	13nm,0.2s							
KTBS	**Karatobe**	**2.46**	**300**	Pg		**Pb**	**23 41 37.2**	**-1.4**
	2.4nm,0.1s							
KTBS				Lg		Lg	23 42 09.2	
	26nm,0.3s							
ULHL	**Ulahol**	**2.50**	**265**	⇑*e*P		**Pn**	**23 41 36.7**	**+1.0**
	baz=65							
ULHL				⇑*i*S		**Sn**	**23 42 07.4**	**+0.4**
	baz=65							
BOOM	**Boomskoye usch**	**2.71**	**271**	⇑*i*P		**Pn**	**23 41 39.4**	**+1.0**
	baz=70							
BOOM				⇑*i*S		**Sn**	**23 42 11.9**	**-0.1**
	baz=70							
KST	**Kastek**	**2.73**	**283**	Pg		**Pb**	**23 41 42.4**	**-0.9**
	6.2nm,0.3s							
KST				Lg		Lg	23 42 18.6	
	11nm,0.5s							
KUU	**Kurty**	**2.76**	**301**	Pg		**Pb**	**23 41 42.9**	**-0.9**
	1.2nm,0.2s							
KUU				Lg		Lg	23 42 19.4	
	16nm,0.3s							
KAPS	**Kapalarasan**	**2.79**	**356**	Pg		**Pn**	**23 41 41.6**	**+2.2**
	1.6nm,0.5s							
KAPS				Lg		Lg	23 42 16.7	
	6.9nm,0.6s							
NRN	**Naryn**	**2.89**	**250**	⇑*e*P		**Pn**	**23 41 42.1**	**+1.0**
	baz=49							
NRN				⇑*i*S		**Sn**	**23 42 17.6**	**+0.9**
	baz=49							
TKM2	**Tokmak 2**	**2.98**	**279**	⇑*i*P		**Pn**	**23 41 42.9**	**+0.7**
	baz=79							
TKM2				⇑*e*S		**Sn**	**23 42 18.9**	**+0.1**
	baz=79							
KZA	**Kyzart**	**3.26**	**264**	⇓*e*P		**Pn**	**23 41 47.0**	**+0.8**
	baz=63							
KZA				⇓*i*S		**Sn**	**23 42 26.0**	**+0.1**
	baz=63							
KBK	**Karagaybulak**	**3.44**	**274**	⇓*i*P		**Pn**	**23 41 49.5**	**+1.0**
	baz=74							
KBK				⇓*e*S		**Sn**	**23 42 29.6**	**-0.5**
	baz=74							
CHMS	**Chumysh**	**3.61**	**280**	⇑*e*P		**Pn**	**23 41 51.5**	**+0.8**
	baz=79							
CHMS				⇑*i*S		**Sn**	**23 42 33.4**	**-0.6**
	baz=79							
AAK	**Ala-Archa**	**3.78**	**274**	⇓*i*P		**Pn**	**23 41 54.1**	**+1.0**
	baz=73							
AAK				⇓*e*S		**Sn**	**23 42 37.9**	**-0.4**
	baz=73							
UCH	**Uchtor**	**3.78**	**268**	⇑*e*P		**Pn**	**23 41 54.4**	**+1.0**
	baz=67							
UCH				⇑*i*S		**Sn**	**23 42 38.8**	**-0.1**
	baz=67							
ARLS	**Aral**	**3.98**	**262**	⇑*i*P		**Pn**	**23 41 56.3**	**+0.5**
	baz=62							
ARLS				⇑*i*S		**Sn**	**23 42 42.0**	**-1.3**
	baz=62							
EKS2	**Erkin-Say**	**4.31**	**274**	⇑*e*P		**Pn**	**23 42 01.3**	**+1.0**
	baz=74							
EKS2				⇑*i*S		**Sn**	**23 42 50.4**	**-0.9**
	baz=74							
AML	**Almayashu**	**4.40**	**267**	⇑*i*P		**Pn**	**23 42 02.9**	**+1.0**
	baz=67							
AML				⇑*i*S		**Sn**	**23 42 53.2**	**-0.8**
	baz=67							
MAKZ	**Makanchi**	**4.62**	**21**	⇓Pn		**Pn**	**23 42 06.1**	**+1.5**
	0.3nm,0.3s							
MAKZ				⇓Sn		**Sn**	**23 43 00.1**	**+1.1**
	0.5nm,0.6s							
MAKZ				⇑Lg		Lg	23 43 19.4	
	0.4nm,0.5s							
MK31	**Makanchi Array**	**4.70**	**23**	⇓Pn		**Pn**	**23 42 06.9**	**+1.3**
	0.1nm,0.2s,baz=200,slow=12,SNR=14							
MK31				Sn		**Sn**	**23 43 01.0**	**+0.2**
	0.2nm,0.2s,baz=206,slow=25,SNR=4.6							
MK31				⇓Lg		Lg	23 43 21.9	
	0.5nm,0.5s							

GUC 28 23:41:26.2±0.6, 23°.93S×69°.36W, h88^{km}±6^{km}, ML3.5, 2C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PB10	**IPOC Station P**	**1.17**	**290**	⇑*i*P		Pn	23 41 47.7	0.0
PB10				*i* S		Sn	23 42 04.2	+0.2
PB10				IAML			23 42 07.3	
	comp=E,1μm,0.3s							
PB14	**IPOC Station P**	**1.18**	**234**	⇑*i*P		Pn	23 41 48.0	-0.2
PB14				*i* S		Sn	23 42 04.4	-0.3
PB14				IAML			23 42 09.1	
	comp=N,1μm,0.3s							
PB06	**IPOC Station P**	**1.23**	**351**	⇓*i*P		Pn	23 41 48.7	0.0
PB06				*i* S		Sn	23 42 05.7	+0.1
PB06				IAML			23 42 06.9	
	comp=E,984nm,0.3s							
GO02	**Mina Guanaco**	**1.25**	**190**	⇓*i*P		Pn	23 41 49.1	+0.1
GO02				*i* S		Sn	23 42 06.7	+0.6
GO02				IAML			23 42 10.0	
	comp=E,2μm,0.3s							
PB05	**IPOC Station P**	**1.32**	**324**	*e*P		Pn	23 41 49.5	-0.3
PB05				*i* S		Sn	23 42 07.6	+0.2
PB05				IAML			23 42 10.0	
	comp=N,918nm,0.7s							
LVC	**Limon Verde**	**1.38**	**18**	⇓*i*P		Pn	23 41 51.1	+0.4
LVC				*i* S		Sn	23 42 09.5	+0.4
PB04	**IPOC Station P**	**1.75**	**335**	*e*P		Pn	23 41 54.9	-0.4
PB04				*e*S		Sn	23 42 18.0	+0.8
PB04				IAML			23 42 30.2	
	comp=N,511nm,0.5s							
PB03	**IPOC Station P**	**1.91**	**349**	*e*P		Pn	23 41 57.5	+0.2
PB03				*i* S		Sn	23 42 21.6	+0.7
PB03				IAML			23 42 24.8	
	comp=E,571nm,0.2s							
PB09	**IPOC Station P**	**2.12**	**3**	*e*P		Pn	23 42 00.8	+0.7
PB09				*i* S		Sn	23 42 27.1	+1.0
PB09				IAML			23 42 35.7	
	comp=E,353nm,0.5s							
PB07	**IPOC Station P**	**2.25**	**347**	*e*P		Pn	23 42 01.6	-0.1
PB07				*i* S		Sn	23 42 29.5	+0.5
PB07				IAML			23 42 37.5	
	comp=E,339nm,0.3s							

*SOME **28** 23:43:57.9, 42°.48N×79°.68E, h20^{km}*
*KRNET **28** 23:43:58.2±0.1, 42°.57N×79°.63E, h12^{km}, mb3.1*
*ISCJB **28** 23:43:59.6±0.7, 42°.57N±0°.03×79°.66E±0°.04, h10^{km}, Error ellipse: s-maj=5.8km s-min=3.0km az=41.8*
*NNC **28** 23:43:59.1±0.9, 42°.62N×79°.60E, h0^{km}, mb3.8, mpv3.5, Error ellipse: s-maj=5.7km s-min=3.0km az=133.0*

ISC 28 23:43:58.7±1.2, 42°.58N±0°.04×79°.61E±0°.04, h10^{km}, n80, σ1^{s}44/134, 39C-24D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.59**	**349**	P		**Pb**	**23 44 10.4**	**-0.8**
	111nm,0.1s							
SHLS				S		**Sb**	**23 44 19.4**	**-0.4**
	1μm,0.2s							
SHLS	**Shalkode**	**0.59**	**349**	*e*P		**Pb**	**23 44 10.4**	**-0.8**
	baz=18							
SHLS				*e*S		**Sb**	**23 44 19.3**	**-0.4**
	baz=18							
SHLS	**Shalkode**	**0.59**	**349**	*e*P		**Pb**	**23 44 10.4**	**-0.8**
	111nm,0.1s							
SHLS				*e*S		**Sb**	**23 44 19.4**	**-0.4**
	1μm,0.2s							
UZB	**Uzynbulak**	**0.72**	**323**	P		**Pg**	**23 44 12.2**	**-0.4**
	46nm,0.1s							
UZB				S		**Sb**	**23 44 22.2**	**-1.2**
	204nm,0.3s							
UZB	**Uzynbulak**	**0.72**	**323**	*e*P		**Pg**	**23 44 12.2**	**-0.4**
	baz=23							
UZB				*e*S		**Sb**	**23 44 22.2**	**-1.2**
	baz=23							
UZB	**Uzynbulak**	**0.72**	**323**	*e*P		**Pg**	**23 44 12.2**	**-0.4**
	46nm,0.1s							
UZB				*e*S		**Sb**	**23 44 22.2**	**-1.2**
	204nm,0.3s							
PDGK	**Podgornoye**	**0.76**	**353**	P		**Pg**	**23 44 12.6**	**-0.8**
	21nm,0.1s							
PDGK				S		**Sb**	**23 44 23.2**	**-1.4**
	49nm,0.1s							
PDGK	**Podgornoye**	**0.76**	**353**	⇑P		**Pg**	**23 44 12.5**	**-0.8**
	6.1nm,0.2s							
PDGK				⇓S		**Sg**	**23 44 22.9**	**-0.4**
	24nm,0.3s							
PDGK	**Podgornoye**	**0.76**	**353**	⇑*i*P		**Pg**	**23 44 12.5**	**-0.9**
	baz=52							
PDGK				⇑*i*S		**Sg**	**23 44 22.7**	**-0.6**
	baz=52							
PRZ	**Przheval'sk**	**0.90**	**264**	⇑*i*P		**Pb**	**23 44 15.8**	**-0.8**
	baz=65							
PRZ				⇑*i*S		**Sb**	**23 44 28.3**	**-0.4**
	baz=65							
SATY	**Saty**	**1.01**	**299**	P		**Pb**	**23 44 17.7**	**-0.7**
	26nm,0.1s							
SATY				S		**Sb**	**23 44 31.4**	**-0.4**
	107nm,0.2s							
SATY	**Saty**	**1.01**	**299**	*e*P		**Pg**	**23 44 17.5**	**-0.7**
	2.6nm,0.1s							
SATY				*e*S		**Sb**	**23 44 31.4**	**-0.4**
	107nm,0.2s							
TARG	**Taragay, Kyrgy**	**1.59**	**238**	⇑*i*P		**Pb**	**23 44 27.9**	**-0.5**
	baz=39							
TARG				⇑*i*S		**Sg**	**23 44 49.1**	**-0.7**
	baz=39							
MNBS	**Baschi**	**1.74**	**330**	P		**Pb**	**23 44 30.5**	**-0.3**
	28nm,0.2s							
MNBS				S		**Sg**	**23 44 53.8**	**-0.9**
	120nm,0.3s							
MNBS	**Baschi**	**1.74**	**330**	*e*P		**Pb**	**23 44 30.1**	**-0.8**
	baz=30							
MNBS				*e*S		**Sg**	**23 44 53.4**	**-1.4**
	baz=30							
MNBS	**Baschi**	**1.74**	**330**	*e*P		**Pb**	**23 44 30.1**	**-0.8**
	28nm,0.2s							
MNBS				*e*S		**Sg**	**23 44 53.4**	**-1.4**
	120nm,0.3s							
DJR	**Jarkent**	**1.76**	**4**	P		**Pb**	**23 44 30.7**	**-0.5**
	9.5nm,0.3s							
DJR				S		**Sg**	**23 44 54.1**	**-1.2**
	22nm,0.5s							
DJR	**Jarkent**	**1.76**	**4**	⇑*i*P		**Pb**	**23 44 30.7**	**-0.5**
	9.5nm,0.3s							
DJR				⇑*i*S		**Sg**	**23 44 54.1**	**-1.2**
	22nm,0.5s							
KDJ	**Kajisay**	**1.86**	**257**	⇑*i*P		**Pb**	**23 44 32.5**	**-0.4**
	baz=57							
KDJ				⇑*i*S		**Sg**	**23 44 57.5**	**-0.9**
	baz=57							
KOTS	**Kotyrbulak**	**1.95**	**291**	Pg		**Pg**	**23 44 34.8**	**-1.3**
	15nm,0.2s							
KOTS				Lg		Lg	23 45 01.3	
	73nm,0.3s							
KOTS	**Kotyrbulak**	**1.95**	**291**	*e*P		**Pg**	**23 44 34.8**	**-1.3**
	baz=90							
KOTS				*e*S		**Sg**	**23 45 01.3**	**-0.1**
	baz=90							
KOTS	**Kotyrbulak**	**1.95**	**291**	*e*P		**Pg**	**23 44 34.8**	**-1.3**
	15nm,0.2s							
KOTS				*e*S		**Sg**	**23 45 01.3**	**-0.1**
	73nm,0.3s							
MDOK	**Medeo**	**1.97**	**288**	Pg		**Pb**	**23 44 34.5**	**-0.4**
	15nm,0.3s							
MDOK				Lg		Lg	23 45 00.6	
	35nm,0.4s							
MDOK	**Medeo**	**1.97**	**288**	*e*P		**Pb**	**23 44 34.5**	**-0.4**
	baz=88							
MDOK				*e*S		**Sg**	**23 45 00.6**	**-1.6**
	baz=88							
MDOK	**Medeo**	**1.97**	**288**	*e*P		**Pb**	**23 44 34.5**	**-0.4**
	15nm,0.3s							
MDOK				*e*S		**Sg**	**23 45 00.6**	**-1.6**
	35nm,0.4s							
TNSS	**Tian-Shan**	**2.02**	**284**	Pg		**Pb**	**23 44 35.1**	**-0.6**
	11nm,0.5s							
TNSS				Lg		Lg	23 45 02.5	
	33nm,0.3s							
TNSS	**Tian-Shan**	**2.02**	**284**	*e*P		**Pb**	**23 44 35.1**	**-0.6**
	baz=84							
TNSS				*e*S		**Sg**	**23 45 02.2**	**-1.3**
	baz=84							
TNSS	**Tian-Shan**	**2.02**	**284**	*e*P		**Pb**	**23 44 35.1**	**-0.6**
	4.6nm,0.4s							
TNSS				*e*S		**Sg**	**23 45 02.1**	**-1.3**
	25nm,0.4s							
KNDC	**Almaty**	**2.05**	**289**	⇑Pn		**Pg**	**23 44 36.5**	**-1.5**
	18nm,0.5s							
KNDC				⇓Lg		Lg	23 45 06.3	
	72nm,0.7s							
AAA	**Alma-Ata**	**2.08**	**289**	Pg		**Pg**	**23 44 37.7**	**-0.9**
	22nm,0.2s							
AAA				Lg		Lg	23 45 06.7	
	58nm,0.5s							
AAA	**Alma-Ata**	**2.08**	**289**	*e*P		**Pg**	**23 44 37.7**	**-0.9**
	baz=89							
AAA				*e*S		**Sg**	**23 45 06.7**	**+1.1**
	baz=89							
AAA	**Alma-Ata**	**2.08**	**289**	*e*P		**Pg**	**23 44 37.7**	**-0.9**
	22nm,0.2s							
AAA				*e*S		**Sg**	**23 45 06.7**	**+1.1**
	58nm,0.5s							
ARXS	**Arharly**	**2.09**	**322**	Pg		**Pb**	**23 44 36.2**	**-0.6**
	12nm,0.3s							
ARXS				Lg		Lg	23 45 04.1	
	107nm,0.4s							
ARXS	**Arharly**	**2.09**	**322**	*e*P		**Pb**	**23 44 36.1**	**-0.7**
	12nm,0.3s							
ARXS				*e*S		**Sg**	**23 45 03.7**	**-2.2**
	107nm,0.4s							
IZV	**Izvestkoviy**	**2.25**	**283**	Pg		**Pb**	**23 44 39.4**	**-0.2**
	8.8nm,0.3s							
IZV				Lg		Lg	23 45 09.5	
	65nm,0.5s							
IZV	**Izvestkoviy**	**2.25**	**283**	*e*P		**Pb**	**23 44 39.4**	**-0.2**
	baz=83							
IZV				*e*S		**Sg**	**23 45 09.6**	**-1.6**
	baz=83							
IZV	**Izvestkoviy**	**2.25**	**283**	*e*P		**Pb**	**23 44 39.4**	**-0.2**
	8.8nm,0.3s							
IZV				*e*S		**Sg**	**23 45 09.6**	**-1.6**
	65nm,0.5s							
CHKK	**Chushkaly**	**2.30**	**305**	Pg		**Pb**	**23 44 39.9**	**-0.5**
	5.9nm,0.1s							
CHKK				Lg		Lg	23 45 10.7	
	82nm,0.2s							
CHKK	**Chushkaly**	**2.30**	**305**	*e*P		**Pb**	**23 44 39.9**	**-0.5**
	baz=5.0							
CHKK				⇑*i*S		**Sg**	**23 45 10.7**	**-2.1**
	baz=5.0							
CHKK	**Chushkaly**	**2.30**	**305**	*e*P		**Pb**	**23 44 39.9**	**-0.5**
	5.9nm,0.1s							
CHKK				⇑*i*S		**Sg**	**23 45 10.7**	**-2.1**
	82nm,0.2s							
MTBS	**Maitube**	**2.41**	**284**	Pg		**Pb**	**23 44 41.6**	**-0.5**
	24nm,0.3s							
MTBS				Lg		Lg	23 45 13.6	
	45nm,0.4s							
MTBS	**Maitube**	**2.41**	**284**	⇑*i*P		**Pb**	**23 44 41.7**	**-0.5**
	baz=84							
MTBS				⇓*i*S		**Sg**	**23 45 13.7**	**-2.3**
	baz=84							
MTBS	**Maitube**	**2.41**	**284**	⇑*i*P		**Pb**	**23 44 41.6**	**-0.5**
	24nm,0.3s							
MTBS				⇓*i*S		**Sg**	**23 45 13.6**	**-2.3**
	45nm,0.4s							
KTBS	**Karatobe**	**2.43**	**299**	Pg		**Pb**	**23 44 42.2**	**-0.3**
	6.2nm,0.2s							
KTBS				Lg		Lg	23 45 14.1	
	48nm,0.2s							
KTBS	**Karatobe**	**2.43**	**299**	*e*P		**Pb**	**23 44 42.2**	**-0.3**
	baz=98							
KTBS				*e*S		**Sg**	**23 45 14.1**	**-2.6**
	baz=98							
KTBS	**Karatobe**	**2.43**	**299**	*e*P		**Pb**	**23 44 42.2**	**-0.3**
	6.2nm,0.2s							
KTBS				*e*S		**Sg**	**23 45 14.1**	**-2.6**
	48nm,0.2s							
ULHL	**Ulahol**	**2.52**	**264**	⇓*e*P		**Pb**	**23 44 41.8**	**-2.3**
	baz=64							
ULHL				⇓*i*S		**Sb**	**23 45 13.4**	**-1.9**
	baz=64							
TDK	**Taldyqorghan**	**2.58**	**341**	Pg		**Pb**	**23 44 44.7**	**-0.4**
	19nm,0.4s							
TDK				Lg		Lg	23 45 18.9	
	88nm,0.5s							
TDK	**Taldyqorghan**	**2.58**	**341**	*e*P		**Pb**	**23 44 44.7**	**-0.4**
	19nm,0.3s							
TDK				*e*S		**Sg**	**23 45 18.7**	**-2.8**
	88nm,0.4s							
KAPS	**Kapalarasan**	**2.71**	**

KUU	**Kurty**	2.5nm,0.3s	**2.73**	**300**	Pg	**Pb**	**23**	**44**	**47.4 -0.3**
KUU		19nm,0.4s			Lg	Lg	23	45	23.0
KUU	**Kurty**	baz=0.0	**2.73**	**300**	*e*P	**Pb**	**23**	**44**	**47.4 -0.3**
KUU		baz=0.0			⇑*i*S	**Sb**	**23**	**45**	**23.0 +1.8**
KUU	**Kurty**	2.5nm,0.3s	**2.73**	**300**	*e*P	**Pb**	**23**	**44**	**47.4 -0.3**
KUU		19nm,0.4s			⇑*i*S	**Sb**	**23**	**45**	**23.0 +1.8**
DGS	**Degeres**	9.1nm,0.3s	**2.90**	**285**	Pg	**Pb**	**23**	**44**	**50.1 -0.5**
DGS		60nm,0.6s			Lg	Lg	23	45	28.3
DGS	**Degeres**	baz=85	**2.90**	**285**	*e*P	**Pb**	**23**	**44**	**50.1 -0.5**
DGS		baz=85			*e*S	**Sb**	**23**	**45**	**28.0 +1.9**
DGS	**Degeres**	9.1nm,0.3s	**2.90**	**285**	*e*P	**Pb**	**23**	**44**	**50.1 -0.5**
DGS		60nm,0.6s			*e*S	**Sb**	**23**	**45**	**28.0 +1.9**
NRN	**Naryn**	baz=48	**2.92**	**248**	⇑*e*P	**Pn**	**23**	**44**	**47.5 +1.9**
NRN		baz=48			⇑*e*S	**Sb**	**23**	**45**	**23.7 -3.4**
TKM2	**Tokmak 2**	1.5nm,0.6s	**2.98**	**278**	⇓Pn	**Pb**	**23**	**44**	**49.2 -2.8**
TKM2		4.2nm,0.8s			⇑Pg	**Pg**	**23**	**44**	**54.5 -1.3**
TKM2		12nm,0.4s			⇓Lg	Lg	23	45	31.3
TKM2	**Tokmak 2**	baz=78	**2.98**	**278**	⇑*e*P	**Pn**	**23**	**44**	**48.2 +2.0**
TKM2		baz=78			⇑*i*S	**Sn**	**23**	**45**	**24.8 +2.7**
KZA	**Kyzart**	baz=63	**3.27**	**263**	⇑*e*P	**Pn**	**23**	**44**	**52.3 +1.9**
KZA		baz=63			⇑*i*S	**Sn**	**23**	**45**	**32.1 +2.5**
KBK	**Karagaybulak**	baz=73	**3.44**	**273**	⇑*i*P	**Pn**	**23**	**44**	**54.3 +1.7**
KBK		baz=73			⇑*i*S	**Sn**	**23**	**45**	**35.8 +2.3**
CHMS	**Chumysh**	baz=78	**3.60**	**278**	⇓*e*P	**Pn**	**23**	**44**	**56.6 +2.0**
CHMS		baz=78			⇓*e*S	**Sn**	**23**	**45**	**39.3 +2.1**
AAK	**Ala-Archa**	12nm,0.8s	**3.78**	**273**	⇑Lg	Lg	23	45	57.2
AAK	**Ala-Archa**	baz=73	**3.78**	**273**	⇑*e*P	**Pn**	**23**	**44**	**59.1 +1.9**
AAK		baz=73			⇑*i*S	**Sn**	**23**	**45**	**43.8 +2.0**
UCH	**Uchtor**	baz=67	**3.79**	**266**	⇑*e*P	**Pn**	**23**	**44**	**59.5 +1.9**
UCH		baz=67			⇑*i*S	**Sn**	**23**	**45**	**44.4 +1.9**
USP	**Ospenovka**	baz=82	**3.82**	**282**	⇓*e*P	**Pn**	**23**	**44**	**59.5 +1.9**
USP		baz=82			⇓*i*S	**Sn**	**23**	**45**	**44.4 +1.8**
ARLS	**Aral**	baz=62	**3.99**	**261**	⇓*i*P	**Pn**	**23**	**45**	**01.8 +1.7**
ARLS		baz=62			⇓*i*S	**Sn**	**23**	**45**	**48.3 +1.2**
EKS2	**Erkin-Say**	baz=73	**4.31**	**273**	⇓*e*P	**Pn**	**23**	**45**	**06.3 +1.9**
EKS2		baz=73			⇓*i*S	**Sn**	**23**	**45**	**56.0 +1.3**
AML	**Almayashu**	baz=66	**4.41**	**266**	⇓*i*P	**Pn**	**23**	**45**	**08.0 +2.0**
AML		baz=66			⇓*i*S	**Sn**	**23**	**45**	**59.4 +1.8**
MAKZ	**Makanchi**	1.2nm,0.3s	**4.55**	**21**	⇑Pn	**Pn**	**23**	**45**	**09.5 +1.8**
MAKZ		1.4nm,0.5s			⇓Lg	Lg	23	46	21.6
MK31	**Makanchi Array**	0.1nm,0.1s,baz=204,slow=12,SNR=34	**4.63**	**23**	⇑Pn	**Pn**	**23**	**45**	**10.2 +1.5**
MK31		0.9nm,0.4s			⇑Sn	**Sn**	**23**	**46**	**04.3 +1.8**
MK31		2.2nm,0.5s,baz=205,slow=26,SNR=6.1			⇓Lg	Lg	23	46	22.4
MNAS	**Manas**	0.9nm,0.4s	**5.25**	**271**	⇑Lg	Lg	23	46	42.7
KK31	**Karatay Array**	0.6nm,0.3s,baz=96,slow=27,SNR=3.5	**6.71**	**278**	⇑Lg	Lg	23	47	34.6
OTUK	**Ortayu**	3.7nm,1.2s	**7.63**	**320**	⇑Lg	Lg	23	47	58.9
KURK	**Kurchatov**	4.7nm,1.1s	**8.17**	**356**	⇑Lg	Lg	23	48	15.8

IDC ***28*** *23:49:14.2±1.7, 42°.36N×79°.82E, h0km, mb3.5/3, mb1 3.5/10, mb1mx3.4/44, mbtmp3.4/10, ML3.3/7, Error ellipse: s-maj=28.0km s-min=12.4km az=154.0*
BJI ***28*** *23:49:16.2, 42°.62N×79°.53E, h7km, ML3.7/10*
NNC ***28*** *23:49:16.0±0.7, 42°.59N×79°.62E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=4.9km s-min=2.8km az=135.0*
SOME ***28*** *23:49:16.7, 42°.52N×79°.68E, h20km*
KRNET ***28*** *23:49:17.5±0.1, 42°.59N×79°.58E, h16km, mb4.1*

ISC 28 23:49:18.2±1.2, 42°.63N±0°.03×79°.68E±0.03, h8km±8km, n94, σ1°72/146, mb3.5/3, 40C-14D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h	m	s	Res ISC
SHLS	**Shalkode**	**0.55**	**343**	P		**Pg**	**23**	**49**	**29.3**	**+0.4**
SHLS	343nm,0.1s			S		**Sb**	**23**	**49**	**38.4**	**0.0**
SHLS	**Shalkode**	**0.55**	**343**	*e*P		**Pg**	**23**	**49**	**29.4**	**+0.4**
SHLS	baz=22			*e*S		**Sb**	**23**	**49**	**38.5**	**+0.1**
SHLS	**Shalkode**	**0.55**	**343**	*e*P		**Pg**	**23**	**49**	**29.4**	**+0.4**
SHLS	343nm,0.1s			*e*S		**Sb**	**23**	**49**	**38.5**	**+0.1**
UZB	**Uzynbulak**	**0.71**	**317**	P		**Pg**	**23**	**49**	**31.0**	**-0.9**
UZB	539nm,0.2s			S		**Sg**	**23**	**49**	**41.4**	**+0.2**
UZB	**Uzynbulak**	**0.71**	**317**	*e*P		**Pg**	**23**	**49**	**31.0**	**-0.9**
UZB	baz=24			*e*S		**Sg**	**23**	**49**	**41.2**	**+0.1**
UZB	**Uzynbulak**	**0.71**	**317**	*e*P		**Pg**	**23**	**49**	**31.0**	**-0.9**
UZB	539nm,0.3s			*e*S		**Sg**	**23**	**49**	**41.2**	**+0.1**
PDGK	**Podgornoye**	**0.71**	**349**	P		**Pg**	**23**	**49**	**31.5**	**-0.6**
PDGK	109nm,0.3s			S		**Sb**	**23**	**49**	**42.2**	**-0.8**
PDGK	**Podgornoye**	**0.71**	**349**	⇑P		**Pg**	**23**	**49**	**31.4**	**-0.6**
PDGK	94nm,0.4s			⇑S		**Sg**	**23**	**49**	**41.9**	**+0.6**
PDGK	**Podgornoye**	**0.71**	**349**	*i* P		**Pg**	**23**	**49**	**31.4**	**-0.6**
PDGK	baz=55			*i* S		**Sb**	**23**	**49**	**42.2**	**-0.8**
KTMS	**Ketmen**	**0.96**	**31**	P		**Pg**	**23**	**49**	**35.9**	**-0.7**
KTMS	148nm,0.1s			S		**Sg**	**23**	**49**	**49.7**	**+0.7**
PRZ	**Przheval'sk**	**0.96**	**262**	⇑*i*P		**Pg**	**23**	**49**	**34.3**	**-2.3**
PRZ	baz=63			⇑*i*S		**Sg**	**23**	**49**	**46.7**	**-2.3**
SATY	**Saty**	**1.03**	**295**	P		**Pg**	**23**	**49**	**35.9**	**-2.1**
SATY	176nm,0.4s			S		**Sg**	**23**	**49**	**49.8**	**-1.6**
SATY	**Saty**	**1.03**	**295**	*e*P		**Pg**	**23**	**49**	**35.9**	**-2.1**
SATY	679nm,0.3s			*e*S		**Sg**	**23**	**49**	**49.9**	**-1.5**
KURS	**Kuram**	**1.40**	**308**	*e*P		**Pn**	**23**	**49**	**43.2**	**-0.9**
KURS	562nm,0.4s			*e*S		**Sb**	**23**	**50**	**02.3**	**-0.4**
KURS	**Kuram**	**1.40**	**308**	*e*P		**Pn**	**23**	**49**	**43.2**	**-0.9**
KURS	baz=11			*e*S		**Sb**	**23**	**50**	**02.3**	**-0.4**
DJR	**Jarkent**	**1.71**	**3**	P		**Pn**	**23**	**49**	**49.3**	**+0.9**
DJR	61nm,0.2s			S		**Sg**	**23**	**50**	**13.2**	**+0.2**
MNBS	**Baschi**	**1.73**	**328**	P		**Pn**	**23**	**49**	**49.3**	**+0.7**
MNBS	220nm,0.2s			S		**Sg**	**23**	**50**	**12.9**	**-0.7**
KDJ	**Kajisay**	**1.92**	**256**	⇓*i*P		**Pn**	**23**	**49**	**52.0**	**+0.7**
KDJ	baz=56			⇓*i*S		**Sn**	**23**	**50**	**16.7**	**+1.0**
KOTS	**Kotyrbulak**	**1.98**	**289**	Pg		**Pn**	**23**	**49**	**52.8**	**+0.7**
KOTS	165nm,0.2s			Lg		Lg	23	50	19.9	
KOTS	**Kotyrbulak**	**1.98**	**289**	*e*P		**Pn**	**23**	**49**	**53.0**	**+0.8**
KOTS	baz=90			*e*S		**Sn**	**23**	**50**	**19.2**	**+1.9**
KOTS	**Kotyrbulak**	**1.98**	**289**	*e*P		**Pn**	**23**	**49**	**53.0**	**+0.8**
KOTS	151nm,0.2s			*e*S		**Sn**	**23**	**50**	**19.2**	**+1.9**
MDOK	**Medeo**	**2.01**	**286**	Pg		**Pn**	**23**	**49**	**53.0**	**+0.5**
MDOK	143nm,0.5s			Lg		Lg	23	50	19.8	
MDOK	**Medeo**	**2.01**	**286**	*e*P		**Pn**	**23**	**49**	**53.1**	**+0.5**
MDOK	baz=88			*e*S		**Sn**	**23**	**50**	**19.6**	**+1.7**
MDOK	**Medeo**	**2.01**	**286**	*e*P		**Pn**	**23**	**49**	**53.1**	**+0.5**
MDOK	137nm,0.5s			*e*S		**Sn**	**23**	**50**	**19.5**	**+1.7**
TNSS	**Tian-Shan**	**2.05**	**282**	Pg		**Pn**	**23**	**49**	**53.8**	**+0.5**
TNSS	135nm,0.4s			Lg		Lg	23	50	22.3	
TNSS	**Tian-Shan**	**2.05**	**282**	*e*P		**Pn**	**23**	**49**	**53.7**	**+0.3**
TNSS	baz=84			*e*S		**Sn**	**23**	**50**	**20.6**	**+1.3**
TNSS	**Tian-Shan**	**2.05**	**282**	*e*P		**Pn**	**23**	**49**	**53.7**	**+0.3**
TNSS	92nm,0.4s			*e*S		**Sn**	**23**	**50**	**20.6**	**+1.3**
KNDC	**Almaty**	**2.08**	**287**	⇓Pn		**Pn**	**23**	**49**	**53.8**	**+0.4**
KNDC	237nm,0.6s			⇓Lg		Lg	23	50	24.9	
ARXS	**Arharly**	**2.08**	**320**	Pg		**Pn**	**23**	**49**	**54.9**	**+1.4**
ARXS	244nm,0.5s			Lg		Lg	23	50	23.2	
ARXS	**Arharly**	**2.08**	**320**	*e*P		**Pn**	**23**	**49**	**54.7**	**+1.2**
ARXS	244nm,0.6s			*e*S		**Sb**	**23**	**50**	**23.1**	**+0.8**
AAA	**Alma-Ata**	**2.11**	**287**	Pg		**Pn**	**23**	**49**	**55.4**	**+1.5**
AAA	253nm,0.5s			Lg		Lg	23	50	23.7	
IZV	**Izvestkoviy**	**2.29**	**281**	Pg		**Pn**	**23**	**49**	**57.8**	**+1.3**
IZV	131nm,0.1s			Lg		Lg	23	50	28.0	
MTBS	**Maitube**	**2.44**	**283**	Pg		**Pn**	**23**	**50**	**00.3**	**+1.9**
MTBS	309nm,0.5s			Lg		Lg	23	50	33.1	
MTBS	**Maitube**	**2.44**	**283**	*e*P		**Pn**	**23**	**50**	**01.1**	**+2.7**
MTBS	baz=84			*e*S		**Sb**	**23**	**50**	**33.0**	**+0.3**
MTBS	**Maitube**	**2.44**	**283**	*e*P		**Pn**	**23**	**50**	**01.1**	**+2.7**
MTBS	309nm,0.5s			*e*S		**Sb**	**23**	**50**	**33.0**	**+0.3**
KTBS	**Karatobe**	**2.45**	**297**	Pg		**Pn**	**23**	**50**	**00.7**	**+2.2**
KTBS	52nm,0.2s			Lg		Lg	23	50	32.4	
KTBS	**Karatobe**	**2.45**	**297**	*e*P		**Pn**	**23**	**50**	**00.9**	**+2.4**
KTBS	baz=98			*e*S		**Sb**	**23**	**50**	**32.6**	**-0.2**
KTBS	**Karatobe**	**2.45**	**297**	*e*P		**Pn**	**23**	**50**	**00.9**	**+2.4**
KTBS	52nm,0.2s			*e*S		**Sb**	**23**	**50**	**32.6**	**-0.2**
ULHL	**Ulahol**	**2.57**	**263**	P		**Pn**	**23**	**50**	**00.6**	**+0.2**
ULHL	**Ulahol**	**2.57**	**263**	⇑*i*P		**Pn**	**23**	**50**	**01.1**	**+0.7**
ULHL	baz=63			⇑*i*S		**Sn**	**23**	**50**	**33.9**	**+2.0**
KAPS	**Kapalarasan**	**2.67**	**355**	Pg		**Pn**	**23**	**50**	**04.1**	**+2.6**
KAPS	26nm,0.5s			Lg		Lg	23	50	39.0	
KAPS	**Kapalarasan**	**2.67**	**355**	*e*P		**Pb**	**23**	**50**	**06.1**	**-0.1**
KAPS	274nm,0.5s			*e*S		**Sb**	**23**	**50**	**41.4**	**+2.3**
KUU	**Kurty**	**2.75**	**299**	Pg		**Pn**	**23**	**50**	**06.3**	**+3.8**
KUU	19nm,0.3s			Lg		Lg	23	50	42.3	
KUU	**Kurty**	**2.75**	**299**	*e*P		**Pn**	**23**	**50**	**06.4**	**+3.8**
KUU	baz=0.0			*e*S		**Sb**	**23**	**50**	**42.2**	**+0.8**
KUU	**Kurty**	**2.75**	**299**	*e*P		**Pn**	**23**	**50**	**06.4**	**+3.8**
KUU	14nm,0.3s			*e*S		**Sb**	**23**	**50**	**42.1**	**+0.8**
KST	**Kastek**	**2.77**	**280**	Pg		**Pn**	**23**	**50**	**05.4**	**+2.5**
KST	99nm,0.5s			Lg		Lg	23	50	41.3	
KST	**Kastek**	**2.77**	**280**	*e*P		**Pn**	**23**	**50**	**06.1**	**+3.2**
KST	baz=81			*e*S		**Sb**	**23**	**50**	**41.5**	**-0.5**
KST	**Kastek**	**2.77**	**280**	*e*P		**Pn**	**23**	**50**	**06.1**	**+3.2**
KST	71nm,0.3s			*e*S		**Sb**	**23**	**50**	**41.5**	**-0.5**
BOOM	**Boomskoye usch**	**2.77**	**268**	⇑*i*P		**Pn**	**23**	**50**	**04.3**	**+1.3**
BOOM	baz=69			⇑*i*S		**Sn**	**23**	**50**	**38.1**	**+1.5**
DGS	**Degeres**	**2.93**	**283**	Pg		**Pn**	**23**	**50**	**08.9**	**+3.6**
DGS	146nm,0.5s			Lg		Lg	23	50	46.8	
NRN	**Naryn**	**2.99**	**248**	⇑*i*P		**Pn**	**23**	**50**	**07.6**	**+1.4**
NRN	baz=48			⇑*i*S		**Sn**	**23**	**50**	**44.0**	**+1.6**
TKM2	**Tokmak 2**	**3.02**	**277**	P		**Pn**	**23**	**50**	**07.5**	**+1.1**
TKM2	**Tokmak 2**	**3.02**	**277**	⇓Pn		**Pn**	**23**	**50**	**07.1**	**+0.6**
TKM2	15nm,0.3s			⇓Lg		Lg	23	50	49.5	
TKM2	**Tokmak 2**	**3.02**	**277**	⇑*i*P		**Pn**	**23**	**50**	**08.0**	**+1.5**
TKM2	228nm,0.6s			⇑*i*S		**Sn**	**23**	**50**	**44.5**	**+1.5**
KZA	**Kyzart**	**3.33**	**262**	P		**Pn**	**23**	**50**	**13.8**	**+2.8**
KZA	**Kyzart**	**3.33**	**262**	⇑*i*P		**Pn**	**23**	**50**	**12.2**	**+1.3**
KZA	baz=62			⇑*i*S		**Sn**	**23**	**50**	**51.8**	**+0.9**
KBK	**Karagaybulak**	**3.49**	**272**	P		**Pn**	**23**	**50**	**14.1**	**+1.2**
KBK	**Karagaybulak**	**3.49**	**272**	⇓*i*P		**Pn**	**23**	**50**	**14.0**	**+1.1**
KBK	baz=73			⇓*i*S		**Sn**	**23**	**50**	**55.9**	**+1.4**
CHMS	**Chumysh**	**3.64**	**278**	P		**Pn**	**23**	**50**	**19.2**	**+4.3**
CHMS	**Chumysh**	**3.64**	**278**	⇑*i*P		**Pn**	**23**	**50**	**16.5**	**+1.6**
CHMS	baz=78			⇑*i*S		**Sn**	**23**	**50**	**59.6**	**+1.5**
FRU1	**Bishkek**	**3.73**	**275**	⇑*e*P		**Pn**	**23**	**50**	**17.7**	**+1.6**
FRU1	baz=75			⇑*i*S		**Sn**	**23**	**51**	**01.4**	**+1.3**
AAK	**Ala-Archa**	**3.83**	**272**	Pn		**Pn**	**23**	**50**	**18.3**	**+0.8**
AAK	2.3nm,0.3s,baz=95,slow=11,SNR=23			Pg		**Pb**	**23**	**50**	**27.8**	**+1.8**
AAK	8.8nm,0.3s,baz=63,slow=14,SNR=22			Lg		Lg	23	51	13.2	
AAK	**Ala-Archa**	13nm,0.3s,baz=246,slow=20,SNR=13 SNR=5.9	**3.83**	**272**	P	**Pn**	**23**	**50**	**21.4**	**+3.8**
AAK	**Ala-Archa**	25nm,0.7s	**3.83**	**272**	⇑Pg	**Pb**	**23**	**50**	**26.0**	**0.0**
AAK	71nm,0.5s			⇑Lg		Lg	23	51	14.4	
AAK	**Ala-Archa**	baz=72	**3.83**	**272**	⇑*i*P	**Pn**	**23**	**50**	**18.9**	**+1.4**
AAK	baz=72			⇑*i*S		**Sn**	**23**	**51**	**03.8**	**+1.0**
UCH	**Uchtor**	SNR=20	**3.84**	**266**	P	**Pn**	**23**	**50**	**21.1**	**+3.1**
UCH	**Uchtor**	baz=66	**3.84**	**266**	⇑*i*P	**Pn**	**23**	**50**	**19.5**	**+1.4**
UCH	baz=66			⇑*i*S		**Sn**	**23**	**51**	**04.6**	**+1.0**
USP	**Ospenovka**	SNR=13	**3.86**	**281**	P	**Pn**	**23**	**50**	**21.7**	**+3.9**
USP	**Ospenovka**	baz=82	**3.86**	**281**	⇑*i*P	**Pn**	**23**	**50**	**19.5**	**+1.7**
USP	baz=82			⇑*i*S		**Sn**	**23**	**51**	**04.7**	**+1.4**
ARLS	**Aral**	baz=61	**4.05**	**261**	⇓*i*P	**Pn**	**23**	**50**	**22.4**	**+1.8**
ARLS	baz=61			⇓*i*S		**Sn**	**23**	**51**	**11.7**	**+3.4**
KSH	**Kashi**		**4.18**	**223**	Pg	**Pg**	**23**	**50**	**38.3**	**0.0**
KSH					Sg	**Sg**	**23**	**51**	**35.8**	**+3.3**
KSH	comp=N,74nm,0.7s				smax	smax				
KSH	comp=E,76nm,0.7s				smax	smax				
EKS2	**Erkin-Say**	SNR=15	**4.35**	**272**	P	**Pb**	**23**	**50**	**37.2**	**+2.2**
EKS2	**Erkin-Say**	baz=73	**4.35**	**272**	⇑*i*P	**Pn**	**23**	**50**	**26.5**	**+1.7**
EKS2	baz=73			⇑*i*S		**Sn**	**23**	**51**	**16.5**	**+0.8**
AML	**Almayashu**	SNR=18	**4.46**	**266**	P	**Pb**	**23**	**50**	**38.0**	**+1.0**
AML	**Almayashu**	baz=66	**4.46**	**266**	⇑*i*P	**Pn**	**23**	**50**	**27.9**	**+1.4**
AML	baz=66			⇑*i*S		**Sn**	**23**	**51**	**19.1**	**+0.3**
MAKZ	**Makanchi**	4.0nm,0.3s	**4.49**	**21**	⇓Pn	**Pn**	**23**	**50**	**28.5**	**+2.0**
MAKZ	19nm,0.7s			⇑Lg		Lg	23	51	39.1	
MKAR	**Makanchi Array**	3.3nm,0.3s,baz=208,slow=13,SNR=134	**4.56**	**23**	Pn	**Pn**	**23**	**50**	**29.2**	**+1.7**
MKAR	6.2nm,0.3s,baz=203,slow=28,SNR=8.6				Lg	Lg	23	51	40.2	
MK31	**Makanchi Array**	2.0nm,0.3s,baz=205,slow=13,SNR=190	**4.56**	**23**	Pn	**Pn**	**23**	**50**	**29.0**	**+1.5**
MK31	4.8nm,0.5s,baz=200,slow=16,SNR=3.6				⇓Sn	**Sn**	**23**	**51**	**24.5**	**+3.8**
MK31	28nm,0.8s,baz=205,slow=26,SNR=6.1				⇑Lg	Lg	23	51	41.4	
MRKS	**Merke**	26nm,0.5s	**4.76**	**274**	Pg	**Pb**	**23**	**50**	**43.4**	**+1.5**
MRKS	53nm,0.4s				Lg	Lg	23	51	45.1	
MNAS	**Manas**	5.3nm,0.5s	**5.30**	**271**	⇑Pg	**Pb**	**23**	**50**	**52.3**	**+1.1**
MNAS	25nm,0.5s				⇑Lg	Lg	23	52	01.6	
SFK	**Sufi-Kurgan**	8.2nm,0.9s	**5.33**	**243**	⇑Pg	**Pb**	**23**	**50**	**52.0**	**+0.3**
SFK	24nm,0.8s				⇑Lg	Lg	23	52	03.9	
WMQ	**Urumqi**		**5.98**	**76**	*e*Pn	**Pn**	**23**	**50**	**46.5**	**-0.5**
WMQ	comp=N,49nm,0.9s				smax	smax				
WMQ	comp=E,73nm,0.9s				smax	smax				
ZSN	**Zaisan**	1.6nm,0.2s	**6.06**	**36**	Pg	**Pb**	**23**	**51**	**05.0**	**+1.0**
ZSN	6.5nm,0.7s				Lg	Lg	23	52	22.7	
KK31	**Karatay Array**	6.0nm,0.7s,baz=84,slow=15,SNR=14	**6.75**	**277**	⇑Pg	**Pb**	**23**	**51**	**19.4**	**+3.6**
KK31	21nm,0.7s,baz=93,slow=28,SNR=11				⇑Lg	Lg	23	52	48.9	
OTUK	**Ortayu**	5.7nm,0.6s	**7.63**	**320**	⇓Pn	**Pn**	**23**	**51**	**09.2**	**-0.4**
OTUK	9.9nm,0.6s				⇑Lg	Lg	23	53	15.8	
KURBB	**Kurchatov Arra**	0.1nm,0.3s,baz=167,slow=12,SNR=4.4	**8.04**	**355**	Pn	**Pn**	**23**	**51**	**15.7**	**+0.5**
KURBB	0.2nm,0.3s,baz=160,slow=30,SNR=4.5				Lg	Lg	23	53	29.4	
ZALV	**Zalesovo Beam**	0.2nm,0.3s,baz=198,slow=12,SNR=3.9	**11.83**	**15**	Pn	**Pn**	**23**	**52**	**07.7**	**+0.6**
ZALV	0.5nm,0.3s,baz=209,slow=23,SNR=7.9				Sn	**Sn**	**23**	**54**	**14.8**	**-4.3**
ZALV	baz=216,slow=26,SNR=2.1				Lg	Lg	23	55	32.0	
BVA0	**Borovoye Array**	3.6nm,1.2s,baz=148,slow=15,SNR=14	**12.12**	**332**	⇑Pn	**Pn**	**23**	**52**	**09.2**	**-1.8**
BVA0	5.6nm,1.1s,baz=309,slow=44,SNR=9.7				⇓Lg	Lg	23	55	44.7	
BVAR	**Borovoye Array**	0.4nm,0.3s,baz=142,slow=14,SNR=7.5	**12.12**	**332**	Pn	**Pn**	**23**	**52**	**10.0**	**-1.0**
BVAR	0.1nm,0.3s,baz=138,slow=35,SNR=4.0				Lg	Lg	23	55	41.7	
AKTO	**Aktyubinsk**	0.1nm,0.3s,baz=133,slow=18,SNR=3.6	**16.79**	**305**	Pn	**Pn**	**23**	**53**	**12.7**	**-0.8**
SONM	**Songino Array**	0.2nm,0.3s,baz=263,slow=9.4,SNR=4.2	**19.48**	**65**	P	**P**	**23**	**53**	**43.6**	**-1.9**
FINES	**FINESS Array B**	0.5nm,0.5s,baz=98,slow=5.8,SNR=3.2	**36.66**	**320**	P	**P**	**23**	**56**	**24.0**	**-0.9**
TORD	**Torodi Ar. Bea**	0.3nm,0.8s,baz=33,slow=7.2,SNR=2.1	**72.41**	**272**	P	**P**	**00**	**00**	**43.8**	**-1.4**
YKA	**Yellowknife Ar**	0.3nm,0.7s,baz=348,slow=5.4,SNR=6.8	**74.60**	**7**	P	**P**	**00**	**00**	**55.9**	**-1.4**

MEX 28 23:55:59.6±0.7, 15°.97N×96°.07W, h53km±8km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h	m	s	Res ISC
HUIG	**Huatulco**	**0.20**	**191**	*e*P			Pn	23	56	07.0	-1.3
HUIG				*e*S			Sn	23	56	12.7	-1.8
VHO	**Vista Hermosa**	**1.27**	**330**	*i* P			Pn	23	56	20.1	-1.1
VHO				*e*S			Sn	23	56	35.1	-2.2
CMIG	**Matias Romero**	**1.59**	**45**	*e*P			Pn	23	56	23.3	-2.1
PNIG	**Pinotepa**	**2.02**	**282**	*e*P			Pn	23	56	30.2	-1.1
PNIG				*i* S			Sn	23	56	52.7	-2.8

ISCJB ***28*** *23:56:44.1±1.1, 14°.12N±0°.10×92°.13W±0°.08, h67km±12km, mb3.7/2, Error ellipse: s-maj=19.6km s-min=5.5km az=37.7*
UCR ***28*** *23:56:45.5±1.4, 13°.98N×91°.98W, h20km±17km, MD3.6, ML4.0*
MEX ***28*** *23:56:45.4±0.8, 14°.16N×92°.06W, h77km±17km, MD3.8*
IDC ***28*** *23:56:47.2±5.3, 15°.98N×89°.19W, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.4/32, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=98.5km s-min=15.3km az=125.0*

ISC 28 23:56:44.8±1.9, 14°.1N±0°.1×92°.15W±0°.09, h53km±20km, n22, σ0°75/26, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h	m	s	Res ISC
THIG		**0.81**	**352**	*e*P			**Pn**	**23**	**57**	**00.2**	**+0.1**
THIG				*e*S			**Sn**	**23**	**57**	**12.6**	**+1.3**
FUG	**Fuego 3**	**1.32**	**74**	*e*P			**Pn**	**23**	**57**	**06.8**	**-0.2**
PCG	**Pacaya**	**1.52**	**79**	*e*P			**Pn**	**23**	**57**	**10.0**	**+0.1**
PCG				*e*S			**Sn**	**23**	**57**	**27.7**	**-1.1**
IXG	**Ixpaco**	**1.65**	**87**	*i* P			**Pn**	**23**	**57**	**10.3**	**-1.2**
IXG				*e*P				23	57	11.2	

NBG	**Las Nubes**	**1.81**	**74**	⇓*e*P	**Pn**	**23 57 15.2**	**+1.4**
APG	**El Apazote**	**1.86**	**61**	Pg	**Pn**	**23 57 15.6**	**+1.0**
	39nm,0.3s,baz=232,slow=18,SNR=180						
APG				Lg	Lg	23 57 37.3	
	209nm,0.3s,baz=282,slow=21,SNR=35						
PCIG		**1.90**	**327**	*e*P	**Pn**	**23 57 15.1**	**+0.2**
PCIG				*e*S	**Sn**	**23 57 37.0**	**-0.7**
CCIG	**Comitan**	**2.17**	**0**	*i* P	**Pn**	**23 57 17.6**	**-1.2**
CCIG				*e*P		23 57 22.0	
CCIG				*i* S	**Sn**	**23 57 43.3**	**-1.2**
RTR	**El Retiro**	**2.44**	**94**	*e*P	**Pn**	**23 57 22.9**	**+0.5**
CEVE	**Cerro Verde**	**2.47**	**96**	*e*P	**Pn**	**23 57 22.2**	**-0.6**
CEVE				*e*S	**Sn**	**23 57 52.1**	**+0.3**
CEVE				IAML		23 58 02.2	
	comp=Z,2μm,0.3s						
SBLS	**San Blas**	**2.47**	**96**	*e*P	**Pn**	**23 57 22.2**	**-0.5**
SNJE	**San Jose**	**2.48**	**95**	*e*P	**Pn**	**23 57 22.7**	**-0.3**
MRL	**Marmol**	**2.57**	**68**	*i* P	**Pn**	**23 57 24.5**	**+0.3**
BOQS	**Boqueron**	**2.81**	**97**	*e*P	**Pn**	**23 57 27.6**	**+0.1**
LOMA	**San Marcos**	**2.92**	**98**	*e*P	**Pn**	**23 57 29.2**	**+0.4**
LOMA				*e*S	**Sn**	**23 58 02.3**	**-0.5**
LOMA				IAML		23 58 05.3	
	comp=Z,678nm,0.3s						
LFRS	**El Faro**	**3.04**	**99**	*i* P	**Pn**	**23 57 30.7**	**+0.2**
LBRS	**Las Brisas**	**3.04**	**96**	*e*P	**Pn**	**23 57 30.5**	**0.0**
PAVA	**Las Pavas**	**3.14**	**97**	*e*P	**Pn**	**23 57 31.9**	**-0.1**
TECA	**Tecapa**	**3.59**	**99**	*e*P	**Pn**	**23 57 38.4**	**+0.2**
TXAR	**Lajitas Array**	**18.54**	**327**	P	Pn	00 01 06.7	+8.8
	comp=Z,0.0nm,0.3s,baz=136,slow=13,SNR=3.3						
NVAR	**Mina Array Bea**	**33.51**	**321**	P	P	00 03 34.3	+15
	comp=Z,1.2nm,0.5s,baz=135,slow=10,SNR=5.2						
YKA	**Yellowknife Ar**	**50.90**	**347**	P	**P**	**00 05 40.8**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=136,slow=8.7,SNR=3.8						

*SOME **29** 00:02:28.3, 42˚.52N×79˚.80E, h30km*
*NNC **29** 00:02:29.0±1.2, 42˚.60N×79˚.69E, h0km, mb3.9, mpv3.6,*
Error ellipse: s-maj=8.4km s-min=4.6km az=146.0
*KRNET **29** 00:02:29.4±0.1, 42˚.61N×79˚.66E, h15km, mb3.4*
*ISCJB **29** 00:02:30.2±0.6, 42˚.60N±0˚.03×79˚.74E±0˚.04, h10km, Error ellipse: s-maj=5.4km s-min=2.7km az=139.3*

ISC 29 00:02:29.7±1.0, 42˚.59N±0˚.04×79˚.67E±0˚.04, h10km, n56, σ1§68/101, 31C-21D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 348nm,0.1s	**0.59**	**345**	P		**Pg**	**00 02 40.7**	**-0.6**
SHLS				S		**Sb**	**00 02 49.7**	**-1.1**
	2μm,0.4s							
SHLS	**Shalkode** 348nm,0.1s	**0.59**	**345**	*e*P		**Pg**	**00 02 40.6**	**-0.6**
SHLS				*e*S		**Sb**	**00 02 49.7**	**-1.1**
	2μm,0.2s							
UZB	**Uzynbulak** 155nm,0.1s	**0.74**	**320**	P		**Pg**	**00 02 42.7**	**-1.3**
UZB				S		**Sg**	**00 02 53.0**	**-0.6**
	97nm,0.2s							
UZB	**Uzynbulak** 158nm,0.2s	**0.74**	**320**	*e*P		**Pg**	**00 02 42.7**	**-1.3**
UZB				*e*S		**Sg**	**00 02 53.1**	**-0.6**
	96nm,0.2s							
PDGK	**Podgornoye** 37nm,0.3s	**0.76**	**350**	P		**Pg**	**00 02 43.0**	**-1.4**
PDGK				S		**Sg**	**00 02 53.5**	**-0.7**
	184nm,0.5s							
PDGK	**Podgornoye** 25nm,0.3s	**0.76**	**350**	⇑P		**Pg**	**00 02 42.9**	**-1.4**
PDGK				⇓S		**Sg**	**00 02 53.4**	**-0.7**
	41nm,0.3s							
PDGK	**Podgornoye** baz=50	**0.76**	**350**	⇑*i*P		**Pg**	**00 02 42.9**	**-1.4**
PDGK				⇑*i*S		**Sg**	**00 02 53.5**	**-0.7**
	baz=50							
PRZ	**Przheval'sk** baz=62	**0.94**	**264**	⇓*i*P		**Pg**	**00 02 47.4**	**-0.5**
PRZ				⇓*i*S		**Sg**	**00 02 59.9**	**-0.3**
	baz=62							
KTMS	**Ketmen** 75nm,0.1s	**1.00**	**30**	P		**Pg**	**00 02 47.0**	**-1.9**
KTMS				S		**Sg**	**00 03 00.4**	**-1.5**
	72nm,0.2s							
KTMS	**Ketmen** 45nm,0.1s	**1.00**	**30**	*e*P		**Pg**	**00 02 47.0**	**-1.9**
KTMS				*e*S		**Sg**	**00 03 00.3**	**-1.5**
	46nm,0.3s							
SATY	**Saty** 14nm,0.2s	**1.04**	**297**	*e*P		**Pg**	**00 02 47.7**	**-2.0**
SATY				*e*S		**Sg**	**00 03 02.2**	**-1.2**
	165nm,0.4s							
DJR	**Jarkent** 2.8nm,0.2s	**1.75**	**3**	*e*P		**Pb**	**00 03 01.0**	**-0.9**
DJR				*e*S		**Sg**	**00 03 24.1**	**-1.8**
	101nm,0.5s							
MNBS	**Baschi** 52nm,0.2s	**1.76**	**329**	P		**Pb**	**00 03 00.8**	**-1.3**
MNBS				S		**Sg**	**00 03 24.6**	**-1.6**
	241nm,0.3s							
MNBS	**Baschi** 50nm,0.3s	**1.76**	**329**	*e*P		**Pb**	**00 03 00.8**	**-1.3**
MNBS				*e*S		**Sg**	**00 03 24.5**	**-1.7**
	229nm,0.3s							
KDJ	**Kajisay** baz=56	**1.90**	**257**	⇑*i*P		**Pb**	**00 03 04.4**	**-0.2**
KDJ				⇑*i*S		**Sg**	**00 03 29.4**	**-1.4**
	baz=56							
KOTS	**Kotyrbulak** 35nm,0.3s	**1.99**	**290**	Pg		**Pb**	**00 03 05.6**	**-0.4**
KOTS				Lg		Lg	00 03 32.4	
	314nm,0.5s							
KOTS	**Kotyrbulak** 20nm,0.3s	**1.99**	**290**	*e*P		**Pb**	**00 03 05.8**	**-0.3**
KOTS				*e*S		**Sg**	**00 03 32.4**	**-1.2**
	314nm,0.6s							
MDOK	**Medeo** 15nm,0.3s	**2.01**	**288**	Pg		**Pb**	**00 03 05.2**	**-1.2**
MDOK				⇓Lg		Lg	00 03 32.6	
	42nm,0.6s							
MDOK	**Medeo** 29nm,0.4s	**2.01**	**288**	*e*P		**Pb**	**00 03 04.8**	**-1.6**
MDOK				*e*S		**Sb**	**00 03 31.4**	**-0.2**
	97nm,0.5s							
TNSS	**Tian-Shan** 25nm,0.5s	**2.05**	**284**	*e*P		**Pb**	**00 03 05.6**	**-1.7**
TNSS				*e*S		**Sb**	**00 03 32.7**	**-0.4**
	78nm,0.4s							
KNDC	**Almaty** 40nm,0.3s	**2.08**	**289**	⇑Pg		**Pb**	**00 03 06.3**	**-1.3**
KNDC				⇓Lg		Lg	00 03 37.9	
	175nm,0.5s							
ARXS	**Arharly** 55nm,0.6s	**2.11**	**321**	Pg		**Pb**	**00 03 06.8**	**-1.3**
ARXS				Lg		Lg	00 03 35.0	
	5μm,0.5s							
ARXS	**Arharly** 55nm,0.6s	**2.11**	**321**	*e*P		**Pb**	**00 03 06.0**	**-2.0**
ARXS				*e*S		**Sb**	**00 03 33.8**	**-0.5**
	80nm,0.5s							
AAA	**Alma-Ata** 29nm,0.2s	**2.12**	**288**	*e*P		**Pb**	**00 03 07.8**	**-0.4**
AAA				*e*S		**Sg**	**00 03 36.3**	**-1.5**
	166nm,0.4s							
IZV	**Izvestkoviy** 59nm,0.2s	**2.29**	**282**	Pg		**Pb**	**00 03 10.2**	**-1.1**
IZV				Lg		Lg	00 03 40.2	
	205nm,0.4s							
IZV	**Izvestkoviy** 57nm,0.2s	**2.29**	**282**	*e*P		**Pb**	**00 03 10.1**	**-1.2**
IZV				*e*S		**Sb**	**00 03 40.3**	**+0.6**
	205nm,0.4s							
CHKK	**Chushkaly** 11nm,0.2s	**2.33**	**304**	*e*P		**Pb**	**00 03 10.4**	**-1.4**
CHKK				*e*S		**Sb**	**00 03 41.1**	**+0.4**
	80nm,0.2s							
MTBS	**Maitube** 80nm,0.3s	**2.44**	**284**	*e*P		**Pb**	**00 03 12.7**	**-1.1**
MTBS				*e*S		**Sb**	**00 03 44.3**	**+0.3**
	110nm,0.3s							
KTBS	**Karatobe** 26nm,0.4s	**2.46**	**298**	Pg		**Pb**	**00 03 13.1**	**-0.9**
KTBS	**Karatobe** 15nm,0.2s	**2.46**	**298**	*e*P		**Pb**	**00 03 12.6**	**-1.4**
KTBS				*e*S		**Sb**	**00 03 44.8**	**+0.4**
	132nm,0.3s							
ULHL	**Ulahol** baz=63	**2.56**	**264**	⇑*i*P		**Pb**	**00 03 13.5**	**-2.3**
ULHL				⇑*i*S		**Sb**	**00 03 46.3**	**-1.2**
	baz=63							
TDK	**Taldyqorghan** 47nm,0.4s	**2.58**	**340**	*e*P		**Pb**	**00 03 14.8**	**-1.3**
TDK				*e*S		**Sb**	**00 03 47.9**	**0.0**
	124nm,0.3s							
KAPS	**Kapalarasan** 6.6nm,0.2s	**2.71**	**355**	*e*P		**Pb**	**00 03 16.7**	**-1.6**
KAPS				*e*S		**Sb**	**00 03 52.1**	**+0.5**
	99nm,0.3s							
BOOM	**Boomskoye usch** baz=69	**2.76**	**269**	⇑*i*P		**Pn**	**00 03 15.9**	**+1.8**
BOOM				⇑*i*S		**Sb**	**00 03 50.2**	**-2.9**
	baz=69							
KUU	**Kurty** 2.4nm,0.4s	**2.76**	**299**	*e*P		**Pb**	**00 03 16.7**	**-2.5**
KUU				*e*S		**Sb**	**00 03 51.5**	**-1.6**
	67nm,0.4s							
KST	**Kastek** 27nm,0.2s	**2.77**	**281**	*e*P		**Pb**	**00 03 17.3**	**-2.0**
KST				*e*S		**Sb**	**00 03 53.2**	**-0.1**
	50nm,0.5s							
DGS	**Degeres** 27nm,0.4s	**2.94**	**284**	Pg		**Pb**	**00 03 21.2**	**-1.0**
DGS	**Degeres** 25nm,0.4s	**2.94**	**284**	*e*P		**Pb**	**00 03 20.9**	**-1.3**
DGS				*e*S		**Sb**	**00 03 59.2**	**+1.0**
	156nm,0.4s							
NRN	**Naryn** baz=48	**2.97**	**248**	⇑*i*P		**Pn**	**00 03 19.4**	**+2.3**
NRN				⇑*i*S		**Sb**	**00 03 56.1**	**-3.1**
	baz=48							
TKM2	**Tokmak 2** 2.5nm,0.3s	**3.02**	**278**	⇓Pn		**Pb**	**00 03 20.7**	**-2.9**
TKM2				⇓Lg		Lg	00 04 01.7	
	22nm,0.5s							
TKM2	**Tokmak 2** baz=77	**3.02**	**278**	⇓*i*P		**Pn**	**00 03 19.8**	**+2.1**
TKM2				⇓*i*S		**Sn**	**00 03 56.7**	**+2.6**
	baz=77							
KZA	**Kyzart** baz=62	**3.32**	**263**	⇑*e*P		**Pn**	**00 03 24.4**	**+2.4**
KZA				⇑*i*S		**Sn**	**00 04 04.2**	**+2.5**
	baz=62							
KBK	**Karagaybulak** baz=72	**3.49**	**273**	⇑*i*P		**Pn**	**00 03 26.4**	**+2.3**
KBK				⇑*i*S		**Sn**	**00 04 08.1**	**+2.6**
	baz=72							
CHMS	**Chumysh** baz=78	**3.64**	**278**	⇓*i*P		**Pn**	**00 03 28.7**	**+2.5**
CHMS				⇓*i*S		**Sn**	**00 04 11.5**	**+2.3**
	baz=78							
FRU1	**Bishkek** baz=75	**3.72**	**275**	⇑*i*P		**Pn**	**00 03 29.3**	**+2.0**
FRU1				⇑*i*S		**Sn**	**00 04 13.6**	**+2.4**
	baz=75							
AAK	**Ala-Archa** 1.5nm,0.3s	**3.82**	**273**	⇓Pg		**Pg**	**00 03 41.7**	**-1.1**
AAK				⇓Lg		Lg	00 04 26.2	
	6.5nm,0.4s							
AAK	**Ala-Archa** baz=72	**3.82**	**273**	⇑*e*P		**Pn**	**00 03 30.9**	**+2.2**
AAK				⇑*i*S		**Sn**	**00 04 15.9**	**+2.1**
	baz=72							
UCH	**Uchtor** baz=66	**3.83**	**266**	⇑*i*P		**Pn**	**00 03 31.6**	**+2.4**
UCH				⇑*i*S		**Sn**	**00 04 16.7**	**+2.2**
	baz=66							
USP	**Ospenovka** baz=82	**3.86**	**282**	⇓*i*P		**Pn**	**00 03 31.9**	**+2.8**
USP				⇓*i*S		**Sn**	**00 04 17.1**	**+2.6**
	baz=82							
ARLS	**Aral** baz=61	**4.04**	**261**	⇑*e*P		**Pn**	**00 03 34.1**	**+2.4**
ARLS				⇑*i*S		**Sn**	**00 04 20.7**	**+1.6**
	baz=61							
EKS2	**Erkin-Say** baz=73	**4.35**	**273**	⇓*e*P		**Pn**	**00 03 38.4**	**+2.5**
EKS2				⇓*i*S		**Sn**	**00 04 28.5**	**+1.8**
	baz=73							
AML	**Almayashu** baz=66	**4.45**	**266**	⇑*e*P		**Pn**	**00 03 40.2**	**+2.6**
AML				⇑*i*S		**Sn**	**00 04 31.7**	**+2.1**
	baz=66							
MAKZ	**Makanchi** 1.0nm,0.2s	**4.53**	**20**	⇑Pn		**Pn**	**00 03 39.7**	**+1.3**
MAKZ				⇓Sn		**Sn**	**00 04 32.8**	**+1.7**
	0.8nm,0.2s							
MAKZ				⇑Lg		Lg	00 04 50.2	
	1.3nm,0.3s							
MK31	**Makanchi Array** 0.5nm,0.3s,baz=203,slow=13,SNR=67	**4.60**	**23**	⇓Pn		**Pn**	**00 03 40.5**	**+1.2**
MK31				⇓Pg		**Pb**	**00 03 52.3**	**+1.8**
	0.4nm,0.2s,baz=204,slow=15,SNR=3.4							
MK31				⇑Sn		**Sn**	**00 04 34.8**	**+1.9**
	1.1nm,0.3s,baz=207,slow=24,SNR=3.5							
MK31				⇓Lg		Lg	00 04 53.8	
	2.8nm,0.5s,baz=207,slow=27,SNR=4.7							
SFK	**Sufi-Kurgan** 0.9nm,0.5s	**5.31**	**243**	⇑Pg		**Pg**	**00 04 09.0**	**-2.3**
SFK				⇑Lg		Lg	00 05 20.3	
	3.5nm,0.6s							
KK31	**Karatay Array** 0.1nm,0.3s,baz=82,slow=14,SNR=5.2	**6.75**	**277**	Pg		Pb	00 04 32.1	+5.0
KK31				Lg		Lg	00 05 58.6	
	1.4nm,0.4s,baz=99,slow=27,SNR=8.7							

*SJA **29** 00:11:42.4±0.6, 32˚.51S×71˚.40W, h13km±18km, ML2.9, MW3.5*
*GUC **29** 00:11:43.9±0.6, 32˚.50S×71˚.23W, h25km±4km, ML3.4*

ISC 29 00:11:42.4±1.5, 32˚.49S±0˚.03×71˚.40W±0˚.07, h21km±6km, n15, σ1§32/25, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.58**	**146**	⇑*e*P		**Pb**	**00 11 54.5**	**+0.3**
ROCH				*i* S		**Sb**	**00 12 02.1**	**-0.1**
ROCH				IAML			00 12 05.8	
	comp=N,4μm,0.4s							
ROC1	**El Roble**	**0.58**	**147**	*i* P		**Pb**	**00 11 54.2**	**-0.1**
ROC1				*i* S		**Sb**	**00 12 02.5**	**+0.2**
PEL	**Peldehue**	**0.89**	**138**	*e*P		**Pb**	**00 11 58.9**	**-0.3**
PEL				*e*S		**Sb**	**00 12 09.5**	**-1.1**
PEL				IAML			00 12 11.9	
	comp=N,3μm,0.2s							
CLCH	**Cerro Calan**	**1.16**	**142**	*e*P		**Pn**	**00 12 03.0**	**-0.6**
CLCH				*e*S		**Sb**	**00 12 17.2**	**-1.3**
FCH	**Farellones**	**1.25**	**132**	*e*P		**Pn**	**00 12 04.9**	**-0.2**
FCH				*e*S		**Sn**	**00 12 20.5**	**-1.0**
FCH				IAML			00 12 22.4	
	comp=E,1μm,0.3s							
CMCH	**Combarbala**	**1.35**	**15**	*e*P		**Pb**	**00 12 07.3**	**+0.2**
CMCH				*e*S		**Sb**	**00 12 24.9**	**+0.9**
CMCH				IAML			00 12 27.5	
	comp=N,2μm,0.5s							
LMEL	**Las Melosas**	**1.69**	**144**	*e*P		**Pn**	**00 12 11.6**	**+0.7**
LMEL				*e*S		**Sn**	**00 12 32.6**	**+0.6**
LMEL				IAML			00 12 36.1	
	comp=N,1μm,0.1s							
AUSP	**Uspallata**	**1.72**	**82**	*i* P		**Pb**	**00 12 14.4**	**+0.9**
RTLS	**Leoncito**	**1.91**	**70**	*i* P		**Pb**	**00 12 17.8**	**+1.0**
RTLS				IAML			00 12 43.6	
	comp=Z,95nm,0.2s							
RTLS				*i* S		**Sb**	**00 12 43.8**	**+3.6**
ARCO	**CERRO ARCO**	**2.11**	**100**	*i* P		**Pb**	**00 12 19.8**	**-0.3**
ARCO				IAML			00 12 23.9	
	comp=Z,92nm,0.4s							
GO04	**Tololo Observa**	**2.36**	**13**	*e*P		**Pb**	**00 12 23.0**	**-1.4**
GO04				*e*S		**Sb**	**00 12 53.0**	**-0.2**
RTCV	**Cerro Valdivia**	**2.50**	**76**	*i* P		**Pb**	**00 12 25.6**	**-1.1**
GO05	**Huala**	**2.56**	**190**	*e*P		**Pn**	**00 12 23.1**	**+0.3**
GO05				⇓*e*S		**Sn**	**00 12 54.6**	**+1.3**
RTLL	**Cerro Villicun**	**2.74**	**66**	*i* P		**Pb**	**00 12 28.6**	**-2.1**
AMOG	**MOGNA**	**2.92**	**59**	*i* P		**Pb**	**00 12 31.3**	**-2.5**

*SOME **29** 00:19:29.6, 42˚.52N×79˚.68E, h15km*
*NNC **29** 00:19:29.0±2.2, 42˚.54N×79˚.66E, h0km, mb2.8, mpv2.5,*
Error ellipse: s-maj=15.0km s-min=7.8km az=152.0
*KRNET **29** 00:19:30.3±0.1, 42˚.59N×79˚.55E, h12km, mb2.3*

ISC 29 00:19:29.2±1.8, 42˚.63N±0˚.05×79˚.74E±0˚.05, h4km±10km, n31, σ0§99/57, 15C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 6.9nm,0.1s	**0.57**	**339**	P		**Pb**	**00 19 41.9**	**+0.1**
SHLS				S		**Sb**	**00 19 51.2**	**+0.9**
	61nm,0.3s							
SHLS	**Shalkode** baz=23	**0.57**	**339**	*e*P		**Pn**	**00 19 42.6**	**-1.6**
SHLS				*e*S		**Sn**	**00 19 51.9**	**-2.2**
	baz=23							
SHLS	**Shalkode** 7.2nm,0.1s	**0.57**	**339**	*e*P		**Pn**	**00 19 42.6**	**-1.6**
SHLS				*e*S		**Sn**	**00 19 51.9**	**-2.2**
	60nm,0.3s							
PDGK	**Podgornoye** 0.5nm,0.2s	**0.72**	**345**	P		**Pb**	**00 19 43.8**	**-0.6**
PDGK				S		**Sb**	**00 19 54.4**	**-0.4**
	3.0nm,0.2s							
PDGK	**Podgornoye** 0.1nm,0.1s	**0.72**	**345**	⇑P		**Pb**	**00 19 43.4**	**-1.0**
PDGK				⇑S		**Sb**	**00 19 54.9**	**+0.1**
	0.5nm,0.2s							
PDGK	**Podgornoye** baz=56	**0.72**	**345**	⇓*i*P		**Pb**	**00 19 43.8**	**-0.6**
PDGK				⇓*i*S		**Sb**	**00 19 54.5**	**-0.3**
	baz=56							
UZB	**Uzynbulak** 6.1nm,0.2s	**0.74**	**315**	P		**Pg**	**00 19 43.4**	**0.0**
UZB				S		**Sg**	**00 19 53.6**	**+0.6**
	5.9nm,0.3s							
UZB	**Uzynbulak** baz=25	**0.74**	**315**	*e*P		**Pg**	**00 19 43.7**	**+0.3**
UZB				*e*S		**Sg**	**00 19 53.6**	**+0.6**
	baz=25							
UZB	**Uzynbulak** 6.3nm,0.1s	**0.74**	**315**	*e*P		**Pg**	**00 19 43.7**	**+0.3**
UZB				*e*S		**Sg**	**00 19 53.6**	**+0.6**
	5.5nm,0.1s							
KTMS	**Ketmen** 2.6nm,0.1s	**0.93**	**29**	P		**Pn**	**00 19 48.8**	**-0.4**
KTMS				S		**Sn**	**00 20 02.9**	**-0.2**
	4.4nm,0.3s							
KTMS	**Ketmen** 2.6nm,0.1s	**0.93**	**29**	*e*P		**Pn**	**00 19 48.8**	**-0.4**
KTMS				*e*S		**Sn**	**00 20 02.9**	**-0.2**
	4.4nm,0.3s							
PRZ	**Przheval'sk** baz=63	**1.00**	**262**	⇑*i*P		**Pg**	**00 19 46.4**	**-2.0**
PRZ				⇑*i*S		**Sg**	**00 19 59.0**	**-2.3**
	baz=63							
SATY	**Saty** 1.3nm,0.2s	**1.07**	**294**	*e*P		**Pg**	**00 19 49.1**	**-0.6**
SATY				*e*S		**Sg**	**00 20 03.6**	**0.0**
	4.4nm,0.1s							
DJR	**Jarkent** 0.5nm,0.3s	**1.70**	**1**	*e*P		**Pg**	**00 20 02.7**	**+0.9**
DJR				*e*S		**Sg**	**00 20 26.5**	**+2.6**
	0.8nm,0.2s							
MNBS	**Baschi** 1.9nm,0.2s	**1.75**	**327**	P		**Pg**	**00 20 02.5**	**-0.2**
MNBS				S		**Sg**	**00 20 25.7**	**+0.4**
	4.4nm,0.3s							
MNBS	**Baschi** 1.3nm,0.1s	**1.75**	**327**	*e*P		**Pg**	**00 20 02.5**	**-0.2**
MNBS				*e*S		**Sg**	**00 20 25.8**	**+0.4**
	3.8nm,0.2s							
KDJ	**Kajisay** baz=56	**1.96**	**256**	⇑*e*P		**Pg**	**00 20 04.2**	**+0.8**
KDJ				⇑*i*S		**Sn**	**00 20 29.0**	**+0.5**
	baz=56							
KOTS	**Kotyrbulak** 2.2nm,0.2s	**2.02**	**288**	Pg		**Pb**	**00 20 06.5**	**-0.1**
KOTS				Lg		Lg	00 20 33.7	
	4.3nm,0.4s							
KOTS	**Kotyrbulak** baz=90	**2.02**	**288**	*e*P		**Pb**	**00 20 06.3**	**-0.3**
KOTS				*e*S		**Sb**	**00 20 32.4**	**+0.2**
	baz=90							
KOTS	**Kotyrbulak** 1.4nm,0.3s	**2.02**	**288**	*e*P		**Pb**	**00 20 06.3**	**-0.3**
KOTS				*e*S		**Sb**	**00 20 32.3**	**+0.2**
	4.1nm,0.4s							
MDOK	**Medeo** 0.8nm,0.4s	**2.05**	**286**	Pg		**Pn**	**00 20 05.0**	**+0.4**
MDOK				Lg		Lg	00 20 33.2	
	0.1nm,0.2s							
ARXS	**Arharly** 1.4nm,0.5s	**2.11**	**319**	Pg		**Pb**	**00 20 08.1**	**+0.1**
ARXS				Lg		Lg	00 20 35.6	
	2.8nm,0.2s							
ARXS	**Arharly** 1.3nm,0.3s	**2.11**	**319**	*e*P		**Pb**	**00 20 08.2**	**+0.1**
ARXS				*e*S		**Sb**	**00 20 35.6**	**+1.0**
	3.6nm,0.2s							
IZV	**Izvestkoviy** 1.9nm,0.1s	**2.34**	**281**	Pg		**Pb**	**00 20 11.3**	**-0.6**
IZV				Lg		Lg	00 20 41.7	
	4.1nm,0.3s							
IZV	**Izvestkoviy** 1.9nm,0.1s	**2.34**	**281**	*e*P		**Pb**	**00 20 11.3**	**-0.6**
IZV				*e*S		**Sb**	**00 20 41.8**	**+0.6**
	3.1nm,0.3s							
ULHL	**Ulahol** baz=63	**2.62**	**263**	⇑*i*P		**Pn**	**00 20 13.6**	**+1.2**
ULHL				⇑*i*S		**Sn**	**00 20 45.2**	**+0.5**
	baz=63							
BOOM	**Boomskoye usch** baz=69	**2.81**	**268**	⇑*i*P		**Pn**	**00 20 16.3**	**+1.3**
BOOM				⇑*i*S		**Sn**	**00 20 49.8**	**+0.3**
	baz=69							
NRN	**Naryn** baz=48	**3.03**	**248**	⇑*i*P		**Pn**	**00 20 19.6**	**+1.4**
NRN				⇑*e*S		**Sn**	**00 20 55.6**	**+0.5**
	baz=48							
TKM2	**Tokmak 2** 0.1nm,0.2s	**3.06**	**277**	⇑Pg		**Pb**	**00 20 22.8**	**-1.6**
TKM2				⇓Lg		Lg	00 21 01.4	
	0.9nm,0.5s							
TKM2	**Tokmak 2** baz=78	**3.06**	**277**	⇑*i*P		**Pn**	**00 20 19.8**	**+1.2**
TKM2				⇑*i*S		**Sn**	**00 20 55.9**	**+0.1**
	baz=78							
KZA	**Kyzart** baz=62	**3.37**	**262**	⇓*e*P		**Pn**	**00 20 24.6**	**+1.6**
KZA				⇓*e*S		**Sn**	**00 21 03.6**	**-0.1**
	baz=62							

*KRNET **29** 00:22:31.5±0.1, 42˚.56N×79˚.66E, h18km, mb1.7*
*ISCJB **29** 00:22:34.5±1.2, 42˚.32N±0˚.06×79˚.60E±0˚.06, h10km, Error ellipse: s-maj=9.6km s-min=4.6km az=143.1*
*SOME **29** 00:22:38.0, 42˚.47N×79˚.65E, h20km*
*NNC **29** 00:22:38.3±2.2, 42˚.54N×79˚.59E, h0km, mb3.0, mpv2.6,*
Error ellipse: s-maj=15.2km s-min=7.3km az=151.0

ISC 29 00:22:34.9±1.5, 42˚.44N±0˚.06×79˚.72E±0˚.05, h10km, n28, σ1§86/46, 10C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 6.1nm,0.1s	**0.75**	**345**	P		**Pb**	**00 22 51.5**	**+1.4**
SHLS				S		**Sb**	**00 23 00.8**	**+0.4**
	51nm,0.3s							
SHLS	**Shalkode** 6.1nm,0.1s	**0.75**	**345**	*e*P		**Pb**	**00 22 51.5**	**+1.4**
SHLS				*e*S		**Sb**	**00 23 00.8**	**+0.4**
	51nm,0.3s							
UZB	**Uzynbulak** 1.4nm,0.3s	**0.88**	**324**	P		**Pg**	**00 22 52.5**	**+0.7**
UZB				S		**Sg**	**00 23 02.8**	**-0.5**
	21nm,0.3s							
UZB	**Uzynbulak** 1.8nm,0.2s	**0.88**	**324**	*e*P		**Pg**	**00 22 52.5**	**+0.7**
UZB				*e*S		**Sg**	**00 23 02.9**	**-0.5**
	20nm,0.1s							
PDGK	**Podgornoye** 0.7nm,0.1s	**0.91**	**349**	P		**Pg**	**00 22 53.2**	**+0.8**
PDGK	**Podgornoye** 0.4nm,0.2

	4.6nm,0.2s									
KTMS	**Ketmen**	**1.11**	**24**	*e*P		**Pg**	**00 22 57.7**	**+1.4**
	0.7nm,0.1s									
KTMS				*e*S		**Sb**	**00 23 11.9**	**+1.0**
	4.9nm,0.2s									
SATY	**Saty**	**1.15**	**303**	*e*P		**Pg**	**00 22 57.2**	**+0.2**
	1.6nm,0.2s									
SATY				*e*S		**Sg**	**00 23 10.7**	**-1.3**
	8.8nm,0.2s									
DJR	**Jarkent**	**1.90**	**1**	*e*P		**Pb**	**00 23 10.9**	**+1.3**
	0.8nm,0.3s									
DJR				*e*S		**Sb**	**00 23 34.5**	**+1.0**
	2.2nm,0.3s									
MNBS	**Baschi**	**1.91**	**330**	P		**Pb**	**00 23 10.9**	**+1.0**
	2.1nm,0.2s									
MNBS				S		**Sg**	**00 23 34.8**	**-1.3**
	7.3nm,0.2s									
MNBS	**Baschi**	**1.91**	**330**	*e*P		**Pb**	**00 23 10.9**	**+1.0**
	2.1nm,0.2s									
MNBS				*e*S		**Sg**	**00 23 34.9**	**-1.3**
	7.3nm,0.2s									
KDJ	**Kajisay**	**1.91**	**262**	⇑*i*P		**Pn**	**00 23 05.9**	**-1.8**
	baz=58									
KDJ				⇑*i*S		**Sn**	**00 23 31.0**	**-0.9**
	baz=58									
KOTS	**Kotyrbulak**	**2.08**	**293**	Pg		**Pb**	**00 23 14.5**	**+1.7**
	3.8nm,0.3s									
KOTS				Lg		Lg	00 23 42.1			
	7.7nm,0.5s									
KOTS	**Kotyrbulak**	**2.08**	**293**	*e*P		**Pb**	**00 23 14.9**	**+2.1**
	3.5nm,0.3s									
KOTS				*e*S		**Sg**	**00 23 42.0**	**+0.3**
	4.1nm,0.3s									
MDOK	**Medeo**	**2.10**	**291**	P		**Pg**	**00 23 16.2**	**+1.1**
	1.1nm,0.4s									
MDOK				S		**Sn**	**00 23 37.6**	**+1.1**
	0.8nm,0.4s									
KNDC	**Almaty**	**2.17**	**292**	⇑P		**Pb**	**00 23 15.7**	**+1.3**
	3.7nm,0.4s									
KNDC				⇑S		**Sn**	**00 23 37.8**	**-0.4**
	4.5nm,0.3s									
ARXS	**Arharly**	**2.25**	**323**	Pg		**Pb**	**00 23 16.7**	**+1.0**
	1.5nm,0.4s									
ARXS				Lg		Lg	00 23 44.9			
	7.2nm,0.4s									
ARXS	**Arharly**	**2.25**	**323**	*e*P		**Pb**	**00 23 16.6**	**+0.9**
	1.8nm,0.5s									
ARXS				*e*S		**Sb**	**00 23 44.7**	**+1.1**
	8.0nm,0.4s									
IZV	**Izvestkoviy**	**2.37**	**286**	Pg		**Pb**	**00 23 19.3**	**+1.5**
	3.2nm,0.2s									
IZV				Lg		Lg	00 23 49.2			
	3.2nm,0.2s									
IZV	**Izvestkoviy**	**2.37**	**286**	*e*P		**Pb**	**00 23 19.3**	**+1.5**
	3.2nm,0.2s									
IZV				*e*S		**Sb**	**00 23 49.2**	**+2.1**
	3.2nm,0.2s									
KTBS	**Karatobe**	**2.57**	**301**	Pg		**Pb**	**00 23 22.9**	**+1.9**
	1.3nm,0.2s									
KTBS				Lg		Lg	00 23 55.0			
	6.1nm,0.2s									
KTBS	**Karatobe**	**2.57**	**301**	*e*P		**Pb**	**00 23 22.8**	**+1.7**
	1.0nm,0.2s									
KTBS				*e*S		**Sb**	**00 23 55.0**	**+2.3**
	5.0nm,0.3s									
BOOM	**Boomskoye usch**	**2.80**	**272**	⇑*i*P		**Pn**	**00 23 18.1**	**-1.8**
	baz=70									
BOOM				⇑*i*S		**Sn**	**00 23 52.3**	**-1.5**
	baz=70									
DGS	**Degeres**	**3.01**	**287**	Pg		**Pb**	**00 23 31.1**	**+2.4**
	1.5nm,0.4s									
DGS				Lg		Lg	00 24 09.8			
	2.8nm,0.4s									
TKM2	**Tokmak 2**	**3.08**	**280**	⇓Pg		**Pb**	**00 23 31.0**	**+1.1**
	0.2nm,0.3s									
TKM2				⇑Lg		Lg	00 24 12.6			
	2.2nm,0.7s									

KRNET 29 00:22:49.0±0.1, 42°56N×79°61E, h25km, mb2.2, 8C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**0.77**	**353**	⇑*i*P	Pb	00 23 03.7	-0.2
	baz=53						
PDGK				⇑*i*S	Sb	00 23 14.4	+0.4
	baz=53						
PDGK	**Podgornoye**	**0.77**	**353**	⇓S	Pb	00 23 03.9	0.0
	2.6nm,0.2s						
PDGK	**Podgornoye**	**0.77**	**353**	S	Pb	00 23 04.0	+0.1
	6.1nm,0.1s						
PRZ	**Przheval'sk**	**0.90**	**265**	⇑*i*P	Pb	00 23 05.4	-0.7
	baz=65						
PRZ				⇑*i*S	Sb	00 23 18.1	+0.3
	baz=65						
KDJ	**Kajisay**	**1.85**	**257**	⇑*i*P	Pb	00 23 21.7	-0.6
	baz=57						
KDJ				⇑*i*S	Sb	00 23 46.0	+0.8
	baz=57						
ULHL	**Ulahol**	**2.52**	**264**	⇑*e*P	Pn	00 23 30.8	+2.3
	baz=64						
ULHL				⇑*i*S	Sb	00 24 02.1	-2.1
	baz=64						
BOOM	**Boomskoye usch**	**2.72**	**270**	⇓*i*P	Pn	00 23 33.9	+2.7
	baz=70						
BOOM				⇓*i*S	Sn	00 24 05.6	+2.3
	baz=70						
NRN	**Naryn**	**2.92**	**248**	⇓*i*P	Pn	00 23 37.0	+2.9
	baz=48						
NRN				⇓*i*S	Sn	00 24 11.6	+3.0
	baz=48						

*ISCJB **29** 00:42:59.8±1.2, 76°60N±0°04×8°8E±0°2, h3km±8km, mb3.7/15, MS3.8/3, Error ellipse: s-maj=7.2km s-min=5.5km az=151.2*
*NEIC **29** 00:43:02.8±0.4, 76°58N×8°34E, h10km, mb4.0/1, Error ellipse: s-maj=9.5km s-min=6.4km az=64.0*
*IDC **29** 00:43:02.3±0.6, 76°53N×7°52E, h0km, mb3.7/15, mb1 4.0/18, mb1mx3.8/40, mbtmp3.7/18, ML3.0/3, MS3.8/4, Ms1 3.8/4, ms1mx3.2/34, Error ellipse: s-maj=15.8km s-min=10.8km az=47.0*
*NAO **29** 00:43:04.6±2.8, 76°66N×9°55E, h1km±17km, ML3.5*
*BER **29** 00:43:05.5±3.4, 76°77N×8°62E, h15km±16km, ML2.7, ML3.5(NAO), Confirmed Earthquake*
*IEPN **29** 00:43:08.0, 76°92N×8°43E, h15km, station ZFI2 has station magnitude of 3.41*

ISC 29 00:43:02.3±4.3, 76°70N±0°05×8°34E±0°06, h3km±28km, n81, σ2°25/87, mb3.8/15, MS3.8/3, 2C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**1.67**	**76**	*e*P	**Pn**	**00 43 32.3**	**-0.1**
HSPB				*e*		00 43 49.4	
HSPB				*e*Sg	**Sn**	**00 43 53.0**	**-1.3**
HSPB				IAML		00 43 53.7	
	comp=Z,180nm,0.2s						
HSP	**Hornsund**	**1.68**	**76**	Pg	**Pn**	**00 43 32.3**	**-0.2**
HSP				Lg	Lg	00 43 51.5	
BRBA	**Barentsburg A**	**1.88**	**41**	Pg	**Pn**	**00 43 35.0**	**-0.3**
BRBA				Lg	Lg	00 43 58.1	
BRBA	**Barentsburg A**	**1.88**	**41**	Pg	**Pn**	**00 43 35.0**	**-0.3**
BRBA				Sg	**Sn**	**00 43 58.1**	**-1.3**
SPA0	**Spitsbergen Ar**	**2.30**	**46**	*e*Pn	**Pn**	**00 43 42.0**	**+1.1**
SPA0	**Spitsbergen Ar**	**2.30**	**46**	Pn	**Pn**	**00 43 41.8**	**+0.8**
	baz=222,slow=16						
SPA0				Lg	Lg	00 44 09.6	
	baz=230,slow=28						
SPA0	**Spitsbergen Ar**	**2.30**	**46**	⇑*i*P	**Pn**	**00 43 42.1**	**+1.1**
SPA0	**Spitsbergen Ar**	**2.30**	**46**	⇑*e*Pg	**Pn**	**00 43 42.1**	**+1.1**
SPA0				*e*		00 44 00.7	
SPA0				*e*Sg	**Sn**	**00 44 09.9**	**+0.1**
SPA0				IAML		00 44 11.9	
	comp=Z,162nm,0.3s						
SPITS	**Spitsbergen Ar**	**2.30**	**46**	Pn	**Pn**	**00 43 42.1**	**+1.1**
	baz=220,slow=15						
KBS	**Kingsbay**	**2.36**	**17**	*e*Pn	**Pn**	**00 43 42.1**	**+0.2**
KBS				*e*Sn	**Sn**	**00 44 03.4**	**-7.9**
KBS	**Kingsbay**	**2.36**	**17**	Pn	**Pn**	**00 43 40.7**	**-1.3**
KBS	**Kingsbay**	**2.36**	**17**	*e*P	**Pn**	**00 43 41.6**	**-0.3**
KBS				*e*S	**Sn**	**00 44 07.5**	**-3.9**
KBS	**Kingsbay**	**2.36**	**17**	*e*P	**Pn**	**00 43 40.7**	**-1.3**
KBS				*e*S	**Sn**	**00 44 07.6**	**-3.8**
KBS				IAML		00 44 12.0	

	comp=Z,69nm,0.3s									
BJO1	**Bjornoya**	**3.46**	**124**	Pn		**Pn**	**00 43 56.4**	**-0.5**
BJO1				Sn		**Sn**	**00 44 32.9**	**-5.4**
BJO	**Bjornoya**	**3.49**	**124**	*e*P		**Pn**	**00 43 56.7**	**-0.7**
BJO				*e*S		**Sn**	**00 44 32.9**	**-6.2**
BJO				IAML			00 44 38.2	
	comp=Z,22nm,0.3s							
HOPEN	**Hopen**	**3.88**	**85**	Pn		**Pn**	**00 44 03.5**	**+0.9**
HOPEN				Sn		**Sn**	**00 44 48.0**	**-0.6**
HOPEN	**Hopen**	**3.88**	**85**	*e*P		**Pn**	**00 44 03.5**	**+0.9**
HOPEN				*e*S		**Sn**	**00 44 47.6**	**-1.1**
HOPEN				IAML			00 44 50.5	
	comp=Z,92nm,0.2s							
DAG	**Danmarks Havn**	**6.18**	**284**	*i*P		Pn	00 44 28.7	-5.6
DAG				*i*S		Sn	00 45 29.8	-15
HAMF	**Hammerfest**	**7.43**	**137**	*e*P		**Pn**	**00 44 49.2**	**-2.3**
HAMF				*e*S		Sn	00 46 06.9	-9.2
HAMF				IAML			00 46 17.0	
	comp=Z,5.8nm,0.6s							
TRO	**Tromso**	**7.72**	**151**	*e*P		**Pn**	**00 44 53.3**	**-2.1**
ZFI2	**Zemlya Franca-**	**8.51**	**43**	*e*P		**Pn**	**00 45 06.7**	**+0.4**
	comp=Z,4μm,1.0s							
ZFI2				*e*S		**Sn**	**00 46 35.7**	**-6.9**
KIF	**Kilpisjarvi**	**8.54**	**148**	Pn		**Pn**	**00 45 04.6**	**-2.0**
KIF				Sn		Sn	00 46 34.6	-8.6
KIF	**Kilpisjarvi**	**8.54**	**148**	*e*P		**Pn**	**00 45 04.5**	**-2.0**
KIF				*e*S		Sn	00 46 33.1	-10
ARA0	**ARCESS Array S**	**8.71**	**137**	*e*Pn		**Pn**	**00 45 06.8**	**-2.2**
ARA0				*e*Sn		Sn	00 46 38.0	-9.4
ARA0	**ARCESS Array S**	**8.71**	**137**	Pn		**Pn**	**00 45 06.6**	**-2.4**
	baz=336,slow=12							
ARA0				Sn		Sn	00 46 38.4	-9.1
	baz=331,slow=22							
ARA0	**ARCESS Array S**	**8.71**	**137**	Pn		**Pn**	**00 45 06.6**	**-2.4**
	baz=336,slow=12							
ARA0				Sn		Sn	00 46 38.4	-9.1
	baz=331,slow=22							
ARCES	**ARCESS Array B**	**8.71**	**137**	Pn		**Pn**	**00 45 06.8**	**-2.2**
	comp=Z,0.9nm,0.3s,baz=339,slow=18,SNR=64							
ARCES				Sn		Sn	00 46 38.0	-9.5
	comp=Z,1.2nm,0.3s,baz=329,slow=18,SNR=6.6							
ARE0	**ARCESS Array S**	**8.71**	**137**	*e*Pn		Pn	00 45 05.9	-3.0
ARE0				*e*Sn		Sn	00 46 38.0	-10
ARE0	**ARCESS Array S**	**8.71**	**137**	*e*P		**Pn**	**00 45 06.9**	**-2.0**
LOF	**Lofoten**	**8.75**	**167**	*e*P		**Pn**	**00 45 07.4**	**-2.2**
KEV	**Kevo**	**8.76**	**133**	*e*Pn		**Pn**	**00 45 08.2**	**-1.4**
KEV				*e*Sn		Sn	00 46 38.8	-10
KEV	**Kevo**	**8.76**	**133**	Pn		**Pn**	**00 45 08.4**	**-1.2**
KEV				Sn		Sn	00 46 40.1	-8.6
KEV	**Kevo**	**8.76**	**133**	*e*P		**Pn**	**00 45 07.9**	**-1.7**
KEV				*e*S		Sn	00 46 39.5	-9.2
STEI	**Steigen**	**9.05**	**163**	*e*P		**Pn**	**00 45 12.8**	**-0.8**
HEF	**Hetta**	**9.47**	**144**	*e*P		**Pn**	**00 45 17.4**	**-2.0**
KONS	**Konsvik**	**10.36**	**169**	*e*P		**Pn**	**00 45 31.6**	**+0.1**
SCO	**Scoresbysund**	**10.45**	**249**	*e*Pn		Pn	00 45 29.2	-3.5
STOK	**Stokkvaagen**	**10.52**	**170**	*e*P		**Pn**	**00 45 33.0**	**-0.8**
MOR8	**Moi Rana**	**10.75**	**167**	*e*P		**Pn**	**00 45 36.0**	**-1.0**
APA0	**Apatity Array**	**11.71**	**128**	Pn		**Pn**	**00 45 49.2**	**-0.7**
	baz=338,slow=12							
APA0	**Apatity Array**	**11.71**	**128**	Pn		**Pn**	**00 45 49.2**	**-0.7**
	baz=338,slow=12							
LVZ	**Lovozero**	**11.76**	**125**	*e*Pn		**Pn**	**00 45 48.8**	**-1.9**
LVZ				*e*Sn		Sn	00 47 49.5	-13
SUMG	**Summit**	**12.74**	**275**	*e*Pn		Pn	00 46 00.5	-3.9
SUMG	**Summit**	**12.74**	**275**	*i*P		Pn	00 45 59.8	-4.6
NB2	**NORSAR Subarra**	**15.77**	**175**	Pn		**Pn**	**00 46 44.8**	**-0.3**
NB2	**NORSAR Subarra**	**15.77**	**175**	Pn		**Pn**	**00 46 44.8**	**-0.3**
NB200	**NORSAR Array S**	**15.77**	**175**	*e*Pn		**Pn**	**00 46 44.8**	**-0.3**
NOA	**NORSAR Array B**	**15.77**	**175**	Pn		**Pn**	**00 46 44.8**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=353,slow=12,SNR=2.9							
AMDE	**Amderma**	**16.23**	**87**	*e*P		**Pn**	**00 46 48.4**	**-2.5**
AMDE				*e*S		Sn	00 49 36.5	-15
FIA0	**FINESS Array S**	**16.44**	**149**	*e*Pn		**Pn**	**00 46 50.4**	**-3.3**
FIA0	**FINESS Array S**	**16.44**	**149**	Pn		**Pn**	**00 46 51.4**	**-2.2**
	slow=11							
FIA0	**FINESS Array S**	**16.44**	**149**	Pn		**Pn**	**00 46 51.4**	**-2.2**
	slow=11							
FINES	**FINESS Array B**	**16.44**	**149**	Pn		**Pn**	**00 46 50.3**	**-3.3**
	comp=Z,0.2nm,0.3s,baz=359,slow=14,SNR=7.0							
FINES				LR		LR	00 53 02.0	
	comp=Z,234nm,18.5s,baz=296,slow=37							
LSH	**Leshukonskoye**	**16.61**	**115**	*i*P		**Pn**	**00 46 52.4**	**-3.4**
LSH				*i*S		Sn	00 49 45.0	-15
TULEG	**Thule**	**16.70**	**307**	*e*Pn		Pn	00 46 48.2	-8.6
	comp=Z,7.3nm,0.6s							
TULEG				*e*Sn		Sn	00 49 40.9	-22
FRB	**Frobisher Bay**	**26.53**	**284**	LR		LR	00 58 48.1	
	comp=Z,196nm,19.6s,baz=44,slow=36							
BVAR	**Borovoye Array**	**32.77**	**100**	P		**P**	**00 49 39.6**	**+3.6**
	comp=Z,0.8nm,0.6s,baz=324,slow=9.8,SNR=6.1							
BVAR				PP		**PP**	**00 50 48.9**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=342,slow=14,SNR=2.6							
INK	**Inuvik**	**33.34**	**335**	P		**P**	**00 49 41.6**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=19,slow=11,SNR=3.5							
ZAA1	**Zalesovo Array**	**35.24**	**85**	*e*P		**P**	**00 50 00.3**	**+2.9**
ZALV	**Zalesovo Beam**	**35.24**	**85**	P		**P**	**00 50 00.3**	**+2.9**
	comp=Z,0.5nm,0.3s,baz=355,slow=4.9,SNR=2.4							
KBZ	**Khabaz**	**36.07**	**136**	P		**P**	**00 50 06.2**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=328,slow=15,SNR=3.1							
YKA	**Yellowknife Ar**	**36.57**	**319**	P		**P**	**00 50 08.5**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=11,slow=8.8,SNR=8.3							
YKA				PcP		**PcP**	**00 52 31.6**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=2.3,slow=2.9,SNR=5.9							
KURK	**Kurchatov**	**36.81**	**93**	P		**P**	**00 50 13.5**	**+2.6**
KURBB	**Kurchatov Arra**	**36.88**	**93**	P		**P**	**00 50 13.5**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=340,slow=7.2,SNR=2.8							
ESDC	**Sonseca Array**	**37.52**	**196**	P		**P**	**00 50 16.8**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=294,slow=26,SNR=5.8							
IL1	**Eielson Array**	**37.92**	**343**	*e*P		**P**	**00 50 21.3**	**+1.1**
ILAR	**Eielson Array**	**37.92**	**343**	P		**P**	**00 50 22.1**	**+2.0**
	comp=Z,1.5nm,0.8s,baz=6.1,slow=6.6,SNR=17							
ILAR				PcP		**PcP**	**00 52 35.7**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=350,slow=2.4,SNR=4.2							
MK32	**Makanchi Array**	**41.34**	**91**	*e*P		**P**	**00 50 50.9**	**+2.0**
MKAR	**Makanchi Array**	**41.34**	**91**	P		**P**	**00 50 50.9**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=354,slow=5.2,SNR=5.8							
GEYT	**Alibeck**	**44.46**	**120**	P		**P**	**00 51 15.2**	**+1.0**
	comp=Z,1.1nm,0.5s,baz=286,slow=42,SNR=2.1							
GEYT				LR		LR	01 10 24.8	
	comp=Z,195nm,18.9s,baz=320,slow=37							
SONA0	**Songino Array**	**45.81**	**68**	*e*P		**P**	**00 51 27.4**	**+2.4**
SONM	**Songino Array**	**45.81**	**68**	P		**P**	**00 51 27.4**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=338,slow=6.2,SNR=2.9							
PDAR	**Pinedale Array**	**54.66**	**307**	LR		LR	01 15 46.1	
	comp=Z,82nm,19.9s,baz=54,slow=36							
NVAR	**Mina Airay Bea**	**60.42**	**314**	P		**P**	**00 53 13.5**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=42,slow=4.2,SNR=2.4							
TOA1	**Torodi Ar. Sit**	**63.65**	**187**	*e*P		**P**	**00 53 33.3**	**-1.1**
TOA0	**Torodi Ar. Sit**	**63.65**	**187**	*e*P		**P**	**00 53 33.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**63.65**	**187**	P		**P**	**00 53 33.3**	**-1.1**
	comp=Z,1.7nm,1.1s,baz=4.0,slow=9.9,SNR=6.0							
LTX	**Lajitas**	**66.52**	**298**	*e*P		**P**	**00 53 52.3**	**-0.8**
TX31	**Lajitas Ar. Si**	**66.52**	**298**	*e*P		**P**	**00 53 52.0**	**-1.1**
TXAR	**Lajitas Array**	**66.52**	**298**	P		**P**	**00 53 52.3**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=47,slow=5.0,SNR=11							
CMAR	**Chiang Mai Arr**	**72.31**	**85**	P		**P**	**00 54 31.2**	**+2.3**
	comp=Z,0.9nm,0.3s,baz=346,slow=6.5,SNR=4.2							

GUC 29 00:46:20.5±0.8, 20°67S×69°23W, h110km±4km, ML3.6, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.44**	**213**	*e*P	Pn	00 46 36.8	-0.3
PB01				*e*S	Sn	00 46 49.1	-0.5
PB01				IAML		00 46 50.3	
	comp=E,6μm,0.3s						
PB08	**IPOC Station P**	**0.53**	**8**	*e*P	Pn	00 46 37.5	-0.6
PB08				*i*S	Sn	00 46 50.8	-0.4
PB08				IAML		00 46 51.3	
	comp=E,5μm,0.3s						
PB11	**IPOC Station P**	**0.99**	**336**	*e*P	Pn	00 46 41.5	-0.3
PB11				*i*S	Sn	00 46 57.6	-0.2
PB09	**IPOC Station P**	**1.12**	**180**	*e*P	Pn	00 46 43.2	0.0
PB09				*i*S	Sn	00 47 00.6	+0.3
PB09				IAML		00 47 01.4	
	comp=N,1μm,0.5s						
PB07	**IPOC Station P**	**1.22**	**210**	*e*P	Pn	00 46 44.4	+0.1
PB07				*i*S	Sn	00 47 02.0	-0.2
PB07				IAML		00 47 05.8	
	comp=E,730nm,0.2s						
PSGC	**Pisagua**	**1.36**	**322**	*e*P	Pn	00 46 45.2	-0.5
PSGC				*i*S	Sn	00 47 04.3	-0.6
PB03	**IPOC Station P**	**1.46**	**199**	*e*P	Pn	00 46 47.0	0.0
PB03				*i*S	Sn	00 47 06.7	-0.3
PB03				IAML		00 47 08.2	
	comp=E,532nm,0.1s						
MNMC	**Minye Minye**	**1.57**	**347**	*e*P	Pn	00 46 48.3	-0.2
MNMC				*i*S	Sn	00 47 10.3	+0.7
PB04	**IPOC Station P**	**1.86**	**207**	*e*P	Pn	00 46 51.9	0.0
PB04				*i*S	Sn	00 47 15.5	-0.4

KRNET 29 00:56:13.4±0.1, 42°56N×79°65E, h22km, mb1.9, 13C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**0.78**	**351**	⇑*i*P	Pb	00 56 28.2	-0.1
	baz=51						
PDGK				⇑*i*S	Sb	00 56 38.7	+0.2
	baz=51						
PRZ	**Przheval'sk**	**0.93**	**266**	⇑*i*P	Pb	00 56 30.6	-0.3
	baz=65						
PRZ				⇑*i*S	Sb	00 56 43.1	+0.2
	baz=65						
KDJ	**Kajisay**	**1.88**	**258**	⇑*e*P	Pb	00 56 47.0	-0.2
	baz=57						
ULHL	**Ulahol**	**2.55**	**264**	⇑*e*P	Pb	00 56 56.1	-2.4
	baz=64						
ULHL				⇑*e*S	Sb	00 57 28.0	-1.5
	baz=64						
BOOM	**Boomskoye usch**	**2.75**	**270**	⇑*i*P	Pn	00 56 58.9	+2.6
	baz=70						
BOOM				⇑*i*S	Sn	00 57 31.9	+3.0
	baz=70						
NRN	**Naryn**	**2.95**	**249**	⇑*e*P	Pn	00 57 02.2	+3.0
	baz=49						
NRN				⇑*i*S	Sb	00 57 38.0	-3.1
	baz=49						
TKM2	**Tokmak 2**	**3.01**	**278**	⇑*i*P	Pn	00 57 02.9	+3.0
	baz=78						
TKM2				⇑*i*S	Sn	00 57 38.9	+3.5
	baz=78						

*SOME **29** 00:56:36.6, 42°53N×79°67E, h15km*
*NNC **29** 00:56:36.0±1.7, 42°55N×79°64E, h0km, mb3.0, mpv2.9, Error ellipse: s-maj=11.5km s-min=5.7km az=152.0*
*KRNET **29** 00:56:37.2±0.1, 42°61N×79°68E, h21km, mb2.5*
*ISCJB **29** 00:56:38.2±0.7, 42°59N±0°04×79°68E±0°05, h10km, Error ellipse: s-maj=6.4km s-min=3.1km az=135.9*

ISC 29 00:56:36.5±1.1, 42°52N±0°04×79°66E±0°04, h10km, n40, σ1°55/72, 23C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.65**	**347**	P	**Pb**	**00 56 49.1**	**-1.0**
	54nm,0.1s						
SHLS				S	**Sb**	**00 56 58.6**	**-0.8**
	69nm,0.4s						
SHLS	**Shalkode**	**0.65**	**347**	*e*P	**Pb**	**00 56 49.1**	**-1.0**
	54nm,0.1s						
SHLS				*e*S	**Sb**	**00 56 58.6**	**-0.8**
	69nm,0.4s						
UZB	**Uzynbulak**	**0.79**	**323**	P	**Pg**	**00 56 50.7**	**-0.9**
	3.2nm,0.2s						
UZB				S	**Sg**	**00 57 00.9**	**-1.1**
	42nm,0.1s						
UZB	**Uzynbulak**	**0.79**	**323**	*e*P	**Pg**	**00 56 50.7**	**-0.9**
	3.2nm,0.2s						
UZB				*e*S	**Sg**	**00 57 00.9**	**-1.1**
	42nm,0.1s						
PDGK	**Podgornoye**	**0.82**	**351**	P	**Pg**	**00 56 51.2**	**-1.1**
	8.3nm,0.1s						
PDGK				S	**Sg**	**00 57 01.9**	**-1.2**
	5.1nm,0.2s						
PDGK	**Podgornoye**	**0.82**	**351**	⇑P	**Pg**	**00 56 51.0**	**-1.3**
	2.5nm,0.2s						
PDGK				⇓S	**Sg**	**00 57 01.3**	**-1.8**
	2.3nm,0.3s						
PDGK	**Podgornoye**	**0.82**	**351**	⇑*i*P	**Pg**	**00 56 50.8**	**-1.5**
	baz=49						
PDGK				⇑*i*S	**Sg**	**00 57 01.7**	**-1.3**
	baz=49						
PRZ	**Przheval'sk**	**0.94**	**268**	⇓*i*P	**Pn**	**00 56 55.5**	**-0.4**
	baz=63						
PRZ				⇓*i*S	**Sb**	**00 57 07.4**	**0.0**
	baz=63						
KTMS	**Ketmen**	**1.05**	**28**	P	**Pg**	**00 56 55.8**	**-1.0**
	5.7nm,0.1s						
KTMS				S	**Sg**	**00 57 09.6**	**-1.0**
	24nm,0.3s						
KTMS	**Ketmen**	**1.05**	**28**	*e*P	**Pg**	**00 56 55.8**	**-1.0**
	5.7nm,0.1s						
KTMS				*e*S	**Sg**	**00 57 09.6**	**-1.0**
	24nm,0.3s						
SATY	**Saty**	**1.07**	**301**	*e*P	**Pg**	**00 56 55.9**	**-1.2**
	2.4nm,0.1s						
SATY				*e*S	**Sg**	**00 57 09.7**	**-1.4**
	31nm,0.1s						
MNBS	**Baschi**	**1.81**	**330**	P	**Pb**	**00 57 09.0**	**-0.8**
	3.3nm,0.2s				

NRN	**Naryn**	**2.94**	**250**	⇑	*e*P	**Pb**	**00 57 26.8**	**-2.4**
	baz=48							
NRN				⇑	*i*S	**Sb**	**00 58 03.2**	**-2.1**
	baz=48							
DGS	**Degeres**	**2.95**	**285**		Pg	**Pb**	**00 57 29.0**	**-0.2**
	3.0nm,0.3s							
DGS					Lg	Lg	00 58 06.1	
	5.6nm,0.4s							
DGS	**Degeres**	**2.95**	**285**		*e*P	**Pb**	**00 57 29.0**	**-0.2**
	3.0nm,0.3s							
DGS					*e*S	**Sb**	**00 58 06.1**	**+0.8**
	5.6nm,0.4s							
TKM2	**Tokmak 2**	**3.02**	**279**	⇑	Pg	**Pb**	**00 57 28.9**	**-1.6**
	0.5nm,0.4s							
TKM2				⇑	Lg	Lg	00 58 09.9	
	0.8nm,0.3s							
TKM2	**Tokmak 2**	**3.02**	**279**	⇑	*i*P	**Pb**	**00 57 27.2**	**-3.3**
	baz=77							
TKM2				⇑	*i*S	**Sb**	**00 58 03.9**	**-3.7**
	baz=77							
KZA	**Kyzart**	**3.30**	**264**	⇓	*e*P	**Pn**	**00 57 31.2**	**+2.6**
	baz=62							
KZA				⇓	*i*S	**Sn**	**00 58 11.0**	**+2.8**
	baz=62							
KBK	**Karagaybulak**	**3.48**	**274**	⇑	*i*P	**Pn**	**00 57 33.7**	**+2.8**
	baz=72							
KBK				⇑	*i*S	**Sn**	**00 58 14.8**	**+2.5**
	baz=72							
FRU1	**Bishkek**	**3.72**	**276**	⇑	*i*P	**Pn**	**00 57 36.9**	**+2.8**
	baz=75							
FRU1				⇑	*i*S	**Sn**	**00 58 20.1**	**+2.1**
	baz=75							
USP	**Ospenovka**	**3.87**	**283**	⇑	*i*P	**Pn**	**00 57 38.4**	**+2.4**
	baz=82							
USP				⇑	*i*S	**Sn**	**00 58 23.3**	**+1.8**
	baz=82							
ARLS	**Aral**	**4.02**	**262**	⇑	*i*P	**Pn**	**00 57 40.9**	**+2.6**
	baz=61							
ARLS				⇑	*i*S	**Sn**	**00 58 27.7**	**+2.2**
	baz=61							
MK31	**Makanchi Array**	**4.67**	**23**		Pn	**Pn**	**00 57 49.0**	**+2.1**
	0.1nm,0.3s,baz=198,slow=12,SNR=3.5							
MK31				⇓	Sn	**Sn**	**00 58 43.2**	**+2.0**
	0.1nm,0.3s							
MK31				⇑	Lg	Lg	00 59 00.2	
	0.1nm,0.3s							

IDC ***29*** *00:56:39.2±0.6, 12°.24N×87°.97W, h0km, mb4.2/16, mb1 4.4/17, mb1mx4.3/27, mbtmp4.2/17, ML2.7/1, MS3.6/5, Ms1 3.7/5, ms1mx3.3/32, Error ellipse: s-maj=29.1km s-min=13.0km az=61.0*

ISCJB ***29*** *00:56:41.4±0.3, 12°.06N±0°.03×88°.14W±0°.03, h33km, mb4.5/120, MS3.7/4, Error ellipse: s-maj=5.5km s-min=2.9km az=39.3*

UCR ***29*** *00:56:42.8±1.9, 12°.03N×88°.26W, h26km±12km, ML4.1, mb4.6(NEIC)*

SNET ***29*** *00:56:42.0±0.0, 12°.06N×88°.34W, h14km*

NEIC ***29*** *00:56:44.2±0.3, 12°.08N×88°.11W, h35km, mb4.6/116, MD4.1(SNET), Error ellipse: s-maj=7.3km s-min=4.7km az=221.0*

NEIC Felt [I] at Usulutan, El Salvador.

ISC 29 00:56:42.9±1.4, 12°.07N±0°.05×88°.15W±0°.05, h28km±9km, n513, σ1$30/523, mb4.6/120, MS3.7/4, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CRIN	**San Cristobal**	**1.24**	**60**	*e*P		**Pb**	**00 57 05.6**	**-0.2**
CRIN				IAML			00 57 35.2	
	comp=N,4μm,0.6s							
LCY	**Lacayo**	**1.35**	**354**	*e*P		**Pn**	**00 57 06.7**	**+0.6**
VSM	**San Miguel**	**1.35**	**355**	*e*P		**Pb**	**00 57 07.0**	**-0.8**
VSM				*e*P		**Pn**	**00 57 07.1**	**+0.9**
PACA	**Pacayal**	**1.40**	**353**	*i*P		**Pn**	**00 57 07.2**	**+0.5**
PACA				*e*S		**Sb**	**00 57 26.0**	**-0.1**
TECA	**Tecapa**	**1.46**	**346**	*i*P		**Pn**	**00 57 07.8**	**+0.2**
CNGN	**Cerro Negro**	**1.48**	**73**	*e*P		**Pb**	**00 57 08.7**	**-1.1**
COPN	**Copaltepe**	**1.53**	**86**	*e*P		**Pb**	**00 57 09.2**	**-1.4**
MOMN	**Momotombo**	**1.61**	**78**	*e*P		**Pn**	**00 57 09.9**	**+0.3**
CAHU	**Cacacuatique**	**1.69**	**358**	*e*P		**Pb**	**00 57 12.1**	**-1.4**
LFRS	**El Faro**	**1.78**	**330**	⇓*i*P		**Pn**	**00 57 11.6**	**-0.4**
PAVA	**Las Pavas**	**1.80**	**335**	*e*P		**Pn**	**00 57 12.6**	**+0.2**
PAVA				*e*S		**Sb**	**00 57 36.3**	**-1.3**
PAVA				IAML			00 57 42.0	
	comp=Z,2μm,0.5s							
LOMA	**San Marcos**	**1.86**	**328**	*e*P		**Pn**	**00 57 12.6**	**-0.4**
LOMA				*e*S		**Sn**	**00 57 35.5**	**-0.2**
LOMA				IAML			00 57 45.6	
	comp=Z,2μm,0.4s							
MGAN	**Managua**	**1.86**	**87**	*e*P		**Pn**	**00 57 13.7**	**+0.7**
MGAN				*e*S		**Sb**	**00 57 39.3**	**+0.1**
LBRS	**Las Brisas**	**1.87**	**332**	*e*P		**Pn**	**00 57 13.4**	**+0.2**
LFU	**La Fuente**	**1.91**	**331**	*e*P		**Pn**	**00 57 13.8**	**0.0**
SNET	**Serv Nac Est T**	**1.92**	**327**	*e*P		**Pn**	**00 57 13.2**	**-0.7**
VICT	**Victoria**	**1.94**	**346**	*e*P		**Pn**	**00 57 14.9**	**+0.8**
VICT				*e*S		**Sb**	**00 57 40.7**	**-0.8**
BOQS	**Boqueron**	**1.99**	**326**	*e*P		**Pn**	**00 57 15.0**	**0.0**
ESTN	**Estel**	**2.02**	**59**	*e*Pn		**Pn**	**00 57 16.4**	**+1.1**
ESTN	**Estel**	**2.02**	**59**	*e*P		**Pn**	**00 57 16.3**	**+1.1**
CEDA	**San Andres**	**2.11**	**325**	*e*P		**Pn**	**00 57 16.2**	**-0.2**
CEDA				*e*S		**Sn**	**00 57 41.7**	**0.0**
CEDA				IAML			00 57 45.3	
	comp=Z,3μm,0.5s							
TGUH	**Tegucigalpa,Un**	**2.15**	**23**	*e*Pn		**Pn**	**00 57 18.9**	**+1.9**
TGUH	**Tegucigalpa,Un**	**2.15**	**23**	*e*P		**Pn**	**00 57 18.7**	**+1.7**
TGUH				*e*P		**Pn**	**00 57 18.8**	**+1.9**
CEVE	**Cerro Verde**	**2.26**	**321**	*e*P		**Pn**	**00 57 18.6**	**-0.1**
CEVE				*e*S		**Sn**	**00 57 48.5**	**+2.6**
CEVE				IAML			00 58 03.6	
	comp=Z,4μm,0.5s							
SBLS	**San Blas**	**2.27**	**321**	*e*P		**Pn**	**00 57 18.8**	**-0.1**
RTR	**El Retiro**	**2.33**	**321**	*e*P		**Pn**	**00 57 19.8**	**+0.2**
MATN	**Matagalpa**	**2.33**	**68**	*e*P		**Pn**	**00 57 20.5**	**+0.9**
BOAB	**BOACO BROADBAN**	**2.46**	**81**	*e*Pn		**Pn**	**00 57 20.3**	**-0.8**
BOAB	**BOACO BROADBAN**	**2.46**	**81**	*e*P		**Pn**	**00 57 21.6**	**+0.4**
CONN	**Concepcion**	**2.52**	**101**	*e*P		**Pn**	**00 57 22.3**	**+0.2**
ACON	**Acoyapa**	**2.91**	**92**	*e*P		**Pn**	**00 57 27.8**	**+0.3**
IXG	**Ixpaco**	**3.07**	**313**	*e*P		**Pn**	**00 57 29.3**	**-0.5**
PLVR	**Palo Verde**	**3.24**	**122**	*e*P		**Pn**	**00 57 32.4**	**+0.3**
JTS	**JuntasAbangare**	**3.60**	**119**	*e*Pn		**Pn**	**00 57 38.5**	**+1.5**
JTS				*e*S		**Sn**	**00 58 15.4**	**-3.3**
JTS	**JuntasAbangare**	**3.60**	**119**	*e*P		**Pn**	**00 57 38.3**	**+1.3**
ARE1	**Arenal 1**	**3.73**	**115**	*e*P		**Pn**	**00 57 37.7**	**-1.0**
CEDE	**Laguna Cedeo**	**3.73**	**115**	*e*P		Pn	00 57 32.4	-6.4
HDC	**Heredia**	**4.46**	**117**	*e*Pn		**Pn**	**00 57 51.8**	**+2.8**
HDC	**Heredia**	**4.46**	**117**	*e*P		Pn	00 57 53.6	+4.7
LCR2	**La Lucha 2**	**4.69**	**119**	*e*P		**Pn**	**00 57 54.6**	**+2.5**
EDDO	**Dominical**	**5.06**	**123**	*e*P		**Pn**	**00 57 58.7**	**+1.7**
CCIG	**Comitan**	**5.70**	**318**	*e*Pn		**Pn**	**00 58 08.8**	**+2.9**
ICCO	**Coco Island**	**6.58**	**170**	*e*P		**Pn**	**00 58 18.0**	**+0.1**
TEIG	**Tepich**	**8.11**	**359**	*e*Pn		**Pn**	**00 58 40.0**	**+1.1**
MOIG	**Morelia**	**14.64**	**303**	*e*Pn		**Pn**	**01 00 07.3**	**-1.3**
ROSC	**El Rosal**	**15.45**	**117**	Pn		**Pn**	**01 00 19.3**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=270,slow=20,SNR=1.7							
ROSC				LR		LR	01 07 33.2	
	comp=Z,76nm,19.9s,baz=30,slow=43							
LNIG	**Linares**	**16.66**	**322**	*e*Pn		**P**	**01 00 36.4**	**-0.3**
	comp=Z,39nm,0.8s							
DWPF	**Disney Wildern**	**17.15**	**21**	*e*Pn		**P**	**01 00 42.4**	**+0.2**
ZAIG	**Zacatecas**	**17.37**	**310**	*e*P		**P**	**01 00 46.6**	**+1.7**
	comp=Z,12nm,1.2s							
SDV	**Santo Domingo**	**17.51**	**99**	*e*Pn		**P**	**01 00 45.9**	**-0.5**
	comp=Z,4.1nm,0.8s							
554A	**Perry**	**18.40**	**12**	P		**Pn**	**01 00 56.5**	**+0.5**
	baz=194							
451A	**Vernon**	**18.59**	**7**	P		**Pn**	**01 00 58.8**	**+0.4**
	baz=187							
449A	**Pace**	**18.62**	**3**	P		**Pn**	**01 00 59.9**	**+1.2**
	baz=183							
556A	**Lake Butler**	**18.62**	**16**	P		**Pn**	**01 00 59.2**	**+0.5**
	baz=198							
450A	**Crestview**	**18.70**	**4**	P		**Pn**	**01 00 59.7**	**0.0**
	baz=185							
448A	**Bay Minette**	**18.77**	**1**	P		**P**	**01 01 00.2**	**+0.3**
	baz=181							
557A	**Orange Park**	**18.83**	**17**	P		**Pn**	**01 01 01.9**	**+0.6**
	baz=200							
452A	**Marianna**	**18.89**	**8**	P		**Pn**	**01 01 02.5**	**+0.5**
	baz=189							
454A	**Quitman**	**19.02**	**12**	P		**Pn**	**01 01 04.1**	**+0.5**
	baz=194							
453A	**Whigham**	**19.02**	**10**	P		**P**	**01 01 03.4**	**+0.6**
	baz=191							
455A	**Stateville**	**19.18**	**14**	P		**P**	**01 01 04.9**	**+0.5**
	baz=195							
349A	**Repton**	**19.21**	**2**	P		**P**	**01 01 05.3**	**+0.6**
	baz=183							
351A	**Pinckard**	**19.26**	**7**	P		**P**	**01 01 05.8**	**+0.5**
	baz=187							
346A	**Big Creek Wild**	**19.26**	**357**	P		**P**	**01 01 06.1**	**+0.7**
	baz=176							
833A	**Chaparral WMA,**	**19.29**	**329**	*e*P		**Pn**	**01 01 06.8**	**-0.1**
	comp=Z,139nm,0.8s							
833A	**Chaparral WMA,**	**19.29**	**329**	P		**Pn**	**01 01 06.4**	**-0.4**
	baz=145,SNR=20							
350A	**Dozier**	**19.33**	**5**	P		**Pn**	**01 01 07.9**	**+0.6**
	baz=185,SNR=6.7							
353A	**Camilla**	**19.52**	**10**	P		**P**	**01 01 08.6**	**+0.4**
	baz=191							
352A	**Blakely**	**19.54**	**8**	*e*P		**Pn**	**01 01 09.6**	**-0.2**
	comp=Z,45nm,0.8s							
352A	**Blakely**	**19.54**	**8**	P		**P**	**01 01 08.9**	**+0.5**
	baz=189,SNR=7.7							
TIGA	**Tifton**	**19.73**	**12**	*e*P		**Pn**	**01 01 12.9**	**+0.8**
	comp=Z,43nm,0.7s							
TIGA	**Tifton**	**19.73**	**12**	P		**Pn**	**01 01 11.5**	**-0.6**
	baz=193,SNR=6.8							
249A	**Camden**	**19.83**	**3**	P		**P**	**01 01 12.3**	**+0.7**
	baz=183,SNR=7.0							
250A	**Grady**	**19.89**	**5**	P		**P**	**01 01 13.1**	**+0.9**
	baz=185							
252A	**Lumpkin**	**20.08**	**8**	P		**P**	**01 01 15.1**	**+0.8**
	baz=190,SNR=10.0							
251A	**Midway**	**20.09**	**7**	P		Pn	01 01 16.0	-0.3
	baz=188,SNR=9.4							
VBMS	**Vicksburg**	**20.17**	**354**	*e*P		Pn	01 01 17.9	+0.6
	comp=Z,70nm,0.8s							
VBMS	**Vicksburg**	**20.17**	**354**	P		Pn	01 01 16.7	-0.5
	baz=173,SNR=7.2							
253A	**Americus**	**20.24**	**10**	P		Pn	01 01 17.3	-0.7
	baz=191							
254A	**Abbeville**	**20.28**	**12**	P		**P**	**01 01 17.5**	**+1.0**
	baz=194							
255A	**Hazlehurst**	**20.44**	**14**	P		**P**	**01 01 19.4**	**+1.2**
	baz=196							
149A	**Jones**	**20.47**	**3**	P		Pn	01 01 19.9	-0.9
	baz=184,SNR=5.7							
146A	**Union**	**20.49**	**358**	*e*P		**P**	**01 01 19.7**	**+1.0**
	comp=Z,33nm,0.8s							
146A	**Union**	**20.49**	**358**	P		**P**	**01 01 20.0**	**+1.3**
	baz=177							
148A	**Greensboro**	**20.49**	**1**	P		**P**	**01 01 19.8**	**+1.1**
	baz=182,SNR=7.1							
NATX	**Nacogdoches**	**20.49**	**344**	*e*P		Pn	01 01 20.2	-0.9
	comp=Z,34nm,0.6s							
NATX	**Nacogdoches**	**20.49**	**344**	P		Pn	01 01 20.5	-0.5
	baz=182							
145A	**Houston Renfro**	**20.50**	**356**	P		Pn	01 01 20.3	-0.8
	baz=175							
147A	**Livingston**	**20.51**	**360**	P		Pn	01 01 20.3	-0.9
	baz=180							
151A	**Opelika**	**20.52**	**7**	P		Pn	01 01 20.8	-0.7
	baz=188,SNR=12							
150A	**Eclectic**	**20.53**	**5**	P		**P**	**01 01 20.5**	**+1.4**
	baz=186,SNR=8.2							
435B	**Jarrell**	**20.57**	**336**	*e*P		**P**	**01 01 20.1**	**+0.5**
	comp=Z,35nm,0.6s							
435B	**Jarrell**	**20.57**	**336**	P		**P**	**01 01 19.3**	**-0.3**
	baz=153							
152A	**Waverly Hall**	**20.74**	**8**	*e*P		Pn	01 01 23.5	-0.5
	comp=Z,29nm,1.0s							
152A	**Waverly Hall**	**20.74**	**8**	P		**P**	**01 01 22.5**	**+1.0**
	baz=189,SNR=10							
LRAL	**Lakeview Retre**	**20.89**	**3**	*e*P		**P**	**01 01 24.2**	**+1.1**
	comp=Z,18nm,0.9s							
LRAL	**Lakeview Retre**	**20.89**	**3**	P		**P**	**01 01 24.5**	**+1.4**
	baz=183							
154A	**Montrose**	**20.96**	**12**	*e*P		Pn	01 01 25.6	-0.9
	comp=Z,50nm,0.8s							
154A	**Montrose**	**20.96**	**12**	P		**P**	**01 01 24.9**	**+1.1**
	baz=194							
Z47A	**Carrollton**	**21.03**	**0**	P		**P**	**01 01 25.7**	**+1.2**
	baz=180							
Z46A	**Louisville**	**21.04**	**358**	P		**P**	**01 01 26.1**	**+1.4**
	baz=178							
Z49A	**Columbiana**	**21.08**	**4**	P		**P**	**01 01 26.7**	**+1.6**
	baz=184,SNR=8.9							
155A	**Kite**	**21.11**	**13**	P		**P**	**01 01 26.7**	**+1.3**
	baz=195,SNR=6.4							
Z50A	**Ashland**	**21.18**	**5**	*e*P		**P**	**01 01 26.3**	**+0.1**
	comp=Z,16nm,0.9s							
Z50A	**Ashland**	**21.18**	**5**	P		**P**	**01 01 26.6**	**+0.3**
	baz=186,SNR=8.5							
Z48A	**Northport**	**21.21**	**1**	P		**P**	**01 01 27.6**	**+1.0**
	baz=182							
Z45A	**Winona**	**21.25**	**356**	P		**P**	**01 01 27.6**	**+0.7**
	baz=176							
JCT	**Junction City**	**21.26**	**331**	*e*P		**P**	**01 01 27.4**	**+0.3**
	comp=Z,29nm,0.6s							
JCT	**Junction City**	**21.26**	**331**	P		**P**	**01 01 26.8**	**-0.4**
	baz=147,SNR=8.9							
Z52A	**Williamson**	**21.30**	**9**	P		**P**	**01 01 28.0**	**+0.6**
	baz=190							
Z51A	**Franklin**	**21.32**	**7**	P		**P**	**01 01 28.1**	**+0.4**
	baz=188							
Z41A	**Richland Creek**	**21.52**	**349**	*e*P		**P**	**01 01 31.9**	**+2.2**
	comp=Z,57nm,0.8s							
Z41A	**Richland Creek**	**21.52**	**349**	P		**P**	**01 01 30.9**	**+1.1**
	baz=168,SNR=8.6							
Z53A	**Monticello**	**21.52**	**11**	P		**P**	**01 01 30.8**	**+0.9**
	baz=192,SNR=8.5							
WHTX	**Lake Whitney,**	**21.60**	**338**	*e*P		**P**	**01 01 30.5**	**-0.2**
	comp=Z,12nm,0.8s							
Z54A	**Sparta**	**21.62**	**12**	P		**P**	**01 01 31.5**	**+0.6**
	baz=194							
GOGA	**Godfrey**	**21.67**	**11**	*e*P		**P**	**01 01 32.3**	**+0.9**
	comp=Z,14nm,0.7s							
GOGA	**Godfrey**	**21.67**	**11**	P		**P**	**01 01 32.1**	**+0.7**
	baz=192,SNR=8.0							
Y46A	**Houston**	**21.72**	**358**	P		**P**	**01 01 31.9**	**0.0**
	baz=178,SNR=8.5							
Y45A	**Yeager Farm, C**	**21.73**	**357**	P		**P**	**01 01 32.5**	**+0.4**
	baz=176							
Y47A	**UCPARC, Winfie**	**21.73**	**1**	P		**P**	**01 01 32.5**	**+0.4**
	baz=181,SNR=5.1							
Y49A	**Blount Mountai**	**21.75**	**4**	*e*P		**P**	**01 01 33.4**	**+1.1**
	comp=Z,16nm,0.8s							
Y49A	**Blount Mountai**	**21.75**	**4**	P		**P**	**01 01 32.9**	**+0.6**
	baz=194,SNR=7.3							
Y48A	**Jasper**	**21.76**	**2**	P		**P**	**01 01 33.0**	**+0.6**
	baz=182							
Y50A	**Piedmont**	**21.83**	**5**	P		**P**	**01 01 33.6**	**+0.5**
	baz=186							
Y44A	**Strider, Charl**	**21.87**	**355**	P		**P**	**01 01 34.3**	**+0.7**
	baz=174							
Y51A	**Rockmart**	**21.91**	**7**	P		**P**	**01 01 34.1**	**+0.1**
	baz=188,SNR=7.9							
CCAR	**Cane Creek**	**22.00**	**352**	*e*P		**P**	**01 01 30.9**	**-4.0**
	comp=Z,23nm,0.7s							
Y52A	**Lilburn**	**22.01**	**9**	*e*P		**P**	**01 01 36.2**	**+1.0**
	comp=Z,20nm,0.8s							
Y52A	**Lilburn**	**22.01**	**9**	P		**P**	**01 01 35.6**	**+0.5**
	baz=191,SNR=8.7							
Y53A	**Monroe**	**22.08**	**10**	P		**P**	**01 01 36.8**	**+0.9**
	baz=192,SNR=9.8							
Y41A	**Eaglette Beard**	**22.09**	**350**	P		**P**	**01 01 36.5**	**+0.5**
	baz=168,SNR=7.1							
HPIG		**22.12**	**314**	*e*P		**P**	**01 01 36.6**	**0.0**
	comp=Z,5.5nm,1.0s							
Y54A	**Tignall**	**22.26**	**12**	P		**P**	**01 01 38.5**	**+0.7**
	baz=194,SNR=10.0							
X45A	**UM Field Stati**	**22.28**	**357**	P		**P**	**01 01 38.2**	**+0.2**
	baz=177							
X48A	**Hartselle**	**22.30**	**2**	*e*P		**P**	**01 01 38.5**	**+0.3**
	comp=Z,14nm,0.9s							
X48A	**Hartselle**	**22.30**	**2**	P		**P**	**01 01 38.6**	**+0.4**
	baz=183							
X47A	**Russelville**	**22.35**	**1**	P		**P**	**01 01 38.6**	**-0.1**
	baz=181,SNR=9.7							
OXF	**Oxford**	**22.37**	**357**	*e*P		**P**	**01 01 38.8**	**-0.2**
	comp=Z,17nm,0.6s							
OXF	**Oxford**	**22.37**	**357**	P		**P**	**01 01 39.3**	**+0.4**
	baz=177							
X46A	**Booneville**	**22.39**	**359**	P		**P**	**01 01 39.0**	**-0.1**
	baz=179							
X49A	**Woodville**	**22.40**	**4**	P		**P**	**01 01 39.4**	**+0.1**
	baz=185							
X50B	**Fort Payne**	**22.41**	**5**	P		**P**	**01 01 39.5**	**+0.2**
	baz=186							
TXAR	**Lajitas Array**	**22.44**	**322**	P		**P**	**01 01 40.5**	**+0.6**
	comp=Z,10.0nm,0.7s,baz=142,slow=8.8,SNR=104							
TXAR				PcP		**PcP**	**01 05 37.2**	**+3.2**
	comp=Z,1.0nm,0.9s,baz=165,slow=3.7,SNR=3.5							
TX31	**Lajitas Ar. Si**	**22.44**	**322**	*e*P		**P**	**01 01 40.7**	**+0.7**
X51A	**Calhoun**	**22.59**	**7**	P		**P**	**01 01 41.9**	**+0.6**
	baz=188							
X41A	**Kaden, Bauxite**	**22.67**	**351**	P		**P**	**01 01 42.6**	**+0.4**
	baz=169,SNR=10							
HODGE	**Hodges**	**22.70**	**13**	*e*P		**P**	**01 01 44.0**	**+1.5**
	comp=Z,21nm,0.7s							
X40A	**Basin Creek Fa**	**22.72**	**350**	*e*P		**P**	**01 01 43.5**	**+0.9**
	comp=Z,13nm,0.9s							
X40A	**Basin Creek Fa**	**22.72**	**350**	P		**P**	**01 01 43.2**	**+0.5**
	baz=168							
X52A	**Dahlonega**	**22.76**	**9**	P		**P**	**01 01 43.3**	**+0.2**
	baz=191							
X53A	**Estanollee**	**22.76**	**10**	P		**P**	**01 01 43.1**	**-0.1**
	baz=192,SNR=7.8							
MIAR	**Mount Ida**	**22.91**	**348**	*e*P		**P**	**01 01 44.9**	**+0.2**
	comp=Z,66nm,0.8s							
MIAR	**Mount Ida**	**22.91**	**348**	P		**P**	**01 01 44.7**	**0.0**
	baz=166,SNR=55							
UALR	**University of**	**22.92**	**351**	*e*P		**P**	**01 01 45.0**	**+0.2**
	comp=Z,32nm,0.7s							
JSC	**Jenkinsville**	**22.98**	**15**	*e*P		**P**	**01 01 46.5**	**+1.1**
	comp=Z,22nm,1.0s							
W48A	**Pulaski**	**22.99**	**3**	P		**P**	**01 01 44.8**	**-0.7**
	baz=183,SNR=6.5							
W45A	**Hickory Valley**	**23.00**	**358**	P		**P**	**01 01 44.7**	**-0.9**
	baz=177							
W49A	**Belvidere**	**23.01**	**4**	P		**P**	**01 01 45.2**	**-0.5**
	baz=185							
ABTX	**Abilene, Hawle**	**23.02**	**335**	*e*P		**P**	**01 01 43.7**	**-2.1**
	comp=Z,32nm,0.8s							
ABTX	**Abilene, Hawle**	**23.02**	**335**	P		**P**	**01 01 44.8**	**-1.1**
	baz=150,SNR=15							
W47A	**Westpoint**	**23.08**	**1**	P		**P**	**01 01 46.0**	**-0.4**
	baz=181,SNR=7.7							
SWET	**Sewanee**	**23.13**	**5**	*e*P		**P**	**01 01 46.9**	**-0.1**
	comp=Z,9.3nm,0.8s							
W50A	**Signal Mountai**	**23.17**	**6**	*e*P		**P**	**01 01 47.1**	**-0.3**
	comp=Z,10nm,0.8s							
W50A	**Signal Mountai**	**23.17**	**6**	P		**P**	**01 01 45.9**	**-1.5**
	baz=187							
W51A	**Cleveland**	**23.19**	**7**	P		**P**	**01 01 47.2**	**-0.3**
	baz=188,SNR=5.0							
W52A	**Murphy**	**23.24**	**9**	*e*P		**P**	**01 01 48.6**	**+0.6**
	comp=Z,8.4nm,0.8s							
W52A	**Murphy**	**23.24**	**9**	P		**P**	**01 01 47.9**	**-0.1**
	baz=190							
W41B	**Gary Mavity, V**	**23.30**	**351**	*e*P		**P**	**01 01 48.8**	**+0.2**
	comp=Z,28nm,0.8s							
W41B	**Gary Mavity, V**	**23.30**	**351**	P		**P**	**01 01 48.6**	**0.0**
	baz=170,SNR=19							
BG3	**Lake Jocassee**	**23.31**	**11**	*e*P		**P**	**01 01 49.9**	**+1.1**
	comp=Z,15nm,0.8s							
PAULI	**Pauline**	**23.37**	**13**	*e*P		**P**	**01 01 50.4**	**+1.1**
	comp=Z,18nm,0.8s							
WHAR	**Wooly Hollow**	**23.42**	**351**	*e*P		**P**	**01 01 50.2**	**+0.5**
	comp=Z,34nm,0.9s							
W53A	**Cullowhee**	**23.44**	**10**	P		**P**	**01 01 50.3**	**+0.2**
	baz=192							
CPCT	**Cooper Cave**	**23.51**	**7**	*e*P		**P**	**01 01 50.6**	**0.0**
	comp=Z,8.2nm,1.0s							
V45A	**Humboldt**	**23.58**	**358**	P		**P**	**01 01 51.2**	**-0.2**
	baz=178							
W39A	**Magazine**	**23.58**	**348**	*e*P		**P**	**01 01 52.2**	**+0.8**
	comp=Z,31nm,0.9s							
W39A	**Magazine**	**23.58**	**348**	P		**P**	**01 01 51.8**	**+0.4**
	baz=166,SNR=22							
V48A	**Smith Brothers**	**23.59**	**3**	P		**P**	**01 01 51.6**	**+0.1**
	baz=183							
V46A	**Holladay**	**23.62**	**0**	P		**P**	**01 01 51.5**	**-0.3**
	baz=180							
V50A	**Pikevile**	**23.66**	**6**	P		**P**	**01 01 51.7**	**-0.4**
	baz=187							
V47A	**Nunnelly**	**23.66**	**1**	P		**P**	**01 01 51.9**	**-0.3**
	baz=181							
V49A	**McMinnville**	**23.68**	**5**	P		**P**	**01 01 51.4**	**-0.9**
	baz=185							
KMSC	**Kings Mountain**	**23.79**	**14**	*e*P		**P**	**01 01 53.9**	**+0.5**
	comp=Z,12nm,0.9s							
KMSC	**Kings Mountain**	**23.79**	**14**	P		**P**	**01 01 52.7**	**-0.6**
	baz=197							
V42A	**Cord**	**23.81**	**353**	P		**P**	**01 01 52.8**	**-0.7**
	baz=172							
TKL	**Tuckaleechee C**	**23.82**	**9**	P		**P**	**01 01 53.7**	**+0.1**
	comp=Z,26nm,0.9s,baz=187,slow=13,SNR=12							
TKL				LR		LR	01 10 24.0	
	comp=Z,187nm,20.9s,baz=170,slow=35							
TKL	**

SIUC	Southern Illin	25.55	358	eP		P	01 02 09.0	-0.4	
	comp=Z,20nm,0.8s								
MSTX	Muleshoe	25.56	331	eP		P	01 02 09.5	-0.2	
	comp=Z,30nm,0.8s								
MSTX	Muleshoe	25.56	331	P		P	01 02 09.0	-0.7	
	baz=145,SNR=16								
S41A	Jillco Farms,	25.61	353	P		P	01 02 09.2	-0.8	
	baz=172								
S42A	Caledonia	25.70	355	P		P	01 02 09.5	-1.3	
	baz=174								
S49A	Springfield	25.73	5	P		P	01 02 10.8	-0.3	
	baz=186								
S51A	Beattyville	25.79	8	P		P	01 02 10.5	-1.1	
	baz=190								
AMTX	Amarillo	25.82	334	eP		P	01 02 12.0	-0.1	
	comp=Z,50nm,1.1s								
AMTX	Amarillo	25.82	334	P		P	01 02 11.6	-0.4	
	baz=148								
BLA	Blacksburg	25.98	14	eP		P	01 02 14.4	+1.0	
	comp=Z,17nm,1.0s								
BLA	Blacksburg	25.98	14	P		P	01 02 12.3	-1.0	
	baz=197								
CCM	Cathedral Cave	26.02	354	eP		P	01 02 12.6	-1.1	
	comp=Z,19nm,0.7s								
CCM				eP	CP	PcP	01 05 42.1	+0.7	
CCM	Cathedral Cave	26.02	354	P		P	01 02 13.2	-0.5	
	baz=173								
R46A	Gibson Southern	26.04	1	P		P	01 02 13.1	-0.8	
	baz=181								
R44A	Waltonville	26.08	358	P		P	01 02 13.3	-0.9	
	baz=178								
WCI	Wyandotte Cave	26.10	3	eP		P	01 02 13.7	-0.8	
	comp=Z,14nm,0.8s								
WCI	Wyandotte Cave	26.10	3	P		P	01 02 13.3	-1.2	
	baz=184								
U32A	Winter Ranch,	26.11	340	eP		P	01 02 14.6	0.0	
	comp=Z,36nm,0.8s								
R45A	Skylar, Fairfi	26.11	360	P		P	01 02 13.0	-1.5	
	baz=180								
R43A	Red Bud	26.14	357	P		P	01 02 13.7	-1.1	
	baz=176								
R47A	Wooly Knot Far	26.16	3	P		P	01 02 13.3	-1.6	
	baz=184								
R42A	Luebbering	26.21	355	P		P	01 02 14.6	-0.8	
	baz=174								
R49A	Shelbyville	26.25	5	P		P	01 02 14.7	-1.1	
	baz=186								
R41A	Rosebud	26.28	354	P		P	01 02 14.9	-1.1	
	baz=173,SNR=14								
R50A	Paris	26.32	7	P		P	01 02 15.7	-0.8	
	baz=188								
R51A	Hillsboro	26.44	8	P		P	01 02 16.6	-0.8	
	baz=190								
Q45A	Warren Harvey,	26.71	360	P		P	01 02 18.8	-1.2	
	baz=180								
R53A	Hurricane	26.73	11	P		P	01 02 19.9	-0.2	
	baz=194								
Q44A	Meyer Farm, Va	26.73	358	eP		P	01 02 19.3	-0.8	
	comp=Z,17nm,0.8s								
Q44A	Meyer Farm, Va	26.73	358	P		P	01 02 18.8	-1.3	
	baz=178								
R54A	Victor	26.78	13	P		P	01 02 19.9	-0.6	
	baz=196								
Q47A	Bedord North L	26.80	3	P		P	01 02 19.8	-0.9	
	baz=184								
Q48A	North Vernon	26.84	4	P		P	01 02 20.2	-0.8	
	baz=185								
Q41A	Truxton	26.91	355	P		P	01 02 21.1	-0.6	
	baz=173								
Q49A	Aurora	26.98	6	P		P	01 02 21.6	-0.7	
	baz=187								
R55A	Marlinton	27.07	14	P		P	01 02 22.8	-0.5	
	baz=197								
Q51A	Peebles	27.18	8	eP		P	01 02 24.2	0.0	
	comp=Z,17nm,0.7s								
Q51A	Peebles	27.18	8	P		P	01 02 23.7	-0.5	
	baz=190,SNR=7.6								
Q52A	Bidwell	27.29	10	P		P	01 02 24.8	-0.3	
	baz=192								
P44A	Sand Creek, Wi	27.29	359	P		P	01 02 24.9	-0.3	
	baz=179								
P47A	Martinsville	27.36	3	P		P	01 02 24.5	-1.3	
	baz=184								
P48A	Milroy	27.39	5	P		P	01 02 24.6	-1.4	
	baz=186								
P46A	Rosedale	27.45	2	P		P	01 02 25.1	-1.4	
	baz=182								
P42A	Winchester	27.47	356	P		P	01 02 25.6	-1.1	
	baz=175								
P49A	Miami Univ. Ec	27.52	6	P		P	01 02 25.7	-1.5	
	baz=187								
P41A	Barry, Barry	27.61	355	P		P	01 02 26.3	-1.7	
	baz=174								
P51A	Williamsport	27.67	9	P		P	01 02 27.4	-1.1	
	baz=191								
P50A	Jamestown	27.70	7	P		P	01 02 28.1	-0.7	
	baz=189								
Q55A	Buckhannon	27.76	14	P		P	01 02 29.0	-0.4	
	baz=197								
LENM	Lemitar	27.89	325	eP		P	01 02 35.3	+4.5	
KSU1	Kansas State U	27.95	346	eP		P	01 02 30.4	-0.6	
	comp=Z,18nm,0.7s								
KSU1	Kansas State U	27.95	346	P		P	01 02 30.1	-0.9	
	baz=162								
P53A	Whipple	27.95	11	eP		P	01 02 31.4	+0.3	
	comp=Z,14nm,0.8s								
P53A	Whipple	27.95	11	P		P	01 02 30.6	-0.5	
	baz=194								
P52A	Corning	27.96	10	P		P	01 02 30.7	-0.5	
	baz=192								
O41A	Passleys Farm,	28.04	356	P		P	01 02 30.2	-1.6	
	baz=174								
O45A	Potomac	28.07	1	P		P	01 02 30.3	-1.8	
	baz=181								
O47A	Sheridan	28.11	3	P		P	01 02 30.2	-2.3	
	baz=184								
ANMO	Albuquerque	28.19	327	P		P	01 02 33.6	0.0	
	comp=Z,1.8nm,0.8s,baz=143,slow=8.1,SNR=3.4								
ANMO				PcP		PcP	01 05 49.6	+2.6	
	comp=Z,1.8nm,0.9s,baz=189,slow=5.9,SNR=3.8								
ANMO	Albuquerque	28.19	327	P		P	01 02 33.5	0.0	
	baz=140								
O48A	Farmland	28.20	5	P		P	01 02 32.0	-1.3	
	baz=186								
O49A	Covington	28.21	6	eP		P	01 02 32.5	-0.9	
	comp=Z,9.3nm,0.8s								
O49A	Covington	28.21	6	P		P	01 02 31.9	-1.4	
	baz=188								
SFIN	Lafayette	28.21	2	P		P	01 02 32.0	-1.3	
	baz=182								
O50A	Cable	28.25	7	P		P	01 02 32.9	-0.8	
	baz=189,SNR=10								
P54A	Burton	28.25	13	P		P	01 02 33.8	0.0	
	baz=196								
P55A	Reedsville	28.30	14	P		P	01 02 34.0	-0.3	
	baz=197								
O51A	Pataskala	28.39	9	P		P	01 02 33.9	-1.1	
	baz=191								
ACSO	Alum Creek Sta	28.42	8	eP		P	01 02 34.8	-0.4	
	comp=Z,11nm,0.8s								
ACSO	Alum Creek Sta	28.42	8	P		P	01 02 34.6	-0.6	
	baz=191								
MCWV	Mont Chateau	28.44	14	P		P	01 02 34.5	-0.9	
	baz=197								
O52A	Adamsville	28.48	10	P		P	01 02 34.5	-1.3	
	baz=193								
CBKS	Cedar Bluff	28.56	341	eP		P	01 02 36.5	0.0	
	comp=Z,12nm,0.6s								
CBKS	Cedar Bluff	28.56	341	P		P	01 02 36.1	-0.5	
	baz=156								
N44A	Piper City	28.61	0	P		P	01 02 35.4	-1.5	
	baz=180								
N41A	Harden Midland	28.62	356	eP		P	01 02 35.8	-1.2	
	comp=Z,13nm,0.8s								
N41A	Harden Midland	28.62	356	P		P	01 02 35.6	-1.4	
	baz=174								
N45A	Kentland	28.67	1	P		P	01 02 36.0	-1.4	
	baz=181								
N42A	Yates City	28.69	357	P		P	01 02 36.3	-1.3	
	baz=176								
O53A	New Philadelph	28.73	11	P		P	01 02 36.5	-1.4	
	baz=194								
N46A	Monticello	28.74	2	P		P	01 02 37.2	-0.9	
	baz=183								
N43A	Stutzman Famil	28.77	358	P		P	01 02 37.3	-1.0	
	baz=178								
N47A	Urbana	28.78	4	P		P	01 02 37.3	-1.1	
	baz=185								
O54A	Avella	28.83	12	P		P	01 02 38.3	-0.6	
	baz=196								
T25A	Trinidad	28.92	332	eP		P	01 02 41.5	+1.6	
	comp=Z,6.9nm,0.8s								
T25A	Trinidad	28.92	332	P		P	01 02 40.2	+0.2	
	baz=146,SNR=7.7								
N50A	Nevada	28.93	8	P		P	01 02 38.6	-1.1	
	baz=190								
N49A	Columbus Grove	28.95	6	eP		P	01 02 39.4	-0.5	
	comp=Z,12nm,0.8s								
TUC	Tucson	28.95	318	eP		P	01 02 45.9	+5.7	
	comp=Z,3.3nm,0.8s								
N52A	McGinn's Farm,	29.19	10	P		P	01 02 40.8	-1.3	
	baz=193								
M47A	Cromwell	29.26	4	P		P	01 02 40.9	-1.8	
	baz=185								
M43A	Waltham Townsh	29.26	359	P		P	01 02 41.9	-0.8	
	baz=178								
M41A	Milan	29.27	356	P		P	01 02 41.1	-1.7	
	baz=175								
M46A	Old House Fiel	29.27	3	P		P	01 02 41.5	-1.2	
	baz=184								
M40A	Post Highland	29.37	355	P		P	01 02 42.3	-1.3	
	baz=173								
M39A	Webster	29.51	354	P		P	01 02 43.8	-1.1	
	baz=172,SNR=6.0								
M49A	Liberty Center	29.52	6	P		P	01 02 44.0	-0.9	
	baz=188								
M50A	Fremont	29.56	8	P		P	01 02 44.7	-0.6	
	baz=190								
N54A	Moraine State	29.66	13	eP		P	01 02 46.0	-0.2	
	comp=Z,12nm,0.7s								
N54A	Moraine State	29.66	13	P		P	01 02 45.9	-0.3	
	baz=196								
N55A	Marion Center	29.71	14	P		P	01 02 46.1	-0.6	
	baz=198								
KSCO	Kaye Shedlock'	29.76	337	P		P	01 02 47.6	+0.3	
	baz=150								
L42A	Oliver, Polo	29.85	358	P		P	01 02 46.8	-1.1	
	baz=177								
SSPA	Standing Stone	29.85	16	P		P	01 02 47.9	-0.1	
	baz=200								
L47A	Sherwood	29.90	4	P		P	01 02 46.9	-1.5	
	baz=186								
SDCO	Great Sand Dun	29.91	332	eP		P	01 02 50.9	+2.0	
	comp=Z,4.5nm,0.9s								
SDCO	Great Sand Dun	29.91	332	P		P	01 02 49.2	+0.4	
	baz=144,SNR=8.9								
L48A	N Adams	29.94	6	P		P	01 02 47.2	-1.5	
	baz=187								
L41A	Preston	29.96	356	P		P	01 02 47.5	-1.3	
	baz=175								
L40A	Anamosa	30.00	355	eP		P	01 02 48.2	-1.0	
	comp=Z,12nm,0.9s								
L40A	Anamosa	30.00	355	P		P	01 02 48.1	-1.1	
	baz=174								
SCIA	State Center	30.05	352	eP		P	01 02 49.3	-0.4	
	comp=Z,27nm,0.7s								
SCIA	State Center	30.05	352	P		P	01 02 49.0	-0.7	
	baz=170								
L39A	Vinton	30.13	354	P		P	01 02 49.6	-0.7	
	baz=172								
L49A	Milan	30.17	6	P		P	01 02 49.5	-1.2	
	baz=188								
M54A	Oil Creek Stat	30.25	13	eP		P	01 02 51.2	-0.3	
	comp=Z,9.5nm,0.7s								
M54A	Oil Creek Stat	30.25	13	P		P	01 02 50.6	-0.9	
	baz=196								
K41A	Shullsburg	30.48	357	P		P	01 02 52.3	-1.1	
	baz=176								
BGNE	Belgrade	30.51	345	eP		P	01 02 53.8	0.0	
	comp=Z,35nm,0.7s								
BGNE	Belgrade	30.51	345	P		P	01 02 53.0	-0.8	
	baz=160,SNR=6.9								
S22A	4UR Ranch, Cre	30.54	330	eP		P	01 02 56.9	+2.4	
	comp=Z,4.3nm,0.9s								
K47A	Vermontville	30.61	5	P		P	01 02 52.5	-2.0	
	baz=186								
K42A	Prairie Point,	30.61	358	P		P	01 02 53.0	-1.6	
	baz=178								
K40A	Colesburg	30.63	356	P		P	01 02 53.4	-1.3	
	baz=174,SNR=5.2								
K39A	Oelwein	30.69	355	P		P	01 02 53.7	-1.7	
	baz=173,SNR=6.5								
N59A	State Game Lan	30.73	19	P		P	01 02 54.1	-1.6	
	baz=204								
JFWS	Jewell Farm	30.78	357	eP		P	01 02 55.4	-0.7	
	comp=Z,7.1nm,0.6s								
JFWS	Jewell Farm	30.78	357	P		P	01 02 54.5	-1.7	
	baz=176								
K48A	Perry	30.82	6	P		P	01 02 55.0	-1.4	
	baz=188								
K49A	Clarkson	30.87	7	P		P	01 02 55.3	-1.7	
	baz=189								
J42A	Columbus	31.14	359	P		P	01 02 57.5	-1.8	
	baz=178								
L55A	Hinsdale	31.17	14	P		P	01 02 58.6	-1.0	
	baz=198								
J47A	Sunmer	31.19	5	P		P	01 02 57.7	-1.9	
	baz=186								
J41A	Loganville	31.22	357	P		P	01 02 58.6	-1.4	
	baz=176								
J40A	Soldiers Grove	31.29	356	P		P	01 02 58.9	-1.7	
	baz=175								
J39A	Decorah	31.30	355	P		P	01 02 59.0	-1.7	
	baz=173								
ISCO	Idaho Springs	31.64	334	eP		P	01 03 06.8	+2.6	
	comp=Z,2.3nm,0.8s								
I43A	Langenfeld Bro	31.70	0	P		P	01 03 02.8	-1.4	
	baz=182								
I42A	Draeger Farm,	31.71	359	P		P	01 03 02.9	-1.4	
	baz=178								
SMCO	Snowmass	31.75	332	eP		P	01 03 07.8	+2.6	
	comp=Z,3.9nm,0.8s								
I39A	Houston	31.80	355	eP		P	01 03 03.8	-1.3	
	comp=Z,16nm,1.1s								
I39A	Houston	31.80	355	P		P	01 03 03.6	-1.6	
	baz=174								
BINY	Binghamton	31.83	17	P		P	01 03 03.9	-1.5	
	baz=203								
I41A	Arkdale	31.91	358	eP		P	01 03 04.9	-1.1	
	comp=Z,8.9nm,0.6s								
I41A	Arkdale	31.91	358	P		P	01 03 05.0	-1.0	
	baz=177								
PV12	Saucer Basin,	31.97	328	eP		P	01 03 08.4	+1.5	
	comp=Z,11nm,1.0s								
PV12				eP	CP	PcP	01 05 59.6	+2.8	
I47A	Gladwin	31.99	5	P		P	01 03 04.7	-2.1	
	baz=187								
PV11	David Mesa, Pa	32.00	328	eP		P	01 03 03.0	-4.1	
	comp=Z,11nm,0.4s								
PV10	Paradox Valley	32.14	328	eP		P	01 03 08.8	+0.4	
PV23	Carpenter Ridg	32.18	328	eP		P	01 03 11.6	+2.7	
	comp=Z,4.7nm,0.9s								
H42A	Shiocton	32.33	359	P		P	01 03 08.1	-1.6	
	baz=179								
ECSD	EROS Data Cent	32.38	349	eP		P	01 03 08.2	-2.0	
	comp=Z,9.8nm,0.8s								
ECSD				eP	CP	PcP	01 05 58.0	+0.6	
ECSD	EROS Data Cent	32.38	349	P		P	01 03 08.6	-1.6	
	baz=164,SNR=14								
H41A	Junction City	32.46	358	P		P	01 03 09.0	-1.8	
	baz=177								
H40A	Chili	32.49	357	P		P	01 03 09.2	-1.9	
	baz=176,SNR=5.3								
H39A	Augusta	32.60	356	P		P	01 03 10.7	-1.5	
	baz=174								
H38A	Maiden Rock	32.68	355	P		P	01 03 10.8	-2.0	
	baz=172,SNR=5.4								
N23A	Red Feather La	32.69	335	P		P	01 03 12.1	-1.2	
	baz=146								
H48A	Harrisville	32.78	6	P		P	01 03 12.4	-1.2	
	baz=189								
G41A	Antigo	33.04	359	P		P	01 03 14.0	-2.0	
	baz=178								
G42A	Mountain	33.06	360	P		P	01 03 14.1	-2.0	
	baz=179								
G43A	Wallace	33.07	1	P		P	01 03 14.6	-1.6	
	baz=181								
O20A	White River Ci	33.10	331	eP		P	01 03 19.4	+2.6	
	comp=Z,9.3nm,0.9s								
G40A	Rib Lake	33.13	357	eP		P	01 03 15.4	-1.3	
	comp=Z,15nm,1.1s								
G40A	Rib Lake	33.13	357	P		P	01 03 15.5	-1.3	
	baz=176								
G38A	Ridgeland	33.14	355	P		P	01 03 14.6	-2.1	
	baz=173								
G39A	Holcombe	33.20	356	P		P	01 03 15.0	-2.4	
	baz=175,SNR=7.5								
SPMN	Marine on St.	33.28	354	P		P	01 03 15.7	-2.4	
	baz=172,SNR=15								
SADO	Sadowa	33.49	12	P		P	01 03 18.7	-1.1	
	comp=Z,15nm,0.7s,baz=220,slow=8.6,SNR=15								
SADO	Sadowa	33.49	12	eP		P	01 03 19.1	-0.7	
F41A	Three Lakes	33.56	359	P		P	01 03 19.2	-1.3	
	baz=178								
SUSD	Miller	33.57	346	P		P	01 03 19.2	-1.4	
	baz=161								
DELO	Deloro Mine	33.57	14	P		P	01 03 19.2	-1.4	
	baz=199								
F45A	CMU Biological	33.57	3	P		P	01 03 18.8	-1.8	
	baz=185								
MTPU	Mount Pierson	33.60	324	eP		P	01 03 23.9	+2.5	
	comp=Z,1.4nm,0.7s								
F40A	Park Falls	33.77	358	P		P	01 03 19.5	-2.9	
	baz=176,SNR=5.4								
F39A	Loretta	33.81	357	P		P	01 03 20.6	-2.1	
	baz=175,SNR=5.9								
F44A	Big Bay de Noc	33.82	2	P		P	01 03 20.7	-2.0	
	baz=183,SNR=6.7								
P17A	Butcher Ranch,	33.84	328	eP		P	01 03 24.1	+0.9	
	comp=Z,3.3nm,0.8s								
F38A	Pierce - Schro	33.92	355	P		P	01 03 21.8	-1.8	
	baz=173,SNR=8.6								
COWI	Conover	33.92	359	eP		P	01 03 22.1	-1.6	
	comp=Z,7.5nm,0.6s								
G53A	Haliburton	33.93	12	P		P	01 03 22.0	-1.7	
	baz=197								
E43A	Lone Tree Farm	34.20	1	eP		P	01 03 24.5	-1.6	
	comp=Z,11nm,0.8s								
E43A	Lone Tree Farm	34.20	1	P		P	01 03 24.5	-1.6	
	baz=182								
E42A	Champion	34.25	0	P		P	01 03 24.7	-1.7	
	baz=180								
E39A	Mellen	34.25	357	P		P	01 03 24.7	-1.7	
	baz=176,SNR=8.3								
E41A	Kenton	34.29	359	P		P	01 03 24.4	-2.3	
	baz=178								
E40A	Wakefield	34.29	358	P		P	01 03 25.2	-1.7	
	baz=177								
K22A	Casper	34.40	336	eP		P	01 03 28.8	+0.8	
	comp=Z,7.2nm,0.9s								
K22A	Casper	34.40	336	P		P	01 03 27.8	-0.2	
	baz=147								
LPAZ	La Paz	34.44	144	P		P	01 03 28.9	-0.2	
	comp=Z,1.0nm,0.3s,baz=3.4,slow=19,SNR=8.3								
LPAZ				P	CP	PcP	01 06 07.2	+2.7	
	comp=Z,0.9nm,0.6s,baz=309,slow=3.1,SNR=3.0								
F52A	Sundridge	34.44	11	P		P	01 03 26.9	-1.2	
	baz=195								
LONY	Lake Ozonia	34.46	17	eP		P	01 03 27.8	-0.6	
	comp=Z,11nm,0.9s								
LONY	Lake Ozonia	34.46	17	P		P	01 03 27.7	-0.6	
	baz=204								
F51A	Arnstein	34.46	10	P		P	01 03 26.9	-1.4	
	baz=194								
G55A	Calabogie	34.48	14	P		P	01 03 27.3	-1.2	
	baz=200								
E44A	Grand Marais A	34.49	3	P		P	01 03 27.5	-1.0	
	baz=184								
E47A	Iron Bridge	34.52	6	P		P	01 03 27.3	-1.4	
	baz=188								
E38A	The Farm, Brul	34.54	356	eP		P	01 03 27.5	-1.5	
	comp=Z,12nm,0.7s								
E38A	The Farm, Brul	34.54	356	P		P	01 03 27.1	-1.8	
	baz=174,SNR=7.3								
RSSD	Black Hills	34.74	340	eP		P	01 03 31.4	+0.4	
	comp=Z,10nm,0.7s								
PEMO	Pembroke	34.76	13	P		P	01 03 30.0	-0.8	
	baz=199								
E50A	Wahnapitae	34.81	9	P		P	01 03 30.0	-1.3	
	baz=193								
ALGO	Algonquin Park	34.84	12	P		P	01 03 30.3	-1.3	
	baz=197								
D41A	Chassel	34.88	360	P		P	01 03 30.5	-1.3	
	baz=179								
D46A	Sault St. Mari	34.88	5	P		P	01 03 30.3	-1.5	
	baz=187								
E52A	Mattawa	35.04	11	P		P	01 03 32.6	-0.7	
	baz=196								
F55A	Otter Lake	35.12	14	P		P	01 03 32.9	-1.0	
	baz=200								
E51A	G1948 Merrick	35.12	10	P		P	01 03 32.8	-1.2	
	baz=195								
D47A	Chapleau	35.13	6	P		P	01 03 32.9	-1.1	
	baz=188								
ALFO	Alfred	35.30	16	P		P	01 03 34.5	-1.0	
	baz=203								
D48A	Paudash Townsh	35.40	7	P		P	01 03 34.6	-1.7	
	baz=191								
E54A	Lac Daplat, Po	35.49	13	P		P	01 03 35.4	-1.8	
	baz=199								
D49A	Beulah Townshi	35.55	8	P		P	01 03 36.0	-1.6	
	baz=191								
C40A	Isle Royale Na	35.74	359	P		P	01 03 37.1	-2.2	
	baz=178								
BW06	Boulder Array	35.79	333	eP		P	01 03 41.3	+1.3	
	comp=Z,1.6nm,0.8s								
BW06	Boulder Array	35.79	333	P		P	01 03 38.8	-1.3	
	baz=142								
PD31	Pinedale Array	35.79	333	eP		P	01 03 40.3	+0.2	
PDAR	Pinedale Array	35.79	333	P		P	01 03 39.6	-0.5	
	comp=Z,0.7nm,0.6s,baz=119,slow=10,SNR=8.4								
PDAR				P	CP	PcP	01 06 08.3	+0.8	
	comp=Z,1.1nm,0.7s,baz=125,slow=4.5,SNR=7.5								
EYMN	Ely	35.87	356	eP		P	01 03 38.2	-2.2	
	comp=Z,9.6nm,0.7s								
EYMN	Ely	35.87	356	P		P	01 03 38.2	-2.2	
	baz=174,SNR=6.2								
D54A	Lac Fusel, La	36.28	13	P		P	01 03 42.9	-1.1	
	baz=199								
REDW	Red Top Meadow	36.84	332	eP		P	01 03 49.8	+0.7	
	comp=Z,11nm,0.8s								
SNOW	Snow King Moun	36.88	332	eP		P	01 03 50.3	+0.9	
	comp=Z,12nm,0.8s								
LOHW	Long Hollow	36.92	332	eP		P	01 03 50.4	+0.7	
	comp=Z,5.4nm,1.0s								
MDND	Maddock	36.93	347	P		P	01 03 48.4	-1.1	
	baz=161,SNR=9.4								
TPAW	Teton Pass	36.99	332	eP		P	01 03 50.0	-0.4	
	comp=Z,7.0nm,0.8s								
MOOW	Moose Ponds	37.09	333	eP		P	01 03 51.6	+0.4	
	comp=Z,4.4nm,0.8s								
FXWY	Fox Creek	37.14	332	eP		P	01 03 51.7	+0.2	
	comp=Z,2.1nm,0.9s								
FXWY				eP	CP	PcP	01 06 13.8	+2.2	
FLWY	Flagg Ranch	37.34	333	eP		P	01 03 53.9	+0.7	
	comp=Z,6.3nm,1.0s								
LATQ	La Tuque	37.50	17	P		P	01 03 53.4	-0.9	
	baz=205								
NV01	Mina Array Sit	37.54	320	eP		P	01 03 56.8	+1.7	
NV01				eP	CP	PcP	01 06 14.9	+2.0	
NVAR	Mina Array Bea	37.54	320	P		P	01 03 54.7	-0.4	
	comp=Z,1.4nm,0.9s,baz=134,slow=6.4,SNR=4.5								
NVAR				P	CP	PcP	01 06 14.5	+1.7	
	comp=Z,2.3nm,0.7s,baz=130,slow=4.3,SNR=9.2								
NVAR					LR	LR	01 21 31.7		
	comp=Z,98nm,18.4s,baz=60,slow=40								
RLMT	Red Lodge	37.55	335

BOZ	**Bozeman (W)**	**38.93**	334	*P*	**P**	**01 04 06.6**	**0.0**
	baz=142							
DLMT	**Dillon**	**39.18**	332	*eP*	**P**	**01 04 11.7**	**+3.0**
	comp=Z,7.3nm,1.1s							
CHGQ	**Chibougamau**	**39.40**	14	P	**P**	**01 04 09.0**	**-1.3**
	baz=201							
HRY	**Holter Researc**	**39.90**	334	*eP*	**P**	**01 04 15.2**	**+0.6**
EGMT	**Eagleton**	**40.13**	337	*eP*	**P**	**01 04 16.6**	**+0.1**
	comp=Z,11nm,0.8s							
EGMT	**Eagleton**	**40.13**	337	P	**P**	**01 04 16.1**	**-0.3**
	baz=146,SNR=6.1							
MSO	**Missoula**	**40.91**	333	*eP*	**P**	**01 04 27.3**	**+4.4**
	comp=Z,9.3nm,1.1s							
F10A	**Beach Ranch, E**	**41.83**	329	*eP*	**P**	**01 04 35.2**	**+4.7**
	comp=Z,4.7nm,0.9s							
FFC	**Flin Flon**	**43.93**	348	*eP*	**P**	**01 04 46.9**	**-0.4**
	comp=Z,5.8nm,0.7s							
SCHQ	**Schefferville**	**45.84**	17	P	**P**	**01 05 00.9**	**-1.5**
	comp=Z,17nm,0.7s,baz=219,slow=6.9,SNR=28							
SCHQ	**Schefferville**	**45.84**	17	*eP*	**P**	**01 05 01.1**	**-1.4**
FCC	**Fort Churchill**	**46.81**	356	*eP*	**P**	**01 05 08.7**	**-1.3**
	comp=Z,14nm,0.6s							
BDFB	**Brasilia**	**48.33**	124	P	**P**	**01 05 22.6**	**0.0**
	comp=Z,4.5nm,0.8s,baz=255,slow=8.0,SNR=6.6							
BDFB				LR	LR	01 27 15.0		
	comp=Z,90nm,18.8s,baz=238,slow=38							
CPUP	**Villa Florida**	**48.53**	142	P	**P**	**01 05 24.0**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=327,slow=6.9,SNR=3.1							
YKA	**Yellowknife Ar**	**53.80**	345	P	**P**	**01 06 01.8**	**-1.0**
	comp=Z,4.7nm,0.7s,baz=138,slow=7.8,SNR=95							
YKA				PcP	**PcP**	**01 07 08.3**	**-0.1**	
	comp=Z,2.2nm,0.7s,baz=145,slow=4.0,SNR=18							
YKB5	**Yellowknife Ar**	**53.80**	345	*eP*	**P**	**01 06 01.1**	**-1.7**
YKW3	**Yellowknife Ar**	**53.86**	345	*eP*	**P**	**01 06 01.9**	**-1.4**
	comp=Z,6.0nm,0.8s							
PLCA	**Paso Flores**	**55.01**	164	P	**P**	**01 06 13.0**	**+1.0**
	comp=Z,1.7nm,1.0s,baz=356,slow=14,SNR=2.1							
RES	**Resolute Bay**	**62.71**	358	*eP*	**P**	**01 07 03.2**	**-1.7**
	comp=Z,6.0nm,0.8s							
EPYK	**Eagle Plains**	**63.19**	340	P	**P**	**01 07 07.5**	**-0.8**
	baz=125							
INK	**Inuvik**	**63.36**	343	P	**P**	**01 07 08.5**	**-0.8**
	comp=Z,4.7nm,0.9s,baz=114,slow=8.1,SNR=13							
INK	**Inuvik**	**63.36**	343	*eP*	**P**	**01 07 09.1**	**-0.3**
HDA	**Harding Lake**	**65.97**	336	P	**P**	**01 07 25.7**	**-0.8**
	baz=114							
IL1	**Eielson Array**	**66.09**	336	*eP*	**P**	**01 07 26.3**	**-0.9**
ILAR	**Eielson Array**	**66.09**	336	P	**P**	**01 07 26.6**	**-0.6**
	comp=Z,1.7nm,1.0s,baz=119,slow=4.8,SNR=11							
ILAR				PP	**PP**	**01 09 53.5**	**+0.8**	
	comp=Z,0.7nm,0.9s,baz=108,slow=6.8,SNR=5.2							
ILAR				LR	LR	01 40 04.7		
	comp=Z,82nm,18.0s,baz=93,slow=40							
RND	**Reindeer**	**66.36**	335	*eP*	**P**	**01 07 29.6**	**+0.5**
	comp=Z,6.0nm,0.9s							
ESDC	**Sonseca Array**	**77.96**	52	P	**P**	**01 08 38.7**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=275,slow=3.5,SNR=3.4							
NOA	**NORSAR Array B**	**84.03**	29	P	**P**	**01 09 09.8**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=285,slow=5.2,SNR=3.4							
SONM	**Songino Array**	**118.97**	349	PKP	**PKPdf**	**01 15 29.9**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=19,slow=0.7,SNR=3.5							
KSRS	**Korea Array**	**120.22**	327	PKP	**PKPdf**	**01 15 32.3**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=351,slow=1.6,SNR=7.0							
KSAR	**Wonju Array Be**	**120.25**	327	PKP	**PKPdf**	**01 15 32.3**	**+0.4**
MKAR	**Makanchi Array**	**120.78**	8	PKP	**PKPdf**	**01 15 31.8**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=289,slow=3.8,SNR=5.5							
GEYT	**Alibeck**	**121.07**	31	PKP	**PKPdf**	**01 15 33.7**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=67,slow=5.0,SNR=3.1							
KSH	**Kashi**	**126.59**	15	PKP	**PKPdf**	**01 15 40.0**	**-4.2**
KSH				sPKP		01 15 59.5		
KSH				PP	**PP**	**01 17 45.3**	**+6.2**
KSH				PKS	**PKSdf**	**01 19 21.5**	**+0.5**
KSH				SKS	**SKSdf**	**01 22 53.8**	**-0.7**
KSH				SKKS	**SKKSac**	**01 24 30.5**	**-6.2**
KSH	**Kashi**	**126.59**	15	SS	SS	01 34 43.3	+1.3
KSH				AMB	AMB			
	comp=Z,500nm,6.6s							
ASAR	**Alice Springs**	**138.49**	248	PKP	**PKPdf**	**01 16 08.0**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=102,slow=2.3,SNR=3.5							
WRA	**Warramunga Arr**	**138.51**	254	PKP	**PKPdf**	**01 16 07.5**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=89,slow=3.1,SNR=3.6							
CMAR	**Chiang Mai Arr**	**148.87**	347	PKPbc	**PKPbc**	**01 16 27.2**	**-1.8**
	comp=Z,5.4nm,0.7s,baz=344,slow=3.5,SNR=23							

SOME 29 00:57:22.6, 42°.53N × 79°.58E, h10 km, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.63**	**352**	*eP*	Pg	00 57 35.2	+0.4
	12nm,0.1s						
SHLS				*eS*	Sb	00 57 44.5	-0.2
	41nm,0.3s						
UZB	**Uzynbulak**	**0.74**	**326**	*eP*	Pg	00 57 37.0	0.0
	3.6nm,0.1s						
UZB				*eS*	Sb	00 57 47.3	-0.6
	7.8nm,0.1s						

JMA 29 01:00:42.2±0.3, 25°.17N × 124°.91E, h11 km, M3.6, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**0.39**	**129**	P	Pg	01 00 50.3	+0.3
JIKM				S	Sg	01 00 55.7	+0.5
JIRB	**Irabujima**	**0.42**	**145**	P	Pg	01 00 50.1	-0.3
JIRB				S	Sg	01 00 55.7	-0.2
JMJ	**Miyako jima 2**	**0.50**	**135**	P	Pg	01 00 51.9	0.0
JMJ				S	Sg	01 00 59.0	+0.5
JTJ	**Tarama**	**0.56**	**200**	P	Pg	01 00 53.2	+0.1
JTJ				S	Sb	01 01 02.2	+0.2
JOGS	**Gusukube**	**0.61**	**132**	P	Pg	01 00 54.0	0.0
JOGS				*eS*	Sb	01 01 02.8	-0.6
JISG	**Ishigakijimahi**	**0.80**	**223**	P	Pg	01 00 57.2	-0.4
JISG				S	Sb	01 01 09.6	+0.8
JIJ	**Ishigaki jima**	**1.06**	**221**	P	Pb	01 01 01.6	-1.0
JIJ				S	Sg	01 01 16.1	-0.4
JKRS	**Kuro-shima**	**1.24**	**222**	P	Pn	01 01 04.9	-0.5
JKRS				S	Sg	01 01 22.1	0.0

IDC 29 01:04:29.7±1.6, 5°.14N × 118°.72E, h0 km, mb4.0/4, mb1 4.1/4, mb1mx3.7/24, mbtmp4.0/4, Error ellipse: s-maj=62.5km s-min=28.0km az=66.0, Borneo

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**29.27**	**149**	P	P	01 10 34.0	0.0
	0.6nm,0.8s,baz=330,slow=8.1,SNR=3.5						
MJAR	**Matsushiro Arr**	**36.01**	**27**	P	P	01 11 32.5	-0.2
	1.3nm,0.3s,baz=193,slow=7.4,SNR=4.4						
SONM	**Songino Array**	**43.84**	**348**	P	P	01 12 37.9	+0.2
	1.6nm,0.6s,baz=167,slow=8.7,SNR=13						
MKAR	**Makanchi Array**	**52.03**	**329**	P	P	01 13 40.9	-0.3
	1.4nm,0.4s,baz=124,slow=8.6,SNR=39						

*BGR **29** 01:10:19.4±0.2, 50°.02N × 7°.48E, h10 km, ML2.3/8, Error ellipse: s-maj=2.2km s-min=2.2km az=39.0*
*LDG **29** 01:10:19.9±0.1, 50°.00N × 7°.44E, h10 km, Md2.6/2, Ml2.6/16, Error ellipse: s-maj=1.5km s-min=1.1km az=71.0*
*STR **29** 01:10:20.8±0.7, 50°.N±3°.× °±°, h8 km±3 km, M3.2/6, MLv3.6/5, MLv2.7/6*
*BNS **29** 01:10:20.3±0.6, 50°.04N × 7°.51E, h10 km±5 km, ML1.9*
*PRU **29** 01:10:26.0±0.0, 49°.81N × 7°.88E, h6 km*

ISC 29 01:10:19.2±0.3, 49°.99N±0°.01 × 7°.39E±0°.01, h17 km±2 km, n104, σ1§18/147, 7C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABH	**Alteburg**	**0.15**	**138**	*P*	**Pg**	**01 10 23.4**	**0.0**
ABH	**Alteburg**	**0.15**	**138**	*iP**	**Pg**	**01 10 23.4**	**0.0**
ABH				S*	**Sg**	**01 10 25.6**	**-0.5**
FSH	**Hochheid**	**0.20**	**294**	P*	**Pb**	**01 10 25.1**	**+0.6**
BGG	**Burgeitz**	**0.21**	**351**	*eP*	**Pb**	**01 10 24.6**	**-0.1**
BGG				*eS*	**Sg**	**01 10 27.5**	**-0.1**
	204nm,0.2s						
RUP	**Ruppelstein**	**0.36**	**216**	*iP**	**Pg**	**01 10 27.4**	**+0.6**
RUP				S*	**Sg**	**01 10 32.5**	**+0.7**
BHE	**Schloss Buerre**	**0.38**	**339**	P*	**Pg**	**01 10 27.0**	**-0.1**
BHE				S*	**Sg**	**01 10 32.8**	**+0.4**
	69nm,0.1s						
RIVT	**Riveris**	**0.50**	**235**	P*	**Pg**	**01 10 29.3**	**+0.2**
RIVT				*eP*	**Pb**	**01 10 29.4**	**0.0**
RIVT				SmS		01 10 39.9	
IMS	**Imsbach**	**0.52**	**140**	P*	**Pg**	**01 10 29.7**	**+0.1**
IMS				S*	**Sg**	**01 10 37.0**	**+0.5**
FACH	**Fachingen**	**0.53**	**47**	P*	**Pg**	**01 10 28.7**	**-1.1**
FACH				S*	**Sg**	**01 10 36.5**	**-0.3**
FACH				SmS		01 10 40.0	
HILG	**Hillesheim**	**0.55**	**303**	*ePg*	**Pb**	**01 10 31.3**	**+0.9**
LOH	**Wallersheim-Lo**	**0.58**	**289**	P*	**Pb**	**01 10 31.9**	**+0.9**
LOH				PmP		01 10 32.4	
LOH				SmS		01 10 43.4	
	73nm,0.2s						
AHRW	**Bad Neuenahr-A**	**0.58**	**340**	P*	**Pg**	**01 10 30.8**	**+0.1**
AHRW				PmP		01 10 32.4	
AHRW				*eSg*	**Sg**	**01 10 38.4**	**-0.2**
AHRW				SmS		01 10 41.1	
TDN	**Todenfeld**	**0.65**	**334**	P*	**Pg**	**01 10 32.1**	**+0.2**
TDN				*eSg*	**Sg**	**01 10 40.1**	**-0.4**
	104nm,0.5s						
GWBC	**Aumenau**	**0.69**	**54**	PmP		01 10 34.4	
STB	**Steinbach**	**0.70**	**330**	*ePg*	**Pb**	**01 10 33.3**	**+0.5**
DUP	**Duppenweiler**	**0.70**	**214**	P*	**Pg**	**01 10 33.3**	**+0.4**
DUP				PmP		01 10 34.9	
DUP				SmS		01 10 45.7	
TNS	**Taunus Mts**	**0.72**	**71**	P*	**Pg**	**01 10 32.1**	**-1.1**
TNS				S*	**Sg**	**01 10 41.9**	**-0.9**
BLI	**Bleialf**	**0.75**	**289**	P*	**Pb**	**01 10 34.7**	**+0.9**
BLI				S*	**Sg**	**01 10 43.8**	**+0.1**
BLI				SmS		01 10 47.4	
BIW	**Bindweide**	**0.79**	**21**	P*	**Pg**	**01 10 33.5**	**-1.1**
BIW				PmP		01 10 35.1	
OLFT	**Oleftalsperre**	**0.80**	**309**	PmP		01 10 36.3	
OLFT				SmS		01 10 47.0	
WBS	**Wahnbachtalspe**	**0.82**	**355**	*ePg*	**Pg**	**01 10 34.9**	**-0.1**
WBS				*eSg*	**Sg**	**01 10 45.0**	**-0.9**
	103nm,0.5s						
WBB	**Darmstadt**	**0.84**	**100**	P*	Pn	01 10 41.8	+5.6
WLF	**Walferdange**	**0.87**	**248**	P	**Pg**	**01 10 36.0**	**-0.1**
WLF				S	**Sb**	**01 10 49.5**	**+2.3**
WLF	**Walferdange**	**0.87**	**248**	P*	**Pg**	**01 10 35.9**	**-0.1**
WLF				PmP		01 10 37.1	
WLF				SmS		01 10 51.3	
KLL	**Kalltalsperre**	**0.95**	**314**	*ePg*	**Pg**	**01 10 38.0**	**+0.4**
PEB	**Petersbachel**	**0.95**	**167**	P*	**Pb**	**01 10 37.3**	**+0.1**
PEB				S*	**Sg**	**01 10 49.8**	**-0.3**
BNS	**Bensberg**	**0.98**	**352**	*ePg*	**Pb**	**01 10 38.1**	**+0.3**
GSH	**Grosshau**	**0.98**	**319**	PmP		01 10 38.8	
WBA	**Furth**	**0.98**	**110**	Pg	Pn	01 10 44.4	+6.1
HOBG	**Hohbusch**	**0.99**	**358**	*ePg*	**Pb**	**01 10 38.0**	**+0.1**
SWS	**Schriesheim-Wi**	**0.99**	**121**	P*	**Pb**	**01 10 37.5**	**-0.4**
SWS				PmP		01 10 38.5	
SWS				S*	**Sb**	**01 10 50.6**	**-0.1**
TOD	**Tromm**	**0.99**	**112**	Pg	**Pg**	**01 10 38.4**	**0.0**
DREG	**Dreilaegerbach**	**1.00**	**312**	*ePg*	**Pg**	**01 10 39.1**	**+0.5**
LANF	**Langenberg**	**1.05**	**165**	Pg	**Pn**	**01 10 40.1**	**+1.0**
LANF				Sg	**Sb**	**01 10 53.1**	**+0.7**
LANF	**Langenberg**	**1.05**	**165**	Pg	**Pn**	**01 10 40.1**	**+1.0**
LANF				Sg	**Sb**	**01 10 52.9**	**+0.5**
PLH	**Pulheim**	**1.07**	**340**	Pg	**Pg**	**01 10 40.0**	**0.0**
PLH				*eSg*	**Sb**	**01 10 52.7**	**-0.4**
MEM	**Membach**	**1.08**	**305**	P	**Pb**	**01 10 40.1**	**+0.7**
MEM				S	**Sb**	**01 10 54.1**	**+0.8**
	comp=E,12nm,0.2s						
MEM	**Membach**	**1.08**	**305**	SmS		01 10 55.8	
HGN	**Heimansgroeve**	**1.21**	**310**	*ePn*	**Pn**	**01 10 42.1**	**+0.7**
HGN				*ePg*	**Pg**	**01 10 42.8**	**+0.2**
HGN				*eSg*	**Sb**	**01 10 58.0**	**+1.0**
HGN	**Heimansgroeve**	**1.21**	**310**	*ePg*	**Pb**	**01 10 42.4**	**+0.7**
HGN				*eSg*	**Sb**	**01 10 58.2**	**+1.2**
ENTS	**Ennepetalsperr**	**1.25**	**1**	*eSg*	**Sb**	**01 10 57.9**	**-0.2**
	comp=E,16nm,0.2s						
WBG	**Bieber**	**1.27**	**81**	Pg	**Pg**	**01 10 44.8**	**+1.1**
BRET	**Bretten**	**1.30**	**139**	Pg	**Pg**	**01 10 44.0**	**-0.1**
BRET				Sg	**Sn**	**01 11 00.4**	**+0.9**
LAUG	**Laupendahl**	**1.39**	**348**	*ePg*	**Pn**	**01 10 44.0**	**+0.2**
SORT	**Sorpetalsperre**	**1.41**	**15**	*eSg*	**Sn**	**01 11 01.6**	**-0.6**
	comp=E,22nm,0.2s						
BUG	**Bochum--Univer**	**1.45**	**357**	*ePg*	**Pb**	**01 10 45.9**	**+0.2**
BUG				*eSg*	**Sn**	**01 11 03.8**	**+0.5**
SIND	**Sindeldorf**	**1.58**	**113**	Pg	**Pb**	**01 10 47.8**	**-0.1**
SIND				Sg	**Sb**	**01 11 07.9**	**+0.4**
CDF	**Champ du Feu**	**1.58**	**183**	*ePn*	**Pn**	**01 10 46.6**	**0.0**
CDF	**Champ du Feu**	**1.58**	**183**	*eP*	**Pb**	**01 10 48.5**	**+0.4**
CDF				*eSn*	**Sn**	**01 11 06.1**	**-0.6**
	comp=E,29nm,0.3s						
OPP	**Oppenau**	**1.59**	**161**	Pn	**Pn**	**01 10 47.2**	**+0.7**
OPP				Pg	**Pb**	**01 10 49.1**	**+1.1**
OPP				Sn	**Sb**	**01 11 08.6**	**+0.8**
OPP	**Oppenau**	**1.59**	**161**	P	**Pn**	**01 10 46.4**	**-0.2**
OPP				Sg	**Sb**	**01 10 48.6**	**+0.8**
GIVF	**Givet**	**1.66**	**275**	*ePn*	**Pn**	**01 10 48.3**	**+0.8**
GIVF	**Givet**	**1.66**	**275**	*ePg*	**Pb**	**01 10 50.5**	**+1.2**
GIVF				*eSn*	**Sn**	**01 11 08.2**	**-0.2**
GIVF				*eSg*	**Sg**	**01 11 13.4**	**+0.8**
	comp=E,12nm,0.2s						
BFO	**Black Forest**	**1.78**	**159**	P	**Pn**	**01 10 49.8**	**+0.6**
BFO				Sg	**Sb**	**01 11 14.4**	**+1.1**
ECH	**Echery**	**1.79**	**185**	Pg	**Pb**	**01 10 52.1**	**+0.6**
ECH				Sn	**Sb**	**01 11 14.8**	**+1.2**
ECH	**Echery**	**1.79**	**185**	P	**Pn**	**01 10 48.9**	**-0.4**
ECH				Pg	**Pb**	**01 10 52.3**	**+0.8**
ECH				*eSg*	**Sb**	**01 11 15.6**	**+2.0**
PAGF	**Fort de Pagny**	**1.81**	**218**	*ePn*	**Pn**	**01 10 50.8**	**+1.2**
PAGF	**Fort de Pagny**	**1.81**	**218**	*ePg*	**Pg**	**01 10 54.2**	**+0.3**
	baz=45						
PAGF				*eSn*	**Sn**	**01 11 11.5**	**-0.6**
	baz=32						
PAGF				*eSg*	**Sg**	**01 11 17.7**	**+0.4**
	comp=E,9.7nm,0.2s						
HROE	**Hohe Rhon--Fla**	**1.86**	**72**	*ePg*	**Pb**	**01 10 53.6**	**+0.9**
HROE				*eSn*	**Sn**	**01 11 12.4**	**-0.9**
HROE				*eSg*	**Sg**	**01 11 17.5**	**-1.4**
UBBA	**Unterbreizbach**	**1.86**	**63**	*ePg*	**Pb**	**01 10 53.7**	**+1.0**
UBBA				*eSg*	**Sb**	**01 11 17.1**	**+1.5**
THEF	**They Montfort**	**2.00**	**208**	Pg	**Pb**	**01 10 55.8**	**+0.8**
THEF				Sn	**Sn**	**01 11 19.0**	**+2.2**
THEF				Sg	**Sg**	**01 11 23.8**	**+0.4**
WTSB	**Winterswijk**	**2.01**	**349**	*eSg*	**Sb**	**01 11 21.5**	**+1.6**
BUCH	**Bad Urach**	**2.01**	**140**	Sg	**Sg**	**01 11 23.2**	**-0.6**
BAIF	**Baives**	**2.05**	**273**	*ePn*	**Pn**	**01 10 54.2**	**+1.3**
BAIF	**Baives**	**2.05**	**273**	*ePg*	Pg	01 10 58.5	-0.1
BAIF				*eSn*	**Sn**	**01 11 17.7**	**-0.5**
BAIF				*eSg*	**Sg**	**01 11 25.8**	**+0.6**
	comp=E,9.8nm,0.2s						
KIZ	**Kirchzarten**	**2.07**	**170**	Sg	**Sg**	**01 11 24.7**	**-1.0**
HAU	**Haudompre**	**2.11**	**199**	*ePn*	**Pn**	**01 10 54.6**	**+0.9**
HAU	**Haudompre**	**2.11**	**199**	*ePg*	**Pb**	**01 10 58.9**	**+2.0**
HAU				*eSn*	**Sn**	**01 11 18.2**	**-1.3**
HAU				*eSg*	**Sg**	**01 11 26.1**	**-0.8**
	comp=E,8.6nm,0.2s						
MEZF	**Maizieres J'vi**	**2.14**	**227**	*ePn*	**Pn**	**01 10 54.0**	**-0.1**
	baz=46						
MEZF	**Maizieres J'vi**	**2.14**	**227**	*ePg*	Pg	01 11 00.2	0.0
	baz=46						
MEZF				*eSn*	**Sn**	**01 11 19.3**	**-1.0**
MEZF				*eSg*	**Sg**	**01 11 28.3**	**+0.3**
	comp=E,4.0nm,0.2s						
MOF	**Molkenrain**	**2.15**	**185**	Pg	**Pb**	**01 10 59.3**	**+1.5**
MOF				Sn	**Sn**	**01 11 23.5**	**+2.8**
MOF				Sg	**Sb**	**01 11 27.2**	**+3.1**
BERGE	**Lenzkirch (DE)**	**2.19**	**166**	Sg	**Sg**	**01 11 27.9**	**+2.7**
HINF	**Hinteralfeld**	**2.21**	**189**	*ePn*	**Pn**	**01 10 55.7**	**+0.6**
HINF	**Hinteralfeld**	**2.21**	**189**	*ePg*	Pg	01 11 01.0	-0.5
HINF				*eSn*	**Sn**	**01 11 20.8**	**-1.3**
HINF				*eSg*	**Sg**	**01 11 30.2**	**0.0**
	comp=E,12nm,0.2s						
GTTG	**Gyttingen**	**2.25**	**45**	*eSg*	**Sg**	**01 11 29.7**	**-1.9**
ENDD	**Endenburg**	**2.29**	**174**	Sg	**Sg**	**01 11 31.5**	**-1.4**
SFTF	**Sexfontaines**	**2.37**	**222**	*ePn*	**Pn**	**01 10 57.3**	**+0.1**
SFTF	**Sexfontaines**	**2.37**	**222**	*ePg*	Pg	01 11 04.3	-0.2
SFTF				*eSg*	**Sg**	**01 11 34.4**	**-0.8**
	comp=E,6.0nm,0.2s						
NORI	**Noordlinger Ri**	**2.47**	**120**	*eSg*	**Sg**	**01 11 36.7**	**-1.8**
GRFO	**Grafenberg**	**2.50**	**96**	*eSg*	**Sb**	**01 11 35.9**	**+1.8**
GRF	**Grafenberg Arr**	**2.50**	**95**	*eSg*	**Sb**	**01 11 36.5**	**+2.5**
POSS	**Possen**	**2.59**	**57**	*eSg*	Sg	01 11 40.3	-2.0
CLZ	**Clausthal**	**2.64**	**44**	*eSg*	Sg	01 11 41.2	-2.8
LOMF	**Lomont**	**2.67**	**188**	Pn	**Pn**	**01 11 02.4**	**+0.9**
LOMF				Sg	Sg	01 11 43.9	-1.1
CHRS	**Christianenhau**	**2.71**	**52**	*ePn*	**Pn**	**01 11 01.6**	**-0.3**
CHRS				*ePg*	**Pb**	**01 11 08.8**	**+1.6**
CHRS				*eSg*	Sg	01 11 43.3	-2.9
MOX	**Moxa**	**2.79**	**75**	*eSn*	**Sn**	**01 11 34.1**	**-2.1**
MOX				*eSg*	**Sb**	**01 11 45.1**	**+2.8**
UBR	**Ueberruh**	**2.93**	**141**	*eSg*	Sg	01 11 52.5	-0.8
MANZ	**Manzenberg**	**3.04**	**88**	*eSg*	**Sb**	**01 11 52.4**	**+2.6**
ROTZ	**Rotzenmuhle**	**3.12**	**92**	*ePg*	Pg	01 11 16.8	-2.2
ROTZ				*eSg*	**Sb**	**01 11 54.9**	**+2.9**
NKC	**Novy Kostel**	**3.26**	**84**	*ePG*	Pg	01 11 19.6	-2.1
NKC				*eSG*	**Sb**	**01 11 59.5**	**+3.4**
CABF	**La Chapelle**	**3.50**	**195**	*ePn*	**Pn**	**01 11 12.9**	**0.0**
CABF				*eSn*	**Sn**	**01 11 52.9**	**-1.0**
CABF				*eSg*	Sg	01 12 09.8	-1.6
	comp=E,0.9nm,0.3s						
LOR	**Lormes**	**3.60**	**222**	*ePn*	**Pn**	**01 11 14.8**	**+0.6**
LOR	**Lormes**	**3.60**	**222**	*ePg*	Pg	01 11 26.7	-1.3
	baz=44						
LOR				*eSn*	**Sn**	**01 11 54.6**	**-1.6**
	comp=E,5.8nm,0.2s,baz=40						
WET	**Wettzell**	**3.67**	**101**	*ePn*	**Pn**	**01 11 16.6**	**+1.4**
WET				*eSg*	Sg	01 12 12.6	-4.4
CLL	**Collm**	**3.81**	**68**	*eSg*	Sg	01 12 18.0	-3.3
SSF	**Saint Saulge**	**3.91**	**223**	*ePn*	**Pn**	**01 11 18.8**	**+0.4**
SSF	**Saint Saulge**	**3.91**	**223**	*ePg*	Pg	01 11 32.1	-1.9
SSF				*eSn*	**Sn**	**01 12 02.6**	**-1.3**
SSF				*eSg*	Sg	01 12 22.5	-2.1
	comp=E,1.9nm,0.3s						
SMF	**Signal de Mont**	**4.10**	**217**	*ePn*	**Pn**	**01 11 21.8**	**+0.7**
SMF	**Signal de Mont**	**4.10**	**217**	*ePg*	Pg	01 11 35.7	-2.0
SMF				*eSn*	**Sn**	**01 12 06.2**	**-2.5**
SMF				*eSg*	Sg	01 12 28.7	-2.2
	comp=E,2.5nm,0.2s						
KHC	**Kasperske Hory**	**4.12**	**100**	*eSN*	**Sn**	**01 12 08.2**	**-1.0**
KHC				*eSG*	Sg	01 12 26.7	-4.7
AVF	**Avril sur Loir**	**4.18**	**222**	*ePn*	**Pn**	**01 11 22.8**	**+0.6**
AVF	**Avril sur Loir**	**4.18**	**222**	*ePg*	Pg	01 11 37.5	-1.8
AVF				*eSn*	**Sn**	**01 12 08.2**	**-2.5**
	comp=E,0.4nm,0.2s						
LDF	**La Druitiere**	**5.11**	**257**	*ePn*	**Pn**	**01 11 35.3**	**+0.3**
LDF				*eSn*	**Sn**	**01 12 29.5**	**-4.1**
	comp=E,0.5nm,0.3s						
MFF	**Saint Martin d**	**6.07**	**239**	*ePn*	**Pn**	**01 11 48.3**	**+0.2**

*ISCJB **29** 01:10:44.6±0.5, 40°.41N±0°.02 × 19°.76E±0°.03, h2 km±4 km, Error ellipse: s-maj=4.8km s-min=3.0km az=44.6*
*TIR **29** 01:10:44.4, 40°.41N × 19°.80E, h4 km, Md3.5/7*
*THE **29** 01:10:45.5, 40°.40N × 19°.77E, h0 km±2 km, ML3.2/4, Error ellipse: s-maj=2.8km s-min=0.8km az=217.0*
*PDG **29** 01:10:45.3±0.3, 40°.41N × 19°.76E, h1 km, ML3.2/10, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
*BEO **29** 01:10:48.5±0.7, 40°.48N × 19°.78E, h21 km±4 km, ML2.7/11*

ISC 29 01:10:45.2±0.9, 40°.40N±0°.02 × 19°.78E±0°.02, h9 km±7 km, n98, σ1§15/137, 14C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPE	**Tepelena**	**0.21**	**121**	P	**Pg**	**01 10 48.7**	**-0.8**
TPE				S	**Sg**	**01 10 52.1**	**-0.3**
TPE	**Tepelena**	**0.21**	**121**	*i* PG	**Pg**	**01 10 48.6**	**-0.9**
TPE				*i* SG	**Sg**	**01 10 52.3**	**-0.1**
VLO	**Vlora**	**0.22**	**287**	P	**Pg**	**01 10 50.0**	**+0.2**
VLO				S	**Sg**	**01 10 52.8**	**-0.1**
VLO	**Vlora**	**0.22**	**287**	*i* PG	**Pg**	**01 10 49.4**	**-0.4**
VLO				*i* SG	**Sg**	**01 10 54.0**	**+1.2**
SRN	**Sarande**	**0.55**	**162**	P	**Pg**	**01 10 55.5**	**-0.3**
SRN				S	**Sg**	**01 11 04.3**	**+1.2**
**S

BOVS	**Bovan**	**3.54**	**23**	*e*Pn	**Pn**	**01 11 41.5**	**+1.2**
BOVS				*e*Sn	**Sn**	**01 12 20.6**	**-1.7**
GRUS	**Gruza**	**3.55**	**11**	*e*Pn	**Pn**	**01 11 41.8**	**+1.2**
ZAPS	**Zavoj**	**3.58**	**36**	*e*Pn	**Pn**	**01 11 42.6**	**+1.7**
ZAPS				*e*Sn	**Sn**	**01 12 22.0**	**-1.4**
DIVS	**Divibare**	**3.70**	**2**	*e*Pn	**Pn**	**01 11 43.5**	**+0.8**
DIVS				*e*Sn	**Sn**	**01 12 25.5**	**-0.9**
DIVS	**Divibare**	**3.70**	**2**	*e*Pn	**Pn**	**01 11 43.5**	**+0.8**
HAPS	**Han Pijesak,BI**	**3.73**	**351**	*e*Pn	**Pn**	**01 11 42.7**	**-0.5**
TRUS	**Trudelj**	**3.85**	**7**	*e*Pn	**Pn**	**01 11 45.8**	**+1.2**
ZAGS	**Zajecar**	**3.87**	**27**	*e*Pn	**Pn**	**01 11 46.2**	**+1.3**
ZAGS				*e*Sn	**Sn**	**01 12 28.3**	**-2.1**
KUBS	**Kucevo**	**4.25**	**19**	*e*Pn	**Pn**	**01 11 50.5**	**+0.4**
MDVR	**Moldovita**	**4.60**	**17**	⇓*i*P	**Pn**	**01 11 56.0**	**+0.9**
BLY	**Banja Luka**	**4.75**	**337**	⇓*i*P	**Pn**	**01 11 57.7**	**+0.7**
BLY	**Banja Luka**	**4.75**	**337**	*e*Pn	**Pn**	**01 11 57.6**	**+0.6**
FRGS	**Fruska Gora**	**4.75**	**0**	*e*Pn	**Pn**	**01 11 57.2**	**+0.1**
FRGS	**Fruska Gora**	**4.75**	**0**	*e*Pn	**Pn**	**01 11 56.8**	**-0.3**
UDBI	**Udbina**	**5.08**	**326**	*e*Pn	**Pn**	**01 12 02.1**	**+0.5**
UDBI				Sn	**Sn**	**01 12 59.4**	**-1.0**
AQU	**L'Aquila**	**5.18**	**294**	*e*Pn	**Pn**	**01 12 05.0**	**+2.1**
BZS	**Buzias**	**5.38**	**14**	⇓*i*P	**Pn**	**01 12 06.8**	**+1.1**
GZR	**Gura Zlata**	**5.45**	**23**	⇑*i*P	**Pn**	**01 12 07.8**	**+1.0**
NVLJ	**Novalja**	**5.52**	**321**	*e*Pn	**Pn**	**01 12 07.3**	**-0.2**
MORH	**Mrgy, Hungar**	**5.87**	**352**	*e*Pn	**Pn**	**01 12 12.5**	**+0.1**
ARR	**Arges**	**6.11**	**34**	⇑*i*P	**Pn**	**01 12 16.9**	**+1.1**
CRES	**Cresnjev**	**6.27**	**331**	*e*Pn	**Pn**	**01 12 16.4**	**-1.6**
CEY	**Cerknica**	**6.62**	**325**	*e*Pn	**Pn**	**01 12 21.0**	**-1.7**
MLR	**Muntele Rosu**	**6.81**	**40**	⇑*i*P	**Pn**	**01 12 27.2**	**+1.8**
SOKA	**Soboth**	**7.16**	**333**	*i* Pn	**Pn**	**01 12 30.8**	**+0.6**
OBKA	**Obir** 2.7nm,0.6s	**7.19**	**330**	*e*Pn	**Pn**	**01 12 30.6**	**0.0**
KBA	**Koelnbreinsper** 0.9nm,0.5s	**8.13**	**327**	*e*Pn	**Pn**	**01 12 45.0**	**+1.3**
MOA	**Molln** 0.4nm,0.2s	**8.43**	**334**	*e*Pn	**Pn**	**01 12 48.5**	**+0.9**
SQTA	**Sankt Quirin** 2.2nm,0.5s	**9.21**	**321**	*e*Pn	**Pn**	**01 12 59.0**	**+0.7**
MOTA	**Moosalm** 2.7nm,0.6s	**9.34**	**321**	*e*Pn	**Pn**	**01 13 00.2**	**0.0**

*ISCJB **29** 01:13:40.2±0.5, 42°.45N±0°.03×41°.07E±0°.04, h9km±8km, Error ellipse: s-maj=5.4km s-min=3.8km az=148.0*
*TIF **29** 01:13:41.7, 42°.27N×40°.75E, h43km*
*ISK **29** 01:13:41.5, 42°.32N×40°.90E, h9km, ML2.4/4*
*MOS **29** 01:13:42.9±0.0, 42°.41N×41°.06E, h10km, MPVA3.1*
*NORS **29** 01:13:43.2±0.0, 42°.38N×41°.28E, h18km, MPVA2.8*

ISC 29 01:13:42.1±1.2, **42°.41N**±0°.03×**41°.05E**±0°.04, **h17**km±11km, **n15**, σ0**s62**/27, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.94**	**149**	PG	**Pb**	**01 13 59.9**	**+0.1**
BATM				SG	**Sg**	**01 14 13.5**	**+1.0**
BATM	**Batumi**	**0.94**	**149**	P	**Pb**	**01 14 00.1**	**+0.3**
BATM				S	**Sn**	**01 14 13.7**	**+0.3**
DOMR	**Dombai**	**0.98**	**25**	*e*Pg	**Pg**	**01 14 01.5**	**+0.5**
DOMR				*e*Sg	**Sn**	**01 14 14.6**	**-0.2**
BCA	**Borcka**	**1.05**	**156**	PG	**Pb**	**01 14 01.6**	**-0.3**
BCA				SG	**Sb**	**01 14 16.0**	**+0.6**
CHOM	**Cayeli-Rize**	**1.33**	**190**	PN	**Pn**	**01 14 05.5**	**-0.4**
CHOM				SN	**Sn**	**01 14 22.9**	**-0.3**
RPOR	**Krasnaya Polya**	**1.41**	**336**	*e*Pg	**Pb**	**01 14 07.7**	**-0.3**
RPOR				*e*Sg	**Sg**	**01 14 27.5**	**-0.2**
NEY	**Neytrino**	**1.49**	**55**	*e*Pg	**Pb**	**01 14 09.0**	**-0.4**
NEY				*e*Sg	**Sb**	**01 14 28.1**	**0.0**
SOC	**Sochi**	**1.53**	**321**	*e*Pg	**Pb**	**01 14 10.6**	**+0.7**
SOC				*e*Sg	**Sb**	**01 14 30.1**	**+1.1**
SHA1	**Shidzhatmaz**	**1.77**	**41**	*e*Pg	**Pg**	**01 14 15.5**	**-0.7**
SHA1				*e*Sg	**Sg**	**01 14 39.1**	**-0.2**
DIGR	**Digorskoe uzhe**	**1.93**	**74**	*e*Pg	**Pb**	**01 14 16.3**	**-0.6**
DIGR				*e*Sg	**Sb**	**01 14 41.5**	**+0.8**
KIV	**Kislovodsk**	**1.95**	**37**	PN	**Pb**	**01 14 17.8**	**+0.5**
LZRR	**Lazarevskoye**	**1.96**	**322**	*e*Pg	**Pb**	**01 14 17.5**	**+0.3**
LZRR				*e*Sg	**Sg**	**01 14 44.1**	**-0.9**
KIV0	**Kislovodsk Arr**	**1.96**	**37**	*e*Pg	**Pb**	**01 14 18.1**	**+0.7**
KIV0				*e*Sg	**Sb**	**01 14 42.6**	**+1.1**
BAYT	**Aydıntepe-Bayb**	**2.13**	**199**	PN	**Pn**	**01 14 16.4**	**-0.6**
ESPY	**Espiye-Giresun**	**2.29**	**230**	PN	**Pn**	**01 14 18.6**	**-0.5**

IDC 29 01:32:32.0±2.2, **6°.81S**×**129°.72E**, **h132**km±31km, **mb3.2**/1, **mb1 3.1**/5, **mb1mx2.9**/41, **mbtmp3.5**/5, **Error ellipse: s-maj=52.9km s-min=14.0km az=94.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong** 1.0nm,0.3s,baz=234,slow=23,SNR=12	**6.10**	**15**	P	Pn	01 34 01.8	+1.8
SIJI				S	Sn	01 35 07.5	-1.2
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=18,slow=12,SNR=11	**11.90**	**199**	P	Pn	01 35 19.3	+1.7
FITZ				S	Sn	01 37 27.5	-1.3
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=343,slow=13,SNR=3.4	**13.80**	**161**	P	Pn	01 35 42.0	-0.1
WRA				S	Sn	01 38 11.1	-3.6
ASAR	**Alice Springs** 0.1nm,0.3s,baz=344,slow=11,SNR=4.2	**17.23**	**167**	P	Pn	01 36 24.5	-0.2
ASAR	baz=34,slow=24,SNR=2.9			S	S	01 39 31.0	-6.2
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=122,slow=6.6,SNR=3.9	**67.92**	**327**	P	P	01 43 16.3	-0.1

*SOME **29** 01:38:19.9, 42°.48N×79°.65E, h20km*
*KRNET **29** 01:38:20.6±0.1, 42°.59N×79°.62E, h22km, mb3.3*
*NNC **29** 01:38:20.1±1.0, 42°.59N×79°.60E, h0km, mb3.6, mpv3.6, Error ellipse: s-maj=6.8km s-min=3.4km az=149.0*
*ISCJB **29** 01:38:21.2±0.7, 42°.57N±0°.03×79°.70E±0°.04, h10km, Error ellipse: s-maj=5.7km s-min=2.8km az=137.9*

ISC 29 01:38:20.6±1.1, **42°.58N**±0°.04×**79°.64E**±0°.04, **h10**km, **n57**, σ1**s52**/103, **35C-17D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 456nm,0.1s	**0.60**	**347**	P	**Pb**	**01 38 32.8**	**-0.5**
SHLS	1µm,0.3s			S	**Sb**	**01 38 42.2**	**+0.4**
SHLS	**Shalkode** baz=19	**0.60**	**347**	*e*P	**Pb**	**01 38 32.8**	**-0.5**
SHLS	baz=19			*e*S	**Sb**	**01 38 42.3**	**+0.4**
SHLS	**Shalkode** 456nm,0.1s	**0.60**	**347**	*e*P	**Pb**	**01 38 32.8**	**-0.5**
SHLS	1µm,0.3s			*e*S	**Sb**	**01 38 42.2**	**+0.4**
UZB	**Uzynbulak** 40nm,0.2s	**0.73**	**322**	P	**Pg**	**01 38 34.0**	**-0.8**
UZB	166nm,0.3s			S	**Sb**	**01 38 44.2**	**-1.5**
UZB	**Uzynbulak** baz=22	**0.73**	**322**	*e*P	**Pg**	**01 38 34.0**	**-0.8**
UZB	baz=22			*e*S	**Sb**	**01 38 44.2**	**-1.5**
UZB	**Uzynbulak** 40nm,0.2s	**0.73**	**322**	*e*P	**Pg**	**01 38 34.0**	**-0.8**
UZB	166nm,0.3s			*e*S	**Sb**	**01 38 44.2**	**-1.5**
PDGK	**Podgornoye** 35nm,0.2s	**0.76**	**352**	P	**Pg**	**01 38 34.7**	**-0.7**
PDGK	26nm,0.4s			S	**Sb**	**01 38 45.5**	**-1.1**
PDGK	**Podgornoye** 27nm,0.4s	**0.76**	**352**	⇓P	**Pg**	**01 38 34.7**	**-0.7**
PDGK	11nm,0.3s			⇓S	**Sb**	**01 38 45.1**	**-1.4**
PDGK	**Podgornoye** baz=53	**0.76**	**352**	⇓*i*P	**Pg**	**01 38 34.7**	**-0.7**
PDGK	baz=53			⇓*i*S	**Sb**	**01 38 45.2**	**-1.4**
PRZ	**Przheval'sk** baz=64	**0.92**	**265**	⇑*i*P	**Pg**	**01 38 37.3**	**-1.1**
PRZ	baz=64			⇑*i*S	**Sg**	**01 38 49.8**	**-0.6**
KTMS	**Ketmen** 54nm,0.1s	**1.01**	**31**	P	**Pb**	**01 38 39.4**	**-1.0**
KTMS	109nm,0.2s			S	**Sb**	**01 38 53.1**	**-0.8**
KTMS	**Ketmen** baz=31	**1.01**	**31**	*e*P	**Pb**	**01 38 39.4**	**-1.0**
KTMS	baz=31			*e*S	**Sb**	**01 38 53.1**	**-0.8**
KTMS	**Ketmen** 54nm,0.1s	**1.01**	**31**	*e*P	**Pb**	**01 38 39.4**	**-1.0**
KTMS	109nm,0.2s			*e*S	**Sb**	**01 38 53.1**	**-0.8**
SATY	**Saty** 3.5nm,0.2s	**1.03**	**298**	*e*P	**Pg**	**01 38 39.0**	**-1.4**
SATY	213nm,0.2s			*e*S	**Sg**	**01 38 52.7**	**-1.2**
MNBS	**Baschi** 37nm,0.3s	**1.75**	**329**	*e*P	**Pb**	**01 38 52.2**	**-0.7**
MNBS	112nm,0.3s			*e*S	**Sg**	**01 39 15.8**	**-1.2**
DJR	**Jarkent** 5.6nm,0.2s	**1.76**	**3**	*e*P	**Pb**	**01 38 52.3**	**-0.7**
DJR	25nm,0.3s			*e*S	**Sg**	**01 39 16.3**	**-0.9**
KDJ	**Kajisay** baz=56	**1.88**	**257**	⇑*i*P	**Pb**	**01 38 54.7**	**-0.4**
KDJ	baz=56			⇑*i*S	**Sb**	**01 39 19.4**	**+0.7**
KOTS	**Kotyrbulak** 24nm,0.2s	**1.97**	**290**	Pg	**Pb**	**01 38 55.7**	**-1.0**
KOTS	143nm,0.4s			Lg	Lg	01 39 21.1	
KOTS	**Kotyrbulak** baz=90	**1.97**	**290**	*e*P	**Pb**	**01 38 55.7**	**-1.0**
KOTS	baz=90			*e*S	**Sb**	**01 39 21.1**	**-0.3**
KOTS	**Kotyrbulak** 24nm,0.2s	**1.97**	**290**	*e*P	**Pb**	**01 38 55.7**	**-1.0**
KOTS	143nm,0.4s			*e*S	**Sb**	**01 39 21.1**	**-0.3**
MDOK	**Medeo** 3.8nm,0.2s	**2.00**	**288**	⇓Pg	**Pb**	**01 38 55.5**	**-1.6**
MDOK	28nm,0.5s			⇑Lg	Lg	01 39 22.0	
MDOK	**Medeo** baz=88	**2.00**	**288**	*e*P	**Pb**	**01 38 55.7**	**-1.4**
MDOK	baz=88			*e*S	**Sb**	**01 39 21.8**	**-0.3**
MDOK	**Medeo** 8.6nm,0.3s	**2.00**	**288**	*e*P	**Pb**	**01 38 55.7**	**-1.4**
MDOK	49nm,0.3s			*e*S	**Sb**	**01 39 21.8**	**-0.3**
TNSS	**Tian-Shan** baz=84	**2.04**	**284**	⇑*e*P	**Pb**	**01 38 56.3**	**-1.6**
TNSS	baz=84			⇑*e*S	**Sb**	**01 39 22.8**	**-0.7**
TNSS	**Tian-Shan** 20nm,0.5s	**2.04**	**284**	⇑*e*P	**Pb**	**01 38 56.3**	**-1.6**
TNSS	34nm,0.4s			*e*S	**Sb**	**01 39 22.8**	**-0.7**
KNDC	**Almaty** 15nm,0.3s	**2.07**	**289**	⇑Pg	**Pb**	**01 38 57.7**	**-0.5**
KNDC	36nm,0.5s			⇑Lg	Lg	01 39 25.5	
AAA	**Alma-Ata** 57nm,0.1s	**2.10**	**288**	*e*P	**Pb**	**01 38 58.9**	**0.0**
AAA	41nm,0.2s			*e*S	**Sg**	**01 39 26.9**	**-1.2**
ARXS	**Arharly** 7.9nm,0.3s	**2.10**	**322**	Pg	**Pb**	**01 38 58.5**	**-0.4**
ARXS	72nm,0.5s			Lg	Lg	01 39 25.8	
ARXS	**Arharly** 7.9nm,0.3s	**2.10**	**322**	*e*P	**Pb**	**01 38 58.5**	**-0.4**
ARXS	72nm,0.5s			*e*S	**Sb**	**01 39 25.8**	**+0.6**
IZV	**Izvestkoviy** 48nm,0.2s	**2.28**	**283**	Pg	**Pb**	**01 39 01.0**	**-0.9**
IZV	68nm,0.6s			Lg	Lg	01 39 30.5	
IZV	**Izvestkoviy** 48nm,0.2s	**2.28**	**283**	*e*P	**Pb**	**01 39 01.0**	**-0.9**
IZV	68nm,0.6s			*e*S	**Sb**	**01 39 30.5**	**+0.4**
CHKK	**Chushkaly** 4.9nm,0.2s	**2.32**	**304**	*e*P	**Pb**	**01 39 01.8**	**-0.9**
CHKK	76nm,0.2s			*e*S	**Sb**	**01 39 32.1**	**+0.7**
MTBS	**Maitube** 22nm,0.2s	**2.43**	**284**	*e*P	**Pb**	**01 39 03.6**	**-0.8**
MTBS	60nm,0.3s			*e*S	**Sb**	**01 39 34.9**	**+0.5**
KTBS	**Karatobe** 6.1nm,0.3s	**2.45**	**299**	Pg	**Pb**	**01 39 03.4**	**-1.3**
KTBS	108nm,0.3s			Lg	Lg	01 39 34.4	
KTBS	**Karatobe** 6.1nm,0.3s	**2.45**	**299**	*e*P	**Pb**	**01 39 03.4**	**-1.3**
KTBS	108nm,0.3s			*e*S	**Sb**	**01 39 34.4**	**-0.6**
ULHL	**Ulahol** baz=63	**2.54**	**264**	⇑*i*P	**Pn**	**01 39 03.9**	**+1.8**
ULHL	baz=63			⇑*i*S	**Sb**	**01 39 36.1**	**-1.7**
TDK	**Taldyqorghan** 38nm,0.2s	**2.59**	**340**	*e*P	**Pb**	**01 39 07.0**	**-0.1**
TDK	38nm,0.3s			*e*S	**Sg**	**01 39 40.7**	**-3.0**
BOOM	**Boomskoye usch** baz=69	**2.74**	**269**	⇑*i*P	**Pn**	**01 39 06.6**	**+1.8**
BOOM	baz=69			⇑*i*S	**Sb**	**01 39 40.6**	**-2.8**
KUU	**Kurty** 1.6nm,0.3s	**2.75**	**300**	*e*P	**Pb**	**01 39 08.9**	**-1.0**
KUU	45nm,0.3s			*e*S	**Sb**	**01 39 44.0**	**+0.4**
DGS	**Degeres** 12nm,0.3s	**2.92**	**285**	Pg	**Pb**	**01 39 12.3**	**-0.5**
DGS	**Degeres** 12nm,0.3s	**2.92**	**285**	*e*P	**Pb**	**01 39 12.3**	**-0.5**
DGS	42nm,0.4s			*e*S	**Sb**	**01 39 50.3**	**+1.7**
NRN	**Naryn** baz=48	**2.94**	**248**	⇓*i*P	**Pn**	**01 39 10.2**	**+2.5**
NRN	baz=48			⇓*i*S	**Sb**	**01 39 46.7**	**-2.8**
TKM2	**Tokmak 2** 1.8nm,0.3s	**3.00**	**278**	⇑Pn	**Pb**	**01 39 11.1**	**-3.1**
TKM2	12nm,0.3s			⇑Lg	Lg	01 39 52.7	
TKM2	**Tokmak 2** baz=78	**3.00**	**278**	⇑*i*P	**Pn**	**01 39 10.6**	**+2.2**
TKM2	baz=78			⇑*i*S	**Sn**	**01 39 47.4**	**+2.9**
KZA	**Kyzart** baz=62	**3.29**	**263**	⇓*i*P	**Pn**	**01 39 14.9**	**+2.3**
KZA	baz=62			⇓*i*S	**Sn**	**01 39 54.5**	**+2.4**
KBK	**Karagaybulak** baz=73	**3.46**	**273**	⇑*i*P	**Pn**	**01 39 16.6**	**+1.8**
KBK	baz=73			⇑*i*S	**Sn**	**01 39 58.3**	**+2.3**
CHMS	**Chumysh** baz=78	**3.62**	**278**	⇑*i*P	**Pn**	**01 39 19.1**	**+2.3**
CHMS	baz=78			⇑*i*S	**Sn**	**01 40 02.1**	**+2.4**
AAK	**Ala-Archa** 2.2nm,0.4s	**3.80**	**273**	⇑Pg	**Pb**	**01 39 28.3**	**+0.4**
AAK	8.6nm,0.8s			⇓Lg	Lg	01 40 17.8	
AAK	**Ala-Archa** baz=72	**3.80**	**273**	⇓*i*P	**Pn**	**01 39 21.7**	**+2.3**
AAK	baz=72			⇓*i*S	**Sn**	**01 40 06.4**	**+2.2**
UCH	**Uchtor** baz=66	**3.81**	**267**	⇑*i*P	**Pn**	**01 39 22.0**	**+2.2**
UCH	baz=66			⇑*i*S	**Sn**	**01 40 06.9**	**+2.0**
USP	**Ospenovka** baz=82	**3.84**	**282**	⇓*i*P	**Pn**	**01 39 22.1**	**+2.3**
USP	baz=82			⇓*i*S	**Sn**	**01 40 07.1**	**+2.1**
ARLS	**Aral** baz=61	**4.01**	**262**	⇑*e*P	**Pn**	**01 39 24.4**	**+2.1**
ARLS	baz=61			⇑*i*S	**Sn**	**01 40 11.5**	**+2.0**
EKS2	**Erkin-Say** baz=73	**4.33**	**273**	⇑*i*P	**Pn**	**01 39 28.8**	**+2.2**
EKS2	baz=73			⇑*i*S	**Sn**	**01 40 18.8**	**+1.6**
AML	**Almayashu** baz=66	**4.43**	**266**	⇑*i*P	**Pn**	**01 39 30.6**	**+2.4**
AML	baz=66			⇑*i*S	**Sn**	**01 40 21.8**	**+1.7**
MAKZ	**Makanchi** 0.4nm,0.3s	**4.55**	**21**	⇑Sn	**Sn**	**01 40 22.4**	**-0.1**
MAKZ	0.2nm,0.2s			⇑Lg	Lg	01 40 41.0	
MK31	**Makanchi Array** baz=112,slow=17,SNR=19	**4.62**	**23**	⇑Pn	**Pn**	**01 39 32.5**	**+2.0**
MK31	0.3nm,0.3s,baz=208,slow=25,SNR=3.5			⇓Sn	**Sn**	**01 40 26.4**	**+2.1**
MK31	1.5nm,0.5s,baz=204,slow=26,SNR=5.6			⇑Lg	Lg	01 40 44.6	
KK31	**Karatay Array** 0.1nm,0.3s,baz=96,slow=16,SNR=4.0	**6.73**	**278**	⇓Pg	**Pg**	**01 40 25.6**	**-3.9**
KK31	1.1nm,0.5s,baz=82,slow=29,SNR=5.0			⇓Lg	Lg	01 41 49.6	

KRNET 29 01:45:00.7±0.1, **42°.73N**×**79°.31E**, **h11**km, **mb2.1, 6C-2D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye** baz=12	**0.61**	**12**	⇑*i*P	Pg	01 45 12.7	+0.1
PRZ	**Przheval'sk** baz=50	**0.72**	**250**	⇑*i*P	Pg	01 45 14.5	-0.1
PRZ	baz=50			⇑*i*S	Sg	01 45 24.4	+0.4
KDJ	**Kajisay** baz=50	**1.69**	**250**	⇑*i*P	Pb	01 45 32.1	+0.3
KDJ	baz=50			⇑*i*S	Sg	01 45 55.5	+0.5
ULHL	**Ulahol** baz=59	**2.32**	**259**	⇑*i*P	Pb	01 45 42.1	-0.6
BOOM	**Boomskoye usch** baz=66	**2.50**	**266**	⇓*e*P	Pb	01 45 44.3	-1.4
BOOM	baz=66			⇓*e*S	Sb	01 46 16.8	+0.2

*KRNET **29** 01:45:06.0±0.1, 42°.55N×79°.67E, h15km, mb2.8*
*NNC **29** 01:45:05.6±1.2, 42°.53N×79°.60E, h0km, mb3.3, mpv3.4, Error ellipse: s-maj=8.0km s-min=4.0km az=148.0*
*SOME **29** 01:45:06.6, 42°.53N×79°.58E, h15km*
*ISCJB **29** 01:45:08.2±0.7, 42°.61N±0°.03×79°.65E±0°.04, h10km, Error ellipse: s-maj=5.6km s-min=2.9km az=137.8*

ISC 29 01:45:06.1±1.2, **42°.50N**±0°.04×**79°.60E**±0°.04, **h10**km, **n44**, σ1**s74**/79, **20C-17D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 204nm,0.1s	**0.67**	**351**	P	**Pb**	**01 45 19.3**	**-0.6**
SHLS	543nm,0.2s			S	**Sb**	**01 45 28.7**	**-0.6**
SHLS	**Shalkode** 204nm,0.1s	**0.67**	**351**	*e*P	**Pb**	**01 45 19.3**	**-0.6**
SHLS	556nm,0.2s			*e*S	**Sb**	**01 45 28.7**	**-0.6**
UZB	**Uzynbulak** 36nm,0.2s	**0.78**	**327**	P	**Pg**	**01 45 20.4**	**-0.6**
UZB	100nm,0.3s			S	**Sg**	**01 45 30.6**	**-0.6**
UZB	**Uzynbulak** 36nm,0.1s	**0.78**	**327**	*e*P	**Pg**	**01 45 20.5**	**-0.6**
UZB	100nm,0.3s			*e*S	**Sg**	**01 45 30.6**	**-0.6**
PDGK	**Podgornoye** 22nm,0.3s	**0.83**	**354**	P	**Pg**	**01 45 21.2**	**-1.0**
PDGK	12nm,0.2s			S	**Sg**	**01 45 32.1**	**-0.9**
PDGK	**Podgornoye** 13nm,0.3s	**0.83**	**354**	⇓P	**Pg**	**01 45 21.1**	**-1.1**
PDGK	6.5nm,0.3s			⇑S	**Sn**	**01 45 35.0**	**-1.5**
PDGK	**Podgornoye** baz=50	**0.83**	**354**	⇓*i*P	**Pg**	**01 45 21.1**	**-1.1**
PDGK	baz=50			⇓*i*S	**Sg**	**01 45 31.9**	**-1.2**
PDGK	**Podgornoye** baz=12	**0.83**	**354**	⇑*i*S	**Pg**	**01 45 21.5**	**-0.7**
PRZ	**Przheval'sk** baz=66	**0.89**	**269**	⇑*i*P	**Pb**	**01 45 23.6**	**-0.1**
PRZ	baz=66			⇑*i*S	**Sn**	**01 45 36.3**	**-1.6**
SATY	**Saty** 2.7nm,0.1s	**1.04**	**303**	*e*P	**Pg**	**01 45 24.9**	**-1.3**
SATY	72nm,0.1s			*e*S	**Sg**	**01 45 38.1**	**-1.6**
ZHN	**Zhinishke** 4.2nm,0.1s	**1.09**	**308**	*e*P	**Pg**	**01 45 26.1**	**-0.9**
ZHN	74nm,0.2s			*e*S	**Sg**	**01 45 40.4**	**-0.8**
KTMS	**Ketmen** 26nm,0.1s	**1.09**	**30**	P	**Pg**	**01 45 26.0**	**-1.2**
KTMS	89nm,0.4s			S	**Sg**	**01 45 39.9**	**-1.5**
KPKS	**Kokpek** 42nm,0.2s	**1.18**	**325**	*e*P	**Pb**	**01 45 27.6**	**-1.0**
KPKS	70nm,0.1s			*e*S	**Sb**	**01 45 42.7**	**-1.3**
KURS	**Kuram** 1.2nm,0.1s	**1.44**	**314**	*e*P	**Pb**	**01 45 32.6**	**-0.5**
KURS	9.7nm,0.2s			*e*S	**Sg**	**01 45 51.3**	**-1.2**
KDJ	**Kajisay** baz=58	**1.83**	**259**	⇑*i*P	**Pg**	**01 45 41.0**	**-0.3**
KDJ	baz=58			⇑*i*S	**Sg**	**01 46 06.0**	**+1.0**
DJR	**Jarkent** 3.8nm,0.3s	**1.84**	**4**	*e*P	**Pb**	**01 45 38.9**	**-1.0**
DJR	14nm,0.3s			*e*S	**Sb**	**01 46 01.9**	**-1.0**
KOTS	**Kotyrbulak** 11nm,0.2s	**1.97**	**293**	P	**Pb**	**01 45 42.1**	**-0.1**
KOTS	84nm,0.4s			S	**Sg**	**01 46 07.6**	**-1.9**
KOTS	**Kotyrbulak** 6.7nm,0.2s	**1.97**	**293**	*e*P	**Pb**	**01 45 42.1**	**-0.1**
KOTS	84nm,0.4s			*e*S	**Sg**	**01 46 07.9**	**-1.6**
MDOK	**Medeo** 1.4nm,0.2s	**1.99**	**290**	⇑Pg	**Pb**	**01 45 42.3**	**-0.2**
MDOK	12nm,0.5s			Lg	Lg	01 46 07.7	
MDOK	**Medeo** 5.8nm,0.2s	**1.99**	**290**	*e*P	**Pb**	**01 45 42.1**	**-0.4**
MDOK	16nm,0.4s			*e*S	**Sb**	**01 46 07.6**	**+0.1**
TNSS	**Tian-Shan** 8.2nm,0.2s	**2.03**	**286**	*e*P	**Pb**	**01 45 42.7**	**-0.6**
TNSS	30nm,0.4s			*e*S	**Sb**	**01 46 08.8**	**+0.1**
ARXS	**Arharly** 6.8nm,0.3s	**2.15**	**324**	Pg	**Pb**	**01 45 44.4**	**-0.7**
ARXS	39nm,0.4s			Lg	Lg	01 46 12.1	
ARXS	**Arharly** 7.5nm,0.3s	**2.15**	**324**	*e*P	**Pb**	**01 45 44.4**	**-0.7**
ARXS	33nm,0.5s			*e*S	**Sb**	**01 46 11.8**	**0.0**
IZV	**Izvestkoviy** 19nm,0.2s	**2.26**	**285**	Pg	**Pg**	**01 45 47.7**	**-1.8**
IZV	42nm,0.5s			Lg	Lg	01 46 17.3	
CHKK	**Chushkaly** 1.6nm,0.1s	**2.34**	**306**	*e*P	**Pb**	**01 45 48.6**	**+0.2**
CHKK	35nm,0.2s			*e*S	**Sg**	**01 46 18.7**	**-2.7**
MTBS	**Maitube** 8.8nm,0.2s	**2.42**	**286**	*e*P	**Pb**	**01 45 50.4**	**+0.6**
MTBS	27nm,0.3s			*e*S	**Sg**	**01 46 21.8**	**-2.0**
KTBS	**Karatobe** 3.0nm,0.1s	**2.46**	**301**	Pg	**Pb**	**01 45 49.6**	**-0.8**
KTBS	60nm,0.5s			Lg	Lg	01 46 20.5	
KTBS	**Karatobe** 3.0nm,0.2s	**2.46**	**301**	*e*P	**Pb**	**01 45 50.8**	**+0.4**
KTBS	58nm,0.6s			*e*S	**Sg**	**01 46 22.3**	**-2.7**
ULHL	**Ulahol** baz=64	**2.50**	**265**	⇓*i*P	**Pb**	**01 45 50.1**	**-1.2**
ULHL	baz=64			⇓*i*S	**Sb**	**01 46 22.8**	**+0.6**
BOOM	**Boomskoye usch** baz=70	**2.71**	**271**	⇑*i*P	**Pb**	**01 45 53.4**	**-1.3**

BOOM				⇑*i*S		**Sb**	**01 46 27.5**	**-0.6**
	baz=70								
KST	**Kastek**	**2.73**	**283**	*e*P		**Pb**	**01 45 55.6**	**+0.5**
	8.1nm,0.1s								
KST				*e*S		**Sb**	**01 46 30.5**	**+1.7**
	17nm,0.6s								
KUU	**Kurty**	**2.76**	**301**	*e*P		**Pb**	**01 45 55.9**	**+0.3**
	1.5nm,0.2s								
KUU				*e*S		**Sb**	**01 46 31.2**	**+1.7**
	30nm,0.3s								
NRN	**Naryn**	**2.89**	**250**	⇓*e*P		**Pb**	**01 45 56.0**	**-1.9**
	baz=49								
NRN				⇓*i*S		**Sb**	**01 46 32.9**	**-0.5**
	baz=49								
DGS	**Degeres**	**2.91**	**286**	Pg		**Pb**	**01 45 58.5**	**+0.3**
	3.9nm,0.2s								
TKM2	**Tokmak 2**	**2.98**	**279**	⇓Pg		**Pb**	**01 45 58.7**	**-0.7**
	1.3nm,0.3s								
TKM2				⇑Lg		Lg	01 46 39.0		
	5.4nm,0.2s								
TKM2	**Tokmak 2**	**2.98**	**279**	⇑*i*P		**Pb**	**01 45 57.1**	**-2.3**
	baz=78								
TKM2				⇑*i*S		**Sb**	**01 46 34.3**	**-1.7**
	baz=78								
KZA	**Kyzart**	**3.25**	**264**	⇑*i*P		**Pb**	**01 46 01.2**	**-3.0**
	baz=63								
KZA				⇑*i*S		**Sb**	**01 46 41.5**	**-2.6**
	baz=63								
KBK	**Karagaybulak**	**3.44**	**274**	⇓*i*P		**Pb**	**01 46 03.1**	**-4.1**
	baz=73								
KBK				⇓*i*S		**Sb**	**01 46 45.2**	**-3.9**
	baz=73								
AAK	**Ala-Archa**	**3.77**	**274**	⇓Pg		**Pg**	**01 46 15.2**	**-3.2**
	0.7nm,0.3s								
AAK				⇑Lg		Lg	01 47 03.0		
	2.1nm,0.6s								
USP	**Ospenovka**	**3.83**	**283**	⇓*i*P		**Pn**	**01 46 08.5**	**+3.4**
	baz=82								
USP				⇓*i*S		**Sn**	**01 46 54.2**	**+4.0**
	baz=82								
ARLS	**Aral**	**3.97**	**263**	⇓*i*P		**Pn**	**01 46 10.5**	**+3.3**
	baz=62								
ARLS				⇓*i*S		**Sn**	**01 46 57.6**	**+3.6**
	baz=62								
EKS2	**Erkin-Say**	**4.30**	**274**	⇑*i*P		**Pn**	**01 46 15.1**	**+3.4**
	baz=73								
EKS2				⇑*i*S		**Sn**	**01 47 05.5**	**+3.5**
	baz=73								
MAKZ	**Makanchi**	**4.63**	**21**	⇑Sn		**Sn**	**01 47 11.2**	**+1.3**
	0.3nm,0.4s								
MAKZ				⇑Lg		Lg	01 47 31.6		
	0.5nm,0.5s								
MK31	**Makanchi Array**	**4.70**	**23**	⇑Pn		**Pn**	**01 46 19.4**	**+2.2**
	0.1nm,0.2s,baz=203,slow=14,SNR=13								
MK31				⇓Sn		**Sn**	**01 47 13.6**	**+1.9**
	0.3nm,0.3s,baz=205,slow=24,SNR=4.4								
MK31				⇓Lg		Lg	01 47 31.4		
	0.4nm,0.3s,baz=208,slow=25,SNR=3.9								

SOME ***29*** *01:45:28.7, 42.˚58N×79.˚55E, h0km*
KRNET ***29*** *01:45:28.0±0.1, 42.˚58N×79.˚76E, h15km, mb2.6*

ISC 29 01:45:27.5±2.5, 42.˚53N±0.˚08×79.˚7E±0.˚1, h10km, n8, σ1§17/16, 12C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.65**	**347**	*e*P	**Pb**	**01 45 41.3**	**+0.3**
	31nm,0.1s						
SHLS				*e*S	**Sb**	**01 45 50.1**	**0.0**
	236nm,0.5s						
UZB	**Uzynbulak**	**0.78**	**323**	*e*P	**Pb**	**01 45 43.1**	**-0.1**
	34nm,0.1s						
UZB				*e*S	**Sb**	**01 45 53.6**	**-0.2**
	31nm,0.2s						
PDGK	**Podgornoye**	**0.81**	**351**	⇑*i*P	**Pg**	**01 45 42.8**	**-0.4**
	baz=45						
PDGK				⇑*i*S	**Sg**	**01 45 53.3**	**-0.5**
	baz=45						
PRZ	**Przheval'sk**	**0.93**	**268**	⇑*i*P	**Pn**	**01 45 47.5**	**+0.7**
	baz=65						
PRZ				⇑*i*S	**Sn**	**01 46 00.5**	**+0.2**
	baz=65						
KDJ	**Kajisay**	**1.88**	**259**	⇑*i*P	**Pg**	**01 46 03.6**	**+0.1**
	baz=57						
KDJ				⇑*i*S	**Sg**	**01 46 30.3**	**+2.4**
	baz=57						
ULHL	**Ulahol**	**2.55**	**265**	⇑*e*P	**Pb**	**01 46 13.8**	**+0.4**
	baz=64						
ULHL				⇑*i*S	**Sg**	**01 46 46.5**	**-2.8**
	baz=64						
BOOM	**Boomskoye usch**	**2.75**	**271**	⇑*i*P	**Pb**	**01 46 16.0**	**-0.8**
	baz=69						
BOOM				⇑*i*S	**Sb**	**01 46 51.2**	**+0.6**
	baz=69						
NRN	**Naryn**	**2.94**	**249**	⇑*i*P	**Pb**	**01 46 18.7**	**-1.4**
	baz=49						
NRN				⇑*i*S	**Sb**	**01 46 56.2**	**0.0**
	baz=49						

ARO ***29*** *01:45:47.0, 11.˚N±31.˚4×4.˚1E±1.˚0, h15km±99km, Ml3.3*
ISCJB ***29*** *01:45:48.0±1.2, 11.˚5N±0.˚1×41.˚16E±0.˚06, h10km, Error ellipse: s-maj=16.9km s-min=6.1km az=155.5*

ISC 29 01:45:47.6±1.6, 11.˚3N±0.˚1×41.˚14E±0.˚08, h10km, n10, σ0§74/15, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSDD	**Koussour**	**1.29**	**81**	*e*P	**Pn**	**01 46 11.0**	**-0.7**
MAOD	**Malaho**	**1.30**	**55**	*e*P	**Pn**	**01 46 10.9**	**-0.9**
GBR	**Grand-Bara**	**1.31**	**98**	*e*P	**Pn**	**01 46 10.8**	**-1.3**
GBR				*e*S	**Sb**	**01 46 28.8**	**-0.5**
SGH	**Sud-Ghoubbet**	**1.46**	**86**	*e*P	**Pn**	**01 46 13.3**	**-0.8**
SGH				*e*S	**Sn**	**01 46 34.0**	**+0.5**
ATD	**Arta Tunnel**	**1.68**	**84**	*e*P	**Pn**	**01 46 16.8**	**-0.4**
ATD				*e*S	**Sb**	**01 46 41.3**	**+1.3**
ATD	**Arta Tunnel**	**1.68**	**84**	*e*P	**Pn**	**01 46 16.7**	**-0.4**
TDD	**Tadjoura Ara**	**1.79**	**75**	*e*P	**Pn**	**01 46 18.5**	**0.0**
ATA	**Atar**	**2.03**	**87**	*e*P	**Pn**	**01 46 22.0**	**+0.2**
ANKE	**Ethiopia-Afar**	**2.22**	**219**	*e*P	**Pb**	**01 46 28.3**	**+0.2**
ANKE				*i*S	**Sb**	**01 46 56.1**	**+0.3**
ANKE	**Ethiopia-Afar**	**2.22**	**219**	*e*P	**Pb**	**01 46 28.3**	**+0.2**
ANKE				*i*S	**Sb**	**01 46 56.1**	**+0.3**

IDC ***29*** *01:48:51.4±0.6, 35.˚44N×27.˚08E, h0km, mb4.0/24, mb1 4.1/35, mb1mx4.0/49, mbtmp4.0/35, ML4.1/8, MS3.6/2, Ms1 3.7/2, ms1mx2.9/46, Error ellipse: s-maj=13.4km s-min=10.1km az=176.0*
DDA ***29*** *01:48:52.3, 35.˚41N×27.˚04E, h8km±3km, ML4.3*
GII ***29*** *01:48:54.5±0.0, 35.˚30N×27.˚17E, h20km, MD3.7/2*
ISCJB ***29*** *01:48:55.2±0.2, 35.˚25N±0.˚01×27.˚18E±0.˚01, h39km±2km, mb4.1/42, Error ellipse: s-maj=2.6km s-min=1.8km az=27.3*
ISK ***29*** *01:48:55.7, 35.˚67N×26.˚89E, h6km, ML4.1/7*
MOS ***29*** *01:48:55.6±1.4, 35.˚39N×27.˚15E, h33km, mb4.2/20, Error ellipse: s-maj=5.8km s-min=3.9km az=89.1*
ATH ***29*** *01:48:56.8, 35.˚48N×27.˚07E, h32km, ML4.3/14, Error ellipse: s-maj=1.4km s-min=0.6km az=144.0*
NEIC ***29*** *01:48:57.0±0.0, 35.˚51N×27.˚03E, h30km, mb4.3/25, ML4.3(ATH), ML4.3(THE), After ATH.*
HLW ***29*** *01:48:57.2, 35.˚29N×27.˚35E, h16km±11km, Md4.5, Ml4.3*
NIC ***29*** *01:48:58.0±0.3, 35.˚44N×27.˚41E, h17km, mb4.5, ML4.1*
THE ***29*** *01:48:58.8, 35.˚54N×27.˚03E, h15km, ML4.3/6, Error ellipse: s-maj=1.0km s-min=0.3km az=141.0*

ISC 29 01:48:56.0±0.5, 35.˚37N±0.˚03×27.˚09E±0.˚02, h30km±3km, n462, σ1§97/528, mb4.3/50, 32C-14D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.19**	**19**	PG	**Pb**	**01 49 02.1**	**-0.1**
KARP				SG	**Sb**	**01 49 06.3**	**0.0**
KARP	**Karpathos**	**0.19**	**19**	*e*Pg	**Pb**	**01 49 01.7**	**-0.5**
KARP				*e*Sg	**Sb**	**01 49 05.8**	**-0.5**
KARP	**Karpathos**	**0.19**	**19**	P	**Pb**	**01 49 02.1**	**-0.1**
KARP				S	**Sb**	**01 49 06.4**	**0.0**
KARP				AML	AML	01 49 06.8	
KARP				AML	AML	01 49 07.2	
KARP	**Karpathos**	**0.19**	**19**	P	**Pb**	**01 49 01.7**	**-0.5**
KARP				S	**Sb**	**01 49 05.3**	**-1.1**
ZKR	**Zakros**	**0.76**	**251**	PG	**Pn**	**01 49 11.3**	**+0.6**
ZKR				SG	**Sn**	**01 49 24.1**	**+3.0**
ZKR	**Zakros**	**0.76**	**251**	P	**Pn**	**01 49 11.4**	**+0.6**
ZKR				S	**Sn**	**01 49 23.7**	**+2.6**
ZKR				AML	AML	01 49 27.5	
	comp=N,24636μm,0.7s						
ZKR				AML	AML	01 49 29.4	
	comp=E,61616μm,1.0s						
ARG	**Arkhangelos**	**1.20**	**45**	PN	**Pb**	**01 49 18.4**	**+0.3**
ARG	**Arkhangelos**	**1.20**	**45**	*e*Pn	**Pb**	**01 49 18.4**	**+0.3**
ARG				*e*Sn	**Sb**	**01 49 33.4**	**+0.2**
ARG	**Arkhangelos**	**1.20**	**45**	P	**Pb**	**01 49 18.6**	**+0.5**
ARG				S	**Sb**	**01 49 33.8**	**+0.6**
ARG				AML	AML	01 49 37.9	
	comp=E,34594μm,1.3s						
ARG				AML	AML	01 49 40.7	
	comp=N,21273μm,0.8s						
ARG	**Arkhangelos**	**1.20**	**45**	P	**Pb**	**01 49 18.4**	**+0.3**
ARG				S	**Sb**	**01 49 33.4**	**+0.2**
ARG	**Arkhangelos**	**1.20**	**45**	*e*P	**Pb**	**01 49 18.4**	**+0.3**
ARG				*e*		01 49 33.4	
NPS	**Neapolis**	**1.21**	**265**	P	**Pb**	**01 49 19.4**	**+1.1**
NPS				S	**Sb**	**01 49 35.9**	**+2.3**
NPS	**Neapolis**	**1.21**	**265**	P	**Pb**	**01 49 19.8**	**+1.5**
NPS				S	**Sb**	**01 49 35.9**	**+2.3**
NPS				AML	AML	01 49 41.4	
	comp=E,43194μm,0.8s						
NPS				AML	AML	01 49 41.7	
	comp=N,38561μm,0.8s						
NPS	**Neapolis**	**1.21**	**265**	P	**Pb**	**01 49 19.4**	**+1.1**
NPS				S	**Sb**	**01 49 35.9**	**+2.3**
NPS	**Neapolis**	**1.21**	**265**	P	**Pb**	**01 49 19.4**	**+1.1**
NPS				S	**Sb**	**01 49 35.9**	**+2.3**
NISR	**Nisiros**	**1.24**	**2**	*e*Pn	**Pn**	**01 49 17.4**	**0.0**
NISR				*e*Sn	**Sn**	**01 49 32.5**	**-0.6**
NISR	**Nisiros**	**1.24**	**2**	P	**Pn**	**01 49 17.6**	**+0.2**
NISR				AML	AML	01 49 43.7	
	comp=N,14112μm,0.4s						
NISR				AML	AML	01 49 44.0	
	comp=E,25295μm,0.4s						
NISR	**Nisiros**	**1.24**	**2**	P	**Pn**	**01 49 17.4**	**0.0**
NISR				S	**Sn**	**01 49 32.5**	**-0.6**
LAST	**Lasithi**	**1.33**	**262**	*e*Pn	**Pb**	**01 49 21.2**	**+0.7**
LAST				*e*Sn	**Sb**	**01 49 38.5**	**+1.3**
LAST	**Lasithi**	**1.33**	**262**	P	**Pb**	**01 49 21.7**	**+1.3**
LAST				S	**Sb**	**01 49 38.1**	**+1.0**
LAST				AML	AML	01 49 46.0	
	comp=N,22015μm,0.8s						
LAST				AML	AML	01 49 47.5	
	comp=E,19801μm,1.3s						
LAST	**Lasithi**	**1.33**	**262**	P	**Pb**	**01 49 21.2**	**+0.7**
LAST				S	**Sb**	**01 49 38.5**	**+1.3**
DAT	**Datca**	**1.42**	**16**	PN	**Pn**	**01 49 19.8**	**-0.1**
DAT	**Datca**	**1.42**	**16**	IAML_P			
	comp=Z,10μm,0.1s						
DAT				⇓*i*P	**Pb**	**01 49 20.8**	**-1.1**
ANAF	**Anafi Island**	**1.45**	**313**	P	**Pb**	**01 49 21.7**	**-0.8**
ANAF				S	**Sb**	**01 49 39.5**	**-1.1**
ANAF				AML	AML	01 49 43.5	
ANAF				AML	AML	01 49 44.4	
ANAF	**Anafi Island**	**1.45**	**313**	P	**Pn**	**01 49 20.9**	**+0.6**
ANAF				S	**Sn**	**01 49 38.2**	**-0.2**
DATC	**Datca-Mugla**	**1.46**	**18**	PN	**Pn**	**01 49 20.6**	**+0.2**
BBRN	**Bozburun-Marma**	**1.53**	**31**	PN	**Pb**	**01 49 23.1**	**-0.6**
IACM	**Heraklion**	**1.65**	**268**	P	**Pb**	**01 49 25.4**	**-0.4**
IACM	**Heraklion**	**1.65**	**268**	P	**Pn**	**01 49 25.3**	**-0.4**
KSTL	**Kastelli Herak**	**1.65**	**268**	P	**Pn**	**01 49 22.3**	**-0.7**
SANT	**Santorini**	**1.66**	**308**	PN	**Pn**	**01 49 22.8**	**-0.3**
SANT	**Santorini**	**1.66**	**308**	*e*Pn	**Pn**	**01 49 24.2**	**+1.1**
SANT				*e*Sn	**Sb**	**01 49 46.8**	**+0.4**
SANT	**Santorini**	**1.66**	**308**	P	**Pb**	**01 49 24.6**	**-1.3**
SANT				S	**Sb**	**01 49 45.0**	**-1.5**
SANT				AML	AML	01 49 55.7	
	comp=N,13563μm,0.6s						
SANT				AML	AML	01 49 55.9	
	comp=E,21734μm,0.7s						
SANT	**Santorini**	**1.66**	**308**	⇑*i*P	**Pn**	**01 49 24.0**	**+0.9**
SANT	**Santorini**	**1.66**	**308**	S	**Sb**	**01 49 45.3**	**-1.2**
SANT	**Santorini**	**1.66**	**308**	P	**Pn**	**01 49 24.2**	**+1.1**
THR8	**Santorini-Mono**	**1.67**	**309**	P	**Pb**	**01 49 24.7**	**-1.4**
THT1	**Athinios (Pele**	**1.69**	**308**	P	**Pb**	**01 49 24.8**	**-1.5**
THT1				S	**Sn**	**01 49 44.8**	**+0.7**
THT1	**Athinios (Pele**	**1.69**	**308**	P	**Pn**	**01 49 24.3**	**+0.8**
THR6	**Thira Island,**	**1.69**	**306**	P	**Pb**	**01 49 25.3**	**-1.2**
SAP2K	**Karterados**	**1.69**	**308**	P	**Pb**	**01 49 25.1**	**-1.4**
SAP2K	**Karterados**	**1.69**	**308**	P	**Pn**	**01 49 24.5**	**+1.0**
BODT	**Bodrum**	**1.70**	**6**	PN	**Pn**	**01 49 23.8**	**+0.1**
THR7	**Fira-Santorini**	**1.71**	**308**	P	**Pb**	**01 49 25.6**	**-1.2**
THR9	**Santorini-Faro**	**1.72**	**306**	P	**Pb**	**01 49 25.3**	**-1.6**
BDRM	**Kayabasi**	**1.72**	**10**	⇓*i*P	**Pn**	**01 49 24.7**	**+0.7**
BDRM				*i*S	**Sb**	**01 49 48.4**	**+0.3**
THR3	**Thira Island,**	**1.72**	**308**	P	**Pb**	**01 49 25.6**	**-1.4**
THR2	**Thira island,**	**1.72**	**309**	*e*Pn	**Pn**	**01 49 24.9**	**+1.0**
THR2	**Thira island,**	**1.72**	**309**	P	**Pb**	**01 49 25.6**	**-1.4**
THR2	**Thira island,**	**1.72**	**309**	P	**Pn**	**01 49 24.9**	**+1.0**
THT2	**Imerovigli**	**1.72**	**309**	P	**Pb**	**01 49 26.0**	**-1.0**
AMGA	**Amorgos Island**	**1.75**	**327**	P	**Pn**	**01 49 24.7**	**+0.4**
AMGA				S	**Sn**	**01 49 45.5**	**-0.2**
AMGA				AML	AML	01 49 54.6	
	comp=Z,9220μm,0.6s						
AMGA				AML	AML	01 49 56.5	
	comp=N,14082μm,0.6s						
AMGA	**Amorgos Island**	**1.75**	**327**	P	**Pn**	**01 49 24.8**	**+0.4**
AMGA				S	**Sn**	**01 49 45.0**	**-0.7**
THR5	**Thira Island,**	**1.76**	**307**	P	**Pb**	**01 49 26.2**	**-1.4**
YKAV	**Yalikavak-Bodr**	**1.76**	**5**	PN	**Pn**	**01 49 24.6**	**+0.1**
SAP3	**Santorini-Thir**	**1.77**	**308**	P	**Pn**	**01 49 25.7**	**+1.1**
SAP4	**Santorini-Oia**	**1.77**	**309**	P	**Pb**	**01 49 26.8**	**-1.1**
IDI	**Anoyia**	**1.80**	**268**	Pn	**Pb**	**01 49 26.7**	**-1.7**
	comp=N,72nm,0.3s,baz=63,slow=17,SNR=161						
IDI				Sn	**Sb**	**01 49 52.1**	**+1.6**
	comp=N,190nm,0.3s,baz=325,slow=20,SNR=9.4						
TMBK	**Timbaki Herakl**	**1.92**	**262**	P	**Pb**	**01 49 29.4**	**-1.0**
DALY	**Dalyan (Mula)**	**1.92**	**41**	PN	**Pb**	**01 49 29.1**	**-1.3**
DALY	**Dalyan (Mula)**	**1.92**	**41**	IAML_P			
	comp=Z,20μm,0.5s						
DALY				⇑*i*P	**Pb**	**01 49 29.6**	**-0.9**
DALY				*i*S	**Sb**	**01 49 56.3**	**+2.3**
IOSP	**Ios island**	**1.99**	**313**	P	**Pn**	**01 49 28.2**	**+0.6**
IOSP				S	**Sn**	**01 49 52.0**	**+0.5**
IOSP				AML	AML	01 50 01.0	
	comp=N,10528μm,0.5s						
IOSP				AML	AML	01 50 01.0	
	comp=E,8929μm,0.8s						
MLSB	**Milas**	**2.00**	**16**	PN	**Pn**	**01 49 28.4**	**+0.5**
FETY	**Fethiye**	**2.05**	**51**	⇑*i*P	**Pn**	**01 49 29.8**	**+1.2**
FETY				*i*S	**Sb**	**01 49 59.4**	**+1.6**
APE	**Apeiranthos**	**2.11**	**324**	PN	**Pn**	**01 49 28.5**	**-0.9**
APE	**Apeiranthos**	**2.11**	**324**	*e*Pn	**Pn**	**01 49 29.9**	**+0.5**
APE				*e*Sn	**Sn**	**01 49 54.5**	**-0.2**
APE	**Apeiranthos**	**2.11**	**324**	P	**Pn**	**01 49 30.2**	**+0.8**
APE				S	**Sn**	**01 49 55.3**	**+0.7**
APE				AML	AML	01 49 58.8	
	comp=N,5398μm,0.6s						
APE				AML	AML	01 49 59.9	
	comp=E,7693μm,0.6s						
APE	**Apeiranthos**	**2.11**	**324**	⇑*i*P	**Pn**	**01 49 30.0**	**+0.5**
APE	**Apeiranthos**	**2.11**	**324**	P	**Pn**	**01 49 29.9**	**+0.5**
APE				S	**Sn**	**01 49 54.5**	**-0.2**
APE	**Apeiranthos**	**2.11**	**324**	*e*P	**Pn**	**01 49 29.9**	**+0.5**
APE				*e*		01 49 54.5	
KSL	**Kastellorizon**	**2.17**	**68**	P	**Pn**	**01 49 31.5**	**+1.3**
KSL				S	**Sn**	**01 49 58.2**	**+2.1**
KSL				AML	AML	01 50 01.7	
	comp=E,4182μm,0.6s						
KSL				AML	AML	01 50 02.9	
	comp=N,1906μm,0.8s						
AKAS	**Kas**	**2.22**	**66**	⇑*i*P	**Pn**	**01 49 33.0**	**+2.0**
AKAS				*i*S	**Sn**	**01 49 59.1**	**+1.6**
GCAM	**G?zelcaml?**	**2.33**	**3**	⇓*i*P	**Pn**	**01 49 33.8**	**+1.5**
GCAM				*i*S	**Sb**	**01 50 04.8**	**-0.9**
SMG	**Samos**	**2.34**	**355**	P	**Pn**	**01 49 32.9**	**+0.3**
SMG	**Samos**	**2.34**	**355**	P	**Pn**	**01 49 32.9**	**+0.3**
SMG	**Samos**	**2.34**	**355**	P	**Pn**	**01 49 32.9**	**+0.3**
VAM	**Vamos**	**2.36**	**272**	P	**Pn**	**01 49 34.8**	**+2.1**
VAM	**Vamos**	**2.36**	**272**	P	**Pb**	**01 49 35.7**	**-2.2**
VAM	**Vamos**	**2.36**	**272**	P	**Pn**	**01 49 34.8**	**+2.1**
VAM	**Vamos**	**2.36**	**272**	P	**Pn**	**01 49 34.8**	**+2.1**
AYDN	**Tasoluk**	**2.38**	**15**	IAML_P			
	comp=Z,6μm,0.3s						
AYDN				⇓*i*P	**Pn**	**01 49 34.8**	**+1.8**
AYDN				*i*S	**Sb**	**01 50 05.0**	**-2.1**
GVD	**Gavdhos**	**2.52**	**259**	PN	**Pb**	**01 49 38.1**	**-2.4**
GVD	**Gavdhos**	**2.52**	**259**	*e*Pn	**Pb**	**01 49 37.8**	**-2.7**
GVD	**Gavdhos**	**2.52**	**259**	P	**Pb**	**01 49 38.8**	**-1.8**
GVD	**Gavdhos**	**2.52**	**259**	P	**Pb**	**01 49 37.8**	**-2.7**
IMMV	**Iera Moni Meta**	**2.54**	**273**	PN	**Pn**	**01 49 36.9**	**+1.7**
IMMV	**Iera Moni Meta**	**2.54**	**273**	P	**Pn**	**01 49 37.4**	**+2.2**
IMMV				AML	AML	01 50 36.9	
	comp=E,6786μm,1.1s						
IMMV				AML	AML	01 50 53.3	
	comp=N,3437μm,0.7s						
MHLO	**Agia Marina, M**	**2.54**	**302**	P	**Pn**	**01 49 36.3**	**+1.0**
MHLA	**Plaka, Milos I**	**2.56**	**303**	P	**Pn**	**01 49 37.2**	**+1.8**
TAVA	**DENIZLI_Tavas**	**2.56**	**35**	IAML_P			
	comp=Z,10μm,0.4s						
TAVA				⇑*i*P	**Pn**	**01 49 38.1**	**+2.5**
TAVA				*i*S	**Sb**	**01 50 12.0**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**2.65**	**14**	PN	**Pn**	**01 49 37.6**	**+0.7**
TNSA	**Tinos**	**2.67**	**325**	P	**Pn**	**01 49 39.0**	**+2.1**
TNSA				S	**Sn**	**01 50 08.8**	**+0.6**
DGB	**zmir**	**2.68**	**357**	⇓*i*P	**Pn**	**01 49 38.3**	**+1.1**
DGB				*i*S	**Sb**	**01 50 13.2**	**-2.7**
GOLH	**Golhisar**	**2.73**	**46**	⇑*i*P	Pb	01 49 53.6	+9.3
GOLH				*i*S	Sb	01 50 28.6	+11
SERI	**Serifos**	**2.76**	**311**	P	**Pn**	**01 49 39.9**	**+1.6**
SERI				S	**Sn**	**01 50 10.8**	**+0.2**
SERI	**Serifos**	**2.76**	**311**	P	**Pn**	**01 49 39.2**	**+0.9**
KERA	**Keramoti**	**2.88**	**271**	P	**Pb**	**01 49 44.0**	**-2.8**
ZEY	**zmir**	**2.90**	**351**	IAML_P			
	comp=Z,6μm,0.2s						
ZEY				⇓*i*P	**Pn**	**01 49 40.4**	**+0.2**
ZEY				*i*S	**Sn**	**01 50 15.0**	**+0.9**
KORT	**Korkueli**	**3.10**	**57**	IAML_P			
	comp=Z,6μm,0.3s						
KORT				⇑*i*P	**Pn**	**01 49 45.3**	**+2.2**
KORT				*i*S	**Sn**	**01 50 22.6**	**+3.3**
ANKY	**Antikythira Is**	**3.12**	**280**	P	**Pn**	**01 49 45.2**	**+1.9**
CHOS	**Chios island**	**3.12**	**345**	P	**Pn**	**01 49 43.6**	**+0.3**
CHOS	**Chios island**	**3.12**	**345**	P	**Pn**	**01 49 44.2**	**+0.8**
CHOS	**Chios island**	**3.12**	**345**	P	**Pn**	**01 49 43.6**	**+0.3**
MANT	**Manisa**	**3.33**	**20**	*e*Pn	**Pn**	**01 49 47.6**	**+1.2**
MANT				*e*Sn	**Sn**	**01 50 22.9**	**-2.1**
MANT	**Manisa**	**3.33**	**20**	IAML_P			
	comp=Z,3μm,0.5s						
MANT				*i*P	**Pn**	**01 49 47.8**	**+1.5**
MANT				*i*S	**Sn**	**01 50 24.3**	**-0.7**
BRDR	**BURDUR-Merkez**	**3.34**	**45**	IAML_P			
	comp=Z,2μm,0.2s						
BRDR				*i*P	**Pn**	**01 49 48.4**	**+2.1**
BRDR				*i*S	**Sb**	**01 50 34.5**	**-0.3**
PSRA	**Psara**	**3.39**	**339**	P	**Pn**	**01 49 48.8**	**+1.9**
KYTH	**Kithira**	**3.40**	**286**	*e*Pn	**Pn**	**01 49 49.0**	**+1.9**
KYTH	**Kithira**	**3.40**	**286**	P	**Pn**	**01 49 49.3**	**+2.2**
KYTH				AML	AML	01 50 32.9	
	comp=N,1535μm,0.5s						
KYTH				AML	AML	01 50 38.2	
	comp=E,1338μm,1.2s						
KYTH	**Kithira**	**3.40**	**286**	P	**Pn**	**01 49 49.0**	**+1.9**
KTHR	**Kythira**	**3.44**	**286**	P	**Pn**	**01 49 49.4**	**+1.9**
KHAL	**Karahalli**	**3.56**	**32**	⇑*i*P	**Pn**	**01 49 51.5**	**+2.1**
KHAL				*i*S	**Sn**	**01 50 33.7**	**+3.1**
VLI	**Veliai**	**3.62**	**293**	*e*Pn	**Pn**	**01 49 51.5**	**+1.4**
VLI	**Veliai**	**3.62**	**293**	P	**Pn**	**01 49 51.9**	**+1.8**
VLI	**Veliai**	**3.62**	**293**	P	**Pn**	**01 49 51.5**	**+1.4**
VLY	**Voula,Athens**	**3.63**	**314**	P	**Pn**	**01 49 52.7**	**+2.5**
ISP	**Isparta**	**3.69**	**47**	*e*Pn	**Pn**	**01 49 52.7**	**+1.5**
ISP				*e*Sn	**Sn**	**01 50 35.7**	**+1.9**
ISP	**Isparta**	**3.69**	**47**	⇑*i*P	**Pn**	**01 49 52.5**	**+1.3**
ISP	**Isparta**	**3.69**	**47**	*e*P	**Pn**	**01 49 52.7**	**+1.5**
ISP				*e*		01 50 35.7	
ISP	**Isparta**	**3.69**	**47**	Pn	**Pn**	**01 49 52.1**	**+0.9**
DION	**Dionisos Attik**	**3.71**	**318**	P	**Pn**	**01 49 53.9**	**+2.6**
ATHU	**Athens Univers**	**3.71**	**315**	P	**Pn**	**01 49 54.0**	**+2.6**
PTL	**Penteli**	**3.72**	**317**	P	**Pn**	**01 49 54.0**	**+2.5**
ATH	**Athens Observa**	**3.75**	**315**	P	**Pn**	**01 49 54.2**	**+2.3**
KRND	**KRANIDI**	**3.76**	**303**	P	**Pn**	**01 49 55.0**	**+3.0**
DID	**Didima**	**3.77**	**306**	P	**Pn**	**01 49 54.3**	**+2.2**
KZIL	**AFYON_Kizioren**	**3.78**	**39**	*i*P	**Pn**	**01 49 54.2**	**+1.8**
KZIL				*i*S	**Sb**	**01 50 49.5**	**+1.8**
PRK	**Paraskevi**	**3.92**	**351**	P	**Pn**	**01 49 54.6**	**+0.3**
PRK	**Paraskevi**	**3.92**	**351**	P	**Pn**	**01 49 56.1**	**+1.9**
PRK	**Paraskevi**	**3.92**	**351**	P	**Pn**	**01 49 54.6**

baz=196
BR231 Keskin MP Arra 6.35 44 *e*Pn **Pn** 01 50 30.9 +3.2
ANTO Ankara 6.38 44 *e*Pn **Pn** 01 50 30.2 +2.1
ANTO Ankara 6.38 44 *e*P **Pn** 01 50 30.2 +2.1
HMYD Mayadein 6.38 150 P **Pn** 01 50 26.8 -1.2
baz=151
HNAT Natroun 6.45 151 P **Pn** 01 50 28.1 -0.9
baz=153
HLW Helwan 6.56 146 P **Pn** 01 50 28.9 -1.6
baz=147
KOT Kottamia 6.74 142 P **Pn** 01 50 31.1 -1.9
baz=143
VAY Valandovo 6.92 331 *i* Pn **Pn** 01 50 39.8 +4.3
GLL Jalalah 6.97 145 P **Pn** 01 50 34.2 -2.0
baz=145
OFRI `Ofer 7.11 110 Pn **Pn** 01 50 36.4 -1.7
OFRI Sn **Sn** 01 51 56.1 -1.8
MMA0B Mount Meron ar 7.28 106 Pn **Pn** 01 50 38.9 -1.5
MMAI Mount Meron Ar 7.28 106 Pn **Pn** 01 50 38.6 -1.8
comp=E,8.0nm,0.3s,baz=309,slow=13,SNR=48
MMAI Sn **Sn** 01 51 57.6 -4.5
comp=E,23nm,0.3s,baz=313,slow=24,SNR=11
SLTI Sal'it 7.32 113 Pn **Pn** 01 50 39.7 -1.2
HWQ Hawqa 7.37 96 *e*P **Pn** 01 50 40.2 -1.5
STIP Stip 7.39 330 *i* Pn **Pn** 01 50 45.1 +3.2
KSDI Kefar Szold 7.42 105 Pn **Pn** 01 50 40.7 -1.6
NATI Neve Ativ 7.46 104 Pn **Pn** 01 50 41.3 -1.5
RCY Rachaya 7.47 102 *e*P **Pn** 01 50 41.3 -1.8
MMLI Mount Malkishu 7.52 111 Pn **Pn** 01 50 42.1 -1.6
KRUS Krusevo 7.54 324 *i* Pn Pn 01 50 48.9 +4.8
KZIT Kziot 7.57 124 P **Pn** 01 50 43.3 -1.1
comp=E,105nm,0.8s,comp=E,1.2nm
KZIT S **Sn** 01 52 02.6 -6.7
comp=E,105nm,0.8s,comp=E,1.2nm
KZIT Kziot 7.57 124 P **Sn** 01 52 03.6 -5.7
KZIT Kziot 7.57 124 Pn **Pn** 01 50 42.7 -1.7
AMAZ Amatzia 7.58 118 P **Sn** 01 52 06.9 -2.5
AMAZ Amatzia 7.58 118 Pn **Pn** 01 50 43.1 -1.4
HMDT Nahal Hemdat 7.68 111 Pn **Pn** 01 50 44.6 -1.2
YTIR Yattir 7.81 118 Pn **Pn** 01 50 46.6 -1.2
VTS Vitosha 7.82 338 *e*Pn **Pn** 01 50 50.8 +2.9
VTS *e*Sn **Sn** 01 52 16.6 +1.2
VTS Vitosha 7.82 338 ⇑ *i*P **Pn** 01 50 50.9 +3.0
VTS Vitosha 7.82 338 S **Sn** 01 52 17.9 +2.5
VTS Vitosha 7.82 338 *e*P **Pn** 01 50 50.8 +2.9
VTS *e* 01 52 16.6
DSI Dead Sea 7.90 116 Pn **Pn** 01 50 47.1 -1.7
HNKL Nakhl 7.95 131 P **Pn** 01 50 47.8 -1.8
baz=131
MZDA Masada 8.02 118 Pn **Pn** 01 50 49.2 -1.3
LISJ El Lisan 8.14 118 P **Pn** 01 50 51.7 -0.4
comp=E,76nm,0.5s,comp=E,0.4nm
LISJ S **Sn** 01 52 16.6 -6.5
comp=E,76nm,0.5s,comp=E,0.4nm
LISJ El Lisan 8.14 118 P **Sn** 01 52 17.0 -6.1
GHAJ Ghor Haditha 8.17 117 P **Pn** 01 50 52.9 +0.3
comp=E,105nm,0.5s,comp=E,0.8nm
GHAJ Ghor Haditha 8.17 117 P **Sn** 01 52 21.3 -2.6
GHAJ Ghor Haditha 8.17 117 Pn **Pn** 01 50 51.5 -1.1
WALJ Wala 8.22 115 P **Pn** 01 50 52.5 -0.7
comp=E,79nm,0.5s,comp=E,0.6nm
WALJ Wala 8.22 115 P **Sn** 01 52 22.7 -2.3
TIR Tirane 8.23 319 *e*Pn **Pn** 01 50 55.0 +1.6
TIR Tirane 8.23 319 *e*P **Pn** 01 50 55.0 +1.6
HSUJ Al Zarqa 8.25 111 P **Sn** 01 52 25.9 -0.1
HFRF Wahat Farafira 8.26 172 P **Pn** 01 50 53.2 -0.7
baz=173
ZFRI Zfri 8.32 123 Pn **Pn** 01 50 52.1 -2.5
PRNI Paran 8.33 125 Pn **Pn** 01 50 52.6 -2.2
HRFI Mount Harif 8.55 126 P **Pn** 01 50 57.0 -0.8
comp=E,47nm,0.4s
HRFI S **Sn** 01 52 25.6 -7.7
comp=E,47nm,0.4s
HRFI Mount Harif 8.55 126 P Sn 01 52 19.2 -14
HRFI Mount Harif 8.55 126 Pn **Pn** 01 50 56.3 -1.5
JDRJ Daraweish 8.56 120 P **Pn** 01 50 58.8 +0.7
comp=E,69nm,0.5s,comp=E,0.8nm
JDRJ S **Sn** 01 52 30.0 -3.7
comp=E,69nm,0.5s,comp=E,0.8nm
JDRJ Daraweish 8.56 120 P **Sn** 01 52 29.4 -4.3
SWQJ Swaqa 8.56 116 P **Sn** 01 52 29.8 -3.9
MBRI Mt Berech 8.63 128 Pn **Pn** 01 50 57.6 -1.4
EIL Elat 8.74 128 Pn **Pn** 01 50 58.8 -1.5
comp=E,4.6nm,0.3s,baz=307,slow=3.2,SNR=61
EIL Sn **Sn** 01 52 30.2 -7.7
comp=E,18nm,0.3s,baz=295,slow=20,SNR=11
EIL Elat 8.74 128 P **Sn** 01 52 33.8 -4.1
comp=E,0.3nmcomp=E,105nm,0.6s
EIL Elat 8.74 128 Pn **Pn** 01 50 58.9 -1.5
ICOR Ion Corvin 8.76 3 ⇑ *i*P **Pn** 01 52 02.9 +2.4
AQBJ Aqaba 8.76 128 P **Pn** 01 51 00.1 -0.6
comp=E,87nm,0.8s,comp=E,0.8nm
AQBJ Aqaba 8.76 128 P **Sn** 01 52 30.1 -8.4
comp=E,0.8nmcomp=E,167nm,0.5s
ASF Jabal al Asfar 8.77 109 Pn **Pn** 01 50 59.4 -1.5
comp=E,1.2nm,0.3s,baz=246,slow=3.6,SNR=12
ASF Sn **Sn** 01 52 40.6 +1.8
comp=E,2.4nm,0.3s,baz=219,slow=23,SNR=3.9
ASF Jabal al Asfar 8.77 109 P **Pn** 01 51 00.3 -0.6
comp=E,17nm,1.0s,comp=E,0.1nm
ASF Jabal al Asfar 8.77 109 P **Sn** 01 52 37.5 -1.2
RASA Rasa 8.84 0 ⇑ *i*P **Pn** 01 51 04.1 +2.5
HSNJ Maan 8.85 123 P **Pn** 01 51 01.5 -0.6
HSNJ S **Sn** 01 52 34.5 -6.3
HSNJ Maan 8.85 123 P **Sn** 01 52 34.7 -6.1
comp=E,1.3nmcomp=E,332nm,0.7s
SGRR Singureni 8.88 355 ⇑ *i*P **Pn** 01 51 06.1 +3.8
TIP Timpagrande 9.07 298 *e*Pn **Pn** 01 51 05.1 +0.2
TIP *e*Sn **Sn** 01 52 39.8 -6.2
TIP Timpagrande 9.07 298 ⇑ *i*P **Pn** 01 51 04.7 -0.2
TIRR Tirgusor 9.14 6 *e*Pn **Pn** 01 51 07.1 +1.3
TIRR Tirgusor 9.14 6 ⇓ *i*P **Pn** 01 51 07.4 +1.6
TIRR Tirgusor 9.14 6 *e*P **Pn** 01 51 07.1 +1.3
TLB Topalu 9.24 4 ⇑ *i*P **Pn** 01 51 08.9 +1.8
HUMR Humele 9.29 351 ⇑ *i*P **Pn** 01 51 11.9 +4.0
PDG Podgorica 9.32 321 ⇓ *i*P **Pn** 01 51 10.2 +1.9
TTG Podgorica 9.32 321 *e*Pn **Pn** 01 51 10.9 +2.6
TTG *e*Sn **Sn** 01 52 50.6 -1.6
TTG Podgorica 9.32 321 *e*P **Pn** 01 51 11.0 +2.6
TTG *e* 01 52 50.6
PUNG Punghina 9.45 342 ⇑ *i*P **Pn** 01 51 12.2 +2.1
ISR Istrita 9.75 358 ⇑ *i*P **Pn** 01 51 18.2 +4.0
CFR Carcaliu 9.83 4 ⇓ *i*P **Pn** 01 51 16.7 +1.4
GRER 10.00 360 ⇑ *i*P **Pn** 01 51 22.0 +4.4
MLR Muntele Rosu 10.15 355 Pn **Pn** 01 51 21.1 +1.3
comp=E,0.3nm,0.3s,baz=150,slow=7.1,SNR=22
MLR Muntele Rosu 10.15 355 *e*Pn **Pn** 01 51 22.8 +3.0
MLR Muntele Rosu 10.15 355 ⇑ *i*P **Pn** 01 51 23.0 +3.2
MLR Muntele Rosu 10.15 355 *e*P **Pn** 01 51 22.8 +3.0
HERR Herculane 10.15 341 ⇓ *i*P **Pn** 01 51 19.5 -0.2
ARR Arges 10.16 350 ⇑ *i*P **Pn** 01 51 22.0 +2.1
VOIR 10.18 352 ⇓ *i*P **Pn** 01 51 22.8 +2.7
WDD Wied Dalam 10.24 276 *e*Pn **Pn** 01 51 20.8 -0.2
MDVR Moldovita 10.26 338 ⇑ *i*P **Pn** 01 51 23.3 +2.1
DIVS Divibare 10.28 330 *e*Pn **Pn** 01 51 25.1 +3.5
VAE Valguarnera 10.43 285 Pn **Pn** 01 51 24.4 +0.9
comp=E,0.4nm,0.3s,baz=4.1,slow=4.5,SNR=2.9
VAE Sn **Sn** 01 53 15.8 -3.7
comp=E,1.1nm,0.3s,baz=355,slow=4.3,SNR=2.9
PLOR Plostina 10.48 358 ⇑ *i*P **Pn** 01 51 27.5 +3.3
VRI Vrincioaia 10.49 359 ⇑ *i*P **Pn** 01 51 27.6 +3.2
GZR Gura Zlata 10.54 343 ⇓ *i*P **Pn** 01 51 26.5 +1.5
DOPR Dopca 10.67 354 ⇑ *i*P **Pn** 01 51 30.1 +3.3
OZUR 10.76 355 ⇑ *i*P **Pn** 01 51 31.4 +3.3
BZS Buzias 11.05 340 ⇓ *i*P **Pn** 01 51 33.5 +1.6
CLTB Caltabellotta 11.38 285 *e*Pn **Pn** 01 51 39.3 +2.6
BIZ Bicaz 11.58 357 ⇓ *i*P **Pn** 01 51 41.8 +2.5
MILM Milestii Mici 11.61 6 ⇑ *i*P **Pn** 01 51 42.3 +2.7
SIRR Siria 11.63 341 ⇑ *i*P **Pn** 01 51 42.1 +2.1
BUR04 Bucovina Ar. S 12.32 354 *e*Pn **Pn** 01 51 52.0 +2.6
BUR08 Bucovina Ar. S 12.35 354 *e*Pn **Pn** 01 51 52.5 +2.7
KARS Kars 13.66 63 *e*Pn **Pn** 01 52 10.8 +3.0
KARS Kars 13.66 63 *e*P **Pn** 01 52 10.8 +3.0
TRI Trieste 14.45 320 *e*Pn **Pn** 01 52 19.6 +1.2
TRI Trieste 14.45 320 *e*P **Pn** 01 52 19.6 +1.2
KEST Kesra 14.45 277 Pn **Pn** 01 52 17.5 -1.1
comp=E,0.4nm,0.3s,baz=132,slow=7.7,SNR=3.1
VYHS Vyhne 14.47 338 *e*pP **P** 01 52 29.1 +4.0
KIV Kislovodsk 14.74 50 *e*Pn **Pn** 01 52 23.9 +1.3
KIV Kislovodsk 14.74 50 *e*P **Pn** 01 52 22.1 -0.4
KIV pmax pmax
comp=E,10.0nm,1.1s
KVAR Kislovodsk Arr 14.75 50 Pn **Pn** 01 52 23.9 +1.3
baz=142,slow=19,SNR=1.9
GNI Garni 14.75 66 Pn **Pn** 01 52 24.2 +1.5
comp=E,0.2nm,0.3s,baz=102,slow=9.3,SNR=3.0
GNI Garni 14.75 66 *e*Pn **Pn** 01 52 23.9 +1.1
GNI Garni 14.75 66 ⇑ *i*P **Pn** 01 52 22.5 -0.2
KBZ Khabaz 14.76 51 Pn **Pn** 01 52 23.9 +1.3
comp=E,0.1nm,0.3s,baz=155,slow=12,SNR=2.3
ZEI Tsey 15.00 55 *e*P **Pn** 01 52 27.7 +1.6
ZEI pmax pmax
comp=E,6.0nm,0.8s
NCK Nalchik 15.10 53 *i* P **Pn** 01 52 29.5 +2.3
NCK pmax pmax
comp=E,2.0nm,0.8s
TBLG Delisi 15.19 60 *e*Pn **Pn** 01 52 28.1 -0.2
comp=E,4.9nm,0.7s
TBLG Delisi 15.19 60 *e*P **Pn** 01 52 28.2 -0.2
TBLG pmax pmax
comp=E,5.0nm,0.7s
AK11 Malin Array Si 15.38 5 *e*Pn **P** 01 52 34.4 -0.7
KIEV Kiev 15.40 5 *e*P **Pn** 01 52 29.5 -1.5
comp=E,5.4nm,0.8s
KIEV Kiev 15.40 5 *i* P **Pn** 01 52 32.8 +1.8
KIEV pmax pmax
comp=E,3.0nm,1.0s
AKASG Malin Array Be 15.40 5 Pn **Pn** 01 52 31.7 +0.6
comp=E,3.7nm,0.3s,baz=193,slow=12,SNR=21
AKBB Malin Array Si 15.40 5 *e*Pn **Pn** 01 52 31.7 +0.6
comp=E,13nm,1.5s
AKBB Malin Array Si 15.40 5 *e*P **Pn** 01 52 31.7 +0.6
AKBB pmax pmax
comp=E,13nm,1.5s
KBA Koelnbreinsper 15.59 323 *e*P **P** 01 52 36.9 -0.8
comp=E,1.7nm,0.5s
MOA Molln 15.70 326 P **P** 01 52 38.0 -0.8
comp=E,0.6nm,0.5s
KRUC Moravsky 15.79 333 *e*PN **P** 01 52 39.7 0.0
KRUC *e* 01 52 49.2
VRAC Vranov 15.92 334 Pn **Pn** 01 52 38.1 +0.3
comp=E,0.8nm,0.3s,baz=148,slow=10,SNR=7.1
VRAC Vranov 15.92 334 *e*PN **P** 01 52 41.0 -0.2
VRAC *e* 01 52 52.0
MORC Moravsky Berou 16.00 337 *e*Pn **P** 01 52 42.5 +0.4
MORC pmax pmax
comp=E,23nm,1.4s
MORC Moravsky Berou 16.00 337 *e*P **P** 01 52 42.5 +0.4
MORC pmax pmax
comp=E,23nm,1.4s
MORC Moravsky Berou 16.00 337 *e*PN **P** 01 52 42.3 +0.2
MORC *e* 01 52 52.7
KRLC Kraliky 16.51 336 *e*P **P** 01 52 49.8 +2.1
KRLC Kraliky 16.51 336 *e*P **P** 01 52 49.8 +2.1
WATA Walderalm 16.65 321 *e*Pn **P** 01 52 51.3 +1.8
comp=E,1.4nm,0.5s
GEA0 GERESS Array S 16.69 328 *e*Pn **Pn** 01 52 46.9 -0.8
GEC2 GERESS Array S 16.70 328 *e*Pn **Pn** 01 52 46.8 -1.0
comp=E,12nm,1.3s
GEC2 GERESS Array S 16.70 328 *e*P **Pn** 01 52 46.8 -1.0
GEC2 pmax pmax
comp=E,12nm,1.3s
GERES GERESS Array B 16.70 328 Pn **Pn** 01 52 46.7 -1.0
comp=E,0.3nm,0.3s,baz=134,slow=12,SNR=7.8
SQTA Sankt Quirin 16.77 320 P **P** 01 52 51.4 +0.6
comp=E,2.1nm,0.5s
DPC Dobruska-Polom 16.90 336 *e*P **P** 01 52 52.3 +0.3
DPC *e*pP **pP** 01 52 58.8 -0.8
DPC Dobruska-Polom 16.90 336 *e*P **P** 01 52 52.3 +0.3
FETA Feichten 16.90 318 *e*Pn **P** 01 52 54.8 +2.5
comp=E,2.5nm,0.8s
MOTA Moosalm 16.91 320 P **P** 01 52 53.5 +1.2
comp=E,1.7nm,0.5s
FUORN Ofenpass-Fuorn 16.92 317 *e*Pn **Pn** 01 52 49.8 -1.0
comp=E,20nm,1.5s
KHC Kasperske Hory 16.97 328 *e*Pn **P** 01 52 54.3 +1.5
comp=E,2.8nm,1.0s
KHC Kasperske Hory 16.97 328 *e*P **P** 01 52 52.3 -0.5
KHC *e*pP **pP** 01 53 01.6 +1.2
KHC Kasperske Hory 16.97 328 *e*P **P** 01 52 52.3 -0.5
GOPC GO Pecny, Ondr 17.09 332 *e*P **P** 01 52 54.5 +0.4
GOPC GO Pecny, Ondr 17.09 332 *e*P **P** 01 52 54.5 +0.4
RETA Reutte 17.18 320 Pn **P** 01 52 56.4 +1.2
comp=E,0.7nm,0.4s
DAVOX Davos/Dischmat 17.23 317 P **Pn** 01 52 54.5 -0.1
comp=E,0.1nm,0.3s,baz=155,slow=19,SNR=1.7
PRU Pruhonice 17.24 332 *e*P **P** 01 52 55.3 -0.5
PRU Pruhonice 17.24 332 *e*P **P** 01 52 55.3 -0.5
DAVA Damuels 17.53 318 *e*Pn **P** 01 53 00.3 +1.2
comp=E,1.3nm,0.4s
VSR Storozhevoye 18.08 25 *e*P **Pn** 01 53 04.6 -0.2
VSR pmax pmax
comp=E,4.0nm,0.4s
BRG Berggiesshubel 18.18 332 *i* P P 01 53 18.0 +12
comp=E,14nm,1.2s
BNI Bardonecchia 18.30 308 *e*P **Pn** 01 53 07.7 0.0
comp=E,7.6nm,1.1s
BNI Bardonecchia 18.30 308 *e*P **Pn** 01 53 07.7 0.0
BNI pmax pmax
comp=E,8.0nm,1.1s
SENIN Lac Senin/Sane 18.51 312 *e*P **P** 01 53 09.1 -0.9
comp=E,7.5nm,0.7s
SUW Suwalki 18.84 353 *e*P **P** 01 53 13.4 0.0
comp=E,29nm,0.9s
SUW Suwalki 18.84 353 *e*P **P** 01 53 13.4 0.0
SUW pmax pmax
comp=E,29nm,0.9s
CLL Collm 18.89 332 *e*P **P** 01 53 14.0 +0.1
CLL *e*sP **sP** 01 53 24.0 -1.1
CLL Collm 18.89 332 *e*P **P** 01 53 14.0 +0.1
VRH Novokhopyorsk 19.02 29 *e*P **P** 01 53 14.1 -1.2
VRH pmax pmax
comp=E,9.0nm,0.5s
LPSR Galich'ya Gora 19.18 22 *e*P **Pn** 01 53 18.8 +0.7
LPSR pmax pmax
comp=E,9.0nm,1.3s
RAYN Ar Rayn 19.88 121 *e*P **Pn** 01 53 27.5 +0.8
comp=E,2.1nm,0.8s
RAYN Ar Rayn 19.88 121 *e*P **Pn** 01 53 27.5 +0.8
RAYN pmax pmax
comp=E,2.0nm,0.8s
OBN Obninsk 20.81 15 P **P** 01 53 34.3 -0.5
comp=E,2.3nm,0.4s,baz=336,slow=22,SNR=3.3
OBN Obninsk 20.81 15 *e*P **P** 01 53 34.3 -0.5
comp=E,41nm,1.4s
OBN Obninsk 20.81 15 *e*P **P** 01 53 34.7 0.0
OBN *e* 01 53 53.1
OBN *e* 01 54 04.9
OBN pmax pmax
comp=E,8.0nm,1.1s
OBN MLR MLR
comp=E,267nm,15.0s
MEM Membach 21.56 321 ⇑ P **P** 01 53 45.7 +2.8
DOU Dourbes 22.01 319 ⇑ P **P** 01 53 49.7 +2.0
TAM Tamanrasset 22.57 242 *e*P **P** 01 53 57.2 +3.0
comp=E,3.7nm,1.0s
TAM Tamanrasset 22.57 242 *e*P **P** 01 53 57.2 +3.0
TAM pmax pmax
comp=E,4.0nm,1.0s
ES19 SONSECA Array 24.88 289 *e*P **P** 01 54 15.9 -0.3
ESDC Sonseca Array 24.93 289 P **P** 01 54 16.6 0.0
comp=E,1.3nm,0.6s,baz=84,slow=9.4,SNR=11
ESLA Sonseca Array 24.93 289 *e*P **P** 01 54 16.8 +0.1
comp=E,6.6nm,1.1s
GEYT Alibeck 24.97 75 P **P** 01 54 17.1 +0.1
comp=E,1.7nm,0.6s,baz=277,slow=8.7,SNR=5.5
FIA0 FINESS Array S 26.10 359 *e*P **P** 01 54 25.8 -1.1
FIA0 FINESS Array S 26.10 359 *e*P **P** 01 54 25.8 -1.1
FINES FINESS Array B 26.10 359 P **P** 01 54 25.8 -1.1
comp=E,1.1nm,0.4s,baz=158,slow=11,SNR=12
FIA1 FINESS Array S 26.10 359 *e*P **P** 01 54 25.5 -1.4
HFS Hagfors 26.26 345 P **P** 01 54 27.1 -1.2
comp=E,1.0nm,0.4s,baz=144,slow=13,SNR=6.1
HFS Hagfors 26.26 345 P **P** 01 54 27.1 -1.2
HFS pmax pmax
comp=E,2.0nm,0.9s
MDT Midelt 26.31 274 P **P** 01 54 28.7 -0.5
comp=E,2.4nm,0.9s,baz=148,slow=8.1,SNR=3.8
AKTO Aktyubinsk 26.96 46 P **P** 01 54 34.2 -0.5
comp=E,2.7nm,0.7s,baz=251,slow=8.7,SNR=5.5
NB200 NORSAR Array S 27.63 343 *e*P **P** 01 54 38.9 -1.9
NOA NORSAR Array B 27.63 343 P **P** 01 54 38.9 -1.9
comp=E,0.4nm,0.8s,baz=138,slow=8.7,SNR=2.9
ATD Arta Tunnel 27.71 145 LR LR 02 06 11.8
comp=E,26nm,18.3s,baz=34,slow=38
ABKAR Akbulak array 27.73 50 *e*P **P** 01 54 42.0 +0.3
EKA Eskdalemuir Ar 28.80 323 P **P** 01 54 49.4 -1.8
comp=E,0.6nm,0.5s,baz=122,slow=9.4,SNR=2.6
TOA1 Torodi Ar. Sit 31.84 232 *e*P **P** 01 55 17.4 -1.1
TOA0 Torodi Ar. Sit 31.85 232 *e*P **P** 01 55 19.4 +0.9
comp=E,5.9nm,1.1s
TORD Torodi Ar. Bea 31.85 232 P **P** 01 55 17.4 -1.1
comp=E,1.0nm,0.4s,baz=37,slow=8.4,SNR=16
CHGR Chuyangaron 33.54 72 *e*P **P** 01 55 34.5 +1.2
comp=E,22nm,1.3s
KK31 Karatay Array 34.20 64 *e*P **P** 01 55 39.8 +1.0
KK31 Karatay Array 34.20 64 *e*P **P** 01 55 39.8 +1.0
KKAR Karatay Array 34.20 64 *e*P **P** 01 55 39.8 +1.0
KKAR Karatay Array 34.20 64 *e*P **P** 01 55 39.8 +1.0
ARA0 ARCESS Array S 34.23 359 *e*P **P** 01 55 37.2 -1.6
ARCES ARCESS Array B 34.23 359 P **P** 01 55 37.2 -1.6
comp=E,2.2nm,0.9s,baz=172,slow=8.0,SNR=9.2
ARCES ARCESS Array B 34.23 359 P **P** 01 55 37.2 -1.6
ARCES pmax pmax
comp=E,3.0nm,0.9s
GAR Garm 34.39 71 *e*P **P** 01 55 42.3 +1.6
comp=E,21nm,1.3s
GAR Garm 34.39 71 *e*P **P** 01 55 42.3 +1.6
GAR pmax pmax
comp=E,21nm,1.3s
BRVK Borovoye 35.01 46 *i* P **P** 01 55 46.0 +0.3
BRVK pmax pmax
comp=E,1.0nm,0.5s
BVAR Borovoye Array 35.06 46 P **P** 01 55 44.8 -1.4
comp=E,0.4nm,0.5s,baz=216,slow=4.4,SNR=4.7
ARSB Arslanbob 36.15 66 *e*P **P** 01 55 57.3 +1.5
comp=E,18nm,1.4s
AAK Ala-Archa 37.15 64 P **P** 01 56 04.0 -0.4
AAK Ala-Archa 37.15 64 *e*P **P** 01 56 05.9 +1.5
comp=E,3.0nm,0.5s
AAK Ala-Archa 37.15 64 *i* P **P** 01 56 05.3 +1.0
AAK pmax pmax
comp=E,2.0nm,0.4s
NIL Nilore 37.82 79 *e*P **P** 01 56 07.5 -2.4
comp=E,14nm,1.1s
NIL Nilore 37.82 79 *e*P **P** 01 56 07.5 -2.4
NIL pmax pmax
comp=E,14nm,1.1s
NRN Naryn 38.39 66 *e*P **P** 01 56 16.9 +1.8
comp=E,5.8nm,1.0s
NRN Naryn 38.39 66 *e*P **P** 01 56 16.9 +1.8
NRN pmax pmax
comp=E,6.0nm,1.0s
KSH Kashi 38.66 69 P **P** 01 56 16.3 -0.7
KSH pP pP 01 56 25.0 -0.9
KSH PP **PnPn** 01 57 47.5 -0.4
KSH PcP **PcP** 01 58 32.8 +4.1
KSH S **S** 02 02 09.5 -2.3
KSH sS pS 02 02 22.0 +0.8
KSH Kashi 38.66 69 ScS ScS 02 06 23.0 -2.3
KSH pmax pmax
comp=E,12nm,0.5s
KSH pmax pmax
comp=E,1µm,10.7s
KSH LR LR
comp=N,350nm,9.8s
KSH LR LR
comp=E,250nm,6.2s
KSH LR LR
comp=E,680nm,9.4s
KURBB Kurchatov Arra 39.76 51 P **P** 01 56 25.6 -0.3
comp=E,1.8nm,0.7s,baz=277,slow=8.8,SNR=13
KURK Kurchatov 39.83 51 *e*P **P** 01 56 25.6 -0.8
KURK Kurchatov 39.83 51 P **P** 01 56 25.6 -0.8
KURK pmax pmax
comp=E,2.0nm,0.7s
DBIC Dimbokro 40.94 233 P **P** 01 56 36.5 +0.4
comp=E,1.5nm,0.7s,baz=35,slow=9.9,SNR=3.3
DBIC Dimbokro 40.94 233 *e*P **P** 01 56 36.5 +0.4
comp=E,10nm,1.2s
MK31 Makanchi Array 42.34 57 *e*P **P** 01 56 47.7 +0.4
MK31 Makanchi Array 42.34 57 *e*P **P** 01 56 47.7 +0.4
MK32 Makanchi Array 42.34 57 *e*P **P** 01 56 47.6 +0.3
MKAR Makanchi Array 42.34 57 P **P** 01 56 47.6 +0.4
comp=E,2.1nm,0.5s,baz=276,slow=7.1,SNR=30
MKAR Makanchi Array 42.34 57 *e*P **P** 01 56 47.7 +0.4
comp=E,24nm,0.6s
MK01 Makanchi Array 42.35 57 *e*P **P** 01 56 47.2 -0.1
NVS Novosibirsk 42.83 45 *e*P **P** 01 56 50.9 -0.1
SPITS Spitsbergen Ar 43.16 357 P **P** 01 56 53.6 +0.1
comp=E,12nm,1.0s,baz=168,slow=8.7,SNR=4.8
ZALV Zalesovo Beam 43.72 46 P **P** 01 56 58.0 -0.3
comp=E,2.0nm,0.5s,baz=267,slow=8.2,SNR=10
ZALV Zalesovo Beam 43.72 46 *e*P **P** 01 56 57.9 -0.3
ZALV Zalesovo Beam 43.72 46 *e*P **P** 01 56 57.9 -0.3
ZAA1 Zalesovo Array 43.72 46 *e*P **P** 01 56 58.0 -0.3
DGZ Jazzator, Alta 45.51 52 *i* P **P** 01 57 13.1 +0.3
DGZ pmax pmax
comp=E,1.0nm,0.9s
WMQ Urumqi 46.53 60 *e*P **P** 01 57 22.5 +1.6
WMQ pP sP 01 57 33.0 -0.4
WMQ pmax pmax
comp=E,23nm,0.9s
WMQ pmax pmax
comp=E,650nm,6.9s
PYUN Piuthan 47.56 82 *e*P **P** 01 57 30.1 +0.8
comp=E,12nm,0.6s
DANN Dangsing 48.09 82 *e*P **P** 01 57 34.4 +1.0
comp=E,22nm,0.6s
KOLN Koldanda 48.19 83 *e*P **P** 01 57 34.7 +0.6
comp=E,5.1nm,0.5s
DMN Daman 49.48 82 *e*P **P** 01 57 44.6 +0.5
comp=E,13nm,0.9s
PKIN Phulchoki 49.72 82 *e*P **P** 01 57 46.0 0.0
comp=E,12nm,1.0s
PKI Pulchoki 49.74 82 *e*P **P** 01 57 46.3 +0.2
comp=E,12nm,0.9s
GUN Gumba 49.98 81 *e*P **P** 01 57 48.2 +0.2
comp=E,7.0nm,0.6s
JIRN Jiri 50.33 81 *e*P **P** 01 57 51.0 +0.3
comp=E,5.4nm,0.2s
GTA Gaotai 56.47 63 *e*P **P** 01 58 36.0 +0.7
GTA pP pP 01 58 40.0 -4.4
GTA sP sP 01 58 43.0 -5.0
GTA pmax pmax
comp=E,2.0nm,1.0s
SONA0 Songino Array 58.13 51 *e*P **P** 01 58 47.6 +0.6
SONM Songino Array 58.13 51 P **P** 01 58 47.6 +0.6
comp=E,2.3nm,0.5s,baz=288,slow=7.5,SNR=26
ULN Ulaanbaatar 58.54 51 *e*P **P** 01 58 50.7 +0.9
comp=E,2.8nm,0.6s
ULN Ulaanbaatar 58.54 51 *i* P **P** 01 58 50.2 +0.4
ULN pmax pmax
comp=E,2.0nm,0.9s
TIXI Tiksi 60.41 21 *i* P **P** 01 59 04.0 +1.9
TIXI pmax pmax
comp=E,1.0nm,0.9s
BOSA Boshof 63.66 182 P **P** 01 59 25.6 +1.1
comp=E,3.6nm,1.0s,baz=337,slow=13,SNR=2.6
SCHQ Schefferville 64.04 320 P **P** 01 59 25.6 -1.2
comp=E,1.6nm,0.4s,baz=55,slow=5.9,SNR=8.1
SCHQ Schefferville 64.04 320 *e*P **P** 01 59 25.6 -1.2
comp=E,13nm,1.4s
HHC Hu-ho-hao-te 64.21 57 *e*P **P** 01 59 30.0 +1.8
HHC pmax pmax
comp=E,14nm,1.1s
CM31 Chiang Mai Arr 64.98 84 *e*P **P** 01 59 33.5 +0.1
CMAR Chiang Mai Arr 64.98 84 P **P** 01 59 33.5 +0.1
comp=E,0.8nm,0.3s,baz=328,slow=5.1,SNR=5.6
BILL Bilibino 72.47 15 *e*P **P** 02 00 20.2 +0.9
BILL *e* 02 02 58.7
BILL pmax pmax
comp=E,1.0nm,1.1s
KLR Kul'dur 72.57 42 *i* P **P** 02 00 23.7 +3.5
USRK Ussuriysk Ar. 75.57 46 P **P** 02 00 36.6 -1.2
comp=E,1.9nm,0.6s,baz=280,slow=4.2,SNR=6.1
KS15 Wonju Array Si 76.88 53 *e*P **P** 02 00 45.3 0.0
KSAR Wonju Array Be 76.88 53 *e*P **P** 02 00 45.3 -0.1
KSAR Wonju Array Be 76.88 53 P **P** 02 00 45.3 -0.1
KSRS Korea Array 76.90 53 P **P** 02 00 45.3 -0.1
comp=E,1.7nm,1.0s,baz=302,slow=5.4,SNR=4.1
YKA Yellowknife Ar 77.72 343 *e*P **P** 02 00 48.3 -1.3
comp=E,0.1nm,0.3s,baz=27,slow=5.1,SNR=4.3
YKB5 Yellowknife Ar 77.72 343 *e*P **P** 02 00 48.4 -1.3
PDAR Pinedale Array 92.74 330 LR LR 02 45 27.1
comp=E,112nm,18.2s,baz=54,slow=37

MEX 29 01:49:31.8 ± 0.7, 14°31N × 91°83W, h76 km ± 11 km, MD3.7, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
THIG		**0.73**	**325**	*e*P		Pn	01 49 45.9	-1.6
THIG				*e*S		Sn	01 49 57.6	-1.5

PCIG		**1.93**	**316**	*e*P	Pn	01 50 01.8	-0.8
PCIG				*i* S	Sn	01 50 24.2	-1.9
CCIG	**Comitan**	**1.98**	**352**	*i* P	Pn	01 50 02.2	-1.3
CCIG				*i* S	Sn	01 50 25.4	-2.3

TIR ***29*** *01:53:34.1,40.41N×19.81E,h4km,Md2.9/6*
ATH ***29*** *01:53:35.2,40.42N×19.73E,h5km±2km,ML2.2/7,Error ellipse: s-maj=2.6km s-min=1.3km az=294.0,ML Amplitudes are expressed in micrometres All distances are expressed in km*

ISC 29 01:53:35.3±1.2,**40.38N**±0.03×**19.77E**±0.03,**h2**km±11km, **n33,σ1s30/40,Albania**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.20**	**115**	*i* PG	**Pg**		**01 53 38.6**	**-0.6**
TPE				*i* SG	**Sg**		**01 53 42.1**	**+0.3**
VLO	**Vlora**	**0.23**	**293**	*i* PG	**Pg**		**01 53 39.8**	**+0.1**
VLO				*i* SG	**Sg**		**01 53 44.6**	**+1.9**
SRN	**Sarande**	**0.53**	**161**	*i* PG	**Pg**		**01 53 45.8**	**+0.4**
SRN				*i* SG	**Sb**		**01 53 54.7**	**-0.7**
KEK	**Kerkira**	**0.67**	**178**	P	**Pg**		**01 53 47.9**	**-0.2**
KEK				AML	AML		01 54 08.3	
	comp=N,180μm,0.4s							
KEK				AML	AML		01 54 09.2	
	comp=E,264μm,0.5s							
IGT	**Igoumenitsa**	**0.95**	**153**	P	**Pb**		**01 53 53.9**	**-0.6**
IGT				AML	AML		01 54 18.2	
	comp=N,170μm,0.5s							
IGT				AML	AML		01 54 23.6	
	comp=E,188μm,0.8s							
TIR	**Tirane**	**0.97**	**4**	P	**Pg**		**01 53 52.9**	**-1.0**
TIR				AML	AML		01 54 19.6	
	comp=N,342μm,0.9s							
TIR				AML	AML		01 54 23.4	
	comp=E,348μm,0.8s							
TIR	**Tirane**	**0.97**	**4**	*i* PG	**Pb**		**01 53 53.9**	**-0.9**
TIR				*i* SG	**Sn**		**01 54 07.7**	**-2.5**
NEST	**Nestorio**	**0.98**	**88**	P	**Pb**		**01 53 54.5**	**-0.5**
SCTE	**Santa Cesarea**	**1.04**	**253**	P	**Pg**		**01 53 55.1**	**-0.2**
SCTE				S	**Sg**		**01 54 08.2**	**-0.7**
SCTE				AML	AML		01 54 13.2	
	comp=E,146μm,0.4s							
SCTE				AML	AML		01 54 14.5	
	comp=N,146μm,0.4s							
PENT	**Pentalofos**	**1.06**	**100**	P	**Pb**		**01 53 55.5**	**-1.0**
JAN	**Janina**	**1.10**	**131**	P	**Pn**		**01 53 57.5**	**-0.2**
JAN				S	**Sn**		**01 54 12.7**	**-0.8**
JAN				AML	AML		01 54 18.6	
	comp=N,456μm,0.6s							
JAN				AML	AML		01 54 20.8	
	comp=E,698μm,0.5s							
KPRO	**Kipourio**	**1.29**	**109**	P	**Pb**		**01 54 00.1**	**-0.2**
KPRO				AML	AML		01 54 26.9	
	comp=E,328μm,0.6s							
KPRO				AML	AML		01 54 31.2	
	comp=N,346μm,0.6s							
PHP	**Peshkopia**	**1.40**	**21**	*i* PN	**Pg**		**01 54 02.7**	**+0.6**
PHP				*i* SN	**Sn**		**01 54 24.2**	**+3.3**
KZN	**Kozani**	**1.53**	**92**	P	**Pg**		**01 54 05.0**	**+0.4**
KZN				AML	AML		01 54 35.8	
	comp=E,256μm,0.6s							
KZN				AML	AML		01 54 39.8	
	comp=N,157μm,0.6s							
PUK	**Puka**	**1.66**	**3**	*i* PN	**Pg**		**01 54 06.6**	**-0.6**
TSLK	**Tsoukalades, L**	**1.70**	**156**	P	**Pg**		**01 54 08.5**	**+0.6**
LKD2	**Lefkada island**	**1.73**	**156**	P	**Pb**		**01 54 07.9**	**+0.1**
EVGI	**Lefkada island**	**1.89**	**158**	P	**Pg**		**01 54 12.0**	**+0.6**
THL	**Klokotos Trika**	**1.91**	**115**	P	**Pg**		**01 54 11.6**	**-0.2**
GRG	**Griva**	**2.08**	**73**	P	**Pb**		**01 54 12.6**	**-1.2**
PDO	**Prodromos**	**2.09**	**148**	P	**Pb**		**01 54 12.7**	**-1.2**
LIT	**Litokhoron**	**2.10**	**97**	P	**Pb**		**01 54 13.3**	**-0.8**
EVR	**Evrytania**	**2.15**	**132**	P	**Pb**		**01 54 15.2**	**+0.2**
PVO	**Paravola**	**2.23**	**142**	P	**Pb**		**01 54 15.7**	**-0.5**
MAKR	**Makrakomi, Fth**	**2.28**	**126**	P	**Pb**		**01 54 17.1**	**-0.1**
VLS	**Valsamata**	**2.29**	**164**	P	**Pb**		**01 54 16.2**	**-1.1**
AGG	**Agios Georgios**	**2.40**	**124**	P	**Pb**		**01 54 17.5**	**-1.7**
ANX	**Ano Chora**	**2.44**	**136**	P	**Pb**		**01 54 17.8**	**-2.2**
TRIZ	**Trizonia**	**2.69**	**138**	P	**Pb**		**01 54 22.3**	**-1.9**
KALE	**Kalithea**	**2.71**	**137**	P	**Pb**		**01 54 22.7**	**-1.8**
LAKA	**Lakka**	**2.74**	**141**	P	**Pb**		**01 54 22.5**	**-2.5**
PLG	**Polygyros**	**2.81**	**89**	P	**Pn**		**01 54 22.6**	**+1.4**
GUR	**Goura**	**3.16**	**140**	P	**Pn**		**01 54 28.3**	**+2.3**

DSN ***29*** *01:59:37.8±1.4,26.96N×53.61E,h15km,ML3.6/7,Error ellipse: s-maj=25.8km s-min=11.6km az=24.0*
TEH ***29*** *01:59:41.0,26.69N×53.96E,h10km,ML3.4*
ISCJB ***29*** *01:59:43.9±0.9,26.70N±0.05×54.1E±0.1,h19km,Error ellipse: s-maj=14.6km s-min=5.8km az=156.8*
OMAN ***29*** *01:59:46.4±1.4,26.76N×54.16E,h33km,ml3.5/10,Error ellipse: s-maj=14.0km s-min=12.3km az=132.0*

ISC 29 01:59:44.6±1.5,**26.75N**±0.05×**54.10E**±0.09,**h19**km,**n37,** **σ1s08/41,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JHRM	**Jahrom**	**1.81**	**345**	*e*Pn	**Pn**		**02 00 14.6**	**-0.2**
JHRM				IAMB	IAmb		02 00 44.7	
	comp=Z,0.0nm,0.4s							
UMQ	**Umm Al-Quwin**	**1.86**	**131**	*e*Pn	**Pn**		**02 00 15.4**	**-0.1**
GENO	**Geno**	**1.96**	**70**	*e*Pn	**Pb**		**02 00 18.5**	**-1.3**
GENO				IAMB	IAmb		02 01 07.5	
	comp=Z,0.0nm,0.4s							
SHME	**Shamm** SNR=16	**1.96**	**110**	*e*P	**Pb**		**02 00 18.6**	**-1.1**
SHME	**Shamm**	**1.96**	**110**	*e*Pn	**Pn**		**02 00 16.1**	**-0.8**
NAZ	**Nazwa, Dubai**	**2.25**	**141**	P	**Pn**		**02 00 21.2**	**+0.4**
NAZ	**Nazwa, Dubai**	**2.25**	**141**	P	**Pn**		**02 00 21.3**	**+0.4**
NAZ	**Nazwa, Dubai**	**2.25**	**141**	*e*Pn	**Pn**		**02 00 21.5**	**+0.7**
MSFE	**Esma-Masafi** SNR=8.6	**2.31**	**126**	*e*P	**Pn**		**02 00 21.7**	**0.0**
MSFE				S	**Sb**		**02 00 56.5**	**+2.5**
MSFE	**Esma-Masafi**	**2.31**	**126**	*e*Pn	**Pn**		**02 00 21.9**	**+0.2**
AJN	**Ajban**	**2.32**	**160**	*e*Pn	**Pn**		**02 00 23.4**	**+1.6**
ASUD	**Al Ashush, Dub** SNR=35	**2.39**	**152**	*e*P	**Pn**		**02 00 23.0**	**+0.2**
ASUD	**Al Ashush, Dub** SNR=35	**2.39**	**152**	P	**Pn**		**02 00 22.9**	**+0.1**
ASUD	**Al Ashush, Dub**	**2.39**	**152**	*e*Pn	**Pn**		**02 00 23.0**	**+0.2**
FAQ	**Al Faqa, Dubai**	**2.41**	**146**	*e*Pn	**Pn**		**02 00 23.6**	**+0.6**
MDH	**Madha**	**2.45**	**126**	P	**Pn**		**02 00 23.4**	**-0.2**
MDH	**Madha**	**2.45**	**126**	P	**Pn**		**02 00 23.4**	**-0.2**
MDH	**Madha**	**2.45**	**126**	*e*Pn	**Pn**		**02 00 24.2**	**+0.6**
NIAN	**Nian**	**2.57**	**71**	*e*Pn	**Pn**		**02 00 26.4**	**+1.2**
NIAN				IAMB	IAmb		02 01 24.5	
	comp=Z,0.0nm,0.9s							
UOSS	**Minazif** SNR=40	**2.62**	**133**	*i* P	**Pn**		**02 00 24.8**	**-1.0**
UOSS	**Minazif**	**2.62**	**133**	P	**Pn**		**02 00 24.9**	**-0.9**
UOSS	**Minazif**	**2.62**	**133**	*e*Pn	**Pn**		**02 00 25.0**	**-0.9**
HATD	**Hatta, Dubai**	**2.65**	**136**	P	**Pn**		**02 00 26.4**	**0.0**
HATD	**Hatta, Dubai** SNR=9.1	**2.65**	**136**	P	**Pn**		**02 00 26.4**	**0.0**
HATD	**Hatta, Dubai**	**2.65**	**136**	*e*Pn	**Pn**		**02 00 26.8**	**+0.4**
ASHO	**Ashiyiah** SNR=26	**2.71**	**139**	*i* P	**Pn**		**02 00 27.0**	**-0.2**
ASHO	**Ashiyiah** SNR=26	**2.71**	**139**	P	**Pn**		**02 00 27.0**	**-0.2**
ASHO	**Ashiyiah**	**2.71**	**139**	*e*Pn	**Pn**		**02 00 27.2**	**0.0**
ALNE	**Al Ain**	**3.07**	**151**	*e*Pn	**Pn**		**02 00 32.2**	**+0.1**
SOHO	**SOHO**	**3.41**	**139**	P	**Pn**		**02 00 36.2**	**-0.6**
KHGB	**Koh Gabri**	**4.17**	**30**	*e*Pn	**Pn**		**02 00 49.7**	**+2.2**
HOQ	**Hoqain**	**4.29**	**137**	P	**Pn**		**02 00 49.0**	**0.0**
HOQ				S	**Sn**		**02 01 38.3**	**-0.2**
HOQ	**Hoqain**	**4.29**	**137**	*e*Pn	**Pn**		**02 00 45.1**	**-3.8**
IRAM	**Ramesheh**	**5.26**	**344**	*e*Pn	**Pn**		**02 01 01.9**	**-0.5**
IRAM				IAMB	IAmb		02 01 43.2	
	comp=Z,81nm,0.5s							
WSAR	**Wadi Sarin**	**5.40**	**129**	P	**Pn**		**02 01 04.0**	**-0.1**
WSAR				S	**Sn**		**02 02 05.0**	**-0.8**
WBK	**Wadi Bani Khal**	**6.05**	**132**	P	**Pn**		**02 01 13.0**	**-0.1**
WBK				S	**Sn**		**02 02 22.3**	**+0.3**
IZEF	**Zefreh**	**6.31**	**346**	*e*Pn	**Pn**		**02 01 14.8**	**-2.1**

IDC 29 02:04:01.8±2.4,**7.09S**×**128.22E**,**h0**km,**mb4.1/1, mb1 3.8/3,mb1mx3.5/24,mbtmp3.7/3,ML3.6/2,Error ellipse: s-maj=277.4km s-min=30.4km az=65.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.09**	**156**	P	**Pn**		**02 07 22.1**	**-0.7**
	0.3nm,0.3s,baz=332,slow=14,SNR=10							
WRA					Sn		02 09 47.1	-13
	1.0nm,0.3s,baz=330,slow=22,SNR=8.7							
ASAR	**Alice Springs**	**17.36**	**162**	P	**Pn**		**02 08 06.2**	**+0.5**
	0.3nm,0.3s,baz=344,slow=12,SNR=10							
ASAR					S		02 11 06.7	-13
	0.1nm,0.3s,baz=343,slow=25,SNR=3.2							
MKAR	**Makanchi Array**	**67.35**	**328**	P	P		02 14 58.8	0.0
	1.0nm,0.5s,baz=121,slow=8.3,SNR=22							

ISCJB ***29*** *02:21:37.2±0.7,38.20N±0.04×141.73E±0.08,h63km±4km, mb3.7/10,Error ellipse: s-maj=11.7km s-min=4.9km az=23.3*
JMA ***29*** *02:21:38.7±0.1,38.18N×141.69E,h50km±1km,M3.8*
JMA Felt II J1.
IDC ***29*** *02:21:38.5±1.0,38.21N×141.52E,h53km±6km,mb3.5/10, mb1 3.6/14,mb1mx3.4/54,mbtmp3.7/14,MS2.6/3, Ms1 2.6/3,ms1mx2.5/36,Error ellipse: s-maj=22.2km s-min=14.4km az=102.0*

ISC 29 02:21:38.1±0.8,**38.19N**±0.05×**141.72E**±0.07,**h53**km±5km, **n36,σ0s95/44,mb3.9/10,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.23**	**302**	P	**Pn**		**02 21 47.3**	**+0.4**
JIKH				S	**Sn**		**02 21 53.1**	**-0.2**
JKMT	**Kesennumamotoy**	**0.65**	**343**	P	**Pn**		**02 21 51.7**	**+0.4**
JKMT				S	**Sn**		**02 22 00.7**	**-0.2**
JOFO	**Osakifurukawao**	**0.76**	**303**	P	**Pn**		**02 21 53.4**	**+0.8**
JOFO				*e*S	**Sn**		**02 22 03.9**	**+0.6**
JMM	**Marumori**	**0.80**	**246**	P	**Pn**		**02 21 53.0**	**-0.2**
JMM				S	**Sn**		**02 22 03.6**	**-0.6**
JOU	**Okura**	**0.85**	**282**	P	**Pn**		**02 21 54.3**	**+0.4**
JOU				S	**Sn**		**02 22 05.8**	**+0.4**
JMK	**Ichinoseki**	**0.85**	**333**	P	**Pn**		**02 21 54.7**	**+0.8**
JMK				S	**Sn**		**02 22 06.0**	**+0.4**
JFK	**Kawauchi**	**1.06**	**219**	P	**Pn**		**02 21 56.8**	**+0.1**
JFK				S	**Sn**		**02 22 10.2**	**-0.2**
JFT	**Otama**	**1.28**	**239**	P	**Pn**		**02 22 00.3**	**+0.6**
JFT				S	**Sn**		**02 22 15.9**	**+0.1**
JYK	**Kaneyama**	**1.29**	**305**	P	**Pn**		**02 22 00.4**	**+0.6**
JYS	**Shirataka**	**1.30**	**272**	P	**Pn**		**02 22 00.6**	**+0.7**
JYS				S	**Sn**		**02 22 16.7**	**+0.4**
JOM	**Ohasama**	**1.32**	**346**	P	**Pn**		**02 22 01.2**	**+1.0**
JOM				S	**Sn**		**02 22 17.8**	**+1.0**
JRG	**Rokugo**	**1.47**	**325**	P	**Pn**		**02 22 03.5**	**+1.3**
JYA	**Atsumi**	**1.62**	**285**	P	**Pn**		**02 22 05.1**	**+0.8**
JFY	**Yanaizu**	**1.77**	**245**	P	**Pn**		**02 22 07.3**	**+0.9**
MJAR	**Matsushiro Arr**	**3.24**	**241**	P	**Pn**		**02 22 26.5**	**0.0**
	0.3nm,0.3s,baz=58,slow=9.9,SNR=12							
MJAR					LR	LR	02 23 57.9	
	comp=Z,82nm,19.1s,baz=355,slow=45							
MAT	**Matsushiro**	**3.24**	**241**	P	**Pn**		**02 22 28.2**	**+1.7**
MAT				*e*S	**Sn**		**02 23 06.5**	**+2.7**
ASAJ	**Asahikawa**	**5.96**	**6**	P	**Pn**		**02 23 03.5**	**-0.2**
	0.6nm,0.3s,baz=228,slow=14,SNR=3.4							
ASAJ					S		**Sn**	**02 24 11.1**	**+0.6**
	0.6nm,0.3s,baz=320,slow=8.5,SNR=2.1							
USRK	**Ussuriysk Ar.**	**9.47**	**312**	P	**Pn**		**02 23 51.0**	**-0.8**
	0.2nm,0.3s,baz=116,slow=13,SNR=2.5							
JNU	**Nakatsue**	**10.16**	**243**	LR	LR		02 27 57.2	
	comp=Z,56nm,21.0s,baz=346,slow=38							
KSRS	**Korea Array**	**10.94**	**270**	P	**Pn**		**02 24 11.5**	**-0.3**
	0.3nm,0.3s,baz=84,slow=12,SNR=2.9							
KSRS					LR	LR	02 28 25.9	
	comp=Z,22nm,21.3s,baz=330,slow=38							
SONM	**Songino Array**	**27.36**	**302**	P	**P**		**02 27 18.5**	**+0.4**
	0.3nm,0.5s,baz=96,slow=8.8,SNR=3.8							
H11N2	**WAKE ISLAND Hy**	**28.55**	**123**	T	T		02 57 40.8	
	baz=316,slow=75,SNR=216							
H11N1	**WAKE ISLAND Hy**	**28.56**	**123**	T	T		02 57 42.2	
	baz=316,slow=75,SNR=116							
H11N3	**WAKE ISLAND Hy**	**28.57**	**123**	T	T		02 57 42.1	
	baz=316,slow=75,SNR=110							
H11S1	**WAKE ISLAND Hy**	**29.30**	**125**	T	T		02 58 38.6	
	baz=318,slow=76,SNR=34							
H11S3	**WAKE ISLAND Hy**	**29.30**	**125**	T	T		02 58 42.5	
	baz=318,slow=76,SNR=71							
H11S2	**WAKE ISLAND Hy**	**29.32**	**125**	T	T		02 58 43.2	
	baz=318,slow=76,SNR=49							
ZALV	**Zalesovo Beam**	**41.32**	**311**	P	**P**		**02 29 18.0**	**-0.3**
	1.8nm,0.5s,baz=79,slow=7.7,SNR=7.2							
ZALV					sP		**sP**	**02 29 37.4**	**-1.0**
	1.6nm,0.5s,baz=80,slow=8.3,SNR=5.0							
MKAR	**Makanchi Array**	**43.72**	**301**	P	**P**		**02 29 36.0**	**-1.9**
	1.1nm,0.6s,baz=88,slow=9.3,SNR=14							
MKAR					sP		**sP**	**02 29 56.8**	**-1.2**
	2.0nm,0.7s,baz=86,slow=8.9,SNR=14							
ILAR	**Eielson Array**	**48.39**	**33**	P	**P**		**02 30 15.4**	**+1.1**
	0.3nm,0.7s,baz=282,slow=4.5,SNR=3.6							
ILAR					pP		**pP**	**02 30 30.7**	**+2.2**
	0.4nm,0.6s,baz=269,slow=6.9,SNR=2.6							
WRA	**Warramunga Ar**	**58.24**	**188**	P	**P**		**02 31 26.9**	**-0.1**
	0.8nm,0.6s,baz=5.7,slow=7.2,SNR=9.9							
ASAR	**Alice Springs**	**61.96**	**188**	P	**P**		**02 31 52.9**	**+0.4**
	0.4nm,0.5s,baz=28,slow=6.3,SNR=4.3							
FINES	**FINESS Array B**	**67.91**	**332**	P	**P**		**02 32 30.6**	**-0.1**
	2.8nm,0.8s,baz=348,slow=4.7,SNR=4.5							
NOA	**NORSAR Array B**	**73.22**	**337**	P	**P**		**02 33 03.4**	**+0.3**
	1.7nm,0.9s,baz=131,slow=8.7,SNR=3.5							
AKASG	**Malin Array Be**	**73.53**	**322**	P	**P**		**02 33 04.7**	**-0.4**
	0.1nm,0.3s,baz=28,slow=7.3,SNR=3.0							
GERES	**GERESS Array B**	**81.86**	**328**	P	**P**		**02 33 50.0**	**-1.5**
	0.3nm,0.5s,baz=77,slow=4.2,SNR=2.2							

IDC ***29*** *02:24:53.0±0.9,12.44N×145.79E,h0km,mb3.7/10, mb1 3.9/10,mb1mx3.7/45,mbtmp3.7/10,MS3.3/2, Ms1 3.4/2,ms1mx2.8/40,Error ellipse: s-maj=29.2km s-min=20.8km az=92.0*

ISC 29 02:25:00.8±1.3,**12.9N**±0.3×**145.7E**±0.2,**h35**km,**n15,** **σ0s86/15,mb3.7/10,South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.06**	**307**	P	**Pn**		**02 25 18.5**	**-0.8**
	494nm,0.3s,baz=142,slow=8.3,SNR=124							
GUMO					Sn		**Sn**	**02 25 33.8**	**+0.9**
	486nm,0.3s,baz=24,slow=20,SNR=20							
WRA	**Warramunga Arr**	**34.55**	**199**	P	P		02 31 39.2	-7.1
	0.4nm,0.7s,baz=5.0,slow=7.4,SNR=5.7							
ASAR	**Alice Springs**	**38.18**	**198**	P	P		02 32 08.7	-8.6
	0.2nm,0.5s,baz=23,slow=9.6,SNR=2.5							
ASAR					LR	LR	02 46 45.5	
	comp=Z,68nm,20.6s,baz=116,slow=35							
CMAR	**Chiang Mai Arr**	**45.29**	**283**	P	**P**		**02 33 15.4**	**-0.2**
	1.1nm,0.4s,baz=77,slow=6.7,SNR=4.3							
CMAR					LR	LR	02 54 40.2	
	comp=Z,18nm,18.1s,baz=105,slow=39							
SONM	**Songino Array**	**47.74**	**325**	P	**P**		**02 33 34.5**	**0.0**
	0.2nm,0.4s,baz=108,slow=8.2,SNR=3.0							
SONM					PcP		**PcP**	**02 35 05.2**	**+1.9**
	0.4nm,0.5s,baz=138,slow=3.0,SNR=7.6							
MKAR	**Makanchi Array**	**62.54**	**316**	P	**P**		**02 35 21.9**	**+0.6**
	0.4nm,0.4s,baz=90,slow=8.8,SNR=13							
ILAR	**Eielson Array**	**68.79**	**25**	P	**P**		**02 36 00.5**	**-0.7**
	0.3nm,0.5s,baz=254,slow=5.9,SNR=4.7							
INK	**Inuvik**	**74.64**	**22**	P	**P**		**02 36 36.4**	**+0.2**
	2.0nm,1.0s,baz=237,slow=2.9,SNR=5.1							
AKTO	**Aktyubinsk**	**78.70**	**319**	P	**P**		**02 36 59.0**	**-0.6**
	0.8nm,0.8s,baz=37,slow=5.1,SNR=2.5							
YKA	**Yellowknife Ar**	**83.04**	**27**	P	**P**		**02 37 22.8**	**+0.4**
	0.3nm,0.5s,baz=286,slow=5.2,SNR=8.6							
FINES	**FINESS Array B**	**92.10**	**335**	P	**P**		**02 38 05.6**	**-0.7**
	1.3nm,0.8s,baz=84,slow=6.7,SNR=4.0							
DBIC	**Dimbokro**	**144.88**	**302**	PKPbc	**PKPab**		**02 44 33.5**	**-0.9**
	4.9nm,0.7s,baz=34,slow=2.7,SNR=9.2							
KIC	**Kosan Boka** 35nm,1.3s	**144.96**	**301**	*e*PKP2	**PKPdf**		**02 44 35.6**	**+0.1**
TIC	**Toumodi**	**145.03**	**302**	*e*PKP2	**PKPdf**		**02 44 36.0**	**+0.4**
LIC	**Lamto** 49nm,1.5s	**145.27**	**302**	*e*PKP2	**PKPdf**		**02 44 37.0**	**+1.0**

JMA ***29*** *02:28:35.9±0.2,24.61N×122.35E,h95km±2km,M2.4*
ISCJB ***29*** *02:28:36.0±0.4,24.65N±0.02×122.36E±0.02,h91km±3km, Error ellipse: s-maj=3.7km s-min=2.6km az=171.2*
TAP ***29*** *02:28:36.9,24.67N×122.34E,h85km±1km,ML3.7,A*

ISC 29 02:28:35.6±1.3,**24.66N**±0.03×**122.36E**±0.02,**h97**km±7km, **n93,σ1s13/161,2C-1D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.23**	**243**	P	**Pn**		**02 28 50.2**	**+0.7**
	baz=237							
EOS1				*e*S	**Sn**		**02 28 59.5**	**-0.2**
	baz=237							
EGS		**0.43**	**296**	*e*P	**Pn**		**02 28 51.0**	**+0.4**
	baz=295							
TWC	**Suao**	**0.46**	**264**	P	**Pn**		**02 28 51.0**	**+0.3**
	baz=262							
TWC				*e*S	**Sn**		**02 29 01.1**	**-1.0**
	baz=262							
TWB1	**Santiao Chiao**	**0.48**	**317**	P	**Pn**		**02 28 51.1**	**+0.2**
	baz=317							
TWB1				*e*S	**Sn**		**02 29 01.5**	**-0.8**
	baz=317							
NTC	**Toucheng**	**0.52**	**293**	*e*P	**Pn**		**02 28 50.9**	**-0.2**
	baz=291							
JYNG	**Yonagunijimaku**	**0.57**	**111**	P	**Pn**		**02 28 51.9**	**+0.3**
JYNG				S	**Sn**		**02 29 03.4**	**-0.2**
TIPB	**Shuangxi**	**0.57**	**303⇓**	*e*P	**Pn**		**02 28 52.0**	**+0.4**
	baz=303							
TIPB				*e*S	**Sn**		**02 29 02.8**	**-0.9**
	baz=303							
ENA	**Nanau**	**0.60**	**248**	⇑P	**Pn**		**02 28 52.5**	**+0.6**
	baz=245							
ENA				*e*S	**Sn**		**02 29 03.8**	**-0.2**
	baz=245							
YOJ	**Yonaguni jima**	**0.63**	**108**	*e*P	**Pn**		**02 28 52.3**	**+0.3**
	baz=108							
YOJ				*e*S	**Sn**		**02 29 04.0**	**-0.4**
	baz=108							
YOJ	**Yonaguni jima**	**0.63**	**108**	P	**Pn**		**02 28 52.3**	**+0.3**
YOJ				*e*S	**Sn**		**02 29 04.2**	**-0.2**
TWE	**Neicheng**	**0.63**	**276**	P	**Pn**		**02 28 52.7**	**+0.6**
	baz=274							
TWE				*e*S	**Sn**		**02 29 03.7**	**-0.7**
	baz=274							
SLBB	**Yuanshan**	**0.66**	**279**	*e*P	**Pn**		**02 28 53.1**	**+0.6**
	baz=277							
SLBB				*e*S	**Sn**		**02 29 04.7**	**-0.3**
	baz=277							
NWF	**Wu-fen Shan**	**0.67**	**308**	P	**Pn**		**02 28 52.9**	**+0.4**
	baz=308							
NWF				*e*S	**Sn**		**02 29 04.7**	**-0.4**
	baz=308							
WFSB	**Wu-fen Shan**	**0.67**	**308**	*e*P	**Pn**		**02 28 52.8**	**+0.4**
	baz=308							
WFSB				*e*S	**Sn**		**02 29 04.3**	**-0.7**
	baz=308							
ENTT	**Nioudou**	**0.72**	**269**	*e*P	**Pn**		**02 28 53.8**	**+0.9**
	baz=267							
ENTT				*e*S	**Sn**		**02 29 06.0**	**+0.1**
	baz=267							
NDT	**Datong Townshi**	**0.77**	**266**	P	**Pn**		**02 28 54.5**	**+1.1**
	baz=264							
NDT				*e*S	**Sn**		**02 29 07.4**	**+0.6**
	baz=264							
TWA	**Mucha**	**0.77**	**295**	*e*P	**Pn**		**02 28 53.4**	**0.0**
	baz=294							
TWA				*e*S	**Sn**		**02 29 05.8**	**-1.0**
	baz=294							
NACB	**Ninganchiao**	**0.84**	**235**	*e*P	**Pn**		**02 28 54.1**	**-0.1**
	baz=233							
NACB				*e*S	**Sn**		**02 29 07.6**	**-0.5**
	baz=233							
TATO	**Taipei**	**0.85**	**292**	*e*P	**Pn**		**02 28 54.3**	**+0.1**
	baz=291							
TATO				*e*S	**Sn**		**02 29 06.9**	**-1.2**
	baz=291							
YM01	**YM01**	**0.86**	**305**	*e*P	**Pn**		**02 28 55.7**	**+1.3**
	baz=304							
YM01				*e*S	**Sn**		**02 29 08.8**	**+0.3**
	baz=304							
YM11	**YM11**	**0.87**	**306**	*e*P	**Pn**		**02 28 54.8**	**+0.3**
	baz=305							
YM11				*e*S	**Sn**		**02 29 07.7**	**-1.0**
	baz=305							
YM08	**YM08**	**0.87**	**307**	*e*P	**Pn**		**02 28 54.5**	**+0.1**
	baz=307							
YM08				*e*S	**Sn**		**02 29 07.6**	**-1.0**
	baz=307							
YM05	**YM05**	**0.88**	**305**	*e*P	**Pn**		**02 28 53.7**	**-0.9**
	baz=305							
YM05				*e*S	**Sn**		**02 29 07.8**	**-1.0**
	baz=305							
YHNB	**Yeheng**	**0.89**	**271**	*e*P	**Pn**		**02 28 55.6**	**+0.9**
	baz=270							
YHNB				*e*S	**Sn**		**02 29 09.2**	**+0.1**
	baz=270							
YM04	**YM04**	**0.89**	**304**	*e*P	**Pn**		**02 28 54.1**	**-0.6**
	baz=303							
YM04				*e*S	**Sn**		**02 29 07.8**	**-1.2**
	baz=303							
TWD	**Chiawan**	**0.90**	**231**	P	**Pn**		**02 28 54.8**	**

VWDT				*e*S		**Sn**	**02 29 19.9**	**0.0**
	baz=230							
NMLH	**Miaoli**	**1.43**	**266**	*e*P		**Pn**	**02 29 02.0**	**+1.2**
	baz=264							
NMLH				*e*S		**Sn**	**02 29 20.4**	**+0.5**
	baz=264							
HGSD	**Ruisui**	**1.44**	**217**	*e*P		**Pn**	**02 29 01.1**	**+0.2**
	baz=215							
HGSD				*e*S		**Sn**	**02 29 19.7**	**-0.4**
	baz=215							
HATJ	**Hateruma jima**	**1.45**	**114**	*e*S		**Sn**	**02 29 21.3**	**+1.0**
NSY	**Sanyi**	**1.47**	**261**	*e*P		**Pn**	**02 29 02.6**	**+1.3**
	baz=259							
NSY				*e*S		**Sn**	**02 29 21.7**	**+0.9**
	baz=259							
TWQ1	**Liyutan**	**1.47**	**258**	*e*P		**Pn**	**02 29 02.4**	**+1.0**
	baz=257							
TWQ1				*e*S		**Sn**	**02 29 20.9**	**-0.1**
	baz=257							
EHY	**Hungye**	**1.48**	**220**	*e*P		**Pn**	**02 29 01.0**	**-0.5**
	baz=218							
EHY				*e*S		**Sn**	**02 29 19.5**	**-1.6**
	baz=218							
PTSB	**Yuanli**	**1.52**	**262**	*e*P		**Pn**	**02 29 03.0**	**+1.1**
	baz=261							
SMLT	**Sun Moon Lake**	**1.54**	**240**	*e*P		**Pn**	**02 29 03.5**	**+1.3**
	baz=238							
SMLT				*e*S		**Sn**	**02 29 23.0**	**+0.5**
	baz=238							
TYC	**Yuchr**	**1.56**	**242**	P		**Pn**	**02 29 04.1**	**+1.6**
	baz=240							
TYC				*e*S		**Sn**	**02 29 24.6**	**+1.9**
	baz=240							
JKRS	**Kuro-shima**	**1.56**	**105**	P		**Pn**	**02 29 03.2**	**+0.7**
JKRS				S		**Sn**	**02 29 23.3**	**+0.4**
YULB	**Yu-li**	**1.59**	**218**	*e*P		**Pn**	**02 29 02.3**	**-0.5**
	baz=216							
YULB				*e*S		**Sn**	**02 29 21.6**	**-1.8**
	baz=216							
TCU	**Taichung**	**1.61**	**252**	*e*P		**Pn**	**02 29 04.3**	**+1.2**
	baz=250							
TWF1	**Yuli**	**1.62**	**217**	P		**Pn**	**02 29 02.9**	**-0.4**
	baz=215							
TWF1				*e*S		**Sn**	**02 29 22.2**	**-2.0**
	baz=215							
JIJ	**Ishigaki jima**	**1.65**	**100**	P		**Pn**	**02 29 03.9**	**+0.3**
JIJ				S		**Sn**	**02 29 24.5**	**-0.4**
WHYT	**Xinyi Township**	**1.67**	**235**	*e*P		**Pn**	**02 29 05.9**	**+2.0**
	baz=234							
WJS	**Zhushan**	**1.70**	**241**	*e*P		**Pn**	**02 29 06.0**	**+1.7**
	baz=240							
WJS				*e*S		**Sn**	**02 29 27.7**	**+1.7**
	baz=240							
WNT	**Mingjian**	**1.71**	**243**	*e*P		**Pn**	**02 29 06.1**	**+1.8**
	baz=242							
WNT				*e*S		**Sn**	**02 29 28.1**	**+1.9**
	baz=242							
WCHH	**Zhanghua**	**1.74**	**251**	*e*P		**Pn**	**02 29 05.6**	**+0.9**
	baz=250							
JISG	**Ishigakijimahi**	**1.78**	**92**	P		**Pn**	**02 29 05.7**	**+0.5**
JISG				S		**Sn**	**02 29 28.5**	**+0.7**
CHKT	**Chengkung**	**1.79**	**211**	*e*P		**Pn**	**02 29 05.3**	**-0.2**
	baz=209							
CHKT				*e*S		**Sn**	**02 29 26.2**	**-1.9**
	baz=209							
CHN5	**Tsauling**	**1.86**	**236**	*e*P		**Pn**	**02 29 07.9**	**+1.6**
	baz=234							
CHN5				*e*S		**Sn**	**02 29 32.2**	**+2.4**
	baz=234							
ELDTW	**Lidau**	**1.91**	**220**	*e*P		**Pn**	**02 29 07.1**	**+0.1**
	baz=219							
ELDTW				*e*S		**Sn**	**02 29 29.2**	**-1.6**
	baz=219							
RLNB	**Erlin**	**1.98**	**248**	*e*P		**Pn**	**02 29 08.6**	**+0.8**
	baz=246							
CHN4	**Tsaushan**	**2.07**	**231**	P		**Pn**	**02 29 10.9**	**+1.9**
	baz=230							
CHN4				*e*S		**Sn**	**02 29 36.6**	**+2.1**
	baz=230							
TPUB	**Ta-pu**	**2.08**	**230**	*e*P		**Pn**	**02 29 10.9**	**+1.8**
	baz=228							
TPUB				*e*S		**Sn**	**02 29 36.1**	**+1.4**
	baz=228							
STYT	**Tauyuan**	**2.08**	**225**	*e*P		**Pn**	**02 29 10.8**	**+1.5**
	baz=223							
WTP	**Ta-pu**	**2.12**	**229**	*e*P		**Pn**	**02 29 11.2**	**+1.5**
	baz=227							
WTP				*e*S		**Sn**	**02 29 37.9**	**+2.1**
	baz=227							
JTJ	**Tarama**	**2.13**	**90**	P		**Pn**	**02 29 10.7**	**+0.9**
JTJ				*e*S		**Sn**	**02 29 37.3**	**+1.3**
TWGBT	**Beinan**	**2.17**	**213**	*e*P		**Pn**	**02 29 10.1**	**-0.3**
	baz=211							
TWGBT				*e*S		**Sn**	**02 29 33.8**	**-3.1**
	baz=211							
TWG	**Pinlang**	**2.17**	**213**	*e*P		**Pn**	**02 29 10.1**	**-0.3**
	baz=211							
TWG				*e*S		**Sn**	**02 29 34.7**	**-2.2**
	baz=211							
SNST	**Tainan City**	**2.22**	**230**	*e*P		**Pn**	**02 29 12.7**	**+1.7**
	baz=229							
CHN1	**Nanshi**	**2.22**	**229**	*e*P		**Pn**	**02 29 12.6**	**+1.6**
	baz=228							
CHN1				*e*S		**Sn**	**02 29 39.8**	**+1.7**
	baz=228							
SLGT	**Liugui**	**2.28**	**224**	*e*P		**Pn**	**02 29 13.7**	**+2.0**
	baz=222							
CHN3	**Shinhua**	**2.41**	**230**	*e*P		**Pn**	**02 29 12.9**	**-0.5**
	baz=228							
SSD	**Sandimen**	**2.47**	**220**	*e*P		**Pn**	**02 29 16.2**	**+1.9**
	baz=219							
MASBT	**Mashibuluo**	**2.58**	**218**	*e*P		**Pn**	**02 29 17.1**	**+1.4**
	baz=217							
MASBT				*e*S		**Sn**	**02 29 46.2**	**-0.2**
	baz=217							
MATB	**Ma-tsu**	**2.64**	**305**	*e*P		**Pn**	**02 29 16.6**	**+0.1**
	baz=304							
EAST	**Anshuo**	**2.65**	**212**	*e*P		**Pn**	**02 29 16.0**	**-0.7**
	baz=210							
VWUC	**VWUC**	**2.66**	**278**	*e*P		**Pn**	**02 29 16.7**	**-0.1**
	baz=276							
VWUC				*e*S		**Sn**	**02 29 44.9**	**-3.5**
	baz=276							
LAY	**Lan-yu**	**2.71**	**196**	*e*P		**Pn**	**02 29 17.1**	**-0.4**
	baz=195							
LAY				*e*S		**Sn**	**02 29 46.3**	**-3.3**
	baz=195							
PNG	**Penghu**	**2.78**	**248**	*e*P		**Pn**	**02 29 18.0**	**-0.3**
	baz=246							
WDGT	**Dungji**	**2.83**	**241**	*e*P		**Pn**	**02 29 19.3**	**+0.3**
	baz=240							
PTMZ	**Houxiangcun**	**2.96**	**278**	*e*P		**Pn**	**02 29 20.8**	**0.0**
	baz=277							
PTMZ				*e*S		**Sn**	**02 29 51.8**	**-3.8**
	baz=277							
VCHM	**Qimei**	**3.04**	**242**	*e*P		**Pn**	**02 29 22.0**	**+0.1**
	baz=241							
KNMB	**Chin-men Tao**	**3.62**	**268**	*e*P		**Pn**	**02 29 29.3**	**-0.3**
	baz=266							
AXDP	**Jialang**	**3.99**	**274**	*e*P		**Pn**	**02 29 34.9**	**+0.2**
	baz=273							
JOW	**Kunigami**	**5.76**	**67**	*e*P		**Pn**	**02 29 57.9**	**-0.8**
	baz=67							

KRNET ***29*** *02:31:56.5±0.1, 41.°95N×72.°01E, h14km, mb2.1*
SOME ***29*** *02:31:56.2, 42.°00N×71.°90E, h10km*
NNC ***29*** *02:31:56.4±0.9, 42.°00N×71.°96E, h0km, mb1.7, mpv2.6, Error ellipse: s-maj=8.4km s-min=5.3km az=144.0*

ISC 29 02:31:56.3±1.3, 41.°99N±0.°04×71.°97E±0.03, h10km±11km, n17, σ0955/31, 11C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAS	**Manas**	**0.63**	**38**	⇓P	**Pg**	**02 32 09.1**	**+0.5**
	1.4nm,0.2s						
MNAS				⇑S	**Sb**	**02 32 17.9**	**-0.7**
	1.8nm,0.1s						
MNAS	**Manas**	**0.63**	**38**	P	**Pb**	**02 32 09.2**	**-0.4**
	8.8nm,0.1s						
MNAS				S	**Sb**	**02 32 18.4**	**-0.2**
	16nm,0.1s						
MNAS	**Manas**	**0.63**	**38**	⇑*i*P	**Pg**	**02 32 09.1**	**+0.5**
	baz=35						
MNAS				⇑*i*S	**Sb**	**02 32 18.3**	**-0.3**
	baz=35						
ARSB	**Arslanbob**	**1.01**	**131**	⇑*i*P	**Pg**	**02 32 14.8**	**-0.9**
	baz=30						
ARSB				⇑*i*S	**Sg**	**02 32 28.2**	**-0.7**
	baz=30						
MRKS	**Merke**	**1.20**	**51**	P	**Pb**	**02 32 19.0**	**-0.1**
	2.6nm,0.1s						
MRKS				S	**Sn**	**02 32 35.5**	**-0.1**
	14nm,0.2s						
MRKS	**Merke**	**1.20**	**51**	*e*P	**Pb**	**02 32 19.0**	**-0.1**
	2.6nm,0.1s						
MRKS				*e*S	**Sn**	**02 32 35.5**	**-0.1**
	14nm,0.2s						
AML	**Almayashu**	**1.29**	**83**	⇑*i*P	**Pn**	**02 32 20.8**	**0.0**
	baz=81						
AML				⇑*i*S	**Sg**	**02 32 38.4**	**+0.5**
	baz=81						
IUG	**Iuzhnay**	**1.45**	**277**	P	**Pn**	**02 32 23.0**	**+0.2**
	4.7nm,0.2s						
IUG				S	**Sb**	**02 32 42.1**	**-0.1**
	13nm,0.3s						
IUG	**Iuzhnay**	**1.45**	**277**	*e*P	**Pn**	**02 32 23.0**	**+0.2**
	4.7nm,0.2s						
IUG				*e*S	**Sb**	**02 32 42.1**	**-0.1**
	13nm,0.3s						
EKS2	**Erkin-Say**	**1.50**	**63**	⇓*i*P	**Pb**	**02 32 24.6**	**+0.3**
	baz=61						
EKS2				⇓*i*S	**Sg**	**02 32 44.8**	**+0.3**
	baz=61						
KK31	**Karatay Array**	**1.55**	**316**	⇓Pn	**Pn**	**02 32 23.9**	**-0.1**
	0.2nm,0.2s,baz=125,slow=15,SNR=3.6						
KK31				Lg	Lg	02 32 44.7	
	1.3nm,0.3s,baz=129,slow=29,SNR=5.7						
ARLS	**Aral**	**1.76**	**93**	⇑*i*P	**Pb**	**02 32 28.9**	**+0.1**
	baz=92						
ARLS				⇑*i*S	**Sb**	**02 32 52.0**	**+1.0**
	baz=92						
UCH	**Uchtor**	**1.91**	**82**	⇑*i*P	**Pb**	**02 32 31.8**	**+0.3**
	baz=81						
UCH				⇑*i*S	**Sg**	**02 32 57.4**	**-0.2**
	baz=81						
USP	**Ospenovka**	**2.26**	**55**	⇓*i*P	**Pb**	**02 32 36.8**	**-0.5**
	baz=54						
USP				⇓*i*S	**Sb**	**02 33 06.4**	**+1.1**
	baz=54						
SFK	**Sufi-Kurgan**	**2.29**	**149**	⇓Pg	**Pb**	**02 32 38.8**	**+0.9**
	0.1nm,0.1s						
SFK				⇓Lg	Lg	02 33 07.8	
	1.1nm,0.3s						
SFK	**Sufi-Kurgan**	**2.29**	**149**	Pg	**Pb**	**02 32 38.5**	**+0.6**
	0.3nm,0.1s						
SFK				Lg	Lg	02 33 08.7	
	2.2nm,0.3s						
KZA	**Kyzart**	**2.44**	**87**	⇓*i*P	**Pb**	**02 32 39.5**	**-1.1**
	baz=86						
KZA				⇓*i*S	**Sb**	**02 33 10.9**	**0.0**
	baz=86						

SOME ***29*** *02:38:56.7, 42.°40N×79.°63E, h30km*
KRNET ***29*** *02:39:00.8±0.1, 42.°59N×79.°61E, h20km, mb2.0*
NNC ***29*** *02:39:01.1±2.8, 42.°60N×79.°64E, h0km, mb2.5, mpv2.5, Error ellipse: s-maj=18.1km s-min=10.8km az=159.0*

ISC 29 02:38:58.6±2.1, 42.°55N±0.°07×79.°64E±0.°08, h14km±12km, n13, σ0996/24, 9C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.62**	**348**	P	**Pn**	**02 39 13.4**	**+0.2**
	3.1nm,0.1s						
SHLS				S	**Sn**	**02 39 22.2**	**-0.9**
	22nm,0.4s						
SHLS	**Shalkode**	**0.62**	**348**	*e*P	**Pb**	**02 39 11.3**	**-0.1**
	2.4nm,0.1s						
SHLS				*e*S	**Sn**	**02 39 22.1**	**-1.0**
	22nm,0.2s						
UZB	**Uzynbulak**	**0.75**	**323**	P	**Pn**	**02 39 15.0**	**0.0**
	0.7nm,0.1s						
UZB				S	**Sb**	**02 39 24.9**	**+1.2**
	4.8nm,0.2s						
UZB	**Uzynbulak**	**0.75**	**323**	*e*P	**Pg**	**02 39 13.2**	**-0.1**
	0.5nm,0.1s						
UZB				*e*S	**Sb**	**02 39 25.0**	**+1.2**
	2.5nm,0.2s						
PDGK	**Podgornoye**	**0.79**	**352**	P	**Pn**	**02 39 15.1**	**-0.5**
	0.3nm,0.1s						
PDGK				S	**Sb**	**02 39 24.8**	**0.0**
	2.3nm,0.3s						
PDGK	**Podgornoye**	**0.79**	**352**	⇑*i*P	**Pn**	**02 39 14.8**	**-0.7**
	baz=53						
PDGK				⇑*i*S	**Sb**	**02 39 25.2**	**+0.3**
	baz=53						
PRZ	**Przheval'sk**	**0.92**	**266**	⇑*i*P	**Pn**	**02 39 17.5**	**+0.2**
	baz=64						
PRZ				⇑*i*S	**Sb**	**02 39 29.6**	**+1.0**
	baz=64						
KTMS	**Ketmen**	**1.04**	**30**	P	**Pn**	**02 39 19.8**	**+0.9**
	1.0nm,0.1s						
KTMS				S	**Sn**	**02 39 33.2**	**-0.2**
	3.8nm,0.1s						
MNBS	**Baschi**	**1.78**	**330**	P	**Pg**	**02 39 33.1**	**+0.4**
	1.6nm,0.2s						
KDJ	**Kajisay**	**1.87**	**258**	⇓*i*P	**Pg**	**02 39 34.2**	**-0.3**
	baz=56						
KDJ				⇓*i*S	**Sg**	**02 39 58.7**	**-0.1**
	baz=56						
ULHL	**Ulahol**	**2.53**	**264**	⇑*i*P	**Pb**	**02 39 43.6**	**-0.4**
	baz=63						
ULHL				⇑*i*S	**Sb**	**02 40 15.1**	**0.0**
	baz=63						
BOOM	**Boomskoye usch**	**2.73**	**270**	⇑*i*P	**Pb**	**02 39 46.4**	**-1.0**
	baz=69						
BOOM				⇑*i*S	**Sb**	**02 40 19.4**	**-1.5**
	baz=69						
TKM2	**Tokmak 2**	**3.00**	**279**	⇑Pn	**Pn**	**02 39 48.7**	**+2.8**
	0.3nm,0.5s						
TKM2				⇓Lg	Lg	02 40 33.9	
	0.5nm,0.5s						

NORS ***29*** *02:51:37.9±0.0, 42.°66N×44.°43E, h3km, MPVA2.7*
MOS ***29*** *02:51:38.7±0.0, 42.°66N×44.°43E, h11km, MPVA2.7*

ISC 29 02:51:41.4±1.1, 42.°73N±0.°03×44.°43E±0.°03, h4km±10km, n14, σ1930/28, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LACR	**Lac**	**0.14**	**317**	*i* Pg	**Pg**	**02 51 43.9**	**-0.4**
LACR				*e*Sg	**Sg**	**02 51 46.9**	**+0.8**
VLKR	**Vladikavkaz**	**0.37**	**30**	*e*Pg	**Pg**	**02 51 48.3**	**-0.2**
VLKR				*e*Sg	**Sb**	**02 51 55.9**	**-0.8**
ZEI	**Tsey**	**0.39**	**279**	*i* Pg	**Pg**	**02 51 48.5**	**-0.6**
ZEI				*e*Sg	**Sg**	**02 51 55.0**	**+0.8**
KORR	**Kora**	**0.45**	**324**	*i* Pg	**Pb**	**02 51 51.0**	**-0.8**
KORR				*e*Sg	**Sb**	**02 51 59.7**	**+0.8**
KMGR	**Komgaron**	**0.46**	**44**	*e*Pg	**Pg**	**02 51 50.2**	**0.0**
KMGR				*e*Sg	**Sb**	**02 51 59.0**	**-0.4**
ARNR	**Ardon**	**0.47**	**347**	*e*Pg	**Pb**	**02 51 51.5**	**-0.7**
ARNR				*e*Sg	**Sb**	**02 52 01.0**	**+1.5**
DIGR	**Digorskoe uzhe**	**0.65**	**286**	*e*Pg	**Pg**	**02 51 53.0**	**-0.8**
DIGR				*e*Sg	**Sb**	**02 52 08.8**	**-1.0**
LSNR	**Lesken**	**0.71**	**322**	*e*Pg	**Pb**	**02 51 56.2**	**-0.2**
LSNR				*e*Sg	**Sb**	**02 52 07.5**	**+1.0**
GROC	**Groznyy**	**1.11**	**64**	*e*Pg	**Pn**	**02 52 03.0**	**-0.7**
GROC				*e*Sg	**Sn**	**02 52 19.6**	**+0.1**
TRLG	**Trialeti**	**1.21**	**192**	P	**Pg**	**02 52 03.5**	**-1.1**
TRLG				S	**Sn**	**02 52 23.6**	**+1.4**
LGD	**Lagodekhi**	**1.61**	**123**	P	**Pn**	**02 52 09.9**	**-0.7**
LGD				S	**Sg**	**02 52 32.5**	**-0.7**
LGD	**Lagodekhi**	**1.61**	**123**	*e*Pg	**Pn**	**02 52 09.9**	**-0.7**
LGD				*e*Sg	**Sg**	**02 52 32.5**	**-0.7**
SHA1	**Shidzhatmaz**	**1.64**	**309**	*e*Pg	**Pn**	**02 52 11.4**	**+0.2**
SHA1				*e*Sg	**Sg**	**02 52 35.0**	**+0.8**
DDFL	**Dedoflistskaro**	**1.79**	**135**	P	**Pb**	**02 52 14.8**	**-0.1**
DDFL				S	**Sg**	**02 52 43.9**	**+5.0**

IDC 29 03:00:40.4±8.2, 0.°93N×96.°66W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.6/29, mbtmp3.5/4, MS3.4/5, Ms1 3.4/5, ms1mx3.1/26, Error ellipse: s-maj=379.5km s-min=144.7km az=87.0, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**16.16**	**6**	LR	LR	03 09 22.4	
	comp=Z,207nm,21.9s,baz=211,slow=32						
LPIG	**La Paz**	**26.56**	**331**	LR	LR	03 13 43.4	
	comp=Z,76nm,18.5s,baz=171,slow=30						
TXAR	**Lajitas Array**	**29.03**	**347**	P	P	03 06 43.0	+0.5
	0.7nm,0.9s,baz=167,slow=13,SNR=5.8						
TXAR				LR	LR	03 16 29.2	
	comp=Z,78nm,19.8s,baz=0.0,slow=33						
RPN	**Rapa Nui**	**30.44**	**203**	LR	LR	03 16 22.8	
	comp=Z,72nm,21.1s,baz=32,slow=31						
PDAR	**Pinedale Array**	**43.23**	**346**	P	P	03 08 42.9	-0.9
	0.8nm,0.8s,baz=133,slow=8.3,SNR=7.4						
YKA	**Yellowknife Ar**	**62.88**	**351**	P	P	03 11 09.1	+1.0
	0.1nm,0.5s,baz=157,slow=7.9,SNR=3.8						
YKA				LR	LR	03 37 59.5	
	comp=Z,15nm,18.6s,baz=69,slow=36						
ILAR	**Eielson Array**	**73.22**	**340**	P	P	03 12 12.5	-0.6
	0.5nm,0.8s,baz=168,slow=4.7,SNR=5.0						

ISCJB ***29*** *03:16:37.9±0.3, 0.°09S±0.°02×123.°02E±0.°02, h161km±3km, mb4.7/122, Error ellipse: s-maj=3.8km s-min=3.1km az=175.1*
IDC ***29*** *03:16:37.9±1.3, 0.°06S×122.°88E, h148km±11km, mb4.3/35, mb1 4.4/39, mb1mx4.3/51, mbtmp4.7/39, MS3.1/4, Ms1 3.2/4, ms1mx2.8/28, Error ellipse: s-maj=12.8km s-min=6.9km az=70.0*
NEIC ***29*** *03:16:38.2±0.6, 0.°06S×122.°99E, h148km±5km, mb4.8/60, Error ellipse: s-maj=5.9km s-min=4.1km az=68.0*
NEIC Felt [III] at Gorontalo and Manado.
DJA ***29*** *03:16:38.7±0.2, 0.°S±2.°×123.°3E±.°, h135km±3km, M4.8/24, mb4.9/24, mB5.2/11, MLv5.0/17, Mw(mB)4.5/11*
MOS ***29*** *03:16:38.2±1.2, 0.°02S×122.°84E, h163km, mb4.8/34, Error ellipse: s-maj=13.3km s-min=6.0km az=112.5*

ISC 29 03:16:38.3±0.4, 0.°10S±0.°04×123.°02E±0.°04, h150km±3km, h151km:pP-P, n337, σ1937/387, mb4.8/132, 9C-4D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.97**	**195**	*e*Pn	**Pn**	**03 17 00.3**	**-2.6**
LUWI				*e*Sn	**Sn**	**03 17 16.5**	**-5.1**
LUWI	**Luwuk**	**0.97**	**195**	P	**Pn**	**03 17 00.8**	**-2.0**
LUWI				S	**Sn**	**03 17 16.9**	**-4.7**
PCI	**Palu**	**3.28**	**256**	P	**Pn**	**03 17 28.1**	**-1.1**
SANI	**Sanana**	**3.54**	**123**	P	**Pn**	**03 17 29.1**	**-3.5**
KDI	**Kendari**	**3.85**	**186**	P	**Pn**	**03 17 35.2**	**-1.4**
TTSI	**Tana Toraja**	**4.33**	**228**	P	**Pn**	**03 17 42.0**	**-0.9**
TNTI	**Ternate**	**4.43**	**79**	*e*Pn	**Pn**	**03 17 44.3**	**0.0**
TNTI				*e*Sn	**Sn**	**03 18 36.6**	**+0.9**
TNTI	**Ternate**	**4.43**	**79**	P	**Pn**	**03 17 44.5**	**+0.2**
TNTI				S	**Sn**	**03 18 34.5**	**-1.1**
SGSI	**Sangihe**	**4.52**	**34**	P	**Pn**	**03 17 45.6**	**+0.2**
SPSI	**Sidrap Palu**	**5.03**	**220**	P	**Pn**	**03 17 52.6**	**+0.5**
	137nm,0.6s,12µm0.9nm						
NLAI	**Namlea**	**5.13**	**127**	P	**Pn**	**03 17 53.7**	**+0.2**
	248nm,0.6s,12µm7.8nm						
BNSI	**Bone**	**5.17**	**214**	P	**Pn**	**03 17 55.3**	**+1.4**
	269nm,0.8s,3µm1.2nm						
SMKI	**Samarinda**	**5.82**	**267**	P	**Pn**	**03 18 03.3**	**+0.7**
	140nm,0.8s,5µm1.0nm						
BKSI	**Bulukumba**	**5.94**	**209**	P	**Pn**	**03 18 05.9**	**+1.7**
	40nm,0.8s,704nm0.3nm						
BKB	**Balikpapan**	**6.23**	**259**	P	**Pn**	**03 18 08.2**	**+0.1**
	400nm,0.7s,4µm1.4nm						
DDMP	**Don Marcelino,**	**6.73**	**24**	*e*P	**Pn**	**03 18 16.8**	**+2.1**
DDMP				*e*S	**Sn**	**03 19 32.1**	**+1.8**
SKMP	**Bagumbayan, Su**	**6.75**	**13**	*e*P	**Pn**	**03 18 15.3**	**+0.2**
SKMP				*e*S	**Sn**	**03 19 28.1**	**-2.8**
CTBH	**Cotabato--PC H**	**7.38**	**10**	⇓*i*P	**Pn**	**03 18 24.4**	**+1.0**
KBKI	**Kotabaru**	**7.55**	**245**	P	**Pn**	**03 18 25.9**	**+0.2**
DAV	**Davao City (W)**	**7.57**	**20**	P	**Pn**	**03 18 25.4**	**-0.6**
	97nm,0.3s,baz=72,slow=3.2,SNR=2.6						
IPIL	**Ipil**	**7.85**	**357**	*e*P	**Pn**	**03 18 31.6**	**+1.8**
IPIL				*e*S	Sn	03 19 28.4	-29
PAGZ	**Pagadian**	**7.91**	**3**	*e*P	**Pn**	**03 18 31.4**	**+0.9**
PAGZ				*e*S	**Sn**	**03 19 56.1**	**-2.6**
BNDI	**Bandanaira**	**8.16**	**123**	P	**Pn**	**03 18 35.1**	**+1.2**
	636nm,1.0s,1.6nm						
BUKP	**Musuan**	**8.19**	**14**	*e*P	**Pn**	**03 18 36.5**	**+2.3**
BUKP				*e*S	**Sn**	**03 20 06.1**	**+0.6**
SWI	**Sorong**	**8.28**	**95**	P	**Pn**	**03 18 36.7**	**+1.3**
SIJI	**Sorong**	**8.28**	**95**	P	**Pn**	**03 18 35.5**	**0.0**
	5.5nm,0.3s,baz=279,slow=6.8,SNR=13						
SIJI				S	**Sn**	**03 20 08.9**	**+1.1**
	1.5nm,0.3s,baz=150,slow=20,SNR=4.8						
SIJI				LR	LR	03 22 07.1	
	comp=Z,88nm,21.2s,baz=348,slow=39						
EDFI	**Ende, Flores**	**8.69**	**189**	P	**Pn**	**03 18 40.5**	**-0.6**
	55nm,0.8s,0.2nm						
KKM	**Kota Kinabalu**	**9.13**	**312**	*e*Pn	**Pn**	**03 18 47.9**	**+1.0**
FAKI	**Fak Fak**	**9.64**	**107**	*e*Pn	**Pn**	**03 18 52.2**	**-1.4**
FAKI				*e*Sn	**Sn**	**03 20 35.3**	**-5.2**
FAKI	**Fak Fak**	**9.64**	**107**	P	**Pn**	**03 18 51.8**	**-1.8**
SOEI	**Soe**	**9.67**	**173**	*e*Pn	**Pn**	**03 18 57.9**	**+3.8**
BATI	**Baumata**	**10.06**	**176**	P	**Pn**	**03 19 01.4**	**+2.2**
	11nm,0.3s,baz=1.8,slow=2.6,SNR=7.9						
BATI				LR	LR	03 23 02.3	
	comp=Z,149nm,19.3s,baz=281,slow=38						
BATI	**Baumata**	**10.06**	**176**	P	**Pn**	**03 19 01.4**	**+2.2**
PLAI	**Plampang**	**10.12**	**211**	P	**Pn**	**03 19 00.4**	**+0.5**
	74nm,1.1s,803nm						
JAGI	**Jajag, Banyuwa**	**12.13**	**227**	*e*Pn	**Pn**	**03 19 27.0**	**+0.7**
GMJI	**Gumukmas**	**12.53**	**229**	P	P	03 19 42.2	+5.1
KDU	**Kakadu**	**15.63**	**143**	P	**Pn**	**03 20 10.5**	**0.0**
	baz=16,SNR=36						
KPJI	**Karang Pucung**	**15.78**	**243**	P	**P**	**03 20 13.9**	**+0.7**
	48nm,0.9s						
KNRA	**Kununurra**	**16.48**	**160**	P	**P**	**03 20 19.9**	**-1.0**
	baz=17,SNR=17						
CISI	**Cisompet, Garu**	**16.87**	**244**	*e*P	**Pn**	**03 20 27.4**	**+1.6**
	38nm,0.7s						
CBJI	**Cileko**	**17.31**	**248**	P	**Pn**	**03 20 33.1**	**+2.1**
FITZ	**Fitzroy Crossi**	**18.07**	**172**	P	**P**	**03 20 39.1**	**+0.8**
	14nm,0.3s,baz=6.7,slow=8.5,SNR=458						
FITZ	**Fitzroy Crossi**	**18.07**	**172**	P	**P**	**03 20 39.1**	**+0.8**
	baz=18,SNR=204			

YHNB **Yeheng** 24.68 356 *e*P P 03 21 47.1 +1.7
comp=Z,21nm,0.8s
SRAK **Srakaew** 25.06 305 P P 03 21 47.5 -1.4
comp=Z,55nm,0.7s,comp=Z,591nm
SKNT **Sakolnakorn** 25.29 313 P P 03 21 52.4 +1.4
comp=Z,13nm,0.8s,comp=Z,1µm
WRKA **Warakurna** 25.31 169 P P 03 21 51.2 +0.1
baz=26,SNR=89
GSI **Gunungsitoli** 25.48 273 *e*P P 03 21 52.8 +0.1
comp=Z,9.9nm,0.6s
AS31 **Alice Springs** 25.70 156 *e*P P 03 21 54.5 -0.1
comp=Z,5.2nm,0.7s
AS31 *e*PcP PcP 03 25 21.8 +0.6
AS31 *e*ScP ScP 03 28 48.4 +1.6
ASAR **Alice Springs** 25.70 156 P P 03 21 55.1 +0.5
comp=Z,10.0nm,0.6s,baz=324,slow=7.0,SNR=68
ASAR PcP PcP 03 25 21.8 +0.6
comp=Z,1.3nm,0.3s,baz=345,slow=2.0,SNR=5.3
ASAR ScP ScP 03 28 47.5 +0.7
comp=Z,5.1nm,0.6s,baz=340,slow=2.5,SNR=23
AS01 **Alice Springs** 25.72 156 *e*P P 03 21 55.0 +0.2
QIS **Mount Isa** 26.01 142 P P 03 21 58.5 +1.0
baz=26,SNR=65
CHAI **Chaiyaphum** 26.15 308 P P 03 21 59.9 +1.1
comp=Z,22nm,0.6s,comp=Z,213nm
PHET **Kaeng Krachan** 26.55 300 P P 03 22 04.2 +1.8
comp=Z,14nm,0.7s,comp=Z,304nm
NONG **Nongkai** 26.60 314 P P 03 22 03.7 +0.9
comp=Z,0.7nm,0.9s,comp=Z,79nm
MEEK **Meekatharra** 26.72 189 P P 03 22 03.3 -0.5
baz=27,SNR=21
MTSU **Mount Surprise** 27.56 132 P P 03 22 12.7 +1.3
baz=28,SNR=5.2
UTHA **Uthaitani** 28.00 305 P P 03 22 16.6 +1.3
comp=Z,15nm,0.6s,comp=Z,268nm
UTTA **Uttaradit** 28.34 310 P P 03 22 19.7 +1.4
comp=Z,8.4nm,0.7s,comp=Z,330nm
SUKH **Sukhothai** 28.90 308 P P 03 22 25.1 +1.8
comp=Z,14nm,0.7s
MORW **Morawa** 29.57 192 P P 03 22 28.6 -0.4
baz=30,SNR=6.6
MORW **Morawa** 29.57 192 *e*P P 03 22 28.6 -0.4
comp=Z,17nm,0.9s
CM31 **Chiang Mai Arr** 30.00 309 *e*P P 03 22 32.8 -0.2
CM31 *e*ScP ScP 03 28 59.2 -0.9
CMAR **Chiang Mai Arr** 30.00 309 P P 03 22 32.8 -0.2
comp=Z,13nm,0.6s,baz=132,slow=7.0,SNR=46
CMAR ScP ScP 03 28 59.2 -0.9
comp=Z,1.3nm,0.4s,baz=170,slow=2.1,SNR=5.2
CMAR LR LR 03 34 23.7
comp=Z,35nm,21.5s,baz=35,slow=36
CMMT **Chiang Mai** 30.20 310 P P 03 22 36.2 +1.4
comp=Z,40nm,0.8s
CHTO **Chiang Mai** 30.20 310 *e*P P 03 22 36.4 +1.6
comp=Z,28nm,0.7s
CHTO **Chiang Mai** 30.20 310 P P 03 22 36.2 +1.4
comp=Z,175nm,0.9s
CTA **Charters Tower** 30.20 133 P P 03 22 36.0 +1.3
comp=Z,3.5nm,0.6s,baz=304,slow=9.5,SNR=5.1
GYA **Guiyang** 30.75 330 P P 03 22 41.5 +1.8
GYA pmax pmax
comp=Z,20nm,0.7s
FORT **Forrest** 30.88 172 P P 03 22 40.8 +0.3
baz=31,SNR=28
FORT **Forrest** 30.88 172 *e*P P 03 22 40.9 +0.3
comp=Z,39nm,0.7s
BLDU **Baliidu** 30.93 191 P P 03 22 40.6 -0.4
baz=31,SNR=22
KLBR **Kellerberrin** 31.71 189 P P 03 22 47.5 -0.4
baz=32,SNR=12
KMI **Kunming** 31.84 323 P P 03 22 51.8 +2.5
KMI pmax pmax
comp=Z,22nm,0.7s
KMI pmax pmax
comp=Z,160nm,4.4s
NJ2 **Nanjing** 32.22 353 *e*P P 03 22 53.5 +1.2
NJ2 pmax pmax
comp=Z,14nm,0.5s
CBIJ **Chichi jima** 32.73 33 *e*P P 03 22 56.8 0.0
JCJ **Chichijima** 32.73 33 P P 03 22 56.8 0.0
comp=Z,82nm,0.5s,baz=267,slow=11,SNR=4.0
ENH **Enshi** 32.84 338 *e*P P 03 22 59.7 +2.0
comp=Z,68nm,0.9s
NWAO **Narrogin (SRO)** 33.10 189 P P 03 22 59.6 -0.4
comp=Z,10nm,0.5s,baz=261,slow=7.2,SNR=12
NWAO **Narrogin (SRO)** 33.10 189 P P 03 23 00.0 0.0
baz=33,SNR=8.4
QLP **Quilpie** 33.32 144 P P 03 23 03.4 +1.4
baz=34,SNR=7.8
JNU **Nakatsue** 33.87 12 P P 03 23 06.4 -0.3
comp=Z,6.7nm,0.8s,baz=1.5,slow=2.8,SNR=4.8
JNU **Nakatsue** 33.87 12 *e*P P 03 23 04.6 -2.0
comp=Z,19nm,1.2s
BBOO **Buckleboo** 34.78 161 P P 03 23 14.8 +0.3
baz=35,SNR=8.5
BBOO **Buckleboo** 34.78 161 *e*P P 03 23 14.6 +0.1
comp=Z,16nm,1.0s
RKGY **Rocky Gully** 34.79 189 P P 03 23 15.6 +1.1
baz=35,SNR=7.8
CD2 **Chengdu** 35.86 331 *e*P P 03 23 24.0 +0.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.8s
STKA **Stephens Creek** 36.16 153 P P 03 23 26.9 +0.6
comp=Z,7.7nm,0.3s,baz=339,slow=8.1,SNR=23
STKA **Stephens Creek** 36.16 153 P P 03 23 27.2 +0.9
baz=36,SNR=16
STKA **Stephens Creek** 36.16 153 *e*P P 03 23 27.2 +0.9
comp=Z,3.7nm,0.8s
STKA **Stephens Creek** 36.16 153 *e*P P 03 23 27.2 +0.9
STKA pmax pmax
comp=Z,4.0nm,0.8s
HTT **Hallett** 36.37 157 P P 03 23 29.4 +1.3
baz=37,SNR=21
XAN **Xi'an** 36.45 340 P P 03 23 30.3 +1.5
XAN pP pP 03 23 59.5 -1.8
XAN pmax pmax
comp=Z,24nm,1.2s
XAN pmax pmax
comp=Z,250nm,6.7s
XAN **Xi'an** 36.45 340 *e*P P 03 23 29.7 +0.9
comp=Z,46nm,1.4s
XAN **Xi'an** 36.45 340 *e*P P 03 23 29.7 +0.9
XAN pmax pmax
comp=Z,46nm,1.4s
INU **Inuyama** 37.61 19 *e*P P 03 23 38.2 -0.3
comp=Z,20nm,1.0s
KS15 **Wonju Array Si** 37.63 6 *e*P P 03 23 38.4 -0.2
KSAR **Wonju Array Be** 37.63 6 P P 03 23 38.4 -0.2
KSAR **Wonju Array Be** 37.63 6 P P 03 23 38.4 -0.2
KSRS **Korea Array** 37.64 6 P P 03 23 38.4 -0.3
comp=Z,3.2nm,0.8s,baz=187,slow=9.4,SNR=15
CMSA **Cobar Meteorol** 37.93 148 P P 03 23 42.9 +1.7
baz=38,SNR=36
MJAR **Matsushiro Arr** 39.09 20 P P 03 23 50.2 -0.6
comp=Z,17nm,0.8s,baz=198,slow=9.7,SNR=38
MJAR LR LR 03 41 47.9
comp=Z,35nm,18.6s,baz=345,slow=39
MAJO **Matsushiro** 39.09 20 *e*P P 03 23 50.7 -0.2
comp=Z,17nm,0.8s
MAJO **Matsushiro** 39.09 20 *e*P P 03 23 50.7 -0.2
MAJO pmax pmax
comp=Z,17nm,0.8s
MAT **Matsushiro** 39.09 20 P P 03 23 50.1 -0.8
MJB9 **Matsu-Tunnel** 39.09 20 *e*P P 03 23 50.7 -0.2
comp=Z,18nm,0.9s
SHL **Shillong** 39.44 313 *e*P P 03 23 54.6 +0.5
comp=Z,19nm,0.8s
SHL **Shillong** 39.44 313 *e*P P 03 23 54.6 +0.5
SHL pmax pmax
comp=Z,19nm,0.8s
LZH **Lanzhou** 40.18 336 *e*P P 03 24 03.0 +2.9
LZH pP pP 03 24 30.8 -2.4
LZH sP sP 03 24 46.8 -3.5
LZH PP PnPn 03 25 42.5 +1.7
LZH S S 03 29 58.5 +2.7
LZH sS sS 03 30 50.3 -2.2
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,140nm,4.3s
LZH LR LR
comp=Z,520nm,13.0s
LZH LR LR
comp=Z,390nm,14.1s
LZH LR LR
comp=Z,540nm,11.9s
ARPS **Mount Arapiles** 40.44 156 P P 03 24 03.3 +1.3
baz=41,SNR=16
ARMA **Armidale** 40.60 141 *e*P P 03 24 05.5 +1.9
comp=Z,56nm,1.4s
HHC **Hu-ho-hao-te** 42.07 347 *e*P P 03 24 17.5 +2.1
HHC pmax pmax
comp=Z,15nm,1.1s
MGCD **Mangrove Creek** 42.22 144 P P 03 24 15.9 -0.7
baz=42,SNR=4.1
LSA **Lhasa** 42.44 317 P P 03 24 20.5 +1.5
LSA pmax pmax
comp=Z,12nm,0.7s
LSA **Lhasa** 42.44 317 *e*P P 03 24 20.8 +1.8
comp=Z,15nm,0.6s
LSA **Lhasa** 42.44 317 *e*P P 03 24 20.8 +1.8
LSA pmax pmax
comp=Z,15nm,0.6s
CAN **Canberra** 42.60 148 *e*P P 03 24 21.6 +1.9
comp=Z,15nm,0.5s
CAN **Canberra** 42.60 148 *e*P P 03 24 21.6 +1.9
CAN pmax pmax
comp=Z,15nm,0.5s
TOO **Toolangi** 42.67 153 P P 03 24 22.5 +2.3
baz=43,SNR=12
TOO **Toolangi** 42.67 153 *e*P P 03 24 22.7 +2.5
comp=Z,18nm,0.8s
TOO **Toolangi** 42.67 153 *e*P P 03 24 22.7 +2.5
TOO pmax pmax
comp=Z,18nm,0.8s
ODAN **Odare** 43.51 311 *e*P P 03 24 27.9 +0.6
comp=Z,24nm,0.4s
CN2 **Changchun** 43.76 3 ⇓P P 03 24 31.8 +3.0
CN2 pmax pmax
comp=Z,10.0nm,0.7s
RAMN **Ramite** 44.15 310 *e*P P 03 24 33.2 +0.7
comp=Z,61nm,0.5s
GTA **Gaotai** 44.69 334 P P 03 24 37.8 +1.4
GTA pP pP 03 25 09.8 -0.3
GTA sP sP 03 25 27.5 +0.5
GTA PcP PcP 03 26 15.8 -0.6
GTA ScP ScP 03 29 55.3 +0.6
GTA S S 03 31 02.5 +0.8
GTA pmax pmax
comp=Z,12nm,0.9s
GTA pmax pmax
comp=Z,110nm,5.2s
USA0B **Ussuriysk Arra** 44.83 9 *e*P P 03 24 37.5 +0.2
comp=Z,11nm,0.8s
USRK **Ussuriysk Ar.** 44.83 9 P P 03 24 37.5 +0.2
comp=Z,10nm,0.7s,baz=193,slow=7.2,SNR=24
JIRN **Jiri** 44.83 311 *e*P P 03 24 38.4 +0.3
comp=Z,45nm,0.4s
MDJ **Mudanjiang** 44.91 7 P P 03 24 38.3 +0.4
MDJ pmax pmax
comp=Z,23nm,0.9s
MDJ pmax pmax
comp=Z,390nm,5.8s
MDJ **Mudanjiang** 44.91 7 *e*P P 03 24 38.1 +0.2
comp=Z,16nm,0.8s
GUN **Gumba** 45.20 311 *e*P P 03 24 41.4 +0.5
comp=Z,49nm,0.4s
PKI **Pulchoki** 45.38 310 *e*P P 03 24 42.4 +0.1
comp=Z,24nm,0.6s
PKIN **Phulchoki** 45.39 310 *e*P P 03 24 42.5 +0.2
comp=Z,9.9nm,0.3s
KKN **Kakani** 45.59 311 *e*P P 03 24 44.1 +0.3
comp=Z,18nm,0.5s
DMN **Daman** 45.63 310 *e*P P 03 24 44.1 -0.1
comp=Z,37nm,0.5s
KOLN **Koldanda** 46.86 310 *e*P P 03 24 54.3 +0.5
comp=Z,43nm,0.5s
WAKE **Wake Island** 46.92 63 *e*P P 03 24 52.4 -1.7
comp=Z,82nm,0.7s
DANN **Dangsing** 47.03 310 *e*P P 03 24 55.5 +0.3
comp=Z,76nm,0.5s
ASAJ **Asahikawa** 47.36 19 P P 03 24 57.3 +0.2
comp=Z,15nm,0.8s,baz=246,slow=8.5,SNR=12
PYUN **Piuthan** 47.50 310 *e*P P 03 24 59.5 +0.8
comp=Z,78nm,0.5s
DZM **Mont Dzumac** 47.60 120 P P 03 25 00.4 +0.9
comp=Z,10nm,0.9s,baz=58,slow=16,SNR=2.9
DZM **Mont Dzumac** 47.60 120 *e*P P 03 25 00.4 +0.9
comp=Z,29nm,1.2s
KLR **Kul'dur** 49.71 7 P P 03 25 14.2 -0.8
comp=Z,2.1nm,0.6s,baz=216,slow=3.6,SNR=14
KLR **Kul'dur** 49.71 7 *i* P P 03 25 13.7 -1.3
ULN **Ulaanbaatar** 49.75 346 *e*P P 03 25 14.9 -0.6
comp=Z,12nm,0.6s
ULN *e*pP pP 03 25 54.4 +4.6
ULN **Ulaanbaatar** 49.75 346 *ce*P P 03 25 15.4 -0.1
ULN pmax pmax
comp=Z,11nm,0.7s
SONA0 **Songino Array** 49.89 345 *e*P P 03 25 16.8 +0.3
SONA0 *e*PcP PcP 03 26 34.2 -0.5
SONA0 *e*ScP ScP 03 30 15.8 -0.6
SONM **Songino Array** 49.89 345 P P 03 25 16.8 +0.3
comp=Z,13nm,0.8s,baz=160,slow=9.1,SNR=78
SONM PcP PcP 03 26 34.2 -0.5
comp=Z,2.0nm,0.5s,baz=160,slow=5.1,SNR=7.5
SONM ScP ScP 03 30 15.8 -0.6
comp=Z,0.4nm,0.6s,baz=168,slow=5.7,SNR=3.8
SONA1 **Songino Array** 49.90 345 *e*P P 03 25 15.6 -1.0
SONA1 *e*pP pP 03 25 50.3 -0.6
YSS **Yuzh-Sakhalins** 49.95 18⇓*e*P P 03 25 15.6 -1.2
YSS pmax pmax
comp=Z,20nm,0.9s
GRNR **Gornyy** 51.95 11 *e*P P 03 25 28.0 -3.7
WMQ **Urumqi** 53.89 329 P P 03 25 47.3 +1.2
WMQ pP pP 03 26 23.8 +2.9
WMQ sP sP 03 26 34.5 -3.0
WMQ pmax pmax
comp=Z,25nm,1.3s
WMQ pmax pmax
comp=Z,1µm,8.1s
MOY **Mondy** 54.83 343 *e*P P 03 25 53.6 +0.7
MOY pmax pmax
comp=Z,18nm,1.4s
NKL **Nikolayevsk** 55.08 13 *e*P P 03 25 51.0 -3.4
NKL pmax pmax
comp=Z,25nm,0.8s
NIL **Nilore** 57.47 311 *e*P P 03 26 11.8 0.0
comp=Z,14nm,0.6s
NIL **Nilore** 57.47 311 *e*P P 03 26 11.8 0.0
NIL pmax pmax
comp=Z,14nm,0.6s
BOD **Bodaibo** 58.19 354 *e*P P 03 26 15.3 -1.0
BOD pmax pmax
comp=Z,6.0nm,0.9s
DGZ **Jazzator, Alta** 58.22 334⇑*i*P P 03 26 17.1 +0.2
DGZ pmax pmax
comp=Z,6.0nm,0.8s
KSH **Kashi** 58.27 318 P P 03 26 19.0 +1.6
KSH PcP sP 03 27 08.3 -0.6
KSH PP PP 03 28 33.5 +5.4
KSH S S 03 34 07.5 -0.4
KSH sS sS 03 35 04.5 -2.0
KSH ScS ScS 03 35 51.8 -0.7
KSH SS SS 03 38 05.5 +3.1
KSH pmax pmax
comp=Z,11nm,0.5s
KSH pmax pmax
comp=Z,500nm,6.3s
KSH LR LR
comp=Z,170nm,6.5s
KSH LR LR
comp=Z,210nm,8.8s
KSH LR LR
comp=Z,450nm,10.5s
MK01 **Makanchi Array** 58.69 328 *e*P P 03 26 19.6 -0.4
MK31 **Makanchi Array** 58.71 328 *e*P P 03 26 20.1 -0.1
MK31 **Makanchi Array** 58.71 328 *e*P P 03 26 20.1 -0.1
MK32 **Makanchi Array** 58.71 328 *e*P P 03 26 20.1 -0.1
MK32 *e*PcP PcP 03 27 07.5 -0.9
MK32 *e*ScP ScP 03 30 52.8 -2.1
MKAR **Makanchi Array** 58.71 328 P P 03 26 20.1 -0.1
comp=Z,6.5nm,0.6s,baz=126,slow=8.4,SNR=81
MKAR PcP PcP 03 27 07.5 -0.9
comp=Z,2.6nm,0.5s,baz=153,slow=3.2,SNR=12
MKAR ScP ScP 03 30 52.8 -2.1
comp=Z,0.7nm,0.8s,baz=116,slow=5.5,SNR=4.2
MKAR **Makanchi Array** 58.71 328 *e*P P 03 26 20.1 -0.1
comp=Z,45nm,0.7s
MKAR **Makanchi Array** 58.71 328 *e*P P 03 26 20.1 -0.1
MKAR pmax pmax
comp=Z,45nm,0.7s
MAKZ **Makanchi** 58.88 328 *e*P P 03 26 21.4 0.0
comp=Z,6.9nm,0.9s
MAKZ **Makanchi** 58.88 328 *e*P P 03 26 21.4 0.0
MAKZ pmax pmax
comp=Z,7.0nm,0.9s
NRN **Naryn** 59.24 320 *e*P P 03 26 23.2 -1.0
comp=Z,3.0nm,0.5s
NRN **Naryn** 59.24 320 *e*P P 03 26 23.3 -1.0
NRN pmax pmax
comp=Z,3.0nm,0.5s
PETK **Petropavlovsk-** 60.37 23 P P 03 26 31.9 +0.5
comp=Z,4.2nm,0.5s,baz=213,slow=5.4,SNR=10
PEA1 **Petropavlovsk-** 60.38 23 *e*P P 03 26 31.9 +0.5
AAK **Ala-Archa** 60.82 321 P P 03 26 34.7 -0.2
comp=Z,1.9nm,0.5s,baz=158,slow=2.9,SNR=8.0
AAK **Ala-Archa** 60.82 321 *e*P P 03 26 35.5 +0.6
AAK **Ala-Archa** 60.82 321 *ce*P P 03 26 34.8 -0.1
AAK pmax pmax
comp=Z,14nm,2.5s
RPZ **Rata Peaks** 60.92 142 P P 03 26 35.9 +0.6
comp=Z,15nm,0.7s,baz=211,slow=4.1,SNR=12
RPZ **Rata Peaks** 60.92 142 *e*P P 03 26 36.0 +0.6
RPZ *e*pP pP 03 27 11.5 +0.6
KBL **Kabul** 61.02 310 *e*P P 03 26 35.8 -0.6
comp=Z,22nm,0.6s
KBL **Kabul** 61.02 310 *e*P P 03 26 35.8 -0.6
KBL pmax pmax
comp=Z,22nm,0.6s
ARSB **Arslanbob** 61.14 319 *e*P P 03 26 37.4 +0.3
comp=Z,6.1nm,0.8s
GAR **Garm** 61.90 315 *e*P P 03 26 41.8 -0.3
comp=Z,14nm,0.8s
GAR **Garm** 61.90 315 *e*P P 03 26 41.8 -0.3
GAR pmax pmax
comp=Z,14nm,0.8s
BTK **Batken** 62.01 317 *e*P P 03 26 44.8 +1.9
comp=Z,4.1nm,0.7s
BKZ **Black Stump Fm** 62.37 135 *e*P P 03 26 46.9 +1.7
comp=Z,7.7nm,1.0s
ZAA0 **Zalesovo Array** 62.41 336 *e*P P 03 26 44.0 -1.0
comp=Z,7.8nm,1.0s
ZALV **Zalesovo Beam** 62.41 336 P P 03 26 43.5 -1.6
comp=Z,2.0nm,0.3s,baz=123,slow=5.5,SNR=17
ZALV **Zalesovo Beam** 62.41 336 *e*P P 03 26 43.4 -1.7
ZALV *e*pP pP 03 27 21.6 +0.8
ZALV **Zalesovo Beam** 62.41 336 *e*P P 03 26 43.4 -1.7
ZALV *e**PP pP 03 27 21.6 +0.8
ZAA1 **Zalesovo Array** 62.42 336 *e*P P 03 26 43.5 -1.6
URZ **Urewera** 62.43 134 P P 03 26 46.4 +0.9
comp=Z,2.9nm,0.4s,baz=232,slow=4.8,SNR=5.1
CHGR **Chuyangaron** 62.57 315 *e*P P 03 26 46.0 -0.6
comp=Z,2.2nm,0.6s
KURBB **Kurchatov Arra** 63.06 330 P P 03 26 49.1 -0.3
comp=Z,7.2nm,0.8s,baz=134,slow=6.1,SNR=59
KURK **Kurchatov** 63.07 330 *e*P P 03 26 48.9 -0.6
comp=Z,16nm,0.8s
KURK **Kurchatov** 63.07 330 *ce*P P 03 26 48.2 -1.3
KURK pmax pmax
comp=Z,23nm,1.0s
MA2 **Magadan** 63.33 15 *e*P P 03 26 51.8 +0.8
comp=Z,28nm,0.9s
MA2 **Magadan** 63.33 15 *ce*P P 03 26 51.3 +0.3
MA2 pmax pmax
comp=Z,39nm,1.3s
KK31 **Karatay Array** 63.60 320 *e*P P 03 26 53.0 -0.2
KK31 **Karatay Array** 63.60 320 *e*P P 03 26 53.0 -0.2
KKAR **Karatay Array** 63.60 320 *e*P P 03 26 53.0 -0.1
KKAR **Karatay Array** 63.60 320 *e*P P 03 26 53.1 -0.1
NVS **Novosibirsk** 63.70 336 *e*P P 03 26 47.6 -5.9
NVS *e* 03 27 25.9
SEY **Seymchan** 66.60 14 *ce*P P 03 27 12.5 +0.4
BVAR **Borovoye Array** 68.58 329 P P 03 27 23.5 -1.2
comp=Z,1.3nm,0.4s,baz=124,slow=8.0,SNR=12
BRVK **Borovoye** 68.65 329 *e*P P 03 27 24.6 -0.6
comp=Z,8.9nm,1.1s
BRVK **Borovoye** 68.65 329 *e*P P 03 27 24.6 -0.6
BRVK pmax pmax
comp=Z,9.0nm,1.1s
GEYT **Alibeck** 70.47 311 P P 03 27 35.5 -1.2
comp=Z,1.6nm,0.5s,baz=122,slow=1.9,SNR=3.5
TIXI **Tiksi** 71.73 2 P P 03 27 42.9 -0.7
comp=Z,6.0nm,0.4s,baz=166,slow=6.5,SNR=13
TIXI **Tiksi** 71.73 2 *i* P P 03 27 42.4 -1.2
TIXI pmax pmax
comp=Z,18nm,1.2s
ABKAR **Akbulak array** 72.82 322 *e*P P 03 27 49.9 -0.6
BILL **Bilibino** 74.20 16 *e*P P 03 27 58.0 -0.1
BILL pmax pmax
comp=Z,5.0nm,1.3s
AKTO **Aktyubinsk** 74.40 323 P P 03 27 58.9 -0.8
comp=Z,2.2nm,0.4s,baz=98,slow=6.6,SNR=8.5
ARU **Arti** 76.23 329 *d* *i*P P 03 28 08.6 -1.4
ARU *e*PP pP 03 28 44.8 -1.8
ARU 03 31 01.8
ARU S S 03 37 43.3 +1.5
ARU SS SS 03 42 34.3 -4.5
ARU pmax pmax
comp=Z,16nm,2.0s
VNDA **Vanda** 80.14 172 P P 03 28 31.2 +0.1
comp=Z,2.1nm,0.7s,baz=315,slow=7.0,SNR=12
ZEI **Tsey** 82.08 313 *e*P P 03 28 41.2 -1.2
ZEI pmax pmax
comp=Z,4.0nm,0.6s
SIRT **Sirnak** 82.58 308 *e*P P 03 28 45.6 +0.7
comp=Z,20nm,0.8s
KBZ **Khabaz** 82.92 314 P P 03 28 45.2 -1.2
comp=Z,2.0nm,0.8s,baz=239,slow=9.3,SNR=5.1
KIV **Kislovodsk** 83.10 314 *e*P P 03 28 44.5 -3.0
KIV pmax pmax
comp=Z,5.0nm,1.0s
PRGR **Permogore** 84.11 332 *e*P P 03 28 49.9 -2.1
PRGR pmax pmax
comp=Z,8.0nm,0.5s
VSR **Storozhevoye** 86.22 321 *e*P P 03 29 00.5 -2.3
VSR pmax pmax
comp=Z,10.0nm,0.6s
LPSR **Galich'ya Gora** 86.48 323 *e*P P 03 29 02.2 -1.8
LPSR pmax pmax
comp=Z,10.0nm,0.7s
KDAK **Kodiak Island** 87.09 32 *i* P P 03 29 07.8 +0.9
IM3 **Indian Mountai** 87.33 24 *e*P P 03 29 08.0 +0.1
SYO **Syowa Base** 87.54 201⇑*e*P P 03 29 09.0 +0.2
SYO **Syowa Base** 87.54 201⇑*e*PcP PcP 03 29 12.8 +2.2
OBN **Obninsk** 88.04 325 *e*P P 03 29 12.4 +0.9
OBN pmax pmax
comp=Z,3.0nm,1.0s
MLY **Manley** 88.50 25 *e*P P 03 29 14.0 +0.5
comp=Z,9.4nm,1.0s
MCK **McKinley** 89.22 26 *e*P P 03 29 16.9 0.0
comp=Z,6.9nm,0.9s
RND **Reindeer** 89.25 27 *e*P P 03 29 16.5 -0.6
comp=Z,10nm,0.8s
RND **Reindeer** 89.25 27 *e*P P 03 29 16.5 -0.6
RND pmax pmax
comp=Z,11nm,0.8s
ILAR **Eielson Array** 90.13 25 P P 03 29 19.6 -1.5
comp=Z,1.2nm,0.6s,baz=238,slow=5.3,SNR=30
ILB **Eielson Array** 90.13 25 *e*P P 03 29 19.7 -1.4
AKASG **Malin Array Be** 92.49 321 P P 03 29 29.8 -2.5
comp=Z,0.4nm,0.5s,baz=73,slow=4.7,SNR=4.6
AKBB **Malin Array Si** 92.49 321 *e*P P 03 29 29.8 -2.5
comp=Z,4.1nm,1.3s
AKBB **Malin Array Si** 92.49 321 *e*P P 03 29 29.8 -2.5
AKBB pmax pmax
comp=Z,4.0nm,1.3s
ARA0 **ARCESS Array S** 92.73 340 *e*P P 03 29 30.9 -2.1
ARCES **ARCESS Array B** 92.73 340 P P 03 29 30.9 -2.1
comp=Z,5.0nm,0.9s,baz=88,slow=4.3,SNR=14
FIA0 **FINESS Array S** 93.42 331 *e*P P 03 29 33.8 -2.5
FIA0 **FINESS Array S** 93.42 331 *e*P P 03 29 33.8 -2.5
FINES **FINESS Array B** 93.42 331 P P 03 29 33.8 -2.5
comp=Z,2.6nm,0.8s,baz=78,slow=4.8,SNR=9.2
DAWY **Dawson** 93.42 26 *e*P P 03 29 37.2 +0.8
comp=Z,6.0nm,0.8s
SPITS **Spitsbergen Ar** 93.49 349 P P 03 29 34.6 -1.8
comp=Z,7.3nm,0.5s,baz=86,slow=13,SNR=50
HYT **Haines Junctio** 94.72 29 *e*P P 03 29 43.8 +1.3
comp=Z,11nm,0.7s
INK **Inuvik** 95.06 21 P P 03 29 42.6 -1.0
comp=Z,2.7nm,0.6s,baz=309,slow=3.7,SNR=34
BUR04 **Bucovina Ar. S** 95.35 318 *e*P P 03 29 44.4 -1.3
WHY **Whitehorse** 96.02 29 *e*P P 03 29 49.7 +1.3
comp=Z,14nm,0.6s
NVL **N'lazarevskaya** 96.78 198 *e*P P 03 29 52.1 +0.6
NVL pmax pmax
comp=Z,4.0nm,0.6s

HFS	**Hagfors**	**99.62**	**331**	P	**Pdif**	**03 30 02.2**	**-2.2**
	comp=Z,1.6nm,0.5s,baz=130,slow=4.4,SNR=12						
NB200	**NORSAR Array S**	**100.50**	**333**	*e*Pdif	**Pdif**	**03 30 05.7**	**-2.8**
NOA	**NORSAR Array B**	**100.50**	**333**	P	**Pdif**	**03 30 05.7**	**-2.8**
	comp=Z,0.6nm,0.7s,baz=74,slow=4.5,SNR=2.8						
YKA	**Yellowknife Ar**	**104.49**	**24**	Pdiff	**Pdif**	**03 30 25.8**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=298,slow=4.5,SNR=8.6						
YKA				PKiKP	**PKiKP**	**03 34 40.8**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=306,slow=2.1,SNR=7.1						
YKB5	**Yellowknife Ar**	**104.49**	**24**	*e*Pdif	**Pdif**	**03 30 25.8**	**-0.2**
YKB5				*e*PKiKP	**PKiKP**	**03 34 41.2**	**-0.1**
NV01	**Mina Array Sit**	**112.21**	**48**	*e*PKiKP	**PKiKP**	**03 34 57.1**	**+0.3**
NVAR	**Mina Array Bea**	**112.21**	**48**	PKiKP	**PKiKP**	**03 34 57.1**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=287,slow=1.7,SNR=7.4						
REDW	**Red Top Meadow**	**115.55**	**41**	*e*PKPdf	**PKPdf**	**03 35 04.4**	**+1.3**
DUG	**Dugway, Tooele**	**115.55**	**45**	*e*PKPdf	**PKPdf**	**03 35 04.6**	**+1.5**
DUG	**Dugway, Tooele**	**115.55**	**45**	*e*PKIKP	**PKPdf**	**03 35 04.6**	**+1.5**
PD31	**Pinedale Array**	**116.66**	**41**	*e*PKPdf	**PKPdf**	**03 35 05.2**	**-0.1**
PD31				*e*PKKPbc	**PKKPab**	**03 45 37.2**	**-0.7**
PDAR	**Pinedale Array**	**116.66**	**41**	PKP	**PKPdf**	**03 35 05.2**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=75,slow=1.4,SNR=12						
PDAR				PKKPab	**PKKPab**	**03 45 37.2**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=104,slow=6.3,SNR=4.3						
PDAR	**Pinedale Array**	**116.66**	**41**	*e*PKPdf	**PKiKP**	**03 35 05.7**	**+0.5**
MSU	**Marysvale**	**116.67**	**46**	*e*PKPdf	**PKiKP**	**03 35 07.8**	**+2.4**
MSU	**Marysvale**	**116.67**	**46**	*e*PKIKP	**PKiKP**	**03 35 07.8**	**+2.4**
LAO	**LASA Array**	**116.79**	**36**	*e*PKPdf	**PKiKP**	**03 35 06.7**	**+1.5**
U15A	**North Rim**	**117.39**	**48**	*e*PKPdf	**PKiKP**	**03 35 09.0**	**+2.1**
O20A	**White River Ci**	**118.74**	**43**	*e*PKPdf	**PKPdf**	**03 35 08.0**	**-1.3**
PV14	**Lion Creek, Pa**	**118.98**	**45**	*e*PKPdf	**PKiKP**	**03 35 11.3**	**+1.4**
PV13	**Radium Mtn., P**	**119.22**	**45**	*e*PKPdf	**PKiKP**	**03 35 11.7**	**+1.3**
RSSD	**Black Hills**	**119.47**	**37**	*e*PKPdf	**PKiKP**	**03 35 10.8**	**+0.1**
RSSD	**Black Hills**	**119.47**	**37**	*e*PKIKP	**PKiKP**	**03 35 10.8**	**+0.1**
ULM	**Lac du Bonnet**	**120.07**	**28**	PKP	**PKPdf**	**03 35 10.4**	**-0.8**
	comp=Z,5.1nm,0.7s,baz=144,slow=0.6,SNR=16						
ULM	**Lac du Bonnet**	**120.07**	**28**	*e*PKPdf	**PKPdf**	**03 35 10.9**	**-0.4**
ULM	**Lac du Bonnet**	**120.07**	**28**	*e*PKIKP	**PKPdf**	**03 35 10.9**	**-0.4**
TOA0	**Torodi Ar. Sit**	**120.45**	**285**	*e*PKPdf	**PKPdf**	**03 35 10.8**	**-2.2**
TOA0				*e*PKPdf	**PKiKP**	**03 35 12.2**	**-0.9**
TORD	**Torodi Ar. Bea**	**120.45**	**285**	PKP	**PKPdf**	**03 35 11.4**	**-1.5**
	comp=Z,3.8nm,0.6s,baz=61,slow=1.7,SNR=50						
TOA1	**Torodi Ar. Sit**	**120.45**	**285**	*e*PKPdf	**PKPdf**	**03 35 11.4**	**-1.5**
ISCO	**Idaho Springs**	**120.68**	**42**	*e*PKPdf	**PKiKP**	**03 35 14.2**	**+0.9**
ISCO	**Idaho Springs**	**120.68**	**42**	*e*PKIKP	**PKiKP**	**03 35 14.2**	**+0.9**
ANMO	**Albuquerque**	**122.33**	**48**	PKP	**PKiKP**	**03 35 17.8**	**+1.3**
	comp=Z,3.0nm,0.6s,baz=208,slow=3.3,SNR=16						
ANMO	**Albuquerque**	**122.33**	**48**	*e*PKPdf	**PKiKP**	**03 35 18.0**	**+1.4**
ANMO	**Albuquerque**	**122.33**	**48**	*e*PKIKP	**PKiKP**	**03 35 18.0**	**+1.4**
EYMN	**Ely**	**123.73**	**27**	*e*PKPdf	**PKPdf**	**03 35 18.5**	**+0.1**
ECSD	**EROS Data Cent**	**124.02**	**34**	*e*PKPdf	**PKPdf**	**03 35 19.0**	**-0.1**
MNTX	**Cornudas Mount**	**124.53**	**51**	*e*PKPdf	**PKiKP**	**03 35 21.9**	**+1.2**
E38A	**The Farm, Brul**	**124.68**	**28**	*e*PKPdf	**PKiKP**	**03 35 20.6**	**0.0**
SCHQ	**Schefferville**	**124.85**	**7**	PKP	**PKPdf**	**03 35 20.5**	**+0.1**
	comp=Z,4.1nm,0.6s,baz=334,slow=2.8,SNR=9.6						
MSTX	**Muleshoe**	**125.48**	**47**	*e*PKPdf	**PKiKP**	**03 35 23.7**	**+1.0**
D41A	**Chassel**	**125.71**	**26**	*e*PKPdf	**PKiKP**	**03 35 23.1**	**+0.5**
G40A	**Rib Lake**	**126.30**	**29**	*e*PKPdf	**PKPdf**	**03 35 23.6**	**+0.2**
F41A	**Three Lakes**	**126.47**	**28**	*e*PKPdf	**PKiKP**	**03 35 24.5**	**+0.3**
I39A	**Houston**	**126.66**	**31**	*e*PKPdf	**PKPdf**	**03 35 24.2**	**+0.1**
TX31	**Lajitas Ar. Si**	**126.86**	**53**	*e*PKPdf	**PKiKP**	**03 35 26.4**	**+0.9**
TX31				*e*PKPdf	**PKPdf**	**03 35 26.8**	**+1.7**
LTX	**Lajitas**	**126.86**	**53**	*e*PKPdf	**PKiKP**	**03 35 25.9**	**+0.4**
LTX	**Lajitas**	**126.86**	**53**	*e*PKIKP	**PKiKP**	**03 35 26.0**	**+0.4**
TXAR	**Lajitas Array**	**126.86**	**53**	PKP	**PKiKP**	**03 35 25.9**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=201,slow=1.2,SNR=18						
TXAR	**Lajitas Array**	**126.86**	**53**	PKIKP	**PKiKP**	**03 35 26.0**	**+0.4**
KSU1	**Kansas State U**	**126.90**	**38**	*e*PKPdf	**PKiKP**	**03 35 25.9**	**+0.6**
KIC	**Kosan Boka**	**127.50**	**278**	*e*PKIKP	**PKPdf**	**03 35 26.6**	**0.0**
	comp=Z,7.9nm,0.6s						
DBIC	**Dimbokro**	**127.59**	**278**	PKP	**PKPdf**	**03 35 26.1**	**-0.6**
	comp=Z,3.1nm,0.5s,baz=71,slow=1.9,SNR=10.0						
TIC	**Toumodi**	**127.76**	**278**	*e*PKIKP	**PKPdf**	**03 35 27.0**	**-0.1**
LIC	**Lamto**	**127.80**	**278**	*e*PKIKP	**PKPdf**	**03 35 27.1**	**0.0**
	comp=Z,37nm,1.2s						
WMOK	**Wichita Mounta**	**127.95**	**44**	*e*PKPdf	**PKiKP**	**03 35 28.1**	**+0.6**
JFWS	**Jewell Farm**	**127.99**	**31**	*e*PKPdf	**PKPdf**	**03 35 26.9**	**+0.3**
JFWS	**Jewell Farm**	**127.99**	**31**	*e*PKIKP	**PKPdf**	**03 35 27.0**	**+0.3**
JCT	**Junction City**	**129.35**	**49**	*e*PKPdf	**PKPdf**	**03 35 29.5**	**-0.2**
JCT	**Junction City**	**129.35**	**49**	*e*PKIKP	**PKPdf**	**03 35 29.5**	**-0.2**
CCM	**Cathedral Cave**	**130.81**	**36**	*e*PKPdf	**PKiKP**	**03 35 33.4**	**+0.3**
CCM	**Cathedral Cave**	**130.81**	**36**	*e*PKIKP	**PKiKP**	**03 35 33.4**	**+0.3**
SADO	**Sadowa**	**131.37**	**21**	PKP	**PKPdf**	**03 35 32.6**	**-0.4**
	comp=Z,4.7nm,0.6s,baz=305,slow=2.0,SNR=8.0						
T42A	**Van Buren**	**131.58**	**37**	*e*PKPdf	**PKiKP**	**03 35 35.0**	**+0.3**
MIAR	**Mount Ida**	**131.59**	**41**	*e*PKPdf	**PKiKP**	**03 35 35.1**	**+0.3**
MIAR	**Mount Ida**	**131.59**	**41**	*e*PKIKP	**PKiKP**	**03 35 35.1**	**+0.3**
OLIL	**Olney**	**132.12**	**33**	*e*PKPdf	**PKiKP**	**03 35 35.4**	**-0.3**
ACSO	**Alum Creek Sta**	**133.57**	**28**	*e*PKPdf	**PKiKP**	**03 35 38.7**	**+0.1**
M54A	**Oil Creek Stat**	**133.96**	**24**	*e*PKPdf	**PKPdf**	**03 35 38.2**	**+0.2**
APG	**El Apazote**	**143.07**	**24**	PKP	PKPbc	03 35 54.7	-0.1
	comp=Z,17nm,0.8s,baz=281,slow=14,SNR=8.6						
SDV	**Santo Domingo**	**163.84**	**57**	PKP	**PKPdf**	**03 36 24.5**	**-0.3**
	comp=Z,11nm,0.9s,baz=252,slow=1.3,SNR=6.4						
SDV				PKPab	**sPKPdf**	**03 37 19.6**	**+0.4**
	comp=Z,6.2nm,0.7s,baz=360,slow=2.3,SNR=5.2						

*LDG **29** 03:19:38.6, 44.2ON×10.3E, h30km*
*STR **29** 03:19:53.0±0.8, 45.3N×±, h10km, M2.6/4, MLv2.6/4*
ISC 29 03:19:51.7±1.4, 44.73N±0.04×8.65E±0.05, h15km±11km, n30, σ1°40/44, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBF	**Sospel**	**1.23**	**226**	*e*P	**Pb**	**03 20 14.4**	**-0.2**
SBF				*e*Sn	**Sg**	**03 20 35.7**	**+4.3**
	27nm,0.3s						
ISO	**Isola**	**1.27**	**245**	Pg	**Pn**	**03 20 14.9**	**0.0**
ISO				Sn	**Sb**	**03 20 31.3**	**-0.1**
ESCA	**l'Escarene**	**1.28**	**226**	Pn	**Pg**	**03 20 15.7**	**-0.7**
ESCA				Sn	**Sg**	**03 20 33.5**	**+0.4**
SURF	**Saint Ours**	**1.34**	**260**	Pg	**Pb**	**03 20 16.3**	**-0.3**
SURF				Sn	**Sb**	**03 20 33.8**	**+0.3**
MBDF	**Montbardon**	**1.34**	**271**	*e*Pn	**Pg**	**03 20 17.2**	**-0.3**
MBDF				*e*Sn	Sg	03 20 47.6	+13
	5.8nm,0.5s						
OGAG	**Argentiere**	**1.53**	**261**	Pn	**Pn**	**03 20 17.6**	**-0.9**
LPG	**La Plagne**	**1.55**	**300**	*e*Pn	**Pg**	**03 20 21.3**	**-0.2**
LPG				*e*Sn	Sg	03 20 53.7	+12
	2.6nm,0.4s						
LPL	**La Plagne**	**1.57**	**301**	*e*Pn	**Pg**	**03 20 21.8**	**-0.1**
LPL				*e*Sn	Sg	03 20 54.3	+12
	3.8nm,0.4s						
CALF	**Calern**	**1.58**	**233**	P	**Pn**	**03 20 16.4**	**-2.9**
CALF				Pn	**Pb**	**03 20 20.0**	**-0.6**
CALF				Pg	Pg	03 20 21.0	-1.0
CALF				Sn	**Sb**	**03 20 40.8**	**+0.4**
RSL	**Roselend**	**1.73**	**305**	Pn	**Pn**	**03 20 19.7**	**-1.5**
RSL				Pg	**Pb**	**03 20 23.4**	**+0.3**
FRF	**La Foret Royal**	**1.86**	**232**	*e*Pn	**Pn**	**03 20 22.3**	**-0.6**
FRF				*e*Sn	**Sg**	**03 20 50.7**	**-0.7**
	4.9nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.98**	**277**	*e*Pn	**Pb**	**03 20 26.2**	**-1.3**
ORIF	**Oris-en-Rattie**	**1.98**	**277**	Pn	**Pn**	**03 20 23.0**	**-1.8**
ORIF				Pg	**Pb**	**03 20 26.7**	**-0.8**
ORIF				Sn	**Sn**	**03 20 49.4**	**0.0**
ORIF				Sg	**Sb**	**03 20 53.4**	**+1.4**
LMR	**La Mourre**	**2.08**	**229**	*e*Pn	**Pn**	**03 20 25.3**	**-0.7**
LMR				*e*Sn	**Sb**	**03 20 54.5**	**-0.2**
	7.4nm,0.3s						
SMRF	**Simiane la Rot**	**2.33**	**252**	*e*P	**Pb**	**03 20 31.5**	**-1.9**
SMRF				*e*Sn	**Sg**	**03 21 06.4**	**-0.2**
	2.7nm,0.3s						
CABF	**La Chapelle**	**2.61**	**317**	*e*Pn	**Pn**	**03 20 33.2**	**-0.1**
FETA	**Feichten**	**2.71**	**32**	Pn	**Pn**	**03 20 35.7**	**+0.8**
	0.3nm,0.2s						
VIVF	**Saint-Julien-l**	**2.84**	**274**	*e*Pn	**Pn**	**03 20 38.0**	**+1.6**
SQTA	**Sankt Quirin**	**3.07**	**35**	*e*Pn	**Pn**	**03 20 39.2**	**-0.4**
	0.9nm,0.3s						
MOTA	**Moosalm**	**3.13**	**32**	*e*Pn	**Pn**	**03 20 40.4**	**-0.1**
	0.3nm,0.2s						
HINF	**Hinteralfeld**	**3.33**	**339**	*e*Pn	**Pn**	**03 20 41.4**	**-1.9**
ABTA	**Abfaltersbach**	**3.37**	**52**	Pn	**Pn**	**03 20 43.4**	**-0.5**
	0.2nm,0.2s						
LASF	**Ste Croix**	**3.50**	**261**	*e*P	**Pn**	**03 20 49.3**	**+3.8**
HAU	**Haudompre**	**3.65**	**335**	*e*Pn	**Pn**	**03 20 45.9**	**-1.7**
CDF	**Champ du Feu**	**3.81**	**346**	*e*P	**Pn**	**03 20 48.0**	**-1.8**
CDF				*e*Sn	**Sn**	**03 21 36.5**	**+2.1**
	0.7nm,0.3s						
SMF	**Signal de Mont**	**3.88**	**301**	*e*Pn	**Pn**	**03 20 49.8**	**-0.9**
LOR	**Lormes**	**4.20**	**309**	*e*Pn	**Pn**	**03 20 55.1**	**0.0**
AVF	**Avril sur Loir**	**4.25**	**301**	*e*Pn	**Pn**	**03 20 55.6**	**-0.1**
SSF	**Saint Saulge**	**4.29**	**305**	*e*Pn	**Pn**	**03 20 55.5**	**-0.8**
BGF	**Bois d'Agland**	**4.47**	**296**	*e*Pn	**Pn**	**03 20 58.7**	**-0.1**

*ISCJB **29** 03:31:22.8±0.3, 15.50S±0.03×71.92W±0.05, h132km, mb4.2/11, Error ellipse: s-maj=7.5km s-min=3.8km az=157.7*
*NEIC **29** 03:31:22.6±0.8, 15.40S×71.98W, h116km±10km, mb4.2/11, Error ellipse: s-maj=13.1km s-min=8.7km az=78.0*
*IDC **29** 03:31:22.3±1.8, 15.34S×71.95W, h108km±16km, mb3.6/5, mb1 3.9/11, mb1mx3.6/46, mbtmp4.2/11, Error ellipse: s-maj=20.3km s-min=14.6km az=28.0*
*VAO **29** 03:31:26.1±0.5, 15.43S×71.69W, h136km, mb4.3*
ISC 29 03:31:23.7±0.4, 15.53S±0.04×72.04W±0.06, h132km, n74, σ2°13/87, mb4.0/11, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.83**	**102**	P	**Pn**	**03 32 21.2**	**-0.7**
	32nm,0.3s,baz=285,slow=9.7,SNR=623						
LPAZ				S	**Sn**	**03 33 04.8**	**-2.0**
	3.7nm,0.3s,baz=200,slow=22,SNR=6.3						
LPAZ	**La Paz**	**3.83**	**102**	*e*Pn	**Pn**	**03 32 22.6**	**+0.7**
LPAZ				*e*Sn	**Sn**	**03 33 06.4**	**-0.4**
MNMC	**Minye Minye**	**4.28**	**147**	*e*Pn	**Pn**	**03 32 26.8**	**-0.6**
MNMC				*e*Sn	**Sn**	**03 33 15.8**	**-1.1**
PB11	**IPOC Station P**	**4.79**	**152**	*e*Pn	**Pn**	**03 32 33.5**	**-0.6**
PB11				*e*Sn	**Sn**	**03 33 27.1**	**-1.8**
NNA	**Nana**	**5.85**	**306**	P	**Pn**	**03 32 46.5**	**-1.7**
	12nm,0.3s,baz=120,slow=9.8,SNR=18						
NNA				S	**Sn**	**03 33 49.1**	**-5.1**
	24nm,0.3s,baz=36,slow=24,SNR=22						
NNA	**Nana**	**5.85**	**306**	*e*Pn	**Pn**	**03 32 47.4**	**-0.8**
NNA				*e*Sn	**Sn**	**03 33 49.8**	**-4.5**
PB01	**IPOC Station P**	**6.00**	**157**	*e*Pn	**Pn**	**03 32 49.6**	**-0.7**
PB01				*e*Sn	**Sn**	**03 33 54.0**	**-3.9**
PB04	**IPOC Station P**	**7.00**	**166**	*e*Pn	**Pn**	**03 33 03.1**	**-0.8**
PB04				*e*Sn	**Sn**	**03 34 19.5**	**-2.8**
LVC	**Limon Verde**	**7.64**	**158**	P	**Pn**	**03 33 12.7**	**+0.1**
	18nm,0.3s,baz=26,slow=6.8,SNR=262						
LVC				S	**Sn**	**03 34 37.0**	**-0.9**
	6.9nm,0.3s,baz=163,slow=18,SNR=6.9						
LVC	**Limon Verde**	**7.64**	**158**	*e*Pn	**Pn**	**03 33 12.6**	**-0.1**
LVC				*e*Sn	**Sn**	**03 34 33.6**	**-4.3**
PB10	**IPOC Station P**	**8.07**	**170**	*e*Pn	**Pn**	**03 33 16.3**	**-1.8**
PB10				*e*Sn	**Sn**	**03 34 43.4**	**-4.4**
GO02	**Mina Guanaco**	**9.86**	**167**	*e*Pn	**Pn**	**03 33 41.5**	**-0.8**
GO02				*e*Sn	**Sn**	**03 35 34.4**	**+1.9**
SIV	**San Ignacio**	**10.56**	**94**	P	**Pn**	**03 33 47.9**	**-3.8**
	1.7nm,0.3s,baz=287,slow=10.0,SNR=41						
LCO	**Las Campanas**	**13.48**	**175**	*e*Pn	**Pn**	**03 34 29.7**	**-0.3**
GO04	**Tololo Observa**	**14.62**	**176**	*e*Pn	**P**	**03 34 46.8**	**-0.4**
AQDB	**Aquidauana**	**16.30**	**110**	*e*P	**Pn**	**03 35 03.7**	**-1.3**
OTAV	**Otavalo**	**16.90**	**337**	*e*P	**Pn**	**03 35 14.2**	**+1.3**
	4.9nm,0.9s						
OTAV	**Otavalo**	**16.90**	**337**	*e*P	**Pn**	**03 35 14.6**	**+1.7**
CMBC	**Cumbal**	**17.33**	**340**	*e*P	**Pn**	**03 35 19.6**	**+1.5**
CMBC	**Cumbal**	**17.33**	**340**	*e*P	**Pn**	**03 35 19.6**	**+1.5**
FLOC	**Florencia**	**17.37**	**348**	*e*P	**P**	**03 35 17.0**	**-0.5**
FLOC	**Florencia**	**17.37**	**348**	*e*P	**P**	**03 35 17.0**	**-0.5**
ROC1	**El Roble**	**17.40**	**177**	*e*P	**Pn**	**03 35 19.0**	**+0.4**
	16nm,0.9s						
CPUP	**Villa Florida**	**17.43**	**130**	P	**P**	**03 35 17.9**	**-0.1**
	0.4nm,0.3s,baz=309,slow=10,SNR=9.0						
CPUP	**Villa Florida**	**17.43**	**130**	*e*P	**Pn**	**03 35 19.1**	**+0.5**
	3.2nm,1.0s						
CPUP	**Villa Florida**	**17.43**	**130**	*e*P	**Pn**	**03 35 18.3**	**-0.4**
PEL	**Peldehue**	**17.58**	**176**	*e*P	**Pn**	**03 35 24.5**	**+3.9**
	21nm,1.0s						
CRUC	**La Cruz**	**17.66**	**344**	*e*P	**Pn**	**03 35 23.0**	**+1.0**
CRUC	**La Cruz**	**17.66**	**344**	*e*P	**Pn**	**03 35 23.0**	**+1.0**
SOTA	**Rioblanco**	**18.12**	**345**	*e*P	**Pn**	**03 35 28.9**	**+1.4**
SOTA	**Rioblanco**	**18.12**	**345**	*e*P	**Pn**	**03 35 28.9**	**+1.4**
PTGA	**Pitinga**	**18.92**	**40**	P	**P**	**03 35 31.3**	**-3.1**
	1.0nm,0.3s,baz=199,slow=12,SNR=14						
PTGA	**Pitinga**	**18.92**	**40**	*e*P	**P**	**03 35 31.6**	**-2.8**
	12nm,1.3s						
GO05	**Huala**	**19.40**	**180**	*e*P	**Pn**	**03 35 40.7**	**-1.3**
	11nm,1.2s						
PLMC	**San Jos del P**	**20.73**	**348**	*e*P	**P**	**03 35 54.2**	**+0.2**
PLMC	**San Jos del P**	**20.73**	**348**	*e*P	**P**	**03 35 54.2**	**+0.2**
PTGB	**Pitanga**	**20.84**	**119**	*e*P	**P**	**03 35 54.8**	**-0.4**
ITRB	**Iturama**	**21.07**	**105**	*e*P	**P**	**03 35 56.5**	**-1.1**
ITAB	**Concordia**	**21.86**	**125**	*e*P	**P**	**03 36 05.6**	**-0.3**
PTBC	**PUERTO BERRIO,**	**22.05**	**354**	*e*P	**P**	**03 36 04.2**	**-3.8**
PTBC	**PUERTO BERRIO,**	**22.05**	**354**	*e*P	**P**	**03 36 04.2**	**-3.8**
SOLC	**Bahia Solano**	**22.26**	**346**	*e*P	**P**	**03 36 11.5**	**+1.5**
SOLC	**Bahia Solano**	**22.26**	**346**	*e*P	**P**	**03 36 11.5**	**+1.5**
FRTB	**Fartura**	**22.55**	**114**	*e*P	**P**	**03 36 12.8**	**-0.1**
CPSB	**Cacapava Do Su**	**22.59**	**134**	*e*P	**P**	**03 36 11.6**	**-1.6**
IPMB	**Ipameri, GO**	**22.94**	**99**	*e*P	**P**	**03 36 14.3**	**-2.4**
BB19B	**Bebedouro**	**22.98**	**107**	*e*P	**P**	**03 36 15.9**	**-1.2**
BDFB	**Brasilia**	**23.14**	**94**	P	**P**	**03 36 15.6**	**-3.1**
	1.5nm,0.4s,baz=273,slow=10,SNR=4.9						
BDFB	**Brasilia**	**23.14**	**94**	*e*P	**P**	**03 36 16.2**	**-2.5**
	7.3nm,1.2s						
PLTB	**Pedras Altas**	**23.32**	**137**	*e*P	**P**	**03 36 21.6**	**+1.6**
CNLB	**Canela**	**23.86**	**129**	*e*P	**P**	**03 36 26.6**	**+1.6**
GO06	**Curarrehue**	**23.97**	**179**	*e*P	**P**	**03 36 29.2**	**+3.1**
	12nm,0.8s						
TRQA	**Tornquist**	**24.14**	**160**	*e*P	**P**	**03 36 30.1**	**+2.7**
PLCA	**Paso Flores**	**25.15**	**177**	P	**P**	**03 36 38.8**	**+2.1**
	4.1nm,0.8s,baz=23,slow=9.2,SNR=15						
PLCA	**Paso Flores**	**25.15**	**177**	*e*P	**P**	**03 36 38.7**	**+2.1**
	4.9nm,0.9s						
PLCA	**Paso Flores**	**25.15**	**177**	*e*P	**P**	**03 36 38.8**	**+2.1**
JANB	**Januaria**	**26.74**	**93**	*e*P	**P**	**03 36 49.8**	**-1.4**
ALF01	**Guarapari-ES**	**30.16**	**104**	*e*P	**P**	**03 37 20.1**	**-1.4**
RIB01	**Linhares ES**	**30.40**	**102**	*e*P	**P**	**03 37 23.5**	**-0.1**
CDVI	**St. Croix**	**33.83**	**13**	*e*P	**P**	**03 37 52.8**	**-0.7**
	57nm,0.9s						
RCBR	**Riachuelo**	**36.73**	**79**	*e*P	**P**	**03 38 17.0**	**-1.6**
	33nm,1.3s						
RCBR	**Riachuelo**	**36.73**	**79**	*e*P	**P**	**03 38 17.2**	**-1.4**
UNM	**Universidad Na**	**43.74**	**321**	*e*P	**P**	**03 39 15.9**	**-0.5**
	96nm,0.6s						
PMSA	**Palmer Station**	**49.50**	**176**	*e*P	**P**	**03 40 02.0**	**+1.6**
TXAR	**Lajitas Array**	**54.05**	**326**	P	**P**	**03 40 35.2**	**+0.4**
	0.1nm,0.4s,baz=154,slow=6.7,SNR=6.2						
DBIC	**Dimbokro**	**70.08**	**77**	P	**P**	**03 42 22.6**	**+0.5**
	1.6nm,0.7s,baz=254,slow=3.4,SNR=8.2						
DBIC	**Dimbokro**	**70.08**	**77**	*e*P	**P**	**03 42 23.6**	**+1.5**
WVOR	**Wild Horse Val**	**71.85**	**326**	*e*P	**P**	**03 42 36.6**	**+4.3**
	5.3nm,0.5s						
TOA0	**Torodi Ar. Sit**	**78.29**	**73**	*e*P	**P**	**03 43 10.9**	**+1.3**
TORD	**Torodi Ar. Bea**	**78.29**	**73**	P	**P**	**03 43 10.7**	**+1.0**
	1.5nm,0.5s,baz=252,slow=5.4,SNR=32						
YKA	**Yellowknife Ar**	**84.61**	**342**	P	**P**	**03 43 41.4**	**-0.4**
	0.3nm,0.6s,baz=134,slow=5.0,SNR=7.2						
KSH	**Kashi**	**143.22**	**43**	PKP	**PKiKP**	**03 50 48.5**	**+2.5**
KSH				pPKP	pPKPdf	03 51 17.8	-1.8
KSH				sPKP		03 51 26.0	
KSH				PP	**PP**	**03 54 00.8**	**+6.5**
KSH				AMB	AMB		
	comp=Z,200nm,6.8s						
SONM	**Songino Array**	**147.76**	**2**	PKPbc	**PKiKP**	**03 50 54.3**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=323,slow=2.2,SNR=2.3						
KSRS	**Korea Array**	**151.90**	**325**	PKPbc	**PKiKP**	**03 51 05.5**	**+1.8**
	comp=Z,0.9nm,1.0s,baz=52,slow=2.1,SNR=4.2						

MEX 29 03:43:32.0±0.5, 16.54N×98.62W, h15km±999km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.49**	**108**	*e*P	Pg	03 43 40.3	-1.5
PNIG				*i* S	Sg	03 43 47.0	-1.4

*NNC **29** 03:50:07.4±7.6, 39.49N×72.40E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=58.6km s-min=20.6km az=11.0*
*KRNET **29** 03:50:09.9±0.1, 39.30N×72.69E, h30km, mb2.5*
ISC 29 03:50:07.7±2.4, 39.4N±0.1×72.66E±0.05, h9km±13km, n7, σ1°49/13, 6C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**0.67**	**278**	*i*P	**Pn**	**03 50 23.4**	**-0.2**
	baz=85						
DRK				⇓*i*S	**Sn**	**03 50 34.2**	**-0.1**
	baz=85						
SFK	**Sufi-Kurgan**	**0.91**	**46**	⇑P	**Pn**	**03 50 27.5**	**+0.7**
	0.8nm,0.2s						
SFK				⇓S	**Sn**	**03 50 41.0**	**+0.9**
	8.0nm,0.4s						
SFK	**Sufi-Kurgan**	**0.91**	**46**	⇓*i*P	**Pn**	**03 50 28.3**	**+1.5**
	baz=41						
SFK				⇓*i*P	**Sn**	**03 50 40.6**	**+0.5**
	baz=41						
BTK	**Batken**	**1.57**	**296**	⇑*i*P	**Pg**	**03 50 38.6**	**+0.8**
	baz=98						
BTK				⇑*i*S	**Sg**	**03 50 59.8**	**+1.7**
	baz=98						
ARSB	**Arslanbob**	**1.95**	**7**	⇑*i*P	**Pg**	**03 50 44.5**	**-0.6**
	baz=6.0						
ARSB				⇑*i*S	**Sb**	**03 51 09.5**	**+1.5**
	baz=6.0						
KK31	**Karatay Array**	**4.05**	**337**	Pg	**Pb**	**03 51 17.3**	**-1.8**
	0.4nm,0.3s,baz=144,slow=11,SNR=8.1						
KK31				⇑Sn	**Sn**	**03 51 56.7**	**-0.6**
	0.2nm,0.3s						
KK31				Lg	Lg	03 52 08.0	
	0.9nm,0.5s,baz=152,slow=26,SNR=4.0						
TKM2	**Tokmak 2**	**4.17**	**31**	⇓Pg	**Pb**	**03 51 18.9**	**-2.5**
	0.2nm,0.3s						
TKM2				⇓Lg	Lg	03 52 23.1	
	2.1nm,0.5s						

KRNET 29 04:00:09.4±0.1, 42.60N×79.60E, h17km, mb2.3, 10C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**0.73**	**354**	⇑*i*P	Pg	04 00 23.4	-0.5
	baz=54						
PDGK				⇑*i*S	Sb	04

ARXS	**Arharly**	**2.18**	**322**	Pg	**Pb**	**04 01 17.1**	**-0.3**
	13nm,0.6s							
ARXS				Lg	Lg	04 01 44.3		
	143nm,0.4s							
ARXS	**Arharly**	**2.18**	**322**	*eP*	**Pb**	**04 01 17.1**	**-0.3**
	13nm,0.6s							
ARXS				*eS*	**Sb**	**04 01 44.3**	**-0.7**
	143nm,0.4s							
IZV	**Izvestkoviy**	**2.34**	**284**	Pg	**Pb**	**04 01 20.3**	**+0.2**
	23nm,0.4s							
IZV				Lg	Lg	04 01 50.0		
	67nm,0.4s							
IZV	**Izvestkoviy**	**2.34**	**284**	*eP*	**Pb**	**04 01 20.4**	**+0.2**
	23nm,0.4s							
IZV				*eS*	**Sb**	**04 01 50.0**	**+0.5**
	67nm,0.4s							
CHKK	**Chushkaly**	**2.40**	**305**	*eP*	**Pb**	**04 01 21.4**	**+0.4**
	6.2nm,0.3s							
CHKK				*eS*	**Sb**	**04 01 51.3**	**+0.3**
	78nm,0.2s							
MTBS	**Maitube**	**2.49**	**285**	*eP*	**Pb**	**04 01 23.0**	**+0.4**
	15nm,0.2s							
MTBS				*eS*	**Sb**	**04 01 54.4**	**+0.6**
	62nm,0.4s							
KTBS	**Karatobe**	**2.52**	**299**	Pg	**Pb**	**04 01 23.1**	**0.0**
KTBS				Lg	Lg	04 01 54.6		
	110nm,0.3s							
KTBS	**Karatobe**	**2.52**	**299**	*eP*	**Pb**	**04 01 23.1**	**0.0**
	3.3nm,0.3s							
KTBS				*eS*	**Sb**	**04 01 54.6**	**0.0**
	111nm,0.3s							
ULHL	**Ulahol**	**2.58**	**265**	⇓*iP*	**Pb**	**04 01 24.0**	**-0.3**
	baz=64							
ULHL				⇓*iS*	**Sb**	**04 01 56.2**	**-0.4**
	baz=64							
ULHL	**Ulahol**	**2.58**	**265**	⇓*iS*	**Pb**	**04 01 24.5**	**+0.2**
	baz=63							
KAPS	**Kapalarasan**	**2.78**	**355**	*eP*	**Pb**	**04 01 26.6**	**-1.0**
	3.8nm,0.2s							
KAPS				*eS*	**Sb**	**04 02 00.5**	**-1.6**
	46nm,0.4s							
NRN	**Naryn**	**2.97**	**250**	⇓*eP*	**Pb**	**04 01 29.4**	**-1.5**
	baz=49							
NRN				⇓*iS*	**Sb**	**04 02 06.3**	**-1.5**
	baz=49							
DGS	**Degeres**	**2.98**	**285**	Pg	**Pb**	**04 01 31.3**	**+0.2**
	9.9nm,0.3s							
DGS				Lg	Lg	04 02 08.8		
	95nm,0.3s							
DGS	**Degeres**	**2.98**	**285**	*eP*	**Pb**	**04 01 31.3**	**+0.2**
	9.9nm,0.3s							
DGS				*eS*	**Sb**	**04 02 08.8**	**+0.8**
	95nm,0.3s							
TKM2	**Tokmak 2**	**3.06**	**279**	⇓Pg	**Pb**	**04 01 34.1**	**+1.7**
	2.2nm,0.5s							
TKM2				⇑Lg	Lg	04 02 11.8		
	14nm,0.4s							
TKM2	**Tokmak 2**	**3.06**	**279**	⇑*iP*	**Pb**	**04 01 30.0**	**-2.4**
	baz=78							
TKM2				⇑*iS*	**Sb**	**04 02 07.1**	**-3.1**
	baz=78							
KZA	**Kyzart**	**3.34**	**264**	⇑*eP*	**Pb**	**04 01 34.3**	**-3.0**
	baz=63							
KZA				⇑*iS*	**Sb**	**04 02 14.8**	**-3.7**
	baz=63							
MK31	**Makanchi Array**	**4.66**	**22**	Pn	**Pn**	**04 01 50.4**	**+2.0**
	0.7nm,0.3s,baz=203,slow=12,SNR=32							
MK31				⇑Lg	Lg	04 03 02.5		
	1.0nm,0.3s,baz=82,slow=12,SNR=2.7							

*KRNET **29** 04:01:17.4±0.1, 39°.26N×71°.93E, h11km, mb3.6*
*NNC **29** 04:01:23.2±6.8, 39°.51N×71°.92E, h0km, mb3.7, mpv3.4,*
Error ellipse: s-maj=49.9km s-min=34.3km az=6.0
ISC 29 04:01:20.1±1.4, **39°.53N**±0°.05×**71°.98E**±0°.04, **h2**km±13km,
n13,σ1§**95**/**27**, **19C-5D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.14**	**249**	⇓*iP*		**Pg**	**04 01 22.0**	**-1.0**
	baz=37							
DRK				⇓*iS*		**Sg**	**04 01 26.2**	**+1.2**
	baz=37							
BTK	**Batken**	**1.03**	**301**	⇑*iP*		**Pg**	**04 01 39.6**	**-0.4**
	baz=13							
BTK				⇑*iS*		**Sb**	**04 01 55.1**	**+0.2**
	baz=13							
SFK	**Sufi-Kurgan**	**1.27**	**67**	⇑*iP*		**Pb**	**04 01 44.1**	**-0.9**
	baz=57							
SFK				⇑*iS*		**Sn**	**04 02 03.3**	**+0.3**
	baz=57							
ARSB	**Arslanbob**	**1.95**	**23**	⇑*iP*		**Pb**	**04 01 56.8**	**+0.3**
	baz=21							
ARSB				⇑*iS*		**Sg**	**04 02 25.1**	**+2.4**
	baz=21							
ARK	**Arkit**	**2.26**	**360**	⇑*iP*		**Pb**	**04 02 00.8**	**-1.0**
	baz=1.0							
ARK				⇑*iS*		**Sg**	**04 02 32.5**	**-0.4**
	baz=1.0							
AML	**Almayashu**	**2.91**	**26**	⇑*iP*		**Pb**	**04 02 10.1**	**-2.8**
	baz=24							
AML				⇑*iS*		**Sb**	**04 02 48.1**	**-1.0**
	baz=24							
ARLS	**Aral**	**2.93**	**37**	⇑*iP*		**Pn**	**04 02 09.5**	**+1.5**
	baz=34							
ARLS				⇑*iS*		**Sb**	**04 02 48.1**	**-1.5**
	baz=34							
MNAS	**Manas**	**2.98**	**8**	Pg		**Pb**	**04 02 12.7**	**-1.3**
	7.5nm,0.3s							
MNAS				Lg		Lg	04 02 53.2	
	39nm,0.5s							
MNAS	**Manas**	**2.98**	**8**	⇓*iP*		**Pn**	**04 02 10.8**	**+2.2**
	baz=8.0							
MNAS				⇓*iS*		**Sb**	**04 02 50.3**	**-0.6**
	baz=8.0							
UCH	**Uchtor**	**3.31**	**35**	⇑*iP*		**Pn**	**04 02 15.1**	**+1.7**
	baz=33							
UCH				⇑*iS*		**Sb**	**04 02 57.2**	**-3.5**
	baz=33							
EKS2	**Erkin-Say**	**3.41**	**23**	⇑*iP*		**Pn**	**04 02 17.0**	**+2.5**
	baz=22							
EKS2				⇑*iS*		**Sb**	**04 03 00.1**	**-3.2**
	baz=22							
AAK	**Ala-Archa**	**3.64**	**31**	⇑Pn		**Pb**	**04 02 23.1**	**-2.2**
	1.8nm,0.3s							
AAK				Pg		**Pg**	**04 02 31.4**	**+1.5**
	7.6nm,0.6s							
AAK				Sn		**Sb**	**04 03 07.9**	**-2.0**
	11nm,0.5s							
AAK				Lg		Lg	04 03 21.0	
	27nm,0.6s							
KK31	**Karatay Array**	**3.73**	**343**	Pn		**Pn**	**04 02 21.4**	**+2.6**
	1.8nm,0.3s,baz=166,slow=12,SNR=62							
KK31				⇓Pg		**Pg**	**04 02 31.3**	**-0.4**
	3.2nm,0.3s,baz=168,slow=21,SNR=29							
KK31				⇑Sn		**Sb**	**04 03 10.2**	**-2.4**
	6.0nm,0.5s,baz=134,slow=23,SNR=4.3							
KK31				⇑Lg		Lg	04 03 23.4	
	3.3nm,0.3s,baz=160,slow=27,SNR=3.5							

*KRNET **29** 04:02:21.6±0.1, 42°.57N×79°.68E, h10km, mb3.3*
*NNC **29** 04:02:21.8±1.9, 42°.58N×79°.68E, h0km, mb3.8, mpv3.5,*
Error ellipse: s-maj=13.1km s-min=6.8km az=153.0
*SOME **29** 04:02:22.1, 42°.57N×79°.67E, h15km*
*ISCJB **29** 04:02:23.4±0.9, 42°.61N±0°.04×79°.72E±0°.05, h10km, Error ellipse: s-maj=7.2km s-min=3.7km az=135.5*
ISC 29 04:02:22.2±1.2, **42°.57N**±0°.05×**79°.68E**±0°.04, **h10**km, **n42**,
σ1§**08**/80, **10C-2D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.61**	**345**	P		**Pb**	**04 02 34.0**	**-1.0**
	46nm,0.1s							
SHLS				S		**Sb**	**04 02 43.0**	**-0.6**
	169nm,0.4s							
SHLS	**Shalkode**	**0.61**	**345**	*eP*		**Pb**	**04 02 34.0**	**-1.0**
	baz=14							
SHLS				*eS*		**Sb**	**04 02 43.1**	**-0.6**
	baz=14							
SHLS	**Shalkode**	**0.61**	**345**	*eP*		**Pb**	**04 02 34.0**	**-1.0**
	46nm,0.1s							
SHLS				*eS*		**Sb**	**04 02 43.0**	**-0.6**
	169nm,0.4s							
UZB	**Uzynbulak**	**0.75**	**320**	P		**Pg**	**04 02 35.9**	**-0.8**
	18nm,0.2s							
UZB				S		**Sg**	**04 02 46.1**	**-0.5**
	27nm,0.3s							
UZB	**Uzynbulak**	**0.75**	**320**	*eP*		**Pg**	**04 02 35.9**	**-0.8**
	baz=20							
UZB				*eS*		**Sg**	**04 02 46.1**	**-0.5**
	baz=20							
UZB	**Uzynbulak**	**0.75**	**320**	*eP*		**Pg**	**04 02 35.9**	**-0.8**
	18nm,0.2s							
UZB				*eS*		**Sg**	**04 02 46.1**	**-0.5**
	27nm,0.3s							
PDGK	**Podgornoye**	**0.77**	**349**	P		**Pg**	**04 02 36.1**	**-0.9**
	1.9nm,0.2s							
PDGK				S		**Sg**	**04 02 46.6**	**-0.5**
	16nm,0.2s							
PDGK	**Podgornoye**	**0.77**	**349**	⇑*iP*		**Pg**	**04 02 36.0**	**-1.1**
	baz=49							
PDGK				⇑*iS*		**Sg**	**04 02 46.4**	**-0.7**
	baz=49							
PRZ	**Przheval'sk**	**0.95**	**265**	⇑*iP*		**Pg**	**04 02 39.7**	**-0.8**
	baz=65							
PRZ				⇑*iS*		**Sg**	**04 02 52.6**	**-0.4**
	baz=65							
KTMS	**Ketmen**	**1.00**	**29**	P		**Pg**	**04 02 40.5**	**-0.9**
	27nm,0.1s							
KTMS				S		**Sg**	**04 02 53.9**	**-0.6**
	14nm,0.2s							
KTMS	**Ketmen**	**1.00**	**29**	*eP*		**Pg**	**04 02 40.6**	**-0.9**
	baz=28							
KTMS				*eS*		**Sg**	**04 02 53.9**	**-0.6**
	baz=28							
KTMS	**Ketmen**	**1.00**	**29**	*eP*		**Pg**	**04 02 40.5**	**-0.9**
	27nm,0.1s							
KTMS				*eS*		**Sg**	**04 02 53.9**	**-0.6**
	14nm,0.2s							
SATY	**Saty**	**1.06**	**298**	*eP*		**Pg**	**04 02 41.7**	**-0.9**
	4.9nm,0.2s							
SATY				*eS*		**Sg**	**04 02 55.6**	**-0.7**
	28nm,0.1s							
DJR	**Jarkent**	**1.76**	**2**	*eP*		**Pb**	**04 02 54.1**	**-0.5**
	1.2nm,0.2s							
DJR				*eS*		**Sg**	**04 03 17.4**	**-1.3**
	10nm,0.3s							
MNBS	**Baschi**	**1.77**	**329**	P		**Pb**	**04 02 54.1**	**-0.7**
	10nm,0.2s							
MNBS				S		**Sb**	**04 03 17.2**	**0.0**
	41nm,0.3s							
MNBS	**Baschi**	**1.77**	**329**	*eP*		**Pb**	**04 02 54.1**	**-0.7**
	baz=29							
MNBS				*eS*		**Sb**	**04 03 17.2**	**0.0**
	baz=29							
MNBS	**Baschi**	**1.77**	**329**	*eP*		**Pb**	**04 02 54.1**	**-0.7**
	10nm,0.2s							
MNBS				*eS*		**Sb**	**04 03 17.2**	**0.0**
	41nm,0.3s							
KDJ	**Kajisay**	**1.91**	**257**	⇑*iP*		**Pb**	**04 02 56.9**	**-0.3**
	baz=57							
KDJ				⇑*iS*		**Sg**	**04 03 21.8**	**-1.7**
	baz=57							
KOTS	**Kotyrbulak**	**2.00**	**290**	P		**Pb**	**04 02 58.0**	**-0.7**
	11nm,0.2s							
KOTS				S		**Sb**	**04 03 23.6**	**-0.2**
	16nm,0.4s							
KOTS	**Kotyrbulak**	**2.00**	**290**	*eP*		**Pb**	**04 02 58.0**	**-0.7**
	baz=90							
KOTS				*eS*		**Sb**	**04 03 23.6**	**-0.2**
	baz=90							
KOTS	**Kotyrbulak**	**2.00**	**290**	*eP*		**Pb**	**04 02 58.0**	**-0.7**
	11nm,0.2s							
KOTS				*eS*		**Sb**	**04 03 23.6**	**-0.2**
	16nm,0.4s							
MDOK	**Medeo**	**2.02**	**288**	*eP*		**Pb**	**04 02 58.2**	**-1.0**
	baz=88							
MDOK				*eS*		**Sb**	**04 03 24.0**	**-0.5**
	baz=88							
MDOK	**Medeo**	**2.02**	**288**	*eP*		**Pb**	**04 02 58.2**	**-1.0**
	7.5nm,0.4s							
MDOK				*eS*		**Sb**	**04 03 24.0**	**-0.5**
	6.3nm,0.5s							
TNSS	**Tian-Shan**	**2.07**	**284**	*eP*		**Pb**	**04 02 59.5**	**-0.5**
	baz=84							
TNSS				*eS*		**Sg**	**04 03 26.7**	**-1.9**
	baz=84							
TNSS	**Tian-Shan**	**2.07**	**284**	*eP*		**Pb**	**04 02 59.5**	**-0.5**
	6.3nm,0.4s							
TNSS				*eS*		**Sg**	**04 03 26.7**	**-1.9**
	7.0nm,0.2s							
ARXS	**Arharly**	**2.13**	**321**	Pg		**Pb**	**04 03 00.5**	**-0.4**
	6.8nm,0.3s							
ARXS				Lg		Lg	04 03 27.7	
	15nm,0.8s							
ARXS	**Arharly**	**2.13**	**321**	*eP*		**Pb**	**04 03 00.5**	**-0.4**
	6.8nm,0.3s							
ARXS				*eS*		**Sb**	**04 03 27.7**	**+0.4**
	15nm,0.8s							
IZV	**Izvestkoviy**	**2.31**	**283**	Pg		**Pb**	**04 03 03.9**	**-0.1**
	9.0nm,0.2s							
IZV				Lg		Lg	04 03 33.8	
	13nm,0.3s							
IZV	**Izvestkoviy**	**2.31**	**283**	*eP*		**Pb**	**04 03 03.9**	**-0.1**
	baz=83							
IZV				*eS*		**Sb**	**04 03 33.8**	**+1.2**
	baz=83							
IZV	**Izvestkoviy**	**2.31**	**283**	*eP*		**Pb**	**04 03 03.9**	**-0.1**
	9.0nm,0.2s							
IZV				*eS*		**Sb**	**04 03 33.8**	**+1.2**
	13nm,0.3s							
MTBS	**Maitube**	**2.46**	**284**	*eP*		**Pb**	**04 03 06.4**	**-0.1**
	baz=84							
MTBS				*eS*		**Sg**	**04 03 38.5**	**-2.6**
	baz=84							
MTBS	**Maitube**	**2.46**	**284**	*eP*		**Pb**	**04 03 06.4**	**-0.1**
	10nm,0.2s							
MTBS				*eS*		**Sg**	**04 03 38.5**	**-2.6**
	12nm,0.4s							
KTBS	**Karatobe**	**2.47**	**298**	Pg		**Pb**	**04 03 06.4**	**-0.4**
	2.7nm,0.1s							
KTBS				Lg		Lg	04 03 38.0	
	9.7nm,0.4s							
KTBS	**Karatobe**	**2.47**	**298**	*eP*		**Pb**	**04 03 06.4**	**-0.4**
	baz=97							
KTBS				*eS*		**Sb**	**04 03 38.1**	**+0.8**
	baz=97							
KTBS	**Karatobe**	**2.47**	**298**	*eP*		**Pb**	**04 03 06.4**	**-0.4**
	2.7nm,0.1s							
KTBS				*eS*		**Sb**	**04 03 38.0**	**+0.8**
	9.7nm,0.4s							
ULHL	**Ulahol**	**2.57**	**264**	⇓*iP*		**Pb**	**04 03 05.8**	**-2.7**
	baz=64							
ULHL				⇓*iS*		**Sb**	**04 03 37.7**	**-2.5**
	baz=64							
KAPS	**Kapalarasan**	**2.72**	**355**	*eP*		**Pb**	**04 03 10.5**	**-0.5**
	1.5nm,0.5s							
KAPS				*eS*		**Sb**	**04 03 45.3**	**+0.8**
	15nm,0.5s							
BOOM	**Boomskoye usch**	**2.77**	**270**	⇑*iP*		**Pn**	**04 03 08.6**	**+1.9**
	baz=70							
BOOM				⇑*iS*		**Sn**	**04 03 42.4**	**+2.1**
	baz=70							
DGS	**Degeres**	**2.95**	**284**	Pg		**Pb**	**04 03 15.1**	**+0.2**
	6.2nm,0.4s							
DGS				Lg		Lg	04 03 52.9	
	17nm,0.7s							
DGS	**Degeres**	**2.95**	**284**	*eP*		**Pb**	**04 03 15.1**	**+0.2**
	baz=85							
DGS				*eS*		**Sb**	**04 03 52.9**	**+1.8**
	baz=85							
DGS	**Degeres**	**2.95**	**284**	*eP*		**Pb**	**04 03 15.1**	**+0.2**
	6.2nm,0.4s							
DGS				*eS*		**Sb**	**04 03 52.9**	**+1.8**
	17nm,0.7s							
TKM2	**Tokmak 2**	**3.03**	**278**	⇑*iP*		**Pn**	**04 03 12.3**	**+1.9**
	baz=78							
TKM2				⇑*iS*		**Sn**	**04 03 48.9**	**+2.1**
	baz=78							

*KRNET **29** 04:04:17.5±0.1, 42°.56N×79°.67E, h9km, mb3.5*
*SOME **29** 04:04:17.8, 42°.53N×79°.67E, h20km*
*NNC **29** 04:04:17.4±1.4, 42°.58N×79°.65E, h0km, mb4.0, mpv3.6,*
Error ellipse: s-maj=9.1km s-min=5.0km az=151.0
*ISCJB **29** 04:04:19.0±0.7, 42°.60N±0°.04×79°.75E±0°.04, h10km, Error ellipse: s-maj=6.1km s-min=3.1km az=140.5*
ISC 29 04:04:17.8±1.1, **42°.55N**±0°.04×**79°.69E**±0°.04, **h10**km, **n56**,
σ1§**27**/104, **21C-7D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.63**	**345**	P		**Pb**	**04 04 30.0**	**-1.0**
	154nm,0.1s							
SHLS				S		**Sb**	**04 04 38.8**	**-1.1**
	1μm,0.2s							
SHLS	**Shalkode**	**0.63**	**345**	*eP*		**Pb**	**04 04 30.0**	**-1.0**
	baz=15							
SHLS				*eS*		**Sb**	**04 04 38.8**	**-1.1**
	baz=15							
SHLS	**Shalkode**	**0.63**	**345**	*eP*		**Pb**	**04 04 30.0**	**-1.0**
	154nm,0.1s							
SHLS				*eS*		**Sb**	**04 04 38.8**	**-1.1**
	1μm,0.2s							
UZB	**Uzynbulak**	**0.77**	**321**	P		**Pg**	**04 04 31.7**	**-1.0**
	103nm,0.2s							
UZB				S		**Sg**	**04 04 41.9**	**-0.9**
	88nm,0.4s							
UZB	**Uzynbulak**	**0.77**	**321**	*eP*		**Pg**	**04 04 31.7**	**-1.0**
	baz=21							
UZB				*eS*		**Sg**	**04 04 41.9**	**-0.9**
	baz=21							
UZB	**Uzynbulak**	**0.77**	**321**	*eP*		**Pg**	**04 04 31.7**	**-1.0**
	103nm,0.2s							
UZB				*eS*		**Sg**	**04 04 41.9**	**-0.9**
	88nm,0.4s							
PDGK	**Podgornoye**	**0.79**	**350**	P		**Pg**	**04 04 32.1**	**-1.0**
	13nm,0.3s							
PDGK				S		**Sg**	**04 04 42.5**	**-1.0**
	66nm,0.2s							
PDGK	**Podgornoye**	**0.79**	**350**	⇑P		**Pg**	**04 04 31.4**	**-1.7**
	7.5nm,0.3s							
PDGK				⇓S		**Sg**	**04 04 42.1**	**-1.4**
	22nm,0.2s							
PDGK	**Podgornoye**	**0.79**	**350**	⇑*iP*		**Pg**	**04 04 32.1**	**-1.0**
	baz=50							
PDGK				⇑*iS*		**Sg**	**04 04 42.4**	**-1.1**
	baz=50							
PRZ	**Przheval'sk**	**0.95**	**267**	⇑*iP*		**Pg**	**04 04 35.4**	**-0.8**
	baz=66							
PRZ				⇑*iS*		**Sg**	**04 04 47.7**	**-0.9**
	baz=66							
KTMS	**Ketmen**	**1.02**	**28**	P		**Pg**	**04 04 36.4**	**-1.0**
	67nm,0.1s							
KTMS				S		**Sg**	**04 04 50.1**	**-0.7**
	57nm,0.3s							
KTMS	**Ketmen**	**1.02**	**28**	*eP*		**Pg**	**04 04 36.4**	**-1.0**
	baz=28							
KTMS				*eS*		**Sg**	**04 04 50.1**	**-0.7**
	baz=28							
KTMS	**Ketmen**	**1.02**	**28**	*eP*		**Pg**	**04 04 36.4**	**-1.0**
	67nm,0.1s							
KTMS				*eS*		**Sg**	**04 04 50.1**	**-0.7**
	57nm,0.3s							
SATY	**Saty**	**1.07**	**299**	*eP*		**Pg**	**04 04 37.0**	**-1.4**
	13nm,0.2s							
SATY				*eS*		**Sg**	**04 04 51.1**	**-1.2**
	130nm,0.2s							
DJR	**Jarkent**	**1.78**	**2**	*eP*		**Pb**	**04 04 49.9**	**-0.8**
	9.8nm,0.1s							
DJR				*eS*		**Sb**	**04 05 13.2**	**+0.1**
	66nm,0.3s							
MNBS	**Baschi**	**1.79**	**329**	P		**Pb**	**04 04 49.8**	**-1.0**
	37nm,0.2s							
MNBS				S		**Sb**	**04 05 12.8**	**-0.6**
MNBS	**Baschi**	**1.79**	**329**	*eP*		**Pb**	**04 04 49.8**	**-1.0**
	baz=29							
MNBS				*eS*		**Sb**	**04 05 12.8**	**-0.6**
	baz=29							
MNBS	**Baschi**	**1.79**	**329**	*eP*		**Pb**	**04 04 49.8**	**-1.0**
	37nm,0.2s							
MNBS				*eS*		**Sb**	**04 05 12.8**	**-0.6**
	130nm,0.4s							
KDJ	**Kajisay**	**1.91**	**258**	⇑*iP*		**Pb**	**04 04 52.8**	**+0.1**
	baz=58							
KDJ				⇑*iS*		**Sg**	**04 05 17.5**	**-1.5**
	baz=58							
KOTS	**Kotyrbulak**	**2.01**	**291**	Pg		**Pb**	**04 04 53.6**	**-0.9**
	28nm,0.2s							
KOTS				Lg		Lg	04 05 19.7	
	80nm,0.5s							
KOTS	**Kotyrbulak**	**2.01**	**291**	*eP*		**Pb**	**04 04 53.6**	**-0.9**
	baz=90							
KOTS				*eS*		**Sb**	**04 05 19.6**	**-0.1**
	baz=90							
KOTS	**Kotyrbulak**	**2.01**	**291**	*eP*		**Pb**	**04 04 53.6**	**-0.9**
	28nm,0.2s							
KOTS				*eS*		**Sb**	**04 05 19.7**	**-0.1**
	80nm,0.5s							
MDOK	**Medeo**	**2.04**	**288**	Pg		**Pb**	**04 04 52.9**	**-2.0**
	6.5nm,0.3s							
MDOK				Lg		Lg	04 05 21.4	
	37nm,0.7s							
MDOK	**Medeo**	**2.04**	**288**	*eP*		**Pb**	**04 04 53.9**	**-1.0**
	baz=88							
MDOK				*eS*		**Sb**	**04 05 20.1**	**-0.3**
	baz=88							
MDOK	**Medeo**	**2.04**	**288**	*eP*		**Pb**	**04 04 53.9**	**-1.0**
	17nm,0.3s							
MDOK				*eS*		**Sb**	**04 05 20.1**	**-0.3**
	34nm,0.4s							
TNSS	**Tian-Shan**	**2.08**	**285**	*eP*		**Pb**	**04 04 54.8**	**-1.0**
	baz=84							
TNSS				*eS*		**Sb**	**04 05 21.6**	**-0.2**
	baz=84							
TNSS	**Tian-Shan**	**2.08**	**285**	*eP*		**Pb**	**04 04 54.8**	**-1.0**
	20nm,0.3s							
TNSS				*eS*		**Sb**	**04 05 21.5**	**-0.2**
	41nm,0.3s							
ARXS	**Arharly**	**2.15**	**321**	Pg		**Pb**	**04 04 56.2**	**-0.6**
	28nm,0.3s							
ARXS				Lg		Lg	04 05 23.5	
	71nm,0.4s							
ARXS	**Arharly**	**2.15**	**321**	*eP*		**Pb**	**04 04 56.2**	**-0.6**
	28nm,0.3s							
ARXS				*eS*		**Sb**	**04 05 23.5**	**0.0**
	71nm,0.4s							
IZV	**Izvestkoviy**	**2.31**	**283**	Pg		**Pb**	**04 04 59.2**	**-0.5**
	20nm,0.2s							
IZV				Lg		Lg	04 05 28.8	
	58nm,0.2s							
IZV	**Izvestkoviy**	**2.31**	**283**	*eP*		**Pb**	**04 04 59.2**	**-0.5**
	baz=83							
IZV				*eS*		**Sb**	**04 05 28.7**	**+0.3**
	baz=83							
IZV	**Izvestkoviy**	**2.31**	**283**	*eP*		**Pb**	**04 04 59.2**	**-0.5**
	20nm,0.2s							
IZV				*eS*		**Sb**	**04 05 28.8**	**+0.3**
	58nm,0.2s							
CHKK	**Chushkaly**	**2.37**	**304**	*eP*		**Pb**	**04 04 59.8**	**-0.7**
	baz=4.0							
CHKK				*eS*		**Sb**	**04 05 30.0**	**+0.2**
	baz=4.0							
CHKK	**Chushkaly**	**2.37**	**304**	*eP*		**Pb**	**04 04 59.8**	**-0.7**
	5.0nm,0.1s							
CHKK				*eS*		**Sb**	**04 05 30.0**	**+0.2**
	56nm,0.2s							
MTBS	**Maitube**	**2.47**	**285**	*eP*		**Pb**	**04 05 01.5**	**-0.8**
	baz=84							
MTBS				*eS*		**Sb**	**04 05 32.7**	**0.0**
	baz=84							
MTBS	**Maitube**	**2.47**	**285**	*eP*		**Pb**	**04 05 01.4**	**-0.8**
	31nm,0.3s							
MTBS				*eS*		**Sb**	**04 05 32.6**	**-0.1**
	48nm,0.4s							
KTBS	**Karatobe**	**2.49**	**299**	Pg		**Pb**	**04 05 01.9**	**-0.7**
	11nm,0.2s							
KTBS				Lg		Lg	04 05 33.5	
	50nm,0.3s							
KTBS	**Karatobe**	**2.49**	**299**	*eP*		**Pb**	**04 05 01.9**	**-0.7**
	baz=98							
KTBS				*eS*		**Sb**	**04 05 33

	baz=70							
KUU	**Kurty**	**2.79**	**300**	*e*P		**Pb**	**04 05 06.3**	**-1.5**
	baz=0.0							
KUU				*e*S		**Sb**	**04 05 41.2**	**-0.8**
	baz=0.0							
KUU	**Kurty**	**2.79**	**300**	*e*P		**Pb**	**04 05 06.3**	**-1.5**
	3.3nm,0.2s							
KUU				*e*S		**Sb**	**04 05 41.2**	**-0.8**
	18nm,0.5s							
DGS	**Degeres**	**2.96**	**285**	Pg		**Pb**	**04 05 10.1**	**-0.5**
	13nm,0.4s							
DGS				Lg		Lg	04 05 47.5	
	44nm,0.6s							
DGS	**Degeres**	**2.96**	**285**	*e*P		**Pb**	**04 05 10.1**	**-0.5**
	baz=85							
DGS				*e*S		**Sb**	**04 05 47.5**	**+0.6**
	baz=85							
DGS	**Degeres**	**2.96**	**285**	*e*P		**Pb**	**04 05 10.1**	**-0.5**
	13nm,0.4s							
DGS				*e*S		**Sb**	**04 05 47.5**	**+0.6**
	44nm,0.6s							
TKM2	**Tokmak 2**	**3.04**	**278**	⇓Pg		**Pg**	**04 05 14.3**	**-1.7**
	3.6nm,0.6s							
TKM2				⇓Lg		Lg	04 05 50.3	
	12nm,0.4s							
TKM2	**Tokmak 2**	**3.04**	**278**	⇑*i*P		**Pb**	**04 05 08.8**	**-3.2**
	baz=78							
TKM2				⇑*i*S		**Sn**	**04 05 44.9**	**+2.3**
	baz=78							
KZA	**Kyzart**	**3.32**	**263**	⇑*i*P		**Pb**	**04 05 13.1**	**-4.0**
	baz=63							
KZA				⇑*i*S		**Sn**	**04 05 53.0**	**+3.0**
	baz=63							
KBK	**Karagaybulak**	**3.50**	**273**	⇑*i*P		**Pn**	**04 05 15.2**	**+2.8**
	baz=73							
KBK				⇑*i*S		**Sn**	**04 05 55.9**	**+1.9**
	baz=73							
UCH	**Uchtor**	**3.85**	**267**	⇑*i*P		**Pn**	**04 05 20.0**	**+2.6**
	baz=67							
UCH				⇑*i*S		**Sn**	**04 06 05.1**	**+2.2**
	baz=67							
USP	**Ospenovka**	**3.88**	**282**	⇑*i*P		**Pn**	**04 05 20.1**	**+2.6**
	baz=82							
USP				⇑*i*S		**Sn**	**04 06 05.3**	**+2.2**
	baz=82							
MAKZ	**Makanchi**	**4.56**	**20**	⇑Pn		**Pn**	**04 05 28.1**	**+1.2**
	1.2nm,0.2s							
MAKZ				⇑Sn		**Sn**	**04 06 20.9**	**+1.0**
	0.6nm,0.5s							
MAKZ				⇓Lg		Lg	04 06 37.1	
	0.3nm,0.3s							
MK31	**Makanchi Array**	**4.63**	**23**	Pn		**Pn**	**04 05 29.1**	**+1.3**
	0.2nm,0.1s,baz=92,slow=7.8,SNR=24							
MK31				⇓Lg		Lg	04 06 42.5	
	0.3nm,0.2s,baz=204,slow=27,SNR=7.1							

SJA ***29*** *04:13:21.4±0.5,31°.22S×72°.09W,h32km±12km,ML3.7, MW3.9*
ISCJB ***29*** *04:13:22.3±2.0,31°.13S±0°.03×71°.9W±0°.1,h24km±11km, Error ellipse: s-maj=19.6km s-min=5.4km az=4.4*
GUC ***29*** *04:13:23.5±0.6,31°.14S×71°.64W,h52km±4km,ML3.5*

ISC 29 04:13:18.4±2.3,31°.11S±0°.04×71°.93W±0°.10,h8km±13km, n16,σ1°25/24,1C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMCH	**Cambarbala**	**0.80**	**95**	*e*P	**Pn**	**04 13 35.9**	**-0.3**
CMCH				*e*S	**Sg**	**04 13 44.6**	**+0.5**
CMCH				IAML		04 13 48.4	
	comp=E,4μm,0.4s						
GO04	**Tololo Observa**	**1.35**	**47**	⇓*e*P	**Pg**	**04 13 44.9**	**+0.6**
GO04				*e*S	**Sn**	**04 14 01.2**	**-0.9**
GO04				IAML		04 14 08.1	
	comp=N,4μm,0.3s						
ROCH	**El Roble**	**2.02**	**158**	*e*P	**Pb**	**04 13 55.0**	**-0.5**
ROCH				*e*S	**Sn**	**04 14 19.1**	**+0.5**
ROCH				IAML		04 14 27.5	
	comp=E,560nm,0.5s						
ROC1	**El Roble**	**2.02**	**158**	*i*P	**Pb**	**04 13 55.0**	**-0.6**
ROC1				*i*S	**Sb**	**04 14 20.1**	**-0.9**
PEL	**Peldehue**	**2.29**	**153**	*e*P	**Pb**	**04 13 58.6**	**-1.4**
PEL				*e*S	**Sn**	**04 14 24.9**	**-0.1**
PEL				IAML		04 14 30.4	
	comp=E,528nm,0.1s						
LCO	**Las Campanas**	**2.34**	**27**	*e*P	**Pb**	**04 14 00.0**	**-1.1**
LCO				*e*S	**Sn**	**04 14 28.1**	**+1.4**
LCO				IAML		04 14 40.4	
	comp=E,289nm,0.6s						
RTLS	**Leoncito**	**2.35**	**108**	*i*P	**Pb**	**04 14 02.4**	**+1.1**
RTLS				IAML		04 14 32.5	
	comp=Z,237nm,0.4s						
AUSP	**Uspallata**	**2.44**	**118**	*i*P	**Pb**	**04 14 03.3**	**+0.6**
FCH	**Farellones**	**2.61**	**148**	⇑*e*P	**Pb**	**04 14 03.8**	**-1.9**
FCH				*e*S	**Sn**	**04 14 33.9**	**+0.4**
FCH				IAML		04 14 48.8	
	comp=E,243nm,0.3s						
AMOG	**MOGNA**	**2.95**	**88**	*i*P	**Pb**	**04 14 10.6**	**-0.8**
RTLL	**Cerro Villicun**	**2.97**	**95**	*i*P	**Pb**	**04 14 10.5**	**-1.1**
RTLL				IAML		04 14 58.8	
	comp=Z,296nm,0.4s						
RTCV	**Cerro Valdivia**	**2.99**	**105**	*i*P	**Pb**	**04 14 10.9**	**-1.1**
ASAL	**Salagasta**	**3.02**	**120**	*i*P	**Pb**	**04 14 11.0**	**-1.6**
LMEL	**Las Melosas**	**3.10**	**152**	⇓*e*P	**Pn**	**04 14 09.5**	**+1.6**
LMEL				*i*Sg	**Sn**	**04 14 46.3**	**+1.1**
AAGR	**Agrelo**	**3.29**	**128**	*i*P	**Pb**	**04 14 14.5**	**-2.7**
AGUA	**GUANDACOL**	**3.38**	**62**	*i*P	**Pb**	**04 14 17.6**	**-1.1**

NNC ***29*** *04:13:45.7±1.5,42°.57N×79°.65E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=10.0km s-min=5.4km az=149.0*
KRNET ***29*** *04:13:46.0±0.1,42°.56N×79°.68E,h12km,mb3.4*
SOME ***29*** *04:13:46.6,42°.57N×79°.70E,h20km*
ISCJB ***29*** *04:13:47.4±0.8,42°.60N±0°.04×79°.72E±0°.05,h10km,Error ellipse: s-maj=6.8km s-min=3.3km az=138.4*

ISC 29 04:13:46.3±1.2,42°.55N±0°.05×79°.68E±0°.04,h10km,n49, σ1°13/92,10C-11D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.63**	**345**	P	**Pb**	**04 13 58.7**	**-0.8**
	206nm,0.1s						
SHLS				S	**Sb**	**04 14 07.8**	**-0.6**
	422nm,0.3s						
SHLS	**Shalkode**	**0.63**	**345**	*e*P	**Pb**	**04 13 58.7**	**-0.8**
	baz=14						
SHLS				*e*S	**Sb**	**04 14 07.9**	**-0.6**
	baz=14						
SHLS	**Shalkode**	**0.63**	**345**	*e*P	**Pb**	**04 13 58.7**	**-0.8**
	206nm,0.1s						
SHLS				*e*S	**Sb**	**04 14 07.8**	**-0.6**
	422nm,0.3s						
UZB	**Uzynbulak**	**0.77**	**321**	P	**Pg**	**04 14 00.2**	**-0.9**
	29nm,0.1s						
UZB				S	**Sg**	**04 14 10.4**	**-0.8**
	107nm,0.2s						
UZB	**Uzynbulak**	**0.77**	**321**	*e*P	**Pg**	**04 14 00.3**	**-0.9**
	baz=21						
UZB				*e*S	**Sg**	**04 14 10.5**	**-0.8**
	baz=21						
UZB	**Uzynbulak**	**0.77**	**321**	*e*P	**Pg**	**04 14 00.2**	**-0.9**
	29nm,0.1s						
UZB				*e*S	**Sg**	**04 14 10.4**	**-0.8**
	107nm,0.2s						
PDGK	**Podgornoye**	**0.79**	**350**	P	**Pg**	**04 14 00.7**	**-0.9**
	3.9nm,0.1s						
PDGK				S	**Sg**	**04 14 11.1**	**-0.9**
	41nm,0.3s						
PDGK	**Podgornoye**	**0.79**	**350**	⇓P	**Pg**	**04 14 00.4**	**-1.2**
	0.9nm,0.2s						
PDGK				⇓S	**Sg**	**04 14 11.0**	**-1.1**
	4.2nm,0.2s						
PDGK	**Podgornoye**	**0.79**	**350**	⇓*i*P	**Pg**	**04 14 00.7**	**-0.9**
	baz=50						
PDGK				⇓*i*S	**Sg**	**04 14 11.1**	**-0.9**
	baz=50						
PRZ	**Przheval'sk**	**0.95**	**267**	⇑*i*P	**Pb**	**04 14 04.0**	**-0.9**
	baz=66						
PRZ				⇑*i*S	**Sg**	**04 14 16.5**	**-0.4**
	baz=66						
KTMS	**Ketmen**	**1.03**	**29**	P	**Pg**	**04 14 05.1**	**-0.9**
	57nm,0.1s						
KTMS				S	**Sg**	**04 14 18.2**	**-1.2**
	44nm,0.2s						
KTMS	**Ketmen**	**1.03**	**29**	*e*P	**Pg**	**04 14 05.1**	**-0.9**
	baz=28						
KTMS				*e*S	**Sg**	**04 14 18.2**	**-1.2**
	baz=28						
KTMS	**Ketmen**	**1.03**	**29**	*e*P	**Pg**	**04 14 05.1**	**-0.9**
	57nm,0.1s						
KTMS				*e*S	**Sg**	**04 14 18.2**	**-1.2**
	44nm,0.2s						
SATY	**Saty**	**1.07**	**299**	*e*P	**Pg**	**04 14 05.2**	**-1.7**
	11nm,0.3s						
SATY				*e*S	**Sg**	**04 14 18.8**	**-1.9**
	37nm,0.2s						
DJR	**Jarkent**	**1.79**	**3**	*e*P	**Pb**	**04 14 18.4**	**-0.7**
	5.7nm,0.2s						
DJR				*e*S	**Sb**	**04 14 41.9**	**+0.2**
	34nm,0.3s						
MNBS	**Baschi**	**1.79**	**329**	P	**Pb**	**04 14 18.3**	**-1.0**
	12nm,0.2s						
MNBS				S	**Sb**	**04 14 41.1**	**-0.8**
	124nm,0.3s						
MNBS	**Baschi**	**1.79**	**329**	*e*P	**Pb**	**04 14 18.3**	**-1.0**
	baz=29						
MNBS				*e*S	**Sb**	**04 14 41.1**	**-0.8**
	baz=29						
MNBS	**Baschi**	**1.79**	**329**	*e*P	**Pb**	**04 14 18.3**	**-1.0**
	12nm,0.2s						
MNBS				*e*S	**Sb**	**04 14 41.1**	**-0.8**
	124nm,0.3s						
KDJ	**Kajisay**	**1.90**	**258**	⇓*i*P	**Pb**	**04 14 21.0**	**-0.1**
	baz=58						
KDJ				⇓*i*S	**Sg**	**04 14 46.0**	**-1.3**
	baz=58						
KOTS	**Kotyrbulak**	**2.01**	**291**	P	**Pb**	**04 14 21.8**	**-1.2**
	29nm,0.2s						
KOTS				S	**Sb**	**04 14 46.9**	**-1.2**
	35nm,0.3s						
KOTS	**Kotyrbulak**	**2.01**	**291**	*e*P	**Pb**	**04 14 21.8**	**-1.2**
	baz=90						
KOTS				*e*S	**Sb**	**04 14 46.9**	**-1.2**
	baz=90						
KOTS	**Kotyrbulak**	**2.01**	**291**	*e*P	**Pb**	**04 14 21.8**	**-1.2**
	29nm,0.2s						
KOTS				*e*S	**Sb**	**04 14 46.9**	**-1.2**
	35nm,0.3s						
MDOK	**Medeo**	**2.03**	**289**	Pg	**Pb**	**04 14 22.3**	**-1.1**
	6.4nm,0.4s						
MDOK				Lg	Lg	04 14 49.0	
	4.1nm,0.3s						
MDOK	**Medeo**	**2.03**	**289**	*e*P	**Pb**	**04 14 22.4**	**-1.0**
	baz=88						
MDOK				*e*S	**Sb**	**04 14 48.1**	**-0.6**
	baz=88						
MDOK	**Medeo**	**2.03**	**289**	*e*P	**Pb**	**04 14 22.4**	**-1.0**
	21nm,0.2s						
MDOK				*e*S	**Sb**	**04 14 48.1**	**-0.6**
	21nm,0.5s						
TNSS	**Tian-Shan**	**2.07**	**285**	*e*P	**Pb**	**04 14 23.4**	**-0.8**
	baz=84						
TNSS				*e*S	**Sb**	**04 14 50.2**	**+0.1**
	baz=84						
TNSS	**Tian-Shan**	**2.07**	**285**	*e*P	**Pb**	**04 14 23.4**	**-0.8**
	16nm,0.2s						
TNSS				*e*S	**Sb**	**04 14 50.2**	**+0.1**
	17nm,0.3s						
ARXS	**Arharly**	**2.14**	**322**	Pg	**Pb**	**04 14 24.6**	**-0.6**
	10.0nm,0.3s						
ARXS				Lg	Lg	04 14 51.6	
	56nm,0.4s						
ARXS	**Arharly**	**2.14**	**322**	*e*P	**Pb**	**04 14 24.6**	**-0.6**
	10.0nm,0.3s						
ARXS				*e*S	**Sb**	**04 14 51.6**	**-0.3**
	56nm,0.4s						
IZV	**Izvestkoviy**	**2.31**	**283**	Pg	**Pb**	**04 14 27.5**	**-0.6**
	19nm,0.3s						
IZV				Lg	Lg	04 14 57.2	
	37nm,0.3s						
IZV	**Izvestkoviy**	**2.31**	**283**	*e*P	**Pb**	**04 14 27.5**	**-0.6**
	baz=83						
IZV				*e*S	**Sb**	**04 14 57.2**	**+0.5**
	baz=83						
IZV	**Izvestkoviy**	**2.31**	**283**	*e*P	**Pb**	**04 14 27.5**	**-0.6**
	19nm,0.3s						
IZV				*e*S	**Sb**	**04 14 57.2**	**+0.5**
	37nm,0.3s						
MTBS	**Maitube**	**2.46**	**285**	*e*P	**Pb**	**04 14 30.2**	**-0.4**
	baz=85						
MTBS				*e*S	**Sb**	**04 15 01.4**	**+0.4**
	baz=85						
MTBS	**Maitube**	**2.46**	**285**	*e*P	**Pb**	**04 14 30.2**	**-0.4**
	26nm,0.3s						
MTBS				*e*S	**Sb**	**04 15 01.4**	**+0.4**
	27nm,0.3s						
KTBS	**Karatobe**	**2.48**	**299**	Pg	**Pb**	**04 14 31.0**	**0.0**
	8.1nm,0.2s						
KTBS				Lg	Lg	04 15 02.6	
	23nm,0.3s						
KTBS	**Karatobe**	**2.48**	**299**	*e*P	**Pb**	**04 14 31.0**	**0.0**
	baz=98						
KTBS				*e*S	**Sb**	**04 15 02.7**	**+1.0**
	baz=98						
KTBS	**Karatobe**	**2.48**	**299**	*e*P	**Pb**	**04 14 30.9**	**0.0**
	8.1nm,0.2s						
KTBS				*e*S	**Sb**	**04 15 02.6**	**+1.0**
	23nm,0.3s						
ULHL	**Ulahol**	**2.56**	**264**	⇑*i*P	**Pb**	**04 14 30.0**	**-2.5**
	baz=64						
ULHL				⇑*i*S	**Sb**	**04 15 02.1**	**-2.0**
	baz=64						
KAPS	**Kapalarasan**	**2.75**	**355**	*e*P	**Pb**	**04 14 35.4**	**-0.2**
	1.8nm,0.3s						
KAPS				*e*S	**Sb**	**04 15 10.1**	**+0.8**
	23nm,0.5s						
BOOM	**Boomskoye usch**	**2.76**	**270**	⇓*i*P	**Pn**	**04 14 32.3**	**+1.5**
	baz=70						
BOOM				⇓*i*S	**Sb**	**04 15 07.0**	**-2.9**
	baz=70						
KUU	**Kurty**	**2.79**	**300**	*e*P	**Pb**	**04 14 36.0**	**-0.2**
	baz=0.0						
KUU				*e*S	**Sb**	**04 15 11.2**	**+0.8**
	baz=0.0						
KUU	**Kurty**	**2.79**	**300**	*e*P	**Pb**	**04 14 36.0**	**-0.2**
	2.7nm,0.3s						
KUU				*e*S	**Sb**	**04 15 11.2**	**+0.8**
	17nm,0.1s						
DGS	**Degeres**	**2.95**	**285**	Pg	**Pb**	**04 14 39.1**	**0.0**
	8.8nm,0.4s						
DGS	**Degeres**	**2.95**	**285**	*e*P	**Pb**	**04 14 39.1**	**0.0**
	baz=85						
DGS				*e*S	**Sb**	**04 15 16.5**	**+1.2**
	baz=85						
DGS	**Degeres**	**2.95**	**285**	*e*P	**Pb**	**04 14 39.1**	**0.0**
	8.8nm,0.4s						
DGS				*e*S	**Sb**	**04 15 16.5**	**+1.2**
	21nm,0.4s						
TKM2	**Tokmak 2**	**3.03**	**278**	⇓Pg	**Pb**	**04 14 37.2**	**-3.2**
	1.0nm,0.2s						
TKM2				⇑Lg	Lg	04 15 18.4	
	8.2nm,0.4s						
TKM2	**Tokmak 2**	**3.03**	**278**	⇑*i*P	**Pn**	**04 14 36.4**	**+1.9**
	baz=78						
TKM2				⇑*i*S	**Sn**	**04 15 13.1**	**+2.2**
	baz=78						
KZA	**Kyzart**	**3.32**	**263**	⇓*i*P	**Pn**	**04 14 40.9**	**+2.3**
	baz=63						
KZA				⇓*i*S	**Sn**	**04 15 20.9**	**+2.6**
	baz=63						
MK31	**Makanchi Array**	**4.64**	**23**	⇑Pn	**Pn**	**04 14 57.9**	**+1.5**
	0.1nm,0.1s,baz=8.1,slow=0.3,SNR=25						
MK31				⇑Sn	**Sn**	**04 15 51.7**	**+1.5**
	0.5nm,0.4s						
MK31				⇑Lg	Lg	04 16 10.0	
	0.2nm,0.2s,baz=210,slow=28,SNR=6.0						

ISK ***29*** *04:16:02.6,42°.27N×40°.87E,h10km,ML2.5/4*
DDA ***29*** *04:16:02.9,42°.21N×40°.96E,h7km±2km,ML2.9*
MOS ***29*** *04:16:03.0±0.0,42°.51N×41°.14E,h16km,MPVA3.5*
NORS ***29*** *04:16:05.8±0.0,42°.58N×41°.19E,h7km,MPVA3.1*

ISC 29 04:16:01.3±1.3,42°.36N±0°.02×41°.09E±0°.03,h3km±11km, n24,σ0°51/44,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATM	**Batumi**	**0.88**	**149**	PG	**Pn**	**04 16 20.3**	**-0.2**
BATM				SG	**Sn**	**04 16 33.8**	**+0.1**
BATM	**Batumi**	**0.88**	**149**	P	**Pn**	**04 16 20.3**	**-0.2**
BATM				S	**Sn**	**04 16 33.7**	**0.0**
BCA	**Borcka**	**0.99**	**156**	PG	**Pn**	**04 16 21.8**	**-0.3**
BCA				SG	**Sn**	**04 16 36.2**	**-0.4**
DOMR	**Dombai**	**1.01**	**23**	*e*Pg	**Pg**	**04 16 21.1**	**+0.3**
DOMR				*e*Sg	**Sb**	**04 16 35.0**	**-0.4**
DBOC	**Borcka**	**1.10**	**157**	IAML_P			
	comp=Z,1μm,0.1s						
DBOC				*i*P	**Pn**	**04 16 23.5**	**-0.1**
ARXR	**Arkhyz**	**1.21**	**6**	*e*Pg	**Pg**	**04 16 24.6**	**+0.1**
ARXR				*e*Sg	**Sg**	**04 16 39.8**	**-0.5**
CHOM	**Cayeli-Rize**	**1.28**	**191**	PN	**Pg**	**04 16 25.5**	**-0.3**
ARTV	**Artvin**	**1.33**	**152**	IAML_P			
	comp=Z,966nm,0.1s						
ARTV				*i*P	**Pb**	**04 16 27.7**	**+0.8**
ARTV				*i*S	**Sn**	**04 16 45.8**	**+0.6**
DBAD	**Bademkaya**	**1.41**	**161**	IAML_P			
	comp=Z,615nm,0.1s						
DBAD				*i*P	**Pg**	**04 16 28.8**	**+0.6**
DBAD				*i*S	**Sn**	**04 16 47.6**	**+0.5**
DAGI	**Agillar**	**1.42**	**154**	*i*P	**Pb**	**04 16 28.4**	**0.0**
DAGI				*i*S	**Sn**	**04 16 47.6**	**+0.4**
RPOR	**Krasnaya Polya**	**1.47**	**336**	*e*Pg	**Pn**	**04 16 29.0**	**+0.3**
RPOR				*e*Sg	**Sb**	**04 16 48.1**	**-0.3**
NEY	**Neytrino**	**1.50**	**53**	*e*Pg	**Pn**	**04 16 29.5**	**+0.3**
NEY				*e*Sg	**Sb**	**04 16 49.2**	**-0.1**
DDEM	**Demirkent**	**1.54**	**161**	IAML_P			
	comp=Z,690nm,0.1s						
DDEM				*i*P	**Pb**	**04 16 30.4**	**-0.1**
DDEM				*i*S	**Sg**	**04 16 51.2**	**+0.4**
SOC	**Sochi**	**1.59**	**321**	*e*Pg	**Pg**	**04 16 32.3**	**+0.6**
SOC				*e*Sg	**Sn**	**04 16 51.5**	**+0.2**
SHA1	**Shidzhatmaz**	**1.80**	**39**	*e*Pg	**Pb**	**04 16 35.4**	**+0.5**
SHA1				*e*Sg	**Sb**	**04 16 58.3**	**+0.3**
DIGR	**Digorskoe uzhe**	**1.92**	**73**	*e*Pg	**Pb**	**04 16 37.0**	**0.0**
DIGR				*e*Sg	**Sb**	**04 17 01.8**	**+0.4**
KIV0	**Kislovodsk Arr**	**1.98**	**36**	*e*Pg	**Pb**	**04 16 37.6**	**-0.5**
KIV0				*e*Sg	**Sb**	**04 17 03.0**	**-0.3**
LZRR	**Lazarevskoye**	**2.02**	**322**	*e*Pg	**Pb**	**04 16 39.2**	**+0.7**
LZRR				*i*Sg	**Sb**	**04 17 04.4**	**+0.4**
BEYR	**Belyy Ugol+**	**2.08**	**37**	*e*Pg	**Pb**	**04 16 39.3**	**-0.4**
BEYR				*e*Sg	**Sb**	**04 17 05.8**	**-0.2**
BAYT	**Aydıntepe-Bayb**	**2.09**	**200**	PN	**Pn**	**04 16 36.4**	**-0.9**
ZEI	**Tsey**	**2.12**	**77**	*e*Pg	**Pg**	**04 16 41.8**	**-0.1**
ZEI				*e*Sg	**Sb**	**04 17 08.1**	**+0.8**
NCK	**Nalchik**	**2.16**	**57**	*e*Pg	**Pb**	**04 16 40.0**	**-1.1**
NCK				*e*Sg	**Sb**	**04 17 07.9**	**-0.4**
ESPY	**Espiye-Giresun**	**2.28**	**232**	PN	**Pn**	**04 16 38.8**	**-1.0**
LACR	**Lac**	**2.41**	**78**	*e*Pn	**Pg**	**04 16 48.3**	**+0.8**
LACR				*i*Sn	**Sg**	**04 17 17.9**	**-0.9**

IDC 29 04:22:20.0±1.8,0°.78S×123°.89E,h0km,mb3.2/3, mb1 3.5/3,mb1mx3.3/25,mbtmp3.3/3,Error ellipse: s-maj=288.0km s-min=25.1km az=62.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.61**	**152**	P	P	04 27 12.9	+1.0
	0.5nm,0.3s,baz=329,slow=11,SNR=16						
ASAR	**Alice Springs**	**24.73**	**158**	P	P	04 27 42.6	-0.8
	0.4nm,0.3s,baz=345,slow=10,SNR=6.4						
MKAR	**Makanchi Array**	**59.74**	**328**	P	P	04 32 26.8	0.0
	0.1nm,0.4s,baz=130,slow=5.8,SNR=3.2						

IDC ***29*** *04:40:57.9±1.8,7°.39S×119°.69E,h0km,mb3.8/3, mb1 4.0/5,mb1mx3.7/29,mbtmp3.8/5,ML3.6/2,MS3.2/1, Ms1 3.2/1,ms1mx2.6/32,Error ellipse: s-maj=175.9km s-min=21.2km az=56.0*
ISCJB ***29*** *04:41:00.3±0.6,7°.86S±0°.05×119°.05E±0°.06,h34km, mb3.8/3,MS3.1/1,Error ellipse: s-maj=8.9km s-min=7.1km az=22.4*
DJA ***29*** *04:41:01.7±1.0,8°.S±3°×11°.9E±°,h38km±13km,M3.8/11, MLv3.8/11*

ISC 29 04:41:00.8±0.9,7°.94S±0°.07×118°.96E±0°.07,h34km,n15, σ1°77/16,mb3.8/3,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.46**	**233**	P	**Pb**	**04 41 27.5**	**0.0**
PLAI				S	**Sb**	**04 41 46.2**	**+0.4**
BASI	**Baing, Sumba**	**2.77**	**145**	P	**Pn**	**04 41 44.3**	**+1.4**
EDFI	**Ende, Flores**	**2.82**	**107**	P	**Pn**	**04 41 44.7**	**+1.1**
BKSI	**Bulukumba**	**2.85**	**24**	P	**Pn**	**04 41 43.2**	**-0.7**
MMRI	**Maumere**	**3.32**	**102**	P	**Pn**	**04 41 51.0**	**+0.6**
BNSI	**Bone**	**3.70**	**18**	P	**Pn**	**04 41 55.9**	**+0.3**
SPSI	**Sidrap Palu**	**4.03**	**12**	P	**Pn**	**04 41 59.5**	**-0.7**
TTSI	**Tana Toraja**	**4.94**	**10**	P	**Pn**	**04 42 12.1**	**-0.5**
PBKI	**Pangkalan Bun**	**8.92**	**305**	P	**Pn**	**04 43 05.4**	**-2.0**
FITZ	**Fitzroy Crossi**	**12.01**	**148**	Pn	**Pn**	**04 43 50.1**	**+0.4**
	0.1nm,0.3s,baz=322,slow=13,SNR=4.6						
FITZ				Sn	**Sn**	**04 45 57.5**	**-5.1**
	0.1nm,0.3s,baz=197,slow=19,SNR=4.3						
WRA	**Warramunga Arr**	**19.09**	**130**	P	**P**	**04 45 21.0**	**+0.3**
	0.3nm,0.3s,baz=307,slow=12,SNR=20						
ASAR	**Alice Springs**	**21.21**	**139**	P	**P**	**04 45 45.5**	**+1.7**
	4.6nm,0.6s,baz=321,slow=10,SNR=34						
PMG	**Port Moresby**	**27.92**	**95**	LR	LR	05 01 03.6	
	comp=Z,50nm,18.0s,baz=176,slow=44						
MKAR	**Makanchi Array**	**63.50**	**333**	P	**P**	**04 51 29.2**	**+1.6**
	0.4nm,0.7s,baz=132,slow=6.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**68.04**	**339**	P	**P**	**04 51 57.2**	**+0.5**
	0.5nm,0.5s,baz=152,slow=6.5,SNR=3.0						

IDC 29 04:56:21.1±4.5,6°.67S×146°.49E,h142km±51km,mb3.3/4, mb1 3.4/6,mb1mx3.2/24,mbtmp3.7/6,Error ellipse: s-maj=60.9km s-min=25.3km az=136.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.80**	**166**	P	Pn	04 57 06.0	+0.3
	8.3nm,0.3s,baz=5.7,slow=10,SNR=12						
PMG				S	Sn	04 57 40.5	+0.5
	9.1nm,0.3s,baz=164,slow=20,SNR=8.5						
CTA	**Charters Tower**	**13.35**	**181**	P	P	04 59 30.9	+1.4
	0.4nm,0.3s,baz=355,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**17.70**	**221**	P	P	05 00 17.2	-0.5
	0.2nm,0.3s,baz=45,slow=12,SNR=14						
ASAR	**Alice Springs**	**20.79**	**214**	P	P	05 00 52.0	+0.9
	0.9nm,0.4s,baz=47,slow=10,SNR=9.1						
FITZ	**Fitzroy Crossi**	**23.29**	**239**	P	P	05 01 15.6	-0.7
	4.6nm,0.6s,baz=44,slow=6.1,SNR=13						
MKAR	**Makanchi Array**	**77.69**	**321**	P	P	05 08 02.4	+0

σ0.72/16, 8C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** baz=21	**0.67**	**351**	*e*P	**Pb**	**05 01 12.7**	**+0.1**
SHLS	baz=21			*e*S	**Sb**	**05 01 22.3**	**+0.3**
SHLS	**Shalkode** 26nm,0.1s	**0.67**	**351**	*e*P	**Pb**	**05 01 12.7**	**+0.1**
SHLS	96nm,0.2s			*e*S	**Sb**	**05 01 22.3**	**+0.3**
UZB	**Uzynbulak** baz=26	**0.78**	**327**	*e*P	**Pg**	**05 01 13.9**	**+0.1**
UZB	baz=26			*e*S	**Sg**	**05 01 24.2**	**+0.1**
UZB	**Uzynbulak** 6.2nm,0.1s	**0.78**	**327**	*e*P	**Pg**	**05 01 13.9**	**+0.1**
UZB	10nm,0.1s			*e*S	**Sg**	**05 01 24.2**	**+0.1**
PDGK	**Podgornoye** baz=55	**0.84**	**354**	⇑*i*P	**Pg**	**05 01 14.6**	**-0.3**
PDGK	baz=55			⇑*i*S	**Sg**	**05 01 25.6**	**-0.2**
KDJ	**Kajisay** baz=57	**1.84**	**259**	⇑*i*P	**Pg**	**05 01 34.1**	**+0.1**
KDJ	baz=57			⇑*i*S	**Sg**	**05 01 59.1**	**+1.3**
ULHL	**Ulahol** baz=64	**2.51**	**265**	⇑*i*P	**Pb**	**05 01 43.9**	**0.0**
ULHL	baz=64			⇑*i*S	**Sb**	**05 02 16.0**	**+1.0**
BOOM	**Boomskoye usch** baz=70	**2.72**	**271**	⇑*e*P	**Pb**	**05 01 46.1**	**-1.3**
BOOM	baz=70			⇑*i*S	**Sb**	**05 02 19.5**	**-1.4**

IDC 29 05:14:60.0±3.8, 30.37S×138.33E, h0km, mb1 3.3/3, mb1mx3.2/22, mbtmp3.1/3, ML3.1/3, Error ellipse: s-maj=84.5km s-min=16.1km az=42.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 0.7nm,0.3s,baz=294,slow=12,SNR=5.4	**3.18**	**119**	Pn	Pn	05 15 52.0	+0.8
STKA	4.2nm,0.3s,baz=305,slow=12,SNR=5.5			Sn	Sn	05 16 30.8	+0.9
STKA	8.0nm,0.3s,baz=294,slow=7.7,SNR=7.2			Lg	Lg	05 16 40.2	
ASAR	**Alice Springs** 0.4nm,0.3s,baz=152,slow=12,SNR=11	**7.76**	**328**	Pn	Pn	05 16 54.5	+0.3
ASAR	0.4nm,0.3s,baz=151,slow=22,SNR=6.6			Sn	Sn	05 18 23.6	+0.8
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=164,slow=11,SNR=13	**10.99**	**340**	Pn	Pn	05 17 38.1	-0.5
WRA	0.2nm,0.3s,baz=162,slow=24,SNR=5.1			Sn	Sn	05 19 43.7	+1.3

*SOME **29** 05:19:00.8, 42.55N×79.67E, h25km*
*KRNET **29** 05:19:00.5±0.1, 42.58N×79.60E, h16km, mb4.1*
*BJI **29** 05:19:00.1, 42.61N×79.55E, h11km, ML3.2/8*
*ISCJB **29** 05:19:01.0±0.6, 42.55N±0.03×79.79E±0.04, h10km, Error ellipse: s-maj=5.3km s-min=3.0km az=147.2*
*NNC **29** 05:19:01.1±0.9, 42.61N×79.61E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=5.9km s-min=3.2km az=128.0*
ISC 29 05:19:00.1±1.0, 42.51N±0.04×79.68E±0.04, h10km, n73, σ1.9/79/123, 19C-22D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 796nm,0.1s	**0.67**	**346**	P	**Pg**	**05 19 12.5**	**-0.6**
SHLS	2μm,0.3s			S	**Sg**	**05 19 21.5**	**-0.4**
SHLS	**Shalkode** baz=20	**0.67**	**346**	*e*P	**Pg**	**05 19 12.5**	**-0.6**
SHLS	baz=20			*e*S	**Sg**	**05 19 21.5**	**-0.4**
SHLS	**Shalkode** 796nm,0.1s	**0.67**	**346**	*e*P	**Pg**	**05 19 12.5**	**-0.6**
SHLS	2μm,0.3s			*e*S	**Sg**	**05 19 21.5**	**-0.4**
UZB	**Uzynbulak** 79nm,0.1s	**0.80**	**323**	P	**Pg**	**05 19 14.2**	**-1.5**
UZB	1μm,0.3s			S	**Sg**	**05 19 23.8**	**-2.4**
UZB	**Uzynbulak** baz=23	**0.80**	**323**	*e*P	**Pg**	**05 19 14.2**	**-1.5**
UZB	baz=23			*e*S	**Sg**	**05 19 23.8**	**-2.4**
UZB	**Uzynbulak** 79nm,0.1s	**0.80**	**323**	*e*P	**Pg**	**05 19 14.2**	**-1.5**
UZB	1μm,0.3s			*e*S	**Sg**	**05 19 23.8**	**-2.4**
PDGK	**Podgornoye** 253nm,0.1s	**0.83**	**350**	P	**Pg**	**05 19 14.7**	**-1.6**
PDGK	248nm,0.1s			S	**Sg**	**05 19 25.3**	**-1.9**
PDGK	**Podgornoye** 74nm,0.2s	**0.83**	**350**	⇓P	**Pg**	**05 19 14.7**	**-1.6**
PDGK	403nm,0.6s			⇑S	**Sg**	**05 19 25.3**	**-1.9**
PDGK	**Podgornoye** baz=54	**0.83**	**350**	⇓*i*P	**Pg**	**05 19 14.6**	**-1.6**
PDGK	baz=54			⇓*i*S	**Sg**	**05 19 25.1**	**-2.0**
PRZ	**Przheval'sk** baz=64	**0.95**	**269**	⇑*i*P	**Pg**	**05 19 17.2**	**-1.2**
PRZ	baz=64			⇑*i*S	**Sg**	**05 19 30.3**	**-0.5**
SATY	**Saty** 69nm,0.3s	**1.09**	**301**	*e*P	**Pg**	**05 19 19.4**	**-1.7**
SATY	808nm,0.1s			*e*S	**Sg**	**05 19 33.0**	**-2.2**
DJR	**Jarkent** 59nm,0.3s	**1.83**	**2**	*e*P	**Pb**	**05 19 32.3**	**-1.4**
DJR	108nm,0.3s			*e*S	**Sb**	**05 19 55.4**	**-1.3**
MNBS	**Baschi** 51nm,0.2s	**1.83**	**330**	P	**Pb**	**05 19 32.5**	**-1.2**
MNBS	572nm,0.3s			S	**Sb**	**05 19 55.1**	**-1.7**
MNBS	**Baschi** baz=30	**1.83**	**330**	*e*P	**Pb**	**05 19 32.5**	**-1.2**
MNBS	baz=30			*e*S	**Sb**	**05 19 55.1**	**-1.7**
MNBS	**Baschi** 51nm,0.2s	**1.83**	**330**	*e*P	**Pb**	**05 19 32.5**	**-1.2**
MNBS	572nm,0.3s			*e*S	**Sb**	**05 19 55.1**	**-1.7**
KDJ	**Kajisay** baz=56	**1.89**	**259**	⇓*i*P	**Pb**	**05 19 34.6**	**-0.3**
KDJ	baz=56			⇓*i*S	**Sg**	**05 19 59.8**	**-1.2**
KOTS	**Kotyrbulak** 59nm,0.3s	**2.02**	**292**	P	**Pb**	**05 19 36.2**	**-0.9**
KOTS	600nm,0.4s			S	**Sb**	**05 20 01.5**	**-0.9**
KOTS	**Kotyrbulak** baz=90	**2.02**	**292**	*e*P	**Pb**	**05 19 36.2**	**-0.9**
KOTS	baz=90			*e*S	**Sb**	**05 20 01.5**	**-0.9**
KOTS	**Kotyrbulak** 59nm,0.3s	**2.02**	**292**	*e*P	**Pb**	**05 19 36.2**	**-0.9**
KOTS	600nm,0.4s			*e*S	**Sb**	**05 20 01.5**	**-0.9**
MDOK	**Medeo** 32nm,0.4s	**2.05**	**290**	⇓Pg	**Pb**	**05 19 35.5**	**-2.0**
MDOK	35nm,0.3s			Lg	Lg	05 20 02.4	
MDOK	**Medeo** baz=88	**2.05**	**290**	*e*P	**Pb**	**05 19 36.1**	**-1.4**
MDOK	baz=88			*e*S	**Sb**	**05 20 01.5**	**-1.5**
MDOK	**Medeo** 35nm,0.5s	**2.05**	**290**	*e*P	**Pb**	**05 19 36.1**	**-1.4**
MDOK	96nm,0.6s			*e*S	**Sb**	**05 20 01.5**	**-1.5**
TNSS	**Tian-Shan** baz=84	**2.08**	**286**	*e*P	**Pb**	**05 19 37.0**	**-1.2**
TNSS	baz=84			*e*S	**Sb**	**05 20 03.1**	**-1.2**
TNSS	**Tian-Shan** 72nm,0.3s	**2.08**	**286**	*e*P	**Pb**	**05 19 37.0**	**-1.2**
TNSS	205nm,0.3s			*e*S	**Sb**	**05 20 03.1**	**-1.2**
KNDC	**Almaty** 59nm,0.4s	**2.12**	**290**	⇑Pg	**Pb**	**05 19 38.5**	**-0.1**
KNDC	597nm,0.7s			⇑Lg	Lg	05 20 08.5	
AAA	**Alma-Ata** 64nm,0.2s	**2.15**	**290**	Pg	**Pg**	**05 19 39.8**	**-1.6**
AAA	393nm,0.6s			Lg	Lg	05 20 07.8	
AAA	**Alma-Ata** baz=89	**2.15**	**290**	*e*P	**Pg**	**05 19 39.8**	**-1.6**
AAA	baz=89			*e*S	**Sg**	**05 20 07.8**	**-1.5**
AAA	**Alma-Ata** 64nm,0.2s	**2.15**	**290**	*e*P	**Pg**	**05 19 39.8**	**-1.6**
AAA	393nm,0.6s			*e*S	**Sg**	**05 20 07.8**	**-1.5**
ARXS	**Arharly** 44nm,0.3s	**2.18**	**322**	Pg	**Pb**	**05 19 39.1**	**-0.6**
ARXS	626nm,0.4s			Lg	Lg	05 20 06.1	
ARXS	**Arharly** 44nm,0.3s	**2.18**	**322**	*e*P	**Pb**	**05 19 39.1**	**-0.6**
ARXS	626nm,0.4s			*e*S	**Sb**	**05 20 06.1**	**-0.6**
IZV	**Izvestkoviy** 135nm,0.2s	**2.32**	**284**	Pg	**Pb**	**05 19 42.0**	**-0.1**
IZV	440nm,0.4s			Lg	Lg	05 20 11.5	
IZV	**Izvestkoviy** baz=83	**2.32**	**284**	*e*P	**Pb**	**05 19 42.0**	**-0.1**
IZV	baz=83			*e*S	**Sb**	**05 20 11.4**	**+0.5**
IZV	**Izvestkoviy** 135nm,0.2s	**2.32**	**284**	*e*P	**Pb**	**05 19 42.0**	**-0.1**
IZV	440nm,0.4s			*e*S	**Sb**	**05 20 11.4**	**+0.5**
CHKK	**Chushkaly** baz=5.0	**2.39**	**305**	*e*P	**Pb**	**05 19 42.5**	**-0.7**
CHKK	baz=5.0			*e*S	**Sb**	**05 20 12.4**	**-0.3**
CHKK	**Chushkaly** 17nm,0.3s	**2.39**	**305**	*e*P	**Pb**	**05 19 42.5**	**-0.7**
CHKK	469nm,0.3s			*e*S	**Sb**	**05 20 12.3**	**-0.3**
MTBS	**Maitube** baz=84	**2.47**	**286**	*e*P	**Pb**	**05 19 44.6**	**-0.1**
MTBS	baz=84			*e*S	**Sb**	**05 20 16.1**	**+0.8**
MTBS	**Maitube** 115nm,0.4s	**2.47**	**286**	*e*P	**Pb**	**05 19 44.6**	**-0.1**
MTBS	203nm,0.4s			*e*S	**Sb**	**05 20 16.0**	**+0.8**
KTBS	**Karatobe** 37nm,0.3s	**2.51**	**300**	Pg	**Pb**	**05 19 45.1**	**-0.1**
KTBS	397nm,0.3s			Lg	Lg	05 20 16.5	
KTBS	**Karatobe** baz=98	**2.51**	**300**	*e*P	**Pb**	**05 19 45.1**	**-0.1**
KTBS	baz=98			*e*S	**Sb**	**05 20 16.5**	**+0.4**
KTBS	**Karatobe** 37nm,0.3s	**2.51**	**300**	*e*P	**Pb**	**05 19 45.1**	**-0.1**
KTBS	397nm,0.3s			*e*S	**Sb**	**05 20 16.5**	**+0.4**
ULHL	**Ulahol** SNR=19	**2.56**	**265**	P	**Pb**	**05 19 46.5**	**+0.2**
ULHL	**Ulahol** baz=63	**2.56**	**265**	⇑*i*P	**Pb**	**05 19 44.4**	**-1.9**
ULHL	baz=63			⇑*i*S	**Sb**	**05 20 16.9**	**-1.0**
TDK	**Taldyqorghan** 38nm,0.4s	**2.66**	**340**	*e*P	**Pb**	**05 19 47.0**	**-0.8**
TDK	501nm,0.4s			*e*S	**Sb**	**05 20 20.2**	**-0.4**
BOOM	**Boomskoye usch** baz=69	**2.77**	**271**	⇓*i*P	**Pb**	**05 19 46.9**	**-2.9**
BOOM	baz=69			⇓*i*S	**Sb**	**05 20 21.3**	**-2.5**
KAPS	**Kapalarasan** 23nm,0.2s	**2.79**	**355**	*e*P	**Pb**	**05 19 48.4**	**-1.6**
KAPS	109nm,0.4s			*e*S	**Sb**	**05 20 22.3**	**-2.0**
KUU	**Kurty** baz=0.0	**2.81**	**301**	*e*P	**Pb**	**05 19 49.5**	**-0.9**
KUU	baz=0.0			*e*S	**Sb**	**05 20 24.6**	**-0.3**
KUU	**Kurty** 13nm,0.3s	**2.81**	**301**	*e*P	**Pb**	**05 19 49.5**	**-0.9**
KUU	153nm,0.4s			*e*S	**Sb**	**05 20 24.6**	**-0.3**
NRN	**Naryn** baz=48	**2.95**	**250**	⇑*i*P	**Pb**	**05 19 50.6**	**-2.3**
NRN	baz=48			⇑*i*S	**Sb**	**05 20 27.3**	**-1.8**
DGS	**Degeres** 122nm,0.5s	**2.97**	**286**	Pg	**Pb**	**05 19 53.6**	**+0.5**
DGS	270nm,0.5s			Lg	Lg	05 20 31.2	
DGS	**Degeres** baz=85	**2.97**	**286**	*e*P	**Pb**	**05 19 53.6**	**+0.5**
DGS	baz=85			*e*S	**Sb**	**05 20 31.2**	**+1.7**
DGS	**Degeres** 122nm,0.5s	**2.97**	**286**	*e*P	**Pb**	**05 19 53.6**	**+0.5**
DGS	270nm,0.5s			*e*S	**Sb**	**05 20 31.2**	**+1.7**
TKM2	**Tokmak 2** SNR=14	**3.04**	**279**	P	**Pb**	**05 19 51.5**	**-2.9**
TKM2	**Tokmak 2** 17nm,0.5s	**3.04**	**279**	⇓Pn	**Pb**	**05 19 51.1**	**-3.3**
TKM2	54nm,0.3s			⇓Lg	Lg	05 20 33.4	
TKM2	**Tokmak 2** baz=78	**3.04**	**279**	⇓*i*P	**Pb**	**05 19 51.1**	**-3.3**
TKM2	baz=78			⇓*i*S	**Sb**	**05 20 27.8**	**-3.9**
KZA	**Kyzart** SNR=25	**3.32**	**264**	P	**Pb**	**05 20 00.2**	**+0.9**
KZA	**Kyzart** baz=63	**3.32**	**264**	⇑*i*P	**Pn**	**05 19 55.1**	**+2.7**
KZA	baz=63			⇑*i*S	**Sb**	**05 20 35.3**	**-4.5**
KBK	**Karagaybulak** SNR=8.7	**3.50**	**274**	P	**Pg**	**05 20 04.8**	**-2.4**
KBK	**Karagaybulak** baz=73	**3.50**	**274**	⇑*i*P	**Pn**	**05 19 57.1**	**+2.4**
KBK	baz=73			⇑*i*S	**Sn**	**05 20 38.9**	**+2.6**
CHMS	**Chumysh** SNR=8.8	**3.67**	**279**	P	**Pb**	**05 20 04.6**	**-0.4**
AAK	**Ala-Archa** SNR=11	**3.83**	**274**	P	**Pb**	**05 20 09.5**	**+1.6**
AAK	**Ala-Archa** 10nm,0.4s	**3.83**	**274**	⇑Pg	**Pb**	**05 20 08.1**	**+0.2**
AAK	40nm,0.5s			⇑Lg	Lg	05 20 57.7	
UCH	**Uchtor** SNR=11	**3.84**	**268**	P	**Pb**	**05 20 04.7**	**-3.5**
USP	**Ospenovka** SNR=7.4	**3.88**	**283**	P	**Pb**	**05 20 08.8**	**+0.1**
ARLS	**Aral** baz=61	**4.04**	**263**	⇓*i*P	**Pn**	**05 20 04.6**	**+2.5**
ARLS	baz=61			⇓*i*S	**Sn**	**05 20 51.7**	**+2.2**
EKS2	**Erkin-Say** SNR=7.5	**4.36**	**274**	P	**Pb**	**05 20 18.4**	**+1.4**
AML	**Almayashu** SNR=19	**4.46**	**267**	P	**Pb**	**05 20 19.2**	**+0.6**
MAKZ	**Makanchi** 5.7nm,0.2s	**4.60**	**20**	⇓Pn	**Pn**	**05 20 11.2**	**+1.4**
MAKZ	2.1nm,0.3s			⇑Sn	**Sn**	**05 21 05.8**	**+2.6**
MAKZ	1.7nm,0.3s			⇑Lg	Lg	05 21 21.8	
MK31	**Makanchi Array** 1.0nm,0.2s,baz=203,slow=13,SNR=274	**4.67**	**23**	Pn	**Pn**	**05 20 12.3**	**+1.6**
MK31	2.8nm,0.3s,baz=203,slow=25,SNR=6.5			Sn	**Sn**	**05 21 06.2**	**+1.2**
MK31	4.3nm,0.4s,baz=213,slow=29,SNR=4.9			⇓Lg	Lg	05 21 24.3	
SFK	**Sufi-Kurgan** 5.0nm,0.8s	**5.28**	**244**	⇓Pg	**Pg**	**05 20 39.3**	**-2.0**
SFK	12nm,0.9s			⇓Lg	Lg	05 21 48.2	
MNAS	**Manas** 3.9nm,0.5s	**5.31**	**272**	⇑Pg	**Pb**	**05 20 35.6**	**+2.5**
MNAS	16nm,0.8s			⇓Lg	Lg	05 21 45.4	
WMQ	**Urumqi**	**6.00**	**75**	*e*Pn	**Pn**	**05 20 30.5**	**+1.4**
WMQ				Sn	**Sn**	**05 21 38.0**	**+0.1**
WMQ	comp=N,26nm,1.3s			smax	smax		
WMQ	comp=E,27nm,0.9s			smax	smax		
KK31	**Karatay Array** 3.0nm,0.6s,baz=93,slow=16,SNR=18	**6.77**	**278**	⇑Pg	**Pg**	**05 21 05.4**	**-4.3**
KK31	0.6nm,0.4s,baz=167,slow=20,SNR=2.7			⇓Sn	**Sn**	**05 22 04.9**	**+8.2**
KK31	3.3nm,0.5s,baz=89,slow=28,SNR=5.5			⇓Lg	Lg	05 22 32.3	
KURBB	**Kurchatov Arra** 15nm,0.6s	**8.16**	**355**	⇓Lg	Lg	05 23 15.0	

*NNC **29** 05:25:28.4±6.9, 41.89N×79.35E, h0km, mb2.8, mpv2.8, Error ellipse: s-maj=60.3km s-min=26.2km az=133.0*
*SOME **29** 05:25:31.6, 42.52N×79.57E, h35km*
*KRNET **29** 05:25:32.1±0.1, 42.59N×79.56E, h13km, mb2.7*
ISC 29 05:25:32.3±2.1, 42.55N±0.07×79.50E±0.08, h11km±13km, n13, σ1.9/09/22, 10C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** baz=23	**0.60**	**357**	*e*P	**Pg**	**05 25 44.4**	**+0.4**
SHLS	baz=23			*e*S	**Sb**	**05 25 53.8**	**+0.3**
SHLS	**Shalkode** 10nm,0.1s	**0.60**	**357**	*e*P	**Pg**	**05 25 44.4**	**+0.4**
SHLS	84nm,0.2s			*e*S	**Sb**	**05 25 53.8**	**+0.3**
UZB	**Uzynbulak** baz=25	**0.69**	**330**	*e*P	**Pg**	**05 25 45.6**	**-0.1**
UZB	baz=25			*e*S	**Sg**	**05 25 55.7**	**+1.0**
UZB	**Uzynbulak** 3.5nm,0.1s	**0.69**	**330**	*e*P	**Pg**	**05 25 45.6**	**-0.1**
UZB	19nm,0.1s			*e*S	**Sg**	**05 25 55.7**	**+1.0**
PDGK	**Podgornoye** 5.9nm,0.4s	**0.78**	**359**	⇓P	Pn	05 25 56.9	+7.6
PDGK	**Podgornoye** baz=56	**0.78**	**359**	⇓*i*P	**Pg**	**05 25 46.1**	**-1.2**
PDGK	baz=56			⇓*i*S	**Sg**	**05 25 56.6**	**-0.8**
KDJ	**Kajisay** baz=56	**1.77**	**257**	⇑*i*P	**Pg**	**05 26 06.2**	**0.0**
KDJ	baz=56			⇑*i*S	**Sg**	**05 26 31.0**	**+1.8**
ULHL	**Ulahol** baz=63	**2.43**	**264**	⇑*i*P	**Pb**	**05 26 15.9**	**-0.2**
ULHL	baz=63			⇑*i*S	**Sb**	**05 26 48.3**	**+2.1**
BOOM	**Boomskoye usch** baz=69	**2.63**	**270**	⇑*i*P	**Pb**	**05 26 18.6**	**-0.9**
BOOM	baz=69			⇑*i*S	**Sb**	**05 26 52.8**	**+0.9**
TKM2	**Tokmak 2** 1.2nm,0.7s	**2.90**	**279**	⇓Pg	**Pg**	**05 26 26.2**	**-1.6**
TKM2	3.4nm,0.5s			⇓Lg	Lg	05 27 03.6	
TKM2	**Tokmak 2** baz=78	**2.90**	**279**	⇑*i*P	**Pb**	**05 26 22.5**	**-1.6**
TKM2	baz=78			⇑*i*S	**Sb**	**05 26 59.3**	**-0.3**
MK31	**Makanchi Array** baz=204,slow=13,SNR=4.2	**4.68**	**24**	⇓Pn	**Pn**	**05 26 43.6**	**+0.8**
MK31	0.2nm,0.3s,baz=207,slow=27,SNR=4.1			⇓Sn	**Sb**	**05 27 52.0**	**+1.3**
SFK	**Sufi-Kurgan**	**5.18**	**243**	⇑Pg	**Pn**	**05 26 49.2**	**-0.7**
SFK				⇑Lg	Lg	05 27 59.3	

KRNET 29 05:25:48.3±0.1, 42.56N×79.60E, mb2.5, 8C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye** baz=54	**0.77**	**354**	⇑*i*P	Pg	05 26 02.8	-0.2
PDGK	baz=54			⇑*i*S	Sg	05 26 13.6	+0.6
PDGK	**Podgornoye** 13nm,0.4s	**0.77**	**354**	⇓S	Sg	05 26 13.5	+0.5
KDJ	**Kajisay** baz=57	**1.84**	**257**	⇑*i*P	Pb	05 26 22.3	-0.6
KDJ	baz=57			⇑*i*S	Sb	05 26 46.8	+0.2
ULHL	**Ulahol** baz=64	**2.50**	**264**	⇓*i*P	Pn	05 26 31.6	+1.2
ULHL	baz=64			⇓*i*S	Sb	05 27 03.8	-1.9
BOOM	**Boomskoye usch** baz=70	**2.70**	**270**	⇑*i*P	Pn	05 26 34.7	+1.6
BOOM	baz=70			⇑*i*S	Sn	05 27 08.5	+1.8
TKM2	**Tokmak 2** baz=78	**2.97**	**278**	⇑*i*P	Pn	05 26 38.5	+1.7
TKM2	baz=78			⇑*i*S	Sn	05 27 14.8	+1.6

IDC 29 05:37:27.3±1.8, 14.35S×166.65E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/30, mbtmp3.8/5, ML4.1/1, MS3.3/4, Ms1 3.3/4, ms1mx3.0/31, Error ellipse: s-maj=45.3km s-min=28.9km az=112.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 3.0nm,0.3s,baz=303,slow=12,SNR=22	**7.68**	**181**	Pn	Pn	05 39 20.1	-0.5
DZM	0.2nm,0.3s,baz=307,slow=20,SNR=2.0			Sn	Sn	05 40 50.1	+1.7
HNR	**Honiara** comp=Z,84nm,18.2s,baz=135,slow=35	**8.18**	**306**	LR	LR	05 42 15.9	
JAY	**Jayapura** comp=Z,43nm,20.3s,baz=352,slow=32	**28.19**	**292**	LR	LR	05 52 43.1	
STKA	**Stephens Creek** 1.3nm,0.5s,baz=30,slow=8.1,SNR=3.5	**28.79**	**228**	P	P	05 43 27.3	+0.2
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=83,slow=7.5,SNR=6.5	**31.34**	**255**	P	P	05 43 49.8	-0.1
ASAR	**Alice Springs** 0.5nm,0.5s,baz=75,slow=10.0,SNR=5.1	**32.25**	**248**	P	P	05 43 57.8	-0.1
FITZ	**Fitzroy Crossi** comp=Z,34nm,19.5s,baz=152,slow=34	**39.50**	**259**	LR	LR	05 59 50.7	
BATI	**Baumata** comp=Z,90nm,18.1s,baz=265,slow=38	**42.16**	**271**	LR	LR	06 04 05.5	
ILAR	**Eielson Array** 0.6nm,0.8s,baz=230,slow=5.3,SNR=5.3	**86.36**	**18**	P	P	05 50 11.1	0.0

*ISK **29** 05:37:31.8, 37.33N×37.15E, h5km, ML1.6/6*
*DDA **29** 05:37:32.9, 37.43N×37.15E, h7km±6km, ML2.7*
ISC 29 05:37:32.5±1.1, 37.34N±0.04×37.15E±0.03, h5km±10km, n13, σ0.52/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.18**	**164**	PG	**Pg**	**05 37 35.9**	**-0.2**
GAZ				SG	**Sg**	**05 37 38.5**	**0.0**
KMRS	**Kahramanmaras**	**0.26**	**309**	PG	**Pg**	**05 37 37.4**	**-0.1**
GZT	**Gaziantep**	**0.33**	**88**	*i* P	**Pg**	**05 37 39.2**	**+0.2**
KUZU	**Kuzuini** comp=Z,1μm,0.1s	**0.57**	**186**	IAML_P			
KUZU				*i* P	**Pb**	**05 37 46.2**	**+1.2**
KUZU				*i* S	**Sn**	**05 37 56.6**	**-0.5**
ANDN	**Andirin**	**0.68**	**290**	*i* P	**Pg**	**05 37 45.4**	**-0.2**
ANDN				*i* S	**Sg**	**05 37 54.8**	**+0.3**
ATAB	**Bozova** comp=Z,3μm,0.2s	**0.92**	**82**	IAML_P			
ATAB				*i* P	**Pb**	**05 37 50.4**	**-0.6**
ATAB				*i* S	**Sb**	**05 38 04.0**	**+0.4**
ELBS	**KAHRAMANMARAS** comp=Z,150nm,0.2s	**0.98**	**359**	IAML_P			
ELBS				*i* P	**Pn**	**05 37 53.6**	**+0.5**
SAIM	**ADANA** comp=Z,405nm,0.1s	**1.05**	**307**	IAML_P			
SAIM				*i* P	**Pn**	**05 37 53.5**	**-0.6**
SAIM				*i* S	**Sn**	**05 38 09.3**	**+0.2**
KOZT	**Kozan**	**1.06**	**278**	PG	**Pg**	**05 37 52.6**	**-0.3**
AKCD	**Akcadag** comp=Z,419nm,0.1s	**1.13**	**33**	IAML_P			
AKCD				*i* P	**Pn**	**05 37 55.0**	**-0.1**
AKCD				*i* S	**Sn**	**05 38 11.6**	**+0.5**
TAHT	**Tahtakopru-Hat**	**1.24**	**219**	PN	**Pn**	**05 37 55.8**	**-0.6**

DARE	**Darende-Malaty**	**1.25**	**12**	PN	**Pn**	**05 37 56.4**	**-0.4**
URFA	**Urfa**	**1.34**	**85**	PN	**Pb**	**05 37 57.7**	**-0.4**

KRSC 29 05:37:32.0±0.9, 52°28N×159°80E, h41km±13km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.81**	**281**	*e*P	Pn	05 37 47.4	+0.5
RUS				*e*S	Sn	05 37 58.1	+0.4
SPN	**Mys Shipunski**	**0.83**	**9**	*e*P	Pn	05 37 48.6	+1.4
SPN				*e*S	Sn	05 37 59.8	+1.5
DALK	**Dalny**	**0.99**	**320**	*e*P	Pn	05 37 50.1	+0.8
DALK				*e*S	Sn	05 38 02.5	+0.4
MTVR	**Mutnovka**	**1.01**	**282**	*e*P	Pn	05 37 50.7	+0.8
MTVR				S	Sn	05 38 03.1	+0.1
PET	**Petropavlovsk**	**1.02**	**317**	*e*P	Pn	05 37 50.8	+1.0
PET				*e*S	Sn	05 38 03.9	+0.9
GRL	**Gorelyy**	**1.09**	**285**	*e*P	Pn	05 37 53.0	+2.0
GRL				*e*S	Sn	05 38 07.2	+2.3
UGLR	**Uglovaya**	**1.10**	**328**	*e*P	Pn	05 37 52.5	+1.4
UGLR				*e*S	Sn	05 38 06.9	+1.7
SMAR	**Somma**	**1.16**	**329**	*e*P	Pn	05 37 52.8	+0.9
KRMR	**Karymshinskiy**	**1.16**	**299**	*e*P	Pn	05 37 52.7	+1.0
KRMR				S	Sn	05 38 07.5	+1.1
KDTR	**Khodutka, Kamc**	**1.17**	**247**	*e*P	Pn	05 37 53.1	+1.3
KDTR				*e*S	Sn	05 38 07.7	+1.2
AVH	**Avacha**	**1.18**	**327**	*e*P	Pn	05 37 53.6	+1.5
AVH				*e*S	Sn	05 38 09.6	+2.6
KOK	**Koryaka**	**1.24**	**325**	*e*P	Pn	05 37 54.4	+1.5
KRX	**Arik**	**1.29**	**327**	*e*P	Pn	05 37 55.0	+1.4
KRX				*e*S	Sn	05 38 12.1	+2.4
APC	**Apacha**	**1.74**	**293**	*e*P	Pn	05 38 02.0	+2.4
APC				*e*S	Sn	05 38 24.1	+3.5
KII	**Karymskiy**	**1.77**	**353**	*e*P	Pn	05 38 02.3	+2.1
GNL	**Ganaly**	**1.81**	**322**	*e*P	Pn	05 38 02.8	+2.0
GNL				*e*S	Sn	05 38 25.7	+3.2
KZV	**Kizimen**	**2.85**	**6**	P	Pn	05 38 18.4	+3.3
KZV				*e*S	Sn	05 38 51.9	+3.6
TUMD	**Tumrok D**	**2.95**	**7**	*e*S	Sn	05 38 53.7	+3.2
TUMR	**Tumrok**	**3.02**	**4**	*e*P	Pn	05 38 21.5	+4.2
KBTR	**Krutoberegovo**	**4.31**	**23**	P	Pn	05 38 37.8	+2.8

IDC 29 05:56:16.8±3.2, 4°93S×133°51E, h0km, mb3.2/1, mb1 3.7/4, mb1mx3.5/24, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=128.6km s-min=31.7km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.94**	**177**	Pn	Pn	05 59 48.7	-0.8
	0.2nm,0.3s,baz=357,slow=13,SNR=10.0						
WRA				Sn	Sn	06 02 29.1	-6.8
	0.1nm,0.3s,baz=357,slow=23,SNR=4.5						
FITZ	**Fitzroy Crossi**	**15.18**	**210**	Pn	Pn	05 59 52.1	-0.5
	0.3nm,0.3s,baz=38,slow=13,SNR=10						
FITZ				Sn	Sn	06 02 38.0	-3.6
	0.1nm,0.3s,baz=192,slow=14,SNR=4.3						
ASAR	**Alice Springs**	**18.63**	**179**	P	Pn	06 00 36.7	+0.3
	0.2nm,0.3s,baz=1.9,slow=12,SNR=8.3						
MKAR	**Makanchi Array**	**68.49**	**325**	P	P	06 07 21.0	0.0
	0.1nm,0.4s,baz=127,slow=6.5,SNR=2.7						

IDC 29 06:14:01.9±7.1, 16°35S×176°54W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.4/30, mbtmp3.5/2, Error ellipse: s-maj=545.5km s-min=72.7km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.69**	**258**	P	P	06 22 32.6	-0.2
	0.2nm,0.4s,baz=90,slow=7.1,SNR=5.0						
ASAR	**Alice Springs**	**46.94**	**253**	P	P	06 22 34.8	-0.1
	0.3nm,0.3s,baz=88,slow=7.3,SNR=9.9						
BRTR	**Keskin Array B**	**144.90**	**318**	PKP	PKPbc	06 33 41.0	+0.3
	0.5nm,0.7s,baz=54,slow=2.5,SNR=3.2						

*ISCJB **29** 06:15:14.0±0.3, 51°57N±0.02°×6°82E±0.03, h0km, Error ellipse: s-maj=3.2km s-min=2.0km az=33.7*
*LDG **29** 06:15:13.8±0.6, 51°63N×6°99E, h1km, Ml2.7/4, Error ellipse: s-maj=10.1km s-min=7.4km az=46.0, Suspected Mining induced.*
*BGR **29** 06:15:14.3±0.5, 51°56N×6°76E, h1km, ML2.3/6, Error ellipse: s-maj=5.6km s-min=2.2km az=105.0*
*BUG **29** 06:15:14.3±0.0, 51°60N×6°87E, h1km, ML1.9*
*BNS **29** 06:15:15.4±0.3, 51°56N×6°85E, h1km, ML2.0*

ISC 29 06:15:12.4±0.8, 51°60N±0.02°×6°79E±0.03, h0km, n43, σ1§13/69, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAVN	**Auguste-Victor**	**0.25**	**56**	*e*Pg	**Pb**	**06 15 19.5**	**-0.3**
BAVN				*e*Sg	**Sb**	**06 15 23.7**	**-1.0**
LAUG	**Laupendahl**	**0.27**	**158**	*i* Pg	**Pb**	**06 15 19.7**	**-0.3**
BULI	**Ruhr-Universit**	**0.33**	**116**	*e*Pg	**Pb**	**06 15 20.8**	**-0.3**
BKLB	**Ruhr-Universit**	**0.34**	**118**	*e*Pg	**Pb**	**06 15 21.0**	**-0.3**
BUG	**Bochum--Univer**	**0.34**	**118**	*e*Pg	**Pb**	**06 15 21.0**	**-0.3**
BUG				Sg	**Sg**	**06 15 24.9**	**+1.7**
BTEZ	**Ruhr-Universit**	**0.34**	**116**	*e*Pg	**Pb**	**06 15 21.1**	**-0.2**
WTSB	**Winterswijk**	**0.37**	**1**	*e*Pg	**Pb**	**06 15 22.0**	**+0.2**
	72nm,0.4s						
WTSB				*e*Sg	**Sb**	**06 15 27.6**	**-0.5**
ENTS	**Ennepetalsperr**	**0.53**	**132**	*e*Pg	**Pb**	**06 15 24.4**	**-0.1**
ENTS				*e*Sg	**Sb**	**06 15 31.6**	**-1.1**
	25nm,0.3s						
PLH	**Pulheim**	**0.60**	**178**	*e*Pg	**Pb**	**06 15 25.9**	**+0.3**
PLH				*e*Sg	**Sb**	**06 15 34.0**	**-0.6**
	300nm,0.3s						
RWB	**Wassenberg**	**0.64**	**219**	*e*Sg	**Sb**	**06 15 35.9**	**+0.1**
	210nm,0.5s						
HOBG	**Hohbusch**	**0.70**	**151**	*e*Pg	**Pb**	**06 15 28.1**	**+0.5**
SORT	**Sorpetalsperre**	**0.78**	**108**	*e*Pg	**Pb**	**06 15 28.9**	**+0.1**
SORT				*e*Sg	**Sb**	**06 15 39.6**	**-0.4**
	38nm,0.3s						
WBS	**Wahnbachtalspe**	**0.85**	**158**	*e*Pg	**Pb**	**06 15 30.7**	**+0.6**
WBS				*e*Sg	**Sb**	**06 15 42.1**	**+0.1**
	32nm,0.6s						
GSH	**Grosshau**	**0.90**	**197**	*e*Pg	**Pn**	**06 15 31.9**	**-0.4**
GSH				*e*Sg	**Sb**	**06 15 44.1**	**+0.7**
	40nm,0.4s						
IBBN	**Ibbenburen**	**0.93**	**40**	*e*Pg	**Pn**	**06 15 32.5**	**-0.2**
IBBN				*e*Sg	**Sn**	**06 15 45.9**	**-0.8**
IBBE	**Ibbenbueren Ea**	**0.94**	**41**	*e*Pg	**Pn**	**06 15 32.1**	**-0.7**
IBBE				*e*Sg	**Sn**	**06 15 46.0**	**-1.0**
HGN	**Heimansgroeve**	**0.99**	**213**	*e*Pg	**Pn**	**06 15 33.9**	**+0.4**
	32nm,0.2s						
HGN				*e*Sg	**Sn**	**06 15 47.4**	**-0.9**
DREG	**Dreilaegerbach**	**1.00**	**201**	*e*Pg	**Pn**	**06 15 34.0**	**+0.3**
KLL	**Kalltalsperre**	**1.00**	**198**	*e*Pg	**Pn**	**06 15 33.8**	**+0.1**
STB	**Steinbach**	**1.01**	**178**	*e*Pg	**Pn**	**06 15 33.9**	**+0.2**
STB				*e*Sg	**Sb**	**06 15 47.3**	**+0.9**
	39nm,0.4s						
TDN	**Todenfeld**	**1.03**	**174**	*e*Pg	**Pn**	**06 15 34.2**	**+0.2**
TDN				*e*Sg	**Sb**	**06 15 47.8**	**+0.7**
	37nm,0.3s						
BEBN	**Eben Emael**	**1.06**	**221**	P	**Pn**	**06 15 34.8**	**+0.3**
AHRW	**Bad Neuenahr-A**	**1.07**	**170**	*e*Pg	**Pb**	**06 15 34.2**	**+0.4**
AHRW				*e*Sg	**Sb**	**06 15 48.3**	**-0.1**
MEM	**Membach**	**1.11**	**207**	P	**Pn**	**06 15 35.3**	**+0.2**
MEM				S	**Sn**	**06 15 50.7**	**-0.4**
	comp=N,45nm,0.2s						
OLFT	**Oleftalsperre**	**1.13**	**192**	*e*Pg	**Pn**	**06 15 36.0**	**+0.5**
OLFT				*e*Sg	**Sn**	**06 15 51.4**	**-0.3**
BHE	**Schloss Buerre**	**1.27**	**169**	*e*Pg	**Pn**	**06 15 37.8**	**+0.4**
BHE				*e*Sg	**Sn**	**06 15 55.1**	**0.0**
	comp=N,23nm,0.3s						
HILG	**Hillesheim**	**1.31**	**183**	*e*Pg	**Pn**	**06 15 39.0**	**+1.1**
BHOU	**Houvegnez**	**1.34**	**202**	P	**Pb**	**06 15 39.4**	**+1.0**
BHOU				S	**Sn**	**06 15 57.6**	**+0.7**
LOH	**Wallersheim-Lo**	**1.43**	**187**	*e*Pg	**Pb**	**06 15 40.6**	**+0.8**
LOH				*e*Sg	**Sn**	**06 15 59.5**	**+0.5**
	comp=N,43nm,0.4s						
BGG	**Burgeitz**	**1.44**	**166**	*e*Pg	**Pb**	**06 15 40.4**	**+0.4**
BGES	**Gesves**	**1.62**	**222**	P	**Pg**	**06 15 43.6**	**+0.2**
BGES				S	**Sg**	**06 16 05.0**	**+0.5**
TNS	**Taunus Mts**	**1.73**	**142**	*e*Pg	**Pg**	**06 15 45.8**	**+0.2**
TNS				*e*Sg	**Sg**	**06 16 08.8**	**+0.9**
BMRD	**Maredsous**	**1.82**	**225**	P	**Pg**	**06 15 50.5**	**+3.3**
GIVF	**Givet**	**1.95**	**220**	*e*Pn	**Pb**	**06 15 48.4**	**-0.3**
GIVF				*e*Sn	**Sb**	**06 16 13.4**	**-0.1**
	comp=N,18nm,0.2s						
WLF	**Walferdange**	**1.98**	**192**	*e*Sg	**Sb**	**06 16 15.3**	**+0.9**
CLZ	**Clausthal**	**2.24**	**82**	*e*Sg	**Sg**	**06 16 25.5**	**+1.1**
BAIF	**Baives**	**2.25**	**228**	*e*Pn	**Pb**	**06 15 52.7**	**-1.1**
BAIF				*e*Sn	**Sb**	**06 16 21.2**	**-0.9**
	comp=N,3.7nm,0.2s						
CHRS	**Christianenhau**	**2.51**	**88**	*e*Pn	**Pn**	**06 15 54.6**	**+0.1**
MOX	**Moxa**	**3.19**	**106**	*e*Pn	**Pn**	**06 16 04.9**	**+1.1**
CDF	**Champ du Feu**	**3.21**	**174**	*e*Pn	**Pn**	**06 16 01.8**	**-2.3**
CDF				*e*Sn	**Sn**	**06 16 37.0**	**-6.0**
	comp=N,1.1nm,0.3s						
LOR	**Lormes**	**4.74**	**205**	*e*Pn	**Pn**	**06 16 24.8**	**-0.2**
LOR	**Lormes**	**4.74**	**205**	*e*Pg	**Pg**	**06 16 42.0**	**-1.1**
LOR				*e*Sn	**Sn**	**06 17 17.8**	**-2.8**
LOR				*e*Sg	**Sg**	**06 17 44.2**	**-0.3**
	comp=N,3.5nm,0.3s						
SSF	**Saint Saulge**	**5.02**	**207**	*e*Pn	**Pn**	**06 16 29.0**	**+0.1**

*KRNET **29** 06:26:31.1±0.1, 42°52N×79°66E, h2km, mb3.0*
*ISCJB **29** 06:26:32.7±0.7, 42°53N±0.03°×79°72E±0.04, h10km, Error ellipse: s-maj=6.1km s-min=2.9km az=138.2*
*NNC **29** 06:26:32.1±1.3, 42°57N×79°64E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=8.9km s-min=4.7km az=150.0*
*SOME **29** 06:26:32.1, 42°53N×79°67E, h20km*

ISC 29 06:26:31.8±1.1, 42°49N±0.04°×79°67E±0.04, h10km, n57, σ1§33/106, 16C-16D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.68**	**347**	P	**Pg**	**06 26 44.6**	**-0.5**
	57nm,0.1s						
SHLS				S	**Sg**	**06 26 53.5**	**-0.6**
	331nm,0.2s						
SHLS	**Shalkode**	**0.68**	**347**	*e*P	**Pg**	**06 26 44.6**	**-0.5**
	baz=15						
SHLS				*e*S	**Sg**	**06 26 53.5**	**-0.6**
	baz=15						
SHLS	**Shalkode**	**0.68**	**347**	*e*P	**Pg**	**06 26 44.6**	**-0.5**
	57nm,0.1s						
SHLS				*e*S	**Sg**	**06 26 53.5**	**-0.6**
	331nm,0.2s						
UZB	**Uzynbulak**	**0.81**	**324**	P	**Pg**	**06 26 46.0**	**-1.5**
	14nm,0.1s						
UZB				S	**Sg**	**06 26 56.3**	**-1.9**
	97nm,0.3s						
UZB	**Uzynbulak**	**0.81**	**324**	*e*P	**Pg**	**06 26 46.0**	**-1.5**
	baz=24						
UZB				*e*S	**Sg**	**06 26 56.2**	**-1.9**
	baz=24						
UZB	**Uzynbulak**	**0.81**	**324**	*e*P	**Pg**	**06 26 46.0**	**-1.5**
	14nm,0.1s						
UZB				*e*S	**Sg**	**06 26 56.3**	**-1.9**
	97nm,0.3s						
PDGK	**Podgornoye**	**0.85**	**351**	P	**Pg**	**06 26 46.7**	**-1.6**
	12nm,0.2s						
PDGK				S	**Sg**	**06 26 57.6**	**-1.8**
	46nm,0.2s						
PDGK	**Podgornoye**	**0.85**	**351**	⇑P	**Pg**	**06 26 46.5**	**-1.8**
	3.3nm,0.2s						
PDGK				⇑S	**Sg**	**06 26 57.5**	**-1.8**
	31nm,0.3s						
PDGK	**Podgornoye**	**0.85**	**351**	⇓*i*P	**Pg**	**06 26 46.6**	**-1.6**
	baz=51						
PDGK				⇓*i*S	**Sg**	**06 26 57.4**	**-1.9**
	baz=51						
PRZ	**Przheval'sk**	**0.94**	**270**	⇑*i*P	**Pg**	**06 26 48.5**	**-1.4**
	baz=68						
PRZ				⇑*i*S	**Sg**	**06 27 01.1**	**-1.0**
	baz=68						
KTMS	**Ketmen**	**1.08**	**27**	P	**Pg**	**06 26 51.3**	**-1.3**
	11nm,0.1s						
KTMS				S	**Sg**	**06 27 05.2**	**-1.5**
	34nm,0.2s						
KTMS	**Ketmen**	**1.08**	**27**	*e*P	**Pg**	**06 26 51.3**	**-1.3**
	baz=28						
KTMS				*e*S	**Sg**	**06 27 05.2**	**-1.5**
	baz=28						
KTMS	**Ketmen**	**1.08**	**27**	*e*P	**Pg**	**06 26 51.3**	**-1.3**
	11nm,0.1s						
KTMS				*e*S	**Sg**	**06 27 05.2**	**-1.5**
	34nm,0.2s						
SATY	**Saty**	**1.09**	**302**	*e*P	**Pg**	**06 26 50.8**	**-2.0**
	2.7nm,0.3s						
SATY				*e*S	**Sg**	**06 27 04.8**	**-2.1**
	37nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.58**	**242**	⇑*i*P	**Pn**	**06 27 00.6**	**+0.3**
	baz=41						
TARG				⇑*i*S	**Sb**	**06 27 21.9**	**+0.3**
	baz=41						
MNBS	**Baschi**	**1.84**	**330**	P	**Pb**	**06 27 04.4**	**-1.2**
	14nm,0.2s						
MNBS				S	**Sb**	**06 27 28.2**	**-0.5**
	31nm,0.2s						
MNBS	**Baschi**	**1.84**	**330**	*e*P	**Pb**	**06 27 04.4**	**-1.2**
	baz=30						
MNBS				*e*S	**Sb**	**06 27 28.3**	**-0.5**
	baz=30						
MNBS	**Baschi**	**1.84**	**330**	*e*P	**Pb**	**06 27 04.4**	**-1.2**
	14nm,0.2s						
MNBS				*e*S	**Sb**	**06 27 28.2**	**-0.5**
	31nm,0.2s						
DJR	**Jarkent**	**1.84**	**3**	*e*P	**Pb**	**06 27 04.4**	**-1.3**
	2.9nm,0.2s						
DJR				*e*S	**Sb**	**06 27 27.5**	**-1.4**
	9.2nm,0.3s						
KOTS	**Kotyrbulak**	**2.02**	**292**	P	**Pb**	**06 27 08.1**	**-0.7**
	16nm,0.3s						
KOTS				S	**Sb**	**06 27 33.8**	**-0.2**
	45nm,0.3s						
KOTS	**Kotyrbulak**	**2.02**	**292**	*e*P	**Pb**	**06 27 08.1**	**-0.7**
	baz=92						
KOTS				*e*S	**Sb**	**06 27 33.8**	**-0.2**
	baz=92						
KOTS	**Kotyrbulak**	**2.02**	**292**	*e*P	**Pb**	**06 27 08.1**	**-0.7**
	16nm,0.3s						
KOTS				*e*S	**Sb**	**06 27 33.8**	**-0.2**
	45nm,0.3s						
MDOK	**Medeo**	**2.04**	**290**	Pg	**Pb**	**06 27 08.8**	**-0.3**
	3.5nm,0.4s						
MDOK				⇓Lg	Lg	06 27 34.5	
	5.8nm,0.5s						
MDOK	**Medeo**	**2.04**	**290**	*e*P	**Pb**	**06 27 08.0**	**-1.1**
	baz=89						
MDOK				*e*S	**Sb**	**06 27 34.1**	**-0.5**
	baz=89						
MDOK	**Medeo**	**2.04**	**290**	*e*P	**Pb**	**06 27 08.0**	**-1.1**
	7.5nm,0.2s						
MDOK				*e*S	**Sb**	**06 27 34.0**	**-0.5**
	11nm,0.5s						
TNSS	**Tian-Shan**	**2.08**	**286**	*e*P	**Pb**	**06 27 09.1**	**-0.8**
	baz=86						
TNSS				*e*S	**Sb**	**06 27 35.4**	**-0.5**
	baz=86						
TNSS	**Tian-Shan**	**2.08**	**286**	*e*P	**Pb**	**06 27 09.1**	**-0.8**
	6.7nm,0.3s						
TNSS				*e*S	**Sb**	**06 27 35.3**	**-0.5**
	20nm,0.5s						
ARXS	**Arharly**	**2.18**	**323**	Pg	**Pb**	**06 27 10.9**	**-0.6**
	3.7nm,0.3s						
ARXS				Lg	Lg	06 27 38.4	
	30nm,0.4s						
ARXS	**Arharly**	**2.18**	**323**	*e*P	**Pb**	**06 27 10.9**	**-0.6**
	3.7nm,0.3s						
ARXS				*e*S	**Sb**	**06 27 38.4**	**-0.2**
	30nm,0.4s						
IZV	**Izvestkoviy**	**2.31**	**285**	Pg	**Pb**	**06 27 13.4**	**-0.4**
	17nm,0.2s						
IZV				Lg	Lg	06 27 43.3	
	59nm,0.4s						
IZV	**Izvestkoviy**	**2.31**	**285**	*e*P	**Pb**	**06 27 13.4**	**-0.4**
	baz=84						
IZV				*e*S	**Sb**	**06 27 43.3**	**+0.8**
	baz=84						
IZV	**Izvestkoviy**	**2.31**	**285**	*e*P	**Pb**	**06 27 13.4**	**-0.4**
	17nm,0.2s						
IZV				*e*S	**Sb**	**06 27 43.3**	**+0.8**
	59nm,0.4s						
CHKK	**Chushkaly**	**2.39**	**306**	*e*P	**Pb**	**06 27 14.3**	**-0.6**
	baz=6.0						
CHKK				*e*S	**Sb**	**06 27 44.6**	**+0.2**
	baz=6.0						
CHKK	**Chushkaly**	**2.39**	**306**	*e*P	**Pb**	**06 27 14.3**	**-0.6**
	1.7nm,0.1s						
CHKK				*e*S	**Sb**	**06 27 44.6**	**+0.2**
	40nm,0.3s						
MTBS	**Maitube**	**2.47**	**286**	*e*P	**Pb**	**06 27 16.3**	**0.0**
	baz=86						
MTBS				*e*S	**Sb**	**06 27 47.3**	**+0.5**
	baz=86						
MTBS	**Maitube**	**2.47**	**286**	*e*P	**Pb**	**06 27 16.3**	**0.0**
	14nm,0.2s						
MTBS				*e*S	**Sb**	**06 27 47.3**	**+0.5**
	40nm,0.4s						
KTBS	**Karatobe**	**2.50**	**300**	Pg	**Pb**	**06 27 16.3**	**-0.6**
	4.4nm,0.3s						
KTBS				Lg	Lg	06 27 48.2	
	56nm,0.2s						
KTBS	**Karatobe**	**2.50**	**300**	*e*P	**Pb**	**06 27 16.3**	**-0.6**
	baz=99						
KTBS				*e*S	**Sb**	**06 27 48.2**	**+0.3**
	baz=99						
KTBS	**Karatobe**	**2.50**	**300**	*e*P	**Pb**	**06 27 16.3**	**-0.6**
	4.4nm,0.3s						
KTBS				*e*S	**Sb**	**06 27 48.2**	**+0.3**
	56nm,0.2s						
ULHL	**Ulahol**	**2.55**	**266**	⇓*i*P	**Pb**	**06 27 15.8**	**-2.0**
	baz=65						
ULHL				⇓*i*S	**Sb**	**06 27 47.3**	**-2.0**
	baz=65						
BOOM	**Boomskoye usch**	**2.76**	**271**	⇑*i*P	**Pn**	**06 27 18.1**	**+1.8**
	baz=71						
BOOM				⇑*i*S	**Sb**	**06 27 52.4**	**-2.8**
	baz=71						
KAPS	**Kapalarasan**	**2.80**	**356**	*e*P	**Pb**	**06 27 21.8**	**-0.2**
	1.2nm,0.2s						
KAPS				*e*S	**Sb**	**06 27 57.2**	**+0.8**
	8.5nm,0.4s						
KUU	**Kurty**	**2.81**	**301**	*e*P	**Pb**	**06 27 21.2**	**-0.9**
	baz=1.0						
KUU				*e*S	**Sb**	**06 27 56.9**	**+0.3**
	baz=1.0						
KUU	**Kurty**	**2.81**	**301**	*e*P	**Pb**	**06 27 21.2**	**-0.9**
	1.2nm,0.2s						
KUU				*e*S	**Sb**	**06 27 56.9**	**+0.3**
	20nm,0.4s						
NRN	**Naryn**	**2.93**	**250**	⇑*i*P	**Pn**	**06 27 21.3**	**+2.5**
	baz=50						
NRN				⇑*i*S	**Sb**	**06 27 57.6**	**-2.8**
	baz=50						
DGS	**Degeres**	**2.96**	**286**	Pg	**Pb**	**06 27 25.1**	**+0.3**
	7.5nm,0.3s						
DGS				Lg	Lg	06 28 02.9	
	54nm,0.4s						
DGS	**Degeres**	**2.96**	**286**	*e*P	**Pb**	**06 27 25.1**	**+0.3**
	baz=86						
DGS				*e*S	**Sb**	**06 28 02.9**	**+1.9**
	baz=86						
DGS	**Degeres**	**2.96**	**286**	*e*P	**Pb**	**06 27 25.1**	**+0.3**
	7.5nm,0.3s						
DGS				*e*S	**Sb**	**06 28 02.9**	**+1.9**
	54nm,0.4s						
TKM2	**Tokmak 2**	**3.03**	**280**	⇑Pg	**Pb**	**06 27 26.1**	**+0.1**
	1.2nm,0.3s						
TKM2				⇓Lg	Lg	06 28 04.4	
	4.8nm,0.3s						
TKM2	**Tokmak 2**	**3.03**	**280**	⇓*i*P	**Pn**	**06 27 21.9**	**+1.8**
	baz=79						
TKM2				⇓*i*S	**Sn**	**06 27 58.3**	**+1.8**
	baz=79						
KZA	**Kyzart**	**3.30**	**264**	⇓*i*P	**Pn**	**06 27 26.1**	**+2.1**
	baz=64						
KZA				⇓*i*S	**Sn**	**06 28 06.3**	**+2.8**
	baz=64						
KBK	**Karagaybulak**	**3.49**	**274**	⇓*i*P	**Pn**	**06 27 28.3**	**+2.0**
	baz=74						
KBK				⇓*i*S	**Sn**	**06 28 09.5**	**+1.7**
	baz=74						
AAK	**Ala-Archa**	**3.82**	**274**	Lg	Lg	06 28 28.9	
	0.7nm,0.3s						
UCH	**Uchtor**	**3.83**	**268**	⇑*i*P	**Pn**	**06 27 33.2**	**+2.0**
	baz=67						
UCH				⇑*i*S	**Sn**	**06 28 18.2**	**+1.7**
	baz=67						
USP	**Ospenovka**	**3.88**	**283**	⇑*i*P	**Pn**	**06 27 33.6**	**+2.1**
	baz=83						
USP				⇑*i*S	**Sn**	**06 28 18.8**	**+1.7**
	baz=83						
MAKZ	**Makanchi**	**4.62**	**20**	⇓Pn	**Pn**	**06 27 43.8**	**+2.0**
	0.5nm,0.2s						
MAKZ				⇓Sn	**Sn**	**06 28 37.1**	**+1.7**
	0.1nm,0.2s						
MK31	**Makanchi Array**	**4.69**	**23**	⇓Pn	**Pn**	**06 27 44.7**	**+2.0**
	0.1nm,0.2s,baz=203,slow=13,SNR=18						
MK31				⇑Sn	**Sn**	**06 28 39.7**	**+2.5**
	0.4nm,0.4s,baz=205,slow=25,SNR=4.4						
MK31				⇓Lg	Lg	06 28 58.7	
	0.5nm,0.4s						

*IDC **29** 06:33:07.9±11.0, 0°13N×123°18E, h122km±107km, mb3.3/4, mb1 3.5/5, mb1mx3.2/36, mbtmp3.8/5, ML4.1/1, Error ellipse: s-maj=133.3km s-min=24.5km az=60.0*
*ISCJB **29** 06:33:10.3±0.7, 0°05S±0.09°×122°88E±0.08, h162km, mb3.5/4, Error ellipse: s-maj=13.5km s-min=9.0km az=36.6*
*DJA **29** 06:33:12.0±0.6, 0°S±4°×122°3E±°, h144km±6km, M4.3/6, mb4.5/1, mB5.2/1, MLv4.2/6, Mw(mB)4.6/1*

ISC 29 06:33:11.4±0.9, 0.06S±0.08×122.90E±0.07, h162km, n12, σ1§11/15, mb3.5/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.98**	**187**	P	**Pn**	**06 33 37.0**	**-0.2**
LUWI				S	**Sn**	**06 33 55.0**	**-2.0**
MRSI	**Marisa**	**1.09**	**299**	P	**Pn**	**06 33 37.5**	**-0.6**
MRSI				S	**Sn**	**06 33 56.8**	**-1.8**
KMSI	**Cibinong**	**1.25**	**60**	P	**Pn**	**06 33 39.5**	**0.0**
APSI	**Ampana**	**1.51**	**236**	P	**Pn**	**06 33 42.1**	**+0.2**
SANI	**Sanana**	**3.67**	**123**	P	**Pn**	**06 34 05.7**	**-2.0**
TTSI	**Tana Toraja**	**4.27**	**226**	P	**Pn**	**06 34 15.5**	**0.0**
NLAI	**Namlea**	**5.25**	**127**	P	**Pn**	**06 34 29.4**	**+1.0**
FITZ	**Fitzroy Crossi**	**18.13**	**172**	P	**Pn**	**06 37 12.9**	**-0.2**
	0.4nm,0.3s,baz=10,slow=10,SNR=7.1

0.2nm,0.3s,baz=349,slow=24,SNR=7.7
ASAR Alice Springs 17.95 170 P Pn 06 41 31.7 +1.1
0.3nm,0.3s,baz=349,slow=11,SNR=9.7
ASAR S Sn 06 44 43.2 -7.3
0.1nm,0.3s,baz=352,slow=20,SNR=3.3
MKAR Makanchi Array 67.67 326 P P 06 48 14.9 -0.1
0.2nm,0.4s,baz=116,slow=7.3,SNR=4.8

MAN 29 06:44:18.7, 8.82N×123.25E, h34km, mb4.3, ML3.1, MS2.9, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
DCPH	**Dipolog City**	**0.25**	**157**	↑*e*P	P	Pb	06 44 27.1	+1.1
DCPH				*e*S	S	Sb	06 44 33.2	+2.3
SNPH	**Sibulan**	**0.53**	**358**	↑*i*P	P	Pn	06 44 31.1	+1.3
SNPH				*i*S	S	Sn	06 44 39.1	+1.5
PAGZ	**Pagadian**	**0.97**	**172**	*e*P	P	Pb	06 44 37.6	+0.6
PAGZ				*e*S	S	Sb	06 44 51.3	+1.7
TBP	**Tagbilaran**	**1.06**	**35**	*e*P	P	Pb	06 44 40.6	+2.0
TBP				*i*S	S	Sb	06 44 58.0	+5.8
IPIL	**Ipil**	**1.22**	**213**	*e*P	P	Pn	06 44 40.3	+0.9
IPIL				*e*S	S	Sn	06 44 54.8	+0.1

IDC ***29*** *06:51:10.3±0.8, 20.69N×145.03E, h0km, mb3.7/11, mb1 3.9/11, mb1mx3.8/36, mbtmp3.7/11, Error ellipse: s-maj=26.9km s-min=19.7km az=90.0*
ISCJB ***29*** *06:51:24.0±0.7, 20.7N±0.1×144.9E±0.2, h129km, mb3.5/11, Error ellipse: s-maj=24.7km s-min=16.5km az=179.1*
ISC 29 06:51:25.7±0.9, 20.7N±0.1×144.8E±0.2, h129km, n12, σ0.89/12, mb3.6/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KSRS	**Korea Array**	**22.25**	**322**	P	P		**06 56 12.1**	**+0.1**
	1.0nm,0.7s,baz=142,slow=10,SNR=4.3							
SONM	**Songino Array**	**41.09**	**320**	P	P		**06 58 55.4**	**-1.5**
	0.2nm,0.3s,baz=124,slow=7.8,SNR=2.3							
WRA	**Warramunga Arr**	**41.64**	**195**	P	P		**06 59 01.5**	**+0.1**
	0.4nm,0.3s,baz=15,slow=8.6,SNR=3.8							
ASAR	**Alice Springs**	**45.33**	**194**	P	P		**06 59 30.4**	**-0.6**
	0.4nm,0.3s,baz=12,slow=6.8,SNR=5.3							
ZALV	**Zalesovo Beam**	**55.95**	**322**	P	P		**07 00 51.0**	**+0.7**
	0.9nm,0.5s,baz=99,slow=8.4,SNR=4.4							
MKAR	**Makanchi Array**	**56.51**	**313**	P	P		**07 00 55.7**	**+1.2**
	0.1nm,0.3s,baz=78,slow=7.7,SNR=4.0							
ILAR	**Eielson Array**	**62.26**	**27**	P	P		**07 01 33.1**	**-0.5**
	0.9nm,0.9s,baz=259,slow=5.9,SNR=6.5							
INK	**Inuvik**	**67.90**	**23**	P	P		**07 02 10.1**	**+0.2**
	0.5nm,0.7s,baz=252,slow=3.4,SNR=4.8							
YKA	**Yellowknife Ar**	**76.65**	**28**	P	P		**07 03 02.6**	**+0.6**
	1.1nm,0.6s,baz=291,slow=5.6,SNR=26							
FINES	**FINESS Array B**	**84.75**	**335**	P	P		**07 03 45.5**	**+0.4**
	0.8nm,0.4s,baz=74,slow=3.9,SNR=9.2							
PDAR	**Pinedale Array**	**87.04**	**45**	P	P		**07 03 56.3**	**-0.9**
	0.3nm,0.8s,baz=197,slow=2.5,SNR=4.4							
LPAZ	**La Paz**	**148.49**	**88**	PKPbc	**PKPbc**		**07 10 59.8**	**+0.9**
	0.7nm,0.8s,baz=297,slow=6.8,SNR=3.3							

MEX 29 06:52:32.7±0.4, 14.02N×92.62W, h83km±18km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
THIG		**0.95**	**21**	*e*P	P	Pn	06 52 50.2	-1.2
THIG				*e*S	S	Sn	06 53 03.6	-1.7
PCIG		**1.77**	**341**	*e*P	P	Pn	06 53 00.7	-1.0
PCIG				*e*S	S	Sn	06 53 21.8	-1.9
CCIG	**Comitan**	**2.30**	**12**	*i*P	P	Pn	06 53 07.2	-1.7
CCIG				*e*P			06 53 11.8	
CCIG				*i*S	S	Sn	06 53 35.0	-1.5

SOME ***29*** *06:58:41.6, 42.52N×79.57E, h10km*
KRNET 29 06:58:41.5±0.1, 42.54N×79.58E, h16km, mb2.3, 7C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SHLS	**Shalkode**	**0.62**	**352**	*e*P	P	Pb	06 58 54.6	+0.5
	baz=20							
SHLS				*e*S	S	Sn	06 59 04.2	-1.3
	baz=20							
SHLS	**Shalkode**	**0.62**	**352**	*e*P	P	Pb	06 58 54.6	+0.5
	15nm,0.1s							
SHLS				*e*S	S	Sn	06 59 04.2	-1.3
	60nm,0.2s							
UZB	**Uzynbulak**	**0.73**	**326**	*e*P	P	Pg	06 58 55.8	0.0
	baz=26							
UZB	**Uzynbulak**	**0.73**	**326**	*e*P	P	Pg	06 58 55.8	0.0
	6.3nm,0.1s							
PDGK	**Podgornoye**	**0.79**	**355**	↑*i*P	P	Pg	06 58 56.5	-0.4
	baz=55							
PRZ	**Przheval'sk**	**0.88**	**267**	↑*i*P	P	Pb	06 58 58.0	-0.4
	baz=66							
PRZ				↑*i*S	S	Sg	06 59 10.9	+0.8
	baz=66							
ULHL	**Ulahol**	**2.49**	**264**	↓*e*P	P	Pb	06 59 25.5	-0.5
	baz=64							
ULHL				↓*i*S	S	Sb	06 59 57.6	+1.1
	baz=64							
BOOM	**Boomskoye usch**	**2.69**	**270**	↓*i*P	P	Pb	06 59 28.3	-1.1
	baz=70							
BOOM				↓*i*S	S	Sb	07 00 02.9	+0.6
	baz=70							
NRN	**Naryn**	**2.89**	**249**	↑*i*P	P	Pb	06 59 31.2	-1.7
	baz=49							
NRN				↑*i*S	S	Sb	07 00 07.4	-0.7
	baz=49							
TKM2	**Tokmak 2**	**2.96**	**279**	↓*i*P	P	Pb	06 59 32.0	-2.0
	baz=79							
TKM2				↓*i*S	S	Sb	07 00 08.8	-1.2
	baz=79							
KZA	**Kyzart**	**3.25**	**263**	↑*e*P	P	Pb	06 59 36.0	-3.0
	baz=63							
KZA				↑*i*S	S	Sb	07 00 16.3	-2.1
	baz=63							

KRNET ***29*** *06:58:52.2±0.1, 42.53N×79.65E, h1km, mb3.0*
NNC ***29*** *06:58:52.6±1.6, 42.58N×79.61E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=10.9km s-min=5.8km az=151.0*
ISCJB ***29*** *06:58:54.0±0.8, 42.59N±0.04×79.63E±0.05, h10km, Error ellipse: s-maj=7.1km s-min=3.3km az=135.1*
SOME ***29*** *06:58:53.0, 42.57N×79.62E, h15km*
ISC 29 06:58:53.6±1.1, 42.58N±0.05×79.61E±0.04, h10km, n48, σ1.22/80, 17C-14D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SHLS	**Shalkode**	**0.58**	**349**	P	P	**Pb**	**06 59 05.2**	**-0.8**
	23nm,0.1s							
SHLS				S	**S**	**Sb**	**06 59 13.9**	**-0.4**
	327nm,0.2s							
SHLS	**Shalkode**	**0.58**	**349**	*e*P	P	**Pb**	**06 59 05.2**	**-0.8**
	baz=15							
SHLS				*e*S	**S**	**Sb**	**06 59 14.0**	**-0.4**
	baz=15							
SHLS	**Shalkode**	**0.58**	**349**	*e*P	P	**Pb**	**06 59 05.2**	**-0.8**
	23nm,0.1s							
SHLS				*e*S	**S**	**Sb**	**06 59 13.9**	**-0.4**
	327nm,0.2s							
UZB	**Uzynbulak**	**0.71**	**323**	P	P	**Pg**	**06 59 06.3**	**-1.0**
	17nm,0.2s							
UZB				S	**S**	**Sg**	**06 59 16.3**	**-0.3**
	39nm,0.2s							
UZB	**Uzynbulak**	**0.71**	**323**	*e*P	P	**Pg**	**06 59 06.3**	**-1.0**
	baz=23							
UZB				*e*S	**S**	**Sg**	**06 59 16.4**	**-0.3**
	baz=23							
UZB	**Uzynbulak**	**0.71**	**323**	*e*P	P	**Pg**	**06 59 06.3**	**-1.0**
	17nm,0.2s							
UZB				*e*S	**S**	**Sg**	**06 59 16.3**	**-0.3**
	39nm,0.2s							
UZB	**Uzynbulak**	**0.71**	**323**	*e*S	P	**Pg**	**06 59 06.1**	**-1.2**
	baz=26							
UZB	**Uzynbulak**	**0.71**	**323**	*e*S	P	**Pg**	**06 59 06.1**	**-1.2**
	16nm,0.1s							
PDGK	**Podgornoye**	**0.75**	**353**	P	P	**Pg**	**06 59 07.1**	**-1.0**
	9.5nm,0.1s							
PDGK				S	**S**	**Sg**	**06 59 17.8**	**-0.1**
	23nm,0.2s							
PDGK	**Podgornoye**	**0.75**	**353**	↑P	P	**Pg**	**06 59 07.0**	**-1.0**
	3.4nm,0.2s							
PDGK				↑S	**S**	**Sg**	**06 59 17.5**	**-0.4**
	0.1nm,0.1s							
PDGK	**Podgornoye**	**0.75**	**353**	↑*i*P	P	**Pg**	**06 59 06.9**	**-1.2**
	baz=51							
PDGK				↑*i*S	**S**	**Sg**	**06 59 17.8**	**-0.1**
	baz=51							
PDGK	**Podgornoye**	**0.75**	**353**	↑*i*S	P	**Pg**	**06 59 07.2**	**-0.9**
	baz=55							
PRZ	**Przheval'sk**	**0.90**	**264**	↑*i*P	P	**Pg**	**06 59 09.5**	**-1.4**
	baz=67							
PRZ				↑*i*S	**S**	**Sg**	**06 59 22.3**	**-0.3**
	baz=67							
SATY	**Saty**	**1.00**	**299**	*e*P	P	**Pg**	**06 59 11.7**	**-1.2**
	2.3nm,0.1s							
SATY				*e*S	**S**	**Sg**	**06 59 24.9**	**-1.0**
	53nm,0.2s							
KTMS	**Ketmen**	**1.02**	**32**	P	P	**Pg**	**06 59 12.2**	**-1.0**
	11nm,0.1s							
KTMS				S	**S**	**Sg**	**06 59 25.6**	**-0.9**
	16nm,0.3s							
KTMS	**Ketmen**	**1.02**	**32**	*e*P	P	**Pg**	**06 59 12.2**	**-1.0**
	baz=28							
KTMS				*e*S	**S**	**Sg**	**06 59 25.6**	**-0.9**
	baz=28							
KTMS	**Ketmen**	**1.02**	**32**	*e*P	P	**Pg**	**06 59 12.2**	**-1.0**
	11nm,0.1s							
KTMS				*e*S	**S**	**Sg**	**06 59 25.6**	**-0.9**
	16nm,0.3s							
MNBS	**Baschi**	**1.73**	**330**	P	P	**Pb**	**06 59 24.8**	**-0.8**
	13nm,0.2s							
MNBS				S	**S**	**Sg**	**06 59 47.9**	**-1.4**
	37nm,0.3s							
MNBS	**Baschi**	**1.73**	**330**	*e*P	P	**Pb**	**06 59 24.8**	**-0.8**
	baz=30							
MNBS				*e*S	**S**	**Sg**	**06 59 47.9**	**-1.4**
	baz=30							
MNBS	**Baschi**	**1.73**	**330**	*e*P	P	**Pb**	**06 59 24.8**	**-0.8**
	13nm,0.2s							
MNBS				*e*S	**S**	**Sg**	**06 59 47.9**	**-1.4**
	37nm,0.3s							
DJR	**Jarkent**	**1.75**	**4**	*e*P	P	**Pb**	**06 59 24.8**	**-1.1**
	0.9nm,0.3s							
DJR				*e*S	**S**	**Sb**	**06 59 48.2**	**+0.3**
	11nm,0.4s							
KOTS	**Kotyrbulak**	**1.95**	**290**	Pg	P	**Pb**	**06 59 28.9**	**-0.3**
	9.4nm,0.3s							
KOTS				Lg	**Lg**		06 59 54.5	
	93nm,0.3s							
KOTS	**Kotyrbulak**	**1.95**	**290**	*e*P	P	**Pb**	**06 59 28.9**	**-0.3**
	baz=91							
KOTS				*e*S	**S**	**Sg**	**06 59 54.5**	**-1.6**
	baz=91							
KOTS	**Kotyrbulak**	**1.95**	**290**	*e*P	P	**Pb**	**06 59 28.9**	**-0.3**
	9.4nm,0.3s							
KOTS				*e*S	**S**	**Sg**	**06 59 54.5**	**-1.6**
	93nm,0.3s							
MDOK	**Medeo**	**1.97**	**288**	Pg	P	**Pb**	**06 59 29.0**	**-0.6**
	3.2nm,0.4s							
MDOK				Lg	**Lg**		06 59 54.8	
	3.5nm,0.3s							
ARXS	**Arharly**	**2.08**	**322**	Pg	P	**Pb**	**06 59 31.1**	**-0.4**
	4.1nm,0.4s							
ARXS				Lg	**Lg**		06 59 58.1	
	24nm,0.2s							
ARXS	**Arharly**	**2.08**	**322**	*e*P	P	**Pb**	**06 59 31.1**	**-0.4**
	4.1nm,0.4s							
ARXS				*e*S	**S**	**Sb**	**06 59 58.1**	**+0.6**
	24nm,0.2s							
IZV	**Izvestkoviy**	**2.25**	**283**	Pg	P	**Pb**	**06 59 34.1**	**-0.3**
	5.0nm,0.2s							
IZV				Lg	**Lg**		07 00 03.7	
	26nm,0.2s							
IZV	**Izvestkoviy**	**2.25**	**283**	*e*P	P	**Pb**	**06 59 34.1**	**-0.3**
	baz=84							
IZV				*e*S	**S**	**Sg**	**07 00 03.7**	**-2.2**
	baz=84							
IZV	**Izvestkoviy**	**2.25**	**283**	*e*P	P	**Pb**	**06 59 34.1**	**-0.3**
	5.0nm,0.2s							
IZV				*e*S	**S**	**Sg**	**07 00 03.7**	**-2.2**
	26nm,0.2s							
KTBS	**Karatobe**	**2.42**	**299**	Pg	P	**Pb**	**06 59 36.9**	**-0.3**
	2.2nm,0.1s							
KTBS				Lg	**Lg**		07 00 08.2	
	42nm,0.5s							
KTBS	**Karatobe**	**2.42**	**299**	*e*P	P	**Pb**	**06 59 36.9**	**-0.3**
	baz=98							
KTBS				*e*S	**S**	**Sb**	**07 00 08.2**	**+1.1**
	baz=98							
KTBS	**Karatobe**	**2.42**	**299**	*e*P	P	**Pb**	**06 59 36.9**	**-0.3**
	2.2nm,0.1s							
KTBS				*e*S	**S**	**Sb**	**07 00 08.2**	**+1.1**
	42nm,0.5s							
ULHL	**Ulahol**	**2.52**	**263**	↓*i*P	P	**Pn**	**06 59 36.1**	**+1.4**
	baz=65							
ULHL				↓*i*S	**S**	**Sb**	**07 00 07.5**	**-2.5**
	baz=65							
BOOM	**Boomskoye usch**	**2.71**	**269**	↑*i*P	P	**Pn**	**06 59 38.7**	**+1.3**
	baz=70							
BOOM				↑*i*S	**S**	**Sb**	**07 00 12.8**	**-2.9**
	baz=70							
DGS	**Degeres**	**2.89**	**284**	Pg	P	**Pb**	**06 59 45.3**	**0.0**
	22nm,0.6s							
DGS				Lg	**Lg**		07 00 22.5	
DGS	**Degeres**	**2.89**	**284**	*e*P	P	**Pb**	**06 59 45.3**	**0.0**
	22nm,0.6s							
DGS				*e*S	**S**	**Sb**	**07 00 22.5**	**+1.7**
NRN	**Naryn**	**2.92**	**248**	↓*i*P	P	**Pn**	**06 59 42.0**	**+1.6**
	baz=49							
NRN				↓*i*S	**S**	**Sn**	**07 00 18.1**	**+2.3**
	baz=49							
TKM2	**Tokmak 2**	**2.97**	**278**	↑Pg	P	**Pb**	**06 59 45.2**	**-1.6**
	0.5nm,0.3s							
TKM2				↓Lg	**Lg**		07 00 26.0	
	3.2nm,0.3s							
TKM2	**Tokmak 2**	**2.97**	**278**	↑*i*P	P	**Pn**	**06 59 42.6**	**+1.6**
	baz=79							
TKM2				↑*i*S	**S**	**Sn**	**07 00 19.4**	**+2.6**
	baz=79							
KZA	**Kyzart**	**3.27**	**263**	↓*e*P	P	**Pn**	**06 59 46.8**	**+1.5**
	baz=64							
KZA				↓*e*S	**S**	**Sn**	**07 00 25.9**	**+1.5**
	baz=64							
KBK	**Karagaybulak**	**3.44**	**273**	↓*i*P	P	**Pn**	**06 59 48.8**	**+1.4**
	baz=74							
KBK				↓*i*S	**S**	**Sn**	**07 00 29.9**	**+1.6**
	baz=74							
CHMS	**Chumysh**	**3.60**	**278**	↓*i*P	P	**Pn**	**06 59 50.6**	**+1.2**
	baz=79							
CHMS				↓*i*S	**S**	**Sn**	**07 00 33.8**	**+1.8**
	baz=79							
AAK	**Ala-Archa**	**3.77**	**273**	↑Lg	Lg		07 00 49.5	
	1.4nm,0.5s							
UCH	**Uchtor**	**3.79**	**266**	↓*e*P	P	**Pn**	**06 59 53.9**	**+1.5**
	baz=67							
UCH				↓*i*S	**S**	**Sn**	**07 00 38.7**	**+1.4**
	baz=67							
USP	**Ospenovka**	**3.81**	**282**	↑*e*P	P	**Pn**	**06 59 53.7**	**+1.3**
	baz=83							
USP				↑*i*S	**S**	**Sn**	**07 00 39.0**	**+1.7**
	baz=83							
MAKZ	**Makanchi**	**4.55**	**21**	↑Lg	Lg		07 01 13.2	
	0.8nm,0.6s							
MK31	**Makanchi Array**	**4.62**	**24**	↑Pn	Pn		07 00 08.6	+5.1
	baz=200,slow=13							
MK31				↓Lg	Lg		07 01 16.1	
	0.4nm,0.3s,baz=200,slow=24							

ISCJB ***29*** *07:05:33.1±1.4, 17.3S±0.6×178.8W±0.4, h547km, mb3.4/6, Error ellipse: s-maj=89.1km s-min=18.4km az=149.4*
IDC ***29*** *07:05:36.8±5.8, 17.48S×178.74W, h584km±66km, mb2.9/6, mb1 3.2/6, mb1mx2.9/42, mbtmp3.9/6, Error ellipse: s-maj=78.2km s-min=26.1km az=150.0*
ISC 29 07:05:33.6±1.4, 17.3S±0.6×178.8W±0.4, h547km, n8, σ0.88/10, mb3.4/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
STKA	**Stephens Creek**	**38.62**	**240**	P	P		**07 12 10.6**	**+0.2**
	0.6nm,0.5s,baz=58,slow=19,SNR=2.2							
WRA	**Warramunga Arr**	**44.41**	**259**	P	P		**07 12 56.1**	**-0.2**
	0.8nm,0.4s,baz=95,slow=7.7,SNR=13							
WRA				PcP	**PcP**		**07 14 27.3**	**-0.9**
	0.2nm,0.4s,baz=90,slow=3.5,SNR=3.2							
ASAR	**Alice Springs**	**44.63**	**254**	P	P		**07 12 59.0**	**+1.1**
	4.8nm,0.6s,baz=87,slow=8.6,SNR=92							
ASAR				PcP	**PcP**		**07 14 27.7**	**-1.2**
	0.5nm,0.5s,baz=98,slow=3.7,SNR=6.2							
ILAR	**Eielson Array**	**85.39**	**13**	P	P		**07 17 13.5**	**+0.6**
	0.4nm,0.7s,baz=227,slow=5.1,SNR=4.7							
TXAR	**Lajitas Array**	**85.97**	**58**	P	P		**07 17 17.4**	**+0.8**
	0.5nm,0.8s,baz=226,slow=9.9,SNR=3.0							
PDAR	**Pinedale Array**	**87.16**	**44**	P	P		**07 17 21.4**	**-0.7**
	0.2nm,0.6s,baz=235,slow=3.2,SNR=2.7							
BRTR	**Keskin Array B**	**144.13**	**315**	PKP	**PKPdf**		**07 24 07.1**	**-0.7**
	0.5nm,0.5s,baz=104,slow=3.8,SNR=4.4							
GERES	**GERESS Array B**	**146.96**	**345**	PKPbc	**PKPbc**		**07 24 15.1**	**0.0**
	0.7nm,0.4s,baz=61,slow=4.6,SNR=2.8							

NEIC 29 07:07:18.0±0.0, 61.76N×150.32W, h40km, ML3.5(AEIC), After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SUA	**Susitna One**	**0.36**	**214**	*e*Pn	P	Pn	07 07 26.8	-0.2
SUA				*e*Sn	S	Sn	07 07 34.2	+0.8
PMR	**Palmer**	**0.59**	**106**	*e*Pn	P	Pn	07 07 28.9	-1.0
PMR				*e*Sn	S	Sn	07 07 38.0	-0.3
FIB	**Fire Island**	**0.60**	**173**	*e*Pn	P	Pn	07 07 30.1	0.0
GHO	**Glory Hole Cre**	**0.66**	**88**	*e*Pn	P	Pn	07 07 30.2	-0.7
GHO				*e*Sn	S	Sn	07 07 40.9	+0.6
GHO				*e*Sn	S	Sn	07 07 41.2	+0.9
RC01	**Rabbit Creek A**	**0.73**	**157**	*e*Pn	P	Pn	07 07 30.5	-1.3
SML	**Sawmill**	**0.95**	**86**	*e*Pn	P	Pn	07 07 33.8	-1.0
SML				*e*Sn	S	Sn	07 07 47.4	+0.3
KNK	**Knik Glacier**	**0.96**	**111**	*e*Pn	P	Pn	07 07 34.4	-0.6
SPCN	**Chakachatna No**	**1.04**	**240**	P	P	Pn	07 07 35.6	-0.5
SPNN	**North Nagishla**	**1.21**	**252**	*e*Pn	P	Pn	07 07 37.4	-1.1
SPNN				*e*Sn	S	Sn	07 07 53.6	-0.1
HUR	**Hurricane**	**1.26**	**14**	*e*Pn	P	Pn	07 07 38.6	-0.5
PWL	**Port Wells**	**1.32**	**132**	*e*Pn	P	Pn	07 07 39.2	-0.7
SCM	**Sheep Creek Mo**	**1.42**	**86**	*e*Pn	P	Pn	07 07 41.2	-0.2
PPLA	**Purkeypile**	**1.44**	**323**	*e*Pn	P	Pn	07 07 40.8	-0.8
RDJH	**Redoubt Jeurge**	**1.68**	**227**	P	P	Pn	07 07 44.5	-0.5
TRF	**Thorofare Moun**	**1.70**	**1**	*e*Pn	P	Pn	07 07 44.6	-0.6
SEW	**Seward**	**1.72**	**165**	*e*Pn	P	Pn	07 07 45.7	+0.5
RDN	**Redoubt North**	**1.72**	**225**	*e*Pn	P	Pn	07 07 44.8	-0.7
RSO	**Redoubt South**	**1.76**	**223**	*e*Pn	P	Pn	07 07 45.5	-0.6
RDWB	**Redoubt West**	**1.77**	**225**	P	P	Pn	07 07 45.7	-0.5
RDWB				S	S	Sn	07 08 08.1	+0.7
RND	**Reindeer**	**1.79**	**22**	*e*Pn	P	Pn	07 07 46.0	-0.4
GLI	**Glacier Island**	**1.79**	**118**	*e*Pn	P	Pn	07 07 45.0	-1.3
CAST	**Castle Rocks**	**1.85**	**335**	*e*Pn	P	Pn	07 07 46.8	-0.4
JPK	**Jack Peak**	**1.93**	**110**	*e*Pn	P	Pn	07 07 47.3	-1.0
BRLK	**Bradley Lake**	**2.02**	**188**	*e*Pn	P	Pn	07 07 49.8	+0.3
MCK	**McKinley**	**2.08**	**17**	*e*Pn	P	Pn	07 07 50.2	-0.2
KLU	**Klutina**	**2.12**	**95**	*e*Pn	P	Pn	07 07 50.1	-0.8
IVE	**Iliamna Volcan**	**2.19**	**218**	P	P	Pn	07 07 51.7	-0.2
ILW	**Iliamna West**	**2.19**	**220**	*e*Pn	P	Pn	07 07 51.7	-0.3
ILS	**Iliamna Low So**	**2.25**	**218**	P	P	Pn	07 07 52.8	0.0
DIV	**Divide**	**2.27**	**104**	*e*Pn	P	Pn	07 07 51.9	-1.1
BPAW	**Bear Paw Mtn.**	**2.37**	**353**	*e*Pn	P	Pn	07 07 53.2	-1.1
HARP	**HAARP**	**2.52**	**73**	*e*Pn	P	Pn	07 07 56.7	+0.4
PAX	**Paxson**	**2.57**	**60**	*e*Pn	P	Pn	07 07 57.3	+0.2
SVW2	**Sparrevohn**	**2.61**	**258**	*e*Pn	P	Pn	07 07 56.3	-1.4
TT01	**Tatalina**	**2.90**	**296**	*e*Pn	P	Pn	07 08 00.1	-1.4
WRH	**Wood River Hil**	**2.90**	**19**	*e*Pn	P	Pn	07 08 01.1	-0.5
HDA	**Harding Lake**	**3.07**	**28**	*e*Pn	P	Pn	07 08 03.7	-0.2
PS08	**TAPS Pump Stn8**	**3.21**	**28**	*e*Pn	P	Pn	07 08 05.8	0.0
MLY	**Manley**	**3.29**	**357**	*e*Pn	P	Pn	07 08 05.9	-1.0
COLA	**College**	**3.32**	**19**	*e*Pn	P	Pn	07 08 06.5	-0.8
MDM	**Murphy Dome**	**3.35**	**15**	*e*Pn	P	Pn	07 08 07.1	-0.6
IL1	**Eielson Array**	**3.40**	**26**	*e*Pn	P	Pn	07 08 07.3	-1.1
ILB	**Eielson Array**	**3.40**	**26**	*e*Pn	P	Pn	07 08 07.6	-0.8
DOT	**Dot Lake**	**3.45**	**54**	*e*Pn	P	Pn	07 08 09.1	0.0
SCRK	**Sand Creek**	**3.66**	**50**	*e*Pn	P	Pn	07 08 12.3	+0.3
KDAK	**Kodiak Island**	**4.15**	**197**	*e*Pn	P	Pn	07 08 19.0	+0.3
BCA3	**Beaver Creek A**	**4.18**	**68**	*e*Pn	P	Pn	07 08 19.0	-0.2
PRP	**Porcupine Dome**	**4.34**	**27**	*e*Pn	P	Pn	07 08 21.3	-0.1
BVCY	**Beaver Creek**	**4.50**	**77**	P	P	Pn	07 08 23.5	0.0
IM3	**Indian Mountai**	**4.50**	**342**	*e*Pn	P	Pn	07 08 22.6	-1.0
YUK3	**Moose Creek**	**4.68**	**85**	P	P	Pn	07 08 25.6	-0.6
EGAK	**Eagle**	**5.12**	**50**	*e*Pn	P	Pn	07 08 31.6	-0.4
FYU	**Fort Yukon**	**5.31**	**23**	*e*Pn	P	Pn	07 08 33.3	-1.3
COLD	**Coldfoot**	**5.49**	**0**	*e*Pn	P	Pn	07 08 36.9	-0.2
DAWY	**Dawson**	**5.50**	**60**	*e*Pn	P	Pn	07 08 36.6	-0.7
HYT	**Haines Junctio**	**6.25**	**93**	*e*Pn	P	Pn	07 08 47.2	-0.4
ANM	**Nome**	**7.37**	**299**	*e*Pn	P	Pn	07 09 04.2	-0.4
INK	**Inuvik**	**9.64**	**40**	*e*Pn	P	Pn	07 09 33.7	-0.2

IDC ***29*** *07:54:47.9±0.9, 0.71S×134.08E, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.8/32, mbtmp3.8/8, ML3.8/3, Error ellipse: s-maj=30.6km s-min=17.8km az=77.0*
ISCJB ***29*** *07:54:50.9±0.6, 0.69S±0.05×134.08E±0.05, h32km, mb3.8/6, Error ellipse: s-maj=7.6km s-min=6.3km az=18.7*
DJA ***29*** *07:54:50.6±0.7, 1°S±4°×13°4E±°, h12km±3km, M4.8/6, mb5.7/1, mB5.9/1, MLv4.3/6, Mw(mB)5.5/1*
**ISC 29 07:54:52.7±0.7, 0.74S±0.07×134.08E±0.05, h32km, n20, σ1.21/21, mb3.9/6, Irian J

KNL				*i* P	**Pb**	**08 20 46.0**	**+0.6**
KNL				*i* S	**Sb**	**08 20 55.6**	**+0.6**
BGKT	**Bogazkoy**	**0.75**	**68**	PG	**Pn**	**08 20 47.8**	**-0.6**
KESN	**Edirne-Kesan**	**0.89**	**266**	IAML_P			
	comp=Z,200nm,0.1s						
KESN				*i* P	**Pb**	**08 20 49.7**	**+0.5**
KESN				*i* S	**Sb**	**08 21 03.0**	**+1.3**
ISK	**Istanbul-Kandi**	**0.93**	**79**	PG	**Pn**	**08 20 51.4**	**+0.5**
KAVV	**Kandilli-Istan**	**0.93**	**79**	PG	**Pn**	**08 20 51.6**	**+0.7**
BUY	**Buyukada**	**0.96**	**92**	IAML_P			
	comp=Z,395nm,0.1s						
BUY				*eP*	**Pg**	**08 20 49.1**	**-0.3**
BUY				*i* S	**Sb**	**08 21 03.8**	**+0.5**
KLYT	**Kilyos**	**0.97**	**68**	PG	**Pn**	**08 20 51.9**	**+0.5**
BALY	**Balya**	**1.17**	**189**	*eP*	**Pg**	**08 20 51.4**	**-2.0**
BALY				*i* S	**Sg**	**08 21 09.5**	**+0.9**
DURS	**Dursunbey**	**1.38**	**160**	*i* P	**Pn**	**08 20 57.4**	**+0.2**
DURS				*i* S	**Sb**	**08 21 14.9**	**-0.7**
BAYC	**CANAKKALE_Bayr**	**1.53**	**221**	*eP*	**Pn**	**08 20 57.0**	**-2.1**
BAYC				*i* S	**Sb**	**08 21 20.1**	**+0.5**
GDZ	**Gediz**	**2.20**	**145**	*eP*	**Pb**	**08 21 12.1**	**+0.6**
GDZ				*i* S	**Sb**	**08 21 39.7**	**+0.5**

NNC 29 08:22:45.0±1.7, 37.00N×70.89E, h204km±24km, mb2.6, mpv3.6, 8C-3D, Error ellipse: s-maj=19.2km s-min=14.7km az=66.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.64**	**33**	⇓P	Pn	08 23 42.3	-0.4
	7.0nm,0.3s						
SFK				⇓S	S	08 24 28.6	+1.1
	25nm,0.5s						
MNAS	**Manas**	**5.62**	**12**	⇑P	Pn	08 24 08.9	+1.3
	1.5nm,0.3s						
MNAS				⇑S	S	08 25 14.0	+1.5
	14nm,0.5s						
KK31	**Karatay Array**	**6.10**	**357**	P	Pn	08 24 14.2	+0.6
	1.6nm,0.5s,baz=176,slow=12,SNR=19						
KK31				⇑S	S	08 25 23.4	-0.2
	2.4nm,0.3s,baz=182,slow=19,SNR=19						
AAK	**Ala-Archa**	**6.28**	**25**	⇑P	Pn	08 24 16.3	+0.3
	1.3nm,0.3s						
AAK				⇓S	S	08 25 29.1	+1.2
	6.7nm,0.6s						
TKM2	**Tokmak 2**	**6.93**	**30**	⇑P	Pn	08 24 23.6	-0.9
	4.8nm,0.6s						
TKM2				⇑S	S	08 25 43.6	+0.2
	1.9nm,0.6s						
AB31	**Akbulak array**	**14.61**	**330**	⇑P	Pn	08 26 01.5	-0.5
	0.9nm,0.6s,baz=145,slow=8.0,SNR=20						
AKTO	**Aktyubinsk**	**16.30**	**330**	⇑P	P	08 26 21.6	-0.2
	4.0nm,0.9s						

NNC 29 08:44:22.8±5.0, 53.45N×88.09E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=37.3km s-min=32.0km az=51.0, Suspected Mining explosion.

KRAR 29 08:44:20.5±0.1, 53.44N×87.45E, M2.4, 5C-6D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**6.09**	**247**	⇑Pn	Pn	08 45 58.4	+6.7
	6.5nm,1.4s						
KURK				⇓Lg	Lg	08 47 47.1	
	6.0nm,0.7s						
KURBB	**Kurchatov Arra**	**6.18**	**246**	⇓Pn	Pb	08 46 01.8	-7.2
	2.1nm,0.5s						
KURBB				⇓Sn	Sb	08 47 15.0	-8.4
	5.5nm,0.7s						
KURBB				⇑Lg	Lg	08 47 51.4	
	9.8nm,0.8s						
MK31	**Makanchi Array**	**7.43**	**209**	⇑Pn	Pn	08 46 18.6	+8.4
	0.3nm,0.5s,baz=27,slow=13,SNR=14						
MK31				⇑Sn	Sn	08 47 44.4	+9.2
	0.5nm,0.5s,baz=29,slow=29						
MK31				⇑Lg	Lg	08 48 26.3	
	2.1nm,0.7s						
MAKZ	**Makanchi**	**7.51**	**210**	⇓Pn	Pn	08 46 12.9	+1.7
	0.2nm,0.3s						
MAKZ				⇓Sn	Sn	08 47 47.1	+10
	0.8nm,0.5s						
MAKZ				⇓Lg	Lg	08 48 23.8	
	7.2nm,1.2s						

ISCJB 29 08:45:08.7±0.6, 6.16S±0.07×130.3E±0.2, h124km, mb3.9/6, Error ellipse: s-maj=30.7km s-min=8.0km az=171.1

IDC 29 08:45:10.7±2.8, 6.10S×130.12E, h121km±30km, mb3.7/6, mb1 3.9/9, mb1mx3.5/37, mbtmp4.3/9, Error ellipse: s-maj=56.9km s-min=16.3km az=79.0

ISC 29 08:45:09.2±0.8, 6.21S±0.06×130.3E±0.2, h124km, n10, σ35.57/13, mb3.8/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.40**	**10**	P	**Pn**	**08 46 27.8**	**+0.2**
	25nm,0.3s,baz=192,slow=19,SNR=66						
SIJI				S	**Sn**	**08 47 22.8**	**-5.9**
	21nm,0.3s,baz=245,slow=23,SNR=19						
FITZ	**Fitzroy Crossi**	**12.66**	**201**	P	**Pn**	**08 48 06.4**	**+1.5**
	0.7nm,0.3s,baz=23,slow=12,SNR=31						
FITZ				S	**Sn**	**08 50 18.4**	**-6.0**
	0.8nm,0.3s,baz=53,slow=16,SNR=3.2						
WRA	**Warramunga Arr**	**14.20**	**164**	P	**Pn**	**08 48 25.2**	**+0.4**
	0.4nm,0.3s,baz=337,slow=13,SNR=21						
WRA				S	Sn	08 50 53.1	-8.7
	1.6nm,0.3s,baz=352,slow=22,SNR=9.2						
ASAR	**Alice Springs**	**17.70**	**169**	P	**Pn**	**08 49 11.8**	**+3.9**
	1.7nm,0.3s,baz=349,slow=9.0,SNR=103						
ASAR				S	**S**	**08 52 19.6**	**-5.2**
	0.2nm,0.3s,baz=352,slow=24,SNR=4.1						
STKA	**Stephens Creek**	**27.63**	**159**	P	**P**	**08 50 48.1**	**+2.9**
	2.5nm,0.4s,baz=341,slow=9.6,SNR=8.5						
SONM	**Songino Array**	**57.80**	**341**	P	**P**	**08 54 48.9**	**+1.3**
	0.3nm,0.3s,baz=159,slow=6.3,SNR=4.5						
MKAR	**Makanchi Array**	**67.73**	**327**	P	**P**	**08 55 54.8**	**+1.4**
	2.1nm,0.4s,baz=114,slow=7.9,SNR=49						
ZALV	**Zalesovo Beam**	**71.01**	**334**	P	**P**	**08 56 13.4**	**+0.1**
	0.8nm,0.4s,baz=149,slow=6.1,SNR=2.8						
KURBB	**Kurchatov Arra**	**72.00**	**328**	P	**P**	**08 56 19.9**	**+0.6**
	0.8nm,0.5s,baz=126,slow=4.9,SNR=7.1						
BVAR	**Borovoye Array**	**77.56**	**328**	P	**P**	**08 56 51.5**	**+0.1**
	0.4nm,0.5s,baz=150,slow=6.1,SNR=2.8						

MEX 29 08:47:34.4±0.8, 14.28N×92.63W, h25km±108km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.72**	**30**	*eP*	Pb	08 47 46.2	-2.1
THIG				*eS*	Sb	08 47 55.6	-2.2
PCIG		**1.52**	**338**	*eP*	Pn	08 47 57.9	-2.2
PCIG				*eS*	Sn	08 48 15.2	-3.9
CCIG	**Comitan**	**2.05**	**13**	*i* P	Pn	08 48 05.8	-1.6
CCIG				*eP*	Pb	08 48 08.4	-2.6
CCIG				*i* S	Sn	08 48 29.8	-2.5

IDC 29 08:57:53.7±0.7, 42.46N×79.76E, h0km, mb4.1/17, mb1 4.2/25, mb1mx4.0/57, mbtmp4.1/25, ML4.1/8, MS3.3/7, Ms1 3.4/7, ms1mx3.1/40, Error ellipse: s-maj=12.8km s-min=9.3km az=176.0

BJI 29 08:57:53.2, 42.66N×79.57E, h10km, mb4.1/20, mB4.5/15, ML4.5/10, Ms4.1/10, Ms7 4.1/5

MOS 29 08:57:54.5±1.6, 42.53N×79.80E, h15km, mb4.4/15, Error ellipse: s-maj=6.3km s-min=5.1km az=91.3

NEIC 29 08:57:55.6±0.3, 42.52N×79.80E, h10km, mb4.4/14, Error ellipse: s-maj=6.1km s-min=4.5km az=153.0

ISCJB 29 08:57:55.6±0.6, 42.51N±0.03×79.87E±0.02, h20km±4km, mb4.2/36, MS3.4/5, Error ellipse: s-maj=4.5km s-min=2.5km az=162.6

NNC 29 08:57:56.9±1.0, 42.63N×79.69E, h0km, mb5.0, mpv4.7, Error ellipse: s-maj=7.8km s-min=4.1km az=113.0

KRNET 29 08:57:56.9±0.1, 42.60N×79.70E, h27km, mb5.0

SOME 29 08:57:56.3, 42.55N×79.67E, h15km, MS3.3

ISC 29 08:57:56.3±0.8, 42.61N±0.03×79.73E±0.02, h14km±4km, n190, σ1886/242, mb4.3/36, MS3.2/5, 39C-26D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.58**	**340**	*eP*	**Pg**	**08 58 08.4**	**+0.6**
	baz=14						
SHLS				*eS*	**Sg**	**08 58 17.1**	**+1.5**
	baz=14						
SHLS	**Shalkode**	**0.58**	**340**	*eP*	**Pg**	**08 58 08.4**	**+0.6**
	5μm,0.4s						
SHLS				*eS*	**Sg**	**08 58 17.1**	**+1.5**
	16μm,0.5s						
PDGK	**Podgornoye**	**0.74**	**346**	⇓P	**Pg**	**08 58 10.8**	**+0.1**
	888nm,0.4s						
PDGK				⇑S	**Sg**	**08 58 21.0**	**+0.4**
	10μm,0.9s						
PDGK	**Podgornoye**	**0.74**	**346**	PG	**Pg**	**08 58 10.8**	**+0.1**
PDGK				S	**Sg**	**08 58 20.9**	**+0.4**
PDGK				pmax	pmax		
	comp=Z,888nm,0.4s						
PDGK				smax	smax		
	comp=E,10μm,0.9s						
PDGK	**Podgornoye**	**0.74**	**346**	⇓*i*P	**Pg**	**08 58 10.8**	**+0.1**
	baz=48						
PDGK				⇓*i*S	**Sg**	**08 58 20.9**	**+0.4**
	baz=48						
UZB	**Uzynbulak**	**0.75**	**316**	*eP*	**Pg**	**08 58 10.7**	**-0.2**
	baz=18						
UZB				*eS*	**Sg**	**08 58 21.1**	**+0.3**
	baz=18						
UZB	**Uzynbulak**	**0.75**	**316**	*eP*	**Pg**	**08 58 10.7**	**-0.2**
	comp=E,563nm,0.1s						
UZB				*eS*	**Sg**	**08 58 21.1**	**+0.3**
	comp=E,10μm,0.4s						
KTMS	**Ketmen**	**0.95**	**28**	*eP*	**Pg**	**08 58 14.9**	**+0.2**
	baz=28						
KTMS				*eS*	**Sg**	**08 58 28.0**	**+0.8**
	baz=28						
KTMS	**Ketmen**	**0.95**	**28**	*eP*	**Pg**	**08 58 14.9**	**+0.2**
	comp=E,200nm,0.1s						
KTMS				*eS*	**Sg**	**08 58 28.0**	**+0.8**
	comp=E,2μm,0.4s						
PRZ	**Przheval'sk**	**0.99**	**263**	*ePg*	**Pg**	**08 58 14.6**	**-0.9**
PRZ	**Przheval'sk**	**0.99**	**263**	*ePG*	**Pg**	**08 58 14.6**	**-0.9**
PRZ	**Przheval'sk**	**0.99**	**263**	⇓*i*P	**Pg**	**08 58 14.8**	**-0.7**
	baz=63						
PRZ				⇓*i*S	**Sg**	**08 58 27.9**	**-0.6**
	baz=63						
SATY	**Saty**	**1.07**	**295**	*eP*	**Pg**	**08 58 16.5**	**-0.6**
	comp=E,1μm,0.4s						
SATY				*eS*	**Sg**	**08 58 30.7**	**-0.4**
	comp=E,6μm,0.4s						
TARG	**Taragay, Kyrgy**	**1.68**	**239**	*ePn*	**Pn**	**08 58 25.3**	**-0.4**
TARG				*eSn*	**Sn**	**08 58 47.6**	**+0.3**
MNBS	**Baschi**	**1.76**	**327**	*eP*	**Pb**	**08 58 28.8**	**+0.3**
	comp=E,315nm,0.2s						
MNBS				*eS*	**Sb**	**08 58 52.2**	**+1.7**
	comp=E,3μm,0.7s						
KOTS	**Kotyrbulak**	**2.02**	**289**	*eP*	**Pb**	**08 58 34.0**	**+1.0**
	comp=E,702nm,0.3s						
KOTS				*eS*	**Sg**	**08 59 01.4**	**0.0**
	comp=E,8μm,0.6s						
MDOK	**Medeo**	**2.05**	**287**	⇑P	**Pn**	**08 58 32.1**	**+1.5**
	comp=E,333nm,0.4s						
MDOK				⇓S	**Sb**	**08 58 59.0**	**+0.2**
	comp=E,3μm,0.5s						
MDOK	**Medeo**	**2.05**	**287**	*eP*	**Pb**	**08 58 33.0**	**-0.4**
	comp=E,579nm,0.3s						
MDOK				*eS*	**Sb**	**08 58 59.7**	**+0.8**
	comp=E,3μm,0.6s						
TNSS	**Tian-Shan**	**2.09**	**283**	*eP*	**Pb**	**08 58 33.9**	**-0.4**
	comp=E,1μm,0.5s						
TNSS				*eS*	**Sb**	**08 59 01.6**	**+1.3**
	comp=E,5μm,0.6s						
ARXS	**Arharly**	**2.12**	**320**	*eP*	**Pb**	**08 58 35.3**	**+0.7**
	comp=E,593nm,0.5s						
ARXS				*eS*	**Sb**	**08 59 03.0**	**+2.1**
	comp=E,8μm,0.7s						
KNDC	**Almaty**	**2.12**	**288**	⇑Pn	**Pb**	**08 58 34.4**	**-0.2**
	comp=E,998nm,0.5s						
KNDC				⇑Lg	Lg	08 59 04.9	
	comp=E,9μm,0.6s						
AAA	**Alma-Ata**	**2.15**	**287**	*ePN*	**Pb**	**08 58 35.2**	**0.0**
AAA	**Alma-Ata**	**2.15**	**287**	*eP*	**Pb**	**08 58 36.0**	**+0.8**
	comp=E,2μm,0.4s						
AAA				*eS*	**Sg**	**08 59 05.2**	**-0.4**
	comp=E,8μm,0.5s						
IZV	**Izvestkoviy**	**2.33**	**282**	*eP*	**Pb**	**08 58 38.2**	**-0.1**
	comp=E,319nm,0.2s						
IZV				*eS*	**Sb**	**08 59 08.3**	**+1.2**
	comp=E,2μm,0.6s						
CHKK	**Chushkaly**	**2.36**	**303**	*eP*	**Pb**	**08 58 38.5**	**-0.2**
	comp=E,186nm,0.4s						
CHKK				*eS*	**Sb**	**08 59 09.2**	**+1.5**
	comp=E,4μm,0.4s						
MTBS	**Maitube**	**2.48**	**283**	*eP*	**Pb**	**08 58 40.6**	**-0.2**
	comp=E,893nm,0.5s						
MTBS				*eS*	**Sb**	**08 59 12.5**	**+1.2**
	comp=E,6μm,0.5s						
KTBS	**Karatobe**	**2.49**	**297**	*eP*	**Pb**	**08 58 40.7**	**-0.1**
	comp=E,267nm,0.3s						
KTBS				*eS*	**Sb**	**08 59 12.4**	**+1.0**
	comp=E,7μm,0.6s						
TDK	**Taldyqorghan**	**2.58**	**339**	*eP*	**Pb**	**08 58 42.5**	**+0.2**
	comp=E,750nm,0.7s						
TDK				*eS*	**Sb**	**08 59 15.9**	**+2.0**
	comp=E,7μm,0.7s						
ULHL	**Ulahol**	**2.61**	**263**	P	**Pn**	**08 58 40.6**	**+2.2**
	SNR=783						
ULHL	**Ulahol**	**2.61**	**263**	⇓*eP*	**Pn**	**08 58 40.5**	**+2.2**
	baz=63						
ULHL				⇓*i*S	**Sn**	**08 59 12.3**	**+2.4**
	baz=63						
KUU	**Kurty**	**2.79**	**299**	*eP*	**Pb**	**08 58 45.6**	**-0.4**
	comp=E,230nm,0.3s						
KUU				*eS*	**Sb**	**08 59 21.4**	**+1.3**
	comp=E,2μm,0.7s						
BOOM	**Boomskoye usch**	**2.81**	**269**	⇑*i*P	**Pn**	**08 58 42.7**	**+1.7**
	baz=69						
BOOM				⇑*i*S	**Sn**	**08 59 17.3**	**+2.6**
	baz=69						
DGS	**Degeres**	**2.98**	**284**	*eP*	**Pb**	**08 58 49.7**	**+0.5**
	comp=E,1μm,0.7s						
DGS				*eS*	**Sb**	**08 59 27.7**	**+2.2**
	comp=E,7μm,0.6s						
NRN	**Naryn**	**3.02**	**248**	*ePn*	**Pn**	**08 58 44.6**	**+0.6**
NRN	**Naryn**	**3.02**	**248**	*ePN*	**Pn**	**08 58 44.6**	**+0.6**
NRN	**Naryn**	**3.02**	**248**	⇓*eP*	**Pn**	**08 58 46.8**	**+2.8**
	baz=48						
NRN				⇓*i*S	**Sn**	**08 59 22.3**	**+2.1**
	baz=48						
TKM2	**Tokmak 2**	**3.06**	**277**	P	**Pn**	**08 58 47.5**	**+3.0**
	SNR=295						
TKM2	**Tokmak 2**	**3.06**	**277**	⇓Pn	**Pn**	**08 58 47.3**	**+2.8**
	comp=E,304nm,0.5s						
TKM2				⇑Lg	Lg	08 59 29.3	
	comp=E,1μm,0.5s						
TKM2	**Tokmak 2**	**3.06**	**277**	*i* PN	**Pn**	**08 58 47.3**	**+2.8**
TKM2				pmax	pmax		
	comp=Z,304nm,0.5s						
TKM2	**Tokmak 2**	**3.06**	**277**	⇑*eP*	**Pn**	**08 58 47.2**	**+2.7**
	baz=77						
TKM2				⇑*i*S	**Sn**	**08 59 23.5**	**+2.4**
	baz=77						
KZA	**Kyzart**	**3.37**	**262**	P	**Pn**	**08 58 52.3**	**+3.4**
	SNR=120						
KZA	**Kyzart**	**3.37**	**262**	⇑*eP*	**Pn**	**08 58 51.2**	**+2.3**
	baz=62						
KZA				⇑*i*S	**Sn**	**08 59 30.6**	**+1.7**
	baz=62						
KBK	**Karagaybulak**	**3.53**	**272**	P	**Pn**	**08 58 53.7**	**+2.8**
	SNR=224						
KBK	**Karagaybulak**	**3.53**	**272**	⇑*iP*	**Pn**	**08 58 53.7**	**+2.8**
	baz=72						
KBK				⇑*i*S	**Sn**	**08 59 34.9**	**+2.3**
	baz=72						
CHMS	**Chumysh**	**3.69**	**278**	P	**Pn**	**08 58 55.3**	**+2.4**
	SNR=27						
CHMS	**Chumysh**	**3.69**	**278**	⇑*eP*	**Pn**	**08 58 55.3**	**+2.4**
	baz=78						
CHMS				⇑*i*S	**Sn**	**08 59 37.7**	**+1.5**
	baz=78						
FRU	**Bishkek**	**3.78**	**275**	*ePN*	**Pn**	**08 58 58.0**	**+3.8**
FRU				*i*		08 59 03.0	
FRU				*eS*	**Sb**	**08 59 49.0**	**+0.6**
FRU				pmax	pmax		
	comp=Z,400nm,1.8s						
FRU				smax	smax		
	comp=N,1μm,1.8s						
AAK	**Ala-Archa**	**3.87**	**272**	Pn	**Pn**	**08 58 58.0**	**+2.5**
	comp=N,14nm,0.3s,baz=108,slow=7.3,SNR=54						
AAK				Pg	**Pb**	**08 59 05.8**	**+1.4**
	comp=N,98nm,0.3s,baz=101,slow=9.1,SNR=72						
AAK				Lg	Lg	08 59 51.8	
	comp=N,84nm,0.3s,baz=164,slow=24,SNR=10						
AAK	**Ala-Archa**	**3.87**	**272**	P	**Pn**	**08 58 57.8**	**+2.3**
	SNR=41						
AAK	**Ala-Archa**	**3.87**	**272**	*ePn*	**Pn**	**08 58 56.7**	**+1.2**
AAK	**Ala-Archa**	**3.87**	**272**	⇑Pn	**Pn**	**08 58 57.7**	**+2.2**
	comp=N,8.0nm,0.2s						
AAK				⇓Pg	**Pb**	**08 59 05.3**	**+0.9**
	comp=N,379nm,0.8s						
AAK				⇓Lg	Lg	08 59 53.4	
	comp=N,1μm,0.9s						
AAK	**Ala-Archa**	**3.87**	**272**	PN	**Pn**	**08 58 57.7**	**+2.2**
AAK						08 59 05.2	
AAK				pmax	pmax		
	comp=Z,8.0nm,0.3s						
AAK				pmax	pmax		
	comp=Z,379nm,0.9s						
AAK	**Ala-Archa**	**3.87**	**272**	⇑*iP*	**Pn**	**08 58 57.9**	**+2.3**
	baz=72						
AAK				⇑*i*S	**Sn**	**08 59 42.5**	**+1.7**
	baz=72						
UCH	**Uchtor**	**3.88**	**266**	P	**Pn**	**08 58 59.0**	**+2.9**
	SNR=94						
UCH	**Uchtor**	**3.88**	**266**	⇑*iP*	**Pn**	**08 58 58.4**	**+2.4**
	baz=66						
UCH				⇑*i*S	**Sn**	**08 59 43.1**	**+1.4**
	baz=66						
USP	**Ospenovka**	**3.90**	**281**	P	**Pn**	**08 58 58.4**	**+2.5**
	SNR=44						
USP	**Ospenovka**	**3.90**	**281**	⇑*eP*	**Pn**	**08 58 58.1**	**+2.2**
	baz=82						
USP				⇑*i*S	**Sn**	**08 59 42.9**	**+1.4**
	baz=82						
ARLS	**Aral**	**4.09**	**261**	⇑*iP*	**Pn**	**08 59 00.8**	**+2.2**
	baz=61						
ARLS				⇑*i*S	**Sn**	**08 59 47.7**	**+1.4**
	baz=61						
KSH	**Kashi**	**4.20**	**224**	Pg	**Pg**	**08 59 19.5**	**+2.8**
KSH				Sg	**Sg**	**09 00 16.0**	**+4.9**
KSH				smax	smax		
	comp=Z,2μm,1.2s						
KSH				smax	smax		
	comp=Z,1μm,0.8s						
EKS2	**Erkin-Say**	**4.39**	**273**	P	**Pn**	**08 59 04.8**	**+2.1**
	SNR=15						
EKS2	**Erkin-Say**	**4.39**	**273**	⇓*eP*	**Pn**	**08 59 05.1**	**+2.3**
	baz=73						
EKS2				⇓*i*S	**Sn**	**08 59 54.8**	**+1.0**
	baz=73						
MAKZ	**Makanchi**	**4.49**	**20**	*ePn*	**Pn**	**08 59 05.7**	**+1.7**
MAKZ	**Makanchi**	**4.49**	**20**	⇓Pn	**Pn**	**08 59 06.8**	**+2.8**
	comp=Z,50nm,0.3s						
MAKZ				⇑Sn	**Sn**	**08 59 59.3**	**+3.2**
	comp=Z,42nm,0.4s						
MAKZ				⇓Lg	Lg	09 00 16.6	
	comp=Z,191nm,0.8s						
MAKZ	**Makanchi**	**4.49**	**20**	PN	**Pn**	**08 59 06.8**	**+2.8**
MAKZ						08 59 59.2	
MAKZ				pmax	pmax		
	comp=Z,50nm,0.3s						
MAKZ				smax	smax		
	comp=E,42nm,0.4s						
AML	**Almayashu**	**4.50**	**266**	P	**Pn**	**08 59 08.5**	**+4.0**
	SNR=14						
AML	**Almayashu**	**4.50**	**266**	⇓*eP*	**Pn**	**08 59 06.6**	**+2.2**
	baz=66						
AML				⇓*i*S	**Sn**	**08 59 58.3**	**+1.5**
	baz=66						
MK31	**Makanchi Array**	**4.56**	**23**	⇑Pn	**Pn**	**08 59 07.9**	**+2.9**
	comp=E,25nm,0.3s						
MK31				⇓Sn	**Sn**	**09 00 00.8**	**+3.0**
	comp=E,154nm,0.5s						
MK31				⇑Lg	Lg	09 00 19.0	
	comp=E,179nm,0.5s						
MK31	**Makanchi Array**	**4.56**	**23**	PN	**Pn**	**08 59 07.9**	**+2.9**
MK31						09 00 00.8	
MK31				pmax	pmax		
	comp=Z,25nm,0.3s						
MK31				smax	smax		
	comp=E,154nm,0.5s						
MK32	**Makanchi Array**	**4.56**	**23**	*ePn*	**Pn**	**08 59 07.7**	**+2.7**
MKAR	**Makanchi Array**	**4.56**	**23**	Pn	**Pn**	**08 59 07.7**	**+2.7**
	comp=E,63nm,0.3s,baz=210,slow=1.4,SNR=2451						
MKAR				Lg	Lg	09 00 18.4	
	comp=E,47nm,0.3s,baz=195,slow=32,SNR=8.4						
MKAR	**Makanchi Array**	**4.56**	**23**	*ePn*	**Pn**	**08 59 07.0**	**+2.0**
MKAR	**Makanchi Array**	**4.56**	**23**	*ePN*	**Pn**	**08 59 07.0**	**+2.0**
ARSB	**Arslanbob**	**5.19**	**258**	*ePn*	**Pn**	**08 59 16.5**	**+2.8**
ARSB	**Arslanbob**	**5.19**	**258**	⇑*eP*	**Pn**	**08 59 16.3**	**+2.5**
	baz=58						
ARSB				⇑*i*S	**Sn**	**09 00 14.0**	**+0.4**
	baz=58						
MNAS	**Manas**	**5.34**	**271**	⇑Pg	**Pb**	**08 59 33.0**	**+3.5**
	comp=E,138nm,0.8s						
MNAS				⇓Lg	Lg	09 00 46.0	
	comp=E,271nm,0.7s						
MNAS	**Manas**	**5.34**	**271**	⇑*iP*	**Pn**	**08 59 17.9**	**+2.1**
	baz=71						
MNAS				⇑*i*S	**Sn**	**09 00 17.6**	**+0.4**
	baz=71						
SFK	**Sufi-Kurgan**	**5.36**	**243**	⇑Pg	**Pb**	**08 59 32.4**	**+2.5**
	comp=E,95nm,0.9s						
SFK				⇓Lg	Lg	09 00 44.7	
	comp=E,494nm,1.2s						
WMQ	**Urumqi**	**5.94**	**76**	Pn	**Pn**	**08 59 27.3**	**+3.3**
WMQ				Sn	**Sn**	**09 00 39.0**	**+7.1**
WMQ				smax	smax		
	comp=E,500nm,0.7s						
WMQ				smax	smax		
	comp=E,580nm,1.1s						
WMQ				LR	LR		
	comp=E,2μm,6.1s						
WMQ				LR	LR		
	comp=E,1μm,5.5s						
WMQ				LR	LR		
	comp=E,1μm,5.7s						
WMQ	**Urumqi**	**5.94**	**76**	*ePn*	**Pn**	**08 59 25.6**	**+1.7**
WMQ	**Urumqi**	**5.94**	**76**	*ePN*	**Pn**	**08 59 25.7**	**+1.7**
KK31	**Karatay Array**	**6.79**	**277**	⇓Pg	**Pb**	**08 59 57.9**	**+3.7**
	comp=E,49nm,0.6s,baz=90,slow=15,SNR=54						
KK31				⇓Lg	Lg	09 01 27.7	
	comp=E,2.7nm,0.3s,baz=101,slow=16,SNR=4.5						
KKAR	**Karatay Array**	**6.79**	**277**	*ePn*	**Pn**	**08 59 37.6**	**+2.0**
KKAR	**Karatay Array**	**6.79**	**277**	*ePN*	**Pn**	**08 59 37.6**	**+2.0**
BTK	**Batken**	**7.18**	**252**	*ePn*	**Pn**	**08 59 41.6**	**+0.7**
BTK	**Batken**	**7.18**	**252**	*eP*	**Pn**	**08 59 41.6**	**+0.7**
GAR	**Garm**	**8.00**	**246**	*ePn*	**Pn**	**08 59 53.7**	**+1.4**
GAR	**Garm**	**8.00**	**246**	*eP*	**Pn**	**08 59 53.7**	**+1.4**
KURBB	**Kurchatov Arra**	**8.06**	**355**	Pn	**Pn**	**08

BVAR	**Borovoye Array**	**12.15**	**332**	Pn		**Pn**	**09 00 49.2**	**+0.2**
	comp=E,0.6nm,0.3s,baz=145,slow=13,SNR=8.3							
BVAR				Sn		**Sn**	**09 02 58.0**	**-6.2**
	comp=E,0.8nm,0.3s,baz=160,slow=17,SNR=2.9							
BVAR				Lg	Lg		09 04 13.3	
	comp=E,1.7nm,0.3s,baz=153,slow=23,SNR=5.5							
BRVK	**Borovoye**	**12.22**	**332**	*e*Pn		**Pn**	**09 00 50.4**	**+0.6**
BRVK	**Borovoye**	**12.22**	**332**	*i* P		**Pn**	**09 00 50.6**	**+0.8**
NVS	**Novosibirsk**	**12.46**	**9**	*e*P		**Pn**	**09 00 52.6**	**-0.4**
NVS				*e*			09 03 13.1	
KNGR	**Kungurtug, Tuv**	**14.58**	**51**	*i* P		**Pn**	**09 01 22.8**	**+0.6**
AB31	**Akbulak array**	**15.27**	**303**	Pn		**Pn**	**09 01 29.9**	**-1.4**
	comp=E,2.6nm,0.5s,baz=106,slow=15,SNR=52							
AB31	**Akbulak array**	**15.27**	**303**	P		**Pn**	**09 01 29.9**	**-1.4**
AB31				pmax	pmax			
	comp=Z,3.0nm,0.5s							
ABKAR	**Akbulak array**	**15.27**	**303**	*e*Pn		**Pn**	**09 01 30.2**	**-1.1**
GTA	**Gaotai**	**15.49**	**95**	*e*P		**Pn**	**09 01 32.0**	**-2.5**
GTA				pP		P	09 01 35.5	-3.4
GTA				pmax	pmax			
	comp=Z,3.0nm,1.2s							
LSA	**Lhasa**	**15.82**	**141**	*e*Pn		**Pn**	**09 01 37.1**	**-2.0**
	comp=Z,6.3nm,0.9s							
LSA	**Lhasa**	**15.82**	**141**	*e*P		**Pn**	**09 01 37.1**	**-2.0**
LSA				pmax	pmax			
	comp=Z,6.0nm,0.9s							
AKTO	**Aktyubinsk**	**16.83**	**305**	Pn		**Pn**	**09 01 50.6**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=107,slow=14,SNR=7.8							
AKTO				Sn		**Sn**	**09 04 49.8**	**-8.3**
	comp=Z,0.2nm,0.3s,baz=41,slow=19,SNR=1.9							
AKTO				Lg	Lg		09 06 44.4	
	baz=143,slow=20,SNR=3.0							
AKTO				LR	LR		09 08 24.7	
	comp=Z,150nm,19.4s,baz=89,slow=37							
AKTO	**Aktyubinsk**	**16.83**	**305**	⇑Pn		**Pn**	**09 01 48.8**	**-2.6**
	comp=Z,13nm,1.3s							
GEYT	**Alibeck**	**17.13**	**261**	Pn		**Pn**	**09 01 53.3**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=69,slow=16,SNR=2.7							
GEYT				LR	LR		09 08 30.6	
	comp=Z,98nm,20.4s,baz=320,slow=37							
ZAK	**Zakamensk**	**17.93**	**56**	*e*P		**P**	**09 02 07.3**	**+1.5**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.4s							
ZAK				pmax	pmax			
	comp=Z,8.0nm,1.5s							
ARU	**Arti**	**19.39**	**323**	*e*P		**P**	**09 02 22.3**	**+0.7**
	comp=Z,16nm,1.1s							
ARU	**Arti**	**19.39**	**323**	*i* P		**P**	**09 02 22.6**	**+1.0**
ARU				pmax	pmax			
	comp=Z,11nm,0.9s							
SONA0	**Songino Array**	**19.45**	**65**	*e*P		**P**	**09 02 23.8**	**+1.3**
SONM	**Songino Array**	**19.45**	**65**	P		**P**	**09 02 23.8**	**+1.3**
	comp=Z,1.3nm,0.3s,baz=264,slow=11,SNR=46							
SONM				Lg	Lg		09 07 42.9	
	baz=276,slow=28,SNR=5.0							
SONM				LR	LR		09 10 21.7	
	comp=Z,159nm,18.9s,baz=342,slow=38							
SHL	**Shillong**	**19.72**	**146**	*e*P		**P**	**09 02 22.5**	**-3.1**
	comp=Z,9.5nm,0.8s							
SHL	**Shillong**	**19.72**	**146**	*e*P		**P**	**09 02 22.5**	**-3.1**
SHL				pmax	pmax			
	comp=Z,10.0nm,0.8s							
SHL	**Shillong**	**19.72**	**146**	*e*P		**P**	**09 02 23.0**	**-2.6**
BRDH	**Bariadhala**	**22.22**	**150**	LR		LR	09 13 15.2	
	comp=Z,88nm,18.8s,baz=360,slow=42							
HHC	**Hu-ho-hao-te**	**23.75**	**83**	*e*P		**P**	**09 03 08.0**	**-0.3**
HHC				pmax	pmax			
	comp=Z,20nm,1.0s							
XAN	**Xi'an**	**24.35**	**101**	*e*P		**P**	**09 03 12.4**	**-1.5**
	comp=Z,4.6nm,0.8s							
XAN	**Xi'an**	**24.35**	**101**	*e*P		**P**	**09 03 12.4**	**-1.5**
XAN				pmax	pmax			
	comp=Z,5.0nm,0.8s							
WSAR	**Wadi Sarin**	**26.08**	**229**	LR		LR	09 15 01.6	
	comp=Z,35nm,18.4s,baz=51,slow=40							
GNI	**Garni**	**26.26**	**277**	*i* P		**P**	**09 03 34.9**	**+3.6**
GNI				pmax	pmax			
	comp=Z,50nm,1.0s							
BOD	**Bodaibo**	**26.32**	**43**	*e*P		**P**	**09 03 32.3**	**+0.9**
KIV	**Kislovodsk**	**26.86**	**286**	*e*P		**P**	**09 03 37.4**	**+0.8**
KIV				pmax	pmax			
	comp=Z,8.0nm,1.0s							
NEY	**Neytrino**	**26.97**	**284**	*i* P		**P**	**09 03 41.1**	**+3.5**
NEY				pmax	pmax			
	comp=Z,1.0nm,1.2s							
CMAR	**Chiang Mai Arr**	**29.07**	**140**	P		**P**	**09 03 54.5**	**-1.9**
	comp=Z,1.5nm,0.3s,baz=337,slow=11,SNR=2.7							
CMAR				LR		LR	09 16 20.5	
	comp=Z,57nm,18.4s,baz=2.5,slow=38							
ANN	**Anapa**	**30.41**	**289**	*e*P		**P**	**09 04 07.3**	**-0.7**
ANN				*e**PP		**sP**	**09 04 12.2**	**-1.6**
ANN				*e*			09 05 07.8	
ANN				*e*S		**S**	**09 09 08.4**	**+0.2**
ANN				pmax	pmax			
	comp=Z,47nm,1.1s							
OBN	**Obninsk**	**30.52**	**309**	*e*P		**P**	**09 04 08.7**	**-0.1**
OBN				*e*PPP		PPP	09 05 17.7	
OBN				pmax	pmax			
	comp=Z,4.0nm,0.8s							
OBN				MLR	MLR			
	comp=Z,244nm,23.0s							
BR101	**Keskin Array S**	**34.49**	**281**	*e*P		**P**	**09 04 43.7**	**-0.3**
BRTR	**Keskin Array B**	**34.49**	**281**	P		**P**	**09 04 43.7**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=100,slow=6.4,SNR=3.4							
KLR	**Kul'dur**	**36.17**	**61**	P		**P**	**09 04 57.4**	**-0.8**
	comp=Z,2.0nm,0.6s,baz=291,slow=8.1,SNR=11							
KLR	**Kul'dur**	**36.17**	**61**	*c e*P		**P**	**09 04 59.0**	**+0.8**
FIA1	**FINESS Array S**	**36.70**	**320**	*e*P		**P**	**09 05 02.7**	**+0.2**
FIA0	**FINESS Array S**	**36.70**	**320**	*e*P		**P**	**09 05 02.8**	**+0.3**
FIA0	**FINESS Array S**	**36.70**	**320**	*e*P		**P**	**09 05 02.8**	**+0.3**
FINES	**FINESS Array B**	**36.70**	**320**	P		**P**	**09 05 02.8**	**+0.3**
	comp=Z,2.1nm,0.6s,baz=77,slow=8.4,SNR=5.9							
KSRS	**Korea Array**	**36.86**	**81**	P		**P**	**09 05 02.6**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=284,slow=8.2,SNR=3.2							
TIXI	**Tiksi**	**37.55**	**23**	P		**P**	**09 05 09.9**	**+0.2**
	comp=Z,4.2nm,0.4s,baz=268,slow=5.2,SNR=17							
TIXI	**Tiksi**	**37.55**	**23**	*e*P		**P**	**09 05 09.7**	**+0.1**
	comp=Z,7.4nm,0.5s							
TIXI	**Tiksi**	**37.55**	**23**	*c i*P		**P**	**09 05 10.3**	**+0.7**
TIXI				pmax	pmax			
	comp=Z,4.0nm,0.8s							
BUR04	**Bucovina Ar. S**	**38.13**	**297**	*e*P		**P**	**09 05 15.2**	**+0.2**
BUR08	**Bucovina Ar. S**	**38.13**	**297**	*e*P		**P**	**09 05 15.6**	**+0.6**
MLR	**Muntele Rosu**	**38.16**	**293**	*e*P		**P**	**09 05 16.5**	**+1.2**
	comp=Z,12nm,1.5s							
MLR	**Muntele Rosu**	**38.16**	**293**	*e*P		**P**	**09 05 16.5**	**+1.2**
MLR				pmax	pmax			
	comp=Z,12nm,1.5s							
ARA0	**ARCESS Array S**	**38.44**	**333**	*e*P		**P**	**09 05 18.0**	**+0.7**
ARCES	**ARCESS Array B**	**38.44**	**333**	P		**P**	**09 05 18.0**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=90,slow=8.5,SNR=5.8							
ARCES	**ARCESS Array B**	**38.44**	**333**	P		**P**	**09 05 18.0**	**+0.8**
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
DIVS	**Divibare**	**42.62**	**293**	*e*P		**P**	**09 05 52.7**	**+0.5**
	comp=Z,11nm,1.5s							
IDI	**Anoyia**	**42.63**	**279**	*e*P		**P**	**09 05 52.0**	**-0.3**
	comp=Z,18nm,1.3s							
HFS	**Hagfors**	**42.77**	**318**	P		**P**	**09 05 52.2**	**-0.9**
	comp=Z,2.2nm,0.5s,baz=96,slow=14,SNR=7.4							
SPITS	**Spitsbergen Ar**	**43.26**	**344**	P		**P**	**09 05 58.4**	**+1.6**
	comp=Z,17nm,1.1s,baz=134,slow=12,SNR=4.1							
NC405	**NORSAR Array S**	**43.63**	**319**	*e*P		**P**	**09 06 00.1**	**+0.1**
NC602	**NORSAR Array S**	**43.76**	**319**	*e*P		**P**	**09 06 00.8**	**-0.2**
NB2	**NORSAR Subarra**	**43.88**	**319**	P		**P**	**09 06 01.6**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=82,slow=8.6							
NB200	**NORSAR Array S**	**43.88**	**319**	*e*P		**P**	**09 06 01.4**	**-0.6**
NOA	**NORSAR Array B**	**43.88**	**319**	P		**P**	**09 06 01.4**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=83,slow=8.0,SNR=9.4							
NC204	**NORSAR Array S**	**44.06**	**320**	*e*P		**P**	**09 06 03.2**	**-0.4**
BILL	**Bilibino**	**50.08**	**29**	*e*P		**P**	**09 06 52.0**	**+1.7**
BILL				*e*			09 08 51.1	
BILL				*e*PPP		PPP	09 09 47.0	
BILL				pmax	pmax			
	comp=Z,2.0nm,1.0s							
BILL				MLR	MLR			
	comp=Z,74nm,19.0s							
EKA	**Eskdalemuir Ar**	**52.72**	**315**	P		**P**	**09 07 10.1**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=74,slow=6.2,SNR=3.7							
IM3	**Indian Mountai**	**64.17**	**21**	*e*P		**P**	**09 08 30.1**	**+0.1**
COLA	**College**	**66.59**	**20**	*i* P		**P**	**09 08 46.2**	**+0.6**
COLA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
INK	**Inuvik**	**66.63**	**13**	P		**P**	**09 08 46.4**	**+0.5**
	comp=Z,1.6nm,0.5s,baz=341,slow=6.4,SNR=14							
INK	**Inuvik**	**66.63**	**13**	*e*P		**P**	**09 08 46.0**	**+0.2**
ILAR	**Eielson Array**	**66.91**	**20**	P		**P**	**09 08 48.0**	**+0.3**
	comp=Z,4.0nm,0.3s,baz=311,slow=5.3,SNR=21							
ILB	**Eielson Array**	**66.91**	**20**	*e*P		**P**	**09 08 47.8**	**0.0**
SUA	**Susitna One**	**68.53**	**23**	*e*P		**P**	**09 08 57.1**	**-1.0**
	comp=Z,2.6nm,0.9s							
KDAK	**Kodiak Island**	**70.86**	**27**	*i* P		**P**	**09 09 13.3**	**+0.9**
TOA1	**Torodi Ar. Sit**	**72.45**	**272**	*e*P		**P**	**09 09 21.9**	**-0.7**
TOA0	**Torodi Ar. Sit**	**72.45**	**272**	*e*P		**P**	**09 09 22.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**72.45**	**272**	P		**P**	**09 09 21.9**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=39,slow=5.3,SNR=9.3							
YKW3	**Yellowknife Ar**	**74.55**	**7**	*e*P		**P**	**09 09 33.9**	**-0.3**
	comp=Z,2.9nm,0.7s							
YKA	**Yellowknife Ar**	**74.61**	**7**	P		**P**	**09 09 34.8**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=344,slow=5.7,SNR=52							
YKB5	**Yellowknife Ar**	**74.61**	**7**	*e*P		**P**	**09 09 34.2**	**-0.3**
FCC	**Fort Churchill**	**78.86**	**357**	*e*P		**P**	**09 09 58.4**	**-0.2**
	comp=Z,4.9nm,1.4s							
FCC	**Fort Churchill**	**78.86**	**357**	*e*P		**P**	**09 09 58.4**	**-0.2**
FCC				pmax	pmax			
	comp=Z,5.0nm,1.4s							
WRAB	**Tennant Creek**	**80.00**	**129**	*e*P		**P**	**09 10 03.7**	**-1.6**
	comp=Z,7.7nm,1.4s							
WRAB	**Tennant Creek**	**80.00**	**129**	*e*P		**P**	**09 10 03.7**	**-1.6**
WRAB				pmax	pmax			
	comp=Z,8.0nm,1.4s							
WR1	**Warramunga Arr**	**80.01**	**129**	*e*P		**P**	**09 10 05.4**	**+0.1**
	comp=Z,8.9nm,1.4s							
WRA	**Warramunga Arr**	**80.01**	**129**	P		**P**	**09 10 05.4**	**0.0**
	comp=Z,0.2nm,0.5s,baz=314,slow=7.0,SNR=6.3							
WB2	**Warramunga Arr**	**80.01**	**129**	*e*P		**P**	**09 10 04.2**	**-1.2**
	comp=Z,6.9nm,1.3s							
ASAR	**Alice Springs**	**82.70**	**131**	P		**P**	**09 10 19.4**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=330,slow=4.7,SNR=5.3							
FFC	**Flin Flon**	**83.03**	**1**	*c e*P		**P**	**09 10 21.7**	**+0.8**
FFC				pmax	pmax			
	comp=Z,21nm,2.5s							
PDAR	**Pinedale Array**	**94.60**	**7**	P		**P**	**09 11 16.2**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=36,slow=3.2,SNR=4.0							

IDC ***29*** *09:58:20.1±3.5, 64.53N×32.14E, h0km, mb1 3.1/4, mb1mx3.0/48, mbtmp3.1/4, ML2.3/4, Error ellipse: s-maj=48.9km s-min=10.9km az=100.0*
ISCJB ***29*** *08:58:21.3±0.9, 64.68N±0.05×30.8E±0.1, h0km, Error ellipse: s-maj=8.5km s-min=5.3km az=39.8*
HEL ***29*** *08:58:22.9±0.3, 64.70N×30.84E, h0km, ML2.2, Explosion*
KOLA ***29*** *08:58:24.2, 64.73N×30.59E, h0km*
ISC 29 08:58:23.4±1.2, 64.73N±0.05×30.47E±0.07, h0km, n10, σ1§18, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSF	**Maaselka**	**1.33**	**334**	*e*P	**Pg**	**08 58 48.4**	**-0.4**
MSF				*e*S	**Sb**	**08 59 06.9**	**+0.3**
OUL	**Oulu**	**1.98**	**282**	*e*P	**Pb**	**08 58 60.0**	**-0.3**
OUL				*e*S	**Sg**	**08 59 26.8**	**-0.1**
OUL				MSG		08 59 32.5	
	comp=Z,12nm,0.2s						
OUF	**Merijarvi**	**2.50**	**264**	*e*P	**Pb**	**08 59 07.8**	**-1.3**
OUF				*e*SB	**Sg**	**08 59 42.5**	**-1.2**
OUF				MSG		08 59 45.7	
	comp=Z,8.2nm,0.2s						
RNF	**Rovaniemi**	**2.63**	**318**	*e*PB	**Pb**	**08 59 11.0**	**-0.4**
RNF				*e*SB	**Sg**	**08 59 46.3**	**-1.6**
APA0	**Apatity Array**	**3.06**	**18**	P	**Pn**	**08 59 12.9**	**0.0**
APA0				S	**Sn**	**08 59 49.6**	**-0.6**
APA	**Apatity**	**3.09**	**21**	P	**Pn**	**08 59 13.5**	**+0.2**
APA				S	**Sn**	**08 59 50.1**	**-0.8**
FINES	**FINESS Array B**	**3.86**	**213**	Pn	**Pn**	**08 59 23.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=36,slow=13,SNR=6.1						
FINES				Pg	**Pb**	**08 59 32.3**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=36,slow=15,SNR=11						
FINES				Lg	Lg	09 00 22.2	
	comp=Z,0.7nm,0.3s,baz=41,slow=24,SNR=6.2						
ARCES	**ARCESS Array B**	**5.20**	**340**	Pn	**Pn**	**08 59 42.5**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=154,slow=12,SNR=19						
ARCES				Sn	**Sn**	**09 00 46.2**	**+3.5**
	comp=Z,0.5nm,0.3s,baz=154,slow=23,SNR=5.4						
HFS	**Hagfors**	**9.03**	**247**	Pn	**Pn**	**09 00 35.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=53,slow=13,SNR=5.9						
NOA	**NORSAR Array B**	**9.52**	**256**	Pn	**Pn**	**09 00 42.7**	**+1.2**
	comp=Z,0.0nm,0.3s,baz=57,slow=14,SNR=2.5						

ISCJB ***29*** *08:58:57.9±0.7, 24.42N±0.05×122.73E±0.02, h91km±6km, Error ellipse: s-maj=8.4km s-min=3.0km az=179.3*
JMA ***29*** *08:58:58.0±0.1, 24.41N×122.73E, h93km±2km, M1.9*
TAP ***29*** *08:58:58.1, 24.40N×122.72E, h88km±1km, ML2.8, C*
ISC 29 08:58:58.0±1.5, 24.42N±0.06×122.74E±0.03, h93km±10km, n30, σ0§49/58, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.19**	**81**	P	**Pn**	**08 59 11.5**	**+0.2**
JYNG				*e*S	**Sn**	**08 59 21.0**	**-0.2**
YOJ	**Yonaguni jima**	**0.25**	**81**	*e*P	**Pn**	**08 59 11.3**	**-0.2**
	baz=74						
YOJ				*e*S	**Sn**	**08 59 21.1**	**-0.5**
	baz=74						
YOJ	**Yonaguni jima**	**0.25**	**81**	P	**Pn**	**08 59 11.7**	**+0.2**
YOJ				*e*S	**Sn**	**08 59 21.5**	**-0.1**
EOS1	**EOS1**	**0.57**	**283**	*e*P	**Pn**	**08 59 14.1**	**+0.6**
	baz=285						
EOS1				*e*S	**Sn**	**08 59 25.9**	**+0.7**
	baz=285						
TWC	**Suao**	**0.83**	**283**	P	**Pn**	**08 59 15.9**	**-0.1**
	baz=284						
TWC				S	**Sn**	**08 59 29.1**	**-0.4**
	baz=284						
ENA	**Nanau**	**0.91**	**271**	P	**Pn**	**08 59 17.0**	**+0.2**
	baz=271						
ENA				S	**Sn**	**08 59 31.0**	**0.0**
	baz=271						
IRIF	**Iriomote-Funau**	**0.91**	**95**	P	**Pn**	**08 59 17.1**	**+0.2**
IRIF				S	**Sn**	**08 59 31.0**	**-0.1**
TIPB	**Shuangxi**	**0.99**	**304**	*e*P	**Pn**	**08 59 17.9**	**+0.1**
	baz=304						
TIPB				*e*S	**Sn**	**08 59 31.9**	**-0.9**
	baz=304						
TWE	**Neicheng**	**1.02**	**287**	*e*P	**Pn**	**08 59 18.2**	**+0.2**
	baz=288						
TWE				*e*S	**Sn**	**08 59 32.6**	**-0.5**
	baz=288						
HATJ	**Hateruma jima**	**1.04**	**110**	S	**Sn**	**08 59 34.5**	**+0.9**
NACB	**Ninganchiao**	**1.07**	**257**	*e*P	**Pn**	**08 59 18.7**	**0.0**
	baz=257						
NACB				*e*S	**Sn**	**08 59 34.1**	**-0.2**
	baz=257						
TWD	**Chiawan**	**1.09**	**252**	P	**Pn**	**08 59 19.0**	**+0.1**
	baz=252						
TWD				S	**Sn**	**08 59 34.1**	**-0.6**
	baz=252						
NDT	**Datong Townshi**	**1.13**	**279**	P	**Pn**	**08 59 20.0**	**+0.7**
	baz=280						
NDT				S	**Sn**	**08 59 35.4**	**0.0**
	baz=280						
JKRS	**Kuro-shima**	**1.18**	**99**	P	**Pn**	**08 59 20.6**	**+0.7**
JKRS				S	**Sn**	**08 59 36.9**	**+0.5**
NNSB	**Datong**	**1.23**	**271**	*e*P	**Pn**	**08 59 20.9**	**+0.2**
	baz=271						
NNSB				*e*S	**Sn**	**08 59 37.3**	**-0.5**
	baz=271						
NNS	**Nan Shan**	**1.24**	**271**	*e*P	**Pn**	**08 59 21.1**	**+0.3**
	baz=271						
NNS				*e*S	**Sn**	**08 59 37.9**	**-0.2**
	baz=271						
YHNB	**Yeheng**	**1.26**	**282**	*e*P	**Pn**	**08 59 21.2**	**+0.2**
	baz=282						
YHNB				*e*S	**Sn**	**08 59 37.9**	**-0.6**
	baz=282						
NSK	**Sanguang**	**1.28**	**282**	P	**Pn**	**08 59 21.4**	**+0.2**
	baz=282						
NSK				S	**Sn**	**08 59 38.9**	**+0.2**
	baz=282						
YM01	**YM01**	**1.28**	**305**	*e*P	**Pn**	**08 59 21.8**	**+0.5**
	baz=305						
YM01				*e*S	**Sn**	**08 59 39.1**	**+0.4**
	baz=305						
JIJ	**Ishigaki jima**	**1.28**	**92**	P	**Pn**	**08 59 21.3**	**+0.1**
JIJ				S	**Sn**	**08 59 37.8**	**-0.9**
ESL	**Shilin**	**1.33**	**243**	*e*P	**Pn**	**08 59 22.0**	**+0.1**
	baz=243						
ESL				*e*S	**Sn**	**08 59 40.2**	**+0.3**
	baz=243						
WHF	**Hehuan Shan**	**1.37**	**259**	P	**Pn**	**08 59 22.8**	**+0.1**
	baz=259						
WHF				S	**Sn**	**08 59 40.5**	**-0.8**
	baz=259						
EGFH	**Guangfu**	**1.41**	**238**	*e*P	**Pn**	**08 59 22.7**	**0.0**
	baz=238						
EGFH				*e*S	**Sn**	**08 59 41.2**	**-0.3**
	baz=238						
JISG	**Ishigakijimahi**	**1.45**	**83**	P	**Pn**	**08 59 23.0**	**-0.1**
JISG				S	**Sn**	**08 59 41.2**	**-1.0**
CHGB	**Renai**	**1.47**	**256**	*e*P	**Pn**	**08 59 24.2**	**+0.5**
	baz=256						
CHGB				*e*S	**Sn**	**08 59 42.6**	**-0.6**
	baz=256						
HGSD	**Ruisui**	**1.52**	**233**	*e*P	**Pn**	**08 59 24.6**	**+0.5**
	baz=232						
HGSD				*e*S	**Sn**	**08 59 42.7**	**-1.1**
	baz=232						
VWDT	**VWDT**	**1.60**	**246**	*e*P	**Pn**	**08 59 25.7**	**+0.6**
	baz=246						
VWDT				*e*S	**Sn**	**08 59 45.3**	**-0.5**
	baz=246						
TWF1	**Yuli**	**1.69**	**231**	*e*P	**Pn**	**08 59 26.5**	**+0.2**
	baz=231						
JTJ	**Tarama**	**1.81**	**83**	P	**Pn**	**08 59 28.3**	**+0.6**
JTJ				S	**Sn**	**08 59 49.5**	**-0.9**
CHN5	**Tsauling**	**2.05**	**247**	*e*P	**Pn**	**08 59 31.4**	**+0.4**
	baz=246						
CHN5				*e*S	**Sn**	**08 59 56.1**	**-0.2**
	baz=246						

NEIC ***29*** *09:03:19.9±1.0, 24.06S×179.81W, h502km±14km, mb4.6/34, Error ellipse: s-maj=10.4km s-min=8.7km az=83.0*
IDC ***29*** *09:03:19.6±1.6, 23.92S×179.86W, h496km±16km, mb3.6/12, mb1 3.9/13, mb1mx3.7/23, mbtmp4.4/13, Error ellipse: s-maj=16.1km s-min=13.8km az=130.0*
ISCJB ***29*** *09:03:20.3±0.3, 23.98S±0.03×179.86W±0.06, h518km, mb4.3/38, Error ellipse: s-maj=7.8km s-min=4.4km az=171.8*
WEL ***29*** *09:03:20.0, 24.06S×179.83W, h505km*
ISC 29 09:03:21.4±0.5, 24.10S±0.06×179.82W±0.08, h518km, n106, σ1§64/117, mb4.5/37, 2C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.41**	**162**	P	**P**	**09 04 52.6**	**-0.3**
GLKZ				S	**S**	**09 06 06.9**	**-0.9**
OUZ	**Omahuta**	**12.46**	**206**	*e*P	**P**	**09 06 04.3**	**-0.3**
OUZ	**Omahuta**	**12.46**	**206**	P	**P**	**09 06 06.3**	**+1.8**
WCZ	**Waipu Caves**	**12.83**	**202**	P	**P**	**09 06 10.3**	**+1.9**
KUZ	**Kuaotunu**	**13.17**	**196**	P	**P**	**09 06 13.3**	**+1.3**
WIAZ	**Waiheke Island**	**13.37**	**198**	P	**P**	**09 06 15.5**	**+1.4**
MXZ	**Matakaoa Point**	**13.51**	**186**	*e*P	**P**	**09 06 15.0**	**-0.5**
MXZ	**Matakaoa Point**	**13.51**	**186**	P	**P**	**09 06 20.1**	**+4.5**
ETAZ	**East Tamaki Re**	**13.58**	**198**	P	**P**	**09 06 18.1**	**+1.8**
MKAZ	**Moumakai**	**13.66**	**197**	P	**P**	**09 06 18.2**	**+1.2**
WMGZ	**Waiomatatini S**	**13.76**	**186**	P	**P**	**09 06 19.4**	**+1.3**
HAZ	**Te Kaha**	**13.76**	**188**	P	**P**	**09 06 19.6**	**+1.4**
AWAZ	**Awhitu Peninsu**	**13.77**	**199**	P	**P**	**09 06 20.1**	**+1.9**
RUGZ	**Raukumara Rang**	**13.98**	**188**	P	**P**	**09 06 21.3**	**+0.6**
PUZ	**Puketiti**	**14.02**	**186**	P	**P**	**09 06 22.9**	**+2.0**
TWGZ	**Tauwhareparae**	**14.15**	**187**	P	**P**	**09 06 24.2**	**+1.9**
TOZ	**Tahuroa Road**	**14.16**	**195**	P	**P**	**09 06 23.5**	**+1.2**
KMRZ	**Kaimai**	**14.17**	**194**	P	**P**	**09 06 24.2**	**+1.7**
OMRZ	**Omania**	**14.33**	**192**	P	**P**	**09 06 27.5**	**+3.3**
URZ	**Urewera**	**14.35**	**190**	P	**P**	**09 06 22.8**	**-1.5**
	3.1nm,0.3s,baz=337,slow=3.1,SNR=16						
URZ				S	**S**	**09 08 54.0**	**-1.3**
	1.5nm,0.3s,baz=190,slow=21,SNR=12						
URZ	**Urewera**	**14.35**	**190**	*e*P	**P**	**09 06 23.0**	**-1.3**
URZ	**Urewera**	**14.35**	**190**	P	**P**	**09 06 22.8**	**-1.5**
NGRZ	**Ngongotaha**	**14.37**	**193**	P	**P**	**09 06 29.0**	**+4.5**
MWZ	**Matawai**	**14.37**	**188**	P	**P**	**09 06 24.6**	**0.0**
TKGZ	**Te Karaka**	**14.43**	**187**	P	**P**	**09 06 26.7**	**+1.6**
RAGZ	**Rawiri**	**14.54**	**189**	P	**P**	**09 06 24.6**	**-1.8**
RIGZ	**Rimuhau**	**14.70**	**187**	P	**P**	**09 06 27.5**	**-0.6**
PRRZ	**Plateau Road**	**14.71**	**192**	P	**P**	**09 06 29.2**	**+1.1**
HIZ	**Hauiti**	**15.06**	**196**	*e*P	**P**	**09 06 31.7**	**0.0**
	15nm,0.8s						
BKZ	**Black Stump Fm**	**15.34**	**191**	*e*P	**P**	**09 06 32.7**	**-2.0**
	10nm,0.6s						
BKZ	**Black Stump Fm**	**15.34**	**191**	P	**P**	**09 06 33.8**	**-0.9**
BKZ		

MTN	**Manton Dam**	**47.63**	**274**	*e*P		**P**	**09 11 09.2**	**-1.3**
	13nm,0.7s								
FAKI	**Fak Fak**	**50.80**	**287**	*e*P		**P**	**09 11 32.8**	**-1.2**
	20nm,0.9s								
FITZ	**Fitzroy Crossi**	**50.98**	**266**	*e*P		**P**	**09 11 35.7**	**+0.4**
	12nm,0.6s								
SOEI	**Soe**	**55.02**	**275**	*e*P		**P**	**09 12 04.2**	**-0.1**
	31nm,0.9s								
MBWA	**Marble Bar**	**55.50**	**260**	*e*P		**P**	**09 12 07.0**	**-0.4**
	11nm,0.8s								
MORW	**Morawa**	**56.96**	**250**	*e*P		**P**	**09 12 16.9**	**-0.6**
	7.7nm,0.6s								
GIRL	**Giralia**	**60.03**	**257**	*e*P		**P**	**09 12 38.9**	**+0.7**
	51nm,1.1s								
QSPA	**South Pole Qui**	**65.98**	**180**	P		**P**	**09 13 17.9**	**+2.0**
	2.9nm,0.9s,baz=351,slow=0.6,SNR=9.9								
QSPA	**South Pole Qui**	**65.98**	**180**	*e*P		**P**	**09 13 17.7**	**+1.8**
	5.6nm,1.0s								
UGM	**Wanagama**	**68.27**	**271**	*e*P		**P**	**09 13 30.3**	**-0.5**
	39nm,1.0s								
MJAR	**Matsushiro Arr**	**72.16**	**326**	P		**P**	**09 13 52.1**	**-1.2**
	2.5nm,0.7s,baz=166,slow=6.1,SNR=6.4								
KSRS	**Korea Array**	**78.51**	**320**	P		**P**	**09 14 28.6**	**-0.1**
	2.2nm,0.7s,baz=135,slow=5.7,SNR=11								
PETK	**Petropavlovsk-**	**79.33**	**346**	P		**P**	**09 14 31.7**	**-1.1**
	2.7nm,0.7s,baz=156,slow=7.4,SNR=3.5								
NJ2	**Nanjing**	**80.92**	**311**	*e*P		**P**	**09 14 41.5**	**0.0**
NJ2				pmax	pmax				
	comp=Z,13nm,0.5s								
USRK	**Ussuriysk Ar.**	**81.02**	**327**	P		**P**	**09 14 42.0**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=96,slow=5.7,SNR=5.9								
CN2	**Changchun**	**84.15**	**324**	*e*P		**P**	**09 14 58.5**	**+0.9**
CN2				pmax	pmax				
	comp=Z,10.0nm,0.8s								
NVAR	**Mina Array Bea**	**84.78**	**44**	P		**P**	**09 15 00.7**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=234,slow=7.7,SNR=3.0								
XAN	**Xi'an**	**88.99**	**308**	P		**P**	**09 15 21.0**	**+0.1**
XAN				pP	PcP		09 15 24.3	+2.3	
XAN				pmax	pmax				
	comp=Z,8.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**89.75**	**290**	P		**P**	**09 15 26.4**	**+1.7**
	comp=Z,0.8nm,0.3s,baz=142,slow=2.9,SNR=14								
TXAR	**Lajitas Array**	**90.40**	**58**	P		**P**	**09 15 27.7**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=215,slow=5.7,SNR=7.9								
HHC	**Hu-ho-hao-te**	**90.68**	**315**	*e*P		**P**	**09 15 29.3**	**+0.7**
HHC				pmax	pmax				
	comp=Z,14nm,1.1s								
PDAR	**Pinedale Array**	**92.72**	**44**	P		**P**	**09 15 37.2**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=251,slow=4.1,SNR=5.6								
MKAR	**Makanchi Array**	**112.41**	**313**	PKiKP		**PKiKP**	**09 20 56.5**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=203,slow=0.9,SNR=4.5								
KSH	**Kashi**	**115.52**	**304**	PKP		**PKiKP**	**09 21 05.5**	**+0.9**
KSH				PP	PP		09 22 26.0	+10	
KSH				sPKP			09 23 50.3		
KSH				PKS		**PKSdf**	**09 24 43.3**	**+2.0**	
KSH				SKS		**SKSdf**	**09 27 33.8**	**+6.3**	
KSH				SKKS		**SKKSac**	**09 28 27.5**	**+4.3**	
KSH	**Kashi**	**115.52**	**304**	SS	SS		09 37 43.3	+6.8	
KSH				AMB	AMB				
	comp=Z,270nm,6.1s								
ARCES	**ARCESS Array B**	**132.12**	**348**	PKP		**PKPdf**	**09 21 34.7**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=16,slow=1.3,SNR=5.5								
FINES	**FINESS Array B**	**138.69**	**341**	PKP		**PKPdf**	**09 21 47.7**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=353,slow=5.6,SNR=2.4								
FINES				SKPbc		**SKPbc**	**09 24 34.0**	**+0.4**	
	comp=Z,2.4nm,0.8s,baz=53,slow=7.1,SNR=4.9								
AKASG	**Malin Array Be**	**145.23**	**327**	PKPbc		**PKPdf**	**09 21 58.9**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=44,slow=4.3,SNR=13								
BRTR	**Keskin Array B**	**147.83**	**307**	PKPbc		**PKPbc**	**09 22 07.5**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=145,slow=4.1,SNR=6.7								
DPC	**Dobruska-Polom**	**150.95**	**338**	*e*PKP		**PKPbc**	**09 22 14.8**	**-0.4**
CLL	**Collm**	**151.10**	**343**	*i* PKPbc		**PKPbc**	**09 22 14.8**	**-0.6**
GOPC	**GO Pecny, Ondr**	**151.82**	**340**	*e*PKP		**PKPbc**	**09 22 16.6**	**-0.6**
TORD	**Torodi Ar. Bea**	**169.01**	**188**	PKPab		**PKPab**	**09 23 44.2**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=175,slow=5.0,SNR=4.1								

MEX 29 09:29:05.4±0.4,**16.50N**×**98.32W**,**h10**km±4km,**MD3.5,**
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.21**	**119**	*e*P	Pg	09 29 09.3	-0.6
PNIG				*e*S	Sg	09 29 13.0	0.0

*ISCJB **29** 09:29:52.2*±*0.6, 42.45N*±*0.02*×*41.13E*±*0.05, h5*km*±*8km, Error ellipse: s-maj=6.2km s-min=4.1km az=171.7*
*ISK **29** 09:29:52.5, 42.26N*×*40.82E, h5*km*, ML2.4/2*
*DDA **29** 09:29:53.9, 41.96N*×*40.60E, h6*km*±*2km, ML2.9*
*NORS **29** 09:29:56.7*±*0.0, 42.48N*×*41.26E, h10*km*, MPVA3.1*
*MOS **29** 09:29:56.2*±*0.0, 42.51N*×*41.13E, h15*km*, MPVA3.2*
ISC 29 09:29:53.9±1.7,**42.36N**±0.03×**41.05E**±0.05,**h16**km±13km,
n16,σ**0**§**98**/30,**Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATM	**Batumi**	**0.89**	**147**	PG	**Pb**	**09 30 11.3**	**+0.4**
BATM				SG	**Sn**	**09 30 25.2**	**+0.9**
BATM	**Batumi**	**0.89**	**147**	P	**Pg**	**09 30 11.4**	**+0.3**
BATM				S	**Sn**	**09 30 25.2**	**+0.9**
BCA	**Borcka**	**1.00**	**155**	PG	**Pb**	**09 30 12.7**	**-0.2**
BCA				SG	**Sn**	**09 30 27.6**	**+0.5**
DOMR	**Dombai**	**1.03**	**24**	*e*Pg	**Pb**	**09 30 12.9**	**-0.5**
DOMR				*e*Sg	**Sb**	**09 30 25.1**	**-1.6**
DBOC	**Borcka**	**1.11**	**155**	*i* P	**Pb**	**09 30 14.3**	**-0.4**
DBOC				*i* S	**Sn**	**09 30 30.7**	**+1.0**
ARXR	**Arkhyz**	**1.22**	**8**	*e*Pg	**Pn**	**09 30 16.3**	**-0.1**
ARXR				*e*Sg	**Sb**	**09 30 30.9**	**-1.3**
CHOM	**Cayeli-Rize**	**1.28**	**190**	PN	**Pn**	**09 30 16.2**	**-0.8**
ARTV	**Artvin**	**1.34**	**150**	IAML_P			
	comp=Z,951nm,0.1s						
ARTV				*i* P	**Pn**	**09 30 18.3**	**+0.1**
DBAD	**Bademkaya**	**1.42**	**160**	IAML_P			
	comp=Z,538nm,0.1s						
DBAD				*i* P	**Pn**	**09 30 19.7**	**+0.6**
DBAD				*e*S	**Sn**	**09 30 34.2**	**-3.3**
DAGI	**Agillar**	**1.43**	**153**	*i* P	**Pn**	**09 30 19.2**	**-0.1**
DAGI				*i* S	**Sb**	**09 30 38.6**	**+0.4**
NEY	**Neytrino**	**1.52**	**53**	*e*Pg	**Pn**	**09 30 20.8**	**+0.2**
NEY				*e*Sg	**Sn**	**09 30 39.9**	**-0.2**
SOC	**Sochi**	**1.57**	**322**	*e*Pg	**Pn**	**09 30 21.9**	**+0.8**
SOC				*e*Sg	**Sb**	**09 30 42.6**	**+0.4**
SHA1	**Shidzhatmaz**	**1.81**	**40**	*e*Pg	**Pb**	**09 30 26.9**	**0.0**
SHA1				*e*Sg	**Sn**	**09 30 48.5**	**+1.1**
DIGR	**Digorskoe uzhe**	**1.94**	**73**	*e*Pg	**Pb**	**09 30 28.6**	**-0.4**
DIGR				*e*Sg	**Sb**	**09 30 53.0**	**-0.1**
KIV0	**Kislovodsk Arr**	**2.00**	**36**	*e*Pg	**Pb**	**09 30 30.0**	**+0.1**
KIV0				*e*Sg	**Sn**	**09 30 52.7**	**+0.8**
ZEI	**Tsey**	**2.15**	**77**	*e*Pg	**Pb**	**09 30 31.8**	**-0.8**
ZEI				*e*Sg	**Sn**	**09 30 56.6**	**+1.0**

*IDC **29** 09:51:21.0*±*0.8, 55.57S*×*29.60W, h0*km*, mb4.3/8, mb1 4.4/9, mb1mx4.2/22, mbtmp4.3/9, ML3.9/1, MS3.7/13, Ms1 3.7/13, ms1mx3.6/21, Error ellipse: s-maj=24.4km s-min=18.1km az=66.0*
*NEIC **29** 09:51:22.3*±*0.5, 55.54S*×*29.75W, h10*km*, mb4.6/7, Error ellipse: s-maj=15.4km s-min=11.0km az=219.0*
*ISCJB **29** 09:51:23.7*±*0.5, 55.56S*±*0.09*×*29.9W*±*0.1, h28*km*, mb4.4/12, MS3.7/12, Error ellipse: s-maj=14.0km s-min=7.9km az=32.7*
ISC 29 09:51:25.4±0.6,**55.5S**±0.1×**29.86W**±0.09,**h28**km,**n46,**
σ**1**§**47**/33,**mb4.5**/12,**MS3.7**/12,**South Sandwich Islands**
region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.02**	**285**	*e*Pn	**Pn**	**09 52 23.6**	**-1.4**
HOPE				*e*Sn	**Sn**	**09 53 10.5**	**-0.6**
VNA3	**Neumayer Olymp**	**18.02**	**159**	P	**P**	**09 55 35.2**	**+1.5**
VNA2	**Neumayer--Watz**	**18.27**	**156**	P	**P**	**09 55 41.8**	**+5.4**
PMSA	**Palmer Station**	**19.14**	**227**	LR	LR	10 01 41.9	
	comp=Z,388nm,20.2s,baz=194,slow=32						
SNAA	**Sanae**	**19.86**	**155**	P	**P**	**09 55 53.0**	**-0.8**
SNAA	**Sanae**	**19.86**	**155**	P	**P**	**09 55 52.8**	**-1.0**
	0.3nm,0.3s,baz=306,slow=11,SNR=14						
SNAA	**Sanae**	**19.86**	**155**	*e*P	**P**	**09 55 53.5**	**-0.4**
	12nm,1.0s						
USHA	**Ushuaia**	**21.86**	**256**	P	**P**	**09 56 14.4**	**-1.0**
	18nm,1.0s,baz=97,slow=8.1,SNR=4.2						
USHA				LR	LR	10 03 24.5	
	comp=Z,340nm,18.2s,baz=76,slow=33						

TRQA	**Tornquist**	**27.73**	**296**	*e*P		**P**	**09 57 11.1**	**-0.1**
	7.7nm,1.1s								
PLCA	**Paso Flores**	**30.42**	**282**	LR		LR	10 10 22.2		
	comp=Z,131nm,18.9s,baz=156,slow=37								
QSPA	**South Pole Qui**	**34.74**	**180**	P		**P**	**09 58 12.6**	**-0.2**
	12nm,0.8s,baz=196,slow=2.5,SNR=53								
CPUP	**Villa Florida**	**35.34**	**314**	P		**P**	**09 58 20.9**	**+2.8**
	2.2nm,0.8s,baz=148,slow=10,SNR=5.4								
CPUP					LR	LR	10 15 05.3		
	comp=Z,49nm,18.1s,baz=154,slow=40								
MAW	**Mawson**	**41.47**	**145**	LR		LR	10 15 27.8		
	comp=Z,94nm,19.6s,baz=240,slow=35								
GO02	**Mina Guanaco**	**41.91**	**300**	*e*P		**P**	**09 59 14.2**	**+0.5**
	15nm,1.0s								
BDFB	**Brasilia**	**42.18**	**333**	P		**P**	**09 59 17.1**	**+1.5**
	1.7nm,0.5s,baz=82,slow=18,SNR=2.7								
BDFB					LR	LR	10 15 52.1		
	comp=Z,75nm,18.9s,baz=230,slow=35								
LVC	**Limon Verde**	**43.73**	**303**	*e*P		**P**	**09 59 29.4**	**+0.9**
	6.7nm,0.8s								
VNDA	**Vanda**	**47.03**	**183**	P		**P**	**09 59 53.5**	**0.0**
	3.3nm,0.9s,baz=182,slow=5.9,SNR=3.9								
VNDA					LR	LR	10 16 34.9		
	comp=Z,64nm,21.9s,baz=216,slow=32								
VNDA	**Vanda**	**47.03**	**183**	*e*P		**P**	**09 59 54.0**	**+0.5**
	8.1nm,1.0s								
MNMC	**Minye Minye**	**47.04**	**304**	*e*P		**P**	**09 59 54.5**	**-0.1**
	6.9nm,0.8s								
BOSA	**Boshof**	**47.32**	**79**	LR		LR	10 17 01.4		
	comp=Z,137nm,18.1s,baz=208,slow=33								
H10S2	**ASCENSION HYDR**	**47.97**	**20**	T		T	10 51 44.2		
	baz=192,slow=75,SNR=9.8								
H10S3	**ASCENSION HYDR**	**47.97**	**20**	T		T	10 51 44.5		
	baz=192,slow=75,SNR=7.7								
H10S1	**ASCENSION HYDR**	**47.99**	**20**	T		T	10 51 45.5		
	baz=192,slow=75,SNR=5.9								
LPAZ	**La Paz**	**48.84**	**308**	P		**P**	**10 00 09.5**	**+0.6**
	1.7nm,0.5s,baz=124,slow=5.8,SNR=12								
LPAZ					LR	LR	10 21 45.1		
	comp=Z,27nm,20.6s,baz=184,slow=37								
H10N1	**ASCENSION HYDR**	**49.09**	**20**	T		T	10 53 08.9		
	baz=191,slow=75,SNR=7.1								
H10N3	**ASCENSION HYDR**	**49.09**	**20**	T		T	10 53 07.8		
	baz=191,slow=75,SNR=17								
H10N2	**ASCENSION HYDR**	**49.10**	**20**	T		T	10 53 09.4		
	baz=191,slow=75,SNR=11								
LBTB	**Lobatse**	**50.32**	**76**	P		**P**	**10 00 17.9**	**-1.6**
	6.9nm,0.8s,baz=223,slow=9.6,SNR=8.8								
LBTB	**Lobatse**	**50.32**	**76**	*e*P		**P**	**10 00 18.1**	**-1.5**
	16nm,1.0s								
TORD	**Torodi Ar. Bea**	**73.36**	**32**	P		**P**	**10 02 54.3**	**-0.1**
	1.7nm,1.0s,baz=205,slow=5.6,SNR=6.5								
TORD					LR	LR	10 30 18.5		
	comp=Z,103nm,18.4s,baz=330,slow=32								
TOA1	**Torodi Ar. Sit**	**73.37**	**32**	*e*P		**P**	**10 02 54.3**	**-0.2**
KMBO	**Kilima Mbogo**	**76.27**	**71**	LR		LR	10 33 59.2		
	comp=Z,44nm,19.2s,baz=102,slow=34								
RKT	**Rikitea**	**79.36**	**245**	*e*LR		LR	10 28 16.0		
	comp=Z,102nm,28.0s								
TBI	**Tubuai**	**86.22**	**233**	*e*LR		LR	10 31 25.1		
	comp=Z,103nm,32.0s								
PPT	**Papeete**	**91.28**	**236**	LR		LR	10 38 46.7		
	comp=Z,39nm,18.4s,baz=139,slow=31								
TAOE	**Nuku Hiva Isla**	**93.97**	**248**	*e*LR		LR	10 35 02.5		
	comp=Z,133nm,30.6s								
ASAR	**Alice Springs**	**99.93**	**165**	LR		LR	10 47 39.8		
	comp=Z,31nm,19.6s,baz=252,slow=34								
NRS	**Narsarsuaq**	**116.98**	**352**	*e*PKPdf		**PKPdf**	**10 10 04.0**	**-1.8**
YKA	**Yellowknife Ar**	**134.77**	**319**	PKP		**PKPdf**	**10 10 38.6**	**-1.2**
	0.2nm,0.5s,baz=120,slow=2.3,SNR=6.0								
INK	**Inuvik**	**144.44**	**322**	PKP		**PKPab**	**10 10 55.2**	**-0.3**
	3.2nm,1.0s,baz=65,slow=4.3,SNR=11								
DAWY	**Dawson**	**145.32**	**313**	*e*PKPbc		**PKPbc**	**10 10 57.8**	**-1.1**
IL1	**Eielson Array**	**148.64**	**313**	*e*PKPbc		**PKPbc**	**10 11 07.5**	**-0.7**
ILAR	**Eielson Array**	**148.64**	**313**	PKPbc		**PKPbc**	**10 11 07.5**	**-0.7**
	2.2nm,0.7s,baz=115,slow=1.6,SNR=33								
ILB	**Eielson Array**	**148.64**	**313**	*e*PKPdf		**PKPdf**	**10 11 05.8**	**+1.3**
RND	**Reindeer**	**149.16**	**310**	*e*PKPbc		**PKPbc**	**10 11 09.8**	**+0.2**
IM3	**Indian Mountai**	**151.67**	**314**	*e*PKPdf		**PKPdf**	**10 11 08.6**	**-0.5**
IM3				*e*PKPbc		**PKPbc**	**10 11 14.4**	**-1.0**
IM3				*e*PKPab		**sPKPdf**	**10 11 22.7**	**+1.1**

*ISCJB **29** 10:02:55.3*±*0.4, 45.04N*±*0.06*×*141.68E*±*0.09, h284*km*±*5km, mb3.1/4, Error ellipse: s-maj=11.1km s-min=9.8km az=148.6*
*JMA **29** 10:02:55.6*±*0.3, 45.10N*×*141.67E, h283*km*±*2km, M2.9*
*IDC **29** 10:02:56.3*±*0.6, 45.06N*×*141.65E, h276*km*±*10km, mb3.0/4, mb1 3.3/9, mb1mx3.0/36, mbtmp3.8/9, Error ellipse: s-maj=25.2km s-min=15.3km az=170.0*
ISC 29 10:02:56.1±0.8,**44.98N**±0.07×**141.67E**±0.08,**h280**km±7km,
n28,σ**0**§**96**/35,**mb3.2**/4,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JRR	**Rishiri**	**0.30**	**301**	P	**Pn**	**10 03 32.0**	**+0.1**
JWK2	**Keihoku**	**0.37**	**26**	P	**Pn**	**10 03 31.7**	**-0.3**
JWK2				*e*S	**S**	**10 03 59.5**	**-1.0**
JYG	**Yagishiri**	**0.58**	**197**	P	**Pn**	**10 03 32.8**	**+0.1**
JSS	**Shosan**	**0.60**	**167**	P	**Pn**	**10 03 33.3**	**+0.5**
ASAJ	**Asahikawa**	**1.09**	**142**	P	**Pn**	**10 03 35.2**	**+0.4**
	6.3nm,0.3s,baz=303,slow=4.9,SNR=35						
ASAJ				S	**S**	**10 04 05.9**	**+0.5**
	1.1nm,0.3s,baz=150,slow=31,SNR=13						
ASAJ	**Asahikawa**	**1.09**	**142**	P	**Pn**	**10 03 35.2**	**+0.4**
ASAJ				*e*S	**S**	**10 04 06.0**	**+0.5**
JHR	**Hokuryu**	**1.24**	**178**	P	**Pn**	**10 03 36.8**	**+1.1**
JKK2	**Kamakawa 2**	**1.35**	**145**	P	**Pn**	**10 03 37.0**	**+0.6**
JMP	**Maruseppu**	**1.56**	**128**	P	**Pn**	**10 03 38.3**	**+0.6**
JISS	**Ishikarishitsu**	**1.72**	**186**	P	**Pn**	**10 03 40.3**	**+1.4**
JTKR	**Abashiri--Toko**	**1.90**	**121**	P	**Pn**	**10 03 41.0**	**+0.8**
JTKR				*e*S	**S**	**10 04 15.9**	**+0.6**
JFR	**Furan**	**1.94**	**160**	P	**Pn**	**10 03 41.5**	**+0.8**
JEW	**Eniwo**	**2.15**	**184**	P	**Pn**	**10 03 43.5**	**+1.1**
JAR	**Ashorobuto**	**2.27**	**137**	P	**Pn**	**10 03 44.2**	**+0.8**
JAR				*e*S	**S**	**10 04 22.0**	**+1.0**
JCH	**Churui**	**2.67**	**152**	P	**Pn**	**10 03 46.8**	**-0.4**
JCH				*e*S	**S**	**10 04 25.1**	**-2.7**
JNBK	**Urakawa-nobuka**	**2.81**	**163**	P	**Pn**	**10 03 49.3**	**+0.6**
JNBK				*e*S	**S**	**10 04 30.3**	**-0.2**
JAK	**Akkeshi**	**2.95**	**131**	*e*S	**S**	**10 04 30.4**	**-2.5**
JKB	**Kayabe**	**3.13**	**189**	P	**Pn**	**10 03 51.5**	**-0.3**
JOSM	**Okushiri--Mats**	**3.31**	**210**	P	**Pn**	**10 03 54.0**	**+0.3**
USRK	**Ussuriysk Ar.**	**6.96**	**267**	P	**Pn**	**10 04 36.8**	**+0.3**
	0.5nm,0.3s,baz=79,slow=13,SNR=16						
KLR	**Kul'dur**	**7.99**	**306**	P	**Pn**	**10 04 48.4**	**-0.8**
	0.1nm,0.3s,baz=106,slow=15,SNR=8.0						
MJAR	**Matsushiro Arr**	**8.83**	**198**	P	**Pn**	**10 04 59.4**	**-0.5**
	0.1nm,0.3s,baz=7.3,slow=12,SNR=6.1						
MA2	**Magadan**	**15.62**	**17**	P	**P**	**10 06 20.4**	**-0.3**
	0.4nm,0.3s,baz=209,slow=7.5,SNR=4.8						
SEY	**Seymchan**	**19.01**	**15**	P	**P**	**10 06 56.2**	**-1.1**
	0.9nm,0.3s,baz=199,slow=7.8,SNR=32						
SONM	**Songino Array**	**24.36**	**289**	P	**P**	**10 07 49.5**	**+0.4**
	0.9nm,0.5s,baz=78,slow=8.8,SNR=7.6						
ILAR	**Eielson Array**	**42.83**	**37**	P	**P**	**10 10 26.2**	**-0.3**
	0.7nm,0.7s,baz=277,slow=8.1,SNR=12						
YKA	**Yellowknife Ar**	**56.92**	**33**	P	**P**	**10 12 11.9**	**0.0**
	0.3nm,0.6s,baz=304,slow=6.5,SNR=9.7						
PDAR	**Pinedale Array**	**72.03**	**47**	P	**P**	**10 13 51.0**	**+1.0**
	0.3nm,0.5s,baz=263,slow=1.7,SNR=5.2						

*NNC **29** 10:03:36.7*±*0.3, 43.07N*×*76.69E, h2km*±*2km, mb4.1, mpv4.1, Error ellipse: s-maj=4.3km s-min=1.5km az=164.0*
*KRNET **29** 10:03:36.9*±*0.1, 43.11N*×*76.69E, h18km, mb3.9*
*SOME **29** 10:03:36.9, 43.08N*×*76.70E, h20km*
*ISCJB **29** 10:03:36.8*±*0.4, 43.11N*±*0.02*×*76.67E*±*0.02, h0km*±*3km, Error ellipse: s-maj=3.6km s-min=2.0km az=159.3*
*KNET **29** 10:03:37.9*±*0.7, 43.02N*×*76.60E, h12km*±*3km, ml3.5, Error ellipse: s-maj=5.2km s-min=1.9km az=60.0*
*BJI **29** 10:03:37.7, 42.99N*×*76.45E, h21km, mb3.5/1, ML3.4/6*
ISC 29 10:03:37.1±0.8,**43.08N**±0.02×**76.70E**±0.01,**h12**km±6km,
n65,σ**0**§**86**/116,**35C-31D,Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNSS	**Tian-Shan**	**0.19**	**105**	P	**Pg**	**10 03 41.3**	**-0.3**
	6μm,0.2s						
TNSS				S	**Sg**	**10 03 44.4**	**-0.3**
	9μm,0.2s						
TNSS	**Tian-Shan**	**0.19**	**105**	*e*P	**Pg**	**10 03 41.3**	**-0.3**
	baz=10.0						
TNSS				*e*S	**Sg**	**10 03 44.4**	**-0.3**
	9μm,0.2s						
AAA	**Alma-Ata**	**0.20**	**51**	P	**Pg**	**10 03 41.7**	**+0.1**
	3μm,0.1s						
AAA				S	**Sg**	**10 03 45.0**	**+0.4**
	20μm,0.4s						
AAA	**Alma-Ata**	**0.20**	**51**	*e*P	**Pg**	**10 03 41.7**	**+0.1**
	3μm,0.1s						
AAA				*e*S	**Sg**	**10 03 45.0**	**+0.4**
	20μm,0.4s						
KNDC	**Almaty**	**0.23**	**55**	⇑P	**Pg**	**10 03 42.2**	**+0.1**
	548nm,0.2s						
KNDC				⇓S	**Sg**	**10 03 46.1**	**+0.5**
	4μm,0.2s						
MDOK	**Medeo**	**0.27**	**73**	⇑P	**Pg**	**10 03 42.3**	**-0.4**
	99nm,0.4s						
MDOK				⇑S	**Sg**	**10 03 46.3**	**-0.3**
	3μm,0.4s						
KOTS	**Kotyrbulak**	**0.34**	**63**	P	**Pg**	**10 03 43.8**	**-0.2**
	202nm,0.2s						
KOTS				S	**Sg**	**10 03 48.5**	**-0.1**
	2μm,0.4s						
KOTS	**Kotyrbulak**	**0.34**	**63**	*e*P	**Pg**	**10 03 43.9**	**-0.2**
	baz=68						
KOTS				*e*S	**Sg**	**10 03 48.5**	**-0.1**
	baz=68						
KOTS	**Kotyrbulak**	**0.34**	**63**	*e*P	**Pg**	**10 03 43.9**	**-0.2**
	202nm,0.2s						
KOTS				*e*S	**Sg**	**10 03 48.5**	**-0.1**
	2μm,0.4s						
KST	**Kastek**	**0.54**	**266**	P	**Pg**	**10 03 47.3**	**-0.5**
	139nm,0.1s						
KST				S	**Sg**	**10 03 54.9**	**-0.1**
	920nm,0.4s						
KST	**Kastek**	**0.54**	**266**	*e*P	**Pg**	**10 03 47.3**	**-0.5**
	baz=63						
KST				*e*S	**Sg**	**10 03 54.9**	**-0.1**
	baz=63						
KST	**Kastek**	**0.54**	**266**	*e*P	**Pg**	**10 03 47.3**	**-0.5**
	139nm,0.1s						
KST				*e*S	**Sg**	**10 03 54.9**	**-0.1**
	920nm,0.4s						
KTBS	**Karatobe**	**0.63**	**359**	P	**Pg**	**10 03 48.8**	**-0.7**
	109nm,0.2s						
KTBS				S	**Sg**	**10 03 57.0**	**-0.7**
	3μm,0.2s						
KTBS	**Karatobe**	**0.63**	**359**	*e*P	**Pg**	**10 03 48.8**	**-0.7**
	109nm,0.2s						
KTBS				*e*S	**Sg**	**10 03 57.0**	**-0.7**
	3μm,0.2s						
DGS	**Degeres**	**0.70**	**283**	P	**Pg**	**10 03 50.1**	**-0.7**
	270nm,0.2s						
DGS				S	**Sg**	**10 03 59.3**	**-0.6**
	1μm,0.3s						
DGS	**Degeres**	**0.70**	**283**	*e*P	**Pg**	**10 03 50.1**	**-0.7**
	baz=82						
DGS				*e*S	**Sg**	**10 03 59.4**	**-0.6**
	baz=82						
DGS	**Degeres**	**0.70**	**283**	*e*P	**Pg**	**10 03 50.1**	**-0.7**
	270nm,0.2s						
DGS				*e*S	**Sg**	**10 03 59.3**	**-0.6**
	1μm,0.3s						
BOOM	**Boomskoye usch**	**0.82**	**224**	⇑*i*P	**Pg**	**10 03 52.3**	**-0.7**
	baz=22						
BOOM				⇑*i*S	**Sg**	**10 04 03.6**	**-0.1**
	baz=22						
TKM2	**Tokmak 2**	**0.83**	**259**	⇓P	**Pg**	**10 03 52.5**	**-0.7**
	98nm,0.1s,SNR=690						
TKM2				⇑S	**Sg**	**10 04 04.0**	**0.0**
	2μm,0.1s						
TKM2	**Tokmak 2**	**0.83**	**259**	⇓P	**Pg**	**10 03 52.5**	**-0.7**
	28nm,0.2s						
TKM2				⇑S	**Sg**	**10 04 04.0**	**0.0**
	565nm,0.5s						
TKM2	**Tokmak 2**	**0.83**	**259**	⇓*i*P	**Pg**	**10 03 52.5**	**-0.7**
	baz=57						
TKM2			

UCH	**Uchtor**	**1.83**	**243**	⇑*iP*	**Pb**	**10 04 10.4**	**-0.3**
	baz=42							
UCH				⇑*iS*	**Sb**	**10 04 34.6**	**+0.8**
	baz=42							
PDGK	**Podgornoye**	**2.05**	**82**	⇓Pn	**Pb**	**10 04 13.4**	**-1.0**
	24nm,0.4s							
PDGK				⇑Sn	**Sb**	**10 04 41.1**	**+1.2**
	261nm,0.6s							
ARLS	**Aral**	**2.14**	**236**	⇑*eP*	**Pb**	**10 04 14.7**	**-1.3**
	baz=36							
ARLS				⇑*iS*	**Sb**	**10 04 41.4**	**-1.1**
	baz=36							
EKS2	**Erkin-Say**	**2.19**	**260**	⇓P	**Pb**	**10 04 16.0**	**-0.8**
	33nm,0.1s,SNR=226							
EKS2	**Erkin-Say**	**2.19**	**260**	⇓*iP*	**Pb**	**10 04 15.7**	**-1.1**
	baz=59							
EKS2				⇓*iS*	**Sb**	**10 04 43.0**	**-0.9**
	baz=59							
TDK	**Taldyqorghan**	**2.28**	**32**	*eP*	**Pb**	**10 04 17.4**	**-0.7**
	657nm,0.4s							
TDK				*eS*	**Sb**	**10 04 46.7**	**+0.4**
	1µm,0.5s							
AML	**Almayashu**	**2.42**	**248**	⇑*eP*	**Pn**	**10 04 18.5**	**+1.7**
	baz=47							
AML				⇑*iS*	**Sn**	**10 04 48.3**	**+1.8**
	baz=47							
MRKS	**Merke**	**2.58**	**264**	*eP*	**Pb**	**10 04 21.9**	**-1.4**
	22nm,0.2s							
MRKS				*eS*	**Sb**	**10 04 54.7**	**-0.3**
	266nm,0.4s							
MNAS	**Manas**	**3.15**	**260**	⇓Pn	**Pn**	**10 04 28.9**	**+2.3**
	9.7nm,0.6s							
MNAS				⇑Lg	Lg	10 05 12.9		
	49nm,0.5s							
MNAS	**Manas**	**3.15**	**260**	⇓*iP*	**Pn**	**10 04 28.4**	**+1.8**
	baz=60							
MNAS				⇓*iS*	**Sn**	**10 05 05.9**	**+1.7**
	baz=60							
ARK	**Arkit**	**3.73**	**251**	⇑*iP*	**Pn**	**10 04 37.3**	**+2.6**
	baz=51							
ARK				⇑*iS*	**Sn**	**10 05 20.7**	**+2.1**
	baz=51							
SFK	**Sufi-Kurgan**	**3.90**	**219**	⇑Lg	Lg	10 05 41.3		
	32nm,0.5s							
KK31	**Karatay Array**	**4.53**	**272**	⇑Pg	**Pg**	**10 05 03.4**	**-0.6**
	5.2nm,0.3s,baz=85,slow=16,SNR=4.3							
KK31				⇑Lg	Lg	10 05 57.4		
	62nm,0.6s,baz=83,slow=27,SNR=9.4							
MAKZ	**Makanchi**	**5.28**	**43**	⇑Pn	**Pn**	**10 04 57.6**	**+1.8**
	4.3nm,0.4s							
MAKZ				⇑Lg	Lg	10 06 20.3		
	25nm,0.8s							
MK31	**Makanchi Array**	**5.43**	**45**	Pn	**Pn**	**10 04 59.1**	**+1.2**
	2.4nm,0.2s,baz=221,slow=16,SNR=142							
MK31				⇑Sn	**Sn**	**10 06 00.9**	**+0.6**
	4.2nm,0.5s							
MK31				⇑Lg	Lg	10 06 27.3		
	5.8nm,0.5s,baz=241,slow=26,SNR=5.1							
OTUK	**Ortayu**	**6.00**	**331**	⇓Pn	**Pn**	**10 05 05.9**	**+0.3**
	4.6nm,0.5s							
OTUK				⇓Pg	**Pb**	**10 05 25.0**	**+3.5**
	4.1nm,0.4s							
OTUK				⇑Lg	Lg	10 06 45.6		
	106nm,1.1s							
KURBB	**Kurchatov Arra**	**7.64**	**9**	⇓Pn	**Pn**	**10 05 27.4**	**-0.8**
KURBB				⇑Lg	Lg	10 07 38.4		
	80nm,0.6s							
BVA0	**Borovoye Array**	**10.80**	**339**	Pn	**Pn**	**10 06 10.1**	**-1.4**
	0.5nm,0.3s,baz=151,slow=12,SNR=21							
BVA0				⇓Lg	Lg	10 09 13.6		
	13nm,0.6s,baz=139,slow=27,SNR=6.1							

IDC 29 10:12:57.8±582.0, 52°.45N×137°.46E, h0km, Error ellipse: s-maj=199.1km s-min=157.3km az=19.0, Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**9.03**	**206**	*i*		11 08 50.0	
	baz=21,slow=334,SNR=2.8						
I44RU	**PETROPAVLOVSK42.28**		**79**	*i*		11 31 00.0	
	baz=275,slow=337,SNR=0.6						
I30JP	**ISUMI INFRASON**	**17.26**	**172**	*i*		12 01 40.0	
	baz=357,slow=331,SNR=0.3						

*KRNET **29** 10:17:30.7±0.1, 42°.74N×75°.74E, h25km, mb2.3*
*NNC **29** 10:17:30.7±2.1, 42°.63N×75°.70E, h0km, mb3.0, mpv2.4, Error ellipse: s-maj=14.9km s-min=9.4km az=140.0*
*ISCJB **29** 10:17:31.4±0.6, 42°.73N±0°.04×75°.73E±0°.04, h14km±5km, Error ellipse: s-maj=7.8km s-min=3.6km az=38.1*
*KNET **29** 10:17:31.6±0.4, 42°.69N×75°.69E, h6km±4km, ml1.4, Error ellipse: s-maj=3.5km s-min=1.6km az=80.0*

ISC 29 10:17:31.2±0.9, 42°.68N±0°.03×75°.68E±0°.02, h12km±9km, n28, σ0°52/44, 33C-12D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.25**	**345**	P	**Pg**	**10 17 36.7**	**+0.1**
	20nm,0.1s,SNR=161						
TKM2				⇑S	**Sg**	**10 17 40.5**	**+0.3**
	64nm,0.1s						
TKM2	**Tokmak 2**	**0.25**	**345**	⇓P	**Pg**	**10 17 36.5**	**-0.1**
	4.9nm,0.3s						
TKM2				⇑S	**Sg**	**10 17 40.5**	**+0.3**
	32nm,0.3s						
TKM2	**Tokmak 2**	**0.25**	**345**	⇑*iP*	**Pg**	**10 17 36.6**	**-0.1**
	baz=31						
TKM2				⇑*iS*	**Sg**	**10 17 40.1**	**-0.2**
	baz=31						
BOOM	**Boomskoye usch**	**0.27**	**135**	⇑*iP*	**Pb**	**10 17 37.4**	**-0.6**
	baz=48						
BOOM				⇑*iS*	**Sb**	**10 17 41.7**	**-0.9**
	baz=48						
KBK	**Karagaybulak**	**0.54**	**268**	⇑P	**Pb**	**10 17 42.5**	**-0.2**
	13nm,0.1s,SNR=22						
KBK	**Karagaybulak**	**0.54**	**268**	⇑*iP*	**Pb**	**10 17 42.4**	**-0.4**
	baz=62						
KBK				⇑*iS*	**Sb**	**10 17 50.7**	**+0.1**
	baz=62						
ULHL	**Ulahol**	**0.60**	**136**	⇑P	**Pb**	**10 17 43.3**	**-0.4**
	12nm,0.2s,SNR=10						
ULHL	**Ulahol**	**0.60**	**136**	⇓*iP*	**Pb**	**10 17 43.0**	**-0.7**
	baz=43						
ULHL				⇓*iS*	**Sg**	**10 17 51.3**	**+0.5**
	baz=43						
KZA	**Kyzart**	**0.68**	**208**	⇑P	**Pb**	**10 17 45.3**	**+0.1**
	11nm,0.2s,SNR=26						
KZA	**Kyzart**	**0.68**	**208**	⇑*iP*	**Pb**	**10 17 45.1**	**-0.1**
	baz=9.0						
KZA				⇑*iS*	**Sb**	**10 17 55.6**	**+0.9**
	baz=9.0						
CHMS	**Chumysh**	**0.76**	**295**	⇑P	**Pg**	**10 17 45.8**	**-0.1**
	1.9nm,0.1s,SNR=8.8						
CHMS	**Chumysh**	**0.76**	**295**	⇑*iP*	**Pg**	**10 17 45.5**	**-0.4**
	baz=90						
CHMS				⇑*iS*	**Sg**	**10 17 56.0**	**+0.2**
	baz=90						
AAK	**Ala-Archa**	**0.88**	**268**	P	**Pb**	**10 17 48.3**	**-0.2**
	2.9nm,0.1s,SNR=6.9						
AAK	**Ala-Archa**	**0.88**	**268**	⇑P	**Pg**	**10 17 47.9**	**-0.2**
	1.1nm,0.3s						
AAK				⇑S	**Sb**	**10 18 00.4**	**+0.2**
	1.4nm,0.3s						
AAK	**Ala-Archa**	**0.88**	**268**	⇑*iP*	**Pg**	**10 17 48.1**	**-0.1**
	baz=64						
AAK				⇑*iS*	**Sb**	**10 18 00.4**	**+0.2**
	baz=64						
UCH	**Uchtor**	**0.98**	**243**	⇑P	**Pg**	**10 17 50.0**	**-0.1**
	1.9nm,0.2s,SNR=6.4						
UCH	**Uchtor**	**0.98**	**243**	⇓*iP*	**Pg**	**10 17 50.0**	**-0.1**
	baz=41						
UCH				⇓*iS*	**Sb**	**10 18 04.0**	**+0.7**
	baz=41						
USP	**Ospenovka**	**1.05**	**305**	⇓P	**Pg**	**10 17 51.1**	**-0.3**
	3.1nm,0.1s,SNR=13						
USP	**Ospenovka**	**1.05**	**305**	⇑*iP*	**Pg**	**10 17 50.1**	**-1.3**
	baz=1.0						
USP				⇑*iS*	**Sg**	**10 18 04.1**	**-1.0**
	baz=1.0						
NRN	**Naryn**	**1.27**	**169**	⇑*iP*	**Pg**	**10 17 55.1**	**-0.5**
	baz=72						
NRN				⇑*iS*	**Sn**	**10 18 12.8**	**+0.8**
	baz=72						
EKS2	**Erkin-Say**	**1.41**	**270**	⇑P	**Pg**	**10 17 58.6**	**+0.4**
	6.3nm,0.1s,SNR=45						
EKS2	**Erkin-Say**	**1.41**	**270**	⇑*iP*	**Pn**	**10 17 56.9**	**+0.2**
	baz=68						
EKS2				⇑*iS*	**Sg**	**10 18 16.3**	**-0.2**
	baz=68						
AML	**Almayashu**	**1.57**	**250**	⇓P	**Pg**	**10 18 01.2**	**-0.2**
	4.5nm,0.3s,SNR=7.3						
AML	**Almayashu**	**1.57**	**250**	⇑*iP*	**Pb**	**10 18 00.3**	**-0.1**
	baz=49						
AML				⇑*iS*	**Sg**	**10 18 21.5**	**-0.3**
	baz=49						
TARG	**Taragay, Kyrgy**	**1.84**	**120**	⇓*iP*	**Pn**	**10 18 03.2**	**+0.3**
	baz=23						
TARG				⇓*iS*	**Sn**	**10 18 26.5**	**+0.2**
	baz=23						
MNAS	**Manas**	**2.36**	**266**	⇓Pg	**Pb**	**10 18 14.0**	**+0.4**
	1.4nm,0.4s						
MNAS				⇓Lg	Lg	10 18 46.0	
	0.9nm,0.4s						
PDGK	**Podgornoye**	**2.87**	**76**	⇑Pg	**Pb**	**10 18 23.0**	**+0.6**
	2.0nm,0.5s						
PDGK				⇑Lg	Lg	10 19 03.3	
	2.8nm,0.7s						
KK31	**Karatay Array**	**3.82**	**278**	⇓Pg	**Pg**	**10 18 42.9**	**-1.5**
	0.4nm,0.3s,baz=98,slow=16,SNR=7.6						
KK31				⇑Lg	Lg	10 19 32.8	
	0.3nm,0.3s,baz=103,slow=30						

*IDC **29** 10:27:53.4±0.9, 11°.58S×166°.87E, h0km, mb4.1/13, mb1 4.2/14, mb1mx4.1/38, mbtmp4.1/14, ML4.7/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/22, Error ellipse: s-maj=27.7km s-min=19.8km az=115.0*
*ISCJB **29** 10:28:00.9±0.6, 11°.49S±0°.08×166°.57E±0°.10, h59km, mb4.2/20, MS3.2/1, Error ellipse: s-maj=13.8km s-min=11.5km az=7.7*
*NEIC **29** 10:28:03.3±2.0, 11°.47S×166°.60E, h66km±17km, mb4.4/7, Error ellipse: s-maj=13.9km s-min=9.6km az=86.0*

ISC 29 10:28:02.4±0.7, 11°.5S±0°.1×166°.7E±0°.1, h59km, n30, σ0°87/32, mb4.2/20, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.90**	**286**	Pn	**Pn**	**10 29 40.4**	**-0.6**
	14nm,0.3s,baz=220,slow=6.4,SNR=3.5						
CTA	**Charters Tower**	**21.39**	**244**	P	**P**	**10 32 46.5**	**+1.1**
	1.6nm,0.6s,baz=36,slow=14,SNR=3.6						
JAY	**Jayapura**	**27.22**	**287**	LR	LR	10 44 53.2	
	comp=Z,69nm,18.8s,slow=37						
BKZ	**Black Stump Fm**	**28.94**	**164**	*eP*	**P**	**10 33 57.5**	**+1.4**
	9.9nm,0.5s						
BFZ	**Birch Farm**	**30.30**	**165**	*eP*	**P**	**10 34 09.0**	**+0.9**
	18nm,1.0s						
WB2	**Warramunga Arr**	**32.16**	**251**	*eP*	**P**	**10 34 24.3**	**-0.5**
WRAB	**Tennant Creek**	**32.16**	**251**	*eP*	**P**	**10 34 24.6**	**-0.2**
	5.7nm,1.1s						
WR1	**Warramunga Arr**	**32.17**	**251**	*eP*	**P**	**10 34 24.5**	**-0.4**
	5.2nm,1.1s						
WR1				*ePcP*	**PcP**	**10 37 11.8**	**-1.0**
WRA	**Warramunga Arr**	**32.17**	**251**	P	**P**	**10 34 24.5**	**-0.4**
	2.2nm,0.8s,baz=85,slow=9.3,SNR=27						
WRA				PcP	**PcP**	**10 37 11.8**	**-1.0**
	0.9nm,1.0s,baz=81,slow=3.1,SNR=4.3						
AS31	**Alice Springs**	**33.40**	**244**	*eP*	**P**	**10 34 35.1**	**-0.5**
	0.9nm,0.6s						
ASAR	**Alice Springs**	**33.40**	**244**	P	**P**	**10 34 34.6**	**-1.0**
	2.2nm,0.6s,baz=69,slow=9.7,SNR=43						
ASAR				PcP	**PcP**	**10 37 14.7**	**-1.5**
	0.6nm,0.6s,baz=77,slow=2.8,SNR=5.9						
MBWA	**Marble Bar**	**45.90**	**252**	*eP*	**P**	**10 36 19.9**	**+0.4**
	3.2nm,1.0s						
JNU	**Nakatsue**	**55.95**	**324**	P	**P**	**10 37 34.7**	**-0.1**
	1.1nm,0.4s,baz=117,slow=4.5,SNR=3.7						
ASAJ	**Asahikawa**	**59.49**	**340**	P	**P**	**10 38 00.7**	**+1.3**
	6.0nm,0.9s,baz=145,slow=4.3,SNR=4.4						
KSRS	**Korea Array**	**60.73**	**325**	P	**P**	**10 38 08.7**	**+0.8**
	5.8nm,1.3s,baz=131,slow=6.4,SNR=5.0						
KSAR	**Wonju Array Be**	**60.74**	**325**	P	**P**	**10 38 08.7**	**+0.7**
VNDA	**Vanda**	**66.08**	**181**	P	**P**	**10 38 42.3**	**-0.5**
	1.8nm,0.8s,baz=347,slow=9.9,SNR=7.0						
VNDA	**Vanda**	**66.08**	**181**	*eP*	**P**	**10 38 42.0**	**-0.8**
KLR	**Kul'dur**	**67.80**	**336**	P	**P**	**10 38 54.3**	**+0.2**
	0.5nm,0.5s,baz=135,slow=2.6,SNR=3.5						
CMAR	**Chiang Mai Arr**	**73.09**	**293**	P	**P**	**10 39 28.1**	**+1.1**
	2.8nm,0.8s,baz=125,slow=4.6,SNR=9.2						
SONA0	**Songino Array**	**79.53**	**323**	*eP*	**P**	**10 40 03.0**	**-0.1**
SONM	**Songino Array**	**79.53**	**323**	P	**P**	**10 40 03.0**	**-0.1**
	0.5nm,0.5s,baz=142,slow=5.7,SNR=3.7						
ILAR	**Eielson Array**	**83.64**	**18**	P	**P**	**10 40 24.9**	**+0.7**
	0.2nm,0.5s,baz=265,slow=5.2,SNR=7.6						
MK31	**Makanchi Array**	**94.44**	**317**	*eP*	**P**	**10 41 16.0**	**-0.1**
	2.1nm,0.7s						
MK32	**Makanchi Array**	**94.44**	**317**	*eP*	**P**	**10 41 15.7**	**-0.5**
MKAR	**Makanchi Array**	**94.44**	**317**	P	**P**	**10 41 15.7**	**-0.5**
	2.6nm,0.5s,baz=90,slow=6.5,SNR=40						
MKAR	**Makanchi Array**	**94.44**	**317**	*eP*	**P**	**10 41 16.0**	**-0.1**
	18nm,0.6s						
YKA	**Yellowknife Ar**	**94.95**	**27**	P	**P**	**10 41 16.7**	**-1.3**
	0.1nm,0.4s,baz=261,slow=4.4,SNR=3.5						
ARA0	**ARCESS Array S**	**116.97**	**346**	*ePKPdf*	**PKPdf**	**10 46 38.6**	**-1.4**
ARCES	**ARCESS Array B**	**116.97**	**346**	PKP	**PKPdf**	**10 46 38.6**	**-1.4**
	3.3nm,1.0s,baz=42,slow=2.2,SNR=5.7						

*IDC **29** 10:30:09.5±2.5, 46°.58S×166°.34E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.6/27, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=68.8km s-min=29.2km az=166.0*
*ISCJB **29** 10:30:12.4±1.3, 46°.14S±0°.07×165°.94E±0°.07, h15km±7km, mb3.3/2, Error ellipse: s-maj=12.2km s-min=8.2km az=8.1*
*WEL **29** 10:30:13.0, 46°.5S×23°×16°.6E±1°.4, h5km, ML4.2/9*

ISC 29 10:30:11.2±2.2, 46°.31S±0°.07×166°.11E±0°.07, h3km±13km, n24, σ1°27/32, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.42**	**71**	P	**Pn**	**10 30 23.7**	**-0.6**
PYZ				S	**Sb**	**10 30 31.3**	**+3.1**
DCZ	**Deep Cove**	**1.12**	**41**	P	**Pg**	**10 30 32.4**	**-0.3**
DCZ				S	**Sg**	**10 30 47.0**	**-0.1**
WHZ	**Wether Hill Ro**	**1.35**	**73**	P	**Pb**	**10 30 37.9**	**+0.8**
APZ	**The Paps**	**1.40**	**113**	P	**Pb**	**10 30 38.8**	**+0.7**
MLZ	**Mavora Lakes**	**1.69**	**57**	P	**Pb**	**10 30 43.2**	**+0.1**
MLZ				S	**Sg**	**10 31 08.7**	**+3.1**
MSZ	**Milford Sound**	**2.08**	**39**	P	**Pn**	**10 30 46.8**	**-0.2**
SYZ	**Scrubby Hill**	**2.11**	**97**	P	**Pb**	**10 30 49.0**	**-1.1**
SYZ				S	**Sg**	**10 31 17.6**	**-1.4**
TUZ	**Tuapeka**	**2.48**	**83**	P	**Pb**	**10 30 54.0**	**-2.4**
TUZ				S	**Sb**	**10 31 27.1**	**-0.2**
EAZ	**Earnscleugh**	**2.49**	**65**	P	**Pb**	**10 30 54.7**	**-1.9**
EAZ				S	**Sb**	**10 31 28.0**	**+0.4**
WKZ	**Wanaka**	**2.53**	**55**	P	**Pb**	**10 30 55.4**	**-1.8**
JCZ	**Jackson Bay**	**2.93**	**41**	P	**Pn**	**10 30 59.3**	**+0.4**
HHSZ	**Highcliff Hill**	**3.15**	**84**	P	**Pn**	**10 31 03.4**	**+1.6**
ODZ	**Otahua Downs**	**3.42**	**70**	P	**Pn**	**10 31 05.6**	**+0.1**
LBZ	**Lake Benmore**	**3.46**	**58**	P	**Pn**	**10 31 06.7**	**+0.6**
FOZ	**Fox Glacier**	**3.83**	**45**	P	**Pn**	**10 31 11.0**	**0.0**
RPZ	**Rata Peaks**	**4.36**	**55**	Pn	**Pn**	**10 31 18.1**	**-0.3**
	3.9nm,0.3s,baz=222,slow=6.8,SNR=71						
RPZ				Sn	**Sn**	**10 32 09.1**	**-0.7**
	6.3nm,0.3s,baz=139,slow=21,SNR=7.1						
RPZ	**Rata Peaks**	**4.36**	**55**	P	**Pn**	**10 31 18.1**	**-0.3**
RPZ				S	**Sn**	**10 32 09.2**	**-0.6**
WVZ	**Waitaha Valley**	**4.62**	**47**	P	**Pn**	**10 31 22.3**	**+0.3**
OXZ	**Oxford**	**5.17**	**57**	P	**Pn**	**10 31 28.4**	**-1.1**
INZ	**Inchbonnie**	**5.24**	**49**	P	**Pn**	**10 31 30.3**	**-0.1**
ASAR	**Alice Springs**	**34.36**	**300**	P	**P**	**10 37 00.3**	**+0.9**
	0.4nm,0.9s,baz=135,slow=8.4,SNR=4.4						
WRA	**Warramunga Arr**	**36.98**	**305**	P	**P**	**10 37 23.1**	**+1.1**
	0.4nm,0.9s,baz=134,slow=8.0,SNR=3.2						
TORD	**Torodi Ar. Bea**	**144.42**	**207**	PKP	**PKPab**	**10 49 46.5**	**-0.8**
	0.3nm,0.5s,baz=149,slow=1.8,SNR=3.2						
ARCES	**ARCESS Array B**	**149.67**	**334**	PKPbc	**PKPbc**	**10 50 00.3**	**-0.7**
	2.9nm,0.9s,baz=359,slow=3.6,SNR=4.0						

WEL 29 10:33:02.6, 46°.5S±7°.×16°.6E±°, h5km, ML4.0/11, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.47**	**52**	P	Pb	10 33 12.9	-0.4
PYZ				S	Sb	10 33 20.5	0.0
DCZ	**Deep Cove**	**1.21**	**36**	P	Pg	10 33 21.4	-4.4
DCZ				S	Sg	10 33 35.6	-6.0
APZ	**The Paps**	**1.32**	**107**	P	Pg	10 33 28.0	+0.1
WHZ	**Wether Hill Ro**	**1.37**	**66**	P	Pn	10 33 27.1	-1.3
WHZ				S	Sb	10 33 46.2	-0.4
MLZ	**Mavora Lakes**	**1.75**	**52**	P	Pn	10 33 32.8	-0.9
MLZ				S	Sn	10 33 56.5	+0.1
SYZ	**Scrubby Hill**	**2.07**	**93**	P	Pn	10 33 38.5	+0.6
SYZ				S	Sn	10 34 04.7	+0.6
MSZ	**Milford Sound**	**2.17**	**36**	P	Pn	10 33 36.2	-3.2
TUZ	**Tuapeka**	**2.47**	**80**	P	Pn	10 33 43.7	+0.2
EAZ	**Earnscleugh**	**2.52**	**62**	P	Pn	10 33 44.0	-0.2
WKZ	**Wanaka**	**2.59**	**52**	P	Pn	10 33 45.0	-0.1
JCZ	**Jackson Bay**	**3.02**	**39**	P	Pn	10 33 50.0	-1.2
HHSZ	**Highcliff Hill**	**3.14**	**81**	P	Pn	10 33 52.7	-0.1
HHSZ				S	Sn	10 34 32.8	+2.1
ODZ	**Otahua Downs**	**3.45**	**67**	P	Pn	10 33 55.2	-1.8
LBZ	**Lake Benmore**	**3.52**	**55**	P	Pn	10 33 56.2	-1.7
FOZ	**Fox Glacier**	**3.91**	**43**	P	Pn	10 34 01.0	-2.3
FOZ				P	Pb	10 34 01.7	-10
RPZ	**Rata Peaks**	**4.42**	**54**	P	Pn	10 34 07.6	-2.8
RPZ				S	Sn	10 34 57.7	-4.6

MEX 29 10:38:41.1±0.5, 15°.81N×93°.94W, h87km±6km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.70**	**98**	*eP*	Pn	10 38 55.9	-1.5
PCIG				*eS*	Sn	10 39 07.9	-1.5
CMIG	**Matias Romero**	**1.57**	**325**	*eP*	Pn	10 39 06.3	-1.3
CMIG				*i* S	Sn	10 39 26.1	-1.6
HUIG	**Huatulco**	**2.09**	**269**	*i* P	Pn	10 39 13.2	-1.2
HUIG				*i* S	Sn	10 39 38.4	-1.5

*ISCJB **29** 10:43:07.4±0.6, 47°.3N±0°.1×147°.3E±0°.1, h375km, mb3.4/10, Error ellipse: s-maj=17.3km s-min=8.5km az=140.9*
*IDC **29** 10:43:08.5±1.4, 47°.29N×147°.29E, h370km±17km, mb3.1/10, mb1 3.3/17, mb1mx3.1/35, mbtmp3.8/17, Error ellipse: s-maj=19.1km s-min=11.6km az=142.0*

ISC 29 10:43:08.6±0.7, 47°.3N±0°.1×147°.4E±0°.1, h375km, n17, σ0°82/17, mb3.5/10, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**4.58**	**229**	P	**Pn**	**10 44 23.6**	**-1.4**
	3.1nm,0.3s,baz=62,slow=10.0,SNR=21						
PETK	**Petropavlovsk-**	**8.84**	**45**	P	**Pn**	**10 45 11.4**	**-1.3**
	0.2nm,0.3s,baz=162,slow=19,SNR=3.6						
KLR	**Kul'dur**	**10.61**	**286**	P	**P**	**10 45 33.9**	**+0.4**
	0.3nm,0.3s,baz=96,slow=12,SNR=21						
USRK	**Ussuriysk Ar.**	**11.18**	**260**	P	**Pn**	**10 45 40.0**	**-0.2**
	0.3nm,0.3s,baz=181,slow=26,SNR=4.5						
MJAR	**Matsushiro Arr**	**12.68**	**216**	P	**Pn**	**10 45 57.7**	**-0.3**
	0.1nm,0.3s,baz=21,slow=9.3,SNR=9.5						
SEY	**Seymchan**	**15.96**	**8**	P	**P**	**10 46 32.5**	**+0.4**
	1.0nm,0.3s,baz=196,slow=6.3,SNR=7.6						
KSRS	**Korea Array**	**17.35**	**243**	P	**P**	**10 46 47.9**	**+0.7**
	0.2nm,0.3s,baz=37,slow=10,SNR=3.2						
ILAR	**Eielson Array**	**38.61**	**39**	P	**P**	**10 49 56.9**	**+0.2**
	1.4nm,0.7s,baz=257,slow=6.6,SNR=21						
MKAR	**Makanchi Array**	**43.18**	**294**	P	**P**	**10 50 33.7**	**-0.1**
	0.3nm,0.7s,baz=69,slow=7.9,SNR=3.2						
INK	**Inuvik**	**43.33**	**32**	P	**P**	**10 50 34.3**	**-0.2**
	1.5nm,0.3s,baz=278,slow=6.0,SNR=23						
YKA	**Yellowknife Ar**	**52.83**	**35**	P	**P**	**10 51 46.3**	**-0.1**
	0.5nm,0.5s,baz=303,slow=7.0,SNR=9.8						
FINES	**FINESS Array B**	**61.83**	**332**	P	**P**	**10 52 47.5**	**-1.0**
	1.4nm,0.8s,baz=46,slow=11,SNR=5.1						
NVAR	**Mina Array Bea**	**65.62**	**59**	P	**P**	**10 53 15.0**	**+1.2**
	0.7nm,0.6s,baz=292,slow=5.7,SNR=3.3						
NOA	**NORSAR Array B**	**66.39**	**338**	P	**P**	**10 53 17.4**	**-0.6**
	0.4nm,0.4s,baz=30,slow=6.6,SNR=3.1						
PDAR	**Pinedale Array**	**67.55**	**51**	P	**P**	**10 53 26.6**	**+0.7**
	0.6nm,0.4s,baz=338,slow=1.2,SNR=14						
WRA	**Warramunga Arr**	**67.91**	**193**	P	**P**	**10 53 27.5**	**-0.3**
	0.6nm,1.1s,baz=7.4,slow=6.1,SNR=2.5						
TXAR	**Lajitas Array**	**80.59**	**57**	P	**P**	**10 54 41.5**	**+1.0**
	0.5nm,0.4s,baz=282,slow=3.7,SNR=13						

MEX 29 10:45:53.5±0.8, 14°.26N×91°.52W, h87km±16km, MD3.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.97**	**312**	*i* P	Pn	10 46 11.4	-1.3
THIG				*eS*	Sn	10 46 25.6	-1.4
CCIG	**Comitan**	**2.10**	**344**	*i* P	Pn	10 46 25.2	-1.9
CCIG				*i* S	Sn	10 46 51.4	-1.4
PCIG		**2.19**	**311**	*eP*	Pn	10 46 27.9	-0.2
PCIG				*eS*	Sn	10 46 52.4	-2.0

*ISCJB **29** 10:47:53.0±0.3, 15°.55S±0°.03×70°.35W±0°.07, h200km, mb3.9/23, Error ellipse: s-maj=9.8km s-min=3.9km az=169.8*
*NEIC **29** 10:47:55.9±0.6, 15°.65S×70°.30W, h218km±8km, mb4.1/16, Error ellipse: s-maj=15.4km s-min=8.3km az=87.0*
*IDC **29** 10:47:57.1±0.7, 15°.53S×70°.11W

GGN	**Saint George**	**60.58**	**3**	*e*P	**P**	**10 57 43.0**	**-1.0**
	5.2nm,1.0s							
PKME	**Peaks-Kenny Pk**	**60.65**	**1**	*e*P	**P**	**10 57 43.6**	**-0.8**
	5.0nm,0.7s							
LMN	**Caledonia Moun**	**61.43**	**4**	*e*P	**P**	**10 57 48.3**	**-1.5**
	13nm,1.1s							
SDCO	**Great Sand Dun**	**62.55**	**329**	*e*P	**P**	**10 57 55.6**	**-2.1**
	2.6nm,1.0s							
BATG	**Bathurst New B**	**62.77**	**3**	*e*P	**P**	**10 57 57.7**	**-1.0**
	13nm,1.0s							
ECSD	**EROS Data Cent**	**63.80**	**339**	*e*P	**P**	**10 58 05.0**	**-0.6**
	2.1nm,0.8s							
BW06	**Boulder Array**	**68.39**	**330**	*e*P	**P**	**10 58 35.6**	**+0.6**
	1.2nm,0.9s							
PDAR	**Pinedale Array**	**68.39**	**330**	P	**P**	**10 58 35.7**	**+0.6**
	0.2nm,0.5s,baz=106,slow=6.7,SNR=2.9							
MDND	**Maddock**	**68.41**	**339**	*e*P	**P**	**10 58 35.0**	**+0.2**
	14nm,0.6s							
DBIC	**Dimbokro**	**68.56**	**76**	P	**P**	**10 58 34.5**	**-1.9**
	2.4nm,0.3s,baz=222,slow=5.0,SNR=8.1							
ULM	**Lac du Bonnet**	**69.36**	**343**	P	**P**	**10 58 39.7**	**-0.9**
	2.9nm,0.6s,baz=155,slow=5.1,SNR=12							
ULM	**Lac du Bonnet**	**69.36**	**343**	*e*P	**P**	**10 58 39.4**	**-1.1**
	2.9nm,0.7s							
TORD	**Torodi Ar. Bea**	**76.81**	**72**	P	**P**	**10 59 22.7**	**-2.2**
	3.3nm,0.6s,baz=244,slow=5.8,SNR=25							
TORD				pP	**pP**	**11 00 15.5**	**+1.2**
	1.3nm,0.7s,baz=267,slow=5.8,SNR=4.0							
ESDC	**Sonseca Array**	**82.71**	**45**	P	**P**	**10 59 55.7**	**-0.5**
	0.2nm,0.3s,baz=256,slow=4.4,SNR=4.3							
YKA	**Yellowknife Ar**	**85.25**	**341**	P	**P**	**11 00 08.2**	**-0.2**
	3.2nm,0.8s,baz=134,slow=5.1,SNR=72							
ASAR	**Alice Springs**	**134.27**	**212**	PKP	**PKPdf**	**11 06 49.9**	**+0.4**
	0.3nm,0.7s,baz=129,slow=2.0,SNR=6.0							
ASAR				pPKP	**pPKPdf**	**11 07 46.6**	**+3.8**
	0.5nm,1.0s,baz=149,slow=0.5,SNR=2.6							
WRA	**Warramunga Arr**	**137.08**	**215**	PKP	**PKPdf**	**11 06 56.0**	**+1.2**
	0.5nm,0.4s,baz=135,slow=1.6,SNR=15							
WRA				pPKP	**pPKPdf**	**11 07 52.4**	**+4.2**
	0.3nm,0.8s,baz=139,slow=2.4,SNR=2.2							
ZALV	**Zalesovo Beam**	**137.17**	**21**	PKP	**PKPdf**	**11 06 55.0**	**+1.1**
	3.6nm,0.7s,baz=303,slow=3.3,SNR=14							
MKAR	**Makanchi Array**	**141.53**	**30**	PKP	**PKPdf**	**11 07 02.9**	**+0.8**
	0.6nm,0.6s,baz=360,slow=1.8,SNR=6.7							
USRK	**Ussuriysk Ar.**	**145.81**	**331**	PKPbc	**PKPdf**	**11 07 08.7**	**-0.9**
	2.4nm,0.7s,baz=48,slow=4.3,SNR=6.3							
MJAR	**Matsushiro Arr**	**147.18**	**315**	PKPbc	**PKPbc**	**11 07 16.2**	**+1.5**
	2.5nm,0.5s,baz=100,slow=1.6,SNR=6.7							
SONM	**Songino Array**	**147.81**	**4**	PKPbc	**PKPbc**	**11 07 17.0**	**+0.8**
	4.7nm,0.7s,baz=326,slow=1.7,SNR=22							
KSRS	**Korea Array**	**152.92**	**327**	PKPbc	**PKPbc**	**11 07 29.9**	**+1.4**
	0.6nm,0.6s,baz=37,slow=3.0,SNR=3.2							

IDC 29 11:21:00.3±2.8, 15°.72S×175°.07W, h0km, mb3.8/5, mb1 4.2/5, mb1mx3.8/28, mbtmp3.8/5, MS3.3/2, Ms1 3.3/2, ms1mx3.1/22, Error ellipse: s-maj=171.0km s-min=29.2km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**18.59**	**247**	*e*LR	LR	11 30 08.9	
	comp=Z,295nm,25.2s						
PPT	**Papeete**	**24.49**	**98**	LR	LR	11 34 28.0	
	comp=Z,40nm,19.0s,baz=104,slow=33						
PPT2	**Papeete2**	**24.49**	**98**	*e*LR	LR	11 32 04.5	
	comp=Z,112nm,26.0s						
HNR	**Honiara**	**25.16**	**281**	LR	LR	11 34 55.7	
	comp=Z,146nm,20.4s,baz=134,slow=33						
TBI	**Tubuai**	**25.27**	**111**	*e*LR	LR	11 32 31.9	
	comp=Z,88nm,24.8s						
TAOE	**Nuku Hiva Isla**	**34.76**	**83**	*e*LR	LR	11 36 47.8	
	comp=Z,96nm,30.1s						
RKT	**Rikitea**	**38.43**	**107**	*e*T	T	12 08 19.0	
	1.8nm,0.3s						
ASAR	**Alice Springs**	**48.49**	**252**	P	P	11 29 45.0	-0.2
	1.6nm,0.8s,baz=83,slow=8.8,SNR=17						
NVAR	**Mina Array Bea**	**75.64**	**43**	P	P	11 32 47.5	-0.2
	1.3nm,0.9s,baz=238,slow=8.4,SNR=2.6						
ILAR	**Eielson Array**	**83.07**	**12**	P	P	11 33 27.2	-0.1
	1.1nm,1.0s,baz=217,slow=6.3,SNR=5.0						
PDAR	**Pinedale Array**	**83.58**	**42**	P	P	11 33 30.5	-0.2
	0.4nm,0.8s,baz=198,slow=4.2,SNR=3.5						
YKA	**Yellowknife Ar**	**91.03**	**24**	P	P	11 34 07.0	+0.9
	0.2nm,0.8s,baz=224,slow=3.5,SNR=3.7						

*DDA **29** 11:25:45.1, 36°.95N×27°.82E, h7km±4km, ML2.5*
*ISK **29** 11:25:45.9, 36°.68N×27°.90E, h11km±3km, ML2.1/6*
ISC 29 11:25:42.1±1.4, 36°.92N±0°.04×27°.95E±0°.04, h0km±13km, n10, σ0s90/17, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBRN	**Bozburun-Marma**	**0.25**	**160**	PG	**Pb**	**11 25 49.9**	**+0.3**
BBRN				SG	**Sg**	**11 25 51.7**	**+1.5**
DATC	**Datca-Mugla**	**0.28**	**236**	PG	**Pb**	**11 25 50.4**	**+0.3**
DATC				SG	**Sb**	**11 25 54.4**	**-0.9**
DAT	**Datca**	**0.35**	**238**	PG	**Pb**	**11 25 51.5**	**+0.1**
DAT				SG	**Sb**	**11 25 56.2**	**-1.4**
DAT	**Datca**	**0.35**	**238**	IAML_P			
	comp=Z,788nm,0.2s						
DAT				*i* P	**Pb**	**11 25 52.1**	**+0.8**
BDRM	**Kayabasi**	**0.43**	**290**	*i* P	**Pb**	**11 25 52.4**	**-0.3**
BDRM				*i* S	**Sg**	**11 25 56.3**	**+0.2**
TURN	**Turunc**	**0.52**	**95**	PG	**Pg**	**11 25 52.3**	**+0.1**
TURN				SG	**Sg**	**11 25 57.4**	**-1.6**
TURN	**Turunc**	**0.52**	**95**	IAML_P			
	comp=Z,2μm,0.1s						
TURN				*i* P	**Pg**	**11 25 52.5**	**+0.4**
DALY	**Dalyan (Mula)**	**0.57**	**100**	PG	**Pn**	**11 25 57.8**	**+0.3**
DALY				SG	**Sn**	**11 26 07.8**	**+0.2**
ARG	**Arkhangelos**	**0.71**	**169**	PG	**Pg**	**11 25 55.8**	**0.0**
ARG				SG	**Sg**	**11 26 03.8**	**-1.3**
AYDN	**Tasoluk**	**0.74**	**356**	IAML_P			
	comp=Z,2μm,0.1s						
AYDN				*i* P	**Pn**	**11 26 00.6**	**+0.6**

*SOME **29** 11:35:24.8, 40°.85N×78°.50E, h10km*
*KRNET **29** 11:35:24.8±0.1, 40°.88N×78°.51E, mb2.6*
*NNC **29** 11:35:30.2±1.5, 41°.03N×78°.42E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=11.7km s-min=6.2km az=145.0*
ISC 29 11:35:30.1±1.3, 41°.03N±0°.05×78°.36E±0°.04, h10km, n47, σ1s25/77, 30C-16D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.81**	**329**	⇓*i* P	**Pg**	**11 35 44.0**	**-1.9**
	baz=28						
TARG				⇓*i* S	**Sb**	**11 35 58.0**	**+0.2**
	baz=28						
NRN	**Naryn**	**1.82**	**283**	⇑*i* P	**Pn**	**11 36 01.0**	**-0.9**
	baz=87						
NRN				⇑*i* S	**Sg**	**11 36 28.4**	**-0.4**
	baz=87						
ULHL	**Ulahol**	**2.00**	**308**	⇑*i* P	**Pn**	**11 36 04.3**	**+0.1**
	baz=9.0						
ULHL				⇑*i* S	**Sb**	**11 36 33.1**	**+1.4**
	baz=9.0						
SATY	**Saty**	**2.03**	**1**	Pg	**Pg**	**11 36 08.4**	**-0.6**
	61nm,0.8s						
SATY				Lg	Lg	11 36 36.0	
	185nm,0.4s						
SATY	**Saty**	**2.03**	**1**	*e*P	**Pb**	**11 36 05.6**	**-1.5**
	28nm,0.4s						
SATY				*e*S	**Sg**	**11 36 34.9**	**-0.4**
	185nm,0.4s						
UZB	**Uzynbulak**	**2.17**	**13**	Pg	**Pb**	**11 36 09.9**	**+0.3**
	15nm,0.4s						
UZB				Lg	Lg	11 36 37.4	
	91nm,0.6s						
UZB	**Uzynbulak**	**2.17**	**13**	*e*P	**Pn**	**11 36 07.1**	**+0.6**
	9.8nm,0.6s						
UZB				*e*S	**Sb**	**11 36 37.4**	**+0.8**
	91nm,0.6s						
TNSS	**Tian-Shan**	**2.26**	**333**	*e*P	**Pb**	**11 36 10.3**	**-1.0**
	17nm,0.6s						
TNSS				*e*S	**Sg**	**11 36 43.4**	**+0.5**
	54nm,0.5s						
SHLS	**Shalkode**	**2.28**	**21**	Pg	**Pg**	**11 36 14.2**	**+0.4**
	37nm,0.5s						
SHLS				Lg	Lg	11 36 45.1	
	176nm,0.5s						
SHLS	**Shalkode**	**2.28**	**21**	*e*P	**Pb**	**11 36 11.6**	**+0.2**
	29nm,0.5s						
SHLS				*e*S	**Sg**	**11 36 45.1**	**+1.8**
	176nm,0.5s						
BOOM	**Boomskoye usch**	**2.32**	**310**	⇑*i* P	**Pn**	**11 36 08.7**	**+0.1**
	baz=11						
BOOM				⇑*i* S	**Sb**	**11 36 40.6**	**-0.4**
	baz=11						
MDOK	**Medeo**	**2.34**	**336**	*e*P	**Pb**	**11 36 11.2**	**-1.3**
	16nm,0.4s						
MDOK				*e*S	**Sg**	**11 36 45.0**	**-0.4**
	56nm,0.4s						
KOTS	**Kotyrbulak**	**2.39**	**338**	Pg	**Pg**	**11 36 15.9**	**0.0**
	15nm,0.5s						
KOTS				Lg	Lg	11 36 48.0	
	83nm,0.4s						
KOTS	**Kotyrbulak**	**2.39**	**338**	*e*P	**Pb**	**11 36 11.9**	**-1.4**
	14nm,0.4s						
KOTS				*e*S	**Sg**	**11 36 46.0**	**-0.9**
	83nm,0.4s						
PDGK	**Podgornoye**	**2.44**	**20**	Pg	**Pb**	**11 36 13.5**	**-0.7**
	8.6nm,0.4s						
PDGK				Lg	Lg	11 36 44.5	
	47nm,0.8s						
PDGK	**Podgornoye**	**2.44**	**20**	⇑Pg	**Pg**	**11 36 15.4**	**-1.6**
	8.8nm,0.4s						
PDGK				⇑Lg	Lg	11 36 45.6	
	84nm,0.5s						
PDGK	**Podgornoye**	**2.44**	**20**	⇑*i* P	**Pn**	**11 36 09.0**	**-1.2**
	baz=16						
PDGK				⇑*i* S	**Sn**	**11 36 42.0**	**+1.8**
	baz=16						
MTBS	**Maitube**	**2.54**	**326**	*e*P	**Pb**	**11 36 15.6**	**-0.3**
	3.2nm,0.3s						
MTBS				*e*S	**Sg**	**11 36 51.9**	**+0.1**
	30nm,0.4s						
KZA	**Kyzart**	**2.56**	**295**	⇑*i* P	**Pn**	**11 36 11.8**	**-0.2**
	baz=97						
KZA				⇑*i* S	**Sb**	**11 36 46.7**	**-1.3**
	baz=97						
KST	**Kastek**	**2.69**	**319**	Pg	**Pg**	**11 36 20.8**	**-0.8**
	34nm,0.5s						
KST				Lg	Lg	11 36 56.9	
	81nm,0.7s						
KST	**Kastek**	**2.69**	**319**	*e*P	**Pb**	**11 36 18.4**	**0.0**
	25nm,0.7s						
KST				*e*S	**Sg**	**11 36 56.6**	**+0.1**
	81nm,0.7s						
TKM2	**Tokmak 2**	**2.79**	**313**	⇓Pg	**Pb**	**11 36 19.0**	**-1.3**
	7.1nm,0.4s						
TKM2				⇑Lg	Lg	11 36 59.6	
	40nm,0.6s						
TKM2	**Tokmak 2**	**2.79**	**313**	⇑*i* P	**Pn**	**11 36 15.4**	**+0.3**
	baz=14						
TKM2				⇑*i* S	**Sn**	**11 36 51.8**	**+2.8**
	baz=14						
DGS	**Degeres**	**2.93**	**320**	Pg	**Pg**	**11 36 25.8**	**-0.4**
	17nm,0.6s						
DGS				Lg	Lg	11 37 05.3	
DGS	**Degeres**	**2.93**	**320**	*e*P	**Pb**	**11 36 22.9**	**+0.4**
	7.4nm,0.4s						
DGS				*e*S	**Sg**	**11 37 05.0**	**+0.8**
	50nm,0.5s						
KTBS	**Karatobe**	**2.95**	**336**	Pg	**Pg**	**11 36 25.6**	**-1.1**
	9.4nm,0.4s						
KTBS				Lg	Lg	11 37 04.7	
	41nm,0.4s						
KTBS	**Karatobe**	**2.95**	**336**	*e*P	**Pb**	**11 36 22.7**	**-0.1**
	3.9nm,0.4s						
KTBS				*e*S	**Sg**	**11 37 04.7**	**-0.2**
	41nm,0.4s						
CHKK	**Chushkaly**	**3.00**	**341**	*e*P	**Pb**	**11 36 23.8**	**+0.2**
	5.2nm,0.5s						
CHKK				*e*S	**Sg**	**11 37 06.0**	**-0.4**
	53nm,0.3s						
KBK	**Karagaybulak**	**3.02**	**304**	⇑*i* P	**Pn**	**11 36 18.5**	**+0.3**
	baz=5.0						
KBK				⇑*i* S	**Sn**	**11 36 56.8**	**+2.3**
	baz=5.0						
UCH	**Uchtor**	**3.12**	**294**	⇓*i* P	**Pn**	**11 36 19.6**	**-0.2**
	baz=95						
UCH				⇓*i* S	**Sn**	**11 36 59.9**	**+2.5**
	baz=95						
ARLS	**Aral**	**3.15**	**287**	⇓*i* P	**Pn**	**11 36 19.3**	**-0.6**
	baz=89						
ARLS				⇓*i* S	**Sn**	**11 36 59.6**	**+2.0**
	baz=89						
ARXS	**Arharly**	**3.20**	**353**	Pg	**Pg**	**11 36 29.1**	**-2.4**
	12nm,0.7s						
ARXS				Lg	Lg	11 37 10.6	
	28nm,0.6s						
ARXS	**Arharly**	**3.20**	**353**	*e*P	**Pb**	**11 36 26.4**	**-0.7**
	12nm,0.6s						
ARXS				*e*S	**Sg**	**11 37 10.6**	**-2.4**
	28nm,0.6s						
KUU	**Kurty**	**3.23**	**333**	*e*P	**Pb**	**11 36 26.7**	**-0.8**
	1.7nm,0.4s						
KUU				*e*S	**Sg**	**11 37 11.2**	**-2.5**
	19nm,0.7s						
AAK	**Ala-Archa**	**3.30**	**300**	⇑Pg	**Pg**	**11 36 31.5**	**-1.9**
	5.4nm,0.6s						
AAK				⇑Lg	Lg	11 37 14.5	
	16nm,0.7s						
AAK	**Ala-Archa**	**3.30**	**300**	⇓*e*P	**Pn**	**11 36 22.1**	**0.0**
	baz=2.0						
AAK				⇓*i* S	**Sn**	**11 37 04.0**	**+2.5**
	baz=2.0						
CHMS	**Chumysh**	**3.33**	**307**	⇑*i* P	**Pn**	**11 36 22.7**	**+0.4**
	baz=8.0						
CHMS				⇑*i* S	**Sn**	**11 37 04.8**	**+2.9**
	baz=8.0						
USP	**Ospenovka**	**3.64**	**309**	⇑*i* P	**Pn**	**11 36 26.8**	**+0.3**
	baz=10.0						
USP				⇑*i* S	**Sn**	**11 37 11.8**	**+2.3**
	baz=10.0						
AML	**Almayashu**	**3.67**	**289**	⇓*i* P	**Pn**	**11 36 27.3**	**0.0**
	baz=91						
AML				⇓*i* S	**Sn**	**11 37 12.5**	**+1.7**
	baz=91						
EKS2	**Erkin-Say**	**3.79**	**297**	⇑*i* P	**Pn**	**11 36 28.7**	**0.0**
	baz=98						
EKS2				⇑*i* S	**Sn**	**11 37 15.6**	**+2.2**
	baz=98						
SFK	**Sufi-Kurgan**	**3.84**	**256**	⇓Pg	**Pg**	**11 36 42.3**	**-1.4**
	1.6nm,0.4s						
SFK				⇑Lg	Lg	11 37 29.7	
	4.6nm,0.4s						
SFK	**Sufi-Kurgan**	**3.84**	**256**	Pg	**Pb**	**11 36 39.3**	**+1.2**
	1.1nm,0.2s						
SFK				Lg	Lg	11 37 28.6	
	3.7nm,0.3s						
SFK	**Sufi-Kurgan**	**3.84**	**256**	⇓*i* P	**Pn**	**11 36 28.6**	**-0.9**
	baz=59						
SFK				⇓*i* S	**Sn**	**11 37 14.6**	**-0.2**
	baz=59						
MNAS	**Manas**	**4.62**	**290**	⇑Pg	**Pg**	**11 36 57.4**	**-1.1**
	0.9nm,0.5s						
MNAS				⇓Lg	Lg	11 37 54.7	
	1.8nm,0.6s						
MNAS	**Manas**	**4.62**	**290**	⇑*i* P	**Pn**	**11 36 39.9**	**-0.2**
	baz=92						
MNAS				⇑*i* S	**Sn**	**11 37 35.1**	**+1.3**
	baz=92						
KK31	**Karatay Array**	**6.20**	**292**	Pg	**Pg**	**11 37 28.6**	**-0.2**
	0.5nm,0.4s,baz=105,slow=15,SNR=6.9						
KK31				⇓Lg	Lg	11 38 48.2	
	0.7nm,0.5s,baz=107,slow=26						
MK31	**Makanchi Array**	**6.42**	**25**	Pn	**Pn**	**11 37 04.2**	**-0.5**
	0.2nm,0.5s,baz=197,slow=13,SNR=3.9						
MK31				⇑Lg	Lg	11 38 48.0	
	2.2nm,0.7s,baz=207,slow=27						

UCR 29 11:58:49.6±2.5, 9°.70N×82°.61W, h15km±9km, MD3.7, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRU2	**Volcan**	**0.91**	**185**	*i* P	Pb	11 59 05.8	-1.3
BRU2				*i* S	Sb	11 59 17.9	-1.3
EDSV	**San Vito**	**0.95**	**202**	*e*P	Pb	11 59 06.9	-0.9
EDSV				*e*S	Sb	11 59 20.2	-0.2
EDLM	**Las Mercedes**	**1.06**	**247**	*e*P	Pb	11 59 08.5	-1.2
EDLM				*e*S	Sb	11 59 22.2	-1.1
EDPN	**Palmar Norte**	**1.12**	**229**	*e*P	Pb	11 59 10.6	0.0
EDPN				*e*S	Sb	11 59 25.2	+0.2
DVD	**David**	**1.27**	**173**	*e*P	Pn	11 59 12.8	0.0
DVD				*i* S	Sb	11 59 28.8	-0.6
EDDO	**Dominical**	**1.32**	**250**	*e*P	Pn	11 59 13.1	-0.4
EDDO				*e*S	Sn	11 59 30.9	+0.1
PTJ1	**Puerto Jimnez**	**1.35**	**211**	*e*P	Pn	11 59 13.5	-0.4
PTJ1				*i* S	Sn	11 59 31.6	0.0
LCR2	**La Lucha 2**	**1.38**	**272**	*e*P	Pn	11 59 13.9	-0.7
LCR2				*e*S	Sn	11 59 31.7	-0.9
JTS	**JuntasAbangare**	**2.38**	**284**	*e*P	Pb	11 59 30.4	-1.9
JTS				*e*S	Sb	12 00 01.7	+0.2
FRIJ	**El Hiral**	**2.88**	**99**	*e*S	Sn	12 00 08.6	-0.9

IDC 29 12:12:52.4±2.8, 18°.62S×178°.04W, h0km, mb3.2/3, mb1 3.6/3, mb1mx3.4/39, mbtmp3.2/3, Error ellipse: s-maj=314.2km s-min=31.7km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.86**	**260**	P	P	12 21 09.4	+0.5
	0.2nm,0.3s,baz=93,slow=8.4,SNR=16						
ASAR	**Alice Springs**	**44.95**	**255**	P	P	12 21 08.5	-1.1
	0.4nm,0.9s,baz=104,slow=7.8,SNR=4.2						
TXAR	**Lajitas Array**	**86.08**	**57**	P	P	12 25 35.6	0.0
	0.1nm,0.4s,baz=218,slow=5.7,SNR=2.6						

*ISK **29** 12:19:14.9, 39°.42N×40°.80E, h6km, ML2.3/4*
*DDA **29** 12:19:15.1, 39°.39N×40°.86E, h7km±5km, ML2.6*
ISC 29 12:19:15.8±1.2, 39°.42N±0°.04×40°.79E±0°.04, h7km±12km, n13, σ0s54/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ECAT	**Cat-ERZURUM**	**0.23**	**38**	*i* P	**Pg**	**12 19 20.4**	**-0.1**
BAYB	**BAYBURT**	**0.93**	**334**	IAML_P			
	comp=Z,726nm,0.2s						
BAYB				*i* P	**Pg**	**12 19 33.4**	**-0.4**
BAYB				*i* S	**Sn**	**12 19 49.5**	**+0.3**
KOPR	**Koprukoy-ERZUR**	**1.00**	**55**	PG	**Pg**	**12 19 34.3**	**-0.7**
TNCL	**Tunceli-Merkez**	**1.02**	**253**	*i* P	**Pn**	**12 19 37.0**	**+0.4**
TNCL				*i* S	**Sn**	**12 19 51.6**	**+0.5**
BAYT	**Aydıntepe-Bayb**	**1.09**	**333**	PN	**Pg**	**12 19 36.4**	**-0.4**
PTK	**Pertek**	**1.21**	**244**	PN	**Pb**	**12 19 38.5**	**-0.6**
PTK				SN	**Sn**	**12 19 55.8**	**-0.2**
KELT	**Kelkit**	**1.39**	**302**	IAML_P			
	comp=Z,352nm,0.1s						
KELT				*i* P	**Pn**	**12 19 41.6**	**-0.1**
KELT				*i* S	**Sn**	**12 20 00.7**	**+0.2**
TUTA	**Tutak**	**1.57**	**90**	IAML_P			
	comp=Z,1μm,0.2s						
TUTA				*i* P	**Pn**	**12 19 44.0**	**-0.2**
TUTA				*i* S	**Sg**	**12 20 07.6**	**+1.3**
BTMN	**Batman**	**1.57**	**166**	*i* P	**Pb**	**12 19 45.0**	**-0.3**
BTMN				*i* S	**Sg**	**12 20 07.4**	**+1.0**
SRTM	**Siirt_Merkez**	**1.68**	**148**	IAML_P			
	comp=Z,265nm,0.4s						
SRTM				*i* P	**Pn**	**12 19 45.7**	**0.0**
SRTM				*i* S	**Sg**	**12 20 09.6**	**-0.2**
AGRB	**Hanur-Agry**	**1.71**	**84**	PN	**Pn**	**12 19 46.2**	**0.0**
KEMA	**Kemaliye**	**1.79**	**266**	IAML_P			
	comp=Z,125nm,0.1s						
KEMA				*i* P	**Pb**	**12 19 48.8**	**-0.1**
KEMA				*i* S	**Sb**	**12 20 11.7**	**+0.2**
MAZI	**Mazidag**	**1.98**	**188**	PN	**Pn**	**12 19 49.6**	**-0.2**

*ISCJB **29** 12:19:38.0±0.5, 52°.31N±0°.10×173°.08E±0°.07, h31km, mb3.8/26, Error ellipse: s-maj=14.1km s-min=5.3km az=166.4*
*NEIC **29** 12:19:41.9±0.9, 52°.39N×173°.16E, h50km±8km, mb4.2/16, Error ellipse: s-maj=12.8km s-min=4.9km az=171.0*
*IDC **29** 12:19:42.9±3.7, 52°.43N×173°.11E, h58km±33km, mb3.4/14, mb1 3.7/17, mb1mx3.5/40, mbtmp3.7/17, ML3.9/3, MS2.8/1, Ms1 2.8/1, ms1mx2.5/26, Error ellipse: s-maj=25.8km s-min=13.4km az=165.0*
ISC 29 12:19:40.0±0.8, 52°.4N±0°.1×173°.02E±0°.06, h31km, n56, σ1s47/56, mb3.8/26, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMY	**Shemya**	**0.74**	**62**	*e*Pn	**Pn**	**12 19 53.5**	**-0.8**
SMY				*e*Sn	**Sb**	**12 20 03.0**	**-1.3**
PEA1	**Petropavlovsk-**	**9.32**	**281**	*e*Pn	**Pn**	**12 21 55.1**	**+3.0**
PEA1				*e*Sn	**Sn**	**12 23 31.8**	**-4.0**
PETK	**Petropavlovsk-**	**9.32**	**281**	P	**Pn**	**12 21 55.1**	**+3.0**
	0.8nm,0.3s,baz=96,slow=18,SNR=5.4						
PETK				S	**Sn**	**12 23 31.8**	**-4.0**
	0.4nm,0.3s,baz=281,slow=37,SNR=3.8						
PETK				LR	LR	12 25 49.7	
	comp=Z,51nm,18.0s,baz=77,slow=39						
MA2	**Magadan**	**14.33**	**309**	P	**Pn**	**12 23 03.4**	**+2.9**
	0.2nm,0.3s,baz=126,slow=19,SNR=2.9						
SEY	**Seymchan**	**15.20**	**322**	P	**P**	**12 23 15.1**	**-1.6**
	0.1nm,0.3s,baz=68,slow=22,SNR=5.4						
OHAK	**Old Harbor**	**19.88**	**63**	*e*P	**P**	**12 24 05.6**	**-2.7**
	39nm,1.1s						
KDAK	**Kodiak Island**	**20.26**	**61**	P	**P**	**12 24 11.4**	**-1.0**
	18nm,0.8s,baz=296,slow=4.2,SNR=14						
KDAK	**Kodiak Island**	**20.26**	**61**	*e*P	**P**	**12 24 10.8**	**-1.7**
	23nm,0.9s						
RSO	**Redoubt South**	**20.37**	**53**	*e*P	**P**	**12 24 14.8**	**+0.8**
BRLK	**Bradley Lake**	**21.23**	**55**	*e*P	**P**	**12 24 23.0**	**+0.1**
SUA	**Susitna One**	**21.49**	**51**	*e*P	**P**	**12 24 25.8**	**0.0**
BPAW	**Bear Paw Mtn.**	**21.93**	**44**	*e*P	**P**	**12 24 30.4**	**0.0**
	14nm,0.9s						
TRF	**Thorofare Moun**	**22.07**	**46**	*e*P	**P**	**12 24 32.7**	**+0.6**
	2.3nm,1.0s						
GHO	**Glory Hole Cre**	**22.39**	**50**	*e*P	**P**	**12 24 35.0**	**-0.5**
	1.6nm,0.5s						
KNK	**Knik Glacier**	**22.57**	**51**	*e*P	**P**	**12 24 34.5**	**-2.9**
	24nm,1.2s						
SML	**Sawmill**	**22.68**	**50**	*e*P	**P**	**12 24 38.4**	**0.0**
	13nm,1.0s						
RND	**Reindeer**	**22.69**	**46**	*e*P	**P**	**12 24 39.5**	**+0.8**
	4.6nm,1.2s						
MCK	**McKinley**	**22.72**	**45**	*e*P	**P**	**12 24 38.2**	**-0.7

FIA0	FINESS Array S	63.50	343	*e*P	P	12 30 05.7	-0.8
FINES	FINESS Array B	63.50	343	P	P	12 30 05.7	-0.8
	0.8nm,0.4s,baz=41,slow=8.4,SNR=4.3						
ABKAR	Akbulak array	63.93	318	*e*P	P	12 30 09.7	+0.2
CMAR	Chiang Mai Arr	65.91	269	P	P	12 30 23.7	+0.9
	0.4nm,0.3s,baz=23,slow=7.0,SNR=3.9						
NB200	NORSAR Array S	65.99	350	*e*P	P	12 30 22.3	-0.5
NOA	NORSAR Array B	65.99	350	P	P	12 30 22.3	-0.5
	0.5nm,0.7s,baz=41,slow=15,SNR=1.9						
WR1	Warramunga Arr	79.50	217	*e*P	P	12 31 43.8	+0.5
	0.5nm,0.7s						
WRA	Warramunga Arr	79.50	217	P	P	12 31 43.8	+0.5
	0.3nm,0.7s,baz=29,slow=6.0,SNR=3.4						
BR101	Keskin Array S	81.71	330	*e*P	P	12 31 55.6	+0.3
BRTR	Keskin Array B	81.71	330	P	P	12 31 55.6	+0.3
	0.3nm,0.6s,baz=22,slow=4.7,SNR=2.2						
ASAR	Alice Springs	83.07	216	P	P	12 32 02.2	0.0
	0.2nm,0.8s,baz=12,slow=4.8,SNR=4.6						

SOME ***29*** *12:31:25.0,42°.53N×79°.60E,h20km*
KRNET ***29*** *12:31:25.3±0.1,42°.57N×79°.62E,h13km,mb4.0*
NNC ***29*** *12:31:25.8±0.7,42°.60N×79°.58E,h0km,mb4.0,mpv3.8, Error ellipse: s-maj=4.5km s-min=2.3km az=128.0*
ISCJB ***29*** *12:31:26.4±0.8,42°.55N±0°.04×79°.74E±0°.05,h10km, Error ellipse: s-maj=6.9km s-min=3.7km az=140.5*

ISC 29 12:31:26.4±1.2,**42°.57N**±0°.04×**79°.62E**±0°.04,**h10**km,**n68,** σ1§51/109,**28C-10D,Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.73**	**323**	P	**Pg**	**12 31 39.3**	**-1.1**
	95nm,0.2s						
UZB				S	**Sg**	**12 31 49.4**	**-0.5**
	469nm,0.2s						
UZB	**Uzynbulak**	**0.73**	**323**	*e*P	**Pg**	**12 31 39.3**	**-1.1**
	baz=23						
UZB				*e*S	**Sg**	**12 31 49.4**	**-0.5**
	baz=23						
UZB	**Uzynbulak**	**0.73**	**323**	*e*P	**Pg**	**12 31 39.3**	**-1.1**
	95nm,0.2s						
UZB				*e*S	**Sg**	**12 31 49.4**	**-0.5**
	469nm,0.2s						
PDGK	**Podgornoye**	**0.77**	**353**	P	**Pg**	**12 31 39.9**	**-1.3**
	55nm,0.2s						
PDGK				S	**Sg**	**12 31 50.6**	**-0.6**
	213nm,0.2s						
PDGK	**Podgornoye**	**0.77**	**353**	⇑P	**Pg**	**12 31 39.9**	**-1.3**
	44nm,0.4s						
PDGK				⇑S	**Sg**	**12 31 50.6**	**-0.6**
	149nm,0.3s						
PDGK	**Podgornoye**	**0.77**	**353**	⇑*i*P	**Pg**	**12 31 39.9**	**-1.3**
	baz=52						
PDGK				⇑*i*S	**Sg**	**12 31 50.5**	**-0.7**
	baz=52						
PRZ	**Przheval'sk**	**0.91**	**265**	⇑*i*P	**Pg**	**12 31 42.4**	**-1.5**
	baz=65						
PRZ				⇑*i*S	**Sg**	**12 31 54.7**	**-1.0**
	baz=65						
SATY	**Saty**	**1.02**	**299**	P	**Pg**	**12 31 44.3**	**-1.7**
	74nm,0.1s						
SATY				S	**Sg**	**12 31 58.0**	**-1.3**
	290nm,0.1s						
SATY	**Saty**	**1.02**	**299**	*e*P	**Pg**	**12 31 44.4**	**-1.7**
	74nm,0.1s						
SATY				*e*S	**Sg**	**12 31 58.0**	**-1.3**
	290nm,0.1s						
DJR	**Jarkent**	**1.77**	**4**	P	**Pb**	**12 31 57.9**	**-1.0**
	34nm,0.3s						
DJR				S	**Sg**	**12 32 21.5**	**-1.8**
	72nm,0.3s						
DJR	**Jarkent**	**1.77**	**4**	*e*P	**Pb**	**12 31 57.9**	**-1.0**
	34nm,0.3s						
DJR				*e*S	**Sg**	**12 32 21.5**	**-1.8**
	72nm,0.3s						
KDJ	**Kajisay**	**1.86**	**257**	⇑*i*P	**Pn**	**12 31 59.3**	**+0.8**
	baz=57						
KDJ				⇑*i*S	**Sb**	**12 32 24.4**	**+0.4**
	baz=57						
KOTS	**Kotyrbulak**	**1.96**	**291**	Pg	**Pb**	**12 32 01.8**	**-0.4**
	131nm,0.2s						
KOTS				Lg	Lg	12 32 28.8	
	460nm,0.3s						
KOTS	**Kotyrbulak**	**1.96**	**291**	*e*P	**Pb**	**12 32 01.8**	**-0.4**
	baz=91						
KOTS				*e*S	**Sg**	**12 32 28.8**	**-0.5**
	baz=91						
KOTS	**Kotyrbulak**	**1.96**	**291**	*e*P	**Pb**	**12 32 01.8**	**-0.4**
	131nm,0.2s						
KOTS				*e*S	**Sg**	**12 32 28.8**	**-0.5**
	460nm,0.3s						
MDOK	**Medeo**	**1.98**	**288**	Pg	**Pn**	**12 32 01.0**	**+0.9**
	40nm,0.4s						
MDOK				Lg	Lg	12 32 29.7	
	26nm,0.3s						
MDOK	**Medeo**	**1.98**	**288**	*e*P	**Pn**	**12 32 00.7**	**+0.6**
	baz=88						
MDOK				*e*S	**Sb**	**12 32 26.8**	**-0.6**
	baz=88						
MDOK	**Medeo**	**1.98**	**288**	*e*P	**Pn**	**12 32 00.7**	**+0.6**
	54nm,0.1s						
MDOK				*e*S	**Sb**	**12 32 26.8**	**-0.6**
	145nm,0.3s						
TNSS	**Tian-Shan**	**2.02**	**284**	*e*P	**Pb**	**12 32 02.0**	**-1.5**
	baz=84						
TNSS				*e*S	**Sb**	**12 32 28.7**	**-0.1**
	baz=84						
TNSS	**Tian-Shan**	**2.02**	**284**	*e*P	**Pb**	**12 32 02.0**	**-1.5**
	73nm,0.3s						
TNSS				*e*S	**Sb**	**12 32 28.8**	**-0.1**
	101nm,0.3s						
KNDC	**Almaty**	**2.05**	**289**	⇓Pg	**Pb**	**12 32 02.8**	**-1.0**
	69nm,0.3s						
KNDC				⇑Lg	Lg	12 32 31.8	
	155nm,0.7s						
AAA	**Alma-Ata**	**2.09**	**289**	Pg	**Pb**	**12 32 03.9**	**-0.5**
	220nm,0.2s						
AAA				Lg	Lg	12 32 31.7	
	146nm,0.3s						
AAA	**Alma-Ata**	**2.09**	**289**	*e*P	**Pb**	**12 32 03.9**	**-0.5**
	baz=89						
AAA				*e*S	**Sg**	**12 32 31.6**	**-1.9**
	baz=89						
AAA	**Alma-Ata**	**2.09**	**289**	*e*P	**Pb**	**12 32 03.9**	**-0.5**
	220nm,0.2s						
AAA				*e*S	**Sg**	**12 32 31.6**	**-1.9**
	146nm,0.3s						
ARXS	**Arharly**	**2.10**	**322**	Pg	**Pb**	**12 32 03.0**	**-1.6**
	27nm,0.5s						
ARXS				Lg	Lg	12 32 30.1	
	389nm,0.3s						
ARXS	**Arharly**	**2.10**	**322**	*e*P	**Pb**	**12 32 03.0**	**-1.6**
	27nm,0.5s						
ARXS				*e*S	**Sb**	**12 32 30.1**	**-0.7**
	389nm,0.3s						
CHKK	**Chushkaly**	**2.31**	**305**	*e*P	**Pb**	**12 32 06.8**	**-1.4**
	baz=5.0						
CHKK				*e*S	**Sb**	**12 32 37.0**	**+0.2**
	baz=5.0						
CHKK	**Chushkaly**	**2.31**	**305**	*e*P	**Pb**	**12 32 06.8**	**-1.4**
	7.0nm,0.3s						
CHKK				*e*S	**Sb**	**12 32 37.0**	**+0.2**
	178nm,0.3s						
MTBS	**Maitube**	**2.41**	**285**	*e*P	**Pb**	**12 32 08.7**	**-1.2**
	baz=85						
MTBS				*e*S	**Sb**	**12 32 40.0**	**+0.2**
	baz=85						
MTBS	**Maitube**	**2.41**	**285**	*e*P	**Pb**	**12 32 08.7**	**-1.2**
	105nm,0.4s						
MTBS				*e*S	**Sb**	**12 32 39.9**	**+0.2**
	116nm,0.4s						
KTBS	**Karatobe**	**2.43**	**299**	Pg	**Pb**	**12 32 08.9**	**-1.4**
	31nm,0.2s						
KTBS				Lg	Lg	12 32 40.8	
	123nm,0.4s						
KTBS	**Karatobe**	**2.43**	**299**	*e*P	**Pb**	**12 32 08.9**	**-1.4**
	baz=98						
KTBS				*e*S	**Sb**	**12 32 40.8**	**+0.4**
	baz=98						
KTBS	**Karatobe**	**2.43**	**299**	*e*P	**Pb**	**12 32 08.9**	**-1.4**
	31nm,0.2s						
KTBS				*e*S	**Sb**	**12 32 40.8**	**+0.4**
	123nm,0.4s						
ULHL	**Ulahol**	**2.52**	**264**	P	**Pb**	**12 32 11.2**	**-0.7**
	SNR=19						
ULHL	**Ulahol**	**2.52**	**264**	⇑*i*P	**Pn**	**12 32 08.3**	**+0.7**
	baz=64						
ULHL				⇑*i*S	**Sb**	**12 32 41.1**	**-2.0**
	baz=64						
TDK	**Taldyqorghan**	**2.59**	**341**	*e*P	**Pb**	**12 32 11.6**	**-1.3**
	29nm,0.2s						
TDK				*e*S	**Sb**	**12 32 45.4**	**+0.7**
	302nm,0.4s						
KAPS	**Kapalarasan**	**2.72**	**356**	Pg	**Pb**	**12 32 14.1**	**-1.1**
	12nm,0.3s						
KAPS				Lg	Lg	12 32 49.5	
	83nm,0.4s						
KAPS	**Kapalarasan**	**2.72**	**356**	*e*P	**Pb**	**12 32 14.2**	**-1.1**
	12nm,0.3s						
KAPS				*e*S	**Sb**	**12 32 49.5**	**+0.8**
	83nm,0.4s						
KST	**Kastek**	**2.73**	**281**	Pg	**Pb**	**12 32 14.2**	**-1.2**
	70nm,0.2s						
KST				Lg	Lg	12 32 49.3	
	51nm,0.6s						
KST	**Kastek**	**2.73**	**281**	*e*P	**Pb**	**12 32 14.2**	**-1.2**
	baz=81						
KST				*e*S	**Sb**	**12 32 49.4**	**+0.4**
	baz=81						
KST	**Kastek**	**2.73**	**281**	*e*P	**Pb**	**12 32 14.2**	**-1.2**
	70nm,0.2s						
KST				*e*S	**Sb**	**12 32 49.3**	**+0.4**
	51nm,0.6s						
KUU	**Kurty**	**2.74**	**300**	*e*P	**Pb**	**12 32 13.8**	**-1.6**
	baz=0.0						
KUU				*e*S	**Sb**	**12 32 49.3**	**+0.2**
	baz=0.0						
KUU	**Kurty**	**2.74**	**300**	*e*P	**Pb**	**12 32 13.8**	**-1.6**
	10nm,0.2s						
KUU				*e*S	**Sb**	**12 32 49.3**	**+0.2**
	88nm,0.4s						
DGS	**Degeres**	**2.91**	**285**	Pg	**Pb**	**12 32 16.4**	**-1.9**
	40nm,0.5s						
DGS				Lg	Lg	12 32 53.4	
	139nm,0.5s						
DGS	**Degeres**	**2.91**	**285**	*e*P	**Pb**	**12 32 16.4**	**-1.9**
	baz=85						
DGS				*e*S	**Sb**	**12 32 53.4**	**-0.6**
	baz=85						
DGS	**Degeres**	**2.91**	**285**	*e*P	**Pb**	**12 32 16.4**	**-1.9**
	40nm,0.5s						
DGS				*e*S	**Sb**	**12 32 53.4**	**-0.6**
	139nm,0.5s						
NRN	**Naryn**	**2.93**	**248**	⇑*i*P	**Pn**	**12 32 15.1**	**+1.8**
	baz=48						
NRN				⇑*i*S	**Sn**	**12 32 51.7**	**+3.1**
	baz=48						
TKM2	**Tokmak 2**	**2.98**	**278**	P	**Pn**	**12 32 15.3**	**+1.4**
	SNR=28						
TKM2	**Tokmak 2**	**2.98**	**278**	⇓Pn	**Pn**	**12 32 15.5**	**+1.5**
	9.5nm,0.5s						
TKM2				⇑Lg	Lg	12 32 59.2	
	21nm,0.3s						
TKM2	**Tokmak 2**	**2.98**	**278**	⇑*i*P	**Pn**	**12 32 15.6**	**+1.6**
	baz=78						
TKM2				⇑*i*S	**Sn**	**12 32 52.6**	**+2.7**
	baz=78						
KZA	**Kyzart**	**3.28**	**263**	P	**Pb**	**12 32 21.7**	**-3.2**
	SNR=5.7						
KZA	**Kyzart**	**3.28**	**263**	⇑*i*P	**Pn**	**12 32 19.9**	**+1.7**
	baz=63						
KZA				⇑*i*S	**Sn**	**12 32 59.9**	**+2.5**
	baz=63						
KBK	**Karagaybulak**	**3.45**	**273**	P	**Pb**	**12 32 28.6**	**+0.9**
	SNR=7.0						
KBK	**Karagaybulak**	**3.45**	**273**	⇑*i*P	**Pn**	**12 32 21.8**	**+1.5**
	baz=73						
KBK				⇑*i*S	**Sn**	**12 33 03.5**	**+2.2**
	baz=73						
CHMS	**Chumysh**	**3.61**	**278**	P	**Pb**	**12 32 29.6**	**-0.7**
	SNR=6.7						
CHMS	**Chumysh**	**3.61**	**278**	⇓*i*P	**Pn**	**12 32 24.0**	**+1.6**
	baz=78						
CHMS				⇓*i*S	**Sn**	**12 33 07.0**	**+1.9**
	baz=78						
AAK	**Ala-Archa**	**3.78**	**273**	P	**Pb**	**12 32 34.5**	**+1.1**
	SNR=9.9						
AAK	**Ala-Archa**	**3.78**	**273**	⇑Pg	**Pb**	**12 32 34.0**	**+0.6**
	6.5nm,0.3s						
AAK				⇑Lg	Lg	12 33 23.8	
	16nm,0.4s						
USP	**Ospenovka**	**3.82**	**282**	P	**Pn**	**12 32 28.2**	**+2.9**
	SNR=9.1						
EKS2	**Erkin-Say**	**4.31**	**273**	P	**Pb**	**12 32 44.1**	**+1.7**
	SNR=19						
AML	**Almayashu**	**4.41**	**266**	P	**Pb**	**12 32 41.8**	**-2.4**
	SNR=13						
MAKZ	**Makanchi**	**4.56**	**21**	⇑Pn	**Pn**	**12 32 35.8**	**+0.3**
	1.5nm,0.2s						
MAKZ				⇓Sn	**Sn**	**12 33 31.0**	**+2.5**
	0.7nm,0.2s						
MAKZ				⇓Lg	Lg	12 33 49.8	
	1.6nm,0.3s						
MK31	**Makanchi Array**	**4.63**	**23**	Pn	**Pn**	**12 32 37.0**	**+0.5**
	0.4nm,0.2s,baz=204,slow=13,SNR=58						
MK31				Pg	**Pb**	**12 32 50.9**	**+3.1**
	1.0nm,0.3s,baz=197,slow=16,SNR=6.3						
MK31				⇑Lg	Lg	12 33 53.6	
	0.5nm,0.2s,baz=201,slow=28,SNR=6.6						
MNAS	**Manas**	**5.26**	**272**	⇓Pg	**Pb**	**12 33 02.2**	**+3.7**
	2.0nm,0.5s						
MNAS				⇑Lg	Lg	12 34 09.2	
	7.0nm,0.6s						
SFK	**Sufi-Kurgan**	**5.27**	**243**	⇑Pg	**Pg**	**12 33 03.5**	**-3.8**
	1.8nm,0.5s						
SFK				⇓Lg	Lg	12 34 13.5	
	13nm,1.0s						
KK31	**Karatay Array**	**6.72**	**278**	⇓Pg	**Pb**	**12 33 27.4**	**+4.2**
	0.6nm,0.3s,baz=90,slow=17,SNR=9.3						
KK31				⇑Lg	Lg	12 34 55.4	
	1.6nm,0.5s,baz=108,slow=28,SNR=6.8						
OTUK	**Ortayu**	**7.64**	**320**	⇓Lg	Lg	12 35 23.3	
	9.3nm,0.9s						
KURBB	**Kurchatov Arra**	**8.09**	**355**	⇑Lg	Lg	12 35 39.8	
	14nm,0.6s						

IDC ***29*** *12:44:16.8±1.3,7°.24S×144°.18E,h0km,mb3.8/4, mb1 3.9/7,mb1mx3.7/23,mbtmp3.8/7,ML3.5/2, Error ellipse: s-maj=28.0km s-min=23.1km az=69.0*
ISCJB ***29*** *12:44:20.3±0.8,7°.48S±0°.07×144°.05E±0°.06,h35km, mb3.8/3, Error ellipse: s-maj=10.7km s-min=8.8km az=175.2*

ISC 29 12:44:22.1±1.1,**7°.5S**±0°.1×**144°.01E**±0°.09,**h35**km,**n7,** σ2§07/9,**mb3.9**/3,**Near south coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.63**	**121**	Pn	**Pn**	**12 45 15.5**	**-0.2**
	4.6nm,0.3s,baz=302,slow=13,SNR=16						
PMG				Sn	**Sn**	**12 45 57.5**	**+0.1**
	3.6nm,0.3s,baz=313,slow=23,SNR=6.2						
WRA	**Warramunga Arr**	**15.50**	**216**	Pn	**Pn**	**12 47 59.2**	**+1.1**
	0.1nm,0.3s,baz=38,slow=11,SNR=12						
WRA				Sn	**Sn**	**12 50 48.9**	**+0.1**
	0.1nm,0.3s,baz=28,slow=21,SNR=3.5						
WRA				Lg	Lg	12 52 38.5	
	0.1nm,0.3s,baz=40,slow=28,SNR=4.0						
ASAR	**Alice Springs**	**18.75**	**210**	P	**Pn**	**12 48 41.8**	**+3.0**
	0.3nm,0.3s,baz=38,slow=9.5,SNR=45						
ASAR				S	**Sn**	**12 52 04.1**	**-3.6**
	0.0nm,0.3s,baz=36,slow=21,SNR=3.9						
FITZ	**Fitzroy Crossi**	**20.75**	**238**	P	Pn	12 49 02.4	0.0
	1.5nm,0.5s,baz=57,slow=11,SNR=8.6						
CMAR	**Chiang Mai Arr**	**51.41**	**301**	P	**P**	**12 53 24.6**	**+0.6**
	1.2nm,0.8s,baz=128,slow=5.3,SNR=6.6						
MKAR	**Makanchi Array**	**76.81**	**322**	P	**P**	**12 56 09.8**	**-0.6**
	0.5nm,0.7s,baz=116,slow=6.6,SNR=5.7						
ZALV	**Zalesovo Beam**	**78.75**	**329**	P	**P**	**12 56 19.5**	**-1.4**
	0.5nm,0.4s,baz=108,slow=4.7,SNR=2.6						

NSSC ***29*** *12:50:06.2±0.8,33°.81N×35°.74E,h16km±4km, ML2.0*
GRAL ***29*** *12:50:08.3±0.3,33°.64N×35°.84E,h24km±4km, MD2.6*

ISC 29 12:50:08.5±1.2,**33°.71N**±0°.06×**35°.85E**±0°.05,**h13**km±11km, **n8,** σ0§49/14,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRWL	**Qaraoun**	**0.21**	**220**	*e*P	**Pg**	**12 50 13.1**	**0.0**
QRWL				*e*S	**Sg**	**12 50 16.5**	**+0.2**
RCY	**Rachaya**	**0.21**	**182**	*e*P	**Pg**	**12 50 12.9**	**-0.3**
RCY				*e*S	**Sg**	**12 50 16.4**	**-0.1**
DQRL	**Deir Qamar**	**0.23**	**269**	*e*P	**Pg**	**12 50 13.9**	**+0.5**
DQRL				*e*S	**Sb**	**12 50 18.1**	**-0.6**
BHL	**Bhannes**	**0.25**	**321**	*e*P	**Pb**	**12 50 14.8**	**-0.1**
BRBR	**Barbar**	**0.31**	**164**	*e*P	**Pg**	**12 50 14.5**	**-0.4**
BRBR				*e*S	**Sb**	**12 50 21.8**	**+0.7**
BRBR				AML	AML	12 50 23.0	
	comp=E,106nm,0.5s						
BRBR				AML	AML	12 50 28.6	
	comp=N,93nm,0.5s						
QASN	**Qassioun**	**0.40**	**116**	*e*P	**Pb**	**12 50 17.5**	**0.0**
QASN				*e*S	**Sb**	**12 50 23.9**	**+0.4**
QASN				AML	AML	12 50 25.7	
	comp=N,234nm,0.3s						
QASN				AML	AML	12 50 26.2	
	comp=E,294nm,0.3s						
HWQ	**Hawqa**	**0.57**	**8**	*e*P	**Pb**	**12 50 20.1**	**-0.3**
TOTH	**TOTAH**	**0.60**	**125**	*e*P	**Pb**	**12 50 20.4**	**-0.4**
TOTH				*e*S	**Sb**	**12 50 30.0**	**+0.8**
TOTH				AML	AML	12 50 36.2	
	comp=N,24nm,0.5s						
TOTH				AML	AML	12 50 39.5	
	comp=E,29nm,0.4s						

AZER ***29*** *12:50:38.9±1.1,38°.36N×46°.78E,h10km,ml3.7/26,Error ellipse: s-maj=2.4km s-min=0.5km az=16.0*
TEH ***29*** *12:50:41.4,38°.40N×46°.83E,h6km,ML3.4*
THR ***29*** *12:50:42.0,38°.51N×46°.81E,h14km,ML3.3*
NSSP ***29*** *12:50:42.9,38°.43N×46°.87E,h10km,Ms3.6*

ISC 29 12:50:41.4±1.1,**38°.41N**±0°.02×**46°.82E**±0°.02,**h8**km±10km, **n46,** σ1§57/76,**32C-22D,Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITBZ	**Tabriz**	**0.55**	**252**	*e*Pg	**Pg**	**12 50 53.0**	**+0.9**
ITBZ				IAMB	IAmb	12 51 11.7	
	comp=Z,20μm,0.5s						
IBST	**Bostanabad**	**0.71**	**175**	*e*Pg	**Pg**	**12 50 54.2**	**-0.8**
IBST				*e*Sg	**Sg**	**12 51 04.1**	**-0.1**
IBST				IAMB	IAmb	12 51 06.3	
	comp=Z,20μm,0.2s						
ORD	**Ordubad**	**0.83**	**309**	⇑P	**Pg**	**12 50 57.0**	**-0.3**
ORD				⇑S	**Sg**	**12 51 08.4**	**+0.3**
ISRB	**Sarab**	**0.89**	**130**	*e*Pg	**Pg**	**12 50 58.1**	**-0.4**
ISRB				IAMB	IAmb	12 51 15.8	
	comp=Z,23μm,0.3s						
IMRD	**Marand**	**0.92**	**290**	*e*Pg	**Pg**	**12 50 59.1**	**-0.1**
IMRD				IAMB	IAmb	12 51 15.9	
	comp=Z,37μm,0.5s						
GRMI	**Germi**	**0.94**	**64**	*e*Pg	**Pg**	**12 50 59.2**	**-0.2**
GRMI	**Germi**	**0.94**	**64**	AML	AML	12 51 13.8	
	comp=N,1μm,0.2s						
GRMI				AML	AML	12 51 13.8	
	comp=E,938nm,0.2s						
GRMI	**Germi**	**0.94**	**64**	Pg	**Pg**	**12 50 59.2**	**-0.2**
GRMI				Sg	**Sg**	**12 51 11.6**	**+0.1**
IAZR	**Azarshahr**	**0.98**	**222**	*e*Pg	**Pg**	**12 51 00.7**	**+0.5**
IAZR				IAMB	IAmb	12 51 23.8	
	comp=E,0.0nm,0.4s						
IAZR				IAMB	IAmb	12 51 24.4	
	comp=Z,20μm,0.3s						
LRK	**Lerik**	**1.22**	**78**	⇑P	**Pb**	**12 51 04.1**	**-0.8**
	SNR=11						
LRK				⇑S	**Sn**	**12 51 21.4**	**-0.3**
NAX	**Nakhchivan**	**1.29**	**307**	⇓P	**Pn**	**12 51 05.3**	**-0.5**
	SNR=34						
NAX				⇑S	**Sn**	**12 51 23.9**	**+0.6**
SBZ	**Shahbuz**	**1.40**	**316**	⇓P	**Pn**	**12 51 07.6**	**+0.2**
SBZ				⇓S	**Sg**	**12 51 30.0**	**+3.7**
STKZ		**1.41**	**358**	⇑*i*P	**Pg**	**12 51 11.0**	**+2.6**
STKZ				⇓S	**Sg**	**12 51 30.1**	**+3.4**
GLBA	**Clilabad**	**1.49**	**55**	⇑P	**Pb**	**12 51 09.7**	**+0.4**
	SNR=76						
GLBA				⇓S	**Sg**	**12 51 31.0**	**+1.7**
ASTR	**Astara**	**1.56**	**84**	⇓P	**Pb**	**12 51 10.4**	**-0.1**
	SNR=206						
ASTR				⇑S	**Sg**	**12 51 32.5**	**+1.0**
LKRN	**Lenkeran, Azer**	**1.57**	**78**	⇑P	**Pb**	**12 51 10.7**	**0.0**
	SNR=24						
LKRN				⇑S	**Sg**	**12 51 31.9**	**0.0**
BRDA	**Brd**	**1.88**	**9**	⇑P	**Pg**	**12 51 17.1**	**-0.3**
	SNR=10.0						
BRDA				⇑S	**Sg**	**12 51 43.5**	**+1.8**
MAKU	**Maku**	**1.92**	**300**	*e*Pn	**Pn**	**12 51 15.6**	**+1.1**
MAKU	**Maku**	**1.92**	**300**	AML	AML	12 51 42.3	
	comp=N,286nm,0.4s						
MAKU	**Maku**	**1.92**	**300**	Pn	**Pn**	**12 51 15.6**	**+1.1**
MAKU				Sg	**Sb**	**12 51 40.8**	**0.0**
ZRD	**Zardab**	**1.99**	**20**	⇓P	**Pb**	**12 51 18.2**	**+0.4**
	SNR=4.1						
ZRD				⇑S	**Sg**	**12 51 46.9**	**+1.6**
HYR	**Heyderabad**	**2.01**	**311**	⇓P	**Pb**	**12 51 17.5**	**-0.8**
HYR				⇓S	**Sb**	**12 51 43.0**	**-0.6**
KDMR	**Kurdemir**	**2.24**	**28**	⇑P	**Pb**	**12 51 20.9**	**-1.2**
KDMR				⇑S	**Sg**	**12 51 52.3**	**-0.9**
GANJ	**Ganja**	**2.27**	**350**	⇑P	**Pb**	**12 51 21.5**	**-1.1**
	SNR=30						
GANJ				⇓S	**Sb**	**12 51 50.8**	**-0.2**
ZNJK	**Zanjan**	**2.28**	**139**	*e*Pn	**Pb**	**12 51 22.6**	**-0.4**
ZNJK	**Zanjan**	**2.28**	**139**	Pn	**Pb**	**12 51 22.6**	**-0.4**
GNI	**Garni**	**2.37**	**318**	⇑*i*P	**Pb**	**12 51 25.1**	**+0.6**
GNI				⇑*i*S	**Sg**	**12 51 57.2**	**-0.4**
MNGR	**Mingechevir, A**	**2.37**	**5**	⇓P	**Pn**	**12 51 21.1**	**+0.4**
MNGR				⇑S	**Sg**	**12 51 56.1**	**-1.6**
GDB	**GEDABAY**	**2.45**	**341**	⇑P	**Pb**	**12 51 24.5**	**-1.4**
	SNR=41						
GDB				⇑S	**Sb**	**12 51 56.3**	**0.0**
IML	**Ismayilli**	**2.61**	**23**	⇑P	**Pn**	**12 51 24.7**	**+0.8**
IML				⇓S	**Sg**	**12 52 03.5**	**-1.7**
QBL	**Gabala**	**2.66**	**17**	⇓P	**Pn**	**12 51 26.7**	**+2.1**
QBL				⇓S	**Sb**	**12 52 00.3**	**-1.7**
GBS	**Qobustan**	**2.69**	**37**	P	**Pb**	**12 51 29.4**	**-0.4**
	SNR=7.3						
GBS				⇑S	**Sg**	**12 52 09.3**	**+1.5**
PQL	**Pirkuli**	**2.75**	**29**	⇑P	**Pb**	**12 51 28.7**	**-2.2**
	SNR=27						
PQL				⇑S	**Sb**	**12 52 03.8**	**-1.0**
SEKA	**Sheki**	**2.82**	**6**	⇑P	**Pn**	**12 51 29.0**	**+2.2**
	SNR=8.1						
SEKA				⇓S	**Sb**	**12 52 07.5**	**+0.8**
QZX	**Qazax, Azerbai**	**2.87**	**338**	⇓P	**Pb**	**12 51 32.5**	**-0.5**
	SNR=11						
QZX				⇓S	**Sb**	**12 52 05.9**	**-2.4**
XNQ	**Khinaliq**	**2.95**	**20**	⇑P	**Pn**	**12 51 30.0**	**+1.3**
	SNR=7.7						
XNQ				⇓

BRBR					AML	AML	12 52 57.0	
	comp=N,157nm,0.4s							
BRBR					AML	AML	12 53 01.6	
	comp=E,159nm,0.5s							
QASN	**Qassioun**	**0.40**	**114**	*eP*	**Pg**		**12 52 48.7**	**-0.1**
QASN				*eS*	**Sb**		**12 52 55.9**	**-0.3**
QASN					AML	AML	12 52 57.7	
	comp=N,272nm,0.3s							
QASN					AML	AML	12 52 58.8	
	comp=E,352nm,0.4s							
HWQ	**Hawqa**	**0.59**	**8**	*eP*	**Pg**		**12 52 52.3**	**0.0**
TOTH	**TOTAH**	**0.59**	**124**	*eP*	**Pg**		**12 52 52.7**	**+0.2**
TOTH				*eS*	**Sb**		**12 53 01.7**	**-0.1**
TOTH					AML	AML	12 53 03.7	
	comp=E,35nm,0.7s							
TOTH					AML	AML	12 53 10.6	
	comp=N,36nm,0.6s							

NNC ***29*** *13:02:04.9±2.7, 42°.58N×79°.68E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=18.2km s-min=11.4km az=140.0*
SOME ***29*** *13:02:05.0, 42°.52N×79°.58E, h35km*
KRNET ***29*** *13:02:06.0±0.1, 42°.60N×79°.55E, mb2.5*

ISC 29 13:02:05.5±2.4, 42°.55N±0°.08×79°.53E±0°.09, h6km±13km, n12, σ1§40/21, 9C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.61**	**356**	*e*P		**Pb**	**13 02 18.1**	**-0.6**
	27nm,0.1s							
SHLS				*e*S		**Sb**	**13 02 27.5**	**0.0**
	159nm,0.2s							
UZB	**Uzynbulak**	**0.70**	**328**	*e*P		**Pg**	**13 02 19.3**	**+0.3**
	7.2nm,0.1s							
UZB				*e*S		**Sg**	**13 02 29.7**	**+1.5**
	24nm,0.2s							
PDGK	**Podgornoye**	**0.78**	**358**	⇑P		**Pg**	**13 02 19.8**	**-0.7**
	2.1nm,0.3s							
PDGK				⇓S		**Sg**	**13 02 30.5**	**-0.2**
	2.0nm,0.3s							
PDGK	**Podgornoye**	**0.78**	**358**	⇓*i*P		**Pg**	**13 02 20.0**	**-0.5**
	baz=56							
PDGK				⇓*i*S		**Sg**	**13 02 30.6**	**0.0**
	baz=56							
KDJ	**Kajisay**	**1.79**	**257**	⇑*i*P		**Pg**	**13 02 40.1**	**+0.3**
	baz=56							
KDJ				⇑*i*S		**Sg**	**13 03 04.3**	**+1.3**
	baz=56							
MDOK	**Medeo**	**1.92**	**289**	Pg		**Pb**	**13 02 41.7**	**+0.7**
	1.3nm,0.4s							
MDOK				Lg		Lg	13 03 08.6	
	3.4nm,0.5s							
ULHL	**Ulahol**	**2.45**	**264**	⇑*i*P		**Pb**	**13 02 49.8**	**-0.3**
	baz=63							
ULHL				⇑*i*S		**Sb**	**13 03 22.5**	**+1.9**
	baz=63							
BOOM	**Boomskoye usch**	**2.65**	**270**	⇓*i*P		**Pb**	**13 02 52.2**	**-1.3**
	baz=69							
BOOM				⇓*i*S		**Sb**	**13 03 26.5**	**+0.2**
	baz=69							
TKM2	**Tokmak 2**	**2.92**	**279**	⇑*i*P		**Pb**	**13 02 56.4**	**-1.6**
	baz=78							
TKM2				⇑*i*S		**Sb**	**13 03 33.7**	**-0.4**
	baz=78							
KBK	**Karagaybulak**	**3.38**	**273**	⇓*i*P		**Pb**	**13 03 02.6**	**-3.3**
	baz=72							
KBK				⇓*i*S		**Sb**	**13 03 44.7**	**-2.6**
	baz=72							
MAKZ	**Makanchi**	**4.60**	**21**	⇑Lg		Lg	13 04 27.0	
	0.4nm,0.6s							
MK31	**Makanchi Array**	**4.68**	**24**	Pn		**Pn**	**13 03 17.8**	**+1.2**
	0.3nm,0.5s,baz=195,slow=11,SNR=9.8							
MK31				⇑Sn		**Sn**	**13 04 11.5**	**+0.3**
	0.2nm,0.4s							
MK31				⇓Lg		Lg	13 04 28.3	
	0.1nm,0.3s,baz=203,slow=28							

MAN 29 13:08:50.9, 6°.81N×124°.08E, h10km, mb4.4, ML3.3, MS3.0, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.44**	**22**	⇑*i*P		Pg	13 09 00.1	+0.6
CTBH				*i* S		Sg	13 09 05.9	+0.6
SKMP	**Bagumbayan, Su**	**0.55**	**122**	*e*P		Pg	13 09 01.5	0.0
SKMP				*e*S		Sg	13 09 08.5	-0.2
PAGZ	**Pagadian**	**1.24**	**326**	*e*P		Pn	13 09 13.4	-0.9
PAGZ				*e*S		Sb	13 09 30.2	-0.2
BUKP	**Musuan**	**1.44**	**43**	*e*P		Pn	13 09 16.6	-0.5
BUKP				*e*S		Sn	13 09 36.1	0.0
CGP	**Cagayan de Oro**	**1.74**	**21**	⇓*e*P		Pg	13 09 25.7	+1.4
CGP				*e*S		Sg	13 09 47.4	+0.4
IPIL	**Ipil**	**1.78**	**303**	*e*P		Pb	13 09 22.7	-0.9
IPIL				*e*S		Sn	13 09 43.7	-0.8

ISCJB ***29*** *13:13:26.8±0.8, 23°.14S±0°.09×179°.5E±0°.2, h548km, mb3.6/8, Error ellipse: s-maj=20.5km s-min=12.0km az=8.1*
IDC ***29*** *13:13:26.9±2.9, 23°.25S×179°.64E, h541km±32km, mb3.1/8, mb1 3.3/9, mb1mx3.1/43, mbtmp4.0/9, Error ellipse: s-maj=25.1km s-min=21.9km az=166.0*

ISC 29 13:13:27.4±0.8, 23°.3S±0°.1×179°.6E±0°.2, h548km, n11, σ0§69/12, mb3.6/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.07**	**188**	P		**P**	**13 16 36.8**	**-0.6**
	3.5nm,0.3s,baz=295,slow=4.9,SNR=26							
URZ				S		**S**	**13 19 13.7**	**-0.2**
	0.4nm,0.3s,baz=284,slow=23,SNR=5.9							
RPZ	**Rata Peaks**	**21.56**	**197**	P		**P**	**13 17 37.6**	**+0.1**
	2.1nm,0.4s,baz=25,slow=6.7,SNR=5.3							
CTA	**Charters Tower**	**31.15**	**269**	P		**P**	**13 19 02.7**	**+0.7**
	1.5nm,0.4s,baz=100,slow=11,SNR=6.0							
ASAR	**Alice Springs**	**41.81**	**260**	P		**P**	**13 20 30.1**	**+0.4**
	0.7nm,0.8s,baz=93,slow=6.4,SNR=9.7							
ASAR				ScP		**ScP**	**13 25 11.7**	**+0.4**
	0.4nm,0.9s,baz=116,slow=4.3,SNR=3.2							
WRA	**Warramunga Arr**	**42.12**	**266**	P		**P**	**13 20 31.4**	**-0.8**
	0.5nm,0.6s,baz=102,slow=8.6,SNR=16							
PETK	**Petropavlovsk-**	**78.44**	**347**	P		**P**	**13 24 30.8**	**-0.6**
	3.4nm,0.8s,baz=140,slow=9.1,SNR=3.3							
SEY	**Seymchan**	**88.61**	**348**	P		**P**	**13 25 21.2**	**-0.4**
	0.6nm,0.5s,baz=153,slow=18,SNR=3.3							
TXAR	**Lajitas Array**	**90.39**	**58**	P		**P**	**13 25 32.1**	**+1.2**
	0.5nm,0.8s,baz=208,slow=7.0,SNR=4.4							
PDAR	**Pinedale Array**	**92.48**	**44**	P		**P**	**13 25 39.8**	**-0.6**
	0.3nm,0.6s,baz=186,slow=2.7,SNR=3.5							
ARCES	**ARCESS Array B**	**131.23**	**348**	PKP		**PKPdf**	**13 31 36.8**	**+0.2**
	3.8nm,1.0s,baz=77,slow=1.2,SNR=3.6							
AKASG	**Malin Array Be**	**144.29**	**327**	PKP		PKPbc	13 31 59.9	-0.8
	0.7nm,0.3s,baz=45,slow=3.9,SNR=4.7							

NIED ***29*** *13:17:00, 42°.50N×144°.10E, h65km, Mw4.6 Best double couple: M0§9.02000×10¹⁵ NP1:φs§240.00000°, δ16.00000°, λ44.00000°. NP2:φs§107.00000°, δ79.00000°, λ102.00000°.*
BJI ***29*** *13:17:16.7, 42°.55N×144°.68E, h49km, mb4.5/44, mB5.1/30, Ms4.5/12, Ms7 4.4/11*
MOS ***29*** *13:17:21.6±0.9, 42°.53N×144°.07E, h67km, mb4.9/58, Error ellipse: s-maj=6.8km s-min=4.5km az=88.7*
ISCJB ***29*** *13:17:22.2±0.2, 42°.52N±0°.02×144°.06E±0°.02, h69km±1km, mb4.6/179, Error ellipse: s-maj=3.9km s-min=2.4km az=153.2*
JMA ***29*** *13:17:22.9±0.1, 42°.54N×144°.11E, h70km±1km, M4.5 Broadband fault plane solution: P waves. NP1: φs§96.00000°, δ76.00000°, λ82.00000°. NP2:φs§306.00000°, δ16.00000°, λ119.00000°. Principal axes: T Plg58.0000°, Azm355.0000°; N Plg8.0000°, Azm97.0000°; P Plg31.0000°, Azm192.0000°;*
JMA Felt II J1.
NEIC ***29*** *13:17:22.8±0.3, 42°.54N×144°.08E, h62km±3km, mb4.8/115 Error ellipse: s-maj=3.7km s-min=2.8km az=149.0*
NEIC Recorded [2 JMA] in southeastern Hokkaido.
SKHL ***29*** *13:17:23.7±0.3, 42°.53N×144°.11E, h86km±5km, mb5.2/14, msh6.3/10*
IDC ***29*** *13:17:23.3±1.5, 42°.56N×144°.14E, h63km±12km, mb4.2/31, mb1 4.4/36, mb1mx4.3/52, mbtmp4.5/36, MS3.5/15, Ms1 3.5/15, ms1mx3.4/36, Error ellipse: s-maj=11.2km s-min=9.0km az=106.0*

ISC 29 13:17:22.3±0.5, 42°.55N±0°.04×144°.16E±0°.03, h57km±4km, n684, σ1§23/733, mb4.8/185, MS3.7/15, 35C-32D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JOB	**Onbets**	**0.43**	**326**	⇓P		**Pn**	**13 17 35.2**	**+1.9**
JOB				S		**Sn**	**13 17 44.1**	**+2.9**
JCH	**Churui**	**0.59**	**276**	⇑P		**Pn**	**13 17 36.5**	**+1.4**
JCH				S		**Sn**	**13 17 45.7**	**+1.4**
JAK	**Akkeshi**	**0.60**	**41**	⇓P		**Pn**	**13 17 36.9**	**+1.8**
JAK				S		**Sn**	**13 17 47.1**	**+2.7**
JTHR	**Tokachihiroo**	**0.69**	**248**	⇑P		**Pn**	**13 17 37.4**	**+1.2**
JTHR				S		**Sn**	**13 17 47.8**	**+1.5**
JAR	**Ashorobuto**	**0.80**	**339**	⇓P		**Pn**	**13 17 39.1**	**+1.5**
JAR				S		**Sn**	**13 17 50.7**	**+1.8**
JKHN	**Kushirohamanak**	**0.91**	**54**	P		**Pn**	**13 17 40.9**	**+1.9**
JKHN				S		**Sn**	**13 17 53.8**	**+2.4**
ERM	**Erimo**	**0.92**	**235**	*e*Pn		**Pn**	**13 17 40.2**	**+1.1**
ERM	**Erimo**	**0.92**	**235**	⇑*i*P		**Pn**	**13 17 39.8**	**+0.7**
ERM				AMB		AMB	13 17 53.2	
	5μm,0.7s							
ERM	**Erimo**	**0.92**	**235**	*ce*PN		**Pn**	**13 17 39.8**	**+0.7**
ERM				pmax		pmax		
	comp=Z,5μm,0.7s							
JNBK	**Urakawa-nobuka**	**1.07**	**256**	⇑P		**Pn**	**13 17 41.6**	**+0.4**
JNBK				*e*S		**Sn**	**13 17 55.0**	**-0.2**
JNK	**Nakash**	**1.11**	**21**	⇓P		**Pn**	**13 17 43.0**	**+1.3**
JNK				S		**Sn**	**13 17 57.8**	**+1.6**
JFR	**Furan**	**1.30**	**299**	⇓P		**Pn**	**13 17 45.0**	**+0.7**
JFR				S		**Sn**	**13 18 01.8**	**+1.1**
JBT2	**Biratori 2**	**1.34**	**280**	⇓P		**Pn**	**13 17 45.1**	**+0.3**
JBT2				*e*S		**Sn**	**13 18 01.5**	**-0.1**
NEM2	**Nemuro 2**	**1.42**	**54**	⇓P		**Pn**	**13 17 46.6**	**+0.8**
NEM2				S		**Sn**	**13 18 04.1**	**+0.6**
JTKR	**Abashiri--Toko**	**1.43**	**353**	⇓P		**Pn**	**13 17 47.9**	**+1.9**
JTKR				S		**Sn**	**13 18 06.2**	**+2.5**
GLVR	**Golovnino**	**1.55**	**40**	⇓*i*P		**Pn**	**13 17 49.0**	**+1.4**
GLVR				AMB		AMB	13 17 49.0	
	comp=Z,690nm,0.4s							
GLVR				AMB		AMB	13 17 49.0	
	comp=Z,640nm,0.4s							
GLVR				AMB		AMB	13 17 49.0	
	comp=Z,5μm,0.4s							
GLVR				*i* S		**Sn**	**13 18 08.0**	**+1.4**
GLVR				A		A	13 18 10.0	
	comp=Z,35μm,0.5s							
GLVR				A		A	13 18 10.0	
	comp=Z,26μm,0.5s							
GLVR	**Golovnino**	**1.55**	**40**	*d*iPN		**Pn**	**13 17 49.3**	**+1.7**
GLVR				*i* S		**Sn**	**13 18 08.7**	**+2.1**
GLVR				pmax		pmax		
	comp=Z,5μm,0.5s							
GLVR				pmax		pmax		
	comp=E,635nm,0.3s							
GLVR				pmax		pmax		
	comp=N,693nm,0.4s							
GLVR				smax		smax		
	comp=E,26μm,0.4s							
GLVR				smax		smax		
	comp=N,35μm,0.3s							
JRA	**Rausu**	**1.56**	**27**	⇓P		**Pn**	**13 17 49.3**	**+1.7**
JRA				S		**Sn**	**13 18 09.8**	**+3.1**
JMP	**Maruseppu**	**1.57**	**338**	⇓P		**Pn**	**13 17 49.3**	**+1.4**
JMP				S		**Sn**	**13 18 09.4**	**+2.3**
JKK2	**Kamakawa 2**	**1.68**	**323**	⇓P		**Pn**	**13 17 50.9**	**+1.6**
JAB	**Ashibetsu**	**1.71**	**305**	⇓P		**Pn**	**13 17 51.8**	**+2.1**
GRPR	**Tuman**	**1.86**	**39**	⇓*i*P		**Pn**	**13 17 53.0**	**+1.2**
GRPR				AMB		AMB	13 17 55.0	
	comp=N,500nm,0.3s							
GRPR				AMB		AMB	13 17 55.0	
	comp=N,550nm,0.3s							
GRPR				AMB		AMB	13 17 55.0	
	comp=N,3μm,0.3s							
GRPR				*i* S		**Sn**	**13 18 15.0**	**+0.8**
GRPR				A		A	13 18 17.0	
	comp=N,10μm,0.4s							
GRPR				A		A	13 18 17.0	
	comp=N,12μm,0.4s							
GRPR	**Tuman**	**1.86**	**39**	*d*iPN		**Pn**	**13 17 53.5**	**+1.7**
GRPR				*i* S		**Sn**	**13 18 15.3**	**+1.1**
GRPR				pmax		pmax		
	comp=Z,3μm,0.3s							
GRPR				pmax		pmax		
	comp=E,548nm,0.2s							
GRPR				pmax		pmax		
	comp=N,504nm,0.1s							
GRPR				smax		smax		
	comp=N,10μm,0.2s							
GRPR				smax		smax		
	comp=E,12μm,0.2s							
JKA	**Kamikawa-asahi**	**1.93**	**325**	*e*P		**Pn**	**13 17 54.8**	**+2.0**
JKA				*e*S		**Sn**	**13 18 17.5**	**+1.5**
ASAJ	**Asahikawa**	**1.94**	**324**	P		**Pn**	**13 17 54.8**	**+1.9**
	comp=E,118nm,0.3s,baz=168,slow=14,SNR=525							
ASAJ				S		**Sn**	**13 18 17.5**	**+1.5**
	comp=E,189nm,0.3s,baz=74,slow=25,SNR=22							
YUK	**Yuzh-Kuril'sk**	**1.94**	**39**	⇑*i*P		**Pn**	**13 17 55.0**	**+2.2**
YUK				AMB		AMB	13 17 56.0	
	comp=E,2μm,0.3s							
YUK				AMB		AMB	13 17 56.0	
	comp=E,590nm,0.3s							
YUK				AMB		AMB	13 17 56.0	
	comp=E,3μm,0.3s							
YUK				*i* S		**Sn**	**13 18 18.1**	**+2.1**
YUK				A		A	13 18 19.0	
	comp=E,11μm,0.3s							
YUK				A		A	13 18 19.0	
	comp=E,8μm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.94**	**39**	*d*iPN		**Pn**	**13 17 54.7**	**+1.9**
YUK				*i* S		**Sn**	**13 18 17.7**	**+1.7**
YUK				pmax		pmax		
	comp=E,588nm,0.1s							
YUK				pmax		pmax		
	comp=Z,3μm,0.1s							
YUK				pmax		pmax		
	comp=N,2μm,0.2s							
YUK				smax		smax		
	comp=E,8μm,0.4s							
YUK				smax		smax		
	comp=N,11μm,0.3s							
SHO	**Shikotan**	**2.36**	**55**	⇓*i*P		**Pn**	**13 17 59.4**	**+0.9**
SHO				AMB		AMB	13 18 00.0	
	comp=N,100nm,0.2s							
SHO				AMB		AMB	13 18 00.0	
	comp=N,230nm,0.2s							
SHO				AMB		AMB	13 18 00.0	
	comp=N,440nm,0.2s							
SHO				*i* S		**Sn**	**13 18 26.5**	**+0.2**
SHO				A		A	13 18 29.0	
	comp=N,2μm,0.2s							
SHO				A		A	13 18 29.0	
	comp=N,6μm,0.2s							
SHO	**Shikotan**	**2.36**	**55**	*d*iPN		**Pn**	**13 17 59.4**	**+0.9**
SHO				*i* S		**Sn**	**13 18 26.1**	**-0.2**
SHO				pmax		pmax		
	comp=N,101nm,0.2s							
SHO				pmax		pmax		
	comp=E,234nm,0.2s							
SHO				pmax		pmax		
	comp=Z,442nm,0.2s							
SHO				smax		smax		
	comp=N,2μm,0.1s							
SHO				smax		smax		
	comp=E,6μm,0.2s							
KUR	**Kuril'sk**	**3.79**	**44**	⇑*i*P		**Pn**	**13 18 21.7**	**+3.5**
KUR				AMB		AMB	13 18 29.0	
	comp=E,80nm,0.3s							
KUR				AMB		AMB	13 18 29.0	
	comp=E,100nm,0.3s							
KUR				AMB		AMB	13 18 29.0	
	comp=E,290nm,0.3s							
KUR				*i* S		**Sn**	**13 19 05.2**	**+3.7**
KUR				A		A	13 19 08.0	
	comp=E,4μm,3.0s							
KUR				A		A	13 19 08.0	
	comp=E,5μm,3.0s							
KUR				A		A	13 19 11.0	
	comp=E,1μm,0.4s							
KUR				A		A	13 19 11.0	
	comp=E,650nm,0.4s							
KUR	**Kuril'sk**	**3.79**	**44**	*d*iPN		**Pn**	**13 18 21.1**	**+2.9**
KUR				*i* S		**Sn**	**13 19 04.8**	**+3.3**
KUR				pmax		pmax		
	comp=Z,255nm,0.5s							
KUR				pmax		pmax		
	comp=N,80nm,0.3s							
KUR				pmax		pmax		
	comp=E,101nm,0.2s							
KUR				smax		smax		
	comp=E,836nm,2.1s							
KUR				smax		smax		
	comp=N,2μm,1.5s							
KUR				smax		smax		
	comp=E,776nm,0.5s							
KUR				smax		smax		
	comp=N,636nm,0.4s							
YSS	**Yuzh-Sakhalins**	**4.51**	**348**	*e*Pn		**Pn**	**13 18 29.4**	**+1.4**
YSS	**Yuzh-Sakhalins**	**4.51**	**348**	⇓*i*P		**Pn**	**13 18 30.3**	**+2.2**
YSS				AMB		AMB	13 18 31.4	
	comp=N,60nm,0.3s							
YSS				*i* S		**Sn**	**13 19 19.9**	**+0.7**
YSS				A		A	13 19 23.3	
	comp=N,370nm,0.5s							
YSS				A		A	13 19 23.3	
	comp=N,170nm,0.5s							
YSS	**Yuzh-Sakhalins**	**4.51**	**348**	*e*PN		**Pn**	**13 18 30.1**	**+2.0**
YSS				*e*S		**Sn**	**13 19 22.0**	**+2.8**
YSS				pmax		pmax		
	comp=Z,60nm,0.3s							
YSS				smax		smax		
	comp=N,370nm,0.9s							
YSS				smax		smax		
	comp=E,170nm,0.9s							
YSS				MLR		MLR		
	comp=Z,400nm,16.0s							
TEY	**Ternei**	**6.01**	**297**	⇓*i*P		**Pn**	**13 18 50.9**	**+2.4**
TEY				AMB		AMB	13 18 52.5	
	comp=Z,40nm,0.7s							
TEY	**Ternei**	**6.01**	**297**	⇑*e*PN		**Pn**	**13 18 44.7**	**-3.8**
TEY				pmax		pmax		
	comp=Z,10.0nm,2.4s							
UGL	**Uglegorsk**	**6.69**	**348**	⇓*e*P		**Pn**	**13 18 59.8**	**+2.0**
UGL				AMB		AMB	13 19 02.3	
	comp=Z,40nm,0.5s							
UGL				*e*S		**Sn**	**13 20 12.6**	**0.0**
UGL				A		A	13 20 16.0	
	comp=Z,140nm,0.6s							
UGL				A		A	13 20 16.0	
	comp=Z,110nm,0.6s							
MJB9	**Matsu-Tunnel**	**7.55**	**219**	*e*Pn		**Pn**	**13 19 09.6**	**-0.2**
MJAR	**Matsushiro Arr**	**7.56**	**219**	P		**Pn**	**13 19 09.9**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=36,slow=12,SNR=93							
MJAR				S		**Sn**	**13 20 39.9**	**+5.8**
	comp=Z,0.2nm,0.3s,baz=55,slow=11,SNR=4.0							
MJAR				LR		LR	13 22 50.2	
	comp=Z,560nm,20.1s,baz=35,slow=43							
MAJO	**Matsushiro**	**7.56**	**219**	*e*Pn		**Pn**	**13 19 09.5**	**-0.3**
MAJO	**Matsushiro**	**7.56**	**219**	*e*P		**Pn**	**13 19 09.8**	**0.0**
MAJO	**Matsushiro**	**7.56**	**219**	*c* iPN		**Pn**	**13 19 09.4**	**-0.4**
MAT	**Matsushiro**	**7.56**	**219**	P		**Pn**	**13 19 09.8**	**0.0**
MAT				S		**Sn**	**13 20 31.3**	**-2.7**
TYV	**Tymovskoe**	**8.38**	**353**	*e*P		**Pn**	**13 19 23.6**	**+2.6**
TYV				AMB		AMB	13 19 25.3	
	comp=Z,20nm,0.8s							
TYV				*e*S		**Sn**	**13 20 53.2**	**-0.8**
TYV				A		A	13 20 57.0	
	comp=Z,280nm,5.0s							
TYV				A		A	13 20 57.0	
	comp=Z,80nm,5.0s							
TYV	**Tymovskoe**	**8.38**	**353**	*e*PN		**Pn**	**13 19 24.5**	**+3.5**
TYV				pmax		pmax		
	comp=Z,17nm,0.9s							
USRK	**Ussuriysk Ar.**	**9.02**	**285**	P		**Pn**	**13 19 30.4**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=88,slow=14,SNR=5.1							
USA0B	**Ussuriysk Arra**	**9.02**	**285**	*e*Pn		**Pn**	**13 19 29.2**	**-0.5**
INU	**Inuyama**	**9.09**	**220**	*e*Pn		**Pn**	**13 19 30.8**	**+0.1**
GRNR	**Gornyy**	**9.79**	**330**	⇓*e*P		**Pn**	**13 19 42.0**	**+1.8**
GRNR				AMB		AMB	13 19 43.2	
	comp=Z,20nm,1.0s							
GRNR	**Gornyy**	**9.79**	**330**	*e*PN		**Pn**	**13 19 42.0**	**+1.8**
GRNR				pmax		pmax		
	comp=Z,16nm,1.0s							
JHJ2	**Mitsune**	**10.03**	**201**	*e*Pn		**Pn**	**13 19 42.4**	**-1.2**
JHJ	**Hachijo jima 2**	**10.03**	**202**	P		**Pn**	**13 19 41.9**	**-1.7**
	comp=Z,11nm,0.3s,baz=333,slow=21,SNR=6.7							
JHJ				S		Sn	13 21 24.2	-10
	comp=Z,47nm,0.3s,baz=219,slow=22,SNR=10							
NKL	**Nikolayevsk**	**10.86**	**349**	⇓*e*P		**Pn**	**13 19 56.0**	**+1.2**
NKL				AMB		AMB	13 19 57.8	
	comp=Z,10.0nm,0.5s							
NKL	**Nikolayevsk**	**10.86**	**349**	*e*PN		**Pn**	**13 19 56.0**	**+1.2**
NKL				pmax		pmax		
	comp=Z,22nm,1.0s							
KLR	**Kul'dur**	**10.92**	**312**	P		**Pn**	**13 19 56.5**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=114,slow=14,SNR=3.9							
KLR				LR		LR	13 24 15.0	
	comp=Z,177nm,21.3s,baz=120,slow=38							
KLR	**Kul'dur**	**10.92**	**312**	*i* P		**Pn**	**13 19 55.4**	**-0.3**
KLR	**Kul'dur**	**10.92**	**312**	*i* PN		**Pn**	**13 19 55.4**	**-0.3**
OKH	**Okha**	**11.04**	**356**	*e*P		**Pn**	**13 20 00.0**	**+2.8**
OKH				AMB		AMB	13 20 00.4	
	comp=Z,70nm,0.7s							
OKH	**Okha**	**11.04**	**356**	⇓*e*PN		Pn	13 20 11.0	+14
SKR	**Severo-Kuril's**	**11.55**	**41**	⇑*i*P		**Pn**	**13 20 04.9**	**+0.6**
SKR				AMB		AMB	13 20 10.4	
	comp=Z,240nm,1.0s							
SKR	**Severo-Kuril's**	**11.55**	**41**	*i* PN		**Pn**	**13 20 04.3**	**0.0**
EKMR	**Ekimchan**	**12.92**	**328**	*e*P		**Pn**	**13 20 25.1**	**+2.1**
EKMR				AMB		AMB	13 20 33.5	
	comp=Z,10.0nm,0.6s							
KSRS	**Korea Array**	**13.44**	**253**	P		**Pn**	**13 20 30.6**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=62,slow=12,SNR=10							
KSRS				S		**Sn**	**13 23 05.0**	**+7.3**
	comp=Z,0.8nm,0.3s,baz=54,slow=25,SNR=10							
KSRS				LR		LR	13 25 13.8	
	comp=Z,171nm,21.1s,baz=49,slow=35							
KS01	**Wonju Array Si**	**13.45**	**253**	*e*Pn		**Pn**	**13 20 30.0**	**-0.3**
KS15	**Wonju Array Si**	**13.47**	**253**	*e*Pn		**Pn**	**13 20 30.6**	**0.0**
KSAR	**Wonju Array Be**	**13.47**	**253**	P		**Pn**	**13 20 30.6**	**0.0**
KSAR				S		**Sn**	**13 23 05.0**	**+6.5**
KSAR	**Wonju Array Be**	**13.47**	**253**	PN		**Pn**	**13 20 30.6**	**0.0**
KSAR				S		**Sn**	**13 23 05.1**	**+6.5**
PEA0B	**Petropavlovsk-**	**13.91**	**36**	*e*Pn		**Pn**	**13 20 34.5**	**-2.0**
PETK	**Petropavlovsk-**	**13.91**	**36**	P		**Pn**	**13 20 34.1**	**-2.3**
	comp=Z,0.9nm,0.3s,baz=197,slow=11,SNR=23							
PETK				LR		LR	13 25 59.3	
	comp=Z,106nm,18.2s,baz=244,slow=37							
PETK	**Petropavlovsk-**	**13.91**	**36**	*e*Pn		**Pn**	**13 20 34.0**	**-2.4**
PETK	**Petropavlovsk-**	**13.91**	**36**	*e*P		**Pn**	**13 20 34.0**	**-2.4**
JNU	**Nakatsue**	**14.08**	**232**	P		**Pn**	**13 20 36.8**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=43,slow=9.7,SNR=6.9							
JNU				L

MA2 pmax pmax
comp=Z,66nm,1.7s
HIA Hailar 18.22 300 *e*P **P 13 21 25.2 -5.4**
comp=Z,7.2nm,0.7s
HIA Hailar 18.22 300 *e*P **P 13 21 25.2 -5.4**
HIA pmax pmax
comp=Z,7.0nm,0.7s
SEY Seymchan 20.98 11 P **P 13 21 59.0 -1.4**
comp=Z,29nm,0.8s,baz=192,slow=8.2,SNR=82
SEY Seymchan 20.98 11⇑ *e*P **P 13 21 58.3 -2.1**
SEY Seymchan 20.98 11*c e*P **P 13 21 58.3 -2.1**
YAK Yakutsk 21.33 341 *e*P **P 13 22 01.1 -3.1**
YAK Yakutsk 21.33 341 *e*P **P 13 22 01.1 -3.1**
YAK *e* 13 22 22.0
YAK *e*S **S 13 25 54.9 -2.7**
YAK *e* 13 26 07.1
YAK *e*SS **SnSn 13 26 23.2 -0.5**
YAK *e* 13 33 18.2
YAK pmax pmax
comp=Z,17nm,0.8s
YAK pmax pmax
comp=N,11nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=Z,45nm,1.8s
YAK pmax pmax
comp=N,48nm,1.5s
YAK pmax pmax
comp=E,45nm,2.0s
YAK smax smax
comp=N,100nm,1.1s
YAK smax smax
comp=E,61nm,1.0s
NJ2 Nanjing 22.61 251 *e*P **P 13 22 19.3 +1.1**
NJ2 pmax pmax
comp=E,13nm,0.5s
HHC Hu-ho-hao-te 24.32 277 *e*P **P 13 22 35.3 +0.7**
HHC pmax pmax
comp=E,9.0nm,1.0s
BOD Bodaibo 24.34 319 *e*P **P 13 22 31.0 -3.5**
BOD pmax pmax
comp=Z,12nm,1.4s
YULB Yu-li 26.93 232 *e*P **P 13 22 58.3 +0.1**
comp=Z,16nm,0.5s
SONA1 Songino Array 26.93 294 *e*P **P 13 22 56.6 -1.6**
SONM Songino Array 26.94 294 P **P 13 22 58.8 +0.5**
comp=Z,12nm,0.8s,baz=79,slow=8.6,SNR=68
SONM PcP **PcP 13 26 19.2 +0.4**
comp=Z,0.4nm,0.5s,baz=101,slow=4.6,SNR=3.3
BILL Bilibino 28.14 17 *e*P **P 13 23 05.7 -3.0**
comp=E,6.8nm,0.9s
BILL Bilibino 28.14 17 *e*P **P 13 23 07.4 -1.2**
BILL Bilibino 28.14 17 *e*P **P 13 23 07.4 -1.2**
BILL *e**PP **pP 13 23 20.6 -2.2**
BILL *e* 13 23 58.6
BILL pmax pmax
comp=Z,8.0nm,1.0s
BILL MLR MLR
comp=Z,115nm,16.0s
TLY Talaya 28.72 303 P **P 13 23 14.3 +0.4**
comp=Z,3.3nm,0.7s,baz=107,slow=4.0,SNR=4.1
TLY LR LR 13 34 51.3
comp=Z,112nm,18.3s,baz=349,slow=36
TLY Talaya 28.72 303 *i* P **P 13 23 14.4 +0.4**
TLY pmax pmax
comp=Z,22nm,0.9s
GUMO Guam 28.86 179 LR LR 13 35 55.2
comp=Z,13nm,18.0s,baz=28,slow=38
ZAK Zakamensk 28.92 300 *e*P **P 13 23 15.5 -0.4**
ZAK Zakamensk 28.92 300 *e*P **P 13 23 15.5 -0.4**
ZAK pmax pmax
comp=Z,7.0nm,1.0s
H11N2 WAKE ISLAND Hy 29.76 133 T T 13 54 50.0
baz=326,slow=75,SNR=447
H11N1 WAKE ISLAND Hy 29.77 133 T T 13 54 49.7
baz=326,slow=75,SNR=382
H11N3 WAKE ISLAND Hy 29.78 133 T T 13 54 51.3
baz=326,slow=75,SNR=441
TIXI Tiksi 30.14 350 P **P 13 23 22.2 -4.0**
comp=Z,1.3nm,0.5s,baz=155,slow=4.5,SNR=5.3
TIXI PcP **PcP 13 26 25.6 -0.5**
comp=Z,0.9nm,0.3s,baz=256,slow=4.2,SNR=3.2
TIXI Tiksi 30.14 350 *i* P **P 13 23 25.4 -0.8**
TIXI Tiksi 30.14 350 *i* P **P 13 23 25.4 -0.8**
TIXI pmax pmax
comp=Z,1.0nm,0.9s
MOY Mondy 30.37 303 *e*P **P 13 23 29.4 +0.8**
MOY Mondy 30.37 303 *e*P **P 13 23 29.4 +0.8**
MOY pmax pmax
comp=Z,21nm,1.9s
H11S1 WAKE ISLAND Hy 30.66 134 T T 13 55 57.7
baz=328,slow=76,SNR=1141
H11S3 WAKE ISLAND Hy 30.66 135 T T 13 55 57.7
baz=328,slow=76,SNR=573
H11S2 WAKE ISLAND Hy 30.68 134 T T 13 55 57.4
baz=328,slow=76,SNR=527
LZH Lanzhou 31.62 272 *e*P **P 13 23 41.8 +1.9**
LZH pmax pmax
comp=Z,25nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.4s
LZH LR LR
comp=Z,420nm,11.3s
LZH LR LR
comp=Z,390nm,11.0s
LZH LR LR
comp=Z,630nm,12.3s
GTA Gaotai 33.34 280 P **P 13 23 55.5 +0.6**
GTA pP pP 13 24 08.5 -0.7
GTA sP sP 13 24 13.8 -2.1
GTA PcP **PcP 13 26 37.0 +1.4**
GTA ScS ScS 13 34 15.5 -0.4
GTA pmax pmax
comp=Z,4.0nm,0.8s
CD2 Chengdu 34.10 264 *e*P **P 13 24 00.5 -1.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,4.8s
KMI Kunming 38.11 256 P **P 13 24 37.3 +1.3**
KMI pmax pmax
comp=Z,9.0nm,0.6s
KMI pmax pmax
comp=Z,98nm,4.1s
DGZ Jazzator, Alta 39.14 301*c i*P **P 13 24 43.4 -0.8**
DGZ pmax pmax
comp=Z,6.0nm,1.0s
ZAA0 Zalesovo Array 39.99 308 *e*P **P 13 24 49.9 -1.1**
comp=Z,17nm,0.9s
ZALV Zalesovo Beam 39.99 308 P **P 13 24 51.2 +0.2**
comp=Z,15nm,0.7s,baz=87,slow=7.9,SNR=62
ZALV PcP **PcP 13 26 55.4 +0.2**
comp=Z,4.7nm,0.8s,baz=73,slow=2.3,SNR=9.3
ZALV ScP **ScP 13 30 39.0 -0.1**
comp=Z,0.5nm,0.4s,baz=64,slow=3.4,SNR=3.8
ZALV Zalesovo Beam 39.99 308 *e*P **P 13 24 49.8 -1.2**
ZALV *e*PcP **PcP 13 26 55.1 0.0**
ZALV ScP **ScP 13 30 39.0 -0.1**
WMQ Urumqi 40.50 292 *e*P **P 13 24 57.0 +1.5**
WMQ pmax pmax
comp=Z,20nm,1.1s
WMQ LR LR
comp=Z,240nm,17.1s
WMQ LR LR
comp=Z,250nm,17.5s
WMQ LR LR
comp=Z,220nm,21.1s
NVS Novosibirsk 40.77 309 *e*P **P 13 24 57.3 -0.2**
NVS Novosibirsk 40.77 309 *e*P **P 13 24 57.3 -0.2**
IM3 Indian Mountai 40.86 34 *e*P **P 13 24 58.1 0.0**
PPLA Purkeypile 41.48 38 *e*P **P 13 25 03.0 -0.4**
comp=Z,63nm,1.6s
KDAK Kodiak Island 41.66 46 P **P 13 25 04.8 +0.1**
comp=Z,45nm,1.2s,baz=106,slow=1.4,SNR=6.1
KDAK LR LR 13 42 51.3
comp=Z,73nm,21.9s,baz=137,slow=37
KDAK Kodiak Island 41.66 46 *i* P **P 13 25 06.3 +1.5**
MLY Manley 42.09 35 *e*P **P 13 25 08.4 +0.1**
comp=Z,27nm,1.5s
MCK McKinley 42.92 37 *e*P **P 13 25 15.4 +0.5**
comp=Z,21nm,1.2s
MCK McKinley 42.92 37 *e*P **P 13 25 15.5 +0.5**
MCK McKinley 42.92 37 *e*P **P 13 25 15.5 +0.5**
MCK pmax pmax
comp=Z,21nm,1.2s

MDM Murphy Dome 43.16 35 *e*P **P 13 25 17.6 +0.7**
comp=Z,27nm,1.4s
MK31 Makanchi Array 43.20 298 *e*P **P 13 25 17.3 -0.2**
MK31 Makanchi Array 43.20 298 *e*P **P 13 25 17.3 -0.2**
MKAR Makanchi Array 43.20 298 P **P 13 25 17.6 +0.1**
comp=Z,4.1nm,0.6s,baz=83,slow=9.7,SNR=34
MKAR PcP **PcP 13 27 05.5 -0.4**
comp=Z,1.5nm,0.7s,baz=69,slow=3.3,SNR=3.4
MKAR LR LR 13 46 47.9
comp=Z,107nm,21.3s,baz=322,slow=41
MKAR Makanchi Array 43.20 298 *e*P **P 13 25 17.4 -0.1**
comp=Z,46nm,0.6s
MKAR PcP **PcP 13 27 05.5 -0.4**
MK01 Makanchi Array 43.20 298 *e*P **P 13 25 17.3 -0.2**
WRH Wood River Hil 43.24 36 *e*P **P 13 25 18.1 +0.5**
comp=Z,26nm,1.3s
TCOL CIGO, UAF Yank 43.32 35 P **P 13 25 19.2 +1.0**
baz=273,SNR=7.0
COLA College 43.32 35 *e*P **P 13 25 18.8 +0.7**
comp=Z,34nm,1.0s
COLA College 43.32 35‖ *i*P **P 13 25 19.1 +1.0**
COLA College 43.32 35*d i*P **P 13 25 19.1 +1.0**
COLA pmax pmax
comp=Z,27nm,1.0s
MAKZ Makanchi 43.40 298 *e*P **P 13 25 18.9 -0.2**
comp=Z,6.3nm,0.9s
MAKZ Makanchi 43.40 298 *e*P **P 13 25 18.9 -0.2**
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
POKR Poker Plat Res 43.49 35 P **P 13 25 20.9 +1.4**
baz=273,SNR=11
HDA Harding Lake 43.74 36 P **P 13 25 21.7 +0.1**
baz=274
IL1 Eielson Array 43.74 35 *e*P **P 13 25 21.5 -0.1**
ILAR Eielson Array 43.74 35 P **P 13 25 22.1 +0.5**
comp=Z,15nm,0.9s,baz=253,slow=5.0,SNR=70
ILB Eielson Array 43.74 35 *e*P **P 13 25 22.1 +0.5**
PRP Porcupine Done 44.26 34 *e*P **P 13 25 25.6 -0.3**
comp=Z,15nm,0.7s
KURK Kurchatov 44.39 304 *e*P **P 13 25 26.7 -0.2**
comp=Z,15nm,1.0s
KURK Kurchatov 44.39 304⇑ *e*P **P 13 25 26.7 -0.2**
KURK Kurchatov 44.39 304*c e*P **P 13 25 26.7 -0.2**
KURK pmax pmax
comp=Z,20nm,1.3s
SIJI Sorong 44.76 198 P **P 13 25 31.0 +0.8**
comp=Z,11nm,0.8s,baz=338,slow=16,SNR=3.8
CMMT Chiang Mai 44.84 252 P P 13 25 36.9 +6.0
comp=Z,7.3nm,1.0s
CHTO Chiang Mai 44.84 252 *e*P **P 13 25 30.9 0.0**
comp=Z,4.1nm,0.9s
CHTO Chiang Mai 44.84 252 *e*P **P 13 25 30.9 0.0**
CHTO Chiang Mai 44.84 252 *e*P **P 13 25 30.9 0.0**
CHTO pmax pmax
comp=Z,4.0nm,0.9s
CHTO Chiang Mai 44.84 252 P P 13 25 37.2 +6.3
comp=Z,33nm,1.1s
CMAR Chiang Mai Arr 45.08 252 P **P 13 25 34.1 +1.3**
comp=Z,1.0nm,0.8s,baz=42,slow=6.9,SNR=5.2
CMAR LR LR 13 46 08.6
comp=Z,52nm,19.2s,baz=75,slow=38
INK Inuvik 48.53 29 P **P 13 25 59.5 +0.4**
comp=Z,4.8nm,0.3s,baz=273,slow=5.3,SNR=83
INK LR LR 13 46 49.8
comp=Z,71nm,20.7s,baz=288,slow=36
INK Inuvik 48.53 29 *e*P **P 13 25 59.5 +0.4**
comp=Z,16nm,1.4s
BRVK Borovoye 48.62 309 *e*P **P 13 26 00.0 0.0**
comp=Z,5nm,1.2s
BRVK Borovoye 48.62 309 *i* P **P 13 25 59.5 -0.5**
BRVK Borovoye 48.62 309 *i* P **P 13 25 59.5 -0.5**
BRVK pmax pmax
comp=Z,19nm,1.1s
HYT Haines Junctio 48.66 40 *e*P **P 13 26 02.3 +2.0**
comp=Z,36nm,0.9s
JIRN Jiri 48.79 272 *e*P **P 13 26 02.5 +0.4**
comp=Z,14nm,0.9s
GUN Gumba 48.88 272 *e*P **P 13 26 03.1 +0.3**
comp=Z,9.4nm,0.6s
RAMN Ramite 48.88 271 *e*P **P 13 26 03.1 +0.4**
comp=Z,7.4nm,0.5s
PKI Pulchoki 49.42 272 *e*P **P 13 26 06.8 -0.1**
comp=Z,1.6nm,0.2s
AAK Ala-Archa 49.89 295 *e*P **P 13 26 09.8 -0.2**
comp=Z,1.9nm,0.8s
AAK Ala-Archa 49.89 295⇑ *e*P **P 13 26 09.5 -0.6**
AAK Ala-Archa 49.89 295*c e*P **P 13 26 09.5 -0.6**
AAK pmax pmax
comp=Z,8.0nm,2.5s
DANN Dangsing 50.21 274 *e*P **P 13 26 13.5 +0.7**
comp=Z,21nm,0.6s
KSH Kashi 50.25 291 P **P 13 26 17.0 +4.2**
KSH pP pP 13 26 28.3 +0.5
KSH PP **PP 13 28 14.0 +5.7**
KSH S **S 13 33 25.3 +4.3**
KSH sS sS 13 33 46.5 +0.5
KSH ScS **ScS 13 36 03.3 +4.5**
KSH pmax pmax
comp=Z,15nm,0.9s
KSH pmax pmax
comp=Z,370nm,6.1s
KSH LR LR
comp=Z,300nm,9.1s
KSH LR LR
comp=Z,120nm,7.7s
KSH LR LR
comp=Z,360nm,12.7s
KOLN Koldanda 50.64 274 *e*P **P 13 26 16.5 +0.5**
comp=Z,13nm,0.9s
PYUN Piuthan 50.91 274 *e*P **P 13 26 18.4 +0.4**
comp=Z,22nm,1.0s
ARSB Arslanbob 51.48 294 *e*P **P 13 26 22.2 +0.2**
comp=Z,14nm,0.8s
KK31 Karatay Array 52.33 297 *e*P **P 13 26 27.8 -0.4**
KK31 Karatay Array 52.33 297 *e*P **P 13 26 27.8 -0.4**
KKAR Karatay Array 52.33 297 *e*P **P 13 26 27.8 -0.4**
KKAR Karatay Array 52.33 297 *e*P **P 13 26 27.8 -0.4**
SVE Sverdlovsk 52.51 316‖ *e*P **P 13 26 29.5 +0.3**
SVE Sverdlovsk 52.51 316*d e*P **P 13 26 29.5 +0.3**
SVE pmax pmax
comp=Z,40nm,0.8s
DLBC Dease Lake 53.03 41 P **P 13 26 34.8 +1.7**
comp=Z,7.3nm,1.1s,baz=307,slow=5.1,SNR=4.9
DLBC PcP **PcP 13 27 40.7 -0.4**
comp=Z,2.3nm,0.9s,baz=274,slow=19,SNR=2.9
BTK Batken 53.52 294 *e*P **P 13 26 37.5 +0.4**
comp=Z,5.1nm,0.9s
BTK Batken 53.52 294 *e*P **P 13 26 37.5 +0.4**
BTK pmax pmax
comp=Z,5.0nm,0.9s
ARU Arti 53.72 317 *e*P **P 13 26 37.8 -0.3**
comp=Z,32nm,0.8s
ARU Arti 53.72 317⇑ *i*P **P 13 26 37.7 -0.4**
ARU Arti 53.72 317*c i*P **P 13 26 37.7 -0.4**
ARU 13 28 38.8
ARU S **S 13 34 08.5 +0.7**
ARU SS **SS 13 37 49.4 +0.9**
ARU pmax pmax
comp=Z,36nm,0.8s
GAR Garm 54.37 293 *e*P **P 13 26 42.9 -0.4**
comp=Z,29nm,1.3s
GAR Garm 54.37 293 *e*P **P 13 26 42.9 -0.4**
GAR pmax pmax
comp=Z,29nm,1.3s
NIL Nilore 55.02 286 *e*P **P 13 26 48.0 0.0**
comp=Z,8.8nm,0.8s
NIL Nilore 55.02 286 *e*P **P 13 26 48.0 0.0**
NIL pmax pmax
comp=Z,9.0nm,0.8s
CHGR Chuyangaron 55.33 293 *e*P **P 13 26 49.7 -0.5**
comp=Z,43nm,0.7s
SPA0 Spitsbergen Ar 55.53 349 *e*P **P 13 26 51.0 -0.1**
KBS Kingsbay 55.59 350*c e*P **P 13 26 50.7 -0.7**
KBS pmax pmax
comp=Z,114nm,1.3s
ABKAR Akbulak array 56.10 308 *e*P **P 13 26 55.4 0.0**
RES Resolute Bay 56.73 16 P **P 13 26 59.3 -0.2**
comp=Z,22nm,0.8s,baz=300,slow=7.3,SNR=47
RES Resolute Bay 56.73 16 *e*P **P 13 26 59.1 -0.4**
comp=Z,22nm,0.8s
RES Resolute Bay 56.73 16 *e*P **P 13 26 59.1 -0.4**
RES pmax pmax
comp=Z,22nm,0.8s
PRGR Permogore 57.34 326 *e*P **P 13 27 02.2 -1.8**
PRGR *e**SP **sP 13 27 25.5 -0.3**
PRGR pmax pmax

comp=Z,20nm,0.6s
KBL Kabul 57.52 289 *e*P **P 13 27 04.7 -1.3**
comp=Z,11nm,0.9s
KBL Kabul 57.52 289 *e*P **P 13 27 04.7 -1.3**
KBL pmax pmax
comp=Z,11nm,0.9s
YKW3 Yellowknife Ar 57.96 32 *e*P **P 13 27 08.5 +0.1**
comp=Z,5.4nm,1.0s
YKA Yellowknife Ar 58.00 32 P **P 13 27 08.9 +0.3**
comp=Z,2.7nm,0.7s,baz=300,slow=6.8,SNR=52
YKA PcP **PcP 13 28 00.8 +0.8**
comp=Z,0.8nm,0.7s,baz=302,slow=5.8,SNR=3.3
YKA LR LR 13 55 04.1
comp=Z,11nm,18.0s,baz=34,slow=39
YKB5 Yellowknife Ar 58.00 32 *e*P **P 13 27 08.0 -0.7**
HAMF Hammerfest 59.32 340 *e*P **P 13 27 17.6 0.0**
TULEG Thule 59.35 9 *e*P **P 13 27 16.5 -1.3**
comp=Z,14nm,0.8s
ARCES ARCESS Array B 59.59 339 P **P 13 27 19.5 -0.1**
comp=Z,2.0nm,0.4s,baz=56,slow=8.0,SNR=24
ARE0 ARCESS Array S 59.59 339 *e*P **P 13 27 19.4 -0.3**
KLMR Klimovskoe 60.26 327 *e*P **P 13 27 22.9 -1.3**
KLMR pmax pmax
comp=Z,14nm,0.9s
KLMR Klimovskoe 60.26 327 *e*P **P 13 27 23.0 -1.3**
KLMR AMP 13 27 24.6
comp=Z,14nm,0.8s
DAG Danmarks Havn 60.46 356 *i* P **P 13 27 24.5 -0.9**
DAG Danmarks Havn 60.46 356 *i* P **P 13 27 24.5 -0.9**
DAG Danmarks Havn 60.46 356 *i* P **P 13 27 24.5 -0.9**
KTK1 Kautokeino 60.55 339 *e*P **P 13 27 25.2 -0.9**
LLLB Lillooet 60.87 47 *e*P **P 13 27 29.6 +0.9**
comp=Z,13nm,1.1s
TRO Tromso 61.19 341 *e*P **P 13 27 30.4 0.0**
A04D Lummi Island 61.44 49 P **P 13 27 33.6 +1.1**
baz=303
B05A Bryant 62.03 49 P **P 13 27 37.2 +0.8**
baz=304
CTA Charters Tower 62.35 178 P **P 13 27 38.6 -0.2**
comp=Z,0.7nm,0.5s,baz=0.0,slow=10,SNR=2.2
FITZ Fitzroy Crossi 62.72 200 P **P 13 27 40.9 -0.4**
comp=Z,2.3nm,0.9s,baz=9.5,slow=6.1,SNR=2.6
WRAB Tennant Creek 62.83 190 *i* P **P 13 27 42.0 0.0**
WRAB pmax pmax
comp=Z,6.0nm,1.0s
WB2 Warramunga Arr 62.83 190 *e*P **P 13 27 41.7 -0.4**
WRA Warramunga Arr 62.84 190 P **P 13 27 41.6 -0.5**
comp=Z,2.7nm,0.8s,baz=11,slow=7.2,SNR=14
GEYT Alibeck 63.08 298 P **P 13 27 43.8 +0.1**
comp=Z,11nm,0.8s,baz=46,slow=4.3,SNR=13
GYA0B ALIBECK ARRAY 63.08 298 *e*P **P 13 27 41.3 -2.4**
comp=Z,6.8nm,0.8s
STEI Steigen 63.36 341 *e*P **P 13 27 45.2 +0.2**
LTY Liberty 63.39 49 *e*P **P 13 27 46.5 +0.8**
comp=Z,16nm,1.3s
B08A Colville Reser 63.50 48 *e*P **P 13 27 47.1 +0.7**
comp=Z,15nm,1.3s
F05D White Salmon 63.72 51 P **P 13 27 49.0 +1.2**
baz=305
E07A Sunnyside 64.25 50 *e*P **P 13 27 52.5 +1.3**
comp=Z,12nm,1.0s
C09A Chrisman Ranch 64.41 48 *e*P **P 13 27 52.6 +0.3**
comp=Z,10nm,0.9s
E08A Dider Farm, El 64.73 49 *e*P **P 13 27 54.9 +0.6**
comp=Z,10.0nm,0.9s
NEW Newport 64.76 47 *e*P **P 13 27 54.8 +0.2**
comp=Z,12nm,1.0s
NEW Newport 64.76 47 *e*P **P 13 27 54.8 +0.2**
NEW Newport 64.76 47 *e*P **P 13 27 54.8 +0.2**
NEW pmax pmax
comp=Z,12nm,1.0s
NEW Newport 64.76 47 P **P 13 27 55.5 +0.9**
baz=306,SNR=8.3
MOR8 Moi Rana 64.92 340 *e*P **P 13 27 53.9 -1.4**
FIA1 FINESS Array S 64.93 332 *e*P **P 13 27 54.5 -0.9**
comp=Z,21nm,0.8s
FINES FINESS Array B 64.93 332 P **P 13 27 55.1 -0.2**
comp=Z,15nm,0.6s,baz=46,slow=7.3,SNR=50
FINES LR LR 14 01 51.5
comp=Z,188nm,20.2s,baz=2.0,slow=41
VRH Novokhopyorsk 64.94 317 *e*P **P 13 27 54.1 -1.5**
VRH pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 64.97 323 *e*P **P 13 27 55.3 -0.4**
OBN Obninsk 64.97 323 *e*P **P 13 27 55.3 -0.4**
OBN *i* *PP **pP 13 28 09.7 -1.5**
OBN *e* 13 28 28.6
OBN *e* 13 30 18.6
OBN *e*PPP PPP 13 31 54.9
OBN pmax pmax
comp=Z,71nm,2.5s
OBN MLR MLR
comp=Z,153nm,15.0s
KONS Konsvik 65.00 341 *e*P **P 13 27 55.8 +0.1**
SUMG Summit 65.16 1 *e*P **P 13 27 57.2 0.0**
comp=Z,24nm,1.3s
SUMG Summit 65.16 1 *i* P **P 13 27 57.6 +0.4**
comp=Z,52nm,0.8s
SUMG Summit 65.16 1 *i* P **P 13 27 57.6 +0.4**
SUMG pmax pmax
comp=Z,52nm,0.8s
E09A Wood Farm, Sta 65.23 49 *e*P **P 13 27 58.6 +1.0**
comp=Z,20nm,1.0s
LPSR Galich'ya Gora 65.45 320 *e*P **P 13 27 58.7 -0.2**
LPSR pmax pmax
comp=Z,20nm,0.9s
M02C Callahan 65.49 56 P **P 13 28 00.4 +0.9**
baz=306
N02D Trinity Center 65.83 56 P **P 13 28 03.1 +1.5**
baz=306
M04C Macdoel 65.88 55 P **P 13 28 03.8 +1.7**
baz=306
WALA Waterton Lakes 65.98 45 *e*P **P 13 28 03.2 +0.6**
comp=Z,13nm,1.0s
VSR Storozhevoye 66.20 318*c i*P **P 13 28 02.9 -0.8**
VSR pmax pmax
comp=Z,11nm,0.9s
O02D Mt. Diablo Mer 66.25 57 P **P 13 28 05.5 +1.2**
baz=306
AS01 Alice Springs 66.55 190 *e*P **P 13 28 06.8 +0.6**
ASAR Alice Springs 66.56 190 P **P 13 28 07.0 +0.7**
comp=Z,1.2nm,0.8s,baz=8.6,slow=5.1,SNR=20
ASAR Alice Springs 66.56 190 P **P 13 28 07.0 +0.7**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
VSU Vasula 66.78 329*c e*P **P 13 28 07.1 -0.2**
VSU pmax pmax
comp=Z,127nm,2.5s
O03E Paynes Creek 66.78 56 P **P 13 28 08.4 +0.6**
baz=307
NSS Namsos 66.86 340 *e*P **P 13 28 08.9 +1.1**
J08A Circle Bar Ran 66.93 52 *e*P **P 13 28 09.6 +0.8**
comp=Z,11nm,1.1s
MSO Missoula 67.34 47 *e*P **P 13 28 11.9 +0.7**
comp=Z,10nm,1.0s
MSO Missoula 67.34 47 P **P 13 28 12.1 +0.9**
baz=308,SNR=7.6
ORV Oroville 67.41 57 *e*P **P 13 28 11.6 -0.1**
comp=Z,3.7nm,0.8s
ORV Oroville 67.41 57 *e*P **P 13 28 11.6 -0.1**
ORV pmax pmax
comp=Z,4.0nm,0.8s
BEKR Beckworth 67.92 56 *e*P **P 13 28 15.9 +0.8**
comp=Z,7.7nm,0.8s
FFC Flin Flon 67.95 35 *e*P **P 13 28 15.0 +0.2**
comp=Z,17nm,0.8s
FFC Flin Flon 67.95 35 *i* P **P 13 28 15.6 +0.8**
FFC Flin Flon 67.95 35 *i* P **P 13 28 15.6 +0.8**
FCC Fort Churchill 68.14 29 *e*P **P 13 28 15.6 -0.2**
comp=Z,12nm,1.1s
FCC Fort Churchill 68.14 29 *e*P **P 13 28 15.6 -0.2**
FCC Fort Churchill 68.14 29 *e*P **P 13 28 15.6 -0.2**
FCC pmax pmax
comp=Z,13nm,1.1s
TBLU Trondheim 68.34 339 *e*P **P 13 28 16.3 -0.8**
HRY Holter Researc 68.54 46 *e*P **P 13 28 19.6 +0.7**
PAHR Pah Rah Range 68.62 55 *e*P **P 13 28 20.1 +0.6**
comp=Z,7.3nm,1.0s
NCK Nalchik 68.68 310 *i* P **P 13 28 19.6 0.0**
NCK pmax pmax
comp=Z,12nm,1.2s
EGMT Eagleton 68.78 44 *e*P **P 13 28 20.8 +0.6**
comp=Z,25nm,1.0s
EGMT Eagleton 68.78 44 P **P 13 28 21.1 +0.8**
baz=310,SNR=6.2
KIV Kislovodsk 68.91 311 *e*P **P 13 28 21.8 +0.7**

comp=Z,21nm,0.7s
KIV **Kislovodsk** 68.91 311 ⇑*i*P P 13 28 22.6 +1.5
KIV **Kislovodsk** 68.91 311 *e*P P 13 28 21.6 +0.5
KIV **Kislovodsk** 68.91 311 *e*P P 13 28 21.6 +0.5
KIV pmax pmax
comp=Z,29nm,1.1s
KBZ **Khabaz** 68.93 310 P P 13 28 21.9 +0.9
comp=Z,9.2nm,0.8s,baz=64,slow=4.2,SNR=16
KBZ LR LR 14 04 38.5
comp=Z,98nm,18.7s,baz=352,slow=41
KBZ **Khabaz** 68.93 310 P P 13 28 22.0 +0.9
KBZ pmax pmax
comp=Z,9.0nm,0.8s
ZEI **Tsey** 68.95 309 *e*P P 13 28 19.7 -1.8
ZEI pmax pmax
comp=Z,6.0nm,0.8s
DLMT **Dillon** 68.99 47 *e*P P 13 28 22.8 +1.1
comp=Z,12nm,0.9s
CMB **Columbia Colle** 69.03 57 *e*P P 13 28 22.4 +0.5
comp=Z,22nm,1.8s
CMB **Columbia Colle** 69.03 57 *e*P P 13 28 22.4 +0.5
CMB pmax pmax
comp=Z,22nm,1.8s
HLID **Hailey** 69.13 50 *e*P P 13 28 23.1 +0.6
comp=Z,3.8nm,0.9s
HLID **Hailey** 69.13 50 P P 13 28 23.8 +1.2
baz=309,SNR=6.9
YERR **Yerington** 69.15 56 *e*P P 13 28 23.4 +0.7
comp=Z,10nm,0.9s
MCMT **McKenzie Canyo** 69.20 48 *e*P P 13 28 21.7 -1.3
NEY **Neytrino** 69.33 310 *i*P P 13 28 23.2 -0.6
NEY pmax pmax
comp=Z,1.0nm,1.0s
BOZ **Bozeman (W)** 69.37 47 *e*P P 13 28 24.4 +0.4
comp=Z,9.9nm,0.7s
BOZ **Bozeman (W)** 69.37 47 *e*P P 13 28 24.4 +0.4
BOZ **Bozeman (W)** 69.37 47 *e*P P 13 28 24.4 +0.4
BOZ pmax pmax
comp=Z,10.0nm,0.7s
BOZ **Bozeman (W)** 69.37 47 P P 13 28 25.1 +1.1
baz=310,SNR=6.4
DOMB **Dombas** 69.66 339 *e*P P 13 28 25.2 -0.1
KVN **Kaiserville** 69.80 55 *e*P P 13 28 27.8 +0.9
comp=Z,10nm,0.9s
NB2 **NORSAR Subarra** 69.91 338 P P 13 28 26.5 -0.4
comp=Z,3.2nm,0.5s,baz=34,slow=6.5
NB2 **NORSAR Subarra** 69.91 338 P P 13 28 26.5 -0.4
baz=34,slow=6.5
NOA **NORSAR Array B** 69.91 338 P P 13 28 26.6 -0.4
comp=Z,6.3nm,0.7s,baz=35,slow=6.2,SNR=24
NOA LR LR 14 03 22.0
comp=Z,49nm,18.1s,baz=10.0,slow=40
NV01 **Mina Array Sit** 70.07 56 *e*P P 13 28 29.2 +0.7
NVAR **Mina Array Bea** 70.07 56 P P 13 28 29.6 +1.1
comp=Z,4.8nm,0.7s,baz=288,slow=6.4,SNR=16
GNI **Garni** 70.12 306 *i*P P 13 28 27.1 -1.6
GNI pmax pmax
comp=Z,41nm,1.3s
NV11 **Mina Array Sit** 70.16 56 *e*P P 13 28 29.5 +0.5
comp=Z,0.4nm,1.1s
GCMT **Greycliff** 70.28 46 *e*P P 13 28 30.7 +1.1
YMR **Madison River** 70.33 47 *e*P P 13 28 30.8 +0.8
comp=Z,8.2nm,1.0s
YNR **Norris Junctio** 70.45 47 *e*P P 13 28 30.6 -0.2
comp=Z,5.5nm,0.9s
H17A **Grant Village** 70.72 47 P P 13 28 35.1 +2.7
baz=311
RLMT **Red Lodge** 70.94 46 *e*P P 13 28 33.9 +0.2
comp=Z,4.1nm,0.9s
RLMT **Red Lodge** 70.94 46 P P 13 28 34.6 +0.9
baz=312
FXWY **Fox Creek** 70.97 48 *e*P P 13 28 35.0 +1.1
comp=Z,9.3nm,1.1s
MOOW **Moose Ponds** 71.05 48 *e*P P 13 28 35.5 +1.1
comp=Z,15nm,1.3s
TPAW **Teton Pass** 71.10 48 *e*P P 13 28 36.1 +1.4
comp=Z,15nm,1.2s
LOHW **Long Hollow** 71.21 48 *e*P P 13 28 36.0 +0.7
comp=Z,26nm,1.9s
AKASG **Malin Array Be** 71.22 322 P P 13 28 34.5 -0.5
comp=Z,2.5nm,0.4s,baz=41,slow=6.2,SNR=11
AKBB **Malin Array Si** 71.22 322 *e*P P 13 28 34.2 -0.8
comp=Z,5.8nm,0.8s
KIEV **Kiev** 71.23 322 *e*P P 13 28 34.2 -0.9
comp=Z,5.8nm,0.8s
KIEV **Kiev** 71.23 322 ⇑*i*P P 13 28 34.3 -0.8
KIEV **Kiev** 71.23 322 *i*P P 13 28 33.5 -1.6
KIEV pmax pmax
comp=Z,5.0nm,0.9s
REDW **Red Top Meadow** 71.24 48 *e*P P 13 28 35.6 0.0
comp=Z,13nm,1.3s
DGMT **Dagmar** 71.25 41 *e*P P 13 28 35.2 0.0
comp=Z,20nm,0.8s
DGMT **Dagmar** 71.25 41 P P 13 28 35.9 +0.6
baz=314,SNR=6.3
AK11 **Malin Array Si** 71.26 322 *e*P P 13 28 34.4 -0.8
CWC **Cottonwood Cre** 71.46 57 P P 13 28 37.0 +0.1
baz=310
LAO **LASA Array** 71.46 43 P P 13 28 36.8 +0.1
baz=313
AHID **Auburn Hatcher** 71.50 49 *e*P P 13 28 36.1 -1.0
comp=Z,9.1nm,1.2s
KONO **Kongsberg** 71.51 338 *e*P P 13 28 36.9 +0.4
GRAC **Grapevine Rang** 71.55 57 P P 13 28 38.8 +1.5
baz=310,SNR=6.9
SUE **Sulen** 71.59 341 *e*P P 13 28 35.4 -1.6
R11A **Troy Canyon, C** 71.77 55 *e*P P 13 28 38.9 +0.1
comp=Z,4.1nm,1.0s
R11A **Troy Canyon, C** 71.77 55 P P 13 28 40.0 +1.2
baz=310,SNR=5.5
MPMC **Manual Prospec** 72.07 57 P P 13 28 41.7 +1.1
baz=310
FURC **Furnace Creek,** 72.20 57 P P 13 28 42.7 +1.6
baz=310
DUG **Dugway, Tooele** 72.21 52 *e*P P 13 28 42.2 +0.9
comp=Z,9.8nm,1.3s
DUG **Dugway, Tooele** 72.21 52 P P 13 28 42.4 +1.1
baz=311
TPNV **Topopah Spring** 72.27 56 *e*P P 13 28 41.7 -0.1
comp=Z,12nm,0.9s
TPNV **Topopah Spring** 72.27 56 *e*P P 13 28 41.7 -0.1
TPNV pmax pmax
comp=Z,12nm,0.9s
TPNV **Topopah Spring** 72.27 56 P P 13 28 43.0 +1.3
baz=310,SNR=6.4
LRMC **Laurel Mtn Rad** 72.32 58 P P 13 28 42.8 +0.7
baz=310
BW06 **Boulder Array** 72.35 48 *e*P P 13 28 42.5 +0.3
comp=Z,8.7nm,1.1s
BW06 **Boulder Array** 72.35 48 P P 13 28 42.9 +0.7
baz=312,SNR=7.9
PD31 **Pinedale Array** 72.35 48 *e*P P 13 28 42.6 +0.4
PDAR **Pinedale Array** 72.35 48 P P 13 28 42.7 +0.4
comp=Z,1.5nm,0.4s,baz=356,slow=1.1,SNR=38
TCUT **Toone Canyon** 72.41 50 *e*P P 13 28 42.2 -0.4
comp=Z,25nm,1.3s
EDW2 **Edwards Air Fo** 72.51 59 P P 13 28 44.1 +1.1
baz=310
GSC **Goldstone, Bar** 72.98 58 P P 13 28 47.1 +1.2
baz=310
BFSC **Mount Baldy Ra** 73.13 59 P P 13 28 48.1 +1.2
baz=310
SHPR **Sheep Range** 73.22 56 *e*P P 13 28 48.4 +1.0
comp=Z,6.7nm,0.9s
TUQ **Turquoise Moun** 73.44 57 P P 13 28 49.9 +1.2
baz=311,SNR=5.8
BBRC **Big Bear Solar** 73.58 59 P P 13 28 50.7 +1.1
baz=311
HEC **Hector,Ludlow** 73.58 58 P P 13 28 50.7 +1.2
baz=311
CCUT **Cedar City** 73.62 54 *e*P P 13 28 50.3 +0.5
comp=Z,19nm,1.8s
ULM **Lac du Bonnet** 73.76 35 P P 13 28 49.8 -0.3
comp=Z,7.8nm,0.8s,baz=314,slow=6.5,SNR=13
ULM **Lac du Bonnet** 73.76 35 *e*P P 13 28 49.9 -0.2
comp=Z,6.4nm,0.7s
MDND **Maddock** 73.86 39 *e*P P 13 28 51.1 +0.3
comp=Z,31nm,0.8s
MDND **Maddock** 73.86 39 P P 13 28 51.7 +0.9
baz=316,SNR=7.9
GMRC **Granite Mounta** 74.03 57 P P 13 28 53.2 +1.1
baz=311
LCMT **Little Creek M** 74.05 54 *e*P P 13 28 53.0 +0.8
comp=Z,6.8nm,1.1s
K22A **Casper** 74.07 46 *e*P P 13 28 52.3 0.0
comp=Z,9.4nm,1.1s
K22A **Casper** 74.07 46 P P 13 28 52.9 +0.6
baz=314
PFO **Pinyon Flats O** 74.29 59 P P 13 28 54.5 +0.8
baz=311
BELC **Belle Mtn. Jos** 74.33 58 P P 13 28 54.3 +0.4
baz=311
RSSD **Black Hills** 74.35 44 *e*P P 13 28 53.8 -0.2
comp=Z,7.1nm,0.9s
RSSD **Black Hills** 74.35 44 *e*P P 13 28 53.8 -0.2
RSSD pmax pmax
comp=Z,7.0nm,0.9s
RSSD **Black Hills** 74.35 44 P P 13 28 54.6 +0.6
baz=315
RWWY **Rawlins** 74.36 47 *e*P P 13 28 54.0 -0.1
comp=Z,18nm,1.1s
IRM **Iron Mountain** 74.76 58 P P 13 28 57.5 +1.2
baz=311
W13A **Hualapai Mount** 74.92 56 *e*P P 13 28 58.2 +0.8
comp=Z,4.7nm,0.9s
BUR08 **Bucovina Ar. S** 75.26 322 *e*P P 13 28 57.2 -1.8
BUR04 **Bucovina Ar. S** 75.27 322 *e*P P 13 28 56.9 -2.2
BURAR **Bucovina Array** 75.27 322 ⇑*i*P P 13 28 59.3 +0.2
PDMCI **Parker Dam,Lak** 75.29 57 P P 13 29 00.5 +1.3
baz=312
BIZ **Bicaz** 75.37 321 ⇓*i*P P 13 29 00.0 +0.5
Y12C **Blythe** 75.42 58 P P 13 29 01.2 +1.1
baz=312
PV21 **Cone Mtn., Par** 75.51 51 *e*P P 13 29 01.0 +0.2
comp=Z,7.2nm,0.7s
PV23 **Carter Ridg** 75.57 51 *e*P P 13 29 01.3 +0.2
comp=Z,7.4nm,0.9s
N23A **Red Feather La** 75.60 47 *e*P P 13 29 01.3 +0.1
comp=Z,12nm,1.1s
N23A **Red Feather La** 75.60 47 P P 13 29 02.3 +1.0
baz=314
PV10 **Paradox Valley** 75.60 51 *e*P P 13 29 01.6 +0.3
OJC **Ojcow** 75.61 327 *e*P P 13 29 00.8 0.0
comp=Z,6.9nm,0.8s
OJC **Ojcow** 75.61 327 *e*P P 13 29 00.8 0.0
OJC **Ojcow** 75.61 327 *e*P P 13 29 00.8 0.0
OJC pmax pmax
comp=Z,7.0nm,0.8s
PV19 **Morning Glory** 75.68 51 *e*P P 13 29 01.2 -0.5
comp=Z,10nm,1.1s
GLA **Glamis** 75.69 58 P P 13 29 03.0 +1.3
baz=312
CFR **Carcaliu** 75.70 319 ⇑*i*P P 13 29 01.4 0.0
PV17 **East Wray Mesa** 75.71 51 *e*P P 13 29 02.4 +0.5
comp=Z,15nm,0.9s
PV11 **David Mesa, Pa** 75.75 51 *e*P P 13 29 02.4 +0.2
comp=Z,26nm,1.4s
PV05 **Paradox Valley** 75.77 51 *e*P P 13 29 02.1 -0.1
PV03 **Paradox Valley** 75.79 51 *e*P P 13 29 03.1 +0.7
VRI **Vrincioaia** 75.87 320 ⇑*i*P P 13 29 02.2 -0.2
PV13 **Radium Mtn., P** 75.88 51 *e*P P 13 29 03.1 +0.2
comp=Z,8.8nm,0.9s
TRPA **Tarpa** 76.07 324 ⇓*i*P P 13 29 02.9 -0.6
OZUR 76.14 321 ⇑*i*P P 13 29 04.7 +0.7
WUAZ **Wupatki** 76.17 54 P P 13 29 06.1 +1.6
baz=313
Y14A **Wickenburg** 76.24 57 *e*P P 13 29 05.6 +0.8
comp=Z,7.6nm,0.9s
ISCO **Idaho Springs** 76.54 48 *e*P P 13 29 07.3 +0.6
comp=Z,4.4nm,1.0s
ISCO **Idaho Springs** 76.54 48 *e*P P 13 29 07.3 +0.6
ISCO pmax pmax
comp=Z,4.0nm,1.0s
ISCO **Idaho Springs** 76.54 48 P P 13 29 07.4 +0.7
baz=315
SUSD **Miller** 76.66 41 P P 13 29 07.8 +0.8
baz=318
BRTR **Keskin Array B** 76.75 312 P P 13 29 08.0 +0.3
comp=Z,1.3nm,0.7s,baz=44,slow=3.8,SNR=5.1
MORC **Moravsky Berou** 76.86 328 *e*P P 13 29 08.2 +0.2
comp=Z,5.5nm,0.9s
MORC **Moravsky Berou** 76.86 328 ⇑*i*P P 13 29 06.9 -1.1
MORC **Moravsky Berou** 76.86 328 *e*P P 13 29 08.2 +0.2
MORC pmax pmax
comp=Z,6.0nm,0.9s
X16A **Lo Mia Camp, P** 76.87 55 *e*P P 13 29 10.0 +1.5
comp=Z,8.2nm,0.9s
DPC **Dobruska-Polom** 76.88 329 *e*P P 13 29 08.9 +0.8
DPC **Dobruska-Polom** 76.88 329 *e*P P 13 29 08.9 +0.8
VOIR 76.98 321 ⇑*i*P P 13 29 09.3 +0.5
ARR **Arges** 77.22 321 ⇑*i*P P 13 29 10.1 0.0
S22A **4UR Ranch, Cre** 77.30 50 P P 13 29 12.2 +1.3
baz=314
CLL **Collm** 77.33 331 *e*P P 13 29 10.0 -0.5
comp=Z,5.0nm,0.7s
CLL *e*pP pP 13 29 27.0 +0.6
CLL **Collm** 77.33 331 *e*P P 13 29 10.0 -0.5
CLL **Collm** 77.33 331 *e*P P 13 29 10.0 -0.5
CLL *e**PP pP 13 29 27.0 +0.6
CLL pmax pmax
comp=Z,5.0nm,0.7s
BRG **Berggiesshubel** 77.35 330 *e*P P 13 29 14.3 +3.6
comp=Z,3.9nm,0.8s
BRG **Berggiesshubel** 77.35 330 *e*P P 13 29 14.3 +3.7
BRG pmax pmax
comp=Z,4.0nm,0.8s
EYMN **Ely** 77.38 35 *e*P P 13 29 10.7 -0.2
comp=Z,14nm,0.8s
EYMN **Ely** 77.38 35 P P 13 29 11.1 +0.2
baz=321
VRAC **Vranov** 77.61 328 ⇑*i*P P 13 29 11.1 -1.1
OGNE **Ogallala** 77.65 45 *e*P P 13 29 12.9 +0.3
comp=Z,24nm,1.0s
OGNE **Ogallala** 77.65 45 P P 13 29 13.2 +0.5
baz=316,SNR=5.8
214A **Organ Pipe Nat** 77.69 58 P P 13 29 13.8 +0.9
baz=313
GOPC **GO Pecny, Ondr** 77.82 329 *e*P P 13 29 14.0 +0.7
GOPC **GO Pecny, Ondr** 77.82 329 *e*P P 13 29 14.0 +0.7
PRU **Pruhonice** 77.85 329 *e*P P 13 29 14.1 +0.7
PRU **Pruhonice** 77.85 329 *e*P P 13 29 14.1 +0.7
PRU **Pruhonice** 77.85 329 *e*P P 13 29 14.1 +0.7
SDCO **Great Sand Dun** 78.05 49 *e*P P 13 29 15.6 +0.4
comp=Z,5.0nm,1.3s
SDCO **Great Sand Dun** 78.05 49 P P 13 29 15.7 +0.6
baz=315
ECSD **EROS Data Cent** 78.31 40 *e*P P 13 29 15.9 -0.2
comp=Z,12nm,1.0s
ECSD **EROS Data Cent** 78.31 40 P P 13 29 16.2 +0.1
baz=319,SNR=9.3
E38A **The Farm, Brul** 78.40 36 *e*P P 13 29 15.9 -0.7
comp=Z,18nm,1.0s
E38A **The Farm, Brul** 78.40 36 P P 13 29 16.3 -0.3
baz=322,SNR=5.8
TUC **Tucson** 78.71 56 *e*P P 13 29 18.9 +0.3
comp=Z,5.4nm,1.1s
TUC **Tucson** 78.71 56 *e*P P 13 29 18.9 +0.3
TUC pmax pmax
comp=Z,5.0nm,1.1s
TUC **Tucson** 78.71 56 P P 13 29 19.9 +1.3
baz=314
F38A **Pierce - Schro** 78.77 36 P P 13 29 18.8 +0.2
baz=322,SNR=6.4
KHC **Kasperske Hory** 78.91 329 *e*P P 13 29 19.6 +0.2
KHC *e*PCP PcP 13 29 30.1 +2.2
KHC **Kasperske Hory** 78.91 329 *e*P P 13 29 19.6 +0.2
KHC **Kasperske Hory** 78.91 329 *e*P P 13 29 19.6 +0.2
KHC *e* 13 29 30.1
SPMN **Marine on St.** 78.93 37 P P 13 29 19.6 +0.1
baz=321
E39A **Mellen** 79.01 35 P P 13 29 19.8 -0.1
baz=322,SNR=6.5
CONA **Conrad Observa** 79.01 327 P P 13 29 18.8 -1.2
comp=Z,4.9nm,1.0s
T25A **Trinidad** 79.09 49 *e*P P 13 29 21.3 +0.5
comp=Z,7.5nm,0.9s
T25A **Trinidad** 79.09 49 P P 13 29 21.5 +0.7
baz=316,SNR=6.4
GERES **GERESS Array B** 79.10 329 P P 13 29 20.0 -0.5
comp=Z,1.0nm,0.5s,baz=32,slow=5.3,SNR=5.1
F39A **Loretta** 79.22 36 P P 13 29 21.1 0.0
baz=322
D41A **Chassel** 79.30 34 P P 13 29 21.8 +0.3
baz=323
G38A **Ridgeland** 79.40 37 P P 13 29 21.0 -1.0
baz=322
SCHQ **Schefferville** 79.45 18 P P 13 29 22.0 -0.2
comp=Z,7.6nm,0.9s,baz=349,slow=4.7,SNR=7.3
LAZ **Ladron** 79.45 53 *e*P P 13 29 24.4 +1.5
ANMO **Albuquerque** 79.47 52 *e*P P 13 29 23.3 +0.4
comp=Z,6.3nm,1.1s
ANMO **Albuquerque** 79.47 52 *ce*P P 13 29 24.0 +1.1
ANMO pmax pmax
comp=Z,7.0nm,1.3s
ANMO **Albuquerque** 79.47 52 P P 13 29 24.1 +1.2
baz=315
F40A **Park Falls** 79.56 35 P P 13 29 23.2 +0.3
baz=322
G39A **Holcombe** 79.60 36 P P 13 29 22.7 -0.5
baz=322
E41A **Kenton** 79.61 34 P P 13 29 22.9 -0.3
baz=323
ARSA **Arzberg** 79.69 327 *e*P P 13 29 22.7 -1.0
comp=Z,0.2nm,0.3s
H39A **Augusta** 80.03 37 P P 13 29 24.9 -0.6
baz=322
G40A **Rib Lake** 80.04 36 P P 13 29 25.4 -0.1
baz=323
E42A **Champion** 80.07 34 P P 13 29 25.2 -0.5
baz=324
F41A **Three Lakes** 80.13 35 *e*P P 13 29 26.0 -0.1
comp=Z,14nm,1.0s
F41A **Three Lakes** 80.13 35 P P 13 29 25.9 -0.1
baz=323
SOKA **Soboth** 80.35 327 *i*P P 13 29 25.5 -1.8
comp=Z,6.8nm,0.8s
121A **Cookes Peak, D** 80.38 55 P P 13 29 28.9 +1.1
baz=315
CBKS **Cedar Bluff** 80.41 45 P P 13 29 27.5 -0.2
baz=318
H40A **Chili** 80.47 36 P P 13 29 27.8 0.0
baz=322
E43A **Lone Tree Farm** 80.49 33 P P 13 29 28.0 +0.1
baz=324
I39A **Houston** 80.57 37 P P 13 29 28.2 -0.2
baz=322
KBA **Koelnbreinsper** 80.69 328 *i*P P 13 29 25.8 -3.4
comp=Z,15nm,1.6s
H41A **Junction City** 80.79 36 P P 13 29 29.6 0.0
baz=323
F43A **Flat Rock, Esc** 80.86 34 P P 13 29 29.9 0.0
baz=324
J39A **Decorah** 80.90 38 P P 13 29 29.5 -0.7
baz=322
I40A **Norwalk** 80.95 37 P P 13 29 30.1 -0.3
baz=322
MATQ **Matagami** 81.05 26 P P 13 29 30.5 -0.4
baz=330
G43A **Wallace** 81.11 34 P P 13 29 30.9 -0.4
baz=324
D46A **Sault St. Mari** 81.23 31 P P 13 29 31.0 -0.9
baz=326
K39A **Oelwein** 81.31 38 P P 13 29 31.7 -0.6
baz=322
SCIA **State Center** 81.32 39 *e*P P 13 29 32.4 -0.1
SCIA **State Center** 81.32 39 P P 13 29 33.1 +0.6
baz=321
MOTA **Moosalm** 81.32 330 *i*P P 13 29 30.8 -1.7
comp=Z,4.3nm,0.5s
RETA **Reutte** 81.33 330 *i*P P 13 29 28.8 -3.6
comp=Z,5.1nm,0.8s
D47A **Chapleau** 81.44 31 P P 13 29 32.8 -0.2
baz=327
J41A **Loganville** 81.63 37 P P 13 29 33.7 -0.3
baz=323
K40A **Colesburg** 81.66 38 P P 13 29 33.8 -0.4
baz=322
I42A **Draeger Farm,** 81.69 36 P P 13 29 34.4 0.0
baz=324
H43A **Windswept, Lux** 81.71 35 P P 13 29 35.1 +0.7
baz=324
L39A **Vinton** 81.72 39 P P 13 29 34.6 +0.1
baz=322,SNR=5.4
FETA **Feichten** 81.73 330 *i*P P 13 29 31.7 -3.0
comp=Z,5.7nm,1.1s
KSU1 **Kansas State U** 81.81 43 P P 13 29 34.9 -0.2
baz=320
DAVA **Damuels** 81.82 330 *i*P P 13 29 33.3 -1.9
comp=Z,6.7nm,0.9s
LSQQ **Lebel-sur-Quev** 81.87 26 P P 13 29 35.3 +0.1
baz=331
F46A **Macinaw City C** 81.87 32 P P 13 29 35.1 -0.2
baz=326
E47A **Iron Bridge** 81.88 31 P P 13 29 34.9 -0.4
baz=327
JFWS **Jewell Farm** 81.89 37 P P 13 29 35.5 +0.1
baz=323
D49A **Beulah Townshi** 81.91 29 P P 13 29 34.9 -0.6
baz=328
CHGQ **Chibougamau** 81.93 24 P P 13 29 35.2 -0.3
baz=332
J42A **Columbus** 82.06 36 P P 13 29 36.1 -0.2
baz=323
K41A **Shullsburg** 82.10 37 P P 13 29 36.2 -0.3
baz=323
L40A **Anamosa** 82.12 38 P P 13 29 36.7 +0.1
baz=322
M39A **Webster** 82.14 39 P P 13 29 36.9 +0.1
baz=322,SNR=6.0
FUORN **Ofenpass-Fuorn** 82.24 330 *e*P P 13 29 36.2 -1.3
comp=Z,8.1nm,0.8s
AMTX **Amarillo** 82.25 49 P P 13 29 38.3 +0.7
baz=317
K42A **Prairie Point,** 82.39 37 P P 13 29 37.6 -0.4
baz=323
L41A **Preston** 82.44 38 P P 13 29 38.0 -0.3
baz=323
M40A **Post Highland** 82.50 39 P P 13 29 38.5 -0.2
baz=322
VLDQ **Val d'Or** 82.54 27 *e*P P 13 29 37.4 -1.2
comp=Z,25nm,0.9s
N40A **Mertzuake, Sal** 82.88 39 P P 13 29 41.2 +0.5
baz=322
E51A **G1948 Merrick** 83.20 29 P P 13 29 41.6 -0.6
baz=329
N41A **Harden Midland** 83.36 39 P P 13 29 43.3 +0.2
baz=323
L44A **Lake County Fo** 83.51 36 P P 13 29 43.9 +0.1
baz=324
J46A **Howard City** 83.52 34 P P 13 29 44.4 +0.5
baz=326
N42A **Yates City** 83.64 38 P P 13 29 44.6 +0.1
baz=323
D54A **Lac Fusel, La** 83.64 27 P P 13 29 43.7 -0.7
baz=331
E52A **Mattawa** 83.71 28 P P 13 29 44.3 -0.4
baz=330
O41A **Passleys Farm,** 83.82 39 P P 13 29 44.5 -0.9
baz=323
F52A **Sundridge** 83.90 29 P P 13 29 45.2 -0.6
baz=329
J47A **Sunmer** 83.95 34 P P 13 29 45.7 -0.4
baz=326
WMOK **Wichita Mounta** 83.95 48 *e*P P 13 29 46.3 0.0
comp=Z,4.7nm,1.0s
WMOK **Wichita Mounta** 83.95 48 *e*P P 13 29 46.3 0.0
WMOK pmax pmax
comp=Z,5.0nm,1.0s
WMOK **Wichita Mounta** 83.95 48 P P 13 29 46.7 +0.4
baz=319,SNR=5.2
K46A **Dorr** 84.00 35 P P 13 29 46.7 +0.3
baz=326
P41A **Barry, Barry** 84.08 40 P P 13 29 47.1 +0.3
baz=323
M44A **Midewin, Midew** 84.09 37 P P 13 29 47.1 +0.3
baz=324
ALGO **Algonquin Park** 84.21 28 P P 13 29 46.9 -0.5
baz=330
BMRO **Meriville Lake** 84.23 31 P P 13 29 47.3 -0.2
baz=328
J48A **Bridge Port** 84.32 33 P P 13 29 49.7 +1.8
baz=327
P42A **Winchester** 84.49 39 P P 13 29 49.2 +0.3
baz=323
Q41A **Truxton** 84.57 40 P P 13 29 49.8 +0.5
baz=322,SNR=5.1
K48A **Perry** 84.59 33 P P 13 29 49.8 +0.4
baz=326
TUL1 **Leonard** 84.66 45 P P 13 29 50.7 +0.9
baz=320
BWLO **Walkerton** 84.66 31 P P 13 29 49.7 0.0
baz=328
G53A **Haliburton** 84.73 29 P P 13 29 49.8 -0.2
baz=330
PEMO **Pembroke** 84.73 28 P P 13 29 49.4 -0.6
baz=331
M46A **Old House Fiel** 84.81 36 P P 13 29 50.2 -0.2
baz=325
L47A **Sherwood** 84.83 35 P P 13 29 49.7 -0.8
baz=326
Q42A **Golden Eagle** 84.94 40 P P 13 29 51.7 +0.6

baz=323
I51A **Listowel** 84.97 31 P P 13 29 51.8 +0.6
baz=328
R41A **Rosebud** 85.02 41 P P 13 29 52.1 +0.6
baz=322
ABTX **Abilene, Hawle** 85.05 49 P P 13 29 52.8 +0.9
baz=318
BANO **Bancroft** 85.06 28 P P 13 29 51.8 +0.1
baz=330
TX31 **Lajitas Ar. Si** 85.13 54 eP P 13 29 52.8 +0.4
TXAR **Lajitas Array** 85.13 54 P P 13 29 53.2 +0.7
comp=Z,4.6nm,0.8s,baz=293,slow=3.4,SNR=44
TRQ **Mont Tremblant** 85.15 26 eP P 13 29 51.7 -0.5
L48A **N Adams** 85.18 34 P P 13 29 52.5 +0.2
baz=326
CCM **Cathedral Cave** 85.28 41 eP P 13 29 52.8 0.0
comp=Z,11nm,0.8s
CCM **Cathedral Cave** 85.28 41 eP P 13 29 52.8 0.0
CCM pmax pmax
comp=Z,11nm,0.8s
CCM **Cathedral Cave** 85.28 41 P P 13 29 53.2 +0.3
baz=322
G55A **Calabogie** 85.28 28 P P 13 29 52.3 -0.5
baz=331
R42A **Luebbering** 85.31 40 P P 13 29 53.5 +0.4
baz=323
L49A **Milan** 85.32 34 P P 13 29 53.5 +0.5
baz=327
PLVO **Plevna** 85.34 28 P P 13 29 52.8 -0.2
baz=331
ELFO **Elginfield** 85.38 32 P P 13 29 53.7 +0.4
baz=328
P44A **Sand Creek, Wi** 85.38 38 P P 13 29 54.0 +0.6
baz=324
S41A **Jillco Farms,** 85.40 41 P P 13 29 53.7 +0.2
baz=322
ORIO **Orleans, Innes** 85.52 27 P P 13 29 53.4 -0.4
baz=332
N47A **Urbana** 85.53 36 P P 13 29 54.0 0.0
baz=326
ALFO **Alfred** 85.57 26 P P 13 29 53.7 -0.4
baz=332
DELO **Deloro Mine** 85.61 29 P P 13 29 54.2 -0.2
baz=330
Q44A **Meyer Farm, Va** 85.65 39 P P 13 29 54.8 +0.1
baz=324
J52A **Paris** 85.66 31 P P 13 29 54.5 -0.2
baz=329
S42A **Caledonia** 85.72 41 P P 13 29 55.5 +0.4
baz=323
H55A **Tweed** 85.73 28 P P 13 29 54.8 -0.2
baz=331
M49A **Liberty Center** 85.76 34 P P 13 29 55.3 +0.1
baz=327
L50A **Kingsville** 85.76 33 P P 13 29 55.1 0.0
baz=327
DRCO **St. Marys Ceme** 85.78 30 P P 13 29 55.5 +0.3
baz=330
U40A **Yellville** 85.82 43 P P 13 29 55.7 +0.1
baz=322,SNR=7.6
T41A **Mountain View** 85.82 42 P P 13 29 55.2 -0.4
baz=322
N48A **Decatur** 85.83 35 P P 13 29 55.3 -0.2
baz=326
O47A **Sheridan** 85.85 36 P P 13 29 55.4 -0.2
baz=325
P46A **Rosedale** 85.90 37 P P 13 29 55.9 0.0
baz=325
K52A **Tillsonburg** 85.96 31 P P 13 29 56.6 +0.4
baz=329
H56A **Elgin** 86.02 28 P P 13 29 55.9 -0.4
baz=331
Q45A **Warren Harvey,** 86.05 38 P P 13 29 57.2 +0.5
baz=324
N49A **Columbus Grove** 86.13 35 P P 13 29 57.2 +0.1
baz=327
T42A **Van Buren** 86.16 41 eP P 13 29 56.3 -0.9
comp=Z,5.2nm,0.8s
T42A **Van Buren** 86.16 41 P P 13 29 57.1 -0.1
baz=323
S43A **Fulton Ridge,** 86.22 40 P P 13 29 57.3 -0.2
baz=323
W39A **Magazine** 86.25 44 P P 13 29 58.0 +0.3
baz=321
U41A **Viola** 86.30 42 P P 13 29 58.3 +0.4
baz=322
R45A **Skylar, Fairfi** 86.48 39 P P 13 29 58.9 +0.1
baz=324
T43A **Greenville** 86.51 41 P P 13 29 59.3 +0.3
baz=323
S44A **Carbondale** 86.51 40 P P 13 29 59.4 +0.4
baz=326
JCT **Junction City** 86.56 51 eP P 13 30 00.1 +0.7
comp=Z,3.1nm,0.4s
JCT **Junction City** 86.56 51 eP P 13 30 00.1 +0.7
JCT pmax pmax
comp=Z,3.0nm,0.4s
JCT **Junction City** 86.56 51 P P 13 30 00.0 +0.7
baz=318
V41A **Mountainview** 86.62 43 P P 13 29 59.6 0.0
baz=322
U42A **Revenden** 86.63 42 P P 13 29 59.6 0.0
baz=323
MOQ **Mont Orford** 86.69 25 eP P 13 29 58.4 -1.3
M52A **Chesterland** 86.77 32 P P 13 30 00.4 +0.3
baz=328
Q47A **Bedord North L** 86.80 37 P P 13 30 00.3 -0.1
baz=325
P48A **Milroy** 86.81 36 P P 13 30 00.3 -0.1
baz=326
L53A **Girard** 86.84 32 P P 13 30 00.8 +0.3
baz=329
MIAR **Mount Ida** 86.86 44 eP P 13 30 00.3 -0.4
MIAR **Mount Ida** 86.86 44 eP P 13 30 00.3 -0.4
MIAR pmax pmax
comp=Z,8.0nm,0.8s
MIAR **Mount Ida** 86.86 44 P P 13 30 01.2 +0.4
baz=321
N51A **Ashland** 86.88 33 P P 13 30 00.7 0.0
baz=328
WHAR **Wooly Hollow** 86.94 43 eP P 13 30 00.8 -0.2
comp=Z,14nm,0.9s
V42A **Cord** 86.98 42 P P 13 30 01.1 -0.2
baz=323
O50A **Cable** 87.02 35 P P 13 30 01.8 +0.4
baz=327
U43A **Rector** 87.02 41 P P 13 30 01.4 -0.1
baz=323
W41B **Gary Mavity, V** 87.05 43 P P 13 30 01.8 +0.2
baz=322
P49A **Miami Univ. Ec** 87.06 36 P P 13 30 01.5 -0.1
baz=326
Q48A **North Vernon** 87.12 37 P P 13 30 02.0 +0.2
baz=326
M53A **WI Miller and** 87.12 32 P P 13 30 01.7 -0.2
baz=329
ACSO **Alum Creek Sta** 87.21 34 P P 13 30 02.7 +0.3
baz=327
R47A **Wooly Knot Far** 87.28 38 P P 13 30 03.0 +0.3
baz=325
X40A **Basin Creek Fa** 87.29 44 P P 13 30 03.3 +0.5
baz=322
P50A **Jamestown** 87.39 35 P P 13 30 03.5 +0.3
baz=327
WCI **Wyandotte Cave** 87.44 37 P P 13 30 03.6 +0.2
baz=325
M54A **Oil Creek Stat** 87.45 31 P P 13 30 03.3 -0.2
baz=329
N53A **Lisbon** 87.60 32 P P 13 30 04.4 +0.2
baz=329
T46A **Princeton** 87.68 39 P P 13 30 05.2 +0.6
baz=324
O52A **Adamsville** 87.78 34 P P 13 30 05.3 +0.2
baz=328
N54A **Moraine State** 87.80 32 P P 13 30 05.8 +0.6
baz=329
P51A **Williamsport** 87.81 35 P P 13 30 05.2 0.0
baz=327
U45A **Rockin P Farm,** 87.83 40 P P 13 30 05.9 +0.6
baz=324
O53A **New Philadelph** 87.92 33 P P 13 30 05.7 0.0
baz=328
Q50A **Georgetown** 87.95 36 P P 13 30 06.1 +0.2
baz=327
S48A **Wiedeman Farm,** 88.02 38 P P 13 30 06.5 +0.3
baz=326
P52A **Corning** 88.07 34 P P 13 30 06.5 +0.1
baz=328
Q51A **Peebles** 88.07 35 eP P 13 30 06.7 +0.2
comp=Z,20nm,0.8s
Q51A **Peebles** 88.07 35 P P 13 30 06.8 +0.3
baz=327,SNR=5.0
T47A **Sharon Grove** 88.09 39 P P 13 30 07.4 +0.9
baz=325
S49A **Springfield** 88.26 37 P P 13 30 07.9 +0.5
baz=326
R50A **Paris** 88.27 36 P P 13 30 07.9 +0.5
baz=326
O54A **Avella** 88.31 33 P P 13 30 08.1 +0.5
baz=329
N55A **Marion Center** 88.34 31 P P 13 30 08.2 +0.5
baz=330
U47A **Clarksville** 88.45 39 P P 13 30 08.6 +0.3
baz=325
WVT **Waverly** 88.45 40 P P 13 30 08.6 +0.3
baz=324
P53A **Whipple** 88.50 34 P P 13 30 08.7 +0.2
baz=328
V46A **Holladay** 88.58 40 P P 13 30 09.1 +0.2
baz=324
T49A **Edmonton** 88.71 38 P P 13 30 09.9 +0.4
baz=326
O55A **Ligonier** 88.71 32 P P 13 30 09.8 +0.3
baz=330
S50A **Richmond** 88.74 37 P P 13 30 09.9 +0.3
baz=326
U48A **Cassie Pea, Po** 88.74 39 P P 13 30 10.0 +0.3
baz=325
P54A **Burton** 88.77 33 P P 13 30 10.5 +0.7
baz=329
V47A **Nunnelly** 88.84 40 P P 13 30 10.7 +0.5
baz=325
SSPA **Standing Stone** 88.88 31 P P 13 30 10.9 +0.6
baz=330
O56A **Blue Knob Stat** 88.94 31 eP P 13 30 10.6 -0.1
comp=Z,15nm,0.8s
O56A **Blue Knob Stat** 88.94 31 P P 13 30 11.1 +0.4
baz=330
U49A **Red Boiling Sp** 89.08 38 P P 13 30 11.7 +0.4
baz=326
T50A **Nancy** 89.09 37 P P 13 30 11.6 +0.3
baz=326
P55A **Reedsville** 89.11 33 P P 13 30 11.6 +0.3
baz=329
S51A **Beattyville** 89.12 36 P P 13 30 11.8 +0.4
baz=327
V48A **Smith Brothers** 89.24 39 P P 13 30 12.4 +0.4
baz=325
W47A **Westpoint** 89.27 40 P P 13 30 12.6 +0.4
baz=325
N59A **State Game Lan** 89.42 29 eP P 13 30 13.2 +0.4
comp=Z,27nm,1.2s
N59A **State Game Lan** 89.42 29 P P 13 30 13.5 +0.7
baz=332
HRV **Adam Dziewonsk** 89.43 26 P P 13 30 13.3 +0.6
baz=335
Y45A **Yeager Farm, C** 89.44 42 P P 13 30 13.8 +0.8
baz=324
T51A **Gray** 89.53 37 P P 13 30 13.5 +0.1
baz=327
U50A **Jamestown** 89.59 38 P P 13 30 13.8 +0.1
baz=326
V49A **McMinnville** 89.64 39 P P 13 30 14.1 +0.2
baz=326
W48A **Pulaski** 89.67 40 P P 13 30 14.6 +0.5
baz=325
U51A **La Follette** 89.99 37 P P 13 30 15.8 +0.2
baz=327
W49A **Belvidere** 90.00 39 P P 13 30 16.0 +0.4
baz=325
TZTN **Tazewell** 90.06 37 P P 13 30 16.1 +0.2
baz=327
V50A **Pikevile** 90.09 38 P P 13 30 16.3 +0.3
baz=326
U52A **Thorn Hill** 90.26 37 P P 13 30 17.5 +0.7
baz=327
V52A **Sevierville** 90.62 37 P P 13 30 18.5 0.0
baz=326
Z50A **Ashland** 91.70 40 P P 13 30 23.8 +0.3
baz=326
X53A **Estanollee** 91.87 38 P P 13 30 25.8 +1.5
baz=327
Y54A **Tignall** 92.69 37 P P 13 30 28.5 +0.5
baz=328
ESDC **Sonseca Array** 93.20 336 P P 13 30 29.9 -0.5
comp=Z,0.2nm,0.4s,baz=5.6,slow=4.6,SNR=3.9
TORD **Torodi Ar. Bea** 114.74 319 PP PP 13 36 50.8 -3.5
comp=Z,3.1nm,1.1s,baz=43,slow=6.4,SNR=10
LPAZ **La Paz** 141.97 56 PKP PKPdf 13 36 49.0 +0.2
comp=Z,1.3nm,0.9s,baz=180,slow=3.5,SNR=4.1
LPAZ **La Paz** 141.97 56 PKIKP PKPdf 13 36 49.0 +0.2
LPAZ pmax pmax
comp=Z,1.0nm,0.9s
PB01 **IPOC Station P** 144.60 63 ePKPdf PKPdf 13 36 52.4 -0.3
LVC **Limon Verde** 146.08 65 PKPbc PKPbc 13 36 56.8 +0.3
comp=Z,8.5nm,0.7s,baz=272,slow=5.5,SNR=5.9
LVC **Limon Verde** 146.08 65 ePKPbc PKPab 13 36 57.0 -0.1
SNAA **Sanae** 146.64 198 PKPbc PKPab 13 36 57.1 -0.4
comp=Z,1.9nm,0.8s,baz=184,slow=14,SNR=3.5
BDFB **Brasilia** 151.22 25 PKPbc PKPbc 13 37 09.8 +0.2
comp=Z,4.7nm,0.7s,baz=333,slow=3.0,SNR=6.5
PLCA **Paso Flores** 154.10 98 PKPab PKPab 13 37 29.9 +0.6
comp=Z,1.3nm,0.9s,baz=325,slow=8.9,SNR=3.4
USHA **Ushuaia** 155.47 131 PKP PKPdf 13 37 07.9 -0.5
comp=Z,7.0nm,0.9s,baz=256,slow=7.7,SNR=3.2
CPUP **Villa Florida** 156.11 54 PKPab PKPab 13 37 38.1 +0.1
comp=Z,3.2nm,1.2s,baz=1.5,slow=6.6,SNR=3.6

MEX 29 13:22:41.7±0.6, 16°25N×97°99W, h6km±5km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	0.19	316	eP	Pg	13 22 45.1	-0.4
PNIG				*i* S	Sg	13 22 48.3	+0.1
VHO	**Vista Hermosa**	1.45	56	eP	Pn	13 23 05.5	-3.2
VHO				eS	Sb	13 23 23.4	-4.7
CAIG	**El Cayaco**	2.32	290	eP	Pn	13 23 17.7	-2.7
CAIG				*i* S	Sn	13 23 44.4	-4.9

LJU 29 13:27:53.7, 45°85N×15°88E, h0km, ML0.7, 2C Artificial, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GCIS	**Gornji Cirnik**	0.18	275	*i* Pg	Pg	13 27 57.6	+0.5
GCIS				*i* Sg	Sg	13 28 00.2	+0.8
	comp=Z,5.0nm,0.1s						
GOLS	**Golise**	0.24	311	*i* Pg	Pg	13 27 58.5	+0.2
GOLS				*i* Sg	Sg	13 28 02.0	+0.6
	comp=Z,7.0nm,0.1s						
CRES	**Cresnjev**	0.30	265	*i* Pg	Pg	13 27 59.7	+0.3
CRES				*i* Sg	Sg	13 28 03.5	+0.3
	comp=Z,5.0nm,0.1s						
OZLJ	**Ozalj**	0.38	231	*i* Pg	Pg	13 28 01.2	+0.3
OZLJ				Sg	Sg	13 28 06.2	+0.5
LEGS	**Legarje**	0.41	284	*i* Pg	Pg	13 28 01.9	+0.4
LEGS				*i* Sg	Sg	13 28 07.5	+0.8
DOBS	**Dobrina**	0.41	316	*i* Pg	Pg	13 28 02.1	+0.4
DOBS				*i* Sg	Sg	13 28 06.8	-0.2
	comp=Z,3.0nm,0.1s						

*IDC **29** 13:28:52.1±0.6, 16°10S×174°81W, h0km, mb4.2/17, mb1 4.4/18, mb1mx4.3/39, mbtmp4.2/18, ML3.5/1, MS4.3/23, Ms1 4.2/23, ms1mx4.2/27, Error ellipse: s-maj=23.6km s-min=15.3km az=130.0*

*GCMT **29** 13:28:59.7±0.2, 15°.84S±0°.01×174°.60W±0°.01, h12km, MW5.0/100, Moment Tensor Solution. s43,c58; s100,c154; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.05±.10; Mθθ-3.08±.09; Mϕϕ3.04±.07; Mrθ-0.02±.24; Mθϕ-2.23±.07; Mϕr2.10±.22; Best double couple: M=4.28500×10^16 NP1:ϕ=28.00000°, δ81.00000°, λ25.00000°. NP2:ϕ=294.00000°, δ66.00000°, λ170.00000°. Principal axes: T 4.6480, Plg24.0000°, Azm254.0000°; N -0.7200, Plg64.0000°, Azm47.0000°; P -3.9220, Plg10.0000°, Azm159.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **29** 13:29:01.7±1.4, 16°17S×174°75W, h74km±13km, mb4.6/14*

Error ellipse: s-maj=11.4km s-min=6.0km az=154.0
*ISCJB **29** 13:29:02.9±0.3, 16°.24S±0°.08×174°.80W±0°.07, h100km, mb4.1/27, Error ellipse: s-maj=13.1km s-min=7.9km az=145.4*

ISC 29 13:29:04.1±0.4, 16°.3S±0°.1×174°.73W±0°.08, h100km, n93, σ1°62/70, mb4.2/27, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	5.37	122	ePn	Pn	13 30 20.1	-1.8
RAR	**Rarotonga**	15.00	112	LR	LR	13 36 53.8	
	comp=Z,476nm,21.8s,baz=296,slow=32						
OUENC	**Ouen Island, N**	18.43	248	eP	Pn	13 33 12.5	-0.6
	67nm,0.9s						
DZM	**Mont Dzumac**	18.70	249	eP	Pn	13 33 15.5	-0.8
	144nm,1.2s						
DZM				eLQ	LQ	13 36 53.6	
	1μm,26.4s						
DZM				eLR	LR	13 37 44.5	
	comp=Z,4μm,25.6s						
DZM	**Mont Dzumac**	18.70	249	P	P	13 33 12.2	-2.6
	0.1nm,0.3s,baz=73,slow=19,SNR=1.8						
DZM				LR	LR	13 39 17.7	
	comp=Z,2μm,20.8s,baz=79,slow=34						
DZM	**Mont Dzumac**	18.70	249	eP	Pn	13 33 16.1	-0.3
	62nm,1.1s						
URZ	**Urewera**	23.07	197	P	P	13 34 00.5	-0.6
	5.0nm,0.7s,baz=176,slow=12,SNR=1.2						
URZ				LR	LR	13 42 31.4	
	comp=Z,829nm,18.3s,baz=22,slow=35						
PAE	**Paea**	24.09	97	eT	T	13 58 51.9	
	7.1nm,0.3s						
PPT2	**Papeete2**	24.10	97	eLQ	LQ	13 38 55.8	
	2μm,25.8s						
PPT2				eLR	LR	13 39 57.5	
	comp=Z,1μm,26.2s,baz=253						
PPT2	**Papeete2**	24.10	97	eT	T	13 58 51.8	
	11nm,0.4s						
PPT	**Papeete**	24.10	97	LR	LR	13 41 01.6	
	comp=Z,435nm,20.3s,baz=268,slow=30						
TVO	**Taravao**	24.41	97	eT	T	13 59 15.2	
	2.9nm,0.4s						
TBI	**Tubuai**	24.78	111	eLQ	LQ	13 39 16.8	
	3μm,27.2s						
TBI				eLR	LR	13 40 19.4	
	comp=Z,1μm,26.2s,baz=299						
TBI	**Tubuai**	24.78	111	eT	T	13 59 53.3	
	24nm,0.3s						
HNR	**Honiara**	25.59	282	LR	LR	13 42 49.7	
	comp=Z,2μm,20.9s,baz=119,slow=33						
RPZ	**Rata Peaks**	29.93	201	P	P	13 35 03.2	+0.6
	2.7nm,0.9s,baz=25,slow=18,SNR=2.3						
TAOE	**Nuku Hiva Isla**	34.51	82	eS	S	13 41 00.7	-4.1
	78nm,25.1s						
TAOE				eLR	LR	13 44 38.6	
	comp=Z,1μm,27.8s						
RKT	**Rikitea**	37.96	107	eLQ	LQ	13 44 49.6	
	490nm,27.0s						
RKT				eLR	LR	13 46 21.0	
	comp=Z,798nm,28.0s						
RKT	**Rikitea**	37.96	107	eT	T	14 16 18.1	
	11nm,0.3s						
H11S2	**WAKE ISLAND Hy**	39.06	331	T	T	14 17 30.9	
	baz=150,slow=74,SNR=62						
H11S3	**WAKE ISLAND Hy**	39.07	331	T	T	14 17 32.4	
	baz=150,slow=74,SNR=39						
H11S1	**WAKE ISLAND Hy**	39.08	331	T	T	14 17 30.8	
	baz=150,slow=74,SNR=34						
H11N3	**WAKE ISLAND Hy**	40.04	333	T	T	14 18 42.4	
	baz=151,slow=76,SNR=140						
H11N1	**WAKE ISLAND Hy**	40.04	333	T	T	14 18 42.7	
	baz=151,slow=76,SNR=271						
H11N2	**WAKE ISLAND Hy**	40.06	333	T	T	14 18 43.7	
	baz=151,slow=76,SNR=184						
STKA	**Stephens Creek**	42.51	240	P	P	13 36 48.2	-1.6
	6.4nm,0.9s,baz=88,slow=7.1,SNR=6.1						
STKA				LR	LR	13 52 26.7	
	comp=Z,329nm,18.1s,baz=53,slow=33						
STKA	**Stephens Creek**	42.51	240	eP	P	13 36 50.2	+0.5
	7.1nm,1.6s						
WR1	**Warramunga Arr**	48.41	258	eP	P	13 37 35.7	-0.8
	36nm,1.9s						
WR1				e		13 56 11.7	
WRA	**Warramunga Arr**	48.41	258	P	P	13 37 35.7	-0.8
	0.7nm,0.8s,baz=91,slow=6.5,SNR=8.7						
WRA				LR	LR	13 56 11.7	
	comp=Z,299nm,19.6s,baz=65,slow=34						
AS01	**Alice Springs**	48.59	253	eP	P	13 37 37.7	-0.2
AS31	**Alice Springs**	48.63	253	eP	P	13 37 38.1	-0.2
	3.4nm,0.9s						
ASAR	**Alice Springs**	48.63	253	P	P	13 37 37.7	-0.5
	6.7nm,0.8s,baz=88,slow=8.5,SNR=53						
ASAR				LR	LR	13 56 33.4	
	comp=Z,1μm,21.1s,baz=93,slow=34						
SIJI	**Sorong**	55.34	280	LR	LR	14 00 42.4	
	comp=Z,307nm,20.9s,baz=73,slow=35						
BATI	**Baumata**	60.09	267	LR	LR	14 03 41.9	
	comp=Z,223nm,19.9s,baz=100,slow=35						
MJAR	**Matsushiro Arr**	68.77	321	LR	LR	14 04 30.8	
	comp=Z,129nm,21.6s,baz=130,slow=31						
JNU	**Nakatsue**	71.45	314	P	P	13 40 13.2	-0.8
	2.9nm,0.9s,baz=30,slow=14,SNR=1.8						
JNU	**Nakatsue**	71.45	314	eP	P	13 40 14.3	+0.3
	20nm,1.4s						
PETK	**Petropavlovsk-**	73.05	343	P	P	13 40 22.7	-0.3
	5.5nm,1.1s,baz=140,slow=9.1,SNR=2.1						
PETK				LR	LR	14 04 52.0	
	comp=Z,324nm,21.4s,baz=141,slow=30						
PEA1	**Petropavlovsk-**	73.06	343	eP	P	13 40 22.7	-0.4
PEA1				e		14 04 52.0	
QSPA	**South Pole Qui**	73.80	180	eP	P	13 40 30.0	+2.5
	19nm,1.3s						
BEKR	**Beckwith**	75.34	40	eP	P	13 40 37.0	+0.2
	5.6nm,1.1s						
NV01	**Mina Array Sit**	75.81	42	eP	P	13 40 40.0	+0.4
NVAR	**Mina Array Bea**	75.81	42	P	P	13 40 40.3	+0.6
	3.8nm,0.9s,baz=228,slow=9.8,SNR=8.2						
NVAR				LR	LR	14 08 07.7	
	comp=Z,151nm,18.5s,baz=202,slow=31						
KSRS	**Korea Array**	75.87	316	P	P	13 40 40.4	+0.8
	0.7nm,0.9s,baz=123,slow=5.1,SNR=2.6						
KSRS				LR	LR	14 11 18.8	
	comp=Z,97nm,18.2s,baz=121,slow=34						
KS15	**Wonju Array Si**	75.89	316	eP	P	13 40 40.2	+0.4
KSAR	**Wonju Array Be**	75.89	316	P	P	13 40 40.4	+0.6
NV11	**Mina Array Sit**	75.91	43	eP	P	13 40 40.7	+0.6
	0.7nm,1.3s						
KVN	**Kaiserville**	76.30	42	eP	P	13 40 43.0	+0.7
	4.5nm,0.9s						
USRK	**Ussuriysk Ar.**	77.30	324	LR	LR	14 08 23.0	
	comp=Z,297nm,21.5s,baz=125,slow=31						
U15A	**North Rim**	78.81	47	eP	P	13 40 56.6	+0.1
	10.0nm,1.4s						
HLID	**Hailey**	81.09	40	eP	P	13 41 08.6	+0.1
	2.3nm,0.8s						
TX31	**Lajitas Ar. Si**	82.14	56	eP	P	13 41 14.2	-0.1
LTX	**Lajitas**	82.14	56	eP	P	13 41 14.7	+0.4
LTX				e		14 09 28.5	
TXAR	**Lajitas Array**	82.14	56	P	P	13 41 14.7	+0.4
	1.4nm,1.0s,baz=233,slow=6.1,SNR=7.1						
TXAR				LR	LR	14 09 28.5	
	comp=Z,161nm,21.4s,baz=0.0,slow=30						
SEY	**Seymchan**	83.01	346	P	P	13 41 17.9	+0.1
	1.9nm,0.9s,baz=141,slow=4.6,SNR=4.1						
TPAW	**Teton Pass**	83.21	41	eP	P	13 41 19.9	+0.2
	9.4nm,1.4s						
S22A	**4UR Ranch, Cre**	83.28	48	eP	P	13 41 20.6	+0.3
	11nm,1.4s						
ILAR	**Eielson Array**	83.52	12	P	P	13 41 21.0	+0.5
	1.4nm,0.6s,baz=214,slow=6.3,SNR=1.8						
ILAR				LR	LR	14 09 32.9	
	comp=Z,109nm,21.9s,baz=200,slow=29						
PD31	**Pinedale Array**	83.75	42	eP	P	13 41 21.8	-0.6
PDAR	**Pinedale Array**	83.75	42	P	P	13 41 22.2	-0.2
	1.9nm,1.1s,baz=225,slow=4.0,SNR=7.7						
PDAR				LR	LR	14 12 20.4	
	comp=Z,131nm,20.3s,baz=230,slow=31						
PDAR	**Pinedale Array**	83.75	42	eP	P	13 41 21.7	-0.8
MAW	**Mawson**	86.58	199	LR	LR	14 20 23.2	
	comp=Z,114nm,18.4s,baz=106,slow=36						
INK	**Inuvik**	89.40	14	P	P	13 41 49.8	+0.8
	1.0nm,0.4s,baz=292,slow=25,SNR=4.9						
PLCA	**Paso Flores**	89.89	133	LR	LR	14 13 59.2	
	comp=Z,122nm,19.9s,baz=250,slow=30						
YKA	**Yellowknife Ar**	91.38	24	P	P	13 41 59.0	+0.6
	1.0nm,1.1s,baz=240,slow=4.3,SNR=6.3						
CM01	**Chiang Mai Arr**	91.64	289	eP	P	13 41 59.6	-1.1

CMAR Chiang Mai Arr 91.67 289 P **P** **13 42 02.2 +1.5**
0.3nm,0.4s,baz=90,slow=3.6,SNR=4.0
CMAR LR LR 14 21 21.3
comp=Z,22nm,19.2s,baz=110,slow=34
SNAA Sanae 92.13 177 P **P** **13 42 04.3 +2.3**
3.4nm,1.1s,baz=210,slow=20,SNR=1.8
SNAA Sanae 92.13 177 *e*P **P** **13 42 04.2 +2.2**
15nm,1.3s
SONM Songino Array 94.62 318 LR LR 14 19 02.1
comp=Z,86nm,20.9s,baz=164,slow=32
ULM Lac du Bonnet 95.39 39 LR LR 14 19 37.7
comp=Z,164nm,19.0s,baz=260,slow=32
MK32 Makanchi Array 110.50 314 *e*PKiKP **PKiKP** **13 47 25.6 +0.7**
MKAR Makanchi Array 110.50 314 PKiKP **PKiKP** **13 47 25.6 +0.8**
0.3nm,0.8s,baz=79,slow=1.9,SNR=3.2
KMBO Kilima Mbogo 144.01 244 PKP **PKiKP** **13 48 30.1 -2.8**
1.7nm,0.3s,baz=51,slow=1.3,SNR=7.3
KMBO Kilima Mbogo 144.01 244 *e*PKPdf **PKiKP** **13 48 28.9 -4.0**
BR101 Keskin Array S 145.98 319 *e*PKPdf **PKiKP** **13 48 34.0 -2.0**
BRTR Keskin Array B 145.98 319 PKPbc **PKiKP** **13 48 34.0 -2.0**
1.3nm,0.6s,baz=96,slow=1.1,SNR=5.1
GERES GERESS Array B 146.77 350 PKPbc **PKiKP** **13 48 36.2 -1.1**
0.5nm,0.6s,baz=28,slow=4.4,SNR=2.6
CONA Conrad Observa 147.22 347 *e*PKiKP **PKiKP** **13 48 42.8 +4.6**
9.5nm,1.1s
MOA Molln 147.62 349 PKiKP **PKPab** **13 48 41.6 +2.3**
14nm,1.7s
ARSA Arzberg 147.94 347 PKPbc **PKPab** **13 48 38.4 -2.2**
9.3nm,1.8s
RETA Reutte 148.52 353 PKiKP **PKPab** **13 48 41.0 -2.0**
5.2nm,1.0s
KBA Koelnbreinsper 148.54 349 *i* PKPab **PKPab** **13 48 45.0 +1.8**
6.5nm,1.4s
SOKA Soboth 148.59 347 PKPab **PKPab** **13 48 44.3 +1.0**
7.1nm,1.0s
WTTA Wattenberg 148.63 352 PKPab **PKPab** **13 48 44.7 +1.2**
5.8nm,0.6s
SQTA Sankt Quirin 148.73 352 PKPab **PKPab** **13 48 45.2 +1.4**
3.8nm,0.8s
DAVA Damuels 148.81 354 *i* PKPab **PKPab** **13 48 46.5 +2.2**
5.8nm,0.8s
OBKA Obir 148.85 348 PKiKP **PKPab** **13 48 41.7 -2.7**
9.7nm,2.0s
MYKA Terra Mystica 148.91 349 PKiKP **PKPab** **13 48 42.4 -2.2**
0.5nm,0.4s
FETA Feichten 148.98 353 *i* PKPab **PKPab** **13 48 46.5 +1.5**
7.8nm,1.6s
ABTA Abfaltersbach 149.00 350 PKiKP **PKPab** **13 48 41.6 -3.3**
4.8nm,0.9s
TORD Torodi Ar. Bea 175.37 131 PKP **PKPdf** **13 49 04.1 +0.8**
1.1nm,1.1s,baz=303,slow=2.4,SNR=2.8
TORD PKPab **PKPab** **13 50 42.5 +2.2**
0.9nm,1.0s,baz=263,slow=5.6,SNR=2.3
TOA1 Torodi Ar. Sit 175.37 131 *e*PKPdf **PKPdf** **13 49 04.1 +0.8**
TOA1 *e*PKPab **PKPab** **13 50 42.5 +2.2**

*NEIC **29** 13:58:54.9±1.1, 4.°25S×143.°36E, h79km±11km, mb4.2/8, Error ellipse: s-maj=13.0km s-min=7.8km az=93.0*
*IDC **29** 13:58:54.7±1.6, 4.°24S×143.°34E, h72km±13km, mb3.8/11, mb1 3.9/15, mb1mx3.8/29, mbtmp4.1/15, MS3.3/3, Ms1 3.3/3, ms1mx2.9/31, Error ellipse: s-maj=13.6km s-min=9.7km az=86.0*
*ISCJB **29** 13:58:55.5±0.4, 4.°30S±0.°05×143.°39E±0.°07, h100km, mb4.0/15, Error ellipse: s-maj=10.5km s-min=6.2km az=166.3*

ISC 29 13:58:56.9±0.6, 4.°29S±0.°06×143.°29E±0.°08, h100km, n36, σ2$57/36, mb4.1/15, 1C, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.12**	**304**	P		P	**Pn**	**13 59 41.1**	**-3.2**
	4.3nm,0.3s,baz=147,slow=10,SNR=21								
JAY				S			**Sn**	**14 00 18.2**	**-2.7**
	14nm,0.3s,baz=340,slow=24,SNR=4.2								
JAY				LR		LR	LR	14 01 06.9	
	comp=Z,469nm,18.0s,baz=122,slow=42								
PMG	**Port Moresby**	**6.37**	**143**	P			**Pn**	**14 00 26.9**	**-1.3**
	1.9nm,0.3s,baz=347,slow=14,SNR=8.1								
PMG				S			**Sn**	**14 01 38.2**	**-1.4**
	1.1nm,0.3s,baz=147,slow=21,SNR=1.7								
COEN	**Coen**	**9.61**	**181**	*e*Pn			**Pn**	**14 01 15.1**	**+2.8**
FAKI	**Fak Fak**	**11.10**	**277**	*e*Pn			Pn	14 01 23.6	-9.0
SIJI	**Sorong**	**12.48**	**285**	P			**Pn**	**14 01 51.8**	**+0.8**
	0.6nm,0.3s,baz=117,slow=16,SNR=3.7								
WRAB	**Tennant Creek**	**17.82**	**209**	*e*P			**Pn**	**14 02 58.2**	**-0.4**
	13nm,1.1s								
WB2	**Warramunga Arr**	**17.83**	**209**	*e*P			**Pn**	**14 02 57.5**	**-1.2**
	14nm,1.0s								
GUMO	**Guam**	**17.83**	**5**	LR			LR	14 08 08.6	
	comp=Z,84nm,21.9s,baz=177,slow=31								
WRA	**Warramunga Arr**	**17.83**	**209**	P			**Pn**	**14 02 57.9**	**-0.9**
	0.4nm,0.3s,baz=28,slow=13,SNR=23								
WRA				S			**Sn**	**14 06 07.2**	**-11**
	0.1nm,0.3s,baz=28,slow=23,SNR=5.0								
WRA				Lg			Lg	14 08 20.9	
	0.0nm,0.3s,baz=25,slow=28,SNR=3.2								
PATS	**Pohnpei**	**18.63**	**54**	*e*P			Pn	14 03 13.2	+4.9
	245nm,1.5s								
BATI	**Baumata**	**20.33**	**252**	P			Pn	14 03 27.0	-1.2
	26nm,0.5s,baz=334,slow=3.0,SNR=7.6								
AS01	**Alice Springs**	**21.27**	**204**	*e*P			**P**	**14 03 36.6**	**+1.3**
AS31	**Alice Springs**	**21.28**	**204**	*e*P			**P**	**14 03 36.8**	**+1.3**
	2.5nm,0.9s								
ASAR	**Alice Springs**	**21.29**	**204**	P			**P**	**14 03 35.4**	**-0.1**
	1.9nm,0.7s,baz=33,slow=11,SNR=29								
ASAR				S			**S**	**14 07 31.1**	**+4.5**
	1.1nm,0.9s,baz=21,slow=27,SNR=2.9								
ASAR				Lg			Lg	14 10 19.5	
	1.8nm,1.0s,baz=18,slow=32,SNR=4.4								
FITZ	**Fitzroy Crossi**	**22.05**	**230**	P			**P**	**14 03 45.1**	**+1.4**
	6.6nm,0.7s,baz=62,slow=3.5,SNR=9.9								
FITZ				S			**S**	**14 07 44.1**	**+3.2**
	4.4nm,1.1s,baz=223,slow=20,SNR=2.3								
FITZ	**Fitzroy Crossi**	**22.05**	**230**	*e*P			**P**	**14 03 43.6**	**-0.1**
	10nm,1.0s								
FITZ				S			**S**	**14 07 44.1**	**+3.2**
STKA	**Stephens Creek**	**27.49**	**183**	LR			LR	14 16 33.5	
	comp=Z,85nm,20.4s,baz=21,slow=38								
MJAR	**Matsushiro Arr**	**40.90**	**354**	P			**P**	**14 06 29.7**	**+0.4**
	1.7nm,0.6s,baz=174,slow=7.9,SNR=4.8								
KSRS	**Korea Array**	**43.93**	**342**	P			**P**	**14 06 55.5**	**+1.7**
	2.5nm,0.8s,baz=161,slow=8.7,SNR=14								
KSAR	**Wonju Array Be**	**43.93**	**342**	P			**P**	**14 06 55.5**	**+1.6**
USRK	**Ussuriysk Ar.**	**49.33**	**349**	P			**P**	**14 07 36.8**	**+1.0**
	2.2nm,0.6s,baz=155,slow=6.5,SNR=6.7								
HHC	**Hu-ho-hao-te**	**53.48**	**330**	*e*P			**P**	**14 08 08.8**	**+1.7**
HHC				pmax			pmax		
	comp=Z,9.0nm,1.1s								
PETK	**Petropavlovsk-**	**58.47**	**10**	P			**P**	**14 08 41.9**	**-0.3**
	comp=Z,5.3nm,0.9s,baz=170,slow=9.9,SNR=5.3								
GTA	**Gaotai**	**59.09**	**322**	*e*P			P	14 08 50.3	+3.2
GTA				pP			pP	14 08 54.5	-17
GTA				sP			sP	14 08 57.5	-25
SONM	**Songino Array**	**61.16**	**332**	P			**P**	**14 09 01.4**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=153,slow=6.4,SNR=3.4								
SONM				PcP			**PcP**	**14 09 43.7**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=145,slow=4.6,SNR=2.3								
WMQ	**Urumqi**	**69.11**	**320**	*e*P			**P**	**14 09 54.0**	**+1.6**
WMQ				LR			LR		
	comp=N,190nm,16.7s								
WMQ				LR			LR		
	comp=E,210nm,18.5s								
WMQ				LR			LR		
	comp=Z,200nm,17.3s								
MKAR	**Makanchi Array**	**73.85**	**321**	P			**P**	**14 10 22.0**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=106,slow=6.0,SNR=9.0								
BILL	**Bilibino**	**73.95**	**9**	*e*P			**P**	**14 10 19.5**	**-1.4**
	comp=Z,21nm,2.0s								
ZALV	**Zalesovo Beam**	**75.62**	**329**	P			**P**	**14 10 31.4**	**+0.6**
	comp=Z,2.6nm,0.9s,baz=106,slow=5.4,SNR=7.8								
TAOE	**Nuku Hiva Isla**	**76.09**	**98**	*e*T			T	14 11 40.3	
	comp=Z,56nm,0.2s								
TIXI	**Tiksi**	**76.38**	**355**	*e*P			**P**	**14 10 35.1**	**+0.3**
	comp=Z,2.0nm,0.8s								
BRVK	**Borovoye**	**83.30**	**324**	*e*P			**P**	**14 11 12.7**	**+0.2**
	comp=Z,5.7nm,0.9s								
ILAR	**Eielson Array**	**85.40**	**24**	P			**P**	**14 11 21.7**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=255,slow=4.4,SNR=4.2								
SYO	**Syowa Base**	**90.90**	**200**	*e*P			**P**	**14 11 51.0**	**+2.0**
LPAZ	**La Paz**	**142.81**	**124**	PKP			**PKPdf**	**14 18 19.4**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=248,slow=5.4,SNR=3.5								
DBIC	**Dimbokro**	**148.21**	**276**	PKPbc			**PKPab**	**14 18 33.4**	**-2.2**
	comp=Z,2.1nm,0.7s,baz=92,slow=5.2,SNR=3.9								

MAN 29 14:02:17.1, 9.°96N×126.°13E, h10km, mb4.3, ML3.2, MS2.9, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.65**	**255**	*e*P		Pg		14 02 29.8	+0.1
SCPH				*e*S		Sb		14 02 41.1	+1.4
BUTP	**Butuan**	**1.10**	**207**	*e*P		Pb		14 02 37.0	-1.2
BUTP				*e*S		Sn		14 02 53.8	0.0
MSLP	**Maasin**	**1.26**	**278**	*e*P		Pn		14 02 39.3	-1.4
MSLP				*e*S		Sn		14 02 58.0	+0.3
BESP	**Borongan**	**1.77**	**338**	*e*P		Pn		14 02 47.4	-0.4
BESP				*e*S		Sn		14 03 07.0	-3.3
BIPH	**Bislig**	**1.78**	**172**	*i*P		Pb		14 02 49.3	-0.5
BIPH				*i*S		Sn		14 03 09.7	-0.8
CGP	**Cagayan de Oro**	**2.06**	**224**	*e*P		Pn		14 02 51.5	-0.2
CGP				*e*S		Sn		14 03 18.1	+0.7
BUKP	**Musuan**	**2.32**	**207**	*e*P		Pn		14 02 56.2	+0.9
BUKP				*e*S		Sb		14 03 26.9	-0.8
PAGZ	**Pagadian**	**3.43**	**233**	*e*P		Pn		14 03 11.6	+1.0
PAGZ				*e*S		Sn		14 03 54.5	+3.2

*ISK **29** 14:22:20.2, 37.°76N×38.°73E, h5km, ML2.0/3*
*DDA **29** 14:22:21.7, 37.°35N×38.°71E, h7km±5km, ML2.6*
*ISCJB **29** 14:22:22.9±0.8, 37.°13N±0.°05×38.°72E±0.°04, h9km, Error ellipse: s-maj=7.4km s-min=4.8km az=0.7*

ISC 29 14:22:22.6±1.0, 37.°16N±0.°05×38.°69E±0.°03, h9km, n7, σ1$20/12, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SANL	**SANLIURFA_Merk**	**0.24**	**86**	IAML_P					
	comp=Z,5μm,0.2s								
SANL				*i*P		**Pg**		**14 22 27.5**	**+0.1**
SANL				*i*S		**Sb**		**14 22 33.0**	**+2.4**
SURC	**SANLIURFA_SURC**	**0.28**	**193**	*i*P		**Pg**		**14 22 28.0**	**-0.3**
URFA	**Urfa**	**0.30**	**20**	PG		**Pg**		**14 22 27.7**	**-1.0**
URFA				SG		**Sg**		**14 22 33.6**	**+0.8**
ATAB	**Bozova**	**0.45**	**315**	*i*S		**Sg**		**14 22 39.1**	**+1.9**
GZT	**Gaziantep**	**0.92**	**283**	IAML_P					
	comp=Z,460nm,0.1s								
GZT				*i*P		**Pb**		**14 22 40.6**	**-0.3**
GZT				*i*S		**Sn**		**14 22 55.5**	**+0.2**
MAZI	**Mazidag**	**1.43**	**77**	PN		**Pn**		**14 22 47.8**	**-1.1**
MAZI				SN		**Sg**		**14 23 08.2**	**-0.4**
KMRS	**Kahramanmaras**	**1.47**	**284**	PN		**Pn**		**14 22 48.7**	**-0.7**
KMRS				SN		**Sg**		**14 23 10.2**	**+0.3**

IDC 29 14:27:36.1±5.9, 4.°83S×146.°90E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/34, mbtmp3.6/4, ML4.0/1, Error ellipse: s-maj=173.2km s-min=30.4km az=103.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.56**	**177**	Sn		Sn		14 29 39.2	-1.0
	1.5nm,0.3s,baz=200,slow=20,SNR=5.5								
WRA	**Warramunga Arr**	**19.38**	**218**	P			Pn	14 32 04.8	+0.1
	0.4nm,0.3s,baz=39,slow=11,SNR=55								
ASAR	**Alice Springs**	**22.54**	**213**	P			P	14 32 37.3	-0.6
	0.5nm,0.3s,baz=37,slow=11,SNR=24								
FITZ	**Fitzroy Crossi**	**24.62**	**236**	P			P	14 32 58.4	-0.1
	2.0nm,0.5s,baz=66,slow=11,SNR=16								
MKAR	**Makanchi Array**	**76.54**	**320**	P			P	14 39 28.4	+0.1
	0.1nm,0.4s,baz=111,slow=6.1,SNR=2.6								

*ISCJB **29** 14:28:14.0±0.7, 39.°66N±0.°06×28.°90E±0.°05, h8km, Error ellipse: s-maj=9.1km s-min=4.1km az=157.9*
*DDA **29** 14:28:13.2, 39.°65N×28.°89E, h7km±5km, ML2.8*
*ISK **29** 14:28:13.5, 39.°63N×28.°88E, h8km, ML2.2/11*

ISC 29 14:28:13.3±0.9, 39.°63N±0.°04×28.°89E±0.°03, h8km, n17, σ0$51/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.32**	**264**	IAML_P					
	comp=Z,4μm,0.1s								
DURS				*i*P		**Pg**		**14 28 19.8**	**+0.1**
DURS				*i*S		**Sg**		**14 28 25.1**	**+1.1**
DEMI	**Demirci**	**0.60**	**193**	IAML_P					
	comp=Z,2μm,0.1s								
DEMI				*i*P		**Pg**		**14 28 25.2**	**+0.2**
KCTX	**Karacabey (Bur**	**0.75**	**327**	PG		**Pg**		**14 28 28.1**	**+0.3**
BALB	**Balikesir**	**0.78**	**271**	PG		**Pb**		**14 28 29.0**	**-0.1**
CAVI	**Cavuskoy**	**0.93**	**52**	PG		**Pb**		**14 28 31.5**	**-0.2**
CAVI				SG		**Sn**		**14 28 45.3**	**-0.9**
STEP	**BALIKESIR_Sava**	**0.94**	**255**	IAML_P					
	comp=Z,693nm,0.2s								
STEP				*i*P		**Pg**		**14 28 30.0**	**-1.4**
STEP				*i*S		**Sn**		**14 28 46.6**	**+0.1**
BALY	**Balya**	**0.99**	**277**	IAML_P					
	comp=Z,1μm,0.2s								
BALY				*i*P		**Pn**		**14 28 33.7**	**+0.2**
SBT5	**Esenkoy-Cinarc**	**1.00**	**360**	PG		**Pb**		**14 28 33.0**	**+0.2**
YLV	**Yalova**	**1.00**	**22**	PG		**Pb**		**14 28 33.2**	**+0.2**
EDC	**Edincik**	**1.06**	**312**	PG		**Pn**		**14 28 34.4**	**-0.1**
KULA	**Kula-Manisa**	**1.13**	**189**	PN		**Pn**		**14 28 35.6**	**0.0**
BORA	**Eskisehir**	**1.23**	**78**	PN		**Pg**		**14 28 37.1**	**+0.2**
MRMT	**Marmara Adasi**	**1.39**	**315**	PN		**Pb**		**14 28 39.5**	**0.0**
KRBG	**Karabiga-Canak**	**1.44**	**302**	PN		**Pb**		**14 28 40.4**	**0.0**
GULT	**Gulveren**	**1.48**	**57**	PN		**Pg**		**14 28 41.5**	**-0.2**
CTKS	**Kestanelik-??a**	**1.63**	**350**	PN		**Pb**		**14 28 43.1**	**-0.5**
BAYC	**CANAKKALE_Bayr**	**1.81**	**274**	IAML_P					
	comp=Z,328nm,0.2s								
BAYC				*i*P		**Pb**		**14 28 46.6**	**-0.1**
BAYC				*i*S		**Sb**		**14 29 09.9**	**+0.3**

*ISCJB **29** 14:34:19.8±0.8, 38.°32N±0.°04×141.°96E±0.°09, h66km±6km, mb3.5/3, Error ellipse: s-maj=11.4km s-min=5.6km az=13.6*
*IDC **29** 14:34:20.2±3.0, 38.°37N×142.°29E, h64km±24km, mb3.2/3, mb1 3.4/7, mb1mx3.1/48, mbtmp3.6/7, ML2.8/4, MS4.1/1, Ms1 4.1/1, ms1mx2.7/28, Error ellipse: s-maj=45.5km s-min=20.7km az=86.0*
*JMA **29** 14:34:21.4±0.1, 38.°35N×141.°87E, h62km±1km, M3.6*
JMA Felt I J1.

ISC 29 14:34:20.3±1.4, 38.°29N±0.°05×142.°01E±0.°10, h55km±10km, n28, σ1$02/36, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.43**	**272**	P		P	**Pn**	**14 34 31.9**	**+0.9**
JIKH				S		S	**Sn**	**14 34 39.3**	**+0.5**
JIO	**Ouri**	**0.54**	**287**	P		P	**Pn**	**14 34 32.8**	**+0.5**
JIO				S		S	**Sn**	**14 34 40.7**	**-0.3**
JKMT	**Kesennumamotoy**	**0.67**	**321**	P		P	**Pn**	**14 34 34.2**	**+0.4**
JKMT				S		S	**Sn**	**14 34 43.3**	**-0.3**
OFUJ	**Ofunato**	**0.83**	**341**	P		P	**Pn**	**14 34 36.3**	**+0.4**
OFUJ				S		S	**Sn**	**14 34 47.2**	**-0.1**
JMK	**Ichinoseki**	**0.90**	**317**	P		P	**Pn**	**14 34 37.1**	**+0.3**
JMK				S		S	**Sn**	**14 34 48.4**	**-0.6**
JOFO	**Osakifurukawao**	**0.92**	**290**	P		P	**Pn**	**14 34 37.3**	**+0.3**
JOFO				S		S	**Sn**	**14 34 49.1**	**-0.2**
JMM	**Marumori**	**1.05**	**246**	P		P	**Pn**	**14 34 38.9**	**+0.1**
JMM				S		S	**Sn**	**14 34 51.8**	**-0.7**
JOU	**Okura**	**1.06**	**274**	P		P	**Pn**	**14 34 38.9**	**0.0**
JOU				S		S	**Sn**	**14 34 52.1**	**-0.7**
JFK	**Kawauchi**	**1.29**	**225**	P		P	**Pn**	**14 34 42.8**	**+0.8**
JFK				S		S	**Sn**	**14 34 58.5**	**+0.2**
JOM	**Ohasama**	**1.30**	**335**	P		P	**Pn**	**14 34 42.4**	**+0.2**
JOM				S		S	**Sn**	**14 34 58.4**	**-0.2**
JYK	**Kaneyama**	**1.44**	**296**	P		P	**Pn**	**14 34 43.9**	**-0.1**
JYK				S		S	**Sn**	**14 35 00.9**	**-0.9**
JYS	**Shirataka**	**1.53**	**268**	P		P	**Pn**	**14 34 45.5**	**+0.2**
JYS				S		S	**Sn**	**14 35 03.6**	**-0.5**
JFT	**Otama**	**1.53**	**240**	P		P	**Pn**	**14 34 46.1**	**+0.8**
JFT				S		S	**Sn**	**14 35 04.3**	**+0.1**
JRG	**Rokugo**	**1.54**	**316**	P		P	**Pn**	**14 34 45.3**	**-0.1**
JRG				S		S	**Sn**	**14 35 03.9**	**-0.4**
MJAR	**Matsushiro Arr**	**3.50**	**241**	P		P	**Pn**	**14 35 16.4**	**+4.3**
	0.1nm,0.3s,baz=47,slow=10,SNR=6.5								
JHJ	**Hachijo jima 2**	**5.47**	**200**	P			**Pn**	**14 35 39.6**	**+0.4**
	2.8nm,0.3s,baz=59,slow=14,SNR=1.9								
JHJ				S			**Sn**	**14 36 38.1**	**-2.7**
	12nm,0.3s,baz=270,slow=3.0,SNR=4.5								
ASAJ	**Asahikawa**	**5.83**	**4**	P			**Pn**	**14 35 43.4**	**-0.8**
	0.6nm,0.3s,baz=202,slow=15,SNR=14								
USRK	**Ussuriysk Ar.**	**9.58**	**311**	P			**Pn**	**14 36 36.1**	**+0.8**
	0.3nm,0.3s,baz=129,slow=14,SNR=5.3								
H11N2	**WAKE ISLAND Hy**	**28.42**	**124**	T			T	15 10 29.5	
	baz=316,slow=76,SNR=17								
H11N1	**WAKE ISLAND Hy**	**28.43**	**124**	T			T	15 10 30.2	
	baz=316,slow=76,SNR=16								
H11N3	**WAKE ISLAND Hy**	**28.43**	**124**	T			T	15 10 31.0	
	baz=316,slow=76,SNR=14								
H11S1	**WAKE ISLAND Hy**	**29.18**	**126**	T			T	15 11 27.1	
	baz=318,slow=76,SNR=11								
H11S3	**WAKE ISLAND Hy**	**29.18**	**126**	T			T	15 11 29.0	
	baz=318,slow=76,SNR=12								
H11S2	**WAKE ISLAND Hy**	**29.19**	**126**	T			T	15 11 30.7	
	baz=318,slow=76,SNR=11								
ZALV	**Zalesovo Beam**	**41.43**	**311**	P			**P**	**14 42 00.8**	**-0.3**
	0.7nm,0.4s,baz=85,slow=7.5,SNR=4.3								
MKAR	**Makanchi Array**	**43.86**	**301**	P			**P**	**14 42 21.1**	**0.0**
	0.4nm,0.7s,baz=98,slow=9.3,SNR=4.0								
BATI	**Baumata**	**51.20**	**203**	LR			LR	15 05 49.2	
	comp=Z,186nm,18.6s,baz=126,slow=37								
WRA	**Warramunga Arr**	**58.37**	**188**	P			**P**	**14 44 09.7**	**-0.3**
	0.2nm,0.5s,baz=7.1,slow=6.9,SNR=5.8								

*IDC **29** 14:35:03.6±1.3, 36.°10N×142.°12E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.4/47, mbtmp3.4/6, ML3.1/2, Error ellipse: s-maj=31.0km s-min=25.7km az=103.0*
*ISCJB **29** 14:35:05.2±0.9, 36.°17N±0.°06×142.°09E±0.°08, h23km, mb3.3/4, Error ellipse: s-maj=9.3km s-min=8.5km az=31.3*
*JMA **29** 14:35:05.9±0.2, 36.°21N×142.°05E, h29km, M3.3*

ISC 29 14:35:07.4±1.1, 36.°14N±0.°06×141.°95E±0.°08, h23km, n13, σ0$73/17, mb3.3/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.98**	**244**	P		P	**Pn**	**14 35 25.4**	**-0.4**
CHOJ				S		S	**Sn**	**14 35 39.8**	**+0.9**
JHYU	**Hitachinakayam**	**1.12**	**281**	P		P	**Pn**	**14 35 26.9**	**-0.7**
JHYU				S		S	**Sn**	**14 35 42.2**	**-0.1**
JIHU	**Itakohorinouch**	**1.16**	**262**	P		P	**Pn**	**14 35 28.1**	**-0.1**
BSO1	**Boso 1**	**1.68**	**208**	P		P	**Pn**	**14 35 34.9**	**+0.1**
BSO1				*e*S		**Sb**		**14 35 57.3**	**-0.4**
BSO3	**Boso 3**	**1.77**	**222**	P		P	**Pn**	**14 35 37.0**	**+0.6**
JKT	**Katashina**	**2.26**	**287**	P		P	**Pn**	**14 35 43.6**	**+0.1**
MJAR	**Matsushiro Arr**	**3.04**	**279**	Pn		P	**Pn**	**14 35 54.9**	**+0.8**
	0.7nm,0.3s,baz=111,slow=8.4,SNR=20								
MAT	**Matsushiro**	**3.04**	**279**	P		P	**Pn**	**14 35 54.9**	**+0.7**
MAT				S		S	**Sb**	**14 36 36.3**	**-1.4**
JHJ	**Hachijo jima 2**	**3.50**	**211**	Pn		Pn	**Pn**	**14 35 60.0**	**-0.4**
	16nm,0.3s,baz=16,slow=22,SNR=5.2								
SONM	**Songino Array**	**28.65**	**305**	P			**P**	**14 41 03.7**	**+1.4**
	0.3nm,0.5s,baz=99,slow=7.4,SNR=3.5								
MKAR	**Makanchi Array**	**44.96**	**303**	P			**P**	**14 43 20.5**	**-0.1**
	0.3nm,0.5s,baz=93,slow=8.7,SNR=4.2								
ILAR	**Eielson Array**	**50.02**	**32**	P			**P**	**14 43 59.1**	**-0.6**
	0.2nm,0.6s,baz=262,slow=6.3,SNR=3.4								
WRA	**Warramunga Arr**	**56.23**	**189**	P			**P**	**14 44 45.5**	**-0.4**
	0.1nm,0.4s,baz=9.2,slow=7.9,SNR=3.8								

*DDA **29** 14:39:59.4, 40.°98N×38.°08E, h7km±3km, ML2.8*
*ISK **29** 14:39:59.3, 40.°83N×38.°07E, h17km, ML2.3/3*

ISC 29 14:39:59.0±1.0, 40.°81N±0.°07×38.°03E±0.°04, h18km±10km, n9, σ1$91/13, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ORDU	**Ordu-Boztepe**	**0.22**	**324**	IAML_P					
	comp=Z,9μm,0.1s								
ORDU				*i*P		**Pg**		**14 40 03.5**	**-0.7**
ORDU				*i*S		**Sg**		**14 40 07.4**	**-0.4**
ESPY	**Espiye-Giresun**	**0.54**	**78**	PG		**Pg**		**14 40 09.8**	**0.0**
ESPY				SG		**Sg**		**14 40 17.4**	**+0.3**
RSDY	**Resadiye-TOKAT**	**0.68**	**233**	PG		**Pn**		**14 40 13.7**	**0.0**
ERBA	**Erbaa**	**0.98**	**263**	IAML_P					
	comp=Z,2μm,0.2s								
ERBA				*i*P		**Pn**		**14 40 19.5**	**+1.6**
ERBA				*i*S		**Sn**		**14 40 31.9**	**+0.7**
KELT	**Kelkit**	**1.15**	**125**	IAML_P					
	comp=Z,407nm,0.1s								
KELT				*i*P		**Pg**		**14 40 23.0**	**+1.8**
SVSK	**Karacayir**	**1.19**	**222**	PN		**Pg**		**14 40 22.3**	**+0.3**
MACK	**Trabzon**	**1.33**	**84**	*i*P		**Pg**		**14 40 24.9**	**+0.3**
MACK				*i*S		**Sg**		**14 40 42.1**	**+0.3**
REFA	**Refahiye_ERZN**	**1.52**	**158**	IAML_P					
	comp=Z,405nm,0.1s								
REFA				*i*P		Pn		14 40 22.7	-2.8
REF

YKA	**Yellowknife Ar**	**95.85**	**28**	P		**P**	**14 54 22.4**	**+0.4**
	0.3nm,0.7s,baz=273,slow=4.7,SNR=7.9							
YKB5	**Yellowknife Ar**	**95.85**	**28**	*e*P		**P**	**14 54 23.1**	**+1.1**
TORD	**Torodi Ar. Bea**	**147.42**	**288**	PKPbc		**PKPbc**	**15 00 39.9**	**-0.7**
	1.0nm,0.9s,baz=97,slow=3.8,SNR=5.1							
TOA1	**Torodi Ar. Sit**	**147.42**	**288**	*e*PKPbc		**PKPbc**	**15 00 39.9**	**-0.7**

*ISCJB **29** 14:42:44.9±0.6,47°.81S±0°.09×99°.6E±0°.1,h12km, mb4.6/17,MS4.2/22, Error ellipse: s-maj=15.7km s-min=11.5km az=38.6*

*IDC **29** 14:42:45.2±0.7,47°.85S×99°.55E,h0km,mb4.4/11, mb1 4.5/11,mb1mx4.2/42,mbtmp4.4/11,MS4.2/23, Ms1 4.2/23,ms1mx4.0/39, Error ellipse: s-maj=24.7km s-min=15.8km az=127.0*

*NEIC **29** 14:42:46.5±0.4,47°.84S×99°.60E,h10km,mb4.7/9, Error ellipse: s-maj=12.7km s-min=8.9km az=129.0*

*GCMT **29** 14:42:48.5±0.3,47°.88S±0°.01×99°.32E±0°.02,h18km±1km, MW5.0/82, Moment Tensor Solution. s31,c37; s82,c117; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.27±.14; Mθθ3.81±.13; Mφφ-3.54±.14; Mrθ0.24±.30; Mrφ1.24±.10; Mθφ-1.84±.36; Best double couple: M=4.28100×10^16^ NP1:φs38.00000°,δ74.00000°,λ-162.00000°. NP2: φs303.00000°,δ73.00000°,λ-16.00000°. Principal axes: T 4.0140, Plg1.0000°, Azm170.0000°; N 0.5370, Plg67.0000°, Azm78.0000°; P -4.5480, Plg23.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 14:42:46.7±0.6,47°.8S±0°.1×99°.6E±0°.1,h12km,n60, σ0s75/32,mb4.6/17,MS4.2/22,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**16.89**	**45**	T	T	15 03 58.5	
	baz=214,slow=74,SNR=73						
H01W1	**Cape Leeuwin H**	**16.90**	**45**	T	T	15 04 03.3	
	baz=214,slow=74,SNR=181						
H01W3	**Cape Leeuwin H**	**16.90**	**45**	T	T	15 03 56.4	
	baz=214,slow=74,SNR=74						
NWAO	**Narrogin (SRO)**	**20.00**	**48**	P	**P**	**14 47 18.7**	**-0.3**
	4.5nm,0.8s,baz=101,slow=13,SNR=2.1						
NWAO				LR	LR	14 53 05.5	
	comp=Z,703nm,21.0s,baz=85,slow=31						
MAW	**Mawson**	**27.18**	**210**	LR	LR	14 56 15.8	
	comp=Z,353nm,21.2s,baz=53,slow=30						
STKA	**Stephens Creek**	**35.49**	**79**	P	**P**	**14 49 43.0**	**-0.1**
	5.4nm,0.9s,baz=240,slow=9.3,SNR=7.5						
STKA	**Stephens Creek**	**35.49**	**79**	*e*P	**P**	**14 49 43.0**	**-0.1**
	7.7nm,1.6s						
ASAR	**Alice Springs**	**36.38**	**61**	P	**P**	**14 49 50.7**	**-0.1**
	12nm,1.0s,baz=218,slow=7.5,SNR=27						
ASAR				PcP	**PcP**	**14 52 14.8**	**-0.3**
	0.5nm,0.7s,baz=207,slow=2.4,SNR=5.3						
ASAR				LR	LR	15 03 12.3	
	comp=Z,414nm,18.1s,baz=226,slow=34						
AS31	**Alice Springs**	**36.38**	**61**	*e*P	**P**	**14 49 50.4**	**-0.4**
	3.7nm,1.0s						
AS01	**Alice Springs**	**36.41**	**61**	*e*P	**P**	**14 49 50.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**36.50**	**45**	P	**P**	**14 49 53.6**	**+1.8**
	12nm,1.1s,baz=205,slow=8.2,SNR=5.5						
VNDA	**Vanda**	**37.87**	**162**	P	**P**	**14 50 04.2**	**+1.4**
	2.1nm,0.9s,baz=296,slow=11,SNR=2.4						
VNDA				LR	LR	15 04 05.8	
	comp=Z,658nm,20.9s,baz=288,slow=34						
WRA	**Warramunga Arr**	**39.53**	**57**	P	**P**	**14 50 17.6**	**+0.1**
	17nm,1.1s,baz=217,slow=8.1,SNR=29						
WRA				LR	LR	15 04 28.4	
	comp=Z,626nm,22.0s,baz=230,slow=33						
WR1	**Warramunga Arr**	**39.53**	**57**	*e*P	**P**	**14 50 17.6**	**+0.1**
	26nm,1.3s						
WB2	**Warramunga Arr**	**39.54**	**57**	*e*P	**P**	**14 50 17.2**	**-0.3**
WRAB	**Tennant Creek**	**39.55**	**57**	*e*P	**P**	**14 50 16.9**	**-0.6**
	15nm,0.9s						
LEM	**Lembang**	**41.44**	**12**	LR	LR	15 04 42.1	
	comp=Z,529nm,19.8s,baz=218,slow=32						
QSPA	**South Pole Qui**	**42.31**	**180**	P	**P**	**14 50 38.9**	**-1.0**
	6.2nm,1.0s,baz=135,slow=23,SNR=24						
QSPA	**South Pole Qui**	**42.31**	**180**	*e*P	**P**	**14 50 38.9**	**-1.0**
	16nm,1.6s						
H08S2	**Diego Garcia H**	**46.19**	**321**	T	T	15 40 32.8	
	baz=155,slow=76,SNR=83						
H08S1	**Diego Carcia H**	**46.20**	**321**	T	T	15 40 33.5	
	baz=155,slow=76,SNR=62						
H08S3	**Diego Garcia H**	**46.21**	**321**	T	T	15 40 34.4	
	baz=155,slow=76,SNR=91						
CTA	**Charters Tower**	**46.62**	**70**	P	**P**	**14 51 14.9**	**+0.1**
	11nm,1.0s,baz=220,slow=10,SNR=9.4						
CTAO	**Charters Tower**	**46.62**	**70**	*e*P	**P**	**14 51 14.6**	**-0.1**
	32nm,1.3s						
RPZ	**Rata Peaks**	**48.39**	**113**	LR	LR	15 07 35.4	
	comp=Z,171nm,19.4s,baz=249,slow=31						
SNAA	**Sanae**	**49.07**	**204**	P	**P**	**14 51 33.5**	**+0.3**
	5.9nm,1.0s,baz=116,slow=6.3,SNR=5.0						
PSI	**Prapat**	**50.43**	**359**	LR	LR	15 11 09.6	
	comp=Z,197nm,18.3s,baz=106,slow=34						
OPO	**Ambohidratompo**	**51.40**	**286**	LR	LR	15 07 40.9	
	comp=Z,314nm,20.8s,baz=116,slow=29						
BKZ	**Black Stump Fm**	**54.31**	**111**	*e*P	**P**	**14 52 11.8**	**-0.9**
	15nm,1.3s						
URZ	**Urewera**	**55.24**	**111**	LR	LR	15 11 30.9	
	comp=Z,132nm,18.7s,baz=235,slow=31						
PMG	**Port Moresby**	**55.36**	**62**	LR	LR	15 13 20.8	
	comp=Z,205nm,21.5s,baz=222,slow=33						
JAY	**Jayapura**	**57.37**	**51**	LR	LR	15 16 23.2	
	comp=Z,294nm,20.8s,baz=208,slow=35						
DZM	**Mont Dzumac**	**58.56**	**89**	*e*P	P	14 52 58.7	+15
	70nm,1.6s						
DZM	**Mont Dzumac**	**58.56**	**89**	*e*LR	LR	15 10 20.9	
	comp=Z,431nm,24.9s						
BOSA	**Boshof**	**59.19**	**260**	LR	LR	15 13 18.5	
	comp=Z,178nm,19.3s,baz=194,slow=31						
DAV	**Davao City (W)**	**59.29**	**30**	LR	LR	15 14 29.2	
	comp=Z,85nm,21.9s,baz=181,slow=32						
HNR	**Honiara**	**63.32**	**74**	LR	LR	15 18 12.4	
	comp=Z,281nm,20.2s,baz=201,slow=34						
CM01	**Chiang Mai Arr**	**65.95**	**359**	*e*P	**P**	**14 53 32.8**	**+0.2**
CM31	**Chiang Mai Arr**	**65.99**	**359**	*e*P	**P**	**14 53 32.8**	**0.0**
CMAR	**Chiang Mai Arr**	**65.99**	**359**	P	**P**	**14 53 33.4**	**+0.6**
	2.5nm,1.0s,baz=196,slow=5.7,SNR=12						
CMAR				LR	LR	15 19 14.3	
	comp=Z,323nm,19.5s,baz=195,slow=33						
LSZ	**Lusaka**	**66.36**	**273**	P	**P**	**14 53 35.4**	**-0.2**
	0.8nm,0.3s,baz=72,slow=6.4,SNR=2.7						
LSZ	**Lusaka**	**66.36**	**273**	*e*P	**P**	**14 53 35.2**	**-0.4**
	11nm,1.4s						
WSAR	**Wadi Sarin**	**79.74**	**322**	LR	LR	15 23 28.0	
	comp=Z,143nm,18.5s,baz=175,slow=31						
XAN	**Xi'an**	**81.93**	**8**	P	**P**	**14 55 05.8**	**0.0**
XAN				pP	PcP	14 55 14.8	+3.4
XAN				pmax	pmax		
	comp=Z,6.0nm,1.3s						
NIL	**Nilore**	**84.48**	**338**	*e*P	**P**	**14 55 18.2**	**-0.8**
	comp=Z,22nm,1.4s						
KSRS	**Korea Array**	**88.60**	**22**	LR	LR	15 32 44.1	
	comp=Z,50nm,21.9s,baz=269,slow=34						
PPT2	**Papeete2**	**90.39**	**117**	*e*LR	LR	15 24 52.0	
	comp=Z,126nm,24.0s						
PPT	**Papeete**	**90.40**	**117**	LR	LR	15 28 33.1	
	comp=Z,51nm,19.3s,baz=122,slow=30						
PLCA	**Paso Flores**	**91.38**	**187**	LR	LR	15 35 20.1	
	comp=Z,198nm,21.1s,baz=186,slow=34						
GEYT	**Alibeck**	**93.04**	**328**	LR	LR	15 33 18.0	
	comp=Z,85nm,20.1s,baz=350,slow=33						
RKT	**Rikitea**	**94.08**	**131**	*e*T	T	16 40 28.0	
	comp=Z,2.7nm,0.2s						
MKAR	**Makanchi Array**	**95.45**	**348**	LR	LR	15 36 12.3	
	comp=Z,103nm,21.2s,baz=200,slow=34						
SONM	**Songino Array**	**95.47**	**5**	LR	LR	15 39 23.7	
	comp=Z,92nm,19.5s,baz=213,slow=36						
DAWY	**Dawson**	**144.73**	**41**	*e*PKPdf	PKPbc	15 02 21.2	+0.1
INK	**Inuvik**	**146.76**	**33**	PKPbc	**PKPbc**	**15 02 27.0**	**-0.1**
	comp=Z,2.1nm,1.0s,baz=208,slow=1.5,SNR=4.7						
INK	**Inuvik**	**146.76**	**33**	*e*PKPbc	**PKPbc**	**15 02 27.5**	**+0.4**
VCNR	**Virginia City**	**150.59**	**92**	*e*PKPbc	**PKPbc**	**15 02 37.8**	**-0.4**
NV01	**Mina Array Sit**	**151.05**	**95**	*e*PKPbc	**PKPbc**	**15 02 40.6**	**+1.2**
NVAR	**Mina Array Bea**	**151.05**	**95**	PKPbc	**PKPbc**	**15 02 40.6**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=212,slow=3.2,SNR=4.5						
YKA	**Yellowknife Ar**	**155.96**	**40**	PKPbc	PKPdf	15 02 48.8	+9.4
	comp=Z,0.2nm,0.8s,baz=291,slow=2.0,SNR=3.7						
YKA				PKPab	**PKPab**	**15 03 08.1**	**+1.4**
	comp=Z,0.6nm,0.9s,baz=293,slow=4.1,SNR=6.2						

*SOME **29** 14:43:36.5,42°.52N×79°.67E,h20km*

*KRNET **29** 14:43:37.1±0.1,42°.64N×79°.87E,mb2.5*

ISC 29 14:43:37.5±3.2,42°.6N±0°.1×79°.7E±0°.1,h2km±15km,n7, σ0s96/14,8C-2D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.70**	**318**	*e*P	**Pg**	**14 43 51.0**	**+0.1**
	4.6nm,0.1s						
UZB				*e*S	**Sg**	**14 44 01.3**	**+1.4**
	3.9nm,0.2s						
PDGK	**Podgornoye**	**0.71**	**350**	⇓*i*P	**Pg**	**14 43 51.7**	**+0.6**
	baz=38						
PDGK				⇓*i*S	**Sb**	**14 44 02.4**	**-0.5**
	baz=38						
SATY	**Saty**	**1.01**	**296**	*e*P	**Pb**	**14 43 55.8**	**-2.0**
	1.1nm,0.3s						
SATY				*e*S	**Sg**	**14 44 10.0**	**-0.1**
	8.9nm,0.2s						
KDJ	**Kajisay**	**1.90**	**256**	⇑*e*P	**Pn**	**14 44 11.5**	**+0.4**
	baz=57						
KDJ				⇑*i*S	**Sn**	**14 44 36.4**	**+0.8**
	baz=57						
ULHL	**Ulahol**	**2.56**	**263**	⇑*e*P	**Pn**	**14 44 20.3**	**+0.2**
	baz=63						
ULHL				⇑*i*S	**Sn**	**14 44 52.4**	**+0.5**
	baz=63						
BOOM	**Boomskoye usch**	**2.75**	**268**	⇑*i*P	**Pn**	**14 44 23.6**	**+0.9**
	baz=69						
BOOM				⇑*i*S	**Sn**	**14 44 57.2**	**+0.6**
	baz=69						
TKM2	**Tokmak 2**	**3.00**	**277**	⇑*i*P	**Pn**	**14 44 26.6**	**+0.4**
	baz=77						
TKM2				⇑*i*S	**Sn**	**14 45 03.2**	**+0.3**
	baz=77						

*IDC **29** 14:50:09.8±1.4,42°.34N×79°.65E,h0km,mb3.7/4, mb1 3.6/10,mb1mx3.5/54,mbtmp3.5/10,ML3.2/6, Error ellipse: s-maj=22.6km s-min=13.4km az=139.0*

*BJI **29** 14:50:10.4,42°.60N×79°.46E,h7km,ML3.5/9*

*SOME **29** 14:50:12.5,42°.55N×79°.58E,h15km*

*KRNET **29** 14:50:12.6±0.1,42°.56N×79°.63E,h17km,mb4.1*

*NNC **29** 14:50:13.9±0.6,42°.62N×79°.56E,h0km,mb4.3,mpv4.1, Error ellipse: s-maj=4.1km s-min=2.0km az=127.0*

ISC 29 14:50:14.7±1.3,42°.68N±0°.03×79°.54E±0°.03,h13km±8km, n82,σ1s51/134,mb3.8/4,30C-16D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.61**	**321**	P	**Pg**	**14 50 26.6**	**0.0**
	561nm,0.2s						
UZB				S	**Sb**	**14 50 36.9**	**+1.1**
	2µm,0.3s						
UZB	**Uzynbulak**	**0.61**	**321**	*e*P	**Pg**	**14 50 26.6**	**0.0**
	baz=23						
UZB				*e*S	**Sb**	**14 50 36.9**	**+1.1**
	baz=23						
UZB	**Uzynbulak**	**0.61**	**321**	*e*P	**Pg**	**14 50 26.6**	**0.0**
	561nm,0.2s						
UZB				*e*S	**Sb**	**14 50 36.9**	**+1.1**
	2µm,0.3s						
PDGK	**Podgornoye**	**0.66**	**357**	P	**Pg**	**14 50 27.3**	**-0.2**
	314nm,0.3s						
PDGK				S	**Sb**	**14 50 38.1**	**+0.8**
	180nm,0.2s						
PDGK	**Podgornoye**	**0.66**	**357**	⇓P	**Pg**	**14 50 27.3**	**-0.2**
	218nm,0.3s						
PDGK				⇑S	**Sb**	**14 50 38.0**	**+0.8**
	160nm,0.4s						
PDGK	**Podgornoye**	**0.66**	**357**	⇑*i*P	**Pg**	**14 50 27.3**	**-0.2**
	baz=52						
PDGK				⇑*i*S	**Sb**	**14 50 38.1**	**+0.8**
	baz=52						
PRZ	**Przheval'sk**	**0.86**	**258**	⇑*i*P	**Pg**	**14 50 29.7**	**-1.7**
	baz=65						
PRZ				⇑*i*S	**Sg**	**14 50 42.1**	**-0.7**
	baz=65						
SATY	**Saty**	**0.92**	**295**	P	**Pg**	**14 50 31.8**	**-0.7**
	112nm,0.1s						
SATY				S	**Sb**	**14 50 45.8**	**+1.0**
	1µm,0.2s						
SATY	**Saty**	**0.92**	**295**	*e*P	**Pg**	**14 50 31.8**	**-0.7**
	112nm,0.1s						
SATY				*e*S	**Sb**	**14 50 45.8**	**+1.0**
	1µm,0.2s						
DJR	**Jarkent**	**1.67**	**6**	P	**Pb**	**14 50 45.1**	**-0.2**
	46nm,0.2s						
DJR				S	**Sg**	**14 51 09.5**	**+1.2**
	223nm,0.3s						
DJR	**Jarkent**	**1.67**	**6**	*e*P	**Pb**	**14 50 45.1**	**-0.2**
	46nm,0.2s						
DJR				*e*S	**Sg**	**14 51 09.5**	**+1.2**
	223nm,0.3s						
KDJ	**Kajisay**	**1.83**	**254**	*i* P	**Pn**	**14 50 47.0**	**+0.9**
	baz=57						
KDJ				*i* S	**Sb**	**14 51 11.3**	**+0.2**
	baz=57						
KOTS	**Kotyrbulak**	**1.87**	**288**	Pg	**Pb**	**14 50 48.7**	**-0.1**
	118nm,0.2s						
KOTS				Lg	Lg	14 51 14.9	
	1µm,0.4s						
KOTS	**Kotyrbulak**	**1.87**	**288**	*e*P	**Pb**	**14 50 48.7**	**-0.1**
	baz=91						
KOTS				*e*S	**Sg**	**14 51 14.9**	**+0.1**
	baz=91						
KOTS	**Kotyrbulak**	**1.87**	**288**	*e*P	**Pb**	**14 50 48.7**	**-0.1**
	118nm,0.2s						
KOTS				*e*S	**Sg**	**14 51 14.9**	**+0.1**
	1µm,0.4s						
MDOK	**Medeo**	**1.90**	**286**	P	**Pn**	**14 50 47.6**	**+0.7**
	38nm,0.4s						
MDOK				S	**Sb**	**14 51 13.6**	**+0.7**
	120nm,0.5s						
MDOK	**Medeo**	**1.90**	**286**	*e*P	**Pb**	**14 50 48.3**	**-1.0**
	baz=88						
MDOK				*e*S	**Sg**	**14 51 14.5**	**-1.2**
	baz=88						
MDOK	**Medeo**	**1.90**	**286**	*e*P	**Pb**	**14 50 48.3**	**-1.0**
	34nm,0.3s						
MDOK				*e*S	**Sg**	**14 51 14.5**	**-1.2**
	394nm,0.6s						
TNSS	**Tian-Shan**	**1.94**	**282**	*e*P	**Pn**	**14 50 48.9**	**+1.1**
	baz=84						
TNSS				*e*S	**Sb**	**14 51 15.1**	**+0.6**
	baz=84						
TNSS	**Tian-Shan**	**1.94**	**282**	*e*P	**Pn**	**14 50 48.9**	**+1.1**
	55nm,0.4s						
TNSS				*e*S	**Sb**	**14 51 15.1**	**+0.6**
	339nm,0.4s						
KNDC	**Almaty**	**1.97**	**287**	⇓Pn	**Pb**	**14 50 50.5**	**+0.1**
	97nm,0.3s						
KNDC				⇑Lg	Lg	14 51 18.4	
	441nm,0.5s						
ARXS	**Arharly**	**1.98**	**322**	Pg	**Pb**	**14 50 51.2**	**+0.6**
	89nm,0.3s						
ARXS				Lg	Lg	14 51 18.6	
	505nm,0.3s						
ARXS	**Arharly**	**1.98**	**322**	*e*P	**Pb**	**14 50 51.2**	**+0.6**
	89nm,0.3s						
ARXS				*e*S	**Sg**	**14 51 18.6**	**+0.2**
	505nm,0.3s						
AAA	**Alma-Ata**	**2.00**	**286**	Pg	**Pb**	**14 50 51.2**	**+0.2**
	228nm,0.3s						
AAA				Lg	Lg	14 51 19.3	
	398nm,0.3s						
AAA	**Alma-Ata**	**2.00**	**286**	*e*P	**Pb**	**14 50 51.2**	**+0.2**
	baz=89						
AAA				*e*S	**Sg**	**14 51 19.3**	**+0.3**
	baz=89						
AAA	**Alma-Ata**	**2.00**	**286**	*e*P	**Pb**	**14 50 51.2**	**+0.2**
	228nm,0.3s						
AAA				*e*S	**Sg**	**14 51 19.3**	**+0.3**
	398nm,0.3s						
CHKK	**Chushkaly**	**2.21**	**303**	*e*P	**Pb**	**14 50 54.4**	**0.0**
	baz=5.0						
CHKK				*e*S	**Sg**	**14 51 24.6**	**-1.0**
	baz=5.0						
CHKK	**Chushkaly**	**2.21**	**303**	*e*P	**Pb**	**14 50 54.4**	**0.0**
	25nm,0.3s						
CHKK				*e*S	**Sg**	**14 51 24.6**	**-1.0**
	531nm,0.2s						
MTBS	**Maitube**	**2.33**	**282**	*e*P	**Pb**	**14 50 56.1**	**-0.5**
	baz=85						
MTBS				*e*S	**Sb**	**14 51 27.3**	**+1.9**
	baz=85						
MTBS	**Maitube**	**2.33**	**282**	*e*P	**Pb**	**14 50 56.1**	**-0.5**
	82nm,0.2s						
MTBS				*e*S	**Sb**	**14 51 27.3**	**+1.9**
	299nm,0.4s						
KTBS	**Karatobe**	**2.33**	**297**	Pg	**Pb**	**14 50 56.7**	**0.0**
	37nm,0.2s						
KTBS				Lg	Lg	14 51 28.7	
	821nm,0.6s						
KTBS	**Karatobe**	**2.33**	**297**	*e*P	**Pb**	**14 50 56.7**	**0.0**
	baz=98						
KTBS				*e*S	**Sg**	**14 51 28.7**	**-1.0**
	baz=98						
KTBS	**Karatobe**	**2.33**	**297**	*e*P	**Pb**	**14 50 56.7**	**0.0**
	37nm,0.2s						
KTBS				*e*S	**Sg**	**14 51 28.7**	**-1.0**
	821nm,0.6s						
TDK	**Taldyqorghan**	**2.47**	**341**	*e*P	**Pb**	**14 50 58.9**	**0.0**
	292nm,0.4s						
TDK				*e*S	**Sg**	**14 51 32.4**	**-1.6**
	381nm,0.5s						
ULHL	**Ulahol**	**2.48**	**261**	P	**Pn**	**14 50 55.5**	**+0.5**
	SNR=115						
ULHL	**Ulahol**	**2.48**	**261**	⇑*i*P	**Pn**	**14 50 56.0**	**+1.0**
	baz=64						
ULHL				⇑*i*S	**Sn**	**14 51 27.5**	**+2.3**
	baz=64						
KAPS	**Kapalarasan**	**2.61**	**357**	Pg	**Pb**	**14 50 02.1**	**+0.7**
	51nm,0.4s						
KAPS				Lg	Lg	14 51 37.4	
	127nm,0.3s						
KAPS	**Kapalarasan**	**2.61**	**357**	*e*P	**Pb**	**14 51 00.5**	**-0.9**
	25nm,0.4s						
KAPS				*e*S	**Sb**	**14 51 34.5**	**+1.1**
	117nm,0.5s						
KUU	**Kurty**	**2.64**	**299**	*e*P	**Pb**	**14 51 01.4**	**-0.4**
	baz=0.0						
KUU				*e*S	**Sg**	**14 51 36.9**	**-2.5**
	baz=0.0						
KUU	**Kurty**	**2.64**	**299**	*e*P	**Pb**	**14 51 01.4**	**-0.4**
	11nm,0.3s						
KUU				*e*S	**Sg**	**14 51 36.8**	**-2.5**
	388nm,0.3s						
KST	**Kastek**	**2.66**	**279**	Pg	**Pb**	**14 51 01.7**	**-0.5**
	77nm,0.2s						
KST				Lg	Lg	14 51 36.9	
	236nm,0.5s						
KST	**Kastek**	**2.66**	**279**	*e*P	**Pb**	**14 51 01.7**	**-0.5**
	baz=81						
KST				*e*S	**Sb**	**14 51 36.9**	**+2.1**
	baz=81						
KST	**Kastek**	**2.66**	**279**	*e*P	**Pb**	**14 51 01.7**	**-0.5**
	77nm,0.2s						
KST				*e*S	**Sb**	**14 51 36.9**	**+2.1**
	236nm,0.5s						
BOOM	**Boomskoye usch**	**2.67**	**267**	⇑*i*P	**Pn**	**14 50 58.3**	**+0.8**
	baz=70						
BOOM				⇑*i*S	**Sn**	**14 51 32.3**	**+2.5**
	baz=70						
DGS	**Degeres**	**2.83**	**283**	Pg	**Pb**	**14 51 06.0**	**+1.0**
	105nm,0.4s						
DGS				Lg	Lg	14 51 44.2	
	441nm,0.7s						
DGS	**Degeres**	**2.83**	**283**	*e*P	**Pb**	**14 51 06.0**	**+1.0**
	baz=85						
DGS				*e*S	**Sg**	**14 51 44.2**	**-1.2**
	baz=85						
DGS	**Degeres**	**2.83**	**283**	*e*P	**Pb**	**14 51 06.0**	**+1.0**
	105nm,0.4s						
DGS				*e*S	**Sg**	**14 51 44.2**	**-1.2**
	441nm,0.7s						
NRN	**Naryn**	**2.91**	**246**	⇑*i*P	**Pn**	**14 51 02.3**	**+1.2**
	baz=49						
NRN				⇑*i*S	**Sn**	**14 51 37.8**	**+1.7**
	baz=49						
TKM2	**Tokmak 2**	**2.91**	**276**	P	**Pn**	**14 51 02.8**	**+1.8**
	SNR=42						
TKM2	**Tokmak 2**	**2.91**	**276**	⇑Pn	**Pn**	**14 51 02.7**	**+1.8**
	16nm,0.3s						
TKM2				⇑Lg	Lg	14 51 45.4	
	96nm,0.3s						
TKM2	**Tokmak 2**	**2.91**	**276**	⇓*i*P	**Pn**	**14 51 02.8**	**+1.8**
	baz=78						
TKM2				⇓*i*S	**Sn**	**14 51 38.7**	**+2.7**
	baz=78						
KZA	**Kyzart**	**3.23**	**261**	P	**Pn**	**14 51 07.0**	**+1.5**
	SNR=31						
KZA	**Kyzart**	**3.23**	**261**	⇑*i*P	**Pn**	**14 51 07.0**	**+1.5**
	baz=63						
KZA				⇑*i*S	**Sn**	**14 51 46.1**	**+1.9**
	baz=63						
KBK	**Karagaybulak**	**3.39**	**271**	P	**Pn**	**14 51 09.0**	**+1.6**
	SNR=22						
KBK	**Karagaybulak**	**3.39**	**271**	⇓*i*P	**Pn**	**14 51 09.0**	**+1.6**
	baz=73						
KBK				⇓*i*S	**Sn**	**14 51 50.0**	**+2.4**
	baz=73						
CHMS	**Chumysh**	**3.54**	**277**	⇑*i*P	**Pn**	**14 51 11.2**	**+1.8**
	baz=79						
CHMS				⇑*i*S	**Sn**	**14 51 53.6**	**+2.5**
	baz=79						
AAK	**Ala-Archa**	**3.72**	**271**	Pn	**Pn**	**14 51 12.5**	**+0.4**
	2.2nm,0.3s,baz=92,slow=8.3,SNR=26						
AAK				Lg	Lg	14 52 06.9	
	8.0nm,0.3s,baz=311,slow=20,SNR=10						
AAK	**Ala-Archa**	**3.72**	**271**	⇑Pn	**Pn**	**14 51 13.3**	**+1.3**
	1.4nm,0.3s						
AAK				⇓Pg	**Pb**	**14 51 21.0**	**+0.6**
	6.9nm,0.3s						
AAK				⇓Lg	Lg	14 52 11.3	
	51nm,0.5s						
USP	**Ospenovka**	**3.75**	**281**	P	**Pn**	**14 51 14.2**	**+2.0**
	SNR=9.6						
UCH	**Uchtor**	**3.75**	**265**	P	**Pn**	**14 51 14.3**	**+1.7**
	SNR=9.8						
UCH	**Uchtor**	**3.75**	**265**	⇑*i*P	**Pn**	**14 51 14.1**	**+1.5**
	baz=67						
UCH				⇑*i*S	**Sn**	**14 51 58.6**	**+1.7**
	baz=67						
ARLS	**Aral**	**3.96**	**260**	⇓*i*P	**Pn**	**14 51 16.0**	**+0.7**
	baz=62						
ARLS				⇓*i*S	**Sn**	**14 52 02.3**	**+0.7**
	baz=62						
KSH	**Kashi**	**4.15**	**222**	Pg	**Pg**	**14 51 34.8**	**+0.6**
KSH				Sg	**Sg**	**14 52 31.5**	**+3.6**
KSH				smax	smax		
	comp=N,140nm,0.9s						
KSH				smax	smax		
	comp=E,98nm,0.8s						
EKS2	**Erkin-Say**	**4.25**	**272**	P	**Pb**	**14 51 31.6**	**+2.3**
	SNR=9.4						
AML	**Almayashu**	**4.36**	**265**	P	**Pg**	**14 51 36.4**	**-1.9**
	SNR=16						
MAKZ	**Makanchi**	**4.48**	**22**	⇑Pn	**

2.3nm,0.6s
OTUK ⇓Lg Lg 14 54 12.1
11nm,0.6s
KURBB **Kurchatov Arra 7.98 355** Pn **Pn 14 52 12.3 +2.0**
0.1nm,0.3s,baz=160,slow=11,SNR=4.2
KURBB Sn **Sn 14 53 43.4 +3.0**
0.3nm,0.3s,baz=193,slow=29,SNR=5.7
KURK Kurchatov 8.07 356 ⇑Lg Lg 14 54 29.5
23nm,0.9s
ZALV Zalesovo Beam 11.81 15 Pn **Pn 14 53 04.2 +1.5**
0.4nm,0.3s,baz=202,slow=13,SNR=5.7
ZALV Sn **Sn 14 55 10.8 -3.5**
0.8nm,0.3s,baz=208,slow=25,SNR=7.0
BVAR Borovoye Array 12.03 333 Pn **Pn 14 53 05.9 +0.1**
0.2nm,0.3s,baz=152,slow=16,SNR=5.0
SONM Songino Array 19.55 65 P **P 14 54 41.0 -1.1**
0.1nm,0.3s,baz=265,slow=12,SNR=6.3
BRTR Keskin Array B 34.34 281 P **P 14 57 01.2 0.0**
0.9nm,0.8s,baz=82,slow=10,SNR=3.1
ILAR Eielson Array 66.90 20 P **P 15 01 04.8 -1.3**
0.4nm,0.8s,baz=290,slow=7.1,SNR=4.2
TORD Torodi Ar. Bea 72.31 272 P **P 15 01 37.8 -2.4**
0.5nm,0.6s,baz=36,slow=4.5,SNR=3.4
YKA Yellowknife Ar 74.56 7 P **P 15 01 51.5 -1.2**
0.5nm,0.5s,baz=344,slow=5.8,SNR=11

BER 29 15:00:04.7±1.4, 58°38N×5°53E, h0km, ML1.5, Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNART	**Snartemo**	**0.89**	**92**	*eP*	Pg	15 00 19.6	-2.0
SNART				*eS*	Sg	15 00 32.9	-0.3
SNART				IAML		15 00 35.8	
	comp=Z,10.0nm,0.3s						
BLS5	**Blasjo**	**1.15**	**24**	*eP*	Pg	15 00 24.5	-2.2
BLS5				IAML		15 00 41.0	
	comp=Z,5.1nm,0.7s						
BLS5				*eS*	Sg	15 00 41.1	-0.5
ODD1	**Odda**	**1.64**	**20**	*eP*	Pn	15 00 33.2	-1.5
ODD1				*eS*	Sn	15 00 53.4	-3.1
ODD1				IAML		15 00 54.4	
	comp=Z,7.4nm,0.6s						
AKN	**Aaknes**	**3.88**	**10**	*eP*	Pn	15 01 04.6	-0.9

IDC ***29*** *15:01:51.5±1.9, 7°.43S×131°.54E, h0km, mb3.6/1, mb1 4.2/6, mb1mx3.6/46, mbtmp4.1/6, ML4.0/5, Error ellipse: s-maj=48.4km s-min=23.9km az=91.0*
ISC 29 15:01:50.7±1.0, 7°.47S±0°.06×131°.6E±0°.1, h10km, n6, σ4§62/10, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.57**	**357**	Pn	**Pn**	**15 03 29.4**	**+2.0**
SIJI				Sn	**Sn**	**15 04 35.5**	**-6.9**
	5.0nm,0.3s,baz=45,slow=15,SNR=78						
BATI	**Baumata**	**8.31**	**250**	Pn	**Pn**	**15 03 54.8**	**+3.4**
BATI	3.8nm,0.3s,baz=195,slow=1.7,SNR=11			Sn	**Sn**	**15 05 20.8**	**-4.5**
	1.9nm,0.3s,baz=114,slow=20,SNR=2.2						
FITZ	**Fitzroy Crossi**	**12.06**	**208**	Pn	**Pn**	**15 04 45.6**	**+2.9**
	0.8nm,0.3s,baz=30,slow=11,SNR=54						
FITZ				Sn	Sn	15 06 49.0	-8.3
	3.8nm,0.3s,baz=174,slow=14,SNR=14						
WRA	**Warramunga Arr**	**12.68**	**168**	Pn	**Pn**	**15 04 53.6**	**+2.5**
	0.7nm,0.3s,baz=346,slow=14,SNR=48						
WRA				Sn	**Sn**	**15 07 08.0**	**-4.5**
	1.1nm,0.3s,baz=350,slow=24,SNR=7.1						
ASAR	**Alice Springs**	**16.25**	**172**	Pn	**Pn**	**15 05 40.8**	**+1.5**
	0.5nm,0.3s,baz=354,slow=14,SNR=39						
ASAR				Sn	**Sn**	**15 08 34.8**	**-5.0**
	0.2nm,0.3s,baz=352,slow=26,SNR=5.6						
MKAR	**Makanchi Array**	**69.50**	**326**	P	**P**	**15 13 01.1**	**+1.6**
	0.2nm,0.4s,baz=116,slow=6.6,SNR=8.9						

IDC ***29*** *15:06:57.8±0.7, 27°.13N×140°.34E, h442km±9km, mb3.0/9, mb1 3.1/11, mb1mx2.9/57, mbtmp3.8/11, Error ellipse: s-maj=29.4km s-min=13.4km az=82.0*
JMA ***29*** *15:07:00.2±0.1, 27°.50N×140°.98E, h448km, M3.6*
ISC 29 15:06:58.4±0.8, 27°.2N±0°.1×140°.6E±0°.2, h450km, n20, σ1§19/22, mb3.3/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.43**	**92**	P	**P**	**15 07 56.8**	**+0.7**
CBIJ				*eS*	**S**	**15 08 41.9**	**-1.0**
JCJ	**Chichijima**	**1.43**	**92**	P	**P**	**15 07 57.2**	**+1.0**
	9.2nm,0.3s,baz=331,slow=21,SNR=6.8						
JCJ				S	**S**	**15 08 42.6**	**-0.3**
	11nm,0.3s,baz=322,slow=19,SNR=5.2						
JHHJ	**Haha-jima-NKT**	**1.51**	**110**	P	**P**	**15 07 58.0**	**+1.5**
JHJ	**Hachijo jima 2**	**5.99**	**354**	P	**P**	**15 08 33.0**	**+0.5**
	10.0nm,0.3s,baz=73,slow=19,SNR=4.5						
BSO1	**Boso 1**	**7.49**	**2**	P	**P**	**15 08 47.6**	**0.0**
BSO3	**Boso 3**	**7.63**	**360**	P	**P**	**15 08 50.3**	**+0.9**
JOD2	**Odawara 2**	**8.19**	**351**	P	**P**	**15 08 56.7**	**+0.9**
JWY	**Kouya**	**8.26**	**330**	P	**P**	**15 08 59.6**	**+3.1**
JRY	**Ryogami san**	**8.96**	**351**	P	**P**	**15 09 04.2**	**+0.1**
JYT	**Yasato**	**9.06**	**358**	P	**P**	**15 09 04.9**	**-0.2**
MJAR	**Matsushiro Arr**	**9.58**	**348**	P	**P**	**15 09 08.9**	**-1.9**
	0.1nm,0.3s,baz=176,slow=11,SNR=8.0						
WRA	**Warramunga Arr**	**47.20**	**188**	P	**P**	**15 14 48.7**	**-0.5**
	0.3nm,0.4s,baz=4.5,slow=7.5,SNR=15						
ASAR	**Alice Springs**	**50.93**	**188**	P	**P**	**15 15 16.6**	**-0.4**
	0.4nm,1.0s,baz=1.0,slow=3.9,SNR=5.4						
KURBB	**Kurchatov Arra**	**51.99**	**314**	P	**P**	**15 15 23.4**	**-1.0**
	0.5nm,0.4s,baz=92,slow=8.3,SNR=5.4						
BVAR	**Borovoye Array**	**57.04**	**317**	P	**P**	**15 15 59.5**	**-0.5**
	0.6nm,0.4s,baz=91,slow=6.7,SNR=7.4						
YKA	**Yellowknife Ar**	**72.77**	**28**	P	**P**	**15 17 40.3**	**+0.8**
	0.3nm,0.3s,baz=296,slow=6.0,SNR=5.1						
ARCES	**ARCESS Array B**	**73.02**	**341**	P	**P**	**15 17 40.6**	**-0.3**
	2.6nm,0.8s,baz=66,slow=9.0,SNR=3.8						
FINES	**FINESS Array B**	**77.27**	**333**	P	**P**	**15 18 04.0**	**-0.8**
	1.5nm,0.3s,baz=60,slow=5.2,SNR=21						
AKASG	**Malin Array Be**	**81.73**	**323**	P	**P**	**15 18 27.6**	**-1.1**
	0.1nm,0.3s,baz=63,slow=5.9,SNR=3.8						
PDAR	**Pinedale Array**	**85.17**	**4**	P	**P**	**15 18 48.1**	**+1.6**
	0.2nm,0.3s,baz=121,slow=4.2,SNR=4.9						

IDC 29 15:08:23.9±2.5, 19°.62S×179°.95E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/42, mbtmp3.5/3, Error ellipse: s-maj=264.0km s-min=31.9km az=161.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.82**	**262**	P	P	15 16 24.2	+0.3
	0.1nm,0.3s,baz=96,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**42.85**	**256**	P	P	15 16 23.6	-0.6
	0.3nm,0.5s,baz=92,slow=8.4,SNR=7.4						
TXAR	**Lajitas Array**	**88.22**	**58**	P	P	15 21 17.4	0.0
	0.3nm,0.5s,baz=219,slow=5.6,SNR=2.6						

IDC ***29*** *15:09:26.4±3.0, 13°.16N×88°.33W, h25km±19km, mb3.4/6, mb1 3.8/8, mb1mx3.6/35, mbtmp3.6/8, ML3.4/2, MS3.2/3, Ms1 3.2/3, ms1mx2.7/28, Error ellipse: s-maj=62.9km s-min=18.3km az=42.0*
ISCJB ***29*** *15:09:30.9±0.6, 13°.01N±0°.08×88°.99W±0°.05, h74km±4km, mb3.6/6, Error ellipse: s-maj=14.5km s-min=5.2km az=31.8*
UCR ***29*** *15:09:32.2±1.9, 12°.98N×89°.05W, h13km±13km, MD3.8, ML4.3, mb4.1(NEIC)*
NEIC ***29*** *15:09:32.0±0.0, 13°.05N×89°.01W, h53km, mb4.1/3, MD4.3(SNET), After SNET.*
NEIC Felt [II] at San Salvador.
ISC 29 15:09:31.2±1.1, 12°.99N±0°.09×88°.96W±0°.05, h58km±9km, n43, σ1§47/47, mb3.7/6, 1C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNET	**Serv Nac Est T**	**0.74**	**339**	⇓*iP*	**Pn**	**15 09 46.2**	**+0.3**
SNET				*eS*	**Sn**	**15 09 56.2**	**-0.4**
SNET				IAML		15 09 57.0	
	comp=Z,8μm,0.2s						
LBRS	**Las Brisas**	**0.75**	**354**	*eP*	**Pn**	**15 09 46.7**	**+0.7**
CLUB	**San Salvador**	**0.77**	**338**	*eP*	**Pn**	**15 09 46.7**	**+0.5**
CLUB				*eS*	**Sn**	**15 09 57.3**	**+0.1**
CLUB				IAML		15 09 58.7	
	comp=Z,8μm,0.2s						
CUSC	**San Salvador**	**0.77**	**343**	*eP*	**Pn**	**15 09 46.6**	**+0.3**
CUSC				*eS*	**Sn**	**15 09 57.6**	**+0.3**
BOQS	**Boqueron**	**0.80**	**337**	⇑*eP*	**Pn**	**15 09 47.2**	**+0.4**
BLLM	**Bellamira**	**0.84**	**57**	*eP*	**Pn**	**15 09 48.8**	**+1.7**
CEDA	**San Andres**	**0.91**	**333**	*eP*	**Pn**	**15 09 48.2**	**+0.1**
CEDA				*eS*	**Sn**	**15 10 00.8**	**+0.4**
CEDA				IAML		15 10 04.1	
	comp=Z,7μm,0.2s						
CEVE	**Cerro Verde**	**1.05**	**322**	*eP*	**Pn**	**15 09 50.6**	**+0.6**
CEVE				*eS*	**Sn**	**15 10 04.2**	**+0.1**
CEVE				IAML		15 10 09.9	
	comp=Z,10μm,0.3s						
CAHU	**Cacacuatique**	**1.07**	**43**	⇓*eP*	**Pn**	**15 09 51.5**	**+1.3**
CNCH	**Conchagua**	**1.14**	**75**	*eP*	**Pn**	**15 09 52.5**	**+1.4**
IXG	**Ixpaco**	**1.87**	**309**	*eP*	**Pn**	**15 10 02.4**	**+1.4**
TGUH	**Tegucigalpa,Un**	**1.96**	**57**	*ePn*	**Pn**	**15 10 03.5**	**+1.5**
NBG	**Las Nubes**	**2.08**	**320**	*eP*	**Pn**	**15 10 06.2**	**+2.2**
FUG	**Fuego 3**	**2.33**	**309**	*eP*	**Pn**	**15 10 10.7**	**+3.4**
FUG				*eS*	**Sn**	**15 10 38.5**	**+3.6**
APG	**El Apazote**	**2.48**	**324**	Pn	**Pn**	**15 10 10.6**	**+1.2**
	comp=Z,3.4nm,0.3s,baz=141,slow=8.9,SNR=38						
APG				Pg		15 10 18.1	
	comp=Z,9.2nm,0.3s,baz=69,slow=7.9,SNR=20						
APG				Lg	Lg	15 10 52.3	
	comp=Z,11nm,0.3s,baz=9.1,slow=17,SNR=5.8						
ESTN	**Estel**	**2.53**	**87**	*ePn*	**Pn**	**15 10 11.8**	**+1.8**
BOAB	**BOACO BROADBAN**	**2.26**	**99**	*ePn*	**Pn**	**15 10 20.5**	**+0.6**
CCIG	**Comitan**	**4.49**	**317**	*ePn*	**Pn**	**15 10 35.8**	**-1.0**
ESPN	**Las Esperanzas**	**4.62**	**99**	*ePn*	**Pn**	**15 10 39.4**	**+0.9**
JTS	**JuntasAbangare**	**4.76**	**124**	Pg	Pn	15 10 45.8	+5.5
	comp=Z,7.5nm,0.3s,baz=0.6,slow=9.0,SNR=17						
JTS				Lg	Lg	15 11 51.9	
	comp=Z,3.3nm,0.3s,baz=315,slow=19,SNR=9.8						
JTS	**JuntasAbangare**	**4.76**	**124**	*ePn*	**Pn**	**15 10 41.7**	**+1.3**
HDC	**Heredia**	**5.60**	**122**	*ePn*	**Pn**	**15 10 53.2**	**+1.1**
CMIG	**Matias Romero**	**7.02**	**306**	Pn	Pn	15 11 14.1	+2.7
	comp=Z,0.8nm,0.3s,baz=132,slow=7.9,SNR=7.4						
CMIG				Sn	**Sn**	**15 12 28.9**	**-1.1**
	comp=Z,1.5nm,0.3s,baz=242,slow=24,SNR=6.7						
CMIG				LR	LR	15 14 02.1	
	comp=Z,79nm,20.1s,baz=89,slow=37						
TEIG	**Tepich**	**7.23**	**5**	*ePn*	**Pn**	**15 11 16.5**	**+2.3**
BCIP	**Isla Barro Col**	**9.73**	**112**	*ePn*	**Pn**	**15 11 49.0**	**+0.5**
UNM	**Universidad Na**	**11.66**	**304**	*ePn*	**Pn**	**15 12 14.0**	**-1.1**
OTAV	**Otavalo**	**16.40**	**140**	*eP*	**P**	**15 13 19.5**	**-0.7**
	comp=Z,9.8nm,1.5s						
SDV	**Santo Domingo**	**18.45**	**101**	P	**P**	**15 13 38.7**	**-3.8**
	comp=Z,0.2nm,0.3s,baz=287,slow=17,SNR=2.3						
SDV	**Santo Domingo**	**18.45**	**101**	*eP*	**P**	**15 13 42.4**	**-0.1**
	comp=Z,25nm,1.8s						
456A	**Hilliard**	**18.78**	**19**	*eP*	**P**	**15 13 46.5**	**+0.8**
	comp=Z,122nm,0.6s						
GRTK	**Grand Turk**	**19.01**	**61**	*eP*	**P**	**15 13 49.7**	**+1.4**
	comp=Z,199nm,1.0s						
VBMS	**Vicksburg**	**19.19**	**356**	*eP*	**Pn**	**15 13 52.8**	**+1.1**
	comp=Z,27nm,0.8s						
TXAR	**Lajitas Array**	**21.23**	**322**	P	**P**	**15 14 13.8**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=142,slow=11,SNR=5.0						
TKL	**Tuckaleechee C**	**23.05**	**11**	LR	LR	15 23 18.1	
	comp=Z,104nm,18.6s,baz=333,slow=36						
PTGA	**Pitinga**	**31.82**	**113**	LR	LR	15 29 49.5	
	comp=Z,39nm,19.1s,baz=18,slow=39						
PDAR	**Pinedale Array**	**34.61**	**333**	P	**P**	**15 16 15.4**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=111,slow=8.8,SNR=2.4						
ULM	**Lac du Bonnet**	**37.58**	**353**	P	**P**	**15 16 38.7**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=188,slow=7.1,SNR=3.8						
YKA	**Yellowknife Ar**	**52.71**	**345**	P	**P**	**15 18 38.9**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=143,slow=7.5,SNR=26						
YKA				PcP	**PcP**	**15 19 47.1**	**-1.6**
	comp=Z,0.2nm,0.6s,baz=156,slow=3.8,SNR=3.8						
INK	**Inuvik**	**62.25**	**343**	P	**P**	**15 19 45.8**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=127,slow=6.7,SNR=6.6						
ILAR	**Eielson Array**	**64.94**	**336**	P	**P**	**15 20 03.1**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=173,slow=4.8,SNR=6.1						
WRA	**Warramunga Arr**	**137.99**	**255**	PKP	**PKPdf**	**15 28 51.8**	**+1.5**
	comp=Z,0.2nm,0.7s,baz=86,slow=1.8,SNR=5.7						
ASAR	**Alice Springs**	**138.09**	**249**	PKP	**PKPdf**	**15 28 52.0**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=89,slow=1.9,SNR=3.2						
CMAR	**Chiang Mai Arr**	**147.79**	**346**	PKPbc	**PKPdf**	**15 29 08.6**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=0.0,slow=3.6,SNR=3.0						

IDC 29 15:10:08.3±4.2, 56°.06S×117°.84W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/34, mbtmp4.0/3, Error ellipse: s-maj=684.3km s-min=30.1km az=163.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDFB	**Brasilia**	**65.91**	**82**	P	P	15 20 55.7	-0.4
	1.5nm,0.4s,baz=136,slow=3.1,SNR=2.5						
H01W1	**Cape Leeuwin H**	**79.19**	**221**	T	T	16 50 57.2	
	baz=151,slow=76,SNR=3.6						
H01W2	**Cape Leeuwin H**	**79.20**	**221**	T	T	16 50 53.1	
	baz=151,slow=76,SNR=4.9						
H01W3	**Cape Leeuwin H**	**79.21**	**221**	T	T	16 50 58.6	
	baz=151,slow=76,SNR=4.7						
ASAR	**Alice Springs**	**80.25**	**242**	P	P	15 22 21.8	+0.9
	0.9nm,1.2s,baz=142,slow=4.6,SNR=3.5						
WRA	**Warramunga Arr**	**83.16**	**244**	P	P	15 22 35.0	-1.2
	2.3nm,0.8s,baz=149,slow=4.2,SNR=12						
GERES	**GERESS Array B**	**150.14**	**83**	PKPbc	PKPbc	15 30 00.8	+0.7
	0.3nm,0.2s,baz=256,slow=2.9,SNR=3.5						

SOME ***29*** *15:12:45.7, 42°.60N×79°.60E, h15km*
KRNET ***29*** *15:12:45.6±0.1, 42°.60N×79°.67E, h16km, mb3.8*
ISCJB ***29*** *15:12:46.2±0.8, 42°.46N±0°.04×79°.78E±0°.05, h10km, Error ellipse: s-maj=7.3km s-min=3.9km az=139.2*
NNC ***29*** *15:12:46.5±1.0, 42°.64N×79°.61E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=6.8km s-min=3.8km az=138.0*
ISC 29 15:12:44.7±1.3, 42°.52N±0°.04×79°.75E±0°.05, h10km, n59, σ1§34/99, 27C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UZB	**Uzunbulak**	**0.83**	**320**	P	**Pg**	**15 12 59.5**	**-1.1**
	28nm,0.1s						
UZB				S	**Sg**	**15 13 09.5**	**-1.9**
	426nm,0.2s						
UZB	**Uzunbulak**	**0.83**	**320**	*eP*	**Pg**	**15 12 59.5**	**-1.1**
	baz=19						
UZB				*eS*	**Sg**	**15 13 09.5**	**-1.9**
	baz=19						
UZB	**Uzunbulak**	**0.83**	**320**	*eP*	**Pg**	**15 12 59.5**	**-1.1**
	28nm,0.1s						
UZB				*eS*	**Sg**	**15 13 09.5**	**-1.9**
	426nm,0.2s						
PDGK	**Podgornoye**	**0.83**	**347**	P	**Pg**	**15 12 59.7**	**-1.2**
	33nm,0.1s						
PDGK				S	**Sg**	**15 13 09.7**	**-2.0**
	98nm,0.2s						
PDGK	**Podgornoye**	**0.83**	**347**	⇓P	**Pg**	**15 12 59.7**	**-1.2**
	8.0nm,0.2s						
PDGK				⇓S	**Sg**	**15 13 09.8**	**-2.0**
	35nm,0.3s						
PDGK	**Podgornoye**	**0.83**	**347**	⇑*iP*	**Pg**	**15 12 59.6**	**-1.2**
	baz=49						
PDGK				⇑*iS*	**Sg**	**15 13 10.0**	**-1.7**
	baz=49						
PRZ	**Przheval'sk**	**1.00**	**269**	⇑*iP*	**Pg**	**15 13 03.4**	**-0.5**
	baz=63						
PRZ				⇑*iS*	**Sg**	**15 13 16.3**	**-0.5**
	baz=63						
SATY	**Saty**	**1.13**	**299**	P	**Pg**	**15 13 05.1**	**-1.3**
	44nm,0.1s						
SATY				S	**Sg**	**15 13 19.0**	**-2.0**
	199nm,0.2s						
SATY	**Saty**	**1.13**	**299**	*eP*	**Pg**	**15 13 05.1**	**-1.3**
	44nm,0.1s						
SATY				*eS*	**Sg**	**15 13 19.0**	**-2.0**
	199nm,0.2s						
DJR	**Jarkent**	**1.82**	**1**	P	**Pb**	**15 13 17.9**	**-0.2**
	4.2nm,0.2s						
DJR				S	**Sb**	**15 13 41.2**	**+0.2**
	31nm,0.3s						
DJR	**Jarkent**	**1.82**	**1**	*eP*	**Pb**	**15 13 17.9**	**-0.2**
	4.2nm,0.2s						
DJR				*eS*	**Sb**	**15 13 41.2**	**+0.2**
	31nm,0.3s						
KDJ	**Kajisay**	**1.94**	**259**	⇑*iP*	**Pb**	**15 13 20.7**	**+0.4**
	baz=56						
KDJ				⇑*iS*	**Sg**	**15 13 45.7**	**-1.4**
	baz=56						
KOTS	**Kotyrbulak**	**2.06**	**291**	Pg	**Pb**	**15 13 22.2**	**-0.2**
	59nm,0.3s						
KOTS				Lg	Lg	15 13 48.3	
	127nm,0.2s						
KOTS	**Kotyrbulak**	**2.06**	**291**	*eP*	**Pb**	**15 13 22.2**	**-0.2**
	baz=89						
KOTS				*eS*	**Sb**	**15 13 48.3**	**+0.1**
	baz=89						
KOTS	**Kotyrbulak**	**2.06**	**291**	*eP*	**Pb**	**15 13 22.2**	**-0.2**
	59nm,0.3s						
KOTS				*eS*	**Sb**	**15 13 48.2**	**+0.1**
	127nm,0.2s						
MDOK	**Medeo**	**2.09**	**289**	Pg	**Pb**	**15 13 21.8**	**-1.0**
	23nm,0.4s						
MDOK				Lg	Lg	15 13 50.6	
	46nm,0.5s						
MDOK	**Medeo**	**2.09**	**289**	*eP*	**Pb**	**15 13 21.8**	**-1.0**
	baz=87						
MDOK				*eS*	**Sb**	**15 13 48.0**	**-0.8**
	baz=87						
MDOK	**Medeo**	**2.09**	**289**	*eP*	**Pb**	**15 13 21.8**	**-1.0**
	36nm,0.4s						
MDOK				*eS*	**Sb**	**15 13 47.9**	**-0.8**
	72nm,0.4s						
TNSS	**Tian-Shan**	**2.12**	**285**	*eP*	**Pb**	**15 13 22.4**	**-1.1**
	baz=83						
TNSS				*eS*	**Sb**	**15 13 49.5**	**-0.6**
	baz=83						
TNSS	**Tian-Shan**	**2.12**	**285**	*eP*	**Pb**	**15 13 22.4**	**-1.1**
	63nm,0.3s						
TNSS				*eS*	**Sb**	**15 13 49.5**	**-0.6**
	50nm,0.6s						
KNDC	**Almaty**	**2.16**	**290**	⇓Pg	**Pb**	**15 13 23.8**	**-0.2**
	51nm,0.3s						
KNDC				⇑Lg	Lg	15 13 53.1	
	32nm,0.3s						
AAA	**Alma-Ata**	**2.19**	**289**	Pg	**Pb**	**15 13 24.8**	**+0.3**
	108nm,0.2s						
AAA				Lg	Lg	15 13 52.7	
	117nm,0.2s						
AAA	**Alma-Ata**	**2.19**	**289**	*eP*	**Pb**	**15 13 24.8**	**+0.3**
	baz=88						
AAA				*eS*	**Sb**	**15 13 52.8**	**+1.0**
	baz=88						
AAA	**Alma-Ata**	**2.19**	**289**	*eP*	**Pb**	**15 13 24.8**	**+0.3**
	105nm,0.3s						
AAA				*eS*	**Sb**	**15 13 52.8**	**+1.0**
	98nm,0.2s						
ARXS	**Arharly**	**2.20**	**321**	Pg	**Pb**	**15 13 24.2**	**-0.4**
	45nm,0.4s						
ARXS				Lg	Lg	15 13 51.5	
	127nm,0.2s						
ARXS	**Arharly**	**2.20**	**321**	*eP*	**Pb**	**15 13 24.2**	**-0.4**
	45nm,0.4s						
ARXS				*eS*	**Sb**	**15 13 51.5**	**-0.4**
	127nm,0.2s						
CHKK	**Chushkaly**	**2.42**	**304**	*eP*	**Pb**	**15 13 27.7**	**-0.6**
	baz=4.0						
CHKK				*eS*	**Sb**	**15 13 58.1**	**-0.1**
	baz=4.0						
CHKK	**Chushkaly**	**2.42**	**304**	*eP*	**Pb**	**15 13 27.7**	**-0.6**
	5.7nm,0.1s						
CHKK				*eS*	**Sb**	**15 13 58.1**	**-0.1**
	96nm,0.2s						
MTBS	**Maitube**	**2.52**	**285**	*eP*	**Pb**	**15 13 29.5**	**-0.5**
	baz=84						
MTBS				*eS*	**Sb**	**15 14 00.9**	**-0.1**
	baz=84						
MTBS	**Maitube**	**2.52**	**285**	*eP*	**Pb**	**15 13 29.5**	**-0.5**
	46nm,0.2s						
MTBS				*eS*	**Sb**	**15 14 00.9**	**-0.1**
	32nm,0.2s						
KTBS	**Karatobe**	**2.54**	**299**	Pg	**Pb**	**15 13 30.4**	**-0.1**
	16nm,0.2s						
KTBS				Lg	Lg	15 14 02.5	
	97nm,0.2s						
KTBS	**Karatobe**	**2.54**	**299**	*eP*	**Pb**	**15 13 30.4**	**-0.1**
	baz=97						
KTBS				*eS*	**Sb**	**15 14 02.6**	**+0.8**
	baz=97						
KTBS	**Karatobe**	**2.54**	**299**	*eP*	**Pb**	**15 13 30.4**	**-0.1**
	16nm,0.2s						
KTBS				*eS*	**Sb**	**15 14 02.5**	**+0.8**
	97nm,0.2s						
ULHL	**Ulahol**	**2.61**	**265**	⇑*iP*	**Pb**	**15 13 29.5**	**-2.2**
	baz=63						
ULHL				⇑*iS*	**Sb**	**15 14 01.6**	**-2.3**
	baz=63						
TDK	**Taldyqorghan**	**2.67**	**339**	*eP*	**Pb**	**15 13 31.9**	**-0.7**
	18nm,0.2s						
TDK				*eS*	**Sb**	**15 14 05.2**	**-0.2**
	90nm,0.6s						
KAPS	**Kapalarasan**	**2.78**	**354**	Pg	**Pb**	**15 13 33.4**	**-1.2**
	6.0nm,0.3s						
KAPS				Lg	Lg	15 14 07.7	
	45nm,0.2s						
KAPS	**Kapalarasan**	**2.78**	**354**	*eP*	**Pb**	**15 13 33.4**	**-1.2**
	6.0nm,0.3s						
KAPS				*eS*	**Sb**	**15 14 07.7**	**-1.0**
	45nm,0.2s						
BOOM	**Boomskoye usch**	**2.81**	**271**	⇑*iP*	**Pn**	**15 13 32.2**	**+2.3**
	baz=69						
BOOM				⇑*iS*	**Sn**	**15 14 06.7**	**-3.0**
	baz=69						
KST	**Kastek**	**2.83**	**282**	Pg	**Pb**	**15 13 35.1**	**-0.4**
	55nm,0.2s						
KST				Lg	Lg	15 14 11.8	
	46nm,0.4s						
KST	**Kastek**	**2.83**	**282**	*eP*	**Pb**	**15 13 35.1**	**-0.4**
	baz=80						
KST				*eS*	**Sb**	**15 14 10.9**	**+0.6**
	baz=80						
KST	**Kastek**	**2.83**	**282**	*eP*	**Pb**	**15 13 35.1**	**-0.4**
	55nm,0.2s						
KST				*eS*	**Sb**	**15 14 10.9**	**+0.6**
	46nm,0.4s						
KUU	**Kurty**	**2.85**	**300**	*eP*	**Pb**	**15 13 34.8**	**-0.8**
	baz=99						
KUU				*eS

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MK31	**Makanchi Array**	**4.65**	**22**	Pn	**Pn**	**15 13 57.0**	**+2.0**
	0.2nm,0.2s,baz=187,slow=9.6,SNR=34						
MK31				Lg	Lg	15 15 12.0	
	0.8nm,0.3s,baz=193,slow=30,SNR=6.4						
SFK	**Sufi-Kurgan**	**5.33**	**244**	⇑Pg	**Pg**	**15 14 25.9**	**-0.8**
	1.3nm,0.5s						
SFK				⇓Lg	Lg	15 15 33.3	
	1.6nm,0.6s						
MNAS	**Manas**	**5.35**	**272**	⇑Pg	**Pg**	**15 14 24.2**	**-3.0**
	1.9nm,0.5s						
MNAS				⇑Lg	Lg	15 15 30.7	
	2.8nm,0.6s						
KK31	**Karatay Array**	**6.82**	**278**	Pg	Pb	15 14 48.9	+5.7
	0.2nm,0.3s,baz=85,slow=15,SNR=5.7						
KK31				Lg	Lg	15 16 15.5	
	0.9nm,0.4s,baz=96,slow=31,SNR=4.6						
OTUK	**Ortayu**	**7.74**	**320**	⇑Pn	Pn	15 14 44.8	+7.3
	0.7nm,0.4s						
OTUK				⇓Lg	Lg	15 16 43.4	
	1.7nm,0.6s						

*GCMT **29** 15:14:39.0±0.4, 35°.19S±0°.03×111°.91W±0°.03, h20km±2km, MW4.9/65, Moment Tensor Solution. s24,c30; s65,c87; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.01±.23; $M_{\theta\theta}$-0.66±.17; $M_{\phi\phi}$1.67±.18; $M_{r\theta}$-1.52±.37; $M_{\theta\phi}$-2.01±.11; $M_{\phi r}$-0.96±.32; Best double couple: $M_0$3.04400×10^{16} NP1:ϕ_s8.00000°, δ65.00000°, λ-30.00000°. NP2: ϕ_s112.00000°, δ63.00000°, λ-151.00000°. Principal axes: T 2.8300, Plg1.0000°, Azm61.0000°; N 0.4270, Plg51.0000°, Azm152.0000°; P -3.2570, Plg39.0000°, Azm329.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 29 15:14:33.2±1.5**, 35°.27S×111°.38W, h0km, mb3.6**/2**, mb1 4.0**/2**, mb1mx3.6**/39**, mbtmp3.6**/2**, MS4.1**/8**, Ms1 4.1**/8**, ms1mx3.9**/19 **Error ellipse: s-maj=71.7km s-min=39.5km az=168.0, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RKT	**Rikitea**	**23.82**	**294**	*e*LQ	LQ	15 24 20.8	
	532nm,27.8s						
TBI	**Tubuai**	**35.06**	**279**	*e*LR	LR	15 30 33.9	
	comp=Z,432nm,24.8s,baz=119						
LPAZ	**La Paz**	**42.89**	**75**	P	P	15 22 34.1	-0.2
	0.3nm,0.4s,baz=250,slow=11,SNR=2.2						
LPAZ				LR	LR	15 36 13.6	
	comp=Z,215nm,21.6s,baz=212,slow=30						
JTS	**JuntasAbangare**	**51.75**	**34**	LR	LR	15 40 03.4	
	comp=Z,489nm,21.7s,baz=271,slow=30						
ROSC	**El Rosal**	**52.95**	**49**	LR	LR	15 42 21.2	
	comp=Z,126nm,19.3s,baz=255,slow=32						
VNDA	**Vanda**	**55.17**	**195**	LR	LR	15 41 58.4	
	comp=Z,98nm,19.8s,baz=128,slow=30						
URZ	**Urewera**	**56.03**	**244**	LR	LR	15 42 24.7	
	comp=Z,326nm,20.3s,baz=94,slow=30						
BDFB	**Brasilia**	**59.51**	**88**	LR	LR	15 47 30.6	
	comp=Z,102nm,20.5s,baz=270,slow=33						
DZM	**Mont Dzumac**	**71.45**	**256**	*e*LR	LR	15 47 25.7	
	comp=Z,265nm,24.1s						
MAW	**Mawson**	**77.35**	**178**	LR	LR	15 57 06.2	
	comp=Z,145nm,21.8s,baz=181,slow=33						
PDAR	**Pinedale Array**	**77.68**	**1**	P	P	15 26 32.1	+0.5
	0.8nm,0.9s,baz=165,slow=3.7,SNR=4.9						
ASAR	**Alice Springs**	**94.83**	**237**	LR	LR	16 06 05.6	
	comp=Z,113nm,18.6s,baz=130,slow=33						
CMAR	**Chiang Mai Arr**	**148.36**	**246**	PKPbc	PKPbc	15 34 21.9	0.0
	1.2nm,0.8s,baz=146,slow=0.9,SNR=10						
SONM	**Songino Array**	**149.38**	**306**	PKPbc	PKPbc	15 34 22.4	-1.5
	0.3nm,0.7s,baz=96,slow=4.3,SNR=3.3						

*IDC **29** 15:22:36.8±1.9, 35°.18N×141°.52E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.3/43, mbtmp3.4/4, ML3.0/2, Error ellipse: s-maj=58.7km s-min=28.1km az=74.0*

*ISCJB **29** 15:22:38.9±1.1, 35°.20N±0°.06×141°.4E±0°.1, h35km, mb3.5/2, Error ellipse: s-maj=14.0km s-min=8.4km az=168.5*

*JMA **29** 15:22:39.9±0.2, 35°.18N×141°.26E, h37km±4km, M3.0*

ISC 29 15:22:41.1±1.5**, 35°.22N**±0°.08×**141°.4E**±0°.1**, h35km, n19, σ2s.27**/14**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.65**	**318**	P	**Pn**	**15 22 52.0**	**-1.8**
CHOJ				*e*S	**Sn**	**15 23 01.1**	**-1.7**
BSO1	**Boso 1**	**0.67**	**211**	P	**Pn**	**15 22 51.5**	**-2.0**
BSO3	**Boso 3**	**0.84**	**240**	P	**Pn**	**15 22 53.6**	**-2.6**
JSMT	**Sammumatsuo**	**0.88**	**299**	P	**Pn**	**15 22 55.9**	**-1.0**
KTR	**Katsuura**	**0.89**	**265**	P	**Pn**	**15 22 54.5**	**-2.6**
BSO4	**Boso 4**	**0.90**	**255**	P	**Pn**	**15 22 54.9**	**-2.2**
JKUC	**kamogawauchiur**	**0.98**	**267**	P	**Pn**	**15 22 55.8**	**-2.5**
JYT	**Yasato**	**1.40**	**316**	P	**Pn**	**15 23 02.8**	**-1.3**
MJAR	**Matsushiro Arr**	**2.90**	**298**	Pn	**Pn**	**15 23 25.7**	**+0.9**
	0.3nm,0.3s,baz=105,slow=14,SNR=20						
MAT	**Matsushiro**	**2.91**	**298**	P	Pn	15 23 27.8	+3.0
MAT				S	**Sn**	**15 24 02.7**	**+4.2**
ASAJ	**Asahikawa**	**8.93**	**6**	Pn	**Pn**	**15 24 47.4**	**-0.1**
	0.4nm,0.3s,baz=247,slow=10,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**27.27**	**118**	T	T	15 57 21.9	
	baz=310,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**27.28**	**118**	T	T	15 57 17.8	
	baz=310,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**27.29**	**118**	T	T	15 57 20.9	
	baz=310,slow=75,SNR=15						
H11S3	**WAKE ISLAND Hy**	**27.93**	**120**	T	T	15 58 07.3	
	baz=312,slow=75,SNR=65						
H11S1	**WAKE ISLAND Hy**	**27.93**	**120**	T	T	15 58 07.3	
	baz=312,slow=75,SNR=88						
H11S2	**WAKE ISLAND Hy**	**27.94**	**120**	T	T	15 58 08.5	
	baz=312,slow=75,SNR=47						
WRA	**Warramunga Arr**	**55.27**	**188**	P	**P**	**15 32 11.6**	**+0.7**
	0.4nm,0.5s,baz=4.8,slow=7.3,SNR=13						
ASAR	**Alice Springs**	**59.00**	**188**	P	**P**	**15 32 38.1**	**+0.9**
	0.2nm,0.7s,baz=357,slow=5.9,SNR=4.6						

IDC 29 15:24:24.0±3.8**, 11°.03S×165°.27E, h0km, mb3.5**/3**, mb1 3.8**/3**, mb1mx3.5**/25**, mbtmp3.5**/3**, Error ellipse: s-maj=192.6km s-min=31.7km az=138.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.05**	**250**	P	P	15 30 43.8	-0.2
	0.9nm,0.8s,baz=82,slow=9.0,SNR=4.7						
ASAR	**Alice Springs**	**32.38**	**243**	P	P	15 30 55.8	+0.1
	0.3nm,0.5s,baz=63,slow=10,SNR=14						
PPT2	**Papeete2**	**44.15**	**104**	*e*LR	LR	15 32 00.9	
	comp=Z,190nm,23.0s,baz=118						
ILAR	**Eielson Array**	**83.65**	**19**	P	P	15 36 54.1	0.0
	0.5nm,1.1s,baz=232,slow=6.6,SNR=3.0						

MEX 29 15:26:47.3±0.5**, 16°.27N×98°.09W, h13km**±3km**, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.13**	**342**	*i* P	Pg	15 26 49.9	-0.8
PNIG				*e*S	Sg	15 26 52.6	-0.5

*ATH **29** 15:27:47.6, 39°.67N×25°.57E, h30km±1km, ML2.2/4, Error ellipse: s-maj=2.0km s-min=1.1km az=241.0*

*ISK **29** 15:27:47.5, 39°.66N×25°.49E, h5km, ML2.6/16*

*ISCJB **29** 15:27:48.4±0.5, 39°.67N±0°.02×25°.55E±0°.03, h10km±4km, Error ellipse: s-maj=4.1km s-min=3.7km az=169.8*

*THE **29** 15:27:48.4, 39°.67N×25°.56E, h11km±1km, ML2.1/7, Error ellipse: s-maj=1.4km s-min=0.7km az=68.0*

ISC 29 15:27:47.8±1.1**, 39°.67N**±0°.02×**25°.55E**±0°.02**, h12km**±10km**, n42, σ0s.57**/55**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.37**	**309**	P	**Pb**	**15 27 55.8**	**-0.5**
LIA				AML	AML	15 28 01.3	
	comp=E,708μm,0.2s						
LIA				AML	AML	15 28 01.3	
	comp=N,700μm,0.1s						
LIA	**Limnos Island**	**0.37**	**309**	P	**Pb**	**15 27 55.7**	**-0.6**
LIA				S	**Sg**	**15 28 00.7**	**+0.7**
BOZC	**Bozcaada**	**0.42**	**65**	PG	**Pb**	**15 27 57.3**	**+0.1**
EFSA	**Agios Efstrati**	**0.45**	**254**	P	**Pb**	**15 27 58.4**	**+0.7**
EFSA				S	**Sb**	**15 28 04.9**	**+0.5**
SIGR	**SIGRI**	**0.51**	**153**	PG	**Pb**	**15 27 58.6**	**-0.1**
SIGR				SG	**Sb**	**15 28 05.7**	**-0.4**
SIGR	**SIGRI**	**0.51**	**153**	P	**Pb**	**15 27 58.4**	**-0.3**
SIGR				S	**Sb**	**15 28 05.6**	**-0.4**
SIGR				AML	AML	15 28 05.8	
	comp=E,867μm,0.5s						
SIGR				AML	AML	15 28 05.9	
	comp=N,1008μm,0.3s						
SIGR	**SIGRI**	**0.51**	**153**	P	**Pb**	**15 27 58.5**	**-0.1**
SIGR				S	**Sb**	**15 28 05.5**	**-0.6**
GADA	**Gvkgeada**	**0.59**	**27**	PG	**Pg**	**15 27 59.4**	**+0.2**
GADA				SG	**Sb**	**15 28 08.9**	**+0.5**
SMTH	**Samothraki Isl**	**0.81**	**359**	P	**Pb**	**15 28 03.8**	**0.0**
SMTH				S	**Sb**	**15 28 15.4**	**+0.8**
SMTH	**Samothraki Isl**	**0.81**	**359**	P	**Pb**	**15 28 03.8**	**0.0**
SMTH				S	**Sb**	**15 28 15.0**	**+0.4**
GELI	**Tayfur-Gelibol**	**1.02**	**44**	PG	**Pn**	**15 28 07.7**	**-0.2**
THAS	**Thassos island**	**1.14**	**326**	P	**Pb**	**15 28 09.1**	**-0.2**
THAS				S	**Sg**	**15 28 24.1**	**-0.4**
THAS				AML	AML	15 28 25.9	
	comp=N,234μm,0.3s						
THAS				AML	AML	15 28 26.4	
	comp=E,202μm,0.3s						
THAS	**Thassos island**	**1.14**	**326**	P	**Pb**	**15 28 09.2**	**-0.2**
THAS				S	**Sg**	**15 28 24.0**	**-0.4**
ENEZ	**Enez**	**1.16**	**23**	PN	**Pg**	**15 28 10.5**	**+0.3**
ERIK	**Erikli-Kesan**	**1.25**	**36**	PN	**Pg**	**15 28 12.3**	**+0.6**
ALN	**Alexandroupoli**	**1.29**	**17**	P	**Pn**	**15 28 11.4**	**-0.2**
ALN				AML	AML	15 28 37.5	
	comp=E,91μm,0.6s						
ALN				AML	AML	15 28 39.3	
	comp=N,66μm,0.5s						
ALN	**Alexandroupoli**	**1.29**	**17**	P	**Pn**	**15 28 11.4**	**-0.2**
ALN				S	**Sn**	**15 28 28.7**	**-0.1**
FOCM	**Foa**	**1.32**	**136**	PN	**Pg**	**15 28 13.3**	**+0.2**
CHOS	**Chios island**	**1.33**	**163**	PN	**Pg**	**15 28 13.2**	**-0.2**
CHOS	**Chios island**	**1.33**	**163**	P	**Pn**	**15 28 12.4**	**0.0**
CHOS	**Chios island**	**1.33**	**163**	P	**Pn**	**15 28 12.2**	**-0.1**
CHOS				S	**Sn**	**15 28 30.2**	**+0.1**
OUR	**Ouranopolis**	**1.38**	**299**	PN	**Pn**	**15 28 12.8**	**-0.1**
OUR	**Ouranopolis**	**1.38**	**299**	P	**Pn**	**15 28 12.7**	**-0.2**
OUR	**Ouranopolis**	**1.38**	**299**	P	**Pn**	**15 28 12.8**	**-0.1**
AOS	**Alonnisos**	**1.39**	**250**	PN	**Pb**	**15 28 13.5**	**-0.1**
AOS	**Alonnisos**	**1.39**	**250**	P	**Pn**	**15 28 13.2**	**+0.2**
AOS	**Alonnisos**	**1.39**	**250**	P	**Pb**	**15 28 13.8**	**+0.2**
AOS				S	**Sg**	**15 28 32.0**	**-0.4**
PAIG	**Paliouri**	**1.47**	**281**	P	**Pn**	**15 28 14.1**	**+0.1**
PAIG	**Paliouri**	**1.47**	**281**	P	**Pb**	**15 28 14.5**	**-0.5**
RDO	**Rodhopi**	**1.48**	**360**	PN	**Pb**	**15 28 15.2**	**0.0**
RDO	**Rodhopi**	**1.48**	**360**	P	**Pn**	**15 28 14.1**	**-0.1**
KRBG	**Karabiga-Canak**	**1.52**	**61**	PN	**Pg**	**15 28 16.4**	**-0.6**
URLA	**Izmir**	**1.54**	**148**	PN	**Pb**	**15 28 16.3**	**+0.1**
KAVA	**Kavala**	**1.55**	**329**	P	**Pn**	**15 28 15.1**	**-0.1**
KAVA	**Kavala**	**1.55**	**329**	P	**Pn**	**15 28 15.2**	**0.0**
GONE	**Gonen-Balikesi**	**1.69**	**76**	PN	**Pb**	**15 28 18.7**	**0.0**
BALB	**Balikesir**	**1.80**	**90**	PN	**Pb**	**15 28 20.2**	**-0.4**
MRMT	**Marmara Adasi**	**1.82**	**58**	PN	**Pb**	**15 28 20.6**	**-0.6**
EDC	**Edincik**	**1.90**	**68**	PN	**Pb**	**15 28 21.8**	**-0.6**
KCTX	**Karacabey (Bur**	**2.24**	**74**	PN	**Pn**	**15 28 26.1**	**+1.4**
EDRB	**Edirne**	**2.36**	**22**	PN	**Pb**	**15 28 28.1**	**-2.1**
SLVT	**Silivri**	**2.56**	**52**	PN	**Pn**	**15 28 31.0**	**+1.9**

*ISCJB **29** 15:32:00.9±0.5, 6°.95S±0°.08×155°.67E±0°.06, h100km, mb3.8/12, Error ellipse: s-maj=11.0km s-min=7.9km az=12.5*

*IDC **29** 15:32:00.0±2.6, 7°.04S×155°.79E, h83km±24km, mb3.6/12, mb1 3.8/15, mb1mx3.8/27, mbtmp4.0/15, MS2.6/1, Ms1 2.6/1, ms1mx2.4/25, Error ellipse: s-maj=22.5km s-min=18.0km az=136.0*

ISC 29 15:32:01.8±0.6**, 7°.0S**±0°.1×**155°.75E**±0°.07**, h100km, n24, σ1s.54**/22**, mb3.7**/12**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.79**	**120**	P	**Pn**	**15 33 09.4**	**-2.3**
	15nm,0.3s,baz=262,slow=15,SNR=3.0						
HNR				S	**Sn**	**15 34 09.8**	**+3.9**
	15nm,0.3s,baz=219,slow=14,SNR=3.0						
HNR				LR	LR	15 34 37.6	
	comp=Z,79nm,21.5s,baz=339,slow=33						
HNR	**Honiara**	**4.79**	**120**	P	Pn	15 33 15.0	+3.4
PMG	**Port Moresby**	**8.83**	**254**	P	**Pn**	**15 34 05.7**	**-0.9**
	2.3nm,0.3s,baz=46,slow=12,SNR=12						
PMG				S	**Sn**	**15 35 47.1**	**+2.7**
	1.1nm,0.3s,baz=54,slow=18,SNR=5.2						
CTA	**Charters Tower**	**15.91**	**214**	P	**P**	**15 35 39.9**	**-1.9**
	0.1nm,0.3s,baz=41,slow=15,SNR=3.0						
WRA	**Warramunga Arr**	**24.41**	**236**	P	**P**	**15 37 11.7**	**+0.5**
	1.5nm,0.7s,baz=61,slow=9.7,SNR=14						
WRA				PcP	**PcP**	**15 40 48.6**	**+0.6**
	0.2nm,0.5s,baz=64,slow=2.7,SNR=4.7						
SIJI	**Sorong**	**25.17**	**283**	P	**P**	**15 37 16.4**	**-1.8**
	4.7nm,0.3s,baz=102,slow=14,SNR=5.5						
ASAR	**Alice Springs**	**26.71**	**229**	P	**P**	**15 37 31.5**	**-0.5**
	1.0nm,0.7s,baz=60,slow=9.9,SNR=14						
ASAR				PcP	**PcP**	**15 40 54.5**	**+1.2**
	0.2nm,0.4s,baz=63,slow=2.2,SNR=5.6						
H11S3	**WAKE ISLAND Hy**	**27.57**	**23**	T	T	16 06 10.3	
	baz=202,slow=75,SNR=51						
H11S2	**WAKE ISLAND Hy**	**27.57**	**23**	T	T	16 06 10.1	
	baz=202,slow=75,SNR=37						
H11S1	**WAKE ISLAND Hy**	**27.58**	**23**	T	T	16 06 11.6	
	baz=202,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**28.75**	**22**	T	T	16 07 38.2	
	baz=196,slow=74,SNR=3.5						
H11N3	**WAKE ISLAND Hy**	**28.77**	**22**	T	T	16 07 38.7	
	baz=196,slow=74,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**28.77**	**22**	T	T	16 07 43.4	
	baz=196						
MJAR	**Matsushiro Arr**	**46.37**	**340**	P	**P**	**15 40 17.3**	**-0.8**
	1.1nm,0.6s,baz=167,slow=8.4,SNR=5.1						
KSRS	**Korea Array**	**51.33**	**332**	P	**P**	**15 40 56.2**	**+0.3**
	0.3nm,0.5s,baz=142,slow=7.8,SNR=4.3						
USRK	**Ussuriysk Ar.**	**55.33**	**339**	P	**P**	**15 41 27.0**	**+1.8**
	3.9nm,0.9s,baz=144,slow=6.0,SNR=5.6						
CMAR	**Chiang Mai Arr**	**61.48**	**295**	P	**P**	**15 42 09.9**	**+1.4**
	1.5nm,0.7s,baz=122,slow=5.5,SNR=12						
SONM	**Songino Array**	**69.78**	**327**	P	**P**	**15 43 02.2**	**+0.8**
	1.1nm,0.8s,baz=138,slow=5.3,SNR=5.2						
ILAR	**Eielson Array**	**83.14**	**21**	P	**P**	**15 44 15.6**	**-0.8**
	0.6nm,0.9s,baz=246,slow=5.4,SNR=12						
MKAR	**Makanchi Array**	**83.93**	**319**	P	**P**	**15 44 20.6**	**-0.3**
	0.3nm,0.4s,baz=98,slow=7.9,SNR=9.5						
ZALV	**Zalesovo Beam**	**84.63**	**326**	P	**P**	**15 44 23.9**	**-0.3**
	0.6nm,0.5s,baz=73,slow=4.5,SNR=3.3						
YKA	**Yellowknife Ar**	**96.02**	**28**	P	**P**	**15 45 17.7**	**+0.2**
	0.1nm,0.5s,baz=272,slow=5.0,SNR=3.6						
FINES	**FINESS Array B**	**114.28**	**336**	PKP	**PKiKP**	**15 50 29.6**	**+0.1**
	0.9nm,0.7s,baz=208,slow=3.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**153.76**	**285**	PKPbc	**PKiKP**	**15 51 49.8**	**-0.6**
	0.4nm,0.8s,baz=70,slow=1.7,SNR=3.2						
TORD				PKPab	**PKPab**	**15 52 03.1**	**-0.5**
	0.5nm,0.5s,baz=83,slow=4.7,SNR=5.4						

*NIED **29** 15:43:00, 25°.60N×141°.60E, h5km, Mw4.2 Best double couple: $M_0$2.27000×10^{15} NP1:ϕ_s353.00000°, δ5.00000°, λ74.00000°. NP2:ϕ_s188.00000°, δ86.00000°, λ91.00000°.*

*ISCJB **29** 15:43:10.1±0.6, 25°.56N±0°.06×143°.1E±0°.1, h33km, mb3.9/12, MS3.8/3, Error ellipse: s-maj=14.8km s-min=6.9km az=160.8*

*JMA **29** 15:43:11.6±0.1, 25°.61N×141°.63E, h97km±1km, M3.9*

*IDC **29** 15:43:16.5±2.1, 25°.75N×142°.84E, h63km±16km, mb3.6/12, mb1 3.8/13, mb1mx3.6/35, mbtmp3.8/13, MS3.8/3, Ms1 3.8/3, ms1mx2.9/44, Error ellipse: s-maj=23.5km s-min=14.9km az=92.0*

ISC 29 15:43:12.1±0.7**, 25°.67N**±0°.09×**143°.1E**±0°.1**, h35km, n32, σ1s.07**/33**, mb4.0**/20**, MS4.0**/3**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.28**	**319**	P	**Pn**	**15 43 33.4**	**-0.1**
JHHJ				S	**Sn**	**15 43 50.0**	**+0.6**
CBIJ	**Chichi jima**	**1.65**	**330**	P	**Pn**	**15 43 38.8**	**+0.2**
CBIJ				*e*S	**Sn**	**15 43 59.4**	**+0.8**
JCJ	**Chichijima**	**1.65**	**330**	P	**Pn**	**15 43 39.5**	**+0.9**
	107nm,0.3s,baz=148,slow=2.3,SNR=39						
JCJ				S	**Sn**	**15 43 59.1**	**+0.6**
	404nm,0.3s,baz=284,slow=22,SNR=62						
JHO	**Hitachi**	**11.12**	**349**	P	**Pn**	**15 45 46.3**	**-2.3**
MJAR	**Matsushiro Arr**	**11.62**	**340**	P	**Pn**	**15 45 57.0**	**+1.6**
	0.1nm,0.3s,baz=162,slow=11,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**22.70**	**100**	T	T	16 11 52.4	
	baz=290,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**22.70**	**100**	T	T	16 11 45.4	
	baz=290,slow=75,SNR=8.8						
H11N3	**WAKE ISLAND Hy**	**22.72**	**100**	T	T	16 11 56.1	
	baz=290,slow=75,SNR=11						
KLR	**Kul'dur**	**25.14**	**342**	P	**P**	**15 48 33.6**	**-0.1**
	0.7nm,0.4s,baz=175,slow=9.1,SNR=5.5						
KLR				LR	LR	15 58 57.3	
	comp=Z,63nm,18.1s,baz=316,slow=38						
SONM	**Songino Array**	**36.32**	**317**	P	**P**	**15 50 11.6**	**-1.0**
	0.8nm,0.8s,baz=142,slow=4.9,SNR=5.6						
CMAR	**Chiang Mai Arr**	**41.42**	**269**	P	**P**	**15 50 55.3**	**-0.2**
	0.5nm,0.6s,baz=58,slow=7.8,SNR=6.1						
WRA	**Warramunga Arr**	**46.13**	**191**	P	**P**	**15 51 34.7**	**+1.4**
	5.1nm,0.7s,baz=12,slow=8.6,SNR=75						
ASAR	**Alice Springs**	**49.85**	**191**	P	**P**	**15 52 03.0**	**+1.1**
	0.6nm,0.7s,baz=0.3,slow=5.5,SNR=20						
JIRN	**Jiri**	**50.53**	**286**	*e*P	**P**	**15 52 07.7**	**+0.1**
	4.4nm,0.5s						
GUN	**Gumba**	**50.75**	**286**	*e*P	**P**	**15 52 08.5**	**-0.8**
	3.7nm,0.5s						
ZALV	**Zalesovo Beam**	**51.11**	**320**	P	**P**	**15 52 10.3**	**-0.8**
	0.4nm,0.3s,baz=91,slow=8.9,SNR=3.6						
ZALV				PcP	**PcP**	**15 53 26.6**	**+0.2**
	0.9nm,0.6s,baz=80,slow=3.1,SNR=4.1						
PKI	**Pulchoki**	**51.22**	**286**	*e*P	**P**	**15 52 11.4**	**-1.4**
	6.5nm,1.0s						
PKIN	**Phulchoki**	**51.23**	**286**	*e*P	**P**	**15 52 11.5**	**-1.3**
	1.7nm,0.5s						
KKN	**Kakani**	**51.29**	**286**	*e*P	**P**	**15 52 13.2**	**0.0**
	2.3nm,0.4s						
DMN	**Daman**	**51.48**	**286**	*e*P	**P**	**15 52 14.1**	**-0.6**
	3.9nm,0.8s						
MKAR	**Makanchi Array**	**52.03**	**310**	P	**P**	**15 52 17.7**	**-0.5**
	0.9nm,0.7s,baz=94,slow=9.2,SNR=12						
MKAR				PcP	**PcP**	**15 53 30.3**	**+0.2**
	0.2nm,0.6s,baz=85,slow=5.1,SNR=4.5						
DANN	**Dangsing**	**52.49**	**287**	*e*P	**P**	**15 52 22.0**	**-0.2**
	9.2nm,0.7s						
KOLN	**Koldanda**	**52.75**	**286**	*e*P	**P**	**15 52 23.3**	**-0.8**
PYUN	**Piuthan**	**53.21**	**287**	*e*P	**P**	**15 52 26.2**	**-1.2**
	12nm,1.0s						
ILAR	**Eielson Array**	**58.56**	**28**	P	**P**	**15 53 05.8**	**+0.8**
	1.0nm,0.8s,baz=260,slow=6.4,SNR=9.4						
INK	**Inuvik**	**63.98**	**24**	P	**P**	**15 53 43.4**	**+1.9**
	0.7nm,0.6s,baz=292,slow=3.0,SNR=4.1						
YKA	**Yellowknife Ar**	**72.99**	**28**	P	**P**	**15 54 38.9**	**+1.1**
	0.3nm,0.6s,baz=292,slow=5.9,SNR=6.8						
FINES	**FINESS Array B**	**79.59**	**334**	P	**P**	**15 55 15.7**	**+0.3**
	2.6nm,0.4s,baz=71,slow=4.6,SNR=31						
FINES				LR	LR	16 32 35.4	
	comp=Z,96nm,18.1s,baz=302,slow=37						
NOA	**NORSAR Array B**	**85.24**	**339**	P	**P**	**15 55 44.2**	**-0.7**
	1.0nm,0.8s,baz=39,slow=5.0,SNR=3.3						
MMAI	**Mount Meron Ar**	**89.83**	**307**	LR	LR	16 41 58.3	
	comp=Z,51nm,18.1s,baz=280,slow=39						
PLCA	**Paso Flores**	**148.29**	**127**	PKPbc	**PKPab**	**16 02 57.2**	**-0.7**
	1.1nm,0.5s,baz=274,slow=5.2,SNR=4.3						
LPAZ	**La Paz**	**149.43**	**78**	PKPbc	**PKPab**	**16 03 01.5**	**-2.3**
	1.2nm,0.5s,baz=296,slow=4.4,SNR=7.1						

*ISCJB **29** 15:55:24.1±0.9, 6°.65S±0°.06×129°.9E±0°.2, h146km, mb2.9/1, Error ellipse: s-maj=22.0km s-min=8.8km az=2.2*

*IDC **29** 15:55:25.6±1.7, 6°.50S×130°.06E, h149km±23km, mb2.9/1, mb1 2.9/6, mb1mx2.8/27, mbtmp3.4/6, Error ellipse: s-maj=37.4km s-min=14.9km az=101.0*

ISC 29 15:55:24.5±0.9**, 6°.65S**±0°.07×**130°.0E**±0°.1**, h146km, n6, σ3s.63**/10**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.88**	**13**	P	**Pn**	**15 56 50.5**	**+0.8**
	0.9nm,0.3s,baz=213,slow=23,SNR=27						
SIJI				S	**Sn**	**15 57 52.5**	**-3.7**
	0.6nm,0.3s,baz=90,slow=20,SNR=4.2						
BATI	**Baumata**	**7.18**	**240**	P	**Pn**	**15 57 11.3**	**+4.3**
	1.5nm,0.3s,baz=192,slow=14,SNR=2.7						
BATI				S	**Sn**	**15 58 21.4**	**-5.9**
	0.7nm,0.3s,baz=282,slow=20,SNR=1.7						
FITZ	**Fitzroy Crossi**	**12.14**	**200**	P	**Pn**	**15 58 14.0**	**+1.2**
	0.1nm,0.3s,baz=22,slow=11,SNR=12						
FITZ				S	**Sn**	**16 00 24.8**	**-2.2**
	0.1nm,0.3s,baz=54,slow=17,SNR=3.5						
WRA	**Warramunga Arr**	**13.88**	**163**	P	**Pn**	**15 58 35.7**	**+0.6**
	0.1nm,0.3s,baz=345,slow=13,SNR=5.4						
WRA				S	**Sn**	**16 01 05.8**	**-3.1**
	0.2nm,0.3s,baz=338,slow=22,SNR=7.1						
ASAR	**Alice Springs**	**17.34**	**168**	P	**Pn**	**15 59 20.5**	**+2.7**
	0.0nm,0.3s,baz=342,slow=10.0,SNR=6.6						
MKAR	**Makanchi Array**	**67.92**	**327**	P	**P**	**16 06 07.7**	**+0.3**
	0.1nm,0.4s,baz=130,slow=6.6,SNR=5.2						

JMA 29 16:01:41.8±0.1**, 38°.31N×142°.11E, h26km**±1km**, M3.6, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.51**	**270**	P	Pb	16 01 51.9	-0.3
JIKH				S	Sb	16 01 58.7	-0.5
JIO	**Ouri**	**0.61**	**284**	P	Pb	16 01 53.8	-0.2
JIO				S	Sb	16 02 02.0	-0.2
JKMT	**Kesennumamotoy**	**0.71**	**315**	P	Pb	16 01 55.7	+0.2
JKMT				S	Sb	16 02 04.9	+0.1
OFUJ	**Ofunato**	**0.84**	**336**	P	Pb	16 01 57.3	-0.5
OFUJ				S	Sb	16 02 08.4	-0.4
JMK	**Ichinoseki**	**0.95**	**313**	P	Pn	16 01 59.3	-0.1
JMK				S	Sn	16 02 12.0	-0.1
JMM	**Marumori**	**1.13**	**247**	P	Pn	16 02 01.4	-0.5
JMM				S	Sn	16 02 15.7	-0.9
JOU	**Okura**	**1.14**	**273**	P	Pb	16 02 02.5	-0.3
JOU				S	Sb	16 02 17.4	+0.2
JOM	**Ohasama**	**1.32**	**331**	P	Pn	16 02 04.8	+0.2
JOM				S	Sn	16 02 21.9	+0.5
JFK	**Kawauchi**	**1.36**	**226**	P	Pn	16 02 04.3	-0.8

*IDC **29** 16:15:21.8±1.4, 3°.67S×150°.20E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/37, mbtmp3.8/6, MS3.2/4, Ms1 3.2/4, ms1mx2.9/30, Error ellipse: s-maj=56.7km s-min=22.2km az=125.0*

*ISCJB **29** 16:15:23.5±0.7, 3°.7S±0°.1×150°.1E±0°.1, h19km, mb4.0/9, MS3.4/2, Error ellipse: s-maj=19.1km s-min=11.6km az=143.7*

*NEIC **29** 16:15:23.2±0.7, 3°.52S×149°.99E, h10km, mb4.5/2, Error ellipse: s-maj=16.1km s-min=13.4km az=143.0*

ISC 29 16:15:24.6±0.8**, 3°.5S**±0°.1×**149°.96E**±0°.08**, h19km, n18, σ1s.60**/15**, mb3.7**/9**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.31**	**108**	*e*Pn	**Pn**	**16 15 59.4**	**-2.3**
MANU	**Manus Island**	**2.96**	**299**	*e*Pn	**Pn**	**16 16 07.7**	**-3.0**
PMG	**Port Moresby**	**6.50**	**205**	*e*Pn	**Pn**	**16 16 57.5**	**-1.9**
HNR	**Honiara**	**11.54**	**121**	LR	LR	16 22 02.8	
	comp=Z,47nm,21.9s,baz=7.5,slow=36						
GUMO	**Guam**	**17.71**	**344**	LR	LR	16 24 35.4	
	comp=Z,71nm,21.8s,baz=141,slow=31						
WR1	**Warramunga Arr**	**22.35**	**222**	*e*P	**P**	**16 20 22.0**	**+0.3**
	37nm,1.9s						
WRA	**Warramunga Arr**	**22.35**	**222**	P	**P**	**16 20 22.0**	**+0.3**
	1.1nm,0.7s,baz=58,slow=11,SNR=9.5						
AS31	**Alice Springs**	**25.35**	**216**	*e*P	**P**	**16 20 50.7**	**0.0**
	0.9nm,0.9s						
ASAR	**Alice Springs**	**25.36**	**216**	P	**P**	**16 20 50.2**	**-0.5**
	1.2nm,0.6s,baz=53,slow=8.0,SNR=13						
BATI	**Baumata**	**26.93**	**254**	LR	LR	16 33 57.7	
	comp=Z,104nm,19.4s,baz=82,slow=41						
FITZ	**Fitzroy Crossi**	**27.89**	**237**	P	**P**	**16 21 15.2**	**+1.6**
	6.7nm,0.6s,baz=51,slow=8.4,SNR=18						
FITZ				LR	LR	16 33 11.8	
	comp=Z,81nm,18.2s,baz=166,slow=38						
FITZ	**Fitzroy Crossi**	**27.89**	**237**	*e*P	**P**	**16 21 14.7**	**+1.1**
	7.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**54.76**	**295**	P	**P**	**16 24 55.5**	**+2.0**
	0.4nm,0.4s,baz=131,slow=6.1,SNR=2.5						
ILAR	**Eielson Array**	**82.04**	**23**	P	**P**	**16 27 43.0**	**-0.3**
	0.4nm,0.8s,baz=238,slow=5.2,SNR=3.5						

MDPB	**Devils Postpil**	**92.87**	**53**	*e*P		**P**	**16 28 36.8**	**-0.1**
	52nm,1.1s							
YKA	**Yellowknife Ar**	**95.59**	**28**	P		**P**	**16 28 50.4**	**+1.9**
	0.2nm,0.6s,baz=272,slow=5.2,SNR=5.2							
TORD	**Torodi Ar. Bea**	**147.21**	**289**	PKPbc		**PKPab**	**16 35 08.7**	**-0.8**
	0.5nm,0.9s,baz=76,slow=3.2,SNR=2.7							
TOA1	**Torodi Ar. Sit**	**147.21**	**289**	*e*PKPbc		**PKPab**	**16 35 08.7**	**-0.8**

IDC 29 16:15:30.0±1.2, 52°88N×35°21W, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/41, mbtmp3.4/4, Error ellipse: s-maj=51.6km s-min=27.4km az=25.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YKA	**Yellowknife Ar**	**40.87**	**316**	P	P	16 23 13.3	+0.2
	0.1nm,0.6s,baz=69,slow=8.7,SNR=2.2						
YKA				PcP	PcP	16 25 13.1	-0.5
	0.3nm,0.7s,baz=62,slow=3.7,SNR=2.9						
PDAR	**Pinedale Array**	**48.81**	**290**	P	P	16 24 16.1	-0.9
	0.3nm,0.6s,baz=62,slow=7.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**49.32**	**130**	P	P	16 24 20.5	-0.2
	1.1nm,1.0s,baz=338,slow=11,SNR=4.2						
MKAR	**Makanchi Array**	**67.32**	**41**	P	P	16 26 25.7	-0.6
	0.3nm,0.7s,baz=321,slow=6.0,SNR=3.4						
WRA	**Warramunga Arr**	**146.14**	**18**	PKPbc	PKPdf	16 35 11.2	+0.2
	0.3nm,0.7s,baz=339,slow=3.8,SNR=5.0						
ASAR	**Alice Springs**	**149.68**	**20**	PKPbc	PKiKP	16 35 22.1	-0.3
	0.2nm,0.6s,baz=349,slow=2.1,SNR=6.5						

*IDC **29** 16:16:45.4±5.2, 55°.00N×158°.14W, h0km, mb3.4/4, mb1 3.8/7, mb1mx3.5/56, mbtmp3.5/7, ML3.4/3, Error ellipse: s-maj=89.3km s-min=27.3km az=88.0*
*NEIC **29** 16:16:46.0±0.0, 54°.85N×158°.44W, h42km, ML3.6(AEIC), After AEIC.*
*ISCJB **29** 16:16:46.4±0.7, 54°.89N±0°.07×158°.43W±0°.07, h33km, mb3.5/4, Error ellipse: s-maj=9.6km s-min=5.9km az=173.2*

ISC 29 16:16:47.0±1.1, 55°.01N±0°.09×158°.46W±0°.07, h35km, n16, σ2°73/18, mb3.6/4, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHGN	**Chignik**	**1.30**	**1**	P	**Pn**	**16 17 09.3**	**+0.7**
CHGN				S	**Sn**	**16 17 28.4**	**+3.8**
VNSS	**Veniaminof 8**	**1.34**	**336**	P	**Pn**	**16 17 11.5**	**+2.1**
VNFG	**Veniaminof 2**	**1.42**	**335**	P	**Pn**	**16 17 12.4**	**+2.0**
ANPB	**Aniakchak Plen**	**1.80**	**3**	P	**Pn**	**16 17 18.1**	**+2.6**
ANPK	**Aniakchak Peak**	**1.85**	**6**	P	**Pn**	**16 17 18.3**	**+2.1**
DOL	**Dolgoi Island**	**1.96**	**275**	P	**Pn**	**16 17 18.0**	**+0.2**
DOL				S	**Sn**	**16 17 43.0**	**+1.9**
PS4A	**Pavlof South-4**	**1.98**	**281**	P	**Pn**	**16 17 17.8**	**-0.1**
PS4A				S	**Sn**	**16 17 42.9**	**+1.5**
DT1	**Dutton Round H**	**2.20**	**274**	P	**Pn**	**16 17 20.7**	**-0.3**
CAHL	**Cahill**	**3.52**	**29**	P	Pn	16 17 41.4	+2.2
KDAK	**Kodiak Island**	**4.29**	**47**	Pn	**Pn**	**16 17 50.5**	**+0.9**
	3.1nm,0.3s,baz=214,slow=6.4,SNR=20						
KDAK				Sn	**Sn**	**16 18 35.2**	**-3.2**
	1.6nm,0.3s,baz=236,slow=18,SNR=3.3						
ILAR	**Eielson Array**	**11.36**	**26**	Pn	**Pn**	**16 19 22.9**	**-3.7**
	0.0nm,0.3s,baz=211,slow=16,SNR=3.0						
ILAR				Sn	**Sn**	**16 21 25.5**	**-6.5**
	0.1nm,0.3s,baz=206,slow=12,SNR=3.0						
INK	**Inuvik**	**17.63**	**31**	P	**P**	**16 20 49.8**	**-0.4**
	0.3nm,0.3s,baz=232,slow=13,SNR=9.9						
YKA	**Yellowknife Ar**	**23.53**	**54**	P	**P**	**16 21 53.5**	**-0.1**
	0.3nm,0.6s,baz=263,slow=8.0,SNR=6.8						
NVAR	**Mina Array Bea**	**31.60**	**105**	P	P	16 23 08.8	+2.3
	0.6nm,0.3s,baz=320,slow=8.3,SNR=3.0						
PDAR	**Pinedale Array**	**33.71**	**91**	P	P	16 23 27.0	+2.1
	0.4nm,0.6s,baz=311,slow=4.9,SNR=5.5						
TXAR	**Lajitas Array**	**46.50**	**100**	P	**P**	**16 25 12.8**	**+2.1**
	0.5nm,0.5s,baz=308,slow=6.4,SNR=3.5						

*KRSC **29** 16:19:46.9±1.4, 50°.74N×157°.71E, h48km±21km, ML4.3*
*MOS **29** 16:19:47.2±0.9, 50°.63N×157°.69E, h38km, mb4.4/1, Error ellipse: s-maj=27.1km s-min=5.8km az=83.6*

ISC 29 16:19:46.3±1.9, 50°.80N±0°.08×157°.73E±0°.06, h11km±13km, n36, σ1°42/60, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.88**	**319**	*e*P	**Pn**	**16 20 05.4**	**+0.8**
PAU				*e*S	**Sn**	**16 20 18.0**	**+0.6**
PAU	**Pauzhetka**	**0.88**	**319**	PN	**Pn**	**16 20 05.4**	**+0.8**
PAU				S	**Sn**	**16 20 18.0**	**+0.6**
SKR	**Severo-Kuril's**	**1.03**	**264**	*e*P	**Pb**	**16 20 05.1**	**-1.0**
SKR				*e*S	**Sb**	**16 20 18.2**	**-1.4**
SKR	**Severo-Kuril's**	**1.03**	**264**	*e*PN	**Pb**	**16 20 05.5**	**-0.6**
SKR				*e*S	**Sb**	**16 20 18.0**	**-1.6**
SKR				pmax	pmax		
	comp=Z,62nm,0.2s						
SKR				smax	smax		
	comp=N,2μm,0.6s						
SKR				smax	smax		
	comp=E,1μm,0.6s						
KDTR	**Khodutka, Kamc**	**1.03**	**12**	*e*P	**Pg**	**16 20 07.1**	**+0.9**
KDTR				*e*S	**Sn**	**16 20 21.4**	**+0.3**
KDTR	**Khodutka, Kamc**	**1.03**	**12**	PN	**Pg**	**16 20 07.1**	**+0.9**
KDTR				S	**Sn**	**16 20 21.4**	**+0.3**
RUS	**Russkaya**	**1.71**	**16**	*e*P	**Pn**	**16 20 16.4**	**+0.5**
RUS				*e*S	**Sn**	**16 20 37.2**	**-0.5**
RUS	**Russkaya**	**1.71**	**16**	PN	**Pn**	**16 20 16.4**	**+0.5**
RUS				S	**Sn**	**16 20 37.2**	**-0.5**
MTVR	**Mutnovka**	**1.71**	**9**	*e*P	**Pb**	**16 20 16.9**	**-0.9**
MTVR				*e*S	**Sb**	**16 20 39.1**	**-0.2**
MTVR	**Mutnovka**	**1.71**	**9**	PN	**Pb**	**16 20 16.9**	**-0.9**
MTVR				S	**Sb**	**16 20 39.1**	**-0.2**
GRL	**Gorelyy**	**1.77**	**7**	*e*P	**Pb**	**16 20 18.0**	**-0.8**
GRL				*e*S	**Sb**	**16 20 40.8**	**-0.1**
GRL	**Gorelyy**	**1.77**	**7**	PN	**Pb**	**16 20 18.0**	**-0.8**
GRL				S	**Sb**	**16 20 40.8**	**-0.1**
KRMR	**Karymshinskiy**	**2.05**	**7**	*e*P	**Pb**	**16 20 22.3**	**-1.1**
KRMR				*e*S	**Sb**	**16 20 49.6**	**+0.7**
KRMR	**Karymshinskiy**	**2.05**	**7**	PN	**Pb**	**16 20 22.3**	**-1.1**
KRMR				S	**Sb**	**16 20 49.6**	**+0.7**
APC	**Apacha**	**2.16**	**351**	*e*P	**Pb**	**16 20 23.8**	**-1.5**
APC	**Apacha**	**2.16**	**351**	PN	**Pb**	**16 20 23.8**	**-1.5**
PET	**Petropavlovsk**	**2.30**	**14**	*e*P	**Pn**	**16 20 25.3**	**+1.2**
PET				*e*S	**Sn**	**16 20 53.3**	**+1.0**
PET	**Petropavlovsk**	**2.30**	**14**	*e*PN	**Pn**	**16 20 25.3**	**+1.2**
PET				*e*S	**Sn**	**16 20 53.3**	**+1.0**
PET				pmax	pmax		
	comp=Z,34nm,0.6s						
PET				smax	smax		
	comp=E,277nm,0.6s						
PET				smax	smax		
	comp=N,333nm,0.4s						
DALK	**Dalny**	**2.32**	**15**	*e*P	**Pn**	**16 20 25.6**	**+1.2**
DALK				*e*S	**Sn**	**16 20 53.4**	**+0.5**
DALK	**Dalny**	**2.32**	**15**	PN	**Pn**	**16 20 25.6**	**+1.2**
DALK				S	**Sn**	**16 20 53.4**	**+0.5**
UGLR	**Uglovaya**	**2.50**	**15**	*e*P	**Pb**	**16 20 29.2**	**-2.1**
UGLR				*e*S	**Sn**	**16 20 59.1**	**+1.5**
UGLR	**Uglovaya**	**2.50**	**15**	PN	**Pb**	**16 20 29.2**	**-2.1**
UGLR				S	**Sn**	**16 20 59.1**	**+1.5**
AVH	**Avacha**	**2.54**	**14**	*e*P	**Pb**	**16 20 30.4**	**-1.6**
AVH	**Avacha**	**2.54**	**14**	PN	**Pb**	**16 20 30.4**	**-1.6**
SMAR	**Somma**	**2.55**	**15**	*e*P	**Pb**	**16 20 30.0**	**-2.2**
SMAR	**Somma**	**2.55**	**15**	PN	**Pb**	**16 20 30.0**	**-2.2**
KOK	**Koryaka**	**2.56**	**12**	*e*P	**Pb**	**16 20 30.5**	**-1.7**
KOK	**Koryaka**	**2.56**	**12**	PN	**Pb**	**16 20 30.5**	**-1.7**
KRX	**Arik**	**2.62**	**12**	*e*P	**Pb**	**16 20 31.7**	**-1.7**
KRX				*e*S	**Sb**	**16 21 03.8**	**-1.8**
KRX	**Arik**	**2.62**	**12**	PN	**Pb**	**16 20 31.7**	**-1.7**
KRX				S	**Sb**	**16 21 03.8**	**-1.8**
SPN	**Mys Shipunski**	**2.70**	**31**	*e*P	**Pb**	**16 20 33.3**	**-1.3**
SPN				*e*S	**Sb**	**16 21 05.6**	**-2.1**
SPN	**Mys Shipunski**	**2.70**	**31**	PN	**Pb**	**16 20 33.3**	**-1.3**
SPN				S	**Sb**	**16 21 05.6**	**-2.1**
GNL	**Ganaly**	**2.90**	**3**	*e*P	**Pb**	**16 20 35.2**	**-2.9**
GNL	**Ganaly**	**2.90**	**3**	PN	**Pb**	**16 20 35.2**	**-2.9**
KBTR	**Krutoberegovo**	**6.21**	**27**	P	**Pn**	**16 21 19.6**	**+1.8**
KBTR	**Krutoberegovo**	**6.21**	**27**	PN	**Pn**	**16 21 19.6**	**+1.8**

*SOME **29** 16:29:42.6, 42°.58N×79°.60E, h10km*
*ISCJB **29** 16:29:43.3±0.8, 42°.55N±0°.04×79°.77E±0°.05, h10km, Error ellipse: s-maj=7.1km s-min=3.4km az=141.4*
*NNC **29** 16:29:43.6±1.6, 42°.64N×79°.58E, h0km, mb4.0, mpv3.4,*

Error ellipse: s-maj=11.1km s-min=5.1km az=139.0
*KRNET **29** 16:29:43.0±0.1, 42°.61N×79°.56E, h16km, mb3.3*

ISC 29 16:29:43.5±1.3, 42°.57N±0°.05×79°.66E±0°.05, h10km, n53, σ1°69/89, 23C-12D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**0.77**	**351**	P	**Pg**	**16 29 57.0**	**-1.3**
	20nm,0.3s						
PDGK				S	**Sg**	**16 30 07.7**	**-0.6**
	90nm,0.2s						
PDGK	**Podgornoye**	**0.77**	**351**	⇑P	**Pg**	**16 29 56.6**	**-1.7**
	19nm,0.4s						
PDGK				⇑S	**Sg**	**16 30 07.2**	**-1.1**
	8.8nm,0.2s						
PDGK	**Podgornoye**	**0.77**	**351**	*i* P	**Pg**	**16 29 57.0**	**-1.3**
	baz=56						
PDGK				*i* S	**Sg**	**16 30 07.4**	**-0.9**
	baz=56						
PRZ	**Przheval'sk**	**0.93**	**265**	⇑*i*P	**Pg**	**16 29 59.6**	**-1.9**
	baz=62						
PRZ				⇑*i*S	**Sg**	**16 30 11.7**	**-1.9**
	baz=62						
SATY	**Saty**	**1.04**	**298**	*e*P	**Pg**	**16 30 01.3**	**-2.2**
	5.6nm,0.2s						
SATY				*e*S	**Sg**	**16 30 15.1**	**-2.0**
	109nm,0.1s						
DJR	**Jarkent**	**1.76**	**3**	P	**Pb**	**16 30 14.6**	**-1.3**
	6.6nm,0.2s						
DJR				S	**Sb**	**16 30 37.3**	**-0.8**
	50nm,0.3s						
DJR	**Jarkent**	**1.76**	**3**	*e*P	**Pb**	**16 30 14.6**	**-1.3**
	6.6nm,0.2s						
DJR				*e*S	**Sb**	**16 30 37.3**	**-0.8**
	50nm,0.3s						
KDJ	**Kajisay**	**1.89**	**257**	⇓*i*P	**Pb**	**16 30 17.2**	**-1.0**
	baz=56						
KDJ				⇓*i*S	**Sb**	**16 30 41.4**	**-0.5**
	baz=56						
KOTS	**Kotyrbulak**	**1.98**	**290**	Pg	**Pb**	**16 30 19.4**	**-0.4**
	39nm,0.2s						
KOTS				Lg	Lg	16 30 45.3	
	155nm,0.3s						
KOTS	**Kotyrbulak**	**1.98**	**290**	*e*P	**Pb**	**16 30 18.9**	**-0.8**
	baz=90						
KOTS				*e*S	**Sb**	**16 30 45.0**	**+0.4**
	baz=90						
KOTS	**Kotyrbulak**	**1.98**	**290**	*e*P	**Pb**	**16 30 18.9**	**-0.8**
	36nm,0.2s						
KOTS				*e*S	**Sb**	**16 30 44.8**	**+0.2**
	163nm,0.3s						
MDOK	**Medeo**	**2.01**	**288**	Pg	**Pn**	**16 30 17.3**	**-0.3**
	10nm,0.4s						
MDOK				⇓Lg	Lg	16 30 44.5	
	36nm,0.6s						
MDOK	**Medeo**	**2.01**	**288**	*e*P	**Pb**	**16 30 18.5**	**-1.6**
	baz=88						
MDOK				*e*S	**Sb**	**16 30 44.4**	**-0.8**
	baz=88						
MDOK	**Medeo**	**2.01**	**288**	*e*P	**Pb**	**16 30 18.8**	**-1.4**
	14nm,0.4s						
MDOK				*e*S	**Sb**	**16 30 44.4**	**-0.8**
	39nm,0.6s						
TNSS	**Tian-Shan**	**2.05**	**284**	*e*P	**Pb**	**16 30 19.3**	**-1.7**
	baz=83						
TNSS				*e*S	**Sb**	**16 30 45.8**	**-0.9**
	baz=83						
TNSS	**Tian-Shan**	**2.05**	**284**	*e*P	**Pb**	**16 30 19.5**	**-1.5**
	15nm,0.4s						
TNSS				*e*S	**Sb**	**16 30 45.9**	**-0.7**
	63nm,0.3s						
KNDC	**Almaty**	**2.08**	**289**	⇓Pg	**Pb**	**16 30 21.4**	**+0.1**
	20nm,0.3s						
KNDC				⇓Lg	Lg	16 30 49.5	
	28nm,0.6s						
AAA	**Alma-Ata**	**2.11**	**288**	Pg	**Pb**	**16 30 21.2**	**-0.7**
	51nm,0.2s						
AAA				Lg	Lg	16 30 49.5	
	75nm,0.4s						
AAA	**Alma-Ata**	**2.11**	**288**	*e*P	**Pb**	**16 30 21.2**	**-0.7**
	baz=88						
AAA				*e*S	**Sg**	**16 30 49.2**	**-2.2**
	baz=88						
AAA	**Alma-Ata**	**2.11**	**288**	*e*P	**Pb**	**16 30 21.2**	**-0.7**
	38nm,0.2s						
AAA				*e*S	**Sg**	**16 30 49.2**	**-2.2**
	53nm,0.2s						
ARXS	**Arharly**	**2.11**	**321**	Pg	**Pb**	**16 30 21.0**	**-0.9**
	19nm,0.4s						
ARXS				Lg	Lg	16 30 48.0	
	51nm,0.7s						
ARXS	**Arharly**	**2.11**	**321**	*e*P	**Pb**	**16 30 20.9**	**-1.1**
	19nm,0.4s						
ARXS				*e*S	**Sb**	**16 30 48.6**	**+0.3**
	51nm,0.7s						
CHKK	**Chushkaly**	**2.33**	**304**	*e*P	**Pb**	**16 30 24.3**	**-1.3**
	5.8nm,0.3s						
CHKK				*e*S	**Sb**	**16 30 54.3**	**-0.3**
	54nm,0.2s						
MTBS	**Maitube**	**2.44**	**284**	*e*P	**Pb**	**16 30 25.9**	**-1.5**
	22nm,0.3s						
MTBS				*e*S	**Sb**	**16 30 56.9**	**-0.7**
	37nm,0.3s						
KTBS	**Karatobe**	**2.46**	**299**	Pg	**Pb**	**16 30 25.6**	**-2.1**
	6.9nm,0.2s						
KTBS				Lg	Lg	16 30 57.1	
	54nm,0.3s						
KTBS	**Karatobe**	**2.46**	**299**	*e*P	**Pb**	**16 30 25.7**	**-2.1**
	baz=98						
KTBS				*e*S	**Sb**	**16 30 57.1**	**-1.0**
	baz=98						
KTBS	**Karatobe**	**2.46**	**299**	*e*P	**Pb**	**16 30 25.6**	**-2.1**
	6.9nm,0.2s						
KTBS				*e*S	**Sb**	**16 30 57.1**	**-1.0**
	54nm,0.3s						
ULHL	**Ulahol**	**2.55**	**264**	⇑*i*P	**Pb**	**16 30 26.8**	**-2.7**
	baz=63						
ULHL				⇑*i*S	**Sb**	**16 30 59.0**	**-1.9**
	baz=63						
KAPS	**Kapalarasan**	**2.72**	**356**	Pg	**Pb**	**16 30 31.1**	**-1.2**
	3.6nm,0.1s						
KAPS				Lg	Lg	16 31 06.1	
	24nm,0.3s						
KAPS	**Kapalarasan**	**2.72**	**356**	*e*P	**Pb**	**16 30 31.0**	**-1.2**
	3.8nm,0.1s						
KAPS				*e*S	**Sb**	**16 31 06.1**	**+0.4**
	24nm,0.4s						
BOOM	**Boomskoye usch**	**2.75**	**270**	⇓*i*P	**Pn**	**16 30 29.4**	**+1.6**
	baz=69						
BOOM				⇓*i*S	**Sn**	**16 31 03.1**	**+2.0**
	baz=69						
KST	**Kastek**	**2.76**	**281**	Pg	**Pb**	**16 30 31.3**	**-1.6**
	12nm,0.3s						
KST				Lg	Lg	16 31 06.9	
	33nm,0.4s						
KST	**Kastek**	**2.76**	**281**	*e*P	**Pb**	**16 30 31.3**	**-1.6**
	baz=81						
KST				*e*S	**Sb**	**16 31 06.6**	**-0.3**
	baz=81						
KST	**Kastek**	**2.76**	**281**	*e*P	**Pb**	**16 30 31.3**	**-1.6**
	12nm,0.3s						
KST				*e*S	**Sb**	**16 31 06.9**	**0.0**
	33nm,0.4s						
KUU	**Kurty**	**2.76**	**300**	*e*P	**Pb**	**16 30 31.4**	**-1.5**
	baz=0.0						
KUU				*e*S	**Sb**	**16 31 06.1**	**-0.7**
	baz=0.0						
KUU	**Kurty**	**2.76**	**300**	*e*P	**Pb**	**16 30 31.3**	**-1.5**
	2.1nm,0.2s						
KUU				*e*S	**Sb**	**16 31 06.5**	**-0.3**
	55nm,0.2s						
DGS	**Degeres**	**2.93**	**284**	Pg	**Pb**	**16 30 34.2**	**-1.6**
	7.0nm,0.3s						
DGS				Lg	Lg	16 31 12.5	
	41nm,0.6s						
DGS	**Degeres**	**2.93**	**284**	*e*P	**Pb**	**16 30 35.1**	**-0.8**
	baz=84						
DGS				*e*S	**Sb**	**16 31 12.7**	**+0.8**
	baz=84						
DGS	**Degeres**	**2.93**	**284**	*e*P	**Pb**	**16 30 35.0**	**-0.9**
	6.9nm,0.3s						
DGS				*e*S	**Sb**	**16 31 12.8**	**+1.0**
	41nm,0.6s						
DGS	**Degeres**	**2.93**	**284**	*e*P	**Pb**	**16 30 35.1**	**-0.8**
	6.9nm,0.4s						
DGS				*e*S	**Sb**	**16 31 12.6**	**+0.8**
	41nm,0.6s						
NRN	**Naryn**	**2.95**	**249**	⇑*i*P	**Pn**	**16 30 32.9**	**+2.2**
	baz=47						
NRN				⇑*i*S	**Sb**	**16 31 09.1**	**-3.6**
	baz=47						
TKM2	**Tokmak 2**	**3.01**	**278**	⇑Pg	**Pg**	**16 30 43.3**	**+2.1**
	2.1nm,0.3s						
TKM2				⇑Lg	Lg	16 31 13.7	
	23nm,0.5s						
TKM2	**Tokmak 2**	**3.01**	**278**	⇑*i*P	**Pn**	**16 30 33.3**	**+1.9**
	baz=77						
TKM2				⇑*i*S	**Sn**	**16 31 09.7**	**+2.0**
	baz=77						
KZA	**Kyzart**	**3.31**	**263**	⇑*i*P	**Pn**	**16 30 37.7**	**+2.0**
	baz=62						
KZA				⇑*i*S	**Sn**	**16 31 17.2**	**+2.0**
	baz=62						
KBK	**Karagaybulak**	**3.48**	**273**	⇑*i*P	**Pn**	**16 30 39.5**	**+1.7**
	baz=72						
KBK				⇑*i*S	**Sn**	**16 31 20.8**	**+1.7**
	baz=72						
CHMS	**Chumysh**	**3.64**	**278**	⇑*i*P	**Pn**	**16 30 41.8**	**+2.0**
	baz=78						
CHMS				⇑*i*S	**Sn**	**16 31 24.3**	**+1.5**
	baz=78						
AAK	**Ala-Archa**	**3.81**	**273**	⇓Lg	Lg	16 31 39.1	
	4.7nm,0.4s						
ARLS	**Aral**	**4.03**	**262**	⇑*i*P	**Pn**	**16 30 47.1**	**+1.8**
	baz=61						
ARLS				⇑*i*S	**Sn**	**16 31 33.4**	**+0.8**
	baz=61						
MAKZ	**Makanchi**	**4.55**	**21**	⇓Pn	**Pn**	**16 30 53.3**	**+0.9**
	0.5nm,0.2s						
MAKZ				⇓Sn	**Sn**	**16 31 45.9**	**+0.7**
	1.0nm,0.5s						
MAKZ				⇑Lg	Lg	16 32 03.6	
	1.0nm,0.6s						
MK31	**Makanchi Array**	**4.62**	**23**	Pn	**Pn**	**16 30 54.5**	**+1.1**
	0.1nm,0.1s,baz=201,slow=13,SNR=51						
MK31				Sn	**Sn**	**16 31 48.8**	**+1.7**
	0.2nm,0.2s,baz=207,slow=29,SNR=4.1						
MK31				⇑Lg	Lg	16 32 07.4	
	0.4nm,0.2s,baz=206,slow=23,SNR=8.3						
KK31	**Karatay Array**	**6.74**	**278**	Sn	**Sn**	**16 32 47.7**	**+8.3**
	0.5nm,0.4s,baz=4.9,slow=40,SNR=3.7						
KK31				⇓Lg	Lg	16 33 10.9	
	1.4nm,0.5s,baz=93,slow=28,SNR=5.6						
KURBB	**Kurchatov Arra**	**8.09**	**355**	⇓Lg	Lg	16 33 58.2	
	4.1nm,1.2s						
KURK	**Kurchatov**	**8.18**	**355**	⇑Lg	Lg	16 33 59.3	
	3.8nm,1.1s						

*IDC **29** 16:32:14.8±2.2, 32°.01N×50°.64E, h0km, mb3.5/6, mb1 3.6/8, mb1mx3.4/43, mbtmp3.6/8, ML3.2/2, Error ellipse: s-maj=46.8km s-min=23.3km az=160.0*
*THR **29** 16:32:15.1, 31°.72N×50°.77E, h18km, ML3.0*

ISC 29 16:32:15.3±1.3, 31°.86N±0°.1×50°.76E±0°.10, h16km, n15, σ1°04/15, mb3.3/6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**1.73**	**286**	AML	AML	16 33 27.0	
	comp=N,205nm,0.6s						
SHGR				AML	AML	16 33 35.2	
	comp=E,167nm,0.6s						
SHGR	**Shooshtar-Gavs**	**1.73**	**286**	Pg	**Pb**	**16 32 46.6**	**-0.1**
KHMZ	**Khomeyn**	**2.20**	**342**	AML	AML	16 33 27.0	
	comp=N,75nm,0.8s						
KHMZ				AML	AML	16 33 28.8	
	comp=E,67nm,0.6s						
KHMZ	**Khomeyn**	**2.20**	**342**	Pn	**Pn**	**16 32 52.0**	**+0.5**
KHMZ				Sg	**Sb**	**16 33 22.2**	**+0.2**
GHVR	**GHOM**	**2.87**	**9**	Pn	**Pn**	**16 33 00.8**	**+0.3**
GHVR				Sg	**Sb**	**16 33 42.3**	**+1.1**
ASAO	**Ashtian**	**2.96**	**348**	Pn	**Pn**	**16 33 02.6**	**+0.6**
ASF	**Jabal al Asfar**	**11.79**	**276**	Pn	**Pn**	**16 35 03.1**	**+0.1**
	comp=E,0.3nm,0.3s,baz=56,slow=12,SNR=4.3						
BRTR	**Keskin Array B**	**16.06**	**305**	Pn	**Pn**	**16 36 00.6**	**-0.1**
	comp=E,0.1nm,0.3s,baz=100,slow=13,SNR=3.3						
AKTO	**Aktyubinsk**	**19.54**	**14**	P	**Pn**	**16 36 43.8**	**+0.3**
	comp=E,0.1nm,0.3s,baz=209,slow=13,SNR=1.7						
AKASG	**Malin Array Be**	**24.85**	**326**	P	**P**	**16 37 34.7**	**-2.2**
	comp=E,0.4nm,0.4s,baz=118,slow=7.7,SNR=5.7						
BVAR	**Borovoye Array**	**25.67**	**28**	P	**P**	**16 37 44.1**	**-0.3**
	comp=E,0.3nm,0.7s,baz=218,slow=11,SNR=3.4						
MKAR	**Makanchi Array**	**28.51**	**49**	P	**P**	**16 38 09.9**	**0.0**
	comp=E,0.1nm,0.4s,baz=242,slow=11,SNR=2.8						
FINES	**FINESS Array B**	**33.88**	**339**	P	**P**	**16 38 56.5**	**-0.5**
	comp=E,3.8nm,1.2s,baz=149,slow=3.2,SNR=2.5						
NOA	**NORSAR Array B**	**39.09**	**331**	P	**P**	**16 39 40.0**	**-1.6**
	comp=E,0.3nm,0.5s,baz=122,slow=8.4,SNR=2.4						
TORD	**Torodi Ar. Bea**	**48.52**	**259**	P	**P**	**16 40 59.6**	**+1.8**
	comp=E,0.8nm,0.7s,baz=66,slow=7.3,SNR=7.0						

WEL 29 16:36:29.3±1.6, 36°S±7°×177°9E±1°5, h5km, ML3.5/11, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.80**	**192**	P	Pn	16 36 58.7	-2.2
MXZ				S	Sn	16 37 19.6	-4.6
WMGZ	**Waiomatatini S**	**2.03**	**188**	P	Pn	16 37 03.8	-0.4
WMGZ				S	Sb	16 37 31.3	-1.0
HAZ	**Te Kaha**	**2.11**	**202**	P	Pn	16 37 03.7	-1.6
PKGZ	**Pakihiroa**	**2.16**	**195**	P	Pn	16 37 04.6	-1.4
PKGZ				S	Sb	16 37 35.7	-0.3
PUZ	**Puketiti**	**2.30**	**191**	P	Pn	16 37 09.0	+1.0
PUZ				S	Sn	16 37 37.2	+0.5
RUGZ	**Raukumara Rang**	**2.33**	**202**	P	Pn	16 37 07.4	-1.1
TWGZ	**Tauwhareparae**	**2.46**	**195**	P	Pn	16 37 11.5	+1.4
TWGZ				S	Sb	16 37 45.6	+1.0
KUZ

Ms1 4.1/17,ms1mx4.0/28,Error ellipse: s-maj=237.6km s-min=28.5km az=155.0,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**33.98**	**203**	LR	LR	17 08 13.7	
	comp=Z,61nm,21.8s,baz=74,slow=29						
PLCA	**Paso Flores**	**34.19**	**84**	LR	LR	17 09 30.9	
	comp=Z,206nm,21.2s,baz=246,slow=31						
PPT	**Papeete**	**45.35**	**315**	LR	LR	17 13 18.2	
	comp=Z,299nm,19.2s,baz=149,slow=29						
LVC	**Limon Verde**	**48.95**	**67**	LR	LR	17 18 07.2	
	comp=Z,194nm,18.4s,baz=280,slow=32						
CPUP	**Villa Florida**	**52.20**	**81**	LR	LR	17 20 43.4	
	comp=Z,357nm,18.0s,baz=222,slow=33						
NNA	**Nana**	**54.23**	**52**	LR	LR	17 16 44.7	
	comp=Z,154nm,18.7s,baz=156,slow=28						
LPAZ	**La Paz**	**54.64**	**64**	P	P	17 01 12.6	-1.4
	0.9nm,0.8s,baz=172,slow=9.6,SNR=2.8						
LPAZ				LR	LR	17 18 46.3	
	comp=Z,158nm,21.9s,baz=258,slow=30						
SIV	**San Ignacio**	**58.53**	**71**	LR	LR	17 22 38.6	
	comp=Z,101nm,20.2s,baz=262,slow=32						
BDFB	**Brasilia**	**65.92**	**82**	LR	LR	17 29 24.7	
	comp=Z,196nm,18.0s,baz=225,slow=34						
ROSC	**El Rosal**	**70.42**	**47**	LR	LR	17 29 11.8	
	comp=Z,101nm,18.9s,baz=240,slow=32						
H01W1	**Cape Leeuwin H**	**79.14**	**221**	T	T	18 32 24.9	
	baz=150,slow=76,SNR=20						
H01W2	**Cape Leeuwin H**	**79.14**	**221**	T	T	18 32 26.2	
	baz=150,slow=76,SNR=21						
H01W3	**Cape Leeuwin H**	**79.15**	**221**	T	T	18 32 27.6	
	baz=150,slow=76,SNR=18						
ASAR	**Alice Springs**	**80.22**	**242**	P	P	17 03 54.6	-0.5
	0.8nm,1.0s,baz=162,slow=5.2,SNR=4.1						
ASAR				LR	LR	17 34 33.0	
	comp=Z,124nm,18.2s,baz=141,slow=32						
WRA	**Warramunga Arr**	**83.12**	**244**	P	P	17 04 09.5	-1.0
	3.0nm,0.8s,baz=145,slow=4.6,SNR=11						
PMG	**Port Moresby**	**85.05**	**261**	LR	LR	17 34 22.6	
	comp=Z,68nm,21.8s,baz=120,slow=30						
BOSA	**Boshof**	**89.93**	**148**	LR	LR	17 40 29.0	
	comp=Z,104nm,18.4s,baz=202,slow=32						
NVAR	**Mina Array Bea**	**94.20**	**360**	LR	LR	17 38 57.2	
	comp=Z,131nm,18.0s,baz=144,slow=30						
JAY	**Jayapura**	**94.30**	**259**	LR	LR	17 44 16.1	
	comp=Z,51nm,18.8s,baz=106,slow=33						
BATI	**Baumata**	**96.72**	**241**	LR	LR	17 44 36.4	
	comp=Z,131nm,18.2s,baz=194,slow=33						
PDAR	**Pinedale Array**	**98.78**	**6**	LR	LR	17 41 38.5	
	comp=Z,84nm,18.7s,baz=56,slow=30						
GERES	**GERESS Array B**	**150.15**	**83**	PKPbc	PKiKP	17 11 36.2	+0.9
	0.5nm,0.5s,baz=222,slow=1.8,SNR=4.0						
SONM	**Songino Array**	**151.96**	**272**	PKPbc	PKiKP	17 11 39.9	+0.6
	0.7nm,1.1s,baz=145,slow=5.3,SNR=3.0						
MKAR	**Makanchi Array**	**164.41**	**242**	PKPab	PKPab	17 12 41.9	-0.1
	0.7nm,0.9s,baz=127,slow=4.3,SNR=4.9						

IDC 29 17:12:37.4±1.1,15°90S×71°50W,h0km,mb3.8/2, mb1 3.9/5,mb1mx3.7/31,mbtmp3.8/5,ML3.4/3,Error ellipse: s-maj=31.9km s-min=20.6km az=49.0,Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.26**	**97**	Pg	Pb	17 13 36.9	+0.4
	0.3nm,0.3s,baz=289,slow=11,SNR=6.9						
NNA	**Nana**	**6.40**	**306**	Pn	Pn	17 14 16.4	+2.2
	1.1nm,0.3s,baz=148,slow=13,SNR=2.2						
LVC	**Limon Verde**	**7.11**	**160**	Pn	Pn	17 14 24.1	+1.1
	1.6nm,0.3s,baz=334,slow=10,SNR=11						
LVC				Sn	Sn	17 15 47.3	+2.6
	0.4nm,0.3s,baz=160,slow=15,SNR=2.8						
SIV	**San Ignacio**	**10.03**	**92**	Pn	Pn	17 15 03.7	+0.8
	0.2nm,0.3s,baz=276,slow=14,SNR=4.2						
PLCA	**Paso Flores**	**24.76**	**178**	P	P	17 17 59.9	-1.0
	2.4nm,0.8s,baz=17,slow=8.3,SNR=6.2						
YKA	**Yellowknife Ar**	**85.12**	**341**	P	P	17 25 13.3	-1.6
	0.5nm,0.8s,baz=136,slow=5.1,SNR=8.4						
SONM	**Songino Array**	**148.11**	**3**	PKPbc	PKPbc	17 32 25.9	+0.6
	0.7nm,1.0s,baz=343,slow=2.0,SNR=3.5						
KSRS	**Korea Array**	**152.50**	**325**	PKPbc	PKiKP	17 32 36.5	+0.2
	0.5nm,0.5s,baz=0.5,slow=4.0,SNR=4.8						

IDC 29 17:35:00.4±2.2,2°32S×133°60E,h0km,mb3.1/2, mb1 3.4/5,mb1mx3.2/35,mbtmp3.2/5,ML3.3/3,MS3.1/1, Ms1 3.1/1,ms1mx2.7/11,Error ellipse: s-maj=59.4km s-min=21.8km az=67.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.74**	**302**	Pn	Pn	17 35 44.5	-1.2
	2.8nm,0.3s,baz=202,slow=21,SNR=24						
SIJI				Pg	Pg	17 35 53.6	+0.6
	9.3nm,0.3s,baz=235,slow=22,SNR=27						
SIJI				Sn	Sn	17 36 21.0	+1.4
	7.8nm,0.3s,baz=151,slow=23,SNR=5.7						
SIJI				Lg	Lg	17 36 34.9	
	8.7nm,0.3s,baz=320,slow=23,SNR=5.2						
FITZ	**Fitzroy Crossi**	**17.52**	**206**	P	P	17 39 07.7	+0.2
	0.1nm,0.3s,baz=38,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**17.53**	**178**	P	Pn	17 39 06.9	+0.5
	0.1nm,0.3s,baz=360,slow=13,SNR=7.8						
ASAR	**Alice Springs**	**21.23**	**179**	P	P	17 39 47.2	-0.9
	0.5nm,0.5s,baz=6.5,slow=11,SNR=15						
MJAR	**Matsushiro Arr**	**38.90**	**6**	LR	LR	17 54 22.4	
	comp=Z,31nm,21.7s,baz=335,slow=30						
MKAR	**Makanchi Array**	**66.43**	**324**	P	P	17 45 51.9	+0.3
	0.1nm,0.5s,baz=141,slow=5.5,SNR=2.4						

*SOME **29** 17:52:07.2,42°.55N×79°.67E,h20km*
*KRNET **29** 17:52:07.5±0.1,42°.60N×79°.67E,h17km,mb3.3*
*NNC **29** 17:52:08.2±0.8,42°.63N×79°.61E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=5.1km s-min=2.7km az=124.0*
*ISCJB **29** 17:52:09.1±0.9,42°.61N±0°.04×79°.68E±0°.06,h10km,Error ellipse: s-maj=7.4km s-min=4.2km az=41.4*

ISC 29 17:52:09.0±1.4,42°.66N±0°.05×79°.63E±0°.05,h10km,n47, σ1♦16/83,17C-10D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.66**	**318**	P	**Pg**	**17 52 21.4**	**-0.4**
	58nm,0.2s						
UZB				S	**Sb**	**17 52 31.6**	**-0.4**
	154nm,0.2s						
UZB	**Uzynbulak**	**0.66**	**318**	*e*P	**Pg**	**17 52 21.4**	**-0.4**
	baz=20						
UZB				*e*S	**Sb**	**17 52 31.6**	**-0.4**
	baz=20						
UZB	**Uzynbulak**	**0.66**	**318**	*e*P	**Pg**	**17 52 21.4**	**-0.4**
	58nm,0.2s						
UZB				*e*S	**Sb**	**17 52 31.6**	**-0.4**
	154nm,0.2s						
PDGK	**Podgornoye**	**0.68**	**352**	P	**Pb**	**17 52 21.7**	**-1.2**
	6.5nm,0.2s						
PDGK				S	**Sb**	**17 52 32.1**	**-0.3**
	55nm,0.2s						
PDGK	**Podgornoye**	**0.68**	**352**	⇓P	**Pb**	**17 52 21.7**	**-1.2**
	4.8nm,0.4s						
PDGK				⇓S	**Sb**	**17 52 32.1**	**-0.3**
	64nm,0.4s						
PDGK	**Podgornoye**	**0.68**	**352**	⇓*i*P	**Pb**	**17 52 21.7**	**-1.2**
	baz=50						
PDGK				⇓*i*S	**Sb**	**17 52 31.8**	**-0.7**
	baz=50						
PRZ	**Przheval'sk**	**0.92**	**259**	⇑*i*P	**Pg**	**17 52 25.1**	**-1.6**
	baz=63						
PRZ				⇑*i*S	**Sg**	**17 52 37.9**	**-0.9**
	baz=63						
SATY	**Saty**	**0.98**	**294**	P	**Pg**	**17 52 26.9**	**-1.0**
	16nm,0.1s						
SATY				S	**Sb**	**17 52 40.8**	**-0.5**
	77nm,0.1s						
SATY	**Saty**	**0.98**	**294**	*e*P	**Pg**	**17 52 26.9**	**-1.0**
	16nm,0.1s						
SATY				*e*S	**Sb**	**17 52 40.8**	**-0.5**
	77nm,0.1s						
DJR	**Jarkent**	**1.68**	**4**	P	**Pb**	**17 52 39.3**	**-0.7**
	14nm,0.2s						
DJR				S	**Sg**	**17 53 02.3**	**-0.6**
	42nm,0.3s						
DJR	**Jarkent**	**1.68**	**4**	*e*P	**Pb**	**17 52 39.3**	**-0.7**
	14nm,0.2s						
DJR				*e*S	**Sg**	**17 53 02.3**	**-0.6**
	42nm,0.3s						
KDJ	**Kajisay**	**1.89**	**255**	⇓*i*P	**Pb**	**17 52 42.4**	**-1.2**
	baz=56						
KDJ				⇓*i*S	**Sb**	**17 53 07.2**	**-0.1**
	baz=56						
KOTS	**Kotyrbulak**	**1.93**	**288**	Pg	**Pb**	**17 52 43.3**	**-1.1**
	30nm,0.2s						
KOTS				Lg	Lg	17 53 09.5	
	74nm,0.3s						
KOTS	**Kotyrbulak**	**1.93**	**288**	*e*P	**Pb**	**17 52 43.3**	**-1.1**
	baz=90						
KOTS				*e*S	**Sb**	**17 53 09.5**	**+0.9**
	baz=90						
KOTS	**Kotyrbulak**	**1.93**	**288**	*e*P	**Pb**	**17 52 43.3**	**-1.1**
	30nm,0.2s						
KOTS				*e*S	**Sb**	**17 53 09.5**	**+0.9**
	74nm,0.3s						
MDOK	**Medeo**	**1.96**	**286**	⇓Pn	**Pb**	**17 52 43.1**	**-1.7**
	20nm,0.5s						
MDOK				⇓Lg	Lg	17 53 10.4	
	36nm,0.6s						
MDOK	**Medeo**	**1.96**	**286**	*e*P	**Pb**	**17 52 43.7**	**-1.1**
	baz=87						
MDOK				*e*S	**Sg**	**17 53 10.6**	**-1.4**
	baz=87						
MDOK	**Medeo**	**1.96**	**286**	*e*P	**Pb**	**17 52 43.7**	**-1.1**
	23nm,0.2s						
MDOK				*e*S	**Sg**	**17 53 10.5**	**-1.4**
	41nm,0.5s						
TNSS	**Tian-Shan**	**2.01**	**282**	*e*P	**Pb**	**17 52 44.5**	**-1.3**
	baz=83						
TNSS				*e*S	**Sb**	**17 53 11.6**	**+0.7**
	baz=83						
TNSS	**Tian-Shan**	**2.01**	**282**	*e*P	**Pb**	**17 52 44.5**	**-1.3**
	12nm,0.3s						
TNSS				*e*S	**Sb**	**17 53 11.6**	**+0.7**
	30nm,0.2s						
KNDC	**Almaty**	**2.03**	**287**	⇓Pn	**Pb**	**17 52 45.3**	**-0.7**
	17nm,0.3s						
KNDC				⇑Lg	Lg	17 53 13.6	
	86nm,0.8s						
ARXS	**Arharly**	**2.03**	**320**	Pg	**Pb**	**17 52 45.0**	**-1.0**
	19nm,0.4s						
ARXS				Lg	Lg	17 53 13.1	
	85nm,0.5s						
ARXS	**Arharly**	**2.03**	**320**	*e*P	**Pb**	**17 52 45.0**	**-1.0**
	19nm,0.4s						
ARXS				*e*S	**Sb**	**17 53 12.3**	**+1.0**
	85nm,0.5s						
AAA	**Alma-Ata**	**2.06**	**286**	Pg	**Pb**	**17 52 46.3**	**-0.3**
	45nm,0.2s						
AAA				Lg	Lg	17 53 14.6	
	78nm,0.2s						
CHKK	**Chushkaly**	**2.27**	**303**	*e*P	**Pb**	**17 52 49.2**	**-0.8**
	baz=4.0						
CHKK				*e*S	**Sb**	**17 53 19.3**	**+1.2**
	baz=4.0						
CHKK	**Chushkaly**	**2.27**	**303**	*e*P	**Pb**	**17 52 49.2**	**-0.8**
	2.1nm,0.3s						
CHKK				*e*S	**Sb**	**17 53 19.4**	**+1.2**
	36nm,0.2s						
KTBS	**Karatobe**	**2.40**	**297**	Pg	**Pb**	**17 52 51.9**	**-0.3**
	8.2nm,0.2s						
KTBS				Lg	Lg	17 53 24.2	
	38nm,0.3s						
KTBS	**Karatobe**	**2.40**	**297**	*e*P	**Pb**	**17 52 51.9**	**-0.3**
	baz=97						
KTBS				*e*S	**Sg**	**17 53 24.1**	**-1.8**
	baz=97						
KTBS	**Karatobe**	**2.40**	**297**	*e*P	**Pb**	**17 52 51.9**	**-0.3**
	8.2nm,0.2s						
KTBS				*e*S	**Sg**	**17 53 24.2**	**-1.8**
	38nm,0.3s						
ULHL	**Ulahol**	**2.54**	**262**	⇑*i*P	**Pn**	**17 52 51.4**	**+1.0**
	baz=63						
ULHL				⇑*i*S	**Sn**	**17 53 23.3**	**+1.8**
	baz=63						
KAPS	**Kapalarasan**	**2.63**	**356**	Pg	**Pb**	**17 52 56.4**	**+0.1**
	2.7nm,0.1s						
KAPS				Lg	Lg	17 53 31.6	
	65nm,0.4s						
KAPS	**Kapalarasan**	**2.63**	**356**	*e*P	**Pb**	**17 52 56.4**	**+0.1**
	2.7nm,0.1s						
KAPS				*e*S	**Sg**	**17 53 31.6**	**-1.9**
	65nm,0.4s						
KUU	**Kurty**	**2.70**	**298**	*e*P	**Pb**	**17 52 56.7**	**-0.7**
	baz=99						
KUU				*e*S	**Sb**	**17 53 31.9**	**+1.4**
	baz=99						
KUU	**Kurty**	**2.70**	**298**	*e*P	**Pb**	**17 52 56.6**	**-0.7**
	2.0nm,0.4s						
KUU				*e*S	**Sb**	**17 53 31.8**	**+1.4**
	17nm,0.2s						
KST	**Kastek**	**2.72**	**279**	Pg	**Pb**	**17 52 56.7**	**-1.1**
	20nm,0.2s						
KST				Lg	Lg	17 53 32.2	
	25nm,0.3s						
KST	**Kastek**	**2.72**	**279**	*e*P	**Pb**	**17 52 56.7**	**-1.1**
	baz=81						
KST				*e*S	**Sb**	**17 53 32.2**	**+0.9**
	baz=81						
KST	**Kastek**	**2.72**	**279**	*e*P	**Pb**	**17 52 56.7**	**-1.1**
	20nm,0.2s						
KST				*e*S	**Sb**	**17 53 32.2**	**+0.9**
	25nm,0.3s						
DGS	**Degeres**	**2.89**	**283**	Pg	**Pb**	**17 52 59.7**	**-0.9**
	13nm,0.3s						
DGS				Lg	Lg	17 53 37.9	
	37nm,0.6s						
DGS	**Degeres**	**2.89**	**283**	*e*P	**Pb**	**17 52 59.7**	**-0.9**
	baz=84						
DGS				*e*S	**Sb**	**17 53 37.9**	**+1.8**
	baz=84						
DGS	**Degeres**	**2.89**	**283**	*e*P	**Pb**	**17 52 59.7**	**-0.9**
	13nm,0.3s						
DGS				*e*S	**Sb**	**17 53 37.9**	**+1.8**
	37nm,0.6s						
NRN	**Naryn**	**2.96**	**247**	⇑*i*P	**Pn**	**17 52 57.6**	**+1.2**
	baz=48						
NRN				⇑*i*S	**Sn**	**17 53 33.8**	**+1.6**
	baz=48						
TKM2	**Tokmak 2**	**2.98**	**276**	⇓Pn	**Pb**	**17 52 58.9**	**-3.3**
	3.2nm,0.4s						
TKM2				⇑Lg	Lg	17 53 40.5	
	8.0nm,0.2s						
TKM2	**Tokmak 2**	**2.98**	**276**	⇑*i*P	**Pn**	**17 52 57.8**	**+1.4**
	baz=78						
TKM2				⇑*i*S	**Sn**	**17 53 34.2**	**+1.9**
	baz=78						
KBK	**Karagaybulak**	**3.45**	**272**	⇑*i*P	**Pn**	**17 53 04.1**	**+1.2**
	baz=73						
KBK				⇑*i*S	**Sn**	**17 53 45.4**	**+1.5**
	baz=73						
CHMS	**Chumysh**	**3.60**	**277**	⇑*i*P	**Pn**	**17 53 06.3**	**+1.4**
	baz=78						
CHMS				⇑*i*S	**Sn**	**17 53 49.1**	**+1.6**
	baz=78						
ARLS	**Aral**	**4.02**	**260**	⇑*i*P	**Pn**	**17 53 12.2**	**+1.5**
	baz=61						
ARLS				⇑*e*S	**Sn**	**17 53 58.3**	**+0.4**
	baz=61						
MK31	**Makanchi Array**	**4.55**	**24**	Pn	**Pn**	**17 53 18.7**	**+0.8**
	0.2nm,0.1s,baz=198,slow=14,SNR=83						
MK31				⇑Lg	Lg	17 54 32.5	
	2.7nm,0.7s,baz=214,slow=13,SNR=3.5						

IDC 29 17:52:15.1±7.2,30°82S×178°50W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.6/29,mbtmp3.6/2,Error ellipse: s-maj=302.8km s-min=56.7km az=156.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.66**	**268**	P	P	18 00 12.9	-0.8
	0.3nm,0.4s,baz=101,slow=7.1,SNR=5.9						
WRA	**Warramunga Arr**	**43.69**	**273**	P	P	18 00 22.4	+0.3
	0.4nm,0.3s,baz=111,slow=8.0,SNR=18						
FINES	**FINESS Array B**	**145.38**	**339**	PKPbc	PKPbc	18 11 53.4	-0.8
	0.6nm,0.4s,baz=60,slow=5.6,SNR=7.2						

*IDC **29** 18:07:06.3±1.2,0°.15N×125°.99E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.5/29,mbtmp3.7/4,Error ellipse: s-maj=134.3km s-min=20.3km az=68.0*
*DJA **29** 18:07:10.5±1.2,0°N±3°×12°6E±°,h14km±11km,M3.6/7, mb4.2/1,MLv3.3/7*
*ISCJB **29** 18:07:11.0±0.7,0°.04N±0°.09×125°.81E±0°.07,h44km, mb3.7/4,Error ellipse: s-maj=12.6km s-min=9.9km az=6.6*

ISC 29 18:07:12.5±1.0,0°.04N±0°.08×125°.82E±0°.06,h44km,n11, σ0♦82/11,mb3.6/4,Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.71**	**65**	P	**Pn**	**18 07 40.0**	**+0.2**
KMSI	**Cibinong**	**1.91**	**286**	P	**Pn**	**18 07 41.4**	**-1.2**
SANI	**Sanana**	**2.08**	**175**	P	**Pn**	**18 07 44.4**	**-0.6**
LUWI	**Luwuk**	**3.23**	**251**	P	**Pn**	**18 08 00.6**	**-0.1**
MRSI	**Marisa**	**3.90**	**276**	P	**Pn**	**18 08 10.2**	**+0.3**
APSI	**Ampana**	**4.28**	**257**	P	**Pn**	**18 08 15.5**	**+0.4**
TTSI	**Tana Toraja**	**6.74**	**243**	P	**Pn**	**18 08 50.0**	**+1.1**
WRA	**Warramunga Arr**	**21.54**	**158**	P	**P**	**18 11 57.3**	**-0.9**
	0.9nm,0.5s,baz=338,slow=11,SNR=25						
ASAR	**Alice Springs**	**24.84**	**162**	P	**P**	**18 12 31.5**	**+0.6**
	1.2nm,0.6s,baz=345,slow=8.6,SNR=38						
SONM	**Songino Array**	**50.51**	**343**	P	**P**	**18 16 07.1**	**+0.7**
	0.3nm,0.4s,baz=160,slow=7.4,SNR=2.8						
MKAR	**Makanchi Array**	**60.09**	**327**	P	**P**	**18 17 14.6**	**-0.7**
	0.7nm,0.5s,baz=123,slow=7.6,SNR=18						

*DDA **29** 18:38:04.7,40°.55N×33°.06E,h15km±1km,ML3.8*
*ISK **29** 18:38:04.9,40°.58N×33°.03E,h6km,ML3.6/28*

ISC 29 18:38:05.2±1.1,40°.57N±0°.02×33°.07E±0°.02,h3km±11km, n69,σ1♦15/84,5C-3D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDT	**Eldivan**	**0.28**	**106**	IAML_P			
	comp=Z,151μm,0.2s						
ELDT				*i* P	**Pb**	**18 38 12.1**	**-0.9**
CANT	**Cankiri**	**0.42**	**85**	PG	**Pb**	**18 38 14.2**	**-1.1**
CMDR	**Camlidere-ANKA**	**0.46**	**261**	IAML_P			
	comp=Z,138μm,0.3s						
CMDR				*i* P	**Pb**	**18 38 15.1**	**-0.9**
CMDR				*i* S	**Sb**	**18 38 21.5**	**-1.8**
LOD	**Lodumlu**	**0.72**	**199**	PG	**Pb**	**18 38 19.0**	**-0.4**
ANTO	**Ankara**	**0.73**	**197**	PG	**Pb**	**18 38 19.9**	**-0.6**
ANTO				SG	**Sb**	**18 38 30.7**	**-0.3**
ANTO	**Ankara**	**0.73**	**197**	⇓*i*P	Pn	18 38 31.7	+9.3
SAFT	**Safranbolu**	**0.73**	**337**	PG	**Pg**	**18 38 18.9**	**-0.3**
KBUK	**KARABUK-Merkez**	**0.75**	**333**	IAML_P			
	comp=Z,59μm,0.1s						
KBUK				*i* P	**Pg**	**18 38 19.8**	**+0.3**
BCAM	**Yenicaga**	**0.80**	**288**	IAML_P			
	comp=Z,13μm,0.1s						
BCAM				*i* P	**Pb**	**18 38 21.2**	**-0.6**
BCAM				*i* S	**Sg**	**18 38 31.4**	**+0.4**
TOS	**Tosya**	**0.86**	**57**	PG	**Pg**	**18 38 21.7**	**0.0**
DELI	**KIRIKKALE**	**0.86**	**131**	*i* P	**Pb**	**18 38 22.6**	**-0.3**
DELI				*i* S	**Sb**	**18 38 34.7**	**-0.1**
BBAL	**Bala**	**1.02**	**178**	IAML_P			
	comp=Z,7μm,0.2s						
BBAL				*i* P	**Pb**	**18 38 25.6**	**-0.1**
AFSR	**Afar-Bala (An**	**1.12**	**180**	PN	**Pn**	**18 38 27.3**	**-0.5**
KAST	**KASTAMONU**	**1.13**	**35**	IAML_P			
	comp=Z,31μm,0.2s						
KAST				*i* P	**Pg**	**18 38 26.6**	**-0.2**
KAST				*i* S	**Sn**	**18 38 43.4**	**-0.5**
BTIN	**Bartın**	**1.23**	**330**	IAML_P			
	comp=Z,16μm,0.4s						
BTIN				*i* P	**Pb**	**18 38 28.1**	**-1.0**
MASR	**Amasra-Bartin**	**1.27**	**339**	PN	**Pg**	**18 38 29.9**	**+0.3**
KURC	**Kurucasile-Bar**	**1.30**	**349**	PN	**Pg**	**18 38 30.4**	**+0.3**
CDAG	**Cicekdag**	**1.37**	**133**	IAML_P			
	comp=Z,9μm,0.2s						
CDAG				*i* P	**Pg**	**18 38 31.9**	**+0.4**
CDAG				*i* S	**Sn**	**18 38 50.8**	**+0.7**
KKUL	**Konya-Kulu**	**1.40**	**185**	IAML_P			
	comp=Z,3μm,0.3s						
KKUL				*i* P	**Pg**	**18 38 32.8**	**+0.8**
KKUL				*i* S	**Sg**	**18 38 53.2**	**+3.1**
MDUB	**Mudurnu**	**1.43**	**267**	PN	**Pg**	**18 38 32.6**	**0.0**
COAL	**Corum-Alaca**	**1.50**	**101**	IAML_P			
	comp=Z,1μm,0.1s						
COAL				*i* P	**Pg**	**18 38 33.6**	**-0.2**
COAL				*i* S	**Sb**	**18 38 52.7**	**-0.4**
KULU	**Kulu**	**1.52**	**182**	PN	**Pg**	**18 38 34.9**	**+0.5**
BZK	**Bozkurt**	**1.56**	**26**	PN	**Pg**	**18 38 34.8**	**-0.2**
BTAS	**Taskesti**	**1.58**	**271**	IAML_P			
	comp=Z,13μm,0.3s						
BTAS				*i* P	**Pb**	**18 38 34.8**	**-0.2**
BTAS				*i* S	**Sg**	**18 38 56.6**	**+0.8**
AUSIV	**SIVRIHISAR**	**1.63**	**227**	PN	**Pb**	**18 38 35.2**	**-0.7**
SERE	**Sereflikochisa**	**1.66**	**167**	PN	**Pg**	**18 38 36.7**	**-0.3**
SAHE	**Sakarya_HENDEK**	**1.71**	**280**	IAML_P			
	comp=Z,1μm,0.3s						
SAHE				*i* P	**Pg**	**18 38 38.4**	**+0.5**
SAHE				*i* S	**Sg**	**18 39 00.3**	**+0.2**
YAYK	**Yaylak**	**1.72**	**160**	PN	**Pg**	**18 38 37.8**	**-0.4**
GULT	**Gulveren**	**1.95**	**267**	PN	**Pb**	**18 38 39.9**	**-1.5**
YOZ	**Yozgat**	**1.96**	**118**	PN	**Pb**	**18 38 41.2**	**-0.3**
DIKM	**Dikmen**	**1.97**	**56**	PN	**Pb**	**18 38 41.2**	**-0.5**
AKSY	**AKSARAY - Alti**	**1.99**	**164**	*i* P	**Pg**	**18 38 43.3**	**+0.1**
AKSY				*i* S	**Sg**	**18 39 08.6**	**-0.4**
CHBY	**Cihanbeyli**	**1.99**	**184**	PN	**Pb**	**18 38 41.2**	**-0.8**
ESKT	**Eskisehir**	**2.00**	**239**	PN	**Pb**	**18 38 41.2**	**-1.1**
HAVZ	**Havza**	**2.07**	**75**	IAML_P			
	comp=Z,8μm,0.1s						
HAVZ				*i* P	**Pb**	**18 38 42.1**	**-1.3**
HAVZ				*i* S	**Sg**	**18 39 11.5**	**-0.2**
SAUV	**Serdivan-Sakar**	**2.10**	**276**	PN	**Pn**	**18 38 41.9**	**+0.8**
SPNC	**Sapanca-Adapaz**	**2.11**	**274**	PN	**Pn**	**18 38 42.1**	**+0.8**
GEYV	**SAKARYA_Geyve**	**2.12**	**269**	*i* P	**Pg**	**18 38 45.1**	**-0.7**
GEYV				*i* S	**Sg**	**18 39 15.7**	**+2.6**
BORA	**Eskisehir**	**2.12**	**252**	PN	**Pb**	**18 38 42.8**	**-1.4**
BORA	**Eskisehir**	**2.12**	**252**	*i* P	**Pn**	**18 38 42.2**	**+0.6**
SINO	**SINOP_Merkez**	**2.16**	**47**	*i* P	**Pb**	**18 38 45.5**	**+0.5**
SNOP	**Sinop**	**2.17**	**47**	PN	**Pb**	**18 38 43.9**	**-1.1**
KDHN	**Kadinhani**	**2.17**	**200**	IAML_P			
	comp=Z,269nm,0.4s						
KDHN				*i* P	**Pb**	**18 38 43.3**	**-1.9**
KDHN				*i* S	**Sg**	**18 39 14.6**	**-0.4**
AVNS	**Nevsehir-Avano**	**2.23**	**142**	*i* P	**Pg**	**18 38 47.4**	**-0.5**
AVNS				*i* S	**Sg**	**18 39

ISC 29 19:12:40.2±2.6, 0.73N±0.05×97.00E±0.07, h8km±15km, n52, σ1926/54, mb4.3/15, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.81**	**45**	*e*Pn	**Pn**	**19 12 58.4**	**+0.5**
GSI				*e*Sg	**Sg**	**19 13 04.8**	**-1.6**
GSI	**Gunungsitoli**	**0.81**	**45**	P	**Pn**	**19 12 58.1**	**+0.2**
GSI				S	**Sg**	**19 13 05.5**	**-0.9**
PBSI	**Pulau Batu**	**1.50**	**121**	P	**Pn**	**19 13 08.0**	**+0.6**
PBSI				S	**Sn**	**19 13 26.6**	**-0.6**
SNSI	**Sinabang, Aceh**	**1.80**	**338**	P	**Pn**	**19 13 10.5**	**-1.0**
SNSI				S	**Sn**	**19 13 32.1**	**-2.4**
MNSI	**Mandailing Nat**	**2.58**	**89**	P	**Pn**	**19 13 23.3**	**+1.0**
MNSI				S	**Sn**	**19 13 52.9**	**-1.0**
PSI	**Prapat**	**2.82**	**43**	*e*Pn	**Pn**	**19 13 25.8**	**+0.2**
KCSI	**Kotacane, Aceh**	**2.88**	**16**	P	**Pn**	**19 13 26.3**	**-0.1**
SISI	**Saibi**	**2.92**	**134**	P	**Pn**	**19 13 26.7**	**-0.3**
SISI				S	**Sn**	**19 14 00.3**	**-2.1**
PPI	**Padang Panjang**	**3.60**	**109**	P	**Pn**	**19 13 37.4**	**+1.1**
PPI				S	**Sn**	**19 14 17.6**	**-1.4**
PDSI	**Padang**	**3.83**	**115**	P	**Pn**	**19 13 38.8**	**-0.7**
BKNI	**Bangkinang**	**4.06**	**96**	*e*Pn	**Pn**	**19 13 42.3**	**-0.4**
LHMI	**Lhok Sumawe**	**4.47**	**359**	*e*Pn	**Pn**	**19 13 49.1**	**+0.8**
KRJI	**Kerinci**	**5.27**	**122**	P	**Pn**	**19 13 59.9**	**+0.5**
IPM	**Ipoh**	**5.48**	**47**	*e*Pn	**Pn**	**19 14 04.1**	**+1.9**
KULM	**Kulim**	**5.81**	**39**	*e*Pn	**Pn**	**19 14 07.2**	**+0.4**
MYKOM	**Kota Tinggi**	**6.93**	**81**	*e*Pn	**Pn**	**19 14 22.7**	**+0.6**
MNAI	**Manna**	**7.81**	**130**	*e*Pn	**Pn**	**19 14 35.1**	**+0.8**
MNAI				*e*Sn	**Sn**	**19 15 57.5**	**-5.5**
COCO	**West Island**	**12.84**	**181**	*e*Pn	**Pn**	**19 15 43.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**17.72**	**6**	P	**P**	**19 16 48.7**	**+0.3**
	0.3nm,0.3s,baz=194,slow=11,SNR=11						
SHL	**Shillong**	**25.18**	**349**	*e*P	**P**	**19 18 07.0**	**+0.5**
	22nm,0.2s						
H08S2	**Diego Garcia H**	**25.82**	**251**	T	T	19 45 03.4	
	baz=72,slow=76,SNR=1060						
H08S3	**Diego Garcia H**	**25.82**	**251**	T	T	19 45 07.3	
	baz=72,slow=76,SNR=879						
H08S1	**Diego Garcia H**	**25.83**	**251**	T	T	19 45 06.5	
	baz=72,slow=76,SNR=722						
FITZ	**Fitzroy Crossi**	**33.82**	**125**	P	**P**	**19 19 24.9**	**+1.7**
	2.4nm,1.0s,baz=336,slow=10.0,SNR=2.5						
FITZ	**Fitzroy Crossi**	**33.82**	**125**	*e*P	**P**	**19 19 25.6**	**+2.4**
	42nm,1.9s						
H01W3	**Cape Leeuwin H**	**38.89**	**157**	T	T	20 01 22.2	
	baz=334,slow=76,SNR=103						
H01W2	**Cape Leeuwin H**	**38.90**	**157**	T	T	20 01 23.2	
	baz=334,slow=76,SNR=116						
H01W1	**Cape Leeuwin H**	**38.91**	**157**	T	T	20 01 23.5	
	baz=334,slow=76,SNR=105						
WRA	**Warramunga Arr**	**41.96**	**121**	P	**P**	**19 20 32.2**	**+0.1**
	0.5nm,0.7s,baz=306,slow=8.6,SNR=12						
WR1	**Warramunga Arr**	**41.96**	**121**	*e*P	**P**	**19 20 32.2**	**+0.1**
	35nm,2.0s						
WB2	**Warramunga Arr**	**41.97**	**121**	*e*P	**P**	**19 20 31.9**	**-0.2**
BJT	**Baijiatuan**	**42.83**	**22**	*e*P	**P**	**19 20 38.3**	**-0.4**
	5.0nm,0.5s						
AS31	**Alice Springs**	**43.28**	**127**	*e*P	**P**	**19 20 44.8**	**+2.1**
	1.9nm,1.5s						
ASAR	**Alice Springs**	**43.28**	**127**	P	**P**	**19 20 43.4**	**+0.7**
	0.3nm,0.4s,baz=300,slow=7.5,SNR=7.0						
TARG	**Taragay, Kyrgy**	**44.34**	**339**	*e*P	**P**	**19 20 53.0**	**+1.6**
	4.7nm,1.3s						
KSAR	**Wonju Array Be**	**46.32**	**34**	P	**P**	**19 21 07.0**	**+0.3**
KSRS	**Korea Array**	**46.35**	**34**	P	**P**	**19 21 07.0**	**+0.1**
	0.7nm,0.7s,baz=218,slow=9.1,SNR=3.9						
MK01	**Makanchi Array**	**47.62**	**346**	*e*P	**P**	**19 21 17.3**	**+0.5**
SONA0	**Songino Array**	**47.62**	**9**	*e*P	**P**	**19 21 17.5**	**+0.6**
SONM	**Songino Array**	**47.62**	**9**	P	**P**	**19 21 17.5**	**+0.6**
	0.6nm,0.7s,baz=195,slow=8.5,SNR=6.2						
SONA1	**Songino Array**	**47.64**	**9**	*e*P	**P**	**19 21 17.1**	**+0.1**
MK31	**Makanchi Array**	**47.65**	**346**	*e*P	**P**	**19 21 17.7**	**+0.7**
MK32	**Makanchi Array**	**47.65**	**346**	*e*P	**P**	**19 21 17.7**	**+0.7**
MKAR	**Makanchi Array**	**47.65**	**346**	P	**P**	**19 21 17.7**	**+0.7**
	1.0nm,0.5s,baz=158,slow=8.4,SNR=16						
MKAR	**Makanchi Array**	**47.65**	**346**	*e*P	**P**	**19 21 17.5**	**+0.5**
	9.4nm,0.7s						
MAKZ	**Makanchi**	**47.73**	**346**	*e*P	**P**	**19 21 18.2**	**+0.5**
	4.7nm,1.5s						
USRK	**Ussuriysk Ar.**	**53.27**	**31**	P	**P**	**19 22 00.1**	**+0.5**
	1.8nm,0.7s,baz=231,slow=1.6,SNR=5.2						
ZAA0	**Zalesovo Array**	**53.99**	**351**	*e*P	**P**	**19 22 04.5**	**-0.1**
	3.0nm,1.0s						
ZALV	**Zalesovo Beam**	**53.99**	**351**	P	**P**	**19 22 05.0**	**+0.4**
	2.3nm,0.5s,baz=184,slow=7.6,SNR=13						
ZALV	**Zalesovo Beam**	**53.99**	**351**	*e*P	**P**	**19 22 04.9**	**+0.3**
ZAA1	**Zalesovo Array**	**53.99**	**351**	*e*P	**P**	**19 22 05.0**	**+0.4**
ABKAR	**Akbulak array**	**57.83**	**332**	*e*P	**P**	**19 22 31.3**	**-0.9**

SOME 29 19:18:06.7, 42.58N×79.68E, h15km
KRNET 29 19:18:07.2±0.1, 42.60N×79.75E, mb3.3
ISC 29 19:18:05.7±3.1, 42.6N±0.1×79.7E±0.1, h6km±25km, n5, σ0829/10, 6C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UZB	**Uzynbulak**	**0.71**	**319**	*e*P	**Pb**	**19 18 20.6**	**-0.1**
UZB	2.7nm,0.1s			*e*S	**Sb**	**19 18 30.8**	**-0.1**
	2.3nm,0.3s						
PDGK	**Podgornoye**	**0.73**	**350**	↑*i*P	**Pb**	**19 18 20.9**	**-0.1**
	baz=45						
PDGK				↑*i*S	**Sb**	**19 18 31.6**	**+0.2**
	baz=45						
SATY	**Saty**	**1.03**	**297**	*e*P	**Pb**	**19 18 26.0**	**0.0**
	1.0nm,0.3s						
SATY				*e*S	**Sb**	**19 18 39.6**	**-0.2**
	3.6nm,0.1s						
KDJ	**Kajisay**	**1.90**	**256**	↑*e*P	**Pg**	**19 18 42.2**	**+0.1**
	baz=57						
KDJ				↑*e*S	**Sg**	**19 19 06.7**	**0.0**
	baz=57						
ULHL	**Ulahol**	**2.56**	**263**	↑*i*P	**Pb**	**19 18 51.8**	**-0.3**
	baz=63						
ULHL				↑*i*S	**Sb**	**19 19 24.4**	**+0.5**
	baz=63						

ISCJB 29 19:19:45.2±0.8, 5.3S±0.1×153.7E±0.1, h54km, mb3.5/7, Error ellipse: s-maj=18.9km s-min=10.6km az=137.8
IDC 29 19:19:46.7±0.9, 5.27S×153.79E, h54km±6km, mb3.4/8, mb1 3.6/9, mb1mx3.5/26, mbtmp3.7/9, Error ellipse: s-maj=24.8km s-min=16.5km az=121.0
ISC 29 19:19:46.8±0.8, 5.2S±0.1×153.8E±0.1, h54km, n13, σ1815/18, mb3.7/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.77**	**237**	P	**Pn**	**19 21 38.1**	**+0.8**
	1.1nm,0.3s,baz=61,slow=10,SNR=5.7						
PMG				S	**Sn**	**19 23 02.8**	**-1.3**
	2.3nm,0.3s,baz=134,slow=20,SNR=4.6						
DZM	**Mont Dzumac**	**20.75**	**145**	P	**P**	**19 24 23.6**	**+0.2**
	4.0nm,0.4s,baz=287,slow=17,SNR=5.1						
WRA	**Warramunga Arr**	**23.92**	**231**	P	**P**	**19 24 54.9**	**-1.0**
	0.5nm,0.7s,baz=56,slow=10,SNR=8.9						
WRA				PcP	**PcP**	**19 28 38.0**	**+0.4**
	1.1nm,1.1s,baz=59,slow=2.5,SNR=5.7						
ASAR	**Alice Springs**	**26.52**	**224**	P	**P**	**19 25 19.2**	**-0.4**
	0.3nm,0.6s,baz=54,slow=8.9,SNR=4.2						
ASAR				pP	**pP**	**19 25 33.1**	**+1.3**
	0.5nm,0.8s,baz=55,slow=8.6,SNR=2.7						
ASAR				PcP	**PcP**	**19 28 42.4**	**-1.0**
	0.7nm,0.9s,baz=71,slow=2.9,SNR=4.5						
H11S3	**WAKE ISLAND Hy**	**26.78**	**28**	T	T	19 53 34.0	
	baz=208,slow=76,SNR=8.7						
H11S2	**WAKE ISLAND Hy**	**26.79**	**28**	T	T	19 53 34.7	
	baz=208,slow=76,SNR=7.1						
H11S1	**WAKE ISLAND Hy**	**26.80**	**28**	T	T	19 53 35.8	
	baz=208,slow=76,SNR=4.2						
CMAR	**Chiang Mai Arr**	**58.94**	**295**	P	**P**	**19 29 40.6**	**-0.4**
	0.9nm,0.6s,baz=128,slow=5.4,SNR=11						
CMAR				pP	**pP**	**19 29 57.0**	**+2.4**
	0.5nm,0.3s,baz=44,slow=29,SNR=2.2						
SONM	**Songino Array**	**67.21**	**327**	P	**P**	**19 30 36.5**	**+1.0**
	0.3nm,0.7s,baz=134,slow=4.2,SNR=2.2						
SONM				pP	**pwP**	**19 30 52.0**	**-2.5**
	0.3nm,0.6s,baz=151,slow=2.5,SNR=2.6						
MKAR	**Makanchi Array**	**81.29**	**319**	P	**P**	**19 31 58.0**	**+0.5**
	0.5nm,0.5s,baz=97,slow=7.5,SNR=13						
MKAR				pP	**pP**	**19 32 12.0**	**0.0**
	0.4nm,0.5s,baz=97,slow=7.3,SNR=3.4						
ZALV	**Zalesovo Beam**	**82.05**	**326**	P	**P**	**19 32 01.3**	**+0.1**
	0.3nm,0.3s,baz=289,slow=29,SNR=2.8						
ILAR	**Eielson Array**	**82.18**	**22**	P	**P**	**19 32 01.3**	**-0.4**
	0.8nm,1.1s,baz=219,slow=8.1,SNR=4.1						
ILAR				pP	**pP**	**19 32 15.7**	**-0.2**
	0.7nm,1.0s,baz=217,slow=8.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**151.37**	**288**	PKPbc	**PKPbc**	**19 39 35.1**	**-0.5**
	0.6nm,0.6s,baz=76,slow=3.3,SNR=5.7						

IDC 29 19:30:27.9±0.8, 11.36S×165.71E, h0km, mb4.2/15, mb1 4.4/16, mb1mx4.3/37, mbtmp4.3/16, ML4.5/1, MS3.7/7, Ms1 3.7/7, ms1mx3.3/38, Error ellipse: s-maj=25.3km s-min=19.4km az=140.0
NEIC 29 19:30:30.8±0.2, 11.14S×165.41E, h10km, mb5.1/43, Error ellipse: s-maj=6.4km s-min=5.1km az=88.0
ISCJB 29 19:30:32.2±0.2, 11.25S±0.03×165.39E±0.04, h30km, mb4.9/66, MS3.5/1, Error ellipse: s-maj=5.7km s-min=4.7km az=158.0
MOS 29 19:30:32.3±1.2, 11.21S×165.42E, h33km, mb4.8/15, Error ellipse: s-maj=12.6km s-min=10.1km az=168.5
BJI 29 19:30:33.4, 11.10S×165.36E, h27km, mb4.6/22, mB5.2/14, Ms5.1/5, Ms7 4.9/4
ISC 29 19:30:33.6±0.4, 11.27S±0.06×165.45E±0.06, h30km, n133, σ1853/130, mb4.9/67, 1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.71**	**288**	P	**Pn**	**19 31 57.4**	**+1.0**
	13nm,0.3s,baz=158,slow=0.9,SNR=10						
HNR				S	**Sn**	**19 33 00.6**	**-0.5**
	6.4nm,0.3s,baz=71,slow=18,SNR=4.2						
HNR				LR	LR	19 34 01.9	
	comp=Z,298nm,18.9s,baz=116,slow=36						
HNR	**Honiara**	**5.71**	**288**	*e*P	**Pn**	**19 31 56.0**	**-0.5**
HNR				*e*S	**Sn**	**19 33 02.0**	**+0.9**
HNR	**Honiara**	**5.71**	**288**	*e*Pn	**Pn**	**19 31 55.7**	**-0.7**
HNR				*e*Sn	**Sn**	**19 33 00.6**	**-0.5**
HNR	**Honiara**	**5.71**	**288**	*e*P	**Pn**	**19 31 55.7**	**-0.7**
HNR				*e*		19 33 00.6	
MARNC	**Mare, Loyalty**	**10.45**	**167**	*e*Pn	**Pn**	**19 33 02.0**	**+0.6**
DZM	**Mont Dzumac**	**10.78**	**175**	*e*Pn	**Pn**	**19 33 07.3**	**+1.2**
	15nm,0.3s						
DZM				*e*Sn	**Sn**	**19 35 00.5**	**-5.3**
	1.3nm,0.3s						
DZM				*e*LR	LR	19 35 38.9	
	comp=Z,231nm,23.4s						
DZM	**Mont Dzumac**	**10.78**	**175**	Pn	**Pn**	**19 33 07.7**	**+1.6**
	9.1nm,0.3s,baz=119,slow=15,SNR=64						
DZM	**Mont Dzumac**	**10.78**	**175**	*e*Pn	**Pn**	**19 33 06.8**	**+0.7**
ONTNC	**Ouen Toro**	**11.02**	**175**	*e*Pn	**Pn**	**19 33 10.6**	**+1.5**
PINNC	**Pines Island,**	**11.44**	**171**	*e*Pn	**Pn**	**19 33 17.2**	**+2.2**
PMG	**Port Moresby**	**18.09**	**274**	LR	LR	19 41 36.6	
	comp=Z,362nm,18.8s,baz=146,slow=36						
PMG	**Port Moresby**	**18.09**	**274**	*i* P	**Pn**	**19 34 40.9**	**-1.9**
PMG				pmax	pmax		
	comp=Z,80nm,1.2s						
EIDS	**Eidsvold**	**19.53**	**222**	*e*P	**Pn**	**19 35 00.5**	**+0.3**
	comp=Z,77nm,1.8s						
KWAJ	**Kwajalein Atol**	**20.06**	**6**	*e*P	**P**	**19 35 04.4**	**-0.1**
	comp=Z,177nm,0.7s						
KWAJ	**Kwajalein Atol**	**20.06**	**6**	*e*P	**P**	**19 35 04.4**	**-0.1**
KWAJ				pmax	pmax		
	comp=Z,177nm,0.7s						
MANU	**Manus Island**	**20.15**	**296**	*e*P	**P**	**19 35 05.8**	**+0.2**
	comp=Z,165nm,1.0s						
CTA	**Charters Tower**	**20.44**	**242**	P	Pn	19 35 10.6	-0.3
	comp=Z,25nm,0.9s,baz=66,slow=12,SNR=27						
CTAO	**Charters Tower**	**20.44**	**242**	*e*P	Pn	19 35 10.1	-0.8
	comp=Z,43nm,1.0s						
CTAO	**Charters Tower**	**20.44**	**242**	*e*P	Pn	19 35 10.1	-0.8
CTAO				pmax	pmax		
	comp=Z,43nm,1.0s						
COEN	**Coen**	**21.90**	**261**	*e*P	**P**	**19 35 24.6**	**+0.1**
	comp=Z,90nm,1.4s						
ARMA	**Armidale**	**22.97**	**212**	*e*P	**P**	**19 35 37.1**	**+1.2**
	comp=Z,46nm,1.2s						
JAY	**Jayapura**	**26.04**	**288**	P	**P**	**19 36 07.1**	**+2.6**
	comp=Z,71nm,0.9s,baz=182,slow=15,SNR=2.5						
MXZ	**Matakaoa Point**	**28.61**	**158**	*e*P	**P**	**19 36 29.1**	**+1.8**
	comp=Z,64nm,1.1s						
URZ	**Urewera**	**28.83**	**161**	LR	LR	19 47 19.7	
	comp=Z,140nm,18.7s,baz=42,slow=35						
URZ	**Urewera**	**28.83**	**161**	*e*P	**P**	**19 36 31.6**	**+2.4**
	comp=Z,42nm,1.3s						
BKZ	**Black Stump Fm**	**29.47**	**162**	*e*P	**P**	**19 36 36.0**	**+1.1**
	comp=Z,19nm,1.1s						
H11S2	**WAKE ISLAND Hy**	**29.60**	**2**	T	T	20 07 11.3	
	baz=190,slow=80,SNR=3.0						
H11S3	**WAKE ISLAND Hy**	**29.60**	**2**	T	T	20 07 15.3	
	baz=190,slow=80,SNR=3.0						
H11S1	**WAKE ISLAND Hy**	**29.62**	**2**	T	T	20 07 14.7	
	baz=190,slow=80,SNR=4.4						
STKA	**Stephens Creek**	**30.08**	**223**	*e*P	**P**	**19 36 42.6**	**+2.2**
	comp=Z,521nm,1.2s						
STKA	**Stephens Creek**	**30.08**	**223**	*e*P	**P**	**19 36 42.6**	**+2.2**
STKA				pmax	pmax		
	comp=Z,521nm,1.2s						
WAKE	**Wake Island**	**30.39**	**2**	*e*P	**P**	**19 36 43.7**	**+0.6**
	comp=Z,120nm,1.0s						
BFZ	**Birch Farm**	**30.80**	**164**	*e*P	**P**	**19 36 49.7**	**+3.0**
	comp=Z,12nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**30.82**	**3**	T	T	20 08 45.2	
	baz=182,slow=76,SNR=3.3						
H11N3	**WAKE ISLAND Hy**	**30.83**	**3**	T	T	20 08 47.0	
	baz=182,slow=76,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**30.84**	**3**	T	T	20 08 43.7	
	baz=182,slow=76,SNR=3.9						
THZ	**Tophouse**	**31.07**	**169**	*e*P	**P**	**19 36 52.4**	**+3.3**
	comp=Z,9.9nm,0.8s						
WB2	**Warramunga Arr**	**31.12**	**250**	*e*P	**P**	**19 36 48.7**	**-1.1**
WB2				*e*PcP	**PcP**	**19 39 45.7**	**+0.9**
WRAB	**Tennant Creek**	**31.12**	**250**	*e*P	**P**	**19 36 49.1**	**-0.7**
	comp=Z,26nm,1.0s						
WRAB	**Tennant Creek**	**31.12**	**250**	*i* P	**P**	**19 36 48.1**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,22nm,1.1s						
WR1	**Warramunga Arr**	**31.13**	**250**	*e*P	**P**	**19 36 49.3**	**-0.6**
	comp=Z,36nm,1.1s						
WR1				*e*PcP	**PcP**	**19 39 45.2**	**+0.4**
WRA	**Warramunga Arr**	**31.13**	**250**	P	**P**	**19 36 49.3**	**-0.6**
	comp=Z,16nm,1.0s,baz=79,slow=9.2,SNR=57						
WRA				PcP	**PcP**	**19 39 45.2**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=82,slow=3.1,SNR=7.3						
TOO	**Toolangi**	**31.73**	**211**	*e*P	**P**	**19 36 55.8**	**+0.8**
	comp=Z,12nm,0.9s						
TOO	**Toolangi**	**31.73**	**211**	*e*P	**P**	**19 36 55.8**	**+0.8**
TOO				pmax	pmax		
	comp=Z,12nm,0.9s						
KHZ	**Kahutara**	**31.82**	**169**	*e*P	**P**	**19 36 58.6**	**+3.0**
	comp=Z,56nm,1.6s						
LTZ	**Lake Taylor**	**31.95**	**170**	*e*P	**P**	**19 36 58.7**	**+1.9**
	comp=Z,8.2nm,0.8s						
FOZ	**Fox Glacier**	**32.36**	**174**	*e*P	**P**	**19 37 01.2**	**+0.8**
	comp=Z,12nm,1.0s						
AS01	**Alice Springs**	**32.39**	**243**	*e*P	**P**	**19 37 00.2**	**-0.8**
AS31	**Alice Springs**	**32.43**	**243**	*e*P	**P**	**19 36 59.7**	**-1.6**
	comp=Z,1.6nm,0.9s						
ASAR	**Alice Springs**	**32.43**	**243**	P	**P**	**19 37 00.5**	**-0.8**
	comp=Z,5.8nm,1.0s,baz=73,slow=9.4,SNR=30						
ASAR				PcP	**PcP**	**19 39 48.8**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=81,slow=2.3,SNR=11						
ASAR				LR	LR	19 49 40.5	
	comp=Z,132nm,18.4s,baz=90,slow=35						
OXZ	**Oxford**	**32.44**	**171**	*e*P	**P**	**19 37 02.2**	**+1.1**
	comp=Z,43nm,1.8s						
RPZ	**Rata Peaks**	**32.69**	**172**	P	**P**	**19 37 01.1**	**-2.1**
	comp=Z,6.5nm,0.8s,baz=44,slow=23,SNR=3.7						
CRLZ	**Canterbury Las**	**32.78**	**170**	*e*P	**P**	**19 37 05.5**	**+1.5**
	comp=Z,148nm,1.8s						
MQZ	**McQueen's Vall**	**32.91**	**170**	*e*P	**P**	**19 37 05.6**	**+0.5**
	comp=Z,19nm,1.1s						
ANA2	**Anatahan**	**33.68**	**324**	*e*P	**P**	**19 37 11.9**	**-0.2**
	comp=Z,100nm,0.6s						
BBOO	**Buckleboo**	**34.46**	**227**	*e*P	**P**	**19 37 19.1**	**+0.2**
	comp=Z,40nm,1.4s						
PYZ	**Puysegur Point**	**34.79**	**178**	*e*P	**P**	**19 37 22.2**	**+0.8**
	comp=Z,49nm,1.1s						
FITZ	**Fitzroy Crossi**	**39.04**	**255**	*e*P	**P**	**19 37 57.2**	**-0.8**
	comp=Z,44nm,2.0s						
XMAS	**Kiritimati**	**39.20**	**73**	*e*P	**P**	**19 38 00.9**	**+1.6**
	comp=Z,168nm,1.2s						
FORT	**Forrest**	**39.67**	**235**	*e*P	**P**	**19 38 02.4**	**-0.8**
	comp=Z,21nm,1.1s						
PPT	**Papeete**	**43.92**	**104**	LR	LR	19 52 32.1	
	comp=Z,62nm,18.8s,baz=214,slow=30						
PPT2	**Papeete2**	**43.92**	**104**	*e*LR	LR	19 51 00.4	
	comp=Z,56nm,22.0s						
MBWA	**Marble Bar**	**44.85**	**251**	*e*P	**P**	**19 38 44.7**	**-0.8**
	comp=Z,21nm,1.0s						
JNU	**Nakatsue**	**55.09**	**325**	P	**P**	**19 40 03.9**	**+0.8**
	comp=Z,3.0nm,0.7s,baz=55,slow=2.6,SNR=4.1						
JNU	**Nakatsue**	**55.09**	**325**	*e*P	**P**	**19 40 02.8**	**-0.2**
	comp=Z,13nm,1.1s						
KSRS	**Korea Array**	**59.90**	**326**	P	**P**	**19 40 38.5**	**+1.7**
	comp=Z,0.9nm,0.8s,baz=12,slow=26,SNR=3.6						
KS15	**Wonju Array Si**	**59.91**	**326**	*e*P	**P**	**19 40 37.9**	**+1.1**
KSAR	**Wonju Array Be**	**59.91**	**326**	P	**P**	**19 40 38.5**	**+1.6**
KSAR	**Wonju Array Be**	**59.91**	**326**	P	**P**	**19 40 38.5**	**+1.6**
YSS	**Yuzh-Sakhalins**	**61.41**	**342**	*e*P	**P**	**19 40 42.4**	**-4.5**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.4s						
NJ2	**Nanjing**	**61.98**	**316**	*e*P	**P**	**19 40 51.0**	**0.0**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
CN2	**Changchun**	**65.79**	**329**	*e*P	**P**	**19 41 18.5**	**+2.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KLR	**Kul'dur**	**67.15**	**337**	*i* P	**P**	**19 41 22.8**	**-1.7**
KMI	**Kunming**	**70.99**	**302**	P	**P**	**19 41 51.0**	**+1.9**
KMI				pmax	pmax		
	comp=Z,16nm,0.5s						
KMI				pmax	pmax		
	comp=Z,170nm,4.8s						
HHC	**Hu-ho-hao-te**	**71.82**	**320**	*e*P	**P**	**19 41 56.0**	**+2.3**
HHC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CM01	**Chiang Mai Arr**	**71.91**	**294**	*e*P	**P**	**19 41 54.9**	**+0.4**
CM31	**Chiang Mai Arr**	**71.94**	**294**	*e*P	**P**	**19 41 55.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**71.94**	**294**	P	**P**	**19 41 55.8**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=115,slow=3.8,SNR=4.4						
ZEA	**Zeya**	**72.44**	**337**	*e*P	P	19 42 03.9	+7.0
CD2	**Chengdu**	**72.51**	**307**	*e*P	**P**	**19 41 57.5**	**-0.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LZH	**Lanzhou**	**74.69**	**312**	*e*P	**P**	**19 42 13.0**	**+2.2**
LZH				pP	pP	19 42 19.5	+0.8
LZH				sP	sP	19 42 22.8	+1.2
LZH				pmax	pmax		
	comp=Z,26nm,1.0s						
LZH				pmax	pmax		
	comp=Z,140nm,5.0s						
SONA0	**Songino Array**	**78.68**	**324**	*e*P	**P**	**19 42 31.7**	**-1.3**
SONM	**Songino Array**	**78.68**	**324**	P	**P**	**19 42 31.7**	**-1.3**
	comp=Z,0.7nm,0.9s,baz=153,slow=10.0,SNR=4.7						
GTA	**Gaotai**	**79.01**	**314**	*e*P	**P**	**19 42 38.3**	**+3.3**
GTA				pP	sP	19 42 46.0	+0.2
GTA				sP	pwP	19 42 49.5	+0.1
GTA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
BILL	**Bilibino**	**79.11**	**0**	*e*P	**P**	**19 42 34.0**	**-0.8**
BILL				*e*		19 42 40.5	
BILL				*e*		19 45 29.2	
BILL				*e*PPP	PPP	19 47 21.4	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
COLA	**College**	**83.59**	**18**	*i* P	**P**	**19 42 58.5**	**-0.1**
COLA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ILAR	**Eielson Array**	**83.82**	**19**	P	**P**	**19 42 58.7**	**-1.1**
	comp=Z,0.9nm,0.9s,baz=250,slow=5.1,SNR=6.3						
BBB	**Bella Bella**	**84.93**	**35**	LR	LR	20 16 12.8	
	comp=Z,67nm,18.2s,baz=219,slow=32						
JIRN	**Jiri**	**85.84**	**299**	*e*P	**P**	**19 43 12.4**	**+1.1**
GUN	**Gumba**	**86.17**	**299**	*e*P	**P**	**19 43 13.7**	**+0.8**
TIXI	**Tiksi**	**86.26**	**349**	*i* P	**P**	**19 43 12.2**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.1s						
NV01	**Mina Array Sit**	**86.39**	**50**	*e*P	**P**	**19 43 12.5**	**-1.1**
NVAR	**Mina Array Bea**	**86.39**	**50**	P	**P**	**19 43 12.5**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=246,slow=6.8,SNR=2.9						
PKI	**Pulchoki**	**86.49**	**299**	*e*P	**P**	**19 43 15.0**	**+0.6**
PKIN	**Phulchoki**	**86.50**	**299**	*e*P	**P**	**19 43 14.8**	**+0.4**
KKN	**Kakani**	**86.66**	**299**	*e*P	**P**	**19 43 14.8**	**-0.3**
**DLBC

TOA0	**Torodi Ar. Sit**	**164.01**	**278**	*e*PKPdf	**PKPdf**	**19**	**50**	**35.3 +0.3**
TORD	**Torodi Ar. Bea**	**164.01**	**278**	PKPab	**PKPab**	**19**	**51**	**26.7 -1.5**
	comp=Z,0.4nm,0.6s,baz=96,slow=2.9,SNR=3.8							
TOA1	**Torodi Ar. Sit**	**164.01**	**278**	*e*PKPab	**PKPab**	**19**	**51**	**26.7 -1.5**

ROM 29 19:32:39.0±0.1,**44°.177N**±0°.006×**10°.521E**±0°.006,
h11km,**Md1.1/3,ML2.3/1,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLC	**Villacollemand**	**0.10**	**260**	P	Pg	19 32 42.1	+0.3
VLC				S	Sg	19 32 44.5	+0.7
VLC				AML	AML		
	comp=E,540μm,0.7s						
VLC				AML	AML		
	comp=N,580μm,0.5s						
VLC				AML	AML		
	comp=E,586μm,0.7s						
VLC				AML	AML		
	comp=N,602μm,0.8s						
VLC				AML	AML		
	comp=N,581μm,0.5s						
VLC				AML	AML		
	comp=E,587μm,0.7s						
VLC				AML	AML		
	comp=E,540μm,0.7s						
VLC				END			
VLC				END			
BDI	**Bagni Di Lucca**	**0.13**	**154**	P	Pg	19 32 42.5	+0.3
BDI				S	Sg	19 32 45.3	+0.9
BDI				AML	AML		
	comp=E,523μm,0.5s						
BDI				AML	AML		
	comp=N,397μm,0.1s						
BDI				AML	AML		
	comp=E,530μm,0.4s						
BDI				AML	AML		
	comp=N,492μm,0.1s						
BDI				AML	AML		
	comp=E,530μm,0.4s						
BDI				AML	AML		
	comp=E,524μm,0.5s						
BDI				AML	AML		
	comp=N,396μm,0.1s						
BDI				AML	AML		
	comp=N,492μm,0.1s						
BDI				END			
BDI				END			
POPM	**Popiglio**	**0.21**	**128**	P	Pg	19 32 44.1	+0.5
POPM				S	Sg	19 32 48.0	+1.3
POPM				AML	AML		
	comp=E,730μm,0.2s						
POPM				AML	AML		
	comp=N,1102μm,0.9s						
POPM				AML	AML		
	comp=E,730μm,0.2s						
POPM				AML	AML		
	comp=N,1102μm,0.9s						
POPM				END			
POPM				END			
MAIM	**Mastiano**	**0.26**	**185**	P	Pg	19 32 45.1	+0.6
MAIM				S	Sg	19 32 49.1	+1.1

*ISCJB **29** 19:33:25.7±0.5,44°.10N±0°.03×9°.84E±0°.03,h11km±3km,
Error ellipse: s-maj=4.6km s-min=2.8km az=22.7*
*ROM **29** 19:33:26.1±0.1,44°.165N±0°.008×9°.906E±0°.007,
h10km,ML2.3/11*
*GEN **29** 19:33:26.6,44°.16N×9°.90E,h10km±1km,Ml2.1*
*LDG **29** 19:33:26.6±0.1,44°.15N×9°.90E,h10km,Ml2.4/11,Error
ellipse: s-maj=1.6km s-min=1.1km az=15.0*

ISC 29 19:33:25.8±1.0,**44°.13N**±0°.03×**9°.88E**±0°.02,**h19**km±3km,
n41,σ1§56/68,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLMA	**Palmaria, Port**	**0.08**	**193**	P	**Pg**	**19 33 29.7**	**+0.3**
PLMA				S	**Sg**	**19 33 31.6**	**-0.2**
PLMA				AML	AML		
	comp=E,5905μm,0.2s						
PLMA				AML	AML		
	comp=N,3405μm,0.1s						
PLMA				AML	AML		
	comp=E,5905μm,0.2s						
PLMA				AML	AML		
	comp=N,3405μm,0.1s						
PLMA				AML	AML		
	comp=E,5905μm,0.2s						
PLMA				AML	AML		
	comp=N,3405μm,0.1s						
EQUI	**Equi**	**0.20**	**79**	P	**Pg**	**19 33 30.5**	**-0.4**
EQUI				S	**Sg**	**19 33 33.2**	**-1.1**
EQUI	**Equi**	**0.20**	**79**	P	**Pg**	**19 33 30.6**	**-0.4**
EQUI				S	**Sg**	**19 33 33.3**	**-1.1**
EQUI				AML	AML		
	comp=E,4275μm,0.4s						
EQUI				AML	AML		
	comp=N,3685μm,0.3s						
EQUI				AML	AML		
	comp=E,4275μm,0.4s						
EQUI				AML	AML		
	comp=N,3685μm,0.3s						
EQUI				AML	AML		
	comp=N,3685μm,0.3s						
EQUI				AML	AML		
	comp=E,4275μm,0.4s						
MSSA	**Maissana**	**0.32**	**306**	P	**Pg**	**19 33 32.8**	**0.0**
MSSA				S	**Sg**	**19 33 37.0**	**-0.6**
VLC	**Villacollemand**	**0.37**	**85**	P	**Pg**	**19 33 33.6**	**0.0**
VLC				S	**Sg**	**19 33 38.4**	**-0.5**
VLC				AML	AML		
	comp=E,540μm,0.7s						
VLC				AML	AML		
	comp=N,580μm,0.5s						
VLC				AML	AML		
	comp=E,586μm,0.7s						
VLC				AML	AML		
	comp=N,602μm,0.8s						
VLC				AML	AML		
	comp=E,540μm,0.7s						
VLC				AML	AML		
	comp=N,580μm,0.5s						
VLC				AML	AML		
	comp=E,586μm,0.7s						
VLC				AML	AML		
	comp=N,602μm,0.8s						
VLC				AML	AML		
	comp=E,587μm,0.7s						
VLC				AML	AML		
	comp=E,540μm,0.7s						
VLC				AML	AML		
	comp=N,602μm,0.8s						
VLC				AML	AML		
	comp=N,581μm,0.5s						
SARO	**Sassorosso**	**0.38**	**81**	P	**Pg**	**19 33 33.8**	**-0.1**
SARO				S	**Sg**	**19 33 38.7**	**-0.6**
GRAM	**Graiana**	**0.39**	**21**	P	**Pg**	**19 33 33.7**	**-0.3**
GRAM				S	**Sg**	**19 33 38.5**	**-1.0**
GRAM	**Graiana**	**0.39**	**21**	P	**Pg**	**19 33 33.7**	**-0.3**
GRAM				S	**Sg**	**19 33 38.6**	**-1.0**
GRAM				AML	AML		
	comp=E,1047μm,0.2s						
GRAM				AML	AML		
	comp=N,1195μm,0.2s						
GRAM				AML	AML		
	comp=N,1195μm,0.2s						
GRAM				AML	AML		
	comp=E,1047μm,0.2s						
MAIM	**Mastiano**	**0.49**	**115**	P	**Pg**	**19 33 36.1**	**+0.3**
MAIM				S	**Sg**	**19 33 42.2**	**-0.3**
MAIM	**Mastiano**	**0.49**	**115**	P	**Pg**	**19 33 36.1**	**+0.3**
MAIM				S	**Sg**	**19 33 42.4**	**-0.1**
BDI	**Bagni Di Lucca**	**0.52**	**97**	P	**Pg**	**19 33 36.5**	**+0.1**
BDI				S	**Sg**	**19 33 43.2**	**-0.3**
BDI				AML	AML		
	comp=E,523μm,0.5s						
BDI				AML	AML		
	comp=N,396μm,0.1s						
BDI				AML	AML		
	comp=E,530μm,0.4s						
BDI				AML	AML		
	comp=N,492μm,0.1s						
BDI				AML	AML		
	comp=E,523μm,0.5s						
BDI				AML	AML		
	comp=N,397μm,0.1s						
BDI				AML	AML		
	comp=E,530μm,0.4s						
BDI				AML	AML		
	comp=N,492μm,0.1s						
BDI				AML	AML		
	comp=E,524μm,0.5s						
BDI				AML	AML		
	comp=N,492μm,0.1s						
BDI				AML	AML		
	comp=N,396μm,0.1s						
GORR	**Gorreto**	**0.64**	**319**	P	**Pg**	**19 33 38.2**	**-0.3**
GORR				S	**Sg**	**19 33 46.5**	**-0.5**
GORR	**Gorreto**	**0.64**	**319**	P	**Pg**	**19 33 38.2**	**-0.3**
GORR				S	**Sg**	**19 33 46.8**	**-0.2**
GORR				AML	AML		
	comp=E,384μm,0.7s						
GORR				AML	AML		
	comp=N,408μm,0.3s						
POPM	**Popiglio**	**0.64**	**97**	P	**Pg**	**19 33 38.6**	**+0.1**
POPM				S	**Sg**	**19 33 46.8**	**-0.3**
POPM	**Popiglio**	**0.64**	**97**	P	**Pg**	**19 33 38.6**	**+0.1**
POPM				S	**Sg**	**19 33 47.1**	**0.0**
POPM				AML	AML		
	comp=E,730μm,0.2s						
POPM				AML	AML		
	comp=N,1102μm,0.9s						
POPM				AML	AML		
	comp=E,730μm,0.2s						
POPM				AML	AML		
	comp=N,1102μm,0.9s						
POPM				AML	AML		
	comp=E,730μm,0.2s						
POPM				AML	AML		
	comp=N,1102μm,0.9s						
BOB	**Bobbio (Coli)**	**0.71**	**335**	P	**Pg**	**19 33 39.9**	**0.0**
BOB				S	**Sg**	**19 33 49.4**	**+0.1**
BOB				AML	AML		
	comp=E,195μm,0.2s						
BOB				AML	AML		
	comp=N,204μm,0.8s						
BOB				AML	AML		
	comp=E,195μm,0.2s						
BOB				AML	AML		
	comp=N,204μm,0.8s						
BOB				AML	AML		
	comp=E,195μm,0.2s						
BOB				AML	AML		
	comp=N,204μm,0.8s						
CRMI	**Carmignano**	**0.86**	**113**	P	**Pg**	**19 33 43.2**	**+0.6**
CRMI				S	**Sg**	**19 33 54.4**	**+0.4**
CRMI				AML	AML		
	comp=E,30μm,1.2s						
CRMI				AML	AML		
	comp=N,26μm,0.5s						
CRMI				AML	AML		
	comp=E,30μm,1.2s						
CRMI				AML	AML		
	comp=N,26μm,0.5s						
PCP	**Piancastagn**	**1.04**	**294**	P	**Pg**	**19 33 45.9**	**-0.1**
PCP				S	**Sg**	**19 33 59.1**	**-0.6**
PCP				AML	AML		
	comp=E,77μm,0.9s						
PCP				AML	AML		
	comp=N,136μm,1.4s						
PCP				AML	AML		
	comp=E,77μm,0.9s						
PCP				AML	AML		
	comp=N,136μm,1.4s						
FINB	**Finale Ligure**	**1.12**	**273**	P	**Pb**	**19 33 47.2**	**+0.7**
FINB				AML	AML		
	comp=E,74μm,0.3s						
FINB				AML	AML		
	comp=N,66μm,0.7s						
FINB				AML	AML		
	comp=E,74μm,0.3s						
FINB				AML	AML		
	comp=N,66μm,0.7s						
CSNT	**Castellina Chi**	**1.22**	**122**	P	**Pn**	**19 33 48.4**	**+0.5**
RORO	**Rocca Rossa**	**1.30**	**270**	AML	AML		
	comp=E,52μm,1.4s						
RORO				AML	AML		
	comp=N,51μm,0.8s						
RORO				AML	AML		
	comp=N,51μm,0.8s						
RORO				AML	AML		
	comp=E,52μm,1.4s						
PGF	**Pioggiola**	**1.70**	**202**	*e*Pn	**Pn**	**19 33 55.3**	**+0.6**
PGF				*e*Sn	**Sn**	**19 34 15.5**	**-0.5**
	comp=E,9.6nm,0.3s						
MAGA	**Magasa**	**1.73**	**18**	P	**Pb**	**19 33 57.2**	**+0.1**
SBF	**Sospel**	**1.78**	**262**	*e*Pn	**Pn**	**19 33 56.1**	**+0.4**
SBF				*e*Sn	**Sn**	**19 34 17.7**	**-0.2**
	comp=E,18nm,0.3s						
MBDF	**Montbardon**	**2.30**	**286**	*e*P	**Pn**	**19 34 05.5**	**+2.5**
MBDF				*e*Sn	**Sn**	**19 34 29.7**	**-1.2**
	comp=E,2.1nm,0.3s						
FRF	**La Foret Royal**	**2.40**	**257**	*e*Pn	**Pn**	**19 34 04.7**	**+0.5**
FRF				*e*Sn	**Sn**	**19 34 32.6**	**-0.5**
	comp=E,3.5nm,0.2s						
LMR	**La Mourre**	**2.57**	**253**	*e*Pn	**Pn**	**19 34 06.8**	**+0.4**
LMR				*e*Sn	**Sn**	**19 34 36.0**	**-1.1**
	comp=E,4.7nm,0.3s						
LPG	**La Plagne**	**2.61**	**303**	*e*P	**Pn**	**19 34 10.0**	**+2.7**
LPG				*e*Sn	**Sn**	**19 34 37.2**	**-1.5**
LPL	**La Plagne**	**2.63**	**303**	*e*P	**Pn**	**19 34 10.1**	**+2.5**
LPL				*e*Sn	**Sn**	**19 34 37.7**	**-1.4**
	comp=E,2.7nm,0.4s						
FETA	**Feichten**	**2.96**	**11**	Pn	**Pb**	**19 34 16.8**	**-1.2**
	comp=E,0.2nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.96**	**287**	*e*P	**Pn**	**19 34 15.3**	**+3.3**
ORIF				*e*Sn	**Sn**	**19 34 45.6**	**-1.5**
	comp=E,2.0nm,0.4s						
SMRF	**Simiane la Rot**	**3.10**	**269**	*e*P	**Pn**	**19 34 16.6**	**+2.7**
SMRF				*e*Sn	**Sn**	**19 34 49.2**	**-1.3**
	comp=E,1.3nm,0.3s						
DAVA	**Damuels**	**3.16**	**0**	*e*Pn	**Pb**	**19 34 20.2**	**-1.3**
	comp=E,0.4nm,0.1s						
ABTA	**Abfaltersbach**	**3.21**	**34**	*e*Pn	**Pb**	**19 34 20.0**	**-2.4**
	comp=E,1.0nm,0.3s						
SQTA	**Sankt Quirin**	**3.23**	**16**	*e*Pn	**Pn**	**19 34 20.1**	**+4.5**
	comp=E,1.1nm,0.2s						
MOTA	**Moosalm**	**3.33**	**15**	*i* Pn	**Pn**	**19 34 21.2**	**+4.1**
	comp=E,1.0nm,0.2s						
WTTA	**Wattenberg**	**3.37**	**21**	*e*Pn	**Pn**	**19 34 21.7**	**+4.0**
	comp=E,1.2nm,0.2s						
HINF	**Hinteralfeld**	**4.25**	**331**	*e*P	**Pn**	**19 34 33.1**	**+3.5**
HAU	**Haudompre**	**4.59**	**329**	*e*P	**Pn**	**19 34 37.7**	**+3.4**
CDF	**Champ du Feu**	**4.65**	**338**	*e*Pn	**Pn**	**19 34 35.4**	**+0.3**
CDF				*e*Sn	**Sn**	**19 35 25.3**	**-3.3**
	comp=E,1.0nm,0.3s						
LOR	**Lormes**	**5.26**	**309**	*e*Pn	**Pn**	**19 34 44.0**	**+0.6**
	baz=125						

*IDC **29** 19:41:08.1±2.6,59°.64S×33°.50W,h0km,mb3.9/2,
mb1 4.0/2,mb1mx3.7/15,mbtmp3.9/2,Error ellipse:
s-maj=90.6km s-min=58.7km az=9.0*

ISC 29 19:41:00.4±1.3,**61°.4S**±0°.3×**34°.6W**±0°.4,**h10**km,**n13,**
σ0§49/6,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**13.94**	**146**	P	**P**	**19 44 25.4**	**-0.5**
VNA1	**Neumayer--Stat**	**14.04**	**142**	P	**P**	**19 44 26.8**	**-0.1**
VNA2	**Neumayer--Watz**	**14.42**	**143**	P	**P**	**19 44 31.8**	**+0.6**
CPUP	**Villa Florida**	**38.26**	**326**	P	**P**	**19 48 20.4**	**-0.1**
	0.6nm,0.3s,baz=150,slow=12,SNR=3.3						
H10S2	**ASCENSION HYDR**	**54.34**	**24**	T	T	20 48 01.2	
	baz=189						
H10S3	**ASCENSION HYDR**	**54.34**	**24**	T	T	20 48 03.1	
	baz=189						
H10S1	**ASCENSION HYDR**	**54.35**	**24**	T	T	20 48 09.5	
	baz=189						
H10N1	**ASCENSION HYDR**	**55.45**	**24**	T	T	20 49 11.2	
	baz=198						
H10N3	**ASCENSION HYDR**	**55.45**	**24**	T	T	20 49 24.4	
	baz=198						
H10N2	**ASCENSION HYDR**	**55.47**	**24**	T	T	20 49 06.5	
	baz=198						
TORD	**Torodi Ar. Bea**	**79.61**	**36**	P	**P**	**19 53 07.5**	**0.0**
	0.7nm,0.6s,baz=206,slow=5.0,SNR=5.1						
YKA	**Yellowknife Ar**	**137.51**	**317**	PKP	PKPdf	20 00 31.3	+8.6
	0.1nm,0.6s,baz=106,slow=2.0,SNR=3.4						
ILAR	**Eielson Array**	**150.48**	**306**	PKPbc	**PKPab**	**20 00 57.6**	**+0.3**
	0.6nm,0.7s,baz=102,slow=0.8,SNR=8.6						

KRNET 29 19:42:47.2±0.1,**42°.61N**×**79°.82E,mb2.0,6C,Lake
Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**0.76**	**341**	⇑*i*P	Pg	19 43 01.8	+0.1
	baz=41						
PDGK				⇑*i*S	Sg	19 43 12.4	+0.8
	baz=41						
KDJ	**Kajisay**	**2.02**	**257**	⇑*i*P	Pn	19 43 21.4	-1.2
	baz=57						
KDJ				⇑*i*S	Sn	19 43 46.4	-2.3
	baz=57						
ULHL	**Ulahol**	**2.68**	**263**	⇑*i*P	Pn	19 43 30.7	-1.0
	baz=63						
ULHL				⇑*i*S	Sn	19 44 02.5	-2.5
	baz=63						

*NDI **29** 19:42:53.8±2.5,30°.05N×81°.59E,h20km,ML3.8*
*ISCJB **29** 19:42:59.5±0.4,29°.74N±0°.04×80°.63E±0°.06,h19km,
mb3.7/14,MS3.0/1,Error ellipse: s-maj=8.0km
s-min=5.2km az=156.6*
*IDC **29** 19:42:59.0±0.8,29°.84N×80°.68E,h0km,mb3.7/17,
mb1 3.9/19,mb1mx3.7/46,mbtmp3.8/19,ML3.4/2,MS3.2/1,
Ms1 3.2/1,ms1mx2.5/47,Error ellipse: s-maj=23.2km
s-min=14.3km az=41.0*

ISC 29 19:43:01.1±0.6,**29°.73N**±0°.05×**80°.65E**±0°.06,**h19**km,**n34,**
σ1§92/39,mb3.7/14,Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDI	**Dehra Dun**	**2.33**	**285**	*e*P	**Pn**	**19 43 40.9**	**+2.5**
DDI				*ex*	**Sb**	**19 44 10.3**	**-0.7**
NDI	**New Delhi**	**3.18**	**252**	*e*P	**Pn**	**19 43 54.0**	**+3.9**
NDI				*e*S	**Sb**	**19 44 39.0**	**+3.6**
SMLA	**Simla**	**3.32**	**296**	*e*P	**Pn**	**19 43 53.4**	**+1.4**
SMLA				*e*S	**Sb**	**19 44 39.3**	**0.0**
SMLA				IAML		19 44 47.5	
	comp=E,336nm,0.2s						
SMLA				IAML		19 44 47.5	
	comp=N,208nm,0.2s						
DHRM	**DHARAMSHALA**	**4.50**	**305**	*e*P	**Pn**	**19 44 09.2**	**+0.7**
DHRM				*e*S	**Sn**	**19 45 00.9**	**+0.4**
JBP	**Jabalpur**	**6.57**	**185**	*e*P	**Pn**	**19 44 38.8**	**+2.1**
JBP				*e*S	**Sn**	**19 45 52.9**	**+1.9**
BHPL	**Bhopal**	**7.08**	**205**	*e*P	**Pn**	**19 44 44.5**	**+0.7**
BHPL				*ex*	**Sn**	**19 46 01.2**	**-2.6**
SARP	**Sargodha**	**7.20**	**290**	P	**Pn**	**19 44 45.5**	**+0.1**
CHCP	**Chirah Chowk**	**7.41**	**304**	P	**Pn**	**19 44 48.3**	**0.0**
THW	**Thamme Wali**	**8.21**	**294**	P	**Pn**	**19 44 59.3**	**0.0**
CEP	**Cherat**	**8.49**	**301**	P	**Pn**	**19 45 03.1**	**-0.1**
NGP	**Nagpur**	**8.67**	**190**	*e*P	**Pn**	**19 45 05.2**	**-0.4**
NGP				*e*S	**Sn**	**19 46 39.8**	**-3.0**
NGP				IAML		19 47 43.8	
	comp=N,22nm,0.5s						
NGP				IAML		19 47 50.0	
	comp=E,32nm,1.0s						
HYB	**Hyderabad**	**12.41**	**189**	*e*P	**Pn**	**19 45 56.5**	**-0.3**
HYB				*e*S	**Sn**	**19 48 10.0**	**-4.7**
HYB	**Hyderabad**	**12.41**	**189**	*e*S	Sn	19 48 06.3	-8.4
BOM	**Bombay**	**12.93**	**215**	*ex*	**Sn**	**19 48 22.3**	**-5.1**
AAK	**Ala-Archa**	**13.80**	**341**	Pn	**Pn**	**19 46 13.6**	**-2.3**
	comp=E,0.1nm,0.3s,baz=176,slow=16,SNR=2.2						
MKAR	**Makanchi Array**	**17.08**	**4**	Pn	**Pn**	**19 46 55.8**	**-3.0**
	comp=E,0.4nm,0.3s,baz=186,slow=13,SNR=29						
CMAR	**Chiang Mai Arr**	**20.09**	**120**	P	Pn	19 47 35.4	-0.2
	comp=E,0.5nm,0.6s,baz=324,slow=9.3,SNR=6.2						
GEYT	**Alibeck**	**20.39**	**300**	P	**P**	**19 47 37.6**	**+0.7**
	comp=E,1.4nm,0.8s,baz=122,slow=11,SNR=3.9						
KURBB	**Kurchatov Arra**	**20.93**	**356**	P	**P**	**19 47 42.0**	**-0.5**
	comp=E,3.6nm,0.7s,baz=183,slow=10,SNR=19						
PALK	**Pallekele**	**22.34**	**180**	LR	LR	19 57 19.0	
	comp=E,52nm,18.3s,baz=295,slow=38						
ZALV	**Zalesovo Beam**	**24.39**	**6**	P	**P**	**19 48 17.8**	**-0.2**
	comp=E,2.3nm,0.6s,baz=194,slow=9.3,SNR=13						
BVAR	**Borovoye Array**	**24.46**	**345**	P	**P**	**19 48 19.5**	**+0.7**
	comp=E,1.1nm,0.6s,baz=240,slow=43,SNR=5.4						
AKTO	**Aktyubinsk**	**26.78**	**327**	P	**P**	**19 48 40.6**	**+0.9**
	comp=E,1.1nm,0.6s,baz=113,slow=14,SNR=3.3						
SONM	**Songino Array**	**26.81**	**40**	P	**P**	**19 48 40.1**	**-0.1**
	comp=E,0.9nm,0.6s,baz=231,slow=9.4,SNR=8.5						
KSRS	**Korea Array**	**39.78**	**66**	P	**P**	**19 50 33.7**	**+0.8**
	comp=E,0.4nm,0.6s,baz=278,slow=9.3,SNR=3.0						
AKASG	**Malin Array Be**	**43.48**	**314**	P	**P**	**19 51 02.6**	**-0.3**
	comp=E,0.2nm,0.4s,baz=72,slow=8.4,SNR=3.6						
MLR	**Muntele Rosu**	**45.23**	**306**	P	**P**	**19 51 18.3**	**+1.0**
	comp=E,2.9nm,0.8s,baz=304,slow=6.3,SNR=4.3						
FINES	**FINESS Array B**	**47.55**	**328**	P	**P**	**19 51 35.1**	**+0.1**
	comp=E,1.7nm,0.5s,baz=113,slow=8.2,SNR=12						
ARCES	**ARCESS Array B**	**50.45**	**338**	P	**P**	**19 51 58.0**	**+0.8**
	comp=E,3.1nm,0.8s,baz=104,slow=5.1,SNR=5.6						
WRA	**Warramunga Arr**	**71.50**	**127**	P	**P**	**19 54 22.0**	**+1.1**
	comp=E,0.6nm,0.9s,baz=320,slow=6.1,SNR=11						
ASAR	**Alice Springs**	**73.73**	**130**	P	**P**	**19 54 35.5**	**+1.4**
	comp=E,0.6nm,0.7s,baz=314,slow=6.3,SNR=3.9						
TORD	**Torodi Ar. Bea**	**74.11**	**276**	P	**P**	**19 54 37.7**	**+1.1**
	comp=E,0.3nm,0.6s,baz=87,slow=5.9,SNR=3.2						
ILAR	**Eielson Array**	**78.80**	**19**	P	**P**	**19 55 01.7**	**-0.7**
	comp=E,1.0nm,1.1s,baz=305,slow=5.0,SNR=3.1						
YKA	**Yellowknife Ar**	**87.28**	**7**	P	**P**	**19 55 45.9**	**-0.3**
	comp=E,0.4nm,0.7s,baz=343,slow=4.9,SNR=8.0						

*SOME **29** 19:43:18.7,42°.53N×79°.63E,h0km*

KRNET 29 19:43:20.4±0.1,**43°.66N**×**78°.58E,mb2.0,6C-2D,Lake
Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UZB	**Uzynbulak**	**0.60**	**148**	*e*P	Pb	19 43 33.4	-0.5
	3.4nm,0.2s						
UZB				*e*S	Sb	19 43 44.2	+1.3
	3.3nm,0.1s						
PDGK	**Podgornoye**	**0.74**	**116**	⇓*i*P	Pg	19 43 34.5	0.0
	baz=16						
PDGK				⇓*i*S	Sg	19 43 45.3	+1.3
	baz=16						
DJR	**Jarkent**	**1.10**	**52**	*e*P	Pn	19 43 52.4	+9.2
	0.5nm,0.3s						
DJR				*e*S	Sn	19 44 16.3	+17
	1.1nm,0.2s						
KDJ	**Kajisay**	**1.84**	**215**	⇑*i*P	Pb	19 43 54.5	-0.5
	baz=14						
KDJ				⇑*i*S	Sg	19 44 19.8	+0.3
	baz=14						
ULHL	**Ulahol**	**2.22**	**231**	⇑*i*P	Pg	19 44 03.6	+0.6
	baz=31						
ULHL				⇑*i*S	Sg	19 44 35.4	+3.6
	baz=31						
BOOM	**Boomskoye usch**	**2.26**	**240**	⇑*i*P	Pb	19 44 01.1	-1.0
	baz=40						
BOOM				⇑*i*S	Sb	19 44 30.5	-0.2
	baz=40						

*DDA **29** 19:45:06.6,39°.96N×42°.23E,h7km±3km,ML2.5*
*ISK **29** 19:45:06.9,39°.85N×42°.14E,h6km,ML2.3/9*
*ISCJB **29** 19:45:07.3±0.6,39°.90N±0°.04×42°.16E±0°.06,h6km±6km,
Error ellipse: s-maj=9.0km s-min=4.2km az=136.5*

ISC 29 19:45:06.4±1.1,**39°.91N**±0°.03×**42°.20E**±0°.03,**h18**km±7km,
n20,σ0§46/24,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOMI	**Horasan**	**0.27**	**301**	*i* P	**Pg**	**19 45 12.3**	**-0.2**
KOPR	**Koprukoy-ERZUR**	**0.28**	**287**	PG	**Pg**	**19 45 12.5**	**-0.2**
KOPR				SG	**Sg**	**19 45 17.1**	**+0.1**
TUTA	**Tutak**	**0.69**	**137**	IAML_P			
	comp=Z,2μm,0.2s						
TUTA				*i* P	**Pn**	**19 45 20.9**	**-0.6**
TUTA				*i* S	**Sn**	**19 45 32.6**	**+0.7**
AGRB	**Hanur-Agry**	**0.69**	**118**	PG	**Pn**	**19 45 20.8**	**-0.7**
AGRB				SG	**Sn**	**19 45 31.6**	**-0.3**
MLAZ	**Malazgirt-MUS**	**0.81**	**161**	PG	**Pg**	**19 45 22.3**	**0.0**
ECAT	**Cat-ERZURUM**	**0.99**	**253**	*i* P	**Pg**	**19 45 26.0**	**+0.3**
DDEM	**Demirkent**	**1.04**	**341**	*i* P	**Pn**	**19 45 26.1**	**-0.1**
ADCV	**BITLIS_Adilcev**	**1.17**	**160**	*i* P	Pg	19 45 38.9	+10

DBAD	**Bademkaya**	**1.18**	**341**	IAML_P				
	comp=Z,550nm,0.2s							
DBAD				*i* P		**Pb**	**19 45 28.0**	**-0.2**
DBAD				*i* S		**Sn**	**19 45 43.8**	**+0.1**
DAGI	**Agillar**	**1.19**	**349**	*i* P		**Pg**	**19 45 29.5**	**+0.1**
DAGI				*i* S		**Sg**	**19 45 45.8**	**+0.9**
ARTV	**Artvin**	**1.29**	**351**	IAML_P				
	comp=Z,501nm,0.1s							
ARTV				*i* P		**Pb**	**19 45 29.9**	**-0.4**
EAK	**Akyaka**	**1.33**	**54**	IAML_P				
	comp=Z,62nm,0.2s							
EAK				*i* P		**Pg**	**19 45 31.9**	**-0.1**
GURO	**Guroymak-BITLI**	**1.36**	**186**	PN		**Pg**	**19 45 32.2**	**-0.5**
DBOC	**Borcka**	**1.49**	**344**	IAML_P				
	comp=Z,757nm,0.3s							
DBOC				*i* P		**Pg**	**19 45 34.7**	**-0.4**
CLDR	**Caldiran**	**1.53**	**119**	PN		**Pg**	**19 45 35.6**	**-0.3**
BAYB	**BAYBURT**	**1.53**	**284**	IAML_P				
	comp=Z,230nm,0.2s							
BAYB				*i* P		**Pg**	**19 45 36.4**	**+0.5**
TASB	**TASBURUN-IGDIR**	**1.57**	**87**	PN		**Pg**	**19 45 36.7**	**+0.1**
BCA	**Borcka**	**1.60**	**344**	PN		**Pg**	**19 45 36.8**	**-0.3**
AKDM	**Akdamar-Van**	**1.69**	**159**	PN		**Pb**	**19 45 37.2**	**+0.2**
GNI	**Garni**	**1.96**	**82**	PN		**Pb**	**19 45 42.6**	**+0.9**

*SOME **29** 19:58:02.6, 42°.58N×79°.68E, h0km*
*KRNET **29** 19:58:03.4±0.1, 43°.65N×78°.59E, mb3.0*
ISC 29 19:58:01.2±2.5, **42°.53N**±0°.10×**79°.7E**±0°.1, **h10**km, **n6, σ2s20/12, 6C-2D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzunbulak**	**0.77**	**323**	*eP*	**Pg**	**19 58 16.9**	**+0.8**
	0.8nm,0.2s						
UZB				*eS*	**Sg**	**19 58 27.1**	**+0.9**
	8.1nm,0.1s						
PDGK	**Podgornoye**	**0.81**	**351**	⇓*iP*	**Pg**	**19 58 17.4**	**+0.6**
	baz=16						
PDGK				⇓*iS*	**Sb**	**19 58 28.2**	**-0.2**
	baz=16						
DJR	**Jarkent**	**1.80**	**3**	*eP*	**Pb**	**19 58 35.5**	**+1.2**
	0.6nm,0.2s						
DJR				*eS*	**Sg**	**19 58 59.2**	**+0.1**
	0.8nm,0.3s						
KDJ	**Kajisay**	**1.88**	**258**	⇑*iP*	**Pb**	**19 58 37.6**	**+1.9**
	baz=14						
KDJ				⇑*iS*	**Sb**	**19 59 02.7**	**+3.3**
	baz=14						
ULHL	**Ulahol**	**2.55**	**265**	⇑*iP*	**Pb**	**19 58 47.2**	**+0.1**
	baz=32						
ULHL				⇑*iS*	**Sb**	**19 59 19.6**	**+1.0**
	baz=32						
BOOM	**Boomskoye usch**	**2.75**	**270**	⇑*eP*	**Pn**	**19 58 43.8**	**-1.7**
	baz=40						
BOOM				⇑*eS*	**Sn**	**19 59 14.2**	**-4.7**
	baz=40						

*MAN **29** 20:04:55.7, 15°.08N×119°.71E, h1km, mb4.4, ML3.2, MS3.0*
*IDC **29** 20:04:55.5±2.0, 14°.15N×119°.50E, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.3/48, mbtmp3.6/3, MS2.9/2, Ms1 2.9/2, ms1mx2.5/33, Error ellipse: s-maj=45.6km s-min=26.9km az=12.0*
ISC 29 20:04:52.3±1.7, **14°.93N**±0°.04×**119°.48E**±0°.09, **h22**km±13km, **n12, σ2s23/13, 1C, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.94**	**26**	*eP*	**Pb**	**20 05 10.4**	**+0.3**
SCZP				*eS*	**Sb**	**20 05 21.2**	**-0.9**
TGY	**Tagaytay City**	**1.64**	**120**	Pn	**Pb**	**20 05 22.1**	**+0.3**
	113nm,0.3s,baz=335,slow=3.3,SNR=6.9						
TGY				Sn	**Sb**	**20 05 47.2**	**+5.2**
	136nm,0.3s,baz=118,slow=13,SNR=7.0						
TGY	**Tagaytay City**	**1.64**	**120**	*eP*	Pn	20 05 10.0	-10
TGY				*eS*	Sn	20 05 20.8	-19
SMPP	**San Manuel, Pa**	**1.68**	**43**	*eP*	**Pn**	**20 05 21.0**	**+0.5**
SMPP				*eS*	**Sn**	**20 05 41.8**	**+0.4**
POLP	**Polilio Island**	**2.39**	**94**	*eP*	**Pb**	**20 05 32.8**	**-1.9**
POLP				*eS*	**Sb**	**20 06 02.6**	**-1.2**
BUSP	**Coron**	**2.99**	**166**	*eP*	**Pb**	**20 05 43.0**	**-1.9**
BUSP				*eS*	**Sn**	**20 06 13.5**	**-0.1**
GQP	**Guinayangan**	**3.05**	**109**	⇑*eP*	Pn	20 05 26.0	-13
GQP				*eS*	**Sn**	**20 06 12.5**	**-2.7**
DAV	**Davao City (W)**	**9.84**	**142**	LR	LR	20 10 51.9	
	comp=Z,63nm,18.1s,baz=6.0,slow=39						
CMAR	**Chiang Mai Arr**	**19.98**	**283**	P	Pn	20 09 31.9	+6.8
	0.2nm,0.4s,baz=92,slow=9.0,SNR=5.9						
KSRS	**Korea Array**	**23.66**	**17**	LR	LR	20 20 14.7	
	comp=Z,30nm,18.1s,baz=358,slow=38						
WRA	**Warramunga Arr**	**37.61**	**157**	P	**P**	**20 12 05.7**	**+0.1**
	0.8nm,0.6s,baz=330,slow=10,SNR=24						
ASAR	**Alice Springs**	**40.87**	**160**	P	**P**	**20 12 33.8**	**+0.9**
	0.8nm,0.4s,baz=336,slow=7.8,SNR=23						

*ISCJB **29** 20:17:58.5±0.4, 26°.46S±0°.02×70°.82W±0°.09, h94km±5km, mb4.3/8, Error ellipse: s-maj=12.8km s-min=3.4km az=1.7*
*SJA **29** 20:17:58.7±0.8, 26°.44S×70°.81W, h78km±7km, ML4.0, MW3.6*
*NEIC **29** 20:17:58.0±0.0, 26°.51S×70°.47W, h86km, mb4.5/2, ML4.2(GUC), After GUC.*
NEIC Felt [IV] at Caldera, Chanaral, Copiapo and Tierra Amarilla; [III] at Diego de Almagro and Vallenar; [II] at Freirina and Huasco.
*GUC **29** 20:17:58.2±0.7, 26°.50S×70°.52W, h89km±3km, ML4.2*
*IDC **29** 20:18:02.6±1.0, 26°.49S×69°.97W, h73km±6km, mb3.7/6, mb1 3.9/10, mb1mx3.7/42, mbtmp4.0/10, MS2.9/3, Ms1 2.9/3, ms1mx2.7/26, Error ellipse: s-maj=28.7km s-min=24.1km az=52.0*
ISC 29 20:17:59.8±0.6, **26°.48S**±0°.03×**70°.59W**±0°.07, **h76**km±5km, **n65, σ1s76/77, mb4.1/8, 6C, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRCH	**Chaqaral**	**0.13**	**349**	*eP*	**Pn**	**20 18 12.9**	**+2.0**
CRCH				*i* S	**Sn**	**20 18 21.2**	**+2.1**
GO03	**Copiap**	**1.16**	**164**	*ePn*	**Pn**	**20 18 21.9**	**+1.2**
GO03				*eSn*	**Sn**	**20 18 37.0**	**+0.7**
GO03	**Copiap**	**1.16**	**164**	*eP*	**Pn**	**20 18 21.7**	**+1.0**
GO03				*i* S	**Sn**	**20 18 37.2**	**+0.9**
GO03				IAML		20 18 38.0	
	comp=E,8μm,0.4s						
GO02	**Mina Guanaco**	**1.59**	**35**	*ePn*	**Pn**	**20 18 28.3**	**+1.8**
GO02				*eSn*	**Sn**	**20 18 48.0**	**+1.3**
GO02	**Mina Guanaco**	**1.59**	**35**	*i* S	**Sn**	**20 18 48.1**	**+1.4**
PB14	**IPOC Station P**	**1.85**	**5**	*eP*	**Pn**	**20 18 30.9**	**+0.9**
PB14				*eS*	**Sn**	**20 18 53.6**	**+0.8**
PB14	**IPOC Station P**	**1.85**	**5**	⇑*iP*	**Pn**	**20 18 30.9**	**+0.9**
LCO	**Las Campanas**	**2.52**	**182**	*ePn*	**Pn**	**20 18 39.2**	**+0.2**
LCO				*eSn*	Sn	20 19 00.2	-8.7
LCO	**Las Campanas**	**2.52**	**182**	*eP*	**Pn**	**20 18 39.5**	**+0.6**
LCO				*eS*	**Sn**	**20 19 10.9**	**+2.0**
LCO	**Las Campanas**	**2.52**	**182**	⇑*iP*	**Pn**	**20 18 39.2**	**+0.2**
LCO				*i* S	**Sn**	**20 19 09.6**	**+0.6**
LCO				IAML		20 19 19.5	
	comp=E,1μm,0.5s						
PB10	**IPOC Station P**	**2.95**	**1**	*ePn*	**Pn**	**20 18 44.5**	**0.0**
PB10	**IPOC Station P**	**2.95**	**1**	*eP*	**Pn**	**20 18 44.7**	**+0.1**
PB10				*eS*	**Sn**	**20 19 19.0**	**+0.1**
PB10	**IPOC Station P**	**2.95**	**1**	⇑*iP*	**Pn**	**20 18 44.5**	**0.0**
AGUA	**GUANDACOL**	**3.53**	**149**	*eP*	**Pn**	**20 18 56.3**	**+3.9**
PB05	**IPOC Station P**	**3.63**	**6**	*eP*	**Pn**	**20 18 54.0**	**+0.1**
PB05	**IPOC Station P**	**3.63**	**6**	⇑*iP*	**Pn**	**20 18 53.6**	**-0.2**
GO04	**Tololo Observa**	**3.69**	**183**	*ePn*	**Pn**	**20 18 55.1**	**+0.4**
GO04	**Tololo Observa**	**3.69**	**183**	⇑*iP*	**Pn**	**20 18 55.1**	**+0.4**
GO04				*i* S	**Sn**	**20 19 37.7**	**+0.6**
PB06	**IPOC Station P**	**3.87**	**14**	⇑*iP*	**Pn**	**20 18 57.5**	**+0.3**
LVC	**Limon Verde**	**4.14**	**22**	P	**Pn**	**20 19 02.3**	**+1.2**
	comp=E,18nm,0.3s,baz=170,slow=8.4,SNR=414						
LVC				S	**Sn**	**20 19 50.2**	**+1.6**
	comp=E,39nm,0.3s,baz=156,slow=23,SNR=6.2						
LVC	**Limon Verde**	**4.14**	**22**	*ePn*	**Pn**	**20 19 02.1**	**+1.1**
PB04	**IPOC Station P**	**4.15**	**6**	*ePn*	**Pn**	**20 19 00.3**	**-0.7**
ACLC	**CERRO LA CRUZ**	**4.36**	**133**	*eP*	**Pn**	**20 19 06.7**	**+2.9**
CMCH	**Combarbala**	**4.69**	**184**	*eP*	**Pn**	**20 19 07.8**	**-0.4**
AHML	**Horco Molle**	**4.72**	**95**	*eP*	**Pn**	**20 19 12.0**	**+3.4**
AHML				IAML		20 19 19.0	
	comp=Z,32nm,0.5s						
AMOG	**MOGNA**	**4.81**	**158**	*eP*	**Pn**	**20 19 12.0**	**+2.1**
AMOG				*eS*	**Sn**	**20 20 05.8**	**+1.5**

PB09	**IPOC Station P**	**4.82**	**15**	*eP*	**Pn**	**20 19 10.9**	**+0.8**
APLL	**PUNTA DE LOS L**	**5.29**	**138**	*eP*	**Pn**	**20 19 18.3**	**+1.9**
APLL				IAML		20 19 19.2	
	comp=Z,59nm,0.2s						
RTLS	**Leoncito**	**5.42**	**168**	*eP*	**Pn**	**20 19 20.8**	**+2.4**
RTLS				IAML		20 19 21.0	
	comp=Z,196nm,0.2s						
PB01	**IPOC Station P**	**5.50**	**11**	*ePn*	**Pn**	**20 19 18.8**	**-0.6**
CFA	**Coronel Fontan**	**5.51**	**159**	*eP*	**Pn**	**20 19 21.1**	**+1.7**
RTCV	**Cerro Valdivia**	**5.66**	**162**	*eP*	**Pn**	**20 19 23.1**	**+1.7**
AUSP	**Uspallata**	**5.82**	**170**	*eP*	**Pn**	**20 19 26.1**	**+2.2**
ASAL	**Salagasta**	**6.28**	**166**	*eP*	**Pn**	**20 19 31.8**	**+1.9**
PB08	**IPOC Station P**	**6.45**	**12**	*eP*	**Pn**	**20 19 32.2**	**-0.3**
ROC1	**El Roble**	**6.49**	**183**	*ePn*	**Pn**	**20 19 31.8**	**-1.1**
ROC1	**El Roble**	**6.49**	**183**	*eP*	**Pn**	**20 19 32.0**	**-0.9**
ACAN	**Cantantal**	**6.49**	**154**	*eP*	**Pn**	**20 19 34.5**	**+1.6**
PEL	**Peldehue**	**6.64**	**181**	*ePn*	**Pn**	**20 19 34.2**	**-0.7**
PB11	**IPOC Station P**	**6.74**	**8**	*ePn*	**Pn**	**20 19 34.5**	**-1.8**
AAGR	**Agrelo**	**6.76**	**167**	*eP*	**Pn**	**20 19 37.8**	**+1.3**
MNMC	**Minye Minye**	**7.37**	**7**	*ePn*	**Pn**	**20 19 43.4**	**-1.7**
GO05	**Huala**	**8.58**	**187**	*ePn*	**Pn**	**20 19 58.1**	**-3.2**
LPAZ	**La Paz**	**10.40**	**13**	P	**Pn**	**20 20 26.9**	**+0.2**
	comp=Z,1.3nm,0.3s,baz=207,slow=6.9,SNR=26						
LPAZ				LR	LR	20 25 54.5	
	comp=Z,40nm,19.4s,baz=282,slow=46						
LPAZ	**La Paz**	**10.40**	**13**	*ePn*	**Pn**	**20 20 26.8**	**+0.1**
CPUP	**Villa Florida**	**11.89**	**92**	*ePn*	**Pn**	**20 20 42.4**	**-4.1**
GO06	**Curarrehue**	**13.09**	**183**	*ePn*	**Pn**	**20 21 01.4**	**-1.3**
TRQA	**Tornquist**	**13.64**	**150**	*ePn*	**Pn**	**20 21 07.4**	**-2.5**
SIV	**San Ignacio**	**13.69**	**42**	P	**Pn**	**20 21 07.2**	**-3.6**
	comp=Z,0.6nm,0.3s,baz=247,slow=9.5,SNR=6.1						
SIV				S	**Sn**	**20 23 37.6**	**-3.7**
	baz=274,slow=14,SNR=2.5						
PLCA	**Paso Flores**	**14.22**	**180**	P	**Pn**	**20 21 19.1**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=36,slow=9.5,SNR=3.1						
PLCA				LR	LR	20 27 00.8	
	comp=Z,63nm,21.2s,baz=138,slow=38						
PLCA	**Paso Flores**	**14.22**	**180**	*ePn*	**Pn**	**20 21 16.0**	**-1.5**
NNA	**Nana**	**15.57**	**337**	LR	LR	20 26 29.7	
	comp=Z,62nm,19.4s,baz=232,slow=32						
BDFB	**Brasilia**	**23.63**	**67**	P	**P**	**20 23 02.9**	**-1.6**
	comp=Z,1.7nm,0.5s,baz=215,slow=12,SNR=2.6						
BDFB	**Brasilia**	**23.63**	**67**	*eP*	**P**	**20 23 02.6**	**-1.8**
	comp=Z,8.8nm,1.2s						
GO09	**Cerro Castillo**	**24.79**	**183**	*eP*	**P**	**20 23 13.5**	**-1.0**
	comp=Z,69nm,1.3s						
BCIP	**Isla Barro Col**	**36.55**	**345**	*eP*	**P**	**20 24 55.9**	**-2.5**
	comp=Z,118nm,1.4s						
APG	**El Apazote**	**45.53**	**333**	P	P	20 26 17.5	+5.1
	comp=Z,5.6nm,0.5s,baz=108,slow=20,SNR=5.0						
CMIG	**Matias Romero**	**49.32**	**329**	P	P	20 26 48.2	+6.7
	comp=Z,0.7nm,0.3s,baz=139,slow=11,SNR=3.3						
TXAR	**Lajitas Array**	**63.92**	**328**	P	**P**	**20 28 28.6**	**+3.7**
	comp=Z,0.7nm,0.6s,baz=150,slow=7.9,SNR=3.2						
TORD	**Torodi Ar. Bea**	**80.48**	**70**	P	**P**	**20 30 03.9**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=282,slow=5.5,SNR=8.7						
TORD				pP	**pP**	**20 30 24.6**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=262,slow=4.4,SNR=5.9						
YKA	**Yellowknife Ar**	**95.36**	**341**	P	**P**	**20 31 18.4**	**+3.4**
	comp=Z,0.2nm,0.5s,baz=146,slow=4.5,SNR=5.4						
KURBB	**Kurchatov Arra**	**146.29**	**36**	pPKPbc	pPKPbc	20 37 54.2	+1.4
	comp=Z,0.5nm,0.6s,baz=306,slow=3.1,SNR=2.9						
ZALV	**Zalesovo Beam**	**147.08**	**27**	PKPbc	**PKPab**	**20 37 35.8**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=296,slow=4.6,SNR=4.5						
ZALV				pPKPbc	**pPKPbc**	**20 37 55.6**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=297,slow=3.2,SNR=3.5						
AAK	**Ala-Archa**	**147.31**	**51**	PKPbc	**PKPab**	**20 37 37.5**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=278,slow=7.1,SNR=2.6						
AAK				pPKPbc	**pPKPdf**	**20 37 56.0**	**+1.9**
	comp=Z,1.0nm,0.8s,baz=214,slow=7.3,SNR=2.7						
MKAR	**Makanchi Array**	**150.50**	**39**	PKPbc	**PKPbc**	**20 37 44.8**	**+2.1**
	comp=Z,0.3nm,0.5s,baz=316,slow=1.7,SNR=5.9						
MKAR				pPKPbc	**pPKPbc**	**20 38 05.7**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=286,slow=2.2,SNR=4.7						

*IDC **29** 20:19:11.4±1.2, 13°.45N×86°.92W, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.6/40, mbtmp3.5/6, ML2.9/2, Error ellipse: s-maj=60.8km s-min=17.4km az=57.0*
*ISCJB **29** 20:19:14.6±1.0, 13°.4N±0°.2×86°.9W±0°.2, h33km, mb3.6/4, Error ellipse: s-maj=35.6km s-min=13.8km az=141.4*
ISC 29 20:19:16.5±1.1, **13°.4N**±0°.2×**87°.0W**±0°.2, **h35**km, **n7, σ0s92/7, mb3.5/4, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**3.66**	**147**	Pn	**Pn**	**20 20 10.7**	**+0.1**
	1.2nm,0.3s,baz=350,slow=16,SNR=4.3						
JTS				Lg	Lg	20 21 08.6	
	baz=287,slow=19,SNR=2.6						
APG	**El Apazote**	**3.74**	**296**	Pn	**Pn**	**20 20 12.4**	**+0.4**
	0.6nm,0.3s,baz=345,slow=16,SNR=4.2						
TXAR	**Lajitas Array**	**22.17**	**318**	P	**P**	**20 24 08.4**	**-1.3**
	0.5nm,0.5s,baz=149,slow=12,SNR=3.2						
PDAR	**Pinedale Array**	**35.19**	**331**	P	**P**	**20 26 07.1**	**-0.4**
	0.5nm,0.8s,baz=119,slow=7.3,SNR=3.1						
ULM	**Lac du Bonnet**	**37.49**	**351**	P	**P**	**20 26 27.6**	**+0.9**
	3.8nm,0.8s,baz=173,slow=9.4,SNR=6.6						
YKA	**Yellowknife Ar**	**52.85**	**344**	P	**P**	**20 28 27.9**	**-0.4**
	0.4nm,0.7s,baz=136,slow=7.9,SNR=10						
CMAR	**Chiang Mai Arr**	**147.84**	**349**	PKPbc	**PKPdf**	**20 38 56.5**	**+0.7**
	0.6nm,0.9s,baz=347,slow=2.8,SNR=5.2						

*IDC **29** 20:20:49.7±1.7, 13°.34N×87°.20W, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.6/41, mbtmp3.6/6, ML3.0/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/36, Error ellipse: s-maj=64.3km s-min=28.6km az=50.0*
*ISCJB **29** 20:20:52.6±1.0, 13°.3N±0°.2×87°.3W±0°.2, h33km, mb3.6/4, MS3.3/1, Error ellipse: s-maj=39.9km s-min=13.7km az=138.3*
ISC 29 20:20:54.3±1.2, **13°.2N**±0°.3×**87°.4W**±0°.2, **h35**km, **n8, σ0s74/7, mb3.5/4, Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**3.50**	**301**	Pn	**Pn**	**20 21 46.5**	**0.0**
	0.7nm,0.3s,baz=88,slow=15,SNR=10.0						
JTS	**JuntasAbangare**	**3.74**	**141**	Pn	**Pn**	**20 21 49.8**	**+0.1**
	1.9nm,0.3s,baz=6.7,slow=17,SNR=1.5						
TXAR	**Lajitas Array**	**22.05**	**319**	P	**P**	**20 25 46.7**	**+0.4**
	0.9nm,0.7s,baz=135,slow=12,SNR=3.6						
ULM	**Lac du Bonnet**	**37.58**	**351**	P	**P**	**20 28 04.9**	**-0.5**
	3.6nm,0.6s,baz=166,slow=10,SNR=7.1						
RPN	**Rapa Nui**	**45.43**	**208**	LR	LR	20 42 48.8	
	comp=Z,40nm,20.8s,baz=144,slow=29						
YKA	**Yellowknife Ar**	**52.90**	**345**	P	**P**	**20 30 07.5**	**+0.9**
	0.6nm,0.7s,baz=138,slow=7.8,SNR=11						
ILAR	**Eielson Array**	**65.36**	**336**	P	**P**	**20 31 32.6**	**-0.3**
	0.2nm,0.7s,baz=134,slow=10,SNR=2.6						
CMAR	**Chiang Mai Arr**	**147.91**	**349**	PKPbc	**PKPbc**	**20 40 35.9**	**-0.9**
	0.9nm,0.9s,baz=312,slow=3.4,SNR=4.7						

*IDC **29** 20:24:52.0±1.3, 13°.45N×86°.87W, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.5/39, mbtmp3.5/5, ML2.7/2, Error ellipse: s-maj=60.4km s-min=17.6km az=58.0*
*ISCJB **29** 20:24:54.2±0.9, 13°.3N±0°.2×87°.0W±0°.2, h33km, mb3.6/3, Error ellipse: s-maj=37.3km s-min=8.6km az=143.6*
ISC 29 20:24:56.1±1.0, **13°.3N**±0°.2×**87°.0W**±0°.2, **h35**km, **n6, σ0s96/7, mb3.5/3, Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**3.59**	**145**	Pn	**Pn**	**20 25 49.9**	**+0.6**
	0.9nm,0.3s,baz=7.1,slow=17,SNR=3.7						
JTS				Sn	**Sn**	**20 26 29.5**	**-0.9**
	2.9nm,0.3s,baz=341,slow=18,SNR=3.8						
JTS				Lg	Lg	20 26 48.6	
	1.3nm,0.3s,baz=246,slow=19,SNR=2.1						
APG	**El Apazote**	**3.75**	**298**	Pn	**Pn**	**20 25 51.7**	**+0.1**
	0.5nm,0.3s,baz=122,slow=13,SNR=3.8						
TXAR	**Lajitas Array**	**22.22**	**319**	P	**P**	**20 29 50.2**	**+0.3**
	0.5nm,0.4s,baz=151,slow=10,SNR=4.8						
ULM	**Lac du Bonnet**	**37.59**	**351**	P	**P**	**20 32 06.2**	**-1.0**
	2.5nm,0.6s,baz=161,slow=10.0,SNR=6.7						
YKA	**Yellowknife Ar**	**52.95**	**344**	P	**P**	**20 34 09.7**	**+1.1**
	0.4nm,0.7s,baz=136,slow=7.9,SNR=8.9						
CMAR	**Chiang Mai Arr**	**147.94**	**349**	PKPbc	**PKPbc**	**20 44 38.2**	**-0.4**
	0.5nm,0.7s,baz=1.1,slow=4.5,SNR=5.0						

*SOME **29** 20:33:01.2, 42°.55N×79°.72E, h20km*
*KRNET **29** 20:33:02.0±0.1, 42°.58N×79°.53E, h9km, mb2.5*

*NNC **29** 20:33:01.3±1.2, 42°.57N×79°.62E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=7.3km s-min=4.6km az=146.0*
ISC 29 20:33:01.0±1.7, **42°.55N**±0°.05×**79°.54E**±0°.05, **h7**km±10km, **n25, σ0s97/47, 16C-2D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzunbulak**	**0.71**	**328**	P	**Pb**	**20 33 15.4**	**-0.5**
	3.7nm,0.1s						
UZB				S	**Sb**	**20 33 25.6**	**-0.2**
	18nm,0.3s						
UZB	**Uzunbulak**	**0.71**	**328**	*eP*	**Pb**	**20 33 15.3**	**-0.5**
	baz=27						
UZB				*eS*	**Sb**	**20 33 25.5**	**-0.3**
	baz=27						
UZB	**Uzunbulak**	**0.71**	**328**	*eP*	**Pb**	**20 33 15.3**	**-0.5**
	4.1nm,0.1s						
UZB				*eS*	**Sb**	**20 33 25.5**	**-0.3**
	15nm,0.2s						
PDGK	**Podgornoye**	**0.78**	**357**	P	**Pg**	**20 33 15.8**	**-0.3**
	2.3nm,0.3s						
PDGK				S	**Sg**	**20 33 26.4**	**+0.1**
	1.2nm,0.2s						
PDGK	**Podgornoye**	**0.78**	**357**	⇓*iP*	**Pg**	**20 33 15.5**	**-0.5**
	2.3nm,0.4s						
PDGK				⇓*iS*	**Sb**	**20 33 28.1**	**+0.2**
	1.9nm,0.4s						
PDGK	**Podgornoye**	**0.78**	**357**	⇑*iP*	**Pg**	**20 33 15.8**	**-0.3**
	baz=57						
PDGK				⇑*iS*	**Sg**	**20 33 25.2**	**-1.1**
	baz=57						
PRZ	**Przheval'sk**	**0.85**	**266**	⇑*iP*	**Pg**	**20 33 17.5**	**+0.3**
	baz=64						
PRZ				⇑*iS*	**Sg**	**20 33 27.7**	**-0.5**
	baz=64						
SATY	**Saty**	**0.98**	**302**	P	**Pn**	**20 33 20.7**	**-0.5**
	1.1nm,0.2s						
SATY				S	**Sn**	**20 33 34.8**	**-0.7**
	11nm,0.1s						
SATY	**Saty**	**0.98**	**302**	*eP*	**Pn**	**20 33 20.8**	**-0.5**
	0.8nm,0.2s						
SATY				*eS*	**Sn**	**20 33 34.8**	**-0.7**
	17nm,0.1s						
DJR	**Jarkent**	**1.79**	**6**	P	**Pb**	**20 33 33.4**	**-0.8**
	1.0nm,0.2s						
DJR				S	**Sb**	**20 33 56.7**	**-0.3**
	3.0nm,0.2s						
DJR	**Jarkent**	**1.79**	**6**	*eP*	**Pb**	**20 33 33.3**	**-0.9**
	0.5nm,0.3s						
DJR				*eS*	**Sb**	**20 33 56.6**	**-0.3**
	3.1nm,0.2s						
KDJ	**Kajisay**	**1.80**	**257**	⇑*iP*	**Pg**	**20 33 35.2**	**-0.3**
	baz=56						
KDJ				⇑*iS*	**Sb**	**20 33 58.1**	**+0.9**
	baz=56						
KOTS	**Kotyrbulak**	**1.91**	**292**	Pg	**Pg**	**20 33 38.1**	**+0.5**
	0.8nm,0.2s						
KOTS				Lg	Lg	20 34 04.5	
	6.7nm,0.3s						
KOTS	**Kotyrbulak**	**1.91**	**292**	*eP*	**Pg**	**20 33 38.2**	**+0.5**
	baz=91						
KOTS				*eS*	**Sg**	**20 34 04.5**	**+2.0**
	baz=91						
KOTS	**Kotyrbulak**	**1.91**	**292**	*eP*	**Pb**	**20 33 38.1**	**+0.5**
	1.0nm,0.4s						
KOTS				*eS*	**Sg**	**20 34 04.4**	**+2.0**
	6.7nm,0.4s						
ARXS	**Arharly**	**2.08**	**324**	Pg	**Pb**	**20 33 39.8**	**+0.7**
	0.9nm,0.2s						
ARXS				Lg	Lg	20 34 07.4	
	5.2nm,0.4s						
ARXS	**Arharly**	**2.08**	**324**	*eP*	**Pb**	**20 33 39.6**	**+0.5**
	0.7nm,0.2s						
ARXS				*eS*	**Sg**	**20 34 07.2**	**-0.7**
	5.8nm,0.4s						
KTBS	**Karatobe**	**2.40**	**300**	Pg	**Pb**	**20 33 45.7**	**+1.3**
	0.6nm,0.2s						
KTBS				Lg	Lg	20 34 18.0	
	6.0nm,0.3s						
KTBS	**Karatobe**	**2.40**	**300**	*eP*	**Pb**	**20 33 45.6**	**+1.2**
	baz=98						
KTBS				*eS*	**Sg**	**20 34 17.6**	**-0.3**
	baz=98						
KTBS	**Karatobe**	**2.40**	**300**	*eP*	Pb	**20 33 45.6**	**+1.2**
	0.6nm,0.2s						
KTBS				*eS*	**Sg**	**20 34 17.6**	**-0.3**
	6.8

HUMR	**Humele**	**151.00**	**319**	⇑*i*P	**PKiKP**	**20 54 05.3**	**+0.3**
BRG	**Berggiesshubel**	**151.42**	**340**	*e*(P)	**PKiKP**	**20 54 06.0**	**+0.3**
	comp=Z,7.8nm,1.0s						
GZR	**Gura Zlata**	**151.74**	**323**	⇑*i*P	**PKPbc**	**20 54 05.8**	**-0.6**
BZS	**Buzias**	**152.22**	**324**	⇑*i*P	**PKiKP**	**20 54 07.6**	**+0.1**
HERR	**Herculane**	**152.26**	**322**	⇑*i*P	**PKiKP**	**20 54 07.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**168.15**	**194**	PKPab	**PKPab**	**20 55 31.1**	**+1.2**
	comp=Z,2.6nm,1.0s,baz=162,slow=4.7,SNR=11						

*ATH **29** 20:37:38.5, 39°.98N×27°.11E, h30km±14km, ML3.0/7, Error ellipse: s-maj=14.1km s-min=2.0km az=224.0*
*DDA **29** 20:37:38.2, 40°.00N×27°.07E, h24km±1km, ML3.5*
*ISCJB **29** 20:37:38.3±0.4, 40°.00N±0°.02×27°.04E±0°.02, h5km±3km, Error ellipse: s-maj=2.6km s-min=2.4km az=13.2*
*ISK **29** 20:37:38.5, 40°.00N×27°.05E, h8km, ML3.3/37*
*THE **29** 20:37:40.1, 39°.99N×26°.96E, h5km±1km, ML2.8/9, Error ellipse: s-maj=2.7km s-min=1.0km az=93.0*
*SOF **29** 20:37:40.9, 40°.29N×27°.05E, h2km, MD2.8*

ISC 29 20:37:38.7±1.0, 40°.00N±0°.02×27°.05E±0°.02, h11km±9km, n108, σ0s85/131, 8C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPK	**Lapseki**	**0.43**	**329**	PG	**Pb**	**20 37 47.9**	**-0.6**
KRBG	**Karabiga-Canak**	**0.44**	**25**	PG	**Pg**	**20 37 47.3**	**0.0**
KRBG				SG	**Sb**	**20 37 53.9**	**-1.1**
KNL	**Balıkesir**	**0.45**	**53**	IAML_P			
	comp=Z,11μm,0.2s						
KNL				*i* P	**Pb**	**20 37 48.5**	**-0.3**
KNL				*i* S	**Sg**	**20 37 54.0**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**0.47**	**237**	IAML_P			
	comp=Z,16μm,0.1s						
BAYC				*i* P	**Pb**	**20 37 48.7**	**-0.3**
GONE	**Gonen-Balikesi**	**0.49**	**84**	PG	**Pg**	**20 37 48.3**	**0.0**
EZN	**Ezine**	**0.58**	**253**	PG	**Pg**	**20 37 50.2**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.60**	**312**	PG	**Pb**	**20 37 50.6**	**-0.6**
SART	**Tekirdag**	**0.70**	**8**	IAML_P			
	comp=Z,35μm,0.1s						
SART				*i* P	**Pb**	**20 37 52.8**	**-0.2**
EDC	**Edincik**	**0.71**	**61**	PG	**Pb**	**20 37 52.8**	**-0.4**
BALB	**Balikesir**	**0.73**	**119**	PG	**Pg**	**20 37 52.6**	**-0.3**
AYVA	**Ayvalik**	**0.74**	**202**	*i* P	**Pg**	**20 37 53.2**	**+0.1**
AYVA				*i* S	**Sg**	**20 38 03.2**	**+0.4**
BOZC	**Bozcaada**	**0.78**	**259**	PG	**Pg**	**20 37 53.9**	**0.0**
BOZC	**Bozcaada**	**0.78**	**259**	IAML_P			
	comp=Z,13μm,0.1s						
BOZC				*i* P	**Pb**	**20 37 54.9**	**+0.5**
ERIK	**Erikli-Kesan**	**0.79**	**329**	PG	**Pg**	**20 37 53.9**	**-0.1**
STEP	**BALIKESIR_Sava**	**0.81**	**140**	IAML_P			
	comp=Z,13μm,0.2s						
STEP				*i* P	**Pg**	**20 37 54.2**	**-0.1**
STEP				*i* S	**Sg**	**20 38 05.1**	**+0.3**
KESN	**Edirne-Kesan**	**0.87**	**341**	IAML_P			
	comp=Z,2μm,0.1s						
KESN				*i* P	**Pb**	**20 37 56.4**	**+0.2**
KESN				*i* S	**Sg**	**20 38 06.3**	**-0.8**
GADA	**Gvkgeada**	**0.91**	**283**	PG	**Pb**	**20 37 56.3**	**-0.1**
PRK	**Paraskevi**	**0.96**	**219**	P	**Pb**	**20 37 58.0**	**+0.5**
PRK				AML	AML	20 38 12.8	
	comp=N,1559μm,0.3s						
PRK				AML	AML	20 38 13.9	
	comp=E,2357μm,0.5s						
PRK	**Paraskevi**	**0.96**	**219**	P	**Pn**	**20 37 58.1**	**-0.1**
PRK				S	**Sb**	**20 38 11.2**	**+1.0**
ENEZ	**Enez**	**1.01**	**317**	PG	**Pb**	**20 37 58.4**	**+0.2**
KCTX	**Karacabey (Bur**	**1.03**	**75**	PG	**Pg**	**20 37 58.2**	**-0.5**
TKR	**Tekirdag**	**1.06**	**20**	PG	**Pb**	**20 37 58.9**	**-0.2**
DURS	**Dursunbey**	**1.17**	**109**	IAML_P			
	comp=Z,9μm,0.1s						
DURS				*i* P	**Pg**	**20 38 00.6**	**-0.5**
DURS				*i* S	**Sn**	**20 38 17.0**	**0.0**
ALN	**Alexandroupoli**	**1.18**	**320**	PN	**Pn**	**20 38 01.3**	**+0.1**
ALN	**Alexandroupoli**	**1.18**	**320**	P	**Pg**	**20 38 01.0**	**-0.5**
ALN				AML	AML	20 38 18.8	
	comp=N,1146μm,0.4s						
ALN				AML	AML	20 38 20.7	
	comp=E,908μm,0.3s						
ALN	**Alexandroupoli**	**1.18**	**320**	P	**Pg**	**20 38 01.0**	**-0.5**
ALN				S	**Sb**	**20 38 16.6**	**+0.1**
SIGR	**SIGRI**	**1.21**	**230**	PN	**Pb**	**20 38 01.5**	**-0.2**
SIGR	**SIGRI**	**1.21**	**230**	P	**Pb**	**20 38 01.1**	**-0.5**
SIGR				AML	AML	20 38 19.8	
	comp=N,1130μm,0.3s						
SIGR				AML	AML	20 38 21.2	
	comp=E,972μm,0.2s						
SIGR	**SIGRI**	**1.21**	**230**	P	**Pb**	**20 38 01.2**	**-0.5**
SIGR				S	**Sb**	**20 38 17.3**	**-0.1**
CRLT	**Corlu**	**1.24**	**25**	PN	**Pg**	**20 38 02.3**	**-0.3**
SMTH	**Samothraki Isl**	**1.26**	**293**	P	**Pn**	**20 38 02.3**	**0.0**
SMTH				AML	AML	20 38 21.4	
	comp=N,1596μm,0.1s						
SMTH				AML	AML	20 38 21.4	
	comp=E,1300μm,0.3s						
SMTH	**Samothraki Isl**	**1.26**	**293**	P	**Pn**	**20 38 02.3**	**0.0**
SMTH				S	**Sn**	**20 38 20.2**	**+1.0**
AKHS	**Akhisar**	**1.26**	**152**	IAML_P			
	comp=Z,4μm,0.1s						
AKHS				*i* P	**Pn**	**20 38 02.1**	**-0.3**
AKHS				*i* S	**Sb**	**20 38 19.1**	**+0.2**
DST	**Dursunbey**	**1.27**	**108**	PN	**Pn**	**20 38 02.4**	**-0.1**
ORLT	**Orhaneli**	**1.42**	**87**	PN	**Pb**	**20 38 05.0**	**-0.2**
LIA	**Limnos Island**	**1.44**	**267**	P	**Pn**	**20 38 05.0**	**+0.3**
LIA				AML	AML	20 38 25.6	
	comp=E,1258μm,0.3s						
LIA				AML	AML	20 38 26.1	
	comp=N,1871μm,0.4s						
LIA	**Limnos Island**	**1.44**	**267**	P	**Pn**	**20 38 05.0**	**+0.3**
LIA				S	**Sg**	**20 38 24.6**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.45**	**75**	PN	**Pb**	**20 38 05.6**	**-0.2**
GOMA	**Golmarmara-Man**	**1.45**	**152**	PN	**Pb**	**20 38 05.7**	**-0.1**
KRBN	**Karaburun**	**1.46**	**196**	PN	**Pb**	**20 38 05.6**	**-0.2**
SLVT	**Silivri**	**1.51**	**35**	PN	**Pn**	**20 38 06.2**	**+0.4**
SBT5	**Esenkoy-Cinarc**	**1.53**	**65**	PN	**Pn**	**20 38 06.5**	**+0.5**
ELBA	**Catalca**	**1.56**	**42**	IAML_P			
	comp=Z,4μm,0.2s						
ELBA				*i* P	**Pb**	**20 38 07.0**	**-0.5**
ELBA				*i* S	**Sg**	**20 38 28.7**	**-0.1**
DEMI	**Demirci**	**1.60**	**126**	IAML_P			
	comp=Z,4μm,0.1s						
DEMI				*i* P	**Pn**	**20 38 07.7**	**+0.6**
DEMI				*i* S	**Sn**	**20 38 26.7**	**-1.1**
BLCB	**Balcova**	**1.61**	**180**	PN	**Pn**	**20 38 07.9**	**+0.8**
RDO	**Rodhopi**	**1.63**	**315**	PN	**Pn**	**20 38 07.9**	**+0.6**
RDO	**Rodhopi**	**1.63**	**315**	P	**Pb**	**20 38 08.3**	**-0.4**
RDO				AML	AML	20 38 31.0	
	comp=E,770μm,0.3s						
RDO				AML	AML	20 38 33.1	
	comp=N,518μm,0.2s						
RDO	**Rodhopi**	**1.63**	**315**	P	**Pb**	**20 38 08.2**	**-0.5**
RDO				S	**Sb**	**20 38 29.2**	**-0.1**
EFSA	**Agios Efstrati**	**1.66**	**255**	P	**Pn**	**20 38 08.2**	**+0.5**
CTKS	**Kestanelik-??a**	**1.66**	**41**	PN	**Pn**	**20 38 08.0**	**+0.2**
PHSR	**Pinarhisar**	**1.67**	**12**	PN	**Pn**	**20 38 08.6**	**+0.7**
URLA	**Izmir**	**1.67**	**192**	PN	**Pn**	**20 38 08.7**	**+0.7**
URLA	**Izmir**	**1.67**	**192**	IAML_P			
	comp=Z,1μm,0.2s						
URLA				*i* P	**Pn**	**20 38 08.5**	**+0.5**
URLA				*i* S	**Sg**	**20 38 32.5**	**-0.1**
GEMT	**Gemlik**	**1.69**	**74**	PN	**Pb**	**20 38 09.2**	**-0.7**
SMAA	**Simav-Kutahya**	**1.74**	**120**	PN	**Pn**	**20 38 09.7**	**+0.7**
CTYL	**Yalikoy Yolu**	**1.75**	**32**	PN	**Pn**	**20 38 09.7**	**+0.7**
KIYI	**Yalıkoy-Catalc**	**1.76**	**32**	PN	**Pn**	**20 38 09.6**	**+0.4**
BGKT	**Bogazkoy**	**1.77**	**47**	PN	**Pn**	**20 38 09.9**	**+0.7**
CHOS	**Chios island**	**1.79**	**206**	PN	**Pn**	**20 38 10.3**	**+0.7**
CHOS	**Chios island**	**1.79**	**206**	P	**Pn**	**20 38 09.1**	**-0.4**
CHOS	**Chios island**	**1.79**	**206**	P	**Pn**	**20 38 09.2**	**-0.4**
BUY	**Buyukada**	**1.79**	**61**	IAML_P			
	comp=Z,2μm,0.1s						
BUY				*i* P	**Pg**	**20 38 12.8**	**-0.3**
BUY				*i* S	**Sg**	**20 38 35.6**	**-0.8**
ZEY	**zmir**	**1.81**	**194**	IAML_P			
	comp=Z,596nm,0.2s						
ZEY				*i* P	**Pn**	**20 38 10.1**	**+0.3**
PSRA	**Psara**	**1.86**	**219**	P	**Pn**	**20 38 10.8**	**+0.3**
EDRB	**Edirne**	**1.86**	**353**	PN	**Pn**	**20 38 11.2**	**+0.6**
KAVV	**Kandilli-Istan**	**1.86**	**55**	PN	**Pn**	**20 38 11.2**	**+0.6**
YLV	**Yalova**	**1.86**	**72**	PN	**Pn**	**20 38 11.1**	**+0.4**
ISK	**Istanbul-Kandi**	**1.86**	**54**	PN	**Pn**	**20 38 11.3**	**+0.7**
THAS	**Thassos island**	**1.88**	**290**	P	**Pn**	**20 38 10.9**	**+0.1**
THAS				AML	AML	20 38 36.0	
	comp=N,163μm,0.3s						
THAS				AML	AML	20 38 41.2	
	comp=E,144μm,0.3s						
THAS	**Thassos island**	**1.88**	**290**	P	**Pn**	**20 38 11.1**	**+0.2**
THAS				S	**Sn**	**20 38 34.1**	**-0.5**
IZI	**Iznik**	**1.89**	**79**	PN	**Pn**	**20 38 11.6**	**+0.6**
MANT	**Manisa**	**1.91**	**142**	IAML_P			
	comp=Z,813nm,0.1s						
MANT				*i* P	**Pn**	**20 38 11.9**	**+0.5**
MANT				*i* S	**Sg**	**20 38 40.0**	**-0.1**
KULA	**Kula-Manisa**	**1.94**	**139**	PN	**Pn**	**20 38 12.6**	**+0.9**
SHAP	**Saphane-Kutahy**	**1.94**	**119**	PN	**Pn**	**20 38 12.3**	**+0.5**
KLYT	**Kilyos**	**1.97**	**50**	PN	**Pn**	**20 38 12.6**	**+0.6**
GEDZ	**Gediz**	**2.06**	**117**	PN	**Pn**	**20 38 14.5**	**+1.2**
GDZ	**Gediz**	**2.09**	**115**	IAML_P			
	comp=Z,589nm,0.2s						
GDZ				*i* P	**Pn**	**20 38 14.8**	**+1.0**
GDZ				*i* S	**Sg**	**20 38 45.5**	**-0.3**
CAVI	**Cavuskoy**	**2.15**	**84**	PN	**Pn**	**20 38 15.3**	**+0.7**
KAVA	**Kavala**	**2.18**	**298**	P	**Pn**	**20 38 15.6**	**+0.7**
KAVA	**Kavala**	**2.18**	**298**	P	**Pn**	**20 38 15.6**	**+0.7**
KAVA				S	**Sn**	**20 38 42.0**	**+0.1**
KVLA	**Kavala**	**2.24**	**296**	P	**Pn**	**20 38 16.7**	**+0.9**
SILT	**Sile**	**2.29**	**59**	PN	**Pn**	**20 38 17.4**	**+1.0**
SMG	**Samos**	**2.29**	**184**	P	**Pn**	**20 38 16.0**	**-0.5**
DIM	**Dimitrovgrad**	**2.35**	**331**	*e*P	**Pn**	**20 38 17.8**	**+0.5**
OUR	**Ouranopolis**	**2.38**	**279**	P	**Pn**	**20 38 17.6**	**0.0**
AYDN	**Tasoluk**	**2.42**	**164**	*i* P	**Pn**	**20 38 18.7**	**+0.4**
RZN	**Rozhen**	**2.45**	**314**	P	**Pn**	**20 38 19.8**	**+1.0**
GEYV	**SAKARYA_Geyve**	**2.53**	**78**	IAML_P			
	comp=Z,254nm,0.1s						
GEYV				*i* P	**Pn**	**20 38 21.8**	**+2.0**
PAIG	**Paliouri**	**2.59**	**270**	P	**Pn**	**20 38 20.5**	**-0.1**
BORA	**Eskisehir**	**2.62**	**91**	IAML_P			
	comp=Z,659nm,0.1s						
BORA				*i* P	**Pn**	**20 38 22.2**	**+1.1**
NVR	**Nevrokopi**	**2.78**	**300**	P	**Pn**	**20 38 24.2**	**+1.0**
NVR	**Nevrokopi**	**2.78**	**300**	P	**Pn**	**20 38 24.2**	**+1.0**
NVR				S	**Sn**	**20 38 56.9**	**+0.2**
PLG	**Polygyros**	**2.79**	**279**	P	**Pn**	**20 38 23.6**	**+0.3**
SRRS	**Serrai**	**2.86**	**294**	P	**Pn**	**20 38 24.9**	**+0.6**
MMB	**Musomiste**	**2.98**	**303**	P	**Pn**	**20 38 27.0**	**+1.0**
KNT	**Kendrikon**	**3.37**	**292**	P	**Pn**	**20 38 32.6**	**+1.3**
KKB	**Krupnik**	**3.54**	**303**	P	**Pn**	**20 38 35.3**	**+1.7**
VTS	**Vitosha**	**3.88**	**313**	⇑*i*P	**Pn**	**20 38 40.7**	**+2.2**
VTS	**Vitosha**	**3.88**	**313**	P	**Pn**	**20 38 40.7**	**+2.2**
STIP	**Stip**	**4.06**	**296**	*i* Pn	**Pn**	**20 38 40.3**	**-0.5**
STIP				*i* Sn	**Sn**	**20 39 25.4**	**-3.0**
TIRR	**Tirgusor**	**4.57**	**12**	⇑*i*P	**Pn**	**20 38 49.4**	**+1.6**
TLB	**Topalu**	**4.64**	**9**	⇑*i*P	**Pn**	**20 38 49.8**	**+1.0**
CFR	**Carcaliu**	**5.24**	**8**	⇑*i*P	**Pn**	**20 38 58.6**	**+1.7**
VOIR		**5.63**	**345**	⇑*i*P	**Pn**	**20 39 05.6**	**+3.1**
VRI	**Vrincioaia**	**5.87**	**358**	⇓*i*P	**Pn**	**20 39 09.1**	**+3.4**
HERR	**Herculane**	**5.96**	**326**	⇑*i*P	**Pn**	**20 39 06.6**	**-0.3**
MDVR	**Moldovita**	**6.20**	**322**	⇑*i*P	**Pn**	**20 39 11.3**	**+1.1**
BZS	**Buzias**	**6.89**	**326**	⇑*i*P	**Pn**	**20 39 18.5**	**-1.1**

MEX 29 20:38:02.3±0.5, 15°.99N×98°.20W, h5km±3km, MD3.6, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.40**	**10**	*i* P	Pg	20 38 09.6	-0.5
PNIG				*e*S	Sg	20 38 15.8	+0.4

*SOME **29** 20:46:49.7, 42°.53N×79°.63E, h15km*
*KRNET **29** 20:46:50.5±0.1, 42°.62N×79°.69E, h29km, mb2.2*
*NNC **29** 20:46:50.3±1.1, 42°.59N×79°.57E, h0km, mb2.6, mpv2.4, Error ellipse: s-maj=6.7km s-min=4.1km az=149.0*

ISC 29 20:46:50.2±2.1, 42°.61N±0°.07×79°.66E±0°.06, h5km±11km, n22, σ0s58/41, 10C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UZB	**Uzynbulak**	**0.71**	**319**	P	**Pg**	**20 47 03.7**	**-0.3**
UZB	1.7nm,0.2s			S	**Sg**	**20 47 14.0**	**+0.8**
	5.2nm,0.2s						
UZB	**Uzynbulak**	**0.71**	**319**	*e*P	**Pg**	**20 47 03.6**	**-0.3**
UZB	baz=17			*e*S	**Sg**	**20 47 14.0**	**+0.8**
	baz=17						
UZB	**Uzynbulak**	**0.71**	**319**	*e*P	**Pg**	**20 47 03.6**	**-0.3**
UZB	2.0nm,0.1s			*e*S	**Sg**	**20 47 14.0**	**+0.8**
	7.1nm,0.2s						
PDGK	**Podgornoye**	**0.73**	**351**	P	**Pg**	**20 47 04.3**	**+0.1**
PDGK	1.2nm,0.2s			S	**Sb**	**20 47 15.1**	**-0.9**
	0.6nm,0.2s						
PDGK	**Podgornoye**	**0.73**	**351**	⇓*e*P	**Pg**	**20 47 04.2**	**-0.1**
PDGK	baz=48			⇓*e*S	**Sb**	**20 47 15.0**	**-1.0**
	baz=48						
PRZ	**Przheval'sk**	**0.94**	**263**	⇑*e*P	**Pg**	**20 47 08.6**	**+0.4**
PRZ	baz=62			⇑*e*S	**Sb**	**20 47 21.5**	**-0.4**
	baz=62						
SATY	**Saty**	**1.02**	**297**	P	**Pg**	**20 47 08.9**	**-0.9**
SATY	0.7nm,0.1s			S	**Sg**	**20 47 22.9**	**-0.2**
	4.8nm,0.2s						
SATY	**Saty**	**1.02**	**297**	*e*P	**Pg**	**20 47 08.9**	**-0.9**
SATY	1.4nm,0.2s			*e*S	**Sg**	**20 47 22.9**	**-0.2**
	6.5nm,0.1s						
DJR	**Jarkent**	**1.73**	**3**	P	**Pb**	**20 47 22.5**	**0.0**
DJR	0.3nm,0.2s			S	**Sg**	**20 47 46.1**	**+0.4**
	0.8nm,0.2s						
DJR	**Jarkent**	**1.73**	**3**	*e*P	**Pb**	**20 47 22.5**	**0.0**
DJR	0.4nm,0.3s			*e*S	**Sg**	**20 47 46.1**	**+0.4**
	0.8nm,0.3s						
KDJ	**Kajisay**	**1.90**	**256**	⇑*i*P	**Pn**	**20 47 23.6**	**+0.1**
KDJ	baz=56			⇑*i*S	**Sn**	**20 47 48.1**	**+0.3**
	baz=56						
KOTS	**Kotyrbulak**	**1.97**	**289**	Pg	**Pb**	**20 47 25.9**	**-0.8**
KOTS	1.2nm,0.2s			Lg	Lg	20 47 52.0	
	5.0nm,0.3s						
KOTS	**Kotyrbulak**	**1.97**	**289**	*e*P	**Pb**	**20 47 26.4**	**-0.3**
KOTS	baz=89			*e*S	**Sb**	**20 47 52.4**	**+0.8**
	baz=89						
KOTS	**Kotyrbulak**	**1.97**	**289**	*e*P	**Pb**	**20 47 26.4**	**-0.3**
KOTS	1.2nm,0.2s			*e*S	**Sb**	**20 47 52.5**	**+0.8**
	5.7nm,0.3s						
ARXS	**Arharly**	**2.08**	**321**	Pg	**Pb**	**20 47 28.1**	**-0.5**
ARXS	0.7nm,0.2s			Lg	Lg	20 47 55.7	
	2.7nm,0.3s						
KTBS	**Karatobe**	**2.44**	**298**	Pg	**Pb**	**20 47 34.2**	**-0.5**
KTBS	0.5nm,0.2s			Lg	Lg	20 48 06.4	
	5.3nm,0.3s						
KTBS	**Karatobe**	**2.44**	**298**	*e*P	**Pb**	**20 47 34.1**	**-0.5**
KTBS	baz=96			*e*S	**Sb**	**20 48 05.9**	**+0.9**
	baz=96						
KTBS	**Karatobe**	**2.44**	**298**	*e*P	**Pb**	**20 47 34.1**	**-0.5**
KTBS	0.6nm,0.3s			*e*S	**Sb**	**20 48 05.9**	**+0.9**
	5.2nm,0.3s						
ULHL	**Ulahol**	**2.55**	**263**	⇓*i*P	**Pn**	**20 47 32.5**	**0.0**
ULHL	baz=63			⇓*i*S	**Sn**	**20 48 03.9**	**-0.2**
	baz=63						
BOOM	**Boomskoye usch**	**2.75**	**269**	⇑*i*P	**Pn**	**20 47 35.5**	**+0.3**
BOOM	baz=69			⇑*i*S	**Sn**	**20 48 08.7**	**-0.1**
	baz=69						
NRN	**Naryn**	**2.96**	**248**	⇑*e*P	**Pn**	**20 47 38.7**	**+0.4**
NRN	baz=48			⇑*i*S	**Sn**	**20 48 13.7**	**-0.7**
	baz=48						
TKM2	**Tokmak 2**	**3.00**	**277**	⇑*i*P	**Pn**	**20 47 39.1**	**+0.4**
TKM2	baz=77			⇑*i*S	**Sn**	**20 48 15.7**	**+0.5**
	baz=77						

*ROM **29** 20:49:26.5±0.3, 44°.08N±0°.01×8°.593E±0°.009, h8km±1km, ML3.1/43*
*STR **29** 20:49:26.4±0.4, 44°N±3°×°±°, h2km, M3.6/22, mb3.8/1, MLv3.5/22*
*LDG **29** 20:49:27.6±0.1, 44°.13N×8°.59E, h9km, Md3.3/3, Ml3.4/36, Error ellipse: s-maj=1.6km s-min=1.1km az=152.0*
*ISCJB **29** 20:49:27.3±0.3, 44°.11N±0°.02×8°.64E±0°.02, h19km±3km, Error ellipse: s-maj=3.5km s-min=2.0km az=166.2*
*GEN **29** 20:49:27.9, 44°.16N×8°.58E, h9km±1km, Ml3.3*
*PRU **29** 20:49:30.0±0.0, 44°.30N×8°.52E, h10km*

ISC 29 20:49:27.0±1.0, 44°.13N±0°.02×8°.59E±0°.02, h18km±3km, n149, σ2s03/220, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FINB	**Finale Ligure**	**0.20**	**284**	*i* P	**Pg**	**20 49 31.8**	**0.0**
FINB				S	**Sg**	**20 49 34.7**	**-0.5**
FINB				AML	AML		
	comp=E,6320μm,0.3s						
FINB				AML	AML		
	comp=N,6310μm,0.2s						
FINB				AML	AML		
	comp=E,6320μm,0.3s						
FINB				AML	AML		
	comp=N,6310μm,0.2s						
FINB				AML	AML		
	comp=E,6320μm,0.3s						
FINB				AML	AML		
	comp=N,6310μm,0.2s						
FINB				AML	AML		
	comp=E,6320μm,0.3s						
RORO	**Rocca Rossa**	**0.38**	**267**	P	**Pg**	**20 49 35.0**	**+0.2**
RORO				S	**Sg**	**20 49 40.3**	**+0.2**
RORO	**Rocca Rossa**	**0.38**	**267**	P	**Pg**	**20 49 35.0**	**+0.2**
RORO				S	**Sg**	**20 49 40.4**	**+0.2**
RORO				AML	AML		
	comp=E,7955μm,0.1s						
RORO				AML	AML		
	comp=N,6735μm,0.7s						
RORO				AML	AML		
	comp=E,7955μm,0.1s						
RORO				AML	AML		
	comp=N,6735μm,0.7s						
RORO				AML	AML		
	comp=E,7955μm,0.1s						
RORO				AML	AML		
	comp=N,6735μm,0.7s						
PCP	**Piancastagn**	**0.41**	**356**	P	**Pg**	**20 49 35.1**	**-0.4**
PCP				S	**Sg**	**20 49 40.6**	**-0.7**
PCP	**Piancastagn**	**0.41**	**356**	P	**Pg**	**20 49 35.1**	**-0.4**
PCP				AML	AML		
	comp=E,2580μm,0.5s						
PCP				AML	AML		
	comp=N,3110μm,0.7s						
PCP				AML	AML		
	comp=E,2580μm,0.5s						
PCP				AML	AML		
	comp=N,3110μm,0.7s						
PCP				AML	AML		
	comp=E,2580μm,0.5s						
PCP				AML	AML		
	comp=N,3110μm,0.7s						
PCP				AML	AML		
	comp=N,3110μm,0.7s						
PCP				AML	AML		
	comp=E,2580μm,0.5s						
GBOS	**Grotte di Boss**	**0.55**	**282**	P	**Pg**	**20 49 38.2**	**+0.2**
GBOS				S	**Sg**	**20 49 45.1**	**-0.3**
MSSA	**Maissana**	**0.69**	**74**	P	**Pg**	**20 49 40.6**	**-0.1**
MSSA				S	**Sb**	**20 49 50.9**	**+1.1**
MSSA				AML	AML		
	comp=E,2490μm,1.1s						
MSSA				AML	AML		
	comp=N,2235μm,0.6s						
MSSA				AML	AML		
	comp=E,2490μm,1.1s						
MSSA				AML	AML		
	comp=N,2235μm,0.6s						
MSSA				AML	AML		
	comp=E,2490μm,1.1s						
MSSA				AML	AML		
	comp=N,2235μm,0.6s						
GORR	**Gorreto**	**0.69**	**46**	P	**Pg**	**20 49 40.6**	**-0.1**
GORR				S	**Sb**	**20 49 50.3**	**+0.5**
GORR	**Gorreto**	**0.69**	**46**	P	**Pg**	**20 49 40.8**	**+0.1**
GORR				S	**Sb**	**20 49 51.0**	**+1.2**
NEGI	**Seborga**	**0.70**	**246**	P	**Pb**	**20 49 41.2**	**+0.6**
NEGI				S	**Sb**	**20 49 50.5**	**+0.7**
NEGI	**Seborga**	**0.70**	**246**	P	**Pb**	**20 49 41.2**	**+0.6**
NEGI				AML	AML		
	comp=E,3565μm,0.3s						
NEGI				AML	AML		
	comp=N,4200μm,0.8s						
NEGI				AML	AML		
	comp=E,3565μm,0.3s						
NEGI				AML	AML		
	comp=N,4200μm,0.8s						
NEGI				AML	AML		
	comp=E,3565μm,0.3s						
NEGI				AML	AML		
	comp=N,4200μm,0.8s						
NEGI				AML	AML		
	comp=E,3565μm,0.3s						
ROTM	**Rocchetta Tana**	**0.74**	**347**	P	**Pg**	**20 49 41.8**	**+0.3**
ROTM				S	**Sg**	**20 49 52.1**	**+0.8**
ROTM	**Rocchetta Tana**	**0.74**	**347**	P	**Pg**	**20 49 42.0**	**+0.5**
ROTM				AML	AML		
	comp=E,8950μm,0.5s						
ROTM				AML	AML		
	comp=N,12300μm,0.4s						
ROTM				AML	AML		
	comp=E,8950μm,0.5s						
ROTM				AML	AML		
	comp=N,12300μm,0.4s						
SAOF	**Saorge**	**0.76**	**259**	P	**Pg**	**20 49 42.2**	**+0.4**
SAOF				AML	AML		
	comp=E,2225μm,0.4s						
SAOF				AML	AML		
	comp=N,3365μm,0.3s						
SAOF				AML	AML		
	comp=E,2225μm,0.4s						
SAOF				AML	AML		
	comp=N,3365μm,0.3s						
SAOF				AML	AML		
	comp=E,2225μm,0.4s						
SAOF				AML	AML		
	comp=N,3365μm,0.3s						
SAOF				AML	AML		
	comp=N,3365μm,0.3s						
SAOF				AML	AML		
	comp=E,2225μm,0.4s						
ENR	**Entracque**	**0.85**	**277**	P	**Pb**	**20 49 43.2**	**+0.1**
ENR				S	**Sb**	**20 49 54.6**	**+0.4**
ENR	**Entracque**	**0.85**	**277**	P	**Pb**	**20 49 43.2**	**+0.1**
ENR				S	**Sg**	**20 49 55.4**	**+0.7**
ENR				AML	AML		
	comp=E,4220μm,0.8s						
ENR				AML	AML		

BOB AML AML
comp=N,1330µm,0.9s
BOB AML AML
comp=E,1215µm,0.9s
BOB AML AML
comp=N,1265µm,0.7s
BOB AML AML
comp=E,1215µm,0.6s
BOB AML AML
comp=N,1330µm,0.9s
BOB AML AML
comp=E,1215µm,0.9s
BOB AML AML
comp=N,1330µm,0.9s
BOB AML AML
comp=N,1265µm,0.7s
BOB AML AML
comp=E,1215µm,0.6s
PLMA Palmaria, Port 0.91 95 P **Pg 20 49 44.7 -0.1**
PLMA AML AML
comp=E,1330µm,0.3s
PLMA AML AML
comp=N,2150µm,0.3s
PLMA AML AML
comp=E,1330µm,0.3s
PLMA AML AML
comp=N,2150µm,0.3s
PLMA AML AML
comp=E,1330µm,0.3s
PLMA AML AML
comp=N,2150µm,0.3s
STV Sant Anna di V 0.92 278 P **Pg 20 49 45.0 +0.2**
STV S **Sb 20 49 56.3 +0.1**
STV Sant Anna di V 0.92 278 P **Pg 20 49 45.0 +0.2**
STV AML AML
comp=E,1965µm,0.3s
STV AML AML
comp=N,2435µm,0.5s
STV AML AML
comp=E,1965µm,0.3s
STV AML AML
comp=N,2435µm,0.5s
STV AML AML
comp=E,1965µm,0.3s
STV AML AML
comp=N,2435µm,0.5s
ESCA l'Escarene 0.93 252 Pg **Pn 20 49 46.5 +1.4**
ESCA Sg **Sn 20 50 00.9 +2.9**
MON Monaco 0.93 245 Pg **Pn 20 49 46.3 +1.2**
MON Sg **Sn 20 50 00.5 +2.6**
REVF Revere 0.96 247 Pn **Pn 20 49 47.3 +1.6**
REVF Sg **Sn 20 50 01.9 +3.0**
DOI San Damiano 1.03 292 P **Pb 20 49 46.6 +0.2**
DOI AML AML
comp=E,5195µm,0.7s
DOI AML AML
comp=N,4475µm,0.2s
DOI AML AML
comp=E,5195µm,0.7s
DOI AML AML
comp=N,4475µm,0.2s
DOI AML AML
comp=N,4475µm,0.2s
DOI AML AML
comp=E,5195µm,0.7s
ISO Isola 1.11 273 Pn **Pg 20 49 49.5 +1.0**
GRAM Graiana 1.12 71 P **Pn 20 49 48.2 +0.4**
GRAM AML AML
comp=E,2030µm,0.4s
GRAM AML AML
comp=N,1920µm,1.6s
PZZ Stroppo 1.12 290 P **Pb 20 49 48.0 +0.1**
PZZ AML AML
comp=E,4340µm,0.4s
PZZ AML AML
comp=N,4360µm,0.3s
PZZ AML AML
comp=E,4340µm,0.4s
PZZ AML AML
comp=N,4360µm,0.3s
PZZ AML AML
comp=E,4340µm,0.4s
PZZ AML AML
comp=N,4360µm,0.3s
EQUI Equi 1.13 88 P **Pb 20 49 47.7 -0.2**
EQUI AML AML
comp=E,623µm,1.1s
EQUI AML AML
comp=N,1066µm,1.1s
EQUI AML AML
comp=E,623µm,1.1s
EQUI AML AML
comp=N,1066µm,1.1s
EQUI AML AML
comp=N,1066µm,1.1s
EQUI AML AML
comp=E,623µm,1.1s
GROG Isola di Gorgo 1.18 126 P **Pn 20 49 48.4 -0.1**
BHB Bricherasio 1.19 307 P **Pn 20 49 48.8 +0.2**
BHB AML AML
comp=E,2165µm,0.3s
BHB AML AML
comp=N,1830µm,0.3s
BHB AML AML
comp=E,2165µm,0.3s
BHB AML AML
comp=N,1830µm,0.3s
BHB AML AML
comp=N,1830µm,0.3s
BHB AML AML
comp=E,2165µm,0.3s
CALF Calern 1.26 253 P **Pb 20 49 50.8 +0.5**
CALF Pn **Pg 20 49 51.7 +0.3**
CALF Pg **Pn 20 49 52.7 +2.9**
VLC Villacollemand 1.29 88 P **Pn 20 49 50.1 -0.1**
VLC AML AML
comp=E,574µm,0.6s
VLC AML AML
comp=N,456µm,1.0s
VLC AML AML
comp=E,559µm,0.6s
VLC AML AML
comp=N,439µm,1.0s
VLC AML AML
comp=E,574µm,0.6s
VLC AML AML
comp=N,456µm,1.0s
VLC AML AML
comp=E,559µm,0.6s
VLC AML AML
comp=N,439µm,1.0s
VLC AML AML
comp=N,456µm,1.0s
VLC AML AML
comp=E,559µm,0.6s
VLC AML AML
comp=E,574µm,0.6s
VLC AML AML
comp=N,439µm,1.0s
SURF Saint Ours 1.32 286 Pn **Pg 20 49 52.3 -0.2**
RSP Reno Superiore 1.39 318 P **Pn 20 49 51.6 +0.1**
RSP AML AML
comp=E,696µm,0.4s
RSP AML AML
comp=N,632µm,0.2s
RSP AML AML
comp=E,695µm,0.4s
RSP AML AML
comp=N,632µm,0.2s
RSP AML AML
comp=E,695µm,0.4s
RSP AML AML
comp=N,632µm,0.2s
MAIM Mastiano 1.39 98 P **Pn 20 49 51.1 -0.3**
MAIM AML AML
comp=E,1106µm,0.3s
MAIM AML AML
comp=N,666µm,0.5s
MAIM AML AML
comp=E,1106µm,0.3s
MAIM AML AML
comp=N,666µm,0.5s
MAIM AML AML
comp=E,1106µm,0.3s
MAIM AML AML
comp=N,666µm,0.5s
MBDF Montbardon 1.43 295 *e*Pn **Pn 20 49 52.8 +0.6**
SNR=1.0
MBDF *e*Sg **Sb 20 50 12.5 +1.3**
comp=N,320nm,0.3s
BDI Bagni Di Lucca 1.45 92 P **Pn 20 49 52.7 +0.4**
BDI AML AML
comp=E,794µm,1.4s
BDI AML AML
comp=N,849µm,0.6s
BDI AML AML
comp=E,888µm,1.4s
BDI AML AML
comp=N,936µm,0.6s
BDI AML AML
comp=N,849µm,0.6s
BDI AML AML
comp=N,936µm,0.6s
BDI AML AML
comp=E,888µm,1.4s
BDI AML AML
comp=E,794µm,1.4s
OGAG Argentiere 1.51 283 Pn **Pg 20 49 57.0 +1.0**
TRAV Traversella 1.51 337 P **Pn 20 49 54.0 +0.8**
TRAV AML AML
comp=E,598µm,1.0s
TRAV AML AML
comp=N,454µm,0.3s
TRAV AML AML
comp=E,598µm,1.0s
TRAV AML AML
comp=N,454µm,0.3s
TRAV AML AML
comp=N,454µm,0.3s
TRAV AML AML
comp=E,598µm,1.0s
RRL Rocca Remolon 1.51 302 P **Pn 20 49 54.0 +0.7**
RRL AML AML
comp=E,369µm,1.0s
RRL AML AML
comp=N,486µm,0.8s
RRL AML AML
comp=E,369µm,1.0s
RRL AML AML
comp=N,486µm,0.8s
RRL AML AML
comp=N,486µm,0.8s
RRL AML AML
comp=E,369µm,1.0s
POPM Popiglio 1.56 92 P **Pn 20 49 53.9 0.0**
POPM AML AML
comp=E,1320µm,1.4s
POPM AML AML
comp=N,808µm,0.9s
POPM AML AML
comp=E,1320µm,1.4s
POPM AML AML
comp=N,808µm,0.9s
POPM AML AML
comp=N,808µm,0.9s
POPM AML AML
comp=E,1320µm,1.4s
PGF Pioggiola 1.61 169 *e*Pn **Pn 20 49 53.7 -0.8**
SNR=1.0
PGF *e*Sn **Sn 20 50 13.0 -1.9**
comp=E,85nm,0.3s,SNR=1.0
PGF Pioggiola 1.61 169 P **Pn 20 49 53.8 -0.8**
PGF AML AML
comp=E,208µm,1.1s
PGF AML AML
comp=N,183µm,0.9s
PGF AML AML
comp=N,183µm,0.9s
PGF AML AML
comp=E,208µm,1.1s
BNI Bardonecchia 1.65 305 P **Pb 20 49 56.4 -0.4**
BNI AML AML
comp=E,180µm,0.5s
BNI AML AML
comp=N,160µm,1.5s
BNI AML AML
comp=E,180µm,0.5s
BNI AML AML
comp=N,160µm,1.5s
BNI AML AML
comp=E,180µm,0.5s
BNI AML AML
comp=N,160µm,1.5s
OGDI Digne 1.65 270 Pn **Pg 20 49 58.5 -0.2**
OGDI Pg **Pb 20 50 00.9 +4.1**
OGDI Sn **Sg 20 50 24.1 +3.9**
LSD Lago del Serru 1.69 323 P **Pb 20 49 57.4 -0.2**
LSD AML AML
comp=E,301µm,0.4s
LSD AML AML
comp=N,300µm,0.4s
LSD AML AML
comp=E,301µm,0.4s
LSD AML AML
comp=N,300µm,0.4s
LSD AML AML
comp=E,301µm,0.4s
LSD AML AML
comp=N,300µm,0.4s
LMR La Mourre 1.70 243 *e*Pn **Pn 20 49 55.7 -0.1**
SNR=1.0
LMR La Mourre 1.70 243 *e*Pg **Pg 20 49 59.8 0.0**
LMR *e*Sn **Sn 20 50 16.5 -0.6**
SNR=1.0
LMR *e*Sg **Sg 20 50 21.5 -0.4**
comp=N,150nm,0.2s
ZCCA Zocca 1.73 82 AML AML
comp=N,426µm,1.0s
ZCCA AML AML
comp=E,364µm,0.7s
ZCCA AML AML
comp=E,286µm,0.8s
ZCCA AML AML
comp=N,322µm,0.5s
ZCCA AML AML
comp=N,426µm,1.0s
ZCCA AML AML
comp=N,322µm,0.5s
ZCCA AML AML
comp=E,286µm,0.8s
ZCCA AML AML
comp=E,364µm,0.7s
CRMI Carmignano 1.75 100 P **Pn 20 49 56.8 +0.4**
CRMI AML AML
comp=E,78µm,0.5s
CRMI AML AML
comp=N,111µm,0.6s
CRMI AML AML
comp=E,78µm,0.5s
CRMI AML AML
comp=N,111µm,0.6s
CRMI AML AML
comp=N,111µm,0.6s
CRMI AML AML
comp=E,78µm,0.5s
SATI Passo dei Sala 1.82 344 P **Pn 20 49 59.1 +1.5**
SATI AML AML
comp=E,542µm,0.9s
SATI AML AML
comp=N,430µm,0.6s
SATI AML AML
comp=E,542µm,0.9s
SATI AML AML
comp=N,430µm,0.6s
CELB S.Piero in Cam 1.82 139 P **Pn 20 49 56.9 -0.5**
CELB AML AML
comp=E,101µm,0.8s
CELB AML AML
comp=N,90µm,1.4s
CELB AML AML
comp=E,101µm,0.8s
CELB AML AML
comp=N,90µm,1.4s
MUGIO Muggio 1.82 10 P **Pn 20 49 58.9 +1.5**
MUGIO AML AML
comp=E,178µm,0.5s
MUGIO AML AML
comp=N,207µm,0.4s
MUGIO AML AML
comp=E,178µm,0.5s
MUGIO AML AML
comp=N,207µm,0.4s
OG25 Le Caire 1.82 278 Pn **Pb 20 49 60.0 +0.1**
LPG La Plagne 1.89 317 *e*P **Pn 20 50 00.2 +1.6**
SNR=1.0
LPG *e*Sn **Sn 20 50 21.3 -0.8**
LPG *e*Sg **Sg 20 50 27.7 -0.3**
comp=N,48nm,0.3s
LPL La Plagne 1.91 317 *e*P **Pb 20 50 00.9 -0.6**
SNR=1.0
LPL La Plagne 1.91 317 *e*Pg **Pg 20 50 03.4 -0.4**
LPL *e*Sn **Sn 20 50 21.0 -1.6**
LPL *e*Sg **Sg 20 50 27.7 -1.0**
comp=N,132nm,0.4s
MMK Mattmark 1.97 347 P **Pn 20 50 00.7 +1.0**
MMK AML AML
comp=E,218µm,0.6s
MMK AML AML
comp=N,328µm,0.5s
MMK AML AML
comp=E,218µm,0.6s
MMK AML AML
comp=N,328µm,0.5s
REMY Saint-Rhmy-en 1.99 330 AML AML
comp=N,414µm,0.6s
REMY AML AML
comp=E,258µm,0.4s
REMY AML AML
comp=N,414µm,0.6s
REMY AML AML
comp=E,258µm,0.4s
ARTF Artigues 2.08 256 Pn **Pn 20 50 02.8 +1.8**
ARTF Pg **Pg 20 50 07.2 +0.2**
ARTF Sn **Sg 20 50 32.2 -1.9**
ORIF Oris-en-Rattie 2.09 293 *e*P **Pb 20 50 03.8 -0.6**
SNR=1.0
ORIF *e*Sn **Sn 20 50 25.6 -1.2**
ORIF *e*Sg **Sg 20 50 33.2 -1.1**
comp=E,200nm,0.5s
ORIF Oris-en-Rattie 2.09 293 Pn **Pb 20 50 04.1 -0.3**
ORIF Oris-en-Rattie 2.09 293 P **Pb 20 50 04.0 -0.3**
ORIF AML AML
comp=E,264µm,0.3s
ORIF AML AML
comp=N,252µm,0.3s
ORIF AML AML
comp=N,252µm,0.3s
ORIF AML AML
comp=E,264µm,0.3s
RSL Roselend 2.09 319 Pn **Pb 20 50 04.2 -0.3**
RSL Sn **Sg 20 50 34.1 -0.2**
CASP Castiglione de 2.13 128 P **Pn 20 50 01.2 -0.5**
CASP AML AML
comp=E,74µm,0.5s
CASP AML AML
comp=N,87µm,1.3s
CASP AML AML
comp=N,87µm,1.3s
CASP AML AML
comp=E,74µm,0.5s
BSTF la Bastide-des 2.14 264 Pn **Pn 20 50 03.2 +1.5**
BSTF Pg **Pg 20 50 08.8 +0.8**
BSTF Sn **Sg 20 50 34.9 -0.9**
SMRF Simiane la Rot 2.18 267 *e*P **Pn 20 50 04.4 +2.1**
SNR=1.0
SMRF Simiane la Rot 2.18 267 *e*Pg **Pg 20 50 08.5 -0.3**
SMRF *e*Sn **Sn 20 50 27.8 -1.0**
SMRF *e*Sg **Sg 20 50 36.6 -0.5**
comp=E,276nm,0.3s,SNR=1.0
MAGA Magasa 2.19 41 AML AML
comp=N,858µm,0.4s
MAGA AML AML
comp=E,1425µm,0.6s
MAGA AML AML
comp=N,858µm,0.4s
MAGA AML AML
comp=E,1425µm,0.6s
MABI Malga Bissina 2.36 35 AML AML
comp=N,118µm,0.3s
MABI AML AML
comp=E,154µm,0.4s
MABI AML AML
comp=N,118µm,0.3s
MABI AML AML
comp=E,154µm,0.4s
OG26 St.-Nazaire-De 2.40 282 Pn **Pb 20 50 08.0 -1.7**
CRE Caprese Michel 2.48 101 AML AML
comp=E,247µm,0.5s
CRE AML AML
comp=N,275µm,1.1s
CRE AML AML
comp=N,275µm,1.1s
CRE AML AML
comp=E,247µm,0.5s
CAFI Castiglion Fio 2.58 107 AML AML
comp=N,90µm,0.5s
CAFI AML AML
comp=E,74µm,0.9s
CAFI AML AML
comp=E,74µm,0.9s
CAFI AML AML
comp=N,90µm,0.5s
FUORN Ofenpass-Fuorn 2.76 25 AML AML
comp=E,67µm,0.8s
FUORN AML AML
comp=N,82µm,0.6s
FUORN AML AML
comp=N,82µm,0.6s
FUORN AML AML
comp=E,67µm,0.8s
DAVOX Davos/Dischmat 2.80 18 AML AML
comp=E,70µm,0.6s
DAVOX AML AML
comp=E,70µm,0.6s
DAVOX AML AML
comp=N,108µm,0.4s
DAVOX AML AML
comp=N,108µm,0.4s
OG35 Corcelles 2.87 313 Pn **Pn 20 50 14.6 +2.8**
CGRP Cima Grappa 2.87 51 AML AML
comp=N,160µm,0.4s
CGRP AML AML
comp=E,201µm,0.5s
CGRP AML AML
comp=N,160µm,0.4s
CGRP AML AML
comp=E,201µm,0.5s
VIVF Saint-Julien-l 2.89 286 *e*P **Pn 20 50 13.8 +1.6**
SNR=1.0
VIVF Saint-Julien-l 2.89 286 *e*Pg **Pg 20 50 21.7 -0.8**
VIVF *e*Sn **Sn 20 50 45.0 -1.5**
comp=E,22nm,0.3s
CABF La Chapelle 3.04 325 *e*P **Pn 20 50 16.9 +2.6**
SNR=1.0
CABF *e*Sn **Sn 20 50 47.6 -2.6**
comp=E,21nm,0.4s
CABF *e*Sg **Sg 20 51 03.7 -1.0**
comp=E,40nm,0.6s
FETA Feichten 3.26 27 *e*Pn **Pb 20 50 22.1 -2.2**
comp=E,1.8nm,0.3s
FETA *e*Sn **Sb 20 51 01.4 -2.3**
comp=E,3.3nm,0.2s
DAVA Damuels 3.28 16 *e*Pn **Pn 20 50 21.0 +3.4**
comp=E,4.5nm,0.3s,SNR=14
DAVA *e*Sn **Sn 20 50 59.5 +3.2**
comp=E,25nm,0.4s
TRBF Trabuc cave 3.33 271 P **Pn 20 50 19.2 +1.1**
TRBF Pn Pb 20 50 19.8 -5.7
LASF Ste Croix 3.41 271 *e*Pn **Pn 20 50 19.8 +0.6**
SNR=1.0
LASF Ste Croix 3.41 271 *e*Pg **Pg 20 50 31.0 -1.3**
LASF *e*Sn **Sn 20 50 57.1 -2.1**
comp=E,20nm,0.3s
LASF *e*Sg **Sg 20 51 14.4 -2.0**
comp=E,18nm,0.4s
LOMF Lomont 3.45 340 Pn **Pn 20 50 21.5 +1.6**
SQTA Sankt Quirin 3.59 30 *e*Pn **Pn 20 50 25.9 +4.1**
comp=E,4.4nm,0.3s,SNR=11
SQTA *e*Sn **Sn 20 51 08.6 +4.7**
comp=E,6.8nm,0.3s
STAL STALIGIAL 3.61 52 AML AML
comp=N,183µm,0.2s
STAL AML AML
comp=E,146µm,0.2s
STAL AML AML
comp=N,183µm,0.2s
STAL AML AML
comp=E,146µm,0.2s
MOTA Moosalm 3.67 28 *e*Pn **Pn 20 50 26.8 +4.0**
comp=E,1.4nm,0.2s,SNR=12
MOTA *e*Sn **Sn 20 51 09.3 +3.6**
comp=E,3.2nm,0.2s

RETA	**Reutte**	**3.69**	**24**	*e*Pn	**Pn**	**20 50 26.3**	**+3.2**
	comp=E,1.4nm,0.2s,SNR=17						
RETA				*e*Sn	**Sn**	**20 51 10.9**	**+4.8**
	comp=E,5.1nm,0.4s						
RISI	**Rein**	**3.73**	**40**	AML	AML		
	comp=E,124μm,1.6s						
RISI				AML	AML		
	comp=N,163μm,0.5s						
RISI				AML	AML		
	comp=E,124μm,1.6s						
RISI				AML	AML		
	comp=N,163μm,0.5s						
WTTA	**Wattenberg**	**3.79**	**33**	*e*Pn	**Pn**	**20 50 27.6**	**+3.0**
	comp=N,1.8nm,0.3s,SNR=5.0						
WTTA				*e*Sn	**Sn**	**20 51 14.0**	**+5.1**
	comp=N,8.9nm,0.4s						
ABTA	**Abfaltersbach**	**3.81**	**45**	*e*Pn	**Pn**	**20 50 27.4**	**+2.6**
	comp=N,3.2nm,0.4s						
ABTA				*e*Sn	**Sn**	**20 51 12.7**	**+3.6**
	comp=N,4.5nm,0.4s						
WATA	**Walderalm**	**3.83**	**32**	*i* Pn	**Pn**	**20 50 28.8**	**+3.7**
	comp=N,2.6nm,0.2s,SNR=10.0						
WATA				*e*Sn	**Sn**	**20 51 14.3**	**+4.6**
	comp=N,1.9nm,0.2s						
KIZ	**Kirchzarten**	**3.85**	**353**	Pn	**Pn**	**20 50 26.8**	**+1.4**
MOF	**Molkenrain**	**3.86**	**345**	Pn	**Pn**	**20 50 27.0**	**+1.5**
HINF	**Hinteralfeld**	**3.88**	**342**	*e*P	**Pn**	**20 50 27.2**	**+1.5**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**20 51 08.3**	**-2.5**
	comp=N,12nm,0.3s						
LBL	**Lubilhac**	**3.97**	**288**	Pn	**Pn**	**20 50 29.1**	**+2.2**
ROBS	**Robic**	**4.07**	**57**	*i* Pn	**Pn**	**20 50 29.7**	**+1.4**
ROBS				*i* Sn	**Sn**	**20 51 14.6**	**-0.8**
SKDS	**Skadanscina**	**4.11**	**68**	*i* Pn	**Pn**	**20 50 28.9**	**0.0**
HAU	**Haudompre**	**4.18**	**339**	*e*P	**Pn**	**20 50 31.6**	**+1.8**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**20 51 15.4**	**-2.7**
	comp=N,14nm,0.3s						
SMF	**Signal de Mont**	**4.18**	**309**	*e*P	**Pn**	**20 50 31.8**	**+1.9**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**20 51 15.8**	**-2.5**
	comp=N,24nm,0.4s						
ECH	**Echery**	**4.21**	**347**	Pn	**Pn**	**20 50 31.6**	**+1.4**
JAVS	**Javornik**	**4.26**	**64**	*i* Pn	**Pn**	**20 50 31.8**	**+0.7**
JAVS				*i* Sn	**Sn**	**20 51 19.8**	**-0.6**
PYM	**Petit Puy Mans**	**4.28**	**294**	Pn	**Pn**	**20 50 32.8**	**+1.5**
AGO	**Saint Agoulin**	**4.32**	**298**	Pn	**Pn**	**20 50 33.8**	**+2.1**
MYKA	**Terra Mystica**	**4.35**	**53**	*e*Pn	**Pn**	**20 50 34.1**	**+1.9**
	comp=N,3.0nm,0.3s						
MYKA				*e*Sn	**Sn**	**20 51 23.5**	**+1.1**
	comp=N,4.0nm,0.2s						
WLS	**Welschbruch**	**4.37**	**349**	Pn	**Pn**	**20 50 33.6**	**+1.2**
CDF	**Champ du Feu**	**4.38**	**348**	*e*P	**Pn**	**20 50 33.9**	**+1.3**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**20 51 20.4**	**-2.8**
	comp=N,5.9nm,0.3s						
KBA	**Koelnbreinsper**	**4.45**	**47**	*i* Pn	**Pn**	**20 50 36.3**	**+2.6**
	comp=N,0.4nm,0.2s						
KBA				*i* Sn	**Sn**	**20 51 27.0**	**+1.9**
	comp=N,1.6nm,0.3s						
THEF	**They Montfort**	**4.48**	**337**	Pn	**Pn**	**20 50 35.1**	**+1.3**
NVLJ	**Novalja**	**4.53**	**82**	*i* Pn	**Pn**	**20 50 36.2**	**+1.6**
NVLJ				Sn	**Sn**	**20 51 24.1**	**-2.6**
AVF	**Avril sur Loir**	**4.54**	**308**	*e*P	**Pn**	**20 50 36.9**	**+2.1**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**20 51 24.4**	**-2.7**
	comp=N,7.6nm,0.3s,SNR=1.0						
LOR	**Lormes**	**4.56**	**315**	*e*P	**Pn**	**20 50 37.0**	**+1.9**
	baz=138,SNR=1.0						
LOR				*e*Sn	**Sn**	**20 51 24.5**	**-3.1**
	comp=N,12nm,0.3s,baz=142						
LOR	**Lormes**	**4.56**	**315**	Pn	**Pn**	**20 50 37.0**	**+1.9**
SSF	**Saint Saulge**	**4.62**	**311**	*e*P	**Pn**	**20 50 38.2**	**+2.4**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**20 51 26.1**	**-2.8**
	comp=N,3.7nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**4.68**	**263**	*e*P	**Pn**	**20 50 40.4**	**+3.7**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**20 51 27.6**	**-3.0**
	comp=N,9.2nm,0.3s,SNR=1.0						
MTLF				*e*Sg	**Sg**	**20 51 54.4**	**-2.9**
	comp=N,9.8nm,0.4s						
MTLF	**Montolieu**	**4.68**	**263**	Pn	**Pn**	**20 50 38.7**	**+2.0**
BGF	**Bois d'Agland**	**4.72**	**303**	*e*P	**Pn**	**20 50 39.3**	**+2.1**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**20 51 28.7**	**-2.7**
	comp=N,30nm,0.4s						
CAF	**Calviac**	**4.73**	**282**	*e*P	**Pn**	**20 50 39.1**	**+1.7**
CAF	**Calviac**	**4.73**	**282**	*e*Pg	**Pg**	**20 50 55.4**	**-2.2**
CAF				*e*Sn	**Sn**	**20 51 28.9**	**-2.9**
	comp=N,5.9nm,0.3s						
CAF				*e*Sg	**Sg**	**20 51 55.4**	**-3.4**
	comp=N,4.2nm,0.3s						
SFTF	**Sexfontaines**	**4.76**	**330**	*e*P	**Pn**	**20 50 41.4**	**+3.6**
	baz=149						
SFTF				*e*Sn	**Sn**	**20 51 29.5**	**-3.0**
	comp=N,2.7nm,0.2s						
OBKA	**Obir**	**4.83**	**58**	*e*Pn	**Pn**	**20 50 40.9**	**+2.1**
	comp=N,0.5nm,0.2s						
OBKA				*e*Sn	**Sn**	**20 51 34.5**	**+0.2**
	comp=N,3.5nm,0.5s						
PAGF	**Fort de Pagny**	**4.85**	**337**	*e*P	**Pn**	**20 50 42.5**	**+3.5**
FNEB	**Nbias**	**4.87**	**258**	Pn	**Pn**	**20 50 41.2**	**+1.9**
TCF	**Toulx Ste Croi**	**5.00**	**298**	*e*P	**Pn**	**20 50 43.4**	**+2.4**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**20 51 35.2**	**-3.1**
	comp=N,1.1nm,0.2s,SNR=1.0						
MEZF	**Maizieres J'vi**	**5.01**	**332**	*e*P	**Pn**	**20 50 44.9**	**+3.7**
OZLJ	**Ozalj**	**5.11**	**71**	*e*Pn	**Pn**	**20 50 45.3**	**+2.8**
OZLJ				Sn	**Sn**	**20 51 38.5**	**-2.5**
UDBI	**Udbina**	**5.16**	**83**	*i* Pn	**Pn**	**20 50 45.2**	**+1.9**
UDBI				Sn	**Sn**	**20 51 40.5**	**-2.0**
RJF	**Les Rejaudoux**	**5.17**	**286**	*e*P	**Pn**	**20 50 46.6**	**+3.1**
	SNR=1.0						
SOKA	**Soboth**	**5.20**	**58**	*e*Pn	**Pn**	**20 50 45.9**	**+2.0**
	comp=N,0.4nm,0.2s						
SOKA				*e*Sn	**Sn**	**20 51 42.6**	**-0.9**
	comp=N,2.9nm,0.4s,SNR=5.1						
HYF	**Humbligny**	**5.22**	**309**	*e*P	**Pn**	**20 50 47.4**	**+3.4**
MOA	**Molln**	**5.43**	**45**	*e*Pn	**Pn**	**20 50 48.7**	**+1.7**
	comp=N,1.4nm,0.5s						
MOA				*e*Sn	**Sn**	**20 51 51.9**	**+2.9**
	comp=N,2.5nm,0.5s						
LFF	**La Frestale**	**5.67**	**281**	*e*P	**Pn**	**20 50 54.8**	**+4.6**
ARSA	**Arzberg**	**5.77**	**55**	*e*Pn	**Pn**	**20 50 53.4**	**+1.7**
	comp=N,4.0nm,0.2s						
ARSA				*e*Sn	**Sn**	**20 51 58.2**	**+0.8**
	comp=N,1.2nm,0.5s						
KHC	**Kasperske Hory**	**6.07**	**33**	*e*PN	**Pn**	**20 50 57.4**	**+1.7**
KHC				*e*SN	**Sn**	**20 52 02.3**	**-2.4**
EPF	**Esparros**	**6.09**	**262**	*e*P	**Pn**	**20 51 00.6**	**+4.5**
EPF				*e*Sn	**Sn**	**20 52 01.5**	**-3.8**
	comp=N,6.1nm,0.6s						
EPF				*e*Sg	**Sg**	**20 52 38.2**	**-4.2**
	comp=N,7.1nm,0.3s						
CONA	**Conrad Observa**	**6.33**	**51**	*e*Pn	**Pn**	**20 51 01.6**	**+2.2**
	comp=N,0.4nm,0.2s						
CONA				*e*Sn	**Sn**	**20 52 13.2**	**+2.0**
	comp=N,1.7nm,0.4s						
MFF	**Saint Martin d**	**6.63**	**295**	*e*P	**Pn**	**20 51 06.1**	**+2.7**
BAIF	**Baives**	**6.64**	**335**	*e*P	**Pn**	**20 51 07.3**	**+3.7**
NKC	**Novy Kostel**	**6.65**	**22**	*e*SN	**Sn**	**20 52 17.4**	**-1.5**
ETSF	**Etsaut**	**6.76**	**263**	*e*P	Pn	20 51 10.5	+5.1
ETSF				*e*Sn	**Sn**	**20 52 17.8**	**-4.1**
	comp=N,3.7nm,0.4s						
PRU	**Pruhonice**	**7.13**	**33**	*e*PN	**Pn**	**20 51 11.7**	**+1.4**
GOPC	**GO Pecny, Ondr**	**7.17**	**34**	*e*PN	**Pn**	**20 51 13.2**	**+2.4**
GOPC				*e*SN	**Sn**	**20 52 30.1**	**-1.7**
LDF	**La Druitiere**	**7.50**	**310**	*e*P	**Pn**	**20 51 18.2**	**+2.9**
CLL	**Collm**	**7.77**	**21**	*e*Pn	**Pn**	**20 51 19.0**	**-0.1**
UPC	**Upice**	**8.13**	**36**	*e*PN	**Pn**	**20 51 25.1**	**+1.1**
UPC				*e*SN	**Sn**	**20 52 53.3**	**-2.0**
DPC	**Dobruska-Polom**	**8.14**	**37**	*e*PN	**Pn**	**20 51 25.8**	**+1.5**

*ISCJB **29** 20:51:46.7±0.4,44.°16N±0.°02×8.°51E±0.°02,h12km±3km, Error ellipse: s-maj=4.1km s-min=2.8km az=158.7*
*ROM **29** 20:51:46.8±0.2,44.°14N±0.°01×8.°574E±0.°009,h8km±1km, ML2.3/19*
*GEN **29** 20:51:47.6,44.°18N×8.°56E,h10km±1km,Ml2.1*
*LDG **29** 20:51:47.4±0.1,44.°17N×8.°56E,h9km,Md2.6/1,Ml2.7/12, Error ellipse: s-maj=1.5km s-min=1.2km az=126.0*
ISC 29 20:51:46.6±0.9,44.°16N±0.°02×8.°57E±0.°02,h17km±5km, n45,σ0.°79/72,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FINB	**Finale Ligure**	**0.18**	**277**	P	**Pg**	**20 51 51.1**	**0.0**
FINB				S	**Sg**	**20 51 54.2**	**0.0**
FINB				AML	AML		
	comp=E,846μm,0.2s						
FINB				AML	AML		
	comp=N,668μm,0.2s						
FINB				AML	AML		
	comp=E,846μm,0.2s						
FINB				AML	AML		
	comp=N,669μm,0.2s						
FINB				AML	AML		
	comp=E,846μm,0.2s						
FINB				AML	AML		
	comp=N,669μm,0.2s						
RORO	**Rocca Rossa**	**0.37**	**263**	P	**Pg**	**20 51 54.4**	**+0.2**
RORO				S	**Sg**	**20 51 59.6**	**+0.2**
RORO	**Rocca Rossa**	**0.37**	**263**	P	**Pg**	**20 51 54.4**	**+0.2**
RORO				S	**Sg**	**20 51 59.9**	**+0.5**
RORO				AML	AML		
	comp=E,677μm,1.4s						
RORO				AML	AML		
	comp=N,726μm,0.7s						
RORO				AML	AML		
	comp=E,678μm,1.4s						
RORO				AML	AML		
	comp=N,726μm,0.7s						
RORO				AML	AML		
	comp=E,678μm,1.4s						
RORO				AML	AML		
	comp=N,726μm,0.7s						
PCP	**Piancastagn**	**0.39**	**357**	P	**Pg**	**20 51 54.4**	**-0.2**
PCP				S	**Sg**	**20 51 59.6**	**-0.4**
PCP	**Piancastagn**	**0.39**	**357**	P	**Pg**	**20 51 54.4**	**-0.2**
PCP				AML	AML		
	comp=E,488μm,0.4s						
PCP				AML	AML		
	comp=N,424μm,0.3s						
PCP				AML	AML		
	comp=E,488μm,0.4s						
PCP				AML	AML		
	comp=N,424μm,0.3s						
PCP				AML	AML		
	comp=N,424μm,0.3s						
PCP				AML	AML		
	comp=E,488μm,0.4s						
GBOS	**Grotte di Boss**	**0.53**	**280**	P	**Pg**	**20 51 57.5**	**+0.3**
GBOS				S	**Sg**	**20 52 04.2**	**-0.2**
GORR	**Gorreto**	**0.69**	**49**	P	**Pg**	**20 52 00.5**	**+0.4**
GORR				S	**Sb**	**20 52 09.9**	**+0.6**
GORR	**Gorreto**	**0.69**	**49**	P	**Pb**	**20 52 00.6**	**+0.5**
GORR				S	**Sb**	**20 52 10.4**	**+1.1**
GORR				AML	AML		
	comp=E,304μm,0.7s						
GORR				AML	AML		
	comp=N,358μm,0.3s						
NEGI	**Seborga**	**0.70**	**244**	P	**Pb**	**20 52 00.9**	**+0.7**
NEGI				S	**Sb**	**20 52 10.4**	**+0.8**
NEGI	**Seborga**	**0.70**	**244**	P	**Pb**	**20 52 01.0**	**+0.7**
NEGI				S	**Sn**	**20 52 11.6**	**-0.4**
NEGI				AML	AML		
	comp=E,253μm,1.2s						
NEGI				AML	AML		
	comp=N,295μm,0.4s						
NEGI				AML	AML		
	comp=E,253μm,1.2s						
NEGI				AML	AML		
	comp=N,295μm,0.4s						
NEGI				AML	AML		
	comp=N,295μm,0.4s						
NEGI				AML	AML		
	comp=E,253μm,1.2s						
MSSA	**Maissana**	**0.70**	**76**	P	**Pg**	**20 52 00.2**	**-0.1**
MSSA				S	**Sb**	**20 52 10.2**	**+0.6**
MSSA				AML	AML		
	comp=E,198μm,0.8s						
MSSA				AML	AML		
	comp=N,208μm,1.1s						
MSSA				AML	AML		
	comp=E,198μm,0.8s						
MSSA				AML	AML		
	comp=N,208μm,1.1s						
ROTM	**Rocchetta Tana**	**0.71**	**347**	P	**Pb**	**20 52 01.3**	**+0.9**
ROTM				S	**Sb**	**20 52 11.3**	**+1.3**
ROTM	**Rocchetta Tana**	**0.71**	**347**	P	**Pb**	**20 52 01.4**	**+0.9**
ROTM				S	**Sb**	**20 52 11.8**	**+1.9**
ROTM				AML	AML		
	comp=E,816μm,0.5s						
ROTM				AML	AML		
	comp=N,1305μm,0.7s						
ROTM				AML	AML		
	comp=E,816μm,0.5s						
ROTM				AML	AML		
	comp=N,1305μm,0.7s						
ROTM				AML	AML		
	comp=N,1305μm,0.7s						
ROTM				AML	AML		
	comp=E,816μm,0.5s						
SAOF	**Saorge**	**0.75**	**257**	P	**Pb**	**20 52 01.9**	**+0.7**
SAOF				S	**Sb**	**20 52 12.3**	**+1.2**
SAOF				AML	AML		
	comp=E,162μm,0.4s						
SAOF				AML	AML		
	comp=N,245μm,1.6s						
SAOF				AML	AML		
	comp=E,162μm,0.4s						
SAOF				AML	AML		
	comp=N,245μm,1.6s						
SAOF				AML	AML		
	comp=N,245μm,1.6s						
SAOF				AML	AML		
	comp=E,162μm,0.4s						
ENR	**Entracque**	**0.83**	**275**	P	**Pb**	**20 52 02.8**	**+0.3**
ENR				AML	AML		
	comp=E,308μm,0.7s						
ENR				AML	AML		
	comp=N,424μm,0.5s						
ENR				AML	AML		
	comp=N,424μm,0.5s						
ENR				AML	AML		
	comp=E,308μm,0.7s						
SBF	**Sospel**	**0.87**	**251**	*e*Pg	**Pg**	**20 52 03.9**	**+0.4**
SBF				*e*Sg	**Sb**	**20 52 15.3**	**+0.7**
	comp=E,135nm,0.3s						
BOB	**Bobbio (Coli)**	**0.88**	**45**	P	**Pn**	**20 52 04.4**	**+0.2**
BOB				S	**Sn**	**20 52 16.9**	**+0.3**
BOB				AML	AML		
	comp=E,140μm,1.6s						
BOB				AML	AML		
	comp=N,110μm,0.7s						
BOB				AML	AML		
	comp=E,140μm,1.6s						
BOB				AML	AML		
	comp=N,110μm,0.7s						
STV	**Sant Anna di V**	**0.90**	**276**	P	**Pb**	**20 52 04.4**	**+0.7**
STV				S	**Sg**	**20 52 17.0**	**+1.0**
STV				AML	AML		
	comp=E,172μm,1.4s						
STV				AML	AML		
	comp=N,174μm,0.5s						
STV				AML	AML		
	comp=N,174μm,0.5s						
STV				AML	AML		
	comp=E,172μm,1.4s						
PLMA	**Palmaria, Port**	**0.93**	**96**	P	**Pb**	**20 52 03.9**	**-0.2**
PLMA				AML	AML		
	comp=E,120μm,1.5s						
PLMA				AML	AML		
	comp=N,164μm,0.3s						
PLMA				AML	AML		
	comp=N,164μm,0.3s						
PLMA				AML	AML		
	comp=E,120μm,1.5s						
DOI	**San Damiano**	**1.01**	**291**	P	**Pb**	**20 52 06.1**	**+0.4**
DOI				AML	AML		
	comp=E,310μm,0.3s						
DOI				AML	AML		
	comp=N,362μm,0.2s						
DOI				AML	AML		
	comp=E,310μm,0.3s						
DOI				AML	AML		
	comp=N,362μm,0.2s						
PZZ	**Stroppo**	**1.10**	**289**	P	**Pn**	**20 52 08.0**	**+0.7**
PZZ				AML	AML		
	comp=E,232μm,0.4s						
PZZ				AML	AML		
	comp=N,306μm,1.5s						
PZZ				AML	AML		
	comp=E,232μm,0.4s						
PZZ				AML	AML		
	comp=N,306μm,1.5s						
EQUI	**Equi**	**1.14**	**89**	P	**Pb**	**20 52 08.0**	**+0.3**
EQUI				AML	AML		
	comp=E,70μm,1.1s						
EQUI				AML	AML		
	comp=N,108μm,1.0s						
EQUI				AML	AML		
	comp=N,108μm,1.0s						
EQUI				AML	AML		
	comp=E,70μm,1.1s						
BHB	**Bricherasio**	**1.16**	**307**	P	**Pb**	**20 52 08.8**	**+0.7**
BHB				AML	AML		
	comp=E,174μm,0.3s						
BHB				AML	AML		
	comp=N,182μm,1.1s						
BHB				AML	AML		
	comp=E,174μm,0.3s						
BHB				AML	AML		
	comp=N,182μm,1.1s						
VLC	**Villacollemand**	**1.31**	**89**	P	**Pb**	**20 52 11.0**	**+0.3**
RSP	**Reno Superiore**	**1.36**	**317**	P	**Pb**	**20 52 12.2**	**+0.5**
MAIM	**Mastiano**	**1.41**	**99**	AML	AML		
	comp=N,56μm,1.4s						
MAIM				AML	AML		
	comp=E,99μm,0.9s						
MAIM				AML	AML		
	comp=E,99μm,0.9s						
MAIM				AML	AML		
	comp=N,56μm,1.4s						
MBDF	**Montbardon**	**1.41**	**295**	*e*Pn	**Pn**	**20 52 11.8**	**+0.2**
MBDF	**Montbardon**	**1.41**	**295**	*e*Pg	**Pg**	**20 52 13.8**	**0.0**
MBDF				*e*Sn	**Sn**	**20 52 28.7**	**-1.1**
MBDF				*e*Sg	**Sb**	**20 52 31.6**	**+1.4**
	comp=N,23nm,0.3s						
FRF	**La Foret Royal**	**1.51**	**248**	*e*P	**Pb**	**20 52 15.0**	**+0.9**
FRF				*e*Sg	**Sg**	**20 52 35.0**	**-0.4**
	comp=N,18nm,0.2s						
POPM	**Popiglio**	**1.58**	**93**	AML	AML		
	comp=N,94μm,1.4s						
POPM				AML	AML		
	comp=E,86μm,1.4s						
POPM				AML	AML		
	comp=N,94μm,1.4s						
POPM				AML	AML		
	comp=E,86μm,1.4s						
PGF	**Pioggiola**	**1.64**	**169**	*e*Pn	**Pn**	**20 52 14.9**	**+0.3**
PGF				*e*Sn	**Sn**	**20 52 34.5**	**-0.8**
	comp=E,6.9nm,0.3s						
LMR	**La Mourre**	**1.71**	**242**	*e*Pn	**Pn**	**20 52 15.6**	**+0.2**
LMR	**La Mourre**	**1.71**	**242**	*e*Pg	**Pg**	**20 52 19.5**	**+0.2**
LMR				*e*Sn	**Sn**	**20 52 36.1**	**-0.7**
LMR				*e*Sg	**Sg**	**20 52 41.4**	**-0.1**
	comp=E,8.0nm,0.2s						
NDIM	**Novi di Modena**	**1.82**	**65**	AML	AML		
	comp=E,1770μm,0.4s						
NDIM				AML	AML		
	comp=N,657μm,0.1s						
NDIM				AML	AML		
	comp=E,1795μm,0.4s						
NDIM				AML	AML		
	comp=N,662μm,0.1s						
NDIM				AML	AML		
	comp=N,662μm,0.1s						
NDIM				AML	AML		
	comp=N,657μm,0.1s						
NDIM				AML	AML		
	comp=E,1770μm,0.4s						
NDIM				AML	AML		
	comp=E,1795μm,0.4s						
LPG	**La Plagne**	**1.86**	**317**	*e*Pn	**Pn**	**20 52 18.1**	**+0.2**
LPG	**La Plagne**	**1.86**	**317**	*e*P	**Pb**	**20 52 20.1**	**-0.2**
LPG	**La Plagne**	**1.86**	**317**	*e*Pg	**Pb**	**20 52 22.0**	**+1.7**
LPG				*e*Sn	**Sn**	**20 52 40.0**	**-1.2**
LPG				*e*Sg	**Sg**	**20 52 46.0**	**-0.7**
	comp=E,8.0nm,0.3s						
LPL	**La Plagne**	**1.89**	**317**	*e*P	**Pb**	**20 52 20.3**	**-0.4**
LPL	**La Plagne**	**1.89**	**317**	*e*Pg	**Pg**	**20 52 22.6**	**-0.3**
LPL				*e*Sg	**Sb**	**20 52 46.3**	**+2.3**
	comp=E,14nm,0.5s						
ORIF	**Oris-en-Rattie**	**2.07**	**293**	*e*P	**Pb**	**20 52 22.9**	**-0.8**
ORIF	**Oris-en-Rattie**	**2.07**	**293**	*e*Pg	**Pg**	**20 52 25.8**	**-0.5**
ORIF				*e*Sn	**Sn**	**20 52 45.0**	**-1.0**
ORIF				*e*Sg	**Sg**	**20 52 52.4**	**-0.8**
	comp=E,19nm,0.6s						
SMRF	**Simiane la Rot**	**2.17**	**266**	*e*Pn	**Pn**	**20 52 22.3**	**+0.5**
SMRF	**Simiane la Rot**	**2.17**	**266**	*e*Pg	**Pg**	**20 52 27.8**	**-0.4**
SMRF				*e*Sn	**Sn**	**20 52 47.2**	**-1.1**
SMRF				*e*Sg	**Sg**	**20 52 55.2**	**-1.1**
	comp=E,8.0nm,0.3s						
VIVF	**Saint-Julien-l**	**2.88**	**285**	*e*Pn	**Pn**	**20 52 31.4**	**-0.2**
VIVF	**Saint-Julien-l**	**2.88**	**285**	*e*Pg	**Pg**	**20 52 40.5**	**-1.2**
VIVF				*e*Sn	**Sn**	**20 53 04.1**	**-1.7**
	comp=E,2.5nm,0.4s						

*IDC **29** 21:07:53.4±2.3,46.°00N×107.°06W,h0km,mb1 3.2/2, mb1mx3.0/50,mbtmp3.0/2,ML2.8/2,Error ellipse: s-maj=77.1km s-min=9.6km az=131.0*
*ISCJB **29** 21:07:56.5±0.8,45.°81N±0.°05×106.°83W±0.°07,h0km,Error ellipse: s-maj=8.4km s-min=5.8km az=32.2*
*NEIC **29** 21:07:58.5±0.9,45.°76N×107.°02W,h0km,MN2.8,Error ellipse: s-maj=14.5km s-min=9.8km az=38.0,Suspected Mining explosion.*
NEIC 34 km [21 miles] WSW of Colstrip.
ISC 29 21:07:54.0±0.9,45.°96N±0.°05×106.°73W±0.°05,h0km,n10, σ1.°34/19,Montana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLMT	**Red Lodge**	**1.97**	**246**	*e*Pn	**Pn**	**21 08 28.8**	**-0.1**
RLMT				*e*S	**Sn**	**21 08 53.3**	**-1.1**
RSSD	**Black Hills**	**2.65**	**133**	*e*Pn	**Pb**	**21 08 42.8**	**+0.3**
RSSD				*e*S	**Sn**	**21 09 12.1**	**+0.9**
EGMT	**Eagleton**	**2.92**	**316**	*e*Pn	**Pb**	**21 08 46.6**	**-0.5**
EGMT				*e*S	**Sb**	**21 09 22.9**	**-0.5**
LKWY	**Lake**	**2.94**	**243**	*e*Pn	**Pn**	**21 08 43.1**	**+0.8**
LKWY				*e*Pg	**Pb**	**21 08 47.5**	**0.0**
LKWY				*e*S	**Sn**	**21 09 20.2**	**+1.8**
BOZ	**Bozeman (W)**	**3.45**	**266**	*e*Pn	**Pn**	**21 08 51.9**	**+2.7**
BOZ				*e*S	**Sn**	**21 09 31.6**	**+0.8**
BW06	**Boulder Array**	**3.78**	**213**	*e*Pn	**Pn**	**21 08 55.3**	**+1.5**
BW06				*e*S	**Sn**	**21 09 39.5**	**+0.5**
PDAR	**Pinedale Array**	**3.78**	**213**	Pn	**Pn**	**21 08 54.4**	**+0.6**
	0.5nm,0.3s,baz=36,slow=12,SNR=7.7						
PDAR				Pg	**Pb**	**21 09 02.0**	**+0.3**
	1.4nm,0.3s,baz=42,slow=18,SNR=12						
PDAR				Lg	Lg	21 09 50.0	
	2.0nm,0.3s,baz=43,slow=32,SNR=5.6						
ISCO	**Idaho Springs**	**6.21**	**172**	*e*Pn	**Pn**	**21 09 29.4**	**+2.2**
ISCO				*e*Pg	**Pg**	**21 09 50.9**	**-2.1**
ISCO				*e*S	**Sb**	**21 10 57.0**	**-1.1**
I10CA	**LAC DU BONNET**	**8.33**	**55**	*i*		21 58 30.0	
	baz=238,slow=340,SNR=0.4						
ULM	**Lac du Bonnet**	**8.44**	**55**	Pn	**Pn**	**21 09 57.1**	**-0.4**
	0.3nm,0.3s,baz=240,slow=13,SNR=4.7						
ULM				Lg	Lg	21 12 21.7	
	0.3nm,0.3s,baz=316,slow=22,SNR=4.2						

MEX 29 21:11:16.6±0.4,15.°81N×98.°29W,h2km±3km,MD3.8,Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.60**	**15**	*e*P	Pg	21 11 27.6	-0.5
PNIG				*e*S	Sg	21 11 36.3	+0.5

MAN 29 21:12:02.0,9.°98N×126.°11E,h10km,mb4.1,ML2.9,MS2.6, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.64**	**253**	*e*P	Pg	21 12 14.4	0.0
SCPH				*e*S	Sb	21 12 25.6	+1

BESP	**Borongan**	**1.74**	**338**	*e*P	Pn	21 12 32.7	+0.4
BESP				*e*S	Sn	21 12 54.3	-0.4
BUKP	**Musuan**	**2.33**	**206**	*e*P	Pn	21 12 41.6	+1.2
BUKP				*e*S	Sb	21 13 12.8	-0.1

ISCJB **29** *21:17:41.3±0.3, 44˚.11N±0˚.02×8˚.62E±0˚.02, h9km±2km, mb3.3/2, Error ellipse: s-maj=3.1km s-min=1.9km az=161.2*
ROM **29** *21:17:41.4±0.3, 44˚.08N±0˚.01×8˚.596E±0˚.009, h8km±1km, ML3.2/45*
IDC **29** *21:17:42.7±2.4, 44˚.00N×9˚.42E, h0km, mb3.4/2, mb1 3.5/5, mb1mx3.2/52, mbtmp3.3/5, ML3.6/3, Error ellipse: s-maj=51.8km s-min=22.2km az=130.0*
GEN **29** *21:17:42.9, 44˚.17N×8˚.58E, h8km±1km, Ml3.1*
LDG **29** *21:17:42.5±0.1, 44˚.13N×8˚.60E, h8km, Md3.2/2, Ml3.3/38, Error ellipse: s-maj=1.8km s-min=1.2km az=143.0*
PRU **29** *21:17:43.1±0.0, 44˚.15N×8˚.52E, h10km*
STR **29** *21:17:44.9±0.6, 44˚N±3˚×±˚, h10km, M3.5/13, MLv3.5/13*
ZUR **29** *21:17:46.6, 44˚.69N×8˚.72E, h1km, Ml2.9/40*
ISC 29 21:17:41.8±0.9, 44˚.14N±0˚.02×8˚.60E±0˚.02, h18km±4km, n184, σ2s08/247, 17C-27D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FINB	**Finale Ligure**	**0.20**	**281**	P	**Pg**	**21 17 46.7**	**0.0**
FINB				S	**Sg**	**21 17 49.7**	**-0.4**
FINB				AML	AML		
	comp=E,4675μm,0.5s						
FINB				AML	AML		
	comp=N,7760μm,0.3s						
FINB				AML	AML		
	comp=E,4675μm,0.5s						
FINB				AML	AML		
	comp=N,7760μm,0.3s						
FINB				AML	AML		
	comp=E,4675μm,0.5s						
FINB				AML	AML		
	comp=N,7760μm,0.3s						
FINB				AML	AML		
	comp=E,4675μm,0.5s						
RORO	**Rocca Rossa**	**0.38**	**266**	P	**Pg**	**21 17 49.9**	**+0.1**
RORO				S	**Sg**	**21 17 55.0**	**-0.2**
RORO	**Rocca Rossa**	**0.38**	**266**	P	**Pg**	**21 17 49.9**	**+0.1**
RORO				S	**Sg**	**21 17 55.5**	**+0.3**
RORO				AML	AML		
	comp=E,2400μm,0.5s						
RORO				AML	AML		
	comp=N,2905μm,0.7s						
RORO				AML	AML		
	comp=E,2400μm,0.5s						
RORO				AML	AML		
	comp=N,2905μm,0.7s						
RORO				AML	AML		
	comp=E,2400μm,0.5s						
RORO				AML	AML		
	comp=N,2905μm,0.7s						
RORO				AML	AML		
	comp=N,2905μm,0.7s						
RORO				AML	AML		
	comp=E,2400μm,0.5s						
PCP	**Piancastagn**	**0.40**	**355**	P	**Pg**	**21 17 50.0**	**-0.2**
PCP				S	**Sg**	**21 17 55.1**	**-0.7**
PCP	**Piancastagn**	**0.40**	**355**	P	**Pg**	**21 17 50.0**	**-0.2**
PCP				AML	AML		
	comp=E,8045μm,0.3s						
PCP				AML	AML		
	comp=N,8685μm,0.3s						
PCP				AML	AML		
	comp=E,8045μm,0.3s						
PCP				AML	AML		
	comp=N,8685μm,0.3s						
PCP				AML	AML		
	comp=N,8685μm,0.3s						
PCP				AML	AML		
	comp=E,8045μm,0.3s						
GBOS	**Grotte di Boss**	**0.55**	**281**	P	**Pg**	**21 17 53.1**	**+0.1**
GBOS				S	**Sg**	**21 18 00.2**	**-0.2**
GORR	**Gorreto**	**0.68**	**47**	P	**Pb**	**21 17 55.7**	**+0.5**
GORR				S	**Sb**	**21 18 05.1**	**+0.8**
GORR	**Gorreto**	**0.68**	**47**	P	**Pb**	**21 17 55.7**	**+0.5**
GORR				S	**Sn**	**21 18 05.9**	**-0.9**
GORR				AML	AML		
	comp=E,3580μm,0.5s						
GORR				AML	AML		
	comp=N,3985μm,0.4s						
GORR				AML	AML		
	comp=E,3580μm,0.5s						
GORR				AML	AML		
	comp=N,3985μm,0.4s						
MSSA	**Maissana**	**0.68**	**75**	P	**Pb**	**21 17 55.5**	**+0.2**
MSSA				S	**Sn**	**21 18 06.4**	**-0.5**
MSSA				AML	AML		
	comp=E,2770μm,0.7s						
MSSA				AML	AML		
	comp=N,2150μm,1.0s						
MSSA				AML	AML		
	comp=E,2765μm,0.7s						
MSSA				AML	AML		
	comp=N,2150μm,1.0s						
MSSA				AML	AML		
	comp=N,2150μm,1.0s						
MSSA				AML	AML		
	comp=E,2765μm,0.7s						
NEGI	**Seborga**	**0.71**	**246**	P	**Pb**	**21 17 56.4**	**+0.8**
NEGI				S	**Sb**	**21 18 06.2**	**+1.1**
NEGI	**Seborga**	**0.71**	**246**	P	**Pb**	**21 17 56.4**	**+0.8**
NEGI				AML	AML		
	comp=E,1165μm,1.5s						
NEGI				AML	AML		
	comp=N,1785μm,0.7s						
NEGI				AML	AML		
	comp=E,1165μm,1.5s						
NEGI				AML	AML		
	comp=N,1785μm,0.7s						
NEGI				AML	AML		
	comp=E,1165μm,1.5s						
NEGI				AML	AML		
	comp=N,1785μm,0.7s						
NEGI				AML	AML		
	comp=E,1165μm,1.5s						
NEGI				AML	AML		
	comp=N,1785μm,0.7s						
ROTM	**Rocchetta Tana**	**0.73**	**346**	P	**Pg**	**21 17 56.9**	**+0.8**
ROTM				S	**Sb**	**21 18 07.0**	**+1.4**
ROTM	**Rocchetta Tana**	**0.73**	**346**	P	**Pg**	**21 17 56.9**	**+0.8**
ROTM				S	**Sn**	**21 18 07.4**	**-0.5**
ROTM				AML	AML		
	comp=E,12530μm,0.5s						
ROTM				AML	AML		
	comp=N,17700μm,0.6s						
ROTM				AML	AML		
	comp=E,12530μm,0.5s						
ROTM				AML	AML		
	comp=N,17700μm,0.6s						
ROTM				AML	AML		
	comp=E,12530μm,0.5s						
ROTM				AML	AML		
	comp=N,17700μm,0.6s						
ROTM				AML	AML		
	comp=N,17700μm,0.6s						
ROTM				AML	AML		
	comp=E,12530μm,0.5s						
SAOF	**Saorge**	**0.77**	**259**	P	**Pg**	**21 17 57.5**	**+0.7**
SAOF				S	**Sg**	**21 18 08.2**	**+1.2**
SAOF				AML	AML		
	comp=E,1250μm,0.4s						
SAOF				AML	AML		
	comp=N,1685μm,0.5s						
SAOF				AML	AML		
	comp=E,1250μm,0.4s						
SAOF				AML	AML		
	comp=N,1685μm,0.5s						
SAOF				AML	AML		
	comp=E,1250μm,0.4s						
SAOF				AML	AML		
	comp=N,1685μm,0.5s						
SAOF				AML	AML		
	comp=E,1250μm,0.4s						
SAOF				AML	AML		
	comp=N,1685μm,0.5s						
ENR	**Entracque**	**0.85**	**276**	P	**Pb**	**21 17 58.1**	**-0.1**
ENR				S	**Sb**	**21 18 09.0**	**-0.3**
ENR	**Entracque**	**0.85**	**276**	P	**Pb**	**21 17 58.3**	**+0.2**
ENR				S	**Sg**	**21 18 10.7**	**+1.0**
ENR				AML	AML		
	comp=E,3035μm,0.9s						
ENR				AML	AML		
	comp=N,3435μm,0.4s						
ENR				AML	AML		
	comp=E,3035μm,0.9s						
ENR				AML	AML		
	comp=N,3435μm,0.4s						
ENR				AML	AML		
	comp=E,3035μm,0.9s						
ENR				AML	AML		
	comp=N,3435μm,0.4s						
BOB	**Bobbio (Coli)**	**0.87**	**44**	⇑*i*P*P	**Pb**	**21 17 59.5**	**+1.1**
BOB	**Bobbio (Coli)**	**0.87**	**44**	P	**Pb**	**21 17 59.6**	**+1.1**
BOB				S	**Sn**	**21 18 11.9**	**+0.3**
BOB				AML	AML		
	comp=E,1140μm,0.9s						
BOB				AML	AML		
	comp=N,1275μm,0.6s						
BOB				AML	AML		
	comp=E,1205μm,0.5s						
BOB				AML	AML		
	comp=N,1365μm,0.6s						
BOB				AML	AML		
	comp=E,1142μm,0.9s						
BOB				AML	AML		
	comp=N,1275μm,0.6s						
BOB				AML	AML		
	comp=E,1205μm,0.5s						
BOB				AML	AML		
	comp=N,1365μm,0.6s						
BOB				AML	AML		
	comp=N,1365μm,0.6s						
BOB				AML	AML		
	comp=E,1205μm,0.5s						
BOB				AML	AML		
	comp=E,1142μm,0.9s						
BOB				AML	AML		
	comp=N,1275μm,0.6s						
SBF	**Sospel**	**0.88**	**252**	*e*Pg	**Pg**	**21 17 59.6**	**+0.6**
SBF	SNR=1.0						
	comp=N,577nm,0.3s,SNR=1.0			*e*Sg	**Sb**	**21 18 10.9**	**+0.7**
PLMA	**Palmaria, Port**	**0.91**	**95**	P	**Pb**	**21 17 59.1**	**+0.1**
PLMA				S	**Sn**	**21 18 11.9**	**-0.4**
PLMA				AML	AML		
	comp=E,830μm,0.8s						
PLMA				AML	AML		
	comp=N,1390μm,1.2s						
PLMA				AML	AML		
	comp=E,830μm,0.8s						
PLMA				AML	AML		
	comp=N,1390μm,1.2s						
PLMA				AML	AML		
	comp=E,830μm,0.8s						
PLMA				AML	AML		
	comp=N,1390μm,1.2s						
STV	**Sant Anna di V**	**0.92**	**277**	P	**Pb**	**21 17 59.6**	**+0.3**
STV				S	**Sb**	**21 18 11.1**	**-0.1**
STV	**Sant Anna di V**	**0.92**	**277**	P	**Pb**	**21 18 00.0**	**+0.7**
STV				AML	AML		
	comp=E,1200μm,0.5s						
STV				AML	AML		
	comp=N,1670μm,0.6s						
STV				AML	AML		
	comp=E,1200μm,0.5s						
STV				AML	AML		
	comp=N,1670μm,0.6s						
STV				AML	AML		
	comp=E,1200μm,0.5s						
STV				AML	AML		
	comp=N,1670μm,0.6s						
ESCA	**l'Escarene**	**0.94**	**251**	Pg	**Pn**	**21 18 00.8**	**+0.7**
ESCA				Sg	**Sn**	**21 18 13.8**	**+0.7**
MON	**Monaco**	**0.94**	**245**	Pg	**Pn**	**21 18 01.4**	**+1.3**
MON				Sg	**Sn**	**21 18 14.3**	**+1.2**
REVF	**Revere**	**0.97**	**246**	Pg	**Pn**	**21 18 01.3**	**+0.6**
REVF				Sg	**Sn**	**21 18 15.3**	**+1.3**
DOI	**San Damiano**	**1.04**	**291**	‖*i*P*P	**Pg**	**21 18 01.4**	**-0.5**
DOI	**San Damiano**	**1.04**	**291**	P	**Pb**	**21 18 01.6**	**+0.3**
DOI				AML	AML		
	comp=E,3305μm,0.7s						
DOI				AML	AML		
	comp=N,2990μm,0.5s						
DOI				AML	AML		
	comp=E,3305μm,0.7s						
DOI				AML	AML		
	comp=N,2990μm,0.5s						
DOI				AML	AML		
	comp=E,3305μm,0.7s						
DOI				AML	AML		
	comp=N,2990μm,0.5s						
GRAM	**Graiana**	**1.11**	**71**	P	**Pg**	**21 18 03.2**	**-0.1**
GRAM				AML	AML		
	comp=E,2165μm,1.6s						
GRAM				AML	AML		
	comp=N,1710μm,0.9s						
GRAM				AML	AML		
	comp=E,2165μm,1.6s						
GRAM				AML	AML		
	comp=N,1710μm,0.9s						
GRAM				AML	AML		
	comp=N,1710μm,0.9s						
GRAM				AML	AML		
	comp=E,2165μm,1.6s						
ISO	**Isola**	**1.11**	**273**	Pg	**Pg**	**21 18 03.9**	**+0.4**
ISO				Sg	**Sg**	**21 18 18.7**	**+0.7**
EQUI	**Equi**	**1.12**	**88**	P	**Pb**	**21 18 02.6**	**-0.1**
EQUI				AML	AML		
	comp=E,576μm,0.9s						
EQUI				AML	AML		
	comp=N,935μm,0.9s						
EQUI				AML	AML		
	comp=E,575μm,0.9s						
EQUI				AML	AML		
	comp=N,935μm,0.9s						
EQUI				AML	AML		
	comp=E,575μm,0.9s						
EQUI				AML	AML		
	comp=N,935μm,0.9s						
PZZ	**Stroppo**	**1.12**	**289**	P	**Pn**	**21 18 03.3**	**+0.5**
PZZ				AML	AML		
	comp=E,1980μm,0.6s						
PZZ				AML	AML		
	comp=N,2530μm,1.5s						
PZZ				AML	AML		
	comp=E,1980μm,0.6s						
PZZ				AML	AML		
	comp=N,2530μm,1.5s						
PZZ				AML	AML		
	comp=N,2530μm,1.5s						
PZZ				AML	AML		
	comp=E,1980μm,0.6s						
BHB	**Bricherasio**	**1.18**	**307**	P	**Pn**	**21 18 04.0**	**+0.5**
BHB				AML	AML		
	comp=E,1750μm,1.2s						
BHB				AML	AML		
	comp=N,1835μm,0.4s						
BHB				AML	AML		
	comp=E,1750μm,1.2s						
BHB				AML	AML		
	comp=N,1835μm,0.4s						
BHB				AML	AML		
	comp=N,1835μm,0.4s						
BHB				AML	AML		
	comp=E,1750μm,1.2s						
CALF	**Calern**	**1.27**	**253**	Pg	**Pg**	**21 18 07.0**	**+0.6**
CALF				Sg	**Sg**	**21 18 24.5**	**+1.5**
VLC	**Villacollemand**	**1.29**	**89**	P	**Pn**	**21 18 04.8**	**-0.1**
VLC				AML	AML		
	comp=E,590μm,0.7s						
VLC				AML	AML		
	comp=N,460μm,0.6s						
VLC				AML	AML		
	comp=E,552μm,0.7s						
VLC				AML	AML		
	comp=N,458μm,0.5s						
VLC				AML	AML		
	comp=E,590μm,0.7s						
VLC				AML	AML		
	comp=N,460μm,0.6s						
VLC				AML	AML		
	comp=E,552μm,0.7s						
VLC				AML	AML		
	comp=N,458μm,0.5s						
VLC				AML	AML		
	comp=E,590μm,0.7s						
VLC				AML	AML		
	comp=N,460μm,0.6s						
VLC				AML	AML		
	comp=E,552μm,0.7s						
SURF	**Saint Ours**	**1.33**	**285**	Pn	**Pb**	**21 18 06.9**	**+0.7**
SURF				Sg	**Sg**	**21 18 25.9**	**+1.2**
MAIM	**Mastiano**	**1.39**	**99**	P	**Pn**	**21 18 05.9**	**-0.3**
MAIM				AML	AML		
	comp=E,1110μm,0.5s						
MAIM				AML	AML		
	comp=N,634μm,0.7s						
MAIM				AML	AML		
	comp=E,1110μm,0.5s						
MAIM				AML	AML		
	comp=N,634μm,0.7s						
MAIM				AML	AML		
	comp=N,634μm,0.7s						
MAIM				AML	AML		
	comp=E,1110μm,0.5s						
RSP	**Reno Superiore**	**1.39**	**317**	‖*i*P*P	**Pn**	**21 18 06.5**	**+0.1**
RSP	**Reno Superiore**	**1.39**	**317**	P	**Pb**	**21 18 07.6**	**+0.3**
RSP				AML	AML		
	comp=E,552μm,1.1s						
RSP				AML	AML		
	comp=N,592μm,0.4s						
RSP				AML	AML		
	comp=E,552μm,1.1s						
RSP				AML	AML		
	comp=N,592μm,0.4s						
RSP				AML	AML		
	comp=N,592μm,0.4s						
RSP				AML	AML		
	comp=E,552μm,1.1s						
CTL8	**Castelleone**	**1.41**	**36**	AML	AML		
CTL8	comp=N,282μm,1.3s						
	comp=E,1815μm,0.9s			AML	AML		
CTL8							
	comp=N,16600μm,1.5s			AML	AML		
CTL8							
	comp=E,630μm,0.6s			AML	AML		
CTL8							
	comp=E,1815μm,0.9s			AML	AML		
CTL8							
	comp=E,630μm,0.6s			AML	AML		
CTL8							
	comp=N,282μm,1.3s			AML	AML		
CTL8							
	comp=N,16600μm,1.5s						
MBDF	**Montbardon**	**1.43**	**295**	*e*Pn	**Pn**	**21 18 07.7**	**+0.6**
MBDF	SNR=1.0						
	comp=N,353nm,0.5s,SNR=1.0			*e*Sn	**Sb**	**21 18 27.1**	**+1.0**
BDI	**Bagni Di Lucca**	**1.44**	**92**	P	**Pn**	**21 18 07.2**	**+0.1**
BDI				AML	AML		
	comp=E,1040μm,0.4s						
BDI				AML	AML		
	comp=N,734μm,0.6s						
BDI				AML	AML		
	comp=E,911μm,0.4s						
BDI				AML	AML		
	comp=N,850μm,0.7s						
BDI				AML	AML		
	comp=E,1040μm,0.4s						
BDI				AML	AML		
	comp=E,911μm,0.4s						
BDI				AML	AML		
	comp=N,734μm,0.6s						
BDI				AML	AML		
	comp=N,850μm,0.7s						
TRAV	**Traversella**	**1.50**	**336**	‖*i*P*P	**Pn**	**21 18 08.8**	**+0.9**
TRAV	**Traversella**	**1.50**	**336**	P	**Pb**	**21 18 09.4**	**+0.3**
TRAV				AML	AML		
	comp=E,718μm,1.4s						
TRAV				AML	AML		
	comp=N,548μm,0.4s						
TRAV				AML	AML		
	comp=E,718μm,1.4s						
TRAV				AML	AML		
	comp=N,548μm,0.4s						
TRAV				AML	AML		
	comp=E,718μm,1.4s						
TRAV				AML	AML		
	comp=N,548μm,0.4s						
RRL	**Rocca Remolon**	**1.51**	**302**	P	**Pn**	**21 18 09.2**	**+1.0**
RRL				AML	AML		
	comp=E,358μm,1.0s						
RRL				AML	AML		
	comp=N,338μm,0.7s						
RRL				AML	AML		
	comp=E,358μm,1.0s						
RRL				AML	AML		
	comp=N,338μm,0.7s						
RRL				AML	AML		
	comp=E,358μm,1.0s						
RRL				AML	AML		
	comp=N,338μm,0.7s						
OGAG	**Argentiere**	**1.51**	**283**	Pn	**Pg**	**21 18 10.8**	**-0.1**
FRF	**La Foret Royal**	**1.53**	**248**	*e*Pn	**Pn**	**21 18 08.4**	**+0.2**
FRF	SNR=1.0						
	comp=N,166nm,0.3s,SNR=1.0			*e*Sn	**Sn**	**21 18 27.2**	**-0.4**
FRF				*e*Sg	**Sg**	**21 18 31.0**	**-0.1**
	comp=N,167nm,0.3s						
POPM	**Popiglio**	**1.56**	**93**	P	**Pn**	**21 18 08.6**	**0.0**
POPM				AML	AML		
	comp=E,1008μm,0.3s						
POPM				AML	AML		
	comp=N,588μm,1.3s						
POPM				AML	AML		
	comp=E,1008μm,0.3s						
POPM				AML	AML		
	comp=N,588μm,1.3s						
POPM				AML	AML		
	comp=N,588μm,1.3s						
POPM				AML	AML		
	comp=E,1008μm,0.3s						
PGF	**Pioggiola**	**1.62**	**169**	*e*Pn	**Pn**	**21 18 08.6**	**-1.0**
PGF	SNR=1.0						
	comp=E,47nm,0.3s,SNR=1.0			*e*Sn	**Sn**	**21 18 27.2**	**-2.8**
PGF	**Pioggiola**	**1.62**	**169**	P	**Pn**	**21 18 08.6**	**-1.0**
PGF				AML	AML		
	comp=E,154μm,1.0s						
PGF				AML	AML		
	comp=N,147μm,0.6s						
PGF				AML	AML		
	comp=N,147μm,0.6s						
PGF				AML	AML		
	comp=E,154μm,1.0s						
BNI	**Bardonecchia**	**1.65**	**304**	‖*i*P*	**Pn**	**21 18 11.3**	**+1.3**
BNI	**Bardonecchia**	**1.65**	**304**	AML	AML		
BNI	comp=N,150μm,1.5s						
	comp=E,164μm,0.9s			AML	AML		
BNI							
	comp=N,150μm,1.5s			AML	AML		
BNI							
	comp=E,164μm,0.9s			AML	AML		
LSD	**Lago del Serru**	**1.68**	**322**	‖*i*P*	**Pn**	**21 18 11.2**	**+0.7**
LMR	**La Mourre**	**1.72**	**243**	*e*Pn	**Pn**	**21 18 10.6**	**-0.2**
LMR	SNR=1.0						
	La Mourre	**1.72**	**243**	*e*Pg	**Pg**	**21 18 15.0**	**+0.2**
LMR				*e*Sn	**Sn**	**21 18 31.6**	**-0.6**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**21 18 36.8**	**-0.3**
	comp=E,58nm,0.2s,SNR=1.0						
CRMI	**Carmignano**	**1.75**	**101**	AML	AML		
CRMI	comp=N,117μm,0.8s			AML	AML		
	comp=E,76μm,1.1s						
CRMI				AML	AML		
	comp=E,76μm,1.1s						
CRMI				AML	AML		
	comp=N,117μm,0.8s						
CRMI				AML	AML		
	comp=N,117μm,0.8s						
CRMI				AML	AML		
	comp=E,76μm,1.1s						
MUGIO	**Muggio**	**1.81**	**10**	‖*i*Pg	**Pn**	**21 18 13.3**	**+1.1**
MUGIO	**Muggio**	**1.81**	**10**	AML	AML		
MUGIO	comp=N,280μm,0.5s						
				AML	AML		

comp=E,208µm,0.6s
MUGIO AML AML
comp=N,280µm,0.5s
MUGIO AML AML
comp=E,208µm,0.6s
SATI Passo dei Sala 1.81 344⇑ *i*P*P **Pn 21 18 14.3 +1.9**
SATI Passo dei Sala 1.81 344 AML AML
comp=N,591µm,0.6s
SATI AML AML
comp=E,642µm,0.3s
SATI AML AML
comp=N,591µm,0.6s
SATI AML AML
comp=E,642µm,0.3s
CELB S.Piero in Cam 1.82 139 P **Pn 21 18 11.6 -0.7**
CELB AML AML
comp=E,88µm,1.1s
CELB AML AML
comp=N,80µm,1.3s
CELB AML AML
comp=E,88µm,1.1s
CELB AML AML
comp=N,80µm,1.3s
LPG La Plagne 1.89 317 *e*P **Pb 21 18 15.7 -0.2**
SNR=1.0
LPG *e*Sn **Sn 21 18 36.6 -0.4**
LPG *e*Sg **Sg 21 18 41.8 -0.9**
comp=N,66nm,0.3s,SNR=1.0
LPL La Plagne 1.91 317 *e*P **Pb 21 18 15.9 -0.4**
SNR=1.0
LPL *e*Sg **Sb 21 18 42.2 +2.3**
comp=N,96nm,0.4s
MRGE Morge 1.96 327⇓ *i*Pn **Pb 21 18 16.7 -0.4**
MMK Mattmark 1.96 347⇑ *i*P* **Pn 21 18 15.7 +1.3**
REMY Saint-Rhmy-en 1.98 329 AML AML
comp=E,249µm,0.9s
REMY AML AML
comp=N,450µm,0.7s
REMY AML AML
comp=E,249µm,0.9s
REMY AML AML
comp=N,450µm,0.7s
GDM Grand'Maison 2.06 302 Pn **Pb 21 18 17.9 -0.9**
RSL Roselend 2.09 319 Pg **Pg 21 18 21.3 -0.6**
ORIF Oris-en-Rattie 2.09 293 *e*P **Pb 21 18 18.8 -0.5**
SNR=1.0
ORIF *e*Sg **Sb 21 18 47.8 +2.8**
comp=N,110nm,0.5s
ARTF Artigues 2.10 256 Pn **Pb 21 18 18.3 -1.0**
DIX Grande Dixence 2.11 337⇓ *i*P* **Pb 21 18 19.6 -0.2**
CASP Castiglione de 2.13 128 P **Pn 21 18 15.8 -0.7**
CASP AML AML
comp=E,73µm,1.6s
CASP AML AML
comp=N,78µm,0.5s
CASP AML AML
comp=E,73µm,1.6s
CASP AML AML
comp=N,78µm,0.5s
SIMPL Simplonpass 2.14 349⇓ *i*P* **Pn 21 18 18.3 +1.5**
EMBD Embd, Matterta 2.15 346⇓ *i*P* **Pn 21 18 18.8 +2.0**
MAGA Magasa 2.18 41 AML AML
comp=E,1565µm,0.6s
MAGA AML AML
comp=N,783µm,1.6s
MAGA AML AML
comp=N,783µm,1.6s
MAGA AML AML
comp=E,1565µm,0.6s
SMRF Simiane la Rot 2.19 267 *e*P **Pb 21 18 19.8 -1.0**
SNR=1.0
SMRF Simiane la Rot 2.19 267 *e*Pg **Pg 21 18 23.0 -0.8**
SMRF *e*Sg **Sg 21 18 51.1 -1.0**
comp=E,248nm,0.6s,SNR=1.0
VANNI Vissoie, Val d 2.19 341⇑ *i*Pn **Pb 21 18 21.8 +0.8**
SALAN Lac Salanfe 2.31 331⇑ *e*Pn **Pb 21 18 23.5 +0.5**
FUSIO Fusio 2.31 1⇑ *e*P* **Pn 21 18 20.6 +1.4**
FIESA Fiescheralp 2.32 352⇓ *i*P* **Pn 21 18 21.2 +1.9**
ASQU Asqua 2.33 97 AML AML
comp=N,182µm,1.4s
ASQU AML AML
comp=E,161µm,1.3s
ASQU AML AML
comp=N,182µm,1.4s
ASQU AML AML
comp=E,161µm,1.3s
LKBD2 Leukerbad 2 2.33 344⇑ *e*P* **Pb 21 18 22.6 -0.9**
MABI Malga Bissina 2.35 35⇑ *i*Pn **Pn 21 18 21.2 +1.6**
MABI Malga Bissina 2.35 35 AML AML
comp=N,109µm,0.5s
MABI AML AML
comp=E,132µm,1.6s
MABI AML AML
comp=E,132µm,1.6s
MABI AML AML
comp=N,109µm,0.5s
LAUCH Lauchernalp 2.35 346⇓ *i*P* **Pb 21 18 22.3 -1.4**
LKBD Leukerbad 2.35 343⇓ *i*Pn **Pb 21 18 23.9 +0.3**
GRYON Gryon 2.36 334⇓ *e*P* **Pb 21 18 23.9 +0.1**
SENIN Lac Senin/Sane 2.40 338⇓ *e*P* **Pb 21 18 24.5 -0.2**
VDL Val di Lei 2.42 14⇑ *i*P*P **Pn 21 18 23.4 +2.7**
GRIMS Grimsel Gerste 2.44 355⇓ *e*P* **Pn 21 18 23.0 +1.9**
CRE Caprese Michel 2.48 101 AML AML
comp=E,230µm,1.0s
CRE AML AML
comp=N,177µm,1.1s
CRE AML AML
comp=E,230µm,1.0s
CRE AML AML
comp=N,177µm,1.1s
AIGLE Aigle 2.49 333⇓ *i*Pn **Pb 21 18 25.1 -0.9**
WIMIS Wimmis 2.62 345⇓ *e*P* **Pb 21 18 27.0 -1.2**
HASLI Hasliberg/Brie 2.63 353⇓ *i*Pn **Pn 21 18 26.2 +2.7**
LLS Linth-Limmern 2.72 6⇓ *e*P*P **Pn 21 18 28.8 +4.0**
BNALP Bannalp 2.73 358⇓ *e*Pn **Pn 21 18 27.1 +2.2**
FUORN Ofenpass-Fuorn 2.74 25⇓ *i*Pn **Pb 21 18 28.4 -2.1**
DAVOX Davos/Dischmat 2.79 18 Pn **Pb 21 18 29.3 -2.0**
comp=N,4.9nm,0.3s,baz=196,slow=8.6,SNR=50
DAVOX Sn **Sn 21 19 01.9 +2.9**
comp=N,6.3nm,0.3s,baz=300,slow=16,SNR=3.6
DAVOX Davos/Dischmat 2.79 18⇓ *e*Pn **Pb 21 18 29.3 -2.0**
DAVOX Davos/Dischmat 2.79 18 AML AML
comp=E,79µm,0.5s
DAVOX AML AML
comp=E,79µm,0.5s
DAVOX AML AML
comp=N,102µm,0.6s
DAVOX AML AML
comp=N,102µm,0.6s
MOSI Grossmontoni 2.83 28⇓ *i*Pn **Pb 21 18 29.9 -2.0**
CGRP Cima Grappa 2.86 51⇓ *i*Pn **Pn 21 18 28.0 +1.3**
CGRP Cima Grappa 2.86 51 AML AML
comp=N,220µm,1.4s
CGRP AML AML
comp=E,196µm,1.3s
CGRP AML AML
comp=N,220µm,1.4s
CGRP AML AML
comp=E,196µm,1.3s
OG35 Corcelles 2.87 313 Pn **Pn 21 18 29.2 +2.5**
CTI Castel Tesino 2.88 48 AML AML
comp=N,230µm,0.3s
CTI AML AML
comp=E,208µm,0.2s
CTI AML AML
comp=N,230µm,0.3s
CTI AML AML
comp=E,208µm,0.2s
VIVF Saint-Julien-l 2.90 286 *e*P **Pn 21 18 29.8 +2.7**
SNR=1.0
VIVF *e*Sn **Sn 21 19 01.7 +0.2**
comp=E,35nm,0.7s,SNR=1.0
VIVF *e*Sg **Sg 21 19 13.1 -1.8**
comp=E,15nm,0.3s
PLONS Plons/SG 2.96 10⇓ *e*P* **Pb 21 18 31.6 -2.4**
CABF La Chapelle 3.04 325 *e*P **Pn 21 18 31.8 +2.7**
SNR=1.0
CABF La Chapelle 3.04 325 *e*Pg **Pg 21 18 38.6 -1.4**
CABF *e*Sg **Sg 21 19 17.3 -2.1**
comp=E,45nm,0.8s,SNR=1.0
KOSI Kohlern 3.04 39⇓ *e*Pn **Pn 21 18 31.5 +2.4**
KOSI Kohlern 3.04 39 AML AML
comp=E,122µm,0.9s
KOSI AML AML
comp=E,122µm,0.9s
KOSI AML AML
comp=N,146µm,0.9s
KOSI AML AML
comp=N,146µm,0.9s
BRANT Les Verrieres 3.17 333⇑ Pn **Pn 21 18 33.7 +2.8**
FETA Feichten 3.25 27 *e*Pn **Pn 21 18 35.5 +3.5**
comp=N,3.9nm,0.3s
FETA *e*Sn **Sb 21 19 15.1 -3.1**
comp=N,2.7nm,0.2s
DAVA Damuels 3.27 15⇓ Pn **Pn 21 18 35.9 +3.6**
DAVA Damuels 3.27 15 *i*Pn **Pn 21 18 34.7 +2.4**
comp=N,6.1nm,0.3s
DAVA *e*Sn **Sn 21 19 14.0 +3.1**
comp=N,20nm,0.5s
POLC Polcenigo 3.35 54 AML AML
comp=E,138µm,0.7s
POLC AML AML
comp=N,213µm,0.4s
POLC AML AML
comp=N,213µm,0.4s
POLC AML AML
comp=E,138µm,0.7s
SULZ Cheisacher 3.40 354⇑ Pn **Pn 21 18 36.3 +2.2**
LASF Ste Croix 3.42 271 *e*Pn **Pn 21 18 34.6 +0.4**
SNR=1.0
LASF *e*Sn **Sn 21 19 12.8 -1.4**
comp=E,16nm,0.5s,SNR=1.0
LASF *e*Sg **Sg 21 19 29.4 -2.1**
comp=E,7.5nm,0.4s
ROSI Rosskopf 3.42 34⇑ *i*Pn **Pn 21 18 37.2 +2.9**
LOMF Lomont 3.44 340 Pn **Pn 21 18 37.1 +2.5**
TRULL Truellikon 3.51 1⇑ *e*Pn **Pn 21 18 37.8 +2.3**
SQTA Sankt Quirin 3.58 30 *i*Pn **Pn 21 18 39.4 +2.9**
comp=E,3.8nm,0.2s
SQTA *e*Sn **Sn 21 19 23.1 +4.6**
comp=E,7.7nm,0.5s
STAL STALIGIAL 3.60 52 AML AML
comp=N,132µm,0.2s
STAL AML AML
comp=E,125µm,0.4s
STAL AML AML
comp=N,132µm,0.2s
STAL AML AML
comp=E,125µm,0.4s
SLE Schleitheim 3.62 359⇑ *e*Pn **Pn 21 18 38.5 +1.4**
MOTA Moosalm 3.65 28 *i*Pn **Pn 21 18 41.0 +3.4**
comp=E,6.8nm,0.3s
MOTA *e*Sn **Sn 21 19 24.4 +4.1**
comp=E,16nm,0.5s
RETA Reutte 3.67 24 *e*Pn **Pn 21 18 41.0 +3.2**
comp=E,3.6nm,0.4s
RETA *e*Sn **Sn 21 19 25.0 +4.4**
comp=E,5.7nm,0.4s
RISI Rein 3.72 40⇑ *i*Pn **Pn 21 18 40.6 +2.1**
RISI Rein 3.72 40 AML AML
comp=N,218µm,0.4s
RISI AML AML
comp=E,152µm,0.4s
RISI AML AML
comp=N,218µm,0.4s
RISI AML AML
comp=E,152µm,0.4s
WTTA Wattenberg 3.78 33 *i*Pn **Pn 21 18 42.7 +3.4**
comp=E,3.8nm,0.2s
WTTA *i*Sn **Sn 21 19 26.0 +2.6**
comp=E,6.0nm,0.6s
ABTA Abfaltersbach 3.79 45 *e*Pn **Pn 21 18 42.0 +2.6**
comp=E,6.9nm,0.5s
ABTA *e*Sn **Sn 21 19 25.8 +2.2**
comp=E,9.3nm,0.6s
WATA Walderalm 3.81 32 *i*Pn **Pn 21 18 43.5 +3.8**
comp=E,2.0nm,0.2s
WATA *e*Sn **Sn 21 19 29.3 +5.0**
comp=E,4.1nm,0.4s
KIZ Kirchzarten 3.84 353⇓ *e*Pn **Pn 21 18 41.1 +1.0**
MOF Molkenrain 3.85 345 Pn **Pn 21 18 41.8 +1.6**
HINF Hinteralfeld 3.87 342 *e*Pn **Pn 21 18 42.5 +2.0**
SNR=1.0
HINF *e*Sn **Sn 21 19 23.9 -1.6**
comp=E,13nm,0.4s,SNR=1.0
LBL Lubilhac 3.97 288 Pn **Pn 21 18 43.7 +1.8**
SABO M.te Sabotino 3.99 61 AML AML
comp=E,120µm,0.9s
SABO AML AML
comp=E,120µm,0.9s
SABO AML AML
comp=N,180µm,0.4s
SABO AML AML
comp=N,180µm,0.4s
ROBS Robic 4.06 57 *i*Pn **Pn 21 18 44.5 +1.5**
ROBS *i*Sn **Sn 21 19 29.5 -0.5**
SKDS Skadanscina 4.10 68 *i*Pn **Pn 21 18 43.7 +0.1**
HAU Haudompre 4.17 339 *e*P **Pn 21 18 46.5 +1.9**
SNR=1.0
HAU *e*Sn **Sn 21 19 30.9 -1.9**
comp=N,36nm,0.4s,SNR=1.0
SMF Signal de Mont 4.18 308 *e*P **Pn 21 18 46.7 +2.0**
SNR=1.0
JAVS Javornik 4.25 64 *i*Pn **Pn 21 18 45.6 -0.1**
JAVS *i*Sn **Sn 21 19 35.0 0.0**
PYM Petit Puy Mans 4.28 294 Pn **Pn 21 18 47.6 +1.5**
AGO Saint Agoulin 4.32 298 Pn **Pn 21 18 47.9 +1.3**
MYKA Terra Mystica 4.34 53 *e*Pn **Pn 21 18 48.8 +1.9**
comp=N,1.2nm,0.3s
CDF Champ du Feu 4.37 348 *e*P **Pn 21 18 48.9 +1.5**
SNR=1.0
CDF *e*Sn **Sn 21 19 35.0 -2.8**
comp=N,13nm,0.5s,SNR=1.0
CDF *e*Sg **Sg 21 19 58.7 -3.3**
comp=N,17nm,0.6s
KBA Koelnbreinsper 4.44 47 *e*Pn **Pn 21 18 50.3 +1.9**
comp=N,1.3nm,0.2s
KBA *i*Sn **Sn 21 19 43.7 +4.0**
comp=N,1.3nm,0.2s
THEF They Montfort 4.47 337 Pn **Pn 21 18 50.7 +2.0**
NVLJ Novalja 4.52 82 *e*Pn **Pn 21 18 50.3 +1.0**
NVLJ Sn **Sn 21 19 39.6 -1.7**
AVF Avril sur Loir 4.54 308 *e*P **Pn 21 18 51.7 +2.1**
SNR=1.0
AVF *e*Sn **Sn 21 19 39.5 -2.4**
SNR=1.0
AVF *e*Sg **Sg 21 20 04.3 -3.3**
comp=N,13nm,0.6s
LOR Lormes 4.56 315 *e*Pn **Pn 21 18 51.8 +1.9**
baz=136,SNR=1.0
LOR *e*Sn **Sn 21 19 40.1 -2.3**
comp=N,16nm,0.4s,baz=133,SNR=1.0
SSF Saint Saulge 4.61 311 *e*P **Pn 21 18 53.8 +3.2**
SNR=1.0
SSF Saint Saulge 4.61 311 *e*Pg **Pg 21 19 07.8 -2.3**
SSF *e*Sn **Sn 21 19 41.2 -2.5**
comp=N,18nm,0.7s,SNR=1.0
MTLF Montolieu 4.69 262 *e*P **Pn 21 18 55.5 +3.8**
SNR=1.0
MTLF *e*Sn **Sn 21 19 43.4 -2.3**
comp=N,3.9nm,0.3s
BGF Bois d'Agland 4.72 303 *e*P **Pn 21 18 54.2 +2.1**
BGF Bois d'Agland 4.72 303 *e*Pg **Pg 21 19 09.9 -2.3**
BGF *e*Sn **Sn 21 19 45.9 -0.4**
comp=N,17nm,0.3s,SNR=1.0
CAF Calviac 4.74 282 *e*P **Pn 21 18 54.3 +1.9**
SNR=1.0
CAF *e*Sn **Sn 21 19 44.3 -2.5**
comp=N,2.4nm,0.3s
SFTF Sexfontaines 4.76 330 *e*P **Pn 21 18 56.4 +3.8**
baz=148
SFTF *e*Sn **Sn 21 19 44.7 -2.6**
comp=N,10.0nm,0.4s
OBKA Obir 4.82 58 *e*Pn **Pn 21 18 55.0 +1.4**
comp=N,0.7nm,0.1s
OBKA *e*Sn **Sn 21 19 51.6 +2.7**
comp=N,2.8nm,0.3s
PAGF Fort de Pagny 4.84 337 *e*P **Pn 21 18 57.6 +3.8**
PAGF *e*Sn **Sn 21 19 46.1 -3.2**
PAGF *e*Sg **Sg 21 20 13.7 -3.5**
comp=N,7.2nm,0.2s
TCF Toulx Ste Croi 5.00 298 *e*P **Pn 21 18 59.7 +3.8**
SNR=1.0
TCF *e*Sn **Sn 21 19 50.3 -2.9**
comp=N,3.2nm,0.3s
MEZF Maizieres J'vi 5.00 332 *e*P **Pn 21 19 00.3 +4.3**
MEZF *e*Sn **Sn 21 19 49.5 -3.8**
comp=N,15nm,0.4s
OZLJ Ozalj 5.10 71 *i*Pn **Pn 21 18 58.8 +1.5**
OZLJ Sn **Sn 21 19 53.6 -2.1**
UDBI Udbina 5.16 83 *e*Pn **Pn 21 18 59.7 +1.6**
UDBI Sn **Sn 21 19 54.0 -3.2**
RJF Les Rejaudoux 5.18 285 *e*P **Pn 21 19 02.1 +3.7**
RJF *e*Sn **Sn 21 19 54.5 -3.2**
comp=N,2.6nm,0.3s
SOKA Soboth 5.19 59 *e*Pn **Pn 21 19 00.6 +1.9**
comp=N,0.4nm,0.3s
MOA Molln 5.42 45 *e*Pn **Pn 21 19 03.3 +1.6**
comp=N,1.2nm,0.4s
MOA *e*Sn **Sn 21 20 08.0 +4.4**
comp=N,1.1nm,0.2s
LFF La Frestale 5.67 281 *e*P **Pn 21 19 09.3 +4.1**
LFF *e*Sn **Sn 21 20 06.5 -3.3**
LFF *e*Sg **Sg 21 20 39.6 -4.2**
comp=N,21nm,0.7s
ARSA Arzberg 5.76 55 *e*Pn **Pn 21 19 08.2 +1.8**
comp=N,5.4nm,0.2s
GERES GERESS Array B 5.88 35 Pn **Pn 21 19 08.8 +0.7**
comp=N,1.1nm,0.3s,baz=211,slow=12,SNR=15
GERES Sn **Sn 21 20 11.9 -3.1**
comp=N,1.3nm,0.3s,baz=216,slow=23,SNR=6.8
KHC Kasperske Hory 6.05 33 *e*PN **Pn 21 19 13.0 +2.6**
KHC *e*SN **Sn 21 20 18.7 -0.6**
EPF Esparros 6.10 262 *e*P **Pn 21 19 15.7 +4.6**
EPF *e*Sn **Sn 21 20 17.2 -3.2**
EPF *e*Sg **Sg 21 20 53.7 -3.8**
comp=N,3.0nm,0.3s
CONA Conrad Observa 6.32 51 *e*Pn **Pn 21 19 16.0 +1.9**
comp=N,0.7nm,0.2s
MFF Saint Martin d 6.63 295 *e*Sn **Sn 21 20 29.2 -4.2**
comp=N,0.4nm,0.2s
BAIF Baives 6.63 335 *e*P **Pn 21 19 22.4 +4.1**
BAIF Baives 6.63 335 *e*Pg **Pg 21 19 44.9 -3.8**
ETSF Etsaut 6.77 263 *e*P **Pn 21 19 24.9 +4.5**
ETSF *e*Sn **Sn 21 20 33.0 -4.0**
comp=N,4.1nm,0.5s
PRU Pruhonice 7.12 33 *e*PN **Pn 21 19 26.3 +1.3**
PRU *e*SN **Sn 21 20 44.8 -0.5**
GOPC GO Pecny, Ondr 7.16 34 *e*PN **Pn 21 19 28.2 +2.7**
GOPC *e*SN **Sn 21 20 45.2 -1.1**
CLL Collm 7.76 21 *e*Sg Sb 21 22 05.0 +37
DPC Dobruska-Polom 8.13 37 *e*PN **Pn 21 19 40.8 +1.8**
ESDC Sonseca Array 10.37 249 Pn Pn 21 20 19.7 +10
comp=N,0.1nm,0.3s,baz=56,slow=14,SNR=4.3
FINES FINESS Array B 20.18 25 P **P 21 22 15.9 +0.9**
comp=N,2.5nm,1.0s,baz=214,slow=9.9,SNR=6.9
KURBB Kurchatov Arra 46.18 56 P **P 21 26 04.6 -0.6**
comp=N,0.1nm,0.2s,baz=303,slow=8.5,SNR=1.8
MKAR Makanchi Array 49.97 59 P **P 21 26 38.9 +4.3**
comp=N,0.2nm,0.7s,baz=269,slow=7.2,SNR=2.3

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*ISCJB **29** 21:40:20.9±0.3, 8.91S±0.05×67.47E±0.04, h13km, mb4.5/68, MS4.2/32, Error ellipse: s-maj=7.7km s-min=5.2km az=165.4*
*MOS **29** 21:40:20.9±1.4, 8.77S×67.37E, h10km, mb4.9/29, Error ellipse: s-maj=9.8km s-min=7.5km az=76.0*
*IDC **29** 21:40:20.7±0.5, 8.87S×67.37E, h0km, mb4.3/22, mb1 4.4/22, mb1mx4.3/35, mbtmp4.3/22, MS4.1/31, Ms1 4.1/31, ms1mx4.1/40, Error ellipse: s-maj=18.3km s-min=12.3km az=165.0*
*NEIC **29** 21:40:22.4±0.3, 8.89S×67.39E, h10km, mb4.8/30, Error ellipse: s-maj=8.9km s-min=6.6km az=168.0*
*GCMT **29** 21:40:24.4±0.1, 8.98S±0.01×67.39E±0.01, h17km, MW5.3/118, Moment Tensor Solution. s72, c113; s118, c215; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-0.09±.02; Mθθ-0.96±.02; Mφφ 1.05±.02; Mrθ-0.14±.04; Mrφ 0.18±.01; Mθφ 0.14±.04; Best double couple: M0 1.04000×10^17 NP1:φs140.00000°, δ88.00000°, λ-169.00000°. NP2:φs50.00000°, δ79.00000°, λ-2.00000°. Principal axes: T 1.0790, Plg6.0000°, Azm275.0000°; N -0.0810, Plg79.0000°, Azm153.0000°; P -1.0000, Plg9.0000°, Azm6.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 21:40:23.1±0.4, 8.84S±0.09×67.50E±0.05, h13km, n182, σ1 66/161, mb4.7/78, MS4.2/32, 3C, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**4.25**	**55**	Pn	**Pn**	**21 41 25.7**	**-1.6**
H08N3				Sn	**Sn**	**21 42 10.2**	**-6.6**
H08N3				T	T	21 46 09.5	
	baz=234,slow=75,SNR=481						
H08N2	**Diego Garcia H**	**4.27**	**55**	Pn	**Pn**	**21 41 26.0**	**-1.6**
H08N2				Sn	Sn	21 42 10.4	-6.8
H08N2				T	T	21 46 10.1	
	baz=234,slow=75,SNR=413						
H08N1	**Diego Carcia H**	**4.28**	**55**	Pn	**Pn**	**21 41 26.0**	**-1.6**
H08N1				Sn	Sn	21 42 10.5	-6.8
H08N1				T	T	21 45 50.0	
	baz=234,slow=75,SNR=437						
H08S1	**Diego Carcia H**	**5.06**	**77**	Pn	**Pn**	**21 41 36.8**	**-1.7**
H08S1				Sn	**Sn**	**21 42 31.8**	**-5.0**
H08S3	**Diego Carcia H**	**5.08**	**77**	Pn	**Pn**	**21 41 37.0**	**-1.7**
H08S3				Sn	**Sn**	**21 42 32.6**	**-4.6**
H08S2	**Diego Carcia H**	**5.08**	**77**	Pn	**Pn**	**21 41 37.0**	**-1.7**
H08S2				Sn	**Sn**	**21 42 33.2**	**-4.1**
DGAR	**Diego Garcia**	**5.10**	**74**	*e*Pn	**Pn**	**21 41 37.2**	**-2.1**
DGAR				*e*S	Sn	21 42 28.9	-9.2
DGAR	**Diego Garcia**	**5.10**	**74**	*i* P	**Pn**	**21 41 37.0**	**-2.3**
PALK	**Pallekele**	**20.72**	**40**	LR	LR	21 51 03.6	
	comp=Z,1um,21.7s,baz=194,slow=31						
OPO	**Ambohidratompo**	**21.95**	**242**	P	**P**	**21 45 15.2**	**-1.7**
	12nm,0.9s,baz=67,slow=11,SNR=5.4						
OPO				LR	LR	21 51 25.9	
	comp=Z,733nm,22.0s,baz=62,slow=30						
ABPO	**Ambohimpanom**	**22.10**	**241**	*e*P	**P**	**21 45 18.2**	**-0.3**
	73nm,1.1s						
ABPO	**Ambohimpanom**	**22.10**	**241**	*e*P	**P**	**21 45 18.2**	**-0.3**
ABPO				pmax	pmax		
	comp=Z,73nm,1.1s						
HYB	**Hyderabad**	**28.28**	**23**	*i* P	**P**	**21 46 17.5**	**+1.0**
KMBO	**Kilima Mbogo**	**31.07**	**283**	P	**P**	**21 46 41.9**	**+0.4**
	comp=Z,3.9nm,0.9s,baz=66,slow=10,SNR=13						
KMBO				LR	LR	21 57 11.3	
	comp=Z,208nm,18.3s,baz=104,slow=33						
PSI	**Prapat**	**33.39**	**71**	*e*P	**P**	**21 47 04.1**	**+2.3**
	comp=Z,13nm,1.0s						
PSI	**Prapat**	**33.39**	**71**	*e*P	**P**	**21 47 04.1**	**+2.3**
PSI				pmax	pmax		
	comp=Z,13nm,1.0s						
MBAR	**Mbarara**	**37.51**	**281**	P	**P**	**21 47 37.2**	**-0.1**
	comp=Z,2.2nm,0.2s,baz=279,slow=2.3,SNR=4.7						
MBAR	**Mbarara**	**37.51**	**281**	*e*P	**P**	**21 47 37.7**	**+0.4**
	comp=Z,11nm,1.3s						
MBAR	**Mbarara**	**37.51**	**281**	*e*P	**P**	**21 47 37.7**	**+0.4**
MBAR				pmax	pmax		
	comp=Z,11nm,1.3s						
RAYN	**Ar Rayn**	**38.69**	**327**	*e*P	**P**	**21 47 47.3**	**+0.3**
	comp=Z,5.4nm,1.0s						
RAYN	**Ar Rayn**	**38.69**	**327**	*e*P	**P**	**21 47 47.3**	**+0.3**
RAYN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LSZ	**Lusaka**	**38.93**	**257**	*e*P	**P**	**21 47 47.8**	**-1.4**
	comp=Z,29nm,0.9s						
LSZ	**Lusaka**	**38.93**	**257**	*e*P	**P**	**21 47 47.8**	**-1.4**
LSZ				pmax	pmax		
	comp=Z,29nm,0.9s						
MATP	**Matopo**	**39.35**	**249**	P	**P**	**21 47 51.1**	**-1.6**
	comp=Z,6.1nm,1.1s,baz=75,slow=11,SNR=5.0						
KOLN	**Koldanda**	**39.59**	**23**	*e*P	**P**	**21 47 55.6**	**+1.0**
	comp=Z,74nm,1.2s						
PYUN	**Piuthan**	**39.66**	**22**	*e*P	**P**	**21 47 56.3**	**+1.1**
	comp=Z,77nm,1.2s						
LEM	**Lembang**	**39.78**	**90**	P	**P**	**21 47 58.9**	**+2.5**
	comp=Z,18nm,0.7s,baz=189,slow=5.5,SNR=6.8						
LEM				LR	LR	22 01 30.2	
	comp=Z,227nm,19.7s,baz=233,slow=32						
DMN	**Daman**	**40.04**	**25**	*e*P	**P**	**21 47 59.8**	**+1.4**
	comp=Z,58nm,1.1s						
RAMN	**Ramite**	**40.11**	**27**	*e*P	**P**	**21 48 00.9**	**+1.9**
	comp=Z,75nm,1.2s						
PKI	**Pulchoki**	**40.13**	**25**	*e*P	**P**	**21 48 00.3**	**+1.0**
	comp=Z,41nm,1.4s						
PKIN	**Phulchoki**	**40.13**	**25**	*e*P	**P**	**21 48 00.1**	**+0.9**
	comp=Z,37nm,1.4s						
DANN	**Dangsing**	**40.17**	**22**	*e*P	**P**	**21 48 00.0**	**+0.5**
	comp=Z,62nm,1.2s						
KKN	**Kakani**	**40.27**	**25**	*e*P	**P**	**21 48 01.5**	**+1.2**
	comp=Z,35nm,1.0s						
JIRN	**Jiri**	**40.54**	**26**	*e*P	**P**	**21 48 03.8**	**+1.1**
	comp=Z,25nm,0.9s						
GUN	**Gumba**	**40.63**	**25**	*e*P	**P**	**21 48 04.6**	**+1.2**
	comp=Z,78nm,1.2s						

CM31	**Chiang Mai Arr**	**41.21**	**49**	*e*P	**P**	**21 48 10.3 +2.4**
CMAR	**Chiang Mai Arr**	**41.21**	**49**	P	**P**	**21 48 10.2 +2.3**
	comp=Z,3.5nm,0.8s,baz=244,slow=9.7,SNR=38					
CMAR				LR	LR	22 03 14.9
	comp=Z,197nm,18.1s,baz=238,slow=33					
CHTO	**Chiang Mai**	**41.43**	**48**	*e*P	**P**	**21 48 11.9 +2.2**
	comp=Z,9.2nm,1.1s					
CHTO	**Chiang Mai**	**41.43**	**48**	*e*P	**P**	**21 48 11.9 +2.2**
CHTO				pmax	pmax	
	comp=Z,9.0nm,1.1s					
CHTO	**Chiang Mai**	**41.43**	**48**	P	**P**	**21 48 11.9 +2.2**
	comp=Z,38nm,1.0s					
CMMT	**Chiang Mai**	**41.43**	**48**	P	**P**	**21 48 11.8 +2.0**
	comp=Z,8.5nm,1.0s					
SHL	**Shillong**	**41.62**	**34**	*e*P	**P**	**21 48 13.6 +2.2**
	comp=Z,13nm,1.1s					
SHL	**Shillong**	**41.62**	**34**	*e*P	**P**	**21 48 13.6 +2.2**
SHL				pmax	pmax	
	comp=Z,13nm,1.1s					
PBKT	**Sadao Pong**	**41.64**	**53**	*e*P	**P**	**21 48 13.9 +2.5**
	comp=Z,21nm,1.5s					
PBKT	**Sadao Pong**	**41.64**	**53**	P	**P**	**21 48 14.0 +2.6**
	comp=Z,11nm,1.2s					
UTTA	**Uttaradit**	**42.00**	**51**	P	**P**	**21 48 17.3 +3.0**
	comp=Z,2.7nm,1.0s					
CHAI	**Chaiyaphum**	**42.07**	**54**	P	**P**	**21 48 18.1 +3.1**
	comp=Z,4.7nm,1.1s					
PAYA	**Payao**	**42.45**	**48**	P	P	21 48 31.1 +13
NIL	**Nilore**	**42.60**	**7**	*e*P	**P**	**21 48 20.4 +1.3**
	comp=Z,11nm,0.9s					
NIL	**Nilore**	**42.60**	**7**	*e*P	**P**	**21 48 20.4 +1.3**
NIL				pmax	pmax	
	comp=Z,11nm,0.9s					
LBTB	**Lobatse**	**42.98**	**243**	P	**P**	**21 48 21.1 -1.4**
	comp=Z,6.5nm,0.9s,baz=73,slow=6.6,SNR=7.7					
LBTB	**Lobatse**	**42.98**	**243**	*e*P	**P**	**21 48 21.6 -0.9**
	comp=Z,17nm,1.1s					
LBTB	**Lobatse**	**42.98**	**243**	*e*P	**P**	**21 48 21.7 -0.9**
LBTB				pmax	pmax	
	comp=Z,17nm,1.1s					
NONG	**Nongkai**	**44.19**	**53**	P	**P**	**21 48 34.2 +2.0**
	comp=Z,0.3nm,1.4s,comp=Z,451nm					
BOSA	**Boshof**	**44.28**	**238**	P	**P**	**21 48 31.3 -1.6**
	comp=Z,13nm,1.2s,baz=85,slow=9.6,SNR=9.3					
BOSA				LR	LR	22 03 27.6
	comp=Z,175nm,19.7s,baz=76,slow=31					
LSA	**Lhasa**	**44.57**	**30**	P	**P**	**21 48 37.5 +2.0**
LSA				pmax	pmax	
	comp=Z,12nm,1.4s					
LSA	**Lhasa**	**44.57**	**30**	*e*P	**P**	**21 48 37.7 +2.2**
	comp=Z,9.9nm,1.0s					
LSA	**Lhasa**	**44.57**	**30**	*e*P	**P**	**21 48 37.7 +2.2**
LSA				pmax	pmax	
	comp=Z,10.0nm,1.0s					
SBUM	**Sibu**	**45.96**	**78**	*e*P	**P**	**21 48 47.6 +1.2**
	comp=Z,15nm,1.3s					
CHGR	**Chuyangaron**	**47.27**	**2**	*e*P	**P**	**21 48 56.7 +0.4**
	comp=Z,29nm,1.6s					
GEYT	**Alibeck**	**47.34**	**350**	P	**P**	**21 48 56.7 -0.1**
	comp=Z,2.4nm,0.9s,baz=157,slow=8.0,SNR=7.8					
GEYT				LR	LR	22 07 23.3
	comp=Z,272nm,19.5s,baz=10.0,slow=34					
GAR	**Garm**	**47.66**	**3**	*e*P	**P**	**21 48 59.8 +0.4**
	comp=Z,40nm,1.1s					
GAR	**Garm**	**47.66**	**3**	*e*P	**P**	**21 48 59.8 +0.4**
GAR				pmax	pmax	
	comp=Z,40nm,1.1s					
BTK	**Batken**	**48.74**	**3**	*e*P	**P**	**21 49 09.4 +1.8**
	comp=Z,15nm,1.1s					
BTK	**Batken**	**48.74**	**3**	*e*P	**P**	**21 49 09.5 +1.8**
BTK				pmax	pmax	
	comp=Z,15nm,1.1s					
H01W3	**Cape Leeuwin H**	**49.85**	**129**	T	T	22 42 49.6
	baz=290,slow=75,SNR=77					
H01W2	**Cape Leeuwin H**	**49.86**	**129**	T	T	22 42 50.1
	baz=290,slow=75,SNR=87					
H01W1	**Cape Leeuwin H**	**49.87**	**129**	T	T	22 42 51.6
	baz=290,slow=75,SNR=83					
NRN	**Naryn**	**50.63**	**8**	*e*P	**P**	**21 49 22.7 +0.4**
	comp=Z,7.8nm,1.2s					
NRN	**Naryn**	**50.63**	**8**	*e*P	**P**	**21 49 22.7 +0.4**
NRN				pmax	pmax	
	comp=Z,8.0nm,1.2s					
AML	**Almayashu**	**51.03**	**6**	P	**P**	**21 49 26.2 +0.7**
	SNR=8.9					
EKS2	**Erkin-Say**	**51.57**	**6**	P	**P**	**21 49 30.3 +1.2**
	SNR=9.2					
AAK	**Ala-Archa**	**51.62**	**7**	P	**P**	**21 49 30.5 +1.0**
	SNR=6.5					
AAK	**Ala-Archa**	**51.62**	**7**	*e*P	**P**	**21 49 30.4 +0.8**
	comp=Z,8.8nm,1.0s					
AAK	**Ala-Archa**	**51.62**	**7**	*c i*P	**P**	**21 49 28.9 -0.6**
AAK				pmax	pmax	
	comp=Z,8.0nm,1.0s					
KBK	**Karagaybulak**	**51.69**	**7**	P	**P**	**21 49 30.6 +0.5**
	SNR=7.7					
NWAO	**Narrogin (SRO)**	**51.70**	**125**	LR	LR	22 05 57.2
	comp=Z,340nm,21.2s,baz=144,slow=30					
MBWA	**Marble Bar**	**51.70**	**110**	*e*P	**P**	**21 49 30.8 +0.4**
	comp=Z,46nm,0.9s					
GYA	**Guiyang**	**51.74**	**46**	*e*P	P	21 49 36.5 +5.9
GYA				pmax	pmax	
	comp=Z,20nm,1.0s					
TKM2	**Tokmak 2**	**52.03**	**8**	P	**P**	**21 49 33.1 +0.5**
	SNR=10					
USP	**Ospenovka**	**52.24**	**6**	P	**P**	**21 49 34.4 +0.3**
	SNR=7.2					
GNI	**Garni**	**53.09**	**338**	*i* P	**P**	**21 49 38.6 -1.9**
GNI				pmax	pmax	
	comp=Z,29nm,1.1s					
BATI	**Baumata**	**55.35**	**96**	LR	LR	22 08 54.8
	comp=Z,214nm,21.9s,baz=278,slow=31					
SOEI	**Soe**	**55.97**	**96**	*e*P	**P**	**21 50 03.3 +1.4**
	comp=Z,59nm,1.1s					
GTA	**Gaotai**	**56.59**	**30**	⇑P	**P**	**21 50 06.5 +0.6**
GTA				pP	sP	21 50 17.0 +5.4
GTA				sP	pP	21 50 20.8 +11
GTA				PcP	PP	21 51 39.3 -33
GTA				ScP	ScP	21 55 15.8 +14
GTA				pmax	pmax	
	comp=Z,9.0nm,1.4s					
GTA				pmax	pmax	
	comp=Z,48nm,4.6s					
GTA				LR	LR	
	comp=N,190nm,21.0s					
GTA				LR	LR	
	comp=E,300nm,21.3s					
GTA				LR	LR	
	comp=Z,290nm,22.0s					
MAKZ	**Makanchi**	**56.88**	**12**	*e*P	**P**	**21 50 07.0 -0.6**
	comp=Z,6.2nm,1.0s					
MAKZ	**Makanchi**	**56.88**	**12**	*e*P	**P**	**21 50 07.0 -0.6**
MAKZ				pmax	pmax	
	comp=Z,6.0nm,1.0s					
KBZ	**Khabaz**	**56.89**	**339**	LR	LR	22 15 08.0
	comp=Z,223nm,18.3s,baz=170,slow=37					
MK01	**Makanchi Array**	**56.91**	**12**	*e*P	**P**	**21 50 06.8 -1.0**
MK31	**Makanchi Array**	**56.93**	**12**	*e*P	**P**	**21 50 07.5 -0.5**
MK31	**Makanchi Array**	**56.93**	**12**	*e*P	**P**	**21 50 07.5 -0.5**
MKAR	**Makanchi Array**	**56.93**	**12**	P	**P**	**21 50 07.6 -0.5**
	comp=Z,2.0nm,0.7s,baz=198,slow=8.0,SNR=28					
MKAR				LR	LR	22 13 21.9
	comp=Z,191nm,20.3s,baz=192,slow=35					
MKAR	**Makanchi Array**	**56.93**	**12**	*e*P	**P**	**21 50 07.5 -0.5**
	comp=Z,98nm,1.9s					
MKAR	**Makanchi Array**	**56.93**	**12**	*e*P	**P**	**21 50 07.5 -0.5**
MKAR				pmax	pmax	
	comp=Z,98nm,1.9s					
FITZ	**Fitzroy Crossi**	**57.09**	**106**	*e*P	**P**	**21 50 10.3 +0.6**
	comp=Z,30nm,1.8s					
BRTR	**Keskin Array B**	**57.60**	**329**	P	**P**	**21 50 12.7 -0.3**
	comp=Z,1.8nm,0.9s,baz=150,slow=10.0,SNR=7.4					
BRTR				LR	LR	22 14 27.6
	comp=Z,300nm,18.3s,baz=139,slow=36					
XAN	**Xi'an**	**57.97**	**40**	P	**P**	**21 50 15.5 -0.1**
XAN				pP	sP	21 50 36.3 +15
XAN				pmax	pmax	
	comp=Z,8.0nm,1.2s					
ABKAR	**Akbulak array**	**58.22**	**354**	*e*P	**P**	**21 50 16.8 -0.2**
MAW	**Mawson**	**58.77**	**182**	LR	LR	22 09 50.6
	comp=Z,161nm,19.8s,baz=340,slow=30					
KURK	**Kurchatov**	**60.09**	**8**	*e*P	**P**	**21 50 29.7 -0.1**
	comp=Z,7.9nm,0.8s					
KURK	**Kurchatov**	**60.09**	**8**	*i* P	**P**	**21 50 29.2 -0.7**
KURK				pmax	pmax	
	comp=Z,8.0nm,1.0s					
DGZ	**Jazzator, Alta**	**60.84**	**15**	⇑*i*P	**P**	**21 50 34.7 -0.6**
DGZ				pmax	pmax	
	comp=Z,1.0nm,0.9s					
BRVK	**Borovoye**	**61.70**	**2**	*e*P	**P**	**21 50 40.6 -0.2**
	comp=Z,14nm,1.4s					
BRVK	**Borovoye**	**61.70**	**2**	*i* P	**P**	**21 50 40.1 -0.7**
BRVK				pmax	pmax	
	comp=Z,5.0nm,0.9s					
ZAA0	**Zalesovo Array**	**64.24**	**11**	*e*P	**P**	**21 50 57.1 -0.6**
	comp=Z,6.3nm,1.0s					
ZALV	**Zalesovo Beam**	**64.24**	**11**	P	**P**	**21 50 56.9 -0.7**
	comp=Z,3.1nm,0.8s,baz=220,slow=7.4,SNR=14					
ZALV				LR	LR	22 18 18.2
	comp=Z,177nm,19.5s,baz=248,slow=35					
ZALV	**Zalesovo Beam**	**64.24**	**11**	*e*P	**P**	**21 50 56.4 -1.3**
ZALV	**Zalesovo Beam**	**64.24**	**11**	*e*P	**P**	**21 50 56.4 -1.3**
VSR	**Storozhevoye**	**64.63**	**341**	*i* P	**P**	**21 51 01.5 +1.2**
VSR				pmax	pmax	
	comp=Z,4.0nm,0.9s					
NVS	**Novosibirsk**	**64.80**	**10**	*e*P	**P**	**21 50 57.8 -3.5**
ASAR	**Alice Springs**	**64.94**	**112**	P	**P**	**21 51 02.5 -0.5**
	comp=Z,3.9nm,0.8s,baz=277,slow=5.8,SNR=34					
ASAR				LR	LR	22 18 38.7
	comp=Z,115nm,18.2s,baz=272,slow=35					
AS31	**Alice Springs**	**64.94**	**112**	*e*P	**P**	**21 51 02.7 -0.3**
	comp=Z,1.4nm,0.6s					
AS01	**Alice Springs**	**64.98**	**112**	*e*P	**P**	**21 51 02.4 -0.8**
WRA	**Warramunga Arr**	**65.33**	**108**	P	**P**	**21 51 05.7 +0.1**
	comp=Z,6.8nm,1.0s,baz=279,slow=6.2,SNR=29					
WRA				LR	LR	22 15 24.7
	comp=Z,418nm,22.0s,baz=260,slow=32					
WRAB	**Tennant Creek**	**65.34**	**108**	*e*P	**P**	**21 51 05.5 -0.1**
	comp=Z,12nm,0.9s					
WRAB	**Tennant Creek**	**65.34**	**108**	*i* P	**P**	**21 51 04.7 -0.9**
WRAB				pmax	pmax	
	comp=Z,14nm,1.1s					
WB2	**Warramunga Arr**	**65.34**	**108**	*e*P	**P**	**21 51 05.7 +0.1**
ARU	**Arti**	**65.45**	**355**	*e*P	**P**	**21 51 04.5 -1.0**
	comp=Z,8.8nm,1.1s					
ARU	**Arti**	**65.45**	**355**	*i* P	**P**	**21 51 05.3 -0.2**
ARU				pmax	pmax	
	comp=Z,7.0nm,1.1s					
SVE	**Sverdlovsk**	**65.67**	**356**	*e*P	**P**	**21 51 06.6 -0.3**
SVE				pmax	pmax	
	comp=Z,14nm,1.5s					
LPSR	**Galich'ya Gora**	**65.89**	**341**	*e*P	**P**	**21 51 06.1 -2.3**
LPSR				pmax	pmax	
	comp=Z,10.0nm,0.9s					
SONM	**Songino Array**	**66.08**	**28**	P	**P**	**21 51 10.9 +1.0**
	comp=Z,5.4nm,0.9s,baz=214,slow=6.9,SNR=36					
SONM				LR	LR	22 20 12.6
	comp=Z,80nm,18.6s,baz=216,slow=36					
SONA1	**Songino Array**	**66.09**	**28**	*e*P	**P**	**21 51 10.4 +0.4**
TLY	**Talaya**	**67.82**	**23**	*i* P	**P**	**21 51 20.3 -0.5**
AKASG	**Malin Array Be**	**67.94**	**335**	P	**P**	**21 51 19.5 -2.0**
	comp=Z,1.6nm,0.6s,baz=130,slow=5.4,SNR=5.6					
AKASG				LR	LR	22 19 41.4
	comp=Z,116nm,22.0s,baz=135,slow=35					
KIEV	**Kiev**	**67.94**	**335**	*i* P	**P**	**21 51 22.5 +1.0**
KIEV				pmax	pmax	
	comp=Z,4.0nm,1.1s					
OBN	**Obninsk**	**68.77**	**342**	*e*P	**P**	**21 51 24.5 -2.1**
OBN				*e*		21 51 49.4
OBN				*e*PPP	PPP	21 55 37.6
OBN				pmax	pmax	
	comp=Z,3.0nm,0.9s					
TOA0	**Torodi Ar. Sit**	**68.90**	**288**	*e*P	**P**	**21 51 27.4 -0.9**
TORD	**Torodi Ar. Bea**	**68.90**	**288**	P	**P**	**21 51 25.8 -2.5**
	comp=Z,1.6nm,1.2s,baz=123,slow=5.5,SNR=6.8					
TORD				LR	LR	22 19 35.6
	comp=Z,208nm,20.5s,baz=355,slow=34					
MOS	**Moscow**	**68.97**	**342**	*e*P	**P**	**21 51 27.2 -0.7**
UZH	**Uzhgorod**	**69.65**	**330**	*e*P	**P**	**21 51 36.0 +3.8**
UZH				*e*		21 51 42.4
UZH				*e*		21 51 50.0
KEST	**Kesra**	**70.39**	**313**	LR	LR	22 22 55.8
	comp=Z,150nm,18.0s,baz=327,slow=36					
VYHS	**Vyhne**	**71.32**	**328**	*e*P	**P**	**21 51 44.4 +1.9**
VYHS	**Vyhne**	**71.32**	**328**	*e*P	**P**	**21 51 44.4 +1.9**
KSAR	**Wonju Array Be**	**72.76**	**46**	P	**P**	**21 51 51.6 +0.2**
KSAR	**Wonju Array Be**	**72.76**	**46**	P	**P**	**21 51 51.6 +0.2**
KS01	**Wonju Array Si**	**72.78**	**46**	*e*P	**P**	**21 51 56.1 +4.7**
KSRS	**Korea Array**	**72.80**	**46**	P	**P**	**21 51 51.6 0.0**
	comp=Z,0.4nm,0.4s,baz=233,slow=5.4,SNR=2.9					
KSRS				LR	LR	22 24 55.6
	comp=Z,140nm,18.1s,baz=240,slow=37					
KLMR	**Klimovskoe**	**72.89**	**346**	*e*P	**P**	**21 51 48.9 -2.6**
KLMR				pmax	pmax	
	comp=Z,31nm,1.5s					
KLMR	**Klimovskoe**	**72.89**	**346**	*e*P	**P**	**21 51 49.0 -2.6**
KLMR				AMP		21 52 02.9
	comp=Z,31nm,1.5s					
JNU	**Nakatsue**	**73.22**	**52**	LR	LR	22 22 11.7
	comp=Z,121nm,19.5s,baz=245,slow=34					
KIC	**Kosan Boka**	**73.57**	**279**	*e*P	**P**	**21 51 55.0 -1.6**
	comp=Z,33nm,1.1s					
DBIC	**Dimbokro**	**73.74**	**280**	P	**P**	**21 51 56.6 -1.0**
	comp=Z,10nm,1.1s,baz=57,slow=5.3,SNR=4.3					
DBIC				LR	LR	22 22 53.9
	comp=Z,137nm,20.7s,baz=78,slow=35					
DBIC	**Dimbokro**	**73.74**	**280**	*e*P	**P**	**21 51 57.2 -0.4**
	comp=Z,16nm,1.1s					
DBIC	**Dimbokro**	**73.74**	**280**	*e*P	**P**	**21 51 57.2 -0.4**
DBIC				pmax	pmax	
	comp=Z,16nm,1.1s					
LIC	**Lamto**	**73.83**	**279**	*e*P	**P**	**21 51 54.5 -3.6**
	comp=Z,42nm,1.2s					
TIC	**Toumodi**	**73.90**	**280**	*e*P	**P**	**21 51 57.2 -1.4**
GERES	**GERESS Array B**	**74.28**	**326**	LR	LR	22 25 24.9
	comp=Z,158nm,18.1s,baz=313,slow=36					
BRG	**Berggiesshubel**	**75.29**	**328**	*e*P	P	21 52 24.1 +18
	comp=Z,36nm,1.9s					
CLL	**Collm**	**76.03**	**328**	*e*P	P	21 52 28.0 +18
	comp=Z,19nm,1.5s					
CTAO	**Charters Tower**	**76.51**	**109**	*e*P	**P**	**21 52 13.7 +0.2**
	comp=Z,44nm,1.9s					
CTAO	**Charters Tower**	**76.51**	**109**	*e*P	**P**	**21 52 13.7 +0.2**
CTAO				pmax	pmax	
	comp=Z,44nm,1.9s					
FINES	**FINESS Array B**	**77.16**	**341**	LR	LR	22 26 03.6
	comp=Z,146nm,19.4s,baz=140,slow=36					
USRK	**Ussuriysk Ar.**	**78.46**	**41**	LR	LR	22 29 31.4
	comp=Z,60nm,18.5s,baz=217,slow=38					
MJAR	**Matsushiro Arr**	**80.07**	**51**	P	**P**	**21 52 33.2 +0.3**
	comp=Z,2.4nm,1.0s,baz=256,slow=3.1,SNR=3.7					
MJAR				LR	LR	22 26 56.7
	comp=Z,73nm,19.0s,baz=235,slow=35					
ES19	**SONSECA Array**	**81.60**	**312**	*e*P	**P**	**21 52 42.8 +1.8**
ESDC	**Sonseca Array**	**81.64**	**312**	P	**P**	**21 52 41.1 -0.2**
	comp=Z,1.0nm,0.9s,baz=100,slow=3.5,SNR=3.9					
ESDC				LR	LR	22 26 21.3
	comp=Z,74nm,19.9s,baz=350,slow=34					
NOA	**NORSAR Array B**	**82.32**	**336**	P	**P**	**21 52 41.3 -3.1**
	comp=Z,0.6nm,0.8s,baz=142,slow=2.7,SNR=3.3					
NOA				LR	LR	22 32 05.6
	comp=Z,82nm,18.2s,baz=140,slow=38					
VNDA	**Vanda**	**82.38**	**167**	LR	LR	22 22 55.0
	comp=Z,114nm,20.4s,baz=268,slow=31					
ARCES	**ARCESS Array B**	**83.37**	**346**	P	**P**	**21 52 48.9 -0.6**
	comp=Z,2.9nm,0.8s,baz=134,slow=3.9,SNR=5.4					
NKL	**Nikolayevsk**	**87.11**	**35**	*e*P	P	21 53 15.0 +6.4
NKL				pmax	pmax	
	comp=Z,17nm,1.0s					
TIXI	**Tiksi**	**89.70**	**16**	*e*P	**P**	**21 53 19.7 -0.8**
TIXI	**Tiksi**	**89.70**	**16**	*e*P	**P**	**21 53 19.7 -0.8**
DZM	**Mont Dzumac**	**94.91**	**113**	*e*PS	PS	22 06 17.2 -0.9
	comp=Z,111nm,25.0s					
DZM	**Mont Dzumac**	**94.91**	**113**	*e*LR	LR	22 24 24.5
	comp=Z,720nm,26.2s					
PETK	**Petropavlovsk-**	**97.11**	**37**	LR	LR	22 36 53.8
	comp=Z,54nm,21.7s,baz=253,slow=35					
BILL	**Bilibino**	**101.42**	**22**	*e*P	**Pdif**	**21 54 12.8 -1.2**
BILL				*e*PPP	PPP	22 00 35.6
BILL				pmax	pmax	
	comp=Z,1.0nm,1.2s					
YKA	**Yellowknife Ar**	**126.42**	**1**	PKP	**PKPdf**	**21 59 24.5 -0.9**
	comp=Z,0.4nm,0.8s,baz=272,slow=33,SNR=4.2					
PPT2	**Papeete2**	**134.93**	**126**	*e*SS	SS	22 20 27.2 +17
	comp=Z,113nm,28.2s					
PPT2	**Papeete2**	**134.93**	**126**	*e*LR	LR	22 42 54.9
	comp=Z,93nm,25.0s					
RKT	**Rikitea**	**141.37**	**146**	*e*T	T	00 37 07.7
	comp=Z,4.0nm,0.2s					
OTAV	**Otavalo**	**145.03**	**258**	*e*PKPdf	**PKPdf**	**22 00 02.4 +0.4**
OTAV	**Otavalo**	**145.03**	**258**	*e*PKIKP	**PKPdf**	**22 00 02.4 +0.4**
PDAR	**Pinedale Array**	**146.10**	**356**	PKPbc	**PKPdf**	**22 00 02.2 -0.5**
	comp=Z,0.5nm,0.8s,baz=337,slow=1.9,SNR=3.6					
HWUT	**Hardware Ranch**	**147.35**	**359**	*e*PKPbc	**PKPdf**	**22 00 05.5 +0.7**
BEKR	**Beckworth**	**148.31**	**12**	*e*PKPdf	**PKPdf**	**22 00 06.4 0.0**
SMCO	**Snowmass**	**149.38**	**352**	*e*PKPbc	**PKPbc**	**22 00 13.5 +0.7**
NVAR	**Mina Array Bea**	**150.08**	**9**	PKPbc	**PKPbc**	**22 00 15.3 +1.0**
	comp=Z,0.8nm,0.3s,baz=282,slow=1.8,SNR=3.1					
PSUT	**Pine Spring**	**150.41**	**2**	*e*PKPbc	**PKPbc**	**22 00 16.1 +1.0**
PV10	**Paradox Valley**	**150.42**	**354**	*e*PKPbc	**PKPbc**	**22 00 16.1 +0.9**
PV12	**Saucer Basin,**	**150.46**	**354**	*e*PKPbc	**PKPbc**	**22 00 15.7 +0.4**
PV16	**Nyswonger Mesa**	**150.48**	**354**	*e*PKPbc	**PKPbc**	**22 00 16.0 +0.8**

ATH ***29*** *21:59:08.0, 36˚.62N×25˚.72E, h12km±7km, ML3.0/6, Error ellipse: s-maj=7.2km s-min=0.9km az=137.0*
ISK ***29*** *21:59:07.4, 36˚.62N×25˚.72E, h5km, ML2.8/14*
ISCJB ***29*** *21:59:08.3±0.4, 36˚.60N±0˚.02×25˚.71E±0˚.03, h6km±3km, Error ellipse: s-maj=4.1km s-min=3.3km az=141.0*
DDA ***29*** *21:59:08.0, 36˚.57N×25˚.74E, h9km±3km, ML2.6*
THE ***29*** *21:59:08.3, 36˚.61N×25˚.71E, h8km±1km, ML2.9/8, Error ellipse: s-maj=1.7km s-min=0.7km az=280.0*

ISC 29 21:59:08.0±0.9, 36˚.62N±0˚.02×25˚.70E±0˚.02, h12km±7km, n52, σ0s75/73, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AMGA	**Amorgos Island**	**0.26**	**37**	P		**Pg**	**21 59 13.3**	**-0.1**
AMGA				S		**Sg**	**21 59 17.0**	**-0.1**
AMGA				AML		AML	21 59 17.9	
	comp=E,7245μm,0.1s							
AMGA				AML		AML	21 59 18.2	
	comp=N,5030μm,0.1s							
AMGA	**Amorgos Island**	**0.26**	**37**	P		**Pg**	**21 59 13.4**	**-0.1**
AMGA				S		**Sg**	**21 59 17.2**	**+0.1**
ANAF	**Anafi Island**	**0.27**	**168**	P		**Pg**	**21 59 13.4**	**-0.3**
ANAF				S		**Sg**	**21 59 18.0**	**+0.5**
ANAF				AML		AML	21 59 18.6	
	comp=N,21976μm,0.1s							
ANAF				AML		AML	21 59 19.1	
	comp=E,14389μm,0.2s							
THR2	**Thira island,**	**0.28**	**230**	P		**Pg**	**21 59 14.1**	**+0.3**
THR8	**Santorini-Mono**	**0.28**	**220**	P		**Pg**	**21 59 13.9**	**+0.1**
SAP2K	**Karterados**	**0.29**	**224**	P		**Pg**	**21 59 14.3**	**+0.2**
SFIR	**Foira Santorin**	**0.30**	**227**	P		**Pg**	**21 59 14.4**	**+0.3**
SFIR				S		**Sg**	**21 59 18.8**	**+0.6**
THR7	**Fira-Santorini**	**0.30**	**227**	P		**Pg**	**21 59 14.5**	**+0.4**
SAP4	**Santorini-Oia**	**0.30**	**240**	P		**Pg**	**21 59 14.6**	**+0.4**
SAP4				S		**Sb**	**21 59 19.6**	**-0.8**
SANT	**Santorini**	**0.32**	**218**	PG		**Pg**	**21 59 14.5**	**0.0**
SANT				SG		**Sg**	**21 59 19.2**	**+0.3**
SANT	**Santorini**	**0.32**	**218**	P		**Pg**	**21 59 14.6**	**0.0**
SANT				S		**Sg**	**21 59 19.2**	**+0.3**
SANT				AML		AML	21 59 19.8	
	comp=E,6499μm,0.1s							
SANT				AML		AML	21 59 20.3	
	comp=N,3576μm,0.2s							
SANT	**Santorini**	**0.32**	**218**	P		**Pg**	**21 59 14.7**	**+0.2**
SANT				S		**Sg**	**21 59 19.2**	**+0.3**
THR3	**Thira Island,**	**0.32**	**228**	P		**Pg**	**21 59 14.8**	**+0.2**
THT1	**Athinios (Pele**	**0.32**	**223**	P		**Pg**	**21 59 14.5**	**-0.1**
THT1				S		**Sg**	**21 59 19.2**	**+0.2**
THT1	**Athinios (Pele**	**0.32**	**223**	P		**Pg**	**21 59 14.5**	**-0.1**
THT1				S		**Sg**	**21 59 19.2**	**+0.2**
SAP3	**Santorini-Thir**	**0.34**	**237**	P		**Pg**	**21 59 15.2**	**+0.3**
IOSP	**Ios island**	**0.34**	**287**	P		**Pg**	**21 59 14.2**	**-0.8**
IOSP				AML		AML	21 59 19.1	
	comp=N,7597μm,0.2s							
IOSP				AML		AML	21 59 21.5	
	comp=E,5847μm,0.2s							
THR5	**Thira Island,**	**0.35**	**234**	P		**Pg**	**21 59 15.4**	**+0.3**
THR6	**Thira Island,**	**0.36**	**222**	P		**Pg**	**21 59 15.7**	**+0.4**
APE	**Apeiranthos**	**0.46**	**343**	PG		**Pg**	**21 59 16.8**	**-0.4**
APE	**Apeiranthos**	**0.46**	**343**	P		**Pg**	**21 59 17.1**	**-0.1**
APE				AML		AML	21 59 28.1	
	comp=E,1335μm,0.1s							
APE				AML		AML	21 59 28.4	
	comp=N,1918μm,0.2s							
APE	**Apeiranthos**	**0.46**	**343**	P		**Pg**	**21 59 17.1**	**-0.1**
TNSA	**Tinos**	**1.01**	**335**	P		**Pg**	**21 59 27.8**	**+0.3**
MHLA	**Plaka, Milos I**	**1.03**	**277**	P		**Pb**	**21 59 27.7**	**-0.2**
MHLA				S		**Sn**	**21 59 43.0**	**+0.2**
MHLO	**Agia Marina, M**	**1.05**	**274**	P		**Pb**	**21 59 28.3**	**+0.3**
MHLO				S		**Sg**	**21 59 42.6**	**+0.7**
MHLO				AML		AML	21 59 44.0	
	comp=E,3900μm,0.2s							
MHLO				AML		AML	21 59 45.4	
	comp=N,3605μm,0.4s							
MHLO	**Agia Marina, M**	**1.05**	**274**	P		**Pb**	**21 59 28.4**	**+0.3**
MHLO				S		**Sg**	**21 59 42.7**	**+0.9**
SERI	**Serifos**	**1.11**	**299**	P		**Pb**	**21 59 29.5**	**+0.3**
SERI	**Serifos**	**1.11**	**299**	P		**Pb**	**21 59 29.5**	**+0.3**
SERI				S		**Sg**	**21 59 44.3**	**+0.4**
NPS	**Neapolis**	**1.36**	**183**	P		**Pn**	**21 59 32.7**	**-0.2**
NPS				S		**Sb**	**21 59 49.3**	**-1.5**
BODT	**Bodrum**	**1.36**	**71**	PN		**Pb**	**21

PRZ	**Przheval'sk**	**0.92**	**263**	⇑*i*	*P*	**Pn**	**22**	**13**	**09.9**	**+0.4**
	baz=60									
PRZ				⇑*i*	*S*	**Sn**	**22**	**13**	**22.4**	**-0.2**
	baz=60									
SATY	**Saty**	**1.01**	**297**		P	**Pb**	**22**	**13**	**10.1**	**-0.1**
	1.0nm,0.2s									
SATY					S	**Sg**	**22**	**13**	**24.3**	**+0.8**
	4.4nm,0.1s									
SATY	**Saty**	**1.01**	**297**		*e*P	**Pb**	**22**	**13**	**10.1**	**-0.1**
	0.9nm,0.2s									
SATY					*e*S	**Sg**	**22**	**13**	**24.2**	**+0.8**
	5.1nm,0.1s									
DJR	**Jarkent**	**1.74**	**4**		P	**Pb**	**22**	**13**	**22.7**	**+0.3**
	0.5nm,0.2s									
DJR					S	**Sg**	**22**	**13**	**45.7**	**-0.9**
	1.2nm,0.2s									
DJR	**Jarkent**	**1.74**	**4**		*e*P	**Pb**	**22**	**13**	**22.8**	**+0.3**
	0.5nm,0.3s									
DJR					*e*S	**Sg**	**22**	**13**	**45.6**	**-0.9**
	1.1nm,0.4s									
KDJ	**Kajisay**	**1.88**	**256**	⇑*i*	*P*	**Pb**	**22**	**13**	**26.3**	**+1.4**
	baz=55									
KDJ				⇑*i*	*S*	**Sg**	**22**	**13**	**51.2**	**+0.2**
	baz=55									
KOTS	**Kotyrbulak**	**1.96**	**290**		Pg	**Pb**	**22**	**13**	**27.3**	**+1.0**
	0.9nm,0.3s									
KOTS					Lg	Lg	22	13	53.5	
	5.6nm,0.5s									
ARXS	**Arharly**	**2.08**	**321**		Pg	**Pb**	**22**	**13**	**29.1**	**+0.7**
	1.2nm,0.3s									
ARXS					Lg	Lg	22	13	56.6	
	2.0nm,0.2s									
KTBS	**Karatobe**	**2.43**	**298**		Pg	**Pb**	**22**	**13**	**35.1**	**+0.8**
	0.2nm,0.2s									
KTBS					Lg	Lg	22	14	06.9	
	4.1nm,0.3s									
KTBS	**Karatobe**	**2.43**	**298**		*e*P	**Pb**	**22**	**13**	**35.1**	**+0.8**
	baz=96									
KTBS					*e*S	**Sg**	**22**	**14**	**07.0**	**-1.7**
	baz=96									
KTBS	**Karatobe**	**2.43**	**298**		*e*P	**Pb**	**22**	**13**	**35.0**	**+0.8**
	0.2nm,0.5s									
KTBS					*e*S	**Sg**	**22**	**14**	**07.0**	**-1.7**
	4.5nm,0.2s									
ULHL	**Ulahol**	**2.54**	**263**	⇑*i*	*P*	**Pb**	**22**	**13**	**35.5**	**-0.7**
	baz=62									
ULHL				⇑*i*	*S*	**Sb**	**22**	**14**	**07.3**	**0.0**
	baz=62									
BOOM	**Boomskoye usch**	**2.73**	**269**	⇓*i*	*P*	**Pb**	**22**	**13**	**37.9**	**-1.6**
	baz=68									
BOOM				⇓*i*	*S*	**Sb**	**22**	**14**	**11.8**	**-1.1**
	baz=68									

*KRNET **29** 22:22:31.8±0.1, 42°.61N×79°.54E, h12km, mb2.3*
*SOME **29** 22:22:31.4, 42°.58N×79°.68E, h5km*
*NNC **29** 22:22:32.7±1.4, 42°.64N×79°.64E, h0km, mb2.8, mpv2.3,*
Error ellipse: s-maj=9.0km s-min=5.5km az=147.0
ISC 29 22:22:31.5±1.9, 42°.55N±0°.07×79°.63E±0°.07, h10km, n16, σ1§24/29, 8C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.75**	**323**		P	**Pg**	**22 22 45.5**	**-0.5**
	2.8nm,0.2s							
UZB					S	**Sg**	**22 22 55.8**	**-0.1**
	9.7nm,0.3s							
UZB	**Uzynbulak**	**0.75**	**323**		*e*P	**Pg**	**22 22 45.5**	**-0.5**
	3.5nm,0.1s							
UZB					*e*S	**Sg**	**22 22 55.8**	**-0.1**
	8.6nm,0.2s							
PDGK	**Podgornoye**	**0.79**	**352**		P	**Pg**	**22 22 45.9**	**-1.0**
	0.3nm,0.1s							
PDGK					S	**Sg**	**22 22 56.3**	**-0.8**
	5.2nm,0.2s							
PDGK	**Podgornoye**	**0.79**	**352**	⇑*i*	*P*	**Pg**	**22 22 45.8**	**-1.0**
	baz=57							
PDGK				⇑*i*	*S*	**Sg**	**22 22 56.3**	**-0.8**
	baz=57							
PRZ	**Przheval'sk**	**0.91**	**266**	⇑*i*	*P*	**Pg**	**22 22 48.0**	**-1.1**
	baz=62							
PRZ				⇑*i*	*S*	**Sg**	**22 22 59.9**	**-1.1**
	baz=62							
SATY	**Saty**	**1.04**	**300**		P	**Pb**	**22 22 51.3**	**-0.3**
	1.6nm,0.3s							
SATY					S	**Sb**	**22 23 05.7**	**+0.3**
	3.5nm,0.1s							
SATY	**Saty**	**1.04**	**300**		*e*P	**Pb**	**22 22 51.3**	**-0.3**
	1.6nm,0.2s							
SATY					*e*S	**Sb**	**22 23 05.6**	**+0.3**
	6.1nm,0.2s							
DJR	**Jarkent**	**1.79**	**4**		P	**Pb**	**22 23 03.7**	**-0.7**
	0.3nm,0.2s							
DJR					S	**Sb**	**22 23 26.8**	**-0.1**
	1.8nm,0.2s							
DJR	**Jarkent**	**1.79**	**4**		*e*P	**Pb**	**22 23 03.7**	**-0.7**
	0.4nm,0.4s							
DJR					*e*S	**Sb**	**22 23 26.9**	**-0.1**
	1.9nm,0.2s							
KDJ	**Kajisay**	**1.86**	**258**	⇑*i*	*P*	**Pb**	**22 23 05.8**	**0.0**
	baz=55							
KDJ				⇑*i*	*S*	**Sb**	**22 23 29.9**	**+0.7**
	baz=55							
KOTS	**Kotyrbulak**	**1.98**	**291**		Pg	**Pg**	**22 23 08.9**	**-0.5**
	1.0nm,0.2s							
KOTS					Lg	Lg	22 23 35.8	
	5.3nm,0.3s							
ARXS	**Arharly**	**2.12**	**322**		Pg	**Pb**	**22 23 10.6**	**+0.5**
ARXS					Lg	Lg	22 23 37.5	
KTBS	**Karatobe**	**2.45**	**299**		Pg	**Pg**	**22 23 18.1**	**-0.5**
	0.5nm,0.3s							
KTBS					Lg	Lg	22 23 51.5	
	2.7nm,0.3s							
ULHL	**Ulahol**	**2.53**	**264**	⇓*i*	*P*	**Pb**	**22 23 15.7**	**-1.4**
	baz=63							
ULHL				⇓*i*	*S*	**Sb**	**22 23 48.1**	**-0.3**
	baz=63							
BOOM	**Boomskoye usch**	**2.73**	**270**	⇓*i*	*P*	**Pn**	**22 23 17.8**	**+2.2**
	baz=69							
BOOM				⇓*i*	*S*	**Sn**	**22 23 51.5**	**+2.8**
	baz=69							
TKM2	**Tokmak 2**	**3.00**	**279**	⇑*i*	*P*	**Pb**	**22 23 22.1**	**-3.0**
	baz=78							
TKM2				⇑*i*	*S*	**Sb**	**22 23 59.2**	**-2.6**
	baz=78							

KRSC 29 22:28:08.2±1.0, 52°.83N×160°.20E, h40km±6km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.29**	**339**		*e*P	Pn	22 28 17.2	+0.9
SPN					*e*S	Sn	22 28 22.8	+0.8
NLC	**Nalytchevo**	**0.62**	**304**		*e*P	Pn	22 28 21.2	+0.7
NLC					*e*S	Sn	22 28 29.9	+0.7
DALK	**Dalny**	**0.90**	**284**		*e*P	Pn	22 28 25.3	+1.1
DALK					*e*S	Sn	22 28 37.2	+1.2
SDLR	**Sedlovina**	**0.91**	**300**		*e*P	Pn	22 28 26.4	+1.8
UGLR	**Uglovaya**	**0.91**	**295**		*e*P	Pn	22 28 25.9	+1.3
SMAR	**Somma**	**0.95**	**298**		*e*P	Pn	22 28 26.2	+1.0
PET	**Petropavlovsk**	**0.95**	**283**		*e*P	Pn	22 28 25.9	+0.9
PET					*e*S	Sn	22 28 38.6	+1.2
AVH	**Avacha**	**0.98**	**297**		*e*P	Pn	22 28 27.0	+1.5
KOK	**Koryaka**	**1.05**	**297**		*e*P	Pn	22 28 27.9	+1.4
KRX	**Arik**	**1.07**	**300**		*e*P	Pn	22 28 27.9	+1.1
RUS	**Russkaya**	**1.10**	**250**		*e*P	Pn	22 28 27.9	+0.9
RUS					*e*S	Sn	22 28 41.4	+0.4
KRMR	**Karymshinskiy**	**1.25**	**271**		*e*P	Pn	22 28 30.3	+1.2
KRMR					*e*S	Sn	22 28 45.7	+0.9
MTVR	**Mutnovka**	**1.27**	**255**		*e*P	Pn	22 28 30.8	+1.2
MTVR					*e*S	Sn	22 28 46.8	+1.3
GNL	**Ganaly**	**1.61**	**304**		*e*P	Pn	22 28 37.0	+2.9
KDTR	**Khodutka, Kamc**	**1.65**	**233**		*e*P	Pn	22 28 36.4	+1.8
KDTR					*e*S	Sn	22 28 56.4	+1.8
APC	**Apacha**	**1.84**	**274**		*e*P	Pn	22 28 40.0	+2.8
APC					*e*S	Sn	22 29 03.5	+4.2
KZV	**Kizimen**	**2.29**	**1**		*e*P	Pn	22 28 46.0	+2.4
KZV					*e*S	Sn	22 29 12.3	+1.7
TUMD	**Tumrok D**	**2.38**	**3**		*e*P	Pn	22 28 46.9	+2.2
TUMD					*e*S	Sn	22 29 14.8	+2.1
TUMR	**Tumrok**	**2.46**	**359**		*e*P	Pn	22 28 49.0	+3.1

*ARO **29** 22:36:25.7, 11°.N±29°×4°.1E±°, h15km±99km, Ml3.9*
*ISCJB **29** 22:36:27.3±0.7, 11°.4N±0°.1×41°.17E±0°.05, h10km, Error*
ellipse: s-maj=16.1km s-min=4.8km az=161.0
ISC 29 22:36:26.7±1.0, 11°.3N±0°.1×41°.12E±0°.06, h10km, n13, σ0§72/18, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KSDD	**Koussour**	**1.31**	**81**		*e*P	**Pn**	**22 36 50.1**	**-1.0**
MAOD	**Malaho**	**1.32**	**54**		*e*P	**Pn**	**22 36 50.3**	**-1.0**
GBR	**Grand-Bara**	**1.33**	**97**		*e*P	**Pn**	**22 36 50.3**	**-1.1**
LDLD	**Lac de Lave**	**1.37**	**79**		*e*P	**Pn**	**22 36 51.1**	**-0.9**
DESE	**Dese**	**1.47**	**262**		*i* P	**Pg**	**22 36 55.4**	**+0.4**
DESE					*i* S	**Sg**	**22 37 14.5**	**+0.3**
DESE	**Dese**	**1.47**	**262**		*i* P	**Pg**	**22 36 55.4**	**+0.4**
DESE					*i* S	**Sg**	**22 37 14.5**	**+0.3**
SGH	**Sud-Ghoubbet**	**1.48**	**85**		*e*P	**Pn**	**22 36 53.0**	**-0.5**
ATD	**Arta Tunnel**	**1.70**	**83**		*e*P	**Pn**	**22 36 56.4**	**-0.2**
ATD	**Arta Tunnel**	**1.70**	**83**		*e*P	**Pn**	**22 36 56.4**	**-0.2**
ATD					*e*S	**Sb**	**22 37 21.0**	**+1.3**
TDD	**Tadjoura Ara**	**1.81**	**74**		*e*P	**Pn**	**22 36 58.0**	**-0.1**
ATA	**Atar**	**2.05**	**86**		*e*P	**Pn**	**22 37 01.9**	**+0.7**
ANKE	**Ethiopia-Afar**	**2.19**	**219**		*i* P	**Pb**	**22 37 06.2**	**-0.5**
ANKE					*i* S	**Sb**	**22 37 34.7**	**+0.5**
ANKE	**Ethiopia-Afar**	**2.19**	**219**		*i* P	**Pb**	**22 37 06.2**	**-0.5**
ANKE					*i* S	**Sb**	**22 37 34.7**	**+0.5**

*SOME **29** 22:56:41.9, 42°.55N×79°.65E, h10km*
*NNC **29** 22:56:42.9±1.2, 42°.61N×79°.59E, h0km, mb2.5, mpv2.4,*
Error ellipse: s-maj=7.7km s-min=4.7km az=148.0
*KRNET **29** 22:56:43.1±0.1, 42°.62N×79°.57E, h19km, mb2.3*
ISC 29 22:56:42.5±2.1, 42°.60N±0°.07×79°.61E±0°.08, h0km±13km, n15, σ0§68/27, 10C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.69**	**322**		P	**Pg**	**22 56 56.2**	**+0.4**
	3.1nm,0.1s							
UZB					S	**Sb**	**22 57 06.5**	**-1.2**
	5.9nm,0.2s							
UZB	**Uzynbulak**	**0.69**	**322**		*e*P	**Pg**	**22 56 56.0**	**+0.3**
	3.9nm,0.1s							
UZB					*e*S	**Sb**	**22 57 06.4**	**-1.3**
	6.1nm,0.2s							
PDGK	**Podgornoye**	**0.73**	**353**		P	**Pg**	**22 56 56.5**	**0.0**
	1.3nm,0.2s							
PDGK					S	**Sg**	**22 57 06.9**	**+1.0**
	2.9nm,0.2s							
PDGK	**Podgornoye**	**0.73**	**353**	⇑*i*	*P*	**Pg**	**22 56 56.4**	**0.0**
	baz=55							
PDGK				⇑*i*	*S*	**Sg**	**22 57 06.7**	**+0.7**
	baz=55							
PRZ	**Przheval'sk**	**0.90**	**263**	⇑*i*	*P*	**Pg**	**22 56 59.7**	**0.0**
	baz=61							
PRZ				⇑*i*	*S*	**Sg**	**22 57 11.2**	**-0.2**
	baz=61							
SATY	**Saty**	**1.00**	**298**		P	**Pg**	**22 57 01.5**	**0.0**
	1.0nm,0.2s							
SATY					S	**Sb**	**22 57 15.6**	**-0.8**
	5.8nm,0.1s							
SATY	**Saty**	**1.00**	**298**		*e*P	**Pg**	**22 57 01.5**	**0.0**
	2.1nm,0.3s							
SATY					*e*S	**Sb**	**22 57 15.6**	**-0.8**
	7.3nm,0.3s							
DJR	**Jarkent**	**1.73**	**4**		P	**Pb**	**22 57 15.1**	**-0.2**
	0.5nm,0.2s							
DJR					S	**Sg**	**22 57 38.1**	**-0.1**
	2.6nm,0.2s							
DJR	**Jarkent**	**1.73**	**4**		*e*P	**Pb**	**22 57 14.4**	**-0.9**
	0.2nm,0.2s							
DJR					*e*S	**Sg**	**22 57 37.7**	**-0.4**
	1.5nm,0.2s							
KDJ	**Kajisay**	**1.86**	**256**	⇑*i*	*P*	**Pb**	**22 57 16.6**	**-0.8**
	baz=55							
KDJ				⇑*i*	*S*	**Sb**	**22 57 40.8**	**-0.5**
	baz=55							
KOTS	**Kotyrbulak**	**1.94**	**290**		Pg	**Pb**	**22 57 18.2**	**-0.5**
	0.4nm,0.2s							
KOTS					Lg	Lg	22 57 44.1	
	4.6nm,0.4s							
ARXS	**Arharly**	**2.07**	**322**		Pg	**Pb**	**22 57 20.5**	**-0.4**
	0.5nm,0.2s							
ARXS					Lg	Lg	22 57 47.9	
	2.2nm,0.3s							
KTBS	**Karatobe**	**2.41**	**298**		Pg	**Pb**	**22 57 27.3**	**+0.5**
	0.4nm,0.2s							
KTBS					Lg	Lg	22 57 59.6	
	4.7nm,0.3s							
ULHL	**Ulahol**	**2.52**	**263**	⇑*i*	*P*	**Pn**	**22 57 25.5**	**+0.7**
	baz=62							
ULHL				⇑*i*	*S*	**Sn**	**22 57 56.8**	**+0.5**
	baz=62							
BOOM	**Boomskoye usch**	**2.71**	**269**	⇑*i*	*P*	**Pn**	**22 57 28.5**	**+1.0**
	baz=68							
BOOM				⇑*i*	*S*	**Sn**	**22 58 01.5**	**+0.4**
	baz=68							

KRSC 29 23:03:12.0±1.1, 51°.47N×159°.66E, h53km±21km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.04**	**290**		*e*P	Pn	23 03 31.4	+1.1
KDTR					*e*S	Sn	23 03 45.9	+2.1
RUS	**Russkaya**	**1.20**	**324**		*e*P	Pn	23 03 33.0	+0.6
RUS					*e*S	Sn	23 03 48.9	+1.4
MTVR	**Mutnovka**	**1.36**	**319**		*e*P	Pn	23 03 35.9	+1.1
MTVR					*e*S	Sn	23 03 54.3	+2.5
SPN	**Mys Shipunski**	**1.65**	**8**		*e*P	Pn	23 03 40.6	+2.1
SPN					*e*S	Sn	23 04 02.4	+3.9
KRMR	**Karymshinskiy**	**1.66**	**326**		*e*P	Pn	23 03 39.8	+1.2
KRMR					*e*S	Sn	23 04 01.5	+2.8
DALK	**Dalny**	**1.66**	**341**		*e*P	Pn	23 03 39.9	+1.3
DALK					*e*S	Sn	23 04 01.1	+2.3
PET	**Petropavlovsk**	**1.67**	**339**		P	Pn	23 03 40.0	+1.2
PET					*e*S	Sn	23 04 00.3	+1.2
PAU	**Pauzhetka**	**1.78**	**271**		*e*P	Pn	23 03 42.9	+2.6
UGLR	**Uglovaya**	**1.81**	**344**		*e*P	Pn	23 03 42.8	+1.9
SMAR	**Somma**	**1.87**	**344**		*e*P	Pn	23 03 44.6	+2.8
AVH	**Avacha**	**1.88**	**343**		*e*P	Pn	23 03 44.2	+2.4
KOK	**Koryaka**	**1.93**	**341**		*e*P	Pn	23 03 44.7	+2.3
KRX	**Arik**	**1.99**	**342**		*e*P	Pn	23 03 45.1	+1.8
APC	**Apacha**	**2.12**	**314**		*e*P	Pn	23 03 47.7	+2.8
SKR	**Severo-Kuril's**	**2.37**	**252**		*e*S	Sn	23 04 19.5	+3.4
GNL	**Ganaly**	**2.46**	**336**		*e*P	Pn	23 03 52.0	+2.3

*ISCJB **29** 23:03:42.9±1.6, 11°.5N±0°.2×41°.2E±0°.1, h10km, Error*
ellipse: s-maj=27.7km s-min=6.6km az=147.9
*ARO **29** 23:03:42.3, 11°.N±23°×4°.1E±°, h15km±92km, Ml3.7*
ISC 29 23:03:40.5±1.8, 11°.4N±0°.2×41°.0E±0°.1, h10km, n11, σ0§74/14, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MAOD	**Malaho**	**1.38**	**58**		*e*P	**Pb**	**23 04 06.2**	**-0.3**
KSDD	**Koussour**	**1.40**	**83**		*e*P	**Pn**	**23 04 05.9**	**-0.2**
GBR	**Grand-Bara**	**1.42**	**98**		*e*P	**Pn**	**23 04 05.8**	**-0.7**
LDLD	**Lac de Lave**	**1.45**	**81**		*e*P	**Pn**	**23 04 06.7**	**-0.2**
SGH	**Sud-Ghoubbet**	**1.57**	**87**		*e*P	**Pn**	**23 04 08.7**	**+0.2**
ATD	**Arta Tunnel**	**1.79**	**84**		*e*P	**Pn**	**23 04 12.0**	**+0.5**
ATD	**Arta Tunnel**	**1.79**	**84**		*e*P	**Pn**	**23 04 12.1**	**+0.5**
ATD					*e*S	**Sb**	**23 04 36.0**	**+0.1**
TDD	**Tadjoura Ara**	**1.89**	**76**		*e*P	**Pn**	**23 04 13.7**	**+0.8**
ATA	**Atar**	**2.13**	**87**		*e*P	**Pn**	**23 04 17.4**	**+1.1**
ANKE	**Ethiopia-Afar**	**2.17**	**216**		*i* P	**Pg**	**23 04 21.5**	**-0.8**
ANKE					*i* S	**Sg**	**23 04 51.3**	**+0.9**
ANKE	**Ethiopia-Afar**	**2.17**	**216**		*i* P	**Pg**	**23 04 21.5**	**-0.8**
ANKE					*i* S	**Sg**	**23 04 51.3**	**+0.9**

*NEIC **29** 23:09:50.7±0.0, 17°.79N×68°.60W, h36km, MD3.4(RSPR),*
After RSPR.
RSPR 29 23:09:50.7, 17°.79N×68°.60W, h36km±13km, MD3.4/10, 20C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**1.24**	**323**	⇑	*e*P	Pn	23 10 10.4	-1.1
DR12					*e*S	Sn	23 10 25.6	-1.5
DR12	**Loma Pena Alta**	**1.24**	**323**	⇑	*e*P	Pn	23 10 10.4	-1.1
DR12					*e*S	Sn	23 10 25.6	-1.5
LSP	**Las Mesas**	**1.49**	**75**	⇓	*e*P	Pn	23 10 14.4	-0.6
LSP	**Las Mesas**	**1.49**	**75**		*e*S	Sn	23 10 31.9	-1.3
AGPR	**Aguadilla, PR**	**1.57**	**64**	⇑	*e*P	Pn	23 10 15.3	-0.7
AGPR	**Aguadilla, PR**	**1.57**	**64**		*e*S	Sn	23 10 34.3	-0.8
AGPR	**Aguadilla, PR**	**1.57**	**64**	⇑	*e*P	Pn	23 10 15.3	-0.7
AGPR					*e*S	Sn	23 10 34.3	-0.8
GBPR	**Guanica, Bosqu**	**1.65**	**83**	⇑	*e*P	Pn	23 10 16.5	-0.6
GBPR	**Guanica, Bosqu**	**1.65**	**83**		*e*S	Sn	23 10 36.3	-0.8
GBPR	**Guanica, Bosqu**	**1.65**	**83**	⇑	*e*P	Pn	23 10 16.5	-0.6
GBPR					*e*S	Sn	23 10 36.3	-0.8
OBIP	**Obispado Ponce**	**1.92**	**82**	⇑	*e*P	Pn	23 10 19.9	-0.9
OBIP	**Obispado Ponce**	**1.92**	**82**		*e*S	Sn	23 10 42.3	-1.4
OBIP	**Obispado Ponce**	**1.92**	**82**	⇑	*e*P	Pn	23 10 19.9	-0.9
OBIP					*e*S	Sn	23 10 42.3	-1.4
CELP	**Cerrillos**	**1.95**	**81**	⇑	*e*P	Pn	23 10 20.4	-0.8
CELP					*e*S	Sn	23 10 43.4	-1.1
CELP	**Cerrillos**	**1.95**	**81**	⇑	*e*P	Pn	23 10 20.4	-0.8
CELP					*e*S	Sn	23 10 43.4	-1.1
ICMP	**Isla Caja de M**	**1.98**	**87**	⇓	*e*P	Pn	23 10 20.6	-1.0
ICMP	**Isla Caja de M**	**1.98**	**87**		*e*S	Sn	23 10 43.7	-1.5
ICMP	**Isla Caja de M**	**1.98**	**87**	⇓	*e*P	Pn	23 10 20.6	-1.0
ICMP					*e*S	Sn	23 10 43.7	-1.5
EMPR	**Esperanza - Ma**	**2.09**	**70**	⇑	*e*P	Pn	23 10 22.4	-0.7
EMPR	**Esperanza - Ma**	**2.09**	**70**		*e*S	Sn	23 10 46.8	-1.0
EMPR	**Esperanza - Ma**	**2.09**	**70**	⇑	*e*P	Pn	23 10 22.4	-0.7
EMPR					*e*S	Sn	23 10 46.8	-1.0
SJG	**San Juan**	**2.36**	**82**	⇑	*e*P	Pn	23 10 26.4	-0.4
SJG	**San Juan**	**2.36**	**82**		*e*S	Sn	23 10 53.5	-1.0
SJG	**San Juan**	**2.36**	**82**	⇑	*e*P	Pn	23 10 26.4	-0.4
SJG					*e*S	Sn	23 10 53.5	-1.0
HUMP	**Col San Antoni**	**2.64**	**82**	⇑	*e*P	Pn	23 10 30.1	-0.6
HUMP	**Col San Antoni**	**2.64**	**82**		*e*S	Sn	23 11 01.2	-0.4
HUMP	**Col San Antoni**	**2.64**	**82**	⇑	*e*P	Pn	23 10 30.0	-0.8
HUMP	**Col San Antoni**	**2.64**	**82**	⇑	*e*P	Pn	23 10 30.1	-0.6
HUMP					*e*S	Sn	23 11 01.2	-0.4
CBYP	**Canovanas**	**2.66**	**79**	⇑	*e*P	Pn	23 10 29.9	-1.2
CBYP	**Canovanas**	**2.66**	**79**	⇑	*e*P	Pn	23 10 29.9	-1.1
CBYP	**Canovanas**	**2.66**	**79**		*e*S	Sn	23 11 00.9	-1.1
CBYP	**Canovanas**	**2.66**	**79**	⇑	*e*P	Pn	23 10 29.9	-1.2
CBYP					*e*S	Sn	23 11 00.9	-1.1
SDDR	**Presa de Saban**	**2.81**	**295**		*e*Pn	Pn	23 10 32.8	-0.4
SDDR					*e*Sn	Sn	23 11 03.5	-2.5

*STR **29** 23:09:52.0±1.3, 44°.N±7°×±°, h9km, M2.9/8, MLv2.9/8*
*ISCJB **29** 23:09:58.2±0.4, 44°.17N±0°.03×8°.57E±0°.03, h25km±3km,*
Error ellipse: s-maj=5.1km s-min=3.5km az=153.6
*ROM **29** 23:09:58.2±0.2, 44°.18N±0°.02×8°.56E±0°.01, h10km±1km,*
Md1.8/3, ML2.0/9
*GEN **29** 23:09:58.5, 44°.17N×8°.57E, h6km±1km, Ml1.7*
*LDG **29** 23:09:58.1±0.1, 44°.17N±0°.8×8°.58E, h7km, Md2.3/1, Ml2.2/16,*
Error ellipse: s-maj=2.1km s-min=1.7km az=165.0
ISC 29 23:09:58.0±0.9, 44°.17N±0°.02×8°.58E±0°.02, h18km±2km, n50, σ1§19/86, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
FINB	**Finale Ligure**	**0.18**	**272**		P	**Pb**	**23 10 02.2**	**+0.1**
FINB					S	**Sb**	**23 10 05.2**	**+0.4**
FINB					AML	AML		
	comp=E,214μm,0.2s							
FINB					AML	AML		
	comp=N,234μm,0.7s							
FINB					AML	AML		
	comp=E,214μm,0.2s							
FINB					AML	AML		
	comp=N,234μm,0.7s							
FINB					AML	AML		
	comp=E,214μm,0.2s							
FINB					AML	AML		
	comp=N,234μm,0.7s							
FINB					END			
FINB					END			
PCP	**Piancastagn**	**0.37**	**357**		P	**Pg**	**23 10 05.5**	**-0.3**
PCP					S	**Sg**	**23 10 10.6**	**-0.5**
PCP	**Piancastagn**	**0.37**	**357**		P	**Pg**	**23 10 05.5**	**-0.3**
PCP					S	**Sg**	**23 10 10.6**	**-0.5**
PCP					AML	AML		
	comp=E,121μm,1.5s							
PCP					AML	AML		
	comp=N,122μm,0.5s							
PCP					AML	AML		
	comp=E,121μm,1.5s							
PCP					AML	AML		
	comp=N,122μm,0.5s							
PCP					AML	AML		
	comp=N,122μm,0.5s							
PCP					AML	AML		
	comp=E,121μm,1.5s							
RORO	**Rocca Rossa**	**0.37**	**261**		P	**Pg**	**23 10 05.4**	**-0.4**
RORO					S	**Sg**	**23 10 10.8**	**-0.2**
RORO	**Rocca Rossa**	**0.37**	**261**		P	**Pg**	**23 10 05.4**	**-0.4**
RORO					S	**Sg**	**23 10 10.8**	**-0.2**
RORO					AML	AML		
	comp=E,458μm,0.6s							
RORO					AML	AML		
	comp=N,454μm,0.1s							
RORO					AML	AML		
	comp=E,458μm,0.6s							
RORO					AML	AML		
	comp=N,454μm,0.1s							
RORO					AML	AML		
	comp=N,454μm,0.1s							
RORO					AML	AML		
	comp=E,458μm,0.6s							
ROR

DOI				AML	AML		
	comp=N,151μm,0.2s						
DOI				AML	AML		
	comp=E,158μm,0.7s						
DOI				AML	AML		
	comp=N,151μm,0.2s						
ISO	**Isola**	**1.10 271**	Pg	**Pn**		**23 10 19.0**	**+0.6**
PZZ	**Stroppo**	**1.10 288**	P	**Pn**		**23 10 19.1**	**+0.5**
PZZ				AML	AML		
	comp=E,122μm,0.4s						
PZZ				AML	AML		
	comp=N,134μm,0.3s						
PZZ				AML	AML		
	comp=N,134μm,0.3s						
PZZ				AML	AML		
	comp=E,122μm,0.4s						
BHB	**Bricherasio**	**1.15 306**	P	**Pn**		**23 10 19.4**	**+0.2**
BHB				AML	AML		
	comp=E,75μm,1.3s						
BHB				AML	AML		
	comp=N,73μm,1.3s						
BHB				AML	AML		
	comp=N,73μm,1.3s						
BHB				AML	AML		
	comp=E,75μm,1.3s						
CALF	**Calern**	**1.27 251**	Pg	**Pg**		**23 10 23.0**	**+0.6**
SURF	**Saint Ours**	**1.30 284**	ePg	**Pn**		**23 10 21.9**	**+0.5**
MBDF	**Montbardon**	**1.41 294**	*e*Pn	**Pn**		**23 10 22.9**	**+0.1**
MBDF	**Montbardon**	**1.41 294**	*e*Pg	**Pb**		**23 10 24.3**	**+0.6**
MBDF			*e*Sg	**Sb**		**23 10 42.5**	**+1.1**
	comp=E,7.3nm,0.2s						
OGAG	**Argentiere**	**1.49 282**	Pg	**Pb**		**23 10 26.7**	**+1.6**
FRF	**La Foret Royal**	**1.52 247**	*e*Pn	**Pn**		**23 10 24.0**	**-0.2**
FRF	**La Foret Royal**	**1.52 247**	*e*Pg	**Pb**		**23 10 26.3**	**+0.7**
FRF			*e*Sn	**Sn**		**23 10 42.6**	**-1.0**
FRF			*e*Sg	**Sb**		**23 10 46.6**	**+2.0**
	comp=E,12nm,0.2s						
PGF	**Pioggiola**	**1.65 169**	*e*Pn	**Pn**		**23 10 24.3**	**-1.8**
PGF			*e*Sn	**Sn**		**23 10 45.6**	**-1.3**
	comp=E,2.8nm,0.2s						
LMR	**La Mourre**	**1.71 242**	*e*Pn	**Pn**		**23 10 26.2**	**-0.7**
LMR	**La Mourre**	**1.71 242**	*e*Pg	**Pb**		**23 10 30.1**	**+1.2**
LMR			*e*Sn	**Sn**		**23 10 46.9**	**-1.4**
LMR			*e*Sg	**Sb**		**23 10 52.2**	**+2.1**
	comp=E,4.7nm,0.2s						
LPG	**La Plagne**	**1.86 316**	*e*Pn	**Pn**		**23 10 28.6**	**-0.5**
LPG	**La Plagne**	**1.86 316**	*e*Pg	**Pb**		**23 10 32.5**	**+1.0**
LPG			*e*Sn	**Sn**		**23 10 51.1**	**-1.1**
LPG			*e*Sg	**Sb**		**23 10 56.9**	**+2.4**
	comp=E,1.9nm,0.2s						
LPL	**La Plagne**	**1.88 316**	*e*Pn	**Pn**		**23 10 28.4**	**-0.9**
LPL	**La Plagne**	**1.88 316**	*e*Pg	**Pb**		**23 10 32.6**	**+0.8**
LPL			*e*Sn	**Sn**		**23 10 51.2**	**-1.5**
LPL			*e*Sg	**Sb**		**23 10 57.2**	**+2.2**
	comp=E,1.6nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.07 292**	*e*Pn	**Pn**		**23 10 30.8**	**-1.0**
ORIF	**Oris-en-Rattie**	**2.07 292**	*e*Pg	**Pb**		**23 10 35.9**	**+0.9**
ORIF			*e*Sn	**Sn**		**23 10 56.0**	**-1.1**
ORIF			*e*Sg	**Sb**		**23 11 02.8**	**+2.5**
	comp=E,4.1nm,0.4s						
ORIF	**Oris-en-Rattie**	**2.07 292**	Pg	**Pb**		**23 10 34.7**	**-0.3**
ORIF			Sn	**Sb**		**23 11 01.0**	**+0.7**
ARTF	**Artigues**	**2.09 255**	Pg	**Pg**		**23 10 37.6**	**-0.4**
ARTF			Sn	**Sg**		**23 11 04.7**	**-0.4**
BSTF	**la Bastide-des**	**2.13 263**	Pg	**Pb**		**23 10 38.3**	**+2.2**
SMRF	**Simiane la Rot**	**2.17 266**	*e*Pn	**Pn**		**23 10 32.5**	**-0.7**
SMRF	**Simiane la Rot**	**2.17 266**	*e*Pg	**Pb**		**23 10 38.0**	**+1.3**
SMRF			*e*Sn	**Sn**		**23 10 58.3**	**-1.3**
SMRF			*e*Sg	**Sb**		**23 11 06.0**	**+2.7**
	comp=E,8.0nm,0.4s						
VIVF	**Saint-Julien-l**	**2.87 285**	*e*Pn	**Pn**		**23 10 42.3**	**-0.6**
VIVF			*e*Sn	**Sn**		**23 11 15.1**	**-1.9**
	comp=E,0.5nm,0.1s						
LASF	**Ste Croix**	**3.40 270**	*e*Pn	**Pn**		**23 10 50.1**	**0.0**
LASF			*e*Sn	**Sn**		**23 11 28.0**	**-1.9**
	comp=E,0.2nm,0.2s						
LOR	**Lormes**	**4.53 315**	*e*Pn	**Pn**		**23 11 05.7**	**+0.1**
	baz=135						
LOR			*e*Sn	**Sn**		**23 11 54.5**	**-3.2**
	comp=E,0.2nm,0.2s,baz=131						
SSF	**Saint Saulge**	**4.58 311**	*e*Pn	**Pn**		**23 11 06.5**	**+0.2**
SSF			*e*Sn	**Sn**		**23 11 55.7**	**-3.3**
	comp=E,0.2nm,0.3s						
BGF	**Bois d'Agland**	**4.69 303**	*e*Pn	**Pn**		**23 11 07.8**	**0.0**
BAIF	**Baives**	**6.60 335**	*e*Pn	**Pn**		**23 11 34.2**	**+0.2**
BAIF			*e*Sn	**Sn**		**23 12 45.4**	**-3.3**
	comp=E,0.1nm,0.1s						

*ISCJB **29** 23:10:42.1±0.9, 12°.6N±0°.2×87°.7W±0°.2, h42km, mb3.9/5, Error ellipse: s-maj=33.8km s-min=7.5km az=43.3*
*IDC **29** 23:10:44.0±1.8, 12°.66N×87°.64W, h42km±19km, mb3.7/5, mb1 4.0/8, mb1mx3.6/36, mbtmp3.8/8, ML3.1/3, Error ellipse: s-maj=48.6km s-min=12.4km az=45.0*

ISC 29 23:10:43.2±0.8, **12°.5N**±0°.2×**87°.8W**±0°.2, **h42km, n12, σ1s72/17, mb3.8/5, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**3.52**	**128**	P	**Pn**	**23 11 36.6**	**+1.0**
	2.0nm,0.3s,baz=322,slow=17,SNR=5.6						
JTS				S	**Sn**	**23 12 17.4**	**+1.4**
	5.9nm,0.3s,baz=304,slow=19,SNR=5.9						
JTS				Lg	Lg	23 12 42.6	
	2.2nm,0.3s,baz=336,slow=22,SNR=3.5						
APG	**El Apazote**	**3.62**	**314**	P	**Pn**	**23 11 37.8**	**+0.8**
	0.4nm,0.3s,baz=95,slow=15,SNR=1.4						
APG				S	**Sn**	**23 12 23.1**	**+4.4**
	2.2nm,0.3s,baz=157,slow=11,SNR=6.5						
CMIG	**Matias Romero**	**8.26**	**305**	P	**Pn**	**23 12 39.7**	**-0.8**
	0.6nm,0.3s,baz=154,slow=14,SNR=6.7						
CMIG				S	**Sn**	**23 14 09.5**	**-3.2**
	0.5nm,0.3s,baz=75,slow=19,SNR=2.9						
TXAR	**Lajitas Array**	**22.35**	**321**	P	**P**	**23 15 39.0**	**+1.2**
	4.0nm,1.0s,baz=142,slow=10,SNR=7.3						
TKL	**Tuckaleechee C**	**23.36**	**8**	P	**P**	**23 15 46.5**	**-1.6**
	2.9nm,0.9s,baz=126,slow=19,SNR=2.3						
PDAR	**Pinedale Array**	**35.60**	**332**	P	**P**	**23 17 37.1**	**0.0**
	0.7nm,0.8s,baz=127,slow=10,SNR=2.7						
PDAR				PcP	**PcP**	**23 20 06.5**	**+1.2**
	0.3nm,0.7s,baz=142,slow=3.1,SNR=3.0						
ULM	**Lac du Bonnet**	**38.24**	**352**	P	**P**	**23 17 58.9**	**-0.3**
	5.5nm,0.5s,baz=167,slow=9.0,SNR=15						
YKA	**Yellowknife Ar**	**73.50**	**345**	P	**P**	**23 19 58.4**	**-0.8**
	0.9nm,0.7s,baz=137,slow=7.9,SNR=23						
YKA				PcP	**PcP**	**23 21 05.9**	**+0.2**
	0.3nm,0.4s,baz=144,slow=4.1,SNR=7.0						
SONM	**Songino Array**	**118.64**	**349**	PKP	**PKPdf**	**23 29 26.9**	**-0.2**
	0.2nm,0.5s,baz=22,slow=1.6,SNR=3.5						
MKAR	**Makanchi Array**	**120.33**	**8**	PKP	**PKPdf**	**23 29 29.9**	**-0.4**
	0.1nm,0.8s,baz=307,slow=3.0,SNR=4.6						
WRA	**Warramunga Arr**	**138.97**	**254**	PKP	**PKPdf**	**23 30 07.1**	**+0.9**
	0.3nm,0.9s,baz=86,slow=1.8,SNR=2.4						
CMAR	**Chiang Mai Arr**	**148.55**	**348**	PKPbc	**PKPbc**	**23 30 25.6**	**-0.9**
	1.1nm,0.4s,baz=327,slow=3.4,SNR=5.4						

*ISCJB **29** 23:11:56.8±0.8, 8°.21S±0°.06×118°.07E±0°.06, h10km, Error ellipse: s-maj=9.3km s-min=7.9km az=31.5*
*DJA **29** 23:11:58.0±0.3, 8°S±3°×11°.8E±°, h10km, M3.5/8, MLv3.5/8*
*IDC **29** 23:12:01.1±2.2, 7°.65S×119°.23E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.5/32, mbtmp3.6/5, ML3.3/2, Error ellipse: s-maj=149.3km s-min=20.8km az=59.0*

ISC 29 23:11:58.1±1.0, **8°.21S**±0°.07×**117°.99E**±0°.07, **h10km, n10, σ0s69/11, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.65**	**199**	P	**Pg**	**23 12 09.9**	**-0.8**
PLAI				S	**Sb**	**23 12 20.5**	**-0.1**
SRBI	**Singaraja**	**2.75**	**272**	P	**Pn**	**23 12 42.4**	**0.0**
BASI	**Baing, Sumba**	**3.24**	**128**	P	**Pn**	**23 12 49.4**	**+0.3**
BKSI	**Bulukumba**	**3.57**	**37**	P	**Pn**	**23 12 52.7**	**-0.9**
EDFI	**Ende, Flores**	**3.70**	**99**	P	**Pn**	**23 12 55.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**12.32**	**144**	Pn	**Pn**	**23 14 53.8**	**0.0**
	0.1nm,0.3s,baz=323,slow=11,SNR=1.9						
FITZ				Sn	**Sn**	**23 17 11.8**	**+0.4**
	0.1nm,0.3s,baz=156,slow=20,SNR=1.3						
WRA	**Warramunga Arr**	**19.66**	**128**	P	**P**	**23 16 27.1**	**-0.3**
	0.1nm,0.3s,baz=298,slow=13,SNR=7.2						
ASAR	**Alice Springs**	**21.65**	**137**	P	**P**	**23 16 48.4**	**-0.6**
	0.8nm,0.6s,baz=323,slow=11,SNR=5.0						
SONM	**Songino Array**	**56.74**	**351**	P	**P**	**23 21 43.6**	**+1.3**
	1.7nm,1.0s,baz=175,slow=5.8,SNR=7.8						
MKAR	**Makanchi Array**	**63.31**	**333**	P	**P**	**23 22 33.1**	**+5.8**
	0.5nm,1.0s,baz=128,slow=9.5,SNR=2.9						

*ATH **29** 23:29:20.8, 38°.78N×23°.36E, h20km±1km, ML3.3/11, Error ellipse: s-maj=1.0km s-min=0.6km az=23.0*
*IDC **29** 23:29:20.4±2.1, 38°.68N×23°.41E, h0km, mb3.4/2, mb1 3.4/3, mb1mx3.1/42, mbtmp3.3/3, ML2.7/1, Error ellipse: s-maj=62.6km s-min=31.0km az=168.0*
*ISK **29** 23:29:20.8, 38°.81N×23°.37E, h12km, ML3.1/13*
*ISCJB **29** 23:29:21.2±0.3, 38°.80N±0°.01×23°.39E±0°.02, h11km±2km, mb3.5/2, Error ellipse: s-maj=2.3km s-min=2.0km az=22.2*
*THE **29** 23:29:21.5, 38°.77N×23°.37E, h7km, ML3.2/25, Error ellipse: s-maj=0.8km s-min=0.4km az=31.0*

ISC 29 23:29:21.3±0.8, **38°.78N**±0°.01×**23°.37E**±0°.01, **h14km**±5km, **n139, σ0s77/182, Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMIA	**Simia**	**0.16**	**308**	P	**Pg**	**23 29 25.2**	**0.0**
SMIA				S	**Sg**	**23 29 27.9**	**0.0**
SMIA				AML	AML	23 29 28.8	
	comp=N,72148μm,0.5s						
SMIA				AML	AML	23 29 34.1	
	comp=E,54393μm,0.4s						
SMIA	**Simia**	**0.16**	**308**	P	**Pg**	**23 29 25.2**	**0.0**
SMIA				S	**Sg**	**23 29 27.9**	**0.0**
MRKA	**Markates**	**0.18**	**113**	P	**Pg**	**23 29 25.4**	**-0.1**
MRKA				S	**Sg**	**23 29 28.4**	**0.0**
MRKA				AML	AML	23 29 29.0	
	comp=N,24140μm,0.2s						
MRKA				AML	AML	23 29 29.0	
	comp=E,35841μm,0.4s						
MRKA	**Markates**	**0.18**	**113**	P	**Pg**	**23 29 25.4**	**-0.1**
MRKA				S	**Sg**	**23 29 28.3**	**-0.1**
ATAL	**Atalanti**	**0.29**	**253**	P	**Pg**	**23 29 27.2**	**-0.1**
ATAL				S	**Sb**	**23 29 31.9**	**-1.0**
ATAL				AML	AML	23 29 32.8	
	comp=N,6810μm,0.3s						
ATAL				AML	AML	23 29 33.1	
	comp=E,8566μm,0.2s						
ATAL	**Atalanti**	**0.29**	**253**	P	**Pg**	**23 29 27.2**	**-0.1**
ATAL				S	**Sg**	**23 29 31.6**	**+0.3**
SKIA	**Skiathos**	**0.39**	**11**	P	**Pb**	**23 29 29.6**	**-0.5**
SKIA				S	**Sb**	**23 29 35.0**	**-1.0**
SKIA				AML	AML	23 29 35.7	
	comp=E,11606μm,0.2s						
SKIA				AML	AML	23 29 36.8	
	comp=N,9883μm,0.5s						
SKIA	**Skiathos**	**0.39**	**11**	P	**Pb**	**23 29 29.6**	**-0.5**
SKIA				S	**Sb**	**23 29 35.0**	**-1.0**
ALNA	**Alonissos**	**0.53**	**46**	P	**Pb**	**23 29 31.7**	**-0.7**
ALNA				S	**Sb**	**23 29 39.3**	**-0.7**
NEO	**Neokhori**	**0.54**	**348**	P	**Pb**	**23 29 31.9**	**-0.7**
NEO				S	**Sb**	**23 29 40.1**	**-0.1**
NEO	**Neokhori**	**0.54**	**348**	P	**Pb**	**23 29 31.9**	**-0.7**
NEO				S	**Sb**	**23 29 40.4**	**+0.1**
AOS	**Alonnisos**	**0.56**	**45**	PG	**Pg**	**23 29 31.7**	**-0.5**
AOS				SG	**Sg**	**23 29 39.4**	**-0.2**
AOS	**Alonnisos**	**0.56**	**45**	P	**Pg**	**23 29 31.8**	**-0.5**
AOS				S	**Sg**	**23 29 39.7**	**+0.1**
AOS				AML	AML	23 29 40.6	
	comp=N,6350μm,0.2s						
AOS				AML	AML	23 29 41.4	
	comp=E,6007μm,0.2s						
AOS	**Alonnisos**	**0.56**	**45**	P	**Pg**	**23 29 31.7**	**-0.5**
AOS				S	**Sg**	**23 29 39.3**	**-0.3**
EREA	**Eretria**	**0.56**	**129**	P	**Pb**	**23 29 32.4**	**-0.7**
EREA				S	**Sb**	**23 29 40.5**	**-0.5**
EREA				AML	AML	23 29 42.2	
	comp=E,9548μm,0.3s						
EREA				AML	AML	23 29 43.1	
	comp=N,4967μm,0.2s						
EREA	**Eretria**	**0.56**	**129**	P	**Pb**	**23 29 32.3**	**-0.7**
EREA				S	**Sb**	**23 29 41.1**	**+0.2**
VIL2	**Platees**	**0.57**	**188**	P	**Pb**	**23 29 32.9**	**-0.2**
VIL2				S	**Sn**	**23 29 42.5**	**-1.9**
VIL2				AML	AML	23 29 45.4	
	comp=E,10789μm,0.8s						
VIL2				AML	AML	23 29 47.3	
	comp=N,9065μm,0.2s						
XOR	**Xorichti**	**0.60**	**347**	P	**Pb**	**23 29 33.0**	**-0.6**
XOR				S	**Sb**	**23 29 41.3**	**-0.7**
XOR				AML	AML	23 29 43.4	
	comp=E,4922μm,0.4s						
XOR				AML	AML	23 29 46.3	
	comp=N,7998μm,0.4s						
XOR	**Xorichti**	**0.60**	**347**	P	**Pb**	**23 29 33.0**	**-0.6**
XOR				S	**Sb**	**23 29 41.5**	**-0.6**
VILL	**Villia**	**0.61**	**185**	P	**Pg**	**23 29 32.8**	**-0.5**
VILL				S	**Sb**	**23 29 42.3**	**-0.1**
PROD	**Prodromos**	**0.64**	**216**	P	**Pg**	**23 29 33.0**	**-0.7**
PROD				S	**Sb**	**23 29 42.4**	**-0.6**
FYTO	**Fytoko, Volos**	**0.71**	**332**	P	**Pb**	**23 29 35.0**	**-0.5**
FYTO				S	**Sb**	**23 29 45.3**	**0.0**
FYTO	**Fytoko, Volos**	**0.71**	**332**	P	**Pb**	**23 29 35.0**	**-0.5**
FYTO				S	**Sb**	**23 29 45.2**	**0.0**
DLFA	**Delphi**	**0.75**	**247**	P	**Pg**	**23 29 35.4**	**-0.5**
DSF	**Desfina**	**0.76**	**241**	P	**Pg**	**23 29 34.8**	**-1.2**
DSF				S	**Sb**	**23 29 46.8**	**+0.3**
DSF	**Desfina**	**0.76**	**241**	P	**Pg**	**23 29 34.6**	**-1.4**
DSF				S	**Sb**	**23 29 47.0**	**+0.5**
LTK	**Loutraki**	**0.82**	**203**	P	**Pg**	**23 29 36.4**	**-0.8**
LTK				AML	AML	23 29 53.6	
	comp=E,8028μm,0.6s						
LTK				AML	AML	23 29 54.0	
	comp=N,7623μm,0.3s						
LTK	**Loutraki**	**0.82**	**203**	P	**Pg**	**23 29 36.3**	**-0.8**
PTL	**Penteli**	**0.82**	**152**	P	**Pg**	**23 29 36.7**	**-0.5**
PTL	**Penteli**	**0.82**	**152**	P	**Pg**	**23 29 36.8**	**-0.5**
PTL				S	**Sb**	**23 29 48.7**	**+0.3**
DION	**Dionisos Attik**	**0.83**	**148**	P	**Pg**	**23 29 36.9**	**-0.4**
ATH	**Athens Observa**	**0.85**	**161**	P	**Pb**	**23 29 37.5**	**-0.3**
ATH	**Athens Observa**	**0.85**	**161**	P	**Pb**	**23 29 37.5**	**-0.3**
ATH				S	**Sn**	**23 29 50.5**	**-0.6**
AGG	**Agios Georgios**	**0.85**	**287**	PG	**Pg**	**23 29 37.3**	**-0.4**
AGG	**Agios Georgios**	**0.85**	**287**	P	**Pg**	**23 29 37.2**	**-0.6**
AGG				S	**Sg**	**23 29 48.6**	**-0.3**
AGG				AML	AML	23 29 55.7	
	comp=E,1397μm,0.5s						
AGG				AML	AML	23 29 56.3	
	comp=N,1268μm,0.7s						
AGG	**Agios Georgios**	**0.85**	**287**	P	**Pg**	**23 29 37.1**	**-0.6**
AGG				S	**Sb**	**23 29 49.7**	**+0.5**
LOUT	**Loutraki**	**0.85**	**202**	P	**Pg**	**23 29 36.8**	**-0.9**
ATHU	**Athens Univers**	**0.87**	**158**	P	**Pb**	**23 29 37.8**	**-0.5**
ATHU				S	**Sn**	**23 29 50.5**	**-1.2**
ATHU				AML	AML	23 29 52.8	
	comp=E,2044μm,0.6s						
ATHU				AML	AML	23 29 52.9	
	comp=N,2174μm,0.3s						
ATHU	**Athens Univers**	**0.87**	**158**	P	**Pb**	**23 29 37.7**	**-0.5**
ATHU				S	**Sb**	**23 29 50.3**	**+0.5**
SKY	**Skiros Island**	**0.92**	**83**	P	**Pb**	**23 29 38.9**	**-0.2**
SKY	**Skiros Island**	**0.92**	**83**	P	**Pb**	**23 29 38.9**	**-0.2**
SKY				S	**Sn**	**23 29 53.0**	**0.0**
VLY	**Voula,Athens**	**0.98**	**160**	P	**Pb**	**23 29 39.5**	**-0.5**
VLY	**Voula,Athens**	**0.98**	**160**	P	**Pg**	**23 29 39.8**	**-0.4**
VLY				S	**Sb**	**23 29 53.3**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.00**	**284**	P	**Pg**	**23 29 40.3**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.00**	**284**	P	**Pb**	**23 29 40.7**	**-0.2**
KALE	**Kalithea**	**1.04**	**249**	P	**Pb**	**23 29 39.8**	**-1.3**
KALE	**Kalithea**	**1.04**	**249**	P	**Pb**	**23 29 39.9**	**-1.3**
KALE				S	**Sn**	**23 29 56.4**	**+0.4**
SERG	**Sergoula**	**1.09**	**251**	P	**Pb**	**23 29 40.7**	**-1.3**
SERG	**Sergoula**	**1.09**	**251**	P	**Pb**	**23 29 40.8**	**-1.2**
SERG				S	**Sn**	**23 29 57.1**	**-0.1**
TRIZ	**Trizonia**	**1.10**	**248**	P	**Pb**	**23 29 40.6**	**-1.5**
TRIZ	**Trizonia**	**1.10**	**248**	P	**Pb**	**23 29 41.0**	**-1.1**
TRIZ				S	**Sn**	**23 29 57.4**	**+0.1**
ANX	**Ano Chora**	**1.15**	**261**	P	**Pb**	**23 29 42.7**	**-0.3**
ANX	**Ano Chora**	**1.15**	**261**	P	**Pg**	**23 29 43.0**	**-0.5**
ANX				S	**Sn**	**23 30 00.1**	**+1.4**
GUR	**Goura**	**1.17**	**224**	P	**Pb**	**23 29 42.5**	**-0.8**
PAIG	**Paliouri**	**1.17**	**12**	P	**Pb**	**23 29 42.8**	**-0.5**
PAIG	**Paliouri**	**1.17**	**12**	P	**Pb**	**23 29 42.9**	**-0.5**
EFP	**Efpalio**	**1.20**	**253**	P	**Pn**	**23 29 43.2**	**-0.4**
EFP	**Efpalio**	**1.20**	**253**	P	**Pn**	**23 29 43.3**	**-0.4**
KLV	**Kalavryta, Ach**	**1.21**	**233**	P	**Pb**	**23 29 43.7**	**-0.3**
KLV	**Kalavryta, Ach**	**1.21**	**233**	P	**Pb**	**23 29 43.7**	**-0.3**
KLV				S	**Sn**	**23 30 01.2**	**+1.1**
LAKA	**Lakka**	**1.22**	**244**	P	**Pn**	**23 29 43.2**	**-0.8**
LAKA	**Lakka**	**1.22**	**244**	P	**Pn**	**23 29 43.3**	**-0.7**
LAKA				S	**Sg**	**23 30 02.0**	**+1.4**
EVR	**Evrytania**	**1.23**	**277**	P	**Pg**	**23 29 44.5**	**-0.4**
EVR	**Evrytania**	**1.23**	**277**	P	**Pg**	**23 29 44.6**	**-0.4**
DID	**Didima**	**1.27**	**185**	P	**Pn**	**23 29 44.3**	**-0.5**
DID	**Didima**	**1.27**	**185**	P	**Pb**	**23 29 44.6**	**-0.5**
DID				S	**Sg**	**23 30 01.8**	**-0.6**
KRND	**KRANIDI**	**1.40**	**187**	P	**Pb**	**23 29 46.8**	**-0.4**
KRND	**KRANIDI**	**1.40**	**187**	P	**Pb**	**23 29 46.9**	**-0.4**
KRND				S	**Sg**	**23 30 06.5**	**0.0**
YDRA	**Hydra**	**1.43**	**177**	P	**Pg**	**23 29 48.4**	**-0.3**
PVO	**Paravola**	**1.46**	**264**	P	**Pb**	**23 29 48.1**	**-0.1**
PVO	**Paravola**	**1.46**	**264**	P	**Pb**	**23 29 48.2**	**+0.1**
EFSA	**Agios Efstrati**	**1.47**	**58**	P	**Pb**	**23 29 47.9**	**-0.5**
LIT	**Litokhoron**	**1.49**	**333**	P	**Pb**	**23 29 47.9**	**-0.8**
LIT	**Litokhoron**	**1.49**	**333**	P	**Pb**	**23 29 47.9**	**-0.8**
TRIP	**Tripoli**	**1.52**	**215**	P	**Pb**	**23 29 49.1**	**-0.2**
TRIP	**Tripoli**	**1.52**	**215**	P	**Pb**	**23 29 48.9**	**-0.4**
TRIP				S	**Sg**	**23 30 09.2**	**-1.1**
DRO	**Drossia**	**1.55**	**238**	P	**Pb**	**23 29 49.3**	**-0.4**
PLG	**Polygyros**	**1.59**	**2**	P	**Pn**	**23 29 49.0**	**-0.2**
PLG	**Polygyros**	**1.59**	**2**	P	**Pn**	**23 29 49.0**	**-0.2**
VLX	**Vlachokerasia**	**1.61**	**209**	P	**Pb**	**23 29 50.0**	**-0.8**
VLX	**Vlachokerasia**	**1.61**	**209**	P	**Pb**	**23 29 50.3**	**-0.6**
OUR	**Ouranopolis**	**1.62**	**17**	PN	**Pn**	**23 29 49.6**	**+0.1**
OUR	**Ouranopolis**	**1.62**	**17**	P	**Pn**	**23 29 49.5**	**+0.1**
LIA	**Limnos Island**	**1.79**	**51**	P	**Pn**	**23 29 51.4**	**-0.4**
LIA	**Limnos Island**	**1.79**	**51**	P	**Pn**	**23 29 51.5**	**-0.4**
AMT	**Artemida-Makis**	**1.81**	**227**	P	**Pb**	**23 29 53.6**	**-0.6**
HORT	**Hortiatis**	**1.83**	**353**	PN	**Pn**	**23 29 52.6**	**+0.2**
HORT	**Hortiatis**	**1.83**	**353**	P	**Pn**	**23 29 52.7**	**+0.3**
SERI	**Serifos**	**1.84**	**151**	P	**Pn**	**23 29 52.4**	**-0.1**
SERI	**Serifos**	**1.84**	**151**	P	**Pn**	**23 29 52.8**	**+0.3**
TNSA	**Tinos**	**1.88**	**131**	P	**Pb**	**23 29 54.5**	**-0.8**
THE	**Thessaloniki**	**1.88**	**350**	P	**Pn**	**23 29 52.9**	**-0.1**
KPRO	**Kipourio**	**1.95**	**308**	P	**Pb**	**23 29 55.3**	**-1.3**
ITM	**Ithomi**	**1.96**	**216**	P	**Pb**	**23 29 55.9**	**-0.9**
SIGR	**SIGRI**	**1.98**	**77**	PN	**Pn**	**23 29 54.8**	**+0.4**
SIGR	**SIGRI**	**1.98**	**77**	P	**Pn**	**23 29 54.4**	**0.0**
SOH	**Sokhos**	**2.04**	**360**	P	**Pn**	**23 29 55.5**	**+0.2**
SOH	**Sokhos**	**2.04**	**360**	P	**Pn**	**23 29 55.8**	**+0.5**
VLI	**Veliai**	**2.09**	**190**	P	**Pn**	**23 29 56.1**	**+0.3**
THAS	**Thassos island**	**2.10**	**29**	P	**Pn**	**23 29 55.2**	**-0.8**
CHOS	**Chios island**	**2.14**	**100**	PN	**Pn**	**23 29 57.4**	**+0.8**
CHOS	**Chios island**	**2.14**	**100**	P	**Pn**	**23 29 57.1**	**+0.5**
PYL	**PYLOS**	**2.28**	**215**	P	**Pb**	**23 30 00.7**	**-1.5**
GRG	**Griva**	**2.30**	**341**	PN	**Pn**	**23 29 59.3**	**+0.4**
GRG	**Griva**	**2.30**	**341**	P	**Pn**	**23 29 59.2**	**+0.4**
BOZC	**Bozcaada**	**2.33**	**62**	PN	**Pn**	**23 30 00.2**	**+0.9**
SRS	**Serrai**	**2.34**	**4**	P	**Pn**	**23 29 59.5**	**+0.1**
SRS	**Serrai**	**2.34**	**4**	P	**Pn**	**23 29 59.5**	**+0.1**
SMTH	**Samothraki Isl**	**2.37**	**44**	P	**Pn**	**23 29 59.0**	**-0.8**
SMTH	**Samothraki Isl**	**2.37**	**44**	P	**Pn**	**23 29 59.0**	**-0.8**
KAVA	**Kavala**	**2.38**	**21**	P	**Pn**	**23 29 59.4**	**-0.6**
KNT	**Kendrikon**	**2.41**	**351**	PN	**Pn**	**23 30 00.8**	**+0.5**
GADA	**Gvkgeada**	**2.41**	**53**	PN	**Pn**	**23 30 00.5**	**+0.2**
APE	**Apeiranthos**	**2.41**	**134**	PN	**Pn**	**23 30 01.6**	**+1.2**
APE	**Apeiranthos**	**2.41**	**134**	P	**Pn**	**23 30 01.1**	**+0.7**
NEST	**Nestorio**	**2.43**	**313**	P	**Pn**	**23 30 02.4**	**+1.7**
EZN	**Ezine**	**2.52**	**65**	PN	**Pn**	**23 30 02.5**	**+0.7**
URLA	**Izmir**	**2.56**	**98**	PN	**Pn**	**23 30 03.3**	**+0.9**
VAY	**Valandovo**	**2.61**	**347**	*i* Pn	**Pn**	**23 30 04.4**	**+1.3**
MMB	**Musomiste**	**2.82**	**5**	P	**Pn**	**23 30 06.0**	**0.0**
GELI	**Tayfur-Gelibol**	**2.89**	**55**	PN	**Pn**	**23 30 07.5**	**+0.6**
RDO	**Rodhopi**	**2.89**	**34**	PN	**Pn**	**23 30 06.9**	**0.0**
ENEZ	**Enez**	**2.90**	**47**	PN	**Pn**	**23 30 07.9**	**

	baz=65							
PRZ				⇑*i*S		**Sg**	**23 55 57.1**	**0.0**
	baz=65							
SATY	**Saty**	**1.06**	**301**	P		**Pg**	**23 55 47.7**	**0.0**
	23nm,0.1s							
SATY				S		**Sb**	**23 56 01.7**	**-1.3**
	140nm,0.1s							
SATY	**Saty**	**1.06**	**301**	*e*P		**Pg**	**23 55 47.7**	**0.0**
	21nm,0.4s							
SATY				*e*S		**Sg**	**23 56 01.6**	**+0.2**
	328nm,0.2s							
DJR	**Jarkent**	**1.81**	**3**	P		**Pb**	**23 56 00.6**	**-0.9**
	16nm,0.2s							
DJR				S		**Sb**	**23 56 24.5**	**-0.2**
	66nm,0.4s							
DJR	**Jarkent**	**1.81**	**3**	*e*P		**Pb**	**23 56 00.6**	**-0.9**
	16nm,0.2s							
DJR				*e*S		**Sb**	**23 56 24.5**	**-0.2**
	66nm,0.4s							
KDJ	**Kajisay**	**1.87**	**259**	⇓*i*P		**Pb**	**23 56 02.6**	**+0.1**
	baz=57							
KDJ				⇓*i*S		**Sg**	**23 56 27.2**	**-0.3**
	baz=57							
KOTS	**Kotyrbulak**	**1.99**	**292**	Pg		**Pg**	**23 56 05.2**	**-0.4**
	68nm,0.2s							
KOTS				Lg		Lg	23 56 32.4	
	229nm,0.4s							
KOTS	**Kotyrbulak**	**1.99**	**292**	*e*P		**Pb**	**23 56 04.2**	**-0.4**
	baz=91							
KOTS				*e*S		**Sg**	**23 56 30.3**	**-1.2**
	baz=91							
KOTS	**Kotyrbulak**	**1.99**	**292**	*e*P		**Pb**	**23 56 04.2**	**-0.4**
	68nm,0.2s							
KOTS				*e*S		**Sg**	**23 56 30.2**	**-1.2**
	229nm,0.4s							
MDOK	**Medeo**	**2.01**	**289**	⇓Pn		**Pb**	**23 56 03.9**	**-1.1**
	24nm,0.4s							
MDOK				⇑Lg		Lg	23 56 30.4	
	94nm,0.6s							
MDOK	**Medeo**	**2.01**	**289**	*e*P		**Pb**	**23 56 04.0**	**-1.0**
	baz=88							
MDOK				*e*S		**Sb**	**23 56 30.4**	**-0.1**
	baz=88							
MDOK	**Medeo**	**2.01**	**289**	*e*P		**Pb**	**23 56 04.0**	**-1.0**
	34nm,0.3s							
MDOK				*e*S		**Sb**	**23 56 30.4**	**-0.1**
	59nm,0.5s							
TNSS	**Tian-Shan**	**2.05**	**285**	*e*P		**Pb**	**23 56 04.7**	**-1.1**
	baz=84							
TNSS				*e*S		**Sb**	**23 56 31.3**	**-0.6**
	baz=84							
TNSS	**Tian-Shan**	**2.05**	**285**	*e*P		**Pb**	**23 56 04.7**	**-1.1**
	27nm,0.3s							
TNSS				*e*S		**Sb**	**23 56 31.3**	**-0.6**
	76nm,0.5s							
KNDC	**Almaty**	**2.09**	**290**	⇓Pn		**Pb**	**23 56 06.1**	**0.0**
	54nm,0.3s							
KNDC				⇑Lg		Lg	23 56 36.6	
	162nm,0.4s							
AAA	**Alma-Ata**	**2.12**	**290**	*e*P		**Pg**	**23 56 07.5**	**-0.6**
	baz=89							
AAA				*e*S		**Sg**	**23 56 35.9**	**+0.3**
	baz=89							
AAA	**Alma-Ata**	**2.12**	**290**	*e*P		**Pg**	**23 56 07.5**	**-0.6**
	50nm,0.1s							
AAA				*e*S		**Sg**	**23 56 35.9**	**+0.3**
	163nm,0.2s							
ARXS	**Arharly**	**2.15**	**322**	Pg		**Pb**	**23 56 06.4**	**-0.8**
	32nm,0.4s							
ARXS				Lg		Lg	23 56 34.4	
	208nm,0.4s							
ARXS	**Arharly**	**2.15**	**322**	*e*P		**Pb**	**23 56 06.4**	**-0.8**
	32nm,0.4s							
ARXS				*e*S		**Sb**	**23 56 34.4**	**+0.1**
	208nm,0.4s							
CHKK	**Chushkaly**	**2.35**	**305**	*e*P		**Pb**	**23 56 10.0**	**-0.7**
	baz=5.0							
CHKK				*e*S		**Sb**	**23 56 40.3**	**+0.1**
	baz=5.0							
CHKK	**Chushkaly**	**2.35**	**305**	*e*P		**Pb**	**23 56 10.0**	**-0.7**
	5.5nm,0.2s							
CHKK				*e*S		**Sb**	**23 56 40.3**	**+0.1**
	158nm,0.2s							
MTBS	**Maitube**	**2.44**	**285**	*e*P		**Pb**	**23 56 12.1**	**-0.1**
	baz=85							
MTBS				*e*S		**Sb**	**23 56 43.6**	**+0.8**
	baz=85							
MTBS	**Maitube**	**2.44**	**285**	*e*P		**Pb**	**23 56 12.1**	**-0.1**
	77nm,0.2s							
MTBS				*e*S		**Sb**	**23 56 43.6**	**+0.8**
	151nm,0.3s							
KTBS	**Karatobe**	**2.47**	**300**	Pg		**Pb**	**23 56 12.5**	**-0.2**
	27nm,0.2s							
KTBS				Lg		Lg	23 56 44.6	
	231nm,0.3s							
KTBS	**Karatobe**	**2.47**	**300**	*e*P		**Pb**	**23 56 12.5**	**-0.2**
	baz=98							
KTBS				*e*S		**Sb**	**23 56 44.6**	**+0.9**
	baz=98							
KTBS	**Karatobe**	**2.47**	**300**	*e*P		**Pb**	**23 56 12.4**	**-0.2**
	27nm,0.2s							
KTBS				*e*S		**Sb**	**23 56 44.6**	**+0.9**
	231nm,0.3s							
ULHL	**Ulahol**	**2.54**	**265**	⇓*i*P		**Pb**	**23 56 12.1**	**-1.8**
	baz=64							
ULHL				⇓*i*S		**Sb**	**23 56 44.2**	**-1.4**
	baz=64							
TDK	**Taldyqorghan**	**2.63**	**341**	*e*P		**Pb**	**23 56 14.1**	**-1.4**
	18nm,0.4s							
TDK				*e*S		**Sb**	**23 56 47.9**	**-0.4**
	237nm,0.4s							
BOOM	**Boomskoye usch**	**2.74**	**271**	⇑*i*P		**Pb**	**23 56 15.0**	**-2.3**
	baz=70							
BOOM				⇑*i*S		**Sn**	**23 56 48.5**	**+2.0**
	baz=70							
KST	**Kastek**	**2.76**	**282**	*e*P		**Pb**	**23 56 16.5**	**-1.2**
	baz=81							
KST				*e*S		**Sb**	**23 56 52.6**	**+0.6**
	baz=81							
KST	**Kastek**	**2.76**	**282**	*e*P		**Pb**	**23 56 16.5**	**-1.2**
	25nm,0.2s							
KST				*e*S		**Sb**	**23 56 52.6**	**+0.6**
	106nm,0.5s							
KAPS	**Kapalarasan**	**2.77**	**356**	*e*P		**Pb**	**23 56 17.2**	**-0.6**
	6.2nm,0.3s							
KAPS				*e*S		**Sb**	**23 56 53.1**	**+0.9**
	62nm,0.5s							
KUU	**Kurty**	**2.78**	**301**	*e*P		**Pb**	**23 56 16.7**	**-1.2**
	baz=0.0							
KUU				*e*S		**Sb**	**23 56 52.5**	**+0.1**
	baz=0.0							
KUU	**Kurty**	**2.78**	**301**	*e*P		**Pb**	**23 56 16.7**	**-1.2**
	4.1nm,0.2s							
KUU				*e*S		**Sb**	**23 56 52.5**	**+0.1**
	149nm,0.4s							
NRN	**Naryn**	**2.93**	**249**	⇑*i*P		**Pb**	**23 56 18.4**	**-2.2**
	baz=48							
NRN				⇑*i*S		**Sb**	**23 56 54.7**	**-2.3**
	baz=48							
TKM2	**Tokmak 2**	**3.01**	**279**	⇑Pn		**Pn**	**23 56 18.7**	**+2.2**
	8.0nm,0.6s							
TKM2				⇑Lg		Lg	23 57 01.2	
	54nm,0.5s							
TKM2	**Tokmak 2**	**3.01**	**279**	⇓*i*P		**Pn**	**23 56 18.8**	**+2.4**
	baz=78							
TKM2				⇓*i*S		**Sn**	**23 56 55.3**	**+2.1**
	baz=78							
KBK	**Karagaybulak**	**3.47**	**274**	⇑*i*P		**Pn**	**23 56 25.1**	**+2.3**
	baz=73							
KBK				⇑*i*S		**Sn**	**23 57 06.4**	**+1.8**
	baz=73							
AAK	**Ala-Archa**	**3.80**	**273**	Pn		**Pb**	**23 56 32.2**	**-3.3**
	1.7nm,0.3s,baz=124,slow=9.4,SNR=11							
AAK				Sn		**Sb**	**23 57 23.6**	**+1.5**
	3.3nm,0.3s,baz=273,slow=19,SNR=3.2							
AAK	**Ala-Archa**	**3.80**	**273**	⇑Pn		**Pn**	**23 56 29.7**	**+2.4**
	2.5nm,0.3s							
AAK				⇓Lg		Lg	23 57 26.1	
	20nm,0.7s							
ARLS	**Aral**	**4.01**	**262**	⇓*i*P		**Pn**	**23 56 33.4**	**+3.3**
	baz=62							
ARLS				⇓*i*S		**Sn**	**23 57 19.0**	**+1.2**
	baz=62							
MAKZ	**Makanchi**	**4.59**	**20**	⇓Pn		**Pn**	**23 56 40.0**	**+1.9**
	2.2nm,0.2s							
MAKZ				⇑Sn		**Sn**	**23 57 34.5**	**+2.5**
	1.3nm,0.3s							
MAKZ				⇓Lg		Lg	23 57 52.1	
	1.4nm,0.3s							
MK31	**Makanchi Array**	**4.67**	**23**	Pn		**Pn**	**23 56 40.6**	**+1.6**
	1.7nm,0.3s,baz=204,slow=13,SNR=142							
MK31				Sn		**Sn**	**23 57 34.6**	**+0.8**
	0.9nm,0.2s,baz=209,slow=17,SNR=7.3							
MK31				Lg		Lg	23 57 55.1	
	2.2nm,0.3s,baz=204,slow=26,SNR=6.0							
MKAR	**Makanchi Array**	**4.67**	**23**	Pn		**Pn**	**23 56 40.8**	**+1.7**
	3.2nm,0.3s,baz=211,slow=15,SNR=90							
MKAR				Sn		**Sn**	**23 57 34.8**	**+0.9**
	2.4nm,0.3s,baz=205,slow=25,SNR=13							
MKAR				Lg		Lg	23 57 54.8	
	2.7nm,0.3s,baz=202,slow=28,SNR=7.7							
SFK	**Sufi-Kurgan**	**5.26**	**244**	⇓Pg		**Pg**	**23 57 08.2**	**-0.1**
	1.0nm,0.5s							
SFK				⇓Lg		Lg	23 58 16.9	
	1.8nm,0.5s							
MNAS	**Manas**	**5.28**	**272**	⇓Pg		**Pb**	**23 57 02.8**	**+2.2**
	2.7nm,0.9s							
MNAS				⇓Lg		Lg	23 58 16.1	
	6.0nm,0.6s							
KK31	**Karatay Array**	**6.74**	**278**	⇓Pg		Pg	23 57 30.7	-5.9
	0.6nm,0.5s,baz=87,slow=16,SNR=7.0							
KK31				Lg		Lg	23 59 03.0	
	3.4nm,0.6s,baz=90,slow=28,SNR=6.5							
OTUK	**Ortayu**	**7.69**	**321**	⇑Pn		**Pn**	**23 57 20.9**	**+0.4**
	0.7nm,0.4s							
OTUK				⇓Lg		Lg	23 59 26.8	
	9.1nm,1.0s							
KURBB	**Kurchatov Arra**	**8.14**	**355**	Lg		Lg	23 59 43.4	
	0.2nm,0.3s,baz=176,slow=28,SNR=14							
ZALV	**Zalesovo Beam**	**11.94**	**15**	Sn		**Sn**	**00 00 25.9**	**-6.4**
	0.2nm,0.3s,baz=215,slow=19,SNR=3.0							
SONM	**Songino Array**	**19.54**	**65**	P		**Pn**	**23 59 59.9**	**+2.2**
	0.1nm,0.3s,baz=268,slow=10,SNR=1.7							
TORD	**Torodi Ar. Bea**	**72.39**	**272**	P		**P**	**00 06 53.7**	**-1.7**
	0.1nm,0.6s,baz=22,slow=5.9,SNR=1.6							
YKA	**Yellowknife Ar**	**74.71**	**7**	P		**P**	**00 07 07.9**	**-0.4**
	0.1nm,0.5s,baz=343,slow=6.1,SNR=3.1							

*ISCJB **30** 00:02:00.9±1.5, 11°.5S±0°.1×165°.1E±0°.2, h34km, mb3.8/5, MS3.2/1, Error ellipse: s-maj=32.2km s-min=19.3km az=167.1*
*IDC **30** 00:02:03.6±8.1, 11°.39S×165°.10E, h39km±74km, mb3.7/6, mb1 4.0/7, mb1mx3.7/34, mbtmp4.0/7, ML4.5/1, MS3.1/3, Ms1 3.1/3, ms1mx2.8/24, Error ellipse: s-maj=56.8km s-min=40.1km az=136.0*

ISC 30 00:02:02.7±1.7, 11°.4S±0°.2×165°.1E±0°.3, h34km, n9, σ1s29/7, mb3.8/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.43**	**290**	LR		LR		00 05 25.8	
	comp=Z,93nm,20.7s,baz=344,slow=37								
DZM	**Mont Dzumac**	**10.71**	**173**	Pn		**Pn**		**00 04 34.0**	**+0.1**
	3.6nm,0.3s,baz=24,slow=13,SNR=22								
PMG	**Port Moresby**	**17.76**	**275**	LR		LR		00 13 11.5	
	comp=Z,88nm,18.1s,baz=182,slow=38								
CTA	**Charters Tower**	**20.09**	**242**	P		Pn		00 06 35.3	-0.3
	8.6nm,1.0s,baz=69,slow=12,SNR=8.5								
STKA	**Stephens Creek**	**29.77**	**223**	P		**P**		**00 08 07.2**	**+0.8**
	1.3nm,0.5s,baz=20,slow=11,SNR=5.1								
WRA	**Warrunnga Arr**	**30.78**	**250**	P		**P**		**00 08 15.7**	**+0.2**
	4.7nm,1.1s,baz=79,slow=9.2,SNR=9.4								
ASAR	**Alice Springs**	**32.09**	**243**	P		**P**		**00 08 25.7**	**-1.2**
	1.1nm,0.8s,baz=74,slow=9.3,SNR=7.5								
ASAR				PcP		**PcP**		**00 11 15.3**	**-0.6**
	0.4nm,0.8s,baz=67,slow=3.1,SNR=3.4								
ASAR				LR		LR		00 20 49.5	
	comp=Z,51nm,19.4s,baz=70,slow=35								
SONM	**Songino Array**	**78.56**	**324**	P		**P**		**00 14 02.5**	**+1.5**
	0.3nm,0.7s,baz=120,slow=8.5,SNR=2.7								
MKAR	**Makanchi Array**	**93.33**	**317**	P		**P**		**00 15 13.0**	**-1.4**
	0.2nm,0.6s,baz=84,slow=6.3,SNR=4.6								

*ISCJB **30** 00:09:01.6±0.7, 37°.85N±0°.05×36°.61E±0°.06, h6km, Error ellipse: s-maj=7.5km s-min=6.0km az=38.2*
*DDA **30** 00:09:01.9, 37°.85N×36°.63E, h7km±2km, ML2.5*
*ISK **30** 00:09:01.4, 37°.80N×36°.61E, h5km, ML2.0/5*

ISC 30 00:09:01.6±0.9, 37°.83N±0°.04×36°.61E±0°.03, h6km, n14, σ0s61/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.33**	**220**	IAML_P					
	comp=Z,498nm,0.1s								
ANDN				*i* P		**Pb**		**00 09 09.5**	**-0.4**
KMRS	**Kahramanmaras**	**0.40**	**144**	PG		**Pg**		**00 09 09.3**	**0.0**
KMRS				SG		**Sg**		**00 09 14.8**	**+0.3**
SAIM	**ADANA**	**0.44**	**290**	IAML_P					
	comp=Z,503nm,0.2s								
SAIM				*i* P		**Pb**		**00 09 11.8**	**-0.1**
KOZT	**Kozan**	**0.71**	**241**	PG		**Pg**		**00 09 15.3**	**0.0**
GZT	**Gaziantep**	**0.89**	**122**	IAML_P					
	comp=Z,846nm,0.1s								
GZT				*i* P		**Pn**		**00 09 20.4**	**-0.5**
DARE	**Darende-Malaty**	**1.01**	**43**	PG		**Pb**		**00 09 21.7**	**+0.1**
KUZU	**Kuzuini**	**1.12**	**160**	IAML_P					
	comp=Z,2μm,0.1s								
KUZU				*i* P		**Pn**		**00 09 25.3**	**+1.5**
KUZU				*i* S		**Sn**		**00 09 39.8**	**+0.2**
AKCD	**Akcadag**	**1.14**	**65**	IAML_P					
	comp=Z,446nm,0.1s								
AKCD				*i* P		**Pg**		**00 09 23.5**	**0.0**
BNN	**Bunyan**	**1.19**	**330**	PN		**Pg**		**00 09 24.3**	**-0.1**
KARA	**Karaisali**	**1.36**	**246**	PN		**Pn**		**00 09 27.4**	**+0.2**
ATAB	**Bozova**	**1.38**	**104**	IAML_P					
	comp=Z,520nm,0.2s								
ATAB				*i* P		**Pg**		**00 09 28.5**	**+0.3**
ATAB				*i* S		**Sb**		**00 09 44.6**	**-1.3**
TAHT	**Tahtakopru-Hat**	**1.49**	**193**	PN		**Pb**		**00 09 29.3**	**-0.4**
URFA	**Urfa**	**1.80**	**102**	PN		**Pn**		**00 09 33.9**	**+0.7**
SURC	**SANLIURFA_SURC**	**1.85**	**120**	*i* P		**Pb**		**00 09 35.5**	**-0.4**

*KRNET **30** 00:18:30.4±0.1, 42°.62N×79°.63E, h15km, mb2.5*
*SOME **30** 00:18:30.4, 42°.62N×79°.70E, h20km*
*NNC **30** 00:18:30.1±0.8, 42°.63N×79°.66E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=5.2km s-min=3.1km az=133.0*

ISC 30 00:18:29.6±1.7, 42°.60N±0°.05×79°.64E±0°.05, h1km±10km, n49, σ1s30/90, 22C-18D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.71**	**321**	P		**Pg**		**00 18 43.6**	**+0.4**
	3.8nm,0.2s								
UZB				S		**Sb**		**00 18 53.7**	**-1.6**
	12nm,0.2s								
UZB	**Uzynbulak**	**0.71**	**321**	*e*P		**Pg**		**00 18 43.7**	**+0.4**
	baz=20								
UZB				*e*S		**Sg**		**00 18 53.3**	**+0.7**
	baz=20								
UZB	**Uzynbulak**	**0.71**	**321**	*e*P		**Pg**		**00 18 43.7**	**+0.4**
	3.8nm,0.2s								
UZB				*e*S		**Sg**		**00 18 53.3**	**+0.7**
	12nm,0.2s								
PDGK	**Podgornoye**	**0.74**	**352**	P		**Pg**		**00 18 44.0**	**+0.1**
	0.6nm,0.1s								
PDGK				S		**Sg**		**00 18 54.2**	**+0.7**
	4.8nm,0.1s								
PDGK	**Podgornoye**	**0.74**	**352**	⇓P		**Pg**		**00 18 43.4**	**-0.4**
	0.8nm,0.5s								
PDGK				⇑S		**Sg**		**00 18 54.2**	**+0.7**
	7.4nm,0.6s								
PDGK	**Podgornoye**	**0.74**	**352**	⇓*i*P		**Pg**		**00 18 44.0**	**+0.1**
	baz=52								
PDGK				⇓*i*S		**Sb**		**00 18 54.4**	**-1.7**
	baz=52								
PRZ	**Przheval'sk**	**0.92**	**263**	⇑*i*P		**Pb**		**00 18 47.6**	**-0.9**
	baz=62								
PRZ				⇑*i*S		**Sg**		**00 19 00.3**	**+1.1**
	baz=62								
SATY	**Saty**	**1.02**	**298**	P		**Pb**		**00 18 49.6**	**-0.5**
	4.6nm,0.1s								
SATY				S		**Sn**		**00 19 03.6**	**-2.7**
	17nm,0.2s								
SATY	**Saty**	**1.02**	**298**	*e*P		**Pb**		**00 18 49.6**	**-0.5**
	0.2nm,0.1s								
SATY				*e*S		**Sn**		**00 19 03.6**	**-2.7**
	18nm,0.1s								
KURS	**Kuram**	**1.40**	**310**	P		**Pb**		**00 18 56.3**	**-0.3**
	1.6nm,0.4s								
KURS				S		**Sg**		**00 19 14.9**	**+0.4**
	3.1nm,0.5s								
KURS	**Kuram**	**1.40**	**310**	*e*P		**Pb**		**00 18 56.3**	**-0.3**
	baz=10.0								
KURS				⇓*i*S		**Sg**		**00 19 14.9**	**+0.4**
	baz=10.0								
KURS	**Kuram**	**1.40**	**310**	*e*P		**Pb**		**00 18 56.3**	**-0.3**
	1.6nm,0.4s								
KURS				⇓*i*S		**Sg**		**00 19 14.9**	**+0.4**
	3.1nm,0.5s								
DJR	**Jarkent**	**1.74**	**4**	P		**Pb**		**00 19 02.1**	**-0.3**
	1.0nm,0.2s								
DJR				S		**Sg**		**00 19 25.3**	**-0.2**
	6.7nm,0.3s								
DJR	**Jarkent**	**1.74**	**4**	*e*P		**Pb**		**00 19 02.1**	**-0.3**
	1.0nm,0.2s								
DJR				*e*S		**Sg**		**00 19 25.1**	**-0.4**
	6.7nm,0.3s								
KDJ	**Kajisay**	**1.88**	**257**	⇑*i*P		**Pb**		**00 19 04.7**	**-0.2**
	baz=56								
KDJ				⇑*i*S		**Sg**		**00 19 30.1**	**+0.1**
	baz=56								
KOTS	**Kotyrbulak**	**1.96**	**290**	Pg		**Pg**		**00 19 07.1**	**-0.1**
	2.8nm,0.3s								
KOTS				Lg		Lg		00 19 33.9	
	17nm,0.4s								
KOTS	**Kotyrbulak**	**1.96**	**290**	*e*P		**Pg**		**00 19 07.3**	**+0.1**
	baz=89								
KOTS				*e*S		**Sg**		**00 19 34.0**	**+1.3**
	baz=89								
KOTS	**Kotyrbulak**	**1.96**	**290**	*e*P		**Pg**		**00 19 07.3**	**+0.1**
	2.8nm,0.3s								
KOTS				*e*S		**Sg**		**00 19 33.9**	**+1.3**
	17nm,0.4s								
MDOK	**Medeo**	**1.99**	**287**	Pn		**Pb**		**00 19 05.9**	**-0.8**
	1.7nm,0.7s								
MDOK				⇑Sn		**Sb**		**00 19 31.9**	**0.0**
	3.3nm,0.5s								
MDOK	**Medeo**	**1.99**	**287**	Pg		**Pb**		**00 19 06.4**	**-0.2**
	2.0nm,0.2s								
MDOK				Lg		Lg		00 19 32.4	
	4.6nm,0.4s								
MDOK	**Medeo**	**1.99**	**287**	*e*P		**Pb**		**00 19 06.4**	**-0.2**
	baz=87								
MDOK				⇑*e*S		**Sg**		**00 19 32.4**	**-1.0**
	baz=87								
MDOK	**Medeo**	**1.99**	**287**	*e*P		**Pb**		**00 19 06.4**	**-0.2**
	2.0nm,0.2s								
MDOK				⇑*e*S		**Sg**		**00 19 32.4**	**-1.0**
	4.6nm,0.4s								
TNSS	**Tian-Shan**	**2.03**	**283**	Pg		**Pg**		**00 19 08.6**	**+0.1**
	2.3nm,0.3s								
TNSS				Lg		Lg		00 19 35.9	
	5.2nm,0.4s								
TNSS	**Tian-Shan**	**2.03**	**283**	*e*P		**Pg**		**00 19 08.6**	**+0.1**
	baz=83								
TNSS				⇓*i*S		**Sg**		**00 19 35.9**	**+1.1**
	baz=83								
TNSS	**Tian-Shan**	**2.03**	**283**	*e*P		**Pg**		**00 19 08.6**	**+0.1**
	2.3nm,0.3s								
TNSS				⇓*i*S		**Sg**		**00 19 35.9**	**+1.1**
	5.2nm,0.4s								
ARXS	**Arharly**	**2.09**	**321**	Pg		**Pb**		**00 19 08.5**	**+0.1**
	2.0nm,0.3s								
ARXS				Lg		Lg		00 19 35.7	
	7.4nm,0.3s								
ARXS	**Arharly**	**2.09**	**321**	*e*P		**Pb**		**00 19 08.5**	**+0.1**
	2.0nm,0.3s								
ARXS				*e*S		**Sg**		**00 19 35.7**	**-1.0**
	7.4nm,0.3s								
CHKK	**Chushkaly**	**2.31**	**304**	Pg		**Pb**		**00 19 12.2**	**+0.1**
	0.7nm,0.1s								
CHKK				Lg		Lg		00 19 42.3	
	8.5nm,0.2s								
CHKK	**Chushkaly**	**2.31**	**304**	*e*P		**Pb**		**00 19 12.2**	**+0.1**
	baz=4.0								
CHKK				*e*S		**Sg**		**00 19 42.3**	**-1.5**
	baz=4.0								
CHKK	**Chushkaly**	**2.31**	**304**	*e*P		**Pb**		**00 19 12.2**	**+0.1**
	0.7nm,0.1s								
CHKK				*e*S		**Sg**		**00 19 42.3**	**-1.5**
	8.5nm,0.2s								
KTBS	**Karatobe**	**2.43**	**298**	Pg		**Pb**		**00 19 14.2**	**0.0**
	0.8nm,0.2s								
KTBS				Lg		Lg		00 19 45.6	
	10.0nm,0.3s								
KTBS	**Karatobe**	**2.43**	**298**	*e*P		**Pb**		**00 19 14.2**	**0.0**
	baz=97								
KTBS				*e*S		**Sb**		**00 19 45.6**	**+0.8**
	baz=97								
KTBS	**Karatobe**	**2.43**	**298**	*e*P		**Pb**		**00 19 14.2**	**0.0**
	0.8nm,0.2s								
KTBS				*e*S		**Sb**		**00 19 45.6**	**+0.8**
	10.0nm,0.3s								
ULHL	**Ulahol**	**2.54**	**263**	⇓*i*P		**Pb**		**00 19 13.8**	**-2.3**
	baz=63								
ULHL				⇓*i*S		**Sb**		**00 19 45.6**	**-2.3**
	baz=63								
KAPS	**Kapalarasan**	**2.70**	**356**	Pg		**Pb**		**00 19 18.8**	**+0.1**
	0.3nm,0.2s								
KAPS				Lg		Lg		00 19 53.6	
	3.9nm,0.4s								
KAPS	**Kapalarasan**	**2.70**	**356**	*e*P		**Pb**		**00 19 18.8**	**+0.1**
	0.3nm,0.2s								
KAPS				⇓*e*S		**Sg**		**00 19 53.6**	**-2.6**
	3.9nm,0.4s								
BOOM	**Boomskoye usch**	**2.73**	**269**	⇑*i*P		**Pn**		**00 19 16.4**	**+1.6**
	baz=69								
BOOM				⇑*i*S		**Sb**		**00 19 51.1**	**-2.4**
	baz=69								
KUU	**Kurty**	**2.74**	**299**	Pg		**Pb**		**00 19 20.2**	**+0.8**
	0.5nm,0.3s								
KUU				Lg		Lg		00 19 55.4	
	5.2nm,0.3s								
KUU	**Kurty**	**2.74**	**299**	*e*P		**Pb**		**00 19 19.8**	**+0.4**
	baz=99								
KUU				*e*S		**Sg**		**00 19 55.3**	**-2.2**
	baz=99								
KUU	**Kurty**	**2.74**	**299**	*e*P		**Pb**		**00 19 19.8**	**+0.4**
	0.2nm,0.5s								
KUU				*e*S		**Sg**		**00 19 55.4**	**-2.2**
	5.2nm,0.3s								
NRN	**Naryn**	**2.95**	**248**	⇓*i*P		**Pn**		**00 19 19.9**	**+2.0**
	baz=48								
NRN				⇓*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOMR	**Dombai**	**0.98**	**25**	*e*Pg	**Pn**	**00 25 26.6**	**+0.1**
DOMR				*e*Sg	**Sb**	**00 25 39.0**	**+0.3**
DBOC	**Borcka**	**1.16**	**156**	IAML_P			
	comp=Z,596nm,0.1s						
DBOC				*i* P	**Pn**	**00 25 29.6**	**+0.9**
DBOC				*i* S	**Sn**	**00 25 44.2**	**-0.5**
ARXR	**Arkhyz**	**1.17**	**8**	*e*Pg	**Pg**	**00 25 29.6**	**+1.0**
ARXR				*e*Sg	**Sb**	**00 25 44.0**	**-0.1**
ARTV	**Artvin**	**1.39**	**151**	IAML_P			
	comp=Z,645nm,0.1s						
ARTV				*i* P	**Pg**	**00 25 33.0**	**+0.3**
ARTV				*i* S	**Sg**	**00 25 50.8**	**+0.1**
DBAD	**Bademkaya**	**1.47**	**161**	IAML_P			
	comp=Z,191nm,0.2s						
DBAD				*i* P	**Pb**	**00 25 33.5**	**-0.3**
DBAD				*i* S	**Sn**	**00 25 51.6**	**-1.0**
DAGI	**Agillar**	**1.48**	**154**	IAML_P			
	comp=Z,97nm,0.1s						
DAGI				*i* P	**Pg**	**00 25 34.7**	**+0.3**
NEY	**Neytrino**	**1.49**	**55**	*e*Pg	**Pg**	**00 25 34.6**	**-0.2**
NEY				*e*Sg	**Sb**	**00 25 53.7**	**+0.3**
SOC	**Sochi**	**1.53**	**321**	*e*Pg	**Pb**	**00 25 34.6**	**-0.2**
SOC				*e*Sg	**Sb**	**00 25 54.4**	**+0.1**
DDEM	**Demirkent**	**1.60**	**161**	IAML_P			
	comp=Z,391nm,0.2s						
SHA1	**Shidzhatmaz**	**1.78**	**41**	*e*Pg	**Pg**	**00 25 40.0**	**-0.3**
SHA1				*e*Sg	**Sb**	**00 26 02.6**	**+0.8**
DIGR	**Digorskoe uzhe**	**1.93**	**74**	*e*Pg	**Pg**	**00 25 42.7**	**-0.5**
DIGR				*e*Sg	**Sg**	**00 26 07.3**	**-0.9**
LZRR	**Lazarevskoye**	**1.96**	**322**	*e*Pg	**Pb**	**00 25 41.3**	**-0.7**
LZRR				*e*Sg	**Sb**	**00 26 06.8**	**+0.2**
KIV0	**Kislovodsk Arr**	**1.96**	**37**	*e*Pg	**Pb**	**00 25 42.9**	**+0.6**
KIV0				*e*Sg	**Sb**	**00 26 07.5**	**+0.6**
ZEI	**Tsey**	**2.14**	**79**	*e*Pg	**Pg**	**00 25 46.9**	**-0.2**
ZEI				*e*Sg	**Sg**	**00 26 14.2**	**-0.7**
LACR	**Lac**	**2.43**	**79**	*e*Pn	**Pb**	**00 25 50.5**	**+0.2**
LACR				*e*Sn	**Sb**	**00 26 20.9**	**+0.4**

*KRNET **30** 00:25:58.1±0.1, 42°.53N×79°.68E, h19km, mb2.4*
*SOME **30** 00:25:59.6, 42°.58N×79°.70E, h20km*
*NNC **30** 00:26:00.3±1.0, 42°.65N×79°.67E, h0km, mb2.9, mpv2.5,*
Error ellipse: s-maj=6.2km s-min=3.6km az=130.0
ISC 30 00:25:58.9±2.0, 42°.55N±0°.06×79°.66E±0°.05, h7km±11km, n45, σ1s02/82, 22C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.76**	**322**	P	**Pb**	**00 26 13.4**	**-1.1**
	1.8nm,0.2s						
UZB				S	**Sb**	**00 26 23.6**	**-1.4**
	8.7nm,0.3s						
UZB	**Uzynbulak**	**0.76**	**322**	*e*P	**Pb**	**00 26 13.5**	**-1.1**
	baz=22						
UZB				*e*S	**Sb**	**00 26 23.7**	**-1.4**
	baz=22						
UZB	**Uzynbulak**	**0.76**	**322**	*e*P	**Pb**	**00 26 13.5**	**-1.1**
	0.4nm,0.1s						
UZB				*e*S	**Sb**	**00 26 23.7**	**-1.4**
	6.4nm,0.2s						
PDGK	**Podgornoye**	**0.79**	**351**	P	**Pb**	**00 26 13.6**	**-1.3**
	0.6nm,0.2s						
PDGK				S	**Sb**	**00 26 24.2**	**-1.7**
	1.6nm,0.2s						
PDGK	**Podgornoye**	**0.79**	**351**	⇓P	**Pb**	**00 26 13.7**	**-1.3**
	1.0nm,0.6s						
PDGK				⇓S	**Sb**	**00 26 23.3**	**-2.6**
	1.9nm,0.5s						
PDGK	**Podgornoye**	**0.79**	**351**	⇑*e*P	**Pb**	**00 26 13.5**	**-1.5**
	baz=50						
PDGK				⇑*i*S	**Sb**	**00 26 24.0**	**-1.9**
	baz=50						
PRZ	**Przheval'sk**	**0.94**	**266**	⇑*i*P	**Pb**	**00 26 16.0**	**-1.6**
	baz=68						
PRZ				⇑*i*S	**Sb**	**00 26 28.7**	**-1.5**
	baz=68						
SATY	**Saty**	**1.05**	**299**	P	**Pb**	**00 26 18.6**	**-0.9**
	2.7nm,0.1s						
SATY				S	**Sb**	**00 26 32.5**	**-1.1**
	20nm,0.2s						
SATY	**Saty**	**1.05**	**299**	*e*P	**Pb**	**00 26 18.6**	**-0.9**
	2.7nm,0.1s						
SATY				*e*S	**Sb**	**00 26 32.5**	**-1.1**
	20nm,0.2s						
KURS	**Kuram**	**1.44**	**311**	P	**Pg**	**00 26 26.7**	**+0.2**
	1.0nm,0.3s						
KURS				S	**Sg**	**00 26 46.4**	**+1.2**
	3.6nm,0.4s						
KURS	**Kuram**	**1.44**	**311**	*e*P	**Pg**	**00 26 26.7**	**+0.2**
	baz=11						
KURS				*e*S	**Sg**	**00 26 46.4**	**+1.2**
	baz=11						
KURS	**Kuram**	**1.44**	**311**	*e*P	**Pg**	**00 26 26.7**	**+0.2**
	0.2nm,0.1s						
KURS				*e*S	**Sg**	**00 26 46.4**	**+1.2**
	1.0nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.61**	**240**	⇑*i*P	**Pn**	**00 26 27.9**	**-0.2**
	baz=41						
TARG				⇑*i*S	**Sn**	**00 26 49.0**	**-0.2**
	baz=41						
DJR	**Jarkent**	**1.78**	**3**	P	**Pb**	**00 26 31.9**	**0.0**
	0.8nm,0.2s						
DJR				S	**Sg**	**00 26 55.2**	**-1.0**
	3.4nm,0.3s						
DJR	**Jarkent**	**1.78**	**3**	*e*P	**Pb**	**00 26 31.9**	**0.0**
	0.8nm,0.2s						
DJR				*e*S	**Sg**	**00 26 55.2**	**-1.0**
	3.4nm,0.3s						
KDJ	**Kajisay**	**1.89**	**258**	⇑*e*P	**Pn**	**00 26 32.3**	**+0.6**
	baz=59						
KDJ				⇑*i*S	**Sb**	**00 26 56.1**	**-1.5**
	baz=59						
KOTS	**Kotyrbulak**	**1.99**	**291**	Pg	**Pb**	**00 26 36.3**	**+0.7**
	2.0nm,0.3s						
KOTS				Lg	Lg	00 27 03.0	
	17nm,0.5s						
KOTS	**Kotyrbulak**	**1.99**	**291**	*e*P	**Pb**	**00 26 36.3**	**+0.7**
	baz=91						
KOTS				*e*S	**Sg**	**00 27 03.0**	**0.0**
	baz=91						
KOTS	**Kotyrbulak**	**1.99**	**291**	*e*P	**Pb**	**00 26 36.3**	**+0.7**
	2.0nm,0.3s						
KOTS				*e*S	**Sg**	**00 27 03.0**	**0.0**
	17nm,0.5s						
MDOK	**Medeo**	**2.02**	**288**	⇑Pn	**Pb**	**00 26 35.0**	**-1.0**
	1.7nm,0.5s						
MDOK				Sn	**Sg**	**00 27 04.0**	**+0.3**
	3.0nm,0.5s						
MDOK	**Medeo**	**2.02**	**288**	Pg	**Pb**	**00 26 36.0**	**0.0**
	1.9nm,0.3s						
MDOK				Lg	Lg	00 27 02.4	
	5.3nm,0.2s						
MDOK	**Medeo**	**2.02**	**288**	*e*P	**Pb**	**00 26 36.0**	**0.0**
	baz=89						
MDOK				*e*S	**Sb**	**00 27 02.4**	**+1.1**
	baz=89						
MDOK	**Medeo**	**2.02**	**288**	*e*P	**Pb**	**00 26 36.0**	**0.0**
	2.8nm,0.5s						
MDOK				*e*S	**Sb**	**00 27 02.4**	**+1.1**
	4.9nm,0.4s						
TNSS	**Tian-Shan**	**2.06**	**285**	Pg	**Pb**	**00 26 36.7**	**-0.1**
	2.5nm,0.3s						
TNSS				Lg	Lg	00 27 03.8	
	5.5nm,0.3s						
TNSS	**Tian-Shan**	**2.06**	**285**	*e*P	**Pb**	**00 26 36.7**	**-0.1**
	baz=85						
TNSS				*e*S	**Sb**	**00 27 03.5**	**+0.8**
	baz=85						
TNSS	**Tian-Shan**	**2.06**	**285**	*e*P	**Pb**	**00 26 36.7**	**-0.1**
	2.5nm,0.3s						
TNSS				*e*S	**Sb**	**00 27 03.5**	**+0.8**
	5.5nm,0.3s						
ARXS	**Arharly**	**2.13**	**322**	Pg	**Pb**	**00 26 37.9**	**0.0**
	1.4nm,0.3s						
ARXS				Lg	Lg	00 27 05.2	
	6.8nm,0.4s						
ARXS	**Arharly**	**2.13**	**322**	*e*P	**Pb**	**00 26 37.9**	**0.0**
	1.4nm,0.3s						
ARXS				*e*S	**Sb**	**00 27 05.2**	**+0.7**
	6.8nm,0.4s						
CHKK	**Chushkaly**	**2.35**	**305**	Pg	**Pb**	**00 26 42.1**	**+0.6**
	1.2nm,0.3s						
CHKK				Lg	Lg	00 27 12.3	
	10nm,0.2s						
CHKK	**Chushkaly**	**2.35**	**305**	*e*P	**Pb**	**00 26 42.1**	**+0.6**
	baz=5.0						
CHKK				*e*S	**Sg**	**00 27 12.3**	**-2.1**
	baz=5.0						
CHKK	**Chushkaly**	**2.35**	**305**	*e*P	**Pb**	**00 26 42.1**	**+0.6**
	1.2nm,0.3s						
CHKK				*e*S	**Sg**	**00 27 12.3**	**-2.1**
	10nm,0.2s						
ULHL	**Ulahol**	**2.55**	**264**	⇑*e*P	**Pn**	**00 26 41.2**	**+0.3**
	baz=65						
ULHL				⇑*i*S	**Sn**	**00 27 11.9**	**-0.4**
	baz=65						
KAPS	**Kapalarasan**	**2.74**	**355**	Pg	**Pb**	**00 26 48.6**	**+0.3**
	0.3nm,0.1s						
KAPS				Lg	Lg	00 27 23.5	
	1.3nm,0.2s						
KAPS	**Kapalarasan**	**2.74**	**355**	*e*P	**Pb**	**00 26 48.5**	**+0.3**
	0.3nm,0.1s						
KAPS				*e*S	**Sb**	**00 27 23.5**	**+1.4**
	1.3nm,0.2s						
BOOM	**Boomskoye usch**	**2.75**	**270**	⇑*i*P	**Pn**	**00 26 44.2**	**+0.6**
	baz=71						
BOOM				⇑*i*S	**Sn**	**00 27 16.9**	**-0.3**
	baz=71						
KUU	**Kurty**	**2.77**	**300**	Pg	**Pb**	**00 26 49.1**	**+0.3**
	0.6nm,0.2s						
KUU				Lg	Lg	00 27 24.5	
	3.2nm,0.1s						
KUU	**Kurty**	**2.77**	**300**	*e*P	**Pb**	**00 26 49.1**	**+0.3**
	baz=0.0						
KUU				*e*S	**Sb**	**00 27 24.5**	**+1.5**
	baz=0.0						
KUU	**Kurty**	**2.77**	**300**	*e*P	**Pb**	**00 26 49.1**	**+0.3**
	0.5nm,0.2s						
KUU				*e*S	**Sb**	**00 27 24.6**	**+1.5**
	3.7nm,0.1s						
NRN	**Naryn**	**2.95**	**249**	⇓*e*P	**Pn**	**00 26 47.3**	**+0.9**
	baz=49						
NRN				⇓*e*S	**Sn**	**00 27 22.1**	**-0.1**
	baz=49						
TKM2	**Tokmak 2**	**3.02**	**278**	⇑Pg	**Pb**	**00 26 54.8**	**+1.7**
	0.4nm,0.5s						
TKM2				⇓Lg	Lg	00 27 35.7	
	2.1nm,0.5s						
TKM2	**Tokmak 2**	**3.02**	**278**	⇓*e*P	**Pn**	**00 26 47.5**	**+0.2**
	baz=79						
TKM2				⇓*e*S	**Sn**	**00 27 23.2**	**-0.6**
	baz=79						
KBK	**Karagaybulak**	**3.48**	**273**	⇑*e*P	**Pn**	**00 26 54.1**	**+0.5**
	baz=74						
KBK				⇑*i*S	**Sn**	**00 27 34.3**	**-0.9**
	baz=74						
ARLS	**Aral**	**4.03**	**262**	⇑*i*P	**Pn**	**00 27 01.3**	**+0.2**
	baz=62						
ARLS				⇑*i*S	**Sn**	**00 27 47.3**	**-1.3**
	baz=62						
MAKZ	**Makanchi**	**4.56**	**20**	⇑Pn	**Pn**	**00 27 09.7**	**+1.3**
	1.3nm,1.2s						
MAKZ				⇓Sn	**Sn**	**00 28 02.7**	**+1.1**
	0.1nm,0.4s						
MAKZ				⇑Lg	Lg	00 28 18.9	
	0.3nm,0.8s						
MK31	**Makanchi Array**	**4.64**	**23**	⇓Pn	**Pn**	**00 27 10.2**	**+0.8**
	0.2nm,0.5s,baz=202,slow=13,SNR=10						
MK31				⇑Sn	**Sn**	**00 28 04.5**	**+1.1**
	0.2nm,0.6s,baz=202,slow=24,SNR=4.1						
MK31				⇑Lg	Lg	00 28 21.3	
	0.1nm,0.3s,baz=210,slow=30,SNR=4.2						

IDC 30 00:33:42.4±8.9, 12°.55N×93°.88E, h140km±71km, mb3.3/5, mb1 3.3/6, mb1mx3.0/44, mbtmp3.7/6, Error ellipse: s-maj=89.7km s-min=20.4km az=58.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.64**	**39**	P	Pn	00 35 31.1	+0.1
	0.7nm,0.3s,baz=233,slow=14,SNR=10						
MKAR	**Makanchi Array**	**35.51**	**346**	P	P	00 40 25.4	-0.3
	0.3nm,0.4s,baz=164,slow=8.2,SNR=8.2						
SONM	**Songino Array**	**36.70**	**14**	P	P	00 40 35.7	-0.3
	0.2nm,0.4s,baz=198,slow=8.9,SNR=3.5						
KURBB	**Kurchatov Arra**	**39.99**	**345**	P	P	00 41 03.0	-0.2
	0.8nm,0.2s,baz=130,slow=23,SNR=2.0						
ZALV	**Zalesovo Beam**	**41.92**	**352**	P	P	00 41 19.2	+0.3
	1.0nm,0.3s,baz=170,slow=7.9,SNR=7.9						
WRA	**Warramunga Arr**	**51.27**	**128**	P	P	00 42 32.2	-0.1
	0.4nm,0.8s,baz=308,slow=7.8,SNR=3.8						

*NEIC **30** 00:43:00.6±6.8, 11°.01S×165°.62E, h16km±42km, mb4.2/4, Error ellipse: s-maj=15.6km s-min=13.5km az=220.0*
*ISCJB **30** 00:43:01.7±0.7, 11°.10S±0°.09×165°.44E±0°.08, h30km, mb4.2/10, MS3.4/4, Error ellipse: s-maj=13.7km s-min=10.0km az=31.0*
*IDC **30** 00:43:04.7±5.0, 11°.04S×165°.48E, h39km±42km, mb3.9/6, mb1 4.1/8, mb1mx3.8/37, mbtmp4.2/8, ML4.6/2, MS3.5/6, Ms1 3.4/6, ms1mx3.1/31, Error ellipse: s-maj=38.3km s-min=31.6km az=111.0*
ISC 30 00:43:02.7±0.8, 11°.10S±0°.1×165°.57E±0°.09, h30km, n22, σ1s07/22, mb4.2/10, MS3.5/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.74**	**285**	Pn	**Pn**	**00 44 26.5**	**+0.6**
	35nm,0.3s,baz=140,slow=8.1,SNR=4.2						
HNR				Sn	**Sn**	**00 45 29.7**	**-1.2**
	7.3nm,0.3s,baz=216,slow=18,SNR=2.1						
HNR				LR	LR	00 46 32.1	
	comp=Z,214nm,18.8s,baz=71,slow=36						
HNR	**Honiara**	**5.74**	**285**	*e*Pn	**Pn**	**00 44 25.5**	**-0.5**
HNR				*e*Sn	**Sn**	**00 45 29.7**	**-1.2**
DZM	**Mont Dzumac**	**11.06**	**176**	Pn	**Pn**	**00 45 39.8**	**+0.7**
	2.2nm,0.3s,baz=319,slow=9.8,SNR=27						
DZM	**Mont Dzumac**	**11.06**	**176**	*e*Pn	**Pn**	**00 45 38.2**	**-0.9**
PMG	**Port Moresby**	**18.18**	**273**	LR	LR	00 53 59.2	
	comp=Z,174nm,18.9s,baz=80,slow=36						
CTA	**Charters Tower**	**20.68**	**242**	P	**P**	**00 47 40.9**	**+0.4**
	4.3nm,0.7s,baz=61,slow=12,SNR=7.3						
CTAO	**Charters Tower**	**20.68**	**242**	*e*P	**P**	**00 47 41.2**	**+0.8**
	15nm,1.2s						
STKA	**Stephens Creek**	**30.37**	**223**	P	**P**	**00 49 13.1**	**+0.9**
	1.9nm,0.7s,baz=16,slow=13,SNR=3.4						
STKA				LR	LR	01 00 45.9	
	comp=Z,94nm,18.1s,baz=23,slow=35						
WRAB	**Tennant Creek**	**31.33**	**250**	*e*P	**P**	**00 49 20.7**	**-0.1**
	1.4nm,0.4s						
WB2	**Warramunga Arr**	**31.33**	**250**	*e*P	**P**	**00 49 21.1**	**+0.3**
WR1	**Warramunga Arr**	**31.34**	**250**	*e*P	**P**	**00 49 20.3**	**-0.6**
	6.3nm,0.8s						
WRA	**Warramunga Arr**	**31.34**	**250**	P	**P**	**00 49 20.3**	**-0.6**
	2.8nm,0.5s,baz=81,slow=9.1,SNR=26						
WRA				LR	LR	01 01 59.3	
	comp=Z,52nm,18.4s,baz=70,slow=36						
AS01	**Alice Springs**	**32.62**	**243**	*e*P	**P**	**00 49 31.4**	**-0.8**
FOZ	**Fox Glacier**	**32.65**	**174**	*e*P	**P**	**00 49 31.7**	**-0.3**
	15nm,1.2s						
AS31	**Alice Springs**	**32.66**	**243**	*e*P	**P**	**00 49 32.0**	**-0.5**
	1.4nm,0.5s						
ASAR	**Alice Springs**	**32.67**	**243**	P	**P**	**00 49 32.0**	**-0.5**
	6.4nm,0.9s,baz=70,slow=9.4,SNR=35						
ASAR				LR	LR	01 02 22.8	
	comp=Z,78nm,18.2s,baz=66,slow=36						
FITZ	**Fitzroy Crossi**	**39.23**	**255**	LR	LR	01 07 14.6	
	comp=Z,66nm,18.1s,baz=128,slow=37						
SONA0	**Songino Array**	**78.51**	**324**	*e*P	**P**	**00 55 02.8**	**+1.5**
SONM	**Songino Array**	**78.51**	**324**	P	**P**	**00 55 02.8**	**+1.5**
	0.5nm,0.9s,baz=120,slow=5.2,SNR=3.3						
KLU	**Klutina**	**81.60**	**21**	*e*P	**P**	**00 55 18.4**	**+0.8**
	29nm,1.1s						
LPM	**Los Pinos Moun**	**94.30**	**56**	*e*P	**P**	**00 56 17.0**	**-2.9**
YKA	**Yellowknife Ar**	**94.99**	**27**	P	**P**	**00 56 22.7**	**+0.6**
	0.2nm,0.7s,baz=250,slow=5.0,SNR=3.0						

*ISCJB **30** 00:56:28.0±0.1, 52°.22N±0°.03×174°.48W±0°.03, h67km, mb4.5/142, Error ellipse: s-maj=5.1km s-min=2.4km az=165.9*
*IDC **30** 00:56:28.4±0.7, 52°.38N×174°.75W, h60km±5km, mb3.8/15, mb1 4.1/17, mb1mx3.8/47, mbtmp4.1/17, MS3.2/7, Ms1 3.2/7, ms1mx3.0/31, Error ellipse: s-maj=18.6km s-min=10.4km az=159.0*
*NEIC **30** 00:56:30.3±0.0, 52°.02N×174°.48W, h63km, mb4.6/149, ML4.7(AEIC), After AEIC.*
NEIC Felt on Atka.
*AEIC **30** 00:56:30.3, 52°.02N×174°.48W, h63km*
*MOS **30** 00:56:30.2±1.1, 52°.25N×174°.73W, h93km, mb4.6/24, Error ellipse: s-maj=13.4km s-min=7.6km az=46.7*
ISC 30 00:56:29.3±0.4, 52°09N±0°.07×174°49W±0°.03, h67km, n580, σ1s22/592, mb4.7/142, 1D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.21**	**57**	*e*Pn	**Pn**	**00 56 40.4**	**+0.8**
ATKA				*e*Sn	**Sn**	**00 56 47.6**	**+0.5**
KOKL	**Mount Kliuchef**	**0.29**	**37**	P	**Pn**	**00 56 41.8**	**+1.7**
KOFP	**Korovin Flat P**	**0.30**	**52**	P	**Pn**	**00 56 41.8**	**+1.6**
KOSE	**Korovin Southe**	**0.37**	**46**	P	**Pn**	**00 56 42.5**	**+1.8**
GSMY	**Great Sitkin M**	**0.97**	**268**	P	**Pn**	**00 56 48.3**	**+1.1**
GSTD	**Great Sitkin T**	**1.02**	**269**	P	**Pn**	**00 56 49.2**	**+1.2**
GSSP	**Great Sitkin S**	**1.04**	**271**	P	**Pn**	**00 56 49.8**	**+1.7**
ETKA	**Kagalaska Isla**	**1.21**	**260**	P	**Pn**	**00 56 51.1**	**+0.9**
ADAG	**Mount Adagdak**	**1.31**	**266**	P	**Pn**	**00 56 53.3**	**+1.7**
ADK	**Adak**	**1.38**	**262**	*e*Pn	**Pn**	**00 56 53.6**	**+1.2**
ADK				*e*Sn	**Sn**	**00 57 10.3**	**+0.5**
ADK	**Adak**	**1.38**	**262**	*e*P	**Pn**	**00 56 53.6**	**+1.2**
ADK				*e*		00 57 10.3	
KIRH	**Kanaga Island**	**1.62**	**264**	P	**Pn**	**00 56 57.5**	**+1.7**
KIKV	**Kanaga Island**	**1.67**	**264**	P	**Pn**	**00 56 57.9**	**+1.4**
KIMD	**Kanaga Island**	**1.73**	**260**	P	**Pn**	**00 56 59.0**	**+1.9**
TAPA	**Tanaga Point A**	**2.08**	**264**	P	**Pn**	**00 57 03.7**	**+1.8**
TAFP	**Tanaga Falls P**	**2.17**	**266**	P	**Pn**	**00 57 04.7**	**+1.6**
TAFP				S	**Sn**	**00 57 30.1**	**+1.2**
TASE	**Tanaga Southea**	**2.21**	**265**	P	**Pn**	**00 57 05.6**	**+1.9**
GAEA	**Gareloi East**	**2.66**	**265**	P	**Pn**	**00 57 11.4**	**+1.7**
GALAA	**Gareloi Lava P**	**2.67**	**265**	P	**Pn**	**00 57 12.2**	**+2.3**
NIKH	**Nikolski High**	**3.55**	**73**	*e*Pn	**Pn**	**00 57 24.5**	**+2.6**
NIKH				*e*Sn	**Sn**	**00 58 04.3**	**+1.7**
CESW	**Semis' Southwe**	**3.68**	**269**	P	**Pn**	**00 57 25.2**	**+1.5**
AMKA	**Amchitka**	**3.93**	**262**	P	**Pn**	**00 57 28.2**	**+1.2**
OKAK	**Okmok**	**4.00**	**66**	P	**Pn**	**00 57 29.7**	**+1.6**
OKER	**Okmok East Rim**	**4.14**	**68**	P	**Pn**	**00 57 33.2**	**+3.2**
MREP	**Makushin Rep't**	**4.99**	**67**	P	**Pn**	**00 57 44.2**	**+2.6**
MSW	**Makushin Switc**	**5.00**	**65**	P	**Pn**	**00 57 44.3**	**+2.7**
MSW				S	**Sn**	**00 58 41.0**	**+3.0**
MTBL	**Makushin Table**	**5.08**	**65**	P	**Pn**	**00 57 46.2**	**+3.5**
UNV	**Unalaska Valle**	**5.14**	**67**	*e*Pn	**Pn**	**00 57 46.5**	**+3.0**
UNV				*e*Sn	**Sn**	**00 58 42.2**	**+0.8**
AKMO	**Akutan Morgan**	**5.49**	**65**	P	**Pn**	**00 57 51.4**	**+3.1**
ZRO	**Akutan Zero**	**5.51**	**65**	P	**Pn**	**00 57 51.0**	**+2.4**
AKGG	**Akutan Green G**	**5.53**	**64**	P	**Pn**	**00 57 51.8**	**+2.9**
AKUT	**Akutan**	**5.63**	**65**	*e*Pn	**Pn**	**00 57 52.6**	**+2.3**
SPIA	**Saint Paul Isl**	**5.66**	**24**	*e*Pn	**Pn**	**00 57 53.0**	**+2.3**
SPIA				*e*Sn	**Sn**	**00 58 55.3**	**+1.1**
AKSA	**Akutan Strait**	**5.68**	**65**	P	**Pn**	**00 57 55.0**	**+4.1**
WESP	**Westdahl Peak**	**6.33**	**64**	P	**Pn**	**00 58 03.8**	**+3.8**
FALS	**False Pass**	**7.17**	**63**	*e*Pn	**Pn**	**00 58 11.8**	**+0.6**
DT1	**Dutton Round H**	**7.87**	**63**	P	**Pn**	**00 58 25.2**	**+4.4**
SDPT	**Sand Point**	**8.93**	**63**	*e*Pn	**Pn**	**00 58 36.3**	**+1.1**
CHGN	**Chignik**	**10.31**	**60**	*e*Pn	**Pn**	**00 58 55.3**	**+1.1**
OHAK	**Old Harbor**	**13.28**	**59**	*e*Pn	**Pn**	**00 59 36.2**	**+1.6**
ANM	**Nome**	**13.38**	**17**	*e*Pn	**Pn**	**00 59 37.9**	**+2.1**
ANM	**Nome**	**13.38**	**17**	*e*P	**Pn**	**00 59 37.9**	**+2.1**
KDAK	**Kodiak Island**	**13.79**	**57**	P	**Pn**	**00 59 40.0**	**-1.3**
	2.5nm,0.3s,baz=327,slow=0.5,SNR=14						
KDAK				S	**Sn**	**01 02 10.0**	**-2.6**
	0.3nm,0.3s,baz=127,slow=15,SNR=2.6						
KDAK				LR	LR	01 05 56.7	
	comp=Z,191nm,18.5s,baz=250,slow=41						
KDAK	**Kodiak Island**	**13.79**	**57**	*e*Pn	**Pn**	**00 59 41.1**	**-0.2**
KDAK				S	**Sn**	**01 02 10.0**	**-2.6**
KDAK	**Kodiak Island**	**13.79**	**57**	*e*P	**Pn**	**00 59 41.1**	**-0.2**
KDAK				S	**Sn**	**01 02 10.0**	**-2.6**
BRLK	**Bradley Lake**	**15.23**	**50**	*e*Pn	**Pn**	**00 59 59.8**	**-0.3**
	45nm,1.1s						
SUA	**Susitna One**	**15.95**	**45**	*e*Pn	**Pn**	**01 00 10.6**	**+1.2**
	4.7nm,0.7s						
SEW	**Seward**	**16.03**	**50**	*e*Pn	**Pn**	**01 00 09.2**	**-0.9**
	33nm,1.2s						
PPLA	**Purkeypile**	**16.05**	**39**	*e*Pn	**Pn**	**01 00 11.7**	**+1.1**
	28nm,0.8s						
RC01	**Rabbit Creek A**	**16.24**	**47**	*e*Pn	**P**	**01 00 14.5**	**-0.4**
	5.8nm,0.8s						
CAST	**Castle Rocks**	**16.37**	**37**	*e*Pn	**P**	**01 00 16.6**	**+0.3**
	25nm,1.1s						
GHO	**Glory Hole Cre**	**16.87**	**45**	*e*Pn	**Pn**	**01 00 21.3**	**+0.5**
	9.5nm,0.5s						
PETK	**Petropavlovsk-**	**16.89**	**284**	LR	LR	01 05 42.2	
	comp=Z,108nm,20.9s,baz=73,slow=33						
KNK	**Knik Glacier**	**16.94**	**46**	*e*Pn	**Pn**	**01 00 21.9**	**+0.3**
	17nm,0.6s						
TRF	**Thorofare Moun**	**17.07**	**39**	*e*Pn	**P**	**01 00 25.1**	**+0.9**
	16nm,0.8s						
SML	**Sawmill**	**17.14**	**45**	*e*Pn	**Pn**	**01 00 24.4**	**+0.3**
	18nm,1.0s						
SML	**Sawmill**	**17.14**	**45**	*e*P	**Pn**	**01 00 24.4**	**+0.3**
SML				pmax	pmax		
	comp=Z,19nm,1.0s						
BPAW	**Bear Paw Mtn.**	**17.16**	**36**	*e*Pn	**P**	**01 00 26.0**	**+1.1**
	comp=Z,22nm,0.8s						
GLI	**Glacier Island**	**17.38**	**49**	*e*Pn	**Pn**	**01 00 26.1**	**-0.8**
	comp=Z,33nm,1.0s						
IM3	**Indian Mountai**	**17.41**	**29**	*e*Pn	**P**	**01 00 29.2**	**+1.5**
SCM	**Sheep Creek Mo**	**17.60**	**46**	*e*Pn	**P**	**01 00 31.0**

PRP **Porcupine Dome** 19.89 36 *e*P P 01 00 55.5 +0.5
comp=Z,8.1nm,0.8s
TOLK **Toolik Lake Re** 20.41 26 *e*P Pn 01 01 02.6 -0.5
comp=Z,21nm,1.0s
TOLK **Toolik Lake Re** 20.41 26 P Pn 01 01 02.4 -0.7
baz=228,SNR=16
SEY **Seymchan** 20.59 315 pP Pn 01 01 07.6 +2.4
comp=Z,6.0nm,0.8s,baz=111,slow=7.6,SNR=9.2
SEY sP pwP 01 01 19.5 -0.3
comp=Z,9.4nm,1.0s,baz=98,slow=12,SNR=7.5
SEY ScP **ScP 01 08 39.7 -1.1**
comp=Z,4.7nm,1.0s,baz=88,slow=4.4,SNR=7.9
SEY Seymchan 20.59 315 *i* P Pn 01 01 06.8 +1.6
MA2 Magadan 20.70 305 pP Pn 01 01 11.4 +4.8
comp=Z,7.7nm,0.6s,baz=96,slow=8.3,SNR=2.6
MA2 LR LR 01 07 39.7
comp=Z,86nm,21.2s,baz=94,slow=33
MA2 Magadan 20.70 305 *e*P **P 01 01 04.5 +0.9**
comp=Z,70nm,1.1s
MA2 pP Pn 01 01 11.4 +4.8
MA2 Magadan 20.70 305 *e*P **P 01 01 04.5 +0.9**
MA2 pmax pmax
comp=Z,70nm,1.1s
DAWY Dawson 21.75 43 *e*P **P 01 01 15.9 +1.0**
comp=Z,9.9nm,0.7s
HYT Haines Junctio 21.95 52 *e*P **P 01 01 17.0 -0.1**
comp=Z,4.6nm,0.9s
EPYK Eagle Plains 23.54 38 *e*P **P 01 01 33.6 +0.5**
comp=Z,1.1nm,0.5s
EPYK Eagle Plains 23.54 38 P **P 01 01 33.0 -0.2**
baz=251,SNR=9.7
INK Inuvik 25.34 35 P **P 01 01 49.1 -0.3**
comp=Z,3.0nm,0.5s,baz=256,slow=8.1,SNR=29
INK Inuvik 25.34 35 *e*P **P 01 01 49.6 +0.2**
comp=Z,3.6nm,0.8s
INK Inuvik 25.34 35 P **P 01 01 49.1 -0.3**
INK pmax pmax
comp=Z,4.0nm,0.5s
DLBC Dease Lake 25.72 58 P **P 01 01 54.0 +1.0**
comp=Z,1.3nm,0.6s,baz=229,slow=5.4,SNR=4.4
TIXI Tiksi 31.36 329 P **P 01 02 39.9 -3.1**
comp=Z,1.3nm,0.3s,baz=83,slow=2.7,SNR=3.6
TIXI Tiksi 31.36 329 *e*P **P 01 02 43.4 +0.5**
YKA Yellowknife Ar 32.78 48 P **P 01 02 53.6 -1.9**
comp=Z,0.7nm,0.6s,baz=282,slow=6.2,SNR=14
YKA pP **pP 01 03 08.6 -3.0**
comp=Z,0.3nm,0.5s,baz=273,slow=8.4,SNR=2.7
YKA sP **sP 01 03 16.4 -3.1**
comp=Z,0.2nm,0.5s,baz=288,slow=6.5,SNR=2.1
YKA PcP **PcP 01 05 39.0 +0.1**
comp=Z,2.0nm,0.7s,baz=287,slow=2.8,SNR=25
YKA ScP **ScP 01 09 17.6 +0.7**
comp=Z,0.5nm,0.8s,baz=292,slow=3.1,SNR=7.3
YKB5 Yellowknife Ar 32.78 48 *e*P **P 01 02 55.1 -0.4**
D03D Eldon 32.90 77 P **P 01 02 58.3 +1.5**
baz=297
B05A Bryant 33.16 75 P **P 01 03 00.8 +1.8**
baz=297,SNR=7.2
KLR Kul'dur 33.55 287 P **P 01 03 00.0 -2.4**
comp=Z,0.7nm,0.6s,baz=43,slow=19,SNR=3.7
F04D Rainier, OR 33.64 79 P **P 01 03 05.2 +2.0**
baz=299
E04D Cinebar 33.68 78 P **P 01 03 05.8 +2.4**
baz=299
LON Longmire 34.04 78 *e*P **P 01 03 07.9 +1.2**
comp=Z,9.3nm,0.8s
LON Longmire 34.04 78 *e*P **P 01 03 07.9 +1.2**
LON pmax pmax
comp=Z,9.0nm,0.8s
LTY Liberty 34.48 76 *e*P **P 01 03 11.4 +0.9**
comp=Z,4.9nm,0.6s
B08A Colville Reser 34.77 74 *e*P **P 01 03 13.8 +0.9**
comp=Z,15nm,0.8s
G05D Wamic, OR 35.09 80 P **P 01 03 17.4 +1.7**
baz=301
I04A Tendick Farm, 35.18 82 P **P 01 03 18.3 +1.8**
baz=302
E07A Sunnyside 35.31 77 *e*P **P 01 03 18.5 +0.9**
comp=Z,6.9nm,0.6s
H11N2 WAKE ISLAND Hy 35.42 211 T T 01 41 01.8
H11N3 WAKE ISLAND Hy 35.43 211 T T 01 40 51.2
baz=132,slow=74
H11N1 WAKE ISLAND Hy 35.44 211 T T 01 40 50.4
baz=21,slow=74
I05D Terrebonne, OR 35.55 81 P **P 01 03 21.4 +1.7**
baz=302
HAWA Hanford 35.59 77 *e*P **P 01 03 20.9 +0.9**
C09A Chrisman Ranch 35.65 74 *e*P **P 01 03 20.8 +0.3**
comp=Z,9.3nm,0.8s
J04D Umpqua Nationa 35.66 83 P **P 01 03 22.3 +1.4**
baz=303
E08A Dider Farm, El 35.82 76 *e*P **P 01 03 22.7 +0.7**
comp=Z,7.4nm,0.6s
PINE Pine Mountain 36.08 82 *e*P **P 01 03 25.3 +0.9**
comp=Z,3.0nm,0.8s
NEW Newport 36.12 73 *e*P **P 01 03 25.8 +1.3**
comp=Z,12nm,0.9s
NEW Newport 36.12 73 *e*P **P 01 03 25.8 +1.3**
NEW pmax pmax
comp=Z,12nm,0.9s
NEW Newport 36.12 73 P **P 01 03 25.4 +0.8**
baz=298,SNR=12
J05D Fort Rock, OR 36.17 82 P **P 01 03 27.4 +2.1**
baz=303
M02C Callahan 36.24 86 P **P 01 03 28.1 +2.4**
baz=305
MJAR Matsushiro Arr 36.54 264 P **P 01 03 28.1 -0.1**
comp=Z,0.9nm,0.3s,baz=56,slow=4.1,SNR=3.3
MJAR LR LR 01 18 41.6
comp=Z,18nm,19.7s,baz=355,slow=37
MAJO Matsushiro 36.54 264 *e*P **P 01 03 28.9 +0.7**
comp=Z,5.1nm,0.6s
MAJO Matsushiro 36.54 264 *i* P **P 01 03 30.5 +2.3**
MAJO pmax pmax
comp=Z,11nm,1.2s
N02D Trinity Center 36.58 87 P **P 01 03 30.7 +2.1**
baz=306
H11S1 WAKE ISLAND Hy 36.63 211 T T 01 42 31.4
baz=19,slow=76,SNR=331
H11S2 WAKE ISLAND Hy 36.64 211 T T 01 42 35.1
baz=19,slow=76,SNR=340
M04C Macdoel 36.64 85 P **P 01 03 31.3 +2.1**
baz=305
H11S3 WAKE ISLAND Hy 36.65 211 T T 01 42 35.2
baz=19,slow=76,SNR=233
I07A Izee 36.80 80 *e*P **P 01 03 31.6 +1.1**
comp=Z,10nm,0.9s
O02D Mt. Diablo Mer 36.99 88 P **P 01 03 34.1 +2.0**
baz=306
F10A Beach Ranch, E 37.18 76 *e*P **P 01 03 34.8 +1.1**
comp=Z,4.4nm,0.6s
MOD Modoc Plateau 37.52 84 *e*P **P 01 03 37.4 +0.8**
comp=Z,4.8nm,0.8s
O03E Paynes Creek 37.53 87 P **P 01 03 38.4 +1.8**
baz=306
BMO Blue Mountains 37.72 78 *e*P **P 01 03 39.6 +1.4**
comp=Z,4.1nm,0.8s
BMO Blue Mountains 37.72 78 *e*P **P 01 03 39.6 +1.4**
BMO pmax pmax
comp=Z,4.0nm,0.8s
WVOR Wild Horse Val 38.24 82 *e*P **P 01 03 43.2 +0.6**
comp=Z,12nm,0.9s
WVOR Wild Horse Val 38.24 82 *e*P **P 01 03 43.3 +0.6**
WVOR pmax pmax
comp=Z,12nm,0.9s
MSO Missoula 38.70 73 *e*P **P 01 03 46.9 +0.4**
comp=Z,5.8nm,0.6s
MSO Missoula 38.70 73 P **P 01 03 47.1 +0.7**
baz=301,SNR=7.2
PAHR Pah Rah Range 39.37 86 *e*P **P 01 03 52.6 +0.5**
comp=Z,9.2nm,0.9s
MFID Camas Ranch 39.39 79 *e*P **P 01 03 53.4 +1.1**
comp=Z,5.8nm,0.8s
VCNR Virginia City 39.45 87 *e*P **P 01 03 54.3 +1.4**
comp=Z,14nm,1.1s
PNTR Pine Nut 39.61 87 *e*P **P 01 03 55.6 +1.3**
comp=Z,15nm,0.8s
YERR Yerington 39.90 87 *e*P **P 01 03 57.6 +1.0**
comp=Z,9.4nm,1.0s
HRY Holter Researc 40.00 72 *e*P **P 01 03 58.4 +1.1**
WAKR Walker 40.07 87 *e*P **P 01 03 58.9 +0.8**
comp=Z,6.5nm,0.7s
HLID Hailey 40.17 78 *e*P **P 01 03 59.5 +0.7**
comp=Z,7.7nm,0.8s
HLID Hailey 40.17 78 P **P 01 03 60.0 +1.2**
baz=304,SNR=11
MCMT McKenzie Canyo 40.41 75 *e*P **P 01 04 01.7 +0.9**
EGMT Eagleton 40.53 69 P **P 01 04 02.1 +0.5**
baz=301
KVN Kaiserville 40.56 86 *e*P **P 01 04 02.3 +0.2**
comp=Z,3.9nm,0.8s
KVN Kaiserville 40.56 86 *e*P **P 01 04 02.3 +0.2**
KVN pmax pmax
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 40.71 73 *e*P **P 01 04 03.9 +0.7**
comp=Z,10nm,0.8s
BOZ Bozeman (W) 40.71 73 *e*P **P 01 04 03.9 +0.7**
BOZ pmax pmax
comp=Z,10.0nm,0.8s
BOZ Bozeman (W) 40.71 73 P **P 01 04 03.8 +0.7**
baz=303,SNR=19
NV01 Mina Array Sit 40.81 87 *e*P **P 01 04 05.7 +1.4**
NVAR Mina Array Bea 40.81 87 P **P 01 04 05.5 +1.3**
comp=Z,5.5nm,0.7s,baz=300,slow=7.2,SNR=16
OMMB Old Mammoth Mi 40.90 88 *e*P **P 01 04 06.6 +1.5**
comp=Z,7.7nm,1.0s
NV11 Mina Array Sit 40.91 87 *e*P **P 01 04 05.6 +0.7**
comp=Z,0.3nm,0.8s
ELK Elko 41.29 82 *e*P **P 01 04 08.9 +0.8**
comp=Z,9.1nm,0.8s
ELK Elko 41.29 82 *e*P **P 01 04 08.9 +0.8**
ELK pmax pmax
comp=Z,9.0nm,0.8s
YHB Horse Butte 41.43 74 *e*P **P 01 04 09.5 +0.3**
comp=Z,14nm,0.9s
FFC Flin Flon 41.53 57 *e*P **P 01 04 10.0 +0.3**
comp=Z,1.2nm,0.5s
FFC Flin Flon 41.53 57 *e*P **P 01 04 10.0 +0.3**
FFC pmax pmax
comp=Z,1.0nm,0.5s
YMR Madison River 41.61 74 *e*P **P 01 04 10.7 0.0**
comp=Z,11nm,0.8s
YNR Norris Junctio 41.76 74 *e*P **P 01 04 12.8 +0.9**
comp=Z,11nm,0.8s
YFT Old Faithful 41.81 74 *e*P **P 01 04 12.9 +0.6**
comp=Z,6.8nm,0.8s
YPP Pitchstone Pla 41.93 74 *e*P **P 01 04 14.7 +1.3**
comp=Z,2.7nm,0.9s
VES Vestal, Richgr 41.98 90 P **P 01 04 14.7 +1.2**
baz=311
H17A Grant Village 42.00 74 *e*P **P 01 04 15.1 +1.2**
comp=Z,9.7nm,0.9s
H17A Grant Village 42.00 74 P **P 01 04 16.2 +2.3**
baz=304,SNR=11
LKWY Lake 42.01 74 *e*P **P 01 04 15.8 +1.8**
comp=Z,11nm,0.7s
LKWY Lake 42.01 74 *e*P **P 01 04 15.8 +1.8**
LKWY pmax pmax
comp=Z,11nm,0.7s
FLWY Flagg Ranch 42.10 75 *e*P **P 01 04 14.4 -0.2**
comp=Z,11nm,0.9s
HVU Hansel Valley 42.18 79 *e*P **P 01 04 15.8 +0.5**
comp=Z,9.5nm,0.7s
HVU Hansel Valley 42.18 79 *e*P **P 01 04 15.8 +0.5**
HVU pmax pmax
comp=Z,10.0nm,0.7s
CWC Cottonwood Cre 42.21 89 P **P 01 04 17.1 +1.5**
baz=310
MOOW Moose Ponds 42.26 75 *e*P **P 01 04 15.1 -0.9**
comp=Z,1.6nm,0.8s
TPAW Teton Pass 42.28 76 *e*P **P 01 04 17.1 +0.8**
comp=Z,2.7nm,0.8s
GRAC Grapevine Rang 42.29 88 P **P 01 04 17.7 +1.6**
baz=310
KSRS Korea Array 42.29 273 LR LR 01 20 47.1
comp=Z,12nm,21.1s,baz=70,slow=35
RLMT Red Lodge 42.36 73 *e*P **P 01 04 17.1 +0.2**
comp=Z,11nm,0.9s
RLMT Red Lodge 42.36 73 P **P 01 04 17.8 +1.0**
baz=304,SNR=11
REDW Red Top Meadow 42.42 76 *e*P **P 01 04 17.4 +0.2**
comp=Z,4.1nm,1.0s
LOHW Long Hollow 42.42 75 *e*P **P 01 04 18.1 +0.8**
comp=Z,3.0nm,0.8s
ISA Isabella, Lake 42.47 90 *e*P **P 01 04 18.5 +0.9**
comp=Z,5.2nm,0.8s
ISA Isabella, Lake 42.47 90 *e*P **P 01 04 18.5 +0.9**
ISA pmax pmax
comp=Z,5.0nm,0.8s
ISA Isabella, Lake 42.47 90 P **P 01 04 18.3 +0.7**
baz=311
BGU Big Grassy Mou 42.53 80 *e*P **P 01 04 19.0 +0.9**
comp=Z,5.2nm,0.9s
R11A Troy Canyon, C 42.54 85 *e*P **P 01 04 19.5 +1.2**
comp=Z,5.5nm,0.8s
R11A Troy Canyon, C 42.54 85 P **P 01 04 19.3 +1.1**
baz=309,SNR=8.5
AHID Auburn Hatcher 42.61 77 *e*P **P 01 04 19.0 +0.2**
comp=Z,5.1nm,0.6s
DAC Darwin (Calif) 42.61 89 *e*P **P 01 04 20.3 +1.4**
comp=Z,6.8nm,1.0s
DAC Darwin (Calif) 42.61 89 *e*P **P 01 04 20.3 +1.4**
DAC pmax pmax
comp=Z,7.0nm,1.0s
SPUT South Promonto 42.65 79 *e*P **P 01 04 19.6 +0.4**
comp=Z,5.4nm,0.8s
MPMC Manual Prospec 42.82 89 P **P 01 04 21.5 +0.9**
baz=310
SCZ2 Santa Cruz Isl 42.85 93 P **P 01 04 21.5 +0.8**
baz=312
FURC Furnace Creek, 42.94 88 P **P 01 04 22.7 +1.4**
baz=310,SNR=5.1
TPNV Topopah Spring 43.01 87 P **P 01 04 23.1 +1.1**
baz=310
LRMC Laurel Mtn Rad 43.08 90 P **P 01 04 23.4 +0.8**
baz=311
DUG Dugway, Tooele 43.10 81 *e*P **P 01 04 23.4 +0.7**
comp=Z,17nm,1.0s
DUG Dugway, Tooele 43.10 81 *e*P **P 01 04 23.4 +0.7**
DUG pmax pmax
comp=Z,17nm,1.0s
DUG Dugway, Tooele 43.10 81 P **P 01 04 24.1 +1.4**
baz=307,SNR=18
EDW2 Edwards Air Fo 43.28 90 P **P 01 04 25.2 +1.1**
baz=311
JNU Nakatsue 43.31 266 P **P 01 04 23.2 -1.2**
comp=Z,10.0nm,0.8s,baz=127,slow=10,SNR=3.0
TCUT Toone Canyon 43.40 79 *e*P **P 01 04 26.0 +0.8**
comp=Z,14nm,0.7s
CTU Camp Tracy 43.45 79 *e*P **P 01 04 26.4 +0.8**
comp=Z,6.3nm,0.9s
DGMT Dagmar 43.46 66 P **P 01 04 25.9 +0.5**
baz=302
PSUT Pine Spring 43.48 83 *e*P **P 01 04 27.5 +1.6**
comp=Z,6.1nm,0.8s
BW06 Boulder Array 43.53 76 *e*P **P 01 04 27.2 +0.9**
comp=Z,16nm,0.7s
BW06 Boulder Array 43.53 76 P **P 01 04 27.1 +0.9**
baz=306,SNR=28
PD31 Pinale Array 43.53 76 *e*P **P 01 04 27.2 +0.9**
PDAR Pinedale Array 43.53 76 P **P 01 04 27.2 +0.9**
comp=Z,14nm,0.6s,baz=298,slow=3.9,SNR=178
PDAR pP **pP 01 04 42.4 -0.7**
comp=Z,2.1nm,0.7s,baz=282,slow=4.4,SNR=3.3
PDAR PcP **PcP 01 06 12.6 -0.4**
comp=Z,0.5nm,0.7s,baz=294,slow=0.9,SNR=2.2
SHOC Shoshone, Teco 43.67 88 P **P 01 04 28.6 +1.4**
baz=311
JLU Jordanelle 43.68 79 *e*P **P 01 04 28.3 +0.8**
comp=Z,9.8nm,0.9s
NLU North Lily Min 43.70 80 *e*P **P 01 04 28.3 +0.6**
comp=Z,10nm,0.8s
GSC Goldstone, Bar 43.73 89 *e*P **P 01 04 28.5 +0.7**
comp=Z,19nm,0.9s
GSC Goldstone, Bar 43.73 89 *e*P **P 01 04 28.5 +0.7**
GSC pmax pmax
comp=Z,19nm,0.9s
GSC Goldstone, Bar 43.73 89 P **P 01 04 29.1 +1.3**
baz=311,SNR=9.2
FMP Fort Macarthur 43.87 92 P **P 01 04 30.6 +1.8**
baz=312
BFSC Mount Baldy Ra 43.91 91 P **P 01 04 30.7 +1.4**
baz=312
MPU Maple Canyon 43.93 80 *e*P **P 01 04 31.1 +1.6**
comp=Z,7.6nm,0.7s
SHPR Sheep Range 43.97 87 *e*P **P 01 04 31.3 +1.6**
comp=Z,1.8nm,0.9s
HEC Hector,Ludlow 44.34 89 P **P 01 04 33.5 +0.9**
baz=311
CCUT Cedar City 44.41 84 *e*P **P 01 04 35.2 +1.9**
comp=Z,3.7nm,0.9s
MSU Marysvale 44.52 82 *e*P **P 01 04 36.3 +2.0**
MSU Marysvale 44.52 82 *e*P **P 01 04 36.3 +2.0**
MURC Murrieta 44.62 91 P **P 01 04 35.7 +0.8**
baz=312
GMRC Granite Mounta 44.78 89 P **P 01 04 37.1 +0.8**
baz=312
P17A Butcher Ranch, 44.80 80 *e*P **P 01 04 38.2 +1.7**
comp=Z,9.4nm,0.7s
MTPU Mount Pierson 44.82 83 *e*P **P 01 04 38.3 +1.6**
comp=Z,9.3nm,1.2s
LCMT Little Creek M 44.82 85 *e*P **P 01 04 38.5 +2.0**
comp=Z,6.9nm,0.9s
Q16A Castle Valley 44.88 81 *e*P **P 01 04 39.1 +2.0**
comp=Z,15nm,1.1s
PFO Pinyon Flats O 45.07 91 P **P 01 04 39.1 +0.6**
baz=312
KNB Kanab 45.08 84 *e*P **P 01 04 40.7 +2.1**
comp=Z,5.5nm,0.8s
KNB Kanab 45.08 84 *e*P **P 01 04 40.7 +2.1**
KNB pmax pmax
comp=Z,6.0nm,0.8s
BELC Belle Mtn. Jos 45.09 90 P **P 01 04 39.3 +0.6**
baz=312
109C Camp Elliot, M 45.16 92 P **P 01 04 40.2 +1.1**
baz=313
SRU San Rafael Swe 45.16 80 *e*P **P 01 04 40.9 +1.6**
comp=Z,15nm,0.7s
SRU San Rafael Swe 45.16 80 *e*P **P 01 04 40.9 +1.6**
SRU pmax pmax
comp=Z,15nm,0.7s
K22A Casper 45.41 74 *e*P **P 01 04 41.4 +0.2**
comp=Z,6.9nm,0.8s
K22A Casper 45.41 74 P **P 01 04 41.2 0.0**
baz=307
IRM Iron Mountain 45.52 89 P **P 01 04 43.0 +1.1**
baz=312
MONP2 Monument Peak 45.58 91 P **P 01 04 43.5 +0.8**
baz=313
RWWY Rawlins 45.58 75 *e*P **P 01 04 43.3 +0.6**
comp=Z,8.6nm,0.8s
BC3 Big Chuckawall 45.66 90 P **P 01 04 43.6 +0.4**
baz=312
U15A North Rim 45.78 84 *e*P **P 01 04 46.0 +1.7**
comp=Z,8.5nm,0.8s
O20A White River Ci 45.91 78 *e*P **P 01 04 46.1 +0.9**
comp=Z,30nm,0.6s
O20A White River Ci 45.91 78 P **P 01 04 46.1 +0.9**
baz=308,SNR=18
SWSC Sam W. Stewart 45.92 91 P **P 01 04 45.9 +0.7**
baz=313
IKP In-Ko-Pah, Jac 45.94 91 P **P 01 04 46.2 +0.9**
baz=313
RSSD Black Hills 46.00 71 *e*P **P 01 04 46.2 +0.3**
comp=Z,4.4nm,1.0s
RSSD Black Hills 46.00 71 *e*P **P 01 04 46.2 +0.3**
RSSD pmax pmax
comp=Z,4.0nm,1.0s
RSSD Black Hills 46.00 71 P **P 01 04 45.8 -0.1**
baz=306
PDMCI Parker Dam,Lak 46.04 88 P **P 01 04 46.8 +0.8**
baz=312,SNR=6.1
Y12C Blythe 46.17 89 *e*P **P 01 04 48.4 +1.3**
comp=Z,9.4nm,0.8s
Y12C Blythe 46.17 89 P **P 01 04 47.9 +0.8**
baz=312,SNR=5.5
MDND Maddock 46.37 64 *e*P **P 01 04 49.3 +0.8**
comp=Z,29nm,0.8s
MDND Maddock 46.37 64 P **P 01 04 48.8 +0.3**
baz=305
PV09 Paradox Valley 46.39 80 *e*P **P 01 04 50.0 +0.9**
PV21 Cone Mtn., Par 46.45 80 *e*P **P 01 04 50.6 +1.1**
comp=Z,9.2nm,0.8s
GLA Glamis 46.45 90 P **P 01 04 50.2 +0.8**
baz=313
PV23 Carpenter Ridg 46.49 80 *e*P **P 01 04 51.0 +1.1**
comp=Z,10nm,0.8s
PV10 Paradox Valley 46.52 80 *e*P **P 01 04 51.6 +1.5**
PV14 Lion Creek, Pa 46.53 80 *e*P **P 01 04 51.2 +1.0**
comp=Z,10nm,0.8s
PV20 West Nyswonger 46.59 80 *e*P **P 01 04 51.8 +1.2**
comp=Z,12nm,0.7s
PV19 Morning Glory 46.60 80 *e*P **P 01 04 51.6 +1.0**
comp=Z,10nm,0.8s
PV17 East Wray Mesa 46.63 80 *e*P **P 01 04 52.1 +1.2**
comp=Z,25nm,0.7s
PV16 Nyswonger Mesa 46.64 80 *e*P **P 01 04 52.1 +1.1**
comp=Z,14nm,0.7s
PV11 David Mesa, Pa 46.67 80 *e*P **P 01 04 52.4 +1.2**
comp=Z,22nm,0.7s
PV05 Paradox Valley 46.68 80 *e*P **P 01 04 52.3 +1.0**
PV12 Saucer Basin, 46.70 80 *e*P **P 01 04 52.6 +1.1**
comp=Z,14nm,0.8s
PV03 Paradox Valley 46.72 80 *e*P **P 01 04 52.3 +0.7**
PV13 Radium Mtn., P 46.79 80 *e*P **P 01 04 53.2 +1.0**
comp=Z,36nm,0.7s
PV02 Paradox Valley 46.81 80 *e*P **P 01 04 53.6 +1.3**
comp=Z,25nm,0.7s
N23A Red Feather La 46.82 75 *e*P **P 01 04 53.5 +1.1**
comp=Z,3.9nm,0.8s
N23A Red Feather La 46.82 75 P **P 01 04 53.1 +0.7**
baz=308,SNR=6.5
WUAZ Wupatki 46.94 85 *e*P **P 01 04 54.2 +1.0**
comp=Z,10nm,0.8s
WUAZ Wupatki 46.94 85 P **P 01 04 53.5 +0.2**
baz=311,SNR=6.1
PV01 Paradox Valley 46.96 80 *e*P **P 01 04 54.3 +0.8**
Y14A Wickenburg 46.98 88 *e*P **P 01 04 54.7 +1.2**
comp=Z,9.3nm,1.1s
ULM Lac du Bonnet 47.03 59 P **P 01 04 52.1 -1.5**
comp=Z,1.6nm,0.7s,baz=314,slow=12,SNR=3.9
SMCO Snowmass 47.27 78 *e*P **P 01 04 57.0 +0.9**
comp=Z,4.3nm,0.8s
MVCO Mesa Verde 47.60 81 *e*P **P 01 04 59.3 +0.9**
comp=Z,5.3nm,0.8s
MVCO Mesa Verde 47.60 81 P **P 01 04 59.2 +0.7**
baz=310
X16A Lo Mia Camp, P 47.62 86 *e*P **P 01 05 00.5 +1.8**
comp=Z,5.3nm,1.0s
ISCO Idaho Springs 47.70 76 *e*P **P 01 05 00.3 +1.0**
comp=Z,5.6nm,1.0s
ISCO Idaho Springs 47.70 76 *e*P **P 01 05 00.3 +1.0**
ISCO pmax pmax
comp=Z,6.0nm,1.0s
ISCO Idaho Springs 47.70 76 P **P 01 05 00.1 +0.8**
baz=309,SNR=7.5
W18A Petrified Fore 48.21 84 P **P 01 05 03.2 0.0**
baz=312
S22A 4UR Ranch, Cre 48.27 79 *e*P **P 01 05 05.0 +1.3**
comp=Z,3.0nm,0.8s
S22A 4UR Ranch, Cre 48.27 79 P **P 01 05 03.8 +0.1**
baz=310,SNR=7.5
214A Organ Pipe Nat 48.44 89 P **P 01 05 05.5 +0.8**
baz=314
X18A Snowflake 48.47 85 *e*P **P 01 05 06.0 +0.9**
comp=Z,5.8nm,0.7s
Q24A Ivide 48.50 77 P **P 01 05 06.3 +0.8**
baz=310
SONM Songino Array 48.70 298 P **P 01 05 04.2 -2.4**
comp=Z,0.2nm,0.6s,baz=54,slow=7.5,SNR=2.8
SONM sP **pP 01 05 25.5 +2.3**
comp=Z,0.6nm,0.8s,baz=66,slow=7.4,SNR=3.6
SONM ScP **ScP 01 10 18.1 -1.5**
comp=Z,2.4nm,0.9s,baz=47,slow=3.6,SNR=14
SONM LR LR 01 26 04.5
comp=Z,47nm,18.4s,baz=236,slow=37
SUSD Miller 48.73 67 P **P 01 05 06.9 0.0**
baz=307
SDCO Great Sand Dun 49.07 78 *e*P **P 01 05 10.3 +0.4**
comp=Z,9.9nm,0.8s
SDCO Great Sand Dun 49.07 78 P **P 01 05 10.6 +0.8**
baz=310,SNR=8.2
OGNE Ogallala 49.11 73 P **P 01 05 10.5 +0.7**
baz=309
TUC Tucson 49.45 88 *e*P **P 01 05 12.9 +0.3**
comp=Z,8.4nm,0.9s
TUC Tucson 49.45 88 *e*P **P 01 05 12.9 +0.3**
TUC pmax pmax
comp=Z,8.0nm,0.9s
TUC Tucson 49.45 88 P **P 01 05 13.7 +1.1**
baz=313
KSCO Kaye Shedlock' 49.98 75 P **P 01 05 17.5 +0.9**
baz=310
HHC Hu-ho-hao-te 50.05 288 *e*P **P 01 05 18.0 +1.0**
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,130nm,6.8s
T25A Trinidad 50.12 78 P **P 01 05 19.0 +1.2**
baz=311,SNR=23
LAZ Ladron 50.28 83 *e*P **P 01 05 20.7 +1.8**
ANMO Albuquerque 50.33 82 *e*P **P 01 05 19.9 +0.6**
comp=Z,2.6nm,1.0s
ANMO Albuquerque 50.33 82 *i* P **P 01 05 20.4 +1.1**

ANMO					pmax		pmax		
	comp=Z,5.0nm,1.2s								
ANMO	**Albuquerque**	**50.33**	**82**		P		**P**	**01 05 20.1**	**+0.8**
	baz=312								
ECSD	**EROS Data Cent**	**50.50**	**67**		P		**P**	**01 05 19.4**	**-0.8**
	baz=309								
LENM	**Lemitar**	**50.54**	**83**	*e*	P		**P**	**01 05 21.4**	**+0.6**
EYMN	**Ely**	**50.72**	**60**		P		**P**	**01 05 21.9**	**+0.1**
	baz=308								
BNM	**Barren Site**	**50.76**	**83**	*e*	P		**P**	**01 05 23.8**	**+1.1**
121A	**Cookes Peak, D**	**51.15**	**85**		P		**P**	**01 05 26.5**	**+1.1**
	baz=313								
NJ2	**Nanjing**	**51.45**	**274**	*e*	P		**P**	**01 05 29.0**	**+1.5**
NJ2					pmax		pmax		
	comp=Z,19nm,0.6s								
F37A	**Hinrichs Farm,**	**51.48**	**62**		P		**P**	**01 05 27.2**	**-0.4**
	baz=309								
E38A	**The Farm, Brul**	**51.51**	**61**		P		**P**	**01 05 28.4**	**+0.6**
	baz=308								
SPMN	**Marine on St.**	**51.70**	**63**		P		**P**	**01 05 28.7**	**-0.5**
	baz=309								
F38A	**Pierce - Schro**	**51.74**	**62**		P		**P**	**01 05 29.2**	**-0.3**
	baz=309,SNR=6.6								
CBKS	**Cedar Bluff**	**51.83**	**73**	*e*	P		**P**	**01 05 30.7**	**+0.4**
	comp=Z,20nm,0.9s								
CBKS	**Cedar Bluff**	**51.83**	**73**	*e*	P		**P**	**01 05 30.7**	**+0.4**
CBKS					pmax		pmax		
	comp=Z,20nm,0.9s								
CBKS	**Cedar Bluff**	**51.83**	**73**		P		**P**	**01 05 30.9**	**+0.6**
	baz=311								
E39A	**Mellen**	**52.19**	**61**		P		**P**	**01 05 31.9**	**-0.9**
	baz=309								
G38A	**Ridgeland**	**52.25**	**63**		P		**P**	**01 05 32.7**	**-0.6**
	baz=309								
F39A	**Loretta**	**52.29**	**61**		P		**P**	**01 05 32.6**	**-1.0**
	baz=309								
H38A	**Maiden Rock**	**52.33**	**63**		P		**P**	**01 05 33.8**	**-0.1**
	baz=310								
G39A	**Holcombe**	**52.55**	**62**		P		**P**	**01 05 34.3**	**-1.2**
	baz=310								
F40A	**Park Falls**	**52.72**	**61**		P		**P**	**01 05 36.0**	**-0.7**
	baz=310								
H39A	**Augusta**	**52.88**	**63**		P		**P**	**01 05 37.0**	**-1.0**
	baz=310								
E41A	**Kenton**	**52.99**	**60**		P		**P**	**01 05 37.7**	**-1.0**
	baz=310								
G40A	**Rib Lake**	**53.09**	**61**		P		**P**	**01 05 38.8**	**-0.7**
	baz=310								
MNTX	**Cornudas Mount**	**53.20**	**84**	*e*	P		**P**	**01 05 41.4**	**+0.9**
	comp=Z,11nm,1.0s								
MNTX	**Cornudas Mount**	**53.20**	**84**		P		**P**	**01 05 41.3**	**+0.9**
	baz=314								
MSTX	**Muleshoe**	**53.23**	**80**	*e*	P		**P**	**01 05 41.3**	**+0.5**
	comp=Z,20nm,0.8s								
MSTX	**Muleshoe**	**53.23**	**80**		P		**P**	**01 05 41.3**	**+0.5**
	baz=313,SNR=7.7								
I39A	**Houston**	**53.27**	**64**	*e*	P		**P**	**01 05 40.5**	**-0.4**
	comp=Z,9.6nm,0.7s								
I39A	**Houston**	**53.27**	**64**		P		**P**	**01 05 39.9**	**-0.9**
	baz=310								
AMTX	**Amarillo**	**53.27**	**78**	*e*	P		**P**	**01 05 41.8**	**+0.7**
	comp=Z,11nm,0.7s								
AMTX	**Amarillo**	**53.27**	**78**		P		**P**	**01 05 41.5**	**+0.4**
	baz=313								
F41A	**Three Lakes**	**53.38**	**60**		P		**P**	**01 05 41.0**	**-0.6**
	baz=310								
H40A	**Chili**	**53.40**	**62**		P		**P**	**01 05 41.1**	**-0.6**
	baz=310								
J39A	**Decorah**	**53.51**	**64**		P		**P**	**01 05 41.2**	**-1.4**
	baz=310,SNR=5.6								
I40A	**Norwalk**	**53.75**	**63**		P		**P**	**01 05 43.5**	**-0.8**
	baz=310								
H41A	**Junction City**	**53.81**	**62**		P		**P**	**01 05 44.7**	**-0.1**
	baz=310								
K39A	**Oelwein**	**53.82**	**65**		P		**P**	**01 05 43.9**	**-1.0**
	baz=311								
U32A	**Winter Ranch,**	**53.88**	**75**	*e*	P		**P**	**01 05 46.2**	**+0.8**
	comp=Z,27nm,0.9s								
F42A	**Maple Grove Fa**	**53.88**	**60**		P		**P**	**01 05 44.8**	**-0.6**
	baz=310								
J40A	**Soldiers Grove**	**54.00**	**64**		P		**P**	**01 05 45.3**	**-0.9**
	baz=311								
I41A	**Arkdale**	**54.05**	**62**		P		**P**	**01 05 46.0**	**-0.5**
	baz=311								
G42A	**Mountain**	**54.06**	**61**		P		**P**	**01 05 45.9**	**-0.7**
	baz=310								
E43A	**Lone Tree Farm**	**54.09**	**59**		P		**P**	**01 05 46.4**	**-0.4**
	baz=310								
L39A	**Vinton**	**54.13**	**66**		P		**P**	**01 05 46.3**	**-0.9**
	baz=311								
J41A	**Loganville**	**54.42**	**63**		P		**P**	**01 05 48.1**	**-1.1**
	baz=311								
M39A	**Webster**	**54.46**	**66**		P		**P**	**01 05 48.9**	**-0.7**
	baz=311								
JFWS	**Jewell Farm**	**54.59**	**64**		P		**P**	**01 05 49.7**	**-0.8**
	baz=311								
I42A	**Draeger Farm,**	**54.68**	**62**		P		**P**	**01 05 49.5**	**-1.6**
	baz=311								
K41A	**Shullsburg**	**54.76**	**64**		P		**P**	**01 05 50.7**	**-1.0**
	baz=311,SNR=5.2								
M40A	**Post Highland**	**54.88**	**66**		P		**P**	**01 05 51.6**	**-1.0**
	baz=312								
J42A	**Columbus**	**54.95**	**63**		P		**P**	**01 05 52.1**	**-1.0**
	baz=311								
L41A	**Preston**	**55.01**	**65**		P		**P**	**01 05 52.4**	**-1.0**
	baz=312								
I43A	**Langenfeld Bro**	**55.10**	**62**		P		**P**	**01 05 53.5**	**-0.6**
	baz=311								
WMOK	**Wichita Mounta**	**55.12**	**77**	*e*	P		**P**	**01 05 54.4**	**-0.1**
	comp=Z,10nm,0.8s								
WMOK	**Wichita Mounta**	**55.12**	**77**	*e*	P		**P**	**01 05 54.4**	**-0.1**
WMOK					pmax		pmax		
	comp=Z,10.0nm,0.8s								
WMOK	**Wichita Mounta**	**55.12**	**77**		P		**P**	**01 05 54.9**	**+0.5**
	baz=313,SNR=12								
K42A	**Prairie Point,**	**55.18**	**63**		P		**P**	**01 05 53.9**	**-0.8**
	baz=312								
M41A	**Milan**	**55.45**	**65**		P		**P**	**01 05 55.7**	**-1.0**
	baz=312								
L42A	**Oliver, Polo**	**55.52**	**64**		P		**P**	**01 05 55.7**	**-1.4**
	baz=312								
D47A	**Chapleau**	**55.66**	**56**		P		**P**	**01 05 57.6**	**-0.6**
	baz=312								
TX31	**Lajitas Ar. Si**	**55.90**	**85**	*e*	P		**P**	**01 06 00.1**	**-0.2**
TXAR	**Lajitas Array**	**55.91**	**85**		P		**P**	**01 06 00.6**	**+0.4**
	comp=Z,5.4nm,0.7s,baz=298,slow=4.7,SNR=39								
TXAR					pP		**pP**	**01 06 16.4**	**-1.1**
	comp=Z,2.3nm,0.9s,baz=282,slow=5.9,SNR=3.2								
ABTX	**Abilene, Hawle**	**56.06**	**79**	*e*	P		**P**	**01 06 01.9**	**+0.7**
	comp=Z,31nm,1.1s								
ABTX	**Abilene, Hawle**	**56.06**	**79**		P		**P**	**01 06 01.8**	**+0.6**
	baz=314,SNR=5.0								
O41A	**Passleys Farm,**	**56.10**	**67**		P		**P**	**01 06 00.9**	**-0.4**
	baz=312								
TUL1	**Leonard**	**56.10**	**74**		P		**P**	**01 06 01.0**	**-0.5**
	baz=313								
M43A	**Waltham Townsh**	**56.29**	**64**		P		**P**	**01 06 01.8**	**-0.9**
	baz=312								
I46A	**Reed City**	**56.52**	**60**		P		**P**	**01 06 03.4**	**-0.9**
	baz=312								
Q41A	**Truxton**	**56.68**	**68**		P		**P**	**01 06 04.8**	**-0.7**
	baz=313								
HDIL	**Hopedale**	**56.70**	**65**		P		**P**	**01 06 04.5**	**-1.1**
	baz=313								
H47A	**Mio**	**56.73**	**59**		P		**P**	**01 06 05.5**	**-0.3**
	baz=312								
HHAR	**Hobbs**	**56.94**	**72**	*e*	P		**P**	**01 06 07.8**	**+0.4**
	comp=Z,7.7nm,1.1s								
I47A	**Gladwin**	**56.97**	**59**		P		**P**	**01 06 07.0**	**-0.5**
	baz=313								
R41A	**Rosebud**	**57.05**	**69**		P		**P**	**01 06 07.0**	**-1.1**
	baz=313,SNR=5.1								
Q42A	**Golden Eagle**	**57.11**	**68**		P		**P**	**01 06 08.1**	**-0.5**
	baz=313								
K46A	**Dorr**	**57.19**	**61**		P		**P**	**01 06 08.0**	**-1.0**
	baz=313								
CCM	**Cathedral Cave**	**57.29**	**69**		P		**P**	**01 06 08.5**	**-1.3**
	baz=313								
S41A	**Jillco Farms,**	**57.32**	**69**		P		**P**	**01 06 09.0**	**-1.1**
	baz=313								
L46A	**Eue Claire**	**57.37**	**62**		P		**P**	**01 06 09.7**	**-0.6**
	baz=313								
O44A	**Mansfield**	**57.43**	**65**		P		**P**	**01 06 10.0**	**-0.8**
	baz=313								
JCT	**Junction City**	**57.46**	**81**	*e*	P		**P**	**01 06 11.6**	**+0.4**
JCT	**Junction City**	**57.46**	**81**	*e*	P		**P**	**01 06 11.6**	**+0.4**
JCT	**Junction City**	**57.46**	**81**		P		**P**	**01 06 11.0**	**-0.2**
	baz=315								
U40A	**Yellville**	**57.52**	**71**		P		**P**	**01 06 10.6**	**-0.9**
	baz=314								
Q43A	**New Douglas**	**57.57**	**67**		P		**P**	**01 06 11.3**	**-0.5**
	baz=313								
K47A	**Vermontville**	**57.62**	**61**		P		**P**	**01 06 11.5**	**-0.6**
	baz=313								
LZH	**Lanzhou**	**57.73**	**289**	*e*	P		**P**	**01 06 15.0**	**+1.8**
LZH					pP		sP	01 06 35.5	-2.4
LZH					sP		pP	01 06 43.5	+13
LZH					PP		**PP**	**01 08 23.5**	**+2.1**
LZH					S		**S**	**01 14 10.5**	**+3.6**
LZH	**Lanzhou**	**57.73**	**289**		SS		**SS**	**01 17 55.3**	**-2.4**
LZH					pmax		pmax		
	comp=Z,37nm,1.1s								
LZH					pmax		pmax		
	comp=Z,130nm,4.3s								
LZH					LR		LR		
	comp=N,290nm,12.6s								
LZH					LR		LR		
	comp=E,330nm,12.5s								
LZH					LR		LR		
	comp=Z,560nm,13.9s								
S42A	**Caledonia**	**57.74**	**69**		P		**P**	**01 06 11.7**	**-1.3**
	baz=314,SNR=5.8								
W39A	**Magazine**	**57.78**	**73**	*e*	P		**P**	**01 06 13.2**	**-0.1**
	comp=Z,10nm,1.1s								
W39A	**Magazine**	**57.78**	**73**		P		**P**	**01 06 12.8**	**-0.5**
	baz=314								
O45A	**Potomac**	**57.78**	**65**		P		**P**	**01 06 12.7**	**-0.6**
	baz=313								
WHTX	**Lake Whitney,**	**57.82**	**78**		P		**P**	**01 06 14.2**	**+0.6**
	baz=315								
SFIN	**Lafayette**	**58.04**	**64**		P		**P**	**01 06 14.5**	**-0.6**
	baz=313								
U41A	**Viola**	**58.08**	**71**		P		**P**	**01 06 14.4**	**-0.9**
	baz=314								
T42A	**Van Buren**	**58.08**	**69**	*e*	P		**P**	**01 06 14.0**	**-1.4**
	comp=Z,3.0nm,0.6s								
T42A	**Van Buren**	**58.08**	**69**		P		**P**	**01 06 13.7**	**-1.7**
	baz=314								
S43A	**Fulton Ridge,**	**58.29**	**68**		P		**P**	**01 06 16.0**	**-0.9**
	baz=314								
V41A	**Mountainview**	**58.33**	**71**		P		**P**	**01 06 16.2**	**-0.9**
	baz=314								
MIAR	**Mount Ida**	**58.35**	**73**	*e*	P		**P**	**01 06 17.9**	**+0.6**
MIAR				*e*	PcP		**PcP**	**01 07 07.9**	**+0.3**
MIAR	**Mount Ida**	**58.35**	**73**	*e*	P		**P**	**01 06 17.9**	**+0.6**
MIAR				*e*				01 07 07.9	
MIAR	**Mount Ida**	**58.35**	**73**		P		**P**	**01 06 17.3**	**0.0**
	baz=314,SNR=14								
K49A	**Clarkson**	**58.37**	**60**		P		**P**	**01 06 17.2**	**-0.1**
	baz=314								
R44A	**Waltonville**	**58.40**	**67**		P		**P**	**01 06 16.7**	**-0.8**
	baz=314								
L48A	**N Adams**	**58.42**	**61**		P		**P**	**01 06 16.7**	**-1.0**
	baz=314								
U42A	**Revenden**	**58.47**	**70**		P		**P**	**01 06 16.5**	**-1.5**
	baz=314								
Q45A	**Warren Harvey,**	**58.47**	**66**		P		**P**	**01 06 17.3**	**-0.7**
	baz=314								
T43A	**Greenville**	**58.51**	**69**		P		**P**	**01 06 17.3**	**-1.1**
	baz=314,SNR=6.1								
435B	**Jarrell**	**58.59**	**79**	*e*	P		**P**	**01 06 20.4**	**+1.3**
	comp=Z,21nm,1.0s								
435B	**Jarrell**	**58.59**	**79**		P		**P**	**01 06 19.2**	**+0.2**
	baz=315								
O47A	**Sheridan**	**58.65**	**64**		P		**P**	**01 06 17.9**	**-1.4**
	baz=314								
L49A	**Milan**	**58.67**	**61**		P		**P**	**01 06 17.9**	**-1.5**
	baz=314								
S44A	**Carbondale**	**58.68**	**68**		P		**P**	**01 06 18.5**	**-1.0**
	baz=314								
W41B	**Gary Mavity, V**	**58.70**	**72**	*e*	P		**P**	**01 06 19.1**	**-0.6**
	comp=Z,5.5nm,0.8s								
W41B	**Gary Mavity, V**	**58.70**	**72**		P		**P**	**01 06 18.6**	**-1.1**
	baz=314								
R45A	**Skylar, Fairfi**	**58.82**	**67**		P		**P**	**01 06 19.6**	**-0.8**
	baz=314								
X40A	**Basin Creek Fa**	**58.83**	**73**		P		**P**	**01 06 19.9**	**-0.7**
	baz=314								
M49A	**Liberty Center**	**59.00**	**61**		P		**P**	**01 06 20.9**	**-0.8**
	baz=314								
E54A	**Lac Daplat, Po**	**59.06**	**53**		P		**P**	**01 06 21.5**	**-0.6**
	baz=314								
S45A	**Carrier Mills**	**59.07**	**67**		P		**P**	**01 06 19.4**	**-2.8**
	baz=313								
P47A	**Martinsville**	**59.12**	**64**		P		**P**	**01 06 21.8**	**-0.7**
	baz=314								
O48A	**Farmland**	**59.20**	**63**		P		**P**	**01 06 21.4**	**-1.7**
	baz=314								
833A	**Chaparral WMA,**	**59.24**	**82**	*e*	P		**P**	**01 06 25.1**	**+1.5**
	comp=Z,26nm,1.0s								
833A	**Chaparral WMA,**	**59.24**	**82**		P		**P**	**01 06 22.2**	**-1.4**
	baz=316								
N49A	**Columbus Grove**	**59.27**	**62**		P		**P**	**01 06 22.2**	**-1.3**
	baz=314								
Q47A	**Bedord North L**	**59.41**	**65**		P		**P**	**01 06 22.8**	**-1.8**
	baz=314								
P48A	**Milroy**	**59.60**	**64**		P		**P**	**01 06 24.8**	**-1.1**
	baz=314								
T46A	**Princeton**	**59.91**	**67**		P		**P**	**01 06 27.4**	**-0.6**
	baz=315								
N50A	**Nevada**	**59.94**	**61**		P		**P**	**01 06 27.2**	**-1.0**
	baz=315								
O50A	**Cable**	**60.12**	**62**		P		**P**	**01 06 28.3**	**-1.1**
	baz=315								
U46A	**Springville**	**60.23**	**68**		P		**P**	**01 06 29.6**	**-0.6**
	baz=315								
N51A	**Ashland**	**60.25**	**61**		P		**P**	**01 06 29.7**	**-0.6**
	baz=315								
P50A	**Jamestown**	**60.40**	**63**		P		**P**	**01 06 30.4**	**-0.9**
	baz=315								
ACSO	**Alum Creek Sta**	**60.40**	**62**		P		**P**	**01 06 30.2**	**-1.1**
	baz=315								
S48A	**Wiedeman Farm,**	**60.52**	**66**		P		**P**	**01 06 31.8**	**-0.3**
	baz=315								
WVT	**Waverly**	**60.59**	**68**		P		**P**	**01 06 32.4**	**-0.3**
	baz=315								
V46A	**Holladay**	**60.65**	**69**		P		**P**	**01 06 31.6**	**-1.5**
	baz=315								
O51A	**Pataskala**	**60.67**	**61**		P		**P**	**01 06 32.4**	**-0.8**
	baz=315								
T48A	**Bowling Green**	**60.71**	**66**		P		**P**	**01 06 32.8**	**-0.7**
	baz=315								
M53A	**WI Miller and**	**60.79**	**59**		P		**P**	**01 06 33.2**	**-0.8**
	baz=315								
OXF	**Oxford**	**60.82**	**70**		P		**P**	**01 06 32.1**	**-2.2**
	baz=315								
Q50A	**Georgetown**	**60.84**	**63**		P		**P**	**01 06 33.8**	**-0.5**
	baz=315								
V47A	**Nunnelly**	**60.98**	**68**		P		**P**	**01 06 34.0**	**-1.3**
	baz=315								
R50A	**Paris**	**61.04**	**64**		P		**P**	**01 06 35.4**	**-0.3**
	baz=315								
U48A	**Cassie Pea, Po**	**61.05**	**67**		P		**P**	**01 06 35.5**	**-0.3**
	baz=315								
Q51A	**Peebles**	**61.06**	**63**		P		**P**	**01 06 34.9**	**-0.9**
	baz=315								
O52A	**Adamsville**	**61.11**	**61**		P		**P**	**01 06 35.5**	**-0.6**
	baz=315								
N53A	**Lisbon**	**61.15**	**60**		P		**P**	**01 06 35.8**	**-0.6**
	baz=315								
WMQ	**Urumqi**	**61.17**	**305**	*e*	P		**P**	**01 06 39.5**	**+2.9**
WMQ					pP		sP	01 06 58.5	-2.6
WMQ					pmax		pmax		
	comp=Z,22nm,0.7s								
WMQ					pmax		pmax		
	comp=Z,130nm,4.7s								
WMQ					LR		LR		
	comp=N,170nm,17.3s								
WMQ					LR		LR		
	comp=E,130nm,16.3s								
WMQ					LR		LR		
	comp=Z,150nm,16.3s								
Y45A	**Yeager Farm, C**	**61.20**	**71**		P		**P**	**01 06 36.9**	**0.0**
	baz=316								
T49A	**Edmonton**	**61.20**	**66**		P		**P**	**01 06 36.5**	**-0.3**
	baz=315								
K55A	**Perry**	**61.24**	**57**		P		**P**	**01 06 36.3**	**-0.7**
	baz=316								
X46A	**Booneville**	**61.27**	**70**		P		**P**	**01 06 36.4**	**-0.9**
	baz=316								
M54A	**Oil Creek Stat**	**61.27**	**59**		P		**P**	**01 06 36.6**	**-0.6**
	baz=316								
W47A	**Westpoint**	**61.34**	**69**		P		**P**	**01 06 36.8**	**-1.0**
	baz=316								
R51A	**Hillsboro**	**61.44**	**64**		P		**P**	**01 06 38.4**	**0.0**
	baz=315,SNR=7.1								
U49A	**Red Boiling Sp**	**61.48**	**66**		P		**P**	**01 06 38.1**	**-0.7**
	baz=316								
N54A	**Moraine State**	**61.49**	**59**		P		**P**	**01 06 37.7**	**-1.0**
	baz=316								
Y46A	**Houston**	**61.59**	**71**		P		**P**	**01 06 39.4**	**-0.1**
	baz=316,SNR=6.9								
T50A	**Nancy**	**61.65**	**65**		P		**P**	**01 06 39.4**	**-0.5**
	baz=316								
MKAR	**Makanchi Array**	**61.65**	**311**		P		**P**	**01 06 38.8**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=39,slow=6.8,SNR=4.0								
X47A	**Russelville**	**61.72**	**69**		P		**P**	**01 06 39.4**	**-0.9**
	baz=316								
P53A	**Whipple**	**61.80**	**61**		P		**P**	**01 06 40.6**	**-0.2**
	baz=316								
VBMS	**Vicksburg**	**61.80**	**73**		P		**P**	**01 06 40.8**	**-0.1**
	baz=316								
W48A	**Pulaski**	**61.80**	**68**		P		**P**	**01 06 40.3**	**-0.6**
	baz=316								
O54A	**Avella**	**61.84**	**60**		P		**P**	**01 06 39.9**	**-1.2**
	baz=316								
S51A	**Beattyville**	**61.91**	**64**		P		**P**	**01 06 40.7**	**-0.9**
	baz=316								
R52A	**Catlettsburg**	**61.93**	**63**		P		**P**	**01 06 41.0**	**-0.7**
	baz=316								
V49A	**McMinnville**	**61.94**	**67**		P		**P**	**01 06 41.2**	**-0.7**
	baz=316								
BRVK	**Borovoye**	**62.05**	**322**	*i*	P		**P**	**01 06 44.7**	**+2.4**
BRVK					pmax		pmax		
	comp=Z,1.0nm,1.1s								
U50A	**Jamestown**	**62.08**	**66**		P		**P**	**01 06 42.3**	**-0.5**
	baz=316								
N55A	**Marion Center**	**62.15**	**59**		P		**P**	**01 06 41.8**	**-1.4**
	baz=316								
Y47A	**UCPARC, Winfie**	**62.16**	**70**		P		**P**	**01 06 42.0**	**-1.3**
	baz=316								
T51A	**Gray**	**62.19**	**65**		P		**P**	**01 06 42.2**	**-1.2**
	baz=316								
W49A	**Belvidere**	**62.20**	**68**		P		**P**	**01 06 43.1**	**-0.4**
	baz=316								
P54A	**Burton**	**62.20**	**61**		P		**P**	**01 06 42.5**	**-1.0**
	baz=316								
X48A	**Hartselle**	**62.23**	**69**		P		**P**	**01 06 42.8**	**-0.9**
	baz=316								
R53A	**Hurricane**	**62.32**	**63**		P		**P**	**01 06 44.1**	**-0.2**
	baz=316								
O55A	**Ligonier**	**62.40**	**59**		P		**P**	**01 06 44.2**	**-0.6**
	baz=316								
V50A	**Pikevile**	**62.47**	**67**		P		**P**	**01 06 44.5**	**-0.8**
	baz=316								
MCWV	**Mont Chateau**	**62.50**	**60**		P		**P**	**01 06 45.3**	**-0.2**
	baz=316								
Z47A	**Carrollton**	**62.53**	**71**		P		**P**	**01 06 45.8**	**0.0**
	baz=316								
X49A	**Woodville**	**62.60**	**68**		P		**P**	**01 06 45.6**	**-0.6**
	baz=316								
P55A	**Reedsville**	**62.62**	**60**		P		**P**	**01 06 45.9**	**-0.5**
	baz=316								
BINY	**Binghamton**	**62.69**	**56**		P		**P**	**01 06 46.0**	**-0.7**
	baz=317								
W50A	**Signal Mountai**	**62.69**	**67**		P		**P**	**01 06 46.4**	**-0.5**
	baz=316								
Z48A	**Northport**	**62.71**	**70**		P		**P**	**01 06 46.6**	**-0.4**
	baz=316								
TZTN	**Tazewell**	**62.72**	**65**	*e*	P		**P**	**01 06 47.4**	**+0.4**
	comp=Z,1.4nm,0.6s								
TZTN	**Tazewell**	**62.72**	**65**		P		**P**	**01 06 46.7**	**-0.3**
	baz=316								
O56A	**Blue Knob Stat**	**62.74**	**59**		P		**P**	**01 06 46.5**	**-0.7**
	baz=316								
147A	**Livingston**	**62.80**	**71**		P		**P**	**01 06 47.0**	**-0.5**
	baz=316								
V51A	**Loudon**	**62.80**	**66**		P		**P**	**01 06 47.1**	**-0.5**
	baz=316								
SSPA	**Standing Stone**	**62.84**	**58**	*e*	P		**P**	**01 06 47.6**	**-0.1**
	comp=Z,9.3nm,0.6s								
SSPA	**Standing Stone**	**62.84**	**58**		P		**P**	**01 06 47.3**	**-0.4**
	baz=316								
Q55A	**Buckhannon**	**62.85**	**61**		P		**P**	**01 06 47.8**	**-0.1**
	baz=316								
R54A	**Victor**	**62.95**	**62**		P		**P**	**01 06 47.9**	**-0.7**
	baz=316								
Y49A	**Blount Mountai**	**63.02**	**69**		P		**P**	**01 06 48.1**	**-1.0**
	baz=316								
X50B	**Fort Payne**	**63.02**	**68**		P		**P**	**01 06 48.5**	**-0.6**
	baz=316								
W51A	**Cleveland**	**63.03**	**67**		P		**P**	**01 06 48.4**	**-0.6**
	baz=316								
V52A	**Sevierville**	**63.19**	**66**		P		**P**	**01 06 49.4**	**-0.8**
	baz=316								
LBNH	**Lisbon**	**63.21**	**52**		P		**P**	**01 06 49.6**	**-0.6**
	baz=318								
LRAL	**Lakeview Retre**	**63.28**	**70**		P		**P**	**01 06 49.6**	**-1.1**
	baz=316								
R55A	**Marlinton**	**63.35**	**61**		P		**P**	**01 06 51.0**	**-0.3**
	baz=317								
U53A	**Fall Branch**	**63.39**	**64**		P		**P**	**01 06 51.1**	**-0.4**
	baz=316								
Y50A	**Piedmont**	**63.39**	**68**		P		**P**	**01 06 50.7**	**-0.8**
	baz=316								
Z49A	**Columbiana**	**63.43**	**70**		P		**P**	**01 06 50.6**	**-1.1**
	baz=316,SNR=5.0								
149A	**Jones**	**63.71**	**70**		P		**P**	**01 06 52.7**	**-0.9**
	baz=317								
N59A	**State Game Lan**	**63.73**	**57**		P		**P**	**01 06 52.3**	**-1.3**
	baz=317								
Z50A	**Ashland**	**63.74**	**69**	*e*	P		**P**	**01 06 53.3**	**-0.5**
	comp=Z,15nm,0.8s								
Z50A	**Ashland**	**63.74**	**69**		P		**P**	**01 06 53.1**	**-0.7**
	baz=317,SNR=8.4								
V53A	**Saluda**	**63.76**	**65**		P		**P**	**01 06 53.0**	**-0.9**
	baz=317								
Y51A	**Rockmart**	**63.77**	**68**		P		**P**	**01 06 53.1**	**-0.9**
	baz=317								
X52A	**Dahlonega**	**63.92**	**67**		P		**P**	**01 06 54.7**	**-0.3**
	baz=317,SNR=5.5								
W53A	**Cullowhee**	**63

baz=318
NHSC New Hope 67.11 65 P P 01 07 15.5 0.0
baz=318
NOA NORSAR Array B 67.13 357 P P 01 07 12.1 -3.2
comp=Z,0.4nm,0.6s,baz=3.3,slow=6.2,SNR=2.6
DWPF Disney Wildern 70.13 70 P P 01 07 34.2 -0.3
baz=319
KSH Kashi 70.18 309 P P 01 07 40.8 +6.1
KSH pP sP 01 08 03.0 +3.2
KSH PP PP 01 10 18.5 +8.3
KSH S **S** **01 16 44.5 +3.6**
KSH sS SKiKP 01 17 18.0 +4.6
KSH Kashi 70.18 309 SS SS 01 21 20.0 +9.0
KSH pmax pmax
comp=Z,3.0nm,0.8s
KSH pmax pmax
comp=Z,340nm,5.1s
KSH LR LR
comp=N,110nm,5.4s
KSH LR LR
comp=E,89nm,5.8s
KSH LR LR
comp=Z,330nm,8.4s
061Z Ochoppi 72.14 71 P P 01 07 47.1 +0.5
baz=320
KLNR Kaliningrad 72.97 351 *i* P P 01 07 55.5 +4.5
KLNR pmax pmax
comp=Z,55nm,1.2s
CMAR Chiang Mai Arr 73.58 279 LR LR 01 41 07.9
comp=Z,14nm,19.8s,baz=145,slow=36
AKASG Malin Array Be 75.64 345 P P **01 08 04.9 -1.7**
comp=Z,0.4nm,0.4s,baz=10,slow=5.6,SNR=2.6
DOU Dourbes 78.19 1 P P **01 08 20.9 -0.1**
WLF Walferdange 78.62 360 P P **01 08 23.4 0.0**
WRA Warramunga Arr 84.43 227 P P **01 08 52.7 -1.6**
comp=Z,0.5nm,0.9s,baz=33,slow=5.9,SNR=3.5
WRA pP **pP** **01 09 11.7 -1.0**
comp=Z,0.6nm,0.8s,baz=35,slow=5.7,SNR=2.7
ASAR Alice Springs 87.87 226 P P **01 09 11.3 +0.2**
comp=Z,0.5nm,0.6s,baz=38,slow=5.0,SNR=5.4
ASAR pP **pP** **01 09 29.4 -0.2**
comp=Z,1.1nm,0.8s,baz=35,slow=4.7,SNR=5.7
ESDC Sonseca Array 88.24 7 P P **01 09 11.7 -1.2**
comp=Z,0.5nm,0.7s,baz=328,slow=5.6,SNR=3.7
TORD Torodi Ar. Bea 114.95 4 PKP **PKiKP** **01 15 01.4 -1.1**
comp=Z,0.4nm,1.0s,baz=330,slow=2.8,SNR=4.2
BOSA Boshof 152.32 320 PKPbc **PKPbc** **01 16 15.4 -1.9**
comp=Z,2.2nm,0.6s,baz=54,slow=1.7,SNR=3.6

IDC 30 00:59:25.1±4.1, 2°.97N×97°.98E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/40, mbtmp3.5/4, Error ellipse: s-maj=171.2km s-min=27.2km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.34**	**124**	P	P	01 07 21.1	-0.1
	0.4nm,0.8s,baz=303,slow=9.2,SNR=4.5						
SONM	**Songino Array**	**45.28**	**8**	P	P	01 07 44.8	+0.2
	0.2nm,0.3s,baz=189,slow=7.3,SNR=3.1						
MKAR	**Makanchi Array**	**45.73**	**345**	P	P	01 07 48.4	+0.3
	0.2nm,0.6s,baz=160,slow=9.2,SNR=4.1						
ZALV	**Zalesovo Beam**	**51.95**	**350**	P	P	01 08 35.0	-0.7
	1.2nm,0.3s,baz=166,slow=6.4,SNR=8.6						

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*ISCJB **30** 01:00:29.5±1.6, 19°.94S±0°.05×70°.79W±0°.08, h18km±13km, mb3.5/1, Error ellipse: s-maj=12.2km s-min=8.3km az=168.8*

*GUC **30** 01:00:30.7±0.5, 19°.95S×70°.72W, h35km±3km, ML3.3*

*IDC **30** 01:00:39.0±4.4, 19°.99S×70°.13W, h82km±26km, mb3.3/1, mb1 3.4/4, mb1mx3.1/26, mbtmp3.6/4, MS2.5/1, Ms1 2.6/1, ms1mx2.2/11, Error ellipse: s-maj=72.7km s-min=17.1km az=90.0*

ISC 30 01:00:30.5±1.8, 19°.85S±0°.05×70°.71W±0°.08, h27km±13km, n14, σ1§32/22, 3C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSGC	**Pisagua**	**0.60**	**66**	⇓*i* P	**Pn**	**01 00 42.9**	**-0.4**
PSGC				*e*S	**Sn**	**01 00 52.3**	**0.0**
PSGC				IAML		01 00 54.0	
	comp=N,2μm,0.4s						
PB11	**IPOC Station P**	**0.99**	**85**	⇓*i* P	**Pn**	**01 00 49.1**	**+0.4**
PB11				*e*S	**Sn**	**01 01 02.7**	**+0.8**
PB11				IAML		01 01 03.8	
	comp=N,3μm,0.3s						
MNMC	**Minye Minye**	**1.27**	**56**	*e*P	**Pb**	**01 00 54.1**	**+0.3**
PB12	**IPOC Station P**	**1.28**	**16**	⇑*i* P	**Pb**	**01 00 54.4**	**+0.4**
PB12				*e*S	**Sb**	**01 01 12.4**	**+2.4**
PB12				IAML		01 01 14.8	
	comp=E,832nm,0.4s						
PB08	**IPOC Station P**	**1.49**	**102**	*e*P	**Pb**	**01 00 56.8**	**-0.9**
PB08				*e*S	**Sb**	**01 01 16.5**	**+0.1**
PB08				IAML		01 01 21.8	
	comp=N,627nm,0.3s						
PB01	**IPOC Station P**	**1.65**	**136**	⇑*i* P	**Pn**	**01 00 57.7**	**0.0**
PB01				*e*S	**Sn**	**01 01 18.6**	**+0.5**
PB01				IAML		01 01 23.0	
	comp=E,782nm,0.5s						
PB07	**IPOC Station P**	**2.02**	**158**	*e*P	**Pn**	**01 01 01.9**	**-1.0**
PB03	**IPOC Station P**	**2.36**	**158**	*e*P	**Pn**	**01 01 06.8**	**-0.8**
PB03				*e*S	**Sn**	**01 01 36.1**	**+0.3**
PB03				IAML		01 01 47.8	
	comp=E,188nm,0.6s						
PB09	**IPOC Station P**	**2.37**	**145**	⇑*i* P	**Pn**	**01 01 08.4**	**+0.6**
PB09				*i* S	**Sn**	**01 01 37.4**	**+1.4**
LVC	**Limon Verde**	**3.22**	**149**	P	**Pn**	**01 01 20.8**	**+1.3**
	comp=E,4.1nm,0.3s,baz=329,slow=10,SNR=38						
LVC				S	**Sn**	**01 01 57.2**	**0.0**
	comp=E,7.5nm,0.3s,baz=78,slow=21,SNR=7.6						
LPAZ	**La Paz**	**4.30**	**35**	P	**Pb**	**01 01 41.7**	**-4.2**
	comp=E,1.2nm,0.3s,baz=215,slow=5.7,SNR=12						
LPAZ				LR	LR	01 03 28.5	
	comp=E,51nm,19.1s,baz=211,slow=41						
SIV	**San Ignacio**	**9.94**	**69**	P	**Pn**	**01 02 52.1**	**+0.5**
	comp=E,0.8nm,0.3s,baz=240,slow=14,SNR=15						
TORD	**Torodi Ar. Bea**	**78.41**	**71**	P	**P**	**01 12 28.6**	**-0.6**
	comp=E,0.6nm,0.9s,baz=239,slow=6.5,SNR=4.1						
MKAR	**Makanchi Array**	**145.23**	**33**	PKPbc	**PKPdf**	**01 20 06.0**	**+0.4**
	comp=E,0.3nm,0.6s,baz=316,slow=3.4,SNR=7.0						

MAN 30 01:09:52.4, 14°.45N×122°.15E, h4km, mb4.1, ML2.9, MS2.6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POLP	**Polilio Island**	**0.34**	**323**	*e*P	Pg	01 09 59.6	+0.6
GQP	**Guinayangan**	**0.61**	**152**	⇓*e*P	Pg	01 10 04.6	+0.4
GQP				*i* S	Sg	01 10 11.3	-0.9
BOAC	**Boac**	**1.03**	**197**	*e*P	Pg	01 10 12.2	0.0
BALP	**Baler**	**1.40**	**337**	*e*P	Pn	01 10 17.7	-1.0
BALP				*e*S	Sn	01 10 37.9	+0.3

MEX 30 01:10:26.2±0.5, 15°.56N×96°.32W, h16km±10km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.29**	**45**	*i* P	Pg	01 10 31.6	-0.8
HUIG				*i* S	Sg	01 10 35.5	-1.1
PNIG	**Pinotepa**	**1.93**	**296**	*e*P	Pn	01 10 55.0	-3.4
PNIG				*e*S	Sn	01 11 18.0	-4.3
CMIG	**Matias Romero**	**2.05**	**42**	*i* P	Pn	01 10 57.0	-3.0
CMIG				*i* S	Sn	01 11 19.9	-5.4

MEX 30 01:17:41.3±0.6, 16°.43N×98°.40W, h8km±4km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.26**	**98**	*e*P	Pg	01 17 45.8	-0.8
PNIG				*e*S	Sg	01 17 50.4	+0.3
VHO	**Vista Hermosa**	**1.72**	**68**	*e*P	Pn	01 18 08.3	-3.5
VHO				*e*S	Sn	01 18 28.8	-5.3
CAIG	**El Cayaco**	**1.89**	**289**	*i* P	Pn	01 18 10.6	-3.4
CAIG				*e*S	Sn	01 18 33.1	-4.9

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*ISCJB **30** 01:30:59.5±0.2, 49°.89N±0°.02×18°.38E±0°.02, h0km, Error ellipse: s-maj=2.5km s-min=1.6km az=10.7*

*PRU **30** 01:31:01.7±0.0, 49°.88N×18°.45E, h0km*

*BGR **30** 01:31:01.3±0.3, 49°.90N×18°.48E, h1km, ML3.0/7, Error ellipse: s-maj=6.7km s-min=4.4km az=4.0*

*IDC **30** 01:31:01.0±2.1, 49°.58N×18°.62E, h0km, mb1 3.5/5, mb1mx3.2/39, mbtmp3.4/5, ML2.6/5, Error ellipse: s-maj=29.0km s-min=9.0km az=137.0*

*IPEC **30** 01:31:01.4±0.2, 49°.86N×18°.48E, h1km±3km, ML2.9/3, Error ellipse: s-maj=1.8km s-min=1.1km az=164.0*

*SIGU **30** 01:31:01.0±0.1, 50°.1N±1°×18°.5E±0°.7, h5km, mb2.3/5*

ISC 30 01:31:00.6±0.7, 49°.87N±0°.02×18°.46E±0°.02, h0km, n97, σ1§11/168, 5C-11D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.20**	**262**	⇓*i* Pg	**Pg**	**01 31 06.2**	**+1.7**
OKC				*e*SG	**Sg**	**01 31 09.3**	**+2.1**
OKC	**Ostrava-Krasne**	**0.20**	**262**	*e*Pg	**Pg**	**01 31 06.2**	**+1.7**
OKC				*e*Sg	**Sg**	**01 31 09.9**	**+2.8**
CHZP	**Chorzow**	**0.55**	**39**	*e*Pg	**Pb**	**01 31 12.9**	**-0.2**
CHZP				*e*Sg	**Sg**	**01 31 17.8**	**-0.4**
MORC	**Moravsky Berou**	**0.60**	**262**	⇓*i* P	**Pg**	**01 31 12.9**	**+0.8**
MORC				S	**Sg**	**01 31 21.4**	**+1.5**
MORC	**Moravsky Berou**	**0.60**	**262**	*e*PG	**Pg**	**01 31 12.9**	**+0.8**
MORC				*e*SG	**Sg**	**01 31 20.7**	**+0.8**
MORC	**Moravsky Berou**	**0.60**	**262**	*e*Pg	**Pg**	**01 31 12.8**	**+0.7**
	baz=82						
MORC				*e*Sg	**Sg**	**01 31 20.7**	**+0.8**
	211nm,0.7s,baz=82						
MORC	**Moravsky Berou**	**0.60**	**262**	*e*Pg	**Pg**	**01 31 13.0**	**+0.8**
MORC				*e*Sg	**Sg**	**01 31 21.5**	**+1.5**
OJC	**Ojcow**	**0.93**	**67**	*e*Pg	**Pb**	**01 31 19.4**	**-0.3**
OJC				*e*Sg	**Sb**	**01 31 32.1**	**-0.5**
OJC	**Ojcow**	**0.93**	**67**	*e*Pg	**Pn**	**01 31 19.4**	**-0.3**
LANS	**Liptovska Anna**	**0.97**	**137**	*e*PG	**Pn**	**01 31 20.4**	**-1.2**
LANS				*e*SG	**Sn**	**01 31 35.0**	**-1.1**
KRLC	**Kraliky**	**1.10**	**282**	*e*PG	**Pg**	**01 31 21.6**	**-0.2**
KRLC				*e*SG	**Sb**	**01 31 37.2**	**-0.4**
	comp=Z,35nm,0.6s						
JAVC	**Velka Javorina**	**1.13**	**207**	*e*PG	**Pn**	**01 31 23.5**	**-0.4**
JAVC	**Velka Javorina**	**1.13**	**207**	*e*Pg	**Pn**	**01 31 23.4**	**-0.4**
	baz=27						
JAVC	**Velka Javorina**	**1.13**	**207**	*e*Pg	**Pn**	**01 31 23.7**	**-0.1**
NIE	**Niedzica**	**1.28**	**110**	*e*Pg	**Pn**	**01 31 26.4**	**+0.6**
NIE				*e*Sg	**Sn**	**01 31 44.7**	**+1.1**
NIE	**Niedzica**	**1.28**	**110**	*e*Pg	**Pn**	**01 31 26.0**	**+0.3**
KOLL	**Kolacno**	**1.29**	**182**	*e*PG	**Pn**	**01 31 26.0**	**+0.1**
KOLL				*e*SG	**Sn**	**01 31 43.6**	**-0.2**
VRAC	**Vranov**	**1.34**	**246**	Pg	**Pb**	**01 31 26.3**	**-0.2**
	55nm,0.3s,baz=80,slow=16,SNR=169						
VRAC				Lg	Lg	01 31 43.6	
	19nm,0.3s,baz=41,slow=19,SNR=13						
VRAC	**Vranov**	**1.34**	**246**	⇓*i* P	**Pb**	**01 31 26.4**	**-0.2**
VRAC	**Vranov**	**1.34**	**246**	S	**Sn**	**01 31 45.2**	**+0.1**
VRAC	**Vranov**	**1.34**	**246**	*e*PG	**Pb**	**01 31 26.7**	**+0.1**
VRAC				*e*SG	**Sg**	**01 31 43.6**	**0.0**
VRAC	**Vranov**	**1.34**	**246**	*e*Pg	**Pb**	**01 31 26.6**	**0.0**
	baz=65						
VRAC				*e*Sg	**Sg**	**01 31 43.5**	**0.0**
	180nm,0.9s,baz=65						
VRAC	**Vranov**	**1.34**	**246**	*e*Pn	**Pb**	**01 31 26.5**	**0.0**
	SNR=162						
VRAC				*e*Pg	**Pb**	**01 31 26.6**	**0.0**
VRAC				*e*Sg	**Sn**	**01 31 44.7**	**-0.3**
VYHS	**Vyhne**	**1.40**	**170**	*e*PG	**Pb**	**01 31 27.2**	**-0.4**
VYHS				*e*SN	**Sn**	**01 31 46.6**	**+0.1**
VYHS				*e*LG	Lg	01 31 47.8	
DPC	**Dobruska-Polom**	**1.46**	**290**	*e*PG	**Pg**	**01 31 28.5**	**-0.1**
DPC				*e*SG	**Sn**	**01 31 48.2**	**+0.1**
	comp=Z,50nm,0.3s						
DPC	**Dobruska-Polom**	**1.46**	**290**	*e*Pn	**Pg**	**01 31 28.4**	**-0.1**
	SNR=64						
DPC				*e*Sg	**Sn**	**01 31 49.0**	**+0.9**
SMOL	**Smolenice**	**1.51**	**207**	*e*PG	**Pb**	**01 31 29.1**	**-0.5**
SMOL				*e*SN	**Sn**	**01 31 49.5**	**+0.1**
KRUC	**Moravsky**	**1.57**	**240**	*e*PG	**Pb**	**01 31 30.1**	**-0.4**
KRUC				*e*SG	**Sg**	**01 31 51.0**	**-0.1**
KRUC	**Moravsky**	**1.57**	**240**	*e*Pg	**Pb**	**01 31 30.1**	**-0.4**
	baz=59						
KRUC				*e*Sg	**Sg**	**01 31 50.9**	**-0.1**
	119nm,0.9s,baz=59						
KRUC	**Moravsky**	**1.57**	**240**	*e*Pn	**Pb**	**01 31 30.2**	**-0.4**
	SNR=151						
KRUC				*e*Sg	**Sg**	**01 31 51.4**	**+0.3**
KSP	**Ksiaz**	**1.70**	**306**	*e*Pn	**Pn**	**01 31 31.6**	**+0.1**
KSP				*e*Pb	**Pb**	**01 31 32.6**	**-0.1**
KSP				*e*Pg	**Pg**	**01 31 34.4**	**+1.2**
KSP				*e*Sg	**Sg**	**01 31 56.2**	**+1.1**
KSP	**Ksiaz**	**1.70**	**306**	*e*Pg	**Pn**	**01 31 31.8**	**+0.3**
KSP				*e*Sg	**Sg**	**01 31 56.7**	**+1.5**
UPC	**Upice**	**1.70**	**293**	⇓*e*PG	**Pn**	**01 31 31.4**	**-0.1**
UPC				*e*SG	**Sb**	**01 31 54.9**	**+0.2**
ZST	**Bratislava**	**1.90**	**209**	*e*PN	**Pn**	**01 31 33.5**	**-0.7**
ZST				*e*SN	**Sn**	**01 31 57.4**	**-1.4**
TREC	**Trest**	**2.02**	**255**	⇓*e*PG	**Pb**	**01 31 37.7**	**-0.5**
TREC				*e*SG	**Sb**	**01 32 03.3**	**-0.6**
	comp=Z,55nm,0.4s						
TREC	**Trest**	**2.02**	**255**	*e*Pn	**Pn**	**01 31 36.0**	**+0.1**
	SNR=16						
PSZ	**Piszkesteto**	**2.17**	**154**	⇑*i* P	**Pb**	**01 31 39.5**	**-1.3**
PSZ	**Piszkesteto**	**2.17**	**154**	*e*Pn	**Pn**	**01 31 38.1**	**0.0**
PSZ				*e*Sg	**Pg**	**01 31 42.1**	**-0.1**
PSZ				Sn	**Sn**	**01 32 06.0**	**+0.4**
GOPC	**GO Pecny, Ondr**	**2.38**	**273**	*e*PN	**Pn**	**01 31 40.9**	**0.0**
GOPC				*e*PG	**Pb**	**01 31 43.5**	**-0.8**
SOP	**Sopron**	**2.52**	**211**	*e*Pn	**Pn**	**01 31 43.0**	**+0.2**
SOP				*e*Sg	**Pg**	**01 31 48.1**	**-0.8**
SOP				Sn	**Sn**	**01 32 13.1**	**-1.1**
PRU	**Pruhonice**	**2.54**	**274**	⇓*e*PG	**Pb**	**01 31 46.2**	**-0.8**
PRU				*e*SG	**Sg**	**01 32 20.7**	**-1.3**
	comp=Z,21nm,0.5s						
PRU	**Pruhonice**	**2.54**	**274**	*e*Pg	**Pb**	**01 31 47.0**	**0.0**
PVCC	**Panska Ves**	**2.59**	**286**	⇓*e*PG	**Pb**	**01 31 48.7**	**+0.8**
PVCC				*e*SG	**Sg**	**01 32 23.1**	**-0.6**
	comp=Z,123nm,1.1s						
PVCC	**Panska Ves**	**2.59**	**286**	*e*Pg	**Pg**	**01 31 49.2**	**-1.0**
PVCC				*e*Sg	**Sg**	**01 32 23.7**	**0.0**
CONA	**Conrad Observa**	**2.59**	**222**	*i* Pn	**Pn**	**01 31 43.5**	**-0.4**
	1.9nm,0.3s						
CONA				Sn	**Sn**	**01 32 16.7**	**+0.7**
	3.7nm,0.3s						
UZH	**Uzhgorod**	**2.80**	**115**	*i* P	**Pn**	**01 31 47.1**	**+0.5**
UZH				Pm		01 31 55.1	
UZH				*e*S	**Sn**	**01 32 22.0**	**+0.9**
UZH				Sm		01 32 44.0	
TIH	**Tihany**	**2.99**	**187**	*e*Pn	**Pn**	**01 31 50.0**	**+0.7**
TIH				*e*Sg	**Pg**	**01 31 57.0**	**-0.9**
TIH				Sn	**Sn**	**01 32 26.0**	**+0.2**
BRG	**Berggiesshubel**	**3.06**	**291**	PG	**Pg**	**01 31 57.6**	**-1.6**
BRG				SG	**Sg**	**01 32 37.5**	**-1.5**
	24nm,0.9s						
BRG	**Berggiesshubel**	**3.06**	**291**	*e*Pg	**Pg**	**01 31 57.7**	**-1.6**
MUKU	**Mukachevo**	**3.11**	**115**	*e*P	**Pn**	**01 31 51.2**	**+0.3**
MUKU				Pm		01 31 53.4	
MUKU				*i* S	**Sn**	**01 32 30.0**	**+1.2**
MUKU				Sm		01 32 41.3	
TRPA	**Tarpa**	**3.20**	**121**	⇑*i* P	**Pn**	**01 31 52.8**	**+0.7**
TRPA	**Tarpa**	**3.20**	**121**	*e*Pn	**Pn**	**01 31 53.0**	**+0.9**
TRPA				*e*Sg	**Pg**	**01 32 03.0**	**+1.1**
TRPA				Sn	**Sn**	**01 32 32.0**	**+1.1**
BERU	**Beregovo**	**3.20**	**119**	*e*P	**Pn**	**01 31 52.8**	**+0.6**
BERU				*e*S	**Sn**	**01 32 32.1**	**+1.1**
ARSA	**Arzberg**	**3.27**	**218**	*i* Pn	**Pn**	**01 31 53.9**	**+0.8**
	0.7nm,0.2s						
ARSA				Sn	**Sn**	**01 32 34.8**	**+2.2**
	1.4nm,0.3s						
KHC	**Kasperske Hory**	**3.27**	**259**	*e*PN	**Pn**	**01 31 53.1**	**0.0**
KHC				*e*PG	**Pb**	**01 31 59.8**	**+0.3**
KHC				*e*SG	**Sg**	**01 32 44.8**	**-0.7**
	comp=Z,29nm,0.4s						
KHC	**Kasperske Hory**	**3.27**	**259**	*e*Pn	**Pn**	**01 31 53.5**	**+0.4**
	SNR=4.4						
GEC2	**GERESS Array S**	**3.27**	**254**	*e*Pn	**Pn**	**01 31 54.0**	**+0.7**
	SNR=12						
GEC2				*e*Pg	**Pg**	**01 32 02.5**	**-0.9**
GERES	**GERESS Array B**	**3.27**	**254**	Pn	**Pn**	**01 31 53.8**	**+0.5**
	0.7nm,0.3s,baz=70,slow=12,SNR=13						
GERES				Pg	**Pg**	**01 32 02.3**	**-1.1**
	4.6nm,0.3s,baz=70,slow=17,SNR=38						
GERES				Sn	**Sn**	**01 32 33.9**	**+0.9**
	2.3nm,0.3s,baz=75,slow=31,SNR=4.6						
GERES				Lg	Lg	01 32 44.5	
	5.1nm,0.3s,baz=76,slow=28,SNR=8.9						
MOA	**Molln**	**3.43**	**236**	*i* Pn	**Pn**	**01 31 54.1**	**-1.2**
	1.0nm,0.2s						
MOA				Sn	**Sn**	**01 32 37.7**	**+1.1**
	4.7nm,0.4s						
FBE	**Freiberg**	**3.43**	**290**	*e*Pg	**Pg**	**01 32 04.6**	**-1.8**
TRSU	**Trosnyk**	**3.45**	**119**	*e*P	**Pn**	**01 31 56.3**	**+0.7**
TRSU				*i* S	**Sn**	**01 32 38.3**	**+1.2**
KORU	**Korolevo**	**3.52**	**117**	*e*P	**Pn**	**01 31 57.7**	**+1.2**
KORU				Pm		01 32 05.2	
KORU				*e*S	**Sn**	**01 32 40.3**	**+1.5**
KORU				Sm		01 33 02.7	
MORH	**Mrgy, Hungar**	**3.66**	**178**	*e*Pn	**Pn**	**01 31 58.0**	**-0.4**
MORH				Sn	**Sn**	**01 32 38.1**	**-4.1**
KOGS	**Kog**	**3.73**	**204**	*i* Pn	**Pn**	**01 31 59.4**	**0.0**
KOGS				*i* Sn	**Sn**	**01 32 42.4**	**-1.6**
CLL	**Collm**	**3.77**	**295**	*e*Pg	**Pg**	**01 32 12.0**	**-0.8**
CLL				*i* Sg	**Sg**	**01 33 00.0**	**-1.5**
	comp=Z,32nm,1.3s						
CLL	**Collm**	**3.77**	**295**	*e*Pg	**Pg**	**01 32 11.7**	**-1.1**
NKC	**Novy Kostel**	**3.89**	**278**	⇓*e*PG	**Pb**	**01 32 11.1**	**+1.0**
NKC	**Novy Kostel**	**3.89**	**278**	*e*Pg	**Pg**	**01 32 14.1**	**-1.1**
TANN	**Tannenbergstha**	**3.90**	**280**	*e*Pg	**Pg**	**01 32 13.8**	**-1.5**
GROS	**Grobnik**	**3.94**	**211**	*i* Pn	**Pn**	**01 32 02.5**	**+0.1**
GROS				*i* Sn	**Sn**	**01 32 50.0**	**+0.6**
GUNZ	**Gunzen**	**3.98**	**280**	*e*Pg	**Pg**	**01 32 15.0**	**-1.7**
ROTZ	**Rotzenmuhle**	**4.05**	**271**	*e*Pg	**Pg**	**01 32 15.4**	**-2.8**
PLN	**Plauen**	**4.10**	**281**	*e*Pg	**Pg**	**01 32 17.9**	**-1.2**
DRGR		**4.18**	**136**	⇓*i* P	**Pn**	**01 32 06.4**	**+0.7**
OBKA	**Obir**	**4.26**	**219**	*e*Pn	**Pn**	**01 32 07.0**	**+0.2**
	comp=Z,1.0nm,0.2s						
OBKA				Sn	**Sn**	**01 32 56.4**	**-0.8**
	comp=Z,2.3nm,0.3s						
NSLU	**Nyzhne Selyshc**	**4.28**	**111**	*e*P	Pn	01 31 59.8	-7.2
NSLU				Pm		01 32 04.6	
NSLU				*e*S	Sn	01 32 44.5	-13
NSLU				Sm		01 33 07.1	
KBA	**Koelnbreinsper**	**4.40**	**233**	*i* Pn	**Pn**	**01 32 08.4**	**-0.4**
	comp=Z,0.8nm,0.2s						
KBA				*e*Sn	**Sn**	**01 32 60.0**	**-0.9**
	comp=Z,0.3nm,0.1s						
MOX	**Moxa**	**4.46**	**283**	*e*Pg	**Pg**	**01 32 25.6**	**-0.5**
MYKA	**Terra Mystica**	**4.57**	**227**	*i* Pn	**Pb**	**01 32 22.1**	**+0.4**
	comp=Z,0.3nm,0.2s						
MYKA				Sn	**Sn**	**01 33 06.2**	**+1.4**
	comp=Z,0.2nm,0.1s						
KSV	**Kosov**	**4.61**	**107**	*i* P	**Pn**	**01 32 12.7**	**+1.2**
KSV				Pm		01 32 16.7	
KSV				*e*S	**Sn**	**01 33 08.4**	**+2.6**
KSV				Sm		01 33 10.0	
BZS	**Buzias**	**4.75**	**152**	⇑*i* P	**Pn**	**01 32 14.1**	**+0.6**
BURAR	**Bucovina Array**	**5.01**	**114**	⇑*i* P	**Pn**	**01 32 18.8**	**+1.7**
ABTA	**Abfaltersbach**	**5.05**	**234**	*e*Pn	**Pn**	**01 32 18.0**	**+0.3**
	comp=Z,0.4nm,0.4s						
ABTA				Sg	**Sg**	**01 33 45.1**	**+2.3**
	comp=Z,3.5nm,0.9s						
BLY	**Banja Luka**	**5.19**	**190**	⇓*i* P	**Pn**	**01 32 20.1**	**+0.6**
WATA	**Walderalm**	**5.22**	**244**	*e*Pn	**Pn**	**01 32 18.6**	**-1.5**
	comp=Z,2.2nm,0.4s						
WATA				Sg	**Sb**	**01 33 37.8**	**+1.7**
	comp=Z,2.0nm,0.4s						
GZR	**Gura Zlata**	**5.34**	**145**	⇑*i* P	**Pn**	**01 32 23.0**	**+1.4**
MOTA	**Moosalm**	**5.49**	**245**	*e*Pn	**Pb**	**01 32 39.8**	**+2.3**
	comp=Z,0.8nm,0.3s						
MOTA				Sn	**Sn**	**01 33 29.0**	**+1.3**
	comp=Z,1.7nm,0.5s						
SQTA	**Sankt Quirin**	**5.50**	**244**	*e*Pn	**Pb**	**01 32 37.5**	**0.0**
	comp=Z,0.6nm,0.2s						
SQTA				Sg	**Sb**	**01 33 47.1**	**+3.1**
	comp=Z,2.3nm,0.3s						
MDVR	**Moldovita**	**5.55**	**155**	⇓*i* P	**Pn**	**01 32 25.6**	**+1.2**
RETA	**Reutte**	**5.63**	**248**	*e*Pn	**Pb**	**01 32 42.8**	**+3.0**
	comp=Z,0.2nm,0.2s						
RETA				Sg	**Sg**	**01 34 02.3**	**+1.0**
	comp=Z,1.9nm,0.6s						
BSD	**Bornholm Skovb**	**5.68**	**339**	*i* P	**Pn**	**01 32 26.2**	**0.0**
FETA	**Feichten**	**5.88**	**244**	*e*Pn	**Pb**	**01 32 43.2**	**-0.9**
	comp=Z,0.4nm,0.3s						
FETA				Sg	**Sg**	**01 34 08.7**	**-0.7**
	comp=Z,0.4nm,0.3s						
DAVA	**Damuels**	**6.25**	**249**	*e*Pn	**Pn**	**01 32 35.5**	**+1.3**
	comp=Z,1.0nm,0.3s						
DAVA				Sg	**Sg**	**01 34 22.1**	**+0.7**
	comp=Z,1.6nm,0.3s						
DAVOX	**Davos/Dischmat**	**6.50**	**245**	Pn	**Pn**	**01 32 38.1**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=68,slow=17,SNR=4.7						
DAVOX				Sn	**Sn**	**01 33 51.6**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=344,slow=20,SNR=2.9						
DAVOX				Lg	Lg	01 34 26.1	
	comp=Z,0.1nm,0.3s,baz=72,slow=3.2,SNR=3.1						
HFS	**Hagfors**	**10.64**	**347**	Pn	**Pn**	**01 33 34.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=150,slow=15,SNR=3.5						
NOA	**NORSAR Array B**	**11.92**	**343**	Pn	**Pn**	**01 33 49.4**	**-2.3**
	comp=Z,0.0nm,0.3s,baz=157,slow=12,SNR=2.8						
FINES	**FINESS Array B**	**12.36**	**17**	Pn	**Pn**	**01 33 54.9**	**-2.7**
	comp=Z,0.2nm,0.

baz=317,slow=75
H11S1 WAKE ISLAND Hy 27.74 127 T T 02 21 53.7
baz=318
H11S3 WAKE ISLAND Hy 27.74 127 T T 02 22 00.2
baz=318
H11S2 WAKE ISLAND Hy 27.76 127 T T 02 22 06.9
baz=318
SONM Songino Array 28.95 303 P **P** **01 53 00.8 +0.4**
0.3nm,0.6s,baz=92,slow=10.0,SNR=2.7
SONM PcP **PcP** **01 56 08.8 +0.2**
0.2nm,0.4s,baz=116,slow=6.6,SNR=3.3
ZALV Zalesovo Beam 42.83 312 P **P** **01 55 00.6 +1.9**
0.4nm,0.5s,baz=76,slow=6.3,SNR=2.2
ZALV PcP **PcP** **01 56 50.0 +0.7**
0.4nm,0.5s,baz=104,slow=6.1,SNR=3.9
CMAR Chiang Mai Arr 43.40 256 P **P** **01 55 03.8 +0.1**
0.6nm,0.3s,baz=44,slow=8.0,SNR=3.2
MKAR Makanchi Array 45.32 302 P **P** **01 55 20.0 +1.2**
1.1nm,0.7s,baz=85,slow=9.5,SNR=12
BRDH Bariadhala 46.83 267 LR LR 02 15 38.0
comp=Z,44nm,18.3s,baz=101,slow=37
ILAR Eielson Array 48.00 33 P **P** **01 55 40.3 +0.8**
0.3nm,0.8s,baz=259,slow=6.1,SNR=3.7
WRA Warramunga Arr 57.97 190 P **P** **01 56 52.5 -0.9**
2.4nm,0.7s,baz=10,slow=7.3,SNR=20
ASAR Alice Springs 61.69 192 P **P** **01 57 18.5 -0.5**
0.8nm,0.8s,baz=16,slow=7.0,SNR=8.0
AKASG Malin Array Be 74.89 323 P **P** **01 58 41.9 +0.6**
0.5nm,0.4s,baz=45,slow=5.4,SNR=5.3
PDAR Pinedale Array 75.93 47 P **P** **01 58 48.2 +0.5**
0.1nm,0.6s,baz=350,slow=4.0,SNR=2.1

IDC 30 02:03:07.7±2.6, 15°80S×175°00W, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/38, mbtmp3.8/6, MS3.6/7, Ms1 3.6/7, ms1mx3.3/41, Error ellipse: s-maj=198.8km s-min=23.2km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**15.41**	**113**	LR	LR	02 10 35.8	
	comp=Z,86nm,21.2s,baz=234,slow=29						
DZM	**Mont Dzumac**	**18.62**	**248**	LR	LR	02 13 21.2	
	comp=Z,324nm,20.6s,baz=332,slow=33						
DZM	**Mont Dzumac**	**18.62**	**248**	*eP*	Pn	02 07 31.3	+4.1
	61nm,1.4s						
DZM				*e*LR	LR	02 12 00.3	
	comp=Z,476nm,25.7s						
URZ	**Urewera**	**23.43**	**196**	LR	LR	02 15 25.4	
	comp=Z,133nm,20.3s,baz=28,slow=32						
PAE	**Paea**	**24.41**	**98**	*e*T	T	02 33 10.1	
	3.6nm,0.4s						
PPT	**Papeete**	**24.41**	**98**	LR	LR	02 15 54.8	
	comp=Z,58nm,18.5s,baz=198,slow=31						
PPT2	**Papeete2**	**24.41**	**98**	*e*LR	LR	02 14 10.8	
	comp=Z,158nm,26.2s						
PPT2	**Papeete2**	**24.41**	**98**	*e*T	T	02 33 10.5	
	4.8nm,0.4s						
TBI	**Tubuai**	**25.18**	**111**	*e*LR	LR	02 14 32.4	
	comp=Z,241nm,27.0s						
TBI	**Tubuai**	**25.18**	**111**	*e*T	T	02 34 16.0	
	13nm,0.4s						
HNR	**Honiara**	**25.24**	**282**	LR	LR	02 17 03.5	
	comp=Z,283nm,19.8s,baz=32,slow=33						
RKT	**Rikitea**	**38.34**	**107**	*e*T	T	02 50 39.3	
	3.1nm,0.4s						
H11S2	**WAKE ISLAND Hy**	**38.54**	**331**	T	T	02 51 50.5	
	baz=149,slow=76,SNR=5.1						
H11S3	**WAKE ISLAND Hy**	**38.55**	**331**	T	T	02 51 48.3	
	baz=149,slow=76,SNR=4.7						
H11S1	**WAKE ISLAND Hy**	**38.56**	**331**	T	T	02 51 52.0	
	baz=149,slow=76,SNR=5.1						
H11N3	**WAKE ISLAND Hy**	**39.52**	**333**	T	T	02 52 59.9	
	baz=151,slow=76,SNR=22						
H11N1	**WAKE ISLAND Hy**	**39.52**	**333**	T	T	02 53 02.2	
	baz=151,slow=76,SNR=33						
H11N2	**WAKE ISLAND Hy**	**39.54**	**333**	T	T	02 53 01.7	
	baz=151,slow=76,SNR=27						
STKA	**Stephens Creek**	**42.51**	**240**	LR	LR	02 26 40.6	
	comp=Z,71nm,20.6s,baz=27,slow=33						
WRA	**Warramunga Arr**	**48.25**	**257**	P	P	02 11 50.6	-0.2
	0.7nm,0.9s,baz=90,slow=9.8,SNR=3.1						
ASAR	**Alice Springs**	**48.52**	**252**	P	P	02 11 52.9	-0.1
	4.1nm,0.8s,baz=85,slow=8.6,SNR=31						
NVAR	**Mina Array Bea**	**75.66**	**43**	P	P	02 14 55.3	+0.1
	0.4nm,0.3s,baz=240,slow=12,SNR=4.3						
NVAR				LR	LR	02 43 10.7	
	comp=Z,55nm,20.1s,baz=260,slow=32						
TXAR	**Lajitas Array**	**82.11**	**57**	P	P	02 15 31.1	+0.4
	0.7nm,1.0s,baz=200,slow=6.6,SNR=3.9						
PDAR	**Pinedale Array**	**83.59**	**42**	P	P	02 15 37.5	-0.7
	0.5nm,0.8s,baz=204,slow=3.3,SNR=5.0						
YKA	**Yellowknife Ar**	**91.08**	**24**	P	P	02 16 14.0	+0.3
	0.4nm,0.7s,baz=236,slow=4.0,SNR=7.2						

*TIF **30** 02:04:18.9, 42°36N×40°94E, h26km±4km*
*ISK **30** 02:04:19.2, 42°35N×40°98E, h14km, ML3.1/7*
*MOS **30** 02:04:20.6±0.0, 42°53N×41°07E, h12km, MPVA3.9*
*NORS **30** 02:04:21.8±0.0, 42°52N×41°35E, h10km, MPVA3.6*
*DDA **30** 02:04:28.0, 41°62N×40°88E, h7km±4km, ML3.1*

ISC 30 02:04:17.3±1.2, 42°39N±0°02×41°02E±0°03, h1km±11km, n32, σ0s74/52, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.94**	**147**	PG	**Pn**	**02 04 37.7**	**+0.1**
BATM				SG	**Sn**	**02 04 50.9**	**-0.8**
BATM	**Batumi**	**0.94**	**147**	P	**Pn**	**02 04 37.6**	**0.0**
BATM				S	**Sn**	**02 04 51.2**	**-0.5**
DOMR	**Dombai**	**1.00**	**26**	*i* Pg	**Pn**	**02 04 38.7**	**0.0**
DOMR				*e*Sg	**Sg**	**02 04 50.2**	**+0.7**
BCA	**Borcka**	**1.05**	**154**	PG	**Pn**	**02 04 39.0**	**-0.2**
BCA				SG	**Sb**	**02 04 53.1**	**+0.5**
DBOC	**Borcka**	**1.16**	**155**	IAML_P			
	comp=Z,7μm,0.2s						
DBOC				*i* P	**Pn**	**02 04 41.1**	**+0.5**
ARXR	**Arkhyz**	**1.18**	**9**	*i* Pg	**Pn**	**02 04 40.9**	**-0.3**
ARXR				*i* Sg	**Sg**	**02 04 55.8**	**+0.5**
CHOM	**Cayeli-Rize**	**1.31**	**188**	PN	**Pn**	**02 04 42.9**	**+0.1**
ARTV	**Artvin**	**1.39**	**150**	*i* P	**Pb**	**02 04 44.1**	**0.0**
ARTV				*i* S	**Sg**	**02 05 02.0**	**+0.2**
RPOR	**Krasnaya Polya**	**1.42**	**337**	*i* Pg	**Pb**	**02 04 45.0**	**+0.5**
RPOR				*i* Sg	**Sn**	**02 05 03.9**	**+0.3**
DBAD	**Bademkaya**	**1.47**	**159**	*i* P	**Pb**	**02 04 45.3**	**-0.1**
DBAD				*i* S	**Sb**	**02 05 04.6**	**0.0**
DAGI	**Agillar**	**1.48**	**153**	IAML_P			
	comp=Z,1μm,0.1s						
DAGI				*i* P	**Pg**	**02 04 45.8**	**+0.3**
DAGI				*i* S	**Sg**	**02 05 04.4**	**-0.3**
NEY	**Neytrino**	**1.52**	**55**	*i* Pg	**Pg**	**02 04 46.7**	**+0.3**
NEY				*e*Sg	**Sg**	**02 05 06.0**	**-0.1**
SOC	**Sochi**	**1.52**	**322**	*i* Pg	**Pg**	**02 04 46.8**	**+0.3**
SOC				*i* Sg	**Sg**	**02 05 06.3**	**0.0**
DDEM	**Demirkent**	**1.60**	**160**	*i* P	**Pb**	**02 04 47.6**	**-0.1**
DDEM				*i* S	**Sn**	**02 05 07.8**	**-0.4**
KTUT	**Trabzon**	**1.69**	**214**	PN	**Pn**	**02 04 48.5**	**+0.6**
MACK	**Trabzon**	**1.73**	**213**	IAML_P			
	comp=Z,2μm,0.1s						
MACK				*i* P	**Pb**	**02 04 49.2**	**-0.6**
SHA1	**Shidzhatmaz**	**1.80**	**41**	*i* Pg	**Pg**	**02 04 52.2**	**+0.4**
SHA1				*i* Sg	**Sb**	**02 05 13.9**	**-0.5**
LZRR	**Lazarevskoye**	**1.95**	**323**	*i* Pg	**Pb**	**02 04 53.5**	**-0.2**
LZRR				*e*Sg	**Sb**	**02 05 18.2**	**-0.2**
KIV	**Kislovodsk**	**1.98**	**37**	PN	**Pb**	**02 04 53.9**	**-0.3**
BEYR	**Belyy Ugol+**	**2.08**	**39**	*e*Pg	**Pg**	**02 04 57.3**	**+0.1**
BEYR				*e*Sg	**Sg**	**02 05 23.3**	**-1.0**
BAYT	**Aydıntepe-Bayb**	**2.10**	**199**	PN	**Pn**	**02 04 54.3**	**+0.5**
ZEI	**Tsey**	**2.17**	**79**	*e*Pg	**Pb**	**02 04 57.5**	**+0.1**
ZEI				*e*Sg	**Sb**	**02 05 25.5**	**+0.6**
NCK	**Nalchik**	**2.19**	**59**	*e*Pg	**Pb**	**02 04 57.8**	**0.0**
NCK				*e*Sg	**Sb**	**02 05 24.6**	**-0.8**
BAYB	**BAYBURT**	**2.21**	**195**	*i* P	**Pg**	**02 04 59.2**	**-0.4**
BGD	**Bogdanovka**	**2.23**	**119**	P	**Pb**	**02 04 57.6**	**-1.0**
BGD				S	**Sb**	**02 05 26.5**	**-0.4**
LSNR	**Lesken**	**2.25**	**66**	*e*Pg	**Pb**	**02 04 58.5**	**-0.3**
LSNR				*e*Sg	**Sb**	**02 05 25.6**	**-1.5**
ESPY	**Espiye-Giresun**	**2.26**	**230**	PN	**Pn**	**02 04 56.3**	**+0.4**
KOPR	**Koprukoy-ERZUR**	**2.48**	**165**	PN	**Pn**	**02 04 59.7**	**+0.7**
KELT	**Kelkit**	**2.61**	**211**	IAML_P			
	comp=Z,215nm,0.1s						
KELT				*i* P	**Pn**	**02 05 02.5**	**+1.8**
TBLG	**Delisi**	**2.85**	**102**	PN	**Pn**	**02 05 05.7**	**+1.8**
TBLG	**Delisi**	**2.85**	**102**	P	**Sb**	**02 05 43.7**	**-0.6**
VOZR	**Vozrozhdenie**	**2.96**	**318**	*e*Pn	**Pb**	**02 05 08.3**	**-2.6**
VOZR				*e*Sn	**Sn**	**02 05 43.2**	**+1.5**

*ISK **30** 02:04:46.9, 36°14N×36°06E, h9km, ML3.5/17*
*DDA **30** 02:04:47.8, 36°23N×35°99E, h23km±1km, ML3.6*
*NIC **30** 02:04:51.4±0.2, 36°19N×35°91E, h25km, mb4.0, ML3.6*

ISC 30 02:04:48.7±1.0, 36°19N±0°03×35°99E±0°02, h10km±8km, n67, σ1s49/87, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAYL	**Yayladag**	**0.19**	**148**	IAML_P			
	comp=Z,69μm,0.1s						
YAYL				*i* P	**Pg**	**02 04 54.7**	**+1.9**
TAHT	**Tahtakopru-Hat**	**0.24**	**41**	PG	**Pg**	**02 04 53.2**	**-0.5**
TAHT				SG	**Sg**	**02 04 56.8**	**-0.3**
KRTS	**Karatas**	**0.62**	**308**	PG	**Pg**	**02 05 01.1**	**+0.3**
YURE	**YUREGIR**	**0.69**	**336**	PG	**Pg**	**02 05 01.9**	**-0.3**
YURE	**YUREGIR**	**0.69**	**336**	*i* P	**Pb**	**02 05 02.5**	**-0.5**
YURE				*i* S	**Sg**	**02 05 10.8**	**-0.4**
CEYT	**Ceyhan**	**0.84**	**347**	PG	**Pg**	**02 05 04.1**	**-0.8**
CEYT				SG	**Sb**	**02 05 17.8**	**+1.0**
KUZU	**Kuzuini**	**1.05**	**56**	*i* P	**Pb**	**02 05 09.1**	**0.0**
KUZU				*i* S	**Sg**	**02 05 22.4**	**-0.3**
KOZT	**Kozan**	**1.29**	**354**	PN	**Pg**	**02 05 12.6**	**-1.0**
KARA	**Karaisali**	**1.30**	**325**	PN	**Pg**	**02 05 12.2**	**-1.6**
MERS	**Mersin**	**1.36**	**300**	PN	**Pn**	**02 05 13.6**	**-0.3**
ANDN	**Andirin**	**1.42**	**12**	IAML_P			
	comp=Z,959nm,0.2s						
ANDN				*i* P	**Pn**	**02 05 14.0**	**-0.7**
ANDN				*i* S	**Sg**	**02 05 32.9**	**-1.5**
GULE	**Gulek**	**1.46**	**319**	IAML_P			
	comp=Z,4μm,0.2s						
GULE				*i* P	**Pn**	**02 05 14.8**	**-0.5**
GULE				*i* S	**Sg**	**02 05 34.6**	**-1.2**
KMRS	**Kahramanmaras**	**1.50**	**29**	PN	**Pn**	**02 05 15.1**	**-0.7**
KIZK	**Mersin**	**1.52**	**281**	PN	**Pn**	**02 05 15.7**	**-0.2**
KIZK	**Mersin**	**1.52**	**281**	IAML_P			
	comp=Z,9μm,0.1s						
KIZK				*i* P	**Pn**	**02 05 16.6**	**+0.7**
KIZK				*i* S	**Sg**	**02 05 37.5**	**+0.1**
EREN	**Erenkoy**	**1.62**	**246**	PN	**Pn**	**02 05 16.6**	**-0.7**
EREN	**Erenkoy**	**1.62**	**246**	IAML_P			
	comp=Z,4μm,0.3s						
EREN				*i* P	**Pn**	**02 05 17.9**	**+0.6**
GZT	**Gaziantep**	**1.72**	**47**	IAML_P			
	comp=Z,2μm,0.1s						
GZT				*i* P	**Pn**	**02 05 18.4**	**-0.5**
GZT				*i* S	**Sn**	**02 05 41.2**	**+0.2**
SAIM	**ADANA**	**1.78**	**2**	IAML_P			
	comp=Z,604nm,0.1s						
SAIM				*i* P	**Pn**	**02 05 20.3**	**+0.6**
IKL	**Isikli**	**1.86**	**272**	PN	**Pn**	**02 05 20.8**	**+0.1**
YESI	**Yesilovacik-Me**	**1.90**	**271**	PN	**Pn**	**02 05 21.0**	**-0.2**
KERG	**Konya-Eregli**	**1.93**	**310**	IAML_P			
	comp=Z,2μm,0.2s						
KERG				*i* P	**Pn**	**02 05 22.6**	**+0.9**
KERG				*i* S	**Sb**	**02 05 48.5**	**+0.2**
AKKU	**Akkuyu-Mersin**	**1.97**	**270**	PN	**Pn**	**02 05 22.2**	**0.0**
AKK2	**Akkuyu-Mersin**	**1.97**	**269**	PN	**Pn**	**02 05 22.2**	**0.0**
GULN	**MERSIN_Gulnar**	**1.98**	**270**	*i* P	**Pn**	**02 05 22.8**	**+0.5**
GULN				*i* S	**Sn**	**02 05 47.8**	**+0.7**
PHNC	**Paralimni**	**1.98**	**234**	S	**Sn**	**02 05 44.4**	**-2.9**
	baz=51						
OREN	**Orenkoy-Mersin**	**2.04**	**271**	PN	**Pn**	**02 05 23.4**	**+0.2**
TEVE	**Tevekalti-Mers**	**2.07**	**277**	PN	**Pn**	**02 05 23.7**	**+0.1**
YORU	**Yoruktepe-Mers**	**2.09**	**270**	PN	**Pn**	**02 05 23.9**	**+0.1**
NIG	**Nigde**	**2.21**	**331**	PN	**Pn**	**02 05 25.9**	**+0.2**
SURC	**SANLIURFA_SURC**	**2.22**	**71**	*i* P	**Pn**	**02 05 26.0**	**+0.2**
BERE	**Bereket-Mersin**	**2.24**	**275**	PN	**Pn**	**02 05 26.3**	**+0.3**
ATAB	**Bozova**	**2.25**	**55**	IAML_P			
	comp=Z,1μm,0.2s						
ATAB				*i* P	**Pn**	**02 05 26.9**	**+0.8**
CSS	**Mathiatis**	**2.49**	**241**	PN	**Pn**	**02 05 29.1**	**-0.2**
CSS	**Mathiatis**	**2.49**	**241**	P	**Pn**	**02 05 28.4**	**-0.9**
	baz=59						
ERMK	**Ermenek**	**2.52**	**281**	*i* P	**Pn**	**02 05 32.1**	**+2.2**
ERMK				*i* S	**Sb**	**02 06 05.4**	**0.0**
URFA	**Urfa**	**2.59**	**60**	PN	**Pn**	**02 05 29.4**	**-1.5**
SANL	**SANLIURFA_Merk**	**2.60**	**67**	IAML_P			
	comp=Z,1μm,0.3s						
SANL				*i* P	**Pn**	**02 05 31.6**	**+0.6**
AKCD	**Akcadag**	**2.61**	**36**	IAML_P			
	comp=Z,1μm,0.2s						
AKCD				*i* P	**Pn**	**02 05 31.3**	**+0.2**
AKCD				*i* S	**Sg**	**02 06 11.7**	**-0.8**
AKDN	**Akdeniz- Kıbrı**	**2.61**	**251**	PN	**Pn**	**02 05 30.9**	**-0.1**
BNN	**Bunyan**	**2.66**	**358**	PN	**Pn**	**02 05 31.8**	**0.0**
DARE	**Darende-Malaty**	**2.66**	**26**	PN	**Pn**	**02 05 31.5**	**-0.3**
CUGUR	**Gurin_SVAS**	**2.73**	**22**	*i* P	**Pn**	**02 05 33.9**	**+1.2**
CUGUR				*i* S	**Sb**	**02 06 13.5**	**+2.3**
LEF	**Lefka**	**2.74**	**248**	PN	**Pn**	**02 05 33.4**	**+0.6**
LEF	**Lefka**	**2.74**	**248**	*i* P	**Pn**	**02 05 33.3**	**+0.5**
LEF				*i* S	**Sn**	**02 06 03.8**	**-2.1**
AVNS	**Nevsehir-Avano**	**2.76**	**341**	*i* P	**Pn**	**02 05 35.7**	**+2.5**
SULT	**Sultanhani-AKS**	**2.81**	**316**	PN	**Pn**	**02 05 34.7**	**+0.8**
SZAC	**Souni**	**2.91**	**241**	P	**Pn**	**02 05 33.7**	**-1.5**
	baz=59						
SZAC				S	**Sn**	**02 06 13.2**	**+3.0**
HDMB	**Hadim**	**2.92**	**286**	PN	**Pn**	**02 05 36.0**	**+0.5**
ALFC	**Alefka**	**2.94**	**250**	P	**Pn**	**02 05 34.5**	**-1.1**
	baz=68						
ALFC				S	**Sn**	**02 06 08.2**	**-2.9**
AKSY	**AKSARAY - Alti**	**3.02**	**325**	*i* P	**Pb**	**02 05 40.6**	**-2.1**
CUALT	**Altinyayla-SIV**	**3.13**	**11**	*i* P	**Pn**	**02 05 39.5**	**+1.1**
CUSAR	**Sarkisla-SIVAS**	**3.23**	**4**	*i* P	**Pn**	**02 05 40.7**	**+1.1**
KMER	**Konya-Meram**	**3.30**	**300**	*i* P	**Pn**	**02 05 43.4**	**+2.9**
ELZG	**Elazig**	**3.32**	**45**	IAML_P			
	comp=Z,789nm,0.2s						
ELZG				*i* P	**Pn**	**02 05 42.6**	**+1.7**
ELZG				*i* S	**Sg**	**02 06 32.1**	**-3.3**
CUKAN	**kangal_SIVAS**	**3.33**	**20**	*i* P	**Pn**	**02 05 42.5**	**+1.4**
KONT	**Konya--Tatoy**	**3.39**	**302**	*i* P	**Pn**	**02 05 44.6**	**+2.9**
KEPZ	**Antalya-Kepez**	**3.60**	**283**	*i* P	**Pn**	**02 05 48.2**	**+3.6**
KEPZ				*i* S	**Sn**	**02 06 30.6**	**+3.4**
CDAG	**Cicekdag**	**3.66**	**340**	*i* P	**Pn**	**02 05 47.5**	**+2.0**
KEMA	**Kemaliye**	**3.66**	**32**	*i* P	**Pn**	**02 05 47.7**	**+2.2**
DIYA	**Diyarbakir**	**3.73**	**61**	IAML_P			
	comp=Z,2μm,0.3s						
DIYA				*i* P	**Pn**	**02 05 47.5**	**+1.0**
DIYA				*i* S	**Sg**	**02 06 47.4**	**-1.2**
KKUL	**Konya-Kulu**	**3.84**	**322**	*i* P	**Pn**	**02 05 50.3**	**+2.2**
KDHN	**Kadinhani**	**3.86**	**308**	*i* P	**Pn**	**02 05 50.5**	**+2.2**
DOGA	**KONYA_Doganhis**	**3.94**	**300**	*i* P	**Pn**	**02 05 52.4**	**+2.9**
BBAL	**Bala**	**4.04**	**327**	*i* P	**Pn**	**02 05 53.7**	**+2.9**
BBAL				*i* S	**Sb**	**02 06 51.8**	**+2.7**
DELI	**KIRIKKALE**	**4.13**	**337**	*i* P	**Pn**	**02 05 52.6**	**+0.5**
HANI	**Diyarbakir_Han**	**4.16**	**56**	IAML_P			
	comp=Z,233nm,0.3s						
HANI				*i* P	**Pn**	**02 05 52.8**	**+0.4**

*IDC **30** 02:06:37.8±1.7, 10°42N×127°15E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.7/39, mbtmp4.0/6, MS3.1/5, Ms1 3.1/5, ms1mx2.8/57, Error ellipse: s-maj=188.1km s-min=20.0km az=69.0*
*ISCJB **30** 02:06:39.0±0.8, 10°42N±0°06×126°99E±0°06, h20km, mb4.0/6, Error ellipse: s-maj=9.7km s-min=8.2km az=142.3*
*MAN **30** 02:06:39.0, 10°46N×127°06E, h30km, mb4.5, ML3.4, MS3.2*

ISC 30 02:06:40.9±1.0, 10°44N±0°07×126°9E±0°1, h20km, n15, σ1s02/13, mb3.9/6, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.88**	**308**	*e*P	**Pn**	**02 07 10.4**	**-1.4**
BESP				*e*S	**Sn**	**02 07 34.3**	**-0.7**
BUTP	**Butuan**	**1.96**	**222**	*e*P	**Pn**	**02 07 12.3**	**-0.6**
BUTP				*e*S	**Sn**	**02 07 36.3**	**-0.7**
PLP	**Palo**	**2.06**	**291**	*e*P	**Pn**	**02 07 13.5**	**-0.9**
MSLP	**Maasin**	**2.08**	**262**	*e*P	**Pn**	**02 07 14.3**	**-0.3**
MSLP				*e*S	**Sn**	**02 07 40.9**	**+1.1**
DAV	**Davao City (W)**	**3.61**	**202**	LR	LR	02 09 16.2	
	comp=Z,61nm,19.8s,baz=4.5,slow=43						
KSRS	**Korea Array**	**26.91**	**2**	LR	LR	02 24 40.1	
	comp=Z,11nm,18.2s,baz=335,slow=40						
PMG	**Port Moresby**	**28.16**	**134**	LR	LR	02 23 37.5	
	comp=Z,51nm,21.3s,baz=288,slow=36						
WRA	**Warramunga Arr**	**31.05**	**166**	P	**P**	**02 12 56.5**	**-1.3**
	0.4nm,0.5s,baz=345,slow=9.5,SNR=4.3						
ASAR	**Alice Springs**	**34.57**	**169**	P	**P**	**02 13 27.9**	**-0.6**
	0.6nm,0.5s,baz=349,slow=6.7,SNR=7.7						
STKA	**Stephens Creek**	**44.35**	**162**	P	**P**	**02 14 50.4**	**+0.5**
	1.1nm,0.5s,baz=344,slow=15,SNR=3.1						
MKAR	**Makanchi Array**	**52.30**	**322**	P	**P**	**02 15 52.5**	**+1.4**
	0.9nm,0.6s,baz=122,slow=7.6,SNR=12						
AKTO	**Aktyubinsk**	**68.62**	**320**	LR	LR	02 52 08.9	
	comp=Z,29nm,20.6s,baz=300,slow=40						
ARCES	**ARCESS Array B**	**84.27**	**340**	P	**P**	**02 19 11.7**	**+0.8**
	2.4nm,0.8s,baz=82,slow=7.2,SNR=5.3						
FINES	**FINESS Array B**	**86.06**	**332**	P	**P**	**02 19 20.2**	**+0.2**
	3.1nm,1.1s,baz=57,slow=5.1,SNR=5.7						
VRAC	**Vranov**	**95.04**	**322**	LR	LR	03 05 56.3	
	comp=Z,36nm,18.2s,baz=342,slow=37						

*ISCJB **30** 02:29:13.8±2.1, 10°39N±0°03×126°96E±0°04, h18km±15km, mb4.5/37, Error ellipse: s-maj=7.3km s-min=5.2km az=2.2*
*MAN **30** 02:29:14.7, 10°43N×126°88E, h14km, mb4.7, ML3.6, MS3.5*
*NEIC **30** 02:29:17.7±2.9, 10°36N×126°90E, h33km±20km, mb4.8/23, Error ellipse: s-maj=8.5km s-min=4.6km az=83.0*
*IDC **30** 02:29:18.2±0.5, 10°34N×126°84E, h38km±3km, mb4.1/20, mb1 4.2/20, mb1mx4.0/45, mbtmp4.3/20, Error ellipse: s-maj=22.1km s-min=10.3km az=82.0*

ISC 30 02:29:18.0±0.4, 10°38N±0°04×126°88E±0°07, h34km±1km, h35km:pP-P, n82, σ0s86/116, mb4.7/37, 2C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.50**	**247**	*e*P	**Pn**	**02 29 40.9**	**-1.6**
SCPH				*e*S	**Sn**	**02 30 01.0**	**+0.2**
BESP	**Borongan**	**1.86**	**311**	*e*P	**Pn**	**02 29 45.3**	**-2.2**
BESP				*e*S	**Sn**	**02 30 09.8**	**-0.1**
BUTP	**Butuan**	**1.88**	**222**	*e*P	**Pn**	**02 29 46.6**	**-1.1**
BUTP				*e*S	**Sn**	**02 30 11.0**	**+0.7**
MSLP	**Maasin**	**2.01**	**263**	*e*P	**Pn**	**02 29 48.6**	**-0.9**
MSLP				*e*S	**Sn**	**02 30 14.6**	**+1.2**
PLP	**Palo**	**2.02**	**293**	*e*P	**Pn**	**02 29 47.3**	**-2.4**
BIPH	**Bislig**	**2.25**	**193**	*i* P	Pb	02 30 05.3	+7.3
BIPH				*i* S	**Sn**	**02 30 17.6**	**-1.7**
BUKP	**Musuan**	**3.07**	**216**	*e*P	**Pn**	**02 30 04.8**	**+0.6**
RCP	**Roxas**	**4.23**	**286**	*e*P	**Pn**	**02 30 20.1**	**+0.1**
SBUM	**Sibu**	**16.55**	**243**	*e*Pn	**P**	**02 33 09.3**	**-0.7**
	9.9nm,1.0s						
KSM	**Kuching**	**18.70**	**243**	*e*P	**Pn**	**02 33 37.3**	**+3.1**
	31nm,0.8s						
BATI	**Baumata**	**20.70**	**189**	P	**P**	**02 33 56.2**	**+0.7**
	81nm,0.9s,baz=98,slow=1.3,SNR=10.0						
SSE	**Sheshan**	**21.28**	**346**	*e*P	**P**	**02 34 00.6**	**-1.0**
	27nm,0.6s						
JNU	**Nakatsue**	**22.93**	**9**	P	**P**	**02 34 19.1**	**-0.1**
	18nm,0.9s,baz=181,slow=3.1,SNR=4.9						
JNU	**Nakatsue**	**22.93**	**9**	*e*P	**P**	**02 34 19.5**	**+0.3**
	25nm,1.0s						
MTN	**Manton Dam**	**23.46**	**170**	*e*P	**P**	**02 34 25.1**	**+0.5**
	27nm,1.1s						
UGM	**Wanagama**	**24.41**	**222**	*e*P	**P**	**02 34 32.7**	**-0.9**
	147nm,1.2s						
IPM	**Ipoh**	**26.29**	**259**	*e*P	**P**	**02 34 51.4**	**+0.7**
	27nm,1.0s						
KS15	**Wonju Array Si**	**26.96**	**2**	*e*P	**P**	**02 34 56.2**	**-0.2**
KS15				*e*pP	**sP**	**02 35 08.0**	**+0.9**
KSAR	**Wonju Array Be**	**26.96**	**2**	P	**P**	**02 34 56.2**	**-0.2**
KSAR				pP	**sP**	**02 35 08.0**	**+0.9**
KSRS	**Korea Array**	**26.97**	**2**	P	**P**	**02 34 56.2**	**-0.3**
	4.9nm,1.0s,baz=174,slow=10,SNR=15						
KSRS				pP	**sP**	**02 35 08.0**	**+0.8**
	2.5nm,0.7s,baz=178,slow=9.9,SNR=4.8						
KS01	**Wonju Array Si**	**26.99**	**2**	*e*P	**P**	**02 34 56.1**	**-0.6**
CM01	**Chiang Mai Arr**	**28.17**	**290**	*e*P	**P**	**02 35 06.0**	**-1.5**
FITZ	**Fitzroy Crossi**	**28.33**	**182**	P	**P**	**02 35 07.4**	**-1.4**
	3.2nm,1.0s,baz=40,slow=9.0,SNR=3.6						
FITZ	**Fitzroy Crossi**	**28.33**	**182**	*e*P	**P**	**02 35 07.4**	**-1.4**
	13nm,1.3s						
BJT	**Baijiatuau**	**31.01**	**344**	*e*P	**P**	**02 35 32.9**	**+0.5**
	14nm,1.4s						
WR1	**Warramunga Arr**	**31.02**	**166**	*e*P	**P**	**02 35 31.1**	**-1.6**
WRA	**Warramunga Arr**	**31.02**	**166**	P	**P**	**02 35 31.1**	**-1.6**
	1.9nm,0.9s,baz=348,slow=9.4,SNR=8.7						
WB2	**Warramunga Arr**	**31.02**	**166**

IM3	**Indian Mountai**	**76.25**	**24**	*e*P		**P**	**02 41 03.0**	**+0.1**
RAYN	**Ar Rayn**	**78.09**	**292**	*e*P		**P**	**02 41 14.6**	**+0.5**
	14nm,1.4s							
MCK	**McKinley**	**78.19**	**27**	*e*P		**P**	**02 41 13.7**	**-0.1**
	9.9nm,1.0s							
ILAR	**Eielson Array**	**79.08**	**26**	P		**P**	**02 41 18.3**	**-0.3**
	0.7nm,0.8s,baz=237,slow=6.9,SNR=7.8							
ILB	**Eielson Array**	**79.08**	**26**	*e*P		**P**	**02 41 18.4**	**-0.3**
ARA0	**ARCESS Array S**	**84.30**	**340**	*e*P		**P**	**02 41 45.6**	**-0.5**
ARA0				*e*pP		**sP**	**02 41 57.8**	**+0.4**
ARCES	**ARCESS Array B**	**84.30**	**340**	P		**P**	**02 41 45.6**	**-0.5**
	4.0nm,0.7s,baz=81,slow=6.5,SNR=22							
ARCES				pP		**sP**	**02 41 57.8**	**+0.4**
	4.3nm,0.8s,baz=79,slow=6.5,SNR=2.6							
BR131	**Keskin Array S**	**85.92**	**309**	*e*P		**P**	**02 41 54.8**	**-0.3**
FIA0	**FINESS Array S**	**86.08**	**332**	*e*P		**P**	**02 41 55.0**	**-0.2**
FIA0				*e*pP		**sP**	**02 42 06.8**	**0.0**
FINES	**FINESS Array B**	**86.08**	**332**	P		**P**	**02 41 55.0**	**-0.2**
	1.4nm,0.4s,baz=65,slow=4.8,SNR=21							
FINES				pP		**sP**	**02 42 06.8**	**0.0**
	5.8nm,0.8s,baz=70,slow=5.2,SNR=4.3							
AKASG	**Malin Array Be**	**86.86**	**321**	P		**P**	**02 41 59.2**	**0.0**
	1.2nm,0.5s,baz=63,slow=4.8,SNR=17							
AKASG				pP		**sP**	**02 42 10.6**	**-0.3**
	1.8nm,0.5s,baz=61,slow=5.2,SNR=7.2							
AKBB	**Malin Array Si**	**86.86**	**321**	*e*P		**P**	**02 41 59.2**	**0.0**
AKBB				*e*pP		**sP**	**02 42 10.6**	**-0.3**
KIEV	**Kiev**	**86.87**	**321**	*e*P		**P**	**02 41 59.2**	**0.0**
	14nm,1.3s							
AK11	**Malin Array Si**	**86.90**	**321**	*e*P		**P**	**02 42 00.9**	**+1.6**
BUR04	**Bucovina Ar. S**	**90.16**	**319**	*e*P		**P**	**02 42 15.2**	**+0.1**
BUR08	**Bucovina Ar. S**	**90.16**	**319**	*e*P		**P**	**02 42 15.6**	**+0.5**
BUR08				*e*pP		**sP**	**02 42 26.2**	**-0.6**
RES	**Resolute Bay**	**91.28**	**10**	*e*P		**P**	**02 42 20.0**	**+0.4**
	5.0nm,0.6s							
YKA	**Yellowknife Ar**	**93.41**	**24**	P		**P**	**02 42 29.7**	**+0.1**
	0.8nm,0.7s,baz=301,slow=4.7,SNR=15							
YKA				pP		**sP**	**02 42 40.2**	**-1.0**
	0.3nm,0.7s,baz=296,slow=4.7,SNR=3.8							
YKB5	**Yellowknife Ar**	**93.41**	**24**	*e*P		**P**	**02 42 29.7**	**0.0**
YKB5				*e*pP		**sP**	**02 42 40.2**	**-1.0**
CLL	**Collm**	**96.35**	**325**	*e*P		**P**	**02 42 44.0**	**+0.7**
TORD	**Torodi Ar. Bea**	**120.78**	**292**	PKP	**PKPdf**	**02 48 07.1**	**-0.6**
	0.5nm,0.7s,baz=44,slow=2.2,SNR=6.4							
TOA1	**Torodi Ar. Sit**	**120.78**	**292**	*e*PKPdf	**PKPdf**	**02 48 07.0**	**-0.6**
PLCA	**Paso Flores**	**146.07**	**156**	PKPbc	**PKPab**	**02 48 55.9**	**+0.5**
	5.0nm,0.9s,baz=256,slow=3.1,SNR=10							
PLCA	**Paso Flores**	**146.07**	**156**	*e*PKPdf	**PKPab**	**02 48 56.5**	**+1.0**

MAN ***30*** *02:32:14.7, 10.75N×126.84E, h19km, mb6.0, ML5.0, MS5.5*

BJI ***30*** *02:32:15.2, 10.31N×126.84E, h41km, mb5.2/83, mB5.3/62, Ms4.8/82, Ms7 4.6/74*

ISCJB ***30*** *02:32:17.0±0.4, 10.60N±0.02×126.76E±0.02, h36km±3km, mb5.4/245, MS4.5/47, Error ellipse: s-maj=4.0km s-min=2.8km az=170.6*

MOS ***30*** *02:32:16.8±1.0, 10.64N×126.63E, h33km, mb5.7/78, MS4.3/6, Error ellipse: s-maj=8.6km s-min=4.1km az=116.0*

IDC ***30*** *02:32:18.3±0.4, 10.52N×126.68E, h35km±2km, mb4.8/42, mb1 4.9/43, mb1mx4.8/54, mbtmp5.0/43, ML4.6/1, MS4.0/17, Ms1 4.0/17, ms1mx3.9/36, Error ellipse: s-maj=12.6km s-min=6.8km az=82.0*

NEIC ***30*** *02:32:19.1±0.5, 10.55N×126.69E, h40km±4km, mb5.4/132, Error ellipse: s-maj=4.5km s-min=3.0km az=84.0*

GCMT ***30*** *02:32:19.1±0.2, 10.67N±0.02×126.91E±0.01, h13km, MW5.1/89, Moment Tensor Solution. s41,c49; s89,c139; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.96±.21; Mθθ 1.00±.12; Mϕϕ 3.96±.14; Mrθ 1.34±.39; Mθϕ -0.93±.07; Mϕr -1.84±.31; Best double couple: Mo 5.11600×10^16 NP1: ϕs 336.00000°, δ 58.00000°, λ -97.00000°. NP2: ϕs 170.00000°, δ 33.00000°, λ -78.00000°. Principal axes: T 4.7060, Plg 13.0000°, Azm 71.0000°; N 0.8170, Plg 6.0000°, Azm 340.0000°; P -5.5260, Plg 76.0000°, Azm 224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***30*** *02:32:23.2±0.5, 11°N±3°×127°E±°, h66km±4km, M5.2/70, mb5.3/70, mB5.6/43, Mw(mB) 5.1/43*

KLM ***30*** *02:32:24.8, 10.60N×126.63E, h86km, mb5.4*

ISC 30 02:32:19.3±0.2, 10.56N±0.03×126.79E±0.04, h44km±1km, h44km: pP-P, n1103, σ1.58/884, mb5.4/269, MS4.4/47, 66C-37D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.50**	**239**	↑	*e*P		**Pn**	**02 32 42.2**	**-1.6**
SCPH					*e*S		**Sn**	**02 32 50.7**	**-1.4**
BESP	**Borongan**	**1.69**	**308**		*e*P		**Pn**	**02 32 41.8**	**-4.6**
BESP					*e*S		**Sn**	**02 33 05.2**	**-1.5**
PLP	**Palo**	**1.88**	**289**	↓	*e*P		**Pn**	**02 32 45.9**	**-3.1**
PLP					*e*S		**Sn**	**02 33 09.3**	**-2.2**
MSLP	**Maasin**	**1.95**	**258**		*e*P		**Pn**	**02 32 48.4**	**-1.6**
MSLP					*e*S		**Sn**	**02 33 14.5**	**+1.3**
BUTP	**Butuan**	**1.96**	**216**		*e*P		**Pn**	**02 32 49.6**	**-0.5**
OCLP	**Ormoc**	**2.20**	**283**		*e*P		**Pn**	**02 32 52.3**	**-1.1**
BIPH	**Bislig**	**2.40**	**190**	↓	*i*P		**Pn**	**02 32 53.0**	**-3.1**
BIPH					*i*S		**Sn**	**02 33 17.7**	**-6.6**
LLP	**Lapu-Lapu**	**2.79**	**265**	↓	*e*P		**Pn**	**02 33 00.8**	**-0.7**
LLP					*i*S		**Sn**	**02 33 34.3**	**+0.3**
CNP	**Catarman**	**2.85**	**313**		*e*P		**Pn**	**02 32 58.5**	**-3.9**
CNP					*e*S		**Sn**	**02 33 32.8**	**-2.6**
CGP	**Cagayan de Oro**	**2.94**	**225**	↓	*e*P		**Pn**	**02 33 04.3**	**+0.7**
BUKP	**Musuan**	**3.16**	**213**		*e*P		**Pn**	**02 33 07.0**	**+0.3**
BUKP					*e*S		**Sn**	**02 33 47.2**	**+3.9**
DAV	**Davao City (W)**	**3.67**	**199**		LR		LR	02 34 45.9	
	comp=Z,4μm,20.9s,baz=41,slow=41								
DAV	**Davao City (W)**	**3.67**	**199**		*e*Pn		**Pn**	**02 33 13.5**	**-0.1**
SNPH	**Sibulan**	**3.71**	**251**		*e*P		**Pn**	**02 33 14.9**	**+0.8**
SNPH					*e*S		Sn	02 34 09.5	+13
DCPH	**Dipolog City**	**3.92**	**240**	↑	*e*P		**Pn**	**02 33 17.2**	**+0.2**
DCPH					*e*S		**Sn**	**02 34 02.9**	**+1.1**
PVCP	**Virac**	**3.97**	**320**		*e*P		**Pn**	**02 33 13.9**	**-3.8**
RCP	**Roxas**	**4.10**	**284**	↓	*e*P		**Pn**	**02 33 18.2**	**-1.2**
PAGZ	**Pagadian**	**4.31**	**232**		*e*P		**Pn**	**02 33 21.9**	**-0.6**
DDMP	**Don Marcelino,**	**4.55**	**194**		*e*P		**Pn**	**02 33 26.8**	**+1.1**
DDMP					*e*S		**Sn**	**02 34 20.5**	**+3.1**
JAP	**San Jose, Anti**	**4.77**	**273**	↑	*e*P		**Pn**	**02 33 31.5**	**+2.8**
OTRP	**Odiongan**	**5.01**	**291**		*e*P		**Pn**	**02 33 30.1**	**-1.9**
SMPP	**San Manuel, Pa**	**8.14**	**314**		*e*P		**Pn**	**02 34 10.2**	**-4.8**
TNTI	**Ternate**	**9.74**	**177**		*e*Pn		**Pn**	**02 34 35.7**	**-1.3**
TNTI	**Ternate**	**9.74**	**177**		P		**Pn**	**02 34 36.0**	**-0.9**
KMSI	**Cibinong**	**10.31**	**196**		P		**Pn**	**02 34 46.1**	**+1.4**
MRSI	**Marisa**	**11.12**	**206**		P		**Pn**	**02 34 57.6**	**+1.8**
	32nm,1.4s,603nm								
KKM	**Kota Kinabalu**	**11.39**	**248**		*e*Pn		**Pn**	**02 35 02.7**	**+3.1**
KKM	**Kota Kinabalu**	**11.39**	**248**		P		**Pn**	**02 35 02.7**	**+3.1**
SWI	**Sorong**	**12.19**	**158**		P		**Pn**	**02 35 10.4**	**0.0**
SIJI	**Sorong**	**12.19**	**158**		Pn		**Pn**	**02 35 08.6**	**-1.9**
	3.4nm,0.3s,baz=182,slow=11,SNR=10								
SIJI					LR		LR	02 40 39.6	
	comp=Z,446nm,20.4s,slow=41								
LUWI	**Luwuk**	**12.20**	**199**		*e*Pn		**Pn**	**02 35 12.4**	**+1.7**
LUWI	**Luwuk**	**12.20**	**199**		P		**Pn**	**02 35 12.3**	**+1.7**
APSI	**Ampana**	**12.49**	**204**		P		**Pn**	**02 35 17.3**	**+2.7**
SANI	**Sanana**	**12.55**	**184**		P		Pn	02 35 10.2	-5.2
PCI	**Palu**	**13.33**	**212**		P		**Pn**	**02 35 29.8**	**+3.8**
TWG	**Pinlang**	**13.36**	**337**		*e*Pn		**Pn**	**02 35 22.7**	**-3.8**
NLAI	**Namlea**	**13.71**	**179**		P		**Pn**	**02 35 27.1**	**-4.2**
YULB	**Yu-li**	**13.80**	**338**		*e*P		**P**	**02 35 38.7**	**-1.1**
TPUB	**Ta-pu**	**13.97**	**336**		*e*Pn		**Pn**	**02 35 36.1**	**+1.3**
RKPI	**Ransiki, Papua**	**14.06**	**148**		P		P	02 35 49.5	+6.7
SSLB	**Suanglung**	**14.29**	**338**		*e*P		**P**	**02 35 45.4**	**+0.1**
SGKI	**Sangatta, Kali**	**14.31**	**220**		P		**Pn**	**02 35 39.4**	**0.0**
NACB	**Ninganchiao**	**14.42**	**341**		*e*Pn		**Pn**	**02 35 40.1**	**-0.7**
FAKI	**Fak Fak**	**14.45**	**158**		*e*Pn		**Pn**	**02 35 43.9**	**+2.6**
SMKI	**Samarinda**	**14.51**	**222**		P		**P**	**02 35 50.6**	**+2.8**
YHNB	**Yeheng**	**14.95**	**341**		*e*Pn		**Pn**	**02 35 46.4**	**-1.5**
TTSI	**Tana Toraja**	**15.19**	**208**		P		**Pn**	**02 35 51.5**	**+0.4**
BKB	**Balikpapan**	**15.32**	**221**		P		**P**	**02 35 55.6**	**-1.3**
SPSI	**Sidrap Palu**	**16.03**	**206**		P		**Pn**	**02 36 02.8**	**+0.9**
	113nm,0.9s,2μm								
JOW	**Kunigami**	**16.25**	**5**		*e*Pn		**Pn**	**02 36 01.9**	**-2.6**
	165nm,1.4s								
BNSI	**Bone**	**16.28**	**204**		P		**Pn**	**02 36 04.8**	**-0.3**
QZH	**Quanzhou**	**16.29**	**333**		P		**Pn**	**02 36 02.0**	**-3.1**
QZH					S		**Sn**	**02 39 08.3**	**+3.5**
QZH					pmax		pmax		
	comp=Z,62nm,1.5s								
QZH					LR		LR		
	comp=N,580nm,14.9s								
QZH					LR		LR		
	comp=E,1μm,14.6s								
QZH					LR		LR		
	comp=Z,940nm,12.8s								
MTKI	**Muara Teweh, K**	**16.45**	**227**		P		**P**	**02 36 11.1**	**+1.7**
SBUM	**Sibu**	**16.56**	**242**		*e*Pn		**Pn**	**02 36 09.2**	**+0.6**
	42nm,0.6s								
SBUM	**Sibu**	**16.56**	**242**		P		**P**	**02 36 10.2**	**-0.3**
BKSI	**Bulukumba**	**17.12**	**203**		P		**Pn**	**02 36 14.4**	**-1.1**
KBKI	**Kotabaru**	**17.36**	**218**		P		**P**	**02 36 21.6**	**+2.1**
	41nm,1.0s,2μm								
GZH	**Guangzhou**	**17.89**	**316**		P		**P**	**02 36 27.0**	**+1.7**
GZH					PP		**sP**	**02 36 38.5**	**+1.0**
GZH					S		**S**	**02 39 49.5**	**+0.9**
GZH					SS		**SnSn**	**02 40 04.5**	**+6.6**
GZH					pmax		pmax		
	comp=Z,930nm,5.7s								
GZH					LR		LR		
	comp=N,2μm,16.9s								
GZH					LR		LR		
	comp=E,2μm,14.5s								
GUMO	**Guam**	**17.93**	**79**		LR		LR	02 41 42.3	
	comp=Z,1μm,20.4s,baz=244,slow=31								
QIZ	**Qiongzhong**	**18.41**	**299**		P		**P**	**02 36 30.3**	**-0.7**
QIZ					S		**S**	**02 39 58.5**	**-0.7**
QIZ					pmax		pmax		
	comp=Z,27nm,0.8s								
QIZ					pmax		pmax		
	comp=Z,700nm,4.5s								
QIZ					LR		LR		
	comp=N,800nm,12.7s								
QIZ					LR		LR		
	comp=E,610nm,10.8s								
QIZ					LR		LR		
	comp=Z,1μm,11.8s								
KSM	**Kuching**	**18.70**	**242**		*e*P		**Pn**	**02 36 36.2**	**+1.2**
	245nm,1.0s								
KSM	**Kuching**	**18.70**	**242**		P		**Pn**	**02 36 36.5**	**+1.5**
JAY	**Jayapura**	**18.99**	**132**		LR		LR	02 43 19.0	
	comp=Z,977nm,19.9s,slow=35								
MMRI	**Maumere**	**19.60**	**194**		*e*P		**Pn**	**02 36 46.0**	**+0.4**
	727nm,1.5s								
MMRI	**Maumere**	**19.60**	**194**		P		**Pn**	**02 36 46.1**	**+0.4**
	274nm,1.2s,3μm								
EDFI	**Ende, Flores**	**19.84**	**195**		P		**Pn**	**02 36 47.8**	**-0.9**
SOEI	**Soe**	**20.34**	**187**		*e*P		**P**	**02 36 52.6**	**+0.4**
	350nm,1.1s								
SOEI	**Soe**	**20.34**	**187**		P		**P**	**02 36 52.9**	**+0.7**
BATI	**Baumata**	**20.86**	**189**		P		**P**	**02 36 56.9**	**-0.9**
	349nm,0.6s,baz=329,slow=1.1,SNR=41								
BATI					LR		LR	02 45 50.8	
	comp=Z,349nm,21.1s,baz=332,slow=39								
BATI	**Baumata**	**20.86**	**189**		P		**P**	**02 36 57.2**	**-0.6**
SSE	**Sheshan**	**21.09**	**347**		P		**P**	**02 37 01.0**	**+1.0**
SSE					S		**S**	**02 40 53.5**	**+1.1**
SSE					pmax		pmax		
	comp=Z,22nm,1.1s								
SSE					pmax		pmax		
	comp=Z,210nm,3.5s								
SSE					LR		LR		
	comp=N,380nm,14.2s								
SSE					LR		LR		
	comp=E,190nm,14.8s								
SSE	**Sheshan**	**21.09**	**347**		*e*P		**P**	**02 37 01.6**	**+1.6**
	320nm,1.4s								
SSE					*es*P		**sP**	**02 37 13.2**	**0.0**
PLAI	**Plampang**	**21.25**	**205**		P		**P**	**02 37 02.7**	**+0.8**
KMMI	**Kalianget**	**21.66**	**217**		P		**P**	**02 37 08.1**	**+1.8**
SRBI	**Singaraja**	**21.82**	**212**		P		**P**	**02 37 10.3**	**+2.3**
CBIJ	**Chichi jima**	**21.93**	**39**		*e*P		**P**	**02 37 10.4**	**+1.3**
JCJ	**Chichijima**	**21.93**	**39**		P		**P**	**02 37 10.4**	**+1.3**
	178nm,0.9s,baz=306,slow=6.9,SNR=6.0								
NJ2	**Nanjing**	**22.61**	**342**	↑	P		**P**	**02 37 18.3**	**+1.9**
NJ2					pP		**sP**	**02 37 29.0**	**-0.7**
NJ2					sP		**pwP**	**02 37 34.8**	**+0.5**
NJ2					S		**S**	**02 41 25.8**	**+4.6**
NJ2					pmax		pmax		
	comp=Z,68nm,0.9s								
NJ2					pmax		pmax		
	comp=Z,470nm,3.8s								
NJ2					LR		LR		
	comp=N,810nm,14.6s								
NJ2					LR		LR		
	comp=E,990nm,15.2s								
NJ2					LR		LR		
	comp=Z,910nm,16.3s								
JAGI	**Jajag, Banyuwa**	**22.71**	**214**		*e*P		**P**	**02 37 18.7**	**+1.1**
	205nm,1.2s								
JAGI	**Jajag, Banyuwa**	**22.71**	**214**		P		**P**	**02 37 17.6**	**0.0**
JNU	**Nakatsue**	**22.77**	**9**		P		**P**	**02 37 18.1**	**0.0**
	68nm,1.2s,baz=174,slow=5.7,SNR=14								
JNU					LR		LR	02 44 55.7	
	comp=Z,265nm,22.0s,baz=164,slow=33								
JNU	**Nakatsue**	**22.77**	**9**		*e*P		**P**	**02 37 17.5**	**-0.6**
	125nm,1.1s								
GMJI	**Gumukmas**	**22.95**	**216**		P		**P**	**02 37 20.3**	**+0.3**
WHN	**Wuhan**	**23.01**	**332**	↓	P		**P**	**02 37 20.5**	**0.0**
WHN					S		**S**	**02 41 32.0**	**+4.0**
WHN					LR		LR		
	comp=N,1μm,16.3s								
WHN					LR		LR		
	comp=E,2μm,13.0s								
WHN					LR		LR		
	comp=Z,2μm,14.0s								
TPI	**Tanjungpandan**	**23.19**	**236**		P		**P**	**02 37 22.2**	**-0.3**
NGJI	**Ngawi**	**23.45**	**221**		P		**P**	**02 37 27.0**	**+2.0**
SMRI	**Semarang**	**23.90**	**224**		*e*P		**P**	**02 37 26.6**	**-2.6**
	278nm,1.2s								
SMRI	**Semarang**	**23.90**	**224**		P		**P**	**02 37 30.7**	**+1.5**
KTGM	**Kuala Trenggan**	**23.99**	**259**		P		**P**	**02 37 29.8**	**-0.3**
PPBI	**Pangkal Pinang**	**24.13**	**240**		P		**P**	**02 37 31.6**	**+0.2**
WOJI	**Wonogiri, Jawa**	**24.16**	**221**		P		**P**	**02 37 31.5**	**-0.1**
MYKOM	**Kota Tinggi**	**24.39**	**251**		*e*P		**P**	**02 37 33.3**	**-0.5**
	93nm,1.0s								
MYKOM	**Kota Tinggi**	**24.39**	**251**		P		**P**	**02 37 34.2**	**+0.4**
UGM	**Wanagama**	**24.48**	**222**		*e*P		**P**	**02 37 35.8**	**+1.2**
	231nm,1.1s								
UGM	**Wanagama**	**24.48**	**222**		P		**P**	**02 37 35.4**	**+0.8**
DSRI	**Dabo**	**24.67**	**245**		P		**P**	**02 37 35.6**	**-0.7**
	40nm,0.4s,3μm								
GYA	**Guiyang**	**24.73**	**312**	↑	*i*P		**P**	**02 37 36.8**	**-0.1**
GYA					pP		sP	02 37 48.3	-1.7
GYA					sP		pwP	02 37 53.8	-3.7
GYA					PP		**PnPn**	**02 38 15.5**	**+5.1**
GYA					S		**S**	**02 42 01.5**	**+5.3**
GYA					sS		sS	02 42 14.5	+2.9
GYA					SS		**SnSn**	**02 42 56.0**	**+10**
GYA					ScP		**ScP**	**02 44 45.8**	**-2.9**
GYA					pmax		pmax		
	comp=Z,30nm,1.0s								
GYA					pmax		pmax		
	comp=Z,350nm,5.3s								
GYA					LR		LR		
	comp=N,570nm,15.3s								
GYA					LR		LR		
	comp=E,680nm,15.7s								
GYA					LR		LR		
	comp=Z,940nm,16.4s								
KGM	**Kluang**	**24.81**	**252**		P		**P**	**02 37 38.0**	**+0.4**
ENH	**Enshi**	**25.38**	**323**		*e*P		**P**	**02 37 42.8**	**+0.1**
	216nm,1.2s								
ENH					LR		LR		
	comp=Z,800nm,18.0s								
JHJ	**Hachijo jima 2**	**25.43**	**26**		LR		LR	02 48 52.1	
	comp=Z,433nm,18.6s,baz=315,slow=39								
LEM	**Lembang**	**25.75**	**229**		LR		LR	02 49 38.0	
	comp=Z,716nm,18.1s,baz=54,slow=41								
PBKT	**Sadao Pong**	**25.79**	**286**		*e*P		**P**	**02 37 45.0**	**-1.4**
JMBI	**JAMBI**	**26.03**	**244**		P		**P**	**02 37 52.6**	**+4.0**
	comp=Z,251nm,0.4s								
CBJI	**Citeko**	**26.05**	**231**		P		**P**	**02 37 52.5**	**+3.7**
	comp=Z,197nm,0.9s								
CISI	**Cisompet, Garu**	**26.09**	**227**		*e*P		**P**	**02 37 47.8**	**-1.4**
	comp=Z,116nm,0.9s								
CISI	**Cisompet, Garu**	**26.09**	**227**		P		**P**	**02 37 49.2**	**-0.1**
	comp=Z,149nm,0.8s,comp=Z,2μm								
IPM	**Ipoh**	**26.24**	**259**		*e*P		**P**	**02 37 49.8**	**-0.7**
	comp=Z,85nm,1.0s								
IPM					LR		LR		
	comp=Z,600nm,22.0s								
IPM	**Ipoh**	**26.24**	**259**		P		**P**	**02 37 49.9**	**-0.7**
INU	**Inuyama**	**26.38**	**19**		*e*pP		**pP**	**02 38 01.9**	**+0.7**
INU					LR		LR		
	comp=Z,700nm,19.0s								
KULM	**Kulim**	**26.41**	**261**		*e*P		**P**	**02 37 53.3**	**+1.1**
	comp=Z,41nm,0.9s								
KULM	**Kulim**	**26.41**	**261**		P		**P**	**02 37 53.2**	**+1.1**
KS15	**Wonju Array Si**	**26.78**	**2**		*e*P		**P**	**02 37 55.7**	**+0.5**
KS15					*e*PcP		**PcP**	**02 41 18.2**	**+0.8**
KSAR	**Wonju Array Be**	**26.78**	**2**		P		**P**	**02 37 55.2**	**0.0**
KSAR					pP		**pP**	**02 38 05.7**	**+1.0**
KSAR	**Wonju Array Be**	**26.78**	**2**		P		**P**	**02 37 55.2**	**0.0**
KSAR					*PP		**pP**	**02 38 05.7**	**+1.0**
KSRS	**Korea Array**	**26.80**	**2**		P		**P**	**02 37 55.2**	**-0.1**
	comp=Z,10.0nm,0.9s,baz=174,slow=11,SNR=27								
KSRS					pP		**pP**	**02 38 05.7**	**+1.0**
	comp=Z,14nm,1.0s,baz=182,slow=8.7,SNR=11								
KSRS					PcP		**PcP**	**02 41 18.2**	**+0.7**
	comp=Z,1.6nm,1.0s,baz=168,slow=3.0,SNR=4.2								
KSRS					LR		LR	02 50 17.8	
	comp=Z,232nm,18.1s,baz=182,slow=40								
KS01	**Wonju Array Si**	**26.82**	**2**		*e*P		**P**	**02 37 55.2**	**-0.3**
KS01					*e*PcP		**PcP**	**02 41 18.1**	**+0.6**
TIA	**Tai'an**	**27.00**	**343**		P		**P**	**02 37 57.0**	**-0.2**
TIA					pmax		pmax		
	comp=Z,21nm,1.2s								
TIA					pmax		pmax		
	comp=Z,110nm,2.6s								
TIA					LR		LR		
	comp=Z,380nm,12.9s								
KMI	**Kunming**	**27.02**	**306**		P		**P**	**02 37 57.3**	**-0.5**
KMI					pP		sP	02 38 09.3	-1.8
KMI					sP		pwP	02 38 15.3	-2.8
KMI					PP		**PnPn**	**02 38 45.8**	**+4.0**
KMI					S		**S**	**02 42 30.8**	**-2.0**
KMI					sS		sS	02 42 50.0	+1.7
KMI					pmax		pmax		
	comp=Z,32nm,0.7s								
KMI					pmax		pmax		
	comp=Z,290nm,5.0s								
KMI					LR		LR		
	comp=Z,810nm,13.9s								
KMI					LR		LR		
	comp=Z,760nm,18.3s								
KMI					LR		LR		
	comp=Z,870nm,22.3s								
KMI	**Kunming**	**27.02**	**306**		PFAKE			02 38 10.0	+12
KMI					LR		LR		
	comp=Z,700nm,21.0s								
MDSI	**Maura Dua**	**27.03**	**238**		P		**P**	**02 37 57.7**	**+0.1**
	comp=Z,113nm,1.3s,comp=Z,1μm								
LHSI	**Lahat**	**27.22**	**240**		P		**P**	**02 38 00.0**	**+0.6**
KASI	**Kota Agung**	**27.35**	**235**		P		**P**	**02 38 00.4**	**-0.2**
	comp=Z,70nm,1.2s,comp=Z,968nm								
LWLI	**Liwa**	**27.42**	**237**		P		**P**	**02 38 01.9**	**+0.6**
	comp=Z,90nm,0.9s,comp=Z,9μm								
MAJO	**Matsushiro**	**27.86**	**20**		*e*P		**P**	**02 38 03.6**	**-1.2**
MAJO	**Matsushiro**	**27.86**	**20**		*i*P		**P**	**02 38 03.3**	**-1.6**
MAJO					pmax		pmax		
	comp=Z,13nm,1.0s								
MJAR	**Matsushiro Arr**	**27.86**	**20**		P		**P**	**02 38 03.6**	**-1.2**
	comp=Z,4.9nm,0.8s,baz=196,slow=9.3,SNR=8.8								
MJAR					pP		**pP**	**02 38 14.0**	**-0.6**
	comp=Z,10nm,0.8s,baz=200,slow=9.8,SNR=6.4								
MJAR					LR		LR	02 49 38.2	
	comp=Z,473nm,18.7s,baz=195,slow=37								
MASI	**Maura Aman, Be**	**27.98**	**242**		P		P	02 38 18.8	+13
MNAI	**Manna**	**27.98**	**239**		PFAKE			02 38 20.0	+14
MNAI					LR		LR		
	comp=Z,300nm,19.0s								
CM01	**Chiang Mai Arr**	**28.03**	**289**		*e*P		**P**	**02 38 05.0**	**-1.6**
CM01					*e*PcP		**PcP**	**02 41 22.3**	**+1.5**
CM31	**Chiang Mai Arr**	**28.05**	**289**		*e*P		**P**	**02 38 05.7**	**-1.1**
	comp=Z,17nm,0.8s								
CM31					*e*PcP		**PcP**	**02 41 21.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**28.05**	**289**		P		**P**	**02 38 04.8**	**-2.0**
	comp=Z,10nm,0.8s,baz=102,slow=7.4,SNR=33								
CMAR					pP		**pP**	**02 38 16.1**	**+0.2**
	comp=Z,7.6nm,0.7s,baz=102,slow=7.9,SNR=4.2								
CMAR					PcP		**PcP**	**02 41

TIY pmax pmax
comp=Z,25nm,0.9s
SISI Saibi 29.98 248 P **P** **02 38 23.7 -0.3**
comp=Z,80nm,0.8s
LHMI Lhok Sumawe 30.02 262 *e*P **P** **02 38 24.4 +0.1**
comp=Z,200nm,0.9s
LHMI Lhok Sumawe 30.02 262 P **P** **02 38 25.4 +1.1**
comp=Z,240nm,1.0s
GSI Gunungsitoli 30.45 254 *e*P **P** **02 38 26.7 -1.4**
comp=Z,49nm,0.9s
GSI *e*PcP **PcP** **02 41 27.5 +0.5**
GSI Gunungsitoli 30.45 254 P **P** **02 38 28.8 +0.7**
comp=Z,60nm,1.0s
BJT Baijiatuao 30.82 344 *e*P **P** **02 38 31.2 +0.1**
comp=Z,82nm,1.5s
BJT Baijiatuao 30.82 344 *e*P **P** **02 38 31.2 +0.1**
BJT pmax pmax
comp=Z,82nm,1.5s
BJI Beijing 30.84 344⇑ *i*P **P** **02 38 31.3 +0.1**
BJI S **S** **02 43 34.5 +2.6**
BJI pmax pmax
comp=Z,21nm,1.5s
BJI LR LR
comp=Z,320nm,10.5s
BJI LR LR
comp=Z,380nm,14.5s
WRAB Tennant Creek 31.20 166 *e*P **P** **02 38 33.1 -1.6**
comp=Z,55nm,1.3s
WRAB Tennant Creek 31.20 166 *ce*P **P** **02 38 32.4 -2.2**
WRAB pmax pmax
comp=Z,33nm,1.3s
WR1 Warramunga Arr 31.21 166 *e*P **P** **02 38 32.6 -2.1**
comp=Z,68nm,1.3s
WR1 *e*PcP **PcP** **02 41 28.6 -0.3**
WRA Warramunga Arr 31.21 166 P **P** **02 38 32.6 -2.1**
comp=Z,18nm,1.1s,baz=342,slow=9.7,SNR=18
WRA pP **pP** **02 38 43.5 -0.7**
comp=Z,29nm,1.1s,baz=347,slow=9.3,SNR=13
WRA PcP **PcP** **02 41 28.6 -0.3**
comp=Z,4.5nm,0.7s,baz=344,slow=3.1,SNR=6.9
WRA LR LR 02 54 08.9
comp=Z,98nm,20.9s,baz=10.0,slow=42
WB2 Warramunga Arr 31.21 166 *e*P **P** **02 38 33.1 -1.6**
SNY Shenyang 31.27 355⇑ P **P** **02 38 35.8 +0.8**
SNY S **S** **02 43 40.5 +1.8**
SNY pmax pmax
comp=Z,56nm,1.6s
SNY pmax pmax
comp=Z,340nm,5.4s
SNY LR LR
comp=Z,460nm,11.2s
SNY LR LR
comp=Z,750nm,15.3s
SNY LR LR
comp=Z,540nm,12.9s
MSHR Mys Shultsa 32.13 6 *i* P **P** **02 38 40.9 -1.6**
MBWA Marble Bar 32.27 192 *e*P **P** **02 38 43.0 -1.0**
comp=Z,27nm,0.8s
LZH Lanzhou 32.84 324 *e*P **P** **02 38 50.3 +1.2**
LZH pP sP 02 39 00.3 -2.1
LZH sP pwP 02 39 05.8 -4.0
LZH PP **PP** **02 40 04.0 +0.1**
LZH S **S** **02 44 07.8 +4.1**
LZH sS sS 02 44 29.0 +10
LZH pmax pmax
comp=Z,170nm,1.0s
LZH pmax pmax
comp=Z,580nm,5.4s
LZH LR LR
comp=Z,2µm,16.8s
LZH LR LR
comp=Z,2µm,15.7s
LZH LR LR
comp=Z,2µm,16.7s
HHC Hu-ho-hao-te 33.03 339 *e*P **P** **02 38 51.8 +1.1**
HHC PP **PP** **02 40 03.5 -2.5**
HHC S **S** **02 44 06.8 +0.4**
HHC pmax pmax
comp=Z,54nm,1.6s
HHC pmax pmax
comp=Z,340nm,5.5s
HHC LR LR
comp=Z,2µm,11.2s
HHC LR LR
comp=Z,2µm,11.2s
HHC LR LR
comp=Z,2µm,10.4s
CN2 Changchun 33.14 358 *e*P **P** **02 38 50.0 -1.4**
CN2 *e*pP pP 02 39 02.0 +1.0
CN2 *e*PP **PnPn** **02 40 02.5 +0.2**
CN2 *e*S **S** **02 44 05.3 -2.5**
CN2 *e*SS **SnSn** **02 46 09.8 -0.1**
CN2 pmax pmax
comp=Z,20nm,1.5s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,360nm,13.0s
CN2 LR LR
comp=Z,490nm,13.0s
CN2 LR LR
comp=Z,500nm,14.0s
BTO Baotou 33.40 336 *e*P **P** **02 38 55.0 +1.1**
PBA Port Blair 33.42 275 PFAKE 02 39 10.0 +16
PBA LR LR
comp=Z,1µm,21.0s
PBA Port Blair 33.42 275 *e*P P 02 38 54.6 +0.4
PBA IAmb IAmb 02 38 58.3
comp=Z,69nm,1.1s
USA0B Ussuriysk Arra 33.82 7 *e*P **P** **02 38 57.8 +0.5**
comp=Z,53nm,1.0s
USRK Ussuriysk Ar. 33.82 7 P **P** **02 38 57.0 -0.3**
comp=Z,12nm,0.8s,baz=191,slow=7.4,SNR=25
USRK pP **pP** **02 39 07.7 +0.9**
comp=Z,33nm,0.9s,baz=191,slow=8.6,SNR=15
USRK LR LR 02 50 58.7
comp=Z,226nm,21.8s,baz=147,slow=33
MDJ Mudanjiang 34.02 4 P **P** **02 38 59.5 +0.5**
MDJ pP sP 02 39 10.5 -2.5
MDJ sP pwP 02 39 17.3 -0.9
MDJ PP **PP** **02 40 15.3 -1.4**
MDJ PcP **PcP** **02 41 34.0 -2.2**
MDJ S **S** **02 44 25.3 +3.9**
MDJ sS sS 02 44 46.5 +9.4
MDJ ScP **ScP** **02 45 15.0 -2.7**
MDJ PcS **PcS** **02 45 20.3 -1.9**
MDJ ScS **ScS** **02 49 17.8 -1.8**
MDJ pmax pmax
comp=Z,65nm,1.4s
MDJ LR LR
comp=Z,620nm,14.7s
MDJ LR LR
comp=Z,280nm,14.7s
MDJ LR LR
comp=Z,650nm,12.7s
MDJ Mudanjiang 34.02 4 *e*P **P** **02 38 60.0 +0.9**
comp=Z,136nm,1.4s
AS31 Alice Springs 34.72 169 *e*P **P** **02 39 03.8 -1.6**
comp=Z,7.7nm,0.8s
AS31 *e*PcP **PcP** **02 41 38.6 0.0**
ASAR Alice Springs 34.72 169 P **P** **02 39 03.7 -1.7**
comp=Z,13nm,0.8s,baz=318,slow=5.1,SNR=42
ASAR pP **pP** **02 39 14.5 -0.4**
comp=Z,23nm,1.0s,baz=347,slow=7.4,SNR=14
ASAR PcP **PcP** **02 41 38.6 0.0**
comp=Z,7.8nm,0.9s,baz=345,slow=2.5,SNR=7.4
ASAR LR LR 02 57 11.9
comp=Z,103nm,18.3s,baz=2.0,slow=43
AS01 Alice Springs 34.73 168 *e*P **P** **02 39 03.4 -2.0**
TEY Ternei 35.38 12⇑ *e*P **P** **02 39 10.3 -0.4**
TEY *e* 02 39 21.2
TEY pmax pmax
comp=N,20nm,1.5s
TEY pmax pmax
comp=Z,20nm,1.5s
TEY pmax pmax
comp=N,20nm,1.1s
TEY pmax pmax
comp=Z,40nm,1.2s
CTA Charters Tower 35.98 148 P **P** **02 39 16.9 +0.6**
comp=Z,12nm,1.0s,baz=321,slow=11,SNR=10
CTA pP **pP** **02 39 27.1 +1.0**
comp=Z,19nm,0.9s,baz=337,slow=15,SNR=10.0
CTAO Charters Tower 35.98 148 *e*P **P** **02 39 16.8 +0.6**
comp=Z,40nm,1.0s
CTAO Charters Tower 35.98 148 *e*P **P** **02 39 16.8 +0.6**
CTAO pmax pmax
comp=Z,40nm,1.0s
SHL Shillong 36.25 299 *e*P **P** **02 39 16.6 -2.2**
SHL IAmb IAmb 02 39 17.3
comp=Z,51nm,0.6s
GTA Gaotai 37.44 325⇓ P **P** **02 39 28.5 -0.1**
GTA pP sP 02 39 40.0 -1.7
GTA sP pwP 02 39 45.3 -4.7
GTA PcP **PcP** **02 41 48.5 +1.9**
GTA S **S** **02 45 16.3 +2.0**
GTA ScP **ScP** **02 45 23.3 -7.2**
GTA PcS **PcS** **02 45 33.8 -1.4**
GTA SS **SnSn** **02 47 50.3 -4.0**
GTA ScS **ScS** **02 49 35.8 -3.1**
GTA pmax pmax
comp=Z,130nm,1.7s
GTA pmax pmax
comp=Z,620nm,4.5s
GTA LR LR
comp=Z,430nm,16.5s
GTA LR LR
comp=Z,350nm,17.5s
GTA LR LR
comp=Z,550nm,17.2s
LSA Lhasa 38.28 305 P **P** **02 39 35.8 -0.5**
LSA pmax pmax
comp=Z,31nm,1.3s
LSA Lhasa 38.28 305 *e*P **P** **02 39 35.7 -0.5**
comp=Z,66nm,1.4s
LSA LR LR
comp=Z,500nm,22.0s
LSA Lhasa 38.28 305 *i* P **P** **02 39 36.3 0.0**
SNR=7.6
LSA Lhasa 38.28 305 *e*P **P** **02 39 35.7 -0.5**
LSA pmax pmax
comp=Z,66nm,1.4s
LSA MLR MLR
comp=Z,500nm,22.0s
YSS Yuzh-Sakhalins 38.72 18 *e*P **P** **02 39 40.0 +0.9**
comp=Z,52nm,1.1s
YSS Yuzh-Sakhalins 38.72 18⇓ *e*P **P** **02 39 39.7 +0.6**
YSS *e**PP **pP** **02 39 50.5 +1.5**
YSS *e* 02 41 09.8
YSS *e*S **S** **02 45 34.8 +1.8**
YSS pmax pmax
comp=Z,20nm,1.1s
YSS MLR MLR
comp=Z,200nm,17.0s
KLR Kul'dur 38.77 5 P **P** **02 39 39.4 -0.1**
comp=Z,12nm,0.8s,baz=190,slow=6.8,SNR=40
KLR pP **pP** **02 39 50.4 +1.1**
comp=Z,21nm,0.9s,baz=173,slow=4.6,SNR=13
KLR LR LR 02 55 26.1
comp=Z,171nm,20.3s,baz=199,slow=36
KLR Kul'dur 38.77 5 *i* P **P** **02 39 38.6 -0.9**
HIA Hailar 39.03 353 *e*P **P** **02 39 41.8 0.0**
comp=Z,65nm,1.4s
HIA Hailar 39.03 353 *e*P **P** **02 39 41.8 0.0**
HIA pmax pmax
comp=Z,65nm,1.4s
H11N1 WAKE ISLAND Hy 39.68 72 T T 03 24 02.8
baz=268,slow=74,SNR=9.0
H11N2 WAKE ISLAND Hy 39.68 72 T T 03 24 09.3
baz=268
H11N3 WAKE ISLAND Hy 39.70 72 T T 03 24 03.4
baz=268,slow=74,SNR=8.3
MORW Morawa 40.74 194 *e*P **P** **02 39 55.5 -0.6**
comp=Z,75nm,1.4s
GRNR Gornyy 40.87 9 *e*P **P** **02 39 58.0 +1.1**
GRNR pmax pmax
comp=Z,42nm,1.0s
SONA0 Songino Array 40.93 339 *e*P **P** **02 39 57.6 -0.1**
SONM Songino Array 40.93 339 P **P** **02 39 57.6 -0.1**
comp=Z,12nm,0.8s,baz=159,slow=8.7,SNR=30
SONA1 Songino Array 40.94 339 *e*P **P** **02 39 58.1 +0.3**
BOK Bokaro 41.08 294 *e*P **P** **02 39 58.2 -0.9**
BOK IAmb IAmb 02 39 58.8
comp=Z,9.5nm,0.8s
FORT Forrest 41.12 178 *e*P **P** **02 39 58.5 -0.7**
comp=Z,203nm,1.4s
RAMN Ramite 41.19 299 *e*P **P** **02 39 58.9 -1.4**
comp=Z,57nm,0.7s
JIRN Jiri 41.73 300 *e*P **P** **02 40 02.8 -2.0**
comp=Z,167nm,1.1s
GUN Gumba 42.07 300 *e*P **P** **02 40 05.4 -2.1**
comp=Z,100nm,0.9s
TYV Tymovskoe 42.25 15 *e*P **P** **02 40 10.1 +1.9**
TYV *e*S **S** **02 46 32.3 +6.7**
TYV pmax pmax
comp=Z,19nm,1.7s
TYV pmax pmax
comp=Z,500nm,4.9s
TYV smax smax
comp=E,500nm,5.9s
TYV MLR MLR
comp=Z,700nm,22.0s
PKI Pulchoki 42.38 299 *e*P **P** **02 40 07.9 -2.1**
comp=Z,30nm,0.8s
PKIN Phulchoki 42.39 299 *e*P **P** **02 40 08.0 -2.1**
comp=Z,25nm,0.7s
KKN Kakani 42.54 300 *e*P **P** **02 40 09.7 -1.6**
comp=Z,39nm,0.9s
DMN Daman 42.65 299 *e*P **P** **02 40 10.2 -2.0**
comp=Z,38nm,0.9s
EIDS Eidsvold 42.84 147 *e*P **P** **02 40 12.5 -0.8**
comp=Z,39nm,0.9s
ZEA Zeya 43.07 0 *e*P **P** **02 40 14.2 -0.6**
ZEA pmax pmax
comp=N,36nm,1.2s
ZEA pmax pmax
comp=Z,55nm,1.4s
NKL Nikolayevsk 43.92 12 *e*P **P** **02 40 21.0 -0.7**
NKL *e* 02 40 33.0
NKL pmax pmax
comp=Z,83nm,1.1s
KOLN Koldanda 43.98 299 *e*P **P** **02 40 21.1 -1.7**
comp=Z,62nm,1.0s
DANN Dangsing 43.99 300 *e*P **P** **02 40 21.1 -1.9**
comp=Z,25nm,0.6s
BBOO Buckleboo 44.02 169 *e*P **P** **02 40 21.9 -0.9**
comp=Z,134nm,0.8s
ZAK Zakamensk 44.18 339 *e*P **P** **02 40 23.0 -1.0**
ZAK pmax pmax
comp=Z,10.0nm,1.5s
NWAO Narrogin (SRO) 44.19 192 P **P** **02 40 23.7 -0.5**
comp=Z,18nm,0.6s,baz=249,slow=8.4,SNR=12
STKA Stephens Creek 44.51 162 P **P** **02 40 25.9 -0.7**
comp=Z,22nm,1.0s,baz=336,slow=8.1,SNR=21
STKA Stephens Creek 44.51 162 *e*P **P** **02 40 25.9 -0.7**
comp=Z,17nm,1.4s
STKA Stephens Creek 44.51 162 *e*P **P** **02 40 26.0 -0.7**
STKA pmax pmax
comp=Z,17nm,1.4s
PYUN Piuthan 44.58 299 *e*P **P** **02 40 26.0 -1.7**
comp=Z,59nm,0.8s
TLY Talaya 45.14 340 P **P** **02 40 31.8 +0.3**
comp=Z,6.4nm,0.6s,baz=175,slow=4.7,SNR=6.5
TLY Talaya 45.14 340 *d* *i*P **P** **02 40 31.5 0.0**
TLY Talaya 45.14 340 P **P** **02 40 31.7 +0.2**
SNR=15
IRK Irkutsk 45.41 341 *e*P **P** **02 40 33.9 +0.3**
IRK pmax pmax
comp=Z,73nm,2.7s
MDRS Chennai 45.58 278 *e*P **P** **02 40 34.4 -1.1**
MDRS IAmb IAmb 02 40 36.2
comp=Z,50nm,1.1s
PALK Pallekele 45.62 270 PcP **PcP** **02 42 14.2 +0.4**
comp=Z,14nm,0.8s,baz=117,slow=4.2,SNR=5.9
PALK Pallekele 45.62 270 PFAKE 02 40 50.0 +14
PALK LR LR
comp=Z,400nm,21.0s
MOY Mondy 46.07 338 *e*P **P** **02 40 39.1 +0.1**
MOY pmax pmax
comp=Z,14nm,1.7s
KNGR Kungurtug, Tuv 46.62 335 *i* P **P** **02 40 43.5 +0.2**
HYB Hyderabad 47.20 284 *i* P **P** **02 40 47.5 -0.8**
HYB *e* 02 40 59.0
HYB *e*PcP **PcP** **02 42 20.0 +0.7**
HYB Hyderabad 47.20 284 *e*P **P** **02 40 47.0 -1.3**
HYB IAmb IAmb 02 40 48.0
WMQ Urumqi 47.31 322 *e*P **P** **02 40 50.0 +1.2**
WMQ pP sP 02 41 01.8 -0.3
WMQ sP pwP 02 41 09.5 -0.9
WMQ PP **PP** **02 42 39.5 -0.8**
WMQ S **S** **02 47 41.0 +1.6**
WMQ LR LR
comp=Z,2µm,14.9s
WMQ LR LR
comp=Z,2µm,12.9s
WMQ LR LR
comp=Z,610nm,17.1s
WMQ Urumqi 47.31 322 *e*P **P** **02 40 50.0 +1.2**
comp=Z,112nm,1.1s
WMQ Urumqi 47.31 322 *e*P **P** **02 40 50.0 +1.2**
WMQ pmax pmax
comp=Z,112nm,1.1s
BOD Bodaibo 48.17 351 *e*P **P** **02 40 55.0 0.0**
BOD pmax pmax
comp=Z,54nm,1.7s
BHPL Bhopal 48.67 292 *e*P **P** **02 40 57.7 -1.9**
BHPL IAmb IAmb 02 40 59.8
comp=Z,8.1nm,0.6s
TRD Trivandrum 49.15 272 *e*P **P** **02 41 01.5 -1.8**
TRD IAmb IAmb 02 41 03.7
comp=Z,31nm,0.5s
PETK Petropavlovsk- 49.16 24 P **P** **02 41 03.1 +0.3**
comp=Z,5.7nm,0.7s,baz=202,slow=5.7,SNR=17
PETK pP **sP** **02 41 14.9 -2.4**
comp=Z,22nm,0.8s,baz=203,slow=9.4,SNR=14
PETK LR LR 03 02 23.1
comp=Z,267nm,19.0s,baz=208,slow=37
PETK Petropavlovsk- 49.16 24 *e*P **P** **02 41 03.8 +1.0**
PETK pP **sP** **02 41 14.9 -2.4**
PETK Petropavlovsk- 49.16 24 *e*P **P** **02 41 03.8 +1.0**
PETK *PP **sP** **02 41 14.9 -2.4**
PEA1 Petropavlovsk- 49.17 24 *e*P **P** **02 41 03.1 +0.3**
DDI Dehra Dun 49.29 301 *e*P **P** **02 41 03.3 -0.9**
DDI IAmb IAmb 02 41 04.3
comp=Z,60nm,0.2s
SMLA Simla 50.22 302 *e*P **P** **02 41 09.8 -1.4**
SMLA IAmb IAmb 02 41 11.9
comp=Z,19nm,1.0s
CAN Canberra 50.23 156 *e*P **P** **02 41 11.8 +0.6**
comp=Z,87nm,1.2s
CAN *e*pP **pP** **02 41 22.5 +1.3**
CAN Canberra 50.23 156 *e*P **P** **02 41 11.8 +0.6**
CAN *e**PP **pP** **02 41 22.5 +1.3**
CAN pmax pmax
comp=Z,87nm,1.2s
DZM Mont Dzumac 50.64 130 *e*P **P** **02 41 15.0 +0.5**
comp=Z,80nm,1.4s
DZM Mont Dzumac 50.64 130 *e*LR LR 02 55 29.5
comp=Z,399nm,27.6s
DGZ Jazzator, Alta 50.80 328 *d* *i*P **P** **02 41 16.1 +0.7**
DGZ pmax pmax
comp=Z,16nm,1.8s
TOO Toolangi 50.99 161 *e*P **P** **02 41 17.4 +0.6**
comp=Z,52nm,1.1s
TOO Toolangi 50.99 161 *e*P **P** **02 41 17.4 +0.6**
TOO pmax pmax
comp=Z,53nm,1.1s
DHRM DHARAMSHALA 51.19 303 *e*P **P** **02 41 17.0 -1.8**
DHRM IAmb IAmb 02 41 18.9
comp=Z,26nm,0.7s
YAK Yakutsk 51.42 2⇑ *i*P **P** **02 41 19.8 +0.1**
YAK *e**PP **pP** **02 41 29.4 -0.4**
YAK *e* 02 42 38.9
YAK *e*S **S** **02 48 38.0 +1.8**
YAK *e**SS **sS** **02 48 52.9 +0.3**
YAK *e* 02 51 01.2
YAK pmax pmax
comp=Z,54nm,1.1s
YAK pmax pmax
comp=N,43nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=Z,189nm,4.2s
YAK pmax pmax
comp=N,192nm,4.3s
YAK pmax pmax
comp=E,105nm,4.2s
YAK smax smax
comp=N,124nm,3.0s
YAK smax smax
comp=E,44nm,3.2s
POO Poona 51.70 285 *e*P **P** **02 41 20.6 -2.0**
POO IAmb IAmb 02 41 22.0
comp=Z,9.3nm,0.6s
GOA Goa 51.74 281 *e*P **P** **02 41 21.2 -1.6**
GOA IAmb IAmb 02 41 22.1
comp=Z,150nm,1.9s
MK01 Makanchi Array 52.09 322 *e*P **P** **02 41 24.4 -0.7**
MK31 Makanchi Array 52.11 322 *e*P **P** **02 41 25.1 -0.1**
MK31 Makanchi Array 52.11 322 *i* P **P** **02 41 25.6 +0.4**
MK31 pmax pmax
comp=Z,111nm,0.9s
MK32 Makanchi Array 52.11 322 *e*P **P** **02 41 25.1 -0.1**
MK32 *e*PcP **PcP** **02 42 37.1 +0.4**
MKAR Makanchi Array 52.11 322 P **P** **02 41 25.0 -0.1**
comp=Z,81nm,0.8s,baz=120,slow=8.2,SNR=172
MKAR pP **pP** **02 41 36.2 +1.1**
comp=Z,30nm,0.8s,baz=116,slow=8.0,SNR=9.9
MKAR PcP **PcP** **02 42 37.1 +0.4**
comp=Z,14nm,0.8s,baz=98,slow=6.7,SNR=2.5
MKAR LR LR 03 06 38.2
comp=Z,168nm,18.6s,baz=114,slow=40
MKAR Makanchi Array 52.11 322 *e*P **P** **02 41 25.1 -0.1**
comp=Z,509nm,0.8s
MKAR pP **pP** **02 41 36.2 +1.1**
MKAR Makanchi Array 52.11 322 *e*P **P** **02 41 25.1 -0.1**
MKAR *e**PP **pP** **02 41 36.2 +1.1**
MKAR pmax pmax
comp=Z,509nm,0.8s
MA2 Magadan 52.12 15 P **P** **02 41 25.5 +0.6**
comp=Z,4.1nm,0.5s,baz=207,slow=8.2,SNR=5.0
MA2 pP **pP** **02 41 36.5 +1.1**
comp=Z,12nm,0.7s,baz=190,slow=10,SNR=4.7
MA2 Magadan 52.12 15 *e*P **P** **02 41 25.6 +0.6**
comp=Z,23nm,1.0s
MA2 *e*pP **pP** **02 41 36.3 +0.9**
MA2 Magadan 52.12 15 *ce*P **P** **02 41 24.7 -0.3**
MA2 pmax pmax
comp=Z,42nm,2.5s
MAKZ Makanchi 52.31 322 *e*P **P** **02 41 26.7 0.0**
comp=Z,152nm,1.1s
MAKZ Makanchi 52.31 322 *e*P **P** **02 41 26.7 0.0**
MAKZ pmax pmax
comp=Z,152nm,1.1s
PDGK Podgornoye 52.33 317 P **P** **02 41 26.8 -0.2**
PDGK pmax pmax
comp=Z,110nm,0.9s
UZB Uzynbulak 52.57 317 *de*P **P** **02 41 27.3 -1.5**
UZB pmax pmax
comp=Z,1µm,1.1s
UZB MLR MLR
comp=Z,121nm,12.0s
UZB Uzynbulak 52.57 317⇓ *e*P **P** **02 41 27.3 -1.5**
comp=Z,1µm,1.1s
UZB *e*LRM MLR 03 06 32.3
comp=Z,121nm,12.0s
PRZ Przheval'sk 52.73 316 *e*P **P** **02 41 31.9 +1.8**
comp=Z,134nm,0.8s
PRZ Przheval'sk 52.73 316 *e*P **P** **02 41 31.9 +1.8**
PRZ pmax pmax
comp=Z,135nm,0.8s
TARG Taragay, Kyrgy 52.86 315 *e*P **P** **02 41 32.3 +1.0**
comp=Z,31nm,0.9s
KPKS Kokpek 52.93 317 *d* *i*P **P** **02 41 29.8 -1.6**
KPKS pmax pmax
comp=Z,2µm,1.3s
KPKS Kokpek 52.93 317⇓ *i*P **P** **02 41 29.9 -1.6**
comp=Z,2µm,1.3s
SATY Saty 52.95 317 *d* *i*P **P** **02 41 32.1 +0.5**
SATY pmax pmax
comp=Z,2µm,1.0s
SATY MLR MLR
comp=Z,181nm,12.0s
SATY Saty 52.95 317⇓ *i*P **P** **02 41 32.2 +0.5**
comp=Z,2µm,1.0s
SATY *e*LRM MLR 03 06 59.0
comp=Z,181nm,11.6s
ZHN Zhinishke 52.98 317 *d* *i*P **P** **02 41 30.2 -1.6**
ZHN pmax pmax
comp=Z,606nm,2.2s
ZHN Zhinishke 52.98 317⇓ *i*P **P** **02 41 30.2 -1.6**
comp=Z,606nm,2.2s
MNCI Minicoy 53.01 272 PFAKE 02 41 40.0 +7.7
MNCI LR LR
comp=Z,600nm,20.0s
MNCY Minicoy 53.03 272 *e*P **P** **02 41 29.2 -3.2**
KSH Kashi 53.42 312 P **P** **02 41 36.5 +1.4**

KSH pP sP 02 41 48.5 -0.1
KSH sP pwP 02 41 53.5 -3.2
KSH PcP **PcP** **02 42 42.8 +0.9**
KSH PP **PP** **02 43 39.0 +3.1**
KSH PcS **PcS** **02 46 38.3 -2.7**
KSH S **S** **02 49 02.0 -2.6**
KSH ScS **ScS** **02 51 16.0 -5.4**
KSH SS **SS** **02 52 43.0 -2.1**
KSH pmax pmax
comp=Z,3.0nm,0.8s
KSH pmax pmax
comp=Z,400nm,5.6s
KSH LR LR
comp=Z,560nm,7.5s
KSH LR LR
comp=Z,600nm,6.1s
KSH LR LR
comp=Z,660nm,12.5s
MDOK Medeo 53.91 316*d iP* **P 02 41 38.5 -0.2**
MDOK pmax pmax
comp=Z,463nm,1.0s
MDOK MLR MLR
comp=Z,345nm,21.0s
MDOK Medeo 53.91 316⇓*i*P **P 02 41 38.6 -0.2**
comp=Z,463nm,1.0s
MDOK *e*LRM MLR 03 07 49.4
comp=Z,345nm,21.1s
NIL Nilore 54.00 304 *e*P **P 02 41 38.4 -0.9**
comp=Z,66nm,1.1s
NIL Nilore 54.00 304 *e*P **P 02 41 38.4 -0.9**
NIL pmax pmax
comp=Z,65nm,1.1s
NRN Naryn 54.03 314 *e*P **P 02 41 39.6 -0.2**
comp=Z,55nm,0.8s
NRN Naryn 54.03 314 *e*P **P 02 41 39.6 -0.2**
NRN pmax pmax
comp=Z,55nm,0.8s
ULHL Ulahol 54.14 315 P **P 02 41 41.6 +1.1**
SNR=9.5
CHKK Chushkaly 54.21 317*ce*P **P 02 41 39.4 -1.3**
CHKK pmax pmax
comp=Z,469nm,1.1s
CHKK Chushkaly 54.21 317⇑*e*P **P 02 41 39.5 -1.3**
comp=Z,469nm,1.1s
ZAA0 Zalesovo Array 54.62 331 *e*P **P 02 41 42.5 -0.9**
comp=Z,33nm,1.1s
ZALV Zalesovo Beam 54.62 331 P **P 02 41 42.5 -1.0**
comp=Z,14nm,0.6s,baz=120,slow=6.4,SNR=39
ZALV Zalesovo Beam 54.62 331 *e*P **P 02 41 42.0 -1.4**
ZAA1 Zalesovo Array 54.62 331 *e*P **P 02 41 42.5 -1.0**
KUU Kurty 54.66 317*c iP* **P 02 41 41.8 -2.1**
KUU pmax pmax
comp=Z,1μm,1.7s
KUU Kurty 54.66 317⇑*i*P **P 02 41 41.9 -2.1**
comp=Z,1μm,1.7s
TKM2 Tokmak 2 54.82 316 P **P 02 41 46.2 +0.9**
SNR=33
KBK Karagaybulak 55.18 315 P **P 02 41 49.1 +1.2**
SNR=49
UCH Uchtor 55.34 314 P **P 02 41 50.6 +1.2**
SNR=95
SFK Sufi-Kurgan 55.39 312 *i* P **P 02 41 49.4 -0.1**
SFK pmax pmax
comp=Z,63nm,0.8s
SEY Seymchan 55.42 14 P **P 02 41 50.3 +1.3**
comp=Z,8.0nm,0.9s,baz=223,slow=7.3,SNR=18
SEY Seymchan 55.42 14*ce*P **P 02 41 49.6 +0.6**
CHMS Chumysh 55.43 315 P **P 02 41 50.2 +0.6**
SNR=40
FRU Bishkek 55.47 315⇑*i*P **P 02 41 49.5 -0.3**
FRU pmax pmax
comp=Z,135nm,2.0s
AAK Ala-Archa 55.49 315 P **P 02 41 50.8 +0.7**
SNR=15
AAK Ala-Archa 55.49 315 *e*P **P 02 41 50.7 +0.6**
comp=Z,23nm,1.0s
AAK Ala-Archa 55.49 315 *i* P **P 02 41 50.1 0.0**
SNR=22
AAK Ala-Archa 55.49 315 *i* P **P 02 41 50.0 -0.1**
AAK pmax pmax
comp=Z,37nm,1.1s
AAK Ala-Archa 55.49 315 P **P 02 41 49.5 -0.7**
SNR=22
USP Ospenovka 55.69 316 P **P 02 41 52.2 +0.7**
SNR=32
BHJ Bhuj 55.79 291 *e*P **P 02 41 51.5 -0.9**
BHJ IAmb IAmb 02 41 54.2
comp=Z,77nm,1.7s
AML Almayashu 55.88 314 P **P 02 41 53.3 0.0**
SNR=50
NVS Novosibirsk 55.90 331⇓*i*P **P 02 41 51.8 -0.8**
NVS *i* 02 42 46.4
NVS *e*S **S** **02 49 41.5 +4.5**
NVS pmax pmax
comp=N,20nm,1.0s
NVS pmax pmax
comp=E,27nm,1.0s
NVS pmax pmax
comp=Z,46nm,1.0s
NVS smax smax
comp=N,12nm,2.5s
NVS smax smax
comp=E,23nm,2.5s
EKS2 Erkin-Say 55.99 315 P **P 02 41 54.6 +0.9**
SNR=35
KURK Kurchatov 56.12 325 *e*P **P 02 41 54.1 -0.2**
KURK Kurchatov 56.12 325 *i* P **P 02 41 54.3 0.0**
KURK pmax pmax
comp=Z,212nm,1.0s
KURK Kurchatov 56.12 325 P **P 02 41 53.9 -0.4**
SNR=73
KURBB Kurchatov Arra 56.13 325 P **P 02 41 54.0 -0.3**
comp=Z,55nm,0.8s,baz=125,slow=6.9,SNR=156
BTK Batken 57.38 311 *e*P **P 02 42 04.4 +0.8**
comp=Z,31nm,0.7s
GAR Garm 57.50 310 *e*P **P 02 42 03.6 -0.9**
comp=Z,165nm,1.0s
GAR Garm 57.50 310 *e*P **P 02 42 03.6 -0.9**
GAR pmax pmax
comp=Z,165nm,1.0s
KBL Kabul 57.59 304 *e*P **P 02 42 03.9 -1.4**
comp=Z,28nm,0.6s
KBL Kabul 57.59 304 *e*P **P 02 42 03.9 -1.4**
KBL pmax pmax
comp=Z,28nm,0.6s
CHGR Chuyangaron 58.31 309 *e*P **P 02 42 09.2 -0.8**
comp=Z,101nm,1.0s
KK31 Karatay Array 58.42 314 *e*P **P 02 42 10.0 -0.7**
KK31 Karatay Array 58.42 314 *i* P **P 02 42 10.0 -0.7**
KK31 pmax pmax
comp=Z,62nm,1.1s
KKAR Karatay Array 58.42 314 *e*P **P 02 42 10.0 -0.7**
KKAR Karatay Array 58.42 314 *e*P **P 02 42 10.0 -0.7**
IUG luzhnay 58.50 313*c iP* **P 02 42 10.8 -0.6**
IUG pmax pmax
comp=Z,1μm,1.2s
IUG luzhnay 58.50 313⇑*i*P **P 02 42 10.8 -0.6**
comp=Z,1μm,1.2s
BRZS Berezniki 59.26 323*de*P **P 02 42 14.7 -1.7**
BRZS pmax pmax
comp=Z,1μm,1.2s
BRZS MLR MLR
comp=Z,107nm,12.0s
BRZS Berezniki 59.26 323⇓*e*P **P 02 42 14.8 -1.7**
comp=Z,1μm,1.2s
BRZS *e*LRM MLR 03 10 16.4
comp=Z,107nm,11.7s
TIXI Tiksi 61.06 1 P **P 02 42 28.2 -0.1**
comp=Z,14nm,0.9s,baz=147,slow=6.4,SNR=22
TIXI pP **pP** **02 42 39.0 +0.5**
comp=Z,15nm,1.0s,baz=155,slow=4.2,SNR=2.9
TIXI Tiksi 61.06 1*c iP* **P 02 42 27.9 -0.4**
TIXI pmax pmax
comp=Z,22nm,1.1s
BVAR Borovoye Array 61.72 325 LR LR 03 08 39.0
comp=Z,104nm,21.8s,baz=126,slow=35
BRVK Borovoye 61.79 325 *e*P **P 02 42 33.1 -0.5**
comp=Z,171nm,1.4s
BRVK Borovoye 61.79 325*d iP* **P 02 42 32.9 -0.7**
BRVK pmax pmax
comp=Z,77nm,1.2s
BRVK Borovoye 61.79 325 P **P 02 42 33.0 -0.5**
SNR=30
BILL Bilibino 62.99 16 *e*P **P 02 42 41.4 +0.1**
comp=Z,43nm,1.3s
BILL Bilibino 62.99 16*c iP* **P 02 42 41.6 +0.3**

BILL *e* 02 43 19.5
BILL *e* 02 44 59.6
BILL *e*S **S** **02 51 15.4 +7.2**
BILL pmax pmax
comp=Z,49nm,1.7s
HIZ Hauiti 66.26 140 *e*P **P 02 43 06.2 +3.1**
comp=Z,81nm,1.2s
HIZ *e*pP **sP** **02 43 15.9 -1.5**
HIZ LR LR
comp=Z,500nm,18.0s
MHTO MHTO 66.63 288 P **P 02 43 03.5 -2.3**
SNR=6.1
GEYT Alibeck 66.78 307 P **P 02 43 06.4 -0.2**
comp=Z,5.0nm,0.8s,baz=111,slow=3.3,SNR=11
GYA0B ALIBECK ARRAY 66.78 307 *e*P **P 02 43 07.2 +0.5**
comp=Z,7.7nm,0.8s
AB31 Akbulak array 66.99 319 P **P 02 43 06.6 -1.1**
AB31 pmax pmax
comp=Z,29nm,0.7s
ABKAR Akbulak array 66.99 319 *e*P **P 02 43 07.0 -0.7**
THZ Tophouse 67.10 144 *e*P **P 02 43 08.5 0.0**
comp=Z,18nm,0.8s
THZ *e*pP **pP** **02 43 18.4 -0.4**
LBZ Lake Benmore 67.33 148 *e*P **P 02 43 10.9 +1.1**
comp=Z,122nm,1.4s
RPZ Rata Peaks 67.34 147 P **P 02 43 10.2 +0.3**
comp=Z,11nm,0.8s,baz=232,slow=4.2,SNR=4.4
RPZ Rata Peaks 67.34 147 *e*P **P 02 43 10.2 +0.3**
RPZ *e*pP **sP** **02 43 22.3 -2.0**
LTZ Lake Taylor 67.39 145 *e*pwP pwP 02 43 30.9 +0.4
URZ Urewera 67.54 139 P **P 02 43 11.7 +0.5**
comp=Z,10nm,1.0s,baz=306,slow=8.8,SNR=4.2
BKZ Black Stump Fm 67.67 140 *e*P **P 02 43 12.4 +0.3**
comp=Z,35nm,0.8s
ODZ Otahua Downs 68.02 148 *e*P **P 02 43 15.7 +1.6**
comp=Z,37nm,1.4s
ODZ *e*pP **sP** **02 43 26.6 -2.0**
UOSS Minazif 68.10 293 P **P 02 43 13.1 -2.1**
GAMB Gambell 68.19 25 *e*P **P 02 43 17.2 +2.3**
comp=Z,52nm,1.4s
SVE Sverdlovsk 68.25 327*c iP* **P 02 43 15.6 +0.2**
SVE pmax pmax
comp=Z,86nm,1.4s
AKTO Aktyubinsk 68.43 320 P **P 02 43 16.6 -0.2**
comp=Z,26nm,0.7s,baz=94,slow=7.4,SNR=63
ARU Arti 69.27 327 *e*P **P 02 43 20.6 -1.2**
comp=Z,147nm,1.5s
ARU Arti 69.27 327*d iP* **P 02 43 20.7 -1.1**
ARU *PP **pP** **02 43 31.5 -0.5**
ARU 02 45 51.3
ARU S **S** **02 52 26.3 +1.4**
ARU SS **SS** **02 56 53.0 +1.0**
ARU pmax pmax
comp=Z,101nm,1.5s
ANM Nome 71.07 25 *e*P **P 02 43 34.3 +1.6**
comp=Z,26nm,1.4s
ANM Nome 71.07 25 *e*P **P 02 43 34.3 +1.6**
ANM pmax pmax
comp=Z,26nm,1.4s
RDOG Red Dog Mine 72.94 22 *e*P **P 02 43 46.3 +2.4**
comp=Z,60nm,1.5s
MWH Moku'aweowe 74.97 73 PFAKE 02 44 10.0 +13
MWH LR LR
comp=Z,4μm,19.0s
OBL Observatory Le 75.27 73 PFAKE 02 44 10.0 +12
OBL LR LR
comp=Z,4μm,19.0s
UWB Uwekahuna B 75.27 73 PFAKE 02 44 10.0 +11
UWB LR LR
comp=Z,5μm,22.0s
SBLHI Steaming Bluff 75.28 73 PFAKE 02 44 10.0 +11
SBLHI LR LR
comp=Z,4μm,21.0s
BYL Byron's Ledge 75.29 73 PFAKE 02 44 10.0 +11
BYL LR LR
comp=Z,4μm,20.0s
NPOC North of Pu'u 75.43 73 PFAKE 02 44 10.0 +11
NPOC LR LR
comp=Z,4μm,20.0s
JCUZ Jacuzzi 75.44 73 PFAKE 02 44 10.0 +11
JCUZ LR LR
comp=Z,3μm,18.0s
IM3 Indian Mountai 76.13 24 *e*P **P 02 44 02.7 +0.4**
KDAK Kodiak Island 76.14 33 P **P 02 44 03.4 +0.8**
comp=Z,19nm,1.0s,baz=251,slow=6.1,SNR=6.1
KDAK Kodiak Island 76.14 33 *e*P **P 02 44 03.4 +0.8**
comp=Z,154nm,1.5s
KDAK Kodiak Island 76.14 33 *i* P **P 02 44 04.1 +1.6**
GROC Groznyy 76.31 312 *e*P **P 02 44 02.6 -1.2**
GROC *e* 02 44 14.0
GROC *e* 02 46 51.1
GROC pmax pmax
comp=Z,85nm,1.2s
PRGR Permogore 76.58 331 *e*P **P 02 44 03.6 -1.4**
PRGR *e*SP **sP** **02 44 19.1 -0.2**
PRGR pmax pmax
comp=Z,44nm,0.9s
CAST Castle Rocks 76.65 27 *e*P **P 02 44 06.6 +1.2**
comp=Z,25nm,1.1s
TBLG Delisi 77.15 311 *e*P **P 02 44 09.1 +0.4**
comp=Z,54nm,1.0s
TBLG Delisi 77.15 311 *e*P **P 02 44 09.1 +0.4**
TBLG pmax pmax
comp=Z,54nm,1.0s
BPAW Bear Paw Mtn. 77.17 27 *e*P **P 02 44 09.6 +1.3**
comp=Z,73nm,1.2s
SUA Susitna One 77.20 29 *e*P **P 02 44 08.6 -0.1**
GNI Garni 77.22 309 *e*P **P 02 44 10.9 +1.6**
comp=Z,102nm,1.5s
GNI Garni 77.22 309 *i* P **P 02 44 08.3 -1.0**
SNR=9.0
GNI Garni 77.22 309*ce*P **P 02 44 08.6 -0.7**
GNI pmax pmax
comp=Z,348nm,1.3s
MLY Manley 77.32 26 *e*P **P 02 44 10.1 +1.0**
comp=Z,40nm,1.2s
TRF Thorofare Moun 77.46 27 *e*P **P 02 44 10.8 +0.6**
comp=Z,74nm,1.4s
CASY Casey 77.56 187 *e*P **P 02 44 10.7 +0.4**
comp=Z,83nm,1.3s
COLD Coldfoot 77.62 23 *e*P **P 02 44 12.7 +1.9**
comp=Z,14nm,1.3s
ZEI Tsey 77.71 312 *e*P **P 02 44 09.9 -2.1**
ZEI pmax pmax
comp=Z,56nm,1.0s
NCK Nalchik 77.90 312 *i* P **P 02 44 11.4 -1.4**
NCK pmax pmax
comp=Z,33nm,1.0s
RAYN Ar Rayn 77.94 292 *e*P **P 02 44 12.4 -1.1**
comp=Z,15nm,0.8s
RAYN Ar Rayn 77.94 292 *i* P **P 02 44 11.7 -1.7**
SNR=16
RAYN Ar Rayn 77.94 292 *e*P **P 02 44 12.4 -1.1**
RAYN pmax pmax
comp=Z,15nm,0.8s
PMR Palmer 77.97 29 *e*P **P 02 44 13.1 +0.4**
comp=Z,33nm,1.1s
PMR *e*pP **pP** **02 44 23.4 -0.2**
PMR LR LR
comp=Z,5μm,21.0s
PMR Palmer 77.97 29 *e*P **P 02 44 13.1 +0.4**
PMR *e*PP **pP** **02 44 23.4 -0.2**
PMR pmax pmax
comp=Z,33nm,1.1s
PMR MLR MLR
comp=Z,5μm,21.0s
GHO Glory Hole Cre 78.07 29 PFAKE 02 44 30.0 +17
GHO LR LR
comp=Z,6μm,21.0s
MCK McKinley 78.07 27 *e*P **P 02 44 13.5 +0.1**
comp=Z,67nm,1.1s
MCK McKinley 78.07 27 *e*P **P 02 44 13.5 +0.1**
MCK pmax pmax
comp=Z,67nm,1.1s
RND Reindeer 78.11 27 *e*P **P 02 44 14.0 +0.4**
comp=Z,40nm,1.1s
RND Reindeer 78.11 27 *e*P **P 02 44 14.0 +0.4**
RND pmax pmax
comp=Z,40nm,1.1s
GOF Gofitskoye 78.21 314 *e*P **P 02 44 14.4 -0.1**
GOF pmax pmax
comp=Z,30nm,0.7s
KNK Knik Glacier 78.29 29 *e*P **P 02 44 15.6 +0.9**
comp=Z,59nm,1.1s
KNK LR LR
comp=Z,5μm,19.0s

SML Sawmill 78.35 29 *e*P **P 02 44 16.3 +1.3**
comp=Z,77nm,1.2s
SML LR LR
comp=Z,7μm,21.0s
SML Sawmill 78.35 29 *e*P **P 02 44 16.3 +1.3**
SML pmax pmax
comp=Z,77nm,1.2s
SML MLR MLR
comp=Z,7μm,21.0s
MDM Murphy Dome 78.38 26 *e*P **P 02 44 15.7 +0.6**
comp=Z,22nm,1.2s
KBZ Khabaz 78.39 313 P **P 02 44 15.0 -0.5**
comp=Z,26nm,1.0s,baz=123,slow=4.2,SNR=18
KBZ Khabaz 78.39 313 P **P 02 44 15.0 -0.5**
KBZ pmax pmax
comp=Z,26nm,1.0s
WRH Wood River Hil 78.44 26 *e*P **P 02 44 15.8 +0.5**
comp=Z,37nm,1.4s
KIV Kislovodsk 78.53 313 *e*P **P 02 44 16.6 +0.2**
comp=Z,61nm,0.9s
KIV Kislovodsk 78.53 313⇑*i*P **P 02 44 16.1 -0.3**
KIV Kislovodsk 78.53 313 *i* P **P 02 44 15.9 -0.5**
SNR=6.5
KIV Kislovodsk 78.53 313 *e*P **P 02 44 15.8 -0.5**
KIV pmax pmax
comp=Z,78nm,1.1s
KIV Kislovodsk 78.53 313 P **P 02 44 15.4 -1.0**
SNR=7.4
COLA College 78.54 26 *i* P **P 02 44 15.4 -0.5**
COLA pmax pmax
comp=Z,8.0nm,1.1s
NEY Neytrino 78.55 312 *e*P **P 02 44 15.7 -0.9**
NEY pmax pmax
comp=Z,6.0nm,1.0s
POKR Poker Plat Res 78.72 25 P **P 02 44 18.0 +1.1**
baz=271
VRH Novokhopyorsk 78.78 320 *e*P **P 02 44 16.6 -0.8**
VRH *e*SP **pP** **02 44 26.8 -0.7**
VRH pmax pmax
comp=Z,120nm,1.1s
DHY Denali Highway 78.78 28 *e*P **P 02 44 19.0 +1.5**
comp=Z,42nm,1.4s
DHY LR LR
comp=Z,800nm,19.0s
SCM Sheep Creek Mo 78.83 29 PFAKE 02 44 30.0 +12
SCM LR LR
comp=Z,5μm,21.0s
HDA Harding Lake 78.94 26 *e*P **P 02 44 17.9 -0.2**
comp=Z,29nm,1.2s
HDA Harding Lake 78.94 26 P **P 02 44 17.7 -0.4**
baz=271
ILAR Eielson Array 78.96 26 P **P 02 44 17.4 -0.8**
comp=Z,3.2nm,1.0s,baz=237,slow=4.3,SNR=24
ILB Eielson Array 78.96 26 *e*P **P 02 44 17.4 -0.8**
IL1 Eielson Array 78.96 26 *e*P **P 02 44 17.1 -1.1**
GLI Glacier Island 78.97 30 PFAKE 02 44 30.0 +12
GLI LR LR
comp=Z,5μm,18.0s
SIRT Sirnak 79.20 306 *e*P **P 02 44 20.4 +0.2**
comp=Z,292nm,1.3s
KLU Klutina 79.51 29 *e*P **P 02 44 22.6 +1.2**
comp=Z,34nm,1.3s
KLU LR LR
comp=Z,5μm,20.0s
KLMR Klimovskoe 79.53 330⇑*i*P **P 02 44 20.5 -0.8**
KLMR *e*PP **pP** **02 44 31.6 -0.2**
KLMR pmax pmax
comp=Z,121nm,1.5s
KLMR Klimovskoe 79.53 330⇑*i*P **P 02 44 20.6 -0.8**
KLMR ⇑*i*P **P 02 44 20.6 -0.8**
KLMR *e*P **P 02 44 20.6 -0.8**
KLMR AMP 02 44 23.4
comp=Z,121nm,1.5s
KLMR *e*pP **pP** **02 44 31.7 -0.1**
FYU Fort Yukon 79.59 24 *e*P **P 02 44 23.4 +1.9**
comp=Z,75nm,1.5s
DIV Divide 79.60 30 *e*P **P 02 44 23.2 +1.3**
comp=Z,47nm,1.1s
DIV LR LR
comp=Z,6μm,19.0s
EYAK Cordova Ski Ar 79.64 30 PFAKE 02 44 30.0 +8.0
EYAK LR LR
comp=Z,12μm,18.0s
RIDG Independ'e Rid 79.89 27 *e*P **P 02 44 24.0 +0.7**
comp=Z,52nm,1.2s
RIDG LR LR
comp=Z,7μm,20.0s
DAMY Dhamar 80.13 283 *e*P **P 02 44 27.1 +1.2**
comp=Z,66nm,1.5s
DOT Dot Lake 80.24 27 PFAKE 02 44 40.0 +15
DOT LR LR
comp=Z,7μm,21.0s
SCRK Sand Creek 80.25 27 *e*P **P 02 44 26.2 +0.8**
comp=Z,52nm,1.5s
SCRK LR LR
comp=Z,6μm,21.0s
VORR Voronezh 80.31 321 *e*P **P 02 44 24.0 -1.8**
VORR pmax pmax
comp=Z,300nm,1.6s
VSR Storozhevoye 80.38 320*d iP* **P 02 44 24.5 -1.6**
VSR pmax pmax
comp=Z,93nm,1.0s
HMT Hamilton 80.39 30 PFAKE 02 44 40.0 +14
HMT LR LR
comp=Z,9μm,22.0s
LPSR Galich'ya Gora 80.41 322 *e*P **P 02 44 25.8 -0.5**
LPSR *e*SP **pP** **02 44 36.5 +0.1**
LPSR pmax pmax
comp=Z,110nm,1.0s
SOC Sochi 80.70 313 *e*P **P 02 44 26.9 -1.2**
SOC *e* 02 47 31.1
SOC *e*PPP PPP 02 49 27.5
SOC *e*S **S** **02 54 33.7 +1.1**
SOC *e*SS **SS** **02 59 49.7 +3.6**
SOC *e*SSS SSS 03 03 10.6
SOC pmax pmax
comp=Z,36nm,0.8s
MOS Moscow 80.90 325 *e*P **P 02 44 27.0 -1.8**
MOS *e* 02 44 36.1
MOS *e* 02 47 33.5
MOS *e*S **S** **02 54 33.7 -0.4**
MOS pmax pmax
comp=Z,158nm,1.2s
MOS pmax pmax
comp=Z,300nm,1.7s
LVZ Lovozero 81.11 337 *e*P **P 02 44 30.0 +0.2**
comp=Z,74nm,1.4s
LVZ Lovozero 81.11 337*ce*P **P 02 44 27.9 -1.9**
LVZ pmax pmax
comp=Z,52nm,1.3s
OBN Obninsk 81.56 324 *e*P **P 02 44 30.4 -1.9**
comp=Z,93nm,1.1s
OBN Obninsk 81.56 324*ce*P **P 02 44 32.1 -0.2**
OBN *e* 02 44 37.9
OBN *e* 02 47 35.3
OBN *e*S **S** **02 54 36.2 -4.8**
OBN pmax pmax
comp=Z,159nm,1.7s
APA Apatity 81.61 337⇓*i*P **P 02 44 31.4 -1.0**
APA *i* 02 44 40.4
APA pmax pmax
comp=Z,35nm,0.9s
APA MLR MLR
comp=Z,900nm,14.0s
ANN Anapa 82.20 314 *e*P **P 02 44 34.4 -1.5**
ANN *e*PP **pP** **02 44 44.8 -1.4**
ANN *e* 02 47 44.5
ANN *e*S **S** **02 54 46.9 -1.1**
ANN pmax pmax
comp=Z,139nm,1.4s
DAWY Dawson 82.26 26 *e*P **P 02 44 37.2 +1.3**
comp=Z,33nm,1.2s
DAWY LR LR
comp=Z,7μm,19.0s
CUZAR Zara_SIVAS 82.58 309 *i* P **P 02 44 39.0 +0.8**
CUKAN kangal_SIVAS 82.89 309 *i* P **P 02 44 41.3 +1.4**
EPYK Eagle Plains 83.00 24 *e*P **P 02 44 40.5 +0.7**
comp=Z,28nm,1.2s
EPYK LR LR
comp=Z,7μm,18.0s
EPYK Eagle Plains 83.00 24 P **P 02 44 40.5 +0.7**
baz=280
CUALT Altinyayla-SIV 83.44 309 *i* P **P 02 44 44.3 +1.6**
KEV Kevo 83.54 340 *e*P **P 02 44 42.6 +0.2**
comp=Z,36nm,1.0s
KEV Kevo 83.54 340 *e*P **P 02 44 42.6 +0.2**

KEV pmax pmax
comp=Z,36nm,1.0s
HYT Haines Junctio 83.64 29 *e*P **P 02 44 45.4 +2.1**
comp=Z,72nm,1.4s
HYT LR LR
comp=Z,8µm,19.0s
CUSAR Sarkisla-SIVAS 83.81 309 *i* P **P 02 44 44.5 -0.1**
INK Inuvik 83.83 22 P **P 02 44 43.7 -0.1**
comp=Z,9.7nm,1.1s,baz=270,slow=6.9,SNR=16
INK Inuvik 83.83 22 *e*P **P 02 44 43.6 -0.3**
comp=Z,48nm,1.5s
INK LR LR
comp=Z,7µm,18.0s
SPA0 Spitsbergen Ar 83.83 349 *e*P **P 02 44 44.5 +0.6**
ARA0 ARCESS Array S 84.10 340 *e*P **P 02 44 44.8 -0.5**
ARCES ARCESS Array B 84.10 340 P **P 02 44 44.8 -0.5**
comp=Z,30nm,0.9s,baz=82,slow=6.1,SNR=40
ARCES ARCESS Array B 84.10 340 *e*P **P 02 44 45.2 -0.1**
ARCES ARCESS Array B 84.11 340 *e*P **P 02 44 45.2 -0.1**
SIM Simferopol' 84.52 315 *c* P **P 02 44 48.2 +0.3**
SIM S **S 02 55 06.0 -5.5**
SIM pmax pmax
comp=Z,188nm,1.0s
WHY Whitehorse 84.93 29 *e*P **P 02 44 51.5 +1.6**
comp=Z,50nm,1.0s
WHY LR LR
comp=Z,8µm,19.0s
SKAG Skagway 84.97 31 *e*P **P 02 44 52.0 +2.2**
comp=Z,52nm,1.1s
SKAG LR LR
comp=Z,7µm,18.0s
KSDI Kefar Szold 85.25 303 P **P 02 44 52.6 +0.8**
BESE Bessie Mountai 85.40 31 PFAKE 02 45 00.0 +7.9
BESE LR LR
comp=Z,7µm,21.0s
SIT Sitka 85.48 33 PFAKE 02 45 00.0 +7.6
SIT LR LR
comp=Z,9µm,21.0s
DELI KIRIKKALE 85.48 310 *i* P **P 02 44 51.7 -1.3**
GHAJ Ghor Haditha 85.63 301 P **P 02 44 54.1 +0.4**
comp=Z,102nm,1.5s
JIS Juneau Island 85.71 32 PFAKE 02 45 10.0 +16
JIS LR LR
comp=Z,9µm,20.0s
BR101 Keskin Array S 85.75 309 *e*P **P 02 44 53.2 -1.2**
BRTR Keskin Array B 85.75 309 P **P 02 44 53.2 -1.2**
comp=Z,22nm,0.7s,baz=112,slow=4.5,SNR=33
FIA1 FINESS Array S 85.88 332 *e*P **P 02 44 54.0 -0.4**
FIA0 FINESS Array S 85.88 332 *e*P **P 02 44 53.7 -0.6**
FIA0 FINESS Array S 85.88 332 *e*P **P 02 44 53.7 -0.6**
FINES FINESS Array B 85.88 332 P **P 02 44 53.7 -0.6**
comp=Z,42nm,0.9s,baz=85,slow=4.7,SNR=82
VSU Vasula 86.30 329 *e*P **P 02 44 55.4 -1.0**
VSU pmax pmax
comp=Z,364nm,1.3s
HRFI Mount Harif 86.30 300 P **P 02 44 57.3 +0.2**
ANTO Ankara 86.36 310 *e*P **P 02 44 56.4 -0.9**
comp=Z,44nm,0.8s
ANTO Ankara 86.36 310 ⇑ *i*P **P 02 44 56.2 -1.1**
ANTO Ankara 86.36 310 *e*P **P 02 44 56.4 -0.9**
ANTO pmax pmax
comp=Z,44nm,0.8s
ANTO Ankara 86.36 310 P **P 02 44 54.7 -2.6**
SNR=8.9
BR231 Keskin MP Arra 86.38 310 *e*P **P 02 44 57.5 +0.1**
EIL Elat 86.44 299 P **P 02 44 58.0 +0.2**
comp=Z,63nm,1.8s
MICGM Minsk 86.61 325 *e*P **P 02 44 57.0 -1.1**
MNK Minsk 86.61 325 *e*P **P 02 44 57.0 -1.1**
AKASG Malin Array Be 86.67 321 P **P 02 44 57.3 -1.1**
comp=Z,18nm,0.7s,baz=62,slow=5.0,SNR=95
AKBB Malin Array Si 86.67 321 *e*P **P 02 44 58.5 +0.1**
comp=Z,84nm,1.2s
KIEV Kiev 86.68 321 *e*P **P 02 44 57.4 -1.0**
comp=Z,81nm,1.2s
KIEV Kiev 86.68 321 ⇑ *i*P **P 02 44 58.7 +0.2**
KIEV Kiev 86.68 321 *i* P **P 02 44 58.4 -0.1**
SNR=26
KIEV Kiev 86.68 321 *d i*P **P 02 44 57.1 -1.4**
KIEV pmax pmax
comp=Z,56nm,1.1s
AK11 Malin Array Si 86.71 321 *e*P **P 02 44 57.2 -1.5**
CSS Mathiatis 86.84 305 *e*P **P 02 44 59.3 -0.4**
comp=Z,67nm,0.7s
CSS Mathiatis 86.84 305 P **P 02 44 59.5 -0.2**
comp=Z,31nm,0.9s
CRAG Craig 87.04 34 PFAKE 02 45 10.0 +10
CRAG LR LR
comp=Z,13µm,19.0s
NACGM Naroch 87.14 325 *e* **P 02 45 00.0 -0.6**
PPT2 Papeete2 87.17 108 *e*S **S 02 55 36.8 -1.7**
comp=Z,121nm,24.8s
PPT2 Papeete2 87.17 108 *e*LR LR 03 12 37.0
comp=Z,160nm,21.5s
WRAK Wrangell Islan 87.22 33 PFAKE 02 45 10.0 +9.0
WRAK LR LR
comp=Z,14µm,18.0s
KIS Kishinev 87.74 317 *i* P **P 02 45 02.0 -1.7**
comp=Z,210nm,2.0s
KIS Kishinev 87.74 317 *e*P **P 02 45 02.0 -1.7**
KIS *i* 02 45 13.0
KIS pmax pmax
comp=Z,210nm,2.0s
DLBC Dease Lake 87.88 31 PFAKE 02 45 20.0 +16
DLBC LR LR
comp=Z,6µm,19.0s
DIB Dawson Inlet, 87.98 36 PFAKE 02 45 20.0 +15
DIB LR LR
comp=Z,18µm,18.0s
TLCR 88.15 316 ⇑ *i*P **P 02 45 05.7 0.0**
TBI Tubuai 88.47 114 *e*LR LR 03 13 00.9
comp=Z,395nm,25.0s
ISP Isparta 88.50 308 *e*P **P 02 45 07.9 +0.2**
TIRR Tirgusor 88.60 315 *e*P **P 02 45 06.4 -1.4**
comp=Z,37nm,1.0s
TIRR Tirgusor 88.60 315 ⇑ *i*P **P 02 45 07.5 -0.3**
TIRR Tirgusor 88.60 315 *e*P **P 02 45 06.4 -1.4**
TIRR pmax pmax
comp=Z,37nm,1.0s
CFR Carcaliu 88.62 316 ⇑ *i*P **P 02 45 07.9 0.0**
BIR Birlad 88.71 317 ⇑ *i*P **P 02 45 09.4 +1.1**
TLB Topalu 88.83 315 ⇑ *i*P **P 02 45 08.6 -0.3**
HARR Harsova 88.88 315 ⇑ *i*P **P 02 45 09.4 +0.3**
PSN Preselentsi 88.94 314 P **P 02 45 09.3 -0.2**
ICOR Ion Corvin 89.11 315 ⇑ *i*P **P 02 45 10.3 +0.1**
PRAR RASCA 89.37 318 ⇑ *i*P **P 02 45 10.8 -0.7**
SUW Suwalki 89.40 325 *e*P **P 02 45 10.1 -1.3**
SUW Suwalki 89.40 325 *e*P **P 02 45 10.3 -1.1**
comp=Z,129nm,1.2s
SUW Suwalki 89.40 325 *e*P **P 02 45 10.1 -1.3**
VRI Vrincioaia 89.42 317 ⇑ *i*P **P 02 45 11.9 +0.2**
PLOR Plostina 89.47 317 ⇑ *i*P **P 02 45 12.6 +0.6**
BIZ Bicaz 89.56 318 ⇑ *i*P **P 02 45 12.9 +0.6**
PRD Provadia 89.61 314 P **P 02 45 12.5 -0.1**
KMBO Kilima Mbogo 89.75 269 P **P 02 45 14.6 +0.4**
comp=Z,5.4nm,1.1s,baz=96,slow=5.4,SNR=12
KMBO Kilima Mbogo 89.75 269 *e*P **P 02 45 14.6 +0.4**
comp=Z,2.6nm,1.3s
MANT Manisa 89.87 309 *e*P **P 02 45 13.8 -0.4**
comp=Z,92nm,1.0s
BURAR Bucovina Array 89.97 318 ⇓ *i*P **P 02 45 14.0 -0.3**
BUR04 Bucovina Ar. S 89.97 318 *e*P **P 02 45 14.0 -0.4**
BUR08 Bucovina Ar. S 89.97 319 *e*P **P 02 45 14.4 0.0**
OZUR 89.99 317 ⇑ *i*P **P 02 45 14.9 +0.5**
MLR Muntele Rosu 90.04 316 *e*P **P 02 45 15.2 +0.4**
comp=Z,38nm,1.2s
MLR Muntele Rosu 90.04 316 ⇑ *i*P **P 02 45 15.3 +0.5**
SECR 90.08 316 ⇑ *i*P **P 02 45 15.2 +0.4**
LVV L'vov 90.11 321 *e*P **P 02 45 15.0 +0.2**
VNDA Vanda 90.15 173 P **P 02 45 15.0 +0.7**
comp=Z,12nm,1.0s,baz=326,slow=6.5,SNR=20
VNDA Vanda 90.15 173 *e*P **P 02 45 15.1 +0.7**
comp=Z,32nm,1.3s
VNDA Vanda 90.15 173 P **P 02 45 15.0 +0.7**
VNDA pmax pmax
comp=Z,12nm,1.0s
SGRR Singureni 90.35 315 ⇓ *i*P **P 02 45 16.6 +0.6**
JMB Yambol 90.37 313 P **P 02 45 16.3 +0.1**
DAG Danmarks Havn 90.53 352 *i* P **P 02 45 14.8 -1.4**
comp=Z,36nm,1.3s
DAG Danmarks Havn 90.53 352 *i* P **P 02 45 14.8 -1.4**
DAG pmax pmax
comp=Z,69nm,1.3s
ARCR ARCALIA 90.68 318 ⇑ *i*P **P 02 45 18.6 +1.1**
BBB Bella Bella 90.81 36 PFAKE 02 45 30.0 +12
BBB LR LR
comp=Z,2µm,21.0s
KLNR Kaliningrad 90.87 326 *i* P **P 02 45 18.4 +0.2**
KLNR pmax pmax
comp=Z,57nm,1.1s
HUMR Humele 90.96 316 ⇑ *i*P **P 02 45 18.8 -0.1**
ARR Arges 90.97 316 ⇑ *i*P **P 02 45 19.7 +0.7**
KWP Kalwaria Pacla 90.99 321 *e*P **P 02 45 19.4 +0.5**
KWP Kalwaria Pacla 90.99 321 *e*P **P 02 45 18.9 -0.1**
comp=Z,1µm,1.3s
KWP Kalwaria Pacla 90.99 321 *e*P **P 02 45 18.9 -0.1**
KWP pmax pmax
comp=Z,1µm,1.3s
RES Resolute Bay 91.12 10 P **P 02 45 19.0 0.0**
comp=Z,11nm,0.7s,baz=309,slow=5.7,SNR=31
RES pP **pP 02 45 30.1 +0.3**
comp=Z,19nm,1.0s,baz=308,slow=6.7,SNR=14
RES Resolute Bay 91.12 10 *e*P **P 02 45 19.0 0.0**
comp=Z,30nm,1.0s
RES pP **pP 02 45 30.1 +0.3**
ALN Alexandroupoli 91.16 312 *e*P **P 02 45 19.2 -0.7**
comp=Z,5.5nm,0.9s
CJR Cluj-Napoca 91.28 318 ⇑ *i*P **P 02 45 21.4 +1.0**
LOT Lotru 91.53 317 ⇑ *i*P **P 02 45 21.4 -0.3**
TRPA Tarpa 91.55 319 ⇑ *i*P **P 02 45 21.4 -0.1**
TRPA Tarpa 91.55 319 ⇓ *e*P **P 02 45 20.1 -1.4**
UZH Uzhgorod 91.55 320 *e*P **P 02 45 20.6 -0.9**
UZH *i* 02 45 28.0
UZH *e* 02 45 33.9
DRGR 91.84 318 ⇑ *i*P **P 02 45 23.4 +0.4**
RZN Rozhen 91.92 313 P **P 02 45 23.4 -0.2**
PGB Panagyurishte 92.07 314 P **P 02 45 24.4 +0.2**
MPEP Malo Peshtene 92.14 315 P **P 02 45 23.9 -0.5**
LTVH Ltavrtes, Hu 92.19 319 *e*P **P 02 45 24.1 -0.4**
GZR Gura Zlata 92.21 317 ⇑ *i*P **P 02 45 24.9 +0.1**
PUNG Punghina 92.44 316 ⇑ *i*P **P 02 45 26.5 +0.8**
NC405 NORSAR Array S 92.48 334 *e*P **P 02 45 24.9 -0.7**
NIE Niedzica 92.55 321 *e*P **P 02 45 27.1 +0.9**
NIE Niedzica 92.55 321 *e*P **P 02 45 27.1 +0.9**
TULEG Thule 92.57 4 *e*P **P 02 45 24.5 -1.2**
comp=Z,23nm,1.3s
NC303 NORSAR Array S 92.57 334 *e*P **P 02 45 25.3 -0.7**
OJC Ojcow 92.58 322 *e*P **P 02 45 26.8 +0.5**
OJC Ojcow 92.58 322 *e*P **P 02 45 26.6 +0.3**
comp=Z,38nm,1.4s
OJC Ojcow 92.58 322 *e*P **P 02 45 26.8 +0.5**
MMB Musomiste 92.66 313 P **P 02 45 25.0 -1.9**
SIRR Siria 92.69 318 ⇑ *i*P **P 02 45 27.3 +0.4**
NB2 NORSAR Subarra 92.73 334 P **P 02 45 24.7 -2.1**
comp=Z,3.7nm,0.7s,baz=65,slow=4.6
NB2 NORSAR Subarra 92.73 334 P **P 02 45 24.7 -2.1**
baz=65,slow=4.6
NB200 NORSAR Array S 92.73 334 *e*P **P 02 45 24.9 -1.9**
NOA NORSAR Array B 92.73 334 P **P 02 45 24.9 -1.9**
comp=Z,14nm,1.0s,baz=64,slow=4.6,SNR=19
VTS Vitosha 92.74 314 *e*P **P 02 45 27.1 -0.3**
comp=Z,12nm,0.9s
VTS Vitosha 92.74 314 ⇑ *i*P **P 02 45 27.1 -0.3**
VTS Vitosha 92.74 314 P **P 02 45 26.5 -0.9**
NC204 NORSAR Array S 92.81 334 *e*P **P 02 45 26.4 -0.7**
BZS Buzias 92.92 317 ⇑ *i*P **P 02 45 27.0 -0.9**
GKP Gorka Klasztor 92.99 325 *e*P **P 02 45 27.6 -0.4**
GKP Gorka Klasztor 92.99 325 *e*P **P 02 45 27.6 -0.4**
KKB Krupnik 93.04 313 P **P 02 45 28.0 -0.6**
MDVR Moldovita 93.12 316 ⇑ *i*P **P 02 45 28.3 -0.6**
LANS Liptovska Anna 93.15 321 *e*P **P 02 45 30.0 +1.0**
LANS Liptovska Anna 93.15 321 *e*P **P 02 45 30.0 +1.0**
YKW3 Yellowknife Ar 93.25 24 *e*P **P 02 45 29.1 0.0**
comp=Z,13nm,1.1s
YKW3 LR LR
comp=Z,1µm,21.0s
YKA Yellowknife Ar 93.28 24 P **P 02 45 28.7 -0.5**
comp=Z,3.8nm,0.8s,baz=300,slow=4.6,SNR=36
YKA pP **pP 02 45 39.9 -0.3**
comp=Z,7.5nm,1.0s,baz=298,slow=4.1,SNR=17
YKA PKKP **PKKPdf 03 02 35.4 -1.1**
comp=Z,0.3nm,0.7s,baz=119,slow=2.7,SNR=4.8
YKB5 Yellowknife Ar 93.28 24 *e*P **P 02 45 28.9 -0.3**
PSZ Piszkesteto 93.30 320 *e*P **P 02 45 30.1 +0.4**
comp=Z,37nm,1.3s
PSZ Piszkesteto 93.30 320 ⇑ *i*P **P 02 45 30.2 +0.4**
PSZ Piszkesteto 93.30 320 *e*P **P 02 45 28.1 -1.7**
VAY Valandovo 93.57 313 *i* P **P 02 45 29.5 -1.5**
STIP Stip 93.73 313 *i* P **P 02 45 29.6 -2.2**
VYHS Vyhne 93.77 321 *e*P **P 02 45 31.9 +0.1**
VYHS pmax pmax
comp=Z,40nm,2.0s
VYHS Vyhne 93.77 321 *e*P **P 02 45 31.9 +0.1**
LIT Litokhoron 93.99 312 *e*P **P 02 45 32.0 -1.0**
comp=Z,51nm,1.4s
LIT Litokhoron 93.99 312 *e*P **P 02 45 32.0 -1.0**
LIT pmax pmax
comp=Z,51nm,1.4s
BUD Budapest 94.00 320 *e*P P 02 45 26.0 -6.8
MORC Moravsky Berou 94.10 322 *e*P **P 02 45 33.6 +0.3**
comp=Z,10.0nm,1.3s
MORC Moravsky Berou 94.10 322 *e*P **P 02 45 33.6 +0.3**
SKO Skopje 94.18 314 *i* P **P 02 45 33.4 -0.5**
SRO Srobarova 94.33 320 *e*P **P 02 45 34.4 0.0**
SRO Srobarova 94.33 320 *e*P **P 02 45 34.4 0.0**
JAVC Velka Javorina 94.36 321 *e*P **P 02 45 36.3 +1.7**
AGG Agios Georgios 94.42 311 *e*P **P 02 45 33.0 -2.1**
comp=Z,43nm,1.3s
AGG Agios Georgios 94.42 311 *e*P **P 02 45 33.0 -2.1**
AGG pmax pmax
comp=Z,43nm,1.3s
KSP Ksiaz 94.45 323 *e*P **P 02 45 35.2 +0.3**
KSP Ksiaz 94.45 323 *e*P **P 02 45 35.2 +0.3**
KRUS Krusevo 94.50 313 *i* P **P 02 45 33.4 -2.0**
DIVS Divibare 94.50 316 *e*P **P 02 45 34.9 -0.4**
comp=Z,25nm,1.2s
DIVS Divibare 94.50 316 *e*P **P 02 45 35.1 -0.3**
BIA Bitola 94.55 313 *i* P **P 02 45 34.7 -0.9**
TAOE Nuku Hiva Isla 94.57 98 *e*LR LR 03 15 58.0
comp=Z,636nm,24.8s
DPC Dobruska-Polom 94.62 323 *e*P **P 02 45 35.7 0.0**
DPC Dobruska-Polom 94.62 323 *e*P **P 02 45 35.7 0.0**
MORH Mrgy, Hungar 94.68 319 *e*P **P 02 45 35.5 -0.5**
MORH Mrgy, Hungar 94.68 319 *e*P **P 02 45 35.0 -1.0**
MODS Modra-Piesok 94.78 321 *e*P **P 02 45 37.1 +0.6**
MODS pmax pmax
comp=Z,39nm,1.5s
MODS Modra-Piesok 94.78 321 *e*P **P 02 45 37.1 +0.6**
VRAC Vranov 94.85 322 ⇑ *i*P **P 02 45 37.1 +0.3**
VRAC Vranov 94.85 322 *e*P **P 02 45 37.4 +0.6**
TIH Tihany 94.93 319 *e*P **P 02 45 37.1 -0.1**
BBLS Lazići 94.98 316 ⇓ *i*P **P 02 45 36.4 -1.1**
NLWA Neilton Lookou 95.03 40 PFAKE 02 45 50.0 +12
NLWA LR LR
comp=Z,6µm,19.0s
KRUC Moravsky 95.06 322 *e*P **P 02 45 38.2 +0.5**
ITM Ithomi 95.28 309 *e*P **P 02 45 37.8 -1.2**
comp=Z,25nm,0.8s
SOP Sopron 95.48 320 *e*P **P 02 45 39.0 -0.6**
TIR Tirane 95.49 314 *e*P **P 02 45 39.5 -0.3**
comp=Z,32nm,0.9s
PDG Podgorica 95.56 315 ⇑ *i*P **P 02 45 39.4 -0.7**
PDG Podgorica 95.56 315 ⇓ *i*P **P 02 45 38.9 -1.2**
TTG Podgorica 95.56 315 *e*P **P 02 45 39.0 -1.1**
comp=Z,26nm,0.9s
TTG Podgorica 95.56 315 *e*P **P 02 45 39.0 -1.1**
TTG pmax pmax
comp=Z,26nm,0.9s
DRME Dracevica, Mon 95.70 315 ⇓ *i*P **P 02 45 40.0 -0.8**
BRG Berggiesshubel 95.80 324 *i* P **P 02 45 41.3 +0.3**
comp=Z,25nm,1.3s
BRG *e* 02 45 51.6
comp=Z,26nm,1.5s
BRG Berggiesshubel 95.80 324 *i* P **P 02 45 41.3 +0.3**
BRG *e* 02 45 51.6
BRG pmax pmax
comp=Z,25nm,1.3s
BRG pmax pmax
comp=Z,26nm,1.5s
PRU Pruhonice 95.81 323 *e*P **P 02 45 41.6 +0.5**
PRU Pruhonice 95.81 323 *e*P **P 02 45 41.6 +0.5**
CONA Conrad Observa 95.83 321 *i* PcP **P 02 45 42.0 +0.6**
comp=Z,33nm,1.4s,SNR=8.9
BRY Bratogost 95.90 315 *e*P **P 02 45 41.2 -0.7**
MBAR Mbarara 96.06 271 PFAKE 02 45 50.0 +6.8
MBAR LR LR
comp=Z,400nm,19.0s
B06A Marblemount 96.08 38 PFAKE 02 45 50.0 +7.7
B06A LR LR
comp=Z,7µm,18.0s
HCY Herceg Novi 96.09 315 *e*P **P 02 45 40.5 -2.0**
CLL Collm 96.16 325 ⇑ *i*P **P 02 45 42.6 0.0**
comp=Z,26nm,1.3s
CLL *e*pP **pP 02 45 53.0 +0.1**
CLL Collm 96.16 325 ⇑ *i*P **P 02 45 42.6 0.0**
CLL *e**PP **pP 02 45 53.0 +0.1**
CLL pmax pmax
comp=Z,26nm,1.3s
BLY Banja Luka 96.17 318 *e*P **P 02 45 43.0 +0.2**
comp=Z,30nm,1.5s
BLY Banja Luka 96.17 318 *e*P **P 02 45 42.8 0.0**
D05A Enumclaw 96.29 40 PFAKE 02 46 00.0 +17
D05A LR LR
comp=Z,5µm,18.0s
ARSA Arzberg 96.30 320 *i* PcP **P 02 45 43.8 +0.4**
comp=Z,23nm,1.5s,SNR=5.8
COR Corvallis 96.42 43 PFAKE 02 46 00.0 +16
COR LR LR
comp=Z,5µm,22.0s
SUMG Summit 96.48 356 *i* P **P 02 45 43.3 -0.9**
SUMG Summit 96.48 356 *i* P **P 02 45 43.3 -0.9**
LON Longmire 96.57 40 PFAKE 02 46 00.0 +15
LON LR LR
comp=Z,20µm,22.0s
KHC Kasperske Hory 96.74 323 *e*P **P 02 45 45.9 +0.5**
comp=Z,5.0nm,1.3s
KHC Kasperske Hory 96.74 323 *e*P **P 02 45 46.0 +0.6**
KHC Kasperske Hory 96.74 323 *e*P **P 02 45 46.0 +0.6**
GEC2 GERESS Array S 96.78 322 *e*P **P 02 45 46.5 +0.8**
comp=Z,26nm,1.5s
GEC2 GERESS Array S 96.78 322 *e*P **P 02 45 46.5 +0.8**
GEC2 pmax pmax
comp=Z,26nm,1.5s
GERES GERESS Array B 96.78 322 P **P 02 45 45.4 -0.2**
comp=Z,5.2nm,1.1s,baz=64,slow=6.1,SNR=14
GEA0 GERESS Array S 96.78 322 *e*P **P 02 45 45.6 -0.1**
PERS Pernice 96.80 320 *i* P **P 02 45 45.1 -0.6**
PERS *i* 02 45 55.0
SOKA Soboth 96.83 320 *i* PcP **P 02 45 45.5 -0.4**
comp=Z,24nm,1.4s,SNR=8.1
MOA Molln 96.84 321 *i* PcP **P 02 45 46.2 +0.4**
comp=Z,34nm,1.1s,SNR=10
CRES Cresnjev 96.89 319 ⇓ *i*P **P 02 45 45.4 -0.7**
LTY Liberty 97.09 39 PFAKE 02 46 00.0 +13
LTY LR LR
comp=Z,3µm,18.0s
BOJS Bojanci 97.15 319 *i* P Pdif 02 45 47.7 +0.3
BOJS *i* 02 45 59.0
OBKA Obir 97.20 320 *i* PcP **P 02 45 47.3 -0.4**
comp=Z,20nm,1.2s,SNR=5.9
JCC Jacoby Creek, 97.27 46 PFAKE 02 46 00.0 +12
JCC LR LR
comp=Z,8µm,18.0s
VISS Visnje 97.30 319 *i* P **P 02 45 47.9 -0.1**
VISS *i* 02 45 58.8
HUMO Hull Mountain 97.38 44 PFAKE 02 46 00.0 +11
HUMO LR LR
comp=Z,1µm,18.0s
B08A Colville Reser 97.46 38 PFAKE 02 46 00.0 +11
B08A LR LR
comp=Z,10µm,20.0s
KHMM Horse Mountain 97.47 46 PFAKE 02 46 00.0 +11
KHMM LR LR
comp=Z,31µm,18.0s
CEY Cerknica 97.59 319 ⇓ *i*P **P 02 45 48.2 -1.1**
KMRM Mail Ridge 97.71 47 PFAKE 02 46 00.0 +10
KMRM LR LR
comp=Z,39µm,20.0s
MYKA Terra Mystica 97.73 320 *i* PcP **P 02 45 49.7 -0.2**
comp=Z,9.6nm,1.0s
KBA Koelnbreinsper 97.73 321 *i* PcP **P 02 45 49.4 -0.7**
comp=Z,18nm,1.1s,SNR=6.7
JAVS Javornik 97.76 319 *i* P **P 02 45 50.1 0.0**
JAVS *i* 02 46 00.4
YBH Yreka Blue Hor 97.87 45 PFAKE 02 46 00.0 +9.2
YBH LR LR
comp=Z,13µm,20.0s
E07A Sunnyside 97.89 40 PFAKE 02 46 00.0 +9.3
E07A LR LR
comp=Z,21µm,18.0s
KCPM Cahto Peak 97.99 47 PFAKE 02 46 00.0 +8.6
KCPM LR LR
comp=Z,25µm,20.0s
F07A Phinny Hill Vi 98.11 40 PFAKE 02 46 00.0 +8.4
F07A LR LR
comp=Z,20µm,22.0s
HAWA Hanford 98.16 40 PFAKE 02 46 00.0 +8.2
HAWA LR LR
comp=Z,20µm,19.0s
D08A Wollman Farm, 98.26 39 PFAKE 02 46 00.0 +7.7
D08A LR LR
comp=Z,19µm,20.0s
PINE Pine Mountain 98.29 43 PFAKE 02 46 00.0 +7.2
PINE LR LR
comp=Z,25µm,22.0s
C09A Chrisman Ranch 98.34 38 PFAKE 02 46 00.0 +7.4
C09A LR LR
comp=Z,15µm,18.0s
ABTA Abfaltersbach 98.39 321 *i* PcP **P 02 45 52.2 -0.7**
comp=Z,27nm,1.1s,SNR=9.1
E08A Dider Farm, El 98.41 40 PFAKE 02 46 00.0 +7.1
E08A LR LR
comp=Z,20µm,20.0s
WDC Whiskeytown Da 98.42 46 PFAKE 02 46 00.0 +6.9
WDC LR LR
comp=Z,19µm,18.0s
HOPS Hopland Field 98.61 48 PFAKE 02 46 10.0 +16
HOPS LR LR
comp=Z,23µm,21.0s
WTTA Wattenberg 98.71 321 *i* Pdiff Pdif 02 45 54.9 +0.4
comp=Z,18nm,1.0s
WATA Walderalm 98.71 321 *i* Pdiff **P 02 45 53.9 -0.5**
comp=Z,14nm,1.0s,SNR=8.3
SYO Syowa Base 98.77 201 ⇓ *i* Pdiff Pdif 02 45 54.9 +1.0
NEW Newport 98.83 37 PFAKE 02 46 10.0 +15
NEW LR LR
comp=Z,14µm,19.0s
GDXM Geysers 98.88 48 PFAKE 02 46 10.0 +15
GDXM LR LR
comp=Z,26µm,18.0s
E09A Wood Farm, Sta 98.97 39 PFAKE 02 46 10.0 +15
E09A LR LR
comp=Z,20µm,18.0s
G08A Pilot Rock 98.98 41 PFAKE 02 46 10.0 +14
G08A LR LR
comp=Z,24µm,19.0s
SQTA Sankt Quirin 98.99 322 *i* Pdiff Pdif 02 45 56.1 +0.4
comp=Z,26nm,1.1s,SNR=7.9
MOTA Moosalm 99.00 322 *i* Pdiff Pdif 02 45 56.4 +0.6
comp=Z,12nm,1.1s
MCCM Marconi Confer 99.05 48 PFAKE 02 46 10.0 +14
MCCM LR LR
comp=Z,4µm,21.0s
I07A Izee 99.13 42 PFAKE 02 46 10.0 +14
I07A LR LR
comp=Z,23µm,18.0s
RETA Reutte 99.14 322 *i* Pdiff **Pdif 02 45 56.0 -0.3**
comp=Z,11nm,1.3s
FETA Feichten 99.37 321 *i* Pdiff **Pdif 02 45 57.7 +0.3**
comp=Z,22nm,1.3s,SNR=5.7
ORV Oroville 99.54 47 PFAKE 02 46 10.0 +12
ORV LR LR
comp=Z,13µm,20.0s
F10A Beach Ranch, E 99.78 40 PFAKE 02 46 10.0 +11
F10A LR LR
comp=Z,16µm,18.0s
FUORN Ofenpass-Fuorn 99.83 321 *e*Pdif **Pdif 02 46 00.4 +0.7**
comp=Z,41nm,1.4s
J08A Circle Bar Ran 100.11 42 PFAKE 02 46 10.0 +9.3
J08A LR LR
comp=Z,16µm,22.0s
AFDM Forest Hills D 100.15 47 PFAKE 02 46 10.0 +9.1
AFDM LR LR
comp=Z,12µm,18.0s
BMO Blue Mountains 100.23 41 PFAKE 02 46 10.0 +8.8
BMO LR LR
comp=Z,14µm,18.0s
BEKR Beckworth 100.23 46 PFAKE 02 46 10.0 +8.6
BEKR LR LR
comp=Z,4µm,19.0s
WALA Waterton Lakes 100.33 36 PFAKE 02 46 10.0 +8.4
WALA LR LR
comp=Z,12µm,20.0s
WVOR Wild Horse Val 100.39 43 PFAKE 02 46 10.0 +8.0

WVOR LR LR
comp=Z,9µm,20.0s
MEM Membach 100.39 326 P **Pdif 02 46 12.1 +10**
QSPA South Pole Qui 100.42 180 *e*Pdif **Pdif 02 46 03.0 +1.5**
SAO San Andreas Ge 100.62 49 PFAKE 02 46 10.0 +7.0
SAO LR LR
comp=Z,13µm,21.0s
RUBR Rubicon Trail 100.69 47 PFAKE 02 46 20.0 +16
RUBR LR LR
comp=Z,10µm,21.0s
WLF Walferdange 100.79 325 *e*Pdif **Pdif 02 46 04.5 +1.1**
WLF Walferdange 100.79 325 *eP* **Pdif 02 46 04.5 +1.1**
WLF Walferdange 100.79 325 P **Pdif 02 45 58.6 -4.8**
comp=Z,40nm,3.8s
CMB Columbia Colle 100.92 48 PFAKE 02 46 20.0 +16
CMB LR LR
comp=Z,19µm,18.0s
VCNR Virginia City 100.96 46 PFAKE 02 46 20.0 +15
VCNR LR LR
comp=Z,900nm,20.0s
PNTR Pine Nut 101.08 47 PFAKE 02 46 20.0 +15
PNTR LR LR
comp=Z,10µm,18.0s
YERR Yerington 101.37 47 PFAKE 02 46 20.0 +13
YERR LR LR
comp=Z,9µm,18.0s
SNF Seneffe 101.38 327 P **Pdif 02 45 52.5 -14**
MSO Missoula 101.40 38 PFAKE 02 46 20.0 +14
MSO LR LR
comp=Z,13µm,20.0s
WAKR Walker 101.42 47 PFAKE 02 46 20.0 +13
WAKR LR LR
comp=Z,11µm,19.0s
MFID Camas Ranch 101.82 41 PFAKE 02 46 20.0 +12
MFID LR LR
comp=Z,10µm,20.0s
MDPB Devils Postpil 102.03 48 PFAKE 02 46 20.0 +10
MDPB LR LR
comp=Z,14µm,20.0s
RYN Ryan 102.03 47 PFAKE 02 46 20.0 +11
RYN LR LR
comp=Z,8µm,18.0s
OMMB Old Mammoth Mi 102.09 48 PFAKE 02 46 20.0 +10
OMMB LR LR
comp=Z,14µm,20.0s
KVN Kaiserville 102.16 46 PFAKE 02 46 20.0 +10
KVN LR LR
comp=Z,2µm,18.0s
BMN Battle Mountai 102.19 45 PFAKE 02 46 20.0 +10
BMN LR LR
comp=Z,700nm,22.0s
NV11 Mina Array Sit 102.37 47 PFAKE 02 46 20.0 +9.0
NV11 LR LR
comp=Z,600nm,19.0s
HLID Hailey 102.67 41 PFAKE 02 46 20.0 +7.8
HLID LR LR
comp=Z,13µm,20.0s
DLMT Dillon 102.94 39 PFAKE 02 46 30.0 +17
DLMT LR LR
comp=Z,12µm,19.0s
FFC Flin Flon 103.16 27 PFAKE 02 46 30.0 +16
FFC LR LR
comp=Z,4µm,18.0s
EGMT Eagleton 103.23 35 PFAKE 02 46 30.0 +16
EGMT LR LR
comp=Z,9µm,19.0s
ISA Isabella, Lake 103.26 49 PFAKE 02 46 30.0 +15
ISA LR LR
comp=Z,10µm,20.0s
BOZ Bozeman (W) 103.41 38 PFAKE 02 46 30.0 +15
BOZ LR LR
comp=Z,10µm,22.0s
ELK Elko 103.42 44 PFAKE 02 46 30.0 +14
ELK LR LR
comp=Z,2µm,19.0s
FCC Fort Churchill 103.42 21 PFAKE 02 46 30.0 +15
FCC LR LR
comp=Z,4µm,22.0s
OSI Osito Audit: C 103.48 51 PFAKE 02 46 30.0 +14
OSI LR LR
comp=Z,9µm,19.0s
DAC Darwin (Calif) 103.66 49 PFAKE 02 46 30.0 +13
DAC LR LR
comp=Z,13µm,19.0s
PASC Pasadena Art C 104.07 51 PFAKE 02 46 30.0 +12
PASC LR LR
comp=Z,9µm,20.0s
YHB Horse Butte 104.10 39 PFAKE 02 46 30.0 +11
YHB LR LR
comp=Z,13µm,18.0s
MWC Mount Wilson 104.14 51 PFAKE 02 46 30.0 +11
MWC LR LR
comp=Z,10µm,21.0s
R11A Troy Canyon, C 104.24 46 PFAKE 02 46 30.0 +11
R11A LR LR
comp=Z,4µm,22.0s
YMR Madison River 104.29 39 PFAKE 02 46 30.0 +11
YMR LR LR
comp=Z,12µm,19.0s
TPNV Topopah Spring 104.37 47 PFAKE 02 46 30.0 +10
TPNV LR LR
comp=Z,8µm,21.0s
YNR Norris Junctio 104.44 38 PFAKE 02 46 30.0 +10
YNR LR LR
comp=Z,12µm,18.0s
YFT Old Faithful 104.48 39 PFAKE 02 46 30.0 +10
YFT LR LR
comp=Z,12µm,20.0s
HVU Hansel Valley 104.58 42 PFAKE 02 46 30.0 +9.3
HVU LR LR
comp=Z,8µm,18.0s
YPP Pitchstone Pla 104.59 39 PFAKE 02 46 30.0 +9.1
YPP LR LR
comp=Z,13µm,19.0s
GSC Goldstone, Bar 104.65 49 PFAKE 02 46 30.0 +8.9
GSC LR LR
comp=Z,9µm,18.0s
H17A Grant Village 104.67 39 PFAKE 02 46 30.0 +8.8
H17A LR LR
comp=Z,15µm,18.0s
LKWY Lake 104.69 38 PFAKE 02 46 30.0 +8.7
LKWY LR LR
comp=Z,12µm,18.0s
FLWY Flagg Ranch 104.75 39 PFAKE 02 46 30.0 +8.5
FLWY LR LR
comp=Z,10µm,19.0s
BGU Big Grassy Mou 104.82 43 PFAKE 02 46 30.0 +8.2
BGU LR LR
comp=Z,4µm,21.0s
MOOW Moose Ponds 104.89 39 PFAKE 02 46 30.0 +7.8
MOOW LR LR
comp=Z,10µm,18.0s
TPAW Teton Pass 104.90 40 PFAKE 02 46 30.0 +7.8
TPAW LR LR
comp=Z,8µm,19.0s
SPUT South Promonto 105.02 42 PFAKE 02 50 50.0 +13
SPUT LR LR
comp=Z,6µm,20.0s
REDW Red Top Meadow 105.02 40 PFAKE 02 50 50.0 +13
REDW LR LR
comp=Z,9µm,20.0s
SNOW Snow King Moun 105.03 40 PFAKE 02 50 50.0 +13
SNOW LR LR
comp=Z,9µm,19.0s
LOHW Long Hollow 105.05 39 PFAKE 02 50 50.0 +13
LOHW LR LR
comp=Z,8µm,20.0s
RLMT Red Lodge 105.08 37 PFAKE 02 50 50.0 +13
RLMT LR LR
comp=Z,9µm,20.0s
AHID Auburn Hatcher 105.17 40 PFAKE 02 50 50.0 +12
AHID LR LR
comp=Z,10µm,20.0s
DUG Dugway, Tooele 105.31 43 PFAKE 02 50 50.0 +12
DUG LR LR
comp=Z,2µm,19.0s
SHPR Sheep Range 105.35 48 PFAKE 02 50 50.0 +12
SHPR LR LR
comp=Z,8µm,20.0s
PSUT Pine Spring 105.37 45 PFAKE 02 50 50.0 +12
PSUT LR LR
comp=Z,3µm,21.0s
CPE Camp Elliot 105.40 52 PFAKE 02 50 50.0 +12
CPE LR LR
comp=Z,8µm,22.0s

PFO Pinyon Flats O 105.61 51 PFAKE 02 50 50.0 +11
PFO LR LR
comp=Z,9µm,19.0s
XPFO Pion Flat 105.61 51 PFAKE 02 50 50.0 +11
XPFO LR LR
comp=Z,10µm,20.0s
CTU Camp Tracy 105.78 42 PFAKE 02 50 50.0 +11
CTU LR LR
comp=Z,4µm,20.0s
TCUT Toone Canyon 105.80 42 PFAKE 02 50 50.0 +11
TCUT LR LR
comp=Z,7µm,19.0s
BAR Barrett 105.82 52 PFAKE 02 50 50.0 +11
BAR LR LR
comp=Z,7µm,21.0s
LAO LASA Array 105.97 35 PFAKE 02 50 50.0 +11
LAO LR LR
comp=Z,8µm,22.0s
LDFC Landfair 106.00 49 PFAKE 02 50 50.0 +11
LDFC LR LR
comp=Z,9µm,20.0s
DGMT Dagmar 106.02 33 PFAKE 02 50 50.0 +11
DGMT LR LR
comp=Z,8µm,19.0s
JLU Jordanelle 106.02 42 PFAKE 02 50 50.0 +11
JLU LR LR
comp=Z,4µm,20.0s
BW06 Boulder Array 106.14 40 PFAKE 02 50 50.0 +11
BW06 LR LR
comp=Z,11µm,18.0s
CCUT Cedar City 106.17 46 PFAKE 02 50 50.0 +10
CCUT LR LR
comp=Z,2µm,21.0s
MPU Maple Canyon 106.19 43 PFAKE 02 50 50.0 +10
MPU LR LR
comp=Z,4µm,18.0s
TCRU Three Creeks R 106.31 45 PFAKE 02 50 50.0 +10
TCRU LR LR
comp=Z,2µm,22.0s
SZCU Shurtz Canyon 106.34 46 PFAKE 02 50 50.0 +10
SZCU LR LR
comp=Z,3µm,20.0s
LCMT Little Creek M 106.50 46 PFAKE 02 50 50.0 +10
LCMT LR LR
comp=Z,2µm,18.0s
MTPU Mount Pierson 106.76 45 PFAKE 02 50 50.0 +9.1
MTPU LR LR
comp=Z,2µm,20.0s
KNB Kanab 106.80 46 PFAKE 02 50 50.0 +9.2
KNB LR LR
comp=Z,3µm,19.0s
W13A Hualapai Mount 106.89 48 PFAKE 02 50 50.0 +8.9
W13A LR LR
comp=Z,12µm,20.0s
PKCU Pink Cliffs 106.96 46 PFAKE 02 50 50.0 +8.7
PKCU LR LR
comp=Z,3µm,20.0s
Y12C Blythe 107.01 50 PFAKE 02 50 50.0 +9.0
Y12C LR LR
comp=Z,4µm,20.0s
Q16A Castle Valley 107.04 44 PFAKE 02 50 50.0 +8.8
Q16A LR LR
comp=Z,900nm,19.0s
P17A Butcher Ranch, 107.06 43 PFAKE 02 50 50.0 +8.8
P17A LR LR
comp=Z,2µm,18.0s
GLA Glamis 107.08 51 PFAKE 02 50 50.0 +8.8
GLA LR LR
comp=Z,10µm,18.0s
SRU San Rafael Swe 107.38 43 PFAKE 02 50 50.0 +8.2
SRU LR LR
comp=Z,2µm,19.0s
U15A North Rim 107.44 46 PFAKE 02 50 50.0 +7.9
U15A LR LR
comp=Z,3µm,21.0s
Y14A Wickenburg 108.06 49 PFAKE 02 51 00.0 +17
Y14A LR LR
comp=Z,6µm,18.0s
K22A Casper 108.09 38 PFAKE 02 50 50.0 +7.0
K22A LR LR
comp=Z,1µm,18.0s
RWWY Rawlins 108.19 40 PFAKE 02 51 00.0 +17
RWWY LR LR
comp=Z,7µm,18.0s
O20A White River Ci 108.37 41 PFAKE 02 51 00.0 +16
O20A LR LR
comp=Z,4µm,19.0s
WUAZ Wupatki 108.53 47 PFAKE 02 51 00.0 +16
WUAZ LR LR
comp=Z,2µm,19.0s
PV21 Cone Mtn., Par 108.70 43 PFAKE 02 51 00.0 +16
PV21 LR LR
comp=Z,2µm,19.0s
RSSD Black Hills 108.72 36 PFAKE 02 51 00.0 +16
RSSD LR LR
comp=Z,7µm,19.0s
MDND Maddock 108.80 31 PFAKE 02 51 00.0 +16
MDND LR LR
comp=Z,7µm,19.0s
PV20 West Nyswonger 108.82 43 PFAKE 02 51 00.0 +15
PV20 LR LR
comp=Z,2µm,21.0s
PV04 Paradox Valley 108.83 43 PFAKE 02 51 00.0 +15
PV04 LR LR
comp=Z,3µm,22.0s
PV17 East Wray Mesa 108.86 43 PFAKE 02 51 00.0 +15
PV17 LR LR
comp=Z,4µm,22.0s
PV05 Paradox Valley 108.86 44 PFAKE 02 51 00.0 +15
PV05 LR LR
comp=Z,2µm,22.0s
ULM Lac du Bonnet 108.94 27 PFAKE 02 51 00.0 +16
ULM LR LR
comp=Z,7µm,20.0s
PV12 Saucer Basin, 108.94 43 PFAKE 02 51 00.0 +15
PV12 LR LR
comp=Z,6µm,21.0s
PV03 Paradox Valley 108.94 43 PFAKE 02 51 00.0 +15
PV03 LR LR
comp=Z,2µm,19.0s
PV07 Paradox Valley 108.98 43 PFAKE 02 51 00.0 +15
PV07 LR LR
comp=Z,2µm,19.0s
X16A Lo Mia Camp, P 109.00 48 PFAKE 02 51 00.0 +15
X16A LR LR
comp=Z,12µm,20.0s
PV13 Radium Mtn., P 109.01 43 PFAKE 02 51 00.0 +15
PV13 LR LR
comp=Z,2µm,21.0s
PV15 Paradox Valley 109.15 43 PFAKE 02 51 00.0 +15
PV15 LR LR
comp=Z,2µm,20.0s
PV01 Paradox Valley 109.19 43 PFAKE 02 51 00.0 +15
PV01 LR LR
comp=Z,2µm,19.0s
N23A Red Feather La 109.43 40 PFAKE 02 51 00.0 +14
N23A LR LR
comp=Z,3µm,22.0s
PHWY Pilot Hill 109.50 39 PFAKE 02 51 00.0 +14
PHWY LR LR
comp=Z,8µm,20.0s
SMCO Snowmass 109.71 42 PFAKE 02 51 00.0 +14
SMCO LR LR
comp=Z,4µm,18.0s
MVCO Mesa Verde 109.72 44 PFAKE 02 51 00.0 +14
MVCO LR LR
comp=Z,3µm,20.0s
W18A Petrified Fore 109.90 47 PFAKE 02 51 00.0 +13
W18A LR LR
comp=Z,3µm,22.0s
X18A Snowflake 110.03 47 PFAKE 02 51 00.0 +13
X18A LR LR
comp=Z,1µm,18.0s
ISCO Idaho Springs 110.25 41 PFAKE 02 51 00.0 +13
ISCO LR LR
comp=Z,4µm,21.0s
TUC Tucson 110.46 50 PFAKE 02 51 00.0 +12
TUC LR LR
comp=Z,3µm,20.0s
S22A 4UR Ranch, Cre 110.57 43 PFAKE 02 51 00.0 +12
S22A LR LR
comp=Z,2µm,18.0s
Q24A Divide 111.01 41 PFAKE 02 51 00.0 +11
Q24A LR LR
comp=Z,4µm,20.0s

SDCO Great Sand Dun 111.45 42 PFAKE 02 51 00.0 +10
SDCO LR LR
comp=Z,1µm,18.0s
SRIG Santa Rosalia 111.53 55 PFAKE 02 51 00.0 +10
SRIG LR LR
comp=Z,3µm,19.0s
OGNE Ogallala 111.81 38 PFAKE 02 51 00.0 +10
OGNE LR LR
comp=Z,6µm,18.0s
HSIG 111.83 53 PFAKE 02 51 00.0 +10
HSIG LR LR
comp=Z,5µm,19.0s
319A Douglas 112.03 50 PFAKE 02 51 00.0 +9.3
319A LR LR
comp=Z,3µm,19.0s
ANMO Albuquerque 112.30 45 PFAKE 02 51 00.0 +8.8
ANMO LR LR
comp=Z,3µm,20.0s
ANMO Albuquerque 112.30 45 *i* PKIKP **PKiKP 02 50 49.0 -2.2**
ESDC Sonseca Array 112.31 321 PP **PP 02 51 38.0 +2.1**
comp=Z,0.1nm,0.4s,baz=54,slow=7.5,SNR=4.3
Y22D IRIS PASSCAL I 112.43 46 PFAKE 02 51 00.0 +8.6
Y22D LR LR
comp=Z,4µm,19.0s
T25A Trinidad 112.51 42 PFAKE 02 51 00.0 +8.4
T25A LR LR
comp=Z,4µm,18.0s
EYMN Ely 112.59 27 PFAKE 02 51 00.0 +8.9
EYMN LR LR
comp=Z,8µm,19.0s
KSCO Kaye Shedlock' 112.59 40 PFAKE 02 51 00.0 +8.4
KSCO LR LR
comp=Z,3µm,20.0s
ECSD EROS Data Cent 113.10 33 PFAKE 02 51 00.0 +7.8
ECSD LR LR
comp=Z,2µm,18.0s
E38A The Farm, Brul 113.57 28 PFAKE 02 51 00.0 +7.0
E38A LR LR
comp=Z,9µm,18.0s
BGNE Belgrade 113.80 36 PFAKE 02 51 10.0 +16
BGNE LR LR
comp=Z,6µm,20.0s
SPMN Marine on St. 113.99 30 PFAKE 02 51 10.0 +16
SPMN LR LR
comp=Z,6µm,18.0s
CBKS Cedar Bluff 114.51 39 PFAKE 02 51 10.0 +15
CBKS LR LR
comp=Z,4µm,19.0s
D41A Chassel 114.54 26 PFAKE 02 51 10.0 +15
D41A LR LR
comp=Z,8µm,18.0s
MNTX Cornudas Mount 114.76 48 PFAKE 02 51 10.0 +14
MNTX LR LR
comp=Z,6µm,18.0s
SLBS Sierra La Lagu 114.94 58 PFAKE 02 51 10.0 +14
SLBS LR LR
comp=Z,4µm,20.0s
COWI Conover 115.04 27 PFAKE 02 51 10.0 +14
COWI LR LR
comp=Z,6µm,19.0s
G40A Rib Lake 115.19 28 PFAKE 02 51 10.0 +14
G40A LR LR
comp=Z,5µm,19.0s
F41A Three Lakes 115.33 27 PFAKE 02 51 10.0 +14
F41A LR LR
comp=Z,6µm,18.0s
MSTX Muleshoe 115.39 44 PFAKE 02 51 10.0 +13
MSTX LR LR
comp=Z,400nm,18.0s
AMTX Amarillo 115.61 43 PFAKE 02 51 10.0 +13
AMTX LR LR
comp=Z,1µm,18.0s
I39A Houston 115.62 30 PFAKE 02 51 10.0 +13
I39A LR LR
comp=Z,2µm,19.0s
E43A Lone Tree Farm 115.75 25 PFAKE 02 51 10.0 +13
E43A LR LR
comp=Z,9µm,19.0s
H41A Junction City 115.94 28 PFAKE 02 51 10.0 +12
H41A LR LR
comp=Z,7µm,18.0s
E44A Grand Marais A 116.00 24 PFAKE 02 51 10.0 +12
E44A LR LR
comp=Z,9µm,18.0s
G42A Mountain 116.02 27 PFAKE 02 51 10.0 +12
G42A LR LR
comp=Z,6µm,18.0s
SCIA State Center 116.17 32 PFAKE 02 51 10.0 +12
SCIA LR LR
comp=Z,6µm,18.0s
KSU1 Kansas State U 116.20 37 PFAKE 02 51 10.0 +12
KSU1 LR LR
comp=Z,4µm,20.0s
I41A Arkdale 116.26 29 PFAKE 02 51 10.0 +12
I41A LR LR
comp=Z,4µm,18.0s
G43A Wallace 116.33 26 PFAKE 02 51 10.0 +12
G43A LR LR
comp=Z,5µm,18.0s
U32A Winter Ranch, 116.47 40 PFAKE 02 51 10.0 +11
U32A LR LR
comp=Z,2µm,18.0s
H42A Shiocton 116.54 28 PFAKE 02 51 10.0 +11
H42A LR LR
comp=Z,1µm,21.0s
I42A Draeger Farm, 116.84 28 PFAKE 02 51 10.0 +11
I42A LR LR
comp=Z,3µm,20.0s
H43A Windswept, Lux 116.91 27 PFAKE 02 51 10.0 +10
H43A LR LR
comp=Z,4µm,18.0s
JFWS Jewell Farm 116.94 30 PFAKE 02 51 10.0 +10
JFWS LR LR
comp=Z,1µm,22.0s
L40A Anamosa 117.09 31 PFAKE 02 51 10.0 +10
L40A LR LR
comp=Z,3µm,21.0s
TX31 Lajitas Ar. Si 117.25 49 *e*PKPdf **PKiKP 02 51 01.2 +0.5**
TX31 *e*PKPdf **PKPdf 02 51 01.6 +0.9**
LTX Lajitas 117.25 49 *e*PKPdf **PKiKP 02 51 01.1 +0.4**
LTX Lajitas 117.25 49 *e*PKIKP **PKiKP 02 51 01.1 +0.4**
TXAR Lajitas Array 117.25 49 PKP **PKiKP 02 51 01.1 +0.4**
comp=Z,0.6nm,0.5s,baz=330,slow=2.3,SNR=7.0
TXAR pPKP **pPKPdf 02 51 12.6 +0.9**
comp=Z,0.6nm,0.5s,baz=41,slow=0.7,SNR=4.6
TXAR Lajitas Array 117.25 49 PKIKP **PKiKP 02 51 01.1 +0.4**
TXAR 02 51 12.6
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR pmax pmax
comp=Z,1.0nm,0.5s
WMOK Wichita Mounta 117.62 42 PFAKE 02 51 10.0 +8.8
WMOK LR LR
comp=Z,2µm,18.0s
VLDQ Val d'Or 117.75 18 PFAKE 02 51 10.0 +9.0
VLDQ LR LR
comp=Z,3µm,20.0s
L42A Oliver, Polo 117.91 30 PFAKE 02 51 10.0 +8.5
L42A LR LR
comp=Z,1µm,20.0s
GLMI Grayling 117.99 25 PFAKE 02 51 10.0 +8.4
GLMI LR LR
comp=Z,6µm,18.0s
K43A Burlington 118.02 29 PFAKE 02 51 10.0 +8.3
K43A LR LR
comp=Z,2µm,19.0s
N41A Harden Midland 118.27 32 PFAKE 02 51 10.0 +7.7
N41A LR LR
comp=Z,8µm,18.0s
ABTX Abilene, Hawle 118.31 44 PFAKE 02 51 10.0 +7.4
ABTX LR LR
comp=Z,2µm,19.0s
TUL1 Leonard 118.78 39 PFAKE 02 51 20.0 +17
TUL1 LR LR
comp=Z,4µm,20.0s
M44A Midewin, Midew 119.17 29 PFAKE 02 51 20.0 +16
M44A LR LR
comp=Z,2µm,21.0s
HDIL Hopedale 119.18 31 PFAKE 02 51 20.0 +16
HDIL LR LR
comp=Z,7µm,18.0s
E54A Lac Daplat, Po 119.33 19 P **PKiKP 02 51 05.2 +1.1**
baz=333
P42A Winchester 119.35 32 PFAKE 02 51 20.0 +16
P42A LR LR

comp=Z,8µm,21.0s
JCT **Junction City** **119.43** **46** *e*PKPdf **PKiKP** 02 51 05.4 **+0.5**
JCT LR LR
comp=Z,7µm,19.0s
JCT **Junction City** **119.43** **46** *e*PKIKP **PKiKP** 02 51 05.4 **+0.5**
JCT MLR MLR
comp=Z,7µm,19.0s
JCT **Junction City** **119.43** **46** P **PKiKP** 02 51 05.3 **+0.5**
baz=305
HHAR **Hobbs** **119.66** **37** *e*PKPdf **PKiKP** 02 51 06.0 **+0.9**
HHAR LR LR
comp=Z,3µm,19.0s
R41A **Rosebud** **119.73** **34** P **PKiKP** 02 51 05.3 **+0.1**
baz=316
M46A **Old House Fiel** **119.96** **28** PFAKE 02 51 20.0 +14
M46A LR LR
comp=Z,2µm,18.0s
CCM **Cathedral Cave** **119.97** **34** *e*PKPdf **PKiKP** 02 51 05.9 **+0.2**
CCM LR LR
comp=Z,2µm,22.0s
CCM **Cathedral Cave** **119.97** **34** *e*PKIKP **PKiKP** 02 51 05.9 **+0.2**
CCM MLR MLR
comp=Z,2µm,22.0s
S41A **Jillco Farms,** **120.03** **35** P **PKPdf** 02 51 05.5 **-0.2**
baz=315
SLM **Saint Louis** **120.10** **33** PFAKE 02 51 20.0 +14
SLM LR LR
comp=Z,6µm,18.0s
SADO **Sadowa** **120.14** **21** PFAKE 02 51 20.0 +14
SADO LR LR
comp=Z,4µm,21.0s
WHTX **Lake Whitney,** **120.17** **43** PFAKE 02 51 20.0 +14
WHTX LR LR
comp=Z,5µm,18.0s
U40A **Yellville** **120.25** **37** P **PKPdf** 02 51 05.4 **-0.8**
baz=314
DRLN **Deer Lake** **120.32** **3** PFAKE 02 51 20.0 +14
DRLN LR LR
comp=Z,5µm,22.0s
T41A **Mountain View** **120.40** **35** P **PKiKP** 02 51 07.0 **+0.4**
baz=315
L48A **N Adams** **120.40** **27** P **PKPdf** 02 51 05.9 **-0.4**
baz=324
SFIN **Lafayette** **120.40** **30** PFAKE 02 51 20.0 +14
SFIN LR LR
comp=Z,4µm,19.0s
S42A **Caledonia** **120.43** **34** P **PKPdf** 02 51 06.3 **-0.1**
baz=316
AAM **Ann Arbor** **120.45** **26** PFAKE 02 51 20.0 +14
AAM LR LR
comp=Z,3µm,19.0s
W39A **Magazine** **120.48** **38** PFAKE 02 51 20.0 +13
W39A LR LR
comp=Z,5µm,21.0s
Q44A **Meyer Farm, Va** **120.55** **32** PFAKE 02 51 20.0 +13
Q44A LR LR
comp=Z,8µm,19.0s
PLVO **Plevna** **120.61** **19** PFAKE 02 51 20.0 +13
PLVO LR LR
comp=Z,8µm,19.0s
TOA0 **Torodi Ar. Sit** **120.64** **292** *e*PKPdf **PKPdf** 02 51 05.6 **-1.8**
TOA0 *e*PKPdf **PKiKP** 02 51 06.9 **-0.7**
TORD **Torodi Ar. Bea** **120.64** **292** PKP **PKPdf** 02 51 06.6 **-0.9**
comp=Z,5.1nm,0.9s,baz=330,slow=8.6,SNR=28
TORD PKKPab **PKKPab** 03 01 13.7 **-0.6**
comp=Z,0.8nm,1.0s,baz=264,slow=2.1,SNR=4.8
TOA1 **Torodi Ar. Sit** **120.64** **292** *e*PKPdf **PKPdf** 02 51 06.6 **-0.9**
M48A **Edgerton** **120.64** **27** PFAKE 02 51 20.0 +13
M48A LR LR
comp=Z,1µm,21.0s
P45A **Graceland, Par** **120.73** **31** PFAKE 02 51 20.0 +13
P45A LR LR
comp=Z,8µm,19.0s
T42A **Van Buren** **120.79** **35** *e*PKPdf **PKiKP** 02 51 07.5 **+0.2**
T42A LR LR
comp=Z,3µm,19.0s
435B **Jarrell** **120.81** **44** PFAKE 02 51 20.0 +12
435B LR LR
comp=Z,3µm,18.0s
833A **Chaparral WMA,** **120.94** **48** PFAKE 02 51 20.0 +12
833A LR LR
comp=Z,3µm,21.0s
MIAR **Mount Ida** **121.04** **39** *e*PKPdf **PKiKP** 02 51 08.7 **+0.8**
MIAR LR LR
comp=Z,3µm,20.0s
MIAR **Mount Ida** **121.04** **39** *e*PKIKP **PKiKP** 02 51 08.7 **+0.8**
MIAR MLR MLR
comp=Z,3µm,20.0s
MIAR **Mount Ida** **121.04** **39** P **PKiKP** 02 51 08.3 **+0.5**
baz=312
OLIL **Olney** **121.15** **32** PFAKE 02 51 20.0 +12
OLIL LR LR
comp=Z,8µm,20.0s
BATG **Bathurst New B** **121.29** **10** PFAKE 02 51 20.0 +12
BATG LR LR
comp=Z,5µm,18.0s
WHAR **Wooly Hollow** **121.31** **37** PFAKE 02 51 20.0 +12
WHAR LR LR
comp=Z,3µm,20.0s
SIUC **Southern Illin** **121.32** **33** PFAKE 02 51 20.0 +12
SIUC LR LR
comp=Z,5µm,18.0s
N49A **Columbus Grove** **121.34** **27** PFAKE 02 51 20.0 +12
N49A LR LR
comp=Z,1µm,18.0s
PBMO **Poplar Bluff** **121.34** **35** PFAKE 02 51 20.0 +12
PBMO LR LR
comp=Z,3µm,19.0s
ZAIG **Zacatecas** **121.40** **55** PFAKE 02 51 20.0 +11
ZAIG LR LR
comp=Z,3µm,22.0s
W41B **Gary Mavity, V** **121.42** **37** PFAKE 02 51 20.0 +11
W41B LR LR
comp=Z,4µm,18.0s
M50A **Fremont** **121.45** **26** PFAKE 02 51 20.0 +12
M50A LR LR
comp=Z,700nm,20.0s
X40A **Basin Creek Fa** **121.53** **38** PFAKE 02 51 20.0 +11
X40A LR LR
comp=Z,3µm,20.0s
BLO **Bloomington** **121.61** **30** PFAKE 02 51 20.0 +11
BLO LR LR
comp=Z,7µm,19.0s
UALR **University of** **121.63** **38** PFAKE 02 51 20.0 +11
UALR LR LR
comp=Z,4µm,19.0s
LONY **Lake Ozonia** **121.77** **18** PFAKE 02 51 20.0 +11
LONY LR LR
comp=Z,6µm,19.0s
O49A **Covington** **121.86** **28** PFAKE 02 51 20.0 +11
O049A LR LR
comp=Z,2µm,21.0s
O49A **Covington** **121.86** **28** P **PKPdf** 02 51 07.7 **-1.5**
baz=323
FRNY **Flat Rock** **121.86** **17** PFAKE 02 51 20.0 +11
FRNY LR LR
comp=Z,5µm,20.0s
USIN **University of** **121.96** **32** PFAKE 02 51 20.0 +10
USIN LR LR
comp=Z,6µm,19.0s
PVMO **Portageville** **122.01** **34** PFAKE 02 51 20.0 +10
PVMO LR LR
comp=Z,3µm,21.0s
ERPA **Erie** **122.10** **23** PFAKE 02 51 20.0 +10
ERPA LR LR
comp=Z,3µm,18.0s
N51A **Ashland** **122.13** **26** PFAKE 02 51 20.0 +10
N51A LR LR
comp=Z,700nm,21.0s
T45A **Paducah** **122.14** **33** PFAKE 02 51 20.0 +10
T45A LR LR
comp=Z,2µm,18.0s
NATX **Nacogdoches** **122.17** **42** PFAKE 02 51 20.0 +10
NATX LR LR
comp=Z,2µm,19.0s
GLAT **Glass** **122.34** **34** PFAKE 02 51 20.0 +10
GLAT LR LR
comp=Z,2µm,20.0s
MMNY **Mt. Morris Dam** **122.35** **21** PFAKE 02 51 20.0 +10
MMNY LR LR
comp=Z,8µm,18.0s
Z41A **Richland Creek** **122.38** **39** PFAKE 02 51 20.0 +9.5
Z41A LR LR
comp=Z,3µm,22.0s
ACSO **Alum Creek Sta** **122.43** **27** PFAKE 02 51 20.0 +10
ACSO LR LR
comp=Z,2µm,18.0s
WCI **Wyandotte Cave** **122.45** **31** PFAKE 02 51 20.0 +9.5
WCI LR LR
comp=Z,8µm,19.0s
NCB **Newcomb** **122.46** **18** PFAKE 02 51 20.0 +10
NCB LR LR
comp=Z,5µm,20.0s
KVTX **Kingsville** **122.48** **48** PFAKE 02 51 20.0 +9.1
KVTX LR LR
comp=Z,2µm,22.0s
PKME **Peaks-Kenny Pk** **122.57** **13** PFAKE 02 51 20.0 +9.5
PKME LR LR
comp=Z,2µm,18.0s
X43A **Marvell** **122.68** **37** PFAKE 02 51 20.0 +8.9
X43A LR LR
comp=Z,4µm,19.0s
M54A **Oil Creek Stat** **122.75** **23** PFAKE 02 51 20.0 +8.9
M54A LR LR
comp=Z,3µm,19.0s
LNIG **Linares** **122.76** **51** PFAKE 02 51 20.0 +8.5
LNIG LR LR
comp=Z,3µm,18.0s
MET **Memphis--Engin** **122.80** **36** PFAKE 02 51 20.0 +8.7
MET LR LR
comp=Z,2µm,19.0s
LBNH **Lisbon** **122.87** **16** PFAKE 02 51 20.0 +8.8
LBNH LR LR
comp=Z,7µm,19.0s
LMN **Caledonia Moun** **122.89** **10** PFAKE 02 51 20.0 +8.8
LMN LR LR
comp=Z,4µm,20.0s
P51A **Williamsport** **123.00** **27** PFAKE 02 51 20.0 +8.4
P51A LR LR
comp=Z,2µm,19.0s
S48A **Wiedeman Farm,** **123.01** **31** P **PKPdf** 02 51 11.2 **-0.3**
baz=321
O52A **Adamsville** **123.03** **26** PFAKE 02 51 20.0 +8.4
O52A LR LR
comp=Z,1µm,18.0s
O52A **Adamsville** **123.03** **26** P **PKiKP** 02 51 11.8 **+0.1**
baz=326
N54A **Moraine State** **123.08** **24** PFAKE 02 51 20.0 +8.3
N54A LR LR
comp=Z,3µm,18.0s
ACCN **Adirondack Com** **123.16** **18** PFAKE 02 51 20.0 +8.2
ACCN LR LR
comp=Z,6µm,18.0s
GGN **Saint George** **123.23** **12** PFAKE 02 51 20.0 +8.2
GGN LR LR
comp=Z,2µm,18.0s
Q51A **Peebles** **123.24** **28** PFAKE 02 51 20.0 +7.9
Q51A LR LR
comp=Z,3µm,19.0s
Q51A **Peebles** **123.24** **28** P **PKiKP** 02 51 12.3 **+0.2**
baz=324
WVT **Waverly** **123.24** **33** *e*PKPdf **PKPdf** 02 51 11.8 **-0.1**
WVT LR LR
comp=Z,2µm,21.0s
WVT **Waverly** **123.24** **33** P **PKPdf** 02 51 11.8 **-0.1**
baz=318
T48A **Bowling Green** **123.26** **32** P **PKiKP** 02 51 12.4 **+0.2**
baz=320
V46A **Holladay** **123.33** **34** P **PKPdf** 02 51 10.5 **-1.6**
baz=318
BINY **Binghamton** **123.49** **20** PFAKE 02 51 20.0 +7.5
BINY LR LR
comp=Z,5µm,20.0s
OXF **Oxford** **123.54** **36** PFAKE 02 51 20.0 +7.2
OXF LR LR
comp=Z,2µm,21.0s
T49A **Edmonton** **123.70** **31** PFAKE 02 51 20.0 +6.9
T49A LR LR
comp=Z,7µm,19.0s
P53A **Whipple** **123.74** **26** *e*PKPdf **PKiKP** 02 51 13.1 **0.0**
P53A LR LR
comp=Z,2µm,20.0s
P53A **Whipple** **123.74** **26** P **PKiKP** 02 51 13.1 **0.0**
baz=326
GBN **Guysborough** **123.79** **7** PFAKE 02 51 20.0 +7.1
GBN LR LR
comp=Z,5µm,19.0s
PLAL **Pickwick Lake** **123.95** **34** PFAKE 02 51 30.0 +16
PLAL LR LR
comp=Z,2µm,18.0s
MOIG **Morelia** **124.00** **58** PFAKE 02 51 30.0 +16
MOIG LR LR
comp=Z,1µm,18.0s
W47A **Westpoint** **124.02** **34** P **PKPdf** 02 51 12.8 **-0.6**
baz=318
U49A **Red Boiling Sp** **124.04** **32** P **PKPdf** 02 51 13.4 **0.0**
baz=320
V48A **Smith Brothers** **124.08** **33** *e*PKPdf **PKPdf** 02 51 13.1 **-0.5**
V48A LR LR
comp=Z,2µm,18.0s
V48A **Smith Brothers** **124.08** **33** P **PKPdf** 02 51 12.9 **-0.6**
baz=319
R52A **Catlettsburg** **124.12** **28** P **PKiKP** 02 51 14.4 **+0.5**
baz=324
SSPA **Standing Stone** **124.18** **23** PFAKE 02 51 30.0 +16
SSPA LR LR
comp=Z,3µm,18.0s
SSPA **Standing Stone** **124.18** **23** P **PKPdf** 02 51 13.3 **-0.3**
baz=330
Z45A **Winona** **124.19** **37** PFAKE 02 51 30.0 +16
Z45A LR LR
comp=Z,3µm,20.0s
S51A **Beattyville** **124.24** **29** PFAKE 02 51 30.0 +16
S51A LR LR
comp=Z,9µm,18.0s
O56A **Blue Knob Stat** **124.24** **23** PFAKE 02 51 30.0 +16
O56A LR LR
comp=Z,2µm,18.0s
W48A **Pulaski** **124.47** **34** P **PKPdf** 02 51 13.8 **-0.5**
baz=319
VBMS **Vicksburg** **124.49** **39** PFAKE 02 51 30.0 +15
VBMS LR LR
comp=Z,3µm,21.0s
HRV **Adam Dziewonsk** **124.58** **16** PFAKE 02 51 30.0 +15
HRV LR LR
comp=Z,4µm,19.0s
U50A **Jamestown** **124.59** **31** P **PKPdf** 02 51 14.5 **0.0**
baz=321
N59A **State Game Lan** **124.70** **21** PFAKE 02 51 30.0 +15
N59A LR LR
comp=Z,3µm,18.0s
Q55A **Buckhannon** **124.71** **25** P **PKPdf** 02 51 14.1 **-0.7**
baz=328
WES **Weston** **124.76** **16** PFAKE 02 51 30.0 +15
WES LR LR
comp=Z,6µm,18.0s
W49A **Belvidere** **124.84** **33** P **PKPdf** 02 51 14.7 **-0.3**
baz=319
X48A **Hartselle** **124.92** **34** PFAKE 02 51 30.0 +14
X48A LR LR
comp=Z,1µm,21.0s
ODNJ **Ogdensburg** **124.95** **20** PFAKE 02 51 30.0 +15
ODNJ LR LR
comp=Z,6µm,18.0s
PAGS **Pennsylvania G** **124.97** **22** PFAKE 02 51 30.0 +15
PAGS LR LR
comp=Z,3µm,19.0s
BRYW **Bryant College** **125.13** **17** *e*PKPpre PKPpre 02 51 08.4
PAL **Palisades** **125.25** **19** PFAKE 02 51 30.0 +14
PAL LR LR
comp=Z,5µm,18.0s
YLE **Yale** **125.27** **18** PFAKE 02 51 30.0 +14
YLE LR LR
comp=Z,4µm,19.0s
W50A **Signal Mountai** **125.29** **32** PFAKE 02 51 30.0 +14
W50A LR LR
comp=Z,1µm,18.0s
MVL **Millersville** **125.31** **22** PFAKE 02 51 30.0 +14
MVL LR LR
comp=Z,3µm,20.0s
V51A **Loudon** **125.31** **31** PFAKE 02 51 30.0 +14
V51A LR LR
comp=Z,4µm,20.0s
BRNJ **Basking Ridge** **125.32** **20** PFAKE 02 51 30.0 +14
BRNJ LR LR
comp=Z,2µm,22.0s
CPCT **Cooper Cave** **125.50** **31** PFAKE 02 51 30.0 +13
CPCT LR LR
comp=Z,2µm,21.0s
147A **Livingston** **125.52** **37** PFAKE 02 51 30.0 +13
147A LR LR
comp=Z,3µm,18.0s
SDMD **Soldier's Deli** **125.64** **22** PFAKE 02 51 30.0 +13
SDMD LR LR
comp=Z,1µm,21.0s
V52A **Sevierville** **125.66** **30** *e*PKPdf **PKiKP** 02 51 17.6 **+0.6**
V52A LR LR
comp=Z,7µm,18.0s
V52A **Sevierville** **125.66** **30** P **PKiKP** 02 51 17.3 **+0.3**
baz=322
Y49A **Blount Mountai** **125.71** **34** PFAKE 02 51 30.0 +13
Y49A LR LR
comp=Z,1µm,20.0s
346A **Big Creek Wild** **125.71** **39** PFAKE 02 51 30.0 +13
346A LR LR
comp=Z,2µm,20.0s
TKL **Tuckaleechee C** **125.72** **31** *e*PKPpre PKPpre 02 51 11.8
TKL LR LR
comp=Z,4µm,21.0s
TKL **Tuckaleechee C** **125.72** **31** *e*PKIKP **PKPdf** 02 51 11.8 **-4.9**
TKL MLR MLR
comp=Z,4µm,21.0s
UNM **Universidad Na** **125.83** **57** PFAKE 02 51 30.0 +12
UNM LR LR
comp=Z,2µm,22.0s
LRAL **Lakeview Retre** **125.99** **35** PFAKE 02 51 30.0 +12
LRAL LR LR
comp=Z,2µm,19.0s
LRAL **Lakeview Retre** **125.99** **35** P **PKiKP** 02 51 18.0 **+0.3**
baz=318
X51A **Calhoun** **126.01** **32** PFAKE 02 51 30.0 +12
X51A LR LR
comp=Z,2µm,22.0s
BLA **Blacksburg** **126.05** **27** PFAKE 02 51 30.0 +12
BLA LR LR
comp=Z,4µm,19.0s
W52A **Murphy** **126.08** **31** *e*PKPdf **PKiKP** 02 51 18.4 **+0.5**
W52A LR LR
comp=Z,2µm,21.0s
V53A **Saluda** **126.19** **30** *e*PKPdf **PKiKP** 02 51 18.6 **+0.5**
V53A LR LR
comp=Z,6µm,19.0s
W53A **Cullowhee** **126.41** **31** P **PKiKP** 02 51 18.7 **0.0**
baz=323
149A **Jones** **126.43** **35** P **PKiKP** 02 51 19.1 **+0.5**
baz=318
Z50A **Ashland** **126.43** **34** *e*PKPdf **PKiKP** 02 51 18.7 **+0.1**
Z50A LR LR
comp=Z,2µm,22.0s
X52A **Dahlonega** **126.48** **32** P **PKiKP** 02 51 18.9 **+0.3**
baz=322
CBN **Corbin Frederi** **126.49** **24** PFAKE 02 51 30.0 +11
CBN LR LR
comp=Z,1µm,22.0s
R58B **Mineral** **126.49** **24** PFAKE 02 51 30.0 +11
R58B LR LR
comp=Z,3µm,18.0s
249A **Camden** **126.69** **36** P **PKiKP** 02 51 19.6 **+0.5**
baz=317
X53A **Estanollee** **126.87** **31** P **PKiKP** 02 51 19.9 **+0.5**
baz=322
Y52A **Lilburn** **126.97** **32** *e*PKPdf **PKiKP** 02 51 20.4 **+0.8**
Y52A LR LR
comp=Z,800nm,20.0s
Y52A **Lilburn** **126.97** **32** P **PKiKP** 02 51 20.2 **+0.6**
baz=321
250A **Grady** **127.19** **36** PFAKE 02 51 30.0 +10
250A LR LR
comp=Z,2µm,20.0s
BRAL **Brewton** **127.32** **37** PFAKE 02 51 30.0 +10
BRAL LR LR
comp=Z,3µm,19.0s
KMSC **Kings Mountain** **127.33** **29** PFAKE 02 51 30.0 +10
KMSC LR LR
comp=Z,7µm,18.0s
PAULI **Pauline** **127.35** **30** *e*PKPdf **PKiKP** 02 51 20.7 **+0.3**
152A **Waverly Hall** **127.53** **34** *e*PKPdf **PKiKP** 02 51 21.3 **+0.5**
152A LR LR
comp=Z,2µm,18.0s
251A **Midway** **127.59** **35** P **PKiKP** 02 51 21.4 **+0.5**
baz=319
HODGE **Hodges** **127.61** **31** *e*PKPdf **PKiKP** 02 51 21.5 **+0.6**
GOGA **Godfrey** **127.63** **32** *e*PKPdf **PKiKP** 02 51 21.4 **+0.5**
GOGA LR LR
comp=Z,1µm,21.0s
GOGA **Godfrey** **127.63** **32** *e*PKIKP **PKiKP** 02 51 21.5 **+0.5**
GOGA MLR MLR
comp=Z,1µm,21.0s
GOGA **Godfrey** **127.63** **32** P **PKiKP** 02 51 20.8 **-0.2**
baz=322
LVIG **Laguna Verde** **127.88** **55** PFAKE 02 51 30.0 +8.2
LVIG LR LR
comp=Z,3µm,19.0s
252A **Lumpkin** **128.03** **34** P **PKiKP** 02 51 22.6 **+0.8**
baz=320
Z54A **Sparta** **128.10** **32** P **PKiKP** 02 51 21.9 **+0.1**
baz=322
352A **Blakely** **128.32** **35** PFAKE 02 51 30.0 +7.6
352A LR LR
comp=Z,3µm,19.0s
253A **Americus** **128.32** **34** PFAKE 02 51 30.0 +7.6
253A LR LR
comp=Z,3µm,18.0s
253A **Americus** **128.32** **34** P **PKiKP** 02 51 23.8 **+1.5**
baz=320
154A **Montrose** **128.44** **32** PFAKE 02 51 30.0 +7.4
154A LR LR
comp=Z,2µm,18.0s
451A **Vernon** **128.49** **36** PFAKE 02 51 30.0 +7.3
451A LR LR
comp=Z,2µm,22.0s
155A **Kite** **128.77** **32** P **PKiKP** 02 51 23.8 **+0.5**
baz=322
CNNC **Cliffs of the** **128.81** **26** PFAKE 02 51 30.0 +6.7
CNNC LR LR
comp=Z,7µm,18.0s
DBIC **Dimbokro** **128.91** **287** PKP **PKPdf** 02 51 23.3 **-0.1**
comp=Z,3.6nm,0.6s,baz=83,slow=2.7,SNR=8.9
TIGA **Tifton** **129.09** **34** PFAKE 02 51 40.0 +16
TIGA LR LR
comp=Z,2µm,21.0s
TIGA **Tifton** **129.09** **34** P **PKiKP** 02 51 24.9 **+0.9**
baz=320
453A **Whigham** **129.13** **35** PFAKE 02 51 40.0 +16
453A LR LR
comp=Z,3µm,18.0s
255A **Hazlehurst** **129.31** **33** PFAKE 02 51 40.0 +16
255A LR LR
comp=Z,2µm,18.0s
NHSC **New Hope** **129.54** **30** PFAKE 02 51 40.0 +15
NHSC LR LR
comp=Z,2µm,18.0s
257A **Skidaway Islan** **130.03** **31** PFAKE 02 51 40.0 +14
257A LR LR
comp=Z,1µm,18.0s
555A **McAlpin** **130.44** **34** PFAKE 02 51 40.0 +13
555A LR LR
comp=Z,2µm,20.0s
456A **Hilliard** **130.49** **33** PFAKE 02 51 40.0 +13
456A LR LR
comp=Z,2µm,20.0s
656A **Willston** **131.26** **35** PFAKE 02 51 40.0 +12
656A LR LR
comp=Z,2µm,18.0s
658A **Bunnell** **131.92** **33** PFAKE 02 51 40.0 +10
658A LR LR
comp=Z,2µm,19.0s
957A **Wimauma** **132.72** **36** PFAKE 02 51 40.0 +8.7
957A LR LR
comp=Z,4µm,18.0s
DWPF **Disney Wildern** **132.84** **35** PFAKE 02 51 40.0 +8.4
DWPF LR LR
comp=Z,2µm,18.0s
059A **Moore Haven** **133.88** **35** PFAKE 02 51 40.0 +6.3
059A LR LR
comp=Z,3µm,18.0s
TEIG **Tepich** **133.88** **48** PFAKE 02 51 40.0 +6.1
TEIG LR LR
comp=Z,700nm,20.0s
060A **Indiantown** **134.27** **35** PFAKE 02 51 50.0 +16
060A LR LR
comp=Z,2µm,18.0s
061Z **Ochoppi** **134.86** **36** PFAKE 02 51 50.0 +14
061Z LR LR
comp=Z,3µm,20.0s
ESTN **Estel** **139.55** **55** PFAKE 02 52 00.0 +14
ESTN LR LR
comp=Z,1µm,20.0s

BOAB	**BOACO BROADBAND**	**140.48**	**55**	PFAKE			02 52 00.0	+13
BOAB				LR	LR			
	comp=Z,1μm,20.0s							
ESPN	**Las Esperanzas**	**141.72**	**55**	PFAKE			02 52 00.0	+10
ESPN				LR	LR			
	comp=Z,1μm,20.0s							
JTS	**JuntasAbangare**	**142.24**	**58**	PFAKE			02 52 00.0	+8.9
JTS				LR	LR			
	comp=Z,700nm,22.0s							
SDDR	**Presa de Saban**	**145.66**	**31**	*e*PKPdf	**PKPab**		**02 51 54.8**	**+0.3**
SDDR				LR	LR			
	comp=Z,2μm,18.0s							
PLCA	**Paso Flores**	**146.26**	**156**	PKPbc	**PKPab**		**02 51 56.0**	**-0.3**
	comp=Z,21nm,0.8s,baz=254,slow=3.1,SNR=34							
PLCA	**Paso Flores**	**146.26**	**156**	*e*PKPdf	**PKPbc**		**02 51 55.8**	**+0.2**
GO06	**Curarrehue**	**146.84**	**154**	*e*PKPdf	**PKPbc**		**02 51 57.1**	**-0.3**
OBIP	**Obispado Ponce**	**148.65**	**25**	*e*PKPbc	**PKiKP**		**02 52 04.1**	**0.0**
SJG	**San Juan**	**148.78**	**24**	PFAKE			02 52 10.0	+3.3
SJG				LR	LR			
	comp=Z,1μm,19.0s							
HUMP	**Col San Antoni**	**148.87**	**24**	*e*PKPbc	**PKPbc**		**02 52 03.8**	**+0.6**
MTP	**Monte Pirata**	**149.03**	**23**	*e*PKPbc	**PKiKP**		**02 52 04.3**	**-0.7**
MTP				LR	LR			
	comp=Z,900nm,19.0s							
SEUS	**St. Eustatius**	**150.50**	**19**	PFAKE			02 52 10.0	+2.0
SEUS				LR	LR			
	comp=Z,800nm,20.0s							
TRQA	**Tornquist**	**151.51**	**165**	*e*PKPdf	**PKPdf**		**02 52 03.8**	**+0.9**
TRQA	**Tornquist**	**151.51**	**165**	*e*PKIKP	**PKPdf**		**02 52 03.8**	**+0.9**
PEL	**Peldehue**	**152.37**	**147**	*e*PKPdf	**PKPdf**		**02 52 06.1**	**+1.7**
PEL	**Peldehue**	**152.37**	**147**	*e*PKIKP	**PKPdf**		**02 52 06.1**	**+1.7**
ROSC	**El Rosal**	**154.00**	**55**	PKP	**PKPdf**		**02 52 08.0**	**+0.2**
	comp=Z,2.7nm,0.4s,baz=235,slow=4.6,SNR=5.9							
ROSC	**El Rosal**	**154.00**	**55**	*e*PKPdf	**PKPdf**		**02 52 08.0**	**+0.2**
ROSC				LR	LR			
	comp=Z,200nm,20.0s							
SDV	**Santo Domingo**	**154.04**	**43**	*e*PKPdf	**PKPdf**		**02 52 08.7**	**+1.2**
CPUP	**Villa Florida**	**163.84**	**167**	PKP	**PKPdf**		**02 52 19.0**	**+0.5**
	comp=Z,7.9nm,1.1s,baz=26,slow=1.4,SNR=7.9							
CPUP				PKPab	**PKPab**		**02 53 11.4**	**+0.7**
	comp=Z,6.4nm,1.1s,baz=211,slow=5.3,SNR=5.4							
CPUP				PP	**PP**		**02 56 58.0**	**+3.1**
	comp=Z,2.8nm,1.1s,baz=203,slow=6.3,SNR=2.8							
CPUP	**Villa Florida**	**163.84**	**167**	*e*PKPdf	**PKPdf**		**02 52 19.4**	**+0.9**
CPUP				*e*PKPab	**PKPab**		**02 53 11.4**	**+0.7**
CPUP				*e*PP	**PP**		**02 56 58.0**	**+3.1**
LPAZ	**La Paz**	**164.41**	**113**	PKP	**PKPdf**		**02 52 21.2**	**+1.3**
	comp=Z,10nm,1.3s,baz=293,slow=1.0,SNR=10							
LPAZ				PKPab	**PKPab**		**02 53 16.4**	**+1.9**
	comp=Z,4.9nm,1.1s,baz=319,slow=3.8,SNR=4.8							
LPAZ	**La Paz**	**164.41**	**113**	*e*PKPdf	**PKPdf**		**02 52 21.7**	**+1.8**
LPAZ				*e*PKPab	**PKPab**		**02 53 16.4**	**+1.9**
PTGA	**Pitinga**	**168.15**	**35**	*e*PKPab	**PKPab**		**02 53 30.2**	**0.0**
BDFB	**Brasília**	**172.85**	**224**	*e*PKPdf	**PKPdf**		**02 52 25.2**	**+0.3**
BDFB	**Brasilia**	**172.85**	**224**	*e*PKIKP	**PKPdf**		**02 52 25.2**	**+0.3**

*ISCJB **30** 02:33:33.6±7.0, 10°.45N±0°.06×126°.7E±0°.1, h16km±49km, mb4.9/29, MS4.3/2, Error ellipse: s-maj=20.6km s-min=9.4km az=164.9*

*IDC **30** 02:33:38.4±0.7, 10°.48N×126°.69E, h36km±5km, mb4.5/17, mb1 4.6/17, mb1mx4.3/52, mbtmp4.7/17, MS3.6/1, Ms1 3.6/1, ms1mx3.1/36, Error ellipse: s-maj=31.1km s-min=15.3km az=82.0*

*NEIC **30** 02:33:39.9±2.6, 10°.46N×126°.76E, h54km±23km, mb4.8/10, Error ellipse: s-maj=12.4km s-min=6.0km az=75.0*

ISC 30 02:33:38.9±0.5, 10°.43N±0°.08×126°.8E±0°.1, h45km±3km, h45km:pP-P, n65, σ0s84/84, mb4.8/29, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**22.90**	**9**	*e*P	**P**	**02 38 38.5**	**-0.5**
	86nm,1.3s						
KS15	**Wonju Array Si**	**26.91**	**2**	*e*P	**P**	**02 39 16.2**	**+0.4**
	19nm,1.0s						
KSAR	**Wonju Array Be**	**26.91**	**2**	P	**P**	**02 39 16.2**	**+0.4**
KSRS	**Korea Array**	**26.93**	**2**	P	**P**	**02 39 16.2**	**+0.3**
	6.7nm,0.9s,baz=174,slow=9.9,SNR=3.1						
PMG	**Port Moresby**	**28.29**	**133**	*e*P	**P**	**02 39 29.1**	**+0.7**
	63nm,1.4s						
FITZ	**Fitzroy Crossi**	**28.37**	**182**	LR	LR	02 51 56.0	
	comp=Z,112nm,19.1s,baz=10,slow=39						
USRK	**Ussuriysk Ar.**	**33.95**	**7**	P	**P**	**02 40 18.5**	**+0.6**
	10.0nm,0.8s,baz=195,slow=8.0,SNR=4.3						
USRK				pP	**pP**	**02 40 28.4**	**+0.7**
	13nm,0.9s,baz=185,slow=9.5,SNR=3.4						
USRK	**Ussuriysk Ar.**	**33.95**	**7**	P	**P**	**02 40 18.5**	**+0.6**
USRK				pP	**pP**	**02 40 28.4**	**+0.7**
AS31	**Alice Springs**	**34.60**	**168**	*e*P	**P**	**02 40 24.2**	**+0.5**
	6.1nm,0.8s						
ASAR	**Alice Springs**	**34.60**	**168**	P	**P**	**02 40 24.2**	**+0.5**
	12nm,0.9s,baz=347,slow=10,SNR=7.0						
ASAR	**Alice Springs**	**34.60**	**168**	P	**P**	**02 40 24.2**	**+0.5**
KLR	**Kul'dur**	**38.90**	**5**	P	**P**	**02 40 59.8**	**-0.2**
	7.5nm,0.8s,baz=192,slow=8.9,SNR=4.6						
KLR				pP	**pP**	**02 41 11.2**	**+1.1**
	5.3nm,0.6s,baz=166,slow=7.1,SNR=2.1						
KLR	**Kul'dur**	**38.90**	**5**	*e*P	**P**	**02 40 59.8**	**-0.2**
KLR				epP	**pP**	**02 41 11.2**	**+1.1**
WAKE	**Wake Island**	**39.47**	**72**	*e*P	**P**	**02 41 02.8**	**-2.4**
	161nm,1.4s						
SONA1	**Songino Array**	**41.05**	**339**	*e*P	**P**	**02 41 17.4**	**-0.7**
EIDS	**Eidsvold**	**42.75**	**147**	*e*P	**P**	**02 41 33.2**	**+1.2**
	19nm,1.0s						
BBOO	**Buckleboo**	**43.90**	**169**	*e*P	**P**	**02 41 42.0**	**+0.7**
	60nm,0.8s						
STKA	**Stephens Creek**	**44.40**	**162**	P	**P**	**02 41 46.5**	**+1.3**
	4.1nm,0.6s,baz=344,slow=10,SNR=3.7						
STKA				pP	**sP**	**02 41 57.3**	**-2.4**
	2.4nm,0.4s,baz=331,slow=8.5,SNR=2.3						
STKA	**Stephens Creek**	**44.40**	**162**	*e*P	**P**	**02 41 46.5**	**+1.3**
STKA				epP	**sP**	**02 41 57.3**	**-2.4**
TLY	**Talaya**	**45.25**	**340**	*e*P	**P**	**02 41 48.9**	**-3.0**
	16nm,1.2s						
PEA0B	**Petropavlovsk-**	**49.29**	**24**	*e*P	**P**	**02 42 23.7**	**+0.5**
	68nm,1.4s						
PETK	**Petropavlovsk-**	**49.29**	**24**	P	**P**	**02 42 23.9**	**+0.6**
	11nm,0.9s,baz=193,slow=5.2,SNR=4.4						
PETK	**Petropavlovsk-**	**49.29**	**24**	*e*P	**P**	**02 42 23.8**	**+0.6**
PEA1	**Petropavlovsk-**	**49.30**	**24**	*e*P	**P**	**02 42 23.9**	**+0.6**
MK31	**Makanchi Array**	**52.20**	**322**	*e*P	**P**	**02 42 44.8**	**-0.5**
	23nm,0.9s						
MK32	**Makanchi Array**	**52.20**	**322**	*e*P	**P**	**02 42 46.1**	**+0.9**
MKAR	**Makanchi Array**	**52.20**	**322**	P	**P**	**02 42 46.1**	**+0.9**
	12nm,0.7s,baz=112,slow=6.3,SNR=6.9						
MKAR	**Makanchi Array**	**52.20**	**322**	*e*P	**P**	**02 42 46.2**	**+0.9**
ZALV	**Zalesovo Beam**	**54.72**	**331**	P	**P**	**02 43 03.2**	**-0.4**
	8.1nm,0.8s,baz=127,slow=6.5,SNR=3.3						
ZALV	**Zalesovo Beam**	**54.72**	**331**	*e*P	**P**	**02 43 03.1**	**-0.5**
ZAA1	**Zalesovo Array**	**54.72**	**331**	*e*P	**P**	**02 43 03.2**	**-0.4**
DCZ	**Deep Cove**	**66.45**	**150**	*e*P	**P**	**02 44 22.8**	**-0.8**
DCZ				epP	**sP**	**02 44 37.3**	**-1.3**
ILAR	**Eielson Array**	**79.08**	**26**	P	**P**	**02 45 38.3**	**0.0**
	1.7nm,0.8s,baz=236,slow=5.4,SNR=3.2						
ILAR				pP	**pP**	**02 45 49.6**	**+0.7**
	3.1nm,1.0s,baz=241,slow=6.3,SNR=3.9						
ILAR	**Eielson Array**	**79.08**	**26**	P	**P**	**02 45 38.3**	**0.0**
ILAR				pP	**pP**	**02 45 49.6**	**+0.7**
ILB	**Eielson Array**	**79.08**	**26**	*e*P	**P**	**02 45 38.3**	**0.0**
	9.9nm,1.4s						
ILB				epP	**pP**	**02 45 49.6**	**+0.7**
INK	**Inuvik**	**83.96**	**22**	P	**P**	**02 46 04.5**	**+0.5**
	3.2nm,0.9s,baz=260,slow=1.8,SNR=3.5						
INK	**Inuvik**	**83.96**	**22**	*e*P	**P**	**02 46 04.5**	**+0.5**
	10nm,1.3s						
ARA0	**ARCESS Array S**	**84.21**	**340**	*e*P	**P**	**02 46 05.4**	**+0.1**
ARCES	**ARCESS Array B**	**84.21**	**340**	P	**P**	**02 46 05.4**	**+0.1**
	14nm,0.9s,baz=80,slow=6.0,SNR=8.0						
ARCES	**ARCESS Array B**	**84.21**	**340**	P	**P**	**02 46 05.4**	**+0.1**
BR101	**Keskin Array S**	**85.81**	**309**	*e*P	**P**	**02 46 13.8**	**-0.3**
BRTR	**Keskin Array B**	**85.81**	**309**	P	**P**	**02 46 13.8**	**-0.3**
	3.6nm,0.7s,baz=109,slow=4.7,SNR=4.3						
BRTR	**Keskin Array B**	**85.81**	**309**	P	**P**	**02 46 13.8**	**-0.3**
FIA0	**FINESS Array S**	**85.98**	**332**	*e*P	**P**	**02 46 14.0**	**-0.2**
FIA0				*e*pP	**pP**	**02 46 25.5**	**+0.7**
FINES	**FINESS Array B**	**85.98**	**332**	P	**P**	**02 46 14.0**	**-0.2**
	13nm,0.9s,baz=36,slow=4.9,SNR=7.8						
FINES				pP	**pP**	**02 46 25.5**	**+0.7**
	3.9nm,0.5s,baz=69,slow=4.5,SNR=2.8						
FINES	**FINESS Array B**	**85.98**	**332**	P	**P**	**02 46 14.0**	**-0.2**
FINES				pP	**pP**	**02 46 25.5**	**+0.7**
AKASG	**Malin Array Be**	**86.75**	**321**	P	**P**	**02 46 18.2**	**0.0**
	21nm,1.2s,baz=60,slow=5.0,SNR=3.2						
AKASG	**Malin Array Be**	**86.75**	**321**	P	**P**	**02 46 18.2**	**0.0**
AKBB	**Malin Array Si**	**86.75**	**321**	*e*P	**P**	**02 46 18.2**	**0.0**
	50nm,1.4s						
AK11	**Malin Array Si**	**86.79**	**321**	*e*P	**P**	**02 46 18.9**	**+0.5**
SUW	**Suwalki**	**89.49**	**325**	*e*P	**P**	**02 46 30.7**	**-0.5**
	44nm,1.0s						
BBB	**Bella Bella**	**90.93**	**36**	LR	LR	03 19 53.8	
	comp=Z,979nm,20.9s,baz=182,slow=30						
RES	**Resolute Bay**	**91.25**	**10**	P	**P**	**02 46 39.7**	**+0.6**
	6.6nm,0.8s,baz=298,slow=5.4,SNR=4.2						
RES				pP	**pP**	**02 46 51.0**	**+1.1**
	8.1nm,0.9s,baz=320,slow=6.4,SNR=4.1						
RES	**Resolute Bay**	**91.25**	**10**	*e*P	**P**	**02 46 39.7**	**+0.6**
RES				epP	**pP**	**02 46 51.0**	**+1.1**
NB200	**NORSAR Array S**	**92.83**	**334**	*e*P	**P**	**02 46 45.8**	**-0.9**
NOA	**NORSAR Array B**	**92.83**	**334**	P	**P**	**02 46 45.8**	**-0.9**
	3.1nm,0.9s,baz=65,slow=4.5,SNR=2.9						
NOA	**NORSAR Array B**	**92.83**	**334**	P	**P**	**02 46 45.8**	**-0.9**
YKA	**Yellowknife Ar**	**93.41**	**24**	P	**P**	**02 46 49.2**	**-0.1**
	2.0nm,0.8s,baz=300,slow=4.8,SNR=4.7						
YKA				pP	**pP**	**02 47 00.0**	**0.0**
	3.0nm,0.9s,baz=300,slow=4.6,SNR=4.3						
YKA	**Yellowknife Ar**	**93.41**	**24**	P	**P**	**02 46 49.2**	**-0.1**
YKA				pP	**pP**	**02 47 00.1**	**0.0**
YKB5	**Yellowknife Ar**	**93.41**	**24**	*e*P	**P**	**02 46 49.2**	**-0.1**
YKB5				epP	**pP**	**02 47 00.1**	**0.0**
TOA1	**Torodi Ar. Sit**	**120.66**	**292**	*e*PKPdf	**PKiKP**	**02 52 27.3**	**+0.3**
TOA1				*e*PKKPbc	**PKKPab**	**03 02 34.0**	**+0.4**
TORD	**Torodi Ar. Bea**	**120.66**	**292**	PKP	**PKiKP**	**02 52 27.3**	**+0.3**
	1.1nm,0.8s,baz=36,slow=1.7,SNR=5.9						
TORD				PKKPab	**PKKPab**	**03 02 34.0**	**+0.4**
	0.6nm,1.0s,baz=290,slow=4.2,SNR=2.5						
TORD	**Torodi Ar. Bea**	**120.66**	**292**	PKP	**PKiKP**	**02 52 27.3**	**+0.3**
TORD				PKKPab	**PKKPab**	**03 02 34.0**	**+0.4**
SPB	**Sao Paulo**	**165.79**	**202**	*e*PKPab	**PKPab**	**02 54 37.6**	**-1.2**
PTGA	**Pitinga**	**168.27**	**35**	*e*PKPdf	**PKPdf**	**02 53 41.1**	**-0.7**

*IDC **30** 02:40:47.5±1.1, 37°.28N×143°.91E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/59, mbtmp3.6/5, ML2.9/1, Error ellipse: s-maj=51.9km s-min=22.8km az=120.0*

*ISCJB **30** 02:40:51.4±0.7, 37°.44N±0°.03×143°.52E±0°.05, h50km, mb3.8/4, Error ellipse: s-maj=6.1km s-min=4.6km az=3.4*

*JMA **30** 02:40:51.3±0.2, 37°.50N×143°.57E, h51km, M3.9*

ISC 30 02:40:52.5±1.1, 37°.50N±0°.04×143°.62E±0°.07, h50km, n22, σ1s78/38, mb3.9/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.89**	**296**	P	**Pn**	**02 41 21.6**	**-0.7**
JIKH				S	**Sn**	**02 41 43.7**	**-1.2**
JIO	**Ouri**	**2.04**	**299**	P	**Pn**	**02 41 23.7**	**-0.6**
JIO				S	**Sn**	**02 41 47.4**	**-1.1**
JKMT	**Kesennumamotoy**	**2.14**	**308**	P	**Pn**	**02 41 25.0**	**-0.8**
JKMT				S	**Sn**	**02 41 49.9**	**-1.2**
JFK	**Kawauchi**	**2.19**	**267**	P	**Pn**	**02 41 25.5**	**-1.0**
JFK				S	**Sn**	**02 41 50.6**	**-1.8**
OFUJ	**Ofunato**	**2.21**	**316**	P	**Pn**	**02 41 25.6**	**-1.0**
OFUJ				*e*S	**Sn**	**02 41 51.2**	**-1.5**
JMK	**Ichinoseki**	**2.39**	**308**	P	**Pn**	**02 41 28.8**	**-0.3**
JMK				S	**Sn**	**02 41 56.4**	**-0.7**
JFT	**Otama**	**2.61**	**271**	P	**Pn**	**02 41 32.3**	**+0.1**
JFT				S	**Sn**	**02 42 02.3**	**-0.5**
JOM	**Ohasama**	**2.69**	**318**	P	**Pn**	**02 41 32.9**	**-0.4**
JOM				S	**Sn**	**02 42 04.1**	**-0.5**
JYK	**Kaneyama**	**2.94**	**300**	P	**Pn**	**02 41 36.9**	**+0.3**
JYK				S	**Sn**	**02 42 10.5**	**-0.2**
JANG	**Nango**	**3.31**	**331**	P	**Pn**	**02 41 41.5**	**-0.3**
JANG				*e*S	**Sn**	**02 42 18.5**	**-1.3**
JAG	**Ashikaga**	**3.51**	**253**	P	**Pn**	**02 41 44.1**	**-0.4**
JAG				S	**Sn**	**02 42 22.8**	**-1.9**
BSO1	**Boso 1**	**3.56**	**218**	P	**Pn**	**02 41 42.9**	**-1.8**
BSO1				*e*S	**Sn**	**02 42 23.8**	**-1.3**
JRY	**Ryogami san**	**4.07**	**250**	P	**Pn**	**02 41 51.2**	**-1.0**
JRY				S	**Sn**	**02 42 35.2**	**-3.4**
JOD2	**Odawara 2**	**4.29**	**240**	P	**Pn**	**02 41 54.4**	**-0.8**
JOD2				S	**Sn**	**02 42 40.3**	**-3.6**
MJAR	**Matsushiro Arr**	**4.44**	**259**	Pn	**Pn**	**02 41 58.2**	**+0.9**
	0.5nm,0.3s,baz=90,slow=15,SNR=8.6						
MAT	**Matsushiro**	**4.44**	**259**	P	**Pn**	**02 41 59.5**	**+2.2**
MAT				*e*S	**Sn**	**02 42 45.2**	**-2.5**
JKB	**Kayabe**	**4.82**	**336**	*e*S	**Sn**	**02 42 53.5**	**-3.4**
JCH	**Churui**	**5.12**	**358**	P	**Pn**	**02 42 04.9**	**-1.6**
JCH				*e*S	**Sn**	**02 42 59.7**	**-4.5**
ILAR	**Eielson Array**	**48.16**	**33**	P	**P**	**02 49 29.1**	**+1.8**
	0.7nm,0.8s,baz=261,slow=6.3,SNR=4.8						
INK	**Inuvik**	**53.17**	**27**	P	**P**	**02 50 07.5**	**+2.7**
	1.2nm,1.1s,baz=299,slow=4.1,SNR=4.1						
WRA	**Warramunga Arr**	**57.80**	**190**	P	**P**	**02 50 38.8**	**+0.1**
	0.6nm,0.6s,baz=12,slow=7.5,SNR=9.4						
FITZ	**Fitzroy Crossi**	**57.83**	**200**	P	**P**	**02 50 40.7**	**+1.8**
	0.8nm,0.8s,baz=40,slow=7.9,SNR=3.6						

WEL 30 02:43:15.9, 44°.5S±1°.1×17°.3E±1°.1, h21km±1km, ML4.0/24, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKCZ	**Akaroa Harbour**	**0.24**	**73**	P	Pb	02 43 22.9	+1.0
AKCZ				S	Sb	02 43 26.7	+0.5
MQZ	**McQueen's Vall**	**0.24**	**10**	P	Pb	02 43 22.7	+0.7
MQZ				S	Sb	02 43 26.5	+0.3
CRLZ	**Canterbury Las**	**0.37**	**3**	P	Pn	02 43 24.9	-1.1
CRLZ				S	Sb	02 43 30.3	+1.5
RACZ	**Rakaia**	**0.40**	**303**	P	Pn	02 43 25.4	-0.9
OKCZ	**Okains Bay**	**0.40**	**57**	P	Pn	02 43 25.4	-1.0
EYCZ	**Eyrewell**	**0.55**	**341**	P	Pn	02 43 28.1	-0.4
OXZ	**Oxford**	**0.74**	**327**	P	Pb	02 43 30.3	+0.3
AMCZ	**Amberley**	**0.77**	**3**	P	Pn	02 43 31.0	-0.4
RPZ	**Rata Peaks**	**1.14**	**281**	P	Pn	02 43 36.6	0.0
RPZ	**Rata Peaks**	**1.14**	**281**	*e*PcP	Pn	02 43 32.5	-4.1
LTZ	**Lake Taylor**	**1.19**	**348**	P	Pn	02 43 36.8	-0.4
INZ	**Inchbonnie**	**1.48**	**325**	P	Pb	02 43 42.5	-0.2
WVZ	**Waitaha Valley**	**1.61**	**302**	P	Pn	02 43 43.1	+0.1
KHZ	**Kahutara**	**1.68**	**25**	P	Pn	02 43 43.4	-0.5
ODZ	**Otahua Downs**	**1.78**	**231**	P	Pn	02 43 45.3	-0.1
ODZ	**Otahua Downs**	**1.78**	**231**	*e*PcP	Pn	02 43 45.5	+0.2
LBZ	**Lake Benmore**	**1.79**	**255**	P	Pn	02 43 45.8	+0.3
FOZ	**Fox Glacier**	**2.06**	**281**	P	Pn	02 43 50.7	+1.6
THZ	**Tophouse**	**2.19**	**6**	P	Pn	02 43 50.8	-0.3
DSZ	**Denniston Nort**	**2.27**	**345**	P	Pn	02 43 52.4	+0.2
HHSZ	**Highcliff Hill**	**2.41**	**216**	P	Pn	02 43 53.8	-0.1
BSWZ	**Blackbirch Sta**	**2.42**	**23**	P	Pn	02 43 54.3	+0.2
EAZ	**Earnscleugh**	**2.68**	**240**	P	Pn	02 43 58.0	+0.3
TUWZ	**Tuamarina**	**2.70**	**22**	P	Pn	02 43 58.3	+0.2
WKZ	**Wanaka**	**2.71**	**250**	P	Pn	02 43 58.7	+0.4
JCZ	**Jackson Bay**	**2.75**	**266**	P	Pn	02 43 59.0	+0.2
NNZ	**Nelson**	**2.79**	**12**	P	Pn	02 43 59.6	+0.4
TUZ	**Tuapeka**	**2.91**	**225**	P	Pn	02 44 00.9	0.0
TCW	**Tory Channel**	**3.00**	**25**	P	Pn	02 44 01.7	-0.4
BHW	**Baring Head**	**3.04**	**34**	P	Pn	02 44 02.0	-0.7
PLWZ	**Palliser**	**3.08**	**40**	P	Pn	02 44 02.3	-0.9
QRZ	**Quartz Range**	**3.12**	**359**	P	Pn	02 44 04.0	+0.3
DUWZ	**D'Urville Isla**	**3.29**	**18**	P	Pn	02 44 07.8	+1.6
CAW	**Cannon Point**	**3.37**	**34**	P	Pn	02 44 06.5	-0.8
TRWZ	**Traveller**	**3.42**	**43**	P	Pn	02 44 06.9	-1.0
MSZ	**Milford Sound**	**3.43**	**256**	P	Pn	02 44 08.4	+0.3
MLZ	**Mavora Lakes**	**3.50**	**244**	P	Pn	02 44 09.1	+0.1
MTW	**Mount Morrison**	**3.52**	**39**	P	Pn	02 44 07.9	-1.3
KIW	**Kapiti Island**	**3.52**	**30**	P	Pn	02 44 08.8	-0.6
SYZ	**Scrubby Hill**	**3.56**	**222**	P	Pn	02 44 10.2	+0.4
SYZ				P	Pn	02 44 10.2	+0.4
OGWZ	**Otaki Gorge**	**3.66**	**32**	P	Pn	02 44 10.6	-0.6
MRZ	**Mangatainoka R**	**3.96**	**35**	P	Pn	02 44 14.3	-1.0
BFZ	**Birch Farm**	**4.24**	**41**	P	Pn	02 44 17.6	-1.6
APZ	**The Paps**	**4.34**	**227**	P	Pn	02 44 20.7	+0.1
TSZ	**Takapari Road**	**4.62**	**34**	P	Pn	02 44 23.2	-1.2
KHEZ	**Kahui Hut**	**4.77**	**13**	P	Pn	02 44 28.8	+2.3
NBEZ	**Newall Road No**	**4.77**	**12**	P	Pn	02 44 28.1	+1.6
PKE	**Pukeiti**	**4.86**	**13**	P	Pn	02 44 29.4	+1.6
VRZ	**Vera Road**	**5.08**	**19**	P	Pn	02 44 31.9	+1.1

*ISCJB **30** 02:47:36.6±0.6, 10°.55N±0°.07×126°.95E±0°.06, h20km, mb3.9/13, MS3.2/1, Error ellipse: s-maj=10.2km s-min=7.9km az=10.7*

*MAN **30** 02:47:37.6, 10°.63N×126°.97E, h50km, mb4.6, ML3.5, MS3.3*

*IDC **30** 02:47:40.6±0.9, 10°.48N×126°.87E, h37km±6km, mb3.7/13, mb1 3.9/13, mb1mx3.6/57, mbtmp3.9/13, MS3.4/1, Ms1 3.4/1, ms1mx2.7/38, Error ellipse: s-maj=37.7km s-min=15.6km az=71.0*

ISC 30 02:47:38.2±0.7, 10°.58N±0°.08×126°.90E±0°.09, h20km, n19, σ0s90/23, mb3.9/13, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.60**	**241**	*e*P	**Pn**	**02 48 05.2**	**-0.2**
BESP	**Borongan**	**1.76**	**305**	*e*P	**Pn**	**02 48 07.2**	**-0.4**
BESP				*e*S	**Sn**	**02 48 28.5**	**-1.0**
MSLP	**Maasin**	**2.06**	**258**	*e*P	**Pn**	**02 48 11.8**	**+0.1**
MSLP				*e*S	**Sn**	**02 48 37.7**	**+0.9**
RCP	**Roxas**	**4.20**	**284**	*e*P	**Pn**	**02 48 41.5**	**+0.4**
JNU	**Nakatsue**	**22.74**	**9**	LR	LR	03 02 10.9	
	comp=Z,81nm,18.5s,baz=279,slow=38						
WRA	**Warramunga Arr**	**31.20**	**166**	P	**P**	**02 53 54.8**	**-1.5**
	1.0nm,1.1s,baz=344,slow=9.2,SNR=5.6						
ASAR	**Alice Springs**	**34.71**	**169**	P	**P**	**02 54 26.3**	**-0.7**
	0.4nm,0.5s,baz=353,slow=6.4,SNR=7.4						
KLR	**Kul'dur**	**38.74**	**5**	P	**P**	**02 55 02.0**	**+0.9**
	1.0nm,0.5s,baz=190,slow=4.8,SNR=6.3						
STKA	**Stephens Creek**	**44.49**	**162**	P	**P**	**02 55 48.6**	**+0.2**
	0.5nm,0.2s,baz=321,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**52.16**	**322**	P	**P**	**02 56 48.6**	**+1.2**
	2.0nm,0.8s,baz=120,slow=8.3,SNR=22						
MKAR				pP	**pwP**	**02 56 59.1**	**-1.6**
	2.3nm,0.8s,baz=116,slow=8.2,SNR=10						
ZALV	**Zalesovo Beam**	**54.66**	**331**	P	**P**	**02 57 04.9**	**-0.7**
	0.5nm,0.4s,baz=104,slow=9.1,SNR=3.4						
KURBB	**Kurchatov Arra**	**56.18**	**325**	P	**P**	**02 57 17.1**	**+0.5**
	0.9nm,0.5s,baz=125,slow=6.8,SNR=8.8						
KURBB				pP	**pwP**	**02 57 28.2**	**-1.7**
	1.3nm,0.4s,baz=120,slow=6.7,SNR=6.0						
ILAR	**Eielson Array**	**78.90**	**26**	P	**P**	**02 59 40.8**	**+0.9**
	0.3nm,0.9s,baz=260,slow=1.3,SNR=4.2						
ARCES	**ARCESS Array B**	**84.12**	**340**	P	**P**	**03 00 07.6**	**+0.1**
	3.0nm,0.9s,baz=79,slow=6.5,SNR=7.6						
BRTR	**Keskin Array B**	**85.82**	**309**	P	**P**	**03 00 16.5**	**-0.3**
	0.5nm,0.7s,baz=136,slow=4.7,SNR=3.7						
FINES	**FINESS Array B**	**85.92**	**332**	P	**P**	**03 00 16.8**	**+0.2**
	1.2nm,0.4s,baz=56,slow=4.3,SNR=12						
RES	**Resolute Bay**	**91.09**	**10**	P	**P**	**03 00 41.6**	**+0.6**
	1.0nm,0.7s,baz=289,slow=4.2,SNR=3.6						
YKA	**Yellowknife Ar**	**93.23**	**24**	P	**P**	**03 00 51.4**	**+0.3**
	0.4nm,0.8s,baz=303,slow=4.5,SNR=6.0						
YKA				pP	**pwP**	**03 01 02.9**	**-0.8**
	0.2nm,0.7s,baz=302,slow=5.4,SNR=3.4						
TORD	**Torodi Ar

MW5.4,Error ellipse: s-maj=4.3km s-min=2.1km az=40.0
NEIC Felt at Bandon, Eugene, North Bend and Salem.
*GCMT **30** 03:14:28.5±0.1,43.47N±0.01×127.83W±0.01,h12km, MW5.4/131,Moment Tensor Solution. s87,c139; s131,c296; Duration: 1t2 Moment tensor: Scale 10^{17} Nm; M_{rr}0.05±.02; $M_{\theta\theta}$-0.96±.02; $M_{\phi\phi}$0.91±.02; $M_{r\theta}$-0.11±.04; $M_{r\phi}$-1.08±.01; $M_{\theta r}$0.13±.04; Best double couple: $M_0$1.43900×10^{17} NP1:ϕ_s20.00000°,δ88.00000°, λ-6.00000°. NP2:ϕ_s111.00000°,δ84.00000°, λ-178.00000°. Principal axes: T 1.4100, Plg3.0000°, Azm66.0000°; N 0.0580, Plg83.0000°, Azm184.0000°; P -1.4680, Plg6.0000°, Azm335.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*ISCJB **30** 03:14:28.5±0.6,43.61N±0.02×127.47W±0.02,h24km±4km, mb5.0/81,MS4.9/54 Error ellipse: s-maj=3.1km s-min=2.1km az=140.0*
*NEIC **30** 03:14:28.0±0.0,43.47N×127.60W,h11km,Moment Tensor Solution. s71 Moment tensor: Scale 10^{17}Nm; M_{rr}0.05; $M_{\theta\theta}$-0.92; $M_{\phi\phi}$0.87; $M_{r\theta}$-0.02; $M_{\theta\phi}$-1.00; $M_{\phi r}$0.16; Best double couple: $M_0$1.40000×10^{17} NP1:ϕ_s21.00000°, δ86.00000°,λ6.00000°. NP2:ϕ_s291.00000°,δ84.00000°, λ176.00000°. Principal axes: T 1.3400, Plg6.0000°, Azm246.0000°; N 0.0300, Plg82.0000°, Azm51.0000°; P -1.3700, Plg1.0000°, Azm155.0000°;*

ISC 30 03:14:28.9±0.6,43.56N±0.05×127.63W±0.04,h18km±2km, h18km:pP-P,n1157,σ1.50/1141,mb5.0/94,MS4.9/55, 25C-13D,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**2.51**	**105**	*e*Pn	**Pn**	**03 15 04.9**	**-3.9**
J01E	**Myrtle Point**	**2.73**	**97**	P	**Pn**	**03 15 07.9**	**-3.8**
	baz=281,SNR=187						
K02D	**Willamette Mer**	**3.03**	**105**	P	**Pn**	**03 15 12.2**	**-3.7**
	baz=289,SNR=716						
I03D	**Drain, OR**	**3.11**	**86**	P	**Pn**	**03 15 13.9**	**-3.2**
	baz=270,SNR=1000						
I03D				S	**Sn**	**03 15 50.7**	**-3.1**
	baz=270						
L02E	**Cave Junction**	**3.28**	**114**	P	**Pn**	**03 15 16.1**	**-3.2**
	baz=298,SNR=121						
COR	**Corvallis**	**3.29**	**70**	*e*Pn	**Pn**	**03 15 17.2**	**-2.2**
COR				*e*Sn	**Sn**	**03 15 57.5**	**-0.5**
COR	**Corvallis**	**3.29**	**70**	*e*P	**Pn**	**03 15 17.2**	**-2.2**
COR				*e*		03 15 57.5	
G03D	**McMinnville, O**	**3.54**	**61**	P	**Pn**	**03 15 20.7**	**-2.2**
	baz=245,SNR=849						
G03D				S	**Sn**	**03 16 03.9**	**-0.5**
	baz=245						
HUMO	**Hull Mountain**	**3.55**	**104**	*e*Pn	**Pn**	**03 15 19.9**	**-3.2**
HUMO				*e*Sn	**Sn**	**03 16 02.4**	**-2.4**
H04D	**Lebanon**	**3.66**	**73**	P	**Pn**	**03 15 22.9**	**-1.7**
	baz=258,SNR=242						
I04A	**Tendick Farm,**	**3.79**	**85**	P	**Pn**	**03 15 24.4**	**-2.1**
	baz=269,SNR=161						
JCC	**Jacoby Creek,**	**3.83**	**134**	*e*Pn	**Pn**	**03 15 26.3**	**-0.6**
KHMM	**Horse Mountain**	**3.95**	**131**	*e*Pn	**Pn**	**03 15 26.3**	**-2.4**
J04D	**Umpqua Nationa**	**4.04**	**93**	P	**Pn**	**03 15 28.6**	**-1.4**
	baz=278,SNR=168						
YBH	**Yreka Blue Hor**	**4.06**	**115**	Pn	**Pn**	**03 15 28.3**	**-1.9**
	16nm,0.3s,baz=296,slow=13,SNR=181						
L04D	**Klamath Falls**	**4.14**	**107**	P	**Pn**	**03 15 29.6**	**-1.6**
	baz=292,SNR=61						
M02C	**Callahan**	**4.14**	**120**	P	**Pn**	**03 15 29.1**	**-2.2**
	baz=304,SNR=17						
F04D	**Rainier, OR**	**4.15**	**51**	P	**Pn**	**03 15 29.7**	**-1.5**
	baz=235,SNR=82						
F04D				S	**Sn**	**03 16 19.3**	**0.0**
	baz=235						
K04D	**Chiloquin, OR**	**4.41**	**100**	P	**Pn**	**03 15 33.0**	**-2.0**
	baz=285,SNR=33						
KMRM	**Mail Ridge**	**4.43**	**137**	*e*Pn	**Pn**	**03 15 34.9**	**-0.4**
N02D	**Trinity Center**	**4.47**	**124**	P	**Pn**	**03 15 34.2**	**-1.6**
	baz=308,SNR=18						
I05D	**Terrebonne, OR**	**4.61**	**78**	P	**Pn**	**03 15 36.0**	**-1.7**
	baz=263,SNR=190						
M04C	**Macdoel**	**4.62**	**111**	P	**Pn**	**03 15 36.6**	**-1.4**
	baz=296,SNR=15						
NLWA	**Neilton Lookou**	**4.66**	**33**	*e*Pn	**Pn**	**03 15 36.8**	**-1.5**
J05D	**Fort Rock, OR**	**4.67**	**91**	P	**Pn**	**03 15 36.4**	**-2.2**
	baz=277,SNR=52						
E04D	**Cinebar**	**4.68**	**48**	P	**Pn**	**03 15 37.1**	**-1.4**
	baz=232,SNR=82						
WDC	**Whiskeytown Da**	**4.82**	**126**	*e*Pn	**Pn**	**03 15 39.9**	**-0.6**
WDC	**Whiskeytown Da**	**4.82**	**126**	*e*P	**Pn**	**03 15 39.9**	**-0.6**
G05D	**Wamic, OR**	**4.83**	**67**	P	**Pn**	**03 15 39.7**	**-1.0**
	baz=253,SNR=194						
PINE	**Pine Mountain**	**4.86**	**85**	*e*Pn	**Pn**	**03 15 39.4**	**-1.8**
KCPM	**Cahto Peak**	**4.92**	**140**	*e*Pn	**Pn**	**03 15 40.6**	**-1.3**
O02D	**Mt. Diablo Mer**	**4.95**	**131**	P	**Pn**	**03 15 41.8**	**-0.6**
	baz=316,SNR=16						
F05D	**White Salmon**	**4.98**	**60**	P	**Pn**	**03 15 42.1**	**-0.6**
	baz=245,SNR=221						
D04E	**Lakebay**	**4.99**	**42**	P	**Pn**	**03 15 41.7**	**-1.0**
	baz=226,SNR=23						
D03D	**Eldon**	**5.10**	**37**	P	**Pn**	**03 15 42.5**	**-1.9**
	baz=221,SNR=66						
LON	**Longmire**	**5.21**	**50**	*e*Pn	**Pn**	**03 15 45.2**	**-0.8**
LON				*e*Sn	**Sn**	**03 16 46.2**	**+0.6**
LON	**Longmire**	**5.21**	**50**	*e*P	**Pn**	**03 15 45.2**	**-0.8**
LON				*e*		03 16 46.2	
D05A	**Enumclaw**	**5.38**	**46**	*e*Pn	**Pn**	**03 15 47.8**	**-0.5**
D05A				*e*Sn	**Sn**	**03 16 50.9**	**+1.1**
O03E	**Paynes Creek**	**5.43**	**125**	P	**Pn**	**03 15 48.6**	**-0.5**
	baz=310,SNR=7.8						
MOD	**Modoc Plateau**	**5.65**	**105**	*e*Pn	**Pn**	**03 15 50.1**	**-1.9**
HOPS	**Hopland Field**	**5.71**	**141**	*e*Pn	**Pn**	**03 15 51.5**	**-1.2**
PGC	**Sidney**	**5.87**	**28**	*e*Pn	**Pn**	**03 15 53.5**	**-1.3**
I07A	**Izee**	**5.91**	**82**	*e*Pn	**Pn**	**03 15 53.9**	**-1.6**
F07A	**Phinny Hill Vi**	**5.97**	**64**	*e*Pn	**Pn**	**03 15 55.4**	**-0.9**
GDXM	**Geysers**	**5.98**	**141**	*e*Pn	**Pn**	**03 15 56.2**	**-0.4**
B05A	**Bryant**	**6.09**	**37**	P	**Pn**	**03 15 56.8**	**-1.1**
	baz=222,SNR=41						
ORV	**Oroville**	**6.09**	**129**	*e*Pn	**Pn**	**03 15 58.4**	**+0.4**
ORV	**Oroville**	**6.09**	**129**	*e*P	**Pn**	**03 15 58.4**	**+0.4**
LTY	**Liberty**	**6.14**	**51**	*e*Pn	**Pn**	**03 15 58.3**	**-0.5**
A04D	**Lummi Island**	**6.20**	**32**	P	**Pn**	**03 15 58.6**	**-0.7**
	baz=216,SNR=19						
E07A	**Sunnyside**	**6.27**	**59**	*e*Pn	**Pn**	**03 15 59.7**	**-0.8**
HAWA	**Hanford**	**6.41**	**61**	*e*Pn	**Pn**	**03 16 01.5**	**-0.8**
C06D	**Leavenworth**	**6.43**	**45**	P	**Pn**	**03 16 01.9**	**-0.7**
	baz=230,SNR=63						
G08A	**Pilot Rock**	**6.45**	**71**	*e*Pn	**Pn**	**03 16 01.4**	**-1.6**
MCCM	**Marconi Confer**	**6.50**	**145**	*e*Pn	**Pn**	**03 16 03.1**	**-0.4**
B06A	**Marblemount**	**6.55**	**39**	*e*Pn	**Pn**	**03 16 03.2**	**-1.1**
B06A				*e*Sn	**Sn**	**03 17 19.1**	**+0.6**
BEKR	**Beckworth**	**6.57**	**122**	*e*Pn	**Pn**	**03 16 06.5**	**+1.8**
J08A	**Circle Bar Ran**	**6.67**	**89**	*e*Pn	**Pn**	**03 16 04.3**	**-1.7**
WVOR	**Wild Horse Val**	**6.69**	**97**	*e*Pn	**Pn**	**03 16 04.0**	**-2.3**
WVOR	**Wild Horse Val**	**6.69**	**97**	*e*P	**Pn**	**03 16 04.0**	**-2.3**
E08A	**Dider Farm, El**	**6.75**	**61**	*e*Pn	**Pn**	**03 16 06.0**	**-1.0**
AFDM	**Forest Hills D**	**6.81**	**130**	*e*Pn	**Pn**	**03 16 08.4**	**+0.5**
D08A	**Wollman Farm,**	**7.07**	**57**	*e*Pn	**Pn**	**03 16 10.5**	**-0.9**
PAHR	**Pah Rah Range**	**7.28**	**119**	*e*Pn	**Pn**	**03 16 16.2**	**+1.8**
E09A	**Wood Farm, Sta**	**7.34**	**63**	*e*Pn	**Pn**	**03 16 13.2**	**-2.0**
VCNR	**Virginia City**	**7.35**	**123**	*e*Pn	**Pn**	**03 16 18.2**	**+2.7**
PNTR	**Pine Nut**	**7.51**	**124**	*e*Pn	**Pn**	**03 16 19.9**	**+2.2**
B08A	**Colville Reser**	**7.52**	**47**	*e*Pn	**Pn**	**03 16 16.0**	**-1.6**
BMO	**Blue Mountains**	**7.53**	**77**	*e*Pn	**Pn**	**03 16 16.1**	**-1.8**
BMO	**Blue Mountains**	**7.53**	**77**	*e*P	**Pn**	**03 16 16.1**	**-1.8**
CMB	**Columbia Colle**	**7.78**	**133**	*e*Pn	**Pn**	**03 16 23.5**	**+2.2**
CMB	**Columbia Colle**	**7.78**	**133**	*e*P	**Pn**	**03 16 23.5**	**+2.2**
F10A	**Beach Ranch, E**	**7.79**	**68**	*e*Pn	**Pn**	**03 16 19.4**	**-2.0**
YERR	**Yerington**	**7.79**	**123**	*e*Pn	**Pn**	**03 16 22.7**	**+1.2**
C09A	**Chrisman Ranch**	**7.81**	**54**	*e*Pn	**Pn**	**03 16 20.6**	**-1.0**
WAKR	**Walker**	**7.99**	**126**	*e*Pn	**Pn**	**03 16 26.4**	**+2.2**
LLLB	**Lillooet**	**8.07**	**27**	*e*Pn	**Pn**	**03 16 25.4**	**+0.2**
SAO	**San Andreas Ge**	**8.27**	**143**	*e*Pn	**Pn**	**03 16 26.7**	**-1.2**
SAO	**San Andreas Ge**	**8.27**	**143**	*e*P	**Pn**	**03 16 26.7**	**-1.2**
RYN	**Ryan**	**8.46**	**123**	*e*Pn	**Pn**	**03 16 29.4**	**-1.2**
KVN	**Kaiserville**	**8.47**	**119**	*e*Pn	**Pn**	**03 16 31.3**	**+0.5**
KVN	**Kaiserville**	**8.47**	**119**	*e*P	**Pn**	**03 16 31.3**	**+0.5**
MFID	**Camas Ranch**	**8.59**	**87**	*e*Pn	**Pn**	**03 16 30.5**	**-1.8**
BBB	**Bella Bella**	**8.64**	**358**	Pn	**Pn**	**03 16 34.6**	**+1.7**
	2.3nm,0.3s,baz=176,slow=14,SNR=14						
NEW	**Newport**	**8.71**	**54**	Pn	**Pn**	**03 16 32.9**	**-1.0**
	3.1nm,0.3s,baz=226,slow=10,SNR=72						
NEW				LR	LR	03 19 54.1	
	comp=Z,14μm,20.0s,baz=244,slow=38						
NEW	**Newport**	**8.71**	**54**	*e*Pn	**Pn**	**03 16 32.6**	**-1.3**
NEW	**Newport**	**8.71**	**54**	*e*P	**Pn**	**03 16 32.6**	**-1.3**
	baz=242						
NV01	**Mina Array Sit**	**8.71**	**123**	*e*Pn	**Pn**	**03 16 35.9**	**+1.7**
NVAR	**Mina Array Bea**	**8.71**	**123**	Pn	**Pn**	**03 16 35.2**	**+1.0**
	1.8nm,0.3s,baz=294,slow=13,SNR=40						
NVAR				LR	LR	03 19 53.5	
	comp=Z,7μm,20.3s,baz=308,slow=37						
MDPB	**Devils Postpil**	**8.79**	**129**	*e*Pn	**Pn**	**03 16 38.5**	**+3.3**
NV11	**Mina Array Sit**	**8.80**	**122**	*e*Pn	**Pn**	**03 16 37.5**	**+2.1**
OMMB	**Old Mammoth Mi**	**8.85**	**129**	*e*Pn	**Pn**	**03 16 39.0**	**+2.9**
MLAC	**Mammoth, Mammo**	**8.93**	**129**	P	**Pn**	**03 16 36.5**	**-0.7**
	baz=315						
HLID	**Hailey**	**9.60**	**85**	*e*Pn	**Pn**	**03 16 46.6**	**+0.3**
HLID	**Hailey**	**9.60**	**85**	P	**Pn**	**03 16 45.8**	**-0.5**
	baz=275						
VOG	**Valley Oaks Go**	**9.61**	**136**	P	**Pn**	**03 16 46.4**	**+0.2**
	baz=322						
ELK	**Elko**	**9.62**	**103**	Pn	**Pn**	**03 16 48.0**	**+1.4**
	0.4nm,0.3s,baz=294,slow=13,SNR=21						
ELK				LR	LR	03 20 07.3	
	comp=Z,1μm,19.4s,baz=285,slow=35						
ELK	**Elko**	**9.62**	**103**	*e*Pn	**Pn**	**03 16 47.8**	**+1.1**
ELK	**Elko**	**9.62**	**103**	*e*P	**Pn**	**03 16 47.8**	**+1.1**
TIN	**Tinemaha, Big**	**9.68**	**129**	P	**Pn**	**03 16 47.7**	**+0.4**
	baz=316						
SMMC	**Simmler**	**10.12**	**142**	P	**Pn**	**03 16 52.9**	**-0.5**
	baz=327						
VES	**Vestal, Richgr**	**10.13**	**137**	P	**Pn**	**03 16 54.1**	**+0.8**
	baz=323						
DIB	**Dawson Inlet,**	**10.17**	**343**	*e*Pn	**Pn**	**03 16 57.7**	**+3.8**
CWC	**Cottonwood Cre**	**10.20**	**131**	P	**Pn**	**03 16 57.1**	**+2.6**
	baz=318						
MSO	**Missoula**	**10.20**	**67**	*e*Pn	**Pn**	**03 16 53.1**	**-1.4**
MSO	**Missoula**	**10.20**	**67**	P	**Pn**	**03 16 52.9**	**-1.5**
	baz=257						
GRAC	**Grapevine Rang**	**10.21**	**126**	P	**Pn**	**03 16 57.4**	**+2.8**
	baz=314						
R11A	**Troy Canyon, C**	**10.49**	**116**	*e*Pn	**Pn**	**03 17 01.4**	**+3.0**
R11A	**Troy Canyon, C**	**10.49**	**116**	P	**Pn**	**03 16 60.0**	**+1.5**
	baz=304						
PKM	**Mcpherson Peak**	**10.56**	**142**	P	**Pn**	**03 16 59.5**	**0.0**
	baz=328						
ISA	**Isabella, Lake**	**10.58**	**135**	*e*Pn	**Pn**	**03 17 02.2**	**+2.6**
ISA	**Isabella, Lake**	**10.58**	**135**	P	**Pn**	**03 17 01.5**	**+1.9**
	baz=321						
DAC	**Darwin (Calif)**	**10.59**	**130**	*e*Pn	**Pn**	**03 17 02.1**	**+2.2**
DAC	**Darwin (Calif)**	**10.59**	**130**	*e*P	**Pn**	**03 17 02.1**	**+2.2**
MCMT	**McKenzie Canyo**	**10.70**	**78**	*e*Pn	**Pn**	**03 17 01.3**	**-0.1**
MPMC	**Manual Prospec**	**10.81**	**130**	P	**Pn**	**03 17 05.1**	**+2.2**
	baz=317						
ARVC	**Arvin**	**10.82**	**138**	P	**Pn**	**03 17 03.9**	**+1.0**
	baz=324						
FURC	**Furnace Creek,**	**10.87**	**127**	P	**Pn**	**03 17 06.4**	**+2.9**
	baz=314						
DLMT	**Dillon**	**10.90**	**75**	*e*Pn	**Pn**	**03 17 03.5**	**-0.6**
TPNV	**Topopah Spring**	**10.91**	**123**	*e*Pn	**Pn**	**03 17 08.8**	**+4.6**
TPNV	**Topopah Spring**	**10.91**	**123**	P	**Pn**	**03 17 05.4**	**+1.2**
	baz=311						
WALA	**Waterton Lakes**	**10.97**	**55**	*e*Pn	**Pn**	**03 17 04.1**	**-0.8**
SBC	**Santa Barbara**	**10.98**	**143**	P	**Pn**	**03 17 06.6**	**+1.6**
	baz=329						
LRM	**Limekiln Ridge**	**11.05**	**73**	*e*Pn	**Pn**	**03 17 04.6**	**-1.5**
HVU	**Hansel Valley**	**11.09**	**94**	*e*Pn	**Pn**	**03 17 06.8**	**+0.2**
HVU	**Hansel Valley**	**11.09**	**94**	*e*P	**Pn**	**03 17 06.8**	**+0.2**
LRMC	**Laurel Mtn Rad**	**11.13**	**133**	P	**Pn**	**03 17 08.4**	**+1.1**
	baz=320						
BGU	**Big Grassy Mou**	**11.14**	**99**	*e*Pn	**Pn**	**03 17 07.6**	**+0.2**
OSI	**Osito Audit: C**	**11.29**	**139**	P	**Pn**	**03 17 09.4**	**+0.1**
	baz=325						
SCZ2	**Santa Cruz Isl**	**11.40**	**144**	P	**Pn**	**03 17 11.1**	**+0.3**
	baz=330						
EDW2	**Edwards Air Fo**	**11.43**	**136**	P	**Pn**	**03 17 12.3**	**+1.0**
	baz=323						
SPUT	**South Promonto**	**11.45**	**96**	*e*Pn	**Pn**	**03 17 13.1**	**+1.6**
DUG	**Dugway, Tooele**	**11.55**	**102**	*e*Pn	**Pn**	**03 17 13.0**	**0.0**
DUG	**Dugway, Tooele**	**11.55**	**102**	P	**Pn**	**03 17 12.5**	**-0.4**
	baz=292						
PSUT	**Pine Spring**	**11.55**	**111**	*e*Pn	**Pn**	**03 17 15.5**	**+2.5**
BLG	**Laguna Peak, P**	**11.55**	**142**	P	**Pn**	**03 17 13.8**	**+0.9**
	baz=328						
BOZ	**Bozeman (W)**	**11.60**	**74**	*e*Pn	**Pn**	**03 17 12.8**	**-0.8**
BOZ	**Bozeman (W)**	**11.60**	**74**	*e*P	**Pn**	**03 17 12.8**	**-0.8**
BOZ	**Bozeman (W)**	**11.60**	**74**	P	**Pn**	**03 17 12.9**	**-0.6**
	baz=266						
HRY	**Holter Researc**	**11.60**	**69**	*e*Pn	**Pn**	**03 17 12.1**	**-1.4**
SHOC	**Shoshone, Teco**	**11.61**	**127**	P	**Pn**	**03 17 16.8**	**+3.2**
	baz=315						
GSC	**Goldstone, Bar**	**11.74**	**131**	*e*Pn	**Pn**	**03 17 18.7**	**+3.2**
GSC	**Goldstone, Bar**	**11.74**	**131**	*e*P	**Pn**	**03 17 18.7**	**+3.2**
GSC	**Goldstone, Bar**	**11.74**	**131**	P	**Pn**	**03 17 18.5**	**+3.0**
	baz=318						
DECC	**Green Verdugo**	**11.77**	**139**	P	**Pn**	**03 17 16.0**	**+0.1**
	baz=325						
SHPR	**Sheep Range**	**11.87**	**122**	*e*Pn	**Pn**	**03 17 20.1**	**+2.8**
YHB	**Horse Butte**	**11.87**	**79**	*e*Pn	**Pn**	**03 17 17.6**	**+0.2**
PASC	**Pasadena Art C**	**11.91**	**139**	*e*Pn	**Pn**	**03 17 19.2**	**+1.5**
MWC	**Mount Wilson**	**11.93**	**138**	*e*Pn	**Pn**	**03 17 19.8**	**+1.7**
MWC	**Mount Wilson**	**11.93**	**138**	*e*P	**Pn**	**03 17 19.8**	**+1.7**
RRX	**Edison Barstow**	**11.96**	**133**	P	**Pn**	**03 17 19.1**	**+0.7**
	baz=320						
YMR	**Madison River**	**12.04**	**79**	*e*Pn	**Pn**	**03 17 20.4**	**+0.7**
FXWY	**Fox Creek**	**12.04**	**84**	*e*Pn	**Pn**	**03 17 21.1**	**+1.3**
AHID	**Auburn Hatcher**	**12.10**	**88**	*e*Pn	**Pn**	**03 17 21.4**	**+0.9**
BFSC	**Mount Baldy Ra**	**12.11**	**137**	P	**Pn**	**03 17 19.5**	**-1.1**
	baz=324						
TPAW	**Teton Pass**	**12.11**	**85**	*e*Pn	**Pn**	**03 17 21.2**	**+0.4**
YFT	**Old Faithful**	**12.13**	**80**	*e*Pn	**Pn**	**03 17 22.5**	**+1.5**
CTU	**Camp Tracy**	**12.14**	**98**	*e*Pn	**Pn**	**03 17 23.1**	**+2.1**
TUQ	**Turquoise Moun**	**12.14**	**128**	P	**Pn**	**03 17 21.5**	**+0.5**
	baz=316						
YPP	**Pitchstone Pla**	**12.16**	**81**	*e*Pn	**Pn**	**03 17 22.7**	**+1.3**
NLU	**North Lily Min**	**12.16**	**102**	*e*Pn	**Pn**	**03 17 21.2**	**-0.2**
REDW	**Red Top Meadow**	**12.20**	**85**	*e*Pn	**Pn**	**03 17 23.4**	**+1.5**
FMP	**Fort Macarthur**	**12.23**	**140**	P	**Pn**	**03 17 22.5**	**+0.3**
	baz=327						
MOOW	**Moose Ponds**	**12.24**	**83**	*e*Pn	**Pn**	**03 17 23.6**	**+1.1**
YNR	**Norris Junctio**	**12.24**	**79**	*e*Pn	**Pn**	**03 17 24.0**	**+1.6**
FLWY	**Flagg Ranch**	**12.25**	**82**	*e*Pn	**Pn**	**03 17 23.8**	**+1.3**
TCUT	**Toone Canyon**	**12.25**	**96**	*e*Pn	**Pn**	**03 17 23.4**	**+0.7**
SNOW	**Snow King Moun**	**12.26**	**85**	*e*Pn	**Pn**	**03 17 24.6**	**+1.9**
H17A	**Grant Village**	**12.32**	**80**	*e*Pn	**Pn**	**03 17 25.4**	**+1.9**
H17A	**Grant Village**	**12.32**	**80**	P	**Pn**	**03 17 24.3**	**+0.7**
	baz=322						
HEC	**Hector,Ludlow**	**12.35**	**131**	P	**Pn**	**03 17 26.1**	**+2.3**
	baz=319						
LOHW	**Long Hollow**	**12.35**	**84**	*e*Pn	**Pn**	**03 17 25.2**	**+1.2**
JLU	**Jordanelle**	**12.38**	**98**	*e*Pn	**Pn**	**03 17 24.7**	**+0.2**
CCUT	**Cedar City**	**12.39**	**114**	*e*Pn	**Pn**	**03 17 28.3**	**+3.7**
CIS	**Catalina Islan**	**12.44**	**142**	P	**Pn**	**03 17 26.4**	**+1.4**
	baz=328						
CRAG	**Craig**	**12.44**	**345**	*e*Pn	**Pn**	**03 17 28.5**	**+3.7**
LKWY	**Lake**	**12.44**	**79**	*e*Pn	**Pn**	**03 17 26.9**	**+1.7**
LKWY	**Lake**	**12.44**	**79**	*e*P	**Pn**	**03 17 26.9**	**+1.7**
MPU	**Maple Canyon**	**12.46**	**101**	*e*Pn	**Pn**	**03 17 25.4**	**+0.1**
BBRC	**Big Bear Solar**	**12.47**	**135**	P	**Pn**	**03 17 25.5**	**0.0**
	baz=322						
TCRU	**Three Creeks R**	**12.47**	**108**	*e*Pn	**Pn**	**03 17 29.1**	**+3.5**
SZCU	**Shurtz Canyon**	**12.55**	**113**	*e*Pn	**Pn**	**03 17 30.4**	**+3.7**
MSU	**Marysvale**	**12.71**	**108**	*e*Pn	**Pn**	**03 17 31.4**	**+2.6**
MSU	**Marysvale**	**12.71**	**108**	*e*P	**Pn**	**03 17 31.4**	**+2.6**
SCI2	**San Clemente I**	**12.73**	**143**	P	**Pn**	**03 17 30.1**	**+1.0**
	baz=329						
GMRC	**Granite Mounta**	**12.76**	**129**	P	**Pn**	**03 17 31.6**	**+2.1**
	baz=317						
LCMT	**Little Creek M**	**12.78**	**116**	*e*Pn	**Pn**	**03 17 30.6**	**+0.9**
MURC	**Murrieta**	**12.85**	**137**	P	**Pn**	**03 17 32.1**	**+1.4**
	baz=324						
LDFC	**Landfair**	**12.86**	**127**	*e*Pn	**Pn**	**03 17 33.0**	**+2.1**
MTPU	**Mount Pierson**	**12.93**	**110**	*e*Pn	**Pn**	**03 17 36.0**	**+4.0**
GCMT	**Greycliff**	**12.98**	**74**	*e*Pn	**Pn**	**03 17 33.1**	**+0.6**
KNB	**Kanab**	**13.05**	**115**	*e*Pn	**Pn**	**03 17 36.7**	**+3.2**
KNB	**Kanab**	**13.05**	**115**	*e*P	**Pn**	**03 17 36.7**	**+3.2**
BELC	**Belle Mtn. Jos**	**13.15**	**133**	P	**Pn**	**03 17 36.6**	**+1.7**
	baz=320						
PFO	**Pinyon Flats O**	**13.21**	**135**	LR	LR	03 22 37.4	
	comp=Z,9μm,18.0s,baz=326,slow=37						
PFO	**Pinyon Flats O**	**13.21**	**135**	*e*Pn	**Pn**	**03 17 36.7**	**+1.0**
PFO	**Pinyon Flats O**	**13.21**	**135**	*e*P	**Pn**	**03 17 36.7**	**+1.0**
PFO	**Pinyon Flats O**	**13.21**	**135**	P	**Pn**	**03 17 36.1**	**+0.5**
	baz=322						
XPFO	**Pion Flat**	**13.22**	**135**	*e*Pn	**Pn**	**03 17 36.7**	**+1.0**
BW06	**Boulder Array**	**13.22**	**87**	*e*Pn	**Pn**	**03 17 36.1**	**+0.2**
BW06	**Boulder Array**	**13.22**	**87**	P	**Pn**	**03 17 36.4**	**+0.5**
	baz=280						
PD31	**Pinedale Array**	**13.22**	**87**	*e*Pn	**Pn**	**03 17 36.5**	**+0.6**
PDAR	**Pinedale Array**	**13.22**	**87**	Pn	**Pn**	**03 17 35.9**	**0.0**
	0.3nm,0.3s,baz=267,slow=11,SNR=50						
PDAR				LR	LR	03 23 00.0	
	comp=Z,9μm,18.4s,baz=283,slow=39						
PDAR	**Pinedale Array**	**13.22**	**87**	*e*Pn	**Pn**	**03 17 35.5**	**-0.3**
Q16A	**Castle Valley**	**13.22**	**105**	*e*Pn	**Pn**	**03 17 39.3**	**+3.4**
WRAK	**Wrangell Islan**	**13.22**	**348**	*e*Pn	**Pn**	**03 17 38.8**	**+3.2**
RLMT	**Red Lodge**	**13.24**	**77**	*e*Pn	**Pn**	**03 17 36.2**	**+0.1**
RLMT	**Red Lodge**	**13.24**	**77**	P	**Pn**	**03 17 36.0**	**-0.1**
	baz=270						
EGMT	**Eagleton**	**13.25**	**64**	*e*Pn	**Pn**	**03 17 34.9**	**-1.1**
EGMT	**Eagleton**	**13.25**	**64**	P	**Pn**	**03 17 34.8**	**-1.2**
	baz=257						
P17A	**Butcher Ranch,**	**13.30**	**102**	*e*Pn	**Pn**	**03 17 39.4**	**+2.6**
NEE2	**Needles Airpor**	**13.36**	**127**	P	**Pn**	**03 17 39.4**	**+1.7**
	baz=315						
109C	**Camp Elliot, M**	**13.47**	**139**	P	**Pn**	**03 17 39.5**	**+0.4**
	baz=326						
CPE	**Camp Elliot**	**13.47**	**139**	*e*Pn	**Pn**	**03 17 41.3**	**+2.2**
IRM	**Iron Mountain**	**13.50**	**130**	P	**Pn**	**03 17 40.5**	**+1.0**
	baz=318						
W13A	**Hualapai Mount**	**13.57**	**124**	*e*Pn	**Pn**	**03 17 43.0**	**+2.4**
SRU	**San Rafael Swe**	**13.60**	**103**	*e*Pn	**Pn**	**03 17 43.9**	**+2.9**
SRU	**San Rafael Swe**	**13.60**	**103**	*e*P	**Pn**	**03 17 43.9**	**+2.9**
BC3	**Big Chuckawall**	**13.71**	**132**	P	**Pn**	**03 17 43.8**	**+1.4**
	baz=320						
U15A	**North Rim**	**13.74**	**116**	*e*Pn	**Pn**	**03 17 46.5**	**+3.5**
MONP2	**Monument Peak**	**13.80**	**137**	P	**Pn**	**03 17 44.6**	**+0.8**
	baz=324						
BAR	**Barrett**	**13.85**	**138**	*e*Pn	**Pn**	**03 17 46.8**	**+2.5**
PDMCI	**Parker Dam,Lak**	**13.97**	**127**	P	**Pn**	**03 17 46.9**	**+1.0**
	baz=316						
SWSC	**Sam W. Stewart**	**14.08**	**135**	P	**Pn**	**03 17 48.5**	**+1.2**
	baz=323						
Y12C	**Blythe**	**14.15**	**129**	*e*Pn	**Pn**	**

comp=Z,10nm,0.7s,baz=206,slow=11,SNR=64
YKA LR LR 03 26 20.0
comp=Z,92nm,19.7s,baz=210,slow=35
YKB5 Yellowknife Ar 20.45 17 *eP* **P 03 19 04.0 -1.1**
YKB5 *ePcP* **PcP 03 23 17.2 +0.8**
YKW3 Yellowknife Ar 20.51 17 *eP* **P 03 19 05.3 -0.3**
SUSD Miller 20.61 78 P **P 03 19 07.1 +0.1**
baz=278
DIV Divide 20.67 335 *eP* Pn 03 19 09.5 -0.4
GLI Glacier Island 20.91 333 *eP* Pn 03 19 11.6 -1.0
KLU Klutina 21.00 335 *eP* Pn 03 19 12.7 -1.0
KDAK Kodiak Island 21.11 321 P **P 03 19 13.3 +1.1**
comp=Z,120nm,0.9s,baz=128,slow=6.5,SNR=22
KDAK LR LR 03 25 16.3
comp=Z,8μm,21.1s,baz=119,slow=31
OHAK Old Harbor 21.15 319 *eP* **P 03 19 13.3 +0.6**
MNTX Cornudas Mount 21.16 117 *eP* **P 03 19 14.5 +1.5**
MNTX Cornudas Mount 21.16 117 P **P 03 19 13.7 +0.7**
baz=311
SEW Seward 21.19 329 *eP* **P 03 19 14.9 +1.8**
CPRX Cap Rock 21.34 112 *eP* **P 03 19 19.9 +4.8**
CBKS Cedar Bluff 21.47 93 *eP* **P 03 19 18.6 +2.2**
CBKS Cedar Bluff 21.47 93 *eP* **P 03 19 18.6 +2.2**
CBKS Cedar Bluff 21.47 93 P **P 03 19 15.6 -0.8**
baz=292
HARP HAARP 21.49 338 *eP* **P 03 19 18.6 +2.2**
GDL2 Guadalupe Moun 21.51 114 *eP* **P 03 19 20.0 +3.1**
BRLK Bradley Lake 21.53 327 *eP* **P 03 19 17.6 +0.8**
MSTX Muleshoe 21.55 108 *eP* **P 03 19 17.8 +0.5**
MSTX Muleshoe 21.55 108 P **P 03 19 16.9 -0.4**
baz=304
DAWY Dawson 21.62 346 *eP* **P 03 19 18.4 +0.6**
KNK Knik Glacier 21.75 333 *eP* **P 03 19 20.2 +1.1**
HOM Homer 21.77 326 *eP* **P 03 19 21.2 +1.9**
CLNB Carlsbad 21.79 113 *eP* **P 03 19 23.1 +3.2**
BGNE Belgrade 21.80 85 *eP* **P 03 19 24.1 +4.2**
BGNE Belgrade 21.80 85 P **P 03 19 18.5 -1.3**
baz=286
AMTX Amarillo 21.82 105 *eP* **P 03 19 21.2 +1.0**
AMTX Amarillo 21.82 105 P **P 03 19 20.4 +0.2**
baz=302
RC01 Rabbit Creek A 21.96 331 *eP* **P 03 19 22.5 +1.1**
SML Sawmill 21.99 333 *eP* **P 03 19 23.0 +1.2**
SML Sawmill 21.99 333 *eP* **P 03 19 23.0 +1.2**
PMR Palmer 22.10 332 *eP* **P 03 19 23.5 +0.7**
PMR Palmer 22.10 332 *eP* **P 03 19 23.5 +0.7**
ECSD EROS Data Cent 22.39 79 *eP* **P 03 19 25.9 -0.2**
ECSD EROS Data Cent 22.39 79 P **P 03 19 25.8 -0.3**
baz=281
SCRK Sand Creek 22.49 341 *eP* **P 03 19 28.4 +1.2**
RIDG Independ'e Rid 22.50 340 *eP* **P 03 19 29.2 +2.0**
ULM Lac du Bonnet 22.59 62 P **P 03 19 26.9 -1.2**
comp=Z,44nm,0.8s,baz=273,slow=9.7,SNR=47
ULM LR LR 03 28 28.3
comp=Z,6μm,19.8s,baz=268,slow=37
ULM Lac du Bonnet 22.59 62 *eP* **P 03 19 27.0 -1.2**
DHY Denali Highway 22.65 336 *eP* **P 03 19 29.5 +0.6**
RSO Redoubt South 22.70 327 *eP* **P 03 19 30.8 +1.3**
U32A Winter Ranch, 23.01 98 *eP* **P 03 19 33.1 +0.4**
CHGN Chignik 23.33 314 *eP* **P 03 19 39.7 +3.9**
RND Reindeer 23.34 336 *eP* **P 03 19 37.4 +1.5**
RND Reindeer 23.34 336 *eP* **P 03 19 37.4 +1.5**
EPYK Eagle Plains 23.40 351 *eP* **P 03 19 36.7 +0.2**
EPYK Eagle Plains 23.40 351 P **P 03 19 36.7 +0.2**
baz=163
HDA Harding Lake 23.59 339 *eP* **P 03 19 40.2 +1.9**
HDA Harding Lake 23.59 339 P **P 03 19 39.4 +1.1**
baz=143
MCK McKinley 23.61 336 *eP* **P 03 19 39.1 +0.6**
MCK McKinley 23.61 336 *eP* **P 03 19 39.1 +0.6**
KSU1 Kansas State U 23.64 90 *eP* **P 03 19 40.1 +1.0**
KSU1 Kansas State U 23.64 90 P **P 03 19 38.6 -0.4**
baz=291
TRF Thorofare Moun 23.81 335 *eP* **P 03 19 41.0 +0.4**
LTX Lajitas 23.83 119 *eP* **P 03 19 41.5 +0.6**
LTX Lajitas 23.83 119 *eP* **P 03 19 41.6 +0.6**
TX31 Lajitas Ar. Si 23.83 119 *eP* **P 03 19 41.6 +0.7**
TXAR Lajitas Array 23.83 119 P **P 03 19 41.5 +0.5**
comp=Z,15nm,0.8s,baz=299,slow=8.2,SNR=36
TXAR LR LR 03 29 04.2
comp=Z,2μm,21.6s,baz=0.0,slow=37
IL1 Eielson Array 23.86 340 *eP* **P 03 19 39.9 -1.0**
ILAR Eielson Array 23.86 340 P **P 03 19 40.3 -0.6**
comp=Z,19nm,0.8s,baz=151,slow=8.5,SNR=158
ILAR PcP **PcP 03 23 23.9 +0.6**
comp=Z,7.9nm,0.9s,baz=174,slow=2.5,SNR=8.6
ILAR LR LR 03 27 26.4
comp=Z,4μm,21.7s,baz=152,slow=33
ILB Eielson Array 23.86 340 *eP* **P 03 19 41.0 +0.1**
ILB *ePcP* **PcP 03 23 23.9 +0.6**
WRH Wood River Hil 23.94 338 *eP* **P 03 19 42.2 +0.6**
WMOK Wichita Mounta 23.95 102 *eP* **P 03 19 42.2 +0.2**
WMOK Wichita Mounta 23.95 102 *eP* **P 03 19 42.3 +0.2**
WMOK Wichita Mounta 23.95 102 P **P 03 19 41.6 -0.4**
baz=300
PPLA Purkeypile 24.04 332 *eP* **P 03 19 43.5 +0.7**
LPIG La Paz 24.07 138 LR LR 03 28 09.8
comp=Z,4μm,19.8s,baz=328,slow=34
BWN Browne 24.10 336 *eP* **P 03 19 44.2 +1.1**
PRP Porcupine Dome 24.15 342 *eP* **P 03 19 44.6 +0.8**
COLA College 24.19 339 *eP* **P 03 19 45.0 +1.1**
COLA College 24.19 339 *d iP* **P 03 19 44.1 +0.2**
COLA pmax pmax
comp=Z,29nm,1.0s
COLA College 24.19 339 *eP* **P 03 19 44.6 +0.7**
TCOL CIGO, UAF Yank 24.20 339 P **P 03 19 44.2 +0.2**
baz=142
POKR Poker Plat Res 24.28 340 P **P 03 19 45.7 +0.9**
baz=143
MDM Murphy Dome 24.36 339 *eP* **P 03 19 45.6 +0.1**
CAST Castle Rocks 24.36 333 *eP* **P 03 19 45.8 +0.2**
ABTX Abilene, Hawle 24.47 107 *eP* **P 03 19 47.5 +0.6**
ABTX Abilene, Hawle 24.47 107 P **P 03 19 46.7 -0.1**
baz=305
BPAW Bear Paw Mtn. 24.50 335 *eP* **P 03 19 46.6 -0.2**
SLBS Sierra La Lagu 24.60 138 *eP* **P 03 19 50.4 +2.3**
SPMN Marine on St. 24.83 74 *eP* **P 03 19 51.7 +1.7**
SPMN Marine on St. 24.83 74 P **P 03 19 50.3 +0.3**
baz=279
F37A Hinrichs Farm, 24.89 73 P **P 03 19 50.4 0.0**
baz=278
FYU Fort Yukon 24.98 343 *eP* **P 03 19 52.1 +1.1**
INK Inuvik 25.00 355 P **P 03 19 50.7 -0.5**
comp=Z,21nm,0.9s,baz=158,slow=11,SNR=39
INK LR LR 03 29 12.0
comp=Z,5μm,19.4s,baz=170,slow=35
MLY Manley 25.11 337 *eP* **P 03 19 52.4 +0.1**
SCIA State Center 25.23 82 P **P 03 19 52.8 -0.8**
baz=286
H38A Maiden Rock 25.29 75 P **P 03 19 53.8 -0.2**
baz=280
F38A Pierce - Schro 25.37 72 P **P 03 19 55.1 +0.2**
baz=278
EYMN Ely 25.44 67 *eP* **P 03 19 54.9 -0.6**
EYMN Ely 25.44 67 P **P 03 19 54.6 -0.9**
baz=274
G38A Ridgeland 25.50 74 P **P 03 19 54.8 -1.2**
baz=279
E38A The Farm, Brul 25.52 70 *eP* **P 03 19 58.8 +2.6**
E38A The Farm, Brul 25.52 70 P **P 03 19 56.0 -0.1**
baz=277
TUL1 Leonard 25.54 97 *eP* **P 03 19 56.8 +0.4**
TUL1 Leonard 25.54 97 P **P 03 19 56.6 +0.1**
baz=297
FCC Fort Churchill 25.61 42 *eP* **P 03 19 58.2 +1.4**
JCT Junction City 25.64 111 *eP* **P 03 19 57.8 +0.4**
JCT Junction City 25.64 111 *eP* **P 03 19 57.8 +0.4**
JCT Junction City 25.64 111 P **P 03 19 57.4 0.0**
baz=309
J39A Decorah 25.96 78 P **P 03 20 00.2 0.0**
baz=283
G39A Holcombe 25.96 73 P **P 03 20 00.1 -0.2**
baz=280
I39A Houston 25.98 77 *eP* **P 03 20 00.5 0.0**
I39A Houston 25.98 77 P **P 03 20 00.4 0.0**
baz=282
K39A Oelwein 25.98 79 P **P 03 20 00.0 -0.4**
baz=284
H39A Augusta 25.99 75 P **P 03 20 00.5 +0.1**
baz=281
F39A Loretta 26.04 72 P **P 03 20 01.3 +0.3**
baz=278
L39A Vinton 26.05 81 P **P 03 20 01.0 0.0**
baz=286
M39A Webster 26.10 82 P **P 03 20 01.5 0.0**
baz=287
E39A Mellen 26.23 71 P **P 03 20 02.9 +0.2**
baz=278
WHTX Lake Whitney, 26.36 106 *eP* **P 03 20 04.5 +0.6**
WHTX Lake Whitney, 26.36 106 P **P 03 20 04.0 +0.2**
baz=305
K40A Colesburg 26.52 79 P **P 03 20 05.1 -0.2**
baz=285
F40A Park Falls 26.59 72 P **P 03 20 06.1 +0.2**
baz=279
M40A Post Highland 26.60 82 P **P 03 20 05.9 -0.1**
baz=287
I40A Norwalk 26.61 76 P **P 03 20 06.5 +0.4**
baz=282
L40A Anamosa 26.62 81 *eP* **P 03 20 07.8 +1.6**
L40A Anamosa 26.62 81 P **P 03 20 05.9 -0.3**
baz=286
H40A Chili 26.62 75 P **P 03 20 06.5 +0.2**
baz=281
J40A Soldiers Grove 26.63 77 P **P 03 20 06.6 +0.2**
baz=283
G40A Rib Lake 26.64 73 *eP* **P 03 20 06.8 +0.4**
G40A Rib Lake 26.64 73 P **P 03 20 06.6 +0.2**
baz=280
COLD Coldfoot 26.64 341 *eP* **P 03 20 07.2 +1.1**
IM3 Indian Mountai 26.66 336 *eP* **P 03 20 06.4 +0.1**
N40A Mertquake, Sal 26.70 83 P **P 03 20 07.2 +0.3**
baz=288
HHAR Hobbs 26.71 94 *eP* **P 03 20 07.7 +0.6**
435B Jarrell 26.97 108 *eP* **P 03 20 11.2 +1.8**
435B Jarrell 26.97 108 P **P 03 20 09.4 -0.1**
baz=307
JFWS Jewell Farm 27.10 78 P **P 03 20 10.2 -0.2**
baz=284
I41A Arkdale 27.10 76 P **P 03 20 10.8 +0.2**
baz=282
K41A Shullsburg 27.14 79 P **P 03 20 10.3 -0.5**
baz=285
L41A Preston 27.14 80 P **P 03 20 10.2 -0.6**
baz=286
H41A Junction City 27.14 74 P **P 03 20 10.3 -0.6**
baz=282
J41A Loganville 27.16 77 P **P 03 20 11.0 0.0**
baz=284
N41A Harden Midland 27.28 83 P **P 03 20 11.3 -0.8**
baz=288
833A Chaparral WMA, 27.29 115 *eP* **P 03 20 14.2 +1.9**
833A Chaparral WMA, 27.29 115 P **P 03 20 12.5 +0.3**
baz=312
M41A Milan 27.30 82 P **P 03 20 11.7 -0.6**
baz=287
E41A Kenton 27.31 70 P **P 03 20 12.4 0.0**
baz=278
UNV Unalaska Valle 27.31 306 *eP* **P 03 20 14.4 +2.1**
W39A Magazine 27.32 96 *eP* **P 03 20 12.1 -0.4**
W39A Magazine 27.32 96 P **P 03 20 11.9 -0.6**
baz=298
F41A The Lakes 27.32 72 *eP* **P 03 20 18.6 +6.1**
F41A Three Lakes 27.32 72 P **P 03 20 11.2 -1.3**
baz=280
G41A Antigo 27.36 73 P **P 03 20 12.9 +0.1**
baz=281
O41A Passleys Farm, 27.45 84 P **P 03 20 12.2 -1.5**
baz=290
U40A Yellville 27.46 93 P **P 03 20 13.2 -0.6**
baz=296
P41A Barry, Barry 27.47 85 P **P 03 20 12.4 -1.4**
baz=290
Q41A Truxton 27.60 87 P **P 03 20 13.9 -1.1**
baz=292
R41A Rosebud 27.74 88 P **P 03 20 15.1 -1.1**
baz=293
L42A Oliver, Polo 27.75 80 *eP* **P 03 20 16.7 +0.3**
L42A Oliver, Polo 27.75 80 P **P 03 20 15.9 -0.5**
baz=286
S41A Jillco Farms, 27.75 90 P **P 03 20 15.8 -0.7**
baz=294
K42A Prairie Point, 27.77 78 P **P 03 20 15.1 -1.5**
baz=285
MIAR Mount Ida 27.78 97 *eP* **P 03 20 17.1 +0.5**
MIAR Mount Ida 27.78 97 *eP* **P 03 20 17.1 +0.5**
MIAR Mount Ida 27.78 97 P **P 03 20 16.6 -0.1**
baz=299
J42A Columbus 27.80 77 P **P 03 20 16.3 -0.5**
baz=284
I42A Draeger Farm, 27.82 76 P **P 03 20 17.6 +0.7**
baz=283
N42A Yates City 27.84 83 P **P 03 20 17.1 0.0**
baz=288
M42A Sheffield 27.84 81 P **P 03 20 17.4 +0.3**
baz=287
G42A Mountain 27.88 73 *eP* **P 03 20 19.9 +2.5**
G42A Mountain 27.88 73 P **P 03 20 16.9 -0.6**
baz=281
CCM Cathedral Cave 27.93 89 *eP* **P 03 20 18.9 +0.9**
CCM Cathedral Cave 27.93 89 *eP* **P 03 20 18.9 +0.9**
CCM Cathedral Cave 27.93 89 P **P 03 20 16.9 -1.1**
baz=293
H42A Shiocton 27.95 74 P **P 03 20 17.8 -0.3**
baz=282
T41A Mountain View 27.96 91 P **P 03 20 18.1 -0.2**
baz=295
F42A Maple Grove Fa 27.99 72 P **P 03 20 18.4 0.0**
baz=280
O42A Bath 28.01 84 P **P 03 20 18.0 -0.6**
baz=290
P42A Winchester 28.02 85 *eP* **P 03 20 18.9 +0.1**
P42A Winchester 28.02 85 P **P 03 20 17.6 -1.2**
baz=291
E42A Champion 28.03 70 P **P 03 20 19.0 +0.2**
baz=279
Q42A Golden Eagle 28.13 87 P **P 03 20 18.7 -1.1**
baz=292
U41A Viola 28.15 93 P **P 03 20 19.3 -0.6**
baz=296
R42A Luebbering 28.17 88 P **P 03 20 20.0 -0.2**
baz=293
V41A Mountainview 28.23 94 P **P 03 20 20.0 -0.6**
baz=297
J43A Natural Harves 28.28 77 P **P 03 20 19.6 -1.5**
baz=284
X40A Basin Creek Fa 28.34 97 *eP* **P 03 20 22.5 +0.9**
X40A Basin Creek Fa 28.34 97 P **P 03 20 20.8 -0.8**
baz=299
WHAR Wooly Hollow 28.36 95 *eP* **P 03 20 21.8 +0.1**
I43A Langenfeld Bro 28.36 75 P **P 03 20 20.2 -1.5**
baz=284
L43A Garden Prairie 28.36 79 P **P 03 20 20.6 -1.2**
baz=286
S42A Caledonia 28.37 89 P **P 03 20 21.1 -0.8**
baz=294
N43A Stutzman Famil 28.42 82 P **P 03 20 21.9 -0.4**
baz=288
M43A Waltham Townsh 28.43 81 P **P 03 20 22.4 0.0**
baz=288
W41B Gary Mavity, V 28.44 95 *eP* **P 03 20 23.8 +1.3**
W41B Gary Mavity, V 28.44 95 P **P 03 20 22.4 -0.1**
baz=298
NATX Nacogdoches 28.45 103 *eP* **P 03 20 24.8 +2.2**
HDIL Hopedale 28.46 83 *eP* **P 03 20 24.7 +2.1**
HDIL Hopedale 28.46 83 P **P 03 20 22.1 -0.5**
baz=289
T42A Van Buren 28.46 91 *eP* **P 03 20 23.4 +0.7**
T42A Van Buren 28.46 91 P **P 03 20 22.3 -0.3**
baz=295
O43A Sugar Creek Fa 28.53 83 P **P 03 20 22.7 -0.6**
baz=290
P43A Skaggs, Pawnee 28.60 85 P **P 03 20 23.3 -0.6**
baz=291
U42A Revenden 28.64 92 P **P 03 20 23.6 -0.7**
baz=296
F43A Flat Rock, Esc 28.64 71 P **P 03 20 24.2 0.0**
baz=280
V42A Cord 28.77 93 P **P 03 20 24.0 -1.4**
baz=297
Y41A Eaglette Beard 28.80 98 P **P 03 20 25.2 -0.5**
baz=300
R43A Red Bud 28.80 88 P **P 03 20 25.2 -0.5**
baz=293
S43A Fulton Ridge, 28.97 89 P **P 03 20 26.5 -0.8**
baz=294
Z41A Richland Creek 28.98 99 P **P 03 20 26.8 -0.5**
baz=301
T43A Greenville 29.02 90 P **P 03 20 26.3 -1.4**
baz=295
PBMO Poplar Bluff 29.04 91 *eP* **P 03 20 28.7 +0.8**
O44A Mansfield 29.19 83 P **P 03 20 28.5 -0.6**
baz=290
N44A Piper City 29.21 82 P **P 03 20 28.8 -0.5**
baz=289
Q44A Meyer Farm, Va 29.23 86 P **P 03 20 29.1 -0.5**
baz=292
ZAIG Zacatecas 29.30 127 *eP* **P 03 20 32.5 +1.9**
P44A Sand Creek, Wi 29.31 84 P **P 03 20 29.8 -0.5**
baz=291
R44A Waltonville 29.43 87 P **P 03 20 30.8 -0.5**
baz=293
S44A Carbondale 29.52 88 P **P 03 20 31.2 -0.9**
baz=294
LNIG Linares 29.60 120 *eP* **P 03 20 33.2 +0.3**
ANM Nome 29.82 328 *eP* **P 03 20 35.6 +1.1**
ANM Nome 29.82 328 *eP* **P 03 20 35.6 +1.1**
Q45A Warren Harvey, 29.86 85 P **P 03 20 34.2 -0.9**
baz=292
P45A Graceland, Par 29.92 84 *eP* **P 03 20 37.6 +2.0**
P45A Graceland, Par 29.92 84 P **P 03 20 34.9 -0.7**
baz=291
OLIL Olney 29.96 86 *eP* **P 03 20 37.7 +1.8**
R45A Skylar, Fairfi 29.99 86 P **P 03 20 35.8 -0.5**
baz=293
SFIN Lafayette 30.10 82 *eP* **P 03 20 39.5 +2.3**
SFIN Lafayette 30.10 82 P **P 03 20 36.4 -0.8**
baz=290
L46A Eue Claire 30.16 78 P **P 03 20 36.5 -1.3**
baz=287
N46A Monticello 30.19 81 P **P 03 20 37.2 -0.8**
baz=289
I46A Reed City 30.24 74 P **P 03 20 36.8 -1.6**
baz=284
J46A Howard City 30.25 76 P **P 03 20 37.7 -0.8**
baz=285
E46A Sault Ste Mari 30.50 69 P **P 03 20 39.7 -1.1**
baz=281
USIN University of 30.57 87 *eP* **P 03 20 41.8 +0.4**
W45A Hickory Valley 30.67 93 P **P 03 20 42.1 -0.2**
baz=298
RDOG Red Dog Mine 30.75 335 *eP* **P 03 20 44.8 +2.1**
OXF Oxford 30.81 94 *eP* **P 03 20 45.0 +1.5**
OXF Oxford 30.81 94 P **P 03 20 43.4 -0.1**
baz=299
O47A Sheridan 30.81 82 P **P 03 20 42.7 -0.8**
baz=290
X45A UM Field Stati 30.86 94 P **P 03 20 43.8 -0.2**
baz=299
I47A Gladwin 30.87 74 P **P 03 20 43.2 -0.9**
baz=285
K47A Vermontville 30.89 77 P **P 03 20 43.7 -0.5**
baz=287
BLO Bloomington 30.94 84 *eP* **P 03 20 44.9 +0.3**
BLO Bloomington 30.94 84 *eP* **P 03 20 44.9 +0.3**
P47A Martinsville 31.00 83 P **P 03 20 44.4 -0.8**
baz=291
Y45A Yeager Farm, C 31.02 95 P **P 03 20 44.9 -0.5**
baz=300
Q47A Bedord North L 31.09 84 P **P 03 20 44.8 -1.3**
baz=292
V46A Holladay 31.15 91 P **P 03 20 46.1 -0.4**
baz=297
E47A Iron Bridge 31.19 69 P **P 03 20 46.4 -0.3**
baz=281
D47A Chapleau 31.19 68 P **P 03 20 45.3 -1.6**
baz=280
WVT Waverly 31.21 90 *eP* **P 03 20 47.0 -0.1**
WVT Waverly 31.21 90 *eP* **P 03 20 47.0 -0.1**
WVT Waverly 31.21 90 P **P 03 20 45.9 -1.2**
baz=296
R47A Wooly Knot Far 31.26 85 P **P 03 20 46.7 -0.8**
baz=293
S47A Hartford 31.29 87 P **P 03 20 46.7 -1.0**
baz=294
X46A Booneville 31.39 93 P **P 03 20 48.2 -0.5**
baz=299
N48A Decatur 31.42 80 P **P 03 20 47.9 -1.0**
baz=290
WCI Wyandotte Cave 31.46 85 *eP* **P 03 20 50.2 +1.0**
WCI Wyandotte Cave 31.46 85 *eP* **P 03 20 50.2 +1.0**
WCI Wyandotte Cave 31.46 85 P **P 03 20 48.7 -0.6**
baz=293
U47A Clarksville 31.47 89 P **P 03 20 48.6 -0.7**
baz=296
K48A Perry 31.47 76 P **P 03 20 49.0 -0.3**
baz=287
L48A N Adams 31.50 78 P **P 03 20 48.8 -0.8**
baz=288
Y46A Houston 31.51 95 P **P 03 20 49.6 -0.1**
baz=300
O48A Farmland 31.54 81 P **P 03 20 48.6 -1.3**
baz=290
PLAL Pickwick Lake 31.55 92 *eP* **P 03 20 50.5 +0.4**
V47A Nunnelly 31.57 90 P **P 03 20 49.8 -0.5**
baz=297
Q48A North Vernon 31.60 84 P **P 03 20 49.2 -1.3**
baz=292
P48A Milroy 31.62 83 P **P 03 20 49.6 -1.1**
baz=293
W47A Westpoint 31.78 91 P **P 03 20 50.8 -1.3**
baz=298
T48A Bowling Green 31.84 87 P **P 03 20 51.5 -1.1**
baz=295
S48A Wiedeman Farm, 31.86 86 P **P 03 20 51.3 -1.5**
baz=294
L49A Milan 31.93 77 P **P 03 20 52.8 -0.5**
baz=288
X47A Russelville 31.93 93 P **P 03 20 52.3 -1.2**
baz=299
M49A Liberty Center 31.98 78 P **P 03 20 52.9 -0.9**
baz=289
U48A Cassie Pea, Po 31.99 89 P **P 03 20 53.2 -0.7**
baz=296
N49A Columbus Grove 32.01 79 *eP* **P 03 20 57.4 +3.4**
N49A Columbus Grove 32.01 79 P **P 03 20 53.0 -1.1**
baz=290
GAMB Gambell 32.09 324 *eP* **P 03 20 55.4 +0.9**
P49A Miami Univ. Ec 32.11 82 P **P 03 20 53.9 -1.1**
baz=292
V48A Smith Brothers 32.12 90 *eP* **P 03 20 56.0 +0.9**
V48A Smith Brothers 32.12 90 P **P 03 20 54.4 -0.7**
baz=297
JRQG Juriquilla Cam 32.14 126 *eP* **P 03 20 58.1 +2.5**
comp=Z,255nm,1.2s
O49A Covington 32.15 81 *eP* **P 03 20 57.3 +2.0**
O49A Covington 32.15 81 P **P 03 20 52.8 -2.5**
baz=291
Y47A UCPARC, Winfie 32.23 94 P **P 03 20 55.4 -0.7**
baz=300
R49A Shelbyville 32.25 85 P **P 03 20 55.0 -1.2**
baz=293
W48A Pulaski 32.31 91 P **P 03 20 55.0 -1.8**
baz=298
346A Big Creek Wild 32.36 99 P **P 03 20 57.4 +0.2**
baz=303
Z47A Carrollton 32.42 95 P **P 03 20 57.2 -0.6**
baz=300
T49A Edmonton 32.47 87 *eP* **P 03 20 59.0 +0.9**
T49A Edmonton 32.47 87 P **P 03 20 57.4 -0.7**
baz=295
MOIG Morelia 32.52 129 *eP* **P 03 21 02.6 +3.7**
U49A Red Boiling Sp 32.54 88 P **P 03 20 58.2 -0.6**
baz=296
147A Livingston 32.54 96 *eP* **P 03 20 59.2 +0.4**
147A Livingston 32.54 96 P **P 03 20 58.1 -0.7**
baz=301
X48A Hartselle 32.55 92 *eP* **P 03 20 58.4 -0.5**
X48A Hartselle 32.55 92 P **P 03 20 57.9 -0.9**
baz=299
L50A Kingsville 32.62 77 P **P 03 20 58.6 -0.9**
baz=288
O50A Cable 32.67 81 P **P 03 20 58.3 -1.6**
baz=291
Z48A Northport 32.71 94 P **P 03 20 59.3 -0.9**
baz=300
Y48A Jasper 32.72 93 P **P 03 20 59.4 -0.9**
baz=300
V49A McMinnville 32.78 89 P **P 03 21 00.0 -0.8**
baz=297
N50A Nevada 32.80 79 P **P 03 21 00.2 -0.8**
baz=290
W49A Belvidere 32.81 91 P **P 03 21 00.2 -0.9**
baz=298
SWET Sewanee 33.00 90 *eP* **P 03 21 03.1 +0.2**
T50A Nancy 33.01 87 P **P 03 21 01.9 -1.0**
baz=295
X49A Woodville 33.05 92 P **P 03 21 02.2 -1.0**

baz=299
S50A Richmond 33.05 85 P P 03 21 02.9 -0.3
baz=294
148A Greensboro 33.06 96 P P
baz=301
U50A Jamestown 33.26 88 P P
baz=296
LRAL Lakeview Retre 33.28 95 eP P 03 21 06.2 +0.9
LRAL Lakeview Retre 33.28 95 P P 03 21 03.5 -1.7
baz=301
Q51A Peebles 33.28 82 eP P 03 21 06.4 +1.2
Q51A Peebles 33.28 82 P P 03 21 04.0 -1.2
baz=293
Y49A Blount Mountai 33.30 93 eP P 03 21 04.5 -0.9
Y49A Blount Mountai 33.30 93 P P 03 21 04.7 -0.7
baz=300
N51A Ashland 33.30 79 eP P 03 21 07.8 +2.5
N51A Ashland 33.30 79 P P 03 21 04.4 -0.9
baz=290
P51A Williamsport 33.32 81 eP P 03 21 05.6 +0.1
P51A Williamsport 33.32 81 P P 03 21 04.7 -0.9
baz=292
I51A Listowel 33.36 73 P P 03 21 04.1 -1.8
baz=286
R51A Hillsboro 33.39 84 P P 03 21 05.5 -0.6
baz=294
O51A Pataskala 33.40 80 P P 03 21 05.0 -1.3
baz=291
V50A Pikeville 33.40 89 P P 03 21 05.6 -0.7
baz=297
W50A Signal Mountai 33.46 90 eP P 03 21 06.9 0.0
W50A Signal Mountai 33.46 90 P P 03 21 06.5 -0.4
baz=298
Z49A Columbiana 33.54 94 P P 03 21 06.8 -0.7
baz=300
X50B Fort Payne 33.56 91 P P 03 21 06.7 -1.1
baz=299
S51A Beattyville 33.65 85 P P 03 21 07.1 -1.3
baz=294
149A Jones 33.65 95 P P 03 21 07.7 -0.8
baz=301
T51A Gray 33.68 86 P P 03 21 07.5 -1.2
baz=295
E51A G1948 Merrick 33.73 68 P P 03 21 08.1 -1.0
baz=283
249A Camden 33.74 96 P P 03 21 08.8 -0.5
baz=302
Y50A Piedmont 33.77 92 P P 03 21 08.8 -0.8
baz=299
N52A McGinn's Farm, 33.83 79 P P 03 21 08.7 -1.3
baz=290
U51A La Follette 33.88 87 P P 03 21 09.5 -1.0
baz=296
W51A Cleveland 33.88 90 P P 03 21 10.1 -0.4
baz=298
V51A Loudon 33.89 88 eP P 03 21 16.9 +6.3
V51A Loudon 33.89 88 P P 03 21 10.7 +0.2
baz=297
CPCT Cooper Cave 33.92 89 eP P 03 21 10.9 0.0
Z50A Ashland 33.95 93 eP P 03 21 10.0 -1.1
Z50A Ashland 33.95 93 P P 03 21 10.1 -1.1
baz=300
O52A Adamsville 33.96 80 P P 03 21 10.0 -1.2
baz=291
F52A Sundridge 34.02 69 P P 03 21 10.8 -0.8
baz=284
349A Repton 34.02 97 P P 03 21 11.8 +0.1
baz=303
Q52A Bidwell 34.08 82 P P 03 21 10.7 -1.5
baz=293
X51A Calhoun 34.09 91 eP P 03 21 12.6 +0.3
X51A Calhoun 34.09 91 P P 03 21 10.9 -1.4
baz=298
TZTN Tazewell 34.14 87 eP P 03 21 15.0 +2.3
TZTN Tazewell 34.14 87 P P 03 21 11.6 -1.1
baz=296
150A Eclectic 34.21 94 P P 03 21 12.2 -1.1
baz=301
Y51A Rockmart 34.26 92 P P 03 21 13.2 -0.6
baz=299
T52A Hallie 34.31 85 P P 03 21 13.2 -1.0
baz=295
M53A WI Miller and 34.33 77 P P 03 21 14.1 -0.2
baz=290
MATQ Matagami 34.34 62 P P 03 21 13.5 -0.8
baz=279
U52A Thorn Hill 34.34 87 P P 03 21 13.6 -0.9
baz=296
E52A Mattawa 34.35 68 P P 03 21 12.3 -2.1
baz=284
250A Grady 34.35 96 eP P 03 21 14.8 +0.3
250A Grady 34.35 96 P P 03 21 14.1 -0.5
baz=302
TKL Tuckaleechee C 34.37 88 eP P 03 21 14.8 +0.1
TKL Tuckaleechee C 34.37 88 eP P 03 21 14.8 +0.1
V52A Sevierville 34.42 88 P P 03 21 13.6 -1.6
baz=297
N53A Lisbon 34.43 78 P P 03 21 14.1 -1.1
baz=291
Z51A Franklin 34.46 93 P P 03 21 14.6 -0.9
baz=300
RES Resolute Bay 34.47 15 P P 03 21 14.7 -0.4
comp=Z,9.4nm,0.8s,baz=222,slow=12,SNR=27
RES Resolute Bay 34.47 15 eP P 03 21 15.3 +0.2
RES Resolute Bay 34.47 15 eP P 03 21 15.3 +0.2
P53A Whipple 34.52 81 P P 03 21 14.8 -1.2
baz=292
W52A Murphy 34.52 89 eP P 03 21 16.1 +0.1
W52A Murphy 34.52 89 P P 03 21 15.2 -0.8
baz=298
350A Dozier 34.60 96 P P 03 21 16.5 -0.2
baz=303
G53A Haliburton 34.66 70 P P 03 21 16.9 -0.3
baz=285
T53A Wise 34.69 85 P P 03 21 16.8 -0.8
baz=295
151A Opelika 34.75 94 P P 03 21 17.5 -0.5
baz=301
X52A Dahlonega 34.77 90 P P 03 21 17.7 -0.5
baz=298
ALGO Algonquin Park 34.84 68 P P 03 21 17.4 -1.2
baz=284
LSQQ Lebel-sur-Quev 34.88 63 P P 03 21 17.5 -1.5
baz=281
251A Midway 34.91 95 P P 03 21 18.0 -1.4
baz=302
U53A Fall Branch 34.93 86 P P 03 21 18.4 -1.2
baz=296
N54A Moraine State 34.98 77 eP P 03 21 21.4 +1.5
N54A Moraine State 34.98 77 P P 03 21 19.1 -0.9
baz=291
O54A Avella 34.98 79 P P 03 21 19.5 -0.5
baz=292
E53A Dumoine, Ponti 34.99 68 P P 03 21 19.0 -1.0
baz=284
Y52A Lilburn 35.00 91 eP P 03 21 20.4 +0.2
Y52A Lilburn 35.00 91 P P 03 21 19.6 -0.6
baz=299
M54A Oil Creek Stat 35.02 76 P P 03 21 19.6 -0.7
baz=290
W53A Cullowhee 35.04 88 P P 03 21 20.2 -0.5
baz=298
V53A Saluda 35.07 87 eP P 03 21 20.9 +0.1
V53A Saluda 35.07 87 P P 03 21 20.6 -0.2
baz=297
Z52A Williamson 35.08 92 P P 03 21 20.6 -0.3
baz=300
152A Waverly Hall 35.12 93 eP P 03 21 21.0 -0.2
152A Waverly Hall 35.12 93 P P 03 21 20.7 -0.6
baz=301
P54A Burton 35.12 80 P P 03 21 20.6 -0.6
baz=292
BANO Bancroft 35.16 70 P P 03 21 20.3 -1.1
baz=286
351A Pinckard 35.20 96 P P 03 21 21.2 -0.7
baz=303
X53A Estanollee 35.25 90 P P 03 21 21.9 -0.4
baz=299
BG3 Lake Jocassee 35.29 89 eP P 03 21 23.2 +0.5
E54A Lac Daplat, Po 35.30 67 P P 03 21 22.2 -0.5
baz=284
LVIG Laguna Verde 35.31 122 eP P 03 21 25.3 +2.4
R54A Victor 35.31 82 P P 03 21 22.1 -0.8
baz=294
Y53A Monroe 35.35 91 P P 03 21 22.4 -0.8
baz=299
PEMO Pembroke 35.45 69 P P 03 21 23.4 -0.5
baz=285
252A Lumpkin 35.45 94 P P 03 21 23.8 -0.3
baz=302
D54A Lac Fusel, La 35.48 66 P P 03 21 23.9 -0.3
baz=284
MCWV Mont Chateau 35.56 79 eP P 03 21 26.7 +1.8
MCWV Mont Chateau 35.56 79 P P 03 21 24.4 -0.5
baz=292
352A Blakely 35.59 95 eP P 03 21 25.2 0.0
352A Blakely 35.59 95 P P 03 21 24.0 -1.2
baz=302
P55A Reedsville 35.63 80 P P 03 21 24.5 -1.0
baz=293
Q55A Buckhannon 35.64 81 P P 03 21 24.2 -1.5
baz=293
Z53A Monticello 35.65 92 P P 03 21 24.2 -1.5
baz=300
GOGA Godfrey 35.66 91 eP P 03 21 25.8 0.0
GOGA Godfrey 35.66 91 eP P 03 21 25.8 0.0
GOGA Godfrey 35.66 91 P P 03 21 25.0 -0.8
baz=300
L55A Hinsdale 35.66 75 P P 03 21 24.8 -1.1
baz=290
O55A Ligonier 35.74 78 P P 03 21 25.3 -1.1
baz=292
PLVO Plevna 35.74 70 P P 03 21 25.4 -1.0
baz=286
N55A Marion Center 35.76 77 P P 03 21 26.1 -0.5
baz=291
253A Americus 35.86 94 eP P 03 21 27.3 -0.3
253A Americus 35.86 94 P P 03 21 27.0 -0.5
baz=302
R55A Marlinton 35.90 82 P P 03 21 26.9 -1.0
baz=294
Y54A Tignall 36.00 90 P P 03 21 26.8 -2.0
baz=299
F55A Otter Lake 36.02 68 P P 03 21 27.3 -1.5
baz=285
BLA Blacksburg 36.12 84 eP P 03 21 30.4 +0.5
BLA Blacksburg 36.12 84 eP P 03 21 30.4 +0.5
BLA Blacksburg 36.12 84 P P 03 21 29.4 -0.5
baz=295
HODGE Hodges 36.14 89 eP P 03 21 29.8 -0.1
353A Camilla 36.17 95 P P 03 21 29.9 -0.3
baz=302
PAULI Pauline 36.18 88 eP P 03 21 30.1 -0.1
Z54A Sparta 36.20 91 P P 03 21 29.2 -1.3
baz=300
O56A Blue Knob Stat 36.24 78 eP P 03 21 32.5 +1.6
O56A Blue Knob Stat 36.24 78 P P 03 21 29.9 -1.0
baz=292
154A Montrose 36.32 92 eP P 03 21 31.1 -0.4
154A Montrose 36.32 92 P P 03 21 30.2 -1.2
baz=301
453A Whigham 36.36 96 eP P 03 21 32.5 +0.7
453A Whigham 36.36 96 P P 03 21 30.5 -1.3
baz=303
KMSC Kings Mountain 36.38 87 eP P 03 21 31.5 -0.5
KMSC Kings Mountain 36.38 87 P P 03 21 31.1 -0.9
baz=298
H56A Elgin 36.42 70 P P 03 21 31.7 -0.5
baz=287
254A Abbeville 36.53 93 P P 03 21 32.7 -0.6
baz=302
TIGA Tifton 36.58 94 eP P 03 21 33.7 0.0
TIGA Tifton 36.58 94 P P 03 21 32.7 -1.0
baz=302
SSPA Standing Stone 36.59 77 eP P 03 21 39.8 +6.1
553A Crawfordville 36.64 97 P P 03 21 32.4 -1.8
baz=304
ORIO Orleans, Innes 36.69 68 P P 03 21 33.3 -1.2
baz=286
Z55A Blythe 36.72 91 P P 03 21 33.6 -1.3
baz=300
155A Kite 36.78 92 P P 03 21 34.1 -1.3
baz=301
JSC Jenkinsville 36.84 89 eP P 03 21 35.5 -0.3
JSC Jenkinsville 36.84 89 eP P 03 21 35.6 -0.3
454A Quitman 36.93 95 P P 03 21 35.4 -1.3
baz=303
ALFO Alfred 37.06 68 P P 03 21 36.2 -1.5
baz=286
TRQ Mont Tremblant 37.12 67 eP P 03 21 36.5 -1.8
255A Hazlehurst 37.13 93 P P 03 21 36.4 -2.0
baz=302
355A Pearson 37.16 94 P P 03 21 37.2 -1.5
baz=302
455A Stateville 37.36 95 P P 03 21 39.2 -1.1
baz=303
156A Sylvania 37.47 91 P P 03 21 40.4 -0.8
baz=301
256A Glennville 37.53 92 P P 03 21 40.0 -1.7
baz=302
LONY Lake Ozonia 37.56 69 eP P 03 21 41.2 -0.7
LONY Lake Ozonia 37.56 69 P P 03 21 39.6 -2.4
baz=288
R58B Mineral 37.64 81 eP P 03 21 44.5 +1.8
R58B Mineral 37.64 81 P P 03 21 42.7 0.0
baz=295
356A Blackshear 37.70 93 P P 03 21 42.1 -1.1
baz=302
555A McAlpin 37.74 96 P P 03 21 43.5 -0.1
baz=304
655A Horseshoe Beac 37.87 97 P P 03 21 44.0 -0.7
baz=304
CBN Corbin Frederi 37.90 80 eP P 03 21 46.7 +1.8
CBN Corbin Frederi 37.90 80 P P 03 21 44.4 -0.5
baz=295
MVL Millersville 37.91 77 eP P 03 21 47.2 +2.2
N59A State Game Lan 37.98 76 eP P 03 21 48.8 +3.3
N59A State Game Lan 37.98 76 P P 03 21 45.1 -0.4
baz=292
LATQ La Tuque 37.99 65 P P 03 21 44.3 -1.2
baz=285
456A Hilliard 38.09 94 eP P 03 21 46.5 -0.1
456A Hilliard 38.09 94 P P 03 21 45.3 -1.2
baz=303
NHSC New Hope 38.20 89 eP P 03 21 47.5 0.0
NHSC New Hope 38.20 89 P P 03 21 45.8 -1.7
baz=300
556A Lake Butler 38.21 95 P P 03 21 46.4 -1.1
baz=304
557A Orange Park 38.69 95 P P 03 21 51.3 -0.3
baz=304
ODNJ Ogdensburg 38.74 75 eP P 03 21 53.3 +1.4
657A Interlachen 38.83 96 P P 03 21 52.3 -0.5
baz=304
CNNC Cliffs of the 38.83 85 eP P 03 21 53.5 +0.8
CNNC Cliffs of the 38.83 85 P P 03 21 52.2 -0.5
baz=298
MOQ Mont Orford 38.92 68 eP P 03 21 53.1 -0.4
757A Oxford 39.04 97 P P 03 21 53.5 -1.1
baz=305
857A Zephyrhills 39.31 98 P P 03 21 56.2 -0.6
baz=306
HNH Hanover 39.42 70 eP P 03 22 01.4 +3.8
LBNH Lisbon 39.48 69 eP P 03 21 58.4 +0.3
LBNH Lisbon 39.48 69 eP P 03 21 58.4 +0.3
LBNH Lisbon 39.48 69 P P 03 21 57.9 -0.2
baz=289
758A Lake Helen 39.66 96 P P 03 21 58.7 -1.0
baz=305
FFD Franklin Falls 39.93 70 eP P 03 22 03.2 +1.4
858A St. Cloud 39.97 97 P P 03 22 01.8 -0.5
baz=305
DWPF Disney Wildern 39.98 97 eP P 03 22 04.0 +1.7
DWPF Disney Wildern 39.98 97 P P 03 22 01.8 -0.5
baz=306
DWPF Disney Wildern 39.98 97 eP P 03 22 04.8 +2.4
SCHQ Schefferville 40.07 52 P P 03 22 02.1 -0.8
comp=Z,11nm,0.8s,baz=270,slow=7.2,SNR=12
SCHQ LR LR 03 38 42.9
comp=Z,4µm,18.2s,baz=292,slow=36
SCHQ Schefferville 40.07 52 eP P 03 22 02.2 -0.7
TEIG Tepich 40.19 113 eP P 03 22 03.8 -0.4
058A Arcadia 40.32 99 P P 03 22 04.6 -0.6
baz=307
859A Kempfer Cattle 40.39 97 P P 03 22 04.7 -1.1
baz=306
CCIG Comitan 40.55 121 eP P 03 22 08.0 +0.5
959A Okeechobee 40.71 97 P P 03 22 07.1 -1.4
baz=306
059A Moore Haven 40.85 98 eP P 03 22 10.2 +0.7
059A Moore Haven 40.85 98 P P 03 22 09.0 -0.6
baz=307
TULEG Thule 40.91 18 eP P 03 22 11.8 +2.3
059Z Ave Maria 41.01 99 P P 03 22 09.4 -1.4
baz=307
060A Indiantown 41.37 98 P P 03 22 14.0 +0.1
baz=306
BILL Bilibino 41.67 329 eP P 03 22 14.9 -0.9
BILL Bilibino 41.67 329 d iP P 03 22 15.1 -0.7
BILL pmax pmax
comp=Z,51nm,1.7s
BILL MLR MLR
comp=Z,3µm,16.0s
BATG Bathurst New B 42.40 63 eP P 03 22 21.9 -0.2
LMN Caledonia Moun 43.69 64 eP P 03 22 32.5 -0.1
HAL Halifax 44.93 65 eP P 03 22 43.0 +0.6
HAL Halifax 44.93 65 eP P 03 22 43.0 +0.6
SFJD Kangerlussuaq 45.93 32 i P P 03 22 54.2 +4.2
SFJD Kangerlussuaq 45.93 32 eP P 03 22 54.2 +4.2
SFJD Kangerlussuaq 45.93 32 eP P 03 22 52.8 +2.8
ESTN Estel 46.60 118 eP P 03 22 57.8 +1.7
DRLN Deer Lake 47.11 57 eP P 03 22 59.3 -0.2
PET Petropavlovsk 47.91 309 eP P 03 23 05.2 -0.5
PET Petropavlovsk 47.91 309 eP P 03 23 06.3 +0.6
PET eS S 03 30 02.3 +0.3
PET pmax pmax
comp=Z,84nm,1.1s
PEA1 Petropavlovsk- 48.42 309 eP P 03 23 09.2 -0.4
PEA0B Petropavlovsk- 48.42 309 eP P 03 23 09.8 +0.2
PETK Petropavlovsk- 48.42 309 P P 03 23 09.2 -0.4
comp=Z,15nm,0.9s,baz=80,slow=12,SNR=9.2
PETK LR LR 03 40 16.0
comp=Z,519nm,21.3s,baz=72,slow=32
ESPN Las Esperanzas 48.61 117 eP P 03 23 10.9 -0.6
SUMG Summit 48.86 24 eP P 03 23 14.7 +1.4
SUMG Summit 48.86 24 i P P 03 23 14.0 +0.7
comp=Z,85nm,0.8s
SUMG Summit 48.86 24 i P P 03 23 14.0 +0.7
SUMG pmax pmax
comp=Z,85nm,0.8s
JTS JuntasAbangare 49.62 119 i P P 03 23 21.5 +2.2
JTS pmax pmax
comp=Z,9.0nm,1.0s
MA2 Magadan 49.83 319 P P 03 23 19.9 -0.4
comp=Z,20nm,1.0s,baz=86,slow=8.5,SNR=9.0
MA2 Magadan 49.83 319 eP P 03 23 20.1 -0.2
MA2 Magadan 49.83 319 ceP P 03 23 19.7 -0.7
MA2 pmax pmax
comp=Z,46nm,1.7s
SKR Severo-Kuril's 50.23 306 eP P 03 23 29.2 +5.7
SKR e 03 25 22.8
SKR eS S 03 30 40.7 +6.0
SKR eSS ScS 03 33 15.8 +2.3
SKR pmax pmax
comp=Z,136nm,1.3s
SKR pmax pmax
comp=Z,1µm,4.9s
SKR pmax pmax
comp=Z,2µm,4.2s
SKR MLR MLR
comp=Z,1µm,20.0s
SKR MLR MLR
comp=Z,500nm,18.0s
DAG Danmarks Havn 52.14 16 i P P 03 23 37.1 -0.4
comp=Z,17nm,0.8s
DAG Danmarks Havn 52.14 16 i P P 03 23 37.1 -0.4
DAG pmax pmax
comp=Z,13nm,0.8s
TIXI Tiksi 53.31 337 P P 03 23 44.9 -1.4
comp=Z,12nm,0.9s,baz=70,slow=7.9,SNR=21
TIXI Tiksi 53.31 337 eP P 03 23 45.0 -1.2
TIXI Tiksi 53.31 337 ceP P 03 23 44.8 -1.4
TIXI pmax pmax
comp=Z,13nm,0.8s
TAOE Nuku Hiva Isla 53.39 195 eLR LR 03 38 57.7
comp=Z,440nm,21.7s
TAOE Nuku Hiva Isla 53.39 195 eT T 04 20 59.2
comp=Z,116nm,0.2s
MTP Monte Pirata 57.60 96 eP P 03 24 18.7 +0.8
NKL Nikolayevsk 57.64 315 eP P 03 24 16.0 -1.6
NKL pmax pmax
comp=Z,260nm,2.0s
NKL MLR MLR
comp=E,1µm,14.0s
NKL MLR MLR
comp=Z,1µm,14.0s
TYV Tymovskoe 57.76 311 eP P 03 24 17.6 -0.9
TYV eS S 03 32 18.1 +1.7
TYV pmax pmax
comp=Z,42nm,1.1s
TYV pmax pmax
comp=Z,200nm,3.3s
TYV smax smax
comp=E,700nm,6.3s
YAK Yakutsk 57.98 327 eP P 03 24 19.2 -0.6
YAK e*PP pP 03 24 23.7 -0.9
YAK e 03 25 16.1
YAK e 03 26 33.4
YAK eS S 03 32 16.2 -2.7
YAK e*SS sS 03 32 42.4 +16
YAK eSSS SSS 03 38 36.7
YAK pmax pmax
comp=Z,24nm,0.8s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,9.0nm,1.0s
YAK pmax pmax
comp=Z,102nm,3.3s
YAK pmax pmax
comp=N,104nm,3.3s
YAK pmax pmax
comp=E,133nm,3.3s
YAK smax smax
comp=N,194nm,4.3s
YAK smax smax
comp=E,227nm,4.0s
YAK MLR MLR
comp=Z,1µm,14.0s
YAK MLR MLR
comp=N,565nm,14.0s
YAK MLR MLR
comp=E,987nm,14.0s
HELC Santa Helena 58.83 114 eP P 03 24 23.6 -3.3
HELC Santa Helena 58.83 114 eP P 03 24 23.6 -3.3
H11N3 WAKE ISLAND Hy 59.02 268 T T 04 28 29.9
baz=50,slow=75,SNR=1062
H11N2 WAKE ISLAND Hy 59.02 268 T T 04 28 27.3
baz=50,slow=75,SNR=828
H11N1 WAKE ISLAND Hy 59.03 268 T T 04 28 16.3
baz=50,slow=75,SNR=721
PLMC San Jos del P 59.29 115 eP P 03 24 21.4 -8.3
PLMC San Jos del P 59.29 115 eP P 03 24 21.4 -8.3
PTBC PUERTO BERRIO, 59.30 112 eP P 03 24 29.1 -0.6
PTBC PUERTO BERRIO, 59.30 112 eP P 03 24 29.1 -0.6
YSS Yuzh-Sakhalins 59.76 308 eP P 03 24 31.7 -0.8
YSS e*SP pP 03 24 37.4 +0.1
YSS eS S 03 32 38.6 -4.0
YSS ePS PnS 03 32 49.0 -6.7
YSS pmax pmax
comp=Z,10.0nm,0.7s
YSS MLR MLR
comp=Z,400nm,17.0s
YSS MLR MLR
comp=E,400nm,16.0s
YOTC Yotoco, Valle 59.94 116 eP P 03 24 34.5 +0.2
YOTC Yotoco, Valle 59.94 116 eP P 03 24 34.5 +0.2
H11S1 WAKE ISLAND Hy 59.94 267 T T 04 29 29.6
baz=50,slow=75,SNR=5619
H11S2 WAKE ISLAND Hy 59.95 267 T T 04 29 27.9
baz=50,slow=75,SNR=3029
H11S3 WAKE ISLAND Hy 59.96 267 T T 04 29 26.0
baz=50,slow=75,SNR=3992
ANIL Santa Ana 60.17 115 eP P 03 24 37.0 +0.9
ANIL Santa Ana 60.17 115 eP P 03 24 37.0 +0.9
SDV Santo Domingo 60.22 107 eP P 03 24 37.5 +1.2
SDV Santo Domingo 60.22 107 eP P 03 24 38.0 +1.8
ROSC El Rosal 60.63 114 LR LR 03 56 17.0
comp=E,187nm,18.1s,baz=336,slow=41
ROSC El Rosal 60.63 114 eP P 03 24 42.1 +2.8
RUSC La Rusia 60.69 112 eP P 03 24 39.7 -0.1
RUSC La Rusia 60.69 112 eP P 03 24 39.7 -0.1
POPC Popayan, Colom 60.81 117 eP P 03 24 38.7 -1.6
POPC Popayan, Colom 60.81 117 eP P 03 24 38.7 -1.6
GRNR Gornyy 61.14 314 eP P 03 24 40.2 -1.7
GRNR pmax pmax
comp=Z,25nm,1.0s
PMOR Pomariorio Ree 61.15 202 eT T 04 30 40.1

comp=Z,42nm,0.3s
CHIC Chingaza 61.18 113 *e*P **P 03 24 40.6 -2.5**
CHIC Chingaza 61.18 113 *e*P **P 03 24 40.6 -2.5**
VAH Vaihoa 61.30 202 *e*T T 04 30 51.5
comp=Z,15nm,0.4s
CRUC La Cruz 61.37 118 *e*P **P 03 24 41.6 -2.7**
CRUC La Cruz 61.37 118 *e*P **P 03 24 41.6 -2.7**
GCUF Volcan Galeras 61.38 119 *e*P **P 03 24 45.2 +0.6**
GCUF Volcan Galeras 61.38 119 *e*P **P 03 24 45.2 +0.6**
OTAV Otavalo 61.44 121 *e*P **P 03 24 45.6 +0.7**
OTAV Otavalo 61.44 121 *e*P **P 03 24 45.6 +0.7**
OTAV Otavalo 61.44 121 *e*P **P 03 24 45.9 +1.0**
FLOC Florencia 62.20 117 *e*P **P 03 24 49.7 +0.2**
FLOC Florencia 62.20 117 *e*P **P 03 24 49.7 +0.2**
ERM Erimo 62.27 303 *i*P **P 03 24 50.5 +0.9**
ERM pmax pmax
comp=Z,56nm,1.1s
ZEA Zeya 63.91 320 *e*P **P 03 24 58.3 -2.0**
ZEA *e*S **S 03 33 36.0 +1.1**
ZEA pmax pmax
comp=Z,35nm,1.0s
ZEA smax smax
comp=N,600nm,10.0s
ZEA MLR MLR
comp=Z,1µm,17.0s
ZEA MLR MLR
comp=N,600nm,16.0s
ZEA MLR MLR
comp=E,900nm,16.0s
TIAR Tiarei 63.99 203 *e*T T 04 34 11.6
comp=E,28nm,0.3s
PPT Papeete 64.07 203 LR LR 03 46 48.9
comp=E,158nm,21.8s,baz=14,slow=30
PPT2 Papeete2 64.09 203 *e*S S 03 33 24.3 -13
comp=E,484nm,27.2s
PPT2 *e*LQ LQ 03 41 03.5
comp=E,4µm,30.0s
PPT2 *e*LR LR 03 43 49.5
comp=E,500nm,27.5s,baz=20
PPT2 Papeete2 64.09 203 *e*T T 04 34 18.7
comp=E,3.0nm,0.3s
TVO Taravao 64.18 203 *e*T T 04 34 26.6
comp=E,3.2nm,0.3s
TEY Ternei 64.38 309⇑ *e*P **P 03 25 07.4 +3.9**
TEY *e* 03 25 16.8
TEY pmax pmax
comp=E,20nm,0.9s
TEY pmax pmax
comp=N,10.0nm,1.7s
TEY pmax pmax
comp=Z,30nm,1.0s
KLR Kul'dur 64.49 314 *i*P **P 03 25 02.3 -1.9**
KEV Kevo 65.48 9 *e*P **P 03 25 11.1 +0.9**
ARA0 ARCESS Array S 65.50 10 *e*P **P 03 25 11.5 +1.0**
ARCES ARCESS Array B 65.50 10 P **P 03 25 11.5 +1.0**
comp=Z,6.6nm,1.1s,baz=344,slow=5.6,SNR=5.2
ARCES LR LR 03 53 28.4
comp=Z,483nm,21.3s,baz=346,slow=36
RKT Rikitea 66.69 187 *e*S S 03 33 56.2 -13
comp=Z,693nm,29.0s
RKT *e*LQ LQ 03 42 15.8
comp=Z,2µm,30.8s
RKT *e*LR LR 03 45 04.5
comp=Z,710nm,28.0s,baz=5.9
RKT Rikitea 66.69 187 *e*T T 04 37 37.0
comp=Z,16nm,0.3s
BOD Bodaibo 66.72 329 *e*P **P 03 25 16.1 -2.3**
BOD pmax pmax
comp=Z,24nm,1.6s
USA0B Ussuriysk Arra 67.49 310 *e*P **P 03 25 23.6 0.0**
USRK Ussuriysk Ar. 67.49 310 P **P 03 25 22.2 -1.4**
comp=Z,7.0nm,1.0s,baz=46,slow=4.5,SNR=10
USRK LR LR 03 53 38.0
comp=Z,409nm,20.1s,baz=30,slow=35
LVZ Lovozero 68.07 7 *e*P **P 03 25 26.9 0.0**
LVZ Lovozero 68.07 7 *ce*P **P 03 25 26.8 0.0**
LVZ pmax pmax
comp=Z,43nm,1.0s
APA Apatity 68.27 8⇑ *i*P **P 03 25 28.0 -0.1**
APA pmax pmax
comp=Z,8.0nm,0.9s
APA MLR MLR
comp=Z,900nm,15.0s
MDJ Mudanjiang 68.54 312 P **P 03 25 29.3 -0.9**
MDJ pP pP 03 25 32.5 -2.6
MDJ sP sP 03 25 33.8 -3.0
MDJ PcP **PcP 03 25 53.3 -1.9**
MDJ PP **PP 03 27 59.3 -1.7**
MDJ S **S 03 34 30.5 -0.9**
MDJ ScS **SKSac 03 35 28.0 -0.3**
MDJ SS **SS 03 38 53.5 -1.2**
MDJ pmax pmax
comp=Z,5.0nm,1.1s
MDJ pmax pmax
comp=Z,280nm,11.3s
MDJ LR LR
comp=Z,370nm,15.9s
MDJ LR LR
comp=Z,700nm,15.9s
MDJ LR LR
comp=Z,730nm,18.3s
MAJO Matsushiro 68.62 300 *e*P **P 03 25 32.3 +1.5**
MAJO Matsushiro 68.62 300 *i*P **P 03 25 28.6 -2.2**
MAJO pmax pmax
comp=Z,10.0nm,1.1s
MAJO Matsushiro 68.62 300 *e*P **P 03 25 28.8 -2.0**
MAT Matsushiro 68.62 300 P **P 03 25 30.3 -0.5**
MJAR Matsushiro Arr 68.62 300 P **P 03 25 29.1 -1.7**
comp=Z,4.4nm,1.0s,baz=38,slow=4.9,SNR=5.4
MJB9 Matsu-Tunnel 68.62 300 *e*P **P 03 25 32.4 +1.5**
MSHR Mys Shultsa 68.99 309 *i*P **P 03 25 31.5 -1.5**
TBI Tubuai 69.53 201 *e*S S 03 34 30.2 -13
comp=Z,264nm,23.5s
TBI *e*LQ LQ 03 43 15.2
comp=Z,955nm,30.8s
TBI *e*LR LR 03 46 23.9
comp=Z,282nm,23.2s,baz=17
TBI Tubuai 69.53 201 *e*T T 04 41 07.9
comp=Z,7.7nm,0.3s
NB2 NORSAR Subarra 70.53 20 P **P 03 25 43.3 +1.1**
comp=Z,2.3nm,0.7s,baz=331,slow=5.9
NB200 NORSAR Array S 70.53 20 *e*P **P 03 25 43.4 +1.2**
NOA NORSAR Array B 70.53 20 P **P 03 25 43.4 +1.2**
comp=Z,5.8nm,0.9s,baz=328,slow=6.1,SNR=7.9
NOA LR LR 03 56 00.9
comp=Z,308nm,21.7s,baz=335,slow=35
NAO01 NORSAR Array S 70.61 20 *e*P **P 03 25 45.2 +2.6**
CN2 Changchun 71.31 313 *e*P **P 03 25 44.5 -2.7**
CN2 *es*P pP 03 25 51.5 -0.6
CN2 pmax pmax
comp=Z,20nm,1.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,410nm,18.0s
CN2 LR LR
comp=Z,350nm,18.0s
CN2 LR LR
comp=Z,510nm,18.0s
NNA Nana 72.06 127 *i*P **P 03 25 54.3 +2.3**
FIA0 FINESS Array S 73.20 13 *e*P **P 03 25 57.5 -0.7**
FIA0 FINESS Array S 73.20 13 *e*P **P 03 25 57.5 -0.7**
FIA1 FINESS Array S 73.20 13 *e*P **P 03 25 58.6 +0.4**
FINES FINESS Array B 73.20 13 P **P 03 25 57.5 -0.7**
comp=Z,12nm,1.0s,baz=15,slow=8.3,SNR=13
FINES LR LR 03 56 24.6
comp=Z,501nm,20.4s,baz=352,slow=34
KSRS Korea Array 74.25 307 P **P 03 26 03.5 -1.2**
comp=Z,3.3nm,0.9s,baz=56,slow=5.1,SNR=8.9
KS01 Wonju Array Si 74.25 307 *e*P **P 03 26 02.6 -2.1**
KS15 Wonju Array Si 74.28 307 *e*P **P 03 26 03.5 -1.4**
KSAR Wonju Array Be 74.28 307 P **P 03 26 03.5 -1.3**
KSAR Wonju Array Be 74.28 307 P **P 03 26 03.6 -1.3**
PTGA Pitinga 74.48 106 *e*P **P 03 26 06.1 -0.2**
PRGR Permogore 75.02 3 *e*P **P 03 26 07.1 -1.6**
PRGR *e**SP **pP 03 26 13.5 -0.2**
PRGR pmax pmax
comp=Z,47nm,0.9s
TLY Talaya 75.28 330 *e*P **P 03 26 10.2 -0.2**
TLY Talaya 75.28 330 *i*P **P 03 26 10.3 -0.2**
JNU Nakatsue 75.41 302 *e*P **P 03 26 12.3 +0.7**
KLMR Klimovskoe 75.42 6 *e*P **P 03 26 10.2 -0.8**
KLMR pmax pmax
comp=Z,56nm,1.4s
KLMR Klimovskoe 75.42 6 *e*P **P 03 26 10.3 -0.8**
KLMR AMP 03 26 26.0
comp=Z,56nm,1.4s
VSU Vasula 76.14 14 *ce*P **P 03 26 14.2 -1.0**
VSU pmax pmax
comp=Z,58nm,2.5s
MOY Mondy 76.24 331 *e*P **P 03 26 17.1 +1.0**
MOY pmax pmax
comp=Z,39nm,1.9s
BSEG Bad Segeberg 76.44 24 *e*L L 03 59 26.9
comp=Z,550nm,18.5s
ZAK Zakamensk 76.47 329 *e*P **P 03 26 16.2 -1.2**
ZAK pmax pmax
comp=Z,8.0nm,1.4s
RETH Rethem/Aller, 77.18 25 *e*L L 04 02 51.2
comp=Z,842nm,18.7s
SONA1 Songino Array 77.30 326 *e*P **P 03 26 21.2 -1.0**
SONA0 Songino Array 77.31 326 *e*P **P 03 26 21.6 -0.7**
SONM Songino Array 77.31 326 P **P 03 26 21.6 -0.7**
comp=Z,10nm,0.9s,baz=39,slow=2.8,SNR=54
SONM LR LR 04 00 27.8
comp=Z,1µm,19.0s,baz=27,slow=36
NVS Novosibirsk 78.51 342⇑ *i*P **P 03 26 27.5 -1.1**
NVS *e* 03 29 23.8
NVS pmax pmax
comp=N,14nm,0.9s
NVS pmax pmax
comp=Z,41nm,0.9s
NVS pmax pmax
comp=E,17nm,1.1s
BJI Beijing 78.83 315 *e*P **P 03 26 30.0 -0.6**
BJI S **S 03 36 30.5 +2.8**
BJI LR LR
comp=E,280nm,7.1s
BJI LR LR
comp=E,340nm,15.1s
BJI LR LR
comp=E,330nm,26.5s
GKP Gorka Klasztor 78.94 21 *e*P **P 03 26 33.4 +2.4**
GKP Gorka Klasztor 78.94 21 *e*P **P 03 26 33.3 +2.4**
ZAA1 Zalesovo Array 78.97 341 *e*P **P 03 26 30.1 -1.0**
ZAA0 Zalesovo Array 78.98 341 *e*P **P 03 26 30.5 -0.7**
ZALV Zalesovo Beam 78.98 341 P **P 03 26 30.1 -1.0**
comp=E,8.6nm,0.9s,baz=20,slow=5.0,SNR=25
ZALV LR LR 04 03 40.4
comp=E,570nm,18.3s,baz=64,slow=37
ZALV Zalesovo Beam 78.98 341 *e*P **P 03 26 29.9 -1.3**
ZALV Zalesovo Beam 78.98 341 *e*P **P 03 26 29.9 -1.3**
GUMO Guam 78.98 278 LR LR 03 53 47.9
comp=E,506nm,19.7s,baz=72,slow=30
TNS Taunus Mts 79.06 27 *e*L L 04 01 03.7
comp=E,471nm,19.7s
CLL Collm 79.53 24 *e*P **P 03 26 33.0 -1.3**
CLL *ep*P **pP 03 26 36.0 -3.2**
CLL *e*(sP) **sP 03 26 41.0 +0.1**
comp=Z,19nm,1.4s
CLL *e*PS **PnS 03 37 18.0 -0.6**
CLL Lm MLR 04 01 00.0
comp=N,400nm,18.3s
CLL Lm MLR 04 01 00.0
comp=E,200nm,21.4s
CLL Lm MLR 04 01 00.0
comp=Z,600nm,19.7s
CLL Collm 79.53 24 *e*P **P 03 26 33.0 -1.3**
CLL *e* 03 26 36.0
CLL MLR MLR
comp=Z,600nm,19.7s
SUW Suwalki 79.65 17 *e*P P 03 26 26.9 -8.0
SUW Suwalki 79.65 17 *e*P **P 03 26 36.4 +1.6**
SUW Suwalki 79.65 17 *e*P **P 03 26 36.4 +1.6**
MOX Moxa 79.70 25 *e*L L 04 00 55.0
comp=Z,586nm,18.9s
SVE Sverdlovsk 79.74 355 *e*P **P 03 26 35.4 +0.1**
SVE pmax pmax
comp=Z,38nm,1.1s
BRG Berggiesshubel 80.19 24 *e*P **P 03 26 39.7 +1.8**
comp=Z,22nm,1.1s
BRG Berggiesshubel 80.19 24 *e*P **P 03 26 39.7 +1.8**
BRG pmax pmax
comp=Z,22nm,1.1s
ARU Arti 80.25 357 *e*P **P 03 26 37.1 -0.9**
ARU Arti 80.25 357 *d i*P **P 03 26 37.2 -0.8**
ARU 03 29 37.3
ARU S **S 03 36 44.3 +2.2**
ARU SS **SS 03 41 50.7 -0.9**
ARU pmax pmax
comp=Z,20nm,1.0s
MOS Moscow 80.29 8 *e*P P 03 26 43.7 +5.4
MOS *e* 03 26 48.8
GRF Grafenberg Arr 80.41 26 *e*P **P 03 26 40.0 +0.9**
comp=Z,43nm,1.5s,baz=334,slow=4.8
GRF *e*L L 04 01 20.2
comp=Z,586nm,19.0s
HHC Hu-ho-hao-te 80.51 319 *e*P **P 03 26 39.5 -0.4**
HHC PP **PP 03 29 43.5 +0.9**
HHC S **S 03 36 42.5 -3.1**
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,200nm,5.7s
HHC LR LR
comp=Z,450nm,12.1s
HHC LR LR
comp=Z,550nm,14.7s
HHC LR LR
comp=Z,710nm,13.0s
LPAZ La Paz 80.62 123 P **P 03 26 39.8 -1.5**
comp=Z,9.5nm,0.8s,baz=347,slow=4.7,SNR=19
LPAZ LR LR 04 01 21.6
comp=Z,249nm,21.1s,baz=332,slow=35
LPAZ La Paz 80.62 123 *e*P **P 03 26 40.0 -1.3**
LPAZ La Paz 80.62 123 *e*P **P 03 26 40.0 -1.3**
BFO Black Forest 80.64 28 *e*L L 04 01 44.3
comp=Z,475nm,19.6s
PVCC Panska Ves 80.68 23 *e*P P 03 26 46.2 +5.7
PVCC Panska Ves 80.68 23 *e*P P 03 26 46.2 +5.7
OBN Obninsk 80.79 9 *e*P **P 03 26 41.0 +0.1**
OBN Obninsk 80.79 9⇑ *i*P **P 03 26 39.4 -1.5**
OBN Obninsk 80.79 9⇑ *e*P **P 03 26 41.0 +0.1**
OBN *e* 03 26 49.1
OBN *e* 03 29 44.3
OBN *e**S **S 03 36 48.2 +0.4**
OBN pmax pmax
comp=Z,29nm,1.0s
OBN MLR MLR
comp=Z,376nm,18.0s
KSP Ksiaz 80.88 22 *e*P **P 03 26 43.3 +1.7**
KSP Ksiaz 80.88 22 *e*P **P 03 26 43.3 +1.7**
PCBR Castelo Branco 80.97 42 *e*P **P 03 26 42.2 0.0**
PRU Pruhonice 81.16 24 *e*P P 03 26 48.5 +5.5
PRU Pruhonice 81.16 24 *e*P P 03 26 48.5 +5.5
PMRV Marv??o 81.33 43 *e*P **P 03 26 44.6 +0.4**
DPC Dobruska-Polom 81.34 22 *e*P **P 03 26 46.7 +2.6**
DPC Dobruska-Polom 81.34 22 *e*P **P 03 26 46.7 +2.6**
WET Wettzell 81.41 25 *e*L L 04 01 04.6
comp=Z,385nm,21.5s
KHC Kasperske Hory 81.63 25 *e*P **P 03 26 48.7 +3.0**
KHC Kasperske Hory 81.63 25 *e*P **P 03 26 44.8 -0.8**
KHC *ep*P **PcP 03 26 51.1 -0.4**
KHC AMS AMS 04 05 20.0
comp=Z,800nm,15.6s
KHC Kasperske Hory 81.63 25 *e*P **P 03 26 44.8 -0.8**
KHC *e* 03 26 51.1
KHC MLR MLR
comp=Z,800nm,15.6s
PESTR Estremoz 81.66 43 *e*P **P 03 26 46.3 +0.3**
KRLC Kraliky 81.71 22 *e*P **P 03 26 47.1 +1.1**
KRLC Kraliky 81.71 22 *e*P **P 03 26 47.1 +1.1**
FUR Furstenfeldbru 81.77 26 *e*L L 04 02 15.8
comp=Z,576nm,21.8s
PNCL Nicolau / Gran 81.77 44 *e*P **P 03 26 47.3 +0.8**
GEC2 GERESS Array S 81.92 25 *e*P **P 03 26 51.5 +4.3**
GEC2 GERESS Array S 81.92 25 *e*L L 04 03 14.4
comp=Z,415nm,20.7s
GERES GERESS Array B 81.92 25 P **P 03 26 47.3 +0.1**
comp=Z,2.0nm,0.8s,baz=329,slow=4.7,SNR=8.1
GERES LR LR 04 03 36.3
comp=Z,388nm,20.0s,baz=328,slow=36
GEA0 GERESS Array S 81.93 25 *e*P **P 03 26 48.8 +1.5**
MNMC Minye Minye 81.94 126 *e*P **P 03 26 47.5 -0.3**
DAVA Damuels 82.07 28 *i*P **P 03 26 48.8 +0.6**
comp=Z,10nm,1.1s
MESJ Messejana 82.14 44 *e*P **P 03 26 48.9 +0.4**
MESJ AMb AMB 03 26 51.5
comp=Z,16nm,1.2s
MESJ Messejana 82.14 44 *e*P **P 03 26 48.8 +0.4**
MESJ pmax pmax
comp=Z,16nm,1.2s
MORC Moravsky Berou 82.19 22⇓ *i*P **P 03 26 51.2 +2.6**
MORC Moravsky Berou 82.19 22⇓ *e*P **P 03 26 51.2 +2.6**
RETA Reutte 82.19 27 *i*PcP **P 03 26 53.0 +4.4**
comp=Z,7.7nm,1.4s
DGZ Jazzator, Alta 82.19 338 *c i*P **P 03 26 48.6 -0.1**
DGZ pmax pmax
comp=Z,14nm,1.0s
MORF Marmelete 82.33 45 *e*P **P 03 26 49.9 +0.3**
MORF AMb AMB 03 26 52.0
comp=Z,21nm,1.7s
MORF Marmelete 82.33 45 *e*P **P 03 26 50.7 +1.2**
MORF Marmelete 82.33 45 *e*P **P 03 26 49.8 +0.3**
MORF pmax pmax
comp=Z,21nm,1.7s
VRAC Vranov 82.35 23⇓ *i*P **P 03 26 52.2 +2.8**
VRAC Vranov 82.35 23⇓ *e*P **P 03 26 52.2 +2.8**
VRAC Vranov 82.35 23 *e*P **P 03 26 50.6 +1.2**
OJC Ojcow 82.38 20 *e*P **P 03 26 51.7 +2.2**
OJC Ojcow 82.38 20 *e*P **P 03 26 51.0 +1.5**
OJC Ojcow 82.38 20 *e*P **P 03 26 51.7 +2.2**
PB11 IPOC Station P 82.40 126 *e*P **P 03 26 49.7 -0.4**
MOTA Moosalm 82.43 27 *i*PcP P 03 26 54.9 +4.9
comp=Z,2.3nm,0.5s
KRUC Moravsky 82.52 23 *e*P **P 03 26 51.9 +1.7**
BRVK Borovoye 82.54 349 *e*P **P 03 26 50.0 -0.2**
BRVK Borovoye 82.54 349 *i*P **P 03 26 49.2 -1.0**
BRVK pmax pmax
comp=Z,23nm,0.9s
BVA0 Borovoye Array 82.55 349 *i*P **P 03 26 49.6 -0.7**
BVA0 pmax pmax
comp=Z,22nm,0.7s
SQTA Sankt Quirin 82.57 27 *i*PcP **P 03 26 55.1 +4.4**
comp=Z,11nm,1.1s
FETA Feichten 82.59 27 *i*PcP **P 03 26 54.6 +3.7**
comp=Z,11nm,1.5s
WATA Walderalm 82.59 27 *i*pP **P 03 26 53.3 +2.5**
comp=Z,1.8nm,0.5s
WTTA Wattenberg 82.67 27 *i*pP **P 03 26 51.8 +0.5**
comp=Z,19nm,1.6s
PBDV Barranco-do-Ve 82.74 44 *e*P **P 03 26 54.2 +2.5**
FUORN Ofenpass-Fuorn 82.78 28 *e*P **P 03 26 54.7 +2.7**
ESDC Sonseca Array 82.79 40 P **P 03 26 51.3 -0.6**
comp=Z,0.9nm,0.5s,baz=318,slow=4.9,SNR=8.5
ESDC LR LR 04 01 07.0
comp=Z,283nm,18.5s,baz=325,slow=34
ES19 SONSECA Array 82.80 40 *e*P **P 03 26 51.7 -0.2**
MOA Molln 82.98 25 *i*PcP **P 03 26 56.4 +3.7**
comp=Z,12nm,1.7s
NIE Niedzica 83.24 20 *e*P **P 03 26 56.7 +2.6**
NIE Niedzica 83.24 20 *e*P **P 03 26 56.7 +2.6**
LANS Liptovska Anna 83.28 21 *e*P **P 03 26 57.6 +3.4**
LANS Liptovska Anna 83.28 21 *e*P **P 03 26 57.6 +3.4**
NJ2 Nanjing 83.32 308 *e*P **P 03 26 54.3 -0.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
KURK Kurchatov 83.37 344 *e*P **P 03 26 53.5 -1.1**
KURK Kurchatov 83.37 344 *i*P **P 03 26 53.0 -1.6**
KURK pmax pmax
comp=Z,22nm,1.0s
KBA Koelnbreinsper 83.38 26 *i*P **P 03 26 55.0 0.0**
comp=Z,9.2nm,1.3s
CONA Conrad Observa 83.39 24 *i*pP **P 03 26 56.7 +1.8**
comp=Z,8.8nm,1.3s
MODS Modra-Piesok 83.39 23 *e*P **P 03 26 56.9 +2.1**
MODS pmax pmax
comp=Z,172nm,2.7s
MODS Modra-Piesok 83.39 23 *e*P **P 03 26 56.9 +2.1**
ABTA Abfaltersbach 83.41 26 *i*pP **P 03 26 57.2 +2.2**
comp=Z,9.8nm,1.3s
PB01 IPOC Station P 83.49 127 *e*P **P 03 26 54.5 -1.2**
ZST Bratislava 83.50 23 *e*P **P 03 26 56.2 +0.9**
ZST Bratislava 83.50 23 *e*P **P 03 26 56.2 +0.9**
LPSR Galich'ya Gora 83.52 8 *e*P **P 03 26 54.3 -1.0**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
VYHS Vyhne 83.71 22 *e*P **P 03 26 58.0 +1.6**
VYHS pmax pmax
comp=Z,148nm,3.5s
VYHS Vyhne 83.71 22 *e*P **P 03 26 58.0 +1.6**
MYKA Terra Mystica 83.88 26 *ep*P **P 03 26 59.2 +1.8**
comp=Z,8.8nm,1.1s
ARSA Arzberg 83.90 24 *i*pP **P 03 26 59.6 +2.2**
comp=Z,9.4nm,1.3s
AKASG Malin Array Be 83.98 15 P **P 03 26 57.4 -0.3**
comp=Z,3.7nm,0.8s,baz=347,slow=4.4,SNR=14
AKASG LR LR 04 03 45.3
comp=Z,549nm,21.0s,baz=345,slow=35
AKBB Malin Array Si 83.98 15 *e*P **P 03 26 57.1 -0.6**
KIEV Kiev 83.99 15 *e*P **P 03 26 57.0 -0.8**
KIEV Kiev 83.99 15⇑ *i*P **P 03 26 57.4 -0.3**
KIEV Kiev 83.99 15⇑ *e*P **P 03 26 57.4 -0.3**
AK11 Malin Array Si 84.00 15 *e*P **P 03 26 59.0 +1.2**
SOKA Soboth 84.27 25 *i*P **P 03 26 59.5 +0.1**
comp=Z,16nm,1.4s
OBKA Obir 84.27 25 *i*P **P 03 26 59.7 +0.3**
comp=Z,12nm,1.1s
PERS Pernice 84.33 25 *i*P **P 03 27 01.3 +1.6**
UZH Uzhgorod 84.47 20 *e*P **P 03 27 01.0 +0.8**
UZH *e* 03 27 06.7
PSZ Piszkesteto 84.52 21 *e*P **P 03 27 03.3 +2.7**
PSZ Piszkesteto 84.52 21⇓ *i*P **P 03 27 04.2 +3.6**
PSZ Piszkesteto 84.52 21⇓ *e*P **P 03 27 04.2 +3.6**
JAVS Javornik 84.67 26 *i*P **P 03 27 03.8 +2.3**
VSR Storozhevoye 84.91 8 *i*P **P 03 27 00.7 -1.7**
VSR pmax pmax
comp=Z,10.0nm,0.9s
LVC Limon Verde 85.05 128 *e*P **P 03 27 05.9 +2.0**
LVC Limon Verde 85.05 128 *e*P **P 03 27 05.9 +2.0**
LVC Limon Verde 85.05 128 *e*P **P 03 27 04.7 +0.9**
VRH Novokhopyorsk 85.17 7 *e*P **P 03 27 02.5 -1.2**
VRH pmax pmax
comp=Z,9.0nm,0.8s
BOJS Bojanci 85.39 25 *i*P **P 03 27 07.1 +2.2**
BUR04 Bucovina Ar. S 86.10 18 *e*P **P 03 27 12.0 +3.4**
MK31 Makanchi Array 86.22 340 *e*P **P 03 27 07.6 -1.5**
MK31 Makanchi Array 86.22 340 *i*P **P 03 27 08.1 -1.0**
MK31 pmax pmax
comp=Z,20nm,1.3s
MK32 Makanchi Array 86.22 340 *e*P **P 03 27 07.2 -1.9**
MKAR Makanchi Array 86.22 340 P **P 03 27 07.2 -1.9**
comp=Z,3.7nm,0.9s,baz=45,slow=5.3,SNR=16
MKAR LR LR 04 08 12.7
comp=Z,522nm,18.2s,baz=21,slow=37
MKAR Makanchi Array 86.22 340 *e*P **P 03 27 07.6 -1.5**
MKAR Makanchi Array 86.22 340 *e*P **P 03 27 07.6 -1.5**
MK01 Makanchi Array 86.24 340 *e*P **P 03 27 07.3 -1.9**
MAKZ Makanchi 86.28 340 *e*P **P 03 27 07.8 -1.6**
MAKZ Makanchi 86.28 340 *e*P **P 03 27 07.8 -1.6**
GO02 Mina Guanaco 86.65 130 *e*P **P 03 27 11.2 -0.4**
BIZ Bicaz 86.94 18⇓ *i*P **P 03 27 13.8 +1.2**
GTA Gaotai 86.95 325 P **P 03 27 12.0 -0.9**
GTA pP pP 03 27 18.0 0.0
GTA sP pwP 03 27 21.0 -0.5
GTA SKS **SKSac 03 37 36.5 -2.8**
GTA S **S 03 37 51.8 +1.2**
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,190nm,5.2s
GTA LR LR
comp=Z,910nm,20.6s
GTA LR LR
comp=Z,710nm,18.6s
GTA LR LR
comp=Z,2µm,22.3s
WHN Wuhan 86.99 310⇑ P P 03 27 18.3 +5.2
WHN Wuhan 86.99 310 S S 03 38 13.0 +22
WHN LR LR
comp=Z,1µm,23.8s
BZS Buzias 87.10 21⇑ *i*P **P 03 27 15.6 +2.2**
BZS Buzias 87.10 21⇑ P **P 03 27 15.6 +2.2**
XAN Xi'an 87.14 316 P **P 03 27 13.3 -0.6**
XAN pP pP 03 27 18.3 -0.6
XAN pmax pmax
comp=Z,22nm,1.1s
XAN LR LR
comp=Z,430nm,17.2s
XAN LR LR
comp=Z,390nm,21.1s
XAN LR LR
comp=Z,330nm,22.6s
XAN Xi'an 87.14 316 *e*P **P 03 27 13.9 0.0**

XAN	**Xi'an**	**87.14**	**316**	*e*P		**P**	**03 27 13.9**	**0.0**
AB31	**Akbulak array**	**87.33**	**355**	*i* P		**P**	**03 27 13.5**	**-0.9**
AB31				pmax	pmax			
	comp=Z,5.0nm,0.6s							
ABKAR	**Akbulak array**	**87.33**	**355**	*e*P		**P**	**03 27 14.0**	**-0.4**
WMQ	**Urumqi**	**87.45**	**335**	*e*P		**P**	**03 27 15.5**	**+0.3**
WMQ				pP	pP		03 27 21.0	+0.7
WMQ				sP	pwP		03 27 25.5	+1.7
WMQ				S	**S**		**03 37 54.0**	**-1.2**
WMQ				pmax	pmax			
	comp=Z,24nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,440nm,3.6s							
WMQ				LR	LR			
	comp=Z,2μm,21.9s							
WMQ				LR	LR			
	comp=Z,1μm,11.3s							
WMQ				LR	LR			
	comp=Z,2μm,20.3s							
WMQ	**Urumqi**	**87.45**	**335**	*e*P		**P**	**03 27 15.6**	**+0.3**
WMQ	**Urumqi**	**87.45**	**335**	*e*P		**P**	**03 27 15.6**	**+0.3**
KIS	**Kishinev**	**87.45**	**16**	*e*P		**P**	**03 27 16.0**	**+1.0**
KIS				*e*LR	LR		04 01 20.0	
	comp=Z,700nm,22.0s							
KIS	**Kishinev**	**87.45**	**16**	*e*P		**P**	**03 27 16.0**	**+1.0**
DOPR	**Dopca**	**87.70**	**18**⇑	*i*P		**P**	**03 27 18.0**	**+1.7**
LZH	**Lanzhou**	**87.94**	**321**	*e*P		**P**	**03 27 17.8**	**0.0**
LZH				pP	pP		03 27 23.3	+0.4
LZH				sP	pwP		03 27 26.8	+0.3
LZH				PP	**PP**		**03 30 46.0**	**+2.7**
LZH	**Lanzhou**	**87.94**	**321**	S	**S**		**03 37 57.3**	**-3.1**
LZH	**Lanzhou**	**87.94**	**321**	sS	sS		03 38 10.5	+1.9
LZH	**Lanzhou**	**87.94**	**321**	SS	SS		03 43 50.0	+3.4
LZH				pmax	pmax			
	comp=Z,36nm,1.1s							
LZH				pmax	pmax			
	comp=Z,280nm,4.3s							
LZH				LR	LR			
	comp=N,250nm,15.2s							
LZH				LR	LR			
	comp=E,370nm,14.0s							
LZH				LR	LR			
	comp=Z,430nm,16.8s							
PLOR	**Plostina**	**88.09**	**18**⇑	*i*P		**P**	**03 27 19.5**	**+1.3**
PLOR	**Plostina**	**88.09**	**18**⇑	P		**P**	**03 27 19.5**	**+1.3**
VRI	**Vrincioaia**	**88.10**	**18**⇑	*i*P		**P**	**03 27 17.8**	**-0.4**
VRI	**Vrincioaia**	**88.10**	**18**⇑	P		**P**	**03 27 17.8**	**-0.4**
DZM	**Mont Dzumac**	**88.93**	**238**	*e*LR		LR	03 55 22.2	
	comp=Z,1μm,22.2s							
CFR	**Carcaliu**	**89.06**	**17**⇑	*i*P		**P**	**03 27 23.8**	**+1.2**
CFR	**Carcaliu**	**89.06**	**17**⇑	P		**P**	**03 27 23.8**	**+1.2**
TLB	**Topalu**	**89.60**	**17**⇑	*i*P		**P**	**03 27 25.8**	**+0.6**
TLB	**Topalu**	**89.60**	**17**⇑	P		**P**	**03 27 25.8**	**+0.6**
KEST	**Kesra**	**91.91**	**34**	LR		LR	04 07 56.6	
	comp=Z,366nm,18.5s,baz=301,slow=35							
AAK	**Ala-Archa**	**91.92**	**344**	*e*P		**P**	**03 27 36.5**	**+0.2**
AAK	**Ala-Archa**	**91.92**	**344**	*i* P		**P**	**03 27 35.9**	**-0.4**
AAK				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KK31	**Karatay Array**	**92.21**	**347**	*e*P		**P**	**03 27 37.0**	**-0.4**
KK31	**Karatay Array**	**92.21**	**347**	*e*P		**P**	**03 27 37.0**	**-0.4**
KKAR	**Karatay Array**	**92.21**	**347**	*e*P		**P**	**03 27 37.0**	**-0.4**
KKAR	**Karatay Array**	**92.21**	**347**	*e*P		**P**	**03 27 37.0**	**-0.4**
CD2	**Chengdu**	**92.23**	**318**	*e*P		**P**	**03 27 37.5**	**-0.3**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
KIV	**Kislovodsk**	**92.44**	**7**	*e*P		**P**	**03 27 35.8**	**-2.8**
KIV				pmax	pmax			
	comp=Z,7.0nm,1.1s							
KIV				MLR	MLR			
	comp=Z,376nm,20.0s							
NRN	**Naryn**	**92.76**	**342**	*e*P		**P**	**03 27 41.2**	**+0.8**
NRN	**Naryn**	**92.76**	**342**	*e*P		**P**	**03 27 41.2**	**+0.8**
JAY	**Jayapura**	**92.92**	**269**	LR		LR	04 01 12.1	
	comp=Z,340nm,21.5s,slow=30							
PMG	**Port Moresby**	**92.95**	**260**	LR		LR	04 05 51.9	
	comp=Z,301nm,18.9s,baz=90,slow=33							
BDFB	**Brasilia**	**93.31**	**108**	LR		LR	04 13 18.3	
	comp=Z,421nm,20.4s,baz=283,slow=38							
KSH	**Kashi**	**94.60**	**342**	P		**P**	**03 27 47.5**	**-1.1**
KSH				pP	pP		03 27 53.5	-0.2
KSH				sP	pwP		03 27 57.3	0.0
KSH				PP	**PP**		**03 31 41.8**	**+6.3**
KSH				S	**S**		**03 38 53.0**	**-7.7**
KSH				pmax	pmax			
	comp=Z,4.0nm,0.7s							
KSH				pmax	pmax			
	comp=Z,190nm,6.0s							
KSH				LR	LR			
	comp=Z,210nm,7.7s							
KSH				LR	LR			
	comp=Z,190nm,5.7s							
KSH				LR	LR			
	comp=Z,520nm,10.7s							
CPUP	**Villa Florida**	**94.76**	**122**	LR		LR	04 11 09.8	
	comp=Z,175nm,21.0s,baz=332,slow=36							
BRTR	**Keskin Array B**	**95.39**	**14**	LR		LR	04 12 45.5	
	comp=Z,247nm,19.4s,baz=14,slow=37							
URZ	**Urewera**	**95.58**	**221**	LR		LR	04 02 40.5	
	comp=Z,544nm,21.1s,baz=4.0,slow=30							
GAR	**Garm**	**96.23**	**346**	*e*P		**P**	**03 27 56.4**	**+0.3**
GAR	**Garm**	**96.23**	**346**	*e*P		**P**	**03 27 56.4**	**+0.3**
CHGR	**Chuyangaron**	**96.77**	**347**	*e*P		**P**	**03 28 02.2**	**+3.7**
KMI	**Kunming**	**97.49**	**315**	P		**P**	**03 28 02.0**	**-0.2**
KMI				pmax	pmax			
	comp=Z,9.0nm,0.6s							
KMI				pmax	pmax			
	comp=Z,160nm,5.4s							
KMI				LR	LR			
	comp=Z,360nm,17.7s							
KMI				LR	LR			
	comp=Z,360nm,17.0s							
KMI				LR	LR			
	comp=Z,420nm,16.3s							
QIZ	**Qiongzhong**	**98.47**	**306**	P		**P**	**03 28 04.8**	**-1.6**
QIZ				PP	**PP**		**03 32 06.8**	**+0.7**
QIZ				S	**S**		**03 39 32.0**	**-2.4**
QIZ				LR	LR			
	comp=Z,230nm,14.4s							
QIZ				LR	LR			
	comp=Z,300nm,13.0s							
QIZ				LR	LR			
	comp=Z,330nm,15.5s							
SIJI	**Sorong**	**98.64**	**277**	LR		LR	04 10 14.3	
	comp=Z,296nm,18.4s,slow=34							
GEYT	**Alibeck**	**98.73**	**355**	LR		LR	04 19 25.3	
	comp=Z,524nm,18.3s,baz=345,slow=40							
WR1	**Warramunga Arr**	**109.17**	**260**	*e*PKiKP		**PKiKP**	**03 32 56.9**	**-0.9**
WRA	**Warramunga Arr**	**109.17**	**260**	PKiKP		**PKiKP**	**03 32 56.9**	**-0.9**
	comp=Z,1.8nm,0.9s,baz=42,slow=1.7,SNR=6.3							
AS31	**Alice Springs**	**111.85**	**258**	*e*PKiKP		**PKiKP**	**03 33 01.8**	**-1.1**
AS31				*e*PKKPab		**PKKPab**	**03 44 00.8**	**-2.5**
ASAR	**Alice Springs**	**111.85**	**258**	PKiKP		**PKiKP**	**03 33 01.8**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=30,slow=1.2,SNR=4.7							
ASAR				PKKPab		**PKKPab**	**03 44 00.9**	**-2.4**
	comp=Z,0.5nm,0.6s,baz=221,slow=3.3,SNR=5.6							
LSZ	**Lusaka**	**145.07**	**44**	*e*PKPbc		**PKPbc**	**03 34 04.9**	**-0.1**
LSZ	**Lusaka**	**145.07**	**44**	*e*PKiKP		**PKPbc**	**03 34 04.9**	**-0.1**
NVL	**N'lazarevskaya**	**146.19**	**157**	*e*PKHKP		PKPpre	03 34 01.4	
NVL				*e*SS		SS	03 56 19.4	-4.9
SYO	**Syowa Base**	**153.63**	**170**⇓	*e*PKPbc		**PKiKP**	**03 34 25.6**	**+0.3**
SYO	**Syowa Base**	**153.63**	**170**⇓	*e*PKPab		**PKPab**	**03 34 39.0**	**+1.1**

IDC ***30*** *03:23:11.2±2.7,* **16°.04S×173°.31W,h0km, mb3.8/5, mb1 4.2/5, mb1mx3.8/38, mbtmp3.8/5, Error ellipse: s-maj=156.9km s-min=24.0km az=148.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N3	**WAKE ISLAND Hy**	**40.51**	**331**	T	T	04 13 30.4	
	baz=150,slow=76,SNR=4.3						
H11N1	**WAKE ISLAND Hy**	**40.52**	**331**	T	T	04 13 37.5	
	baz=150,slow=76,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**40.53**	**331**	T	T	04 13 35.1	
	baz=150,slow=76,SNR=5.7						
WRA	**Warramunga Arr**	**49.78**	**257**	P	P	03 32 05.7	-0.4
	0.2nm,0.4s,baz=90,slow=6.6,SNR=8.2						
ASAR	**Alice Springs**	**50.00**	**252**	P	P	03 32 07.5	-0.2
	1.7nm,0.8s,baz=87,slow=8.6,SNR=15						
NVAR	**Mina Array Bea**	**74.75**	**42**	P	P	03 34 53.8	+0.3
	1.0nm,0.6s,baz=227,slow=11,SNR=5.6						
PDAR	**Pinedale Array**	**82.68**	**42**	P	P	03 35 36.8	-0.3
	1.0nm,0.8s,baz=228,slow=2.8,SNR=8.9						
ILAR	**Eielson Array**	**83.06**	**11**	P	P	03 35 37.8	-0.4
	0.4nm,0.6s,baz=228,slow=6.2,SNR=10.0						
BRTR	**Keskin Array B**	**146.71**	**320**	PKPbc	PKPbc	03 42 56.1	+0.5
	0.9nm,0.8s,baz=104,slow=2.5,SNR=4.9						

MAN 30 03:27:32.4, 12°.76N×121°.29E, h26km, mb4.0, ML2.7, MS2.3, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.34**	**209**	*e*P	Pb	03 27 40.5	+0.4
BOAC	**Boac**	**0.88**	**38**	*e*P	Pb	03 27 49.0	-0.1
BOAC				*e*S	Sn	03 28 01.4	+0.3
BUSP	**Coron**	**1.30**	**235**	*e*P	Pn	03 27 55.5	+0.6
BUSP				*e*S	Sn	03 28 12.0	+0.4
LUBP	**Lubang**	**1.40**	**314**	*e*P	Pn	03 27 56.5	+0.2
LUBP				*e*S	Sn	03 28 13.9	-0.1
RCP	**Roxas**	**1.86**	**130**⇑	*e*P	Pb	03 28 06.5	+0.8

ISCJB ***30*** *03:28:48.4±1.2, 41°.47N±0°.06×40°.67E±0°.05, h7km±5km, Error ellipse: s-maj=10.4km s-min=4.1km az=150.7*
DDA ***30*** *03:28:49.7, 41°.35N×40°.72E, h7km±2km, ML2.8*
TIF ***30*** *03:28:50.2, 41°.43N×40°.78E, h19km±3km*
ISC 30 03:28:47.8±1.8, 41°.47N±0°.07×40°.69E±0°.04, h5km±14km, n13, σ0°.45/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOM	**Cayeli-Rize**	**0.37**	**172**	PG	**Pb**	**03 28 57.4**	**+0.4**
CHOM				SG	**Sb**	**03 29 03.3**	**+0.2**
BCA	**Borcka**	**0.70**	**91**	PG	**Pb**	**03 29 02.6**	**0.0**
BCA				SG	**Sb**	**03 29 11.9**	**-0.7**
DBOC	**Borcka**	**0.74**	**99**	IAML_P			
	comp=Z,2μm,0.1s						
DBOC				*i* P	**Pn**	**03 29 04.5**	**-0.6**
BATM	**Batumi**	**0.77**	**79**	*e*PG	**Pb**	**03 29 03.8**	**+0.1**
BATM				*e*SG	**Sb**	**03 29 15.1**	**+0.7**
BATM	**Batumi**	**0.77**	**79**	P	**Pb**	**03 29 04.2**	**+0.5**
BATM				S	**Sb**	**03 29 15.3**	**+0.9**
MACK	**Trabzon**	**0.87**	**233**	IAML_P			
	comp=Z,3μm,0.1s						
MACK				*i* P	**Pn**	**03 29 06.5**	**-0.3**
MACK				*i* S	**Sb**	**03 29 17.7**	**+0.3**
DBAD	**Bademkaya**	**0.88**	**120**	IAML_P			
	comp=Z,3μm,0.1s						
DBAD				*i* P	**Pb**	**03 29 06.4**	**+0.7**
DBAD				*i* S	**Sb**	**03 29 17.5**	**-0.3**
ARTV	**Artvin**	**0.97**	**106**	IAML_P			
	comp=Z,1μm,0.1s						
ARTV				*i* P	**Pn**	**03 29 08.0**	**-0.4**
ARTV				*i* S	**Sb**	**03 29 20.3**	**-0.3**
DDEM	**Demirkent**	**0.98**	**125**	IAML_P			
	comp=Z,646nm,0.1s						
DDEM				*i* P	**Pb**	**03 29 08.1**	**+0.6**
DDEM				*i* S	**Sb**	**03 29 20.6**	**-0.2**
DAGI	**Agillar**	**1.00**	**112**	IAML_P			
	comp=Z,540nm,0.1s						
DAGI				*i* P	**Pn**	**03 29 08.6**	**-0.1**
DAGI				*i* S	**Sb**	**03 29 21.0**	**-0.3**
BAYT	**Aydıntepe-Bayb**	**1.15**	**201**	*e*PG	**Pg**	**03 29 09.8**	**-0.1**
BAYT				*e*SG	**Sg**	**03 29 24.4**	**-0.4**
BAYB	**BAYBURT**	**1.25**	**195**	IAML_P			
	comp=Z,350nm,0.1s						
BAYB				*i* P	**Pg**	**03 29 12.0**	**+0.2**
BAYB				*i* S	**Sb**	**03 29 28.7**	**+0.2**
KELT	**Kelkit**	**1.71**	**220**	IAML_P			
	comp=Z,63nm,0.1s						
KELT				*i* P	**Pb**	**03 29 19.9**	**0.0**
KELT				*i* S	**Sn**	**03 29 41.0**	**+0.1**

ISCJB ***30*** *03:38:51.3±0.6, 39°.67N±0°.03×25°.60E±0°.04, h9km±6km, Error ellipse: s-maj=6.5km s-min=4.3km az=136.1*
ATH ***30*** *03:38:51.1, 39°.67N×25°.58E, h14km±6km, ML1.6/1, Error ellipse: s-maj=6.7km s-min=0.7km az=231.0*
DDA ***30*** *03:38:51.5, 39°.78N×25°.64E, h7km±1km, ML2.5*
ISC 30 03:38:51.1±1.0, 39°.68N±0°.03×25°.60E±0°.03, h13km±10km, n14, σ0°.42/20, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.39**	**65**	IAML_P			
	comp=Z,675nm,0.1s						
BOZC				*i* P	**Pg**	**03 38 59.0**	**+0.2**
BOZC				*i* S	**Sb**	**03 39 05.2**	**-0.5**
LIA	**Limnos Island**	**0.39**	**304**	P	**Pg**	**03 38 58.8**	**-0.1**
LIA				S	**Sg**	**03 39 04.4**	**+0.2**
EFSA	**Agios Efstrati**	**0.49**	**254**	P	**Pb**	**03 39 01.6**	**-0.1**
SIGR	**SIGRI**	**0.51**	**157**	P	**Pg**	**03 39 00.9**	**-0.2**
SIGR				S	**Sg**	**03 39 08.2**	**+0.4**
SIGR				AML	AML	03 39 08.5	
	comp=E,179μm,0.3s						
SIGR				AML	AML	03 39 09.1	
	comp=N,167μm,0.3s						
PRK	**Paraskevi**	**0.68**	**130**	P	**Pg**	**03 39 04.4**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**0.73**	**85**	IAML_P			
	comp=Z,836nm,0.1s						
BAYC				*i* P	**Pb**	**03 39 05.9**	**+0.1**
SMTH	**Samothraki Isl**	**0.79**	**356**	P	**Pb**	**03 39 06.6**	**-0.3**
SMTH				S	**Sb**	**03 39 17.2**	**-0.3**
AYVA	**Ayvalik**	**0.92**	**113**	*i* P	**Pn**	**03 39 10.4**	**+0.6**
AYVA				*i* S	**Sg**	**03 39 20.1**	**-0.8**
SKY	**Skiros Island**	**1.14**	**226**	P	**Pb**	**03 39 12.0**	**-0.8**
THAS	**Thassos island**	**1.15**	**324**	P	**Pn**	**03 39 12.9**	**0.0**
THAS				S	**Sn**	**03 39 28.6**	**+0.1**
ALN	**Alexandroupoli**	**1.26**	**15**	P	**Pb**	**03 39 14.7**	**-0.1**
CHOS	**Chios island**	**1.34**	**165**	P	**Pb**	**03 39 16.4**	**+0.2**
OUR	**Ouranopolis**	**1.41**	**298**	P	**Pb**	**03 39 17.5**	**+0.2**
PAIG	**Paliouri**	**1.50**	**280**	P	**Pb**	**03 39 19.4**	**+0.6**

TIF ***30*** *03:42:41.1, 42°.41N×40°.83E, h19km±5km*
DDA ***30*** *03:42:44.4, 42°.13N×40°.86E, h7km±2km, ML2.7*
MOS ***30*** *03:42:45.2±0.0, 42°.49N×41°.08E, h11km, MPVA2.9*
ISC 30 03:42:42.9±1.2, 42°.42N±0°.02×40°.97E±0°.05, h19km±3km, n17, σ0°.65/32, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.97**	**146**	P	**Pg**	**03 43 01.6**	**-0.2**
BATM				S	**Sn**	**03 43 15.4**	**+0.6**
DOMR	**Dombai**	**1.00**	**28**	*e*Pg	**Pg**	**03 43 02.7**	**+0.4**
DOMR				*e*Sg	**Sg**	**03 43 15.1**	**-0.4**
ARXR	**Arkhyz**	**1.17**	**11**	*e*Pg	**Pg**	**03 43 05.5**	**0.0**
ARXR				*e*Sg	**Sb**	**03 43 19.4**	**0.0**
DBOC	**Borcka**	**1.19**	**154**	IAML_P			
	comp=Z,1μm,0.1s						
DBOC				*i* P	**Pb**	**03 43 04.7**	**-0.1**
ARTV	**Artvin**	**1.42**	**149**	IAML_P			
	comp=Z,580nm,0.1s						
ARTV				*i* P	**Pb**	**03 43 08.7**	**-0.2**
ARTV				*i* S	**Sb**	**03 43 26.8**	**+0.1**
SOC	**Sochi**	**1.49**	**322**	*e*Pg	**Pg**	**03 43 11.3**	**-0.2**
SOC				*e*Sg	**Sg**	**03 43 30.2**	**-0.8**
DBAD	**Bademkaya**	**1.50**	**159**	IAML_P			
	comp=Z,475nm,0.1s						
DBAD				*i* P	**Pb**	**03 43 09.7**	**-0.5**
DBAD				*i* S	**Sn**	**03 43 27.6**	**-0.3**
DAGI	**Agillar**	**1.51**	**152**	IAML_P			
	comp=Z,98nm,0.1s						
DAGI				*i* P	**Pb**	**03 43 09.8**	**-0.6**
DAGI				*i* S	**Sb**	**03 43 28.9**	**-0.2**
NEY	**Neytrino**	**1.53**	**56**	*e*Pg	**Pb**	**03 43 10.2**	**-0.6**
NEY				*e*Sg	**Sn**	**03 43 29.2**	**+0.2**
DDEM	**Demirkent**	**1.63**	**159**	IAML_P			
	comp=Z,474nm,0.1s						
DDEM				*i* P	**Pb**	**03 43 11.6**	**-0.8**
DDEM				*i* S	**Sb**	**03 43 31.9**	**-0.7**
MACK	**Trabzon**	**1.73**	**212**	*i* P	Pg	03 43 35.8	+20
MACK				*i* S	**Sg**	**03 43 40.4**	**+1.9**
SHA1	**Shidzhatmaz**	**1.81**	**42**	*e*Pg	**Pb**	**03 43 16.1**	**+0.6**
SHA1				*e*Sg	**Sb**	**03 43 38.8**	**+0.8**
LZRR	**Lazarevskoye**	**1.91**	**323**	*e*Pg	**Pg**	**03 43 19.9**	**+0.2**
LZRR				*e*Sg	**Sg**	**03 43 44.2**	**-0.3**
DIGR	**Digorskoe uzhe**	**1.98**	**75**	*e*Pg	**Pb**	**03 43 18.0**	**-0.5**
DIGR				*e*Sg	**Sb**	**03 43 43.6**	**+0.7**
KIV0	**Kislovodsk Arr**	**1.99**	**39**	*e*Pg	**Pb**	**03 43 18.4**	**-0.1**
KIV0				*i* Sg	**Sb**	**03 43 43.4**	**+0.4**
ZEI	**Tsey**	**2.19**	**79**	*e*Pg	**Pb**	**03 43 21.8**	**-0.3**
ZEI				*e*Sg	**Sb**	**03 43 49.5**	**+0.5**
LSNR	**Lesken**	**2.27**	**67**	*e*Pg	**Pb**	**03 43 21.9**	**-1.4**
LSNR				*i* Sg	**Sb**	**03 43 50.8**	**-0.2**

IDC ***30*** *03:48:01.9±0.8, 10°.38N×126°.59E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.8/41, mbtmp4.0/10, MS4.2/3, Ms1 4.2/3, ms1mx3.2/48, Error ellipse: s-maj=47.4km s-min=18.1km az=73.0*
ISCJB ***30*** *03:48:03.1±0.4, 10°.52N±0°.05×126°.92E±0°.05, h20km, mb4.2/19, Error ellipse: s-maj=7.5km s-min=6.6km az=177.8*
MAN ***30*** *03:48:05.8, 10°.63N×126°.83E, h33km, mb5.0, ML3.9, MS4.0*
NEIC ***30*** *03:48:07.1±0.3, 10°.39N×126°.70E, h35km, mb4.4/10, Error ellipse: s-maj=18.8km s-min=5.6km az=71.0*
ISC 30 03:48:05.2±0.6, 10°.57N±0°.06×126°.83E±0°.09, h20km, n35, σ0°.98/40, mb4.3/19, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.71**	**307**	*e*P	**Pn**	**03 48 33.0**	**-0.8**
BESP				*e*S	**Sn**	**03 48 53.3**	**-1.7**
MSLP	**Maasin**	**1.98**	**258**	*e*P	**Pn**	**03 48 37.8**	**+0.1**
MSLP				*e*S	**Sn**	**03 49 02.4**	**+0.4**
BUTP	**Butuan**	**1.99**	**217**	*e*P	**Pn**	**03 48 38.6**	**+0.9**
BUTP				*e*S	**Sn**	**03 49 02.4**	**+0.4**
RCP	**Roxas**	**4.13**	**284**⇑	*e*P	**Pn**	**03 49 08.4**	**+1.2**
WR1	**Warramunga Arr**	**31.21**	**166**	*e*P	**P**	**03 54 21.6**	**-1.8**
	8.5nm,1.4s						
WRA	**Warramunga Arr**	**31.21**	**166**	P	**P**	**03 54 21.6**	**-1.8**
	0.3nm,0.5s,baz=346,slow=9.4,SNR=4.1						
WB2	**Warramunga Arr**	**31.21**	**166**	*e*P	**P**	**03 54 20.9**	**-2.5**
AS31	**Alice Springs**	**34.72**	**169**	*e*P	**P**	**03 54 52.6**	**-1.5**
	1.0nm,1.1s						
ASAR	**Alice Springs**	**34.72**	**169**	P	**P**	**03 54 52.6**	**-1.5**
	0.6nm,0.5s,baz=352,slow=6.8,SNR=9.4						
ASAR				LR	LR	04 12 50.9	
	comp=Z,190nm,20.4s,baz=46,slow=43						
ASAJ	**Asahikawa**	**36.10**	**19**	P	**P**	**03 55 07.8**	**+2.1**
	2.5nm,0.3s,baz=217,slow=15,SNR=4.6						
SONA0	**Songino Array**	**40.94**	**339**	*e*P	**P**	**03 55 47.1**	**+0.7**
SONM	**Songino Array**	**40.94**	**339**	P	**P**	**03 55 47.2**	**+0.7**
	0.6nm,0.8s,baz=156,slow=7.0,SNR=4.1						
FORT	**Forrest**	**41.13**	**178**	*e*P	**P**	**03 55 47.4**	**-0.6**
	47nm,1.5s						
BBOO	**Buckleboo**	**44.03**	**169**	*e*P	**P**	**03 56 11.2**	**-0.4**
	7.4nm,0.7s						
MK01	**Makanchi Array**	**52.11**	**322**	*e*P	**P**	**03 57 14.5**	**+0.5**
MK01				*e*PcP	**PcP**	**03 58 25.2**	**-0.7**
MK31	**Makanchi Array**	**52.12**	**322**	*e*P	**P**	**03 57 15.0**	**+0.8**
	3.3nm,0.8s						
MK32	**Makanchi Array**	**52.12**	**322**	*e*P	**P**	**03 57 14.7**	**+0.5**
MK32				*e*PcP	**PcP**	**03 58 25.7**	**-0.2**
MKAR	**Makanchi Array**	**52.12**	**322**	P	**P**	**03 57 14.7**	**+0.5**
	3.2nm,0.7s,baz=117,slow=8.1,SNR=35						
MKAR				PcP	**PcP**	**03 58 25.7**	**-0.2**
	0.5nm,0.6s,baz=102,slow=6.6,SNR=2.7						
MKAR	**Makanchi Array**	**52.12**	**322**	*e*P	**P**	**03 57 15.0**	**+0.8**
	21nm,0.8s						
MKAR				PcP	**PcP**	**03 58 25.7**	**-0.2**
MAKZ	**Makanchi**	**52.32**	**322**	*e*P	**P**	**03 57 16.5**	**+0.9**
	3.4nm,0.8s						
KURK	**Kurchatov**	**56.13**	**325**	*e*P	**P**	**03 57 43.9**	**+0.6**
	4.8nm,0.8s						
ABKAR	**Akbulak array**	**67.01**	**319**	*e*P	**P**	**03 58 56.8**	**0.0**
	1.8nm,0.7s						
KVAR	**Kislovodsk Arr**	**78.54**	**313**	LR	LR	04 38 32.8	
	comp=Z,117nm,18.2s,baz=136,slow=39						
ARA0	**ARCESS Array S**	**84.11**	**340**	*e*P	**P**	**04 00 34.6**	**+0.1**
ARCES	**ARCESS Array B**	**84.11**	**340**	P	**P**	**04 00 34.6**	**+0.1**
	2.6nm,0.8s,baz=48,slow=8.6,SNR=5.7						
BR101	**Keskin Array S**	**85.77**	**309**	*e*P	**P**	**04 00 42.7**	**-0.9**
BRTR	**Keskin Array B**	**85.77**	**309**	P	**P**	**04 00 42.7**	**-0.9**
	1.3nm,0.7s,baz=99,slow=4.7,SNR=8.0						
FIA0	**FINESS Array S**	**85.89**	**332**	*e*P	**P**	**04 00 43.1**	**-0.4**
FINES	**FINESS Array B**	**85.89**	**332**	P	**P**	**04 00 43.1**	**-0.4**
	0.8nm,0.4s,baz=82,slow=4.0,SNR=8.9						
AKASG	**Malin Array Be**	**86.68**	**321**	P	**P**	**04 00 47.5**	**-0.1**
	0.4nm,0.5s,baz=67,slow=5.5,SNR=4.4						
AKBB	**Malin Array Si**	**86.68**	**321**	*e*P	**P**	**04 00 47.5**	**-0.1**
	1.7nm,0.9s						
MAW	**Mawson**	**90.17**	**200**	LR	LR	04 39 20.3	
	comp=Z,310nm,18.7s,baz=69,slow=34						
YKA	**Yellowknife Ar**	**93.26**	**24**	P	**P**	**04 01 18.8**	**+0.5**
	0.2nm,0.6s,baz=299,slow=4.9,SNR=4.3						
YKB5	**Yellowknife Ar**	**93.26**	**24**	*e*P	**P**	**04 01 18.8**	**+0.5**
PLCA	**Paso Flores**	**146.26**	**156**	PKPbc	**PKPbc**	**04 07 45.1**	**+0.3**
	0.9nm,0.6s,baz=248,slow=3.5,SNR=6.6						

ATH 30 03:48:16.7, 38°.93N×23°.33E, h12km±2km, ML1.9/8, Error ellipse: s-maj=2.4km s-min=0.6km az=325.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMIA	**Simia**	**0.11**	**242**	P	Pg	03 48 19.7	+0.1
SMIA				S	Sg	03 48 21.7	-0.1
SMIA				AML	AML	03 48 23.3	
	comp=E,7742μm,0.6s						
SMIA				AML	AML	03 48 23.9	
	comp=N,9841μm,0.5s						
SKIA	**Skiathos

EFP	**Efpalio**	**1.22 246**	P	Pb	03 48 40.0	+0.2
GUR	**Goura**	**1.26 218**	P	Pb	03 48 40.5	0.0
LAKA	**Lakka**	**1.26 237**	P	Pb	03 48 40.5	+0.1
DID	**Didima**	**1.42 183**	P	Pn	03 48 42.5	+0.1

IDC 30 **03:51:24.7**±3.1, **4°.08S**×**134°.06E**, **h0**km, **mb3.5**/1, **mb1 3.5**/4, **mb1mx3.4**/28, **mbtmp3.4**/4, **ML3.3**/3, **MS4.2**/1, **Ms1 4.1**/1, **ms1mx2.9**/30, **Error ellipse: s-maj=131.9km s-min=28.7km az=82.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.77**	**179**	Pn	Pn	03 55 08.5	+0.2
	0.1nm,0.3s,baz=356,slow=13,SNR=5.2						
FITZ	**Fitzroy Crossi**	**16.19**	**210**	Pn	Pn	03 55 13.8	+0.1
	0.2nm,0.3s,baz=36,slow=12,SNR=6.1						
ASAR	**Alice Springs**	**19.47**	**180**	P	P	03 55 53.2	-0.1
	0.1nm,0.3s,baz=4.7,slow=12,SNR=2.3						
STKA	**Stephens Creek**	**28.54**	**166**	LR	LR	04 11 02.4	
	comp=Z,472nm,21.7s,baz=27,slow=41						
MKAR	**Makanchi Array**	**68.12**	**324**	P	P	04 02 26.6	0.0
	0.5nm,0.9s,baz=112,slow=9.0,SNR=3.4						

*NNC **30** 03:52:29.2±1.7, 42°.54N×79°.66E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=10.0km s-min=7.8km az=147.0*
*SOME **30** 03:52:30.5, 42°.60N×79°.65E, h5km*
*KRNET **30** 03:52:30.3±0.1, 42°.56N×79°.68E, h17km, mb2.4*

ISC 30 **03:52:29.7**±1.6, **42°.53N**±0°.05×**79°.66E**±0°.04, **h2**km±11km, **n27**, σ0**°78**/51, **17C-3D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.78**	**323**	P	**Pg**	**03 52 44.6**	**0.0**
	1.9nm,0.1s						
UZB				S	**Sg**	**03 52 55.1**	**+0.4**
	12nm,0.3s						
UZB	**Uzynbulak**	**0.78**	**323**	*e*P	**Pg**	**03 52 44.6**	**0.0**
	baz=21						
UZB				*e*S	**Sg**	**03 52 55.1**	**+0.4**
	baz=21						
UZB	**Uzynbulak**	**0.78**	**323**	*e*P	**Pg**	**03 52 44.6**	**0.0**
	1.9nm,0.1s						
UZB				*e*S	**Sg**	**03 52 55.1**	**+0.4**
	12nm,0.3s						
PDGK	**Podgornoye**	**0.81**	**351**	P	**Pg**	**03 52 45.4**	**+0.1**
	1.9nm,0.1s						
PDGK				S	**Sg**	**03 52 56.2**	**+0.4**
	8.7nm,0.4s						
PDGK	**Podgornoye**	**0.81**	**351**	⇑P	**Pg**	**03 52 45.0**	**-0.3**
	0.6nm,0.3s						
PDGK				⇑S	**Sg**	**03 52 55.6**	**-0.2**
	9.7nm,0.4s						
PDGK	**Podgornoye**	**0.81**	**351**	⇑*i*P	**Pg**	**03 52 45.3**	**+0.1**
	baz=50						
PDGK				⇑*i*S	**Sg**	**03 52 56.2**	**+0.4**
	baz=50						
PRZ	**Przheval'sk**	**0.93**	**268**	⇑*i*P	**Pb**	**03 52 48.7**	**0.0**
	baz=66						
PRZ				⇑*i*S	**Sb**	**03 53 01.9**	**+0.3**
	baz=66						
KTMS	**Ketmen**	**1.05**	**29**	P	**Pg**	**03 52 49.9**	**+0.1**
KTMS				S	**Sg**	**03 53 03.9**	**+0.4**
KTMS	**Ketmen**	**1.05**	**29**	*e*P	**Pg**	**03 52 49.9**	**+0.1**
	baz=28						
KTMS				*e*S	**Sg**	**03 53 03.9**	**+0.4**
	baz=28						
KTMS	**Ketmen**	**1.05**	**29**	*e*P	**Pg**	**03 52 49.9**	**+0.1**
	1.3nm,0.1s						
KTMS				*e*S	**Sg**	**03 53 03.9**	**+0.4**
	6.0nm,0.1s						
SATY	**Saty**	**1.06**	**300**	P	**Pg**	**03 52 50.4**	**+0.3**
	2.5nm,0.1s						
SATY				S	**Sb**	**03 53 05.2**	**-0.2**
	12nm,0.1s						
SATY	**Saty**	**1.06**	**300**	*e*P	**Pg**	**03 52 50.4**	**+0.3**
	0.2nm,0.1s						
SATY				*e*S	**Sb**	**03 53 04.8**	**-0.6**
	4.9nm,0.1s						
DJR	**Jarkent**	**1.81**	**3**	P	**Pb**	**03 53 03.1**	**-0.5**
	0.7nm,0.2s						
DJR				S	**Sb**	**03 53 26.8**	**+0.1**
	3.4nm,0.2s						
DJR	**Jarkent**	**1.81**	**3**	*e*P	**Pb**	**03 53 03.1**	**-0.5**
	0.7nm,0.2s						
DJR				*e*S	**Sb**	**03 53 26.8**	**+0.1**
	3.4nm,0.2s						
KDJ	**Kajisay**	**1.88**	**259**	⇑*i*P	**Pb**	**03 53 05.3**	**+0.4**
	baz=58						
KDJ				⇑*i*S	**Sg**	**03 53 30.4**	**+0.3**
	baz=58						
ARXS	**Arharly**	**2.15**	**322**	Pg	**Pb**	**03 53 09.2**	**-0.2**
	1.1nm,0.3s						
ARXS				Lg	Lg	03 53 37.1	
	3.9nm,0.3s						
ARXS	**Arharly**	**2.15**	**322**	*e*P	**Pb**	**03 53 09.2**	**-0.2**
	0.4nm,0.2s						
ARXS				*e*S	**Sb**	**03 53 37.1**	**+0.5**
	3.9nm,0.3s						
CHKK	**Chushkaly**	**2.36**	**305**	*e*P	**Pb**	**03 53 13.6**	**+0.6**
	baz=5.0						
CHKK				*e*S	**Sg**	**03 53 44.4**	**-1.2**
	baz=5.0						
CHKK	**Chushkaly**	**2.36**	**305**	*e*P	**Pb**	**03 53 13.6**	**+0.6**
	0.6nm,0.1s						
CHKK				*e*S	**Sg**	**03 53 44.4**	**-1.2**
	3.6nm,0.3s						
KTBS	**Karatobe**	**2.48**	**300**	Pg	**Pb**	**03 53 16.0**	**+0.9**
	1.5nm,0.4s						
KTBS				Lg	Lg	03 53 48.0	
	4.2nm,0.3s						
KTBS	**Karatobe**	**2.48**	**300**	*e*P	**Pb**	**03 53 16.0**	**+0.9**
	baz=98						
KTBS				*e*S	**Sg**	**03 53 48.6**	**-0.8**
	baz=98						
KTBS	**Karatobe**	**2.48**	**300**	*e*P	**Pb**	**03 53 15.9**	**+0.9**
	0.1nm,0.1s						
KTBS				*e*S	**Sg**	**03 53 48.5**	**-0.8**
	3.4nm,0.2s						
ULHL	**Ulahol**	**2.55**	**265**	⇑*i*P	**Pb**	**03 53 15.0**	**-1.2**
	baz=64						
ULHL				⇑*i*S	**Sb**	**03 53 47.1**	**-1.0**
	baz=64						
BOOM	**Boomskoye usch**	**2.75**	**270**	⇑*i*P	**Pn**	**03 53 17.6**	**+2.6**
	baz=70						
BOOM				⇑*i*S	**Sb**	**03 53 51.7**	**-2.2**
	baz=70						
TKM2	**Tokmak 2**	**3.02**	**279**	⇓Pg	**Pn**	**03 53 18.0**	**-0.8**
	0.7nm,0.6s						
TKM2				⇑Lg	Lg	03 54 02.7	
	1.1nm,0.5s						
MAKZ	**Makanchi**	**4.59**	**20**	⇓Pn	**Pn**	**03 53 40.1**	**0.0**
	0.8nm,0.8s						
MAKZ				⇑Sn	**Sn**	**03 54 34.1**	**+0.1**
	0.5nm,0.8s						
MAKZ				⇑Lg	Lg	03 54 54.6	
	0.4nm,0.7s						
MK31	**Makanchi Array**	**4.66**	**23**	⇑Pn	**Pn**	**03 53 39.6**	**-1.5**
	0.1nm,0.3s,baz=199,slow=11,SNR=3.2						
MK31				⇓Sn	**Sn**	**03 54 36.5**	**+0.7**
	0.2nm,0.5s,baz=207,slow=27						
MK31				⇑Lg	Lg	03 54 57.4	
	0.1nm,0.3s,baz=197,slow=28						

*ATH **30** 04:01:02.9, 39°.71N×25°.58E, h32km±1km, ML3.4/17, Error ellipse: s-maj=1.5km s-min=1.0km az=238.0, ML Amplitudes are expressed in micrometres All distances are expressed in km*
*DDA **30** 04:01:02.4, 39°.71N×25°.60E, h24km±1km, ML3.8*
*ISCJB **30** 04:01:02.0±0.4, 39°.71N±0°.01×25°.52E±0°.02, h4km±3km, Error ellipse: s-maj=2.4km s-min=2.2km az=42.1*
*ISK **30** 04:01:02.8, 39°.71N×25°.59E, h5km, ML3.9/27*
*THE **30** 04:01:03.3, 39°.71N×25°.60E, h15km, ML3.4/12, Error ellipse: s-maj=0.8km s-min=0.4km az=92.0*
*SOF **30** 04:01:06.5, 40°.02N×25°.50E, h7km*

ISC 30 **04:01:02.8**±1.0, **39°.71N**±0°.01×**25°.52E**±0°.02, **h8**km±9km, **n172**, σ0**°95**/216, **14C-9D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.32**	**306**	P	**Pb**	**04 01 11.1**	**+0.3**
LIA				AML	AML	04 01 16.6	
	comp=N,10866μm,0.4s						
LIA				S	**Sb**	**04 01 16.8**	**+0.7**
	comp=E,6880μm,0.4s						
LIA	**Limnos Island**	**0.32**	**306**	P	**Pb**	**04 01 10.9**	**+0.2**
LIA				S	**Sb**	**04 01 16.2**	**+0.1**
BOZC	**Bozcaada**	**0.43**	**72**	PG	**Pg**	**04 01 10.9**	**-0.3**
BOZC				SG	**Sg**	**04 01 16.2**	**-0.6**
BOZC	**Bozcaada**	**0.43**	**72**	IAML_P			
	comp=Z,61μm,0.1s						
BOZC				*i* P	**Pg**	**04 01 11.9**	**+0.8**
EFSA	**Agios Efstrati**	**0.44**	**248**	P	**Pn**	**04 01 14.3**	**-1.1**
EFSA				S	**Sb**	**04 01 21.3**	**+1.6**
EFSA				AML	AML	04 01 22.9	
	comp=N,13896μm,0.4s						
EFSA				AML	AML	04 01 23.2	
	comp=E,13464μm,0.3s						
GADA	**Gvkgeada**	**0.56**	**31**	PG	**Pg**	**04 01 13.9**	**+0.3**
GADA				SG	**Sg**	**04 01 21.4**	**+0.4**
GADA	**Gvkgeada**	**0.56**	**31**	P	**Pg**	**04 01 13.7**	**+0.1**
GADA				S	**Sg**	**04 01 20.9**	**-0.1**
SIGR	**SIGRI**	**0.56**	**152**	PG	**Pg**	**04 01 13.7**	**+0.1**
SIGR				SG	**Sg**	**04 01 20.8**	**-0.2**
SIGR	**SIGRI**	**0.56**	**152**	P	**Pg**	**04 01 13.7**	**+0.1**
SIGR				S	**Sg**	**04 01 21.8**	**+0.8**
SIGR				AML	AML	04 01 22.3	
	comp=N,79222μm,0.5s						
SIGR				AML	AML	04 01 22.3	
	comp=E,68387μm,0.5s						
SIGR	**SIGRI**	**0.56**	**152**	P	**Pg**	**04 01 13.6**	**0.0**
SIGR				S	**Sg**	**04 01 21.4**	**+0.4**
EZN	**Ezine**	**0.63**	**79**	PG	**Pg**	**04 01 14.1**	**-0.9**
EZN				SG	**Sg**	**04 01 22.3**	**-1.0**
EZN	**Ezine**	**0.63**	**79**	P	**Pg**	**04 01 14.3**	**-0.7**
EZN				S	**Sg**	**04 01 22.2**	**-1.0**
PRK	**Paraskevi**	**0.74**	**128**	P	**Pb**	**04 01 18.0**	**0.0**
PRK				S	**Sb**	**04 01 27.6**	**-0.8**
PRK				AML	AML	04 01 30.3	
	comp=E,39632μm,0.5s						
PRK				AML	AML	04 01 31.6	
	comp=N,34234μm,0.4s						
PRK	**Paraskevi**	**0.74**	**128**	P	**Pg**	**04 01 17.6**	**+0.5**
PRK				S	**Sg**	**04 01 27.2**	**+0.4**
SMTH	**Samothraki Isl**	**0.76**	**1**	P	**Pb**	**04 01 18.2**	**-0.1**
SMTH				S	**Sb**	**04 01 29.2**	**+0.4**
SMTH				AML	AML	04 01 30.6	
	comp=N,6276μm,0.5s						
SMTH				AML	AML	04 01 30.8	
	comp=E,5697μm,0.5s						
SMTH	**Samothraki Isl**	**0.76**	**1**	P	**Pb**	**04 01 18.0**	**-0.3**
SMTH				S	**Sb**	**04 01 28.6**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**0.79**	**87**	IAML_P			
	comp=Z,47μm,0.1s						
BAYC				*i* P	**Pg**	**04 01 17.7**	**-0.3**
BAYC				*i* S	**Sg**	**04 01 27.3**	**-1.1**
AYVA	**Ayvalik**	**0.99**	**114**	IAML_P			
	comp=Z,9μm,0.2s						
AYVA				*i* P	**Pg**	**04 01 21.2**	**-0.5**
AYVA				*i* S	**Sb**	**04 01 35.4**	**0.0**
GELI	**Tayfur-Gelibol**	**1.00**	**47**	PG	**Pg**	**04 01 21.9**	**-0.2**
THAS	**Thassos island**	**1.08**	**326**	P	**Pg**	**04 01 23.6**	**+0.1**
THAS				S	**Sn**	**04 01 38.9**	**-0.6**
THAS				AML	AML	04 01 40.1	
	comp=N,4000μm,0.5s						
THAS				AML	AML	04 01 42.5	
	comp=E,3110μm,0.4s						
THAS	**Thassos island**	**1.08**	**326**	P	**Pg**	**04 01 23.1**	**-0.5**
THAS				S	**Sn**	**04 01 38.8**	**-0.7**
SKY	**Skiros Island**	**1.12**	**222**	P	**Pb**	**04 01 24.2**	**-0.2**
SKY				S	**Sb**	**04 01 39.6**	**+0.4**
SKY				AML	AML	04 01 41.9	
	comp=N,3756μm,0.5s						
SKY				AML	AML	04 01 42.7	
	comp=E,4627μm,0.2s						
SKY	**Skiros Island**	**1.12**	**222**	P	**Pb**	**04 01 23.9**	**-0.5**
SKY				S	**Sn**	**04 01 40.1**	**-0.3**
ENEZ	**Enez**	**1.13**	**25**	PN	**Pb**	**04 01 24.3**	**-0.3**
LPK	**Lapseki**	**1.16**	**55**	PN	**Pb**	**04 01 24.7**	**-0.4**
PSRA	**Psara**	**1.17**	**178**	P	**Pb**	**04 01 25.2**	**0.0**
ERIK	**Erikli-Kesan**	**1.23**	**38**	PN	**Pn**	**04 01 25.3**	**-0.9**
ALN	**Alexandroupoli**	**1.25**	**19**	PN	**Pn**	**04 01 26.5**	**-0.1**
ALN	**Alexandroupoli**	**1.25**	**19**	P	**Pn**	**04 01 26.1**	**-0.5**
ALN				S	**Sb**	**04 01 41.9**	**-1.1**
ALN				AML	AML	04 01 43.3	
	comp=E,2954μm,0.4s						
ALN				AML	AML	04 01 43.4	
	comp=N,1378μm,0.5s						
ALN	**Alexandroupoli**	**1.25**	**19**	P	**Pn**	**04 01 25.5**	**-1.1**
ALN				S	**Sb**	**04 01 42.0**	**-1.0**
OUR	**Ouranopolis**	**1.33**	**298**	PN	**Pg**	**04 01 28.7**	**+0.4**
OUR	**Ouranopolis**	**1.33**	**298**	P	**Pn**	**04 01 27.6**	**-0.1**
OUR				S	**Sb**	**04 01 45.2**	**-0.1**
FOCM	**Foa**	**1.37**	**136**	PN	**Pb**	**04 01 28.7**	**0.0**
KRBN	**Karaburun**	**1.38**	**144**	PN	**Pb**	**04 01 28.8**	**0.0**
AOS	**Alonnisos**	**1.38**	**247**	P	**Pn**	**04 01 28.3**	**-0.1**
AOS				S	**Sb**	**04 01 46.5**	**-0.1**
AOS				AML	AML	04 01 52.2	
	comp=N,2798μm,0.5s						
AOS				AML	AML	04 01 52.4	
	comp=E,3270μm,0.5s						
AOS	**Alonnisos**	**1.38**	**247**	P	**Pn**	**04 01 28.1**	**-0.2**
AOS				S	**Sn**	**04 01 46.9**	**+0.1**
CHOS	**Chios island**	**1.39**	**162**	PN	**Pn**	**04 01 28.7**	**+0.2**
CHOS	**Chios island**	**1.39**	**162**	P	**Pn**	**04 01 27.4**	**-1.1**
CHOS				S	**Sb**	**04 01 44.6**	**-2.3**
CHOS				AML	AML	04 01 49.3	
	comp=E,7219μm,0.6s						
CHOS				AML	AML	04 01 49.9	
	comp=N,6236μm,0.5s						
CHOS	**Chios island**	**1.39**	**162**	P	**Pn**	**04 01 26.8**	**-1.7**
CHOS				S	**Sb**	**04 01 44.9**	**-2.0**
ALNA	**Alonissos**	**1.40**	**247**	P	**Pb**	**04 01 29.1**	**0.0**
KESN	**Edirne-Kesan**	**1.43**	**38**	IAML_P			
	comp=Z,2μm,0.2s						
KESN				*i* P	**Pn**	**04 01 28.7**	**-0.6**
KESN				*i* S	**Sn**	**04 01 48.2**	**-0.3**
PAIG	**Paliouri**	**1.43**	**279**	P	**Pn**	**04 01 28.9**	**-0.1**
PAIG				S	**Sg**	**04 01 49.3**	**+0.5**
PAIG				AML	AML	04 01 53.7	
	comp=N,1121μm,0.6s						
PAIG				AML	AML	04 01 54.1	
	comp=E,528μm,1.0s						
PAIG	**Paliouri**	**1.43**	**279**	P	**Pn**	**04 01 28.5**	**-0.6**
RDO	**Rodhopi**	**1.43**	**1**	PN	**Pb**	**04 01 29.6**	**-0.2**
RDO	**Rodhopi**	**1.43**	**1**	P	**Pn**	**04 01 28.7**	**-0.4**
RDO	**Rodhopi**	**1.43**	**1**	P	**Pn**	**04 01 28.2**	**-0.9**
RDO				S	**Sn**	**04 01 46.7**	**-1.5**
KAVA	**Kavala**	**1.50**	**329**	P	**Pn**	**04 01 29.4**	**-0.6**
KAVA				S	**Sn**	**04 01 48.7**	**-1.0**
KAVA				AML	AML	04 01 55.7	
	comp=E,1422μm,0.3s						
KAVA				AML	AML	04 01 56.2	
	comp=N,798μm,0.3s						
KAVA	**Kavala**	**1.50**	**329**	P	**Pn**	**04 01 29.4**	**-0.6**
KAVA				S	**Sn**	**04 01 49.0**	**-0.7**
KVLA	**Kavala**	**1.50**	**325**	P	**Pn**	**04 01 29.5**	**-0.5**
KRBG	**Karabiga-Canak**	**1.53**	**63**	PN	**Pn**	**04 01 30.5**	**+0.1**
URLA	**Izmir**	**1.59**	**148**	PN	**Pn**	**04 01 30.3**	**-1.0**
URLA	**Izmir**	**1.59**	**148**	IAML_P			
	comp=Z,8μm,0.3s						
URLA				*i* P	**Pn**	**04 01 30.4**	**-0.9**
URLA				*i* S	**Sb**	**04 01 52.9**	**+0.2**
KNL	**Balıkesir**	**1.64**	**69**	*i* P	**Pn**	**04 01 30.9**	**-1.0**
SKIA	**Skiathos**	**1.68**	**252**	P	**Pn**	**04 01 32.2**	**-0.3**
SKIA				AML	AML	04 02 02.4	
	comp=E,2692μm,0.4s						
SKIA				AML	AML	04 02 02.8	
	comp=N,4201μm,0.6s						
SKIA	**Skiathos**	**1.68**	**252**	P	**Pn**	**04 01 32.1**	**-0.4**
PLG	**Polygyros**	**1.72**	**293**	P	**Pn**	**04 01 33.6**	**+0.4**
PLG				AML	AML	04 02 02.7	
	comp=E,702μm,0.5s						
PLG				AML	AML	04 02 02.8	
	comp=N,592μm,0.5s						
PLG	**Polygyros**	**1.72**	**293**	P	**Pn**	**04 01 33.0**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.73**	**100**	IAML_P			
	comp=Z,3μm,0.1s						
STEP				*i* P	**Pn**	**04 01 33.0**	**-0.2**
STEP				*i* S	**Sb**	**04 01 57.4**	**+0.5**
BLCB	**Balcova**	**1.78**	**138**	PN	**Pn**	**04 01 33.9**	**+0.1**
EREA	**Eretria**	**1.79**	**224**	P	**Pn**	**04 01 33.3**	**-0.7**
EREA	**Eretria**	**1.79**	**224**	P	**Pn**	**04 01 33.1**	**-0.9**
NEO	**Neokhori**	**1.82**	**258**	P	**Pn**	**04 01 34.6**	**+0.1**
NEO				AML	AML	04 02 04.5	
	comp=N,1655μm,0.6s						
NEO				AML	AML	04 02 06.8	
	comp=E,909μm,0.4s						
NEO	**Neokhori**	**1.82**	**258**	P	**Pn**	**04 01 34.2**	**-0.3**
BALB	**Balikesir**	**1.82**	**91**	PN	**Pn**	**04 01 34.5**	**0.0**
XOR	**Xorichti**	**1.83**	**260**	P	**Pb**	**04 01 35.7**	**-0.9**
XOR				AML	AML	04 02 05.5	
	comp=E,681μm,0.5s						
XOR				AML	AML	04 02 06.0	
	comp=N,1526μm,0.6s						
XOR	**Xorichti**	**1.83**	**260**	P	**Pn**	**04 01 35.1**	**+0.5**
EDC	**Edincik**	**1.91**	**70**	PN	**Pn**	**04 01 36.1**	**+0.4**
KDZ	**Kurdzhali**	**1.94**	**358**	PN	**Pn**	**04 01 37.0**	**+0.9**
KDZ	**Kurdzhali**	**1.94**	**358**	P	**Pg**	**04 01 39.5**	**-0.4**
AKHS	**Akhisar**	**1.97**	**114**	IAML_P			
	comp=Z,2μm,0.1s						
AKHS				*i* P	**Pn**	**04 01 36.7**	**+0.3**
DGB	**zmir**	**1.97**	**147**	*i* P	**Pn**	**04 01 35.1**	**-1.4**
DGB				*i* S	**Sg**	**04 02 05.5**	**-0.5**
SOH	**Sokhos**	**1.99**	**305**	P	**Pn**	**04 01 37.3**	**+0.5**
SOH	**Sokhos**	**1.99**	**305**	P	**Pn**	**04 01 36.8**	**-0.1**
TKR	**Tekirdag**	**2.00**	**50**	PN	**Pn**	**04 01 37.7**	**+0.8**
SRS	**Serrai**	**2.03**	**314**	P	**Pn**	**04 01 37.5**	**+0.1**
SRS				AML	AML	04 02 13.1	
	comp=E,523μm,0.8s						
SRS				AML	AML	04 02 23.4	
	comp=N,534μm,0.9s						
SRS	**Serrai**	**2.03**	**314**	P	**Pn**	**04 01 36.8**	**-0.6**
HORT	**Hortiatis**	**2.05**	**296**	P	**Pn**	**04 01 38.4**	**+0.7**
NVR	**Nevrokopi**	**2.07**	**323**	P	**Pn**	**04 01 37.8**	**-0.1**
NVR	**Nevrokopi**	**2.07**	**323**	P	**Pn**	**04 01 37.7**	**-0.2**
RZN	**Rozhen**	**2.07**	**343**	Pg	**Pb**	**04 01 41.6**	**+0.9**
GOMA	**Golmarmara-Man**	**2.12**	**118**	PN	**Pn**	**04 01 39.1**	**+0.6**
ATAL	**Atalanti**	**2.19**	**243**	P	**Pn**	**04 01 39.0**	**-0.5**
ATHU	**Athens Univers**	**2.21**	**218**	P	**Pn**	**04 01 39.1**	**-0.6**
CRLT	**Corlu**	**2.21**	**49**	PN	**Pn**	**04 01 40.8**	**+1.0**
KCTX	**Karacabey (Bur**	**2.25**	**75**	PN	**Pn**	**04 01 40.8**	**+0.4**
DURS	**Dursunbey**	**2.29**	**92**	IAML_P			
	comp=Z,1μm,0.1s						
DURS				*i* P	**Pn**	**04 01 40.8**	**-0.1**
VILL	**Villia**	**2.31**	**229**	P	**Pn**	**04 01 40.4**	**-0.8**
MMB	**Musomiste**	**2.32**	**325**	P	**Pn**	**04 01 41.5**	**+0.2**
EDRB	**Edirne**	**2.33**	**23**	PN	**Pn**	**04 01 42.4**	**+1.0**
EDRB	**Edirne**	**2.33**	**23**	P	**Pn**	**04 01 40.4**	**-1.0**
DIM	**Dimitrovgrad**	**2.34**	**0**	P	**Pn**	**04 01 41.6**	**+0.1**
DST	**Dursunbey**	**2.40**	**92**	PN	**Pn**	**04 01 42.8**	**+0.4**
PHSR	**Pinarhisar**	**2.45**	**38**	PN	**Pn**	**04 01 44.5**	**+1.4**
KNT	**Kendrikon**	**2.47**	**307**	P	**Pn**	**04 01 43.1**	**-0.3**
PLD	**Plovdiv**	**2.47**	**346**	P	**Pb**	**04 01 46.8**	**-0.6**
SLVT	**Silivri**	**2.55**	**53**	PN	**Pn**	**04 01 45.2**	**+0.7**
AGG	**Agios Georgios**	**2.56**	**255**	P	**Pn**	**04 01 44.6**	**-0.1**
DEMI	**Demirci**	**2.57**	**104**	IAML_P			
	comp=Z,1μm,0.2s						
DEMI				*i* P	**Pn**	**04 01 45.4**	**+0.6**
LTK	**Loutraki**	**2.61**	**231**	P	**Pn**	**04 01 45.0**	**-0.3**
ORLT	**Orhaneli**	**2.62**	**82**	PN	**Pn**	**04 01 46.1**	**+0.6**
APE	**Apeiranthos**	**2.64**	**180**	⇑*i*P	**Pn**	**04 01 44.3**	**-1.4**
MANT	**Manisa**	**2.66**	**116**	IAML_P			
	comp=Z,369nm,0.1s						
MANT				*i* P	**Pn**	**04 01 46.8**	**+0.6**
MANT				*i* S	**Sb**	**04 02 25.8**	**+2.0**
MDNY	**Mudanya-Bursa**	**2.67**	**75**	PN	**Pn**	**04 01 47.2**	**+1.2**
GRG	**Griva**	**2.69**	**299**	P	**Pn**	**04 01 45.5**	**-0.9**
MAKR	**Makrakomi, Fth**	**2.72**	**256**	P	**Pn**	**04 01 47.7**	**+0.9**
SBT5	**Esenkoy-Cinarc**	**2.73**	**69**	PN	**Pn**	**04 01 47.6**	**+0.7**
CTKS	**Kestanelik-??a**	**2.74**	**55**	PN	**Pn**	**04 01 46.9**	**-0.2**
CTYL	**Yalikoy Yolu**	**2.75**	**49**	PN	**Pn**	**04 01 48.2**	**+1.0**
SMAA	**Simav-Kutahya**	**2.75**	**102**	PN	**Pn**	**04 01 47.6**	**+0.3**
AYDN	**Tasoluk**	**2.76**	**137**	IAML_P			
	comp=Z,2μm,0.3s						
AYDN				*i* P	**Pn**	**04 01 47.7**	**+0.3**
AYDN				*i* S	**Sg**	**04 02 31.6**	**+0.2**
KIYI	**Yalıkoy-Catalc**	**2.76**	**49**	PN	**Pn**	**04 01 48.1**	**+0.8**
VAY	**Valandovo**	**2.76**	**307**	*i* Pn	**Pn**	**04 01 48.6**	**+1.2**
VAY				*i* Pg	**Pg**	**04 01 56.8**	**+1.1**
VAY				*i* Sn	**Sg**	**04 02 33.3**	**+1.8**
DID	**Didima**	**2.83**	**220**	P	**Pn**	**04 01 47.6**	**-0.8**
KKB	**Krupnik**	**2.84**	**320**	P	**Pn**	**04 01 50.3**	**+1.9**
KKB				Pg	**Pg**	**04 01 57.3**	**+0.2**
JMB	**Yambol**	**2.87**	**16**	Pg	**Pg**	**04 01 58.3**	**+0.6**
BGKT	**Bogazkoy**	**2.88**	**58**	PN	**Pn**	**04 01 50.2**	**+1.2**
GEMT	**Gemlik**	**2.91**	**74**	PN	**Pn**	**04 01 50.2**	**+0.8**
KALE	**Kalithea**	**2.94**	**244**	P	**Pn**	**04 01 50.2**	**+0.3**
BUY	**Buyukada**	**2.98**	**66**	IAML_P			
	comp=Z,499nm,0.2s						
BUY				*i* P	**Pn**	**04 01 52.0**	**+1.6**
BUY				*i* S	**Sb**	**04 02 34.3**	**+1.6**
ANX	**Ano Chora**	**3.01**	**249**	P	**Pn**	**04 01 51.2**	**+0.3**
PGB	**Panagyurishte**	**3.02**	**341**	P	**Pn**	**04 01 50.8**	**-0.1**
ISK	**Istanbul-Kandi**	**3.02**	**62**	PN	**Pn**	**04 01 51.9**	**+0.9**
KAVV	**Kandilli-Istan**	**3.02**	**62**	PN	**Pn**	**04 01 51.6**	**+0.6**
BDRM	**Kayabasi**	**3.04**	**150**	*i* P	**Pn**	**04 01 51.1**	**-0.2**
BDRM				*i* S	**Sb**	**04 02 37.2**	**+2.7**
YLV	**Yalova**	**3.08**	**73**	PN	**Pn**	**04 01 52.2**	**+0.4**
KLYT	**Kilyos**	**3.10**	**59**	PN	**Pn**	**04 01 53.3**	**+1.3**
IZI	**Iznik**	**3.10**	**77**	PN	**Pn**	**04 01 52.5**	**+0.4**
LAKA	**Lakka**	**3.12**	**243**	P	**Pn**	**04 01 52.8**	**+0.4**
STIP	**Stip**	**3.22**	**309**	*i* Pn	**Pn**	**04 01 53.1**	**-0.5**
STIP			

NIED ***30*** *04:07:00,38.°20N×141.°70E,h47km,Mw3.9 Best double couple: M₀7.19000×10¹⁴ NP1:φ=244.00000°,δ34.00000°, λ124.00000°. NP2:φ=25.00000°,δ62.00000°,λ69.00000°.*
ISCJB ***30*** *04:07:23.3±0.6,38.°17N±0.°03×141.°74E±0.°06,h58km±3km, mb4.3/21,Error ellipse: s-maj=8.3km s-min=4.5km az=24.0*
JMA ***30*** *04:07:24.3±0.1,38.°18N×141.°69E,h50km±1km,M3.7*
JMA Felt II J1.
NEIC ***30*** *04:07:26.1±0.7,38.°18N×141.°68E,h68km±6km,mb4.9/8, Error ellipse: s-maj=7.2km s-min=5.7km az=98.0*
NEIC Recorded [2 JMA] in Miyagi.
IDC ***30*** *04:07:26.2±1.1,38.°17N×141.°75E,h71km±6km,mb3.8/13, mb1 3.8/17,mb1mx3.6/59,mbtmp4.0/17,Error ellipse: s-maj=25.4km s-min=15.4km az=84.0*

ISC 30 04:07:25.4±0.7,38°19N±0.°04×141°71E±0.°06,h59km±5km, h59km:pP-P,n63,σ1§50/82,mb4.2/22,11D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.23**	**302**	P	**Pn**	**04 07 32.9**	**-2.0**
JIKH				S	**Sn**	**04 07 38.8**	**-2.9**
JIO	**Ouri**	**0.39**	**313**	⇓P	**Pn**	**04 07 34.4**	**-1.7**
JIO				S	**Sn**	**04 07 41.2**	**-2.7**
JKMT	**Kesennumamotoy**	**0.64**	**343**	P	**Pn**	**04 07 37.4**	**-1.5**
JKMT				S	**Sn**	**04 07 46.4**	**-2.4**
JOFO	**Osakifurukawao**	**0.75**	**303**	P	**Pn**	**04 07 39.1**	**-1.1**
JOFO				S	**Sn**	**04 07 50.1**	**-0.9**
JMM	**Marumori**	**0.79**	**246**	⇓P	**Pn**	**04 07 38.7**	**-2.1**
JMM				S	**Sn**	**04 07 49.2**	**-2.8**
JOU	**Okura**	**0.84**	**282**	⇓P	**Pn**	**04 07 40.1**	**-1.3**
JOU				S	**Sn**	**04 07 51.3**	**-1.8**
JMK	**Ichinoseki**	**0.85**	**333**	⇓P	**Pn**	**04 07 40.3**	**-1.2**
JMK				S	**Sn**	**04 07 51.6**	**-1.7**
JFK	**Kawauchi**	**1.06**	**219**	P	**Pn**	**04 07 42.3**	**-1.9**
JFK				S	**Sn**	**04 07 55.6**	**-2.5**
JFT	**Otama**	**1.28**	**239**	⇓P	**Pn**	**04 07 46.0**	**-1.1**
JFT				S	**Sn**	**04 08 01.7**	**-1.6**
JYK	**Kaneyama**	**1.28**	**305**	⇓P	**Pn**	**04 07 46.1**	**-1.1**
JYK				S	**Sn**	**04 08 03.0**	**-0.4**
JYS	**Shirataka**	**1.29**	**272**	⇓P	**Pn**	**04 07 46.3**	**-1.0**
JYS				S	**Sn**	**04 08 02.7**	**-1.0**
JOM	**Ohasama**	**1.32**	**346**	⇓P	**Pn**	**04 07 46.8**	**-0.9**
JOM				S	**Sn**	**04 08 03.3**	**-1.0**
JRG	**Rokugo**	**1.47**	**325**	⇓P	**Pn**	**04 07 49.2**	**-0.4**
JYA	**Atsumi**	**1.62**	**285**	⇓P	**Pn**	**04 07 50.4**	**-1.3**
JFY	**Yanaizu**	**1.77**	**244**	⇓P	**Pn**	**04 07 53.0**	**-0.8**
JFY				S	**Sn**	**04 08 14.2**	**-1.1**
MJAR	**Matsushiro Arr**	**3.24**	**240**	P	**Pn**	**04 08 14.0**	**+0.1**
	0.7nm,0.3s,baz=57,slow=10,SNR=15						
MAJO	**Matsushiro**	**3.24**	**241**	*e*Pn	**Pn**	**04 08 14.4**	**+0.6**
MAJO				*e*Sn	**Sn**	**04 08 49.7**	**-1.5**
MAT	**Matsushiro**	**3.24**	**241**	P	**Pn**	**04 08 14.0**	**+0.2**
MAT				*e*S	**Sn**	**04 08 55.0**	**+3.8**
MJB9	**Matsu-Tunnel**	**3.24**	**241**	*e*Pn	**Pn**	**04 08 13.7**	**-0.2**
ASAJ	**Asahikawa**	**5.96**	**6**	P	**Pn**	**04 08 50.8**	**-0.2**
	0.9nm,0.3s,baz=213,slow=24,SNR=3.6						
USRK	**Ussuriysk Ar.**	**9.47**	**312**	P	**Pn**	**04 09 39.1**	**+0.1**
	0.6nm,0.3s,baz=122,slow=14,SNR=14						
KSRS	**Korea Array**	**10.93**	**270**	P	**Pn**	**04 10 00.9**	**+1.9**
	0.2nm,0.3s,baz=88,slow=14,SNR=3.9						
KS15	**Wonju Array Si**	**10.96**	**270**	*e*Pn	**Pn**	**04 10 00.9**	**+1.4**
KSAR	**Wonju Array Be**	**10.96**	**270**	P	**Pn**	**04 10 00.9**	**+1.4**
NACB	**Ninganchiao**	**22.10**	**237**	*e*P	**P**	**04 12 13.6**	**-2.3**
	26nm,0.5s						
SMY	**Shemya**	**26.69**	**46**	*e*P	**P**	**04 12 58.8**	**0.0**
	522nm,1.6s						
SONA0	**Songino Array**	**27.35**	**302**	*e*P	**P**	**04 13 05.5**	**+0.5**
SONM	**Songino Array**	**27.35**	**302**	P	**P**	**04 13 05.5**	**+0.5**
	0.4nm,0.5s,baz=95,slow=9.7,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**28.56**	**123**	T	T	04 43 27.0	
	baz=316,slow=75,SNR=34						
H11N1	**WAKE ISLAND Hy**	**28.57**	**123**	T	T	04 43 27.6	
	baz=316,slow=75,SNR=52						
H11N3	**WAKE ISLAND Hy**	**28.58**	**123**	T	T	04 43 28.4	
	baz=316,slow=75,SNR=27						
WAKE	**Wake Island**	**28.72**	**124**	*e*P	**P**	**04 13 18.4**	**+1.1**
	398nm,1.6s						
H11S1	**WAKE ISLAND Hy**	**29.31**	**125**	T	T	04 44 25.7	
	baz=318,slow=76,SNR=41						
H11S3	**WAKE ISLAND Hy**	**29.31**	**125**	T	T	04 44 25.3	
	baz=318,slow=76,SNR=67						
H11S2	**WAKE ISLAND Hy**	**29.33**	**125**	T	T	04 44 26.3	
	baz=318,slow=76,SNR=32						
KIWB	**Kanaga Island**	**31.67**	**51**	*e*P	**P**	**04 13 43.5**	**+0.4**
ZAA0	**Zalesovo Array**	**41.32**	**311**	*e*P	**P**	**04 15 05.2**	**+0.2**
	2.8nm,0.6s						
ZAA1	**Zalesovo Array**	**41.32**	**311**	*e*P	**P**	**04 15 04.9**	**-0.2**
ZAA1				*e*pP	**pP**	**04 15 22.4**	**+2.4**
ZALV	**Zalesovo Beam**	**41.32**	**311**	P	**P**	**04 15 04.9**	**-0.2**
	2.2nm,0.5s,baz=81,slow=7.1,SNR=9.2						
ZALV				pP	**pP**	**04 15 22.4**	**+2.4**
	2.6nm,0.7s,baz=84,slow=8.3,SNR=5.2						
ZALV	**Zalesovo Beam**	**41.32**	**311**	*e*P	**P**	**04 15 03.8**	**-1.3**
ZALV				pP	**pP**	**04 15 22.4**	**+2.4**
MK01	**Makanchi Array**	**43.71**	**301**	*e*P	**P**	**04 15 24.4**	**-0.2**
MK01				*e*pP	**pP**	**04 15 42.1**	**+2.4**
MK32	**Makanchi Array**	**43.71**	**301**	*e*P	**P**	**04 15 24.2**	**-0.5**
MK32				*e*pP	**pP**	**04 15 42.2**	**+2.5**
MKAR	**Makanchi Array**	**43.71**	**301**	P	**P**	**04 15 24.2**	**-0.5**
	1.3nm,0.6s,baz=86,slow=9.9,SNR=15						
MKAR				pP	**pP**	**04 15 42.2**	**+2.5**
	2.4nm,0.7s,baz=85,slow=10,SNR=12						
KURK	**Kurchatov**	**45.41**	**307**	*e*P	**P**	**04 15 37.7**	**-0.3**
	8.6nm,0.7s						
KURK				*e*pP	**pP**	**04 15 56.0**	**+2.7**
KURBB	**Kurchatov Arra**	**45.48**	**307**	P	**P**	**04 15 38.3**	**-0.4**
	1.7nm,0.3s,baz=82,slow=8.4,SNR=23						
KURBB				pP	**pP**	**04 15 56.0**	**+2.2**
	8.1nm,0.7s,baz=82,slow=8.3,SNR=16						
BVAR	**Borovoye Array**	**49.97**	**312**	P	**P**	**04 16 13.1**	**-0.3**
	0.7nm,0.4s,baz=70,slow=8.0,SNR=7.5						
BVAR				pP	**pP**	**04 16 31.2**	**+2.4**
	0.8nm,0.5s,baz=63,slow=7.2,SNR=4.6						
ABKAR	**Akbulak array**	**57.38**	**310**	*e*P	**P**	**04 17 07.0**	**-0.5**
	13nm,2.0s						
WR1	**Warramunga Arr**	**58.24**	**188**	*e*P	**P**	**04 17 12.8**	**-1.1**
	32nm,1.8s						
WRA	**Warramunga Arr**	**58.24**	**188**	P	**P**	**04 17 12.8**	**-1.1**
	0.8nm,0.5s,baz=6.0,slow=7.3,SNR=26						
AS31	**Alice Springs**	**61.97**	**188**	*e*P	**P**	**04 17 39.0**	**-0.2**
	0.9nm,0.8s						
ASAR	**Alice Springs**	**61.97**	**188**	P	**P**	**04 17 39.0**	**-0.3**
	0.6nm,0.6s,baz=12,slow=6.5,SNR=6.7						
ARA0	**ARCESS Array S**	**63.00**	**339**	*e*P	**P**	**04 17 45.7**	**0.0**
ARCES	**ARCESS Array B**	**63.00**	**339**	P	**P**	**04 17 45.7**	**0.0**
	4.9nm,1.0s,baz=33,slow=7.3,SNR=4.5						
FIA0	**FINESS Array S**	**67.90**	**332**	*e*P	**P**	**04 18 16.8**	**-0.6**
FINES	**FINESS Array B**	**67.90**	**332**	P	**P**	**04 18 16.8**	**-0.6**
	1.0nm,0.6s,baz=25,slow=10,SNR=4.5						
HFS	**Hagfors**	**73.13**	**336**	P	**P**	**04 18 49.0**	**-0.3**
	2.4nm,0.5s,baz=56,slow=5.6,SNR=15						
NB2	**NORSAR Subarra**	**73.21**	**337**	P	**P**	**04 18 49.6**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=39,slow=6.2						
NB200	**NORSAR Array S**	**73.21**	**337**	*e*P	**P**	**04 18 49.3**	**-0.6**
NOA	**NORSAR Array B**	**73.21**	**337**	P	**P**	**04 18 49.3**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=58,slow=6.8,SNR=5.0						
AKASG	**Malin Array Be**	**73.53**	**322**	P	**P**	**04 18 51.1**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=45,slow=5.8,SNR=4.7						
AKASG				pP	**pP**	**04 19 09.8**	**+1.8**
	comp=Z,0.8nm,0.5s,baz=46,slow=5.6,SNR=3.4						
AKBB	**Malin Array Si**	**73.53**	**322**	*e*P	**P**	**04 18 51.1**	**-0.7**
AKBB				*e*pP	**pP**	**04 19 09.8**	**+1.8**
FRB	**Frobisher Bay**	**75.59**	**13**	P	**P**	**04 19 03.4**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=312,slow=7.5,SNR=3.7						
BRTR	**Keskin Array B**	**78.26**	**312**	pP	pP	04 19 38.0	+2.5
	comp=Z,0.4nm,0.5s,baz=100,slow=3.0,SNR=2.6						

IDC 30 04:13:33.7±3.8,6°38S×108°97E,h144km±65km,mb3.4/4, mb1 3.5/4,mb1mx3.1/47,mbtmp3.9/4,Error ellipse: s-maj=90.7km s-min=86.5km az=32.0,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang**	**1.42**	**251**	P	Pn	04 14 02.7	+0.6
	21nm,0.3s,baz=51,slow=13,SNR=15						
LEM				S	Sn	04 14 23.7	-0.1
	4.2nm,0.3s,baz=86,slow=8.4,SNR=11						
FITZ	**Fitzroy Crossi**	**20.00**	**127**	P	P	04 17 55.4	+0.1
	3.0nm,0.8s,baz=318,slow=8.7,SNR=7.5						
WRA	**Warramunga Arr**	**28.08**	**121**	P	P	04 19 12.4	+0.4
	1.1nm,1.1s,baz=307,slow=8.9,SNR=7.7						
ASAR	**Alice Springs**	**29.50**	**128**	P	P	04 19 24.3	-0.2
	0.4nm,0.5s,baz=313,slow=8.3,SNR=5.5						
STKA	**Stephens Creek**	**39.63**	**134**	P	P	04 20 50.8	-0.7
	1.2nm,0.3s,baz=302,slow=10,SNR=4.6						

AZER ***30*** *04:16:36.7±0.0,38.°34N×46.°81E,h10km±1km,ml3.5/22, Error ellipse: s-maj=5.0km s-min=1.6km az=31.0*
NSSP ***30*** *04:16:38.7,38.°42N×46.°87E,h12km,Ms3.7*
THR ***30*** *04:16:39.6,38.°46N×46.°86E,h18km,ML3.3*
TEH ***30*** *04:16:39.3,38.°42N×46.°83E,h6km,ML3.4*

ISC 30 04:16:39.0±1.2,38°49N±0.°03×46°79E±0.°02,h2km±11km, n75,σ1§57/97,21C-15D,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ITBZ	**Tabriz**	**0.57**	**243**	*e*Pg	**Pb**	**04 16 50.6**	**-1.3**
ITBZ				IAMB	IAmb	04 17 01.8	
	comp=Z,21μm,0.2s						
ORD	**Ordubad**	**0.76**	**305**	*e*Pg	**Pb**	**04 16 54.5**	**-0.6**
ORD	**Ordubad**	**0.76**	**305**	⇑P	**Pb**	**04 16 54.5**	**-0.6**
ORD				⇑S	**Sb**	**04 17 05.9**	**0.0**
GRMI	**Germi**	**0.92**	**70**	*e*Pg	**Pg**	**04 16 56.4**	**-0.3**
GRMI	**Germi**	**0.92**	**70**	AML	AML	04 17 10.6	
	comp=E,1μm,0.1s						
GRMI				AML	AML	04 17 10.8	
	comp=N,1μm,0.1s						
GRMI	**Germi**	**0.92**	**70**	Pg	**Pg**	**04 16 56.4**	**-0.3**
IAZR	**Azarshahr**	**1.03**	**218**	*e*Pg	**Pg**	**04 16 58.3**	**-0.6**
IAZR				IAMB	IAmb	04 17 02.2	
	comp=Z,36μm,0.2s						
NAX	**Nakhchivan**	**1.22**	**304**	*e*Pg	**Pn**	**04 17 02.9**	**-0.3**
NAX	**Nakhchivan**	**1.22**	**304**	⇑P	**Pn**	**04 17 02.9**	**-0.3**
	SNR=26						
NAX				⇓S	**Sn**	**04 17 21.6**	**+1.1**
LRK	**Lerik**	**1.22**	**83**	*e*Pg	**Pb**	**04 17 02.1**	**-0.9**
LRK	**Lerik**	**1.22**	**83**	P	**Pb**	**04 17 02.1**	**-0.9**
	SNR=28						
LRK				⇑S	**Sb**	**04 17 18.6**	**-0.8**
SBZ	**Shahbuz**	**1.32**	**313**	*e*Pg	**Pg**	**04 17 04.7**	**+0.4**
SBZ	**Shahbuz**	**1.32**	**313**	⇑P	**Pg**	**04 17 04.8**	**+0.4**
SBZ				⇓S	**Sn**	**04 17 24.6**	**+1.6**
GLBA	**Clilabad**	**1.46**	**59**	*e*Pg	**Pg**	**04 17 07.4**	**+0.5**
GLBA	**Clilabad**	**1.46**	**59**	P	**Pg**	**04 17 07.5**	**+0.5**
	SNR=19						
GLBA				⇓S	**Sg**	**04 17 29.3**	**+3.5**
ASTR	**Astara**	**1.57**	**87**	*e*Pn	**Pb**	**04 17 08.1**	**-0.7**
ASTR	**Astara**	**1.57**	**87**	P	**Pb**	**04 17 08.1**	**-0.7**
	SNR=133						
ASTR				⇓S	**Sg**	**04 17 30.3**	**+0.8**
LKRN	**Lenkeran, Azer**	**1.57**	**81**	*e*Pn	**Pb**	**04 17 08.2**	**-0.7**
LKRN	**Lenkeran, Azer**	**1.57**	**81**	P	**Pb**	**04 17 08.2**	**-0.7**
	SNR=56						
LKRN				⇑S	**Sg**	**04 17 30.1**	**+0.5**
BRDA	**Brd**	**1.79**	**10**	*e*Pn	**Pg**	**04 17 13.7**	**+0.3**
BRDA	**Brd**	**1.79**	**10**	⇑P	**Pg**	**04 17 13.8**	**+0.3**
	SNR=6.4						
BRDA				⇑S	**Sg**	**04 17 41.6**	**+5.0**
MAKU	**Maku**	**1.85**	**298**	*e*Pn	**Pb**	**04 17 13.5**	**-0.3**
MAKU	**Maku**	**1.85**	**298**	AML	AML	04 17 42.2	
	comp=N,180nm,0.3s						
MAKU	**Maku**	**1.85**	**298**	Pn	**Pb**	**04 17 13.5**	**-0.3**
ZRD	**Zardab**	**1.91**	**21**	⇑S	**Sg**	**04 17 44.4**	**+3.9**
HYR	**Heyderabad**	**1.94**	**310**	*e*Pn	**Pb**	**04 17 14.9**	**-0.3**
HYR	**Heyderabad**	**1.94**	**310**	⇓P	**Pb**	**04 17 15.0**	**-0.3**
HYR				⇑S	**Sg**	**04 17 43.5**	**+2.1**
GANJ	**Ganja**	**2.18**	**351**	*e*Pn	**Pb**	**04 17 19.2**	**-0.1**
GANJ	**Ganja**	**2.18**	**351**	P	**Pb**	**04 17 19.2**	**-0.1**
	SNR=30						
GANJ				⇑S	**Sg**	**04 17 48.8**	**-0.3**
ALIB	**Äli-Bayra**	**2.26**	**49**	*e*Pn	**Pb**	**04 17 18.5**	**-2.0**
ALIB	**Äli-Bayra**	**2.26**	**49**	⇓P	**Pb**	**04 17 18.6**	**-2.0**
	SNR=4.7						
GNI	**Garni**	**2.29**	**317**	P	**Pg**	**04 17 22.6**	**-0.5**
GNI				S	**Sg**	**04 17 52.5**	**-0.2**
GNI	**Garni**	**2.29**	**317**	⇑*i*P	**Pg**	**04 17 22.3**	**-0.7**
GNI				⇓*i*S	**Sg**	**04 17 55.3**	**+2.5**
GNI	**Garni**	**2.29**	**317**	*e*Pn	**Pg**	**04 17 22.5**	**-0.5**
CLDR	**Caldiran**	**2.34**	**287**	P	**Pg**	**04 17 23.4**	**-0.4**
CLDR				S	**Sg**	**04 17 53.6**	**-0.5**
CLDR	**Caldiran**	**2.34**	**287**	*e*Pn	**Pg**	**04 17 23.3**	**-0.5**
ZNJK	**Zanjan**	**2.36**	**140**	*e*Pn	**Pn**	**04 17 18.8**	**-0.3**
ZNJK	**Zanjan**	**2.36**	**140**	Pn	**Pn**	**04 17 18.8**	**-0.3**
ZNJK				Sg	**Sb**	**04 17 52.2**	**0.0**
GDB	**GEDABAY**	**2.36**	**341**	*e*Pn	**Pb**	**04 17 21.2**	**-1.3**
GDB	**GEDABAY**	**2.36**	**341**	⇓P	**Pb**	**04 17 21.3**	**-1.3**
	SNR=31						
GDB				⇑S	**Sg**	**04 17 55.1**	**+0.1**
TASB	**TASBURUN-IGDIR**	**2.48**	**308**	*e*P	**Pg**	**04 17 25.1**	**-1.5**
TASB	**TASBURUN-IGDIR**	**2.48**	**308**	*e*Pn	**Pg**	**04 17 25.0**	**-1.5**
IML	**Ismayilli**	**2.54**	**25**	*e*Pn	**Pb**	**04 17 23.8**	**-1.5**
IML	**Ismayilli**	**2.54**	**25**	⇓P	**Pb**	**04 17 23.9**	**-1.5**
IML				⇓S	**Sb**	**04 17 58.2**	**+1.1**
QBL	**Gabala**	**2.58**	**18**	*e*Pn	**Pb**	**04 17 24.3**	**-1.7**
QBL	**Gabala**	**2.58**	**18**	⇑P	**Pb**	**04 17 24.4**	**-1.7**
	SNR=4.4						
QBL				⇓S	**Sb**	**04 17 59.3**	**+1.1**
GBS	**Qobustan**	**2.63**	**39**	*e*Pn	**Pb**	**04 17 24.3**	**-2.6**
GBS	**Qobustan**	**2.63**	**39**	⇓P	**Pb**	**04 17 24.4**	**-2.6**
	SNR=5.7						
VANB	**Van**	**2.67**	**273**	*e*P	**Pb**	**04 17 28.2**	**+0.5**
VANB	**Van**	**2.67**	**273**	*e*Pn	**Pb**	**04 17 28.1**	**+0.4**
PQL	**Pirkuli**	**2.68**	**31**	*e*Pn	**Pb**	**04 17 25.6**	**-2.3**
PQL	**Pirkuli**	**2.68**	**31**	⇓P	**Pb**	**04 17 25.7**	**-2.3**
	SNR=14						
PQL				⇑S	**Sb**	**04 18 02.6**	**+1.3**
SEKA	**Sheki**	**2.73**	**6**	*e*Pn	**Pb**	**04 17 26.6**	**-2.0**
SEKA	**Sheki**	**2.73**	**6**	P	**Pb**	**04 17 26.7**	**-2.0**
	SNR=6.9						
SEKA				⇑S	**Sb**	**04 18 03.5**	**+0.9**
QZX	**Qazax, Azerbai**	**2.79**	**337**	*e*Pn	**Pb**	**04 17 27.3**	**-2.2**
QZX	**Qazax, Azerbai**	**2.79**	**337**	⇑P	**Pb**	**04 17 27.4**	**-2.2**
	SNR=21						
QZX				⇑S	**Sb**	**04 18 05.2**	**+1.0**
CUKT	**Cukurca**	**2.81**	**245**	*e*P	**Pb**	**04 17 30.5**	**+0.4**
CUKT	**Cukurca**	**2.81**	**245**	*e*Pn	**Pb**	**04 17 30.5**	**+0.4**
XNQ	**Khinaliq**	**2.87**	**21**	*e*Pn	**Pb**	**04 17 28.2**	**-2.9**
XNQ	**Khinaliq**	**2.87**	**21**	⇑P	**Pb**	**04 17 28.2**	**-2.9**
	SNR=5.4						
XNQ				⇓S	**Sb**	**04 18 05.8**	**-1.0**
ATGJ	**Altiaghaj**	**2.89**	**34**	*e*Pn	**Pb**	**04 17 28.5**	**-2.8**
ATGJ	**Altiaghaj**	**2.89**	**34**	⇓P	**Pb**	**04 17 28.6**	**-2.8**
AKDM	**Akdamar-Van**	**3.00**	**268**	*e*P	**Pb**	**04 17 33.1**	**-0.2**
SIZA	**Siyzn**	**3.05**	**32**	*e*Pn	**Pb**	**04 17 30.9**	**-3.2**
SIZA	**Siyzn**	**3.05**	**32**	⇑P	**Pb**	**04 17 30.9**	**-3.2**
	SNR=6.4						
SIZA				⇑S	**Sb**	**04 18 12.0**	**+0.2**
AGRB	**Hanur-Agry**	**3.15**	**291**	*e*P	**Pb**	**04 17 35.4**	**-0.5**
AGRB	**Hanur-Agry**	**3.15**	**291**	*e*Pn	**Pb**	**04 17 35.3**	**-0.6**
MLAZ	**Malazgirt-MUS**	**3.38**	**282**	*e*P	**Pb**	**04 17 38.5**	**-1.2**
SIRT	**Sirnak**	**3.58**	**255**	*e*P	**Pb**	**04 17 41.6**	**-1.6**
SIRT	**Sirnak**	**3.58**	**255**	*e*Pn	**Pb**	**04 17 41.5**	**-1.6**
TBLG	**Delisi**	**3.60**	**335**	*e*P	**Pb**	**04 17 41.6**	**-1.8**
TBLG	**Delisi**	**3.60**	**335**	P	**Pg**	**04 17 46.6**	**-1.3**
TBLG				S	**Sg**	**04 18 36.0**	**+1.5**
TRLG	**Trialeti**	**3.68**	**327**	P	**Pg**	**04 17 46.9**	**-2.6**
TRLG				S	**Sg**	**04 18 36.5**	**-0.6**
BGD	**Bogdanovka**	**3.70**	**319**	P	**Pg**	**04 17 49.0**	**-1.0**
BATM	**Batumi**	**4.99**	**310**	P	**Pn**	**04 17 54.9**	**-0.1**

ISCJB ***30*** *04:21:21.6±0.4,32.°17N±0.°02×116.°03W±0.°02,h8km±3km, Error ellipse: s-maj=3.6km s-min=3.0km az=143.7*
PAS ***30*** *04:21:22.6±0.0,32.°17N×116.°02W,h3km*
ECX ***30*** *04:21:23.3±0.7,32.°18N×116.°01W,h3km,MD2.7,ML2.9*
ANF ***30*** *04:21:23.3±0.9,32.°25N×116.°02W,h27km±3km,ML2.7/10, Error ellipse: s-maj=6.5km s-min=2.7km az=179.0*
NEIC ***30*** *04:21:23.3±0.0,32.°18N×116.°01W,h3km,ML2.9(ECX), ML3.0(PAS),After ECX.*
MEX ***30*** *04:21:24.5±0.7,32.°29N×116.°00W,h16km±660km,MD3.5*

ISC 30 04:21:21.2±1.1,32°14N±0.°02×116°05W±0.°02,h10km±9km, n44,σ0§86/74,9C-7D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RMX	**La Rumorosa**	**0.46**	**357**	⇓*e*P	**Pg**	**04 21 30.2**	**-0.2**
RMX				*e*S	**Sg**	**04 21 35.4**	**-1.2**
IKP	**In-Ko-Pah, Jac**	**0.51**	**355**	P	**Pb**	**04 21 32.0**	**-0.4**
	baz=170,SNR=36						
IKP				S	**Sg**	**04 21 38.1**	**0.0**
	baz=170						
IKP	**In-Ko-Pah, Jac**	**0.51**	**355**	⇓*e*P	**Pb**	**04 21 32.1**	**-0.4**
IKP				*e*S	**Sg**	**04 21 38.1**	**0.0**
YUH	**Yuha Desert**	**0.52**	**12**	⇓*i*P	**Pg**	**04 21 31.9**	**+0.5**
CBX	**Cerro Bola**	**0.55**	**289**	*e*Pg	**Pb**	**04 21 33.6**	**+0.6**
CBX				*e*Sg	**Sb**	**04 21 41.4**	**+0.5**
CBX	**Cerro Bola**	**0.55**	**289**	*e*P	**Pb**	**04 21 33.6**	**+0.6**
CBX				*i*S	**Sb**	**04 21 41.4**	**+0.5**
CBX	**Cerro Bola**	**0.55**	**289**	⇑*e*P	**Pb**	**04 21 33.7**	**+0.7**
CBX				*e*S	**Sb**	**04 21 41.5**	**+0.5**
CBX				IAML		04 21 42.2	
	comp=E,772nm,0.2s						
TJIG	**Tijuana**	**0.60**	**299**	*e*P	**Pb**	**04 21 34.1**	**+0.2**
TJIG				*e*S	**Sb**	**04 21 41.8**	**-0.8**
TJIG	**Tijuana**	**0.60**	**299**	⇑*e*P	**Pb**	**04 21 33.8**	**-0.1**
TJIG				*e*S	**Sb**	**04 21 42.1**	**-0.4**
ECNX	**Esteban Cantu**	**0.67**	**224**	⇑*e*P	**Pn**	**04 21 36.0**	**-0.8**
ECNX				⇑*e*P	**Pb**	**04 21 34.9**	**-0.1**
ECNX				*e*S	**Sb**	**04 21 43.7**	**-0.7**
ECNX				*e*S	**Sn**	**04 21 45.1**	**-2.2**
WESC	**Westside Schoo**	**0.68**	**24**	*e*P	**Pb**	**04 21 35.2**	**+0.1**
WESC				*e*S	**Sb**	**04 21 44.5**	**-0.1**
CPBX	**Cerro Prieto**	**0.69**	**66**	*e*P	**Pg**	**04 21 34.9**	**+0.2**
PBX	**Punta Banda**	**0.69**	**236**	⇑*e*P	**Pn**	**04 21 36.1**	**-0.7**
BAR	**Barrett**	**0.75**	**316**	*e*Pg	**Pb**	**04 21 36.6**	**+0.2**
BAR				*e*Pn	**Pn**	**04 21 39.2**	**+1.2**
BAR				*e*Sg	**Sg**	**04 21 46.1**	**+0.5**
BAR	**Barrett**	**0.75**	**316**	⇑*e*P	**Pb**	**04 21 36.7**	**+0.2**
MONP2	**Monument Peak**	**0.81**	**338**	P	**Pb**	**04 21 37.7**	**+0.1**
	baz=154,SNR=40						
MONP2				S	**Sg**	**04 21 47.8**	**+0.1**
	baz=154						
MONP2	**Monument Peak**	**0.81**	**338**	⇓*i*P	**Pb**	**04 21 37.8**	**+0.1**
SWSC	**Sam W. Stewart**	**0.83**	**15**	P	**Pb**	**04 21 37.8**	**+0.1**
	baz=193,SNR=51						
SWSC				S	**Sg**	**04 21 48.3**	**+0.1**
	baz=193						
SWSC	**Sam W. Stewart**	**0.83**	**15**	⇓*e*P	**Pb**	**04 21 37.9**	**+0.1**
DREC	**Desert Rsrch C**	**0.84**	**37**	⇓*e*P	**Pb**	**04 21 38.9**	**+0.9**
SDRC	**San Diego Road**	**0.96**	**309**	⇑*e*P	**Pb**	**04 21 40.3**	**+0.3**
EML	**El Monte Cty P**	**1.01**	**318**	⇓*e*P	**Pb**	**04 21 40.9**	**+0.1**
ECBX	**El Chinero**	**1.08**	**128**	⇑*e*P	**Pb**	**04 21 42.0**	**+0.1**
ECBX				*e*S	**Sb**	**04 21 56.2**	**+0.1**
109C	**Camp Elliot, M**	**1.16**	**310**	P	**Pb**	**04 21 43.6**	**+0.2**
	baz=127,SNR=7.5						
109C				S	**Sg**	**04 21 58.3**	**-0.4**
	baz=127						
CPE	**Camp Elliot**	**1.16**	**310**	*e*Pg	**Pg**	**04 21 43.5**	**-0.1**
CPE				*e*Sg	**Sg**	**04 21 58.4**	**-0.3**
SPIG	**San Pedro Mart**	**1.20**	**155**	*e*Pg	**Pn**	**04 21 45.4**	**+1.0**
SPIG				*e*Sg	**Sb**	**04 22 00.5**	**+0.6**
SPIG	**San Pedro Mart**	**1.20**	**155**	*e*P	**Pn**	**04 21 45.4**	**+1.0**
SPIG				*e*S

MKAR	**Makanchi Array**	**52.19 322**	P	**P**	**04 33 48.2**	**+1.2**
	2.9nm,0.7s,baz=118,slow=8.6,SNR=8.1							
MKAR	**Makanchi Array**	**52.19 322**	*e*P	**P**	**04 33 48.6**	**+1.6**
	20nm,0.6s							
ZALV	**Zalesovo Beam**	**54.69 331**	P	**P**	**04 34 04.3**	**-0.9**
	0.4nm,0.3s,baz=111,slow=7.9,SNR=3.2							
ZAA1	**Zalesovo Array**	**54.69 331**	*e*P	**P**	**04 34 04.3**	**-0.9**
ABKAR	**Akbulak array**	**67.08 319**	*e*P	**P**	**04 35 29.9**	**+0.3**
	3.3nm,1.1s							
ILAR	**Eielson Array**	**78.91 26**	P	**P**	**04 36 39.9**	**+0.5**
	0.2nm,0.9s,baz=233,slow=5.4,SNR=6.0							
ILB	**Eielson Array**	**78.91 26**	*e*P	**P**	**04 36 39.9**	**+0.5**
ARA0	**ARCESS Array S**	**84.15 340**	*e*P	**P**	**04 37 07.2**	**+0.2**
ARCES	**ARCESS Array B**	**84.15 340**	P	**P**	**04 37 07.2**	**+0.2**
	3.1nm,0.9s,baz=72,slow=7.8,SNR=3.6							
BR101	**Keskin Array S**	**85.85 309**	*e*P	**P**	**04 37 16.1**	**-0.2**
BRTR	**Keskin Array B**	**85.85 309**	P	**P**	**04 37 16.1**	**-0.2**
	0.9nm,0.8s,baz=120,slow=5.0,SNR=5.6							
FIA0	**FINESS Array S**	**85.95 332**	*e*P	**P**	**04 37 16.2**	**0.0**
FINES	**FINESS Array B**	**85.95 332**	P	**P**	**04 37 16.2**	**0.0**
	1.1nm,0.4s,baz=74,slow=5.2,SNR=16							
FINES			pP	**pwP**	**04 37 26.6**	**-3.2**
	1.0nm,0.4s,baz=74,slow=4.2,SNR=1.9							
HFS	**Hagfors**	**92.09 333**	P	**P**	**04 37 44.6**	**-0.7**
	4.4nm,1.0s,baz=66,slow=5.2,SNR=5.4							
YKA	**Yellowknife Ar**	**93.24 24**	P	**P**	**04 37 50.9**	**+0.3**
	0.4nm,0.7s,baz=296,slow=4.2,SNR=5.3							
YKB5	**Yellowknife Ar**	**93.24 24**	*e*P	**P**	**04 37 50.9**	**+0.3**
PLCA	**Paso Flores**	**146.21 156**	PKPbc	**PKPab**	**04 44 18.7**	**+1.0**
	1.8nm,0.7s,baz=307,slow=1.8,SNR=9.9							

TIR ***30*** *04:27:20.3,38˚.81N×23˚.93E,h22km,Md4.0/7*
IDC ***30*** *04:27:24.0±0.6,38˚.72N×23˚.36E,h0km,mb4.0/16, mb1 4.1/19,mb1mx4.0/45,mbtmp4.1/19,ML4.2/3,MS3.5/3, Ms1 3.5/3,ms1mx2.9/47,Error ellipse: s-maj=16.5km s-min=11.8km az=117.0*
ISK ***30*** *04:27:24.8,38˚.78N×23˚.39E,h17km,ML3.9/28*
ISCJB ***30*** *04:27:25.9±0.2,38˚.810N±0˚.010×23˚.40E±0˚.01, h20km±2km,mb4.2/23,MS4.0/3,Error ellipse: s-maj=1.7km s-min=1.5km az=141.4*
NEIC ***30*** *04:27:25.9±0.0,38˚.77N×23˚.37E,h9km,mb4.5/7,MW3.9, ML4.0(ATH),ML4.1(THE),Moment Tensor Solution. s12 Moment tensor: Scale 10¹⁴Nm; Mrr-8.49; Mθθ8.93; Mϕϕ-0.44; Mrθ0.72; Mθϕ0.73; Mϕr-3.40; Best double couple: M₀9.40000×10¹⁴ NP1:ϕ285.00000°,δ50.00000°, λ-63.00000°. NP2:ϕ67.00000°,δ47.00000°, λ-118.00000°. Principal axes: T 9.0000, Plg2.0000°, Azm356.0000°; N 0.7800, Plg20.0000°, Azm87.0000°; P -9.7800, Plg70.0000°, Azm262.0000°; After THE.*
THE ***30*** *04:27:25.9,38˚.77N×23˚.37E,h9km,ML4.1/15 Error ellipse: s-maj=0.5km s-min=0.2km az=61.0*
ATH ***30*** *04:27:25.1,38˚.78N×23˚.37E,h22km,ML4.0/33,Error ellipse: s-maj=0.8km s-min=0.5km az=25.0*
PDG ***30*** *04:27:26.4±0.6,38˚.81N×23˚.44E,h12km±1km,ML4.2/10, Error ellipse: s-maj=0.6km s-min=0.6km az=0.0*
DDA ***30*** *04:27:27.5,38˚.89N×23˚.90E,h4km±1km,ML3.8*
ROM ***30*** *04:28:10.2±0.9,39˚.30N±0˚.04×19˚.34E±0˚.08,h10km, ML3.0/22*

ISC 30 04:27:26.2±0.7,38˚.78N±0˚.01×23˚.36E±0˚.01,h13km±4km, n428,σ1²21/508,mb4.2/23,MS3.5/3,25C-18D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SMIA	**Simia**	**0.15**	**311**	P		P	**Pg**	**04 27 29.7**	**-0.2**
SMIA				S		S	**Sg**	**04 27 32.4**	**-0.1**
SMIA				AML		AML	AML	04 27 33.4	
SMIA				AML		AML	AML	04 27 38.5	
SMIA	**Simia**	**0.15**	**311**	P		P	**Pg**	**04 27 29.6**	**-0.3**
SMIA				S		S	**Sg**	**04 27 32.2**	**-0.4**
MRKA	**Markates**	**0.20**	**112**	P		P	**Pg**	**04 27 29.8**	**-0.8**
MRKA				S		S	**Sg**	**04 27 32.9**	**-0.7**
MRKA				AML		AML	AML	04 27 33.6	
MRKA				AML		AML	AML	04 27 33.8	
MRKA	**Markates**	**0.20**	**112**	P		P	**Pg**	**04 27 29.8**	**-0.8**
MRKA				S		S	**Sg**	**04 27 32.9**	**-0.7**
ATAL	**Atalanti**	**0.28**	**252**	*e*Pg		P	**Pg**	**04 27 31.7**	**-0.3**
ATAL				*e*Sg		S	**Sg**	**04 27 35.9**	**+0.1**
ATAL	**Atalanti**	**0.28**	**252**	P		P	**Pg**	**04 27 31.7**	**-0.3**
ATAL				S		S	**Sg**	**04 27 36.1**	**+0.2**
ATAL				AML		AML	AML	04 27 36.8	
	comp=E,35906μm,0.3s								
ATAL				AML		AML	AML	04 27 37.3	
	comp=N,38134μm,0.3s								
ATAL	**Atalanti**	**0.28**	**252**	P		P	**Pg**	**04 27 31.7**	**-0.3**
ATAL				S		S	**Sg**	**04 27 35.9**	**+0.1**
SKIA	**Skiathos**	**0.40**	**12**	P		P	**Pg**	**04 27 34.0**	**-0.2**
SKIA				S		S	**Sg**	**04 27 39.6**	**+0.1**
SKIA				AML		AML	AML	04 27 39.8	
	comp=E,56575μm,0.3s								
SKIA				AML		AML	AML	04 27 41.4	
	comp=N,84860μm,0.4s								
SKIA	**Skiathos**	**0.40**	**12**	P		P	**Pg**	**04 27 34.0**	**-0.2**
SKIA				S		S	**Sg**	**04 27 40.0**	**+0.5**
NEO	**Neokhori**	**0.54**	**349**	*e*Pg		P	**Pg**	**04 27 36.5**	**-0.3**
NEO				*e*Sg		S	**Sb**	**04 27 44.7**	**-0.5**
NEO	**Neokhori**	**0.54**	**349**	P		P	**Pg**	**04 27 36.3**	**-0.4**
NEO				S		S	**Sg**	**04 27 43.8**	**-0.2**
NEO				AML		AML	AML	04 27 48.5	
NEO				AML		AML	AML	04 27 48.6	
NEO	**Neokhori**	**0.54**	**349**	P		P	**Pg**	**04 27 36.5**	**-0.3**
NEO				S		S	**Sb**	**04 27 44.7**	**-0.5**
ALNA	**Alonissos**	**0.54**	**47**	P		P	**Pg**	**04 27 36.0**	**-0.8**
ALNA				AML		AML	AML	04 27 44.6	
ALNA				AML		AML	AML	04 27 44.7	
	comp=N,95052μm,0.4s								
AOS	**Alonnisos**	**0.56**	**46**	PG		P	**Pg**	**04 27 36.2**	**-1.1**
AOS				SG		S	**Sg**	**04 27 44.0**	**-0.8**
AOS	**Alonnisos**	**0.56**	**46**	*e*Pg		P	**Pg**	**04 27 36.3**	**-1.1**
AOS				*e*Sg		S	**Sg**	**04 27 44.5**	**-0.3**
AOS	**Alonnisos**	**0.56**	**46**	P		P	**Pg**	**04 27 36.1**	**-1.1**
AOS				S		S	**Sg**	**04 27 44.3**	**-0.5**
AOS				AML		AML	AML	04 27 45.4	
	comp=N,51013μm,0.3s								
AOS				AML		AML	AML	04 27 45.5	
	comp=E,32046μm,0.2s								
AOS	**Alonnisos**	**0.56**	**46**	P		P	**Pg**	**04 27 36.3**	**-1.1**
AOS				S		S	**Sg**	**04 27 44.5**	**-0.3**
VIL2	**Platees**	**0.57**	**187**	P		P	**Pg**	**04 27 37.1**	**-0.2**
VIL2				AML		AML	AML	04 27 51.4	
	comp=E,80738μm,0.6s								
VIL2				AML		AML	AML	04 27 51.7	
	comp=N,52224μm,0.3s								
EREA	**Eretria**	**0.58**	**128**	P		P	**Pg**	**04 27 36.8**	**-0.7**
EREA				S		S	**Sg**	**04 27 45.6**	**+0.5**
EREA				AML		AML	AML	04 27 46.7	
	comp=E,71978μm,0.5s								
EREA				AML		AML	AML	04 27 48.2	
	comp=N,39160μm,0.3s								
EREA	**Eretria**	**0.58**	**128**	P		P	**Pg**	**04 27 36.8**	**-0.7**
EREA				S		S	**Sg**	**04 27 44.9**	**-0.2**
XOR	**Xorichti**	**0.60**	**348**	*e*Pg		P	**Pg**	**04 27 37.5**	**-0.5**
XOR				*e*Sg		S	**Sg**	**04 27 46.3**	**+0.4**
XOR	**Xorichti**	**0.60**	**348**	P		P	**Pg**	**04 27 37.5**	**-0.5**
XOR				S		S	**Sg**	**04 27 44.6**	**-1.4**
XOR				AML		AML	AML	04 27 48.0	
	comp=E,32254μm,0.4s								
XOR				AML		AML	AML	04 27 50.9	
	comp=N,46934μm,0.3s								
XOR	**Xorichti**	**0.60**	**348**	P		P	**Pg**	**04 27 37.5**	**-0.5**
XOR				S		S	**Sg**	**04 27 46.3**	**+0.4**
VILL	**Villia**	**0.61**	**183**	P		P	**Pg**	**04 27 37.3**	**-0.9**
VILL				S		S	**Sg**	**04 27 46.4**	**0.0**
PROD	**Prodromos**	**0.63**	**215**	P		P	**Pg**	**04 27 37.3**	**-1.2**
PROD				AML		AML	AML	04 27 52.0	
	comp=N,35954μm,0.2s								
PROD				AML		AML	AML	04 27 53.3	
	comp=E,44276μm,0.3s								
PROD	**Prodromos**	**0.63**	**215**	P		P	**Pg**	**04 27 37.6**	**-0.9**
FYTO	**Fytoko, Volos**	**0.71**	**333**	*e*Pg		P	**Pg**	**04 27 39.5**	**-0.5**
FYTO				*e*Sg		S	**Sb**	**04 27 50.2**	**+0.1**
FYTO	**Fytoko, Volos**	**0.71**	**333**	P		P	**Pg**	**04 27 39.6**	**-0.5**
FYTO				S		S	**Sb**	**04 27 49.8**	**-0.3**
FYTO				AML		AML	AML	04 27 52.8	
	comp=N,30081μm,0.5s								
FYTO				AML		AML	AML	04 27 54.4	
	comp=E,17879μm,0.3s								
FYTO	**Fytoko, Volos**	**0.71**	**333**	P		P	**Pg**	**04 27 39.5**	**-0.5**
FYTO				S		S	**Sb**	**04 27 50.2**	**+0.1**
DLFA	**Delphi**	**0.74**	**246**	P		P	**Pg**	**04 27 40.5**	**0.0**
DSF	**Desfina**	**0.75**	**241**	*e*Pg		P	**Pg**	**04 27 39.8**	**-0.9**
DSF				*e*Sg		S	**Sg**	**04 27 50.8**	**+0.3**
DSF	**Desfina**	**0.75**	**241**	P		P	**Pg**	**04 27 38.9**	**-1.8**
DSF				S		S	**Sb**	**04 27 50.9**	**-0.3**
DSF				AML		AML	AML	04 27 54.8	
	comp=E,22888μm,0.3s								
DSF				AML		AML	AML	04 27 55.4	
	comp=N,27366μm,0.3s								
DSF	**Desfina**	**0.75**	**241**	P		P	**Pg**	**04 27 39.8**	**-0.9**
DSF				S		S	**Sg**	**04 27 50.8**	**+0.3**
PTL	**Penteli**	**0.83**	**151**	*e*Pg		P	**Pg**	**04 27 41.3**	**-1.0**
PTL				*e*Sn		S	**Sg**	**04 27 53.2**	**0.0**
PTL	**Penteli**	**0.83**	**151**	P		P	**Pg**	**04 27 41.3**	**-1.0**
PTL				S		S	**Sg**	**04 27 52.3**	**-0.9**
PTL				AML		AML	AML	04 27 55.7	
	comp=E,38861μm,0.7s								
PTL				AML		AML	AML	04 27 56.9	
	comp=N,20426μm,0.4s								
PTL	**Penteli**	**0.83**	**151**	P		P	**Pg**	**04 27 41.3**	**-1.0**
PTL				S		S	**Sg**	**04 27 53.2**	**0.0**
DION	**Dionisos Attik**	**0.83**	**147**	P		P	**Pg**	**04 27 41.4**	**-1.0**
DION				S		S	**Sg**	**04 27 52.9**	**-0.4**
DION				AML		AML	AML	04 27 56.0	
	comp=N,32885μm,0.4s								
DION				AML		AML	AML	04 27 56.6	
	comp=E,42429μm,0.5s								
AGG	**Agios Georgios**	**0.84**	**287**	PG		P	**Pg**	**04 27 41.6**	**-0.8**
AGG				SG		S	**Sb**	**04 27 54.3**	**+0.5**
AGG	**Agios Georgios**	**0.84**	**287**	*e*Pg		P	**Pg**	**04 27 41.5**	**-1.0**
AGG				*e*Sg		S	**Sg**	**04 27 52.5**	**-0.9**
AGG				*e*Sn		S	**Sb**	**04 27 53.9**	**+0.1**
AGG	**Agios Georgios**	**0.84**	**287**	P		P	**Pg**	**04 27 41.5**	**-0.8**
AGG				S		S	**Sg**	**04 27 52.7**	**-0.7**
AGG				AML		AML	AML	04 28 00.1	
	comp=N,11323μm,0.7s								
AGG				AML		AML	AML	04 28 00.3	
	comp=E,9257μm,0.5s								
AGG	**Agios Georgios**	**0.84**	**287**	P		P	**Pg**	**04 27 41.6**	**-0.8**
AGG				S		S	**Sb**	**04 27 53.9**	**+0.1**
LOUT	**Loutraki**	**0.84**	**201**	P		P	**Pg**	**04 27 41.2**	**-1.4**
LOUT				S		S	**Sg**	**04 27 53.7**	**+0.1**
LOUT				AML		AML	AML	04 27 58.8	
	comp=E,13264μm,0.6s								
LOUT				AML		AML	AML	04 27 59.1	
	comp=N,9204μm,0.3s								
LOUT	**Loutraki**	**0.84**	**201**	P		P	**Pg**	**04 27 41.3**	**-1.3**
LOUT				S		S	**Sg**	**04 27 53.6**	**0.0**
ATH	**Athens Observa**	**0.85**	**161**	*e*Pg		P	**Pg**	**04 27 41.7**	**-1.0**
ATH				*e*Sn		S	**Sg**	**04 27 54.0**	**+0.1**
ATH	**Athens Observa**	**0.85**	**161**	P		P	**Pg**	**04 27 41.8**	**-0.9**
ATH				S		S	**Sb**	**04 27 54.3**	**+0.1**
ATH				AML		AML	AML	04 27 56.4	
	comp=N,53169μm,0.5s								
ATH				AML		AML	AML	04 27 56.7	
	comp=E,43037μm,0.3s								
ATH	**Athens Observa**	**0.85**	**161**	P		P	**Pg**	**04 27 41.7**	**-1.0**
ATH				S		S	**Sg**	**04 27 54.0**	**+0.1**
ATHU	**Athens Univers**	**0.88**	**157**	*e*Pg		P	**Pg**	**04 27 42.1**	**-1.1**
ATHU				*e*Sn		S	**Sg**	**04 27 54.8**	**+0.1**
ATHU	**Athens Univers**	**0.88**	**157**	P		P	**Pg**	**04 27 42.2**	**-1.1**
ATHU				S		S	**Sg**	**04 27 54.5**	**-0.2**
ATHU				AML		AML	AML	04 27 57.6	
	comp=E,15074μm,0.7s								
ATHU				AML		AML	AML	04 27 58.9	
	comp=N,16593μm,0.4s								
ATHU	**Athens Univers**	**0.88**	**157**	P		P	**Pg**	**04 27 42.1**	**-1.1**
ATHU				S		S	**Sg**	**04 27 54.8**	**+0.1**
SKY	**Skiros Island**	**0.94**	**84**	*e*Pg		P	**Pb**	**04 27 43.3**	**-1.0**
SKY				*e*Sn		S	**Sg**	**04 27 56.6**	**0.0**
SKY	**Skiros Island**	**0.94**	**84**	P		P	**Pb**	**04 27 43.3**	**-1.0**
SKY				S		S	**Sg**	**04 27 56.4**	**-0.1**
SKY				AML		AML	AML	04 27 58.7	
	comp=N,24359μm,0.4s								
SKY				AML		AML	AML	04 27 58.9	
	comp=E,26546μm,0.5s								
SKY	**Skiros Island**	**0.94**	**84**	P		P	**Pb**	**04 27 43.3**	**-1.0**
SKY				S		S	**Sg**	**04 27 56.6**	**0.0**
MAKR	**Makrakomi, Fth**	**0.98**	**284**	P		P	**Pb**	**04 27 44.8**	**-0.4**
VLY	**Voula,Athens**	**0.99**	**159**	*e*Pg		P	**Pb**	**04 27 44.3**	**-0.9**
VLY	**Voula,Athens**	**0.99**	**159**	P		P	**Pb**	**04 27 43.7**	**-1.4**
VLY				S		S	**Sb**	**04 27 56.9**	**-1.2**
VLY				AML		AML	AML	04 28 01.8	
	comp=E,34440μm,0.6s								
VLY				AML		AML	AML	04 28 03.4	
	comp=N,28295μm,0.6s								
VLY	**Voula,Athens**	**0.99**	**159**	P		P	**Pb**	**04 27 44.3**	**-0.9**
KALE	**Kalithea**	**1.03**	**248**	*e*Pg		P	**Pb**	**04 27 45.0**	**-0.9**
KALE	**Kalithea**	**1.03**	**248**	P		P	**Pb**	**04 27 44.2**	**-1.7**
KALE				S		S	**Sn**	**04 28 00.4**	**-0.3**
KALE				AML		AML	AML	04 28 04.8	
	comp=E,11305μm,0.4s								
KALE				AML		AML	AML	04 28 05.6	
	comp=N,13946μm,0.9s								
KALE	**Kalithea**	**1.03**	**248**	P		P	**Pb**	**04 27 45.0**	**-0.9**
SERG	**Sergoula**	**1.08**	**251**	P		P	**Pb**	**04 27 45.1**	**-1.7**
SERG				AML		AML	AML	04 28 05.8	
	comp=N,10697μm,0.4s								
SERG				AML		AML	AML	04 28 11.2	
	comp=E,9881μm,0.6s								
SERG	**Sergoula**	**1.08**	**251**	P		P	**Pb**	**04 27 46.3**	**-0.5**
TRIZ	**Trizonia**	**1.09**	**248**	P		P	**Pb**	**04 27 45.3**	**-1.6**
TRIZ	**Trizonia**	**1.09**	**248**	P		P	**Pb**	**04 27 46.1**	**-0.8**
ALIK	**Aliki, Aigiali**	**1.10**	**242**	P		P	**Pb**	**04 27 46.4**	**-0.8**
ANX	**Ano Chora**	**1.14**	**261**	P		P	**Pb**	**04 27 46.6**	**-1.3**
ANX				AML		AML	AML	04 28 13.0	
	comp=N,8982μm,0.5s								
ANX				AML		AML	AML	04 28 13.9	
	comp=E,11501μm,0.6s								
ANX	**Ano Chora**	**1.14**	**261**	P		P	**Pb**	**04 27 46.8**	**-1.0**
GUR	**Goura**	**1.16**	**224**	*e*Pg		P	**Pb**	**04 27 47.1**	**-1.1**
GUR	**Goura**	**1.16**	**224**	P		P	**Pb**	**04 27 46.4**	**-1.7**
GUR				AML		AML	AML	04 28 08.1	
	comp=N,39528μm,0.5s								
GUR				AML		AML	AML	04 28 08.2	
	comp=E,22989μm,0.6s								
GUR	**Goura**	**1.16**	**224**	P		P	**Pb**	**04 27 47.1**	**-1.1**
LRSO	**Larissa Observ**	**1.16**	**320**	P		P	**Pn**	**04 27 47.2**	**-1.0**
PAIG	**Paliouri**	**1.17**	**12**	P		P	**Pn**	**04 27 47.4**	**-0.9**
EFP	**Efpalio**	**1.19**	**253**	P		P	**Pn**	**04 27 47.1**	**-1.5**
EFP				AML		AML	AML	04 28 14.9	
	comp=E,7055μm,0.7s								
EFP				AML		AML	AML	04 28 18.2	
	comp=N,7918μm,1.1s								
EFP	**Efpalio**	**1.19**	**253**	P		P	**Pn**	**04 27 47.8**	**-0.8**
KLV	**Kalavryta, Ach**	**1.20**	**233**	*e*Pg		P	**Pn**	**04 27 48.0**	**-0.8**
KLV	**Kalavryta, Ach**	**1.20**	**233**	P		P	**Pn**	**04 27 47.5**	**-1.2**
KLV				AML		AML	AML	04 28 11.1	
	comp=E,8052μm,0.6s								
KLV				AML		AML	AML	04 28 14.3	
	comp=N,6395μm,0.8s								
KLV	**Kalavryta, Ach**	**1.20**	**233**	P		P	**Pn**	**04 27 48.0**	**-0.8**
LAKA	**Lakka**	**1.21**	**244**	*e*Pg		P	**Pn**	**04 27 47.8**	**-1.0**
LAKA	**Lakka**	**1.21**	**244**	P		P	**Pn**	**04 27 47.6**	**-1.2**
LAKA				AML		AML	AML	04 28 16.1	
	comp=E,3134μm,0.6s								
LAKA				AML		AML	AML	04 28 22.9	
	comp=N,3469μm,0.7s								
LAKA	**Lakka**	**1.21**	**244**	P		P	**Pn**	**04 27 47.8**	**-1.0**
EVR	**Evrytania**	**1.22**	**277**	P		P	**Pn**	**04 27 48.7**	**-0.4**
DID	**Didima**	**1.27**	**184**	*e*Pn		P	**Pn**	**04 27 49.0**	**-0.8**
DID	**Didima**	**1.27**	**184**	P		P	**Pn**	**04 27 48.9**	**-0.8**
DID				S		S	**Sn**	**04 28 07.0**	**+0.3**
DID				AML		AML	AML	04 28 12.0	
	comp=E,20594μm,0.4s								
DID				AML		AML	AML	04 28 12.2	
	comp=N,16678μm,0.5s								
DID	**Didima**	**1.27**	**184**	P		P	**Pn**	**04 27 49.0**	**-0.8**
THL	**Klokotos Trika**	**1.30**	**307**	P		P	**Pn**	**04 27 49.6**	**-0.6**
THL				AML		AML	AML	04 28 13.6	
	comp=E,3220μm,0.7s								
THL				AML		AML	AML	04 28 14.8	
	comp=N,3496μm,1.1s								
THL	**Klokotos Trika**	**1.30**	**307**	P		P	**Pn**	**04 27 49.9**	**-0.3**
KRND	**KRANIDI**	**1.40**	**187**	P		P	**Pn**	**04 27 51.2**	**-0.2**
KRND				S		S	**Sb**	**04 28 10.5**	**+0.4**
YDRA	**Hydra**	**1.43**	**177**	P		P	**Pb**	**04 27 52.6**	**-0.1**
PVO	**Paravola**	**1.44**	**264**	P		P	**Pb**	**04 27 52.8**	**-0.1**
EFSA	**Agios Efstrati**	**1.48**	**59**	P		P	**Pn**	**04 27 52.5**	**0.0**
LIT	**Litokhoron**	**1.48**	**333**	*e*Pn		P	**Pn**	**04 27 52.4**	**-0.2**
LIT	**Litokhoron**	**1.48**	**333**	P		P	**Pn**	**04 27 52.3**	**-0.2**
LIT	**Litokhoron**	**1.48**	**333**	P		P	**Pn**	**04 27 52.4**	**-0.2**
TRIP	**Tripoli**	**1.51**	**215**	P		P	**Pn**	**04 27 53.6**	**+0.5**
TRIP				S		S	**Sb**	**04 28 13.4**	**0.0**
TRIP				AML		AML	AML	04 28 18.1	
	comp=N,5220μm,0.7s								
TRIP				AML		AML	AML	04 28 19.4	
	comp=E,8058μm,1.0s								
DRO	**Drossia**	**1.54**	**238**	P		P	**Pn**	**04 27 53.7**	**+0.4**
DRO	**Drossia**	**1.54**	**238**	P		P	**Pn**	**04 27 53.0**	**-0.3**
PLG	**Polygyros**	**1.59**	**2**	*e*Pn		P	**Pn**	**04 27 53.5**	**-0.7**
PLG	**Polygyros**	**1.59**	**2**	P		P	**Pn**	**04 27 53.5**	**-0.7**
PLG	**Polygyros**	**1.59**	**2**	P		P	**Pn**	**04 27 53.5**	**-0.7**
VLX	**Vlachokerasia**	**1.60**	**209**	P		P	**Pn**	**04 27 54.6**	**+0.3**
OUR	**Ouranopolis**	**1.63**	**17**	PN		P	**Pn**	**04 27 53.4**	**-1.2**
OUR	**Ouranopolis**	**1.63**	**17**	*e*Pn		P	**Pn**	**04 27 54.0**	**-0.6**
OUR	**Ouranopolis**	**1.63**	**17**	P		P	**Pn**	**04 27 54.0**	**-0.6**
OUR	**Ouranopolis**	**1.63**	**17**	P		P	**Pn**	**04 27 54.0**	**-0.6**
RLS	**Riolos of Patr**	**1.65**	**245**	P		P	**Pn**	**04 27 55.5**	**+0.6**
AXS	**Araxos**	**1.66**	**250**	P		P	**Pn**	**04 27 55.8**	**+0.8**
PSRA	**Psara**	**1.74**	**97**	P		P	**Pn**	**04 27 56.4**	**+0.3**
AMT	**Artemida-Makis**	**1.80**	**227**	P		P	**Pn**	**04 27 57.9**	**+0.9**
LIA	**Limnos Island**	**1.80**	**51**	*e*Pn		P	**Pn**	**04 27 56.0**	**-1.0**
LIA	**Limnos Island**	**1.80**	**51**	P		P	**Pn**	**04 27 56.0**	**-1.0**
LIA				AML		AML	AML	04 28 25.0	
	comp=N,4788μm,0.4s								
LIA				AML		AML	AML	04 28 26.0	
	comp=E,4184μm,0.5s								
LIA	**Limnos Island**	**1.80**	**51**	P		P	**Pn**	**04 27 56.0**	**-1.0**
HORT	**Hortiatis**	**1.83**	**354**	PN		P	**Pn**	**04 27 56.7**	**-0.7**
HORT	**Hortiatis**	**1.83**	**354**	*e*Pn		P	**Pn**	**04 27 57.0**	**-0.4**
HORT	**Hortiatis**	**1.83**	**354**	P		P	**Pn**	**04 27 57.0**	**-0.4**
HORT	**Hortiatis**	**1.83**	**354**	P		P	**Pn**	**04 27 57.0**	**-0.4**
SERI	**Serifos**	**1.84**	**151**	P		P	**Pn**	**04 27 57.1**	**-0.5**
SERI				AML		AML	AML	04 28 25.1	
	comp=N,4078μm,0.5s								
SERI				AML		AML	AML	04 28 26.6	
	comp=E,5994μm,0.5s								
SERI	**Serifos**	**1.84**	**151**	P		P	**Pn**	**04 27 57.1**	**-0.5**
SERI				S		S	**Sn**	**04 28 20.5**	**-0.3**
THE	**Thessaloniki**	**1.88**	**351**	*e*Pn		P	**Pn**	**04 27 57.4**	**-0.6**
THE	**Thessaloniki**	**1.88**	**351**	P		P	**Pn**	**04 27 56.8**	**-1.2**
THE	**Thessaloniki**	**1.88**	**351**	P		P	**Pn**	**04 27 57.4**	**-0.6**
THE	**Thessaloniki**	**1.88**	**351**	*i* PN		P	**Pn**	**04 27 57.2**	**-0.8**
THE				*i* SN		S	**Sn**	**04 28 20.2**	**-1.4**
TNSA	**Tinos**	**1.89**	**130**	P		P	**Pn**	**04 27 58.6**	**+0.5**
KPRO	**Kipourio**	**1.94**	**308**	P		P	**Pn**	**04 27 58.9**	**-0.1**
ITM	**Ithomi**	**1.96**	**216**	*e*Pn		P	**Pb**	**04 28 00.9**	**-0.8**
ITM				*e*Sn		S	**Sn**	**04 28 17.0**	**-6.6**
ITM	**Ithomi**	**1.96**	**216**	P		P	**Pb**	**04 28 00.7**	**-1.0**
KZN	**Kozani**	**1.96**	**322**	P		P	**Pn**	**04 27 59.9**	**+0.7**
SIGR	**SIGRI**	**1.99**	**77**	PN		P	**Pn**	**04 27 58.3**	**-1.3**
SIGR	**SIGRI**	**1.99**	**77**	*e*Pn		P	**Pn**	**04 27 58.7**	**-0.9**
SIGR	**SIGRI**	**1.99**	**77**	P		P	**Pn**	**04 27 58.7**	**-0.9**
SIGR	**SIGRI**	**1.99**	**77**	P		P	**Pn**	**04 27 58.7**	**-0.9**
MES3	**Kyparissia**	**2.02**	**222**	P		P	**Pb**	**04 28 01.5**	**-1.4**
SOH	**Sokhos**	**2.04**	**360**	*e*Pn		P	**Pn**	**04 28 00.3**	**0.0**
SOH	**Sokhos**	**2.04**	**360**	P		P	**Pn**	**04 28 00.3**	**0.0**
SOH	**Sokhos**	**2.04**	**360**	P		P	**Pn**	**04 28 00.3**	**0.0**
VLI	**Veliai**	**2.08**	**189**	P		P	**Pn**	**04 28 00.5**	**-0.3**
THAS	**Thassos island**	**2.11**	**30**	P		P	**Pn**	**04 27 59.6**	**-1.5**
JAN	**Janina**	**2.13**	**295**	P		P	**Pn**	**04 28 03.1**	**+1.5**
CHOS	**Chios island**	**2.15**	**100**	PN		P	**Pn**	**04 28 00.6**	**-1.3**
CHOS	**Chios island**	**2.15**	**100**	P		P	**Pn

PHP *i* SN **Sg** **04 29 21.1 -2.7**
IDI **Anoyia** **3.69 160** Pn **Pn** **04 28 23.2 +0.2**
comp=Z,13nm,0.3s,baz=345,slow=12,SNR=56
IDI **Anoyia** **3.69 160** *e*Pn **Pn** **04 28 22.9 -0.2**
IDI *e*Sn **Sn** **04 29 05.3 -1.2**
IDI **Anoyia** **3.69 160** ⇓ *i*P **Pn** **04 28 25.2 +2.1**
TIR **Tirane** **3.71 315** *e*Pn **Pn** **04 28 24.1 +0.8**
TIR *e*Sn **Sn** **04 29 07.8 +1.0**
TIR **Tirane** **3.71 315** ⇑ *i*P **Pn** **04 28 26.6 +3.4**
AYDN **Tasoluk** **3.73 106** IAML_P
comp=Z,340nm,0.2s
AYDN *i* P **Pn** **04 28 24.2 +0.6**
VTS **Vitosha** **3.81 358** *e*Pn **Pn** **04 28 24.7 0.0**
VTS **Vitosha** **3.81 358** ⇑ *i*P **Pn** **04 28 25.3 +0.6**
EDC **Edincik** **3.82 64** PN **Pn** **04 28 24.3 -0.4**
DAT **Datca** **3.92 120** *i* P **Pn** **04 28 28.2 +2.0**
GVD **Gavdhos** **3.98 171** P **Pn** **04 28 28.9 +2.0**
LAST **Lasithi** **3.99 154** P **Pn** **04 28 27.6 +0.4**
SCTE **Santa Cesarea** **4.00 290** P **Pn** **04 28 27.8 +0.6**
SCTE **Santa Cesarea** **4.00 290** P **Pn** **04 28 29.0 +1.8**
SCTE AML AML
comp=E,56μm,1.6s
SCTE AML AML
comp=N,50μm,1.3s
SCTE AML AML
comp=N,50μm,1.3s
SCTE AML AML
comp=E,56μm,1.6s
EDRB **Edirne** **4.01 39** PN **Pn** **04 28 27.4 0.0**
DURS **Dursunbey** **4.06 77** *i* P **Pn** **04 28 29.0 +0.8**
MANT **Manisa** **4.08 92** IAML_P
comp=Z,360nm,0.2s
MANT *i* P **Pn** **04 28 29.2 +0.7**
CRLT **Corlu** **4.10 54** PN **Pn** **04 28 28.5 -0.1**
KCTX **Karacabey (Bur** **4.14 67** PN **Pn** **04 28 28.8 -0.4**
KULA **Kula-Manisa** **4.16 92** PN **Pn** **04 28 29.1 -0.4**
DEMI **Demirci** **4.19 85** IAML_P
comp=Z,417nm,0.2s
DEMI *i* P **Pn** **04 28 31.5 +1.6**
KARP **Karpathos** **4.43 136** *e*Pn **Pn** **04 28 34.0 +0.8**
KARP **Karpathos** **4.43 136** P **Pn** **04 28 33.9 +0.8**
SLVT **Silivri** **4.46 55** PN **Pn** **04 28 33.7 +0.2**
ULC **Ulcinj** **4.47 317** ⇑ *i*Pn **Pn** **04 28 35.2 +1.5**
ULC *i* Sn **Sn** **04 29 27.2 +1.6**
TURN **Turunc** **4.57 113** IAML_P
comp=Z,447nm,0.2s
TURN *i* P **Pn** **04 28 34.0 -1.0**
TAVA **DENIZLI_Tavas** **4.57 105** IAML_P
comp=Z,343nm,0.2s
TAVA *i* P **Pn** **04 28 37.4 +2.2**
PVY **Plav** **4.60 327** ⇑ *i*Pn **Pn** **04 28 37.3 +1.7**
PVY *i* Sn **Sn** **04 29 29.8 +0.8**
DALY **Dalyan (Mula)** **4.63 113** *i* P **Pn** **04 28 37.8 +1.9**
CTYL **Yalíkoy Yolu** **4.64 53** PN **Pn** **04 28 36.0 0.0**
SBT5 **Esenkoy-Cinarc** **4.64 65** PN **Pn** **04 28 35.9 -0.1**
CTKS **Kestanelik-??a** **4.65 57** PN **Pn** **04 28 35.5 -0.7**
DRME **Dracevica, Mon** **4.66 318** ⇑ *i*Pn **Pn** **04 28 38.0 +1.7**
DRME *i* Sn **Sn** **04 29 31.5 +1.3**
DRME **Dracevica, Mon** **4.66 318** *e*Pn **Pn** **04 28 38.0 +1.7**
PDG **Podgorica** **4.80 321** ⇓ *i*P **Pn** **04 28 40.1 +1.9**
PDG **Podgorica** **4.80 321** *e*Pn **Pn** **04 28 40.2 +2.1**
TTG **Podgorica** **4.80 321** ⇑ *i*Pn **Pn** **04 28 39.2 +1.0**
TTG *i* Sn **Sn** **04 29 35.1 +1.5**
TTG **Podgorica** **4.80 321** *e*Pn **Pn** **04 28 40.3 +2.1**
BGKT **Bogazkoy** **4.80 58** PN **Pn** **04 28 38.4 +0.2**
KHAL **Karahalli** **4.83 93** IAML_P
comp=Z,491nm,0.2s
KHAL *i* P **Pn** **04 28 40.3 +1.6**
IVA **Berane** **4.86 328** ⇓ *i*Pn **Pn** **04 28 40.7 +1.6**
IVA *i* Sn **Sn** **04 29 34.1 -1.2**
BUM **Brajici-Budva** **4.89 317** ⇑ *i*Pn **Pn** **04 28 40.9 +1.4**
BUM *i* Sn **Sn** **04 29 37.3 +1.3**
ISK **Istanbul-Kandi** **4.94 61** PN **Pn** **04 28 40.2 0.0**
KAVV **Kandilli-Istan** **4.94 61** PN **Pn** **04 28 40.1 -0.1**
YLV **Yalova** **4.97 67** PN **Pn** **04 28 41.0 +0.3**
LADO **San Nicola del** **4.99 278** P **Pn** **04 28 42.7 +1.8**
LADO AML AML
comp=E,3050μm,1.6s
LADO AML AML
comp=N,48μm,0.5s
LADO AML AML
comp=N,48μm,0.5s
LADO AML AML
comp=E,3050μm,1.6s
TAR1 **Taranto** **5.00 292** *e*Pn **Pn** **04 28 42.2 +1.3**
KOME **Kolasin** **5.00 326** ⇓ *i*Pn **Pn** **04 28 43.7 +2.6**
KOME *i* Sn **Sn** **04 29 39.8 +1.0**
KLYT **Kilyos** **5.02 59** PN **Pn** **04 28 41.6 +0.5**
FETY **Fethiye** **5.02 113** IAML_P
comp=Z,560nm,0.3s
FETY *i* P **Pn** **04 28 45.2 +4.0**
FASA **Fasano** **5.05 296** *e*Pn **Pn** **04 28 42.9 +1.3**
PIPA **Pietrapaola** **5.13 280** P **Pn** **04 28 44.7 +1.9**
PIPA AML AML
comp=E,133μm,0.6s
PIPA AML AML
comp=N,92μm,0.7s
PIPA AML AML
comp=E,133μm,0.6s
PIPA AML AML
comp=N,92μm,0.7s
GOLH **Golhisar** **5.14 106** *i* P **Pb** **04 28 59.0 +3.0**
MASS **Massafra** **5.14 293** *e*Pn **Pn** **04 28 44.1 +1.3**
TIP **Timpagrande** **5.16 277** *e*Pn **Pn** **04 28 43.5 +0.4**
TIP **Timpagrande** **5.16 277** ⇓ *i*P **Pn** **04 28 45.1 +1.9**
TIP **Timpagrande** **5.16 277** P **Pn** **04 28 45.0 +1.8**
TIP AML AML
comp=E,63μm,0.9s
TIP AML AML
comp=N,70μm,0.8s
TIP AML AML
comp=N,70μm,0.8s
TIP AML AML
comp=E,63μm,0.9s
NKME **Niksic** **5.20 321** ⇓ *i*Pn **Pn** **04 28 45.5 +1.8**
NKME *i* Sn **Sn** **04 29 44.4 +0.8**
HCY **Herceg Novi** **5.21 316** ⇑ *i*Pn **Pn** **04 28 44.7 +0.9**
HCY *i* Sn **Sn** **04 29 44.6 +0.9**
HCY **Herceg Novi** **5.21 316** *e*Pn **Pn** **04 28 44.3 +0.5**
SERS **Sersale** **5.21 275** P **Pn** **04 28 45.5 +1.6**
SERS AML AML
comp=E,80μm,0.4s
SERS AML AML
comp=N,77μm,0.4s
SERS AML AML
comp=E,80μm,0.4s
SERS AML AML
comp=N,77μm,0.4s
NKY **Niksic** **5.21 322** ⇑ *i*Pn **Pn** **04 28 44.8 +0.8**
NKY *i* Sn **Sn** **04 29 44.9 +0.8**
NOCI **Noci** **5.25 294** P **Pn** **04 28 45.7 +1.3**
NOCI AML AML
comp=E,130μm,0.5s
NOCI AML AML
comp=N,116μm,0.7s
NOCI AML AML
comp=E,130μm,0.5s
NOCI AML AML
comp=N,116μm,0.7s
KZIL **AFYON_Kizioren** **5.35 93** IAML_P
comp=Z,417nm,0.2s
KZIL *i* P **Pn** **04 28 48.0 +2.1**
CELI **Celico** **5.36 279** P **Pn** **04 28 47.5 +1.4**
CELI AML AML
comp=E,120μm,0.6s
CELI AML AML
comp=N,117μm,1.4s
CELI AML AML
comp=E,120μm,0.6s
CELI AML AML
comp=N,117μm,1.4s
SILT **Sile** **5.38 62** PN **Pn** **04 28 46.7 +0.5**
BRDR **BURDUR-Merkez** **5.39 99** IAML_P
comp=Z,602nm,0.3s
BRDR *i* P **Pn** **04 28 48.9 +2.5**
PLAC **Placanica** **5.43 269** P **Pn** **04 28 48.5 +1.7**
PLAC AML AML
comp=E,111μm,1.6s
PLAC AML AML
comp=N,116μm,0.5s
PLAC AML AML
comp=E,111μm,1.6s
PLAC AML AML
comp=N,116μm,0.5s

PLE **Pljevlja** **5.45 328** ⇓ *i*Pn **Pn** **04 28 49.4 +2.2**
PLE *i* Sn **Sn** **04 29 50.2 +0.4**
MATE **Matera** **5.46 292** ⇓ *i*P **Pn** **04 28 48.2 +1.0**
TREB **Trebinje** **5.47 318** *e*Pn **Pn** **04 28 47.9 +0.5**
BAI **Bari** **5.49 297** *e*Pn **Pn** **04 28 48.9 +1.2**
ORI **Oriolo Calabro** **5.50 286** S **Pg** **04 29 15.0 +3.5**
BRY **Bratogost** **5.50 320** *e*Pn **Pn** **04 28 49.5 +1.5**
SG1 **Sgolgore (BA)** **5.54 294** *e*Pn **Pn** **04 28 49.4 +1.0**
SALB **San Lorenzo Be** **5.55 284** P **Pn** **04 28 49.9 +1.3**
SALB AML AML
comp=E,254μm,1.2s
SALB AML AML
comp=N,67μm,1.2s
SALB AML AML
comp=E,118μm,0.5s
SALB AML AML
comp=N,62μm,0.7s
SALB AML AML
comp=N,62μm,0.7s
SALB AML AML
comp=E,254μm,1.2s
SALB AML AML
comp=N,67μm,1.2s
SALB AML AML
comp=E,118μm,0.5s
UPM **Unac-Piva** **5.56 324** ⇓ *i*Pn **Pn** **04 28 51.3 +2.5**
UPM *i* Sn **Sn** **04 29 52.9 +0.3**
UPM **Unac-Piva** **5.56 324** *e*Pn **Pn** **04 28 51.0 +2.2**
AKAS **Kas** **5.58 115** IAML_P
comp=Z,572nm,0.4s
AKAS *i* P Pn 04 28 55.9 +6.8
BORA **Eskisehir** **5.61 76** IAML_P
comp=Z,858nm,0.3s
BORA *i* P **Pn** **04 28 50.7 +1.2**
AMUR **Altamura** **5.62 294** P **Pn** **04 28 50.5 +1.1**
AMUR AML AML
comp=E,122μm,0.4s
AMUR AML AML
comp=N,81μm,0.3s
AMUR AML AML
comp=E,122μm,0.4s
AMUR AML AML
comp=N,81μm,0.3s
GEYV **SAKARYA_Geyve** **5.62 70** IAML_P
comp=Z,808nm,0.3s
GEYV *i* P **Pn** **04 28 50.2 +0.8**
KAND **Kocaeli-Kandir** **5.74 64** IAML_P
comp=Z,66nm,0.2s
KAND *i* P **Pn** **04 28 51.7 +0.6**
CET2 **Cetraro** **5.80 280** P **Pn** **04 28 54.4 +2.4**
CET2 AML AML
comp=E,247μm,0.7s
CET2 AML AML
comp=N,242μm,0.6s
CET2 AML AML
comp=N,242μm,0.6s
CET2 AML AML
comp=E,247μm,0.7s
KORT **Korkueli** **5.81 106** IAML_P
comp=Z,378nm,0.3s
KORT *i* P **Pn** **04 28 56.3 +4.1**
JOPP **Joppolo** **5.85 271** P **Pn** **04 28 54.1 +1.5**
JOPP AML AML
comp=E,144μm,1.2s
JOPP AML AML
comp=N,104μm,1.6s
JOPP AML AML
comp=E,144μm,1.2s
JOPP AML AML
comp=N,104μm,1.6s
HUMR **Humele** **5.87 11** ⇑ *i*P **Pn** **04 28 52.8 -0.1**
DIVS **Divibare** **5.88 336** *e*Pn **Pn** **04 28 54.5 +1.3**
DIVS *e*Sn **Sn** **04 29 56.2 -4.3**
DIVS **Divibare** **5.88 336** *e*Pn **Pn** **04 28 54.2 +1.0**
BBLS **Lazići** **5.89 331** *e*Pn **Pn** **04 28 54.5 +1.3**
PTRP **Pietrapertosa** **5.89 289** P **Pn** **04 28 54.7 +1.4**
STON **Ston** **5.93 315** *e*Pn **Pn** **04 28 53.9 +0.2**
STON *e*Sn **Sn** **04 29 59.8 -1.5**
SIRI **Monte Sirino -** **5.96 286** P **Pn** **04 28 56.0 +1.8**
SIRI AML AML
comp=E,114μm,0.3s
SIRI AML AML
comp=N,132μm,0.6s
SIRI AML AML
comp=E,114μm,0.3s
SIRI AML AML
comp=N,132μm,0.6s
MCEL **Monticello** **6.04 287** P **Pn** **04 28 56.9 +1.6**
MCEL AML AML
comp=E,151μm,0.7s
MCEL AML AML
comp=N,128μm,0.6s
MCEL AML AML
comp=E,151μm,0.7s
MCEL AML AML
comp=N,128μm,0.6s
PALZ **Palazzo San Ge** **6.09 293** P **Pn** **04 28 57.3 +1.4**
PALZ AML AML
comp=E,192μm,1.5s
PALZ AML AML
comp=N,168μm,1.6s
PALZ AML AML
comp=E,192μm,1.5s
PALZ AML AML
comp=N,168μm,1.6s
MDVR **Moldovita** **6.12 349** ⇑ *i*P **Pn** **04 28 56.4 0.0**
SAHE **Sakarya_HENDEK** **6.13 68** IAML_P
comp=Z,51nm,0.2s
SAHE *i* P **Pn** **04 28 57.5 +1.0**
HERR **Herculane** **6.14 354** ⇓ *i*P **Pn** **04 28 56.2 -0.4**
SLCN **Sala Consilina** **6.18 288** P **Pn** **04 28 59.8 +2.5**
SLCN AML AML
comp=E,326μm,0.4s
SLCN AML AML
comp=N,312μm,1.3s
SLCN AML AML
comp=E,328μm,0.4s
SLCN AML AML
comp=N,176μm,0.7s
SLCN AML AML
comp=N,312μm,1.3s
SLCN AML AML
comp=E,326μm,0.4s
SLCN AML AML
comp=N,176μm,0.7s
SLCN AML AML
comp=E,328μm,0.4s
MGR **Morigerati** **6.19 285** P **Pn** **04 28 59.4 +2.1**
MGR AML AML
comp=E,88μm,1.5s
MGR AML AML
comp=N,80μm,0.4s
MGR AML AML
comp=E,88μm,1.5s
MGR AML AML
comp=N,80μm,0.4s
HAPS **Han Pijesak,Bl** **6.25 329** *e*Pn **Pn** **04 28 58.7 +0.5**
ICOR **Ion Corvin** **6.29 31** ⇓ *i*P **Pn** **04 28 58.7 0.0**
ICOR **Ion Corvin** **6.29 31** S **Sn** **04 30 08.5 -1.9**
SGRT **San Giovanni R** **6.54 299** P **Pn** **04 29 03.4 +1.3**
SGRT AML AML
comp=E,162μm,0.4s
SGRT AML AML
comp=N,140μm,0.8s
SGRT AML AML
comp=E,162μm,0.4s
SGRT AML AML
comp=N,140μm,0.8s
GZR **Gura Zlata** **6.62 356** ⇓ *i*P **Pn** **04 29 02.6 -0.7**
HAGA **Augusta** **6.64 260** S Sn 04 30 07.0 -12
ARR **Arges** **6.65 8** ⇑ *i*P **Pn** **04 29 03.6 -0.1**
LOT **Lotru** **6.67 3** ⇓ *i*P **Pn** **04 29 04.0 0.0**
ISR **Istrita** **6.76 20** ⇑ *i*P **Pn** **04 29 05.9 +0.7**
VOIR **6.77 10** ⇑ *i*P **Pn** **04 29 05.9 +0.6**
TLB **Topalu** **6.78 30** ⇑ *i*P **Pn** **04 29 04.7 -0.6**
TIRR **Tirgusor** **6.82 32** *e*Pn **Pn** **04 29 05.3 -0.6**
TIRR *e*Sn **Sn** **04 30 20.4 -3.0**
TIRR **Tirgusor** **6.82 32** ⇓ *i*P **Pn** **04 29 06.3 +0.4**
FRGS **Fruska Gora** **6.90 339** *e*Pn **Pn** **04 29 07.6 +0.6**
BZS **Buzias** **6.95 350** ⇑ *i*P **Pn** **04 29 08.7 +0.9**
MLR **Muntele Rosu** **6.98 15** Pn **Pn** **04 29 10.1 +1.9**
comp=N,3.5nm,0.3s,baz=318,slow=12,SNR=13
MLR Sn **Sn** **04 30 29.8 +2.3**
comp=N,1.8nm,0.3s,baz=1.6,slow=12,SNR=2.6
MLR **Muntele Rosu** **6.98 15** *e*Pn **Pn** **04 29 07.6 -0.6**
MLR *e*Sn **Sn** **04 30 29.8 +2.3**
MLR **Muntele Rosu** **6.98 15** ⇑ *i*P **Pn** **04 29 09.2 +1.0**
BCAM **Yenicaga** **7.01 70** *i* P **Pn** **04 29 09.9 +1.2**
SACR **S. Croce Del S** **7.13 294** P **Pn** **04 29 12.3 +2.0**
SACR AML AML
comp=E,63μm,1.5s
SACR AML AML
comp=N,71μm,1.0s
SACR AML AML
comp=N,71μm,1.0s
SACR AML AML
comp=E,63μm,1.5s
PTRJ **Pietraroja** **7.25 294** P **Pn** **04 29 13.8 +1.9**
PTRJ AML AML
comp=E,220μm,0.6s
PTRJ AML AML
comp=N,312μm,0.6s
PTRJ AML AML
comp=E,220μm,0.6s
PTRJ AML AML
comp=N,312μm,0.6s
RAFF **Raffo Rosso** **7.27 260** P **Pn** **04 29 14.2 +2.0**
CFR **Carcaliu** **7.32 28** ⇑ *i*P **Pn** **04 29 13.0 +0.3**
DOPR **Dopca** **7.34 11** ⇓ *i*P **Pn** **04 29 13.9 +0.8**
PLOR **Plostina** **7.48 18** ⇑ *i*P **Pn** **04 29 16.2 +1.2**
VRI **Vrincioaia** **7.51 18** ⇓ *i*P **Pn** **04 29 17.0 +1.6**
OZUR **7.53 13** ⇑ *i*P **Pn** **04 29 16.7 +1.0**
BLY **Banja Luka** **7.54 324** *e*Pn **Pn** **04 29 16.7 +0.8**
BLY **Banja Luka** **7.54 324** ⇑ *i*P **Pn** **04 29 16.6 +0.8**
BLY **Banja Luka** **7.54 324** *e*Pn **Pn** **04 29 15.9 +0.1**
SIRR **Siria** **7.59 351** ⇑ *i*P **Pn** **04 29 16.1 -0.4**
WDD **Wied Dalam** **7.63 250** *e*Pn **Pn** **04 29 18.0 +1.0**
BR101 **Keskin Array S** **8.04 80** *e*Pn **Pn** **04 29 24.1 +1.4**
BR131 **Keskin Array S** **8.04 80** *e*Pn **Pn** **04 29 24.5 +1.7**
BR131 *e*Sn **Sn** **04 30 52.9 -0.6**
BRTR **Keskin Array B** **8.04 80** Pn **Pn** **04 29 24.1 +1.4**
comp=N,0.6nm,0.3s,baz=256,slow=12,SNR=22
VVLD **Villa Vallelon** **8.05 296** P **Pn** **04 29 25.6 +2.7**
VVLD AML AML
comp=E,107μm,1.0s
VVLD AML AML
comp=N,68μm,0.9s
VVLD AML AML
comp=N,68μm,0.9s
VVLD AML AML
comp=E,107μm,1.0s
CLTB **Caltabellotta** **8.08 265** *e*Pn **Pn** **04 29 25.8 +2.5**
UDBI **Udbina** **8.08 318** *e*Pn **Pn** **04 29 24.2 +1.0**
MORH **Mrgy, Hungar** **8.21 336** *e*Pn **Pn** **04 29 25.2 +0.3**
AQU **L'Aquila** **8.38 298** *e*Pn **Pn** **04 29 25.1 -2.2**
AQU **L'Aquila** **8.38 298** *e*Pn Pn 04 29 17.9 -9.4
BIZ **Bicaz** **8.40 13** ⇑ *i*P **Pn** **04 29 28.4 +0.8**
NVLJ **Novalja** **8.58 315** *e*Pn **Pn** **04 29 29.6 -0.5**
PRAR **RASCA** **8.83 13** ⇓ *i*P **Pn** **04 29 35.1 +1.6**
BURAR **Bucovina Array** **8.94 8** ⇑ *i*P **Pn** **04 29 36.1 +1.1**
BUR04 **Bucovina Ar. S** **8.94 8** *e*Pn **Pn** **04 29 35.5 +0.4**
BUR08 **Bucovina Ar. S** **8.96 8** *e*Pn **Pn** **04 29 36.1 +0.7**
BOJS **Bojanci** **9.02 321** *i* Pn **Pn** **04 29 36.0 -0.1**
BOJS *i* Sn **Sn** **04 31 14.6 -2.9**
CRES **Cresnjev** **9.15 323** *e*Pn **Pn** **04 29 36.9 -1.0**
GBRS **Gornja Briga** **9.26 320** *i* Pn **Pn** **04 29 41.5 +2.1**
GBRS *i* Sn **Sn** **04 31 22.8 -0.6**
KNDS **Knezji Dol** **9.48 318** *i* Pn **Pn** **04 29 42.0 -0.5**
CEY **Cerknica** **9.60 319** *e*Pn **Pn** **04 29 42.1 -1.9**
SKDS **Skadanscina** **9.68 317** *i* Sn **Sn** **04 31 30.2 -3.6**
JAVS **Javornik** **9.89 319** *i* Pn **Pn** **04 29 47.4 -0.7**
JAVS *i* Sn **Sn** **04 31 36.6 -2.3**
OBKA **Obir** **10.08 323** *e*Pn **Pn** **04 29 53.4 +2.7**
comp=E,1.1nm,0.3s
ARSA **Arzberg** **10.22 328** *e*Pn **Pn** **04 29 55.0 +2.4**
comp=E,1.7nm,0.3s
CONA **Conrad Observa** **10.64 332** *e*Pn **Pn** **04 30 00.2 +1.8**
comp=E,0.5nm,0.3s
KEST **Kesra** **11.57 259** *e*Pn **Pn** **04 30 10.5 -0.6**
VRAC **Vranov** **11.59 337** LR LR 04 36 00.1
comp=E,190nm,18.9s,baz=198,slow=44
WATA **Walderalm** **12.13 319** *e*Pn **Pn** **04 30 19.8 +1.0**
comp=E,2.7nm,0.5s
SQTA **Sankt Quirin** **12.25 317** Pn **Pn** **04 30 20.5 +0.1**
comp=E,0.4nm,0.2s
FETA **Feichten** **12.38 316** Pn **Pn** **04 30 23.8 +1.5**
comp=E,1.6nm,0.6s
MOTA **Moosalm** **12.38 318** *e*Pn **Pn** **04 30 24.3 +2.1**
comp=E,1.2nm,0.4s
RETA **Reutte** **12.65 318** *e*Pn **Pn** **04 30 28.3 +2.5**
comp=E,1.3nm,0.6s
SIRT **Sirnak** **15.07 89** *e*Pn **Pn** **04 30 56.2 -2.7**
comp=E,26nm,1.2s
ESDC **Sonseca Array** **21.16 281** P **P** **04 32 10.9 -0.2**
comp=E,7.2nm,0.6s,baz=76,slow=11,SNR=50
PAB **San Pablo** **21.47 281** *e*P **P** **04 32 14.9 +0.5**
comp=E,23nm,1.3s
TAM **Tamanrasset** **22.04 229** *e*P **P** **04 32 22.9 +2.1**
comp=E,4.7nm,1.2s
HFS **Hagfors** **22.23 347** P **P** **04 32 22.8 +0.4**
comp=E,1.8nm,0.5s,baz=156,slow=11,SNR=9.6
FIA0 **FINESS Array S** **22.75 3** *e*P **P** **04 32 28.5 +0.6**
FIA0 *e*PcP **PcP** **04 36 18.9 -0.4**
FINES **FINESS Array B** **22.75 3** P **P** **04 32 28.5 +0.6**
comp=E,4.0nm,0.9s,baz=174,slow=9.6,SNR=7.8
FINES PcP **PcP** **04 36 18.9 -0.4**
comp=E,1.8nm,1.0s,baz=151,slow=4.4,SNR=3.9
FINES LR LR 04 40 53.9
comp=E,203nm,21.1s,baz=243,slow=36
PBRG **Braganca** **23.10 287** *e*P **P** **04 32 31.4 -0.4**
MVO **Moncorvo** **23.35 286** *e*P **P** **04 32 33.5 -0.9**
comp=E,50nm,1.4s
MDT **Midelt** **23.40 264** P **P** **04 32 36.2 +1.3**
comp=E,3.2nm,0.9s,baz=94,slow=11,SNR=10
NB2 **NORSAR Subarra** **23.54 345** P **P** **04 32 35.8 -0.2**
comp=Z,0.6nm,0.5s,baz=159,slow=9.3
NB200 **NORSAR Array S** **23.54 345** *e*P **P** **04 32 36.2 +0.2**
NOA **NORSAR Array B** **23.54 345** P **P** **04 32 36.2 +0.2**
comp=Z,1.2nm,0.6s,baz=147,slow=9.0,SNR=7.2
NOA LR LR 04 43 35.2
comp=Z,77nm,18.4s,baz=310,slow=41
PMRV **Marv??o** **23.82 281** *e*P **P** **04 32 38.9 0.0**
PCBR **Castelo Branco** **23.83 282** *e*P **P** **04 32 39.4 +0.5**
PGAV **Gavieira, Arco** **24.23 288** *e*P **P** **04 32 46.2 +3.4**
PBEJ **Beja** **24.42 278** *e*P **P** **04 32 45.4 +0.9**
PVAQ **Vaqueiros** **24.44 277** *e*P **P** **04 32 44.3 -0.3**
PMTG **Montargil** **24.51 281** *e*P **P** **04 32 44.1 -1.2**
PBDV **Barranco-do-Ve** **24.64 276** *e*P **P** **04 32 46.5 0.0**
MESJ **Messejana** **24.74 278** *e*P **P** **04 32 46.6 -0.7**
MESJ AMb AMB 04 32 48.6
comp=Z,21nm,2.1s
ARA0 **ARCESS Array S** **30.84 1** *e*P **P** **04 33 41.9 +0.3**
ARCES **ARCESS Array B** **30.84 1** P **P** **04 33 41.9 +0.3**
comp=Z,1.4nm,0.8s,baz=21,slow=11,SNR=4.1
TOA1 **Torodi Ar. Sit** **31.94 223** *e*P **P** **04 33 50.1 -1.7**
TORD **Torodi Ar. Bea** **31.94 223** P **P** **04 33 50.1 -1.7**
comp=Z,3.7nm,0.5s,baz=31,slow=9.4,SNR=84
GAR **Garm** **36.23 74** *e*P **P** **04 34 27.3 -1.8**
comp=Z,5.7nm,0.7s
GAR **Garm** **36.23 74** *e*P **P** **04 34 27.3 -1.8**
comp=Z,5.7nm,0.7s
DBIC **Dimbokro** **40.88 226** P **P** **04 35 08.0 -0.1**
comp=Z,2.6nm,0.5s,baz=14,slow=9.2,SNR=8.4
DBIC **Dimbokro** **40.88 226** *e*P **P** **04 35 08.0 -0.1**
comp=Z,8.0nm,1.1s
TIC **Toumodi** **40.99 226** *e*P **P** **04 35 08.7 -0.3**
KIC **Kosan Boka** **41.07 225** *e*P **P** **04 35 09.5 -0.1**
comp=Z,39nm,1.5s
LIC **Lamto** **41.34 226** *e*P **P** **04 35 11.7 -0.2**
comp=Z,23nm,0.5s
MK32 **Makanchi Array** **43.09 59** *e*P **P** **04 35 26.4 +0.5**
MKAR **Makanchi Array** **43.09 59** P **P** **04 35 26.4 +0.5**
comp=Z,1.2nm,0.4s,baz=274,slow=7.6,SNR=8.6
MKAR **Makanchi Array** **43.09 59** *e*P **P** **04 35 26.6 +0.7**
comp=Z,12nm,0.6s
ZAA1 **Zalesovo Array** **43.63 49** *e*P **P** **04 35 30.4 +0.3**
ZALV **Zalesovo Beam** **43.63 49** P **P** **04 35 30.4 +0.3**
comp=Z,2.0nm,0.4s,baz=290,slow=9.2,SNR=8.4
SONA0 **Songino Array** **58.35 52** *e*P **P** **04 37 21.4 +0.3**
SONM **Songino Array** **58.35 52** P **P** **04 37 21.4 +0.3**
comp=Z,0.5nm,0.6s,baz=284,slow=6.3,SNR=5.4
SCHQ **Schefferville** **59.52 318** P **P** **04 37 28.8 -0.2**
comp=Z,1.8nm,0.4s,baz=67,slow=3.4,SNR=9.8
SCHQ **Schefferville** **59.52 318** *e*P **P** **04 37 28.8 -0.2**
comp=Z,29nm,1.7s
BOSA **Boshof** **67.07 178** P **P** **04 38 19.9 +0.7**
comp=Z,1.9nm,0.7s,baz=357,slow=6.9,SNR=4.9
SEY **Seymchan** **70.76 22** LR LR 05 11 20.6
comp=Z,2μm,21.5s,baz=330,slow=37
YKA **Yellowknife Ar** **73.56 341** P **P** **04 38 58.4 -0.1**

comp=Z,0.6nm,0.5s,baz=34,slow=5.2,SNR=9.5
YKB5 Yellowknife Ar 73.56 341 *e*P **P 04 38 58.4 -0.1**
ULM Lac du Bonnet 76.51 325 P **P 04 39 15.2 -0.5**
comp=Z,1.4nm,0.6s,baz=54,slow=5.2,SNR=3.4
KS15 Wonju Array Si 77.20 52 *e*P **P 04 39 19.0 -0.9**
KSAR Wonju Array Be 77.20 52 P **P 04 39 19.0 -0.9**
KSRS Korea Array 77.22 52 P **P 04 39 19.0 -0.9**
comp=Z,1.1nm,0.5s,baz=299,slow=5.2,SNR=5.0
WR1 Warramunga Arr 118.35 94 *e*PKPdf **PKPdf 04 46 12.5 -1.2**
WRA Warramunga Arr 118.35 94 PKP **PKPdf 04 46 12.5 -1.2**
comp=Z,0.4nm,0.7s,baz=325,slow=1.5,SNR=4.3
AS31 Alice Springs 120.03 97 *e*PKPdf **PKPdf 04 46 15.7 -1.2**
ASAR Alice Springs 120.03 97 PKP **PKPdf 04 46 15.7 -1.2**
comp=Z,0.8nm,0.8s,baz=330,slow=1.6,SNR=7.2

*IDC **30** 04:28:07.3±0.8, 46.75°N×155.69°E, h0km, mb3.6/8, mb1 4.0/11, mb1mx3.7/60, mbtmp3.7/11, ML2.8/3, MS2.9/1, Ms1 2.9/1, ms1mx2.5/36, Error ellipse: s-maj=30.2km s-min=16.6km az=136.0*
*SKHL **30** 04:28:14.9±0.6, 47.21°N×154.85°E, h84km±5km, mb4.7/7, msh5.5/5*
*MOS **30** 04:28:15.7±2.8, 47.21°N×154.86°E, h72km, mb4.3/3, Error ellipse: s-maj=28.4km s-min=12.5km az=60.8*
*ISCJB **30** 04:28:16.4±0.6, 47.36°N±0.06°×154.65°E±0.10, h100km, mb3.5/8, Error ellipse: s-maj=11.7km s-min=5.0km az=41.7*

ISC 30 04:28:17.8±0.8,**47.37N**±0.09°×**154.59E**±0.10,**h100**km,**n26,** σ2s**15**/**28**,**mb3.4**/**8**,**3C-3D**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.47**	**16**	⇑	*e*P		**Pn**	**04 29 08.8**	**-1.0**
SKR						AMB	AMB	04 29 09.4	
	30nm,0.3s								
SKR						AMB	AMB	04 29 13.6	
	800nm,4.0s								
SKR					*e*S		**Sn**	**04 29 49.7**	**-0.2**
SKR						A	A	04 29 54.0	
	860nm,4.0s								
SKR						A	A	04 29 54.0	
	800nm,4.0s								
SKR						A	A	04 29 54.8	
	120nm,0.3s								
SKR						A	A	04 29 54.8	
	90nm,0.3s								
SKR	**Severo-Kuril's**	**3.47**	**16**		*e*PN		**Pn**	**04 29 06.5**	**-3.3**
SKR					*e*S		**Sn**	**04 29 50.0**	**+0.1**
SKR					pmax		pmax		
	comp=Z,12nm,0.4s								
SKR					smax		smax		
	comp=N,50nm,0.3s								
SKR					smax		smax		
	comp=E,52nm,0.2s								
PAU	**Pauzhetka**	**4.36**	**19**		*e*P		**Pn**	**04 29 22.0**	**+0.3**
PAU						AMB	AMB	04 29 22.3	
	comp=E,80nm,0.7s								
PAU					*e*S		**Sn**	**04 30 11.9**	**+0.6**
PAU						A	A	04 30 12.3	
	comp=E,220nm,0.7s								
PAU						A	A	04 30 12.3	
	comp=E,270nm,0.7s								
PAU						A	A	04 30 14.0	
	comp=E,2μm,5.0s								
PAU						A	A	04 30 14.0	
	comp=E,4μm,5.0s								
KUR	**Kuril'sk**	**5.12**	**248**	⇓	*i*P		**Pn**	**04 29 32.7**	**+0.6**
KUR						AMB	AMB	04 29 35.0	
	comp=E,60nm,0.3s								
KUR					*i* S		**Sn**	**04 30 30.0**	**0.0**
KUR						A	A	04 30 34.7	
	comp=E,100nm,0.4s								
KUR						A	A	04 30 34.7	
	comp=E,140nm,0.4s								
KUR	**Kuril'sk**	**5.12**	**248**	*c*	*i*PN		**Pn**	**04 29 32.8**	**+0.6**
KUR					*i* S		**Sn**	**04 30 32.8**	**+2.8**
KUR					pmax		pmax		
	comp=Z,128nm,0.6s								
KUR					pmax		pmax		
	comp=N,83nm,0.5s								
KUR					pmax		pmax		
	comp=E,53nm,0.4s								
KUR					smax		smax		
	comp=N,95nm,0.4s								
KUR					smax		smax		
	comp=E,48nm,0.1s								
PETK	**Petropavlovsk-**	**6.09**	**18**		Pn		**Pn**	**04 29 42.7**	**-2.5**
	comp=E,0.9nm,0.3s,baz=187,slow=14,SNR=23								
PETK					LR		LR	04 32 49.0	
	comp=E,101nm,18.0s,baz=134,slow=43								
PET	**Petropavlovsk**	**6.24**	**23**	⇓	*e*P		**Pn**	**04 29 47.7**	**+0.5**
PET					*e*S		**Sn**	**04 30 55.5**	**-1.4**
PET					A		A	04 30 55.7	
	comp=E,40nm,0.5s								
PET					A		A	04 30 55.7	
	comp=E,30nm,0.5s								
SHO	**Shikotan**	**6.47**	**240**	⇑	*i*P		**Pn**	**04 29 46.8**	**-3.6**
SHO						AMB	AMB	04 29 51.2	
	comp=E,40nm,0.5s								
SHO					*e*S		**Sn**	**04 30 57.6**	**-5.1**
SHO						A	A	04 31 04.4	
	comp=E,80nm,1.0s								
SHO						A	A	04 31 04.4	
	comp=E,120nm,1.0s								
SHO	**Shikotan**	**6.47**	**240**	*d*	*i*PN		**Pn**	**04 29 46.7**	**-3.6**
SHO					pmax		pmax		
	comp=Z,44nm,0.3s								
YSS	**Yuzh-Sakhalins**	**8.08**	**271**		*e*P		**Pn**	**04 30 12.5**	**+0.2**
YSS						AMB	AMB	04 30 13.3	
	comp=Z,20nm,0.4s								
TYV	**Tymovskoe**	**8.57**	**298**		*e*P		**Pn**	**04 30 21.0**	**+2.0**
TYV						AMB	AMB	04 30 22.1	
	comp=Z,20nm,0.8s								
EKMR	**Ekimchan**	**14.96**	**300**		*e*P		**Pn**	**04 31 43.1**	**-0.7**
USRK	**Ussuriysk Ar.**	**16.07**	**267**		Pn		**P**	**04 32 03.2**	**+3.9**
	comp=Z,0.3nm,0.3s,baz=58,slow=13,SNR=5.3								
MJAR	**Matsushiro Arr**	**16.26**	**234**		Pn		**P**	**04 31 59.4**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=32,slow=12,SNR=3.5								
BMKR	**Bomnak**	**17.71**	**304**		*e*P		**Pn**	**04 32 20.0**	**+2.2**
KSRS	**Korea Array**	**21.94**	**253**		P		P	04 33 09.6	+6.5
	comp=Z,0.7nm,0.4s,baz=60,slow=10.0,SNR=5.2								
H11S1	**WAKE ISLAND Hy**	**30.45**	**157**		T		T	05 05 11.6	
	baz=345,slow=76,SNR=11								
H11S3	**WAKE ISLAND Hy**	**30.45**	**157**		T		T	05 05 11.5	
	baz=345,slow=76,SNR=20								
H11S2	**WAKE ISLAND Hy**	**30.46**	**157**		T		T	05 05 12.7	
	baz=345,slow=76,SNR=12								
ILAR	**Eielson Array**	**35.44**	**39**		P		**P**	**04 35 05.8**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=252,slow=6.9,SNR=4.5								
MKAR	**Makanchi Array**	**47.55**	**297**		P		P	04 36 51.8	+8.8
	comp=Z,0.4nm,0.8s,baz=82,slow=10,SNR=2.3								
YKA	**Yellowknife Ar**	**49.83**	**37**		P		**P**	**04 37 00.7**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=292,slow=7.2,SNR=2.7								
PDAR	**Pinedale Array**	**53.57**	**55**		P		**P**	**04 38 37.8**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=318,slow=2.0,SNR=3.9								
WRA	**Warramunga Arr**	**69.43**	**200**		P		**P**	**04 39 14.5**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=21,slow=6.8,SNR=12								
ASAR	**Alice Springs**	**73.12**	**200**		P		**P**	**04 39 37.9**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=14,slow=5.7,SNR=10.0								
TXAR	**Lajitas Array**	**76.31**	**62**		P		**P**	**04 39 56.9**	**+1.0**
	comp=Z,1.2nm,0.5s,baz=305,slow=4.4,SNR=4.8								

*SOME **30** 04:29:27.7, 42.52°N×79.58°E, h15km*
*KRNET **30** 04:29:28.1±0.1, 42.60°N×79.62°E, h17km, mb3.3*
*NNC **30** 04:29:28.2±0.7, 42.61°N×79.56°E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=4.8km s-min=2.3km az=133.0*
*ISCJB **30** 04:29:29.2±0.7, 42.61°N±0.04°×79.63°E±0.04, h10km, Error ellipse: s-maj=6.2km s-min=3.1km az=140.1*

ISC 30 04:29:30.0±1.2,**42.65N**±0.04°×**79.53E**±0.04,**h10**km,**n76,** σ1s**38**/131,**42C-29D**,**Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.62**	**324**		P		**Pg**	**04 29 41.2**	**-0.9**
	131nm,0.2s								
UZB					S		**Sb**	**04 29 51.4**	**-0.5**
	242nm,0.2s								
UZB	**Uzynbulak**	**0.62**	**324**		*e*P		**Pg**	**04 29 41.2**	**-0.9**
	baz=22								
UZB					*e*S		**Sb**	**04 29 51.4**	**-0.5**
	baz=22								
UZB	**Uzynbulak**	**0.62**	**324**		*e*P		**Pg**	**04 29 41.2**	**-0.9**
	131nm,0.2s								
UZB					*e*S		**Sb**	**04 29 51.4**	**+0.5**
	242nm,0.2s								
PDGK	**Podgornoye**	**0.68**	**358**		P		**Pg**	**04 29 41.9**	**-1.3**
	69nm,0.2s								
PDGK					S		**Sb**	**04 29 52.7**	**-1.0**
	40nm,0.3s								
PDGK	**Podgornoye**	**0.68**	**358**	⇑	P		**Pg**	**04 29 41.7**	**-1.5**
	44nm,0.3s								
PDGK				⇑	S		**Sg**	**04 29 52.6**	**+0.3**
	28nm,0.4s								
PDGK	**Podgornoye**	**0.68**	**358**	⇑	*i*P		**Pg**	**04 29 41.9**	**-1.3**
	baz=52								
PDGK				⇑	*i*S		**Sb**	**04 29 52.7**	**-1.0**
	baz=52								
PRZ	**Przheval'sk**	**0.85**	**259**	⇑	*i*P		**Pg**	**04 29 45.6**	**-0.7**
	baz=63								
PRZ				⇑	*i*S		**Sg**	**04 29 57.4**	**0.0**
	baz=63								
SATY	**Saty**	**0.92**	**297**		P		**Pg**	**04 29 46.6**	**-1.1**
	35nm,0.1s								
SATY					S		**Sb**	**04 30 00.1**	**-0.4**
	262nm,0.2s								
SATY	**Saty**	**0.92**	**297**		*e*P		**Pg**	**04 29 46.6**	**-1.1**
	35nm,0.1s								
SATY				⇑	*i*S		**Sb**	**04 30 00.1**	**-0.4**
	262nm,0.2s								
KURS	**Kuram**	**1.30**	**311**		P		**Pn**	**04 29 53.7**	**-0.5**
	12nm,0.2s								
KURS					S		**Sg**	**04 30 12.7**	**+0.8**
	86nm,0.4s								
KURS	**Kuram**	**1.30**	**311**		*e*P		**Pn**	**04 29 53.8**	**-0.5**
	baz=10.0								
KURS				⇓	*i*S		**Sg**	**04 30 12.7**	**+0.8**
	baz=10.0								
KURS	**Kuram**	**1.30**	**311**		*e*P		**Pn**	**04 29 53.8**	**-0.5**
	12nm,0.2s								
KURS				⇓	*i*S		**Sg**	**04 30 12.7**	**+0.8**
	86nm,0.4s								
DJR	**Jarkent**	**1.70**	**6**		P		**Pb**	**04 30 00.9**	**-0.4**
	16nm,0.2s								
DJR					S		**Sg**	**04 30 24.7**	**+0.1**
	64nm,0.2s								
DJR	**Jarkent**	**1.70**	**6**		*e*P		**Pb**	**04 30 00.9**	**-0.4**
	16nm,0.2s								
DJR					*e*S		**Sg**	**04 30 24.6**	**+0.1**
	64nm,0.2s								
KDJ	**Kajisay**	**1.81**	**254**	⇑	*i*P		**Pn**	**04 30 02.0**	**+0.6**
	baz=56								
KDJ				⇑	*i*S		**Sb**	**04 30 27.0**	**+0.8**
	baz=56								
KOTS	**Kotyrbulak**	**1.87**	**289**		Pg		**Pb**	**04 30 04.3**	**0.0**
	26nm,0.2s								
KOTS					Lg		Lg	04 30 31.0	
	277nm,0.3s								
KOTS	**Kotyrbulak**	**1.87**	**289**		*e*P		**Pb**	**04 30 04.3**	**0.0**
	baz=90								
KOTS					*e*S		**Sg**	**04 30 31.0**	**+1.0**
	baz=90								
KOTS	**Kotyrbulak**	**1.87**	**289**		*e*P		**Pb**	**04 30 04.3**	**0.0**
	26nm,0.2s								
KOTS					*e*S		**Sg**	**04 30 31.0**	**+1.0**
	277nm,0.3s								
MDOK	**Medeo**	**1.89**	**287**		Pn		**Pn**	**04 30 03.4**	**+0.9**
	11nm,0.5s								
MDOK					Sn		**Sb**	**04 30 28.5**	**0.0**
	54nm,0.8s								
MDOK	**Medeo**	**1.89**	**287**		Pg		**Pb**	**04 30 03.8**	**-0.9**
	17nm,0.4s								
MDOK					Lg		Lg	04 30 29.7	
	92nm,0.6s								
MDOK	**Medeo**	**1.89**	**287**		*e*P		**Pb**	**04 30 03.8**	**-0.9**
	baz=88								
MDOK				⇓	*i*S		**Sg**	**04 30 29.7**	**-1.1**
	baz=88								
MDOK	**Medeo**	**1.89**	**287**		*e*P		**Pb**	**04 30 03.8**	**-0.9**
	17nm,0.4s								
MDOK				⇓	*i*S		**Sg**	**04 30 29.7**	**-1.1**
	92nm,0.6s								
TNSS	**Tian-Shan**	**1.94**	**283**		Pg		**Pb**	**04 30 05.0**	**-0.6**
	18nm,0.2s								
TNSS					Lg		Lg	04 30 31.7	
	76nm,0.2s								
TNSS	**Tian-Shan**	**1.94**	**283**		*e*P		**Pb**	**04 30 05.0**	**-0.6**
	baz=84								
TNSS					*e*S		**Sg**	**04 30 31.7**	**-0.6**
	baz=84								
TNSS	**Tian-Shan**	**1.94**	**283**		*e*P		**Pb**	**04 30 05.0**	**-0.6**
	18nm,0.2s								
TNSS					*e*S		**Sg**	**04 30 31.7**	**-0.6**
	76nm,0.2s								
KNDC	**Almaty**	**1.96**	**288**	⇑	Pn		**Pb**	**04 30 05.3**	**-0.6**
	25nm,0.3s								
KNDC				⇓	Sn		**Sb**	**04 30 29.4**	**-1.0**
	106nm,0.5s								
ARXS	**Arharly**	**2.00**	**322**		Pg		**Pb**	**04 30 05.7**	**-0.7**
	30nm,0.2s								
ARXS					Lg		Lg	04 30 33.2	
	88nm,0.4s								
ARXS	**Arharly**	**2.00**	**322**		*e*P		**Pb**	**04 30 05.7**	**-0.7**
	30nm,0.2s								
ARXS					*e*S		**Sg**	**04 30 33.1**	**-1.0**
	88nm,0.4s								
CHKK	**Chushkaly**	**2.21**	**304**		Pg		**Pb**	**04 30 09.3**	**-0.8**
	6.8nm,0.2s								
CHKK					Lg		Lg	04 30 39.3	
	100nm,0.2s								
CHKK	**Chushkaly**	**2.21**	**304**		*e*P		**Pb**	**04 30 09.3**	**-0.8**
	baz=4.0								
CHKK					*e*S		**Sg**	**04 30 39.3**	**-1.7**
	baz=4.0								
CHKK	**Chushkaly**	**2.21**	**304**		*e*P		**Pb**	**04 30 09.3**	**-0.8**
	6.8nm,0.2s								
CHKK					*e*S		**Sg**	**04 30 39.3**	**-1.7**
	100nm,0.2s								
MTBS	**Maitube**	**2.33**	**283**		Pg		**Pb**	**04 30 11.0**	**-1.1**
	24nm,0.5s								
MTBS					Lg		Lg	04 30 42.0	
	71nm,0.3s								
MTBS	**Maitube**	**2.33**	**283**		*e*P		**Pb**	**04 30 11.0**	**-1.1**
	baz=84								
MTBS				⇑	*i*S		**Sb**	**04 30 42.0**	**+1.1**
	baz=84								
MTBS	**Maitube**	**2.33**	**283**		*e*P		**Pb**	**04 30 11.0**	**-1.1**
	24nm,0.5s								
MTBS				⇑	*i*S		**Sb**	**04 30 42.0**	**+1.1**
	71nm,0.3s								
KTBS	**Karatobe**	**2.34**	**298**		Pg		**Pb**	**04 30 11.6**	**-0.6**
	16nm,0.4s								
KTBS					Lg		Lg	04 30 43.3	
	151nm,0.6s								
KTBS	**Karatobe**	**2.34**	**298**		*e*P		**Pb**	**04 30 11.6**	**-0.6**
	baz=97								
KTBS					*e*S		**Sg**	**04 30 43.3**	**-1.8**
	baz=97								
KTBS	**Karatobe**	**2.34**	**298**		*e*P		**Pb**	**04 30 11.6**	**-0.6**
	16nm,0.4s								
KTBS					*e*S		**Sg**	**04 30 43.3**	**-1.8**
	151nm,0.6s								
ULHL	**Ulahol**	**2.46**	**262**	⇑	*i*P		**Pn**	**04 30 11.7**	**+1.3**
	baz=63								
ULHL				⇑	*i*S		**Sb**	**04 30 42.8**	**-2.1**
	baz=63								
TDK	**Taldyqorghan**	**2.49**	**341**		Pg		**Pb**	**04 30 14.5**	**-0.3**
	60nm,0.3s								
TDK					Lg		Lg	04 30 48.2	
	63nm,0.4s								
TDK	**Taldyqorghan**	**2.49**	**341**		*e*P		**Pb**	**04 30 14.5**	**-0.3**
	60nm,0.3s								
TDK					*e*S		**Sg**	**04 30 48.2**	**-1.8**
	63nm,0.4s								
KUU	**Kurty**	**2.64**	**299**		Pg		**Pb**	**04 30 16.7**	**-0.7**
	5.1nm,0.3s								
KUU					Lg		Lg	04 30 51.8	
	60nm,0.2s								
KUU	**Kurty**	**2.64**	**299**		*e*P		**Pb**	**04 30 16.7**	**-0.7**
	baz=0.0								
KUU				⇓	*i*S		**Sb**	**04 30 51.8**	**+2.0**
	baz=0.0								
KUU	**Kurty**	**2.64**	**299**		*e*P		**Pb**	**04 30 16.7**	**-0.7**
	5.1nm,0.3s								
KUU				⇓	*i*S		**Sb**	**04 30 51.8**	**+2.0**
	60nm,0.2s								
KAPS	**Kapalarasan**	**2.64**	**357**		Pg		**Pb**	**04 30 18.4**	**+1.0**
	11nm,0.3s								
KAPS					Lg		Lg	04 30 54.8	
	29nm,0.3s								
KAPS	**Kapalarasan**	**2.64**	**357**		*e*P		**Pb**	**04 30 18.4**	**+1.0**
	11nm,0.3s								
KAPS					*e*S		**Sg**	**04 30 54.8**	**0.0**
	29nm,0.3s								
KST	**Kastek**	**2.65**	**280**		Pg		**Pb**	**04 30 16.6**	**-1.0**
	28nm,0.3s								
KST					Lg		Lg	04 30 51.6	
	44nm,0.5s								
KST	**Kastek**	**2.65**	**280**		*e*P		**Pb**	**04 30 16.6**	**-1.0**
	baz=81								
KST				⇑	*i*S		**Sb**	**04 30 51.7**	**+1.4**
	baz=81								
KST	**Kastek**	**2.65**	**280**		*e*P		**Pb**	**04 30 16.6**	**-1.0**
	28nm,0.3s								
KST				⇑	*i*S		**Sb**	**04 30 51.6**	**+1.4**
	44nm,0.5s								
BOOM	**Boomskoye usch**	**2.65**	**268**	⇓	*i*P		**Pn**	**04 30 14.3**	**+1.3**
	baz=69								
BOOM				⇓	*i*S		**Sn**	**04 30 47.6**	**+2.3**
	baz=69								
DGS	**Degeres**	**2.82**	**283**		Pg		**Pb**	**04 30 20.1**	**-0.4**
	18nm,0.3s								
DGS					Lg		Lg	04 30 58.0	
	97nm,0.5s								
DGS	**Degeres**	**2.82**	**283**		*e*P		**Pb**	**04 30 20.1**	**-0.4**
	baz=84								
DGS					*e*S		**Sg**	**04 30 58.0**	**-2.5**
	baz=84								
DGS	**Degeres**	**2.82**	**283**		*e*P		**Pb**	**04 30 20.1**	**-0.4**
	18nm,0.3s								
DGS					*e*S		**Sg**	**04 30 58.0**	**-2.5**
	97nm,0.5s								
NRN	**Naryn**	**2.89**	**246**	⇑	*i*P		**Pn**	**04 30 17.5**	**+1.1**
	baz=48								
NRN				⇑	*i*S		**Sn**	**04 30 53.2**	**+1.8**
	baz=48								
TKM2	**Tokmak 2**	**2.91**	**277**	⇑	Pg		**Pn**	**04 30 18.5**	**+2.0**
	6.8nm,0.7s								
TKM2				⇑	Lg		Lg	04 30 59.8	
	19nm,0.6s								
TKM2	**Tokmak 2**	**2.91**	**277**	⇓	*i*P		**Pn**	**04 30 17.7**	**+1.2**
	baz=78								
TKM2				⇓	*i*S		**Sn**	**04 30 53.6**	**+2.1**
	baz=78								
KZA	**Kyzart**	**3.22**	**261**	⇓	*i*P		**Pn**	**04 30 22.0**	**+1.0**
	baz=62								
KZA				⇓	*i*S		**Sn**	**04 31 01.2**	**+1.6**
	baz=62								
KBK	**Karagaybulak**	**3.38**	**272**	⇑	*i*P		**Pn**	**04 30 24.1**	**+1.2**
	baz=73								
KBK				⇑	*i*S		**Sn**	**04 31 05.0**	**+1.9**
	baz=73								
CHMS	**Chumysh**	**3.53**	**277**	⇑	*i*P		**Pn**	**04 30 26.2**	**+1.3**
	baz=78								
CHMS				⇑	*i*S		**Sn**	**04 31 08.4**	**+1.7**
	baz=78								
AAK	**Ala-Archa**	**3.71**	**272**	⇑	Pg		**Pb**	**04 30 34.9**	**-0.9**
	2.7nm,0.7s								
AAK				⇓	Lg		Lg	04 31 23.9	
	7.8nm,0.5s								
AAK	**Ala-Archa**	**3.71**	**272**	⇓	*i*P		**Pn**	**04 30 28.6**	**+1.1**
	baz=72								
AAK				⇓	*i*S		**Sn**	**04 31 12.8**	**+1.4**
	baz=72								
UCH	**Uchtor**	**3.73**	**265**	⇓	*i*P		**Pn**	**04 30 29.1**	**+1.0**
	baz=66								
UCH				⇓	*i*S		**Sn**	**04 31 13.7**	**+1.4**
	baz=66								
USP	**Ospenovka**	**3.74**	**281**	⇑	*i*P		**Pn**	**04 30 29.2**	**+1.4**
	baz=82								
USP				⇑	*i*S		**Sn**	**04 31 13.8**	**+1.9**
	baz=82								
ARLS	**Aral**	**3.94**	**260**	⇓	*i*P		**Pn**	**04 30 31.3**	**+0.6**
	baz=61								
ARLS				⇓	*i*S		**Sn**	**04 31 17.8**	**+0.8**
	baz=61								
EKS2	**Erkin-Say**	**4.24**	**272**	⇓	*i*P		**Pn**	**04 30 35.9**	**+1.2**
	baz=73								
EKS2				⇓	*i*S		**Sn**	**04 31 25.9**	**+1.6**
	baz=73								
AML	**Almayashu**	**4.35**	**265**	⇓	*i*P		**Pn**	**04 30 37.8**	**+1.3**
	baz=66								
AML				⇓	*i*S		**Sn**	**04 31 28.4**	**+1.0**
	baz=66								
MAKZ	**Makanchi**	**4.51**	**22**	⇑	Pn		**Pn**	**04 30 38.9**	**+0.5**
	1.3nm,0.5s								
MAKZ				⇑	Sn		**Sn**	**04 31 31.9**	**+1.0**
	1.3nm,0.3s								
MAKZ				⇑	Lg		Lg	04 31 48.5	
	1.7nm,0.4s								
MK31	**Makanchi Array**	**4.59**	**24**	⇑	Pn		**Pn**	**04 30 39.9**	**+0.4**
	1.1nm,0.4s,baz=203,slow=13,SNR=37								
MK31				⇓	Sn		**Sn**	**04 31 33.2**	**+0.3**
	2.1nm,0.5s,baz=204,slow=24,SNR=5.6								
MK31				⇑	Lg		Lg	04 31 52.0	
	1.4nm,0.3s,baz=202,slow=27,SNR=3.6								
MRKS	**Merke**	**4.64**	**273**		Pg		**Pb**	**04 30 53.2**	**+1.7**
	3.2nm,0.5s								
MRKS					Lg		Lg	04 31 54.4	
	8.6nm,0.3s								
MRKS	**Merke**	**4.64**	**273**		*e*P		**Pb**	**04 30 53.2**	**+1.7**
	baz=74								
MRKS				⇑	*i*S		**Sg**	**04 31 54.4**	**-4.6**
	baz=74								
MRKS	**Merke**	**4.64**	**273**		*e*P		**Pb**	**04 30 53.2**	**+1.7**
	3.2nm,0.5s								
MRKS				⇑	*i*S		**Sg**	**04 31 54.4**	**-4.6**
	8.6nm,0.3s								
MNAS	**Manas**	**5.19**	**271**	⇑	Pg		**Pb**	**04 31 03.3**	**+2.5**
	1.6nm,0.8s								
MNAS				⇑	Lg		Lg	04 32 11.8	
	4.3nm,1.0s								
SFK	**Sufi-Kurgan**	**5.24**	**242**	⇑	Pg		**Pg**	**04 31 06.3**	**-4.0**
	0.9nm,0.5s								
SFK				⇑	Lg		Lg	04 32 14.8	
	1.7nm,0.5s								
KK31	**Karatay Array**	**6.64**	**277**	⇑	Pg		**Pb**	**04 31 29.6**	**+4.1**
	0.7nm,0.4s,baz=1.2,slow=40,SNR=5.1								
KK31				⇑	Lg		Lg	04 32 57.7	
	4.0nm,0.8s,baz=101,slow=29,SNR=5.3								
OTUK	**Ortayu**	**7.54**	**320**	⇓	Pn		**Pn**	**04 31 19.8**	**-0.2**
	0.6nm,0.7s								
OTUK				⇑	Lg		Lg	04 33 27.4	
	3.0nm,0.7s								
KURBB	**Kurchatov Arra**	**8.01**	**355**	⇑	Pn		**Pn**	**04 31 26.6**	**+0.2**
	0.5nm,0.3s								
KURBB				⇓	Lg		Lg	04 33 41.3	
	4.4nm,0.7s								
KURK	**Kurchatov**	**8.10**	**356**

	baz=65						
DJR	**Jarkent**	**1.77**	**4**	P	**Pb**	**05 01 27.2**	**+0.3**
	0.6nm,0.2s						
DJR				S	**Sg**	**05 01 51.0**	**-0.1**
	2.3nm,0.2s						
DJR	**Jarkent**	**1.77**	**4**	*e*P	**Pb**	**05 01 27.2**	**+0.3**
	0.5nm,0.3s						
DJR				*e*S	**Sg**	**05 01 51.0**	**-0.1**
	1.4nm,0.3s						
KDJ	**Kajisay**	**1.86 257**		⇑*i*P	**Pg**	**05 01 29.9**	**-0.1**
	baz=57						
KDJ				⇑*i*S	**Sg**	**05 01 55.3**	**+1.2**
	baz=57						
ARXS	**Arharly**	**2.10 322**		Pg	**Pb**	**05 01 33.4**	**+0.8**
	2.1nm,0.4s						
ARXS				Lg	Lg	05 02 00.8	
	3.6nm,0.4s						
ARXS	**Arharly**	**2.10 322**		*e*P	**Pb**	**05 01 33.4**	**+0.8**
	0.6nm,0.5s						
ARXS				*e*S	**Sg**	**05 02 01.2**	**-0.4**
	3.6nm,0.4s						
CHKK	**Chushkaly**	**2.31 305**		*e*P	**Pb**	**05 01 37.1**	**+0.9**
	baz=5.0						
CHKK				*e*S	**Sg**	**05 02 07.6**	**-0.9**
	baz=5.0						
CHKK	**Chushkaly**	**2.31 305**		*e*P	**Pb**	**05 01 37.0**	**+0.9**
	0.7nm,0.1s						
CHKK				*e*S	**Sg**	**05 02 07.6**	**-0.9**
	5.7nm,0.3s						
ULHL	**Ulahol**	**2.52 264**		⇓*i*P	**Pb**	**05 01 39.0**	**-0.8**
	baz=64						
ULHL				⇓*i*S	**Sb**	**05 02 11.5**	**+0.5**
	baz=64						
BOOM	**Boomskoye usch**	**2.72 270**		⇓*i*P	**Pb**	**05 01 41.7**	**-1.5**
	baz=70						
BOOM				⇓*i*S	**Sb**	**05 02 16.0**	**-0.6**
	baz=70						
KAPS	**Kapalarasan**	**2.72 356**		*e*P	**Pb**	**05 01 44.3**	**+1.2**
	0.1nm,0.1s						
KAPS				*e*S	**Sg**	**05 02 20.1**	**-1.6**
	1.2nm,0.1s						
TKM2	**Tokmak 2**	**2.98 278**		⇑Pg	**Pb**	**05 01 48.5**	**+0.8**
	1.4nm,0.8s						
TKM2				⇑Lg	Lg	05 02 25.8	
	0.5nm,0.4s						

*IDC **30** 05:27:44.2±2.5, 42°.42N×79°.64E, h0km, mb4.0/1, mb1 3.6/6, mb1mx3.3/41, mbtmp3.5/6, ML3.3/5, Error ellipse: s-maj=40.5km s-min=14.1km az=158.0*
*SOME **30** 05:27:46.6, 42°.60N×79°.67E, h15km*
*KRNET **30** 05:27:47.0±0.1, 42°.60N×79°.64E, h13km, mb3.9*
*NNC **30** 05:27:47.7±0.7, 42°.63N×79°.59E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=4.7km s-min=2.8km az=140.0*

ISC 30 05:27:49.0±1.5, 42.72N±0'.04×79.58E±0'.04, h10km±9km, n90, σ1ŝ45/141, 41C-20D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UZB	**Uzynbulak**	**0.59**	**316**	P	**Pg**	**05 28 00.6**	**+0.2**
	314nm,0.2s						
UZB				S	**Sn**	**05 28 10.7**	**-2.5**
	871nm,0.3s						
UZB	**Uzynbulak**	**0.59**	**316**	*e*P	**Pg**	**05 28 00.6**	**+0.2**
	baz=21						
UZB				*e*S	**Sn**	**05 28 10.7**	**-2.5**
	baz=21						
UZB	**Uzynbulak**	**0.59**	**316**	*e*P	**Pg**	**05 28 00.6**	**+0.2**
	314nm,0.2s						
UZB				*e*S	**Sn**	**05 28 10.7**	**-2.5**
	871nm,0.3s						
PDGK	**Podgornoye**	**0.61**	**354**	P	**Pg**	**05 28 01.1**	**+0.2**
	68nm,0.1s						
PDGK				S	**Sn**	**05 28 11.6**	**-2.1**
	224nm,0.2s						
PDGK	**Podgornoye**	**0.61**	**354**	⇑P	**Pg**	**05 28 00.9**	**+0.1**
	18nm,0.2s						
PDGK				⇑S	**Sn**	**05 28 11.6**	**-2.1**
	70nm,0.2s						
PDGK	**Podgornoye**	**0.61**	**354**	⇑*i*P	**Pg**	**05 28 01.0**	**+0.2**
	baz=51						
PDGK				⇑*i*S	**Sn**	**05 28 11.7**	**-2.1**
	baz=51						
PRZ	**Przheval'sk**	**0.90**	**255**	⇑*i*P	**Pb**	**05 28 04.2**	**-2.6**
	baz=63						
PRZ				⇑*i*S	**Sb**	**05 28 17.0**	**-1.9**
	baz=63						
SATY	**Saty**	**0.92**	**292**	P	**Pb**	**05 28 05.6**	**-1.6**
	154nm,0.1s						
SATY				S	**Sb**	**05 28 19.3**	**-0.2**
	522nm,0.1s						
SATY	**Saty**	**0.92**	**292**	⇓*i*P	**Pb**	**05 28 05.6**	**-1.6**
	154nm,0.1s						
SATY				*e*S	**Sb**	**05 28 19.3**	**-0.2**
	522nm,0.1s						
KURS	**Kuram**	**1.28**	**307**	P	**Pn**	**05 28 12.7**	**-0.3**
	42nm,0.3s						
KURS				S	**Sg**	**05 28 31.3**	**+1.1**
	80nm,0.3s						
KURS	**Kuram**	**1.28**	**307**	*e*P	**Pn**	**05 28 12.7**	**-0.3**
	baz=10.0						
KURS				*e*S	**Sg**	**05 28 31.4**	**+1.1**
	baz=10.0						
KURS	**Kuram**	**1.28**	**307**	*e*P	**Pn**	**05 28 12.7**	**-0.3**
	42nm,0.3s						
KURS				*e*S	**Sg**	**05 28 31.3**	**+1.1**
	80nm,0.3s						
DJR	**Jarkent**	**1.61**	**5**	P	**Pb**	**05 28 19.3**	**+0.4**
	85nm,0.2s						
DJR				S	**Sg**	**05 28 42.7**	**+1.8**
	123nm,0.3s						
DJR	**Jarkent**	**1.61**	**5**	*e*P	**Pb**	**05 28 19.3**	**+0.4**
	85nm,0.2s						
DJR				*e*S	**Sg**	**05 28 42.7**	**+1.8**
	123nm,0.3s						
KDJ	**Kajisay**	**1.87**	**252**	⇑*i*P	**Pn**	**05 28 21.7**	**+0.5**
	baz=56						
KDJ				⇑*i*S	**Sb**	**05 28 46.9**	**+0.1**
	baz=56						
KOTS	**Kotyrbulak**	**1.88**	**287**	Pg	**Pb**	**05 28 23.7**	**+0.2**
	128nm,0.2s						
KOTS				Lg	Lg	05 28 50.6	
	676nm,0.6s						
KOTS	**Kotyrbulak**	**1.88**	**287**	*e*P	**Pb**	**05 28 23.7**	**+0.2**
	baz=90						
KOTS				*e*S	**Sg**	**05 28 50.6**	**+1.2**
	baz=90						
KOTS	**Kotyrbulak**	**1.88**	**287**	*e*P	**Pb**	**05 28 23.7**	**+0.2**
	128nm,0.2s						
KOTS				*e*S	**Sg**	**05 28 50.6**	**+1.2**
	676nm,0.6s						
MDOK	**Medeo**	**1.91**	**284**	⇑Pg	**Pn**	**05 28 22.7**	**+1.0**
	49nm,0.4s						
MDOK				⇓Lg	Lg	05 28 49.3	
	28nm,0.4s						
MDOK	**Medeo**	**1.91**	**284**	Pg	**Pn**	**05 28 22.7**	**+1.0**
	90nm,0.3s						
MDOK				Lg	Lg	05 28 48.9	
	220nm,0.6s						
MDOK	**Medeo**	**1.91**	**284**	*e*P	**Pn**	**05 28 22.7**	**+1.0**
	baz=87						
MDOK				*e*S	**Sg**	**05 28 48.8**	**-1.5**
	baz=87						
MDOK	**Medeo**	**1.91**	**284**	*e*P	**Pn**	**05 28 22.7**	**+1.0**
	90nm,0.3s						
MDOK				*e*S	**Sg**	**05 28 48.9**	**-1.5**
	220nm,0.6s						
TNSS	**Tian-Shan**	**1.96**	**280**	Pg	**Pn**	**05 28 24.1**	**+1.5**
	59nm,0.3s						
TNSS				Lg	Lg	05 28 50.9	
	229nm,0.3s						
TNSS	**Tian-Shan**	**1.96**	**280**	*e*P	**Pn**	**05 28 24.1**	**+1.5**
	baz=83						
TNSS				*e*S	**Sg**	**05 28 50.9**	**-1.0**
	baz=83						
TNSS	**Tian-Shan**	**1.96**	**280**	*e*P	**Pn**	**05 28 24.1**	**+1.5**
	59nm,0.3s						
TNSS				*e*S	**Sg**	**05 28 50.9**	**-1.0**
	229nm,0.3s						
ARXS	**Arharly**	**1.96**	**320**	Pg	**Pb**	**05 28 25.0**	**+0.2**
	70nm,0.3s						
ARXS				Lg	Lg	05 28 52.6	
	395nm,0.4s						
ARXS	**Arharly**	**1.96**	**320**	*e*P	**Pb**	**05 28 25.0**	**+0.2**
	70nm,0.3s						
ARXS				*e*S	**Sg**	**05 28 52.6**	**+0.7**
	395nm,0.4s						

KNDC	**Almaty**	**1.98**	**285**	⇓Pg	**Pb**	**05 28 25.3**	**+0.2**
	106nm,0.5s						
KNDC				⇑Lg	Lg	05 28 54.6	
	180nm,0.5s						
AAA	**Alma-Ata**	**2.01**	**285**	Pg	**Pb**	**05 28 26.0**	**+0.3**
	191nm,0.2s						
AAA				Lg	Lg	05 28 54.3	
	326nm,0.3s						
AAA	**Alma-Ata**	**2.01**	**285**	*e*P	**Pb**	**05 28 26.0**	**+0.3**
	baz=88						
AAA				*e*S	**Sg**	**05 28 54.3**	**+0.7**
	baz=88						
AAA	**Alma-Ata**	**2.01**	**285**	*e*P	**Pb**	**05 28 26.0**	**+0.3**
	191nm,0.2s						
AAA				*e*S	**Sg**	**05 28 54.3**	**+0.7**
	326nm,0.3s						
CHKK	**Chushkaly**	**2.20**	**302**	Pg	**Pb**	**05 28 28.8**	**-0.1**
	30nm,0.2s						
CHKK				Lg	Lg	05 28 59.2	
	255nm,0.3s						
CHKK	**Chushkaly**	**2.20**	**302**	*e*P	**Pb**	**05 28 28.8**	**-0.1**
	baz=4.0						
CHKK				*e*S	**Sg**	**05 28 59.2**	**-0.5**
	baz=4.0						
CHKK	**Chushkaly**	**2.20**	**302**	*e*P	**Pb**	**05 28 28.8**	**-0.1**
	30nm,0.2s						
CHKK				*e*S	**Sg**	**05 28 59.1**	**-0.5**
	255nm,0.3s						
KTBS	**Karatobe**	**2.33**	**296**	Pg	**Pb**	**05 28 30.8**	**-0.4**
	47nm,0.2s						
KTBS				Lg	Lg	05 29 02.8	
	306nm,0.3s						
KTBS	**Karatobe**	**2.33**	**296**	*e*P	**Pb**	**05 28 30.8**	**-0.4**
	baz=97						
KTBS				*e*S	**Sg**	**05 29 02.9**	**-1.1**
	baz=97						
KTBS	**Karatobe**	**2.33**	**296**	*e*P	**Pb**	**05 28 30.8**	**-0.4**
	47nm,0.2s						
KTBS				*e*S	**Sg**	**05 29 02.8**	**-1.1**
	306nm,0.3s						
MTBS	**Maitube**	**2.35**	**281**	Pg	**Pb**	**05 28 30.6**	**-0.8**
	180nm,0.4s						
MTBS				Lg	Lg	05 29 02.1	
	207nm,0.4s						
MTBS	**Maitube**	**2.35**	**281**	*e*P	**Pb**	**05 28 30.6**	**-0.8**
	baz=84						
MTBS				*e*S	**Sb**	**05 29 02.1**	**+1.6**
	baz=84						
MTBS	**Maitube**	**2.35**	**281**	*e*P	**Pb**	**05 28 30.6**	**-0.8**
	180nm,0.4s						
MTBS				*e*S	**Sb**	**05 29 02.1**	**+1.6**
	207nm,0.4s						
TDK	**Taldyqorghan**	**2.43**	**340**	Pg	**Pb**	**05 28 33.0**	**+0.3**
	240nm,0.3s						
TDK				Lg	Lg	05 29 06.5	
	316nm,0.4s						
TDK	**Taldyqorghan**	**2.43**	**340**	*e*P	**Pb**	**05 28 33.0**	**+0.3**
	240nm,0.3s						
TDK				*e*S	**Sg**	**05 29 06.5**	**-0.5**
	316nm,0.4s						
ULHL	**Ulahol**	**2.51**	**260**	P	**Pn**	**05 28 30.3**	**+0.2**
	SNR=30						
ULHL	**Ulahol**	**2.51**	**260**	⇑*i*P	**Pn**	**05 28 31.0**	**+0.9**
	baz=63						
ULHL				⇑*i*S	**Sb**	**05 29 03.6**	**-1.7**
	baz=63						
KAPS	**Kapalarasan**	**2.56**	**357**	Pg	**Pb**	**05 28 35.7**	**+0.6**
	19nm,0.3s						
KAPS				Lg	Lg	05 29 10.8	
	179nm,0.3s						
KAPS	**Kapalarasan**	**2.56**	**357**	*e*P	**Pb**	**05 28 35.7**	**+0.6**
	19nm,0.3s						
KAPS				*e*S	**Sg**	**05 29 10.8**	**-0.5**
	179nm,0.3s						
KUU	**Kurty**	**2.64**	**297**	Pg	**Pb**	**05 28 35.9**	**-0.4**
	10nm,0.1s						
KUU				Lg	Lg	05 29 11.2	
	124nm,0.3s						
KUU	**Kurty**	**2.64**	**297**	*e*P	**Pb**	**05 28 35.9**	**-0.4**
	baz=99						
KUU				*e*S	**Sg**	**05 29 11.2**	**-2.4**
	baz=99						
KUU	**Kurty**	**2.64**	**297**	*e*P	**Pb**	**05 28 35.9**	**-0.4**
	10nm,0.1s						
KUU				*e*S	**Sg**	**05 29 11.2**	**-2.4**
	124nm,0.3s						
KST	**Kastek**	**2.67**	**278**	Pg	**Pb**	**05 28 36.9**	**-0.1**
	65nm,0.3s						
KST				Lg	Lg	05 29 13.3	
	175nm,0.6s						
KST	**Kastek**	**2.67**	**278**	*e*P	**Pb**	**05 28 36.9**	**-0.1**
	baz=81						
KST				*e*S	**Sg**	**05 29 13.3**	**-1.6**
	baz=81						
KST	**Kastek**	**2.67**	**278**	*e*P	**Pb**	**05 28 36.9**	**-0.1**
	65nm,0.3s						
KST				*e*S	**Sg**	**05 29 13.3**	**-1.6**
	175nm,0.6s						
BOOM	**Boomskoye usch**	**2.69**	**266**	⇑*i*P	**Pn**	**05 28 33.8**	**+1.3**
	baz=69						
BOOM				⇑*i*S	**Sb**	**05 29 08.0**	**-2.5**
	baz=69						
DGS	**Degeres**	**2.84**	**282**	Pg	**Pb**	**05 28 39.2**	**-0.6**
	82nm,0.3s						
DGS				Lg	Lg	05 29 17.0	
	216nm,0.5s						
DGS	**Degeres**	**2.84**	**282**	*e*P	**Pb**	**05 28 39.2**	**-0.6**
	baz=84						
DGS				*e*S	**Sb**	**05 29 17.0**	**+2.3**
	baz=84						
DGS	**Degeres**	**2.84**	**282**	*e*P	**Pb**	**05 28 39.2**	**-0.6**
	82nm,0.3s						
DGS				*e*S	**Sb**	**05 29 17.0**	**+2.3**
	216nm,0.5s						
TKM2	**Tokmak 2**	**2.93**	**275**	P	**Pn**	**05 28 37.5**	**+1.6**
	SNR=16						
TKM2	**Tokmak 2**	**2.93**	**275**	⇑Pn	**Pn**	**05 28 37.2**	**+1.4**
	4.8nm,0.4s						
TKM2				⇓Lg	Lg	05 29 21.0	
	31nm,0.5s						
TKM2	**Tokmak 2**	**2.93**	**275**	⇑*i*P	**Pn**	**05 28 37.3**	**+1.4**
	baz=78						
TKM2				⇑*i*S	**Sb**	**05 29 15.0**	**-2.5**
	baz=78						
NRN	**Naryn**	**2.96**	**245**	⇓*i*P	**Pn**	**05 28 37.1**	**+0.8**
	baz=48						
NRN				⇓*i*S	**Sn**	**05 29 13.8**	**+1.8**
	baz=48						
KZA	**Kyzart**	**3.27**	**260**	P	**Pn**	**05 28 43.3**	**+2.6**
	SNR=11						
KZA	**Kyzart**	**3.27**	**260**	⇓*i*P	**Pn**	**05 28 41.6**	**+1.0**
	baz=62						
KZA				⇓*i*S	**Sn**	**05 29 21.8**	**+2.0**
	baz=62						
KBK	**Karagaybulak**	**3.41**	**270**	P	**Pn**	**05 28 43.7**	**+1.2**
	SNR=13						
KBK	**Karagaybulak**	**3.41**	**270**	⇓*i*P	**Pn**	**05 28 43.6**	**+1.2**
	baz=73						
KBK				⇓*i*S	**Sn**	**05 29 25.8**	**+2.8**
	baz=73						
CHMS	**Chumysh**	**3.56**	**276**	⇑*i*P	**Pn**	**05 28 46.1**	**+1.8**
	baz=78						
CHMS				⇑*i*S	**Sn**	**05 29 29.2**	**+2.8**
	baz=78						
AAK	**Ala-Archa**	**3.75**	**270**	Pn	**Pn**	**05 28 47.6**	**+0.6**
	1.4nm,0.3s,baz=92,slow=4.5,SNR=18						
AAK				Lg	Lg	05 29 42.5	
	5.3nm,0.3s,baz=250,slow=19,SNR=12						
AAK	**Ala-Archa**	**3.75**	**270**	⇓Pg	**Pb**	**05 28 58.3**	**+2.9**
	3.1nm,0.3s						
AAK				⇑Lg	Lg	05 29 46.5	
	9.1nm,0.5s						
AAK	**Ala-Archa**	**3.75**	**270**	⇑*i*P	**Pn**	**05 28 48.6**	**+1.6**
	baz=72						
AAK				⇑*i*S	**Sn**	**05 29 33.5**	**+2.2**
	baz=72						
USP	**Ospenovka**	**3.76**	**280**	P	**Pn**	**05 28 49.2**	**+2.1**
	SNR=8.9						
USP	**Ospenovka**	**3.76**	**280**	⇑*i*P	**Pn**	**05 28 49.1**	**+2.0**
	baz=82						
USP				⇑*i*S	**Sn**	**05 29 34.3**	**+2.8**
	baz=82						
UCH	**Uchtor**	**3.78**	**264**	P	**Pn**	**05 28 50.7**	**+3.0**
	SNR=7.0						
UCH	**Uchtor**	**3.78**	**264**	⇓*i*P	**Pn**	**05 28 49.0**	**+1.3**
	baz=66						
UCH				⇓*i*S	**Sn**	**05 29 34.2**	**+1.8**
	baz=66						

ARLS	**Aral**	**3.99**	**259**	⇑*i*P	**Pn**	**05 28 51.4**	**+1.1**
	baz=61						
ARLS				⇑*i*S	**Sn**	**05 29 38.6**	**+1.3**
	baz=61						
EKS2	**Erkin-Say**	**4.28**	**271**	⇑*e*P	**Pn**	**05 28 56.7**	**+2.5**
	baz=73						
EKS2				⇑*i*S	**Sn**	**05 29 47.2**	**+3.0**
	baz=73						
AML	**Almayashu**	**4.39**	**264**	P	**Pg**	**05 29 11.1**	**-2.0**
	SNR=7.3						
AML	**Almayashu**	**4.39**	**264**	⇑*e*P	**Pn**	**05 28 57.5**	**+1.4**
	baz=66						
AML				⇑*i*S	**Sn**	**05 29 49.2**	**+1.7**
	baz=66						
MAKZ	**Makanchi**	**4.43**	**22**	⇓Pn	**Pn**	**05 28 57.8**	**+1.6**
	7.5nm,0.3s						
MAKZ				⇑Lg	Lg	05 30 07.2	
	9.0nm,0.6s						
MK31	**Makanchi Array**	**4.50**	**24**	⇓Pn	**Pn**	**05 28 58.5**	**+1.2**
	1.3nm,0.2s,baz=200,slow=11,SNR=211						
MK31				⇑Lg	Lg	05 30 11.2	
	1.7nm,0.2s,baz=206,slow=26,SNR=6.1						
MKAR	**Makanchi Array**	**4.50**	**24**	Pn	**Pn**	**05 28 58.7**	**+1.5**
	6.1nm,0.3s,baz=201,slow=13,SNR=352						
MKAR				Lg	Lg	05 30 09.9	
	5.2nm,0.3s,baz=204,slow=28,SNR=7.8						
MNAS	**Manas**	**5.22**	**270**	⇓Pg	**Pb**	**05 29 22.7**	**+2.2**
	2.1nm,0.5s						
MNAS				⇑Lg	Lg	05 30 32.0	
	7.0nm,0.6s						
MNAS	**Manas**	**5.22**	**270**	⇑*i*P	**Pn**	**05 29 08.6**	**+1.3**
	baz=71						
MNAS				⇑*i*S	**Sn**	**05 30 08.3**	**+0.7**
	baz=71						
SFK	**Sufi-Kurgan**	**5.31**	**241**	⇓Pg	**Pg**	**05 29 28.8**	**-1.9**
	0.4nm,0.1s						
SFK				⇑Lg	Lg	05 30 33.8	
	8.2nm,0.8s						
KK31	**Karatay Array**	**6.67**	**276**	⇓Pg	Pb	**05 29 50.1**	**+5.1**
	0.8nm,0.5s,baz=77,slow=16,SNR=9.2						
KK31				⇑Lg	Lg	05 31 19.5	
	3.3nm,0.5s,baz=94,slow=26,SNR=6.5						
OTUK	**Ortayu**	**7.50**	**320**	⇑Pn	**Pn**	**05 29 37.0**	**-1.4**
	1.2nm,0.3s						
OTUK				⇑Lg	Lg	05 31 49.6	
	7.8nm,0.7s						
KURBB	**Kurchatov Arra**	**7.93**	**355**	⇑Pn	**Pn**	**05 29 44.3**	**0.0**
	1.3nm,0.6s						
KURBB				⇓Lg	Lg	05 32 02.2	
	18nm,0.8s						
KURK	**Kurchatov**	**8.02**	**356**	⇑Pn	**Pn**	**05 29 44.9**	**-0.6**
	1.7nm,0.8s						
KURK				⇓Lg	Lg	05 32 06.0	
	29nm,1.4s						
ZALV	**Zalesovo Beam**	**11.76**	**15**	Pn	**Pn**	**05 30 37.4**	**+0.8**
	0.3nm,0.3s,baz=198,slow=14,SNR=5.2						
BVAR	**Borovoye Array**	**12.00**	**332**	Pn	**Pn**	**05 30 39.4**	**-0.5**
	0.2nm,0.3s,baz=138,slow=14,SNR=4.2						
SONM	**Songino Array**	**19.50**	**66**	P	**P**	**05 32 13.8**	**-2.5**
	0.0nm,0.3s,baz=240,slow=12,SNR=2.5						
FINES	**FINESS Array B**	**36.54**	**320**	P	**P**	**05 34 53.9**	**-0.4**
	1.4nm,0.6s,baz=90,slow=8.3,SNR=2.8						

NNC 30 05:44:29.1±2.3, 36°.97N×70°.57E, h0km, mb3.8, mpv3.4, 4C-2D, Error ellipse: s-maj=18.0km s-min=15.2km az=171.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.81**	**36**	⇓Pn	Pn	05 45 29.1	-0.2
	5.2nm,0.3s						
SFK				⇓Sn	Sn	05 46 16.2	+1.2
	1.9nm,0.3s						
MNAS	**Manas**	**5.71**	**15**	⇑Pn	Pn	05 45 55.0	-0.3
	0.8nm,0.4s						
MNAS				⇑Sn	Sn	05 47 03.1	+1.5
	0.7nm,0.4s						
KK31	**Karatay Array**	**6.13**	**360**	⇑Pn	Pn	05 46 02.1	+1.2
	1.6nm,0.4s,baz=181,slow=13,SNR=21						
KK31				⇑Sn	Sn	05 47 12.7	+0.9
	0.7nm,0.4s,baz=181,slow=21						

IDC 30 05:55:36.6±3.6, 4°.06S×152°.14E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.3/37, mbtmp3.7/2, Error ellipse: s-maj=153.9km s-min=46.7km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.46**	**226**	P	P	06 00 48.5	+0.5
	1.8nm,0.5s,baz=51,slow=9.8,SNR=43						
ASAR	**Alice Springs**	**26.27**	**220**	P	P	06 01 13.7	-0.2
	0.3nm,0.5s,baz=56,slow=8.5,SNR=4.4						
TORD	**Torodi Ar. Bea**	**149.45**	**289**	PKPbc	PKPbc	06 15 28.1	-0.7
	0.2nm,0.4s,baz=70,slow=1.7,SNR=4.0						

*ISCJB **30** 06:02:12.6±1.1, 34°.56N±0'.06×25°.86E±0'.05, h27km±7km, mb3.6/6, Error ellipse: s-maj=10.3km s-min=6.7km az=180.0*
*THE **30** 06:02:15.6, 34°.76N×25°.80E, h0km±1km, ML2.9/3, Error ellipse: s-maj=2.4km s-min=0.6km az=183.0*
*ATH **30** 06:02:15.3, 34°.75N×25°.79E, h25km±2km, ML3.1/2, Error ellipse: s-maj=6.0km s-min=1.7km az=356.0*
*ISK **30** 06:02:15.2, 34°.67N×25°.96E, h30km±1km, ML3.4/13*
*IDC **30** 06:02:18.6±2.0, 34°.83N×25°.70E, h73km±15km, mb3.4/6, mb1 3.4/8, mb1mx3.1/48, mbtmp3.6/8, Error ellipse: s-maj=35.0km s-min=20.3km az=152.0*
*DDA **30** 06:02:20.1, 35°.22N×26°.33E, h10km±4km, ML2.8*

ISC 30 06:02:14.4±1.2, 34°.67N±0'.06×25°.82E±0'.03, h31km±8km, n56, σ1ŝ85/68, mb3.7/6, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.55**	**37**	PG	**Pb**	**06 02 25.8**	**+0.1**
ZKR				SG	**Sn**	**06 02 34.9**	**+0.7**
ZKR	**Zakros**	**0.55**	**37**	P	**Pb**	**06 02 25.9**	**+0.2**
ZKR				S	**Sb**	**06 02 33.6**	**+0.2**
ZKR				AML	AML	06 02 37.8	
	comp=N,3715μm,0.4s						
ZKR				AML	AML	06 02 40.9	
	comp=E,8980μm,0.4s						
ZKR	**Zakros**	**0.55**	**37**	P	**Pb**	**06 02 25.7**	**+0.1**
ZKR				S	**Sb**	**06 02 33.7**	**+0.2**
LAST	**Lasithi**	**0.56**	**330**	P	**Pb**	**06 02 25.2**	**-0.8**
LAST				S	**Sb**	**06 02 32.8**	**-1.0**
LAST				AML	AML	06 02 36.0	
	comp=N,5138μm,0.5s						
LAST				AML	AML	06 02 38.5	
	comp=E,4063μm,0.7s						
LAST	**Lasithi**	**0.56**	**330**	P	**Pb**	**06 02 25.1**	**-0.8**
LAST				S	**Sb**	**06 02 33.1**	**-0.8**
STIA	**Sitia Lasithi**	**0.57**	**23**	P	**Pb**	**06 02 26.1**	**0.0**
STIA				S	**Sb**	**06 02 33.8**	**-0.3**
NPS	**Neapolis**	**0.61**	**344**	P	**Pb**	**06 02 26.2**	**-0.5**
NPS	**Neapolis**	**0.61**	**344**	P	**Pb**	**06 02 25.8**	**-0.9**
NPS				S	**Sn**	**06 02 34.9**	**-0.9**
KSTL	**Kastelli Herak**	**0.88**	**316**	P	**Pb**	**06 02 27.8**	**-3.4**
IDI	**Anoyia**	**0.98**	**309**	PG	**Pn**	**06 02 35.7**	**+3.6**
IDI				SG	**Sn**	**06 02 48.3**	**+3.4**
IDI	**Anoyia**	**0.98**	**309**	P	**Pn**	**06 02 34.2**	**+2.1**
	comp=E,12nm,0.3s,baz=116,slow=16,SNR=44						
IDI				S	**Sn**	**06 02 48.5**	**+3.7**
	comp=E,29nm,0.3s,baz=38,slow=19,SNR=16						
IDI	**Anoyia**	**0.98**	**309**	P	**Pn**	**06 02 33.2**	**+1.1**
KARP	**Karpathos**	**1.40**	**51**	PN	**Pn**	**06

MLSB	**Milas**	**3.06**	**31**	PN	**Pn**	**06 03 01.5**	**+0.9**
DALY	**Dalyan (Mula)**	**3.14**	**46**	PN	**Pn**	**06 03 02.6**	**+0.9**
DALY	**Dalyan (Mula)**	**3.14**	**46**	IAML_P			
	comp=Z,183nm,0.2s						
DALY				*i* P	**Pn**	**06 03 04.8**	**+3.1**
TURN	**Turunc**	**3.15**	**45**	PN	**Pn**	**06 02 58.9**	**-3.0**
TURN	**Turunc**	**3.15**	**45**	*i* P	Pn	06 02 53.4	-8.5
FETY	**Fethiye**	**3.30**	**53**	PN	**Pn**	**06 03 04.9**	**+1.0**
FETY	**Fethiye**	**3.30**	**53**	IAML_P			
	comp=Z,337nm,0.2s						
FETY				*i* P	**Pn**	**06 03 05.8**	**+1.9**
FETY				*i* S	**Sn**	**06 03 40.4**	**-1.7**
AKAS	**Kas**	**3.46**	**62**	PN	**Pn**	**06 03 07.5**	**+1.3**
AKAS	**Kas**	**3.46**	**62**	IAML_P			
	comp=Z,277nm,0.2s						
AKAS				*i* P	**Pn**	**06 03 07.7**	**+1.5**
AYDB	**Zeytinkoy-Aydi**	**3.67**	**27**	PN	**Pn**	**06 03 10.4**	**+1.3**
TAVA	**DENIZLI_Tavas**	**3.75**	**41**	IAML_P			
	comp=Z,195nm,0.1s						
TAVA				*i* P	**Pn**	**06 03 13.7**	**+3.5**
TAVA				*i* S	**Sn**	**06 03 54.7**	**+1.5**
ELL	**Elmali**	**3.92**	**57**	PN	**Pn**	**06 03 13.7**	**+1.2**
GOLH	**Golhisar**	**3.97**	**49**	*i* P	Pb	06 03 29.1	+5.4
GOLH				*i* S	**Sb**	**06 04 14.0**	**+2.7**
KORT	**Korkueli**	**4.35**	**56**	PN	**Pn**	**06 03 19.7**	**+1.2**
KORT	**Korkueli**	**4.35**	**56**	*i* P	**Pn**	**06 03 21.4**	**+2.9**
KULA	**Kula-Manisa**	**4.46**	**30**	PN	**Pn**	**06 03 21.8**	**+1.8**
SUTC	**Sutluce-Ispart**	**5.04**	**55**	PN	**Pn**	**06 03 29.9**	**+1.9**
HDMB	**Hadim**	**5.88**	**65**	PN	**Pn**	**06 03 41.9**	**+2.3**
BRTR	**Keskin Array B**	**8.02**	**49**	P	**Pn**	**06 04 11.2**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=226,slow=12,SNR=3.0						
MMAI	**Mount Meron Ar**	**8.14**	**99**	P	**Pn**	**06 04 09.0**	**-1.5**
	comp=Z,1.4nm,0.3s,baz=298,slow=12,SNR=3.6						
MMAI				S	**Sn**	**06 05 37.6**	**-3.9**
	comp=Z,2.1nm,0.3s,baz=240,slow=4.7,SNR=4.2						
EIL	**Elat**	**9.21**	**120**	P	**Pn**	**06 04 24.2**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=315,slow=20,SNR=4.0						
EIL				S	**Sn**	**06 06 02.6**	**-5.0**
	comp=Z,1.0nm,0.3s,baz=42,slow=7.2,SNR=5.2						
KBZ	**Khabaz**	**16.01**	**51**	P	**P**	**06 06 02.7**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=247,slow=13,SNR=7.3						
AKASG	**Malin Array Be**	**16.21**	**8**	P	**Pn**	**06 06 00.9**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=197,slow=10,SNR=2.4						
TORD	**Torodi Ar. Bea**	**30.60**	**231**	P	**P**	**06 08 26.3**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=37,slow=10,SNR=4.0						
ARCES	**ARCESS Array B**	**34.91**	**360**	P	**P**	**06 09 00.3**	**-2.5**
	comp=Z,2.6nm,1.0s,baz=174,slow=10.0,SNR=3.6						
KURBB	**Kurchatov Arra**	**41.01**	**51**	P	**P**	**06 09 54.5**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=273,slow=8.8,SNR=5.4						
MKAR	**Makanchi Array**	**43.59**	**56**	P	**P**	**06 10 16.0**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=278,slow=7.1,SNR=31						
ZALV	**Zalesovo Beam**	**44.95**	**46**	P	**P**	**06 10 25.9**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=272,slow=7.8,SNR=4.2						
YKA	**Yellowknife Ar**	**78.08**	**342**	P	**P**	**06 14 07.9**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=50,slow=4.2,SNR=3.5						

*MOS **30** 06:02:36.0±2.3,50˚36N×157˚37E,h47km,mb4.1/2,Error ellipse: s-maj=26.8km s-min=5.5km az=81.7*
*KRSC **30** 06:02:36.1±2.0,50˚36N×157˚37E,h47km±28km,ML4.1*
*ISCJB **30** 06:02:37.1±1.1,50˚37N±0˚10×157˚1E±0˚2,h78km±13km, mb3.4/5,Error ellipse: s-maj=25.5km s-min=7.8km az=35.8*
*IDC **30** 06:02:45.4±8.6,50˚97N×157˚60E,h101km±79km,mb3.0/5, mb1 3.5/6,mb1mx3.0/55,mbtmp3.4/6,ML2.6/1,Error ellipse: s-maj=228.5km s-min=98.0km az=90.0*

ISC 30 06:02:38.0±1.5,50˚4N±0˚1×157˚1E±0˚1,h70km±15km,n40, σ1§25/63,mb3.6/5,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.69**	**296**	*e*P	**Pn**	**06 02 53.7**	**+1.0**
SKR				*e*S	**Sn**	**06 03 03.5**	**-0.1**
SKR	**Severo-Kuril's**	**0.69**	**296**	*e*PN	**Pn**	**06 02 53.7**	**+1.0**
SKR				*e*S	**Sn**	**06 03 04.2**	**+0.6**
SKR				pmax	pmax		
	comp=Z,2μm,0.3s						
SKR				pmax	pmax		
	comp=Z,2μm,0.3s						
SKR				smax	smax		
	comp=N,3μm,0.3s						
SKR				smax	smax		
	comp=E,2μm,0.2s						
PAU	**Pauzhetka**	**1.10**	**351**	*e*P	**Pn**	**06 02 57.4**	**-0.4**
PAU				*e*S	**Sn**	**06 03 11.0**	**-1.5**
PAU	**Pauzhetka**	**1.10**	**351**	PN	**Pn**	**06 02 57.4**	**-0.4**
PAU				S	**Sn**	**06 03 11.0**	**-1.5**
MTVR	**Mutnovka**	**2.21**	**18**	*e*P	**Pn**	**06 03 13.2**	**+0.5**
MTVR				*e*S	**Sn**	**06 03 39.0**	**-0.1**
MTVR	**Mutnovka**	**2.21**	**18**	PN	**Pn**	**06 03 13.2**	**+0.5**
MTVR				S	**Sn**	**06 03 39.0**	**-0.1**
RUS	**Russkaya**	**2.24**	**23**	*e*P	**Pn**	**06 03 12.3**	**-0.6**
RUS				*e*S	**Sn**	**06 03 38.2**	**-1.3**
RUS	**Russkaya**	**2.24**	**23**	PN	**Pn**	**06 03 12.3**	**-0.6**
RUS				S	**Sn**	**06 03 38.2**	**-1.3**
KRMR	**Karymshinskiy**	**2.54**	**15**	*e*P	**Pn**	**06 03 17.5**	**+0.6**
KRMR				*e*S	**Sn**	**06 03 47.8**	**+1.1**
KRMR	**Karymshinskiy**	**2.54**	**15**	PN	**Pn**	**06 03 17.5**	**+0.6**
KRMR				S	**Sn**	**06 03 47.8**	**+1.1**
APC	**Apacha**	**2.55**	**1**	*e*P	**Pn**	**06 03 15.9**	**-1.1**
APC	**Apacha**	**2.55**	**1**	PN	**Pn**	**06 03 15.9**	**-1.1**
PETK	**Petropavlovsk-**	**2.76**	**8**	P	**Pn**	**06 03 19.9**	**0.0**
	comp=E,9.4nm,0.3s,baz=184,slow=12,SNR=92						
PETK				S	**Sn**	**06 03 53.0**	**+0.9**
	comp=E,1.6nm,0.3s,baz=122,slow=19,SNR=5.2						
PET	**Petropavlovsk**	**2.82**	**20**	*e*P	**Pn**	**06 03 21.1**	**+0.4**
PET				*e*S	**Sn**	**06 03 54.6**	**+1.0**
PET	**Petropavlovsk**	**2.82**	**20**	PN	**Pn**	**06 03 21.1**	**+0.4**
PET				S	**Sn**	**06 03 54.6**	**+1.0**
DALK	**Dalny**	**2.85**	**21**	*e*P	**Pn**	**06 03 21.4**	**+0.3**
DALK				S	**Sn**	**06 03 54.1**	**-0.2**
DALK	**Dalny**	**2.85**	**21**	PN	**Pn**	**06 03 21.4**	**+0.3**
DALK				S	**Sn**	**06 03 54.1**	**-0.2**
UGLR	**Uglovaya**	**3.03**	**20**	*e*P	**Pn**	**06 03 25.0**	**+1.3**
UGLR				*e*S	**Sn**	**06 04 00.8**	**+1.9**
UGLR	**Uglovaya**	**3.03**	**20**	PN	**Pn**	**06 03 25.0**	**+1.3**
UGLR				S	**Sn**	**06 04 00.8**	**+1.9**
AVH	**Avacha**	**3.06**	**19**	*e*P	**Pn**	**06 03 25.6**	**+1.5**
AVH	**Avacha**	**3.06**	**19**	PN	**Pn**	**06 03 25.6**	**+1.5**
KOK	**Koryaka**	**3.07**	**18**	*e*P	**Pn**	**06 03 25.7**	**+1.5**
KOK				*e*S	**Sn**	**06 04 02.4**	**+2.6**
KOK	**Koryaka**	**3.07**	**18**	PN	**Pn**	**06 03 25.7**	**+1.5**
KOK				S	**Sn**	**06 04 02.4**	**+2.6**
SMAR	**Somma**	**3.08**	**20**	*e*P	**Pn**	**06 03 25.6**	**+1.2**
SMAR	**Somma**	**3.08**	**20**	PN	**Pn**	**06 03 25.6**	**+1.2**
KRX	**Arik**	**3.14**	**17**	*e*P	**Pn**	**06 03 26.4**	**+1.2**
KRX				*e*S	**Sn**	**06 04 03.5**	**+2.0**
KRX	**Arik**	**3.14**	**17**	PN	**Pn**	**06 03 26.4**	**+1.2**
KRX				S	**Sn**	**06 04 03.5**	**+2.0**
SPN	**Mys Shipunski**	**3.28**	**33**	*e*P	**Pn**	**06 03 27.7**	**+0.8**
SPN				*e*S	**Sn**	**06 04 03.4**	**-1.3**
SPN	**Mys Shipunski**	**3.28**	**33**	PN	**Pn**	**06 03 27.7**	**+0.8**
SPN				S	**Sn**	**06 04 03.4**	**-1.3**
GNL	**Ganaly**	**3.36**	**9**	*e*P	**Pn**	**06 03 28.1**	**-0.1**
GNL	**Ganaly**	**3.36**	**9**	PN	**Pn**	**06 03 28.1**	**-0.1**
TUMR	**Tumrok**	**5.25**	**20**	P	**Pn**	**06 03 56.7**	**+2.8**
TUMR	**Tumrok**	**5.25**	**20**	PN	**Pn**	**06 03 56.7**	**+2.8**
KBTR	**Krutoberegovo**	**6.77**	**28**	*e*P	**Pn**	**06 04 14.1**	**-0.5**
KBTR	**Krutoberegovo**	**6.77**	**28**	PN	**Pn**	**06 04 14.1**	**-0.5**
ILAR	**Eielson Array**	**32.07**	**42**	P	**P**	**06 08 56.2**	**-1.6**
	comp=E,1.3nm,1.3s,baz=267,slow=6.3,SNR=3.1						
YKA	**Yellowknife Ar**	**46.44**	**40**	P	**P**	**06 10 56.5**	**-0.8**
	comp=E,0.1nm,0.5s,baz=285,slow=2.5,SNR=2.9						
NVAR	**Mina Array Bea**	**58.49**	**67**	P	**P**	**06 12 27.5**	**+0.5**
	comp=E,0.4nm,0.6s,baz=286,slow=7.4,SNR=2.6						
PDAR	**Pinedale Array**	**60.52**	**58**	P	**P**	**06 12 41.0**	**+0.1**
	comp=E,0.3nm,0.7s,baz=299,slow=0.9,SNR=4.7						
TXAR	**Lajitas Array**	**73.47**	**64**	P	**P**	**06 14 03.6**	**+0.6**
	comp=E,0.5nm,0.5s,baz=305,slow=3.2,SNR=2.8						

*IDC **30** 06:04:34.9±1.5,28˚75N×130˚37E,h0km,mb3.7/4, mb1 3.8/5,mb1mx3.5/51,mbtmp3.7/5,ML2.6/1,MS3.0/3, Ms1 3.0/3,ms1mx2.6/38,Error ellipse: s-maj=76.7km s-min=22.5km az=74.0*
*JMA **30** 06:04:38.8±0.1,28˚90N×130˚59E,h59km±2km,M3.1*

ISC 30 06:04:38.2±1.9,28˚90N±0˚04×130˚59E±0˚08,h24km±14km, n22,σ0§66/35,mb3.8/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.79**	**223**	P	**Pn**	**06 04 54.5**	**+0.7**
JZK				S	**Sn**	**06 05 05.5**	**+0.6**
JAM	**Amami Oshima**	**0.99**	**241**	P	**Pb**	**06 04 56.5**	**-0.2**
JAM				S	**Sn**	**06 05 09.8**	**+0.1**
JNN	**Nakanoshima**	**1.13**	**327**	P	**Pn**	**06 04 58.8**	**+0.3**
JNN				*e*S	**Sb**	**06 05 13.4**	**0.0**
JTAJ	**Takarajima**	**1.24**	**282**	P	**Pn**	**06 05 00.2**	**+0.2**
JTAJ				*e*S	**Sn**	**06 05 15.5**	**-0.4**
JYAK	**Yakushimahirau**	**1.34**	**357**	P	**Pn**	**06 05 01.7**	**+0.3**
JYAK				S	**Sn**	**06 05 19.0**	**+0.6**
JAMN	**Amaminishikomi**	**1.40**	**243**	P	**Pn**	**06 05 02.9**	**+0.7**
JAMN				S	**Sb**	**06 05 21.0**	**-0.2**
JMTN	**Minamitane**	**1.52**	**10**	P	**Pn**	**06 05 03.9**	**0.0**
JMTN				S	**Sn**	**06 05 23.7**	**+0.8**
JKC	**Kuchinoerabu**	**1.60**	**348**	P	**Pn**	**06 05 04.9**	**0.0**
JKC				*e*S	**Sn**	**06 05 24.4**	**-0.4**
JTN	**Tanegashima 3**	**1.79**	**11**	P	**Pn**	**06 05 07.6**	**+0.1**
JTN				*e*S	**Sn**	**06 05 29.2**	**-0.2**
JTK	**Tokunoshima**	**1.82**	**233**	P	**Pn**	**06 05 09.0**	**+1.0**
JTK				S	**Sn**	**06 05 31.2**	**+1.0**
JTSR	**Tashiro 2**	**2.28**	**7**	P	**Pn**	**06 05 15.1**	**+0.7**
JTSR				S	**Sn**	**06 05 41.8**	**+0.1**
JOKE	**Okinoerabujima**	**2.35**	**230**	P	**Pn**	**06 05 15.8**	**+0.6**
JOKE				*e*S	**Sn**	**06 05 43.1**	**-0.2**
JSU	**Suzuyama**	**2.60**	**357**	P	**Pn**	**06 05 19.5**	**+0.7**
JYRO	**Yoronjima**	**2.66**	**226**	P	**Pn**	**06 05 19.6**	**+0.1**
JYRO				S	**Sn**	**06 05 49.8**	**-1.1**
JOW	**Kunigami**	**2.90**	**225**	P	**Pn**	**06 05 22.7**	**-0.2**
JOW				*e*S	**Sn**	**06 05 56.5**	**-0.5**
JNU	**Nakatsue**	**4.22**	**3**	Pn	**Pn**	**06 05 42.1**	**+1.1**
	0.4nm,0.3s,baz=130,slow=16,SNR=3.4						
JNU				Sn	**Sn**	**06 06 28.1**	**-1.5**
	0.5nm,0.3s,baz=198,slow=20,SNR=2.6						
KSRS	**Korea Array**	**8.82**	**346**	LR	LR	06 10 38.8	
	comp=Z,33nm,19.2s,baz=345,slow=41						
GUMO	**Guam**	**20.19**	**136**	LR	LR	06 15 12.2	
	comp=Z,76nm,21.0s,baz=95,slow=32						
WRA	**Warramunga Arr**	**48.69**	**175**	P	**P**	**06 13 20.4**	**-0.2**
	0.9nm,0.6s,baz=353,slow=8.4,SNR=10						
BVAR	**Borovoye Array**	**49.73**	**317**	P	**P**	**06 13 28.1**	**-0.3**
	0.7nm,0.7s,baz=94,slow=7.7,SNR=3.8						
ASAR	**Alice Springs**	**52.36**	**176**	P	**P**	**06 13 47.0**	**-1.2**
	0.8nm,0.8s,baz=6.3,slow=9.3,SNR=7.0						
ASAR				LR	LR	06 36 23.3	
	comp=Z,21nm,20.8s,baz=244,slow=36						
BRTR	**Keskin Array B**	**77.05**	**308**	P	**P**	**06 16 30.3**	**+0.8**
	0.6nm,0.7s,baz=75,slow=7.6,SNR=3.5						

*NNC **30** 06:12:48.0±1.3,42˚63N×79˚68E,h0km,mb2.9,mpv2.6, Error ellipse: s-maj=8.5km s-min=5.3km az=129.0*
*SOME **30** 06:12:48.8,42˚67N×79˚68E,h10km*
*KRNET **30** 06:12:48.6±0.1,42˚63N×79˚64E,h10km,mb2.7*
*ISCJB **30** 06:12:49.8±0.9,42˚64N±0˚04×79˚70E±0˚06,h10km,Error ellipse: s-maj=7.4km s-min=4.3km az=41.5*

ISC 30 06:12:46.6±1.4,42˚49N±0˚05×79˚72E±0˚05,h10km,n40, σ1§28/70,22C-8D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.83**	**322**	P	**Pg**	**06 13 01.9**	**-0.7**
	7.1nm,0.1s						
UZB				S	**Sg**	**06 13 12.1**	**-1.4**
	37nm,0.2s						
UZB	**Uzynbulak**	**0.83**	**322**	*e*P	**Pg**	**06 13 01.9**	**-0.7**
	baz=19						
UZB				*e*S	**Sg**	**06 13 11.6**	**-1.9**
	baz=19						
UZB	**Uzynbulak**	**0.83**	**322**	*e*P	**Pg**	**06 13 01.9**	**-0.7**
	7.1nm,0.1s						
UZB				*e*S	**Sg**	**06 13 11.6**	**-1.9**
	37nm,0.2s						
PDGK	**Podgornoye**	**0.85**	**349**	P	**Pg**	**06 13 02.2**	**-0.9**
	1.2nm,0.1s						
PDGK				S	**Sg**	**06 13 12.6**	**-1.6**
	9.2nm,0.1s						
PDGK	**Podgornoye**	**0.85**	**349**	⇑P	**Pg**	**06 13 01.6**	**-1.4**
	1.1nm,0.3s						
PDGK				⇑S	**Sg**	**06 13 11.7**	**-2.5**
	14nm,0.6s						
PDGK	**Podgornoye**	**0.85**	**349**	⇓*i*P	**Pg**	**06 13 02.2**	**-0.9**
	baz=51						
PDGK				⇓*i*S	**Sg**	**06 13 11.3**	**-2.9**
	baz=51						
PRZ	**Przheval'sk**	**0.98**	**270**	⇑*i*P	**Pn**	**06 13 06.3**	**-0.2**
	baz=61						
PRZ				⇑*i*S	**Sg**	**06 13 17.9**	**-0.2**
	baz=61						
SATY	**Saty**	**1.12**	**301**	P	**Pb**	**06 13 07.9**	**-0.3**
	3.9nm,0.1s						
SATY				S	**Sg**	**06 13 21.5**	**-1.2**
	20nm,0.2s						
SATY	**Saty**	**1.12**	**301**	⇑*i*P	**Pb**	**06 13 07.9**	**-0.3**
	3.9nm,0.1s						
SATY				⇑*i*S	**Sg**	**06 13 21.5**	**-1.2**
	20nm,0.2s						
KURS	**Kuram**	**1.51**	**312**	P	**Pg**	**06 13 15.2**	**-0.3**
	1.7nm,0.3s						
KURS				S	**Sg**	**06 13 34.4**	**-0.8**
	6.0nm,0.4s						
KURS	**Kuram**	**1.51**	**312**	⇓*i*P	**Pg**	**06 13 15.3**	**-0.3**
	baz=9.0						
KURS				⇓*e*S	**Sg**	**06 13 34.5**	**-0.8**
	baz=9.0						
KURS	**Kuram**	**1.51**	**312**	⇓*i*P	**Pg**	**06 13 15.2**	**-0.3**
	1.7nm,0.3s						
KURS				*e*S	**Sg**	**06 13 34.4**	**-0.8**
	6.0nm,0.4s						
DJR	**Jarkent**	**1.84**	**2**	P	**Pb**	**06 13 20.0**	**-0.4**
	2.6nm,0.2s						
DJR				S	**Sb**	**06 13 42.9**	**-0.6**
	4.4nm,0.3s						
DJR	**Jarkent**	**1.84**	**2**	*e*P	**Pb**	**06 13 20.0**	**-0.4**
	2.6nm,0.2s						
DJR				*e*S	**Sb**	**06 13 42.6**	**-0.9**
	4.4nm,0.3s						
KDJ	**Kajisay**	**1.92**	**260**	⇑*i*P	**Pg**	**06 13 23.6**	**+0.2**
	baz=55						
KDJ				⇑*i*S	**Sg**	**06 13 47.7**	**-0.6**
	baz=55						
KOTS	**Kotyrbulak**	**2.06**	**292**	Pg	**Pg**	**06 13 25.4**	**-0.6**
	2.2nm,0.2s						
KOTS				Lg	Lg	06 13 51.9	
	21nm,0.4s						
KOTS	**Kotyrbulak**	**2.06**	**292**	*e*P	**Pg**	**06 13 25.4**	**-0.6**
	baz=89						
KOTS				*e*S	**Sg**	**06 13 51.9**	**-0.8**
	baz=89						
KOTS	**Kotyrbulak**	**2.06**	**292**	*e*P	**Pg**	**06 13 25.4**	**-0.6**
	2.2nm,0.2s						
KOTS				*e*S	**Sg**	**06 13 51.9**	**-0.8**
	21nm,0.4s						
MDOK	**Medeo**	**2.08**	**290**	Pg	**Pb**	**06 13 23.5**	**-0.9**
	1.4nm,0.4s						
MDOK				Lg	Lg	06 13 50.7	
	3.4nm,0.5s						
MDOK	**Medeo**	**2.08**	**290**	Pg	**Pg**	**06 13 26.2**	**-0.2**
	2.8nm,0.3s						
MDOK				Lg	Lg	06 13 53.2	
	8.4nm,0.4s						
MDOK	**Medeo**	**2.08**	**290**	*e*P	**Pg**	**06 13 26.2**	**-0.2**
	baz=87						
MDOK				*e*S	**Sg**	**06 13 53.2**	**-0.2**
	baz=87						
MDOK	**Medeo**	**2.08**	**290**	*e*P	**Pg**	**06 13 26.2**	**-0.2**
	2.9nm,0.3s						
MDOK				*e*S	**Sg**	**06 13 53.1**	**-0.2**
	4.6nm,0.4s						
ARXS	**Arharly**	**2.21**	**322**	Pg	**Pb**	**06 13 26.6**	**0.0**
	2.0nm,0.2s						
ARXS				Lg	Lg	06 13 53.8	
	16nm,0.4s						
ARXS	**Arharly**	**2.21**	**322**	*e*P	**Pb**	**06 13 26.6**	**0.0**
	2.0nm,0.2s						
ARXS				*e*S	**Sb**	**06 13 53.8**	**-0.2**
	16nm,0.4s						
CHKK	**Chushkaly**	**2.42**	**305**	Pg	**Pb**	**06 13 30.6**	**+0.4**
	0.9nm,0.2s						
CHKK				Lg	Lg	06 14 00.8	
	8.1nm,0.2s						
CHKK	**Chushkaly**	**2.42**	**305**	*e*P	**Pb**	**06 13 30.6**	**+0.4**
	baz=3.0						
CHKK				*e*S	**Sb**	**06 14 00.8**	**+0.7**
	baz=3.0						
CHKK	**Chushkaly**	**2.42**	**305**	*e*P	**Pb**	**06 13 30.6**	**+0.4**
	0.9nm,0.2s						
CHKK				*e*S	**Sb**	**06 14 00.8**	**+0.7**
	8.1nm,0.2s						
KTBS	**Karatobe**	**2.54**	**300**	Pg	**Pb**	**06 13 33.0**	**+0.8**
	1.8nm,0.3s						
KTBS				Lg	Lg	06 14 04.6	
	7.5nm,0.3s						
KTBS	**Karatobe**	**2.54**	**300**	*e*P	**Pb**	**06 13 33.0**	**+0.8**
	baz=97						
KTBS				*e*S	**Sb**	**06 14 04.6**	**+1.1**
	baz=97						
KTBS	**Karatobe**	**2.54**	**300**	*e*P	**Pb**	**06 13 33.0**	**+0.8**
	1.8nm,0.3s						
KTBS				*e*S	**Sb**	**06 14 04.6**	**+1.1**
	7.5nm,0.3s						
ULHL	**Ulahol**	**2.59**	**266**	⇑*i*P	**Pb**	**06 13 34.5**	**+1.3**
	baz=63						
ULHL				⇑*i*S	**Sb**	**06 14 04.2**	**-1.0**
	baz=63						
BOOM	**Boomskoye usch**	**2.80**	**271**	⇑*i*P	**Pb**	**06 13 35.5**	**-1.2**
	baz=68						
BOOM				⇑*i*S	**Sb**	**06 14 08.6**	**-2.5**
	baz=68						
KAPS	**Kapalarasan**	**2.80**	**355**	Pg	**Pb**	**06 13 37.0**	**+0.3**
	1.0nm,0.4s						
KAPS				Lg	Lg	06 14 11.4	
	6.5nm,0.4s						
KAPS	**Kapalarasan**	**2.80**	**355**	*e*P	**Pb**	**06 13 37.0**	**+0.3**
	1.0nm,0.4s						
KAPS				⇓*e*S	**Sb**	**06 14 11.4**	**+0.3**
	6.5nm,0.4s						
NRN	**Naryn**	**2.97**	**250**	⇑*i*P	**Pb**	**06 13 39.5**	**-0.3**
	baz=47						
NRN				⇑*i*S	**Sb**	**06 14 14.8**	**-1.4**
	baz=47						
TKM2	**Tokmak 2**	**3.07**	**279**	⇑Pg	**Pb**	**06 13 39.3**	**-2.1**
	0.7nm,0.5s						
TKM2				⇓Lg	Lg	06 14 20.2	
	1.9nm,0.6s						
TKM2	**Tokmak 2**	**3.07**	**279**	⇑*i*P	**Pb**	**06 13 38.5**	**-2.9**
	baz=77						
TKM2				⇑*i*S	**Sn**	**06 14 15.0**	**+2.8**
	baz=77						
KZA	**Kyzart**	**3.34**	**264**	⇑*i*P	**Pb**	**06 13 42.8**	**-3.4**
	baz=62						
KZA				⇑*i*S	**Sn**	**06 14 22.5**	**+3.3**
	baz=62						
MAKZ	**Makanchi**	**4.60**	**20**	⇑Pn	**Pn**	**06 13 58.1**	**+1.9**
	0.2nm,0.4s						
MAKZ				⇓Lg	Lg	06 15 12.8	
	0.3nm,0.5s						
MK31	**Makanchi Array**	**4.67**	**22**	⇑Pn	**Pn**	**06 13 58.9**	**+1.7**
	0.1nm,0.3s,baz=206,slow=13,SNR=8.4						
MK31				⇑Lg	Lg	06 15 11.9	
	0.5nm,0.6s,baz=196,slow=27						

*DDA **30** 06:17:27.6,38˚72N×43˚45E,h7km±4km,ML2.6*
*ISK **30** 06:17:27.2,38˚72N×43˚38E,h9km±1km,ML2.2/7*
*ISCJB **30** 06:17:28.1±0.7,38˚74N±0˚03×43˚48E±0˚06,h6km±7km, Error ellipse: s-maj=7.7km s-min=4.5km az=16.2*

ISC 30 06:17:28.0±0.9,38.73N±0˚03×43.43E±0˚04,h17km±7km, n15,σ1§12/24,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**194**	PG	**Pg**	**06 17 31.4**	**-0.7**
VANB				SG	**Sg**	**06 17 36.7**	**+1.9**
TVAN	**Van**	**0.20**	**186**	IAML_P			
	comp=Z,15μm,0.1s						
TVAN				*i* P	**Pg**	**06 17 32.1**	**-0.9**
TVAN				*i* S	**Sg**	**06 17 35.8**	**-0.6**
VMUR	**Van-Muradiye**	**0.28**	**23**	IAML_P			
	comp=Z,1μm,0.1s						
VMUR				*i* P	**Pg**	**06 17 33.2**	**-1.1**
GEVA	**Gevas**	**0.51**	**215**	IAML_P			
	comp=Z,726nm,0.2s						
GEVA				*i* P	**Pg**	**06 17 37.3**	**-0.9**
GEVA				*i* S	**Sb**	**06 17 46.4**	**+0.7**
AKDM	**Akdamar-Van**	**0.53**	**222**	PG	**Pg**	**06 17 37.4**	**-1.3**
ADCV	**BITLIS_Adilcev**	**0.56**	**279**	IAML_P			
	comp=Z,264nm,0.1s						
ADCV				*i* P	**Pb**	**06 17 39.6**	**+0.1**
ADCV				*i* S	**Sn**	**06 17 50.3**	**0.0**
CLDR	**Caldiran**	**0.56**	**42**	PG	**Pg**	**06 17 38.5**	**-0.8**
CLDR				SG	**Sb**	**06 17 48.1**	**+0.8**
CLDR	**Caldiran**	**0.56**	**42**	IAML_P			
	comp=Z,2μm,0.1s						
CLDR				*i* P	**Pg**	**06 17 38.6**	**-0.6**
CLDR				*i* S	**Sb**	**06 17 48.2**	**+0.9**
MLAZ	**Malazgirt-MUS**	**0.80**	**301**	PG	**Pg**	**06 17 42.3**	**-1.4**
TUTA	**Tutak**	**0.83**	**325**	IAML_P			
	comp=Z,4μm,0.2s						
TUTA				*i* P	**Pb**	**06 17 44.1**	**+0.1**
TUTA				*i* S	**Sb**	**06 17 56.9**	**+1.9**
AGRB	**Hanur-Agry**	**0.91**	**338**	PG	**Pg**	**06 17 44.7**	**-1.1**
AGRB				SG	**Sb**	**06 17 58.8**	**+1.4**
GURO	**Guroymak-BITLI**	**1.11**	**261**	PG	**Pg**

	10nm,0.3s							
KDJ	**Kajisay**	**1.95**	**257**	⇓*i*	P	**Pn**	**06 22 33.7**	**+0.2**
	baz=57							
KDJ				⇓*i*	S	**Sb**	**06 22 59.3**	**-1.0**
	baz=57							
KOTS	**Kotyrbulak**	**2.03**	**289**		Pg	**Pg**	**06 22 37.8**	**-0.1**
	9.6nm,0.2s							
KOTS					Lg	Lg	06 23 05.3	
	20nm,0.4s							
KOTS	**Kotyrbulak**	**2.03**	**289**	*e*	P	**Pg**	**06 22 37.9**	**-0.1**
	baz=90							
KOTS				*e*	S	**Sg**	**06 23 05.4**	**+1.1**
	baz=90							
KOTS	**Kotyrbulak**	**2.03**	**289**	*e*	P	**Pg**	**06 22 37.9**	**-0.1**
	9.6nm,0.2s							
KOTS				*e*	S	**Sg**	**06 23 05.3**	**+1.1**
	20nm,0.4s							
MDOK	**Medeo**	**2.06**	**287**		Pn	**Pb**	**06 22 36.4**	**-0.8**
	4.0nm,0.4s							
MDOK					Sn	**Sb**	**06 23 04.0**	**+0.5**
	6.8nm,0.4s							
MDOK	**Medeo**	**2.06**	**287**		Pg	**Pb**	**06 22 37.8**	**+0.5**
	5.6nm,0.4s							
MDOK					Lg	Lg	06 23 05.8	
	12nm,0.3s							
MDOK	**Medeo**	**2.06**	**287**	*e*	P	**Pg**	**06 22 38.3**	**-0.1**
	baz=88							
MDOK				*e*	S	**Sg**	**06 23 05.9**	**+0.8**
	baz=88							
MDOK	**Medeo**	**2.06**	**287**	*e*	P	**Pg**	**06 22 38.3**	**-0.1**
	2.9nm,0.1s							
MDOK				*e*	S	**Sg**	**06 23 05.9**	**+0.8**
	13nm,0.4s							
ARXS	**Arharly**	**2.14**	**320**		Pg	**Pb**	**06 22 38.0**	**-0.6**
	6.5nm,0.2s							
ARXS					Lg	Lg	06 23 05.6	
	25nm,0.4s							
ARXS	**Arharly**	**2.14**	**320**	*e*	P	**Pb**	**06 22 38.0**	**-0.6**
	6.5nm,0.2s							
ARXS				*e*	S	**Sb**	**06 23 05.6**	**-0.1**
	25nm,0.4s							
CHKK	**Chushkaly**	**2.37**	**303**		Pg	**Pb**	**06 22 42.2**	**-0.4**
	4.6nm,0.2s							
CHKK					Lg	Lg	06 23 12.7	
	12nm,0.3s							
CHKK	**Chushkaly**	**2.37**	**303**	*e*	P	**Pb**	**06 22 42.2**	**-0.4**
	baz=4.0							
CHKK				*e*	S	**Sb**	**06 23 12.7**	**+0.3**
	baz=4.0							
CHKK	**Chushkaly**	**2.37**	**303**	*e*	P	**Pb**	**06 22 42.2**	**-0.4**
	4.6nm,0.2s							
CHKK				*e*	S	**Sb**	**06 23 12.7**	**+0.3**
	12nm,0.3s							
KTBS	**Karatobe**	**2.50**	**298**		Pg	**Pb**	**06 22 44.6**	**-0.1**
	3.9nm,0.2s							
KTBS					Lg	Lg	06 23 16.2	
	17nm,0.5s							
KTBS	**Karatobe**	**2.50**	**298**	*e*	P	**Pb**	**06 22 44.3**	**-0.5**
	baz=98							
KTBS				*e*	S	**Sb**	**06 23 16.2**	**+0.1**
	baz=98							
KTBS	**Karatobe**	**2.50**	**298**	*e*	P	**Pb**	**06 22 44.3**	**-0.5**
	0.7nm,0.2s							
KTBS				*e*	S	**Sb**	**06 23 16.2**	**+0.1**
	17nm,0.5s							
ULHL	**Ulahol**	**2.61**	**264**	⇑*i*	P	**Pn**	**06 22 43.0**	**+0.4**
	baz=64							
ULHL				⇑*i*	S	**Sn**	**06 23 15.3**	**+0.3**
	baz=64							
KAPS	**Kapalarasan**	**2.71**	**354**		Pg	**Pb**	**06 22 48.9**	**+0.6**
	1.0nm,0.2s							
KAPS					Lg	Lg	06 23 24.4	
	9.7nm,0.4s							
KAPS	**Kapalarasan**	**2.71**	**354**	*e*	P	**Pb**	**06 22 48.9**	**+0.6**
	1.0nm,0.2s							
KAPS				*e*	S	**Sg**	**06 23 24.4**	**-1.7**
	9.7nm,0.4s							
KUU	**Kurty**	**2.80**	**299**		Pg	**Pg**	**06 22 51.9**	**-0.8**
	1.5nm,0.1s							
KUU					Lg	Lg	06 23 29.3	
	4.1nm,0.1s							
KUU	**Kurty**	**2.80**	**299**	*e*	P	**Pg**	**06 22 51.9**	**-0.8**
	baz=0.0							
KUU				*e*	S	**Sg**	**06 23 29.2**	**+0.2**
	baz=0.0							
KUU	**Kurty**	**2.80**	**299**	*e*	P	**Pg**	**06 22 51.9**	**-0.8**
	1.5nm,0.1s							
KUU				*e*	S	**Sg**	**06 23 29.3**	**+0.2**
	4.1nm,0.1s							
BOOM	**Boomskoye usch**	**2.80**	**269**	⇑*e*	P	**Pn**	**06 22 45.6**	**+0.4**
	baz=69							
BOOM				⇑*i*	S	**Sn**	**06 23 19.7**	**-0.1**
	baz=69							
KST	**Kastek**	**2.81**	**281**		Pg	**Pb**	**06 22 51.7**	**+1.6**
	3.0nm,0.2s							
KST					Lg	Lg	06 23 28.6	
	11nm,0.5s							
KST	**Kastek**	**2.81**	**281**	*e*	P	**Pb**	**06 22 51.7**	**+1.6**
	baz=81							
KST				*e*	S	**Sg**	**06 23 28.6**	**-0.7**
	baz=81							
KST	**Kastek**	**2.81**	**281**	*e*	P	**Pb**	**06 22 51.7**	**+1.6**
	3.0nm,0.2s							
KST				*e*	S	**Sg**	**06 23 28.6**	**-0.7**
	11nm,0.5s							
TKM2	**Tokmak 2**	**3.06**	**278**	⇑Lg		Lg	06 23 32.1	
	3.2nm,0.5s							
TKM2	**Tokmak 2**	**3.06**	**278**	⇑*i*	P	**Pn**	**06 22 49.4**	**+0.6**
	baz=78							
TKM2				⇑*i*	S	**Sn**	**06 23 26.2**	**-0.1**
	baz=78							
ARLS	**Aral**	**4.08**	**262**	⇓*i*	P	**Pn**	**06 23 03.7**	**+0.9**
	baz=62							
ARLS				⇓*e*	S	**Sn**	**06 23 50.7**	**-0.6**
	baz=62							

IDC 30 06:28:01.2±1.4, 5°80N×126°98E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/40, mbtmp3.6/6, Error ellipse: s-maj=102.8km s-min=18.5km az=71.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.79**	**183**	P		P		06 33 16.2	+0.5
	2.0nm,0.9s,baz=22,slow=8.5,SNR=6.6								
WRA	**Warramunga Arr**	**26.59**	**164**	P		P		06 33 41.9	+0.6
	0.2nm,0.4s,baz=344,slow=10,SNR=16								
ASAR	**Alice Springs**	**30.06**	**167**	P		P		06 34 11.2	-1.2
	0.2nm,0.4s,baz=345,slow=6.9,SNR=3.3								
MKAR	**Makanchi Array**	**56.01**	**324**	P		P		06 37 42.2	+0.5
	0.4nm,0.6s,baz=122,slow=7.1,SNR=3.5								
KURBB	**Kurchatov Arra**	**60.14**	**327**	P		P		06 38 09.7	-0.9
	0.2nm,0.4s,baz=132,slow=6.5,SNR=2.6								
ARCES	**ARCESS Array B**	**88.60**	**340**	P		P		06 40 56.4	+0.6
	2.4nm,0.9s,baz=73,slow=7.1,SNR=4.4								

*NNC **30** 06:32:03.6±0.2, 43°33N×78°10E, h0km, mb3.5, mpv3.7, Error ellipse: s-maj=2.5km s-min=1.4km az=168.0*
*SOME **30** 06:32:04.3, 43°37N×78°13E, h20km*
*KRNET **30** 06:32:04.2±0.1, 43°37N×78°10E, h21km, mb3.7*

ISC 30 06:32:04.4±1.0, 43°34N±0°02×78°11E±0°01, h5km±8km, n93, σ0°80/166, 44C-24D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KURS	**Kuram**	**0.16**	**16**	P		**Pg**		**06 32 07.5**	**0.0**
	587nm,0.1s								
KURS				S		**Sg**		**06 32 09.8**	**+0.1**
	2µm,0.3s								
KURS	**Kuram**	**0.16**	**16**	*e*P		**Pg**		**06 32 07.5**	**0.0**
	baz=23								
KURS				*e*S		**Sg**		**06 32 09.7**	**+0.1**
	baz=23								
KURS	**Kuram**	**0.16**	**16**	*e*P		**Pg**		**06 32 07.5**	**0.0**
	587nm,0.1s								
KURS				*e*S		**Sg**		**06 32 09.8**	**+0.1**
	2µm,0.3s								
SATY	**Saty**	**0.35**	**142**	P		**Pg**		**06 32 11.2**	**0.0**
	695nm,0.1s								
SATY				S		**Sg**		**06 32 16.2**	**+0.3**
	6µm,0.1s								
SATY	**Saty**	**0.35**	**142**	⇓*i*	P	**Pg**		**06 32 11.2**	**0.0**
	695nm,0.1s								
SATY				⇑*i*	S	**Sg**		**06 32 16.2**	**+0.3**
	6µm,0.1s								
UZB	**Uzynbulak**	**0.69**	**106**	P		**Pg**		**06 32 17.1**	**-0.5**
	37nm,0.1s								
UZB				S		**Sg**		**06 32 26.1**	**-0.5**
	259nm,0.1s								
UZB	**Uzynbulak**	**0.69**	**106**	*e*P		**Pg**		**06 32 17.2**	**-0.5**
	baz=8.0								
UZB				*e*S		**Sg**		**06 32 26.2**	**-0.5**
	baz=8.0								
UZB	**Uzynbulak**	**0.69**	**106**	*e*P		**Pg**		**06 32 17.1**	**-0.5**
	37nm,0.1s								
UZB				*e*S		**Sg**		**06 32 26.1**	**-0.5**
	259nm,0.1s								
KOTS	**Kotyrbulak**	**0.74**	**262**	P		**Pg**		**06 32 18.4**	**-0.1**
	101nm,0.2s								
KOTS				S		**Sg**		**06 32 28.4**	**+0.3**
	236nm,0.2s								
KOTS	**Kotyrbulak**	**0.74**	**262**	*e*P		**Pg**		**06 32 18.4**	**-0.1**
	baz=60								
KOTS				*e*S		**Sg**		**06 32 28.4**	**+0.3**
	baz=60								
KOTS	**Kotyrbulak**	**0.74**	**262**	*e*P		**Pg**		**06 32 18.4**	**-0.1**
	101nm,0.2s								
KOTS				*e*S		**Sg**		**06 32 28.4**	**+0.3**
	236nm,0.2s								
MNBS	**Baschi**	**0.77**	**16**	P		**Pg**		**06 32 18.6**	**-0.6**
	79nm,0.2s								
MNBS				S		**Sg**		**06 32 28.9**	**-0.2**
	126nm,0.3s								
MNBS	**Baschi**	**0.77**	**16**	*e*P		**Pg**		**06 32 18.6**	**-0.6**
	baz=26								
MNBS				*e*S		**Sg**		**06 32 29.0**	**-0.2**
	baz=26								
MNBS	**Baschi**	**0.77**	**16**	*e*P		**Pg**		**06 32 18.6**	**-0.6**
	79nm,0.2s								
MNBS				*e*S		**Sg**		**06 32 28.9**	**-0.2**
	126nm,0.3s								
MDOK	**Medeo**	**0.80**	**258**	⇓P		**Pg**		**06 32 18.8**	**-0.9**
	7.8nm,0.3s								
MDOK				⇑S		**Sg**		**06 32 29.7**	**-0.2**
	15nm,0.3s								
MDOK	**Medeo**	**0.80**	**258**	Pg		**Pg**		**06 32 19.0**	**-0.7**
	28nm,0.3s								
MDOK				Lg		Lg		06 32 30.2	
	99nm,0.2s								
MDOK	**Medeo**	**0.80**	**258**	*e*P		**Pg**		**06 32 19.0**	**-0.7**
	baz=56								
MDOK				*e*S		**Sg**		**06 32 29.8**	**-0.2**
	baz=56								
MDOK	**Medeo**	**0.80**	**258**	*e*P		**Pg**		**06 32 19.0**	**-0.7**
	28nm,0.3s								
MDOK				*e*S		**Sg**		**06 32 29.8**	**-0.2**
	99nm,0.2s								
KNDC	**Almaty**	**0.85**	**262**	⇓P		**Pg**		**06 32 19.5**	**-1.1**
	15nm,0.3s								
KNDC				⇑S		**Sg**		**06 32 31.1**	**-0.5**
	32nm,0.3s								
PRZ	**Przheval'sk**	**0.88**	**166**	⇑*i*	P	**Pb**		**06 32 21.8**	**-0.4**
	baz=65								
PRZ				⇑*i*	S	**Sb**		**06 32 34.7**	**+0.4**
	baz=65								
AAA	**Alma-Ata**	**0.88**	**262**	P		**Pg**		**06 32 21.1**	**-0.2**
	74nm,0.2s								
AAA				S		**Sg**		**06 32 33.4**	**+0.6**
	225nm,0.1s								
AAA	**Alma-Ata**	**0.88**	**262**	*e*P		**Pg**		**06 32 21.1**	**-0.2**
	baz=60								
AAA				*e*S		**Sg**		**06 32 33.3**	**+0.6**
	baz=60								
AAA	**Alma-Ata**	**0.88**	**262**	*e*P		**Pg**		**06 32 21.1**	**-0.2**
	74nm,0.2s								
AAA				*e*S		**Sg**		**06 32 33.4**	**+0.6**
	225nm,0.1s								
ARXS	**Arharly**	**0.90**	**347**	P		**Pg**		**06 32 20.9**	**-0.7**
	164nm,0.2s								
ARXS				S		**Sg**		**06 32 32.6**	**-0.7**
	216nm,0.2s								
ARXS	**Arharly**	**0.90**	**347**	*e*P		**Pg**		**06 32 20.9**	**-0.7**
	164nm,0.2s								
ARXS				*e*S		**Sg**		**06 32 32.6**	**-0.7**
	216nm,0.2s								
TNSS	**Tian-Shan**	**0.90**	**251**	P		**Pg**		**06 32 21.1**	**-0.7**
	11nm,0.4s								
TNSS				S		**Sg**		**06 32 33.5**	**0.0**
	101nm,0.4s								
TNSS	**Tian-Shan**	**0.90**	**251**	*e*P		**Pg**		**06 32 21.0**	**-0.7**
	baz=49								
TNSS				*e*S		**Sg**		**06 32 33.3**	**-0.2**
	baz=49								
TNSS	**Tian-Shan**	**0.90**	**251**	*e*P		**Pg**		**06 32 21.0**	**-0.7**
	11nm,0.4s								
TNSS				*e*S		**Sg**		**06 32 33.3**	**-0.2**
	101nm,0.4s								
CHKK	**Chushkaly**	**0.97**	**303**	P		**Pg**		**06 32 22.1**	**-0.8**
	28nm,0.1s								
CHKK				S		**Sg**		**06 32 33.7**	**-1.7**
	300nm,0.1s								
CHKK	**Chushkaly**	**0.97**	**303**	*e*P		**Pg**		**06 32 21.9**	**-1.0**
	baz=2.0								
CHKK				*e*S		**Sg**		**06 32 34.7**	**-0.7**
	baz=2.0								
CHKK	**Chushkaly**	**0.97**	**303**	*e*P		**Pg**		**06 32 21.9**	**-1.0**
	28nm,0.1s								
CHKK				*e*S		**Sg**		**06 32 34.7**	**-0.7**
	306nm,0.2s								
PDGK	**Podgornoye**	**1.01**	**90**	P		**Pg**		**06 32 22.6**	**-1.0**
	20nm,0.2s								
PDGK				S		**Sg**		**06 32 35.9**	**-0.8**
	40nm,0.2s								
PDGK	**Podgornoye**	**1.01**	**90**	⇑P		**Pg**		**06 32 22.6**	**-1.0**
	7.9nm,0.3s								
PDGK				⇑S		**Sg**		**06 32 36.5**	**-0.2**
	25nm,0.3s								
PDGK	**Podgornoye**	**1.01**	**90**	⇑*i*	P	**Pg**		**06 32 22.6**	**-1.0**
	baz=92								
PDGK				⇑*i*	S	**Sg**		**06 32 36.4**	**-0.3**
	baz=92								
KTBS	**Karatobe**	**1.10**	**290**	P		**Pg**		**06 32 24.6**	**-1.0**
	61nm,0.2s								
KTBS				S		**Sg**		**06 32 38.8**	**-1.1**
	207nm,0.2s								
KTBS	**Karatobe**	**1.10**	**290**	*e*P		**Pg**		**06 32 24.6**	**-1.0**
	baz=88								
KTBS				*e*S		**Sg**		**06 32 38.8**	**-1.1**
	baz=88								
KTBS	**Karatobe**	**1.10**	**290**	*e*P		**Pg**		**06 32 24.6**	**-1.0**
	61nm,0.2s								
KTBS				*e*S		**Sg**		**06 32 38.8**	**-1.1**
	207nm,0.2s								
IZV	**Izvestkoviy**	**1.14**	**255**	P		**Pg**		**06 32 25.7**	**-0.5**
	34nm,0.2s								
IZV				S		**Sg**		**06 32 41.1**	**+0.2**
	150nm,0.1s								
IZV	**Izvestkoviy**	**1.14**	**255**	*e*P		**Pg**		**06 32 25.7**	**-0.5**
	baz=54								
IZV				*e*S		**Sg**		**06 32 41.1**	**+0.2**
	baz=54								
IZV	**Izvestkoviy**	**1.14**	**255**	*e*P		**Pg**		**06 32 25.7**	**-0.5**
	34nm,0.2s								
IZV				*e*S		**Sg**		**06 32 41.1**	**+0.2**
	150nm,0.1s								
MTBS	**Maitube**	**1.25**	**261**	P		**Pg**		**06 32 27.2**	**-1.1**
	169nm,0.1s								
MTBS				S		**Sg**		**06 32 43.8**	**-0.6**
	258nm,0.2s								
MTBS	**Maitube**	**1.25**	**261**	⇑*i*	P	**Pg**		**06 32 27.2**	**-1.1**
	baz=60								
MTBS				⇑*i*	S	**Sg**		**06 32 43.8**	**-0.6**
	baz=60								
MTBS	**Maitube**	**1.25**	**261**	⇑*i*	P	**Pg**		**06 32 27.2**	**-1.1**
	169nm,0.1s								
MTBS				⇑*i*	S	**Sg**		**06 32 43.8**	**-0.6**
	258nm,0.2s								
KDJ	**Kajisay**	**1.39**	**210**	⇑*i*	P	**Pn**		**06 32 30.6**	**+0.1**
	baz=9.0								
KDJ				⇑*i*	S	**Sn**		**06 32 49.4**	**+0.1**
	baz=9.0								
KUU	**Kurty**	**1.40**	**294**	P		**Pn**		**06 32 30.9**	**+0.3**
	22nm,0.2s								
KUU				S		**Sg**		**06 32 50.8**	**+1.3**
	177nm,0.2s								
KUU	**Kurty**	**1.40**	**294**	⇓*i*	P	**Pn**		**06 32 30.9**	**+0.3**
	baz=93								
KUU				⇓*e*	S	**Sg**		**06 32 50.1**	**+0.7**
	baz=93								
KUU	**Kurty**	**1.40**	**294**	⇓*i*	P	**Pn**		**06 32 30.9**	**+0.3**
	22nm,0.2s								
KUU				*e*S		**Sg**		**06 32 50.1**	**+0.7**
	158nm,0.2s								
DJR	**Jarkent**	**1.57**	**50**	P		**Pn**		**06 32 33.0**	**0.0**
	9.1nm,0.2s								
DJR				S		**Sb**		**06 32 54.2**	**+0.2**
	128nm,0.4s								
DJR	**Jarkent**	**1.57**	**50**	*e*P		**Pn**		**06 32 33.3**	**+0.3**
	3.4nm,0.3s								
DJR				⇓*i*	S	**Sb**		**06 32 54.2**	**+0.2**
	128nm,0.4s								
KST	**Kastek**	**1.60**	**260**	P		**Pn**		**06 32 33.2**	**-0.2**
	52nm,0.3s								
KST				S		**Sn**		**06 32 54.4**	**-0.1**
	91nm,0.4s								
KST	**Kastek**	**1.60**	**260**	*e*P		**Pn**		**06 32 33.0**	**-0.4**
	baz=59								
KST				*e*S		**Sn**		**06 32 53.6**	**-0.8**
	baz=59								
KST	**Kastek**	**1.60**	**260**	*e*P		**Pn**		**06 32 33.0**	**-0.4**
	52nm,0.3s								
KST				*e*S		**Sn**		**06 32 53.6**	**-0.8**
	91nm,0.4s								
KTMS	**Ketmen**	**1.64**	**85**	P		**Pn**		**06 32 33.9**	**0.0**
	86nm,0.1s								
KTMS				S		**Sn**		**06 32 55.1**	**-0.3**
	97nm,0.3s								
KTMS	**Ketmen**	**1.64**	**85**	*e*P		**Pn**		**06 32 33.9**	**0.0**
	baz=86								
KTMS				*e*S		**Sn**		**06 32 55.1**	**-0.3**
	baz=86								
KTMS	**Ketmen**	**1.64**	**85**	*e*P		**Pn**		**06 32 33.9**	**0.0**
	86nm,0.1s								
KTMS				*e*S		**Sn**		**06 32 55.1**	**-0.3**
	97nm,0.3s								
TDK	**Taldyqorghan**	**1.68**	**7**	P		**Pn**		**06 32 34.9**	**+0.5**
	278nm,0.7s								
TDK				S		**Sn**		**06 32 56.9**	**+0.7**
	541nm,1.1s								
TDK	**Taldyqorghan**	**1.68**	**7**	*e*P		**Pn**		**06 32 34.9**	**+0.5**
	278nm,0.7s								
TDK				*e*S		**Sn**		**06 32 56.9**	**+0.7**
	541nm,1.1s								
DGS	**Degeres**	**1.71**	**268**	P		**Pb**		**06 32 36.2**	**-0.1**
	69nm,0.3s								
DGS				S		**Sg**		**06 32 59.4**	**+0.1**
	167nm,0.6s								
DGS	**Degeres**	**1.71**	**268**	*e*P		**Pb**		**06 32 36.2**	**-0.1**
	baz=67								
DGS				*e*S		**Sg**		**06 32 59.4**	**+0.1**
	baz=67								
DGS	**Degeres**	**1.71**	**268**	*e*P		**Pb**		**06 32 36.2**	**-0.1**
	69nm,0.3s								
DGS				*e*S		**Sg**		**06 32 59.4**	**+0.1**
	167nm,0.6s								
ULHL	**Ulahol**	**1.76**	**232**	P		**Pn**		**06 32 36.3**	**+0.7**
	SNR=54								
ULHL	**Ulahol**	**1.76**	**232**	⇑*i*	P	**Pn**		**06 32 36.3**	**+0.7**
	baz=31								
ULHL				⇑*i*	S	**Sb**		**06 32 59.6**	**0.0**
	baz=31								
BOOM	**Boomskoye usch**	**1.81**	**243**	⇓*i*	P	**Pn**		**06 32 37.0**	**+0.7**
	baz=42								
BOOM				⇓*i*	S	**Sb**		**06 33 00.7**	**-0.3**
	baz=42								
TKM2	**Tokmak 2**	**1.89**	**258**	P		**Pn**		**06 32 38.3**	**+0.9**
	SNR=49								
TKM2	**Tokmak 2**	**1.89**	**258**	⇑Pn		**Pn**		**06 32 38.4**	**+0.9**
	17nm,0.4s								
TKM2				⇑Sn		**Sb**		**06 33 03.3**	**0.0**
	27nm,0.2s								
TKM2	**Tokmak 2**	**1.89**	**258**	⇑*i*	P	**Pn**		**06 32 38.1**	**+0.7**
	baz=57								
TKM2				⇑*i*	S	**Sn**		**06 33 02.2**	**+0.5**
	baz=57								
KBK	**Karagaybulak**	**2.42**	**255**	P		**Pn**		**06 32 46.6**	**+2.0**
	SNR=46								
KBK	**Karagaybulak**	**2.42**	**255**	⇓*i*	P	**Pn**		**06 32 45.4**	**+0.7**
	baz=54								
KBK				⇓*i*	S	**Sn**		**06 33 15.2**	**+0.5**
	baz=54								
KZA	**Kyzart**	**2.46**	**240**	P		**Pb**		**06 32 48.8**	**-0.4**
	SNR=17								
KZA	**Kyzart**	**2.46**	**240**	⇓*i*	P	**Pn**		**06 32 46.1**	**+0.7**
	baz=39								
KZA				⇓*i*	S	**Sn**		**06 33 16.5**	**+0.5**
	baz=39								
NRN	**Naryn**	**2.46**	**220**	⇑*i*	P	**Pn**		**06 32 46.6**	**+1.2**
	baz=20								
NRN				⇑*i*	S	**Sn**		**06 33 17.6**	**+1.6**
	baz=20								
CHMS	**Chumysh**	**2.48**	**263**	P		**Pb**		**06 32 48.0**	**-1.4**
	SNR=25								
CHMS	**Chumysh**	**2.48**	**263**	⇑*i*	P	**Pn**		**06 32 45.8**	**+0.4**
	baz=63								
CHMS				⇑*i*	S	**Sn**		**06 33 16.2**	**+0.1**
	baz=63								
SGDS	**Sogindy**	**2.54**	**274**	Pg		**Pb**		**06 32 49.9**	**-0.6**
	9.4nm,0.2s								
SGDS				Lg		Lg		06 33 22.6	
	38nm,0.2s								
USP	**Ospenovka**	**2.64**	**270**	P		**Pb**		**06 32 50.4**	**-1.6**
	SNR=10								
USP	**Ospenovka**	**2.64**	**270**	⇑*i*	P	**Pn**		**06 32 47.9**	**+0.3**
	baz=69								
USP				⇑*i*	S	**Sn**		**06 33 19.6**	**-0.4**
	baz=69								
AAK	**Ala-Archa**	**2.75**	**256**	P		**Pb**		**06 32 52.7**	**-1.3**
	SNR=8.2								
AAK	**Ala-Archa**	**2.75**	**256**	⇑Pg		**Pb**		**06 32 52.4**	**-1.6**
	3.4nm,0.4s								
AAK				⇑Lg		Lg		06 33 28.9	
	11nm,0.5s								
AAK	**Ala-Archa**	**2.75**	**256**	⇑*i*	P	**Pn**		**06 32 49.8**	**+0.6**
	baz=56								
AAK				⇑*i*	S	**Sn**		**06 33 22.8**	**0.0**
	baz=56								
UCH	**Uchtor**	**2.87**	**248**	P		**Pb**		**06 32 55.5**	**-0.9**
	SNR=20								
UCH	**Uchtor**	**2.87**	**248**	⇓*i*	P	**Pn**		**06 32 52.0**	**+0.8**
	baz=48								
UCH				⇓*i*	S	**Sn**		**06 33 26.4**	**+0.1**
	baz=48								
ARLS	**Aral**	**3.16**	**243**	⇑*i*	P	**Pn**		**06 32 55.8**	**+0.9**
	baz=43								
ARLS				⇑*i*	S	**Sn**		**06 33 32.8**	**-0.3**
	baz=43								
EKS2	**Erkin-Say**	**3.25**	**259**	⇑*i*	P	**Pn**		**06 32 56.7**	**+0.6**
	baz=59								
EKS2				⇑*i*	S	**Sn**		**06 33 35.0**	**-0.2**
	baz=59								
AML	**Almayashu**	**3.47**	**251**	⇓*i*	P	**Pn**		**06 33 00.0**	**+0.7**
	baz=51								
AML				⇓*i*	S	**Sn**		**06 33 40.6**	**-0.4**
	baz=51								
MRKS	**Merke**	**3.63**	**262**	Pg		**Pb**		**06 33 10.2**	**+1.2**
	9.4nm,0.4s								
MRKS				Lg		Lg		06 33 58.2	
	14nm,0.2s								
MNAS	**Manas**	**4.21**	**260**	⇓Pg		**Pb**		**06 33 19

*SOME **30** 06:50:17.5,42°.48N×79°.68E,h25km*
*KRNET **30** 06:50:18.1±0.1,42°.55N×79°.61E,h18km,mb4.0*
*NNC **30** 06:50:18.9±0.7,42°.60N×79°.58E,h0km,mb4.2,mpv4.0,*
Error ellipse: s-maj=4.6km s-min=2.4km az=134.0

ISC 30 06:50:15.2±1.2,42°.53N±0°.04×79°.62E±0°.03,h2km±7km,
n92,σ1$96/142,57C-18D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
UZB	**Uzynbulak** 72nm,0.2s	**0.76**	**325**	P		**Pn**	**06 50 32.4**	**-0.8**
UZB				S		**Sn**	**06 50 42.6**	**-2.7**
UZB	**Uzynbulak** 842nm,0.2s baz=24	**0.76**	**325**	*e*P		**Pn**	**06 50 32.4**	**-0.8**
UZB				*e*S		**Sn**	**06 50 42.7**	**-2.7**
UZB	**Uzynbulak** 72nm,0.2s baz=24	**0.76**	**325**	*e*P		**Pn**	**06 50 32.4**	**-0.8**
UZB				*e*S		**Sn**	**06 50 42.7**	**-2.7**
PDGK	**Podgornoye** 122nm,0.2s	**0.81**	**353**	P		**Pn**	**06 50 33.2**	**-0.6**
PDGK				S		**Sn**	**06 50 44.1**	**-2.4**
PDGK	**Podgornoye** 103nm,0.2s	**0.81**	**353**	⇑P		**Pn**	**06 50 33.1**	**-0.7**
PDGK				⇓S		**Sn**	**06 50 43.5**	**-3.0**
PDGK	**Podgornoye** 106nm,0.4s baz=53	**0.81**	**353**	*i* P		**Pn**	**06 50 33.2**	**-0.6**
PDGK				*i* S		**Sn**	**06 50 44.3**	**-2.2**
PRZ	**Przheval'sk** baz=66	**0.90**	**268**	⇑*i*P		**Pn**	**06 50 35.1**	**-0.1**
PRZ				⇑*i*S		**Sn**	**06 50 47.2**	**-1.8**
SATY	**Saty** 81nm,0.3s	**1.04**	**301**	P		**Pn**	**06 50 37.0**	**0.0**
SATY				S		**Sn**	**06 50 51.2**	**-1.0**
SATY	**Saty** 452nm,0.1s 81nm,0.3s	**1.04**	**301**	⇑*i*P		**Pn**	**06 50 37.0**	**0.0**
SATY				⇑*i*S		**Sn**	**06 50 51.2**	**-1.0**
KTMS	**Ketmen** 452nm,0.1s 73nm,0.1s	**1.06**	**30**	P		**Pn**	**06 50 37.9**	**+0.6**
KTMS				S		**Sn**	**06 50 52.6**	**-0.2**
KTMS	**Ketmen** 312nm,0.3s baz=30	**1.06**	**30**	*e*P		**Pn**	**06 50 37.9**	**+0.6**
KTMS				*e*S		**Sn**	**06 50 52.6**	**-0.2**
KTMS	**Ketmen** 312nm,0.3s 73nm,0.1s	**1.06**	**30**	*e*P		**Pn**	**06 50 37.9**	**+0.6**
KTMS				*e*S		**Sn**	**06 50 52.6**	**-0.2**
KURS	**Kuram** 221nm,0.4s 19nm,0.2s	**1.43**	**313**	P		**Pg**	**06 50 44.7**	**+2.0**
KURS				S		**Sg**	**06 51 03.4**	**+2.2**
KURS	**Kuram** 208nm,0.5s baz=12	**1.43**	**313**	*e*P		**Pg**	**06 50 44.0**	**+1.3**
KURS				⇓*i*S		**Sg**	**06 51 03.4**	**+2.2**
KURS	**Kuram** 387nm,0.3s 15nm,0.5s baz=12	**1.43**	**313**	*e*P		**Pg**	**06 50 44.0**	**+1.3**
KURS				⇓*i*S		**Sg**	**06 51 03.4**	**+2.2**
DJR	**Jarkent** 50nm,0.2s 22nm,0.3s	**1.81**	**4**	P		**Pg**	**06 50 51.0**	**+1.1**
DJR				S		**Sg**	**06 51 16.5**	**+3.2**
DJR	**Jarkent** 28nm,0.2s 22nm,0.3s	**1.81**	**4**	*e*P		**Pg**	**06 50 50.9**	**+1.1**
DJR				*e*S		**Sg**	**06 51 15.3**	**+2.0**
KDJ	**Kajisay** 290nm,0.5s baz=58	**1.85**	**258**	⇑*i*P		**Pg**	**06 50 52.5**	**+1.8**
KDJ				⇑*i*S		**Sg**	**06 51 16.7**	**+1.9**
KOTS	**Kotyrbulak** 135nm,0.3s	**1.97**	**292**	Pg		**Pg**	**06 50 54.8**	**+1.7**
KOTS				Lg		Lg	06 51 20.9	
KOTS	**Kotyrbulak** 387nm,0.3s baz=91	**1.97**	**292**	*e*P		**Pg**	**06 50 53.9**	**+0.8**
KOTS				*e*S		**Sg**	**06 51 19.9**	**+1.3**
KOTS	**Kotyrbulak** 51nm,0.3s baz=91	**1.97**	**292**	*e*P		**Pg**	**06 50 53.9**	**+0.8**
KOTS				*e*S		**Sg**	**06 51 19.9**	**+1.3**
MDOK	**Medeo** 290nm,0.5s 35nm,0.4s	**2.00**	**289**	⇑Pn		**Pg**	**06 50 53.3**	**-0.2**
MDOK				⇑Sn		**Sg**	**06 51 19.3**	**0.0**
MDOK	**Medeo** 60nm,0.4s 73nm,0.3s	**2.00**	**289**	Pg		**Pg**	**06 50 53.9**	**+0.4**
MDOK				Lg		Lg	06 51 20.7	
MDOK	**Medeo** 290nm,0.5s baz=89	**2.00**	**289**	⇑*i*P		**Pg**	**06 50 53.9**	**+0.4**
MDOK				⇓*i*S		**Sg**	**06 51 20.7**	**+1.4**
MDOK	**Medeo** 73nm,0.3s	**2.00**	**289**	⇑*i*P		**Pg**	**06 50 53.9**	**+0.4**
MDOK				⇓*i*S		**Sg**	**06 51 20.7**	**+1.4**
TNSS	**Tian-Shan** 123nm,0.3s	**2.03**	**285**	Pg		**Pg**	**06 50 54.8**	**+0.6**
TNSS				Lg		Lg	06 51 22.1	
TNSS	**Tian-Shan** 183nm,0.4s baz=85	**2.03**	**285**	⇓*i*P		**Pg**	**06 50 54.8**	**+0.6**
TNSS				⇑*i*S		**Sg**	**06 51 22.2**	**+1.6**
TNSS	**Tian-Shan** 123nm,0.3s	**2.03**	**285**	⇓*i*P		**Pg**	**06 50 54.8**	**+0.6**
TNSS				⇑*i*S		**Sg**	**06 51 22.1**	**+1.6**
KNDC	**Almaty** 103nm,0.5s	**2.07**	**290**	⇑Pn		**Pg**	**06 50 55.7**	**+0.8**
KNDC				⇑Sn		**Sg**	**06 51 24.7**	**+3.0**
AAA	**Alma-Ata** 37nm,0.3s	**2.10**	**290**	Pg		**Pg**	**06 50 56.1**	**+0.6**
AAA				Lg		Lg	06 51 24.3	
AAA	**Alma-Ata** 226nm,0.4s	**2.10**	**290**	*e*P		**Pg**	**06 50 56.1**	**+0.6**
AAA				*e*S		**Sg**	**06 51 24.3**	**+1.5**
AAA	**Alma-Ata** 243nm,0.3s baz=89	**2.10**	**290**	*e*P		**Pg**	**06 50 56.1**	**+0.6**
AAA				*e*S		**Sg**	**06 51 24.3**	**+1.5**
ARXS	**Arharly** 325nm,0.5s 26nm,0.2s	**2.13**	**323**	Pg		**Pg**	**06 50 56.8**	**+0.7**
ARXS				Lg		Lg	06 51 24.4	
ARXS	**Arharly** 325nm,0.5s 14nm,0.6s	**2.13**	**323**	*e*P		**Pg**	**06 50 56.4**	**+0.3**
ARXS				*e*S		**Sg**	**06 51 24.4**	**+0.7**
IZV	**Izvestkoviy** 237nm,0.3s 145nm,0.2s	**2.27**	**284**	Pg		**Pg**	**06 50 59.3**	**+0.5**
IZV				Lg		Lg	06 51 29.2	
IZV	**Izvestkoviy** 237nm,0.3s baz=84	**2.27**	**284**	*e*P		**Pg**	**06 50 59.3**	**+0.5**
IZV				*e*S		**Sg**	**06 51 29.2**	**+1.0**
IZV	**Izvestkoviy** 237nm,0.3s 145nm,0.2s	**2.27**	**284**	*e*P		**Pg**	**06 50 59.3**	**+0.5**
IZV				*e*S		**Sg**	**06 51 29.2**	**+1.0**
CHKK	**Chushkaly** 562nm,0.2s 28nm,0.2s	**2.34**	**305**	Pg		**Pg**	**06 50 59.6**	**-0.5**
CHKK				Lg		Lg	06 51 30.8	
CHKK	**Chushkaly** 562nm,0.2s baz=5.0	**2.34**	**305**	*e*P		**Pg**	**06 50 58.5**	**-1.5**
CHKK				*e*S		**Sg**	**06 51 28.5**	**-1.8**
CHKK	**Chushkaly** 562nm,0.2s 28nm,0.2s	**2.34**	**305**	*e*P		**Pg**	**06 50 58.5**	**-1.5**
CHKK				*e*S		**Sg**	**06 51 28.5**	**-1.8**
MTBS	**Maitube** 184nm,0.3s 82nm,0.3s	**2.42**	**285**	Pg		**Pg**	**06 51 02.1**	**+0.4**
MTBS				Lg		Lg	06 51 33.9	
MTBS	**Maitube** 366nm,0.3s baz=85	**2.42**	**285**	⇑*i*P		**Pg**	**06 51 02.1**	**+0.4**
MTBS				⇑*e*S		**Sg**	**06 51 33.9**	**+0.8**
MTBS	**Maitube** 184nm,0.3s 82nm,0.3s	**2.42**	**285**	⇑*i*P		**Pg**	**06 51 02.1**	**+0.4**
MTBS				*e*S		**Sg**	**06 51 33.9**	**+0.8**
KTBS	**Karatobe** 366nm,0.3s 37nm,0.2s	**2.46**	**300**	Pg		**Pg**	**06 51 02.2**	**-0.1**
KTBS				Lg		Lg	06 51 34.3	
KTBS	**Karatobe** 163nm,1.0s baz=98	**2.46**	**300**	*e*P		**Pg**	**06 51 02.2**	**-0.1**
KTBS				*e*S		**Sg**	**06 51 34.3**	**+0.2**
KTBS	**Karatobe** 163nm,1.0s 37nm,0.2s	**2.46**	**300**	*e*P		**Pg**	**06 51 02.2**	**-0.1**
KTBS				*e*S		**Sg**	**06 51 34.3**	**+0.2**
ULHL	**Ulahol** SNR=92	**2.52**	**265**	P		**Pb**	**06 51 01.0**	**-0.3**
ULHL	**Ulahol** baz=64	**2.52**	**265**	⇑*i*P		**Pb**	**06 51 01.7**	**+0.4**
ULHL				⇑*i*S		**Sb**	**06 51 33.6**	**+0.7**
TDK	**Taldyqorghan** 79nm,0.4s	**2.62**	**341**	Pg		**Pg**	**06 51 04.9**	**-0.6**
TDK				Lg		Lg	06 51 39.2	
TDK	**Taldyqorghan** 79nm,0.4s	**2.62**	**341**	*e*P		**Pg**	**06 51 04.9**	**-0.6**
TDK				*e*S		**Sg**	**06 51 39.2**	**-0.3**
BOOM	**Boomskoye usch** baz=70	**2.72**	**270**	⇑*i*P		**Pb**	**06 51 04.7**	**-0.1**
BOOM				⇑*i*S		**Sb**	**06 51 38.4**	**-0.3**
KST	**Kastek** 55nm,0.2s	**2.74**	**282**	Pg		**Pg**	**06 51 06.2**	**-1.6**
KST				Lg		Lg	06 51 42.5	
KST	**Kastek** baz=82	**2.74**	**282**	*e*P		**Pb**	**06 51 05.5**	**+0.4**
KST				*e*S		**Sb**	**06 51 40.2**	**+1.0**
KST	**Kastek** 55nm,0.2s	**2.74**	**282**	*e*P		**Pb**	**06 51 05.5**	**+0.4**
KST				*e*S		**Sb**	**06 51 40.1**	**+1.0**
KUU	**Kurty** 11nm,0.3s	**2.76**	**301**	Pg		**Pg**	**06 51 06.9**	**-1.2**
KUU				Lg		Lg	06 51 42.8	
KUU	**Kurty** baz=0.0	**2.76**	**301**	⇑*i*P		**Pg**	**06 51 06.9**	**-1.2**
KUU				⇑*i*S		**Sg**	**06 51 42.8**	**-1.1**
KUU	**Kurty** 11nm,0.3s	**2.76**	**301**	⇑*i*P		**Pg**	**06 51 06.9**	**-1.2**
KUU				⇑*i*S		**Sg**	**06 51 42.8**	**-1.1**
KAPS	**Kapalarasan** 21nm,0.5s	**2.76**	**356**	Pg		**Pg**	**06 51 07.5**	**-0.7**
KAPS				Lg		Lg	06 51 43.3	
KAPS	**Kapalarasan** 21nm,0.5s	**2.76**	**356**	*e*P		**Pg**	**06 51 07.5**	**-0.7**
KAPS				*e*S		**Sg**	**06 51 43.3**	**-0.6**
NRN	**Naryn** baz=49	**2.91**	**249**	⇑*i*P		**Pb**	**06 51 07.7**	**-0.4**
NRN				⇑*i*S		**Sb**	**06 51 43.4**	**-0.9**
TKM2	**Tokmak 2** SNR=29	**2.99**	**279**	P		**Pb**	**06 51 08.8**	**-0.5**
TKM2	**Tokmak 2** 11nm,0.5s	**2.99**	**279**	⇑Pn		**Pb**	**06 51 08.9**	**-0.5**
TKM2				⇓Lg		Lg	06 51 52.9	
TKM2	**Tokmak 2** 71nm,0.6s baz=79	**2.99**	**279**	⇑*i*P		**Pb**	**06 51 08.3**	**-1.1**
TKM2				⇑*i*S		**Sb**	**06 51 45.0**	**-1.5**
KZA	**Kyzart** SNR=16	**3.27**	**264**	P		**Pb**	**06 51 10.8**	**-3.6**
KZA	**Kyzart** baz=63	**3.27**	**264**	⇑*i*P		**Pb**	**06 51 12.5**	**-1.8**
KZA				⇑*i*S		**Sb**	**06 51 51.7**	**-3.1**
KBK	**Karagaybulak** SNR=13	**3.45**	**274**	P		**Pb**	**06 51 14.6**	**-2.7**
KBK	**Karagaybulak** baz=73	**3.45**	**274**	⇑*i*P		**Pb**	**06 51 14.5**	**-2.7**
KBK				⇑*i*S		**Sb**	**06 51 55.8**	**-3.9**
CHMS	**Chumysh** SNR=9.5	**3.62**	**279**	P		**Pb**	**06 51 21.5**	**+1.6**
CHMS	**Chumysh** baz=79	**3.62**	**279**	⇑*i*P		**Pb**	**06 51 16.9**	**-3.0**
CHMS				⇑*i*S		**Sb**	**06 51 59.7**	**-4.6**
AAK	**Ala-Archa** SNR=7.5	**3.79**	**273**	P		**Pg**	**06 51 26.9**	**-0.9**
AAK	**Ala-Archa** 5.9nm,0.2s	**3.79**	**273**	⇑Pg		**Pg**	**06 51 26.8**	**-0.9**
AAK				⇑Lg		Lg	06 52 15.6	
AAK	**Ala-Archa** 12nm,0.5s baz=73	**3.79**	**273**	⇑*i*P		**Pb**	**06 51 19.5**	**-3.4**
AAK				⇑*i*S		**Sb**	**06 52 03.8**	**-5.5**
UCH	**Uchtor** SNR=5.3	**3.80**	**267**	P		**Pg**	**06 51 26.8**	**-1.2**
UCH	**Uchtor** baz=67	**3.80**	**267**	⇓*i*P		**Pb**	**06 51 20.0**	**-3.2**
UCH				⇓*i*S		**Sb**	**06 52 04.5**	**-5.4**
USP	**Ospenovka** SNR=7.6	**3.83**	**283**	P		**Pb**	**06 51 21.4**	**-2.3**
USP	**Ospenovka** baz=83	**3.83**	**283**	⇑*i*P		**Pb**	**06 51 20.2**	**-3.5**
USP				⇑*i*S		**Sb**	**06 52 04.8**	**-5.8**
ARLS	**Aral** baz=62	**3.99**	**262**	⇓*i*P		**Pb**	**06 51 21.9**	**-4.5**
ARLS				⇓*i*S		**Sb**	**06 52 08.8**	**-6.4**
EKS2	**Erkin-Say** SNR=16	**4.32**	**274**	P		**Pg**	**06 51 37.0**	**-0.9**
EKS2	**Erkin-Say** baz=74	**4.32**	**274**	⇑*i*P		Pb	06 51 26.8	-5.1
EKS2				⇑*i*S		**Sn**	**06 52 16.6**	**+3.5**
AML	**Almayashu** SNR=15	**4.41**	**267**	P		**Pg**	**06 51 40.4**	**+0.6**
AML	**Almayashu** baz=67	**4.41**	**267**	⇓*e*P		Pb	06 51 28.5	-5.2
AML				⇓*i*S		**Sn**	**06 52 19.3**	**+3.5**
MAKZ	**Makanchi** 2.1nm,0.2s	**4.60**	**21**	⇑Pn		Pb	06 51 30.0	-6.6
MAKZ				⇑Lg		Lg	06 52 42.3	
MK31	**Makanchi Array** 3.7nm,0.7s 0.5nm,0.2s,baz=203,slow=13,SNR=55	**4.67**	**23**	⇑Pn		Pn	06 51 30.9	+4.1
MK31				⇑Lg		Lg	06 52 44.0	
MRKS	**Merke** 0.9nm,0.2s,baz=196,slow=30,SNR=6.2 14nm,0.5s	**4.72**	**275**	Pg		**Pg**	**06 51 42.6**	**-3.1**
MRKS				Lg		Lg	06 52 43.8	
MRKS	**Merke** 19nm,0.3s baz=75	**4.72**	**275**	*e*P		**Pg**	**06 51 42.6**	**-3.1**
MRKS				*e*S		**Sg**	**06 52 43.8**	**-3.1**
MRKS	**Merke** baz=75 14nm,0.5s	**4.72**	**275**	*e*P		**Pg**	**06 51 42.6**	**-3.1**
MRKS				*e*S		**Sg**	**06 52 43.8**	**-3.1**
SFK	**Sufi-Kurgan** 19nm,0.3s 7.4nm,1.1s	**5.25**	**243**	⇓Pg		**Pg**	**06 51 58.0**	**+2.1**
SFK				⇑Lg		Lg	06 53 06.1	
	16nm,1.1s							
MNAS	**Manas** 4.6nm,0.5s	**5.26**	**272**	⇑Pg		**Pg**	06 51 52.1	-3.9
MNAS				⇓Lg		Lg	06 53 04.0	
KK31	**Karatay Array** 7.2nm,0.9s 2.6nm,0.7s,baz=90,slow=16,SNR=7.5	**6.72**	**278**	⇑Pg		**Pg**	**06 52 23.8**	**-0.2**
KK31				⇑Lg		Lg	06 53 49.2	
OTUK	**Ortayu** 3.0nm,0.5s,baz=79,slow=26,SNR=7.6 1.6nm,0.8s	**7.67**	**321**	⇓Pn		Pn	06 52 12.7	+4.6
OTUK				⇑Lg		Lg	06 54 16.1	
KURBB	**Kurchatov Arra** 6.5nm,0.6s 0.3nm,0.4s	**8.13**	**355**	⇑Pg		**Pg**	06 52 47.1	-3.7
KURBB				⇓Lg		Lg	06 54 36.9	
KURK	**Kurchatov** 5.7nm,0.7s 2.4nm,1.0s	**8.22**	**356**	⇑Pg		**Pg**	06 52 46.7	-5.9
KURK				⇑Lg		Lg	06 54 37.8	
	5.8nm,0.6s							

IDC 30 07:14:40.3±2.7,6°.24S×128°.62E,h281km±38km,mb2.6/1,
mb1 2.8/5,mb1mx2.7/41,mbtmp3.5/5,Error ellipse:
s-maj=63.3km s-min=18.2km az=83.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SIJI	**Sorong** 1.8nm,0.3s,baz=219,slow=13,SNR=30	**5.95**	**26**	P		Pn	07 16 09.0	+0.5
SIJI				S		S	07 17 14.2	-5.3
FITZ	**Fitzroy Crossi** 0.7nm,0.3s,baz=270,slow=20,SNR=3.7 0.4nm,0.3s,baz=27,slow=9.2,SNR=13	**12.14**	**194**	P		Pn	07 17 25.7	+0.8
FITZ				S		S	07 19 36.0	-4.1
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=227,slow=19,SNR=2.0 0.1nm,0.3s,baz=334,slow=13,SNR=6.2	**14.71**	**158**	P		P	07 17 54.1	-1.2
WRA				S		S	07 20 38.0	+0.8
ASAR	**Alice Springs** 0.1nm,0.3s,baz=340,slow=22,SNR=4.1 0.1nm,0.3s,baz=340,slow=11,SNR=4.3	**18.06**	**164**	P		P	07 18 32.0	+0.3
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=141,slow=4.8,SNR=3.2	**66.84**	**327**	P		P	07 25 02.1	-0.1

MAN 30 07:14:43.9,16°.43N×120°.39E,h56km,mb4.0,ML2.8,
MS2.4,Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.80**	**216**	*e*P		Pn	07 15 01.8	+2.6
SCZP				*e*S		Sn	07 15 12.6	+2.3
CAUP	**Cauayan**	**1.46**	**69**	*e*P		Pn	07 15 07.6	-0.5
APYP	**Conner**	**1.64**	**30**	*e*P		Pn	07 15 11.1	+0.6
APYP				*e*S		Sn	07 15 31.4	+0.8
CVP	**Callao Caves**	**1.87**	**47**	*e*P		Pn	07 15 13.9	+0.4
CVP				*e*S		Sn	07 15 36.2	+0.2

*ISCJB **30** 07:17:42.2±0.5,51°.35N±0°.03×16°.15E±0°.02,h0km,Error*
ellipse: s-maj=3.7km s-min=2.0km az=17.5
*IDC **30** 07:17:43.5±0.7,51°.40N×16°.19E,h0km,mb1 3.3/6,*
mb1mx3.1/55,mbtmp3.2/6,ML2.8/6,Error ellipse:
s-maj=13.2km s-min=7.3km az=103.0
*BGR **30** 07:17:44.2±0.4,51°.39N×16°.18E,h1km,ML3.0/8,Error*
ellipse: s-maj=4.4km s-min=2.2km az=19.0

ISC 30 07:17:41.4±0.7,51°.48N±0°.03×16°.21E±0°.02,h0km,n65,
σ1$32/118,4C-7D,Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.64**	**175**	*i* Pg		**Pg**	**07 17 54.5**	**+0.8**
KSP				*e*Sg		**Sg**	**07 18 02.4**	**+0.5**
KSP	**Ksiaz** SNR=79	**0.64**	**175**	*e*Pg		**Pg**	**07 17 54.6**	**+1.0**
KSP				*e*Sg		**Sg**	**07 18 02.7**	**+0.8**
UPC	**Upice** SNR=3.5	**0.98**	**188**	⇓*e*PG		**Pg**	**07 18 00.8**	**+0.6**
UPC				*e*SG		**Sg**	**07 18 13.4**	**+0.5**
DPC	**Dobruska-Polom** comp=Z,236nm,0.3s	**1.13**	**176**	⇑*i*PG		**Pg**	**07 18 03.6**	**+0.5**
DPC				*e*SG		**Sg**	**07 18 17.8**	**0.0**
DPC	**Dobruska-Polom** comp=Z,67nm,0.4s SNR=55	**1.13**	**176**	*e*Pg		**Pg**	**07 18 03.6**	**+0.5**
PVCC	**Panska Ves**	**1.41**	**228**	⇓*e*PN		**Pn**	**07 18 08.8**	**+0.5**
PVCC				*e*SG		**Sg**	**07 18 26.9**	**+0.2**
PVCC	**Panska Ves** comp=Z,289nm,0.2s SNR=59	**1.41**	**228**	*e*Pg		**Pb**	**07 18 09.3**	**+0.7**
KRLC	**Kraliky** comp=Z,18nm,0.5s	**1.45**	**165**	⇑*e*PG		**Pn**	**07 18 09.1**	**+0.1**
KRLC				*e*SG		**Sg**	**07 18 27.8**	**-0.2**
BRG	**Berggiesshubel** 67nm,0.6s	**1.55**	**248**	PN		**Pn**	**07 18 10.7**	**+0.4**
BRG				PG		**Pg**	**07 18 11.9**	**+0.7**
BRG				SG		**Sg**	**07 18 32.3**	**+1.1**
BRG	**Berggiesshubel** SNR=1.9	**1.55**	**248**	*e*Pn		**Pn**	**07 18 10.4**	**+0.1**
BRG				*e*Pg		**Pg**	**07 18 11.9**	**+0.7**
PRA	**Prague** comp=Z,45nm,0.4s	**1.81**	**219**	⇓*e*PN		**Pn**	**07 18 14.5**	**+0.7**
PRA				*e*SG		**Sb**	**07 18 39.2**	**+0.7**
GOPC	**GO Pecny, Ondr** comp=Z,45nm,0.5s	**1.81**	**211**	⇑*e*PG		**Pb**	**07 18 15.5**	**+0.1**
GOPC				*e*SG		**Sn**	**07 18 38.7**	**+1.2**
PRU	**Pruhonice**	**1.83**	**216**	⇓*e*PN		**Pn**	**07 18 14.1**	**0.0**
PRU				*e*PG		**Pb**	**07 18 16.2**	**+0.4**
PRU				*ex*		x	07 18 33.2	
PRU				*e*SG		**Sb**	**07 18 39.7**	**+0.5**
FBE	**Freiberg** comp=Z,66nm,0.4s SNR=5.7	**1.88**	**254**	*e*Sg		**Sg**	**07 18 42.7**	**+0.8**
MORC	**Moravsky Berou**	**1.90**	**153**	*e*PN		**Pn**	**07 18 15.2**	**0.0**
MORC				*e*SG		**Sn**	**07 18 39.9**	**0.0**
CLL	**Collm**	**2.02**	**266**	*e*Pg		**Pb**	**07 18 20.0**	**+1.0**
CLL				*i* Sg		**Sg**	**07 18 46.9**	**+0.7**
OKC	**Ostrava-Krasne** comp=Z,27nm,0.5s	**2.05**	**142**	⇓*e*PN		**Pn**	**07 18 16.5**	**-0.7**
OKC				*e*PG		**Pg**	**07 18 21.0**	**+0.2**
OKC				*e*SG		**Sb**	**07 18 46.3**	**+0.7**
VRAC	**Vranov** comp=Z,25nm,0.4s	**2.19**	**173**	Pn		**Pn**	**07 18 19.6**	**+0.6**
VRAC	comp=Z,4.2nm,0.3s,baz=345,slow=16,SNR=12			Lg		Lg	07 18 51.0	
VRAC	**Vranov** comp=Z,9.6nm,0.3s,baz=81,slow=22,SNR=11	**2.19**	**173**	*e*PN		**Pn**	**07 18 19.4**	**+0.4**
VRAC				*e*SG		**Sb**	**07 18 50.1**	**+0.6**
VRAC	**Vranov** SNR=4.9	**2.19**	**173**	*e*Pn		**Pn**	**07 18 20.5**	**+1.4**
VRAC				*e*Pg		**Pb**	**07 18 23.1**	**+1.3**
TREC	**Trest** SNR=9.0	**2.24**	**192**	⇓*e*PN		**Pn**	**07 18 20.4**	**+0.7**
TREC				*e*PG		**Pb**	**07 18 23.4**	**+0.7**
TREC				*e*SG		**Sb**	**07 18 52.0**	**+1.1**
KRUC	**Moravsky** comp=Z,41nm,0.3s	**2.42**	**177**	*e*PN		**Pn**	**07 18 23.3**	**+1.0**
KRUC				*e*SG		**Sb**	**07 18 58.2**	**+1.9**
KRUC	**Moravsky** SNR=5.2	**2.42**	**177**	*e*Pg		**Pb**	**07 18 26.9**	**+1.1**
KRUC				*e*Sg		**Sg**	**07 18 59.2**	**-0.1**
OJC	**Ojcow** SNR=4.5	**2.60**	**118**	*e*Pg		**Pg**	**07 18 32.0**	**+0.8**
OJC				*e*Sg		**Sg**	**07 19 06.4**	**+1.5**
OJC	**Ojcow** SNR=1.5	**2.60**	**118**	*e*Pn		**Pn**	**07 18 25.4**	**+0.7**
OJC				*e*Pg		**Pg**	**07 18 32.8**	**+1.6**
TANN	**Tannenbergstha** SNR=5.2	**2.60**	**247**	*e*Pn		**Pn**	**07 18 25.6**	**+0.9**
TANN				*e*Sg		**Sg**	**07 19 04.9**	**-0.1**
NKC	**Novy Kostel** SNR=5.8	**2.69**	**244**	⇓*e*PN		**Pn**	**07 18 26.9**	**+0.9**
NKC				*e*PG		**Pg**	**07 18 32.7**	**-0.3**
NKC				*e*SG		**Sg**	**07 19 06.9**	**-1.0**
NKC	**Novy Kostel** comp=Z,44nm,0.3s SNR=3.7	**2.69**	**244**	*e*Pn		**Pn**	**07 18 27.2**	**+1.2**
NKC				*e*Pg		**Pg**	**07 18 33.6**	**+0.6**
GUNZ	**Gunzen** SNR=2.9 SNR=5.5	**2.70**	**247**	*e*Pg		**Pg**	**07 18 34.4**	**+1.3**
WERN	**Wernitzgruen** SNR=4.2	**2.71**	**245**	*e*Pn		**Pn**	**07 18 27.4**	**+1.2**

WERN					*e*Pg		**Pg**	07 18 34.9	+1.6
	SNR=2.3								
PLN	**Plauen**	**2.75**	**250**	*e*Pg			**Pg**	07 18 35.3	+1.2
	SNR=2.5								
PLN					*e*Sg		**Sg**	07 19 09.5	-0.2
	SNR=3.1								
JAVC	**Velka Javorina**	**2.79**	**160**	*e*PN			**Pn**	07 18 29.0	+1.7
NEUB	**Neuenburg**	**2.80**	**266**	*e*Pg			**Pg**	07 18 35.8	+0.8
	SNR=3.9								
NEUB					*e*Sg		**Sg**	07 19 12.9	+1.7
	SNR=3.2								
KHC	**Kasperske Hory**	**2.90**	**217**↑	*e*PN			**Pn**	07 18 29.8	+1.0
KHC					*e*PG		**Pb**	07 18 35.7	+1.8
KHC					*e*SN		**Sn**	07 19 01.9	-2.4
KHC					*e*SG		**Sb**	07 19 12.2	+2.3
	comp=Z,18nm,0.3s								
KHC	**Kasperske Hory**	**2.90**	**217**	*e*Pn			**Pn**	07 18 29.6	+0.8
	SNR=4.6								
KHC					*e*Sg		**Sb**	07 19 12.6	+2.7
	SNR=2.4								
MANZ	**Manzenberg**	**3.01**	**242**	*e*Pn			**Pn**	07 18 31.6	+1.3
	SNR=3.1								
MANZ					*e*Sg		**Sg**	07 19 18.3	+0.4
	SNR=2.3								
MOX	**Moxa**	**3.02**	**256**	*e*Pn			**Pn**	07 18 31.3	+0.8
	SNR=1.9								
MOX					*e*Sg		**Sg**	07 19 19.2	+0.8
	SNR=6.2								
SMOL	**Smolenice**	**3.07**	**165**	*e*PG			**Pg**	07 18 41.4	+1.2
ROTZ	**Rotzenmuhle**	**3.07**	**238**	*e*Pn			**Pn**	07 18 32.2	+1.0
	SNR=4.0								
GEC2	**GERESS Array S**	**3.09**	**212**	*e*Pn			**Pn**	07 18 32.9	+1.4
	SNR=3.4								
GERES	**GERESS Array B**	**3.09**	**212**	Pn			**Pn**	07 18 33.0	+1.4
	comp=Z,0.6nm,0.3s,baz=32,slow=13,SNR=7.5								
GERES					Pg		**Pb**	07 18 38.5	+1.1
	comp=Z,6.1nm,0.3s,baz=31,slow=17,SNR=40								
GERES					Lg		Lg	07 19 17.6	
	comp=Z,8.4nm,0.3s,baz=34,slow=32,SNR=9.4								
LANS	**Liptovska Anna**	**3.13**	**137**	*e*			**Pn**	07 18 32.6	+0.6
LANS	**Liptovska Anna**	**3.13**	**137**	*e*PG			**Pg**	07 18 42.7	+1.4
LANS					*e*SG		**Sg**	07 19 23.7	+1.8
WET	**Wettzell**	**3.17**	**224**	*e*Pn			**Pn**	07 18 33.4	+0.8
	SNR=5.6								
MODS	**Modra-Piesok**	**3.19**	**167**	*e*PG			**Pg**	07 18 42.8	+0.4
MODS					*e*SG		**Sg**	07 19 23.0	-0.7
MODS					*e*LG		Lg	07 19 29.5	
VYHS	**Vyhne**	**3.44**	**149**	*e*PG			**Pg**	07 18 49.4	+2.2
VYHS					*e*SG		**Sg**	07 19 30.3	-1.4
CONA	**Conrad Observa**	**3.56**	**184**	*e*Pn			**Pn**	07 18 39.2	+1.2
	comp=Z,0.9nm,0.2s								
CONA					Sg		**Sg**	07 19 33.9	-1.9
	comp=Z,5.4nm,0.3s								
BSD	**Bornholm Skovb**	**3.72**	**348**	*i* P			**Pn**	07 18 40.0	-0.1
BSD					*i* S		**Sn**	07 19 21.5	-3.1
MOA	**Molln**	**3.85**	**200**	*i* Pn			**Pn**	07 18 42.3	+0.4
	comp=Z,1.4nm,0.2s								
MOA					Sg		**Sg**	07 19 42.9	-2.0
	comp=Z,4.5nm,0.4s								
ARSA	**Arzberg**	**4.26**	**186**	*e*Pn			**Pn**	07 18 47.6	+0.1
	comp=Z,1.0nm,0.2s								
ARSA					*e*Sn		**Sn**	07 19 36.3	-1.6
	comp=Z,1.2nm,0.3s								
KBA	**Koelnbreinsper**	**4.79**	**204**	*e*Pn			**Pb**	07 19 07.5	+1.2
	comp=Z,0.4nm,0.1s								
KBA					Sg		**Sg**	07 20 12.8	-2.4
	comp=Z,2.7nm,0.3s								
SOKA	**Soboth**	**4.87**	**190**	*e*Pn			**Pn**	07 19 06.9	-0.7
	comp=Z,0.5nm,0.2s								
SOKA					*e*Sn		**Sn**	07 19 49.0	-4.0
	comp=Z,0.4nm,0.2s								
OBKA	**Obir**	**5.09**	**193**	Pn			**Pn**	07 18 59.9	+0.8
	comp=Z,0.9nm,0.3s								
OBKA					Sg		**Sb**	07 20 14.1	+1.0
	comp=Z,4.0nm,0.6s								
WATA	**Walderalm**	**5.13**	**218**	*i* Pn			**Pn**	07 19 01.3	+1.7
	comp=Z,1.8nm,0.2s								
WATA					*e*Sn		**Sn**	07 19 58.1	-1.5
	comp=Z,1.2nm,0.2s								
MYKA	**Terra Mystica**	**5.14**	**200**	Sg			**Sb**	07 20 14.3	-0.2
	comp=Z,2.3nm,0.5s								
WTTA	**Wattenberg**	**5.17**	**217**	*e*Pn			**Pn**	07 19 00.5	+0.3
	comp=Z,1.5nm,0.3s								
WTTA					Sg		**Sb**	07 20 14.9	-0.5
	comp=Z,5.7nm,0.5s								
ABTA	**Abfaltersbach**	**5.32**	**209**	Sg			**Sg**	07 20 32.4	+0.1
	comp=Z,1.1nm,0.2s								
RETA	**Reutte**	**5.35**	**224**	*e*Pn			**Pn**	07 19 03.3	+0.8
	comp=Z,0.7nm,0.2s								
RETA					*i* Sn		**Sn**	07 20 00.1	-4.6
	comp=Z,0.9nm,0.2s								
SQTA	**Sankt Quirin**	**5.37**	**219**	*i* Pn			**Pn**	07 19 04.8	+1.9
	comp=Z,2.8nm,0.2s								
SQTA					*e*Sn		**Sn**	07 20 03.9	-1.6
	comp=Z,2.2nm,0.3s								
FETA	**Feichten**	**5.73**	**221**	Sg			**Sg**	07 20 41.9	-3.4
	comp=Z,1.1nm,0.6s								
AKASG	**Malin Array Be**	**8.23**	**90**	Pn			**Pn**	07 19 40.5	-1.5
	comp=Z,0.6nm,0.3s,baz=280,slow=12,SNR=4.3								
HFS	**Hagfors**	**8.79**	**352**	Pn			**Pn**	07 19 49.7	+0.1
	comp=Z,0.2nm,0.3s,baz=175,slow=14,SNR=4.2								
NOA	**NORSAR Array B**	**9.97**	**346**	Pn			**Pn**	07 20 06.3	+0.4
	comp=Z,0.0nm,0.3s,baz=152,slow=9.5,SNR=2.3								
FINES	**FINESS Array B**	**11.36**	**25**	Pn			**Pn**	07 20 23.9	-0.9
	comp=Z,0.2nm,0.3s,baz=206,slow=12,SNR=4.7								
ARCES	**ARCESS Array B**	**18.64**	**10**	P			**P**	07 21 57.4	-3.0
	comp=Z,0.1nm,0.3s,baz=194,slow=14,SNR=6.0								

MAN 30 07:18:52.1,10°.11N×124°.93E,h61km,mb4.3,ML3.1, MS2.8,1C-2D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**0.07**	**293**	*e*P	Pn	07 19 01.7	+0.5
MSLP				*e*S	Sn	07 19 08.9	+1.2
SCPH	**Surigao**	**0.64**	**120**↓	*e*P	Pn	07 19 07.8	+2.1
SCPH				*e*S	Sn	07 19 18.6	+3.0
PLP	**Palo**	**1.05**	**3**↑	*e*P	Pn	07 19 09.8	-1.2
PLP				*e*S	Sn	07 19 22.5	-2.4
BESP	**Borongan**	**1.57**	**19**	*e*P	Pn	07 19 18.4	+0.7
BESP				*e*S	Sn	07 19 38.7	+1.6
RCP	**Roxas**	**2.59**	**304**↓	*e*P	Pn	07 19 38.6	+7.1

*ISCJB **30** 07:24:07.9±0.5, 16°.39N±0°.04×96°.21W±0°.04, h48km±6km, mb4.1/15, Error ellipse: s-maj=7.5km s-min=5.5km az=17.2*
*NEIC **30** 07:24:10.5±0.0, 16°.39N×96°.21W, h41km, mb4.3/7, MD4.1(MEX), After MEX.*
*MEX **30** 07:24:10.5±0.7, 16°.39N×96°.22W, h42km±15km, MD4.1*
*IDC **30** 07:24:11.4±2.9, 16°.49N×96°.06W, h65km±24km, mb3.6/10, mb1 3.9/12, mb1mx3.7/39, mbtmp4.0/12, MS3.1/2, Ms1 3.1/2, ms1mx2.8/25, Error ellipse: s-maj=28.7km s-min=15.9km az=45.0*

ISC 30 07:24:08.7±0.9, 16°.39N±0°.04×96°.23W±0°.04, h42km±12km, n36, σ1°50/48, mb4.0/15, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.63**	**170**	*e*Pn	Pn	07 24 20.9	-0.3
HUIG				*e*Sn	Sn	07 24 30.4	+0.2
HUIG	**Huatulco**	**0.63**	**170**	*e*P	Pn	07 24 20.9	-0.3
HUIG				*e*S	Sn	07 24 30.4	+0.2
VHO	**Vista Hermosa**	**0.83**	**324**	*e*Pn	Pn	07 24 24.1	-0.1
VHO				*e*Sn	Sn	07 24 35.5	+0.1
VHO	**Vista Hermosa**	**0.83**	**324**	*e*P	Pn	07 24 24.1	-0.1
VHO				*e*S	Sn	07 24 35.5	+0.1
CMIG	**Matias Romero**	**1.46**	**61**	P	Pn	07 24 32.6	0.0
	124nm,0.3s,baz=229,slow=12,SNR=780						
CMIG				S	Sn	07 24 49.5	-1.0
	197nm,0.3s,baz=252,slow=12,SNR=12						
CMIG	**Matias Romero**	**1.46**	**61**	*e*Pn	Pn	07 24 32.6	0.0
CMIG				*e*Sn	Sn	07 24 50.4	-0.1
CMIG	**Matias Romero**	**1.46**	**61**	*e*P	Pn	07 24 32.6	0.0
CMIG				*e*S	Sn	07 24 50.4	-0.1
PNIG	**Pinotepa**	**1.82**	**270**	*e*Pn	Pn	07 24 36.1	-1.5
PNIG				*e*Sn	Sn	07 24 56.2	-3.3
PNIG	**Pinotepa**	**1.82**	**270**	*e*P	Pn	07 24 36.4	-1.2
PNIG				*i* S	Sn	07 24 59.0	-0.5
TUIG	**Tuzandepetl**	**2.37**	**46**	*e*Pn	Pn	07 24 45.7	+0.6
TUIG				*e*Sn	Sn	07 25 12.4	-0.6
TUIG	**Tuzandepetl**	**2.37**	**46**	*e*P	Pn	07 24 45.7	+0.6
TUIG				*i* S	Sn	07 25 13.4	+0.4
CCIG	**Comitan**	**3.93**	**91**	*e*Pn	Pn	07 25 07.7	+1.1
APG	**El Apazote**	**5.72**	**103**	P	Pn	07 25 32.8	+1.5
	4.1nm,0.3s,baz=152,slow=6.6,SNR=61						
APG				S	Sn	07 26 35.1	-0.7
	19nm,0.3s,baz=78,slow=17,SNR=7.9						
APG				LR	LR	07 27 50.3	
	comp=Z,165nm,20.7s,baz=292,slow=39						
TEIG	**Tepich**	**8.46**	**62**	*e*Pn	Pn	07 26 08.0	-0.7
TEIG				*e*Sn	Sn	07 27 36.4	-6.4
ZAIG	**Zacatecas**	**8.71**	**318**	*e*Pn	Pn	07 26 13.0	+0.6
JTS	**JuntasAbangare**	**12.53**	**118**	P	Pn	07 27 06.5	+2.0
	1.3nm,0.3s,baz=23,slow=19,SNR=8.3						
JTS				LR	LR	07 31 39.1	
	comp=Z,80nm,18.0s,baz=24,slow=36						
957A	**Wimauma**	**17.13**	**47**	*e*Sn	Sn	07 31 16.5	+1.8
CPRX	**Cap Rock**	**17.95**	**339**	*e*Pn	Pn	07 28 14.4	-0.9
ANMO	**Albuquerque**	**20.62**	**336**	P	P	07 28 46.0	+1.3
	1.7nm,0.7s,baz=145,slow=12,SNR=8.7						
TUC	**Tucson**	**20.63**	**323**	*e*P	Pn	07 28 47.4	+0.1
	6.1nm,1.0s						
TKL	**Tuckaleechee C**	**22.17**	**28**	P	P	07 29 01.9	+0.7
	2.4nm,0.7s,baz=188,slow=10,SNR=4.1						
WCI	**Wyandotte Cave**	**23.44**	**20**	*e*P	P	07 29 14.3	0.0
	11nm,0.8s						
PV23	**Carpenter Ridg**	**24.68**	**335**	*e*P	P	07 29 28.7	+2.7
	8.1nm,0.9s						
ISCO	**Idaho Springs**	**24.72**	**343**	*e*P	P	07 29 27.5	+1.1
	3.6nm,1.1s						
PFO	**Pinyon Flats O**	**25.02**	**317**	P	P	07 29 28.4	-0.7
	3.7nm,0.7s,baz=98,slow=2.8,SNR=4.6						
O49A	**Covington**	**25.87**	**21**	*e*P	P	07 29 37.0	+0.6
	20nm,0.5s						
SDV	**Santo Domingo**	**26.04**	**104**	P	P	07 29 38.2	-0.3
	2.3nm,0.6s,baz=324,slow=7.1,SNR=4.0						
PDAR	**Pinedale Array**	**28.65**	**339**	P	P	07 30 02.0	+0.3
	0.4nm,0.7s,baz=116,slow=8.8,SNR=4.3						
NV01	**Mina Array Sit**	**29.28**	**323**	*e*P	P	07 30 09.6	+2.2
NVAR	**Mina Array Bea**	**29.28**	**323**	P	P	07 30 09.1	+1.8
	1.7nm,0.7s,baz=135,slow=9.6,SNR=9.6						
SNOW	**Snow King Moun**	**29.68**	**338**	*e*P	P	07 30 12.4	+1.6
	3.4nm,0.8s						
ULM	**Lac du Bonnet**	**33.77**	**0**	P	P	07 30 45.0	-1.3
	3.2nm,0.9s,baz=195,slow=11,SNR=4.7						
F10A	**Beach Ranch, E**	**34.31**	**334**	*e*P	P	07 30 52.5	+1.2
	8.0nm,1.2s						
SCHQ	**Schefferville**	**44.55**	**24**	P	P	07 32 14.9	-1.4
	2.4nm,0.7s,baz=228,slow=7.2,SNR=8.0						
YKA	**Yellowknife Ar**	**47.83**	**349**	P	P	07 32 41.4	-0.5
	1.0nm,0.6s,baz=154,slow=7.3,SNR=9.9						
ILAR	**Eielson Array**	**59.06**	**337**	P	P	07 34 04.2	0.0
	0.6nm,0.6s,baz=140,slow=6.7,SNR=12						

*ISCJB **30** 07:31:36.0±0.3, 0°.67S±0°.04×99°.45E±0°.03, h82km±3km, mb4.2/28, Error ellipse: s-maj=6.5km s-min=4.9km az=39.1*
*KLM **30** 07:31:35.9, 0°.87S×99°.31E, h52km, mb4.4*
*DJA **30** 07:31:37.4±0.3, 1°.S×3°×9°.9E×°, h58km±5km, M4.8/18, mb5.3/3, mB5.4/4, MLv4.5/18, Mw(mB)4.8/4*
*NEIC **30** 07:31:37.8±0.7, 0°.69S×99°.50E, h83km±5km, mb4.5/6, Error ellipse: s-maj=9.6km s-min=5.5km az=55.0*
*IDC **30** 07:31:37.9±2.6, 0°.63S×99°.54E, h80km±22km, mb3.9/20, mb1 3.9/23, mb1mx3.8/51, mbtmp4.2/23, MS3.3/4, Ms1 3.3/4, ms1mx2.9/32, Error ellipse: s-maj=20.2km s-min=11.5km az=60.0*

ISC 30 07:31:36.5±0.7, 0°.70S±0°.04×99°.45E±0°.04, h74km±6km, n78, σ1°49/86, mb4.3/28, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SISI	**Saibi**	**0.72**	**210**	P	Pn	07 31 52.8	+1.0
SISI				S	Sn	07 32 04.4	+1.2
PPI	**Padang Panjang**	**0.98**	**76**	P	Pn	07 31 56.0	+1.1
PPI				S	Sn	07 32 08.9	+0.3
PDSI	**Padang**	**1.03**	**102**	P	Pn	07 31 56.4	+0.8
PDSI				S	Sn	07 32 10.3	+0.5
PBSI	**Pulau Batu**	**1.34**	**299**	P	Pn	07 32 00.1	+0.7
PBSI				S	Sn	07 32 16.4	-0.3
MNSI	**Mandailing Nat**	**1.49**	**5**	P	Pn	07 32 02.3	+0.8
BKNI	**Bangkinang**	**1.89**	**57**	*e*Pn	Pn	07 32 08.1	+1.3
BKNI				*e*Sn	Sn	07 32 27.1	-2.7
BKNI	**Bangkinang**	**1.89**	**57**	P	Pn	07 32 07.9	+1.2
SDSI	**Sungai Dareh**	**1.99**	**97**	P	Pn	07 32 09.9	+1.8
PPSI	**Pulau Pagai**	**2.12**	**165**	P	Pn	07 32 09.7	-0.2
KRJI	**Kerinci**	**2.44**	**124**	P	Pn	07 32 16.8	+2.6
GSI	**Gunungsitoli**	**2.74**	**317**	*e*Pn	Pn	07 32 18.8	+0.6
GSI	**Gunungsitoli**	**2.74**	**317**	P	Pn	07 32 18.5	+0.3
PSI	**Prapat**	**3.52**	**351**	P	Pn	07 32 28.4	-0.6
	25nm,0.3s,baz=182,slow=0.7,SNR=56						
PSI				S	Sn	07 32 53.5	-16
	18nm,0.3s,baz=180,slow=14,SNR=13						
PSI	**Prapat**	**3.52**	**351**	*e*Pn	Pn	07 32 27.7	-1.2
PSI				S	Sn	07 32 53.5	-16
MASI	**Maura Aman, Be**	**3.69**	**131**	P	Pn	07 32 32.9	+1.7
SNSI	**Sinabang, Aceh**	**4.39**	**315**	P	Pn	07 32 40.9	+0.1
KCSI	**Kotacane, Aceh**	**4.52**	**338**	P	Pn	07 32 41.5	-1.0
KGM	**Kluang**	**4.72**	**55**	P	Pn	07 32 47.2	+2.1
MNAI	**Manna**	**5.05**	**136**	*e*Pn	Pn	07 32 50.4	+0.7
MNAI				*e*Sn	Sn	07 33 44.7	-2.0
MNAI	**Manna**	**5.05**	**136**	P	Pn	07 32 50.1	+0.4
MYKOM	**Kota Tinggi**	**5.05**	**61**	*e*Pn	Pn	07 32 51.3	+1.6
MYKOM	**Kota Tinggi**	**5.05**	**61**	P	Pn	07 32 51.7	+2.0
LHSI	**Lahat**	**5.12**	**127**	P	Pn	07 32 52.3	+1.7
	162nm,0.5s,3μm						
IPM	**Ipoh**	**5.38**	**17**	*e*Pn	Pn	07 32 56.6	+2.3
IPM	**Ipoh**	**5.38**	**17**	P	Pn	07 32 57.1	+2.8
MDSI	**Maura Dua**	**6.04**	**129**	P	Pn	07 33 04.5	+1.3
	148nm,0.7s,2μm						
KULM	**Kulim**	**6.07**	**11**	*e*Pn	Pn	07 33 05.0	+1.3
KULM	**Kulim**	**6.07**	**11**	P	Pn	07 33 05.8	+2.0
KASI	**Kota Agung**	**6.95**	**134**	P	Pn	07 33 15.4	-0.3
LEM	**Lembang**	**10.17**	**127**	P	Pn	07 34 01.2	+1.4
	7.1nm,0.3s,baz=320,slow=18,SNR=2.6						
LEM				LR	LR	07 37 40.6	
	comp=Z,85nm,21.5s,baz=88,slow=36						
CISI	**Cisompet, Garu**	**10.76**	**129**	*e*Pn	Pn	07 34 04.9	-3.0
CISI	**Cisompet, Garu**	**10.76**	**129**	P	Pn	07 34 04.2	-3.7
XMIS	**Christmas Isla**	**11.51**	**148**	*e*Pn	Pn	07 34 11.1	-6.8
CHBT	**CHBT**	**13.67**	**12**	P	Pn	07 34 44.8	-2.3
SDKM	**Sandakan**	**18.81**	**70**	P	Pn	07 35 53.7	+2.1
CMAR	**Chiang Mai Arr**	**19.05**	**359**	P	P	07 35 53.0	+0.1
	0.4nm,0.3s,baz=180,slow=12,SNR=11						
CMAR				LR	LR	07 43 00.4	
	comp=Z,46nm,19.6s,baz=195,slow=36						
XAN	**Xi'an**	**35.69**	**14**	P	P	07 38 26.0	-1.9
XAN				pP	pP	07 38 30.0	-16
XAN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WR1	**Warramunga Arr**	**39.13**	**121**	*e*P	P	07 38 56.6	-0.5
	comp=Z,4.1nm,0.9s						
WRA	**Warramunga Ar**	**39.13**	**121**	P	P	07 38 56.6	-0.5
	comp=Z,0.8nm,0.6s,baz=303,slow=9.0,SNR=12						
WRA				PcP	PcP	07 41 06.1	+0.5
	comp=Z,0.5nm,0.4s,baz=316,slow=2.6,SNR=6.9						
GTA	**Gaotai**	**39.92**	**0**	*e*P	P	07 39 04.0	+0.4
GTA				pP	pP	07 39 08.5	-13
GTA				sP	sP	07 39 11.3	-19
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ASAR	**Alice Springs**	**40.46**	**127**	P	P	07 39 08.3	+0.1
	comp=Z,1.0nm,0.5s,baz=301,slow=7.9,SNR=15						
ASAR				PcP	PcP	07 41 10.9	+1.0
	comp=Z,1.5nm,0.8s,baz=306,slow=2.5,SNR=7.3						
ASAR				S	S	07 45 05.8	-6.1
	comp=Z,0.7nm,1.0s,baz=306,slow=15,SNR=4.9						
JNU	**Nakatsue**	**44.81**	**38**	P	P	07 39 43.2	-0.1
	baz=196,slow=12						
JNU	**Nakatsue**	**44.81**	**38**	*e*P	P	07 39 41.3	-2.0
	comp=Z,9.4nm,0.8s						
KSAR	**Wonju Array Be**	**46.17**	**32**	P	P	07 39 53.5	-0.4
KSRS	**Korea Array**	**46.20**	**32**	P	P	07 39 53.5	-0.6
	comp=Z,1.7nm,0.6s,baz=223,slow=8.1,SNR=11						
AAK	**Ala-Archa**	**48.64**	**335**	P	P	07 40 13.9	+0.7
	comp=Z,0.6nm,0.4s,baz=203,slow=15,SNR=2.1						
AAK				LR	LR	08 04 06.4	
	comp=Z,58nm,18.1s,baz=321,slow=40						
SONA0	**Songino Array**	**48.72**	**6**	*e*P	P	07 40 14.5	+0.8
SONM	**Songino Array**	**48.72**	**6**	P	P	07 40 14.5	+0.8
	comp=Z,2.5nm,0.7s,baz=186,slow=9.6,SNR=12						
SONM				PcP	PcP	07 41 38.6	+0.8
	comp=Z,0.7nm,0.6s,baz=181,slow=5.7,SNR=3.1						
MK01	**Makanchi Array**	**49.62**	**345**	*e*P	P	07 40 21.4	+0.9
MK31	**Makanchi Array**	**49.64**	**345**	*e*P	P	07 40 21.7	+1.1
	comp=Z,3.9nm,0.6s						
MK32	**Makanchi Array**	**49.64**	**345**	*e*P	P	07 40 21.6	+1.0
MKAR	**Makanchi Array**	**49.64**	**345**	P	P	07 40 21.6	+1.0
	comp=Z,5.8nm,0.6s,baz=154,slow=8.8,SNR=58						
STKA	**Stephens Creek**	**50.42**	**132**	P	P	07 40 27.8	+1.0
	comp=Z,1.2nm,0.6s,baz=304,slow=11,SNR=3.0						
USRK	**Ussuriysk Ar.**	**53.28**	**29**	P	P	07 40 47.7	-0.1
	comp=Z,5.4nm,0.8s,baz=233,slow=5.6,SNR=9.4						
ZAA0	**Zalesovo Array**	**55.80**	**350**	*e*P	P	07 41 06.7	+0.8
	comp=Z,10.0nm,0.8s						
ZALV	**Zalesovo Beam**	**55.80**	**350**	P	P	07 41 06.6	+0.7
	comp=Z,5.8nm,0.4s,baz=176,slow=5.5,SNR=35						
ZAA1	**Zalesovo Array**	**55.81**	**350**	*e*P	P	07 41 06.6	+0.7
KLR	**Kul'dur**	**56.98**	**25**	P	P	07 41 14.4	0.0
	comp=Z,1.2nm,0.5s,baz=259,slow=6.5,SNR=8.5						
BVAR	**Borovoye Array**	**58.79**	**340**	P	P	07 41 27.1	+0.2
	comp=Z,1.1nm,0.5s,baz=140,slow=9.0,SNR=8.6						
ASAJ	**Asahikawa**	**58.87**	**35**	P	P	07 41 28.2	+0.6
	comp=Z,6.9nm,0.8s,baz=290,slow=7.6,SNR=4.2						
ABKAR	**Akbulak array**	**60.25**	**331**	*e*P	P	07 41 37.1	0.0
	comp=Z,1.8nm,0.7s						
ABKAR				*e*pP	pP	07 41 53.6	-2.4
BR101	**Keskin Array S**	**72.05**	**312**	*e*P	P	07 42 52.3	-0.8
BRTR	**Keskin Array B**	**72.05**	**312**	P	P	07 42 52.3	-0.8
	comp=Z,0.6nm,0.7s,baz=134,slow=8.8,SNR=3.8						
PETK	**Petropavlovsk-**	**72.09**	**33**	P	P	07 42 52.3	-0.5
	comp=Z,2.3nm,0.8s,baz=208,slow=5.7,SNR=4.2						
PEA1	**Petropavlovsk-**	**72.09**	**33**	*e*P	P	07 42 52.3	-0.5
SEY	**Seymchan**	**74.64**	**22**	P	P	07 43 07.4	-0.2
	comp=Z,1.1nm,0.8s,baz=323,slow=20,SNR=3.1						
TIXI	**Tiksi**	**74.67**	**9**	P	P	07 43 06.8	-0.8
	comp=Z,1.5nm,0.3s,baz=221,slow=3.7,SNR=3.6						
BOSA	**Boshof**	**75.80**	**241**	P	P	07 43 16.8	+1.6
	comp=Z,4.8nm,1.1s,baz=108,slow=6.4,SNR=3.5						
BOSA				LR	LR	08 09 15.6	
	comp=Z,30nm,19.8s,baz=209,slow=30						
AKASG	**Malin Array Be**	**78.13**	**322**	P	P	07 43 26.4	-1.1
	comp=Z,0.2nm,0.4s,baz=96,slow=4.2,SNR=5.4						
BUR04	**Bucovina Ar. S**	**79.93**	**319**	*e*P	P	07 43 39.2	+1.5
BUR08	**Bucovina Ar. S**	**79.95**	**319**	*e*P	P	07 43 39.0	+1.2
	comp=Z,3.7nm,1.1s						
FIA0	**FINESS Array S**	**82.72**	**332**	*e*P	P	07 43 52.7	+0.8
FINES	**FINESS Array B**	**82.72**	**332**	P	P	07 43 52.7	+0.8
	comp=Z,1.0nm,0.4s,baz=91,slow=7.0,SNR=9.2						
ARA0	**ARCESS Array S**	**85.08**	**340**	*e*P	P	07 44 04.8	+1.0
ARCES	**ARCESS Array B**	**85.08**	**340**	P	P	07 44 04.8	+1.0
	comp=Z,1.4nm,0.5s,baz=99,slow=5.8,SNR=14						
LTX	**Lajitas**	**143.99**	**36**	*e*PKPdf	PKPbc	07 51 03.4	+1.0
TXAR	**Lajitas Array**	**143.99**	**36**	PKP	PKPbc	07 51 03.4	+1.0
	comp=Z,1.1nm,0.6s,baz=243,slow=0.9,SNR=7.1						
CPUP	**Villa Florida**	**145.01**	**218**	PKPbc	**PKPdf**	07 51 07.4	+1.3
	comp=Z,2.1nm,0.9s,baz=158,slow=4.5,SNR=9.3						

MEX 30 07:35:29.5±0.6, 16°.26N×98°.00W, h10km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.18**	**316**	*e*P	Pg	07 35 32.7	-0.7
PNIG				*i* S	Sg	07 35 35.8	-0.3
CMIG	**Matias Romero**	**3.09**	**74**	*i* P	Pn	07 36 15.3	-3.1
CMIG				*i* S	Sn	07 36 51.9	-3.6

*ISCJB **30** 07:37:52.9±0.7, 35°.93N±0°.06×27°.99E±0°.05, h74km±8km, Error ellipse: s-maj=10.3km s-min=5.1km az=148.3*
*ATH **30** 07:37:52.6,

JNAR	**Kushima--Naru**	**1.44**	**360**	P	**Pb**	**07 41 03.8**	**+0.1**
JNAR				S	**Sb**	**07 41 22.5**	**+0.9**
JTAJ	**Takarajima**	**2.03**	**243**	P	**Pn**	**07 41 11.4**	**+1.5**
JAM	**Amami Oshima**	**2.22**	**222**	P	**Pn**	**07 41 12.8**	**+0.3**
JAM				*eS*	**Sn**	**07 41 38.3**	**-0.6**
JAMN	**Amaminishikomi**	**2.60**	**226**	P	**Pn**	**07 41 18.0**	**+0.3**
JAMN				*eS*	**Sn**	**07 41 48.7**	**+0.4**
JNU	**Nakatsue**	**3.05**	**354**	Pn	**Pn**	**07 41 22.9**	**-1.0**
	2.1nm,0.3s,baz=336,slow=5.2,SNR=9.1						
JNU				Sn	**Sn**	**07 41 59.9**	**+0.3**
	1.0nm,0.3s,baz=208,slow=7.5,SNR=4.5						
JTK	**Tokunoshima**	**3.07**	**222**	P	**Pn**	**07 41 24.6**	**+0.4**
JTK				*eS*	**Sn**	**07 42 00.0**	**+0.1**
JOKE	**Okinoerabujima**	**3.61**	**222**	P	**Pn**	**07 41 32.9**	**+1.3**
JOKE				*eS*	**Sn**	**07 42 14.0**	**+0.7**
SONM	**Songino Array**	**26.06**	**320**	P	**P**	**07 46 07.3**	**-1.4**
	0.3nm,0.4s,baz=132,slow=10,SNR=4.7						
MKAR	**Makanchi Array**	**41.13**	**308**	P	**P**	**07 48 19.2**	**-0.1**
	0.2nm,0.5s,baz=88,slow=9.1,SNR=4.0						
FINES	**FINESS Array B**	**70.84**	**331**	P	**P**	**07 51 51.5**	**0.0**
	2.9nm,1.0s,baz=129,slow=2.0,SNR=3.6						

*ISCJB **30** 07:47:44.7±1.9, 11°.5N±0°.2×41°.0E±0°.1, h10km, Error ellipse: s-maj=31.0km s-min=6.8km az=146.5*
*ARO **30** 07:47:46.1, 11°.N±40°×4°.1E±1°.2, h15km±99km, Ml3.7*
ISC 30 07:47:40.9±2.1, 11°.5N±0°.2×40°.9E±0°.1, h10km, n12, σ1s08/15, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAOD	**Malaho**	**1.46**	**64**	*eP*	**Pg**	**07 48 10.2**	**+1.3**
KSDD	**Koussour**	**1.53**	**87**	*eP*	**Pb**	**07 48 10.2**	**+0.8**
GBR	**Grand-Bara**	**1.58**	**101**	*eP*	**Pb**	**07 48 10.2**	**-0.1**
LDLD	**Lac de Lave**	**1.59**	**85**	*eP*	**Pg**	**07 48 11.8**	**+0.4**
SGH	**Sud-Ghoubbet**	**1.71**	**91**	*eP*	**Pb**	**07 48 13.1**	**+0.6**
ATD	**Arta Tunnel**	**1.93**	**88**	*eP*	**Pb**	**07 48 16.1**	**0.0**
ATD	**Arta Tunnel**	**1.93**	**88**	*eP*	**Pb**	**07 48 16.1**	**0.0**
ATD				*eS*	**Sb**	**07 48 40.9**	**+0.6**
TDD	**Tadjoura Ara**	**2.01**	**80**	*eP*	**Pb**	**07 48 17.9**	**+0.4**
ANKE	**Ethiopia-Afar**	**2.17**	**211**	*i* P	**Pg**	**07 48 22.7**	**+0.1**
ANKE				*i* S	**Sg**	**07 48 52.2**	**+1.3**
ANKE	**Ethiopia-Afar**	**2.17**	**211**	*i* P	**Pg**	**07 48 22.7**	**+0.1**
ANKE				*i* S	**Sg**	**07 48 52.2**	**+1.3**
ATA	**Atar**	**2.27**	**90**	*eP*	**Pb**	**07 48 22.2**	**+0.2**
MCAD	**Moucha**	**2.30**	**83**	*eP*	**Pn**	**07 48 16.2**	**-2.6**

*IGQ **30** 08:08:12.7±0.5, 0°.S±4°×8°.0W±°, h10km, MLv3.6*
ISC 30 08:08:04.6±2.2, 0°.33S±0°.06×80°.49W±0°.09, h14km±12km, n39, σ1s19/46, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILLI	**Illinizas Sur**	**1.80**	**102**	P	**Pb**	**08 08 38.9**	**+1.1**
ILLI				S	**Sn**	**08 08 58.6**	**-0.2**
PAST	**Pastocalle**	**1.89**	**101**	P	**Pb**	**08 08 40.3**	**+1.2**
TERV	**Terraza Guagua**	**1.89**	**85**	P	**Pg**	**08 08 42.6**	**+1.6**
GGPC	**Guagua Pichinc**	**1.90**	**85**	P	**Pg**	**08 08 41.3**	**+0.1**
GGPC				S	**Sg**	**08 09 04.4**	**-1.6**
YANA	**Yana**	**1.93**	**84**	P	**Pb**	**08 08 41.2**	**+1.3**
YANA				S	**Sb**	**08 09 03.8**	**-0.3**
PULU	**Pululahua**	**2.02**	**80**	P	**Pg**	**08 08 43.1**	**-0.4**
BNAS	**Cotopaxi Volca**	**2.04**	**100**	P	**Pg**	**08 08 43.5**	**-0.3**
NAS2	**Nasa**	**2.05**	**99**	P	**Pg**	**08 08 43.9**	**-0.1**
BMOR	**Cotopaxi Volca**	**2.07**	**101**	P	**Pg**	**08 08 44.6**	**+0.1**
PITA	**Cotopaxi Volc**	**2.07**	**96**	P	**Pb**	**08 08 43.6**	**+1.4**
PITA				S	**Sb**	**08 09 07.6**	**-0.5**
BREF	**Cotopaxi Volca**	**2.08**	**99**	P	**Pg**	**08 08 45.5**	**+0.9**
BVC2	**Cotopaxi Volca**	**2.10**	**99**	P	**Pg**	**08 08 44.8**	**-0.3**
VC1	**Cotopaxi 1**	**2.11**	**98**	P	**Pg**	**08 08 45.0**	**-0.2**
VC1				S	**Sb**	**08 09 09.1**	**-0.2**
OTAV	**Otavalo**	**2.12**	**75**	*eP*	**Pb**	**08 08 44.0**	**+1.0**
OTAV				*eS*	**Sn**	**08 09 06.3**	**-0.1**
OTAV	**Otavalo**	**2.12**	**75**	*eP*	**Pb**	**08 08 44.0**	**+1.0**
OTAV				*eS*	**Sn**	**08 09 06.3**	**-0.1**
BTAM	**Cotopaxi Volca**	**2.12**	**99**	P	**Pg**	**08 08 45.2**	**-0.3**
MILO	**Milagro-Astudi**	**2.15**	**154**	P	**Pb**	**08 08 42.9**	**-0.5**
MILO				S	**Sn**	**08 09 06.0**	**-0.5**
COV1	**Cotopaxi Volc**	**2.17**	**99**	P	**Pb**	**08 08 44.7**	**+0.6**
CUSE	**Cuicocha Este**	**2.19**	**73**	P	**Pb**	**08 08 45.7**	**+1.4**
CUIC	**Cuicocha-Domo**	**2.22**	**74**	P	**Pb**	**08 08 45.9**	**+1.1**
CUIC				S	**Sb**	**08 09 12.6**	**+0.3**
CUSW	**Cuicocha Oeste**	**2.23**	**74**	P	**Pb**	**08 08 46.2**	**+1.3**
PISA	**Pisayambo**	**2.23**	**109**	P	**Pg**	**08 08 46.6**	**-0.9**
BIL2	**Estacion Bilba**	**2.28**	**119**	P	**Pg**	**08 08 48.3**	**-0.2**
BBIL	**Ulba Tungurahu**	**2.29**	**119**	P	**Pg**	**08 08 51.2**	**+2.5**
MORR	**Playas El Morr**	**2.30**	**176**	P	**Pg**	**08 08 49.9**	**+1.1**
BMAS	**Trigal station**	**2.33**	**120**	P	**Pg**	**08 08 48.3**	**-0.9**
RUN5	**Runtun**	**2.33**	**118**	P	**Pb**	**08 08 48.1**	**+1.4**
ARRY	**Arrayan**	**2.35**	**120**	P	**Pb**	**08 08 48.6**	**+1.7**
BULB	**Ulba Tungurahu**	**2.35**	**118**	P	**Pb**	**08 08 47.7**	**+0.7**
URCU	**Urcuqui**	**2.36**	**71**	P	**Pb**	**08 08 48.7**	**+1.4**
IMBA	**Imbabura, San**	**2.37**	**75**	P	**Pg**	**08 08 50.3**	**+0.1**
COHC	**Cochancay**	**2.46**	**150**	P	**Pb**	**08 08 48.0**	**-0.6**
YAHU	**Yahuarcocha**	**2.52**	**74**	P	**Pb**	**08 08 51.7**	**+1.8**
CMBC	**Cumbal**	**2.95**	**65**	*eP*	**Pb**	**08 08 59.5**	**+2.3**
CMBC	**Cumbal**	**2.95**	**65**	*eP*	**Pb**	**08 08 59.5**	**+2.3**
SOTA	**Rioblanco**	**4.59**	**58**	*eP*	**Pb**	**08 09 23.2**	**-2.1**
SOTA	**Rioblanco**	**4.59**	**58**	*eP*	**Pb**	**08 09 23.2**	**-2.1**
POPC	**Popayan, Colom**	**4.76**	**53**	*eP*	Pb	08 09 24.1	-4.0
POPC	**Popayan, Colom**	**4.76**	**53**	*eP*	Pb	08 09 24.1	-4.0

SJA 30 08:25:51.8±0.6, 31°.63S×68°.96W, h104km±3km, ML3.2, MW4.1, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.33**	**240**	*i* P	Pn	08 26 08.6	+1.3
RTLS				IAML		08 26 09.0	
	comp=Z,539nm,0.3s						
RTLS				*i* S	Sn	08 26 20.9	+1.9
SJA	**San Juan**	**0.36**	**73**	*i* P	Pn	08 26 07.7	+0.6
SJA				IAML		08 26 08.2	
	comp=Z,406nm,0.2s						
RTCV	**Cerro Valdivia**	**0.42**	**123**	*i* P	Pn	08 26 08.2	+0.6
RTCV				*i* S	Sn	08 26 20.3	+0.9
RTLL	**Cerro Villicun**	**0.51**	**54**	*i* P	Pn	08 26 08.8	+0.6
RTLL				*i* S	Sn	08 26 21.4	+0.9
AUSP	**Uspallata**	**0.69**	**212**	*i* P	Pn	08 26 10.9	+1.0
AUSP				*i* S	Sn	08 26 24.9	+1.6
AMOG	**MOGNA**	**0.80**	**30**	*i* P	Sn	08 26 11.7	+1.1
AMOG				*i* S	Sn	08 26 25.7	+1.0
ASAL	**Salagasta**	**0.96**	**174**	*i* P	Pn	08 26 13.0	+0.8
ASAL				*i* S	Sn	08 26 29.1	+1.6
ARCO	**CERRO ARCO**	**1.20**	**179**	*i* P	Pn	08 26 15.8	+0.8
ARCO				*i* S	Sn	08 26 33.9	+1.5
ARCO				IAML		08 26 35.8	
	comp=Z,324nm,0.6s						
AAGR	**Agrelo**	**1.45**	**176**	*i* P	Pn	08 26 18.4	+0.7
AAGR				*i* S	Sn	08 26 39.3	+1.8
AGUA	**GUANDACOL**	**2.18**	**11**	*i* P	Pn	08 26 28.3	+1.3
APLL	**PUNTA DE LOS L**	**2.42**	**60**	IAML		08 27 00.6	
	comp=Z,266nm,0.2s						
MRA	**San Martin**	**2.86**	**107**	IAML		08 27 14.6	
	comp=Z,45nm,0.5s						

*NNC **30** 08:26:34.9±1.8, 53°.49N×87°.65E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=15.4km s-min=6.5km az=60.0, Suspected Mining explosion.*
KRAR 30 08:26:32.7±0.2, 53°.57N×87°.61E, M2.5, 7C-5D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.70**	**284**	⇑Pn	Pg	08 27 05.9	+0.6
	9.5nm,0.5s						
ZAA0				⇑Sn	Sg	08 27 30.5	+3.3
	44nm,0.8s						
KURK	**Kurchatov**	**6.23**	**246**	⇑Pn	Pn	08 28 08.8	+3.0
	2.5nm,0.8s						
KURK				⇑Lg	Lg	08 29 50.5	
	8.0nm,0.8s						
KURBB	**Kurchatov Arra**	**6.33**	**246**	⇓Pn	Pn	08 28 08.3	+1.2
	2.9nm,0.5s						
KURBB				⇓Lg	Lg	08 29 54.0	
	15nm,0.7s						
MK31	**Makanchi Array**	**7.59**	**209**	⇑Pn	Pn	08 28 27.4	+2.8
	0.9nm,0.5s,baz=27,slow=12,SNR=52						
MK31				⇓Sn	Sn	08 29 52.3	+1.1
	1.0nm,0.7s,baz=32,slow=26,SNR=3.3						
MK31				⇑Lg	Lg	08 30 33.9	
	3.0nm,0.8s,baz=31,slow=31,SNR=6.0						
MAKZ	**Makanchi**	**7.67**	**210**	⇓Pn	Pn	08 28 29.0	+3.3
	1.3nm,0.5s						
MAKZ				⇑Sn	Sn	08 29 55.2	+2.0
	1.8nm,0.8s						
MAKZ				⇓Lg	Lg	08 30 35.3	
	2.5nm,0.8s						

ISC 30 08:59:44.9±1.2, 48°.39N±0°.04×17°.21E±0°.04, h5km±8km, n7, σ0s73/13, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MODS	**Modra-Piesok**	**0.05**	**113**	*e*PG	**Pg**	**08 59 46.0**	**-0.3**
MODS				*e*SG	**Sg**	**08 59 47.6**	**+0.3**
MODS				*e*LG	Lg	08 59 49.2	
SMOL	**Smolenice**	**0.19**	**51**	*e*PG	**Pg**	**08 59 47.7**	**-1.0**
SMOL				*e*SG	**Sg**	**08 59 51.4**	**+0.2**
ZST	**Bratislava**	**0.21**	**199**	*e*PG	**Pg**	**08 59 48.0**	**-1.0**
ZST				*e*SG	**Sg**	**08 59 53.2**	**+1.4**
JAVC	**Velka Javorina**	**0.56**	**33**	*e*PG	**Pg**	**08 59 55.8**	**+0.2**
JAVC				*e*SG	**Sb**	**09 00 05.2**	**-0.3**
KRUC	**Moravsky**	**0.86**	**322**	*e*PG	**Pg**	**09 00 01.0**	**-0.3**
KRUC				*e*SG	**Sb**	**09 00 14.3**	**+0.3**
VRAC	**Vranov**	**1.00**	**336**	*e*PG	**Pg**	**09 00 03.9**	**-0.2**
VYHS	**Vyhne**	**1.09**	**84**	*e*PG	**Pg**	**09 00 06.1**	**+0.3**
VYHS				*e*SG	**Sn**	**09 00 21.9**	**-0.3**
VYHS				*e*LG	Lg	09 00 25.7	

*ISCJB **30** 09:00:28.5±0.5, 38°.75N±0°.03×57°.14E±0°.07, h10km, Error ellipse: s-maj=7.8km s-min=4.9km az=177.8*
*NNC **30** 09:00:29.6±2.2, 38°.72N×57°.29E, h0km, mb3.6, mpv3.6, Error ellipse: s-maj=44.8km s-min=7.4km az=62.0*
*TEH **30** 09:00:31.9, 38°.44N×57°.05E, h10km, ML3.3*
*THR **30** 09:00:33.2, 38°.40N×56°.93E, h14km, ML3.0*
ISC 30 09:00:30.2±0.9, 38°.57N±0°.05×57°.08E±0°.04, h10km, n23, σ2s23/24, 2C-4D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJRD	**Bojnurd**	**0.91**	**163**	*e*Pg	**Pb**	**09 00 48.3**	**+0.3**
BJRD	**Bojnurd**	**0.91**	**163**	Pg	**Pb**	**09 00 48.3**	**+0.3**
GYA0B	**ALIBECK ARRAY**	**1.04**	**128**	⇓P	**Pg**	**09 00 49.2**	**-1.0**
	28nm,0.3s						
GYA0B				⇑S	**Sg**	**09 01 03.6**	**0.0**
	759nm,0.8s						
MRVT	**Maraveh tapeh**	**1.20**	**221**	*e*Pg	**Pg**	**09 00 51.7**	**-1.4**
MRVT	**Maraveh tapeh**	**1.20**	**221**	AML	AML	09 01 09.1	
	comp=N,390nm,0.5s						
MRVT	**Maraveh tapeh**	**1.20**	**221**	Pg	**Pg**	**09 00 51.7**	**-1.4**
MRVT				Sg	**Sg**	**09 01 05.5**	**-3.2**
IEMG	**Emamgholi**	**1.70**	**132**	*e*Pn	**Pn**	**09 01 00.5**	**+0.4**
IEMG				IAMB	IAmb	09 01 32.3	
	comp=Z,4μm,0.2s						
IKRD	**Kardeh**	**2.12**	**147**	*e*Pn	Pg	09 01 15.7	+4.8
IKRD				IAMB	IAmb	09 02 00.7	
	comp=Z,2μm,0.2s						
IPAY	**Payeh**	**2.61**	**144**	*e*Pn	**Pb**	**09 01 15.5**	**-1.6**
IPAY				IAMB	IAmb	09 01 56.3	
	comp=Z,1μm,0.5s						
SHRO	**Shahrood**	**2.71**	**199**	*e*Pn	**Pn**	**09 01 15.7**	**+1.8**
SHRO	**Shahrood**	**2.71**	**199**	Pn	**Pn**	**09 01 15.7**	**+1.8**
IMYA	**Miami**	**3.28**	**132**	*e*Pn	**Pn**	**09 01 25.0**	**+3.3**
ISHM	**Shahmirzad**	**4.09**	**229**	*e*Pn	**Pn**	**09 01 36.1**	**+3.1**
ISHM				IAMB	IAmb	09 02 45.0	
	comp=Z,434nm,0.4s						
IALA	**Alasht**	**4.21**	**235**	*e*Pn	**Pn**	**09 01 37.4**	**+2.7**
IALA				IAMB	IAmb	09 02 32.1	
	comp=Z,435nm,0.3s						
IFIR	**Firoozkooh**	**4.52**	**231**	*e*Pn	**Pn**	**09 01 41.7**	**+2.7**
TNSJ	**Nastanj**	**4.61**	**185**	*e*Pn	**Pn**	**09 01 41.8**	**+1.8**
TABS	**Tabas**	**4.91**	**180**	*e*Pn	**Pn**	**09 01 46.3**	**+2.2**
TABS	**Tabas**	**4.91**	**180**	Pn	**Pn**	**09 01 46.3**	**+2.2**
TKDS	**Koohdasht(Taba**	**4.95**	**180**	*e*Pn	**Pn**	**09 01 46.3**	**+1.7**
ANAR	**Anarak**	**6.02**	**208**	*e*Pn	**Pn**	**09 02 01.3**	**+2.0**
IRAM	**Ramesheh**	**7.76**	**211**	*e*Pn	**Pn**	**09 02 26.1**	**+2.7**
IRAM				IAMB	IAmb	09 02 48.5	
	comp=Z,47nm,0.3s						
AB31	**Akbulak array**	**10.88**	**10**	⇓Pn	Pn	09 03 03.7	-2.2
	comp=Z,0.3nm,0.3s,baz=200,slow=13,SNR=21						
AB31				⇓Sn	**Sn**	**09 05 04.8**	**-2.8**
	comp=Z,0.6nm,0.3s,baz=196,slow=24,SNR=12						
AKTO	**Aktyubinsk**	**11.88**	**3**	⇑Pn	**Pn**	**09 03 21.4**	**+1.8**
	comp=Z,4.0nm,0.8s						
AKTO				⇓Sn	**Sn**	**09 05 29.6**	**-2.5**
	comp=Z,2.4nm,0.6s						

MEX 30 09:05:44.6±0.5, 17°.89N×101°.78W, h25km±12km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.41**	**133**	*e*P	Pb	09 05 51.9	-1.5
ZIIG				*e*S	Sb	09 05 57.7	-1.6
ARIG	**Puente Sto Nin**	**1.42**	**74**	*e*P	Pn	09 06 06.3	-2.5
ARIG				*e*S	Sn	09 06 22.7	-4.0
CAIG	**El Cayaco**	**1.67**	**120**	*e*P	Pn	09 06 09.9	-2.3
CAIG				*e*S	Sn	09 06 28.8	-4.0
MEIG	**Mezcala**	**2.06**	**89**	*e*P	Pn	09 06 15.8	-1.8
MEIG				*e*S	Sn	09 06 40.3	-2.3
PLIG	**Platanillo**	**2.22**	**77**	*e*P	Pn	09 06 17.6	-2.4
PLIG				*e*S	Sn	09 06 44.4	-2.3

IDC 30 09:09:34.5±4.8, 11°.41S×165°.15E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/31, mbtmp3.3/3, Error ellipse: s-maj=245.7km s-min=33.2km az=139.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**30.81**	**250**	P	P	09 15 52.0	-0.3
	0.3nm,0.6s,baz=81,slow=8.9,SNR=3.8						
ASAR	**Alice Springs**	**32.11**	**243**	P	P	09 16 04.0	+0.3
	0.3nm,0.8s,baz=70,slow=9.0,SNR=5.9						
ILAR	**Eielson Array**	**84.04**	**19**	P	P	09 22 06.6	0.0
	0.2nm,0.5s,baz=231,slow=5.3,SNR=5.9						

TRN 30 09:14:10.4, 10°.19N×60°.63W, h53km, MD3.9, 1C, Trinidad

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBH	**Brigand Hill**	**0.52**	**304**	⇑*i* P	Pn	09 14 22.8	+0.6
TBH				*e*S	Sn	09 14 31.4	+0.7
TPP	**Pointe-a-Pierr**	**0.82**	**279**	*e*P	Pn	09 14 27.0	+1.1
TPP				*e*S	Sn	09 14 37.3	+0.2
TRN	**Trinidad (W)**	**0.89**	**301**	*e*P	Pn	09 14 26.5	-0.3
TRN				*e*S	Sn	09 14 38.3	-0.5
BOT	**Bacolet**	**0.98**	**355**	*e*P	Pn	09 14 28.2	+0.3
BOT				*e*S	Sn	09 14 40.6	-0.3
TPR	**Prospect**	**1.00**	**352**	*e*P	Pn	09 14 28.7	+0.4
TPR				*e*S	Sn	09 14 41.3	-0.2
GRHS	**Sauteurs**	**2.25**	**334**	*e*P	Pn	09 14 45.7	+0.4
GRHS				*e*S	Sn	09 15 11.6	-0.4
GRSS	**Sisters**	**2.31**	**335**	*e*P	Pn	09 14 45.8	-0.2
GRSS				*e*S	Sn	09 15 13.2	-0.1
FCV	**Fort Charlotte**	**3.01**	**349**	*e*P	Pn	09 14 55.4	-0.3
FCV				*e*S	Sn	09 15 30.1	-0.5
SVCV	**St. Vincent, C**	**3.11**	**351**	*e*P	Pn	09 14 56.9	-0.1
SVCV				*e*S	Sn	09 15 31.1	-1.9
BBSP	**Saint Philip**	**3.12**	**22**	*e*P	Pn	09 14 56.8	-0.3
BBSP				*e*S	Sn	09 15 32.0	-1.2
BBGH	**Gun Hill**	**3.12**	**20**	*e*P	Pn	09 14 58.1	+0.9
BBGH				*e*S	Sn	09 15 32.8	-0.4
SVB	**Belmont**	**3.12**	**349**	*e*P	Pn	09 14 56.8	-0.5
SVB				*e*S	Sn	09 15 31.5	-1.9
SVV	**Soufriere Volc**	**3.16**	**350**	*e*P	Pn	09 14 58.0	+0.2
SVV				*e*S	Sn	09 15 33.7	-0.6
SSV	**Crater Summit**	**3.17**	**350**	*e*P	Pn	09 14 57.7	-0.3
SSV				*e*S	Sn	09 15 33.3	-1.3
SFAN	**Fancy Village**	**3.22**	**351**	*e*P	Pn	09 14 59.4	+0.9
SFAN				*e*S	Sn	09 15 35.5	-0.2
SLDE	**Delcer**	**3.62**	**353**	*e*P	Pn	09 15 05.2	+1.2
SLDE				*e*S	Sn	09 15 44.9	-0.7
SLB	**Belfond**	**3.64**	**354**	*e*P	Pn	09 15 05.9	+1.5
SLB				*e*S	Sn	09 15 45.5	-0.6
SLPA	**Patience**	**3.65**	**356**	*e*P	Pn	09 15 05.5	+0.9
SLPA				*e*S	Sn	09 15 45.5	-0.9
SLW	**Petit Monier**	**3.82**	**356**	*e*P	Pn	09 15 07.6	+0.7

MAN 30 09:16:39.5, 17°.20N×122°.00E, h26km, mb4.0, ML2.8, MS2.4, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAUP	**Cauayan**	**0.31**	**213**	*e*P	Pn	09 16 48.5	+0.2
CAUP				*e*S	Sb	09 16 52.4	+0.8
PALP	**Palanan**	**0.43**	**109**	*e*P	Pb	09 16 49.2	+0.6
PALP				*e*S	Sn	09 16 59.0	+2.0
CVP	**Callao Caves**	**0.52**	**342**	*e*P	Pb	09 16 50.4	+0.3
CVP				*e*S	Sn	09 16 58.6	-0.7
APYP	**Conner**	**0.97**	**312**	*e*P	Pb	09 16 57.6	-0.1
APYP				*e*S	Sn	09 17 10.3	-0.1

*GCMT **30** 09:27:02.7±0.1, 32°.86N±0°.01×94°.86E±0°.01, h20km, MW5.2/109, Moment Tensor Solution. s75,c101; s109,c203; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr-0.77±.17; Mθθ-1.16±.15; Mφφ 1.93±.16; Mrθ-1.34±.31; Mθφ 8.85±.15; Mφr 0.81±.31; Best double couple: Mo9.13400×10^16 NP1:φs85.00000°, δ83.00000°, λ-9.00000°. NP2:φs176.00000°, δ81.00000°, λ-173.00000°. Principal axes: T 9.3750, Plg1.0000°, Azm130.0000°; N -0.4840, Plg79.0000°, Azm227.0000°; P -8.8940, Plg11.0000°, Azm40.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **30** 09:27:02.9, 32°.95N×94°.75E, h20km, mb5.0/66, mB5.2/42, ML5.4/1, Ms5.2/91, Ms7 5.2/84*
*IDC **30** 09:27:03.5±3.6, 32°.87N×94°.73E, h23km±23km, mb4.7/34, mb1 4.8/38, mb1mx4.8/44, mbtmp4.9/38, ML4.0/5, MS4.6/28, Ms1 4.6/28, ms1mx4.6/31, Error ellipse: s-maj=11.7km s-min=9.3km az=29.0*
*NEIC **30** 09:27:03.7±1.0, 32°.92N×94°.68E, h22km±7km, mb5.2/120, Error ellipse: s-maj=3.7km s-min=2.9km az=224.0*
*ISCJB **30** 09:27:03.4±0.1, 32°.90N±0°.02×94°.64E±0°.02, h31km, mb5.1/226, MS4.8/56, Error ellipse: s-maj=2.5km s-min=2.0km az=27.9*
*MOS **30** 09:27:03.1±1.1, 32°.90N×94°.72E, h33km, mb5.3/90, MS4.7/41, Error ellipse: s-maj=5.6km s-min=3.2km az=120.8*
*NDI **30** 09:27:04.9±3.0, 32°.75N×94°.41E, h20km, mb5.2, mb5.2(NEIC)*
ISC 30 09:27:05.0±0.4, 32°.91N±0°.03×94°.68E±0°.03, h28km±2km, h28km:pP-P, n659, σ1s74/723, mb5.2/231, MS4.8/56, 28C-59D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**4.40**	**224**	Pn	**Pn**	**09 28 13.3**	**+3.0**
LSA				Sg	**Sb**	**09 29 22.5**	**+7.9**
LSA				LR	LR		
	comp=N,10μm,6.4s						
LSA				LR	LR		
	comp=E,14μm,6.7s						
LSA				LR	LR		
	comp=Z,48μm,7.1s						
LSA	**Lhasa**	**4.40**	**224**	*e*Pn	**Pn**	**09 28 13.4**	**+3.0**
LSA	**Lhasa**	**4.40**	**224**	*e*P	**Pn**	**09 28 13.4**	**+3.0**
GTA	**Gaotai**	**7.70**	**31**	Pn	**Pn**	**09 28 56.0**	**+0.6**
GTA				Sn	**Sn**	**09 30 21.0**	**-0.7**
GTA				LR	LR		
	comp=N,13μm,10.0s						
GTA				LR	LR		
	comp=E,13μm,14.8s						
GTA				LR	LR		
	comp=Z,16μm,10.0s						
SHL	**Shillong**	**7.71**	**199**	*e*Pn	**Pn**	**09 28 54.7**	**-0.9**
SHL				*e*Sn	**Sn**	**09 30 18.2**	**-4.0**
SHL	**Shillong**	**7.71**	**199**	*e*P	**Pn**	**09 28 54.7**	**-0.9**
SHL				*e*		09 30 18.2	
SHL	**Shillong**	**7.71**	**199**	*e*P	**Pn**	**09 28 54.1**	**-1.5**
SHL				IAmb	IAmb	09 28 55.4	
	comp=Z,50nm,0.6s						
SHL				*ex*	**Sn**	**09 30 19.0**	**-3.2**
CD2	**Chengdu**	**7.97**	**102**	P	**Pn**	**09 29 00.5**	**+1.5**
CD2				S	**Sn**	**09 30 30.5**	**+2.2**
CD2				pmax	pmax		
	comp=Z,150nm,0.7s						
CD2				pmax	pmax		
	comp=Z,370nm,3.6s						
CD2				LR	LR		
	comp=Z,28μm,8.0s						
CD2				LR	LR		
	comp=Z,28μm,9.5s						
TAPN	**Taplejung**	**8.19**	**229**	*e*P	**Pn**	**09 29 01.8**	**-0.5**
	comp=Z,161nm,0.4s						
LZH	**Lanzhou**	**8.20**	**65**	*e*P	**Pn**	**09 29 02.5**	**+0.2**
LZH				pP	Pb	09 29 08.5	-18
LZH				sP		09 29 11.5	
LZH				S	**Sn**	**09 30 41.0**	**+6.9**
LZH				sS	Sb	09 30 49.8	-14
LZH				pm

comp=Z,8µm,9.0s
XAN LR LR
comp=Z,8µm,10.4s
XAN Xi'an 11.95 81 *e*Pn **Pn 09 29 52.1 -1.4**
XAN Xi'an 11.95 81 *e*P **Pn 09 29 52.1 -1.4**
WMQ Urumqi 12.19 335 *e*P **Pn 09 29 59.3 +2.5**
WMQ pmax pmax
comp=Z,270nm,0.9s
WMQ pmax pmax
comp=Z,510nm,3.8s
WMQ LR LR
comp=Z,19µm,8.5s
WMQ LR LR
comp=Z,24µm,11.9s
WMQ LR LR
comp=Z,5µm,18.5s
WMQ Urumqi 12.19 335 *e*Pn **Pn 09 29 55.9 -0.9**
WMQ Urumqi 12.19 335 *e*P **Pn 09 29 55.9 -0.9**
GYA Guiyang 12.24 119⇓*i*P **Pn 09 29 55.0 -2.6**
GYA sP P 09 30 10.0 +0.3
GYA S **Sn 09 32 08.8 -4.3**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,240nm,3.7s
GYA LR LR
comp=Z,8µm,14.2s
GYA LR LR
comp=Z,6µm,15.7s
GYA LR LR
comp=Z,6µm,10.5s
ENH Enshi 12.90 98 *e*Pn **Pn 09 30 05.4 -1.1**
PAYA Payao 14.27 160 P **Pn 09 30 26.8 +1.5**
comp=Z,42nm,0.9s,comp=Z,320nm
DDI Dehra Dun 14.40 264 *e*P **Pn 09 30 25.4 -1.6**
DDI IAmb IAmb 09 30 31.6
comp=Z,120nm,0.6s
BTO Baotou 14.49 54 *e*P **Pn 09 30 27.5 -0.7**
CHTO Chiang Mai 14.55 164 *e*Pn **Pn 09 30 28.5 -0.6**
CHTO Chiang Mai 14.55 164 *e*P **Pn 09 30 28.5 -0.6**
CHTO Chiang Mai 14.55 164 P **Pn 09 30 31.3 +2.2**
SNR=12
CHTO Chiang Mai 14.55 164 P **Pn 09 30 31.5 +2.4**
CMMT Chiang Mai 14.55 164 P **Pn 09 30 31.4 +2.3**
comp=Z,24nm,0.8s
CM31 Chiang Mai Arr 14.89 164 *e*Pn **Pn 09 30 34.0 +0.3**
CM31 Chiang Mai Arr 14.89 164 P **P 09 30 36.9 -2.2**
SNR=14
CMAR Chiang Mai Arr 14.89 164 Pn **Pn 09 30 31.8 -1.9**
comp=Z,0.3nm,0.3s,baz=338,slow=12,SNR=51
CMAR PcP **PcP 09 35 42.5 -0.4**
comp=Z,0.4nm,0.3s,baz=296,slow=2.3,SNR=6.2
CMAR LR LR 09 37 06.7
comp=Z,1µm,19.3s,baz=345,slow=41
CM01 Chiang Mai Arr 14.93 164 *e*Pn **Pn 09 30 34.4 +0.2**
SMLA Simla 14.96 268 *e*P **Pn 09 30 31.9 -2.7**
SMLA IAmb IAmb 09 30 35.1
comp=Z,60nm,0.8s
TIY Taiyuan 15.26 67 *e*P **P 09 30 44.0 +0.8**
TIY PP **sP 09 30 57.8 +1.6**
TIY S **S 09 33 35.5 -7.4**
TIY SS **SnSn 09 33 48.0 +8.5**
TIY pmax pmax
comp=Z,110nm,0.9s
TIY LR LR
comp=N,3µm,6.2s
TIY LR LR
comp=E,4µm,6.0s
TIY LR LR
comp=Z,5µm,7.2s
DHRM DHARAMSHALA 15.51 273 *e*P **Pn 09 30 40.8 -1.2**
DHRM IAmb IAmb 09 30 50.4
comp=Z,185nm,0.6s
NDI New Delhi 15.58 259 *e*P **Pn 09 30 40.0 -2.7**
HHC Hu-ho-hao-te 15.65 55 *e*P **Pn 09 30 44.0 +0.4**
HHC PP **pP 09 30 56.8 +0.6**
HHC S **Sn 09 33 35.8 -0.3**
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,400nm,6.3s
HHC LR LR
comp=Z,7µm,13.8s
HHC LR LR
comp=Z,10µm,9.5s
HHC LR LR
comp=Z,8µm,10.4s
UZB Uzynbulak 15.99 314*ce*P **Pn 09 30 45.1 -3.0**
UZB pmax pmax
comp=Z,220nm,1.4s
UZB MLR MLR
comp=Z,2µm,13.0s
UZB Uzynbulak 15.99 314⇑*e*P **Pn 09 30 45.2 -3.0**
comp=Z,220nm,1.4s
UZB *e*LRM MLR 09 37 57.8
comp=Z,2µm,13.4s
SUKH Sukhothai 16.00 163 P **P 09 30 49.4 -1.9**
comp=Z,14nm,0.9s
UTTA Uttaradit 16.00 159 P **Pn 09 30 48.3 +0.2**
comp=Z,43nm,1.1s,comp=Z,381nm
TARG Taragay, Kyrgy 16.03 308 *e*Pn **Pn 09 30 48.5 -0.4**
comp=Z,123nm,0.7s
JBP Jabalpur 16.19 237 *e*P **Pn 09 30 49.7 -0.8**
SATY Saty 16.32 313 *e*P **Pn 09 30 49.9 -2.3**
SATY pmax pmax
comp=Z,151nm,1.3s
SATY MLR MLR
comp=Z,2µm,14.0s
SATY Saty 16.32 313 *e*P **Pn 09 30 49.9 -2.3**
comp=Z,150nm,1.3s
SATY *e*LRM MLR 09 38 17.0
comp=Z,2µm,14.4s
KPKS Kokpek 16.38 315*d i*P **Pn 09 30 51.6 -1.3**
KPKS pmax pmax
comp=Z,496nm,1.0s
KPKS MLR MLR
comp=Z,5µm,16.0s
KPKS Kokpek 16.38 315⇓*i*P **Pn 09 30 51.6 -1.3**
comp=Z,496nm,1.0s
KPKS *e*LRM MLR 09 38 15.1
comp=Z,5µm,16.3s
KSH Kashi 16.46 299 P **P 09 30 55.5 -1.0**
KSH pP pP 09 31 01.3 -4.1
KSH sP sP 09 31 08.5 -1.1
KSH S **Sn 09 33 55.5 -0.4**
KSH sS S 09 34 07.0 -0.4
KSH PcP **PcP 09 35 44.3 -0.7**
KSH PcS **PcS 09 39 16.5 -4.4**
KSH ScP **ScP 09 39 17.5 -0.2**
KSH pmax pmax
comp=Z,78nm,1.2s
KSH pmax pmax
comp=Z,1µm,4.7s
KSH LR LR
comp=Z,3µm,6.8s
KSH LR LR
comp=Z,1µm,7.7s
KSH LR LR
comp=Z,5µm,9.8s
NONG Nongkai 16.63 151 P **Pn 09 30 55.8 -0.3**
comp=Z,2.5nm,0.9s,comp=Z,81nm
MK01 Makanchi Array 16.76 329 *e*Pn **Pn 09 30 56.3 -1.4**
MK31 Makanchi Array 16.79 329 *e*Pn **Pn 09 30 56.8 -1.2**
MK31 Makanchi Array 16.79 329 P **Pn 09 30 55.4 -2.6**
MK31 pmax pmax
comp=Z,110nm,1.0s
MKAR Makanchi Array 16.79 329 Pn **Pn 09 30 56.5 -1.5**
comp=Z,1.5nm,0.3s,baz=135,slow=13,SNR=67
MKAR PcP **PcP 09 35 44.5 -0.7**
comp=Z,0.1nm,0.3s,baz=145,slow=5.1,SNR=5.5
MKAR LR LR 09 37 58.2
comp=Z,2µm,19.8s,baz=142,slow=39
MKAR Makanchi Array 16.79 329 *e*Pn **Pn 09 30 56.6 -1.4**
comp=Z,392nm,0.9s
MKAR PcP **PcP 09 35 44.5 -0.7**
MKAR Makanchi Array 16.79 329 *e*P **Pn 09 30 56.6 -1.4**
MKAR pmax pmax
comp=Z,392nm,0.9s
WHN Wuhan 16.90 93 P **Pn 09 30 55.3 -4.2**
WHN S **Sn 09 34 00.5 -6.0**
WHN LR LR
comp=Z,30µm,12.0s
WHN LR LR
comp=Z,26µm,14.5s
WHN LR LR
comp=Z,13µm,8.8s
MAKZ Makanchi 16.93 329 *e*Pn **Pn 09 30 57.4 -2.4**
comp=Z,110nm,1.3s
MAKZ Makanchi 16.93 329 *e*P **Pn 09 30 57.4 -2.4**
MAKZ pmax pmax
comp=Z,110nm,1.3s
UMPA Umpang Tak 17.06 166 P **P 09 31 05.0 +1.9**
comp=Z,37nm,1.1s,comp=Z,1µm
MDOK Medeo 17.22 312 *e*P **Pn 09 31 03.2 -0.4**
MDOK *e*S **Sn 09 34 12.0 -2.3**
MDOK pmax pmax
comp=Z,2µm,1.5s
MDOK MLR MLR
comp=Z,2µm,16.0s
MDOK Medeo 17.22 312 *e*P **Pn 09 31 03.3 -0.4**
comp=Z,2µm,1.5s
MDOK ⇓*e*S **Sn 09 34 12.0 -2.3**
comp=Z,716nm,6.3s
MDOK *e*LRM MLR 09 38 18.6
comp=Z,2µm,15.9s
PBKT Sadao Pong 17.23 159 *e*Pn **Pn 09 31 03.5 -0.2**
comp=Z,81nm,0.9s
PBKT Sadao Pong 17.23 159 P **P 09 31 05.2 +0.1**
comp=Z,108nm,1.7s
ULHL Ulahol 17.30 308 P **P 09 31 08.3 +2.4**
SNR=102
AAA Alma-Ata 17.33 312 *e*P **P 09 31 06.4 +0.3**
AAA pmax pmax
comp=Z,2µm,1.1s
AAA MLR MLR
comp=Z,704nm,15.0s
AAA Alma-Ata 17.33 312 *e*P **P 09 31 06.4 +0.3**
comp=Z,2µm,1.1s
AAA *e*S **S 09 34 27.6 +2.6**
comp=Z,2µm,5.2s
AAA *e*LRM MLR 09 38 24.4
comp=Z,704nm,14.6s
SONM Songino Array 17.34 27 P **Pn 09 31 03.4 -1.7**
comp=Z,0.6nm,0.3s,baz=214,slow=14,SNR=42
SONM LR LR 09 38 10.3
comp=Z,3µm,20.7s,baz=212,slow=38
SONA1 Songino Array 17.36 27 *e*Pn **Pn 09 31 03.8 -1.5**
TDK Taldyqorghan 17.45 318*d i*P **Pn 09 31 04.8 -1.5**
TDK pmax pmax
comp=Z,1µm,0.9s
TDK MLR MLR
comp=Z,2µm,15.0s
TDK Taldyqorghan 17.45 318⇓*i*P **Pn 09 31 04.9 -1.5**
comp=Z,1µm,0.9s
TDK *e*LRM MLR 09 38 31.6
comp=Z,2µm,15.0s
MTBS Maitube 17.60 311 *e*P **P 09 31 09.1 +0.1**
MTBS pmax pmax
comp=Z,2µm,1.3s
MTBS Maitube 17.60 311 *e*P **P 09 31 09.1 +0.1**
comp=Z,2µm,1.3s
CHKK Chushkaly 17.62 313*d i*P **Pn 09 31 07.1 -1.3**
CHKK pmax pmax
comp=Z,366nm,1.0s
CHKK Chushkaly 17.62 313⇓*i*P **Pn 09 31 07.1 -1.3**
comp=Z,366nm,1.0s
DGZ Jazzator, Alta 17.62 344*ce*P **Pn 09 31 07.6 -0.9**
ULN Ulaanbaatar 17.63 28 *e*Pn **Pn 09 31 07.0 -1.7**
comp=Z,84nm,0.9s
ULN Ulaanbaatar 17.63 28⇓*e*P **Pn 09 31 06.7 -1.9**
ULN pmax pmax
comp=Z,61nm,1.3s
ULN Ulaanbaatar 17.63 28 P **Pn 09 31 07.3 -1.3**
SNR=55
KNGR Kungurtug, Tuv 17.80 6⇑*e*P **Pn 09 31 11.2 +0.5**
UTHA Uthaitani 17.81 165 P **P 09 31 11.6 +0.2**
comp=Z,30nm,1.0s,comp=Z,232nm
KZA Kyzart 17.90 306 P **Pn 09 31 12.0 -0.3**
SNR=55
NIL Nilore 17.93 278 *e*Pn **Pn 09 31 10.8 -1.6**
comp=Z,204nm,1.1s
NIL Nilore 17.93 278 *e*P **Pn 09 31 10.8 -1.6**
NIL pmax pmax
comp=Z,204nm,1.1s
SKNT Sakolnakorn 17.95 150 P **P 09 31 12.6 -0.4**
comp=Z,81nm,0.9s,comp=Z,890nm
BHPL Bhopal 18.00 242 *e*P **Pn 09 31 09.1 -4.1**
TKM2 Tokmak 2 18.04 309 P **P 09 31 16.5 +2.5**
SNR=66
KUU Kurty 18.04 313*ce*P **Pn 09 31 12.2 -1.4**
KUU *e*S **S 09 34 38.7 -0.6**
KUU pmax pmax
comp=Z,719nm,1.0s
KUU MLR MLR
comp=Z,845nm,12.0s
KUU Kurty 18.04 313⇑*e*P **Pn 09 31 12.2 -1.4**
comp=Z,719nm,1.0s
KUU *e*S **S 09 34 38.8 -0.6**
comp=Z,511nm,6.0s
KUU *e*LRM MLR 09 39 19.2
comp=Z,845nm,11.9s
NGP Nagpur 18.17 234 *e*P **Pn 09 31 10.6 -4.7**
NGP *ex* x 09 34 27.9
CHAI Chaiyaphum 18.18 157 P **Pn 09 31 14.8 -0.6**
comp=Z,54nm,0.8s,comp=Z,426nm
KBK Karagaybulak 18.34 308 P **Pn 09 31 19.3 +1.8**
SNR=114
UCH Uchtor 18.46 306 P **Pn 09 31 21.1 +1.9**
SNR=96
ZAK Zakamensk 18.58 17 *e*P **P 09 31 19.1 -0.7**
ZAK pmax pmax
comp=Z,22nm,1.7s
CHMS Chumysh 18.62 308 P **Pn 09 31 21.3 +0.6**
SNR=43
AAK Ala-Archa 18.64 307 P **Pn 09 31 22.2 +1.2**
comp=Z,1.4nm,0.3s,baz=107,slow=8.6,SNR=51
AAK LR LR 09 40 03.7
comp=Z,3µm,18.3s,baz=101,slow=42
AAK Ala-Archa 18.64 307 P **Pn 09 31 22.8 +1.7**
SNR=44
AAK Ala-Archa 18.64 307 *e*P **P 09 31 20.6 0.0**
comp=Z,82nm,0.8s
AAK Ala-Archa 18.64 307*ce*P **Pn 09 31 22.1 +1.0**
AAK pmax pmax
comp=Z,84nm,0.8s
AAK Ala-Archa 18.64 307 P **Pn 09 31 21.8 +0.8**
SNR=49
AAK S S 09 35 02.6 +11
FRU Bishkek 18.64 308⇑*e*P **Pn 09 31 21.5 +0.6**
FRU pmax pmax
comp=Z,1µm,3.6s
FRU MLR MLR
comp=E,4µm,10.0s
BJT Baijiatuau 18.66 62 *e*P **Pn 09 31 22.4 +1.3**
comp=E,84nm,1.3s
BJT Baijiatuau 18.66 62 *e*P **Pn 09 31 22.4 +1.3**
BJT pmax pmax
comp=Z,84nm,1.3s
BJI Beijing 18.67 61⇓*i*P **P 09 31 20.5 -0.3**
BJI pmax pmax
comp=Z,43nm,1.7s
BJI LR LR
comp=Z,3µm,12.6s
BJI LR LR
comp=Z,2µm,19.4s
TIA Tai'an 18.77 74 P **P 09 31 21.8 -0.1**
TIA S **Sn 09 34 51.5 -0.2**
TIA pmax pmax
comp=Z,30nm,0.9s
TIA pmax pmax
comp=Z,170nm,4.0s
TIA LR LR
comp=Z,2µm,13.3s
TIA LR LR
comp=Z,2µm,16.1s
TIA LR LR
comp=Z,3µm,12.0s
USP Ospenovka 18.91 309 P **Pn 09 31 24.1 0.0**
SNR=42
SRDT SRDT 18.91 167 P **Pn 09 31 25.6 +1.3**
comp=Z,66nm,2.5s,comp=Z,2µm
AML Almayashu 18.98 305 P **Pn 09 31 27.7 +2.3**
SNR=50
EKS2 Erkin-Say 19.13 307 P **Pn 09 31 27.6 +0.6**
SNR=110
GZH Guangzhou 19.14 116 P **Pn 09 31 26.8 -0.2**
GZH pP **pP 09 31 36.3 +1.4**
GZH S **Sn 09 34 59.8 -1.0**
GZH LR LR
comp=Z,7µm,14.3s
MOY Mondy 19.30 12 *e*P **P 09 31 27.2 -0.6**
MOY pmax pmax
comp=Z,142nm,2.7s
QIZ Qiongzhong 19.38 132 P **P 09 31 29.0 +0.3**
QIZ sP **sP 09 31 41.5 -0.2**
QIZ S **S 09 35 05.5 -0.9**
QIZ pmax pmax
comp=Z,23nm,1.2s
QIZ LR LR
comp=Z,8µm,12.2s
QIZ LR LR
comp=Z,8µm,14.7s
QIZ LR LR
comp=Z,4µm,15.7s
QIZ Qiongzhong 19.38 132 *e*P **P 09 31 28.9 +0.1**
comp=Z,55nm,0.9s
TLY Talaya 19.87 17 P **P 09 31 33.2 -0.6**
comp=Z,0.0nm,0.3s,baz=249,slow=8.5,SNR=7.9
SRAK Srakaew 19.97 159 P **Pn 09 31 38.0 +1.0**
comp=Z,191nm,0.7s,comp=Z,2µm
BTLS Baital 20.04 313 *e*P **P 09 31 35.1 -0.6**
BTLS *e*S Sn 09 35 24.0 +1.9
BTLS pmax pmax
comp=Z,597nm,1.1s
BTLS MLR MLR
comp=Z,586nm,14.0s
BTLS Baital 20.04 313 *e*P **P 09 31 35.2 -0.6**
comp=Z,596nm,1.1s
BTLS *e*S Sn 09 35 24.1 +2.0
comp=Z,371nm,4.9s
BTLS *e*LRM MLR 09 40 17.1
comp=Z,586nm,14.4s
NJ2 Nanjing 20.41 86⇑P **P 09 31 38.8 -1.0**
NJ2 pP **pP 09 31 45.5 -3.2**
NJ2 sP **sP 09 31 53.3 +0.4**
NJ2 S Sn 09 35 30.0 -1.2
NJ2 pmax pmax
comp=Z,71nm,0.9s
NJ2 pmax pmax
comp=Z,230nm,3.7s
NJ2 LR LR
comp=Z,4µm,10.8s
NJ2 LR LR
comp=Z,9µm,12.5s
PHET Kaeng Krachan 20.42 166 P Pn 09 31 42.2 0.0
comp=Z,51nm,0.9s,comp=Z,461nm
SEM Semipalatinsk 20.48 333*d i*P **P 09 31 38.9 -1.7**
SEM *i* S **S 09 35 28.5 0.0**
SEM pmax pmax
comp=Z,453nm,0.9s
SEM MLR MLR
comp=Z,2µm,13.0s
SEM Semipalatinsk 20.48 333⇓*i*P **P 09 31 39.0 -1.7**
comp=Z,453nm,0.9s
SEM ⇑*i*S **S 09 35 28.5 0.0**
comp=Z,3µm,8.3s
SEM *e*LRM MLR 09 40 10.7
comp=Z,2µm,12.9s
IRK Irkutsk 20.54 17 *e*P **P 09 31 41.0 -0.1**
IRK pmax pmax
comp=Z,145nm,2.4s
PATY Pattaya 20.68 163 P Pn 09 31 46.2 +0.9
comp=Z,31nm,0.7s,comp=Z,3µm
DZA Taraz 20.89 305 *e*P **P 09 31 45.1 +0.1**
DZA pmax pmax
comp=Z,883nm,1.0s
DZA Taraz 20.89 305 *e*P **P 09 31 45.1 +0.1**
comp=Z,883nm,1.0s
HYB Hyderabad 21.19 227 *i* P **P 09 31 46.0 -2.4**
HYB *e*S **S 09 35 44.0 +1.2**
HYB Hyderabad 21.19 227 *e*P **P 09 31 46.3 -2.1**
HYB IAmb IAmb 09 31 51.3
comp=Z,85nm,1.0s
PBA Port Blair 21.23 185 *e*P P 09 31 48.0 -0.7
PBA IAmb IAmb 09 31 59.6
comp=Z,157nm,1.4s
KURBB Kurchatov Arra 21.33 331 P **P 09 31 48.7 -0.8**
comp=Z,208nm,0.8s,baz=137,slow=11,SNR=208
KURBB ScP **ScP 09 39 27.2 -0.9**
comp=Z,2.7nm,0.9s,baz=166,slow=2.5,SNR=4.8
KURK Kurchatov 21.36 331 *e*P **P 09 31 48.7 -1.3**
comp=Z,222nm,0.8s
KURK Kurchatov 21.36 331*ce*P **P 09 31 48.9 -1.1**
KURK pmax pmax
comp=Z,101nm,0.8s
KURK Kurchatov 21.36 331 P **P 09 31 48.8 -1.1**
SNR=29
KBL Kabul 21.37 281 *e*P **P 09 31 50.5 +0.1**
comp=Z,277nm,0.8s
KBL Kabul 21.37 281 *e*P **P 09 31 50.5 +0.1**
KBL pmax pmax
comp=Z,277nm,0.8s
KK31 Karatay Array 21.52 305 *e*P **P 09 31 52.3 +0.4**
KK31 Karatay Array 21.52 305 *i* P **P 09 31 52.2 +0.4**
KK31 pmax pmax
comp=Z,74nm,0.9s
KKAR Karatay Array 21.52 305 *e*P **P 09 31 52.1 +0.3**
KKAR Karatay Array 21.52 305 *e*P **P 09 31 52.1 +0.3**
IUG luzhnay 21.55 302*de*P **P 09 31 52.3 +0.1**
IUG pmax pmax
comp=Z,719nm,0.8s
IUG MLR MLR
comp=Z,783nm,14.0s
IUG luzhnay 21.55 302⇓*e*P **P 09 31 52.3 +0.1**
comp=Z,719nm,0.8s
IUG *e*LRM MLR 09 41 37.9
comp=Z,783nm,14.4s
CHM Chimkent 21.91 303 *e*P **P 09 31 56.5 +0.6**
CHM pmax pmax
comp=Z,512nm,0.5s
CHM MLR MLR
comp=Z,438nm,16.0s
CHM Chimkent 21.91 303 *e*P **P 09 31 56.6 +0.6**
comp=Z,512nm,0.5s
CHM *e*S Sn 09 36 02.5 -4.6
comp=Z,2µm,5.4s
CHM *e*LRM MLR 09 41 43.6
comp=Z,438nm,16.3s
ZAA0 Zalesovo Array 22.17 344 *e*P **P 09 31 57.3 -1.3**
comp=Z,53nm,0.9s
ZALV Zalesovo Beam 22.17 344 P **P 09 31 57.7 -0.9**
comp=Z,26nm,0.8s,baz=146,slow=11,SNR=29
ZALV LR LR 09 40 23.9
comp=Z,914nm,18.9s,baz=202,slow=36
ZALV Zalesovo Beam 22.17 344 *e*P **P 09 31 57.0 -1.7**
QZH Quanzhou 22.35 105⇑*i*P **P 09 32 01.5 +0.7**
QZH S **S 09 36 06.0 +1.0**
QZH LR LR
comp=Z,4µm,14.2s
QZH LR LR
comp=Z,5µm,10.0s
SSE Sheshan 22.54 87 P **P 09 32 04.0 +1.3**
SSE S **S 09 36 08.0 -0.2**
SSE pmax pmax
comp=Z,12nm,0.9s
SSE LR LR
comp=Z,2µm,9.0s
SSE Sheshan 22.54 87 *e*P **P 09 32 03.6 +0.8**
comp=Z,158nm,1.0s
DL2 Dalian 22.59 67 P **P 09 32 03.5 +0.3**
DL2 S **S 09 36 12.5 +3.4**
DL2 pmax pmax
comp=Z,150nm,0.8s
DL2 pmax pmax
comp=Z,280nm,4.0s
DL2 LR LR
comp=Z,5µm,14.8s
DL2 LR LR
comp=Z,2µm,17.9s
DL2 LR LR
comp=Z,4µm,15.3s
NVS Novosibirsk 23.36 343⇑*i*P **P 09 32 10.0 -1.0**
NVS *i* S **S 09 36 25.4 +3.4**
NVS pmax pmax
comp=Z,118nm,1.7s
NVS pmax pmax
comp=N,98nm,1.7s
NVS pmax pmax
comp=E,46nm,1.4s
NVS smax smax
comp=N,98nm,2.5s
NVS smax smax
comp=E,57nm,2.5s
POO Poona 23.54 238 *e*P **P 09 32 09.6 -3.5**
POO IAmb IAmb 09 32 12.4
comp=Z,31nm,1.1s
MDRS Chennai 23.75 217 *e*P **P 09 32 14.3 -0.7**
MDRS IAmb IAmb 09 32 22.6
comp=Z,111nm,1.6s

BHJ	**Bhuj**	**24.03**	**253**	*e*P	**P**	**09 32 17.1**	**-0.6**
BHJ				IAmb	IAmb	09 32 18.5	
comp=Z,118nm,1.4s							
SNY	**Shenyang**	**24.54**	**60**	⇓P	**P**	**09 32 24.0**	**+1.8**
SNY				S	**S**	**09 36 36.8**	**-4.3**
SNY				pmax	pmax		
comp=Z,64nm,1.6s							
SNY				pmax	pmax		
comp=Z,520nm,6.1s							
SNY				LR	LR		
comp=Z,1μm,8.6s							
SNY				LR	LR		
comp=Z,3μm,15.3s							
SNY				LR	LR		
comp=Z,5μm,12.0s							
YHNB	**Yeheng**	**24.75**	**102**	*e*P	**P**	**09 32 26.8**	**+2.4**
comp=Z,33nm,0.8s							
HIA	**Hailar**	**24.81**	**41**	*e*P	**P**	**09 32 24.6**	**0.0**
comp=Z,73nm,0.8s							
HIA	**Hailar**	**24.81**	**41**	*e*P	**P**	**09 32 24.6**	**0.0**
HIA				pmax	pmax		
comp=Z,73nm,0.8s							
PKDT	**Phuket**	**25.12**	**171**	P	**P**	**09 32 31.6**	**+4.0**
comp=Z,19nm,0.9s,comp=Z,2μm							
NACB	**Ninganchiao**	**25.14**	**103**	*e*P	**P**	**09 32 24.6**	**-3.2**
comp=Z,69nm,1.1s							
TWG	**Pinlang**	**25.34**	**107**	*e*P	**P**	**09 32 28.6**	**-1.0**
comp=Z,123nm,1.0s							
TRTT	**Trang**	**25.38**	**168**	P	**P**	**09 32 32.2**	**+2.3**
comp=Z,52nm,1.2s							
GOA	**Goa**	**25.66**	**232**	*e*P	**P**	**09 32 30.0**	**-2.5**
GOA				IAmb	IAmb	09 32 31.8	
CMBY	**CAMPBELL BAY**	**25.78**	**182**	*e*P	**P**	**09 32 32.4**	**-1.1**
SKLT	**Songkhla**	**26.20**	**167**	P	**P**	**09 32 42.4**	**+5.0**
comp=Z,112nm,1.0s,comp=Z,974nm							
CN2	**Changchun**	**26.32**	**57**	*e*P	**P**	**09 32 37.3**	**-1.0**
CN2				*e*S	**S**	**09 37 04.8**	**-4.7**
CN2				*e*SS	**SnSn**	**09 38 13.5**	**+3.0**
CN2				pmax	pmax		
comp=Z,70nm,0.9s							
CN2				pmax	pmax		
comp=Z,200nm,3.0s							
CN2				LR	LR		
comp=Z,6μm,16.0s							
CN2				LR	LR		
comp=Z,2μm,16.0s							
CN2				LR	LR		
comp=Z,4μm,16.0s							
BVAR	**Borovoye Array**	**26.61**	**326**	P	**P**	**09 32 40.4**	**-0.5**
comp=Z,12nm,0.7s,baz=125,slow=9.3,SNR=14							
BVAR				LR	LR	09 43 49.0	
comp=Z,2μm,21.8s,baz=115,slow=38							
BRVK	**Borovoye**	**26.68**	**326**	*e*P	**P**	**09 32 40.7**	**-0.8**
comp=Z,45nm,0.8s							
BRVK	**Borovoye**	**26.68**	**326**	⇓*e*P	**P**	**09 32 41.3**	**-0.2**
BRVK				pmax	pmax		
comp=Z,9.0nm,0.6s							
BRVK	**Borovoye**	**26.68**	**326**	P	**P**	**09 32 40.1**	**-1.4**
SNR=9.3							
KS15	**Wonju Array Si**	**27.43**	**71**	*e*P	**P**	**09 32 47.8**	**-0.6**
KSAR	**Wonju Array Be**	**27.43**	**71**	P	**P**	**09 32 47.0**	**-1.4**
KSAR	**Wonju Array Be**	**27.43**	**71**	P	**P**	**09 32 47.0**	**-1.4**
KS01	**Wonju Array Si**	**27.44**	**71**	*e*P	**P**	**09 32 46.5**	**-2.0**
KSRS	**Korea Array**	**27.46**	**71**	P	**P**	**09 32 47.0**	**-1.6**
comp=Z,15nm,0.8s,baz=265,slow=9.5,SNR=37							
KSRS				LR	LR	09 45 40.1	
comp=Z,579nm,21.6s,baz=268,slow=41							
LHMI	**Lhok Sumawe**	**27.62**	**175**	*e*P	**P**	**09 32 48.9**	**-1.3**
comp=Z,148nm,1.0s							
KULM	**Kulim**	**28.04**	**167**	*e*P	**P**	**09 32 53.0**	**-0.9**
comp=Z,23nm,0.8s							
BOD	**Bodaibo**	**28.16**	**22**	*e*P	**P**	**09 32 54.1**	**-0.6**
BOD				pmax	pmax		
comp=Z,19nm,2.2s							
PALK	**Pallekele**	**28.62**	**210**	P	**P**	**09 32 58.3**	**-0.8**
comp=Z,8.7nm,0.9s,baz=82,slow=0.5,SNR=4.5							
PALK				LR	LR	09 47 25.0	
comp=Z,990nm,19.6s,baz=37,slow=43							
PALK	**Pallekele**	**28.62**	**210**	*e*P	**P**	**09 32 58.4**	**-0.8**
comp=Z,25nm,1.3s							
PALK	**Pallekele**	**28.62**	**210**	*e*P	**P**	**09 32 58.4**	**-0.8**
PALK				pmax	pmax		
comp=Z,25nm,1.3s							
MDJ	**Mudanjiang**	**29.41**	**56**	P	**P**	**09 33 06.5**	**+0.6**
MDJ				pP	pP	09 33 16.8	+1.3
MDJ				sP	sP	09 33 21.8	+2.2
MDJ				PP	**PnPn**	**09 34 01.5**	**+1.3**
MDJ				PcP	**PcP**	**09 36 11.3**	**-0.1**
MDJ				S	**S**	**09 37 58.3**	**+0.2**
MDJ				SS	**SnSn**	**09 39 29.5**	**+3.7**
MDJ				ScP	**ScP**	**09 39 49.8**	**-1.4**
MDJ				PcS	**PcS**	**09 39 54.5**	**+0.2**
MDJ				pmax	pmax		
comp=Z,10.0nm,0.8s							
MDJ				pmax	pmax		
comp=Z,160nm,5.4s							
MDJ				LR	LR		
comp=Z,2μm,15.9s							
MDJ				LR	LR		
comp=Z,4μm,13.5s							
GEYT	**Alibeck**	**30.09**	**290**	P	**P**	**09 33 13.0**	**+1.0**
comp=Z,21nm,0.8s,baz=101,slow=7.7,SNR=16							
GEYT				LR	LR	09 47 40.1	
comp=Z,3μm,19.4s,baz=80,slow=41							
GEYT	**Alibeck**	**30.09**	**290**	P	**P**	**09 33 13.0**	**+1.0**
GYA0B	**ALIBECK ARRAY**	**30.09**	**290**	*e*P	**P**	**09 33 15.5**	**+3.4**
comp=Z,30nm,0.9s							
JNU	**Nakatsue**	**30.26**	**80**	P	**P**	**09 33 13.6**	**-0.1**
comp=Z,16nm,0.8s,baz=323,slow=2.7,SNR=12							
JNU	**Nakatsue**	**30.26**	**80**	*e*P	**P**	**09 33 16.0**	**+2.4**
comp=Z,20nm,0.9s							
AB31	**Akbulak array**	**30.52**	**313**	*i*P	**P**	**09 33 15.8**	**+0.1**
AB31				pmax	pmax		
comp=Z,13nm,0.9s							
ABKAR	**Akbulak array**	**30.52**	**313**	*e*P	**P**	**09 33 16.1**	**+0.4**
VLA	**Vladivostok**	**30.81**	**60**⇑	*e*P	**P**	**09 33 18.7**	**+0.4**
VLA				pmax	pmax		
comp=Z,28nm,0.8s							
USA0B	**Ussuriysk Arra**	**31.03**	**58**	*e*P	**P**	**09 33 21.1**	**+0.9**
comp=Z,10nm,0.8s							
USRK	**Ussuriysk Ar.**	**31.03**	**58**	P	**P**	**09 33 20.1**	**-0.2**
comp=Z,3.1nm,0.6s,baz=260,slow=6.7,SNR=14							
USRK				LR	LR	09 47 16.2	
comp=Z,2μm,19.3s,baz=251,slow=39							
ZEA	**Zeya**	**31.12**	**38**	*e*P	**P**	**09 33 20.8**	**-0.1**
ZEA				pmax	pmax		
comp=N,24nm,1.0s							
ZEA				pmax	pmax		
comp=E,24nm,1.0s							
ZEA				pmax	pmax		
comp=E,55nm,1.4s							
GSI	**Gunungsitoli**	**31.56**	**174**	*e*P	**P**	**09 33 24.4**	**-0.7**
comp=Z,79nm,1.1s							
KLR	**Kul'dur**	**31.97**	**48**	P	**P**	**09 33 27.4**	**-1.0**
comp=Z,12nm,0.8s,baz=262,slow=9.0,SNR=22							
KLR				PcP	**PcP**	**09 36 18.4**	**+0.4**
comp=Z,4.8nm,0.8s,baz=196,slow=4.1,SNR=7.0							
KLR	**Kul'dur**	**31.97**	**48**	*ce*P	**P**	**09 33 26.7**	**-1.8**
AKTO	**Aktyubinsk**	**32.09**	**314**	P	**P**	**09 33 28.9**	**-0.6**
comp=Z,17nm,0.9s,baz=88,slow=13,SNR=11							
AKTO				LR	LR	09 48 02.8	
comp=Z,2μm,20.5s,baz=113,slow=39							
AKTO	**Aktyubinsk**	**32.09**	**314**	P	**P**	**09 33 28.9**	**-0.6**
AKTO				pmax	pmax		
comp=Z,14nm,0.8s							
AKTO				MLR	MLR		
comp=Z,2μm,20.5s							
MNSI	**Mandailing Nat**	**32.27**	**171**	P	**P**	**09 33 35.1**	**+3.7**
SVE	**Sverdlovsk**	**33.40**	**326**⇑	*e*P	**P**	**09 33 41.6**	**+0.8**
SVE				pmax	pmax		
comp=Z,66nm,0.9s							
SVE				MLR	MLR		
comp=Z,1μm,12.0s							
KKM	**Kota Kinabalu**	**33.41**	**138**	*e*P	**P**	**09 33 44.2**	**+2.7**
comp=Z,41nm,0.8s							
ARU	**Arti**	**34.20**	**324**	*e*P	**P**	**09 33 47.6**	**-0.2**
comp=Z,35nm,0.8s							
ARU	**Arti**	**34.20**	**324**⇓	*e*P	**P**	**09 33 47.9**	**+0.1**
ARU				pmax	pmax		
comp=Z,38nm,0.8s							
TEY	**Ternei**	**34.40**	**57**⇑	*e*P	**P**	**09 33 50.8**	**+1.1**
TEY				*e*S	**S**	**09 39 11.6**	**-4.3**
TEY				pmax	pmax		
comp=Z,30nm,2.2s							
TEY				smax	smax		
comp=N,4μm,18.5s							
TEY				smax	smax		
comp=E,1μm,23.4s							
TEY				MLR	MLR		
comp=Z,3μm,13.0s							
SBUM	**Sibu**	**34.48**	**148**	*e*P	**P**	**09 33 52.2**	**+1.5**
comp=Z,9.3nm,0.7s							
KSM	**Kuching**	**34.55**	**152**	*e*P	**P**	**09 33 54.2**	**+2.9**
comp=Z,30nm,0.8s							
INU	**Inuyama**	**34.94**	**74**	*e*P	**P**	**09 33 55.0**	**+0.5**
comp=Z,22nm,1.0s							
GRNR	**Gornyy**	**35.29**	**47**	*e*P	**P**	**09 34 00.2**	**+2.9**
GRNR				pmax	pmax		
comp=Z,26nm,1.0s							
MJB9	**Matsu-Tunnel**	**35.73**	**72**	*e*P	**P**	**09 34 02.1**	**+0.7**
comp=Z,17nm,0.9s							
MAJO	**Matsushiro**	**35.73**	**72**	*e*P	**P**	**09 34 02.0**	**+0.6**
comp=Z,17nm,0.9s							
MAJO	**Matsushiro**	**35.73**	**72**⇑	*e*P	**P**	**09 34 00.3**	**-1.1**
MAJO				pmax	pmax		
comp=Z,13nm,0.8s							
MAT	**Matsushiro**	**35.73**	**72**	P	**P**	**09 34 00.7**	**-0.7**
MAT				S	**S**	**09 39 41.8**	**+5.2**
MJAR	**Matsushiro Arr**	**35.74**	**72**	P	**P**	**09 33 59.9**	**-1.5**
comp=Z,17nm,0.9s,baz=276,slow=9.8,SNR=31							
MJAR				LR	LR	09 48 21.1	
comp=Z,1μm,18.7s,baz=270,slow=36							
YAK	**Yakutsk**	**36.70**	**27**	*e*P	**P**	**09 34 09.1**	**-0.1**
YAK				*e*PP	**pP**	**09 34 15.6**	**-3.4**
YAK				*e*S	**S**	**09 39 50.1**	**-0.7**
YAK				pmax	pmax		
comp=Z,54nm,0.8s							
YAK				pmax	pmax		
comp=N,15nm,0.9s							
YAK				pmax	pmax		
comp=E,19nm,1.0s							
YAK				pmax	pmax		
comp=Z,188nm,3.6s							
YAK				pmax	pmax		
comp=N,84nm,3.0s							
YAK				pmax	pmax		
comp=E,117nm,3.2s							
YAK				smax	smax		
comp=N,143nm,3.7s							
YAK				smax	smax		
comp=E,133nm,3.5s							
YAK				MLR	MLR		
comp=Z,2μm,15.0s							
YAK				MLR	MLR		
comp=E,1μm,15.0s							
YAK				MLR	MLR		
comp=N,529nm,15.0s							
MAK	**Makhachkala**	**38.10**	**299**	*e*P	**P**	**09 34 19.6**	**-1.7**
MAK				*e*S	**S**	**09 40 08.7**	**-3.7**
MAK				pmax	pmax		
comp=Z,89nm,0.6s							
MAK				MLR	MLR		
comp=Z,2μm,15.0s							
NKL	**Nikolayevsk**	**38.41**	**44**	*e*P	**P**	**09 34 22.0**	**-1.8**
NKL				pmax	pmax		
comp=Z,25nm,0.8s							
NKL				MLR	MLR		
comp=E,1μm,10.0s							
NKL				MLR	MLR		
comp=Z,2μm,10.0s							
YSS	**Yuzh-Sakhalins**	**38.84**	**54**	*e*P	**P**	**09 34 30.0**	**+2.5**
comp=Z,38nm,0.8s							
YSS	**Yuzh-Sakhalins**	**38.84**	**54**⇑	*e*P	**P**	**09 34 30.2**	**+2.7**
YSS				*e*S	**S**	**09 40 29.4**	**+5.9**
YSS				pmax	pmax		
comp=Z,30nm,0.8s							
YSS				MLR	MLR		
comp=Z,1μm,14.0s							
YSS				MLR	MLR		
comp=E,900nm,16.0s							
ERM	**Erimo**	**39.09**	**62**⇑	*e*P	**P**	**09 34 30.6**	**+0.9**
ERM				pmax	pmax		
comp=Z,37nm,0.8s							
TYV	**Tymovskoe**	**39.18**	**48**	*e*P	**P**	**09 34 32.0**	**+1.7**
TYV				*e*		09 40 32.6	
TYV				pmax	pmax		
comp=Z,22nm,1.0s							
TYV				MLR	MLR		
comp=E,3μm,13.0s							
TYV				MLR	MLR		
comp=Z,3μm,13.0s							
GROC	**Groznyy**	**39.34**	**300**	*e*P	**P**	**09 34 30.2**	**-1.6**
GROC				*e*		09 36 02.8	
GROC				*e*S	**S**	**09 40 30.2**	**-1.0**
GROC				pmax	pmax		
comp=Z,31nm,1.0s							
GNI	**Garni**	**40.33**	**295**	*e*P	**P**	**09 34 40.0**	**-0.2**
comp=Z,195nm,0.9s							
GNI	**Garni**	**40.33**	**295**	*e*P	**P**	**09 34 40.1**	**-0.2**
GNI				pmax	pmax		
comp=Z,195nm,0.9s							
ZEI	**Tsey**	**40.75**	**299**	*e*P	**P**	**09 34 44.9**	**+1.2**
ZEI				pmax	pmax		
comp=Z,9.0nm,0.8s							
GOF	**Gofitskoye**	**41.28**	**303**	*e*P	**P**	**09 34 47.3**	**-0.5**
GOF				pmax	pmax		
comp=Z,80nm,0.9s							
KBZ	**Khabaz**	**41.43**	**301**	P	**P**	**09 34 50.5**	**+1.5**
comp=Z,7.7nm,0.8s,baz=118,slow=2.2,SNR=6.0							
KBZ				LR	LR	09 54 49.6	
comp=Z,602nm,19.6s,baz=94,slow=40							
KIV	**Kislovodsk**	**41.57**	**301**	*e*P	**P**	**09 34 49.8**	**-0.5**
comp=Z,20nm,0.8s							
KIV	**Kislovodsk**	**41.57**	**301**	*e*P	**P**	**09 34 50.9**	**+0.6**
KIV				pmax	pmax		
comp=Z,24nm,1.0s							
KIV				MLR	MLR		
comp=Z,466nm,16.0s							
NEY	**Neytrino**	**41.59**	**300**⇓	*e*P	**P**	**09 34 51.2**	**+0.6**
NEY				pmax	pmax		
comp=Z,3.0nm,1.7s							
KPJI	**Karang Pucung**	**42.26**	**159**	P	**P**	**09 34 58.2**	**+2.2**
VRH	**Novokhopyorsk**	**42.34**	**312**	*e*P	**P**	**09 34 56.1**	**-0.3**
VRH				pmax	pmax		
comp=Z,30nm,0.8s							
DOMR	**Dombai**	**42.38**	**300**⇑	*e*P	**P**	**09 34 54.7**	**-2.4**
DOMR				pmax	pmax		
comp=Z,9.0nm,1.1s							
PRGR	**Permogore**	**42.41**	**328**	*e*P	**P**	**09 34 55.6**	**-1.1**
PRGR				pmax	pmax		
comp=Z,32nm,0.9s							
TIXI	**Tiksi**	**42.84**	**15**	*e*P	**P**	**09 35 01.6**	**+1.5**
comp=Z,29nm,1.3s							
TIXI	**Tiksi**	**42.84**	**15**⇓	*e*P	**P**	**09 34 58.2**	**-1.9**
TIXI				pmax	pmax		
comp=Z,31nm,1.7s							
NGJI	**Ngawi**	**43.12**	**155**	P	**P**	**09 35 06.2**	**+3.2**
SPSI	**Sidrap Palu**	**43.71**	**142**	P	**P**	**09 35 10.4**	**+2.6**
PCJI	**Pacitan**	**43.79**	**156**	P	**P**	**09 35 12.4**	**+4.0**
PWJI	**Pagerwojo**	**43.85**	**155**	P	**P**	**09 35 10.9**	**+2.0**
comp=Z,54nm,0.9s							
VSR	**Storozhevoye**	**43.95**	**312**	*e*P	**P**	**09 35 08.4**	**-1.0**
VSR				pmax	pmax		
comp=Z,20nm,1.0s							
RAYN	**Ar Rayn**	**44.00**	**271**	*e*P	**P**	**09 35 10.3**	**+0.1**
comp=Z,6.5nm,0.8s							
RAYN	**Ar Rayn**	**44.00**	**271**	*e*P	**P**	**09 35 10.3**	**+0.1**
RAYN				pmax	pmax		
comp=Z,6.0nm,0.8s							
LPSR	**Galich'ya Gora**	**44.17**	**314**	*e*P	**P**	**09 35 10.9**	**-0.2**
LPSR				pmax	pmax		
comp=Z,30nm,0.7s							
KLMR	**Klimovskoe**	**45.03**	**325**	*i*P	**P**	**09 35 17.5**	**-0.2**
KLMR				*e*		09 37 05.1	
KLMR				pmax	pmax		
comp=Z,44nm,0.8s							
KLMR	**Klimovskoe**	**45.03**	**325**	⇓*i*P	**P**	**09 35 17.6**	**-0.2**
KLMR				*e*P	**P**	**09 35 17.6**	**-0.2**
KLMR				*e*P	**P**	**09 35 17.6**	**-0.2**
KLMR				AMP		09 35 22.4	
comp=Z,44nm,0.8s							
KLMR				*e*PP	**PP**	**09 37 05.2**	**+2.1**
MOS	**Moscow**	**45.20**	**318**	*e*P	**P**	**09 35 17.7**	**-1.5**
MOS				*e*		09 37 03.3	
MOS				pmax	pmax		
comp=Z,108nm,0.8s							
MOS				pmax	pmax		
comp=Z,100nm,0.9s							
MOS				MLR	MLR		
comp=Z,600nm,17.0s							
MA2	**Magadan**	**45.23**	**37**	*e*P	**P**	**09 35 18.6**	**-0.8**
comp=Z,23nm,1.0s							
MA2	**Magadan**	**45.23**	**37**⇓	*e*P	**P**	**09 35 18.7**	**-0.8**
MA2				pmax	pmax		
comp=Z,42nm,1.7s							
ANN	**Anapa**	**45.27**	**303**	*e*P	**P**	**09 35 18.0**	**-2.0**
ANN				*e**PP	**pP**	**09 35 28.2**	**-1.7**
ANN				*e*		09 37 10.6	
ANN				pmax	pmax		
comp=Z,52nm,0.8s							
ANN				MLR	MLR		
comp=Z,1μm,18.0s							
OBN	**Obninsk**	**45.74**	**317**⇑	*e*P	**P**	**09 35 23.4**	**-0.1**
OBN				*e*		09 36 58.0	
OBN				*e*		09 37 08.6	
OBN				*e*S	**S**	**09 42 00.5**	**-4.5**
OBN				pmax	pmax		
comp=Z,51nm,1.3s							
OBN				MLR	MLR		
comp=Z,582nm,19.0s							
SIM	**Simferopol'**	**47.60**	**303**	*e*P	**P**	**09 35 41.9**	**+3.6**
SIM				*e*S	**S**	**09 42 38.0**	**+6.1**
SIM				pmax	pmax		
comp=Z,27nm,0.7s							
SIM				MLR	MLR		
comp=Z,1μm,19.0s							
SKR	**Severo-Kuril's**	**47.70**	**49**	*e*P	P	09 35 50.9	+12
SKR				*e*		09 37 24.0	
SKR				*e*SS	SS	09 45 28.2	-33
SKR				pmax	pmax		
comp=Z,1μm,5.8s							
SKR				pmax	pmax		
comp=Z,700nm,5.9s							
SKR				MLR	MLR		
comp=Z,2μm,19.0s							
SKR				MLR	MLR		
comp=Z,1μm,17.0s							
ASF	**Jabal al Asfar**	**48.17**	**286**	P	**P**	**09 35 44.4**	**+1.4**
PETK	**Petropavlovsk-**	**48.59**	**46**	P	**P**	**09 35 46.5**	**+0.7**
comp=Z,9.4nm,0.9s,baz=238,slow=8.8,SNR=9.1							
PETK				LR	LR	09 58 59.5	
comp=Z,916nm,18.9s,baz=261,slow=39							
LVZ	**Lovozero**	**48.73**	**334**⇑	*e*P	**P**	**09 35 46.7**	**-0.1**
LVZ				pmax	pmax		
comp=Z,83nm,2.5s							
BR131	**Keskin Array S**	**48.83**	**296**	*e*P	**P**	**09 35 48.1**	**0.0**
BR131	**Keskin Array S**	**48.83**	**296**	P	**P**	**09 35 48.2**	**+0.1**
SNR=10.0							
BRTR	**Keskin Array B**	**48.83**	**296**	P	**P**	**09 35 47.1**	**-0.9**
comp=Z,9.8nm,0.9s,baz=114,slow=5.6,SNR=16							
BRTR				LR	LR	10 00 12.2	
comp=Z,332nm,19.9s,baz=106,slow=41							
APA	**Apatity**	**49.12**	**334**⇓	*i*P	**P**	**09 35 50.0**	**+0.3**
APA				pmax	pmax		
comp=Z,6.0nm,0.8s							
APA				MLR	MLR		
comp=Z,2μm,16.0s							
PET	**Petropavlovsk**	**49.16**	**46**	*e*P	**P**	**09 35 47.8**	**-2.4**
PET				*e*S	**S**	**09 42 49.8**	**-3.9**
PET				MLR	MLR		
comp=Z,1μm,16.0s							
WALJ	**Wala**	**49.24**	**285**	P	P	09 35 56.7	+5.6
ANTO	**Ankara**	**49.43**	**297**	*e*P	**P**	**09 35 52.8**	**+0.2**
comp=Z,199nm,1.0s							
ANTO	**Ankara**	**49.43**	**297**	*e*P	**P**	**09 35 52.8**	**+0.2**
ANTO				pmax	pmax		
comp=Z,199nm,1.0s							
AKASG	**Malin Array Be**	**50.24**	**311**	P	**P**	**09 35 57.6**	**-0.9**
comp=Z,25nm,0.9s,baz=74,slow=7.0,SNR=33							
AKASG				LR	LR	10 01 32.4	
comp=Z,582nm,18.5s,baz=100,slow=41							
AKBB	**Malin Array Si**	**50.24**	**311**	*e*P	**P**	**09 35 57.9**	**-0.6**
comp=Z,28nm,0.9s							
KIEV	**Kiev**	**50.25**	**311**	*e*P	**P**	**09 35 56.7**	**-1.8**
comp=Z,32nm,1.0s							
KIEV	**Kiev**	**50.25**	**311**	⇓*i*P	**P**	**09 35 57.7**	**-0.8**
KIEV	**Kiev**	**50.25**	**311**	*ce*P	**P**	**09 35 57.1**	**-1.4**
KIEV				pmax	pmax		
comp=Z,24nm,1.0s							
AK11	**Malin Array Si**	**50.28**	**311**	*e*P	**P**	**09 35 57.8**	**-0.9**
HRFI	**Mount Harif**	**50.36**	**284**	P	**P**	**09 36 03.3**	**+3.6**
EIL	**Elat**	**50.55**	**283**	P	**P**	**09 36 04.5**	**+3.4**
comp=Z,48nm,1.0s							
MICGM	**Minsk**	**50.76**	**316**	*e*	**P**	**09 36 01.0**	**-1.3**
MNK	**Minsk**	**50.76**	**316**	*e*P	**P**	**09 36 01.0**	**-1.3**
SOEI	**Soe**	**50.95**	**141**	*e*P	**P**	**09 36 05.6**	**+1.3**
comp=Z,35nm,0.7s							
SOEI	**Soe**	**50.95**	**141**	P	**P**	**09 36 08.3**	**+4.0**
KIS	**Kishinev**	**50.97**	**306**	*e*P	**P**	**09 36 06.0**	**+2.0**
comp=Z,150nm,1.0s							
KIS				*e*L	L	09 54 48.0	
KIS				LQM		09 58 40.0	
comp=Z,1μm,16.0s							
KIS				LRM	MLR	10 00 10.0	
comp=Z,1μm,24.0s							
KIS	**Kishinev**	**50.97**	**306**	*e*P	**P**	**09 36 06.0**	**+2.0**
KIS				*e*		09 36 21.0	
KIS				pmax	pmax		
comp=Z,150nm,1.0s							
KIS				MLR	MLR		
comp=Z,1μm,24.0s							
VSU	**Vasula**	**51.24**	**321**	*de*P	**P**	**09 36 05.8**	**0.0**
VSU				pmax	pmax		
comp=Z,119nm,0.9s							
TLCR		**51.28**	**304**⇓	*i*P	**P**	**09 36 05.5**	**-0.8**
NACGM	**Naroch**	**51.37**	**317**	*e*	**P**	**09 36 07.0**	**+0.1**
FIA1	**FINESS Array S**	**51.56**	**325**	*e*P	**P**	**09 36 07.9**	**-0.3**
FINES	**FINESS Array B**	**51.56**	**325**	P	**P**	**09 36 07.6**	**-0.6**
comp=Z,3.4nm,0.4s,baz=87,slow=7.7,SNR=20							
FINES				LR	LR	09 58 12.2	
comp=Z,710nm,18.0s,baz=84,slow=36							
FINES	**FINESS Array B**	**51.56**	**325**	P	**P**	**09 36 07.6**	**-0.6**
FINES				pmax	pmax		
comp=Z,9.0nm,0.7s							
FINES				MLR	MLR		
comp=Z,710nm,18.0s							
TIRR	**Tirgusor**	**51.69**	**303**	*e*P	**P**	**09 36 09.2**	**-0.2**
comp=Z,8.7nm,1.0s							
TIRR				*ep*P	**sP**	**09 36 23.3**	**-0.1**
TIRR	**Tirgusor**	**51.69**	**303**	⇓*i*P	**P**	**09 36 09.3**	**-0.2**
TIRR	**Tirgusor**	**51.69**	**303**	*e*P	**P**	**09 36 09.2**	**-0.2**
TIRR				*e**PP	**sP**	**09 36 23.3**	**-0.1**
TIRR				pmax	pmax		
comp=Z,9.0nm,1.0s							
CFR	**Carcaliu**	**51.75**	**304**⇑	*i*P	**P**	**09 36 09.4**	**-0.5**
TLB	**Topalu**	**51.93**	**304**⇓	*i*P	**P**	**09 36 10.5**	**-0.7**
HARR	**Harsova**	**51.98**	**304**⇓	*i*P	**P**	**09 36 12.4**	**+0.8**
ARCES	**ARCESS Array B**	**52.31**	**335**	P	**P**	**09 36 13.3**	**-0.4**
comp=Z,4.2nm,0.7s,baz=88,slow=7.6,SNR=17							
ARCES				PcP	**PcP**	**09 37 23.6**	**-1.0**
comp=Z,9.3nm,0.9s,baz=87,slow=3.1,SNR=5.2							
ARCES				LR	LR	09 59 14.9	
comp=Z,889nm,20.4s,baz=96,slow=37							
ARCES	**ARCESS Array B**	**52.31**	**335**	P	**P**	**09 36 13.3**	**-0.4**
ARCES						09 37 23.6	
ARCES				pmax	pmax		
comp=Z,7.0nm,0.7s							
ARCES				pmax	pmax		
comp=Z,9.0nm,0.9s							
ARCES				MLR	MLR		
comp=Z,889nm,20.4s							
ARE0	**ARCESS Array S**	**52.31**	**335**	*e*P	**P**	**09 36 13.5**	**-0.2**
ODBI	**Odobesti**	**52.39**	**305**⇓	*i*P	**P**	**09 36 15.1**	**+0.5**
VRI	**Vrincioaia**	**52.59**	**305**⇓	*i*P	**P**	**09 36 16.7**

BUR08 Bucovina Ar. S 53.29 308 *eP* **P** 09 36 21.1 -0.3
DOPR Dopca 53.49 306⇓ *iP* **P** 09 36 23.4 +0.6
SUW Suwalki 53.55 316 *eP* **P** 09 36 22.5 -0.6
SUW Suwalki 53.55 316 *eP* **P** 09 36 22.6 -0.5
comp=Z,186nm,0.8s
SUW Suwalki 53.55 316 *eP* **P** 09 36 22.6 -0.5
SUW pmax pmax
comp=Z,186nm,0.8s
LVV L'vov 53.66 311 *eP* **P** 09 36 23.8 -0.2
VOIR 53.83 305⇓ *iP* **P** 09 36 25.0 -0.4
MTUR Matau 53.87 305⇓ *iP* **P** 09 36 26.1 +0.4
ARCR ARCALIA 53.96 307⇓ *iP* **P** 09 36 26.8 +0.6
ARR Arges 54.13 305⇓ *iP* **P** 09 36 27.7 +0.1
ALN Alexandroupoli 54.20 299 *eP* **P** 09 36 27.5 -0.5
comp=Z,7.4nm,1.0s
ALN Alexandroupoli 54.20 299 *eP* **P** 09 36 27.5 -0.5
ALN pmax pmax
comp=Z,7.0nm,1.0s
BMR Baia Mare 54.41 308⇑ *iP* **P** 09 36 29.1 -0.4
KWP Kalwaria Pacla 54.54 311 *eP* **P** 09 36 30.5 +0.1
KWP Kalwaria Pacla 54.54 311 *eP* **P** 09 36 30.5 +0.1
CJR Cluj-Napoca 54.55 307⇓ *iP* **P** 09 36 29.6 -0.9
TRO Tromso 54.62 335 *eP* **P** 09 36 30.1 -0.5
TRPA Tarpa 54.95 309⇓ *iP* **P** 09 36 33.6 +0.3
UZH Uzhgorod 55.01 309 *eP* **P** 09 36 33.7 0.0
UZH *e* 09 36 42.0
UZH *e* 09 36 47.6
DRGR 55.12 307⇓ *iP* **P** 09 36 34.9 +0.2
KLNR Kaliningrad 55.19 317⇓ *eP* **P** 09 36 35.5 +0.6
KLNR pmax pmax
comp=Z,149nm,0.9s
GZR Gura Zlata 55.40 306⇓ *iP* **P** 09 36 36.6 -0.2
SPA0 Spitsbergen Ar 55.65 346 *eP* **P** 09 36 37.9 -0.1
SPA0 Spitsbergen Ar 55.65 346 *eP* **P** 09 36 38.2 +0.2
HSPB Hornsund (broa 55.77 344 *eP* **P** 09 36 38.8 0.0
HERR Herculane 55.77 305⇓ *iP* **P** 09 36 34.9 -4.4
VTS Vitosha 55.80 302 *eP* **P** 09 36 39.0 -0.8
comp=Z,18nm,1.0s
VTS Vitosha 55.80 302⇑ *iP* **P** 09 36 40.7 +0.9
VTS Vitosha 55.80 302 *eP* **P** 09 36 39.0 -0.8
VTS pmax pmax
comp=Z,18nm,1.0s
SIRR Siria 55.95 307⇓ *iP* **P** 09 36 41.0 +0.4
STEI Steigen 56.02 333 *eP* **P** 09 36 40.4 -0.3
NIE Niedzica 56.12 311 *eP* **P** 09 36 42.3 +0.5
NIE Niedzica 56.12 311 *eP* **P** 09 36 42.3 +0.5
BZS Buzias 56.14 306⇓ *iP* **P** 09 36 40.7 -1.2
OJC Ojcow 56.26 312 *eP* **P** 09 36 43.7 +0.9
OJC Ojcow 56.26 312 *eP* **P** 09 36 42.5 -0.3
comp=Z,36nm,0.7s
OJC Ojcow 56.26 312 *eP* **P** 09 36 42.5 -0.3
OJC pmax pmax
comp=Z,36nm,0.7s
MDVR Moldovita 56.28 305⇓ *iP* **P** 09 36 43.2 +0.1
MOR8 Moi Rana 56.49 331 *eP* **P** 09 36 43.1 -1.0
KBS Kingsbay 56.56 347 *eP* **P** 09 36 45.3 +0.8
LOF Lofoten 56.64 334 *eP* **P** 09 36 44.2 -0.9
PSZ Piszkesteto 56.73 309 *eP* **P** 09 36 45.9 -0.3
comp=Z,17nm,1.1s
PSZ Piszkesteto 56.73 309 *eP* **P** 09 36 45.9 -0.3
PSZ pmax pmax
comp=Z,17nm,1.1s
KONS Konsvik 56.98 332 *eP* **P** 09 36 45.9 -1.6
LIT Litokhoron 57.02 299 *eP* **P** 09 36 46.2 -2.2
comp=Z,19nm,0.9s
LIT Litokhoron 57.02 299 *eP* **P** 09 36 46.2 -2.2
LIT pmax pmax
comp=Z,19nm,0.9s
VYHS Vyhne 57.27 310 *eP* **P** 09 36 49.8 -0.2
VYHS pmax pmax
comp=Z,12nm,1.0s
VYHS Vyhne 57.27 310 *eP* **P** 09 36 49.8 -0.2
OKC Ostrava-Krasne 57.39 312 *eP* **P** 09 36 51.3 +0.6
OKC AMS AMS 10 04 50.0
comp=Z,800nm,18.1s
OKC Ostrava-Krasne 57.39 312 *eP* **P** 09 36 51.3 +0.6
OKC MLR MLR
comp=Z,800nm,18.1s
DIVS Divibare 57.65 305 *eP* **P** 09 36 52.4 -0.4
comp=Z,23nm,1.0s
DIVS Divibare 57.65 305 *eP* **P** 09 36 52.1 -0.7
NSS Namsos 57.74 330 *eP* **P** 09 36 52.2 -0.7
MORC Moravsky Berou 57.78 312 *eP* **P** 09 36 53.2 -0.4
comp=Z,28nm,0.9s
MORC Moravsky Berou 57.78 312⇓ *iP* **P** 09 36 53.7 +0.1
MORC Moravsky Berou 57.78 312 *eP* **P** 09 36 53.2 -0.4
MORC pmax pmax
comp=Z,28nm,0.9s
MORC Moravsky Berou 57.78 312 *eP* **P** 09 36 53.2 -0.4
JAVC Velka Javorina 57.93 311 *eP* **P** 09 36 55.6 +0.9
MORH Mrgy, Hungar 57.99 307 *eP* **P** 09 36 54.0 -1.0
BBLS Lazići 58.12 305 *eP* **P** 09 36 54.7 -1.4
KRLC Kraliky 58.19 312 *eP* **P** 09 36 56.3 -0.1
KRLC Kraliky 58.19 312 *eP* **P** 09 36 56.3 -0.1
KSP Ksiaz 58.30 313 *eP* **P** 09 36 56.7 -0.4
KSP Ksiaz 58.30 313 *eP* **P** 09 36 56.7 -0.4
MODS Modra-Piesok 58.31 310 *eP* **P** 09 37 01.4 +4.1
MODS pmax pmax
comp=Z,25nm,1.1s
MODS Modra-Piesok 58.31 310 *eP* **P** 09 37 01.4 +4.1
HAPS Han Pijesak,Bl 58.38 305 *eP* **P** 09 36 59.9 +2.0
DPC Dobruska-Polom 58.40 313 *eP* **P** 09 36 58.4 +0.5
DPC AMS AMS 10 05 00.0
comp=Z,700nm,17.6s
DPC Dobruska-Polom 58.40 313 *eP* **P** 09 36 58.4 +0.5
DPC MLR MLR
comp=Z,700nm,17.6s
ZST Bratislava 58.47 310 *eP* **P** 09 37 00.4 +2.1
ZST pmax pmax
comp=Z,2.0nm,0.8s
ZST Bratislava 58.47 310 *eP* **P** 09 37 00.4 +2.1
NC405 NORSAR Array S 58.48 326 *eP* **P** 09 36 57.7 -0.6
VRAC Vranov 58.50 311⇓ *iP* **P** 09 36 59.0 +0.4
VRAC Vranov 58.50 311 *eP* **P** 09 36 58.3 -0.3
UPC Upice 58.55 313 *eP* **P** 09 36 59.7 +0.8
UPC *ex* x 09 37 17.7
UPC AMS AMS 10 02 30.0
comp=Z,800nm,15.7s
UPC Upice 58.55 313 *eP* **P** 09 36 59.7 +0.8
UPC *e* 09 37 17.7
UPC MLR MLR
comp=Z,800nm,15.7s
NC303 NORSAR Array S 58.62 326 *eP* **P** 09 36 58.6 -0.6
NC602 NORSAR Array S 58.64 325 *eP* **P** 09 36 58.5 -0.8
NC602 NORSAR Array S 58.64 325 *eP* **P** 09 36 59.2 -0.2
PDG Podgorica 58.65 303⇓ *iP* **P** 09 36 58.9 -0.8
PDG Podgorica 58.65 303 *eP* **P** 09 37 01.8 +2.1
TTG Podgorica 58.65 303 *eP* **P** 09 36 59.0 -0.8
comp=Z,32nm,0.9s
UPM Unac-Piva 58.67 304 *eP* **P** 09 36 59.7 -0.4
KRUC Moravsky 58.69 311 *eP* **P** 09 37 00.1 +0.2
NB201 NORSAR Array S 58.70 326 *eP* **P** 09 36 59.0 -0.7
NB2 NORSAR Subarra 58.74 326 P **P** 09 36 58.9 -1.2
comp=Z,50nm,1.0s,baz=78,slow=7.4
NB2 NORSAR Subarra 58.74 326 P **P** 09 36 58.9 -1.2
baz=78,slow=7.4
NOA NORSAR Array B 58.74 326 P **P** 09 36 58.9 -1.2
comp=Z,25nm,0.8s,baz=78,slow=7.0,SNR=29
NOA LR LR 10 04 35.7
comp=Z,866nm,18.2s,baz=90,slow=38
DRME Dracevica, Mon 58.78 303 *eP* **P** 09 37 00.2 -0.4
MBWA Marble Bar 58.85 152 *eP* **P** 09 37 00.5 -0.7
NC204 NORSAR Array S 58.90 326 *eP* **P** 09 37 00.6 -0.6
NAO01 NORSAR Array S 58.94 325 *eP* **P** 09 37 00.8 -0.6
NBO00 NORSAR Array S 58.95 326 *eP* **P** 09 37 04.2 +2.7
BRY Bratogost 59.01 304 *eP* **P** 09 37 01.8 -0.6
TREB Trebinje 59.20 304 *eP* **P** 09 37 02.1 -1.4
COP Copenhagen 59.34 319 *iP* **P** 09 37 07.9 +3.7
comp=Z,58nm,0.9s
COP Copenhagen 59.34 319 *iP* **P** 09 37 07.9 +3.7
COP pmax pmax
comp=Z,58nm,0.9s
CONA Conrad Observa 59.34 310 *iP* **P** 09 37 04.6 +0.1
comp=Z,41nm,0.9s,SNR=6.4
RUE Ruedersdorf 59.39 315 *eP* **P** 09 37 05.6 +1.0
comp=Z,55nm,0.9s,baz=73,slow=6.8
BLY Banja Luka 59.39 306 *eP* **P** 09 37 04.1 -0.7
BLY Banja Luka 59.39 306⇓ *iP* **P** 09 37 04.7 -0.1
BLY Banja Luka 59.39 306 *eP* **P** 09 37 04.4 -0.4
PVCC Panska Ves 59.44 313 *eP* **P** 09 37 05.5 +0.5
PVCC *ex* x 09 37 15.5
PVCC AMS AMS 10 04 40.0
PVCC Panska Ves 59.44 313 *eP* **P** 09 37 05.5 +0.5
PVCC *e* 09 37 15.5
GOPC GO Pecny, Ondr 59.47 312 *eP* **P** 09 37 05.5 +0.2
GOPC GO Pecny, Ondr 59.47 312 *eP* **P** 09 37 05.5 +0.2
DOMB Dombas 59.52 327 *eP* **P** 09 37 06.6 +1.1
PRU Pruhonice 59.60 312 *eP* **P** 09 37 06.6 +0.4
PRU AMS AMS 10 04 20.0
comp=Z,900nm,20.7s
PRU Pruhonice 59.60 312 *eP* **P** 09 37 06.6 +0.4
PRU MLR MLR
comp=Z,900nm,20.7s
BRG Berggiesshubel 59.73 314 *iP* **P** 09 37 06.7 -0.3
comp=Z,42nm,0.8s
BRG *i* 09 37 20.0
comp=Z,16nm,0.9s
BRG Berggiesshubel 59.73 314 *eP* **P** 09 37 06.8 -0.3
comp=Z,42nm,0.8s,baz=73,slow=6.8
BRG Berggiesshubel 59.73 314 *iP* **P** 09 37 06.7 -0.3
BRG *i* 09 37 20.0
BRG pmax pmax
comp=Z,42nm,0.8s
BRG pmax pmax
comp=Z,16nm,0.9s
ARSA Arzberg 59.76 309 *iP* **P** 09 37 07.0 -0.3
comp=Z,13nm,0.9s,SNR=6.6
KONO Kongsberg 59.84 324 *eP* **P** 09 37 06.7 -0.9
comp=Z,41nm,0.9s
KONO Kongsberg 59.84 324⇓ *eP* **P** 09 37 07.2 -0.4
KONO pmax pmax
comp=Z,11nm,0.5s
KONO Kongsberg 59.84 324 *eP* **P** 09 37 07.8 +0.2
FBE Freiberg 60.07 314 *eP* **P** 09 37 11.6 +2.2
comp=Z,37nm,1.0s,baz=73,slow=6.8
MOL Molde 60.08 328 *eP* **P** 09 37 08.9 -0.3
CLL Collm 60.17 314 *eP* **P** 09 37 10.0 -0.1
comp=Z,30nm,0.9s
CLL Collm 60.17 314 *eP* **P** 09 37 11.2 +1.1
comp=Z,30nm,0.9s,baz=73,slow=6.8
CLL Collm 60.17 314 *iP* **P** 09 37 09.5 -0.6
CLL *i* Pmax 09 37 12.8
comp=Z,30nm,0.9s
CLL *e* PcS **PcS** **09 41 57.0 -0.6**
CLL *e* 09 50 24.0
CLL LmV 10 07 00.0
comp=Z,900nm,18.9s
CLL Collm 60.17 314 *iP* **P** 09 37 09.5 -0.6
CLL pmax pmax
comp=Z,30nm,0.9s
CLL MLR MLR
comp=Z,900nm,18.9s
PERS Pernice 60.21 309 *iP* **P** 09 37 09.8 -0.6
PERS *i* 09 37 12.4
CRES Cresnjev 60.23 308 *eP* **P** 09 37 09.9 -0.7
SOKA Soboth 60.25 309 *iP* **P** 09 37 10.2 -0.5
comp=Z,22nm,0.8s
MOA Molln 60.39 310 *iP* **P** 09 37 11.5 -0.2
comp=Z,21nm,0.9s,SNR=6.8
AKN Aaknes 60.43 327 *eP* **P** 09 37 11.6 -0.1
KHC Kasperske Hory 60.45 312 *eP* **P** 09 37 11.1 -0.9
comp=Z,5.2nm,0.9s
KHC Kasperske Hory 60.45 312 *eP* **P** 09 37 12.3 +0.2
KHC *ex* x 09 37 21.6
KHC Kasperske Hory 60.45 312 *eP* **P** 09 37 12.3 +0.2
KHC *e* 09 37 21.6
GEC2 GERESS Array S 60.45 311 *eP* **P** 09 37 12.3 +0.1
comp=Z,25nm,0.9s
GEC2 GERESS Array S 60.45 311 *eP* **P** 09 37 12.5 +0.3
comp=Z,25nm,0.9s,baz=73,slow=6.8
GEC2 *eL* L 10 06 53.9
comp=Z,559nm,19.4s
GEC2 GERESS Array S 60.45 311 *eP* **P** 09 37 12.3 +0.1
GEC2 pmax pmax
comp=Z,25nm,0.9s
GERES GERESS Array B 60.45 311 P **P** 09 37 11.9 -0.3
comp=Z,18nm,0.8s,baz=75,slow=7.1,SNR=20
GERES LR LR 10 05 26.6
comp=Z,535nm,19.1s,baz=88,slow=38
GERES GERESS Array B 60.45 311 P **P** 09 37 11.9 -0.3
GERES pmax pmax
comp=Z,19nm,0.9s
GERES MLR MLR
comp=Z,535nm,19.1s
GEA0 GERESS Array S 60.46 311 *eP* **P** 09 37 11.8 -0.4
BOJS Bojanci 60.46 307 *eP* **P** 09 37 11.6 -0.5
BOJS *i* 09 37 15.9
OBKA Obir 60.62 309 *iP* **P** 09 37 13.0 -0.3
comp=Z,18nm,1.1s
TANN Tannenbergstha 60.76 313 *eP* **P** 09 37 14.8 +0.6
comp=Z,51nm,0.9s,baz=73,slow=6.8
WERN Wernitzgruen 60.85 313 *eP* **P** 09 37 17.3 +2.5
comp=Z,28nm,1.0s,baz=73,slow=6.8
GUNZ Gunzen 60.85 313 *eP* **P** 09 37 15.0 +0.2
comp=Z,37nm,0.8s,baz=73,slow=6.8
WET Wettzell 60.88 312 *eP* **P** 09 37 15.4 +0.4
comp=Z,22nm,0.9s,baz=73,slow=6.8
WET *eL* L 10 05 21.0
comp=Z,739nm,18.4s
MUD Monsted U'grnd 60.90 321 *iP* **P** 09 37 17.8 +2.9
MUD Monsted U'grnd 60.90 321 *eP* **P** 09 37 17.8 +2.9
PLN Plauen 60.92 314 *eP* **P** 09 37 16.9 +1.6
comp=Z,21nm,0.9s,baz=73,slow=6.8
CEY Cerknica 60.94 308 *eP* **P** 09 37 14.6 -0.8
NEUB Neuenburg 60.94 314 *eP* **P** 09 37 15.6 +0.3
comp=Z,65nm,0.9s,baz=73,slow=6.8
BSEG Bad Segeberg 60.99 318 *eP* **P** 09 37 16.5 +0.9
comp=Z,51nm,0.9s,baz=73,slow=6.8
BSEG *eL* L 10 04 46.0
comp=Z,555nm,19.6s
MANZ Manzenberg 61.10 313 *eP* **P** 09 37 17.9 +1.4
comp=Z,275nm,1.1s,baz=73,slow=6.8
ROTZ Rotzenmuhle 61.11 313 *eP* **P** 09 37 16.8 +0.3
comp=Z,59nm,1.1s,baz=73,slow=6.8
JAVS Javornik 61.13 308 *iP* **P** 09 37 16.5 -0.3
JAVS *i* 09 37 19.3
MYKA Terra Mystica 61.17 309 *iP* **P** 09 37 16.3 -0.8
comp=Z,8.4nm,1.0s
MOX Moxa 61.21 314 *eP* **P** 09 37 17.1 -0.1
comp=Z,17nm,1.0s,baz=73,slow=6.8
MOX *eL* L 10 06 58.0
comp=Z,525nm,20.7s
KBA Koelnbreinsper 61.23 310 *iP* **P** 09 37 16.8 -0.8
comp=Z,12nm,0.8s
TRI Trieste 61.39 308 *eP* **P** 09 37 17.6 -0.8
comp=Z,54nm,0.9s
TRI Trieste 61.39 308 *eP* **P** 09 37 17.6 -0.8
TRI pmax pmax
comp=Z,54nm,0.9s
NRDL Niedersach Rie 61.54 316 *eP* **P** 09 37 19.5 +0.3
comp=Z,67nm,0.9s,baz=73,slow=6.8
CLZ Clausthal 61.58 315 *eP* **P** 09 37 20.0 +0.3
comp=Z,77nm,0.9s,baz=73,slow=6.8
BER Bergen 61.70 326 *eP* **P** 09 37 20.9 +0.7
GRA1 Grafenberg Arr 61.74 313 *eP* **P** 09 37 21.8 +1.0
comp=Z,47nm,0.8s
GRF Grafenberg Arr 61.74 313 *eP* **P** 09 37 21.7 +0.9
comp=Z,52nm,0.8s,baz=73,slow=6.8
GRF *eL* L 10 05 49.6
comp=Z,743nm,19.7s
GRF Grafenberg Arr 61.74 313 *eP* **P** 09 37 21.8 +1.0
GRF pmax pmax
comp=Z,47nm,0.8s
GRFO Grafenberg 61.74 313 *eP* **P** 09 37 20.5 -0.3
comp=Z,42nm,0.8s
GRFO Grafenberg 61.74 313 *eP* **P** 09 37 20.5 -0.3
GRFO pmax pmax
comp=Z,42nm,0.8s
ABTA Abfaltersbach 61.87 309 *iP* **P** 09 37 21.3 -0.5
comp=Z,11nm,0.7s
RETH Rethem/Aller, 61.90 317 *eP* **P** 09 37 22.6 +0.9
comp=Z,20nm,0.8s,baz=73,slow=6.8
GTTG Gvttingen 61.92 315 *eP* **P** 09 37 22.9 +1.0
comp=Z,101nm,0.9s,baz=73,slow=6.8
FUR Furstenfeldbru 62.20 311 *eP* **P** 09 37 24.2 +0.3
comp=Z,93nm,0.8s,baz=73,slow=6.8
FUR *eL* L 10 06 30.5
comp=Z,588nm,18.0s
WTTA Wattenberg 62.27 310 *iP* **P** 09 37 22.7 -1.9
comp=Z,4.1nm,0.5s
WATA Walderalm 62.28 310 *iP* **P** 09 37 24.4 -0.2
comp=Z,4.4nm,0.5s
SQTA Sankt Quirin 62.56 310 *iP* **P** 09 37 25.1 -1.3
comp=Z,8.3nm,0.5s
MOTA Moosalm 62.58 310 *iP* **P** 09 37 26.6 0.0
comp=Z,34nm,1.0s,SNR=9.7
RETA Reutte 62.75 311 *iP* **P** 09 37 27.8 +0.1
comp=Z,20nm,0.9s
AQU L'Aquila 62.77 305 *eP* **P** 09 37 26.8 -1.1
comp=Z,47nm,1.1s
AQU L'Aquila 62.77 305 *eP* **P** 09 37 26.8 -1.1
AQU pmax pmax
comp=Z,47nm,1.1s
FETA Feichten 62.93 310 *iP* **P** 09 37 27.6 -1.4
comp=Z,17nm,0.8s,SNR=9.4
TNS Taunus Mts 63.26 314 *eL* L 10 08 11.1
comp=Z,874nm,19.8s
DAG Danmarks Havn 63.29 346 *iP* **P** 09 37 29.1 -1.5
comp=Z,15nm,0.8s
DAG Danmarks Havn 63.29 346 *iP* **P** 09 37 29.1 -1.5
DAG pmax pmax
comp=Z,11nm,0.8s
FUORN Ofenpass-Fuorn 63.37 310 *eP* **P** 09 37 32.7 +0.6
comp=Z,16nm,0.8s
DAVA Damuels 63.38 311 *iP* **P** 09 37 31.9 -0.1
comp=Z,18nm,0.8s
KMBO Kilima Mbogo 63.75 250 P **P** 09 37 33.9 -1.0
comp=Z,4.0nm,0.6s,baz=44,slow=11,SNR=12
AHRW Bad Neuenahr-A 63.97 315 *eP* **P** 09 37 37.7 +2.1
comp=Z,47nm,1.0s,baz=73,slow=6.8
BFO Black Forest 63.99 312 *eP* **P** 09 37 35.5 -0.4
comp=Z,38nm,1.3s
BFO Black Forest 63.99 312 *eP* **P** 09 37 36.6 +0.8
comp=Z,19nm,0.9s,baz=73,slow=6.8
BFO *eL* L 10 07 42.6
comp=Z,699nm,18.3s
BFO Black Forest 63.99 312 *iP* **P** 09 37 36.3 +0.5
MEM Membach 64.58 315 P **P** 09 37 40.3 +0.7
comp=Z,20nm,1.1s
MEM Membach 64.58 315 x **P** 09 37 43.4 +3.9
ECH Echery 64.76 312 *eP* **P** 09 37 42.5 +1.7
comp=Z,26nm,1.1s
WRAB Tennant Creek 64.79 138 *eP* **P** 09 37 39.9 -1.4
comp=Z,24nm,0.9s
WRAB Tennant Creek 64.79 138⇑ *eP* **P** 09 37 39.7 -1.6
WRAB pmax pmax
comp=Z,12nm,0.9s
WRA Warramunga Arr 64.79 138 P **P** 09 37 39.6 -1.7
comp=Z,7.3nm,0.8s,baz=333,slow=7.1,SNR=27
WRA LR LR 10 10 48.5
comp=Z,132nm,18.1s,baz=270,slow=40
WRA Warramunga Arr 64.79 138 P **P** 09 37 39.6 -1.7
WRA pmax pmax
comp=Z,12nm,0.9s
WRA MLR MLR
comp=Z,132nm,18.1s
WB2 Warramunga Arr 64.80 138 *eP* **P** 09 37 40.9 -0.4
WLF Walferdange 64.84 314 *eP* **P** 09 37 43.8 +2.5
comp=Z,314nm,1.0s
WLF Walferdange 64.84 314 *eP* **P** 09 37 43.8 +2.5
WLF pmax pmax
comp=Z,314nm,1.0s
WLF Walferdange 64.84 314 P **P** 09 37 44.3 +3.0
comp=Z,58nm,1.1s
ANM Nome 64.85 28 *eP* **P** 09 37 40.7 -0.4
comp=Z,17nm,1.0s
ANM Nome 64.85 28 *eP* **P** 09 37 40.7 -0.4
ANM pmax pmax
comp=Z,17nm,1.0s
PMG Port Moresby 65.31 121 *eP* **P** 09 37 43.9 -0.9
comp=Z,29nm,0.9s
PMG Port Moresby 65.31 121⇓ *eP* **P** 09 37 45.2 +0.5
PMG pmax pmax
comp=Z,140nm,1.4s
SENIN Lac Senin/Sane 65.37 310 *eP* **P** 09 37 44.5 -0.6
comp=Z,22nm,0.8s
SNF Seneffe 65.64 316 P **P** 09 37 48.7 +2.3
SNF PcP **PcP** **09 38 12.8 -5.0**
BNI Bardonecchia 66.28 309 *eP* **P** 09 37 51.9 +1.0
comp=Z,16nm,0.7s
BNI Bardonecchia 66.28 309 *eP* **P** 09 37 51.9 +1.0
BNI pmax pmax
comp=Z,16nm,0.7s
BIGH Upper Bighouse 66.78 326 *eP* **P** 09 37 56.1 +2.5
EDU Dundee 67.18 323 *eP* **P** 09 37 58.4 +2.3
EDMD Edmundbyers 67.37 321 *eP* **P** 09 37 59.3 +1.8
MDO Dochfour 67.46 325 *eP* **P** 09 38 01.0 +3.0
SCO Scoresbysund 67.51 341 *iP* **P** 09 38 00.8 +2.8
SCO Scoresbysund 67.51 341 *iP* **P** 09 38 00.8 +2.8
AS31 Alice Springs 67.56 141 *eP* **P** 09 37 58.3 -0.8
comp=Z,4.1nm,0.6s
ASAR Alice Springs 67.56 141 P **P** 09 37 57.8 -1.2
comp=Z,12nm,0.8s,baz=326,slow=6.5,SNR=42
SSB Saint Sauveur 67.57 310 *eP* **P** 09 38 00.7 +1.7
comp=Z,16nm,1.1s
SSB Saint Sauveur 67.57 310 *eP* **P** 09 38 00.7 +1.7
SSB pmax pmax
comp=Z,16nm,1.1s
AS01 Alice Springs 67.59 141 *eP* **P** 09 37 58.1 -1.0
ESK Eskdalemuir 67.81 322 *eP* **P** 09 38 02.3 +2.1
CLF Chamb-on-Foret 67.85 314 *eP* **P** 09 38 03.6 +3.1
comp=Z,49nm,0.9s
KAC Achnashellach 67.88 325 *eP* **P** 09 38 03.2 +2.6
KESW Keswick, Cumbr 68.07 322 *eP* **P** 09 38 04.0 +2.1
KEST Kesra 68.28 299 P **P** 09 38 02.7 -0.9
comp=Z,24nm,0.9s,baz=290,slow=7.6,SNR=7.0
KEST LR LR 10 12 28.8
comp=Z,412nm,21.7s,baz=349,slow=40
KEST Kesra 68.28 299 *eP* **P** 09 38 07.0 +3.3
comp=Z,31nm,1.0s
IM3 Indian Mountai 68.48 24 *eP* **P** 09 38 02.9 -1.4
FOEL Foel Wylfa 68.88 320 *eP* **P** 09 38 09.3 +2.4
COLD Coldfoot 68.96 22 *eP* **P** 09 38 08.4 +1.3
comp=Z,12nm,0.9s
IOMK Kirk Michael 68.98 322 *eP* **P** 09 38 10.1 +2.6
MCH1 Michaelchurch 69.17 319 *eP* **P** 09 38 11.1 +2.3
SUMG Summit 69.98 346 *eP* **P** 09 38 15.8 +1.9
SUMG Summit 69.98 346 *iP* **P** 09 38 13.4 -0.5
SUMG Summit 69.98 346 *iP* **P** 09 38 13.4 -0.5
MLY Manley 70.06 24 *eP* **P** 09 38 13.6 -0.5
comp=Z,16nm,0.8s
TULEG Thule 70.32 356 *eP* **P** 09 38 14.7 -0.7
comp=Z,36nm,1.0s
CAST Castle Rocks 70.51 26 *eP* **P** 09 38 17.6 +0.7
comp=Z,19nm,1.0s
BPAW Bear Paw Mtn. 70.52 25 *eP* **P** 09 38 18.6 +1.7
comp=Z,23nm,1.0s
PPLA Purkeypile 70.77 26 *eP* **P** 09 38 20.6 +2.0
comp=Z,47nm,1.0s
FORT Forrest 70.78 150 *eP* **P** 09 38 21.6 +2.8
comp=Z,24nm,0.8s
FYU Fort Yukon 70.92 21 *eP* **P** 09 38 21.5 +2.4
comp=Z,30nm,1.1s
MDM Murphy Dome 70.96 24 *eP* **P** 09 38 19.1 -0.4
comp=Z,20nm,1.3s
COLA College 71.14 24 *eP* **P** 09 38 21.5 +1.0
comp=Z,31nm,0.7s
TRF Thorofare Moun 71.15 25 *eP* **P** 09 38 23.4 +2.5
comp=Z,10nm,0.8s
KULLO Kullorsuaq 71.19 352 *iP* **P** 09 38 22.4 +1.7
comp=Z,49nm,1.0s
KULLO Kullorsuaq 71.19 352 *iP* **P** 09 38 22.4 +1.7
KULLO pmax pmax
comp=Z,49nm,1.0s
WRH Wood River Hil 71.30 24 *eP* **P** 09 38 23.4 +1.8
comp=Z,9.3nm,0.8s
MCK McKinley 71.46 25 *eP* **P** 09 38 24.6 +1.9
comp=Z,13nm,0.9s
PRP Porcupine Dome 71.50 22 *eP* **P** 09 38 23.5 +0.6
comp=Z,19nm,1.0s
ILAR Eielson Array 71.52 23 P **P** 09 38 21.5 -1.4
comp=Z,12nm,0.8s,baz=294,slow=5.2,SNR=25
ILAR PP **PP** **09 41 01.1 -0.1**
comp=Z,2.2nm,0.9s,baz=293,slow=7.6,SNR=5.6
ILAR LR LR 10 12 46.4
comp=Z,579nm,19.1s,baz=326,slow=38
ILB Eielson Array 71.52 23 *eP* **P** 09 38 21.2 -1.8
IL1 Eielson Array 71.53 23 *eP* **P** 09 38 21.1 -1.8
RND Reindeer 71.69 25 *eP* **P** 09 38 25.5 +1.4
comp=Z,11nm,0.8s
RND Reindeer 71.69 25 *eP* **P** 09 38 25.5 +1.4
RND pmax pmax
comp=Z,11nm,0.8s
HDA Harding Lake 71.73 24 *eP* **P** 09 38 25.3 +1.1
comp=Z,14nm,1.0s
RSO Redoubt South 71.96 29 *eP* **P** 09 38 29.1 +3.3
CTA Charters Tower 72.14 129 P **P** 09 38 25.9 -1.3
comp=Z,13nm,0.8s,baz=310,slow=7.1,SNR=14
CTAO Charters Tower 72.14 129 *eP* **P** 09 38 26.8 -0.4
comp=Z,16nm,0.9s
DHY Denali Highway 72.42 25 *eP* **P** 09 38 28.7 +0.2
comp=Z,9.3nm,0.7s
RES Resolute Bay 72.49 3 *eP* **P** 09 38 25.8 -2.7
comp=Z,10nm,1.1s
RES Resolute Bay 72.49 3 *eP* **P** 09 38 25.8 -2.7

RES pmax pmax
comp=Z,10.0nm,1.1s
PMR Palmer 72.70 27 *e*P **P 09 38 29.3 -0.7**
comp=Z,27nm,1.0s
PMR Palmer 72.70 27 *e*P **P 09 38 29.3 -0.7**
PMR pmax pmax
comp=Z,27nm,1.0s
RC01 Rabbit Creek A 72.78 27 *e*P **P 09 38 31.5 +1.0**
comp=Z,33nm,1.1s
SML Sawmill 72.87 26 *e*P **P 09 38 30.8 -0.3**
comp=Z,63nm,0.8s
RIDG Independ'e Rid 72.87 24 *e*P **P 09 38 31.7 +0.6**
comp=Z,38nm,1.0s
INK Inuvik 72.93 17 P **P 09 38 29.9 -1.4**
comp=Z,15nm,0.8s,baz=320,slow=7.2,SNR=20
INK Inuvik 72.93 17 *e*P **P 09 38 30.3 -0.9**
comp=Z,20nm,0.9s
INK Inuvik 72.93 17 *e*P **P 09 38 30.3 -0.9**
INK pmax pmax
comp=Z,19nm,0.9s
SCRK Sand Creek 73.00 23 *e*P **P 09 38 30.8 -1.1**
comp=Z,32nm,0.8s
KNK Knik Glacier 73.07 27 *e*P **P 09 38 32.3 0.0**
comp=Z,32nm,0.8s
BRLK Bradley Lake 73.13 29 *e*P **P 09 38 34.7 +2.0**
comp=Z,134nm,1.6s
KDAK Kodiak Island 73.59 31 *i* P **P 09 38 34.7 -0.6**
HARP HAARP 73.64 25 *e*P **P 09 38 39.2 +3.7**
comp=Z,29nm,1.0s
KLU Klutina 73.96 26 *e*P **P 09 38 37.9 +0.4**
comp=Z,31nm,0.9s
DAWY Dawson 74.42 22 *e*P **P 09 38 41.6 +1.4**
comp=Z,10nm,1.0s
ES19 SONSECA Array 75.69 308 *e*P **P 09 38 47.6 -0.3**
ESDC Sonseca Array 75.74 308 P **P 09 38 47.5 -0.7**
comp=Z,15nm,0.9s,baz=48,slow=6.3,SNR=25
ESDC LR LR 10 17 21.2
comp=Z,318nm,19.7s,baz=335,slow=40
ESLA Sonseca Array 75.74 308 *e*P **P 09 38 51.7 +3.5**
comp=Z,18nm,1.0s
BBOO Buckleboo 76.12 145 *e*P **P 09 38 52.4 +2.2**
comp=Z,22nm,1.0s
PBRG Braganca 76.43 311 *e*P **P 09 38 56.0 +3.9**
MVO Moncorvo 76.96 311 *e*P **P 09 38 55.5 +0.4**
SFJD Kangerlussuaq 76.97 347 *e*P **P 09 38 57.0 +2.4**
comp=Z,19nm,0.8s
SFJD Kangerlussuaq 76.97 347 *i* P **P 09 38 55.7 +1.1**
comp=Z,15nm,0.8s
SFJD Kangerlussuaq 76.97 347 *i* P **P 09 38 55.7 +1.1**
SFJD pmax pmax
comp=Z,15nm,0.8s
TAM Tamanrasset 77.31 289 *e*P **P 09 39 00.9 +3.4**
comp=Z,4.9nm,0.9s
TAM Tamanrasset 77.31 289 *e*P **P 09 39 00.9 +3.4**
TAM pmax pmax
comp=Z,5.0nm,0.9s
HYT Haines Junctio 77.37 23 *e*P **P 09 38 59.7 +2.6**
comp=Z,17nm,0.9s
MTE Manteigas 77.70 310 *e*P **P 09 39 02.5 +3.2**
PVIS Viseu 77.75 311 *e*P **P 09 39 02.5 +3.0**
PCBR Castelo Branco 77.96 310 *e*P **P 09 39 05.1 +4.5**
PMRV Marv??o 78.12 309 *e*P **P 09 39 04.4 +2.8**
comp=Z,34nm,1.4s
STKA Stephens Creek 78.19 141 P **P 09 39 00.8 -1.0**
comp=Z,8.3nm,0.7s,baz=335,slow=5.8,SNR=15
STKA LR LR 10 18 47.7
comp=Z,179nm,18.8s,baz=307,slow=40
STKA Stephens Creek 78.19 141 *e*P **P 09 39 04.2 +2.4**
comp=Z,4.4nm,1.3s
STKA Stephens Creek 78.19 141 *e*P **P 09 39 04.2 +2.4**
STKA pmax pmax
comp=Z,4.0nm,1.3s
PMTG Montargil 78.86 309 *e*P **P 09 39 07.3 +1.7**
SKAG Skagway 79.11 23 *e*P **P 09 39 09.3 +2.7**
comp=Z,50nm,0.9s
PBEJ Beja 79.20 308 *e*P **P 09 39 09.8 +2.3**
PVAQ Vaqueiros 79.44 308 *e*P **P 09 39 10.3 +1.5**
LSZ Lusaka 79.50 244 *e*P **P 09 39 09.0 -0.5**
comp=Z,25nm,1.4s
LSZ Lusaka 79.50 244 *e*P **P 09 39 09.0 -0.5**
LSZ pmax pmax
comp=Z,25nm,1.4s
MESJ Messejana 79.53 308 *e*P **P 09 39 09.5 +0.1**
MESJ AMb AMB 09 39 13.0
comp=Z,41nm,1.8s
MESJ Messejana 79.53 308 *e*P **P 09 39 11.1 +1.8**
comp=Z,40nm,2.2s
MESJ Messejana 79.53 308 *e*P **P 09 39 09.4 +0.1**
MESJ pmax pmax
comp=Z,41nm,1.8s
PNCL Nicolau / Gran 79.59 309 *e*P **P 09 39 11.3 +1.7**
comp=Z,42nm,1.6s
PBDV Barranco-do-Ve 79.67 308 *e*P **P 09 39 11.2 +1.1**
comp=Z,50nm,1.3s
DLBC Dease Lake 81.64 22 *e*P **P 09 39 22.4 +2.1**
comp=Z,21nm,1.0s
YKA Yellowknife Ar 82.05 13 P **P 09 39 20.9 -1.4**
comp=Z,6.8nm,0.9s,baz=332,slow=4.8,SNR=28
YKA PKKPbc **PKKPbc 09 57 52.3 +0.5**
comp=Z,0.4nm,0.7s,baz=159,slow=2.4,SNR=7.4
YKA LR LR 10 18 08.8
comp=Z,32nm,21.0s,baz=336,slow=37
TORD Torodi Ar. Bea 85.44 283 P **P 09 39 38.6 -1.9**
comp=Z,8.6nm,0.8s,baz=48,slow=3.7,SNR=24
TORD PP **PP 09 43 01.9 +3.1**
comp=Z,1.5nm,1.0s,baz=64,slow=3.4,SNR=3.7
LBTB Lobatse 87.42 238 *e*P **P 09 39 51.0 +1.0**
comp=Z,15nm,0.9s
LBTB Lobatse 87.42 238 *e*P **P 09 39 51.0 +1.0**
LBTB pmax pmax
comp=Z,15nm,0.9s
DZM Mont Dzumac 87.58 118 *e*S **S 09 50 28.4 -2.5**
comp=Z,99nm,23.4s
DZM Mont Dzumac 87.58 118 *e*LR LR 10 07 42.7
comp=Z,304nm,26.4s
FCC Fort Churchill 88.38 5 *e*P **P 09 39 52.4 -1.6**
comp=Z,5.8nm,0.5s
FCC Fort Churchill 88.38 5 *e*P **P 09 39 52.4 -1.6**
FCC pmax pmax
comp=Z,6.0nm,0.5s
BOSA Boshof 89.87 235 P **P 09 39 59.6 -1.9**
comp=Z,3.7nm,0.9s,baz=42,slow=12,SNR=1.8
LLLB Lillooet 90.79 22 *e*P **P 09 40 08.1 +2.5**
comp=Z,14nm,1.1s
SCHQ Schefferville 91.18 349 P **P 09 40 05.7 -1.6**
comp=Z,4.7nm,0.8s,baz=57,slow=4.9,SNR=6.8
SCHQ Schefferville 91.18 349 *e*P **P 09 40 09.1 +1.8**
comp=Z,6.3nm,0.9s
FFC Flin Flon 91.55 10 *e*P **P 09 40 07.1 -1.8**
comp=Z,14nm,0.8s
FFC Flin Flon 91.55 10 *i* P **P 09 40 08.6 -0.3**
B06A Marblemount 92.73 23 *e*P **P 09 40 17.1 +2.7**
comp=Z,13nm,0.8s
B08A Colville Reser 93.56 22 *e*P **P 09 40 20.3 +1.9**
comp=Z,4.6nm,0.9s
DBIC Dimbokro 94.36 281 P **P 09 40 21.6 -1.0**
comp=Z,3.6nm,0.6s,baz=68,slow=3.1,SNR=5.4
DBIC LR LR 10 27 18.6
comp=Z,440nm,18.3s,baz=36,slow=38
ULM Lac du Bonnet 96.68 7 P **P 09 40 31.4 -1.1**
comp=Z,1.3nm,0.7s,baz=329,slow=6.3,SNR=3.5
ULM LR LR 10 27 43.5
comp=Z,418nm,18.1s,baz=352,slow=38
PDAR Pinedale Array 101.48 18 P **Pdif 09 40 53.5 -1.0**
comp=Z,0.5nm,0.9s,baz=29,slow=2.1,SNR=2.7
NVAR Mina Array Bea 102.68 26 P **Pdif 09 40 58.3 -1.6**
comp=Z,0.8nm,1.0s,baz=305,slow=5.2,SNR=2.1
SWET Sewanee 112.23 1 *e*Pdif **Pdif 09 41 42.5 +0.3**
TXAR Lajitas Array 115.70 18 PKP **PKiKP 09 45 44.4 -0.7**
comp=Z,0.6nm,0.8s,baz=0.0,slow=2.7,SNR=3.1
PPT2 Papeete2 120.73 92 *e*LR LR 10 23 06.7
comp=Z,256nm,26.0s
QSPA South Pole Qui 122.69 180 *e*PKPdf **PKPdf 09 45 56.1 -1.2**
SNAA Sanae 123.22 202 PKP **PKPdf 09 45 57.6 -0.5**
comp=Z,2.8nm,0.8s,baz=163,slow=3.2,SNR=3.0
TBI Tubuai 123.39 98 *e*LR LR 10 24 21.3
comp=Z,179nm,25.0s
TAOE Nuku Hiva Isla 124.16 77 *e*SS SS 10 04 45.6 +9.3
comp=Z,124nm,26.1s
TAOE Nuku Hiva Isla 124.16 77 *e*LR LR 10 24 12.3
comp=Z,154nm,27.3s
RKT Rikitea 135.44 90 *e*LR LR 10 30 06.9
comp=Z,275nm,27.5s
SDV Santo Domingo 136.14 339 *e*PKPdf **PKPdf 09 46 24.6 0.0**
PTGA Pitinga 140.08 318 PKP **PKPdf 09 46 32.2 +0.6**
comp=Z,0.9nm,0.3s,baz=319,slow=19,SNR=2.0
ROSC El Rosal 141.03 342 PKhKP PKPpre 09 46 28.0
comp=Z,5.2nm,0.4s,baz=122,slow=11,SNR=5.1
OTAV Otavalo 146.40 348 *e*PKPdf **PKPdf 09 46 42.7 -0.6**
OTAV Otavalo 146.40 348 *e*PKP2 **PKPdf 09 46 42.7 -0.6**
SIV San Ignacio 152.34 302 PKP **PKPdf 09 46 51.8 -0.3**
comp=Z,1.1nm,0.8s,baz=76,slow=6.1,SNR=4.8
CPUP Villa Florida 154.84 278 PKP **PKPdf 09 46 55.8 +0.4**
comp=Z,1.1nm,0.7s,baz=45,slow=1.4,SNR=3.2
LPAZ La Paz 157.29 313 PKP **PKPdf 09 46 58.9 -0.7**
comp=Z,1.1nm,1.0s,baz=101,slow=2.7,SNR=3.4
LPAZ PKPab **PKPab 09 47 31.0 +0.4**
comp=Z,2.1nm,0.9s,baz=14,slow=8.3,SNR=3.7

*ISCJB **30** 09:33:00.7±0.1,26.˚10S±0.˚02×69.˚08W±0.˚03,h10km, mb4.7/89,MS3.6/4,Error ellipse: s-maj=3.8km s-min=2.9km az=169.0*
*GUC **30** 09:33:01.5±0.4,26.˚19S×69.˚23W,h5km±3km,ML4.4*
*NEIC **30** 09:33:02.6±1.5,26.˚18S×69.˚00W,h7km±9km,mb4.8/83, ML4.4(GUC),Error ellipse: s-maj=6.7km s-min=4.0km az=85.0*
NEIC Felt [II] at Copiapo and Tierra Amarilla. Felt at La Rioja, Argentina.
*SJA **30** 09:33:04.2±0.5,26.˚17S×69.˚38W,h36km±6km,ML3.6, MW4.6*
*MOS **30** 09:33:05.1±1.1,26.˚25S×69.˚01W,h33km,mb5.0/18,Error ellipse: s-maj=14.3km s-min=7.3km az=96.4*
*IDC **30** 09:33:06.7±3.8,26.˚23S×69.˚09W,h38km±29km,mb4.3/8, mb1 4.4/12,mb1mx4.2/27,mbtmp4.5/12,ML4.0/4,MS3.7/8, Ms1 3.7/8,ms1mx3.5/22,Error ellipse: s-maj=27.5km s-min=17.7km az=51.0*
*VAO **30** 09:33:07.8±0.3,26.˚22S×69.˚25W,h64km,mb4.4*
ISC 30 09:33:01.1±1.3,26.˚17S±0.˚02×69.˚31W±0.˚05,h1km±8km, n455,σ1$50/471,mb4.8/89,MS3.6/4,9C-6D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO02	**Mina Guanaco**	**1.03**	**345**	*e*Pn	**Pb**	**09 33 22.1**	**+0.2**
GO02				*e*Sn	**Sb**	**09 33 37.1**	**+1.0**
GO02	**Mina Guanaco**	**1.03**	**345**	*i*P	**Pg**	**09 33 20.7**	**-0.2**
GO02				*e*S	**Sb**	**09 33 35.8**	**-0.3**
GO02				IAML		09 33 45.4	
	comp=E,7μm,0.6s						
CRCH	**Chaqaral**	**1.20**	**261**	*e*P	**Pn**	**09 33 25.2**	**+0.3**
CRCH				*e*S	**Sn**	**09 33 42.9**	**+1.2**
GO03	**Copiap**	**1.65**	**210**	*e*Pn	**Pn**	**09 33 31.5**	**+0.3**
GO03				*e*Sn	**Sg**	**09 33 54.0**	**0.0**
GO03	**Copiap**	**1.65**	**210**	*i*P	**Pn**	**09 33 31.1**	**-0.1**
GO03				*e*S	**Sg**	**09 33 53.9**	**-0.1**
GO03				IAML		09 33 58.8	
	comp=E,11μm,0.2s						
PB14	**IPOC Station P**	**1.83**	**327**	*i*P	**Pb**	**09 33 34.9**	**-0.6**
PB14				*i*S	**Sn**	**09 33 57.8**	**-0.1**
PB14	**IPOC Station P**	**1.83**	**327**	*e*P	**Pb**	**09 33 34.9**	**-0.6**
PB14				*e*S	**Sg**	**09 34 00.8**	**+1.0**
PB14				IAML		09 34 04.4	
	comp=N,5μm,0.4s						
PB10	**IPOC Station P**	**2.88**	**336**	*e*Pn	**Pb**	**09 33 51.2**	**-2.0**
PB10				*e*Sn	**Sb**	**09 34 27.0**	**-1.9**
PB10	**IPOC Station P**	**2.88**	**336**	*e*P	**Pn**	**09 33 50.2**	**+2.2**
PB10				*i*S	**Sb**	**09 34 27.6**	**-1.3**
PB10				IAML		09 34 36.7	
	comp=E,2μm,0.7s						
PB15	**IPOC Station P**	**2.95**	**357**	*i*P	**Pn**	**09 33 51.4**	**+2.1**
PB15				*i*S	**Sn**	**09 34 26.2**	**+0.8**
PB15	**IPOC Station P**	**2.95**	**357**	*e*P	**Pn**	**09 33 51.7**	**+2.5**
PB15				*e*S	**Sg**	**09 34 35.5**	**-0.4**
LCO	**Las Campanas**	**3.09**	**203**	*e*Pn	**Pn**	**09 33 52.7**	**+1.5**
LCO				*e*Sn	**Sn**	**09 34 30.9**	**+1.9**
LCO	**Las Campanas**	**3.09**	**203**	*i*P	**Pn**	**09 33 53.0**	**+1.7**
LCO	**Las Campanas**	**3.09**	**203**	*e*P	**Pn**	**09 33 53.3**	**+2.0**
LCO	**Las Campanas**	**3.09**	**203**	*e*P	**Pn**	**09 33 53.4**	**+2.2**
LCO				*e*S	**Sb**	**09 34 32.6**	**-2.7**
LCO	**Las Campanas**	**3.09**	**203**	*e*P	**Pn**	**09 33 53.1**	**+1.9**
PB05	**IPOC Station P**	**3.40**	**346**	*i*P	**Pn**	**09 33 57.4**	**+2.1**
PB05	**IPOC Station P**	**3.40**	**346**	*e*P	**Pn**	**09 33 57.3**	**+1.9**
PB05				*e*S	**Sb**	**09 34 40.6**	**-3.5**
PB06	**IPOC Station P**	**3.46**	**356**	*i*P	**Pn**	**09 33 58.8**	**+2.6**
PB06	**IPOC Station P**	**3.46**	**356**	*e*P	**Pn**	**09 33 58.7**	**+2.6**
PB06				*e*S	**Sb**	**09 34 43.4**	**-2.3**
LVC	**Limon Verde**	**3.56**	**6**	Pn	**Pn**	**09 34 01.5**	**+3.8**
	comp=E,63nm,0.3s,baz=195,slow=7.4,SNR=167						
LVC				Lg	Lg	09 34 52.3	
	comp=E,151nm,0.3s,baz=293,slow=17,SNR=5.1						
LVC				LR	LR	09 35 31.1	
	comp=E,1μm,21.0s,baz=200,slow=40						
LVC	**Limon Verde**	**3.56**	**6**	*e*Pn	**Pn**	**09 34 01.1**	**+3.3**
LVC				*e*Sn	**Sn**	**09 34 39.2**	**-1.5**
LVC				Lg	Lg	09 34 52.3	
LVC	**Limon Verde**	**3.56**	**6**	*e*P	**Pn**	**09 34 01.8**	**+3.3**
LVC				*e*		09 34 39.2	
LVC	**Limon Verde**	**3.56**	**6**	*e*P	**Pn**	**09 34 00.7**	**+3.0**
AHML	**Horco Molle**	**3.61**	**101**	*i*P	**Pn**	**09 34 01.7**	**+3.5**
AHML				IAML		09 34 10.7	
	comp=Z,97nm,0.4s						
CYA	**Choya**	**3.85**	**127**	*i*P	**Pn**	**09 34 04.8**	**+3.3**
CYA				IAML		09 34 19.7	
	comp=Z,68nm,0.7s						
ACLC	**CERRO LA CRUZ**	**3.86**	**148**	*i*P	**Pn**	**09 34 04.8**	**+3.1**
PB04	**IPOC Station P**	**3.89**	**348**	*e*Pn	**Pn**	**09 34 04.4**	**+2.2**
PB04				*e*Sn	**Sn**	**09 34 50.9**	**+2.2**
GO04	**Tololo Observa**	**4.20**	**198**	*e*Pn	**Pn**	**09 34 10.0**	**+3.4**
HJA	**Humahuaca**	**4.61**	**51**	*i*P	**Pn**	**09 34 16.6**	**+4.4**
HJA				IAML		09 34 32.5	
	comp=Z,48nm,0.5s						
AMOG	**MOGNA**	**4.81**	**172**	*i*P	**Pn**	**09 34 17.9**	**+3.2**
PB01	**IPOC Station P**	**5.10**	**358**	*e*Pn	**Pn**	**09 34 21.3**	**+2.5**
RTLL	**Cerro Villicun**	**5.20**	**172**	*i*P	**Pn**	**09 34 23.6**	**+3.6**
YJA	**Yavi**	**5.27**	**42**	*i*P	**Pn**	**09 34 25.2**	**+3.9**
RTLS	**Leoncito**	**5.61**	**180**	*i*P	**Pn**	**09 34 29.1**	**+3.2**
PB11	**IPOC Station P**	**6.38**	**357**	*e*Pn	**Pn**	**09 34 36.9**	**+0.4**
ROC1	**El Roble**	**6.95**	**192**	*e*Pn	**Pn**	**09 34 46.0**	**+1.8**
MNMC	**Minye Minye**	**7.01**	**358**	*e*Pn	**Pn**	**09 34 46.3**	**+1.2**
PEL	**Peldehue**	**7.05**	**189**	*e*Pn	**Pn**	**09 34 47.4**	**+1.9**
PEL	**Peldehue**	**7.05**	**189**	*e*P	**Pn**	**09 34 47.4**	**+1.9**
LPAZ	**La Paz**	**9.89**	**7**	Pn	**Pn**	**09 35 26.9**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=194,slow=8.1,SNR=25						
LPAZ				Lg	Lg	09 38 17.7	
	baz=163,slow=17,SNR=2.0						
LPAZ				LR	LR	09 40 08.6	
	comp=Z,274nm,18.7s,baz=194,slow=42						
LPAZ	**La Paz**	**9.89**	**7**	*e*P	**Pn**	**09 35 27.2**	**+2.2**
LPAZ	**La Paz**	**9.89**	**7**	*e*P	**Pn**	**09 35 26.9**	**+1.9**
CPUP	**Villa Florida**	**10.75**	**94**	Pn	**Pn**	**09 35 35.9**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=304,slow=6.6,SNR=3.6						
CPUP				Lg	Lg	09 38 36.6	
	comp=Z,0.1nm,0.3s,baz=345,slow=20,SNR=2.0						
CPUP				LR	LR	09 40 07.0	
	comp=Z,550nm,19.0s,baz=270,slow=40						
CPUP	**Villa Florida**	**10.75**	**94**	*e*Pn	**Pn**	**09 35 35.6**	**-0.6**
CPUP				Lg	Lg	09 38 36.6	
CPUP	**Villa Florida**	**10.75**	**94**	*e*P	**Pn**	**09 35 35.6**	**-0.6**
CPUP	**Villa Florida**	**10.75**	**94**	*e*P	**Pn**	**09 35 37.3**	**+1.1**
SIV	**San Ignacio**	**12.70**	**39**	Pn	**Pn**	**09 36 00.8**	**-2.2**
	comp=Z,4.7nm,0.3s,baz=238,slow=13,SNR=57						
TRQA	**Tornquist**	**13.37**	**154**	*e*Pn	**Pn**	**09 36 11.9**	**-0.1**
	comp=Z,9.4nm,0.8s						
TRQA	**Tornquist**	**13.37**	**154**	*e*P	**Pn**	**09 36 11.9**	**-0.1**
TRQA				pmax	pmax		
	comp=Z,9.0nm,0.8s			P			
TRQA	**Tornquist**	**13.37**	**154**	*e*P	**Pn**	**09 36 12.5**	**+0.5**
GO06	**Curarrehue**	**13.50**	**187**	*e*Pn	**Pn**	**09 36 15.1**	**+1.2**
PLCA	**Paso Flores**	**14.56**	**184**	Pn	**Pn**	**09 36 26.5**	**-1.9**
	comp=Z,0.0nm,0.3s,baz=331,slow=10,SNR=3.3						
PLCA				LR	LR	09 42 31.6	
	comp=Z,298nm,19.1s,baz=32,slow=39						
PLCA	**Paso Flores**	**14.56**	**184**	*e*Pn	**Pn**	**09 36 29.0**	**+0.6**
PLCA	**Paso Flores**	**14.56**	**184**	*e*P	**Pn**	**09 36 29.0**	**+0.6**
CPSB	**Cacapava Do Su**	**14.60**	**110**	*e*P	**Pn**	**09 36 30.2**	**+1.4**
PLTB	**Pedras Altas**	**14.83**	**116**	*e*P	**Pn**	**09 36 33.1**	**+1.2**
ITAB	**Concordia**	**15.39**	**98**	*e*P	**Pn**	**09 36 40.8**	**+1.4**
TRCB	**Terra Rica**	**15.54**	**81**	*e*P	**Pn**	**09 36 45.6**	**-0.4**
PTGB	**Pitanga**	**15.64**	**88**	*e*P	**Pn**	**09 36 44.9**	**+2.0**
NNA	**Nana**	**15.79**	**332**	Pn	**P**	**09 36 47.4**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=156,slow=18,SNR=2.3						
NNA	**Nana**	**15.79**	**332**	*e*Pn	**P**	**09 36 48.4**	**-0.5**
	comp=Z,70nm,1.7s						
NNA	**Nana**	**15.79**	**332**	*i*P	**P**	**09 36 52.4**	**+3.6**
FRTB	**Fartura**	**18.15**	**85**	*e*P	**Pn**	**09 37 14.2**	**-0.4**
TIJ01	**Guaruva-PR**	**18.31**	**92**	*e*P	**Pn**	**09 37 15.8**	**-0.8**
ITRB	**Iturama**	**18.59**	**74**	*e*P	**P**	**09 37 18.4**	**-1.3**
BB19B	**Bebedouro**	**19.70**	**79**	*e*P	**P**	**09 37 30.4**	**-1.5**
SPB	**Sao Paulo**	**20.01**	**87**	*e*P	**P**	**09 37 33.5**	**-1.7**
	comp=Z,19nm,1.1s						
RCLB	**Rio Claro- Sao**	**20.19**	**84**	*e*P	**P**	**09 37 36.7**	**-0.7**
IPMB	**Ipameri, GO**	**21.16**	**72**	*e*P	**P**	**09 37 45.6**	**-2.2**
BDFB	**Brasilia**	**22.45**	**66**	P	**P**	**09 37 58.1**	**-3.6**
	comp=Z,5.2nm,0.7s,baz=246,slow=12,SNR=8.1						
BDFB				LR	LR	09 47 55.3	
	comp=Z,244nm,19.2s,baz=223,slow=40						
BDFB	**Brasilia**	**22.45**	**66**	*e*P	**P**	**09 37 59.4**	**-2.3**
	comp=Z,7.8nm,0.9s						
BDFB	**Brasilia**	**22.45**	**66**	*e*P	**P**	**09 37 59.4**	**-2.3**
BDFB				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PMNB	**Patos De Minas**	**22.45**	**75**	*e*P	**P**	**09 38 00.3**	**-1.5**
MCI6	**Montes Claros**	**25.37**	**74**	*e*P	**P**	**09 38 29.4**	**-0.6**
MCI8	**Montes Claros**	**25.41**	**73**	*e*P	**P**	**09 38 29.9**	**-0.6**
MCI9	**Montes Claros**	**25.42**	**73**	*e*P	**P**	**09 38 29.8**	**-0.7**
MCI7	**Montes Claros**	**25.45**	**74**	*e*P	**P**	**09 38 29.6**	**-1.1**
JANB	**Januaria**	**25.82**	**70**	*e*P	**P**	**09 38 31.9**	**-2.3**
PTGA	**Pitinga**	**26.84**	**21**	P	**P**	**09 38 43.6**	**+0.4**
	comp=Z,13nm,0.8s,baz=196,slow=11,SNR=24						
PTGA	**Pitinga**	**26.84**	**21**	*e*P	**P**	**09 38 42.6**	**-0.7**
EFI	**East Falkland**	**26.87**	**164**	*e*P	**P**	**09 38 42.1**	**-1.1**
	comp=Z,113nm,1.4s						
EFI	**East Falkland**	**26.87**	**164**	*e*P	**P**	**09 38 42.5**	**-0.6**
EFI				pmax	pmax		
	comp=Z,71nm,1.5s						
SJMB	**Sao Joao De Ma**	**26.99**	**80**	*e*P	**P**	**09 38 44.1**	**-0.6**
ROSC	**El Rosal**	**31.20**	**350**	LR	LR	09 53 24.1	
	comp=Z,102nm,18.9s,baz=184,slow=39						
SDV	**Santo Domingo**	**34.87**	**358**	LR	LR	09 55 15.9	
	comp=Z,133nm,18.7s,baz=209,slow=38						
SDV	**Santo Domingo**	**34.87**	**358**	*e*P	**P**	**09 39 53.5**	**-0.7**
	comp=Z,18nm,1.7s						
SDV	**Santo Domingo**	**34.87**	**358**	*e*P	**P**	**09 39 53.7**	**-0.5**
MDP	**Montagnes des**	**35.03**	**30**	LR	LR	09 56 10.0	
	comp=Z,103nm,19.5s,baz=206,slow=40						
JTS	**JuntasAbangare**	**39.30**	**335**	*e*P	**P**	**09 40 33.7**	**+1.9**
DWPF	**Disney Wildern**	**55.21**	**347**	*e*P	**P**	**09 42 34.7**	**-0.9**
VNA3	**Neumayer Olymp**	**55.81**	**160**	P	**P**	**09 42 38.0**	**-1.5**
VNA1	**Neumayer--Stat**	**56.04**	**159**	P	**P**	**09 42 40.8**	**-0.3**
VNA2	**Neumayer--Watz**	**56.40**	**160**	P	**P**	**09 42 43.3**	**-0.4**
	baz=288,slow=8.7						
SNAA	**Sanae**	**58.02**	**160**	P	**P**	**09 42 54.7**	**-0.5**
SNAA	**Sanae**	**58.02**	**160**	P	**P**	**09 42 54.3**	**-0.9**
	comp=Z,4.2nm,0.6s,baz=268,slow=9.8,SNR=15						
SNAA	**Sanae**	**58.02**	**160**	*e*P	**P**	**09 42 54.8**	**-0.5**
	comp=Z,33nm,1.6s						
SNAA	**Sanae**	**58.02**	**160**	*e*P	**P**	**09 42 54.9**	**-0.3**
SNAA				pmax	pmax		
	comp=Z,338nm,1.0s						
ZAIG	**Zacatecas**	**58.34**	**324**	*e*P	**P**	**09 42 59.9**	**+1.5**
	comp=Z,11nm,1.2s						
352A	**Blakely**	**59.23**	**344**	P	**P**	**09 43 02.9**	**-1.0**
	baz=163						
BRAL	**Brewton**	**59.48**	**342**	P	**P**	**09 43 05.0**	**-0.7**
	baz=161						
252A	**Lumpkin**	**59.68**	**345**	P	**P**	**09 43 06.5**	**-0.6**
	baz=164						
349A	**Repton**	**59.69**	**342**	P	**P**	**09 43 06.6**	**-0.6**
	baz=161						
NHSC	**New Hope**	**59.85**	**349**	P	**P**	**09 43 07.7**	**-0.5**
	baz=168						
154A	**Montrose**	**59.91**	**347**	P	**P**	**09 43 08.5**	**-0.1**
	baz=165						
251A	**Midway**	**59.94**	**344**	P	**P**	**09 43 08.0**	**-0.8**
	baz=163						
250A	**Grady**	**60.04**	**343**	P	**P**	**09 43 09.0**	**-0.6**
	baz=162						
249A	**Camden**	**60.27**	**343**	P	**P**	**09 43 10.6**	**-0.4**
	baz=161						
152A	**Waverly Hall**	**60.32**	**345**	P	**P**	**09 43 10.9**	**-0.6**
	baz=164						
151A	**Opelika**	**60.33**	**344**	P	**P**	**09 43 10.6**	**-0.9**
	baz=163						
Z54A	**Sparta**	**60.46**	**347**	P	**P**	**09 43 11.7**	**-0.7**
	baz=166						
150A	**Eclectic**	**60.58**	**344**	P	**P**	**09 43 12.3**	**-0.9**
	baz=162						
Z53A	**Monticello**	**60.66**	**346**	P	**P**	**09 43 12.7**	**-1.0**
	baz=165						
Z52A	**Williamson**	**60.76**	**345**	P	**P**	**09 43 13.1**	**-1.3**
	baz=164						
Y54A	**Tignall**	**61.04**	**347**	P	**P**	**09 43 15.9**	**-0.4**
	baz=166						
Z50A	**Ashland**	**61.17**	**344**	*e*P	**P**	**09 43 16.7**	**-0.6**
	comp=Z,11nm,0.9s						
Z50A	**Ashland**	**61.17**	**344**	P	**P**	**09 43 16.2**	**-1.1**
	baz=163,SNR=5.1						
Y53A	**Monroe**	**61.21**	**346**	P	**P**	**09 43 16.7**	**-0.8**
	baz=165						
LRAL	**Lakeview Retre**	**61.24**	**343**	P	**P**	**09 43 17.0**	**-0.7**
	baz=162						
Y52A	**Lilburn**	**61.33**	**346**	P	**P**	**09 43 17.6**	**-0.7**
	baz=165						
833A	**Chaparral WMA,**	**61.41**	**330**	*e*P	**P**	**09 43 20.2**	**+1.3**
	comp=Z,19nm,0.9s						
833A	**Chaparral WMA,**	**61.41**	**330**	P	**P**	**09 43 18.9**	**-0.1**
	baz=149						
Y51A	**Rockmart**	**61.58**	**345**	P	**P**	**09 43 19.4**	**-0.6**
	baz=164						
X53A	**Estanollee**	**61.78**	**347**	P	**P**	**09 43 21.0**	**-0.4**
	baz=166						
Y48A	**Jasper**	**62.11**	**343**	P	**P**	**09 43 22.9**	**-0.7**
	baz=162						
X51A	**Calhoun**	**62.17**	**346**	*e*P	**P**	**09 43 23.9**	**-0.2**
	comp=Z,16nm,0.9s						
X51A	**Calhoun**	**62.17**	**346**	P	**P**	**09 43 23.8**	**-0.2**
	baz=164						
Y47A	**UCPARC, Winfie**	**62.28**	**343**	P	**P**	**09 43 24.4**	**-0.3**
	baz=161						
W53A	**Cullowhee**	**62.40**	**347**	P	**P**	**09 43 25.5**	**-0.2**
	baz=166						
X48A	**Hartselle**	**62.59**	**344**	*e*P	**P**	**09 43 26.7**	**-0.1**
	comp=Z,7.6nm,0.8s						
X48A	**Hartselle**	**62.59**	**344**	P	**P**	**09 43 26.4**	**-0.3**
	baz=162						
Y45A	**Ye

U51A **La Follette** 63.74 347 P P 09 43 33.8 -0.6
baz=165
V48A **Smith Brothers** 63.76 344 eP P 09 43 33.9 -0.7
comp=Z,20nm,1.4s
V48A **Smith Brothers** 63.76 344 P P 09 43 33.6 -0.9
baz=162,SNR=6.2
TZTN **Tazewell** 63.80 347 P P 09 43 34.1 -0.7
baz=166
W45A **Hickory Valley** 63.83 342 P P 09 43 34.4 -0.5
baz=160
QSPA **South Pole Qui** 64.05 180 eP P 09 43 36.3 0.0
comp=Z,23nm,0.8s
V46A **Holladay** 64.15 343 P P 09 43 35.9 -1.1
baz=161
U49A **Red Boiling Sp** 64.25 345 P P 09 43 38.0 +0.2
baz=163,SNR=8.4
TXAR **Lajitas Array** 64.28 327 P P 09 43 38.2 -0.1
comp=Z,1.6nm,1.0s,baz=141,slow=8.1,SNR=6.5
TX31 **Lajitas Ar. Si** 64.28 327 eP P 09 43 39.3 +1.1
T51A **Gray** 64.29 347 P P 09 43 37.3 -0.7
baz=165
WVT **Waverly** 64.38 343 eP P 09 43 38.0 -0.6
comp=Z,6.5nm,0.6s
WVT **Waverly** 64.38 343 eP P 09 43 38.0 -0.6
WVT pmax pmax
comp=Z,7.0nm,0.6s
WVT **Waverly** 64.38 343 P P 09 43 38.0 -0.6
baz=161
U48A **Cassie Pea, Po** 64.43 345 P P 09 43 38.3 -0.6
baz=163
U47A **Clarksville** 64.54 344 P P 09 43 38.4 -1.2
baz=162
MIAR **Mount Ida** 64.62 338 P P 09 43 40.0 -0.2
baz=156
U46A **Springville** 64.69 343 P P 09 43 40.2 -0.4
baz=161
W41B **Gary Mavity, V** 64.76 339 P P 09 43 40.8 -0.3
baz=157
T49A **Edmonton** 64.76 346 eP P 09 43 40.7 -0.4
comp=Z,10.0nm,0.6s
T49A **Edmonton** 64.76 346 P P 09 43 40.5 -0.6
baz=164
R54A **Victor** 64.94 350 P P 09 43 41.7 -0.5
baz=168
T47A **Sharon Grove** 65.02 344 P P 09 43 42.6 -0.1
baz=162
S50A **Richmond** 65.07 347 P P 09 43 42.7 -0.4
baz=165
ABTX **Abilene, Hawle** 65.22 332 eP P 09 43 45.2 +1.0
comp=Z,20nm,1.2s
ABTX **Abilene, Hawle** 65.22 332 P P 09 43 44.4 +0.3
baz=150
T46A **Princeton** 65.26 344 P P 09 43 43.8 -0.5
baz=161
W39A **Magazine** 65.28 338 P P 09 43 44.7 +0.2
baz=156
V41A **Mountainview** 65.29 340 P P 09 43 44.4 -0.1
baz=157
S48A **Wiedeman Farm,** 65.41 345 P P 09 43 44.4 -0.9
baz=163
R51A **Hillsboro** 65.51 348 P P 09 43 43.6 -2.3
baz=166
U42A **Revenden** 65.53 341 P P 09 43 45.9 -0.2
baz=158
S47A **Hartford** 65.54 345 P P 09 43 45.3 -0.8
baz=162
R50A **Paris** 65.64 347 P P 09 43 45.6 -1.1
baz=165
U41A **Viola** 65.73 340 P P 09 43 47.4 0.0
baz=158
S46A **Don Dixon Farm** 65.83 344 P P 09 43 47.3 -0.7
baz=162
T43A **Greenville** 65.94 342 P P 09 43 48.0 -0.7
baz=159,SNR=6.1
WCI **Wyandotte Cave** 66.01 345 eP P 09 43 48.6 -0.5
comp=Z,8.3nm,0.8s
WCI **Wyandotte Cave** 66.01 345 eP P 09 43 48.6 -0.5
WCI pmax pmax
comp=Z,8.0nm,0.8s
WCI **Wyandotte Cave** 66.01 345 P P 09 43 48.4 -0.7
baz=163
U40A **Yellville** 66.04 339 P P 09 43 48.7 -0.7
baz=157,SNR=6.1
S45A **Carrier Mills** 66.04 343 P P 09 43 48.4 -0.9
baz=161
T42A **Van Buren** 66.12 341 P P 09 43 49.0 -0.9
baz=158
R47A **Wooly Knot Far** 66.13 345 P P 09 43 48.1 -1.8
baz=163
S44A **Carbondale** 66.23 343 P P 09 43 49.5 -1.0
baz=160
P54A **Burton** 66.25 351 P P 09 43 50.4 -0.3
baz=169
P53A **Whipple** 66.28 350 P P 09 43 50.0 -0.8
baz=168
T41A **Mountain View** 66.33 341 P P 09 43 50.6 -0.7
baz=158
S43A **Fulton Ridge,** 66.34 342 P P 09 43 50.5 -0.8
baz=159,SNR=5.9
Q49A **Aurora** 66.45 347 P P 09 43 51.0 -0.9
baz=164
R45A **Skylar, Fairfi** 66.54 344 P P 09 43 51.4 -1.1
baz=161
P52A **Corning** 66.55 349 P P 09 43 51.3 -1.3
baz=167
Q48A **North Vernon** 66.56 346 P P 09 43 51.0 -1.6
baz=164
TUL1 **Leonard** 66.62 337 P P 09 43 52.4 -0.7
baz=154
O55A **Ligonier** 66.69 352 P P 09 43 52.5 -1.0
baz=170
R44A **Waltonville** 66.71 343 P P 09 43 52.5 -1.1
baz=160
S42A **Caledonia** 66.72 342 P P 09 43 52.6 -1.1
baz=159
P50A **Jamestown** 66.82 348 P P 09 43 52.8 -1.5
baz=166
S41A **Jillco Farms,** 66.83 341 P P 09 43 52.8 -1.6
baz=158,SNR=8.5
O52A **Adamsville** 66.97 350 P P 09 43 54.0 -1.2
baz=168
O53A **New Philadelph** 67.00 350 P P 09 43 53.8 -1.6
baz=168
MNTX **Cornudas Mount** 67.06 327 eP P 09 43 56.1 0.0
comp=Z,5.3nm,0.9s
MNTX **Cornudas Mount** 67.06 327 P P 09 43 55.1 -0.9
baz=145
Q45A **Warren Harvey,** 67.08 344 P P 09 43 54.4 -1.6
baz=161
CCM **Cathedral Cave** 67.12 341 eP P 09 43 56.3 +0.1
comp=Z,7.7nm,0.8s
CCM **Cathedral Cave** 67.12 341 eP P 09 43 56.3 +0.1
CCM pmax pmax
comp=Z,8.0nm,0.8s
CCM **Cathedral Cave** 67.12 341 P P 09 43 55.3 -0.9
baz=158
O51A **Pataskala** 67.13 349 P P 09 43 55.0 -1.3
baz=167
R42A **Luebbering** 67.20 342 P P 09 43 56.2 -0.6
baz=159,SNR=5.7
P47A **Martinsville** 67.21 346 P P 09 43 55.6 -1.1
baz=163
N55A **Marion Center** 67.21 352 P P 09 43 55.7 -1.1
baz=170
ACSO **Alum Creek Sta** 67.28 349 P P 09 43 55.6 -1.6
baz=166
O50A **Cable** 67.31 348 P P 09 43 56.9 -0.5
baz=166
Q44A **Meyer Farm, Va** 67.31 343 P P 09 43 57.1 -0.3
baz=161
R41A **Rosebud** 67.38 341 P P 09 43 57.3 -0.6
baz=158,SNR=6.0
O49A **Covington** 67.48 348 P P 09 43 57.7 -0.8
baz=165
O48A **Farmland** 67.71 347 P P 09 43 59.1 -0.8
baz=164
Q42A **Golden Eagle** 67.72 342 P P 09 43 59.4 -0.5
baz=159
MSTX **Muleshoe** 67.72 330 P P 09 44 00.7 +0.4
baz=148
O47A **Sheridan** 67.91 346 P P 09 44 00.5 -0.7
baz=163
Q41A **Truxton** 67.95 342 P P 09 44 00.9 -0.6
baz=159
M54A **Oil Creek Stat** 68.01 352 P P 09 44 01.3 -0.6
baz=170
M53A **Wl Miller and** 68.08 351 P P 09 44 01.4 -0.9
baz=169

N49A **Columbus Grove** 68.16 348 P P 09 44 02.2 -0.6
baz=165
SFIN **Lafayette** 68.25 345 P P 09 44 01.6 -1.7
baz=163
O45A **Potomac** 68.27 345 P P 09 44 01.9 -1.5
baz=162
P42A **Winchester** 68.30 343 P P 09 44 02.3 -1.3
baz=160
O44A **Mansfield** 68.35 344 P P 09 44 02.5 -1.5
baz=161
N47A **Urbana** 68.42 347 P P 09 44 02.7 -1.7
baz=164
P41A **Barry, Barry** 68.58 342 P P 09 44 03.9 -1.5
baz=159,SNR=6.0
N46A **Monticello** 68.66 346 P P 09 44 04.7 -1.1
baz=163
M49A **Liberty Center** 68.66 348 P P 09 44 04.6 -1.3
baz=166
O43A **Sugar Creek Fa** 68.69 344 P P 09 44 04.8 -1.2
baz=160
O42A **Bath** 68.80 343 P P 09 44 05.6 -1.1
baz=160
HDIL **Hopedale** 68.94 344 P P 09 44 06.1 -1.5
baz=161
O41A **Passleys Farm,** 68.94 342 P P 09 44 06.5 -1.1
baz=159
L48A **N Adams** 69.20 348 P P 09 44 07.9 -1.3
baz=165
M45A **Boilermakers S** 69.24 346 P P 09 44 08.0 -1.5
baz=163
N43A **Stutzman Famil** 69.27 344 P P 09 44 08.9 -0.8
baz=161
L47A **Sherwood** 69.38 347 P P 09 44 09.0 -1.3
baz=164
N42A **Yates City** 69.38 343 P P 09 44 09.3 -1.0
baz=160
KSU1 **Kansas State U** 69.77 338 P P 09 44 12.3 -0.5
baz=154
K48A **Perry** 69.97 348 P P 09 44 12.6 -1.4
baz=166
M41A **Milan** 70.03 343 P P 09 44 13.2 -1.1
baz=160
LIC **Lamto** 70.09 72 eP P 09 44 14.3 -1.1
comp=Z,25nm,0.7s
LAZ **Ladron** 70.11 327 eP P 09 44 17.7 +2.4
ANMO **Albuquerque** 70.23 328 eP P 09 44 18.0 +2.0
comp=Z,8.3nm,1.2s
ANMO **Albuquerque** 70.23 328 eP P 09 44 17.8 +1.8
ANMO pmax pmax
comp=Z,5.0nm,1.1s
ANMO **Albuquerque** 70.23 328 P P 09 44 16.4 +0.4
baz=145
TIC **Toumodi** 70.31 72 eP P 09 44 14.6 -2.1
M40A **Post Highland** 70.31 342 P P 09 44 15.4 -0.7
baz=159
TUC **Tucson** 70.32 323 eP P 09 44 18.4 +2.0
comp=Z,10nm,1.3s
TUC **Tucson** 70.32 323 eP P 09 44 18.4 +2.0
TUC pmax pmax
comp=Z,10.0nm,1.3s
PKRO **Pickering** 70.36 353 P P 09 44 15.5 -0.8
baz=170
KIC **Kosan Boka** 70.41 72 eP P 09 44 16.5 -0.8
comp=Z,22nm,0.7s
DBIC **Dimbokro** 70.46 72 P P 09 44 16.6 -1.1
comp=Z,11nm,0.7s,baz=197,slow=6.7,SNR=15
DBIC **Dimbokro** 70.46 72 eP P 09 44 17.2 -0.4
comp=Z,13nm,0.8s
DBIC **Dimbokro** 70.46 72 eP P 09 44 17.2 -0.4
DBIC pmax pmax
comp=Z,13nm,0.8s
DBIC **Dimbokro** 70.46 72 eP P 09 44 16.9 -0.7
L40A **Anamosa** 70.85 343 eP P 09 44 19.6 +0.3
comp=Z,16nm,0.8s
K42A **Prairie Point,** 71.05 345 P P 09 44 20.4 -0.1
baz=161
T25A **Trinidad** 71.11 331 eP P 09 44 23.2 +1.9
comp=Z,39nm,1.9s
T25A **Trinidad** 71.11 331 P P 09 44 21.4 +0.1
baz=147,SNR=5.8
214A **Organ Pipe Nat** 71.15 322 P P 09 44 22.6 +1.1
baz=139,SNR=5.7
K40A **Colesburg** 71.42 343 P P 09 44 22.3 -0.5
baz=159
X18A **Snowflake** 71.61 325 eP P 09 44 26.6 +2.3
comp=Z,5.2nm,1.0s
K39A **Oelwein** 71.62 343 P P 09 44 23.2 -0.8
baz=158
J41A **Loganville** 71.76 344 P P 09 44 24.3 -0.6
baz=160
H46A **Fife Lake** 71.85 348 P P 09 44 23.8 -1.5
baz=165
PEMO **Pembroke** 71.86 354 P P 09 44 24.3 -1.1
baz=172
W18A **Petrified Fore** 71.97 326 eP P 09 44 28.7 +2.2
comp=Z,11nm,1.0s
W18A **Petrified Fore** 71.97 326 P P 09 44 25.7 -0.8
baz=142,SNR=8.8
J40A **Soldiers Grove** 71.97 344 P P 09 44 24.8 -1.3
baz=160
I42A **Draeger Farm,** 72.00 345 P P 09 44 26.3 0.0
baz=161
SDCO **Great Sand Dun** 72.09 331 eP P 09 44 29.2 +1.9
comp=Z,18nm,1.6s
SDCO **Great Sand Dun** 72.09 331 P P 09 44 27.3 0.0
baz=146,SNR=8.0
J39A **Decorah** 72.16 343 P P 09 44 26.7 -0.6
baz=159
X16A **Lo Mia Camp, P** 72.29 324 eP P 09 44 30.9 +2.4
comp=Z,6.8nm,1.0s
S22A **4UR Ranch, Cre** 72.69 330 eP P 09 44 33.1 +2.2
comp=Z,4.6nm,1.4s
S22A **4UR Ranch, Cre** 72.69 330 P P 09 44 31.2 +0.3
baz=145
Y14A **Wickenburg** 72.76 323 eP P 09 44 33.3 +2.2
comp=Z,4.6nm,1.1s
Q24A **Divide** 72.95 331 eP P 09 44 34.2 +1.8
comp=Z,8.8nm,0.8s
Q24A **Divide** 72.95 331 P P 09 44 33.3 +0.8
baz=146,SNR=6.3
MVCO **Mesa Verde** 73.03 328 eP P 09 44 34.8 +1.9
comp=Z,1.1nm,1.1s
MVCO **Mesa Verde** 73.03 328 P P 09 44 33.6 +0.8
baz=144,SNR=6.8
WUAZ **Wupatki** 73.11 325 eP P 09 44 35.7 +2.4
comp=Z,9.6nm,1.0s
WUAZ **Wupatki** 73.11 325 P P 09 44 33.9 +0.6
baz=141,SNR=5.6
Y12C **Blythe** 73.45 322 eP P 09 44 37.5 +2.4
comp=Z,8.2nm,1.0s
Y12C **Blythe** 73.45 322 P P 09 44 35.9 +0.8
baz=138
PV01 **Paradox Valley** 73.80 329 eP P 09 44 39.5 +2.1
ISCO **Idaho Springs** 73.84 332 eP P 09 44 39.5 +1.8
comp=Z,6.4nm,1.1s
ISCO **Idaho Springs** 73.84 332 eP P 09 44 39.5 +1.8
ISCO pmax pmax
comp=Z,6.0nm,1.1s
ISCO **Idaho Springs** 73.84 332 P P 09 44 38.6 +0.9
baz=146
G39A **Holcombe** 73.85 344 P P 09 44 37.2 0.0
baz=159
SMCO **Snowmass** 73.92 330 eP P 09 44 40.4 +2.1
comp=Z,6.5nm,0.7s
ECSD **EROS Data Cent** 73.94 340 eP P 09 44 38.2 +0.4
comp=Z,9.7nm,1.3s
ECSD **EROS Data Cent** 73.94 340 P P 09 44 37.8 0.0
baz=154
PV13 **Radium Mtn., P** 73.94 329 eP P 09 44 40.1 +1.9
comp=Z,6.6nm,0.9s
PV12 **Saucer Basin,** 74.06 329 eP P 09 44 40.9 +2.0
comp=Z,8.2nm,1.3s
IRM **Iron Mountain** 74.09 322 P P 09 44 39.1 +0.2
baz=138
PV17 **East Wray Mesa** 74.10 329 eP P 09 44 41.3 +2.1
comp=Z,32nm,2.0s
F40A **Park Falls** 74.20 345 P P 09 44 39.2 0.0
baz=160
PV14 **Lion Creek, Pa** 74.21 329 eP P 09 44 42.0 +2.2
comp=Z,5.2nm,0.9s
PV10 **Paradox Valley** 74.22 329 eP P 09 44 41.5 +1.7
U15A **North Rim** 74.28 325 eP P 09 44 43.0 +2.6
comp=Z,8.4nm,1.0s
PFO **Pinyon Flats O** 74.44 321 P P 09 44 42.0 +0.9
baz=137
F37A **Hinrichs Farm,** 74.63 343 P P 09 44 42.5 +0.7
baz=158
F38A **Pierce - Schro** 74.66 344 P P 09 44 42.6 +0.7
baz=159
E39A **Mellen** 74.73 345 P P 09 44 42.7 +0.4
baz=160
LDFC **Landfair** 74.76 322 eP P 09 44 45.8 +2.9
comp=Z,9.8nm,1.0s
GMRC **Granite Mounta** 74.84 322 P P 09 44 44.2 +0.8
baz=138
MURC **Murrieta** 74.85 320 P P 09 44 44.4 +1.0
baz=136
N23A **Red Feather La** 74.89 332 eP P 09 44 45.5 +1.8
comp=Z,5.3nm,1.0s
N23A **Red Feather La** 74.89 332 P P 09 44 45.1 +1.3
baz=146
KNB **Kanab** 75.01 325 eP P 09 44 47.0 +2.6
KNB **Kanab** 75.01 325 eP P 09 44 47.0 +2.6
HEC **Hector,Ludlow** 75.25 322 P P 09 44 47.0 +1.3
baz=137
O20A **White River Ci** 75.27 330 eP P 09 44 47.8 +2.0
comp=Z,12nm,0.9s
O20A **White River Ci** 75.27 330 P P 09 44 47.0 +1.2
baz=144,SNR=8.7
MTPU **Mount Pierson** 75.47 326 eP P 09 44 49.8 +2.5
SRU **San Rafael Swe** 75.50 328 eP P 09 44 49.0 +1.8
SRU **San Rafael Swe** 75.50 328 eP P 09 44 49.0 +1.8
SZCU **Shurtz Canyon** 75.59 325 eP P 09 44 50.6 +2.9
Q16A **Castle Valley** 75.66 327 eP P 09 44 50.4 +2.2
CCUT **Cedar City** 75.69 325 eP P 09 44 51.4 +3.0
MSU **Marysvale** 75.84 327 eP P 09 44 51.6 +2.4
MSU **Marysvale** 75.84 327 eP P 09 44 51.6 +2.4
SHPR **Sheep Range** 75.85 323 eP P 09 44 51.6 +2.4
comp=Z,6.5nm,1.0s
P17A **Butcher Ranch,** 75.89 328 eP P 09 44 51.3 +1.9
RWWY **Rawlins** 76.09 332 eP P 09 44 51.4 +0.9
comp=Z,9.4nm,0.9s
K22A **Casper** 76.59 333 P P 09 44 54.8 +1.5
baz=146
PSUT **Pine Spring** 76.69 326 eP P 09 44 56.4 +2.3
MPU **Maple Canyon** 76.74 328 eP P 09 44 56.2 +2.0
FURC **Furnace Creek,** 76.74 322 P P 09 44 55.6 +1.6
baz=137
TPNV **Topopah Spring** 76.76 323 P P 09 44 56.2 +1.8
baz=138
MPMC **Manual Prospec** 76.79 322 P P 09 44 56.4 +1.8
baz=136
RSSD **Black Hills** 76.84 335 eP P 09 44 56.0 +1.2
comp=Z,4.6nm,0.8s
RSSD **Black Hills** 76.84 335 eP P 09 44 56.0 +1.2
RSSD pmax pmax
comp=Z,5.0nm,0.8s
RSSD **Black Hills** 76.84 335 P P 09 44 55.7 +0.9
baz=148
NLU **North Lily Min** 76.91 328 eP P 09 44 57.6 +2.4
DAC **Darwin (Calif)** 77.01 322 eP P 09 44 57.4 +1.5
comp=Z,7.7nm,1.0s
DAC **Darwin (Calif)** 77.01 322 eP P 09 44 57.4 +1.5
DAC pmax pmax
comp=Z,8.0nm,1.0s
ISA **Isabella, Lake** 77.06 321 eP P 09 44 58.7 +2.7
comp=Z,4.1nm,0.8s
ISA **Isabella, Lake** 77.06 321 eP P 09 44 58.7 +2.7
ISA pmax pmax
comp=Z,4.0nm,0.8s
ISA **Isabella, Lake** 77.06 321 P P 09 44 57.5 +1.5
baz=136
JLU **Jordanelle** 77.11 328 eP P 09 44 58.3 +1.9
PKM **Mcpherson Peak** 77.29 319 P P 09 44 58.6 +1.2
baz=135
CWC **Cottonwood Cre** 77.40 322 P P 09 44 59.1 +1.1
baz=136
R11A **Troy Canyon, C** 77.45 324 eP P 09 45 00.6 +2.4
comp=Z,11nm,1.4s
R11A **Troy Canyon, C** 77.45 324 P P 09 44 59.6 +1.3
baz=138
DUG **Dugway, Tooele** 77.45 327 eP P 09 45 00.2 +2.0
comp=Z,29nm,1.9s
DUG **Dugway, Tooele** 77.45 327 eP P 09 45 00.2 +2.0
DUG pmax pmax
comp=Z,29nm,1.9s
DUG **Dugway, Tooele** 77.45 327 P P 09 44 58.7 +0.5
baz=141
TCUT **Toone Canyon** 77.50 329 eP P 09 45 00.4 +1.9
VES **Vestal, Richgr** 77.54 321 P P 09 44 59.6 +1.1
baz=135
BW06 **Boulder Array** 77.98 331 eP P 09 45 02.3 +1.2
comp=Z,6.6nm,1.2s
BW06 **Boulder Array** 77.98 331 P P 09 45 01.7 +0.5
baz=143
PD31 **Pinedale Array** 77.98 331 eP P 09 45 02.1 +1.0
PDAR **Pinedale Array** 77.98 331 P P 09 45 01.7 +0.5
comp=Z,1.5nm,0.7s,baz=127,slow=7.8,SNR=12
PDAR **Pinedale Array** 77.98 331 eP P 09 45 00.7 -0.5
BGU **Big Grassy Mou** 78.12 328 eP P 09 45 03.4 +1.5
SPUT **South Promonto** 78.14 328 eP P 09 45 03.7 +1.7
MDND **Maddock** 78.55 340 eP P 09 45 05.2 +1.3
comp=Z,31nm,1.1s
MDND **Maddock** 78.55 340 P P 09 45 04.2 +0.3
baz=152
HVU **Hansel Valley** 78.66 328 eP P 09 45 06.3 +1.5
HVU **Hansel Valley** 78.66 328 eP P 09 45 06.3 +1.5
AHID **Auburn Hatcher** 78.66 330 eP P 09 45 06.4 +1.5
comp=Z,18nm,1.1s
NV01 **Mina Array St** 78.95 323 eP P 09 45 08.1 +1.5
NVAR **Mina Array Bea** 78.95 323 P P 09 45 08.3 +1.6
comp=Z,2.6nm,0.9s,baz=157,slow=6.3,SNR=15
SNOW **Snow King Moun** 79.06 331 eP P 09 45 08.7 +1.5
comp=Z,6.0nm,0.9s
ELK **Elko** 79.06 326 eP P 09 45 08.9 +1.7
comp=Z,6.5nm,0.9s
ELK **Elko** 79.06 326 eP P 09 45 08.9 +1.7
ELK pmax pmax
comp=Z,7.0nm,0.9s
LOHW **Long Hollow** 79.11 331 eP P 09 45 09.0 +1.6
comp=Z,3.6nm,0.8s
TPAW **Teton Pass** 79.17 330 eP P 09 45 08.5 +0.7
comp=Z,11nm,1.1s
RYN **Ryan** 79.22 323 eP P 09 45 10.3 +2.3
comp=Z,5.2nm,1.0s
MOOW **Moose Ponds** 79.28 331 eP P 09 45 11.2 +2.9
comp=Z,3.7nm,0.9s
TOA0 **Torodi Ar. Sit** 79.29 70 eP P 09 45 08.2 -0.5
TORD **Torodi Ar. Bea** 79.29 70 P P 09 45 07.3 -1.4
comp=Z,7.4nm,0.7s,baz=268,slow=5.0,SNR=29
KVN **Kaiserville** 79.30 323 eP P 09 45 10.1 +1.6
comp=Z,9.8nm,1.1s
FXWY **Fox Creek** 79.32 331 eP P 09 45 09.7 +1.1
comp=Z,6.0nm,1.3s
FLWY **Flagg Ranch** 79.53 331 eP P 09 45 11.0 +1.4
comp=Z,19nm,1.4s
WAKR **Walker** 79.63 322 eP P 09 45 13.2 +2.9
comp=Z,13nm,1.2s
ULM **Lac du Bonnet** 79.65 343 P P 09 45 09.8 -0.1
comp=Z,4.9nm,0.6s,baz=156,slow=6.9,SNR=16
ULM **Lac du Bonnet** 79.65 343 eP P 09 45 10.0 +0.2
comp=Z,46nm,1.8s
ULM **Lac du Bonnet** 79.65 343 eP P 09 45 10.0 +0.2
ULM pmax pmax
comp=Z,47nm,1.8s
RLMT **Red Lodge** 79.75 332 eP P 09 45 12.5 +1.6
comp=Z,7.8nm,0.8s
RLMT **Red Lodge** 79.75 332 P P 09 45 11.6 +0.7
baz=144
LAO **LASA Array** 79.84 335 eP P 09 45 12.3 +1.2
comp=Z,7.1nm,0.6s
LAO **LASA Array** 79.84 335 P P 09 45 11.7 +0.7
baz=147
YERR **Yerington** 79.86 323 eP P 09 45 13.8 +2.2
comp=Z,12nm,1.1s
YMR **Madison River** 80.11 331 eP P 09 45 15.4 +2.6
PNTR **Pine Nut** 80.13 323 eP P 09 45 15.4 +2.3
comp=Z,16nm,0.7s
VCNR **Virginia City** 80.31 323 eP P 09 45 16.6 +2.6
comp=Z,4.4nm,0.8s
PAHR **Pah Rah Range** 80.46 323 eP P 09 45 17.1 +2.4
comp=Z,15nm,1.0s
DGMT **Dagmar** 80.61 337 eP P 09 45 16.6 +1.5
comp=Z,16nm,1.0s
DGMT **Dagmar** 80.61 337 P P 09 45 15.1 0.0
baz=148
AFDM **Forest Hills D** 80.79 322 eP P 09 45 17.8 +1.5
comp=Z,16nm,1.5s
HLID **Hailey** 80.80 329 eP P 09 45 18.6 +2.1
comp=Z,14nm,1.1s
HLID **Hailey** 80.80 329 P P 09 45 16.6 +0.1
baz=140
BEKR **Beckworth** 81.10 323 eP P 09 45 20.0 +1.8
comp=Z,90nm,0.5s
DLMT **Dillon** 81.37 331 eP P 09 45 21.3 +1.8

comp=Z,29nm,1.7s
ORV Oroville 81.51 322 *e*P **P 09 45 22.0 +1.9**
comp=Z,49nm,1.9s
ORV Oroville 81.51 322 *e*P **P 09 45 22.0 +1.9**
ORV pmax pmax
comp=Z,49nm,1.9s
HRY Holter Researc 82.10 332 *e*P **P 09 45 25.2 +2.0**
O03E Paynes Creek 82.19 322 P **P 09 45 24.0 +0.2**
baz=134
EGMT Eagleton 82.30 334 *e*P **P 09 45 24.9 +0.7**
comp=Z,12nm,1.3s
EGMT Eagleton 82.30 334 P **P 09 45 24.3 +0.2**
baz=144
MOD Modoc Plateau 82.51 324 *e*P P 09 45 20.2 -5.3
comp=Z,6.2nm,0.7s
J08A Circle Bar Ran 82.62 326 *e*P **P 09 45 27.8 +1.8**
M04C Macdoel 83.24 323 P **P 09 45 30.2 +0.9**
baz=134
F10A Beach Ranch, E 83.94 329 *e*P **P 09 45 36.6 +3.9**
PINE Pine Mountain 84.18 325 *e*P **P 09 45 36.0 +1.8**
I05D Terrebonne, OR 84.77 325 P **P 09 45 37.9 +1.0**
baz=134
FFC Flin Flon 85.32 342 *ce*P **P 09 45 41.9 +2.5**
NEW Newport 85.59 330 P **P 09 45 41.4 +0.4**
baz=138
C09A Chrisman Ranch 85.77 329 *e*P **P 09 45 43.0 +1.1**
B08A Colville Reser 86.66 329 *e*P **P 09 45 46.5 +0.3**
YKA Yellowknife Ar 95.45 341 P **P 09 46 23.6 -3.3**
comp=Z,1.4nm,0.8s,baz=138,slow=4.5,SNR=16
CLL Collm 105.42 40 *e*Pdif **Pdif 09 47 15.0 +3.2**
CLL Collm 105.42 40 *e*P **Pdif 09 47 15.0 +3.2**
VSU Vasula 115.01 35 ⇓*i*PKIKP **PKPdf 09 51 43.8 +0.5**
AKASG Malin Array Be 115.04 44 PKP **PKPdf 09 51 41.2 -2.4**
comp=Z,0.2nm,0.3s,baz=260,slow=3.0,SNR=4.0
BRTR Keskin Array B 115.75 57 PKP **PKPdf 09 51 44.8 -0.7**
comp=Z,0.4nm,0.7s,baz=220,slow=7.5,SNR=3.8
PRGR Permogore 124.49 32 *e*PKIKP **PKPdf 09 52 01.2 -0.2**
PRGR pmax pmax
comp=Z,5.0nm,0.4s
ASAR Alice Springs 125.61 206 PKP **PKPdf 09 52 04.2 -0.8**
comp=Z,2.2nm,0.6s,baz=136,slow=1.8,SNR=25
WRA Warramunga Arr 128.74 209 PKP **PKPdf 09 52 10.6 -0.4**
comp=Z,2.9nm,0.7s,baz=159,slow=1.6,SNR=30
ARU Arti 132.16 36 *i*PKIKP **PKiKP 09 52 18.8 +1.5**
NVS Novosibirsk 144.99 28 ⇓*i*PKIKP **PKPdf 09 52 39.4 -0.3**
NVS pmax pmax
comp=Z,12nm,0.9s
NVS pmax pmax
comp=N,4.0nm,1.0s
KURK Kurchatov 145.35 36 ⇑*e*PKIKP **PKPdf 09 52 40.5 +0.1**
AAK Ala-Archa 146.22 52 ⇑*e*PKP2 **PKPbc 09 52 43.2 -0.3**
ZALV Zalesovo Beam 146.28 28 PKPbc **PKPdf 09 52 42.5 +0.5**
comp=N,18nm,0.7s,baz=299,slow=3.7,SNR=76
KSH Kashi 148.14 57 PKPbc **PKPdf 09 52 47.0 +1.3**
KSH pPKP sPKPab 09 52 54.5 +0.5
KSH sPKP 09 53 00.3
KSH PP **PP 09 56 13.8 -3.5**
KSH AMB AMB
comp=Z,550nm,7.2s
MKAR Makanchi Array 149.52 40 PKPbc **PKPbc 09 52 51.9 -0.2**
comp=Z,9.6nm,0.7s,baz=307,slow=2.3,SNR=80
KLR Kul'dur 151.76 330 *ci*PKIKP **PKiKP 09 52 59.5 +1.8**
DAV Davao City (W) 156.30 219 *e*P **PKPdf 09 52 57.0 -1.4**
SONM Songino Array 158.11 8 PKP **PKPdf 09 52 59.8 0.0**
comp=Z,0.9nm,0.9s,baz=326,slow=1.4,SNR=5.7
SONM PKPab **PKPab 09 53 33.9 +0.6**
comp=Z,1.2nm,0.8s,baz=328,slow=4.1,SNR=7.5
KSRS Korea Array 161.57 312 PKP **PKPdf 09 53 04.2 +0.4**
comp=Z,0.3nm,0.3s,baz=101,slow=1.2,SNR=3.8
KSRS PKPab pPKPab 09 53 49.4 -0.7
comp=Z,0.9nm,0.8s,baz=67,slow=6.0,SNR=3.5
KSAR Wonju Array Be 161.60 312 PKP **PKPdf 09 53 04.2 +0.3**
KSAR PKPab **PKPab 09 53 49.5 +0.7**
KSAR Wonju Array Be 161.60 312 PKIKP **PKPdf 09 53 04.3 +0.3**
KSAR 09 53 49.5
CHTO Chiang Mai 166.91 122 *e*P **PKPdf 09 53 09.0 -0.3**

*BJI **30** 09:32:52.9,32.˚87N×94.˚70E,h9km,ML3.4/3*
*IDC **30** 09:32:56.5±0.8,32.˚91N×94.˚95E,h0km,mb3.8/12, mb1 3.9/15,mb1mx3.8/46,mbtmp3.8/15,ML3.4/3,Error ellipse: s-maj=25.0km s-min=15.3km az=50.0*
*ISCJB **30** 09:32:58.5±0.3,32.˚81N±0.˚03×94.˚85E±0.˚04,h33km, mb4.0/17,Error ellipse: s-maj=5.3km s-min=4.3km az=34.4*
*NEIC **30** 09:33:01.4±0.3,32.˚93N×94.˚94E,h35km,mb4.2/12,Error ellipse: s-maj=6.3km s-min=5.6km az=46.0*
ISC 30 09:33:01.1±0.5,32.˚86N±0.˚05×94.˚93E±0.˚06,h35km,n64, σ1§53/66,mb4.0/17,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**4.51**	**227**	*e*Pn	**Pn**	**09 34 09.4**	**+2.0**
LSA				*e*Sn	**Sn**	**09 35 01.6**	**+2.7**
GTA	**Gaotai**	**7.63**	**30**	*e*P	Pn	09 34 55.8	+5.9
GTA				pP		09 35 02.8	
GTA				sP		09 35 06.5	
GTA				pmax	pmax		
comp=Z,14nm,1.3s							
SHL	**Shillong**	**7.74**	**201**	*e*Pn	**Pn**	**09 34 51.7**	**+0.2**
SHL				*e*Sn	**Sn**	**09 36 15.8**	**-2.2**
TAPN	**Taplejung**	**8.32**	**231**	*e*P	**Pn**	**09 35 00.2**	**+0.7**
comp=Z,14nm,0.3s							
ODAN	**Odare**	**8.86**	**229**	*e*P	**Pn**	**09 35 08.0**	**+1.1**
comp=Z,36nm,0.4s							
JIRN	**Jiri**	**9.16**	**238**	*e*P	**Pn**	**09 35 10.2**	**-0.9**
comp=Z,30nm,0.6s							
GUN	**Gumba**	**9.24**	**240**	*e*P	**Pn**	**09 35 10.8**	**-1.3**
comp=Z,30nm,0.3s							
KKN	**Kakani**	**9.75**	**241**	*e*P	**Pn**	**09 35 17.2**	**-1.8**
comp=Z,25nm,0.4s							
PKI	**Pulchoki**	**9.78**	**240**	*e*P	**Pn**	**09 35 17.8**	**-1.7**
comp=Z,36nm,0.5s							
PKIN	**Phulchoki**	**9.78**	**240**	*e*P	**Pn**	**09 35 17.8**	**-1.7**
comp=Z,24nm,0.4s							
DMN	**Daman**	**9.97**	**241**	*e*P	**Pn**	**09 35 20.1**	**-2.0**
comp=Z,25nm,0.5s							
KMI	**Kunming**	**10.31**	**136**	P	**Pn**	**09 35 28.0**	**+1.3**
BRDH	**Bariadhala**	**10.55**	**197**	Pn	**Pn**	**09 35 29.0**	**-0.9**
comp=Z,24nm,0.3s,baz=288,slow=20,SNR=3.4							
BRDH				Sn	**Sn**	**09 37 21.2**	**-5.6**
comp=Z,46nm,0.3s,baz=90,slow=20,SNR=2.3							
DANN	**Dangsing**	**10.62**	**248**	*e*P	**Pn**	**09 35 29.1**	**-1.9**
comp=Z,37nm,0.4s							
KOLN	**Koldanda**	**11.02**	**246**	*e*P	**Pn**	**09 35 34.4**	**-2.0**
comp=Z,14nm,0.6s							
PYUN	**Piuthan**	**11.34**	**248**	*e*P	**Pn**	**09 35 38.2**	**-2.5**
comp=Z,42nm,0.8s							
XAN	**Xi'an**	**11.75**	**80**	*e*Pn	**Pn**	**09 35 45.5**	**-0.7**
WMQ	**Urumqi**	**12.32**	**335**	*e*P	**Pn**	**09 35 54.0**	**+0.1**
TARG	**Taragay, Kyrgy**	**16.22**	**308**	*e*Pn	**Pn**	**09 36 46.2**	**-0.5**
comp=Z,12nm,0.8s							
KDJ	**Kajisay**	**16.82**	**308**	*e*Pn	**P**	**09 36 59.0**	**+3.2**
comp=Z,20nm,1.1s							
MK31	**Makanchi Array**	**16.93**	**329**	*e*Pn	**Pn**	**09 36 54.1**	**-1.0**
MK32	**Makanchi Array**	**16.93**	**329**	*e*Pn	**Pn**	**09 36 52.3**	**-2.8**
MKAR	**Makanchi Array**	**16.93**	**329**	Pn	**Pn**	**09 36 52.3**	**-2.8**
comp=Z,0.2nm,0.3s,baz=135,slow=13,SNR=5.0							
MKAR	**Makanchi Array**	**16.93**	**329**	*e*Pn	**Pn**	**09 36 54.1**	**-1.0**
comp=Z,42nm,1.2s							
SONA0	**Songino Array**	**17.29**	**27**	*e*Pn	**Pn**	**09 36 59.2**	**-0.6**
SONM	**Songino Array**	**17.29**	**27**	P	**Pn**	**09 36 59.2**	**-0.6**
comp=Z,0.1nm,0.3s,baz=211,slow=11,SNR=2.5							
SONA1	**Songino Array**	**17.30**	**27**	*e*Pn	**Pn**	**09 36 58.9**	**-1.0**
NRN	**Naryn**	**17.32**	**305**	*e*Pn	**Pn**	**09 36 59.4**	**-0.9**
comp=Z,9.2nm,1.1s							
ULN	**Ulaanbaatar**	**17.57**	**28**	*e*Pn	**Pn**	**09 37 02.1**	**-1.1**
comp=Z,10nm,1.2s							
BJT	**Baijiatuau**	**18.50**	**61**	*e*P	**P**	**09 37 13.0**	**-1.1**
comp=Z,16nm,1.3s							
AAK	**Ala-Archa**	**18.83**	**307**	P	**P**	**09 37 17.4**	**-0.6**
comp=Z,0.1nm,0.3s,baz=169,slow=16,SNR=2.9							
QIZ	**Qiongzhong**	**19.20**	**132**	*e*P	**Pn**	**09 37 23.3**	**+0.3**
comp=Z,72nm,1.6s							
ARSB	**Arslanbob**	**19.40**	**302**	*e*P	**Pn**	**09 37 25.2**	**-0.2**
comp=Z,19nm,1.3s							
KURBB	**Kurchatov Arra**	**21.47**	**331**	P	**P**	**09 37 45.7**	**-0.6**
comp=Z,10nm,0.8s,baz=138,slow=12,SNR=15							
KURK	**Kurchatov**	**21.50**	**331**	*e*P	**P**	**09 37 46.1**	**-0.6**
KBL	**Kabul**	**21.58**	**282**	*e*P	**P**	**09 37 47.7**	**-0.3**
comp=Z,31nm,1.3s							
KK31	**Karatay Array**	**21.72**	**305**	*e*P	**P**	**09 37 49.1**	**0.0**
KKAR	**Karatay Array**	**21.72**	**305**	*e*P	**P**	**09 37 48.9**	**-0.3**
ZALV	**Zalesovo Beam**	**22.27**	**344**	P	**P**	**09 37 55.0**	**0.0**
comp=Z,0.8nm,0.5s,baz=157,slow=7.8,SNR=3.0							
ZALV	**Zalesovo Beam**	**22.27**	**344**	*e*P	**P**	**09 37 54.7**	**-0.3**
ZAA1	**Zalesovo Array**	**22.28**	**344**	*e*P	**P**	**09 37 55.0**	**0.0**
NACB	**Ninganchiao**	**24.93**	**103**	*e*P	**P**	**09 38 21.2**	**+0.2**
comp=Z,20nm,1.0s							
KS15	**Wonju Array Si**	**27.25**	**71**	*e*P	**P**	**09 38 42.3**	**+0.4**
KSAR	**Wonju Array Be**	**27.25**	**71**	P	**P**	**09 38 41.1**	**-0.8**
KSRS	**Korea Array**	**27.28**	**71**	P	**P**	**09 38 41.1**	**-1.0**
comp=Z,0.7nm,0.7s,baz=277,slow=8.7,SNR=3.6							
PALK	**Pallekele**	**28.69**	**211**	*e*P	**P**	**09 38 55.4**	**+0.5**
comp=Z,15nm,1.3s							
BR101	**Keskin Array S**	**49.03**	**296**	*e*P	**P**	**09 41 46.1**	**+1.4**
BRTR	**Keskin Array B**	**49.03**	**296**	P	**P**	**09 41 46.1**	**+1.4**
comp=Z,0.4nm,0.5s,baz=101,slow=7.5,SNR=2.7							
AKASG	**Malin Array Be**	**50.43**	**311**	P	**P**	**09 41 54.0**	**-1.0**
comp=Z,0.6nm,0.4s,baz=72,slow=7.0,SNR=4.0							
AKBB	**Malin Array Si**	**50.43**	**311**	*e*P	**P**	**09 41 54.0**	**-1.0**
comp=Z,13nm,1.5s							
FIA0	**FINESS Array S**	**51.72**	**325**	*e*P	**P**	**09 42 06.3**	**+1.9**
FINES	**FINESS Array B**	**51.72**	**325**	P	**P**	**09 42 06.3**	**+1.9**
comp=Z,1.9nm,0.8s,baz=126,slow=8.8,SNR=3.5							
ARA0	**ARCESS Array S**	**52.44**	**335**	*e*P	**P**	**09 42 11.5**	**+1.8**
ARCES	**ARCESS Array B**	**52.44**	**335**	P	**P**	**09 42 11.5**	**+1.8**
comp=Z,2.4nm,0.8s,baz=82,slow=6.5,SNR=5.5							
NB200	**NORSAR Array S**	**58.89**	**326**	*e*P	**P**	**09 42 55.5**	**-0.7**
NOA	**NORSAR Array B**	**58.89**	**326**	P	**P**	**09 42 55.5**	**-0.7**
comp=Z,2.5nm,0.9s,baz=79,slow=7.1,SNR=2.9							
WR1	**Warramunga Arr**	**64.62**	**139**	*e*P	**P**	**09 43 36.5**	**+1.2**
WRA	**Warramunga Arr**	**64.62**	**139**	P	**P**	**09 43 36.5**	**+1.2**
comp=Z,0.9nm,1.0s,baz=335,slow=6.4,SNR=4.1							
AS31	**Alice Springs**	**67.40**	**141**	*e*P	**P**	**09 43 52.5**	**-0.6**
comp=Z,0.6nm,0.8s							
ASAR	**Alice Springs**	**67.40**	**141**	P	**P**	**09 43 54.3**	**+1.3**
comp=Z,0.5nm,0.6s,baz=324,slow=6.7,SNR=7.0							
ILAR	**Eielson Array**	**71.48**	**23**	P	**P**	**09 44 18.2**	**+0.5**
comp=Z,0.2nm,0.7s,baz=312,slow=5.1,SNR=3.5							
ILB	**Eielson Array**	**71.48**	**23**	*e*P	**P**	**09 44 17.4**	**-0.3**
YKA	**Yellowknife Ar**	**82.05**	**13**	P	**P**	**09 45 18.7**	**+1.4**
comp=Z,0.4nm,0.7s,baz=339,slow=5.5,SNR=4.3							
YKB5	**Yellowknife Ar**	**82.05**	**13**	*e*P	**P**	**09 45 18.7**	**+1.4**

*ISCJB **30** 09:35:38.3±0.3,23.˚19N±0.˚02×121.˚62E±0.˚01,h30km±2km, Error ellipse: s-maj=2.8km s-min=1.9km az=151.1*
*JMA **30** 09:35:38.2±0.1,23.˚21N×121.˚56E,h38km±2km,M3.4*
*TAP **30** 09:35:39.1,23.˚23N×121.˚51E,h38km,ML3.7,B*
ISC 30 09:35:39.1±1.0,23.˚20N±0.˚02×121.˚58E±0.˚02,h33km±6km, n114,σ1§05/177,2C-22D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHKT	**Chengkung**	**0.22**	**242**	P	**Pn**	**09 35 46.1**	**+0.1**
baz=220							
CHKT				S	**Sb**	**09 35 51.4**	**+0.9**
baz=220							
TWF1	**Yuli**	**0.30**	**300**	⇓*i*P	**Pn**	**09 35 46.7**	**-0.5**
baz=303							
TWF1				S	**Sn**	**09 35 52.1**	**-0.4**
baz=303							
YULB	**Yu-li**	**0.32**	**307**	⇓P	**Pb**	**09 35 46.9**	**-0.2**
baz=298							
HGSD	**Ruisui**	**0.32**	**334**	⇑P	**Pb**	**09 35 47.1**	**0.0**
baz=346							
HGSD				*e*S	**Sb**	**09 35 54.6**	**+2.1**
baz=346							
EHY	**Hungye**	**0.38**	**322**	⇓*i*P	**Pb**	**09 35 47.6**	**-0.4**
baz=316							
EHY				S	**Sb**	**09 35 53.5**	**-0.5**
baz=316							
EGFH	**Guangfu**	**0.48**	**344**	P	**Pb**	**09 35 49.0**	**-0.5**
baz=339							
ELDTW	**Lidau**	**0.51**	**269**	⇓*i*P	**Pb**	**09 35 49.1**	**-0.9**
baz=262							
ELDTW				S	**Sb**	**09 35 55.6**	**-1.8**
baz=262							
TTN	**Taitung**	**0.60**	**222**	*e*P	**Pn**	**09 35 51.5**	**+0.2**
baz=224							
TWGBT	**Beinan**	**0.60**	**230**	⇓P	**Pn**	**09 35 50.1**	**-1.2**
baz=232							
TWGBT				S	**Sn**	**09 35 58.4**	**-1.5**
baz=232							
TWG	**Pinlang**	**0.60**	**231**	⇓*i*P	**Pn**	**09 35 50.1**	**-1.2**
baz=232							
TWG				*e*S	**Sn**	**09 35 58.4**	**-1.6**
baz=232							
ESL	**Shilin**	**0.62**	**348**	⇓*i*P	**Pn**	**09 35 50.4**	**-1.3**
baz=346							
ESL				*e*S	**Sn**	**09 35 58.2**	**-2.4**
baz=346							
VWDT	**VWDT**	**0.68**	**324**	⇓P	**Pn**	**09 35 51.9**	**-0.5**
baz=328							
VWDT				*e*S	**Sn**	**09 36 00.3**	**-1.6**
baz=328							
ENLB	**Shoufeng**	**0.70**	**2**	⇑P	**Pn**	**09 35 52.2**	**-0.5**
baz=20							
ENLB				*e*S	**Sn**	**09 36 02.7**	**+0.3**
baz=20							
STYT	**Tauyuan**	**0.75**	**267**	P	**Pn**	**09 35 52.9**	**-0.7**
baz=263							
STYT				*e*S	**Sn**	**09 36 02.6**	**-1.2**
baz=263							
HWA	**Hwalien**	**0.77**	**2**	*e*P	**Pn**	**09 35 53.1**	**-0.6**
baz=17							
SSLB	**Suanglung**	**0.82**	**316**	⇓P	**Pn**	**09 35 53.9**	**-0.5**
baz=323							
SSLB				S	**Sn**	**09 36 03.7**	**-1.7**
baz=323							
WHYT	**Xinyi Township**	**0.83**	**307**	⇓P	**Pn**	**09 35 54.4**	**-0.1**
baz=310							
ECL	**Taimali**	**0.83**	**224**	*e*P	**Pn**	**09 35 52.8**	**-1.7**
baz=225							
TWD	**Chiawan**	**0.87**	**1**	P	**Pn**	**09 35 54.5**	**-0.7**
baz=355							
TWD				*e*S	**Sn**	**09 36 05.5**	**-1.3**
baz=355							
TPUB	**Ta-pu**	**0.88**	**277**	⇓P	**Pn**	**09 35 55.2**	**0.0**
baz=274							
TPUB				S	**Sn**	**09 36 07.2**	**+0.4**
baz=274							
SLGT	**Liugui**	**0.88**	**257**	⇓P	**Pn**	**09 35 55.2**	**0.0**
baz=251							
WTP	**Ta-pu**	**0.89**	**273**	⇓*i*P	**Pn**	**09 35 55.5**	**+0.1**
baz=269							
WTP				S	**Sn**	**09 36 07.7**	**+0.6**
baz=269							
CHN5	**Tsauling**	**0.91**	**296**	⇓*i*P	**Pn**	**09 35 56.1**	**+0.3**
baz=294							
CHN5				*e*S	**Sn**	**09 36 09.6**	**+1.8**
baz=294							
CHN4	**Tsaushan**	**0.92**	**279**	⇓*i*P	**Pn**	**09 35 56.2**	**+0.5**
baz=277							
CHN4				S	**Sn**	**09 36 09.1**	**+1.3**
baz=277							
SMLT	**Sun Moon Lake**	**0.92**	**318**	⇓*i*P	**Pn**	**09 35 55.9**	**0.0**
baz=323							
SMLT				S	**Sn**	**09 36 07.4**	**-0.7**
baz=323							
SGST	**Jiashian**	**0.92**	**263**	⇓P	**Pn**	**09 35 56.3**	**+0.5**
baz=258							
SGST				S	**Sn**	**09 36 09.0**	**+1.0**
baz=258							
CHGB	**Renai**	**0.93**	**337**	⇓P	**Pn**	**09 35 55.6**	**-0.5**
baz=348							
CHGB				*e*S	**Sn**	**09 36 05.7**	**-2.8**
baz=348							
TYC	**Yuchr**	**0.96**	**317**	⇓*i*P	**Pn**	**09 35 56.5**	**+0.1**
baz=327							
TYC				S	**Sn**	**09 36 09.2**	**+0.3**
baz=327							
CHN1	**Nanshi**	**0.96**	**269**	⇓P	**Pn**	**09 35 56.9**	**+0.5**
baz=266							
CHN1				S	**Sn**	**09 36 10.1**	**+1.1**
baz=266							
NACB	**Ninganchiao**	**0.97**	**1**	⇓P	**Pn**	**09 35 55.3**	**-1.2**
baz=356							
NACB				S	**Sn**	**09 36 07.1**	**-2.0**
baz=356							
SSD	**Sandimen**	**0.98**	**243**	*e*P	**Pn**	**09 35 56.7**	**+0.1**
baz=232							
SSD				*e*S	**Sn**	**09 36 09.9**	**+0.5**
baz=232							
WHF	**Hehuan Shan**	**0.98**	**343**	*e*P	**Pn**	**09 35 56.1**	**-0.9**
baz=349							
WHF				*e*S	**Sn**	**09 36 08.1**	**-1.9**
baz=349							
SNST	**Tainan City**	**0.99**	**271**	*e*P	**Pn**	**09 35 57.3**	**+0.5**
baz=268							
SNST				*e*S	**Sn**	**09 36 10.6**	**+0.9**
baz=268							
WJS	**Zhushan**	**0.99**	**309**	*e*P	**Pn**	**09 35 57.1**	**+0.3**
baz=310							
WJS				*e*S	**Sn**	**09 36 11.5**	**+1.8**
baz=310							
TWK	**Hsinying**	**1.00**	**274**	*e*P	**Pn**	**09 35 57.4**	**+0.4**
baz=270							
TWK				*e*S	**Sn**	**09 36 11.2**	**+1.1**
baz=270							
WGK	**Gukeng**	**1.05**	**298**	P	**Pn**	**09 35 58.5**	**+0.9**
baz=309							
WGK				S	**Sn**	**09 36 12.8**	**+1.8**
baz=309							
MASBT	**Mashibuluo**	**1.05**	**236**	P	**Pn**	**09 35 57.4**	**-0.1**
baz=226							
MASBT				*e*S	**Sn**	**09 36 09.7**	**-1.4**
baz=226							
TAW	**Tawu**	**1.05**	**217**	*e*P	**Pn**	**09 35 57.2**	**-0.4**
baz=212							
EAST	**Anshuo**	**1.06**	**220**	*e*P	**Pn**	**09 35 56.3**	**-1.4**
baz=208							
WNT	**Mingjian**	**1.06**	**310**	*e*P	**Pn**	**09 35 58.1**	**+0.4**
baz=311							
WNT				*e*S	**Sb**	**09 36 13.4**	**+0.9**
baz=311							
CHN2	**Minshiung**	**1.06**	**288**	*e*P	**Pn**	**09 35 58.5**	**+0.7**
baz=273							
CHN2				*e*S	**Sb**	**09 36 13.8**	**+1.1**
baz=273							
WDLH	**Douliu**	**1.07**	**297**	*e*P	**Pn**	**09 35 58.9**	**+1.1**
baz=307							
WDLH				*e*S	**Sn**	**09 36 13.3**	**+1.7**
baz=307							
CHY	**Chiayi**	**1.10**	**286**	*e*P	**Pn**	**09 35 58.6**	**+0.4**
baz=284							
TWT	**Tachien**	**1.11**	**341**	*e*P	**Pn**	**09 35 58.3**	**-0.3**
baz=345							
TWT				*e*S	**Sn**	**09 36 11.3**	**-1.5**
baz=345							
TDCB	**Techi**	**1.11**	**340**	⇓P	**Pn**	**09 35 58.5**	**-0.1**
baz=345							
TDCB				*e*S	**Sn**	**09 36 10.8**	**-2.1**
baz=345							
TWM1	**Shoushan**	**1.13**	**251**	*e*P	**Pb**	**09 36 01.2**	**+1.1**
baz=247							
LAY	**Lan-yu**	**1.16**	**181**	*e*P	**Pn**	**09 35 57.8**	**-1.3**
baz=169							
SCZT	**Fangliau**	**1.21**	**227**	*e*P	**Pn**	**09 36 00.1**	**+0.4**
baz=213							
SCZT				*e*S	**Sn**	**09 36 17.1**	**+2.1**
baz=213							
WHP	**Taichung City**	**1.22**	**332**	*e*P	**Pn**	**09 36 00.6**	**+0.7**
baz=340							
SNJT	**Kaohsiung City**	**1.23**	**249**	*e*P	**Pn**	**09 36 00.8**	**+0.8**
baz=245							
ENA	**Nanau**	**1.23**	**7**	*e*P	**Pn**	**09 35 59.4**	**-0.7**
baz=22							
NANB	**Nanao**	**1.23**	**7**	*e*P	**Pn**	**09 35 59.5**	**-0.6**
baz=22							
NNSB	**Datong**	**1.23**	**352**	*e*P	**Pn**	**09 35 59.6**	**-0.6**
baz=6.0							
NNS	**Nan Shan**	**1.25**	**351**	*e*P	**Pn**	**09 35 59.7**	**-0.7**
baz=5.0							
TCU	**Taichung**	**1.25**	**319**	*e*P	**Pn**	**09 36 01.4**	**+1.1**
baz=321							
CHN8	**Yiju**	**1.26**	**277**	*e*P	**Pn**	**09 35 59.9**	**-0.6**
baz=273							
CHN8				*e*S	**Sn**	**09 36 17.6**	**+1.3**
baz=273							
WCHH	**Zhanghua**	**1.28**	**313**	*e*P	**Pn**	**09 36 01.5**	**+0.8**
baz=315							
WCHH				*e*S	**Sb**	**09 36 19.3**	**+0.6**
baz=315							
RLNB	**Erlin**	**1.31**	**302**	*e*P	**Pn**	**09 36 01.4**	**+0.2**
baz=302							
RLNB				*e*S	**Sn**	**09 36 18.5**	**+1.0**
baz=302							
TWQ1	**Liyutan**	**1.36**	**327**	*e*P	**Pn**	**09 36 03.1**	**+1.3**
baz=331							
TWQ1				*e*S	**Sn**	**09 36 20.6**	**+1.9**
baz=331							
WTCT	**Ta-ch'eng**	**1.36**	**299**	*e*P	**Pn**	**09 36 01.6**	**-0.2**
baz=299							
WTCT				*e*S	**Sn**	**09 36 19.1**	**+0.4**
baz=299							
WLCH	**Liuqiu**	**1.39**	**233**	*e*P	**Pn**	**09 36 04.7**	**+2.4**
baz=229							
NDT	**Datong Townshi**	**1.40**	**358**	*e*P	**Pn**	**09 36 02.1**	**-0.2**
baz=11							
NSY	**Sanyi**	**1.42**	**328**	*e*P	**Pn**	**09 36 03.6**	**+1.0**
baz=332							
NSY				*e*S	**Sb**	**09 36 23.1**	**+0.2**
baz=332							
HEN	**Hengchun**	**1.42**	**213**	*e*P	**Pn**	**09 36 04.4**	**+1.8**
baz=199							
TWC	**Suao**	**1.42**	**10**	*e*P	**Pn**	**09 36 02.6**	**-0.1**
baz=26							
TWC				*e*S	**Sn**	**09 36 20.9**	**+0.6**
baz=26							
WDJ	**Dajia District**	**1.43**	**323**	*e*P	**Pn**	**09 36 03.6**	**+0.8**
baz=325							
ENTT	**Nioudou**	**1.43**	**360**	*e*P	**Pn**	**09 36 02.3**	**-0.6**
baz=5.0							
EOS1	**EOS1**	**1.43**	**21**	*e*P	**Pn**	**09 36 02.7**	**-0.1**
baz=36							
TWKBT	**Hengchun**	**1.44**	**209**	*e*P	**Pn**	**09 36 02.0**	**-0.9**
baz=198							
TWK1	**Hengchun**	**1.44**	**210**	*e*P	**Pn**	**09 36 01.9**	**-1.0**
baz=199							
YHNB	**Yeheng**	**1.47**	**353**	*e*P	**Pn**	**09 36 03.6**	**+0.2**
baz=7.0							
YHNB				*e*S	**Sn**	**09 36 19.6**	**-2.1**
baz=7.0							
PTSB	**Yuanli**	**1.47**	**327**	*e*P	**Pn**	**09 36 04.1**	**+0.7**
baz=331							
PTSB				*e*S	**Sn**	**09 36 22.8**	**+1.2**
baz=331							
NMLH	**Miaoli**	**1.51**	**332**	*e*P	**Pn**	**09 36 04.7**	**+0.7**
baz=334							
TWE	**Neicheng**	**1.51**	**3**	*e*P	**Pn**	**09 36 04.0**	**0.0**
baz=9.0							
NSTT	**Nanjuang**	**1.52**	**340**	*e*P	**Pn**	**09 36 04.6**	**+0.6**
baz=344							
NSTT				*e*S	**Sn**	**09 36 23.6**	**+0.9**
baz=344							
LIOB	**Emei**	**1.53**	**340**	*e*P	**Pn**	**09 36 05.1**	**+1.0**
baz=344							
LIOB			

	baz=265								
PNG					*e*S		**Sn**	09 36 30.8	**-1.1**
	baz=265								
TWS1	**Kuangyinshan**	**1.90**	**356**		*e*P		**Pn**	09 36 10.1	**+0.9**
	baz=14								
YM01	**YM01**	**1.94**	**360**		*e*P		**Pn**	09 36 11.2	**+1.4**
	baz=5.0								
YM04	**YM04**	**1.94**	**359**		*e*P		**Pn**	09 36 10.7	**+0.8**
	baz=4.0								
VCHM	**Qimei**	**1.98**	**271**		*e*P		**Pn**	09 36 09.4	**-0.9**
	baz=267								
VCHM					*e*S		**Sn**	09 36 31.6	**-2.3**
	baz=267								
TWY	**Chenhua**	**2.06**	**1**		*e*P		**Pn**	09 36 13.3	**+1.8**
	baz=6.0								
HATJ	**Hateruma jima**	**2.21**	**67**		P		**Pn**	09 36 13.9	**+0.3**
HATJ					S		**Sn**	09 36 39.9	**+0.1**
IRIF	**Iriomote-Funau**	**2.27**	**60**		P		**Pn**	09 36 15.0	**+0.6**
IRIF					S		**Sn**	09 36 42.2	**+0.9**
JKRS	**Kuro-shima**	**2.46**	**65**		P		**Pn**	09 36 17.6	**+0.7**
JKRS					*e*S		**Sn**	09 36 46.7	**+0.9**
JIJ	**Ishigaki jima**	**2.62**	**63**		P		**Pn**	09 36 19.0	**-0.2**
JIJ					S		**Sn**	09 36 48.9	**-1.0**
VWUC	**VWUC**	**2.64**	**313**		*e*P		**Pn**	09 36 18.6	**-0.8**
	baz=312								
JISG	**Ishigakijimahi**	**2.86**	**61**		P		**Pn**	09 36 22.2	**-0.2**
JISG					*e*S		**Sn**	09 36 54.5	**-1.2**
PTMZ	**Houxiangcun**	**2.90**	**310**		*e*P		**Pn**	09 36 22.2	**-0.8**
	baz=297								
KNM	**Kinmen**	**3.12**	**293**		*e*P		**Pn**	09 36 26.7	**+0.6**
	baz=291								
KNMB	**Chin-men Tao**	**3.18**	**294**		*e*P		**Pn**	09 36 25.4	**-1.4**
	baz=292								
JTJ	**Tarama**	**3.20**	**63**		P		**Pn**	09 36 27.4	**+0.3**
JTJ					S		**Sn**	09 37 04.7	**+0.6**
MATB	**Ma-tsu**	**3.29**	**334**		*e*P		**Pn**	09 36 27.8	**-0.6**
	baz=332								
JIRB	**Irabujima**	**3.67**	**63**		P		**Pn**	09 36 34.1	**+0.6**
JIRB					S		**Sn**	09 37 14.5	**-1.2**
AXDP	**Jialang**	**3.70**	**298**		*e*P		**Pn**	09 36 33.1	**-1.0**
	baz=296								
LYJJ	**Jianjiangzhen**	**3.72**	**334**		*e*P		**Pn**	09 36 33.7	**-0.6**
	baz=332								
JMJ	**Miyako jima 2**	**3.76**	**64**		*e*S		**Sn**	09 37 17.7	**-0.3**
JIKM	**Ikemajima**	**3.77**	**62**		S		**Sn**	09 37 17.2	**-1.0**
JOGS	**Gusukube**	**3.83**	**65**		P		**Pn**	09 36 36.9	**+1.1**
JOGS					S		**Sn**	09 37 20.9	**+1.1**

*ISCJB **30** 09:53:09.4±0.6,80°.04N±0°.05×33°.0E±0°.2,h10km, mb3.4/1, MS3.8/2, Error ellipse: s-maj=8.0km s-min=4.5km az=161.8*
*IEPN **30** 09:53:16.5, 79°.87N×32°.35E, h5km, station ZFI2 has station magnitude of 3.60*
*IDC **30** 09:53:18.5±5.2, 79°.64N×35°.97E, h0km, mb3.5/1, mb1 3.9/3, mb1mx3.3/29, mbtmp3.8/3, ML3.4/2, MS3.9/2, Ms1 3.9/2, ms1mx3.2/30, Error ellipse: s-maj=98.4km s-min=22.7km az=136.0*
ISC 30 09:53:11.1±0.9, 80.02N±0°.06×33.32E±0°.04, h10km, n40, σ2s94/61, 2D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZFI2	**Zemlya Franca-**	**2.52**	**65**	⇓*i*	P	**Pn**	**09 53 52.0**	**-0.1**
	97μm,1.0s							
ZFI2				*i*	S	**Sn**	**09 54 21.6**	**-1.2**
SPA0	**Spitsbergen Ar**	**3.70**	**249**		Pn	**Pn**	**09 54 08.3**	**+0.1**
	baz=44,slow=7.4							
SPA0					Sn	**Sn**	**09 54 49.6**	**-2.2**
	baz=70,slow=22							
SPA0					Lg	Lg	09 55 07.5	
	baz=66,slow=37							
SPA0	**Spitsbergen Ar**	**3.70**	**249**	⇓*i*	P	**Pn**	**09 54 08.4**	**+0.2**
SPA0				*i*	S	**Sn**	**09 54 48.9**	**-2.9**
SPA0	**Spitsbergen Ar**	**3.70**	**249**	*e*	P	**Pn**	**09 54 08.4**	**+0.2**
SPA0					S	**Sn**	**09 54 49.6**	**-2.2**
	baz=70,slow=22							
HOPEN	**Hopen**	**3.91**	**210**		Pn	**Pn**	**09 54 14.4**	**+3.4**
HOPEN					Pg	**Pg**	**09 54 27.1**	**+1.2**
HOPEN					Sn	**Sn**	**09 54 58.2**	**+1.4**
HOPEN					Lg	Lg	09 55 19.3	
HOPEN	**Hopen**	**3.91**	**210**	*e*	P	**Pn**	**09 54 14.8**	**+3.8**
HOPEN				*e*	S	**Sn**	**09 54 58.3**	**+1.4**
HOPEN				IAML			09 55 33.3	
	comp=Z,356nm,0.7s							
KBS	**Kingsbay**	**4.05**	**265**		Pn	**Pn**	**09 54 12.1**	**-0.9**
KBS					Pg	**Pg**	**09 54 27.2**	**-1.4**
KBS					Lg	Lg	09 55 16.5	
KBS	**Kingsbay**	**4.05**	**265**	*e*	P	**Pn**	**09 54 13.7**	**+0.7**
KBS				*e*	S	**Sn**	**09 54 57.5**	**-3.0**
KBS	**Kingsbay**	**4.05**	**265**	*e*	P	**Pn**	**09 54 13.3**	**+0.3**
KBS				*e*	S	**Sn**	**09 54 57.7**	**-2.8**
KBS				IAML			09 55 22.4	
	comp=Z,207nm,0.2s							
BRBA	**Barentsburg A**	**4.13**	**251**		Pn	**Pn**	**09 54 15.7**	**+1.7**
BRBA					Sn	**Sn**	**09 54 59.7**	**-2.5**
BRBA					Lg	Lg	09 55 21.9	
BRBA	**Barentsburg A**	**4.13**	**251**		Pn	**Pn**	**09 54 15.7**	**+1.7**
BRBA					Sn	**Sn**	**09 54 59.7**	**-2.5**
BRBA					E		09 55 21.9	
HSP	**Hornsund**	**4.64**	**239**		Pn	**Pn**	**09 54 22.1**	**+1.0**
HSP					Pg	**Pg**	**09 54 39.3**	**-0.5**
HSP					Sn	**Sn**	**09 55 16.0**	**+1.2**
HSP					Lg	Lg	09 55 38.4	
HSPB	**Hornsund (broa**	**4.65**	**239**	*e*	P	**Pn**	**09 54 23.4**	**+2.2**
HSPB				*e*	S	**Sn**	**09 55 14.0**	**-1.0**
HSPB				IAML			09 55 44.5	
	comp=Z,154nm,0.3s							
BJO	**Bjornoya**	**6.33**	**217**	*e*		**Sn**	**09 55 53.7**	**-2.8**
BJO1	**Bjornoya**	**6.35**	**217**		Sn	**Sn**	**09 55 57.2**	**+0.2**
BJO1					Lg	Lg	09 56 36.2	
KEV	**Kevo**	**10.44**	**192**		Pn	**Pn**	**09 55 43.0**	**+2.5**
KEV					Sn	**Sn**	**09 57 37.4**	**+0.1**
KEV	**Kevo**	**10.44**	**192**	*e*	P	**Pn**	**09 55 42.9**	**+2.4**
ARA0	**ARCESS Array S**	**10.72**	**195**		Pn	**Pn**	**09 55 47.2**	**+2.8**
	baz=8.3,slow=11							
ARA0					Sn	**Sn**	**09 57 40.0**	**-4.2**
	baz=15,slow=22							
ARA0	**ARCESS Array S**	**10.72**	**195**		Pn	**Pn**	**09 55 47.2**	**+2.8**
	baz=8.3,slow=11							
ARA0					Sn	**Sn**	**09 57 40.0**	**-4.2**
	baz=15,slow=22							
ARCES	**ARCESS Array B**	**10.72**	**195**		Pn	**Pn**	**09 55 47.5**	**+3.1**
	comp=Z,0.8nm,0.3s,baz=9.1,slow=11,SNR=17							
ARCES					Sn	**Sn**	**09 57 41.0**	**-3.2**
	comp=Z,1.8nm,0.3s,baz=13,slow=20,SNR=3.9							
KIF	**Kilpisjarvi**	**11.51**	**203**		Pn	**Pn**	**09 55 59.4**	**+4.2**
KIF	**Kilpisjarvi**	**11.51**	**203**	*e*	P	**Pn**	**09 55 59.7**	**+4.5**
HEF	**Hetta**	**11.93**	**197**	*e*	P	**Pn**	**09 56 02.7**	**+1.8**
AMDE	**Amderma**	**12.43**	**130**	*e*	P	**Pn**	**09 56 08.6**	**+0.9**
AMDE				*e*	S	**Sn**	**09 58 19.6**	**-6.5**
APA0	**Apatity Array**	**12.48**	**181**		Pn	**Pn**	**09 56 08.9**	**+0.5**
	slow=9.3							
APA0	**Apatity Array**	**12.48**	**181**		P	**Pn**	**09 56 08.3**	**-0.1**
APA0					S	**Sn**	**09 58 20.5**	**-6.8**
APA0	**Apatity Array**	**12.48**	**181**		Pn	**Pn**	**09 56 08.9**	**+0.5**
	slow=9.3							
APA	**Apatity**	**12.52**	**180**		P	**Pn**	**09 56 09.4**	**+0.5**
APA					S	**Sn**	**09 58 22.0**	**-6.2**
STEI	**Steigen**	**13.01**	**211**	*e*	P	**Pn**	**09 56 20.1**	**+4.5**
LSH	**Leshukonskoye**	**15.60**	**160**	*e*	P	**Pn**	**09 56 50.3**	**-0.3**
LSH				*e*	S	**Sn**	**09 59 36.8**	**-6.3**
FIA0	**FINESS Array S**	**18.79**	**191**		P	**Pn**	**09 57 34.9**	**+4.3**
	baz=3.0,slow=12							
FIA0	**FINESS Array S**	**18.79**	**191**		P	**Pn**	**09 57 34.9**	**+4.3**
	baz=3.0,slow=12							
FINES	**FINESS Array B**	**18.79**	**191**		P	**Pn**	**09 57 34.4**	**+3.8**
	comp=Z,0.2nm,0.3s,baz=9.8,slow=11,SNR=6.9							
KLMR	**Klimovskoe**	**19.35**	**171**	*e*	P	**P**	**09 57 38.2**	**+1.9**
KLMR				*e*	S	Sn	10 00 57.6	-16
KLMR	**Klimovskoe**	**19.35**	**171**	*e*	P	**P**	**09 57 38.2**	**+2.0**
KLMR				*e*	P	**P**	**09 57 38.2**	**+2.0**
KLMR				*e*	P	**P**	**09 57 38.2**	**+2.0**
KLMR				*e*	S	Sn	10 00 57.6	-16
KLMR				*e*	S	Sn	10 00 57.6	-16
KLMR				*e*	S	Sn	10 00 57.6	-16
HFS	**Hagfors**	**20.82**	**208**		P	Pn	09 57 57.6	+2.9
	baz=45,slow=11							
HFS	**Hagfors**	**20.82**	**208**		P	Pn	09 57 57.6	+2.9
	baz=45,slow=11							
ZALV	**Zalesovo Beam**	**30.86**	**116**		LR	LR	10 14 39.7	
	comp=Z,180nm,19.1s,baz=229,slow=42							
MKAR	**Makanchi Array**	**37.43**	**121**		P	**P**	**10 00 27.8**	**+3.9**
	comp=Z,0.3nm,0.5s,baz=352,slow=7.0,SNR=7.6							
AAK	**Ala-Archa**	**40.41**	**131**		LR	LR	10 21 18.7	
	comp=Z,146nm,18.9s,baz=318,slow=42							

IDC 30 09:56:04.4±2.1, 1°.00N×125°.67E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/23, mbtmp3.2/3, Error ellipse: s-maj=175.8km s-min=29.0km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**22.49**	**158**		P	P	10 01 04.8	-0.8
	0.4nm,0.3s,baz=337,slow=11,SNR=5.2							
ASAR	**Alice Springs**	**25.80**	**162**		P	P	10 01 38.1	+0.7
	0.1nm,0.3s,baz=343,slow=11,SNR=2.3							
MKAR	**Makanchi Array**	**59.21**	**327**		P	P	10 06 07.4	0.0
	0.1nm,0.3s,baz=136,slow=8.2,SNR=1.5							

*SOME **30** 10:00:25.8, 41°.28N×71°.10E, h0km*
*NNC **30** 10:00:28.1±7.6, 41°.18N×71°.23E, h3km±72km, mb2.8, mpv2.5, Error ellipse: s-maj=101.0km s-min=30.0km az=165.0*
ISC 30 10:00:28.0±3.4, 41°.2N±0°.2×71°.15E±0°.09, h15km, n5, σ0s93/9, 2C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MNAS	**Manas**	**1.62**	**38**	⇑P		**Pn**	**10 00 56.8**	**+0.6**
	0.4nm,0.3s							
MNAS				⇓S		**Sg**	**10 01 20.6**	**+0.4**
	1.8nm,0.3s							
MNAS	**Manas**	**1.62**	**38**	P		**Pb**	**10 00 57.0**	**-0.7**
	0.9nm,0.2s							
MNAS				S		**Sg**	**10 01 19.8**	**-0.5**
	2.1nm,0.3s							
KK31	**Karatay Array**	**1.94**	**346**	⇑Pn		**Pb**	**10 01 02.1**	**-1.0**
	3.1nm,0.3s,baz=154,slow=13,SNR=35							
KK31				⇓Sn		**Sb**	**10 01 28.4**	**+1.2**
	2.1nm,0.3s,baz=152,slow=26,SNR=8.0							
MRKS	**Merke**	**2.17**	**45**	Pg		**Pb**	**10 01 06.9**	**-0.2**
MRKS				Lg		Lg	10 01 36.8	
MRKS	**Merke**	**2.17**	**45**	*e*P		**Pb**	**10 01 07.0**	**-0.2**
	0.6nm,0.1s							
MRKS				*e*S		**Sg**	**10 01 36.7**	**-1.1**
	4.5nm,0.2s							

*SJA **30** 10:17:42.1±0.6, 29°.50S×72°.68W, h40km±999km, ML3.2, MW3.7*
*ISCJB **30** 10:17:48.5±1.5, 29°.67S±0°.06×72°.1W±0°.1, h25km, Error ellipse: s-maj=15.6km s-min=8.1km az=13.8*
*GUC **30** 10:17:48.8±0.5, 29°.71S×71°.92W, h32km±6km, ML3.2*
ISC 30 10:17:47.8±2.2, 29°.65S±0°.06×72°.2W±0°.1, h25km, n13, σ1s97/18, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GO04	**Tololo Observa**	**1.30**	**114**	⇓*e*P		**Pn**	**10 18 09.5**	**-1.0**
GO04				*e*S		**Sn**	**10 18 25.4**	**-1.8**
GO04				IAML			10 18 28.1	
	comp=E,3μm,0.4s							
LCO	**Las Campanas**	**1.43**	**64**	*i* P		**Pb**	**10 18 12.5**	**-1.5**
LCO				*i* S		**Sb**	**10 18 34.8**	**+2.9**
LCO	**Las Campanas**	**1.43**	**64**	⇑*i*P		**Pb**	**10 18 12.5**	**-1.5**
LCO				*e*S		**Sb**	**10 18 30.8**	**-1.1**
LCO				IAML			10 18 35.1	
	comp=N,597nm,0.3s							
CMCH	**Combarbala**	**1.82**	**147**	*e*P		**Pn**	**10 18 17.9**	**+0.3**
CMCH				*e*S		**Sn**	**10 18 40.1**	**+0.2**
GO03	**Copiap**	**2.66**	**40**	*e*P		**Pn**	**10 18 29.6**	**+0.4**
GO03				IAML			10 19 20.3	
	comp=E,96nm,0.4s							
AGUA	**GUANDACOL**	**3.21**	**88**	*i* P		**Pn**	**10 18 39.2**	**+2.5**
RTLS	**Leoncito**	**3.27**	**132**	*i* P		**Pn**	**10 18 40.4**	**+2.6**
RTLS				*i* S		**Sb**	**10 19 23.3**	**-1.5**
RTLS				IAML			10 19 28.0	
	comp=Z,54nm,0.7s							
AMOG	**MOGNA**	**3.43**	**113**	*i* P		**Pn**	**10 18 42.5**	**+2.8**
ROC1	**El Roble**	**3.46**	**164**	*i* P		**Pn**	**10 18 40.1**	**-0.1**
AUSP	**Uspallata**	**3.50**	**138**	*i* P		**Pn**	**10 18 42.9**	**+1.9**
FCH	**Farellones**	**4.00**	**157**	*e*P		**Pn**	**10 18 50.0**	**+2.2**
ARCO	**CERRO ARCO**	**4.22**	**140**	*i* P		**Pn**	**10 18 53.0**	**+2.3**
ARCO				IAML			10 19 09.0	
	comp=Z,14nm,0.4s							
LMEL	**Las Melosas**	**4.50**	**159**	*e*P		**Pn**	**10 18 56.2**	**+1.6**

*KRNET **30** 10:18:20.0±0.1, 42°.54N×79°.65E, h17km, mb3.0*
*NNC **30** 10:18:23.8±1.3, 42°.72N×79°.57E, h0km, mb3.3, mpv3.1, Error ellipse: s-maj=8.6km s-min=4.2km az=131.0*
*SOME **30** 10:18:26.1, 42°.83N×79°.53E, h20km*
ISC 30 10:18:20.8±1.8, 42°.59N±0°.05×79°.66E±0°.05, h1km±11km, n55, σ1s39/99, 31C-17D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
UZB	**Uzynbulak**	**0.73**	**320**		P	**Pg**	**10 18 34.9**	**+0.2**
	26nm,0.1s							
UZB					S	**Sg**	**10 18 41.3**	**-2.9**
	108nm,0.3s							
UZB	**Uzynbulak**	**0.73**	**320**	*e*P		**Pg**	**10 18 34.9**	**+0.2**
	26nm,0.1s							
UZB				*e*S		**Sg**	**10 18 41.3**	**-2.9**
	108nm,0.3s							
PDGK	**Podgornoye**	**0.75**	**350**		P	**Pg**	**10 18 35.3**	**+0.2**
	31nm,0.3s							
PDGK					S	**Sg**	**10 18 42.0**	**-2.9**
	5.7nm,0.3s							
PDGK	**Podgornoye**	**0.75**	**350**	⇑P		**Pg**	**10 18 34.9**	**-0.2**
	19nm,0.4s							
PDGK				⇑S		**Sb**	**10 18 45.1**	**-2.5**
	14nm,0.5s							
PDGK	**Podgornoye**	**0.75**	**350**	⇑*i*P		**Pg**	**10 18 35.3**	**+0.2**
	baz=52							
PDGK				⇑*i*S		**Sb**	**10 18 45.9**	**-1.6**
	baz=52							
PRZ	**Przheval'sk**	**0.94**	**264**	⇑*i*P		**Pb**	**10 18 37.8**	**-2.2**
	baz=67							
PRZ				⇑*i*S		**Sb**	**10 18 50.0**	**-3.0**
	baz=67							
SATY	**Saty**	**1.03**	**297**		P	**Pn**	**10 18 42.2**	**-0.4**
	13nm,0.1s							
SATY					S	**Sg**	**10 18 54.4**	**+0.4**
	112nm,0.4s							
SATY	**Saty**	**1.03**	**297**	*e*P		**Pn**	**10 18 42.2**	**-0.4**
	13nm,0.1s							
SATY				*e*S		**Sg**	**10 18 54.4**	**+0.4**
	112nm,0.4s							
KURS	**Kuram**	**1.41**	**310**		P	**Pg**	**10 18 49.1**	**+1.2**
	2.9nm,0.3s							
KURS					S	**Sg**	**10 19 05.7**	**-0.5**
	16nm,0.5s							
KURS	**Kuram**	**1.41**	**310**	*e*P		**Pg**	**10 18 49.1**	**+1.2**
	2.9nm,0.3s							
KURS				*e*S		**Sg**	**10 19 05.7**	**-0.5**
	16nm,0.5s							
TARG	**Taragay, Kyrgy**	**1.63**	**239**	⇑*i*P		**Pn**	**10 18 49.4**	**-1.6**
	baz=40							
TARG				⇑*i*S		**Sn**	**10 19 10.4**	**-2.4**
	baz=40							
DJR	**Jarkent**	**1.74**	**3**	P		**Pg**	**10 18 55.5**	**+1.3**
	5.3nm,0.5s							
DJR					S	**Sg**	**10 19 16.8**	**+0.1**
	13nm,0.4s							
DJR	**Jarkent**	**1.74**	**3**	*e*P		**Pg**	**10 18 55.5**	**+1.3**
	5.3nm,0.5s							
DJR				*e*S		**Sg**	**10 19 16.9**	**+0.1**
	13nm,0.4s							
KDJ	**Kajisay**	**1.90**	**257**	⇑*i*P		**Pn**	**10 18 54.0**	**-0.5**
	baz=58							
KDJ				⇑*i*S		**Sn**	**10 19 19.2**	**+0.1**
	baz=58							
KOTS	**Kotyrbulak**	**1.98**	**290**		P	**Pg**	**10 19 00.1**	**+1.4**
	5.3nm,0.4s							
KOTS					S	**Sg**	**10 19 24.4**	**0.0**
	43nm,0.5s							
KOTS	**Kotyrbulak**	**1.98**	**290**	*e*P		**Pg**	**10 19 00.1**	**+1.4**
	5.3nm,0.4s							
KOTS				*e*S		**Sg**	**10 19 24.4**	**0.0**
	43nm,0.5s							
MDOK	**Medeo**	**2.00**	**287**	Pn		**Pn**	**10 18 56.7**	**+0.7**
	5.0nm,0.5s							
MDOK				Sn		**Sb**	**10 19 23.3**	**-0.4**
	14nm,0.4s							
MDOK	**Medeo**	**2.00**	**287**	Pg		**Pg**	**10 18 59.7**	**+0.5**
	7.0nm,0.4s							
MDOK				Lg		Lg	10 19 23.9	
	18nm,0.5s							
MDOK	**Medeo**	**2.00**	**287**	*e*P		**Pg**	**10 18 59.7**	**+0.5**
	7.0nm,0.4s							
MDOK				*e*S		**Sg**	**10 19 23.9**	**-1.2**
	18nm,0.5s							
TNSS	**Tian-Shan**	**2.05**	**284**	P		**Pg**	**10 19 01.3**	**+1.3**
	11nm,0.4s							
TNSS				S		**Sg**	**10 19 26.5**	**0.0**
	22nm,0.4s							
TNSS	**Tian-Shan**	**2.05**	**284**	*e*P		**Pg**	**10 19 01.3**	**+1.3**
	11nm,0.4s							
TNSS				*e*S		**Sg**	**10 19 26.5**	**0.0**
	22nm,0.4s							
ARXS	**Arharly**	**2.10**	**321**	P		**Pg**	**10 19 01.5**	**+0.5**
	4.2nm,0.6s							
ARXS				S		**Sg**	**10 19 26.9**	**-1.4**
	48nm,0.4s							
ARXS	**Arharly**	**2.10**	**321**	*e*P		**Pg**	**10 19 01.5**	**+0.5**
	4.2nm,0.6s							
ARXS				*e*S		**Sg**	**10 19 26.9**	**-1.4**
	48nm,0.4s							
CHKK	**Chushkaly**	**2.33**	**304**	Pg		**Pg**	**10 19 04.9**	**-0.4**
	3.7nm,0.4s							
CHKK				Lg		Lg	10 19 33.1	
	57nm,0.4s							
CHKK	**Chushkaly**	**2.33**	**304**	*e*P		**Pg**	**10 19 04.9**	**-0.4**
	3.7nm,0.4s							
CHKK				*e*S		**Sg**	**10 19 33.1**	**-2.4**
	57nm,0.4s							
KTBS	**Karatobe**	**2.45**	**298**	Pg		**Pb**	**10 19 07.1**	**+1.4**
	3.2nm,0.3s							
KTBS				Lg		Lg	10 19 36.4	
	40nm,0.8s							
KTBS	**Karatobe**	**2.45**	**298**	*e*P		**Pb**	**10 19 07.1**	**+1.4**
	3.2nm,0.3s							
KTBS				*e*S		**Sb**	**10 19 36.4**	**0.0**
	40nm,0.8s							
ULHL	**Ulahol**	**2.55**	**263**	⇓*i*P		**Pn**	**10 19 03.9**	**+0.3**
	baz=65							
ULHL				⇓*i*S		**Sn**	**10 19 35.8**	**+0.4**
	baz=65							
TDK	**Taldyqorghan**	**2.58**	**340**	Pg		**Pg**	**10 19 09.9**	**-0.2**
	32nm,0.5s							
TDK				Lg		Lg	10 19 41.3	
	35nm,0.5s							
TDK	**Taldyqorghan**	**2.58**	**340**	*e*P		**Pg**	**10 19 09.9**	**-0.2**
	37nm,0.4s							
TDK				*e*S		**Sg**	**10 19 41.3**	**-2.3**
	43nm,0.3s							
KAPS	**Kapalarasan**	**2.70**	**355**	Pg		**Pb**	**10 19 10.5**	**+0.5**
	3.8nm,0.4s							
KAPS				Lg		Lg	10 19 42.5	
	17nm,0.4s							
KAPS	**Kapalarasan**	**2.70**	**355**	*e*P		**Pb**	**10 19 10.5**	**+0.4**
	3.8nm,0.4s							
KAPS				*e*S		**Sb**	**10 19 42.5**	**-1.2**
	17nm,0.4s							
BOOM	**Boomskoye usch**	**2.75**	**269**	⇓*i*P		**Pn**	**10 19 06.6**	**+0.4**
	baz=70							
BOOM				⇓*i*S		**Sn**	**10 19 40.7**	**+0.5**
	baz=70							
KUU	**Kurty**	**2.75**	**299**	Pg		**Pb**	**10 19 12.3**	**+1.5**
	1.8nm,0.4s							
KUU				Lg		Lg	10 19 45.6	
	20nm,0.5s							
KUU	**Kurty**	**2.75**	**299**	*e*P		**Pb**	**10 19 12.3**	**+1.5**
	1.8nm,0.4s							
KUU				*e*S		**Sb**	**10 19 45.6**	**+0.5**
	20nm,0.5s							
KST	**Kastek**	**2.76**	**281**	Pg		**Pb**	**10 19 12.4**	**+1.4**
	6.6nm,0.5s							
KST				Lg		Lg	10 19 45.7	
	16nm,0.7s							
KST	**Kastek**	**2.76**	**281**	*e*P		**Pb**	**10 19 12.4**	**+1.4**
	6.6nm,0.5s							
KST				*e*S		**Sb**	**10 19 45.7**	**+0.4**
	16nm,0.7s							
NRN	**Naryn**	**2.96**	**248**	⇑*i*P		**Pn**	**10 19 09.6**	**+0.3**
	baz=49							
NRN				⇑*i*S		**Sn**	**10 19 45.5**	**-0.2**
	baz=49							
TKM2	**Tokmak 2**	**3.01**	**278**	⇑Pg		**Pb**	**10 19 14.6**	**-0.7**
	2.6nm,0.5s							
TKM2				⇓Lg		Lg	10 19 56.0	
	15nm,0.6s							
TKM2	**Tokmak 2**	**3.01**	**278**	⇓*i*P		**Pn**	**10 19 10.5**	**+0.7**
	baz=79							
TKM2				⇓*i*S		**Sn**	**10 19 47.3**	**+0.6**
	baz=79							
KZA	**Kyzart**	**3.31**	**263**	⇓*i*P		**Pn**	**10 19 14.4**	**+0.3**
	baz=63							
KZA				⇓*i*S		**Sn**	**10 19 54.1**	**-0.2**
	baz=63							
KBK	**Karagaybulak**	**3.48**	**273**	⇑*i*P		**Pn**	**10 19 16.8**	**+0.6**
	baz=74							
KBK				⇑*i*S		**Sn**	**10 19 58.3**	**+0.1**
	baz=74							
CHMS	**Chumysh**	**3.64**	**278**	⇓*e*P		**Pn**	**10 19 18.8**	**+0.5**
	baz=79							
CHMS				⇓*i*S		**Sn**	**10 20 02.2**	**+0.3**
	baz=79							
AAK	**Ala-Archa**	**3.81**	**272**	⇑Pg		**Pb**	**10 19 30.0**	**+1.0**
	1.7nm,0.3s							
AAK				⇑Lg		Lg	10 20 20.1	
	7.0nm,0.8s							
AAK	**Ala-Archa**	**3.81**	**272**	⇑*e*P		**Pn**	**10 19 21.4**	**+0.6**
	baz=73							
AAK				⇑*i*S		**Sn**	**10 20 06.2**	**-0.2**
	baz=73							
UCH	**Uchtor**	**3.83**	**266**	⇓*i*P		**Pn**	**10 19 21.8**	**+0.5**
	baz=67							
UCH				⇓*i*S		**Sn**	**10 20 07.0

ASAR Alice Springs 34.55 169 P P 10 36 36.5 -0.2
0.2nm,0.4s,baz=356,slow=7.1,SNR=6.7
MKAR Makanchi Array 52.51 322 P P 10 39 01.2 -0.1
0.5nm,0.7s,baz=116,slow=8.2,SNR=5.2

*ISCJB **30** 10:45:56.0±0.4, 24°.43N±0°.02×122°.00E±0°.02, h4km±3km, Error ellipse: s-maj=3.1km s-min=2.2km az=142.7*
*TAP **30** 10:45:56.5, 24°.46N×121°.96E, h13km, ML2.9, B*
*JMA **30** 10:45:56.3±0.1, 24°.36N×121°.91E, h40km±3km, M2.3*
ISC 30 10:45:56.2±0.8, 24°.45N±0°.02×121°.99E±0°.02, h16km±6km, n68, σ0s65/105, 6C-12D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.16**	**51**	⇓P	**Pg**	**10 46 00.9**	**+0.6**
	baz=52						
EOS1				S	**Sg**	**10 46 04.5**	**+1.4**
	baz=52						
TWC	**Suao**	**0.21**	**322**	⇑*i*P	**Pg**	**10 46 00.8**	**-0.3**
	baz=336						
TWC				*i*S	**Sg**	**10 46 03.2**	**-1.1**
	baz=336						
NANB	**Nanao**	**0.22**	**265**	⇓P	**Pb**	**10 46 01.0**	**-0.9**
	baz=269						
NANB				S	**Sg**	**10 46 03.8**	**-0.8**
	baz=269						
ENA	**Nanau**	**0.23**	**266**	⇓*i*P	**Pg**	**10 46 00.9**	**-0.4**
	baz=268						
ENA				S	**Sg**	**10 46 04.0**	**-0.8**
	baz=268						
ILA	**Ilan**	**0.39**	**325**	P	**Pb**	**10 46 04.5**	**-0.2**
	baz=328						
ILA				*e*S	**Sb**	**10 46 12.0**	**+1.5**
	baz=328						
EGS		**0.40**	**353**	⇑*e*P	**Pb**	**10 46 04.7**	**-0.3**
	baz=350						
TWE	**Neicheng**	**0.40**	**313**	⇑*i*P	**Pb**	**10 46 04.4**	**-0.6**
	baz=319						
TWE				S	**Sg**	**10 46 09.2**	**-0.7**
	baz=319						
ENTT	**Nioudou**	**0.43**	**297**	⇑*i*P	**Pb**	**10 46 05.0**	**-0.6**
	baz=297						
ENTT				S	**Sg**	**10 46 10.3**	**-0.5**
	baz=297						
NTC	**Toucheng**	**0.43**	**340**	*e*P	**Pb**	**10 46 04.7**	**-0.8**
	baz=352						
NACB	**Ninganchiao**	**0.45**	**233**	⇓P	**Pg**	**10 46 05.0**	**-0.3**
	baz=230						
NACB				S	**Sg**	**10 46 10.9**	**-0.4**
	baz=230						
NDT	**Datong Townshi**	**0.46**	**290**	P	**Pb**	**10 46 05.6**	**-0.4**
	baz=290						
NDT				S	**Sg**	**10 46 11.3**	**-0.5**
	baz=290						
TWD	**Chiawan**	**0.51**	**225**	⇓P	**Pg**	**10 46 06.0**	**-0.4**
	baz=221						
TWD				S	**Sg**	**10 46 12.9**	**-0.3**
	baz=221						
TIPB	**Shuangxi**	**0.55**	**344**	⇑*i*P	**Pb**	**10 46 07.2**	**-0.3**
	baz=353						
TIPB				*e*S	**Sb**	**10 46 14.9**	**-0.2**
	baz=353						
NNSB	**Datong**	**0.55**	**268**	⇓P	**Pb**	**10 46 07.0**	**-0.6**
	baz=267						
NNSB				S	**Sg**	**10 46 13.9**	**-0.7**
	baz=267						
NWLT	**Wulai**	**0.55**	**307**	*e*P	**Pb**	**10 46 07.3**	**-0.2**
	baz=299						
NWLT				*e*S	**Sg**	**10 46 14.4**	**-0.1**
	baz=299						
TWB1	**Santiao Chiao**	**0.56**	**360**	*e*P	**Pb**	**10 46 07.4**	**-0.3**
	baz=354						
TWB1				*e*S	**Sb**	**10 46 14.6**	**-0.9**
	baz=354						
NNS	**Nan Shan**	**0.56**	**270**	⇓*i*P	**Pb**	**10 46 07.2**	**-0.6**
	baz=268						
NNS				S	**Sg**	**10 46 14.2**	**-0.7**
	baz=268						
YHNB	**Yeheng**	**0.60**	**292**	⇑P	**Pb**	**10 46 08.3**	**-0.1**
	baz=297						
YHNB				S	**Sg**	**10 46 15.4**	**-0.8**
	baz=297						
NSK	**Sanguang**	**0.62**	**292**	P	**Pb**	**10 46 08.6**	**-0.1**
	baz=297						
NSK				S	**Sg**	**10 46 15.9**	**-0.8**
	baz=297						
TWA	**Mucha**	**0.65**	**325**	P	**Pb**	**10 46 09.4**	**+0.2**
	baz=326						
TWA				S	**Sb**	**10 46 17.9**	**-0.2**
	baz=326						
NWF	**Wu-fen Shan**	**0.65**	**343**	P	**Pb**	**10 46 09.8**	**+0.5**
	baz=333						
NWF				S	**Sb**	**10 46 18.9**	**+0.7**
	baz=333						
WFSB	**Wu-fen Shan**	**0.65**	**343**	P	**Pb**	**10 46 09.9**	**+0.6**
	baz=333						
WFSB				S	**Sb**	**10 46 18.8**	**+0.6**
	baz=333						
NHDH	**Xindian Distri**	**0.67**	**321**	*e*P	**Pb**	**10 46 09.8**	**+0.3**
	baz=314						
TATO	**Taipei**	**0.70**	**319**	P	**Pb**	**10 46 10.5**	**+0.4**
	baz=309						
TATO				S	**Sg**	**10 46 19.0**	**-0.1**
	baz=309						
WHF	**Hehuan Shan**	**0.73**	**246**	⇓*i*P	**Pb**	**10 46 10.2**	**-0.5**
	baz=254						
WHF				S	**Sg**	**10 46 20.1**	**-0.1**
	baz=254						
TWT	**Tachien**	**0.77**	**256**	*e*P	**Pb**	**10 46 11.1**	**-0.2**
	baz=248						
TDCB	**Techi**	**0.78**	**256**	*e*P	**Pb**	**10 46 11.7**	**+0.1**
	baz=255						
TDCB				*e*S	**Sg**	**10 46 21.3**	**-0.5**
	baz=255						
WLTB	**Daxi**	**0.78**	**301**	*e*P	**Pn**	**10 46 12.6**	**0.0**
	baz=301						
WLTB				*e*S	**Sb**	**10 46 23.4**	**+1.4**
	baz=301						
YM01	**YM01**	**0.80**	**331**	*e*P	**Pn**	**10 46 13.5**	**+0.6**
	baz=342						
ESL	**Shilin**	**0.81**	**219**	*e*P	**Pb**	**10 46 11.6**	**-0.4**
	baz=225						
YM11	**YM11**	**0.81**	**332**	P	**Pn**	**10 46 13.0**	**-0.1**
	baz=333						
YM05	**YM05**	**0.81**	**332**	P	**Pn**	**10 46 12.9**	**-0.2**
	baz=342						
YM04	**YM04**	**0.82**	**330**	*e*P	**Pn**	**10 46 12.8**	**-0.3**
	baz=330						
YM08	**YM08**	**0.82**	**334**	*e*P	**Pb**	**10 46 12.6**	**+0.3**
	baz=335						
TWS1	**Kuangyinshan**	**0.83**	**322**	*e*P	**Pn**	**10 46 13.6**	**+0.3**
	baz=322						
CHGB	**Renai**	**0.84**	**243**	⇓P	**Pb**	**10 46 12.4**	**-0.2**
	baz=251						
CHGB				S	**Sg**	**10 46 23.2**	**-0.4**
	baz=251						
JYNG	**Yonagunijimaku**	**0.87**	**89**	P	**Pn**	**10 46 13.2**	**-0.7**
JYNG				*e*S	**Sb**	**10 46 24.7**	**+0.3**
TWY	**Chenhua**	**0.90**	**337**	*e*P	**Pn**	**10 46 14.4**	**+0.1**
	baz=337						
TWY				*e*S	**Sb**	**10 46 26.8**	**+1.5**
	baz=337						
LIOB	**Emei**	**0.91**	**283**	*e*P	**Pb**	**10 46 14.4**	**+0.7**
	baz=282						
NSTT	**Nanjuang**	**0.92**	**282**	*e*P	**Pb**	**10 46 13.7**	**-0.1**
	baz=281						
YOJ	**Yonaguni jima**	**0.93**	**89**	P	**Pn**	**10 46 14.1**	**-0.5**
	baz=89						
YOJ				S	**Sn**	**10 46 27.5**	**-0.2**
	baz=89						
YOJ	**Yonaguni jima**	**0.93**	**89**	P	**Pn**	**10 46 14.2**	**-0.5**
YOJ				S	**Sn**	**10 46 27.5**	**-0.2**
WHP	**Taichung City**	**0.97**	**260**	*e*P	**Pb**	**10 46 15.2**	**+0.5**
	baz=259						
WHP				S	**Sg**	**10 46 27.6**	**-0.1**
	baz=259						
SBCB	**Hsinchu**	**0.98**	**291**	*e*P	**Pn**	**10 46 16.8**	**+1.5**
	baz=284						
VWDT	**VWDT**	**1.04**	**229**	*e*P	**Pb**	**10 46 16.0**	**+0.2**
	baz=235						
HGSD	**Ruisui**	**1.08**	**209**	*e*P	**Pn**	**10 46 17.6**	**+0.8**
	baz=208						
TWQ1	**Liyutan**	**1.11**	**265**	*e*P	**Pn**	**10 46 18.1**	**+0.9**
	baz=264						
EHY	**Hungye**	**1.12**	**213**	*e*P	**Pg**	**10 46 16.9**	**-0.9**
	baz=225						
SMLT	**Sun Moon Lake**	**1.14**	**241**	*e*P	**Pb**	**10 46 18.1**	**+0.4**
	baz=240						
SSLB	**Suanglung**	**1.15**	**236**	⇓P	**Pb**	**10 46 18.0**	**+0.2**
	baz=243						
SSLB				*e*S	**Sg**	**10 46 32.4**	**-1.1**
	baz=243						
TYC	**Yuchr**	**1.17**	**243**	⇓P	**Pb**	**10 46 18.4**	**+0.4**
	baz=242						
TYC				*e*S	**Sg**	**10 46 33.4**	**-0.6**
	baz=242						
PCYT	**Pengchaiyu**	**1.18**	**4**	*e*P	**Pn**	**10 46 18.5**	**+0.3**
	baz=4.0						
YULB	**Yu-li**	**1.23**	**211**	*e*P	**Pb**	**10 46 19.0**	**0.0**
	baz=212						
TWF1	**Yuli**	**1.26**	**210**	*e*P	**Pn**	**10 46 20.4**	**+1.1**
	baz=226						
WHYT	**Xinyi Township**	**1.28**	**235**	*e*P	**Pg**	**10 46 19.8**	**-1.0**
	baz=234						
CHN5	**Tsauling**	**1.47**	**235**	⇓P	**Pg**	**10 46 25.0**	**+0.6**
	baz=236						
IRIF	**Iriomote-Funau**	**1.59**	**94**	P	**Pn**	**10 46 23.6**	**-0.2**
IRIF				*e*S	**Sn**	**10 46 44.1**	**+0.1**
CHN4	**Tsaushan**	**1.68**	**230**	*e*P	**Pg**	**10 46 27.9**	**-0.6**
	baz=231						
TPUB	**Ta-pu**	**1.69**	**228**	*e*P	**Pg**	**10 46 28.5**	**-0.2**
	baz=230						
TPUB				*e*S	**Sg**	**10 46 52.3**	**+1.7**
	baz=230						
STYT	**Tauyuan**	**1.70**	**222**	*e*P	**Pg**	**10 46 28.4**	**-0.6**
	baz=223						
WTP	**Ta-pu**	**1.74**	**227**	*e*P	**Pg**	**10 46 28.7**	**-0.9**
	baz=228						
TWK	**Hsinying**	**1.81**	**230**	*e*P	**Pg**	**10 46 29.6**	**-1.3**
	baz=231						
CHN1	**Nanshi**	**1.83**	**227**	*e*P	**Pg**	**10 46 31.8**	**+0.4**
	baz=229						
JKRS	**Kuro-shima**	**1.85**	**96**	P	**Pn**	**10 46 27.8**	**+0.4**
JKRS				*e*S	**Sn**	**10 46 51.0**	**+0.5**
SGST	**Jiashian**	**1.87**	**224**	*e*P	**Pb**	**10 46 30.6**	**+0.5**
	baz=225						
SLGT	**Liugui**	**1.90**	**221**	*e*P	**Pg**	**10 46 32.6**	**-0.1**
	baz=222						
JIJ	**Ishigaki jima**	**1.96**	**92**	P	**Pn**	**10 46 29.0**	**+0.1**
JIJ				*e*S	**Sn**	**10 46 52.0**	**-1.3**
JISG	**Ishigakijimahi**	**2.12**	**86**	P	**Pn**	**10 46 30.9**	**-0.1**
JISG				*e*S	**Sn**	**10 46 57.0**	**-0.1**

*ISCJB **30** 10:55:31.9±0.8, 80°.24N±0°.07×32°.2E±0°.2, h10km, Error ellipse: s-maj=10.6km s-min=5.3km az=162.8*
*IEPN **30** 10:55:37.0, 80°.24N×31°.54E, h10km, station ZFI2 has station magnitude of 2.91 station ZFI2 has station magnitude of 2.90*
ISC 30 10:55:33.5±1.2, 80°.13N±0°.08×32°.72E±0°.05, h10km, n19, σ2s21/37, 2C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZFI2	**Zemlya Franca-**	**2.58**	**67**	⇑*i*P	**Pn**	**10 56 14.3**	**-0.9**
	19μm,1.0s						
ZFI2				*e*S	**Sn**	**10 56 44.4**	**-2.1**
	33nm,0.5s						
SPA0	**Spitsbergen Ar**	**3.65**	**246**	Pn	**Pn**	**10 56 30.7**	**+0.7**
	baz=53,slow=9.3						
SPA0				Pg	**Pg**	**10 56 43.2**	**-0.1**
	baz=62,slow=22						
SPA0				Sn	**Sn**	**10 57 11.5**	**-1.4**
	baz=50,slow=22						
SPA0				Lg	Lg	10 57 30.3	
	baz=64,slow=28						
SPA0	**Spitsbergen Ar**	**3.65**	**246**	⇑*i*P	**Pn**	**10 56 30.9**	**+1.0**
SPA0				*e*S	**Sn**	**10 57 11.7**	**-1.2**
SPA0	**Spitsbergen Ar**	**3.65**	**246**	*e*P	**Pn**	**10 56 30.9**	**+1.0**
SPA0				Pg	**Pg**	**10 56 43.2**	**-0.1**
	baz=62,slow=22						
SPA0				Sn	**Sn**	**10 57 11.5**	**-1.4**
	baz=50,slow=22						
SPA0				Sg	**Sg**	**10 57 30.3**	**-0.1**
	baz=64,slow=28						
HOPEN	**Hopen**	**3.96**	**207**	Pn	**Pn**	**10 56 36.1**	**+2.0**
HOPEN				Sn	**Sn**	**10 57 21.2**	**+0.7**
HOPEN				Lg	Lg	10 57 42.5	
HOPEN	**Hopen**	**3.96**	**207**	*e*P	**Pn**	**10 56 36.8**	**+2.6**
HOPEN				*e*S	**Sn**	**10 57 21.2**	**+0.7**
HOPEN				IAML		10 57 51.2	
	comp=Z,35nm,0.5s						
KBS	**Kingsbay**	**3.96**	**263**	Pn	**Pn**	**10 56 34.8**	**+0.5**
KBS				Pg	**Pg**	**10 56 50.0**	**+0.6**
KBS				Sn	**Sn**	**10 57 18.7**	**-2.0**
KBS				Lg	Lg	10 57 38.8	
KBS	**Kingsbay**	**3.96**	**263**	*e*P	**Pn**	**10 56 34.9**	**+0.7**
KBS				*e*S	**Sn**	**10 57 18.1**	**-2.6**
KBS	**Kingsbay**	**3.96**	**263**	*e*P	**Pn**	**10 56 34.8**	**+0.5**
KBS				*e*Sg	**Sg**	**10 57 38.2**	**-2.4**
KBS				IAML		10 57 44.4	
	comp=Z,32nm,0.4s						
BRBA	**Barentsburg A**	**4.07**	**249**	Lg	Lg	10 57 41.6	
BRBA	**Barentsburg A**	**4.07**	**249**	Sg	**Sg**	**10 57 41.6**	**-2.2**
HSP	**Hornsund**	**4.61**	**236**	Pn	**Pn**	**10 56 45.4**	**+2.3**
HSP				Sn	**Sn**	**10 57 38.7**	**+2.1**
HSP				Lg	Lg	10 58 02.5	
HSPB	**Hornsund (broa**	**4.62**	**236**	*e*P	**Pn**	**10 56 45.8**	**+2.6**
HSPB				*e*S	**Sn**	**10 57 37.3**	**+0.5**
HSPB				IAML		10 58 07.3	
	comp=Z,25nm,0.4s						
KEV	**Kevo**	**10.53**	**191**	Pn	**Pn**	**10 58 06.3**	**+2.2**
KEV	**Kevo**	**10.53**	**191**	Pn	**Pn**	**10 58 06.3**	**+2.2**
ARA0	**ARCESS Array S**	**10.80**	**194**	Pn	**Pn**	**10 58 09.9**	**+2.0**
	baz=12,slow=10						
ARA0				Sn	**Sn**	**11 00 03.9**	**-4.8**
	baz=15,slow=18						
ARA0	**ARCESS Array S**	**10.80**	**194**	Pn	**Pn**	**10 58 09.9**	**+2.0**
	baz=12,slow=10						
ARA0				Sn	**Sn**	**11 00 03.9**	**-4.8**
	baz=15,slow=18						
ARE0	**ARCESS Array S**	**10.80**	**194**	*e*P	**Pn**	**10 58 10.6**	**+2.7**
ARE0				*e*S	**Sn**	**11 00 06.5**	**-2.1**
HEF	**Hetta**	**12.01**	**196**	*e*P	**Pn**	**10 58 28.2**	**+3.8**
HEF				*e*S	**Sn**	**11 00 34.5**	**-3.6**

*IDC **30** 11:12:20.0±52.0, 32°.50N×94°.53E, h0km, mb3.1/1, mb1 3.5/3, mb1mx3.2/35, mbtmp3.5/3, ML3.1/2, MS3.1/2, Ms1 3.1/2, ms1mx2.7/21, Error ellipse: s-maj=715.6km s-min=75.0km az=178.0*
*BJI **30** 11:12:24.6, 32°.89N×94°.73E, h9km, ML3.4/5, Ms3.5/3, Ms7 3.4/3*
ISC 30 11:12:25.2±1.0, 32°.8N±0°.1×94°.76E±0°.08, h10km, n15, σ1s92/14, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**7.78**	**30**	P	**Pn**	**11 14 23.0**	**+4.4**
GTA				pP	pP	11 14 26.3	
GTA				sP	sP	11 14 29.3	
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CD2	**Chengdu**	**7.88**	**101**	*e*P	**Pn**	**11 14 19.5**	**-0.4**
LZH	**Lanzhou**	**8.20**	**64**	*e*P	**Pg**	**11 14 59.8**	**-2.3**
LZH				pP	pP	11 15 05.8	
LZH				sP	sP	11 15 09.5	
LZH				pmax	pmax		
	comp=Z,20nm,1.1s						
JIRN	**Jiri**	**9.00**	**238**	*e*P	**Pn**	**11 14 37.1**	**+1.6**
	comp=Z,5.4nm,0.3s						
GUN	**Gumba**	**9.08**	**240**	*e*P	**Pn**	**11 14 38.1**	**+1.5**
	comp=Z,8.1nm,0.5s						
PKI	**Pulchoki**	**9.61**	**240**	*e*P	**Pn**	**11 14 44.7**	**+0.8**
	comp=Z,11nm,0.5s						
PKIN	**Phulchoki**	**9.62**	**240**	*e*P	**Pn**	**11 14 44.6**	**+0.6**
	comp=Z,6.2nm,0.3s						
DMN	**Daman**	**9.81**	**241**	*e*P	**Pn**	**11 14 46.8**	**+0.2**
	comp=Z,5.1nm,0.4s						
DANN	**Dangsing**	**10.46**	**248**	*e*P	**Pn**	**11 14 54.2**	**-1.3**
	comp=Z,9.2nm,0.4s						
PYUN	**Piuthan**	**11.18**	**248**	*e*P	**Pn**	**11 15 04.0**	**-1.2**
	comp=Z,8.8nm,0.5s						
WMQ	**Urumqi**	**12.34**	**335**	*e*P	**Pn**	**11 15 20.5**	**-0.4**
MKAR	**Makanchi Array**	**16.93**	**329**	P	**Pn**	**11 16 20.1**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=142,slow=13,SNR=9.8						
SONM	**Songino Array**	**17.43**	**27**	P	**Pn**	**11 16 28.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=210,slow=12,SNR=10						
SONM				LR	LR	11 23 08.8	
	comp=Z,40nm,18.7s,baz=106,slow=36						
AAK	**Ala-Archa**	**18.77**	**307**	LR	LR	11 24 50.2	

comp=Z,86nm,18.2s,baz=291,slow=40
ZALV Zalesovo Beam 22.32 344 P **P** **11 17 21.3 -1.5**
comp=Z,0.3nm,0.3s,baz=165,slow=12,SNR=2.8

NNC 30 11:23:42.6±2.4, 49°.84N×87°.95E, h0km, mb3.6, mpv3.2, 6C-4D, Error ellipse: s-maj=21.6km s-min=13.1km az=50.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**4.85**	**233**	⇑Pn	Pn	11 24 57.4	+0.5
	0.9nm,0.5s,baz=55,slow=14,SNR=25						
MK31				⇓Lg	Lg	11 26 15.6	
	2.7nm,0.5s,baz=62,slow=31,SNR=6.9						
MAKZ	**Makanchi**	**5.01**	**235**	⇓Pn	Pn	11 24 59.2	+0.2
	1.7nm,0.8s						
MAKZ				⇑Lg	Lg	11 26 21.0	
	7.8nm,0.8s						
KURK	**Kurchatov**	**6.04**	**282**	⇑Pn	Pn	11 25 12.0	-1.2
	1.6nm,0.6s						
KURK				⇓Sn	Sn	11 26 23.9	+0.9
	2.4nm,0.8s						
KURK				⇑Lg	Lg	11 26 55.9	
	4.5nm,0.6s						
KURBB	**Kurchatov Arra**	**6.09**	**281**	⇑Pn	Pn	11 25 14.0	+0.1
	2.5nm,0.3s						
KURBB				⇓Sn	Sn	11 26 26.3	+2.0
	7.4nm,0.6s						
KURBB				⇑Lg	Lg	11 26 54.5	
	10nm,0.6s						

*ISCJB **30** 11:52:43.6±0.8, 5°.03S±0°.07×130°.0E±0°.2, h200km, mb3.5/2, Error ellipse: s-maj=29.1km s-min=8.7km az=174.1*
*IDC **30** 11:52:44.0±2.9, 5°.01S×129°.57E, h176km±38km, mb3.3/2, mb1 3.5/6, mb1mx3.2/38, mbtmp4.0/6, MS3.7/1, Ms1 3.7/1, ms1mx2.6/21, Error ellipse: s-maj=70.8km s-min=17.4km az=85.0*
ISC 30 11:52:42.8±0.9, 5°.15S±0°.07×129°.9E±0°.2, h200km, n7, σ4s29/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.48**	**18**	P	**Pn**	**11 53 50.7**	**+0.1**
	8.2nm,0.3s,baz=198,slow=20,SNR=71						
SIJI				S	**Sn**	**11 54 38.7**	**-5.4**
	22nm,0.3s,baz=225,slow=19,SNR=35						
FITZ	**Fitzroy Crossi**	**13.51**	**197**	P	**P**	**11 55 49.9**	**+0.6**
	0.2nm,0.3s,baz=21,slow=13,SNR=6.3						
FITZ				S	**S**	**11 58 10.5**	**-6.9**
	0.1nm,0.3s,baz=81,slow=19,SNR=1.9						
WRA	**Warramunga Arr**	**15.34**	**164**	P	**P**	**11 56 12.6**	**+3.1**
	0.3nm,0.3s,baz=345,slow=12,SNR=30						
WRA				S	**S**	**11 58 54.8**	**-4.8**
	0.5nm,0.3s,baz=338,slow=23,SNR=9.6						
ASAR	**Alice Springs**	**18.82**	**168**	P	**Pn**	**11 56 53.1**	**+2.6**
	0.8nm,0.3s,baz=345,slow=11,SNR=97						
ASAR				S	**S**	**12 00 13.1**	**+2.0**
	0.1nm,0.3s,baz=345,slow=20,SNR=4.1						
CTA	**Charters Tower**	**21.79**	**134**	LR	LR	12 08 13.5	
	comp=Z,186nm,19.2s,baz=132,slow=42						
MKAR	**Makanchi Array**	**66.61**	**326**	P	**P**	**12 03 13.8**	**+2.1**
	0.5nm,0.5s,baz=125,slow=7.2,SNR=6.9						
KURBB	**Kurchatov Arra**	**70.87**	**328**	P	**P**	**12 03 39.9**	**+2.0**
	0.6nm,0.4s,baz=126,slow=5.3,SNR=4.9						

*IDC **30** 11:57:06.9±2.1, 28°.46N×69°.76E, h0km, mb3.6/7, mb1 3.9/7, mb1mx3.5/42, mbtmp3.6/7, Error ellipse: s-maj=82.9km s-min=25.1km az=75.0*
*ISCJB **30** 11:57:11.7±1.3, 28°.6N±0°.2×70°.1E±0°.1, h33km, mb3.6/6, Error ellipse: s-maj=26.4km s-min=12.2km az=28.6*
ISC 30 11:57:13.4±1.7, 28°.6N±0°.3×70°.1E±0°.2, h35km, n15, σ0s31/14, mb3.7/6, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYUN	**Piuthan**	**11.39**	**90**	*e*P	**Pn**	**11 59 54.0**	**+0.2**
	12nm,0.6s						
DANN	**Dangsing**	**12.04**	**88**	*e*P	**Pn**	**12 00 03.1**	**+0.3**
	16nm,0.7s						
DMN	**Daman**	**13.31**	**91**	*e*P	**Pn**	**12 00 19.8**	**-0.2**
	22nm,0.9s						
KKN	**Kakani**	**13.44**	**90**	*e*P	**Pn**	**12 00 21.4**	**-0.4**
	3.9nm,0.3s						
PKIN	**Phulchoki**	**13.57**	**91**	*e*P	**Pn**	**12 00 23.9**	**+0.3**
	3.5nm,0.5s						
PKI	**Pulchoki**	**13.58**	**91**	*e*P	**Pn**	**12 00 24.0**	**+0.2**
	6.0nm,0.6s						
GUN	**Gumba**	**13.95**	**89**	*e*P	**Pn**	**12 00 28.6**	**-0.3**
	5.8nm,0.4s						
JIRN	**Jiri**	**14.25**	**90**	*e*P	**Pn**	**12 00 33.3**	**+0.2**
	4.8nm,0.3s						
MKAR	**Makanchi Array**	**20.50**	**25**	P	Pn	12 01 50.8	+0.2
	0.4nm,0.5s,baz=205,slow=10,SNR=2.8						
KURBB	**Kurchatov Arra**	**22.87**	**14**	P	**P**	**12 02 13.3**	**-0.4**
	0.7nm,0.7s,baz=208,slow=9.2,SNR=4.8						
WRA	**Warramunga Arr**	**78.61**	**120**	P	**P**	**12 09 11.9**	**0.0**
	0.5nm,0.7s,baz=321,slow=5.1,SNR=11						
ASAR	**Alice Springs**	**80.49**	**123**	P	**P**	**12 09 21.8**	**-0.3**
	0.6nm,0.6s,baz=304,slow=5.5,SNR=13						
INK	**Inuvik**	**81.77**	**9**	P	**P**	**12 09 28.6**	**+0.5**
	0.5nm,0.6s,baz=4.7,slow=5.9,SNR=3.1						
ILAR	**Eielson Array**	**82.55**	**15**	P	**P**	**12 09 32.2**	**-0.1**
	0.2nm,0.5s,baz=326,slow=5.4,SNR=3.7						
YKA	**Yellowknife Ar**	**89.11**	**2**	P	**P**	**12 10 04.8**	**+0.1**
	0.6nm,0.7s,baz=350,slow=4.9,SNR=11						

IDC 30 12:14:56.1±2.0, 1°.15N×126°.69E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/40, mbtmp3.2/3, Error ellipse: s-maj=166.9km s-min=24.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.27**	**161**	P	P	12 19 55.1	+0.1
	0.4nm,0.4s,baz=339,slow=11,SNR=16						
ASAR	**Alice Springs**	**25.65**	**165**	P	P	12 20 27.6	-0.1
	0.4nm,0.9s,baz=346,slow=11,SNR=8.3						
MKAR	**Makanchi Array**	**59.65**	**326**	P	P	12 25 02.2	0.0
	0.1nm,0.4s,baz=120,slow=8.5,SNR=2.5						

*ISCJB **30** 12:16:06.9±0.7, 32°.72N±0°.07×94°.63E±0°.10, h10km, mb3.4/6, Error ellipse: s-maj=13.8km s-min=8.0km az=36.5*
*IDC **30** 12:16:07.5±1.1, 32°.80N×94°.76E, h0km, mb3.4/6, mb1 3.5/8, mb1mx3.4/47, mbtmp3.4/8, ML3.2/2, MS2.9/1, Ms1 2.9/1, ms1mx2.6/30, Error ellipse: s-maj=47.1km s-min=18.7km az=56.0*
*BJI **30** 12:16:10.7, 32°.87N×94°.77E, h8km, mb3.8/1, ML3.4/4, Ms7 3.1/2*
ISC 30 12:16:10.1±1.0, 32°.82N±0°.10×94°.6E±0°.1, h10km, n19, σ1s91/18, mb3.5/6, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**4.31**	**225**	Pn	**Pn**	**12 17 20.5**	**+4.4**
GTA	**Gaotai**	**7.80**	**31**	Pn	**Pn**	**12 18 05.0**	**+1.3**
GUN	**Gumba**	**9.01**

ZALV	**Zalesovo Beam**	**22.25**	**345**	P		**P**	**12 21 06.7**	**-0.2**
	0.5nm,0.5s,baz=162,slow=10.0,SNR=3.2							
BVAR	**Borovoye Array**	**26.66**	**326**	P		**P**	**12 21 48.2**	**-0.7**
	0.2nm,0.5s,baz=155,slow=11,SNR=2.4							
BRTR	**Keskin Array B**	**48.83**	**296**	P		**P**	**12 24 56.1**	**+0.3**
	0.4nm,0.7s,baz=82,slow=10,SNR=3.3							
WRA	**Warramunga Arr**	**64.75**	**138**	P		**P**	**12 26 47.5**	**-1.3**
	0.3nm,0.8s,baz=336,slow=7.2,SNR=4.8							
ASAR	**Alice Springs**	**67.52**	**141**	P		**P**	**12 27 04.8**	**-1.8**
	0.3nm,0.6s,baz=323,slow=5.9,SNR=5.5							

*MDD **30** 12:35:16.2±1.1,34˚.77N×14˚.82W,h30km,mb4.3/1, Error ellipse: s-maj=49.4km s-min=5.2km az=141.0, PRXIMO*
*INMG **30** 12:35:19.5±2.3,34˚.78N×14˚.84W,h10km,ML2.6, Error ellipse: s-maj=25.1km s-min=4.0km az=135.0*
*IGIL **30** 12:35:20.2,35˚.06N×14˚.45W,h0km*
ISC 30 12:35:10.9±1.3,34˚.9N±0˚.1×14˚.8W±0˚.1,h10km,n35, σ3ˢ42/65,1C,Maderia Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMPS	**Porto Santo**	**2.25**	**214**	*e*P		**Pn**	**12 35 48.9**	**+0.7**
PMPS				*e*Sn		**Sn**	**12 36 11.5**	**-4.5**
PMPS				A		A	12 36 16.8	
	35nm,0.8s							
PMPS	**Porto Santo**	**2.25**	**214**	P		**Pn**	**12 35 48.9**	**+0.7**
PMPS				S		**Sn**	**12 36 11.5**	**-4.5**
	18nm,0.8s							
PMAR	**Madeira**	**2.80**	**219**	*e*Pn		**Pn**	**12 35 56.6**	**+0.6**
PMAR				*e*Sn		**Sn**	**12 36 27.0**	**-2.9**
PMAR				A		A	12 36 36.2	
	30nm,0.2s							
PMAR	**Madeira**	**2.80**	**219**	P		**Pn**	**12 35 56.6**	**+0.6**
PMAR				S		**Sn**	**12 36 27.0**	**-2.9**
	15nm,0.2s							
PMOZ	**Porto Moniz, M**	**2.88**	**224**	*e*Pn		**Pn**	**12 35 57.7**	**+0.7**
PMOZ				*e*Sn		**Sn**	**12 36 28.3**	**-3.4**
PMOZ	**Porto Moniz, M**	**2.88**	**224**	P		**Pn**	**12 35 57.7**	**+0.7**
PMOZ				S		**Sn**	**12 36 28.3**	**-3.4**
PFVI	**Vila Bisbo**	**5.34**	**64**	*e*Pn		**Pn**	**12 36 34.0**	**+3.3**
PFVI				*e*Sn		**Sn**	**12 37 29.2**	**-3.1**
PFVI				A		A	12 37 39.6	
	9.3nm,0.5s							
PFVI	**Vila Bisbo**	**5.34**	**64**	P		**Pn**	**12 36 34.0**	**+3.3**
	7.0nm,0.1s,SNR=14							
PFVI				S		**Sn**	**12 37 28.9**	**-3.4**
	3.7nm,0.2s,SNR=7.9							
MORF	**Marmelete**	**5.54**	**63**	*e*P		**Pn**	**12 36 36.9**	**+3.4**
MORF	**Marmelete**	**5.54**	**63**	*e*Pn		**Pn**	**12 36 37.0**	**+3.5**
MORF				*e*Sn		**Sn**	**12 37 35.1**	**-2.1**
MORF				A		A	12 37 40.9	
	4.0nm,0.4s							
MORF	**Marmelete**	**5.54**	**63**	P		**Pn**	**12 36 36.9**	**+3.4**
MORF				S		**Sn**	**12 37 35.1**	**-2.1**
	4.0nm,0.4s							
PTEO	**Sao Teotonio**	**5.59**	**60**	*e*Pn		**Pn**	**12 36 38.0**	**+3.9**
PTEO				*e*Sn		**Sn**	**12 37 35.7**	**-2.6**
PTEO	**Sao Teotonio**	**5.59**	**60**	P		**Pn**	**12 36 38.0**	**+3.9**
PTEO				S		**Sn**	**12 37 35.7**	**-2.6**
PNCL	**Nicolau / Gran**	**5.99**	**56**	*e*Pn		**Pn**	**12 36 44.1**	**+4.5**
PNCL				*e*Sn		**Sn**	**12 37 46.3**	**-1.9**
PNCL				A		A	12 37 49.7	
	2.3nm,0.8s							
PNCL	**Nicolau / Gran**	**5.99**	**56**	P		**Pn**	**12 36 44.1**	**+4.5**
PNCL				S		**Sn**	**12 37 46.3**	**-1.9**
	2.3nm,0.8s							
PMAFR	**Mafra**	**5.99**	**46**	*e*Sn		**Sn**	**12 37 46.3**	**-2.0**
PBDV	**Barranco-do-Ve**	**6.05**	**66**	*e*Pn		**Pn**	**12 36 44.3**	**+3.8**
PBDV				*e*Sn		**Sn**	**12 37 47.1**	**-2.7**
PBDV				A		A	12 37 53.1	
	2.6nm,0.3s							
PBDV	**Barranco-do-Ve**	**6.05**	**66**	P		**Pn**	**12 36 44.3**	**+3.8**
PBDV				S		**Sn**	**12 37 47.1**	**-2.7**
	2.6nm,0.3s							
MESJ	**Messejana**	**6.07**	**60**	*e*P		**Pn**	**12 36 44.4**	**+3.6**
MESJ	**Messejana**	**6.07**	**60**	*e*Pn		**Pn**	**12 36 44.6**	**+3.8**
MESJ				*e*Sn		**Sn**	**12 37 48.3**	**-2.0**
MESJ				A		A	12 37 52.4	
	2.2nm,0.5s							
MESJ	**Messejana**	**6.07**	**60**	P		**Pn**	**12 36 44.4**	**+3.6**
MESJ				S		**Sn**	**12 37 48.3**	**-2.0**
	2.2nm,0.5s							
PVAQ	**Vaqueiros**	**6.26**	**65**	*e*Pn		**Pn**	**12 36 47.2**	**+3.8**
PVAQ				*e*Sn		**Sn**	**12 37 51.5**	**-3.5**
PVAQ				A		A	12 37 56.0	
	2.6nm,0.1s							
PVAQ	**Vaqueiros**	**6.26**	**65**	P		**Pn**	**12 36 47.2**	**+3.8**
PVAQ				S		**Sn**	**12 37 51.5**	**-3.5**
	2.6nm,0.1s							
EGRO	**El Granado**	**6.49**	**64**	P		**Pn**	**12 36 50.5**	**+4.0**
	3.1nm,0.3s,SNR=7.9							
EGRO				S		**Sn**	**12 37 56.5**	**-3.9**
	1.8nm,0.1s,SNR=4.6							
PMTG	**Montargil**	**6.71**	**50**	*e*Pn		**Pn**	**12 36 51.1**	**+1.6**
PMTG				*e*Sn		**Sn**	**12 38 02.5**	**-3.5**
PMTG	**Montargil**	**6.71**	**50**	P		**Pn**	**12 36 51.1**	**+1.6**
PMTG				S		**Sn**	**12 38 02.5**	**-3.5**
PESTR	**Estremoz**	**7.01**	**54**	*e*Pn		**Pn**	**12 36 55.8**	**+2.2**
PESTR				*e*Sn		**Sn**	**12 38 10.1**	**-3.3**
EMIN	**Mina Concepcio**	**7.17**	**64**	P		**Pn**	**12 36 59.6**	**+3.8**
	0.9nm,0.1s,SNR=7.9							
EMIN				S		**Sn**	**12 38 13.3**	**-4.1**
	2.3nm,0.4s,SNR=7.9							
EBAD	**Badajoz**	**7.34**	**56**	S		**Sn**	**12 38 18.2**	**-3.3**
	0.8nm,0.1s,SNR=7.9							
PMRV	**Marv??o**	**7.44**	**51**	*e*Pn		**Pn**	**12 37 02.9**	**+3.3**
PMRV				*e*Sn		**Sn**	**12 38 19.4**	**-4.7**
PMRV	**Marv??o**	**7.44**	**51**	P		**Pn**	**12 37 02.9**	**+3.3**
PMRV				S		**Sn**	**12 38 19.4**	**-4.7**
ESPR	**Espera**	**7.54**	**73**	P		**Pn**	**12 37 05.4**	**+4.5**
	0.8nm,0.3s,SNR=7.9							
ESPR				S		**Sn**	**12 38 22.7**	**-3.8**
	22nm,0.7s,SNR=7.9							
ECAB	**El Cabril**	**8.21**	**65**	P		**Pn**	**12 37 13.5**	**+3.4**
	1.2nm,0.4s,SNR=7.0							
ECAB				S		**Sn**	**12 38 37.1**	**-5.8**
	4.4nm,0.9s,SNR=7.9							
EADA	**Adamuz**	**8.86**	**66**	P		**Pn**	**12 37 22.9**	**+3.8**
	SNR=7.9							
EADA				S		**Sn**	**12 38 54.9**	**-4.2**
	0.2nm,0.3s,SNR=7.9							
ESDC	**Sonseca Array**	**9.87**	**58**	P		**Pn**	**12 37 36.8**	**+3.9**
	0.3nm,0.3s,baz=243,slow=13,SNR=5.3							

IDC 30 12:39:23.4±1.4,5˚.55S×146˚.96E,h0km,mb3.6/3, mb1 3.9/5,mb1mx3.5/29,mbtmp3.7/5,ML3.0/2,Error ellipse: s-maj=55.1km s-min=25.1km az=120.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**3.84**	**177**	Pn		Pn	12 40 24.8	+1.1
	12nm,0.3s,baz=44,slow=7.9,SNR=43							
PMG				Sn		Sn	12 41 03.1	-6.5
	14nm,0.3s,baz=275,slow=23,SNR=6.6							
WRA	**Warramunga Arr**	**18.85**	**220**	P		P	12 43 44.2	-1.0
	0.2nm,0.3s,baz=44,slow=12,SNR=26							
WRA				PcP		PcP	12 48 11.9	-0.5
	0.0nm,0.3s,baz=34,slow=2.1,SNR=5.0							
ASAR	**Alice Springs**	**21.97**	**214**	P		P	12 44 18.7	-0.3
	0.4nm,0.4s,baz=49,slow=8.6,SNR=28							
FITZ	**Fitzroy Crossi**	**24.27**	**237**	P		P	12 44 43.1	+0.6
	3.3nm,0.6s,baz=56,slow=8.4,SNR=17							
ILAR	**Eielson Array**	**85.08**	**23**	P		P	12 52 00.7	-0.2
	0.2nm,0.7s,baz=233,slow=4.4,SNR=3.5							

*IDC **30** 12:43:47.5±1.5,5˚.07S×153˚.11E,h0km,mb3.8/8, mb1 4.0/9,mb1mx3.8/33,mbtmp3.8/9,ML1.9/1,MS3.0/2, Ms1 3.0/2,ms1mx2.7/33,Error ellipse: s-maj=50.9km s-min=18.7km az=121.0*
*NEIC **30** 12:43:48.6±0.4,5˚.15S×153˚.14E,h10km,mb4.4/5,Error ellipse: s-maj=11.0km s-min=7.7km az=116.0*
*ISCJB **30** 12:43:51.2±0.6,5˚.14S±0˚.06×153˚.13E±0˚.08,h43km, mb4.0/14,Error ellipse: s-maj=12.1km s-min=8.2km az=176.1*
ISC 30 12:43:52.9±0.7,5˚.18S±0˚.07×153˚.06E±0˚.09,h43km,n29, σ1ˢ16/33,mb4.1/14,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**1.33**	**318**	*e*Pn		**Pn**	**12 44 14.4**	**-0.6**
RABL				*e*Sn		**Sn**	**12 44 29.8**	**-1.7**
PMG	**Port Moresby**	**7.21**	**234**	Pn		**Pn**	**12 45 37.3**	**+1.5**
	1.0nm,0.3s,baz=45,slow=14,SNR=3.5							
PMG				Sn		**Sn**	**12 46 54.6**	**-1.8**
	1.2nm,0.3s,baz=128,slow=17,SNR=3.1							
PMG				LR		LR	12 48 36.5	
	comp=Z,82nm,19.9s,baz=90,slow=40							
PMG	**Port Moresby**	**7.21**	**234**	*e*Pn		**Pn**	**12 45 35.2**	**-0.6**
PMG				*e*Sn		**Sn**	**12 46 54.6**	**-1.8**
HNR	**Honiara**	**8.03**	**122**	LR		LR	12 49 03.9	
	comp=Z,121nm,19.7s,baz=324,slow=39							
HNR	**Honiara**	**8.03**	**122**	*e*Pn		**Pn**	**12 45 45.2**	**-1.9**
MTN	**Manton Dam**	**22.94**	**249**	*e*P		**P**	**12 48 54.5**	**+0.8**
	11nm,1.0s							
WRAB	**Tennant Creek**	**23.38**	**230**	*e*P		**P**	**12 48 58.4**	**+0.3**
	27nm,1.8s							
WB2	**Warramunga Arr**	**23.39**	**229**	*e*P		**P**	**12 48 59.6**	**+1.5**
WR1	**Warramunga Arr**	**23.39**	**230**	*e*P		**P**	**12 48 59.6**	**+1.5**
	11nm,1.4s							
WR1				*e*PcP		**PcP**	**12 52 45.1**	**+1.1**
WRA	**Warramunga Arr**	**23.39**	**230**	P		**P**	**12 48 59.6**	**+1.4**
	1.1nm,0.6s,baz=53,slow=10.0,SNR=13							
WRA				PcP		**PcP**	**12 52 45.1**	**+1.1**
	0.4nm,1.0s,baz=52,slow=2.5,SNR=2.4							
AS01	**Alice Springs**	**26.02**	**223**	*e*P		**P**	**12 49 22.4**	**+0.2**
AS31	**Alice Springs**	**26.05**	**223**	*e*P		**P**	**12 49 22.0**	**-0.5**
	1.6nm,1.3s							
ASAR	**Alice Springs**	**26.05**	**223**	P		**P**	**12 49 24.7**	**+2.2**
	0.6nm,0.6s,baz=56,slow=8.7,SNR=14							
FITZ	**Fitzroy Crossi**	**29.71**	**242**	P		**P**	**12 49 55.4**	**+0.2**
	1.2nm,0.5s,baz=68,slow=8.7,SNR=9.5							
FITZ	**Fitzroy Crossi**	**29.71**	**242**	*e*P		**P**	**12 49 55.0**	**-0.2**
	16nm,1.7s							
BBOO	**Buckleboo**	**31.74**	**208**	*e*P		**P**	**12 50 13.6**	**+0.6**
	61nm,1.6s							
FORT	**Forrest**	**34.66**	**220**	*e*P		**P**	**12 50 38.1**	**-0.4**
	25nm,1.1s							
PETK	**Petropavlovsk-**	**58.20**	**3**	P		**P**	**12 53 42.8**	**+0.2**
	2.7nm,0.8s,baz=168,slow=5.9,SNR=5.4							
PEA1	**Petropavlovsk-**	**58.20**	**3**	*e*P		**P**	**12 53 42.8**	**+0.2**
CM31	**Chiang Mai Arr**	**58.27**	**295**	*e*P		**P**	**12 53 42.6**	**-1.1**
CMAR	**Chiang Mai Arr**	**58.27**	**295**	P		**P**	**12 53 44.0**	**+0.3**
	1.3nm,0.9s,baz=123,slow=6.2,SNR=8.1							
SONA0	**Songino Array**	**66.78**	**328**	*e*P		**P**	**12 54 41.7**	**+1.5**
SONM	**Songino Array**	**66.78**	**328**	P		**P**	**12 54 41.7**	**+1.5**
	0.3nm,0.7s,baz=145,slow=3.5,SNR=2.6							
ZALV	**Zalesovo Beam**	**81.61**	**326**	P		**P**	**12 56 06.5**	**+0.2**
	0.4nm,0.4s,baz=123,slow=5.3,SNR=4.3							
ZAA1	**Zalesovo Array**	**81.61**	**326**	*e*P		**P**	**12 56 06.5**	**+0.2**
ILAR	**Eielson Array**	**82.41**	**22**	P		**P**	**12 56 11.1**	**+0.8**
	1.1nm,0.9s,baz=258,slow=4.7,SNR=8.2							
ILB	**Eielson Array**	**82.41**	**22**	*e*P		**P**	**12 56 10.6**	**+0.3**
TORD	**Torodi Ar. Bea**	**150.67**	**288**	PKPbc		**PKPbc**	**13 03 40.5**	**-1.0**
	0.6nm,0.5s,baz=98,slow=3.3,SNR=6.8							
TOA1	**Torodi Ar. Sit**	**150.67**	**288**	*e*PKPbc		**PKPbc**	**13 03 40.5**	**-1.0**

*IDC **30** 12:51:00.6±1.6,34˚.85N×137˚.79E,h0km,mb3.2/2, mb1 3.5/2,mb1mx3.1/40,mbtmp3.2/2,Error ellipse: s-maj=51.2km s-min=21.6km az=97.0*
*ISCJB **30** 12:51:04.6±0.7,35˚.93N±0˚.04×139˚.97E±0˚.07, h112km±6km,mb3.3/2,Error ellipse: s-maj=9.1km s-min=7.4km az=176.5*
*JMA **30** 12:51:06.2±0.1,35˚.97N×139˚.96E,h101km±1km,M2.6*
ISC 30 12:51:05.4±1.1,35˚.94N±0˚.05×139˚.97E±0˚.06,h108km±8km, n16,σ0ˢ47/26,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JYT	**Yasato**	**0.34**	**32**	P		**Pn**	**12 51 21.1**	**0.0**
JYT				S		**Sn**	**12 51 32.3**	**-0.5**
JAG	**Ashikaga**	**0.64**	**319**	P		**Pn**	**12 51 23.0**	**0.0**
JAG				S		**Sn**	**12 51 35.9**	**-0.4**
JRY	**Ryogami san**	**0.87**	**275**	P		**Pn**	**12 51 25.9**	**+0.8**
JRY				*e*S		**Sn**	**12 51 40.6**	**+0.6**
JOD2	**Odawara 2**	**0.99**	**227**	P		**Pn**	**12 51 26.4**	**+0.1**
JOD2				S		**Sn**	**12 51 41.8**	**-0.3**
JKT	**Katashina**	**1.01**	**325**	P		**Pn**	**12 51 26.8**	**+0.2**
JKT				S		**Sn**	**12 51 42.6**	**0.0**
BSO3	**Boso 3**	**1.22**	**159**	P		**Pn**	**12 51 29.3**	**+0.8**
JYN	**Shimob**	**1.24**	**250**	P		**Pn**	**12 51 29.5**	**+0.4**
JYN				*e*S		**Sn**	**12 51 47.0**	**-0.1**
JFNN	**Fujinakano**	**1.29**	**235**	*e*S		**Sn**	**12 51 48.4**	**+0.6**
JIM2	**Oshima 3**	**1.30**	**200**	P		**Pn**	**12 51 29.7**	**0.0**
JIM2				*e*S		**Sn**	**12 51 47.6**	**-0.6**
BSO1	**Boso 1**	**1.53**	**147**	P		**Pn**	**12 51 32.5**	**+0.7**
MJAR	**Matsushiro Arr**	**1.54**	**293**	Pn		**Pn**	**12 51 32.4**	**-0.2**
	0.3nm,0.3s,baz=175,slow=12,SNR=36							
MJAR				Sn		**Sn**	**12 51 53.4**	**0.0**
	0.4nm,0.3s,baz=155,slow=12,SNR=7.4							
MAT	**Matsushiro**	**1.55**	**293**	P		**Pn**	**12 51 32.8**	**+0.2**
MAT				S		**Sn**	**12 51 53.4**	**0.0**
MAT	**Matsushiro**	**1.55**	**293**	P		**Pn**	**12 51 33.0**	**+0.4**
MAT				*e*S		**Sn**	**12 51 53.3**	**-0.1**
JFT	**Otama**	**1.60**	**10**	P		**Pn**	**12 51 33.9**	**+0.6**
MKAR	**Makanchi Array**	**43.72**	**303**	P		**P**	**12 59 00.2**	**+0.5**
	0.2nm,0.6s,baz=95,slow=9.8,SNR=2.7							
WRA	**Warramunga Arr**	**55.83**	**186**	P		**P**	**13 00 30.6**	**-0.9**
	0.2nm,0.4s,baz=2.1,slow=7.6,SNR=9.3							

MEX 30 12:55:21.4±0.6,15˚.06N×93˚.68W,h16km±98km,MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**0.78**	**35**	*e*P		Pb	12 55 33.6	-3.1
PCIG				*e*S		Sb	12 55 43.4	-3.7
CCIG	**Comitan**	**1.92**	**50**	*i* P		Pn	12 55 50.9	-2.7
CCIG				*i* S		Sn	12 56 12.7	-4.9

*IDC **30** 12:57:45.1±0.4,10˚.39N×126˚.82E,h0km,mb4.7/31, mb1 4.8/32,mb1mx4.8/40,mbtmp4.7/32,ML4.1/2,MS3.8/16, Ms1 3.8/16,ms1mx3.6/40,Error ellipse: s-maj=16.0km s-min=9.0km az=83.0*
*BJI **30** 12:57:46.2,10˚.14N×127˚.07E,h33km,mb4.9/72,mB5.1/46, Ms4.3/47,Ms7 4.2/44*
*ISCJB **30** 12:57:47.5±0.9,10˚.40N±0˚.02×126˚.91E±0˚.02,h23km±6km, mb4.9/155,MS3.9/25,Error ellipse: s-maj=3.8km s-min=3.4km az=168.0*
*DJA **30** 12:57:47.7±2.0,10˚.N±5˚×12˚7E±˚,h12km±13km,M4.8/30, mB5.4/12,mb5.0/30,Mw(mB)4.8/12*
*MOS **30** 12:57:48.9±1.1,10˚.40N×126˚.87E,h33km,mb5.4/48,Error ellipse: s-maj=9.6km s-min=4.8km az=114.5*
*MAN **30** 12:57:49.6,10˚.45N×126˚.71E,h15km,mb5.3,ML4.2, MS4.4*
*GCMT **30** 12:57:49.8±0.3,10˚.44N±0˚.04×126˚.98E±0˚.02,h13km±1km, MW4.8/86,Moment Tensor Solution. s13,c13; s86,c117; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.14±. 17; Mθθ=0.59±.09; Mϕϕ=1.55±.11; Mrθ=-0.35±.34; Mrϕ=-0.60±.05; Mθϕ=0.36±.22; Best double couple: M=2.03900×10¹⁶ NP1:ϕs=345.00000°,δ49.00000°,λ=-76.00000°. NP2: ϕs=145.00000°,δ43.00000°,λ=105.00000°. Principal axes: T 1.8430, Plg3.0000°, Azm65.0000°; N 0.3900, Plg10.0000°, Azm156.0000°; P -2.2350, Plg79.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **30** 12:57:50.9±0.1,10˚.39N×126˚.86E,h35km,mb5.1/69 Error ellipse: s-maj=4.9km s-min=3.0km az=84.0*
*KLM **30** 12:57:54.3,10˚.21N×126˚.99E,h56km,mb5.1*
ISC 30 12:57:48.0±0.5,10˚.44N±0˚.03×126˚.84E±0˚.04,h15km±3km, n376,σ1ˢ38/424,mb5.0/164,MS3.9/26,37C-16D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SCPH	**Surigao**	**1.48**	**244**	*e*P		**Pn**	**12 58 13.8**	**-0.3**
SCPH				*e*S		**Sn**	**12 58 32.0**	**-1.2**
BESP	**Borongan**	**1.80**	**310**	*e*P		**Pn**	**12 58 17.5**	**-1.0**
BESP				*e*S		**Sb**	**12 58 41.1**	**-1.8**
BUTP	**Butuan**	**1.89**	**220**	*e*P		**Pn**	**12 58 19.2**	**-0.5**
BUTP				*e*S		**Sb**	**12 58 44.5**	**-1.1**
PLP	**Palo**	**1.96**	**292**	*e*P		**Pn**	**12 58 20.4**	**-0.4**
PLP				*e*S		**Sn**	**12 58 44.2**	**-0.9**
MSLP	**Maasin**	**1.97**	**261**	*e*P		**Pn**	**12 58 21.5**	**+0.6**
MSLP				*e*S		**Sn**	**12 58 44.6**	**-0.7**
OCLP	**Ormoc**	**2.27**	**286**	*e*P		**Pb**	**12 58 26.9**	**-1.9**
BIPH	**Bislig**	**2.29**	**192**	*i* P		**Pn**	**12 58 23.3**	**-2.0**
BIPH				*i* S		**Sn**	**12 58 48.1**	**-5.1**
LLP	**Lapu-Lapu**	**2.83**	**268**	*e*P		**Pn**	**12 58 33.9**	**+1.2**
LLP				*e*S		**Sb**	**12 59 07.8**	**-4.9**
CGP	**Cagayan de Oro**	**2.89**	**227**	*i* P		**Pn**	**12 58 35.2**	**+1.7**
CNP	**Catarman**	**2.96**	**314**	*e*P		**Pb**	**12 58 38.6**	**-1.9**
CNP				*e*S		**Sn**	**12 59 08.7**	**-1.1**
BUKP	**Musuan**	**3.09**	**215**	*e*P		**Pn**	**12 58 38.3**	**+2.0**
BUKP				*e*S		**Sn**	**12 59 13.8**	**+0.8**
DAV	**Davao City (W)**	**3.57**	**200**	Pn		**Pn**	**12 58 43.8**	**+0.9**
	21nm,0.3s,baz=78,slow=19,SNR=2.0							
SNPH	**Sibulan**	**3.71**	**253**	*e*P		**Pn**	**12 58 47.8**	**+2.9**
PVCP	**Virac**	**4.09**	**320**	*e*P		**Pn**	**12 58 51.1**	**+1.0**
PVCP				*e*S		**Sn**	**12 59 34.7**	**-3.1**
RCP	**Roxas**	**4.17**	**286**	*e*P		**Pn**	**12 58 52.3**	**+1.2**
GUIM	**Jordan**	**4.18**	**273**	*e*P		**Pn**	**12 58 52.2**	**+0.9**
GUIM				*e*S		**Sn**	**12 59 39.6**	**-0.3**
PAGZ	**Pagadian**	**4.27**	**233**	*e*P		**Pn**	**12 58 50.8**	**-1.8**
IPIL	**Ipil**	**4.97**	**238**	*e*P		**Pn**	**12 59 05.3**	**+3.2**
IPIL				*e*S		Sn	12 59 46.4	-13
TNTI	**Ternate**	**9.62**	**177**	*e*Pn		**Pn**	**13 00 06.7**	**+0.7**
TNTI	**Ternate**	**9.62**	**177**	P		**Pn**	**13 00 06.0**	**0.0**
SIJI	**Sorong**	**12.06**	**158**	Pn		**Pn**	**13 00 37.8**	**-1.8**
	1.0nm,0.3s,baz=270,slow=20,SNR=4.7							
LUWI	**Luwuk**	**12.10**	**200**	*e*Pn		**Pn**	**13 00 42.9**	**+2.9**
LUWI	**Luwuk**	**12.10**	**200**	P		P	13 01 02.2	+9.4
SANI	**Sanana**	**12.43**	**184**	P		Pn	13 00 40.1	-4.5
TWG	**Pinlang**	**13.49**	**337**	*e*Pn		**P**	**13 01 06.4**	**-1.8**
NLAI	**Namlea**	**13.59**	**179**	P		Pn	13 00 56.3	-4.0
YULB	**Yu-li**	**13.93**	**338**	*e*Pn		**P**	**13 01 11.3**	**-1.8**
TPUB	**Ta-pu**	**14.10**	**336**	*e*Pn		**P**	**13 01 13.5**	**-1.5**
FAKI	**Fak Fak**	**14.32**	**158**	*e*Pn		Pn	13 01 07.7	-2.7
SSLB	**Suanglung**	**14.41**	**338**	*e*Pn		**P**	**13 01 19.3**	**+0.8**
YOJ	**Yonaguni jima**	**14.42**	**346**	*e*Pn		**P**	**13 01 16.7**	**-1.7**
YOJ	**Yonaguni jima**	**14.42**	**346**	*e*P		**P**	**13 01 16.7**	**-1.7**
NACB	**Ninganchiao**	**14.54**	**341**	*e*Pn		**P**	**13 01 19.0**	**-0.9**
YHNB	**Yeheng**	**15.08**	**341**	*e*Pn		**P**	**13 01 24.4**	**-1.6**
	93nm,1.3s							
BKB	**Balikpapan**	**15.26**	**221**	P		P	13 01 42.9	+15
SPSI	**Sidrap Palu**	**15.95**	**207**	P		**Pn**	**13 01 32.0**	**0.0**
QZH	**Quanzhou**	**16.42**	**333**	P		**P**	**13 01 41.3**	**+0.6**
QZH				S		**Sn**	**13 04 42.3**	**+2.3**
QZH				LR		LR		
	comp=N,500nm,14.8s							
QZH				LR		LR		
	comp=E,250nm,11.8s							
QZH				LR		LR		
	comp=Z,460nm,13.3s							
SBUM	**Sibu**	**16.54**	**242**	P		**P**	**13 01 41.8**	**-0.4**
BKSI	**Bulukumba**	**17.02**	**203**	P		P	13 02 03.1	+16
KBKI	**Kotabaru**	**17.30**	**218**	P		**Pn**	**13 01 49.2**	**+0.1**
GUMO	**Guam**	**17.91**	**78**	LR		LR	13 08 22.3	
	comp=Z,589nm,18.1s,baz=260,slow=36							
QIZ	**Qiongzhong**	**18.51**	**299**	P		**Pn**	**13 02 05.3**	**+1.2**
QIZ				S		**Sn**	**13 05 33.0**	**-1.9**
QIZ				LR		LR		
	comp=N,310nm,19.1s							
QIZ				LR		LR		
	comp=E,320nm,15.7s							
QIZ				LR		LR		
	comp=Z,440nm,14.2s							
KSM	**Kuching**	**18.68**	**243**	P		**Pn**	**13 02 08.3**	**+2.0**
SAUI	**Saumlaki**	**18.83**	**166**	*e*P		**P**	**13 02 06.5**	**-1.0**
	200nm,1.2s							
SAUI	**Saumlaki**	**18.83**	**166**	P		Pn	13 02 17.0	+9.0
JAY	**Jayapura**	**18.87**	**132**	P		**P**	**13 02 08.6**	**+0.6**
	0.6nm,0.3s,baz=241,slow=4.2,SNR=4.2							
MMRI	**Maumere**	**19.49**	**194**	*e*P		**P**	**13 02 16.6**	**+1.9**
	90nm,0.8s							
MMRI	**Maumere**	**19.49**	**194**	P		**P**	**13 02 16.1**	**+1.4**
EDFI	**Ende, Flores**	**19.74**	**195**	P		**P**	**13 02 19.4**	**+1.9**
SOEI	**Soe**	**20.22**	**187**	*e*P		**P**	**13 02 22.6**	**-0.2**
	277nm,1.4s							
SOEI	**Soe**	**20.22**	**187**	P		**P**	**13 02 25.2**	**+2.4**
BATI	**Baumata**	**20.75**	**189**	P		**P**	**13 02 28.8**	**+0.4**
	248nm,0.9s,baz=348,slow=0.2,SNR=34							
BATI

KSRS Korea Array 26.92 2 P **P** **13 03 28.9 +0.3**
10nm,0.8s,baz=175,slow=10.0,SNR=56
KSRS PcP **PcP** **13 06 50.2 -0.4**
1.4nm,0.8s,baz=188,slow=2.1,SNR=4.6
KSRS LR LR 13 15 50.8
comp=Z,188nm,18.3s,baz=168,slow=40
KS01 Wonju Array Si 26.94 2 *e*P **P** **13 03 28.5 -0.3**
KS01 *e*PcP **PcP** **13 06 50.7 0.0**
MDSI Maura Dua 27.00 238 P **P** **13 03 30.2 +0.6**
52nm,1.1s
TIA Tai'an 27.13 343 P **P** **13 03 30.5 -0.1**
TIA pmax pmax
comp=Z,13nm,1.0s
KMI Kunming 27.13 306 P **P** **13 03 33.5 +2.5**
KMI pmax pmax
comp=Z,10.0nm,0.6s
KMI pmax pmax
comp=Z,170nm,4.3s
UTHA Uthaitani 27.16 284 P **P** **13 03 34.2 +3.1**
3.7nm,0.8s
LHSI Lahat 27.20 240 P P 13 03 47.9 +16
LWLI Liwa 27.39 237 P **P** **13 03 36.9 +3.6**
BKNI Bangkinang 27.55 250 *e*P **P** **13 03 36.2 +1.6**
30nm,0.5s
MAJO Matsushiro 27.95 20⇑ *e*P **P** **13 03 37.9 -0.1**
MAJO pmax pmax
comp=Z,4.0nm,0.9s
MJAR Matsushiro Arr 27.95 20 P **P** **13 03 36.5 -1.5**
comp=Z,2.6nm,0.8s,baz=201,slow=9.6,SNR=5.6
MJAR LR LR 13 13 04.7
comp=Z,224nm,21.2s,baz=190,slow=33
MJB9 Matsu-Tunnel 27.96 20 *e*P **P** **13 03 35.7 -2.3**
comp=Z,13nm,0.9s
MNAI Manna 27.96 239 *e*P **P** **13 03 37.6 -0.7**
comp=Z,387nm,1.4s
CM01 Chiang Mai Arr 28.11 290 *e*P **P** **13 03 38.9 -0.7**
CM01 *e*PcP **PcP** **13 06 54.6 +0.7**
CMAR Chiang Mai Arr 28.13 290 P **P** **13 03 39.0 -0.8**
comp=Z,1.2nm,0.4s,baz=100,slow=6.9,SNR=10
CMAR PcP **PcP** **13 06 54.6 +0.6**
comp=Z,2.1nm,0.9s,baz=84,slow=0.8,SNR=7.0
CMMT Chiang Mai 28.21 290 P **P** **13 03 41.5 +1.0**
comp=Z,6.9nm,1.0s
CHTO Chiang Mai 28.21 290 *e*P **P** **13 03 39.9 -0.6**
CHTO *e*pP **pwP** **13 03 51.2 -1.8**
CHTO Chiang Mai 28.21 290 *e*P **P** **13 03 39.9 -0.6**
CHTO *e**PP **pwP** **13 03 51.2 -1.8**
CHTO Chiang Mai 28.21 290 P **P** **13 03 41.6 +1.1**
comp=Z,31nm,1.0s
PMG Port Moresby 28.24 134⇑ *e*P **P** **13 03 41.3 +0.6**
PMG pmax pmax
comp=Z,13nm,0.2s
FITZ Fitzroy Crossi 28.38 182 P **P** **13 03 40.6 -1.2**
comp=Z,12nm,0.9s,baz=20,slow=5.2,SNR=10
FITZ Fitzroy Crossi 28.38 182 *e*P **P** **13 03 40.4 -1.5**
comp=Z,21nm,1.0s
PDSI Padang 28.56 248 P **P** **13 03 45.7 +2.0**
comp=Z,50nm,0.7s
XAN Xi'an 28.66 328 P **P** **13 03 44.8 +0.5**
XAN pP pwP 13 03 55.0 -2.1
XAN S **S** **13 08 34.0 +1.3**
XAN pmax pmax
comp=Z,34nm,1.2s
XAN LR LR
comp=Z,160nm,14.2s
XAN LR LR
comp=Z,170nm,16.7s
XAN LR LR
comp=Z,260nm,11.8s
XAN Xi'an 28.66 328 *e*P **P** **13 03 44.1 -0.2**
comp=Z,53nm,1.3s
XAN Xi'an 28.66 328 *e*P **P** **13 03 44.1 -0.2**
XAN pmax pmax
comp=Z,53nm,1.3s
PSI Prapat 28.73 257 P **P** **13 03 44.2 -1.0**
comp=Z,3.7nm,0.7s,baz=179,slow=13,SNR=3.4
PSI PcP **PcP** **13 06 55.0 -0.7**
comp=Z,5.7nm,0.8s,baz=359,slow=6.6,SNR=4.9
PSI Prapat 28.73 257 *e*P **P** **13 03 45.8 +0.6**
comp=Z,12nm,1.0s
PSI PcP **PcP** **13 06 55.0 -0.7**
PSI Prapat 28.73 257 *e*P **P** **13 03 45.8 +0.6**
PSI 13 06 55.0
PSI pmax pmax
comp=Z,13nm,1.0s
MNSI Mandailing Nat 28.74 252 P **P** **13 03 45.4 +0.2**
comp=Z,18nm,0.7s,comp=Z,840nm
COEN Coen 29.16 146 *e*P **P** **13 03 47.5 -1.4**
comp=Z,28nm,0.9s
CD2 Chengdu 29.57 317 *e*P **P** **13 03 53.0 +0.5**
CD2 S **S** **13 08 47.3 +0.2**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,200nm,5.6s
CD2 LR LR
comp=Z,550nm,15.3s
CD2 LR LR
comp=Z,670nm,15.1s
SISI Saibi 29.98 249 P **P** **13 03 55.5 -0.7**
GSI Gunungsitoli 30.46 255 *e*P **P** **13 04 00.3 -0.2**
comp=Z,30nm,0.9s
BJT Baijiatuan 30.95 344 *e*P **P** **13 04 04.7 +0.2**
comp=Z,14nm,0.9s
BJI Beijing 30.97 344 *e*P **P** **13 04 05.0 +0.4**
BJI pmax pmax
comp=Z,11nm,1.5s
BJI LR LR
comp=Z,130nm,17.6s
BJI LR LR
comp=Z,210nm,12.8s
WRAB Tennant Creek 31.07 166⇑ *e*P **P** **13 04 04.0 -1.8**
WRAB pmax pmax
comp=Z,18nm,1.3s
WRA Warramunga Arr 31.08 166 P **P** **13 04 03.6 -2.3**
comp=Z,6.3nm,0.9s,baz=348,slow=9.4,SNR=48
WRA PcP **PcP** **13 07 00.7 -0.8**
comp=Z,4.9nm,0.8s,baz=343,slow=2.9,SNR=12
WRA ScP **ScP** **13 10 43.0 -1.0**
comp=Z,0.5nm,0.9s,baz=344,slow=3.3,SNR=3.2
WB2 Warramunga Arr 31.08 166 *e*P **P** **13 04 03.9 -2.0**
comp=Z,18nm,1.1s
LZH Lanzhou 32.96 324 *e*P **P** **13 04 24.5 +2.0**
LZH pP pwP 13 04 34.3 -0.9
LZH sP sP 13 04 38.8 +13
LZH PP **PnPn** **13 05 33.5 +1.8**
LZH S **S** **13 09 37.8 -2.6**
LZH SS **SnSn** **13 11 39.3 +1.1**
LZH pmax pmax
comp=Z,74nm,1.3s
LZH pmax pmax
comp=Z,140nm,4.3s
LZH LR LR
comp=Z,540nm,12.6s
LZH LR LR
comp=Z,470nm,11.9s
LZH LR LR
comp=Z,650nm,14.6s
HHC Hu-ho-hao-te 33.16 339 *e*P **P** **13 04 26.8 +2.7**
HHC PP **PP** **13 05 38.8 -0.4**
HHC S **S** **13 09 43.8 +0.6**
HHC pmax pmax
comp=Z,21nm,0.6s
HHC pmax pmax
comp=Z,220nm,6.6s
HHC LR LR
comp=Z,390nm,13.0s
HHC LR LR
comp=Z,360nm,7.8s
HHC LR LR
comp=Z,350nm,7.8s
CN2 Changchun 33.26 358 *e*P **P** **13 04 24.5 -0.2**
CN2 *e*pP pwP 13 04 34.5 -1.7
CN2 *e*sP sP 13 04 38.3 +10
CN2 *e*S **S** **13 09 42.5 -2.0**
CN2 *e*SS **SnSn** **13 11 46.5 +1.5**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,270nm,18.0s
CN2 LR LR
comp=Z,180nm,18.0s
CN2 LR LR
comp=Z,210nm,18.0s

USA0B Ussuriysk Arra 33.93 7 *e*P **P** **13 04 31.1 +0.5**
comp=Z,17nm,0.9s
USRK Ussuriysk Ar. 33.93 7 P **P** **13 04 30.5 -0.1**
comp=Z,8.8nm,0.7s,baz=189,slow=8.4,SNR=32
USRK LR LR 13 16 42.7
comp=Z,134nm,21.9s,baz=167,slow=34
MDJ Mudanjiang 34.14 4 *e*P **P** **13 04 33.3 +0.9**
comp=Z,60nm,1.4s
AS31 Alice Springs 34.59 169 *e*P **P** **13 04 35.5 -1.0**
comp=Z,4.2nm,0.8s
ASAR Alice Springs 34.59 169 P **P** **13 04 35.0 -1.6**
comp=Z,7.1nm,0.6s,baz=350,slow=7.4,SNR=52
ASAR PcP **PcP** **13 07 10.3 -0.8**
comp=Z,3.6nm,0.6s,baz=345,slow=2.8,SNR=18
ASAR ScP **ScP** **13 10 56.2 +0.1**
comp=Z,0.9nm,1.0s,baz=350,slow=4.7,SNR=3.6
AS01 Alice Springs 34.60 168 *e*P **P** **13 04 35.3 -1.3**
AS01 *e*PcP **PcP** **13 07 09.9 -1.3**
TEY Ternei 35.48 12⇑ *e*P **P** **13 04 44.5 +0.5**
TEY *e* 13 04 55.1
TEY pmax pmax
comp=Z,20nm,1.0s
CTA Charters Tower 35.85 148 P **P** **13 04 47.2 -0.2**
comp=Z,9.6nm,0.8s,baz=332,slow=10,SNR=13
CTAO Charters Tower 35.85 148 *e*P **P** **13 04 47.7 +0.3**
comp=Z,26nm,1.1s
CTAO *e*pP **pwP** **13 04 58.7 -0.8**
CTAO Charters Tower 35.85 148 *e*P **P** **13 04 47.7 +0.3**
CTAO *e**PP **pwP** **13 04 58.7 -0.8**
CTAO pmax pmax
comp=Z,26nm,1.1s
ASAJ Asahikawa 36.22 19 P **P** **13 04 50.8 +0.4**
comp=Z,2.0nm,0.5s,baz=289,slow=1.5,SNR=5.7
SHL Shillong 36.35 299 *e*P **P** **13 04 51.0 -0.9**
GTA Gaotai 37.56 325⇑ P **P** **13 05 03.3 +1.3**
GTA pP pwP 13 05 13.0 -1.8
GTA sP sP 13 05 16.8 +12
GTA PP **PnPn** **13 06 32.0 +3.3**
GTA PcP **PcP** **13 07 22.0 +2.1**
GTA S **S** **13 10 48.0 -3.0**
GTA sS ScP 13 11 04.8 -2.2
GTA pmax pmax
comp=Z,49nm,1.2s
GTA pmax pmax
comp=Z,180nm,4.4s
GTA LR LR
comp=Z,210nm,18.9s
GTA LR LR
comp=Z,220nm,19.2s
GTA LR LR
comp=Z,330nm,17.2s
LSA Lhasa 38.38 305 *e*P **P** **13 05 10.6 +1.1**
comp=Z,24nm,1.3s
LSA Lhasa 38.38 305 *e*P **P** **13 05 10.6 +1.1**
LSA pmax pmax
comp=Z,24nm,1.3s
HNR Honiara 38.40 120 LR LR 13 18 37.7
comp=Z,181nm,21.9s,baz=293,slow=33
YSS Yuzh-Sakhalins 38.82 17⇑ *e*P **P** **13 05 12.9 +0.6**
YSS *e* 13 05 24.1
YSS pmax pmax
comp=Z,10.0nm,0.8s
KLR Kul'dur 38.89 5 P **P** **13 05 12.7 -0.1**
comp=Z,6.9nm,0.7s,baz=202,slow=5.2,SNR=28
KLR PcP **PcP** **13 07 23.7 +0.1**
comp=Z,1.8nm,0.7s,baz=297,slow=3.7,SNR=3.9
KLR Kul'dur 38.89 5*d**e*P **P** **13 05 13.0 +0.2**
H11N1 WAKE ISLAND Hy 39.67 72 T T 13 48 53.9
baz=265,slow=74
H11N2 WAKE ISLAND Hy 39.68 72 T T 13 48 51.8
baz=265,slow=74
H11N3 WAKE ISLAND Hy 39.69 72 T T 13 48 52.9
baz=265,slow=74
ULN Ulaanbaatar 40.86 340 *e*P **P** **13 05 30.3 +0.9**
comp=Z,10nm,0.9s
ULN Ulaanbaatar 40.86 340*d* *i*P **P** **13 05 30.2 +0.7**
ULN pmax pmax
comp=Z,9.0nm,0.9s
GRNR Gornyy 40.98 9 *e*P **P** **13 05 31.9 +1.7**
GRNR pmax pmax
comp=Z,16nm,1.0s
FORT Forrest 41.00 178 *e*P **P** **13 05 30.3 -0.3**
comp=Z,48nm,0.8s
SONM Songino Array 41.06 339 P **P** **13 05 31.7 +0.6**
comp=Z,6.0nm,0.8s,baz=156,slow=8.8,SNR=26
SONM PcP **PcP** **13 07 30.4 -0.4**
comp=Z,1.4nm,0.6s,baz=164,slow=2.4,SNR=3.1
SONA1 Songino Array 41.07 339 *e*P **P** **13 05 31.7 +0.6**
RAMN Ramite 41.29 299 *e*P **P** **13 05 33.0 -0.4**
comp=Z,15nm,0.6s
JIRN Jiri 41.83 300 *e*P **P** **13 05 38.0 0.0**
comp=Z,32nm,0.6s
GUN Gumba 42.16 300 *e*P **P** **13 05 40.7 0.0**
comp=Z,63nm,1.1s
PKI Pulchoki 42.47 300 *e*P **P** **13 05 42.6 -0.6**
comp=Z,14nm,0.9s
PKIN Phulchoki 42.49 300 *e*P **P** **13 05 42.5 -0.7**
comp=Z,31nm,1.4s
EIDS Eidsvold 42.72 147 *e*P **P** **13 05 44.0 -0.7**
comp=Z,29nm,1.0s
DMN Daman 42.74 300 *e*P **P** **13 05 45.0 -0.3**
comp=Z,36nm,1.3s
ZEA Zeya 43.19 0 *e*P **P** **13 05 47.7 -0.5**
ZEA pmax pmax
comp=N,37nm,1.4s
ZEA pmax pmax
comp=Z,42nm,1.6s
BBOO Buckleboo 43.90 169 *e*P **P** **13 05 53.8 -0.3**
comp=Z,96nm,0.9s
NKL Nikolayevsk 44.03 12 *e*P **P** **13 05 55.0 0.0**
NKL pmax pmax
comp=Z,93nm,1.7s
KOLN Koldanda 44.08 299 *e*P **P** **13 05 55.7 -0.3**
comp=Z,22nm,1.0s
DANN Dangsing 44.09 300 *e*P **P** **13 05 55.8 -0.4**
comp=Z,39nm,1.2s
ZAK Zakamensk 44.31 339 *e*P **P** **13 05 56.2 -1.2**
ZAK *e* 13 07 39.3
ZAK pmax pmax
comp=Z,5.0nm,1.4s
ZAK pmax pmax
comp=Z,5.0nm,1.2s
STKA Stephens Creek 44.38 162 P **P** **13 05 56.6 -1.5**
comp=Z,7.0nm,0.7s,baz=334,slow=7.9,SNR=16
STKA PcP **PcP** **13 07 41.0 -0.9**
comp=Z,6.6nm,0.7s,baz=331,slow=8.0,SNR=5.1
STKA LR LR 13 27 02.7
comp=Z,53nm,21.4s,baz=323,slow=40
STKA Stephens Creek 44.38 162 *e*P **P** **13 05 56.6 -1.5**
comp=Z,2.6nm,0.9s
STKA PcP **PcP** **13 07 41.0 -0.9**
STKA Stephens Creek 44.38 162 *e*P **P** **13 05 56.6 -1.5**
STKA 13 07 41.0
STKA pmax pmax
comp=Z,3.0nm,0.9s
PYUN Piuthan 44.68 299 *e*P **P** **13 06 00.6 -0.3**
comp=Z,33nm,1.1s
MOY Mondy 46.20 338 *e*P **P** **13 06 13.1 +0.7**
MOY pmax pmax
comp=Z,31nm,1.7s
HYB Hyderabad 47.28 284 *i*P **P** **13 06 22.0 +0.7**
WMQ Urumqi 47.44 322 *e*P **P** **13 06 24.0 +1.9**
WMQ pP pwP 13 06 34.8 -0.3
WMQ pmax pmax
comp=Z,70nm,0.9s
WMQ pmax pmax
comp=Z,550nm,3.7s
WMQ LR LR
comp=Z,250nm,16.5s
WMQ LR LR
comp=Z,170nm,17.3s
WMQ LR LR
comp=Z,290nm,17.9s
WMQ Urumqi 47.44 322 *e*P **P** **13 06 24.1 +1.9**
comp=Z,62nm,1.3s
WMQ Urumqi 47.44 322 *e*P **P** **13 06 24.1 +1.9**
WMQ pmax pmax
comp=Z,62nm,1.3s
BOD Bodaibo 48.29 351 *e*P **P** **13 06 28.9 +0.4**
BOD pmax pmax
comp=Z,20nm,1.6s
PETK Petropavlovsk- 49.26 24 P **P** **13 06 36.4 +0.4**
comp=Z,3.0nm,0.6s,baz=215,slow=5.8,SNR=12
PETK PcP **PcP** **13 07 58.5 -0.3**
comp=Z,3.5nm,0.8s,baz=230,slow=3.6,SNR=2.8
PETK LR LR 13 26 17.7
comp=Z,119nm,20.9s,baz=207,slow=35
DZM Mont Dzumac 50.52 130 *e*LR LR 13 21 19.7
comp=Z,163nm,27.6s
TOO Toolangi 50.86 161 *e*P **P** **13 06 49.4 +1.1**
comp=Z,86nm,1.6s
TOO Toolangi 50.86 161 *e*P **P** **13 06 49.4 +1.1**
TOO pmax pmax
comp=Z,86nm,1.6s
DGZ Jazzator, Alta 50.92 328*c* *i*P **P** **13 06 50.0 +1.1**
DGZ pmax pmax
comp=Z,10.0nm,1.2s
YAK Yakutsk 51.54 2 *e*P **P** **13 06 53.1 0.0**
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,11nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.0s
MK01 Makanchi Array 52.22 322 *e*P **P** **13 06 58.9 +0.4**
MA2 Magadan 52.23 15 *e*P **P** **13 06 58.0 -0.2**
comp=E,13nm,1.1s
MA2 Magadan 52.23 15⇑ *e*P **P** **13 06 58.6 +0.3**
MA2 pmax pmax
comp=Z,9.0nm,1.0s
MK31 Makanchi Array 52.23 322 *e*P **P** **13 06 59.3 +0.7**
MK31 Makanchi Array 52.23 322 *i*P **P** **13 06 59.3 +0.7**
MK31 pmax pmax
comp=Z,22nm,0.7s
MKAR Makanchi Array 52.23 322 P **P** **13 06 59.5 +0.9**
comp=Z,26nm,0.7s,baz=118,slow=8.3,SNR=220
MKAR PcP **PcP** **13 08 10.1 +0.1**
comp=Z,6.8nm,0.8s,baz=92,slow=10,SNR=4.2
MKAR ScP **ScP** **13 12 08.3 +1.5**
comp=Z,0.4nm,0.7s,baz=101,slow=1.5,SNR=3.2
MKAR LR LR 13 32 43.2
comp=Z,93nm,19.1s,baz=48,slow=40
MKAR Makanchi Array 52.23 322 *e*P **P** **13 06 59.3 +0.7**
comp=Z,164nm,0.8s
MKAR PcP **PcP** **13 08 10.1 +0.1**
MKAR Makanchi Array 52.23 322 *e*P **P** **13 06 59.3 +0.7**
MKAR 13 08 10.1
MKAR pmax pmax
comp=Z,164nm,0.8s
MAKZ Makanchi 52.43 322 *e*P **P** **13 07 00.7 +0.7**
comp=Z,42nm,0.9s
MAKZ Makanchi 52.43 322 *e*P **P** **13 07 00.7 +0.7**
MAKZ pmax pmax
comp=Z,42nm,0.9s
KSH Kashi 53.54 312 P **P** **13 07 11.5 +3.0**
KSH pP pwP 13 07 21.0 -0.4
KSH PcP **PcP** **13 08 16.8 +1.6**
KSH PP **PP** **13 09 12.5 +3.4**
KSH S **S** **13 14 40.0 -1.3**
KSH sS sS 13 14 57.0 +13
KSH SS **SS** **13 18 20.3 -1.4**
KSH pmax pmax
comp=Z,7.0nm,0.5s
KSH pmax pmax
comp=Z,220nm,6.0s
KSH LR LR
comp=Z,370nm,6.8s
KSH LR LR
comp=Z,240nm,6.6s
KSH LR LR
comp=Z,630nm,8.3s
NIL Nilore 54.10 304 *e*P **P** **13 07 13.0 +0.4**
comp=Z,30nm,0.6s
NIL Nilore 54.10 304 *e*P **P** **13 07 13.0 +0.4**
NIL pmax pmax
comp=Z,30nm,0.6s
ZAA0 Zalesovo Array 54.75 331 *e*P **P** **13 07 17.0 +0.1**
comp=Z,16nm,1.3s
ZALV Zalesovo Beam 54.75 331 P **P** **13 07 16.6 -0.2**
comp=Z,4.5nm,0.6s,baz=117,slow=6.3,SNR=28
ZALV PcP **PcP** **13 08 18.2 -1.1**
comp=Z,2.8nm,0.7s,baz=108,slow=3.8,SNR=2.6
ZALV LR LR 13 34 51.7
comp=Z,60nm,18.2s,baz=70,slow=41
KZA Kyzart 54.89 315 P **P** **13 07 19.7 +1.1**
SNR=20
TKM2 Tokmak 2 54.94 316 P **P** **13 07 19.7 +1.0**
SNR=8.4
KBK Karagaybulak 55.29 315 P **P** **13 07 22.6 +1.3**
SNR=9.1
UCH Uchtor 55.45 314 P **P** **13 07 24.1 +1.3**
SNR=29
CHMS Chumysh 55.55 315 P **P** **13 07 25.0 +2.1**
SNR=7.2
FRU Bishkek 55.58 315 *e*P **P** **13 07 23.0 -0.2**
FRU *e* 13 07 34.0
AAK Ala-Archa 55.60 315 *e*P **P** **13 07 24.4 +0.9**
comp=Z,15nm,1.4s
AAK Ala-Archa 55.60 315⇓ *e*P **P** **13 07 24.7 +1.2**
AAK pmax pmax
comp=Z,4.0nm,1.4s
USP Ospenovka 55.81 316 P **P** **13 07 24.9 +0.1**
SNR=9.4
AML Almayashu 56.00 314 P **P** **13 07 26.3 -0.3**
SNR=12
NVS Novosibirsk 56.02 331⇑ *i*P **P** **13 07 26.3 +0.3**
NVS *i* 13 07 39.8
NVS *i* 13 08 24.6
NVS pmax pmax
comp=N,21nm,1.7s
NVS pmax pmax
comp=E,19nm,1.7s
NVS pmax pmax
comp=Z,33nm,1.7s
EKS2 Erkin-Say 56.11 315 P **P** **13 07 27.5 +0.4**
SNR=13
KURK Kurchatov 56.25 325 *e*P **P** **13 07 28.2 +0.5**
comp=Z,110nm,1.1s
KURK Kurchatov 56.25 325*d* *i*P **P** **13 07 28.1 +0.4**
KURK pmax pmax
comp=Z,96nm,1.2s
GAR Garm 57.61 310 *e*P **P** **13 07 37.7 -0.1**
comp=Z,32nm,1.1s
GAR Garm 57.61 310 *e*P **P** **13 07 37.7 -0.1**
GAR pmax pmax
comp=Z,32nm,1.1s
CHGR Chuyangaron 58.42 309 *e*P **P** **13 07 44.7 +1.3**
comp=Z,18nm,0.9s
KK31 Karatay Array 58.53 314 *e*P **P** **13 07 44.5 +0.5**
KK31 Karatay Array 58.53 314 *e*P **P** **13 07 44.1 +0.1**
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 58.53 314 *e*P **P** **13 07 44.5 +0.5**
KKAR Karatay Array 58.53 314 *e*P **P** **13 07 44.5 +0.5**
TIXI Tiksi 61.18 1 *e*P **P** **13 08 00.8 -0.8**
comp=Z,9.4nm,0.7s
TIXI Tiksi 61.18 1⇑ *i*P **P** **13 08 01.3 -0.3**
TIXI pmax pmax
comp=Z,28nm,1.9s
BVA0 Borovoye Array 61.85 325 *i*P **P** **13 08 06.8 +0.3**
BVA0 pmax pmax
comp=Z,55nm,1.4s
BRVK Borovoye 61.92 325 *e*P **P** **13 08 07.3 +0.3**
comp=Z,46nm,1.0s
BRVK Borovoye 61.92 325*d* *i*P **P** **13 08 07.1 +0.1**
BRVK pmax pmax
comp=Z,50nm,1.3s
BILL Bilibino 63.09 16 *e*P **P** **13 08 15.0 +0.4**
comp=Z,5.3nm,0.8s
BILL Bilibino 63.09 16⇑ *i*P **P** **13 08 14.9 +0.4**
BILL *e* 13 08 52.9
BILL *e*S **S** **13 16 43.1 -1.7**
BILL pmax pmax
comp=Z,8.0nm,1.1s
GEYT Alibeck 66.89 307 P **P** **13 08 39.5 -0.5**
comp=Z,2.9nm,0.6s,baz=103,slow=3.2,SNR=6.2
AB31 Akbulak array 67.11 319 *i*P **P** **13 08 40.6 -0.5**
AB31 pmax pmax
comp=Z,7.0nm,0.7s
ABKAR Akbulak array 67.11 319 *e*P **P** **13 08 41.0 -0.1**
LBZ Lake Benmore 67.20 148 *e*P **P** **13 08 42.2 +0.6**
LBZ *e*pP **pwP** **13 08 53.6 -0.2**
BKZ Black Stump Fm 67.55 140 *e*P **P** **13 08 44.2 +0.2**
comp=Z,15nm,0.6s
SVE Sverdlovsk 68.37 327⇓ *i*P **P** **13 08 49.4 +0.6**
SVE pmax pmax
comp=Z,58nm,1.3s
ARU Arti 69.39 327 *e*P **P** **13 08 54.8 -0.5**
comp=Z,26nm,0.7s
ARU Arti 69.39 327*d* *i*P **P** **13 08 54.6 -0.6**
ARU 13 09 15.2
ARU S **S** **13 18 00.1 -1.6**

ARU					SS	**SS**	**13 22 26.1**	**-2.6**
ARU					pmax	pmax		
	comp=Z,77nm,1.9s							
ANM	**Nome**	**71.16**	**25**	*e*P	**P**	**13 09 06.8**	**+0.9**
	comp=Z,4.1nm,0.8s							
ANM	**Nome**	**71.16**	**25**	*e*P	**P**	**13 09 06.8**	**+0.9**
ANM				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KDAK	**Kodiak Island**	**76.22**	**33**	LR	LR	13 38 15.4		
	comp=Z,162nm,20.1s,baz=293,slow=32							
IM3	**Indian Mountai**	**76.22**	**24**	*e*P	**P**	**13 09 35.9**	**+0.3**
PRGR	**Permogore**	**76.71**	**331**	*e*P	**P**	**13 09 35.3**	**-3.1**
PRGR				*e*		13 09 46.5		
PRGR				pmax	pmax			
	comp=Z,26nm,0.6s							
CAST	**Castle Rocks**	**76.74**	**27**	*e*P	**P**	**13 09 39.3**	**+0.7**
	comp=Z,16nm,0.8s							
BPAW	**Bear Paw Mtn.**	**77.26**	**26**	*e*P	**P**	**13 09 42.1**	**+0.6**
	comp=Z,28nm,1.0s							
MLY	**Manley**	**77.41**	**26**	*e*P	**P**	**13 09 42.8**	**+0.4**
	comp=Z,18nm,1.0s							
CASY	**Casey**	**77.45**	**187**	*e*P	**P**	**13 09 42.4**	**+0.1**
TRF	**Thorofare Moun**	**77.55**	**27**	*e*P	**P**	**13 09 43.8**	**+0.5**
	comp=Z,25nm,1.1s							
COLD	**Coldfoot**	**77.72**	**23**	*e*P	**P**	**13 09 45.3**	**+1.3**
	comp=Z,4.9nm,0.9s							
ZEI	**Tsey**	**77.83**	**312**	*e*P	**P**	**13 09 45.8**	**+0.4**
ZEI				pmax	pmax			
	comp=Z,21nm,1.0s							
NCK	**Nalchik**	**78.01**	**312**⇑	*e*P	**P**	**13 09 47.7**	**+1.6**
NCK				pmax	pmax			
	comp=Z,11nm,0.8s							
RAYN	**Ar Rayn**	**78.03**	**292**	*e*P	**P**	**13 09 46.1**	**-0.6**
RAYN				*e*pP	**PcP**	**13 09 57.3**	**+1.0**
PMR	**Palmer**	**78.05**	**29**	*e*P	**P**	**13 09 45.3**	**-0.6**
	comp=Z,27nm,1.2s							
PMR	**Palmer**	**78.05**	**29**	*e*P	**P**	**13 09 45.3**	**-0.6**
PMR				pmax	pmax			
	comp=Z,27nm,1.2s							
MCK	**McKinley**	**78.16**	**27**	*e*P	**P**	**13 09 46.4**	**-0.1**
	comp=Z,29nm,0.9s							
MCK	**McKinley**	**78.16**	**27**	*e*P	**P**	**13 09 46.4**	**-0.1**
MCK				pmax	pmax			
	comp=Z,29nm,0.9s							
RND	**Reindeer**	**78.19**	**27**	*e*P	**P**	**13 09 46.9**	**+0.1**
RND				*e*PcP	**pwP**	**13 10 05.9**	**+7.1**
RND	**Reindeer**	**78.19**	**27**	*e*P	**P**	**13 09 46.9**	**+0.1**
KNK	**Knik Glacier**	**78.38**	**29**	*e*P	**P**	**13 09 48.0**	**+0.2**
	comp=Z,31nm,1.3s							
SML	**Sawmill**	**78.43**	**29**	*e*P	**P**	**13 09 48.7**	**+0.6**
	comp=Z,25nm,1.0s							
MDM	**Murphy Dome**	**78.47**	**26**	*e*P	**P**	**13 09 48.6**	**+0.4**
	comp=Z,19nm,1.2s							
KBZ	**Khabaz**	**78.51**	**313**	P	**P**	**13 09 48.2**	**-0.6**
	comp=Z,9.8nm,1.0s,baz=134,slow=2.6,SNR=11							
WRH	**Wood River Hil**	**78.53**	**26**	*e*P	**P**	**13 09 49.0**	**+0.5**
	comp=Z,35nm,1.6s							
COLA	**College**	**78.63**	**26**	*e*P	**P**	**13 09 49.1**	**+0.1**
	comp=Z,4.4nm,0.8s							
COLA	**College**	**78.63**	**26**⇓	*e*P	**P**	**13 09 49.1**	**+0.1**
COLA				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KIV	**Kislovodsk**	**78.64**	**313**	*e*P	**P**	**13 09 51.2**	**+1.5**
KIV				pmax	pmax			
	comp=Z,24nm,1.1s							
NEY	**Neytrino**	**78.66**	**312**⇑	*e*P	**P**	**13 09 51.5**	**+1.6**
NEY				pmax	pmax			
	comp=Z,4.0nm,1.0s							
VRH	**Novokhopyorsk**	**78.90**	**320**	*e*P	**P**	**13 09 49.7**	**-1.1**
VRH				*e**PP	**PcP**	**13 10 00.8**	**+1.4**
VRH				pmax	pmax			
	comp=Z,70nm,1.3s							
HDA	**Harding Lake**	**79.03**	**26**	*e*P	**P**	**13 09 50.5**	**-0.8**
	comp=Z,10nm,0.9s							
IL1	**Eielson Array**	**79.05**	**26**	*e*P	**P**	**13 09 49.6**	**-1.7**
ILAR	**Eielson Array**	**79.05**	**26**	P	**P**	**13 09 50.1**	**-1.3**
	comp=Z,2.4nm,0.8s,baz=241,slow=5.0,SNR=23							
ILAR				LR	LR	13 42 05.7		
	comp=Z,32nm,21.9s,baz=281,slow=34							
ILB	**Eielson Array**	**79.05**	**26**	*e*P	**P**	**13 09 51.0**	**-0.4**
DOMR	**Dombai**	**79.46**	**312**⇑	*e*P	**P**	**13 09 55.9**	**+1.6**
DOMR				pmax	pmax			
	comp=Z,16nm,1.1s							
KLMR	**Klimovskoe**	**79.66**	**330**	*e*P	**P**	**13 09 53.3**	**-1.5**
KLMR				pmax	pmax			
	comp=Z,68nm,1.4s							
KLMR	**Klimovskoe**	**79.66**	**330**	*e*P	**P**	**13 09 53.3**	**-1.5**
KLMR				AMP		13 09 57.6		
	comp=Z,68nm,1.4s							
FYU	**Fort Yukon**	**79.68**	**24**	*e*P	**P**	**13 09 56.5**	**+1.7**
	comp=Z,36nm,1.3s							
RIDG	**Independ'e Rid**	**79.98**	**27**	*e*P	**P**	**13 09 56.6**	**+0.1**
	comp=Z,52nm,1.5s							
SCRK	**Sand Creek**	**80.34**	**27**	*e*P	**P**	**13 09 59.4**	**+0.8**
	comp=Z,18nm,1.4s							
VSR	**Storozhevoye**	**80.50**	**320**	*e*P	**P**	**13 09 58.6**	**-0.9**
VSR				pmax	pmax			
	comp=Z,35nm,0.9s							
LPSR	**Galich'ya Gora**	**80.53**	**322**	*e*P	**P**	**13 09 58.8**	**-0.8**
LPSR				*e**PP	**PcP**	**13 10 09.9**	**+3.4**
LPSR				pmax	pmax			
	comp=Z,50nm,0.9s							
MOS	**Moscow**	**81.02**	**325**	*e*P	**P**	**13 10 00.2**	**-2.0**
MOS				*e*		13 10 11.0		
MOS				pmax	pmax			
	comp=Z,63nm,0.8s							
OBN	**Obninsk**	**81.68**	**325**⇑	*e*P	**P**	**13 10 05.6**	**-0.1**
OBN				*e*		13 10 11.1		
OBN				*e*		13 13 09.7		
OBN				*e*S	**S**	**13 20 17.4**	**-0.4**
OBN				pmax	pmax			
	comp=Z,30nm,1.1s							
OBN				MLR	MLR			
	comp=Z,143nm,15.0s							
ANN	**Anapa**	**82.32**	**314**	*e*P	**P**	**13 10 09.0**	**-0.3**
ANN				*e**PP	**PcP**	**13 10 19.7**	**+5.2**
ANN				pmax	pmax			
	comp=Z,45nm,1.0s							
DAWY	**Dawson**	**82.35**	**26**	*e*P	**P**	**13 10 10.1**	**+0.9**
	comp=Z,15nm,1.1s							
HYT	**Haines Junctio**	**83.72**	**29**	*e*P	**P**	**13 10 18.2**	**+1.8**
	comp=Z,12nm,0.9s							
INK	**Inuvik**	**83.92**	**22**	*e*P	**P**	**13 10 16.9**	**-0.2**
	comp=Z,24nm,1.5s							
INK	**Inuvik**	**83.92**	**22**	*e*P	**P**	**13 10 16.9**	**-0.2**
INK				pmax	pmax			
	comp=Z,24nm,1.5s							
ARCES	**ARCESS Array B**	**84.23**	**340**	P	**P**	**13 10 18.4**	**-0.2**
	comp=Z,13nm,0.7s,baz=94,slow=8.5,SNR=47							
ARCES	**ARCESS Array B**	**84.23**	**340**	*e*P	**P**	**13 10 18.9**	**+0.2**
ARCES	**ARCESS Array B**	**84.23**	**340**	*e*P	**P**	**13 10 18.9**	**+0.2**
WHY	**Whitehorse**	**85.02**	**29**	*e*P	**P**	**13 10 24.0**	**+1.1**
	comp=Z,22nm,0.9s							
BR131	**Keskin Array S**	**85.86**	**309**	*e*P	**P**	**13 10 27.2**	**-0.4**
BRTR	**Keskin Array B**	**85.86**	**309**	P	**P**	**13 10 26.9**	**-0.8**
	comp=Z,7.2nm,0.7s,baz=114,slow=4.4,SNR=44							
FIA1	**FINESS Array S**	**86.01**	**332**	*e*P	**P**	**13 10 27.2**	**-0.5**
FINES	**FINESS Array B**	**86.01**	**332**	P	**P**	**13 10 27.3**	**-0.4**
	comp=Z,9.3nm,0.6s,baz=64,slow=5.3,SNR=43							
VSU	**Vasula**	**86.42**	**329**⇓	*e*P	**P**	**13 10 30.8**	**+1.0**
AKASG	**Malin Array Be**	**86.79**	**321**	P	**P**	**13 10 31.3**	**-0.5**
	comp=Z,5.8nm,0.6s,baz=64,slow=5.0,SNR=42							
AKBB	**Malin Array Si**	**86.79**	**321**	*e*P	**P**	**13 10 31.2**	**-0.6**
	comp=Z,50nm,1.4s							
AKBB	**Malin Array Si**	**86.79**	**321**	*e*P	**P**	**13 10 31.2**	**-0.6**
AKBB				pmax	pmax			
	comp=Z,50nm,1.4s							
KIEV	**Kiev**	**86.80**	**321**	*e*P	**P**	**13 10 31.6**	**-0.2**
	comp=Z,40nm,1.3s							
KIEV	**Kiev**	**86.80**	**321**	*i*P	**P**	**13 10 31.5**	**-0.3**
KIEV	**Kiev**	**86.80**	**321**	*e*P	**P**	**13 10 31.8**	**0.0**
KIEV				pmax	pmax			
	comp=Z,71nm,2.5s							
AK11	**Malin Array Si**	**86.83**	**321**	*e*P	**P**	**13 10 31.4**	**-0.6**
AK11				*e*pP	**pwP**	**13 10 42.1**	**-3.1**
CSS	**Mathiatis**	**86.95**	**305**	*e*P	**P**	**13 10 32.6**	**-0.3**
	comp=Z,34nm,0.8s							
PPT2	**Papeete2**	**87.09**	**108**	*e*LR	LR	13 38 06.8		
	comp=Z,84nm,22.8s							
TLCR		**88.27**	**316**⇑	*i*P	**P**	**13 10 39.6**	**+0.6**
TLCR		**88.27**	**316**⇑	P	**P**	**13 10 39.6**	**+0.6**
TBI	**Tubuai**	**88.38**	**114**	*e*LR	LR	13 38 45.0		
	comp=Z,172nm,23.8s							
TIRR	**Tirgusor**	**88.72**	**315**	*e*P	**P**	**13 10 40.9**	**-0.3**
	comp=Z,17nm,1.1s							
TIRR	**Tirgusor**	**88.72**	**315**⇑	*i*P	**P**	**13 10 41.0**	**-0.1**
TIRR	**Tirgusor**	**88.72**	**315**⇑	*i*P	**P**	**13 10 41.1**	**-0.1**
CFR	**Carcaliu**	**88.74**	**316**⇑	*i*P	**P**	**13 10 40.8**	**-0.4**
CFR	**Carcaliu**	**88.74**	**316**⇑	*i*P	**P**	**13 10 40.8**	**-0.4**
TLB	**Topalu**	**88.94**	**315**⇓	*i*P	**P**	**13 10 42.6**	**+0.4**
TLB	**Topalu**	**88.94**	**315**⇓	P	**P**	**13 10 42.6**	**+0.4**
SUW	**Suwalki**	**89.53**	**325**	*e*P	**P**	**13 10 45.5**	**+0.8**
SUW	**Suwalki**	**89.53**	**325**	*e*P	**P**	**13 10 45.5**	**+0.8**
VRI	**Vrincioaia**	**89.54**	**317**⇑	*i*P	**P**	**13 10 46.3**	**+1.3**
VRI	**Vrincioaia**	**89.54**	**317**⇑	P	**P**	**13 10 46.3**	**+1.3**
VNDA	**Vanda**	**90.02**	**173**	P	**P**	**13 10 46.5**	**0.0**
	comp=Z,7.0nm,1.0s,baz=316,slow=5.5,SNR=10							
BURAR	**Bucovina Array**	**90.09**	**318**⇑	*i*P	**P**	**13 10 48.0**	**+0.3**
BURAR	**Bucovina Array**	**90.09**	**318**⇑	P	**P**	**13 10 48.0**	**+0.3**
BUR04	**Bucovina Ar. S**	**90.09**	**318**	*e*P	**P**	**13 10 47.7**	**0.0**
BUR08	**Bucovina Ar. S**	**90.09**	**319**	*e*P	**P**	**13 10 48.0**	**+0.3**
MLR	**Muntele Rosu**	**90.16**	**316**	*e*P	**P**	**13 10 48.6**	**+0.5**
	comp=Z,24nm,1.3s							
MLR	**Muntele Rosu**	**90.16**	**316**	*e*P	**P**	**13 10 48.6**	**+0.5**
MLR				pmax	pmax			
	comp=Z,24nm,1.3s							
LVV	**L'vov**	**90.23**	**321**	*e*P	**P**	**13 10 49.1**	**+0.9**
DAG	**Danmarks Havn**	**90.66**	**353**	*i*P	**P**	**13 10 48.5**	**-1.1**
	comp=Z,8.9nm,0.7s							
DAG	**Danmarks Havn**	**90.66**	**353**	*i*P	**P**	**13 10 48.5**	**-1.1**
DAG				pmax	pmax			
	comp=Z,6.0nm,0.7s							
ARR	**Arges**	**91.08**	**316**⇑	*i*P	**P**	**13 10 51.8**	**-0.5**
KWP	**Kalwaria Pacla**	**91.11**	**321**	*e*P	**P**	**13 10 53.7**	**+1.4**
KWP	**Kalwaria Pacla**	**91.11**	**321**	*e*P	**P**	**13 10 53.7**	**+1.4**
RES	**Resolute Bay**	**91.23**	**10**	*e*P	**P**	**13 10 52.8**	**+0.5**
	comp=Z,16nm,0.8s							
RES	**Resolute Bay**	**91.23**	**10**	*e*P	**P**	**13 10 52.8**	**+0.5**
RES				pmax	pmax			
	comp=Z,16nm,0.8s							
TRPA	**Tarpa**	**91.67**	**320**⇑	*i*P	**P**	**13 10 54.6**	**-0.2**
UZH	**Uzhgorod**	**91.67**	**320**	*e*P	**P**	**13 10 53.1**	**-1.8**
UZH				*i*		13 10 59.8		
UZH				*e*		13 11 08.8		
GZR	**Gura Zlata**	**92.33**	**317**⇑	*i*P	**P**	**13 10 58.7**	**+0.6**
GZR	**Gura Zlata**	**92.33**	**317**⇑	P	**P**	**13 10 58.7**	**+0.6**
OJC	**Ojcow**	**92.71**	**322**	*e*P	**P**	**13 11 00.8**	**+1.2**
OJC	**Ojcow**	**92.71**	**322**	*e*P	**P**	**13 11 00.8**	**+1.2**
NB2	**NORSAR Subarra**	**92.86**	**334**	P	**P**	**13 10 58.7**	**-1.5**
	comp=Z,10nm,1.1s,baz=65,slow=4.6							
NB2	**NORSAR Subarra**	**92.86**	**334**	P	**P**	**13 10 58.7**	**-1.5**
	baz=65,slow=4.6							
NOA	**NORSAR Array B**	**92.86**	**334**	P	**P**	**13 10 58.6**	**-1.5**
	comp=Z,2.2nm,0.7s,baz=64,slow=4.5,SNR=8.2							
NOA				LR	LR	13 56 20.1		
	comp=Z,49nm,18.1s,baz=15,slow=38							
VTS	**Vitosha**	**92.86**	**314**	*e*P	**P**	**13 11 00.3**	**-0.3**
VTS				*e*pP	**pwP**	**13 11 10.6**	**-3.4**
VTS	**Vitosha**	**92.86**	**314**⇑	*i*P	**P**	**13 10 59.2**	**-1.5**
VTS	**Vitosha**	**92.86**	**314**⇑	P	**P**	**13 10 59.2**	**-1.5**
MDVR	**Moldovita**	**93.23**	**316**⇑	*i*P	**P**	**13 11 01.7**	**-0.6**
YKA	**Yellowknife Ar**	**93.38**	**24**	P	**P**	**13 11 02.1**	**-0.3**
	comp=Z,3.6nm,0.9s,baz=300,slow=4.7,SNR=36							
PSZ	**Piszkesteto**	**93.42**	**320**	*e*P	**P**	**13 11 04.2**	**+1.1**
	comp=Z,26nm,1.5s							
PSZ	**Piszkesteto**	**93.42**	**320**	*e*P	**P**	**13 11 04.2**	**+1.1**
PSZ				pmax	pmax			
	comp=Z,26nm,1.5s							
BSD	**Bornholm Skovb**	**93.65**	**328**	*i*P	**P**	**13 11 04.1**	**+0.3**
	comp=Z,50nm,1.0s							
BSD	**Bornholm Skovb**	**93.65**	**328**	*i*P	**P**	**13 11 04.1**	**+0.3**
BSD				pmax	pmax			
	comp=Z,50nm,1.0s							
VYHS	**Vyhne**	**93.89**	**321**	*e*P	**P**	**13 11 05.0**	**-0.1**
VYHS				pmax	pmax			
	comp=Z,9.0nm,1.4s							
VYHS	**Vyhne**	**93.89**	**321**	*e*P	**P**	**13 11 05.0**	**-0.1**
MORC	**Moravsky Berou**	**94.22**	**322**	*e*P	**P**	13 10 59.9	-6.8
JAVC	**Velka Javorina**	**94.48**	**321**	*e*P	**P**	**13 11 10.8**	**+2.9**
TAOE	**Nuku Hiva Isla**	**94.51**	**98**	*e*LR	LR	13 41 25.5		
	comp=Z,243nm,30.0s							
DIVS	**Divibare**	**94.62**	**316**	*e*P	**P**	**13 11 08.4**	**-0.3**
	comp=Z,13nm,1.2s							
VRAC	**Vranov**	**94.97**	**322**	*e*P	**P**	**13 11 11.7**	**+1.6**
KRUC	**Moravsky**	**95.19**	**322**	*e*P	**P**	**13 11 12.8**	**+1.7**
GERES	**GERESS Array B**	**96.90**	**322**	P	**P**	**13 11 18.9**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=349,slow=1.4,SNR=6.0							
GEA0	**GERESS Array S**	**96.91**	**322**	*e*P	**P**	**13 11 20.0**	**+1.0**
BOJS	**Bojanci**	**97.27**	**319**	*e*P	**P**	**13 11 21.7**	**+1.1**
BOJS				*i*		13 11 33.7		
VISS	**Visnje**	**97.42**	**319**	*i*P	**P**	**13 11 21.5**	**+0.2**
VISS				*i*		13 11 33.3		
JAVS	**Javornik**	**97.88**	**319**	*i*P	**P**	**13 11 23.0**	**-0.5**
JAVS				*i*		13 11 34.8		
NVAR	**Mina Array Bea**	**102.32**	**47**	P	**Pdif**	**13 11 43.9**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=276,slow=6.1,SNR=4.7							
TORD	**Torodi Ar. Bea**	**120.72**	**292**	PKP	**PKPdf**	**13 16 39.4**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=38,slow=2.2,SNR=17							
TORD				PKKPab	**PKKPbc**	**13 26 47.6**	**+2.8**
	comp=Z,1.1nm,1.0s,baz=298,slow=4.7,SNR=4.7							
DBIC	**Dimbokro**	**128.99**	**287**	PKP	**PKPdf**	**13 16 56.0**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=104,slow=2.1,SNR=4.0							
DBIC	**Dimbokro**	**128.99**	**287**	PKIKP	**PKPdf**	**13 16 56.0**	**-0.4**
PLCA	**Paso Flores**	**146.13**	**156**	PKPbc	**PKPdf**	**13 17 28.5**	**+1.3**
	comp=Z,20nm,0.7s,baz=248,slow=3.6,SNR=51							
TRQA	**Tornquist**	**151.38**	**165**	*e*PKPbc	**PKPbc**	**13 17 41.4**	**-0.4**
SDV	**Santo Domingo**	**154.10**	**43**	*e*PKPdf	**PKPdf**	**13 17 40.5**	**0.0**
SDV				*e*PKPbc	**PKPbc**	**13 17 48.4**	**-0.2**
CPUP	**Villa Florida**	**163.71**	**167**	PKP	**PKPdf**	**13 17 51.2**	**0.0**
	comp=Z,3.0nm,0.8s,baz=330,slow=1.2,SNR=4.1							
LPAZ	**La Paz**	**164.32**	**113**	PKP	**PKPdf**	**13 17 52.0**	**-0.8**
	comp=Z,1.7nm,0.9s,baz=13,slow=2.4,SNR=7.2							

*ISK **30** 13:02:41.0,38°.62N×43°.14E,h2km,ML1.7/5*
*DDA **30** 13:02:42.0,38°.66N×43°.22E,h7km±5km,ML2.5*
ISC 30 13:02:42.4±1.1,38°.63N±0°.04×43°.15E±0°.04,h11km±12km, n9,σ0°68/15,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**101**	PG		**Pg**		**13 02 46.4**	**-0.3**
VANB				SG		**Sg**		**13 02 50.4**	**+0.7**
TVAN	**Van**	**0.23**	**117**	IAML_P					
	comp=Z,1μm,0.1s								
TVAN				*i* P		**Pg**		**13 02 46.7**	**-0.7**
GEVA	**Gevas**	**0.33**	**192**	IAML_P					
	comp=Z,3μm,0.1s								
GEVA				*i* P		**Pg**		**13 02 49.5**	**+0.4**
GEVA				*i* S		**Sb**		**13 02 55.5**	**-0.2**
AKDM	**Akdamar-Van**	**0.33**	**203**	PG		**Pg**		**13 02 48.7**	**-0.5**
AKDM				SG		**Sg**		**13 02 54.2**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.37**	**298**	IAML_P					
	comp=Z,204nm,0.1s								
ADCV				*i* P		**Pb**		**13 02 50.8**	**-0.4**
ADCV				*i* S		**Sb**		**13 02 58.4**	**+1.4**
CLDR	**Caldiran**	**0.79**	**50**	PG		**Pg**		**13 02 57.5**	**-0.2**
CLDR				SG		**Sb**		**13 03 09.5**	**+0.4**
TUTA	**Tutak**	**0.81**	**341**	IAML_P					
	comp=Z,876nm,0.2s								
TUTA				*i* P		**Pg**		**13 02 57.8**	**-0.4**
GURO	**Guroymak-BITLI**	**0.88**	**265**	PG		**Pg**		**13 02 58.6**	**-0.8**
GURO				SG		**Sg**		**13 03 11.1**	**+0.3**
AGRB	**Hanur-Agry**	**0.95**	**353**	PG		**Pg**		**13 03 00.4**	**-0.4**

*IDC **30** 13:10:16.2±1.1, 10°.27N×126°.72E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/41, mbtmp3.6/5, Error ellipse: s-maj=75.5km s-min=20.5km az=72.0*
*ISCJB **30** 13:10:19.8±1.0, 10°.3N±0°.1×127°.0E±0°.2, h44km, mb3.5/5, Error ellipse: s-maj=23.5km s-min=17.6km az=172.4*
ISC 30 13:10:22.1±1.1,10°.3N±0°.1×126°.8E±0°.2,h44km,n7, σ0°81/7,mb3.5/5,1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.39**	**249**	*e*P		**Pn**		**13 10 44.9**	**-0.1**
KSRS	**Korea Array**	**27.07**	**2**	P		**P**		**13 15 59.9**	**-0.6**
	0.8nm,0.7s,baz=173,slow=10,SNR=4.9								
WRA	**Warramunga Arr**	**30.93**	**166**	P		**P**		**13 16 34.7**	**-0.4**
	0.2nm,0.6s,baz=347,slow=9.6,SNR=3.0								
ASAR	**Alice Springs**	**34.45**	**168**	P		**P**		**13 17 05.5**	**-0.2**
	0.3nm,0.8s,baz=349,slow=7.6,SNR=5.6								
MKAR	**Makanchi Array**	**52.34**	**323**	P		**P**		**13 19 30.4**	**+0.8**
	1.3nm,0.7s,baz=123,slow=8.1,SNR=14								
BRTR	**Keskin Array B**	**85.93**	**309**	P		**P**		**13 22 57.4**	**-0.6**
	0.5nm,0.6s,baz=97,slow=7.6,SNR=3.1								
PLCA	**Paso Flores**	**146.00**	**156**	PKPbc		**PKPab**		**13 29 59.1**	**+1.1**
	1.3nm,0.8s,baz=241,slow=10,SNR=2.7								

*MAN **30** 13:18:40.6,4°.08N×126°.60E,h32km,mb5.3,ML4.3,MS4.4*
*NEIC **30** 13:18:43.0±0.8,4°.59N×126°.64E,h67km±7km,mb4.6/16, Error ellipse: s-maj=11.0km s-min=5.0km az=73.0*
*ISCJB **30** 13:18:43.1±0.2,4°.54N±0°.03×126°.79E±0°.04,h85km, mb4.3/31, Error ellipse: s-maj=6.1km s-min=3.4km az=166.2*
*IDC **30** 13:18:44.1±2.2,4°.57N×126°.67E,h73km±21km,mb3.9/19, mb1 4.0/21,mb1mx3.9/47,mbtmp4.2/21,MS3.2/2, Ms1 3.2/2,ms1mx2.7/37, Error ellipse: s-maj=24.1km s-min=10.4km az=76.0*
*DJA **30** 13:18:45.8±0.5,4°N±4°×12°7E±°,h47km±7km,M4.6/13, mB5.1/6,mb4.6/13,MLv4.7/11,Mw(mB)4.4/6*
ISC 30 13:18:44.7±0.4,4°.41N±0°.04×126°.74E±0°.06,h85km,n95, σ2s16/107,mb4.4/37,2C-2D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.41**	**239**	P		**Pn**		**13 19 08.8**	**-0.2**
SGSI				S		**Sn**		**13 19 27.9**	**+0.5**
DDMP	**Don Marcelino,**	**1.97**	**329**	*e*P		**Pn**		**13 19 12.5**	**-3.8**
GSPH	**General Santos**	**2.44**	**313**	*e*P		**Pn**		**13 19 19.8**	**-2.9**
MATI	**Mati**	**2.56**	**349**	*e*P		**Pn**		**13 19 23.3**	**-0.9**
MATI				*e*S		**Sn**		**13 19 58.7**	**+4.1**
DAV	**Davao City (W)**	**2.88**	**336**	P		**Pn**		**13 19 25.9**	**-2.7**
	17nm,0.3s,baz=162,slow=20,SNR=1.9								
DAV				S		**Sn**		**13 20 03.6**	**+1.4**
	64nm,0.3s,baz=105,slow=20,SNR=6.2								
DAV	**Davao City (W)**	**2.88**	**336**	*e*Pn		Pn		13 19 22.4	-6.2
DAV				S		**Sn**		**13 20 03.6**	**+1.4**
DMPH	**Davao City--Mi**	**2.92**	**335**⇓	*i*P		**Pn**		**13 19 32.5**	**+3.4**
DMPH				*i* S		**Sn**		**13 20 11.0**	**+7.7**
SKMP	**Bagumbayan, Su**	**3.03**	**314**	*e*P		**Pn**		**13 19 29.4**	**-1.1**
SKMP				*e*S		**Sn**		**13 20 06.4**	**+0.6**
TNTI	**Ternate**	**3.67**	**170**	*e*Pn		**Pn**		**13 19 39.2**	**0.0**
TNTI	**Ternate**	**3.67**	**170**	P		**Pn**		**13 19 39.7**	**+0.5**
TNTI				S		**Sn**		**13 20 22.5**	**+1.1**
BIPH	**Bislig**	**3.77**	**354**⇑	*i*P		**Pn**		**13 19 39.2**	**-1.3**
BIPH				*i* S		**Sn**		**13 20 27.5**	**+3.8**
BUKP	**Musuan**	**3.83**	**334**	*e*P		**Pn**		**13 19 39.9**	**-1.5**
BUKP				*e*S		**Sn**		**13 20 24.6**	**-0.7**
CGP	**Cagayan de Oro**	**4.50**	**333**⇓	*e*P		**Pn**		**13 19 53.3**	**+2.8**
CGP				*e*S		**Sn**		**13 20 48.4**	**+6.7**
BUTP	**Butuan**	**4.66**	**346**	*e*P		**Pn**		**13 19 54.7**	**+2.0**
BUTP				*e*S		**Sn**		**13 20 51.9**	**+6.4**
KMSI	**Cibinong**	**4.71**	**216**	P		**Pn**		**13 19 56.2**	**+2.9**
PAGZ	**Pagadian**	**4.77**	**316**	*e*P		**Pn**		**13 19 56.9**	**+2.7**
PAGZ				*e*S		**Sn**		**13 20 52.3**	**+4.0**
IPIL	**Ipil**	**5.33**	**309**	*e*P		**Pn**		**13 20 01.4**	**-0.4**
IPIL				*e*S		**Sn**		**13 20 58.8**	**-3.1**
DCPH	**Dipolog City**	**5.34**	**321**	*e*P		Pn		13 19 56.1	-5.8
MRSI	**Marisa**	**6.19**	**231**	P		**Pn**		**13 20 15.5**	**+2.0**
	67nm,0.5s,864nm								
SANI	**Sanana**	**6.46**	**187**	P		**Pn**		**13 20 15.7**	**-1.6**
	23nm,0.5s,2μm0.2nm								
LUWI	**Luwuk**	**6.71**	**216**	P		**Pn**		**13 20 23.4**	**+2.7**
	147nm,1.1s,2μm0.7nm								
SWI	**Sorong**	**6.92**	**139**	P		**Pn**		**13 20 24.3**	**+0.8**
	40nm,0.6s,0.2nm								
SIJI	**Sorong**	**6.93**	**139**	P		**Pn**		**13 20 24.1**	**+0.5**
	baz=342,slow=18								

BRVK	**Borovoye**	**66.83**	**327**	*e*P		**P**	**13 29 25.9**	**-1.5**
	comp=Z,8.2nm,0.9s								
TIXI	**Tiksi**	**67.16**	**1**	*e*P		**P**	**13 29 28.0**	**-1.1**
	comp=Z,7.0nm,1.2s								
ABKAR	**Akbulak array**	**71.63**	**321**	*e*P		**P**	**13 29 55.0**	**-2.1**
ARU	**Arti**	**74.37**	**328**	*e*P		**P**	**13 30 11.4**	**-1.7**
	comp=Z,5.5nm,0.6s								
KDAK	**Kodiak Island**	**81.31**	**32**	P		**P**	**13 30 52.0**	**+0.5**
	comp=Z,14nm,0.9s,baz=250,slow=5.5,SNR=6.0								
KDAK	**Kodiak Island**	**81.31**	**32**	*e*P		**P**	**13 30 50.8**	**-0.8**
	comp=Z,453nm,2.0s								
IM3	**Indian Mountai**	**81.72**	**24**	*e*P		**P**	**13 30 54.6**	**+1.0**
KBZ	**Khabaz**	**82.52**	**313**	P		**P**	**13 30 59.5**	**+1.2**
	comp=Z,2.1nm,0.8s,baz=138,slow=4.6,SNR=3.5								
MLY	**Manley**	**82.86**	**25**	*e*P		**P**	**13 31 00.8**	**+1.2**
	comp=Z,6.5nm,1.0s								
ILAR	**Eielson Array**	**84.48**	**25**	P		**P**	**13 31 07.9**	**0.0**
	comp=Z,1.4nm,0.8s,baz=246,slow=4.6,SNR=10								
ILB	**Eielson Array**	**84.48**	**25**	*e*P		**P**	**13 31 07.8**	**-0.1**
IL1	**Eielson Array**	**84.49**	**25**	*e*P		**P**	**13 31 06.9**	**-1.0**
BR101	**Keskin Array S**	**89.60**	**310**	*e*P		**P**	**13 31 32.6**	**-0.8**
BRTR	**Keskin Array B**	**89.60**	**310**	P		**P**	**13 31 32.6**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=107,slow=2.0,SNR=3.6								
ARA0	**ARCESS Array S**	**89.81**	**340**	*e*P		**P**	**13 31 33.4**	**-0.1**
ARCES	**ARCESS Array B**	**89.81**	**340**	P		**P**	**13 31 33.4**	**-0.1**
	comp=Z,3.6nm,0.8s,baz=78,slow=5.6,SNR=10								
FIA0	**FINESS Array S**	**91.24**	**332**	*e*P		**P**	**13 31 39.2**	**-1.1**
FINES	**FINESS Array B**	**91.24**	**332**	P		**P**	**13 31 39.2**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=64,slow=4.4,SNR=4.8								
BUR08	**Bucovina Ar. S**	**94.51**	**318**	*e*P		**P**	**13 31 53.9**	**-2.0**
WATA	**Walderalm**	**103.43**	**321**	*e*Pdiff		**Pdif**	**13 32 38.7**	**+2.8**
	comp=Z,6.1nm,0.5s								
FETA	**Feichten**	**104.09**	**321**	*e*Pdiff		**Pdif**	**13 32 36.9**	**-2.0**
	comp=Z,4.4nm,0.8s								

*ISCJB **30** 13:25:29.8±0.4,52.˚16S±0.˚06×5.˚3W±0.˚1, h10km, mb4.5/13, MS4.3/15, Error ellipse: s-maj=11.7km s-min=8.9km az=18.0*
*IDC **30** 13:25:29.2±0.6,52.˚27S×5.˚38W, h0km, mb4.1/10, mb1 4.1/11, mb1mx4.0/31, mbtmp4.0/11, ML3.2/1, MS4.2/15, Ms1 4.2/15, ms1mx4.0/24, Error ellipse: s-maj=20.3km s-min=17.3km az=147.0*
*NEIC **30** 13:25:31.5±0.4,52.˚21S×5.˚22W, h10km, mb4.9/9, Error ellipse: s-maj=14.3km s-min=11.1km az=151.0*
*GCMT **30** 13:25:32.5±0.3,52.˚34S±0.˚02×4.˚92W±0.˚03, h12km, MW4.9/79, Moment Tensor Solution. s16,c17; s79,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.16±.12; $M_{\theta\theta}$3.04±.12; $M_{\phi\phi}$-1.88±.12; $M_{r\theta}$0.52±.35; $M_{r\phi}$-1.73±.10; $M_{\theta\phi}$-0.14±.36; Best double couple: $M_0$3.03700×10^{16} NP1:ϕ_S62.00000°,δ86.00000°,λ175.00000°. NP2: ϕ_S153.00000°,δ85.00000°,λ4.00000°. Principal axes: T 3.6470, Plg6.0000°, Azm18.0000°; N -1.2190, Plg84.0000°, Azm207.0000°; P -2.4280, Plg1.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 13:25:32.4±0.4,52.˚24S±0.˚09×5.˚34W±0.˚10, h10km, n70, σ2.˚916/54, mb4.4/13, MS4.3/15, 2C-1D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**18.52**	**183**	P	**P**	**13 29 48.0**	**-0.6**
HOPE	**Hope Point**	**18.67**	**251**	*e*P	**P**	**13 29 50.3**	**0.0**
	75nm,0.9s						
VNA2	**Neumayer--Watz**	**18.77**	**182**	P	**P**	**13 29 52.0**	**+0.6**
VNA3	**Neumayer Olymp**	**19.17**	**184**	P	**P**	**13 29 56.6**	**+0.8**
SNAA	**Sanae**	**19.53**	**178**	P	**P**	**13 30 01.7**	**+2.0**
SNAA	**Sanae**	**19.53**	**178**	P	**P**	**13 29 57.2**	**-2.6**
	0.1nm,0.3s,baz=355,slow=14,SNR=2.1						
SNAA				LR	LR	13 35 40.7	
	comp=Z,1μm,21.1s,baz=304,slow=31						
SNAA	**Sanae**	**19.53**	**178**	*e*P	**P**	**13 30 00.7**	**+0.9**
	43nm,1.5s						
SYO	**Syowa Base**	**26.81**	**146**	*e*P	**P**	**13 31 08.0**	**-4.3**
SYO	**Syowa Base**	**26.81**	**146**	*ip*P	**P**	**13 31 12.2**	**-0.1**
SYO	**Syowa Base**	**26.81**	**146**	*i*P	**P**	**13 31 14.0**	**+1.7**
SUR	**Sutherland**	**27.46**	**54**	LR	LR	13 39 30.7	
	comp=Z,849nm,20.3s,baz=211,slow=31						
BOSA	**Boshof**	**32.74**	**56**	P	**P**	**13 32 04.0**	**-1.5**
	356nm,0.5s,baz=143,slow=0.0,SNR=1279						
BOSA				LR	LR	13 42 35.7	
	comp=Z,435nm,20.4s,baz=216,slow=31						
BOSA	**Boshof**	**32.74**	**56**	*e*P	**P**	**13 32 04.0**	**-1.5**
	531nm,0.6s						
MAW	**Mawson**	**35.33**	**142**	LR	LR	13 44 08.8	
	comp=Z,215nm,21.2s,baz=286,slow=32						
LBTB	**Lobatse**	**35.89**	**53**	P	**P**	**13 32 31.5**	**-1.1**
	3.2nm,0.8s,baz=270,slow=3.0,SNR=2.5						
QSPA	**South Pole Qui**	**38.01**	**180**	P	**P**	**13 32 49.5**	**-0.9**
	1.1nm,0.7s,baz=251,slow=5.8,SNR=5.0						
QSPA	**South Pole Qui**	**38.01**	**180**	*e*P	**P**	**13 32 50.2**	**-0.2**
	20nm,1.4s						
MATP	**Matopo**	**41.18**	**52**	P	**P**	**13 33 15.1**	**-2.1**
	4.0nm,0.8s,baz=150,slow=10,SNR=4.7						
TRQA	**Tornquist**	**41.32**	**267**	*e*P	**P**	**13 33 18.6**	**+0.5**
	39nm,1.5s						
H10S2	**ASCENSION HYDR**	**43.82**	**347**	T	T	14 20 41.1	
	baz=171,slow=75,SNR=54						
H10S3	**ASCENSION HYDR**	**43.83**	**347**	T	T	14 20 41.8	
	baz=171,slow=75,SNR=58						
H10S1	**ASCENSION HYDR**	**43.84**	**347**	T	T	14 20 42.5	
	baz=171,slow=75,SNR=55						
LSZ	**Lusaka**	**45.48**	**48**	P	**P**	**13 33 50.1**	**-1.7**
	1.9nm,0.4s,baz=145,slow=14,SNR=2.2						
LSZ	**Lusaka**	**45.48**	**48**	*e*P	**P**	**13 33 53.1**	**+1.2**
	31nm,1.8s						
CPUP	**Villa Florida**	**46.55**	**283**	P	P	13 33 58.0	-2.2
	2.9nm,0.8s,baz=147,slow=8.0,SNR=7.1						
CPUP				LR	LR	13 50 47.5	
	comp=Z,160nm,20.9s,baz=155,slow=33						
CPUP	**Villa Florida**	**46.55**	**283**	*e*P	**P**	**13 34 00.2**	**+0.1**
	12nm,1.2s						
BDFB	**Brasilia**	**49.70**	**301**	P	**P**	**13 34 22.8**	**-1.9**
	6.0nm,1.1s,baz=103,slow=7.3,SNR=4.5						
BDFB				LR	LR	13 51 25.9	
	comp=Z,304nm,19.8s,baz=215,slow=31						
BDFB	**Brasilia**	**49.70**	**301**	*e*P	**P**	**13 34 22.8**	**-1.9**
	46nm,1.7s						
VNDA	**Vanda**	**50.26**	**176**	LR	LR	13 54 50.1	
	comp=Z,192nm,19.5s,baz=196,slow=35						
GO02	**Mina Guanaco**	**54.86**	**274**	*e*P	**P**	**13 35 03.3**	**0.0**
	36nm,1.7s						
DBIC	**Dimbokro**	**58.68**	**1**	P	**P**	**13 35 29.8**	**-0.1**
	3.4nm,0.9s,baz=151,slow=6.9,SNR=3.8						
DBIC				LR	LR	13 56 25.2	
	comp=Z,187nm,18.3s,baz=152,slow=32						
LPAZ	**La Paz**	**60.67**	**282**	P	P	13 35 42.2	-2.3
	1.0nm,0.6s,baz=124,slow=7.3,SNR=4.8						
LPAZ				LR	LR	14 02 45.9	
	comp=Z,60nm,18.1s,baz=122,slow=37						
LPAZ	**La Paz**	**60.67**	**282**	*e*P	**P**	**13 35 43.9**	**-0.6**
	3.5nm,1.0s						
TOA0	**Torodi Ar. Sit**	**65.40**	**8**	*e*P	**P**	**13 36 14.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**65.40**	**8**	P	**P**	**13 36 13.2**	**-1.8**
	0.5nm,0.9s,baz=150,slow=12,SNR=4.1						
TORD				LR	LR	13 59 34.1	
	comp=Z,228nm,20.0s,baz=310,slow=31						
H08N3	**Diego Garcia H**	**76.64**	**83**	T	T	15 01 18.0	
	baz=217,slow=75,SNR=6.6						
H08N1	**Diego Garcia H**	**76.66**	**83**	T	T	15 01 20.8	
	baz=217,slow=75,SNR=6.7						
H08N2	**Diego Garcia H**	**76.66**	**83**	T	T	15 01 19.8	
	baz=217,slow=75,SNR=5.5						
ROSC	**El Rosal**	**81.16**	**290**	LR	LR	14 12 15.5	
	comp=Z,314nm,18.2s,baz=123,slow=35						
RPZ	**Rata Peaks**	**84.37**	**177**	LR	LR	14 12 33.0	
	comp=Z,138nm,20.4s,baz=194,slow=34						
KEST	**Kesra**	**88.54**	**12**	LR	LR	14 14 25.5	
	comp=Z,163nm,18.6s,baz=252,slow=33						
ESDC	**Sonseca Array**	**91.55**	**1**	LR	LR	14 15 37.0	
	comp=Z,97nm,19.1s,baz=320,slow=33						
ASAR	**Alice Springs**	**96.45**	**143**	P	**P**	**13 39 00.1**	**-1.8**
	0.3nm,0.9s,baz=204,slow=5.9,SNR=3.2						
BRTR	**Keskin Array B**	**97.66**	**29**	LR	LR	14 23 11.4	
	comp=Z,134nm,20.5s,baz=220,slow=35						
TBI	**Tubuai**	**98.46**	**213**	*e*LR	LR	14 11 20.3	
	comp=Z,145nm,28.5s						
PPT2	**Papeete2**	**103.83**	**215**	*e*LR	LR	14 13 50.9	
	comp=Z,137nm,23.8s						
DZM	**Mont Dzumac**	**105.66**	**172**	*e*LR	LR	14 14 43.0	
	comp=Z,236nm,27.6s						
KSH	**Kashi**	**115.34**	**58**	PKP	**PKPdf**	**13 44 17.5**	**+3.8**
KSH				PP	**PP**	**13 45 20.5**	**+5.1**
KSH				PKS	**PKSdf**	**13 47 50.0**	**-0.5**
KSH				SKS	**SKSdf**	**13 51 26.3**	**+0.7**
KSH				SKKS	**SKKSac**	**13 52 12.0**	**-4.0**
KSH				LR	LR		
	comp=N,180nm,5.4s						
KSH				LR	LR		
	comp=E,130nm,6.3s						
KSH				LR	LR		
	comp=Z,270nm,8.4s						
MKAR	**Makanchi Array**	**123.75**	**56**	PKP	**PKPdf**	**13 44 28.5**	**-1.1**
	0.6nm,0.8s,baz=242,slow=2.6,SNR=3.9						
WMQ	**Urumqi**	**124.59**	**61**	*e*PKP	**PKPdf**	**13 44 33.0**	**+1.7**
WMQ				LR	LR		
	comp=N,180nm,23.7s						
WMQ				LR	LR		
	comp=E,230nm,22.1s						
WMQ				LR	LR		
	comp=Z,180nm,17.3s						
CD2	**Chengdu**	**125.17**	**83**	PKP	**PKPdf**	**13 44 33.0**	**+0.2**
GTA	**Gaotai**	**128.55**	**73**	*e*PKP	**PKPdf**	**13 44 37.5**	**-1.6**
LZH	**Lanzhou**	**128.76**	**79**	*e*PKP	**PKPdf**	**13 44 41.0**	**+1.3**
PDAR	**Pinedale Array**	**130.15**	**291**	PKP	**PKPdf**	**13 44 39.9**	**-2.3**
	0.9nm,1.1s,baz=162,slow=3.6,SNR=4.1						
NJ2	**Nanjing**	**135.23**	**94**	*e*PKP	**PKPdf**	**13 44 52.3**	**+0.5**
HHC	**Hu-ho-hao-te**	**136.46**	**79**	*e*PKP	**PKPdf**	**13 44 56.3**	**+2.4**
SONM	**Songino Array**	**137.41**	**68**	PKP	**PKPdf**	**13 44 53.8**	**-1.7**
	0.2nm,0.7s,baz=197,slow=2.6,SNR=1.7						
YKA	**Yellowknife Ar**	**142.43**	**314**	PKhKP	PKPpre	13 44 58.7	
	1.1nm,1.0s,baz=106,slow=2.3,SNR=4.4						
KSAR	**Wonju Array Be**	**144.35**	**96**	PKP	**PKPab**	**13 45 05.1**	**-1.1**
KSRS	**Korea Array**	**144.38**	**96**	PKP	**PKPab**	**13 45 05.1**	**-1.2**
	0.5nm,0.8s,baz=229,slow=1.1,SNR=2.8						
HIA	**Hailar**	**145.83**	**73**	*e*PKPdf	**PKPdf**	**13 45 10.1**	**-0.3**
CN2	**Changchun**	**146.59**	**85**	*e*PKPbc	**PKPdf**	**13 45 11.3**	**-0.5**
MJAR	**Matsushiro Arr**	**149.98**	**107**	PKPbc	**PKPdf**	**13 45 18.8**	**+1.1**
	6.7nm,0.8s,baz=243,slow=1.4,SNR=5.8						
USRK	**Ussuriysk Ar.**	**150.82**	**89**	PKPbc	**PKPbc**	**13 45 23.5**	**-0.7**
	0.8nm,0.6s,baz=241,slow=1.5,SNR=4.1						
INK	**Inuvik**	**150.85**	**323**	PKPbc	**PKPdf**	**13 45 22.8**	**+4.9**
	4.4nm,0.6s,baz=26,slow=2.0,SNR=26						
INK	**Inuvik**	**150.85**	**323**	*e*PKPbc	**PKPdf**	**13 45 23.0**	**+5.1**
TIXI	**Tiksi**	**152.10**	**29**	*e*PKPab	**PKPab**	**13 45 38.8**	**+2.7**
KLR	**Kul'dur**	**152.97**	**79**	PKPbc	**PKPdf**	**13 45 26.9**	**+5.2**
	0.5nm,0.5s,baz=236,slow=7.3,SNR=3.3						
IL1	**Eielson Array**	**156.76**	**318**	*e*PKPab	**PKPab**	**13 45 56.7**	**+0.6**
ILAR	**Eielson Array**	**156.76**	**318**	PKPab	**PKPab**	**13 45 54.1**	**-2.1**
	0.5nm,0.8s,baz=69,slow=3.5,SNR=7.3						

*IDC **30** 13:25:33.8±0.6, 10.˚35N×126.˚87E, h0km, mb3.9/18, mb1 4.1/18, mb1mx4.0/40, mbtmp3.9/18, MS3.1/1, Ms1 3.1/1, ms1mx2.5/34, Error ellipse: s-maj=29.5km s-min=13.6km az=79.0*
*NEIC **30** 13:25:34.2±3.4, 10.˚36N×127.˚03E, h7km±21km, mb4.5/10, Error ellipse: s-maj=8.4km s-min=5.5km az=71.0*
*MAN **30** 13:25:40.7, 10.˚01N×126.˚55E, h99km, mb5.3, ML4.3, MS4.5*

ISC 30 13:25:35.4±1.9, 10.˚30N±0.˚06×126.˚87E±0.˚07, h15km±11km, n52, σ1.˚919/59, mb4.0/23, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.80**	**223**	*e*P	**Pn**	**13 26 06.6**	**+0.6**
BUTP				*e*S	**Sn**	**13 26 24.7**	**-4.0**
BESP	**Borongan**	**1.91**	**313**	*e*P	**Pg**	**13 26 12.2**	**+0.1**
BESP				*e*S	**Sg**	**13 26 36.6**	**-0.3**
MSLP	**Maasin**	**1.98**	**265**	*e*P	**Pb**	**13 26 10.2**	**-1.0**
MSLP				*e*S	**Sn**	**13 26 31.5**	**-1.6**
PLP	**Palo**	**2.04**	**295**	*e*P	**Pn**	**13 26 08.7**	**-0.6**
PLP				*e*S	**Sn**	**13 26 30.8**	**-3.9**
OCLP	**Ormoc**	**2.34**	**289**	*e*P	**Pb**	**13 26 17.3**	**0.0**
OCLP				*e*S	**Sn**	**13 26 42.2**	**+0.2**
RCP	**Roxas**	**4.24**	**288**	*e*P	**Pn**	**13 26 41.0**	**+1.5**
YHNB	**Yeheng**	**15.22**	**341**	*e*Pn	**Pn**	**13 29 10.3**	**+0.3**
	40nm,1.3s						
GUMO	**Guam**	**17.91**	**78**	*e*Pn	**Pn**	**13 29 40.2**	**-4.1**
	950nm,1.8s						
KSM	**Kuching**	**18.64**	**243**	*e*P	**Pn**	**13 29 54.5**	**+1.3**
	73nm,1.8s						
JNU	**Nakatsue**	**23.01**	**9**	P	**P**	**13 30 39.5**	**-0.4**
	6.9nm,0.8s,baz=181,slow=4.3,SNR=5.2						
JNU	**Nakatsue**	**23.01**	**9**	*e*P	**P**	**13 30 39.4**	**-0.6**
	9.5nm,0.9s						
JHJ	**Hachijo jima 2**	**25.64**	**26**	LR	LR	13 41 22.8	
	comp=Z,40nm,19.1s,baz=316,slow=37						
KSAR	**Wonju Array Be**	**27.04**	**2**	P	**P**	**13 31 17.8**	**+0.6**
KSRS	**Korea Array**	**27.05**	**2**	P	**P**	**13 31 17.8**	**+0.5**
	2.0nm,0.9s,baz=176,slow=10,SNR=10						
CM31	**Chiang Mai Arr**	**28.21**	**290**	*e*P	**P**	**13 31 28.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**28.21**	**290**	P	**P**	**13 31 28.4**	**+0.4**
	0.2nm,0.3s,baz=115,slow=6.1,SNR=4.4						
WR1	**Warramunga Arr**	**30.94**	**166**	*e*P	**P**	**13 31 52.4**	**+0.3**
	12nm,1.5s						
WR1				*e*PcP	**PcP**	**13 34 48.5**	**0.0**
WRA	**Warramunga Arr**	**30.94**	**166**	P	**P**	**13 31 52.4**	**+0.3**
	0.5nm,0.6s,baz=347,slow=9.5,SNR=7.0						
WRA				PcP	**PcP**	**13 34 48.5**	**0.0**
	0.2nm,0.8s,baz=342,slow=2.9,SNR=4.9						
USRK	**Ussuriysk Ar.**	**34.07**	**7**	P	**P**	**13 32 19.9**	**+0.7**
	2.3nm,0.8s,baz=205,slow=6.4,SNR=5.5						
AS31	**Alice Springs**	**34.45**	**169**	*e*P	**P**	**13 32 23.7**	**+0.9**
	2.2nm,1.5s						
ASAR	**Alice Springs**	**34.45**	**169**	P	**P**	**13 32 23.9**	**+1.0**
	0.7nm,0.5s,baz=345,slow=7.7,SNR=16						
ASAR				PcP	**PcP**	**13 34 59.5**	**+1.3**
	0.5nm,0.6s,baz=350,slow=2.7,SNR=6.1						
SONA0	**Songino Array**	**41.20**	**339**	*e*P	**P**	**13 33 20.1**	**+0.4**
SONM	**Songino Array**	**41.20**	**339**	P	**P**	**13 33 20.1**	**+0.4**
	0.7nm,0.8s,baz=157,slow=8.0,SNR=5.3						
STKA	**Stephens Creek**	**44.24**	**162**	P	**P**	**13 33 46.1**	**+1.7**
	0.9nm,0.6s,baz=324,slow=4.8,SNR=2.9						
STKA	**Stephens Creek**	**44.24**	**162**	*e*P	**P**	**13 33 44.5**	**+0.1**
	4.0nm,1.6s						
MK01	**Makanchi Array**	**52.34**	**322**	*e*P	**P**	**13 34 47.5**	**+0.7**
MK31	**Makanchi Array**	**52.36**	**322**	*e*P	**P**	**13 34 47.8**	**+0.8**
MK32	**Makanchi Array**	**52.36**	**322**	*e*P	**P**	**13 34 48.4**	**+1.4**
MKAR	**Makanchi Array**	**52.36**	**322**	P	**P**	**13 34 48.4**	**+1.4**
	2.7nm,0.7s,baz=119,slow=8.4,SNR=29						
MKAR	**Makanchi Array**	**52.36**	**322**	*e*P	**P**	**13 34 47.7**	**+0.7**
	20nm,0.8s						
MAKZ	**Makanchi**	**52.55**	**322**	*e*P	**P**	**13 34 48.0**	**-0.5**
	3.3nm,0.8s						
ZALV	**Zalesovo Beam**	**54.88**	**331**	P	**P**	**13 35 05.6**	**+0.3**
	0.7nm,0.4s,baz=127,slow=9.3,SNR=5.4						
ZAA1	**Zalesovo Array**	**54.89**	**331**	*e*P	**P**	**13 35 05.6**	**+0.3**
SEY	**Seymchan**	**55.65**	**14**	P	**P**	**13 35 11.2**	**+0.6**
	0.8nm,0.8s,baz=162,slow=19,SNR=2.8						
KURK	**Kurchatov**	**56.38**	**325**	*e*P	**P**	**13 35 16.6**	**+0.6**
	8.5nm,0.9s						
TIXI	**Tiksi**	**61.31**	**1**	P	**P**	**13 35 50.1**	**0.0**
	1.1nm,0.7s,baz=160,slow=4.0,SNR=3.8						
ABKAR	**Akbulak array**	**67.24**	**319**	*e*P	**P**	**13 36 29.1**	**-0.2**
ARU	**Arti**	**69.53**	**327**	*e*P	**P**	**13 36 43.1**	**-0.3**
	4.1nm,0.8s						
ILAR	**Eielson Array**	**79.16**	**26**	P	**P**	**13 37 39.0**	**-0.4**
	0.4nm,0.8s,baz=244,slow=7.5,SNR=5.8						
ILB	**Eielson Array**	**79.16**	**26**	*e*P	**P**	**13 37 38.6**	**-0.9**
ARA0	**ARCESS Array S**	**84.37**	**340**	*e*P	**P**	**13 38 07.2**	**+0.4**
ARCES	**ARCESS Array B**	**84.37**	**340**	P	**P**	**13 38 07.2**	**+0.4**
	3.9nm,0.9s,baz=76,slow=5.1,SNR=4.4						
BR101	**Keskin Array S**	**85.97**	**309**	*e*P	**P**	**13 38 15.8**	**+0.1**
BRTR	**Keskin Array B**	**85.97**	**309**	P	**P**	**13 38 15.8**	**+0.1**
	0.8nm,0.7s,baz=85,slow=3.3,SNR=3.8						
FIA0	**FINESS Array S**	**86.14**	**332**	*e*P	**P**	**13 38 16.2**	**+0.4**
FINES	**FINESS Array B**	**86.14**	**332**	P	**P**	**13 38 16.2**	**+0.4**
	5.1nm,1.0s,baz=52,slow=7.5,SNR=3.7						
AKASG	**Malin Array Be**	**86.91**	**321**	P	**P**	**13 38 19.1**	**-0.8**
	0.1nm,0.3s,baz=64,slow=4.4,SNR=4.4						
YKB5	**Yellowknife Ar**	**93.49**	**24**	*e*P	**P**	**13 38 48.8**	**-1.7**
YKA	**Yellowknife Ar**	**93.49**	**24**	P	**P**	**13 38 51.0**	**+0.6**
	0.4nm,0.7s,baz=300,slow=4.8,SNR=7.6						
TORD	**Torodi Ar. Bea**	**120.80**	**292**	PKP	**PKPdf**	**13 44 28.4**	**+0.3**
	0.3nm,0.6s,baz=54,slow=2.5,SNR=2.6						
TOA1	**Torodi Ar. Sit**	**120.80**	**292**	*e*PKPdf	**PKPdf**	**13 44 28.4**	**+0.3**
PLCA	**Paso Flores**	**146.00**	**156**	PKPbc	**PKPab**	**13 45 16.1**	**+0.5**
	1.9nm,0.7s,baz=245,slow=3.8,SNR=9.7						

*IDC **30** 13:32:50.4±1.2,22.˚74S×112.˚99W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.8/24, mbtmp3.8/4, MS3.7/3, Ms1 3.7/3, ms1mx3.2/23, Error ellipse: s-maj=46.3km s-min=38.6km az=36.0*

*NEIC **30** 13:32:51.9±0.6,22.˚73S×112.˚96W, h10km, mb4.4/2, Error ellipse: s-maj=27.6km s-min=11.7km az=61.0*

ISC 30 13:32:51.8±1.0,22.˚7S±0.˚2×113.˚0W±0.˚3, h10km, n22, σ0.967/19, mb4.0/5, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**5.49**	**144**	LR	LR	13 35 49.3	
	comp=Z,394nm,18.1s,baz=300,slow=33						
RPN	**Rapa Nui**	**5.49**	**144**	*e*Pn	**Pn**	**13 34 13.7**	**0.0**
LPAZ	**La Paz**	**42.64**	**90**	P	**P**	**13 40 50.2**	**+0.7**
	1.6nm,0.9s,baz=272,slow=7.7,SNR=4.1						
LPAZ	**La Paz**	**42.64**	**90**	*e*P	**P**	**13 40 49.6**	**+0.1**
	3.5nm,1.1s						
NV01	**Mina Array Sit**	**61.04**	**355**	*e*P	**P**	**13 43 06.7**	**+0.8**
NVAR	**Mina Array Bea**	**61.04**	**355**	P	**P**	**13 43 07.6**	**+1.7**
	1.0nm,0.7s,baz=191,slow=9.2,SNR=7.1						
NVAR				LR	LR	14 05 13.0	
	comp=Z,45nm,18.9s,baz=180,slow=32						
PD31	**Pinedale Array**	**65.25**	**3**	*e*P	**P**	**13 43 33.1**	**-0.7**
PDAR	**Pinedale Array**	**65.25**	**3**	P	**P**	**13 43 33.4**	**-0.4**
	0.3nm,0.5s,baz=165,slow=6.2,SNR=4.0						
BMO	**Blue Mountains**	**67.37**	**357**	*e*P	**P**	**13 43 46.7**	**-0.4**
	7.3nm,1.0s						
ULM	**Lac du Bonnet**	**74.22**	**11**	P	**P**	**13 44 28.4**	**-0.2**
	1.2nm,0.7s,baz=185,slow=9.7,SNR=2.8						
H11S2	**WAKE ISLAND Hy**	**88.49**	**291**	T	T	15 23 60.0	
	baz=114,slow=75,SNR=9.8						
H11S1	**WAKE ISLAND Hy**	**88.50**	**291**	T	T	15 23 58.7	
	baz=114,slow=75,SNR=5.1						
H11S3	**WAKE ISLAND Hy**	**88.50**	**291**	T	T	15 23 59.3	
	baz=114,slow=75,SNR=4.7						
MAW	**Mawson**	**89.89**	**178**	LR	LR	14 20 53.3	
	comp=Z,72nm,21.2s,baz=212,slow=32						
ZAA1	**Zalesovo Array**	**146.04**	**341**	*e*PKPdf	**PKPdf**	**13 52 30.7**	**-0.1**
ZALV	**Zalesovo Beam**	**146.04**	**341**	PKPbc	**PKPdf**	**13 52 30.7**	**-0.1**
	1.5nm,0.7s,baz=10,slow=2.6,SNR=7.6						
BR101	**Keskin Array S**	**147.06**	**51**	*e*PKPdf	**PKPbc**	**13 52 34.3**	**-1.0**
BRTR	**Keskin Array B**	**147.06**	**51**	PKPbc	**PKPbc**	**13 52 34.3**	**-1.0**
	0.6nm,0.6s,baz=291,slow=2.6,SNR=3.2						
CMAR	**Chiang Mai Arr**	**149.84**	**268**	PKPbc	**PKPbc**	**13 52 43.4**	**+0.4**
	1.4nm,0.8s,baz=91,slow=0.3,SNR=10						
KBZ	**Khabaz**	**151.11**	**38**	PKPbc	**PKPbc**	**13 52 45.0**	**-0.2**
	1.1nm,0.7s,baz=221,slow=11,SNR=2.6						
MK32	**Makanchi Array**	**153.01**	**336**	*e*PKPdf	**PKPdf**	**13 52 42.3**	**+0.1**
MK32				*e*PKPbc	**PKPbc**	**13 52 49.2**	**-0.2**
MKAR	**Makanchi Array**	**153.01**	**336**	PKP	**PKPdf**	**13 52 42.3**	**+0.1**
	0.3nm,0.8s,baz=119,slow=6.2,SNR=3.6						
MKAR				PKPbc	**PKPbc**	**13 52 49.2**	**-0.2**
	1.4nm,0.6s,baz=39,slow=2.3,SNR=17						

*IDC **30** 13:36:57.8±1.1, 16.˚55N×96.˚01E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/44, mbtmp3.5/6, ML3.6/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/30, Error ellipse: s-maj=21.0km s-min=20.6km az=162.0*
*ISCJB **30** 13:37:00.7±1.0, 16.˚6N±0.˚1×95.˚89E±0.˚07, h20km, mb3.5/5, Error ellipse: s-maj=19.4km s-min=7.1km az=21.6*
*

MJAR	**Matsushiro Arr**	**2.97**	**256**	Pn	**Pn**	**13 44 19.1**	**+2.0**
	0.2nm,0.3s,baz=66,slow=15,SNR=13						
MJAR				Sn	**Sb**	**13 44 58.5**	**-0.6**
	0.1nm,0.3s,baz=75,slow=16,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**28.02**	**122**	T	T	14 18 47.4	
	baz=314,slow=75,SNR=30						
H11N1	**WAKE ISLAND Hy**	**28.03**	**122**	T	T	14 18 48.5	
	baz=314,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**28.04**	**122**	T	T	14 18 50.1	
	baz=314,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**28.75**	**124**	T	T	14 19 41.2	
	baz=316,slow=74,SNR=10						
H11S3	**WAKE ISLAND Hy**	**28.75**	**124**	T	T	14 19 42.1	
	baz=316,slow=74,SNR=13						
H11S2	**WAKE ISLAND Hy**	**28.76**	**124**	T	T	14 19 42.3	
	baz=316						
MKAR	**Makanchi Array**	**44.24**	**302**	P	**P**	**13 51 37.5**	**-1.5**
	0.2nm,0.5s,baz=95,slow=9.6,SNR=2.7						
HNR	**Honiara**	**49.50**	**156**	LR	LR	14 10 40.9	
	comp=Z,67nm,19.7s,baz=210,slow=33						
WRA	**Warramunga Arr**	**57.36**	**188**	P	**P**	**13 53 18.5**	**+0.6**
	0.4nm,1.0s,baz=4.8,slow=7.0,SNR=3.0						

*ISCJB **30** 13:51:58.0±1.6, 37.0N±0.2×65.1E±0.1, h10km, mb3.0/2, Error ellipse: s-maj=26.1km s-min=10.7km az=152.8*
*NNC **30** 13:52:00.6±6.2, 37.08N×65.12E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=49.1km s-min=45.4km az=10.0*
*IDC **30** 13:52:17.5±2.8, 40.29N×63.37E, h0km, mb3.0/1, mb1 3.2/4, mb1mx3.1/27, mbtmp3.2/4, ML2.8/3, Error ellipse: s-maj=102.9km s-min=21.5km az=156.0*

ISC 30 13:51:58.8±2.1, 36.8N±0.2×65.1E±0.1, h10km, n7, σ0§80/9, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEYT	**Alibeck**	**5.66**	**283**	Pn	Pn	13 53 30.3	+7.4
	0.2nm,0.3s,baz=88,slow=13,SNR=2.3						
SFK	**Sufi-Kurgan**	**7.34**	**62**	⇑Pn	**Pn**	**13 53 46.2**	**-0.1**
	1.8nm,0.6s						
SFK				⇑Sn	**Sn**	**13 55 10.1**	**+0.4**
	1.9nm,0.4s						
KK31	**Karatay Array**	**7.54**	**32**	⇑Pn	**Pn**	**13 53 49.5**	**+0.8**
	0.5nm,0.4s,baz=222,slow=16,SNR=4.9						
KK31				⇑Sn	**Sn**	**13 55 13.9**	**-0.3**
	0.3nm,0.3s,baz=218,slow=28,SNR=2.8						
MNAS	**Manas**	**8.05**	**43**	⇓Pn	**Pn**	**13 53 56.4**	**+0.5**
	1.9nm,0.4s						
MNAS				⇓Sn	**Sn**	**13 55 26.4**	**-0.6**
	2.1nm,0.5s						
MKAR	**Makanchi Array**	**16.22**	**47**	Pn	**Pn**	**13 55 47.5**	**+0.8**
	0.1nm,0.3s,baz=241,slow=14,SNR=6.6						
ZALV	**Zalesovo Beam**	**21.91**	**32**	P	**P**	**13 56 50.8**	**-1.2**
	0.2nm,0.3s,baz=224,slow=12,SNR=5.0						
BRTR	**Keskin Array B**	**24.79**	**286**	P	**P**	**13 57 21.0**	**0.0**
	0.3nm,0.5s,baz=87,slow=12,SNR=2.3						

IDC 30 14:00:54.8±1.1, 17.62S×173.72W, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.2/30, mbtmp3.7/6, Error ellipse: s-maj=51.2km s-min=22.1km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**22.07**	**200**	P	P	14 05 51.1	-0.2
	6.5nm,0.6s,baz=337,slow=4.2,SNR=14						
WRA	**Warramunga Arr**	**49.08**	**259**	P	P	14 09 43.7	-0.5
	0.4nm,0.4s,baz=98,slow=7.3,SNR=18						
ASAR	**Alice Springs**	**49.17**	**254**	P	P	14 09 45.2	+0.3
	1.3nm,0.5s,baz=90,slow=8.9,SNR=89						
ASAR				PcP	PcP	14 11 08.8	+0.4
	0.2nm,0.8s,baz=100,slow=2.7,SNR=2.7						
NVAR	**Mina Array Bea**	**76.18**	**42**	P	P	14 12 46.3	+1.1
	0.2nm,0.5s,baz=239,slow=8.1,SNR=3.4						
PDAR	**Pinedale Array**	**84.12**	**42**	P	P	14 13 26.6	-1.4
	0.1nm,0.4s,baz=228,slow=4.7,SNR=3.2						
ILAR	**Eielson Array**	**84.67**	**11**	P	P	14 13 29.0	-0.9
	0.3nm,0.9s,baz=223,slow=6.1,SNR=2.7						

*ISCJB **30** 14:10:44.9±0.4, 4.82N±0.03×78.41W±0.03, h21km, Error ellipse: s-maj=5.4km s-min=4.0km az=135.9*
*NEIC **30** 14:10:44.9±0.5, 4.81N×78.54W, h10km, mb4.5/3, Error ellipse: s-maj=11.3km s-min=8.8km az=224.0*
*IDC **30** 14:10:45.4±1.0, 4.99N×78.44W, h0km, mb3.8/6, mb1 4.1/9, mb1mx3.8/27, mbtmp3.9/9, ML3.1/3, Error ellipse: s-maj=36.8km s-min=19.8km az=41.0*
*RSNC **30** 14:10:48.6±1.2, 4.78N×78.37W, h32km±29km, ML3.5, Mw3.8*

ISC 30 14:10:46.6±0.6, 4.80N±0.05×78.40W±0.06, h21km, n44, σ1§77/51, 2C-3D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MALC	**Bahia Malaga**	**1.31**	**126**	⇓*i*P	**Pn**	**14 11 08.7**	**-1.1**
MALC				*i*		14 11 09.0	
	comp=Z,551nm,0.3s						
MALC				*e*S	**Sn**	**14 11 25.5**	**-1.1**
PLMC	**San Jos del P**	**2.11**	**87**	⇓*i*P	**Pn**	**14 11 20.4**	**-0.3**
PLMC				*e*S	**Sn**	**14 11 45.4**	**-1.1**
YOTC	**Yotoco, Valle**	**2.20**	**111**	⇑*i*P	**Pn**	**14 11 20.9**	**-1.1**
YOTC				*i*		14 11 21.4	
	comp=Z,162nm,0.3s						
ANIL	**Santa Ana**	**3.00**	**96**	⇑*i*P	**Pn**	**14 11 33.5**	**+0.2**
ANIL				*e*S	**Sn**	**14 12 07.4**	**-1.3**
DBBC	**Dabeiba**	**3.10**	**44**	*e*S	**Sn**	**14 12 10.1**	**-0.8**
MARP	**Paez Belalcaza**	**3.11**	**128**	*e*P	**Pn**	**14 11 35.1**	**+0.3**
PCON	**Cinco Dias**	**3.16**	**141**	*e*P	**Pn**	**14 11 36.2**	**+0.5**
PCON				*i*		14 12 18.0	
	comp=Z,108nm,0.5s						
HELC	**Santa Helena**	**3.17**	**64**	*e*P	**Pn**	**14 11 36.5**	**+0.8**
HELC				*e*S	**Sn**	**14 12 14.2**	**+1.1**
SOTA	**Rioblanco**	**3.19**	**146**	⇓*i*P	**Pn**	**14 11 35.8**	**-0.2**
SOTA				*e*S	**Sn**	**14 12 12.3**	**-1.4**
SOTA				*i*		14 12 14.3	
	comp=Z,174nm,0.5s						
AZU	**Azuero**	**3.51**	**328**	*e*S	**Sn**	**14 12 20.4**	**-0.6**
NORC	**Norcasia**	**3.59**	**78**	*e*S	**Sn**	**14 12 22.6**	**-0.5**
BETC	**Betania**	**3.62**	**125**	*e*P	**Pn**	**14 11 43.0**	**+1.4**
CMBC	**Cumbal**	**3.87**	**172**	*e*P	**Pn**	**14 11 45.8**	**+0.4**
ROSC	**El Rosal**	**4.06**	**89**	Pn	**Pn**	**14 11 51.3**	**+3.4**
	comp=Z,8.4nm,0.3s,baz=338,slow=18,SNR=8.8						
ROSC				Sn	**Sn**	**14 12 36.0**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=307,slow=20,SNR=1.7						
ROSC	**El Rosal**	**4.06**	**89**	*e*Pn	**Pn**	**14 11 50.9**	**+2.9**
ROSC				Sn	**Sn**	**14 12 36.0**	**+1.0**
FLOC	**Florencia**	**4.20**	**139**	*e*P	**Pn**	**14 11 50.5**	**+0.9**
FLOC				*e*S	**Sn**	**14 12 38.1**	**-0.1**
OTAV	**Otavalo**	**4.53**	**181**	*e*Pn	**Pn**	**14 11 53.6**	**-0.8**
JTS	**JuntasAbangare**	**8.49**	**310**	*e*Pn	**Pn**	**14 12 45.5**	**-2.9**
SDV	**Santo Domingo**	**8.71**	**62**	Pn	**Pn**	**14 12 52.8**	**+1.1**
	comp=Z,1.9nm,0.3s,baz=243,slow=11,SNR=21						
SDV				Sn	**Sn**	**14 14 24.4**	**-5.1**
	comp=Z,0.2nm,0.3s,baz=290,slow=12,SNR=1.3						
SDV	**Santo Domingo**	**8.71**	**62**	*e*Pn	**Pn**	**14 12 52.4**	**+0.7**
SDV				*e*Sn	**Sn**	**14 14 24.4**	**-5.1**
LGNH	**Logne**	**14.76**	**22**	*e*Pn	**Pn**	**14 14 13.0**	**-1.3**
SVB	**Belmont**	**18.90**	**62**	*e*P	**Pn**	**14 15 07.3**	**+0.6**
	comp=Z,450nm,2.0s						
PTGA	**Pitinga**	**19.21**	**106**	P	**Pn**	**14 15 10.9**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=308,slow=19,SNR=2.9						
PTGA	**Pitinga**	**19.21**	**106**	*e*P	**P**	**14 15 09.0**	**-0.5**
	comp=Z,6.6nm,1.1s						
LPAZ	**La Paz**	**23.28**	**154**	P	**P**	**14 15 58.9**	**+5.2**
	comp=Z,1.0nm,0.6s,baz=27,slow=9.1,SNR=4.5						
LPAZ	**La Paz**	**23.28**	**154**	*e*P	**P**	**14 15 55.2**	**+1.4**
SMCO	**Snowmass**	**42.91**	**327**	*e*P	**P**	**14 18 42.4**	**-2.0**
	comp=Z,7.7nm,0.8s						
PD31	**Pinedale Array**	**46.83**	**329**	*e*P	**P**	**14 19 14.7**	**-0.7**
PDAR	**Pinedale Array**	**46.83**	**329**	P	**P**	**14 19 16.8**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=120,slow=10.0,SNR=4.2						
ULM	**Lac du Bonnet**	**47.63**	**345**	P	**P**	**14 19 21.0**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=114,slow=7.3,SNR=3.4						
NVAR	**Mina Array Bea**	**49.33**	**318**	P	**P**	**14 19 37.1**	**+2.4**
	comp=Z,0.7nm,0.6s,baz=131,slow=7.3,SNR=6.2						
E09A	**Wood Farm, Sta**	**53.90**	**327**	*e*P	**P**	**14 20 06.3**	**-2.3**
	comp=Z,21nm,0.8s						
YKA	**Yellowknife Ar**	**63.46**	**342**	P	**P**	**14 21 15.4**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=134,slow=6.3,SNR=35						
YKB5	**Yellowknife Ar**	**63.46**	**342**	*e*P	**P**	**14 21 14.8**	**+0.1**
YKW3	**Yellowknife Ar**	**63.51**	**342**	*e*P	**P**	**14 21 15.5**	**+0.4**
	comp=Z,9.8nm,0.3s						
ILAR	**Eielson Array**	**76.61**	**336**	P	**P**	**14 22 35.8**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=78,slow=4.5,SNR=5.0						

SONA0	**Songino Array**	**127.42**	**356**	*e*PKPdf	**PKiKP**	**14 29 51.6**	**+0.7**
SONM	**Songino Array**	**127.42**	**356**	PKP	**PKiKP**	**14 29 51.6**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=90,slow=1.4,SNR=3.1						
KSRS	**Korea Array**	**131.34**	**332**	PKP	**PKiKP**	**14 29 58.9**	**0.0**
	comp=Z,0.4nm,0.4s,baz=103,slow=11,SNR=3.2						
KSAR	**Wonju Array Be**	**131.37**	**332**	PKP	**PKiKP**	**14 29 58.9**	**0.0**
ASAR	**Alice Springs**	**143.66**	**236**	PKhKP	PKPpre	14 30 18.1	
	comp=Z,1.2nm,0.7s,baz=120,slow=3.3,SNR=18						
WB2	**Warramunga Arr**	**144.75**	**242**	*e*PKPdf	**PKPab**	**14 30 21.7**	**-0.1**
WR1	**Warramunga Arr**	**144.76**	**242**	*e*PKPdf	PKPbc	14 30 22.3	+0.4
WRA	**Warramunga Arr**	**144.76**	**242**	PKP	PKPbc	14 30 22.3	+0.4
	comp=Z,1.1nm,0.9s,baz=104,slow=2.9,SNR=18						

IDC 30 14:17:07.3±1.3, 13.41N×93.13E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/37, mbtmp3.3/5, ML3.7/1, Error ellipse: s-maj=47.0km s-min=23.7km az=51.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.52**	**47**	Pn	Pn	14 18 58.3	0.0
	0.3nm,0.3s,baz=234,slow=15,SNR=4.0						
MKAR	**Makanchi Array**	**34.50**	**347**	P	P	14 23 56.8	-0.3
	0.5nm,0.7s,baz=162,slow=8.4,SNR=4.8						
WRA	**Warramunga Arr**	**52.37**	**128**	P	P	14 26 21.1	-0.4
	0.3nm,0.9s,baz=308,slow=8.5,SNR=3.0						
ASAR	**Alice Springs**	**54.30**	**132**	P	P	14 26 36.3	+0.6
	0.1nm,0.5s,baz=306,slow=6.6,SNR=5.9						
BRTR	**Keskin Array B**	**58.15**	**309**	P	P	14 27 03.0	-0.2
	0.8nm,0.8s,baz=104,slow=10,SNR=4.3						

IDC 30 14:20:28.1±10.0, 10.53N×127.31E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/32, mbtmp3.2/3, Error ellipse: s-maj=821.9km s-min=28.2km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.06**	**167**	P	P	14 26 48.0	0.0
	0.4nm,0.9s,baz=330,slow=10,SNR=3.0						
ASAR	**Alice Springs**	**34.59**	**169**	P	P	14 27 18.9	-0.1
	0.2nm,0.7s,baz=354,slow=7.1,SNR=5.0						
MKAR	**Makanchi Array**	**52.45**	**322**	P	P	14 29 42.6	-0.1
	0.5nm,0.7s,baz=114,slow=7.9,SNR=5.9						

*DDA **30** 14:44:07.2, 39.88N×33.14E, h7km±2km, ML2.5*

ISC 30 14:44:07.2±1.2, 39.87N±0.04×33.13E±0.04, h5km±11km, n11, σ0§79/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANTO	**Ankara**	**0.26**	**271**	PG	**Pg**	**14 44 12.2**	**-0.1**
ANTO				SG	**Sg**	**14 44 16.5**	**+0.7**
LOD	**Lodumlu**	**0.28**	**275**	PG	**Pg**	**14 44 12.3**	**-0.5**
LOD				SG	**Sg**	**14 44 16.3**	**-0.2**
AFSR	**Afar-Bala (An**	**0.42**	**187**	PG	**Pg**	**14 44 16.1**	**+0.8**
AFSR				SG	**Sb**	**14 44 23.5**	**-0.4**
DELI	**KIRIKKALE**	**0.62**	**77**	*i* P	**Pg**	**14 44 19.4**	**+0.3**
DELI				*i* S	**Sb**	**14 44 28.8**	**-0.9**
ELDT	**Eldivan**	**0.66**	**20**	IAML_P			
	comp=Z,934nm,0.2s						
ELDT				*i* P	**Pb**	**14 44 20.8**	**-0.6**
KKUL	**Konya-Kulu**	**0.71**	**194**	IAML_P			
	comp=Z,151nm,0.1s						
KKUL				*e*P	**Pg**	**14 44 21.8**	**+0.9**
KKUL				*i* S	**Sn**	**14 44 34.9**	**-0.5**
CMDR	**Camlidere-ANKA**	**0.81**	**321**	*i* P	**Pn**	**14 44 25.8**	**+0.4**
CMDR				*i* S	**Sn**	**14 44 39.6**	**+1.7**
KULU	**Kulu**	**0.83**	**187**	*e*PG	**Pg**	**14 44 22.2**	**-0.9**
CDAG	**Cicekdag**	**0.98**	**104**	IAML_P			
	comp=Z,368nm,0.1s						
CDAG				*i* P	**Pb**	**14 44 26.5**	**-0.3**
YAYX	**Yaylak**	**1.06**	**150**	*e*PG	**Pg**	**14 44 28.0**	**+0.4**
BCAM	**Yenicaga**	**1.25**	**320**	IAML_P			
	comp=Z,639nm,0.2s						
BCAM				*i* P	**Pn**	**14 44 31.4**	**-0.1**

*ISCJB **30** 15:05:12.9±0.2, 62.40N±0.03×124.70W±0.05, h8km, mb4.2/30, MS3.3/4, Error ellipse: s-maj=4.7km s-min=2.7km az=34.4*
*IDC **30** 15:05:14.9±0.6, 62.34N×124.69W, h0km, mb3.9/8, mb1 4.1/13, mb1mx3.8/51, mbtmp3.9/13, ML3.6/5, MS3.4/8, Ms1 3.4/8, ms1mx3.0/63, Error ellipse: s-maj=11.7km s-min=8.2km az=176.0*
*NEIC **30** 15:05:15.0±0.0, 62.36N×124.58W, h1km, mb4.2/43, MW4.3(OTT), After OTT.*
*PGC **30** 15:05:15.0±0.0, 62.36N×124.58W, h1km, ML4.4/4, Mw4.3, 185km west of Fort Simpson, Nt Nw Territories - Nunavut, Canada*

ISC 30 15:05:14.8±0.4, 62.41N±0.04×124.54W±0.04, h8km, n152, σ1§93/158, mb4.3/30, MS3.3/4, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FNBB	**Fort Nelson**	**3.61**	**167**	Pn	**Pn**	**15 06 10.1**	**-0.9**
FNBB				Sn	**Sn**	**15 06 51.9**	**-1.7**
FNBB				Sg	**Sb**	**15 07 04.1**	**+1.5**
YKW3	**Yellowknife Ar**	**4.61**	**84**	Pn	**Pn**	**15 06 24.9**	**+0.3**
YKA	**Yellowknife Ar**	**4.61**	**85**	Pn	**Pn**	**15 06 24.8**	**+0.1**
	2.6nm,0.3s,baz=270,slow=13,SNR=63						
YKA				Pg	**Pb**	**15 06 40.5**	**+4.7**
	14nm,0.3s,baz=269,slow=17,SNR=66						
YKA				Lg	Lg	15 07 39.3	
	29nm,0.3s,baz=271,slow=30,SNR=13						
YKA				LR	LR	15 08 30.9	
	comp=Z,30nm,19.9s,baz=310,slow=42						
YKW1	**Yellowknife Ar**	**4.66**	**84**	Pn	**Pn**	**15 06 25.7**	**+0.4**
YKW1				Sn	**Sn**	**15 07 18.2**	**-1.2**
DLBC	**Dease Lake**	**4.82**	**217**	Pn	**Pn**	**15 06 27.3**	**-0.4**
	5.5nm,0.3s,baz=32,slow=10,SNR=54						
DLBC				Lg	Lg	15 07 44.1	
	11nm,0.3s,baz=280,slow=26,SNR=6.8						
DLBC				LR	LR	15 08 25.1	
	comp=Z,355nm,18.0s,baz=353,slow=40						
DLBC	**Dease Lake**	**4.82**	**217**	Pn	**Pn**	**15 06 27.6**	**-0.1**
DLBC				Sn	**Sn**	**15 07 20.6**	**-3.1**
WHY	**Whitehorse**	**5.25**	**255**	*e*Pn	**Pn**	**15 06 32.3**	**-1.3**
WHY	**Whitehorse**	**5.25**	**255**	Pn	**Pn**	**15 06 32.2**	**-1.3**
SKAG	**Skagway**	**6.03**	**245**	*e*Pn	**Pn**	**15 06 42.8**	**-1.3**
BESE	**Bessie Mountai**	**6.38**	**238**	*e*Pn	**Pn**	**15 06 48.6**	**-0.4**
BESE	**Bessie Mountai**	**6.38**	**238**	Pn	**Pn**	**15 06 48.6**	**-0.4**
BESE				Sn	**Sn**	**15 07 56.8**	**-5.1**
HYT	**Haines Junctio**	**6.38**	**261**	*e*Pn	**Pn**	**15 06 48.5**	**-0.6**
HYT	**Haines Junctio**	**6.38**	**261**	Pn	**Pn**	**15 06 48.0**	**-1.1**
HYT				Sn	**Sn**	**15 07 56.6**	**-5.5**
JIS	**Juneau Island**	**6.40**	**234**	*e*Pn	**Pn**	**15 06 49.2**	**-0.1**
YUK5	**Granite Creek**	**6.45**	**264**	Pn	**Pn**	**15 06 48.7**	**-1.4**
PLBC	**Pleasant Camp**	**6.48**	**248**	Pn	**Pn**	**15 06 49.6**	**-0.7**
BMBC	**Bull Mountain**	**6.50**	**168**	Pn	**Pn**	**15 06 49.2**	**-1.5**
BMBC				Sn	**Sn**	**15 08 01.4**	**-3.5**
FSMA	**Fort Smith**	**6.61**	**106**	Pn	**Pn**	**15 06 52.7**	**+0.7**
FSMA				Sn	**Sn**	**15 08 02.7**	**-4.7**
YUK6	**Outpost Mounta**	**6.74**	**264**	Pn	**Pn**	**15 06 53.4**	**-0.7**
YUK4	**Talbot Arm**	**6.76**	**267**	Pn	**Pn**	**15 06 52.6**	**-1.7**
YUK7	**Dusty Glacier**	**6.78**	**260**	Pn	**Pn**	**15 06 54.5**	**-0.2**
DAWY	**Dawson**	**6.91**	**290**	*e*Pn	**Pn**	**15 06 55.1**	**-1.1**
DAWY	**Dawson**	**6.91**	**290**	Pn	**Pn**	**15 06 54.7**	**-1.6**
INK	**Inuvik**	**7.01**	**332**	Pn	**Pn**	**15 06 57.2**	**-0.3**
	2.7nm,0.3s,baz=143,slow=9.4,SNR=53						
INK				Sn	**Sn**	**15 08 14.3**	**-2.9**
	3.6nm,0.3s,baz=100,slow=28,SNR=5.3						
INK	**Inuvik**	**7.01**	**332**	Pn	**Pn**	**15 06 56.8**	**-0.7**
INK				Sn	**Sn**	**15 08 12.2**	**-5.0**
WRAK	**Wrangell Islan**	**7.20**	**217**	*e*Pn	**Pn**	**15 06 59.2**	**-1.0**
YUK3	**Moose Creek**	**7.50**	**272**	Pn	**Pn**	**15 07 03.2**	**-1.3**
RDEA	**Red Earth Cree**	**7.51**	**137**	Sn	**Sn**	**15 08 24.8**	**-4.9**
YUK2	**White River**	**7.68**	**273**	Pn	**Pn**	**15 07 05.6**	**-1.2**
FSB	**Fort Saint Jam**	**7.95**	**179**	Pn	**Pn**	**15 07 09.6**	**-1.0**
SCRK	**Sand Creek**	**8.92**	**289**	*e*Pn	**Pn**	**15 07 22.7**	**-1.2**
DOT	**Dot Lake**	**8.96**	**287**	*e*Pn	**Pn**	**15 07 22.9**	**-1.3**
DOT	**Dot Lake**	**8.96**	**287**	Pn	**Pn**	**15 07 21.3**	**-3.0**
PRP	**Porcupine Dome**	**9.72**	**298**	*e*Pn	**Pn**	**15 07 33.4**	**-1.5**
FYU	**Fort Yukon**	**9.83**	**304**	*e*Pn	**Pn**	**15 07 36.0**	**-0.2**
KLU	**Klutina**	**10.10**	**274**	*e*Pn	**Pn**	**15 07 41.3**	**+1.3**
DIB	**Dawson Inlet,**	**10.14**	**208**	*e*Pn	**Pn**	**15 07 41.7**	**+1.2**
IL1	**Eielson Array**	**10.21**	**293**	*e*Pn	**Pn**	**15 07 41.2**	**-0.2**
ILAR	**Eielson Array**	**10.21**	**293**	Pn	**Pn**	**15 07 41.0**	**-0.5**
	0.2nm,0.3s,baz=103,slow=12,SNR=13						

ILB	**Eielson Array**	**10.21**	**293**	*e*Pn	**Pn**	**15 07 41.6**	**+0.2**
BBB	**Bella Bella**	**10.43**	**192**	LR	LR	15 11 43.2	
	comp=Z,84nm,18.4s,baz=28,slow=38						
DHY	**Denali Highway**	**10.48**	**284**	*e*Pn	**Pn**	**15 07 46.4**	**+1.1**
SCM	**Sheep Creek Mo**	**10.67**	**277**	*e*Pn	**Pn**	**15 07 49.7**	**+1.8**
WRH	**Wood River Hil**	**10.72**	**291**	*e*Pn	**Pn**	**15 07 48.4**	**0.0**
MDM	**Murphy Dome**	**10.80**	**294**	*e*Pn	**Pn**	**15 07 48.4**	**-1.1**
RND	**Reindeer**	**11.11**	**286**	*e*Pn	**Pn**	**15 07 54.7**	**+0.9**
GHO	**Glory Hole Cre**	**11.43**	**278**	*e*Pn	**Pn**	**15 08 00.9**	**+2.8**
TRF	**Thorofare Moun**	**11.75**	**286**	*e*Pn	**Pn**	**15 08 03.5**	**+0.9**
SLEB	**Sale Mountain**	**11.79**	**160**	Pn	**Pn**	**15 08 01.3**	**-2.0**
MLY	**Manley**	**11.87**	**294**	*e*Pn	**Pn**	**15 08 03.9**	**-0.2**
COLD	**Coldfoot**	**11.89**	**305**	*e*Pn	**Pn**	**15 08 03.2**	**-1.2**
COLD	**Coldfoot**	**11.89**	**305**	Pn	**Pn**	**15 08 02.1**	**-2.3**
LLLB	**Lillooet**	**11.92**	**172**	*e*Pn	**Pn**	**15 08 05.9**	**+1.1**
PPLA	**Purkeypile**	**12.68**	**284**	*e*Pn	**Pn**	**15 08 19.0**	**+3.7**
PRDA	**Priddis**	**12.84**	**150**	Pn	**Pn**	**15 08 14.7**	**-2.8**
BIB	**Bowen Island**	**13.05**	**176**	Pn	**Pn**	**15 08 19.9**	**-0.3**
IM3	**Indian Mountai**	**13.15**	**299**	*e*Pn	**Pn**	**15 08 22.6**	**+1.1**
PNT	**Penticton**	**13.40**	**166**	Pn	**Pn**	**15 08 25.9**	**+0.8**
MBW	**Mount Baker**	**13.73**	**173**	Pn	**Pn**	**15 08 30.3**	**+0.6**
LZB	**Mount Lazard**	**13.83**	**178**	Pn	**Pn**	**15 08 32.0**	**+1.0**
FFC	**Flin Flon**	**14.00**	**113**	*e*Pn	Pn	15 08 29.1	-4.0
B08A	**Colville Reser**	**14.38**	**166**	*e*Pn	**Pn**	**15 08 38.4**	**-0.1**
B08A	**Colville Reser**	**14.38**	**166**	Pn	**Pn**	**15 08 38.3**	**-0.2**
RAYA	**Raymond Albert**	**14.61**	**148**	Pn	**Pn**	**15 08 38.6**	**-2.9**
WALA	**Waterton Lakes**	**14.62**	**151**	*e*Pn	**Pn**	**15 08 39.1**	**-2.8**
WALA	**Waterton Lakes**	**14.62**	**151**	Pn	**Pn**	**15 08 38.5**	**-3.3**
KDAK	**Kodiak Island**	**14.66**	**264**	LR	LR	15 14 03.5	
	comp=Z,161nm,18.9s,baz=105,slow=36						
NEW	**Newport**	**14.77**	**160**	*e*Pn	**Pn**	**15 08 43.1**	**-0.7**
FCC	**Fort Churchill**	**15.31**	**90**	*e*Pn	**Pn**	**15 08 47.5**	**-3.4**
	14nm,0.7s						
FCC	**Fort Churchill**	**15.31**	**90**	Pn	**Pn**	**15 08 47.3**	**-3.6**
BSMT	**Bassoo Peak**	**15.59**	**155**	Pn	**Pn**	**15 08 50.9**	**-3.8**
YBMT	**Yellow Bay**	**15.73**	**153**	Pn	**Pn**	**15 08 52.7**	**-3.9**
JTMT	**Jette**	**15.79**	**154**	Pn	**Pn**	**15 08 53.5**	**-3.8**
RES	**Resolute Bay**	**16.11**	**28**	Pn	**Pn**	**15 08 58.4**	**-2.8**
	0.3nm,0.3s,baz=234,slow=16,SNR=12						
RES				Sn	Sn	15 11 50.0	-10
	1.0nm,0.3s,baz=184,slow=13,SNR=11						
RES				Lg	Lg	15 13 40.0	
	0.4nm,0.3s,baz=123,slow=19,SNR=4.5						
RES				LR	LR	15 15 22.5	
	comp=Z,184nm,19.6s,baz=185,slow=38						
RES	**Resolute Bay**	**16.11**	**28**	*e*Pn	**Pn**	**15 08 59.0**	**-2.2**
	8.7nm,0.6s						
RES				Sn	Sn	15 11 50.0	-10
RES				Lg	Lg	15 13 40.0	
EGMT	**Eagleton**	**16.63**	**143**	*e*Pn	**Pn**	**15 09 03.9**	**-4.1**
	40nm,0.6s						
EGMT	**Eagleton**	**16.63**	**143**	P	**Pn**	**15 09 04.0**	**-4.1**
	baz=335						
RDOG	**Red Dog Mine**	**16.80**	**306**	*e*Pn	**P**	**15 09 13.3**	**+1.1**
	6.9nm,0.8s						
F10A	**Beach Ranch, E**	**16.99**	**162**	*e*Pn	**P**	**15 09 14.1**	**-0.5**
	5.8nm,0.8s						
HRY	**Holter Researc**	**17.31**	**149**	*e*Pn	**Pn**	**15 09 12.8**	**-3.

PV12	**Saucer Basin,** 26nm,2.0s	**25.98**	**151**	*e*P		**P**	**15 10 48.9**	**+1.0**
PV17	**East Wray Mesa** 5.4nm,0.7s	**25.98**	**151**	*e*P		**P**	**15 10 48.9**	**+1.1**
PV02	**Paradox Valley** 4.6nm,0.8s	**26.09**	**151**	*e*P		**P**	**15 10 50.3**	**+1.4**
PV13	**Radium Mtn., P** 7.4nm,0.9s	**26.12**	**151**	*e*P		**P**	**15 10 50.3**	**+1.1**
ANMO	**Albuquerque** 1.3nm,0.5s,baz=311,slow=9.9,SNR=4.1	**29.74**	**149**	P		**P**	**15 11 23.9**	**+2.4**
ANMO	comp=Z,52nm,18.3s,baz=360,slow=40			LR		LR	15 24 51.3	
SCHQ	**Schefferville** comp=Z,174nm,18.6s,baz=40,slow=36	**30.03**	**78**	LR		LR	15 23 32.6	
LENM	**Lemitar**	**30.37**	**150**	*e*P		**P**	**15 11 27.6**	**+0.6**
MNTX	**Cornudas Mount** 19nm,2.0s	**33.10**	**149**	*e*P		**P**	**15 11 51.2**	**+0.3**
SEY	**Seymchan** 1.4nm,0.8s,baz=100,slow=7.0,SNR=6.4	**35.65**	**309**	P		**P**	**15 12 13.7**	**+1.1**
TXAR	**Lajitas Array** 1.1nm,0.7s,baz=354,slow=7.5,SNR=6.4	**35.78**	**148**	P		**P**	**15 12 15.6**	**+1.4**
FINES	**FINESS Array B** 2.0nm,0.7s,baz=15,slow=7.9,SNR=4.9	**54.47**	**17**	P		**P**	**15 14 44.4**	**+2.4**
CN2	**Changchun**	**60.33**	**308**	*e*P		**P**	**15 15 20.8**	**-2.8**
HHC	**Hu-ho-hao-te**	**67.69**	**317**	*e*P		**P**	**15 16 13.3**	**+1.1**
HHC	comp=Z,20nm,0.6s			pmax		pmax		
HHC	comp=Z,180nm,5.8s			pmax		pmax		
MKAR	**Makanchi Array** comp=Z,0.3nm,0.7s,baz=32,slow=5.6,SNR=3.0	**69.05**	**341**	P		**P**	**15 16 21.7**	**+1.2**
WMQ	**Urumqi**	**71.00**	**336**	*e*P		**P**	**15 16 34.0**	**+1.4**
KSH	**Kashi**	**77.09**	**344**	P		**P**	**15 17 10.5**	**+2.2**
KSH				PcP		**PcP**	**15 17 24.8**	**+5.6**
KSH				PP		PP	15 20 10.0	+9.0
KSH	comp=E,6.0nm,0.5s			pmax		pmax		
CHGR	**Chuyangaron** comp=Z,6.3nm,0.9s	**78.68**	**349**	*e*P		**P**	**15 17 17.0**	**-0.1**
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.7s,baz=0.7,slow=5.8,SNR=7.1	**92.42**	**319**	P		**P**	**15 18 26.8**	**+0.8**

MOS ***30*** *15:16:03.4±0.6,49.˚35N×156.˚37E,h104km,mb4.2/1,Error ellipse: s-maj=63.8km s-min=6.4km az=78.3*

KRSC 30 15:16:10.9±1.6, 49.˚96N×156.˚61E, h92km±22km, ML4.3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.79**	**336**	*e*P	Pn	15 16 28.8	+0.3
SKR				*e*S	Sn	15 16 42.2	+0.6
SKR	**Severo-Kuril's**	**0.79**	**336**	*e*PN	Pn	15 16 28.7	+0.2
SKR				*e*S	Sn	15 16 42.2	+0.6
SKR	comp=Z,85nm,0.1s			pmax	pmax		
SKR	comp=N,561nm,0.2s			smax	smax		
SKR	comp=E,552nm,0.2s			smax	smax		
PAU	**Pauzhetka**	**1.51**	**5**	*e*P	Pn	15 16 38.5	+1.6
PAU				*e*S	Sn	15 16 59.5	+2.9
PAU	**Pauzhetka**	**1.51**	**5**	PN	Pn	15 16 38.5	+1.6
PAU				S	Sn	15 16 59.5	+2.9
KDTR	**Khodutka, Kamc**	**2.07**	**26**	*e*P	Pn	15 16 46.3	+2.2
KDTR				*e*S	Sn	15 17 11.9	+2.6
KDTR	**Khodutka, Kamc**	**2.07**	**26**	PN	Pn	15 16 46.3	+2.2
KDTR				S	Sn	15 17 11.9	+2.6
MTVR	**Mutnovka**	**2.71**	**21**	*e*P	Pn	15 16 55.4	+2.7
MTVR				*e*S	Sn	15 17 28.3	+3.5
MTVR	**Mutnovka**	**2.71**	**21**	PN	Pn	15 16 55.4	+2.7
MTVR				S	Sn	15 17 28.3	+3.5
RUS	**Russkaya**	**2.75**	**25**	*e*P	Pn	15 16 54.6	+1.5
RUS				*e*S	Sn	15 17 28.1	+2.7
RUS	**Russkaya**	**2.75**	**25**	PN	Pn	15 16 54.6	+1.5
RUS				S	Sn	15 17 28.1	+2.7
APC	**Apacha**	**2.99**	**6**	*e*P	Pn	15 16 58.2	+1.9
APC	**Apacha**	**2.99**	**6**	PN	Pn	15 16 58.2	+1.9
KRMR	**Karymshinskiy**	**3.03**	**18**	*e*P	Pn	15 16 58.6	+1.8
KRMR				*e*S	Sn	15 17 32.9	+0.8
KRMR	**Karymshinskiy**	**3.03**	**18**	PN	Pn	15 16 58.6	+1.8
PET	**Petropavlovsk**	**3.32**	**22**	*e*S	Sn	15 17 41.3	+2.1
PET	**Petropavlovsk**	**3.32**	**22**	*e*PN	Pn	15 17 02.3	+1.6
PET				*e*S	Sn	15 17 41.8	+2.6
PET	comp=E,33nm,0.5s			smax	smax		
PET	comp=N,36nm,0.4s			smax	smax		
DALK	**Dalny**	**3.35**	**23**	*e*P	Pn	15 17 03.7	+2.5
DALK				*e*S	Sn	15 17 43.7	+3.7
DALK	**Dalny**	**3.35**	**23**	PN	Pn	15 17 03.7	+2.5
DALK				S	Sn	15 17 43.7	+3.7
UGLR	**Uglovaya**	**3.53**	**22**	*e*P	Pn	15 17 06.6	+2.9
UGLR	**Uglovaya**	**3.53**	**22**	PN	Pn	15 17 06.6	+2.9
AVH	**Avacha**	**3.56**	**21**	*e*P	Pn	15 17 07.3	+3.2
AVH	**Avacha**	**3.56**	**21**	PN	Pn	15 17 07.3	+3.2
KOK	**Koryaka**	**3.57**	**20**	*e*P	Pn	15 17 07.3	+3.2
KOK	**Koryaka**	**3.57**	**20**	PN	Pn	15 17 07.3	+3.2
KRX	**Arik**	**3.63**	**20**	P	Pn	15 17 08.3	+3.2
KRX	**Arik**	**3.63**	**20**	PN	Pn	15 17 08.3	+3.2
NLC	**Nalytchevo**	**3.64**	**27**	*e*S	Sn	15 17 47.2	+0.4
SPN	**Mys Shipunski**	**3.79**	**33**	*e*P	Pn	15 17 08.9	+1.8
SPN				*e*S	Sn	15 17 52.5	+1.8
SPN	**Mys Shipunski**	**3.79**	**33**	PN	Pn	15 17 08.9	+1.8
SPN				S	Sn	15 17 52.5	+1.8
GNL	**Ganaly**	**3.83**	**12**	P	Pn	15 17 09.7	+2.0
GNL	**Ganaly**	**3.83**	**12**	PN	Pn	15 17 09.7	+2.0
KBTR	**Krutoberegovo**	**7.29**	**28**	*e*P	Pn	15 17 57.0	+2.5
KBTR	**Krutoberegovo**	**7.29**	**28**	PN	Pn	15 17 57.0	+2.5

MAN 30 15:24:12.7, 9.˚14N×126.˚30E, h15km, mb4.3, ML3.1, MS2.9, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.69**	**256**	*e*P	Pb	15 24 26.5	0.0
BUTP				*e*S	Sn	15 24 37.7	-0.8
BIPH	**Bislig**	**0.95**	**177**	*i*P	Pb	15 24 29.2	-1.8
BIPH				*i* S	Sb	15 24 41.1	-2.3
SCPH	**Surigao**	**1.02**	**308**	*e*P	Pb	15 24 31.0	-1.2
BUKP	**Musuan**	**1.75**	**224**	*e*P	Pn	15 24 42.7	0.0
BUKP				*e*S	Sn	15 25 05.7	+0.9

BJI ***30*** *15:34:18.8,10.˚18N×127.˚10E,h35km,mb4.7/49,mB5.1/32, Ms4.4/11,Ms7 4.1/6*

IDC ***30*** *15:34:18.5±0.5,10.˚54N×126.˚81E,h0km,mb4.4/21, mb1 4.5/22,mb1mx4.4/34,mbtmp4.4/22,ML4.3/1,MS3.4/7, Ms1 3.4/7,ms1mx3.1/37,Error ellipse: s-maj=23.7km s-min=10.5km az=81.0*

ISCJB ***30*** *15:34:19.9±1.3,10.˚57N±0.˚02×126.˚93E±0.˚03,h23km±9km, mb4.6/74,Error ellipse: s-maj=5.1km s-min=3.8km az=172.4*

MOS ***30*** *15:34:21.1±1.0,10.˚51N×126.˚87E,h33km,mb4.8/37,Error ellipse: s-maj=14.7km s-min=5.9km az=114.4*

MAN ***30*** *15:34:21.6,10.˚66N×126.˚83E,h24km,mb5.4,ML4.4, MS4.6*

NEIC ***30*** *15:34:23.4±0.7,10.˚56N×126.˚91E,h36km±6km,mb4.7/32, Error ellipse: s-maj=7.2km s-min=3.6km az=77.0*

DJA ***30*** *15:34:26.1±1.1,10.˚N±11.˚×12.˚7E±.˚,h10km,M4.7/16, mB5.2/4,mb4.7/16,Mw(mB)4.5/4*

ISC 30 15:34:22.2±0.9, 10.˚59N±0.˚03×126.˚93E±0.˚05, h26km±6km, n193, σ1s35/209, mb4.6/83, 14C-13D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.63**	**241**	*e*P	**Pn**	**15 34 47.8**	**-1.4**
SCPH				*e*S	**Sn**	**15 35 08.3**	**-1.0**
BESP	**Borongan**	**1.78**	**305**	*e*P	**Pn**	**15 34 48.9**	**-2.3**
BESP				*e*S	**Sn**	**15 35 10.1**	**-2.9**
PLP	**Palo**	**2.00**	**287**	*e*P	**Pn**	**15 34 52.1**	**-2.2**
PLP				*e*S	**Sn**	**15 35 17.2**	**-1.4**
BUTP	**Butuan**	**2.06**	**219**	*e*P	**Pn**	**15 34 54.8**	**-0.4**
BUTP				*e*S	**Sn**	**15 35 20.1**	**+0.1**
MSLP	**Maasin**	**2.09**	**258**	*e*P	**Pn**	**15 34 54.7**	**-0.8**
MSLP				*e*S	**Sn**	**15 35 19.1**	**-1.6**
OCLP	**Ormoc**	**2.33**	**282**	*e*P	**Pn**	**15 34 58.6**	**-0.2**
OCLP				*e*S	Sb	15 35 44.1	+12
BIPH	**Bislig**	**2.46**	**193**	*i*P	**Pn**	**15 34 59.0**	**-1.6**
BIPH				*i* S	**Sn**	**15 35 24.4**	**-5.3**
LLP	**Lapu-Lapu**	**2.93**	**265**	*e*P	**Pn**	**15 35 06.9**	**-0.2**
LLP				*e*S	**Sn**	**15 35 36.4**	**-5.1**
CNP	**Catarman**	**2.93**	**311**	*e*P	**Pn**	**15 35 05.5**	**-1.6**
CNP				*e*S	**Sn**	**15 35 38.8**	**-2.6**
CGP	**Cagayan de Oro**	**3.06**	**226**	*e*P	**Pn**	**15 35 11.2**	**+2.3**
CGP				*e*S	**Sn**	**15 35 42.8**	**-1.8**
BUKP	**Musuan**	**3.26**	**215**	*e*P	**Pn**	**15 35 13.2**	**+1.5**
BUKP				*e*S	**Sn**	**15 35 47.5**	**-2.3**
RCP	**Roxas**	**4.22**	**284**	*e*P	**Pn**	**15 35 24.5**	**-0.4**
GUIM	**Jordan**	**4.27**	**271**	*e*P	**Pn**	**15 35 25.3**	**-0.2**
TNTI	**Ternate**	**9.76**	**177**	*e*Pn	**Pn**	**15 36 41.0**	**+0.1**
TNTI	**Ternate** 60nm,0.7s,916nm	**9.76**	**177**	P	**Pn**	**15 36 41.4**	**+0.4**
SIJI	**Sorong** 1.9nm,0.3s,baz=354,slow=6.5,SNR=6.5	**12.17**	**159**	Pn	**Pn**	**15 37 13.6**	**-0.5**
APSI	**Ampana**	**12.57**	**205**	P	**Pn**	**15 37 20.8**	**+1.3**
SANI	**Sanana**	**12.59**	**184**	P	**Pn**	**15 37 15.6**	**-4.1**
PCI	**Palu**	**13.42**	**212**	P	P	15 37 50.1	+10
NLAI	**Namlea** 48nm,0.5s	**13.74**	**179**	P	**Pn**	**15 37 33.2**	**-2.2**
TPUB	**Ta-pu**	**14.00**	**335**	*e*Pn	**Pn**	**15 37 40.1**	**+1.2**
YOJ	**Yonaguni jima**	**14.29**	**345**	*e*Pn	**Pn**	**15 37 43.7**	**+0.8**
YOJ	**Yonaguni jima**	**14.29**	**345**	*e*P	**Pn**	**15 37 43.7**	**+0.8**
SSLB	**Suanglung**	**14.31**	**337**	*e*Pn	**Pn**	**15 37 43.0**	**-0.2**
FAKI	**Fak Fak**	**14.43**	**158**	*e*Pn	**Pn**	**15 37 44.5**	**-0.3**
BNSI	**Bone**	**16.37**	**205**	P	**Pn**	**15 38 11.5**	**+1.2**
SBUM	**Sibu** 6.9nm,0.9s	**16.69**	**242**	*e*Pn	**P**	**15 38 16.3**	**-0.3**
QIZ	**Qiongzhong**	**18.52**	**299**	P	**Pn**	**15 38 37.8**	**+0.8**
QIZ				S	**S**	**15 42 06.0**	**-0.7**
QIZ	**Qiongzhong** 104nm,1.9s	**18.52**	**299**	*e*P	**Pn**	**15 38 37.4**	**+0.4**
KSM	**Kuching**	**18.83**	**242**	*e*P	**Pn**	**15 38 41.8**	**+0.9**
KSM				*e*Pn	**P**	**15 38 41.9**	**+1.6**
MMRI	**Maumere**	**19.66**	**194**	P	**Pn**	**15 38 52.1**	**+1.3**
EDFI	**Ende, Flores**	**19.91**	**195**	P	**Pn**	**15 38 54.8**	**+1.0**
SOEI	**Soe** 115nm,1.4s	**20.38**	**188**	*e*P	**P**	**15 38 57.3**	**+0.1**
SOEI	**Soe** 54nm,1.2s	**20.38**	**188**	P	Pn	15 38 58.9	-0.5
BATI	**Baumata** 70nm,0.6s,baz=336,slow=0.8,SNR=16	**20.91**	**189**	P	**P**	**15 39 03.1**	**+0.2**
BATI	**Baumata** 45nm,0.8s	**20.91**	**189**	P	**P**	**15 39 03.6**	**+0.7**
NJ2	**Nanjing**	**22.63**	**342**	*e*P	**P**	**15 39 18.8**	**-2.3**
NJ2	comp=Z,14nm,0.6s			pmax	pmax		
JNU	**Nakatsue** 9.0nm,0.9s,baz=186,slow=5.4,SNR=6.5	**22.72**	**9**	P	**P**	**15 39 22.8**	**+0.6**
JNU	**Nakatsue** 13nm,1.0s	**22.72**	**9**	*e*P	**P**	**15 39 22.1**	**-0.1**
JAGI	**Jajag, Banyuwa** 44nm,0.7s	**22.81**	**214**	*e*P	**P**	**15 39 23.1**	**-0.1**
WHN	**Wuhan**	**23.05**	**331**	*i*P	**P**	**15 39 26.5**	**+1.0**
SKNT	**Sakolnakorn** 4.3nm,1.2s	**23.16**	**288**	P	**P**	**15 39 30.2**	**+3.3**
PPBI	**Pangkal Pinang**	**24.26**	**240**	P	**P**	**15 39 37.9**	**+0.5**
CHAI	**Chaiyaphum** 2.7nm,1.0s	**24.84**	**285**	P	**P**	**15 39 43.4**	**+0.8**
KPJI	**Karang Pucung**	**25.26**	**226**	P	**P**	**15 39 50.9**	**+4.5**
ENH	**Enshi** 21nm,0.9s	**25.44**	**323**	*e*P	**P**	**15 39 48.2**	**+0.2**
LEM	**Lembang** comp=Z,60nm,18.9s,baz=164,slow=41	**25.87**	**229**	LR	LR	15 51 58.6	
PBKT	**Sadao Pong** 6.1nm,0.7s	**25.91**	**286**	P	**P**	**15 39 53.7**	**+1.3**
KSAR	**Wonju Array Be**	**26.75**	**2**	P	**P**	**15 40 00.6**	**+0.9**
KSAR	**Wonju Array Be**	**26.75**	**2**	P	**P**	**15 40 00.6**	**+0.9**
KSRS	**Kona Array** 3.2nm,0.9s,baz=174,slow=10,SNR=17	**26.76**	**2**	P	**P**	**15 40 00.6**	**+0.8**
KSRS	comp=Z,70nm,18.7s,baz=176,slow=40			LR	LR	15 52 17.7	
KS01	**Wonju Array Si**	**26.79**	**2**	*e*P	**P**	**15 40 00.8**	**+0.7**
KMI	**Kunming**	**27.12**	**305**	P	**P**	**15 40 04.8**	**+1.3**
KMI	comp=Z,12nm,0.5s			pmax	pmax		
KMI	comp=Z,98nm,4.4s			pmax	pmax		
MDSI	**Maura Dua**	**27.16**	**238**	P	**P**	**15 40 04.2**	**+0.6**
PAYA	**Payao** 2.9nm,0.6s	**27.52**	**292**	P	**P**	**15 40 07.9**	**+0.9**
MJAR	**Matsushiro Arr** 1.8nm,0.7s,baz=204,slow=9.7,SNR=5.5	**27.78**	**20**	P	**P**	**15 40 08.5**	**-0.5**
MJAR	comp=Z,66nm,19.3s,baz=225,slow=37			LR	LR	15 51 31.0	
MAJO	**Matsushiro**	**27.78**	**20**	*e*P	**P**	**15 40 07.9**	**-1.1**
MAJO	comp=Z,5.0nm,1.0s			pmax	pmax		
CMAR	**Chiang Mai Arr** comp=Z,1.8nm,0.8s,baz=105,slow=7.7,SNR=17	**28.17**	**289**	P	**P**	**15 40 11.1**	**-1.6**
CMAR				PcP	**PcP**	**15 43 28.4**	**+2.0**
CMAR	comp=Z,0.4nm,0.5s,baz=41,slow=1.0,SNR=4.3			LR	LR	15 51 30.8	
FITZ	**Fitzroy Crossi** comp=Z,4.1nm,0.8s,baz=17,slow=7.4,SNR=7.1	**28.53**	**183**	P	**P**	**15 40 14.9**	**-0.9**
XAN	**Xi'an**	**28.58**	**328**	P	**P**	**15 40 16.5**	**+0.3**
XAN				pP	sP	15 40 25.0	+0.6
XAN	comp=Z,16nm,1.0s			pmax	pmax		
XAN	**Xi'an** comp=Z,13nm,0.8s	**28.58**	**328**	*e*P	**P**	**15 40 16.3**	**+0.1**
XAN	**Xi'an** comp=Z,13nm,0.8s	**28.58**	**328**	*e*P	**P**	**15 40 16.3**	**+0.1**
XAN				pmax	pmax		
PSI	**Prapat** comp=Z,102nm,18.4s,baz=47,slow=41	**28.85**	**256**	LR	LR	15 54 04.3	
COEN	**Coen** comp=Z,14nm,0.8s	**29.23**	**146**	*e*P	**P**	**15 40 22.4**	**+0.3**
CD2	**Chengdu**	**29.52**	**317**	*e*P	**P**	**15 40 25.0**	**+0.4**
CD2	comp=Z,10.0nm,0.5s			pmax	pmax		
CD2	comp=Z,160nm,4.8s			pmax	pmax		
WRAB	**Tennant Creek**	**31.20**	**166**	*i*P	**P**	**15 40 37.3**	**-2.1**
WRAB	comp=Z,2.0nm,0.6s			pmax	pmax		
WRA	**Warramunga Arr** comp=Z,2.1nm,0.6s,baz=345,slow=9.1,SNR=24	**31.20**	**166**	P	**P**	**15 40 38.3**	**-1.2**
WRA				PcP	**PcP**	**15 43 34.6**	**+0.5**
WB2	**Warramunga Arr** comp=Z,1.3nm,0.6s,baz=344,slow=3.1,SNR=6.3	**31.21**	**166**	*e*P	**P**	**15 40 37.3**	**-2.2**
LZH	**Lanzhou**	**32.90**	**324**	*e*P	**P**	**15 40 56.8**	**+2.4**
LZH				pP	pwP	15 41 06.5	-2.3
LZH				sP	sP	15 41 09.3	+6.9
LZH	comp=Z,26nm,1.0s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**33.06**	**338**	*e*P	**P**	**15 40 58.8**	**+3.1**
USA0B	**Ussuriysk Arra** comp=Z,7.7nm,0.8s	**33.77**	**7**	*e*P	**P**	**15 40 59.9**	**-1.9**
USRK	**Ussuriysk Ar.** comp=Z,6.2nm,0.7s,baz=191,slow=8.8,SNR=24	**33.77**	**7**	P	**P**	**15 41 03.2**	**+1.5**
ERM	**Erimo**	**34.39**	**22**	*i*P	**P**	**15 41 04.4**	**-2.7**
ERM	comp=Z,50nm,1.3s			pmax	pmax		
AS31	**Alice Springs** comp=Z,3.2nm,1.3s	**34.72**	**169**	*e*P	**P**	**15 41 08.8**	**-1.5**
ASAR	**Alice Springs** comp=Z,2.8nm,0.5s,baz=351,slow=6.5,SNR=92	**34.72**	**169**	P	**P**	**15 41 09.5**	**-0.7**
ASAR				PcP	**PcP**	**15 43 44.1**	**+0.3**
ASAR	comp=Z,1.4nm,0.6s,baz=346,slow=2.7,SNR=9.4			LR	LR	15 41 09.3	-1.0
AS01	**Alice Springs**	**34.73**	**169**	*e*P	**P**	**15 41 09.3**	**-1.0**
CTAO	**Charters Tower** comp=Z,30nm,1.5s	**35.93**	**148**	*e*P	**P**	**15 41 20.2**	**-0.5**
CTAO	comp=Z,30nm,1.5s	**35.93**	**148**	*e*P	**P**	**15 41 20.2**	**-0.5**
CTAO				pmax	pmax		
GTA	**Gaotai**	**37.49**	**325**	*i*P	**P**	**15 41 35.5**	**+1.5**
GTA				pP	pwP	15 41 45.3	-3.2
GTA				sP	sP	15 41 49.3	+7.3
GTA	comp=Z,17nm,1.1s			pmax	pmax		
GTA	comp=Z,120nm,4.6s			pmax	pmax		
GTA	comp=Z,110nm,18.9s			LR	LR		
GTA	comp=Z,320nm,20.3s			LR	LR		
LSA	**Lhasa** comp=Z,4.0nm,0.9s	**38.37**	**305**	*e*P	**P**	**15 41 40.3**	**-1.7**
LSA	**Lhasa**	**38.37**	**305**	*e*P	**P**	**15 41 40.3**	**-1.7**
LSA	comp=Z,4.0nm,0.9s			pmax	pmax		
YSS	**Yuzh-Sakhalins**	**38.65**	**17**	*e*P	**P**	**15 41 39.4**	**-4.0**
KLR	**Kul'dur**	**38.73**	**5**	*d*eP	**P**	**15 41 45.2**	**+1.1**
ULN	**Ulaanbaatar** comp=Z,3.9nm,1.0s	**40.75**	**339**	*e*P	**P**	**15 42 01.2**	**+0.1**
ULN	**Ulaanbaatar**	**40.75**	**339**	*e*P	**P**	**15 42 02.1**	**+1.0**
ULN	comp=Z,1.0nm,0.7s			pmax	pmax		
SONM	**Songino Array** comp=Z,2.2nm,1.0s,baz=160,slow=7.4,SNR=10	**40.95**	**339**	P	**P**	**15 42 03.6**	**+0.9**
SONA1	**Songino Array**	**40.96**	**339**	*e*P	**P**	**15 42 02.7**	**-0.2**
JIRN	**Jiri** comp=Z,12nm,0.6s	**41.84**	**300**	*e*P	**P**	**15 42 09.4**	**-1.2**
GUN	**Gumba** comp=Z,22nm,0.9s	**42.17**	**300**	*e*P	**P**	**15 42 12.2**	**-1.1**
PKI	**Pulchoki** comp=Z,5.9nm,0.8s	**42.48**	**299**	*e*P	**P**	**15 42 14.2**	**-1.6**
PKIN	**Phulchoki** comp=Z,4.5nm,0.7s	**42.49**	**299**	*e*P	**P**	**15 42 14.2**	**-1.6**
KKN	**Kakani** comp=Z,4.6nm,0.5s	**42.65**	**300**	*e*P	**P**	**15 42 15.6**	**-1.4**
DMN	**Daman** comp=Z,18nm,1.1s	**42.75**	**299**	*e*P	**P**	**15 42 16.8**	**-1.1**
ZEA	**Zeya**	**43.03**	**0**	*e*P	**P**	**15 42 15.3**	**-4.2**
ZEA	comp=Z,42nm,2.0s			pmax	pmax		
BBOO	**Buckleboo** comp=Z,40nm,0.8s	**44.03**	**169**	*e*P	**P**	**15 42 27.9**	**+0.2**
KOLN	**Koldanda** comp=Z,8.1nm,0.7s	**44.08**	**299**	*e*P	**P**	**15 42 27.5**	**-1.1**
DANN	**Dangsing** comp=Z,7.5nm,0.6s	**44.09**	**300**	*e*P	**P**	**15 42 27.0**	**-1.8**
STKA	**Stephens Creek** comp=Z,2.5nm,0.5s,baz=328,slow=9.4,SNR=14	**44.50**	**162**	P	**P**	**15 42 31.8**	**+0.3**
STKA				PcP	**PcP**	**15 44 15.3**	**+0.6**
PYUN	**Piuthan** comp=Z,22nm,1.2s	**44.69**	**299**	*e*P	**P**	**15 42 32.2**	**-1.2**
TLY	**Talaya**	**45.16**	**340**	*i*P	**P**	**15 42 38.0**	**+1.4**
TLY	comp=Z,7.0nm,0.8s			pmax	pmax		
WMQ	**Urumqi**	**47.38**	**322**	*e*P	**P**	**15 42 56.3**	**+2.1**
WMQ				pP	pwP	15 43 06.3	-2.6
WMQ	comp=Z,33nm,1.5s			pmax	pmax		
WMQ	comp=Z,360nm,4.1s			pmax	pmax		
BOD	**Bodaibo** comp=Z,6.0nm,1.8s	**48.16**	**351**	*e*P	**P**	**15 43 00.9**	**+1.0**
BOD				pmax	pmax		
PETK	**Petropavlovsk-** comp=Z,5.8nm,0.7s,baz=206,slow=4.1,SNR=11	**49.08**	**24**	P	**P**	**15 43 08.9**	**+1.8**
PETK				LR	LR	16 04 15.4	
DGZ	**Jazzator, Alta** comp=Z,42nm,20.0s,baz=249,slow=36	**50.84**	**328**	*ce*P	**P**	**15 43 21.7**	**+0.9**
DGZ	comp=Z,2.0nm,0.6s			pmax	pmax		
MA2	**Magadan** comp=Z,5.8nm,0.8s	**52.06**	**15**	*e*P	**P**	**15 43 30.4**	**+0.9**
MA2	**Magadan**	**52.06**	**15**	*e*P	**P**	**15 43 30.2**	**+0.7**
MA2	comp=Z,7.0nm,0.8s			pmax	pmax		
MK01	**Makanchi Array**	**52.15**	**322**	*e*P	**P**	**15 43 30.5**	**0.0**
MK31	**Makanchi Array**	**52.17**	**322**	*e*P	**P**	**15 43 31.1**	**+0.4**
MK31	**Makanchi Array**	**52.17**	**322**	*i* P	**P**	**15 43 31.4**	**+0.8**
MK31	comp=Z,11nm,0.9s			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,13nm,0.9s,baz=118,slow=7.7,SNR=77	**52.17**	**322**	P	**P**	**15 43 31.4**	**+0.8**
MKAR				PcP	**PcP**	**15 44 42.8**	**+0.7**
MKAR	comp=Z,1.6nm,0.8s,baz=98,slow=9.3,SNR=2.8			LR	LR	15 44 42.8	
MKAR	**Makanchi Array** comp=Z,50nm,0.8s	**52.17**	**322**	*e*P	**P**	**15 43 31.1**	**+0.5**
MKAR				PcP	**PcP**	**15 44 42.8**	**+0.7**
MKAR	**Makanchi Array**	**52.17**	**322**	*e*P	**P**	**15 43 31.1**	**+0.5**
MKAR						15 44 42.8	
MKAR	comp=Z,50nm,0.8s			pmax	pmax		
MAKZ	**Makanchi** comp=Z,23nm,1.3s	**52.37**	**322**	*e*P	**P**	**15 43 32.0**	**0.0**
MAKZ	**Makanchi**	**52.37**	**322**	*e*P	**P**	**15 43 32.0**	**0.0**
MAKZ	comp=Z,23nm,1.3s			pmax	pmax		
PRZ	**Przheval'sk** comp=Z,12nm,0.8s	**52.81**	**316**	*e*P	**P**	**15 43 35.4**	**-0.2**
PRZ	**Przheval'sk**	**52.81**	**316**	*e*P	**P**	**15 43 35.4**	**-0.2**
PRZ	comp=Z,12nm,0.8s			pmax	pmax		
KSH	**Kashi**	**53.51**	**312**	P	**P**	**15 43 43.5**	**+2.8**
KSH				pP	pwP	15 43 54.3	-1.6
KSH				sP	sP	15 43 58.3	+9.3
KSH				S	**S**	**15 51 13.3**	**+1.1**
KSH				sS	sS	15 51 32.3	+11
KSH				SS	**SKiKP**	**15 54 56.5**	**+1.4**
KSH	comp=Z,13nm,1.0s			pmax	pmax		
KSH	comp=Z,530nm,6.0s			pmax	pmax		
KSH	comp=Z,170nm,5.8s			LR	LR		
KSH	comp=Z,140nm,7.2s			LR	LR		
KDJ	**Kajisay** comp=Z,5.7nm,0.8s	**53.52**	**315**	*e*P	**P**	**15 43 41.1**	**+0.2**
KDJ	**Kajisay**	**53.52**	**315**	*e*P	**P**	**15 43 41.1**	**+0.2**
KDJ	comp=Z,6.0nm,0.8s			pmax	pmax		
NRN	**Naryn** comp=Z,5.8nm,0.8s	**54.10**	**314**	*e*P	**P**	**15 43 44.8**	**-0.5**
NRN	**Naryn**	**54.10**	**314**	*e*P	**P**	**15 43 44.8**	**-0.5**
NRN	comp=Z,6.0nm,0.8s			pmax	pmax		
ULHL	**Ulahol** SNR=8.7	**54.21**	**315**	P	**P**	**15 43 46.9**	**+1.0**
ZAA0	**Zalesovo Array** comp=Z,3.5nm,0.8s	**54.66**	**331**	*e*P	**P**	**15 43 48.7**	**0.0**
ZALV	**Zalesovo Beam** comp=Z,1.5nm,0.4s,baz=121,slow=6.4,SNR=12	**54.66**	**331**	P	**P**	**15 43 48.9**	**+0.2**
ZALV	**Zalesovo Beam**	**54.66**	**331**	*e*P	**P**	**15 43 48.5**	**-0.1**
ZALV	**Zalesovo Beam**	**54.66**	**331**	*e*P	**P**	**15 43 48.6**	**-0.1**
KZA	**Kyzart** SNR=13	**54.85**	**314**	P	**P**	**15 43 52.2**	**+1.4**
KBK	**Karagaybulak** SNR=11	**55.25**	**315**	P	**P**	**15 43 54.4**	**+0.9**
UCH	**Uchtor** SNR=23	**55.41**	**314**	P	**P**	**15 43 56.2**	**+1.2**
CHMS	**Chumysh** SNR=6.8	**55.50**	**315**	P	**P**	**15 43 56.3**	**+1.3**
AAK	**Ala-Archa** comp=Z

KKAR	Karatay Array	58.49	314	*e*P		P		15 44 15.7	-0.5
KKAR	Karatay Array	58.49	314	*e*P		P		15 44 15.7	-0.5
TIXI	Tiksi	61.03	1	*e*P		P		15 44 32.9	-0.2
	comp=Z,5.7nm,1.0s								
TIXI	Tiksi	61.03	1⇑	*e*P		P		15 44 33.4	+0.3
TIXI				pmax	pmax				
	comp=Z,7.0nm,1.1s								
BVA0	Borovoye Array	61.78	325	*i* P		P		15 44 38.1	-0.4
BVA0				pmax	pmax				
	comp=Z,11nm,1.5s								
BRVK	Borovoye	61.85	325	*e*P		P		15 44 38.2	-0.8
	comp=Z,35nm,1.8s								
BRVK	Borovoye	61.85	325	*d i* P		P		15 44 40.0	+1.0
BRVK				pmax	pmax				
	comp=Z,8.0nm,1.2s								
BILL	Bilibino	62.92	16	*e*P		P		15 44 46.4	+0.5
	comp=Z,5.8nm,1.2s								
BILL	Bilibino	62.92	16⇑	*i* P		P		15 44 46.2	+0.3
BILL				*e*				15 45 21.3	
BILL				*e*				15 47 06.7	
BILL				*e*S		S		15 53 32.1	+18
BILL				pmax	pmax				
	comp=Z,3.0nm,1.3s								
GEYT	Alibeck	66.88	307	LR		LR		16 16 16.8	
	comp=Z,46nm,18.0s,baz=335,slow=38								
AB31	Akbulak array	67.06	319	*i* P		P		15 45 12.9	-0.3
AB31				pmax	pmax				
	comp=Z,2.0nm,0.6s								
ABKAR	Akbulak array	67.06	319	*e*P		P		15 45 13.1	0.0
AKTO	Aktyubinsk	68.50	320	P		P		15 45 22.2	0.0
AKTO				pmax	pmax				
	comp=Z,9.0nm,1.4s								
ARU	Arti	69.32	326⇑	*e*P		P		15 45 26.6	-0.6
ARU				pmax	pmax				
	comp=Z,11nm,1.5s								
ZEI	Tsey	77.80	312	*e*P		P		15 46 17.5	-0.1
ZEI				pmax	pmax				
	comp=Z,11nm,1.4s								
RAYN	Ar Rayn	78.06	292	*e*P		P		15 46 18.4	-0.8
	comp=Z,3.2nm,1.0s								
RAYN	Ar Rayn	78.06	292	*e*P		P		15 46 18.4	-0.8
RAYN				pmax	pmax				
	comp=Z,3.0nm,1.0s								
KIV	Kislovodsk	78.61	313	*e*P		P		15 46 23.4	+1.4
KIV				pmax	pmax				
	comp=Z,10.0nm,1.1s								
VRH	Novokhopyorsk	78.84	320	*e*P		P		15 46 23.3	+0.4
VRH				*e**PP		PcP		15 46 32.5	+0.9
VRH				pmax	pmax				
	comp=Z,10.0nm,1.1s								
ILAR	Eielson Array	78.87	26	P		P		15 46 23.0	+0.2
	comp=Z,0.8nm,0.7s,baz=239,slow=5.0,SNR=9.1								
DOMR	Dombai	79.43	312⇓	*e*P		P		15 46 28.4	+1.9
DOMR				pmax	pmax				
	comp=Z,8.0nm,0.9s								
KLMR	Klimovskoe	79.58	330	*e*P		P		15 46 25.8	-0.9
KLMR				pmax	pmax				
	comp=Z,18nm,1.5s								
KLMR	Klimovskoe	79.58	330	*e*P		P		15 46 25.8	-0.9
KLMR				AMP				15 46 39.7	
	comp=Z,18nm,1.5s								
VSR	Storozhevoye	80.44	320	*e*P		P		15 46 29.9	-1.7
VSR				*e**PP		sP		15 46 41.1	+1.1
VSR				pmax	pmax				
	comp=Z,6.0nm,0.8s								
OBN	Obninsk	81.61	324⇑	*e*P		P		15 46 37.8	+0.1
OBN				*e*				15 49 43.7	
OBN				pmax	pmax				
	comp=Z,5.0nm,0.8s								
OBN				MLR		MLR			
	comp=Z,144nm,15.0s								
DAWY	Dawson	82.17	26	*e*P		P		15 46 41.4	+0.8
	comp=Z,9.1nm,1.3s								
ARCES	ARCESS Array B	84.12	340	P		P		15 46 50.8	+0.2
	comp=Z,6.6nm,0.9s,baz=88,slow=6.9,SNR=17								
BR131	Keskin Array S	85.83	309	*e*P		P		15 46 59.0	-0.9
BRTR	Keskin Array B	85.83	309	P		P		15 46 59.7	-0.2
	comp=Z,1.6nm,0.7s,baz=102,slow=4.7,SNR=10								
FINES	FINESS Array B	85.92	332	P		P		15 46 59.7	+0.1
	comp=Z,3.6nm,0.4s,baz=76,slow=4.7,SNR=34								
FINES	FINESS Array B	85.92	332	*e*P		P		15 46 59.4	-0.3
AKASG	Malin Array Be	86.73	321	P		P		15 47 04.0	+0.2
	comp=Z,2.1nm,0.8s,baz=60,slow=5.6,SNR=11								
AKBB	Malin Array Si	86.73	321	*e*P		P		15 47 03.4	-0.5
	comp=Z,16nm,1.5s								
KIEV	Kiev	86.74	321	*e*P		P		15 47 03.3	-0.6
	comp=Z,18nm,1.6s								
KIEV	Kiev	86.74	321⇓	*e*P		P		15 47 04.2	+0.3
KIEV				pmax	pmax				
	comp=Z,6.0nm,1.1s								
AK11	Malin Array Si	86.77	321	*e*P		P		15 47 03.5	-0.6
BURAR	Bucovina Array	90.03	319⇑	*i* P		P		15 47 20.5	+0.7
BUR04	Bucovina Ar. S	90.04	319	*e*P		P		15 47 20.1	+0.2
BUR08	Bucovina Ar. S	90.04	319	*e*P		P		15 47 19.6	-0.3
VNDA	Vanda	90.16	173	P		P		15 47 20.6	+1.0
	comp=Z,1.4nm,0.6s,baz=310,slow=5.5,SNR=3.9								
RES	Resolute Bay	91.07	10	*e*P		P		15 47 24.9	+1.0
	comp=Z,4.4nm,0.8s								
RES	Resolute Bay	91.07	10	*e*P		P		15 47 24.9	+1.0
RES				pmax	pmax				
	comp=Z,4.0nm,0.8s								
YKA	Yellowknife Ar	93.20	24	P		P		15 47 35.0	+1.0
	comp=Z,1.2nm,0.7s,baz=302,slow=4.8,SNR=19								
YKA	Yellowknife Ar	93.20	24	P		P		15 47 35.0	+1.0
YKA	Yellowknife Ar	93.20	24	P		P		15 47 35.0	+1.0
TORD	Torodi Ar. Bea	120.75	292	PKP		PKPdf		15 53 12.7	-0.2
	comp=Z,0.5nm,0.6s,baz=17,slow=3.7,SNR=3.9								
PLCA	Paso Flores	146.23	156	PKPbc		PKPab		15 54 02.1	+0.7
	comp=Z,5.7nm,0.7s,baz=249,slow=2.5,SNR=23								
PLCA	Paso Flores	146.23	156	*e*PKPdf		PKPab		15 54 01.3	-0.1
PLCA	Paso Flores	146.23	156	*e*PKP2		PKPab		15 54 01.3	-0.1

IDC 30 15:54:02.6±18.0, 8°92N×124°19E, h376km±207km, mb2.5/3, mb1 2.6/3, mb1mx2.4/40, mbtmp3.3/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/15, Error ellipse: s-maj=266.2km s-min=30.5km az=62.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ	Hachijo jima 2	28.06	29	LR		LR	16 10 36.8	
	comp=Z,52nm,18.2s,baz=150,slow=35							
WRA	Warramunga Arr	30.37	161	P		P	15 59 39.7	-1.8
	0.1nm,0.4s,baz=338,slow=8.5,SNR=3.5							
ASAR	Alice Springs	33.74	164	P		P	16 00 11.8	+1.3
	0.2nm,0.4s,baz=352,slow=6.8,SNR=8.0							
MKAR	Makanchi Array	51.89	324	P		P	16 02 33.8	-0.4
	0.5nm,0.7s,baz=125,slow=8.0,SNR=5.6							
FINES	FINESS Array B	86.10	332	P		P	16 06 02.2	+0.5
	16nm,1.4s,baz=60,slow=3.7,SNR=3.7							

*ISCJB **30** 15:57:12.7±1.0, 61°51S±0°10×155°0E±0°5, h10km, mb3.9/4, MS3.8/9, Error ellipse: s-maj=35.0km s-min=13.8km az=176.7*
*NEIC **30** 15:57:14.5±0.8, 61°56S×154°73E, h10km, mb4.4/2, Error ellipse: s-maj=31.3km s-min=12.5km az=86.0*
*IDC **30** 15:57:14.2±4.7, 61°67S×153°78E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.8/27, mbtmp3.8/4, ML3.6/1, MS3.8/10, Ms1 3.8/10, ms1mx3.6/22, Error ellipse: s-maj=344.2km s-min=38.8km az=77.0*

ISC 30 15:57:13.3±1.2, 61°7S±0°1×155°1E±0°3, h10km, n22, σ0§85/8, mb3.9/4, MS3.8/9, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MCQ	Macquarie Isla	7.51	18	*e*Pn		Pn	15 59 02.6	-0.1
VNDA	Vanda	16.05	175	Pn		P	16 01 02.3	+0.2
	0.2nm,0.3s,baz=353,slow=13,SNR=7.4							
VNDA				LR		LR	16 06 38.4	
	comp=Z,457nm,19.0s,baz=356,slow=35							
VNDA	Vanda	16.05	175	*e*P		P	16 01 02.0	-0.1
RPZ	Rata Peaks	20.35	35	LR		LR	16 08 08.7	
	comp=Z,285nm,21.7s,baz=187,slow=32							
QSPA	South Pole Qui	28.39	180	LR		LR	16 14 31.3	
	comp=Z,229nm,21.9s,baz=21,slow=36							
STKA	Stephens Creek	31.09	337	P		P	16 03 32.7	+1.2
	1.2nm,0.7s,baz=169,slow=16,SNR=2.6							
STKA				LR		LR	16 13 05.5	
	comp=Z,130nm,20.3s,baz=183,slow=31							
STKA	Stephens Creek	31.09	337	*e*P		P	16 03 32.1	+0.7
	6.8nm,1.8s							
MAW	Mawson	36.38	220	LR		LR	16 18 56.4	
	comp=Z,218nm,18.3s,baz=108,slow=36							
H01W1	Cape Leeuwin H	37.18	297	T		T	16 43 23.9	
	baz=147,slow=75,SNR=25							
H01W2	Cape Leeuwin H	37.18	297	T		T	16 43 28.9	
	baz=147,slow=75,SNR=37							
H01W3	Cape Leeuwin H	37.19	297	T		T	16 43 28.6	
	baz=147,slow=75,SNR=31							
DZM	Mont Dzumac	40.38	16	LR		LR	16 17 54.5	
	comp=Z,146nm,18.3s,baz=226,slow=31							
ASAR	Alice Springs	40.67	330	P		P	16 04 53.1	-0.6
	0.9nm,0.9s,baz=159,slow=8.0,SNR=6.7							
WR1	Warramunga Arr	44.16	331	*e*P		P	16 05 21.1	-0.8
	10nm,1.3s							
WRA	Warramunga Arr	44.16	331	P		P	16 05 21.1	-0.9
	1.0nm,0.8s,baz=165,slow=7.3,SNR=5.9							
HNR	Honiara	52.29	6	LR		LR	16 23 31.9	
	comp=Z,142nm,20.2s,baz=154,slow=30							
LEM	Lembang	64.92	306	LR		LR	16 31 38.1	
	comp=Z,60nm,21.4s,baz=80,slow=32							
PLCA	Paso Flores	71.45	145	LR		LR	16 33 58.7	
	comp=Z,58nm,19.3s,baz=220,slow=31							
H08S2	Diego Garcia H	79.78	273	T		T	17 37 02.2	
	baz=151,slow=76,SNR=31							
H08S1	Diego Garcia H	79.79	273	T		T	17 37 03.5	
	baz=151,slow=76,SNR=25							
H08S3	Diego Garcia H	79.80	273	T		T	17 37 05.5	
	baz=151,slow=76,SNR=30							
CMAR	Chiang Mai Arr	91.40	308	LR		LR	16 49 11.8	
	comp=Z,14nm,20.4s,baz=156,slow=34							

*ISCJB **30** 15:59:34.8±0.6, 7°47N±0°03×74°06W±0°03, h74km±8km, mb3.2/1, Error ellipse: s-maj=5.7km s-min=4.8km az=152.9*
*RSNC **30** 15:59:35.8±1.2, 7°46N×74°05W, h68km±7km, ML3.4, Mw3.5*
*IDC **30** 15:59:36.5±2.3, 7°44N×73°94W, h109km±27km, mb2.9/1, mb1 3.2/3, mb1mx3.0/30, mbtmp3.5/3, Error ellipse: s-maj=44.7km s-min=9.2km az=128.0*

ISC 30 15:59:35.1±1.0, 7°47N±0°04×74°06W±0°03, h68km±8km, n22, σ1§12/33, 4C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BRRC	Barranca, Sant	0.50	136	*i* P		Pn	15 59 47.6	-0.2
BRRC				*i*			15 59 47.9	
	comp=Z,603nm,0.4s							
BRRC				*e*S		Sn	15 59 57.4	+0.4
ZARC	Zaragoza, Cauc	0.79	272	*i* P		Pn	15 59 50.8	-0.2
ZARC				*e*S		Sn	16 00 03.3	+0.6
PTBC	PUERTO BERRIO,	1.00	203	*e*P		Pn	15 59 52.6	-1.0
PTBC				*e*S		Sn	16 00 08.2	+0.9
PTBC				*i*			16 00 10.2	
	comp=N,1μm,0.3s							
OCAC	Ocana	1.06	44	*e*P		Pn	15 59 54.6	+0.2
OCAC				*e*S		Sn	16 00 09.8	+1.0
BARC	Barichara	1.23	135	*i* P		Pn	15 59 56.5	-0.2
BARC				*i*			15 59 56.6	
	comp=Z,675nm,0.2s							
BARC				*e*S		Sn	16 00 12.7	-0.1
PAMC	Pamplona, Colo	1.35	95	*i* P		Pn	15 59 58.7	+0.2
PAMC				*e*S		Sn	16 00 15.8	-0.2
URCC	San Jos de Ur	1.49	281	*e*P		Pn	15 59 60.0	+0.1
URCC				*e*S		Sn	16 00 20.1	+1.5
URCC				*i*			16 00 21.8	
	comp=N,976nm,0.3s							
RUSC	La Rusia	1.84	148	*e*P		Pn	16 00 04.6	-0.4
RUSC				*e*S		Sn	16 00 27.8	+0.1
RUSC				*i*			16 00 30.4	
	comp=N,206nm,0.3s							
HELC	Santa Helena	1.93	229	*e*P		Pn	16 00 06.0	-0.2
HELC				*i*			16 00 37.2	
	comp=N,170nm,0.2s							
NORC	Norcasia	2.06	203	*e*P		Pn	16 00 07.3	-0.2
NORC				*e*S		Sn	16 00 32.3	0.0
NORC				*i*			16 00 37.8	
	comp=N,391nm,0.2s							
DBBC	Dabeiba	2.18	258	*e*P		Pn	16 00 09.2	-0.1
DBBC				*i*			16 00 43.2	
	comp=Z,138nm,0.5s							
TAMC	Tame, Arauca	2.47	114	*i* P		Pn	16 00 13.8	+0.6
ROSC	El Rosal	2.62	186	P		Pn	16 00 16.8	+1.2
	comp=Z,7.8nm,0.3s,baz=25,slow=19,SNR=11							
ROSC				S		Sn	16 00 50.2	+3.7
	comp=Z,10nm,0.3s,baz=3.3,slow=24,SNR=11							
CHIC	Chingaza	2.84	173	*e*S		Sn	16 00 53.3	+1.5
CHIC				*i*			16 00 59.6	
	comp=N,101nm,0.4s							
ANIL	Santa Ana	3.25	204	*e*S		Sn	16 01 01.9	+0.3
ANIL				*i*			16 01 11.2	
	comp=N,127nm,0.3s							
VILC	Villavicencio,	3.35	174	*e*P		Pn	16 00 27.1	+1.8
VILC				*i*			16 01 10.6	
	comp=N,242nm,0.5s							
SDV	Santo Domingo	3.67	67	P		Pn	16 00 30.3	+0.6
	comp=N,4.5nm,0.3s,baz=243,slow=9.0,SNR=15							
SDV				S		Sn	16 01 12.5	+0.5
	comp=N,10nm,0.3s,baz=27,slow=16,SNR=11							
SDV	Santo Domingo	3.67	67	*e*P		Pn	16 00 30.3	+0.6
SMRC	Santa Marta, M	3.68	357	*e*P		Pn	16 00 31.1	+1.6
YKA	Yellowknife Ar	62.34	340	P		P	16 09 48.1	-2.2
	comp=N,0.1nm,0.4s,baz=136,slow=6.1,SNR=3.2							
ASAR	Alice Springs	148.72	236	PKPbc		PKPdf	16 19 11.4	-0.5
	comp=N,0.2nm,0.6s,baz=123,slow=3.2,SNR=4.7							
WRA	Warramunga Arr	149.81	243	PKPbc		PKPdf	16 19 14.4	+0.7
	comp=N,0.1nm,0.4s,baz=107,slow=2.6,SNR=6.4							

*ISCJB **30** 16:01:26.6±0.3, 7°26S±0°04×123°21E±0°06, h600km, mb3.8/10, Error ellipse: s-maj=7.9km s-min=4.9km az=165.9*
*DJA **30** 16:01:27.7±0.2, 7°S±2°×12°3E±°, h589km±3km, M4.2/18, mb4.5/18, mB4.7/9, MLv4.3/18, Mw(mB)4.0/9*
*IDC **30** 16:01:27.1±0.6, 7°21S×123°27E, h581km±8km, mb3.2/10, mb1 3.4/14, mb1mx3.2/40, mbtmp4.3/14, Error ellipse: s-maj=18.9km s-min=8.7km az=74.0*

ISC 30 16:01:27.7±0.5, 7°27S±0°06×123°29E±0°09, h600km, n47, σ1§33/55, mb4.1/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MMRI	Maumere	1.72	217	P		P	16 02 39.2	-1.8
MMRI				S		S	16 03 37.1	-3.4
BBSI	Bau Bau	1.91	338	P		P	16 02 40.4	-1.4
BBSI				S		S	16 03 40.3	-1.5
EDFI	Ende, Flores	2.17	227	P		P	16 02 40.5	-2.4
SOEI	Soe	2.65	159	P		P	16 02 44.2	-1.8
SOEI				S		S	16 03 45.4	-2.8
BATI	Baumata	2.94	173	P		P	16 02 46.3	-0.3
	147nm,0.3s,baz=347,slow=1.6,SNR=157							
BATI				S		S	16 03 47.4	-3.4
	28nm,0.3s,baz=26,slow=23,SNR=12							
BATI	Baumata	2.94	173	P		P	16 02 46.3	-0.3
BKSI	Bulukumba	3.70	301	P		P	16 02 50.3	-0.9
WSI	Waingapu	3.81	231	P		P	16 02 49.6	-2.3
BASI	Baing, Sumba	3.98	222	P		P	16 02 51.9	-1.1
BNSI	Bone	4.26	312	P		P	16 02 55.0	-0.1
SPSI	Sidrap Palu	4.80	313	P		P	16 02 58.1	-1.0
NLAI	Namlea	5.51	44	P		P	16 03 04.0	-0.8
	172nm,0.6s,4μm0.9nm							
PLAI	Plamjang	5.68	254	P		P	16 03 03.8	-2.4
	117nm,0.6s,1μm0.4nm							
SANI	Sanana	5.84	28	P		P	16 03 06.3	-1.2
	110nm,0.8s,0.4nm							
LUWI	Luwuk	6.21	355	P		P	16 03 10.0	-0.7
	70nm,0.6s,2μm0.3nm							
APSI	Ampana	6.52	345	P		P	16 03 12.8	-0.7
PCI	Palu	7.20	331	P		P	16 03 19.5	-0.1
	180nm,0.7s,3μm0.8nm							
MRSI	Marisa	7.81	350	P		P	16 03 24.1	-1.2
	127nm,0.7s,1μm0.5nm							
KMSI	Cibinong	7.82	5	P		P	16 03 25.0	-0.4
	478nm,0.6s,6μm							
MPSI	Mapaga	8.28	336	P		P	16 03 28.6	-1.2
TNTI	Ternate	8.96	27	P		P	16 03 34.4	-1.9
	25nm,0.8s							
SIJI	Sorong	10.18	52	P		P	16 03 47.4	-1.0
	3.2nm,0.3s,baz=243,slow=9.4,SNR=19							
SIJI				S		S	16 05 42.1	-1.6
	baz=108,slow=23,SNR=2.6							
FITZ	Fitzroy Crossi	11.01	168	P		P	16 03 56.5	+0.1
	2.6nm,0.3s,baz=3.6,slow=7.7,SNR=112							
FITZ				S		S	16 05 56.9	-1.7
	0.3nm,0.3s,baz=42,slow=18,SNR=3.6							
WRA	Warramunga Arr	16.54	141	P		P	16 04 51.0	+0.9
	1.4nm,0.3s,baz=318,slow=12,SNR=92							
ASAR	Alice Springs	19.23	149	P		P	16 05 15.8	+1.2
	1.1nm,0.3s,baz=324,slow=8.2,SNR=88							
ASAR				S		S	16 08 18.8	+0.6
	baz=342,slow=23,SNR=4.5							
ASAR				ScP		ScP	16 11 49.0	+1.0
	0.1nm,0.3s,baz=334,slow=2.1,SNR=11							
NWAO	Narrogin (SRO)	26.15	192	P		P	16 06 17.0	+1.0
	8.5nm,0.6s,baz=259,slow=10,SNR=9.8							
KRAB	Krabi	28.53	302	P		P	16 06 30.5	-6.5
STKA	Stephens Creek	29.85	148	P		P	16 06 49.9	+1.8
	4.7nm,0.5s,baz=314,slow=10,SNR=18							
CMAR	Chiang Mai Arr	35.08	317	P		P	16 07 32.7	+0.2
	0.2nm,0.3s,baz=147,slow=5.4,SNR=3.6							
CMAR				PcP		PcP	16 09 48.6	+1.8
	0.4nm,0.5s,baz=146,slow=2.3,SNR=4.1							
KSRS	Korea Array	44.70	5	P		P	16 08 49.2	+0.6
	1.1nm,0.8s,baz=180,slow=8.7,SNR=7.8							
MJAR	Matsushiro Arr	45.77	17	P		P	16 08 56.4	-0.5
	1.4nm,0.5s,baz=199,slow=9.9,SNR=4.2							
RAMN	Ramite	49.20	315	*e*P		P	16 09 23.7	+0.7
	14nm,0.5s							
JIRN	Jiri	49.92	316	*e*P		P	16 09 28.7	+0.3
	7.5nm,0.4s							
GUN	Gumba	50.30	316	*e*P		P	16 09 31.4	+0.3
	23nm,0.7s							
PKI	Pulchoki	50.41	315	*e*P		P	16 09 31.8	-0.1
	9.7nm,0.3s							
PKIN	Phulchoki	50.43	315	*e*P		P	16 09 31.8	-0.2
	9.4nm,0.4s							
KKN	Kakani	50.64	315	*e*P		P	16 09 33.8	+0.4
	3.0nm,0.4s							
DMN	Daman	50.65	315	*e*P		P	16 09 33.7	+0.1
	3.3nm,0.3s							
KOLN	Koldanda	51.81	314	*e*P		P	16 09 41.8	-0.1
	6.6nm,0.4s							
USRK	Ussuriysk Ar.	51.83	8	P		P	16 09 41.6	+0.2
	2.3nm,0.5s,baz=192,slow=6.3,SNR=7.9							
DANN	Dangsing	52.05	315	*e*P		P	16 09 43.3	-0.3
	26nm,0.6s							
PYUN	Piuthan	52.45	314	*e*P		P	16 09 46.8	+0.4
	21nm,0.6s							
SONM	Songino Array	56.86	346	P		P	16 10 16.8	+0.1
	1.3nm,0.6s,baz=162,slow=7.6,SNR=12							
MKAR	Makanchi Array	64.97	330	P		P	16 11 10.0	+0.4
	2.0nm,0.5s,baz=133,slow=7.8,SNR=34							
PETK	Petropavlovsk-	66.84	22	P		P	16 11 22.2	+1.2
	3.7nm,1.1s,baz=153,slow=13,SNR=4.6							
ZALV	Zalesovo Beam	69.04	337	P		P	16 11 33.6	-0.7
	0.9nm,0.3s,baz=149,slow=3.5,SNR=7.8							
TORD	Torodi Ar. Bea	122.33	281	PKP		PKiKP	16 19 17.2	+0.4
	0.5nm,0.6s,baz=147,slow=4.3,SNR=4.4							

*ISK **30** 16:27:34.9, 40°59N×33°07E, h6km, ML2.1/8*
*ISCJB **30** 16:27:35.5±0.6, 40°59N±0°05×33°08E±0°04, h10km, Error ellipse: s-maj=6.9km s-min=4.4km az=6.5*
*DDA **30** 16:27:35.0, 40°58N×33°06E, h7km±2km, ML2.6*

ISC 30 16:27:35.8±0.9, 40°58N±0°04×33°08E±0°03, h10km, n18, σ0§46/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ELDT	Eldivan	0.28	109	IAML_P				
	comp=Z,5μm,0.2s							
ELDT				*i* P		Pg	16 27 41.6	+0.1
CANT	Cankiri	0.41	86	PG		Pg	16 27 43.5	-0.4
CANT				SG		Sg	16 27 49.8	+0.4
CMDR	Camlidere-ANKA	0.47	260	*i* P		Pg	16 27 44.6	-0.4
CMDR				*i* S		Sg	16 27 51.9	+0.7
LOD	Lodumlu	0.73	199	PG		Pg	16 27 49.6	-0.3
KBUK	KARABUK-Merkez	0.74	333	IAML_P				
	comp=Z,1μm,0.2s							
KBUK				*i* P		Pg	16 27 49.6	-0.5
ANTO	Ankara	0.74	197	PG		Pg	16 27 49.6	-0.5
BCAM	Yenicaga	0.81	287	IAML_P				
	comp=Z,659nm,0.1s							
BCAM				*i* P		Pg	16 27 50.8	-0.6
BCAM				*i* S		Sg	16 28 01.4	-0.4
DELI	KIRIKKALE	0.87	132	*i* P		Pg	16 27 52.0	-0.5
BBAL	Bala	1.04	178	IAML_P				
	comp=Z,423nm,0.2s							
BBAL				*i* P		Pg	16 27 55.2	-0.5
AFSR	Afar-Bala (An	1.13	180	PN		Pb	16 27 57.2	-0.3
AFSR				SN		Sn	16 28 13.5	+0.1
KURC	Kurucasile-Bar	1.29	349	PN		Pn	16 27 59.7	-0.1
YIGI	Dzce	1.30	288	IAML_P				
	comp=Z,272nm,0.2s							
YIGI				*i* P		Pg	16 28 01.6	+1.0
CDAG	Cicekdag	1.38	133	IAML_P				
	comp=Z,354nm,0.1s							
CDAG				*i* P		Pb	16 28 01.8	+0.1
KKUL	Konya-Kulu	1.41	185	*i* P		Pb	16 28 02.4	+0.1
MDUB	Mudurnu	1.44	266	PN		Pn	16 28 01.9	-0.1
KULU	Kulu	1.54	182	PN		Pb	16 28 04.1	-0.3
SERE	Sereflikochisa	1.67	167	PN		Pn	16 28 05.7	+0.5
YAYX	Yaylak	1.73	161	PN		Pn	16 28 06.3	+0.3

*MOS **30** 16:27:40.9±0.6, 56°05N×113°97E, h4km, mb4.1/1, Error ellipse: s-maj=18.6km s-min=13.6km az=67.4*
*BYKL **30** 16:27:42.3±0.2, 56°06N×113°96E, h7km±3km*

ISC 30 16:27:41.3±1.1, 56°03N±0°03×113°93E±0°02, h1km±10km, n33, σ2§38/76, 5C-2D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SVKR	Severomuysk	0.23	292	*e*Pg		Pg	16 27 46.3	+0

KMO	**Kumora**	**1.54**	**266**	⇓*i*PG	**Pn**	**16 28 09.9**	**0.0**
KMO				*e*		16 28 30.9	
KMO				pmax	pmax		
	comp=Z,48nm,0.3s						
KMO				smax	smax		
	comp=N,667nm,0.9s						
BOD	**Bodaibo**	**1.79**	**1**	⇑*i*Pg	**Pn**	**16 28 13.4**	**+0.1**
BOD				*e*Sg	**Sb**	**16 28 37.1**	**-0.7**
BOD				Pmax			
	comp=N,194nm,0.2s						
BOD				Smax			
	comp=N,297nm,0.2s						
BOD	**Bodaibo**	**1.79**	**1**	⇑*i*PN	**Pn**	**16 28 13.3**	**0.0**
BOD				*e*		16 28 37.1	
BOD				pmax	pmax		
	comp=Z,181nm,0.2s						
BOD				smax	smax		
	comp=E,297nm,0.3s						
YLYR	**Ulyunkhan**	**1.96**	**235**	*e*Pn	**Pn**	**16 28 17.0**	**+1.4**
YLYR				*e*Pg	**Pb**	**16 28 17.7**	**0.0**
YLYR				*e*Sg	**Sg**	**16 28 44.7**	**+0.6**
YLYR				Pmax			
	comp=E,48nm,0.3s						
YLYR				Smax			
	comp=E,220nm,0.3s						
YLYR	**Ulyunkhan**	**1.96**	**235**	*e*PN	**Pb**	**16 28 17.6**	**-0.1**
YLYR				*e*		16 28 18.8	
YLYR				*e*S	**Sn**	**16 28 41.8**	**+1.0**
YLYR				*e*		16 28 43.2	
YLYR				pmax	pmax		
	comp=Z,47nm,0.3s						
YLYR				smax	smax		
	comp=E,220nm,0.3s						
NIZ	**Nizh Angarsk**	**2.49**	**266**	*e*Pn	**Pn**	**16 28 24.0**	**+1.2**
NIZ				*e*Pg	**Pb**	**16 28 27.0**	**+0.3**
NIZ				*e*Sn	**Sn**	**16 28 52.9**	**-0.9**
NIZ				*e*Sg	**Sb**	**16 28 59.7**	**+1.9**
NIZ				Pmax			
	comp=E,18nm,0.4s						
NIZ				Smax			
	comp=E,192nm,0.3s						
CRS	**Chara**	**2.56**	**68**	*e*Pn	**Pn**	**16 28 24.6**	**+0.7**
CRS				*e*Pg	**Pb**	**16 28 28.6**	**+0.6**
CRS				*e*Sn	**Sn**	**16 28 54.9**	**-0.7**
CRS				*e*Sg	**Sg**	**16 29 01.4**	**-2.0**
CRS				Pmax			
	comp=E,86nm,0.3s						
CRS				Smax			
	comp=E,306nm,0.4s						
CRS	**Chara**	**2.56**	**68**	*e*PN	**Pn**	**16 28 24.6**	**+0.7**
CRS				*e*		16 28 29.3	
CRS				*e*		16 29 01.2	
CRS				pmax	pmax		
	comp=Z,168nm,0.5s						
CRS				smax	smax		
	comp=E,250nm,0.6s						
SYVR	**Suvo**	**3.29**	**225**	*e*Pn	**Pn**	**16 28 35.4**	**+1.5**
SYVR				*e*Pg	**Pb**	**16 28 41.3**	**+0.9**
SYVR				*e*PgPg	**PbPb**	**16 28 43.0**	**-0.5**
SYVR				*e*		16 28 45.1	
SYVR				*e*Sn	**Sn**	**16 29 13.7**	**0.0**
SYVR				*e*Sg	**Sg**	**16 29 25.4**	**-1.5**
SYVR				max			
	comp=E,10.0nm,0.3s						
SYVR				Smax			
	comp=E,59nm,0.5s						
TUP	**Tupik**	**3.81**	**113**	*e*Pn	**Pn**	**16 28 41.5**	**+0.4**
TUP				*e*Pg	**Pb**	**16 28 51.0**	**+1.8**
TUP				*e*Sn	**Sn**	**16 29 25.3**	**-1.1**
TUP				*e*Sg	**Sg**	**16 29 40.0**	**-3.4**
TUP				Pmax			
	comp=E,48nm,0.4s						
TUP				Smax			
	comp=E,85nm,0.7s						
TUP	**Tupik**	**3.81**	**113**	*e*PN	**Pn**	**16 28 41.4**	**+0.4**
TUP				*e*		16 28 50.6	
TUP				*e*S	**Sn**	**16 29 26.4**	**0.0**
TUP				*e*		16 29 40.5	
TUP				pmax	pmax		
	comp=Z,48nm,0.3s						
TUP				smax	smax		
	comp=E,84nm,0.7s						
CIT	**Chita**	**4.03**	**183**	*e*Sg	**Sg**	**16 29 48.1**	**-2.4**
CIT				Smax			
	comp=E,130nm,0.2s						
MXMB	**Maximikha**	**4.10**	**229**	*e*Pn	**Pn**	**16 28 45.6**	**+0.6**
MXMB				*e*Pg	**Pb**	**16 28 56.3**	**+2.2**
MXMB				*e*Sn	**Sn**	**16 29 33.2**	**-0.3**
MXMB				*e*Sg	**Sg**	**16 29 50.7**	**-2.0**
OGRR	**Ongureny**	**4.38**	**239**	*e*Pn	**Pn**	**16 28 51.2**	**+2.4**
OGRR				*e*Pg	**Pb**	**16 29 00.6**	**+1.7**
OGRR				*e*Sg	**Sg**	**16 29 58.8**	**-2.9**
OGRR				Pmax			
	comp=E,9.0nm,0.6s						
OGRR				Smax			
	comp=E,28nm,0.5s						
TRTB	**Turuntaevo**	**5.31**	**227**	*e*Pn	**Pn**	**16 29 03.4**	**+1.7**
TRTB				*e*Pg	**Pb**	**16 29 18.4**	**+3.5**
TRTB				*e*Sg	**Sg**	**16 30 28.3**	**-3.5**
TRTB				*e*		16 30 41.8	
TRG	**Tyrgan**	**5.51**	**237**	*e*Pn	**Pn**	**16 29 04.8**	**+0.4**
TRG				*e*Pg	**Pb**	**16 29 21.9**	**+3.7**
TRG				*e*Sn	**Sn**	**16 30 06.8**	**-1.6**
TRG				*e*Sg	**Sg**	**16 30 34.0**	**-4.1**
TRG				Pmax			
	comp=E,5.0nm,0.3s						
TRG				Smax			
	comp=E,23nm,0.6s						
UUDB	**Ulan-Yde**	**5.58**	**224**	*e*Pg	**Pb**	**16 29 24.0**	**+4.6**
UUDB				*e*Sn	**Sn**	**16 30 08.3**	**-1.7**
UUDB				*e*Sg	**Sg**	**16 30 36.8**	**-3.5**
UUDB				Pmax			
	comp=E,13nm,0.7s						
UUDB				Smax			
	comp=E,67nm,1.2s						
HRMR	**Khuramsha**	**6.04**	**226**	*e*Pn	**Pn**	**16 29 13.4**	**+1.7**
HRMR				*e*Pg	**Pb**	**16 29 30.9**	**+3.6**
HRMR				*e*Sg	**Sg**	**16 30 51.2**	**-4.0**
HRMR				Pmax			
	comp=E,6.0nm,0.5s						
HRMR				Smax			
	comp=E,70nm,0.6s						
KPC	**Khapcheranga**	**6.41**	**189**	*e*Pn	**Pn**	**16 29 16.6**	**-0.2**
KPC				*e*Pg	**Pb**	**16 29 38.3**	**+4.7**
KPC				*e*Sn	**Sn**	**16 30 27.2**	**-3.4**
KPC				*e*Sg	**Sg**	**16 31 01.2**	**-5.8**
KPC				Pmax			
	comp=E,2.0nm,0.3s						
KPC				Smax			
	comp=E,36nm,1.0s						
BGT	**Bolshoye Golou**	**6.42**	**235**	*e*Sg	**Sg**	**16 31 01.7**	**-5.4**
BGT				Smax			
	comp=E,12nm,0.6s						
LSTR	**Listvyanka**	**6.80**	**236**	*e*Sg	**Sg**	**16 31 12.8**	**-6.6**
LSTR				Smax			
	comp=E,21nm,0.8s						
IVK	**Ivanovka**	**7.04**	**237**	*e*Sg	**Sg**	**16 31 20.6**	**-6.5**
IVK				Smax			
	comp=E,18nm,0.8s						
MOY	**Mondy**	**8.81**	**246**	*e*Sg	Sg	16 32 14.8	-9.0
MOY				Smax			
	comp=E,19nm,1.2s						
ORL	**Orlik**	**8.97**	**253**	*e*Pn	**Pn**	**16 29 54.2**	**+2.3**
ORL				*e*Sn	**Sn**	**16 31 30.5**	**-3.0**
ORL				*e*Sg	Sg	16 32 20.6	-8.4
ORL				Smax			
	comp=E,15nm,1.8s						

*ISCJB **30** 16:42:04.8±1.5,35°.15N±0°.06×141°.2E±0°.2,h48km, mb3.4/2,MS2.8/1,Error ellipse: s-maj=21.5km s-min=8.1km az=170.1*

*JMA **30** 16:42:04.0±0.2,35°.19N×141°.27E,h39km±3km,M2.7*

*IDC **30** 16:42:04.4±9.2,34°.78N×140°.83E,h0km,mb3.4/2, mb1 3.4/3,mb1mx3.1/43,mbtmp3.2/3,ML1.9/1,MS2.8/1, Ms1 2.8/1,ms1mx2.3/23,Error ellipse: s-maj=319.6km s-min=29.6km az=61.0*

ISC 30 16:42:07.1±1.5,35°.15N±0°.06×141°.2E±0°.1,h48km,n17, σ2s51/12,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.53**	**199**	P	**Pn**	**16 42 15.9**	**-2.2**
CHOJ	**Chosi**	**0.61**	**334**	P	**Pn**	**16 42 16.2**	**-3.4**
CHOJ				S	**Sn**	**16 42 25.4**	**-3.2**
BSO3	**Boso 3**	**0.66**	**238**	P	**Pn**	**16 42 17.9**	**-2.1**
KTR	**Katsuura**	**0.72**	**270**	P	**Pn**	**16 42 18.7**	**-2.3**
BSO4	**Boso 4**	**0.72**	**257**	P	**Pn**	**16 42 19.0**	**-1.9**
JKUC	**kamogawauchiur**	**0.81**	**271**	P	**Pn**	**16 42 20.0**	**-2.2**
JYT	**Yasato**	**1.34**	**323**	P	**Pn**	**16 42 29.0**	**-0.4**
JYT				*e*S	**Sn**	**16 42 45.9**	**-0.2**
MJAR	**Matsushiro Arr**	**2.79**	**301**	Pn	**Pn**	**16 42 49.6**	**+0.3**
	0.2nm,0.3s,baz=155,slow=14,SNR=13						
H11N2	**WAKE ISLAND Hy**	**27.39**	**117**	T	T	17 16 34.0	
	baz=310,slow=75,SNR=7.3						
H11N1	**WAKE ISLAND Hy**	**27.40**	**117**	T	T	17 16 40.2	
	baz=310,slow=75,SNR=7.1						
H11N3	**WAKE ISLAND Hy**	**27.41**	**117**	T	T	17 16 33.3	
	baz=310,slow=75,SNR=7.7						
H11S1	**WAKE ISLAND Hy**	**28.04**	**120**	T	T	17 17 39.6	
	baz=312,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**28.04**	**120**	T	T	17 17 34.9	
	baz=312,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy**	**28.06**	**120**	T	T	17 17 28.9	
	baz=312,slow=76,SNR=9.4						
DAV	**Davao City (W)**	**31.42**	**211**	LR	LR	16 59 13.4	
	comp=Z,21nm,22.0s,baz=5.0,slow=33						
MKAR	**Makanchi Array**	**44.98**	**304**	P	**P**	**16 50 20.9**	**+3.3**
	0.3nm,0.7s,baz=81,slow=8.9,SNR=3.2						
WRA	**Warramunga Arr**	**55.18**	**188**	P	**P**	**16 51 35.8**	**+0.8**
	0.3nm,0.5s,baz=5.5,slow=7.4,SNR=5.9						

*ISCJB **30** 16:50:26.0±0.7,21°.93N±0°.10×144°.9E±0°.1,h44km, mb3.9/13,MS3.1/5,Error ellipse: s-maj=18.0km s-min=14.0km az=174.9*

*IDC **30** 16:50:33.4±8.3,21°.93N×144°.84E,h94km±76km,mb3.6/13, mb1 3.8/13,mb1mx3.5/56,mbtmp4.0/13,MS3.1/8, Ms1 3.1/8,ms1mx2.9/39,Error ellipse: s-maj=28.9km s-min=13.6km az=84.0*

ISC 30 16:50:27.9±0.8,21°.9N±0°.1×144°.9E±0°.2,h44km,n28, σ0s88/23,mb4.2/21,MS3.2/5,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**8.28**	**180**	LR	LR	16 55 17.6	
	comp=Z,133nm,20.7s,baz=54,slow=34						
MJAR	**Matsushiro Arr**	**15.70**	**340**	LR	LR	17 00 26.0	
	comp=Z,58nm,18.3s,baz=275,slow=38						
JNU	**Nakatsue**	**16.71**	**315**	LR	LR	17 00 04.2	
	comp=Z,46nm,18.0s,baz=54,slow=34						
KSRS	**Korea Array**	**21.34**	**320**	P	**P**	**16 55 13.8**	**+2.5**
	1.7nm,0.8s,baz=143,slow=9.7,SNR=12						
KSRS				LR	LR	17 03 22.1	
	comp=Z,91nm,18.2s,baz=108,slow=36						
KLR	**Kul'dur**	**29.20**	**342**	LR	LR	17 07 31.3	
	comp=Z,25nm,20.4s,baz=298,slow=35						
PETK	**Petropavlovsk-**	**32.65**	**14**	LR	LR	17 15 05.0	
	comp=Z,15nm,18.2s,baz=165,slow=45						
SONM	**Songino Array**	**40.21**	**319**	P	**P**	**16 58 00.6**	**+0.3**
	0.4nm,0.6s,baz=124,slow=9.1,SNR=3.8						
SONM				LR	LR	17 15 13.7	
	comp=Z,43nm,18.2s,baz=171,slow=37						
WRA	**Warramunga Arr**	**42.87**	**195**	P	**P**	**16 58 22.1**	**0.0**
	2.9nm,0.6s,baz=15,slow=8.3,SNR=89						
FITZ	**Fitzroy Crossi**	**44.02**	**207**	P	**P**	**16 58 31.7**	**+0.3**
	7.0nm,0.6s,baz=25,slow=9.0,SNR=29						
ASAR	**Alice Springs**	**46.56**	**194**	P	**P**	**16 58 51.4**	**-0.2**
	1.8nm,0.7s,baz=16,slow=8.6,SNR=42						
ASAR				LR	LR	17 17 30.8	
	comp=Z,49nm,19.4s,baz=154,slow=35						
RAMN	**Ramite**	**52.94**	**288**	*e*P	**P**	**16 59 40.6**	**+0.1**
	5.3nm,0.6s						
JIRN	**Jiri**	**53.21**	**289**	*e*P	**P**	**16 59 42.5**	**-0.1**
	9.4nm,0.6s						
GUN	**Gumba**	**53.45**	**289**	*e*P	**P**	**16 59 44.7**	**+0.4**
	3.3nm,0.4s						
PKI	**Pulchoki**	**53.91**	**289**	*e*P	**P**	**16 59 46.9**	**-0.7**
	4.0nm,0.6s						
PKIN	**Phulchoki**	**53.92**	**289**	*e*P	**P**	**16 59 46.8**	**-0.8**
	3.1nm,0.6s						
ZALV	**Zalesovo Beam**	**55.05**	**321**	P	**P**	**16 59 54.5**	**-0.5**
	0.7nm,0.5s,baz=97,slow=7.4,SNR=4.3						
DANN	**Dangsing**	**55.24**	**290**	*e*P	**P**	**16 59 56.8**	**-0.5**
	33nm,0.6s						
KOLN	**Koldanda**	**55.47**	**289**	*e*P	**P**	**16 59 58.1**	**-0.7**
	4.0nm,0.7s						
MKAR	**Makanchi Array**	**55.74**	**312**	P	**P**	**17 00 00.3**	**+0.1**
	0.8nm,0.6s,baz=91,slow=9.5,SNR=10						
PYUN	**Piuthan**	**55.95**	**290**	*e*P	**P**	**17 00 01.4**	**-0.9**
	7.4nm,0.6s						
KURBB	**Kurchatov Arra**	**58.47**	**317**	P	**P**	**17 00 18.7**	**-0.7**
	1.1nm,0.5s,baz=91,slow=7.6,SNR=18						
ILAR	**Eielson Array**	**61.11**	**27**	P	**P**	**17 00 36.5**	**-0.9**
	0.6nm,0.7s,baz=256,slow=5.6,SNR=7.4						
BVAR	**Borovoye Array**	**63.56**	**319**	P	**P**	**17 00 53.2**	**-0.7**
	1.5nm,0.5s,baz=97,slow=8.1,SNR=8.0						
YKA	**Yellowknife Ar**	**75.51**	**28**	P	**P**	**17 02 07.1**	**-0.3**
	0.5nm,0.7s,baz=291,slow=5.6,SNR=5.4						
NVAR	**Mina Array Bea**	**81.74**	**52**	P	**P**	**17 02 43.7**	**+1.2**
	0.6nm,0.7s,baz=260,slow=8.4,SNR=4.1						
FINES	**FINESS Array B**	**83.67**	**335**	P	**P**	**17 02 50.4**	**-1.3**
	2.3nm,0.8s,baz=60,slow=5.6,SNR=6.4						
PLCA	**Paso Flores**	**144.68**	**130**	PKP	**PKPab**	**17 09 59.4**	**+0.5**
	1.9nm,1.0s,baz=245,slow=7.1,SNR=3.1						
LPAZ	**La Paz**	**148.31**	**86**	PKPbc	**PKPbc**	**17 10 11.5**	**+0.5**
	0.9nm,0.5s,baz=281,slow=0.9,SNR=5.1						

*IDC **30** 16:55:12.2±0.8,10°.33N×126°.93E,h0km,mb3.8/9, mb1 4.0/9,mb1mx3.7/48,mbtmp3.8/9,Error ellipse: s-maj=61.2km s-min=16.9km az=72.0*

*ISCJB **30** 16:55:13.1±0.5,10°.27N±0°.06×126°.9E±0°.1,h20km,Error ellipse: s-maj=17.6km s-min=8.9km az=173.6*

*NEIC **30** 16:55:13.7±0.3,10°.29N×126°.85E,h10km,mb4.5/4,Error ellipse: s-maj=18.6km s-min=5.8km az=78.0*

ISC 30 16:55:15.1±0.7,10°.28N±0°.09×126°.9E±0°.2,h20km,n24, σ0s42/28,1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.45**	**250**	⇑*e*P	**Pn**	**16 55 40.4**	**+0.2**
LUWI	**Luwuk**	**11.97**	**200**	*e*Pn	**Pn**	**16 58 04.2**	**-0.5**
KSAR	**Wonju Array Be**	**27.06**	**2**	P	**P**	**17 00 55.9**	**-0.4**
KSRS	**Korea Array**	**27.07**	**2**	P	**P**	**17 00 55.9**	**-0.5**
	4nm,0.7s,baz=171,slow=10,SNR=5.0						
WR1	**Warramunga Arr**	**30.92**	**166**	*e*P	**P**	**17 01 30.8**	**0.0**
	12nm,1.4s						
WRA	**Warramunga Arr**	**30.92**	**166**	P	**P**	**17 01 30.8**	**0.0**
	0.2nm,0.5s,baz=347,slow=9.3,SNR=4.6						
AS31	**Alice Springs**	**34.43**	**169**	*e*P	**P**	**17 02 02.2**	**+0.7**
	1.0nm,1.0s						
ASAR	**Alice Springs**	**34.43**	**169**	P	**P**	**17 02 01.7**	**+0.2**
	0.5nm,0.5s,baz=351,slow=6.7,SNR=8.7						
ASAR				PcP	**PcP**	**17 04 37.4**	**+0.4**
	0.3nm,0.7s,baz=354,slow=3.0,SNR=5.6						
SONA0	**Songino Array**	**41.22**	**339**	*e*P	**P**	**17 02 59.4**	**+0.7**
SONM	**Songino Array**	**41.22**	**339**	P	**P**	**17 02 59.4**	**+0.7**
	0.3nm,0.6s,baz=152,slow=9.6,SNR=2.4						
MK01	**Makanchi Array**	**52.36**	**322**	*e*P	**P**	**17 04 26.1**	**+0.2**
MK31	**Makanchi Array**	**52.38**	**322**	*e*P	**P**	**17 04 25.9**	**-0.1**
MK32	**Makanchi Array**	**52.38**	**322**	*e*P	**P**	**17 04 26.4**	**+0.4**
MK32				*e*PcP	**PcP**	**17 05 36.4**	**-0.4**
MKAR	**Makanchi Array**	**52.38**	**322**	P	**P**	**17 04 26.4**	**+0.4**
	1.0nm,0.6s,baz=119,slow=8.0,SNR=15						
MKAR				PcP	**PcP**	**17 05 36.4**	**-0.4**
	0.4nm,0.7s,baz=94,slow=4.3,SNR=3.2						
MKAR	**Makanchi Array**	**52.38**	**322**	*e*P	**P**	**17 04 25.8**	**-0.2**
	8.2nm,0.6s						
MKAR				PcP	**PcP**	**17 05 36.4**	**-0.4**
KURK	**Kurchatov**	**56.40**	**325**	*e*P	**P**	**17 04 54.8**	**-0.3**
	4.1nm,1.0s						
KURBB	**Kurchatov Arra**	**56.40**	**325**	P	**P**	**17 04 55.4**	**+0.2**
	1.0nm,0.5s,baz=124,slow=6.7,SNR=12						
ARA0	**ARCESS Array S**	**84.39**	**340**	*e*P	**P**	**17 07 45.4**	**-0.4**
ARCES	**ARCESS Array B**	**84.39**	**340**	P	**P**	**17 07 45.4**	**-0.4**
	2.7nm,0.9s,baz=66,slow=6.9,SNR=7.4						
FIA0	**FINESS Array S**	**86.16**	**332**	*e*P	**P**	**17 07 54.5**	**-0.3**
FINES	**FINESS Array B**	**86.16**	**332**	P	**P**	**17 07 54.5**	**-0.3**
	1.3nm,0.5s,baz=80,slow=5.3,SNR=7.4						
YKA	**Yellowknife Ar**	**93.51**	**24**	P	**P**	**17 08 29.2**	**-0.2**
	0.2nm,0.4s,baz=291,slow=5.2,SNR=3.5						
PLCA	**Paso Flores**	**145.98**	**156**	PKPbc	**PKPab**	**17 14 55.1**	**+0.7**
	0.8nm,0.6s,baz=256,slow=5.4,SNR=5.0						
PLCA	**Paso Flores**	**145.98**	**156**	*e*PKPdf	**PKPab**	**17 14 54.5**	**+0.1**

PRU 30 17:07:09.9±0.0,50°.23N×119°.27E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.34**	**92**	*e*Pg	Pg	17 07 16.2	-0.2
OJC				*e*Sg	Sg	17 07 20.7	-0.1
OKC	**Ostrava-Krasne**	**0.82**	**242**	*e*SG	Sg	17 07 36.9	+0.6
LANS	**Liptovska Anna**	**1.09**	**173**	*e*PG	Pg	17 07 29.3	-1.4
LANS				*e*SG	Sg	17 07 44.9	+0.1
MORC	**Moravsky Berou**	**1.20**	**249**	*e*PG	Pg	17 07 32.9	0.0
MORC				*e*SG	Sb	17 07 49.3	-0.4
VYHS	**Vyhne**	**1.76**	**189**	*e*PN	Pn	17 07 40.0	-1.7
VYHS				*e*SN	Sn	17 08 02.7	-2.1
VYHS				*e*LG	Lg	17 08 05.2	
DPC	**Dobruska-Polom**	**1.90**	**275**	*e*SG	Sb	17 08 10.0	+0.4

IDC 30 17:12:09.2±10.0,17°.00S×178°.64W,h528km±124km, mb3.3/5,mb1 3.6/5,mb1mx3.1/36,mbtmp4.2/5,Error ellipse: s-maj=85.8km s-min=42.7km az=156.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.88**	**240**	P	P	17 18 48.9	-0.3
	3.0nm,0.5s,baz=84,slow=9.3,SNR=11						
WRA	**Warramunga Arr**	**44.58**	**259**	P	P	17 19 34.4	-0.1
	2.0nm,0.5s,baz=92,slow=7.5,SNR=99						
ASAR	**Alice Springs**	**44.83**	**253**	P	P	17 19 36.3	-0.1
	10nm,0.5s,baz=87,slow=8.8,SNR=277						
ILAR	**Eielson Array**	**85.06**	**13**	P	P	17 23 48.2	-0.4
	0.3nm,0.4s,baz=220,slow=5.3,SNR=7.0						
TXAR	**Lajitas Array**	**85.70**	**58**	P	P	17 23 52.8	+0.2
	0.5nm,0.6s,baz=215,slow=6.2,SNR=4.5						
BRTR	**Keskin Array B**	**143.98**	**316**	PKP	PKPbc	17 30 43.9	-0.4
	0.2nm,0.4s,baz=150,slow=3.6,SNR=2.6						
GERES	**GERESS Array B**	**146.68**	**345**	PKPbc	PKPbc	17 30 51.4	-0.4
	0.5nm,0.5s,baz=20,slow=4.3,SNR=4.4						

NNC 30 17:20:29.4±2.7,39°.50N×83°.67E,h6km±11km,mb3.5, mpv3.2,6C-6D,Error ellipse: s-maj=19.4km s-min=17.9km az=7.0,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**4.95**	**322**	⇑Pn	Pn	17 21 43.7	-0.7
	1.1nm,0.5s						
PDGK				⇑Pg	Pb	17 21 57.9	+1.3
	2.3nm,0.7s						
PDGK				⇑Sn	Sn	17 22 43.7	+1.6
	5.5nm,0.5s						
PDGK				⇓Lg	Lg	17 23 06.3	
	12nm,0.9s						
MDOK	**Medeo**	**6.18**	**308**	Pn	Pn	17 22 01.1	-0.2
	2.4nm,0.8s						
MDOK				Lg	Lg	17 23 43.6	
	10nm,0.6s						
TKM2	**Tokmak 2**	**6.98**	**302**	⇓Pg	Pg	17 22 40.8	-2.2
	1.6nm,0.8s						
TKM2				⇑Lg	Lg	17 24 08.6	
	3.4nm,0.8s						
MK31	**Makanchi Array**	**7.36**	**353**	⇓Pn	Pn	17 22 18.0	+0.6
	0.2nm,0.3s,baz=184,slow=12,SNR=20						
MK31				⇓Sn	Sn	17 23 42.6	+1.2
	0.5nm,0.5s,baz=175,slow=27,SNR=2.9						
MK31				⇑Lg	Lg	17 24 24.6	
	2.7nm,0.7s						
MAKZ	**Makanchi**	**7.41**	**351**	⇓Pn	Pn	17 22 18.2	+0.1
	1.1nm,0.6s						
MAKZ				⇑Sn	Sn	17 23 43.0	+0.5
	1.0nm,0.6s						
MAKZ				⇓Lg	Lg	17 24 28.9	
	1.0nm,0.6s						
AAK	**Ala-Archa**	**7.61**	**297**	Pg	Pg	17 22 49.0	-6.0
	2.1nm,0.8s						
AAK				Lg	Lg	17 24 32.0	
	5.7nm,0.8s						

*ISCJB **30** 17:20:37.4±1.6,13°.47N±0°.04×120°.21E±0°.05,h7km±10km, mb3.7/5,MS3.1/1,Error ellipse: s-maj=8.2km s-min=6.2km az=5.2*

*IDC **30** 17:20:37.2±1.0,13°.31N×120°.37E,h0km,mb3.6/5, mb1 3.9/5,mb1mx3.5/35,mbtmp3.7/5,MS3.2/1,Ms1 3.2/1, ms1mx2.4/48,Error ellipse: s-maj=21.4km s-min=11.1km az=117.0*

*MAN **30** 17:20:38.9,13°.47N×120°.20E,h19km,mb4.2,ML3.1, MS2.8*

ISC 30 17:20:38.1±1.5,13°.42N±0°.04×120°.27E±0°.06,h5km±10km, n14,σ0s93/19,mb3.5/5,1C-2D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.94**	**44**	Pg	**Pg**	**17 20 55.9**	**-0.2**
	255nm,0.3s,baz=203,slow=7.5,SNR=18						
TGY				Lg	Lg	17 21 09.2	
	354nm,0.3s,baz=338,slow=20,SNR=21						
TGY	**Tagaytay City**	**0.94**	**44**	⇑*e*P	**Pg**	**17 20 55.7**	**-0.4**
SJMP	**San Jose**	**1.26**	**139**	*e*P	**Pn**	**17 21 02.5**	**+0.2**
SJMP				*e*S	**Sn**	**17 21 19.8**	**+0.1**
BUSP	**Coron**	**1.41**	**183**	*e*P	**Pn**	**17 21 04.4**	**0.0**
BUSP				*e*S	**Sg**	**17 21 23.3**	**-0.3**
BOAC	**Boac**	**1.53**	**88**	*e*P	**Pn**	**17 21 05.8**	**-0.2**
BOAC				*e*S	**Sg**	**17 21 28.4**	**+1.1**
GQP	**Guinayangan**	**2.17**	**77**	⇓*e*P	**Pn**	**17 21 15.2**	**+0.3**
GQP				*e*S	**Sn**	**17 21 42.5**	**+0.4**
PCPH	**Palayan**	**2.27**	**20**	⇓*e*P	**Pn**	**17 21 15.5**	**-0.8**
PCPH				*e*S	**Sn**	**17 21 43.7**	**-0.9**
SCZP	**Santa Cruz**	**2.37**	**352**	*e*P	**Pb**	**17 21 20.7**	**-0.5**
SCZP				*e*S	**Sg**	**17 21 55.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**21.10**	**287**	P	**P**	**17 25 25.8**	**+2.1**
	0.5nm,0.4s,baz=99,slow=9.6,SNR=7.9						
GUMO	**Guam**	**23.92**	**87**	LR	LR	17 33 36.0	
	comp=Z,65nm,20.7s,baz=90,slow=33						
WRA	**Warramunga Arr**	**35.93**	**157**	P	**P**	**17 27 38.1**	**-1.6**
	2.6nm,0.7s,baz=335,slow=9.7,SNR=29						
SONM	**Songino Array**	**36.21**	**344**	P	**P**	**17 27 42.1**	**+0.1**
	0.4nm,0.5s,baz=170,slow=9.0,SNR=3.9						
ASAR	**Alice Springs**	**39.20**	**160**	P	**P**	**17 28 06.3**	**-1.1**
	1.2nm,

comp=E,1µm,1.2s
LZH LR LR
comp=N,3µm,7.6s
LZH LR LR
comp=E,2µm,9.2s
LZH LR LR
comp=Z,4µm,9.4s
LSA Lhasa 8.33 214 P **Pn 17 34 57.8 +0.9**
LSA LR LR
comp=N,700nm,17.0s
LSA LR LR
comp=E,1µm,15.1s
LSA LR LR
comp=Z,2µm,9.4s
LSA Lhasa 8.33 214 *e*Pn **Pn 17 34 56.6 -0.3**
LSA Lhasa 8.33 214 *e*P **Pn 17 34 56.6 -0.3**
CD2 Chengdu 8.33 132 *e*P **Pn 17 34 57.8 +1.2**
CD2 S **Sn 17 36 33.3 +2.5**
CD2 pmax pmax
comp=Z,70nm,1.0s
CD2 pmax pmax
comp=Z,260nm,6.4s
CD2 LR LR
comp=N,3µm,13.9s
CD2 LR LR
comp=E,5µm,12.1s
CD2 LR LR
comp=Z,2µm,11.7s
WMQ Urumqi 9.80 319 Pn **Pn 17 35 15.5 -1.2**
WMQ Sn **Sn 17 37 00.0 -6.9**
WMQ smax smax
comp=N,200nm,0.9s
WMQ smax smax
comp=E,220nm,0.8s
WMQ Urumqi 9.80 319 P **Pn 17 35 19.0 +2.3**
WMQ pP 17 35 22.5
WMQ sP 17 35 25.3
WMQ pmax pmax
comp=E,540nm,3.8s
WMQ LR LR
comp=E,3µm,5.3s
WMQ LR LR
comp=E,2µm,3.9s
WMQ LR LR
comp=E,1µm,14.7s
WMQ Urumqi 9.80 319 *e*Pn **Pn 17 35 15.3 -1.3**
XAN Xi'an 10.45 101 P **Pn 17 35 23.0 -2.5**
XAN S **Sn 17 37 28.3 +5.6**
XAN pmax pmax
comp=Z,11nm,0.7s
XAN LR LR
comp=N,750nm,6.1s
XAN LR LR
comp=E,2µm,10.2s
XAN LR LR
comp=Z,2µm,15.7s
XAN Xi'an 10.45 101 *e*Pn **Pn 17 35 22.3 -3.2**
XAN Xi'an 10.45 101 *e*P **Pn 17 35 22.3 -3.2**
BTO Baotou 11.22 66 *e*P **Pn 17 35 34.0 -2.2**
BTO S **Sn 17 37 38.5 -3.3**
BTO LR LR
comp=N,60µm,1.1s
BTO LR LR
comp=E,36µm,0.8s
SHL Shillong 11.81 201 *e*Pn **Pn 17 35 42.1 -2.2**
SHL Shillong 11.81 201 *e*P **Pn 17 35 42.1 -2.2**
SHL Shillong 11.81 201 *e*P **Pn 17 35 40.5 -3.9**
SHL IAmb IAmb 17 35 49.0
comp=Z,19nm,1.0s
ENH Enshi 12.56 117 *e*Pn **Pn 17 35 51.9 -2.5**
JIRN Jiri 12.58 227 *e*P **Pn 17 35 55.3 +0.2**
comp=Z,38nm,0.8s
GUN Gumba 12.58 229 *e*P **Pn 17 35 56.8 +1.7**
comp=Z,9.8nm,0.7s
TIY Taiyuan 12.70 81 *e*P **Pn 17 35 54.5 -1.9**
TIY S **Sn 17 38 21.0 +3.0**
TIY LR LR
comp=Z,450nm,4.2s
TIY LR LR
comp=Z,1µm,12.7s
RAMN Ramite 12.89 224 *e*P **Pn 17 35 56.6 -2.6**
comp=Z,48nm,1.0s
KKN Kakani 13.04 230 *e*P **Pn 17 36 01.4 +0.3**
comp=Z,12nm,0.6s
PKI Pulchoki 13.12 229 *e*P **Pn 17 36 02.6 +0.3**
comp=Z,16nm,0.6s
PKIN Phulchoki 13.12 229 *e*P **Pn 17 36 02.6 +0.3**
comp=Z,9.8nm,0.5s
SONA0 Songino Array 13.27 30 *e*Pn **Pn 17 36 05.3 +1.1**
SONM Songino Array 13.27 30 Pn **Pn 17 36 05.3 +1.1**
comp=Z,0.6nm,0.3s,baz=214,slow=14,SNR=29
SONM LR LR 17 41 48.8
comp=Z,369nm,20.0s,baz=201,slow=40
DMN Daman 13.27 230 *e*P **Pn 17 36 04.3 -0.1**
comp=Z,26nm,0.9s
SONA1 Songino Array 13.29 30 *e*Pn **Pn 17 36 03.8 -0.5**
GYA Guiyang 13.36 137⇑ *i*P **Pn 17 36 09.5 +4.0**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,70nm,5.0s
GYA LR LR
comp=Z,1µm,12.6s
GYA LR LR
comp=Z,300nm,11.2s
ULN Ulaanbaatar 13.57 32 *e*Pn **Pn 17 36 07.2 -1.0**
ULN Ulaanbaatar 13.57 32⇑ *e*P **Pn 17 36 09.9 +1.7**
ULN pmax pmax
comp=Z,5.0nm,0.8s
DANN Dangsing 13.63 236 *e*P **Pn 17 36 11.2 +1.9**
comp=Z,34nm,0.8s
KNGR Kungurtug, Tuv 13.90 3⇑ *e*P **Pn 17 36 14.2 +1.5**
KOLN Koldanda 14.12 235 *e*P **Pn 17 36 15.0 -0.9**
comp=Z,11nm,0.8s
PYUN Piuthan 14.31 237 *e*P **Pn 17 36 17.4 -1.1**
comp=Z,16nm,0.8s
ZAK Zakamensk 14.49 17 *e*P **Pn 17 36 21.9 +1.1**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
DGZ Jazzator, Alta 14.57 336⇑ *e*P **Pn 17 36 21.8 -0.1**
MK01 Makanchi Array 14.61 318 *e*Pn Pn 17 36 17.5 -4.9
BRDH Bariadhala 14.62 198 LR LR 17 42 52.7
comp=Z,247nm,18.8s,baz=31,slow=41
MK31 Makanchi Array 14.63 318 *e*Pn **Pn 17 36 18.5 -4.2**
MK32 Makanchi Array 14.63 318 *e*Pn **Pn 17 36 18.6 -4.0**
MKAR Makanchi Array 14.63 318 Pn **Pn 17 36 18.7 -4.0**
comp=Z,3.7nm,0.3s,baz=130,slow=14,SNR=33
MKAR LR LR 17 42 21.9
comp=Z,306nm,20.5s,baz=122,slow=39
MKAR Makanchi Array 14.63 318 P **P 17 36 27.0 -2.1**
PDGK Podgornoye 14.64 302 P **Pn 17 36 21.2 -1.6**
PDGK pmax pmax
comp=Z,16nm,0.5s
MAKZ Makanchi 14.81 317 *e*Pn **Pn 17 36 20.4 -4.7**
PRZ Przheval'sk 15.12 298 *e*Pn **Pn 17 36 26.4 -3.1**
comp=Z,105nm,1.1s
PRZ Przheval'sk 15.12 298 *e*P **Pn 17 36 26.4 -3.1**
PRZ pmax pmax
comp=Z,105nm,1.1s
MOY Mondy 15.28 11 *e*P **P 17 36 38.1 +1.8**
MOY pmax pmax
comp=Z,58nm,1.6s
TARG Taragay, Kyrgy 15.36 295 *e*Pn **Pn 17 36 30.1 -2.7**
comp=Z,56nm,0.6s
BJT Baijiatuan 15.73 72 *e*Pn **Pn 17 36 35.7 -1.6**
BJT Baijiatuan 15.73 72 *e*P **Pn 17 36 35.7 -1.6**
TLY Talaya 15.79 16 *e*Pn **Pn 17 36 37.4 -0.5**
comp=Z,11nm,0.9s
TLY Talaya 15.79 16⇑ *e*P **Pn 17 36 38.1 +0.1**
BOK Bokaro 15.82 218 *e*P **Pn 17 36 34.4 -4.1**
KDJ Kajisay 15.91 296 *e*Pn **Pn 17 36 37.0 -2.7**
comp=Z,78nm,0.8s
KDJ Kajisay 15.91 296 *e*P **Pn 17 36 37.1 -2.7**
KDJ pmax pmax
comp=Z,78nm,0.8s
WHN Wuhan 16.04 107 ⇑P **Pn 17 36 38.3 -3.0**
WHN S **Sn 17 39 39.8 +0.5**
WHN LR LR
comp=Z,1µm,6.7s
WHN LR LR
comp=Z,1µm,5.1s
WHN LR LR
comp=Z,2µm,15.8s
ULHL Ulahol 16.61 296 P **P 17 36 51.2 -0.1**
SNR=12
NRN Naryn 16.63 293 *e*Pn **Pn 17 36 45.5 -3.6**
comp=Z,45nm,1.1s
NRN Naryn 16.63 293 *e*P **Pn 17 36 45.5 -3.6**
NRN pmax pmax
comp=Z,45nm,1.1s
DDI Dehra Dun 16.68 253 *e*P **Pn 17 36 45.3 -4.3**
DDI IAmb IAmb 17 36 47.8
comp=Z,164nm,0.1s
SMLA Simla 17.02 257 *e*P **Pn 17 36 50.1 -3.7**
TKM2 Tokmak 2 17.23 298 P **Pn 17 36 54.4 -2.2**
SNR=31
TKM2 Tokmak 2 17.23 298 P **Pn 17 36 53.6 -3.0**
TKM2 pmax pmax
comp=Z,32nm,0.6s
DHRM DHARAMSHALA 17.28 261 *e*P **Pn 17 36 55.7 -1.5**
DHRM IAmb IAmb 17 37 00.9
comp=Z,10nm,0.5s
KZA Kyzart 17.30 295 P **P 17 36 59.1 0.0**
SNR=25
PAYA Payao 17.54 170 P **P 17 37 02.5 +1.1**
comp=Z,54nm,0.9s,comp=Z,422nm
KBK Karagaybulak 17.64 296 P **Pn 17 36 59.7 -1.9**
SNR=29
CHMS Chumysh 17.85 297 P **P 17 37 05.9 +1.0**
SNR=7.5
UCH Uchtor 17.87 295 P **P 17 37 06.7 +1.3**
SNR=15
FRU1 Bishkek 17.90 297 *e*Pn **P 17 37 05.3 -0.1**
comp=Z,18nm,0.8s
FRU Bishkek 17.91 297 *e*P **P 17 37 06.0 +0.5**
FRU pmax pmax
comp=Z,43nm,2.0s
CHTO Chiang Mai 17.96 173 *e*Pn **Pn 17 37 03.0 -2.5**
comp=Z,65nm,1.4s
CHTO Chiang Mai 17.96 173 P **P 17 37 06.5 +0.4**
comp=Z,136nm,1.4s,comp=Z,2µm
AAK Ala-Archa 17.96 296 P **Pn 17 37 05.1 -0.5**
comp=Z,1.9nm,0.3s,baz=125,slow=7.5,SNR=45
AAK LR LR 17 45 41.0
comp=Z,919nm,19.1s,baz=80,slow=42
AAK Ala-Archa 17.96 296 P **P 17 37 09.7 +3.5**
SNR=15
AAK Ala-Archa 17.96 296 *e*Pn **Pn 17 37 03.9 -1.7**
comp=Z,18nm,0.8s
AAK Ala-Archa 17.96 296 *i* P **P 17 37 07.0 +0.9**
AAK pmax pmax
comp=Z,16nm,0.6s
CMMT Chiang Mai 17.96 173 P **P 17 37 06.4 +0.3**
comp=Z,30nm,1.3s,comp=Z,519nm
USP Ospenovka 18.09 298 P **P 17 37 09.1 +1.6**
SNR=21
CM31 Chiang Mai Arr 18.31 173 *e*Pn **Pn 17 37 08.2 -1.7**
CMAR Chiang Mai Arr 18.31 173 P **Pn 17 37 09.0 -0.9**
comp=Z,0.3nm,0.3s,baz=345,slow=9.1,SNR=41
CMAR LR LR 17 45 14.9
comp=Z,50nm,18.2s,baz=354,slow=40
CM01 Chiang Mai Arr 18.35 173 *e*Pn **Pn 17 37 08.4 -1.9**
SFK Sufi-Kurgan 18.36 287 *i* P **P 17 37 12.6 +1.9**
SFK pmax pmax
comp=Z,8.0nm,0.6s
AML Almayashu 18.45 294 P P 17 37 01.0 -11
SNR=8.2
EKS2 Erkin-Say 18.48 296 P **Pn 17 37 15.4 +3.5**
SNR=12
ARSB Arslanbob 18.86 291 *e*P **P 17 37 16.0 -0.1**
comp=Z,65nm,1.5s
NJ2 Nanjing 18.97 98 *e*P **Pn 17 37 18.8 +1.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 LR LR
comp=Z,870nm,10.3s
NJ2 LR LR
comp=Z,1µm,13.6s
KURBB Kurchatov Arra 18.99 323 P **P 17 37 15.1 -2.1**
comp=Z,0.2nm,0.3s,baz=126,slow=11,SNR=15
KURK Kurchatov 19.00 323 *e*P **P 17 37 15.1 -2.3**
KURK Kurchatov 19.00 323 *ce*P **P 17 37 16.5 -0.8**
KURK pmax pmax
comp=Z,21nm,1.0s
ZAA0 Zalesovo Array 19.06 338 *e*P **P 17 37 16.2 -1.8**
comp=Z,9.9nm,0.8s
ZALV Zalesovo Beam 19.06 338 P **P 17 37 16.9 -1.0**
comp=Z,0.8nm,0.3s,baz=150,slow=13,SNR=34
ZALV LR LR 17 44 50.2
comp=Z,261nm,19.4s,baz=246,slow=37
ZALV Zalesovo Beam 19.06 338 *e*P **P 17 37 16.4 -1.5**
ZALV Zalesovo Beam 19.06 338 *e*P **P 17 37 16.4 -1.5**
ZAA1 Zalesovo Array 19.06 338 *e*P **P 17 37 16.9 -1.1**
UTTA Uttaradit 19.23 168 P **Pn 17 37 23.0 +2.1**
comp=Z,9.2nm,1.0s,comp=Z,81nm
NIL Nilore 19.28 268 *e*P **P 17 37 16.8 -3.8**
comp=Z,13nm,0.8s
NIL Nilore 19.28 268 *e*P **P 17 37 16.8 -3.8**
NIL pmax pmax
comp=Z,13nm,0.8s
SUKH Sukhothai 19.35 171 P **Pn 17 37 28.1 +5.7**
comp=Z,5.5nm,0.7s
MNAS Manas 19.38 295 *i* P **P 17 37 21.3 -0.4**
MNAS pmax pmax
comp=Z,41nm,1.1s
NONG Nongkai 19.47 161 P **Pn 17 37 28.8 +4.9**
comp=Z,0.6nm,1.0s
BTK Batken 20.43 287 *e*P **P 17 37 32.8 -0.3**
comp=Z,17nm,0.9s
BTK Batken 20.43 287 *e*P **P 17 37 32.8 -0.3**
BTK pmax pmax
comp=Z,17nm,0.9s
PBKT Sadao Pong 20.45 168 *e*P **P 17 37 31.6 -1.6**
comp=Z,30nm,1.0s
PBKT Sadao Pong 20.45 168 P Pn 17 37 36.2 +0.8
comp=Z,37nm,0.8s,comp=Z,761nm
UMPA Umpang Tak 20.53 174 P Pn 17 37 40.0 +3.5
comp=Z,15nm,0.9s
SKNT Sakolnakorn 20.74 160 P Pn 17 37 40.9 +2.1
comp=Z,14nm,1.2s
GAR Garm 20.82 284 *e*P **P 17 37 35.7 -1.7**
comp=Z,55nm,0.7s
GAR Garm 20.82 284 *e*P **P 17 37 35.7 -1.7**
GAR pmax pmax
comp=Z,55nm,0.7s
KK31 Karatay Array 20.92 296 *e*P **P 17 37 37.3 -1.1**
KK31 Karatay Array 20.92 296 *i* P **P 17 37 37.8 -0.6**
KK31 pmax pmax
comp=Z,16nm,0.6s
KKAR Karatay Array 20.92 296 *e*P **P 17 37 37.0 -1.4**
KKAR Karatay Array 20.92 296 *e*P **P 17 37 37.0 -1.4**
HIA Hailar 21.00 46 *e*P **P 17 37 38.0 -1.1**
comp=Z,7.6nm,0.7s
HIA Hailar 21.00 46⇑ *e*P **P 17 37 43.6 +4.5**
HIA pmax pmax
comp=Z,5.0nm,0.8s
OTUK Ortayu 21.16 311 P **P 17 37 41.5 +0.6**
SSE Sheshan 21.17 98 *e*P **P 17 37 38.8 -2.3**
comp=Z,35nm,0.9s
UTHA Uthaitani 21.23 172 P **P 17 37 45.6 +3.8**
comp=Z,9.6nm,1.0s,comp=Z,91nm
BHPL Bhopal 21.28 236 *e*P **P 17 37 39.4 -3.0**
BHPL IAmb IAmb 17 37 40.0
comp=Z,12nm,0.6s
CHAI Chaiyaphum 21.29 165 P **P 17 37 46.2 +3.8**
comp=Z,18nm,0.9s,comp=Z,127nm
CHGR Chuyangaron 21.74 283 *e*P **P 17 37 45.0 -2.3**
comp=Z,154nm,0.6s
SRDT SRDT 22.39 173 P **P 17 37 59.4 +5.1**
comp=Z,28nm,1.3s
KBL Kabul 22.44 273 *e*P **P 17 37 53.6 -1.3**
comp=Z,20nm,1.0s
KBL Kabul 22.44 273 *e*P **P 17 37 53.6 -1.3**
KBL pmax pmax
comp=Z,21nm,1.0s
CN2 Changchun 23.08 63 *e*P **P 17 38 00.5 -0.9**
CN2 *ep*P pP 17 38 04.5 -0.1
CN2 *es*P sP 17 38 07.5 +1.4
CN2 *e*S **S 17 42 06.0 -6.5**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,130nm,3.5s
CN2 LR LR
comp=Z,370nm,14.0s
CN2 LR LR
comp=Z,520nm,14.0s
BOD Bodaibo 24.07 23 *e*P **P 17 38 11.1 +0.2**
BOD pmax pmax
comp=Z,7.0nm,1.7s
YHNB Yeheng 24.41 112 *e*P **P 17 38 14.7 +0.2**
comp=Z,28nm,1.0s
BVA0 Borovoye Array 24.49 320 P **P 17 38 17.5 +2.6**
BVA0 pmax pmax
comp=Z,13nm,0.8s
BVAR Borovoye Array 24.49 320 P **P 17 38 14.5 -0.4**
comp=Z,7.4nm,0.5s,baz=127,slow=13,SNR=14
BVAR LR LR 17 48 25.6
comp=Z,354nm,18.8s,baz=120,slow=38
BRVK Borovoye 24.56 320 *e*P **P 17 38 14.9 -0.6**
comp=Z,15nm,0.6s
BRVK Borovoye 24.56 320⇑ *e*P **P 17 38 15.7 +0.2**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
SSLB Suanglung 24.62 115 *e*P **P 17 38 14.1 -2.2**
comp=Z,15nm,0.8s
TPUB Ta-pu 24.68 116 *e*P **P 17 38 16.7 -0.2**
comp=Z,60nm,1.3s
HYB Hyderabad 24.95 224 *e*x **P 17 38 22.4 +3.1**
KS15 Wonju Array Si 24.95 79 *e*P **P 17 38 18.3 -0.9**
KSAR Wonju Array Be 24.95 79 P **P 17 38 18.5 -0.7**
KSAR Wonju Array Be 24.95 79 P **P 17 38 18.5 -0.7**
KS01 Wonju Array Si 24.95 79 *e*P **P 17 38 17.6 -1.6**
KSRS Korea Array 24.98 79 P **P 17 38 18.5 -0.9**
comp=Z,27nm,0.8s,baz=272,slow=9.4,SNR=87
KSRS LR LR 17 49 15.2
comp=Z,268nm,18.4s,baz=285,slow=39
KSRS Korea Array 24.98 79 P **P 17 38 18.5 -0.9**
KSRS pmax pmax
comp=Z,26nm,0.8s
KSRS MLR MLR
comp=Z,268nm,18.4s
YULB Yu-li 25.11 115 *e*P **P 17 38 21.7 +1.0**
comp=Z,28nm,1.0s
TWG Pinlang 25.30 116 *e*P **P 17 38 21.7 -0.8**
comp=Z,194nm,0.5s
USRK Ussuriysk Ar. 27.82 63 LR LR 17 49 55.1
comp=Z,118nm,19.3s,baz=277,slow=37
JNU Nakatsue 28.28 87 LR LR 17 50 29.9
comp=Z,175nm,18.4s,baz=278,slow=37
GOA Goa 29.24 230 *e*P **P 17 38 57.2 -0.7**
GOA IAmb IAmb 17 38 58.9
comp=Z,13nm,0.2s
AB31 Akbulak array 29.27 307 *i* P **P 17 38 59.6 +1.7**
AB31 pmax pmax
comp=Z,2.0nm,0.8s
ABKAR Akbulak array 29.27 307 *e*P **P 17 38 56.5 -1.4**
GEYT Alibeck 30.45 284 pP **pP 17 39 12.8 +0.9**
comp=Z,2.2nm,0.8s,baz=71,slow=6.8,SNR=3.3
GEYT LR LR 17 54 06.9
comp=Z,236nm,20.8s,baz=90,slow=42
AKTO Aktyubinsk 30.73 309 pP **pP 17 39 15.3 +1.0**
comp=Z,5.2nm,0.8s,baz=97,slow=8.8,SNR=12
AKTO LR LR 17 51 19.2
comp=Z,158nm,18.1s,baz=106,slow=36
AKTO Aktyubinsk 30.73 309 P **P 17 39 14.7 +3.9**
AKTO pmax pmax
comp=Z,7.0nm,0.9s
SVE Sverdlovsk 31.24 322 *e*P P 17 39 20.1 +4.9
SVE pmax pmax
comp=Z,23nm,0.9s
ARU Arti 32.14 320 *e*P **P 17 39 22.5 -0.6**
comp=Z,17nm,0.8s
ARU Arti 32.14 320 *c i*P **P 17 39 22.8 -0.3**
ARU S **S 17 44 32.1 -3.5**
ARU pmax pmax
comp=Z,27nm,1.8s
MJAR Matsushiro Arr 33.24 78 LR LR 17 53 56.0
comp=Z,131nm,18.8s,baz=280,slow=38
TRD Trivandrum 33.25 217 *e*P **P 17 39 31.7 -1.5**
TIXI Tiksi 38.77 16 P **P 17 40 18.3 -1.5**
comp=Z,2.3nm,0.6s,baz=224,slow=2.3,SNR=10.0
TIXI pP **pP 17 40 23.1 -0.3**
comp=Z,4.0nm,0.7s,baz=226,slow=7.3,SNR=9.5
TIXI Tiksi 38.77 16‖ *e*P **P 17 40 22.9 +3.1**
TIXI pmax pmax
comp=Z,4.0nm,0.6s
DAV Davao City (W) 39.64 131 LR LR 17 58 26.1
comp=Z,172nm,18.9s,baz=351,slow=39
KBZ Khabaz 40.95 297 pP **pP 17 40 41.9 0.0**
comp=Z,3.2nm,0.8s,baz=101,slow=7.1,SNR=4.8
KBZ LR LR 18 01 01.6
comp=Z,175nm,18.7s,baz=62,slow=41
KIV Kislovodsk 41.07 297 *e*P **P 17 40 43.7 +4.2**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,167nm,16.0s
VRH Novokhopyorsk 41.07 308 *e*P **P 17 40 42.9 +3.6**
VRH pmax pmax
comp=Z,30nm,0.7s
DOMR Dombai 41.94 297⇑ *e*P **P 17 40 49.2 +2.5**
DOMR pmax pmax
comp=Z,10.0nm,0.9s
SEY Seymchan 42.63 34⇑ *e*P P 17 40 57.1 +5.3
VSR Storozhevoye 42.68 309 *de*P **P 17 40 55.5 +3.1**
VSR pmax pmax
comp=Z,32nm,0.9s
LPSR Galich'ya Gora 42.77 311 *e*P **P 17 40 57.1 +4.0**
LPSR pmax pmax
comp=Z,50nm,0.7s
KLMR Klimovskoe 42.85 323 *e*P **P 17 40 52.5 -1.2**
KLMR pmax pmax
comp=Z,26nm,0.9s
KLMR Klimovskoe 42.85 323 *e*P **P 17 40 52.5 -1.2**
KLMR AMP 17 40 58.4
comp=Z,26nm,0.9s
MOS Moscow 43.49 315 *e*P **P 17 41 01.6 +2.7**
MOS pmax pmax
comp=Z,59nm,0.7s
OBN Obninsk 44.10 314⇑ *e*P **P 17 41 07.8 +4.0**
OBN *e* 17 42 48.1
OBN *e* 17 42 54.0
OBN *eS* **S 17 47 42.4 +6.1**
OBN pmax pmax
comp=Z,52nm,2.5s
OBN MLR MLR
comp=Z,214nm,19.0s
LEM Lembang 44.54 164 LR LR 18 01 46.1
comp=Z,90nm,18.1s,baz=304,slow=39
BR101 Keskin Array S 48.62 294 *e*P **P 17 41 39.0 -0.7**
BR101 *ep*P **pP 17 41 43.4 +0.1**
BR101 *e*PP **PP 17 43 32.5 0.0**
BR131 Keskin Array S 48.62 294 *e*P **P 17 41 39.3 -0.4**
BRTR Keskin Array B 48.62 294 P **P 17 41 39.0 -0.7**
comp=Z,2.3nm,0.7s,baz=85,slow=5.6,SNR=4.9
BRTR pP **pP 17 41 43.4 +0.1**
comp=Z,2.6nm,0.7s,baz=98,slow=6.6,SNR=15
BRTR PP **PP 17 43 32.5 0.0**
comp=Z,2.4nm,1.0s,baz=76,slow=8.0,SNR=4.4
BRTR LR LR 18 05 26.6
comp=Z,65nm,20.0s,baz=72,slow=40
AKASG Malin Array Be 48.98 309 P **P 17 41 41.0 -1.1**
comp=Z,3.6nm,0.7s,baz=67,slow=7.7,SNR=3.0
AKASG pP **pP 17 41 45.7 0.0**
comp=Z,9.2nm,0.8s,baz=69,slow=7.2,SNR=16
AKBB Malin Array Si 48.98 309 *e*P **P 17 41 42.8 +0.7**
comp=Z,8.7nm,0.9s
BILL Bilibino 48.98 28 *e*P **P 17 41 42.5 +0.5**
comp=Z,5.0nm,0.5s
BILL Bilibino 48.98 28⇑ *i*P **P 17 41 46.4 +4.5**
BILL *e* 17 43 11.2
BILL *eS* **S 17 48 47.6 +1.6**
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL MLR MLR
comp=Z,150nm,22.0s
KIEV Kiev 48.99 309 *e*P **P 17 41 44.0 +1.8**
comp=Z,8.6nm,0.9s
KIEV Kiev 48.99 309⇑ *i*P **P 17 41 40.8 -1.4**
KIEV Kiev 48.99 309⇑P **P 17 41 40.9 -1.3**
AK11 Malin Array Si 49.02 309 *e*P **P 17 41 43.4 +0.9**
FIA0 FINESS Array S 49.38 323 *e*P **P 17 41 44.2 -0.8**
FIA0 *ep*P **pP 17 41 49.2 +0.6**
FIA0 *e*PcP **PcP 17 43 06.2 -1.2**
FIA0 *e* 17 43 10.8
FIA0 FINESS Array S 49.38 323 *e*P **P 17 41 44.2 -0.8**
FIA0 *e**PP **pP 17 41 49.2 +0.6**
FIA0 *e* 17 43 06.2
FINES FINESS Array B 49.38 323 P **P 17 41 44.2 -0.8**
comp=Z,5.8nm,0.7s,baz=87,slow=8.4,SNR=6.6
FINES pP **pP 17 41 49.2 +0.6**
comp=Z,6.1nm,0.7s,baz=95,slow=7.9,SNR=6.4
FINES PcP **PcP 17 43 06.2 -1.2**
comp=Z,1.3nm,0.6s,baz=82,slow=12,SNR=1.9
FINES pPcP 17 43 10.8
comp=Z,2.3nm,0.8s,baz=72,slow=6.2,SNR=3.4
ARA0 ARCESS Array S 49.53 334 *e*P **P 17 41 45.9 -0.3**
ARA0 *ep*P **pP 17 41 50.5 +0.7**

ARCES	**ARCESS Array B**	**49.53**	**334**	P	**P**	**17 41 45.9**	**-0.3**
	comp=Z,3.3nm,0.6s,baz=64,slow=8.4,SNR=18						
ARCES				pP	**pP**	**17 41 50.5**	**+0.7**
	comp=Z,3.4nm,0.6s,baz=82,slow=8.3,SNR=3.2						
ARCES				pPcP		17 43 11.5	
	comp=Z,1.5nm,0.5s,baz=54,slow=2.1,SNR=5.9						
CFR	**Carcaliu**	**50.96**	**302** ⇑	*i*P	**P**	**17 42 00.5**	**+3.2**
CFR	**Carcaliu**	**50.96**	**302** ⇑	P	**P**	**17 42 00.5**	**+3.2**
TIRR	**Tirgusor**	**50.97**	**301** ⇑	*i*P	**P**	**17 42 01.4**	**+4.0**
TIRR	**Tirgusor**	**50.97**	**301** ⇑	P	**P**	**17 42 01.4**	**+4.0**
TLB	**Topalu**	**51.19**	**301** ⇑	*i*P	**P**	**17 42 03.4**	**+4.4**
TLB	**Topalu**	**51.19**	**301** ⇑	P	**P**	**17 42 03.4**	**+4.4**
ICOR	**Ion Corvin**	**51.49**	**301** ⇑	*i*P	P	17 42 06.2	+4.9
VRI	**Vrincioaia**	**51.72**	**303** ⇑	*i*P	**P**	**17 42 06.0**	**+3.0**
VRI	**Vrincioaia**	**51.72**	**303** ⇑	P	**P**	**17 42 06.0**	**+3.0**
PLOR	**Plostina**	**51.78**	**303** ⇑	*i*P	**P**	**17 42 05.6**	**+2.1**
PLOR	**Plostina**	**51.78**	**303** ⇑	P	**P**	**17 42 05.6**	**+2.1**
BIZ	**Bicaz**	**51.84**	**305** ⇑	*i*P	**P**	**17 42 05.8**	**+1.9**
ISR	**Istrita**	**52.06**	**302** ⇓	*i*P	**P**	**17 42 08.8**	**+3.2**
ISR	**Istrita**	**52.06**	**302** ⇓	P	**P**	**17 42 08.8**	**+3.2**
BURAR	**Bucovina Array**	**52.24**	**306** ⇑	*i*P	**P**	**17 42 10.4**	**+3.4**
BURAR	**Bucovina Array**	**52.24**	**306** ⇑	P	**P**	**17 42 10.4**	**+3.4**
BUR04	**Bucovina Ar. S**	**52.24**	**306**	*e*P	**P**	**17 42 06.1**	**-0.9**
BUR08	**Bucovina Ar. S**	**52.25**	**306**	*e*P	**P**	**17 42 08.0**	**+1.0**
MLR	**Muntele Rosu**	**52.35**	**303**	*e*P	**P**	**17 42 08.3**	**+0.4**
	comp=Z,10nm,1.1s						
MLR	**Muntele Rosu**	**52.35**	**303** ⇑	*i*P	**P**	**17 42 12.0**	**+4.1**
MLR	**Muntele Rosu**	**52.35**	**303** ⇑	P	**P**	**17 42 12.0**	**+4.1**
DOPR	**Dopca**	**52.59**	**304** ⇑	*i*P	**P**	**17 42 11.9**	**+2.4**
ARR	**Arges**	**53.27**	**303** ⇑	*i*P	**P**	**17 42 19.1**	**+4.5**
KWP	**Kalwaria Pacla**	**53.30**	**309**	*e*P	P	17 42 19.5	+4.8
KWP	**Kalwaria Pacla**	**53.30**	**309**	*e*P	P	17 42 19.5	+4.8
LOT	**Lotru**	**53.83**	**304** ⇑	*i*P	**P**	**17 42 23.1**	**+4.4**
TRPA	**Tarpa**	**53.83**	**307** ⇑	*i*P	**P**	**17 42 22.8**	**+4.3**
GZR	**Gura Zlata**	**54.51**	**304** ⇑	*i*P	**P**	**17 42 28.2**	**+4.5**
NIE	**Niedzica**	**54.87**	**309**	*e*P	P	17 42 31.1	+5.0
NIE	**Niedzica**	**54.87**	**309**	*e*P	P	17 42 31.2	+5.1
OJC	**Ojcow**	**54.94**	**310**	*e*P	**P**	**17 42 31.1**	**+4.5**
OJC	**Ojcow**	**54.94**	**310**	*e*P	**P**	**17 42 26.0**	**-0.6**
	comp=Z,16nm,0.8s						
OJC	**Ojcow**	**54.94**	**310**	*e*P	**P**	**17 42 26.0**	**-0.6**
OJC				pmax	pmax		
	comp=Z,16nm,0.8s						
MDVR	**Moldovita**	**55.42**	**303** ⇑	*i*P	P	17 42 34.9	+4.7
VYHS	**Vyhne**	**56.07**	**308**	*e*P	pP	17 42 38.4	0.0
VYHS	**Vyhne**	**56.07**	**308**	*e*pP	pP	17 42 38.4	0.0
MORC	**Moravsky Berou**	**56.46**	**310**	*e*P	**P**	**17 42 37.2**	**-0.4**
	comp=Z,6.6nm,0.8s						
NB2	**NORSAR Subarra**	**56.51**	**324**	P	**P**	**17 42 36.6**	**-1.1**
	comp=Z,5.5nm,0.9s,baz=74,slow=7.4						
NB200	**NORSAR Array S**	**56.51**	**324**	*e*P	**P**	**17 42 36.7**	**-1.1**
NB200				*e*pP	**pP**	**17 42 41.4**	**+0.1**
NOA	**NORSAR Array B**	**56.51**	**324**	P	**P**	**17 42 36.7**	**-1.1**
	comp=Z,2.2nm,0.6s,baz=72,slow=7.1,SNR=3.3						
NOA				pP	**pP**	**17 42 41.4**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=74,slow=7.1,SNR=6.9						
NOA				LR	LR	18 06 22.7	
	comp=Z,85nm,18.5s,baz=75,slow=36						
KRLC	**Kraliky**	**56.83**	**311**	*e*pP	pP	17 42 44.9	+1.1
KSP	**Ksiaz**	**56.87**	**312**	*e*P	P	17 42 49.3	+8.9
DPC	**Dobruska-Polom**	**57.02**	**311**	*e*P	**P**	**17 42 41.1**	**-0.4**
DPC				*e*pP	**pP**	**17 42 46.5**	**+1.4**
DPC	**Dobruska-Polom**	**57.02**	**311**	*e*P	**P**	**17 42 41.1**	**-0.4**
DPC				*e*		17 42 46.5	
UPC	**Upice**	**57.15**	**311**	*e*pP	pP	17 42 46.6	+0.6
CONA	**Conrad Observa**	**58.13**	**309**	*i*pP	**P**	**17 42 50.2**	**+0.7**
	comp=Z,5.1nm,0.8s						
BRG	**Berggiesshubel**	**58.26**	**312**	*i*P	P	17 42 54.9	+4.6
	comp=Z,5.0nm,0.8s						
BRG	**Berggiesshubel**	**58.26**	**312**	*i*P	P	17 42 54.9	+4.7
BRG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ARSA	**Arzberg**	**58.59**	**308**	*i*pP	**P**	**17 42 52.8**	**+0.1**
	comp=Z,4.9nm,0.9s						
CLL	**Collm**	**58.66**	**313**	*e*pP	**pP**	**17 42 57.0**	**+0.4**
CLL				LmV		18 08 00.0	
	comp=Z,200nm,21.1s						
CLL	**Collm**	**58.66**	**313**	*e*P	pP	17 42 57.0	+0.4
KHC	**Kasperske Hory**	**59.11**	**311**	*e*pP	pP	17 43 00.7	+0.9
SOKA	**Soboth**	**59.12**	**307**	*e*P	**P**	**17 42 54.7**	**-1.6**
	comp=Z,8.0nm,1.0s						
GERES	**GERESS Array B**	**59.14**	**310**	P	**P**	**17 42 56.4**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=96,slow=9.2,SNR=2.0						
GERES				pP	**pP**	**17 43 00.3**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=64,slow=6.1,SNR=4.4						
GERES				LR	LR	18 09 21.9	
	comp=Z,159nm,18.8s,baz=43,slow=37						
OBKA	**Obir**	**59.49**	**307**	P	**P**	**17 42 57.4**	**-1.6**
	comp=Z,4.6nm,1.1s						
KBA	**Koelnbreinsper**	**60.03**	**308**	pP	**P**	**17 43 03.9**	**+1.1**
	comp=Z,2.8nm,0.7s						
ABTA	**Abfaltersbach**	**60.69**	**308**	*e*pP	**P**	**17 43 08.4**	**+1.2**
	comp=Z,1.9nm,0.6s						
WTTA	**Wattenberg**	**61.03**	**309**	*e*P	**P**	**17 43 09.2**	**-0.4**
WATA	**Walderalm**	**61.04**	**309**	*e*P	**P**	**17 43 09.5**	**-0.1**
	comp=Z,3.5nm,0.5s						
SQTA	**Sankt Quirin**	**61.31**	**309**	*i*pP	**P**	**17 43 11.5**	**0.0**
	comp=Z,6.6nm,0.7s						
MOTA	**Moosalm**	**61.33**	**309**	*i*pP	**P**	**17 43 12.1**	**+0.5**
	comp=Z,8.0nm,0.9s						
RETA	**Reutte**	**61.48**	**310**	P	**P**	**17 43 12.0**	**-0.5**
	comp=Z,3.2nm,0.7s						
FETA	**Feichten**	**61.70**	**309**	*i*pP	**P**	**17 43 16.3**	**+2.3**
	comp=Z,6.9nm,1.0s						
BFO	**Black Forest**	**62.62**	**311**	*i*P	P	17 43 25.2	+5.1
WLF	**Walferdange**	**63.33**	**313**	P	P	17 43 30.3	+5.6
	comp=Z,17nm,1.0s						
KMBO	**Kilima Mbogo**	**66.51**	**250**	P	**P**	**17 43 45.3**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=85,slow=13,SNR=4.0						
KMBO				LR	LR	18 12 59.2	
	comp=Z,64nm,18.6s,baz=77,slow=36						
WRA	**Warramunga Arr**	**66.70**	**141**	P	**P**	**17 43 45.1**	**-1.8**
	comp=Z,2.0nm,0.9s,baz=339,slow=6.5,SNR=12						
WR1	**Warramunga Arr**	**66.70**	**141**	*e*P	**P**	**17 43 45.1**	**-1.8**
	comp=Z,8.0nm,1.1s						
ILAR	**Eielson Array**	**67.43**	**25**	P	**P**	**17 43 49.9**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=306,slow=6.6,SNR=3.7						
ILAR				LR	LR	18 17 05.6	
	comp=Z,78nm,20.2s,baz=330,slow=39						
INK	**Inuvik**	**68.85**	**18**	P	**P**	**17 43 59.2**	**-0.6**
	comp=Z,4.1nm,0.9s,baz=325,slow=8.9,SNR=8.2						
INK				LR	LR	18 17 38.6	
	comp=Z,41nm,18.9s,baz=86,slow=39						
INK	**Inuvik**	**68.85**	**18**	*e*P	**P**	**17 43 59.9**	**+0.1**
	comp=Z,3.3nm,0.8s						
INK	**Inuvik**	**68.85**	**18**	*e*P	**P**	**17 43 59.9**	**+0.1**
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KDAK	**Kodiak Island**	**69.55**	**32**	P	**P**	**17 44 03.4**	**-1.0**
	comp=Z,16nm,0.8s,baz=352,slow=6.5,SNR=4.8						
KDAK				pP	**pP**	**17 44 08.0**	**0.0**
	comp=Z,19nm,0.9s,baz=299,slow=3.9,SNR=3.0						
KDAK	**Kodiak Island**	**69.55**	**32**	*i*P	**P**	**17 44 07.9**	**+3.5**
AS31	**Alice Springs**	**69.63**	**144**	*e*P	**P**	**17 44 03.5**	**-1.8**
ASAR	**Alice Springs**	**69.63**	**144**	P	**P**	**17 44 03.9**	**-1.4**
	comp=Z,2.0nm,0.8s,baz=329,slow=6.4,SNR=23						
AS01	**Alice Springs**	**69.65**	**144**	*e*P	**P**	**17 44 03.0**	**-2.5**
ES19	**SONSECA Array**	**74.56**	**308**	*e*P	**P**	**17 44 34.0**	**-0.8**
ESDC	**Sonseca Array**	**74.61**	**308**	P	**P**	**17 44 34.5**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=294,slow=26,SNR=4.3						
ESDC				pP	**pP**	**17 44 39.4**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=47,slow=5.8,SNR=7.1						
YKA	**Yellowknife Ar**	**78.00**	**14**	P	**P**	**17 44 52.7**	**-1.1**
	comp=Z,1.3nm,0.4s,baz=337,slow=5.5,SNR=7.4						
YKA				pP	**pP**	**17 44 57.5**	**-0.1**
	comp=Z,1.3nm,0.4s,baz=339,slow=5.6,SNR=14						
YKA	**Yellowknife Ar**	**78.00**	**14**	P	**P**	**17 44 52.7**	**-1.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
STKA	**Stephens Creek**	**80.20**	**142**	P	**P**	**17 45 04.7**	**-1.6**
	comp=Z,3.7nm,0.8s,baz=302,slow=7.2,SNR=5.1						
STKA				LR	LR	18 26 17.0	
	comp=Z,84nm,18.1s,baz=205,slow=40						
STKA	**Stephens Creek**	**80.20**	**142**	*e*P	**P**	**17 45 04.5**	**-1.7**
	comp=Z,12nm,2.0s						
TOA1	**Torodi Ar. Sit**	**86.09**	**283**	*e*P	**P**	**17 45 37.6**	**+0.4**
TORD	**Torodi Ar. Bea**	**86.09**	**283**	P	**P**	**17 45 37.6**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=59,slow=4.3,SNR=5.5						
DBIC	**Dimbokro**	**95.12**	**282**	LR	LR	18 38 31.5	
	comp=Z,57nm,18.1s,baz=42,slow=41						

MAN 30 17:42:33.1, 9.71N×126.43E, h19km, mb4.5, ML3.4, MS3.2,

1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.93**	**275** ⇑	*e*P		Pb		17 42 49.6	-1.0
SCPH				*e*S		Sb		17 42 59.8	-2.7
BUTP	**Butuan**	**1.08**	**227**	*e*P		Pn		17 42 53.3	0.0
BUTP				*e*S		Sg		17 43 08.8	+0.5
BIPH	**Bislig**	**1.51**	**182** ⇓	*i*P		Pg		17 43 01.7	-0.6
BIPH				*i* S		Sn		17 43 18.6	+0.2
MSLP	**Maasin**	**1.60**	**286**	*e*P		Pn		17 43 00.2	-0.2
MSLP				*e*S		Sn		17 43 21.0	+0.4
BUKP	**Musuan**	**2.26**	**217**	*e*P		Pn		17 43 09.6	+0.1
BUKP				*e*S		Sn		17 43 37.2	+0.2

*ISCJB **30** 17:56:36.6±1.2, 19.9S±0.2×177.3W±0.2, h550km, Error ellipse: s-maj=29.2km s-min=18.8km az=18.2*
*IDC **30** 17:56:36.3±5.1, 19.89S×177.25W, h536km±52km, mb3.7/9, mb1 3.9/10, mb1mx3.4/42, mbtmp4.7/10, Error ellipse: s-maj=32.5km s-min=24.2km az=76.0*
ISC 30 17:56:36.6±0.9, 19.9S±0.2×177.1W±0.2, h550km, n27, σ0s86/27, 7C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.51**	**259**	P		**P**		**17 59 52.8**	**+1.4**
	2.5nm,0.3s,baz=90,slow=19,SNR=24								
URZ	**Urewera**	**18.95**	**194**	P		**P**		**18 00 23.5**	**+0.5**
	4.4nm,0.3s,baz=275,slow=3.1,SNR=22								
CTA	**Charters Tower**	**34.38**	**263**	P		**P**		**18 02 37.9**	**-0.5**
	25nm,0.4s,baz=95,slow=11,SNR=31								
STKA	**Stephens Creek**	**38.79**	**244**	P		**P**		**18 03 14.7**	**+0.2**
	2.6nm,0.7s,baz=71,slow=8.8,SNR=7.5								
JAY	**Jayapura**	**44.66**	**287**	P		**P**		**18 04 00.7**	**-0.3**
	18nm,0.4s,baz=134,slow=5.0,SNR=18								
ASAR	**Alice Springs**	**45.47**	**256**	P		**P**		**18 04 06.3**	**-0.8**
	14nm,0.4s,baz=88,slow=8.3,SNR=258								
ASAR				PcP		**PcP**		**18 05 34.8**	**+0.2**
	1.7nm,0.4s,baz=105,slow=4.1,SNR=7.6								
WRA	**Warramunga Arr**	**45.51**	**261**	P		**P**		**18 04 06.2**	**-1.3**
	8.0nm,0.5s,baz=97,slow=8.3,SNR=359								
WRA				PcP		**PcP**		**18 05 35.2**	**+0.4**
	1.1nm,0.6s,baz=95,slow=3.5,SNR=5.1								
MJAR	**Matsushiro Arr**	**70.25**	**323**	P		**P**		**18 06 54.4**	**-0.4**
	1.8nm,0.6s,baz=165,slow=6.4,SNR=8.3								
USRK	**Ussuriysk Ar.**	**78.96**	**325**	P		**P**		**18 07 44.7**	**+1.2**
	2.6nm,0.9s,baz=192,slow=3.7,SNR=5.3								
ILAR	**Eielson Array**	**87.57**	**12**	P		**P**		**18 08 26.4**	**+0.5**
	0.6nm,0.7s,baz=220,slow=6.1,SNR=9.2								
CMAR	**Chiang Mai Arr**	**90.71**	**289**	P		**P**		**18 08 42.7**	**+1.1**
	1.8nm,0.8s,baz=123,slow=3.0,SNR=16								
MKAR	**Makanchi Array**	**111.41**	**313**	PKiKP		**PKiKP**		**18 14 08.0**	**-0.5**
	0.4nm,0.5s,baz=135,slow=0.3,SNR=7.9								
BVAR	**Borovoye Array**	**119.17**	**320**	PKP		**PKPdf**		**18 14 23.1**	**0.0**
	1.1nm,0.5s,baz=149,slow=4.0,SNR=9.9								
AKTO	**Aktyubinsk**	**127.19**	**319**	PKP		**PKiKP**		**18 14 39.6**	**+0.5**
	0.5nm,0.5s,baz=113,slow=1.8,SNR=3.7								
ARCES	**ARCESS Array B**	**128.50**	**350**	PKP		**PKiKP**		**18 14 41.0**	**-0.3**
	3.3nm,0.9s,baz=8.5,slow=1.0,SNR=8.7								
FINES	**FINESS Array B**	**135.45**	**344**	PKhKP		PKPpre		18 14 51.3	
	3.4nm,1.0s,baz=134,slow=5.5,SNR=3.5								
AKASG	**Malin Array Be**	**142.91**	**332**	PKhKP		PKPpre		18 15 04.7	
	2.2nm,0.5s,baz=43,slow=4.5,SNR=24								
KIEV	**Kiev**	**142.92**	**332** ⇑	*i*P		**PKPdf**		**18 15 04.9**	**-2.7**
BURAR	**Bucovina Array**	**146.96**	**332** ⇑	*i*P		**PKiKP**		**18 15 19.1**	**-0.5**
BIZ	**Bicaz**	**147.06**	**330** ⇑	*i*P		**PKiKP**		**18 15 19.5**	**-0.2**
BRTR	**Keskin Array B**	**147.06**	**314**	PKPbc		**PKPbc**		**18 15 18.6**	**+0.2**
	3.0nm,0.7s,baz=143,slow=4.7,SNR=14								
CFR	**Carcaliu**	**147.29**	**326** ⇑	*i*P		**PKPbc**		**18 15 18.6**	**+0.1**
DPC	**Dobruska-Polom**	**147.82**	**344**	*e*P		**PKPbc**		**18 15 19.3**	**-0.5**
DOPR	**Dopca**	**148.11**	**330** ⇑	*i*P		**PKiKP**		**18 15 22.2**	**+0.2**
SECR		**148.45**	**328** ⇑	*i*P		**PKiKP**		**18 15 22.3**	**-0.4**
GERES	**GERESS Array B**	**149.86**	**346**	PKPbc		**PKiKP**		**18 15 26.0**	**+0.4**
	1.8nm,0.6s,baz=5.7,slow=2.7,SNR=7.3								
BZS	**Buzias**	**150.08**	**333** ⇑	*i*P		**PKPbc**		**18 15 25.5**	**+0.1**

*ISCJB **30** 18:24:23.3±1.3, 31.73S±0.03×70.52W±0.05, h4km±12km, Error ellipse: s-maj=6.9km s-min=5.3km az=14.3*
*SJA **30** 18:24:23.6±0.7, 31.77S×70.45W, h10km±11km, ML2.3, MW3.5*
*GUC **30** 18:24:23.3±0.6, 31.68S×70.70W, h58km±9km, ML2.5*
ISC 30 18:24:24.0±1.2, 31.72S±0.03×70.52W±0.05, h24km±18km, n13, σ0s81/21, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.68**	**323**	*e*P		**Pb**		**18 24 37.0**	**-0.4**
CMCH				*e*S		**Sb**		**18 24 46.7**	**+0.3**
RTLS	**Leoncito**	**1.04**	**95**	*i*P		**Pn**		**18 24 43.2**	**-0.2**
RTLS				IAML				18 24 44.0	
	comp=Z,41nm,0.4s								
RTLS				*i* S		**Sn**		**18 24 57.2**	**-0.1**
AUSP	**Uspallata**	**1.08**	**118**	*i*P		**Pn**		**18 24 43.7**	**-0.2**
AUSP				*i* S		**Sn**		**18 24 58.3**	**0.0**
ROCH	**El Roble**	**1.31**	**198**	*e*P		**Pb**		**18 24 47.8**	**-0.4**
ROCH				*i* S		**Sb**		**18 25 05.6**	**+1.0**
ROC1	**El Roble**	**1.32**	**198**	*i*P		**Pb**		**18 24 47.9**	**-0.4**
PEL	**Peldehue**	**1.43**	**186**	*e*P		**Pb**		**18 24 48.8**	**-1.1**
PEL				*e*S		**Sb**		**18 25 08.3**	**+0.7**
PEL				IAML				18 25 13.5	
	comp=N,71nm,0.4s								
GO04	**Tololo Observa**	**1.56**	**351**	*e*P		**Pb**		**18 24 51.8**	**-0.6**
GO04				*e*S		**Sb**		**18 25 12.6**	**+0.8**
FCH	**Farellones**	**1.61**	**173** ⇑	*i*P		**Pb**		**18 24 52.7**	**-0.6**
FCH				*i* S		**Sb**		**18 25 15.2**	**+1.8**
FCH				IAML				18 25 16.0	
	comp=E,56nm,0.3s								
ASAL	**Salagasta**	**1.67**	**122**	*i*P		**Pb**		**18 24 53.9**	**-0.2**
RTCV	**Cerro Valdivia**	**1.69**	**95**	*i*P		**Pb**		**18 24 54.2**	**-0.2**
ARCO	**CERRO ARCO**	**1.75**	**130**	*i*P		**Pb**		**18 24 55.5**	**0.0**
ARCO				IAML				18 25 03.4	
	comp=Z,54nm,0.3s								
AMOG	**MOGNA**	**1.90**	**66**	*i*P		**Pb**		**18 24 57.8**	**-0.2**
LMEL	**Las Melosas**	**2.14**	**173**	*e*P		**Pn**		**18 24 58.9**	**+0.7**
LMEL				*i* S		**Sb**		**18 25 26.6**	**-1.7**
LMEL				IAML				18 25 37.5	
	comp=E,83nm,0.5s								

*JMA **30** 18:43:16.1±0.1, 23.17N×120.96E, h0km, M3.2*
*ISCJB **30** 18:43:17.5±0.2, 23.13N±0.01×121.01E±0.01, h7km±1km, Error ellipse: s-maj=1.9km s-min=1.7km az=36.6*
*TAP **30** 18:43:17.0, 23.15N×120.96E, h4km, ML3.6, B*
ISC 30 18:43:17.3±0.8, 23.16N±0.01×120.96E±0.01, h8km±6km, n113, σ0s82/175, 23C-14D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.06**	**61** ⇑	*i*P		**Pg**		**18 43 19.2**	**0.0**
	baz=61								
ELDTW				S		**Sg**		**18 43 20.4**	**-0.2**
	baz=61								
STYT	**Tauyuan**	**0.19**	**271** ⇑	*i*P		**Pg**		**18 43 21.3**	**+0.2**
	baz=272								
STYT				*i* S		**Sg**		**18 43 23.9**	**+0.1**
	baz=272								
WTP	**Ta-pu**	**0.33**	**285** ⇓	*i*P		**Pb**		**18 43 24.7**	**-0.7**
	baz=287								
WTP				S		**Sb**		**18 43 29.8**	**-1.1**
	baz=287								
SLGT	**Liugui**	**0.33**	**240** ⇑	P		**Pg**		**18 43 24.3**	**+0.4**
	baz=231								
TPUB	**Ta-pu**	**0.34**	**295** ⇓	P		**Pb**		**18 43 24.8**	**-0.7**
	baz=305								
TPUB				S		**Sb**		**18 43 29.9**	**-1.2**
	baz=305								
TWG	**Pinlang**	**0.35**	**163** ⇓	*i*P		**Pg**		**18 43 24.7**	**+0.5**
	baz=157								
TWG				*i* S		**Sg**		**18 43 29.1**	**+0.2**
	baz=157								
SGST	**Jiashian**	**0.36**	**257** ⇑	*i*P		**Pb**		**18 43 25.1**	**-0.8**
	baz=253								
SGST				*i* S		**Sb**		**18 43 30.4**	**-1.3**
	baz=253								
TWGBT	**Beinan**	**0.36**	**162** ⇓	P		**Pg**		**18 43 24.7**	**+0.4**
	baz=157								
TWGBT				S		**Sg**		**18 43 29.2**	**+0.2**
	baz=157								
TWF1	**Yuli**	**0.36**	**58** ⇑	*i*P		**Pg**		**18 43 24.9**	**+0.5**
	baz=58								
TWF1				*i* S		**Sg**		**18 43 29.4**	**+0.1**
	baz=58								
ALS	**Alishan**	**0.38**	**338** ⇓	*i*P		**Pg**		**18 43 25.3**	**+0.5**
	baz=340								
ALS				S		**Sg**		**18 43 30.9**	**+1.1**
	baz=340								
CHKT	**Chengkung**	**0.38**	**99** ⇓	*i*P		**Pb**		**18 43 26.1**	**-0.1**
	baz=98								
CHKT				*e*S		**Sb**		**18 43 33.2**	**+1.0**
	baz=98								
YULB	**Yu-li**	**0.39**	**53** ⇑	P		**Pg**		**18 43 25.1**	**+0.2**
	baz=53								
YULB				S		**Sg**		**18 43 29.7**	**-0.2**
	baz=53								
CHN4	**Tsaushan**	**0.39**	**299** ⇓	*i*P		**Pb**		**18 43 26.1**	**-0.4**
	baz=312								
CHN4				*i* S		**Sb**		**18 43 31.9**	**-0.6**
	baz=312								
CHN1	**Nanshi**	**0.40**	**274** ⇑	*i*P		**Pb**		**18 43 26.3**	**-0.3**
	baz=267								
CHN1				S		**Sb**		**18 43 32.6**	**-0.3**
	baz=267								
SNST	**Tainan City**	**0.43**	**278**	*e*P		**Pb**		**18 43 27.1**	**0.0**
	baz=279								
SNST				S		**Sb**		**18 43 34.1**	**+0.4**
	baz=279								
TTN	**Taitung**	**0.44**	**157** ⇓	P		**Pb**		**18 43 27.1**	**-0.2**
	baz=155								
TTN				S		**Sb**		**18 43 34.4**	**+0.4**
	baz=155								
TWK	**Hsinying**	**0.45**	**284** ⇑	*i*P		**Pb**		**18 43 27.3**	**-0.2**
	baz=285								
TWK				S		**Sb**		**18 43 34.5**	**+0.2**
	baz=285								
EHY	**Hungye**	**0.48**	**44** ⇑	*i*P		**Pg**		**18 43 26.8**	**+0.2**
	baz=44								
EHY				S		**Sg**		**18 43 32.5**	**-0.4**
	baz=44								
CHN5	**Tsauling**	**0.51**	**329** ⇓	*i*P		**Pb**		**18 43 28.1**	**-0.3**
	baz=331								
CHN5				S		**Sb**		**18 43 35.3**	**-0.7**
	baz=331								
SSD	**Sandimen**	**0.51**	**216** ⇑	*i*P		**Pg**		**18 43 27.0**	**-0.2**
	baz=209								
SSD				*e*S		**Sg**		**18 43 33.1**	**-0.8**
	baz=209								
HGSD	**Ruisui**	**0.54**	**52** ⇑	*e*P		**Pb**		**18 43 28.6**	**-0.3**
	baz=44								
HGSD				S		**Sb**		**18 43 36.4**	**-0.4**
	baz=44								
WHYT	**Xinyi Township**	**0.54**	**350**	P		**Pg**		**18 43 28.4**	**+0.6**
	baz=359								
WHYT				S		**Sb**		**18 43 36.7**	**-0.4**
	baz=359								
CHN3	**Shinhua**	**0.56**	**261** ⇑	*i*P		**Pn**		**18 43 30.6**	**-0.9**
	baz=261								
CHN3				*e*S		**Sn**		**18 43 40.7**	**-0.2**
	baz=261								
ECL	**Taimali**	**0.56**	**181** ⇑	*i*P		**Pg**		**18 43 28.0**	**-0.1**
	baz=168								
ECL				S		**Sg**		**18 43 34.9**	**-0.6**
	baz=168								
CHN2	**Minshiung**	**0.58**	**310** ⇓	P		**Pb**		**18 43 30.3**	**+0.7**
	baz=311								
CHN2				S		**Sn**		**18 43 40.1**	**-1.3**
	baz=311								
CHY	**Chiayi**	**0.60**	**304**	*e*P		**Pb**		**18 43 29.7**	**-0.2**
	baz=306								
CHY				*e*S		**Sn**		**18 43 40.5**	**-1.4**
	baz=306								
TWM1	**Shoushan**	**0.60**

HWA	**Hwalien**	**1.00**	**36**	*e*P		**Pn**	**18 43 37.5**	**-0.2**
	baz=49								
TCU	**Taichung**	**1.02**	**345**	*e*P		**Pn**	**18 43 37.9**	**+0.1**
	baz=331								
WHF	**Hehuan Shan**	**1.02**	**16**	*e*P		**Pg**	**18 43 35.8**	**-1.2**
	baz=18								
TWD	**Chiawan**	**1.08**	**32**	*e*P		**Pg**	**18 43 37.3**	**-0.9**
	baz=25								
TWD				*e*S		**Sg**	**18 43 51.5**	**-0.7**
	baz=25								
TDCB	**Techi**	**1.10**	**9**	*e*P		**Pg**	**18 43 37.5**	**-1.0**
	baz=4.0								
TWT	**Tachien**	**1.10**	**10**	*e*P		**Pg**	**18 43 37.8**	**-0.8**
	baz=4.0								
WHP	**Taichung City**	**1.11**	**359**	*e*P		**Pn**	**18 43 39.6**	**+0.4**
	baz=8.0								
NACB	**Ninganchiao**	**1.16**	**30**	P		**Pg**	**18 43 38.7**	**-0.9**
	baz=30								
NACB				S		**Sb**	**18 43 55.0**	**+0.1**
	baz=30								
HEN	**Hengchun**	**1.17**	**190**	*e*P		**Pn**	**18 43 40.1**	**+0.2**
	baz=188								
TWQ1	**Liyutan**	**1.19**	**352**	*e*P		**Pn**	**18 43 41.4**	**+1.1**
	baz=352								
WDGT	**Dungji**	**1.20**	**275**	P		**Pb**	**18 43 40.0**	**-0.2**
	baz=276								
WDGT				S		**Sb**	**18 43 56.3**	**+0.4**
	baz=276								
WDJ	**Dajia District**	**1.22**	**346**	*e*P		**Pg**	**18 43 42.4**	**+1.7**
	baz=334								
TWK1	**Hengchun**	**1.22**	**187**	*e*P		**Pg**	**18 43 41.4**	**+0.6**
	baz=176								
TWKBT	**Hengchun**	**1.22**	**186**	*e*P		**Pg**	**18 43 40.7**	**0.0**
	baz=176								
LAY	**Lan-yu**	**1.24**	**154**	*e*P		**Pn**	**18 43 39.1**	**-1.8**
	baz=153								
TSEB	**Hengchuen, Pin**	**1.26**	**183**	*e*P		**Pb**	**18 43 41.2**	**0.0**
	baz=174								
NSY	**Sanyi**	**1.26**	**352**	*e*P		**Pg**	**18 43 42.1**	**+0.6**
	baz=352								
PTSB	**Yuanli**	**1.30**	**350**	*e*P		**Pg**	**18 43 43.5**	**+1.3**
	baz=350								
NNSB	**Datong**	**1.32**	**17**	*e*P		**Pn**	**18 43 41.4**	**-0.7**
	baz=27								
NNSB				*e*S		**Sn**	**18 44 01.4**	**+1.4**
	baz=27								
PHUB	**P'eng-hu**	**1.32**	**286**	*e*P		**Pn**	**18 43 41.8**	**-0.2**
	baz=287								
PHUB				*e*S		**Sb**	**18 43 59.1**	**-0.3**
	baz=287								
NNS	**Nan Shan**	**1.33**	**16**	*e*P		**Pn**	**18 43 41.8**	**-0.5**
	baz=4.0								
PNG	**Penghu**	**1.35**	**288**	*e*P		**Pn**	**18 43 42.4**	**0.0**
	baz=289								
PNG				*e*S		**Sn**	**18 44 00.6**	**0.0**
	baz=289								
NMLH	**Miaoli**	**1.38**	**354**	*e*P		**Pg**	**18 43 44.4**	**+0.6**
	baz=353								
VCHM	**Qimei**	**1.41**	**272**	*e*P		**Pn**	**18 43 42.6**	**-0.7**
	baz=273								
VCHM				*e*S		**Sb**	**18 44 01.7**	**-0.3**
	baz=273								
ENA	**Nanau**	**1.45**	**29**	*e*P		**Pb**	**18 43 44.6**	**+0.1**
	baz=43								
NSTT	**Nanjuang**	**1.46**	**1**	*e*P		**Pg**	**18 43 45.5**	**+0.1**
	baz=350								
NSTT				*e*S		**Sg**	**18 44 07.2**	**+2.8**
	baz=350								
LIOB	**Emei**	**1.48**	**2**	*e*P		**Pg**	**18 43 46.3**	**+0.6**
NDT	**Datong Townshi**	**1.52**	**19**	*e*P		**Pg**	**18 43 46.7**	**+0.2**
	baz=20								
YHNB	**Yeheng**	**1.55**	**14**	*e*P		**Pn**	**18 43 45.6**	**+0.3**
	baz=14								
NSK	**Sanguang**	**1.55**	**13**	*e*P		**Pb**	**18 43 46.2**	**-0.1**
	baz=14								
ENTT	**Nioudou**	**1.57**	**20**	*e*P		**Pb**	**18 43 46.7**	**+0.1**
	baz=39								
SBCB	**Hsinchu**	**1.62**	**1**	*e*P		**Pg**	**18 43 49.8**	**+1.4**
	baz=358								
TWC	**Suao**	**1.66**	**29**	⇓P		**Pb**	**18 43 48.4**	**+0.4**
	baz=30								
TWC				*e*S		**Sb**	**18 44 09.5**	**+0.5**
	baz=30								
TWE	**Neicheng**	**1.68**	**22**	*e*P		**Pg**	**18 43 49.0**	**-0.5**
	baz=41								
WLTB	**Daxi**	**1.71**	**9**	*e*P		**Pg**	**18 43 51.3**	**+1.3**
	baz=16								
WLTB				*e*S		**Sg**	**18 44 14.0**	**+1.9**
	baz=16								
EOS1	**EOS1**	**1.75**	**37**	*e*P		**Pb**	**18 43 49.6**	**0.0**
	baz=55								
NHDH	**Xindian Distri**	**1.87**	**16**	*e*P		**Pb**	**18 43 51.7**	**+0.1**
	baz=16								
EGS		**1.90**	**28**	*e*P		**Pg**	**18 43 53.0**	**-0.7**
	baz=44								
TWA	**Mucha**	**1.90**	**17**	⇓*e*P		**Pg**	**18 43 54.5**	**+0.8**
	baz=40								
TIPB	**Shuangxi**	**1.97**	**24**	*e*P		**Pb**	**18 43 53.2**	**-0.2**
	baz=39								
TWS1	**Kuangyinshan**	**1.98**	**12**	*e*P		**Pg**	**18 43 55.2**	**0.0**
	baz=14								
NTST	**Danshui**	**2.04**	**13**	*e*P		**Pg**	**18 43 56.4**	**-0.1**
	baz=10.0								
NWF	**Wu-fen Shan**	**2.04**	**21**	*e*P		**Pg**	**18 43 55.9**	**-0.6**
	baz=39								
WFSB	**Wu-fen Shan**	**2.04**	**21**	*e*P		**Pb**	**18 43 55.0**	**+0.3**
	baz=39								
YM05	**YM05**	**2.07**	**15**	*e*P		**Pb**	**18 43 55.8**	**+0.7**
	baz=354								
YM11	**YM11**	**2.07**	**16**	*e*P		**Pb**	**18 43 55.5**	**+0.3**
	baz=354								
JYNG	**Yonagunijimaku**	**2.23**	**54**	P		**Pn**	**18 43 55.0**	**+0.6**
JYNG				*e*S		**Sn**	**18 44 22.9**	**+0.8**
YOJ	**Yonaguni jima**	**2.28**	**55**	P		**Pn**	**18 43 56.1**	**+0.9**
YOJ				*e*S		**Sb**	**18 44 25.3**	**-1.7**
VWUC	**VWUC**	**2.29**	**323**	*e*P		**Pn**	**18 43 55.5**	**+0.2**
	baz=323								
KNMB	**Chin-men Tao**	**2.69**	**299**	*e*P		**Pn**	**18 44 00.3**	**-0.5**
	baz=301								
HATJ	**Hateruma jima**	**2.76**	**71**	*e*S		**Sn**	**18 44 34.2**	**-1.1**
IRIF	**Iriomote-Funau**	**2.79**	**65**	P		**Pn**	**18 44 03.0**	**+0.7**
IRIF				*e*S		**Sn**	**18 44 35.7**	**-0.5**
JKRS	**Kuro-shima**	**2.99**	**68**	P		**Pn**	**18 44 06.1**	**+1.1**
JKRS				*e*S		**Sn**	**18 44 41.2**	**+0.1**
MATB	**Ma-tsu**	**3.12**	**343**	*e*P		**Pn**	**18 44 07.1**	**+0.4**
	baz=341								
JIJ	**Ishigaki jima**	**3.15**	**67**	P		**Pn**	**18 44 07.8**	**+0.6**
JIJ				*e*S		**Sn**	**18 44 43.6**	**-1.4**
JISG	**Ishigakijimahi**	**3.38**	**64**	P		**Pn**	**18 44 09.7**	**-0.6**
JISG				*e*S		**Sn**	**18 44 49.8**	**-0.8**
JTJ	**Tarama**	**3.73**	**66**	P		**Pn**	**18 44 15.7**	**+0.6**

JMA 30 18:47:27.7±0.1, 37.82N×144.50E, h44km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.44**	**282**	P	Pn	18 48 06.3	+1.2
JIKH				*e*S	Sn	18 48 34.9	+1.2
OFUJ	**Ofunato**	**2.55**	**300**	P	Pn	18 48 08.0	+1.4
JIO	**Ouri**	**2.56**	**285**	P	Pn	18 48 08.1	+1.4
JIO				*e*S	Sn	18 48 38.2	+1.5
JKMT	**Kesennumamotoy**	**2.58**	**293**	P	Pn	18 48 08.3	+1.4
JKMT				*e*S	Sn	18 48 38.5	+1.5
JMK	**Ichinoseki**	**2.81**	**295**	P	Pn	18 48 11.7	+1.5
JOM	**Ohasama**	**3.00**	**304**	P	Pn	18 48 14.6	+1.8
JOM				*e*S	Sn	18 48 49.8	+2.2
JFT	**Otama**	**3.32**	**266**	P	Pn	18 48 19.0	+1.9
JFT				*e*S	Sn	18 48 57.1	+1.8
JOT	**Ohata**	**4.45**	**324**	P	Pn	18 48 34.3	+1.8
JOT				*e*S	Sn	18 49 23.3	+0.3
JRY	**Ryogami san**	**4.83**	**250**	P	Pn	18 48 38.6	+0.7
JRY				*e*S	Sn	18 49 30.2	-2.4
JCH	**Churui**	**4.87**	**350**	P	Pn	18 48 38.6	+0.3

*KRNET **30** 18:59:10.5±0.1, 42.60N×79.64E, h15km, mb3.3*
*ISCJB **30** 18:59:11.9±0.8, 42.66N±0.04×79.71E±0.05, h10km, Error ellipse: s-maj=6.6km s-min=3.7km az=137.7*
*SOME **30** 18:59:11.3, 42.65N×79.60E, h15km*
*NNC **30** 18:59:11.4±0.8, 42.66N×79.61E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=5.6km s-min=2.7km az=128.0*
ISC 30 18:59:12.7±1.2, **42.67N**±0.04×**79.60E**±0.04, **h10km, n62,** σ1§**22**/99, **28C-16D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.64**	**319**	P	**Pg**	**18 59 24.4**	**-0.6**
	44nm,0.1s						
UZB				S	**Sg**	**18 59 34.2**	**+0.7**
	414nm,0.2s						
UZB	**Uzynbulak**	**0.64**	**319**	*e*P	**Pg**	**18 59 24.4**	**-0.6**
	baz=21						
UZB				*e*S	**Sg**	**18 59 34.1**	**+0.7**
	baz=21						
UZB	**Uzynbulak**	**0.64**	**319**	*e*P	**Pg**	**18 59 24.4**	**-0.6**
	44nm,0.1s						
UZB				*e*S	**Sg**	**18 59 34.2**	**+0.7**
	414nm,0.2s						
PDGK	**Podgornoye**	**0.66**	**353**	P	**Pg**	**18 59 24.9**	**-0.7**
	11nm,0.2s						
PDGK				S	**Sb**	**18 59 34.9**	**-0.8**
	111nm,0.2s						
PDGK	**Podgornoye**	**0.66**	**353**	⇑P	**Pg**	**18 59 24.2**	**-1.3**
	10.0nm,0.4s						
PDGK				⇑S	**Sg**	**18 59 34.3**	**0.0**
	124nm,0.5s						
PDGK	**Podgornoye**	**0.66**	**353**	⇓*i*P	**Pg**	**18 59 24.3**	**-1.3**
	baz=51						
PDGK				⇓*i*S	**Sg**	**18 59 34.5**	**+0.2**
	baz=51						
PRZ	**Przheval'sk**	**0.90**	**258**	⇑*i*P	**Pg**	**18 59 27.5**	**-2.6**
	baz=63						
PRZ				⇑*i*S	**Sg**	**18 59 40.3**	**-1.6**
	baz=63						
SATY	**Saty**	**0.96**	**294**	P	**Pg**	**18 59 29.2**	**-2.0**
	24nm,0.3s						
SATY				S	**Sg**	**18 59 42.3**	**-1.3**
	138nm,0.3s						
SATY	**Saty**	**0.96**	**294**	*e*P	**Pg**	**18 59 29.2**	**-2.0**
	20nm,0.2s						
SATY				*e*S	**Sg**	**18 59 42.1**	**-1.5**
	270nm,0.1s						
KURS	**Kuram**	**1.32**	**308**	P	**Pn**	**18 59 36.3**	**-1.1**
	12nm,0.4s						
KURS				S	**Sb**	**18 59 54.8**	**0.0**
	25nm,0.3s						
KURS	**Kuram**	**1.32**	**308**	*e*P	**Pn**	**18 59 36.8**	**-0.6**
	baz=10.0						
KURS				*e*S	**Sn**	**18 59 55.1**	**0.0**
	baz=10.0						
KURS	**Kuram**	**1.32**	**308**	*e*P	**Pn**	**18 59 36.8**	**-0.6**
	12nm,0.4s						
KURS				*e*S	**Sn**	**18 59 55.1**	**0.0**
	88nm,0.4s						
DJR	**Jarkent**	**1.67**	**5**	P	**Pb**	**18 59 42.5**	**-1.0**
	24nm,0.2s						
DJR				S	**Sg**	**19 00 06.0**	**-0.3**
	43nm,0.2s						
DJR	**Jarkent**	**1.67**	**5**	*e*P	**Pb**	**18 59 42.8**	**-0.8**
	12nm,0.2s						
DJR				*e*S	**Sg**	**19 00 05.5**	**-0.8**
	71nm,0.3s						
KDJ	**Kajisay**	**1.87**	**254**	⇑*i*P	**Pn**	**18 59 45.2**	**+0.3**
	baz=56						
KDJ				⇑*i*S	**Sb**	**19 00 10.0**	**-0.6**
	baz=56						
KOTS	**Kotyrbulak**	**1.91**	**288**	Pg	**Pg**	**18 59 48.2**	**-1.1**
	19nm,0.4s						
KOTS				Lg	Lg	19 00 15.0	
	130nm,0.5s						
MDOK	**Medeo**	**1.94**	**286**	Pn	**Pn**	**18 59 46.0**	**+0.2**
	13nm,0.6s						
MDOK				Sn	**Sb**	**19 00 12.2**	**-0.2**
	78nm,0.7s						
MDOK	**Medeo**	**1.94**	**286**	Pg	**Pb**	**18 59 46.5**	**-1.6**
	17nm,0.5s						
MDOK				Lg	Lg	19 00 12.3	
	50nm,1.1s						
MDOK	**Medeo**	**1.94**	**286**	*e*P	**Pb**	**18 59 46.8**	**-1.4**
	baz=87						
MDOK				*e*S	**Sb**	**19 00 12.2**	**-0.2**
	baz=87						
MDOK	**Medeo**	**1.94**	**286**	*e*P	**Pb**	**18 59 46.8**	**-1.4**
	17nm,0.5s						
MDOK				*e*S	**Sb**	**19 00 12.2**	**-0.2**
	53nm,0.4s						
TNSS	**Tian-Shan**	**1.98**	**282**	Pg	**Pb**	**18 59 48.4**	**-0.7**
	17nm,0.3s						
TNSS				Lg	Lg	19 00 15.4	
	67nm,0.5s						
TNSS	**Tian-Shan**	**1.98**	**282**	*e*P	**Pb**	**18 59 48.7**	**-0.4**
	baz=83						
TNSS				*e*S	**Sg**	**19 00 15.4**	**-1.1**
	baz=83						
TNSS	**Tian-Shan**	**1.98**	**282**	*e*P	**Pb**	**18 59 48.7**	**-0.4**
	17nm,0.3s						
TNSS				*e*S	**Sg**	**19 00 15.3**	**-1.1**
	67nm,0.5s						
KNDC	**Almaty**	**2.01**	**287**	⇓Pn	**Pb**	**18 59 48.2**	**-1.1**
	14nm,0.4s						
KNDC				⇑Sn	**Sb**	**19 00 15.4**	**+1.0**
	78nm,0.6s						
ARXS	**Arharly**	**2.01**	**321**	Pg	**Pb**	**18 59 48.4**	**-1.0**
	21nm,0.3s						
ARXS				Lg	Lg	19 00 15.3	
	96nm,0.5s						
ARXS	**Arharly**	**2.01**	**321**	*e*P	**Pb**	**18 59 48.5**	**-0.8**
	5.4nm,0.2s						
ARXS				*e*S	**Sb**	**19 00 15.2**	**+0.7**
	145nm,0.6s						
AAA	**Alma-Ata**	**2.04**	**286**	Pg	**Pb**	**18 59 49.9**	**-0.1**
	26nm,0.3s						
AAA				Lg	Lg	19 00 18.4	
	62nm,0.4s						
AAA	**Alma-Ata**	**2.04**	**286**	*e*P	**Pb**	**18 59 49.6**	**-0.3**
	baz=88						
AAA				*e*S	**Sg**	**19 00 16.9**	**-1.4**
	baz=88						
AAA	**Alma-Ata**	**2.04**	**286**	*e*P	**Pb**	**18 59 49.6**	**-0.3**
	26nm,0.3s						
AAA				*e*S	**Sg**	**19 00 16.9**	**-1.4**
	124nm,0.3s						
CHKK	**Chushkaly**	**2.24**	**303**	Pg	**Pn**	**18 59 50.9**	**+1.0**
	11nm,0.4s						
CHKK				Lg	Lg	19 00 20.1	
	122nm,0.3s						
CHKK	**Chushkaly**	**2.24**	**303**	*e*P	**Pn**	**18 59 50.8**	**+0.9**
	baz=4.0						
CHKK				*e*S	**Sn**	**19 00 19.0**	**+1.3**
	baz=4.0						
CHKK	**Chushkaly**	**2.24**	**303**	*e*P	**Pn**	**18 59 50.8**	**+0.9**
	0.4nm,0.1s						
CHKK				*e*S	**Sn**	**19 00 18.9**	**+1.3**
	122nm,0.3s						
KTBS	**Karatobe**	**2.37**	**297**	Pg	**Pb**	**18 59 54.6**	**-0.9**
	15nm,0.4s						
KTBS				Lg	Lg	19 00 25.9	
	183nm,0.5s						
MTBS	**Maitube**	**2.37**	**282**	Pg	**Pb**	**18 59 54.2**	**-1.3**
	24nm,0.5s						
MTBS				Lg	Lg	19 00 25.4	
	100nm,0.5s						
MTBS	**Maitube**	**2.37**	**282**	*e*P	**Pb**	**18 59 54.9**	**-0.7**
	baz=84						
MTBS				*e*S	**Sb**	**19 00 26.0**	**+1.1**
	baz=84						
MTBS	**Maitube**	**2.37**	**282**	*e*P	**Pb**	**18 59 54.9**	**-0.7**
	23nm,0.2s						
MTBS				*e*S	**Sb**	**19 00 26.0**	**+1.1**
	100nm,0.5s						
TDK	**Taldyqorghan**	**2.48**	**340**	Pg	**Pb**	**18 59 57.0**	**-0.4**
	26nm,0.7s						
TDK				Lg	Lg	19 00 30.2	
	193nm,0.7s						
ULHL	**Ulahol**	**2.52**	**261**	⇓*i*P	**Pn**	**18 59 54.2**	**+0.3**
	baz=63						
ULHL				⇓*i*S	**Sb**	**19 00 27.3**	**-2.0**
	baz=63						
KAPS	**Kapalarasan**	**2.62**	**356**	Pg	**Pb**	**18 59 59.0**	**-0.7**
	4.6nm,0.4s						
KAPS				Lg	Lg	19 00 33.9	
	70nm,0.4s						
KAPS	**Kapalarasan**	**2.62**	**356**	*e*P	**Pb**	**18 59 59.5**	**-0.3**
	3.1nm,0.3s						
KAPS				*e*S	**Sb**	**19 00 34.0**	**+2.0**
	70nm,0.4s						
KST	**Kastek**	**2.70**	**279**	Pg	**Pb**	**18 59 59.8**	**-1.4**
	17nm,0.3s						
KST				Lg	Lg	19 00 35.1	
	45nm,0.6s						
KST	**Kastek**	**2.70**	**279**	*e*P	**Pb**	**19 00 00.3**	**-0.9**
	baz=81						
KST				*e*S	**Sb**	**19 00 35.2**	**+0.8**
	baz=81						
KST	**Kastek**	**2.70**	**279**	*e*P	**Pb**	**19 00 00.3**	**-0.9**
	21nm,0.2s						
KST				*e*S	**Sb**	**19 00 35.1**	**+0.8**
	67nm,0.6s						
BOOM	**Boomskoye usch**	**2.71**	**267**	⇑*i*P	**Pn**	**18 59 57.1**	**+0.7**
	baz=69						
BOOM				⇑*i*S	**Sn**	**19 00 31.6**	**+2.3**
	baz=69						
DGS	**Degeres**	**2.86**	**283**	Pg	**Pb**	**19 00 04.0**	**0.0**
	21nm,0.9s						
DGS				Lg	Lg	19 00 42.1	
	148nm,0.9s						
NRN	**Naryn**	**2.95**	**246**	⇑*i*P	**Pn**	**19 00 00.8**	**+0.9**
	baz=48						
NRN				⇑*i*S	**Sn**	**19 00 37.3**	**+1.7**
	baz=48						
TKM2	**Tokmak 2**	**2.95**	**276**	⇓Pn	**Pb**	**19 00 02.9**	**-2.7**
	7.0nm,0.6s						
TKM2				⇑Lg	Lg	19 00 44.8	
	36nm,0.6s						
TKM2	**Tokmak 2**	**2.95**	**276**	⇑*i*P	**Pn**	**19 00 00.9**	**+1.0**
	baz=77						
TKM2				⇑*i*S	**Sn**	**19 00 38.2**	**+2.7**
	baz=77						
KZA	**Kyzart**	**3.27**	**261**	⇑*i*P	**Pn**	**19 00 05.5**	**+1.0**
	baz=62						
KZA				⇑*i*S	**Sn**	**19 00 45.7**	**+2.0**
	baz=62						
KBK	**Karagaybulak**	**3.43**	**271**	⇑*i*P	**Pn**	**19 00 07.1**	**+0.7**
	baz=72						
KBK				⇑*i*S	**Sn**	**19 00 49.4**	**+2.3**
	baz=72						
CHMS	**Chumysh**	**3.58**	**277**	⇑*i*P	**Pn**	**19 00 09.7**	**+1.4**
	baz=78						
CHMS				⇑*i*S	**Sn**	**19 00 52.7**	**+2.1**
	baz=78						
SGDS	**Sogindy**	**3.72**	**284**	Pg	**Pb**	**19 00 17.5**	**-1.1**
	5.1nm,0.5s						
SGDS				Lg	Lg	19 01 05.2	
	19nm,0.6s						
AAK	**Ala-Archa**	**3.76**	**271**	⇑Pg	**Pb**	**19 00 17.8**	**-1.5**
	3.3nm,0.6s						
AAK				⇓Lg	Lg	19 01 09.6	
	25nm,0.8s						
MAKZ	**Makanchi**	**4.47**	**21**	⇑Pn	**Pn**	**19 00 20.2**	**-0.4**
	1.7nm,0.3s						
MAKZ				⇑Lg	Lg	19 01 35.8	
	2.4nm,0.6s						
MK31	**Makanchi Array**	**4.55**	**24**	⇓Pn	**Pn**	**19 00 21.5**	**-0.1**
	0.8nm,0.3s,baz=195,slow=12,SNR=70						
MK31				⇑Sn	**Sn**	**19 01 14.8**	**+0.3**
	0.8nm,0.3s,baz=205,slow=23,SNR=4.5						
MK31				⇓Lg	Lg	19 01 31.8	
	0.8nm,0.4s,baz=195,slow=28,SNR=4.9						
MRKS	**Merke**	**4.70**	**273**	Pg	**Pb**	**19 00 36.1**	**+0.9**
	3.0nm,0.7s						
MRKS				Lg	Lg	19 01 37.2	
	7.8nm,0.5s						
MNAS	**Manas**	**5.24**	**270**	⇑Pg	**Pb**	**19 00 47.0**	**+2.6**
	0.9nm,0.5s						
MNAS				⇓Lg	Lg	19 01 56.0	
	2.6nm,0.6s						
SFK	**Sufi-Kurgan**	**5.30**	**242**	⇓Pg	**Pb**	**19 00 47.3**	**+1.7**
	1.1nm,0.6s						
SFK				⇑Lg	Lg	19 01 59.2	
	5.8nm,1.0s						
KK31	**Karatay Array**	**6.69**	**277**	⇓Pg	Pb	19 01 14.3	+5.2
	0.5nm,0.5s,baz=90,slow=16,SNR=8.4						
KK31				⇓Lg	Lg	19 02 45.0	
	1.7nm,0.5s,baz=102,slow=29,SNR=7.5						
OTUK	**Ortayu**	**7.55**	**320**	⇓Pn	**Pn**	**19 01 05.7**	**+2.8**
	1.7nm,1.1s						
OTUK				⇓Sn	**Sn**	**19 02 28.4**	**-0.1**
	1.1nm,0.4s						
OTUK				⇓Lg	Lg	19 03 10.6	
	9.1nm,1.1s						
KURBB	**Kurchatov Arra**	**7.99**	**355**	⇑Lg	Lg	19 03 25.6	
	16nm,0.6s						
KURK	**Kurchatov**	**8.07**	**356**	⇑Lg	Lg	19 03 25.0	
	3.9nm,0.6s						

*NNC **30** 19:08:53.9±1.6, 42.62N×79.67E, h0km, mb2.7, mpv2.4, Error ellipse: s-maj=10.4km s-min=5.2km az=122.0*
*SOME **30** 19:08:54.3, 42.65N×79.67E, h0km*
*KRNET **30** 19:08:54.2±0.1, 42.61N×79.66E, h15km, mb2.2*
ISC 30 19:08:55.7±1.7, **42.63N**±0.06×**79.60E**±0.07, **h10km, n18,** σ1§**82**/35, **14C-10D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.67**	**321**	P	**Pg**	**19 09 07.7**	**-1.0**
	7.2nm,0.1s						
UZB				S	**Sg**	**19 09 17.8**	**+0.1**
	6.3nm,0.2s						
UZB	**Uzynbulak**	**0.67**	**321**	*e*P	**Pg**	**19 09 07.8**	**-1.0**
	7.2nm,0.1s						
UZB				*e*S	**Sg**	**19 09 17.7**	**0.0**
	3.7nm,0.2s						
PDGK	**Podgornoye**	**0.71**	**353**	P	**Pg**	**19 09 08.1**	**-1.3**
	1.2nm,0.1s						
PDGK				S	**Sg**	**19 09 18.6**	**-0.2**
	5.1nm,0.2s						
PDGK	**Podgornoye**	**0.71**	**353**	⇑P	**Pg**	**19 09 07.8**	**-1.7**
	1.1nm,0.4s						
PDGK				⇑S	**Sg**	**19 09 18.0**	**-0.8**
	6.9nm,0.6s						
PDGK	**Podgornoye**	**0.71**	**353**	⇑*i*P	**Pg**	**19 09 08.1**	**-1.3**
	baz=50						
PDGK				⇑*i*S	**Sg**	**19 09 18.5**	**-0.2**
	baz=50						
PRZ	**Przheval'sk**	**0.90**	**261**	⇓*i*P	**Pg**	**19 09 11.8**	**-1.3**
	baz=63						
PRZ				⇓*i*S	**Sg**	**19 09 24.6**	**-0.2**
	baz=63						
SATY	**Saty**	**0.98**	**297**	P	**Pg**	**19 09 13.3**	**-1.3**
SATY				S	**Sg**	**19 09 27.3**	**-0.1**
DJR	**Jarkent**	**1.71**	**5**	*e*P	**Pb**	**19 09 26.9**	**-0.4**
	0.2nm,0.2s						
DJR				*e*S	**Sg**	**19 09 50.3**	**-0.5**
	3.7nm,0.3s						
KDJ	**Kajisay**	**1.86**	**255**	⇑*i*P	**Pb**	**19 09 29.2**	**-0.7**
	baz=56						
KDJ				⇑*i*S	**Sb**	**19 09 54.1**	**+0.8**
	baz=56						
MDOK	**Medeo**	**1.95**	**287**	Pn	**Pb**	**19 09 30.2**	**-1.3**
	1.8nm,0.5s						
MDOK				Sn	**Sb**	**19 09 56.6**	**+0.7**
	2.0nm,0.5s						
ULHL	**Ulahol**	**2.52**	**262**	⇑*i*P	**Pb**	**19 09 38.6**	**-2.5**
	baz=63						
ULHL				⇑*i*S	**Sb**	**19 10 11.2**	**-1.0**
	baz=63						
BOOM	**Boomskoye usch**	**2.71**	**268**	⇑*i*P	**Pn**	**19 09 41.2**	**+1.7**
	baz=69						
BOOM				⇑*i*S	**Sb**	**19 10 15.2**	**-2.5**
	baz=69						
NRN	**Naryn**	**2.94**	**247**	⇑*e*P	**Pn**	**19 09 44.4**	**+1.7**
	baz=48						
NRN			

ellipse: s-maj=6.6km s-min=3.2km az=141.0
*SOME **30** 19:10:55.6, 42.67N×79.60E, h10km*
*NNC **30** 19:10:55.8±0.8, 42.67N×79.64E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=5.8km s-min=2.7km az=128.0*

ISC 30 19:10:55.8±1.2, 42.64N±0.05×79.65E±0.05, h10km, n66, σt 18/108, 36C-20D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
PDGK	**Podgornoye** 52nm,0.2s	**0.70**	**350**	P		**Pg**	**19 11 08.4**	**-0.9**
PDGK				S		**Sg**	**19 11 17.5**	**-1.0**
PDGK	**Podgornoye** 39nm,0.4s	**0.70**	**350**	⇓P		**Pg**	**19 11 08.3**	**-1.1**
PDGK				⇑S		**Sb**	**19 11 18.7**	**-1.2**
PDGK	**Podgornoye** baz=52	**0.70**	**350**	⇑*i*P		**Pg**	**19 11 08.4**	**-0.9**
PDGK				⇑*i*S		**Sb**	**19 11 18.9**	**-1.0**
PRZ	**Przheval'sk** baz=62	**0.94**	**261**	⇑*i*P		**Pg**	**19 11 11.8**	**-2.1**
PRZ				⇑*i*S		**Sg**	**19 11 24.5**	**-1.6**
SATY	**Saty**	**1.01**	**295**	P		**Pg**	**19 11 14.6**	**-0.6**
SATY	23nm,0.1s			S		**Sb**	**19 11 28.0**	**-0.7**
SATY	**Saty** 8.8nm,0.2s	**1.01**	**295**	*e*P		**Pg**	**19 11 14.6**	**-0.6**
SATY	270nm,0.2s			*e*S		**Sb**	**19 11 28.1**	**-0.7**
KURS	**Kuram** 17nm,0.6s	**1.38**	**308**	P		**Pn**	**19 11 20.7**	**-0.5**
KURS	19nm,0.4s			S		**Sg**	**19 11 39.3**	**-0.8**
KURS	**Kuram** baz=10.0	**1.38**	**308**	*e*P		**Pn**	**19 11 20.7**	**-0.5**
KURS	baz=10.0			*e*S		**Sg**	**19 11 39.3**	**-0.8**
KURS	**Kuram** 17nm,0.6s	**1.38**	**308**	*e*P		**Pn**	**19 11 20.7**	**-0.5**
KURS	19nm,0.4s			*e*S		**Sg**	**19 11 39.3**	**-0.8**
DJR	**Jarkent** 11nm,0.3s	**1.69**	**3**	P		**Pg**	**19 11 27.0**	**-1.3**
DJR	46nm,0.3s			S		**Sg**	**19 11 50.0**	**-0.3**
DJR	**Jarkent** 11nm,0.3s	**1.69**	**3**	*e*P		**Pg**	**19 11 27.0**	**-1.3**
DJR	46nm,0.3s			*e*S		**Sg**	**19 11 50.0**	**-0.3**
KDJ	**Kajisay** baz=56	**1.90**	**255**	⇑*i*P		**Pb**	**19 11 29.3**	**-1.4**
KDJ	baz=56			⇑*i*S		**Sb**	**19 11 53.7**	**-0.9**
KOTS	**Kotyrbulak** 14nm,0.4s	**1.96**	**288**	Pg		**Pb**	**19 11 31.7**	**0.0**
KOTS	173nm,0.5s			Lg		Lg	19 11 57.4	
KOTS	**Kotyrbulak** 14nm,0.4s	**1.96**	**288**	*e*P		**Pb**	**19 11 31.7**	**0.0**
KOTS	173nm,0.5s			*e*S		**Sg**	**19 11 57.4**	**-1.3**
MDOK	**Medeo** 9.0nm,0.5s	**1.98**	**286**	Pn		**Pb**	**19 11 30.6**	**-1.5**
MDOK	44nm,0.5s			Sn		**Sb**	**19 11 57.2**	**+0.3**
MDOK	**Medeo** 9.6nm,0.5s	**1.98**	**286**	Pg		**Pb**	**19 11 31.3**	**-0.8**
MDOK	31nm,0.5s			Lg		Lg	19 11 57.2	
MDOK	**Medeo** baz=87	**1.98**	**286**	*e*P		**Pb**	**19 11 31.3**	**-0.8**
MDOK	baz=87			*e*S		**Sb**	**19 11 57.2**	**+0.3**
MDOK	**Medeo** 9.6nm,0.5s	**1.98**	**286**	*e*P		**Pb**	**19 11 31.3**	**-0.8**
MDOK	31nm,0.5s			*e*S		**Sb**	**19 11 57.2**	**+0.3**
TNSS	**Tian-Shan** 9.4nm,0.3s	**2.03**	**282**	Pg		**Pb**	**19 11 32.5**	**-0.5**
TNSS	34nm,0.4s			Lg		Lg	19 11 58.9	
TNSS	**Tian-Shan** baz=83	**2.03**	**282**	*e*P		**Pb**	**19 11 32.5**	**-0.5**
TNSS	baz=83			*e*S		**Sb**	**19 11 58.9**	**+0.4**
TNSS	**Tian-Shan** 9.4nm,0.3s	**2.03**	**282**	*e*P		**Pb**	**19 11 32.5**	**-0.5**
TNSS	34nm,0.4s			*e*S		**Sb**	**19 11 58.9**	**+0.4**
KNDC	**Almaty** 22nm,0.6s	**2.05**	**287**	⇓Pn		**Pb**	**19 11 32.4**	**-0.8**
KNDC	87nm,0.5s			⇑Sn		**Sg**	**19 12 00.8**	**-1.0**
ARXS	**Arharly** 14nm,0.3s	**2.06**	**320**	Pg		**Pb**	**19 11 33.2**	**-0.1**
ARXS	62nm,0.5s			Lg		Lg	19 12 00.0	
ARXS	**Arharly** 14nm,0.3s	**2.06**	**320**	*e*P		**Pb**	**19 11 33.2**	**-0.1**
ARXS	62nm,0.5s			*e*S		**Sg**	**19 12 00.0**	**-1.9**
AAA	**Alma-Ata** 18nm,0.3s	**2.09**	**287**	Pg		**Pg**	**19 11 34.2**	**-1.6**
AAA	42nm,0.4s			Lg		Lg	19 12 02.2	
AAA	**Alma-Ata** 18nm,0.3s	**2.09**	**287**	*e*P		**Pg**	**19 11 34.2**	**-1.6**
AAA	42nm,0.4s			*e*S		**Sg**	**19 12 02.2**	**-0.8**
CHKK	**Chushkaly** 4.6nm,0.3s	**2.29**	**303**	Pg		**Pb**	**19 11 37.0**	**-0.3**
CHKK	48nm,0.4s			Lg		Lg	19 12 06.8	
CHKK	**Chushkaly** 4.6nm,0.3s	**2.29**	**303**	*e*P		**Pb**	**19 11 37.0**	**-0.3**
CHKK	48nm,0.4s			*e*S		**Sb**	**19 12 06.8**	**+1.1**
MTBS	**Maitube** 12nm,0.6s	**2.42**	**283**	Pg		**Pb**	**19 11 39.0**	**-0.4**
MTBS	43nm,0.5s			Lg		Lg	19 12 10.1	
MTBS	**Maitube** 12nm,0.6s	**2.42**	**283**	*e*P		**Pb**	**19 11 39.0**	**-0.4**
MTBS	43nm,0.5s			*e*S		**Sb**	**19 12 10.2**	**+0.8**
KTBS	**Karatobe** 5.7nm,0.4s	**2.42**	**297**	Pg		**Pb**	**19 11 39.0**	**-0.5**
KTBS	87nm,0.6s			Lg		Lg	19 12 10.0	
KTBS	**Karatobe** baz=97	**2.42**	**297**	*e*P		**Pb**	**19 11 39.0**	**-0.5**
KTBS	baz=97			*e*S		**Sb**	**19 12 10.0**	**+0.6**
KTBS	**Karatobe** 5.7nm,0.4s	**2.42**	**297**	*e*P		**Pb**	**19 11 39.0**	**-0.5**
KTBS	87nm,0.6s			*e*S		**Sb**	**19 12 10.0**	**+0.6**
TDK	**Taldyqorghan** 49nm,0.4s	**2.52**	**340**	Pg		**Pb**	**19 11 40.0**	**-1.3**
TDK	36nm,0.7s			Lg		Lg	19 12 11.7	
ULHL	**Ulahol** baz=63	**2.55**	**262**	⇑*i*P		**Pn**	**19 11 38.4**	**+0.9**
ULHL	baz=63			⇑*i*S		**Sn**	**19 12 10.5**	**+1.7**
KAPS	**Kapalarasan** 6.7nm,0.3s	**2.65**	**356**	Pg		**Pb**	**19 11 42.3**	**-1.1**
KAPS	38nm,0.5s			Lg		Lg	19 12 15.9	
KUU	**Kurty** 5.0nm,0.6s	**2.72**	**298**	Pg		**Pb**	**19 11 44.5**	**-0.2**
KUU	35nm,0.4s			Lg		Lg	19 12 19.5	
KUU	**Kurty** 5.0nm,0.6s	**2.72**	**298**	*e*P		**Pb**	**19 11 44.5**	**-0.2**
KUU	35nm,0.4s			*e*S		**Sb**	**19 12 19.5**	**+1.4**
KST	**Kastek** 16nm,0.5s	**2.74**	**280**	Pg		**Pb**	**19 11 44.9**	**-0.1**
KST	23nm,0.6s			Lg		Lg	19 12 20.3	
KST	**Kastek** 16nm,0.5s	**2.74**	**280**	*e*P		**Pb**	**19 11 44.9**	**-0.1**
KST	23nm,0.6s			*e*S		**Sb**	**19 12 20.3**	**+1.6**
BOOM	**Boomskoye usch** baz=69	**2.75**	**268**	⇑*i*P		**Pn**	**19 11 41.0**	**+0.9**
BOOM	baz=69			⇑*i*S		**Sn**	**19 12 14.7**	**+1.3**
DGS	**Degeres** 17nm,0.7s	**2.91**	**283**	Pg		**Pb**	**19 11 47.9**	**0.0**
DGS	48nm,0.6s			Lg		Lg	19 12 25.2	
DGS	**Degeres** 17nm,0.7s	**2.91**	**283**	*e*P		**Pb**	**19 11 47.9**	**0.0**
DGS	48nm,0.6s			*e*S		**Sb**	**19 12 25.2**	**+1.7**
NRN	**Naryn** baz=48	**2.98**	**247**	⇓*e*P		**Pn**	**19 11 44.5**	**+1.1**
NRN	baz=48			⇓*i*S		**Sn**	**19 12 20.8**	**+1.5**
TKM2	**Tokmak 2** 3.8nm,0.5s	**3.00**	**277**	⇓Pn		**Pb**	**19 11 47.8**	**-1.6**
TKM2	16nm,0.5s			⇑Lg		Lg	19 12 29.4	
TKM2	**Tokmak 2** baz=77	**3.00**	**277**	⇑*i*P		**Pn**	**19 11 45.2**	**+1.6**
TKM2	baz=77			⇑*e*S		**Sn**	**19 12 21.5**	**+1.8**
KZA	**Kyzart** baz=62	**3.31**	**262**	⇑*e*P		**Pn**	**19 11 49.1**	**+1.0**
KZA	baz=62			⇑*i*S		**Sn**	**19 12 28.8**	**+1.1**
KBK	**Karagaybulak** baz=72	**3.47**	**272**	⇑*i*P		**Pn**	**19 11 51.1**	**+1.0**
KBK	baz=72			⇑*i*S		**Sn**	**19 12 32.6**	**+1.3**
CHMS	**Chumysh** baz=78	**3.62**	**277**	⇑*e*P		**Pn**	**19 11 53.2**	**+1.2**
CHMS	baz=78			⇑*i*S		**Sn**	**19 12 36.1**	**+1.3**
FRU1	**Bishkek** baz=75	**3.70**	**274**	⇑*e*P		**Pn**	**19 11 54.3**	**+1.1**
FRU1	baz=75			⇑*e*S		**Sn**	**19 12 38.2**	**+1.3**
SGDS	**Sogindy** 4.6nm,0.5s	**3.77**	**284**	Pg		**Pb**	**19 12 02.9**	**+0.4**
SGDS	12nm,0.7s			Lg		Lg	19 12 50.9	
AAK	**Ala-Archa** 1.7nm,0.5s	**3.81**	**272**	⇓Pg		**Pg**	**19 12 05.9**	**-2.8**
AAK	20nm,0.9s			⇑Lg		Lg	19 12 54.2	
AAK	**Ala-Archa** baz=72	**3.81**	**272**	⇑*e*P		**Pn**	**19 11 56.0**	**+1.4**
AAK	baz=72			⇑*i*S		**Sn**	**19 12 40.7**	**+1.2**
UCH	**Uchtor** baz=66	**3.83**	**266**	⇓*e*P		**Pn**	**19 11 56.1**	**+0.9**
UCH	baz=66			⇓*i*S		**Sn**	**19 12 41.1**	**+0.6**
USP	**Ospenovka** baz=82	**3.83**	**281**	⇑*i*P		**Pn**	**19 11 56.2**	**+1.3**
USP	baz=82			⇑*i*S		**Sn**	**19 12 41.2**	**+1.1**
ARLS	**Aral** baz=61	**4.03**	**261**	⇑*i*P		**Pn**	**19 11 58.7**	**+0.9**
ARLS	baz=61			⇑*i*S		**Sn**	**19 12 45.6**	**+0.5**
EKS2	**Erkin-Say** baz=73	**4.33**	**272**	⇓*e*P		**Pn**	**19 12 03.1**	**+1.2**
EKS2	baz=73			⇓*i*S		**Sn**	**19 12 53.2**	**+0.7**
AML	**Almayashu** baz=66	**4.44**	**265**	⇓*e*P		**Pn**	**19 12 04.8**	**+1.2**
AML	baz=66			⇓*e*S		**Sn**	**19 12 56.2**	**+0.6**
MAKZ	**Makanchi** 1.2nm,0.4s	**4.48**	**21**	⇓Pn		**Pn**	**19 12 05.0**	**+1.1**
MAKZ	2.0nm,0.6s			⇑Sn		**Sn**	**19 12 58.5**	**+2.5**
MAKZ				⇓Lg		Lg	19 13 13.6	
MK31	**Makanchi Array** 1.2nm,0.4s,baz=202,slow=13,SNR=68	**4.56**	**23**	⇓Pn		**Pn**	**19 12 05.6**	**+0.7**
MK31	1.6nm,0.4s,baz=205,slow=26,SNR=7.4			⇑Sn		**Sn**	**19 12 59.2**	**+1.3**
MK31	1.1nm,0.3s,baz=201,slow=30,SNR=5.9			⇓Lg		Lg	19 13 15.7	
MRKS	**Merke** 2.4nm,0.3s	**4.74**	**273**	Pg		**Pb**	**19 12 20.5**	**+1.5**
MRKS	11nm,0.3s			Lg		Lg	19 13 21.3	
MNAS	**Manas** 1.7nm,1.0s	**5.28**	**271**	⇑Pg		**Pb**	**19 12 31.0**	**+2.7**
MNAS	5.6nm,1.0s			⇑Lg		Lg	19 13 43.3	
SFK	**Sufi-Kurgan** 0.4nm,0.4s	**5.32**	**242**	⇓Pg		**Pg**	**19 12 35.0**	**-2.8**
SFK	1.1nm,0.6s			⇑Lg		Lg	19 13 43.0	
KK31	**Karatay Array** 0.9nm,0.7s,baz=95,slow=35,SNR=4.2	**6.73**	**277**	⇓Pg		**Pb**	**19 12 56.3**	**+3.4**
KK31	1.5nm,0.5s,baz=90,slow=29,SNR=8.8			⇑Lg		Lg	19 14 30.0	
KURBB	**Kurchatov Arra** 10nm,0.6s	**8.02**	**355**	⇓Lg		Lg	19 15 11.7	
KURK	**Kurchatov** 5.9nm,1.0s	**8.11**	**355**	⇓Lg		Lg	19 15 11.4	

*IDC **30** 19:24:57.2±1.6, 34.62N×142.25E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.2/42, mbtmp3.2/3, ML2.0/1, Error ellipse: s-maj=46.2km s-min=32.7km az=95.0*
*JMA **30** 19:24:58.7±0.4, 34.57N×142.26E, h42km, M3.3*
*ISCJB **30** 19:25:00.2±1.1, 34.58N±0.09×142.16E±0.09, h42km, mb3.5/2, Error ellipse: s-maj=13.8km s-min=9.2km az=38.4*

ISC 30 19:25:02.5±1.4, 34.59N±0.09×142.1E±0.1, h42km, n15, σ0s 90/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
BSO1	**Boso 1**	**0.91**	**274**	P		**Pn**	**19 25 17.5**	**-0.8**
BSO3	**Boso 3**	**1.31**	**280**	P		**Pn**	**19 25 23.7**	**-0.4**
BSO4	**Boso 4**	**1.49**	**286**	P		**Pn**	**19 25 26.5**	**-0.1**
CHOJ	**Chosi**	**1.50**	**318**	P		**Pn**	**19 25 25.8**	**-1.0**
CHOJ				*e*S		**Sn**	**19 25 45.2**	**+0.1**
KTR	**Katsuura**	**1.55**	**291**	*e*S		**Sn**	**19 25 47.4**	**+0.8**
JKUC	**kamogawauchiur**	**1.65**	**291**	P		**Pn**	**19 25 28.2**	**-0.7**
JKUC				*e*S		**Sn**	**19 25 50.3**	**+1.4**
JMKN	**Mikurajimanish**	**2.18**	**252**	P		**Pn**	**19 25 35.1**	**-1.1**
JIM2	**Oshima 3**	**2.19**	**274**	P		**Pn**	**19 25 35.1**	**-1.3**
JOD2	**Odawara 2**	**2.55**	**286**	P		**Pn**	**19 25 40.1**	**-1.2**
JIZS	**Izushimoda**	**2.64**	**274**	P		**Pn**	**19 25 41.5**	**-1.1**
JAG	**Ashikaga**	**2.82**	**311**	P		**Pn**	**19 25 44.6**	**-0.4**
MJAR	**Matsushiro Arr** 0.1nm,0.3s,baz=102,slow=18,SNR=7.8	**3.71**	**303**	Pn		**Pn**	**19 25 56.9**	**-0.4**
MAT	**Matsushiro**	**3.71**	**303**	P		**Pn**	**19 25 56.9**	**-0.4**
MAT				S		**Sn**	**19 26 39.6**	**-0.2**
ILAR	**Eielson Array** 0.4nm,0.7s,baz=280,slow=5.9,SNR=4.2	**51.28**	**31**	P		**P**	**19 34 01.6**	**-0.3**
WRA	**Warramunga Arr** 0.5nm,1.0s,baz=5.1,slow=7.5,SNR=4.4	**54.73**	**189**	P		**P**	**19 34 28.7**	**+1.0**

MAN 30 19:46:15.0, 14.10N×122.23E, h10km, mb4.3, ML3.1, MS2.9, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
GQP	**Guinayangan**	**0.29**	**133**	⇑*i*P		Pb	19 46 21.7	-0.6
GQP				*i* S		Sb	19 46 27.4	+0.3
TGY	**Tagaytay City**	**1.25**	**270**	⇑*i*P		Pn	19 46 37.1	-1.5
OTRP	**Odiongan**	**1.74**	**187**	*e*P		Pn	19 46 45.2	-0.1
OTRP				*e*S		Sn	19 47 07.5	-0.1
BALP	**Baler**	**1.75**	**339**	*e*P		Pn	19 46 46.1	+0.7
BALP				*e*S		Sn	19 47 08.3	+0.6
PCPH	**Palayan**	**1.82**	**323**	*e*P		Pn	19 46 45.6	-0.8
PCPH				*e*S		Sn	19 47 10.2	+0.7
PVCP	**Virac**	**1.94**	**105**	*e*P		Pn	19 46 48.2	+0.2
SJMP	**San Jose**	**1.96**	**214**	*e*P		Pn	19 46 49.3	+1.0
SJMP				*e*S		Sn	19 47 13.8	+1.0
CAUP	**Cauayan**	**2.85**	**352**	*e*P		Pn	19 47 00.5	-0.2
CAUP				*e*S		Sn	19 47 33.5	-1.6
APYP	**Conner**	**3.86**	**346**	*e*P		Pn	19 47 16.2	+1.7
APYP				*e*S		Sn	19 48 00.0	+0.1

IDC 30 19:50:29.3±3.4, 2.80N×91.56E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.2/37, mbtmp3.3/3, ML3.9/1, Error ellipse:
s-maj=105.3km s-min=32.6km az=62.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=210,slow=14,SNR=4.9	**17.16**	**24**	P		P	19 54 31.6	-0.8
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=170,slow=7.4,SNR=5.8	**44.56**	**351**	P		P	19 58 42.7	-0.3
WRA	**Warramunga Arr** 0.2nm,0.8s,baz=301,slow=8.6,SNR=3.7	**47.69**	**120**	P		P	19 59 07.9	-0.2

*ANF **30** 19:52:06.9±1.4, 31.67N×114.43W, ML3.2/7, Error ellipse: s-maj=19.0km s-min=3.9km az=10.0*
*ISCJB **30** 19:52:08.0±0.8, 31.64N±0.04×114.45W±0.03, h10km±7km, Error ellipse: s-maj=6.6km s-min=4.0km az=157.2*
*PAS **30** 19:52:09.9±0.0, 31.64N×114.47W, h10km*
*ECX **30** 19:52:10.3±0.7, 31.64N×114.48W, h12km, MD3.1, ML3.3, Fault plane solution: NP1:φs=0.00000°, δ=90.00000°, λ=0.00000°.*
*NEIC **30** 19:52:10.3±0.0, 31.64N×114.47W, h2km, MD3.3(ECX), MD3.7(MEX), ML3.3(PAS), After ECX.*
*MEX **30** 19:52:10.9±0.6, 31.67N×114.38W, h15km±999km, MD3.9*

ISC 30 19:52:09.4±1.2, 31.65N±0.04×114.53W±0.04, h17km±10km, n43, σt 9/14/53, 2C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
ECBX	**El Chinero**	**0.48**	**249**	⇑*e*P		**Pg**	**19 52 19.6**	**+0.7**
ECBX				*e*S		**Sb**	**19 52 26.5**	**+0.3**
YMD	**Yuma Desert**	**0.91**	**359**	⇓*e*P		**Pg**	**19 52 26.8**	**-0.2**
SPX	**San Pedro Mart**	**1.00**	**234**	*e*Pg		**Pg**	**19 52 28.6**	**-0.2**
SPX				*e*Sg		**Sg**	**19 52 41.9**	**-0.1**
SPX	**San Pedro Mart**	**1.00**	**234**	*e*P		**Pg**	**19 52 28.6**	**-0.2**
SPX				*e*S		**Sg**	**19 52 41.9**	**-0.1**
SPX	**San Pedro Mart**	**1.00**	**234**	*e*P		**Pg**	**19 52 28.5**	**-0.3**
SPIG	**San Pedro Mart**	**1.00**	**234**	*e*Pg		**Pg**	**19 52 28.6**	**-0.2**
SPIG				*e*Sg		**Sg**	**19 52 42.0**	**0.0**
SPIG	**San Pedro Mart**	**1.00**	**234**	*e*P		**Pg**	**19 52 28.6**	**-0.2**
SPIG				*e*S		**Sg**	**19 52 42.0**	**0.0**
SPIG	**San Pedro Mart**	**1.00**	**234**	⇑*e*P		**Pg**	**19 52 28.4**	**-0.4**
SPIG				*e*S		**Sb**	**19 52 42.5**	**+0.9**
CPBX	**Cerro Prieto**	**1.01**	**320**	*e*P		**Pg**	**19 52 28.0**	**-1.0**
CPBX				*e*S		**Sb**	**19 52 43.0**	**+1.3**
CPBX	comp=N,2μm,0.5s			IAML			19 52 49.8	
CPBX	comp=E,2μm,0.5s			IAML			19 52 50.1	
113A	**Mohawk Valley,**	**1.29**	**30**	*e*Pn		**Pn**	**19 52 31.9**	**-0.8**
GLA	**Glamis**	**1.43**	**350**	*e*Pn		**Pn**	**19 52 34.0**	**-0.6**
GLA	**Glamis** baz=168	**1.43**	**350**	P		**Pn**	**19 52 34.0**	**-0.6**
214A	**Organ Pipe Nat** baz=258	**1.49**	**78**	P		**Pn**	**19 52 34.6**	**-0.8**
214A	baz=258			S		**Sn**	**19 52 52.9**	**-1.8**
IKP	**In-Ko-Pah, Jac** baz=126	**1.68**	**307**	P		**Pn**	**19 52 37.0**	**-1.0**
IKP	baz=126			S		**Sg**	**19 53 03.0**	**-0.4**
CBX	**Cerro Bola**	**1.94**	**291**	*e*Pn		**Pn**	**19 52 41.3**	**-0.3**
CBX				*e*Sn		**Sn**	**19 53 05.9**	**+0.2**
CBX	**Cerro Bola**	**1.94**	**291**	*e*P		**Pn**	**19 52 41.3**	**-0.3**
CBX				*i* S		**Sn**	**19 53 05.9**	**+0.2**
CBX	**Cerro Bola**	**1.94**	**291**	*e*P		**Pn**	**19 52 41.6**	**0.0**
BAR	**Barrett**	**2.09**	**300**	*e*Pn		**Pn**	**19 52 43.4**	**-0.3**
Y12C	**Blythe**	**2.10**	**0**	*e*Pn		**Pn**	**19 52 43.9**	**+0.1**
BC3	**Big Chuckawall** baz=157	**2.15**	**339**	P		**Pn**	**19 52 44.4**	**-0.2**
CPE	**Camp Elliot**	**2.51**	**300**	*e*Pn		**Pn**	**19 52 49.4**	**0.0**
XPFO	**Pion Flat**	**2.55**	**321**	*e*Pn		**Pn**	**19 52 51.7**	**+1.6**
PFO	**Pinyon Flats O**	**2.55**	**321**	*e*Pn		**Pn**	**19 52 51.7**	**+1.6**
IRM	**Iron Mountain** baz=167	**2.56**	**348**	P		**Pn**	**19 52 50.1**	**-0.1**
Y14A	**Wickenburg**	**2.62**	**29**	*e*Pn		**Pn**	**19 52 51.4**	**+0.4**
TUC	**Tucson**	**3.25**	**77**	*e*Pn		**Pn**	**19 52 59.3**	**-0.4**
TUC	**Tucson** baz=259	**3.25**	**77**	P		**Pn**	**19 52 59.6**	**-0.1**
GMRC	**Granite Mounta** baz=162	**3.27**	**343**	P		**Pn**	**19 53 00.1**	**0.0**
W13A	**Hualapai Mount**	**3.49**	**9**	*e*Pn		**Pn**	**19 53 04.1**	**+1.0**
X16A	**Lo Mia Camp, P**	**3.79**	**42**	*e*Pn		**Pn**	**19 53 08.3**	**+1.1**
MWC	**Mount Wilson**	**3.93**	**312**	*e*Pn		**Pn**	**19 53 08.7**	**-0.4**
GSC	**Goldstone, Bar**	**4.12**	**333**	*e*Pn		**Pn**	**19 53 11.8**	**+0.2**
319A	**Douglas**	**4.49**	**92**	*e*Pn		Pn	19 53 10.3	-6.4
WUAZ	**Wupatki**	**4.67**	**33**	*e*Pn		**Pn**	**19 53 18.1**	**-1.3**
X18A	**Snowflake**	**4.80**	**52**	*e*Pn		**Pn**	**19 53 19.6**	**-1.5**
SHPR	**Sheep Range**	**4.88**	**354**	*e*Pn		**Pn**	**19 53 22.8**	**+0.7**
U15A	**North Rim**	**5.12**	**21**	*e*Pn		**Pn**	**19 53 27.9**	**+2.3**
LCMT	**Little Creek M**	**5.46**	**11**	*e*Pn		**Pn**	**19 53 29.5**	**-0.6**
KNB	**Kanab**	**5.54**	**14**	*e*Pn		**Pn**	**19 53 34.2**	**+2.9**
CCT	**Cedar City**	**5.97**	**9**	*e*Pn		**Pn**	**19 53 36.9**	**-0.4**
PKCU	**Pink Cliffs**	**6.07**	**17**	*e*Pn		**Pn**	**19 53 42.0**	**+3.4**
MTPU	**Mount Pierson**	**6.67**	**16**	*e*Pn		**Pn**	**19 53 50.7**	**+3.8**
TX31	**Lajitas Ar. Si**	**9.65**	**101**	*e*Pn		**Pn**	**19 54 28.0**	**+0.4**

*ISCJB **30** 20:02:01.0±0.1, 23.50S±0.03×179.98E±0.05, h532km, mb4.5/92, Error ellipse: s-maj=5.9km s-min=2.7km az=22.2*
*NEIC **30** 20:02:01.8±0.6, 23.65S×179.92W, h540km±7km, mb4.6/82, Error ellipse: s-maj=6.6km s-min=5.0km az=145.0*
*IDC **30** 20:02:01.2±1.7, 23.47S×179.91W, h525km±18km, mb3.9/18, mb1 4.0/18, mb1mx3.9/27, mbtmp4.7/18, Error ellipse: s-maj=14.1km s-min=11.8km az=83.0*
*WEL **30** 20:02:02.0, 23.55S×179.95W, h549km*

ISC 30 20:02:01.4±0.4, 23.62S±0.06×179.92W±0.08, h532km, n323, σt 9/39/340, mb4.5/92, 15C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
GLKZ	**Green Lake**	**5.90**	**163**	P		**P**	**20 03 39.5**	**+1.5**
GLKZ				S		**S**	**20 04 59.4**	**+2.2**
MSVF	**Nonsavu**	**6.16**	**342**	*e*P		**P**	**20 03 41.0**	**+0.2**
DZM	**Mont Dzumac** 0.6nm,0.3s,baz=109,slow=18,SNR=9.9	**12.67**	**274**	P		**P**	**20 04 49.5**	**+2.4**
DZM	**Mont Dzumac**	**12.67**	**274**	*e*P		**P**	**20 04 48.9**	**+1.9**
OUZ	**Omahuta**	**12.87**	**205**	P		**P**	**20 04 51.5**	**+2.8**
WCZ	**Waipu Caves**	**13.25**	**201**	P		**P**	**20 04 55.6**	**+2.9**
KUZ	**Kuaotunu**	**13.61**	**195**	P		**P**	**20 04 58.1**	**+1.6**
WIAZ	**Waiheke Island**	**13.81**	**197**	P		**P**	**20 05 00.7**	**+2.2**
MBAZ	**Motutapu North**	**13.85**	**198**	P		**P**	20 05 04.1	+5.2
MXZ	**Matakaoa Point**	**13.98**	**186**	P		**P**	**20 05 02.7**	**+2.4**
MKAZ	**Moumakai**	**14.09**	**196**	P		**P**	**20 05 03.3**	**+1.8**
KBAZ	**Karaka Road Bo**	**14.16**	**197**	P		**P**	**20 05 04.5**	**+2.3**
AWAZ	**Awhitu Peninsu**	**14.20**	**198**	P		**P**	**20 05 04.6**	**+2.0**
WMGZ	**Waiomatatini S**	**14.23**	**185**	P		**P**	**20 05 04.5**	**+1.7**
WMGZ				S		**S**	**20 07 30.0**	**-2.6**
HAZ	**Te Kaha**	**14.23**	**187**	P		**P**	**20 05 03.5**	**+0.6**
HAZ				S		**S**	**20 07 27.6**	**-5.0**
PKGZ	**Pakihiroa**	**14.33**	**186**	P		**P**	**20 05 06.1**	**+2.1**
PKGZ				S		**S**	**20 07 30.9**	**-3.7**
RUGZ	**Raukumara Rang**	**14.45**	**188**	P		**P**	**20 05 05.0**	**+0.3**
PUZ	**Puketiti**	**14.49**	**186**	P		**P**	**20 05 07.9**	**+2.2**
TOZ	**Tahuroa Road**	**14.61**	**195**	P		**P**	**20 05 08.2**	**+1.4**
TWGZ	**Tauwhareparae**	**14.62**	**187**	P		**P**	**20 05 09.8**	**+2.8**
URZ	**Urewera** 6.8nm,0.3s,baz=10,slon=5.6,SNR=24	**14.81**	**189**	P		**P**	**20 05 07.1**	**-1.9**
URZ	2.8nm,0.3s,baz=316,slow=11,SNR=12			S		**S**	**20 07 38.4**	**-5.4**
URZ	**Urewera**	**14.81**	**189**	P		**P**	**20 05 08.1**	**-0.9**
MWZ	**Matawai**	**14.83**	**188**	P		**P**	**20 05 10.2**	**+1.0**
TARZ	**Mount Tarawera**	**14.89**	**191**	P		**P**	**20 05 12.3**	**+2.4**
CNGZ	**Carnagh Statio**	**14.91**	**186**	P		**P**	**20 05 11.5**	**+1.6**
MUGZ	**Murupara**	**15.08**	**190**	P		**P**	**20 05 09.9**	**-1.9**
RIGZ	**Rimuhau**	**15.17**	**187**	P		**P**	**20 05

BKZ	Black Stump Fm	15.80	190	*e*P		P	20 05 17.2	-2.1
	25nm,0.6s							
BKZ	Black Stump Fm	15.80	190	P		P	20 05 18.4	-0.9
BKZ	Black Stump Fm	15.80	190	P		S	20 07 56.8	-4.7
ARHZ	Aropaoanui	15.82	189	P		S	20 08 00.2	-1.5
TWVZ	Taurewa	15.90	193	P		P	20 05 21.3	+0.9
NGZ	Ngauruhoe	15.97	193	P		P	20 05 21.5	+0.5
TUVZ	Tukino	16.05	193	P		P	20 05 21.9	0.0
TUVZ	Tukino	16.05	193	P		S	20 08 08.2	+2.1
KWHZ	Kaweka Forest	16.06	190	P		S	20 05 21.2	-0.7
TRVZ	Turoa	16.10	193	P		P	20 05 22.6	+0.2
MOVZ	Moawhango	16.16	192	P		P	20 05 23.5	+0.6
MOVZ	Moawhango	16.16	192	P		S	20 08 02.9	-5.0
BHHZ	Black Hill Sta	16.19	191	P		P	20 05 21.2	-1.9
BHHZ	Black Hill Sta	16.19	191	P		S	20 08 07.4	-0.8
CKHZ	Cape Kidnapper	16.19	188	P		S	20 08 09.8	+1.6
KAHZ	Kahuranaki	16.36	189	P		P	20 05 23.7	-1.0
KAHZ	Kahuranaki	16.36	189	P		S	20 08 07.5	-3.6
PXZ	Pawanui	16.59	189	P		S	20 08 13.9	-1.0
WPHZ	Waipukurau	16.68	190	P		S	20 08 18.1	+1.6
TSZ	Takapari Road	16.76	191	P		P	20 05 27.6	-0.9
PRHZ	Porangahau	16.85	189	P		S	20 08 16.8	-2.5
ANWZ	Angora Road	17.07	189	P		S	20 08 22.2	-0.5
POWZ	Post Office Ro	17.12	191	P		S	20 08 21.8	-1.8
PRWZ	Pori Road	17.24	191	P		S	20 08 24.2	-1.4
BFZ	Birch Farm	17.32	190	P		S	20 08 20.6	-6.3
MRZ	Mangatainoka R	17.41	192	P		S	20 08 24.0	-4.4
CPWZ	Castlepoint	17.55	190	P		S	20 08 32.4	+1.8
OGWZ	Otaki Gorge	17.64	192	P		S	20 08 28.4	-3.7
HOWZ	Holdsworth Sta	17.65	191	P		S	20 08 29.2	-3.2
KIW	Kapiti Island	17.73	193	P		S	20 08 30.2	-3.5
TMWZ	Te Maipa	17.79	190	P		S	20 08 34.7	+0.1
DUWZ	D'Urville Isla	17.90	195	P		S	20 08 35.4	-1.0
MTW	Mount Morrison	17.91	191	P		S	20 08 34.2	-2.3
CAW	Cannon Point	17.94	192	P		S	20 08 38.1	+1.1
PAWZ	Paruwai Farm	18.14	191	P		S	20 08 38.4	-1.9
MSWZ	Moikau Station	18.20	192	P		S	20 08 38.7	-2.6
BHW	Baring Head	18.27	193	P		S	20 08 42.5	+0.2
NNZ	Nelson	18.43	196	P		S	20 08 42.7	-2.1
TUWZ	Tuamarina	18.49	195	P		S	20 08 44.4	-1.5
THZ	Tophouse	19.06	197	*e*P		P	20 05 49.8	+0.1
	33nm,0.7s							
THZ	Tophouse	19.06	197	P		S	20 08 52.3	-3.0
KHZ	Kahutara	19.52	195	*e*P		P	20 05 53.7	0.0
	30nm,0.6s							
KHZ	Kahutara	19.52	195	P		S	20 09 00.2	-2.3
KHZ				P		S	20 09 00.4	-2.2
LTZ	Lake Taylor	20.18	197	*e*P		P	20 05 58.9	-1.0
	74nm,0.7s							
LTZ	Lake Taylor	20.18	197	P		S	20 09 12.0	-1.3
INZ	Inchbonnie	20.36	199	P		S	20 09 12.7	-3.3
OXZ	Oxford	20.75	197	*e*P		P	20 06 04.9	0.0
	96nm,0.7s							
RPZ	Rata Peaks	21.38	198	P		P	20 06 11.1	+0.5
	26nm,0.6s,baz=56,slow=8.8,SNR=27							
RPZ				ScP		ScP	20 12 38.0	-0.8
	4.6nm,0.5s,baz=333,slow=2.3,SNR=5.3							
FOZ	Fox Glacier	21.59	201	*e*P		P	20 06 11.4	-1.1
	30nm,0.8s							
WHZ	Wether Hill Ro	24.30	201	*e*P		P	20 06 38.4	+1.7
	66nm,0.7s							
EIDS	Eidsvold	26.43	260	*e*P		P	20 06 57.0	+1.2
	14nm,0.8s							
CTA	Charters Tower	31.55	270	P		P	20 07 41.2	+0.8
	18nm,0.4s,baz=92,slow=11,SNR=4.3							
CTAO	Charters Tower	31.55	270	*e*P		P	20 07 40.7	+0.3
	70nm,1.0s							
PMG	Port Moresby	34.48	289	P		P	20 08 05.4	+0.3
	48nm,0.9s,baz=97,slow=7.5,SNR=8.8							
STKA	Stephens Creek	34.90	248	P		P	20 08 09.6	+1.1
	5.2nm,0.5s,baz=91,slow=10,SNR=24							
STKA	Stephens Creek	34.90	248	*e*P		P	20 08 09.2	+0.8
	2.6nm,1.0s							
AS01	Alice Springs	42.12	260	*e*P		P	20 09 06.9	-0.3
AS31	Alice Springs	42.16	260	*e*P		P	20 09 07.5	0.0
	6.6nm,0.5s							
ASAR	Alice Springs	42.16	260	P		P	20 09 07.6	+0.1
	14nm,0.5s,baz=94,slow=7.5,SNR=282							
ASAR				ScP		ScP	20 13 51.0	+1.4
	7.2nm,0.9s,baz=108,slow=4.0,SNR=21							
ASAR				S		S	20 14 46.6	-2.5
	1.3nm,0.7s,baz=95,slow=15,SNR=9.2							
WB2	Warramunga Arr	42.49	266	*e*P		P	20 09 09.2	-0.9
WR1	Warramunga Arr	42.50	266	*e*P		P	20 09 09.7	-0.5
	41nm,0.9s							
WR1				*e*ScP		ScP	20 13 52.8	+1.8
WR1				*e*S		S	20 14 50.6	-3.4
WRA	Warramunga Arr	42.50	266	P		P	20 09 09.7	-0.5
	14nm,0.5s,baz=91,slow=8.5,SNR=429							
WRA				ScP		ScP	20 13 52.8	+1.8
	6.6nm,1.0s,baz=99,slow=4.2,SNR=15							
WRA				S		S	20 14 50.6	-3.5
	4.0nm,0.9s,baz=101,slow=14,SNR=10							
JAY	Jayapura	43.48	293	P		P	20 09 17.4	-0.5
	13nm,0.5s,baz=150,slow=4.2,SNR=12							
FITZ	Fitzroy Crossi	50.93	265	*e*P		P	20 10 14.0	+0.1
	22nm,1.0s							
VNDA	Vanda	54.66	185	P		P	20 10 41.9	+2.3
	2.6nm,0.7s,baz=26,slow=6.7,SNR=8.2							
SOEI	Soe	54.90	275	*e*P		P	20 10 43.2	+0.8
	57nm,1.0s							
MBWA	Marble Bar	55.50	260	*e*P		P	20 10 45.9	-0.4
	22nm,1.1s							
QSPA	South Pole Qui	66.46	180	P		P	20 11 59.5	+1.7
	8.9nm,0.7s,baz=334,slow=0.9,SNR=25							
QSPA	South Pole Qui	66.46	180	*e*P		P	20 11 59.4	+1.6
	17nm,1.1s							
MJAR	Matsushiro Arr	71.71	326	P		P	20 12 29.0	-0.6
	2.1nm,0.8s,baz=168,slow=5.7,SNR=5.4							
MAJO	Matsushiro	71.71	326	*e*P		P	20 12 29.0	-0.6
KSRS	Korea Array	78.08	320	P		P	20 13 05.4	+0.2
	1.4nm,0.8s,baz=128,slow=5.1,SNR=8.1							
KSAR	Wonju Array Be	78.10	320	P		P	20 13 05.4	+0.1
PETK	Petropavlovsk-	78.84	346	P		P	20 13 08.7	-0.2
	8.3nm,0.8s,baz=170,slow=5.4,SNR=7.9							
PEA1	Petropavlovsk-	78.85	346	*e*P		P	20 13 08.7	-0.3
USRK	Ussuriysk Ar.	80.57	327	P		P	20 13 18.8	+0.6
	2.5nm,0.7s,baz=87,slow=12,SNR=7.4							
MURC	Murrieta	82.45	48	P		P	20 13 27.9	-0.2
	baz=235							
VES	Vestal, Richgr	82.47	46	P		P	20 13 27.3	-0.9
	baz=234							
BFSC	Mount Baldy Ra	82.50	48	P		P	20 13 28.4	-0.2
	baz=235							
MONP2	Monument Peak	82.58	49	P		P	20 13 29.6	+0.5
	baz=236,SNR=5.1							
EDW2	Edwards Air Fo	82.64	47	P		P	20 13 29.2	+0.1
	baz=234,SNR=6.2							
IKP	In-Ko-Pah, Jac	82.67	50	P		P	20 13 30.0	+0.6
	baz=236							
ISA	Isabella, Lake	82.77	46	*e*P		P	20 13 30.1	+0.3
	17nm,1.0s							
ISA	Isabella, Lake	82.77	46	P		P	20 13 30.1	+0.3
	baz=234,SNR=11							
O02D	Mt. Diablo Mer	82.79	40	P		P	20 13 30.9	+1.1
	baz=231,SNR=5.8							
CMB	Columbia Colle	82.94	43	*e*P		P	20 13 30.6	+0.1
	15nm,1.0s							
PFO	Pinyon Flats O	82.96	49	*e*P		P	20 13 30.2	-0.6
	14nm,1.4s							
PFO	Pinyon Flats O	82.96	49	P		P	20 13 31.1	+0.3
	baz=236							
XPFO	Pion Flat	82.96	49	*e*P		P	20 13 31.0	+0.2
	15nm,1.4s							
SWSC	Sam W. Stewart	83.05	50	P		P	20 13 31.7	+0.6
	baz=236							
AFDM	Forest Hills D	83.13	42	*e*P		P	20 13 31.3	-0.2
	15nm,1.0s							
ORV	Oroville	83.18	42	*e*P		P	20 13 31.9	+0.3
	14nm,1.0s							
LRMC	Laurel Mtn Rad	83.19	47	P		P	20 13 32.3	+0.3
	baz=235,SNR=8.1							
WDC	Whiskeytown Da	83.19	40	*e*P		P	20 13 32.1	+0.5
	18nm,1.2s							
SYO	Syowa Base	83.30	193⇑	*e*P		P	20 13 30.4	-1.4
N02D	Trinity Center	83.34	40	P		P	20 13 33.4	+0.8
	baz=231							
O03E	Paynes Creek	83.46	41	P		P	20 13 33.1	0.0
	baz=232,SNR=5.8							
CWC	Cottonwood Cre	83.48	46	P		P	20 13 33.2	-0.3
	baz=234							
BELC	Belle Mtn. Jos	83.50	49	P		P	20 13 34.0	+0.5
	baz=236,SNR=8.6							
M02C	Callahan	83.52	39	P		P	20 13 33.7	+0.3
	baz=231							
MDPB	Devils Postpil	83.53	44	*e*P		P	20 13 34.0	+0.2
	15nm,1.1s							
OMMB	Old Mammoth Mi	83.57	44	*e*P		P	20 13 33.5	-0.6
	16nm,1.5s							
L02E	Cave Junction	83.58	39	P		P	20 13 34.5	+0.9
	baz=230							
MPMC	Manual Prospec	83.65	46	P		P	20 13 35.4	+1.1
	baz=235,SNR=6.8							
GSC	Goldstone, Bar	83.68	47	*e*P		P	20 13 34.6	+0.3
	11nm,1.0s							
GSC	Goldstone, Bar	83.68	47	P		P	20 13 34.7	+0.3
	baz=235,SNR=5.7							
BC3	Big Chuckawall	83.68	49	P		P	20 13 35.1	+0.7
	baz=236,SNR=7.1							
DAC	Darwin (Calif)	83.71	46	*e*P		P	20 13 34.7	+0.1
	5.9nm,1.0s							
HEC	Hector,Ludlow	83.73	48	P		P	20 13 34.6	0.0
	baz=236,SNR=7.7							
TIN	Tinemaha, Big	83.74	45	P		P	20 13 34.8	+0.1
	baz=234							
GLA	Glamis	83.79	50	*e*P		P	20 13 35.7	+0.8
	24nm,0.9s							
GLA	Glamis	83.79	50	P		P	20 13 35.9	+1.0
	baz=237,SNR=5.4							
YBH	Yreka Blue Hor	83.82	39	*e*P		P	20 13 35.2	+0.3
	7.1nm,0.9s							
WAKR	Weer	83.82	43	*e*P		P	20 13 35.7	+0.6
	26nm,1.2s							
K02D	Willamette Mer	83.89	38	P		P	20 13 35.9	+0.7
	baz=230							
J01E	Myrtle Point	84.03	38	P		P	20 13 36.4	+0.7
	baz=230							
BEKR	Beckworth	84.07	42	*e*P		P	20 13 35.7	-0.6
	5.3nm,0.9s							
PNTR	Pine Nut	84.07	43	*e*P		P	20 13 36.6	+0.3
	15nm,0.9s							
VCNR	Virginia City	84.16	43	*e*P		P	20 13 36.4	-0.4
	11nm,0.6s							
GMRC	Granite Mounta	84.16	48	P		P	20 13 37.2	+0.3
	baz=236,SNR=6.3							
IRM	Iron Mountain	84.17	49	P		P	20 13 37.4	+0.6
	baz=236,SNR=11							
HUMO	Hull Mountain	84.23	38	*e*P		P	20 13 37.8	+1.0
	14nm,1.1s							
YERR	Yerington	84.23	43	*e*P		P	20 13 37.3	+0.2
	12nm,1.0s							
GRAC	Grapevine Rang	84.27	46	P		P	20 13 37.3	+0.1
	baz=235							
FURC	Furnace Creek,	84.30	46	P		P	20 13 37.5	+0.2
	baz=235							
TUQ	Turquoise Moun	84.35	48	P		P	20 13 37.8	+0.1
	baz=236,SNR=5.2							
M04C	Macdoel	84.36	40	P		P	20 13 37.9	+0.3
	baz=231							
L04D	Klamath Falls	84.36	39	P		P	20 13 37.6	0.0
	baz=231							
SHOC	Shoshone, Teco	84.37	47	P		P	20 13 37.7	0.0
	baz=236							
Y12C	Blythe	84.38	50	P		P	20 13 38.2	+0.5
	baz=237							
RYN	Ryan	84.47	44	*e*P		P	20 13 37.8	-0.5
	6.4nm,1.1s							
NV01	Mina Array Sit	84.50	44	*e*P		P	20 13 38.1	-0.4
NVAR	Mina Array Bea	84.50	44	P		P	20 13 38.6	+0.1
	5.4nm,0.9s,baz=223,slow=7.4,SNR=22							
PAHR	Pah Rah Range	84.57	42	*e*P		P	20 13 38.6	-0.2
	9.4nm,1.1s							
NV11	Mina Array Sit	84.59	44	*e*P		P	20 13 38.7	-0.2
	0.8nm,1.1s							
214A	Organ Pipe Nat	84.63	52	P		P	20 13 40.4	+1.3
	baz=238							
LDFC	Landfair	84.70	48	*e*P		P	20 13 39.5	+0.1
	24nm,0.8s							
PDMCI	Parker Dam,Lak	84.95	49	P		P	20 13 41.1	+0.6
	baz=237,SNR=7.6							
TPNV	Topopah Spring	84.98	46	*e*P		P	20 13 40.7	-0.1
	8.3nm,1.2s							
TPNV	Topopah Spring	84.98	46	P		P	20 13 41.1	+0.3
	baz=236							
KVN	Kaiserville	84.99	44	*e*P		P	20 13 40.6	-0.3
	8.4nm,1.1s							
J04D	Umpqua Nationa	85.11	38	P		P	20 13 41.9	+0.6
	baz=231							
I04A	Tendick Farm,	85.29	38	P		P	20 13 42.9	+0.9
	baz=231							
MOD	Modoc Plateau	85.34	40	*e*P		P	20 13 42.8	+0.4
	11nm,1.1s							
SHPR	Sheep Range	85.46	47	*e*P		P	20 13 43.3	+0.2
	4.4nm,1.1s							
W13A	Hualapai Mount	85.55	49	*e*P		P	20 13 43.8	+0.1
	7.4nm,1.0s							
H04D	Lebanon	85.57	37	P		P	20 13 44.5	+1.2
	baz=230							
J05D	Fort Rock, OR	85.64	39	P		P	20 13 44.3	+0.5
	baz=232,SNR=5.4							
R11A	Troy Canyon, C	86.20	45	*e*P		P	20 13 46.3	-0.4
	6.6nm,1.8s							
R11A	Troy Canyon, C	86.20	45	P		P	20 13 47.1	+0.4
	baz=236							
I05D	Terrebonne, OR	86.23	38	P		P	20 13 46.9	+0.4
	baz=232							
TUC	Tucson	86.29	52	*e*P		P	20 13 47.8	+0.7
	16nm,1.0s							
TUC	Tucson	86.29	52	P		P	20 13 48.2	+1.2
	baz=239							
MA2	Magadan	86.33	346	*e*P		P	20 13 45.7	-0.8
	12nm,1.0s							
WVOR	Wild Horse Val	86.65	41	*e*P		P	20 13 48.6	0.0
	14nm,1.1s							
X16A	Lo Mia Camp, P	86.90	50	*e*P		P	20 13 50.1	+0.1
	13nm,0.6s							
319A	Douglas	86.92	54	*e*P		P	20 13 50.9	+0.8
	31nm,1.1s							
E04D	Cinebar	86.95	36	P		P	20 13 51.0	+1.3
	baz=231							
LCMT	Little Creek M	87.02	47	*e*P		P	20 13 51.1	+0.6
	7.6nm,1.0s							
I07A	Izee	87.12	39	*e*P		P	20 13 51.2	+0.5
CCUT	Cedar City	87.23	47	*e*P		P	20 13 52.1	+0.5
	7.6nm,1.1s							
J08A	Circle Bar Ran	87.29	40	*e*P		P	20 13 51.9	+0.3
	23nm,1.1s							
D03D	Eldon	87.30	35	P		P	20 13 52.0	+0.6
	baz=230							
KNB	Kanab	87.31	48	*e*P		P	20 13 52.6	+0.7
	13nm,1.2s							
U15A	North Rim	87.36	48	*e*P		P	20 13 52.4	+0.1
	13nm,0.9s							
PSUT	Pine Spring	87.44	46	*e*P		P	20 13 52.4	-0.2
	4.1nm,1.0s							
WUAZ	Wupatki	87.52	49	P		P	20 13 53.5	+0.6
	baz=239							
ELK	Elko	87.76	43	*e*P		P	20 13 54.1	+0.1
	7.1nm,1.2s							
PKCU	Pink Cliffs	87.88	47	*e*P		P	20 13 56.1	+1.3
	28nm,1.2s							
X18A	Snowflake	88.01	51	*e*P		P	20 13 55.6	+0.4
	8.1nm,0.5s							
G08A	Pilot Rock	88.16	38	*e*P		P	20 13 55.8	+0.2
A04D	Lummi Island	88.25	34	P		P	20 13 56.6	+0.9
	baz=230							
B05A	Bryant	88.28	34	P		P	20 13 57.0	+1.1
	baz=231							
MTPU	Mount Pierson	88.28	47	*e*P		P	20 13 57.8	+1.1
	28nm,1.5s							
E07A	Sunnyside	88.42	37	*e*P		P	20 13 57.7	+1.0
W18A	Petrified Fore	88.46	50	P		P	20 13 57.8	+0.4
	baz=240							
HAWA	Hanford	88.50	37	*e*P		P	20 13 57.5	+0.5
	13nm,0.9s							
MSU	Marysvale	88.53	47	*e*P		P	20 13 58.0	+0.4
121A	Cookes Peak, D	88.59	54	P		P	20 13 58.8	+0.8
	baz=241							
E08A	Dider Farm, El	88.82	37	*e*P		P	20 13 58.6	+0.1
	11nm,1.0s							
MFID	Camas Ranch	88.90	41	*e*P		P	20 13 59.0	-0.1
	14nm,1.0s							
DUG	Dugway, Tooele	89.01	45	*e*P		P	20 13 59.3	-0.4
	8.1nm,1.3s							
DUG	Dugway, Tooele	89.01	45	P		P	20 13 59.7	0.0
	baz=238							
D08A	Wollman Farm,	89.23	37	*e*P		P	20 14 00.1	-0.3
CAST	Castle Rocks	89.48	12	*e*P		P	20 13 59.2	-2.0
	12nm,1.0s							
CM31	Chiang Mai Arr	89.50	290	*e*P		P	20 14 03.8	+1.4
CMAR	Chiang Mai Arr	89.50	290	P		P	20 14 03.8	+1.4
	1.5nm,0.9s,baz=126,slow=2.3,SNR=10							
MPU	Maple Canyon	89.68	46	*e*P		P	20 14 02.3	-0.7
	10.0nm,1.0s							
HLID	Hailey	89.83	41	*e*P		P	20 14 03.3	-0.2
	8.9nm,1.1s							
HLID	Hailey	89.83	41	P		P	20 14 03.9	+0.4
	baz=236							
TRF	Thorofare Moun	89.86	13	*e*P		P	20 14 01.0	-2.2
	67nm,1.9s							
HVU	Hansel Valley	89.88	44	*e*P		P	20 14 03.7	0.0
	20nm,1.2s							
SRU	San Rafael Swe	89.95	47	*e*P		P	20 14 03.8	-0.4
	18nm,1.0s							
CTU	Camp Tracy	89.96	45	*e*P		P	20 14 03.7	-0.5
	11nm,0.9s							
LENM	Lemitar	89.98	52	*e*P		P	20 14 04.9	+0.5
MNTX	Cornudas Mount	89.99	55	*e*P		P	20 14 04.6	+0.3
	5.7nm,0.8s							
MNTX	Cornudas Mount	89.99	55	P		P	20 14 04.8	+0.5
	baz=242							
P17A	Butcher Ranch,	89.99	46	*e*P		P	20 14 04.7	+0.3
	14nm,1.2s							
JLU	Jordanelle	90.11	45	*e*P		P	20 14 05.2	+0.2
	22nm,1.6s							
TX31	Lajitas Ar. Si	90.22	58	*e*P		P	20 14 04.4	-1.1
LTX	Lajitas	90.22	58	*e*P		P	20 14 06.3	+0.8
TXAR	Lajitas Array	90.22	58	P		P	20 14 06.3	+0.8
	4.5nm,0.8s,baz=215,slow=5.8,SNR=21							
TCUT	Toone Canyon	90.41	45	*e*P		P	20 14 04.6	-1.7
	26nm,1.0s							
PV12	Saucer Basin,	90.71	48	*e*P		P	20 14 06.5	-1.3
	6.0nm,0.8s							
ANMO	Albuquerque	90.72	52	*e*P		P	20 14 05.9	-2.0
	7.2nm,1.1s							
ANMO	Albuquerque	90.72	52	P		P	20 14 07.7	-0.1
	baz=241							
AHID	Auburn Hatcher	91.46	43	*e*P		P	20 14 12.1	+1.0
	9.8nm,1.1s							
IM3	Indian Mountai	91.52	10	*e*P		P	20 14 09.3	-1.2
ILAR	Eielson Array	91.74	14	P		P	20 14 10.2	-1.3
	0.7nm,0.8s,baz=226,slow=6.5,SNR=7.0							
S22A	4UR Ranch, Cre	91.79	49	*e*P		P	20 14 13.0	+0.1
	7.8nm,1.0s							
S22A	4UR Ranch, Cre	91.79	49	P		P	20 14 13.3	+0.5
	baz=241							
REDW	Red Top Meadow	91.92	43	*e*P		P	20 14 12.7	-0.5
	18nm,1.4s							
FXWY	Fox Creek	91.95	43	*e*P		P	20 14 13.5	+0.2
	8.6nm,1.5s							
O20A	White River Ci	91.99	47	P		P	20 14 13.4	-0.2
	baz=240							
BW06	Boulder Array	92.43	44	*e*P		P	20 14 15.5	-0.1
	3.3nm,0.9s							
BW06	Boulder Array	92.43	44	P		P	20 14 15.1	-0.5
	baz=240							
PD31	Pinedale Array	92.43	44	*e*P		P	20 14 15.5	-0.1
PDAR	Pinedale Array	92.43	44	P		P	20 14 15.2	-0.4
	2.3nm,0.8s,baz=214,slow=3.8,SNR=15							
PDAR	Pinedale Array	92.43	44	*e*P		P	20 14 14.7	-0.9
SDCO	Great Sand Dun	92.72	50	P		P	20 14 16.6	-0.5
	baz=242							
RLMT	Red Lodge	93.79	42	P		P	20 14 21.6	-0.1
	baz=240							
N23A	Red Feather La	93.89	47	P		P	20 14 22.1	-0.3
	baz=242							
FIA0	FINESS Array S	138.20	342	*e*PKPpre		PKPpre	20 20 15.8	
FINES	FINESS Array B	138.20	342	PKhKP		PKPpre	20 20 15.8	
	2.9nm,0.7s,baz=67,slow=5.0,SNR=4.1							
NB2	NORSAR Subarra	141.82	351	PKP		PKPpre	20 20 27.0	
	comp=Z,1.6nm,0.7s,baz=20,slow=3.5							
AKASG	Malin Array Be	144.78	328	PKP		PKPdf	20 20 36.6	-0.8
	comp=Z,8.7nm,0.6s,baz=44,slow=4.2,SNR=51							
AKBB	Malin Array Si	144.78	328	*e*PKPdf		PKPdf	20 20 36.2	-1.2
KIEV	Kiev	144.79	328	*e*PKPdf		PKPdf	20 20 36.2	-1.2
AK11	Malin Array Si	144.82	328	*e*PKPdf		PKPdf	20 20 36.0	-1.4
SUW	Suwalki	145.04	336	*e*PKP		PKPdf	20 20 37.6	-0.1
SUW	Suwalki	145.04	336	*e*PKPdf		PKPdf	20 20 37.1	-0.6
BR101	Keskin Array S	147.47	308	*e*PKPbc		PKPbc	20 20 45.0	-0.9
BR101				*e*PKPab		PKPab	20 20 49.5	-0.4
BR131	Keskin Array S	147.47	308	*e*PKPdf		PKPdf	20 20 44.0	+1.5
BRTR	Keskin Array B	147.47	308	PKPbc		PKPbc	20 20 45.0	-0.9
	comp=Z,2.0nm,0.6s,baz=146,slow=3.7,SNR=12							
BRTR				PKPab		PKPab	20 20 49.4	-0.4
	comp=Z,3.9nm,0.6s,baz=89,slow=4.2,SNR=17							
BEL	Belsk	147.65	336	*e*PKP		PKPbc	20 20 46.1	+0.3
TLCR		148.26	320⇑	*i*P		PKPbc	20 20 46.6	-0.9
KWP	Kalwaria Pacla	148.56	331	*e*PKP		PKPbc	20 20 48.0	-0.2
CFR	Carcaliu	148.67	320⇑	*i*P		PKPbc	20 20 48.1	-0.4
BUR08	Bucovina Ar. S	148.77	326	*e*PKPbc		PKPbc	20 20 48.7	-0.2
BUR04	Bucovina Ar. S	148.78	326	*e*PKPbc		PKPbc	20 20 48.5	-0.4
TIRR	Tirgusor	148.90	319	*e*PKPbc		PKPbc	20 20 48.2	-0.9
TIRR	Tirgusor	148.90	319⇑	*i*P		PKPbc	20 20 48.8	-0.3
MFTR	Murfatlar	149.04	318⇑	*i*P		PKPbc	20 20 49.6	+0.1
TLB	Topalu	149.05	319⇑	*i*P		PKPbc	20 20 49.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**1.02**	**236**⇑	*e*P	Pn	20 07 58.0	-0.4
DR12	**Loma Pena Alta**	**1.02**	**236**	*e*Pn	Pn	20 07 58.0	-0.4
IDE	**Isla Desecheo**	**1.37**	**135**⇑	*e*P	Pn	20 08 01.3	-1.5
IDE	**Isla Desecheo**	**1.37**	**135**	*e*S	Sn	20 08 19.2	-1.2
IDE	**Isla Desecheo**	**1.37**	**135**	*e*Pn	Pn	20 08 01.3	-1.5
IDE				*e*Sn	Sn	20 08 19.2	-1.2
AGPR	**Aguadilla, PR**	**1.58**	**124**⇑	*e*P	Pn	20 08 04.3	-1.3
AGPR	**Aguadilla, PR**	**1.58**	**124**	*e*S	Sn	20 08 25.2	-0.1
AGPR	**Aguadilla, PR**	**1.58**	**124**⇑	*e*P	Pn	20 08 04.3	-1.3
AGPR				*e*S	Sn	20 08 25.2	-0.1
AGP	**Aguadilla**	**1.60**	**127**	*e*Pn	Pn	20 08 03.7	-2.1
SDD	**Santo Domingo**	**1.63**	**236**	*e*Pn	Pn	20 08 09.0	+2.9
MPR	**Mayaguez**	**1.72**	**132**	*e*Pn	Pn	20 08 06.1	-1.3
LSP	**Las Mesas**	**1.78**	**132**⇑	*e*P	Pn	20 08 07.4	-0.9
LSP	**Las Mesas**	**1.78**	**132**	*e*Pn	Pn	20 08 07.4	-0.9
BANI	**BANI**	**2.02**	**241**	*e*Pn	Pn	20 08 13.3	+1.8
EMPR	**Esperanza - Ma**	**2.06**	**115**⇑	*e*P	Pn	20 08 11.3	-0.6
EMPR	**Esperanza - Ma**	**2.06**	**115**	*e*S	Sn	20 08 36.4	-0.2
EMPR	**Esperanza - Ma**	**2.06**	**115**	*e*Pn	Pn	20 08 10.4	-1.5
EMPR				*e*Sn	Sn	20 08 36.4	-0.2
GBPR	**Guanica, Bosqu**	**2.06**	**132**⇓	*e*P	Pn	20 08 11.8	-0.1
GBPR	**Guanica, Bosqu**	**2.06**	**132**	*e*S	Sn	20 08 39.5	+2.8
GBPR	**Guanica, Bosqu**	**2.06**	**132**	*e*Pn	Pn	20 08 11.8	-0.1
GBPR				*e*Sn	Sn	20 08 39.5	+2.8
OBIP	**Obispado Ponce**	**2.22**	**126**⇑	*e*P	Pn	20 08 13.6	-0.5
OBIP	**Obispado Ponce**	**2.22**	**126**	*e*S	Sn	20 08 39.9	-0.7
OBIP	**Obispado Ponce**	**2.22**	**126**	*e*Pn	Pn	20 08 13.0	-1.1
CELP	**Cerrillos**	**2.22**	**125**⇓	*e*P	Pn	20 08 13.5	-0.6
CELP				*e*S	Sn	20 08 41.4	+0.7
CELP	**Cerrillos**	**2.22**	**125**	*e*Pn	Pn	20 08 13.5	-0.6
CELP				*e*Sn	Sn	20 08 41.4	+0.7
ICMP	**Isla Caja de M**	**2.38**	**128**⇑	*e*P	Pn	20 08 15.9	-0.2
ICMP	**Isla Caja de M**	**2.38**	**128**	*e*Pn	Pn	20 08 15.8	-0.4
SJG	**San Juan**	**2.55**	**119**⇓	*e*P	Pn	20 08 18.1	-0.4
SJG	**San Juan**	**2.55**	**119**	*e*S	Sn	20 08 48.2	-0.3
SJG	**San Juan**	**2.55**	**119**	*e*Pn	Pn	20 08 17.8	-0.7
SJG				*e*Sn	Sn	20 08 48.2	-0.3
SDDR	**Presa de Saban**	**2.67**	**262**	*e*Pn	Pn	20 08 23.9	+3.6
CBYP	**Canovanas**	**2.72**	**113**	*e*Pn	Pn	20 08 17.8	-3.2
HUMP	**Col San Antoni**	**2.78**	**116**⇑	*e*P	Pn	20 08 21.2	-0.5
HUMP	**Col San Antoni**	**2.78**	**116**	*e*Pn	Pn	20 08 19.3	-2.4
MTP	**Monte Pirata**	**3.06**	**114**	*e*Pn	Pn	20 08 22.6	-2.9
CUPR	**Culebra, Puert**	**3.21**	**109**	*e*Pn	Pn	20 08 23.8	-3.8
GRTK	**Grand Turk**	**3.27**	**311**	*e*Pn	Pn	20 08 28.6	+0.3
STVI	**Saint Thomas**	**3.50**	**106**	*e*Pn	Pn	20 08 28.0	-3.4

UCR ***30*** *20:15:13.9±2.3,30°.92S×69°.51W,h0km±999km, mb6.5(NEIC)*

ISCJB ***30*** *20:15:38.6±0.8,27°.91S±0°.02×70°.78W±0°.02,h17km±5km, mb6.4/452,MS6.5/197,Error ellipse: s-maj=3.5km s-min=2.7km az=161.1*

IDC ***30*** *20:15:39.7±3.2,28°.09S×70°.82W,h19km±19km,mb6.0/33, mb1 6.1/36,mb1mx6.0/39,mbtmp6.1/36,ML5.1/5,MS6.6/33, Ms1 6.6/33,ms1mx6.5/39,Error ellipse: s-maj=13.0km s-min=9.2km az=86.0*

VAO ***30*** *20:15:40.0±0.3,28°.08S×70°.70W,h10km,mb6.5*

GUC ***30*** *20:15:41.1±0.8,28°.18S×70°.88W,h52km±10km,ML6.7*

BJI ***30*** *20:15:41.4,28°.11S×70°.79W,h30km,mB6.6/63,Ms6.9/89, Ms7 6.9/69*

MOS ***30*** *20:15:42.1±1.2,28°.02S×70°.88W,h41km,mb6.6/86, MS6.5/63,Error ellipse: s-maj=10.7km s-min=5.3km az=97.7*

NEIC ***30*** *20:15:43.3±0.1,28°.09S×70°.65W,h45km,mb6.5/299, ME6.6,MS6.5/126,MW6.7,MW6.8,MW6.8,MD6.6(SJA), ML6.7(GUC),Error ellipse: s-maj=4.6km s-min=2.7km az=80.0,Moment Tensor Solution. s75 Moment tensor: Scale 10¹⁹Nm; Mrr1.74; Mθθ0.02; Mϕϕ-1.77; Mrθ0.43; Mθϕ-0.48; Mϕr-1.17; Best double couple: M₀2.20000×10¹⁹ NP1:ϕs176.00000°,δ62.00000°,λ72.00000°. NP2: ϕs32.00000°,δ33.00000°,λ121.00000°. Principal axes: T 2.2400, Plg67.0000°, Azm51.0000°; N -0.0600, Plg16.0000°, Azm185.0000°; P -2.1700, Plg16.0000°, Azm279.0000°; Broadband fault plane solution: P waves. NP1:ϕs355.00000°,δ25.00000°,λ90.00000°. NP2: ϕs175.00000°,δ65.00000°,λ90.00000°. Principal axes: T Plg70.0000°, Azm85.0000°; N Plg0.0000°, Azm0.0000°; P Plg20.0000°, Azm265.0000°; Apparent Stress 0.71 MPa. Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [VI] at Copiapo, Huasco, Tierra Amarilla and Vallenar; [V] at Chanaral, Coquimbo, Higuera, La Caldera, La Serena, Mejillones, Ovalle and Punitaqui; [IV] at Diego de Almagro, Paiguano and Papudo; [III] at Antofagasta, Calama, Constitucion, La Ligua, Quillota, Santiago, Valparaiso and Zapallar; [II] at Algarrobo, Casablanca, Providencia, San Pedro de Atacama and Tiltil. Felt [IV] at La Rioja and San Juan, [III] at Mendoza and [II] at Tercero Arriba, Argentina.

SJA ***30*** *20:15:43.3±1.1,28°.27S×70°.89W,h28km±8km,ML6.6, MW5.9*

NEIC ***30*** *20:15:43.0±0.0,28°.07S×70°.80W,h50km,Moment Tensor Solution. s62 Moment tensor: Scale 10¹⁹Nm; Mrr1.33; Mθθ0.03; Mϕϕ-1.36; Mrθ0.26; Mθϕ-0.22; Mϕr-1.01; Best double couple: M₀1.70000×10¹⁹ NP1:ϕs175.00000°, δ64.00000°,λ77.00000°. NP2:ϕs22.00000°,δ29.00000°, λ114.00000°. Principal axes: T 1.7300, Plg68.0000°, Azm59.0000°; N -0.0200, Plg11.0000°, Azm180.0000°; P -1.7100, Plg18.0000°, Azm274.0000°;*

GCMT ***30*** *20:15:50.3±0.1,28°.09S×71°.18W,h46km,MW6.8/148, Moment Tensor Solution. s148,c380; s140,c606; Duration: 6s0 Moment tensor: Scale 10¹⁹Nm; Mrr1.35±.01; Mθθ0.07±.01; Mϕϕ-1.42±.01; Mrθ0.23±.01; Mθϕ-0.39±.01; Mϕr-1.09±.01; Best double couple: M₀1.82100×10¹⁹ NP1:ϕs178.00000°,δ64.00000°, λ75.00000°. NP2:ϕs31.00000°,δ30.00000°,λ119.00000°. Principal axes: T 1.7990, Plg67.0000°, Azm59.0000°; N 0.0400, Plg14.0000°, Azm185.0000°; P -1.8440, Plg18.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***30*** *20:15:57.8±0.0,28°.33S×70°.75W,h42km, Moment Tensor Solution. s142 Moment tensor: Scale 10¹⁹Nm; Mrr1.31; Mθθ0.00; Mϕϕ-1.30; Mrθ0.16; Mθϕ-0.17; Mϕr-0.98; Best double couple: M₀1.60000×10¹⁹ NP1:ϕs178.00000°, δ64.00000°,λ81.00000°. NP2:ϕs17.00000°,δ28.00000°, λ107.00000°. Principal axes: T 1.6600, Plg70.0000°, Azm69.0000°; N -0.0200, Plg8.0000°, Azm182.0000°; P -1.6400, Plg18.0000°, Azm274.0000°;*

ISC 30 20:15:43.4±0.3, 28°.11S±0°.02×70°.89W±0°.03, h46km±2km, h47km:pP-P,n2346,σ2s02/2518, mb6.5/449, MS6.6/224, 154C-50D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	**Copiap**	**0.77**	**49**	*e*Pn	**Pn**	**20 15 58.5**	**+0.5**
GO03	**Copiap**	**0.77**	**49**	*e*P	**Pn**	**20 15 58.3**	**+0.2**
GO03				*i* S	**Sn**	**20 16 10.0**	**+1.3**
LCO	**Las Campanas**	**0.91**	**170**	*e*Pn	**Pn**	**20 15 58.8**	**-1.3**
LCO	**Las Campanas**	**0.91**	**170**	*e*P	**Pn**	**20 15 58.9**	**-1.3**
LCO				*e*S	**Sn**	**20 16 09.9**	**-2.5**
LCO	**Las Campanas**	**0.91**	**170**	*e*P	**Pn**	**20 15 58.8**	**-1.3**
LCO	**Las Campanas**	**0.91**	**170**⇓	*e*P	**Pn**	**20 15 58.7**	**-1.5**
LCO				*i* S	**Sn**	**20 16 11.3**	**-1.0**
LCO	**Las Campanas**	**0.91**	**170**	*e*P	**Pn**	**20 15 59.0**	**-1.3**
GO04	**Tololo Observa**	**2.06**	**178**	*e*Pn	**Pn**	**20 16 14.8**	**-0.9**
GO04	**Tololo Observa**	**2.06**	**178**	⇓*i*P	**Pn**	**20 16 14.9**	**-0.9**
GO04				*i* S	**Sn**	**20 16 40.7**	**+0.4**
GO04				IAML		20 17 02.6	
	comp=N,933μm,0.5s						
AGUA	**GUANDACOL**	**2.51**	**124**	*e*P	**Pn**	**20 16 23.9**	**+2.1**
CMCH	**Combarbala**	**3.06**	**182**	*e*P	**Pn**	**20 16 28.1**	**-1.2**
CMCH				*i* S	**Sn**	**20 17 03.9**	**-0.8**
GO02	**Mina Guanaco**	**3.16**	**22**	*e*Pn	**Pn**	**20 16 31.5**	**+0.7**
GO02	**Mina Guanaco**	**3.16**	**22**	⇑*i*P	**Pn**	**20 16 31.6**	**+0.7**
GO02				*e*S	**Sn**	**20 17 11.1**	**+3.6**
PB14	**IPOC Station P**	**3.50**	**7**	⇑*i*P	**Pn**	**20 16 34.5**	**-1.1**
AMOG	**MOGNA**	**3.51**	**144**	*e*P	**Pn**	**20 16 37.4**	**+1.9**
ACLC	**CERRO LA CRUZ**	**3.70**	**112**	*e*P	Pn	20 16 51.5	+13
RTLL	**Cerro Villicun**	**3.83**	**147**	IAML		20 17 43.0	
	comp=Z,63μm,0.7s						
RTLS	**Leoncito**	**3.93**	**160**	IAML		20 17 48.3	
	comp=Z,63μm,0.8s						
SJA	**San Juan**	**3.96**	**150**	*e*P	**Pn**	**20 16 45.0**	**+3.3**
SJA				IAML		20 17 45.6	
	comp=Z,21μm,0.5s						
CFA	**Coronel Fontan**	**4.17**	**147**	*e*P	**Pn**	**20 16 46.7**	**+2.1**
CFA				*e*S	**Sn**	**20 17 40.9**	**+8.7**
AUSP	**Uspallata**	**4.30**	**163**	*e*P	**Pn**	**20 16 48.4**	**+1.8**
APLL	**PUNTA DE LOS L**	**4.44**	**122**	*e*P	**Pn**	**20 16 52.2**	**+3.9**
APLL				*e*S	**Sn**	**20 17 45.6**	**+6.9**
APLL				IAML		20 17 48.8	
	comp=Z,68μm,0.6s						
CYA	**Choya**	**4.50**	**95**	*e*P	**Pn**	**20 16 51.6**	**+2.6**
CYA				*e*S	**Sn**	**20 17 41.4**	**+1.3**
CYA				IAML		20 17 50.4	
	comp=Z,28μm,0.6s						
PB10	**IPOC Station P**	**4.59**	**4**	*e*Pn	**Pn**	**20 16 47.9**	**-2.4**
PB10	**IPOC Station P**	**4.59**	**4**	⇑*i*P	**Pn**	**20 16 47.9**	**-2.4**
ASAL	**Salagasta**	**4.81**	**159**	*e*P	**Pn**	**20 16 54.8**	**+1.4**
ROC1	**El Roble**	**4.85**	**181**	*e*Pn	**Pn**	**20 16 52.5**	**-1.6**
ARCO	**CERRO ARCO**	**5.01**	**161**	*e*P	**Pn**	**20 16 59.1**	**+2.9**
ARCO				*e*S	**Sn**	**20 17 58.5**	**+5.6**
ARCO				IAML		20 18 16.7	
	comp=Z,22μm,0.6s						
PEL	**Peldehue**	**5.02**	**178**	*e*Pn	**Pn**	**20 16 55.6**	**-0.6**
PEL	**Peldehue**	**5.02**	**178**	*e*P	**Pn**	**20 16 55.6**	**-0.6**
AHML	**Horco Molle**	**5.11**	**76**	*e*P	**Pn**	**20 17 00.9**	**+3.5**
AHML				*e*S	**Sn**	**20 18 00.9**	**+5.7**
ACAN	**Cantantal**	**5.24**	**143**	*e*P	**Pn**	**20 17 00.3**	**+1.1**
ACAN				*e*S	Sn	20 18 08.4	+10
AAGR	**Agrelo**	**5.27**	**161**	*e*P	**Pn**	**20 17 01.3**	**+1.6**
AVIZ	**Vizcacheras**	**5.72**	**160**	*e*P	**Pn**	**20 17 07.1**	**+1.2**
LVC	**Limon Verde**	**5.76**	**19**	Pn	**Pn**	**20 17 05.8**	**-0.9**
	comp=Z,109nm,0.3s,baz=171,slow=9.1,SNR=338						
LVC				LR	LR	20 19 21.1	
	comp=Z,709μm,20.5s,baz=179,slow=39						
LVC	**Limon Verde**	**5.76**	**19**	*e*Pn	**Pn**	**20 17 05.6**	**-1.1**
LVC	**Limon Verde**	**5.76**	**19**	*e*P	Pn	20 17 13.4	+6.7
LVC				*e*S	Sn	20 18 25.2	+14
LVC	**Limon Verde**	**5.76**	**19**	*e*P	**Pn**	**20 17 05.6**	**-1.1**
LVC	**Limon Verde**	**5.76**	**19**	*e*P	**Pn**	**20 17 05.8**	**-0.9**
PB04	**IPOC Station P**	**5.79**	**7**	*e*Pn	**Pn**	**20 17 05.4**	**-1.6**
MRA	**San Martin**	**6.20**	**135**	*e*P	**Pn**	**20 17 14.7**	**+2.3**
MRA				*e*S	**Sn**	**20 18 28.6**	**+6.5**
MRA				IAML		20 18 38.2	
	comp=Z,21μm,0.6s						
TCA	**Tanti**	**6.35**	**122**	IAML		20 18 35.2	
	comp=Z,39μm,0.9s						
GO05	**Huala**	**6.94**	**187**	*e*Pn	**Pn**	**20 17 19.0**	**-3.5**
HJA	**Humahuaca**	**6.95**	**47**	*e*P	**Pn**	**20 17 25.3**	**+2.3**
PB01	**IPOC Station P**	**7.15**	**11**	*e*Pn	**Pn**	**20 17 24.0**	**-1.5**
SUCO	**SUCO**	**7.34**	**137**	IAML		20 18 59.4	
	comp=Z,14μm,0.9s						
YJA	**Yavi**	**7.66**	**41**	*e*P	**Pn**	**20 17 33.9**	**+1.1**
YJA				IAML		20 17 59.8	
	comp=Z,1μm,0.5s						
YJA				*i* S	Sn	20 18 42.1	-16
PB11	**IPOC Station P**	**8.39**	**8**	*e*Pn	**Pn**	**20 17 37.9**	**-4.7**
CCHI	**Chillan**	**8.53**	**186**	*e*P	Pn	20 17 33.5	-11
MNMC	**Minye Minye**	**9.02**	**8**	*e*Pn	**Pn**	**20 17 47.1**	**-4.2**
MNMCX	**Minye Minye**	**9.02**	**8**	*e*P	**Pn**	**20 17 48.4**	**-2.9**
MNMCX				*e*S	Sn	20 19 53.0	+21
CANA	**Caviahue**	**9.75**	**181**	*e*P	**Pn**	**20 18 01.2**	**0.0**
GO06	**Curarrehue**	**11.46**	**182**	*e*Pn	**Pn**	**20 18 20.8**	**-3.6**
LPAZ	**La Paz**	**12.04**	**13**	Pn	**Pn**	**20 18 30.6**	**-2.4**
	comp=Z,13nm,0.3s,baz=201,slow=5.6,SNR=166						
LPAZ				LR	LR	20 23 43.3	
	comp=Z,415μm,20.1s,baz=188,slow=40						
LPAZ	**La Paz**	**12.04**	**13**	*e*Pn	**Pn**	**20 18 30.4**	**-2.6**
LPAZ	**La Paz**	**12.04**	**13**	*e*P	**Pn**	**20 18 33.7**	**+0.8**
LPAZ	**La Paz**	**12.04**	**13**	*e*P	**Pn**	**20 18 30.4**	**-2.6**
LPAZ	**La Paz**	**12.04**	**13**	*e*P	**Pn**	**20 18 30.5**	**-2.4**
CPUP	**Villa Florida**	**12.20**	**85**	Pn	**Pn**	**20 18 31.4**	**-3.1**
	comp=Z,3.7nm,0.3s,baz=264,slow=12,SNR=97						
CPUP				LR	LR	20 23 48.6	
	comp=Z,656μm,20.1s,baz=265,slow=40						
CPUP	**Villa Florida**	**12.20**	**85**	*e*Pn	**Pn**	**20 18 31.2**	**-3.3**
CPUP	**Villa Florida**	**12.20**	**85**	*e*P	**Pn**	**20 18 31.6**	**-2.9**
CPUP	**Villa Florida**	**12.20**	**85**	*e*P	**Pn**	**20 18 31.2**	**-3.3**
CPUP	**Villa Florida**	**12.20**	**85**	*e*P	**Pn**	**20 18 32.2**	**-2.3**
TRQA	**Tornquist**	**12.41**	**145**	*e*Pn	**Pn**	**20 18 34.7**	**-2.7**
TRQA	**Tornquist**	**12.41**	**145**	*e*P	**Pn**	**20 18 34.7**	**-2.7**
TRQA	**Tornquist**	**12.41**	**145**	*e*P	**Pn**	**20 18 35.6**	**-1.8**
PLCA	**Paso Flores**	**12.60**	**179**	Pn	**Pn**	**20 18 38.1**	**-1.8**
	comp=Z,1.6nm,0.3s,baz=15,slow=12,SNR=25						
PLCA				LR	LR	20 23 49.0	
	comp=Z,349μm,21.9s,baz=14,slow=39						
PLCA	**Paso Flores**	**12.60**	**179**	*e*Pn	**Pn**	**20 18 39.1**	**-0.9**
PLCA	**Paso Flores**	**12.60**	**179**	*e*P	**Pn**	**20 18 38.7**	**-1.2**
LPA	**La Plata**	**12.96**	**125**	*de*P	**Pn**	**20 18 44.0**	**-0.9**
LPA				sP	**P**	**20 18 54.0**	**-0.3**
LPA				sS	**Sn**	**20 21 14.0**	**+6.4**
SIV	**San Ignacio**	**15.10**	**39**	Pn	**Pn**	**20 19 06.8**	**-6.9**
	comp=Z,6.7nm,0.3s,baz=262,slow=7.4,SNR=86						
GO07	**Milladeo Hill,**	**15.14**	**188**	*e*Pn	**Pn**	**20 19 13.7**	**-0.4**
	comp=Z,3μm,0.7s						
CPSB	**Cacapava Do Su**	**15.40**	**103**	*e*P	**Pn**	**20 19 15.1**	**-2.6**
PLTB	**Pedras Altas**	**15.42**	**108**	*e*P	**Pn**	**20 19 14.7**	**-3.2**
AQDB	**Aquidauana**	**15.79**	**65**	*e*P	**Pn**	**20 19 21.1**	**-1.5**
ITAB	**Concordia**	**16.64**	**91**	*e*P	**Pn**	**20 19 31.4**	**-2.0**
NNA	**Nana**	**16.98**	**340**	Pn	**Pn**	**20 19 37.8**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=201,slow=12,SNR=14						
NNA				Sn	**Sn**	**20 22 42.0**	**-3.7**
	comp=Z,7.7nm,0.3s,baz=202,slow=19,SNR=3.3						
NNA				LR	LR	20 25 00.9	
	comp=Z,229μm,21.6s,baz=165,slow=33						
NNA	**Nana**	**16.98**	**340**	*e*Pn	**Pn**	**20 19 37.8**	**+0.1**
	comp=Z,3μm,1.7s						
NNA				Sn	**Sn**	**20 22 42.0**	**-3.7**
PTGB	**Pitanga**	**17.20**	**83**	*e*P	**Pn**	**20 19 38.8**	**-1.7**
TRCB	**Terra Rica**	**17.31**	**76**	*e*P	**Pn**	**20 19 39.9**	**-1.9**
CNLB	**Canela**	**17.62**	**99**	*e*P	**Pn**	**20 19 43.0**	**-2.6**
TER01	**Tubaro-SC**	**19.16**	**96**	*e*P	**P**	**20 20 02.4**	**-0.7**
TIJ01	**Guaruva-PR**	**19.74**	**87**	*e*P	**P**	**20 20 07.6**	**-1.9**
FRTB	**Fartura**	**19.78**	**81**	*e*P	**Pn**	**20 20 10.9**	**-0.8**
ITRB	**Iturama**	**20.53**	**70**	*e*P	**P**	**20 20 18.1**	**+0.1**
BB19B	**Bebedouro**	**21.49**	**76**	*e*P	**P**	**20 20 27.6**	**-0.8**
SPB	**Sao Paulo**	**21.57**	**83**	*e*P	**P**	**20 20 28.4**	**-0.7**
	comp=Z,3μm,0.9s						
RCLB	**Rio Claro- Sao**	**21.86**	**80**	*e*P	**P**	**20 20 31.3**	**-0.9**
IPMB	**Ipameri, GO**	**23.14**	**69**	*e*P	**P**	**20 20 43.7**	**-2.1**
GO09	**Cerro Castillo**	**23.16**	**182**	*e*P	**P**	**20 20 44.7**	**-1.0**
	comp=Z,1μm,1.1s						
PMNB	**Patos De Minas**	**24.35**	**72**	*e*P	**P**	**20 20 56.1**	**-1.2**
BDFB	**Brasilia**	**24.53**	**64**	P	**P**	**20 20 57.8**	**-1.2**
	comp=Z,531nm,0.9s,baz=233,slow=12,SNR=110						
BDFB				S	**S**	**20 25 15.4**	**-1.3**
	comp=Z,102nm,1.0s,baz=170,slow=26,SNR=1.4						
BDFB				LR	LR	20 31 49.5	
	comp=Z,314μm,20.9s,baz=241,slow=40						
BDFB	**Brasilia**	**24.53**	**64**	*e*P	**P**	**20 20 57.8**	**-1.2**
	comp=Z,5μm,1.5s						
BDFB				S	**S**	**20 25 15.4**	**-1.3**
BSCB	**Bom Sucesso**	**24.75**	**79**	*e*P	**P**	**20 20 59.9**	**-1.0**
GO10	**Punta Arenas**	**25.02**	**180**	*e*P	**P**	**20 21 02.4**	**-0.5**
	comp=Z,1μm,0.9s						
EFI	**East Falkland**	**25.43**	**161**	*e*P	**P**	**20 21 05.6**	**-1.0**
	comp=Z,1μm,0.9s						
EFI				LR	LR		
	comp=Z,108μm,20.0s						
EFI	**East Falkland**	**25.43**	**161**⇑	*e*P	**P**	**20 21 06.5**	**-0.1**
EFI				*i* *PP	**pP**	**20 21 18.3**	**-0.6**
EFI				pmax	pmax		
	comp=Z,817nm,1.0s						
EFI				MLR	MLR		
	comp=Z,100μm,18.0s						
VAS01	**Vassouras-RJ**	**25.47**	**83**	*e*P	**P**	**20 21 06.9**	**-0.5**
DUB01	**Friburgo-RJ**	**26.48**	**83**	*e*P	**P**	**20 21 16.0**	**-0.5**
USHA	**Ushuaia**	**26.76**	**177**	P	**P**	**20 21 16.2**	**-2.4**
	comp=Z,80nm,0.7s,baz=18,slow=6.3,SNR=40						
USHA				LR	LR	20 32 30.4	
	comp=Z,160μm,19.6s,baz=5.5,slow=38						
USHA	**Ushuaia**	**26.76**	**177**	IAML		20 21 40.2	
	comp=Z,211nm,0.7s						
CAM01	**Campos-RJ**	**27.19**	**83**	*e*P	**P**	**20 21 21.8**	**-1.0**
MCI6	**Montes Claros**	**27.30**	**71**	*e*P	**P**	**20 21 23.1**	**-0.8**
MCI8	**Montes Claros**	**27.35**	**71**	*e*P	**P**	**20 21 23.4**	**-1.0**
MCI9	**Montes Claros**	**27.36**	**71**	*e*P	**P**	**20 21 23.4**	**-1.0**
MCI7	**Montes Claros**	**27.38**	**71**	*e*P	**P**	**20 21 23.7**	**-0.9**
JANB	**Januaria**	**27.84**	**68**	*e*P	**P**	**20 21 28.1**	**-0.7**
PTLC	**Puerto Leguiza**	**28.37**	**352**	*e*P	**P**	**20 21 31.2**	**-2.2**
PTLC	**Puerto Leguiza**	**28.37**	**352**	*e*P	**P**	**20 21 31.2**	**-2.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALF01	**Guarapari-ES**	**28.42**	**81**	*e*P	**P**	**20 21 33.1**	**-0.7**
SJMB	**Sao Joao De Ma**	**28.76**	**77**	*e*P	**P**	**20 21 36.3**	**-0.6**
BSFB	**Barra de Sao F**	**29.00**	**78**	*e*P	**P**	**20 21 38.4**	**-0.6**
OTAV	**Otavalo**	**29.10**	**344**	*e*P	**P**	**20 21 41.2**	**+0.8**
	comp=Z,547nm,1.3s						
OTAV				LR	LR		
	comp=Z,79μm,22.0s						
OTAV	**Otavalo**	**29.10**	**344**	*e*P	**P**	**20 21 41.5**	**+1.1**
OTAV	**Otavalo**	**29.10**	**344**	*e*P	**P**	**20 21 41.2**	**+0.8**
OTAV				pmax	pmax		
	comp=Z,547nm,1.3s						
OTAV				MLR	MLR		
	comp=Z,79μm,22.0s						
OTAV	**Otavalo**	**29.10**	**344**	*e*P	**P**	**20 21 41.5**	**+1.1**
OTAV	**Otavalo**	**29.10**	**344**	*e*P	**P**	**20 21 42.0**	**+1.6**
PTGA	**Pitinga**	**29.16**	**23**	P	**P**	**20 21 39.8**	**-0.6**
	comp=Z,227nm,1.1s,baz=198,slow=9.6,SNR=98						
PTGA				S	**S**	**20 26 29.6**	**-0.1**
	comp=Z,65nm,0.9s,baz=170,slow=6.4,SNR=1.8						
PTGA				LR	LR	20 34 14.0	
	comp=Z,223μm,21.3s,baz=200,slow=38						
PTGA	**Pitinga**	**29.16**	**23**	*e*P	**P**	**20 21 39.1**	**-1.3**
	comp=Z,638nm,1.0s						
PTGA				S	**S**	**20 26 29.6**	**-0.1**
PTGA	**Pitinga**	**29.16**	**23**	*e*P	**P**	**20 21 39.9**	**-0.6**
RIB01	**Linhares ES**	**29.20**	**79**	*e*P	**P**	**20 21 39.9**	**-0.9**
CMBC	**Cumbal**	**29.64**	**346**	*e*P	**P**	**20 21 47.4**	**+2.2**
CMBC	**Cumbal**	**29.64**	**346**	*e*P	**P**	**20 21 47.4**	**+2.2**
GCUF	**Volcan Galeras**	**29.82**	**347**	*e*P	**P**	**20 21 49.1**	**+2.3**
GCUF	**Volcan Galeras**	**29.82**	**347**	*e*P	**P**	**20 21 49.1**	**+2.3**
FLOC	**Florencia**	**29.88**	**350**	*e*P	**P**	**20 21 48.2**	**+1.5**
FLOC	**Florencia**	**29.88**	**350**	*e*P	**P**	**20 21 48.2**	**+1.5**
CRUC	**La Cruz**	**30.08**	**348**	*e*P	**P**	**20 21 51.0**	**+2.1**
CRUC	**La Cruz**	**30.08**	**348**	*e*P	**P**	**20 21 51.0**	**+2.1**
GUVC	**San Jose del G**	**30.52**	**357**	*e*P	**P**	**20 21 55.1**	**+2.6**
GUVC	**San Jose del G**	**30.52**	**357**	*e*P	**P**	**20 21 55.1**	**+2.6**
SOTA	**Rioblanco**	**30.57**	**349**	*e*P	**P**	**20 21 55.6**	**+2.2**
SOTA	**Rioblanco**	**30.57**	**349**	*e*P	**P**	**20 21 55.6**	**+2.2**
TUMC	**Tumaco**	**30.70**	**345**	*e*P	**P**	**20 21 55.6**	**+1.6**
TUMC	**Tumaco**	**30.70**	**345**	*e*P	**P**	**20 21 55.6**	**+1.6**
PCON	**Cinco Dias**	**30.72**	**349**	*e*P	**P**	**20 21 57.3**	**+2.4**
PCON	**Cinco Dias**	**30.72**	**349**	*e*P	**P**	**20 21 57.3**	**+2.4**
BETC	**Betania**	**30.93**	**351**	*e*P	**P**	**20 21 58.2**	**+2.1**
BETC	**Betania**	**30.93**	**351**	*e*P	**P**	**20 21 58.2**	**+2.1**
POPC	**Popayan, Colom**	**30.98**	**349**	*e*P	**P**	**20 21 58.1**	**+1.4**
POPC	**Popayan, Colom**	**30.98**	**349**	*e*P	**P**	**20 21 58.1**	**+1.4**
MARP	**Paez Belalcaza**	**31.16**	**350**	*e*P	**P**	**20 21 59.6**	**+1.3**
MARP	**Paez Belalcaza**	**31.16**	**350**	*e*P	**P**	**20 21 59.6**	**+1.3**
GRGC	**Isla de Gorgon**	**31.72**	**346**	*e*P	**P**	**20 22 04.8**	**+1.9**
GRGC	**Isla de Gorgon**	**31.72**	**346**	*e*P	**P**	**20 22 04.8**	**+1.9**
VILC	**Villavicencio,**	**32.15**	**355**	*e*P	**P**	**20 22 08.2**	**+1.3**
VILC	**Villavicencio,**	**32.15**	**355**

URIC Uribia, Colomb 39.59 358 eP P 20 23 07.2 -3.2
URIC Uribia, Colomb 39.59 358 eP P 20 23 07.2 -3.2
TRN Trinidad (W) 39.61 15 eP P 20 23 08.0 -2.6
LCR2 La Lucha 2 39.71 340 eP P 20 23 12.7 +1.0
RCBR Riachuelo 39.89 63 P P 20 23 12.6 -0.5
comp=Z,1µm,1.1s,baz=226,slow=6.1,SNR=62
RCBR S S 20 29 16.2 +1.2
comp=Z,41nm,0.8s,baz=203,slow=20,SNR=2.0
RCBR LR LR 20 41 08.4
comp=Z,159µm,18.2s,baz=226,slow=38
RCBR Riachuelo 39.89 63 eP P 20 23 13.0 -0.1
comp=Z,3µm,1.2s
RCBR S S 20 29 16.2 +1.2
RCBR Riachuelo 39.89 63 eP P 20 23 13.5 +0.5
HDC Heredia 39.99 339 eP P 20 23 16.2 +2.3
comp=Z,4µm,2.0s
HDC Heredia 39.99 339 eP P 20 23 16.3 +2.4
SRA1 San Ramn 40.18 339 eP P 20 23 17.5 +2.0
TPR Prospect 40.27 15 eP P 20 23 16.7 +0.6
TOSP Speyside 40.44 16 eP P 20 23 17.0 -0.4
TOSP Speyside 40.44 16 eP P 20 23 17.1 -0.4
JTS JuntasAbangare 40.53 338 P P 20 23 20.2 +1.9
comp=Z,151nm,0.8s,baz=257,slow=3.0,SNR=47
JTS JuntasAbangare 40.53 338 eP P 20 23 19.3 +1.0
comp=Z,313nm,0.9s
JTS LR LR
comp=Z,25µm,21.0s
JTS JuntasAbangare 40.53 338 c iP P 20 23 19.2 +1.0
JTS JuntasAbangare 40.53 338 eP P 20 23 19.8 +1.5
ARE1 Arenal 1 40.61 339 eP P 20 23 20.9 +2.0
CEDE Laguna Cedeo 40.63 339 eP P 20 23 21.5 +2.3
PLVR Palo Verde 40.71 338 eP P 20 23 20.7 +0.8
CUI Cuipilapa 40.94 338 eP P 20 23 22.8 +1.2
GRGR Grenville 40.99 14 eP P 20 23 20.3 -1.8
comp=Z,3µm,0.9s
GRGR LR LR
comp=Z,146µm,20.0s
GRGR Grenville 40.99 14 eP P 20 23 20.7 -1.3
GRGR Grenville 40.99 14 eP P 20 23 20.8 -1.3
MESS Mesas 41.03 338 eP P 20 23 23.6 +1.2
GRHS Sauteurs 41.08 14 eP P 20 23 22.2 -0.5
BUEV Buena Vista 41.15 338 eP P 20 23 25.1 +1.7
GRSS Sisters 41.16 14 eP P 20 23 23.9 +0.5
GB1A Borinquen Arri 41.17 338 eP P 20 23 25.3 +1.7
FCV Fort Charlotte 42.07 14 eP P 20 23 31.3 +0.4
ESPN Las Esperanzas 42.12 340 eP P 20 23 31.8 +0.6
comp=Z,338nm,1.0s
ESPN Las Esperanzas 42.12 340 eP P 20 23 32.8 +1.6
SVB Belmont 42.18 14 eP P 20 23 30.2 -1.6
comp=Z,534nm,0.6s
SVB Belmont 42.18 14 eP P 20 23 29.0 -2.8
SVB Belmont 42.18 14 eP P 20 23 29.4 -2.4
SVCV St. Vincent, C 42.21 14 eP P 20 23 30.9 -1.0
SVV Soufriere Volc 42.23 14 eP P 20 23 32.1 -0.1
SSV Crater Summit 42.25 14 eP P 20 23 33.0 +0.6
BBSP Saint Philip 42.44 17 eP P 20 23 36.7 +2.9
BBGH Gun Hill 42.45 16 eP P 20 23 36.6 +2.6
comp=Z,5µm,1.4s
BBGH LR LR
comp=Z,134µm,22.0s
BBGH Gun Hill 42.45 16 eP P 20 23 36.6 +2.6
BBGH Gun Hill 42.45 16 eP P 20 23 36.7 +2.8
PRVC Isla de Provid 42.47 345 eP P 20 23 35.1 +1.0
PRVC Isla de Provid 42.47 345 eP P 20 23 35.1 +1.0
MASN Masaya 42.51 338 eP P 20 23 34.3 -0.2
SLDE Delcer 42.74 14 eP P 20 23 36.7 +0.4
SLB Belfond 42.77 14 eP P 20 23 35.6 -0.9
BOAB BOACO BROADBAN 42.78 338 eP P 20 23 36.7 0.0
comp=Z,375nm,1.9s
SLPA Patience 42.82 14 eP P 20 23 37.8 +0.9
SLW Petit Monier 42.98 14 eP P 20 23 37.5 -0.7
SLW Petit Monier 42.98 14 eP P 20 23 39.0 +0.8
CNGN Cerro Negro 43.18 337 eP P 20 23 39.3 -0.6
H05S1 Guadeloupe/Mar 43.39 14 P P 20 23 41.5 0.0
BIM Bigot 43.43 14 eP P 20 23 39.5 -2.4
TRMF Trois Ilets 43.45 14 eP P 20 23 40.2 -1.8
ZAM Aeronautique 43.49 14 eP P 20 23 40.3 -2.0
LPMF Morne Lapointe 43.51 14 eP P 20 23 40.5 -2.0
FDF Fort de France 43.62 14 eP P 20 23 40.6 -2.9
comp=Z,1µm,0.9s
FDF Fort de France 43.62 14 eP P 20 23 41.0 -2.5
FDF Fort de France 43.62 14 eP P 20 23 41.1 -2.3
FDF Fort de France 43.62 14 eP P 20 23 40.6 -2.9
FDF pmax pmax
comp=Z,1µm,0.9s
ESTN Estel 43.63 338 eP P 20 23 44.2 +0.7
comp=Z,412nm,1.2s
ESTN Estel 43.63 338 eP P 20 23 43.9 +0.4
PML Morne Lenard 43.66 14 eP P 20 23 43.0 -0.8
GBMF Grand Be 43.68 14 eP P 20 23 43.5 -0.4
PCM Pelee Case Pet 43.69 14 eP P 20 23 43.0 -1.0
PCM Pelee Case Pet 43.69 14 eP P 20 23 43.1 -0.9
CXM Morne La Croix 43.69 14 eP P 20 23 41.7 -2.5
BAMF Morne Balai 43.70 14 eP P 20 23 43.4 -0.7
ILAM Ilet Lapin Mar 43.72 14 eP P 20 23 41.6 -2.6
MDN Morne-Daniel 44.14 13 eP P 20 23 46.0 -1.5
DLPL La Plaine 44.18 13 eP P 20 23 49.2 +1.3
BBL Barber's Block 44.33 13 eP P 20 23 47.6 -1.4
MDPO Dominica; Chan 44.38 13 eP P 20 23 52.3 +2.9
DWS Wesley 44.40 13 eP P 20 23 48.8 -0.8
TDBA Terre de Bas, 44.61 13 eP P 20 23 47.5 -3.8
MGG Marie-Galante 44.74 13 eP P 20 23 58.8 +6.5
MAGL Barre de l'ile 44.78 13 eP P 20 23 51.1 -1.5
TGUH Tegucigalpa,Un 44.82 337 eP P 20 23 53.8 +0.8
comp=Z,542nm,0.9s
CBE Ff, Capester 44.83 13 eP P 20 23 49.7 -3.4
H05N1 Guadeloupe/Mar 45.18 13 P P 20 23 54.5 -1.3
ABD La Joyeuse, An 45.25 13 eP P 20 23 53.0 -3.3
MLYT Lee's Yard 45.35 12 eP P 20 23 54.6 -2.7
ICMP Isla Caja de M 45.92 6 eP P 20 24 00.1 -1.6
comp=Z,614nm,0.8s
CDVI St. Croix 45.97 8 eP P 20 24 00.4 -1.7
comp=Z,327nm,0.9s
SEUS St. Eustatius 45.98 11 eP P 20 24 00.3 -1.8
comp=Z,3µm,1.6s
SEUS St. Eustatius 45.98 11 eP P 20 23 58.6 -3.5
PCJ Portland Cotta 45.98 352 i PA P 20 24 05.6 +3.5
OBIP Obispado Ponce 46.07 6 eP P 20 24 01.0 -1.9
comp=Z,1µm,1.0s
SJG San Juan 46.18 6 P P 20 24 01.6 -2.0
comp=Z,200nm,0.7s,baz=206,slow=4.2,SNR=37
SJG PP PP 20 25 53.0 +0.2
comp=Z,191nm,0.8s,baz=184,slow=7.3,SNR=3.8
SJG S S 20 30 41.8 -4.9
comp=Z,3.1nm,0.3s,baz=317,slow=22,SNR=1.3
SJG San Juan 46.18 6 eP P 20 24 01.2 -2.4
comp=Z,787nm,1.0s
SJG PP PP 20 25 53.0 +0.2
SJG S S 20 30 41.8 -4.9
SJG LR LR
comp=Z,55µm,22.0s
SJG San Juan 46.18 6 eP P 20 24 01.7 -2.0
SJG San Juan 46.18 6 eP P 20 24 01.3 -2.4
SJG 20 25 53.1
SJG S S 20 30 41.8 -4.9
SJG pmax pmax
comp=Z,787nm,1.0s
SJG MLR MLR
comp=Z,55µm,22.0s
SJG San Juan 46.18 6 eP P 20 24 01.7 -2.0
MPR Mayaguez 46.19 5 eP P 20 24 01.5 -2.2
comp=Z,1µm,1.1s
MTP Monte Pirata 46.22 7 eP P 20 24 01.6 -2.4
comp=Z,496nm,1.2s
BANI BANI 46.23 1 eP P 20 24 03.4 -0.9
MCJ Malvern 46.23 351 i PA P 20 24 08.4 +4.2
HUMP Col San Antoni 46.24 7 eP P 20 24 01.7 -2.5
comp=Z,946nm,1.4s
GWJ Greenwich 46.26 352 i P P 20 24 07.0 +2.5
STH Stony Hill 46.27 352 i PA P 20 24 07.2 +2.8
SDD Santo Domingo 46.30 1 eP P 20 24 03.8 -0.8
comp=Z,2µm,1.1s
ANWB Willy Bob 46.35 12 eP P 20 24 01.5 -3.5
comp=Z,985nm,1.0s
ANWB LR LR
comp=Z,88µm,21.0s
ANWB Willy Bob 46.35 12 eP P 20 24 01.5 -3.5
ANWB Willy Bob 46.35 12 eP P 20 24 01.6 -3.5
CBYP Canovanas 46.36 7 eP P 20 24 02.6 -2.6
comp=Z,711nm,1.0s
AGP Aguadilla 46.38 5 eP P 20 24 03.2 -2.2
comp=Z,470nm,1.0s
CUPR Culebra, Puert 46.46 7 eP P 20 24 03.5 -2.4
comp=Z,311nm,0.9s
EMPR Esperanza - Ma 46.50 6 eP P 20 24 03.8 -2.4
comp=Z,1µm,1.3s
SMRT St. Maarten 46.51 10 eP P 20 24 03.4 -2.9
comp=Z,624nm,1.1s
SMRT St. Maarten 46.51 10 eP P 20 24 02.5 -3.8
SMRT St. Maarten 46.51 10 eP P 20 24 03.4 -2.9
CVJ Coleyville 46.51 351 i P P 20 24 08.7 +2.3
MTDJ Mount Denham 46.51 351 eP P 20 24 03.7 -2.7
comp=Z,921nm,1.1s
MTDJ LR LR
comp=Z,35µm,21.0s
STVI Saint Thomas 46.54 8 eP P 20 24 05.0 -1.5
comp=Z,213nm,0.9s
SDDR Presa de Saban 46.82 359 eP P 20 24 06.7 -2.1
comp=Z,1µm,1.6s
SDDR LR LR
comp=Z,86µm,20.0s
ABVI Anegada Island 46.99 9 eP P 20 24 07.2 -2.8
comp=Z,621nm,0.9s
GTBY Guantanamo Bay 47.93 355 PFAKE 20 24 30.0 +13
GTBY LR LR
comp=Z,32µm,19.0s
FSCY Frank Sound, G 48.18 347 eP P 20 24 18.5 -0.8
comp=Z,2µm,1.3s
WBCY West Bay, Gran 48.29 347 eP P 20 24 17.8 -2.3
comp=Z,940nm,1.0s
CCIG Comitan 48.69 332 eP P 20 24 23.3 -0.1
comp=Z,190nm,0.9s
GRTK Grand Turk 49.33 360 eP P 20 24 28.0 -0.1
comp=Z,4µm,1.5s
GRTK LR LR
comp=Z,64µm,21.0s
H09W1 TRISTAN DA CUN 49.46 116 P P 20 24 32.4 +3.4
SNR=20
H09N1 TRISTAN DA CUN 49.48 116 P P 20 24 32.2 +3.0
SNR=15
CMIG Matias Romero 50.59 330 LR LR 20 41 47.2
comp=Z,34µm,21.9s,baz=150,slow=31
TEIG Tepich 50.91 339 eP P 20 24 40.2 +0.2
comp=Z,2µm,1.0s
MYIG Mrida 52.07 337 eP P 20 24 47.7 -1.0
comp=Z,964nm,0.9s
PTCN Pitcairn Islan 52.58 259 eP P 20 24 51.4 -1.3
comp=Z,278nm,0.9s
PTCN LR LR
comp=Z,26µm,22.0s
062Z Marathon 53.44 348 P P 20 24 58.9 +0.2
baz=169
062Z S S 20 32 29.8 +1.9
baz=169
LVIG Laguna Verde 53.58 330 eP P 20 24 59.9 0.0
VNA3 Neumayer Olymp 54.47 160 P P 20 25 05.3 -0.5
061Z Ochoppi 54.52 349 eP P 20 25 06.1 -0.5
comp=Z,725nm,0.9s
061Z Ochoppi 54.52 349 P P 20 25 06.4 -0.3
baz=169,SNR=10
UNM Universidad Na 54.53 327 eP P 20 25 08.8 +1.6
comp=Z,1µm,0.9s
UNM Universidad Na 54.53 327 eP P 20 25 08.8 +1.6
UNM pmax pmax
comp=Z,1µm,0.9s
VNA1 Neumayer--Stat 54.74 159 P P 20 25 07.7 0.0
060Z West Palm Beac 54.99 349 P P 20 25 10.1 +0.1
baz=169,SNR=5.7
059Z Ave Maria 55.08 348 P P 20 25 10.1 -0.6
baz=288,SNR=7.4
VNA2 Neumayer--Watz 55.09 159 P P 20 25 09.9 -0.5
baz=285,slow=8.7
060A Indiantown 55.58 350 eP P 20 25 13.9 -0.4
comp=Z,941nm,0.8s
060A Indiantown 55.58 350 P P 20 25 14.2 -0.1
baz=170,SNR=8.3
059A Moore Haven 55.64 349 eP P 20 25 14.2 -0.5
comp=Z,698nm,0.8s
059A Moore Haven 55.64 349 P P 20 25 14.6 -0.1
baz=169,SNR=17
058A Arcadia 55.84 348 P P 20 25 16.1 -0.1
baz=168,SNR=23
H10S3 ASCENSION HYDR 56.11 82 P P 20 25 20.0 +1.8
baz=259,slow=10,SNR=15
H10S2 ASCENSION HYDR 56.12 82 P P 20 25 20.1 +1.8
baz=259,slow=10,SNR=23
H10S1 ASCENSION HYDR 56.12 82 P P 20 25 20.1 +1.8
baz=259,slow=10,SNR=20
959A Okeechobee 56.14 349 P P 20 25 18.2 -0.1
baz=169,SNR=5.2
JRQG Juriquilla Cam 56.31 326 eP P 20 25 21.0 +1.0
comp=Z,744nm,1.0s
958A Wauchula 56.35 348 P P 20 25 19.1 -0.7
baz=168,SNR=10.0
957A Wimauma 56.52 348 eP P 20 25 18.9 -2.1
comp=Z,1µm,1.0s
957A Wimauma 56.52 348 P P 20 25 20.9 -0.1
baz=168,SNR=5.8
859A Kempfer Cattle 56.67 349 P P 20 25 21.9 -0.1
baz=169,SNR=10
SNAA Sanae 56.70 159 P P 20 25 21.2 -0.7
SNAA Sanae 56.70 159 P P 20 25 21.1 -0.7
comp=Z,632nm,0.8s,baz=280,slow=8.2,SNR=246
SNAA LR LR 20 48 57.5
comp=Z,29µm,21.6s,baz=272,slow=35
SNAA Sanae 56.70 159 eP P 20 25 20.1 -1.7
comp=Z,966nm,1.0s
SNAA Sanae 56.70 159 c iP P 20 25 20.7 -1.2
H10N3 ASCENSION HYDR 56.77 81 P P 20 25 24.7 +1.9
baz=236,slow=7.4,SNR=12
H10N1 ASCENSION HYDR 56.78 81 P P 20 25 26.0 +3.1
baz=236,slow=7.4,SNR=15
H10N2 ASCENSION HYDR 56.79 81 P P 20 25 25.1 +2.2
baz=236,slow=7.4,SNR=14
DWPF Disney Wildern 56.81 349 eP P 20 25 22.5 -0.5
comp=Z,388nm,0.9s
DWPF Disney Wildern 56.81 349 P P 20 25 22.6 -0.5
baz=169
DWPF Disney Wildern 56.81 349 eP P 20 25 23.3 +0.2
ASCN Ascension 56.85 81 eP P 20 25 21.8 -1.9
comp=Z,1µm,1.3s
858A St. Cloud 56.90 349 P P 20 25 23.4 -0.2
baz=169
857A Zephyrhills 57.10 348 P P 20 25 25.0 -0.1
baz=168,SNR=10.0
RKT Rikitea 57.42 259 eP P 20 25 31.4 +3.7
comp=Z,198nm,1.7s
RKT eS S 20 33 22.6 +1.0
comp=Z,102µm,33.2s
RKT eSS SS 20 37 13.4 +1.7
comp=Z,21µm,33.5s
RKT eLQ LQ 20 39 51.4
comp=Z,58µm,33.8s
RKT eLR LR 20 42 15.0
comp=Z,40µm,23.0s,baz=109
RKT Rikitea 57.42 259 eT T 21 27 02.6
comp=Z,48nm,0.2s
758A Lake Helen 57.60 349 P P 20 25 28.8 +0.2
baz=169,SNR=9.6
757A Oxford 57.73 348 P P 20 25 29.5 0.0
baz=168,SNR=12
658A Bunnell 58.06 349 eP P 20 25 30.9 -0.9
comp=Z,392nm,0.9s
658A Bunnell 58.06 349 P P 20 25 31.3 -0.5
baz=169
656A Willston 58.23 348 eP P 20 25 31.8 -1.2
comp=Z,592nm,0.9s
656A Willston 58.23 348 P P 20 25 32.6 -0.4
baz=168,SNR=15
657A Interlachen 58.32 349 P P 20 25 33.3 -0.4
baz=168,SNR=17
655A Horseshoe Beac 58.50 347 P P 20 25 34.7 -0.2
baz=167,SNR=5.8
557A Sunge Park 58.72 349 P P 20 25 36.0 -0.4
baz=169,SNR=13
556A Lake Butler 58.82 348 P P 20 25 36.8 -0.4
baz=168,SNR=14
555A McAlpin 59.04 348 eP P 20 25 38.2 -0.5
comp=Z,879nm,0.9s
555A McAlpin 59.04 348 P P 20 25 38.3 -0.4
baz=167,SNR=20
555A S S 20 33 41.6 -0.6
baz=167
ZAIG Zacatecas 59.10 326 eP P 20 25 39.3 -0.3
comp=Z,204nm,1.0s
457A Yulee 59.28 349 P P 20 25 40.1 -0.2
baz=169
553A Crawfordville 59.40 346 P P 20 25 41.1 0.0
baz=166,SNR=17
456A Hilliard 59.46 349 eP P 20 25 41.3 -0.2
comp=Z,969nm,0.9s
456A Hilliard 59.46 349 P P 20 25 41.8 +0.2
baz=168,SNR=14
552A Lynn Haven 59.53 346 P P 20 25 41.9 -0.1
baz=165,SNR=6.3
455A Stateville 59.66 348 P P 20 25 42.6 -0.3
baz=167,SNR=15
454A Quitman 59.75 347 P P 20 25 43.3 -0.2
baz=167,SNR=22
453A Whigham 60.02 347 eP P 20 25 44.6 -0.7
comp=Z,1µm,0.9s
453A Whigham 60.02 347 P P 20 25 45.3 -0.1
baz=166,SNR=22
357A Townsend 60.06 350 P P 20 25 45.0 -0.7
baz=169
356A Blackshear 60.07 349 P P 20 25 45.0 -0.7
baz=168,SNR=11
451A Vernon 60.09 345 eP P 20 25 44.8 -1.1
comp=Z,925nm,1.0s
451A Vernon 60.09 345 P P 20 25 45.9 0.0
baz=165
452A Marianna 60.20 346 P P 20 25 46.1 -0.4
baz=165,SNR=10
355A Pearson 60.21 348 P P 20 25 45.9 -0.8
baz=168,SNR=14
TIGA Tifton 60.44 348 P P 20 25 47.6 -0.7
baz=167,SNR=19
450A Crestview 60.47 344 P P 20 25 47.7 -0.8
baz=164
353A Camilla 60.48 347 P P 20 25 47.7 -0.8
baz=166,SNR=56
257A Skidaway Islan 60.53 350 eP P 20 25 47.7 -1.1
comp=Z,4µm,1.8s
257A Skidaway Islan 60.53 350 P P 20 25 48.5 -0.3
baz=170
449A Pace 60.58 344 P P 20 25 48.6 -0.5
baz=163
H06S1 SOCORRO T 60.59 316 T T 21 31 21.0
SNR=60
H06E1 SOCORRO T-PHAS 60.61 316 T T 21 31 15.3
SNR=206
256A Glennville 60.67 349 P P 20 25 49.5 -0.3
baz=169,SNR=15
351A Pinckard 60.70 346 P P 20 25 49.7 -0.3
baz=165,SNR=17
255A Hazlehurst 60.71 349 eP P 20 25 49.4 -0.7
comp=Z,1µm,1.4s
255A Hazlehurst 60.71 349 P P 20 25 49.8 -0.3
baz=168,SNR=6.8
352A Blakely 60.75 346 eP P 20 25 49.6 -0.7
comp=Z,923nm,0.9s
352A Blakely 60.75 346 P P 20 25 50.1 -0.2
baz=166,SNR=22
254A Abbeville 60.88 348 P P 20 25 50.5 -0.8
baz=167,SNR=63
448A Bay Minette 60.90 343 P P 20 25 52.1 +0.7
baz=163
BRAL Brewton 60.93 344 eP P 20 25 53.5 +1.9
comp=Z,708nm,0.8s
BRAL LR LR
comp=Z,19µm,21.0s
BRAL Brewton 60.93 344 P P 20 25 51.4 -0.2
baz=164,SNR=10.0
350A Dozier 61.00 345 P P 20 25 51.5 -0.5
baz=164,SNR=12
KVTX Kingsville 61.10 333 eP P 20 25 57.5 +4.7
comp=Z,829nm,1.0s
KVTX LR LR
comp=Z,20µm,19.0s
349A Repton 61.14 344 P P 20 25 52.9 -0.1
baz=163,SNR=21
253A Americus 61.15 347 P P 20 25 52.0 -1.1
baz=166,SNR=18
252A Lumpkin 61.21 347 P P 20 25 52.7 -0.8
baz=166,SNR=22
156A Sylvania 61.27 350 P P 20 25 53.6 -0.2
baz=169,SNR=30
CSU Charleston Sou 61.38 351 eP P 20 25 54.9 +0.3
155A Kite 61.39 349 P P 20 25 54.2 -0.5
baz=168,SNR=25
251A Midway 61.44 346 P P 20 25 54.2 -0.9
baz=165,SNR=54
154A Montrose 61.50 348 eP P 20 25 54.8 -0.6
comp=Z,1µm,1.0s
154A Montrose 61.50 348 P P 20 25 54.4 -1.0
baz=168,SNR=58
NHSC New Hope 61.52 351 eP P 20 25 55.4 -0.1
comp=Z,1µm,1.0s
NHSC LR LR
comp=Z,38µm,21.0s
NHSC New Hope 61.52 351 P P 20 25 55.8 +0.3
baz=170,SNR=25
250A Grady 61.52 345 eP P 20 25 55.2 -0.4
comp=Z,2µm,1.8s
250A Grady 61.52 345 P P 20 25 54.8 -0.8
baz=164,SNR=20
153A Fort Valley 61.66 348 P P 20 25 55.8 -0.8
baz=167,SNR=14
249A Camden 61.72 344 P P 20 25 56.4 -0.5
baz=164,SNR=28
346A Big Creek Wild 61.76 342 eP P 20 25 57.5 +0.3
comp=Z,960nm,1.3s
346A Big Creek Wild 61.76 342 P P 20 25 57.4 +0.3
baz=161,SNR=10
151A Opelika 61.85 346 P P 20 25 56.7 -1.1
baz=165,SNR=46
152A Waverly Hall 61.86 347 eP P 20 25 56.9 -0.9
comp=Z,324nm,0.9s
152A Waverly Hall 61.86 347 P P 20 25 57.0 -0.9
baz=166,SNR=30
Z55A Blythe 61.92 349 P P 20 25 57.8 -0.4
baz=169
Z54A Sparta 62.06 349 P P 20 25 58.3 -0.8
baz=168,SNR=51
150A Eclectic 62.07 346 P P 20 25 58.4 -0.9
baz=165,SNR=77
QSPA South Pole Qui 62.11 180 S S 20 34 21.1 +0.1
comp=Z,10nm,1.0s,baz=236,slow=23,SNR=3.1
QSPA South Pole Qui 62.11 180 eP P 20 25 59.0 -0.4
comp=Z,621nm,0.9s
QSPA S S 20 34 21.1 +0.1
QSPA LR LR
comp=Z,21µm,21.0s
Z53A Monticello 62.23 348 P P 20 25 59.5 -0.8
baz=167,SNR=34
149A Jones 62.24 345 P P 20 25 59.2 -1.2
baz=164,SNR=36
246A Jackson Lee, B 62.26 343 P P 20 26 00.5 -0.1
baz=162,SNR=8.4
Z52A Williamson 62.30 347 P P 20 26 00.3 -0.5
baz=166,SNR=62
GOGA Godfrey 62.34 348 eP P 20 26 00.2 -0.8
comp=Z,235nm,1.0s
GOGA LR LR
comp=Z,29µm,22.0s
GOGA Godfrey 62.34 348 eP P 20 26 00.2 -0.8
GOGA pmax pmax
comp=Z,235nm,1.0s
GOGA MLR MLR
comp=Z,29µm,22.0s
GOGA Godfrey 62.34 348 P P 20 26 00.2 -0.8
baz=167,SNR=45
833A Chaparral WMA, 62.41 332 eP P 20 26 02.8 +1.2
comp=Z,1µm,0.8s
833A Chaparral WMA, 62.41 332 P P 20 26 02.7 +1.0
baz=152,SNR=192
148A Greensboro 62.47 344 P P 20 26 01.1 -0.8
baz=163,SNR=25
Z51A Franklin 62.58 347 P P 20 26 01.9 -0.7
baz=166
Y54A Tignall 62.64 349 P P 20 26 02.4 -0.6
baz=168,SNR=44
147A Livingston 62.67 344 eP P 20 26 02.6 -0.6
comp=Z,334nm,1.0s
147A Livingston 62.67 344 P P 20 26 02.6 -0.6
baz=163,SNR=16
Z50A Ashland 62.67 346 eP P 20 26 00.6 -2.7
comp=Z,532nm,0.9s
Z50A Ashland 62.67 346 P P 20 26 02.7 -0.6
baz=165,SNR=94
SACV Santiago Islan 62.69 53 eP P 20 26 03.9 +0.1
comp=Z,668nm,1.2s
SACV LR LR
comp=Z,33µm,20.0s
LRAL Lakeview Retre 62.70 345 eP P 20 26 02.7 -0.8
comp=Z,327nm,1.1s
LRAL Lakeview Retre 62.70 345 P P 20 26 02.8 -0.8
baz=164,SNR=58
Z49A Columbiana 62.75 345 P P 20 26 02.8 -0.9

baz=164,SNR=64
Y53A Monroe 62.79 348 P P 20 26 03.2 -0.8
baz=167,SNR=50
JSC Jenkinsville 62.83 350 eP P 20 26 04.3 0.0
JSC Jenkinsville 62.83 350 eP P 20 26 04.3 0.0
VBMS Vicksburg 62.84 341 eP P 20 26 04.8 +0.5
comp=Z,901nm,1.0s
VBMS Vicksburg 62.84 341 P P 20 26 04.6 +0.3
baz=160,SNR=17
Y52A Lilburn 62.89 348 eP P 20 26 03.9 -0.8
comp=Z,2µm,1.8s
Y52A Lilburn 62.89 348 P P 20 26 04.1 -0.6
baz=167,SNR=59
HODGE Hodges 62.93 349 eP P 20 26 04.5 -0.4
145A Houston Renfro 63.03 342 P P 20 26 06.2 +0.5
baz=161,SNR=20
Z47A Carrollton 63.12 344 P P 20 26 05.4 -0.8
baz=163,SNR=39
Y51A Rockmart 63.12 347 P P 20 26 05.3 -1.0
baz=166,SNR=94
Z48A Northport 63.16 344 P P 20 26 05.5 -1.1
baz=163,SNR=54
144A Alexander Plac 63.20 342 P P 20 26 07.2 +0.4
baz=160,SNR=17
Y50A Piedmont 63.25 346 P P 20 26 06.1 -1.0
baz=165,SNR=72
CNNC Cliffs of the 63.35 354 eP P 20 26 09.6 +1.9
comp=Z,788nm,0.9s
CNNC LR LR
comp=Z,2356µm,19.0s
CNNC Cliffs of the 63.35 354 P P 20 26 07.7 0.0
baz=173,SNR=8.6
Y49A Blount Mountai 63.36 346 eP P 20 26 07.3 -0.5
comp=Z,222nm,0.9s
Y49A Blount Mountai 63.36 346 P P 20 26 07.1 -0.7
baz=164,SNR=45
X53A Estanollee 63.37 349 P P 20 26 07.4 -0.5
baz=168,SNR=54
PAULI Pauline 63.44 350 eP P 20 26 08.1 -0.2
X52A Dahlonega 63.58 348 P P 20 26 08.5 -0.8
baz=167,SNR=83
Y48A Jasper 63.59 345 P P 20 26 08.4 -0.9
baz=164,SNR=24
KMSC Kings Mountain 63.68 350 eP P 20 26 09.6 -0.4
comp=Z,351nm,1.0s
KMSC Kings Mountain 63.68 350 P P 20 26 09.3 -0.6
baz=170,SNR=59
Z45A Winona 63.69 342 eP P 20 26 10.4 +0.4
comp=Z,807nm,1.1s
Z45A Winona 63.69 342 P P 20 26 10.5 +0.4
baz=161,SNR=18
NATX Nacogdoches 63.70 337 eP P 20 26 11.0 +0.9
comp=Z,1µm,0.9s
NATX LR LR
comp=Z,17µm,22.0s
NATX Nacogdoches 63.70 337 P P 20 26 10.9 +0.9
baz=156,SNR=25
X51A Calhoun 63.72 347 eP P 20 26 09.8 -0.4
comp=Z,966nm,0.9s
X51A Calhoun 63.72 347 P P 20 26 09.6 -0.6
baz=166,SNR=146
Y47A UCPARC, Winfie 63.73 344 P P 20 26 09.7 -0.6
baz=163,SNR=113
X50B Fort Payne 63.78 346 P P 20 26 09.8 -0.9
baz=165,SNR=82
BG3 Lake Jocassee 63.79 349 eP P 20 26 09.9 -0.8
SLBS Sierra La Lagu 63.79 320 eP P 20 26 12.6 +1.6
comp=Z,317nm,1.0s
435B Jarrell 63.86 334 eP P 20 26 12.0 +0.8
comp=Z,333nm,1.0s
435B Jarrell 63.86 334 P P 20 26 11.9 +0.7
baz=154,SNR=24
Y46A Houston 63.96 343 P P 20 26 11.4 -0.4
baz=162,SNR=88
Z43A Armstrong Fami 63.97 341 P P 20 26 12.2 +0.3
baz=160,SNR=7.0
X49A Woodville 63.97 346 P P 20 26 11.4 -0.5
baz=165,SNR=54
W53A Cullowhee 64.00 349 P P 20 26 11.8 -0.4
baz=168,SNR=103
W52A Murphy 64.06 348 eP P 20 26 12.1 -0.3
comp=Z,430nm,0.9s
W52A Murphy 64.06 348 P P 20 26 12.2 -0.3
baz=167,SNR=52
X48A Hartselle 64.07 345 eP P 20 26 12.0 -0.5
comp=Z,631nm,0.9s
X48A Hartselle 64.07 345 P P 20 26 11.9 -0.5
baz=164,SNR=171
Y45A Yeager Farm, C 64.12 343 P P 20 26 13.1 +0.2
baz=162,SNR=16
W51A Cleveland 64.28 347 P P 20 26 13.4 -0.5
baz=166,SNR=94
LPIG La Paz 64.32 320 S S 20 34 53.4 +4.2
comp=Z,33nm,0.3s,baz=154,slow=5.0,SNR=3.2
LPIG LR LR 20 47 51.5
comp=Z,21µm,21.4s,baz=128,slow=30
X47A Russelville 64.33 344 P P 20 26 13.1 -1.0
baz=163,SNR=108
Y44A Strider, Charl 64.39 342 P P 20 26 14.4 -0.2
baz=161,SNR=7.8
W50A Signal Mountai 64.43 347 eP P 20 26 14.5 -0.4
comp=Z,648nm,0.8s
W50A Signal Mountai 64.43 347 P P 20 26 14.2 -0.6
baz=166,SNR=137
V53A Saluda 64.43 349 eP P 20 26 14.3 -0.5
comp=Z,324nm,0.9s
V53A Saluda 64.43 349 P P 20 26 14.6 -0.3
baz=168,SNR=71
JCT Junction City 64.47 332 eP P 20 26 15.9 +0.6
comp=Z,811nm,1.0s
JCT LR LR
comp=Z,8µm,22.0s
JCT Junction City 64.47 332 P P 20 26 15.7 +0.5
baz=152,SNR=240
Z41A Richland Creek 64.48 340 eP P 20 26 16.1 +0.9
comp=Z,655nm,1.0s
Z41A Richland Creek 64.48 340 P P 20 26 15.9 +0.8
baz=158,SNR=20
CPCT Cooper Cave 64.52 348 eP P 20 26 14.8 -0.6
comp=Z,499nm,1.0s
X46A Booneville 64.54 344 P P 20 26 14.6 -0.9
baz=163,SNR=50
Y43A Makayla and Ka 64.54 342 P P 20 26 16.1 +0.6
baz=160,SNR=20
W49A Belvidere 64.55 346 P P 20 26 14.9 -0.7
baz=165,SNR=62
SWET Sewanee 64.57 346 eP P 20 26 15.3 -0.5
TKL Tuckaleechee C 64.58 348 P P 20 26 14.9 -0.9
comp=Z,247nm,0.8s,baz=166,slow=7.9,SNR=45
TKL S S 20 34 48.0 -4.0
comp=Z,7.4nm,1.1s,baz=330,slow=14,SNR=1.5
TKL Tuckaleechee C 64.58 348 eP P 20 26 14.9 -0.9
comp=Z,464nm,1.0s
TKL S S 20 34 48.0 -4.0
TKL Tuckaleechee C 64.58 348 eP P 20 26 15.0 -0.8
TKL S S 20 34 48.0 -4.0
TKL pmax pmax
comp=Z,464nm,1.0s
X45A UM Field Stati 64.61 343 P P 20 26 15.2 -0.8
baz=162,SNR=51
OXF Oxford 64.70 343 P P 20 26 15.6 -1.0
baz=162,SNR=30
W48A Pulaski 64.71 345 P P 20 26 16.0 -0.7
baz=164,SNR=72
Y42A Garnett, Star 64.72 341 P P 20 26 17.3 +0.6
baz=160,SNR=18
V52A Sevierville 64.73 349 eP P 20 26 15.4 -1.3
comp=Z,540nm,0.9s
V52A Sevierville 64.73 349 P P 20 26 16.0 -0.8
baz=167,SNR=112
CCAR Cane Creek 64.79 341 eP P 20 26 17.4 +0.2
PLAL Pickwick Lake 64.82 344 eP P 20 26 16.4 -1.0
comp=Z,406nm,0.9s
V51A Loudon 64.83 348 eP P 20 26 16.6 -0.9
comp=Z,347nm,0.9s
V51A Loudon 64.83 348 P P 20 26 16.5 -0.9
baz=167,SNR=61
V50A Pikevile 64.84 347 P P 20 26 16.9 -0.6
baz=166,SNR=129
X44A Crenshaw 64.88 342 P P 20 26 17.2 -0.6
baz=161,SNR=18
WHTX Lake Whitney, 64.90 335 eP P 20 26 18.5 +0.5
comp=Z,867nm,1.0s
WHTX Lake Whitney, 64.90 335 P P 20 26 18.2 +0.2
baz=154,SNR=42
W47A Westpoint 64.97 345 P P 20 26 17.6 -0.7
baz=164,SNR=74
Y41A Eaglette Beard 65.00 340 P P 20 26 19.5 +0.9
baz=159,SNR=23
W46A Michie 65.04 344 P P 20 26 17.5 -1.2
baz=163,SNR=14
U53A Fall Branch 65.07 350 P P 20 26 18.0 -1.1
baz=168,SNR=60
V49A McMinnville 65.09 347 P P 20 26 18.2 -0.9
baz=165,SNR=80
X43A Marvell 65.10 342 eP P 20 26 20.4 +1.2
comp=Z,2µm,0.9s
X43A Marvell 65.10 342 P P 20 26 20.0 +0.8
baz=160,SNR=28
TXAR Lajitas Array 65.16 329 P P 20 26 20.6 +0.8
comp=Z,163nm,0.8s,baz=151,slow=8.1,SNR=113
TXAR S S 20 35 01.0 +1.4
comp=Z,2.3nm,1.0s,baz=10,slow=32,SNR=2.5
TXAR PKPPKP PKPPKP **P'P'df** 20 54 59.7 +1.2
comp=Z,2.2nm,0.9s,baz=180,slow=0.5,SNR=4.4
TXAR PKP2bc 20 55 06.2
comp=Z,7.0nm,1.0s,baz=286,slow=0.9,SNR=9.4
TX31 Lajitas Ar. Si 65.16 329 eP P 20 26 19.8 -0.1
U52A Thorn Hill 65.23 349 P P 20 26 19.2 -0.8
baz=168,SNR=25
W45A Hickory Valley 65.26 344 P P 20 26 19.6 -0.6
baz=162,SNR=23
V48A Smith Brothers 65.26 346 eP P 20 26 18.4 -1.9
comp=Z,905nm,1.3s
V48A Smith Brothers 65.26 346 P P 20 26 19.7 -0.6
baz=164,SNR=35
U51A La Follette 65.33 348 P P 20 26 19.7 -0.9
baz=167,SNR=68
X42A Stuttgart 65.34 341 P P 20 26 21.0 +0.2
baz=160,SNR=11
W44A Shelby Farms P 65.40 343 P P 20 26 20.6 -0.6
baz=162
TZTN Tazewell 65.41 349 eP P 20 26 20.3 -0.9
comp=Z,1µm,2.0s
TZTN Tazewell 65.41 349 P P 20 26 20.2 -0.9
baz=168,SNR=22
V47A Nunnelly 65.50 345 P P 20 26 20.8 -1.0
baz=164,SNR=50
U50A Jamestown 65.51 348 P P 20 26 21.2 -0.7
baz=166,SNR=112
X41A Kaden, Bauxite 65.54 340 P P 20 26 21.8 -0.2
baz=159,SNR=12
W43A Forest City 65.59 342 P P 20 26 22.0 -0.3
baz=161,SNR=9.7
BLA Blacksburg 65.59 352 eP P 20 26 21.7 -0.7
comp=Z,273nm,1.0s
BLA LR LR
comp=Z,31µm,22.0s
BLA Blacksburg 65.59 352 eP P 20 26 21.7 -0.7
BLA pmax pmax
comp=Z,273nm,1.0s
BLA MLR MLR
comp=Z,31µm,22.0s
BLA Blacksburg 65.59 352 P P 20 26 22.3 -0.1
baz=171,SNR=34
V46A Holladay 65.61 345 P P 20 26 21.3 -1.2
baz=163,SNR=77
X40A Basin Creek Fa 65.63 340 eP P 20 26 22.1 -0.6
comp=Z,450nm,1.8s
X40A Basin Creek Fa 65.63 340 P P 20 26 22.4 -0.2
baz=159,SNR=14
T53A Wise 65.67 350 P P 20 26 21.9 -1.0
baz=168,SNR=41
UALR University of 65.75 341 eP P 20 26 23.3 -0.1
comp=Z,447nm,1.0s
V45A Humboldt 65.76 344 P P 20 26 22.5 -0.9
baz=162,SNR=23
U49A Red Boiling Sp 65.79 347 P P 20 26 22.7 -0.9
baz=165,SNR=68
T52A Hallie 65.86 349 P P 20 26 23.2 -0.9
baz=168,SNR=17
WVT Waverly 65.86 345 eP P 20 26 23.3 -0.8
comp=Z,526nm,0.9s
WVT Waverly 65.86 345 eP P 20 26 23.3 -0.8
WVT pmax pmax
comp=Z,526nm,0.9s
WVT Waverly 65.86 345 P P 20 26 23.4 -0.7
baz=164
T51A Gray 65.88 349 P P 20 26 23.5 -0.8
baz=167,SNR=127
MIAR Mount Ida 65.91 340 eP P 20 26 24.5 0.0
comp=Z,509nm,1.0s
MIAR LR LR
comp=Z,14µm,19.0s
MIAR Mount Ida 65.91 340 eP P 20 26 24.5 0.0
MIAR pmax pmax
comp=Z,509nm,1.0s
MIAR MLR MLR
comp=Z,14µm,19.0s
MIAR Mount Ida 65.91 340 P P 20 26 24.3 -0.1
baz=158,SNR=105
U48A Cassie Pea, Po 65.94 346 P P 20 26 24.1 -0.6
baz=165,SNR=105
W42A Bald Knob 65.98 342 P P 20 26 24.8 -0.1
baz=160
U47A Clarksville 66.04 346 P P 20 26 24.5 -0.8
baz=164,SNR=208
R58B Mineral 66.05 354 eP P 20 26 25.7 +0.4
comp=Z,857nm,0.9s
R58B Mineral 66.05 354 P P 20 26 25.6 +0.4
baz=173,SNR=178
V44A Blytheville 66.07 343 P P 20 26 25.1 -0.3
baz=162
W41B Gary Mavity, V 66.10 341 eP P 20 26 25.6 -0.1
comp=Z,409nm,0.9s
W41B Gary Mavity, V 66.10 341 P P 20 26 25.5 -0.1
baz=159,SNR=99
T50A Nancy 66.10 348 P P 20 26 24.7 -0.9
baz=166,SNR=60
U46A Springville 66.16 345 P P 20 26 25.1 -0.9
baz=163,SNR=25
V43A Jonesboro 66.20 343 P P 20 26 26.2 -0.1
baz=161,SNR=16
WHAR Wooly Hollow 66.22 341 eP P 20 26 26.4 0.0
GNAR Gosnell 66.23 343 eP P 20 26 26.9 +0.4
CBN Corbin Frederi 66.25 354 PFAKE 20 26 40.0 +13
CBN LR LR
comp=Z,16µm,19.0s
CBN Corbin Frederi 66.25 354 P P 20 26 26.8 +0.3
baz=174
U45A Rockin P Farm, 66.29 344 P P 20 26 26.2 -0.7
baz=163,SNR=35
ABTX Abilene, Hawle 66.30 334 eP P 20 26 27.4 +0.4
comp=Z,2µm,1.1s
ABTX Abilene, Hawle 66.30 334 P P 20 26 27.3 +0.3
baz=152,SNR=141
T49A Edmonton 66.31 347 eP P 20 26 26.2 -0.8
comp=Z,539nm,0.8s
T49A Edmonton 66.31 347 P P 20 26 26.1 -0.9
baz=166,SNR=164
GLAT Glass 66.34 344 eP P 20 26 30.0 +2.8
U44B Burton Farm, H 66.42 344 P P 20 26 27.4 -0.3
baz=162
S52A Salyersville 66.44 349 P P 20 26 26.8 -1.0
baz=168,SNR=12
V42A Cord 66.45 342 P P 20 26 27.3 -0.6
baz=160,SNR=50
S51A Beattyville 66.48 349 eP P 20 26 27.3 -0.8
comp=Z,364nm,0.8s
S51A Beattyville 66.48 349 P P 20 26 27.2 -0.9
baz=168,SNR=48
T48A Bowling Green 66.49 347 P P 20 26 27.2 -0.9
baz=165,SNR=68
T47A Sharon Grove 66.52 346 eP P 20 26 27.8 -0.5
T47A Sharon Grove 66.52 346 P P 20 26 27.6 -0.8
baz=164,SNR=46
W39A Magazine 66.58 340 eP P 20 26 29.3 +0.6
comp=Z,273nm,1.0s
W39A Magazine 66.58 340 P P 20 26 29.0 +0.3
baz=158,SNR=146
R55A Marlinton 66.61 352 P P 20 26 29.2 +0.3
baz=171,SNR=50
R54A Victor 66.62 351 P P 20 26 28.5 -0.5
baz=170,SNR=28
V41A Mountainview 66.64 341 P P 20 26 28.9 -0.3
baz=159,SNR=122
S50A Richmond 66.66 348 P P 20 26 28.3 -0.9
baz=167,SNR=85
U44A Portageville 66.66 344 P P 20 26 29.4 +0.2
baz=162,SNR=18
U43A Rector 66.72 343 P P 20 26 29.5 -0.1
baz=161,SNR=6.7
T46A Princeton 66.75 345 P P 20 26 29.3 -0.4
baz=164,SNR=162
R53A Hurricane 66.90 351 P P 20 26 30.1 -0.7
baz=169,SNR=6.4
T45A Paducah 66.90 345 P P 20 26 30.4 -0.3
baz=163,SNR=33
U42A Revenden 66.92 342 P P 20 26 30.5 -0.3
baz=160,SNR=384
S49A Springfield 66.92 348 P P 20 26 29.9 -1.0
baz=166,SNR=57
S48A Wiedeman Farm, 66.95 347 P P 20 26 29.6 -1.4
baz=165,SNR=69
R52A Catlettsburg 67.01 350 P P 20 26 30.4 -1.0
baz=169,SNR=14
S47A Hartford 67.06 346 P P 20 26 30.5 -1.2
baz=164,SNR=78
U41A Viola 67.10 342 P P 20 26 31.8 -0.2
baz=160,SNR=139
R51A Hillsboro 67.12 349 P P 20 26 31.5 -0.6
baz=168,SNR=63
R50A Paris 67.23 349 P P 20 26 31.8 -1.0
baz=167,SNR=49
Q55A Buckhannon 67.31 352 P P 20 26 33.6 +0.3
baz=171,SNR=54
S46A Don Dixon Farm 67.33 346 P P 20 26 32.4 -1.0
baz=164,SNR=48
T43A Greenville 67.36 343 P P 20 26 33.3 -0.3
baz=161,SNR=373
U40A Yellville 67.38 341 P P 20 26 33.8 0.0
baz=159,SNR=196
R49A Shelbyville 67.39 348 P P 20 26 32.7 -1.1
baz=166,SNR=56
SDMD Soldier's Deli 67.40 355 eP P 20 26 34.7 +0.9
comp=Z,211nm,1.0s
S45A Carrier Mills 67.51 345 P P 20 26 34.0 -0.6
baz=163,SNR=54
T42A Van Buren 67.52 343 eP P 20 26 34.1 -0.6
comp=Z,363nm,0.8s
T42A Van Buren 67.52 343 P P 20 26 34.1 -0.6
baz=161,SNR=152
WCI Wyandotte Cave 67.55 347 eP P 20 26 33.7 -1.1
comp=Z,324nm,0.9s
WCI Wyandotte Cave 67.55 347 eP P 20 26 33.7 -1.1
WCI pmax pmax
comp=Z,324nm,0.9s
WCI Wyandotte Cave 67.55 347 P P 20 26 34.0 -0.9
baz=165
Q52A Bidwell 67.57 350 P P 20 26 34.2 -0.8
baz=169,SNR=34
USIN University of 67.58 346 eP P 20 26 34.1 -0.9
comp=Z,661nm,1.0s
TAOE Nuku Hiva Isla 67.62 272 eP P 20 26 39.5 +3.5
comp=Z,348nm,1.2s
TAOE eS S 20 35 29.7 -0.4
comp=Z,44µm,28.1s
TAOE eSS SS 20 39 52.4 +0.8
comp=Z,18µm,28.6s
TAOE eLR LR 20 46 59.7
comp=Z,146µm,26.8s,baz=119
HHAR Hobbs 67.63 340 eP P 20 26 35.8 +0.4
R48A Northridge Ran 67.63 347 P P 20 26 34.4 -1.0
baz=166,SNR=36
R47A Wooly Knot Far 67.66 347 P P 20 26 34.3 -1.2
baz=165,SNR=31
S44A Carbondale 67.69 344 P P 20 26 35.2 -0.5
baz=162,SNR=176
SIUC Southern Illin 67.70 344 eP P 20 26 35.3 -0.4
comp=Z,879nm,0.9s
T41A Mountain View 67.71 342 P P 20 26 35.8 -0.1
baz=160,SNR=306
Q50A Georgetown 67.72 349 P P 20 26 35.0 -0.9
baz=167,SNR=37
S43A Fulton Ridge, 67.77 344 P P 20 26 35.9 -0.3
baz=162,SNR=323
P55A Reedsville 67.78 353 P P 20 26 36.4 +0.1
baz=171,SNR=55
R46A Gibon Southern 67.79 346 P P 20 26 35.1 -1.2
baz=164,SNR=19
Q51A Peebles 67.79 350 eP P 20 26 35.6 -0.7
comp=Z,510nm,1.0s
Q51A Peebles 67.79 350 P P 20 26 35.4 -1.0
baz=168,SNR=53
WMOK Wichita Mounta 67.84 335 eP P 20 26 36.4 -0.4
comp=Z,459nm,1.3s
WMOK LR LR
comp=Z,9µm,22.0s
WMOK Wichita Mounta 67.84 335 eP P 20 26 36.4 -0.4
WMOK pmax pmax
comp=Z,459nm,1.3s
WMOK MLR MLR
comp=Z,9µm,22.0s
WMOK Wichita Mounta 67.84 335 P P 20 26 36.5 -0.4
baz=153,SNR=89
TUL1 Leonard 67.87 338 eP P 20 26 36.8 -0.1
comp=Z,2µm,1.0s
TUL1 Leonard 67.87 338 P P 20 26 36.8 -0.1
baz=156,SNR=156
GDL2 Guadalupe Moun 67.91 330 eP P 20 26 38.3 +0.9
SRIG Santa Rosalia 67.97 321 eP P 20 26 40.3 +3.0
comp=Z,266nm,1.1s
MCWV Mont Chateau 67.93 353 P P 20 26 37.1 -0.1
baz=171,SNR=41
MNTX Cornudas Mount 67.94 329 eP P 20 26 37.3 -0.2
comp=Z,258nm,0.8s
MNTX LR LR
comp=Z,25µm,21.0s
MNTX Cornudas Mount 67.94 329 P P 20 26 37.3 -0.2
baz=147,SNR=267
MVL Millersville 67.95 355 eP P 20 26 38.0 +0.7
comp=Z,517nm,1.1s
P54A Burton 67.95 352 P P 20 26 37.2 -0.2
baz=171,SNR=125
P53A Whipple 67.96 351 eP P 20 26 36.8 -0.6
comp=Z,426nm,0.9s
P53A Whipple 67.96 351 P P 20 26 37.0 -0.4
baz=170,SNR=54
R45A Skylar, Fairfi 68.03 345 P P 20 26 37.1 -0.7
baz=163,SNR=139
Q49A Aurora 68.04 348 P P 20 26 37.0 -0.9
baz=166,SNR=60
Q48A North Vernon 68.12 348 P P 20 26 37.6 -0.7
baz=166,SNR=53
S42A Caledonia 68.14 343 P P 20 26 38.0 -0.5
baz=161,SNR=152
R44A Waltonville 68.17 345 P P 20 26 38.0 -0.7
baz=163,SNR=55
P51A Williamsport 68.19 350 eP P 20 26 38.1 -0.7
comp=Z,570nm,0.9s
P51A Williamsport 68.19 350 P P 20 26 38.0 -0.9
baz=168,SNR=55
PAGS Pennsylvania G 68.20 355 eP P 20 26 39.3 +0.4
comp=Z,429nm,1.0s
P52A Corning 68.20 351 P P 20 26 37.9 -1.0
baz=169,SNR=51
S41A Jillco Farms, 68.22 342 P P 20 26 38.8 -0.2
baz=160,SNR=414
Q47A Bedord North L 68.26 347 P P 20 26 38.0 -1.3
baz=165,SNR=9.0
O56A Blue Knob Stat 68.40 354 eP P 20 26 40.6 +0.4
comp=Z,534nm,1.0s
O56A Blue Knob Stat 68.40 354 P P 20 26 40.4 +0.2
baz=172,SNR=87
R43A Red Bud 68.40 344 P P 20 26 39.8 -0.4
baz=162,SNR=95
OLIL Olney 68.42 346 eP P 20 26 39.2 -1.0
comp=Z,2µm,1.9s
O55A Ligonier 68.42 353 P P 20 26 40.4 +0.1
baz=172,SNR=78
P50A Jamestown 68.44 349 P P 20 26 39.7 -0.6
baz=168,SNR=21
O54A Avella 68.51 352 P P 20 26 40.1 -0.8
baz=171,SNR=32
P49A Miami Univ. Ec 68.52 349 P P 20 26 39.6 -1.3
baz=167,SNR=47
CCM Cathedral Cave 68.53 343 eP P 20 26 40.9 0.0
comp=Z,1µm,1.0s
CCM Cathedral Cave 68.53 343 eP P 20 26 40.9 0.0
CCM pmax pmax
comp=Z,1µm,1.0s
CCM Cathedral Cave 68.53 343 P P 20 26 41.0 0.0
baz=161
BRNJ Basking Ridge 68.53 357 eP P 20 26 41.7 +0.8
comp=Z,447nm,0.8s
Q46A CEJHS Indians, 68.53 346 P P 20 26 39.9 -1.1
baz=164,SNR=16
P48A Milroy 68.58 348 P P 20 26 39.8 -1.4
baz=166,SNR=46
Q45A Warren Harvey, 68.58 346 P P 20 26 40.3 -1.0
baz=164,SNR=121
CPNY Central Park 68.61 357 eP P 20 26 42.1 +0.8
comp=Z,374nm,1.1s
R42A Luebbering 68.62 343 P P 20 26 41.4 -0.2

baz=161,SNR=241
O52A Adamsville 68.64 351 *e*P P 20 26 40.9 -0.7
comp=Z,355nm,0.9s
O52A Adamsville 68.64 351 P P 20 26 41.0 -0.6
baz=169,SNR=54
O53A New Philadelph 68.68 352 P P 20 26 41.4 -0.5
baz=170,SNR=35
SSPA Standing Stone 68.70 354 P P 20 26 42.4 +0.4
baz=173
MSTX Muleshoe 68.73 332 *e*P P 20 26 42.8 +0.2
comp=Z,1µm,1.0s
MSTX Muleshoe 68.73 332 P P 20 26 42.7 +0.2
baz=150,SNR=167
P47A Martinsville 68.76 347 P P 20 26 41.4 -1.0
baz=165,SNR=23
O51A Pataskala 68.78 350 P P 20 26 41.8 -0.6
baz=169,SNR=44
Q44A Meyer Farm, Va 68.78 345 *e*P P 20 26 41.6 -0.9
comp=Z,515nm,1.0s
Q44A Meyer Farm, Va 68.78 345 P P 20 26 41.6 -0.9
baz=163,SNR=47
R41A Rosebud 68.79 343 P P 20 26 42.4 -0.2
baz=160,SNR=280
SLM Saint Louis 68.82 344 *e*P P 20 26 42.6 -0.2
comp=Z,682nm,0.9s
SLM Saint Louis 68.82 344 *e*P P 20 26 42.6 -0.2
SLM pmax pmax
comp=Z,682nm,0.9s
PAL Palisades 68.82 358 *e*P P 20 26 44.1 +1.4
comp=Z,313nm,1.1s
PAL Palisades 68.82 358 P P 20 26 42.7 0.0
baz=177,SNR=18
N59A State Game Lan 68.83 356 *e*P P 20 26 43.7 +0.9
comp=Z,632nm,1.0s
N59A State Game Lan 68.83 356 P P 20 26 43.5 +0.7
baz=175,SNR=93
ACSO Alum Creek Sta 68.92 350 *e*P P 20 26 42.4 -0.9
comp=Z,742nm,0.9s
ACSO LR LR
comp=Z,21µm,22.0s
ACSO Alum Creek Sta 68.92 350 P P 20 26 42.6 -0.7
baz=168,SNR=122
ODNJ Ogdensburg 68.93 357 *e*P P 20 26 43.9 +0.5
comp=Z,461nm,1.0s
O50A Cable 68.93 350 P P 20 26 42.6 -0.9
baz=168,SNR=45
N55A Marion Center 68.95 353 P P 20 26 43.7 +0.1
baz=172,SNR=125
Q43A New Douglas 68.98 344 P P 20 26 43.1 -0.6
baz=162,SNR=174
SBA Scott Base 69.03 191 *e*P P 20 26 44.5 +0.9
comp=Z,1µm,1.9s
SBA LR LR
comp=Z,9µm,19.0s
SBA Scott Base 69.03 191 *e*P P 20 26 44.5 +0.9
SBA pmax pmax
comp=Z,1µm,1.9s
SBA MLR MLR
comp=Z,9µm,19.0s
P46A Rosedale 69.08 347 P P 20 26 43.0 -1.3
baz=164,SNR=64
AMTX Amarillo 69.08 333 *e*P P 20 26 44.9 +0.2
comp=Z,766nm,1.3s
AMTX Amarillo 69.08 333 P P 20 26 44.8 +0.2
baz=151
O49A Covington 69.09 349 *e*P P 20 26 43.5 -0.9
comp=Z,524nm,1.0s
O49A Covington 69.09 349 P P 20 26 43.7 -0.7
baz=167,SNR=61
P45A Graceland, Par 69.10 346 *e*P P 20 26 43.2 -1.3
comp=Z,511nm,0.8s
P45A Graceland, Par 69.10 346 P P 20 26 43.2 -1.3
baz=164,SNR=79
YLE Yale 69.10 358 *e*P P 20 26 45.7 +1.3
comp=Z,1µm,1.0s
Q42A Golden Eagle 69.15 344 P P 20 26 44.6 -0.3
baz=161,SNR=355
N53A Lisbon 69.19 352 P P 20 26 44.5 -0.5
baz=170,SNR=21
P44A Sand Creek, Wi 69.23 345 P P 20 26 44.1 -1.2
baz=163,SNR=62
N54A Moraine State 69.24 353 *e*P P 20 26 45.4 0.0
comp=Z,530nm,1.0s
N54A Moraine State 69.24 353 P P 20 26 45.0 -0.3
baz=171,SNR=78
O48A Farmland 69.30 348 P P 20 26 44.6 -1.1
baz=166,SNR=43
N52A McGinn's Farm, 69.30 351 P P 20 26 45.0 -0.7
baz=170,SNR=25
M65A Busby, Falmout 69.32 0 P P 20 26 46.1 +0.4
baz=180
Q41A Truxton 69.37 343 P P 20 26 45.9 -0.3
baz=161,SNR=291
U32A Winter Ranch, 69.39 336 *e*P P 20 27 47.2 +0.8
comp=Z,908nm,1.1s
KSPA Keystone Colle 69.46 356 *e*P P 20 27 47.2 +0.5
comp=Z,537nm,1.1s
O47A Sheridan 69.47 348 P P 20 26 45.5 -1.3
baz=165,SNR=51
N50A Nevada 69.47 350 P P 20 26 45.8 -1.0
baz=168,SNR=66
N51A Ashland 69.50 351 *e*P P 20 26 46.2 -0.7
comp=Z,292nm,1.0s
N51A Ashland 69.50 351 P P 20 26 46.2 -0.7
baz=169,SNR=27
319A Douglas 69.55 325 *e*P P 20 26 49.1 +1.5
comp=Z,378nm,0.9s
P43A Skaggs, Pawnee 69.60 345 P P 20 26 47.0 -0.6
baz=162,SNR=112
BRYW Bryant College 69.68 359 *e*P P 20 26 49.0 +0.9
comp=Z,1µm,0.9s
M54A Oil Creek Stat 69.74 353 *e*P P 20 26 48.1 -0.3
comp=Z,341nm,0.9s
M54A Oil Creek Stat 69.74 353 P P 20 26 48.1 -0.3
baz=172,SNR=42
P42A Winchester 69.75 344 *e*P P 20 26 48.0 -0.5
comp=Z,694nm,0.9s
P42A Winchester 69.75 344 P P 20 26 48.0 -0.5
baz=162,SNR=128
121A Cookes Peak, D 69.76 327 P P 20 26 50.4 +1.4
baz=146,SNR=154
N49A Columbus Grove 69.78 349 *e*P P 20 26 48.1 -0.5
comp=Z,1µm,1.0s
N49A Columbus Grove 69.78 349 P P 20 26 48.2 -0.5
baz=167,SNR=131
TBI Tubuai 69.78 254 *e*S S 20 35 56.6 +1.2
comp=Z,32µm,30.5s
TBI *e*LQ LQ 20 45 06.0
comp=Z,34µm,33.0s
TBI *e*LR LR 20 48 02.0
comp=Z,70µm,31.0s,baz=111
TBI Tubuai 69.78 254 *e*T T 21 42 20.5
comp=Z,40nm,0.2s
SFIN Lafayette 69.79 347 *e*P P 20 26 47.4 -1.4
comp=Z,394nm,1.0s
SFIN Lafayette 69.79 347 P P 20 26 47.3 -1.4
baz=165,SNR=28
O45A Potomac 69.79 346 P P 20 26 47.4 -1.3
baz=164,SNR=67
M53A WI Miller and 69.79 352 P P 20 26 48.3 -0.4
baz=171,SNR=23
O44A Mansfield 69.86 346 P P 20 26 48.1 -1.1
baz=163,SNR=40
N48A Decatur 69.86 349 P P 20 26 48.3 -0.8
baz=166,SNR=57
M51A Elyria 69.88 351 P P 20 26 48.5 -0.7
baz=169,SNR=16
M52A Chesterland 69.97 352 P P 20 26 49.2 -0.6
baz=170,SNR=35
N47A Urbana 70.00 348 P P 20 26 48.8 -1.2
baz=166,SNR=44
P41A Barry, Barry 70.01 344 P P 20 26 49.6 -0.5
baz=161,SNR=102
QUA2 Belchertown 70.05 359 *e*P P 20 26 50.9 +0.6
comp=Z,1µm,1.5s
VNDA Vanda 70.05 191 P P 20 26 50.5 +0.6
comp=Z,52nm,1.1s,baz=122,slow=6.5,SNR=23
VNDA PKP2ab 20 54 49.7
comp=Z,32nm,1.1s,baz=299,slow=4.8,SNR=14
VNDA LR LR 20 56 03.0
comp=Z,10µm,19.1s,baz=140,slow=35
VNDA Vanda 70.05 191 *e*P P 20 26 50.6 +0.6
comp=Z,271nm,1.2s
VNDA P'P'ab **P'P'ab** 20 54 49.8 -6.6
M50A Fremont 70.07 350 *e*P P 20 26 49.8 -0.7
comp=Z,464nm,0.9s
M50A Fremont 70.07 350 P P 20 26 49.7 -0.7
baz=168,SNR=38

BINY Binghamton 70.12 356 *e*P P 20 26 51.1 +0.4
comp=Z,598nm,1.1s
BINY LR LR
comp=Z,32µm,21.0s
BINY Binghamton 70.12 356 P P 20 26 51.0 +0.2
baz=175,SNR=66
WES Weston 70.14 360 *e*P P 20 26 50.2 -0.6
comp=Z,332nm,1.1s
WES Weston 70.14 360 *e*P P 20 26 50.2 -0.6
WES pmax pmax
comp=Z,332nm,1.1s
O43A Sugar Creek Fa 70.17 345 P P 20 26 50.3 -0.7
baz=163,SNR=49
N46A Monticello 70.21 347 P P 20 26 50.3 -1.1
baz=165,SNR=47
L53A Girard 70.25 353 P P 20 26 51.1 -0.4
baz=171,SNR=16
O42A Bath 70.26 344 P P 20 26 51.3 -0.4
baz=162,SNR=57
HRV Adam Dziewonsk 70.27 359 *e*P P 20 26 52.3 +0.7
HRV Adam Dziewonsk 70.27 359 *e*P P 20 26 52.3 +0.7
HRV Adam Dziewonsk 70.27 359 P P 20 26 52.5 +0.9
baz=179
M49A Liberty Center 70.29 350 P P 20 26 51.3 -0.5
baz=168,SNR=58
L55A Hinsdale 70.29 354 P P 20 26 52.0 +0.2
baz=173,SNR=110
N45A Kentland 70.32 347 P P 20 26 50.8 -1.2
baz=164,SNR=29
ERPA Erie 70.38 353 *e*P P 20 26 53.3 +1.0
comp=Z,545nm,1.0s
ERPA Erie 70.38 353 P P 20 26 51.9 -0.4
baz=171,SNR=15
O41A Passleys Farm, 70.38 344 P P 20 26 51.7 -0.6
baz=161,SNR=76
N44A Piper City 70.40 346 P P 20 26 51.3 -1.2
baz=164,SNR=47
M48A Edgerton 70.42 349 *e*P P 20 26 51.8 -0.8
comp=Z,786nm,1.1s
M48A Edgerton 70.42 349 P P 20 26 51.6 -0.9
baz=167,SNR=65
HDIL Hopedale 70.42 345 *e*P P 20 26 52.2 -0.4
comp=Z,687nm,0.8s
HDIL LR LR
comp=Z,16µm,21.0s
HDIL Hopedale 70.42 345 P P 20 26 52.0 -0.6
baz=163,SNR=53
M47A Cromwell 70.45 348 P P 20 26 51.7 -1.1
baz=166,SNR=36
TRY Troy 70.54 358 *e*P P 20 26 54.3 +1.1
comp=Z,901nm,0.9s
BNM Barren Site 70.57 329 *e*P P 20 26 55.2 +1.2
M46A Old House Fiel 70.64 348 P P 20 26 52.7 -1.2
baz=165,SNR=32
L50A Kingsville 70.67 351 P P 20 26 53.1 -0.9
baz=169,SNR=38
LPM Los Pinos Moun 70.70 329 *e*P P 20 26 56.0 +1.3
N43A Stutzman Famil 70.76 345 P P 20 26 54.1 -0.6
baz=163,SNR=123
MMNY Mt. Morris Dam 70.79 355 *e*P P 20 26 55.0 +0.2
comp=Z,3µm,1.8s
M45A Boilermakers S 70.79 347 P P 20 26 53.9 -0.9
baz=165
K55A Perry 70.80 354 P P 20 26 54.8 -0.1
baz=173,SNR=67
L48A N Adams 70.82 349 P P 20 26 54.0 -1.0
baz=167,SNR=48
N42A Yates City 70.85 345 P P 20 26 54.5 -0.7
baz=162,SNR=59
L49A Milan 70.87 350 P P 20 26 54.5 -0.8
baz=168,SNR=62
N41A Harden Midland 70.93 344 *e*P P 20 26 55.1 -0.5
comp=Z,1µm,0.9s
N41A Harden Midland 70.93 344 P P 20 26 55.2 -0.5
baz=161,SNR=88
M44A Midewin, Midew 70.95 346 *e*P P 20 26 55.2 -0.6
comp=Z,695nm,1.1s
M44A Midewin, Midew 70.95 346 P P 20 26 54.6 -1.2
baz=164,SNR=22
L47A Sherwood 70.98 349 P P 20 26 54.8 -1.2
baz=166,SNR=60
SYO Syowa Base 70.98 159 *e*P P 20 26 53.0 -2.7
SYO Syowa Base 70.98 159 *i*P P 20 26 57.4 +1.7
LAZ Ladron 71.01 329 *e*P P 20 26 58.1 +1.5
AAM Ann Arbor 71.04 350 *e*P P 20 26 55.2 -1.1
comp=Z,367nm,1.0s
AAM LR LR
comp=Z,19µm,21.0s
AAM Ann Arbor 71.04 350 *e*P P 20 26 55.2 -1.1
AAM pmax pmax
comp=Z,367nm,1.0s
AAM MLR MLR
comp=Z,19µm,21.0s
AAM Ann Arbor 71.04 350 P P 20 26 55.9 -0.5
baz=168,SNR=18
KSU1 Kansas State U 71.05 339 *e*P P 20 26 56.3 -0.1
comp=Z,532nm,1.0s
KSU1 LR LR
comp=Z,12µm,20.0s
KSU1 Kansas State U 71.05 339 P P 20 26 56.1 -0.3
baz=156,SNR=23
TUC Tucson 71.06 325 *e*P P 20 26 57.7 +0.9
comp=Z,268nm,1.1s
TUC LR LR
comp=Z,47µm,20.0s
TUC Tucson 71.06 325 *e*P P 20 26 57.7 +0.9
TUC pmax pmax
comp=Z,268nm,1.1s
TUC MLR MLR
comp=Z,47µm,20.0s
TUC Tucson 71.06 325 P P 20 26 57.7 +0.9
baz=143
K52A Tillsonburg 71.12 352 P P 20 26 56.2 -0.6
baz=171,SNR=18
ANMO Albuquerque 71.16 330 S S 20 36 14.0 +3.0
comp=Z,0.6nm,0.5s,baz=220,slow=18,SNR=3.2
ANMO LR LR 20 54 43.7
comp=Z,36µm,20.2s,baz=157,slow=33
ANMO PKPPKP 20 54 49.0
comp=Z,2.1nm,0.9s,baz=307,slow=3.1,SNR=6.9
ANMO Albuquerque 71.16 330 *e*P P 20 26 58.6 +1.1
comp=Z,185nm,1.0s
ANMO S S 20 36 14.0 +3.0
ANMO P'P' 20 54 49.0
ANMO Albuquerque 71.16 330 *c i*P P 20 26 58.5 +1.1
ANMO pmax pmax
comp=Z,479nm,2.5s
ANMO Albuquerque 71.16 330 P P 20 26 58.5 +1.1
baz=147
K51A Iona Station 71.16 352 P P 20 26 56.3 -0.7
baz=170,SNR=14
ACCN Adirondack Com 71.19 358 *e*P P 20 26 57.9 +0.7
comp=Z,452nm,1.0s
M43A Waltham Townsh 71.19 346 P P 20 26 56.7 -0.6
baz=163,SNR=36
L46A Eue Claire 71.21 348 P P 20 26 56.1 -1.3
baz=166,SNR=17
N40A Mertquake, Sal 71.28 344 P P 20 26 57.3 -0.5
baz=161,SNR=121
J55A Hilton 71.31 355 P P 20 26 57.8 -0.1
baz=173,SNR=16
STCO Saint Catharin 71.38 354 P P 20 26 58.1 -0.2
baz=172
M42A Sheffield 71.39 345 P P 20 26 57.6 -0.8
baz=162,SNR=13
VAH Vaihoa 71.46 262 *e*P P 20 27 03.0 +3.5
comp=Z,160nm,1.0s
VAH *e*pP **sP** 20 27 16.0 -2.3
comp=Z,218nm,1.2s
HNH Hanover 71.47 359 *e*P P 20 27 00.0 +1.1
comp=Z,678nm,1.0s
K49A Clarion 71.49 350 P P 20 26 57.8 -1.2
baz=168,SNR=10
M41A Milan 71.49 345 P P 20 26 58.2 -0.8
baz=162,SNR=29
J52A Paris 71.54 353 P P 20 26 58.7 -0.6
baz=171,SNR=53
ELFO Elginfield 71.60 352 P P 20 26 58.8 -0.8
baz=170,SNR=20
K48A Perry 71.61 350 P P 20 26 58.9 -0.8
baz=168,SNR=54
K47A Vermontville 71.62 349 P P 20 26 58.7 -1.2
baz=167,SNR=38
L44A Lake County Fo 71.68 347 P P 20 26 59.5 -0.7
baz=164,SNR=20
M40A Post Highland 71.75 344 P P 20 27 00.0 -0.6
baz=161,SNR=102
K46A Dorr 71.77 348 P P 20 26 59.4 -1.3
baz=166,SNR=24
PMOR Pomariorio Ree 71.79 262 *e*P P 20 27 05.0 +3.5
comp=Z,163nm,1.1s
PMOR *e*pP **sP** 20 27 18.0 -2.3
comp=Z,156nm,1.0s
NCB Newcomb 71.79 357 *e*P P 20 27 01.1 +0.2
comp=Z,221nm,1.0s
TVO Taravao 71.82 259 *e*P P 20 27 05.5 +3.7
comp=Z,60nm,1.1s
TVO *e*pP **sP** 20 27 18.4 -2.1
comp=Z,86nm,0.9s
TVO Taravao 71.82 259 *e*T T 21 44 58.2
comp=Z,2.2nm,0.2s
CBKS Cedar Bluff 71.83 337 *e*P P 20 27 01.9 +0.7
comp=Z,777nm,1.0s
CBKS LR LR
comp=Z,15µm,21.0s
CBKS Cedar Bluff 71.83 337 *e*P P 20 27 01.9 +0.7
CBKS pmax pmax
comp=Z,777nm,1.0s
CBKS MLR MLR
comp=Z,15µm,21.0s
CBKS Cedar Bluff 71.83 337 P P 20 27 01.6 +0.4
baz=153,SNR=36
214A Organ Pipe Nat 71.83 323 P P 20 27 02.7 +1.3
baz=142,SNR=446
L43A Garden Prairie 71.86 346 P P 20 27 00.8 -0.5
baz=163,SNR=29
L42A Oliver, Polo 71.89 345 *e*P P 20 27 00.9 -0.5
comp=Z,548nm,1.1s
L42A Oliver, Polo 71.89 345 P P 20 27 00.8 -0.6
baz=162,SNR=28
M39A Webster 71.99 343 P P 20 27 01.4 -0.6
baz=160,SNR=26
DRWO Darlington Wes 71.99 354 P P 20 27 01.6 -0.3
baz=172,SNR=42
TIAR Tiarei 71.99 259 *e*P P 20 27 06.0 +3.2
comp=Z,23nm,0.9s
TIAR Tiarei 71.99 259 *e*T T 21 45 12.6
comp=Z,16nm,0.2s
J49A Marlette 72.00 351 P P 20 27 01.1 -1.0
baz=168,SNR=24
LBNH Lisbon 72.00 359 *e*P P 20 27 02.8 +0.7
comp=Z,340nm,0.9s
LBNH Lisbon 72.00 359 *e*P P 20 27 02.8 +0.7
LBNH pmax pmax
comp=Z,340nm,0.9s
LBNH Lisbon 72.00 359 P P 20 27 02.9 +0.8
baz=179,SNR=44
LIC Lamto 72.02 73 *e*P P 20 27 01.2 -1.7
comp=Z,2µm,1.3s
T25A Trinidad 72.14 332 *e*P P 20 27 04.5 +1.1
comp=Z,604nm,1.0s
T25A Trinidad 72.14 332 P P 20 27 04.5 +1.1
baz=149,SNR=207
J47A Sunmer 72.14 349 P P 20 27 02.2 -0.7
baz=167,SNR=40
L41A Preston 72.14 345 P P 20 27 02.2 -0.8
baz=162,SNR=53
PAE Paea 72.15 259 *e*P P 20 27 07.2 +3.5
comp=Z,46nm,1.0s
PAE *e*pP **PcP** 20 27 20.0 -1.8
comp=Z,57nm,0.9s
I51A Listowel 72.16 352 P P 20 27 02.4 -0.6
baz=170,SNR=58
PPTF Pamatai, Papee 72.17 259 *e*P P 20 27 06.6 +2.8
comp=Z,1µm,1.6s
PPT2 Papeete2 72.18 259 *e*P P 20 27 07.7 +3.8
comp=Z,239nm,1.1s
PPT2 *e*pP **PcP** 20 27 20.6 -1.4
comp=Z,422nm,1.3s
PPT2 *e*S **S** 20 36 24.0 +0.5
comp=Z,64µm,31.8s
PPT2 *e*LQ LQ 20 46 04.9
comp=Z,26µm,27.2s
PPT2 *e*LR LR 20 49 07.6
comp=Z,103µm,23.5s,baz=111
PPT2 Papeete2 72.18 259 *e*T T 21 45 13.1
comp=Z,2.7nm,0.2s
PPT Papeete 72.19 259 P P 20 27 06.0 +2.1
comp=Z,231nm,0.9s,baz=223,slow=2.5,SNR=20
PPT LR LR 20 50 46.9
comp=Z,51µm,20.9s,baz=124,slow=29
I55A Frankford 72.24 355 P P 20 27 03.2 -0.2
baz=174,SNR=33
TIC Toumodi 72.25 72 *e*P P 20 27 02.5 -1.8
K43A Burlington 72.27 347 P P 20 27 03.3 -0.5
baz=164,SNR=11
L40A Anamosa 72.31 344 *e*P P 20 27 03.5 -0.4
comp=Z,2µm,0.8s
L40A Anamosa 72.31 344 P P 20 27 03.2 -0.7
baz=161,SNR=162
I52A Shelburne 72.33 353 P P 20 27 03.5 -0.5
baz=171,SNR=7.3
WVL Waterville 72.33 1 *e*P P 20 27 03.4 -0.6
comp=Z,337nm,1.0s
KIC Kosan Boka 72.33 73 *e*P P 20 27 03.0 -1.8
comp=Z,2µm,1.0s
J46A Howard City 72.39 349 P P 20 27 03.4 -1.0
baz=166,SNR=13
DBIC Dimbokro 72.40 72 P P 20 27 04.7 -0.4
comp=Z,954nm,0.9s,baz=213,slow=6.5,SNR=172
DBIC S **S** 20 36 23.7 -2.1
comp=Z,4.4nm,0.9s,baz=46,slow=14,SNR=2.0
DBIC LR LR 20 55 59.8
comp=Z,43µm,21.6s,baz=224,slow=34
DBIC Dimbokro 72.40 72 *e*P P 20 27 04.9 -0.3
comp=Z,1µm,1.0s
DBIC S **S** 20 36 23.7 -2.1
DBIC Dimbokro 72.40 72 *e*P P 20 27 05.2 0.0
X18A Snowflake 72.43 327 *e*P P 20 27 06.5 +1.3
comp=Z,200nm,1.0s
LONY Lake Ozonia 72.46 357 *e*P P 20 27 05.1 +0.3
comp=Z,427nm,1.0s
LONY LR LR
comp=Z,25µm,20.0s
LONY Lake Ozonia 72.46 357 P P 20 27 04.9 +0.1
baz=176,SNR=100
H56A Elgin 72.52 356 P P 20 27 04.7 -0.4
baz=175,SNR=122
I49A Point Hope 72.53 351 P P 20 27 04.3 -0.9
baz=169,SNR=20
EMMW East Machias 72.53 3 *e*P P 20 27 06.1 +0.9
comp=Z,463nm,1.0s
H55A Tweed 72.54 355 P P 20 27 05.3 +0.1
baz=174,SNR=38
L39A Vinton 72.55 344 P P 20 27 04.9 -0.5
baz=160,SNR=29
K42A Prairie Point, 72.56 346 P P 20 27 05.0 -0.5
baz=163,SNR=71
J45A Montague 72.60 348 P P 20 27 05.0 -0.7
baz=166,SNR=5.8
K41A Shullsburg 72.61 345 P P 20 27 05.5 -0.3
baz=162,SNR=53
FRNY Flat Rock 72.63 358 *e*P P 20 27 06.2 +0.4
comp=Z,384nm,0.8s
SCIA State Center 72.66 343 *e*P P 20 27 07.5 +1.5
comp=Z,672nm,1.1s
SCIA LR LR
comp=Z,11µm,21.0s
SCIA State Center 72.66 343 P P 20 27 06.1 +0.1
baz=159,SNR=8.9
HAL Halifax 72.70 5 *e*P P 20 27 07.4 +1.2
comp=Z,439nm,1.1s
W18A Petrified Fore 72.81 327 *e*P P 20 27 08.6 +1.2
comp=Z,718nm,1.1s
W18A Petrified Fore 72.81 327 P P 20 27 08.7 +1.4
baz=144,SNR=139
I47A Gladwin 72.86 350 P P 20 27 06.3 -0.8
baz=167,SNR=53
JFWS Jewell Farm 72.89 345 *e*P P 20 27 07.2 -0.2
comp=Z,434nm,0.9s
JFWS LR LR
comp=Z,36µm,22.0s
JFWS Jewell Farm 72.89 345 *e*P P 20 27 07.2 -0.2
JFWS pmax pmax
comp=Z,434nm,0.9s
JFWS MLR MLR
comp=Z,36µm,22.0s
JFWS Jewell Farm 72.89 345 P P 20 27 07.0 -0.4
baz=162,SNR=47
K40A Colesburg 72.89 345 P P 20 27 06.9 -0.5
baz=161,SNR=139
I48A Sherman Twp 72.90 350 P P 20 27 06.6 -0.8
baz=168,SNR=49
SADO Sadowa 72.92 354 P P 20 27 07.2 -0.3
comp=Z,404nm,0.8s,baz=194,slow=5.7,SNR=67
SADO S **S** 20 36 28.3 -2.2

comp=Z,7.1nm,1.0s,baz=181,slow=16,SNR=2.2
SADO LR LR 21 00 38.1

comp=Z,20µm,20.9s,baz=183,slow=37
SADO Sadowa 72.92 354 *eP* **P 20 27 07.2 -0.3**
comp=Z,602nm,0.9s
SADO S **S 20 36 28.3 -2.2**
I46A Reed City 72.93 349 P **P 20 27 06.2 -1.4**
baz=166,SNR=60
J43A Natural Harves 72.94 347 P **P 20 27 07.3 -0.4**
baz=164,SNR=24
113A Mohawk Valley, 72.97 323 *eP* **P 20 27 08.7 +0.6**
comp=Z,342nm,1.3s
GGN Saint George 72.97 3 *eP* **P 20 27 09.1 +1.3**
comp=Z,418nm,1.0s
J42A Columbus 73.03 346 P **P 20 27 07.8 -0.4**
baz=163,SNR=32
PKME Peaks-Kenny Pk 73.04 1 *eP* **P 20 27 08.3 +0.2**
comp=Z,351nm,1.0s
PKME LR LR

comp=Z,18µm,20.0s
PKME Peaks-Kenny Pk 73.04 1 P **P 20 27 08.7 +0.5**
baz=181,SNR=26
KSCO Kaye Shedlock' 73.06 335 *eP* **P 20 27 09.7 +1.0**
comp=Z,1µm,1.2s
KSCO Kaye Shedlock' 73.06 335 P **P 20 27 09.6 +0.9**
baz=151,SNR=55
K39A Oelwein 73.07 344 P **P 20 27 08.0 -0.5**
baz=160,SNR=71
X16A Lo Mia Camp, P 73.07 326 *eP* **P 20 27 10.2 +1.2**
comp=Z,400nm,1.0s
MOQ Mont Orford 73.08 359 *eP* **P 20 27 09.1 +0.5**
SDCO Great Sand Dun 73.11 332 *eP* **P 20 27 10.3 +1.1**
comp=Z,348nm,1.1s
SDCO LR LR

comp=Z,15µm,21.0s
SDCO Great Sand Dun 73.11 332 P **P 20 27 10.4 +1.2**
baz=148,SNR=156
I45A Fountain 73.16 348 P **P 20 27 07.9 -1.0**
baz=166
G55A Calabogie 73.20 356 P **P 20 27 09.5 +0.3**
baz=174,SNR=45
G53A Haliburton 73.22 354 P **P 20 27 09.4 +0.1**
baz=173,SNR=106
J41A Loganville 73.26 346 P **P 20 27 09.2 -0.4**
baz=162,SNR=67
ORIO Orleans, Innes 73.33 357 P **P 20 27 09.9 0.0**
baz=176,SNR=43
ORHO Orleans, Herit 73.34 357 P **P 20 27 10.0 +0.1**
baz=176
H48A Harrisville 73.34 351 P **P 20 27 09.6 -0.5**
baz=168,SNR=9.5
I43A Langenfeld Bro 73.37 347 P **P 20 27 09.8 -0.4**
baz=164,SNR=19
H47A Mio 73.38 350 P **P 20 27 09.5 -0.7**
baz=168,SNR=21
J40A Soldiers Grove 73.46 345 P **P 20 27 10.1 -0.6**
baz=162,SNR=92
H46A Fife Lake 73.47 349 P **P 20 27 09.6 -1.2**
baz=167,SNR=111
Y14A Wickenburg 73.48 324 *eP* **P 20 27 12.3 +1.1**
comp=Z,231nm,0.8s
I42A Draeger Farm, 73.53 347 *eP* **P 20 27 10.8 -0.3**
comp=Z,349nm,0.8s
I42A Draeger Farm, 73.53 347 P **P 20 27 10.9 -0.3**
baz=163,SNR=29
J39A Decorah 73.62 344 P **P 20 27 11.1 -0.6**
baz=161,SNR=86
BGNE Belgrade 73.63 339 *eP* **P 20 27 12.2 +0.3**
comp=Z,2µm,1.0s
BGNE Belgrade 73.63 339 P **P 20 27 12.2 +0.3**
baz=155,SNR=61
GLMI Grayling 73.66 350 *eP* **P 20 27 12.8 +0.9**
comp=Z,617nm,0.9s
GLMI LR LR

comp=Z,21µm,21.0s
GLMI Grayling 73.66 350 P **P 20 27 11.3 -0.6**
baz=167,SNR=6.4
GBN Guysborough 73.66 7 *eP* **P 20 27 13.0 +1.2**
comp=Z,516nm,1.3s
S22A 4UR Ranch, Cre 73.67 331 *eP* **P 20 27 13.7 +1.1**
comp=Z,204nm,1.2s
S22A 4UR Ranch, Cre 73.67 331 P **P 20 27 13.6 +1.1**
baz=147,SNR=65
GLA Glamis 73.75 323 *eP* **P 20 27 14.1 +1.3**
comp=Z,279nm,1.1s
GLA pmax pmax

comp=Z,279nm,1.1s
GLA Glamis 73.75 323 P **P 20 27 13.8 +1.0**
baz=140,SNR=36
F55A Otter Lake 73.76 356 P **P 20 27 12.4 0.0**
baz=175,SNR=37
H43A Windswept, Lux 73.86 347 *eP* **P 20 27 13.1 0.0**
comp=Z,516nm,0.8s
H43A Windswept, Lux 73.86 347 P **P 20 27 12.7 -0.4**
baz=164,SNR=20
G47A Hillman 73.88 350 P **P 20 27 12.6 -0.6**
baz=168,SNR=15
I41A Arkdale 73.89 346 *eP* **P 20 27 12.8 -0.5**
comp=Z,412nm,0.9s
I41A Arkdale 73.89 346 P **P 20 27 12.8 -0.5**
baz=162,SNR=38
I40A Norwalk 73.90 345 P **P 20 27 12.9 -0.4**
baz=162,SNR=34
WUAZ Wupatki 73.92 327 *eP* **P 20 27 15.4 +1.6**
comp=Z,590nm,1.0s
WUAZ LR LR

comp=Z,64µm,22.0s
WUAZ Wupatki 73.92 327 P **P 20 27 15.3 +1.4**
baz=143,SNR=231
MVCO Mesa Verde 73.95 330 *eP* **P 20 27 15.2 +1.1**
comp=Z,463nm,1.0s
MVCO LR LR

comp=Z,46µm,21.0s
MVCO Mesa Verde 73.95 330 P **P 20 27 15.4 +1.3**
baz=146,SNR=202
ALGO Algonquin Park 74.00 355 P **P 20 27 13.4 -0.5**
baz=173,SNR=105
Q24A Divide 74.00 333 *eP* **P 20 27 15.5 +1.1**
comp=Z,689nm,1.0s
Q24A Divide 74.00 333 P **P 20 27 15.2 +0.8**
baz=149,SNR=219
G45A Suttons Bay 74.03 349 P **P 20 27 13.5 -0.6**
baz=166,SNR=9.1
H42A Shiocton 74.05 347 *eP* **P 20 27 14.0 -0.2**
comp=Z,553nm,0.9s
H42A Shiocton 74.05 347 P **P 20 27 13.8 -0.3**
baz=164,SNR=20
TRQ Mont Tremblant 74.06 357 *eP* **P 20 27 14.1 -0.2**
I39A Houston 74.07 345 *eP* **P 20 27 14.0 -0.3**
comp=Z,810nm,0.8s
I39A Houston 74.07 345 P **P 20 27 13.8 -0.5**
baz=161,SNR=77
Y12C Blythe 74.13 323 *eP* **P 20 27 16.4 +1.5**
comp=Z,306nm,1.0s
Y12C Blythe 74.13 323 P **P 20 27 16.2 +1.3**
baz=141,SNR=33
F51A Arnstein 74.14 353 P **P 20 27 14.2 -0.5**
baz=172,SNR=50
IKP In-Ko-Pah, Jac 74.14 322 P **P 20 27 16.3 +1.2**
baz=139,SNR=75
SWSC Sam W. Stewart 74.20 322 P **P 20 27 16.4 +1.1**
baz=140,SNR=60
F49A Sandfield 74.22 352 P **P 20 27 14.3 -0.8**
baz=170,SNR=58
F48A Evansville 74.35 352 P **P 20 27 15.3 -0.6**
baz=169,SNR=48
PDMCI Parker Dam,Lak 74.36 324 P **P 20 27 17.0 +0.8**
baz=141,SNR=66
E52A Mattawa 74.38 354 P **P 20 27 15.4 -0.6**
baz=173,SNR=22
H41A Junction City 74.38 346 *eP* **P 20 27 15.6 -0.6**
comp=Z,325nm,0.9s
H41A Junction City 74.38 346 P **P 20 27 15.5 -0.6**
baz=163,SNR=26
PQI Presque Isle 74.47 2 *eP* **P 20 27 17.1 +0.5**
comp=Z,348nm,1.0s
BAR Barrett 74.48 321 *eP* **P 20 27 18.2 +1.2**
comp=Z,392nm,1.1s
MONP2 Monument Peak 74.50 321 P **P 20 27 18.2 +0.9**
baz=139,SNR=76
OGNE Ogallala 74.53 336 *eP* **P 20 27 18.1 +0.9**
comp=Z,450nm,1.0s
OGNE LR LR

comp=Z,9µm,21.0s
OGNE Ogallala 74.53 336 P **P 20 27 18.1 +0.9**
baz=152,SNR=21
H40A Chili 74.54 346 P **P 20 27 16.6 -0.5**
baz=162,SNR=37
BC3 Big Chuckawall 74.55 323 P **P 20 27 18.7 +1.2**
baz=140,SNR=314
G43A Wallace 74.60 348 *eP* **P 20 27 17.3 -0.1**
comp=Z,341nm,1.1s
G43A Wallace 74.60 348 P **P 20 27 16.9 -0.5**
baz=164,SNR=13
F46A Macinaw City C 74.61 350 P **P 20 27 16.9 -0.5**
baz=167,SNR=58
F45A CMU Biological 74.64 349 P **P 20 27 17.0 -0.6**
baz=166,SNR=18
E51A G1948 Merrick 74.70 354 P **P 20 27 17.8 -0.1**
baz=172,SNR=84
E50A Wahnapitae 74.72 353 P **P 20 27 17.8 -0.2**
baz=171,SNR=82
G42A Mountain 74.73 347 *eP* **P 20 27 18.3 +0.2**
comp=Z,898nm,1.0s
G42A Mountain 74.73 347 P **P 20 27 17.5 -0.6**
baz=164,SNR=46
PV01 Paradox Valley 74.75 330 *eP* **P 20 27 20.0 +1.3**
IRM Iron Mountain 74.77 323 P **P 20 27 19.7 +1.0**
baz=140,SNR=176
H39A Augusta 74.80 345 P **P 20 27 18.3 -0.3**
baz=161,SNR=21
W13A Hualapai Mount 74.84 325 *eP* **P 20 27 20.8 +1.5**
comp=Z,225nm,1.0s
G41A Antigo 74.85 347 P **P 20 27 18.7 -0.2**
baz=163,SNR=11
109C Camp Elliot, M 74.87 321 P **P 20 27 20.3 +1.0**
baz=139,SNR=6.2
CPE Camp Elliot 74.87 321 *eP* **P 20 27 21.1 +1.9**
comp=Z,128nm,1.0s
PV13 Radium Mtn., P 74.88 330 *eP* **P 20 27 20.7 +1.2**
comp=Z,377nm,0.9s
PV02 Paradox Valley 74.88 330 *eP* **P 20 27 20.9 +1.4**
comp=Z,371nm,1.0s
ISCO Idaho Springs 74.90 333 *eP* **P 20 27 20.6 +0.9**
comp=Z,246nm,1.0s
ISCO LR LR

comp=Z,15µm,22.0s
ISCO Idaho Springs 74.90 333 *eP* **P 20 27 20.6 +0.9**
ISCO pmax pmax

comp=Z,246nm,1.0s
ISCO MLR MLR

comp=Z,15µm,22.0s
ISCO Idaho Springs 74.90 333 P **P 20 27 20.6 +0.9**
baz=148,SNR=93
SMCO Snowmass 74.93 332 *eP* **P 20 27 21.1 +1.2**
comp=Z,558nm,0.9s
PV05 Paradox Valley 74.94 330 *eP* **P 20 27 20.8 +1.0**
NEE2 Needles Airpor 74.96 324 P **P 20 27 20.8 +1.1**
baz=141,SNR=8.5
PV03 Paradox Valley 74.97 330 *eP* **P 20 27 20.9 +0.9**
PV12 Saucer Basin, 75.00 330 *eP* **P 20 27 21.4 +1.2**
comp=Z,292nm,0.9s
PV11 David Mesa, Pa 75.02 330 *eP* **P 20 27 21.4 +1.1**
comp=Z,314nm,1.0s
H38A Maiden Rock 75.03 344 P **P 20 27 19.5 -0.4**
baz=160,SNR=25
PV17 East Wray Mesa 75.04 330 *eP* **P 20 27 21.4 +1.0**
comp=Z,283nm,0.9s
PV16 Nyswonger Mesa 75.05 330 *eP* **P 20 27 21.4 +1.0**
comp=Z,377nm,1.2s
E47A Iron Bridge 75.06 351 P **P 20 27 19.7 -0.2**
baz=168,SNR=118
XPFO Pion Flat 75.06 322 *eP* **P 20 27 21.8 +1.4**
comp=Z,473nm,1.3s
PFO Pinyon Flats O 75.06 322 P **P 20 27 21.8 +1.3**
comp=Z,160nm,0.9s,baz=127,slow=5.3,SNR=24
PFO S **S 20 37 00.8 +5.4**

comp=Z,1.6nm,0.4s,baz=232,slow=5.4,SNR=2.8
PFO LR LR 20 53 53.0

comp=Z,19µm,19.9s,baz=136,slow=30
PFO Pinyon Flats O 75.06 322 PFAKE 20 27 30.0 +10
PFO LR LR

comp=Z,19µm,19.0s
PFO Pinyon Flats O 75.06 322 P **P 20 27 21.9 +1.5**
baz=139,SNR=94
F43A Flat Rock, Esc 75.06 348 P **P 20 27 19.6 -0.5**
baz=165,SNR=39
F44A Big Bay de Noc 75.07 349 P **P 20 27 19.5 -0.6**
baz=166,SNR=25
PV19 Morning Glory 75.08 330 *eP* **P 20 27 21.8 +1.2**
comp=Z,298nm,1.0s
D54A Lac Fusel, La 75.09 356 P **P 20 27 19.4 -0.7**
baz=174,SNR=68
U15A North Rim 75.09 326 *eP* **P 20 27 22.4 +1.6**
comp=Z,384nm,1.0s
PV20 West Nyswonger 75.09 330 *eP* **P 20 27 21.6 +1.0**
comp=Z,315nm,1.2s
BELC Belle Mtn. Jos 75.11 322 P **P 20 27 22.3 +1.6**
baz=140,SNR=138
E46A Sault Ste Mari 75.12 350 P **P 20 27 19.6 -0.7**
baz=168,SNR=79
G40A Rib Lake 75.12 346 *eP* **P 20 27 20.8 +0.4**
comp=Z,324nm,1.1s
G40A Rib Lake 75.12 346 P **P 20 27 20.0 -0.4**
baz=162,SNR=24
PV14 Lion Creek, Pa 75.14 330 *eP* **P 20 27 22.0 +1.0**
comp=Z,442nm,1.0s
PV10 Paradox Valley 75.16 330 *eP* **P 20 27 20.3 -0.8**
BATG Bathurst New B 75.16 3 *eP* **P 20 27 20.6 0.0**
comp=Z,472nm,1.1s
LATQ La Tuque 75.16 359 P **P 20 27 20.8 +0.3**
baz=178,SNR=73
F42A Maple Grove Fa 75.17 348 P **P 20 27 20.5 -0.1**
baz=164,SNR=8.5
PV23 Carpenter Ridg 75.20 330 *eP* **P 20 27 22.5 +1.1**
comp=Z,299nm,1.0s
E45A Wooded Hills, 75.24 350 P **P 20 27 20.9 -0.1**
baz=167,SNR=24
PV21 Cone Mtn., Par 75.28 330 *eP* **P 20 27 23.0 +1.2**
comp=Z,248nm,1.0s
ECSD EROS Data Cent 75.29 341 *eP* **P 20 27 21.3 -0.1**
comp=Z,856nm,1.0s
ECSD LR LR

comp=Z,12µm,20.0s
ECSD EROS Data Cent 75.29 341 P **P 20 27 21.2 -0.2**
baz=156,SNR=239
PV09 Paradox Valley 75.30 330 *eP* **P 20 27 23.1 +1.2**
F41A Three Lakes 75.34 347 *eP* **P 20 27 21.4 -0.3**
comp=Z,319nm,0.9s
F41A Three Lakes 75.34 347 P **P 20 27 21.4 -0.3**
baz=163,SNR=48
G39A Holcombe 75.35 345 P **P 20 27 21.3 -0.4**
baz=161,SNR=42
G38A Ridgeland 75.39 345 P **P 20 27 21.2 -0.7**
baz=161,SNR=51
MURC Murrieta 75.45 321 P **P 20 27 24.0 +1.3**
baz=139,SNR=99
LDFC Landfair 75.46 324 *eP* **P 20 27 24.7 +1.9**
comp=Z,339nm,0.9s
GMRC Granite Mounta 75.52 323 P **P 20 27 24.5 +1.4**
baz=140,SNR=263
E43A Lone Tree Farm 75.56 349 *eP* **P 20 27 22.7 -0.2**
comp=Z,440nm,0.9s
E43A Lone Tree Farm 75.56 349 P **P 20 27 22.6 -0.2**
baz=165,SNR=33
SPMN Marine on St. 75.67 344 *eP* **P 20 27 23.0 -0.5**
comp=Z,617nm,0.9s
SPMN Marine on St. 75.67 344 P **P 20 27 23.0 -0.5**
baz=160,SNR=61
COWI Conover 75.69 347 PFAKE 20 27 40.0 +16
COWI LR LR

comp=Z,40µm,22.0s
F40A Park Falls 75.72 346 P **P 20 27 23.7 -0.2**
baz=162,SNR=60
SCI2 San Clemente I 75.75 320 P **P 20 27 25.5 +1.2**
baz=138,SNR=13
E42A Champion 75.78 348 P **P 20 27 24.2 +0.1**
baz=164,SNR=41
BBRC Big Bear Solar 75.80 322 P **P 20 27 26.5 +1.7**
baz=139,SNR=16
KNB Kanab 75.82 327 *eP* **P 20 27 26.1 +1.3**
comp=Z,1µm,1.2s
KNB Kanab 75.82 327 *eP* **P 20 27 26.1 +1.3**
KNB pmax pmax

comp=Z,1µm,1.2s
F39A Loretta 75.89 346 P **P 20 27 24.5 -0.3**
baz=162,SNR=68
HEC Hector,Ludlow 75.92 323 P **P 20 27 26.7 +1.4**
baz=140,SNR=282
N23A Red Feather La 75.97 333 *eP* **P 20 27 26.6 +1.0**
comp=Z,314nm,0.9s
N23A Red Feather La 75.97 333 P **P 20 27 27.0 +1.3**
baz=148,SNR=104
CIS Catalina Islan 75.99 321 P **P 20 27 27.0 +1.3**
baz=138,SNR=23
E41A Kenton 76.01 347 P **P 20 27 25.4 0.0**
baz=163,SNR=20
LCMT Little Creek M 76.02 326 *eP* **P 20 27 27.2 +1.2**
comp=Z,296nm,1.2s
F37A Hinrichs Farm, 76.09 344 P **P 20 27 26.1 +0.2**
baz=160,SNR=88
VLDQ Val d'Or 76.10 355 *eP* **P 20 27 25.9 0.0**
comp=Z,352nm,0.9s
PHWY Pilot Hill 76.12 334 *eP* **P 20 27 28.8 +2.2**
comp=Z,301nm,1.0s
F38A Pierce - Schro 76.14 345 P **P 20 27 26.2 0.0**
baz=161,SNR=86
FMP Fort Macarthur 76.15 321 P **P 20 27 27.8 +1.3**
baz=138,SNR=14
TUQ Turquoise Moun 76.16 323 P **P 20 27 28.1 +1.4**
baz=140,SNR=170
BFSC Mount Baldy Ra 76.19 322 P **P 20 27 28.3 +1.3**
baz=138,SNR=61
E39A Mellen 76.25 346 P **P 20 27 26.8 0.0**
baz=162,SNR=65
O20A White River Ci 76.27 331 *eP* **P 20 27 28.5 +1.2**
comp=Z,924nm,1.0s
O20A White River Ci 76.27 331 P **P 20 27 28.6 +1.2**
baz=146,SNR=265
RRX Edison Barstow 76.31 322 P **P 20 27 29.2 +1.7**
baz=139,SNR=11
MTPU Mount Pierson 76.33 328 *eP* **P 20 27 29.1 +1.2**
comp=Z,301nm,0.8s
MWC Mount Wilson 76.40 321 *eP* **P 20 27 29.3 +1.1**
comp=Z,279nm,1.0s
MWC Mount Wilson 76.40 321 *eP* **P 20 27 29.3 +1.1**
MWC pmax pmax

comp=Z,279nm,1.0s
SZCU Shurtz Canyon 76.41 327 *eP* **P 20 27 29.8 +1.6**
comp=Z,537nm,1.3s
SRU San Rafael Swe 76.42 329 *eP* **P 20 27 29.1 +0.9**
comp=Z,402nm,0.9s
SRU San Rafael Swe 76.42 329 *eP* **P 20 27 29.1 +0.9**
SRU pmax pmax

comp=Z,402nm,0.9s
PASC Pasadena Art C 76.43 321 *eP* **P 20 27 30.1 +2.0**
comp=Z,415nm,1.2s
CCUT Cedar City 76.50 326 *eP* **P 20 27 30.8 +2.0**
comp=Z,496nm,0.9s
D41A Chassel 76.50 348 *eP* **P 20 27 28.9 +0.7**
comp=Z,1µm,0.8s
D41A Chassel 76.50 348 P **P 20 27 28.6 +0.3**
baz=164,SNR=36
MACI Morro de la Ar 76.52 48 *eP* **P 20 27 30.3 +1.3**
comp=Z,791nm,1.3s
GSC Goldstone, Bar 76.53 323 *eP* **P 20 27 30.1 +1.3**
comp=Z,418nm,1.3s
GSC Goldstone, Bar 76.53 323 *eP* **P 20 27 30.1 +1.3**
GSC pmax pmax

comp=Z,418nm,1.3s
GSC Goldstone, Bar 76.53 323 P **P 20 27 30.4 +1.6**
baz=139,SNR=117
Q16A Castle Valley 76.56 329 *eP* **P 20 27 30.4 +1.4**
comp=Z,445nm,1.0s
DECC Green Verdugo 76.57 321 P **P 20 27 30.5 +1.6**
baz=138,SNR=20
SHPR Sheep Range 76.58 325 *eP* **P 20 27 30.6 +1.4**
comp=Z,438nm,1.2s
SUSD Miller 76.63 340 P **P 20 27 29.3 +0.2**
baz=155,SNR=17
H07S1 FLORES T-PHASE 76.66 31 *eP* P 20 27 35.5 +6.2
H07S1 FLORES T-PHASE 76.66 31 *eLR* LR 20 53 26.0
H07S1 FLORES T-PHASE 76.66 31 P **P 20 27 31.9 +2.5**
E38A The Farm, Brul 76.68 346 *eP* **P 20 27 29.7 +0.4**
comp=Z,297nm,0.9s
E38A The Farm, Brul 76.68 346 P **P 20 27 29.0 -0.3**
baz=161,SNR=20
SHOC Shoshone, Teco 76.70 324 P **P 20 27 30.7 +1.1**
baz=140,SNR=17
MSU Marysvale 76.70 328 *eP* **P 20 27 31.3 +1.4**
MSU Marysvale 76.70 328 *eP* **P 20 27 31.3 +1.4**
P17A Butcher Ranch, 76.81 329 *eP* **P 20 27 31.4 +1.0**
comp=Z,619nm,1.1s
SUR Sutherland 76.84 120 P **P 20 27 31.2 +0.2**
comp=Z,314nm,0.9s,baz=234,slow=6.3,SNR=29
SUR Sutherland 76.84 120 *eP* **P 20 27 31.2 +0.2**
comp=Z,499nm,1.1s
SUR LR LR

comp=Z,89µm,22.0s
SUR Sutherland 76.84 120 P **P 20 27 30.6 -0.4**
SNR=19
EDW2 Edwards Air Fo 76.85 322 P **P 20 27 31.3 +0.7**
baz=138,SNR=148
BLG Laguna Peak, P 76.87 321 P **P 20 27 31.8 +1.1**
baz=137,SNR=29
LSQQ Lebel-sur-Quev 77.01 356 P **P 20 27 30.9 -0.1**
baz=174
OSI Osito Audit: C 77.05 321 *eP* **P 20 27 33.0 +1.2**
comp=Z,406nm,1.1s
OSI Osito Audit: C 77.05 321 P **P 20 27 33.1 +1.4**
baz=138,SNR=17
SCZ2 Santa Cruz Isl 77.11 320 P **P 20 27 33.2 +1.2**
baz=137,SNR=35
LRMC Laurel Mtn Rad 77.13 322 P **P 20 27 33.6 +1.3**
baz=139,SNR=163
RWWY Rawlins 77.14 333 *eP* **P 20 27 33.5 +1.2**
comp=Z,647nm,0.9s
HOR Horta 77.17 33 *eP* **P 20 27 36.3 +4.1**
comp=Z,850nm,1.3s
PCAN Candelaria 77.19 33 *eP* **P 20 27 35.9 +3.6**
comp=Z,939nm,1.2s
PCED Cedros 77.22 33 *eP* **P 20 27 36.1 +3.7**
comp=Z,642nm,1.0s
FURC Furnace Creek, 77.44 324 P **P 20 27 35.3 +1.6**
baz=139,SNR=77
MPMC Manual Prospec 77.46 323 P **P 20 27 35.2 +1.0**
baz=139,SNR=114
SBC Santa Barbara 77.48 320 P **P 20 27 35.3 +1.3**
baz=137,SNR=7.1
TPNV Topopah Spring 77.48 324 *eP* **P 20 27 35.8 +1.6**
comp=Z,550nm,1.2s
TPNV Topopah Spring 77.48 324 *eP* **P 20 27 35.8 +1.6**
TPNV pmax pmax

comp=Z,550nm,1.2s
TPNV Topopah Spring 77.48 324 P **P 20 27 35.8 +1.6**
baz=140,SNR=209
ARVC Arvin 77.49 321 P **P 20 27 35.4 +1.3**
baz=138,SNR=14
ROSA Rosais 77.51 33 *eP* **P 20 27 38.4 +4.3**
comp=Z,688nm,0.9s
ROSA Rosais 77.51 33 *eLR* LR 20 53 25.1
comp=Z,6µm,19.2s
PMAN Manadas 77.51 33 *eP* **P 20 27 37.4 +3.3**
comp=Z,1µm,1.3s
PSUT Pine Spring 77.52 327 *eP* **P 20 27 35.8 +1.4**
comp=Z,451nm,1.0s
MPU Maple Canyon 77.66 329 *eP* **P 20 27 36.2 +1.1**
comp=Z,568nm,1.1s
DAC Darwin (Calif) 77.68 323 *eP* **P 20 27 36.3 +1.0**
comp=Z,261nm,0.9s
DAC Darwin (Calif) 77.68 323 *eP* **P 20 27 36.3 +1.0**
DAC pmax pmax

comp=Z,261nm,0.9s
K22A Casper 77.69 334 *eP* **P 20 27 36.2 +1.0**
comp=Z,708nm,1.0s
K22A Casper 77.69 334 P **P 20 27 36.4 +1.2**
baz=148,SNR=182
ISA Isabella, Lake 77.69 322 *eP* **P 20 27 36.7 +1.4**
comp=Z,240nm,0.9s
ISA Isabella, Lake 77.69 322 *eP* **P 20 27 36.7 +1.4**
ISA pmax pmax

comp=Z,240nm,0.9s
ISA Isabella, Lake 77.69 322 P **P 20 27 36.6 +1.3**
baz=138,SNR=216
CHGQ Chibougamau 77.73 358 P **P 20 27 34.9 -0.2**
baz=177,SNR=62
MATQ Matagami 77.75 356 P **P 20 27 34.6 -0.6**
baz=174,SNR=108
PSMN Pico do Norte, 77.77 36 *eP* **P 20 27 38.3 +2.7**
comp=Z,540nm,1.7s
PSMN Pico do Norte, 77.77 36 *eLR* LR 20 53 30.9
comp=Z,13µm,17.6s
NLU North Lily Min 77.81 329 *eP* **P 20 27 37.1 +1.1**
comp=Z,723nm,1.4s
PKM Mcpherson Peak 77.86 321 P **P 20 27 37.7 +1.3**
baz=137,SNR=124
PGRA Graciosa 77.88 33 *eP* **P 20 27 37.1 +1.0**
comp=Z,469nm,1.0s
PGRA Graciosa 77.88 33 *eLR* LR 20 53 32.1
comp=Z,7µm,17.9s
DRLN Deer Lake 77.94 9 *eP* **P 20 27 36.5 +0.3**
comp=Z,603nm,0.8s
EYMN Ely 77.94 346 *eP* **P 20 27 36.2 -0.1**

comp=Z,374nm,1.0s
EYMN LR LR
comp=Z,19µm,21.0s
EYMN Ely 77.94 346 P **P** **20 27 36.0 -0.3**
baz=161,SNR=40
ADH Angra Heroismo 77.94 34 *e*P **P** **20 27 39.1 +2.6**
comp=Z,424nm,1.1s
RSSD Black Hills 78.02 336 *e*P **P** **20 27 37.7 +0.6**
comp=Z,326nm,0.9s
RSSD Black Hills 78.02 336 *e*P **P** **20 27 37.7 +0.6**
RSSD pmax pmax
comp=Z,326nm,0.9s
RSSD Black Hills 78.02 336 P **P** **20 27 37.7 +0.6**
baz=150
PSCM Serra do Cume 78.04 34 *e*P **P** **20 27 36.3 -0.7**
comp=Z,418nm,1.0s
JLU Jordanelle 78.05 330 *e*P **P** **20 27 38.4 +1.1**
comp=Z,379nm,0.8s
PSET Sete Cidades 78.06 35 *e*P **P** **20 27 37.4 +0.2**
comp=Z,319nm,1.0s
PSET Sete Cidades 78.06 35 *e*LR LR 20 53 25.7
comp=Z,17µm,19.5s
CWC Cottonwood Cre 78.06 323 P **P** **20 27 38.5 +1.1**
baz=138
GRAC Grapevine Rang 78.10 324 P **P** **20 27 39.3 +1.8**
baz=139,SNR=87
GRON Grota Negra 78.11 35 *e*P P 20 27 43.4 +5.9
comp=Z,71nm,0.8s
CMLA Cha da Macela 78.11 35 *e*P **P** **20 27 40.3 +2.8**
comp=Z,468nm,1.1s
CMLA Cha da Macela 78.11 35 *e*LR LR 20 53 11.3
comp=Z,16µm,20.9s
CMLA Cha da Macela 78.11 35 *e*P **P** **20 27 39.9 +2.5**
comp=Z,112nm,0.8s
CMLA LR LR
comp=Z,45µm,22.0s
VES Vestal, Richgr 78.16 322 P **P** **20 27 38.9 +1.2**
baz=138,SNR=91
R11A Troy Canyon, C 78.22 326 *e*P **P** **20 27 39.7 +1.4**
comp=Z,427nm,1.3s
R11A Troy Canyon, C 78.22 326 P **P** **20 27 39.9 +1.6**
baz=140,SNR=304
CTU Camp Tracy 78.25 329 *e*P **P** **20 27 39.2 +0.8**
comp=Z,221nm,0.8s
SMMC Simmler 78.28 321 P **P** **20 27 40.2 +1.8**
baz=137,SNR=44
BART Pico Bartolome 78.30 35 *e*P P 20 27 33.4 -5.2
comp=Z,241nm,1.5s
DUG Dugway, Tooele 78.34 328 *e*P **P** **20 27 40.0 +1.1**
comp=Z,623nm,1.1s
DUG LR LR
comp=Z,40µm,21.0s
DUG Dugway, Tooele 78.34 328 *e*P **P** **20 27 40.0 +1.1**
DUG pmax pmax
comp=Z,623nm,1.1s
DUG MLR MLR
comp=Z,40µm,21.0s
DUG Dugway, Tooele 78.34 328 P **P** **20 27 40.3 +1.5**
baz=143,SNR=343
TCUT Toone Canyon 78.44 330 *e*P **P** **20 27 40.5 +0.9**
comp=Z,468nm,0.7s
MAW Mawson 78.53 164 P **P** **20 27 40.3 +0.8**
comp=Z,137nm,0.8s,baz=210,slow=6.8,SNR=20
MAW LR LR 21 02 56.2
comp=Z,30µm,20.4s,baz=234,slow=36
MAW Mawson 78.53 164 *e*P **P** **20 27 40.8 +1.4**
comp=Z,356nm,1.9s
MAW Mawson 78.53 164 *e*P **P** **20 27 40.8 +1.4**
MAW pmax pmax
comp=Z,356nm,1.9s
TIN Tinemaha, Big 78.60 323 P **P** **20 27 41.6 +1.3**
baz=138,SNR=136
VOG Valley Oaks Go 78.67 322 P **P** **20 27 40.8 +0.2**
baz=138
PAGB Antelope Grade 78.72 321 *e*P **P** **20 27 42.4 +1.5**
comp=Z,540nm,1.1s
PD31 Pinedale Array 79.00 332 *e*P **P** **20 27 42.8 +0.2**
PDAR Pinedale Array 79.00 332 P **P** **20 27 42.8 +0.2**
comp=Z,109nm,0.7s,baz=123,slow=7.0,SNR=95
PDAR S **S** **20 37 38.9 +0.9**
comp=Z,1.6nm,0.9s,baz=45,slow=0.8,SNR=3.0
PDAR PKKPbc **PKKPbc** **20 46 34.8 -2.2**
comp=Z,6.4nm,0.8s,baz=177,slow=0.9,SNR=13
PDAR PKPPKP **P'P'df** **20 54 34.8 +0.2**
comp=Z,0.8nm,0.7s,baz=103,slow=1.7,SNR=3.7
PDAR LR LR 20 59 48.4
comp=Z,18µm,20.8s,baz=162,slow=34
PDAR Pinedale Array 79.00 332 *e*P **P** **20 27 42.1 -0.5**
PDAR S **S** **20 37 38.9 +0.9**
PDAR PKKPbc **PKKPbc** **20 46 34.8 -2.2**
PDAR P'P' 20 54 34.8
BW06 Boulder Array 79.00 332 *e*P **P** **20 27 42.8 +0.2**
comp=Z,459nm,1.1s
BW06 LR LR
comp=Z,22µm,21.0s
BW06 Boulder Array 79.00 332 P **P** **20 27 43.0 +0.4**
baz=146,SNR=210
BGU Big Grassy Mou 79.02 329 *e*P **P** **20 27 43.3 +0.7**
comp=Z,551nm,1.3s
SPUT South Promonto 79.06 329 *e*P **P** **20 27 43.8 +0.9**
comp=Z,941nm,1.1s
PMOZ Porto Moniz, M 79.19 44 *e*P **P** **20 27 44.0 +0.4**
comp=Z,709nm,1.9s
PMOZ Porto Moniz, M 79.19 44 *e*S **S** **20 37 44.1 +3.9**
PMOZ Porto Moniz, M 79.19 44 *e*LQ LQ 20 49 43.0
PMOZ *e*LR LR 20 54 09.2
comp=Z,25µm,20.0s
FUL Funchal 79.25 44 *e*P **P** **20 27 44.3 +0.4**
comp=Z,895nm,1.7s
PMAR Madeira 79.29 44 *e*P **P** **20 27 44.7 +0.4**
comp=Z,1µm,1.5s
MLAC Mammoth, Mammo 79.35 323 P **P** **20 27 45.8 +1.2**
baz=138,SNR=25
RAR Rarotonga 79.36 252 LR LR 20 54 06.5
comp=Z,37µm,21.3s,baz=152,slow=29
OMMB Old Mammoth Mi 79.42 323 *e*P **P** **20 27 46.0 +0.9**
comp=Z,362nm,1.1s
MDPB Devils Postpil 79.48 323 *e*P **P** **20 27 46.7 +1.4**
comp=Z,249nm,1.3s
HVU Hansel Valley 79.59 329 *e*P **P** **20 27 46.1 +0.5**
comp=Z,392nm,0.8s
HVU Hansel Valley 79.59 329 *e*P **P** **20 27 46.2 +0.5**
HVU pmax pmax
comp=Z,392nm,0.8s
NV11 Mina Array Sit 79.59 324 *e*P **P** **20 27 46.6 +0.8**
comp=Z,12nm,1.1s
AHID Auburn Hatcher 79.65 331 *e*P **P** **20 27 46.5 +0.5**
comp=Z,773nm,1.1s
AHID LR LR
comp=Z,22µm,21.0s
NV01 Mina Array Sit 79.67 324 *e*P **P** **20 27 46.2 0.0**
NVAR Mina Array Bea 79.67 324 P **P** **20 27 47.1 +0.9**
comp=Z,108nm,0.8s,baz=145,slow=5.0,SNR=131
NVAR S **S** **20 37 48.0 +2.7**
comp=Z,0.2nm,0.3s,baz=222,slow=25,SNR=2.2
NVAR PKKPbc **PKKPbc** **20 46 35.1 0.0**
comp=Z,10nm,0.8s,baz=304,slow=2.5,SNR=16
NVAR PKPPKP **P'P'df** **20 54 36.9 +2.8**
comp=Z,1.7nm,0.9s,baz=257,slow=3.2,SNR=4.0
NVAR LR LR 20 57 04.8
comp=Z,15µm,21.8s,baz=137,slow=31
PMPS Porto Santo 79.88 44 *e*P **P** **20 27 47.6 +0.4**
comp=Z,1µm,1.9s
PMPS Porto Santo 79.88 44 *e*PP PP 20 30 53.7 +4.1
TSUM Tsumeb 79.89 106 PFAKE 20 28 00.0 +12
TSUM LR LR
comp=Z,29µm,19.0s
MDND Maddock 79.90 341 *e*P **P** **20 27 47.6 +0.6**
comp=Z,2µm,1.0s
MDND Maddock 79.90 341 P **P** **20 27 47.5 +0.5**
baz=154,SNR=77
ELK Elko 79.91 327 S **S** **20 37 49.0 +1.2**
comp=Z,0.4nm,0.4s,baz=6.5,slow=14,SNR=1.9
ELK PKKPbc PKKPbc 20 46 34.8 +0.1
comp=Z,5.6nm,0.8s,baz=316,slow=2.6,SNR=8.6
ELK Elko 79.91 327 *e*P **P** **20 27 48.1 +0.6**
comp=Z,557nm,0.9s
ELK S **S** **20 37 49.0 +1.2**
ELK PKKPbc **PKKPbc** **20 46 34.8 +0.1**
ELK Elko 79.91 327 *e*P **P** **20 27 48.2 +0.6**
ELK S **S** **20 37 49.0 +1.2**
ELK pmax pmax
comp=Z,557nm,0.9s
RYN Ryan 79.93 324 *e*P **P** **20 27 48.6 +1.0**
comp=Z,257nm,1.1s
KVN Kaiserville 80.03 325 *e*P **P** **20 27 48.9 +0.7**
comp=Z,460nm,1.2s
KVN Kaiserville 80.03 325 *e*P **P** **20 27 48.9 +0.7**
KVN pmax pmax
comp=Z,460nm,1.2s
REDW Red Top Meadow 80.03 332 *e*P **P** **20 27 48.7 +0.6**
comp=Z,814nm,1.4s
SNOW Snow King Moun 80.07 332 *e*P **P** **20 27 49.2 +0.8**
comp=Z,558nm,1.1s
LOHW Long Hollow 80.13 332 *e*P **P** **20 27 49.2 +0.6**
comp=Z,516nm,1.0s
SAO San Andreas Ge 80.14 321 *e*P **P** **20 27 51.2 +2.7**
comp=Z,176nm,0.9s
MOOW Moose Ponds 80.30 332 *e*P **P** **20 27 50.1 +0.5**
comp=Z,297nm,1.1s
WAKR Walker 80.32 323 *e*P **P** **20 27 51.2 +1.4**
comp=Z,524nm,1.4s
FXWY Fox Creek 80.33 332 *e*P **P** **20 27 50.2 +0.4**
comp=Z,271nm,1.0s
CMB Columbia Colle 80.48 322 *e*P **P** **20 27 50.5 +0.1**
comp=Z,152nm,1.3s
CMB Columbia Colle 80.48 322 *e*P **P** **20 27 50.5 +0.1**
CMB pmax pmax
comp=Z,152nm,1.3s
FLWY Flagg Ranch 80.56 332 *e*P **P** **20 27 51.8 +0.9**
comp=Z,895nm,1.1s
YERR Yerington 80.57 324 *e*P **P** **20 27 52.4 +1.3**
comp=Z,490nm,1.2s
YPP Pitchstone Pla 80.75 332 *e*P **P** **20 27 53.9 +1.8**
comp=Z,334nm,1.1s
H17A Grant Village 80.76 332 *e*P **P** **20 27 54.0 +1.9**
comp=Z,206nm,1.1s
H17A Grant Village 80.76 332 P **P** **20 27 53.4 +1.4**
baz=145,SNR=41
LKWY Lake 80.83 333 PFAKE 20 28 00.0 +7.6
LKWY LR LR
comp=Z,30µm,20.0s
PNTR Pine Nut 80.83 324 *e*P **P** **20 27 54.0 +1.4**
comp=Z,408nm,0.9s
RLMT Red Lodge 80.84 334 PFAKE 20 28 00.0 +7.6
RLMT LR LR
comp=Z,20µm,21.0s
RLMT Red Lodge 80.84 334 P **P** **20 27 53.4 +1.0**
baz=146,SNR=261
YFT Old Faithful 80.92 332 *e*P **P** **20 27 55.4 +2.5**
comp=Z,238nm,0.9s
VCNR Virginia City 81.01 324 *e*P **P** **20 27 55.2 +1.7**
comp=Z,476nm,1.3s
LAO LASA Array 81.02 336 *e*P **P** **20 27 53.7 +0.6**
comp=Z,980nm,1.0s
LAO LR LR
comp=Z,19µm,21.0s
LAO LASA Array 81.02 336 P **P** **20 27 53.7 +0.6**
baz=149,SNR=214
YNR Norris Junctio 81.07 332 *e*P **P** **20 27 55.6 +1.9**
comp=Z,278nm,1.1s
RUBR Rubicon Trail 81.10 323 *e*P **P** **20 27 56.1 +2.1**
comp=Z,801nm,1.4s
ULM Lac du Bonnet 81.10 344 P **P** **20 27 52.6 -0.8**
comp=Z,320nm,0.9s,baz=156,slow=5.4,SNR=59
ULM S **S** **20 37 57.3 -2.0**
comp=Z,2.5nm,0.8s,baz=51,slow=14,SNR=1.9
ULM PKKPbc **PKKPbc** **20 46 31.9 -0.3**
comp=Z,14nm,0.8s,baz=331,slow=3.0,SNR=9.5
ULM Lac du Bonnet 81.10 344 *e*P **P** **20 27 52.9 -0.5**
comp=Z,847nm,1.1s
ULM S **S** **20 37 57.3 -2.0**
ULM PKKPbc **PKKPbc** **20 46 31.9 -0.3**
YMR Madison River 81.14 332 *e*P **P** **20 27 55.6 +1.5**
comp=Z,1µm,1.0s
PAHR Pah Rah Range 81.18 324 *e*P **P** **20 27 55.5 +1.3**
comp=Z,924nm,1.2s
TOA0 Torodi Ar. Sit 81.28 70 *e*P **P** **20 27 52.7 -2.4**
TOA0 Torodi Ar. Sit 81.28 70 P **P** **20 27 54.9 -0.3**
SNR=417
TORD Torodi Ar. Bea 81.28 70 P **P** **20 27 53.7 -1.5**
comp=Z,664nm,1.0s,baz=309,slow=9.4,SNR=177
TORD S **S** **20 37 58.4 -4.2**
comp=Z,4.9nm,1.1s,baz=260,slow=8.6,SNR=2.3
TORD PKKPbc **PKKPbc** **20 46 31.8 +2.1**
comp=Z,3.7nm,1.0s,baz=6.6,slow=3.7,SNR=4.3
TORD LR LR 21 01 22.1
comp=Z,46µm,21.6s,baz=285,slow=34
YHB Horse Butte 81.31 332 *e*P **P** **20 27 56.2 +1.3**
comp=Z,502nm,1.1s
AFDM Forest Hills D 81.46 323 *e*P **P** **20 27 56.2 +0.6**
comp=Z,395nm,1.3s
GCMT Greycliff 81.55 334 *e*P **P** **20 27 56.5 +0.5**
HLID Hailey 81.74 330 *e*P **P** **20 27 58.2 +1.0**
comp=Z,519nm,1.0s
HLID LR LR
comp=Z,24µm,22.0s
HLID Hailey 81.74 330 P **P** **20 27 58.5 +1.3**
baz=142,SNR=435
BEKR Beckworth 81.80 324 *e*P **P** **20 27 58.4 +0.8**
comp=Z,468nm,1.1s
DGMT Dagmar 81.87 338 *e*P **P** **20 27 58.4 +0.8**
comp=Z,1µm,0.9s
DGMT LR LR
comp=Z,13µm,22.0s
DGMT Dagmar 81.87 338 P **P** **20 27 58.5 +0.9**
baz=150,SNR=140
MCCM Marconi Confer 81.92 321 *e*P **P** **20 28 01.2 +3.2**
comp=Z,528nm,1.0s
BOSA Boshof 81.94 118 *i* P **P** **20 27 58.4 -0.4**
BOSA Boshof 81.94 118 P **P** **20 27 57.8 -0.9**
comp=Z,458nm,0.9s,baz=256,slow=3.3,SNR=90
BOSA S **S** **20 38 05.5 -4.0**
comp=Z,3.9nm,0.9s,baz=22,slow=20,SNR=2.0
BOSA PKKPbc **PKKPbc** **20 46 29.0 +1.2**
comp=Z,6.7nm,0.8s,baz=36,slow=2.9,SNR=7.9
BOSA LR LR 21 00 20.8
comp=Z,44µm,20.8s,baz=236,slow=33
BOSA Boshof 81.94 118 *e*P **P** **20 27 57.8 -0.9**
comp=Z,570nm,1.0s
BOSA S **S** **20 38 05.5 -4.0**
BOSA PKKPbc **PKKPbc** **20 46 29.0 +1.2**
BOSA Boshof 81.94 118 *i* P **P** **20 27 58.4 -0.4**
BOSA Boshof 81.94 118 *e*P **P** **20 27 57.8 -0.9**
BOZ Bozeman (W) 82.17 332 *e*P **P** **20 27 59.8 +0.4**
comp=Z,328nm,1.5s
BOZ LR LR
comp=Z,18µm,22.0s
BOZ Bozeman (W) 82.17 332 *e*P **P** **20 27 59.8 +0.4**
BOZ pmax pmax
comp=Z,328nm,1.5s
BOZ MLR MLR
comp=Z,18µm,22.0s
BOZ Bozeman (W) 82.17 332 P **P** **20 27 59.9 +0.6**
baz=144,SNR=34
ORV Oroville 82.18 323 *e*P **P** **20 28 00.2 +0.8**
comp=Z,798nm,1.1s
MFID Camas Ranch 82.26 329 *e*P **P** **20 28 00.4 +0.6**
comp=Z,490nm,1.3s
DLMT Dillon 82.39 332 *e*P **P** **20 28 01.4 +0.9**
comp=Z,408nm,1.3s
SCHQ Schefferville 82.67 2 P **P** **20 28 01.1 -0.4**
comp=Z,284nm,1.1s,baz=175,slow=4.6,SNR=40
SCHQ S **S** **20 38 13.0 -2.4**
comp=Z,3.5nm,0.8s,baz=85,slow=15,SNR=2.4
SCHQ LR LR 21 06 25.4
comp=Z,14µm,20.0s,baz=190,slow=37
SCHQ Schefferville 82.67 2 *e*P **P** **20 28 01.2 -0.4**
comp=Z,453nm,1.1s
SCHQ S **S** **20 38 13.0 -2.4**
WVOR Wild Horse Val 82.84 326 PFAKE 20 28 10.0 +7.1
WVOR LR LR
comp=Z,18µm,20.0s
O03E Paynes Creek 82.87 323 P **P** **20 28 02.8 -0.2**
baz=136,SNR=122
HRY Holter Researc 83.16 333 *e*P **P** **20 28 05.1 +0.7**
MOD Modoc Plateau 83.27 325 *e*P **P** **20 28 05.9 +0.7**
comp=Z,582nm,1.0s
O02D Mt. Diablo Mer 83.31 323 P **P** **20 28 06.0 +0.7**
baz=136,SNR=30
KCPM Cahto Peak 83.40 322 *e*P **P** **20 28 08.9 +3.1**
comp=Z,678nm,1.1s
EGMT Eagleton 83.44 335 *e*P **P** **20 28 05.8 0.0**
comp=Z,625nm,1.2s
EGMT LR LR
comp=Z,23µm,21.0s
EGMT Eagleton 83.44 335 P **P** **20 28 05.6 -0.2**
baz=146,SNR=44
J08A Circle Bar Ran 83.46 327 *e*P **P** **20 28 06.9 +0.9**
comp=Z,945nm,1.1s
WDC Whiskeytown Da 83.47 323 *e*P **P** **20 28 05.3 -0.7**
comp=Z,273nm,1.0s
WDC Whiskeytown Da 83.47 323 *e*P **P** **20 28 05.3 -0.7**
WDC pmax pmax
comp=Z,273nm,1.0s
N02D Trinity Center 83.84 323 P **P** **20 28 07.9 -0.1**
baz=136,SNR=46
KMRM Mail Ridge 83.84 322 *e*P **P** **20 28 10.0 +2.0**
LBTB Lobatse 83.88 115 S **S** **20 38 25.8 -3.5**
comp=Z,2.3nm,0.9s,baz=146,slow=22,SNR=2.0
LBTB PKKPbc PKKPbc 20 46 24.4 +1.0
comp=Z,6.3nm,0.9s,baz=118,slow=4.5,SNR=5.6
LBTB Lobatse 83.88 115 *e*P **P** **20 28 08.0 -0.8**
comp=Z,637nm,0.9s
LBTB S **S** **20 38 25.8 -3.5**
LBTB PKKPbc **PKKPbc** **20 46 24.4 +1.0**
LBTB Lobatse 83.88 115 *e*P **P** **20 28 08.0 -0.8**
LBTB S **S** **20 38 25.8 -3.5**
LBTB pmax pmax
comp=Z,637nm,0.9s
M04C Macdoel 83.97 324 P **P** **20 28 09.2 +0.5**
baz=136,SNR=166
BMO Blue Mountains 84.05 329 *e*P **P** **20 28 09.2 +0.2**
comp=Z,909nm,1.9s
BMO LR LR
comp=Z,39µm,22.0s
BMO Blue Mountains 84.05 329 *e*P **P** **20 28 09.2 +0.2**
BMO pmax pmax
comp=Z,909nm,1.9s
BMO MLR MLR
comp=Z,39µm,22.0s
M02C Callahan 84.22 323 P **P** **20 28 10.2 +0.3**
baz=136,SNR=32
KHMM Horse Mountain 84.31 323 *e*P **P** **20 28 11.7 +1.2**
comp=Z,440nm,1.1s
YBH Yreka Blue Hor 84.38 324 P **P** **20 28 10.4 -0.5**
comp=Z,77nm,0.8s,baz=98,slow=4.5,SNR=48
YBH S **S** **20 38 31.3 -2.1**
comp=Z,0.6nm,0.3s,baz=239,slow=12,SNR=1.9
YBH Yreka Blue Hor 84.38 324 *e*P **P** **20 28 10.3 -0.5**
comp=Z,154nm,0.9s
YBH S **S** **20 38 31.3 -2.1**
YBH Yreka Blue Hor 84.38 324 *e*P **P** **20 28 10.3 -0.5**
YBH S **S** **20 38 31.3 -2.1**
YBH pmax pmax
comp=Z,154nm,0.9s
L04D Klamath Falls 84.52 324 P **P** **20 28 11.7 +0.1**
baz=136,SNR=44
K04D Chiloquin, OR 84.53 325 P **P** **20 28 12.1 +0.5**
baz=136,SNR=8.1
J05D Fort Rock, OR 84.75 326 P **P** **20 28 13.6 +1.0**
baz=137,SNR=63
F10A Beach Ranch, E 84.87 330 *e*P **P** **20 28 13.1 -0.1**
HUMO Hull Mountain 85.14 324 *e*P **P** **20 28 15.2 +0.7**
comp=Z,127nm,0.9s
G08A Pilot Rock 85.14 328 *e*P **P** **20 28 14.8 +0.2**
L02E Cave Junction 85.16 324 P **P** **20 28 15.4 +0.8**
baz=135,SNR=46
J04D Umpqua Nationa 85.16 325 P **P** **20 28 15.3 +0.5**
baz=136,SNR=54
K02D Willamette Mer 85.57 324 P **P** **20 28 17.7 +1.0**
baz=135,SNR=65
I05D Terrebonne, OR 85.58 326 P **P** **20 28 17.5 +0.8**
baz=137,SNR=97
E09A Wood Farm, Sta 85.69 329 *e*P **P** **20 28 18.4 +1.3**
comp=Z,134nm,1.0s
I04A Tendick Farm, 85.71 325 P **P** **20 28 17.4 0.0**
baz=136,SNR=15
AVE Averroes 85.74 49⇑ *i* P **P** **20 28 17.9 +0.3**
AVE *i* S S 20 38 59.2 +12
WALA Waterton Lakes 85.88 333 *e*P **P** **20 28 18.4 +0.3**
comp=Z,608nm,1.0s
CASY Casey 85.91 181 *e*P **P** **20 28 17.5 -0.5**
comp=Z,320nm,0.9s
CASY LR LR
comp=Z,7µm,20.0s
J01E Myrtle Point 86.04 324 P **P** **20 28 20.0 +1.1**
baz=135,SNR=19
KEBM Edson Butte 86.04 324 *e*P **P** **20 28 20.5 +1.5**
comp=Z,1µm,1.0s
E08A Dider Farm, El 86.09 329 *e*P **P** **20 28 20.1 +1.0**
E08A *e*PP **sP** **20 28 37.0 -0.9**
I03D Drain, OR 86.12 325 P **P** **20 28 20.0 +0.8**
baz=135,SNR=21
G05D Wamic, OR 86.22 327 P **P** **20 28 20.8 +1.0**
baz=137,SNR=31
HAWA Hanford 86.23 329 *e*P **P** **20 28 20.1 +0.3**
comp=Z,414nm,1.0s
HAWA LR LR
comp=Z,34µm,19.0s
H04D Lebanon 86.40 326 P **P** **20 28 20.9 +0.2**
baz=136,SNR=9.1
NEW Newport 86.58 331 *e*P **P** **20 28 20.8 -0.7**
comp=Z,573nm,2.0s
NEW LR LR
comp=Z,19µm,20.0s
NEW Newport 86.58 331 *e*P **P** **20 28 20.8 -0.7**
NEW pmax pmax
comp=Z,573nm,2.0s
NEW MLR MLR
comp=Z,19µm,20.0s
NEW Newport 86.58 331 P **P** **20 28 20.8 -0.7**
baz=140,SNR=36
COR Corvallis 86.73 325 *e*P **P** **20 28 25.1 +2.9**
comp=Z,1µm,1.1s
COR Corvallis 86.73 325 *e*P **P** **20 28 25.1 +2.9**
COR pmax pmax
comp=Z,1µm,1.1s
C09A Chrisman Ranch 86.73 330 *e*P **P** **20 28 22.3 +0.1**
comp=Z,348nm,0.8s
FFC Flin Flon 86.73 343 *e*P **P** **20 28 21.2 -0.8**
comp=Z,231nm,1.2s
FFC LR LR
comp=Z,15µm,19.0s
FFC Flin Flon 86.73 343 *i* P **P** **20 28 21.5 -0.5**
F05D White Salmon 86.76 327 P **P** **20 28 23.1 +0.7**
baz=137,SNR=26
G03D McMinnville, O 87.15 326 P **P** **20 28 25.6 +1.4**
baz=135,SNR=8.1
PFVI Vila Bisbo 87.19 45 *e*P **P** **20 28 24.9 +0.2**
comp=Z,2µm,1.6s
PFVI Vila Bisbo 87.19 45 *e*PP PP 20 31 49.7 +0.3
PFVI *e*S S 20 38 47.1 -14
PFVI Vila Bisbo 87.19 45 *e*P **P** **20 28 25.6 +0.9**
comp=Z,983nm,1.2s
MDT Midelt 87.34 51 P **P** **20 28 26.2 +0.6**
comp=Z,147nm,1.1s,baz=254,slow=5.4,SNR=53
IFR Ifrane 87.40 50⇑ *i* P **P** **20 28 25.9 -0.1**
IFR *i* S S 20 39 15.0 +12
LTY Liberty 87.40 329 *e*P **P** **20 28 25.5 -0.1**
comp=Z,259nm,1.0s
MORF Marmelete 87.41 45 *e*P **P** **20 28 25.3 -0.5**
MORF *e*pP **pP** **20 28 39.2 -0.5**
MORF *e*SKSac **SKSac** **20 38 48.3 -1.4**
MORF AMS AMS 21 05 16.4
comp=Z,72µm,22.3s
MORF Marmelete 87.41 45 *e*P **P** **20 28 26.1 +0.3**
comp=Z,1µm,1.7s
MORF Marmelete 87.41 45 *e*PP PP 20 31 52.0 +0.8
MORF *e*S **S** **20 39 06.7 +3.6**
MORF Marmelete 87.41 45 *e*P **P** **20 28 25.3 -0.5**
MORF *e**PP **pP** **20 28 39.1 -0.5**
MORF *e* 20 38 48.2
PTEO Sao Teotonio 87.51 45 *e*P **P** **20 28 26.9 +0.7**
comp=Z,2µm,1.5s
PTEO Sao Teotonio 87.51 45 *e*PP PP 20 31 57.2 +5.3
LON Longmire 87.56 328 *e*P **P** **20 28 26.0 -0.3**
comp=Z,245nm,0.9s
LON Longmire 87.56 328 *e*P **P** **20 28 26.0 -0.3**
LON pmax pmax
comp=Z,245nm,0.9s
F04D Rainier, OR 87.65 327 P **P** **20 28 27.3 +0.7**
baz=136,SNR=6.1
E04D Cinebar 87.78 327 P **P** **20 28 27.4 +0.1**
baz=136,SNR=9.5
PBDV Barranco-do-Ve 87.82 45 *e*P **P** **20 28 28.5 +0.8**
comp=Z,2µm,1.9s
PBDV Barranco-do-Ve 87.82 45 *e*PP PP 20 31 55.6 +1.1
PBDV *e*S **S** **20 39 09.9 +2.9**
MQZ McQueen's Vall 87.86 221 *e*P **P** **20 28 28.5 +0.5**
comp=Z,508nm,1.8s
PMST Lisbon--Monsan 87.97 44 *e*P **P** **20 28 30.5 +2.1**
comp=Z,1µm,1.8s
LIS Lisbon 87.98 44 *e*P **P** **20 28 28.0 -0.5**
LIS *e*pP **pP** **20 28 41.8 -0.4**
LIS *e*sP **sP** **20 28 47.2 -0.3**
LIS *e*SKSac **SKSac** **20 38 51.8 -1.1**
LIS AMS AMS 21 05 23.3
comp=Z,53µm,22.4s
LIS Lisbon 87.98 44 *e*P **P** **20 28 29.1 +0.7**

LIS Lisbon 87.98 44 *e*PP PP 20 31 56.4 +0.7
LIS Lisbon 87.98 44 *e*P **P 20 28 27.9 -0.5**
LIS *e**PP **pP 20 28 41.8 -0.4**
LIS *e*SP 20 28 47.1
LIS *e* 20 38 51.8
PNCL Nicolau / Gran 87.98 44 *e*P **P 20 28 28.9 +0.5**
comp=Z,981nm,1.5s
PNCL Nicolau / Gran 87.98 44 *e*PP PP 20 31 56.4 +0.7
PNCL *e*S **S 20 39 00.2 -8.2**
C06D Leavenworth 87.99 329 P **P 20 28 27.9 -0.4**
baz=137
MESJ Messejana 88.01 45 *e*P **P 20 28 28.0 -0.6**
MESJ *e*PP **PP 20 31 54.8 -1.2**
MESJ *e*SKSac **SKSac 20 38 52.0 -1.2**
MESJ AMS AMS 21 05 44.0
comp=Z,58µm,20.4s
MESJ Messejana 88.01 45 *e*P **P 20 28 28.8 +0.2**
comp=Z,1µm,1.7s
MESJ Messejana 88.01 45 *e*PP PP 20 31 57.2 +1.3
MESJ Messejana 88.01 45 *e*P **P 20 28 28.0 -0.6**
MESJ *e* 20 31 54.7
MESJ *e* 20 38 51.9
PMAFR Mafra 88.05 43 *e*P **P 20 28 28.6 -0.2**
comp=Z,930nm,1.7s
PMAFR Mafra 88.05 43 *e*PP PP 20 31 52.4 -3.9
PMAFR *e*S **S 20 39 03.5 -5.5**
PVAQ Vaqueiros 88.05 45 *e*P **P 20 28 29.4 +0.6**
comp=Z,760nm,1.9s
PVAQ Vaqueiros 88.05 45 *e*S **S 20 39 09.8 +0.7**
PVAQ Vaqueiros 88.05 45 *e*LQ LQ 20 51 58.0
PVAQ *e*LR LR 20 57 57.8
comp=Z,54µm,22.0s
SNZO South Karori 88.09 223 PFAKE 20 28 40.0 +11
SNZO LR LR
comp=Z,13µm,19.0s
KHZ Kahutara 88.13 222 *e*P **P 20 28 30.5 +1.3**
comp=Z,1µm,2.0s
ODZ Otahua Downs 88.16 219 *e*P **P 20 28 31.6 +2.1**
comp=Z,538nm,1.6s
BKZ Black Stump Fm 88.24 226 *e*P **P 20 28 31.8 +1.8**
comp=Z,430nm,1.7s
BHHZ Black Hill Sta 88.32 225 P P 20 28 35.4 +5.0
D04E Lakebay 88.32 328 P **P 20 28 30.5 +0.7**
baz=136,SNR=15
PBEJ Beja 88.34 45 *e*P **P 20 28 31.6 +1.4**
comp=Z,739nm,1.9s
PBEJ Beja 88.34 45 *e*PP PP 20 31 59.3 +0.7
URZ Urewera 88.37 227 P **P 20 28 30.0 -0.5**
comp=Z,23nm,0.7s,baz=180,slow=5.0,SNR=13
URZ LR LR 20 58 35.2
comp=Z,26µm,20.9s,baz=176,slow=29
URZ Urewera 88.37 227 *e*P **P 20 28 32.3 +1.8**
comp=Z,570nm,1.9s
MATP Matopo 88.43 112 *i*P **P 20 28 31.0 -0.2**
MATP Matopo 88.43 112 PKKPbc PKKPbc 20 46 14.5 +2.0
comp=Z,11nm,0.9s,baz=56,slow=1.9,SNR=11
MATP Matopo 88.43 112 *i*P **P 20 28 31.0 -0.2**
SFS San Fernando 88.44 47↑ *i*P **P 20 28 30.8 +0.2**
SFS *i*S S 20 39 35.1 +22
OXZ Oxford 88.45 221 *e*P **P 20 28 31.9 +1.1**
comp=Z,174nm,1.0s
CNIL Conil 88.48 47 *e*P **P 20 28 34.0 +3.2**
MOVZ Moawhango 88.57 225 P **P 20 28 35.8 +4.3**
LTZ Lake Taylor 88.65 221 *e*P **P 20 28 31.5 -0.3**
comp=Z,426nm,1.1s
BLWY Bulawayo 88.66 112 *i*P **P 20 28 32.0 -0.4**
BLWY Bulawayo 88.66 112 *i*P **P 20 28 32.0 -0.4**
D03D Eldon 88.73 328 P **P 20 28 32.1 +0.3**
baz=136,SNR=41
TRVZ Turoa 88.76 225 P **P 20 28 37.1 +4.4**
PMTG Montargil 88.76 44 *e*P **P 20 28 32.2 +0.1**
comp=Z,862nm,1.8s
PMTG Montargil 88.76 44 *e*PP PP 20 32 02.4 +0.4
PMTG *e*S **S 20 39 16.6 +0.8**
RPZ Rata Peaks 88.77 220 P **P 20 28 32.8 +0.5**
comp=Z,308nm,1.0s,baz=260,slow=2.4,SNR=15
RPZ LR LR 20 58 29.4
comp=Z,20µm,21.7s,baz=94,slow=29
RPZ Rata Peaks 88.77 220 *e*P **P 20 28 33.4 +1.1**
comp=Z,399nm,1.1s
FWVZ Far West T-bar 88.78 225 P **P 20 28 34.6 +1.8**
B05A Bryant 88.79 329 P **P 20 28 31.4 -0.5**
baz=136,SNR=56
NGZ Ngauruhoe 88.80 225 P **P 20 28 33.6 +0.9**
GIBL Gibalbin 88.82 47 *e*P **P 20 28 34.0 +1.6**
LBZ Lake Benmore 88.83 219 *e*P **P 20 28 35.0 +2.3**
comp=Z,289nm,1.4s
ALJ Aljibe 88.84 47 *e*P **P 20 28 35.0 +2.4**
WTVZ West Tongariro 88.84 226 P **P 20 28 35.1 +2.2**
DUWZ D'Urville Isla 88.87 223 P **P 20 28 36.5 +3.6**
THZ Tophouse 88.90 222 *e*P **P 20 28 34.3 +1.2**
comp=Z,2µm,1.9s
OMRZ Omania 88.93 227 P **P 20 28 37.0 +3.8**
TWVZ Taurewa 88.96 225 P **P 20 28 35.9 +2.5**
PTOM Tomar 88.99 43 *e*P **P 20 28 32.4 -0.8**
comp=Z,436nm,1.9s
PTOM Tomar 88.99 43 *e*PP PP 20 32 03.0 -0.8
NLWA Neilton Lookou 89.00 327 *e*P **P 20 28 33.7 +0.6**
comp=Z,451nm,1.3s
NLWA LR LR
comp=Z,24µm,22.0s
PESTR Estremoz 89.03 44 *e*P **P 20 28 33.6 +0.2**
comp=Z,477nm,1.8s
PESTR Estremoz 89.03 44 *e*PP PP 20 32 04.1 0.0
PESTR *e*S **S 20 39 20.1 +1.8**
PESTR Estremoz 89.03 44 *e*P **P 20 28 33.6 +0.2**
comp=Z,148nm,1.2s
PCAS Casmilo, Conde 89.21 43 *e*P **P 20 28 36.7 +2.5**
comp=Z,358nm,2.2s
PCAS Casmilo, Conde 89.21 43 *e*PP PP 20 32 05.3 -0.2
PCAS *e*S **S 20 39 21.3 +1.4**
LIJA Lijar 89.22 47 *i*P **P 20 28 36.2 +1.8**
MLZ Mavora Lakes 89.33 217 *e*P **P 20 28 37.3 +2.3**
comp=Z,432nm,1.8s
TAM Tamanrasset 89.37 64 *e*P **P 20 28 34.6 -0.9**
comp=Z,152nm,1.2s
TAM Tamanrasset 89.37 64 *e*P **P 20 28 34.6 -0.9**
TAM pmax pmax
comp=Z,152nm,1.2s
A04D Lummi Island 89.40 329 P **P 20 28 34.9 0.0**
baz=136,SNR=14
PMRV Marv??o 89.49 44 *e*P **P 20 28 36.4 +0.8**
comp=Z,175nm,2.1s
PMRV Marv??o 89.49 44 *e*PP PP 20 32 08.5 +0.7
PMRV *e*S **S 20 39 26.0 +3.4**
PMRV Marv??o 89.49 44 *e*LQ LQ 20 52 28.6
PMRV *e*LR LR 20 58 51.9
comp=Z,42µm,24.0s
CRZF Crozet Islands 89.54 144 *e*P **P 20 28 35.7 -0.2**
comp=Z,1µm,1.8s
PYZ Puysegur Point 89.56 216 *e*P **P 20 28 35.4 -0.6**
comp=Z,448nm,1.3s
FOZ Fox Glacier 89.58 219 *e*P **P 20 28 35.8 -0.3**
comp=Z,302nm,1.5s
HIZ Hauiti 89.66 226 P **P 20 28 40.5 +4.0**
PCBR Castelo Branco 89.69 44 *e*P **P 20 28 36.0 -0.5**
comp=Z,249nm,1.8s
PCBR Castelo Branco 89.69 44 *e*PP PP 20 32 08.6 -0.8
PGC Sidney 89.70 328 *e*P **P 20 28 37.9 +1.7**
comp=Z,388nm,0.9s
KHEZ Kahui Hut 89.72 225 P **P 20 28 38.7 +1.7**
EMAL Malaga-Limoner 89.77 47↑ *i*P **P 20 28 36.4 -0.4**
EMAL *i*S S 20 39 49.6 +24
PTO Porto 89.82 42 *e*P **P 20 28 38.6 +1.6**
comp=Z,490nm,1.7s
RAO Raoul Island 89.90 237 LR LR 20 59 12.3
comp=Z,10µm,21.2s,baz=135,slow=29
MELI Melilla 89.91 49↑ *i*P **P 20 28 37.2 -0.4**
MELI *i*S S 20 39 49.7 +23
PVIS Viseu 89.98 43 *e*P **P 20 28 38.4 +0.5**
comp=Z,282nm,1.7s
MTE Manteigas 90.00 43 *e*P **P 20 28 40.0 +2.0**
comp=Z,377nm,1.6s
MTE Manteigas 90.00 43 *e*PP PP 20 32 11.7 -0.2
MTE *e*S **S 20 39 19.8 -7.6**
MTE Manteigas 90.00 43 *e*LQ LQ 20 54 06.0
MTE *e*LR LR 20 59 00.5
comp=Z,57µm,20.0s
MTE Manteigas 90.00 43 *e*P **P 20 28 38.8 +0.8**
comp=Z,345nm,1.3s
LLLB Lillooet 90.40 330 *e*P **P 20 28 40.4 +0.9**
comp=Z,200nm,1.1s
PVRL Vila Real 90.43 42 *e*P **P 20 28 42.1 +2.2**
comp=Z,347nm,1.7s
PVRL Vila Real 90.43 42 *e*PP PP 20 32 17.0 +1.7
POLO Lamas de Olo 90.44 42 *e*P **P 20 28 41.5 +1.4**
comp=Z,105nm,1.8s
POLO Lamas de Olo 90.44 42 *e*S **S 20 39 27.3 -4.2**
PCAB Cabril 90.52 42 *e*P **P 20 28 42.1 +1.8**
comp=Z,357nm,1.6s
PGAV Gavieira, Arco 90.53 41 *e*P **P 20 28 42.3 +1.8**
comp=Z,301nm,1.5s
PGAV Gavieira, Arco 90.53 41 *e*S **S 20 39 34.1 +1.8**
PGAV Gavieira, Arco 90.53 41 *e*LQ LQ 20 52 41.6
PGAV *e*LR LR 20 58 59.4
comp=Z,58µm,20.0s
LSZ Lusaka 90.67 108 PKKPbc PKKPbc 20 46 08.3 +1.3
comp=Z,2.9nm,0.6s,baz=99,slow=1.2,SNR=5.7
LSZ Lusaka 90.67 108 *e*P **P 20 28 42.3 +0.5**
comp=Z,700nm,1.5s
LSZ PKKPbc **PKKPbc 20 46 08.3 +1.3**
LSZ LR LR
comp=Z,50µm,22.0s
LSZ Lusaka 90.67 108 *e*P **P 20 28 42.3 +0.5**
LSZ pmax pmax
comp=Z,699nm,1.5s
LSZ MLR MLR
comp=Z,50µm,22.0s
LSZ Lusaka 90.67 108 P **P 20 28 42.8 +0.9**
SNR=121
MVO Moncorvo 90.77 43 *e*P **P 20 28 41.4 -0.2**
comp=Z,409nm,1.7s
MVO Moncorvo 90.77 43 *e*S **S 20 39 38.3 +3.8**
MVO Moncorvo 90.77 43 *e*LQ LQ 20 52 43.8
MVO *e*LR LR 20 57 13.2
comp=Z,44µm,22.0s
IVI Ivigtut 90.89 11 *e*P **P 20 28 42.1 +0.7**
comp=Z,318nm,1.0s
NRS Narsarsuaq 91.33 12 *i*P **P 20 28 44.9 +1.4**
comp=Z,350nm,1.1s
comp=Z,22µm,19.0s
NRS Narsarsuaq 91.33 12 *i*P **P 20 28 44.9 +1.4**
NRS pmax pmax
comp=Z,350nm,1.1s
NRS MLR MLR
comp=Z,22µm,19.0s
PBRG Braganca 91.33 42 *e*P **P 20 28 45.4 +1.3**
comp=Z,366nm,1.7s
PBRG Braganca 91.33 42 *e*PP PP 20 32 23.1 +0.7
PBRG *e*S **S 20 39 40.3 +0.8**
PAB San Pablo 91.45 45 *e*P **P 20 28 45.0 +0.3**
comp=Z,513nm,1.6s
PAB LR LR
comp=Z,62µm,21.0s
FRB Frobisher Bay 91.56 1 P **P 20 28 43.5 -1.0**
comp=Z,28nm,1.1s,baz=186,slow=5.3,SNR=22
ESDC Sonseca Array 91.77 45 P **P 20 28 45.6 -0.6**
comp=Z,24nm,0.9s,baz=248,slow=3.9,SNR=58
ESDC LR LR 21 07 13.8
comp=Z,48µm,21.2s,baz=230,slow=34
ESLA Sonseca Array 91.77 45 *e*P **P 20 28 46.4 +0.2**
comp=Z,209nm,1.4s
ODJA Bouhanifia 91.81 51 P **P 20 28 50.0 +3.5**
ES19 SONSECA Array 91.82 45 *e*P **P 20 28 45.9 -0.6**
CART Cartagena 92.49 48 *e*P **P 20 28 50.2 +0.7**
comp=Z,443nm,1.5s
CART *e*pP **pP 20 29 04.6 +1.3**
CART Cartagena 92.49 48↑ *i*P **P 20 28 47.1 -2.4**
CART *i* SKS S 20 39 40.0 -10
OJGS Djebel Guires 92.52 51 P **P 20 28 51.0 +1.2**
UCM Universidad Co 92.58 45↑ *i*P **P 20 28 51.1 +1.2**
UCM *i*S S 20 39 39.9 -11
ETRT Tiaret 92.83 51 P **P 20 28 54.0 +2.7**
EANR 'Ain N'Sour 93.00 51 P **P 20 28 52.0 0.0**
ECHA Ech Chlef 93.29 51 P **P 20 28 55.0 +1.8**
EBNR Beni Rached 93.48 50 P **P 20 28 57.0 +2.8**
BBB Bella Bella 94.30 329 *e*P **P 20 29 00.5 +3.0**
comp=Z,141nm,0.9s
BBB *e*pP **sP 20 29 14.6 -2.0**
POHA Pohakuloa 94.58 290 *e*P **P 20 29 02.1 +2.2**
comp=Z,727nm,0.9s
POHA LR LR
comp=Z,30µm,22.0s
VAL Valentia 95.74 33 *e*SS SS 20 46 34.1 -15
SFJD Kangerlussuaq 96.04 8 P **P 20 29 04.9 -0.2**
comp=Z,47nm,1.0s,baz=199,slow=5.9,SNR=13
SFJD Kangerlussuaq 96.04 8 *e*P **P 20 29 05.3 +0.2**
comp=Z,159nm,1.2s
SFJD LR LR
comp=Z,12µm,22.0s
SFJD Kangerlussuaq 96.04 8 *i*P **P 20 29 06.7 +1.6**
SFJD *i* 20 29 21.9
SFJD Kangerlussuaq 96.04 8 *i*P **P 20 29 06.7 +1.6**
SFJD *i* 20 29 21.9
SFJD Kangerlussuaq 96.04 8 *e*P **P 20 29 06.3 +1.2**
CKHR Kef el Ahmar 96.08 52 P **P 20 29 07.5 +1.3**
SET Setif 96.10 52 P **P 20 29 07.0 +0.8**
DFRA Djebel Bou Aff 96.61 52 P **P 20 29 09.9 +1.3**
CTEI Djebel Teioual 96.73 53 P **P 20 29 10.1 +0.9**
YKA Yellowknife Ar 96.82 341 P **P 20 29 07.8 -0.8**
comp=Z,34nm,0.8s,baz=140,slow=4.3,SNR=94
YKA PKKPbc **PKKPbc 20 45 51.1 -1.9**
comp=Z,1.4nm,0.6s,baz=321,slow=3.6,SNR=7.4
YKA LR LR 21 12 04.3
comp=Z,984nm,21.4s,baz=140,slow=35
YKB5 Yellowknife Ar 96.82 341 *e*P **P 20 29 07.1 -1.6**
YKW3 Yellowknife Ar 96.87 341 *e*P **P 20 29 08.1 -0.9**
CASM Ain Smara 96.89 53 P **P 20 29 12.0 +2.2**
H02S1 DAWSON INLET T 96.98 328 P **P 20 29 12.5 +2.8**
DIB Dawson Inlet, 96.98 328 *e*P **P 20 29 09.6 -0.1**
comp=Z,141nm,1.0s
DIB *e*pP **pP 20 29 25.2 +1.6**
IGLA Glengowla, Co 97.08 32 *e*P **P 20 29 08.1 -2.0**
IGLA *i*Ss 20 39 56.0
IGLA *e*SS SS 20 46 55.1 -13
CKFL Kef-Lekhel 97.12 53 P Pdif 20 29 11.6 +0.6
CCA1 Carnmenellis 97.18 36 IAMs_20 IAMs_20 21 08 58.1
comp=Z,49µm,19.7s
MAHO Mahon 97.20 49↑ *i*P **P 20 29 10.9 -0.1**
MAHO *i*S S 20 40 02.0 -29
CAEH 'Ain El Ouahch 97.40 52 P Pdif 20 29 15.3 +3.2
KIP Kipapa 97.41 290 PFAKE 20 29 20.0 +7.6
KIP LR LR
comp=Z,54µm,22.0s
KIP Kipapa 97.41 290↑ *e*P Pdif 20 29 12.4 0.0
KIP pmax pmax
comp=Z,541nm,2.8s
ABSA Djebel Ababsia 97.59 53 P Pdif 20 29 14.1 +1.0
CMAH Djebel Manchou 97.72 53 P **P 20 29 13.4 -0.2**
DYA Yadsworthy 98.00 36 IAMs_20 IAMs_20 21 09 05.8
comp=Z,33µm,21.6s
HTL Hartland 98.04 36 IAMs_20 IAMs_20 21 10 59.2
comp=Z,51µm,20.4s
ILULI Ilulissat 98.11 7 *i*P Pdif 20 29 16.1 +1.7
comp=Z,18µm,21.0s
ILULI Ilulissat 98.11 7 *i*P Pdif 20 29 16.1 +1.7
ILULI MLR MLR
comp=Z,18µm,21.0s
DSB Dublin 98.41 33 *e*P **P 20 29 14.3 -1.8**
DSB *e*Ss 20 40 08.6
DSB *e*SS SS 20 47 12.8 -14
DSB Dublin 98.41 33 *e*P Pdif 20 29 17.5 +1.4
comp=Z,278nm,1.5s
KEST Kesra 98.66 54 P Pdif 20 29 19.1 +1.3
comp=Z,20nm,1.0s,baz=205,slow=5.3,SNR=7.9
KEST LR LR 21 15 15.1
comp=Z,149µm,20.9s,baz=192,slow=36
KEST Kesra 98.66 54 *e*P Pdif 20 29 17.9 0.0
comp=Z,60nm,1.1s
LPW Lampeter 98.89 35 *e*P Pdif 20 29 18.6 +0.3
LPW IAMs_20 IAMs_20 21 05 21.5
comp=Z,43µm,31.7s
WRAK Wrangell Islan 98.92 330 PFAKE 20 29 30.0 +12
WRAK LR LR
comp=Z,19µm,20.0s
DLBC Dease Lake 99.22 333 PKKPbc PKKPbc 20 45 44.3 -1.9
comp=Z,6.3nm,0.7s,baz=1.1,slow=2.4,SNR=6.2
DLBC Dease Lake 99.22 333 *e*P **Pdif 20 29 19.4 -0.4**
comp=Z,193nm,1.0s
DLBC PKKPbc **PKKPbc 20 45 44.2 -1.9**
MSVF Nonsavu 99.25 244 PFAKE 20 29 30.0 +9.1
MSVF LR LR
comp=Z,2µm,20.0s
MCH1 Michaelchurch 99.37 35 *e*P **Pdif 20 29 21.3 +0.9**
MCH1 IAMs_20 IAMs_20 21 12 01.7
comp=Z,46µm,20.9s
MONM Monmouth 99.38 36 *e*P **Pdif 20 29 20.9 +0.4**
CLGH Cloghs, Cushen 99.62 32 *e*P **Pdif 20 29 22.6 +1.1**
CLGH IAMs_20 IAMs_20 21 07 09.8
comp=Z,38µm,28.4s
STRD Stroud 99.68 36 IAMs_20 IAMs_20 21 10 34.7
comp=Z,50µm,21.3s
FOEL Foel Wylfa 99.77 35 *e*P **Pdif 20 29 22.2 0.0**
FOEL IAMs_20 IAMs_20 21 08 55.8
comp=Z,36µm,20.3s
MBAR Mbarara 99.97 96 PFAKE 20 29 30.0 +5.7
MBAR LR LR
comp=Z,747nm,22.0s
MBAR Mbarara 99.97 96↑ *e*P **Pdif 20 29 27.2 +2.9**
MBAR pmax pmax
comp=Z,20nm,1.1s
MBAR MLR MLR
comp=Z,31µm,18.0s
SSB Saint Sauveur 100.08 44 *e*Pdif **Pdif 20 29 24.8 +1.0**
SSB Saint Sauveur 100.08 44 *e*P **Pdif 20 29 24.8 +1.0**
CLF Chambon-Foret 100.11 41 *e*Pdif **Pdif 20 29 24.1 +0.3**
BORG Borgarnes 100.23 19 PFAKE 20 29 40.0 +16
BORG LR LR
comp=Z,10µm,20.0s
CWF Charnwood Fore 100.64 35 *e*P **Pdif 20 29 27.2 +1.2**
CWF IAMs_20 IAMs_20 21 12 59.5
comp=Z,42µm,20.9s
KESW Keswick, Cumbr 100.76 33 *e*P **Pdif 20 29 27.1 +0.5**
KESW IAMs_20 IAMs_20 21 10 56.0
comp=Z,43µm,20.3s
LBWR Ladybower, Pea 100.79 35 *e*P **Pdif 20 29 28.5 +1.7**
LBWR IAMs_20 IAMs_20 21 06 31.1
comp=Z,48µm,31.7s
TAU Tasmania Unive 101.07 208 PFAKE 20 29 40.0 +12
TAU LR LR
comp=Z,19µm,22.0s
ESK Eskdalemuir 101.12 33 PFAKE 20 29 40.0 +12
ESK LR LR
comp=Z,24µm,19.0s
EKA Eskdalemuir Ar 101.15 33 P **Pdif 20 29 28.4 +0.1**
comp=Z,20nm,1.0s,baz=324,slow=25,SNR=4.1
BNI Bardonecchia 101.29 45 *e*Pdif **Pdif 20 29 31.1 +1.8**
BNI Bardonecchia 101.29 45 *e*P **Pdif 20 29 31.2 +1.8**
EDMD Edmundbyers 101.45 33 IAMs_20 IAMs_20 21 11 48.5
comp=Z,40µm,20.3s
WACR West Acre 101.64 36 IAMs_20 IAMs_20 21 11 22.2
comp=Z,53µm,21.7s
BBOU Bougnies 102.25 39 PP PKiKP 20 33 44.7 -10
SENIN Lac Senin/Sane 102.29 44 *e*Pdif **Pdif 20 29 34.5 +0.7**
BSKQ Steenkerk 102.45 39 Pdif **Pdif 20 29 36.0 +1.8**
comp=Z,73nm,1.5s
BSKQ pP **pPdif 20 29 49.4 +1.3**
DOU Dourbes 102.47 40 Pdif **Pdif 20 29 34.5 +0.2**
comp=Z,50nm,1.6s
DOU pP **sPdif 20 29 56.0 +2.7**
DOU PP **PP 20 33 46.3 -1.7**
DOU x x 20 34 04.8
SNF Seneffe 102.50 39 Pdif **Pdif 20 29 35.9 +1.6**
comp=Z,77nm,2.1s
SNF pP **sPdif 20 29 56.0 +2.6**
BRQR Ronquire 102.51 39 Pdif **Pdif 20 29 36.6 +2.2**
comp=Z,67nm,1.8s
BRQR pP **sPdif 20 29 56.2 +2.8**
BRQR PP **PP 20 33 43.7 -4.5**
BRQR x x 20 34 09.1
WHY Whitehorse 102.54 333 *e*Pdif **Pdif 20 29 34.4 -0.1**
BIGH Upper Bighouse 102.56 30 IAMs_20 IAMs_20 21 11 58.9
comp=Z,36µm,20.3s
BMRD Maredsous 102.67 40 Pdif **Pdif 20 29 36.4 +1.3**
comp=Z,99nm,1.8s
BMRD pP **sPdif 20 29 51.6 -2.6**
UCC Uccle 102.68 39 Pdif **Pdif 20 29 33.8 -1.4**
UCC pP **sPdif 20 29 57.0 +2.8**
KULLO Kullorsuaq 102.83 4 *i*P **Pdif 20 29 36.8 +1.5**
comp=Z,23µm,22.0s
KULLO Kullorsuaq 102.83 4 *i*P **PKKPbc 20 45 32.0 -4.0**
KULLO Kullorsuaq 102.83 4 *i*P **Pdif 20 29 36.8 +1.5**
KULLO MLR MLR
comp=Z,23µm,22.0s
SUMG Summit 102.84 10 *e*Pdif **Pdif 20 29 35.6 -0.3**
SUMG Summit 102.84 10 *i*P **Pdif 20 29 39.0 +3.1**
comp=Z,75µm,22.0s
SUMG Summit 102.84 10 *i*P PKKPdf 20 45 57.0 +12
SUMG Summit 102.84 10 *i*P **Pdif 20 29 39.0 +3.1**
SUMG MLR MLR
comp=Z,75µm,22.0s
BGES Gesves 102.89 40 Pdif **Pdif 20 29 38.3 +2.1**
comp=Z,72nm,1.7s
BGES pP **sPdif 20 29 56.8 +1.6**
BGES PP **PP 20 33 48.8 -2.3**
ECH Echery 103.07 42 *e*Pdif **Pdif 20 29 37.9 +0.9**
ECH Echery 103.07 42 *e*P **Pdif 20 29 37.9 +0.9**
WLF Walferdange 103.15 41 *e*Pdif **Pdif 20 29 38.0 +0.7**
WLF Walferdange 103.15 41 *e*P **Pdif 20 29 38.0 +0.7**
WLF Walferdange 103.15 41 Pdif **Pdif 20 29 38.0 +0.7**
comp=Z,110nm,2.1s
WLF pP **sPdif 20 29 55.9 -0.5**
WLF PP **PP 20 33 50.5 -2.6**
WLF PKiKP **PKiKP 20 33 56.6 -0.1**
FUNA Funafuti 103.21 253 PFAKE 20 29 50.0 +12
FUNA LR LR
comp=Z,19µm,20.0s
BSTI Sart Tilman 103.25 40 Pdif **Pdif 20 29 38.0 +0.3**
BSTI PP **PP 20 33 50.5 -3.3**
BSTI x x 20 34 15.3
BMOL Mol 103.28 39 Pdif **Pdif 20 29 40.6 +2.8**
comp=Z,115nm,1.9s
BMOL Pdif **pPdif 20 29 40.7 -11**
BMOL pP **sPdif 20 29 53.2 -3.6**
BMOL pP 20 29 53.4
BLCH La Chartreuse 103.30 40 Pdif **Pdif 20 29 37.1 -0.8**
comp=Z,68nm,1.7s
BLCH pP **sPdif 20 29 58.5 +1.5**
BLCH PP **PP 20 33 51.8 -2.3**
LVIA Vianden 103.31 40 Pdif **Pdif 20 29 38.0 0.0**
comp=Z,77nm,2.1s
LVIA pP **pPdif 20 29 54.2 +2.3**
LKLB Kalborn 103.33 40 Pdif **Pdif 20 29 38.8 +0.7**
comp=Z,96nm,1.9s
LKLB pP **pPdif 20 29 54.2 +2.2**
LKLB PP **PP 20 33 49.0 -5.4**
BHOU Houvegnez 103.39 40 Pdif **Pdif 20 29 41.0 +2.6**
BEBN Eben Emael 103.41 39 Pdif **Pdif 20 29 40.5 +2.1**
BEBN PP **PP 20 33 53.8 -1.2**
BEBN x x 20 34 16.4
MEM Membach 103.51 40 PP **PKiKP 20 33 53.2 -4.2**
HYT Haines Junctio 103.70 332 *e*Pdif **Pdif 20 29 40.2 +0.5**
RES Resolute Bay 103.73 354 Pdiff **Pdif 20 29 41.3 +2.0**
comp=Z,5.1nm,0.8s,baz=167,slow=10,SNR=14
RES PKKPbc **PKKPbc 20 45 31.7 -1.5**
comp=Z,9.6nm,0.9s,baz=351,slow=4.3,SNR=6.9
RES Resolute Bay 103.73 354 *e*Pdif **Pdif 20 29 40.6 +1.3**
RES PKKPbc **PKKPbc 20 45 31.7 -1.5**
RES Resolute Bay 103.73 354 *e*P **Pdif 20 29 40.6 +1.3**
BFO Black Forest 103.81 42 *e*Pdif **Pdif 20 29 39.6 -0.7**
BFO LR LR
comp=Z,824nm,20.0s
BFO Black Forest 103.81 42 *e*Pdiff **Pdif 20 29 42.1 +1.7**
BFO *e*L L 21 13 07.2
comp=Z,22µm,21.8s
BFO Black Forest 103.81 42 *e*P **Pdif 20 29 39.6 -0.7**
HKB Herkenbosch 103.87 39 PKiKP **PKiKP 20 33 57.6 -0.4**
ABPO Ambohimpanom 104.01 121 PFAKE 20 29 50.0 +7.8
ABPO LR LR
comp=Z,18µm,22.0s
AHRW Bad Neuenahr-A 104.08 40 *e*Pdiff **Pdif 20 29 43.9 +2.4**
FUORN Ofenpass-Fuorn 104.24 45 *e*Pdif **Pdif 20 29 42.7 +0.2**
SCO Scoresbysund 104.27 15 *i*P **Pdif 20 29 42.8 +1.0**
comp=Z,22µm,25.0s
SCO Scoresbysund 104.27 15 *i*P **Pdif 20 29 42.8 +1.0**
SCO MLR MLR
comp=Z,22µm,25.0s
DAVA Damuels 104.29 44 *i*Pdiff **Pdif 20 29 44.5 +1.9**
comp=Z,61nm,1.2s,SNR=12
STU Stuttgart 104.53 42 *e*Pdiff **Pdif 20 29 45.6 +2.1**
BUG Bochum--Univer 104.60 39 *e*Pdiff **Pdif 20 29 45.5 +1.8**
UBR Ueberruh 104.60 44 *e*Pdiff **Pdif 20 29 46.2 +2.3**
FETA Feichten 104.70 44 *i*Pdiff **Pdif 20 29 45.3 +0.8**
comp=Z,66nm,1.1s,SNR=19
FETA *i*PKiKP **PKiKP 20 33 57.6 -2.3**
comp=Z,69nm,1.4s
TNS Taunus Mts 104.73 41 *e*Pdiff **Pdif 20 29 46.5 +2.1**
TNS *e*L L 21 17 46.9
comp=Z,46µm,20.8s
RETA Reutte 104.92 44 *i*Pdiff **Pdif 20 29 47.2 +1.8**
comp=Z,62nm,1.1s,SNR=14
RETA *e*PKiKP **PKiKP 20 34 02.6 +2.4**
comp=Z,55nm,1.5s

MOTA	**Moosalm**	**105.07**	**44**	*i* Pdiff	**Pdif**	**20 29 47.9**	**+1.8**		
	comp=Z,40nm,0.9s,SNR=22								
MOTA				*i* PKiKP	**PKiKP**	**20 33 59.5**	**-1.0**		
	comp=Z,30nm,1.0s								
SQTA	**Sankt Quirin**	**105.08**	**44**	*i* Pdiff	**Pdif**	**20 29 47.9**	**+1.8**		
	comp=Z,84nm,1.0s,SNR=25								
SQTA				*i* PKiKP	**PKiKP**	**20 34 01.8**	**+1.2**		
	comp=Z,63nm,1.6s								
JOHN	**Johnston Islan**	**105.15**	**281**	PFAKE		20 34 10.0	+8.7		
JOHN				LR	LR				
	comp=Z,2µm,21.0s								
IBBN	**Ibbenburen**	**105.26**	**39**	*e*Pdiff	**Pdif**	**20 29 48.7**	**+2.1**		
WATA	**Walderalm**	**105.36**	**44**	*i* Pdiff	**Pdif**	**20 29 49.4**	**+2.0**		
	comp=Z,34nm,1.1s,SNR=13								
WATA				*i* PP	**PP**	**20 34 08.7**	**-1.0**		
	comp=Z,16nm,1.0s								
WTTA	**Wattenberg**	**105.36**	**44**	*i* Pdiff	**Pdif**	**20 29 49.6**	**+2.1**		
	comp=Z,27nm,1.2s								
WTTA				*i* PKiKP	**PKiKP**	**20 33 54.2**	**-6.9**		
	comp=Z,33nm,1.3s								
KMBO	**Kilima Mbogo**	**105.42**	**100**	Pdiff	**Pdif**	**20 29 53.8**	**+5.1**		
	comp=Z,1.1nm,0.7s,baz=214,slow=2.8,SNR=3.8								
KMBO				PKKPab	**PKKPab**	**20 45 45.6**	**+0.6**		
	comp=Z,5.5nm,1.1s,baz=32,slow=9.2,SNR=5.2								
KMBO	**Kilima Mbogo**	**105.42**	**100**	Pdif	**Pdif**	**20 29 53.8**	**+5.1**		
KMBO				PKKPab	**PKKPab**	**20 45 45.6**	**+0.6**		
KMBO				LR	LR				
	comp=Z,20µm,20.0s								
DZM	**Mont Dzumac**	**105.50**	**234**	*e*Pdif	**Pdif**	**20 29 51.2**	**+2.5**		
	comp=Z,3µm,27.6s								
DZM	**Mont Dzumac**	**105.50**	**234**	*e*PP	PKiKP	20 34 13.8	+12		
	comp=Z,4µm,28.3s								
DZM				*e*SKSac	**SKSac**	**20 40 26.0**	**+0.5**		
	comp=Z,10µm,28.2s								
DZM				*e*SP	**SP**	**20 43 22.1**	**+0.6**		
	comp=Z,12µm,24.6s								
DZM				*e*SS	**SS**	**20 49 08.1**	**+3.6**		
	comp=Z,42µm,32.5s								
DZM	**Mont Dzumac**	**105.50**	**234**	*e*LQ	LQ	21 00 10.5			
	comp=Z,31µm,31.0s								
DZM				*e*LR	LR	21 04 36.3			
	comp=Z,61µm,29.6s								
FUR	**Furstenfeldbru**	**105.52**	**43**	*e*Pdiff	**Pdif**	**20 29 50.2**	**+2.3**		
FUR				*e*L	L	21 17 10.6			
	comp=Z,37µm,21.2s								
ABTA	**Abfaltersbach**	**105.69**	**45**	*i* Pdiff	**Pdif**	**20 29 50.3**	**+1.5**		
	comp=Z,37nm,1.1s,SNR=14								
ABTA				*i* PP	**PP**	**20 34 09.8**	**-2.3**		
	comp=Z,91nm,1.6s								
UBBA	**Unterbreizbach**	**105.88**	**41**	*e*Pdiff	**Pdif**	**20 29 52.2**	**+2.9**		
MATE	**Matera**	**106.02**	**52**	⇑*i*P	Pdif	20 30 09.2	+19		
GRFO	**Grafenberg**	**106.12**	**42**	*e*P	**Pdif**	**20 29 48.2**	**-2.3**		
	comp=Z,197nm,2.0s								
GRFO	**Grafenberg**	**106.12**	**42**	*e*P	**Pdif**	**20 29 48.2**	**-2.3**		
GRFO				pmax	pmax				
	comp=Z,197nm,2.0s								
GRF	**Grafenberg Arr**	**106.12**	**42**	*e*Pdiff	**Pdif**	**20 29 51.8**	**+1.2**		
GRF				*e*PP	**PP**	**20 34 12.4**	**-2.8**		
GRF				*e*L	L	21 19 01.1			
	comp=Z,21µm,19.3s								
DAWY	**Dawson**	**106.18**	**335**	*e*Pdif	**Pdif**	**20 29 50.3**	**-0.3**		
RETH	**Rethem/Aller,**	**106.33**	**39**	*e*Pdiff	**Pdif**	**20 29 53.9**	**+2.6**		
JAVS	**Javornik**	**106.33**	**46**	*e*Pdiff	**Pdif**	**20 29 54.5**	**+2.8**		
JAVS				*ep*Pdiff	**sPdif**	**20 30 09.6**	**-1.2**		
JAVS				*es*Pdiff	**pPdif**	**20 30 14.2**	**+8.6**		
KBA	**Koelnbreinsper**	**106.35**	**45**	*i* Pdiff	**Pdif**	**20 29 53.4**	**+1.6**		
	comp=Z,15nm,1.0s,SNR=8.2								
KBA				*i* PP	**PP**	**20 34 12.1**	**-5.0**		
	comp=Z,82nm,1.5s								
MYKA	**Terra Mystica**	**106.36**	**46**	*i* Pdiff	**Pdif**	**20 29 53.1**	**+1.3**		
	comp=Z,30nm,1.1s,SNR=9.3								
MYKA				*i* PP	**PP**	**20 34 12.4**	**-4.6**		
	comp=Z,107nm,1.6s								
EPYK	**Eagle Plains**	**106.45**	**337**	PKiKP	**PKiKP**	**20 34 04.9**	**+2.5**		
	baz=123								
INK	**Inuvik**	**106.51**	**340**	Pdiff	**Pdif**	**20 29 53.3**	**+1.6**		
	comp=Z,16nm,1.0s,baz=111,slow=3.7,SNR=31								
INK				PKKPbc	**PKKPbc**	**20 45 22.4**	**-2.2**		
	comp=Z,14nm,0.9s,baz=9.6,slow=3.6,SNR=7.7								
NRDL	**Niedersach Rie**	**106.64**	**39**	*e*Pdiff	**Pdif**	**20 29 55.5**	**+2.8**		
ROTZ	**Rotzenmuhle**	**106.73**	**42**	*e*Pdiff	**Pdif**	**20 29 55.9**	**+2.7**		
MOX	**Moxa**	**106.74**	**41**	*e*L	L	21 16 08.1			
	comp=Z,25µm,21.6s								
ASSE	**Asse, Remlinge**	**106.81**	**40**	*e*Pdiff	**Pdif**	**20 29 56.2**	**+2.8**		
OBKA	**Obir**	**106.88**	**46**	*i* Pdiff	**Pdif**	**20 29 56.0**	**+1.8**		
	comp=Z,33nm,1.4s,SNR=12								
OBKA				*i* pPKiKP	**pPKiKP**	**20 34 17.7**	**-0.5**		
	comp=Z,188nm,1.8s								
WET	**Wettzell**	**106.89**	**43**	*e*Pdiff	**Pdif**	**20 29 56.3**	**+2.3**		
WET				*e*L	L	21 17 39.4			
	comp=Z,28µm,21.6s								
BOJS	**Bojanci**	**106.94**	**47**	*i* Pdiff	**Pdif**	**20 29 57.5**	**+3.2**		
BOJS				*i* pPdiff	**sPdif**	**20 30 12.0**	**-1.4**		
BOJS				*i* sPdiff	**pPdif**	**20 30 17.2**	**+9.0**		
BOJS				*i* PP	**PP**	**20 34 16.9**	**-4.4**		
BOJS				*e*SKSac	SKSac	20 40 53.1	+23		
BOJS				*e*Sdiff	**Sdif**	**20 41 44.7**	**-7.6**		
BOJS				*e*SP	**SP**	**20 43 41.6**	**+5.7**		
BOJS				*e*		20 44 58.9			
BOJS				*i* SS	SS	20 50 00.9	+36		
BOJS				*e*		20 54 40.9			
PLN	**Plauen**	**106.99**	**42**	*e*Pdiff	**Pdif**	**20 29 56.9**	**+2.5**		
WERN	**Wernitzgruen**	**107.04**	**42**	*e*Pdiff	**Pdif**	**20 29 57.6**	**+2.9**		
GUNZ	**Gunzen**	**107.05**	**42**	*e*Pdiff	**Pdif**	**20 29 57.3**	**+2.6**		
NEUB	**Neuenburg**	**107.06**	**41**	*e*Pdiff	**Pdif**	**20 29 57.2**	**+2.5**		
NKC	**Novy Kostel**	**107.06**	**42**	*e*PDIFF	**Pdif**	**20 29 55.6**	**+0.8**		
NKC				*e*PP	**PP**	**20 34 14.8**	**-7.3**		
NKC				*e*SKS	**SKSac**	**20 40 38.6**	**+7.8**		
NKC				*ex*	x	20 42 21.4			
NKC				*e*SP	**SP**	**20 43 40.8**	**+3.8**		
NKC				AMS	AMS	21 14 10.0			
	comp=Z,28µm,25.0s								
NKC	**Novy Kostel**	**107.06**	**42**	*e*P	**Pdif**	**20 29 55.6**	**+0.8**		
NKC				*e*		20 43 40.8			
NKC				MLR	MLR				
	comp=Z,28µm,25.0s								
TANN	**Tannenbergstha**	**107.14**	**42**	*e*Pdiff	**Pdif**	**20 29 58.1**	**+3.0**		
MOA	**Molln**	**107.23**	**45**	*e*Pdiff	**Pdif**	**20 29 57.6**	**+2.0**		
	comp=Z,26nm,1.1s,SNR=7.0								
MOA				*i* pPKiKP	**pPKiKP**	**20 34 17.2**	**-1.5**		
	comp=Z,73nm,1.5s								
SOKA	**Soboth**	**107.26**	**46**	*i* Pdiff	**Pdif**	**20 29 57.9**	**+2.2**		
	comp=Z,15nm,1.2s,SNR=5.5								
SOKA				*i* PP	**PP**	**20 34 21.4**	**-2.2**		
	comp=Z,113nm,1.4s								
GEA0	**GERESS Array S**	**107.27**	**44**	*e*Pdif	**Pdif**	**20 29 56.6**	**+0.9**		
GEC2	**GERESS Array S**	**107.27**	**44**	*e*Pdif	**Pdif**	**20 29 57.2**	**+1.4**		
GEC2	**GERESS Array S**	**107.27**	**44**	*e*Pdiff	**Pdif**	**20 29 58.0**	**+2.3**		
GEC2				*e*L	L	21 16 44.8			
	comp=Z,24µm,22.0s								
GEC2	**GERESS Array S**	**107.27**	**44**	*e*P	**Pdif**	**20 29 57.2**	**+1.4**		
GERES	**GERESS Array B**	**107.27**	**44**	Pdiff	**Pdif**	**20 29 56.5**	**+0.7**		
	comp=Z,0.8nm,0.3s,baz=325,slow=2.1,SNR=4.0								
GERES				PKiKP	**PKiKP**	**20 34 06.7**	**+2.2**		
	comp=Z,9.2nm,0.8s,baz=225,slow=6.8,SNR=7.5								
GERES				PP	**PP**	**20 34 21.1**	**-2.6**		
	comp=Z,9.7nm,0.9s,baz=219,slow=3.4,SNR=5.6								
GERES				PKKPbc	**PKKPbc**	**20 45 20.3**	**-1.4**		
	comp=Z,2.1nm,0.8s,baz=46,slow=4.2,SNR=2.7								
GERES				PKPPKP	**P'P'df**	**20 53 47.0**	**+3.7**		
	comp=Z,0.4nm,0.3s,baz=250,slow=7.0,SNR=3.4								
PERS	**Pernice**	**107.29**	**46**	*i* Pdiff	**Pdif**	**20 29 58.6**	**+2.7**		
PERS				*i* pPdiff	**sPdif**	**20 30 12.4**	**-2.5**		
PERS				*e*PP	**PP**	**20 34 18.6**	**-5.4**		
PERS				*e*		20 34 35.9			
PERS				*e*SKSac	SKSac	20 40 59.2	+27		
PERS				*e*Sdiff	**Sdif**	**20 41 48.0**	**-7.2**		
PERS				*es*Sdiff	**sSdif**	**20 42 22.7**	**+4.0**		
PERS				*e*PS	**PS**	**20 43 59.7**	**+14**		
PERS				*e*SS	SS	20 50 09.1	+40		
KHC	**Kasperske Hory**	**107.31**	**43**	*e*Pdif	**Pdif**	**20 29 57.5**	**+1.6**		
KHC	**Kasperske Hory**	**107.31**	**43**	*e*PDIFF	**Pdif**	**20 29 57.1**	**+1.2**		
KHC				*ep*P	**pPdif**	**20 30 11.7**	**+1.9**		
KHC				*e*PKP	**PKiKP**	**20 34 02.3**	**-2.2**		
KHC				*e*PP	PP	20 34 14.6	-9.3		
KHC				*ex*	x	20 34 33.7			
KHC				*e*SKS	**SKSac**	**20 40 37.6**	**+5.7**		
KHC				*ex*	x	20 40 21.2			
KHC				*e*SP	**SP**	**20 43 37.1**	**-2.4**		
KHC				*e*PKKP	**PKKPbc**	**20 45 23.2**	**+1.6**		
KHC				AMS	AMS	21 17 40.0			
	comp=Z,30µm,21.6s								
KHC	**Kasperske Hory**	**107.31**	**43**	*e*P	**Pdif**	**20 29 57.1**	**+1.2**		
KHC				*e*		20 34 33.7			
KHC				*e*		20 40 37.6			
KHC				*e*		20 43 37.1			
KHC				MLR	MLR				
	comp=Z,30µm,21.6s								
DIV	**Divide**	**107.34**	**331**	*e*Pdif	**Pdif**	**20 29 55.6**	**-0.2**		
BSEG	**Bad Segeberg**	**107.34**	**38**	*e*L	L	21 15 57.6			
	comp=Z,30µm,21.5s								
KLU	**Klutina**	**107.56**	**331**	*e*Pdif	**Pdif**	**20 29 58.7**	**+2.0**		
ARSA	**Arzberg**	**107.78**	**46**	*e*Pdiff	**Pdif**	**20 30 00.4**	**+2.4**		
	comp=Z,18nm,1.6s,SNR=5.9								
ARSA				*i* pPKiKP	**pPKiKP**	**20 34 21.8**	**+2.0**		
	comp=Z,46nm,1.9s								
CLL	**Collm**	**107.81**	**41**	*e*Pdif	**Pdif**	**20 29 59.9**	**+2.0**		
CLL	**Collm**	**107.81**	**41**	*e*Pdiff	**Pdif**	**20 30 00.4**	**+2.4**		
CLL	**Collm**	**107.81**	**41**	*e*Pdif	**Pdif**	**20 30 00.0**	**+2.0**		
	comp=Z,359nm,3.2s								
CLL				*i* pPdif	**pPdif**	**20 30 13.6**	**+1.7**		
CLL				*i* sPdif	**sPdif**	**20 30 20.2**	**+3.1**		
	comp=Z,92nm,1.8s								
CLL				*e*		20 33 27.0			
CLL				*e*(PKiKP)		20 34 00.0			
CLL				*e*PP	**PP**	**20 34 26.0**	**-1.5**		
	comp=Z,45nm,1.2s								
CLL				*e*PPP	PPP	20 36 42.0			
CLL				*es*SKSac	sSKSac	20 41 00.0	+1.9		
CLL				*es*Sdiff	**sSdif**	**20 42 24.0**	**+1.3**		
CLL				*e*PS	**PS**	**20 43 51.0**	**+0.4**		
CLL				*e*PPS	PPS	20 44 54.0			
CLL				*e*PKKPbc	**PKKPbc**	**20 45 19.0**	**-1.0**		
CLL				*e*PKKPab	**PKKPdf**	**20 45 36.0**	**+1.9**		
CLL				*e*SS	**SS**	**20 49 36.0**	**0.0**		
CLL				*e*SSS	SSS	20 53 42.0			
CLL				*e*(sSSS)		20 54 48.0			
CLL				*e*SSSS		20 56 48.0			
CLL				*e*PPPPrev		20 57 42.0			
CLL				Lm	MLR	21 18 00.0			
	comp=Z,24µm,21.8s								
CLL				LmV		21 25 00.0			
	comp=Z,21µm,19.2s								
CLL				Lmax		21 25 00.0			
CLL	**Collm**	**107.81**	**41**	*e*P	**Pdif**	**20 30 00.0**	**+2.0**		
CLL				*e*		20 34 26.0			
CLL				pmax	pmax				
	comp=Z,359nm,3.2s								
CLL				pmax	pmax				
	comp=Z,45nm,1.2s								
CLL				MLR	MLR				
	comp=Z,24µm,21.8s								
FBE	**Freiberg**	**107.86**	**41**	*e*Pdiff	**Pdif**	**20 30 01.0**	**+2.7**		
SCRK	**Sand Creek**	**107.90**	**334**	*e*Pdif	**Pdif**	**20 30 00.8**	**+2.5**		
BLY	**Banja Luka**	**107.92**	**48**	⇑*i*P	**PKKPbc**	**20 45 20.5**	**+1.1**		
HCY	**Herceg Novi**	**107.95**	**51**	⇓*i*P	**PP**	**20 34 25.2**	**-3.6**		
SRN	**Sarande**	**108.05**	**54**	*i* P	PKiKP	20 33 46.6	-19		
BRY	**Bratogost**	**108.14**	**51**	⇑*i*P	**PP**	**20 34 28.9**	**-1.5**		
BUM	**Brajici-Budva**	**108.17**	**51**	⇓*i*P	**PP**	**20 34 26.1**	**-4.4**		
PRA	**Prague**	**108.18**	**43**	*e*PDIFF	**Pdif**	**20 30 00.0**	**+0.3**		
PRA				*e*PP	**PP**	**20 34 23.3**	**-6.9**		
PRA				*ex*	x	20 42 33.6			
PRA				AMS	AMS	21 16 10.0			
	comp=Z,22µm,23.2s								
PRA	**Prague**	**108.18**	**43**	*e*P	**Pdif**	**20 30 00.0**	**+0.3**		
PRA				MLR	MLR				
	comp=Z,22µm,23.2s								
BRG	**Berggiesshubel**	**108.19**	**42**	*i* PDIF	**Pdif**	**20 30 02.7**	**+3.0**		
	comp=Z,71nm,1.9s								
BRG				*e*		20 30 22.3			
	comp=Z,92nm,1.8s								
BRG				*e*		20 33 38.2			
	comp=Z,164nm,2.4s								
BRG				PP	**PP**	**20 34 29.7**	**-0.6**		
	comp=Z,189nm,2.1s								
BRG				SKS	SKSdf	20 41 00.0	-14		
BRG				PS	**PS**	**20 43 44.0**	**-11**		
BRG				PKKP	**PKKPbc**	**20 45 19.5**	**+0.8**		
	comp=Z,38nm,1.9s								
BRG				SS	SS	20 49 57.0	+16		
BRG				PKPPKP	P'P'df	20 53 59.6	+18		
	comp=Z,13nm,1.6s								
	comp=Z,36µm,26.4s								
	comp=N,15µm,25.0s								
	comp=E,25µm,25.0s								
BRG	**Berggiesshubel**	**108.19**	**42**	*e*Pdiff	**Pdif**	**20 30 02.3**	**+2.6**		
BRG	**Berggiesshubel**	**108.19**	**42**	*i* P	**Pdif**	**20 30 02.7**	**+3.0**		
BRG						20 34 29.7			
BRG				PS	**PS**	**20 43 44.0**	**-11**		
BRG				SS	SS	20 49 57.0	+16		
BRG				pmax	pmax				
	comp=Z,71nm,1.9s								
BRG				pmax	pmax				
	comp=Z,189nm,2.1s								
BRG				MLR	MLR				
	comp=Z,36µm,26.4s								
BRG				MLR	MLR				
	comp=N,15µm,25.0s								
BRG				MLR	MLR				
	comp=E,25µm,25.0s								
TPE	**Tepelena**	**108.21**	**54**	*i* P	**PP**	**20 34 34.4**	**+3.6**		
PRU	**Pruhonice**	**108.21**	**43**	*e*PDIFF	**Pdif**	**20 30 02.7**	**+2.9**		
PRU				*es*P	**sPdif**	**20 30 20.5**	**+1.6**		
PRU				*e*PP	PP	20 34 20.7	-10		
PRU				*e*SKS	**SKSac**	**20 40 40.1**	**+4.4**		
PRU				*ex*	x	20 42 29.6			
PRU				*e*SP	**SP**	**20 43 45.8**	**-2.9**		
PRU				AMS	AMS	21 16 20.0			
	comp=E,24µm,23.2s								
PRU	**Pruhonice**	**108.21**	**43**	*e*P	**Pdif**	**20 30 02.7**	**+2.9**		
PRU				*e*		20 40 40.1			
PRU				*e*		20 43 45.8			
PRU				MLR	MLR				
	comp=Z,24µm,23.2s								
CONA	**Conrad Observa**	**108.25**	**45**	*e*Pdiff	**Pdif**	**20 30 00.2**	**+0.1**		
	comp=Z,25nm,1.8s								
CONA				*i* PP	**PP**	**20 34 27.2**	**-3.8**		
	comp=Z,73nm,1.6s								
ULC	**Ulcinj**	**108.29**	**52**	⇓*i*P	**PP**	**20 34 27.7**	**-3.6**		
DRME	**Dracevica, Mon**	**108.33**	**52**	⇓*i*P	**PP**	**20 34 27.3**	**-4.2**		
GOPC	**GO Pecny, Ondr**	**108.33**	**43**	*e*PDIFF	**Pdif**	**20 30 02.1**	**+1.7**		
GOPC				*es*P	**sPdif**	**20 30 19.6**	**+0.1**		
GOPC				*e*PP	**PP**	**20 34 25.2**	**-6.2**		
GOPC				*e*SKS	**SKSac**	**20 40 40.1**	**+3.8**		
GOPC				*ex*	x	20 42 34.2			
GOPC				AMS	AMS	21 18 10.0			
	comp=Z,30µm,23.1s								
GOPC	**GO Pecny, Ondr**	**108.33**	**43**	*e*P	**Pdif**	**20 30 02.1**	**+1.7**		
GOPC				*e*		20 40 40.1			
GOPC				MLR	MLR				
	comp=Z,30µm,23.1s								
NKME	**Niksic**	**108.38**	**51**	⇓*i*P	**PP**	**20 34 28.2**	**-3.8**		
NKY	**Niksic**	**108.42**	**51**	⇓*i*P	**PP**	**20 34 31.2**	**-1.2**		
AMT	**Artemida-Makis**	**108.43**	**51**	*i* P	**PP**	**20 34 33.8**	**+1.4**		
PVCC	**Panska Ves**	**108.43**	**42**	*e*PDIFF	**Pdif**	**20 30 00.2**	**-0.6**		
PVCC				*e*PKP	**PKiKP**	**20 34 09.9**	**+3.4**		
PVCC				*e*PP	**PP**	**20 34 26.5**	**-5.6**		
PVCC				AMS	AMS	21 13 40.0			
	comp=Z,28µm,26.2s								
PVCC	**Panska Ves**	**108.43**	**42**	*e*P	**Pdif**	**20 30 00.2**	**-0.6**		
PVCC				MLR	MLR				
	comp=Z,28µm,26.2s								
PDG	**Podgorica**	**108.46**	**51**	⇑*i*P	**Pdif**	**20 30 12.5**	**+11**		
PDG	**Podgorica**	**108.46**	**51**	⇑*i*P	**PKiKP**	**20 34 04.9**	**-1.9**		
PDG	**Podgorica**	**108.46**	**51**	⇑*i*P	**PKKPbc**	**20 45 15.8**	**-1.8**		
TTG	**Podgorica**	**108.46**	**51**	⇑*i*P	**PP**	**20 34 28.3**	**-4.2**		
TIR	**Tirane**	**108.49**	**53**	*i* P	**PP**	**20 34 35.3**	**+2.5**		
UPM	**Unac-Piva**	**108.50**	**50**	⇓*i*P	**PP**	**20 34 32.1**	**-0.9**		
TREC	**Trest**	**108.53**	**44**	*e*PDIFF	**Pdif**	**20 30 01.1**	**-0.2**		
TREC				*e*PP	**PP**	**20 34 28.5**	**-4.3**		
TREC				*e*SKS	**SKSac**	**20 40 38.1**	**+1.0**		
TREC				*ex*	x	20 42 35.2			
TREC				*ex*	x	20 43 43.7			
TREC				AMS	AMS	21 15 30.0			
	comp=Z,44µm,24.0s								
TREC	**Trest**	**108.53**	**44**	*e*P	**Pdif**	**20 30 01.1**	**-0.2**		
TREC				*e*		20 34 28.5			
TREC				*e*		20 40 38.1			
TREC				*e*		20 43 43.7			
TREC				MLR	MLR				
	comp=Z,44µm,24.0s								
DRO	**Drossia**	**108.58**	**56**	P	**PP**	**20 34 28.9**	**-4.6**		
PUK	**Puka**	**108.77**	**52**	*i* P	**PKiKP**	**20 34 11.8**	**+4.3**		
KOME	**Kolasin**	**108.80**	**51**	⇓*i*P	**PP**	**20 34 29.5**	**-5.5**		
DHY	**Denali Highway**	**108.86**	**332**	*e*Pdif	**Pdif**	**20 30 03.3**	**+0.7**		
PLE	**Pljevlja**	**108.88**	**50**	⇓*i*P	**PP**	**20 34 34.2**	**-1.5**		
EFP	**Efpalio**	**108.90**	**56**	P	**PP**	**20 34 33.2**	**-2.6**		
ANX	**Ano Chora**	**108.97**	**56**	P	**PP**	**20 34 33.8**	**-2.6**		
KRUC	**Moravsky**	**109.00**	**44**	*e*PDIFF	**Pdif**	**20 30 06.5**	**+3.2**		
KRUC				*e*		20 30 25.3			
KRUC				*e*PP	**PP**	**20 34 33.6**	**-2.6**		
KRUC				*e*PS	**PS**	**20 44 05.9**	**+3.1**		
BCI	**Bajram Curri**	**109.00**	**52**	*i* P	**PP**	**20 34 34.0**	**-2.5**		
EVR	**Evrytania**	**109.01**	**56**	P	PP	20 34 22.3	-14		
ANKY	**Antikythira Is**	**109.02**	**59**	P	**PP**	**20 34 34.4**	**-2.3**		
GUR	**Goura**	**109.05**	**57**	P	**PP**	**20 34 36.0**	**-1.0**		
KPRO	**Kipourio**	**109.06**	**54**	P	PP	20 34 27.4	-10		
IVA	**Berane**	**109.06**	**51**	⇑*i*P	**PP**	**20 34 35.8**	**-1.2**		
KDAK	**Kodiak Island**	**109.11**	**326**	PKKPbc	PKKPbc	20 45 14.7	-1.3		
	comp=Z,27nm,0.9s,baz=317,slow=6.7,SNR=5.2								
KDAK	**Kodiak Island**	**109.11**	**326**	PKKPbc	PKKPbc	20 45 14.7	-1.3		
KDAK				LR	LR				
	comp=Z,5µm,22.0s								
ZST	**Bratislava**	**109.12**	**45**	*e*PP	**PP**	**20 34 33.0**	**-4.2**		
ZST				*e*SP	SP	20 43 55.5	-2.5		
PRP	**Porcupine Dome**	**109.18**	**335**	*e*Pdif	**Pdif**	**20 30 04.8**	**+0.9**		
VRAC	**Vranov**	**109.21**	**44**	⇑*i*P	**Pdif**	**20 30 07.5**	**+3.2**		
VRAC	**Vranov**	**109.21**	**44**	⇑*i*P	PKiKP	20 33 59.5	-8.5		
VRAC	**Vranov**	**109.21**	**44**	*e*PDIFF	**Pdif**	**20 30 06.6**	**+2.3**		
VRAC				*e*		20 30 26.7			
VRAC				*e*PP	**PP**	**20 34 35.1**	**-2.7**		
VRAC				*e*PS	**PS**	**20 44 06.3**	**+1.4**		
GVD	**Gavdhos**	**109.24**	**60**	P	PP	20 34 28.9	-9.5		
HDA	**Harding Lake**	**109.25**	**333**	PKiKP	**PKiKP**	**20 34 11.4**	**+3.8**		
	baz=115								
UPC	**Upice**	**109.28**	**42**	*e*PDIFF	**Pdif**	**20 30 08.9**	**+4.3**		
UPC				*es*P	**sPdif**	**20 30 24.9**	**+1.2**		
UPC				*e*PP	PP	20 34 28.7	-10		
UPC				*ex*	x	20 42 43.5			
UPC				*ex*	x	20 43 52.0			
UPC				AMS	AMS	21 14 20.0			
	comp=Z,34µm,26.4s								
UPC	**Upice**	**109.28**	**42**	*e*P	**Pdif**	**20 30 08.9**	**+4.3**		
UPC				*e*		20 43 52.0			
UPC				MLR	MLR				
	comp=Z,34µm,26.4s								
MODS	**Modra-Piesok**	**109.30**	**45**	*e*P	**Pdif**	**20 30 07.4**	**+2.7**		
MODS				*e*		20 44 05.9			
MODS	**Modra-Piesok**	**109.30**	**45**	*e*PDIFF	**Pdif**	**20 30 07.4**	**+2.7**		
MODS				*e*		20 30 26.1			
MODS				*e*PP	**PP**	**20 34 32.2**	**-6.2**		
MODS				*e*PS	**PS**	**20 44 05.9**	**0.0**		
MODS				*e*L	L	21 15 33.8			
DSF	**Desfina**	**109.35**	**56**	P	**PP**	**20 34 37.8**	**-1.3**		
DAG	**Danmarks Havn**	**109.36**	**11**	*i* P	**Pdif**	**20 30 06.3**	**+2.0**		
	comp=Z,40µm,24.0s								
DAG	**Danmarks Havn**	**109.36**	**11**	*i* P	**PKKPbc**	**20 45 15.0**	**-0.6**		
DAG	**Danmarks Havn**	**109.36**	**11**	*e*P	**Pdif**	**20 30 06.3**	**+2.0**		
DAG				MLR	MLR				
	comp=Z,47µm,24.0s								
IL1	**Eielson Array**	**109.38**	**334**	*e*Pdif	**Pdif**	**20 30 06.0**	**+1.3**		
ILAR	**Eielson Array**	**109.38**	**334**	Pdiff	**Pdif**	**20 30 06.0**	**+1.3**		
	comp=Z,4.2nm,0.8s,baz=151,slow=3.4,SNR=35								
ILAR				PKiKP	**PKiKP**	**20 34 08.0**	**+0.2**		
	comp=Z,5.2nm,0.8s,baz=181,slow=0.7,SNR=9.6								
ILAR				PKKPbc	**PKKPbc**	**20 45 12.7**	**-2.7**		
	comp=Z,6.0nm,0.8s,baz=299

LANS Liptovska Anna 110.92 45 *e*P **Pdif 20 30 15.8 +3.8**
LANS Liptovska Anna 110.92 45 *e*P PKKPbc 20 44 47.6 -22
LANS Liptovska Anna 110.92 45 *e*PDIFF **Pdif 20 30 15.8 +3.8**
LANS *es*PDIF 20 30 33.7
KKB Krupnik 110.94 53 *i* P **PP 20 34 48.5 -2.0**
GKP Gorka Klasztor 110.94 40 *e*PKP **PKiKP 20 34 10.8 -0.3**
GKP *e*PP **PP 20 34 49.4 -0.7**
GKP *e*PS **PS 20 44 19.4 -1.8**
GKP LMZ LR 21 20 23.6
comp=Z,30µm,21.3s
GKP Gorka Klasztor 110.94 40 *e*PKIKP **PKiKP 20 34 10.7 -0.3**
GKP *e* 20 34 49.4
GKP *e*PS **PS 20 44 19.4 -1.8**
GKP MLR MLR
comp=Z,30µm,21.3s
MDVR Moldovita 110.95 50⇑*i*P **Pdif 20 30 16.6 +4.4**
MDVR Moldovita 110.95 50⇑*i*P **PKKPbc 20 45 13.4 +3.7**
CAST Castle Rocks 110.96 332 *e*Pdif **Pdif 20 30 14.0 +2.2**
MLY Manley 111.00 333 *e*Pdif **Pdif 20 30 14.5 +2.6**
SRS Serrai 111.05 54 P **PP 20 34 46.7 -4.6**
OUR Ouranopolis 111.07 55 P **PP 20 34 46.1 -5.3**
BZS Buzias 111.16 49⇑*i*P **Pdif 20 30 16.5 +3.5**
VTS Vitosha 111.26 52⇑*i*P **PKKPbc 20 45 11.7 +3.0**
VTS Vitosha 111.26 52 *i* P **PP 20 34 50.6 -2.4**
MMB Musomiste 111.30 53 *i* P **PP 20 34 51.1 -2.0**
NVR Nevrokopi 111.32 54 P PP 20 34 39.3 -14
NVR Nevrokopi 111.32 54 P PP 20 34 39.3 -14
HFS Hagfors 111.35 32 PKiKP **PKiKP 20 34 13.2 +1.6**
comp=Z,7.1nm,0.9s,baz=202,slow=1.6,SNR=4.5
HFS PP **PP 20 34 51.3 -1.5**
comp=Z,28nm,1.0s,baz=241,slow=2.7,SNR=8.4
FURI Furi 111.37 91 *e*P **PP 20 34 55.1 +0.7**
FURI *e*S **PS 20 44 35.1 +8.1**
HERR Herculane 111.46 50⇑*i*P **PKiKP 20 34 10.4 -1.9**
OJC Ojcow 111.47 44 *e*Pdiff **Pdif 20 30 18.3 +4.0**
OJC *e*PKP PKiKP 20 33 36.2 -36
OJC *e*PP **PP 20 34 54.1 0.0**
OJC *e*PS **PS 20 44 30.2 +4.0**
OJC LMZ LR 21 16 25.0
comp=Z,19µm,26.0s
OJC Ojcow 111.47 44 *e*P **Pdif 20 30 18.3 +4.0**
AAE Adis Abeba 111.50 91 *e*P **PP 20 34 58.8 +3.5**
AAE *e*S PS 20 44 47.0 +19
NIE Niedzica 111.53 45 *e*Pdiff **Pdif 20 30 19.2 +4.6**
NIE *e*PKP PKiKP 20 33 40.3 -32
NIE *e*PP **PP 20 34 53.9 -0.6**
NIE *e*PS **PS 20 44 32.3 +5.4**
NIE LMZ LR 21 17 27.9
comp=Z,32µm,24.5s
NIE Niedzica 111.53 45 *e*P **Pdif 20 30 19.2 +4.6**
KAVA Kavala 111.67 54 P PP 20 34 44.4 -11
THAS Thassos island 111.69 55 P PP 20 34 42.7 -13
LIA Limnos Island 111.80 55 P **PP 20 34 49.5 -7.1**
GZR Gura Zlata 111.86 49⇑*i*P **Pdif 20 30 18.4 +2.1**
GZR Gura Zlata 111.86 49⇑*i*P **PKiKP 20 34 15.3 +2.1**
GZR Gura Zlata 111.86 49⇑*i*P **PKKPab 20 45 17.6 +4.2**
GZR Gura Zlata 111.86 49⇑PKIKP **PKiKP 20 34 15.3 +2.1**
PGB Panagyurishte 111.92 53 *i* P **PP 20 34 55.7 -1.9**
CHOS Chios island 111.95 57 P **PP 20 34 54.4 -3.5**
RZN Rozhen 112.03 54 *i* P **PP 20 34 56.2 -2.4**
DRGR 112.25 48⇑*i*P **PKiKP 20 34 14.9 +1.0**
DRGR 112.25 48⇑PKIKP **PKiKP 20 34 14.9 +1.0**
IM3 Indian Mountai 112.50 334 *e*Pdif **Pdif 20 30 20.5 +2.0**
UZH Uzhgorod 112.53 46 *i* PKIKP **PKiKP 20 34 16.5 +2.3**
UZH *e* 20 34 30.3
UZH *e* 20 35 01.3
UZH *e*PPP PPP 20 37 21.8
UZH *e* 20 40 56.8
VLAD Vladila 112.53 51⇑*i*P **PKKPab 20 45 14.3 +3.9**
TRPA Tarpa 112.54 46⇑*i*P **PKiKP 20 34 14.0 -0.3**
TRPA Tarpa 112.54 46⇓*i*P **PKKPab 20 45 06.3 -3.8**
BEL Belsk 112.56 42 *e*PKP **PKiKP 20 34 15.9 +1.7**
BEL *e*PP **PP 20 34 58.3 -3.4**
BEL *e*PS **PS 20 44 38.4 +2.2**
BEL LMZ LR 21 17 42.3
comp=Z,43µm,25.1s
BEL Belsk 112.56 42 *e*PKIKP **PKiKP 20 34 15.9 +1.7**
BEL *e* 20 34 58.3
BEL *e*PS **PS 20 44 38.4 +2.2**
BEL MLR MLR
comp=Z,43µm,25.1s
ANKE Ethiopia-Afar 112.61 91 *i* P **Pdif 20 30 16.5 -4.2**
ANKE *i* S **SKSdf 20 41 18.5 -6.5**
ANKE Ethiopia-Afar 112.61 91 *i* P **Pdif 20 30 16.5 -4.2**
ANKE *i* S **SKSdf 20 41 18.5 -6.5**
ALN Alexandroupoli 112.74 55 P PP 20 34 53.9 -9.5
STKA Stephens Creek 112.81 210 PKiKP **PKiKP 20 34 14.9 -0.6**
comp=Z,7.0nm,0.8s,baz=50,slow=1.3,SNR=8.0
STKA PKKPbc **PKKPbc 20 45 02.1 -1.0**
comp=Z,8.7nm,0.9s,baz=351,slow=6.2,SNR=8.6
STKA PKKPab **PKKPab 20 45 13.1 -0.8**
comp=Z,10nm,0.8s,baz=331,slow=8.2,SNR=5.6
PVL Pavlikeni 112.94 52 *i* P **PP 20 35 00.9 -3.8**
BMR Baia Mare 113.02 47⇑*i*P **PKiKP 20 34 16.7 +1.5**
BMR Baia Mare 113.02 47⇑PKIKP **PKiKP 20 34 16.7 +1.5**
KWP Kalwaria Pacla 113.09 45 *e*PKP **PKiKP 20 34 16.5 +1.2**
KWP *e*PP **PP 20 35 03.2 -2.5**
KWP LMZ LR 21 19 52.0
comp=Z,51µm,23.1s
KWP Kalwaria Pacla 113.09 45 *e*PKIKP **PKiKP 20 34 16.5 +1.2**
KWP *e* 20 35 03.2
KWP MLR MLR
comp=Z,51µm,23.1s
HUMR Humele 113.09 51⇑*i*P **PKiKP 20 34 16.6 +1.1**
ARR Arges 113.10 50⇑*i*P **Pdif 20 30 26.3 +4.5**
ARR Arges 113.10 50⇑*i*P **PKiKP 20 34 16.5 +0.9**
ARR Arges 113.10 50⇑*i*P **PKKPab 20 45 06.8 -1.1**
DESE Dese 113.19 90 *i* P **Pdif 20 30 28.7 +5.5**
DESE *e*P **SP 20 44 29.7 -8.4**
DESE Dese 113.19 90 *i* P **Pdif 20 30 28.7 +5.5**
DESE *e*P **SP 20 44 29.7 -8.4**
MTUR Matau 113.35 50⇑*i*P **PKKPdf 20 45 22.2 -1.3**
SZH Strazhica 113.38 52 *i* P **PP 20 35 03.9 -4.0**
VOIR 113.40 50⇑*i*P **Pdif 20 30 27.6 +4.5**
VOIR 113.40 50⇑*i*P **PKiKP 20 34 13.3 -2.9**
VOIR 113.40 50⇑PKIKP **PKiKP 20 34 13.3 -2.9**
ARCR ARCALIA 113.41 48⇑*i*P **PKiKP 20 34 17.3 +1.3**
JMB Yambol 113.60 53 *i* P **PP 20 35 06.0 -3.4**
TARA Tarawa 113.62 258 PFAKE 20 34 30.0 +13
TARA LR LR
comp=Z,1µm,22.0s
DOPR Dopca 113.78 49⇓*i*P **Pdif 20 30 32.0 +7.3**
DOPR Dopca 113.78 49⇑*i*P **PKiKP 20 34 17.7 +0.9**
LVV L'vov 113.96 45 *e*PKIKP **PKiKP 20 34 18.1 +1.1**
LVV *e* 20 40 54.9
LVV *i* 20 44 48.6
LVV *e* 20 51 01.7
LVV MLR MLR
comp=N,8µm,22.0s
LVV MLR MLR
comp=E,22µm,22.0s
LVV MLR MLR
comp=Z,24µm,22.0s
SECR 113.98 50⇑*i*P **PKiKP 20 34 17.9 +0.7**
MLR Muntele Rosu 114.02 50⇑*i*P **Pdif 20 30 27.4 +1.5**
MLR Muntele Rosu 114.02 50⇑*i*P **PKiKP 20 34 15.1 -2.3**
MLR Muntele Rosu 114.02 50⇑*i*P **PKKPab 20 45 04.7 +0.8**
MLR Muntele Rosu 114.02 50⇑PKIKP **PKiKP 20 34 15.1 -2.3**
OZUR 114.08 49⇑*i*P **PKiKP 20 34 17.4 0.0**
BURAR Bucovina Array 114.12 47⇑*i*P **Pdif 20 30 28.6 +2.3**
BURAR Bucovina Array 114.12 47⇑*i*P **PKiKP 20 34 19.3 +1.8**
BURAR Bucovina Array 114.12 47⇑*i*P **PKKPab 20 45 06.4 +2.1**
BURAR Bucovina Array 114.12 47⇑PKIKP **PKiKP 20 34 19.3 +1.8**
ISR Istrita 114.32 50⇑*i*P **PKiKP 20 34 19.3 +1.4**
ISR Istrita 114.32 50⇑PKIKP **PKiKP 20 34 19.3 +1.4**
PBUR Paburg 114.35 38 *e*P **PKKPbc 20 44 53.0 -5.5**
PRD Provadia 114.38 53 *i* P **PP 20 35 08.1 -6.9**
BIZ Bicaz 114.52 48⇑*i*P **Pdif 20 30 33.0 +5.0**
BIZ Bicaz 114.52 48⇑*i*P **PKiKP 20 34 18.4 +0.2**
BIZ Bicaz 114.52 48⇑*i*P **PKKPbc 20 44 59.8 +2.1**
SUW Suwalki 114.54 40 *e*PKP PKPdf 20 34 17.7 -0.2
SUW *e*PP **PP 20 35 14.0 -1.8**
SUW *e*PS **PKKPbc 20 44 57.3 -0.5**
SUW LMZ LR 21 16 55.3
comp=Z,23µm,24.8s
SUW Suwalki 114.54 40 *e*PKIKP PKPdf 20 34 17.7 -0.2
SUW *e* 20 35 14.0
SUW *e*PS **PKKPbc 20 44 57.3 -0.5**
SUW MLR MLR
comp=Z,23µm,24.8s
PGOR Pogoanele 114.57 51⇑*i*P PKPdf 20 34 18.1 -0.1
PLOR Plostina 114.59 50⇑*i*P **Pdif 20 30 37.9 +10**
PLOR Plostina 114.59 50⇑*i*P PKPdf 20 34 17.8 -0.6
PLOR Plostina 114.59 50⇑*i*P **PKKPab 20 45 07.1 +5.8**
PLOR Plostina 114.59 50 ⇑PKIKP PKPdf 20 34 17.8 -0.6
VRI Vrincioaia 114.65 50⇓*i*P **Pdif 20 30 40.6 +12**
VRI Vrincioaia 114.65 50⇑*i*P **PKiKP 20 34 18.9 +0.5**
VRI Vrincioaia 114.65 50⇑*i*P **PKKPab 20 45 07.1 +6.1**
VRI Vrincioaia 114.65 50 ⇑PKIKP **PKiKP 20 34 18.9 +0.5**
PRAR RASCA 114.72 48⇑*i*P **PKiKP 20 34 19.5 +1.0**
PRAR RASCA 114.72 48⇑*i*P **PKKPab 20 45 03.8 +3.2**
ODBI Odobesti 114.84 50⇑*i*P **PKiKP 20 34 21.4 +2.6**
ODBI Odobesti 114.84 50⇑*i*P **PKKPab 20 44 56.3 -3.8**
ICOR Ion Corvin 114.91 52⇑*i*P **PKiKP 20 34 20.9 +1.9**
ICOR Ion Corvin 114.91 52⇑*i*P **PKKPab 20 45 06.1 +6.2**
PETR Petresti 114.95 50⇑*i*P **PKKPab 20 45 06.6 +7.0**
PSN Preselentsi 115.06 52 *i* P **PP 20 35 16.2 -3.6**
HARR Harsova 115.16 51⇑*i*P **PKPdf 20 34 18.0 -1.4**
HARR Harsova 115.16 51⇑*i*P **PKKPab 20 45 02.4 +3.6**
HARR Harsova 115.16 51 ⇑PKIKP **PKPdf 20 34 18.0 -1.4**
TLB Topalu 115.21 51⇑*i*P **PKiKP 20 34 19.9 +0.4**
TLB Topalu 115.21 51⇑*i*P **PKKPab 20 44 59.9 +1.3**
TLB Topalu 115.21 51 ⇑PKIKP **PKiKP 20 34 19.9 +0.4**
PABE Paberze 115.34 39 *e*P **PKKPab 20 44 55.7 -1.7**
CFR Carcaliu 115.43 51⇑*i*P **PKPdf 20 34 19.1 -0.8**
CFR Carcaliu 115.43 51⇑*i*P **PKKPab 20 45 01.1 +3.5**
CFR Carcaliu 115.43 51 ⇑PKIKP **PKPdf 20 34 19.1 -0.8**
TIRR Tirgusor 115.43 51 *e*PKPdf **PKPdf 20 34 19.1 -0.8**
TIRR Tirgusor 115.43 51⇑*i*P **Pdif 20 30 29.5 -2.5**
TIRR Tirgusor 115.43 51⇑*i*P **PKPdf 20 34 19.2 -0.7**
TIRR Tirgusor 115.43 51⇑*i*P **PKKPab 20 45 01.0 +3.4**
TIRR Tirgusor 115.43 51 ⇑PKIKP **PKPdf 20 34 19.2 -0.7**
IAS Iasi 115.55 48⇑*i*P **PKiKP 20 34 21.6 +1.5**
IAS Iasi 115.55 48 ⇑PKIKP **PKiKP 20 34 21.6 +1.5**
LEOM Leova 115.83 49⇑*i*P **PKiKP 20 34 21.5 +0.9**
LEOM Leova 115.83 49 ⇑PKIKP **PKiKP 20 34 21.5 +0.9**
TLCR 115.89 51⇓*i*P **PKiKP 20 34 21.1 +0.3**
TLCR 115.89 51 ⇓PKIKP **PKiKP 20 34 21.1 +0.3**
KBS Kingsbay 116.01 12 PFAKE 20 34 30.0 +10
KBS LR LR
comp=Z,13µm,19.0s
ATD Arta Tunnel 116.20 91 PP PP 20 35 28.7 +0.3
comp=Z,13nm,0.9s,baz=274,slow=3.8,SNR=6.4
ATD Arta Tunnel 116.20 91 *e*P **PP 20 35 26.6 -1.8**
ATD *e*S **PS 20 45 11.0 +0.2**
MIDW Midway 116.21 289 PFAKE 20 34 30.0 +8.1
MIDW LR LR
comp=Z,22µm,22.0s
KIS Kishinev 116.34 49 *e*P **Pdif 20 30 34.0 -2.0**
KIS *e* 20 34 20.5
KIS *e* 20 34 36.5
KIS *e* 20 35 26.5
KIS *e*PPP PPP 20 38 06.0
KIS *e*PS **PS 20 45 12.0 +1.0**
KIS *e*PPS PPS 20 46 25.0
KIS pmax pmax
comp=Z,270nm,2.0s
KIS MLR MLR
comp=Z,20µm,21.0s
CSS Mathiatis 116.46 63 *e*PKPdf **PKPdf 20 34 21.8 -0.4**
CSS Mathiatis 116.46 63 P **PKiKP 20 34 22.3 0.0**
SPITS Spitsbergen Ar 116.74 13 PKP **PKPdf 20 34 20.1 -1.5**
comp=Z,10nm,0.8s,baz=102,slow=7.8,SNR=7.8
SPITS PKKPbc **PKKPab 20 44 48.7 -1.9**
comp=Z,22nm,0.8s,baz=86,slow=14,SNR=9.7
NACGM Naroch 116.79 40 *e*PKP **PKPdf 20 34 22.0 -0.2**
NACGM *e*SKSP 20 45 14.0
NACGM *e*SS SS 20 52 01.0 +26
NACGM *e*SSS SSS 20 56 20.0
NACGM *e*LQ LQ 21 08 26.0
NACGM *e*LR LR 21 16 36.0
NACGM LRM MLR 21 20 44.0
comp=Z,32nm,22.0s
ANM Nome 116.91 331 *e*PKPdf **PKiKP 20 34 23.8 +1.6**
MICGM Minsk 117.34 40⇓*e*PKP **PKPdf 20 34 22.0 -1.3**
MICGM PKPM 20 34 25.0
comp=Z,0.4nm,1.5s
MICGM *e*pPKP **pPKPdf 20 34 39.0 +1.4**
MICGM *e*PP **PP 20 35 32.0 -3.4**
MICGM *e*PPP PPP 20 38 16.0
MICGM *e*SKS SKSdf 20 40 36.0 -55
MICGM *e*SKKS SKKSac 20 42 48.0 +16
MICGM *e*SP **SP 20 45 18.0 +4.4**
MICGM *e*PS **PS 20 45 26.0 +6.2**
MICGM *e*SPP SPP 20 46 52.0
MICGM *e*SS **SS 20 51 44.0 +1.7**
MICGM *e*SSS SSS 20 57 14.0
MICGM *e*LR LR 21 11 08.0
MICGM LRM MLR 21 23 24.0
comp=E,19nm,20.0s
MICGM LRM MLR 21 23 28.0
comp=E,28nm,20.0s
MICGM LRM MLR 21 23 32.0
comp=Z,65nm,20.0s
MICGM LRM MLR 21 23 32.0
comp=N,7.9nm,16.0s
MICGM LRM MLR 21 23 36.0
comp=Z,47nm,20.0s
MICGM LRM MLR 21 23 36.0
comp=N,8.0nm,20.0s
MNK Minsk 117.34 40 *e*PKIKP **PKPdf 20 34 22.0 -1.3**
MNK *e* 20 34 39.0
MNK *e* 20 35 32.0
MNK *e*PPP PPP 20 38 16.0
MNK *e*SP SP 20 45 18.0 +4.4
MNK *e*SS **SS 20 51 44.0 +1.7**
AK11 Malin Array Si 117.37 45 *e*PKPdf **PKPdf 20 34 21.8 -1.7**
ANTO Ankara 117.39 57 *e*PKPdf **PKPdf 20 34 23.6 -0.4**
ANTO LR LR
comp=Z,19µm,19.0s
ANTO Ankara 117.39 57⇑*i*P **PKPdf 20 34 23.7 -0.3**
ANTO Ankara 117.39 57 ⇑PKIKP **PKPdf 20 34 23.7 -0.3**
ANTO Ankara 117.39 57 P **PKiKP 20 34 24.3 +0.3**
SNR=13
KIEV Kiev 117.40 45 *e*PKPdf **PKPdf 20 34 22.0 -1.5**
KIEV LR LR
comp=Z,23µm,21.0s
KIEV Kiev 117.40 45⇑*i*P **PKPdf 20 34 22.1 -1.4**
KIEV Kiev 117.40 45 *i* P **PKPdf 20 34 22.9 -0.6**
SNR=23
KIEV Kiev 117.40 45*c i*PKIKP **PKiKP 20 34 23.6 +0.1**
KIEV MLR MLR
comp=Z,29µm,24.0s
VSU Vasula 117.41 36*c i*PKIKP **PKiKP 20 34 24.0 +0.7**
VSU pmax pmax
comp=Z,240nm,0.7s
VSU Vasula 117.41 36 *e*P **PKKPdf 20 45 09.4 -6.5**
AKASG Malin Array Be 117.41 45 PKP **PKPdf 20 34 21.8 -1.7**
comp=Z,26nm,0.8s,baz=264,slow=2.7,SNR=39
AKASG PP **PP 20 35 30.2 -5.7**
comp=Z,27nm,1.0s,baz=257,slow=7.2,SNR=8.8
AKASG PKKPab **PKKPbc 20 44 48.0 +0.4**
comp=Z,1.3nm,0.5s,baz=65,slow=4.0,SNR=5.2
AKASG Malin Array Be 117.41 45 PKIKP **PKPdf 20 34 21.8 -1.7**
AKASG pmax pmax
comp=Z,28nm,0.8s
AKBB Malin Array Si 117.41 45 *e*PKPdf **PKPdf 20 34 22.0 -1.5**
AKBB Malin Array Si 117.41 45 *e*PKIKP **PKPdf 20 34 22.0 -1.5**
FINES FINESS Array B 117.55 33 PKP **PKPdf 20 34 23.2 -0.3**
comp=Z,11nm,0.7s,baz=70,slow=2.2,SNR=13
FINES PP **PP 20 35 35.1 -1.4**
comp=Z,32nm,1.1s,baz=241,slow=6.3,SNR=5.4
FINES PKKPab **PKKPbc 20 44 46.5 -0.9**
comp=Z,10nm,1.1s,baz=83,slow=4.6,SNR=5.7
FIA1 FINESS Array S 117.55 33 *e*PKPdf **PKiKP 20 34 24.8 +1.3**
FIA1 *e*PKPdf **PKPdf 20 34 26.0 +2.5**
BRTR Keskin Array B 117.98 58 PKP **PKPdf 20 34 24.7 -0.6**
comp=Z,17nm,0.8s,baz=194,slow=3.2,SNR=30
BRTR PKKPab **PKKPab 20 44 49.0 +2.0**
comp=Z,4.3nm,0.9s,baz=107,slow=3.2,SNR=5.1
BR131 Keskin Array S 117.99 58 *e*PKPdf **PKPdf 20 34 24.6 -0.6**
BR131 Keskin Array S 117.99 58 P **PKPdf 20 34 24.4 -0.9**
SNR=13
ARCES ARCESS Array B 118.25 23 PKP **PKiKP 20 34 24.7 0.0**
comp=Z,6.3nm,0.8s,baz=208,slow=2.3,SNR=7.7
ARCES PKKPbc **PKKPab 20 44 43.8 -0.4**
comp=Z,5.6nm,0.6s,baz=93,slow=3.2,SNR=18
HNR Honiara 118.30 240 PFAKE 20 34 40.0 +14
HNR LR LR
comp=Z,14µm,22.0s
ASF Jabal al Asfar 118.50 67 PKP **PKiKP 20 34 28.4 +2.0**
FORT Forrest 118.71 199 *e*PKPdf **PKPdf 20 34 25.7 -1.1**
KEV Kevo 118.79 23 PFAKE 20 34 40.0 +14
KEV LR LR
comp=Z,19µm,20.0s
NWAO Narrogin (SRO) 118.81 188 PKP **PKPdf 20 34 26.7 -0.4**
comp=Z,20nm,0.6s,baz=59,slow=5.1,SNR=11
NWAO PKKPbc **PKKPbc 20 44 43.2 +0.8**
comp=Z,14nm,0.8s,baz=208,slow=3.6,SNR=4.9
NWAO Narrogin (SRO) 118.81 188 PKP **PKPdf 20 34 26.7 -0.4**
NWAO PKKPbc **PKKPbc 20 44 43.2 +0.8**
NWAO LR LR
comp=Z,13µm,21.0s
PUL Pulkovo 119.41 35⇑*i*PKIKP **PKiKP 20 34 28.4 +1.2**
PUL Pulkovo 119.41 35 *e*P PKKPdf 20 45 26.8 +15
SIM Simferopol' 119.50 52*c i*PKIKP **PKiKP 20 34 29.3 +1.5**
SIM *e*PPP PPP 20 38 23.0
SIM *e*PS **PS 20 45 43.0 +3.3**
SIM pmax pmax
comp=Z,2µm,10.4s
SIM MLR MLR
comp=Z,21µm,22.3s
CUSAR Sarkisla-SIVAS 119.87 59 *i* P **PKPdf 20 34 28.8 -0.1**
CTA Charters Tower 120.12 221 PKP **PKPdf 20 34 29.2 -0.7**
comp=Z,25nm,1.0s,baz=123,slow=0.8,SNR=19
CTA PKKPab **PKKPab 20 44 40.2 -1.2**
comp=Z,15nm,0.8s,baz=338,slow=4.4,SNR=13
CTAO Charters Tower 120.12 221 *e*PKPdf **PKiKP 20 34 30.4 +0.5**
CTAO LR LR
comp=Z,14µm,22.0s
CUALT Altinyayla-SIV 120.22 59 *i* P **PKiKP 20 34 32.1 +2.5**
CUKAN kangal_SIVAS 120.77 59 *i* P **PKiKP 20 34 32.4 +1.7**
APA Apatity 121.10 26⇓*i*PKIKP **PKiKP 20 34 31.0 +0.7**
APA *i* 20 35 57.0
APA *i* 20 45 56.0
APA pmax pmax
comp=Z,26nm,0.7s
CUZAR Zara_SIVAS 121.12 58 *i* P **PKiKP 20 34 32.9 +1.5**
ADK Adak 121.12 316 PFAKE 20 34 40.0 +9.2
ADK LR LR
comp=Z,15µm,22.0s
LVZ Lovozero 121.56 25 *e*PKPdf **PKiKP 20 34 32.7 +1.5**
LVZ LR LR
comp=Z,7µm,20.0s
LVZ Lovozero 121.56 25*d i*PKIKP **PKiKP 20 34 32.7 +1.5**
LVZ pmax pmax
comp=Z,47nm,0.8s
LVZ MLR MLR
comp=Z,12µm,19.0s
ANN Anapa 121.79 53*c i*PKIKP **PKPdf 20 34 30.9 -1.2**
ANN *i* 20 36 02.7
ANN *i* PPP PPP 20 38 39.6
ANN *e* 20 41 23.3
ANN *e*PS **PS 20 45 55.3 -4.8**
ANN *e*SS SS 20 52 43.6 +3.5
ANN pmax pmax
comp=N,57nm,1.0s
ANN pmax pmax
comp=Z,163nm,1.1s
ANN pmax pmax
comp=E,23nm,1.0s
ANN MLR MLR
comp=N,30µm,23.0s
ANN MLR MLR
comp=Z,22µm,23.0s
OBN Obninsk 122.40 40 *e*PKPdf **PKPdf 20 34 31.9 -1.1**
OBN LR LR
comp=Z,20µm,21.0s
OBN Obninsk 122.40 40⇑*i*P **PKPdf 20 34 32.3 -0.7**
OBN Obninsk 122.40 40⇓*i*PKIKP **PKPdf 20 34 32.2 -0.7**
OBN *e* 20 36 08.0
OBN pmax pmax
comp=Z,293nm,1.3s
OBN MLR MLR
comp=Z,34µm,21.0s
MORW Morawa 122.76 187 *e*PKPdf **PKPdf 20 34 33.3 -1.4**
MOS Moscow 123.04 40 *i* PKIKP **PKPdf 20 34 33.0 -1.2**
MOS *e* 20 36 11.7
MOS *e* 20 47 44.1
MOS *e*SS SS 20 52 55.2 -0.1
MOS pmax pmax
comp=Z,214nm,1.1s
MOS pmax pmax
comp=Z,400nm,1.5s
MOS MLR MLR
comp=N,10µm,20.0s
MOS MLR MLR
comp=E,10µm,20.0s
MOS MLR MLR
comp=Z,16µm,20.0s
RAYN Ar Rayn 123.12 79 *e*PKPdf **PKPdf 20 34 35.5 0.0**
RAYN LR LR
comp=Z,30µm,21.0s
RAYN Ar Rayn 123.12 79 *i* P **PKPdf 20 34 34.8 -0.7**
SNR=8.3
SOC Sochi 123.22 54 *e*P **Pdif 20 31 07.5 +0.8**
SOC *i* 20 34 35.4
SOC *e* 20 36 14.3
SOC *e*PPP PPP 20 38 51.4
SOC *e*PS **PS 20 46 11.5 -1.4**
SOC *e*SS SS 20 53 13.4 +15
SOC *e*SSS SSS 20 57 33.1
SOC pmax pmax
comp=Z,136nm,1.0s
SOC MLR MLR
comp=Z,10µm,21.0s
AS01 Alice Springs 123.23 207 *e*PKPdf **PKPdf 20 34 34.0 -1.8**
ASAR Alice Springs 123.24 207 PKhKP PKPpre 20 34 25.5
comp=Z,1.4nm,0.9s,baz=150,slow=1.9,SNR=4.2
ASAR PKP **PKPdf 20 34 34.4 -1.5**
comp=Z,13nm,0.6s,baz=138,slow=2.0,SNR=19
ASAR PKKPbc **PKKPbc 20 44 26.4 +0.7**
comp=Z,11nm,0.7s,baz=340,slow=3.8,SNR=30
ASAR SKKPbc SKKPbc 20 48 08.6 -0.6
comp=Z,9.8nm,0.9s,baz=8.4,slow=2.6,SNR=5.4
ASAR SKKP 20 48 36.3
comp=Z,13nm,1.0s,baz=348,slow=4.1,SNR=4.6
ASAR PKPPKP **P'P'df 20 53 13.7 -4.1**
comp=Z,0.5nm,0.7s,baz=317,slow=0.9,SNR=4.4
AS31 Alice Springs 123.25 207 *e*PKPdf **PKPdf 20 34 33.3 -2.5**
LPSR Galich'ya Gora 123.65 44 *e*PKIKP **PKiKP 20 34 36.0 +0.3**
LPSR *i* 20 34 52.5
LPSR pmax pmax
comp=Z,210nm,0.9s
LPSR MLR MLR
comp=Z,11µm,17.0s
VSR Storozhevoye 123.70 45 *e*PKIKP **PKPdf 20 34 34.4 -1.2**
VSR *i* 20 34 50.8
VSR *e*PS **PS 20 46 07.5 -9.4**
VSR pmax pmax
comp=Z,140nm,0.9s
VSR MLR MLR
comp=Z,23µm,23.0s
VORR Voronezh 123.76 45 PKIKP **PKPdf 20 34 35.0 -0.7**
VORR pmax pmax
comp=Z,300nm,1.0s
KLMR Klimovskoe 124.02 34⇑*i*PKIKP **PKPdf 20 34 35.4 -0.5**
KLMR *e* 20 34 51.7
KLMR pmax pmax
comp=Z,281nm,1.1s
KLMR Klimovskoe 124.02 34⇑*i*PKPdf **PKPdf 20 34 35.4 -0.5**
KLMR *e*PKPdf **PKPdf 20 34 35.4 -0.5**
KLMR *e*PKPdf **PKPdf 20 34 35.4 -0.5**
KLMR AMP 20 34 40.1
comp=Z,281nm,1.1s
KLMR *e*pPKPdf **pPKPdf 20 34 51.7 +1.4**
KLMR PKKP **PKKPdf 20 45 03.9 +0.7**
KLMR SKKPbc SKKPbc 20 47 39.8 -32
DOMR Dombai 124.56 55⇑*i*PKIKP **PKPdf 20 34 36.2 -1.6**
VRH Novokhopyorsk 125.31 45 *e*PKIKP **PKiKP 20 34 39.6 +0.5**
VRH *i* 20 34 55.1
VRH *e*PS **PS 20 46 22.8 -8.2**
VRH pmax pmax
comp=Z,140nm,1.2s
VRH MLR MLR
comp=Z,28µm,22.0s
NEY Neytrino 125.35 55⇓*i*PKIKP **PKiKP 20 34 40.6 +0.9**
KIV Kislovodsk 125.40 54 *e*PKPdf **PKPdf 20 34 39.1 -0.2**
KIV LR LR
comp=Z,24µm,22.0s
KIV Kislovodsk 125.40 54⇑*i*P **PKiKP 20 34 40.1 +0.5**
KIV Kislovodsk 125.40 54 *i* P **PKiKP 20 34 40.2 +0.5**
SNR=13
KIV Kislovodsk 125.40 54 *e*P **Pdif 20 31 17.5 +0.9**
KIV *i* 20 34 40.8
KIV *e* 20 36 31.1
KIV *e*PPP PPP 20 39 12.1
KIV *e* 20 41 39.7

KIV ePS PS 20 46 32.6 +0.2
KIV eSS SS 20 53 26.8 +0.7
KIV eSSS SSS 20 58 05.9
KIV pmax pmax
comp=Z,162nm,1.1s
KIV MLR MLR
comp=Z,27µm,23.0s
KIV Kislovodsk 125.40 54 P **PKPdf 20 34 38.3 -1.0**
SNR=23
KBZ Khabaz 125.53 55 PKhKP PKPpre 20 34 30.9
comp=Z,6.3nm,1.0s,baz=164,slow=1.9,SNR=5.6
KBZ PKP **PKPdf 20 34 38.9 -0.5**
comp=Z,88nm,1.0s,baz=306,slow=1.7,SNR=19
GOF Gofitskoye 125.78 53 ePKIKP **PKiKP 20 34 40.1 -0.1**
GOF i 20 36 32.2
GOF pmax pmax
comp=Z,310nm,1.3s
NCK Nalchik 126.01 55⇓iPKIKP **PKPdf 20 34 40.4 0.0**
ZEI Tsey 126.15 56 iPKIKP **PKiKP 20 34 41.7 +0.4**
ZEI pmax pmax
comp=Z,68nm,1.2s
WB2 Warramunga Arr 126.35 210 ePKPdf **PKPdf 20 34 39.6 -2.3**
WB2 ePKPdf **PKiKP 20 34 40.2 -2.0**
WRA Warramunga Arr 126.36 210 PKhKP PKPpre 20 34 30.5
comp=Z,1.4nm,0.7s,baz=200,slow=0.5,SNR=12
WRA PKP **PKPdf 20 34 40.6 -1.2**
comp=Z,127nm,0.8s,baz=159,slow=1.7,SNR=138
WRAB Tennant Creek 126.36 210 PFAKE 20 34 50.0 +7.7
WRAB LR LR
comp=Z,13µm,22.0s
WRAB Tennant Creek 126.36 210c iPKIKP **PKPdf 20 34 40.5 -1.3**
GNI Garni 126.43 59 ePKPdf **PKPdf 20 34 41.3 -0.1**
GNI LR LR
comp=Z,15µm,21.0s
GNI Garni 126.43 59 iP **PKiKP 20 34 43.2 +1.3**
SNR=10.0
GNI Garni 126.43 59c iPKIKP **PKPdf 20 34 41.4 -0.1**
GNI pmax pmax
comp=Z,685nm,1.3s
GNI MLR MLR
comp=Z,42µm,23.0s
GNI Garni 126.43 59 P **PKiKP 20 34 42.0 0.0**
SNR=12
TBLG Delisi 126.64 57 ePKPdf **PKPdf 20 34 41.3 -0.3**
COEN Coen 126.74 223 ePKPdf **PKPdf 20 34 42.7 +0.1**
PRGR Permogore 126.88 32 ePKIKP **PKPdf 20 34 41.6 +0.2**
PRGR pmax pmax
comp=Z,201nm,0.9s
WAKE Wake Island 126.99 274 PFAKE 20 35 00.0 +17
WAKE LR LR
comp=Z,18µm,22.0s
GROC Groznyy 127.57 56 ePKIKP **PKPdf 20 34 41.8 -1.5**
GROC e 20 36 42.8
GROC e 20 41 48.3
GROC pmax pmax
comp=Z,175nm,1.4s
PMG Port Moresby 127.61 230 PKP **PKiKP 20 34 44.9 0.0**
comp=Z,124nm,1.0s,baz=15,slow=2.1,SNR=19
BILL Bilibino 127.91 336 ePKPpre PKPpre 20 34 34.3
BILL ePKPdf **PKPdf 20 34 42.9 -0.3**
BILL LR LR
comp=Z,13µm,20.0s
BILL Bilibino 127.91 336c iPKIKP **PKPdf 20 34 43.1 -0.1**
BILL e 20 36 51.4
BILL ePPP PPP 20 39 33.3
BILL e 20 41 54.6
BILL pmax pmax
comp=Z,143nm,1.3s
WHFO Wadi Hawf 128.44 89 P **PKiKP 20 34 48.8 +2.4**
SNR=7.5
MAK Makhachkala 128.80 56 eP **Pdif 20 31 33.2 +1.7**
MAK i 20 34 46.2
MAK e 20 36 51.5
MAK ePPP PPP 20 39 39.0
MAK e 20 41 50.3
MAK eSS SS 20 54 34.3 +26
MAK eSSS SSS 20 59 00.4
MAK pmax pmax
comp=Z,177nm,1.3s
MAK pmax pmax
comp=Z,2µm,5.1s
DMTO DMTO 129.40 90 P **PKiKP 20 34 49.4 +1.1**
SNR=6.5
H08S1 Diego Carcia H 129.84 130 PKP **PKiKP 20 34 51.0 +2.0**
baz=330,slow=6.7,SNR=13
H08S2 Diego Garcia H 129.85 130 PKP **PKiKP 20 34 51.3 +2.3**
baz=330,slow=6.7,SNR=14
H08S3 Diego Garcia H 129.86 130 PKP **PKiKP 20 34 50.9 +1.8**
baz=330,slow=6.7,SNR=9.7
MBWA Marble Bar 129.96 193 PFAKE 20 35 00.0 +11
MBWA LR LR
comp=Z,10µm,22.0s
MBWA Marble Bar 129.96 193 P **PKPdf 20 34 47.9 -0.7**
SNR=9.0
MBWA Marble Bar 129.96 193 eP **PKiKP 20 34 50.9 +1.4**
DGAR Diego Garcia 130.00 129 ePKPdf **PKiKP 20 34 51.9 +2.2**
DGAR LR LR
comp=Z,9µm,20.0s
FITZ Fitzroy Crossi 131.36 201 PKhKP PKPpre 20 34 35.6
comp=Z,8.3nm,1.0s,baz=194,slow=5.8,SNR=3.9
FITZ PKP **PKPdf 20 34 50.5 -0.8**
comp=Z,80nm,0.7s,baz=191,slow=5.4,SNR=63
FITZ SKPbc **SKPab 20 38 14.9 +1.8**
comp=Z,39nm,1.1s,baz=176,slow=3.5,SNR=4.7
AJN Ajban 131.69 81 iP **PKiKP 20 34 52.3 -0.4**
SNR=11
AJN Ajban 131.69 81 P **PKPdf 20 34 51.2 -0.5**
SNR=11
ALNE Al Ain 132.21 82 iP **PKiKP 20 34 53.3 -0.5**
SNR=16
FAQ Al Faqa, Dubai 132.27 81 iP **PKPdf 20 34 53.1 +0.3**
SNR=24
FAQ Al Faqa, Dubai 132.27 81 P **PKPdf 20 34 48.1 -4.8**
SNR=22
NAZ Nazwa, Dubai 132.40 81 iP **PKiKP 20 34 54.0 -0.2**
SNR=17
NAZ Nazwa, Dubai 132.40 81 P **PKPdf 20 34 52.1 -0.9**
SNR=15
DQM DQM 132.48 88 P **PKPdf 20 34 52.4 -1.0**
SNR=14
UMQ Umm Al-Quwin 132.54 80 iP **PKPdf 20 34 53.8 +0.6**
SNR=6.9
UMQ Umm Al-Quwin 132.54 80 P **PKPdf 20 34 52.5 -0.7**
SNR=6.3
ASHO Ashiyiah 132.66 81 iP **PKPdf 20 34 54.0 +0.4**
SNR=9.0
ASHO Ashiyiah 132.66 81 P **PKPdf 20 34 52.7 -0.9**
SNR=11
HATD Hatta, Dubai 132.76 81 iP **PKPdf 20 34 53.1 -0.7**
SNR=10
HATD Hatta, Dubai 132.76 81 P **PKPdf 20 34 52.9 -0.8**
SNR=12
UOSS Minazif 132.86 81 ePKPdf **PKPdf 20 34 52.7 -1.3**
UOSS Minazif 132.86 81 iP **PKPdf 20 34 53.1 -0.8**
SNR=7.0
UOSS Minazif 132.86 81 P **PKPdf 20 34 52.5 -1.4**
SNR=7.0
SOHO SOHO 132.92 82 P **PKPdf 20 34 53.3 -0.7**
SNR=28
MSFE Esma-Masafi 132.93 81 iP **PKPdf 20 34 54.5 +0.4**
SNR=9.0
MDH Madha 133.04 81 iP **PKPdf 20 34 54.1 -0.2**
SNR=8.4
MDH Madha 133.04 81 P **PKPdf 20 34 53.9 -0.3**
SNR=5.1
SHME Shamm 133.10 80 iP **PKPdf 20 34 55.0 +0.6**
SNR=11
MHTO MHTO 133.22 87 P PKPpre 20 34 46.9
SNR=30
JMDO Jabal Madar 133.78 85 P **PKPdf 20 34 55.0 -0.8**
SNR=5.2
WSAR Wadi Sarin 134.50 84 PKhKP PKPpre 20 34 43.9
comp=Z,8.0nm,0.9s,baz=205,slow=5.5,SNR=5.1
WSAR PKP **PKPdf 20 34 56.5 -0.5**
comp=Z,65nm,0.8s,baz=285,slow=2.8,SNR=15
WSAR PP **PP 20 37 28.3 -2.1**
comp=Z,52nm,1.1s,baz=272,slow=2.8,SNR=5.1
WSAR Wadi Sarin 134.50 84 P **PKPdf 20 34 56.0 -1.0**
SNR=18
ARU Arti 134.55 37 ePKPpre PKPpre 20 34 46.6
ARU ePKPdf **PKPdf 20 34 55.1 -0.9**
ARU LR LR
comp=Z,19µm,22.0s
ARU Arti 134.55 37 iPKIKP **PKPdf 20 34 56.5 +0.4**
ARU 20 37 26.5
ARU 20 42 01.5
ARU SS SS 20 55 11.6 -5.7
ARU MLR MLR
comp=Z,36µm,22.0s
JLN Jalan Bani Buh 134.86 86 P PKPpre 20 34 48.8
SNR=22
TIXI Tiksi 135.06 351 PKhKP PKPpre 20 34 42.7
comp=Z,4.9nm,0.8s,baz=25,slow=4.3,SNR=11
TIXI PKP
comp=Z,30nm,0.8s,baz=47,slow=2.6,SNR=16
TIXI Tiksi 135.06 351 PKPpre PKPpre 20 34 42.7
TIXI PKP **PKPdf 20 34 55.8 -0.8**
TIXI LR LR
comp=Z,17µm,22.0s
TIXI Tiksi 135.06 351c iPKIKP **PKPdf 20 34 55.8 -0.8**
TIXI pmax pmax
comp=Z,249nm,2.5s
TIXI MLR MLR
comp=Z,19µm,24.0s
SEY Seymchan 135.32 334 PKhKP PKPpre 20 34 45.6
comp=Z,4.4nm,0.7s,baz=100,slow=3.1,SNR=13
SEY PKP **PKPdf 20 34 57.0 -0.4**
comp=Z,83nm,0.8s,baz=111,slow=4.1,SNR=40
SEY Seymchan 135.32 334⇑iPKIKP **PKPdf 20 34 57.7 +0.4**
SVE Sverdlovsk 135.52 36 iPKIKP **PKPdf 20 34 58.4 +0.5**
SVE e 20 37 35.3
SVE e 20 49 42.0
SVE eSS SS 20 55 51.7 +23
SVE pmax pmax
comp=Z,274nm,1.9s
SVE MLR MLR
comp=Z,27µm,22.0s
SVE MLR MLR
comp=N,7µm,21.0s
SVE MLR MLR
comp=E,22µm,23.0s
PET Petropavlovsk 136.04 319 ePKPdf **PKiKP 20 35 01.0 +0.4**
PET LR LR
comp=Z,9µm,22.0s
PET Petropavlovsk 136.04 319 ePKHKP PKPpre 20 34 47.4
PET i 20 37 44.0
PET eP **PP 20 47 49.0 -15**
PET ePPS PPS 20 49 49.3
PET eSS SS 20 55 37.2 +1.9
PET pmax pmax
comp=Z,72nm,1.1s
PET pmax pmax
comp=Z,5µm,23.8s
PETK Petropavlovsk- 136.57 319 PKhKP PKPpre 20 34 50.4
comp=Z,18nm,0.9s,baz=102,slow=4.9,SNR=12
PETK PKP **PKiKP 20 35 01.6 -0.1**
comp=Z,104nm,0.9s,baz=96,slow=4.0,SNR=16
GEYT Alibeck 136.60 63 PKhKP PKPpre 20 34 47.4
comp=Z,3.0nm,0.5s,baz=250,slow=4.3,SNR=8.8
GEYT PKP **PKPdf 20 35 00.1 -0.5**
comp=Z,62nm,0.9s,baz=274,slow=3.8,SNR=22
GEYT PP **PP 20 37 40.4 -2.9**
comp=Z,30nm,1.0s,baz=308,slow=5.3,SNR=4.4
GYA0B ALIBECK ARRAY136.60 63 ePKPpre PKPpre 20 34 47.3
GYA0B ePKPpre PKPpre 20 34 50.8
ABKAR Akbulak array 137.10 47 ePKPpre PKPpre 20 34 50.0
MA2 Magadan 137.68 330 PKhKP PKPpre 20 34 53.2
comp=Z,5.1nm,0.7s,baz=110,slow=3.8,SNR=7.1
MA2 PP **PP 20 37 52.3 +3.3**
comp=Z,17nm,0.9s,baz=58,slow=6.5,SNR=5.5
MA2 Magadan 137.68 330 ePKPpre PKPpre 20 34 54.0
MA2 PP **PP 20 37 52.3 +3.3**
MA2 LR LR
comp=Z,9µm,20.0s
MA2 Magadan 137.68 330⇑iPKIKP **PKiKP 20 35 04.8 +1.0**
MA2 MLR MLR
comp=Z,10µm,22.0s
SKR Severo-Kuril's 138.15 316 ePKHKP PKPpre 20 34 48.0
SKR e 20 37 54.1
SKR ePPP PPP 20 41 02.2
SKR ePPS PPS 20 50 03.4
SKR eSS SS 20 56 04.5 +4.0
SAUI Saumlaki 138.20 214 ePKPdf **PKPdf 20 35 00.7 -3.6**
COCO West Island 138.21 162 ePKPdf **PKiKP 20 35 05.6 -0.7**
COCO LR LR
comp=Z,11µm,21.0s
BATI Baumata 139.39 202 PKhKP PKPpre 20 34 58.8
comp=Z,34nm,0.7s,baz=269,slow=2.2,SNR=17
BATI Baumata 139.39 202 PKP PKPpre 20 35 01.5
SOEI Soe 139.60 203 ePKPpre PKPpre 20 34 56.9
SOEI ePKPpre PKPpre 20 35 01.0
SOEI Soe 139.60 203 PKP PKPpre 20 35 03.3
BASI Baing, Sumba 140.31 198 PKP **PKPdf 20 35 05.5 -2.6**
MNCY Minicoy 140.68 113 eP **PKPdf 20 35 07.3 -1.4**
MMRI Maumere 141.33 201 ePKPpre PKPpre 20 35 01.4
MMRI Maumere 141.33 201 PKP PKPpre 20 35 06.6
EDFI Ende, Flores 141.39 200 PKP PKPpre 20 35 01.3
EDFI PKP **PKPdf 20 35 03.5 -6.7**
XMIS Christmas Isla 141.49 175 ePKPdf PKPpre 20 35 06.4
FAKI Fak Fak 141.96 220 ePKPdf **PKPdf 20 35 08.8 -2.2**
FAKI Fak Fak 141.96 220 PKP **PKPdf 20 35 09.5 -1.6**
RKPI Ransiki, Papua 141.96 223 PKP PKPpre 20 35 06.3
BRVK Borovoye 142.10 38 ePKPpre PKPpre 20 35 04.9
BRVK LR LR
comp=Z,14µm,22.0s
BRVK Borovoye 142.10 38⇓ePKIKP **PKPdf 20 35 07.5 -2.6**
BRVK MLR MLR
comp=Z,23µm,22.0s
BRVK Borovoye 142.10 38 P PKPpre 20 35 04.8
SNR=33
PLAI Plampang 142.34 194 PKP **PKPdf 20 35 09.4 -2.3**
IGBI Denpasar 142.83 190 PKP **PKPdf 20 35 09.9 -2.7**
JAGI Jajag, Banyuwa 143.31 188 PKP PKPbc 20 35 11.4 +0.9
YAK Yakutsk 143.44 344d iPKIKP PKPbc 20 35 09.3 -0.1
YAK e 20 38 20.1
YAK pmax pmax
comp=Z,347nm,0.9s
YAK pmax pmax
comp=E,32nm,0.9s
YAK pmax pmax
comp=N,65nm,1.1s
YAK pmax pmax
comp=Z,2µm,3.4s
YAK pmax pmax
comp=N,905nm,3.7s
YAK pmax pmax
comp=E,545nm,3.0s
GMJI Gumukmas 143.59 187 PKP PKPbc 20 35 11.7 +0.4
GUMO Guam 143.75 254 PKP **PKPdf 20 35 13.3 -0.8**
comp=E,610nm,1.0s,baz=179,slow=5.5,SNR=9.1
GUMO Guam 143.75 254 ePKPdf **PKPdf 20 35 13.8 -0.3**
GUMO LR LR
comp=Z,12µm,21.0s
PCJI Pacitan 143.85 183 PKP PKPbc 20 35 13.2 +1.1
TRD Trivandrum 143.96 117 eP PKPbc 20 35 12.8 +0.3
UGM Wanagama 144.16 182 ePKPdf PKPbc 20 35 13.6 +0.5
UGM Wanagama 144.16 182 PKP PKPbc 20 35 13.9 +0.8
SIJI Sorong 144.19 220 PKP **PKPab 20 35 12.7 0.0**
comp=Z,518nm,0.8s,baz=80,slow=1.1,SNR=64
SWI Sorong 144.20 220 PKP **PKPab 20 35 07.7 -5.1**
BHJ Bhuj 144.22 89 eP PKPbc 20 35 13.0 0.0
BHJ IAMs_20 IAMs_20 21 26 52.1
comp=Z,18µm,36.9s
WOJI Wonogiri, Jawa 144.22 183 PKP **PKPab 20 35 12.3 -0.5**
ANA2 Anatahan 144.29 259 ePKPdf **PKPab 20 35 13.1 +0.1**
CMJI Cimerak 144.31 179 PKP **PKPdf 20 35 15.6 +0.4**
SARN Sarigan 144.38 259 ePKPdf **PKPdf 20 35 15.1 -0.2**
CISI Cisompet, Garu 144.52 178 PKP PKPbc 20 35 14.4 +0.2
NGJI Ngawi 144.66 184 PKP **PKiKP 20 35 18.1 -1.4**
KMMI Kalianget 144.73 188 PKP PKPbc 20 35 15.3 +0.5
KPJI Karang Pucung 144.76 180 PKP PKPbc 20 35 15.2 +0.3
KUR Kuril'sk 144.93 310c iPKIKP **PKPdf 20 35 15.5 +0.3**
KUR e 20 35 30.1
KUR eSS SS 20 57 24.9 +5.2
KUR eSSS SSS 21 02 44.7
SMRI Semarang 145.02 182 ePKPbc **PKPbc 20 35 15.9 +0.1**
SMRI Semarang 145.02 182 PKP **PKPdf 20 35 16.2 -0.3**
GRJI Gresik 145.03 186 PKP **PKPdf 20 35 16.7 +0.3**
GOA Goa 145.04 104 eP **PKPbc 20 35 15.6 -0.2**
GOA IAMs_20 IAMs_20 21 27 16.8
comp=Z,21µm,26.0s
CHM Chimkent 145.07 55c iPKP2 **PKPbc 20 35 14.4 -0.8**
CHM Chimkent 145.07 55⇑iPKP **PKPbc 20 35 14.5 -0.8**
CHM eLRM MLR 21 39 28.2
comp=Z,836nm,24.9s
BKSI Bulukumba 145.11 199 PKP **PKPab 20 35 16.1 0.0**
TBJI Tambak Boyo 145.18 185 PKP **PKiKP 20 35 20.6 0.0**
LEM Lembang 145.24 177 PKPbc **PKPab 20 35 16.8 +0.1**
comp=Z,2µm,0.8s,baz=134,slow=2.4,SNR=74
LEM Lembang 145.24 177 PKP **PKPdf 20 35 17.0 0.0**
CHGR Chuyangaron 145.26 62 ePKPbc **PKPbc 20 35 15.3 -0.7**
KBL Kabul 145.34 69 ePKPbc **PKPbc 20 35 14.9 -1.6**
KBL Kabul 145.34 69 ePKP2 **PKPbc 20 35 14.9 -1.6**
IUG luzhnay 145.42 56c iPKIKP **PKPdf 20 35 15.6 -0.8**
IUG i 20 38 36.5
IUG MLR MLR
comp=Z,4µm,24.0s
IUG luzhnay 145.42 56⇑iPKP **PKPdf 20 35 15.7 -0.8**
IUG ⇓iPP **PP 20 38 36.5 -0.4**
IUG eLRM MLR 21 39 29.4
comp=Z,4µm,23.9s
DBJI Dramaga 145.46 176 PKP **PKPbc 20 35 16.9 -0.3**
KAPI Kappang 145.51 199 PFAKE 20 35 30.0 +8.7
KAPI LR LR
comp=Z,10µm,22.0s
KK31 Karatay Array 145.56 54 ePKPdf **PKPdf 20 35 16.3 -0.2**
KK31 Karatay Array 145.56 54 ePKIKP **PKPdf 20 35 16.3 -0.2**
KKAR Karatay Array 145.56 54 ePKPdf **PKPdf 20 35 16.3 -0.2**
KKAR Karatay Array 145.56 54 ePKIKP **PKPdf 20 35 16.3 -0.2**
BOM Bombay 145.58 97 eP **PKPdf 20 35 14.6 -2.5**
JBG Jabagly 145.73 55c iPKHKP PKPpre 20 35 16.9
JBG MLR MLR
comp=Z,3µm,21.0s
NKL Nikolayevsk 145.84 326 iPKP2 **PKPbc 20 35 17.0 -0.2**
NKL e 20 38 42.0
NKL pmax pmax
comp=N,69nm,0.9s
NKL pmax pmax
comp=E,41nm,0.9s
NKL pmax pmax
comp=Z,510nm,0.9s
NKL pmax pmax
comp=N,3µm,11.0s
NKL pmax pmax
comp=E,5µm,11.0s
NKL pmax pmax
comp=Z,30µm,11.0s
SANI Sanana 145.91 211 PKP **PKPdf 20 35 17.6 -0.4**
BNSI Bone 145.99 200 PKP **PKPdf 20 35 17.8 -0.3**
TYV Tymovskoe 146.01 321 ePKP2 **PKPab 20 35 18.1 -0.3**
TYV e 20 57 29.9
TYV pmax pmax
comp=Z,418nm,1.1s
TYV pmax pmax
comp=Z,18µm,8.0s
PALK Pallekele 146.07 122 PKPbc **PKPbc 20 35 18.7 -0.4**
comp=Z,235nm,0.9s,baz=297,slow=2.9,SNR=24
PALK Pallekele 146.07 122 ePKPdf **PKPbc 20 35 19.0 -0.2**
PALK Pallekele 146.07 122 iP **PKPdf 20 35 18.4 +0.2**
SNR=49
PALK Pallekele 146.07 122 P **PKPdf 20 35 18.4 +0.2**
SNR=43
KASI Kota Agung 146.27 172 PKP **PKPdf 20 35 19.1 +0.5**
POO Poona 146.35 99 eP **PKPdf 20 35 17.6 -0.9**
BTK Batken 146.36 59 ePKPdf **PKPbc 20 35 19.2 -0.2**
BTK Batken 146.36 59 ePKP2 **PKPbc 20 35 19.2 -0.2**
SPSI Sidrap Palu 146.50 200 PKP **PKPdf 20 35 18.6 -0.4**
YUK Yuzh-Kuril'sk 146.63 308d iPKP2 **PKPbc 20 35 20.0 +0.2**
YUK i 20 38 47.0
YUK PPP PPP 20 42 00.6
YUK e 20 51 21.0
YUK pmax pmax
comp=Z,1µm,1.4s
YUK pmax pmax
comp=E,511nm,1.3s
YUK pmax pmax
comp=N,492nm,1.0s
LWLI Liwa 146.71 171 PKP **PKPbc 20 35 20.8 -0.3**
NVS Novosibirsk 147.36 28⇑iPKP2 **PKPbc 20 35 21.8 +0.3**
NVS e 20 38 48.9
NVS pmax pmax
comp=N,334nm,1.7s
NVS pmax pmax
comp=E,676nm,1.5s
TNTI Ternate 147.68 216 ePKPdf **PKPdf 20 35 20.8 -0.1**
YSS Yuzh-Sakhalins 147.70 315 ePKPdf **PKPdf 20 35 21.3 +1.4**
YSS LR LR
comp=Z,9µm,21.0s
YSS Yuzh-Sakhalins 147.70 315c iPKIKP **PKPdf 20 35 20.2 +0.3**
YSS e 20 35 23.4
YSS e 20 51 33.6
YSS eSS SS 20 57 54.0 +3.2
YSS pmax pmax
comp=Z,30nm,0.9s
YSS pmax pmax
comp=Z,400nm,0.8s
YSS pmax pmax
comp=Z,14µm,7.7s
ARSB Arslanbob 147.75 56 ePKPdf **PKPdf 20 35 21.0 +0.6**
KURK Kurchatov 147.75 37 ePKPdf **PKPdf 20 35 20.1 +0.2**
KURK LR LR
comp=Z,28µm,21.0s
KURK Kurchatov 147.75 37 PKIKP **PKPdf 20 35 20.1 +0.2**
KURK 20 35 22.8
KURK pmax pmax
comp=Z,135nm,0.9s
KURK pmax pmax
comp=Z,233nm,0.7s
KURK Kurchatov 147.75 37 P **PKPdf 20 35 20.0 +0.1**
SNR=328
KURBB Kurchatov Arra 147.75 37 PKP **PKPdf 20 35 20.1 +0.2**
comp=Z,135nm,0.9s,baz=303,slow=2.8,SNR=107
KURBB PKPbc **PKPbc 20 35 22.8 0.0**
comp=Z,233nm,0.7s,baz=301,slow=3.2,SNR=126
EKS2 Erkin-Say 148.00 54 P **PKPdf 20 35 21.6 +0.8**
SNR=148
AML Almayashu 148.07 55 P **PKPdf 20 35 21.8 +0.5**
SNR=156
LUWI Luwuk 148.19 207 ePKPdf **PKPdf 20 35 22.6 +0.8**
USP Ospenovka 148.34 52 P **PKPdf 20 35 21.6 +0.4**
SNR=154
AAK Ala-Archa 148.51 53 P **PKPdf 20 35 22.4 +0.8**
SNR=86
AAK Ala-Archa 148.51 53 ePKPdf **PKPdf 20 35 22.3 +0.6**
AAK LR LR
comp=Z,22µm,21.0s
AAK Ala-Archa 148.51 53 iP **PKPdf 20 35 21.9 +0.3**
SNR=324
AAK Ala-Archa 148.51 53cePKIKP **PKPdf 20 35 22.2 +0.6**
AAK Ala-Archa 148.51 53 P **PKPdf 20 35 22.2 +0.6**
SNR=643
FRU Bishkek 148.54 53⇑iPKIKP **PKPdf 20 35 21.5 0.0**
FRU i 20 38 58.0
FRU pmax pmax
comp=Z,5µm,2.4s
FRU1 Bishkek 148.56 53 ePKPdf **PKPdf 20 35 22.5 +0.9**
CHMS Chumysh 148.59 53 P **PKPdf 20 35 21.9 +0.3**
SNR=45
UCH Uchtor 148.64 54 P **PKPdf 20 35 23.1 +0.9**
SNR=124
ZAA0 Zalesovo Array 148.65 28 ePKPdf **PKPdf 20 35 21.1 -0.1**
ZALV Zalesovo Beam 148.65 28 PKP **PKPdf 20 35 20.9 -0.4**
comp=Z,152nm,0.9s,baz=267,slow=1.4,SNR=85
ZALV PKPbc **PKPbc 20 35 23.8 -1.3**
comp=Z,631nm,0.7s,baz=282,slow=2.8,SNR=126
ZALV Zalesovo Beam 148.65 28 ePKPdf **PKPdf 20 35 22.0 +0.8**
SEM Semipalatinsk 148.78 37c iPKIKP **PKPdf 20 35 20.8 -1.1**
SEM i 20 38 55.5
SEM Semipalatinsk 148.78 37⇑iPKP **PKPdf 20 35 20.9 -1.1**
SEM ⇑iPP **PP 20 38 55.5 -0.7**
SEM eLQ LQ 21 35 35.3
comp=Z,3µm,31.0s
SEM eLR LR 21 46 33.7
comp=Z,3µm,21.1s
KBK Karagaybulak 148.83 53 P **PKPdf 20 35 22.5 +0.3**
SNR=99
NIL Nilore 148.84 71 ePKPdf **PKPdf 20 35 21.9 -0.4**
NIL LR LR
comp=Z,14µm,22.0s
NIL Nilore 148.84 71 ePKIKP **PKPdf 20 35 21.9 -0.4**
NIL MLR MLR
comp=Z,14µm,22.0s
ASAJ Asahikawa 148.85 310 PKP **PKPdf 20 35 21.8 -0.1**
comp=Z,81nm,0.8s,baz=202,slow=3.6,SNR=21
ASAJ PKPbc **PKPbc 20 35 25.3 -0.6**
comp=Z,254nm,0.9s,baz=343,slow=1.3,SNR=48
ASAJ Asahikawa 148.85 310 PKIKP **PKPdf 20 35 21.8 -0.1**
ASAJ 20 35 25.3
ASAJ pmax pmax
comp=Z,76nm,0.8s
ASAJ pmax pmax
comp=Z,254nm,0.9s
ERM Erimo 149.09 306 ePKPbc **PKiKP 20 35 27.5 -0.3**
ERM LR LR
comp=Z,7µm,20.0s

ERM	**Erimo**	**149.09**	**306**	*ce*	PKIKP	**PKPdf**	**20 35 22.2**	**-0.1**
KZA	**Kyzart**	**149.21**	**54**		P	**PKPdf**	**20 35 23.7**	**+0.6**
	SNR=76							
TKM2	**Tokmak 2**	**149.21**	**52**		P	**PKPdf**	**20 35 23.0**	**+0.2**
	SNR=106							
MDRS	**Chennai**	**149.22**	**113**	*eP*		**PKPdf**	**20 35 22.4**	**-0.9**
GRNR	**Gornyy**	**149.37**	**325**	*e*	PKHKP	PKPpre	20 35 22.8	
GRNR					pmax	pmax		
	comp=Z,53nm,1.1s							
KUU	**Kurty**	**149.41**	**50**	⇑*i*	PKP	**PKPdf**	**20 35 22.4**	**-0.5**
KUU				⇓*i*	PP	**PP**	**20 39 02.6**	**+2.5**
KUU				*e*	LRM	MLR	21 41 18.2	
	comp=Z,4μm,23.1s							
MTBS	**Maitube**	**149.72**	**52**	*e*	PKP	**PKPdf**	**20 35 23.4**	**-0.1**
CHKK	**Chushkaly**	**149.86**	**50**	⇑*i*	PKP	**PKPdf**	**20 35 23.2**	**-0.3**
ULHL	**Ulahol**	**149.87**	**53**		P	**PKPdf**	**20 35 24.5**	**+0.6**
	SNR=79							
NRN	**Naryn**	**149.92**	**55**	*e*	PKPdf	**PKPdf**	**20 35 24.2**	**+0.1**
HYB	**Hyderabad**	**149.96**	**104**	*i*	PKP	**PKPdf**	**20 35 24.0**	**-0.5**
HYB				*e*	PP	**PP**	**20 39 04.0**	**0.0**
HYB				*e*			20 46 14.0	
HYB				*e*	SS	SS	20 58 16.0	-1.8
HYB				*e*			21 00 28.0	
HYB				*e*			21 00 42.5	
HYB	**Hyderabad**	**149.96**	**104**	*e*	P	**PKPdf**	**20 35 23.1**	**-1.4**
AAA	**Alma-Ata**	**150.03**	**51**	⇑*i*	PKP	**PKPdf**	**20 35 24.0**	**+0.1**
AAA				⇑*i*	PP	**PP**	**20 39 05.0**	**+1.1**
AAA				*e*	LRM	MLR	21 41 48.7	
	comp=Z,3μm,22.9s							
BOD	**Bodaibo**	**150.11**	**355**	*e*	PKIKP	**PKPdf**	**20 35 22.8**	**-0.6**
BOD					pmax	pmax		
	comp=Z,1μm,1.8s							
TNSS	**Tian-Shan**	**150.11**	**52**	*c*	PKIKP	**PKPdf**	**20 35 24.3**	**-0.2**
TNSS	**Tian-Shan**	**150.11**	**52**	⇑*i*	PKP	**PKPdf**	**20 35 24.3**	**-0.2**
MDOK	**Medeo**	**150.14**	**51**	*d*	PKIKP	**PKPdf**	**20 35 24.3**	**+0.1**
MDOK				*i*			20 39 05.1	
MDOK	**Medeo**	**150.14**	**51**	⇓*i*	PKP	**PKPdf**	**20 35 24.3**	**+0.1**
MDOK				⇓*i*	PP	**PP**	**20 39 05.1**	**+0.6**
MDOK				⇓*i*	SS	SS	20 58 27.8	+8.8
MDOK				⇓*i*	SSS	SSS	21 04 15.4	
MDOK				*e*	LR	LR	21 46 58.6	
	comp=Z,5μm,18.7s							
TDK	**Taldyqorghan**	**150.36**	**47**	*d*	PKIKP	**PKPdf**	**20 35 23.7**	**-0.6**
TDK				*i*			20 39 05.9	
TDK	**Taldyqorghan**	**150.36**	**47**	⇓*i*	PKP	**PKPdf**	**20 35 23.8**	**-0.6**
TDK				⇓*i*	PP	**PP**	**20 39 06.0**	**+0.5**
TDK				*e*	LR	LR	21 41 33.0	
	comp=Z,20μm,21.8s							
KSH	**Kashi**	**150.37**	**59**		PKPbc	**PKPdf**	**20 35 24.5**	**-0.1**
KSH					pPKP	PKPab	20 35 36.5	+0.1
KSH					PKP	**PKSdf**	**20 39 00.8**	**+1.3**
KSH					SKS	**SKSdf**	**20 42 29.0**	**+0.2**
KSH					SKKS	**SKKSac**	**20 45 51.3**	**-1.8**
KSH					SS	**SS**	**20 58 24.0**	**+2.1**
KSH					AMB	AMB		
	comp=Z,14μm,6.0s							
KSH					LR	LR		
	comp=Z,10μm,18.2s							
KSH					LR	LR		
	comp=Z,2μm,12.3s							
KDJ	**Kajisay**	**150.56**	**53**	*e*	PKPdf	**PKPdf**	**20 35 26.5**	**+1.5**
CBIJ	**Chichi jima**	**150.72**	**276**		PKPbc	**PKPbc**	**20 35 30.2**	**-0.8**
JCJ	**Chichijima**	**150.72**	**276**		PKPbc	**PKPbc**	**20 35 30.2**	**-0.8**
	comp=Z,402nm,0.9s,baz=261,slow=18,SNR=9.1							
BHPL	**Bhopal**	**151.08**	**92**	*eP*		**PKPdf**	**20 35 25.9**	**-0.3**
BHPL					IAmb	IAmb	20 35 34.9	
	comp=Z,384nm,0.9s							
BHPL					IAMs_20	IAMs_20	21 34 09.9	
	comp=Z,26μm,29.3s							
SATY	**Saty**	**151.11**	**51**	*d*	PKIKP	**PKPdf**	**20 35 26.2**	**+0.5**
SATY				*i*			20 39 11.6	
SATY	**Saty**	**151.11**	**51**	⇓*i*	PKP	**PKPdf**	**20 35 26.3**	**+0.5**
SATY				⇓*i*	PP	**PP**	**20 39 11.6**	**+1.5**
SATY				*e*	LR	LR	21 47 26.1	
	comp=Z,3μm,21.6s							
ZEA	**Zeya**	**151.13**	**337**	*i*	PKIKP	**PKPdf**	**20 35 24.0**	**-1.2**
ZEA				*e*			20 39 10.5	
ZEA				*e*			20 58 30.0	
ZEA					pmax	pmax		
	comp=N,290nm,1.2s							
ZEA					pmax	pmax		
	comp=Z,1μm,1.2s							
ZEA					pmax	pmax		
	comp=Z,8μm,11.0s							
ZEA					pmax	pmax		
	comp=E,2μm,5.0s							
ZEA					pmax	pmax		
	comp=N,2μm,2.0s							
TARG	**Taragay, Kyrgy**	**151.13**	**54**	*e*	PKPdf	**PKPdf**	**20 35 26.2**	**+0.1**
KPKS	**Kokpek**	**151.15**	**50**	*c*	PKIKP	**PKPdf**	**20 35 25.2**	**-0.5**
KPKS	**Kokpek**	**151.15**	**50**	⇑*i*	PKP	**PKPdf**	**20 35 25.2**	**-0.5**
GSI	**Gunungsitoli**	**151.15**	**156**	*e*	PKPdf	**PKPdf**	**20 35 26.5**	**0.0**
DHRM	**DHARAMSHALA**	**151.40**	**74**	*eP*		**PKPdf**	**20 35 25.9**	**-0.7**
DHRM					IAMs_20	IAMs_20	21 33 27.7	
	comp=Z,16μm,41.5s							
UZB	**Uzynbulak**	**151.50**	**50**	*c*	PKIKP	**PKPdf**	**20 35 25.1**	**-1.2**
UZB				*i*			20 39 15.3	
UZB	**Uzynbulak**	**151.50**	**50**	⇑*i*	PKP	**PKPdf**	**20 35 25.1**	**-1.2**
UZB				⇓*i*	PP	**PP**	**20 39 15.4**	**+3.1**
UZB				*e*	LR	LR	21 47 10.8	
	comp=Z,3μm,21.0s							
MAKZ	**Makanchi**	**151.72**	**41**	*e*	PKPdf	**PKPdf**	**20 35 25.4**	**-0.9**
MAKZ	**Makanchi**	**151.72**	**41**	*e*	PKIKP	**PKPdf**	**20 35 25.4**	**-0.9**
NGP	**Nagpur**	**151.86**	**98**	⇑*eP*		**PKPdf**	**20 35 26.4**	**-0.9**
NGP				*ex*		x	20 43 35.4	
MK31	**Makanchi Array**	**151.91**	**41**	*e*	PKPdf	**PKPdf**	**20 35 26.2**	**-0.4**
MK31	**Makanchi Array**	**151.91**	**41**	*e*	PKIKP	**PKPdf**	**20 35 26.2**	**-0.4**
MKAR	**Makanchi Array**	**151.91**	**41**		PKP	**PKPdf**	**20 35 25.8**	**-0.9**
	comp=Z,22nm,0.8s,baz=338,slow=1.3,SNR=57							
MKAR					PKPbc	**PKPbc**	**20 35 32.7**	**-0.4**
	comp=Z,370nm,0.8s,baz=321,slow=2.0,SNR=99							
MKAR	**Makanchi Array**	**151.91**	**41**	*e*	PKPdf	**PKPdf**	**20 35 26.2**	**-0.4**
MKAR					PKPbc	**PKPbc**	**20 35 32.7**	**-0.4**
MKAR	**Makanchi Array**	**151.91**	**41**		PKIKP	**PKPdf**	**20 35 25.8**	**-0.9**
MKAR							20 35 32.7	
MKAR					pmax	pmax		
	comp=Z,22nm,0.8s							
MK01	**Makanchi Array**	**151.93**	**41**	*e*	PKPdf	**PKPdf**	**20 35 25.2**	**-1.4**
NDI	**New Delhi**	**151.98**	**81**	*eP*		**PKPdf**	**20 35 26.0**	**-1.3**
SMLA	**Simla**	**152.12**	**76**	*eP*		**PKPdf**	**20 35 28.8**	**+1.4**
TEY	**Ternei**	**152.39**	**315**	⇓*e*	PKIKP	**PKPbc**	**20 35 30.9**	**-3.3**
TEY				*e*			20 35 46.1	
TEY				*e*			20 39 19.2	
TEY					pmax	pmax		
	comp=Z,50nm,0.9s							
TEY					pmax	pmax		
	comp=N,10.0nm,0.9s							
KLR	**Kul'dur**	**152.67**	**327**		PKP	**PKPdf**	**20 35 27.2**	**-0.4**
	comp=N,66nm,1.1s,baz=26,slow=2.6,SNR=28							
KLR					PKPbc	**PKPbc**	**20 35 34.4**	**-0.3**
	comp=N,116nm,0.7s,baz=35,slow=1.7,SNR=45							
DGZ	**Jazzator, Alta**	**152.81**	**32**	*c*	PKIKP	**PKPdf**	**20 35 27.6**	**-0.4**
DDI	**Dehra Dun**	**152.84**	**78**	*eP*		**PKPdf**	**20 35 26.5**	**-2.1**
DDI					IAMs_20	IAMs_20	21 33 00.1	
	comp=Z,14μm,37.2s							
ZSN	**Zaisan**	**152.98**	**38**	*d*	PKIKP	**PKPdf**	**20 35 28.9**	**+0.7**
ZSN				*i*			20 39 21.2	
ZSN	**Zaisan**	**152.98**	**38**	⇓*i*	PKP	**PKPdf**	**20 35 29.0**	**+0.7**
ZSN				⇓*i*	PP	**PP**	**20 39 21.2**	**+1.1**
PSI	**Prapat**	**153.02**	**157**		PKP	**PKPdf**	**20 35 28.1**	**-1.3**
	comp=Z,71nm,1.1s,baz=180,slow=6.2,SNR=20							
PSI					PKPbc	**PKPbc**	**20 35 36.3**	**-0.4**
	comp=Z,153nm,0.9s,baz=180,slow=5.6,SNR=32							
PSI	**Prapat**	**153.02**	**157**	*e*	PKPdf	**PKPdf**	**20 35 27.8**	**-1.6**
PSI					PKPbc	**PKPbc**	**20 35 36.3**	**-0.4**
PSI	**Prapat**	**153.02**	**157**	*e*	PKIKP	**PKPdf**	**20 35 27.8**	**-1.6**
PSI							20 35 36.3	
JBP	**Jabalpur**	**153.32**	**94**	*eP*		**PKPdf**	**20 35 28.6**	**-0.8**
JBP				*ex*		x	20 39 12.8	
JBP					IAMs_20	IAMs_20	22 03 50.7	
	comp=Z,2μm,24.4s							
MYKOM	**Kota Tinggi**	**153.35**	**168**	*e*	PKPdf	**PKPdf**	**20 35 30.4**	**+0.7**
DAV	**Davao City (W)**	**153.91**	**220**		PFAKE		20 35 40.0	+1.4
DAV					LR	LR		
	comp=Z,3μm,20.0s							
DAV	**Davao City (W)**	**153.91**	**220**	⇑*eP*		**PKPdf**	**20 35 29.1**	**-1.4**
DAV	**Davao City (W)**	**153.91**	**220**	*eP*		**PKPdf**	**20 35 34.0**	**+3.5**
MJAR	**Matsushiro Arr**	**154.09**	**296**		PKP	**PKPdf**	**20 35 29.1**	**-1.0**
	comp=Z,50nm,1.1s,baz=211,slow=0.7,SNR=62							
MAJO	**Matsushiro**	**154.09**	**296**	*e*	PKPdf	**PKPdf**	**20 35 31.8**	**+1.7**
MAJO					LR	LR		
	comp=Z,12μm,22.0s							
MAJO	**Matsushiro**	**154.09**	**296**	*ce*	PKIKP	**PKPdf**	**20 35 29.4**	**-0.7**
MAJO	**Matsushiro**	**154.09**	**296**	*eP*		**PKPdf**	**20 35 33.2**	**+3.0**
MAT	**Matsushiro**	**154.09**	**296**		PKP	**PKPdf**	**20 35 28.9**	**-1.2**
MJB9	**Matsu-Tunnel**	**154.09**	**296**	*e*	PKPdf	**PKPdf**	**20 35 31.8**	**+1.7**
SBUM	**Sibu**	**154.31**	**187**	*e*	PKPdf	**PKPdf**	**20 35 33.4**	**+2.3**
LHMI	**Lhok Sumawe**	**154.48**	**151**	*e*	PKPdf	**PKPdf**	**20 35 31.5**	**+0.2**
CMBY	**CAMPBELL BAY**	**154.56**	**143**	*eP*		**PKPdf**	**20 35 30.8**	**-0.6**
BLSP	**Bilaspur**	**154.89**	**98**	*eS*		**SKSdf**	**20 42 33.9**	**-0.9**
INU	**Inuyama**	**155.25**	**294**	*e*	PKPdf	**PKPdf**	**20 35 31.3**	**-0.5**
IPM	**Ipoh**	**155.27**	**160**	*e*	PKPdf	**PKPdf**	**20 35 32.0**	**-0.4**
CGP	**Cagayan de Oro**	**155.54**	**220**	*eP*		PKPab	20 35 48.9	-10
IRK	**Irkutsk**	**155.62**	**7**	*e*	PKIKP	**PKPdf**	**20 35 30.7**	**-1.0**
IRK				*e*			20 35 49.5	
IRK					pmax	pmax		
	comp=Z,1μm,2.4s							
USA0B	**Ussuriysk Arra**	**155.65**	**317**	*e*	PKPdf	**PKPdf**	**20 35 31.9**	**-0.1**
USRK	**Ussuriysk Ar.**	**155.65**	**317**		PKP	**PKPdf**	**20 35 30.9**	**-1.1**
	comp=Z,24nm,0.9s,baz=65,slow=0.7,SNR=33							
MOY	**Mondy**	**155.69**	**12**	*e*	PKIKP	**PKPdf**	**20 35 32.6**	**+0.6**
MOY					pmax	pmax		
	comp=Z,853nm,3.1s							
CIT	**Chita**	**155.88**	**353**	*e*	PKIKP	**PKPdf**	**20 35 32.8**	**+0.7**
CIT				*e*			20 35 49.0	
CIT				*e*			20 39 31.7	
CIT					pmax	pmax		
	comp=Z,424nm,2.6s							
KULM	**Kulim**	**155.92**	**159**	*e*	PKPdf	**PKPdf**	**20 35 34.5**	**+1.2**
TLY	**Talaya**	**156.10**	**8**		PKP	**PKPdf**	**20 35 32.4**	**0.0**
	comp=Z,11nm,0.8s,baz=202,slow=2.2,SNR=9.7							
TLY					PKPab	**PKPab**	**20 36 02.1**	**+2.1**
	comp=Z,45nm,0.7s,baz=318,slow=3.9,SNR=21							
TLY	**Talaya**	**156.10**	**8**		PKP	**PKPdf**	**20 35 32.4**	**0.0**
TLY					PKPab	**PKPab**	**20 36 02.1**	**+2.1**
TLY					LR	LR		
	comp=Z,12μm,22.0s							
TLY	**Talaya**	**156.10**	**8**		P	**PKPdf**	**20 35 32.8**	**+0.4**
	SNR=84							
VLA	**Vladivostok**	**156.29**	**315**	*c*	PKIKP	**PKPdf**	**20 35 32.2**	**-0.6**
WMQ	**Urumqi**	**156.73**	**42**	*e*	PKP	**PKPdf**	**20 35 33.3**	**-0.2**
WMQ					pPKP	pPKPdf	20 35 45.8	-2.1
WMQ					sPKP		20 35 51.0	
WMQ					PKPab	**PKPab**	**20 36 05.8**	**+2.7**
WMQ					PP	**PP**	**20 39 45.5**	**+4.2**
WMQ					SS	SS	20 59 34.0	+3.8
WMQ					AMB	AMB		
	comp=Z,25μm,11.6s							
WMQ	**Urumqi**	**156.73**	**42**	*e*	PKPdf	**PKPdf**	**20 35 34.1**	**+0.6**
MDJ	**Mudanjiang**	**156.79**	**321**		PKP	**PKPdf**	**20 35 32.5**	**-1.0**
MDJ					pPKP	pPKPdf	20 35 46.3	-1.5
MDJ					sPKP		20 35 50.3	
MDJ					PP	**PP**	**20 39 42.3**	**+0.8**
MDJ					SKS	**SKSdf**	**20 42 35.8**	**+0.1**
MDJ					SS	**SS**	**20 59 32.0**	**+1.5**
MDJ					AMB	AMB		
	comp=Z,4μm,9.9s							
MDJ					LR	LR		
	comp=Z,8μm,26.3s							
MDJ					LR	LR		
	comp=Z,10μm,19.1s							
MDJ					LR	LR		
	comp=Z,23μm,23.1s							
MDJ	**Mudanjiang**	**156.79**	**321**	*e*	PKPdf	**PKPdf**	**20 35 33.1**	**-0.4**
MDJ					LR	LR		
	comp=Z,15μm,22.0s							
PYUN	**Piuthan**	**156.97**	**84**	*eP*		**PKPdf**	**20 35 33.0**	**-1.5**
	comp=Z,253nm,0.9s							
ZAK	**Zakamensk**	**157.32**	**10**	*e*	PKIKP	**PKPdf**	**20 35 33.7**	**-0.4**
ZAK				*e*			20 39 44.1	
ZAK					pmax	pmax		
	comp=Z,281nm,1.4s							
ZAK					pmax	pmax		
	comp=Z,71nm,2.2s							
HIA	**Hailar**	**157.35**	**342**	*e*	PKPdf	**PKPdf**	**20 35 33.8**	**-0.3**
HIA					LR	LR		
	comp=Z,12μm,21.0s							
HIA	**Hailar**	**157.35**	**342**	*e*	PKIKP	**PKPdf**	**20 35 33.8**	**-0.3**
HIA					MLR	MLR		
	comp=Z,12μm,21.0s							
PKDT	**Phuket**	**157.46**	**151**		PKP	**PKPdf**	**20 35 38.6**	**+3.4**
KOLN	**Koldanda**	**157.47**	**85**	*eP*		**PKPdf**	**20 35 33.4**	**-1.7**
	comp=Z,517nm,1.5s							
PBA	**Port Blair**	**157.58**	**134**	*eP*		PKPdf	20 35 34.4	-1.0
DANN	**Dangsing**	**157.67**	**83**	*eP*		**PKPdf**	**20 35 33.5**	**-2.0**
	comp=Z,581nm,1.0s							
SKLT	**Songkhla**	**157.68**	**157**		PKP	**PKPdf**	**20 35 38.8**	**+3.3**
TRTT	**Trang**	**157.96**	**154**		PKP	**PKPdf**	**20 35 38.4**	**+2.5**
KRAB	**Krabi**	**158.11**	**153**		PKP	**PKPdf**	**20 35 39.4**	**+3.4**
BOK	**Bokaro**	**158.69**	**96**	*eP*		**PKPdf**	**20 35 37.9**	**+1.4**
BOK					IAMs_20	IAMs_20	21 31 50.1	
	comp=Z,7μm,28.8s							
DMN	**Daman**	**158.77**	**86**	*eP*		**PKPdf**	**20 35 35.2**	**-1.6**
	comp=Z,530nm,1.5s							
KKN	**Kakani**	**158.95**	**85**	*eP*		**PKPdf**	**20 35 35.0**	**-2.0**
	comp=Z,169nm,0.9s							
PKIN	**Phulchoki**	**159.03**	**86**	*eP*		**PKPdf**	**20 35 34.8**	**-2.3**
	comp=Z,1μm,2.4s							
PKI	**Pulchoki**	**159.04**	**86**	*eP*		**PKPdf**	**20 35 35.1**	**-2.1**
	comp=Z,462nm,1.5s							
RCP	**Roxas**	**159.16**	**220**	⇓*eP*		**PKPdf**	**20 35 40.3**	**+3.0**
GUN	**Gumba**	**159.49**	**85**	*eP*		**PKPdf**	**20 35 35.4**	**-2.4**
	comp=Z,1μm,1.9s							
CN2	**Changchun**	**159.56**	**324**	*e*	PKP	**PKPdf**	**20 35 34.8**	**-2.1**
CN2				*e*	PP	**PP**	**20 39 57.8**	**+1.3**
CN2				*e*	SS	SS	21 00 00.0	+0.2
CN2					AMB	AMB		
	comp=Z,6μm,11.0s							
CN2					LR	LR		
	comp=Z,7μm,22.0s							
CN2					LR	LR		
	comp=Z,8μm,22.0s							
CN2					LR	LR		
	comp=Z,20μm,23.0s							
JIRN	**Jiri**	**159.74**	**86**	*eP*		**PKPdf**	**20 35 36.1**	**-2.0**
	comp=Z,1μm,2.1s							
RAMN	**Ramite**	**160.00**	**88**	*eP*		**PKPdf**	**20 35 36.9**	**-1.3**
	comp=Z,863nm,1.5s							
SONA1	**Songino Array**	**160.18**	**5**	*e*	PKPdf	**PKPdf**	**20 35 36.7**	**-0.9**
SONM	**Songino Array**	**160.19**	**5**		PKP	**PKPdf**	**20 35 37.5**	**-0.1**
	comp=Z,28nm,0.9s,baz=231,slow=0.8,SNR=53							
SONM					PKPab	**PKPab**	**20 36 20.4**	**+2.4**
	comp=Z,61nm,0.8s,baz=318,slow=3.3,SNR=13							
SONM					PP	**PP**	**20 40 00.3**	**+0.9**
	comp=Z,26nm,1.1s,baz=332,slow=3.9,SNR=4.3							
ULN	**Ulaanbaatar**	**160.21**	**4**	*e*	PKPdf	**PKPdf**	**20 35 37.1**	**-0.6**
ULN	**Ulaanbaatar**	**160.21**	**4**	*e*	PKIKP	**PKPdf**	**20 35 37.1**	**-0.6**
ULN	**Ulaanbaatar**	**160.21**	**4**		P	**PKPdf**	**20 35 37.8**	**+0.1**
	SNR=53							
JNU	**Nakatsue**	**160.62**	**290**		PKP	**PKPdf**	**20 35 37.2**	**-1.3**
	comp=Z,15nm,1.0s,baz=72,slow=5.1,SNR=8.2							
JNU	**Nakatsue**	**160.62**	**290**	*e*	PKPdf	**PKPdf**	**20 35 37.0**	**-1.5**
KSRS	**Korea Array**	**161.67**	**305**		PKP	**PKPdf**	**20 35 38.6**	**-0.8**
	comp=Z,56nm,1.0s,baz=93,slow=0.6,SNR=55							
KS01	**Wonju Array Si**	**161.68**	**305**	*e*	PKPdf	**PKPdf**	**20 35 38.9**	**-0.5**
KS15	**Wonju Array Si**	**161.70**	**305**	*e*	PKPdf	**PKPdf**	**20 35 39.5**	**+0.1**
KSAR	**Wonju Array Be**	**161.70**	**305**		PKP	**PKPdf**	**20 35 38.6**	**-0.8**
KSAR	**Wonju Array Be**	**161.70**	**305**		PKIKP	**PKPdf**	**20 35 38.6**	**-0.8**
SNY	**Shenyang**	**161.93**	**323**	⇑*i*	PKP	**PKPdf**	**20 35 38.8**	**-0.7**
SNY					SKKS		20 46 58.0	
SNY					AMB	AMB		
	comp=Z,8μm,12.0s							
SNY					LR	LR		
	comp=Z,4μm,23.5s							
SNY					LR	LR		
	comp=Z,15μm,22.6s							
PHET	**Kaeng Krachan**	**162.48**	**148**		PKP	**PKPdf**	**20 35 43.2**	**+2.4**
PATY	**Pattaya**	**163.04**	**151**		PKP	**PKPdf**	**20 35 44.9**	**+3.5**
BRDH	**Bariadhala**	**163.32**	**105**		PKP	**PKPdf**	**20 35 41.9**	**+0.5**
	comp=Z,69nm,0.3s,baz=69,slow=7.5,SNR=8.5							
BRDH					PKPab	**PKPab**	**20 36 33.4**	**+1.0**
	comp=Z,120nm,0.4s,baz=70,slow=6.5,SNR=6.0							
BRDH					PP	**PP**	**20 40 18.4**	**+0.6**
	comp=Z,74nm,0.3s,baz=47,slow=2.6,SNR=6.1							
SRDT	**SRDT**	**163.46**	**144**		PKP	**PKPdf**	**20 35 43.6**	**+1.9**
LSA	**Lhasa**	**164.19**	**80**		PKP	**PKPdf**	**20 35 43.0**	**+0.3**
LSA					LR	LR		
	comp=Z,5μm,34.9s							
LSA					LR	LR		
	comp=Z,3μm,24.7s							
LSA					LR	LR		
	comp=Z,30μm,29.1s							
LSA	**Lhasa**	**164.19**	**80**	*e*	PKPdf	**PKPdf**	**20 35 43.0**	**+0.3**
LSA					LR	LR		
	comp=Z,17μm,22.0s							
LSA	**Lhasa**	**164.19**	**80**	*i*	P	**PKPdf**	**20 35 43.6**	**+0.9**
	SNR=134							
SHL	**Shillong**	**164.41**	**95**	*e*	PKPdf	**PKPdf**	**20 35 42.6**	**0.0**
SHL	**Shillong**	**164.41**	**95**	*eP*		**PKPdf**	**20 35 41.8**	**-0.8**
SHL					IAMs_20	IAMs_20	21 37 57.8	
	comp=Z,25μm,41.9s							
SRAK	**Srakaew**	**164.51**	**153**		PKP	**PKPdf**	**20 35 44.9**	**+2.2**
UTHA	**Uthaitani**	**164.63**	**142**		PKP	**PKPdf**	**20 35 44.6**	**+1.8**
UMPA	**Umpang Tak**	**164.83**	**139**		PKP	**PKPdf**	**20 35 45.1**	**+2.1**
DL2	**Dalian**	**165.02**	**319**	⇑*i*	PKP	**PKPdf**	**20 35 42.0**	**-0.5**
DL2					sPKP		20 35 58.5	
DL2					PKPab	**PKPab**	**20 36 40.5**	**+1.2**
DL2					SS	SS	21 00 54.5	-2.3
DL2					AMB	AMB		
	comp=Z,4μm,11.2s							
DL2					LR	LR		
	comp=Z,10μm,23.2s							
DL2					LR	LR		
	comp=Z,6μm,20.2s							
DL2					LR	LR		
	comp=Z,18μm,24.9s							
CHAI	**Chaiyaphum**	**166.18**	**150**		PKP	**PKPdf**	**20 35 45.7**	**+1.6**
PBKT	**Sadao Pong**	**166.27**	**145**		PKP	**PKPdf**	**20 35 44.0**	**-0.1**
SUKH	**Sukhothai**	**166.29**	**138**		PKP	**PKPdf**	**20 35 46.2**	**+2.1**
GTA	**Gaotai**	**166.34**	**32**	⇑*i*	PKP	**PKPdf**	**20 35 44.0**	**+0.2**
GTA					pPKP	pPKPdf	20 35 56.0	-2.1
GTA					sPKP		20 36 01.3	
GTA					PKPab	**PKPab**	**20 36 48.3**	**+3.1**
GTA					PP	**PP**	**20 40 32.0**	**-0.4**
GTA					SKS	**SKSdf**	**20 42 47.5**	**+3.3**
GTA					SKKS	**SKKSac**	**20 47 18.3**	**+1.7**
GTA					SS	**SS**	**21 01 13.3**	**+3.3**
GTA					AMB	AMB		
	comp=Z,10μm,8.2s							
GTA					LR	LR		
	comp=Z,10μm,23.0s							
GTA					LR	LR		
	comp=Z,13μm,22.7s							
CMAR	**Chiang Mai Arr**	**166.61**	**134**		PKP	**PKPdf**	**20 35 44.0**	**-0.4**
	comp=Z,30nm,0.9s,baz=262,slow=1.8,SNR=52							
CMAR					PKPab	**PKPab**	**20 36 48.1**	**+1.3**
	comp=Z,96nm,1.0s,baz=240,slow=5.3,SNR=19							
CMAR					PP	**PP**	**20 40 34.0**	**-0.1**
	comp=Z,8.5nm,1.0s,baz=233,slow=5.3,SNR=4.8							
BJI	**Beijing**	**166.75**	**336**	*i*	PKP	**PKPdf**	**20 35 43.3**	**-0.5**
BJI					SS	SS	21 01 14.3	+1.0
BJI					LR	LR		
	comp=Z,4μm,33.8s							
BJI					LR	LR		
	comp=Z,860nm,24.3s							
BJI					LR	LR		
	comp=Z,7μm,26.5s							
BJT	**Baijiatuau**	**166.77**	**336**	*e*	PKPdf	**PKPdf**	**20 35 44.0**	**+0.1**
BJT					LR	LR		
	comp=Z,21μm,19.0s							
BJT	**Baijiatuau**	**166.77**	**336**	*e*	PKIKP	**PKPdf**	**20 35 44.0**	**+0.1**
BJT					MLR	MLR		
	comp=Z,21μm,19.0s							
UBPT	**Khong Chiam**	**166.79**	**164**		PKP	**PKPdf**	**20 35 39.2**	**-5.4**
CHTO	**Chiang Mai**	**166.87**	**133**	*e*	PKPdf	**PKPdf**	**20 35 44.1**	**-0.5**
CHTO					LR	LR		
	comp=Z,18μm,21.0s							
CHTO	**Chiang Mai**	**166.87**	**133**		P	**PKPdf**	**20 35 44.0**	**-0.5**
	SNR=31							
CHTO	**Chiang Mai**	**166.87**	**133**		PKP	**PKPdf**	**20 35 44.1**	**-0.5**
CHTO	**Chiang Mai**	**166.87**	**133**	*eP*		**PKPdf**	**20 35 48.6**	**+4.0**
CMMT	**Chiang Mai**	**166.87**	**133**		PKP	**PKPdf**	**20 35 44.1**	**-0.5**
UTTA	**Uttaradit**	**167.02**	**141**		PKP	**PKPdf**	**20 35 46.1

MCO	**Taipa Grande**	**172.81**	**215**	P	**PKPdf**	**20 35 50.0**	**+2.1**
KMI	**Kunming**	**173.57**	**116**	PKP	**PKPdf**	**20 35 46.8**	**-1.7**
KMI				pPKP	pPKPdf	20 36 00.8	-2.1
KMI				sPKP		20 36 05.3	
GZH	**Guangzhou**	**173.71**	**218**	PKP	**PKPdf**	**20 35 48.8**	**+0.6**
GZH				PP	**PP**	**20 41 11.5**	**+2.1**
GZH				LR	LR		
	comp=Z,7μm,27.5s						
GZH				LR	LR		
	comp=Z,13μm,22.9s						
XAN	**Xi'an**	**174.09**	**2**	PKP	**PKPdf**	**20 35 48.0**	**-0.2**
XAN				sPKP		20 36 05.5	
XAN				PKPab	**PKPab**	**20 37 23.0**	**+3.6**
XAN				PP	**PP**	**20 41 09.5**	**-1.0**
XAN				SS	SS	21 02 24.3	-1.1
XAN				AMB	AMB		
	comp=Z,13μm,11.4s						
XAN				LR	LR		
	comp=Z,13μm,22.1s						
XAN				LR	LR		
	comp=Z,12μm,22.6s						
XAN				LR	LR		
	comp=Z,13μm,25.5s						
XAN	**Xi'an**	**174.09**	**2**	*e*PKPdf	**PKPdf**	**20 35 48.0**	**-0.2**
XAN	**Xi'an**	**174.09**	**2**	*e*PKIKP	**PKPdf**	**20 35 48.0**	**-0.2**
CD2	**Chengdu**	**174.56**	**58**	PKP	**PKPdf**	**20 35 48.5**	**+0.1**
CD2				pPKP	pPKPdf	20 36 02.0	-0.8
CD2				PP	**PP**	**20 41 14.5**	**+0.1**
CD2				SKS	**SKSdf**	**20 42 48.3**	**+0.4**
CD2				SKKS	**SKKSac**	**20 47 57.0**	**-0.1**
CD2				SS	**SS**	**21 02 33.3**	**+0.5**
CD2				AMB	AMB		
	comp=Z,19μm,8.9s						
CD2				LR	LR		
	comp=Z,24μm,33.6s						
CD2				LR	LR		
	comp=Z,19μm,26.8s						
CD2				LR	LR		
	comp=Z,28μm,25.6s						
WHN	**Wuhan**	**174.82**	**299**	PKP	**PKPdf**	**20 35 48.0**	**-0.4**
WHN				PKPab	**PKPab**	**20 37 26.5**	**+3.5**
WHN				PP	**PP**	**20 41 16.0**	**+0.4**
WHN				SKKS		20 47 55.0	
WHN				LR	LR		
	comp=Z,18μm,19.1s						
WHN				LR	LR		
	comp=Z,37μm,22.9s						
GYA	**Guiyang**	**177.27**	**126**	PKP	**PKPdf**	**20 35 48.3**	**-1.0**
GYA				PKPab	PKPab	20 37 34.8	+0.7
GYA				PKS	**PKSdf**	**20 39 19.0**	**-2.6**
GYA				PP	**PP**	**20 41 26.0**	**-1.2**
GYA				SKKS		20 48 12.3	
GYA				LR	LR		
	comp=Z,6μm,20.8s						
GYA				LR	LR		
	comp=Z,5μm,20.1s						
GYA				LR	LR		
	comp=Z,8μm,26.2s						
ENH	**Enshi**	**177.82**	**351**	*e*PKPdf	**PKPdf**	**20 35 48.5**	**-0.6**
ENH				LR	LR		
	comp=Z,18μm,22.0s						

DJA 30 20:26:08.4±0.5, 1°N±6′×12°5E±°, h75km±17km, M4.0/10, mB4.6/2, mb4.0/4, MLv4.1/10, Mw(mB)3.8/2, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.48**	**87**	P	Pn	20 26 46.7	+0.1
LUWI	**Luwuk**	**2.70**	**232**	P	Pn	20 26 50.5	+0.8
SANI	**Sanana**	**2.90**	**158**	P	Pn	20 26 51.6	-0.7
MRSI	**Marisa**	**2.95**	**267**	P	Pn	20 26 51.9	-1.2
APSI	**Ampana**	**3.59**	**244**	P	Pn	20 27 02.4	+0.6
NLAI	**Namlea**	**4.45**	**150**	P	Pn	20 27 13.5	0.0
MPSI	**Mapaga**	**5.00**	**266**	P	Pn	20 27 20.9	-0.1
PCI	**Palu**	**5.28**	**253**	P	Pn	20 27 24.1	-0.8
BKSI	**Bulukumba**	**7.61**	**219**	P	Pn	20 27 56.6	0.0

*GUC **30** 20:31:11.2±0.5, 32.°94S×71.°88W, h65km±9km, ML3.6*
*SJA **30** 20:31:11.0±0.9, 33.°11S×72.°16W, h20km, ML3.5, MW3.6*
ISC 30 20:31:08.2±3.4, 33.°00S±0.°08×72.°0W±0.°1, h13km±12km, n12, σ1§11/20, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.83**	**88**	*e*P	**Pn**	**20 31 26.5**	**+0.7**
ROCH				*e*S	**Sn**	**20 31 37.6**	**-0.5**
ROCH				IAML		20 31 40.9	
	comp=N,2μm,0.4s						
PEL	**Peldehue**	**1.12**	**98**	*i* P	**Pn**	**20 31 30.4**	**+0.9**
PEL				*e*S	**Sn**	**20 31 44.5**	**-0.3**
PEL				IAML		20 31 50.1	
	comp=N,2μm,0.3s						
CLCH	**Cerro Calan**	**1.29**	**108**	⇓*i*P	**Pb**	**20 31 32.4**	**0.0**
CLCH				*e*S	**Sn**	**20 31 49.0**	**-0.2**
CLCH				IAML		20 31 55.0	
	comp=E,2μm,0.4s						
FCH	**Farellones**	**1.47**	**103**	*e*P	**Pb**	**20 31 35.6**	**0.0**
FCH				*e*S	**Sg**	**20 31 54.3**	**-1.4**
FCH				IAML		20 31 57.6	
	comp=N,1μm,0.3s						
LMEL	**Las Melosas**	**1.73**	**120**	*e*P	**Pn**	**20 31 38.8**	**+0.7**
LMEL				*e*S	**Sn**	**20 31 59.9**	**-0.1**
LMEL				IAML		20 32 05.2	
	comp=N,2μm,0.2s						
AUSP	**Uspallata**	**2.34**	**71**	*i* P	**Pg**	**20 31 53.5**	**+0.4**
AUSP				*i* S	**Sg**	**20 32 24.7**	**+1.2**
RTLS	**Leoncito**	**2.59**	**63**	*i* P	**Pg**	**20 31 57.0**	**-0.8**
RTLS				*i* S	**Sg**	**20 32 32.4**	**+1.1**
RTLS				IAML		20 32 36.6	
	comp=Z,164nm,0.5s						
ARCO	**CERRO ARCO**	**2.59**	**87**	*i* P	**Pg**	**20 31 56.8**	**-1.1**
ARCO				IAML		20 31 59.4	
	comp=Z,245nm,0.5s						
ARCO				*i* S	**Sg**	**20 32 33.1**	**+1.7**
ASAL	**Salagasta**	**2.70**	**82**	*i* P	**Pg**	**20 31 58.4**	**-1.6**
ASAL				*i* S	**Sg**	**20 32 35.2**	**+0.2**
AVIZ	**Vizcacheras**	**2.96**	**100**	*i* P	**Pb**	**20 32 01.4**	**+0.6**
AGUA	**GUANDACOL**	**4.62**	**42**	*e*P	Sn	20 33 19.2	+7.9
ACLC	**CERRO LA CRUZ**	**5.61**	**52**	*e*P	**Sn**	**20 33 33.5**	**-2.3**

IDC 30 20:32:35.6±1.9, 27.°92S×70.°68W, h39km±7km, mb3.7/1, mb1 4.1/2, mb1mx3.6/30, mbtmp4.1/2, ML3.6/1, Error ellipse: s-maj=98.6km s-min=62.1km az=92.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**11.81**	**12**	Pn	Pn	20 35 21.9	-0.3
	0.2nm,0.3s,baz=172,slow=14,SNR=3.2						
TORD	**Torodi Ar. Bea**	**81.04**	**70**	P	P	20 44 46.9	0.0
	0.6nm,0.5s,baz=275,slow=4.5,SNR=7.6						
KURBB	**Kurchatov Arra**	**147.49**	**37**	PKPbc	PKPbc	20 52 14.9	-0.3
	0.5nm,0.5s,baz=307,slow=3.2,SNR=6.0						
KURBB				pPKPbc	pPKPbc	20 52 27.6	+0.1
	0.5nm,0.5s,baz=308,slow=3.1,SNR=4.1						
ZALV	**Zalesovo Beam**	**148.39**	**28**	PKPbc	PKPbc	20 52 16.9	-0.5
	1.6nm,0.6s,baz=302,slow=4.8,SNR=4.9						
ZALV				pPKPbc	pPKPbc	20 52 29.1	-0.8
	1.7nm,0.6s,baz=289,slow=3.3,SNR=4.9						
MKAR	**Makanchi Array**	**151.64**	**41**	PKPbc	PKPbc	20 52 24.9	-0.7
	0.5nm,0.6s,baz=316,slow=3.7,SNR=3.4						
MKAR				pPKPbc	pPKPbc	20 52 37.2	-0.9
	0.9nm,0.6s,baz=303,slow=1.6,SNR=4.3						

*ISCJB **30** 20:40:39.1±0.7, 27.°95S±0.°03×71.°10W±0.°08, h50km±6km, mb4.4/10, Error ellipse: s-maj=12.0km s-min=4.7km az=5.7*
*SJA **30** 20:40:39.5±0.6, 28.°05S×70.°85W, h22km±6km, ML4.3, MW4.3*
*NEIC **30** 20:40:40.0±0.0, 28.°09S×70.°62W, h55km, ML4.7(GUC), After GUC.*
NEIC Felt [III] at Copiapo, Tierra Amarilla and Vallenar.
*GUC **30** 20:40:40.1±0.4, 28.°09S×70.°62W, h55km±4km, ML4.7*
*IDC **30** 20:40:42.1±0.5, 28.°08S×70.°79W, h48km±3km, mb4.1/8, mb1 4.2/10, mb1mx3.9/41, mbtmp4.3/10, Error ellipse: s-maj=20.5km s-min=15.2km az=60.0*
ISC 30 20:40:41.2±0.4, 28.°06S±0.°04×70.°95W±0.°07, h49km±3km, h50km:pP-P, n82, σ1§36/108, mb4.5/12, 2C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	**Copiap**	**0.78**	**54**	*e*Pn	**Pn**	**20 40 56.2**	**+0.1**
GO03				*e*Sn	**Sn**	**20 41 05.7**	**-1.2**
GO03	**Copiap**	**0.78**	**54**	⇓*i*P	**Pn**	**20 40 56.2**	**+0.1**
GO03				*i* S	**Sn**	**20 41 06.5**	**-0.4**
GO03				IAML		20 41 07.6	
	comp=N,43μm,0.4s						
LCO	**Las Campanas**	**0.98**	**167**	*e*Pn	**Pn**	**20 40 58.3**	**-0.6**
LCO				*e*Sn	**Sn**	**20 41 08.3**	**-3.4**
LCO	**Las Campanas**	**0.98**	**167**	*i* P	**Pn**	**20 40 58.2**	**-0.6**
LCO				*i* S	**Sn**	**20 41 12.4**	**+0.6**
LCO	**Las Campanas**	**0.98**	**167**	⇓*i*P	**Pn**	**20 40 58.6**	**-0.3**
LCO				IAML		20 41 12.9	
	comp=N,13μm,0.5s						
GO04	**Tololo Observa**	**2.11**	**176**	*e*Pn	**Pn**	**20 41 14.2**	**-0.1**
GO04	**Tololo Observa**	**2.11**	**176**	⇑*i*P	**Pn**	**20 41 15.2**	**+0.9**
GO04				*i* S	**Sn**	**20 41 41.7**	**+2.2**
GO04				IAML		20 41 48.2	
	comp=N,16μm,0.5s						
CMCH	**Combarbala**	**3.11**	**181**	*e*P	**Pn**	**20 41 28.3**	**+0.6**
CMCH				*i* S	**Sn**	**20 42 04.8**	**+1.1**
GO02	**Mina Guanaco**	**3.13**	**23**	*e*Pn	**Pn**	**20 41 28.3**	**0.0**
GO02	**Mina Guanaco**	**3.13**	**23**	⇑*i*P	**Pn**	**20 41 28.7**	**+0.5**
GO02				IAML		20 42 27.3	
	comp=N,5μm,0.8s						
PB14	**IPOC Station P**	**3.45**	**8**	IAML		20 42 34.4	
	comp=N,1μm,0.5s						
AMOG	**MOGNA**	**3.58**	**144**	*i* P	**Pn**	**20 41 36.5**	**+2.2**
RTLL	**Cerro Villicun**	**3.91**	**147**	*i* P	**Pn**	**20 41 41.1**	**+2.3**
RTLS	**Leoncito**	**4.00**	**159**	*i* P	**Pn**	**20 41 43.2**	**+3.1**
RTLS				IAML		20 42 53.3	
	comp=Z,756nm,0.8s						
SJA	**San Juan**	**4.04**	**150**	*i* P	**Pn**	**20 41 42.9**	**+2.4**
RTCV	**Cerro Valdivia**	**4.33**	**152**	*i* P	**Pn**	**20 41 46.7**	**+2.1**
APLL	**PUNTA DE LOS L**	**4.51**	**122**	*i* P	**Pn**	**20 41 48.7**	**+1.6**
APLL				IAML		20 42 46.0	
	comp=Z,356nm,0.4s						
PB10	**IPOC Station P**	**4.54**	**5**	*e*Pn	**Pn**	**20 41 45.8**	**-1.6**
CYA	**Choya**	**4.56**	**96**	*i* P	**Pn**	**20 41 49.7**	**+2.0**
CYA				IAML		20 41 52.0	
	comp=Z,382nm,0.3s						
ROC1	**El Roble**	**4.90**	**181**	*e*Pn	**Pn**	**20 41 52.6**	**0.0**
PEL	**Peldehue**	**5.08**	**177**	*e*Pn	**Pn**	**20 41 53.1**	**-1.6**
AHML	**Horco Molle**	**5.15**	**77**	*i* P	**Pn**	**20 41 58.1**	**+2.3**
AHML				IAML		20 42 01.9	
	comp=Z,90nm,0.3s						
LVC	**Limon Verde**	**5.73**	**19**	P	**Pn**	**20 42 03.6**	**-0.5**
	comp=Z,2.3nm,0.3s,baz=165,slow=8.3,SNR=21						
LVC	**Limon Verde**	**5.73**	**19**	*e*Pn	**Pn**	**20 42 02.1**	**-1.9**
PB04	**IPOC Station P**	**5.74**	**7**	*e*Pn	**Pn**	**20 42 01.6**	**-2.5**
GO05	**Huala**	**6.98**	**187**	*e*Pn	**Pn**	**20 42 17.9**	**-3.0**
PB01	**IPOC Station P**	**7.11**	**11**	*e*Pn	**Pn**	**20 42 19.7**	**-3.0**
PB11	**IPOC Station P**	**8.34**	**8**	*e*Pn	Pn	20 42 44.8	+5.1
MNMC	**Minye Minye**	**8.97**	**8**	*e*Pn	**Pn**	**20 42 46.7**	**-1.7**
LPAZ	**La Paz**	**12.00**	**13**	P	**Pn**	**20 43 28.2**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=196,slow=5.4,SNR=5.8						
LPAZ	**La Paz**	**12.00**	**13**	*e*Pn	**Pn**	**20 43 27.9**	**-2.2**
CPUP	**Villa Florida**	**12.25**	**85**	P	**Pn**	**20 43 31.7**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=254,slow=10,SNR=10						
SIV	**San Ignacio**	**15.09**	**39**	P	**Pn**	**20 44 07.0**	**-4.3**
	comp=Z,0.5nm,0.3s,baz=190,slow=17,SNR=6.0						
MDP	**Montagnes des**	**37.40**	**31**	P	**P**	**20 47 49.4**	**-0.1**
	comp=Z,8.9nm,1.0s,baz=214,slow=7.6,SNR=5.2						
MDP				sP	**sP**	**20 48 07.8**	**-0.6**
	comp=Z,3.4nm,0.5s,baz=218,slow=19,SNR=1.6						
VNA3	**Neumayer Olymp**	**54.54**	**160**	P	**P**	**20 50 04.3**	**+0.5**
VNA1	**Neumayer--Stat**	**54.81**	**159**	P	**P**	**20 50 07.8**	**+2.1**
VNA2	**Neumayer--Watz**	**55.16**	**159**	P	**P**	**20 50 09.1**	**+0.8**
	baz=284,slow=8.6						
SNAA	**Sanae**	**56.76**	**159**	P	**P**	**20 50 20.3**	**+0.5**
SNAA	**Sanae**	**56.76**	**159**	P	**P**	**20 50 20.3**	**+0.5**
	comp=Z,3.8nm,0.5s,baz=278,slow=8.8,SNR=16						
SNAA				pP	**pP**	**20 50 33.9**	**+0.3**
	comp=Z,7.2nm,0.7s,baz=278,slow=8.0,SNR=7.9						
JSC	**Jenkinsville**	**62.76**	**350**	*e*P	**P**	**20 51 02.5**	**+1.2**
	comp=Z,71nm,1.0s						
LTX	**Lajitas**	**65.09**	**329**	*e*P	**P**	**20 51 18.8**	**+2.0**
LTX				*e*pP	**pP**	**20 51 31.9**	**+1.1**
TXAR	**Lajitas Array**	**65.09**	**329**	P	**P**	**20 51 18.8**	**+2.0**
	comp=Z,0.7nm,0.8s,baz=144,slow=7.8,SNR=2.9						
TXAR				pP	**pP**	**20 51 31.9**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=161,slow=8.6,SNR=2.6						
TXAR				sP	**sP**	**20 51 37.7**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=154,slow=7.5,SNR=5.1						
P53A	**Whipple**	**67.90**	**351**	*e*P	**P**	**20 51 32.2**	**-2.2**
	comp=Z,215nm,1.2s						
N54A	**Moraine State**	**69.18**	**353**	*e*P	P	20 51 37.2	-5.1
	comp=Z,38nm,1.1s						
M54A	**Oil Creek Stat**	**69.68**	**353**	*e*P	**P**	**20 51 43.4**	**-2.1**
	comp=Z,102nm,1.6s						
ANMO	**Albuquerque**	**71.08**	**330**	sP	sP	20 52 15.7	+1.6
	comp=Z,2.2nm,0.8s,baz=131,slow=3.8,SNR=3.8						
LIC	**Lamto**	**72.06**	**73**	*e*P	**P**	**20 52 00.2**	**-0.3**
	comp=Z,24nm,1.4s						
TIC	**Toumodi**	**72.29**	**72**	*e*P	**P**	**20 52 01.9**	**0.0**
KIC	**Kosan Boka**	**72.37**	**73**	*e*P	**P**	**20 52 02.5**	**+0.1**
	comp=Z,20nm,1.0s						
DBIC	**Dimbokro**	**72.44**	**72**	P	**P**	**20 52 03.0**	**+0.3**
	comp=Z,5.1nm,0.7s,baz=213,slow=6.7,SNR=11						
DBIC				sP	**sP**	**20 52 22.7**	**0.0**
	comp=Z,4.0nm,0.6s,baz=224,slow=6.4,SNR=4.9						
DBIC	**Dimbokro**	**72.44**	**72**	*e*P	**P**	**20 52 02.5**	**-0.3**
	comp=Z,6.3nm,0.8s						
DBIC				sP	**sP**	**20 52 22.7**	**0.0**
PDAR	**Pinedale Array**	**78.93**	**332**	P	**P**	**20 52 41.1**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=128,slow=6.8,SNR=4.5						
PDAR				pP	**pP**	**20 52 55.5**	**+1.6**
	comp=Z,0.7nm,0.7s,baz=124,slow=5.2,SNR=3.4						
PDAR				sP	**sP**	**20 53 00.2**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=133,slow=6.3,SNR=4.4						
NVAR	**Mina Array Bea**	**79.59**	**324**	sP	sP	20 53 04.9	+1.6
	comp=Z,1.0nm,0.8s,baz=158,slow=7.4,SNR=4.5						
ELK	**Elko**	**79.83**	**327**	P	**P**	**20 52 46.5**	**+2.0**
	comp=Z,2.3nm,0.8s,baz=155,slow=5.2,SNR=5.8						
TOA1	**Torodi Ar. Sit**	**81.31**	**70**	*e*P	**P**	**20 52 52.2**	**-0.5**
TOA1				*e*pP	**pP**	**20 53 08.0**	**+0.8**
TORD	**Torodi Ar. Bea**	**81.31**	**70**	P	**P**	**20 52 52.2**	**-0.5**
	comp=Z,3.9nm,0.6s,baz=272,slow=4.2,SNR=33						
TORD				pP	**pP**	**20 53 08.0**	**+0.8**
	comp=Z,4.8nm,0.9s,baz=285,slow=5.2,SNR=9.1						
BOSA	**Boshof**	**82.02**	**118**	P	**P**	**20 52 56.3**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=228,slow=2.3,SNR=5.4						
BOSA				pP	**pP**	**20 53 11.4**	**+0.4**
	comp=Z,2.3nm,0.4s,baz=217,slow=4.7,SNR=3.3						
ASAR	**Alice Springs**	**123.27**	**207**	PKP	**PKPdf**	**20 59 33.2**	**0.0**
	comp=Z,0.3nm,0.4s,baz=128,slow=1.9,SNR=5.6						
ASAR				pPKP	**pPKPdf**	**20 59 47.0**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=129,slow=2.1,SNR=3.3						
WR1	**Warramunga Arr**	**126.38**	**210**	*e*PKPdf	**PKiKP**	**20 59 39.6**	**-0.1**
WR1				*ep*PKPdf	**pPKPdf**	**20 59 53.5**	**-0.9**
WRA	**Warramunga Arr**	**126.38**	**210**	PKP	**PKiKP**	**20 59 39.6**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=154,slow=1.7,SNR=21						
WRA				pPKP	**pPKPdf**	**20 59 53.5**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=159,slow=1.7,SNR=5.2						
CHGR	**Chuyangaron**	**145.28**	**62**	*e*PKPbc	**PKPab**	**21 00 14.0**	**+0.4**
KURK	**Kurchatov**	**147.74**	**37**	*e*PKPbc	**PKiKP**	**21 00 21.1**	**-0.9**
KURK				*ep*PKPdf	**pPKPbc**	**21 00 35.5**	**+0.4**
KURBB	**Kurchatov Arra**	**147.74**	**37**	PKPbc	**PKPbc**	**21 00 21.1**	**+1.0**
	comp=Z,2.3nm,0.6s,baz=305,slow=3.2,SNR=18						
KURBB				pPKPbc	**pPKPbc**	**21 00 35.5**	**+0.4**
	comp=Z,3.5nm,0.6s,baz=305,slow=3.2,SNR=12						
ARSB	**Arslanbob**	**147.76**	**56**	*e*PKPbc	**PKPbc**	**21 00 21.4**	**+0.8**
AAK	**Ala-Archa**	**148.53**	**53**	PKPbc	**PKiKP**	**21 00 24.5**	**+0.3**
	comp=Z,3.5nm,0.5s,baz=217,slow=2.9,SNR=16						
AAK				pPKPbc	**sPKPdf**	**21 00 38.8**	**-0.8**
	comp=Z,7.4nm,1.0s,baz=180,slow=5.2,SNR=8.7						
AAK	**Ala-Archa**	**148.53**	**53**	*e*PKPbc	**PKiKP**	**21 00 24.0**	**-0.2**
AAK				*ep*PKPab	**sPKPdf**	**21 00 38.9**	**-0.8**
ZAA1	**Zalesovo Array**	**148.62**	**28**	*e*PKPbc	**PKiKP**	**21 00 23.3**	**-0.4**
ZAA1				*ep*PKPab	**pPKPbc**	**21 00 37.3**	**0.0**
ZALV	**Zalesovo Beam**	**148.62**	**28**	PKPbc	**PKiKP**	**21 00 23.3**	**-0.4**
	comp=Z,6.2nm,0.6s,baz=300,slow=3.7,SNR=24						
ZALV				pPKPbc	**pPKPbc**	**21 00 37.3**	**0.0**
	comp=Z,5.4nm,0.5s,baz=290,slow=3.8,SNR=14						
NIL	**Nilore**	**148.87**	**71**	*e*PKPbc	**PKPbc**	**21 00 23.9**	**+0.3**
NRN	**Naryn**	**149.94**	**55**	*e*PKPbc	**PKiKP**	**21 00 27.3**	**-0.1**
NRN				*ep*PKPab	**pPKPbc**	**21 00 41.6**	**0.0**
TARG	**Taragay, Kyrgy**	**151.15**	**54**	*e*PKPbc	**PKiKP**	**21 00 29.9**	**-0.1**
TARG				*ep*PKPab	**pPKPbc**	**21 00 44.7**	**+0.2**
MAKZ	**Makanchi**	**151.71**	**41**	*e*PKPbc	**PKiKP**	**21 00 30.4**	**-0.1**
MAKZ				*ep*PKPab	**sPKPdf**	**21 00 44.4**	**0.0**
MK32	**Makanchi Array**	**151.90**	**41**	*e*PKPbc	**PKiKP**	**21 00 31.1**	**+0.3**
MK32				*ep*PKPab	**pPKPbc**	**21 00 45.3**	**-0.3**
MKAR	**Makanchi Array**	**151.90**	**41**	PKPbc	**PKiKP**	**21 00 31.1**	**+0.3**
	comp=Z,3.3nm,0.7s,baz=319,slow=1.9,SNR=33						
MKAR				pPKPbc	**pPKPbc**	**21 00 45.3**	**-0.3**
	comp=Z,4.3nm,0.6s,baz=308,slow=2.0,SNR=25						
MKAR	**Makanchi Array**	**151.90**	**41**	*e*PKPbc	**PKiKP**	**21 00 30.8**	**-0.1**
MKAR				*ep*PKPab	**sPKPdf**	**21 00 44.8**	**+0.1**
PYUN	**Piuthan**	**157.02**	**84**	*e*P	PKPdf	21 00 45.7	+14
DANN	**Dangsing**	**157.72**	**83**	*e*P	PKPdf	21 00 48.5	+16
	comp=Z,14nm,0.9s						
DMN	**Daman**	**158.82**	**86**	*e*P	**PKPab**	**21 01 07.9**	**-2.4**
	comp=Z,8.6nm,0.8s						
KKN	**Kakani**	**159.00**	**85**	*e*P	**PKPab**	**21 01 08.6**	**-2.4**
PKIN	**Phulchoki**	**159.08**	**86**	*e*P	**PKPab**	**21 01 10.5**	**-1.0**
PKI	**Pulchoki**	**159.09**	**86**	*e*P	**PKPab**	**21 01 10.8**	**-0.8**
	comp=Z,3.5nm,0.7s						
GUN	**Gumba**	**159.54**	**85**	*e*P	**PKPab**	**21 01 13.6**	**0.0**

*SJA **30** 20:55:40.1±0.7, 28.°02S×70.°75W, h19km±8km, ML4.0, MW3.9*
*GUC **30** 20:55:41.9±0.6, 28.°24S×70.°34W, h46km±55km, ML4.5*
*IDC **30** 20:55:42.3±1.1, 28.°03S×70.°86W, h49km±7km, mb3.5/2, mb1 3.9/4, mb1mx3.5/36, mbtmp3.8/4, Error ellipse: s-maj=38.7km s-min=32.6km az=11.0*
ISC 30 20:55:40.4±0.8, 27.°98S±0.°05×71.°05W±0.°08, h38km, n28, σ1§44/31, 1C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	**Copiap**	**0.82**	**62**	*e*P	**Pn**	**20 55 55.9**	**+0.3**
GO03				*i* S	**Sn**	**20 56 06.1**	**-0.4**
GO03				IAML		20 56 06.9	
	comp=N,33μm,0.6s						
LCO	**Las Campanas**	**1.07**	**163**	*i* P	**Pn**	**20 55 59.2**	**+0.1**
LCO				*i* S	**Sn**	**20 56 13.4**	**+0.5**
LCO	**Las Campanas**	**1.07**	**163**	*e*P	**Pn**	**20 55 59.2**	**+0.1**
LCO				*i* S	**Sn**	**20 56 11.8**	**-1.1**
GO04	**Tololo Observa**	**2.19**	**174**	⇑*i*P	**Pn**	**20 56 15.9**	**+1.4**
GO04				*i* S	**Sn**	**20 56 40.9**	**+0.3**
GO04				IAML		20 56 59.6	
	comp=N,6μm,0.4s						
GO02	**Mina Guanaco**	**3.10**	**25**	*e*P	**Pn**	**20 56 29.3**	**+2.3**
CMCH	**Combarbala**	**3.18**	**179**	*e*P	**Pn**	**20 56 29.3**	**+1.3**
AMOG	**MOGNA**	**3.70**	**143**	*i* P	**Pn**	**20 56 36.8**	**+1.8**
ACLC	**CERRO LA CRUZ**	**3.88**	**113**	*i* P	**Pn**	**20 56 39.0**	**+1.4**
RTLL	**Cerro Villicun**	**4.02**	**147**	*i* P	**Pn**	**20 56 41.6**	**+2.1**
RTLL				⇓*e*Sg	**Sn**	**20 57 26.2**	**+0.9**
RTLS	**Leoncito**	**4.10**	**159**	*i* P	**Pn**	**20 56 44.0**	**+3.2**
RTCV	**Cerro Valdivia**	**4.44**	**151**	*i* P	**Pn**	**20 56 47.8**	**+2.6**
APLL	**PUNTA DE LOS L**	**4.63**	**122**	*i* P	**Pn**	**20 56 48.6**	**+0.7**
APLL				IAML		20 56 52.2	
	comp=Z,126nm,0.3s						
CYA	**Choya**	**4.66**	**97**	*i* P	**Pn**	**20 56 49.1**	**+0.9**
CYA				IAML		20 56 51.8	
	comp=Z,224nm,0.3s						
ROCH	**El Roble**	**4.97**	**180**	*e*P	**Pn**	**20 56 53.6**	**+0.9**
PB05	**IPOC Station P**	**5.17**	**9**	P	Pn	20 57 05.0	+10
AHML	**Horco Molle**	**5.22**	**78**	*i* P	**Pn**	**20 56 57.5**	**+1.5**
AHML				IAML		20 57 01.4	
	comp=Z,70nm,0.8s						
PB06	**IPOC Station P**	**5.42**	**15**	P	Pn	20 57 08.7	+10
PB04	**IPOC Station P**	**5.68**	**8**	P	Pn	20 57 15.5	+13
PB04				S	Sn	20 58 29.2	+23
LVC	**Limon Verde**	**5.69**	**20**	P	**Pn**	**20 57 03.7**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=214,slow=11,SNR=12						
PB03	**IPOC Station P**	**6.02**	**12**	P	Pn	20 57 16.8	+10
PB07	**IPOC Station P**	**6.32**	**10**	P	Pn	20 57 20.2	+9.1
PB09	**IPOC Station P**	**6.37**	**15**	P	Pn	20 57 25.0	+13
CPUP	**Villa Florida**	**12.33**	**86**	P	**Pn**	**20 58 33.1**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=260,slow=11,SNR=5.3						
TXAR	**Lajitas Array**	**64.98**	**329**	P	**P**	**21 06 18.0**	**+1.5**
	comp=Z,0.3nm,0.5s,baz

20nm,0.5s
MDOK Medeo 1.99 287 Pg **Pb 21 02 15.7 -0.9**
13nm,0.3s
MDOK Lg Lg 21 02 41.4
20nm,0.6s
MDOK Medeo 1.99 287 *e*P **Pb 21 02 15.7 -0.9**
baz=88
MDOK *e*S **Sb 21 02 41.5 0.0**
baz=88
MDOK Medeo 1.99 287 *e*P **Pb 21 02 15.7 -0.9**
10nm,0.3s
MDOK *e*S **Sb 21 02 41.5 0.0**
18nm,0.6s
TNSS Tian-Shan 2.03 283 Pg **Pb 21 02 16.0 -1.4**
18nm,0.3s
TNSS Lg Lg 21 02 41.8
17nm,0.4s
TNSS Tian-Shan 2.03 283 *e*P **Pb 21 02 16.0 -1.4**
baz=84
TNSS *e*S **Sb 21 02 41.8 -1.1**
baz=84
TNSS Tian-Shan 2.03 283 *e*P **Pb 21 02 16.0 -1.4**
18nm,0.3s
TNSS *e*S **Sb 21 02 41.8 -1.1**
17nm,0.4s
KNDC Almaty 2.06 288 ⇑Pn **Pb 21 02 17.4 -0.3**
18nm,0.3s
KNDC ⇓Sn **Sg 21 02 46.2 -0.2**
20nm,0.3s
ARXS Arharly 2.08 321 Pg **Pb 21 02 17.0 -1.1**
19nm,0.7s
ARXS Lg Lg 21 02 43.6
21nm,0.5s
ARXS Arharly 2.08 321 *e*P **Pb 21 02 17.1 -1.1**
19nm,0.7s
ARXS *e*S **Sb 21 02 43.6 -0.5**
21nm,0.5s
AAA Alma-Ata 2.09 288 Pg **Pb 21 02 18.2 -0.1**
29nm,0.3s
AAA Lg Lg 21 02 45.9
38nm,0.5s
AAA Alma-Ata 2.09 288 *e*P **Pb 21 02 18.2 -0.1**
baz=88
AAA *e*S **Sg 21 02 45.9 -1.6**
baz=88
AAA Alma-Ata 2.09 288 *e*P **Pb 21 02 18.2 -0.1**
12nm,0.2s
AAA *e*S **Sg 21 02 45.9 -1.6**
12nm,0.1s
CHKK Chushkaly 2.31 304 Pg **Pb 21 02 21.5 -0.4**
3.3nm,0.2s
CHKK Lg Lg 21 02 51.6
37nm,0.2s
CHKK Chushkaly 2.31 304 *e*P **Pb 21 02 21.5 -0.4**
baz=4.0
CHKK *e*S **Sb 21 02 51.6 +1.1**
baz=4.0
CHKK Chushkaly 2.31 304 *e*P **Pb 21 02 21.5 -0.4**
3.3nm,0.2s
CHKK *e*S **Sb 21 02 51.6 +1.1**
37nm,0.2s
MTBS Maitube 2.42 284 Pg **Pb 21 02 23.5 -0.4**
21nm,0.3s
MTBS Lg Lg 21 02 54.8
27nm,0.5s
MTBS Maitube 2.42 284 *e*P **Pb 21 02 23.5 -0.4**
baz=84
MTBS *e*S **Sb 21 02 54.8 +1.0**
baz=84
MTBS Maitube 2.42 284 *e*P **Pb 21 02 23.5 -0.4**
21nm,0.3s
MTBS *e*S **Sb 21 02 54.8 +1.0**
27nm,0.5s
KTBS Karatobe 2.43 298 Pg **Pb 21 02 23.7 -0.4**
2.2nm,0.2s
KTBS Lg Lg 21 02 55.0
KTBS Karatobe 2.43 298 *e*P **Pb 21 02 23.7 -0.4**
baz=97
KTBS *e*S **Sb 21 02 54.9 +0.8**
baz=97
KTBS Karatobe 2.43 298 *e*P **Pb 21 02 23.7 -0.4**
2.3nm,0.2s
KTBS *e*S **Sb 21 02 55.0 +0.8**
46nm,0.3s
ULHL Ulahol 2.54 263 ⇑*i*P **Pn 21 02 22.7 +1.0**
baz=63
ULHL ⇑*i*S **Sb 21 02 55.8 -1.7**
baz=63
KAPS Kapalarasan 2.69 356 Pg **Pb 21 02 27.2 -1.2**
2.0nm,0.2s
KAPS Lg Lg 21 03 01.1
8.6nm,0.4s
BOOM Boomskoye usch 2.74 269 ⇑*i*P **Pn 21 02 26.3 +1.9**
baz=69
BOOM ⇑*i*S **Sb 21 03 01.0 -2.0**
baz=69
KST Kastek 2.74 280 Pg **Pb 21 02 29.2 -0.2**
7.8nm,0.3s
KST Lg Lg 21 03 04.4
22nm,0.6s
KST Kastek 2.74 280 *e*P **Pb 21 02 29.2 -0.2**
baz=81
KST *e*S **Sb 21 03 04.4 +1.3**
baz=81
KST Kastek 2.74 280 *e*P **Pb 21 02 29.2 -0.2**
7.8nm,0.3s
KST *e*S **Sb 21 03 04.4 +1.3**
22nm,0.6s
NRN Naryn 2.96 248 ⇑*e*P **Pn 21 02 29.0 +1.5**
baz=48
NRN ⇑*i*S **Sn 21 03 05.9 +2.7**
baz=48
TKM2 Tokmak 2 3.00 277 ⇑Pg **Pb 21 02 33.0 -0.8**
2.4nm,0.6s
TKM2 ⇑Lg Lg 21 03 13.5
16nm,0.5s
TKM2 Tokmak 2 3.00 277 ⇑*i*P **Pn 21 02 29.5 +1.6**
baz=78
TKM2 ⇑*i*S **Sn 21 03 07.0 +3.0**
baz=78
KZA Kyzart 3.30 262 ⇑*i*P **Pn 21 02 33.8 +1.5**
baz=63
KZA ⇑*i*S **Sn 21 03 14.1 +2.3**
baz=63
KBK Karagaybulak 3.46 272 ⇑*e*P **Pn 21 02 36.2 +1.8**
baz=73
KBK ⇑*i*S **Sn 21 03 18.0 +2.5**
baz=73
CHMS Chumysh 3.62 278 ⇑*e*P **Pn 21 02 37.9 +1.5**
baz=78
CHMS ⇑*i*S **Sn 21 03 21.8 +2.6**
baz=78
FRU1 Bishkek 3.70 275 ⇓*i*P **Pn 21 02 39.2 +1.7**
baz=75
FRU1 ⇓*i*S **Sn 21 03 24.0 +2.8**
baz=75
SGDS Sogindy 3.77 285 Pg **Pb 21 02 47.1 +0.1**
3.6nm,0.4s
SGDS Lg Lg 21 03 35.0
10.0nm,0.5s
AAK Ala-Archa 3.80 272 ⇓Pg **Pg 21 02 52.3 -0.7**
1.7nm,0.7s
AAK ⇑Lg Lg 21 03 38.6
13nm,0.8s
UCH Uchtor 3.82 266 ⇓*i*P **Pn 21 02 40.9 +1.5**
baz=66
UCH ⇓*i*S **Sn 21 03 26.5 +1.9**
baz=66
USP Ospenovka 3.83 282 ⇑*e*P **Pn 21 02 40.9 +1.6**
baz=82
USP ⇑*i*S **Sn 21 03 26.9 +2.4**
baz=82
ARLS Aral 4.02 261 ⇓*i*P **Pn 21 02 43.1 +1.1**
baz=61
ARLS ⇓*i*S **Sn 21 03 30.7 +1.5**
baz=61
EKS2 Erkin-Say 4.33 273 ⇑*i*P **Pn 21 02 47.7 +1.5**
baz=73
EKS2 ⇑*i*S **Sn 21 03 38.6 +1.9**
baz=73
MAKZ Makanchi 4.52 21 ⇑Pn **Pn 21 02 50.0 +1.3**
1.1nm,0.7s
MAKZ ⇑Sn **Sn 21 03 42.7 +1.3**
0.6nm,0.5s
MAKZ ⇑Lg Lg 21 03 58.7
0.5nm,0.4s
MK31 Makanchi Array 4.60 23 Pn **Pn 21 02 50.8 +1.1**
0.2nm,0.3s,baz=200,slow=13,SNR=24
MK31 ⇑Sn **Sn 21 03 43.1 -0.1**
0.4nm,0.3s,baz=205,slow=25,SNR=5.0
MK31 ⇑Lg Lg 21 04 02.4
0.3nm,0.3s,baz=204,slow=21,SNR=6.0
MRKS Merke 4.73 274 Pg **Pb 21 03 05.3 +2.0**
1.4nm,0.4s
MRKS Lg Lg 21 04 06.5
7.0nm,0.4s
MRKS Merke 4.73 274 *e*P **Pb 21 03 05.3 +2.0**
baz=74
MRKS *e*S **Sg 21 04 06.5 -5.7**
baz=74
MRKS Merke 4.73 274 *e*P **Pb 21 03 05.3 +2.0**
1.4nm,0.4s
MRKS *e*S **Sg 21 04 06.5 -5.7**
7.0nm,0.4s
MNAS Manas 5.28 271 ⇑Pg **Pg 21 03 17.2 -4.0**
0.9nm,0.7s
MNAS ⇑Lg Lg 21 04 28.5
1.3nm,0.5s

*SJA **30** 21:13:52.6±0.5, 29.°32S×72.°91W, h46km±11km, ML4.5, MW4.9*
*ISCJB **30** 21:13:58.6±1.7, 29.°58S±0.°03×72.°32W±0.°07, h15km±11km, mb4.5/10, Error ellipse: s-maj=10.1km s-min=4.7km az=179.1*
*GUC **30** 21:13:58.2±0.4, 29.°90S×69.°46W, h9km±7km, ML4.5*
*NEIC **30** 21:13:58.0±0.0, 29.°90S×69.°45W, h10km, mb4.3/1, ML4.5(GUC), After GUC.*
*IDC **30** 21:13:59.8±1.0, 29.°69S×71.°89W, h0km, mb4.5/7, mb1 4.3/12, mb1mx4.1/29, mbtmp4.3/12, ML4.1/5, Error ellipse: s-maj=38.4km s-min=17.2km az=107.0*
ISC 30 21:14:00.8±2.7, 29.°67S±0.°04×72.°14W±0.°08, h14km±15km, n65, σ1°67/77, mb4.6/10, 1C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO04	**Tololo Observa**	**1.27**	**114**	*e*Pn	**Pb**	**21 14 23.1**	**-1.6**
GO04	**Tololo Observa**	**1.27**	**114**⇓	*e*P	**Pb**	**21 14 22.9**	**-1.8**
GO04				*i* S	**Sb**	**21 14 39.8**	**-1.2**
GO04				IAML		21 14 47.0	
comp=N,35μm,0.5s							
LCO	**Las Campanas**	**1.42**	**63**	*e*Pn	**Pn**	**21 14 25.0**	**-1.4**
LCO				*e*S	**Sb**	**21 14 43.7**	**-1.5**
LCO	**Las Campanas**	**1.42**	**63**	*i* P	**Pn**	**21 14 25.3**	**-1.1**
LCO				*i* S	**Sg**	**21 14 49.6**	**+3.0**
LCO	**Las Campanas**	**1.42**	**63**⇓	*e*P	**Pn**	**21 14 25.1**	**-1.4**
LCO				*i* S	**Sb**	**21 14 45.5**	**+0.3**
LCO				IAML		21 14 50.0	
comp=N,8μm,0.4s							
CMCH	**Combarbala**	**1.80**	**147**	*e*P	**Pn**	**21 14 31.6**	**+0.2**
CMCH				*i* S	**Sb**	**21 14 57.3**	**+1.3**
CMCH				IAML		21 15 06.5	
comp=E,14μm,0.6s							
GO03	**Copiap**	**2.66**	**40**	*e*Pn	**Pn**	**21 14 40.2**	**-3.2**
GO03	**Copiap**	**2.66**	**40**⇓	*e*P	**Pn**	**21 14 40.1**	**-3.2**
GO03				IAML		21 15 37.0	
comp=N,2μm,0.6s							
RTLS	**Leoncito**	**3.24**	**132**	*i* P	**Pn**	**21 14 54.3**	**+2.8**
RTLS				IAML		21 15 46.7	
comp=Z,684nm,0.5s							
AMOG	**MOGNA**	**3.40**	**113**	*i* P	**Pn**	**21 14 56.4**	**+2.9**
ROCH	**El Roble**	**3.44**	**164**⇑	*i* P	**Pn**	**21 14 54.2**	**0.0**
ROCH				IAML		21 15 57.0	
comp=N,857nm,0.5s							
ROC1	**El Roble**	**3.44**	**164**	*e*Pn	**Pn**	**21 14 54.4**	**+0.2**
ROC1				*e*Sn	**Sn**	**21 15 32.8**	**-2.1**
ROC1	**El Roble**	**3.44**	**164**	*i* P	**Pn**	**21 14 54.4**	**+0.2**
AUSP	**Uspallata**	**3.48**	**138**	*i* P	**Pn**	**21 14 57.6**	**+2.8**
RTLL	**Cerro Villicun**	**3.57**	**119**	*i* P	**Pn**	**21 14 59.4**	**+3.5**
PEL	**Peldehue**	**3.68**	**161**	*e*Pn	**Pn**	**21 14 57.9**	**+0.5**
PEL				*e*Sn	**Sn**	**21 15 40.9**	**+0.3**
RTCV	**Cerro Valdivia**	**3.79**	**126**	*i* P	**Pn**	**21 15 01.7**	**+2.8**
ASAL	**Salagasta**	**4.07**	**137**	*i* P	**Pn**	**21 15 05.4**	**+2.7**
GO02	**Mina Guanaco**	**5.03**	**27**	*e*Pn	**Pn**	**21 15 15.1**	**-1.0**
GO05	**Huala**	**5.33**	**178**	*e*Pn	**Pn**	**21 15 19.1**	**-0.9**
GO05				*e*Sn	**Sn**	**21 16 14.7**	**-6.5**
PB10	**IPOC Station P**	**6.29**	**13**	*e*Pn	**Pn**	**21 15 32.8**	**-0.4**
PB04	**IPOC Station P**	**7.52**	**14**	*e*Pn	**Pn**	**21 15 51.0**	**+0.8**
PB04				*e*Sn	**Sn**	**21 17 15.1**	**-0.3**
LVC	**Limon Verde**	**7.60**	**23**	Pn	**Pn**	**21 15 49.9**	**-1.6**
comp=N,1.2nm,0.3s,baz=228,slow=15,SNR=2.2							
LVC	**Limon Verde**	**7.60**	**23**	*e*Pn	Pn	21 15 47.2	-4.3
LVC				*e*S	**Sn**	**21 17 16.7**	**-1.0**
PB01	**IPOC Station P**	**8.91**	**16**	*e*Pn	**Pn**	**21 16 07.5**	**-1.8**
GO06	**Curarrehue**	**9.91**	**177**	*e*Pn	**Pn**	**21 16 22.5**	**-0.4**
PLCA	**Paso Flores**	**11.12**	**174**	Pn	**Pn**	**21 16 39.4**	**0.0**
comp=N,0.5nm,0.3s,baz=358,slow=11,SNR=9.7							
PLCA	**Paso Flores**	**11.12**	**174**	Pn	**Pn**	**21 16 39.4**	**0.0**
CPUP	**Villa Florida**	**13.50**	**79**	Pn	**Pn**	**21 17 09.4**	**-2.5**
comp=N,0.3nm,0.3s,baz=257,slow=14,SNR=2.9							
CPUP	**Villa Florida**	**13.50**	**79**	Pn	**Pn**	**21 17 09.4**	**-2.5**
LPAZ	**La Paz**	**13.82**	**16**	Pn	**Pn**	**21 17 19.0**	**+2.1**
comp=N,0.4nm,0.3s,baz=186,slow=8.1,SNR=8.0							
LPAZ	**La Paz**	**13.82**	**16**	Pn	**Pn**	**21 17 19.0**	**+2.1**
SIV	**San Ignacio**	**16.99**	**39**	Pn	**Pn**	**21 17 57.8**	**-0.4**
comp=N,0.7nm,0.3s,baz=229,slow=12,SNR=25							
SIV	**San Ignacio**	**16.99**	**39**	Pn	**Pn**	**21 17 57.8**	**-0.4**
BDFB	**Brasilia**	**26.21**	**63**	P	**P**	**21 19 34.6**	**-0.8**
comp=N,6.5nm,1.0s,baz=219,slow=12,SNR=7.1							
BDFB	**Brasilia**	**26.21**	**63**	P	**P**	**21 19 34.6**	**-0.8**
PTGA	**Pitinga**	**31.02**	**24**	P	**P**	**21 20 18.7**	**+0.4**
comp=N,1.1nm,0.2s,baz=139,slow=8.2,SNR=3.7							
PTGA	**Pitinga**	**31.02**	**24**	P	**P**	**21 20 18.6**	**+0.4**
SNAA	**Sanae**	**55.63**	**159**	P	**P**	**21 23 36.4**	**+0.5**
comp=N,4.3nm,0.8s,baz=262,slow=7.2,SNR=9.2							
SNAA	**Sanae**	**55.63**	**159**	P	**P**	**21 23 36.4**	**+0.5**
QSPA	**South Pole Qui**	**60.56**	**180**	P	**P**	**21 24 12.0**	**+1.4**
comp=N,5.3nm,0.8s,baz=146,slow=4.3,SNR=11							
QSPA	**South Pole Qui**	**60.56**	**180**	*e*P	**P**	**21 24 10.5**	**0.0**
LIC	**Lamto**	**73.53**	**73**	*e*P	**P**	**21 25 33.8**	**+0.2**
comp=N,20nm,1.1s							
TIC	**Toumodi**	**73.77**	**72**	*e*P	**P**	**21 25 35.4**	**+0.4**
KIC	**Kosan Boka**	**73.84**	**73**	*e*P	**P**	**21 25 35.1**	**-0.4**
comp=N,34nm,1.5s							
DBIC	**Dimbokro**	**73.92**	**72**	P	**P**	**21 25 36.4**	**+0.5**
comp=N,3.7nm,0.7s,baz=206,slow=5.4,SNR=13							
DBIC	**Dimbokro**	**73.92**	**72**	P	**P**	**21 25 36.4**	**+0.5**
DAC	**Darwin (Calif)**	**78.27**	**324**	*e*P	**P**	**21 26 00.1**	**-0.4**
comp=N,3.7nm,1.0s							
BOSA	**Boshof**	**82.18**	**118**	P	**P**	**21 26 22.4**	**+0.6**
comp=N,6.3nm,1.2s,baz=197,slow=6.7,SNR=4.1							
BOSA	**Boshof**	**82.18**	**118**	P	**P**	**21 26 22.4**	**+0.6**
TORD	**Torodi Ar. Bea**	**82.83**	**71**	P	**P**	**21 26 25.4**	**+0.2**
comp=N,4.4nm,0.9s,baz=271,slow=4.5,SNR=24							
TORD	**Torodi Ar. Bea**	**82.83**	**71**	P	**P**	**21 26 25.4**	**+0.2**
TOA1	**Torodi Ar. Sit**	**82.84**	**71**	P	**P**	**21 26 25.4**	**+0.2**
WR1	**Warramunga Arr**	**124.47**	**211**	*e*PKPdf	**PKPdf**	**21 33 00.7**	**+0.4**
WRA	**Warramunga Arr**	**124.47**	**211**	PKP	**PKPdf**	**21 33 00.7**	**+0.4**
comp=N,0.3nm,0.6s,baz=155,slow=1.7,SNR=10							
WRA	**Warramunga Arr**	**124.47**	**211**	PKP	**PKPdf**	**21 33 00.7**	**+0.4**
CHGR	**Chuyangaron**	**146.94**	**64**	*e*PKPbc	**PKPdf**	**21 33 43.0**	**+1.9**
KKAR	**Karatay Array**	**147.36**	**55**	*e*PKPbc	**PKPbc**	**21 33 45.2**	**+1.2**
ZAA1	**Zalesovo Array**	**150.53**	**28**	*e*PKPdf	**PKPdf**	**21 33 47.7**	**+1.4**
ZAA1				*e*PKPbc	**PKPbc**	**21 33 52.9**	**+1.3**
ZALV	**Zalesovo Beam**	**150.53**	**28**	PKP	**PKPdf**	**21 33 47.7**	**+1.4**
comp=N,2.5nm,1.0s,baz=253,slow=2.5,SNR=4.9							
ZALV				PKPbc	**PKPbc**	**21 33 52.9**	**+1.3**
comp=N,13nm,0.6s,baz=295,slow=3.5,SNR=60							
ZALV	**Zalesovo Beam**	**150.53**	**28**	PKP	**PKPdf**	**21 33 47.7**	**+1.4**
ZALV				PKPbc	**PKPbc**	**21 33 52.9**	**+1.3**
NRN	**Naryn**	**151.70**	**57**	*e*PKPbc	**PKPbc**	**21 33 57.0**	**+1.7**
MK32	**Makanchi Array**	**153.80**	**42**	*e*PKPbc	**PKPbc**	**21 34 00.4**	**+1.0**
MKAR	**Makanchi Array**	**153.80**	**42**	PKPbc	**PKPbc**	**21 34 00.4**	**+1.0**
comp=N,1.2nm,0.8s,baz=298,slow=2.2,SNR=9.4							
MKAR	**Makanchi Array**	**153.80**	**42**	PKPbc	**PKPbc**	**21 34 00.4**	**+1.0**

IDC 30 21:21:50.3±5.0, 10.°64N×127.°63E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/25, mbtmp3.4/3, Error ellipse: s-maj=374.2km s-min=25.9km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.10**	**168**	P	P	21 28 09.6	-1.0
0.2nm,0.7s,baz=348,slow=9.8,SNR=3.3							
ASAR	**Alice Springs**	**34.64**	**170**	P	P	21 28 42.7	+1.1
0.2nm,0.5s,baz=358,slow=7.6,SNR=4.5							
MKAR	**Makanchi Array**	**52.55**	**322**	P	P	21 31 05.5	-0.1
0.8nm,0.7s,baz=120,slow=8.4,SNR=11							

*IDC **30** 21:30:08.4±2.9, 9.°83N×77.°22W, h0km, mb3.7/3, mb1 4.3/5, mb1mx3.8/31, mbtmp4.0/5, ML3.9/2, MS4.7/1, Ms1 4.7/1, ms1mx4.0/32, Error ellipse: s-maj=77.9km s-min=30.1km az=12.0*
*ISCJB **30** 21:30:09.6±0.5, 9.°56N±0.°04×77.°27W±0.°03, h33km, mb3.7/3, MS4.5/1, Error ellipse: s-maj=5.4km s-min=3.9km az=8.4*
*RSNC **30** 21:30:11.6±0.7, 9.°56N×77.°30W, h52km±27km, ML3.6, Mw3.7*
ISC 30 21:30:11.7±0.8, 9.°54N±0.°05×77.°28W±0.°04, h35km, n22, σ0°96/31, mb3.8/3, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPD2	**Meteti**	**1.23**	**216**	*e*P	**Pn**	**21 30 32.1**	**-0.3**
UPD2				*e*S	**Sn**	**21 30 47.6**	**-0.1**
UPD2				*i*		21 30 53.1	
comp=Z,1μm,0.2s							
SJCC	**San Jacinto, C**	**2.10**	**80**	*e*S	**Sn**	**21 31 09.5**	**+0.1**
SJCC				*i*		21 31 13.3	
comp=N,774nm,0.3s							
UREC	**San Jos de Ur**	**2.48**	**136**	*e*P	**Pn**	**21 30 49.4**	**-0.3**
UREC				*e*S	**Sn**	**21 31 17.6**	**-1.1**
UREC				*i*		21 31 23.2	
comp=Z,150nm,0.2s							
DBBC	**Dabeiba**	**2.73**	**157**	*e*P	**Pn**	**21 30 52.7**	**-0.3**
ZARC	**Zaragoza, Cauc**	**3.15**	**130**	*e*P	**Pn**	**21 30 58.9**	**+0.2**
ZARC				*e*S	**Sn**	**21 31 34.5**	**-0.6**
ZARC				*i*		21 31 37.7	
comp=Z,170nm,0.5s							
SOLC	**Bahia Solano**	**3.30**	**182**	*e*P	**Pn**	**21 31 01.1**	**+0.3**
SMRC	**Santa Marta, M**	**3.41**	**62**	*e*P	**Pn**	**21 31 02.4**	**+0.1**
SMRC				*e*S	**Sn**	**21 31 40.6**	**-1.1**
SMRC				*i*		21 31 44.1	
comp=Z,80nm,0.2s							
AZU	**Azuero**	**3.43**	**240**	*e*P	**Pn**	**21 31 01.6**	**-1.1**
AZU				*e*S	**Sn**	**21 31 40.0**	**-2.2**
AZU				*i*		21 31 42.4	
comp=Z,193nm,0.3s							
HELC	**Santa Helena**	**3.76**	**152**	*e*P	**Pn**	**21 31 06.9**	**-0.6**
HELC				*i*		21 31 53.1	
comp=Z,41nm,0.3s							
PTBC	**PUERTO BERRIO,**	**4.09**	**137**	*e*P	**Pn**	**21 31 11.5**	**-0.2**
PTBC				*e*S	**Sn**	**21 31 57.8**	**-0.7**
PTBC				*i*		21 32 00.9	
comp=Z,58nm,0.3s							
OCAC	**Ocana**	**4.12**	**108**	*e*P	**Pn**	**21 31 11.6**	**-0.8**
OCAC				*e*S	**Sn**	**21 31 58.8**	**-0.6**
OCAC				*i*		21 32 04.7	
comp=Z,170nm,0.4s							
BRRC	**Barranca, Sant**	**4.28**	**124**	*e*P	**Pn**	**21 31 14.7**	**+0.3**
BRRC				*e*S	**Sn**	**21 32 03.2**	**0.0**
BRRC				*i*		21 32 07.3	
comp=Z,78nm,0.2s							
NORC	**Norcasia**	**4.62**	**149**	*e*S	**Sn**	**21 32 11.1**	**-0.5**
NORC				*i*		21 32 12.3	
comp=Z,32nm,0.3s							
PAMC	**Pamplona, Colo**	**5.03**	**115**	*e*P	**Pn**	**21 31 25.4**	**+0.3**
PAMC				*e*S	**Sn**	**21 32 22.0**	**-0.4**
PAMC				*i*		21 32 27.5	
comp=Z,66nm,0.2s							
ROSC	**El Rosal**	**5.52**	**148**	Sn	**Sn**	**21 32 35.6**	**+1.4**
comp=Z,6.9nm,0.3s,baz=99,slow=21,SNR=4.5							
PRVC	**Isla de Provid**	**5.53**	**314**	*e*P	**Pn**	**21 31 28.7**	**-2.7**
PRVC				*i*		21 32 30.9	
comp=Z,37nm,0.8s							
SDV	**Santo Domingo**	**6.59**	**95**	Pn	**Pn**	**21 31 46.6**	**+0.2**
comp=Z,2.8nm,0.3s,baz=270,slow=8.1,SNR=11							
SDV				Sn	**Sn**	**21 32 58.6**	**-1.8**
comp=Z,32nm,0.3s,baz=297,slow=13,SNR=3.6							
JTS	**JuntasAbangare**	**7.59**	**276**	Pn	**Pn**	**21 32 00.3**	**+0.4**
comp=Z,17nm,0.3s,baz=91,slow=4.0,SNR=46							
NNA	**Nana**	**21.39**	**179**	LR	LR	21 45 37.0	
comp=Z,2μm,18.8s,baz=216,slow=43							
TXAR	**Lajitas Array**	**31.59**	**312**	P	**P**	**21 36 31.9**	**+0.6**
comp=Z,1.3nm,0.9s,baz=119,slow=10,SNR=6.1							
PDAR	**Pinedale Array**	**43.49**	**325**	P	**P**	**21 38 13.0**	**+1.0**
comp=Z,0.3nm,0.5s,baz=108,slow=4.8,SNR=1.6							
YKA	**Yellowknife Ar**	**59.33**	**341**	P	**P**	**21 40 09.7**	**-0.2**
comp=Z,1.1nm,0.7s,baz=131,slow=7.3,SNR=19							

*GUC **30** 21:40:13.8±0.7, 28.°06S×70.°75W, h70km±7km, ML3.8*
*SJA **30** 21:40:13.8±0.4, 28.°08S×70.°71W, h23km±6km, ML3.5, MW3.6*
*ISCJB **30** 21:40:14.2±1.2, 28.°02S±0.°05×70.°9W±0.°1, h35km, Error ellipse: s-maj=17.4km s-min=4.7km az=16.2*
ISC 30 21:40:15.0±1.6, 28.°01S±0.°05×70.°9W±0.°1, h35km, n11, σ0°89/17, 2C, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO03	**Copiap**	**0.75**	**56**	*e*P	**Pn**	**21 40 28.7**	**-0.4**
GO03				*e*S	**Sn**	**21 40 38.7**	**-0.6**
GO03				IAML		21 40 39.6	
comp=N,7μm,0.3s							
LCO	**Las Campanas**	**1.01**	**168**	*i* P	**Pn**	**21 40 31.9**	**-1.1**
LCO				*i* S	**Sn**	**21 40 45.4**	**-0.7**
LCO	**Las Campanas**	**1.01**	**168**⇑	*i*P	**Pn**	**21 40 32.3**	**-0.7**
LCO				*i* S	**Sn**	**21 40 45.2**	**-1.0**
LCO				IAML		21 40 49.0	
comp=E,1μm,0.2s							
GO04	**Tololo Observa**	**2.15**	**177**	*e*P	**Pn**	**21 40 48.7**	**0.0**
GO04				*e*S	**Sn**	**21 41 14.2**	**-0.1**
GO04				IAML		21 41 32.6	
comp=N,3μm,0.4s							
GO02	**Mina Guanaco**	**3.08**	**23**⇑	*i*P	**Pn**	**21 41 01.9**	**+0.4**
GO02				*e*S	**Sn**	**21 41 37.2**	**-0.1**
CMCH	**Combarbala**	**3.15**	**181**	*e*P	**Pn**	**21 41 02.4**	**+0.2**
CMCH				*e*S	**Sn**	**21 41 38.1**	**-0.5**
AMOG	**MOGNA**	**3.61**	**144**	*i* P	**Pn**	**21 41 09.0**	**+0.5**
ACLC	**CERRO LA CRUZ**	**3.77**	**113**	*i* P	**Pn**	**21 41 11.2**	**+0.4**
RTCV	**Cerro Valdivia**	**4.36**	**152**	*i* P	**Pn**	**21 41 20.0**	**+1.2**
AUSP	**Uspallata**	**4.41**	**163**	*i* P	**Pn**	**21 41 21.9**	**+2.3**
APLL	**PUNTA DE LOS L**	**4.53**	**123**	*i* P	**Pn**	**21 41 21.4**	**+0.3**
APLL				IAML		21 42 20.6	
comp=Z,49nm,0.4s							

*DDA **30** 22:05:52.8, 38.°92N×43.°55E, h12km±1km, ML2.8*
*ISK **30** 22:05:52.4, 38.°90N×43.°54E, h3km, ML2.4/11*
*ISCJB **30** 22:05:53.9±0.5, 38.°95N±0.°03×43.°53E±0.04, h12km±4km, Error ellipse: s-maj=5.8km s-min=4.7km az=13.7*
ISC 30 22:05:53.1±0.9, 38.°92N±0.°03×43.°55E±0.03, h12km±6km, n18, σ0°61/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.07**	**13**	*i* P	**Pg**	**22 05 55.4**	**-0.5**
VMUR				*i* S	**Sg**	**22 05 58.3**	**+0.3**
ERCV	**ERCIS-VAN**	**0.19**	**301**	PG	**Pg**	**22 05 57.4**	**-0.1**
ERCV				SG	**Sg**	**22 06 01.0**	**+0.4**
VANB	**Van**	**0.35**	**201**	PG	**Pb**	**22 06 01.3**	**0.0**
VANB				SG	**Sb**	**22 06 08.0**	**+1.2**
CLDR	**Caldiran**	**0.36**	**52**	PG	**Pg**	**22 06 00.4**	**-0.1**
CLDR				SG	**Sb**	**22 06 06.9**	**-0.5**
CLDR	**Caldiran**	**0.36**	**52**	IAML_P			
comp=Z,6μm,0.2s							
CLDR				*i* P	**Pg**	**22 06 00.4**	**-0.1**
CLDR				*i* S	**Sb**	**22 06 07.1**	**-0.3**
TVAN	**Van**	**0.41**	**196**	IAML_P			
comp=Z,5μm,0.1s							
TVAN				*i* P	**Pb**	**22 06 01.8**	**-0.6**
TVAN				*i* S	**Sb**	**22 06 09.8**	**+1.2**
DYDN	**Diyadin**	**0.63**	**10**	IAML_P			
comp=Z,1μm,0.1s							
DYDN				*i* P	**Pb**	**22 06 05.8**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.66**	**260**	*i* P	**Pb**	**22 06 06.9**	**+0.3**
GEVA	**Gevas**	**0.72**	**213**	IAML_P			
comp=Z,848nm,0.1s							
GEVA				*i* P	**Pb**	**22 06 07.3**	**-0.4**
AKDM	**Akdamar-Van**	**0.74**	**217**	PG	**Pg**	**22 06 06.8**	**-0.7**
TUTA	**Tutak**	**0.75**	**310**	IAML_P			
comp=Z,3μm,0.2s							
TUTA				*i* P	**Pg**	**22 06 07.1**	**-0.6**
TUTA				*i* S	**Sb**	**22 06 18.4**	**-0.1**
AGRB	**Hanur-Agry**	**0.79**	**327**	PG	**Pb**	**22 06 08.7**	**-0.1**
AGRB			

GNI	**Garni**	**1.53**	**36**	PN		**Pg**	**22 06 22.1**	**-0.5**
CUKT	**Cukurca**	**1.67**	**178**	PN		**Pb**	**22 06 23.3**	**-0.6**
KOPR	**Koprukoy-ERZUR**	**1.69**	**310**	PN		**Pb**	**22 06 24.1**	**-0.2**

ISCJB ***30*** *22:10:47.8±1.3,38°.79N±0°.04×142°.41E±0°.07, h25km±6km, mb3.6/3, Error ellipse: s-maj=10.3km s-min=5.9km az=24.1*

JMA ***30*** *22:10:48.7±0.1,38°.80N×142°.36E, h35km±2km, M3.7*

JMA Felt I J1.

IDC ***30*** *22:10:51.6±3.0,38°.78N×142°.62E, h65km±26km, mb3.4/3, mb1 3.5/7, mb1mx3.2/50, mbtmp3.6/7, ML2.9/4, Error ellipse: s-maj=38.5km s-min=17.5km az=102.0*

ISC 30 22:10:48.6±2.1, 38.77N±0°.06×142.36E±0°.08, h25km±13km, n25, σ1s 60/29, mb3.7/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.62**	**300**	P		**Pb**		**22 11 00.9**	**0.0**
OFUJ				S		**Sb**		**22 11 09.2**	**-0.1**
JKMT	**Kesennumamotoy**	**0.70**	**274**	P		**Pb**		**22 11 02.0**	**-0.1**
JKMT				S		**Sb**		**22 11 10.8**	**-0.5**
JIO	**Ouri**	**0.86**	**249**	P		**Pn**		**22 11 04.3**	**-0.7**
JIO				S		**Sb**		**22 11 14.8**	**-1.1**
JMK	**Ichinoseki**	**0.91**	**282**	P		**Pn**		**22 11 05.2**	**-0.6**
JMK				S		**Sb**		**22 11 16.9**	**-0.6**
JOM	**Ohasama**	**1.09**	**310**	P		**Pn**		**22 11 07.8**	**-0.5**
JOM				S		**Sn**		**22 11 21.6**	**-0.9**
JTH	**Tanohata**	**1.23**	**342**	P		**Pn**		**22 11 09.0**	**-1.2**
JTH				S		**Sn**		**22 11 24.1**	**-1.9**
JOU	**Okura**	**1.39**	**254**	P		**Pn**		**22 11 12.7**	**+0.2**
JOU				S		**Sn**		**22 11 30.5**	**+0.4**
JRG	**Rokugo**	**1.48**	**295**	P		**Pn**		**22 11 13.9**	**+0.2**
JRG				*e*S		**Sn**		**22 11 33.4**	**+1.1**
JMM	**Marumori**	**1.53**	**234**	P		**Pn**		**22 11 14.1**	**-0.2**
JMM				*e*S		**Sn**		**22 11 32.8**	**-0.6**
JYK	**Kaneyama**	**1.57**	**276**	P		**Pn**		**22 11 15.4**	**+0.5**
JYK				*e*S		**Sn**		**22 11 35.3**	**+0.8**
JANG	**Nango**	**1.73**	**338**	P		**Pn**		**22 11 16.5**	**-0.6**
MJAR	**Matsushiro Arr**	**3.98**	**237**	P		**Pn**		**22 11 51.4**	**+3.3**
	0.5nm,0.3s,baz=39,slow=10,SNR=30								
MAT	**Matsushiro**	**3.98**	**237**	P		**Pn**		**22 11 51.3**	**+3.3**
ASAJ	**Asahikawa**	**5.34**	**2**	P		**Pn**		**22 12 08.1**	**+1.4**
	0.5nm,0.3s,baz=228,slow=8.7,SNR=5.9								
ASAJ				S		**Sn**		**22 13 09.5**	**+2.0**
	0.6nm,0.3s,baz=98,slow=26,SNR=2.7								
USRK	**Ussuriysk Ar.**	**9.48**	**308**	P		**Pn**		**22 13 08.2**	**+4.7**
	0.2nm,0.3s,baz=120,slow=14,SNR=6.3								
KSRS	**Korea Array**	**11.45**	**268**	P		Pn		22 13 36.3	+5.8
	0.2nm,0.3s,baz=87,slow=13,SNR=4.3								
H11N2	**WAKE ISLAND Hy 28.46**	**125**		T		T		22 47 06.3	
	baz=317,slow=75,SNR=48								
H11N1	**WAKE ISLAND Hy 28.46**	**125**		T		T		22 47 07.0	
	baz=317,slow=75,SNR=39								
H11N3	**WAKE ISLAND Hy 28.47**	**125**		T		T		22 47 07.7	
	baz=317,slow=75,SNR=41								
H11S1	**WAKE ISLAND Hy 29.23**	**127**		T		T		22 48 03.1	
	baz=319,slow=76,SNR=9.8								
H11S3	**WAKE ISLAND Hy 29.24**	**127**		T		T		22 48 17.5	
	baz=319,slow=76,SNR=13								
H11S2	**WAKE ISLAND Hy 29.25**	**127**		T		T		22 48 07.4	
	baz=319,slow=76,SNR=12								
ZALV	**Zalesovo Beam**	**41.32**	**311**	P		**P**		**22 18 31.6**	**-0.4**
	0.6nm,0.3s,baz=92,slow=9.6,SNR=3.9								
MKAR	**Makanchi Array**	**43.85**	**301**	P		**P**		**22 18 52.1**	**-0.6**
	0.8nm,0.8s,baz=89,slow=9.0,SNR=6.9								
WRA	**Warramunga Arr**	**58.89**	**189**	P		**P**		**22 20 44.1**	**-1.3**
	0.5nm,0.7s,baz=4.6,slow=7.0,SNR=7.7								

SJA ***30*** *22:16:35.3±0.4,28°.05S×70°.88W, h21km±5km, ML3.9, MW4.0*

ISCJB ***30*** *22:16:36.7±1.4,28°.00S±0°.06×71°.0W±0°.1, h38km, Error ellipse: s-maj=19.4km s-min=6.2km az=19.5*

GUC ***30*** *22:16:36.8±0.6,28°.15S×70°.73W, h42km±5km, ML3.8*

ISC 30 22:16:37.1±1.9, 27.99S±0°.06×71.0W±0°.1, h38km, n12, σ1s 37/16, 2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GO03	**Copiap**	**0.82**	**61**	*e*P		**Pn**		**22 16 51.5**	**-0.6**
GO03				*e*S		**Sn**		**22 17 02.3**	**-0.8**
GO03				IAML				22 17 03.2	
	comp=N,5μm,0.3s								
LCO	**Las Campanas**	**1.06**	**164**	*i* P		**Pn**		**22 16 54.3**	**-1.4**
LCO				*i* S		**Sn**		**22 17 08.3**	**-1.1**
LCO	**Las Campanas**	**1.06**	**164**	↓*i* P		**Pn**		**22 16 54.4**	**-1.3**
LCO				*i* S		**Sn**		**22 17 07.2**	**-2.2**
LCO				IAML				22 17 08.6	
	comp=E,2μm,0.4s								
GO04	**Tololo Observa**	**2.19**	**174**	↓*e*P		**Pn**		**22 17 10.9**	**-0.2**
GO04				*i* S		**Sn**		**22 17 37.9**	**+0.8**
GO04				IAML				22 17 46.9	
	comp=N,2μm,0.4s								
GO02	**Mina Guanaco**	**3.10**	**25**	*e*P		**Pn**		**22 17 24.3**	**+0.6**
GO02				IAML				22 18 15.8	
	comp=N,248nm,0.6s								
CMCH	**Combarbala**	**3.17**	**179**	*e*P		**Pn**		**22 17 24.8**	**+0.2**
CMCH				IAML				22 18 13.2	
	comp=E,930nm,0.7s								
AMOG	**MOGNA**	**3.69**	**144**	*i* P		**Pn**		**22 17 32.7**	**+1.1**
ACLC	**CERRO LA CRUZ**	**3.87**	**113**	*i* P		**Pn**		**22 17 34.8**	**+0.6**
RTLL	**Cerro Villicun**	**4.01**	**147**	*i* P		**Pn**		**22 17 36.9**	**+0.9**
RTLL				IAML				22 18 33.5	
	comp=N,163nm,0.5s								
RTCV	**Cerro Valdivia**	**4.43**	**151**	*i* P		**Pn**		**22 17 43.3**	**+1.5**
AUSP	**Uspallata**	**4.46**	**162**	*i* P		**Pn**		**22 17 44.6**	**+2.3**
ASAL	**Salagasta**	**4.97**	**158**	*i* P		**Pn**		**22 17 50.9**	**+1.7**

IDC 30 22:28:14.3±8.5, 8°.56S×130°.57E, h96km±95km, mb3.2/1, mb1 3.1/4, mb1mx2.9/41, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=61.9km s-min=45.2km az=11.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.63**	**206**	P		Pn		22 30 43.3	-0.4
	0.1nm,0.3s,baz=27,slow=16,SNR=15								
FITZ				S		Sn		22 32 40.8	+0.1
	0.1nm,0.3s,baz=287,slow=14,SNR=3.7								
WRA	**Warramunga Arr**	**11.89**	**163**	P		Pn		22 31 00.5	-0.3
	0.2nm,0.3s,baz=350,slow=13,SNR=9.4								
WRA				S		Sn		22 33 13.5	+1.8
	0.2nm,0.3s,baz=336,slow=23,SNR=5.9								
ASAR	**Alice Springs**	**15.36**	**168**	P		Pn		22 31 46.5	+0.5
	0.1nm,0.3s,baz=348,slow=9.0,SNR=2.9								
MKAR	**Makanchi Array**	**69.83**	**327**	P		P		22 39 14.6	0.0
	0.2nm,0.4s,baz=122,slow=7.2,SNR=7.9								

SOF ***30*** *22:29:54.4,39°.27N×25°.79E, h2km*

ISCJB ***30*** *22:30:01.0±0.4,39°.67N±0°.01×25°.58E±0°.02, h8km±3km, mb3.5/2, Error ellipse: s-maj=2.2km s-min=2.1km az=138.3*

DDA ***30*** *22:30:00.6,39°.67N×25°.62E, h26km, ML3.9*

IDC ***30*** *22:30:00.8±1.3,39°.57N×25°.62E, h0km, mb3.6/2, mb1 3.7/6, mb1mx3.3/53, mbtmp3.6/6, ML3.6/4, Error ellipse: s-maj=21.4km s-min=15.5km az=90.0*

ISK ***30*** *22:30:00.9,39°.69N×25°.63E, h5km, ML4.0/22*

THE ***30*** *22:30:01.9,39°.68N×25°.58E, h11km, ML3.4/13, Error ellipse: s-maj=1.0km s-min=0.5km az=82.0*

ATH ***30*** *22:30:01.1,39°.69N×25°.60E, h31km, ML3.3/35, Error ellipse: s-maj=1.1km s-min=0.7km az=71.0*

ISC 30 22:30:01.6±1.0, 39.67N±0°.02×25.59E±0°.02, h10km±8km, n168, σ1s 18/201, 19C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.39**	**306**	P		**Pg**		**22 30 09.9**	**+0.6**
LIA				S		**Sg**		**22 30 15.7**	**+1.3**
LIA				AML		AML		22 30 18.3	
	comp=E,10976μm,0.4s								
LIA				AML		AML		22 30 19.7	
	comp=N,10553μm,0.3s								
LIA	**Limnos Island**	**0.39**	**306**	P		**Pg**		**22 30 09.9**	**+0.6**
LIA				S		**Sg**		**22 30 14.9**	**+0.5**
BOZC	**Bozcaada**	**0.39**	**64**	PG		**Pg**		**22 30 08.9**	**-0.5**
BOZC				SG		**Sg**		**22 30 14.0**	**-0.6**
BOZC	**Bozcaada**	**0.39**	**64**	IAML_P					
	comp=Z,97μm,0.1s								
BOZC				*i* P		**Pg**		**22 30 09.7**	**+0.3**
EFSA	**Agios Efstrati**	**0.48**	**254**	P		**Pb**		**22 30 12.4**	**+0.2**
EFSA				S		**Sb**		**22 30 19.8**	**+0.4**
EFSA				AML		AML		22 30 20.5	
	comp=E,23682μm,0.5s								
EFSA				AML		AML		22 30 21.9	
	comp=N,16703μm,0.5s								
SIGR	**SIGRI**	**0.50**	**156**	PG		**Pg**		**22 30 11.5**	**+0.1**
SIGR				SG		**Sg**		**22 30 18.8**	**+0.8**
SIGR	**SIGRI**	**0.50**	**156**	P		**Sb**		**22 30 11.5**	**+0.1**
SIGR				S		**Sb**		**22 30 19.3**	**-0.7**
SIGR				AML		AML		22 30 19.6	
	comp=N,53588μm,0.6s								
SIGR				AML		AML		22 30 19.9	
	comp=E,42052μm,0.5s								
SIGR	**SIGRI**	**0.50**	**156**	P		**Pg**		**22 30 11.5**	**+0.1**
SIGR				S		**Sb**		**22 30 18.9**	**-1.0**
GADA	**Gvkgeada**	**0.57**	**24**	PG		**Pg**		**22 30 12.3**	**-0.4**
GADA				SG		**Sg**		**22 30 20.1**	**-0.1**
EZN	**Ezine**	**0.59**	**75**	PG		**Pg**		**22 30 12.4**	**-0.6**
EZN				SG		**Sg**		**22 30 19.9**	**-0.8**
PRK	**Paraskevi**	**0.68**	**129**	P		**Pb**		**22 30 15.7**	**+0.2**
PRK				S		**Sb**		**22 30 24.8**	**-0.2**
PRK				AML		AML		22 30 29.6	
	comp=E,32074μm,0.4s								
PRK				AML		AML		22 30 29.9	
	comp=N,18323μm,0.5s								
PRK	**Paraskevi**	**0.68**	**129**	P		**Pb**		**22 30 15.5**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.74**	**84**	*i* P		**Pg**		**22 30 15.5**	**-0.4**
BAYC				*i* S		**Sg**		**22 30 25.3**	**-0.3**
SMTH	**Samothraki Isl**	**0.80**	**357**	P		**Pg**		**22 30 16.7**	**-0.4**
SMTH				S		**Sg**		**22 30 27.9**	**+0.3**
SMTH				AML		AML		22 30 29.1	
	comp=N,5240μm,0.6s								
SMTH				AML		AML		22 30 29.7	
	comp=E,4174μm,0.3s								
SMTH	**Samothraki Isl**	**0.80**	**357**	P		**Pg**		**22 30 16.7**	**-0.4**
SMTH				S		**Sg**		**22 30 28.0**	**+0.5**
AYVA	**Ayvalik**	**0.92**	**113**	IAML_P					
	comp=Z,13μm,0.2s								
AYVA				*i* P		**Pb**		**22 30 19.7**	**-0.1**
AYVA				*i* S		**Sn**		**22 30 33.9**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.99**	**43**	PG		**Pb**		**22 30 19.5**	**-1.4**
GELI				SG		**Sg**		**22 30 33.7**	**+0.1**
PSRA	**Psara**	**1.13**	**181**	P		**Pn**		**22 30 23.3**	**-0.2**
PSRA				S		**Sn**		**22 30 38.6**	**-0.4**
SKY	**Skiros Island**	**1.13**	**226**	P		**Pb**		**22 30 22.5**	**-0.8**
SKY				S		**Sb**		**22 30 37.8**	**-0.3**
SKY				AML		AML		22 30 41.0	
	comp=N,3464μm,0.2s								
SKY				AML		AML		22 30 45.1	
	comp=E,3837μm,0.5s								
SKY	**Skiros Island**	**1.13**	**226**	P		**Pb**		**22 30 22.3**	**-1.0**
SKY				S		**Sb**		**22 30 38.1**	**0.0**
LPK	**Lapseki**	**1.14**	**52**	PN		**Pb**		**22 30 22.3**	**-1.1**
ENEZ	**Enez**	**1.15**	**22**	PN		**Pb**		**22 30 22.7**	**-0.9**
THAS	**Thassos island**	**1.15**	**325**	P		**Pb**		**22 30 22.3**	**-1.3**
THAS				S		**Sb**		**22 30 38.2**	**-0.4**
THAS				AML		AML		22 30 41.3	
	comp=E,3682μm,0.4s								
THAS				AML		AML		22 30 45.6	
	comp=N,3277μm,0.5s								
THAS	**Thassos island**	**1.15**	**325**	P		**Pb**		**22 30 22.9**	**-0.7**
THAS				S		**Sb**		**22 30 38.6**	**0.0**
ERIK	**Erikli-Kesan**	**1.22**	**35**	PN		**Pn**		**22 30 23.5**	**-1.3**
ALN	**Alexandroupoli**	**1.27**	**16**	PN		**Pn**		**22 30 24.7**	**-0.8**
ALN	**Alexandroupoli**	**1.27**	**16**	P		**Pn**		**22 30 24.2**	**-1.3**
ALN				S		**Sb**		**22 30 41.0**	**-1.2**
ALN				AML		AML		22 30 41.7	
	comp=E,2233μm,0.4s								
ALN				AML		AML		22 30 42.3	
	comp=N,2400μm,0.6s								
ALN	**Alexandroupoli**	**1.27**	**16**	P		**Pn**		**22 30 24.2**	**-1.3**
ALN				S		**Sb**		**22 30 41.2**	**-0.9**
FOCM	**Foa**	**1.30**	**137**	PN		**Pb**		**22 30 25.8**	**-0.4**
KRBN	**Karaburun**	**1.31**	**145**	PN		**Pg**		**22 30 26.6**	**-0.2**
CHOS	**Chios island**	**1.33**	**164**	PN		**Pb**		**22 30 26.6**	**-0.2**
CHOS	**Chios island**	**1.33**	**164**	P		**Pn**		**22 30 25.6**	**-0.8**
CHOS				S		**Sb**		**22 30 43.5**	**-0.5**
CHOS				AML		AML		22 30 46.8	
	comp=N,8429μm,0.5s								
CHOS				AML		AML		22 30 48.2	
	comp=E,11900μm,0.7s								
CHOS	**Chios island**	**1.33**	**164**	P		**Pn**		**22 30 25.6**	**-0.8**
CHOS				S		**Sg**		**22 30 44.5**	**0.0**
OUR	**Ouranopolis**	**1.40**	**299**	PN		**Pn**		**22 30 26.9**	**-0.4**
OUR	**Ouranopolis**	**1.40**	**299**	P		**Pn**		**22 30 26.7**	**-0.6**
OUR				AML		AML		22 30 48.5	
	comp=N,3336μm,0.6s								
OUR				AML		AML		22 30 48.9	
	comp=E,3310μm,0.5s								
OUR	**Ouranopolis**	**1.40**	**299**	P		**Pn**		**22 30 26.7**	**-0.6**
OUR				S		**Sn**		**22 30 44.8**	**-1.1**
AOS	**Alonnisos**	**1.42**	**250**	PN		**Pb**		**22 30 28.5**	**+0.3**
AOS	**Alonnisos**	**1.42**	**250**	P		**Pn**		**22 30 26.8**	**-0.8**
AOS				AML		AML		22 30 51.0	
	comp=N,2507μm,0.6s								
AOS				AML		AML		22 30 55.3	
	comp=E,2650μm,0.8s								
AOS	**Alonnisos**	**1.42**	**250**	P		**Pn**		**22 30 26.7**	**-0.8**
AOS				S		**Sn**		**22 30 46.1**	**-0.1**
KESN	**Edirne-Kesan**	**1.42**	**35**	IAML_P					
	comp=Z,2μm,0.2s								
KESN				*i* P		**Pn**		**22 30 27.7**	**-0.2**
KESN				*i* S		**Sb**		**22 30 46.6**	**-0.3**
ALNA	**Alonissos**	**1.44**	**249**	P		**Pn**		**22 30 26.9**	**-0.8**
RDO	**Rodhopi**	**1.47**	**358**	PN		**Pn**		**22 30 28.5**	**+0.2**
RDO	**Rodhopi**	**1.47**	**358**	P		**Pn**		**22 30 27.5**	**-0.8**
RDO				AML		AML		22 30 48.0	
	comp=E,1918μm,0.5s								
RDO				AML		AML		22 30 54.7	
	comp=N,2089μm,0.6s								
RDO	**Rodhopi**	**1.47**	**358**	P		**Pn**		**22 30 27.4**	**-0.8**
RDO				S		**Sn**		**22 30 47.2**	**-0.4**
KRBG	**Karabiga-Canak**	**1.50**	**61**	PN		**Pb**		**22 30 28.6**	**-0.9**
PAIG	**Paliouri**	**1.50**	**280**	P		**Pn**		**22 30 27.6**	**-0.9**
PAIG				AML		AML		22 30 52.0	
	comp=N,2409μm,0.6s								
PAIG				AML		AML		22 30 53.1	
	comp=E,1528μm,0.6s								
PAIG	**Paliouri**	**1.50**	**280**	P		**Pn**		**22 30 28.1**	**-0.5**
PAIG				S		**Sn**		**22 30 47.6**	**-0.5**
URLA	**Izmir**	**1.52**	**149**	PN		**Pn**		**22 30 28.5**	**-0.5**
URLA	**Izmir**	**1.52**	**149**	*i* P		**Pn**		**22 30 29.1**	**+0.1**
KAVA	**Kavala**	**1.56**	**328**	P		**Pn**		**22 30 28.4**	**-1.1**
KAVA				AML		AML		22 30 54.2	
	comp=E,1497μm,0.3s								
KAVA				AML		AML		22 30 54.9	
	comp=N,1530μm,0.7s								
KAVA	**Kavala**	**1.56**	**328**	P		**Pn**		**22 30 28.5**	**-1.0**
KAVA				S		**Sn**		**22 30 49.9**	**+0.2**
KVLA	**Kavala**	**1.56**	**324**	P		**Pn**		**22 30 28.9**	**-0.6**
ZEY	**zmir**	**1.60**	**153**	IAML_P					
	comp=Z,3μm,0.2s								
ZEY				*i* P		**Pn**		**22 30 29.9**	**0.0**
KNL	**Balıkesir**	**1.60**	**67**	IAML_P					
	comp=Z,14μm,0.2s								
KNL				*i* P		**Pb**		**22 30 30.3**	**-1.0**
KNL				*i* S		**Sg**		**22 30 52.2**	**-0.9**
GONE	**Gonen-Balikesi**	**1.65**	**76**	PN		**Pn**		**22 30 30.9**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.67**	**99**	IAML_P					
	comp=Z,12μm,0.3s								
STEP				*i* P		**Pb**		**22 30 31.7**	**-0.8**
BLCB	**Balcova**	**1.71**	**138**	PN		**Pn**		**22 30 31.7**	**+0.2**
SKIA	**Skiathos**	**1.72**	**254**	P		**Pn**		**22 30 30.4**	**-1.3**
SKIA				S		**Sn**		**22 30 52.7**	**-1.1**
BALB	**Balikesir**	**1.77**	**90**	PN		**Pn**		**22 30 32.1**	**-0.2**
PLG	**Polygyros**	**1.79**	**294**	P		**Pn**		**22 30 32.2**	**-0.5**
PLG				AML		AML		22 31 01.8	
	comp=N,984μm,0.4s								
PLG				AML		AML		22 31 04.7	
	comp=E,1013μm,0.7s								
PLG	**Polygyros**	**1.79**	**294**	P		**Pn**		**22 30 32.6**	**-0.1**
EREA	**Eretria**	**1.80**	**227**	P		**Pn**		**22 30 31.7**	**-1.0**
EREA				AML		AML		22 31 03.3	
	comp=E,986μm,0.5s								
EREA				AML		AML		22 31 10.3	
	comp=N,958μm,0.6s								
EREA	**Eretria**	**1.80**	**227**	P		**Pn**		**22 30 31.8**	**-1.0**
MRKA	**Markates**	**1.83**	**239**	P		**Pn**		**22 30 32.2**	**-1.0**
MRKA				AML		AML		22 31 04.2	
	comp=E,2138μm,0.6s								
MRKA				AML		AML		22 31 04.3	
	comp=N,1299μm,0.6s								
MRKA	**Markates**	**1.83**	**239**	P		**Pn**		**22 30 32.2**	**-1.0**
NEO	**Neokhori**	**1.87**	**260**	P		**Pn**		**22 30 32.9**	**-0.9**
NEO				AML		AML		22 31 03.6	
	comp=N,2741μm,0.5s								
NEO				AML		AML		22 31 04.9	
	comp=E,1827μm,0.4s								
NEO	**Neokhori**	**1.87**	**260**	P		**Pn**		**22 30 32.7**	**-1.0**
EDC	**Edincik**	**1.87**	**68**	PN		**Pb**		**22 30 34.7**	**-1.2**
XOR	**Xorichti**	**1.88**	**261**	P		**Pn**		**22 30 32.9**	**-1.0**
XOR				AML		AML		22 31 04.8	
	comp=N,1375μm,0.7s								
XOR				AML		AML		22 31 05.2	
	comp=E,1062μm,0.4s								
XOR	**Xorichti**	**1.88**	**261**	P		**Pn**		**22 30 32.5**	**-1.4**
AKHS	**Akhisar**	**1.90**	**114**	IAML_P					
	comp=Z,9μm,0.1s								
AKHS				*i* P		**Pn**		**22 30 34.7**	**+0.6**
GMLD	**Gumuldur**	**1.90**	**147**	PN		**Pn**		**22 30 34.6**	**+0.5**
DGB	**zmir**	**1.91**	**148**	IAML_P					
	comp=Z,898nm,0.1s								
DGB				*i* P		**Pn**		**22 30 34.2**	**0.0**
KDZ	**Kurdzhali**	**1.98**	**356**	PN		**Pn**		**22 30 35.8**	**+0.5**
KDZ	**Kurdzhali**	**1.98**	**356**	*i* P		**Pb**		**22 30 38.4**	**+0.6**
TKR	**Tekirdag**	**1.98**	**48**	PN		**Pn**		**22 30 35.8**	**+0.5**
GOMA	**Golmarmara-Man**	**2.05**	**117**	PN		**Pn**		**22 30 36.5**	**+0.4**
DION	**Dionisos Attik**	**2.05**	**220**	P		**Pn**		**22 30 35.2**	**-1.0**
DION				AML		AML		22 31 11.7	
	comp=N,548μm,0.6s								
DION				AML		AML		22 31 17.6	
	comp=E,714μm,0.6s								
SOH	**Sokhos**	**2.06**	**305**	P		**Pn**		**22 30 36.2**	**-0.3**
SOH				AML		AML		22 31 10.7	
	comp=E,1162μm,0.7s								
SOH				AML		AML		22 31 18.1	
	comp=N,899μm,0.6s								
SOH	**Sokhos**	**2.06**	**305**	P		**Pn**		**22 30 36.4**	**0.0**
FYTO	**Fytoko, Volos**	**2.07**	**264**	P		**Pn**		**22 30 35.9**	**-0.5**
SRS	**Serrai**	**2.10**	**314**	P		**Pn**		**22 30 36.3**	**-0.6**
SRS				AML		AML		22 31 10.7	
	comp=E,1189μm,0.5s								
SRS				AML		AML		22 31 11.0	
	comp=N,558μm,0.6s								
SRS	**Serrai**	**2.10**	**314**	P		**Pn**		**22 30 36.6**	**-0.3**
PTL	**Penteli**	**2.11**	**220**	P		**Pn**		**22 30 35.9**	**-1.1**
PTL				AML		AML		22 31 16.3	
	comp=E,526μm,0.6s								
PTL				AML		AML		22 31 16.4	
	comp=N,399μm,0.8s								
RZN	**Rozhen**	**2.12**	**342**	*i* P		**Pn**		**22 30 37.2**	**-0.2**
HORT	**Hortiatis**	**2.12**	**297**	P		**Pn**		**22 30 37.3**	**0.0**
HORT				AML		AML		22 31 13.1	
	comp=N,444μm,0.5s								
HORT				AML		AML		22 31 13.2	
	comp=E,382μm,1.0s								
NVR	**Nevrokopi**	**2.13**	**322**	P		**Pn**		**22 30 36.7**	**-0.7**
NVR				AML		AML		22 31 10.8	
	comp=N,789μm,0.5s								
NVR				AML		AML		22 31 12.4	
	comp=E,780μm,0.4s								
NVR	**Nevrokopi**	**2.13**	**322**	P		**Pn**		**22 30 36.6**	**-0.8**
SMG	**Samos**	**2.19**	**153**	P		**Pn**		**22 30 37.7**	**-0.5**
SMG				AML		AML		22 31 16.6	
	comp=N,1677μm,0.5s								
SMG				AML		AML		22 31 17.4	
	comp=E,1229μm,0.7s								
SMG	**Samos**	**2.19**	**153**	P		**Pn**		**22 30 37.6**	**-0.5**
CRLT	**Corlu**	**2.19**	**48**	PN		**Pn**		**22 30 38.6**	**+0.5**
KCTX	**Karacabey (Bur**	**2.21**	**74**	PN		**Pn**		**22 30 38.6**	**+0.2**
ATHU	**Athens Univers**	**2.21**	**220**	P		**Pn**		**22 30 37.4**	**-1.0**
ATHU				AML		AML		22 31 16.8	
	comp=E,113μm,0.8s								
ATHU				AML		AML		22 31 20.9	
	comp=N,250μm,0.6s								
DURS	**Dursunbey**	**2.23**	**91**	IAML_P					
	comp=Z,3μm,0.3s								
DURS				*i* P		**Pn**		**22 30 39.2**	**+0.5**
VLY	**Voula,Athens**	**2.30**	**218**	P		**Pn**		**22 30 38.5**	**-1.1**
VLY				AML		AML		22 31 17.5	
	comp=N,556μm,0.6s								
VLY				AML		AML		22 31 23.5	
	comp=E,637μm,0.5s								
VIL2	**Platees**	**2.33**	**232**	P		**Pn**		**22 30 39.2**	**-0.8**
VIL2				AML		AML		22 31 24.1	
	comp=N,723μm,0.6s								
VIL2				AML		AML		22 31 30.2	
	comp=E,796μm,0.8s								
DST	**Dursunbey**	**2.34**	**91**	PN		**Pn**		**22 30 40.7**	**+0.5**
EDRB	**Edirne**	**2.34**	**22**	PN		**Pn**		**22 30 40.9**	**+0.7**
MMB	**Musomiste**	**2.38**	**324**	*i* P		**Pn**		**22 30 40.9**	**+0.1**
PHSR	**Pinarhisar**	**2.45**	**36**	PN		**Pn**		**22 30 42.4**	**+0.7**
**DEMI

TIRR	Tirgusor	5.22	23	‖	iP	Pn	22 31 19.5	-0.3
TLB	Topalu	5.24	20	⇑	iP	Pn	22 31 19.8	-0.2
ARR	Arges	5.74	353	⇑	iP	Pn	22 31 29.8	+2.9
VOIR		5.78	356	⇑	iP	Pn	22 31 30.3	+2.8
CFR	Carcaliu	5.82	18	‖	iP	Pn	22 31 29.5	+1.6
MLR	Muntele Rosu	5.82	2	Pn		Pn	22 31 30.4	+2.3
	comp=N,1.7nm,0.3s,baz=198,slow=7.9,SNR=24							
MLR				Lg		Lg	22 33 09.1	
	comp=N,0.7nm,0.3s,baz=258,slow=23,SNR=3.0							
MLR	Muntele Rosu	5.82	2	⇑	iP	Pn	22 31 31.9	+3.7
MDVR	Moldovita	5.86	332	⇑	iP	Pn	22 31 28.6	0.0
GZR	Gura Zlata	6.08	341	⇑	iP	Pn	22 31 31.9	+0.2
BRTR	Keskin Array B	6.21	87	Pn		Pn	22 31 34.0	+0.6
	comp=N,1.1nm,0.3s,baz=264,slow=13,SNR=43							
BRTR				Lg		Lg	22 33 19.3	
	baz=266,slow=20,SNR=3.9							
PLOR	Plostina	6.22	7	⇑	iP	Pn	22 31 35.8	+2.2
VRI	Vrincioaia	6.25	7	⇑	iP	Pn	22 31 36.2	+2.3
DOPR	Dopca	6.29	359	⇑	iP	Pn	22 31 38.7	+4.2
OZUR		6.42	1	⇑	iP	Pn	22 31 39.9	+3.6
BZS	Buzias	6.62	335	⇑	iP	Pn	22 31 39.5	+0.5
BIZ	Bicaz	7.27	3	⇑	iP	Pn	22 31 51.4	+3.4
DRGR		7.42	344	⇑	iP	Pn	22 31 53.0	+3.0
ARCR	ARCALIA	7.47	353	⇑	iP	Pn	22 31 54.7	+4.1
PRAR	RASCA	7.70	3	⇑	iP	Pn	22 31 56.8	+3.0
BURAR	Bucovina Array	7.95	358	⇑	iP	Pn	22 32 00.9	+3.6
MMAI	Mount Meron Ar	10.33	127	Pn		Pn	22 32 28.9	-1.0
	comp=N,0.9nm,0.3s,baz=319,slow=12,SNR=9.1							
ABTA	Abfaltersbach	11.87	311	*e*	Pn	Pn	22 32 54.5	+3.6
	comp=N,3.5nm,0.6s							
TORD	Torodi Ar. Bea	33.79	225	P		P	22 36 43.8	0.0
	comp=N,0.4nm,0.6s,baz=36,slow=8.5,SNR=4.5							
MKAR	Makanchi Array	41.13	61	P		P	22 37 47.1	+1.3
	comp=N,0.7nm,0.6s,baz=279,slow=6.0,SNR=9.3							

MEX 30 22:43:54.1±0.5, 18°.61N×101°.42W, h81km±12km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZIIG	Zihuatanejo	0.99	183	*e*	P	Pn	22 44 11.5	-1.7
ZIIG				*e*	S	Sn	22 44 25.9	-1.5
URUA	Uruapan	1.02	323	*i*	P	Pn	22 44 12.5	-1.2
URUA				*e*	S	Sn	22 44 25.8	-2.5
ARIG	Puente Sto Nin	1.07	107	*e*	P	Pn	22 44 13.1	-0.9
ARIG				*e*	S	Sn	22 44 26.9	-2.0
MOIG	Morelia	1.09	11	*i*	P	Pn	22 44 13.1	-1.5
MOIG				*i*	S	Sn	22 44 28.2	-1.6
PLIG	Platanillo	1.83	96	*e*	P	Pn	22 44 21.9	-2.0
MEIG	Mezcala	1.84	111	*i*	P	Pn	22 44 23.3	-0.7
MEIG				*i*	S	Sn	22 44 45.6	-1.0
CAIG	El Cayaco	1.90	145	*i*	P	Pn	22 44 23.6	-1.1
CAIG				*i*	S	Sn	22 44 45.9	-2.1
YAIG	Yautepec	2.24	83	*e*	P	Pn	22 44 29.2	-0.2

IDC 30 22:45:46.5±4.6, 24°.35S×179°.60W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.9/25, mbtmp4.3/3, Error ellipse: s-maj=172.2km s-min=62.7km az=148.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
STKA	Stephens Creek	34.90	249	P		P	22 52 39.5	-0.4
	1.3nm,0.4s,baz=94,slow=12,SNR=5.1							
ASAR	Alice Springs	42.33	261	P		P	22 53 42.0	-0.4
	3.2nm,0.4s,baz=92,slow=7.6,SNR=66							
WRA	Warramunga Arr	42.74	266	P		P	22 53 46.0	+0.1
	2.5nm,0.4s,baz=104,slow=7.2,SNR=54							
BRTR	Keskin Array B	148.14	307	PKPbc		PKPbc	23 05 34.2	-0.4
	0.6nm,0.8s,baz=90,slow=3.1,SNR=4.1							

IDC ***30*** *23:03:41.7±0.4, 10°.57S×166°.45E, h0km, mb4.8/21, mb1 5.0/22, mb1mx4.9/27, mbtmp4.8/22, ML5.5/1, MS5.7/30, Ms1 5.7/30, ms1mx5.6/33, Error ellipse: s-maj=16.0km s-min=13.6km az=104.0*

BJI ***30*** *23:03:43.7, 10°.50S×166°.60E, h20km, mb5.5/50, mB6.1/73, Ms6.2/93, Ms7 5.9/86*

NEIC ***30*** *23:03:43.7±0.1, 10°.63S×166°.37E, h10km, mb5.8/215, MS6.0/299, MW6.0, MW6.1, Error ellipse: s-maj=3.8km s-min=3.0km az=149.0, Moment Tensor Solution. s23 Moment tensor: Scale 10^18 Nm; Mrr=0.19; Mθθ 0.26; Mϕϕ-0.07; Mrθ 0.18; Mrϕ-1.05; Mθϕ 0.23; Best double couple: M0 1.10000×10^18 NP1:ϕs 267.00000°, δ 77.00000°, λ -167.00000°. NP2:ϕs 174.00000°, δ 78.00000°, λ -14.00000°. Principal axes: T 1.1600, Plg 1.0000°, Azm 221.0000°; N -0.0900, Plg 72.0000°, Azm 313.0000°; P -1.0700, Plg 18.0000°, Azm 130.0000°;*

NEIC ***30*** *23:03:45.0±0.0, 10°.42S×166°.28E, h11km, Moment Tensor Solution. s25 Moment tensor: Scale 10^18 Nm; Mrr-0.16; Mθθ 0.13; Mϕϕ 0.03; Mrθ 0.01; Mθϕ-1.50; Mrϕ 0.42; Best double couple: M0 1.60000×10^18 NP1:ϕs 179.00000°, δ 87.00000°, λ -16.00000°. NP2:ϕs 269.00000°, δ 74.00000°, λ -177.00000°. Principal axes: T 1.6200, Plg 9.0000°, Azm 225.0000°; N -0.1400, Plg 73.0000°, Azm 349.0000°; P -1.4900, Plg 13.0000°, Azm 132.0000°;*

ISCJB ***30*** *23:03:46.2±0.1, 10°.65S±0°.02×166°.29E±0°.02, h36km, mb5.6/265, MS6.0/692 Error ellipse: s-maj=3.3km s-min=2.7km az=155.5*

MOS ***30*** *23:03:46.3±1.2, 10°.54S×166°.28E, h33km, mb5.7/63, MS5.9/54, Error ellipse: s-maj=6.9km s-min=6.4km az=94.1*

GCMT ***30*** *23:03:48.7±0.1, 10°.42S×166°.34E, h12km, MW6.1/140, Moment Tensor Solution. s126, c242; s140, c445; Duration: 2s6 Moment tensor: Scale 10^18 Nm; Mrr-0.33±.01; Mθθ 0.33±.01; Mϕϕ 0.00±.01; Mrθ 0.29±.03; Mθϕ-1.45±.01; Mrϕ 0.42±.04; Best double couple: M0 1.56800×10^18 NP1:ϕs 174.00000°, δ 75.00000°, λ -18.00000°. NP2:ϕs 269.00000°, δ 72.00000°, λ -165.00000°. Principal axes: T 1.6250, Plg 2.0000°, Azm 222.0000°; N -0.1140, Plg 67.0000°, Azm 316.0000°; P -1.5110, Plg 23.0000°, Azm 131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 30 23:03:47.7±0.2, 10°.66S±0°.04×166°.48E±0°.04, h36km, n1230, σ1°.81/846, mb5.7/280, MS6.0/694, 49C-25D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	Honiara	6.54	280		Pn	Pn	23 05 20.4	-1.0
	95nm,0.3s,baz=152,slow=3.1,SNR=15							
HNR					Sn	Sn	23 06 34.2	-0.7
	baz=156,slow=20,SNR=1.6							
HNR					LR	LR	23 07 47.4	
	comp=Z,98μm,18.7s,baz=82,slow=38							
HNR	Honiara	6.54	280	*e*	Pn	Pn	23 05 21.2	-0.3
HNR				*e*	Sn	Sn	23 06 29.1	-5.8
HNR	Honiara	6.54	280	*e*	P	Pn	23 05 21.2	-0.3
HNR				*e*			23 06 29.1	
DZM	Mont Dzumac	11.35	180		Pn	Pn	23 06 29.1	+1.7
	3.6nm,0.3s,baz=5.7,slow=8.3,SNR=25							
DZM					Sn	Sn	23 08 32.9	-0.2
	0.6nm,0.3s,baz=272,slow=18,SNR=1.6							
DZM					LR	LR	23 09 08.1	
	comp=Z,9μm,20.5s,baz=11,slow=28							
DZM	Mont Dzumac	11.35	180	*e*	Pn	Pn	23 06 19.4	-8.0
	444nm,1.3s							
DZM	Mont Dzumac	11.35	180	*e*	Pn	Pn	23 06 30.0	+2.6
DZM				*e*	Sn	Sn	23 08 32.9	-0.2
FUNA	Funafuti	12.72	82	*e*	Pn	Pn	23 06 45.5	-0.7
FUNA				*e*	Sn	Sn	23 08 56.6	-10
MSVF	Nonsavu	13.24	123	*e*	Pn	Pn	23 06 57.3	+4.0
MSVF	Nonsavu	13.24	123	‖ *e*	P	Pn	23 06 56.1	+2.8
TARA	Tarawa	13.55	29	*e*	Pn	Pn	23 06 52.8	-4.7
TARA				*e*	Sn	Sn	23 09 14.0	-13
RABL	Rabaul	15.57	293	*e*	Pn	Pn	23 07 23.4	-1.4
	453nm,1.1s							
PMG	Port Moresby	19.06	272	P		Pn	23 08 09.0	+0.8
	1.2nm,0.3s,baz=73,slow=13,SNR=7.1							
PMG					LR	LR	23 15 26.6	
	comp=Z,54μm,18.8s,baz=117,slow=37							
PMG	Port Moresby	19.06	272	P		Pn	23 08 09.0	+0.8
PMG					pmax	pmax		
	comp=Z,1.0nm,0.3s							
PMG					MLR	MLR		
	comp=Z,54μm,18.8s							
PATS	Pohnpei	19.19	335		P	P	23 08 08.4	-0.1
	baz=19,SNR=4.0							
PATS	Pohnpei	19.19	335	*e*	P	P	23 08 06.4	-2.1
	comp=Z,199nm,1.0s							
KWAJ	Kwajalein Atol	19.37	3	*e*	P	P	23 08 08.5	-1.9
	comp=Z,474nm,0.6s							
KWAJ				*e*	Sn	S	23 11 27.7	-20
KWAJ	Kwajalein Atol	19.37	3	*e*	P	P	23 08 08.5	-1.9
KWAJ					pmax	pmax		
	comp=Z,474nm,0.6s							
EIDS	Eidsvold	20.66	223		P	Pn	23 08 25.8	-1.2
	baz=21,SNR=15							
EIDS	Eidsvold	20.66	223	*e*	P	Pn	23 08 25.8	-1.2
	comp=Z,317nm,1.3s							
EIDS					LR	LR		
	comp=Z,25μm,20.0s							
MANU	Manus Island	20.82	293	*e*	P	P	23 08 26.2	-0.1
	comp=Z,1μm,1.3s							
MANU					LR	LR		
	comp=Z,36μm,20.0s							
CTA	Charters Tower	21.61	242		P	P	23 08 34.6	-0.2
	comp=Z,26nm,0.6s,baz=71,slow=12,SNR=43							
CTA					LR	LR	23 16 24.5	
	comp=Z,47μm,18.1s,baz=62,slow=35							
CTA	Charters Tower	21.61	242		P	P	23 08 35.1	+0.3
	baz=22							
CTAO	Charters Tower	21.61	242	*e*	P	P	23 08 34.6	-0.2
	comp=Z,986nm,1.9s							
CTAO					LR	LR		
	comp=Z,48μm,18.0s							
CTAO	Charters Tower	21.61	242	*e*	P	P	23 08 34.6	-0.2
CTAO					pmax	pmax		
	comp=Z,986nm,1.9s							
CTAO					MLR	MLR		
	comp=Z,48μm,18.0s							
LHI	Lord Howe Isla	21.86	197		PFAKE			
LHI					LR	LR	23 08 50.0	+13
	comp=Z,41μm,22.0s							
MTSU	Mount Surprise	22.70	248		P	P	23 08 46.2	-0.2
	baz=23,SNR=26							
RMQ	Roma	22.97	224		P	P	23 08 51.0	+1.7
	baz=23,SNR=19							
COEN	Coen	23.00	259		P	P	23 08 50.9	+1.3
	baz=23,SNR=5.4							
COEN	Coen	23.00	259	*e*	P	P	23 08 49.2	-0.4
	comp=Z,105nm,1.1s							
COEN					ePcP	PcP	23 12 30.1	-8.8
COEN					LR	LR		
	comp=Z,40μm,22.0s							
KNTN	Kanton	23.01	72	*e*	P	P	23 08 47.8	-1.9
	comp=Z,2μm,1.9s							
KNTN					LR	LR		
	comp=Z,28μm,19.0s							
RAO	Raoul Island	23.56	144		LR	LR	23 16 09.1	
	comp=Z,35μm,20.6s,baz=317,slow=32							
ARMA	Armidale	24.03	213		P	P	23 09 00.7	+1.1
	baz=24,SNR=15							
ARMA	Armidale	24.03	213	*e*	P	P	23 08 57.2	-2.3
	comp=Z,294nm,1.3s							
ARMA					LR	LR		
	comp=Z,48μm,20.0s							
NIUE	Niue	24.27	113	*e*	P	P	23 09 01.5	-0.3
	comp=Z,1μm,1.6s							
OUZ	Omahuta	25.29	166		PFAKE		23 09 20.0	+9.2
OUZ					LR	LR		
	comp=Z,49μm,18.0s							
OUZ	Omahuta	25.29	166		P	P	23 09 10.4	-0.4
QLP	Quilpie	26.29	230		P	P	23 09 19.9	-0.2
	baz=26,SNR=8.6							
JAY	Jayapura	26.83	286		P	P	23 09 24.5	-0.5
	comp=Z,35nm,1.0s,baz=75,slow=2.6,SNR=7.5							
JAY					LR	LR	23 20 39.0	
	comp=Z,24μm,18.2s,baz=104,slow=38							
JAY	Jayapura	26.83	286		P	P	23 09 24.5	-0.5
JAY					pmax	pmax		
	comp=Z,34nm,0.8s							
JAY					MLR	MLR		
	comp=Z,24μm,18.2s							
JAY	Jayapura	26.83	286		P	P	23 09 23.6	-1.4
	comp=Z,735nm,1.2s,comp=Z,25μm							
RIV	Riverview	27.00	209		P	P	23 09 27.8	+1.5
	baz=27							
QIS	Mount Isa	27.65	246		P	P	23 09 31.6	-0.7
	baz=28,SNR=4.2							
CMSA	Cobar Meteorol	28.32	220		P	P	23 09 38.0	-0.1
	baz=28,SNR=8.7							
HIZ	Hauiti	28.73	166	*e*	P	P	23 09 41.7	0.0
	comp=Z,112nm,1.4s							
HIZ					LR	LR		
	comp=Z,34μm,18.0s							
MXZ	Matakaoa Point	28.82	160	*e*	P	P	23 09 41.2	-1.4
	comp=Z,106nm,1.0s							
MXZ					LR	LR		
	comp=Z,40μm,19.0s							
HAZ	Te Kaha	28.83	161		P	P	23 09 46.6	+4.0
H11S2	WAKE ISLAND Hy	28.97	0		T	T	23 39 44.5	
	baz=181,slow=76,SNR=873							
H11S3	WAKE ISLAND Hy	28.97	0		T	T	23 39 37.3	
	baz=181,slow=76,SNR=1087							
H11S1	WAKE ISLAND Hy	28.98	0		T	T	23 39 37.2	
	baz=181,slow=76,SNR=1158							
CNB	Canberra Magne	29.07	210		P	P	23 09 45.5	+0.6
	baz=29,SNR=5.9							
URZ	Urewera	29.09	163		P	P	23 09 46.6	+1.7
	comp=Z,13nm,0.9s,baz=261,slow=2.1,SNR=4.4							
URZ					LR	LR	23 19 44.2	
	comp=Z,10μm,19.8s,baz=345,slow=33							
URZ	Urewera	29.09	163	*e*	P	P	23 09 45.1	+0.3
	comp=Z,225nm,1.8s							
URZ	Urewera	29.09	163		P	P	23 09 46.9	+2.0
WMGZ	Waiomatatini S	29.09	160		P	P	23 09 46.7	+1.8
CAN	Canberra	29.25	210	*e*	P	P	23 09 46.3	-0.1
	comp=Z,202nm,2.0s							
CAN					LR	LR		
	comp=Z,14μm,20.0s							
CAN	Canberra	29.25	210	*e*	P	P	23 09 46.3	-0.1
CAN					pmax	pmax		
	comp=Z,202nm,2.0s							
CAN					MLR	MLR		
	comp=Z,14μm,20.0s							
NGZ	Ngauruhoe	29.54	166		P	P	23 09 53.1	+4.0
WAKE	Wake Island	29.75	0		PFAKE		23 10 00.0	+9.1
WAKE					LR	LR		
	comp=Z,12μm,21.0s							
BKZ	Black Stump Fm	29.76	164	*e*	P	P	23 09 50.7	-0.3
	comp=Z,124nm,1.4s							
BKZ					LR	LR		
	comp=Z,23μm,20.0s							
BKZ	Black Stump Fm	29.76	164		P	P	23 09 52.5	+1.6
BHHZ	Black Hill Sta	29.95	165		P	P	23 09 54.4	+1.8
H11N1	WAKE ISLAND Hy	30.18	1		T	T	23 41 08.3	
	baz=182,slow=76,SNR=547							
H11N3	WAKE ISLAND Hy	30.19	1		T	T	23 41 10.5	
	baz=182,slow=76,SNR=355							
H11N2	WAKE ISLAND Hy	30.20	1		T	T	23 41 11.4	
	baz=182,slow=76,SNR=405							
KAHZ	Kahuranaki	30.45	164		P	P	23 09 58.8	+1.8
QRZ	Quartz Range	30.52	171		P	P	23 10 07.6	+10
MILA	Mila	30.57	208		P	P	23 09 58.8	+0.7
	baz=31							
PRHZ	Porangahau	30.83	165		P	P	23 10 02.6	+2.3
MRZ	Mangatainoka R	30.95	166		P	P	23 10 02.7	+1.4
OGWZ	Otaki Gorge	31.00	167		P	P	23 10 02.4	+0.6
BFZ	Birch Farm	31.12	166		PFAKE		23 10 20.0	+17
BFZ					LR	LR		
	comp=Z,40μm,19.0s							
BFZ	Birch Farm	31.12	166		P	P	23 10 03.0	+0.1
HOWZ	Holdsworth Sta	31.16	167		P	P	23 10 03.1	-0.1
STKA	Stephens Creek	31.21	224		P	P	23 10 02.9	-0.9
	comp=Z,12nm,0.8s,baz=63,slow=9.9,SNR=15							
STKA					LR	LR	23 22 20.7	
	comp=Z,30μm,18.9s,baz=46,slow=36							
STKA	Stephens Creek	31.21	224		P	P	23 10 04.4	+0.6
	baz=31,SNR=9.1							
STKA	Stephens Creek	31.21	224	*e*	P	P	23 10 03.9	+0.1
	comp=Z,11nm,1.0s							
STKA	Stephens Creek	31.21	224	*e*	P	P	23 10 03.9	+0.1
STKA					pmax	pmax		
	comp=Z,11nm,1.0s							
SNZO	South Karori	31.38	168		PFAKE		23 10 20.0	+15
SNZO					LR	LR		
	comp=Z,45μm,20.0s							
THZ	Tophouse	31.49	171	*e*	P	P	23 10 06.3	+0.1
	comp=Z,57nm,0.9s							
THZ					LR	LR		
	comp=Z,16μm,19.0s							
WR0	Warramunga Arr	32.11	249		PFAKE		23 10 20.0	+8.2
WR0					LR	LR		
	comp=Z,29μm,18.0s							
WR9	Warramunga Arr	32.13	249		PFAKE		23 10 20.0	+8.0
WR9					LR	LR		
	comp=Z,28μm,18.0s							
WR8	Warramunga Arr	32.14	249		PFAKE		23 10 20.0	+7.8
WR8					LR	LR		
	comp=Z,32μm,18.0s							
WR7	Warramunga Arr	32.16	249		PFAKE		23 10 20.0	+7.7
WR7					LR	LR		
	comp=Z,30μm,18.0s							
WR6	Warramunga Arr	32.19	249		PFAKE		23 10 20.0	+7.5
WR6					LR	LR		
	comp=Z,34μm,18.0s							
WB0	Warramunga Arr	32.20	250		PFAKE		23 10 20.0	+7.3
WB0					LR	LR		
	comp=Z,15μm,19.0s							
WR5	Warramunga Arr	32.21	249		PFAKE		23 10 20.0	+7.3
WR5					LR	LR		
	comp=Z,32μm,18.0s							
WB9	Warramunga Arr	32.22	250		PFAKE		23 10 20.0	+7.2
WB9					LR	LR		
	comp=Z,30μm,19.0s							
WB8	Warramunga Arr	32.22	250		PFAKE		23 10 20.0	+7.1
WB8					LR	LR		
	comp=Z,35μm,18.0s							
WR4	Warramunga Arr	32.23	249		PFAKE		23 10 20.0	+7.1
WR4					LR	LR		
	comp=Z,34μm,18.0s							
KHZ	Kahutara	32.23	170	*e*	P	P	23 10 11.4	-1.1
	comp=Z,52nm,1.0s							
KHZ					LR	LR		
	comp=Z,24μm,18.0s							
WB6	Warramunga Arr	32.24	250		PFAKE		23 10 20.0	+7.0
WB6					LR	LR		
	comp=Z,24μm,18.0s							
WR3	Warramunga Arr	32.25	249		PFAKE		23 10 20.0	+7.0
WR3					LR	LR		
	comp=Z,33μm,18.0s							
GUMO	Guam	32.25	318		LR	LR	23 21 52.0	
	comp=Z,10μm,21.8s,baz=133,slow=34							
WB5	Warramunga Arr	32.25	250		PFAKE		23 10 20.0	+6.9
WB5					LR	LR		
	comp=Z,24μm,18.0s							
WC2	Warramunga Arr	32.26	250		PFAKE		23 10 20.0	+6.8
WC2					LR	LR		
	comp=Z,40μm,18.0s							
WC3	Warramunga Arr	32.26	249		PFAKE		23 10 20.0	+6.8
WC3					LR	LR		
	comp=Z,37μm,18.0s							
WB4	Warramunga Arr	32.26	250		PFAKE		23 10 20.0	+6.8
WB4					LR	LR		
	comp=Z,35μm,18.0s							
WR2	Warramunga Arr	32.27	250		PFAKE		23 10 20.0	+6.8
WR2					LR	LR		
	comp=Z,31μm,18.0s							
WB3	Warramunga Arr	32.27	250		PFAKE		23 10 20.0	+6.7
WB3					LR	LR		
	comp=Z,33μm,18.0s							
WRAB	Tennant Creek	32.28	250	*e*	P	P	23 10 11.8	-1.5
WRAB					LR	LR		
	comp=Z,38μm,18.0s							
WRAB	Tennant Creek	32.28	250 ⇑	*e*	P	P	23 10 11.6	-1.7
WRAB					pmax	pmax		
	comp=Z,86nm,2.5s							
WB2	Warramunga Arr	32.28	250	*e*	P	P	23 10 11.8	-1.6
WB2					LR	LR		
	comp=Z,33μm,18.0s							
WC1	Warramunga Arr	32.28	250		PFAKE		23 10 20.0	+6.6
WC1					LR	LR		
	comp=Z,18μm,19.0s							
WR1	Warramunga Arr	32.29	250		PFAKE		23 10 20.0	+6.6
WR1					LR	LR		
	comp=Z,37μm,18.0s							
WRA	Warramunga Arr	32.29	250		P	P	23 10 11.8	-1.6
	comp=Z,15nm,0.6s,baz=82,slow=9.0,SNR=169							
WRA					PKiKP	PKiKP	23 20 30.0	+0.8
	comp=Z,0.6nm,0.9s,baz=13,slow=0.8,SNR=4.7							
WRA					LR	LR	23 23 17.9	
	comp=Z,33μm,18.0s,baz=75,slow=36							
WRA	Warramunga Arr	32.29	250		P	P	23 10 11.8	-1.6
WRA					pmax	pmax		
	comp=Z,14nm,0.6s							
WRA					pmax	pmax		
	comp=Z,1.0nm,0.9s							
WRA					MLR	MLR		
	comp=Z,33μm,18.0s							
WC4	Warramunga Arr	32.29	249		PFAKE		23 10 20.0	+6.5
WC4					LR	LR		
	comp=Z,36μm,18.0s							
LTZ	Lake Taylor	32.40	172	*e*	P	P	23 10 14.0	-0.1
	comp=Z,95nm,1.1s							
LTZ					LR	LR		
	comp=Z,19μm,18.0s							
TOO	Toolangi	32.77	212		P	P	23 10 17.4	0.0
	baz=33,SNR=5.6							
TOO	Toolangi	32.77	212	*e*	P	P	23 10 17.3	-0.2
	comp=Z,101nm,1.6s							
TOO					LR	LR		
	comp=Z,26μm,18.0s							
TOO	Toolangi	32.77	212	*e*	P	P	23 10 17.3	-0.2
TOO					pmax	pmax		
	comp=Z,101nm,1.6s							
TOO					MLR	MLR		
	comp=Z,26μm,18.0s							
FOZ	Fox Glacier	32.88	176	*e*	P	P	23 10 19.1	+0.9
	comp=Z,119nm,1.1s							
FOZ					LR	LR		
	comp=Z,20μm,21.0s							
OXZ	Oxford	32.90	173	*e*	P	P	23 10 18.5	+0.1
	comp=Z,98nm,0.9s							
RPZ	Rata Peaks	33.17	174		P	P	23 10 21.3	+0.5
	comp=Z,79nm,0.9s,baz=12,slow=2.8,SNR=14							
RPZ	Rata Peaks	33.17	174	*e*	P	P	23 10 21.9	+1.1
	comp=Z,104nm,0.9s							
RPZ					LR	LR		
	comp=Z,36μm,18.0s							
CRLZ	Canterbury Las	33.23	172	*e*	P	P	23 10 21.3	0.0
	comp=Z,333nm,1.5s							
CRLZ					LR	LR		
	comp=Z,12μm,18.0s							
RKPI	Ransiki, Papua	33.34	284		P	P	23 10 36.0	+13
KDU	Kakadu	33.35	263		P	P	23 10 20.6	-2.1
	baz=33,SNR=5.1							
MQZ	McQueen's Vall	33.36	172	*e*	P	P	23 10 22.6	+0.2
	comp=Z,89nm,1.0s							
MQZ					LR	LR		
	comp=Z,13μm,18.0s							
AS01	Alice Springs	33.56	243	*e*	P	P	23 10 22.9	-1.7
AS31	Alice Springs	33.60	243	*e*	P	P	23 10 23.2	-1.7
	comp=Z,8.8nm,0.8s							
AS31					LR	LR		
	comp=Z,400nm,19.0s							
ASAR	Alice Springs	33.60	243		P	P	23 10 23.2	-1.7
	comp=Z,21nm,0.7s,baz=72,slow=9.5,SNR=193							
ASAR					PcP	PcP	23 13 04.2	-0.7
	comp=Z,2.8nm,0.7s,baz=80,slow=2.7,SNR=3.4							
ASAR					LR	LR	23 22 52.1	
	comp=Z

	comp=Z,17µm,19.0s										
SAUI	**Saumlaki**	**34.80**	**271**		PFAKE			23 10 50.0	+15		
SAUI					LR	LR					
	comp=Z,18µm,21.0s										
FAKI	**Fak Fak**	**34.82**	**280**		PFAKE			23 10 50.0	+15		
FAKI					LR	LR					
	comp=Z,28µm,22.0s										
WHZ	**Wether Hill Ro**	**35.13**	**178**		PFAKE			23 10 50.0	+12		
WHZ					LR	LR					
	comp=Z,27µm,19.0s										
PYZ	**Puysegur Point**	**35.38**	**180**		PFAKE			23 10 50.0	+10		
PYZ					LR	LR					
	comp=Z,15µm,20.0s										
BBOO	**Buckleboo**	**35.61**	**227**		P	**P**		**23 10 41.6**	**-0.6**		
	baz=36,SNR=26										
BBOO	**Buckleboo**	**35.61**	**227**		*e*P	**P**		**23 10 41.8**	**-0.3**		
BBOO	comp=Z,73nm,1.1s				LR	LR					
	comp=Z,28µm,18.0s										
JOHN	**Johnston Islan**	**36.11**	**41**		PFAKE			23 11 00.0	+14		
JOHN					LR	LR					
	comp=Z,20µm,20.0s										
TAU	**Tasmania Unive**	**36.21**	**204**		PFAKE			23 11 00.0	+13		
TAU					LR	LR					
	comp=Z,11µm,18.0s										
SWI	**Sorong**	**36.32**	**283**		P	**P**		**23 10 49.5**	**+1.1**		
	comp=Z,41nm,0.8s,comp=Z,2µm										
BNDI	**Bandanaira**	**36.74**	**277**		P	**P**		**23 10 50.4**	**-1.5**		
	comp=Z,678nm,1.2s,comp=Z,13µm										
KNRA	**Kununurra**	**37.02**	**258**		P	**P**		**23 10 53.2**	**-1.2**		
	baz=37,SNR=9.9										
XMAS	**Kiritimati**	**38.05**	**73**		PFAKE			23 11 20.0	+17		
XMAS					LR	LR					
	comp=Z,16µm,19.0s										
WRKA	**Warakurna**	**38.90**	**243**		P	**P**		**23 11 08.9**	**-1.2**		
	baz=39,SNR=34										
NLAI	**Namlea**	**39.74**	**278**		P	**P**		**23 11 18.0**	**+0.8**		
	comp=Z,213nm,1.8s,comp=Z,6µm										
FITZ	**Fitzroy Crossi**	**40.17**	**255**		LR	LR		23 26 32.8			
	comp=Z,14µm,21.6s,baz=80,slow=34										
FITZ	**Fitzroy Crossi**	**40.17**	**255**		P	**P**		**23 11 19.6**	**-1.2**		
	baz=40,SNR=107										
FITZ	**Fitzroy Crossi**	**40.17**	**255**		*e*P	**P**		**23 11 19.3**	**-1.5**		
TNTI	**Ternate**	**40.52**	**284**		PFAKE			23 11 30.0	+6.3		
TNTI					LR	LR					
	comp=Z,7µm,19.0s										
FORT	**Forrest**	**40.85**	**235**		P	**P**		**23 11 26.0**	**-0.2**		
	baz=41,SNR=10										
FORT	**Forrest**	**40.85**	**235**		*e*P	**P**		**23 11 24.4**	**-1.9**		
FORT	comp=Z,212nm,1.0s				LR	LR					
	comp=Z,22µm,18.0s										
SANI	**Sanana**	**41.09**	**279**		P	**P**		**23 11 28.0**	**-0.4**		
	comp=Z,124nm,2.3s,comp=Z,7µm										
SOEI	**Soe**	**41.53**	**267**		*e*P	**P**		**23 11 30.8**	**-1.3**		
SOEI	comp=Z,59nm,0.9s				LR	LR					
	comp=Z,19µm,20.0s										
SOEI	**Soe**	**41.53**	**267**		P	**P**		**23 11 32.7**	**+0.5**		
	comp=Z,94nm,1.2s,comp=Z,4µm										
MIDW	**Midway**	**41.69**	**22**		PFAKE			23 11 40.0	+7.0		
MIDW					LR	LR					
	comp=Z,17µm,19.0s										
BATI	**Baumata**	**42.08**	**267**		P	**P**		**23 11 36.9**	**+0.3**		
	comp=Z,62nm,1.9s,comp=Z,3µm										
PPT	**Papeete**	**43.09**	**104**		LR	LR		23 26 56.1			
	comp=Z,5µm,18.1s,baz=274,slow=32										
PPT2	**Papeete2**	**43.09**	**104**		*e*P	**P**		**23 11 45.0**	**+0.2**		
PPT2	comp=Z,39nm,1.4s				*e*S	**S**		**23 18 11.5**	**+2.6**		
	comp=Z,3µm,24.0s										
PPT2					*e*LQ	LQ		23 21 44.2			
	comp=Z,74µm,30.2s										
PPT2					*e*LR	LR		23 23 34.8			
	comp=Z,7µm,24.0s										
TIAR	**Tiarei**	**43.31**	**104**		*e*P	**P**		**23 11 46.8**	**+0.3**		
	comp=Z,9.5nm,1.1s										
MMRI	**Maumere**	**43.63**	**269**		*e*P	**P**		**23 11 47.2**	**-1.9**		
MMRI	comp=Z,1µm,2.0s				LR	LR					
	comp=Z,8µm,18.0s										
MMRI	**Maumere**	**43.63**	**269**		P	**P**		**23 11 50.7**	**+1.6**		
	comp=Z,153nm,1.2s,comp=Z,5µm										
BBSI	**Bau Bau**	**43.74**	**273**		P	**P**		**23 11 49.7**	**-0.3**		
	comp=Z,27nm,2.1s,comp=Z,1µm										
TBI	**Tubuai**	**43.81**	**113**		*e*S	**S**		**23 18 22.1**	**+3.0**		
	comp=Z,6µm,26.2s										
TBI					*e*LQ	LQ		23 22 13.8			
	comp=Z,55µm,31.0s										
TBI					*e*LR	LR		23 24 05.0			
	comp=Z,19µm,31.8s										
MCQ	**Macquarie Isla**	**44.13**	**186**		PFAKE			23 12 00.0	+7.5		
MCQ					LR	LR					
	comp=Z,11µm,20.0s										
EDFI	**Ende, Flores**	**44.16**	**268**		P	**P**		**23 11 54.2**	**+0.7**		
	comp=Z,81nm,1.0s,comp=Z,4µm										
JCJ	**Chichijima**	**44.32**	**328**		LR	LR		23 27 17.7			
	comp=Z,9µm,21.7s,baz=144,slow=32										
DAV	**Davao City (W)**	**44.36**	**292**		PFAKE			23 12 10.0	+15		
DAV					LR	LR					
	comp=Z,8µm,18.0s										
LUWI	**Luwuk**	**44.45**	**279**		*e*P	**P**		**23 11 54.2**	**-1.6**		
	comp=Z,422nm,1.5s										
LUWI					LR	LR					
	comp=Z,6µm,20.0s										
LUWI	**Luwuk**	**44.45**	**279**		P	**P**		**23 11 55.6**	**-0.1**		
	comp=Z,207nm,1.4s,comp=Z,8µm										
PMOR	**Pomariorio Ree**	**44.64**	**101**		*e*P	**P**		**23 11 57.2**	**0.0**		
	comp=Z,233nm,1.3s										
VAH	**Vaihoa**	**44.90**	**101**		*e*P	**P**		**23 11 59.0**	**-0.2**		
	comp=Z,212nm,1.5s										
MBWA	**Marble Bar**	**46.00**	**251**		*e*P	**P**		**23 12 07.3**	**-0.6**		
MBWA	comp=Z,64nm,0.8s				LR	LR					
	comp=Z,18µm,18.0s										
KEKH	**Kekaha**	**46.40**	**46**		PFAKE			23 12 20.0	+9.1		
KEKH					LR	LR					
	comp=Z,18µm,22.0s										
KAPI	**Kappang**	**46.59**	**273**		PFAKE			23 12 20.0	+7.4		
KAPI					LR	LR					
	comp=Z,5µm,22.0s										
KIP	**Kipapa**	**47.25**	**47**⇑		*e*P	**P**		**23 12 18.5**	**+0.9**		
KIP					pmax	pmax					
	comp=Z,119nm,1.3s										
KHLU	**Kahalu`u**	**47.73**	**51**		PFAKE			23 12 30.0	+8.5		
KHLU					LR	LR					
	comp=Z,13µm,19.0s										
KHU	**Kahuku**	**47.74**	**52**		*e*P	**P**		**23 12 19.8**	**-1.9**		
KHU	comp=Z,644nm,1.8s				LR	LR					
	comp=Z,14µm,20.0s										
KHU	**Kahuku**	**47.74**	**52**		*e*P	**P**		**23 12 19.8**	**-1.9**		
KHU					pmax	pmax					
	comp=Z,644nm,1.8s										
KHU					MLR	MLR					
	comp=Z,14µm,20.0s										
MEEK	**Meekatharra**	**47.76**	**244**		P	**P**		**23 12 21.2**	**-0.5**		
	baz=48,SNR=83										
HUH	**Hualalai**	**47.82**	**51**		PFAKE			23 12 30.0	+7.6		
HUH					LR	LR					
	comp=Z,13µm,20.0s										
MWH	**Moku'aweowe**	**47.89**	**51**		PFAKE			23 12 40.0	+17		
MWH					LR	LR					
	comp=Z,13µm,21.0s										
AIN	**Ainahou**	**47.93**	**52**		PFAKE			23 12 40.0	+17		
AIN					LR	LR					
	comp=Z,14µm,19.0s										
MLOA	**Mauna Loa Obse**	**47.94**	**51**		PFAKE			23 12 40.0	+17		
MLOA					LR	LR					
	comp=Z,15µm,19.0s										
HLP	**Hilina Pali**	**48.00**	**52**		PFAKE			23 12 40.0	+16		
HLP					LR	LR					
	comp=Z,18µm,21.0s										
HMH	**Humu'ula Sheep**	**48.05**	**51**		*e*P	**P**		**23 12 20.8**	**-3.4**		
	comp=Z,203nm,1.2s										
HMH					LR	LR					
	comp=Z,21µm,20.0s										
MLH	**Mauna Loa**	**48.06**	**52**		PFAKE			23 12 40.0	+16		
MLH					LR	LR					
	comp=Z,16µm,22.0s										
SDHHI	**Sand Hill**	**48.07**	**52**		PFAKE			23 12 40.0	+16		
SDHHI					LR	LR					
	comp=Z,17µm,21.0s										
WRMHI	**West Rim**	**48.07**	**52**		PFAKE			23 12 40.0	+16		
WRMHI					LR	LR					
	comp=Z,17µm,22.0s										
RIM	**Rim**	**48.09**	**52**		PFAKE			23 12 40.0	+16		
RIM					LR	LR					
	comp=Z,14µm,21.0s										
UWE	**Uwekahuna**	**48.09**	**52**		PFAKE			23 12 40.0	+16		
UWE					LR	LR					
	comp=Z,14µm,20.0s										
NPH	**North Pit**	**48.09**	**52**		PFAKE			23 12 40.0	+16		
NPH					LR	LR					
	comp=Z,13µm,20.0s										
OBL	**Observatory Le**	**48.09**	**52**		PFAKE			23 12 40.0	+16		
OBL					LR	LR					
	comp=Z,15µm,21.0s										
KHLH	**Kahului Airpor**	**48.09**	**49**		PFAKE			23 12 40.0	+16		
KHLH					LR	LR					
	comp=Z,11µm,20.0s										
KKO	**Keanakako`i**	**48.09**	**52**		PFAKE			23 12 40.0	+16		
KKO					LR	LR					
	comp=Z,14µm,21.0s										
POHA	**Pohakuloa**	**48.10**	**51**		PFAKE			23 12 40.0	+15		
POHA					LR	LR					
	comp=Z,13µm,20.0s										
BYL	**Byron's Ledge**	**48.11**	**52**		PFAKE			23 12 40.0	+16		
BYL					LR	LR					
	comp=Z,15µm,22.0s										
SBLHI	**Steaming Bluff**	**48.11**	**52**		PFAKE			23 12 40.0	+16		
SBLHI					LR	LR					
	comp=Z,14µm,20.0s										
HATHI	**Halema'uma'u T**	**48.11**	**52**		PFAKE			23 12 40.0	+15		
HATHI					LR	LR					
	comp=Z,14µm,20.0s										
PUH	**Pauahi**	**48.12**	**52**		PFAKE			23 12 40.0	+15		
PUH					LR	LR					
	comp=Z,16µm,21.0s										
HPAH	**Hawaii Prepara**	**48.13**	**51**		PFAKE			23 12 40.0	+15		
HPAH					LR	LR					
	comp=Z,12µm,20.0s										
HLK	**Haleakala**	**48.14**	**50**		PFAKE			23 12 40.0	+15		
HLK					LR	LR					
	comp=Z,11µm,18.0s										
STCH	**Steam Cracks**	**48.20**	**52**		PFAKE			23 12 40.0	+15		
STCH					LR	LR					
	comp=Z,14µm,19.0s										
NPOC	**North of Pu'u**	**48.21**	**52**		PFAKE			23 12 40.0	+15		
NPOC					LR	LR					
	comp=Z,10µm,19.0s										
JCUZ	**Jacuzzi**	**48.21**	**52**		PFAKE			23 12 40.0	+15		
JCUZ					LR	LR					
	comp=Z,10µm,19.0s										
KLBR	**Kellerberrin**	**49.52**	**237**		P	**P**		**23 12 34.1**	**-1.0**		
	baz=50,SNR=10										
BLDU	**Ballidu**	**50.17**	**239**		P	**P**		**23 12 38.8**	**-1.3**		
	baz=50										
NWAO	**Narrogin (SRO)**	**50.27**	**236**		P	**P**		**23 12 40.1**	**-0.7**		
	baz=50,SNR=9.3										
NWAO	**Narrogin (SRO)**	**50.27**	**236**		*e*P	**P**		**23 12 38.9**	**-1.9**		
NWAO	comp=Z,56nm,0.9s				LR	LR					
	comp=Z,56µm,18.0s										
NWAO	**Narrogin (SRO)**	**50.27**	**236**		*e*P	**P**		**23 12 38.9**	**-1.9**		
NWAO					pmax	pmax					
	comp=Z,56nm,0.9s										
NWAO					MLR	MLR					
	comp=Z,56µm,18.0s										
JHJ2	**Mitsune**	**50.41**	**331**		PFAKE			23 12 50.0	+8.4		
JHJ2					LR	LR					
	comp=Z,11µm,22.0s										
MORW	**Morawa**	**50.44**	**241**		P	**P**		**23 12 41.8**	**-0.3**		
	baz=51,SNR=4.1										
MORW	**Morawa**	**50.44**	**241**		*e*P	**P**		**23 12 40.3**	**-1.8**		
MORW	comp=Z,58nm,0.9s				LR	LR					
	comp=Z,36µm,18.0s										
MUN	**Mundaring**	**50.89**	**237**		P	**P**		**23 12 45.5**	**+0.1**		
	baz=51,SNR=4.6										
RKGY	**Rocky Gully**	**50.91**	**234**		P	**P**		**23 12 46.0**	**+0.4**		
	baz=51										
GIRL	**Giralia**	**51.22**	**250**		PFAKE			23 13 00.0	+12		
GIRL					LR	LR					
	comp=Z,15µm,18.0s										
JAGI	**Jajag, Banyuwa**	**51.59**	**268**		*e*P	**P**		**23 12 48.5**	**-2.5**		
JAGI	comp=Z,70nm,1.0s				LR	LR					
	comp=Z,4µm,22.0s										
TAOE	**Nuku Hiva Isla**	**52.58**	**93**		*e*LQ	LQ		23 25 31.3			
TAOE	comp=Z,23µm,27.1s				*e*LR	LR		23 28 08.3			
	comp=Z,6µm,28.8s,baz=269										
KKM	**Kota Kinabalu**	**52.72**	**286**		*e*P	**P**		**23 12 58.2**	**-1.2**		
KKM	comp=Z,148nm,1.3s				LR	LR					
	comp=Z,5µm,22.0s										
INU	**Inuyama**	**53.57**	**330**		*e*P	**P**		**23 13 05.6**	**+0.4**		
INU	comp=Z,84nm,1.3s				LR	LR					
	comp=Z,9µm,18.0s										
MJAR	**Matsushiro Arr**	**53.97**	**332**		P	**P**		**23 13 05.9**	**-2.2**		
	comp=Z,4.9nm,0.7s,baz=171,slow=7.8,SNR=14										
MAJO	**Matsushiro**	**53.97**	**332**		*e*P	**P**		**23 13 07.0**	**-1.1**		
MAJO	comp=Z,35nm,1.0s				LR	LR					
	comp=Z,8µm,18.0s										
MAJO	**Matsushiro**	**53.97**	**332**⇓		*e*P	**P**		**23 13 07.0**	**-1.1**		
MAJO					pmax	pmax					
	comp=Z,16nm,1.3s										
MAT	**Matsushiro**	**53.97**	**332**		P	**P**		**23 13 05.8**	**-2.3**		
MAT					S	**S**		**23 20 43.2**	**+1.7**		
MJB9	**Matsu-Tunnel**	**53.97**	**332**		*e*P	**P**		**23 13 07.2**	**-0.9**		
MJB9	comp=Z,36nm,1.0s				LR	LR					
	comp=Z,9µm,18.0s										
YOJ	**Yonaguni jima**	**54.94**	**310**		PFAKE			23 13 30.0	+15		
YOJ					LR	LR					
	comp=Z,15µm,21.0s										
JNU	**Nakatsue**	**55.20**	**323**		*e*P	**P**		**23 13 16.7**	**-0.4**		
JNU	comp=Z,85nm,1.0s				LR	LR					
	comp=Z,6µm,20.0s										
TWG	**Pinlang**	**55.54**	**307**		PFAKE			23 13 30.0	+10		
TWG					LR	LR					
	comp=Z,35µm,20.0s										
YULB	**Yu-li**	**55.66**	**308**		*e*P	**P**		**23 13 19.1**	**-1.6**		
YULB	comp=Z,46nm,1.0s				LR	LR					
	comp=Z,13µm,21.0s										
NACB	**Ninganchiao**	**55.85**	**309**		*e*P	**P**		**23 13 20.7**	**-1.2**		
NACB	comp=Z,480nm,1.8s				LR	LR					
	comp=Z,9µm,22.0s										
TPUB	**Ta-pu**	**56.13**	**307**		*e*P	**P**		**23 13 23.2**	**-0.8**		
	comp=Z,154nm,1.2s										
TPUB					*e*PP	PP		23 15 20.9	-8.6		
TPUB					LR	LR					
	comp=Z,12µm,20.0s										
SSLB	**Suanglung**	**56.14**	**308**		*e*P	**P**		**23 13 19.9**	**-4.2**		
	comp=Z,33nm,0.9s										
SSLB					LR	LR					
	comp=Z,16µm,21.0s										
YHNB	**Yeheng**	**56.29**	**309**		*e*P	**P**		**23 13 24.8**	**-0.4**		
	comp=Z,92nm,1.0s										
YHNB					LR	LR					
	comp=Z,16µm,22.0s										
TATO	**Taipei**	**56.37**	**310**		PFAKE			23 13 40.0	+14		
TATO					LR	LR					
	comp=Z,15µm,19.0s										
ERM	**Erimo**	**56.62**	**339**		PFAKE			23 13 40.0	+13		
ERM					LR	LR					
	comp=Z,11µm,19.0s										
ERM	**Erimo**	**56.62**	**339**⇑		*e*P	**P**		**23 13 27.4**	**+0.3**		
ERM					pmax	pmax					
	comp=Z,40nm,1.1s										
RKT	**Rikitea**	**57.05**	**111**		*e*S	**S**		**23 21 25.8**	**+2.6**		
	comp=Z,5µm,30.0s										
RKT					*e*SS	**SS**		**23 25 15.8**	**+3.5**		
	comp=Z,1µm,31.2s										
RKT					*e*LQ	LQ		23 27 48.8			
	comp=Z,12µm,32.8s										
RKT					*e*LR	LR		23 30 13.0			
	comp=Z,9µm,26.2s,baz=284										
KSM	**Kuching**	**57.15**	**279**		PFAKE			23 13 40.0	+8.6		
KSM					LR	LR					
	comp=Z,3µm,20.0s										
YUK	**Yuzh-Kuril'sk**	**57.57**	**342**		*e*P	**P**		**23 13 38.1**	**+4.4**		
YUK					*e*			23 14 25.9			
YUK					*e*S	**S**		**23 21 25.4**	**-3.7**		
YUK					*e*SS	**SS**		**23 25 12.2**	**-7.7**		
YUK					*e*SSS	SSS		23 27 33.5			
CISI	**Cisompet, Garu**	**57.94**	**268**		*e*P	**P**		**23 13 34.3**	**-2.8**		
CISI	comp=Z,78nm,0.9s				LR	LR					
	comp=Z,3µm,20.0s										
QZH	**Quanzhou**	**58.58**	**308**⇓	*i*	P	**P**		**23 13 41.8**	**+0.6**		
QZH					S	**S**		**23 21 45.5**	**+2.5**		
QZH					pmax	pmax					
	comp=Z,79nm,1.6s										
QZH					pmax	pmax					
	comp=Z,3µm,4.7s										
QZH					LR	LR					
	comp=Z,5µm,18.0s										
QZH					LR	LR					
	comp=Z,7µm,19.6s										
QZH					LR	LR					
	comp=Z,9µm,20.2s										
ASAJ	**Asahikawa**	**58.67**	**340**		LR	LR		23 33 50.2			
	comp=Z,12µm,21.9s,baz=190,slow=31										
XMIS	**Christmas Isla**	**59.70**	**264**		PFAKE			23 14 00.0	+11		
XMIS					LR	LR					
	comp=Z,4µm,21.0s										
KSRS	**Korea Array**	**59.97**	**325**		P	**P**		**23 13 49.8**	**-0.8**		
	comp=Z,11nm,1.2s,baz=148,slow=6.1,SNR=24										
KSRS					LR	LR		23 38 21.2			
	comp=Z,4µm,19.4s,baz=131,slow=35										
KS15	**Wonju Array Si**	**59.98**	**325**		*e*P	**P**		**23 13 51.3**	**+0.6**		
KSAR	**Wonju Array Be**	**59.98**	**325**		P	**P**		**23 13 49.8**	**-0.9**		
KSAR	**Wonju Array Be**	**59.98**	**325**		P	**P**		**23 13 49.8**	**-0.9**		
KS01	**Wonju Array Si**	**60.00**	**325**		*e*P	**P**		**23 13 50.0**	**-0.8**		
SSE	**Sheshan**	**60.08**	**315**		P	**P**		**23 13 51.5**	**0.0**		
SSE					S	**S**		**23 22 09.5**	**+7.3**		
SSE					pmax	pmax					
	comp=Z,1µm,4.3s										
SSE					LR	LR					
	comp=Z,3µm,16.7s										
SSE					LR	LR					
	comp=Z,3µm,16.5s										
SSE	**Sheshan**	**60.08**	**315**		*e*P	**P**		**23 13 51.7**	**+0.3**		
	comp=Z,166nm,1.3s										
SSE					LR	LR					
	comp=Z,8µm,22.0s										
HKC	**Hong Kong Obse**	**60.84**	**303**	⇑	P	P		23 14 04.0	+7.2		
YSS	**Yuzh-Sakhalins**	**61.15**	**342**		*e*P	**P**		**23 13 58.5**	**+0.1**		
	comp=Z,137nm,1.3s										
YSS					LR	LR					
	comp=Z,5µm,20.0s										
YSS	**Yuzh-Sakhalins**	**61.15**	**342**⇓		*e*P	**P**		**23 13 58.8**	**+0.4**		
YSS					*e*			23 14 08.0			
YSS					*e*			23 14 37.0			
YSS					*e*S	**S**		**23 22 14.7**	**-0.5**		
YSS					*e*PS	**PnS**		**23 22 24.1**	**-8.7**		
YSS					*e*PPS	PPS		23 22 36.1			
YSS					*e*SSS	SSS		23 28 59.0			
YSS					pmax	pmax					
	comp=Z,20nm,0.8s										
YSS					pmax	pmax					
	comp=Z,200nm,6.3s										
TEY	**Ternei**	**61.66**	**336**⇑		*e*P	**P**		**23 14 06.2**	**+4.3**		
TEY					*e*			23 22 23.7			
TEY					pmax	pmax					
	comp=Z,20nm,2.0s										
TEY					pmax	pmax					
	comp=N,10.0nm,2.1s										
TEY					pmax	pmax					
	comp=Z,300nm,4.2s										
SKR	**Severo-Kuril's**	**61.75**	**353**		*e*P	P		23 13 50.9	-11		
SKR					*e*S	**S**		**23 22 21.7**	**-1.0**		
SKR					*e*			23 23 54.4			
SKR					pmax	pmax					
	comp=Z,168nm,1.2s										
SKR					pmax	pmax					
	comp=Z,2µm,4.3s										
SKR					pmax	pmax					
	comp=Z,1µm,5.9s										
SKR					MLR	MLR					
	comp=Z,6µm,16.0s										
SKR					MLR	MLR					
	comp=Z,7µm,15.0s										
GZH	**Guangzhou**	**61.87**	**303**		P	**P**		**23 14 04.8**	**+1.0**		
GZH					PP	**PP**		**23 16 18.8**	**-1.6**		
GZH					ScP	**ScP**		**23 18 45.0**	**+1.2**		
GZH					S	**S**		**23 22 33.3**	**+8.0**		
GZH					pmax	pmax					
	comp=Z,2µm,5.4s										
GZH					LR	LR					
	comp=Z,3µm,12.9s										
GZH					LR	LR					
	comp=Z,6µm,21.2s										
VLA	**Vladivostok**	**62.14**	**332**	*ce*	P	**P**		**23 14 05.1**	**-0.1**		
VLA					pmax	pmax					
	comp=Z,75nm,0.9s										
NJ2	**Nanjing**	**62.25**	**315**		*e*P	**P**		**23 14 06.3**	**+0.1**		
NJ2					S	**S**		**23 22 36.5**	**+6.6**		
NJ2					sS	**pS**		**23 22 39.8**	**-2.8**		
NJ2					pmax	pmax					
	comp=Z,26nm,1.4s										
NJ2					pmax	pmax					
	comp=Z,3µm,4.3s										
NJ2					LR	LR					
	comp=Z,7µm,18.4s										
NJ2					LR	LR					
	comp=Z,8µm,17.9s										
NJ2					LR	LR					
	comp=Z,9µm,21.7s										
USA0B	**Ussuriysk Arra**	**62.93**	**333**		*e*P	**P**		**23 14 10.8**	**+0.4**		
	comp=Z,426nm,2.0s										
USA0B					LR	LR					
	comp=Z,6µm,20.0s										
USRK	**Ussuriysk Ar.**	**62.93**	**333**		P	**P**		**23 14 09.8**	**-0.7**		
	comp=Z,12nm,0.9s,baz=145,slow=7.0,SNR=26										
USRK					LR	LR		23 38 11.2			
	comp=Z,2µm,21.3s,baz=130,slow=33										
QIZ	**Qiongzhong**	**63.13**	**298**		P	**P**		**23 14 13.5**	**+1.2**		
QIZ					S	**S**		**23 22 48.0**	**+6.6**		
QIZ					pmax	pmax					
	comp=Z,1µm,5.1s										
QIZ					LR	LR					
	comp=Z,3µm,15.7s										
QIZ					LR	LR					
	comp=Z,5µm,19.4s										
QIZ					LR	LR					
	comp=Z,7µm,19.1s										
QIZ	**Qiongzhong**	**63.13**	**298**		PFAKE			23 14 20.0	+7.7		
QIZ					LR	LR					
	comp=Z,9µm,22.0s										
**MN

MDJ LR LR
comp=Z,10μm,14.3s
MDJ LR LR
comp=Z,6μm,18.3s
MDJ LR LR
comp=Z,9μm,18.3s
MDJ Mudanjiang 64.35 332 *e*P **P 23 14 18.6 -1.2**
comp=Z,188nm,1.8s
MDJ LR LR
comp=Z,7μm,20.0s
DL2 Dalian 64.61 322⇑ *i*P **P 23 14 25.0 +3.4**
DL2 SS SS 23 27 10.0 -0.4
DL2 pmax pmax
comp=Z,44nm,1.3s
DL2 pmax pmax
comp=Z,2μm,4.4s
DL2 LR LR
comp=Z,8μm,15.3s
DL2 LR LR
comp=Z,7μm,16.3s
DL2 LR LR
comp=Z,6μm,18.6s
TYV Tymovskoe 64.68 344 *e*P **P 23 14 21.4 -0.4**
TYV *e*S **S 23 22 54.3 -5.0**
TYV pmax pmax
comp=Z,1μm,4.8s
TYV pmax pmax
comp=Z,40nm,1.3s
TYV smax smax
comp=E,800nm,5.5s
WHN Wuhan 64.68 311⇑ P **P 23 14 22.0 -0.2**
WHN S **S 23 22 55.5 -4.6**
WHN LR LR
comp=E,24μm,15.6s
WHN LR LR
comp=E,9μm,16.8s
WHN LR LR
comp=E,32μm,24.0s
ATKA Atka Island 64.79 13 PFAKE 23 14 30.0 +7.5
ATKA LR LR
comp=Z,16μm,21.0s
SNY Shenyang 65.41 326⇓ P **P 23 14 26.5 -0.3**
SNY pmax pmax
comp=Z,66nm,2.5s
SNY pmax pmax
comp=Z,2μm,6.7s
SNY LR LR
comp=Z,9μm,16.7s
SNY LR LR
comp=Z,8μm,16.5s
SNY LR LR
comp=Z,7μm,24.0s
CN2 Changchun 65.78 329 *e*P **P 23 14 28.0 -1.2**
CN2 *e*pP pP 23 14 32.8 -6.8
CN2 *e*S **S 23 23 11.5 -1.7**
CN2 *e*SS **SS 23 27 28.5 -0.1**
CN2 pmax pmax
comp=Z,30nm,1.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,9μm,17.0s
CN2 LR LR
comp=Z,6μm,17.0s
CN2 LR LR
comp=Z,6μm,19.0s
TIA Tai'an 65.81 318 P **P 23 14 28.5 -1.0**
TIA SS SS 23 27 32.8 +3.5
TIA LR LR
comp=Z,3μm,20.6s
TIA LR LR
comp=Z,3μm,17.7s
TIA LR LR
comp=Z,4μm,23.5s
GRNR Gornyy 66.53 340 *e*P **P 23 14 35.0 +1.2**
GRNR pmax pmax
comp=Z,42nm,1.2s
NIKH Nikolski High 66.81 16 *e*P **P 23 14 34.0 -1.5**
comp=Z,124nm,0.9s
NIKH LR LR
comp=Z,6μm,21.0s
IPM Ipoh 66.86 280 *e*P **P 23 14 35.2 -1.5**
comp=Z,46nm,1.0s
VNDA Vanda 66.89 181 P **P 23 14 34.8 -0.9**
comp=Z,11nm,1.0s,baz=8.6,slow=7.2,SNR=6.4
VNDA LR LR 23 41 00.7
comp=Z,7μm,18.4s,baz=16,slow=33
VNDA Vanda 66.89 181 *e*P **P 23 14 34.6 -1.1**
comp=Z,24nm,1.0s
KLR Kul'dur 67.00 336 *de*P **P 23 14 37.0 +0.2**
CASY Casey 67.00 201 PFAKE 23 14 50.0 +13
CASY LR LR
comp=Z,6μm,20.0s
SBA Scott Base 67.18 180 PFAKE 23 14 50.0 +12
SBA LR LR
comp=Z,7μm,22.0s
NKL Nikolayevsk 67.27 343 *e*P **P 23 14 37.4 -1.0**
NKL *e* 23 23 37.0
NKL pmax pmax
comp=Z,53nm,1.4s
NKL pmax pmax
comp=Z,2μm,8.0s
KULM Kulim 67.42 280 PFAKE 23 14 50.0 +10
KULM LR LR
comp=Z,3μm,21.0s
COCO West Island 68.10 261 PFAKE 23 15 00.0 +15
COCO LR LR
comp=Z,4μm,18.0s
ENH Enshi 68.22 309 *e*P **P 23 14 43.8 -1.2**
comp=Z,96nm,1.4s
ENH LR LR
comp=Z,6μm,19.0s
UNV Unalaska Valle 68.23 17 PFAKE 23 15 00.0 +16
UNV LR LR
comp=Z,10μm,22.0s
PSI Prapat 68.53 277 *e*P **P 23 14 45.3 -2.1**
comp=Z,28nm,1.0s
PSI LR LR
comp=Z,3μm,21.0s
PSI Prapat 68.53 277 *e*P **P 23 14 45.3 -2.1**
PSI pmax pmax
comp=Z,28nm,1.0s
PSI MLR MLR
comp=Z,3μm,21.0s
BJT Baijiatuao 68.63 321 *e*P **P 23 14 46.7 -0.6**
comp=Z,204nm,1.9s
BJT *e*PP **PP 23 17 18.6 -0.7**
BJT LR LR
comp=Z,9μm,19.0s
BJT Baijiatuau 68.63 321 *e*P **P 23 14 46.7 -0.6**
BJT *e* 23 17 18.6
BJT pmax pmax
comp=Z,204nm,1.9s
BJT MLR MLR
comp=Z,9μm,19.0s
BJI Beijing 68.64 321⇓ *i*P **P 23 14 47.0 -0.3**
BJI S S 23 23 56.8 +9.1
BJI LR LR
comp=Z,6μm,16.7s
BJI LR LR
comp=Z,4μm,19.1s
BJI LR LR
comp=Z,4μm,18.6s
AKUT Akutan 68.70 17 PFAKE 23 15 00.0 +13
AKUT LR LR
comp=Z,10μm,22.0s
GYA Guiyang 68.80 304⇑ *i*P **P 23 14 49.3 +0.5**
GYA pP pP 23 14 54.3 -5.1
GYA PP **PP 23 17 24.0 +2.8**
GYA S **S 23 23 54.5 +4.1**
GYA sS pS 23 23 59.3 -4.1
GYA SS **SS 23 28 19.0 +2.8**
GYA pmax pmax
comp=Z,40nm,1.2s
GYA pmax pmax
comp=Z,570nm,5.5s
GYA LR LR
comp=Z,4μm,21.7s
GYA LR LR
comp=Z,4μm,22.1s
GYA LR LR
comp=Z,7μm,21.2s
TIY Taiyuan 69.77 317 *e*P **P 23 14 57.8 +3.3**
TIY S **S 23 24 07.8 +6.4**
TIY ScS **ScS 23 24 53.8 -0.1**
TIY pmax pmax
comp=Z,2μm,3.7s
TIY LR LR
comp=Z,6μm,15.1s
TIY LR LR
comp=Z,5μm,17.9s
TIY LR LR
comp=Z,5μm,21.8s
FALS False Pass 70.02 18 PFAKE 23 15 10.0 +14
FALS LR LR
comp=Z,8μm,20.0s
XAN Xi'an 70.40 312 P **P 23 14 57.5 -0.9**
XAN pP pP 23 15 02.5 -6.7
XAN PP **PP 23 17 33.0 -1.7**
XAN S **S 23 24 10.8 +2.0**
XAN SS **SS 23 28 40.3 -0.1**
XAN pmax pmax
comp=Z,62nm,1.2s
XAN pmax pmax
comp=Z,2μm,6.3s
XAN LR LR
comp=Z,4μm,18.1s
XAN LR LR
comp=Z,8μm,18.1s
XAN LR LR
comp=Z,12μm,20.1s
XAN Xi'an 70.40 312 *e*P **P 23 14 58.0 -0.4**
comp=Z,289nm,1.8s
XAN LR LR
comp=Z,13μm,20.0s
XAN Xi'an 70.40 312 *e*P **P 23 14 58.0 -0.4**
XAN pmax pmax
comp=Z,289nm,1.8s
XAN MLR MLR
comp=Z,13μm,20.0s
MA2 Magadan 71.13 352 *e*P **P 23 15 01.8 -0.5**
comp=Z,64nm,1.5s
MA2 Magadan 71.13 352⇑ *e*P **P 23 15 00.4 -1.8**
MA2 pmax pmax
comp=Z,49nm,1.5s
SDPT Sand Point 71.35 19 PFAKE 23 15 20.0 +16
SDPT LR LR
comp=Z,7μm,21.0s
KMI Kunming 71.54 301 P **P 23 15 07.0 +1.3**
KMI pP pP 23 15 11.0 -5.4
KMI sP sP 23 15 14.0 -6.0
KMI S **S 23 24 25.0 +2.3**
KMI SS **SS 23 28 58.8 +0.2**
KMI pmax pmax
comp=Z,73nm,1.6s
KMI pmax pmax
comp=Z,2μm,5.3s
KMI LR LR
comp=Z,4μm,17.8s
KMI LR LR
comp=Z,5μm,20.1s
KMI LR LR
comp=Z,9μm,21.1s
KMI Kunming 71.54 301 *e*P **P 23 15 05.7 0.0**
comp=Z,115nm,1.4s
KMI LR LR
comp=Z,9μm,21.0s
KMI Kunming 71.54 301 *e*P **P 23 15 05.7 0.0**
KMI pmax pmax
comp=Z,115nm,1.4s
KMI MLR MLR
comp=Z,9μm,21.0s
HHC Hu-ho-hao-te 72.01 319 *e*P **P 23 15 10.8 +2.7**
HHC PP **PP 23 17 52.5 +4.0**
HHC S **S 23 24 31.0 +3.7**
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,2μm,5.3s
HHC LR LR
comp=Z,6μm,16.4s
HHC LR LR
comp=Z,6μm,21.6s
HHC LR LR
comp=Z,9μm,19.0s
ZEA Zeya 72.27 337 *e*P **P 23 15 09.2 0.0**
ZEA *e* 23 15 34.0
ZEA *e*S **S 23 24 34.0 +4.4**
ZEA pmax pmax
comp=E,400nm,4.0s
ZEA pmax pmax
comp=Z,2μm,4.0s
ZEA pmax pmax
comp=N,1μm,5.0s
ZEA pmax pmax
comp=N,110nm,1.4s
ZEA pmax pmax
comp=E,58nm,1.2s
ZEA pmax pmax
comp=Z,170nm,1.2s
ZEA pmax pmax
comp=Z,1μm,9.0s
ZEA smax smax
comp=N,2μm,11.0s
ZEA smax smax
comp=E,900nm,11.0s
ZEA MLR MLR
comp=E,1μm,13.0s
ZEA MLR MLR
comp=Z,4μm,13.0s
ZEA MLR MLR
comp=N,3μm,15.0s
HIA Hailar 72.39 330 *e*P **P 23 15 09.8 -0.3**
comp=N,91nm,1.5s
HIA LR LR
comp=Z,6μm,20.0s
HIA Hailar 72.39 330⇑ *e*P **P 23 15 09.8 -0.3**
HIA pmax pmax
comp=Z,116nm,2.6s
CM01 Chiang Mai Arr 72.59 293 *e*P **P 23 15 11.3 -0.6**
CM31 Chiang Mai Arr 72.62 293 pP **P 23 15 15.4 +3.3**
SNR=7.8
CMAR Chiang Mai Arr 72.62 293 P **P 23 15 11.7 -0.4**
comp=Z,3.7nm,0.8s,baz=114,slow=4.5,SNR=11
CMAR LR LR 23 45 42.9
comp=Z,3μm,20.4s,baz=104,slow=35
CMMT Chiang Mai 72.72 294 P **P 23 15 12.6 -0.1**
comp=Z,25nm,1.5s,comp=Z,2μm
CHTO Chiang Mai 72.73 294 *e*P **P 23 15 11.8 -0.9**
comp=Z,51nm,1.5s
CHTO LR LR
comp=Z,6μm,22.0s
CHTO Chiang Mai 72.73 294 *e*P **P 23 15 11.8 -0.9**
CHTO pmax pmax
comp=Z,51nm,1.5s
CHTO MLR MLR
comp=Z,6μm,22.0s
CHTO Chiang Mai 72.73 294 P **P 23 15 12.8 +0.1**
SNR=12
CHTO Chiang Mai 72.73 294 P **P 23 15 12.7 0.0**
comp=Z,112nm,1.5s,comp=Z,8μm
CHGN Chignik 72.80 20 PFAKE 23 15 20.0 +7.7
CHGN LR LR
comp=Z,7μm,22.0s
BTO Baotou 72.88 318 *e*P **P 23 15 14.0 +0.7**
CD2 Chengdu 72.94 307 P **P 23 15 13.5 -0.3**
CD2 pP pP 23 15 17.0 -7.6
CD2 PP **PP 23 17 55.5 -1.2**
CD2 S **S 23 24 40.8 +2.5**
CD2 SS **SS 23 29 22.3 +2.7**
CD2 pmax pmax
comp=Z,120nm,0.7s
CD2 pmax pmax
comp=Z,2μm,5.6s
CD2 LR LR
comp=Z,9μm,22.4s
CD2 LR LR
comp=Z,10μm,21.4s
CD2 LR LR
comp=Z,9μm,28.8s
SEY Seymchan 74.17 353⇑ *e*P **P 23 15 19.2 -1.0**
CMBY CAMPBELL BAY 74.32 280 *e*P **P 23 15 21.1 -1.1**
LZH Lanzhou 75.03 312 *e*P **P 23 15 26.3 +0.2**
LZH pP pP 23 15 31.3 -5.6
LZH sP PcP 23 15 34.8 -4.9
LZH S **S 23 25 01.5 -0.4**
LZH sS pS 23 25 11.5 -3.4
LZH pmax pmax
comp=Z,92nm,1.2s
LZH pmax pmax
comp=Z,940nm,4.9s
LZH LR LR
comp=Z,10μm,13.6s
LZH LR LR
comp=Z,16μm,14.6s
LZH LR LR
comp=Z,16μm,16.3s
OHAK Old Harbor 75.29 21 PFAKE 23 15 40.0 +13
OHAK LR LR
comp=Z,10μm,20.0s
KDAK Kodiak Island 75.96 21 PFAKE 23 15 40.0 +9.4
KDAK LR LR
comp=Z,9μm,22.0s
GAMB Gambell 76.07 10 PFAKE 23 15 40.0 +8.9
GAMB LR LR
comp=Z,9μm,22.0s
PBA Port Blair 76.53 285 *e*P P 23 15 33.8 -1.0
PBA IAmb IAmb 23 15 35.0
comp=Z,85nm,0.4s
CIT Chita 77.19 330 *e*P **P 23 15 36.0 -1.8**
CIT *e* 23 15 52.5
CIT pmax pmax
comp=Z,284nm,3.8s
SVW2 Sparrevohn 77.53 18 PFAKE 23 15 50.0 +11
SVW2 LR LR
comp=Z,3μm,18.0s
HOM Homer 77.69 20 PFAKE 23 15 50.0 +10
HOM LR LR
comp=Z,10μm,20.0s
RSO Redoubt South 77.92 19 *e*P **P 23 15 39.5 -2.4**
YAK Yakutsk 77.94 343 *e*P **P 23 15 41.4 -0.3**
YAK *e* 23 15 48.0
YAK *e**PP **pP 23 15 52.7 +0.7**
YAK *e* 23 18 38.2
YAK *e*S **S 23 25 33.0 +0.8**
YAK *e**SS **sS 23 25 50.8 +1.3**
YAK *e* 23 26 00.5
YAK *e*SS **SS 23 30 39.1 +5.2**
YAK pmax pmax
comp=Z,26nm,1.0s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=Z,97nm,1.8s
YAK pmax pmax
comp=N,70nm,2.0s
YAK pmax pmax
comp=E,67nm,1.6s
YAK smax smax
comp=N,410nm,5.6s
YAK smax smax
comp=E,146nm,3.5s
YAK MLR MLR
comp=Z,4μm,20.0s
YAK MLR MLR
comp=E,2μm,22.0s
YAK MLR MLR
comp=N,2μm,16.0s
ANM Nome 77.97 12 *e*P **P 23 15 42.2 +0.4**
comp=N,29nm,1.2s
ANM LR LR
comp=Z,8μm,20.0s
ANM Nome 77.97 12 *e*P **P 23 15 42.2 +0.4**
ANM pmax pmax
comp=Z,29nm,1.2s
ANM MLR MLR
comp=Z,8μm,20.0s
BRLK Bradley Lake 78.03 21 PFAKE 23 15 50.0 +7.7
BRLK LR LR
comp=Z,15μm,20.0s
ULN Ulaanbaatar 78.42 324 *e*P **P 23 15 44.7 -0.2**
comp=Z,64nm,1.2s
ULN Ulaanbaatar 78.42 324⇓ *e*P **P 23 15 45.0 +0.2**
ULN pmax pmax
comp=Z,130nm,2.3s
ULN Ulaanbaatar 78.42 324 P **P 23 15 45.1 +0.2**
SNR=33
BILL Bilibino 78.50 360 *e*P **P 23 15 44.0 -0.6**
comp=Z,98nm,1.2s
BILL Bilibino 78.50 360 *c i*P **P 23 15 44.1 -0.6**
BILL *e* 23 15 53.8
BILL *e* 23 18 41.8
BILL *e*S **S 23 25 44.4 +6.4**
BILL *e*SS **SS 23 30 43.5 +1.3**
BILL pmax pmax
comp=Z,118nm,1.3s
SEW Seward 78.77 21 PFAKE 23 16 00.0 +14
SEW LR LR
comp=Z,6μm,20.0s
SONM Songino Array 78.78 323 P **P 23 15 46.2 -0.6**
comp=Z,8.0nm,1.1s,baz=135,slow=4.2,SNR=19
SONM LR LR 23 49 07.7
comp=Z,4μm,20.1s,baz=118,slow=35
SONA1 Songino Array 78.78 323 *e*P **P 23 15 46.5 -0.4**
GTA Gaotai 79.31 314⇑ P **P 23 15 49.8 -0.2**
GTA pP PcP 23 15 54.8 -3.3
GTA sP pP 23 15 58.5 -2.4
GTA PP **PP 23 18 56.3 +6.0**
GTA S **S 23 25 50.5 +2.3**
GTA SS **SS 23 30 59.0 +3.1**
GTA pmax pmax
comp=Z,560nm,5.3s
GTA LR LR
comp=Z,5μm,17.5s
GTA LR LR
comp=Z,6μm,19.2s
GTA LR LR
comp=Z,7μm,21.0s
SUA Susitna One 79.33 19 *e*P **P 23 15 49.0 -0.5**
comp=Z,176nm,1.9s
SUA LR LR
comp=Z,5μm,21.0s
QSPA South Pole Qui 79.34 180 *e*P **P 23 15 50.4 +0.7**
comp=Z,119nm,1.8s
QSPA LR LR
comp=Z,8μm,20.0s
MID Middleton Isla 79.42 22 PFAKE 23 16 00.0 +10
MID LR LR
comp=Z,8μm,21.0s
PPLA Purkeypile 79.94 18 PFAKE 23 16 00.0 +7.1
PPLA LR LR
comp=Z,7μm,22.0s
PMR Palmer 79.95 20 *e*P **P 23 15 52.1 -0.6**
comp=Z,62nm,1.3s
PMR LR LR
comp=Z,14μm,22.0s
PMR Palmer 79.95 20 *e*P **P 23 15 52.1 -0.6**
PMR pmax pmax
comp=Z,62nm,1.3s
PMR MLR MLR
comp=Z,14μm,22.0s
KNK Knik Glacier 80.05 20 *e*P **P 23 15 52.9 -0.4**
comp=Z,124nm,1.6s
KNK LR LR
comp=Z,11μm,20.0s
RPN Rapa Nui 80.09 116 LR LR 23 45 02.4
comp=Z,3μm,19.8s,baz=266,slow=31
GLI Glacier Island 80.15 21 PFAKE 23 16 10.0 +16
GLI LR LR
comp=Z,10μm,20.0s
GHO Glory Hole Cre 80.15 20 PFAKE 23 16 10.0 +16
GHO LR LR
comp=Z,16μm,22.0s
CAST Castle Rocks 80.37 18 *e*P **P 23 15 53.8 -1.2**
comp=Z,143nm,1.8s
CAST LR LR
comp=Z,5μm,20.0s
SML Sawmill 80.37 20 *e*P **P 23 15 54.0 -1.1**
comp=Z,77nm,1.3s
SML LR LR
comp=Z,11μm,20.0s
SML Sawmill 80.37 20 *e*P **P 23 15 54.0 -1.1**
SML pmax pmax
comp=Z,77nm,1.3s
SML MLR MLR
comp=Z,11μm,20.0s
EYAK Cordova Ski Ar 80.41 22 PFAKE 23 16 10.0 +15
EYAK LR LR
comp=Z,33μm,22.0s
BOD Bodaibo 80.49 335 *e*P **P 23 15 55.1 -0.6**
BOD pmax pmax
comp=Z,45nm,1.8s
SCM Sheep Creek Mo 80.73 20 PFAKE 23 16 10.0 +13
SCM LR LR
comp=Z,8μm,20.0s
DIV Divide 80.79 21 *e*P **P 23 15 56.6 -0.7**

DIV	comp=Z,136nm,1.6s				LR	LR			
HMT	comp=Z,18µm,20.0s **Hamilton**	**80.81**	**22**		PFAKE		23 16 10.0	+13	
HMT	comp=Z,11µm,20.0s				LR	LR			
TRF	**Thorofare Moun**	**80.93**	**18**	*eP*	**P**	**P**	**23 15 58.4**	**+0.1**	
TRF	comp=Z,118nm,1.9s				LR	LR			
SHL	comp=Z,7µm,22.0s **Shillong**	**80.97**	**298**	*eP*	**P**	**P**	**23 15 58.3**	**-1.0**	
SHL	comp=Z,100nm,1.7s **Shillong**	**80.97**	**298**	*eP*	**P**	**P**	**23 15 58.3**	**-1.0**	
SHL	comp=Z,100nm,1.7s				pmax	pmax			
SHL	**Shillong**	**80.97**	**298**	*eP*	**P**	**P**	**23 15 58.6**	**-0.6**	
SHL	comp=Z,232nm,2.0s				IAmb	IAmb	23 16 07.0		
KLU	**Klutina**	**80.98**	**21**	*eP*	**P**	**P**	**23 15 58.9**	**+0.5**	
KLU	comp=Z,106nm,1.7s				LR	LR			
BPAW	comp=Z,10µm,20.0s **Bear Paw Mtn.**	**81.20**	**17**		PFAKE		23 16 10.0	+11	
BPAW	comp=Z,6µm,19.0s				LR	LR			
RND	**Reindeer**	**81.34**	**19**	*eP*	**P**	**P**	**23 16 00.1**	**-0.2**	
RND	comp=Z,69nm,1.2s				LR	LR			
RND	comp=Z,6µm,20.0s **Reindeer**	**81.34**	**19**	*eP*	**P**	**P**	**23 16 00.1**	**-0.2**	
RND	comp=Z,69nm,1.2s				pmax	pmax			
RND	comp=Z,6µm,20.0s				MLR	MLR			
RDOG	**Red Dog Mine**	**81.51**	**11**		PFAKE		23 16 10.0	+9.0	
RDOG	comp=Z,7µm,21.0s				LR	LR			
MCK	**McKinley**	**81.55**	**18**	*eP*	**P**	**P**	**23 16 00.3**	**-1.1**	
MCK	comp=Z,119nm,1.6s				LR	LR			
MCK	comp=Z,6µm,20.0s **McKinley**	**81.55**	**18**	*eP*	**P**	**P**	**23 16 00.3**	**-1.1**	
MCK	comp=Z,119nm,1.6s				pmax	pmax			
MCK	comp=Z,6µm,20.0s				MLR	MLR			
DHY	**Denali Highway**	**81.58**	**19**	*eP*	**P**	**P**	**23 15 59.9**	**-1.8**	
DHY	comp=Z,73nm,1.6s				LR	LR			
MCCM	comp=Z,13µm,22.0s **Marconi Confer**	**81.73**	**49**		PFAKE		23 16 10.0	+7.2	
MCCM	comp=Z,7µm,20.0s				LR	LR			
KCPM	**Cahto Peak**	**81.76**	**47**	*eP*	**P**	**P**	**23 16 03.0**	**-0.1**	
KCPM	comp=Z,175nm,1.3s				LR	LR			
ZAK	comp=Z,7µm,20.0s **Zakamensk**	**81.80**	**325**	*eP*	**P**	**P**	**23 16 00.5**	**-2.5**	
ZAK	comp=Z,24nm,1.3s				pmax	pmax			
JCC	**Jacoby Creek,**	**81.86**	**46**		PFAKE		23 16 10.0	+6.6	
JCC	comp=Z,5µm,19.0s				LR	LR			
IM3	**Indian Mountai**	**81.86**	**15**	*eP*	**P**		**23 16 02.1**	**-0.8**	
KMRM	**Mail Ridge**	**81.87**	**47**	*eP*	**P**		**23 16 03.3**	**-0.3**	
KMRM	comp=Z,8µm,19.0s				LR	LR			
HARP	**HAARP**	**81.87**	**21**	*eP*	**P**	**P**	**23 16 02.8**	**-0.3**	
HARP	comp=Z,62nm,1.0s				LR	LR			
HOPS	comp=Z,5µm,21.0s **Hopland Field**	**81.89**	**48**		PFAKE		23 16 20.0	+16	
HOPS	comp=Z,6µm,19.0s				LR	LR			
MLY	**Manley**	**81.96**	**17**	*eP*	**P**	**P**	**23 16 03.1**	**-0.4**	
MLY	comp=Z,49nm,1.5s			*ePP*	**PP**	**PP**	**23 19 04.1**	**-7.5**	
MLY	comp=Z,7µm,22.0s				LR	LR			
DIB	**Dawson Inlet,**	**81.98**	**32**		PFAKE		23 16 20.0	+16	
DIB	comp=Z,7µm,22.0s				LR	LR			
KHMM	**Horse Mountain**	**82.09**	**46**	*eP*	**P**	**P**	**23 16 04.9**	**0.0**	
KHMM	comp=Z,175nm,1.5s				LR	LR			
YKU2	comp=Z,6µm,20.0s **Yakutat**	**82.09**	**25**		PFAKE		23 16 20.0	+16	
YKU2	comp=Z,14µm,20.0s				LR	LR			
IRK	**Irkutsk**	**82.13**	**327**	*eP*	**P**	P	23 16 11.8	+7.2	
IRK	comp=Z,129nm,3.8s				pmax	pmax			
PAX	**Paxson**	**82.14**	**20**		PFAKE		23 16 20.0	+15	
PAX	comp=Z,7µm,22.0s				LR	LR			
TLY	**Talaya**	**82.20**	**326**		PFAKE		23 16 20.0	+15	
TLY	comp=Z,12µm,18.0s				LR	LR			
TLY	**Talaya**	**82.20**	**326**	*ceP*	**P**	**P**	**23 16 04.3**	**-0.7**	
TLY	comp=Z,204nm,2.4s				pmax	pmax			
TLY	**Talaya**	**82.20**	**326**		P	**P**	**23 16 04.5**	**-0.6**	
SAO	SNR=15 **San Andreas Ge**	**82.33**	**50**		PFAKE		23 16 20.0	+14	
SAO	comp=Z,14µm,22.0s				LR	LR			
WRH	**Wood River Hil**	**82.34**	**18**	*eP*	**P**	**P**	**23 16 06.3**	**+0.9**	
WRH	comp=Z,40nm,1.1s				LR	LR			
KEBM	comp=Z,8µm,22.0s **Edson Butte**	**82.41**	**44**		PFAKE		23 16 20.0	+14	
KEBM	comp=Z,5µm,21.0s				LR	LR			
O02D	**Mt. Diablo Mer**	**82.51**	**47**	P	**P**	**P**	**23 16 08.1**	**+1.1**	
SIT	baz=249,SNR=5.3 **Sitka**	**82.58**	**28**		PFAKE		23 16 20.0	+13	
SIT	comp=Z,6µm,22.0s				LR	LR			
L02E	**Cave Junction**	**82.64**	**45**	P	**P**	**P**	**23 16 08.7**	**+1.1**	
MDM	baz=249 **Murphy Dome**	**82.65**	**18**	*eP*	**P**	**P**	**23 16 06.1**	**-0.9**	
MDM	comp=Z,100nm,1.4s				LR	LR			
HDA	comp=Z,7µm,20.0s **Harding Lake**	**82.65**	**19**	*eP*	**P**	**P**	**23 16 06.3**	**-0.8**	
HDA	comp=Z,182nm,1.3s				LR	LR			
HDA	comp=Z,7µm,21.0s **Harding Lake**	**82.65**	**19**	P	**P**	**P**	**23 16 06.4**	**-0.6**	
TCOL	baz=226 **CIGO, UAF Yank**	**82.70**	**18**	P	**P**	**P**	**23 16 06.6**	**-0.6**	
COLA	baz=225 **College**	**82.70**	**18**	*eP*	**P**	**P**	**23 16 07.1**	**-0.1**	
COLA	comp=Z,86nm,1.3s				LR	LR			
COLA	comp=Z,7µm,19.0s **College**	**82.70**	**18⇓**	*eP*	**P**	**P**	**23 16 07.5**	**+0.3**	
COLA	comp=Z,75nm,1.3s				pmax	pmax			
LSA	**Lhasa**	**82.76**	**302**	*eP*	**P**	**P**	**23 16 09.2**	**+0.2**	
LSA	comp=Z,18nm,1.1s				LR	LR			
J01E	comp=Z,6µm,22.0s **Myrtle Point**	**82.79**	**44**	P	**P**	**P**	**23 16 09.1**	**+0.9**	
CRAG	baz=248 **Craig**	**82.80**	**30**		PFAKE		23 16 20.0	+12	
CRAG	comp=Z,8µm,22.0s				LR	LR			
K02D	**Willamette Mer**	**82.80**	**44**	P	**P**	**P**	**23 16 09.1**	**+0.6**	
WDC	baz=248 **Whiskeytown Da**	**82.83**	**47**	*eP*	**P**	**P**	**23 16 09.4**	**+0.9**	
WDC	comp=Z,154nm,1.6s				LR	LR			
N02D	comp=Z,6µm,20.0s **Trinity Center**	**82.85**	**46**	P	**P**	**P**	**23 16 09.7**	**+1.0**	
SCZ2	baz=249,SNR=7.2 **Santa Cruz Isl**	**82.86**	**54**	P	**P**	**P**	**23 16 09.4**	**+0.6**	
RIDG	baz=252 **Independ'e Rid**	**82.87**	**20**	*eP*	**P**	**P**	**23 16 08.2**	**-0.1**	
RIDG	comp=Z,183nm,1.6s				LR	LR			
M02C	comp=Z,11µm,20.0s **Callahan**	**82.89**	**46**	P	**P**	**P**	**23 16 10.1**	**+1.2**	
PAGB	baz=249,SNR=6.5 **Antelope Grade**	**82.92**	**52**		PFAKE		23 16 20.0	+11	
PAGB	comp=Z,9µm,21.0s				LR	LR			
IL1	**Eielson Array**	**82.92**	**18**	*eP*	**P**		**23 16 06.3**	**-2.2**	
ILAR	**Eielson Array**	**82.92**	**18**	P	**P**		**23 16 06.8**	**-1.7**	
ILAR	comp=Z,9,1nm,0.8s,baz=242,slow=4.4,SNR=31				LR	LR	23 46 14.2		
ILB	comp=Z,3µm,21.5s,baz=230,slow=31 **Eielson Array**	**82.92**	**18**	*eP*	**P**		**23 16 07.5**	**-1.0**	
SBC	**Santa Barbara**	**82.93**	**53**	P	**P**		**23 16 10.2**	**+1.0**	
SMMC	baz=252 **Simmler**	**82.98**	**52**	P	**P**		**23 16 09.8**	**+0.3**	
PKM	baz=252 **Mcpherson Peak**	**82.99**	**53**	P	**P**		**23 16 10.1**	**+0.3**	
POKR	baz=252 **Poker Plat Res**	**83.00**	**18**	P	**P**		**23 16 07.6**	**-1.2**	
DOT	baz=226 **Dot Lake**	**83.07**	**20**		PFAKE		23 16 20.0	+11	
DOT	comp=Z,6µm,21.0s				LR	LR			
YBH	**Yreka Blue Hor**	**83.11**	**45**	*eP*	**P**		**23 16 10.9**	**+0.8**	
YBH	comp=Z,104nm,1.4s				LR	LR			
YBH	comp=Z,6µm,21.0s **Yreka Blue Hor**	**83.11**	**45**	*eP*	**P**		**23 16 10.9**	**+0.8**	
YBH	comp=Z,104nm,1.4s				pmax	pmax			
YBH	comp=Z,6µm,21.0s				MLR	MLR			
ORV	**Oroville**	**83.22**	**48**	*eP*	**P**		**23 16 11.3**	**+0.7**	
ORV	comp=Z,114nm,1.6s				LR	LR			
ORV	comp=Z,4µm,20.0s **Oroville**	**83.22**	**48**	*eP*	**P**		**23 16 11.3**	**+0.7**	
ORV	comp=Z,114nm,1.6s				pmax	pmax			
ORV	comp=Z,4µm,20.0s				MLR	MLR			
HUMO	**Hull Mountain**	**83.25**	**45**	*eP*	**P**		**23 16 11.3**	**+0.6**	
HUMO	comp=Z,89nm,1.3s				LR	LR			
O03E	comp=Z,6µm,20.0s **Paynes Creek**	**83.26**	**47**	P	**P**		**23 16 10.8**	**0.0**	
SCRK	baz=250,SNR=9.9 **Sand Creek**	**83.31**	**20**	*eP*	**P**		**23 16 10.5**	**-0.2**	
SCRK	comp=Z,91nm,1.2s				LR	LR			
BLG	comp=Z,10µm,22.0s **Laguna Peak, P**	**83.34**	**54**	P	**P**		**23 16 11.2**	**-0.1**	
I03D	baz=252 **Drain, OR**	**83.38**	**43**	P	**P**		**23 16 11.6**	**+0.3**	
AFDM	baz=249 **Forest Hills D**	**83.41**	**48**	*eP*	**P**		**23 16 12.0**	**+0.4**	
AFDM	comp=Z,145nm,1.4s				LR	LR			
SCI2	comp=Z,5µm,21.0s **San Clemente I**	**83.42**	**55**	P	**P**		**23 16 12.4**	**+0.7**	
CMB	baz=253 **Columbia Colle**	**83.55**	**50**	*eP*	**P**		**23 16 13.1**	**+0.7**	
CMB	comp=Z,99nm,1.4s				LR	LR			
CMB	comp=Z,12µm,20.0s **Columbia Colle**	**83.55**	**50**	*eP*	**P**		**23 16 13.1**	**+0.7**	
CMB	comp=Z,99nm,1.4s				pmax	pmax			
CMB	comp=Z,12µm,20.0s				MLR	MLR			
L04D	**Klamath Falls**	**83.57**	**45**	P	**P**		**23 16 12.9**	**+0.5**	
BESE	baz=250 **Bessie Mountai**	**83.61**	**27**		PFAKE		23 16 20.0	+7.8	
BESE	comp=Z,9µm,22.0s				LR	LR			
CIS	**Catalina Islan**	**83.65**	**54**	P	**P**		**23 16 13.0**	**0.0**	
WRAK	baz=253 **Wrangell Islan**	**83.65**	**29**		PFAKE		23 16 20.0	+7.7	
WRAK	comp=Z,6µm,20.0s				LR	LR			
JIS	**Juneau Island**	**83.66**	**27**	*eP*	**P**		**23 16 12.7**	**+0.4**	
JIS	comp=Z,110nm,1.6s			*ePP*	**PP**		**23 19 21.9**	**-3.7**	
MOY	**Mondy**	**83.67**	**325**	*eP*	**P**		**23 16 11.4**	**-1.3**	
MOY	comp=Z,305nm,4.0s				pmax	pmax			
COR	**Corvallis**	**83.74**	**43**		PFAKE		23 16 20.0	+6.9	
COR	comp=Z,7µm,19.0s				LR	LR			
COLD	**Coldfoot**	**83.74**	**16**		PFAKE		23 16 20.0	+7.4	
COLD	comp=Z,7µm,21.0s				LR	LR			
M04C	**Macdoel**	**83.74**	**46**	P	**P**		**23 16 13.9**	**+0.5**	
HYT	baz=250,SNR=7.4 **Haines Junctio**	**83.74**	**24**	*eP*	**P**		**23 16 13.7**	**+0.8**	
HYT	comp=Z,78nm,1.6s				LR	LR			
OSI	comp=Z,19µm,22.0s **Osito Audit: C**	**83.76**	**53**		PFAKE		23 16 30.0	+16	
OSI	comp=Z,8µm,20.0s				LR	LR			
OSI	**Osito Audit: C**	**83.76**	**53**	P	**P**		**23 16 13.8**	**+0.2**	
VOG	baz=253 **Valley Oaks Go**	**83.77**	**51**	P	**P**		**23 16 13.7**	**+0.3**	
ARVC	baz=252 **Arvin**	**83.83**	**53**	P	**P**		**23 16 14.2**	**+0.3**	
FMP	baz=252 **Fort Macarthur**	**83.84**	**54**	P	**P**		**23 16 13.8**	**-0.1**	
VES	baz=253 **Vestal, Richgr**	**83.85**	**52**	P	**P**		**23 16 13.7**	**-0.2**	
BBB	baz=252 **Bella Bella**	**83.86**	**34**		PFAKE		23 16 20.0	+6.5	
BBB	comp=Z,12µm,21.0s				LR	LR			
PRP	**Porcupine Dome**	**83.86**	**18**		PFAKE		23 16 20.0	+6.6	
PRP	comp=Z,5µm,19.0s				LR	LR			
SKAG	**Skagway**	**83.88**	**26**	*eP*	**P**		**23 16 14.0**	**+0.5**	
DECC	comp=Z,143nm,1.5s **Green Verdugo**	**83.96**	**54**	P	**P**		**23 16 14.8**	**+0.3**	
G03D	baz=253 **McMinnville, O**	**83.99**	**42**	P	**P**		**23 16 14.8**	**+0.4**	
RUBR	baz=248 **Rubicon Trail**	**84.05**	**49**	*eP*	**P**		**23 16 16.0**	**+0.9**	
RUBR	comp=Z,189nm,1.4s				LR	LR			
I04A	comp=Z,6µm,22.0s **Tendick Farm,**	**84.05**	**44**	P	**P**		**23 16 14.8**	**0.0**	
PASC	baz=249 **Pasadena Art C**	**84.06**	**54**		PFAKE		23 16 30.0	+15	
PASC	comp=Z,8µm,20.0s				LR	LR			
J04D	**Umpqua Nationa**	**84.06**	**44**	P	**P**		**23 16 15.2**	**+0.2**	
H04D	baz=250,SNR=6.8 **Lebanon**	**84.09**	**43**	P	**P**		**23 16 15.2**	**+0.3**	
K04D	baz=249 **Chiloquin, OR**	**84.09**	**45**	P	**P**		**23 16 15.5**	**+0.4**	
BEKR	baz=250 **Beckworth**	**84.16**	**48**	*eP*	**P**		**23 16 16.0**	**+0.4**	
BEKR	comp=Z,207nm,1.6s				LR	LR			
MWC	comp=Z,4µm,20.0s **Mount Wilson**	**84.17**	**54**	*eP*	**P**		**23 16 16.1**	**+0.3**	
MWC	comp=Z,332nm,1.6s				LR	LR			
MWC	comp=Z,8µm,20.0s **Mount Wilson**	**84.17**	**54**	*eP*	**P**		**23 16 16.1**	**+0.3**	
MWC	comp=Z,332nm,1.6s				pmax	pmax			
MWC	comp=Z,8µm,20.0s				MLR	MLR			
ISA	**Isabella, Lake**	**84.27**	**52**	*eP*	**P**		**23 16 17.0**	**+0.9**	
ISA	comp=Z,171nm,1.5s				LR	LR			
ISA	comp=Z,7µm,20.0s **Isabella, Lake**	**84.27**	**52**	*eP*	**P**		**23 16 17.0**	**+0.9**	
ISA	comp=Z,171nm,1.5s				pmax	pmax			
ISA	comp=Z,7µm,20.0s				MLR	MLR			
ISA	**Isabella, Lake**	**84.27**	**52**	P	**P**		**23 16 16.4**	**+0.2**	
MDPB	baz=253 **Devils Postpil**	**84.40**	**50**	*eP*	**P**		**23 16 17.3**	**+0.3**	
MDPB	comp=Z,106nm,1.2s				LR	LR			
WAKR	comp=Z,14µm,21.0s **Walker**	**84.40**	**49**	*eP*	**P**		**23 16 17.7**	**+0.8**	
WAKR	comp=Z,207nm,1.4s				LR	LR			
NLWA	comp=Z,13µm,20.0s **Neilton Lookou**	**84.41**	**40**	*eP*	**P**		**23 16 15.1**	**-1.4**	
NLWA	comp=Z,211nm,1.8s				LR	LR			
EDW2	comp=Z,5µm,18.0s **Edwards Air Fo**	**84.42**	**53**	P	**P**		**23 16 17.2**	**+0.3**	
OMMB	baz=253,SNR=7.4 **Old Mammoth Mi**	**84.46**	**50**	*eP*	**P**		**23 16 17.7**	**+0.3**	
PNTR	comp=Z,127nm,1.4s **Pine Nut**	**84.47**	**49**	*eP*	**P**		**23 16 17.0**	**-0.2**	
PNTR	comp=Z,175nm,1.6s				LR	LR			
F04D	comp=Z,6µm,20.0s **Rainier, OR**	**84.47**	**41**	P	**P**		**23 16 17.7**	**+0.9**	
BFSC	baz=249 **Mount Baldy Ra**	**84.50**	**54**	P	**P**		**23 16 17.0**	**-0.4**	
VCNR	baz=253 **Virginia City**	**84.50**	**48**	*eP*	**P**		**23 16 18.3**	**+0.9**	
VCNR	comp=Z,145nm,1.7s				LR	LR			
H04A	comp=Z,5µm,21.0s **Detroit Lake**	**84.52**	**43**	*eP*	**P**		**23 16 17.2**	**+0.1**	
109C	**Camp Elliot, M**	**84.56**	**55**	P	**P**		**23 16 17.8**	**+0.2**	
CPE	baz=254 **Camp Elliot**	**84.56**	**55**		PFAKE		23 16 30.0	+12	
CPE	comp=Z,9µm,21.0s				LR	LR			
MLAC	**Mammoth, Mammo**	**84.59**	**50**	P	**P**		**23 16 18.1**	**+0.2**	
FYU	baz=252 **Fort Yukon**	**84.66**	**17**		PFAKE		23 16 30.0	+13	
FYU	comp=Z,6µm,19.0s				LR	LR			
J05D	**Fort Rock, OR**	**84.67**	**44**	P	**P**		**23 16 18.9**	**+0.8**	
MURC	baz=250,SNR=6.8 **Murrieta**	**84.68**	**55**	P	**P**		**23 16 18.4**	**+0.2**	
YERR	baz=254,SNR=6.3 **Yerington**	**84.70**	**49**	*eP*	**P**		**23 16 18.9**	**+0.5**	
YERR	comp=Z,214nm,1.7s				LR	LR			
WHY	comp=Z,6µm,20.0s **Whitehorse**	**84.72**	**25**		PFAKE		23 16 30.0	+12	
WHY	comp=Z,14µm,20.0s				LR	LR			
CWC	**Cottonwood Cre**	**84.81**	**52**	P	**P**		**23 16 19.1**	**+0.1**	
PAHR	baz=253 **Pah Rah Range**	**84.82**	**48**	*eP*	**P**		**23 16 19.5**	**+0.6**	
PAHR	comp=Z,146nm,1.5s				LR	LR			
LRMC	comp=Z,5µm,22.0s **Laurel Mtn Rad**	**84.83**	**53**	P	**P**		**23 16 19.1**	**0.0**	
BAR	baz=253,SNR=12 **Barrett**	**84.85**	**56**	*eP*	**P**		**23 16 19.9**	**+0.8**	
BAR	comp=Z,165nm,1.8s				LR	LR			
MOD	comp=Z,8µm,21.0s **Modoc Plateau**	**84.86**	**46**	*eP*	**P**		**23 16 19.4**	**+0.3**	
MOD	comp=Z,106nm,1.4s				LR	LR			
TIN	comp=Z,4µm,20.0s **Tinemaha, Big**	**84.87**	**51**	P	**P**		**23 16 19.3**	**+0.1**	
E04D	baz=253 **Cinebar**	**84.93**	**41**	P	**P**		**23 16 19.7**	**+0.6**	
TOLK	baz=249 **Toolik Lake Re**	**84.94**	**15**		PFAKE		23 16 30.0	+11	
TOLK	comp=Z,11µm,20.0s				LR	LR			
TOLK	**Toolik Lake Re**	**84.94**	**15**	P	**P**		**23 16 19.5**	**+0.8**	
DAWY	baz=223 **Dawson**	**84.94**	**21**	*eP*	**P**		**23 16 19.2**	**+0.4**	
DAWY	comp=Z,46nm,1.2s				LR	LR			
D03D	comp=Z,18µm,22.0s **Eldon**	**84.96**	**40**	P	**P**		**23 16 19.6**	**+0.4**	
I05D	baz=248 **Terrebonne, OR**	**84.96**	**43**	P	**P**		**23 16 19.8**	**+0.4**	
D04E	baz=250 **Lakebay**	**85.03**	**40**	P	**P**		**23 16 20.9**	**+1.4**	
PINE	baz=249 **Pine Mountain**	**85.05**	**44**	*eP*	**P**		**23 16 21.1**	**+1.1**	
BBRC	comp=Z,164nm,1.5s **Big Bear Solar**	**85.09**	**54**	P	**P**		**23 16 21.1**	**+0.6**	
MONP2	baz=254 **Monument Peak**	**85.11**	**55**	P	**P**		**23 16 21.6**	**+1.0**	
RYN	baz=254,SNR=5.6 **Ryan**	**85.12**	**49**	*eP*	**P**		**23 16 21.4**	**+0.9**	
RYN	comp=Z,196nm,1.6s				LR	LR			
DAC	comp=Z,11µm,20.0s **Darwin (Calif)**	**85.13**	**52**	*eP*	**P**		**23 16 21.1**	**+0.5**	
DAC	comp=Z,138nm,1.5s				LR	LR			
DAC	comp=Z,9µm,21.0s **Darwin (Calif)**	**85.13**	**52**	*eP*	**P**		**23 16 21.1**	**+0.5**	
DAC	comp=Z,138nm,1.5s				pmax	pmax			
DAC	comp=Z,9µm,21.0s				MLR	MLR			
PGC	**Sidney**	**85.15**	**39**		PFAKE		23 16 30.0	+10	
PGC	comp=Z,14µm,21.0s				LR	LR			
MPMC	**Manual Prospec**	**85.15**	**52**	P	**P**		**23 16 20.9**	**+0.2**	
RRX	baz=253,SNR=11 **Edison Barstow**	**85.20**	**53**	P	**P**		**23 16 21.1**	**+0.3**	
NV01	baz=254 **Mina Array Sit**	**85.23**	**50**	*eP*	**P**		**23 16 20.8**	**-0.3**	
NVAR	**Mina Array Bea**	**85.23**	**50**	P	**P**		**23 16 20.9**	**-0.2**	
NVAR	comp=Z,6.0nm,1.0s,baz=235,slow=7.1,SNR=18				LR	LR	23 47 16.0		
PFO	comp=Z,12µm,20.3s,baz=260,slow=31 **Pinyon Flats O**	**85.28**	**55**	*eP*	**P**		**23 16 21.1**	**-0.2**	
PFO	comp=Z,83nm,1.5s				LR	LR			
PFO	comp=Z,7µm,20.0s **Pinyon Flats O**	**85.28**	**55**	*eP*	**P**		**23 16 21.1**	**-0.2**	
PFO	comp=Z,83nm,1.5s				pmax	pmax			
PFO	comp=Z,7µm,20.0s				MLR	MLR			
PFO	**Pinyon Flats O**	**85.28**	**55**	P	**P**		**23 16 21.6**	**+0.3**	
XPFO	baz=254 **Pion Flat**	**85.28**	**55**	*eP*	**P**		**23 16 20.6**	**-0.7**	
XPFO	comp=Z,88nm,1.5s				LR	LR			
G05D	comp=Z,8µm,20.0s **Wamic, OR**	**85.29**	**42**	P	**P**		**23 16 21.4**	**+0.4**	
IKP	baz=250 **In-Ko-Pah, Jac**	**85.30**	**56**	P	**P**		**23 16 22.5**	**+1.1**	
NV11	baz=254,SNR=5.8 **Mina Array Sit**	**85.34**	**50**	*eP*	**P**		**23 16 21.8**	**+0.3**	
NV11	comp=Z,12nm,1.4s				LR	LR			
MAW	comp=Z,900nm,20.0s **Mawson**	**85.35**	**202**		LR	LR	23 48 24.1		
F05D	comp=Z,5µm,21.8s,baz=102,slow=31 **White Salmon**	**85.42**	**42**	P	**P**		**23 16 22.1**	**+0.5**	
GSC	baz=250 **Goldstone, Bar**	**85.47**	**53**	*eP*	**P**		**23 16 23.2**	**+1.0**	
GSC	comp=Z,132nm,1.5s				LR	LR			
GSC	comp=Z,7µm,20.0s **Goldstone, Bar**	**85.47**	**53**	P	**P**		**23 16 22.6**	**+0.4**	
LON	baz=254,SNR=7.0 **Longmire**	**85.49**	**41**	*eP*	**P**		**23 16 22.2**	**+0.2**	
LON	comp=Z,73nm,1.6s				LR	LR			
GRAC	comp=Z,7µm,20.0s **Grapevine Rang**	**85.52**	**51**	P	**P**		**23 16 23.0**	**+0.6**	
KVN	baz=253,SNR=5.5 **Kaiserville**	**85.57**	**49**	*eP*	**P**		**23 16 23.5**	**+0.8**	
KVN	comp=Z,129nm,1.5s				LR	LR			
SWSC	comp=Z,8µm,20.0s **Sam W. Stewart**	**85.63**	**55**	P	**P**		**23 16 23.6**	**+0.7**	
A04D	baz=254,SNR=6.6 **Lummi Island**	**85.63**	**39**	P	**P**		**23 16 23.3**	**+0.8**	
HEC	baz=249 **Hector,Ludlow**	**85.71**	**54**	P	**P**		**23 16 23.7**	**+0.3**	
DLBC	baz=254,SNR=7.1 **Dease Lake**	**85.73**	**28**	*eP*	**P**		**23 16 22.2**	**-0.7**	
DLBC	comp=Z,60nm,1.5s				LR	LR			
BELC	comp=Z,7µm,20.0s **Belle Mtn. Jos**	**85.75**	**54**	P	**P**		**23 16 24.1**	**+0.4**	
FURC	baz=254,SNR=11 **Furnace Creek,**	**85.75**	**52**	P	**P**		**23 16 24.2**	**+0.8**	
BOK	baz=254,SNR=6.8 **Bokaro**	**85.79**	**295**	*eP*	**P**		**23 16 23.4**	**-0.5**	
BOK	comp=Z,670nm,3.2s				IAmb	IAmb	23 16 31.3		
B05A	**Bryant**	**85.84**	**39**	P	**P**		**23 16 24.4**	**+0.8**	
TIXI	baz=249 **Tiksi**	**85.85**	**349**	*eP*	**P**		**23 16 21.9**	**-1.2**	

comp=Z,192nm,1.8s
TIXI LR LR
comp=Z,3µm,19.0s
TIXI Tiksi 85.85 349 *de*P **P 23 16 22.8 -0.3**
TIXI pmax pmax
comp=Z,91nm,1.5s
RAMN Ramite 85.91 298 *e*P **P 23 16 23.9 -0.8**
comp=Z,21nm,0.8s
SHOC Shoshone, Teco 86.05 53 P **P 23 16 25.6 +0.6**
baz=254,SNR=6.0
BC3 Big Chuckawall 86.09 55 P **P 23 16 26.2 +0.9**
baz=255,SNR=7.6
I07A Izee 86.12 44 *e*P **P 23 16 25.4 +0.1**
comp=Z,141nm,1.5s
I07A LR LR
comp=Z,7µm,20.0s
TUQ Turquoise Moun 86.20 53 P **P 23 16 26.2 +0.3**
baz=254,SNR=8.5
WVOR Wild Horse Val 86.21 46 *e*P **P 23 16 26.8 +1.1**
comp=Z,201nm,1.6s
WVOR LR LR
comp=Z,6µm,21.0s
WVOR Wild Horse Val 86.21 46 *e*P **P 23 16 26.8 +1.1**
WVOR pmax pmax
comp=Z,201nm,1.6s
WVOR MLR MLR
comp=Z,6µm,21.0s
GMRC Granite Mounta 86.23 54 P **P 23 16 26.1 0.0**
baz=254,SNR=9.2
TPNV Topopah Spring 86.36 52 *e*P **P 23 16 27.8 +1.1**
comp=Z,116nm,1.5s
TPNV LR LR
comp=Z,12µm,22.0s
TPNV Topopah Spring 86.36 52 *e*P **P 23 16 27.8 +1.1**
TPNV pmax pmax
comp=Z,116nm,1.5s
TPNV MLR MLR
comp=Z,12µm,22.0s
TPNV Topopah Spring 86.36 52 P **P 23 16 27.1 +0.4**
baz=254,SNR=9.8
LTY Liberty 86.40 41 *e*P **P 23 16 26.0 -0.5**
comp=Z,38nm,1.2s
LTY LR LR
comp=Z,6µm,19.0s
F07A Phinny Hill Vi 86.43 42 PFAKE 23 16 40.0 +13
F07A LR LR
comp=Z,7µm,21.0s
JIRN Jiri 86.43 299 *e*P **P 23 16 26.5 -1.0**
comp=Z,48nm,0.9s
GLA Glamis 86.44 56 *e*P **P 23 16 28.2 +1.2**
comp=Z,358nm,1.7s
GLA LR LR
comp=Z,8µm,21.0s
GLA Glamis 86.44 56 *e*P **P 23 16 28.2 +1.2**
GLA pmax pmax
comp=Z,358nm,1.7s
GLA MLR MLR
comp=Z,8µm,21.0s
GLA Glamis 86.44 56 P **P 23 16 28.3 +1.2**
baz=255,SNR=7.1
IRM Iron Mountain 86.47 54 P **P 23 16 28.0 +0.9**
baz=255,SNR=7.9
C06D Leavenworth 86.48 40 P **P 23 16 27.1 +0.2**
baz=250
J08A Circle Bar Ran 86.60 45 *e*P **P 23 16 27.8 +0.1**
comp=Z,89nm,1.4s
J08A LR LR
comp=Z,5µm,19.0s
E07A Sunnyside 86.69 42 *e*P **P 23 16 32.0 +4.1**
comp=Z,79nm,1.4s
LDFC Landfair 86.75 54 *e*P **P 23 16 29.3 +0.8**
comp=Z,331nm,1.4s
LDFC LR LR
comp=Z,8µm,19.0s
GUN Gumba 86.76 299 *e*P **P 23 16 28.2 -0.8**
comp=Z,78nm,1.1s
LLLB Lillooet 86.81 37 PFAKE 23 16 40.0 +12
LLLB LR LR
comp=Z,12µm,22.0s
HAWA Hanford 86.85 42 *e*P **P 23 16 29.2 +0.6**
comp=Z,103nm,1.5s
HAWA LR LR
comp=Z,5µm,20.0s
Y12C Blythe 86.87 55 *e*P **P 23 16 30.0 +1.0**
comp=Z,206nm,1.5s
Y12C LR LR
comp=Z,7µm,20.0s
Y12C Blythe 86.87 55 P **P 23 16 29.8 +0.8**
baz=255,SNR=8.0
G08A Pilot Rock 86.88 43 *e*P **P 23 16 29.1 +0.1**
NEE2 Needles Airpor 87.05 54 P **P 23 16 30.6 +0.7**
baz=255,SNR=5.2
PKI Pulchoki 87.08 299 *e*P **P 23 16 29.2 -1.4**
comp=Z,166nm,1.8s
SHPR Sheep Range 87.08 52 *e*P **P 23 16 31.4 +1.2**
comp=Z,203nm,1.7s
SHPR LR LR
comp=Z,8µm,20.0s
PKIN Phulchoki 87.10 299 *e*P **P 23 16 28.8 -1.8**
comp=Z,54nm,1.4s
E08A Dider Farm, El 87.19 42 *e*P **P 23 16 31.4 +1.1**
comp=Z,139nm,1.4s
E08A LR LR
comp=Z,5µm,20.0s
EPYK Eagle Plains 87.21 20 *e*P **P 23 16 29.9 0.0**
comp=Z,82nm,1.4s
EPYK LR LR
comp=Z,5µm,22.0s
EPYK Eagle Plains 87.21 20 P **P 23 16 29.5 -0.5**
baz=236
PALK Pallekele 87.21 278 PFAKE 23 16 40.0 +8.9
PALK LR LR
comp=Z,2µm,20.0s
SRIG Santa Rosalia 87.21 62 PFAKE 23 16 40.0 +9.2
SRIG LR LR
comp=Z,10µm,20.0s
113A Mohawk Valley, 87.23 56 *e*P **P 23 16 32.5 +1.7**
comp=Z,370nm,1.9s
113A LR LR
comp=Z,11µm,19.0s
R11A Troy Canyon, C 87.25 50 *e*P **P 23 16 30.8 -0.2**
comp=Z,90nm,1.5s
R11A *e*PP **PP 23 19 53.5 -2.0**
R11A LR LR
comp=Z,13µm,20.0s
R11A Troy Canyon, C 87.25 50 P **P 23 16 31.5 +0.5**
baz=254,SNR=6.8
PDMCI Parker Dam,Lak 87.32 55 P **P 23 16 31.7 +0.6**
baz=255,SNR=11
DMN Daman 87.35 299 *e*P **P 23 16 30.7 -1.1**
comp=Z,88nm,1.3s
D08A Wollman Farm, 87.46 41 *e*P **P 23 16 32.0 +0.4**
B08A Colville Reser 87.61 40 *e*P **P 23 16 31.7 -0.6**
W13A Hualapai Mount 87.72 54 *e*P **P 23 16 34.2 +0.8**
comp=Z,139nm,1.4s
W13A LR LR
comp=Z,7µm,19.0s
E09A Wood Farm, Sta 87.80 42 *e*P **P 23 16 34.7 +1.5**
comp=Z,95nm,1.4s
E09A LR LR
comp=Z,7µm,20.0s
214A Organ Pipe Nat 87.82 57 P **P 23 16 35.0 +1.3**
baz=256
BMO Blue Mountains 87.86 44 *e*P **P 23 16 33.6 0.0**
comp=Z,152nm,1.8s
BMO Blue Mountains 87.86 44 *e*P **P 23 16 33.6 0.0**
BMO pmax pmax
comp=Z,152nm,1.8s
C09A Chrisman Ranch 88.11 41 PFAKE 23 16 50.0 +15
C09A LR LR
comp=Z,7µm,19.0s
Y14A Wickenburg 88.14 55 *e*P **P 23 16 35.9 +0.7**
comp=Z,153nm,1.7s
Y14A LR LR
comp=Z,7µm,21.0s
ELK Elko 88.16 48 *e*P **P 23 16 36.2 +0.9**
comp=Z,157nm,1.8s
ELK LR LR
comp=Z,6µm,22.0s
ELK Elko 88.16 48 *e*P **P 23 16 36.3 +0.9**
ELK pmax pmax
comp=Z,157nm,1.8s
ELK MLR MLR
comp=Z,6µm,22.0s
F10A Beach Ranch, E 88.24 43 *e*P **P 23 16 35.7 +0.3**
comp=Z,158nm,1.5s
F10A LR LR
comp=Z,5µm,21.0s

SLBS Sierra La Lagu 88.43 66 PFAKE 23 16 50.0 +13
SLBS LR LR
comp=Z,4µm,20.0s
MFID Camas Ranch 88.47 45 *e*P **P 23 16 37.2 +0.6**
comp=Z,167nm,1.8s
MFID LR LR
comp=Z,5µm,20.0s
PSUT Pine Spring 88.61 51 *e*P **P 23 16 38.8 +1.2**
comp=Z,112nm,1.4s
PSUT LR LR
comp=Z,9µm,20.0s
DANN Dangsing 88.68 299 *e*P **P 23 16 35.9 -2.3**
comp=Z,34nm,0.7s
KOLN Koldanda 88.69 298 *e*P **P 23 16 35.9 -2.2**
comp=Z,14nm,0.8s
LCMT Little Creek M 88.70 52 *e*P **P 23 16 39.4 +1.5**
comp=Z,157nm,1.4s
LCMT LR LR
comp=Z,6µm,20.0s
HSIG 88.71 60 *e*P **P 23 16 39.6 +1.7**
comp=Z,525nm,2.0s
HSIG LR LR
comp=Z,10µm,20.0s
CCUT Cedar City 88.74 52 *e*P **P 23 16 39.5 +1.3**
comp=Z,188nm,1.5s
CCUT LR LR
comp=Z,12µm,20.0s
MDRS Chennai 88.76 283 *e*P **P 23 16 36.8 -1.6**
MDRS IAmb IAmb 23 16 47.1
comp=Z,64nm,1.7s
SZCU Shurtz Canyon 88.97 52 *e*P **P 23 16 40.3 +1.1**
comp=Z,473nm,1.9s
SZCU LR LR
comp=Z,11µm,20.0s
NEW Newport 88.99 41 *e*P **P 23 16 39.2 +0.4**
comp=Z,43nm,1.4s
NEW LR LR
comp=Z,5µm,20.0s
NEW Newport 88.99 41 *e*P **P 23 16 39.2 +0.4**
NEW pmax pmax
comp=Z,43nm,1.4s
NEW MLR MLR
comp=Z,5µm,20.0s
NEW Newport 88.99 41 P **P 23 16 39.1 +0.3**
baz=253
KNB Kanab 89.03 52 *e*P **P 23 16 41.1 +1.6**
comp=Z,702nm,1.9s
PYUN Piuthan 89.29 299 *e*P **P 23 16 38.5 -2.4**
comp=Z,25nm,1.0s
U15A North Rim 89.30 53 *e*P **P 23 16 42.1 +1.2**
comp=Z,183nm,1.3s
U15A LR LR
comp=Z,5µm,20.0s
INK Inuvik 89.31 19 *e*P **P 23 16 40.7 +0.9**
comp=Z,14nm,1.2s
INK LR LR
comp=Z,14µm,22.0s
INK Inuvik 89.31 19 *e*P **P 23 16 40.7 +0.9**
INK pmax pmax
comp=Z,14nm,1.2s
INK MLR MLR
comp=Z,14µm,22.0s
WMQ Urumqi 89.33 315 P **P 23 16 39.8 -0.7**
WMQ sP pP 23 16 48.0 -3.1
WMQ PP **PP 23 20 16.3 +4.4**
WMQ S **S 23 27 24.0 -4.1**
WMQ SS **SS 23 33 29.5 +5.9**
WMQ LR LR
comp=Z,12µm,18.5s
WMQ LR LR
comp=Z,6µm,16.7s
WMQ LR LR
comp=Z,14µm,24.9s
WMQ Urumqi 89.33 315 *e*P **P 23 16 39.9 -0.7**
comp=Z,109nm,1.7s
WMQ LR LR
comp=Z,6µm,20.0s
WMQ Urumqi 89.33 315 *e*P **P 23 16 39.9 -0.7**
WMQ pmax pmax
comp=Z,109nm,1.7s
WMQ MLR MLR
comp=Z,6µm,20.0s
HLID Hailey 89.50 46 *e*P **P 23 16 42.3 +0.8**
comp=Z,110nm,1.6s
HLID LR LR
comp=Z,5µm,19.0s
HLID Hailey 89.50 46 P **P 23 16 42.2 +0.7**
baz=255
X16A Lo Mia Camp, P 89.51 55 *e*P **P 23 16 43.6 +1.8**
comp=Z,96nm,1.3s
X16A LR LR
comp=Z,8µm,21.0s
PKCU Pink Cliffs 89.53 52 *e*P **P 23 16 44.4 +2.4**
comp=Z,327nm,1.5s
PKCU LR LR
comp=Z,8µm,22.0s
TUC Tucson 89.57 57 *e*P **P 23 16 43.5 +1.5**
comp=Z,68nm,1.1s
TUC LR LR
comp=Z,13µm,19.0s
TUC Tucson 89.57 57 *e*P **P 23 16 43.5 +1.5**
TUC pmax pmax
comp=Z,68nm,1.1s
TUC MLR MLR
comp=Z,13µm,19.0s
TUC Tucson 89.57 57 P **P 23 16 43.2 +1.2**
baz=257
TCRU Three Creeks R 89.70 51 PFAKE 23 16 50.0 +7.3
TCRU LR LR
comp=Z,10µm,20.0s
MTPU Mount Pierson 89.77 51 *e*P **P 23 16 44.7 +1.5**
comp=Z,163nm,1.4s
MTPU LR LR
comp=Z,13µm,21.0s
DUG Dugway, Tooele 89.81 49 *e*P **P 23 16 43.7 +0.7**
comp=Z,141nm,1.6s
DUG LR LR
comp=Z,6µm,20.0s
DUG Dugway, Tooele 89.81 49 *e*P **P 23 16 43.7 +0.7**
DUG pmax pmax
comp=Z,141nm,1.6s
DUG MLR MLR
comp=Z,6µm,20.0s
DUG Dugway, Tooele 89.81 49 P **P 23 16 43.5 +0.5**
baz=256,SNR=7.4
WUAZ Wupatki 89.81 54 *e*P **P 23 16 44.7 +1.5**
comp=Z,147nm,1.3s
WUAZ LR LR
comp=Z,5µm,19.0s
WUAZ Wupatki 89.81 54 P **P 23 16 44.3 +1.1**
baz=257
BGU Big Grassy Mou 89.82 48 *e*P **P 23 16 43.5 +0.4**
comp=Z,284nm,2.0s
BGU LR LR
comp=Z,4µm,20.0s
MSU Marysvale 89.88 51 *e*P **P 23 16 45.0 +1.5**
MSU Marysvale 89.88 51 *e*P **P 23 16 45.0 +1.5**
HVU Hansel Valley 90.22 48 *e*P **P 23 16 45.7 +0.8**
comp=Z,550nm,2.0s
HVU Hansel Valley 90.22 48 *e*P **P 23 16 45.7 +0.8**
HVU pmax pmax
comp=Z,550nm,2.0s
NLU North Lily Min 90.30 49 *e*P **P 23 16 45.7 +0.3**
comp=Z,100nm,1.3s
NLU LR LR
comp=Z,12µm,20.0s
SPUT South Promonto 90.34 48 PFAKE 23 17 00.0 +14
SPUT LR LR
comp=Z,3µm,20.0s
319A Douglas 90.62 58 *e*P **P 23 16 48.4 +1.4**
comp=Z,103nm,1.0s
319A LR LR
comp=Z,10µm,21.0s
MPU Maple Canyon 90.64 49 *e*P **P 23 16 48.0 +1.0**
comp=Z,161nm,1.6s
MPU LR LR
comp=Z,12µm,20.0s
CTU Camp Tracy 90.71 49 *e*P **P 23 16 48.0 +0.8**
comp=Z,88nm,1.3s
CTU LR LR
comp=Z,4µm,20.0s
X18A Snowflake 90.74 55 *e*P **P 23 16 48.9 +1.3**
comp=Z,92nm,1.3s
X18A LR LR
comp=Z,6µm,18.0s
Q16A Castle Valley 90.74 51 *e*P **P 23 16 49.0 +1.6**
comp=Z,345nm,1.7s

Q16A LR LR
comp=Z,9µm,21.0s
JLU Jordanelle 90.91 49 *e*P **P 23 16 49.0 +0.7**
comp=Z,117nm,1.3s
JLU LR LR
comp=Z,5µm,21.0s
W18A Petrified Fore 91.03 55 *e*P **P 23 16 49.4 +0.5**
comp=Z,81nm,1.1s
W18A LR LR
comp=Z,6µm,20.0s
W18A Petrified Fore 91.03 55 P **P 23 16 49.6 +0.7**
baz=258,SNR=6.5
DGZ Jazzator, Alta 91.06 320 *de*P **P 23 16 47.6 -1.0**
DGZ pmax pmax
comp=Z,11nm,0.9s
TCUT Toone Canyon 91.06 48 *e*P **P 23 16 50.5 +1.5**
comp=Z,88nm,1.0s
TCUT LR LR
comp=Z,8µm,20.0s
TRD Trivandrum 91.08 278 *e*P **P 23 16 48.9 -0.4**
HYB Hyderabad 91.18 287 *i*P **P 23 16 50.5 +0.8**
HYB *e*S **S 23 27 48.0 +1.9**
HYB Hyderabad 91.18 287 *e*P **P 23 16 49.0 -0.7**
HYB IAmb IAmb 23 16 54.6
comp=Z,6µm,8.6s
P17A Butcher Ranch, 91.19 50 *e*P **P 23 16 50.5 +1.0**
comp=Z,67nm,1.3s
P17A *e*PP **PP 23 20 26.4 -0.5**
P17A LR LR
comp=Z,8µm,21.0s
DLMT Dillon 91.21 44 *e*P **P 23 16 50.2 +0.7**
comp=Z,91nm,1.2s
DLMT LR LR
comp=Z,6µm,20.0s
WALA Waterton Lakes 91.25 40 *e*P **P 23 16 50.3 +0.8**
comp=Z,94nm,1.5s
WALA LR LR
comp=Z,4µm,20.0s
SRU San Rafael Swe 91.28 51 *e*P **P 23 16 50.8 +0.9**
comp=Z,65nm,1.4s
SRU LR LR
comp=Z,8µm,20.0s
SRU San Rafael Swe 91.28 51 *e*P **P 23 16 50.8 +0.9**
SRU pmax pmax
comp=Z,65nm,1.4s
SRU MLR MLR
comp=Z,8µm,20.0s
LRM Limekiln Ridge 91.42 44 *e*P **P 23 16 50.1 -0.4**
AHID Auburn Hatcher 91.66 47 *e*P **P 23 16 52.0 +0.4**
comp=Z,48nm,1.3s
AHID LR LR
comp=Z,3µm,20.0s
FXWY Fox Creek 91.90 46 *e*P **P 23 16 51.4 -1.4**
comp=Z,21nm,1.0s
BOZ Bozeman (W) 91.92 44 *e*P **P 23 16 53.3 +0.6**
comp=Z,87nm,1.4s
BOZ LR LR
comp=Z,6µm,21.0s
BOZ Bozeman (W) 91.92 44 *e*P **P 23 16 53.3 +0.6**
BOZ pmax pmax
comp=Z,87nm,1.4s
BOZ MLR MLR
comp=Z,6µm,21.0s
BOZ Bozeman (W) 91.92 44 P **P 23 16 53.4 +0.6**
baz=257,SNR=7.7
REDW Red Top Meadow 91.97 46 *e*P **P 23 16 54.1 +1.0**
comp=Z,180nm,1.8s
REDW LR LR
comp=Z,6µm,20.0s
YHB Horse Butte 92.03 45 *e*P **P 23 16 54.4 +1.1**
comp=Z,65nm,1.4s
YHB LR LR
comp=Z,6µm,20.0s
HRY Holter Researc 92.04 43 *e*P **P 23 16 53.7 +0.5**
SNOW Snow King Moun 92.06 46 PFAKE 23 17 00.0 +6.5
SNOW LR LR
comp=Z,6µm,20.0s
121A Cookes Peak, D 92.10 57 P **P 23 16 54.8 +0.9**
baz=259
MOOW Moose Ponds 92.13 46 *e*P **P 23 16 54.8 +1.0**
comp=Z,23nm,1.2s
MOOW LR LR
comp=Z,6µm,20.0s
PV05 Paradox Valley 92.15 52 *e*P **P 23 16 54.4 +0.4**
YMR Madison River 92.17 45 PFAKE 23 17 10.0 +16
YMR LR LR
comp=Z,6µm,22.0s
LOHW Long Hollow 92.20 46 *e*P **P 23 16 53.9 -0.2**
comp=Z,17nm,1.0s
LOHW *e*PP **PP 23 20 34.7 -0.1**
LOHW LR LR
comp=Z,5µm,20.0s
YPP Pitchstone Pla 92.20 45 PFAKE 23 17 10.0 +16
YPP LR LR
comp=Z,7µm,20.0s
PV09 Paradox Valley 92.21 51 *e*P **P 23 16 55.7 +1.3**
YFT Old Faithful 92.22 45 PFAKE 23 17 10.0 +16
YFT LR LR
comp=Z,10µm,18.0s
FLWY Flagg Ranch 92.23 46 *e*P **P 23 16 54.1 -0.2**
comp=Z,44nm,1.2s
FLWY *e*PP **PP 23 20 32.1 -2.9**
FLWY LR LR
comp=Z,5µm,20.0s
PV10 Paradox Valley 92.26 52 *e*P **P 23 16 54.9 +0.4**
PV14 Lion Creek, Pa 92.27 52 *e*P **P 23 16 56.0 +1.3**
comp=Z,109nm,1.4s
PV14 LR LR
comp=Z,9µm,22.0s
PV19 Morning Glory 92.29 52 *e*P **P 23 16 55.5 +0.8**
comp=Z,99nm,1.5s
PV19 LR LR
comp=Z,7µm,22.0s
PV23 Carpenter Ridg 92.29 51 *e*P **P 23 16 55.4 +0.6**
comp=Z,66nm,1.1s
PV23 *e*PP **PP 23 20 34.8 -1.0**
PV23 LR LR
comp=Z,12µm,22.0s
PV17 East Wray Mesa 92.30 52 *e*P **P 23 16 55.5 +0.8**
comp=Z,109nm,1.4s
PV17 LR LR
comp=Z,9µm,22.0s
PV20 West Nyswonger 92.31 52 *e*P **P 23 16 54.7 0.0**
comp=Z,103nm,1.4s
PV20 LR LR
comp=Z,7µm,22.0s
PV16 Nyswonger Mesa 92.34 52 *e*P **P 23 16 55.9 +1.0**
comp=Z,111nm,1.7s
PV16 LR LR
comp=Z,6µm,22.0s
PV21 Cone Mtn., Par 92.34 51 *e*P **P 23 16 54.9 -0.1**
comp=Z,92nm,1.4s
PV21 LR LR
comp=Z,11µm,22.0s
SYO Syowa Base 92.36 197 ‖ *i*X **P 23 16 50.4 -3.7**
SYO Syowa Base 92.36 197 ‖ *e*PcP **P 23 16 53.9 -0.2**
PV11 David Mesa, Pa 92.37 52 *e*P **P 23 16 56.0 +1.0**
comp=Z,139nm,1.8s
PV11 LR LR
comp=Z,8µm,22.0s
PV03 Paradox Valley 92.38 52 *e*P **P 23 16 56.7 +1.6**
PV13 Radium Mtn., P 92.38 52 *e*P **P 23 16 54.8 -0.3**
comp=Z,95nm,1.8s
PV13 LR LR
comp=Z,6µm,22.0s
YNR Norris Junctio 92.38 45 *e*P **P 23 16 56.4 +1.4**
comp=Z,36nm,1.3s
YNR LR LR
comp=Z,6µm,22.0s
H17A Grant Village 92.39 45 *e*P **P 23 16 52.7 -2.3**
comp=Z,23nm,1.0s
H17A LR LR
comp=Z,6µm,18.0s
H17A Grant Village 92.39 45 P **P 23 16 56.5 +1.5**
baz=258,SNR=7.3
PV12 Saucer Basin, 92.43 52 *e*P **P 23 16 55.6 +0.2**
comp=Z,73nm,1.4s
PV12 LR LR
comp=Z,8µm,22.0s
MVCO Mesa Verde 92.44 53 *e*P **P 23 16 55.6 +0.2**
comp=Z,56nm,1.6s
MVCO LR LR
comp=Z,5µm,20.0s
MVCO Mesa Verde 92.44 53 P **P 23 16 56.4 +1.0**
baz=259
PV02 Paradox Valley 92.45 52 *e*P **P 23 16 54.9 -0.6**
comp=Z,46nm,1.4s

LKWY Lake 92.55 45 PFAKE 23 17 10.0 +14
LKWY LR LR
comp=Z,7μm,18.0s
DGAR Diego Garcia 92.57 262 PFAKE 23 17 10.0 +14
DGAR LR LR
comp=Z,4μm,18.0s
PV01 Paradox Valley 92.57 52 eP P 23 16 57.3 +1.3
BW06 Boulder Array 92.77 47 eP P 23 16 56.4 -0.4
comp=Z,40nm,1.4s
BW06 LR LR
comp=Z,3μm,20.0s
BW06 Boulder Array 92.77 47 P P 23 16 57.1 +0.3
baz=258
PD31 Pinedale Array 92.77 47 eP P 23 16 57.0 +0.2
PDAR Pinedale Array 92.77 47 P P 23 16 56.0 -0.8
comp=Z,1.1nm,0.7s,baz=211,slow=1.7,SNR=8.6
PDAR LR LR 23 51 24.4
comp=Z,3μm,21.5s,baz=262,slow=31
PDAR Pinedale Array 92.77 47 eP P 23 16 56.5 -0.3
HPIG 92.87 63 PFAKE 23 17 10.0 +12
HPIG LR LR
comp=Z,8μm,20.0s
LAZ Ladron 92.99 56 eP P 23 16 58.5 +0.6
LENM Lemitar 93.08 56 eP P 23 16 57.9 -0.5
O20A White River Ci 93.21 50 eP P 23 17 00.2 +1.3
comp=Z,85nm,1.4s
O20A LR LR
comp=Z,6μm,22.0s
O20A White River Ci 93.21 50 P P 23 16 59.8 +1.0
baz=259
BHPL Bhopal 93.28 293 eP P 23 16 57.9 -1.4
BHPL IAmb IAmb 23 17 05.1
comp=Z,7.9nm,1.1s
GCMT Greycliff 93.31 44 eP P 23 16 59.0 -0.1
BNM Barren Site 93.36 56 eP P 23 17 01.0 +1.3
RLMT Red Lodge 93.45 45 PFAKE 23 17 10.0 +10
RLMT LR LR
comp=Z,7μm,22.0s
RLMT Red Lodge 93.45 45 P P 23 17 00.7 +0.8
baz=258
ANMO Albuquerque 93.64 55 eP P 23 16 59.7 -1.3
comp=Z,11nm,1.0s
ANMO LR LR
comp=Z,5μm,21.0s
ANMO Albuquerque 93.64 55⇓ eP P 23 16 59.7 -1.3
ANMO pmax pmax
comp=Z,35nm,2.5s
ANMO Albuquerque 93.64 55 P P 23 16 59.7 -1.3
baz=260
ZAA0 Zalesovo Array 93.67 324 eP P 23 16 59.1 -1.3
comp=Z,51nm,1.4s
ZAA0 LR LR
comp=Z,5μm,20.0s
ZALV Zalesovo Beam 93.67 324 P P 23 16 58.3 -2.0
comp=Z,6.4nm,1.0s,baz=108,slow=4.8,SNR=12
ZALV PKKP **PKKPbc** 23 34 10.2 +2.8
comp=Z,0.4nm,0.4s,baz=339,slow=3.7,SNR=3.6
ZALV LR LR 23 57 00.8
comp=Z,4μm,21.0s,baz=97,slow=34
EGMT Eagleton 93.70 42 PFAKE 23 17 10.0 +9.2
EGMT LR LR
comp=Z,4μm,20.0s
EGMT Eagleton 93.70 42 P P 23 17 00.5 -0.2
baz=258
MK01 Makanchi Array 93.72 317 eP P 23 16 59.8 -1.0
MK31 Makanchi Array 93.73 317 eP P 23 17 00.3 -0.6
MKAR Makanchi Array 93.73 317 P P 23 17 00.0 -0.9
comp=Z,6.0nm,0.6s,baz=92,slow=6.4,SNR=53
MKAR PP **PP** 23 20 41.6 -4.9
comp=Z,1.7nm,1.0s,baz=101,slow=6.3,SNR=3.6
MKAR PKKP **PKKPdf** 23 34 05.3 -0.7
comp=Z,1.4nm,0.7s,baz=307,slow=1.7,SNR=9.1
MKAR LR LR 23 56 59.3
comp=Z,2μm,21.9s,baz=96,slow=34
MKAR Makanchi Array 93.73 317 eP P 23 17 00.3 -0.6
comp=Z,100nm,0.9s
MKAR PP **PP** 23 20 41.6 -4.9
MKAR PKKP **PKKPdf** 23 34 05.3 -0.7
S22A 4UR Ranch, Cre 93.85 52 eP P 23 17 02.0 0.0
comp=Z,82nm,2.0s
S22A LR LR
comp=Z,5μm,20.0s
S22A 4UR Ranch, Cre 93.85 52 P P 23 17 02.9 +0.9
baz=260
MAKZ Makanchi 93.95 317 eP P 23 17 01.2 -0.6
comp=Z,67nm,1.3s
MAKZ LR LR
comp=Z,3μm,20.0s
DDI Dehra Dun 93.95 300 eP P 23 17 01.4 -1.0
DDI IAmb IAmb 23 17 01.7
comp=Z,89nm,0.1s
MNTX Cornudas Mount 93.95 59 eP P 23 17 02.7 +0.4
comp=Z,14nm,0.9s
MNTX LR LR
comp=Z,8μm,20.0s
MNTX Cornudas Mount 93.95 59 P P 23 17 02.9 +0.6
baz=260
SMCO Snowmass 93.99 51 PFAKE 23 17 10.0 +7.2
SMCO LR LR
comp=Z,12μm,20.0s
RWWY Rawlins 94.27 49 PFAKE 23 17 20.0 +16
RWWY LR LR
comp=Z,5μm,18.0s
YKA Yellowknife Ar 94.30 27 P P 23 17 00.9 -2.1
comp=Z,1.1nm,0.7s,baz=256,slow=4.6,SNR=16
YKA PP **PP** 23 20 52.0 +1.5
comp=Z,0.7nm,0.9s,baz=255,slow=7.3,SNR=4.3
YKA LR LR 23 52 18.6
comp=Z,418nm,21.6s,baz=265,slow=31
YKB5 Yellowknife Ar 94.30 27 eP P 23 17 01.0 -2.0
YKW3 Yellowknife Ar 94.32 27 PFAKE 23 17 10.0 +6.9
YKW3 LR LR
comp=Z,4μm,21.0s
NVS Novosibirsk 94.76 325 eP P 23 16 59.0 -6.3
NVS e 23 20 57.8
NVS pmax pmax
comp=Z,85nm,2.4s
NVS pmax pmax
comp=N,22nm,2.3s
NVS pmax pmax
comp=E,36nm,2.5s
SMLA Simla 94.84 301 eP P 23 17 05.3 -1.0
SMLA IAmb IAmb 23 17 13.3
comp=Z,57nm,1.6s
MNCY Minicoy 94.86 277 eP P 23 17 05.3 -1.4
SDCO Great Sand Dun 94.88 53 PFAKE 23 17 20.0 +13
SDCO LR LR
comp=Z,6μm,20.0s
SDCO Great Sand Dun 94.88 53 P P 23 17 07.4 +0.7
baz=260
ZAIG Zacatecas 94.93 68 PFAKE 23 17 20.0 +13
ZAIG LR LR
comp=Z,4μm,21.0s
K22A Casper 94.94 48 PFAKE 23 17 20.0 +13
K22A LR LR
comp=Z,4μm,21.0s
K22A Casper 94.94 48 P P 23 17 06.8 0.0
baz=260
TX31 Lajitas Ar. Si 95.02 61 eP P 23 17 06.9 -0.4
TXAR Lajitas Array 95.02 61 P P 23 17 07.4 +0.1
comp=Z,0.2nm,0.5s,baz=216,slow=4.5,SNR=4.0
TXAR LR LR 23 52 07.8
comp=Z,8μm,20.6s,baz=0.0,slow=31
N23A Red Feather La 95.07 49 PFAKE 23 17 20.0 +13
N23A LR LR
comp=Z,4μm,19.0s
N23A Red Feather La 95.07 49 P P 23 17 08.0 +0.5
baz=260
ISCO Idaho Springs 95.14 51 PFAKE 23 17 20.0 +12
ISCO LR LR
comp=Z,12μm,20.0s
ISCO Idaho Springs 95.14 51 P P 23 17 08.4 +0.6
baz=261
GOA Goa 95.31 285 eP P 23 17 06.8 -1.9
GOA IAmb IAmb 23 17 16.5
comp=Z,150nm,2.3s
Q24A Divide 95.36 52 PFAKE 23 17 20.0 +11
Q24A LR LR
comp=Z,6μm,22.0s
Q24A Divide 95.36 52 P P 23 17 09.4 +0.5
baz=261
T25A Trinidad 95.64 53 PFAKE 23 17 20.0 +10
T25A LR LR
comp=Z,7μm,19.0s
T25A Trinidad 95.64 53 P P 23 17 11.0 +0.9
baz=261

MOIG Morelia 95.70 71 PFAKE 23 17 20.0 +9.3
MOIG LR LR
comp=Z,6μm,20.0s
DHRM DHARAMSHALA 95.75 302 eP P 23 17 09.9 -0.8
DHRM IAmb IAmb 23 17 17.2
comp=Z,12nm,0.6s
POO Poona 95.78 288 eP P 23 17 08.5 -2.4
POO IAmb IAmb 23 17 19.1
comp=Z,2μm,5.5s
LAO LASA Array 95.82 44 PFAKE 23 17 20.0 +9.5
LAO LR LR
comp=Z,6μm,21.0s
MSTX Muleshoe 96.48 57 PFAKE 23 17 30.0 +16
MSTX LR LR
comp=Z,10μm,22.0s
JRQG Juriquilla Cam 96.55 70 PFAKE 23 17 30.0 +15
JRQG LR LR
comp=Z,10μm,20.0s
KURK Kurchatov 96.81 320 eP P 23 17 13.1 -1.6
comp=Z,28nm,1.4s
KURK PP **PP** 23 21 09.8 -0.4
KURK LR LR
comp=Z,7μm,22.0s
KURK Kurchatov 96.81 320⇑ eP P 23 17 14.0 -0.8
KURK pmax pmax
comp=Z,36nm,2.1s
KURBB Kurchatov Arra 96.85 320 PP **PP** 23 21 09.8 -0.7
comp=Z,1.3nm,0.9s,baz=102,slow=6.9,SNR=4.0
RSSD Black Hills 96.96 47 PFAKE 23 17 30.0 +14
RSSD LR LR
comp=Z,3μm,18.0s
KSH Kashi 97.07 309 P Pdif 23 17 19.0 +2.5
KSH pP pP 23 17 25.0 -2.0
KSH PP **PP** **23 21 19.0 +6.2**
KSH S **S** **23 28 38.8 +1.6**
KSH sS pS 23 28 48.0 -3.4
KSH SS **SS** **23 35 21.0 +6.3**
KSH pmax pmax
comp=Z,9.0nm,0.6s
KSH pmax pmax
comp=Z,1μm,5.8s
KSH LR LR
comp=Z,2μm,8.4s
KSH LR LR
comp=Z,2μm,11.6s
KSH LR LR
comp=Z,3μm,18.5s
KSCO Kaye Shedlock' 97.31 52 PFAKE 23 17 30.0 +12
KSCO LR LR
comp=Z,7μm,22.0s
DGMT Dagmar 97.44 42 PFAKE 23 17 30.0 +12
DGMT LR LR
comp=Z,5μm,21.0s
AMTX Amarillo 97.51 56 PFAKE 23 17 30.0 +11
AMTX LR LR
comp=Z,8μm,18.0s
UNM Universidad Na 97.52 72 PFAKE 23 17 30.0 +11
UNM LR LR
comp=Z,3μm,20.0s
SNAA Sanae 97.54 183 PFAKE 23 17 30.0 +12
SNAA LR LR
comp=Z,6μm,20.0s
SNAA Sanae 97.54 183⇓ eP Pdif 23 17 18.6 +0.7
SNAA pmax pmax
comp=Z,312nm,1.1s
OGNE Ogallala 98.01 50 PFAKE 23 17 30.0 +9.4
OGNE LR LR
comp=Z,9μm,20.0s
LNIG Linares 98.06 66 PFAKE 23 17 30.0 +8.9
LNIG LR LR
comp=Z,5μm,21.0s
NIL Nilore 98.48 303 PFAKE 23 17 30.0 +7.2
NIL LR LR
comp=Z,2μm,21.0s
JCT Junction City 98.50 61 PFAKE 23 17 30.0 +7.0
JCT LR LR
comp=Z,10μm,20.0s
AAK Ala-Archa 98.58 312 eP Pdif 23 17 23.4 +0.2
comp=Z,3.3nm,0.8s
AAK LR LR
comp=Z,4μm,21.0s
AAK Ala-Archa 98.58 312⇓ eP P 23 17 23.0 -0.2
AAK pmax pmax
comp=Z,17nm,2.6s
833A Chaparral WMA, 98.58 63 PFAKE 23 17 30.0 +6.7
833A LR LR
comp=Z,7μm,20.0s
CRZF Crozet Islands 98.65 219 PFAKE 23 17 30.0 +6.7
CRZF LR LR
comp=Z,3μm,21.0s
ABTX Abilene, Hawle 98.90 58 PFAKE 23 17 40.0 +15
ABTX LR LR
comp=Z,10μm,20.0s
FFC Flin Flon 99.50 36 eP Pdif 23 17 26.1 -0.7
comp=Z,18nm,1.4s
FFC LR LR
comp=Z,10μm,21.0s
FFC Flin Flon 99.50 36 i P Pdif 23 17 28.4 +1.6
CBKS Cedar Bluff 99.52 52 PFAKE 23 17 40.0 +13
CBKS LR LR
comp=Z,5μm,20.0s
KVTX Kingsville 99.80 64 PFAKE 23 17 40.0 +11
KVTX LR LR
comp=Z,4μm,18.0s
U32A Winter Ranch, 99.85 55 PFAKE 23 17 40.0 +11
U32A LR LR
comp=Z,7μm,20.0s
WMOK Wichita Mounta 99.86 56 PFAKE 23 17 40.0 +11
WMOK LR LR
comp=Z,10μm,22.0s
LVIG Laguna Verde 100.15 72 PFAKE 23 17 40.0 +10
LVIG LR LR
comp=Z,4μm,22.0s
BHJ Bhuj 100.34 292 eP Pdif 23 17 29.5 -1.8
BHJ IAmb IAmb 23 17 32.1
comp=Z,7.8nm,0.6s
435B Jarrell 100.44 61 PFAKE 23 17 40.0 +8.5
435B LR LR
comp=Z,11μm,22.0s
MDND Maddock 100.44 43 PFAKE 23 17 40.0 +8.9
MDND LR LR
comp=Z,6μm,21.0s
WHTX Lake Whitney, 100.67 59 PFAKE 23 17 40.0 +7.5
WHTX LR LR
comp=Z,7μm,20.0s
BGNE Belgrade 100.97 50 PFAKE 23 17 50.0 +16
BGNE LR LR
comp=Z,9μm,20.0s
KSU1 Kansas State U 101.98 52 PFAKE 23 17 50.0 +12
KSU1 LR LR
comp=Z,6μm,20.0s
BVAR Borovoye Array 102.09 322 PP **PP** **23 21 51.1 +0.8**
comp=Z,2.2nm,0.9s,baz=58,slow=9.7,SNR=4.3
BRVK Borovoye 102.15 322 PFAKE 23 17 50.0 +11
BRVK LR LR
comp=Z,4μm,18.0s
BRVK Borovoye 102.15 322⇓ eP Pdif **23 17 38.7 +0.1**
TUL1 Leonard 102.40 55 PFAKE 23 17 50.0 +10
TUL1 LR LR
comp=Z,10μm,22.0s
RES Resolute Bay 102.49 16 PFAKE 23 17 50.0 +10
RES LR LR
comp=Z,6μm,22.0s
X37A Clayton 102.64 57 PFAKE 23 17 50.0 +8.8
X37A LR LR
comp=Z,10μm,20.0s
ULM Lac du Bonnet 103.00 41 PFAKE 23 17 50.0 +7.6
ULM LR LR
comp=Z,4μm,20.0s
NATX Nacogdoches 103.02 60 PFAKE 23 17 50.0 +7.0
NATX LR LR
comp=Z,8μm,21.0s
CCIG Comitan 103.75 76 PFAKE 23 18 00.0 +13
CCIG LR LR
comp=Z,2μm,20.0s
HHAR Hobbs 103.92 55 PFAKE 23 18 00.0 +13
HHAR LR LR
comp=Z,8μm,21.0s
FCC Fort Churchill 103.94 32 PFAKE 23 18 00.0 +14
FCC LR LR
comp=Z,9μm,22.0s
W39A Magazine 103.98 56 PFAKE 23 18 00.0 +13
W39A LR LR
comp=Z,6μm,20.0s
MIAR Mount Ida 104.12 57 PFAKE 23 18 00.0 +12
MIAR LR LR
comp=Z,10μm,19.0s
Z41A Richland Creek 104.69 58 PFAKE 23 18 00.0 +10
Z41A LR LR
comp=Z,10μm,19.0s
SCIA State Center 104.69 49 PFAKE 23 18 00.0 +10
SCIA LR LR
comp=Z,8μm,20.0s
X40A Basin Creek Fa 104.73 57 PFAKE 23 18 00.0 +9.5
X40A LR LR
comp=Z,8μm,20.0s
SPMN Marine on St. 105.03 46 PFAKE 23 22 20.0 +14
SPMN LR LR
comp=Z,7μm,20.0s
UALR University of 105.14 57 PFAKE 23 22 20.0 +13
UALR LR LR
comp=Z,12μm,19.0s
W41B Gary Mavity, V 105.24 56 PFAKE 23 22 20.0 +13
W41B LR LR
comp=Z,14μm,21.0s
CCAR Cane Creek 105.58 58 PFAKE 23 22 20.0 +12
CCAR LR LR
comp=Z,7μm,20.0s
E38A The Farm, Brul 105.88 45 PFAKE 23 22 20.0 +12
E38A LR LR
comp=Z,6μm,20.0s
EYMN Ely 105.89 43 PFAKE 23 22 20.0 +12
EYMN LR LR
comp=Z,8μm,20.0s
I39A Houston 105.95 47 PFAKE 23 22 20.0 +12
I39A LR LR
comp=Z,4μm,22.0s
CCM Cathedral Cave 106.13 53 PFAKE 23 22 20.0 +11
CCM LR LR
comp=Z,6μm,20.0s
L40A Anamosa 106.18 49 PFAKE 23 22 20.0 +12
L40A LR LR
comp=Z,7μm,19.0s
T42A Van Buren 106.23 54 PFAKE 23 22 20.0 +11
T42A LR LR
comp=Z,10μm,22.0s
X43A Marvell 106.34 57 PFAKE 23 22 20.0 +11
X43A LR LR
comp=Z,6μm,22.0s
N41A Harden Midland 106.46 51 PFAKE 23 22 20.0 +11
N41A LR LR
comp=Z,8μm,22.0s
MYIG Mrida 106.51 71 PFAKE 23 22 20.0 +10
MYIG LR LR
comp=Z,3μm,22.0s
VBMS Vicksburg 106.56 60 PFAKE 23 22 20.0 +11
VBMS LR LR
comp=Z,7μm,20.0s
GO06 Curarrehue 106.65 137 PFAKE 23 22 20.0 +10
GO06 LR LR
comp=Z,3μm,20.0s
PBMO Poplar Bluff 106.76 55 PFAKE 23 22 20.0 +10
PBMO LR LR
comp=Z,10μm,20.0s
P42A Winchester 106.85 52 PFAKE 23 22 20.0 +10
P42A LR LR
comp=Z,7μm,21.0s
G40A Rib Lake 106.86 46 PFAKE 23 22 20.0 +10
G40A LR LR
comp=Z,7μm,21.0s
JFWS Jewell Farm 106.89 48 PFAKE 23 22 20.0 +10
JFWS LR LR
comp=Z,3μm,18.0s
SLM Saint Louis 106.93 53 PFAKE 23 22 20.0 +10
SLM LR LR
comp=Z,8μm,22.0s
MET Memphis--Engin 107.13 56 PFAKE 23 22 20.0 +10
MET LR LR
comp=Z,11μm,19.0s
I41A Arkdale 107.14 47 PFAKE 23 22 20.0 +10
I41A LR LR
comp=Z,5μm,21.0s
H41A Junction City 107.27 47 PFAKE 23 22 20.0 +10
H41A LR LR
comp=Z,5μm,21.0s
Z45A Winona 107.29 58 PFAKE 23 22 20.0 +9.2
Z45A LR LR
comp=Z,10μm,20.0s
L42A Oliver, Polo 107.34 49 PFAKE 23 22 20.0 +9.4
L42A LR LR
comp=Z,8μm,20.0s
OXF Oxford 107.55 57 PFAKE 23 22 20.0 +8.7
OXF LR LR
comp=Z,7μm,20.0s
F41A Three Lakes 107.61 45 PFAKE 23 22 20.0 +8.9
F41A LR LR
comp=Z,8μm,20.0s
GLAT Glass 107.67 55 PFAKE 23 22 20.0 +8.6
GLAT LR LR
comp=Z,7μm,20.0s
SIUC Southern Illin 107.73 54 PFAKE 23 22 20.0 +8.5
SIUC LR LR
comp=Z,10μm,20.0s
TEIG Tepich 107.81 72 PFAKE 23 22 20.0 +7.9
TEIG LR LR
comp=Z,3μm,21.0s
I42A Draeger Farm, 107.83 47 PFAKE 23 22 20.0 +8.5
I42A LR LR
comp=Z,3μm,22.0s
Q44A Meyer Farm, Va 107.88 53 PFAKE 23 22 20.0 +8.3
Q44A LR LR
comp=Z,8μm,20.0s
D41A Chassel 107.91 44 PFAKE 23 22 20.0 +8.5
D41A LR LR
comp=Z,8μm,20.0s
TULEG Thule 108.05 12 PFAKE 23 22 20.0 +9.0
TULEG LR LR
comp=Z,3μm,21.0s
H42A Shiocton 108.08 47 PFAKE 23 22 20.0 +8.1
H42A LR LR
comp=Z,5μm,20.0s
G42A Mountain 108.12 46 PFAKE 23 22 20.0 +8.0
G42A LR LR
comp=Z,7μm,21.0s
T45A Paducah 108.19 55 PFAKE 23 22 20.0 +7.6
T45A LR LR
comp=Z,8μm,19.0s
K43A Burlington 108.31 49 PFAKE 23 22 20.0 +7.6
K43A LR LR
comp=Z,5μm,20.0s
147A Livingston 108.47 59 PFAKE 23 22 20.0 +7.0
147A LR LR
comp=Z,8μm,21.0s
GO05 Huala 108.53 132 PFAKE 23 22 20.0 +6.8
GO05 LR LR
comp=Z,2μm,20.0s
M44A Midewin, Midew 108.57 50 PFAKE 23 22 20.0 +7.0
M44A LR LR
comp=Z,8μm,20.0s
OLIL Olney 108.60 53 PFAKE 23 22 20.0 +6.9
OLIL LR LR
comp=Z,7μm,20.0s
H43A Windswept, Lux 108.62 47 PFAKE 23 22 20.0 +7.0
H43A LR LR
comp=Z,5μm,22.0s
G43A Wallace 108.64 46 PFAKE 23 22 20.0 +7.0
G43A LR LR
comp=Z,7μm,21.0s
ARU Arti 108.71 326 PFAKE 23 22 20.0 +7.3
ARU LR LR
comp=Z,5μm,21.0s
WVT Waverly 108.85 55 PFAKE 23 22 30.0 +16
WVT LR LR
comp=Z,8μm,21.0s
P45A Graceland, Par 108.86 52 PFAKE 23 22 30.0 +16
P45A LR LR
comp=Z,7μm,20.0s
USIN University of 108.96 54 PFAKE 23 22 30.0 +16
USIN LR LR
comp=Z,12μm,21.0s
E43A Lone Tree Farm 109.04 45 PFAKE 23 22 30.0 +16
E43A LR LR
comp=Z,4μm,18.0s
SFIN Lafayette 109.33 51 PFAKE 23 22 30.0 +16
SFIN LR LR
comp=Z,11μm,22.0s
BRAL Brewton 109.49 61 PFAKE 23 22 30.0 +15
BRAL LR LR
comp=Z,7μm,21.0s
X48A Hartselle 109.51 57 PFAKE 23 22 30.0 +15

X48A LR LR
comp=Z,6µm,20.0s
LRAL Lakeview Retre 109.55 59 PFAKE 23 22 30.0 +15
LRAL LR LR
comp=Z,10µm,20.0s
V48A Smith Brothers 109.68 56 PFAKE 23 22 30.0 +15
V48A LR LR
comp=Z,7µm,21.0s
BLO Bloomington 109.82 52 PFAKE 23 22 30.0 +15
BLO LR LR
comp=Z,9µm,20.0s
M46A Old House Fiel 109.84 50 PFAKE 23 22 30.0 +15
M46A LR LR
comp=Z,8µm,22.0s
JTS JuntasAbangare 109.92 83 PFAKE 23 22 30.0 +14
JTS LR LR
comp=Z,3µm,19.0s
WCI Wyandotte Cave 110.03 53 PFAKE 23 22 30.0 +14
WCI LR LR
comp=Z,13µm,21.0s
Y49A Blount Mountai 110.03 58 PFAKE 23 22 30.0 +14
Y49A LR LR
comp=Z,8µm,20.0s
250A Grady 110.16 60 PFAKE 23 22 30.0 +14
250A LR LR
comp=Z,6µm,22.0s
PEL Peldehue 110.32 131 PFAKE 23 22 30.0 +13
PEL LR LR
comp=Z,2µm,19.0s
SWET Sewanee 110.41 56 PFAKE 23 22 30.0 +13
SWET LR LR
comp=Z,8µm,21.0s
Z50A Ashland 110.45 58 PFAKE 23 22 30.0 +13
Z50A LR LR
comp=Z,8µm,20.0s
T49A Edmonton 110.68 54 PFAKE 23 22 30.0 +13
T49A LR LR
comp=Z,7µm,22.0s
HDC Heredia 110.70 83 PFAKE 23 22 30.0 +12
HDC LR LR
comp=Z,3µm,21.0s
ESPN Las Esperanzas 110.79 81 PFAKE 23 22 30.0 +12
ESPN LR LR
comp=Z,2µm,21.0s
W50A Signal Mountai 110.92 56 PFAKE 23 22 30.0 +12
W50A LR LR
comp=Z,7µm,19.0s
GEYT Alibeck 110.94 307 PP **PP 23 22 57.8 +1.8**
comp=Z,3.7nm,1.0s,baz=42,slow=6.8,SNR=6.9
GYA0B ALIBECK ARRAY 110.94 307 PFAKE 23 22 30.0 +12
GYA0B LR LR
comp=Z,3µm,21.0s
M48A Edgerton 111.06 50 PFAKE 23 22 30.0 +12
M48A LR LR
comp=Z,7µm,20.0s
352A Blakely 111.31 60 PFAKE 23 22 30.0 +12
352A LR LR
comp=Z,4µm,20.0s
X51A Calhoun 111.31 57 PFAKE 23 22 30.0 +12
X51A LR LR
comp=Z,7µm,22.0s
O49A Covington 111.45 51 PFAKE 23 22 30.0 +12
O49A LR LR
comp=Z,6µm,18.0s
152A Waverly Hall 111.47 59 PFAKE 23 22 30.0 +11
152A LR LR
comp=Z,9µm,20.0s
N49A Columbus Grove 111.51 50 PFAKE 23 22 30.0 +11
N49A LR LR
comp=Z,10µm,22.0s
CPCT Cooper Cave 111.56 56 PFAKE 23 22 30.0 +11
CPCT LR LR
comp=Z,6µm,21.0s
GO04 Tololo Observa 111.61 128 PFAKE 23 22 30.0 +11
GO04 LR LR
comp=Z,3µm,22.0s
V51A Loudon 111.68 56 PFAKE 23 22 30.0 +11
V51A LR LR
comp=Z,8µm,22.0s
AAM Ann Arbor 111.78 49 PFAKE 23 22 30.0 +11
AAM LR LR
comp=Z,8µm,20.0s
453A Whigham 111.83 61 PFAKE 23 22 30.0 +11
453A LR LR
comp=Z,5µm,20.0s
253A Americus 111.98 60 PFAKE 23 22 30.0 +10
253A LR LR
comp=Z,5µm,21.0s
Y52A Lilburn 111.99 58 PFAKE 23 22 30.0 +10
Y52A LR LR
comp=Z,8µm,20.0s
W52A Murphy 112.06 56 PFAKE 23 22 30.0 +10
W52A LR LR
comp=Z,6µm,19.0s
TKL Tuckaleechee C 112.16 56 PFAKE 23 22 30.0 +10
TKL LR LR
comp=Z,8µm,21.0s
S51A Beattyville 112.19 54 PFAKE 23 22 30.0 +10
S51A LR LR
comp=Z,9µm,22.0s
LCO Las Campanas 112.21 127 PFAKE 23 22 30.0 +9.4
LCO LR LR
comp=Z,3µm,18.0s
Q51A Peebles 112.29 52 PFAKE 23 22 30.0 +10
Q51A LR LR
comp=Z,10µm,20.0s
V52A Sevierville 112.29 56 PFAKE 23 22 30.0 +10
V52A LR LR
comp=Z,7µm,20.0s
TZTN Tazewell 112.30 55 PFAKE 23 22 30.0 +10
TZTN LR LR
comp=Z,4µm,19.0s
M50A Fremont 112.32 50 PFAKE 23 22 30.0 +10
M50A LR LR
comp=Z,9µm,22.0s
HOPE Hope Point 112.45 166 PFAKE 23 22 30.0 +10
HOPE LR LR
comp=Z,4µm,19.0s
TIGA Tifton 112.45 60 PFAKE 23 22 30.0 +9.4
TIGA LR LR
comp=Z,3µm,18.0s
ACSO Alum Creek Sta 112.48 51 PFAKE 23 22 30.0 +10
ACSO LR LR
comp=Z,5µm,18.0s
P51A Williamsport 112.48 52 PFAKE 23 22 30.0 +10
P51A LR LR
comp=Z,6µm,22.0s
GOGA Godfrey 112.50 58 PFAKE 23 22 30.0 +9.4
GOGA LR LR
comp=Z,8µm,20.0s
UOSS Minazif 112.72 293 PFAKE 23 22 30.0 +8.7
UOSS LR LR
comp=Z,1µm,21.0s
154A Montrose 112.83 59 PFAKE 23 22 30.0 +8.7
154A LR LR
comp=Z,9µm,21.0s
N51A Ashland 112.87 50 PFAKE 23 22 30.0 +8.9
N51A LR LR
comp=Z,8µm,21.0s
BG3 Lake Jocassee 112.88 57 PFAKE 23 22 30.0 +8.7
BG3 LR LR
comp=Z,6µm,20.0s
V53A Saluda 112.94 56 PFAKE 23 22 30.0 +8.5
V53A LR LR
comp=Z,8µm,20.0s
555A McAlpin 113.01 62 PFAKE 23 22 30.0 +8.3
555A LR LR
comp=Z,5µm,21.0s
NNA Nana 113.20 108 PFAKE 23 22 30.0 +7.5
NNA LR LR
comp=Z,2µm,18.0s
GO03 Copiap 113.21 126 PFAKE 23 22 30.0 +7.7
GO03 LR LR
comp=Z,2µm,22.0s
O52A Adamsville 113.36 51 PFAKE 23 22 30.0 +7.9
O52A LR LR
comp=Z,9µm,20.0s
255A Hazlehurst 113.39 60 PFAKE 23 22 30.0 +7.7
255A LR LR
comp=Z,6µm,20.0s
656A Willston 113.39 63 PFAKE 23 22 30.0 +7.6
656A LR LR
comp=Z,6µm,20.0s
957A Wimauma 113.67 64 PFAKE 23 22 30.0 +7.0
957A LR LR

comp=Z,4µm,20.0s
TRQA Tornquist 113.69 140 PFAKE 23 22 30.0 +7.1
TRQA LR LR
comp=Z,3µm,22.0s
P53A Whipple 113.77 52 PFAKE 23 22 30.0 +7.1
P53A LR LR
comp=Z,5µm,18.0s
PAULI Pauline 113.80 57 PFAKE 23 22 30.0 +6.9
PAULI LR LR
comp=Z,8µm,22.0s
456A Hilliard 113.81 61 PFAKE 23 22 40.0 +17
456A LR LR
comp=Z,4µm,21.0s
KMSC Kings Mountain 114.18 56 PFAKE 23 22 40.0 +16
KMSC LR LR
comp=Z,6µm,20.0s
JSC Jenkinsville 114.29 57 *e*Pdif **Pdif 23 18 31.5 -1.6**
JSC Jenkinsville 114.29 57 *e*P **Pdif 23 18 31.5 -1.6**
DWPF Disney Wildern 114.37 64 PFAKE 23 22 40.0 +16
DWPF LR LR
comp=Z,4µm,19.0s
658A Bunnell 114.50 63 PFAKE 23 22 40.0 +15
658A LR LR
comp=Z,4µm,20.0s
ERPA Erie 114.51 49 PFAKE 23 22 40.0 +16
ERPA LR LR
comp=Z,6µm,20.0s
257A Skidaway Islan 114.61 60 PFAKE 23 22 40.0 +15
257A LR LR
comp=Z,6µm,22.0s
059A Moore Haven 114.64 65 PFAKE 23 22 40.0 +15
059A LR LR
comp=Z,4µm,20.0s
N54A Moraine State 114.66 50 PFAKE 23 22 40.0 +15
N54A LR LR
comp=Z,7µm,20.0s
OTAV Otavalo 114.67 95 PFAKE 23 22 40.0 +14
OTAV LR LR
comp=Z,2µm,19.0s
SADO Sadowa 114.71 46 PFAKE 23 22 40.0 +15
SADO LR LR
comp=Z,8µm,20.0s
PB10 IPOC Station P 114.72 122 PFAKE 23 22 40.0 +15
PB10 LR LR
comp=Z,2µm,21.0s
LVZ Lovozero 114.72 342 PFAKE 23 22 40.0 +16
LVZ LR LR
comp=Z,5µm,21.0s
BLA Blacksburg 114.75 54 PFAKE 23 22 40.0 +15
BLA LR LR
comp=Z,8µm,22.0s
BCIP Isla Barro Col 114.77 85 PFAKE 23 22 40.0 +15
BCIP LR LR
comp=Z,2µm,21.0s
M54A Oil Creek Stat 114.83 49 PFAKE 23 22 40.0 +15
M54A LR LR
comp=Z,11µm,20.0s
061Z Ochoppi 114.86 66 PFAKE 23 22 40.0 +15
061Z LR LR
comp=Z,3µm,21.0s
MCWV Mont Chateau 114.93 51 PFAKE 23 22 40.0 +15
MCWV LR LR
comp=Z,4µm,18.0s
VLDQ Val d'Or 115.21 42 PFAKE 23 22 40.0 +15
VLDQ LR LR
comp=Z,4µm,20.0s
NHSC New Hope 115.27 58 PFAKE 23 22 40.0 +14
NHSC LR LR
comp=Z,7µm,20.0s
APA Apatity 115.30 342 ⇓*i*PKIKP **PKiKP 23 22 20.0 -4.9**
APA pmax pmax
comp=Z,5.0nm,1.4s
APA MLR MLR
comp=Z,6µm,18.0s
060A Indiantown 115.34 65 PFAKE 23 22 40.0 +14
060A LR LR
comp=Z,4µm,20.0s
PB04 IPOC Station P 115.55 121 PFAKE 23 22 40.0 +13
PB04 LR LR
comp=Z,3µm,21.0s
KEV Kevo 115.62 345 PFAKE 23 22 40.0 +15
KEV LR LR
comp=Z,3µm,19.0s
O56A Blue Knob Stat 115.83 50 PFAKE 23 22 40.0 +13
O56A LR LR
comp=Z,9µm,20.0s
MMNY Mt. Morris Dam 115.94 48 PFAKE 23 22 40.0 +13
MMNY LR LR
comp=Z,5µm,20.0s
PLVO Plevna 116.10 45 PFAKE 23 22 40.0 +13
PLVO LR LR
comp=Z,7µm,20.0s
ARCES ARCESS Array B 116.14 346 PKP **PKiKP 23 22 25.9 -0.7**
comp=Z,2.3nm,0.7s,baz=19,slow=0.9,SNR=17
ARCES PKKPbc **PKKPbc 23 32 58.0 -1.3**
comp=Z,2.8nm,1.0s,baz=239,slow=0.5,SNR=4.4
ARE0 ARCESS Array S 116.14 346 PFAKE 23 22 40.0 +13
ARE0 LR LR
comp=Z,200nm,22.0s
SSPA Standing Stone 116.29 50 PFAKE 23 22 40.0 +12
SSPA LR LR
comp=Z,9µm,21.0s
LVC Limon Verde 116.47 122 PFAKE 23 22 40.0 +11
LVC LR LR
comp=Z,2µm,19.0s
PB01 IPOC Station P 116.64 120 PFAKE 23 22 40.0 +11
PB01 LR LR
comp=Z,3µm,22.0s
R58B Mineral 116.67 53 PFAKE 23 22 40.0 +12
R58B LR LR
comp=Z,12µm,20.0s
ILULI Ilulissat 116.73 14 PFAKE 23 22 40.0 +12
ILULI LR LR
comp=Z,4µm,19.0s
CNNC Cliffs of the 116.98 56 PFAKE 23 22 40.0 +11
CNNC LR LR
comp=Z,8µm,22.0s
CBN Corbin Frederi 117.03 53 PFAKE 23 22 40.0 +11
CBN LR LR
comp=Z,10µm,20.0s
PAGS Pennsylvania G 117.23 50 PFAKE 23 22 40.0 +11
PAGS LR LR
comp=Z,9µm,20.0s
SDMD Soldier's Deli 117.27 51 PFAKE 23 22 40.0 +10
SDMD LR LR
comp=Z,3µm,20.0s
MNMC Minye Minye 117.31 118 PFAKE 23 22 40.0 +9.3
MNMC LR LR
comp=Z,2µm,22.0s
BINY Binghamton 117.43 48 PFAKE 23 22 40.0 +10
BINY LR LR
comp=Z,6µm,21.0s
MVL Millersville 117.55 50 PFAKE 23 22 40.0 +10
MVL LR LR
comp=Z,8µm,21.0s
KSPA Keystone Colle 117.71 49 PFAKE 23 22 40.0 +10
KSPA LR LR
comp=Z,10µm,19.0s
N59A State Game Lan 117.83 49 PFAKE 23 22 40.0 +9.3
N59A LR LR
comp=Z,7µm,21.0s
LONY Lake Ozonia 117.93 45 PFAKE 23 22 40.0 +9.2
LONY LR LR
comp=Z,5µm,21.0s
MAK Makhachkala 118.31 313 *e*P **Pdif 23 18 49.6 -1.1**
MAK *e* 23 23 44.2
MAK *e* 23 29 22.9
MAK *e*PS **PS 23 33 34.8 +0.2**
MAK *e*SS SS 23 40 03.4 +1.9
MAK pmax pmax
comp=Z,205nm,0.9s
MAK MLR MLR
comp=Z,8µm,17.0s
NCB Newcomb 118.33 46 PFAKE 23 22 40.0 +8.4
NCB LR LR
comp=Z,5µm,20.0s
SFJD Kangerlussuaq 118.50 16 PFAKE 23 22 40.0 +8.9
SFJD LR LR
comp=Z,7µm,20.0s
FRNY Flat Rock 118.56 45 PFAKE 23 22 40.0 +8.0
FRNY LR LR
comp=Z,4µm,19.0s
ODNJ Ogdensburg 118.66 49 PFAKE 23 22 40.0 +7.7
ODNJ LR LR
comp=Z,6µm,19.0s

BRNJ Basking Ridge 118.77 49 PFAKE 23 22 40.0 +7.5
BRNJ LR LR
comp=Z,9µm,20.0s
ACCN Adirondack Com 118.85 46 PFAKE 23 22 40.0 +7.4
ACCN LR LR
comp=Z,8µm,20.0s
PAL Palisades 119.19 49 PFAKE 23 22 40.0 +6.7
PAL LR LR
comp=Z,7µm,19.0s
SCHQ Schefferville 119.32 32 PKKPbc PKKPbc 23 32 46.8 -0.7
comp=Z,2.7nm,0.8s,baz=84,slow=6.3,SNR=4.7
SCHQ Schefferville 119.32 32 PKKPbc PKKPbc 23 32 46.8 -0.7
SCHQ LR LR
comp=Z,7µm,20.0s
VRH Novokhopyorsk 119.69 323 *e*PKIKP **PKiKP 23 22 37.0 +3.1**
VRH pmax pmax
comp=Z,10.0nm,0.8s
LPAZ La Paz 119.70 116 PKP **PKiKP 23 22 39.0 +3.2**
comp=Z,1.8nm,0.9s,baz=252,slow=3.2,SNR=4.3
LPAZ La Paz 119.70 116 PKIKP **PKiKP 23 22 39.0 +3.2**
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
YLE Yale 119.84 48 PFAKE 23 22 50.0 +15
YLE LR LR
comp=Z,8µm,19.0s
LBNH Lisbon 119.86 45 PFAKE 23 22 50.0 +15
LBNH LR LR
comp=Z,6µm,20.0s
MOS Moscow 120.02 329 *e*PKIKP **PKiKP 23 22 39.5 +5.1**
MOS *e* 23 24 02.4
HRV Adam Dziewonsk 120.57 47 PFAKE 23 22 50.0 +14
HRV LR LR
comp=Z,8µm,20.0s
LPSR Galich'ya Gora 120.73 326 *e*PKIKP **PKPdf 23 22 32.2 -3.6**
LPSR pmax pmax
comp=Z,7.0nm,0.6s
WES Weston 120.77 47 PFAKE 23 22 50.0 +14
WES LR LR
comp=Z,9µm,20.0s
OBN Obninsk 120.85 329 PFAKE 23 22 50.0 +14
OBN LR LR
comp=Z,4µm,22.0s
OBN Obninsk 120.85 329 ⇑*i*PKIKP **PKiKP 23 22 38.0 +1.9**
OBN *e* 23 24 08.5
OBN *e*SS SS 23 40 35.5 +2.5
OBN pmax pmax
comp=Z,33nm,1.4s
GOF Gofitskoye 120.90 316 *e*P **Pdif 23 19 08.0 +5.8**
GNI Garni 120.95 311 PKP **PKiKP 23 22 37.8 +0.8**
comp=Z,3.9nm,0.9s,baz=12,slow=20,SNR=2.7
GNI Garni 120.95 311 PKP **PKiKP 23 22 37.9 +0.8**
GNI LR LR
comp=Z,2µm,20.0s
VSR Storozhevoye 121.17 324 *e*PKIKP **PKiKP 23 22 36.9 +0.1**
VSR pmax pmax
comp=Z,10.0nm,1.6s
PKME Peaks-Kenny Pk 121.38 43 PFAKE 23 22 50.0 +13
PKME LR LR
comp=Z,4µm,18.0s
KIV Kislovodsk 121.46 315 PFAKE 23 22 50.0 +12
KIV LR LR
comp=Z,3µm,21.0s
FINES FINESS Array B 121.67 339 PKP **PKPdf 23 22 35.8 -1.6**
comp=Z,2.6nm,0.8s,baz=153,slow=1.7,SNR=6.5
RAYN Ar Rayn 122.50 291 *e*PKPdf **PKiKP 23 22 40.3 -0.1**
RAYN *e*PP **PP 23 24 09.8 -7.5**
RAYN LR LR
comp=Z,2µm,20.0s
RAYN Ar Rayn 122.50 291 *e*PKIKP **PKiKP 23 22 40.3 -0.1**
RAYN MLR MLR
comp=Z,2µm,20.0s
BATG Bathurst New B 122.80 40 PFAKE 23 22 50.0 +10
BATG LR LR
comp=Z,5µm,21.0s
GGN Saint George 123.06 43 PFAKE 23 22 50.0 +9.3
GGN LR LR
comp=Z,8µm,22.0s
DAMY Dhamar 123.47 280 PFAKE 23 22 50.0 +7.2
DAMY LR LR
comp=Z,2µm,21.0s
CPUP Villa Florida 123.75 132 PKP **PKPdf 23 22 40.7 -1.8**
comp=Z,4.0nm,0.8s,baz=265,slow=6.6,SNR=3.6
SDDR Presa de Saban 123.75 74 PFAKE 23 22 50.0 +7.1
SDDR LR LR
comp=Z,3µm,20.0s
SDV Santo Domingo 123.76 86 *e*PKPdf **PKPdf 23 22 42.2 -0.8**
LMN Caledonia Moun 124.14 41 PFAKE 23 22 50.0 +7.1
LMN LR LR
comp=Z,6µm,21.0s
NRS Narsarsuaq 124.43 18 PFAKE 23 22 50.0 +7.0
NRS LR LR
comp=Z,14µm,20.0s
SDD Santo Domingo 125.05 75 PFAKE 23 23 00.0 +15
SDD LR LR
comp=Z,3µm,22.0s
HAL Halifax 125.39 42 PFAKE 23 23 00.0 +15
HAL LR LR
comp=Z,6µm,20.0s
NACGM Naroch 125.66 333 *e* PKPpre 23 22 40.0
BOSA Boshof 125.89 223 PKP **PKPdf 23 22 46.9 +0.2**
comp=Z,3.6nm,0.7s,baz=118,slow=4.3,SNR=7.0
BOSA Boshof 125.89 223 PKIKP **PKPdf 23 22 46.9 +0.2**
BOSA pmax pmax
comp=Z,5.0nm,0.8s
SIV San Ignacio 126.00 119 PKP **PKPdf 23 22 46.2 -0.8**
comp=Z,1.3nm,0.7s,baz=235,slow=4.5,SNR=4.0
SUR Sutherland 126.08 216 PFAKE 23 23 00.0 +13
SUR LR LR
comp=Z,5µm,18.0s
NB2 NORSAR Subarra 126.52 345 PKPdf **PKiKP 23 22 51.2 +4.0**
comp=Z,1.5nm,0.7s,baz=34,slow=1.9
NOA NORSAR Array B 126.52 345 PKP **PKPdf 23 22 46.5 -0.2**
comp=Z,1.3nm,0.7s,baz=36,slow=2.0,SNR=3.1
AKASG Malin Array Be 126.93 327 PKP **PKPdf 23 22 47.3 -0.5**
comp=Z,0.5nm,0.5s,baz=63,slow=2.2,SNR=6.1
AKASG Malin Array Be 126.93 327 PKIKP **PKPdf 23 22 47.3 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 126.93 327 PFAKE 23 23 00.0 +12
AKBB LR LR
comp=Z,3µm,19.0s
KIEV Kiev 126.94 327 PFAKE 23 23 00.0 +12
KIEV LR LR
comp=Z,3µm,19.0s
KIEV Kiev 126.94 327 ⇑*i*P **PKiKP 23 22 54.2 +5.9**
KIEV Kiev 126.94 327 ⇑PKIKP **PKiKP 23 22 54.2 +5.9**
AK11 Malin Array Si 126.97 327 *e*PKPdf **PKiKP 23 22 48.1 -0.2**
DRLN Deer Lake 127.03 35 PFAKE 23 23 00.0 +11
DRLN LR LR
comp=Z,14µm,20.0s
KMBO Kilima Mbogo 128.16 260 PKP **PKPdf 23 22 50.6 -0.9**
comp=Z,0.6nm,0.3s,baz=164,slow=3.2,SNR=2.9
OBIP Obispado Ponce 128.19 75 PFAKE 23 23 00.0 +8.3
OBIP LR LR
comp=Z,2µm,18.0s
ICMP Isla Caja de M 128.27 76 PFAKE 23 23 00.0 +8.1
ICMP LR LR
comp=Z,2µm,22.0s
FURI Furi 128.57 273 PFAKE 23 23 00.0 +6.9
FURI LR LR
comp=Z,2µm,20.0s
SJG San Juan 128.63 75 PFAKE 23 23 00.0 +7.4
SJG LR LR
comp=Z,2µm,22.0s
CBYP Canovanas 128.91 75 PFAKE 23 23 00.0 +6.8
CBYP LR LR
comp=Z,2µm,20.0s
HUMP Col San Antoni 128.91 75 PFAKE 23 23 00.0 +6.8
HUMP LR LR
comp=Z,2µm,21.0s
KIS Kishinev 129.15 324 *e*PKP **PKiKP 23 22 56.0 +3.2**
KIS Kishinev 129.15 324 *e*PP PP 23 25 14.0 +14
KIS LRM MLR 00 20 29.0
comp=Z,2µm,18.0s
KIS Kishinev 129.15 324 *e*PKIKP **PKiKP 23 22 56.0 +3.2**
KIS MLR MLR
comp=Z,2µm,18.0s
MTP Monte Pirata 129.20 75 PFAKE 23 23 00.0 +6.3
MTP LR LR
comp=Z,2µm,21.0s
BRTR Keskin Array B 129.23 313 PKP **PKPdf 23 22 50.9 -1.8**
comp=Z,0.7nm,0.8s,baz=135,slow=2.0,SNR=4.1
BRTR PP **PP 23 25 03.3 +1.9**
comp=Z,1.0nm,0.9s,baz=101,slow=6.4,SNR=3.7
CUPR Culebra, Puert 129.45 75 PFAKE 23 23 10.0 +16

CUPR					LR	LR			
	comp=Z,2µm,20.0s								
STVI	**Saint Thomas**	**129.76**	**75**		PFAKE			23 23 10.0	+15
STVI					LR	LR			
	comp=Z,2µm,20.0s								
ANTO	**Ankara**	**129.78**	**314**		PFAKE			23 23 10.0	+16
ANTO					LR	LR			
	comp=Z,2µm,20.0s								
CFR	**Carcaliu**	**130.49**	**322**	⇑	*i*P		**PKPdf**	**23 22 54.6**	**-0.1**
CFR	**Carcaliu**	**130.49**	**322**	⇑	*e*PKIKP		**PKPdf**	**23 22 54.6**	**-0.1**
TIRR	**Tirgusor**	**130.69**	**321**		*e*PKPdf		**PKPdf**	**23 22 55.3**	**+0.2**
TIRR					LR	LR			
	comp=Z,3µm,20.0s								
TIRR	**Tirgusor**	**130.69**	**321**	⇓	*i*P		**PKPdf**	**23 22 55.3**	**+0.2**
TIRR	**Tirgusor**	**130.69**	**321**	⇓	PKIKP		**PKPdf**	**23 22 55.3**	**+0.2**
BIZ	**Bicaz**	**130.74**	**325**	⇑	*i*P		**PKiKP**	**23 22 56.3**	**+0.2**
BUR04	**Bucovina Ar. S**	**130.85**	**326**		*e*PKPdf		**PKiKP**	**23 22 56.5**	**+0.1**
BURAR	**Bucovina Array**	**130.85**	**326**	⇑	*i*P		**PKiKP**	**23 22 59.4**	**+3.0**
BURAR	**Bucovina Array**	**130.85**	**326**	⇑	PKIKP		**PKiKP**	**23 22 59.4**	**+3.0**
TLB	**Topalu**	**130.85**	**321**	⇑	*i*P		**PKPdf**	**23 22 53.2**	**-2.2**
TLB	**Topalu**	**130.85**	**321**	⇑	PKIKP		**PKPdf**	**23 22 53.2**	**-2.2**
KWP	**Kalwaria Pacla**	**130.93**	**329**		*e*PKP		**PKiKP**	**23 23 00.2**	**+3.8**
KWP	**Kalwaria Pacla**	**130.93**	**329**		PFAKE			23 23 10.0	+14
KWP					LR	LR			
	comp=Z,38µm,21.0s								
KWP	**Kalwaria Pacla**	**130.93**	**329**		*e*PKIKP		**PKiKP**	**23 23 00.2**	**+3.8**
PLOR	**Plostina**	**131.03**	**323**	⇑	*i*P		**PKiKP**	**23 23 00.1**	**+3.4**
PLOR	**Plostina**	**131.03**	**323**	⇑	PKIKP		**PKiKP**	**23 23 00.1**	**+3.4**
CSS	**Mathiatis**	**131.07**	**307**		PFAKE			23 23 10.0	+13
CSS					LR	LR			
	comp=Z,2µm,22.0s								
LSZ	**Lusaka**	**131.30**	**239**		*e*PKPdf		**PKPdf**	**23 22 54.9**	**-2.4**
LSZ					LR	LR			
	comp=Z,5µm,20.0s								
LSZ	**Lusaka**	**131.30**	**239**		*e*PKIKP		**PKPdf**	**23 22 54.9**	**-2.4**
LSZ					MLR	MLR			
	comp=Z,5µm,20.0s								
LSZ	**Lusaka**	**131.30**	**239**		pPKiKP		**PKiKP**	**23 23 05.6**	**+7.4**
	SNR=5.7								
OZUR		**131.39**	**324**	⇓	*i*P		**PKPdf**	**23 22 56.7**	**+0.2**
SMRT	**St. Maarten**	**131.55**	**75**		PFAKE			23 23 10.0	+11
SMRT					LR	LR			
	comp=Z,2µm,21.0s								
MLR	**Muntele Rosu**	**131.64**	**323**		*e*PKPdf		**PKPdf**	**23 22 57.0**	**-0.1**
MLR					LR	LR			
	comp=Z,4µm,20.0s								
MLR	**Muntele Rosu**	**131.64**	**323**	⇑	*i*P		**PKPdf**	**23 22 56.8**	**-0.3**
MLR	**Muntele Rosu**	**131.64**	**323**	⇑	PKIKP		**PKPdf**	**23 22 56.8**	**-0.3**
SEUS	**St. Eustatius**	**131.66**	**76**		PFAKE			23 23 10.0	+11
SEUS					LR	LR			
	comp=Z,2µm,19.0s								
UZH	**Uzhgorod**	**131.78**	**329**		*e*PKHKP		PKPpre	23 22 42.5	
OJC	**Ojcow**	**131.95**	**332**		*e*PKP		**PKiKP**	**23 23 03.9**	**+5.5**
OJC	**Ojcow**	**131.95**	**332**		*e*PKIKP		**PKiKP**	**23 23 03.9**	**+5.5**
TRPA	**Tarpa**	**131.97**	**328**	⇑	*i*P		**PKiKP**	**23 22 58.4**	**-0.1**
VOIR		**132.19**	**324**	⇑	*i*P		**PKiKP**	**23 23 02.1**	**+3.0**
VOIR		**132.19**	**324**	⇑	PKIKP		**PKiKP**	**23 23 02.1**	**+3.0**
CJR	**Cluj-Napoca**	**132.27**	**326**	⇑	*i*P		**PKiKP**	**23 23 02.0**	**+2.8**
CJR	**Cluj-Napoca**	**132.27**	**326**	⇑	PKIKP		**PKiKP**	**23 23 02.0**	**+2.8**
PTGA	**Pitinga**	**132.45**	**101**		PKP		**PKPdf**	**23 22 59.8**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=229,slow=4.4,SNR=3.4								
PTGA	**Pitinga**	**132.45**	**101**		PKP		**PKPdf**	**23 22 59.9**	**+0.4**
PTGA					LR	LR			
	comp=Z,2µm,18.0s								
ARR	**Arges**	**132.47**	**324**	⇑	*i*P		**PKPdf**	**23 22 56.3**	**-2.3**
SPB	**Sao Paulo**	**132.48**	**136**		PFAKE			23 23 10.0	+10
SPB					LR	LR			
	comp=Z,3µm,20.0s								
DRGR		**132.71**	**326**	⇑	*i*P		**PKiKP**	**23 23 02.2**	**+2.1**
DRGR		**132.71**	**326**	⇑	PKIKP		**PKiKP**	**23 23 02.2**	**+2.1**
HUMR	**Humele**	**132.74**	**323**	⇓	*i*P		**PKiKP**	**23 23 04.7**	**+4.5**
OKC	**Ostrava-Krasne**	**132.98**	**332**		AMS		AMS	00 19 00.0	
	comp=Z,3µm,20.6s								
KSP	**Ksiaz**	**133.06**	**334**		*e*PKP		**PKiKP**	**23 23 07.7**	**+7.1**
MORC	**Moravsky Berou**	**133.30**	**333**		PFAKE			23 23 10.0	+8.8
MORC					LR	LR			
	comp=Z,5µm,22.0s								
MORC	**Moravsky Berou**	**133.30**	**333**	⇓	*i*P		**PKiKP**	**23 23 02.8**	**+1.6**
MORC	**Moravsky Berou**	**133.30**	**333**	⇓	PKIKP		**PKiKP**	**23 23 02.8**	**+1.6**
MORC	**Moravsky Berou**	**133.30**	**333**		*e*PKP		**PKiKP**	**23 23 02.3**	**+1.1**
DPC	**Dobruska-Polom**	**133.42**	**334**		*e*PKP		**PKPdf**	**23 22 59.7**	**-0.5**
DPC					*ex*	x		23 23 07.5	
DPC	**Dobruska-Polom**	**133.42**	**334**		AMS		AMS	00 25 20.0	
	comp=Z,2µm,16.5s								
DPC	**Dobruska-Polom**	**133.42**	**334**		*e*PKIKP		**PKPdf**	**23 22 59.7**	**-0.5**
DPC					*e*			23 23 07.5	
UPC	**Upice**	**133.43**	**334**		AMS		AMS	00 19 30.0	
	comp=Z,4µm,21.0s								
PSZ	**Piszkesteto**	**133.46**	**329**		PFAKE			23 23 10.0	+8.4
PSZ					LR	LR			
	comp=Z,5µm,21.0s								
PSZ	**Piszkesteto**	**133.46**	**329**	⇑	*i*P		**PKiKP**	**23 23 03.3**	**+1.7**
PSZ	**Piszkesteto**	**133.46**	**329**	⇑	PKIKP		**PKiKP**	**23 23 03.3**	**+1.7**
GZR	**Gura Zlata**	**133.52**	**325**	⇑	*i*P		**PKiKP**	**23 23 02.7**	**+0.9**
GZR	**Gura Zlata**	**133.52**	**325**	⇑	PKIKP		**PKiKP**	**23 23 02.7**	**+0.9**
VYHS	**Vyhne**	**133.59**	**331**		*e*PKIKP		**PKiKP**	**23 23 02.0**	**+0.2**
VYHS					*e*			23 23 13.5	
VYHS					*e*			23 25 32.6	
VYHS	**Vyhne**	**133.59**	**331**		*e*PKP		**PKiKP**	**23 23 02.0**	**+0.2**
VYHS					*e*			23 23 13.5	
VYHS					*e*PP		**PP**	**23 25 32.6**	**+3.9**
ALN	**Alexandroupoli**	**133.97**	**318**		PFAKE			23 23 10.0	+7.3
ALN					LR	LR			
	comp=Z,1µm,22.0s								
PVCC	**Panska Ves**	**134.02**	**335**		AMS		AMS	00 24 20.0	
	comp=Z,3µm,26.2s								
BZS	**Buzias**	**134.03**	**326**	⇑	*i*P		**PKPdf**	**23 23 02.0**	**+0.6**
BZS	**Buzias**	**134.03**	**326**	⇑	PKIKP		**PKPdf**	**23 23 02.1**	**+0.6**
CLL	**Collm**	**134.04**	**337**		PFAKE			23 23 10.0	+7.4
CLL					LR	LR			
	comp=Z,4µm,20.0s								
CLL	**Collm**	**134.04**	**337**		*e*PKPdf		**PKPdf**	**23 23 01.0**	**-0.2**
CLL					*e*PKIKP		**PKiKP**	**23 23 05.0**	**+2.4**
CLL					*e*			23 23 15.0	
CLL					*e*PPS		PPS	23 37 48.0	
CLL					*e*SS		SS	23 43 20.0	+3.5
CLL					*e*SSS		SSS	23 48 18.0	
CLL					Lm		MLR	00 26 00.0	
	comp=N,2µm,19.6s								
CLL					Lm		MLR	00 26 00.0	
	comp=E,2µm,20.4s								
CLL					Lm		MLR	00 26 00.0	
	comp=Z,3µm,21.1s								
CLL	**Collm**	**134.04**	**337**		*e*PKIKP		**PKiKP**	**23 23 05.0**	**+2.4**
CLL					*e*			23 23 15.0	
CLL					MLR		MLR		
	comp=Z,3µm,21.1s								
VRAC	**Vranov**	**134.06**	**333**		*e*PKP		**PKiKP**	**23 23 05.5**	**+2.8**
KRUC	**Moravsky**	**134.33**	**333**		*e*PKP		**PKiKP**	**23 23 06.0**	**+2.7**
GOPC	**GO Pecny, Ondr**	**134.40**	**335**		AMS		AMS	00 20 10.0	
	comp=Z,4µm,18.3s								
MODS	**Modra-Piesok**	**134.42**	**331**		*e*PKIKP		**PKiKP**	**23 23 04.6**	**+1.1**
MODS					*e*			23 23 17.4	
MODS	**Modra-Piesok**	**134.42**	**331**		*e*PKP		**PKiKP**	**23 23 04.6**	**+1.1**
MODS					*e*			23 23 17.4	
PRA	**Prague**	**134.43**	**335**		AMS		AMS	00 19 30.0	
	comp=Z,3µm,20.1s								
PRU	**Pruhonice**	**134.45**	**335**		*e*PKP		**PKiKP**	**23 23 03.3**	**-0.2**
PRU	**Pruhonice**	**134.45**	**335**		AMS		AMS	00 19 10.0	
	comp=Z,4µm,20.2s								
PRU	**Pruhonice**	**134.45**	**335**		*e*PKIKP		**PKiKP**	**23 23 03.3**	**-0.2**
MDVR	**Moldovita**	**134.49**	**325**	⇓	*i*P		**PKiKP**	**23 23 05.1**	**+1.3**
TREC	**Trest**	**134.56**	**334**		AMS		AMS	00 25 50.0	
	comp=Z,4µm,18.2s								
MBAR	**Mbarara**	**134.59**	**259**		PFAKE			23 23 20.0	+15
MBAR					LR	LR			
	comp=Z,800nm,19.0s								
VTS	**Vitosha**	**134.88**	**321**		PFAKE			23 23 10.0	+5.2
VTS					LR	LR			
	comp=Z,3µm,21.0s								
VTS	**Vitosha**	**134.88**	**321**	⇑	*i*P		**PKiKP**	**23 23 04.4**	**-0.4**
VTS	**Vitosha**	**134.88**	**321**	⇑	PKIKP		**PKiKP**	**23 23 04.4**	**-0.4**
NKC	**Novy Kostel**	**135.10**	**337**		AMS		AMS	00 26 20.0	
	comp=Z,3µm,18.2s								
CONA	**Conrad Observa**	**135.40**	**332**		*i* pPKPdf		**PKiKP**	**23 23 06.8**	**+1.2**
	comp=Z,1.7nm,0.5s								
CONA					*i* PP		**PP**	**23 25 41.3**	**+1.1**
	comp=Z,17nm,2.2s								
KHC	**Kasperske Hory**	**135.51**	**335**		PFAKE			23 23 20.0	+14
KHC					LR	LR			
	comp=Z,2µm,22.0s								
KHC	**Kasperske Hory**	**135.51**	**335**		*e*PKP		**PKiKP**	**23 23 08.6**	**+2.9**
KHC					*ex*	x		23 23 19.8	
KHC	**Kasperske Hory**	**135.51**	**335**		AMS		AMS	00 20 40.0	
	comp=Z,5µm,20.7s								
KHC	**Kasperske Hory**	**135.51**	**335**		*e*PKIKP		**PKiKP**	**23 23 08.6**	**+2.9**
KHC					*e*			23 23 19.8	
GEC2	**GERESS Array S**	**135.67**	**334**		PFAKE			23 23 20.0	+14
GEC2					LR	LR			
	comp=Z,4µm,19.0s								
GERES	**GERESS Array B**	**135.67**	**334**		PKP		**PKPdf**	**23 23 04.8**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=52,slow=1.6,SNR=2.0								
DIVS	**Divibare**	**135.88**	**325**		*e*PKPdf		**PKPdf**	**23 23 02.7**	**-2.4**
DIVS					LR	LR			
	comp=Z,2µm,21.0s								
GRA1	**Grafenberg Arr**	**136.01**	**337**		PFAKE			23 23 20.0	+13
GRA1					LR	LR			
	comp=Z,4µm,20.0s								
GRFO	**Grafenberg**	**136.01**	**337**		PFAKE			23 23 20.0	+13
GRFO					LR	LR			
	comp=Z,4µm,21.0s								
MOA	**Molln**	**136.18**	**333**		*i* pPKPdf		**PKiKP**	**23 23 08.2**	**+1.1**
	comp=Z,1.7nm,0.4s								
MOA					*i* PP		**PP**	**23 25 43.2**	**-1.8**
	comp=Z,14nm,2.0s								
SOKA	**Soboth**	**136.70**	**331**		*i* PKiKP		**PKiKP**	**23 23 07.4**	**-0.8**
	comp=Z,3.0nm,0.8s								
SOKA					*i* PP		**PP**	**23 25 48.1**	**-0.3**
	comp=Z,3.6nm,0.9s								
LIT	**Litokhoron**	**136.70**	**319**		PFAKE			23 23 20.0	+12
LIT					LR	LR			
	comp=Z,2µm,20.0s								
BLY	**Banja Luka**	**136.98**	**328**		PFAKE			23 23 20.0	+11
BLY					LR	LR			
	comp=Z,3µm,22.0s								
BLY	**Banja Luka**	**136.98**	**328**	⇑	*i*P		**PKiKP**	**23 23 07.9**	**-0.9**
BDFB	**Brasilia**	**137.00**	**127**		PKP		**PKiKP**	**23 23 09.3**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=135,slow=5.7,SNR=3.9								
BDFB	**Brasilia**	**137.00**	**127**		PKP		**PKiKP**	**23 23 09.3**	**-0.5**
BDFB					LR	LR			
	comp=Z,3µm,19.0s								
OBKA	**Obir**	**137.05**	**332**		*i* PKPdf		**PKPdf**	**23 23 07.1**	**-0.1**
	comp=Z,0.1nm,0.3s								
OBKA					*i* PP		**PP**	**23 25 50.4**	**-0.1**
	comp=Z,8.8nm,1.6s								
KBA	**Koelnbreinsper**	**137.18**	**333**		*i* pPKPdf		**PKiKP**	**23 23 10.4**	**+1.1**
	comp=Z,6.1nm,0.8s								
KBA					*i* PP		**PP**	**23 25 51.3**	**0.0**
	comp=Z,12nm,1.6s								
PDG	**Podgorica**	**137.34**	**324**	⇑	*i*P		**PKiKP**	**23 23 09.0**	**-0.6**
TTG	**Podgorica**	**137.34**	**324**		PFAKE			23 23 20.0	+10
TTG					LR	LR			
	comp=Z,4µm,22.0s								
UCC	**Uccle**	**137.37**	**343**		PFAKE			23 23 20.0	+11
UCC					LR	LR			
	comp=Z,5µm,20.0s								
AGG	**Agios Georgios**	**137.38**	**318**		PFAKE			23 23 20.0	+10
AGG					LR	LR			
	comp=Z,1µm,20.0s								
MYKA	**Terra Mystica**	**137.38**	**332**		*i* PKiKP		**PKiKP**	**23 23 08.7**	**-0.9**
MYKA					*e*PP		**PP**	**23 25 52.0**	**-0.6**
	comp=Z,4.4nm,1.4s								
STU	**Stuttgart**	**137.53**	**338**		PFAKE			23 23 20.0	+10
STU					LR	LR			
	comp=Z,3µm,22.0s								
TIR	**Tirane**	**137.64**	**322**		PFAKE			23 23 20.0	+10
TIR					LR	LR			
	comp=Z,4µm,21.0s								
WATA	**Walderalm**	**137.75**	**335**		*i* pPKPdf		**PKiKP**	**23 23 10.7**	**+0.3**
	comp=Z,2.8nm,0.5s								
WATA					*e*PP		**PP**	**23 25 55.9**	**+1.1**
	comp=Z,2.0nm,0.6s								
WTTA	**Wattenberg**	**137.78**	**334**		*i* PKPdf		**PKPdf**	**23 23 08.5**	**-0.1**
	comp=Z,17nm,1.6s								
ABTA	**Abfaltersbach**	**137.80**	**333**		*i* PKiKP		**PKPdf**	**23 23 09.3**	**+0.7**
	comp=Z,9.0nm,1.3s								
WLF	**Walferdange**	**137.83**	**341**		PFAKE			23 23 20.0	+10
WLF					LR	LR			
	comp=Z,16µm,21.0s								
MOTA	**Moosalm**	**137.94**	**335**		*i* PKPdf		**PKPdf**	**23 23 08.1**	**-0.8**
	comp=Z,4.3nm,0.7s								
RETA	**Reutte**	**137.96**	**335**		PP		PP	23 25 57.4	+1.3
	comp=Z,16nm,2.2s								
SQTA	**Sankt Quirin**	**137.99**	**335**		*i* PKPdf		**PKPdf**	**23 23 08.2**	**-0.7**
	comp=Z,6.0nm,0.9s								
SQTA					*e*PP		**PP**	**23 25 56.0**	**-0.4**
	comp=Z,9.1nm,1.3s								
BFO	**Black Forest**	**138.22**	**338**		PFAKE			23 23 20.0	+8.8
BFO					LR	LR			
	comp=Z,3µm,21.0s								
FETA	**Feichten**	**138.35**	**335**		*i* PKPdf		**PKPdf**	**23 23 09.4**	**-0.2**
	comp=Z,7.5nm,0.9s								
DAVA	**Damuels**	**138.48**	**336**		*i* PKPdf		**PKPdf**	**23 23 09.4**	**-0.5**
	comp=Z,6.5nm,1.1s								
DAVA					PP		**PP**	**23 25 59.3**	**-0.1**
	comp=Z,22nm,1.7s								
ITM	**Ithomi**	**138.60**	**316**		PFAKE			23 23 20.0	+7.7
ITM					LR	LR			
	comp=Z,2µm,21.0s								
FUORN	**Ofenpass-Fuorn**	**138.86**	**335**		*e*PKPdf		**PKPdf**	**23 23 08.9**	**-1.8**
FUORN					LR	LR			
	comp=Z,5µm,22.0s								
AQU	**L'Aquila**	**140.62**	**328**		PFAKE			23 23 30.0	+14
AQU					LR	LR			
	comp=Z,4µm,21.0s								
VLC	**Villacollemand**	**140.75**	**333**		PFAKE			23 23 30.0	+13
VLC					LR	LR			
	comp=Z,4µm,22.0s								
TIP	**Timpagrande**	**140.84**	**322**		PFAKE			23 23 30.0	+13
TIP					LR	LR			
	comp=Z,3µm,21.0s								
TIP	**Timpagrande**	**140.84**	**322**	⇑	*i*P		**PKPdf**	**23 23 11.9**	**-2.4**
BNI	**Bardonecchia**	**141.59**	**337**		PFAKE			23 23 30.0	+12
BNI					LR	LR			
	comp=Z,5µm,20.0s								
CEL	**Celeste**	**141.94**	**321**		PFAKE			23 23 30.0	+11
CEL					LR	LR			
	comp=Z,3µm,22.0s								
CLTB	**Caltabellotta**	**144.00**	**323**		PFAKE			23 23 30.0	+6.5
CLTB					LR	LR			
	comp=Z,2µm,21.0s								
KEST	**Kesra**	**147.54**	**324**		PKPbc		**PKPbc**	**23 23 28.4**	**-0.3**
	comp=Z,18nm,0.8s,baz=328,slow=1.3,SNR=13								
KEST	**Kesra**	**147.54**	**324**		*e*PKPbc		**PKPbc**	**23 23 28.8**	**+0.1**
KEST					LR	LR			
	comp=Z,2µm,20.0s								
CMAH	**Djebel Manchou**	**147.96**	**327**		P		**PKPbc**	**23 23 29.5**	**-0.3**
ABSA	**Djebel Ababsia**	**148.19**	**327**		P		**PKPbc**	**23 23 30.5**	**+0.1**
PBRG	**Braganca**	**148.41**	**350**		*e*PKPdf		**PKPab**	**23 23 35.2**	**+1.2**
PBRG	**Braganca**	**148.41**	**350**		*e*SS		SS	23 46 39.0	+35
PGAV	**Gavieira, Arco**	**148.48**	**352**		*e*PKPdf		**PKPab**	**23 23 34.8**	**+0.5**
PGAV	**Gavieira, Arco**	**148.48**	**352**		*e*SS		SS	23 46 21.3	+17
PGAV	**Gavieira, Arco**	**148.48**	**352**		*e*LQ		LQ	00 05 14.9	
PGAV					*e*LR		LR	00 14 47.0	
	comp=Z,4µm,20.0s								
PCAB	**Cabril**	**148.70**	**352**		*e*PKPdf		**PKPab**	**23 23 37.9**	**+2.8**
CASM	**Ain Smara**	**148.73**	**328**		P		**PKPbc**	**23 23 31.7**	**-0.1**
DFRA	**Djebel Bou Aff**	**148.82**	**329**		P		**PKPbc**	**23 23 32.7**	**+0.6**
POLO	**Lamas de Olo**	**148.99**	**352**		*e*PKPdf		**PKPbc**	**23 23 32.3**	**0.0**
PVRL	**Vila Real**	**149.08**	**351**		*e*PKPdf		**PKiKP**	**23 23 33.6**	**-0.2**
MVO	**Moncorvo**	**149.08**	**350**		*e*PKPdf		**PKiKP**	**23 23 35.1**	**+1.3**
MVO	**Moncorvo**	**149.08**	**350**		*e*LQ		LQ	00 05 34.9	
MVO	**Moncorvo**	**149.08**	**350**		*e*LR		LR	00 17 24.7	
	comp=Z,4µm,20.0s								
PTO	**Porto**	**149.33**	**353**		*e*PKPdf		**PKPab**	**23 23 38.4**	**+0.8**
SET	**Setif**	**149.34**	**329**		P		**PKPab**	**23 23 37.0**	**-1.0**
PVIS	**Viseu**	**149.65**	**352**		*e*PKPdf		**PKiKP**	**23 23 35.1**	**+0.1**
ES19	**SONSECA Array**	**149.84**	**345**		*e*PKPbc		**PKPbc**	**23 23 33.3**	**-1.1**
ESDC	**Sonseca Array**	**149.88**	**345**		PKPbc		**PKPbc**	**23 23 34.0**	**-0.6**
	comp=Z,5.7nm,0.8s,baz=354,slow=3.1,SNR=12								
ESLA	**Sonseca Array**	**149.88**	**345**		*e*PKPbc		**PKPbc**	**23 23 33.4**	**-1.1**
ESLA					LR	LR			
	comp=Z,4µm,20.0s								
MTE	**Manteigas**	**149.91**	**351**		*e*PKPdf		**PKiKP**	**23 23 37.1**	**+1.6**
MTE	**Manteigas**	**149.91**	**351**		*e*SS		SS	23 46 33.0	+13
MTE	**Manteigas**	**149.91**	**351**		*e*LQ		LQ	00 05 45.7	
MTE	**Manteigas**	**149.91**	**351**		*e*LR		LR	00 17 30.2	
	comp=Z,4µm,20.0s								
MTE	**Manteigas**	**149.91**	**351**		*e*PKPbc		**PKPbc**	**23 23 34.9**	**+0.2**
MTE					*e*PKPab		**pPKPdf**	**23 23 41.5**	**+0.9**
MTE					LR	LR			
	comp=Z,5µm,21.0s								
PAB	**San Pablo**	**150.10**	**346**		*e*PKPbc		**PKiKP**	**23 23 35.6**	**-0.4**
PAB					LR	LR			
	comp=Z,4µm,19.0s								
PAB	**San Pablo**	**150.10**	**346**		*e*PKP2		**PKiKP**	**23 23 35.6**	**-0.4**
PAB					MLR	MLR			
	comp=Z,4µm,19.0s								
PCAS	**Casmilo, Conde**	**150.39**	**352**		*e*PKPdf		**PKPdf**	**23 23 32.9**	**+2.5**
PCAS	**Casmilo, Conde**	**150.39**	**352**		*e*SS		SS	23 46 38.9	+13
PCBR	**Castelo Branco**	**150.45**	**351**		*e*PKPdf		**PKiKP**	**23 23 37.7**	**+1.1**
PTOM	**Tomar**	**150.80**	**352**		*e*PKPdf		**PKiKP**	**23 23 38.2**	**+0.9**
PMRV	**Marv??o**	**150.83**	**350**		*e*PKPdf		**PKiKP**	**23 23 37.6**	**+0.2**
PMRV	**Marv??o**	**150.83**	**350**		*e*SS		SS	23 46 30.1	-0.4
PMRV	**Marv??o**	**150.83**	**350**		*e*LQ		LQ	00 06 09.7	
PMRV	**Marv??o**	**150.83**	**350**		*e*LR		LR	00 18 01.4	
	comp=Z,3µm,20.0s								
CART	**Cartagena**	**150.92**	**339**		*e*PKPbc		**PKiKP**	**23 23 37.4**	**-0.2**
CART					*e*PKPab		**PKPab**	**23 23 43.8**	**-0.4**
CART					LR	LR			
	comp=Z,3µm,20.0s								
PMTG	**Montargil**	**151.32**	**351**		*e*PKPdf		**PKiKP**	**23 23 38.7**	**+0.3**
PESTR	**Estremoz**	**151.41**	**350**		*e*PKPdf		**PKPab**	**23 23 46.1**	**-0.2**
PESTR	**Estremoz**	**151.41**	**350**		*e*SS		SS	23 46 53.0	+16
PESTR	**Estremoz**	**151.41**	**350**		*e*PKPbc		**PKPbc**	**23 23 37.8**	**-0.4**
PESTR					*e*PKPab		**PKPab**	**23 23 45.0**	**-1.3**
PESTR					LR	LR			
	comp=Z,3µm,20.0s								
PMAFR	**Mafra**	**151.57**	**353**		*e*PKPdf		**PKPab**	**23 23 43.5**	**-3.4**
PMST	**Lisbon--Monsan**	**151.77**	**353**		*e*PKPdf		**PKPab**	**23 23 45.8**	**-2.0**
LIS	**Lisbon**	**151.79**	**353**		*e*PKPdf		**PKPdf**	**23 23 33.7**	**+1.1**
LIS					AMS		AMS	00 25 49.2	
	comp=Z,3µm,23.2s								
LIS	**Lisbon**	**151.79**	**353**		*e*PKIKP		**PKPdf**	**23 23 33.7**	**+1.1**
PBEJ	**Beja**	**152.28**	**350**		*e*PKPdf		**PKPbc**	**23 23 37.7**	**-2.4**
PNCL	**Nicolau / Gran**	**152.30**	**352**		*e*PKPdf		**PKPbc**	**23 23 40.2**	**+0.1**
RCBR	**Riachuelo**	**152.35**	**125**		PFAKE			23 23 50.0	-1.0
RCBR					LR	LR			
	comp=Z,3µm,20.0s								
MESJ	**Messejana**	**152.52**	**351**		*e*PKPdf		**PKPdf**	**23 23 34.4**	**+0.7**
MESJ					AMS		AMS	00 33 50.0	
	comp=Z,2µm,23.9s								
MESJ	**Messejana**	**152.52**	**351**		*e*PKPdf		**PKPbc**	**23 23 40.1**	**-0.6**
MESJ	**Messejana**	**152.52**	**351**		*e*PKIKP		**PKPdf**	**23 23 34.4**	**+0.7**
PVAQ	**Vaqueiros**	**152.86**	**350**		*e*PKPdf		**PKPdf**	**23 23 37.1**	**+2.9**
PVAQ	**Vaqueiros**	**152.86**	**350**		*e*SS		SS	23 47 05.5	+13
PVAQ	**Vaqueiros**	**152.86**	**350**		*e*LQ		LQ	00 06 45.6	
PBDV	**Barranco-do-Ve**	**153.06**	**350**		*e*PKPdf		**PKPab**	**23 23 50.5**	**-2.7**
MORF	**Marmelete**	**153.11**	**351**		*e*PKPdf		**PKPdf**	**23 23 35.5**	**+0.8**
MORF					AMS		AMS	00 32 07.1	
	comp=Z,3µm,15.2s								
MORF	**Marmelete**	**153.11**	**351**		*e*PKPdf		**PKPab**	**23 23 49.6**	**-3.9**
**MOR

CPUP	**Villa Florida**	**12.23**	**85**	P	**Pn**	**23 18 45.3**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=256,slow=11,SNR=4.6						
CPUP	**Villa Florida**	**12.23**	**85**	*e*Pn	**Pn**	**23 18 46.0**	**+0.3**
TRQA	**Tornquist**	**12.46**	**145**	*e*Pn	**Pn**	**23 18 49.5**	**+0.7**
SIV	**San Ignacio**	**15.10**	**39**	P	**Pn**	**23 19 23.9**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=219,slow=12,SNR=3.8						
TORD	**Torodi Ar. Bea**	**81.31**	**70**	P	**P**	**23 28 05.3**	**-1.2**
	comp=Z,0.8nm,0.9s,baz=255,slow=5.3,SNR=4.3						
TORD				pP	**pP**	**23 28 18.6**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=225,slow=5.8,SNR=1.8						
H11S2	**WAKE ISLAND Hy**	**26.61**	**273**	T	T	01 54 16.4	
	baz=112						
H11S1	**WAKE ISLAND Hy**	**26.63**	**273**	T	T	01 54 15.4	
	baz=112						
H11S3	**WAKE ISLAND Hy**	**26.63**	**273**	T	T	01 54 16.1	
	baz=112						
ZALV	**Zalesovo Beam**	**148.64**	**28**	PKPbc	**PKPbc**	**23 35 35.7**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=318,slow=1.9,SNR=3.7						
ZALV				pPKPbc	**pPKPbc**	**23 35 49.7**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=327,slow=4.5,SNR=4.2						
MKAR	**Makanchi Array**	**151.91**	**41**	pPKPbc	pPKPbc	23 35 58.3	+1.0
	comp=Z,1.2nm,0.9s,baz=329,slow=2.1,SNR=3.2						

IDC 30 23:16:57.4±2.1, 1.70N×126.01E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/46, mbtmp3.6/3, Error ellipse: s-maj=176.1km s-min=26.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.00**	**160**	P	P	23 22 03.0	-1.1
	1.3nm,0.5s,baz=338,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**26.35**	**164**	P	P	23 22 36.2	+0.8
	0.6nm,0.4s,baz=343,slow=11,SNR=12						
MKAR	**Makanchi Array**	**58.82**	**326**	P	P	23 26 57.7	-0.1
	0.2nm,0.5s,baz=121,slow=7.9,SNR=4.2						

*IDC **30** 23:22:11.3±1.1, 10.41S×166.25E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.9/33, mbtmp3.9/9, ML3.4/1, Error ellipse: s-maj=44.6km s-min=21.7km az=140.0*
*ISCJB **30** 23:22:27.3±0.8, 11.2S±0.1×166.4E±0.2, h155km, mb3.6/8, Error ellipse: s-maj=23.2km s-min=16.2km az=29.1*
ISC 30 23:22:28.2±0.9, 11.2S±0.1×166.5E±0.2, h155km, n16, σ1§08/10, mb3.7/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.81**	**180**	Pn	**Pn**	**23 24 58.5**	**-0.4**
	0.2nm,0.3s,baz=336,slow=20,SNR=2.2						
H11S2	**WAKE ISLAND Hy**	**29.50**	**0**	T	T	23 58 11.4	
	baz=181,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**29.51**	**0**	T	T	23 58 10.4	
	baz=181,slow=76,SNR=3.2						
H11S1	**WAKE ISLAND Hy**	**29.52**	**0**	T	T	23 58 11.0	
	baz=181,slow=76,SNR=5.9						
H11N1	**WAKE ISLAND Hy**	**30.72**	**1**	T	T	23 59 42.5	
	baz=182,slow=76,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**30.72**	**1**	T	T	23 59 39.4	
	baz=182,slow=76,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**30.74**	**1**	T	T	23 59 41.9	
	baz=182,slow=76,SNR=4.2						
WRA	**Warramunga Arr**	**32.10**	**250**	P	**P**	**23 28 41.1**	**+0.2**
	0.7nm,0.8s,baz=81,slow=8.9,SNR=4.9						
ASAR	**Alice Springs**	**33.36**	**244**	P	**P**	**23 28 52.2**	**+0.3**
	0.7nm,0.7s,baz=79,slow=9.6,SNR=6.7						
FITZ	**Fitzroy Crossi**	**40.02**	**255**	P	**P**	**23 29 48.7**	**+0.4**
	1.4nm,0.7s,baz=105,slow=5.3,SNR=6.1						
ILAR	**Eielson Array**	**83.43**	**18**	P	**P**	**23 34 36.1**	**-1.8**
	1.6nm,0.9s,baz=229,slow=6.8,SNR=9.7						
NVAR	**Mina Array Bea**	**85.58**	**50**	P	**P**	**23 34 50.5**	**+0.9**
	0.3nm,0.5s,baz=225,slow=5.2,SNR=3.5						
PDAR	**Pinedale Array**	**93.14**	**47**	P	**P**	**23 35 26.6**	**+1.5**
	0.3nm,0.7s,baz=224,slow=2.5,SNR=2.3						
ZALV	**Zalesovo Beam**	**94.09**	**324**	P	**P**	**23 35 28.4**	**-0.5**
	0.9nm,0.8s,baz=106,slow=4.7,SNR=3.1						
MKAR	**Makanchi Array**	**94.12**	**317**	P	**P**	**23 35 28.9**	**-0.4**
	1.2nm,0.9s,baz=100,slow=6.7,SNR=5.6						
ESDC	**Sonseca Array**	**150.39**	**345**	PKPbc	**PKPbc**	**23 42 02.8**	**+1.1**
	0.8nm,0.8s,baz=14,slow=3.1,SNR=4.6						

*IDC **30** 23:24:01.7±0.9, 10.54S×166.44E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.2/33, mbtmp4.1/13, ML3.5/1, Error ellipse: s-maj=33.0km s-min=20.2km az=132.0*
*NEIC **30** 23:24:03.1±0.3, 10.51S×166.41E, h10km, mb4.4/12, Error ellipse: s-maj=11.4km s-min=8.0km az=123.0*
*ISCJB **30** 23:24:05.4±0.4, 10.64S±0.07×166.38E±0.08, h36km, mb4.3/25, Error ellipse: s-maj=12.2km s-min=9.5km az=29.1*
ISC 30 23:24:06.9±0.6, 10.52S±0.09×166.4E±0.1, h36km, n45, σ1§13/46, mb4.3/25, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.49**	**180**	Pn	**Pn**	**23 26 48.4**	**-0.1**
	0.3nm,0.3s,baz=344,slow=20,SNR=2.7						
TARA	**Tarawa**	**13.44**	**29**	*e*Pn	**Pn**	**23 27 13.8**	**-1.4**
CTAO	**Charters Tower**	**21.65**	**242**	*e*P	**P**	**23 28 53.1**	**-1.3**
	1.0nm,0.4s						
H11S2	**WAKE ISLAND Hy**	**28.83**	**1**	T	T	00 00 00.8	
	baz=181,slow=76,SNR=6.5						
H11S3	**WAKE ISLAND Hy**	**28.83**	**0**	T	T	00 00 06.5	
	baz=181,slow=76,SNR=6.6						
H11S1	**WAKE ISLAND Hy**	**28.84**	**1**	T	T	00 00 06.2	
	baz=181,slow=76,SNR=6.1						
BKZ	**Black Stump Fm**	**29.91**	**164**	*e*P	**P**	**23 30 11.8**	**+0.4**
	4.9nm,0.9s						
WR1	**Warramunga Arr**	**32.31**	**249**	*e*P	**P**	**23 30 32.0**	**-0.7**
WR1				*e*PcP	**PcP**	**23 33 20.9**	**+0.4**
WRA	**Warramunga Arr**	**32.31**	**249**	P	**P**	**23 30 32.0**	**-0.7**
	1.5nm,1.0s,baz=80,slow=9.1,SNR=4.1						
WRA				PcP	**PcP**	**23 33 20.8**	**+0.4**
	0.3nm,0.8s,baz=73,slow=3.4,SNR=4.8						
FOZ	**Fox Glacier**	**33.02**	**175**	*e*P	**P**	**23 30 37.9**	**-0.7**
	9.4nm,1.0s						
AS31	**Alice Springs**	**33.64**	**243**	*e*P	**P**	**23 30 43.6**	**-0.8**
	1.1nm,0.8s						
AS31				*e*PcP	**PcP**	**23 33 24.1**	**0.0**
ASAR	**Alice Springs**	**33.64**	**243**	P	**P**	**23 30 43.6**	**-0.8**
	2.5nm,0.9s,baz=75,slow=9.0,SNR=9.4						
ASAR				PcP	**PcP**	**23 33 24.1**	**0.0**
	1.2nm,0.9s,baz=67,slow=2.4,SNR=5.6						
ANA2	**Anatahan**	**33.66**	**322**	*e*P	**P**	**23 30 41.4**	**-3.1**
	158nm,1.1s						
FITZ	**Fitzroy Crossi**	**40.18**	**254**	P	**P**	**23 31 39.9**	**-0.1**
	1.7nm,0.7s,baz=116,slow=6.6,SNR=5.7						
KSRS	**Korea Array**	**59.84**	**325**	P	**P**	**23 34 09.7**	**+0.9**
	0.8nm,0.7s,baz=141,slow=7.9,SNR=4.4						
KSAR	**Wonju Array Be**	**59.85**	**325**	P	**P**	**23 34 09.7**	**+0.8**
USRK	**Ussuriysk Ar.**	**62.79**	**333**	P	**P**	**23 34 28.7**	**0.0**
	0.9nm,0.5s,baz=157,slow=10,SNR=5.1						
CMAR	**Chiang Mai Arr**	**72.53**	**293**	P	**P**	**23 35 32.4**	**+1.6**
	1.2nm,0.4s,baz=108,slow=2.9,SNR=4.2						
ULN	**Ulaanbaatar**	**78.28**	**324**	*e*P	**P**	**23 36 03.4**	**+0.1**
BILL	**Bilibino**	**78.36**	**360**	*e*P	**P**	**23 36 04.5**	**+1.4**
	4.5nm,0.9s						
SONA0	**Songino Array**	**78.65**	**323**	*e*P	**P**	**23 36 06.3**	**+1.0**
SONM	**Songino Array**	**78.65**	**323**	P	**P**	**23 36 06.3**	**+1.0**
	1.2nm,0.9s,baz=134,slow=6.4,SNR=3.9						
GTA	**Gaotai**	**79.19**	**314**	*e*P	**P**	**23 36 10.5**	**+2.0**
GTA				pP	sP	23 36 25.0	+1.1
GTA				sP	pP	23 36 32.0	+12
GTA				pmax	pmax		
	comp=Z,5.0nm,1.5s						
IL1	**Eielson Array**	**82.80**	**18**	*e*P	**P**	**23 36 25.8**	**-1.2**
ILAR	**Eielson Array**	**82.80**	**18**	P	**P**	**23 36 27.6**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=228,slow=6.1,SNR=15						
ILB	**Eielson Array**	**82.80**	**18**	*e*P	**P**	**23 36 27.6**	**+0.6**
	comp=Z,3.0nm,0.9s						
NV01	**Mina Array Sit**	**85.16**	**50**	*e*P	**P**	**23 36 40.5**	**+0.5**
NVAR	**Mina Array Bea**	**85.16**	**50**	P	**P**	**23 36 41.0**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=230,slow=7.5,SNR=6.8						
LCMT	**Little Creek M**	**88.64**	**52**	*e*P	**P**	**23 36 57.4**	**+0.6**
	comp=Z,0.3nm,0.6s						
U15A	**North Rim**	**89.24**	**53**	*e*P	**P**	**23 37 02.0**	**+2.2**
	comp=Z,2.6nm,1.0s						
X16A	**Lo Mia Camp, P**	**89.46**	**55**	*e*P	**P**	**23 37 02.7**	**+2.0**
	comp=Z,3.6nm,1.1s						
MTPU	**Mount Pierson**	**89.70**	**51**	*e*P	**P**	**23 37 00.2**	**-1.9**
	comp=Z,1.6nm,0.7s						
HVU	**Hansel Valley**	**90.15**	**48**	*e*P	**P**	**23 37 03.5**	**-0.3**
	comp=Z,4.9nm,1.2s						
MVCO	**Mesa Verde**	**92.38**	**53**	*e*P	**P**	**23 37 12.4**	**-1.9**
	comp=Z,1.2nm,0.5s						
ZAA1	**Zalesovo Array**	**93.53**	**324**	*e*P	**P**	**23 37 19.0**	**+0.1**
ZALV	**Zalesovo Beam**	**93.53**	**324**	P	**P**	**23 37 19.0**	**+0.1**
	comp=Z,1.9nm,0.9s,baz=123,slow=5.5,SNR=6.4						
MK01	**Makanchi Array**	**93.60**	**317**	*e*P	**P**	**23 37 19.9**	**+0.5**
MK32	**Makanchi Array**	**93.61**	**317**	*e*P	**P**	**23 37 20.4**	**+0.9**
MKAR	**Makanchi Array**	**93.61**	**317**	P	**P**	**23 37 20.4**	**+0.9**
	comp=Z,3.2nm,0.9s,baz=100,slow=6.1,SNR=17						
YKA	**Yellowknife Ar**	**94.19**	**27**	P	**P**	**23 37 20.4**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=260,slow=4.7,SNR=4.5						
KEST	**Kesra**	**147.40**	**324**	PKPbc	**PKPbc**	**23 43 46.9**	**-0.6**
	comp=Z,7.4nm,1.1s,baz=34,slow=3.6,SNR=4.7						
ES19	**SONSECA Array**	**149.69**	**345**	*e*PKPbc	**PKPbc**	**23 43 54.4**	**+1.1**
ESDC	**Sonseca Array**	**149.73**	**345**	PKPbc	**PKPbc**	**23 43 54.1**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=342,slow=3.0,SNR=7.7						
TORD	**Torodi Ar. Bea**	**164.84**	**281**	PKP	**PKPdf**	**23 44 07.9**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=70,slow=1.7,SNR=3.7						
TOA1	**Torodi Ar. Sit**	**164.84**	**281**	*e*PKPdf	**PKPdf**	**23 44 07.9**	**-0.2**

*IDC **30** 23:31:11.5±0.7, 10.57S×166.42E, h0km, mb4.1/14, mb1 4.2/15, mb1mx4.2/31, mbtmp4.1/15, ML3.6/1, Error ellipse: s-maj=25.2km s-min=18.0km az=119.0*
*NEIC **30** 23:31:12.6±0.3, 10.57S×166.46E, h10km, mb4.3/7, Error ellipse: s-maj=11.8km s-min=7.8km az=122.0*
*ISCJB **30** 23:31:15.0±0.4, 10.65S±0.07×166.38E±0.09, h36km, mb4.2/20, Error ellipse: s-maj=13.2km s-min=9.1km az=29.8*
ISC 30 23:31:16.5±0.6, 10.60S±0.10×166.4E±0.1, h36km, n46, σ1§08/42, mb4.2/20, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.41**	**180**	Pn	**Pn**	**23 33 58.2**	**+1.0**
	0.4nm,0.3s,baz=0.0,slow=20,SNR=3.3						
EIDS	**Eidsvold**	**20.68**	**223**	*e*P	**P**	**23 35 51.4**	**-2.1**
	12nm,1.1s						
CTA	**Charters Tower**	**21.60**	**242**	P	**P**	**23 36 04.5**	**+1.0**
	3.5nm,0.8s,baz=69,slow=12,SNR=4.5						
ARMA	**Armidale**	**24.05**	**213**	*e*P	**P**	**23 36 28.5**	**-0.1**
	9.1nm,1.1s						
H11S2	**WAKE ISLAND Hy**	**28.90**	**1**	T	T	00 07 11.6	
	baz=181,slow=76,SNR=44						
H11S3	**WAKE ISLAND Hy**	**28.91**	**1**	T	T	00 07 22.4	
	baz=181,slow=76,SNR=38						
H11S1	**WAKE ISLAND Hy**	**28.92**	**1**	T	T	00 07 18.1	
	baz=181,slow=76,SNR=56						
H11N1	**WAKE ISLAND Hy**	**30.12**	**1**	T	T	00 08 38.5	
	baz=182,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hy**	**30.12**	**1**	T	T	00 08 48.4	
	baz=182,slow=76,SNR=16						
H11N2	**WAKE ISLAND Hy**	**30.14**	**1**	T	T	00 08 39.9	
	baz=182,slow=76,SNR=14						
STKA	**Stephens Creek**	**31.23**	**224**	*e*P	P	23 37 27.1	-5.6
WB2	**Warramunga Arr**	**32.26**	**249**	*e*P	**P**	**23 37 38.0**	**-3.9**
WR1	**Warramunga Arr**	**32.27**	**249**	*e*P	**P**	**23 37 41.7**	**-0.3**
	4.5nm,1.0s						
WR1				*e*PcP	**PcP**	**23 40 30.4**	**+0.4**
WRA	**Warramunga Arr**	**32.27**	**249**	P	**P**	**23 37 41.7**	**-0.3**
	0.9nm,0.6s,baz=81,slow=9.0,SNR=12						
WRA				PcP	**PcP**	**23 40 30.4**	**+0.4**
	0.7nm,0.7s,baz=74,slow=3.5,SNR=4.9						
RPZ	**Rata Peaks**	**33.24**	**174**	P	**P**	**23 37 50.4**	**+0.2**
	13nm,0.9s,baz=297,slow=2.3,SNR=6.5						
ASAR	**Alice Springs**	**33.59**	**243**	P	**P**	**23 37 53.2**	**-0.4**
	2.3nm,0.8s,baz=74,slow=8.8,SNR=18						
ASAR				PcP	**PcP**	**23 40 33.9**	**+0.2**
	1.4nm,0.8s,baz=72,slow=2.5,SNR=7.5						
KSRS	**Korea Array**	**59.89**	**325**	P	**P**	**23 41 19.9**	**+1.1**
	0.8nm,0.7s,baz=134,slow=5.4,SNR=5.6						
KSAR	**Wonju Array Be**	**59.90**	**325**	P	**P**	**23 41 19.9**	**+1.0**
KS01	**Wonju Array Si**	**59.92**	**325**	*e*P	**P**	**23 41 20.2**	**+1.1**
USRK	**Ussuriysk Ar.**	**62.85**	**333**	P	**P**	**23 41 39.5**	**+0.8**
	0.6nm,0.5s,baz=132,slow=8.5,SNR=4.3						
CMAR	**Chiang Mai Arr**	**72.55**	**293**	P	**P**	**23 42 40.6**	**+0.1**
	0.5nm,0.3s,baz=113,slow=4.1,SNR=4.9						
BILL	**Bilibino**	**78.43**	**360**	*e*P	**P**	**23 43 13.1**	**0.0**
	1.3nm,0.2s						
SONA0	**Songino Array**	**78.70**	**323**	*e*P	**P**	**23 43 15.6**	**+0.4**
SONM	**Songino Array**	**78.70**	**323**	P	**P**	**23 43 15.6**	**+0.4**
	1.2nm,0.9s,baz=145,slow=5.4,SNR=6.2						
SONA1	**Songino Array**	**78.70**	**323**	*e*P	**P**	**23 43 15.5**	**+0.3**
IL1	**Eielson Array**	**82.88**	**18**	*e*P	**P**	**23 43 36.8**	**-0.2**
ILAR	**Eielson Array**	**82.88**	**18**	P	**P**	**23 43 37.2**	**+0.2**
	2.2nm,0.8s,baz=227,slow=5.7,SNR=16						
NV01	**Mina Array Sit**	**85.22**	**50**	*e*P	**P**	**23 43 49.3**	**-0.6**
NVAR	**Mina Array Bea**	**85.22**	**50**	P	**P**	**23 43 50.9**	**+1.1**
	1.0nm,0.8s,baz=237,slow=8.7,SNR=4.6						
LCMT	**Little Creek M**	**88.70**	**52**	*e*P	**P**	**23 44 05.6**	**-1.1**
	2.6nm,1.2s						
KNB	**Kanab**	**89.03**	**52**	*e*P	**P**	**23 44 09.1**	**+0.8**
	1.4nm,1.1s						
U15A	**North Rim**	**89.30**	**53**	*e*P	**P**	**23 44 09.4**	**-0.3**
	3.5nm,1.0s						
MTPU	**Mount Pierson**	**89.76**	**51**	*e*P	**P**	**23 44 11.6**	**-0.4**
MSU	**Marysvale**	**89.88**	**51**	*e*P	**P**	**23 44 12.3**	**0.0**
PDAR	**Pinedale Array**	**92.76**	**47**	P	**P**	**23 44 26.7**	**+1.2**
	0.2nm,0.7s,baz=260,slow=3.6,SNR=2.7						
ZALV	**Zalesovo Beam**	**93.58**	**324**	P	**P**	**23 44 28.9**	**+0.2**
	1.6nm,0.9s,baz=117,slow=5.2,SNR=8.1						
ZAA1	**Zalesovo Array**	**93.59**	**324**	*e*P	**P**	**23 44 28.9**	**+0.2**
MK01	**Makanchi Array**	**93.64**	**317**	*e*P	**P**	**23 44 29.2**	**0.0**
MK32	**Makanchi Array**	**93.65**	**317**	*e*P	**P**	**23 44 29.9**	**+0.6**
MKAR	**Makanchi Array**	**93.65**	**317**	P	**P**	**23 44 29.9**	**+0.6**
	2.7nm,0.8s,baz=95,slow=6.6,SNR=28						
YKA	**Yellowknife Ar**	**94.27**	**27**	P	**P**	**23 44 30.3**	**-1.4**
	0.2nm,0.7s,baz=258,slow=4.7,SNR=4.3						
YKB5	**Yellowknife Ar**	**94.27**	**27**	*e*P	**P**	**23 44 30.3**	**-1.4**
KEST	**Kesra**	**147.46**	**324**	PKPbc	**PKPbc**	**23 50 58.4**	**+1.2**
	5.5nm,0.9s,baz=360,slow=1.0,SNR=4.1						
ES19	**SONSECA Array**	**149.76**	**345**	*e*PKPdf	**PKPdf**	**23 50 55.9**	**-2.5**
ESDC	**Sonseca Array**	**149.80**	**345**	PKPbc	**PKPbc**	**23 51 03.8**	**+0.6**
	1.4nm,0.8s,baz=350,slow=2.5,SNR=9.2						
DBIC	**Dimbokro**	**170.54**	**246**	PKP	**PKPdf**	**23 51 20.9**	**-0.9**
	3.6nm,1.0s,baz=117,slow=1.9,SNR=3.8						

*IDC **30** 23:34:25.6±0.6, 15.98S×74.87W, h0km, mb4.3/14, mb1 4.4/18, mb1mx4.4/38, mbtmp4.3/18, ML4.5/3, Error ellipse: s-maj=21.5km s-min=14.1km az=49.0*
*VAO **30** 23:34:26.2±0.6, 15.96S×75.05W, h10km, mb4.9*
*ISCJB **30** 23:34:27.9±0.3, 16.35S±0.05×75.08W±0.06, h33km, mb4.6/39, Error ellipse: s-maj=10.7km s-min=3.6km az=139.8*
*NEIC **30** 23:34:30.9±0.9, 16.15S×74.93W, h37km±9km, mb4.7/25, Error ellipse: s-maj=14.2km s-min=7.1km az=61.0*
ISC 30 23:34:30.0±0.4, 16.31S±0.06×74.98W±0.08, h35km, n135, σ2§19/137, mb4.7/39, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.67**	**337**	Pn	**Pn**	**23 35 34.0**	**-4.1**
	1.9nm,0.3s,baz=157,slow=15,SNR=3.3						
NNA				Sn	**Sn**	**23 36 27.4**	**-3.7**
	65nm,0.3s,baz=200,slow=15,SNR=5.8						
NNA				Lg	Lg	23 36 38.2	
	64nm,0.3s,baz=190,slow=18,SNR=5.2						
NNA	**Nana**	**4.67**	**337**	*e*Pn	**Pn**	**23 35 38.3**	**+0.2**
NNA				*e*S	**Sn**	**23 36 37.9**	**+6.8**
NNA				Lg	Lg	23 36 38.2	
MNMC	**Minye Minye**	**5.84**	**119**	*e*Pn	**Pn**	**23 35 55.6**	**+1.1**
MNMC				*e*Sn	**Sn**	**23 37 02.8**	**+2.3**
PB11	**IPOC Station P**	**6.11**	**125**	*e*Pn	**Pn**	**23 35 59.6**	**+1.5**
PB11				*e*Sn	**Sn**	**23 37 02.8**	**-4.2**
LPAZ	**La Paz**	**6.58**	**91**	Pn	**Pn**	**23 36 08.8**	**+4.0**
	14nm,0.3s,baz=284,slow=8.6,SNR=226						
LPAZ	**La Paz**	**6.58**	**91**	*e*Pn	**Pn**	**23 36 08.0**	**+3.2**
PB01	**IPOC Station P**	**7.01**	**133**	*e*Pn	**Pn**	**23 36 12.5**	**+2.1**
PB01				*e*Sn	**Sn**	**23 37 25.0**	**-4.0**
PB04	**IPOC Station P**	**7.53**	**143**	*e*Pn	**Pn**	**23 36 16.7**	**-0.8**
PB10	**IPOC Station P**	**8.28**	**151**	*e*Pn	**Pn**	**23 36 29.0**	**+1.3**
PB10				*e*Sn	**Sn**	**23 37 54.6**	**-5.5**
LVC	**Limon Verde**	**8.48**	**139**	Pn	**Pn**	**23 36 33.8**	**+3.0**
	10nm,0.3s,baz=316,slow=9.5,SNR=79						
LVC				Sn	**Sn**	**23 38 03.2**	**-2.3**
	3.5nm,0.3s,baz=233,slow=20,SNR=2.2						
LVC				Lg	Lg	23 39 02.2	
	1.3nm,0.3s,baz=232,slow=19,SNR=2.1						
LVC	**Limon Verde**	**8.48**	**139**	*e*Pn	**Pn**	**23 36 33.9**	**+3.1**
LVC				*e*S	**Sn**	**23 38 06.1**	**+0.5**
LVC				Lg	Lg	23 39 02.2	
LVC	**Limon Verde**	**8.48**	**139**	*e*P	**Pn**	**23 36 34.6**	**+3.8**
GO02	**Mina Guanaco**	**10.14**	**151**	*e*Pn	**Pn**	**23 36 53.1**	**-0.4**
GO03	**Copiap**	**12.05**	**159**	*e*Pn	**Pn**	**23 37 17.4**	**-2.1**
GO03				*e*Sn	**Sn**	**23 39 31.7**	**-1.0**
SIV	**San Ignacio**	**13.37**	**91**	Pn	**Pn**	**23 37 34.0**	**-3.4**
	1.4nm,0.3s,baz=256,slow=9.2,SNR=12						
GO04	**Tololo Observa**	**14.32**	**165**	*e*Pn	**P**	**23 37 55.1**	**-2.1**
PTLC	**Puerto Leguiza**	**16.38**	**1**	*e*P	**Pn**	**23 38 12.5**	**-5.0**
PTLC	**Puerto Leguiza**	**16.38**	**1**	*e*P	**Pn**	**23 38 12.5**	**-5.0**
OTAV	**Otavalo**	**16.80**	**348**	*e*Pn	**Pn**	**23 38 20.7**	**-2.4**
	2.2nm,0.9s						
OTAV	**Otavalo**	**16.80**	**348**	*e*P	**P**	**23 38 28.1**	**+3.0**
OTAV	**Otavalo**	**16.80**	**348**	*e*P	**P**	**23 38 28.1**	**+3.0**
FLOC	**Florencia**	**17.80**	**358**	*e*P	**P**	**23 38 36.5**	**+0.9**
FLOC	**Florencia**	**17.80**	**358**	*e*P	**P**	**23 38 36.5**	**+0.9**
SOTA	**Rioblanco**	**18.40**	**355**	*e*P	**Pn**	**23 38 47.3**	**+4.3**
SOTA	**Rioblanco**	**18.40**	**355**	*e*P	**Pn**	**23 38 47.3**	**+4.3**
SALV	**Santo Antonio**	**18.54**	**91**	*e*P	**P**	**23 38 43.5**	**-0.3**
PCON	**Cinco Dias**	**18.58**	**356**	*e*P	**Pn**	**23 38 50.8**	**+5.6**
PCON	**Cinco Dias**	**18.58**	**356**	*e*P	**Pn**	**23 38 50.8**	**+5.6**
AQDB	**Aquidauana**	**18.75**	**106**	*e*P	**Pn**	**23 38 48.1**	**+1.3**
MARP	**Paez Belalcaza**	**19.06**	**357**	*e*P	**Pn**	**23 38 51.7**	**+0.9**
MARP	**Paez Belalcaza**	**19.06**	**357**	*e*P	**Pn**	**23 38 51.7**	**+0.9**
CPUP	**Villa Florida**	**19.20**	**124**	P	**Pn**	**23 38 53.0**	**+0.8**
	0.3nm,0.3s,baz=301,slow=12,SNR=9.5						
CPUP	**Villa Florida**	**19.20**	**124**	P	**Pn**	**23 38 53.0**	**+0.8**
	6.6nm,1.0s						
CPUP	**Villa Florida**	**19.20**	**124**	*e*P	**Pn**	**23 38 54.1**	**+1.9**
CHIC	**Chingaza**	**20.85**	**3**	*e*P	**P**	**23 39 10.2**	**+0.8**
CHIC	**Chingaza**	**20.85**	**3**	*e*P	**P**	**23 39 10.2**	**+0.8**
ROSC	**El Rosal**	**21.03**	**2**	*e*P	**P**	**23 39 12.6**	**+1.3**
	7.7nm,0.9s						
PTGA	**Pitinga**	**21.42**	**45**	P	**P**	**23 39 11.5**	**-3.6**
	12nm,0.5s,baz=199,slow=14,SNR=13						
PTGA	**Pitinga**	**21.42**	**45**	*e*P	**P**	**23 39 12.0**	**-3.2**
PTGA	**Pitinga**	**21.42**	**45**	*e*P	**P**	**23 39 12.1**	**-3.1**
TRCB	**Terra Rica**	**22.01**	**111**	*e*P	**P**	**23 39 22.3**	**+0.8**
RUSC	**La Rusia**	**22.14**	**5**	*e*P	**P**	**23 39 21.0**	**-2.4**
RUSC	**La Rusia**	**22.14**	**5**	*e*P	**P**	**23 39 21.0**	**-2.4**
PTGB	**Pitanga**	**23.01**	**115**	*e*P	**P**	**23 39 33.4**	**+1.2**
ITRB	**Iturama**	**23.65**	**102**	*e*P	**P**	**23 39 38.9**	**+0.4**
ITAB	**Concordia**	**23.80**	**121**	*e*P	**P**	**23 39 41.1**	**+1.9**
CPSB	**Cacapava Do Su**	**24.18**	**129**	*e*P	**P**	**23 39 45.5**	**+2.3**
TRQA	**Tornquist**	**24.50**	**155**	*e*P	**P**	**23 39 46.1**	**0.0**
PLCA	**Paso Flores**	**24.63**	**172**	P	**P**	**23 39 50.8**	**+3.4**
	3.4nm,0.7s,baz=7.4,slow=9.7,SNR=14						
PLCA	**Paso Flores**	**24.63**	**172**	*e*P	**P**	**23 39 51.8**	**+4.4**
PLCA	**Paso Flores**	**24.63**	**172**	*e*P	**P**	**23 39 51.3**	**+4.0**
PLTB	**Pedras Altas**	**24.78**	**132**	*e*P	**P**	**23 39 50.9**	**+2.1**
FRTB	**Fartura**	**24.89**	**110**	*e*P	**P**	**23 39 51.5**	**+1.7**
SDV	**Santo Doming

1.8nm,0.7s,baz=50,slow=4.5,SNR=3.6
MKAR Makanchi Array 144.23 27 PKP **PKPbc** 23 54 00.7 +0.1
1.0nm,0.6s,baz=338,slow=3.2,SNR=16
MJAR Matsushiro Arr 144.36 311 PKP **PKPdf** **23 54 02.3 -0.7**
1.0nm,0.4s,baz=75,slow=0.7,SNR=3.6
KSH Kashi 145.72 42 PKPbc **PKPab** **23 54 07.5 +1.4**
KSH Kashi 145.72 42 PP PP 23 57 28.0 +1.7
KSH Kashi 145.72 42 PKS **SKPdf** **23 57 36.0 -1.0**
KSH AMB AMB
comp=Z,800nm,7.9s
SONM Songino Array 148.55 358 PKP **PKPdf** **23 54 10.6 +0.8**
comp=Z,5.6nm,0.7s,baz=333,slow=1.6,SNR=11
SONM PKPbc **PKPbc** **23 54 14.0 +0.5**
comp=Z,5.6nm,0.7s,baz=331,slow=1.7,SNR=18
KSRS Korea Array 150.81 321 PKPbc **PKPbc** **23 54 18.2 -0.9**
comp=Z,3.4nm,0.9s,baz=9.5,slow=0.8,SNR=13
KSAR Wonju Array Be 150.84 321 PKPbc **PKPbc** **23 54 18.2 -0.9**
HHC Hu-ho-hao-te 154.90 348 *eP* **PKPdf** **23 54 18.5 -1.1**
GTA Gaotai 156.54 10 *eP* PKPab 23 54 59.5 +8.9
GTA pP sPKPab 23 55 06.5 +2.6
GTA sP pPKPab 23 55 10.3 +10
GTA pmax pmax
comp=Z,2.0nm,1.6s
GTA pmax pmax
comp=Z,1.0nm,0.8s
GTA pmax pmax
comp=Z,2.0nm,1.2s

IDC 30 23:37:12.2±4.8, 10.48S×166.27E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/30, mbtmp3.6/4, MS4.2/1, Ms1 4.2/1, ms1mx3.6/40, Error ellipse: s-maj=206.4km s-min=32.7km az=136.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**28.79**	**1**	T	T	00 13 11.4	
	baz=181						
H11S3	**WAKE ISLAND Hy**	**28.79**	**1**	T	T	00 13 09.9	
	baz=181						
H11S1	**WAKE ISLAND Hy**	**28.80**	**1**	T	T	00 13 09.3	
	baz=181						
WRA	**Warramunga Arr**	**32.16**	**249**	P	P	23 43 42.1	+0.1
	0.3nm,0.9s,baz=76,slow=8.0,SNR=2.8						
ASAR	**Alice Springs**	**33.50**	**243**	P	P	23 43 53.4	-0.4
	0.4nm,0.7s,baz=66,slow=8.5,SNR=3.4						
RAR	**Rarotonga**	**34.30**	**112**	LR	LR	23 57 01.4	
	comp=Z,358nm,18.7s,baz=331,slow=35						
ILAR	**Eielson Array**	**82.81**	**18**	P	P	23 49 37.8	-0.2
	0.6nm,0.9s,baz=238,slow=5.1,SNR=4.0						
MKAR	**Makanchi Array**	**93.46**	**317**	P	P	23 50 30.1	+0.3
	0.6nm,0.8s,baz=88,slow=4.6,SNR=4.8						

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*IDC **30** 23:41:59.3±1.9, 44.14N×10.65E, h0km, mb3.4/3, mb1 3.6/8, mb1mx3.4/41, mbtmp3.5/8, ML3.5/5, Error ellipse: s-maj=34.0km s-min=25.1km az=148.0*
*GEN **30** 23:42:01.0, 44.19N×10.53E, h13km±2km, Ml3.2*
*ISCJB **30** 23:42:00.5±0.2, 44.12N±0.02×10.51E±0.02, h23km±2km, mb3.5/3, Error ellipse: s-maj=2.9km s-min=1.9km az=176.3*
*ROM **30** 23:42:00.9±0.1, 44.145N±0.006×10.497E±0.006, h13km±1km, ML3.3/25*
*LDG **30** 23:42:01.4±0.1, 44.17N×10.49E, h13km, Md3.3/2, Ml3.2/32, Error ellipse: s-maj=2.6km s-min=2.4km az=30.0*
*PRU **30** 23:42:02.8±0.0, 44.19N×10.64E, h15km*
*STR **30** 23:42:02.5±1.1, 44.N±7.×10.E±., h10km, M3.9/14, mb4.7/2, MLv3.4/14*
ISC 30 23:42:00.7±0.7, 44.14N±0.02×10.47E±0.01, h18km±2km, n183, σ1§91/235, mb3.6/3, 4C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLC	**Villacollemand**	**0.06**	**291**	P	**Pg**	**23 42 04.0**	**-0.1**
VLC				S	**Sg**	**23 42 06.4**	**0.0**
VLC				AML	AML		
	comp=E,35250μm,0.4s						
VLC				AML	AML		
	comp=N,37900μm,0.6s						
VLC				AML	AML		
	comp=E,34400μm,0.4s						
VLC				AML	AML		
	comp=N,38250μm,0.6s						
VLC				AML	AML		
	comp=E,35250μm,0.4s						
VLC				AML	AML		
	comp=N,37900μm,0.6s						
VLC				AML	AML		
	comp=E,34400μm,0.4s						
VLC				AML	AML		
	comp=N,38250μm,0.6s						
VLC				AML	AML		
	comp=E,35250μm,0.4s						
VLC				AML	AML		
	comp=N,37900μm,0.6s						
VLC				AML	AML		
	comp=E,34400μm,0.4s						
VLC				AML	AML		
	comp=N,38250μm,0.6s						
VLC				AML	AML		
	comp=N,37900μm,0.6s						
VLC				AML	AML		
	comp=N,38250μm,0.6s						
VLC				AML	AML		
	comp=E,34400μm,0.4s						
VLC				AML	AML		
	comp=E,35250μm,0.4s						
SARO	**Sassorosso**	**0.07**	**315**	P	**Pg**	**23 42 03.8**	**-0.4**
SARO				S	**Sg**	**23 42 06.0**	**-0.7**
BDI	**Bagni Di Lucca**	**0.12**	**129**	P	**Pg**	**23 42 04.4**	**-0.3**
BDI				S	**Sg**	**23 42 07.0**	**-0.4**
BDI				AML	AML		
	comp=E,50300nm,1.4s						
BDI				AML	AML		
	comp=N,82450μm,0.4s						
BDI				AML	AML		
	comp=E,64000μm,0.1s						
BDI				AML	AML		
	comp=N,76650μm,0.4s						
BDI				AML	AML		
	comp=E,50300nm,1.4s						
BDI				AML	AML		
	comp=N,82450μm,0.4s						
BDI				AML	AML		
	comp=E,64000μm,0.1s						
BDI				AML	AML		
	comp=N,76650μm,0.4s						
BDI				AML	AML		
	comp=N,82450μm,0.4s						
BDI				AML	AML		
	comp=N,76650μm,0.4s						
BDI				AML	AML		
	comp=E,64000μm,0.1s						
BDI				AML	AML		
	comp=E,50300nm,1.4s						
MAIM	**Mastiano**	**0.22**	**175**	P	**Pb**	**23 42 06.3**	**+0.4**
MAIM				S	**Sg**	**23 42 10.9**	**+1.3**
MAIM	**Mastiano**	**0.22**	**175**	P	**Pb**	**23 42 06.3**	**+0.4**
MAIM				S	**Sg**	**23 42 10.8**	**+1.2**
MAIM				AML	AML		
	comp=E,14200μm,0.6s						
MAIM				AML	AML		
	comp=N,17950μm,1.2s						
MAIM				AML	AML		
	comp=E,14200μm,0.6s						
MAIM				AML	AML		
	comp=N,17950μm,1.2s						
MAIM				AML	AML		
	comp=E,14200μm,0.6s						
MAIM				AML	AML		
	comp=N,17950μm,1.2s						
MAIM				AML	AML		
	comp=N,17950μm,1.2s						
EQUI	**Equi**	**0.23**	**277**	P	**Pb**	**23 42 06.0**	**+0.1**
EQUI				S	**Sb**	**23 42 10.1**	**+0.6**
EQUI	**Equi**	**0.23**	**277**	P	**Pb**	**23 42 06.1**	**+0.1**
EQUI				S	**Sb**	**23 42 10.2**	**+0.6**
EQUI				AML	AML		
	comp=E,3385μm,0.9s						
EQUI				AML	AML		
	comp=N,3965μm,1.3s						
EQUI				AML	AML		
	comp=E,3385μm,0.9s						
EQUI				AML	AML		
	comp=N,3965μm,1.3s						
EQUI				AML	AML		
	comp=E,3385μm,0.9s						
EQUI				AML	AML		
	comp=N,3965μm,1.3s						
POPM	**Popiglio**	**0.23**	**114**	P	**Pb**	**23 42 05.7**	**-0.4**
POPM				S	**Sb**	**23 42 09.5**	**-0.1**
POPM	**Popiglio**	**0.23**	**114**	P	**Pb**	**23 42 05.7**	**-0.4**
POPM				S	**Sb**	**23 42 09.5**	**-0.1**
POPM				AML	AML		
	comp=E,55000μm,0.4s						
POPM				AML	AML		
	comp=N,52350μm,0.2s						
POPM				AML	AML		
	comp=E,55000μm,0.4s						
POPM				AML	AML		
	comp=N,52350μm,0.2s						
POPM				AML	AML		
	comp=E,55000μm,0.4s						
POPM				AML	AML		
	comp=N,52350μm,0.2s						
POPM				AML	AML		
	comp=N,52350μm,0.2s						
POPM				AML	AML		
	comp=E,55000μm,0.4s						
MTCR	**Monte La Croce**	**0.40**	**106**	P	**Pg**	**23 42 08.3**	**-0.7**
MTCR				S	**Sg**	**23 42 14.3**	**-0.3**
MTCR				AML	AML		
	comp=E,10590μm,1.1s						
MTCR				AML	AML		
	comp=N,13350μm,0.2s						
MTCR				AML	AML		
	comp=E,10610μm,1.1s						
MTCR				AML	AML		
	comp=N,13400μm,0.2s						
MTCR				AML	AML		
	comp=E,10590μm,1.1s						
MTCR				AML	AML		
	comp=N,13350μm,0.2s						
MTCR				AML	AML		
	comp=E,10610μm,1.1s						
MTCR				AML	AML		
	comp=N,13400μm,0.2s						
ZCCA	**Zocca**	**0.42**	**60**	P	**Pg**	**23 42 09.5**	**+0.1**
ZCCA				AML	AML		
	comp=E,7825μm,1.3s						
ZCCA				AML	AML		
	comp=N,7415μm,0.4s						
ZCCA				AML	AML		
	comp=E,7585μm,0.3s						
ZCCA				AML	AML		
	comp=N,7890μm,0.5s						
ZCCA				AML	AML		
	comp=E,7825μm,1.3s						
ZCCA				AML	AML		
	comp=N,7420μm,0.4s						
ZCCA				AML	AML		
	comp=E,7585μm,0.3s						
ZCCA				AML	AML		
	comp=N,7890μm,0.5s						
ZCCA				AML	AML		
	comp=E,7825μm,1.3s						
ZCCA				AML	AML		
	comp=N,7415μm,0.4s						
ZCCA				AML	AML		
	comp=E,7585μm,0.3s						
ZCCA				AML	AML		
	comp=N,7890μm,0.5s						
ZCCA				AML	AML		
	comp=E,7585μm,0.3s						
ZCCA				AML	AML		
	comp=E,7825μm,1.3s						
ZCCA				AML	AML		
	comp=N,7890μm,0.5s						
ZCCA				AML	AML		
	comp=N,7420μm,0.4s						
PLMA	**Palmaria, Port**	**0.45**	**259**	P	**Pb**	**23 42 10.7**	**+0.6**
PLMA				S	**Sb**	**23 42 17.3**	**+0.8**
PLMA				AML	AML		
	comp=E,2735μm,0.5s						
PLMA				AML	AML		
	comp=N,2575μm,0.4s						
PLMA				AML	AML		
	comp=E,2735μm,0.5s						
PLMA				AML	AML		
	comp=N,2575μm,0.4s						
PLMA				AML	AML		
	comp=E,2735μm,0.5s						
PLMA				AML	AML		
	comp=N,2575μm,0.4s						
PLMA				AML	AML		
	comp=N,2575μm,0.4s						
PLMA				AML	AML		
	comp=E,2735μm,0.5s						
GRAM	**Graiana**	**0.46**	**321**	P	**Pg**	**23 42 09.7**	**-0.3**
GRAM				S	**Sg**	**23 42 16.6**	**+0.4**
GRAM	**Graiana**	**0.46**	**321**	P	**Pg**	**23 42 09.7**	**-0.3**
GRAM				S	**Sg**	**23 42 16.7**	**+0.4**
GRAM				AML	AML		
	comp=E,9125μm,0.3s						
GRAM				AML	AML		
	comp=N,14200μm,0.4s						
GRAM				AML	AML		
	comp=E,9125μm,0.3s						
GRAM				AML	AML		
	comp=N,14200μm,0.4s						
GRAM				AML	AML		
	comp=E,9125μm,0.3s						
GRAM				AML	AML		
	comp=N,14200μm,0.4s						
GRAM				AML	AML		
	comp=N,14200μm,0.4s						
GRAM				AML	AML		
	comp=E,9125μm,0.3s						
NEVI	**Neviano degli**	**0.46**	**346**	P	**Pg**	**23 42 10.2**	**+0.2**
PTF	**Prato**	**0.47**	**112**	P	**Pg**	**23 42 09.7**	**-0.5**
FNVD	**Fontana Vidola**	**0.47**	**86**	P	**Pg**	**23 42 09.6**	**-0.7**
FNVD				S	**Sg**	**23 42 16.4**	**-0.4**
CRMI	**Carmignano**	**0.50**	**134**	P	**Pb**	**23 42 10.6**	**-0.4**
CRMI				S	**Sb**	**23 42 18.6**	**+0.6**
CRMI				AML	AML		
	comp=E,2445μm,0.6s						
CRMI				AML	AML		
	comp=N,4160μm,0.3s						
CRMI				AML	AML		
	comp=E,1032μm,0.6s						
CRMI				AML	AML		
	comp=N,1730μm,0.3s						
CRMI				AML	AML		
	comp=E,2445μm,0.6s						
CRMI				AML	AML		
	comp=N,4160μm,0.3s						
CRMI				AML	AML		
	comp=E,1032μm,0.6s						
CRMI				AML	AML		
	comp=N,1730μm,0.3s						
CRMI				AML	AML		
	comp=N,1730μm,0.3s						
CRMI				AML	AML		
	comp=N,4160μm,0.3s						
CRMI				AML	AML		
	comp=E,1032μm,0.6s						
CRMI				AML	AML		
	comp=E,2445μm,0.6s						
MODE	**Modena**	**0.60**	**35**	P	**Pg**	**23 42 13.1**	**+0.5**
PRMA	**PARMA**	**0.64**	**350**	P	**Pb**	**23 42 13.3**	**+0.1**
NOVE	**Novellara**	**0.68**	**15**	P	**Pg**	**23 42 14.5**	**+0.3**
NOVE				AML	AML		
	comp=E,6880μm,1.4s						
NOVE				AML	AML		
	comp=N,4970μm,0.3s						
NOVE				AML	AML		
	comp=E,6880μm,1.4s						
NOVE				AML	AML		
	comp=N,4970μm,0.3s						
NOVE				AML	AML		
	comp=E,6880μm,1.4s						
NOVE				AML	AML		
	comp=N,4970μm,0.3s						
MSSA	**Maissana**	**0.70**	**285**	P	**Pg**	**23 42 14.9**	**+0.4**
MSSA				AML	AML		
	comp=E,1210μm,0.5s						
MSSA				AML	AML		
	comp=N,1275μm,0.7s						
MTRZ	**Monterenzio**	**0.76**	**71**	P	**Pb**	**23 42 14.9**	**-0.4**
MTRZ				AML	AML		
	comp=E,3140μm,0.5s						
MTRZ				AML	AML		
	comp=N,2275μm,0.9s						
MTRZ				AML	AML		
	comp=E,3180μm,0.5s						
MTRZ				AML	AML		
	comp=N,2270μm,0.9s						
MTRZ				AML	AML		
	comp=E,3140μm,0.5s						
MTRZ				AML	AML		
	comp=N,2275μm,0.9s						
MTRZ				AML	AML		
	comp=E,3180μm,0.5s						
MTRZ				AML	AML		
	comp=N,2270μm,0.9s						
MTRZ				AML	AML		
	comp=E,3180μm,0.5s						
MTRZ				AML	AML		
	comp=N,2270μm,0.9s						
MTRZ				AML	AML		
	comp=N,2275μm,0.9s						
MTRZ				AML	AML		
	comp=E,3140μm,0.5s						
RAVA	**Ravarino**	**0.78**	**37**	AML	AML		
RAVA	comp=N,3835μm,0.5s			AML	AML		
	comp=E,4265μm,0.5s						
RAVA				AML	AML		
	comp=N,3835μm,0.5s						
RAVA				AML	AML		
	comp=E,4270μm,0.5s						
RAVA				AML	AML		
	comp=N,3835μm,0.5s						
RAVA				AML	AML		
	comp=E,4265μm,0.5s						
FIU	**Minerbio Fiu**	**0.89**	**55**	AML	AML		
FIU	comp=N,6050μm,1.3s			AML	AML		
	comp=E,7265μm,0.8s						
CSNT	**Castellina Chi**	**0.89**	**138**	P	**Pb**	**23 42 17.9**	**+0.2**
CSNT				AML	AML		
	comp=E,2060μm,1.1s						
CSNT				AML	AML		
	comp=N,2735μm,0.5s						
CSNT				AML	AML		
	comp=E,2060μm,1.1s						
CSNT				AML	AML		
	comp=N,2735μm,0.5s						
CSNT				AML	AML		
	comp=N,2735μm,0.5s						
CSNT				AML	AML		
	comp=E,2060μm,1.1s						
IMOL	**Imola, Italy**	**0.94**	**76**	AML	AML		
IMOL	comp=E,1950μm,0.9s			AML	AML		
	comp=N,1580μm,0.4s						
BOB	**Bobbio (Coli)**	**0.96**	**311**	P	**Pb**	**23 42 19.3**	**+0.4**
BOB				AML	AML		
	comp=E,1084μm,0.6s						
BOB				AML	AML		
	comp=N,1365μm,0.5s						
BOB				AML	AML		
	comp=E,1225μm,0.6s						
BOB				AML	AML		
	comp=N,1200μm,0.5s						
BOB				AML	AML		
	comp=E,1084μm,0.6s						
BOB				AML	AML		
	comp=N,1365μm,0.5s						
BOB				AML	AML		
	comp=E,1230μm,0.6s						
BOB				AML	AML		
	comp=N,1200μm,0.5s						
BOB				AML	AML		
	comp=N,1365μm,0.5s						
BOB				AML	AML		
	comp=N,1200μm,0.5s						
BOB				AML	AML		
	comp=E,1225μm,0.6s						
BOB				AML	AML		
	comp=E,1084μm,0.6s						
GORR	**Gorreto**	**0.96**	**300**	P	**Pb**	**23 42 19.3**	**+0.5**
GORR				AML	AML		
	comp=E,1350μm,0.4s						
GORR				AML	AML		
	comp=N,1155μm,1.0s						
GORR				AML	AML		
	comp=E,1355μm,0.4s						
GORR				AML	AML		
	comp=N,1150μm,1.0s						
GORR				AML	AML		
	comp=E,1350μm,0.4s						
GORR				AML	AML		
	comp=N,1155μm,1.0s						
ASQU	**Asqua**	**1.01**	**109**	P	**Pb**	**23 42 19.1**	**-0.7**
ASQU				AML	AML		
	comp=E,814μm,0.5s						
ASQU				AML	AML		
	comp=N,1280μm,0.7s						
ASQU				AML	AML		
	comp=E,814μm,0.5s						
ASQU				AML	AML		
	comp=N,1280μm,0.7s						
ASQU				AML	AML		
	comp=N,1280μm,0.7s						
ASQU				AML	AML		
	comp=E,814μm,0.5s						
SFI	**Santa Sofia**	**1.02**	**103**	P	**Pb**	**23 42 20.1**	**+0.3**
SFI				AML	AML		
	comp=E,770μm,0.3s						
SFI				AML	AML		
	comp=N,1300μm,1.1s						
SFI				AML	AML		
	comp=E,800μm,0.3s						
SFI				AML	AML		
	comp=N,1285μm,1.1s						
SFI				AML	AML		
	comp=E,770μm,0.3s						
SFI				AML	AML		
	comp=N,1300μm,1.1s						
SFI				AML	AML		
	comp=E,800μm,0.3s						
SFI				AML	AML		
	comp=N,1280μm,1.1s						
SFI				AML	AML		
	comp=N,1285μm,1.1s						
SFI				AML	AML		
	comp=N,1300μm,1.1s						
SFI				AML	AML		
	comp=E,800μm,0.3s						
SFI				AML	AML		
	comp=E,770μm,0.3s						
FROS	**Frosini**	**1.05**	**151**	P	**Pb**	**23 42 20.2**	**-0.1**
FROS				AML	AML		
	comp=E,2150μm,0.6s						
FROS				AML	AML		
	comp=N,2670μm,0.4s						
FROS				AML	AML		
	comp=E,2150μm,0.6s						
FROS				AML	AML		
	comp=N,2670μm,0.4s						
FROS				AML	AML		
	comp=N,2670μm,0.4s						
FROS				AML	AML		
	comp=E,2150μm,0.6s						
SERM	**Sermide**	**1.05**	**34**	AML	AML		
SERM	comp=N,848μm,1.4s			AML	AML		
	comp=E,942μm,0.4s						
SERM				AML	AML		
	comp=N,848μm,1.4s						
SERM				AML	AML		
	comp=E,942μm,0.4s						
SERM				AML	AML		
	comp=N,848μm,1.4s						
SERM				AML	AML		
	comp=E,942μm,0.4s						
TRIF	**Trifonti**	**1.07**	**163**	P	**Pn**	**23 42 21.2**	**+0.4**
TRIF				AML	AML		
	comp=E,864μm,0.2s						
TRIF				AML	AML		
	comp=N,942μm,0.8s						
TRIF				AML	AML		
	comp=E,864μm,0.2s						

TRIF AML AML
comp=N,942µm,0.8s
TRIF AML AML
comp=E,864µm,0.2s
TRIF AML AML
comp=N,942µm,0.8s
GAZZ Gazzo Veronese 1.07 25⇑ *e*Pg **Pg 23 42 21.4 0.0**
GAZZ *e*Sg **Sg 23 42 39.4 +3.9**
CRE Caprese Michel 1.19 115 P **Pn 23 42 22.0 -0.5**
CRE AML AML
comp=E,774µm,0.3s
CRE AML AML
comp=N,904µm,0.3s
CRE AML AML
comp=E,774µm,0.3s
CRE AML AML
comp=N,904µm,0.3s
CRE AML AML
comp=N,904µm,0.3s
CRE AML AML
comp=E,774µm,0.3s
CTL8 Castelleone 1.24 336 AML AML
comp=E,3695µm,0.9s
CTL8 AML AML
CTL8 AML AML
comp=E,1310µm,0.5s
CTL8 AML AML
comp=N,1027µm,0.8s
CAFI Castiglion Fio 1.35 126 AML AML
comp=E,296µm,0.8s
CAFI AML AML
comp=N,299µm,1.1s
CASP Castiglione de 1.38 168 AML AML
comp=N,274µm,1.0s
CASP AML AML
comp=E,435µm,0.5s
CELB S.Piero in Cam 1.40 188 AML AML
comp=E,446µm,1.2s
CELB AML AML
comp=N,778µm,0.4s
ADRI Adria, Italy 1.43 50⇑ *e*Pg **Pg 23 42 27.7 -0.4**
ADRI *e*Sg **Sg 23 42 49.1 +2.3**
BADI Badiali 1.43 115 AML AML
comp=N,624µm,0.8s
BADI AML AML
comp=E,542µm,0.5s
BADI AML AML
comp=N,624µm,0.8s
BADI AML AML
comp=E,543µm,0.5s
BADI AML AML
comp=N,624µm,0.8s
BADI AML AML
comp=E,542µm,0.5s
PCP Piancastagn 1.44 287 AML AML
comp=N,240µm,1.2s
PCP AML AML
comp=E,395µm,0.8s
ARCI Arcidosso 1.48 150 AML AML
comp=N,179µm,0.8s
ARCI AML AML
comp=E,154µm,0.6s
SALO Salr 1.48 2 AML AML
comp=N,2515µm,1.5s
SALO AML AML
comp=E,2060µm,0.8s
TEOL Teolo 1.49 35⇑ *e*Pg **Pb 23 42 28.4 +0.5**
TEOL *e*Sg **Sg 23 42 50.1 +1.2**
TEOL Teolo 1.49 35 AML AML
comp=N,1850µm,0.5s
TEOL AML AML
comp=E,2230µm,0.5s
FINB Finale Ligure 1.54 272 AML AML
comp=E,281µm,1.3s
FINB AML AML
comp=N,336µm,0.4s
BALD Monte Baldo 1.56 9 *e*Pg **Pb 23 42 28.6 -0.6**
MARN Marana (Italy) 1.59 19 *e*Pg **Pb 23 42 28.9 -0.6**
MARN *e*Sg **Sg 23 42 52.0 0.0**
MAGA Magasa 1.64 4 AML AML
comp=E,2945µm,0.5s
MAGA AML AML
comp=N,1675µm,1.2s
ROTM Rocchetta Tana 1.67 296 AML AML
comp=N,2845µm,0.4s
ROTM AML AML
comp=E,1990µm,0.9s
MAON Monte Argentar 1.78 164 AML AML
comp=N,170µm,0.7s
MAON AML AML
comp=E,191µm,0.5s
DOSS Dosso del Somm 1.82 16⇑ *e*Pn **Pn 23 42 31.6 +0.4**
DOSS *e*Sn **Sg 23 42 57.9 -1.3**
RNI Roncone 1.85 3 *e*Pn **Pn 23 42 32.4 +0.8**
PGF Pioggiola 1.92 214 *e*Pn **Pn 23 42 32.8 +0.3**
SNR=1.0
PGF Pioggiola 1.92 214 *e*Pg **Pg 23 42 38.1 +0.6**
PGF *e*Sn **Sn 23 42 56.0 -0.1**
comp=E,57nm,0.3s,SNR=1.0
PGF Pioggiola 1.92 214 AML AML
comp=N,150µm,0.8s
PGF AML AML
comp=E,206µm,0.8s
MABI Malga Bissina 1.92 1 AML AML
comp=E,402µm,1.4s
MABI AML AML
comp=N,276µm,0.5s
CGRP Cima Grappa 1.98 28 *e*Pn **Pn 23 42 34.4 +0.9**
CGRP Cima Grappa 1.98 28 AML AML
comp=N,668µm,1.1s
CGRP AML AML
comp=E,593µm,0.6s
PANI Panarotta 2.01 18 *e*Pn **Pn 23 42 35.0 +1.1**
MUGIO Muggio 2.05 331 AML AML
comp=E,174µm,1.4s
MUGIO AML AML
comp=N,224µm,0.6s
CTI Castel Tesino 2.09 23 AML AML
comp=E,1135µm,0.6s
CTI AML AML
comp=N,1415µm,0.4s
SAOF Saorge 2.10 267 AML AML
comp=N,212µm,0.8s
SAOF AML AML
comp=E,173µm,0.3s
VARN Col Varnada, M 2.19 31 *e*Pn **Pn 23 42 37.8 +1.6**
SBF Sospel 2.20 264 *e*Pn **Pn 23 42 36.8 +0.4**
SNR=1.0
SBF *e*Sn **Sn 23 43 02.3 -0.9**
comp=E,113nm,0.5s,SNR=1.0
ESCA l'Escarene 2.25 263 P **Pn 23 42 37.8 +0.8**
CARE Lago del Cares 2.29 4 *e*Pn **Pn 23 42 39.0 +1.2**
OZOL Ozolo 2.30 10 *e*Pn **Pn 23 42 39.0 +1.1**
KOSI Kohlern 2.41 15 AML AML
comp=N,278µm,0.6s
KOSI AML AML
comp=E,362µm,1.0s
AGOR Agordo 2.42 27 AML AML
comp=N,268µm,0.4s
AGOR AML AML
comp=E,298µm,0.5s
ISO Isola 2.46 272 P **Pn 23 42 41.6 +1.7**
ISO S **Sn 23 43 11.6 +2.1**
MOSI Grossmontoni 2.48 1 AML AML
comp=N,822µm,0.6s
MOSI AML AML
comp=E,490µm,0.5s
CALF Calern 2.59 263 P **Pn 23 42 42.9 +1.2**
FUSIO Fusio 2.64 332 AML AML
comp=E,172µm,0.7s
FUSIO AML AML
comp=N,116µm,0.7s
SURF Saint Ours 2.65 279 P **Pn 23 42 43.6 +1.0**
ABSI Aberstueckl 2.66 13 AML AML
comp=N,424µm,0.6s
ABSI AML AML
comp=E,454µm,0.6s
DAVOX Davos/Dischmat 2.67 351 Pn **Pn 23 42 45.4 +2.5**
comp=E,12nm,0.3s,baz=163,slow=13,SNR=126
DAVOX Sn **Sn 23 43 17.7 +2.7**
comp=E,3.5nm,0.3s,baz=160,slow=20,SNR=4.1
DAVOX Davos/Dischmat 2.67 351 AML AML
comp=N,172µm,1.3s
DAVOX AML AML
comp=E,166µm,0.6s
MBDF Montbardon 2.71 284 *e*Pn **Pn 23 42 43.3 -0.2**
SNR=1.0
MBDF *e*Sn **Sn 23 43 14.5 -1.4**
MBDF *e*Sg **Sg 23 43 27.2 -0.6**
comp=E,54nm,0.5s
BRES Bressanone 2.71 19 AML AML
comp=E,183µm,0.6s
BRES AML AML
comp=N,324µm,0.6s
AQU L'Aquila 2.79 129 *e*Pn **Pn 23 42 45.0 +0.6**
FRF La Foret Royal 2.82 260 *e*Pn **Pn 23 42 45.2 +0.4**
SNR=1.0
FRF La Foret Royal 2.82 260 *e*Pg **Pg 23 42 54.4 -0.4**
FRF *e*Sn **Sn 23 43 16.8 -1.6**
comp=N,14nm,0.2s,SNR=1.0
FRF *e*Sg **Sg 23 43 31.2 -0.2**
OGAG Argentiere 2.84 278 P **Pn 23 42 47.4 +2.2**
SABO M.te Sabotino 2.88 49 AML AML
comp=E,254µm,0.8s
SABO AML AML
comp=N,359µm,0.7s
FETA Feichten 2.89 4 Pn **Pn 23 42 48.1 +2.2**
comp=N,2.9nm,0.3s,SNR=7.0
FETA Sn **Sn 23 43 20.1 -0.2**
comp=N,3.5nm,0.4s
SKDS Skadanscina 2.89 60 *i* Pn **Pn 23 42 45.2 -0.6**
SKDS *i* Sn **Sn 23 43 19.9 -0.2**
LPG La Plagne 2.97 299 *e*Pn **Pn 23 42 46.7 -0.5**
SNR=1.0
LPG La Plagne 2.97 299 *e*P **Pn 23 42 49.6 +2.4**
LPG *e*Sn **Sn 23 43 20.3 -2.2**
LPG *e*Sg **Sg 23 43 35.4 -0.8**
comp=N,15nm,0.4s
LMR La Mourre 2.98 256 *e*Pn **Pn 23 42 47.1 +0.1**
SNR=1.0
LMR *e*Sn **Sn 23 43 20.8 -1.4**
comp=N,12nm,0.2s,SNR=1.0
LMR *e*Sg **Sg 23 43 36.2 -0.1**
ABTA Abfaltersbach 2.98 28 Pn **Pn 23 42 48.0 +0.9**
comp=N,0.9nm,0.2s
ABTA *e*Sn **Sn 23 43 23.0 +0.6**
comp=N,32nm,0.6s
LPL La Plagne 2.99 299 *e*Pn **Pn 23 42 47.1 -0.3**
SNR=1.0
LPL La Plagne 2.99 299 *e*P **Pn 23 42 50.0 +2.6**
LPL *e*Sn **Sn 23 43 21.1 -1.8**
comp=N,20nm,0.4s
OGDI Digne 3.00 271 P **Pn 23 42 50.0 +2.7**
OGDI S **Sb 23 43 28.3 -1.6**
ROBS Robic 3.01 45 *i* Pn **Pn 23 42 47.2 -0.2**
ROBS *i* Sn **Sn 23 43 22.7 -0.3**
JAVS Javornik 3.10 54 *i* Pn **Pn 23 42 48.2 -0.5**
JAVS *i* Sn **Sn 23 43 25.4 +0.1**
CADS Cadrg 3.12 47 *i* Pn **Pn 23 42 48.9 0.0**
CADS *i* Sn **Sn 23 43 25.9 +0.2**
SQTA Sankt Quirin 3.13 9 *i* Pn **Pn 23 42 51.3 +2.2**
comp=N,46nm,0.4s,SNR=24
SQTA *e*Sn **Sn 23 43 27.5 +1.5**
comp=N,112nm,0.5s
DAVA Damuels 3.18 353 *e*Pn **Pn 23 42 52.6 +2.8**
SNR=9.2
DAVA *e*Sn **Sb 23 43 32.1 -2.9**
comp=N,55nm,0.7s
NVLJ Novalja 3.19 81 *e*Pn **Pn 23 42 50.5 +0.7**
NVLJ Sn **Sn 23 43 27.1 -0.3**
WTTA Wattenberg 3.23 14 *e*Pn **Pn 23 42 53.9 +3.3**
comp=N,14nm,0.4s,SNR=8.0
WTTA Sn **Sn 23 43 30.1 +1.3**
comp=N,11nm,0.4s
WTTA Wattenberg 3.23 14 AML AML
comp=E,198µm,0.8s
WTTA AML AML
comp=N,109µm,0.8s
CEY Cerknica 3.24 59 *e*Pn **Pn 23 42 49.4 -1.1**
MOTA Moosalm 3.24 8 *e*Pn **Pn 23 42 53.5 +2.9**
comp=N,10nm,0.2s,SNR=33
MOTA *e*Sn **Sn 23 43 30.8 +2.0**
comp=N,19nm,0.4s
WATA Walderalm 3.29 13 *e*Pn **Pn 23 42 54.0 +2.6**
comp=N,9.6nm,0.2s,SNR=24
WATA *e*Sn **Sn 23 43 33.6 +3.4**
comp=N,12nm,0.3s
MYKA Terra Mystica 3.35 41 *i* Pn **Pn 23 42 54.2 +2.1**
comp=N,1.3nm,0.2s
MYKA *i* Sn **Sn 23 43 33.2 +1.7**
comp=N,12nm,0.4s
RETA Reutte 3.36 3 *i* Pn **Pn 23 42 54.5 +2.3**
comp=N,9.9nm,0.3s
RETA *e*Sn **Sn 23 43 33.4 +1.7**
comp=N,10.0nm,0.3s
ORIF Oris-en-Rattie 3.37 285 *e*P **Pn 23 42 55.2 +2.7**
SNR=1.0
ORIF *e*Sn **Sn 23 43 30.1 -1.9**
comp=N,26nm,0.5s,SNR=1.0
ORIF Oris-en-Rattie 3.37 285 P **Pn 23 42 54.5 +2.0**
ASEAF Site Antares, 3.41 248 P **Pn 23 42 54.1 +1.6**
ARTF Artigues 3.42 262 P **Pn 23 42 54.6 +1.6**
LJU Ljubljana 3.45 55 *e*Pn **Pn 23 42 53.6 +0.1**
LJU Ljubljana 3.45 55 AML AML
comp=N,324µm,0.5s
LJU AML AML
comp=E,246µm,0.6s
BSTF la Bastide-des 3.49 267 P **Pn 23 42 55.5 +1.5**
SMRF Simiane la Rot 3.53 269 *e*P **Pn 23 42 56.4 +1.8**
SNR=1.0
SMRF *e*Sn **Sn 23 43 33.7 -2.2**
comp=E,15nm,0.3s,SNR=1.0
KBA Koelnbreinsper 3.57 33 *i* Pn **Pn 23 42 56.2 +0.9**
comp=E,0.1nm,0.1s
KBA *e*Sn **Sn 23 43 37.3 +0.3**
comp=E,5.2nm,0.3s
OBKA Obir 3.73 49 *e*Pn **Pn 23 42 58.3 +0.9**
comp=E,0.3nm,0.1s
OBKA Sn **Sn 23 43 40.6 -0.3**
comp=E,32nm,0.5s
UDBI Udbina 3.82 82 *e*Pn **Pn 23 43 00.2 +1.6**
UDBI Sn **Sn 23 43 42.0 -1.1**
OZLJ Ozalj 3.85 66 *e*Pn **Pn 23 42 59.6 +0.7**
OZLJ Sn **Sn 23 43 42.0 -1.7**
CRES Cresnjev 3.92 63 *e*Pn **Pn 23 42 59.3 -0.7**
CABF La Chapelle 3.95 310 *e*P **Pn 23 43 03.6 +3.1**
SNR=1.0
CABF *e*Sn **Sn 23 43 43.0 -3.4**
comp=E,110nm,1.4s,SNR=1.0
SOKA Soboth 4.10 50 *e*Sn **Sn 23 43 49.3 -0.7**
comp=E,14nm,0.7s
LOMF Lomont 4.10 323 P **Pn 23 43 04.5 +2.1**
LOMF S **Sn 23 43 50.7 +0.7**
VIVF Saint-Julien-l 4.21 282 *e*Pn **Pn 23 43 03.4 -0.5**
SNR=1.0
VIVF Saint-Julien-l 4.21 282 *e*Pg **Pg 23 43 19.6 -1.6**
VIVF *e*Sn **Sn 23 43 50.3 -2.3**
comp=E,2.5nm,0.3s,SNR=1.0
KIZ Kirchzarten 4.21 336 P **Pn 23 43 04.9 +1.0**
MOF Molkenrain 4.38 329 P **Pn 23 43 07.8 +1.4**
MOF S **Sn 23 43 56.2 -0.7**
HINF Hinteralfeld 4.46 327 *e*P **Pn 23 43 08.9 +1.5**
SNR=1.0
HINF *e*Sn **Sn 23 43 55.1 -3.7**
comp=E,41nm,0.5s
MOA Molln 4.56 34 *i* Pn **Pn 23 43 09.9 +1.2**
comp=E,1.5nm,0.2s
MOA *e*Sn **Sn 23 44 01.9 +0.7**
OPP Oppenau 4.64 341 P **Pn 23 43 10.7 +0.9**
ECH Echery 4.68 332 P **Pn 23 43 11.6 +1.2**
ARSA Arzberg 4.72 47 *e*Pn **Pn 23 43 11.0 +0.1**
ARSA *e*Sn **Sn 23 44 03.1 -2.0**
comp=E,7.0nm,0.6s
LASF Ste Croix 4.76 272 *e*Pn **Pn 23 43 12.3 +0.8**
SNR=1.0
LASF *e*Sn **Sn 23 44 03.5 -2.7**
comp=E,6.9nm,0.5s
CDF Champ du Feu 4.81 334 *e*P **Pn 23 43 13.4 +1.1**
SNR=1.0
CDF *e*Sn **Sn 23 44 04.2 -3.4**
comp=E,11nm,0.3s
HAU Haudompre 4.81 325 *e*P **Pn 23 43 13.8 +1.6**
SNR=1.0
HAU *e*Sn **Sn 23 44 03.3 -4.2**
comp=E,51nm,0.3s,SNR=1.0
BLY Banja Luka 4.85 80 *e*Pn **Pn 23 43 14.0 +1.3**
THEF They Montfort 5.14 324 P **Pn 23 43 18.6 +1.9**
LANF Langenberg 5.18 340 P **Pn 23 43 17.8 +0.5**
GERES GERESS Array B 5.21 24 Pn **Pn 23 43 17.6 -0.1**
comp=E,1.4nm,0.3s,baz=200,slow=13,SNR=23
GERES Sn **Sn 23 44 14.9 -2.4**
comp=E,1.8nm,0.3s,baz=207,slow=23,SNR=8.3
GERES Lg Lg 23 44 46.0
comp=E,0.3nm,0.3s,baz=206,slow=29,SNR=3.4
SMF Signal de Mont 5.30 301 *e*P **Pn 23 43 21.5 +2.7**
SNR=1.0
SMF *e*Sn **Sn 23 44 15.5 -3.9**
comp=E,15nm,0.5s,SNR=1.0
CONA Conrad Observa 5.34 43 *e*Pn **Pn 23 43 20.3 +0.8**
comp=E,0.4nm,0.2s
CONA *e*Sn **Sn 23 44 20.0 -0.4**
comp=E,4.2nm,0.8s
STON Ston 5.41 101 *e*Pn **Pn 23 43 21.1 +0.8**
STON Sn **Sn 23 44 20.4 -1.7**
KHC Kasperske Hory 5.43 22 *e*PN **Pn 23 43 20.9 +0.1**
KHC *e*SN **Sn 23 44 19.9 -2.9**
PAGF Fort de Pagny 5.50 325 *e*P **Pn 23 43 24.3 +2.6**
baz=144
PAGF *e*Sn **Sn 23 44 19.6 -4.8**
comp=E,3.9nm,0.2s
AGO Saint Agoulin 5.53 293 P **Pn 23 43 24.8 +2.7**
PYM Petit Puy Mans 5.53 290 P **Pn 23 43 24.3 +2.1**
SFTF Sexfontaines 5.54 319 *e*P **Pn 23 43 24.2 +2.0**
baz=139
SFTF *e*Sn **Sn 23 44 21.2 -4.3**
comp=E,10nm,0.4s
LOR Lormes 5.59 306 *e*P **Pn 23 43 24.9 +2.1**
baz=126,SNR=1.0
LOR *e*Sn **Sn 23 44 22.1 -4.4**
comp=E,11nm,0.4s,SNR=1.0
LOR Lormes 5.59 306 P **Pn 23 43 25.0 +2.2**
AVF Avril sur Loir 5.66 300 *e*P **Pn 23 43 26.7 +2.9**
SNR=1.0
AVF *e*Sn **Sn 23 44 24.3 -4.0**
comp=E,6.1nm,0.5s,SNR=1.0
SSF Saint Saulge 5.69 303 *e*P **Pn 23 43 26.5 +2.3**
SNR=1.0
SSF *e*Sn **Sn 23 44 24.8 -4.3**
comp=E,8.0nm,0.4s,SNR=1.0
MEZF Maizieres J'vi 5.75 321 *e*P **Pn 23 43 27.4 +2.3**
baz=140,SNR=1.0
MEZF *e*Sn **Sn 23 44 26.0 -4.6**
comp=E,5.2nm,0.3s
BGF Bois d'Agland 5.89 297 *e*P **Pn 23 43 30.0 +3.0**
SNR=1.0
BGF *e*Sn **Sn 23 44 29.9 -4.1**
comp=E,5.7nm,0.3s
TREB Trebinje 5.91 101 *e*Pn **Pn 23 43 26.5 -0.8**
BRY Bratogost 6.00 99 *e*Pn **Pn 23 43 30.2 +1.6**
MTLF Montolieu 6.03 265 *e*Pn **Pn 23 43 28.7 -0.2**
SNR=1.0
MTLF *e*Sn **Sn 23 44 33.9 -3.5**
comp=E,1.0nm,0.3s
CAF Calviac 6.06 280 *e*P **Pn 23 43 31.1 +1.8**
SNR=1.0
HAPS Han Pijesak,Bl 6.11 88 *e*Pn **Pn 23 43 30.0 -0.1**
MORH Mrgy, Hungar 6.14 67 *e*Pn **Pn 23 43 28.9 -1.5**
UPM Unac-Piva 6.19 96 *e*Pn **Pn 23 43 34.3 +3.0**
TCF Toulx Ste Croi 6.22 293 *e*P **Pn 23 43 35.0 +3.5**
SNR=1.0
TCF *e*Sn **Sn 23 44 37.7 -4.3**
comp=E,0.8nm,0.2s
HYF Humbligny 6.31 302 *e*Sn **Sn 23 44 39.7 -4.6**
MODS Modra-Piesok 6.34 46 *e*PN **Pn 23 43 35.2 +2.0**
MODS *e*SN **Sn 23 44 41.6 -3.5**
KRUC Moravsky 6.40 38 *e*PN **Pn 23 43 34.1 +0.2**
KRUC *e*SN **Sn 23 44 42.4 -4.0**
PRU Pruhonice 6.48 24 *e*PN **Pn 23 43 35.5 +0.5**
PRU *e*SN **Sn 23 44 45.3 -3.2**
PRU *ex* x 23 45 24.3
GOPC GO Pecny, Ondr 6.49 26 *e*PN **Pn 23 43 35.2 0.0**
GOPC *e*SN **Sn 23 44 45.1 -3.6**
GOPC *ex* x 23 45 25.9
DRME Dracevica, Mon 6.67 104 *e*Pn **Pn 23 43 38.2 +0.6**
VRAC Vranov 6.67 37 *e*PN Pn 23 43 30.7 -7.0
VRAC *e*SN **Sn 23 44 48.6 -4.5**
DIVS Divibare 6.86 87 *e*Pn **Pn 23 43 39.8 -0.5**
PVCC Panska Ves 6.97 22 *e*PN **Pn 23 43 41.6 -0.2**
VYHS Vyhne 7.25 50 *e*PN **Pn 23 43 44.8 -0.8**
VYHS *e*SN **Sn 23 45 00.5 -6.9**
BAIF Baives 7.30 326 *e*Pn **Pn 23 43 48.7 +2.4**
EPF Esparros 7.44 265 *e*Pn **Pn 23 43 47.8 -0.5**
EPF *e*Sn **Sn 23 45 07.8 -4.3**
comp=E,0.5nm,0.3s
ETSF Etsaut 8.11 265 *e*Pn **Pn 23 43 57.0 -0.5**
ETSF *e*Sn **Sn 23 45 26.6 -2.1**
comp=E,0.1nm,0.1s
LDF La Druitiere 8.57 305 *e*Sn **Sn 23 45 37.6 -2.2**
comp=E,0.4nm,0.2s
ESDC Sonseca Array 11.64 252 Pn **Pn 23 44 49.2 +3.4**
comp=E,0.1nm,0.3s,baz=53,slow=14,SNR=2.8
EKA Eskdalemuir Ar 14.22 327 Pn **Pn 23 45 21.9 +1.0**
baz=140,slow=15,SNR=2.5
FINES FINESS Array B 19.64 23 P **Pn 23 46 29.1 -0.4**
comp=E,0.1nm,0.3s,baz=203,slow=14,SNR=3.5
ZALV Zalesovo Beam 47.58 50 P **P 23 50 36.2 +1.3**
comp=E,0.3nm,0.3s,baz=297,slow=8.0,SNR=2.9
MKAR Makanchi Array 48.81 60 P **P 23 50 44.6 +0.1**
comp=E,0.2nm,0.6s,baz=260,slow=8.1,SNR=4.2
YKA Yellowknife Ar 65.00 335 P **P 23 52 40.2 +1.2**
comp=E,0.3nm,0.6s,baz=46,slow=6.5,SNR=4.5

IDC 30 23:42:49.6±4.0, 10°.74S×166°.47E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/30, mbtmp3.6/4, MS4.3/1, Ms1 4.3/1, ms1mx3.6/40, Error ellipse: s-maj=170.1km s-min=30.7km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**29.05**	**0**	T	T	00 17 54.0	
	baz=181,slow=76,SNR=5.3						
H11S3	**WAKE ISLAND Hy**	**29.05**	**0**	T	T	00 17 54.9	
	baz=181,slow=76,SNR=5.6						
H11S1	**WAKE ISLAND Hy**	**29.06**	**0**	T	T	00 17 53.0	
	baz=181,slow=76,SNR=3.1						
WRA	**Warramunga Arr**	**32.26**	**250**	P	P	23 49 20.3	+0.1
	0.3nm,0.7s,baz=83,slow=9.2,SNR=2.5						
ASAR	**Alice Springs**	**33.56**	**243**	P	P	23 49 31.8	+0.2
	0.3nm,0.5s,baz=64,slow=7.4,SNR=2.6						
BATI	**Baumata**	**42.07**	**267**	LR	LR	00 07 09.3	
	comp=Z,396nm,21.9s,baz=124,slow=35						
ILAR	**Eielson Array**	**83.00**	**18**	P	P	23 55 16.8	+0.4
	0.5nm,0.8s,baz=231,slow=5.4,SNR=3.7						
MKAR	**Makanchi Array**	**93.79**	**317**	P	P	23 56 07.7	-1.0
	0.2nm,0.6s,baz=90,slow=4.1,SNR=2.9						

*IDC **30** 23:53:51.5±0.6, 10°.62S×166°.42E, h0km, mb4.2/22, mb1 4.4/22, mb1mx4.3/37, mbtmp4.2/22, MS4.6/10, Ms1 4.6/10, ms1mx4.2/37, Error ellipse: s-maj=20.0km s-min=14.5km az=103.0*

*NEIC **30** 23:53:53.4±0.2, 10°.56S×166°.41E, h10km, mb4.6/30, Error ellipse: s-maj=8.3km s-min=5.9km az=124.0*

*ISCJB **30** 23:53:55.6±0.2, 10°.68S±0°.04×166°.33E±0°.06, h36km, mb4.5/56, MS4.7/9, Error ellipse: s-maj=7.9km s-min=5.6km az=11.0*

ISC 30 23:53:57.2±0.4, 10°.59S±0°.06×166°.5E±0°.1, h36km, n106, σ1§22/98, mb4.5/56, MS4.5/9, 3C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.51**	**280**	LR	LR	23 58 02.9	
	comp=Z,7µm,18.9s,baz=122,slow=39						
DZM	**Mont Dzumac**	**11.42**	**180**	Pn	**Pn**	**23 56 38.4**	**+0.6**
	1.1nm,0.3s,baz=0.0,slow=20,SNR=7.8						
DZM				Sn	**Sn**	**23 58 43.4**	**-0.9**
	0.3nm,0.3s,baz=317,slow=18,SNR=2.1						
TARA	**Tarawa**	**13.50**	**29**	*e*Pn	**Pn**	**23 57 03.0**	**-3.4**
TARA				*e*S	Sn	23 59 05.5	-30
PMG	**Port Moresby**	**19.04**	**272**	LR	LR	00 03 52.6	
	comp=Z,2µm,19.9s,baz=121,slow=32						
EIDS	**Eidsvold**	**20.70**	**223**	*e*P	**P**	**23 58 34.8**	**+0.4**
	18nm,0.9s						
CTA	**Charters Tower**	**21.62**	**242**	P	**P**	**23 58 44.7**	**+0.2**
	7.8nm,0.9s,baz=88,slow=7.6,SNR=6.5						
CTA				LR	LR	00 05 55.1	
	comp=Z,2µm,19.6s,baz=51,slow=34						
CTAO	**Charters Tower**	**21.62**	**242**	*e*P	**P**	**23 58 44.7**	**+0.2**
	9.0nm,1.0s						
RAO	**Raoul Island**	**23.63**	**144**	*e*P	**P**	**23 59 04.6**	**-0.5**
	561nm,0.6s						
H11S2	**WAKE ISLAND Hy**	**28.90**	**0**	T	T	00 29 47.9	
	baz=181,slow=76,SNR=281						
H11S3	**WAKE ISLAND Hy**	**28.90**	**0**	T	T	00 29 46.7	
	baz=181,slow=76,SNR=156						
H11S1	**WAKE ISLAND Hy**	**28.91**	**0**	T	T	00 29 55.2	
	baz=181,slow=76,SNR=169						

URZ	**Urewera**	**29.16**	**163**	P		**P**	**23 59 54.1**	**-0.9**
	7.2nm,0.8s,baz=301,slow=6.8,SNR=3.4							
H11N1	**WAKE ISLAND Hy**	**30.12**	**1**	T		T	00 31 17.9	
	baz=182,slow=76,SNR=206							
H11N3	**WAKE ISLAND Hy**	**30.12**	**1**	T		T	00 31 19.8	
	baz=182,slow=76,SNR=94							
H11N2	**WAKE ISLAND Hy**	**30.13**	**1**	T		T	00 31 19.4	
	baz=182,slow=76,SNR=121							
STKA	**Stephens Creek**	**31.25**	**224**	P		**P**	**00 00 11.9**	**-1.7**
	1.3nm,0.5s,baz=131,slow=9.5,SNR=3.0							
STKA				LR		LR	00 11 59.0	
	comp=Z,1µm,19.1s,baz=50,slow=35							
THZ	**Tophouse**	**31.56**	**171**	*e*P		**P**	**00 00 16.7**	**+0.4**
	11nm,0.9s							
WRAB	**Tennant Creek**	**32.28**	**249**	*e*P		**P**	**00 00 22.8**	**-0.1**
	19nm,1.2s							
WB2	**Warramunga Arr**	**32.28**	**249**	*e*P		**P**	**00 00 23.1**	**+0.2**
WRA	**Warramunga Arr**	**32.29**	**249**	P		**P**	**00 00 21.4**	**-1.5**
	3.0nm,0.8s,baz=81,slow=8.9,SNR=14							
WRA				PcP		**PcP**	**00 03 10.3**	**-0.5**
	0.8nm,0.8s,baz=79,slow=3.5,SNR=4.8							
WRA				LR		LR	00 13 04.5	
	comp=Z,958nm,19.5s,baz=70,slow=36							
LTZ	**Lake Taylor**	**32.47**	**172**	*e*P		**P**	**00 00 23.9**	**-0.3**
	11nm,0.9s							
RPZ	**Rata Peaks**	**33.24**	**174**	P		**P**	**00 00 30.6**	**-0.4**
	9.9nm,0.7s,baz=26,slow=8.9,SNR=6.8							
AS01	**Alice Springs**	**33.57**	**243**	*e*P		**P**	**00 00 32.4**	**-1.7**
AS01				*e*PcP		**PcP**	**00 03 13.8**	**-0.4**
AS31	**Alice Springs**	**33.61**	**243**	*e*P		**P**	**00 00 34.6**	**+0.1**
	1.6nm,0.8s							
ASAR	**Alice Springs**	**33.62**	**243**	P		**P**	**00 00 32.8**	**-1.7**
	4.6nm,0.9s,baz=72,slow=9.3,SNR=21							
ASAR				PcP		**PcP**	**00 03 14.8**	**+0.4**
	1.3nm,0.8s,baz=75,slow=2.8,SNR=6.0							
ASAR				LR		LR	00 13 12.2	
	comp=Z,1µm,19.4s,baz=62,slow=35							
FITZ	**Fitzroy Crossi**	**40.17**	**255**	*e*P		**P**	**00 01 29.5**	**-0.7**
	7.6nm,0.9s							
PPT	**Papeete**	**43.13**	**104**	LR		LR	00 16 33.1	
	comp=Z,509nm,20.2s,baz=295,slow=32							
MBWA	**Marble Bar**	**46.00**	**251**	*e*P		**P**	**00 02 17.1**	**-0.3**
	26nm,0.8s							
MJAR	**Matsushiro Arr**	**53.89**	**332**	P		**P**	**00 03 16.6**	**-0.5**
	2.4nm,0.7s,baz=162,slow=8.8,SNR=4.3							
ASAJ	**Asahikawa**	**58.60**	**340**	P		**P**	**00 03 50.8**	**+0.3**
	3.6nm,0.9s,baz=108,slow=3.2,SNR=1.8							
KSRS	**Korea Array**	**59.90**	**325**	P		**P**	**00 03 59.9**	**+0.3**
	1.3nm,0.8s,baz=148,slow=7.1,SNR=7.8							
KSAR	**Wonju Array Be**	**59.91**	**325**	P		**P**	**00 03 59.9**	**+0.2**
KS01	**Wonju Array Si**	**59.93**	**325**	*e*P		**P**	**00 03 59.1**	**-0.7**
USRK	**Ussuriysk Ar.**	**62.86**	**333**	P		**P**	**00 04 19.8**	**+0.3**
	1.9nm,0.8s,baz=103,slow=6.1,SNR=5.8							
KLR	**Kul'dur**	**66.92**	**336**	P		**P**	**00 04 45.9**	**+0.1**
	2.2nm,0.9s,baz=139,slow=5.5,SNR=5.4							
VNDA	**Vanda**	**66.96**	**181**	P		**P**	**00 04 45.2**	**-0.5**
	4.1nm,0.9s,baz=357,slow=4.9,SNR=4.1							
XAN	**Xi'an**	**70.33**	**312**	P		**P**	**00 05 07.8**	**+0.3**
XAN				pP		sP	00 05 23.3	+0.7
XAN				pmax		pmax		
	comp=Z,11nm,1.4s							
MA2	**Magadan**	**71.06**	**352**	LR		LR	00 30 58.0	
	comp=Z,293nm,19.5s,baz=144,slow=31							
HHC	**Hu-ho-hao-te**	**71.94**	**319**	*e*P		**P**	**00 05 19.8**	**+2.6**
HHC				pmax		pmax		
	comp=Z,5.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,520nm,5.4s							
CM01	**Chiang Mai Arr**	**72.55**	**293**	*e*P		**P**	**00 05 21.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**72.57**	**293**	P		**P**	**00 05 21.4**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=106,slow=4.2,SNR=5.9							
SEY	**Seymchan**	**74.10**	**353**	P		**P**	**00 05 28.9**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=151,slow=6.5,SNR=4.8							
LZH	**Lanzhou**	**74.97**	**312**	*e*P		**P**	**00 05 37.0**	**+1.8**
LZH				pP		pP	00 05 42.0	-3.7
LZH				sP		pwP	00 05 45.3	-3.4
LZH				pmax		pmax		
	comp=Z,29nm,1.1s							
ULN	**Ulaanbaatar**	**78.34**	**324**	*e*P		**P**	**00 05 53.6**	**-0.4**
	comp=Z,5.8nm,0.9s							
BILL	**Bilibino**	**78.43**	**360**	*e*P		**P**	**00 05 54.0**	**+0.2**
	comp=Z,3.3nm,0.9s							
SONM	**Songino Array**	**78.71**	**323**	P		**P**	**00 05 55.9**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=126,slow=7.5,SNR=8.1							
SONA1	**Songino Array**	**78.72**	**323**	*e*P		**P**	**00 05 56.4**	**+0.3**
GTA	**Gaotai**	**79.25**	**314**	⇑P		**P**	**00 06 00.0**	**+0.9**
GTA				pP		PcP	00 06 04.5	-2.8
GTA				sP		pP	00 06 07.3	-2.4
GTA				pmax		pmax		
	comp=Z,9.0nm,1.4s							
GTA				LR		LR		
	comp=N,380nm,15.5s							
GTA				LR		LR		
	comp=E,670nm,16.1s							
GTA				LR		LR		
	comp=Z,960nm,16.1s							
QSPA	**South Pole Qui**	**79.41**	**180**	*e*P		**P**	**00 05 59.1**	**-0.4**
	comp=Z,351nm,2.2s							
BMRM	**Bremner River**	**81.05**	**22**	*e*P		**P**	**00 06 11.6**	**+3.4**
	comp=Z,12nm,0.9s							
IM3	**Indian Mountai**	**81.80**	**15**	*e*P		**P**	**00 06 13.4**	**+1.3**
TLY	**Talaya**	**82.14**	**326**	*e*P		**P**	**00 06 15.2**	**+1.0**
IL1	**Eielson Array**	**82.86**	**18**	*e*P		**P**	**00 06 17.0**	**-0.7**
ILAR	**Eielson Array**	**82.86**	**18**	P		**P**	**00 06 17.2**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=239,slow=5.2,SNR=20							
ILB	**Eielson Array**	**82.86**	**18**	*e*P		**P**	**00 06 18.6**	**+1.0**
SCRK	**Sand Creek**	**83.26**	**20**	*e*P		**P**	**00 06 20.6**	**+0.7**
	comp=Z,4.4nm,0.9s							
MDPB	**Devils Postpil**	**84.38**	**50**	*e*P		**P**	**00 06 24.7**	**-1.6**
	comp=Z,3.7nm,1.0s							
NV01	**Mina Array Sit**	**85.20**	**50**	*e*P		**P**	**00 06 30.1**	**-0.4**
NVAR	**Mina Array Bea**	**85.20**	**50**	P		**P**	**00 06 31.3**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=234,slow=8.4,SNR=10							
NVAR				LR		LR	00 35 42.0	
	comp=Z,456nm,20.9s,baz=298,slow=29							
KVN	**Kaiserville**	**85.54**	**49**	*e*P		**P**	**00 06 31.9**	**-0.1**
	comp=Z,2.0nm,0.8s							
DLBC	**Dease Lake**	**85.68**	**28**	LR		LR	00 35 20.9	
	comp=Z,521nm,20.5s,baz=350,slow=29							
TIXI	**Tiksi**	**85.78**	**349**	*e*P		**P**	**00 06 31.9**	**-0.4**
	comp=Z,4.7nm,1.1s							
SHPR	**Sheep Range**	**87.06**	**52**	*e*P		**P**	**00 06 38.5**	**-1.1**
	comp=Z,2.2nm,1.0s							
LCMT	**Little Creek M**	**88.68**	**52**	*e*P		**P**	**00 06 46.0**	**-1.3**
	comp=Z,2.8nm,1.2s							
CCUT	**Cedar City**	**88.72**	**52**	*e*P		**P**	**00 06 45.9**	**-1.6**
	comp=Z,3.3nm,1.2s							
SZCU	**Shurtz Canyon**	**88.94**	**52**	*e*P		**P**	**00 06 49.5**	**+0.9**
	comp=Z,0.8nm,0.8s							
KNB	**Kanab**	**89.00**	**52**	*e*P		**P**	**00 06 47.3**	**-1.6**
U15A	**North Rim**	**89.28**	**53**	*e*P		**P**	**00 06 52.6**	**+2.3**
	comp=Z,4.8nm,1.0s							
X16A	**Lo Mia Camp, P**	**89.49**	**55**	*e*P		**P**	**00 06 53.7**	**+2.5**
	comp=Z,3.2nm,1.0s							
TUC	**Tucson**	**89.56**	**57**	*e*P		**P**	**00 06 54.0**	**+2.6**
	comp=Z,3.0nm,0.8s							
MTPU	**Mount Pierson**	**89.74**	**51**	*e*P		**P**	**00 06 52.8**	**+0.3**
	comp=Z,8.2nm,1.2s							
MSU	**Marysvale**	**89.86**	**51**	*e*P		**P**	**00 06 55.5**	**+2.6**
HVU	**Hansel Valley**	**90.19**	**48**	*e*P		**P**	**00 06 53.5**	**-0.8**
	comp=Z,6.9nm,1.1s							
X18A	**Snowflake**	**90.72**	**55**	*e*P		**P**	**00 06 59.3**	**+2.3**
	comp=Z,2.9nm,1.1s							
DLMT	**Dillon**	**91.17**	**44**	*e*P		**P**	**00 07 00.6**	**+1.8**
	comp=Z,4.2nm,1.1s							
WALA	**Waterton Lakes**	**91.21**	**40**	*e*P		**P**	**00 07 00.5**	**+1.7**
	comp=Z,4.9nm,1.1s							
BOZ	**Bozeman (W)**	**91.89**	**44**	*e*P		**P**	**00 07 03.9**	**+1.8**
	comp=Z,2.7nm,0.9s							
SYO	**Syowa Base**	**92.42**	**197**	⇑*i*P		**P**	**00 07 03.6**	**-0.3**
SYO	**Syowa Base**	**92.42**	**197**	⇑*e*PcP		**PcP**	**00 07 05.0**	**+0.4**
SYO	**Syowa Base**	**92.42**	**197**	⇓*e*pP		**P**	**00 07 07.5**	**+3.6**
PDAR	**Pinedale Array**	**92.74**	**47**	P		**P**	**00 07 05.8**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=259,slow=1.5,SNR=4.0							
ZALV	**Zalesovo Beam**	**93.60**	**324**	P		**P**	**00 07 08.1**	**-1.4**
	comp=Z,2.4nm,0.9s,baz=114,slow=3.6,SNR=12							
MK01	**Makanchi Array**	**93.66**	**317**	*e*P		**P**	**00 07 09.2**	**-0.9**
MK31	**Makanchi Array**	**93.67**	**317**	*e*P		**P**	**00 07 08.6**	**-1.5**
MKAR	**Makanchi Array**	**93.67**	**317**	P		**P**	**00 07 09.1**	**-1.0**
	comp=Z,5.0nm,0.8s,baz=97,slow=6.3,SNR=19							
MKAR	**Makanchi Array**	**93.67**	**317**	P		**P**	**00 07 09.1**	**-1.0**
	comp=Z,25nm,0.9s							
MAKZ	**Makanchi**	**93.88**	**317**	*e*P		**P**	**00 07 11.0**	**0.0**
	comp=Z,3.8nm,1.0s							
YKA	**Yellowknife Ar**	**94.25**	**27**	P		**P**	**00 07 10.8**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=258,slow=4.9,SNR=6.8							
TXAR	**Lajitas Array**	**95.00**	**61**	P		**P**	**00 07 17.2**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=285,slow=3.5,SNR=1.8							
KSH	**Kashi**	**97.01**	**309**	P	Pdif		00 07 26.0	+0.2
KSH				pmax	pmax			
	comp=Z,5.0nm,0.6s							
KSH				pmax	pmax			
	comp=Z,930nm,5.9s							
ARCES	**ARCESS Array B**	**116.07**	**346**	PKP		**PKPdf**	**00 12 36.1**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=32,slow=4.8,SNR=4.1							
GERES	**GERESS Array B**	**135.60**	**334**	PKP		**PKPdf**	**00 13 14.8**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=4.7,slow=6.0,SNR=3.4							
KEST	**Kesra**	**147.47**	**324**	PKPbc		**PKPbc**	**00 13 38.0**	**0.0**
	comp=Z,7.2nm,0.9s,baz=2.4,slow=4.3,SNR=5.3							
PBRG	**Braganca**	**148.34**	**350**	*e*PKPdf		**PKiKP**	**00 13 41.3**	**-0.4**
POLO	**Lamas de Olo**	**148.92**	**352**	*e*PKPdf		**PKiKP**	**00 13 43.2**	**+0.2**
PVRL	**Vila Real**	**149.01**	**351**	*e*PKPdf		**PKiKP**	**00 13 43.3**	**+0.2**
MVO	**Moncorvo**	**149.01**	**350**	*e*PKPdf		**PKiKP**	**00 13 43.3**	**+0.1**
PVIS	**Viseu**	**149.58**	**351**	*e*PKPdf		**PKiKP**	**00 13 44.6**	**+0.2**
ESDC	**Sonseca Array**	**149.81**	**345**	PKPbc		**PKPbc**	**00 13 43.5**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=18,slow=2.8,SNR=11							
MTE	**Manteigas**	**149.84**	**351**	*e*PKPdf		**PKiKP**	**00 13 46.0**	**+1.1**
PTOM	**Tomar**	**150.73**	**352**	*e*PKPdf		**PKiKP**	**00 13 48.0**	**+1.3**
PMRV	**Marv??o**	**150.76**	**350**	*e*PKPdf		**PKiKP**	**00 13 47.7**	**+0.9**
PMTG	**Montargil**	**151.25**	**351**	*e*PKPdf		**PKiKP**	**00 13 48.5**	**+0.8**
PNCL	**Nicolau / Gran**	**152.23**	**351**	*e*PKPdf		**PKiKP**	**00 13 51.4**	**+1.6**
PBDV	**Barranco-do-Ve**	**152.98**	**350**	*e*PKPdf		**PKPbc**	**00 13 50.3**	**-1.0**
TORD	**Torodi Ar. Bea**	**164.87**	**281**	PKP		**PKPdf**	**00 13 59.0**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=172,slow=1.0,SNR=4.7							

IDC 30 23:57:23.5±1.2, 10.46S×166.33E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.7/42, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=50.1km s-min=25.3km az=134.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.54**	**179**	Pn	Pn	00 00 09.9	+0.1
	0.4nm,0.3s,baz=65,slow=19,SNR=2.8						
H11S2	**WAKE ISLAND Hy**	**28.77**	**1**	T	T	00 33 26.0	
	baz=180						
H11S3	**WAKE ISLAND Hy**	**28.77**	**1**	T	T	00 33 26.8	
	baz=180						
H11S1	**WAKE ISLAND Hy**	**28.79**	**1**	T	T	00 33 28.1	
	baz=180						
WRA	**Warramunga Arr**	**32.23**	**249**	P	P	00 03 53.7	-0.2
	0.4nm,0.7s,baz=80,slow=8.4,SNR=3.0						
ASAR	**Alice Springs**	**33.57**	**243**	P	P	00 04 05.7	+0.1
	1.1nm,0.8s,baz=68,slow=10,SNR=5.5						
ILAR	**Eielson Array**	**82.78**	**18**	P	P	00 09 49.3	+0.1
	0.9nm,0.8s,baz=224,slow=5.9,SNR=6.3						
NVAR	**Mina Array Bea**	**85.21**	**50**	P	P	00 10 02.7	+0.2
	0.5nm,0.8s,baz=227,slow=9.6,SNR=3.7						
MKAR	**Makanchi Array**	**93.49**	**317**	P	P	00 10 41.8	+0.5
	1.0nm,0.7s,baz=90,slow=6.2,SNR=6.1						
ESDC	**Sonseca Array**	**149.65**	**345**	PKPbc	PKPbc	00 17 14.3	-1.3
	0.2nm,0.5s,baz=345,slow=2.9,SNR=2.8						

IDC 30 23:59:58.9±16.0, 12.06S×166.89E, h366km±154km, mb3.3/4, mb1 3.5/4, mb1mx3.0/42, mbtmp3.9/4, Error ellipse: s-maj=115.4km s-min=61.7km az=135.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.21**	**252**	P	P	00 05 53.5	-1.1
	0.8nm,0.8s,baz=82,slow=9.1,SNR=5.1						
ASAR	**Alice Springs**	**33.36**	**245**	P	P	00 06 05.0	+0.5
	1.3nm,0.8s,baz=77,slow=9.3,SNR=7.2						
ILAR	**Eielson Array**	**84.12**	**18**	P	P	00 11 49.3	+0.1
	0.6nm,0.7s,baz=228,slow=6.3,SNR=4.5						
MKAR	**Makanchi Array**	**95.02**	**317**	P	P	00 12 41.4	+0.6
	1.4nm,0.9s,baz=95,slow=5.9,SNR=8.4						
FINES	**FINESS Array B**	**123.12**	**339**	PKP	PKPdf	00 18 11.1	-1.0
	0.9nm,0.4s,baz=72,slow=4.0,SNR=6.9						

*IDC **31** 00:02:21.7±0.6, 10.53S×166.46E, h0km, mb4.2/17, mb1 4.3/18, mb1mx4.2/45, mbtmp4.1/18, ML3.6/1, MS4.3/2, Ms1 4.3/2, ms1mx3.7/28, Error ellipse: s-maj=22.2km s-min=16.2km az=101.0*

*NEIC **31** 00:02:22.8±0.3, 10.64S×166.44E, h10km, mb4.4/17, Error ellipse: s-maj=8.8km s-min=7.1km az=116.0*

*ISCJB **31** 00:02:25.0±0.3, 10.70S±0.06×166.35E±0.07, h36km, mb4.2/29, MS4.2/1, Error ellipse: s-maj=9.5km s-min=7.9km az=15.7*

ISC 31 00:02:26.6±0.5, 10.65S±0.09×166.4E±0.1, h36km, n56, σ1s06/53, mb4.3/29, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.35**	**180**	Pn	Pn	00 05 08.0	**+1.6**
	0.4nm,0.3s,baz=11,slow=12,SNR=3.0						
PMG	**Port Moresby**	**19.03**	**272**	LR	LR	00 13 04.4	
	comp=Z,807nm,18.1s,baz=113,slow=34						
EIDS	**Eidsvold**	**20.65**	**223**	*e*P	P	00 07 02.5	**-0.7**
	23nm,1.1s						
MANU	**Manus Island**	**20.78**	**293**	*e*P	P	00 07 04.8	**0.0**
	76nm,1.1s						
CTA	**Charters Tower**	**21.59**	**242**	P	P	00 07 15.0	**+1.6**
	4.4nm,0.9s,baz=48,slow=8.7,SNR=4.5						
CTA				LR	LR	00 14 54.3	
	comp=Z,888nm,18.5s,baz=104,slow=35						
CTAO	**Charters Tower**	**21.59**	**242**	*e*P	P	00 07 10.5	**-3.0**
	5.1nm,0.9s						
RAO	**Raoul Island**	**23.58**	**144**	*e*P	P	00 07 32.5	**-1.6**
HIZ	**Hauiti**	**28.75**	**166**	*e*P	P	00 08 18.3	**-2.5**
	24nm,1.1s						
H11S2	**WAKE ISLAND Hy**	**28.96**	**1**	T	T	00 38 15.3	
	baz=181,slow=76,SNR=56						
H11S3	**WAKE ISLAND Hy**	**28.96**	**0**	T	T	00 38 08.7	
	baz=181,slow=76,SNR=48						
H11S1	**WAKE ISLAND Hy**	**28.98**	**1**	T	T	00 38 15.1	
	baz=181,slow=76,SNR=44						
URZ	**Urewera**	**29.11**	**163**	P	P	00 08 25.6	**+1.7**
	2.9nm,0.5s,baz=37,slow=18,SNR=2.7						
WB2	**Warramunga Arr**	**32.25**	**249**	*e*P	P	00 08 49.7	**-2.3**
	8.9nm,1.1s						
WR1	**Warramunga Arr**	**32.26**	**250**	*e*P	P	00 08 52.0	**0.0**
	12nm,1.1s						
WRA	**Warramunga Arr**	**32.26**	**250**	P	P	00 08 52.0	**0.0**
	1.9nm,0.8s,baz=82,slow=8.9,SNR=9.0						
RPZ	**Rata Peaks**	**33.18**	**174**	P	P	00 09 01.3	**+1.5**
	4.5nm,0.7s,baz=27,slow=5.0,SNR=4.0						
AS01	**Alice Springs**	**33.54**	**243**	*e*P	P	00 09 02.6	**-0.7**
AS31	**Alice Springs**	**33.58**	**243**	*e*P	P	00 09 03.8	**+0.2**
	0.9nm,0.8s						
ASAR	**Alice Springs**	**33.58**	**243**	P	P	00 09 03.8	**+0.2**
	3.4nm,0.9s,baz=76,slow=9.4,SNR=19						
ASAR				PcP	PcP	00 11 45.0	**+1.3**
	1.2nm,0.9s,baz=73,slow=4.1,SNR=4.4						
LBZ	**Lake Benmore**	**33.77**	**175**	*e*P	P	00 09 04.5	**-0.4**
FITZ	**Fitzroy Crossi**	**40.14**	**255**	*e*P	P	00 09 58.8	**-0.6**
	5.2nm,0.7s						
KSRS	**Korea Array**	**59.95**	**325**	P	P	00 12 29.6	**+0.4**
	0.5nm,0.4s,baz=148,slow=7.0,SNR=7.1						
KS15	**Wonju Array Si**	**59.96**	**325**	*e*P	P	00 12 29.6	**+0.3**
	3.8nm,1.0s						
KSAR	**Wonju Array Be**	**59.96**	**325**	P	P	00 12 29.6	**+0.3**
KS01	**Wonju Array Si**	**59.98**	**325**	*e*P	P	00 12 29.6	**+0.1**
USRK	**Ussuriysk Ar.**	**62.91**	**333**	P	P	00 12 50.4	**+1.2**
	1.0nm,0.5s,baz=134,slow=5.5,SNR=7.0						
KLR	**Kul'dur**	**66.97**	**336**	P	P	00 13 16.3	**+0.7**
	1.9nm,0.9s,baz=136,slow=8.7,SNR=5.2						
CMAR	**Chiang Mai Arr**	**72.59**	**293**	P	P	00 13 50.1	**-0.7**
	0.4nm,0.3s,baz=111,slow=4.9,SNR=4.4						
SEY	**Seymchan**	**74.16**	**353**	P	P	00 14 00.1	**+1.1**
	1.1nm,0.2s,baz=56,slow=13,SNR=3.1						
ULN	**Ulaanbaatar**	**78.39**	**324**	*e*P	P	00 14 24.8	**+1.2**
	6.1nm,1.1s						
BILL	**Bilibino**	**78.49**	**360**	*e*P	P	00 14 23.4	**-0.1**
	3.7nm,1.0s						
SONA0	**Songino Array**	**78.76**	**323**	*e*P	P	00 14 26.5	**+0.9**
SONM	**Songino Array**	**78.76**	**323**	P	P	00 14 26.5	**+0.9**
	0.8nm,0.7s,baz=150,slow=6.3,SNR=5.8						
SONA1	**Songino Array**	**78.76**	**323**	*e*P	P	00 14 25.6	**0.0**
IL1	**Eielson Array**	**82.93**	**18**	*e*P	P	00 14 46.6	**-0.8**
ILAR	**Eielson Array**	**82.93**	**18**	P	P	00 14 46.3	**-1.0**
	1.2nm,0.7s,baz=240,slow=4.9,SNR=17						
ILB	**Eielson Array**	**82.93**	**18**	*e*P	P	00 14 47.9	**+0.6**
	0.9nm,0.6s						
PAHR	**Pah Rah Range**	**84.84**	**48**	*e*P	P	00 14 58.0	**+0.1**
	2.1nm,1.1s						
NV01	**Mina Array Sit**	**85.25**	**50**	*e*P	P	00 14 59.1	**-1.0**
NVAR	**Mina Array Bea**	**85.25**	**50**	P	P	00 15 00.3	**+0.2**
	0.7nm,0.7s,baz=232,slow=7.6,SNR=4.6						
CCUT	**Cedar City**	**88.76**	**52**	*e*P	P	00 15 16.4	**-0.8**
KNB	**Kanab**	**89.05**	**52**	*e*P	P	00 15 19.6	**+1.2**
U15A	**North Rim**	**89.33**	**53**	*e*P	P	00 15 20.0	**+0.1**
	1.7nm,0.9s						
HVU	**Hansel Valley**	**90.24**	**48**	*e*P	P	00 15 24.9	**+1.1**
	4.4nm,1.2s						
NLU	**North Lily Min**	**90.32**	**49**	*e*P	P	00 15 24.9	**+0.5**
	3.7nm,1.1s						
PD31	**Pinedale Array**	**92.78**	**47**	*e*P	P	00 15 36.1	**+0.3**
	1.0nm,1.0s						
PDAR	**Pinedale Array**	**92.78**	**47**	P	P	00 15 36.1	**+0.3**
	0.6nm,1.0s,baz=211,slow=1.6,SNR=2.8						
ZAA1	**Zalesovo Array**	**93.64**	**324**	*e*P	P	00 15 38.3	**-0.8**
ZALV	**Zalesovo Beam**	**93.64**	**324**	P	P	00 15 38.3	**-0.8**
	2.1nm,0.9s,baz=116,slow=3.4,SNR=7.7						
MK01	**Makanchi Array**	**93.69**	**317**	*e*P	P	00 15 39.9	**+0.2**
MK32	**Makanchi Array**	**93.71**	**317**	*e*P	P	00 15 39.9	**+0.2**
MKAR	**Makanchi Array**	**93.71**	**317**	P	P	00 15 39.9	**+0.2**
	3.5nm,0.9s,baz=95,slow=6.2,SNR=25						
YKA	**Yellowknife Ar**	**94.31**	**27**	P	P	00 15 40.7	**-1.3**
	0.2nm,0.6s,baz=249,slow=5.2,SNR=3.9						
KEST	**Kesra**	**147.51**	**324**	PKPbc	PKPbc	00 22 08.2	**+0.7**
	4.0nm,0.8s,baz=175,slow=3.6,SNR=5.6						
ES19	**SONSECA Array**	**149.82**	**345**	*e*PKPdf	PKPdf	00 22 06.8	**-1.7**
ESDC	**Sonseca Array**	**149.86**	**345**	PKPbc	PKPbc	00 22 14.2	**+0.7**
	0.9nm,0.8s,baz=8.9,slow=3.3,SNR=9.4						

*NEIC **31** 00:02:48.3±0.0, 15.97N×98.67W, h10km, MD4.0(MEX), After MEX.*

MEX 31 00:02:48.1±0.5, 15.98N×98.65W, h7km±7km, MD4.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.65**	**50**	*i* P	Pg	00 02 59.2	-1.4
PNIG				*e*S	Sg	00 03 08.4	-0.8
PNIG	**Pinotepa**	**0.65**	**50**	*i* P	Pg	00 02 59.2	-1.4
PNIG				*e*S	Sg	00 03 08.4	-0.8
CAIG	**El Cayaco**	**1.88**	**305**	*e*P	Pn	00 03 16.5	-4.3
CAIG	**El Cayaco**	**1.88**	**305**	*e*P	Pn	00 03 16.5	-4.3
CAIG				*e*S	Sn	00 03 40.2	-4.6
VHO	**Vista Hermosa**	**2.14**	**59**	*e*P	Pn	00 03 21.8	-2.7
VHO	**Vista Hermosa**	**2.14**	**59**	*e*P	Pn	00 03 21.8	-2.7
VHO				*i* S	Sn	00 03 46.8	-4.6
MEIG	**Mezcala**	**2.15**	**335**	*e*P	Pn	00 03 21.6	-2.9
MEIG	**Mezcala**	**2.15**	**335**	*e*P	Pn	00 03 21.6	-2.9
MEIG				*i* S	Sn	00 03 46.2	-5.3
HUIG	**Huatulco**	**2.46**	**94**	*e*P	Pn	00 03 25.9	-2.8
HUIG	**Huatulco**	**2.46**	**94**	*e*P	Pn	00 03 25.9	-2.8
HUIG				*i* S	Sn	00 03 54.8	-4.1
PLIG	**Platanillo**	**2.54**	**341**	*e*P	Pn	00 03 26.2	-3.7
PLIG	**Platanillo**	**2.54**	**341**	*e*P	Pn	00 03 26.2	-3.7
PLIG				*i* S	Sn	00 03 57.3	-3.8
TPIG	**Tehuac#an**	**2.73**	**27**	*e*P	Pn	00 03 30.3	-2.2
TPIG	**Tehuac#an**	**2.73**	**27**	*e*P	Pn	00 03 30.3	-2.2
TPIG				*i* S	Sn	00 04 01.0	-4.8
ARIG	**Puente Sto Nin**	**2.81**	**325**	*e*P	Pn	00 03 31.2	-2.3
ARIG	**Puente Sto Nin**	**2.81**	**325**	*e*P	Pn	00 03 31.2	-2.3
ARIG				*i* S	Sn	00 04 03.8	-3.9
YAIG	**Yautepec**	**2.90**	**352**	*e*P	Pn	00 03 32.3	-1.5
YAIG	**Yautepec**	**2.90**	**352**	*i* P	Pn	00 03 32.3	-2.6
YAI

MK32	**Makanchi Array**	**151.90**	**41**	*e*PKPbc	**PKPbc**	**00 24 08.5**	**+0.7**
MK32				*e*PKPab	**sPKPbc**	**00 24 21.2**	**0.0**
MKAR	**Makanchi Array**	**151.90**	**41**	PKPbc	**PKPbc**	**00 24 08.5**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=298,slow=2.2,SNR=4.9						
MKAR				pPKPbc	**sPKPbc**	**00 24 21.2**	**0.0**
	comp=Z,0.6nm,0.7s,baz=311,slow=2.2,SNR=4.6						

IDC 31 00:09:49.5±2.8, 16°49S×173°17W, h0km, mb3.8/6, mb1 4.2/6, mb1mx3.9/40, mbtmp3.8/6, MS4.4/2, Ms1 4.4/2, ms1mx3.6/28, Error ellipse: s-maj=164.4km s-min=23.7km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**13.43**	**198**	LR	LR	00 17 06.1	
	comp=Z,2µm,19.8s,baz=98,slow=32						
URZ	**Urewera**	**23.31**	**200**	LR	LR	00 22 12.0	
	comp=Z,650nm,18.5s,baz=300,slow=32						
WRA	**Warramunga Arr**	**49.82**	**258**	P	P	00 18 44.9	+0.3
	0.4nm,0.5s,baz=97,slow=6.2,SNR=7.9						
ASAR	**Alice Springs**	**49.99**	**253**	P	P	00 18 45.1	-0.8
	3.3nm,0.8s,baz=86,slow=8.8,SNR=14						
NVAR	**Mina Array Bea**	**74.99**	**42**	P	P	00 21 33.1	0.0
	0.7nm,0.7s,baz=225,slow=13,SNR=5.0						
PDAR	**Pinedale Array**	**82.93**	**42**	P	P	00 22 16.6	0.0
	0.9nm,0.7s,baz=204,slow=2.8,SNR=10.0						
ILAR	**Eielson Array**	**83.47**	**11**	P	P	00 22 17.8	-0.8
	0.5nm,0.7s,baz=232,slow=5.5,SNR=6.7						
YKA	**Yellowknife Ar**	**91.00**	**23**	P	P	00 22 55.5	+0.4
	0.2nm,0.5s,baz=242,slow=4.8,SNR=4.4						
BRTR	**Keskin Array B**	**147.13**	**320**	PKPbc	PKPbc	00 29 35.4	+0.4
	0.8nm,0.7s,baz=95,slow=2.2,SNR=6.3						

*JMA **31** 00:12:39.3±0.3, 45°.93N×150°.95E, h30km, M4.4*
SKHL 31 00:12:40.6±0.8, 45°.08N×151°.30E, h48km±5km, mb5.0/3, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.43**	**275** ⇑	*i*P	Pn	00 13 17.6	-0.2
KUR				AMB	AMB	00 13 18.0	
	100nm,0.3s						
KUR				AMB	AMB	00 13 18.0	
	60nm,0.3s						
KUR				AMB	AMB	00 13 18.0	
	280nm,0.3s						
KUR				*i* S	Sn	00 13 45.7	-0.6
KUR				A	A	00 13 46.4	
	280nm,0.2s						
KUR				A	A	00 13 46.4	
	170nm,0.2s						
SHO	**Shikotan**	**3.42**	**251** ⇑	*i*P	Pn	00 13 32.5	+1.1
SHO				AMB	AMB	00 13 33.5	
	20nm,0.2s						
SHO				AMB	AMB	00 13 33.5	
	30nm,0.2s						
SHO				*i* S	Sn	00 14 10.7	+0.1
SHO				A	A	00 14 16.1	
	120nm,0.2s						
SHO				A	A	00 14 16.1	
	80nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**4.03**	**257**	*e*P	Pn	00 13 39.8	+0.2
YUK				AMB	AMB	00 13 40.2	
	250nm,0.6s						
YUK				*e*S	Sn	00 14 24.5	-1.0
YUK				A	A	00 14 27.8	
	510nm,1.0s						
YUK				A	A	00 14 27.8	
	380nm,1.0s						
NEM2	**Nemuro 2**	**4.35**	**249**	P	Pn	00 13 44.8	+0.7
NEM2				*e*S	Sn	00 14 33.4	0.0
JNK	**Nakash**	**4.95**	**255**	P	Pn	00 13 53.6	+1.2
JAK	**Akkeshi**	**5.20**	**249**	P	Pn	00 13 56.3	+0.6
JAK				*e*S	Sn	00 14 53.8	-0.5
JTKR	**Abashiri--Toko**	**5.40**	**261**	P	Pn	00 13 59.5	+1.0
JAR	**Ashorobuto**	**5.70**	**254**	P	Pn	00 14 04.0	+1.3
JMP	**Maruseppu**	**5.78**	**262**	P	Pn	00 14 04.6	+0.9
JKK2	**Kamakawa 2**	**6.24**	**262**	P	Pn	00 14 11.1	+1.1
JCH	**Churui**	**6.25**	**250**	P	Pn	00 14 10.4	+0.3
JCH				*e*S	Sn	00 15 18.2	-1.9
ASAJ	**Asahikawa**	**6.29**	**264**	P	Pn	00 14 11.8	+1.1
MYR	**Moyori**	**6.45**	**247**	*e*S	Sn	00 15 22.8	-2.2
JNBK	**Urakawa-nobuka**	**6.80**	**249**	P	Pn	00 14 17.7	0.0
JBT2	**Biratori 2**	**6.85**	**254**	P	Pn	00 14 18.3	-0.1
JNB	**Noboribetsu**	**7.87**	**254**	P	Pn	00 14 31.8	-0.6
JKB	**Kayabe**	**8.12**	**250**	*e*S	Sn	00 16 01.5	-4.6
JSH	**Shimam**	**8.49**	**257**	P	Pn	00 14 40.5	-0.4
JANG	**Nango**	**8.60**	**240**	*e*S	Sn	00 16 13.2	-4.8
JTM	**Tenmabayashi**	**8.64**	**244**	*e*S	Sn	00 16 13.8	-5.2

*ISCJB **31** 00:24:09.0±0.4, 24°.28N±0°.02×121°.93E±0°.02, h4km±3km, Error ellipse: s-maj=3.3km s-min=2.3km az=38.0*
*TAP **31** 00:24:08.5, 24°.29N×121°.92E, h10km, ML2.8, C*
*JMA **31** 00:24:08.0±0.1, 24°.26N×121°.93E, h0km, M2.4*
ISC 31 00:24:08.7±1.0, 24°.28N±0°.02×121°.93E±0°.02, h9km±8km, n68, σ80/104, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.23**	**311**	*i*P	**Pg**	**00 24 13.3**	**0.0**
	baz=312						
ENA				*i* S	**Sg**	**00 24 16.6**	**+0.2**
	baz=312						
NACB	**Ninganchiao**	**0.32**	**251**	P	**Pg**	**00 24 14.8**	**-0.3**
	baz=251						
NACB				*e*S	**Sb**	**00 24 20.6**	**-1.3**
	baz=251						
EOS1	**EOS1**	**0.33**	**34**	P	**Pb**	**00 24 16.0**	**-0.6**
	baz=22						
EOS1				S	**Sb**	**00 24 21.9**	**-0.1**
	baz=22						
TWC	**Suao**	**0.34**	**348**	*i* P	**Pg**	**00 24 15.3**	**-0.1**
	baz=350						
TWC				*i* S	**Sg**	**00 24 20.1**	**+0.2**
	baz=350						
TWD	**Chiawan**	**0.36**	**237**	P	**Pg**	**00 24 16.1**	**+0.2**
	baz=245						
TWD				*e*S	**Sb**	**00 24 22.2**	**-0.8**
	baz=245						
ENLB	**Shoufeng**	**0.48**	**219**	*e*P	**Pb**	**00 24 19.2**	**-0.1**
	baz=232						
ENLB				*e*S	**Sb**	**00 24 29.0**	**+2.6**
	baz=232						
ENTT	**Nioudou**	**0.49**	**317**	*i* P	**Pg**	**00 24 18.3**	**+0.1**
	baz=318						
ENTT				*e*S	**Sg**	**00 24 25.1**	**+0.4**
	baz=318						
NDT	**Datong Townshi**	**0.50**	**310**	P	**Pb**	**00 24 18.7**	**-0.9**
	baz=311						
NDT				S	**Sb**	**00 24 25.8**	**-1.2**
	baz=311						
TWE	**Neicheng**	**0.50**	**332**	P	**Pg**	**00 24 18.5**	**+0.1**
	baz=332						
TWE				*e*S	**Sg**	**00 24 25.1**	**+0.1**
	baz=332						
NNSB	**Datong**	**0.52**	**287**	*e*P	**Pg**	**00 24 19.0**	**+0.2**
	baz=288						
NNSB				*e*S	**Sg**	**00 24 24.6**	**-1.1**
	baz=288						
NNS	**Nan Shan**	**0.53**	**288**	P	**Pg**	**00 24 19.3**	**+0.2**
	baz=289						
NNS				*e*S	**Sg**	**00 24 26.5**	**+0.4**
	baz=289						
EGS		**0.56**	**0**	*e*P	**Pb**	**00 24 20.6**	**-0.2**
	baz=352						
EGS				*e*S	**Sg**	**00 24 27.6**	**+0.6**
	baz=352						
NTC	**Toucheng**	**0.58**	**351**	*e*P	**Pb**	**00 24 21.2**	**+0.2**
	baz=350						
NTC				*e*S	**Sb**	**00 24 28.7**	**-0.7**
	baz=350						
WHF	**Hehuan Shan**	**0.62**	**258**	P	**Pg**	**00 24 20.6**	**-0.2**
	baz=259						
WHF				*e*S	**Sb**	**00 24 30.0**	**-0.9**
	baz=259						
NWLT	**Wulai**	**0.63**	**322**	*e*P	**Pb**	**00 24 21.3**	**-0.6**
	baz=322						
NWLT				*e*S	**Sg**	**00 24 28.9**	**-0.3**
	baz=322						
YHNB	**Yeheng**	**0.64**	**308**	*e*P	**Pb**	**00 24 21.3**	**-0.7**
	baz=315						
YHNB				*e*S	**Sg**	**00 24 29.5**	**+0.1**
	baz=315						
ESL	**Shilin**	**0.65**	**224**	*e*P	**Pb**	**00 24 21.6**	**-0.6**
	baz=234						
NSK	**Sanguang**	**0.65**	**307**	P	**Pb**	**00 24 21.7**	**-0.6**
	baz=315						
NSK				S	**Sg**	**00 24 29.9**	**0.0**
	baz=315						
TWT	**Tachien**	**0.69**	**268**	*e*P	**Pb**	**00 24 22.6**	**-0.3**
	baz=269						
TWT				*e*S	**Sb**	**00 24 32.6**	**0.0**
	baz=269						
TIPB	**Shuangxi**	**0.70**	**352**	*e*P	**Pg**	**00 24 22.3**	**+0.2**
	baz=351						
TIPB				*e*S	**Sg**	**00 24 31.2**	**-0.1**
	baz=351						
TDCB	**Techi**	**0.70**	**268**	*e*P	**Pb**	**00 24 22.6**	**-0.6**
	baz=269						
TDCB				*e*S	**Sb**	**00 24 32.8**	**-0.2**
	baz=269						
CHGB	**Renai**	**0.72**	**253**	*e*P	**Pb**	**00 24 22.7**	**-0.8**
	baz=254						
CHGB				*e*S	**Sb**	**00 24 33.8**	**+0.1**
	baz=254						
EGFH	**Guangfu**	**0.76**	**217**	*e*P	**Pb**	**00 24 24.1**	**0.0**
	baz=236						
EGFH				*e*S	**Sn**	**00 24 36.9**	**-0.3**
	baz=236						
TWA	**Mucha**	**0.77**	**336**	*e*P	**Pn**	**00 24 25.1**	**-0.5**
	baz=336						
NHDH	**Xindian Distri**	**0.77**	**332**	*e*P	**Pb**	**00 24 24.5**	**+0.2**
	baz=323						
NWF	**Wu-fen Shan**	**0.80**	**350**	*e*P	**Pb**	**00 24 25.2**	**+0.4**
	baz=342						
WFSB	**Wu-fen Shan**	**0.80**	**350**	*e*P	**Pb**	**00 24 25.2**	**+0.5**
	baz=342						
TATO	**Taipei**	**0.80**	**330**	*e*P	**Pn**	**00 24 25.8**	**-0.4**
	baz=322						
WLTB	**Daxi**	**0.84**	**313**	*e*P	**Pn**	**00 24 27.1**	**+0.4**
	baz=313						
VWDT	**VWDT**	**0.89**	**234**	*e*P	**Pb**	**00 24 25.7**	**-0.6**
	baz=243						
VWDT				*e*S	**Sn**	**00 24 39.4**	**-1.0**
	baz=243						
WHP	**Taichung City**	**0.90**	**270**	*e*P	**Pb**	**00 24 26.7**	**+0.3**
	baz=272						
WHP				*e*S	**Sb**	**00 24 39.0**	**+0.4**
	baz=272						
LIOB	**Emei**	**0.91**	**294**	*e*P	**Pn**	**00 24 27.4**	**-0.2**
	baz=294						
HGSD	**Ruisui**	**0.91**	**211**	*e*P	**Pb**	**00 24 26.4**	**-0.2**
	baz=212						
NSTT	**Nanjuang**	**0.92**	**293**	*e*P	**Pb**	**00 24 27.1**	**+0.4**
	baz=294						
NSTT				*e*S	**Sn**	**00 24 40.4**	**-0.6**
	baz=294						
YM11	**YM11**	**0.94**	**340**	*e*P	**Pb**	**00 24 27.5**	**+0.3**
	baz=339						
TWS1	**Kuangyinshan**	**0.94**	**330**	*e*P	**Pg**	**00 24 26.6**	**-0.2**
	baz=318						
YM04	**YM04**	**0.94**	**338**	*e*P	**Pn**	**00 24 27.7**	**-0.4**
	baz=337						
YM05	**YM05**	**0.94**	**340**	*e*P	**Pb**	**00 24 27.6**	**+0.4**
	baz=338						
EHY	**Hungye**	**0.95**	**216**	*e*P	**Pg**	**00 24 26.1**	**-0.9**
	baz=231						
EHY				*e*S	**Sn**	**00 24 41.9**	**+0.1**
	baz=231						
YM08	**YM08**	**0.96**	**341**	*e*P	**Pb**	**00 24 27.5**	**0.0**
	baz=340						
NCUH	**Zhongli**	**0.96**	**316**	*e*P	**Pn**	**00 24 28.6**	**+0.3**
	baz=315						
NTST	**Danshui**	**0.98**	**334**	*e*P	**Pg**	**00 24 26.8**	**-0.8**
	baz=333						
YOJ	**Yonaguni jima**	**1.00**	**79**	*e*P	**Pb**	**00 24 27.9**	**-0.3**
	baz=64						
YOJ				*e*S	**Sn**	**00 24 42.7**	**-0.4**
	baz=64						
YOJ	**Yonaguni jima**	**1.00**	**79**	P	**Pb**	**00 24 27.9**	**-0.3**
YOJ				*e*S	**Sn**	**00 24 42.8**	**-0.4**
SSLB	**Suanglung**	**1.02**	**241**	*e*P	**Pg**	**00 24 27.6**	**-0.7**
	baz=253						
SSLB				*e*S	**Sb**	**00 24 42.0**	**+0.1**
	baz=253						
SMLT	**Sun Moon Lake**	**1.02**	**247**	*e*P	**Pb**	**00 24 28.5**	**0.0**
	baz=250						
SMLT				*e*S	**Sn**	**00 24 43.4**	**-0.4**
	baz=250						
TWY	**Chenhua**	**1.04**	**343**	*e*P	**Pn**	**00 24 30.1**	**+0.7**
	baz=342						
TYC	**Yuchr**	**1.05**	**249**	*e*P	**Pb**	**00 24 28.6**	**-0.3**
	baz=252						
TYC				*e*S	**Sb**	**00 24 43.1**	**+0.3**
	baz=252						
YULB	**Yu-li**	**1.05**	**213**	*e*P	**Pb**	**00 24 28.8**	**-0.3**
	baz=216						
TWQ1	**Liyutan**	**1.06**	**274**	*e*P	**Pn**	**00 24 30.3**	**+0.7**
	baz=275						
NSY	**Sanyi**	**1.07**	**278**	*e*P	**Pn**	**00 24 30.8**	**+0.9**
	baz=279						
TWF1	**Yuli**	**1.09**	**212**	*e*P	**Pg**	**00 24 28.2**	**-1.4**
	baz=231						
PTSB	**Yuanli**	**1.13**	**279**	*e*P	**Pn**	**00 24 31.8**	**+1.1**
	baz=280						
WHYT	**Xinyi Township**	**1.14**	**240**	*e*P	**Pg**	**00 24 29.5**	**-1.2**
	baz=250						
ALS	**Alishan**	**1.28**	**234**	*e*P	**Pg**	**00 24 31.4**	**-1.9**
	baz=245						
CHN5	**Tsauling**	**1.33**	**240**	*e*P	**Pg**	**00 24 33.9**	**-0.4**
	baz=244						
CHN5				*e*S	**Sn**	**00 24 55.2**	**+3.8**
	baz=244						
ELDTW	**Lidau**	**1.37**	**218**	*e*P	**Pn**	**00 24 33.2**	**-0.9**
	baz=220						
CHN4	**Tsaushan**	**1.53**	**233**	*e*P	**Pg**	**00 24 37.4**	**-0.7**
	baz=238						
CHN4				*e*S	**Sg**	**00 25 00.4**	**+2.4**
	baz=238						
WTP	**Ta-pu**	**1.58**	**230**	*e*P	**Pn**	**00 24 37.3**	**+0.3**
	baz=234						
IRIF	**Iriomote-Funau**	**1.64**	**88**	P	**Pn**	**00 24 37.2**	**-0.5**
TWK	**Hsinying**	**1.66**	**233**	*e*P	**Pn**	**00 24 38.6**	**+0.6**
	baz=237						
SNST	**Tainan City**	**1.68**	**231**	*e*P	**Pg**	**00 24 40.9**	**-0.1**
	baz=237						
CHN1	**Nanshi**	**1.68**	**230**	*e*P	**Pb**	**00 24 39.5**	**-0.3**
	baz=235						
CHN1				*e*S	**Sg**	**00 25 04.5**	**+1.7**
	baz=235						
SLGT	**Liugui**	**1.74**	**223**	*e*P	**Pb**	**00 24 40.1**	**-0.6**
	baz=227						
JKRS	**Kuro-shima**	**1.90**	**91**	P	**Pn**	**00 24 42.3**	**+1.1**
JKRS				*e*S	**Sb**	**00 25 08.3**	**+1.0**
MASBT	**Mashibuluo**	**2.04**	**216**	*e*P	**Pb**	**00 24 45.0**	**-0.9**
	baz=220						
EAST	**Anshuo**	**2.13**	**208**	*e*P	**Pn**	**00 24 44.5**	**0.0**
	baz=197						
VWUC	**VWUC**	**2.37**	**288**	*e*P	**Pn**	**00 24 47.5**	**-0.2**
	baz=291						
VWUC				*e*S	**Sn**	**00 25 17.4**	**+0.6**
	baz=291						

*HEL **31** 00:32:47.9, 67°.92N×20°.04E, h0km, ML1.8, Explosion*
UPP 31 00:32:49.1±0.0, 67°.86N×20°.20E, h0km, ML2.0, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.11**	**29**	P	Pg	00 32 51.5	+0.3
KUA				S	Sg	00 32 53.2	+0.6
KUA	**Kurravaara**	**0.11**	**29**	*i* P	Pg	00 32 51.5	+0.3
KUA				*i* S	Sg	00 32 53.2	+0.6
RATU	**Laukkuluspa**	**0.23**	**261**	P	Pg	00 32 53.8	+0.3
RATU	**Laukkuluspa**	**0.23**	**261**	*i* P	Pg	00 32 53.8	+0.3
NIKU	**Nikkaluokta**	**0.44**	**271**	P	Pg	00 32 57.6	+0.1
NIKU	**Nikkaluokta**	**0.44**	**271**	*i* P	Pg	00 32 57.6	+0.1
LANU	**Lannavaara**	**0.70**	**73**	P	Pg	00 33 02.4	-0.1
LANU	**Lannavaara**	**0.70**	**73**	*e*P	Pg	00 33 02.3	-0.2
	baz=263						
LANU				*e*S	Sg	00 33 12.0	+0.4
DUNU	**Dundret**	**0.76**	**169**	P	Pg	00 33 03.4	-0.2
DUNU	**Dundret**	**0.76**	**169**	*i* P	Pg	00 33 03.4	-0.2
MASU	**Masugnsbyn**	**0.80**	**120**	P	Pg	00 33 04.2	-0.2
MASU	**Masugnsbyn**	**0.80**	**120**	*i* P	Pg	00 33 04.2	-0.2
SALU	**Saltoluokta**	**0.81**	**234**	P	Pg	00 33 04.3	-0.2
SALU	**Saltoluokta**	**0.81**	**234**	*i* P	Pg	00 33 04.3	-0.2
KIF	**Kilpisjarvi**	**1.17**	**11**	*e*P	Pb	00 33 12.1	-0.1
KIF	**Kilpisjarvi**	**1.17**	**11**	*e*PB	Pb	00 33 11.9	-0.3
KIF				MSG		00 33 23.2	
	comp=Z,4.4nm,0.2s						
KIF				*e*SB	Sb	00 33 27.5	-0.3
PAJU	**Pajala**	**1.40**	**125**	P	Pn	00 33 14.6	-1.3
PAJU	**Pajala**	**1.40**	**125**	*e*P	Pn	00 33 14.6	-1.3
HEF	**Hetta**	**1.41**	**65**	*e*P	Pn	00 33 15.2	-0.8
HEF	**Hetta**	**1.41**	**65**	*e*PG	Pn	00 33 15.1	-0.8
HEF				MSG		00 33 31.2	
	comp=Z,12nm,0.2s						
HEF				*e*SN	Sn	00 33 38.1	+2.9
HARU	**Harads**	**1.73**	**169**	P	Pn	00 33 20.5	+0.2
HARU	**Harads**	**1.73**	**169**	*e*P	Pn	00 33 20.5	+0.2
KALU	**Kalix**	**2.37**	**147**	*e*P	Pn	00 33 30.2	+1.1
	baz=331						
KALU				*e*SB	Sb	00 34 00.6	-1.6
TOF	**Tornio**	**2.42**	**136**	*e*PB	Pn	00 33 31.2	+1.5
TOF				MSG		00 34 02.0	
	comp=Z,4.4nm,0.2s						
TOF				*e*SB	Sb	00 34 02.9	-0.7
SGF	**Sodankyl**	**2.46**	**97**	*e*PB	Pb	00 33 32.3	-1.7
ARE0	**ARCESS Array S**	**2.57**	**47**	*e*P	Pn	00 33 32.5	+0.6
ARE0				*e*SB	Sb	00 34 06.3	-1.7
RNF	**Rovaniemi**	**2.59**	**116**	*e*PB	Pb	00 33 34.3	-2.0
RNF				*e*SB	Sb	00 34 07.8	-0.8
KEV	**Kevo**	**3.12**	**49**	*e*PG	Pb	00 33 44.3	-1.1
KEV				MSG		00 34 19.6	
	comp=Z,1.8nm,0.2s						
BURU	**Burvik**	**3.33**	**171**	*e*P	Pn	00 33 43.9	+1.6
MSF	**Maaselka**	**4.00**	**115**	*e*PG	Pb	00 34 01.8	+1.5
	baz=301						

UPP 31 00:32:57.9±0.2, 67°.86N×20°.29E, h0km, ML1.7, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.10**	**12**	P	Pg	00 32 60.0	+0.2
KUA				S	Sg	00 33 01.5	+0.5
NIKU	**Nikkaluokta**	**0.47**	**271**	P	Pg	00 33 06.9	-0.1
PAJU	**Pajala**	**1.38**	**126**	P	Pg	00 33 23.3	-0.9

IDC 31 00:36:24.9±4.0, 11°.33S×165°.66E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/28, mbtmp3.7/3, Error ellipse: s-maj=201.1km s-min=31.9km az=139.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**29.65**	**2**	T	T	01 13 47.3	
	baz=181,slow=76,SNR=7.1						
H11S3	**WAKE ISLAND Hy**	**29.65**	**2**	T	T	01 13 46.9	
	baz=181,slow=76,SNR=8.3						
H11S1	**WAKE ISLAND Hy**	**29.66**	**2**	T	T	01 13 47.9	
	baz=181,slow=76,SNR=7.4						
WRA	**Warramunga Arr**	**31.31**	**250**	P	P	00 42 47.1	0.0
	0.6nm,0.5s,baz=82,slow=9.1,SNR=8.0						
ASAR	**Alice Springs**	**32.59**	**244**	P	P	00 42 58.4	0.0
	0.7nm,0.5s,baz=65,slow=10,SNR=8.6						
ILAR	**Eielson Array**	**83.81**	**19**	P	P	00 48 55.8	0.0
	0.2nm,0.5s,baz=229,slow=4.0,SNR=7.7						

VIE 31 00:38:16.8±0.8, 47°.29N×11°.68E, h9km±2km, mlO.8/4, Error ellipse: s-maj=6.9km s-min=3.9km az=85.0 7 km SSW of Schwaz, Austria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WTTA	**Wattenberg**	**0.04**	**230**	*i* Pg	Pg	00 38 19.1	+0.2
WTTA				*i* Sg	Sg	00 38 20.8	+0.5
WTTA	**Wattenberg**	**0.04**	**230**	*e*Pg	Pg	00 38 23.4	+4.5
	1.4nm,0.1s						
WTTA				*i* Sg	Sg	00 38 25.0	+4.8
	20nm,0.2s						
WATA	**Walderalm**	**0.09**	**302**	*i* Pg	Pg	00 38 19.5	+0.2
WATA				*i* Sg	Sg	00 38 21.5	+0.4
WATA	**Walderalm**	**0.09**	**302**	*i* Sg	Sg	00 38 25.9	+4.8
	4.5nm,0.1s						
SQTA	**Sankt Quirin**	**0.33**	**258**	*e*Pg	Pg	00 38 23.8	+0.4
	0.5nm,0.1s						
SQTA	**Sankt Quirin**	**0.33**	**258**	*i* Sg	Sg	00 38 29.1	+1.3
	1.3nm,0.1s						
MOTA	**Moosalm**	**0.40**	**278**	*e*Pg	Pg	00 38 24.5	-0.2
	0.1nm,0.1s						
MOTA	**Moosalm**	**0.40**	**278**	*i* Sg	Sb	00 38 31.3	-1.1
	0.4nm,0.1s						

IDC 31 00:50:11.1±3.8, 10°.52S×166°.50E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/33, mbtmp3.6/4, Error ellipse: s-maj=166.8km s-min=30.9km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**28.82**	**0**	T	T	01 26 04.8	
	baz=181,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**28.83**	**0**	T	T	01 26 23.0	
	baz=181,slow=76,SNR=10.0						
H11S1	**WAKE ISLAND Hy**	**28.84**	**0**	T	T	01 26 24.2	
	baz=181,slow=76,SNR=9.0						
H11N1	**WAKE ISLAND Hy**	**30.04**	**1**	T	T	01 27 38.1	
	baz=182,slow=76,SNR=2.1						
H11N3	**WAKE ISLAND Hy**	**30.05**	**1**	T	T	01 27 43.2	
	baz=182,slow=76,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**30.06**	**1**	T	T	01 27 43.7	
	baz=182,slow=76,SNR=3.0						
WRA	**Warramunga Arr**	**32.36**	**249**	P	P	00 56 42.3	-0.3
	0.4nm,0.8s,baz=81,slow=8.6,SNR=2.5						
ASAR	**Alice Springs**	**33.69**	**243**	P	P	00 56 54.6	+0.4
	1.0nm,0.9s,baz=79,slow=9.5,SNR=6.2						
ILAR	**Eielson Array**	**82.78**	**18**	P	P	01 02 37.0	+0.3
	0.4nm,0.8s,baz=239,slow=6.2,SNR=3.1						
MKAR	**Makanchi Array**	**93.65**	**317**	P	P	01 03 28.7	-0.9
	1.1nm,1.2s,baz=97,slow=4.0,SNR=4.2						

KRSC 31 00:54:51.7±1.1, 49°.37N×156°.69E, h15km±16km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.36**	**345**	*e*P	Pn	00 55 15.5	-0.6
SKR				*e*S	Sn	00 55 32.9	-1.0
PAU	**Pauzhetka**	**2.10**	**2**	*e*P	Pb	00 55 27.9	-1.5
PAU				*e*S	Sb	00 55 54.4	-0.8
KDTR	**Khodutka, Kamc**	**2.59**	**19**	*e*P	Pb	00 55 35.7	-2.2
KDTR				*e*S	Sb	00 56 07.6	-1.9
RUS	**Russkaya**	**3.27**	**20**	*e*P	Pn	00 55 45.1	+2.7
RUS				*e*S	Sn	00 56 23.9	+2.9
KRMR	**Karymshinskiy**	**3.58**	**14**	*e*P	Pn	00 55 50.1	+3.5
DALK	**Dalny**	**3.89**	**19**	*e*P	Pn	00 55 54.1	+3.3
DALK				*e*S	Sn	00 56 41.2	+5.1
UGLR	**Uglovaya**	**4.07**	**18**	*e*P	Pn	00 55 57.2	+3.8
AVH	**Avacha**	**4.10**	**17**	*e*P	Pn

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F04D	**Rainier, OR**	**0.46**	**291**	P	**Pg**	**01 03 25.8**	**-0.2**
	baz=110,SNR=64						
F04D				S	**Sg**	**01 03 32.2**	**0.0**
	baz=110						
E04D	**Cinebar**	**0.65**	**349**	P	**Pg**	**01 03 28.9**	**-0.6**
	baz=170,SNR=274						
E04D				S	**Sg**	**01 03 37.8**	**-0.2**
	baz=170						
F05D	**White Salmon**	**0.65**	**93**	P	**Pg**	**01 03 29.4**	**-0.2**
	baz=274,SNR=110						
F05D				S	**Sg**	**01 03 38.9**	**+0.8**
	baz=274						
LON	**Longmire**	**0.92**	**26**	*e*Pg	**Pg**	**01 03 33.8**	**-0.9**
LON				*e*Sg	**Sg**	**01 03 46.8**	**+0.1**
G03D	**McMinnville, O**	**0.94**	**221**	P	**Pg**	**01 03 33.6**	**-1.5**
	baz=40,SNR=760						
G03D				S	**Sg**	**01 03 46.9**	**-0.4**
	baz=40						
G05D	**Wamic, OR**	**1.01**	**132**	P	**Pg**	**01 03 36.2**	**-0.2**
	baz=312,SNR=76						
G05D				S	**Sg**	**01 03 49.9**	**+0.3**
	baz=312						
H04A	**Detroit Lake**	**1.25**	**173**	*e*Pn	**Pn**	**01 03 38.7**	**-1.7**
H04A				*e*Sn	**Sb**	**01 03 54.9**	**-1.8**
D04E	**Lakebay**	**1.28**	**348**	P	**Pn**	**01 03 40.0**	**-0.9**
	baz=168,SNR=56						
D04E				S	**Sb**	**01 03 57.9**	**+0.2**
	baz=168						
H04D	**Lebanon**	**1.42**	**190**	P	**Pn**	**01 03 41.6**	**-1.2**
	baz=9.5,SNR=218						
H04D				S	**Sb**	**01 04 00.3**	**-1.3**
	baz=9.5						
COR	**Corvallis**	**1.48**	**206**	*e*Pn	**Pn**	**01 03 42.6**	**-1.0**
COR				*e*Sn	**Sn**	**01 04 02.2**	**-0.9**
D03D	**Eldon**	**1.68**	**344**	P	**Pn**	**01 03 45.6**	**-0.7**
	baz=163,SNR=203						
D03D				S	**Sn**	**01 04 07.5**	**-0.5**
	baz=163						
F07A	**Phinny Hill Vi**	**1.72**	**90**	*e*Pn	**Pn**	**01 03 47.0**	**+0.1**
F07A				*e*Sn	**Sn**	**01 04 07.5**	**-1.4**
I05D	**Terrebonne, OR**	**1.75**	**155**	P	**Pn**	**01 03 47.2**	**-0.1**
	baz=335,SNR=72						
I05D				Sb	**Sb**	**01 04 12.4**	**+1.3**
	baz=335						
LTY	**Liberty**	**1.79**	**41**	*e*Pn	**Pn**	**01 03 48.4**	**+0.5**
LTY				*e*Sn	**Sn**	**01 04 07.8**	**-2.8**
NLWA	**Neilton Lookou**	**1.79**	**326**	*e*Pn	**Pn**	**01 03 47.7**	**-0.2**
NLWA				*e*Sn	**Sn**	**01 04 10.9**	**+0.2**
E07A	**Sunnyside**	**1.87**	**69**	*e*Pn	**Pn**	**01 03 49.4**	**+0.4**
E07A				*e*Sn	**Sn**	**01 04 11.2**	**-1.4**
HAWA	**Hanford**	**2.04**	**76**	*e*Pn	**Pn**	**01 03 51.8**	**+0.5**
I04A	**Tendick Farm,**	**2.13**	**180**	P	**Pn**	**01 03 52.8**	**+0.2**
	baz=0.2,SNR=132						
C06D	**Leavenworth**	**2.25**	**27**	Sb	**Sb**	**01 04 26.1**	**+0.6**
	baz=208						
I03D	**Drain, OR**	**2.33**	**197**	P	**Pn**	**01 03 55.7**	**+0.5**
	baz=16,SNR=181						
I03D				S	**Sn**	**01 04 26.2**	**+2.4**
	baz=16						
B05A	**Bryant**	**2.35**	**5**	P	**Pn**	**01 03 56.7**	**+1.1**
	baz=185,SNR=50						
B05A				S	**Sn**	**01 04 26.4**	**+1.9**
	baz=185						
PINE	**Pine Mountain**	**2.37**	**154**	*e*Pn	**Pn**	**01 03 56.0**	**+0.1**
PINE				*e*Sn	**Sn**	**01 04 23.7**	**-1.4**
E08A	**Dider Farm, El**	**2.38**	**75**	*e*Pn	**Pn**	**01 03 56.6**	**+0.7**
E08A				*e*Sn	**Sn**	**01 04 22.9**	**-2.3**
G08A	**Pilot Rock**	**2.49**	**103**	*e*Pn	**Pn**	**01 03 56.8**	**-0.7**
G08A				*e*Sn	**Sn**	**01 04 25.8**	**-2.2**
D08A	**Wollman Farm,**	**2.65**	**63**	*e*Pn	**Pn**	**01 04 00.1**	**+0.4**
B06A	**Marblemount**	**2.67**	**13**	*e*Pn	**Pn**	**01 04 01.8**	**+1.9**
J04D	**Umpqua Nationa**	**2.69**	**176**	P	**Pn**	**01 04 01.2**	**+0.8**
	baz=356,SNR=43						
J04D				Sb	**Sb**	**01 04 40.4**	**+2.0**
	baz=356						
I07A	**Izee**	**2.75**	**131**	*e*Pn	**Pn**	**01 04 01.6**	**+0.5**
J05D	**Fort Rock, OR**	**2.76**	**162**	P	**Pn**	**01 04 01.9**	**+0.5**
	baz=343,SNR=69						
J05D				Sb	**Sb**	**01 04 42.8**	**+2.4**
	baz=343						
A04D	**Lummi Island**	**2.81**	**356**	P	**Pn**	**01 04 03.4**	**+1.6**
	baz=176						
PGC	**Sidney**	**2.82**	**346**	*e*Pn	**Pn**	**01 04 02.6**	**+0.6**
J01E	**Myrtle Point**	**2.97**	**202**	P	**Pn**	**01 04 04.6**	**+0.5**
	baz=21,SNR=18						
E09A	**Wood Farm, Sta**	**3.00**	**77**	*e*Pn	**Pb**	**01 04 08.9**	**-1.5**
B08A	**Colville Reser**	**3.21**	**39**	*e*Pn	**Pn**	**01 04 07.7**	**+0.4**
B08A				*e*Sn	**Sn**	**01 04 44.0**	**-1.7**
HUMO	**Hull Mountain**	**3.34**	**187**	*e*Pn	**Pn**	**01 04 11.2**	**+2.0**
HUMO				*e*Sn	**Sn**	**01 04 46.5**	**-2.4**
KEBM	**Edson Butte**	**3.35**	**205**	*e*Pn	**Pn**	**01 04 09.4**	**0.0**
KEBM				*e*Pg	**Pb**	**01 04 17.0**	**+0.5**
KEBM				*e*Sn	**Sn**	**01 04 47.5**	**-1.7**
K02D	**Willamette Mer**	**3.35**	**196**	P	**Pn**	**01 04 10.3**	**+0.8**
	baz=15,SNR=98						
C09A	**Chrisman Ranch**	**3.39**	**55**	*e*Pn	**Pn**	**01 04 10.1**	**+0.2**
C09A				*e*Sn	**Sn**	**01 04 48.8**	**-1.3**
F10A	**Beach Ranch, E**	**3.60**	**87**	*e*Pn	**Pn**	**01 04 16.5**	**+3.7**
L04D	**Klamath Falls**	**3.70**	**179**	P	**Pn**	**01 04 15.8**	**+1.5**
	baz=359,SNR=17						
L04D				Sb	**Sb**	**01 05 09.2**	**+1.8**
	baz=359						
BMO	**Blue Mountains**	**3.74**	**105**	*e*Pg	**Pb**	**01 04 24.8**	**+1.8**
J08A	**Circle Bar Ran**	**3.79**	**131**	*e*Pg	**Pg**	**01 04 28.2**	**-1.4**
L02E	**Cave Junction**	**3.86**	**194**	P	**Pn**	**01 04 17.5**	**+1.1**
	baz=12,SNR=10						
YBH	**Yreka Blue Hor**	**4.20**	**183**	*e*Pn	**Pn**	**01 04 22.3**	**+1.3**
MOD	**Modoc Plateau**	**4.29**	**159**	*e*Pn	**Pn**	**01 04 26.1**	**+3.7**
NEW	**Newport**	**4.29**	**55**	*e*Pn	Pb	01 04 28.3	-4.1
WVOR	**Wild Horse Val**	**4.41**	**141**	*e*Pg	**Pb**	**01 04 37.1**	**+2.5**
LLLB	**Lillooet**	**4.70**	**4**	*e*Pn	**Pn**	**01 04 29.9**	**+2.0**
MFID	**Camas Ranch**	**5.31**	**116**	*e*Pg	**Pb**	**01 04 47.2**	**-2.6**

*ISCJB **31** 01:31:26.1±0.7,38°.85N×141°.91E±0°.08,h66km±4km, mb3.7/6, Error ellipse: s-maj=10.4km s-min=5.8km az=19.6*

*JMA **31** 01:31:27.0,38°.85N×141°.86E,h64km±1km,M3.7*

JMA Felt II J1.

*IDC **31** 01:31:27.6±2.7,38°.84N×141°.86E,h67km±25km, mb3.5/6, mb1 3.6/10,mb1mx3.3/48,mbtmp3.7/10, Error ellipse: s-maj=27.3km s-min=19.6km az=113.0*

ISC 31 01:31:27.0±1.0,38°.85N±0°.05×141°.93E±0°.08,h60km±7km, n29,σ0°73/35,mb3.8/6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.31**	**318**	P	**Pn**	**01 31 37.5**	**+0.3**
OFUJ				S	**Sn**	**01 31 44.7**	**+0.1**
JKMT	**Kesennumamotoy**	**0.36**	**264**	P	**Pn**	**01 31 37.6**	**0.0**
JKMT				S	**Sn**	**01 31 45.0**	**-0.3**
JMK	**Ichinoseki**	**0.56**	**281**	P	**Pn**	**01 31 39.5**	**-0.2**
JMK				S	**Sn**	**01 31 48.3**	**-0.6**
JIO	**Ouri**	**0.60**	**229**	P	**Pn**	**01 31 39.9**	**-0.2**
JIO				S	**Sn**	**01 31 49.0**	**-0.6**
JOM	**Ohasama**	**0.80**	**322**	P	**Pn**	**01 31 42.4**	**0.0**
JOM				S	**Sn**	**01 31 53.6**	**-0.2**
JOU	**Okura**	**1.10**	**244**	P	**Pn**	**01 31 46.0**	**-0.4**
JOU				S	**Sn**	**01 32 00.1**	**-0.8**
JRG	**Rokugo**	**1.15**	**299**	P	**Pn**	**01 31 46.6**	**-0.4**
JRG				S	**Sn**	**01 32 01.1**	**-0.7**
JYK	**Kaneyama**	**1.23**	**274**	P	**Pn**	**01 31 47.8**	**-0.2**
JYK				S	**Sn**	**01 32 03.0**	**-0.8**
JMM	**Marumori**	**1.33**	**223**	P	**Pn**	**01 31 48.9**	**-0.5**
JMM				S	**Sn**	**01 32 05.1**	**-1.0**
JANG	**Nango**	**1.56**	**348**	P	**Pn**	**01 31 52.2**	**-0.2**
JYS	**Shirataka**	**1.59**	**247**	P	**Pn**	**01 31 52.8**	**-0.1**
JYS				*e*S	**Sn**	**01 32 12.4**	**-0.1**
JAH	**Hinai**	**1.67**	**324**	P	**Pn**	**01 31 54.3**	**+0.3**
JAH				S	**Sn**	**01 32 14.8**	**+0.4**
MAT	**Matsushiro**	**3.75**	**233**	P	**Pn**	**01 32 23.9**	**+1.6**
MAT				S	**Sn**	**01 33 06.7**	**+1.5**
MJAR	**Matsushiro Arr**	**3.75**	**233**	P	**Pn**	**01 32 23.6**	**+1.3**
	0.9nm,0.3s,baz=39,slow=11,SNR=52						
ASAJ	**Asahikawa**	**5.29**	**5**	P	**Pn**	**01 32 42.1**	**-1.2**
	0.8nm,0.3s,baz=197,slow=18,SNR=3.6						
USRK	**Ussuriysk Ar.**	**9.17**	**309**	P	**Pn**	**01 33 36.5**	**0.0**
	0.3nm,0.3s,baz=116,slow=14,SNR=5.1						
KSRS	**Korea Array**	**11.12**	**267**	P	**Pn**	**01 34 04.0**	**+0.8**
	0.2nm,0.3s,baz=88,slow=14,SNR=5.5						

H11N2	**WAKE ISLAND Hy**	**28.78**	**124**	T	T	02 07 50.6	
	baz=317,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.79**	**124**	T	T	02 07 45.4	
	baz=317,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.80**	**124**	T	T	02 07 45.5	
	baz=317,slow=75						
H11S1	**WAKE ISLAND Hy**	**29.55**	**126**	T	T	02 08 37.6	
	baz=319,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.55**	**126**	T	T	02 08 38.2	
	baz=319,slow=76						
H11S2	**WAKE ISLAND Hy**	**29.57**	**126**	T	T	02 08 40.8	
	baz=319,slow=76						
ZALV	**Zalesovo Beam**	**41.02**	**311**	P	**P**	**01 39 03.3**	**-0.6**
	1.1nm,0.4s,baz=86,slow=8.1,SNR=5.4						
MKAR	**Makanchi Array**	**43.52**	**301**	P	**P**	**01 39 23.8**	**-0.7**
	0.8nm,0.5s,baz=85,slow=9.9,SNR=12						
INK	**Inuvik**	**52.59**	**28**	P	**P**	**01 40 34.8**	**+0.7**
	0.9nm,0.4s,baz=286,slow=8.0,SNR=5.2						
WRA	**Warramunga Arr**	**58.91**	**188**	P	**P**	**01 41 18.8**	**-1.1**
	0.3nm,0.4s,baz=7.8,slow=7.7,SNR=10.0						
PDAR	**Pinedale Array**	**76.11**	**46**	P	**P**	**01 43 08.8**	**+0.3**
	0.2nm,0.5s,baz=258,slow=7.4,SNR=3.4						
TXAR	**Lajitas Array**	**88.69**	**53**	P	**P**	**01 44 14.7**	**+0.6**
	0.2nm,0.6s,baz=309,slow=4.5,SNR=3.4						

*ISK **31** 01:45:52.2,38°.83N×43°.65E,h5km,ML4.0/14*

*TEH **31** 01:45:52.8,38°.82N×43°.68E,h8km,ML4.0*

*NSSP **31** 01:45:52.3,38°.73N×43°.83E,h10km,Ms3.8*

*IDC **31** 01:45:52.6±1.3,38°.87N×43°.43E,h0km,mb3.6/6, mb1 3.6/11,mb1mx3.4/52,mbtmp3.5/11,ML2.9/5,Error ellipse: s-maj=24.1km s-min=8.9km az=149.0*

*DDA **31** 01:45:53.0,38°.82N×43°.66E,h16km±1km,ML4.0*

*ISCJB **31** 01:45:53.1±0.3,38°.82N±0°.02×43°.73E±0°.02,h1km±2km, mb3.5/6, Error ellipse: s-maj=2.8km s-min=2.1km az=141.9*

*AZER **31** 01:45:55.5±0.2,38°.84N×43°.74E,h9km,ml3.7/31, Error ellipse: s-maj=2.1km s-min=1.8km az=88.0*

ISC 31 01:45:54.0±0.9,38°.81N±0°.02×43°.65E±0°.02,h10km±6km, n159,σ1°10/214,mb3.6/6,48C-39D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.19**	**340**	⇓*i*P	**Pg**	**01 45 57.6**	**-0.6**
VMUR				*i* S	**Sg**	**01 46 01.7**	**+0.6**
VMUR	**Van-Muradiye**	**0.19**	**340**	*e*Pg	**Pg**	**01 45 57.2**	**-1.0**
VANB	**Van**	**0.30**	**224**	PG	**Pg**	**01 46 00.9**	**+0.9**
VANB				SG	**Sb**	**01 46 07.4**	**+0.9**
VANB	**Van**	**0.30**	**224**	*e*Pg	**Pg**	**01 46 00.4**	**+0.4**
ERCV	**ERCIS-VAN**	**0.33**	**311**	PG	**Pg**	**01 45 59.7**	**-0.9**
TVAN	**Van**	**0.34**	**215**	IAML_P			
	comp=Z,346μm,0.2s						
TVAN				*i* S	**Sb**	**01 46 07.3**	**-0.4**
TVAN	**Van**	**0.34**	**215**	*e*Pg	**Pg**	**01 46 00.8**	**0.0**
CLDR	**Caldiran**	**0.39**	**31**	PG	**Pg**	**01 46 00.8**	**-1.0**
CLDR				SG	**Sg**	**01 46 07.3**	**+0.3**
CLDR	**Caldiran**	**0.39**	**31**	IAML_P			
	comp=Z,158μm,0.1s						
CLDR				⇓*i*P	**Pg**	**01 46 01.3**	**-0.5**
CLDR				*i* S	**Sg**	**01 46 07.3**	**+0.3**
CLDR	**Caldiran**	**0.39**	**31**	*e*Pg	**Pg**	**01 46 00.6**	**-1.2**
GEVA	**Gevas**	**0.68**	**224**	IAML_P			
	comp=Z,38μm,0.1s						
GEVA				⇑*i*P	**Pg**	**01 46 06.2**	**-0.9**
GEVA				*i* S	**Sb**	**01 46 17.9**	**+0.3**
GEVA	**Gevas**	**0.68**	**224**	*e*Pg	**Pg**	**01 46 06.1**	**-1.1**
AKDM	**Akdamar-Van**	**0.71**	**228**	PG	**Pg**	**01 46 06.8**	**-1.0**
ADCV	**BITLIS_Adilcev**	**0.73**	**270**	IAML_P			
	comp=Z,10μm,0.1s						
ADCV				⇑*i*P	**Pg**	**01 46 07.7**	**-0.4**
ADCV				*i* S	**Sb**	**01 46 18.6**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.73**	**270**	*e*Pg	**Pg**	**01 46 07.3**	**-0.7**
DYDN	**Diyadin**	**0.73**	**2**	⇓*i*P	**Pg**	**01 46 06.9**	**-1.4**
DYDN				*i* S	**Sg**	**01 46 18.5**	**+0.6**
DYDN	**Diyadin**	**0.73**	**2**	*e*Pg	**Pg**	**01 46 06.4**	**-1.8**
BASK	**Baskale_VAN**	**0.80**	**160**	IAML_P			
	comp=Z,62μm,0.2s						
BASK				⇓*i*P	**Pb**	**01 46 08.8**	**-1.4**
BASK				*i* S	**Sg**	**01 46 21.2**	**+1.3**
BASK	**Baskale_VAN**	**0.80**	**160**	*e*Pg	**Pb**	**01 46 08.4**	**-1.7**
TUTA	**Tutak**	**0.88**	**312**	⇑*i*P	**Pb**	**01 46 09.3**	**-2.2**
TUTA				*i* S	**Sb**	**01 46 22.4**	**-1.1**
TUTA	**Tutak**	**0.88**	**312**	*e*Pg	**Pb**	**01 46 09.1**	**-2.4**
AGRB	**Hanur-Agry**	**0.92**	**326**	PG	**Pb**	**01 46 10.3**	**-1.9**
AGRB	**Hanur-Agry**	**0.92**	**326**	*e*Pg	**Pb**	**01 46 10.3**	**-1.9**
MLAZ	**Malazgirt-MUS**	**0.92**	**291**	PG	**Pb**	**01 46 10.5**	**-1.7**
IGDI	**IGDIR**	**1.11**	**17**	IAML_P			
	comp=Z,2μm,0.2s						
IGDI				⇓*i*P	**Pb**	**01 46 14.2**	**-1.1**
IGDI				*i* S	**Sg**	**01 46 31.4**	**+1.6**
IGDI	**IGDIR**	**1.11**	**17**	*e*Pg	**Pb**	**01 46 13.6**	**-1.7**
TASB	**TASBURUN-IGDIR**	**1.26**	**21**	PN	**Pn**	**01 46 16.9**	**-0.8**
TASB	**TASBURUN-IGDIR**	**1.26**	**21**	*e*Pg	**Pn**	**01 46 17.3**	**-0.4**
GURO	**Guroymak-BITLI**	**1.29**	**259**	PN	**Pn**	**01 46 16.6**	**-1.7**
GURO	**Guroymak-BITLI**	**1.29**	**259**	*e*Pg	**Pn**	**01 46 16.7**	**-1.6**
HYR	**Heyderabad**	**1.30**	**45**	*e*Pg	**Pn**	**01 46 18.5**	**+0.3**
HYR	**Heyderabad**	**1.30**	**45**	⇑P	**Pn**	**01 46 18.6**	**+0.3**
HYR				⇑S	**Sg**	**01 46 37.4**	**+1.5**
YOVA	**Hakkari_Yksek**	**1.32**	**157**	IAML_P			
	comp=Z,17μm,0.3s						
YOVA				*i* P	**Pn**	**01 46 18.3**	**-0.3**
YOVA				*i* S	**Sg**	**01 46 37.0**	**+0.6**
YOVA	**Hakkari_Yksek**	**1.32**	**157**	*e*Pg	**Pn**	**01 46 17.6**	**-1.0**
NAX	**Nakhchivan**	**1.48**	**75**	*e*Pg	**Pn**	**01 46 21.0**	**+0.3**
NAX	**Nakhchivan**	**1.48**	**75**	⇑P	**Pn**	**01 46 21.0**	**+0.3**
	SNR=123						
NAX				⇑S	**Sb**	**01 46 41.0**	**+0.5**
CUKT	**Cukurca**	**1.56**	**181**	PN	**Pn**	**01 46 22.2**	**+0.3**
CUKT	**Cukurca**	**1.56**	**181**	⇓*i*P	**Pn**	**01 46 22.1**	**+0.2**
CUKT				*i* S	**Sg**	**01 46 45.9**	**+1.8**
CUKT	**Cukurca**	**1.56**	**181**	*e*Pn	**Pn**	**01 46 22.1**	**+0.2**
GNI	**Garni**	**1.58**	**32**	PN	**Pn**	**01 46 22.4**	**+0.2**
GNI	**Garni**	**1.58**	**32**	Pg	**Pn**	**01 46 22.6**	**+0.4**
	comp=Z,52nm,0.3s,baz=264,slow=2.9,SNR=391						
GNI				Lg	Lg	01 46 46.3	
	comp=Z,60nm,0.3s,baz=120,slow=23,SNR=13						
GNI	**Garni**	**1.58**	**32**	⇓*i*P	**Pn**	**01 46 22.4**	**+0.2**
GNI				⇑*i*S	**Sb**	**01 46 43.7**	**+0.1**
GNI	**Garni**	**1.58**	**32**	*e*Pn	**Pn**	**01 46 22.6**	**+0.4**
SRTM	**Siirt_Merkez**	**1.59**	**240**	IAML_P			
	comp=Z,12μm,0.4s						
SRTM				⇑*i*P	**Pb**	**01 46 23.0**	**-0.5**
SRTM				*i* S	**Sg**	**01 46 47.4**	**+2.4**
SRTM	**Siirt_Merkez**	**1.59**	**240**	*e*Pn	**Pn**	**01 46 22.6**	**+0.4**
SBZ	**Shahbuz**	**1.59**	**68**	*e*Pn	**Pn**	**01 46 22.6**	**+0.3**
SBZ	**Shahbuz**	**1.59**	**68**	⇓P	**Pn**	**01 46 22.7**	**+0.3**
SBZ				⇓S	**Sb**	**01 46 43.8**	**+0.1**
IMRD	**Marand**	**1.60**	**93**	*e*Pn	**Pn**	**01 46 21.8**	**-0.7**
IMRD				IAMB	IAmb	01 46 54.0	
	comp=Z,18μm,0.6s						
SIRT	**Sirnak**	**1.62**	**217**	PN	**Pn**	**01 46 23.1**	**+0.4**
SIRT	**Sirnak**	**1.62**	**217**	*e*Pn	**Pn**	**01 46 22.9**	**+0.2**
DIGO	**Kars**	**1.62**	**352**	IAML_P			
	comp=Z,8μm,0.3s						
DIGO				⇑*i*P	**Pn**	**01 46 23.3**	**+0.4**
DIGO				*i* S	**Sg**	**01 46 48.8**	**+2.7**
DIGO	**Kars**	**1.62**	**352**	*e*Pn	**Pn**	**01 46 23.1**	**+0.3**
SIRN	**Sirnak**	**1.64**	**217**	IAML_P			
	comp=Z,14μm,0.3s						
SIRN				⇑*i*P	**Pb**	**01 46 24.3**	**+0.1**
SIRN				*i* S	**Sg**	**01 46 46.4**	**-0.1**
SIRN	**Sirnak**	**1.64**	**217**	*e*Pn	**Pb**	**01 46 24.0**	**-0.3**
KOPR	**Koprukoy-ERZUR**	**1.83**	**311**	PN	**Pn**	**01 46 26.1**	**+0.5**
ORD	**Ordubad**	**1.83**	**86**	*e*Pn	**Pn**	**01 46 26.2**	**+0.7**
ORD	**Ordubad**	**1.83**	**86**	⇑P	**Pn**	**01 46 26.3**	**+0.7**
ORD				⇓S	**Sb**	**01 46 50.6**	**0.0**
HOMI	**Horasan**	**1.83**	**313**	IAML_P			
	comp=Z,9μm,0.4s						
HOMI				⇑*i*P	**Pn**	**01 46 26.1**	**+0.3**
HOMI				*i* S	**Sg**	**01 46 55.4**	**+2.4**
HOMI	**Horasan**	**1.83**	**313**	*e*Pn	**Pn**	**01 46 26.0**	**+0.3**
EAK	**Akyaka**	**1.88**	**359**	IAML_P			
	comp=Z,4μm,0.5s						
EAK				⇓*i*P	**Pb**	**01 46 29.8**	**+1.4**
EAK				*i* S	**Sg**	**01 46 57.2**	**+2.8**
EAK	**Akyaka**	**1.88**	**359**	*e*Pn	**Pb**	**01 46 28.1**	**-0.3**
SVAN	**Silvan-Diyarba**	**2.04**	**252**	PN	**Pn**	**01 46 29.1**	**+0.7**
SVAN	**Silvan-Diyarba**	**2.04**	**252**	IAML_P			
	comp=Z,8μm,0.3s						
SVAN				*i* P	**Pb**	**01 46 30.6**	**-0.5**
SVAN				*i* S	**Sg**	**01 46 57.9**	**-1.5**
SVAN	**Silvan-Diyarba**	**2.04**	**252**	*e*Pn	**Pn**	**01 46 29.1**	**+0.7**

ITBZ	**Tabriz**	**2.04**	**106**	*e*Pn	**Pn**	**01 46 29.4**	**+0.9**
ITBZ				IAMB	IAmb	01 46 42.4	
	comp=Z,3μm,0.7s						
BTMN	**Batman**	**2.09**	**245**	⇓*i*P	**Pn**	**01 46 30.3**	**+1.2**
BTMN				*i* S	**Sb**	**01 46 57.2**	**-0.7**
IAZR	**Azarshahr**	**2.15**	**121**	*e*Pn	**Pn**	**01 46 31.2**	**+1.1**
IAZR				IAMB	IAmb	01 46 41.1	
	comp=Z,11μm,0.4s						
GRS	**Goris**	**2.19**	**71**	⇑*i*P	**Pb**	**01 46 33.0**	**-0.8**
GRS				⇓*i*S	**Sg**	**01 47 06.0**	**+1.5**
ECAT	**Cat-ERZURUM**	**2.23**	**292**	*i* P	**Pn**	**01 46 34.6**	**+0.1**
ECAT				*i* S	**Sg**	**01 47 06.0**	**+0.3**
ECAT	**Cat-ERZURUM**	**2.23**	**292**	*e*Pn	**Pb**	**01 46 33.8**	**-0.7**
GDB	**GEDABAY**	**2.50**	**40**	*e*Pn	**Pn**	**01 46 35.8**	**+0.9**
GDB	**GEDABAY**	**2.50**	**40**	⇓P	**Pn**	**01 46 35.8**	**+0.9**
	SNR=72						
GDB				⇓S	**Sn**	**01 47 06.4**	**+0.8**
DDEM	**Demirkent**	**2.55**	**325**	*i* P	**Pn**	**01 46 37.0**	**+1.5**
DDEM				*i* S	**Sg**	**01 47 16.3**	**+0.5**
QZX	**Qazax, Azerbai**	**2.61**	**30**	*e*Pn	**Pn**	**01 46 37.0**	**+0.8**
QZX	**Qazax, Azerbai**	**2.61**	**30**	⇑P	**Pn**	**01 46 37.0**	**+0.8**
	SNR=35						
QZX				⇑S	**Sn**	**01 47 09.3**	**+1.3**
DAGI	**Agillar**	**2.63**	**330**	*i* P	**Pn**	**01 46 38.4**	**+1.8**
DAGI				*i* S	**Sb**	**01 47 16.3**	**+2.6**
DBAD	**Bademkaya**	**2.67**	**326**	*i* P	**Pb**	**01 46 42.2**	**+0.2**
DBAD				*i* S	**Sg**	**01 47 20.2**	**+0.3**
GANJ	**Ganja**	**2.76**	**47**	*e*Pn	**Pn**	**01 46 39.1**	**+0.9**
GANJ	**Ganja**	**2.76**	**47**	⇓P	**Pn**	**01 46 39.1**	**+0.9**
	SNR=44						
GANJ				⇑S	**Sn**	**01 47 12.7**	**+1.1**
MAZI	**Mazidag**	**2.87**	**243**	PN	**Pn**	**01 46 40.7**	**+0.9**
MAZI	**Mazidag**	**2.87**	**243**	*e*Pn	**Pn**	**01 46 41.1**	**+1.3**
TBLG	**Delisi**	**3.04**	**16**	PN	**Pn**	**01 46 43.5**	**+1.4**
BCA	**Borcka**	**3.06**	**330**	PN	**Pn**	**01 46 43.9**	**+1.5**
BCA	**Borcka**	**3.06**	**330**	*e*Pn	**Pn**	**01 46 43.9**	**+1.5**
BRDA	**Brd**	**3.09**	**61**	*e*Pn	**Pn**	**01 46 43.4**	**+0.7**
BRDA	**Brd**	**3.09**	**61**	⇑P	**Pn**	**01 46 43.4**	**+0.7**
BRDA				⇓S	**Sn**	**01 47 20.5**	**+0.8**
BAYT	**Aydıntepe-Bayb**	**3.14**	**301**	PN	**Pn**	**01 46 45.3**	**+1.6**
BAYT	**Aydıntepe-Bayb**	**3.14**	**301**	*e*Pn	**Pn**	**01 46 45.3**	**+1.6**
BATM	**Batumi**	**3.17**	**332**	PN	**Pn**	**01 46 45.6**	**+1.7**
CHOM	**Cayeli-Rize**	**3.19**	**317**	PN	**Pn**	**01 46 45.9**	**+1.7**
CHOM	**Cayeli-Rize**	**3.19**	**317**	*e*Pn	**Pn**	**01 46 45.9**	**+1.7**
MNGR	**Mingechevir, A**	**3.29**	**52**	*e*Pn	**Pn**	**01 46 46.3**	**+0.8**
MNGR	**Mingechevir, A**	**3.29**	**52**	⇑P	**Pn**	**01 46 46.3**	**+0.8**
MNGR				⇑S	**Sn**	**01 47 25.6**	**+0.9**
PTK	**Pertek**	**3.33**	**273**	PN	**Pn**	**01 46 47.8**	**+1.5**
PTK	**Pertek**	**3.33**	**273**	*e*Pn	**Pn**	**01 46 47.7**	**+1.5**
ZRD	**Zardab**	**3.44**	**63**	*e*Pn	**Pn**	**01 46 48.3**	**+0.7**
ZRD	**Zardab**	**3.44**	**63**	⇑P	**Pn**	**01 46 48.3**	**+0.7**
ZRD				⇑S	**Sn**	**01 47 29.2**	**+0.8**
SEKA	**Sheki**	**3.63**	**47**	*e*Pn	**Pn**	**01 46 51.7**	**+1.5**
SEKA	**Sheki**	**3.63**	**47**	⇓P	**Pn**	**01 46 51.8**	**+1.5**
	SNR=9.2						
SEKA				⇑S	**Sn**	**01 47 35.2**	**+2.1**
ZKTA	**Zakatala**	**3.63**	**38**	*e*Pn	**Pn**	**01 46 51.1**	**+0.9**
**ZK

*NEIC **31** 01:49:27.9±0.4, 10.72S×166.56E, h10km, mb4.7/12, Error ellipse: s-maj=18.3km s-min=7.8km az=137.0*

ISC 31 01:49:30.8±0.7, 10.9S±0.1×166.8E±0.2, h36km, n32, σ1949/34, mb4.3/19, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARA	**Tarawa**	**13.61**	**27**	*e*Pn	**Pn**	**01 52 39.1**	**-2.3**
LHI	**Lord Howe Isla**	**21.73**	**198**	*e*P	**P**	**01 54 21.1**	**+2.2**
	130nm,1.0s						
HIZ	**Hauiti**	**28.40**	**167**	*e*P	**P**	**01 55 19.4**	**-2.4**
	49nm,1.5s						
WB2	**Warramunga Arr**	**32.52**	**250**	*e*P	**P**	**01 55 56.0**	**-2.4**
WR1	**Warramunga Arr**	**32.53**	**250**	*e*P	**P**	**01 55 56.5**	**-2.0**
	7.2nm,1.2s						
WRA	**Warramunga Arr**	**32.53**	**250**	P	**P**	**01 55 56.5**	**-2.0**
	0.9nm,0.6s,baz=82,slow=9.0,SNR=8.7						
AS31	**Alice Springs**	**33.80**	**244**	*e*P	**P**	**01 56 09.1**	**-0.6**
	0.7nm,0.6s						
AS31				*e*PcP	**PcP**	**01 58 49.3**	**+0.8**
ASAR	**Alice Springs**	**33.80**	**244**	P	**P**	**01 56 09.1**	**-0.6**
	1.9nm,0.9s,baz=72,slow=9.2,SNR=14						
ASAR				PcP	**PcP**	**01 58 49.3**	**+0.8**
	1.1nm,1.0s,baz=29,slow=2.9,SNR=4.8						
FITZ	**Fitzroy Crossi**	**40.44**	**255**	P	**P**	**01 57 06.1**	**0.0**
	3.1nm,0.7s,baz=98,slow=5.5,SNR=15						
SONA0	**Songino Array**	**79.20**	**323**	*e*P	**P**	**02 01 32.3**	**+0.1**
SONM	**Songino Array**	**79.20**	**323**	P	**P**	**02 01 32.3**	**+0.1**
	0.7nm,0.6s,baz=142,slow=4.9,SNR=3.0						
ILAR	**Eielson Array**	**83.05**	**18**	P	**P**	**02 01 52.6**	**+0.4**
	0.7nm,0.5s,baz=253,slow=6.0,SNR=5.6						
ILB	**Eielson Array**	**83.05**	**18**	*e*P	**P**	**02 01 52.6**	**+0.4**
	6.2nm,1.3s						
DAC	**Darwin (Calif)**	**85.02**	**52**	*e*P	**P**	**02 02 00.1**	**-3.0**
	1.8nm,0.8s						
NV01	**Mina Array Sit**	**85.13**	**50**	*e*P	**P**	**02 02 06.3**	**+2.7**
NVAR	**Mina Array Bea**	**85.13**	**50**	P	**P**	**02 02 06.3**	**+2.7**
	0.6nm,0.8s,baz=226,slow=6.0,SNR=3.9						
CCUT	**Cedar City**	**88.62**	**51**	*e*P	**P**	**02 02 21.8**	**+1.1**
	8.2nm,1.5s						
MTPU	**Mount Pierson**	**89.65**	**51**	*e*P	**P**	**02 02 26.1**	**+0.5**
	7.2nm,1.3s						
LKWY	**Lake**	**92.47**	**45**	*e*P	**P**	**02 02 39.8**	**+1.3**
	9.8nm,0.8s						
ZALV	**Zalesovo Beam**	**94.08**	**324**	P	**P**	**02 02 44.2**	**-1.1**
	0.2nm,0.6s,baz=144,slow=2.7,SNR=4.5						
ZALV	**Zalesovo Beam**	**94.08**	**324**	*e*P	**P**	**02 02 45.2**	**-0.1**
ZAA1	**Zalesovo Array**	**94.08**	**324**	*e*P	**P**	**02 02 44.2**	**-1.1**
MK01	**Makanchi Array**	**94.15**	**317**	*e*P	**P**	**02 02 46.2**	**+0.3**
MK31	**Makanchi Array**	**94.16**	**317**	*e*P	**P**	**02 02 46.3**	**+0.4**
	2.4nm,1.1s						
MK32	**Makanchi Array**	**94.16**	**317**	*e*P	**P**	**02 02 46.2**	**+0.4**
MKAR	**Makanchi Array**	**94.16**	**317**	P	**P**	**02 02 46.2**	**+0.4**
	1.2nm,0.7s,baz=94,slow=6.6,SNR=12						
MKAR	**Makanchi Array**	**94.16**	**317**	*e*P	**P**	**02 02 46.3**	**+0.4**
	8.8nm,0.8s						
YKA	**Yellowknife Ar**	**94.37**	**27**	P	**P**	**02 02 47.2**	**+0.8**
	0.1nm,0.5s,baz=256,slow=5.0,SNR=2.9						
YKB5	**Yellowknife Ar**	**94.37**	**27**	*e*P	**P**	**02 02 47.2**	**+0.8**
MAKZ	**Makanchi**	**94.37**	**317**	*e*P	**P**	**02 02 47.7**	**+0.9**
	2.2nm,1.0s						
CLL	**Collm**	**134.41**	**337**	*e*PKPdf	**PKPdf**	**02 08 46.0**	**+1.0**
ESDC	**Sonseca Array**	**150.21**	**346**	PKPbc	**PKPbc**	**02 09 20.0**	**+1.6**
	0.6nm,0.8s,baz=41,slow=2.7,SNR=4.6						

IDC 31 01:54:01.0±3.2, 10.67S×166.47E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/34, mbtmp3.7/5, MS4.2/1, Ms1 4.2/1, ms1mx3.1/40, Error ellipse: s-maj=158.9km s-min=28.3km az=140.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**28.98**	**0**	T	T	02 29 59.2	
	baz=180						
H11S3	**WAKE ISLAND Hy**	**28.98**	**0**	T	T	02 29 57.7	
	baz=180						
H11S1	**WAKE ISLAND Hy**	**28.99**	**0**	T	T	02 30 00.9	
	baz=180						
URZ	**Urewera**	**29.08**	**163**	LR	LR	02 10 02.4	
	comp=Z,469nm,18.8s,baz=164,slow=33						
H11N1	**WAKE ISLAND Hy**	**30.19**	**1**	T	T	02 31 29.1	
	baz=181,slow=74						
H11N3	**WAKE ISLAND Hy**	**30.20**	**1**	T	T	02 31 29.6	
	baz=181						
H11N2	**WAKE ISLAND Hy**	**30.21**	**1**	T	T	02 31 38.7	
	baz=181,slow=74						
WRA	**Warramunga Arr**	**32.28**	**250**	P	P	02 00 31.3	-0.5
	0.5nm,0.8s,baz=81,slow=9.2,SNR=4.9						
ASAR	**Alice Springs**	**33.59**	**243**	P	P	02 00 43.5	+0.1
	1.0nm,0.9s,baz=73,slow=8.7,SNR=5.5						
ILAR	**Eielson Array**	**82.93**	**18**	P	P	02 06 27.2	-0.3
	0.7nm,0.9s,baz=239,slow=3.6,SNR=5.4						
MKAR	**Makanchi Array**	**93.74**	**317**	P	P	02 07 19.9	0.0
	0.7nm,0.7s,baz=95,slow=5.9,SNR=8.5						
YKA	**Yellowknife Ar**	**94.32**	**27**	P	P	02 07 21.7	-0.5
	0.2nm,0.6s,baz=263,slow=4.9,SNR=3.4						
ESDC	**Sonseca Array**	**149.89**	**345**	PKPbc	PKPbc	02 13 54.1	+0.4
	0.0nm,0.3s,baz=29,slow=3.4,SNR=4.6						

IDC 31 02:05:47.8±2.2, 10.31N×126.90E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/38, mbtmp3.8/4, ML5.4/1, MS4.5/1, Ms1 4.5/1, ms1mx3.0/40, Error ellipse: s-maj=125.8km s-min=21.6km az=61.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**6.94**	**304**	Pn	Pn	02 07 29.6	-1.2
	62nm,0.3s,baz=190,slow=19,SNR=2.6						
WRA	**Warramunga Arr**	**30.94**	**166**	P	P	02 12 05.9	-0.8
	0.6nm,0.8s,baz=352,slow=9.3,SNR=2.9						
ASAR	**Alice Springs**	**34.45**	**169**	P	P	02 12 38.4	+0.9
	0.6nm,0.9s,baz=349,slow=9.0,SNR=4.5						
BRDH	**Bariadhala**	**35.87**	**295**	LR	LR	02 29 08.1	
	comp=Z,799nm,20.8s,baz=316,slow=39						
MKAR	**Makanchi Array**	**52.37**	**322**	P	P	02 15 02.7	+0.9
	2.8nm,0.8s,baz=121,slow=8.7,SNR=27						
BRTR	**Keskin Array B**	**85.99**	**309**	P	P	02 18 29.6	-1.0
	0.8nm,0.8s,baz=96,slow=4.3,SNR=7.3						

NNC 31 02:10:16.5±2.1, 36.93N×70.57E, h0km, mb3.6, mpv3.2, 3C-3D, Error ellipse: s-maj=16.1km s-min=14.3km az=165.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.84**	**36**	⇑Pn	Pn	02 11 17.2	+0.1
	3.4nm,0.3s						
SFK				⇑Sn	Sn	02 12 04.2	+1.1
	2.3nm,0.2s						
MNAS	**Manas**	**5.74**	**14**	⇓Pn	Pn	02 11 43.0	-0.1
	1.6nm,0.9s						
MNAS				⇓Sn	Sn	02 12 51.3	+1.5
	2.6nm,0.6s						
KK31	**Karatay Array**	**6.17**	**360**	⇑Pn	Pn	02 11 49.0	+0.2
	0.5nm,0.3s,baz=180,slow=13,SNR=23						
KK31				⇓Sn	Sn	02 13 01.1	+1.1
	0.3nm,0.3s,baz=190,slow=23,SNR=4.8						

*IDC **31** 02:14:35.5±1.2, 23.36N×143.26E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.5/33, mbtmp3.6/7, ML4.2/1, Error ellipse: s-maj=44.0km s-min=22.5km az=88.0*

*ISCJB **31** 02:14:38.6±1.0, 23.45N±0.09×143.1E±0.3, h31km, mb3.5/6, Error ellipse: s-maj=37.5km s-min=12.3km az=170.7*

ISC 31 02:14:40.4±1.2, 23.4N±0.1×143.1E±0.3, h31km, n7, σ090/8, mb3.5/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.75**	**347**	Pn	**Pn**	**02 15 36.8**	**+0.7**
	18nm,0.3s,baz=108,slow=22,SNR=7.2						
JCJ				Sn	**Sn**	**02 16 17.7**	**-1.5**
	8.7nm,0.3s,baz=288,slow=20,SNR=2.9						
USRK	**Ussuriysk Ar.**	**22.64**	**339**	P	**P**	**02 19 39.8**	**+0.9**
	1.5nm,0.8s,baz=167,slow=13,SNR=3.6						
KLR	**Kul'dur**	**27.26**	**344**	P	**P**	**02 20 21.6**	**-0.3**
	1.0nm,0.7s,baz=160,slow=8.5,SNR=3.8						
WRA	**Warramunga Arr**	**43.95**	**192**	P	**P**	**02 22 44.2**	**-0.5**
	0.2nm,0.4s,baz=18,slow=9.1,SNR=12						
MKAR	**Makanchi Array**	**53.48**	**312**	P	**P**	**02 23 58.1**	**+0.2**
	0.4nm,0.6s,baz=89,slow=9.2,SNR=5.4						
ILAR	**Eielson Array**	**60.55**	**28**	P	**P**	**02 24 47.6**	**+0.1**
	0.9nm,1.2s,baz=241,slow=5.1,SNR=4.2						
YKA	**Yellowknife Ar**	**74.97**	**28**	P	**P**	**02 26 18.3**	**-0.1**
	0.3nm,0.6s,baz=293,slow=5.9,SNR=4.0						

*SKHL **31** 02:26:19.2±0.5, 49.55N×151.03E, h381km±10km, mb5.0/4, msh4.9/6*

*MOS **31** 02:26:19.8±1.2, 49.31N×151.36E, h423km, mb4.2/32, Error ellipse: s-maj=9.0km s-min=5.0km az=67.9*

*KRSC **31** 02:26:19.7±1.6, 49.00N×152.26E, h435km±29km, ML5.0*

*NEIC **31** 02:26:20.9±0.6, 49.84N×150.72E, h360km±7km, mb4.3/34, Error ellipse: s-maj=14.7km s-min=5.9km az=140.0*

*ISCJB **31** 02:26:21.6±0.2, 49.70N±0.04×150.85E±0.04, h400km, mb4.1/65, Error ellipse: s-maj=5.6km s-min=2.4km az=148.9*

*IDC **31** 02:26:22.4±1.1, 49.85N×150.69E, h382km±12km, mb3.5/25, mb1 3.7/32, mb1mx3.6/59, mbtmp4.3/32, Error ellipse: s-maj=10.8km s-min=7.4km az=133.0*

ISC 31 02:26:22.1±0.4, 49.58N±0.05×151.02E±0.04, h400km, n254, σ203/281, mb4.2/75, 51C-17D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.46**	**69**	*e*S	**S**	**02 28 19.9**	**-3.5**
SKR	**Severo-Kuril's**	**3.46**	**69**	⇓*i*P	**Pn**	**02 27 26.4**	**-2.6**
SKR				AMB	AMB	02 27 27.3	
	70nm,0.6s						
SKR				*i* S	**S**	**02 28 19.2**	**-4.2**
SKR				A	A	02 28 21.6	
	270nm,0.7s						
SKR				A	A	02 28 21.6	
	440nm,0.7s						
SKR				A	A	02 28 23.6	
	1μm,4.0s						
SKR				A	A	02 28 23.6	
	1μm,4.0s						
SKR	**Severo-Kuril's**	**3.46**	**69**	*e*PN	**Pn**	**02 27 27.0**	**-2.0**
SKR				*e*S	**S**	**02 28 19.5**	**-3.9**
SKR				smax	smax		
	comp=E,442nm,0.9s						
SKR				smax	smax		
	comp=N,269nm,1.0s						
PAU	**Pauzhetka**	**4.15**	**61**	*e*P	**Pn**	**02 27 34.1**	**-1.3**
PAU	**Pauzhetka**	**4.15**	**61**	*e*P	**Pn**	**02 27 33.5**	**-1.9**
PAU				AMB	AMB	02 27 34.8	
	comp=N,140nm,0.6s						
PAU				AMB	AMB	02 27 44.2	
	comp=N,500nm,3.0s						
PAU				*e*S	**S**	**02 28 31.0**	**-4.0**
PAU				A	A	02 28 32.8	
	comp=N,330nm,0.8s						
PAU				A	A	02 28 32.8	
	comp=N,360nm,0.8s						
PAU				A	A	02 28 34.8	
	comp=N,3μm,3.0s						
PAU				A	A	02 28 34.8	
	comp=N,1μm,3.0s						
PAU	**Pauzhetka**	**4.15**	**61**	PN	**Pn**	**02 27 34.1**	**-1.3**
KUR	**Kuril'sk**	**4.84**	**207**	⇓*e*P	**Pn**	**02 27 40.8**	**-1.7**
KUR				AMB	AMB	02 27 43.1	
	comp=N,100nm,0.4s						
KUR				AMB	AMB	02 27 43.5	
	comp=N,700nm,2.0s						
KUR				*i* S	**S**	**02 28 43.0**	**-4.8**
KUR				A	A	02 28 50.2	
	comp=N,400nm,2.0s						
KUR				A	A	02 28 50.2	
	comp=N,1μm,2.0s						
KUR				A	A	02 28 55.2	
	comp=N,100nm,0.6s						
KUR	**Kuril'sk**	**4.84**	**207**	PN	**Pn**	**02 27 41.2**	**-1.3**
KUR				*e*S	**S**	**02 28 44.5**	**-3.3**
KUR				pmax	pmax		
	comp=Z,57nm,0.4s						
KUR				pmax	pmax		
	comp=N,13nm,0.1s						
KUR				smax	smax		
	comp=E,48nm,0.7s						
KUR				smax	smax		
	comp=N,52nm,0.4s						
KDTR	**Khodutka, Kamc**	**5.01**	**61**	*e*P	**Pn**	**02 27 42.1**	**-1.9**
KDTR				*e*S	**S**	**02 28 44.3**	**-6.4**
KDTR	**Khodutka, Kamc**	**5.01**	**61**	PN	**Pn**	**02 27 42.1**	**-1.9**
KDTR				S	**S**	**02 28 44.3**	**-6.4**
APC	**Apacha**	**5.11**	**47**	*e*P	**Pn**	**02 27 44.3**	**-0.7**
APC	**Apacha**	**5.11**	**47**	PN	**Pn**	**02 27 44.3**	**-0.7**
MTVR	**Mutnovka**	**5.37**	**55**	*e*P	**Pn**	**02 27 47.0**	**-1.0**
MTVR				*e*S	**S**	**02 28 53.6**	**-4.3**
MTVR	**Mutnovka**	**5.37**	**55**	PN	**Pn**	**02 27 47.0**	**-1.0**
MTVR				S	**S**	**02 28 53.6**	**-4.3**
PEA0B	**Petropavlovsk-**	**5.48**	**47**	*e*Pn	**Pn**	**02 27 44.8**	**-4.1**
PETK	**Petropavlovsk-**	**5.48**	**47**	P	**Pn**	**02 27 47.5**	**-1.3**
	comp=N,2.6nm,0.3s,baz=212,slow=7.4,SNR=94						
PETK	**Petropavlovsk-**	**5.48**	**47**	*e*Pn	**Pn**	**02 27 46.6**	**-2.2**
PETK	**Petropavlovsk-**	**5.48**	**47**	*e*PN	**Pn**	**02 27 46.7**	**-2.2**
TYV	**Tymovskoe**	**5.52**	**287**	⇑*e*P	**Pn**	**02 27 47.3**	**-2.1**
TYV				AMB	AMB	02 27 47.5	
	comp=N,40nm,0.8s						
TYV				AMB	AMB	02 27 48.1	
	comp=N,300nm,4.0s						
TYV				*e*S	**S**	**02 28 56.3**	**-4.3**
TYV				A	A	02 29 02.4	
	comp=N,300nm,4.0s						
TYV				A	A	02 29 02.4	
	comp=N,400nm,4.0s						
TYV	**Tymovskoe**	**5.52**	**287**	*e*PN	**Pn**	**02 27 47.3**	**-2.1**
TYV				pmax	pmax		
	comp=Z,36nm,0.8s						
TYV				pmax	pmax		
	comp=Z,300nm,4.3s						
RUS	**Russkaya**	**5.53**	**56**	*e*P	**Pn**	**02 27 48.0**	**-1.4**
RUS	**Russkaya**	**5.53**	**56**	*e*P	**Pn**	**02 27 48.0**	**-1.4**
RUS	**Russkaya**	**5.53**	**56**	PN	**Pn**	**02 27 48.0**	**-1.4**
KRMR	**Karymshinskiy**	**5.53**	**51**	*e*P	**Pn**	**02 27 48.3**	**-1.1**
KRMR	**Karymshinskiy**	**5.53**	**51**	PN	**Pn**	**02 27 48.3**	**-1.1**
UGL	**Uglegorsk**	**5.88**	**269**	⇓*e*P	**Pn**	**02 27 51.1**	**-2.1**
UGL				AMB	AMB	02 27 52.5	
	comp=Z,170nm,0.8s						
UGL				*i* S	**S**	**02 29 02.5**	**-5.1**
UGL				A	A	02 29 04.1	
	comp=Z,60nm,0.5s						
UGL				A	A	02 29 06.1	
	comp=Z,500nm,6.0s						
UGL				A	A	02 29 06.1	
	comp=Z,600nm,6.0s						
UGL	**Uglegorsk**	**5.88**	**269**	*e*PN	**Pn**	**02 27 51.7**	**-1.5**
UGL				pmax	pmax		
	comp=Z,169nm,0.9s						
PET	**Petropavlovsk**	**5.90**	**51**	*e*Pn	Pn	02 27 47.5	-5.9
PET	**Petropavlovsk**	**5.90**	**51**	⇑*i*P	**Pn**	**02 27 52.7**	**-0.7**
PET				AMB	AMB	02 27 53.0	
	comp=Z,200nm,2.0s						
PET				AMB	AMB	02 27 53.1	
	comp=Z,60nm,1.0s						
PET				*i* S	**S**	**02 29 05.6**	**-2.3**
PET				A	A	02 29 06.6	
	comp=Z,700nm,4.0s						
PET				A	A	02 29 06.6	
	comp=Z,500nm,4.0s						
PET				A	A	02 29 09.2	
	comp=Z,60nm,0.4s						
PET				A	A	02 29 09.2	
	comp=Z,70nm,0.4s						
PET	**Petropavlovsk**	**5.90**	**51**	*e*PN	**Pn**	**02 27 52.4**	**-1.0**
PET				*e*S	**S**	**02 29 05.3**	**-2.6**
PET				pmax	pmax		
	comp=Z,72nm,1.3s						
PET				smax	smax		
	comp=E,67nm,0.8s						
PET				smax	smax		
	comp=N,64nm,0.4s						
DALK	**Dalny**	**5.95**	**52**	*e*P	**Pn**	**02 27 53.1**	**-0.9**
DALK				*e*S	**S**	**02 29 02.7**	**-6.3**
DALK	**Dalny**	**5.95**	**52**	PN	**Pn**	**02 27 53.1**	**-0.9**
DALK				S	**S**	**02 29 02.7**	**-6.3**
GNL	**Ganaly**	**5.96**	**44**	*e*P	**Pn**	**02 27 53.2**	**-1.0**
GNL	**Ganaly**	**5.96**	**44**	PN	**Pn**	**02 27 53.2**	**-1.0**
KOK	**Koryaka**	**6.04**	**49**	*e*P	**Pn**	**02 27 54.8**	**-0.2**
KOK	**Koryaka**	**6.04**	**49**	*e*P	**Pn**	**02 27 54.8**	**-0.2**
KOK	**Koryaka**	**6.04**	**49**	PN	**Pn**	**02 27 54.8**	**-0.2**
AVH	**Avacha**	**6.08**	**50**	*e*P	**Pn**	**02 27 55.5**	**+0.1**
AVH	**Avacha**	**6.08**	**50**	PN	**Pn**	**02 27 55.5**	**+0.1**
KRX	**Arik**	**6.08**	**49**	*e*P	**Pn**	**02 27 55.0**	**-0.6**
KRX	**Arik**	**6.08**	**49**	PN	**Pn**	**02 27 55.0**	**-0.6**
UGLR	**Uglovaya**	**6.09**	**50**	*e*P	**Pn**	**02 27 55.4**	**-0.2**
UGLR				*e*S	**S**	**02 29 06.8**	**-5.0**
UGLR	**Uglovaya**	**6.09**	**50**	PN	**Pn**	**02 27 55.4**	**-0.2**
UGLR				S	**S**	**02 29 06.8**	**-5.0**
SMAR	**Somma**	**6.11**	**50**	*e*P	**Pn**	**02 27 55.5**	**-0.4**
SMAR	**Somma**	**6.11**	**50**	PN	**Pn**	**02 27 55.5**	**-0.4**
YSS	**Yuzh-Sakhalins**	**6.11**	**248**	*e*Pn	**Pn**	**02 27 54.8**	**-1.0**
YSS	**Yuzh-Sakhalins**	**6.11**	**248**	⇓*i*P	**Pn**	**02 27 53.9**	**-1.9**
YSS				AMB	AMB	02 27 55.0	
	comp=N,90nm,0.5s						
YSS				*e*S	**S**	**02 29 08.9**	**-3.4**
YSS				A	A	02 29 20.7	
	comp=N,30nm,0.3s						
YSS				A	A	02 29 20.7	
	comp=N,20nm,0.3s						
YSS	**Yuzh-Sakhalins**	**6.11**	**248**	⇑*i*PN	**Pn**	**02 27 54.7**	**-1.1**
YSS				*e*S	**S**	**02 29 08.9**	**-3.4**
YSS				pmax	pmax		
	comp=Z,90nm,0.5s						
NLC	**Nalytchevo**	**6.33**	**52**	*e*P	**Pn**	**02 27 55.8**	**-2.3**
NLC	**Nalytchevo**	**6.33**	**52**	*e*P	**Pn**	**02 27 55.8**	**-2.3**
NLC	**Nalytchevo**	**6.33**	**52**	PN	**Pn**	**02 27 55.8**	**-2.3**
SHO	**Shikotan**	**6.39**	**208**	⇑*i*P	**Pn**	**02 27 55.1**	**-3.9**
SHO				AMB	AMB	02 27 55.9	
	comp=Z,110nm,0.3s						
SHO				AMB	AMB	02 27 55.9	
	comp=Z,90nm,0.3s						
SHO				AMB	AMB	02 27 55.9	
	comp=Z,290nm,0.3s						
SHO				*i* S	**S**	**02 29 09.5**	**-8.6**
SHO				A	A	02 29 11.3	
	comp=Z,220nm,0.6s						
SHO				A	A	02 29 11.3	
	comp=Z,240nm,0.6s						
SHO	**Shikotan**	**6.39**	**208**	*c i*PN	**Pn**	**02 27 54.9**	**-4.1**
SHO				*e*S	S	02 29 08.4	-10
SHO				pmax	pmax		
	comp=N,112nm,0.3s						
SHO				pmax	pmax		
	comp=E,87nm,0.3s						
SHO				pmax	pmax		
	comp=Z,285nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**6.58**	**214**	⇑*e*P	**Pn**	**02 27 58.7**	**-2.3**
YUK				AMB	AMB	02 27 59.9	
	comp=Z,290nm,0.7s						
YUK				*e*S	**S**	**02 29 17.8**	**-4.0**
YUK				A	A	02 29 21.8	
	comp=Z,450nm,1.1s						
YUK				A	A	02 29 21.8	
	comp=Z,410nm,1.1s						
YUK	**Yuzh-Kuril'sk**	**6.58**	**214**	⇑*e*PN	**Pn**	**02 27 59.0**	**-2.0**
SPN	**Mys Shipunski**	**6.65**	**55**	*e*P	**Pn**	**02 27 59.3**	**-2.3**
SPN				*e*S	S	02 29 13.7	-9.3
SPN	**Mys Shipunski**	**6.65**	**55**	*e*P	**Pn**	**02 27 59.3**	**-2.3**
SPN	**Mys Shipunski**	**6.65**	**55**	PN	**Pn**	**02 27 59.3**	**-2.3**
KII	**Karymskiy**	**6.87**	**46**	*e*P	**P**	**02 28 04.5**	**-0.3**
KII	**Karymskiy**	**6.87**	**46**	PN	**P**	**02 28 04.5**	**-0.3**
NKL	**Nikolayevsk**	**7.39**	**303**	⇑*i*P	**Pn**	**02 28 07.7**	**-2.2**
NKL				AMB	AMB	02 28 08.1	
	comp=Z,30nm,0.7s						
ESO	**Esso**	**7.88**	**33**	*e*P	**P**	**02 28 16.4**	**+0.5**
ESO	**Esso**	**7.88**	**33**	PN	**P**	**02 28 16.4**	**+0.5**
KZV	**Kizimen**	**7.93**	**42**	*e*P	**P**	**02 28 16.1**	**-0.5**
KZV	**Kizimen**	**7.93**	**42**	PN	**P**	**02 28 16.1**	**-0.5**
JKA	**Kamikawa-asahi**	**7.95**	**230**	*e*P	**P**	**02 28 16.8**	**0.0**
JKA				*e*S	**S**	**02 29 48.1**	**-1.9**
ASAJ	**Asahikawa**	**7.95**	**230**	P	**P**	**02 28 16.8**	**0.0**
	comp=Z,15nm,0.3s,baz=45,slow=9.0,SNR=76						
ASAJ				S	**S**	**02 29 48.1**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=343,slow=19,SNR=2.7						
TUMR	**Tumrok**	**7.98**	**41**	*e*P	**P**	**02 28 17.3**	**+0.2**
TUMR	**Tumrok**	**7.98**	**41**	PN	**P**	**02 28 17.3**	**+0.2**
TUMD	**Tumrok D**	**8.04**	**42**	*e*P	**P**	**02 28 17.3**	**-0.3**
ZLN	**Zelenaya**	**8.75**	**39**	*e*P	**P**	**02 28 26.6**	**+0.9**
ZLN	**Zelenaya**	**8.75**	**39**	PN	**P**	**02 28 26.6**	**+0.9**
BDR	**Baidarnaya**	**9.30**	**37**	*e*P	**Pn**	**02 28 32.3**	**+0.5**
BDR	**Baidarnaya**	**9.30**	**37**	PN	**Pn**	**02 28 32.3**	**+0.5**
ERM	**Erimo**	**9.34**	**219**	*e*Pn	**P**	**02 28 30.1**	**-2.2**
ERM				*e*S	**S**	**02 30 14.0**	**-5.5**
ERM	**Erimo**	**9.34**	**219**	⇑*e*P	**P**	**02 28 29.8**	**-2.5**
ERM	**Erimo**	**9.34**	**219**	*ce*PN	**P**	**02 28 29.8**	**-2.5**
SRKR	**Sorokina**	**9.34**	**37**	*e*P	**Pn**	**02 28 33.2**	**+0.9**
SRKR	**Sorokina**	**9.34**	**37**	PN	**Pn**	**02 28 33.2**	**+0.9**
SMKR	**Semkarok**	**9.41**	**38**	*e*P	**Pn**	**02 28 33.3**	**+0.2**
SMKR	**Semkarok**	**9.41**	**38**	PN	**Pn**	**02 28 33.3**	**+0.2**
GRNR	**Gornyy**	**9.45**	**283**	*e*P	**Pn**	**02 28 32.3**	**-1.3**
GRNR				AMB	AMB	02 28 33.9	
	comp=Z,10.0nm,0.6s						
KBG	**Krutoberegovo**	**9.71**	**42**	*e*P	**P**	**02 28 35.0**	**-1.2**
KBG	**Krutoberegovo**	**9.71**	**42**	*e*P	**P**	**02 28 35.0**	**-1.2**
KBG	**Krutoberegovo**	**9.71**	**42**	PN	**P**	**02 28 35.0**	**-1.2**
KBTR	**Krutoberegovo**	**9.73**	**43**	*e*P	**P**	**02 28 34.1**	**-2.3**
KBTR	**Krutoberegovo**	**9.73**	**43**	PN	**P**	**02 28 34.1**	**-2.3**
MA2	**Magadan**	**10.02**	**359**	P	**P**	**02 28 37.5**	**-2.1**
	comp=Z,1.7nm,0.3s,baz=179,slow=8.9,SNR=12						
TEY	**Ternei**	**10.79**	**251**	⇑*e*P	**Pn**	**02 28 47.7**	**-1.4**
TEY				AMB	AMB	02 28 49.8	
	comp=Z,20nm,0.9s						
TEY				AMB	AMB	02 28 49.8	
	comp=Z,30nm,0.9s						
TEY	**Ternei**	**10.79**	**251**	⇑*e*PN	**Pn**	**02 28 49.2**	**+0.1**
TEY				pmax	pmax		
	comp=N,20nm,0.9s			

HHC	**Hu-ho-hao-te**	**28.85**	**268**	*e*P		**P**		**02 31 47.0**	**+1.3**
HHC					pmax	pmax				
	comp=Z,14nm,0.6s									
HHC					pmax	pmax				
	comp=Z,160nm,7.3s									
SONM	**Songino Array**	**29.18**	**284**	P		**P**		**02 31 47.7**	**-0.8**
	comp=Z,1.2nm,0.9s,baz=57,slow=9.3,SNR=3.8									
TLY	**Talaya**	**29.72**	**292**	P		**P**		**02 31 53.0**	**0.0**
	comp=Z,2.9nm,0.6s,baz=314,slow=21,SNR=6.3									
TLY	**Talaya**	**29.72**	**292**	⇑*e*P		**P**		**02 31 53.2**	**+0.2**
TLY	**Talaya**	**29.72**	**292**	*c*e P		**P**		**02 31 53.2**	**+0.2**
TLY					pmax	pmax				
	comp=Z,19nm,0.9s									
ZAK	**Zakamensk**	**30.30**	**290**	*e*P		**P**		**02 31 57.4**	**-0.8**
ZAK	**Zakamensk**	**30.30**	**290**	*e*P		**P**		**02 31 57.4**	**-0.8**
ZAK				*e*				02 36 21.7		
ZAK					pmax	pmax				
	comp=Z,3.0nm,1.0s									
IM3	**Indian Mountai**	**32.37**	**39**	*e*P		**P**		**02 32 17.0**	**+1.2**
CAST	**Castle Rocks**	**33.08**	**44**	*e*P		**P**		**02 32 24.2**	**+2.3**
	comp=Z,3.7nm,0.8s									
OHAK	**Old Harbor**	**33.22**	**55**	*e*P		**P**		**02 32 23.7**	**+0.6**
	comp=Z,49nm,1.4s									
KDAK	**Kodiak Island**	**33.49**	**54**	P		**P**		**02 32 26.7**	**+1.3**
	comp=Z,5.8nm,0.6s,baz=192,slow=3.3,SNR=5.9									
KDAK	**Kodiak Island**	**33.49**	**54**	*c*e P		**P**		**02 32 27.5**	**+2.1**
BPAW	**Bear Paw Mtn.**	**33.54**	**42**	*e*P		**P**		**02 32 28.1**	**+2.3**
	comp=Z,4.3nm,0.9s									
MLY	**Manley**	**33.61**	**41**	*e*P		**P**		**02 32 28.5**	**+2.0**
	comp=Z,2.7nm,1.2s									
MCK	**McKinley**	**34.47**	**43**	*e*P		**P**		**02 32 36.0**	**+2.3**
	comp=Z,11nm,1.0s									
MCK	**McKinley**	**34.47**	**43**	*e*P		**P**		**02 32 36.0**	**+2.3**
MCK					pmax	pmax				
	comp=Z,11nm,1.0s									
GHO	**Glory Hole Cre**	**34.68**	**46**	*e*P		**P**		**02 32 37.7**	**+2.1**
	comp=Z,28nm,1.3s									
MDM	**Murphy Dome**	**34.68**	**41**	*e*P		**P**		**02 32 37.6**	**+2.0**
	comp=Z,4.3nm,0.9s									
WRH	**Wood River Hil**	**34.78**	**42**	*e*P		**P**		**02 32 38.6**	**+2.4**
	comp=Z,10nm,0.8s									
WRH					*e*pP	pP		02 33 39.8	-11	
COLA	**College**	**34.85**	**41**	*e*P		**P**		**02 32 39.3**	**+2.4**
	comp=Z,18nm,0.6s									
COLA	**College**	**34.85**	**41**	*c i*P		**P**		**02 32 38.7**	**+1.8**
COLA					pmax	pmax				
	comp=Z,10.0nm,0.9s									
KNK	**Knik Glacier**	**34.95**	**47**	*e*P		**P**		**02 32 39.6**	**+1.7**
	comp=Z,38nm,1.4s									
SML	**Sawmill**	**34.95**	**46**	*e*P		**P**		**02 32 40.1**	**+2.2**
	comp=Z,22nm0.9s									
SML	**Sawmill**	**34.95**	**46**	*e*P		**P**		**02 32 40.1**	**+2.2**
SML					pmax	pmax				
	comp=Z,22nm,0.9s									
DHY	**Denali Highway**	**35.23**	**44**	*e*P		**P**		**02 32 42.0**	**+1.6**
	comp=Z,4.4nm,0.8s									
IL1	**Eielson Array**	**35.27**	**41**	*e*P		**P**		**02 32 41.3**	**+0.8**
ILAR	**Eielson Array**	**35.27**	**41**	P		**P**		**02 32 41.9**	**+1.4**
	comp=Z,4.1nm,0.7s,baz=272,slow=9.3,SNR=55									
ILB	**Eielson Array**	**35.27**	**41**	*e*P		**P**		**02 32 41.9**	**+1.4**
HDA	**Harding Lake**	**35.27**	**42**	*e*P		**P**		**02 32 41.5**	**+1.0**
	comp=Z,9.3nm,1.4s									
SCM	**Sheep Creek Mo**	**35.42**	**46**	*e*P		**P**		**02 32 42.9**	**+1.0**
	comp=Z,34nm,1.4s									
SCM	**Sheep Creek Mo**	**35.42**	**46**	*e*P		**P**		**02 32 42.9**	**+1.0**
SCM					pmax	pmax				
	comp=Z,34nm,1.4s									
PRP	**Porcupine Dome**	**35.78**	**40**	*e*P		**P**		**02 32 47.2**	**+2.3**
	comp=Z,11nm,0.8s									
FYU	**Fort Yukon**	**35.81**	**38**	*e*P		**P**		**02 32 46.6**	**+1.6**
	comp=Z,6.9nm,0.7s									
KLU	**Klutina**	**36.14**	**46**	*e*P		**P**		**02 32 49.8**	**+1.8**
	comp=Z,17nm,1.4s									
DIV	**Divide**	**36.28**	**47**	*e*P		**P**		**02 32 51.1**	**+2.1**
	comp=Z,11nm,0.8s									
HARP	**HAARP**	**36.34**	**45**	*e*P		**P**		**02 32 51.4**	**+1.9**
SCRK	**Sand Creek**	**36.61**	**42**	*e*P		**P**		**02 32 52.8**	**+0.9**
	comp=Z,6.3nm,0.8s									
INK	**Inuvik**	**40.05**	**34**	P		**P**		**02 33 20.4**	**+0.6**
	comp=Z,1.5nm,0.9s,baz=318,slow=8.9,SNR=6.2									
WMQ	**Urumqi**	**42.67**	**287**	*e*P		**P**		**02 33 43.3**	**+2.0**
WMQ					sP	PP		02 35 34.5	+4.5	
WMQ					LR	LR				
	comp=N,81nm,21.3s									
WMQ					LR	LR				
	comp=E,140nm,19.7s									
WMQ					LR	LR				
	comp=Z,230nm,30.5s									
BVAR	**Borovoye Array**	**48.01**	**307**	P		**P**		**02 34 22.1**	**-0.3**
	comp=Z,12nm,0.5s,baz=59,slow=7.8,SNR=21									
BRVK	**Borovoye**	**48.05**	**307**	⇑*e*P		**P**		**02 34 22.3**	**-0.3**
BRVK	**Borovoye**	**48.05**	**307**	*c*e P		**P**		**02 34 22.3**	**-0.3**
BRVK				*i* *PP		**pP**		**02 35 38.6**	**-3.2**	
BRVK					pmax	pmax				
	comp=Z,11nm,0.6s									
YKW3	**Yellowknife Ar**	**49.47**	**37**	*e*P		**P**		**02 34 35.0**	**+1.9**
	comp=Z,3.4nm,0.9s									
YKA	**Yellowknife Ar**	**49.51**	**37**	P		**P**		**02 34 35.0**	**+1.6**
	comp=Z,3.2nm,0.7s,baz=302,slow=7.2,SNR=29									
YKA	**Yellowknife Ar**	**49.51**	**37**	P		**P**		**02 34 35.0**	**+1.6**
YKA					pmax	pmax				
	comp=Z,3.0nm,0.7s									
YKB5	**Yellowknife Ar**	**49.51**	**37**	*e*P		**P**		**02 34 33.8**	**+0.4**
SPITS	**Spitsbergen Ar**	**49.57**	**349**	P		**P**		**02 34 32.2**	**-1.5**
	comp=Z,4.8nm,0.8s,baz=68,slow=14,SNR=16									
CMAR	**Chiang Mai Arr**	**51.78**	**252**	P		**P**		**02 34 51.6**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=33,slow=7.3,SNR=7.2									
ARU	**Arti**	**52.00**	**315**	*e*P		**P**		**02 34 50.2**	**-1.6**
	comp=Z,19nm,0.5s									
ARU	**Arti**	**52.00**	**315**	⇓*i*P		**P**		**02 34 51.6**	**-0.2**
ARU	**Arti**	**52.00**	**315**	*d i*P		**P**		**02 34 51.6**	**-0.2**
ARU								02 35 57.1		
ARU					S	**S**		**02 41 45.0**	**+1.5**	
ARU					pmax	pmax				
	comp=Z,12nm,0.5s									
JIRN	**Jiri**	**53.41**	**271**	*e*P		**P**		**02 35 03.6**	**+0.7**
	comp=Z,48nm,0.8s									
GUN	**Gumba**	**53.44**	**271**	*e*P		**P**		**02 35 03.4**	**+0.3**
	comp=Z,30nm,0.6s									
RAMN	**Ramite**	**53.62**	**270**	*e*P		**P**		**02 35 04.8**	**+0.5**
	comp=Z,48nm,0.7s									
KKN	**Kakani**	**53.91**	**272**	*e*P		**P**		**02 35 07.1**	**+0.8**
	comp=Z,19nm,0.4s									
PKI	**Pulchoki**	**53.98**	**272**	*e*P		**P**		**02 35 07.3**	**+0.4**
	comp=Z,14nm,0.6s									
PKIN	**Phulchoki**	**53.98**	**272**	*e*P		**P**		**02 35 07.4**	**+0.5**
	comp=Z,8.3nm,0.5s									
DMN	**Daman**	**54.15**	**272**	*e*P		**P**		**02 35 08.9**	**+0.8**
	comp=Z,44nm,0.8s									
DANN	**Dangsing**	**54.52**	**273**	*e*P		**P**		**02 35 11.6**	**+0.8**
	comp=Z,47nm,0.6s									
ARCES	**ARCESS Array B**	**54.72**	**339**	P		**P**		**02 35 11.3**	**+0.2**
	comp=Z,2.5nm,0.9s,baz=36,slow=7.8,SNR=3.3									
ARCES					ScP	**ScP**		**02 39 29.7**	**+2.7**	
	comp=Z,5.4nm,1.0s,baz=46,slow=5.2,SNR=4.1									
KOLN	**Koldanda**	**55.02**	**273**	*e*P		**P**		**02 35 14.9**	**+0.7**
	comp=Z,33nm,0.9s									
PYUN	**Piuthan**	**55.19**	**274**	*e*P		**P**		**02 35 16.0**	**+0.6**
	comp=Z,66nm,1.0s									
AKTO	**Aktyubinsk**	**55.82**	**309**	P		**P**		**02 35 19.1**	**0.0**
	comp=Z,4.3nm,0.5s,baz=26,slow=7.2,SNR=6.1									
CHGR	**Chuyangaron**	**57.02**	**292**	*e*P		**P**		**02 35 28.3**	**+0.4**
	comp=Z,38nm,1.0s									
FFC	**Flin Flon**	**59.47**	**40**	*c e*P		**P**		**02 35 47.7**	**+3.5**
FINES	**FINESS Array B**	**60.88**	**333**	P		**P**		**02 35 53.0**	**-0.5**
	comp=Z,5.7nm,0.7s,baz=32,slow=7.2,SNR=19									
OBN	**Obninsk**	**62.19**	**324**	*i* P		**P**		**02 36 02.0**	**-0.2**
OBN	**Obninsk**	**62.19**	**324**	*i* P		**P**		**02 36 02.0**	**-0.2**
OBN					pmax	pmax				
	comp=Z,6.0nm,1.0s									
NVAR	**Mina Array Bea**	**62.36**	**62**	P		**P**		**02 36 06.0**	**+2.0**
	comp=Z,0.7nm,0.8s,baz=288,slow=8.2,SNR=4.7									
VRH	**Novokhopyorsk**	**62.95**	**318**	*e*P		**P**		**02 36 05.1**	**-2.2**
VRH					pmax	pmax				
	comp=Z,10.0nm,0.6s									
VSU	**Vasula**	**63.06**	**331**	⇑*e*P		**P**		**02 36 07.9**	**+0.1**
VSU					pmax	pmax				
	comp=Z,34nm,1.1s									
LPSR	**Galich'ya Gora**	**63.11**	**321**	*e*P		**P**		**02 36 07.7**	**-0.6**
LPSR					pmax	pmax				
	comp=Z,10.0nm,0.7s									
GEYT	**Ailbeck**	**63.99**	**299**	P		**P**		**02 36 14.8**	**+0.6**
	comp=Z,5.9nm,0.8s,baz=29,slow=3.4,SNR=5.4									
VSR	**Storozhevoye**	**64.04**	**320**	⇑*e*P		**P**		**02 36 13.3**	**-1.0**
VSR					pmax	pmax				
	comp=Z,10.0nm,0.9s									
PDAR	**Pinedale Array**	**64.21**	**54**	P		**P**		**02 36 18.6**	**+2.7**
	comp=Z,0.7nm,0.7s,baz=276,slow=1.0,SNR=7.8									
NB2	**NORSAR Subarra**	**65.09**	**340**	P		**P**		**02 36 20.3**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=27,slow=6.5									
NOA	**NORSAR Array B**	**65.09**	**340**	P		**P**		**02 36 19.9**	**-1.0**
	comp=Z,1.8nm,0.7s,baz=30,slow=6.7,SNR=6.2									
NCK	**Nalchik**	**67.74**	**311**	⇓*e*P		**P**		**02 36 38.8**	**+1.0**
NCK					pmax	pmax				
	comp=Z,8.0nm,0.4s									
KIV	**Kislovodsk**	**67.84**	**312**	*e*P		**P**		**02 36 39.4**	**+0.9**
	comp=Z,7.6nm,0.8s									
KIV	**Kislovodsk**	**67.84**	**312**	*e*P		**P**		**02 36 39.1**	**+0.6**
KIV	**Kislovodsk**	**67.84**	**312**	*e*P		**P**		**02 36 39.1**	**+0.6**
KIV					pmax	pmax				
	comp=Z,11nm,1.1s									
KBZ	**Khabaz**	**67.91**	**312**	P		**P**		**02 36 38.7**	**0.0**
	comp=Z,6.9nm,0.9s,baz=84,slow=5.7,SNR=12									
ZEI	**Tsey**	**68.11**	**311**	*e*P		**P**		**02 36 39.1**	**-1.2**
ZEI	**Tsey**	**68.11**	**311**	*e*P		**P**		**02 36 39.1**	**-1.2**
ZEI					pmax	pmax				
	comp=Z,5.0nm,0.9s									
AKASG	**Malin Array Be**	**68.42**	**324**	P		**P**		**02 36 40.9**	**-0.9**
	comp=Z,3.6nm,0.5s,baz=34,slow=6.2,SNR=20									
KIEV	**Kiev**	**68.43**	**324**	⇑*e*P		**P**		**02 36 41.2**	**-0.6**
KIEV					pmax	pmax				
	comp=Z,5.0nm,0.8s									
TBLG	**Delisi**	**68.48**	**309**	*e*P		**P**		**02 36 43.6**	**+1.2**
	comp=Z,12nm,0.9s									
TBLG	**Delisi**	**68.48**	**309**	*e*P		**P**		**02 36 43.6**	**+1.2**
TBLG					pmax	pmax				
	comp=Z,12nm,0.9s									
NRS	**Narsarsuaq**	**68.83**	**8**	*e*P		**P**		**02 36 47.2**	**+3.2**
	comp=Z,45nm,1.0s									
NRS	**Narsarsuaq**	**68.83**	**8**	*e*P		**P**		**02 36 47.3**	**+3.2**
NRS					pmax	pmax				
	comp=Z,45nm,1.0s									
WRA	**Warramunga Arr**	**70.78**	**197**	P		**P**		**02 36 58.8**	**+2.4**
	comp=Z,1.5nm,0.6s,baz=15,slow=6.0,SNR=20									
FITZ	**Fitzroy Crossi**	**71.04**	**206**	P		**P**		**02 37 00.7**	**+2.9**
	comp=Z,2.5nm,0.7s,baz=357,slow=4.6,SNR=11									
MILM	**Milestii Mici**	**71.65**	**322**	⇑*i*P		**P**		**02 37 00.8**	**-0.4**
BUR08	**Bucovina Ar. S**	**72.44**	**325**	*e*P		**P**		**02 37 06.1**	**+0.1**
BUR04	**Bucovina Ar. S**	**72.46**	**325**	*e*P		**P**		**02 37 05.7**	**-0.4**
BURAR	**Bucovina Array**	**72.46**	**325**	⇑*i*P		**P**		**02 37 06.1**	**0.0**
BURAR	**Bucovina Array**	**72.46**	**325**	⇑P		**P**		**02 37 06.1**	**0.0**
BIZ	**Bicaz**	**72.69**	**324**	⇑*i*P		**P**		**02 37 07.2**	**-0.1**
TRPA	**Tarpa**	**73.01**	**327**	⇓*i*P		**P**		**02 37 09.7**	**+0.6**
TLCR		**73.06**	**321**	⇑*i*P		**P**		**02 37 09.2**	**-0.3**
TLCR		**73.06**	**321**	⇑P		**P**		**02 37 09.2**	**-0.3**
CLL	**Collm**	**73.31**	**334**	*e*P		**P**		**02 37 10.0**	**-0.8**
CLL	**Collm**	**73.31**	**334**	*e*P		**P**		**02 37 10.0**	**-0.8**
CLL	**Collm**	**73.31**	**334**	*e*P		**P**		**02 37 10.0**	**-0.8**
CFR	**Carcaliu**	**73.34**	**322**	⇓*i*P		**P**		**02 37 11.1**	**0.0**
CFR	**Carcaliu**	**73.34**	**322**	⇓P		**P**		**02 37 11.1**	**0.0**
OZUR		**73.51**	**324**	⇑*i*P		**P**		**02 37 13.4**	**+1.3**
TIRR	**Tirgusor**	**73.82**	**321**	⇑*i*P		**P**		**02 37 13.8**	**-0.1**
TIRR	**Tirgusor**	**73.82**	**321**	⇑P		**P**		**02 37 13.8**	**-0.1**
TLB	**Topalu**	**73.87**	**321**	⇑*i*P		**P**		**02 37 14.0**	**-0.1**
TLB	**Topalu**	**73.87**	**321**	⇑P		**P**		**02 37 14.0**	**-0.1**
MLR	**Muntele Rosu**	**73.95**	**323**	*e*P		**P**		**02 37 15.0**	**+0.2**
	comp=Z,5.9nm,0.8s									
MLR	**Muntele Rosu**	**73.95**	**323**	⇑*i*P		**P**		**02 37 14.1**	**-0.7**
MLR	**Muntele Rosu**	**73.95**	**323**	⇑P		**P**		**02 37 14.1**	**-0.7**
VYHS	**Vyhne**	**73.97**	**329**	*e*P		**P**		**02 37 15.1**	**+0.4**
VYHS				*e*				02 40 04.7		
VYHS	**Vyhne**	**73.97**	**329**	*e*P		**P**		**02 37 15.1**	**+0.4**
VYHS				*e*PP		**PP**		**02 40 04.7**	**-0.8**	
DRGR		**74.08**	**326**	⇑*i*P		**P**		**02 37 15.0**	**-0.4**
DRGR		**74.08**	**326**	⇑P		**P**		**02 37 15.0**	**-0.4**
VOIR		**74.34**	**324**	⇑*i*P		**P**		**02 37 17.4**	**+0.4**
VOIR		**74.34**	**324**	⇑P		**P**		**02 37 17.4**	**+0.4**
ICOR	**Ion Corvin**	**74.35**	**321**	⇑*i*P		**P**		**02 37 17.3**	**+0.4**
AS01	**Alice Springs**	**74.48**	**196**	*e*P		**P**		**02 37 21.3**	**+3.5**
AS31	**Alice Springs**	**74.49**	**196**	*e*P		**P**		**02 37 20.6**	**+2.7**
	comp=Z,1.8nm,0.7s									
ASAR	**Alice Springs**	**74.49**	**196**	P		**P**		**02 37 21.5**	**+3.6**
	comp=Z,9.1nm,0.9s,baz=11,slow=5.4,SNR=40									
ARR	**Arges**	**74.56**	**324**	⇑*i*P		**P**		**02 37 19.2**	**+1.0**
GZR	**Gura Zlata**	**75.24**	**325**	⇓*i*P		**P**		**02 37 22.0**	**0.0**
GZR	**Gura Zlata**	**75.24**	**325**	⇓P		**P**		**02 37 22.0**	**0.0**
GERES	**GERESS Array B**	**75.30**	**332**	P		**P**		**02 37 21.5**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=35,slow=8.8,SNR=2.3									
BZS	**Buzias**	**75.48**	**326**	⇑*i*P		**P**		**02 37 23.1**	**-0.2**
BZS	**Buzias**	**75.48**	**326**	⇑P		**P**		**02 37 23.1**	**-0.2**
TXAR	**Lajitas Array**	**77.30**	**60**	P		**P**		**02 37 37.2**	**+3.4**
	comp=Z,0.4nm,0.6s,baz=288,slow=4.9,SNR=6.1									
VTS	**Vitosha**	**77.46**	**323**	*e*P		**P**		**02 37 34.4**	**-0.1**
	comp=Z,5.8nm,0.9s									
VTS	**Vitosha**	**77.46**	**323**	⇑*i*P		**P**		**02 37 34.8**	**+0.3**
VTS	**Vitosha**	**77.46**	**323**	⇑P		**P**		**02 37 34.8**	**+0.3**
CPUP	**Villa Florida**	**148.10**	**54**	PKPbc		**PKiKP**		**02 45 22.4**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=168,slow=1.5,SNR=5.8									
PLCA	**Paso Flores**	**149.71**	**89**	PKPbc		**PKiKP**		**02 45 27.6**	**+2.0**
	comp=Z,2.5nm,0.7s,baz=266,slow=4.1,SNR=8.4									

*IDC **31** 02:29:50.4±0.5, 43.˚89N×86.˚26E, h0km, mb4.1/23, mb1 4.2/28, mb1mx4.1/53, mbtmp4.1/28, ML3.6/5, MS3.3/2, Ms1 3.4/2, ms1mx2.7/52, Error ellipse: s-maj=14.4km s-min=8.4km az=43.0*

*ISCJB **31** 02:29:52.8±0.2, 43.˚88N±0.˚02×86.˚24E±0.˚03, h30km, mb4.3/40, MS2.8/1, Error ellipse: s-maj=3.7km s-min=2.9km az=29.2*

*BJI **31** 02:29:52.6, 43.˚90N×86.˚22E, h10km, mb4.1/8, mB4.2/1, ML4.2/10, Ms3.8/2, Ms7 3.7/1*

*NNC **31** 02:29:53.5±1.2, 43.˚95N×86.˚10E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=10.4km s-min=5.9km az=103.0*

*SOME **31** 02:29:53.9, 44.˚17N×86.˚05E, h5km*

*NEIC **31** 02:29:55.2±1.3, 43.˚93N×86.˚30E, h32km±9km, mb4.3/19, Error ellipse: s-maj=4.9km s-min=4.5km az=204.0*

ISC 31 02:29:54.6±0.4**, 43.˚90N**±0.˚04×**86.˚29E**±0.˚03**, h30**km**, n138,** σ1§**64**/165**, mb4.3**/40**, 16C-16D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**1.02**	**94**	Pg	**Pb**	**02 30 14.5**	**+0.8**
WMQ				Sg	**Sb**	**02 30 29.8**	**+3.0**
WMQ				smax	smax		
	comp=N,2µm,0.9s						
WMQ				smax	smax		
	comp=E,2µm,0.9s						
WMQ	**Urumqi**	**1.02**	**94**	*e*Pn	**Pb**	**02 30 14.4**	**+0.8**
WMQ				*e*Sn	**Sb**	**02 30 27.6**	**+0.8**
ZSN	**Zaisan**	**3.69**	**345**	Pg	**Pb**	**02 31 01.7**	**+2.7**
	103nm,0.6s						
ZSN				Lg	Lg	02 31 45.2	
	183nm,0.5s						
ZSN	**Zaisan**	**3.69**	**345**	*e*P	**Pb**	**02 30 57.5**	**-1.4**
	103nm,0.6s						
ZSN				*e*S	**Sb**	**02 31 45.2**	**+2.0**
	183nm,0.5s						
MK01	**Makanchi Array**	**4.02**	**317**	*e*Pn	**Pn**	**02 30 55.3**	**+1.3**
MK01				*e*Sn	**Sn**	**02 31 40.8**	**+0.7**
MK31	**Makanchi Array**	**4.04**	**317**	*e*Pn	**Pn**	**02 30 55.9**	**+1.5**
MK31				*e*Sn	**Sn**	**02 31 38.0**	**-2.6**
MK31	**Makanchi Array**	**4.04**	**317**	⇑Pn	**Pn**	**02 30 55.7**	**+1.3**
	3.8nm,0.3s,baz=130,slow=16,SNR=25						
MK31				⇑Pg	**Pb**	**02 31 06.2**	**+1.2**
	97nm,0.6s,baz=132,slow=17,SNR=9.4						
MK31				⇑Lg	Lg	02 32 00.0	
	397nm,0.5s						
MK32	**Makanchi Array**	**4.04**	**317**	*e*Pn	**Pn**	**02 30 55.8**	**+1.5**
MK32				*e*Sn	**Sn**	**02 31 42.8**	**+2.2**
MKAR	**Makanchi Array**	**4.04**	**317**	Pn	**Pn**	**02 30 55.8**	**+1.5**
	4.8nm,0.3s,baz=140,slow=15,SNR=132						
MKAR				Sn	**Sn**	**02 31 42.8**	**+2.2**
	30nm,0.3s,baz=130,slow=16,SNR=5.8						
MKAR				Lg	Lg	02 31 58.3	
	115nm,0.3s,baz=137,slow=31,SNR=17						
MKAR	**Makanchi Array**	**4.04**	**317**	*e*Pn	**Pn**	**02 30 55.9**	**+1.5**
MKAR				*e*Sn	**Sn**	**02 31 38.2**	**-2.4**
MKAR				Lg	Lg	02 31 58.4	
MAKZ	**Makanchi**	**4.21**	**315**	*e*Pn	**Pn**	**02 30 58.2**	**+1.6**
MAKZ				*e*Sn	**Sn**	**02 31 44.7**	**0.0**
MAKZ	**Makanchi**	**4.21**	**315**	⇓Pn	**Pn**	**02 30 57.9**	**+1.3**
	25nm,0.5s						
MAKZ				⇓Sn	**Sn**	**02 31 46.9**	**+2.2**
	118nm,0.8s						
MAKZ				⇓Lg	Lg	02 32 01.7	
	402nm,0.7s						
KTMS	**Ketmen**	**4.33**	**266**	P	**Pn**	**02 30 59.7**	**+1.2**
DJR	**Jarkent**	**4.70**	**278**	P	**Pn**	**02 31 05.1**	**+1.6**
DJR	**Jarkent**	**4.70**	**278**	*e*P	**Pb**	**02 31 15.7**	**-0.5**
	7.6nm,0.3s						
DJR				⇓*i*S	**Sb**	**02 32 16.9**	**+4.6**
	180nm,0.4s						
PDGK	**Podgornoye**	**4.97**	**266**	⇑Pn	**Pn**	**02 31 07.3**	**+0.1**
	25nm,0.6s						
PDGK				⇑Pg	**Pb**	**02 31 22.2**	**+1.4**
	61nm,0.7s						
PDGK				⇑Sn	**Sn**	**02 32 06.1**	**+2.4**
	80nm,0.6s						
PDGK				⇓Lg	Lg	02 32 26.2	
	500nm,0.8s						
KAPS	**Kapalarasan**	**5.14**	**288**	P	**Pn**	**02 31 09.8**	**+0.3**
KAPS	**Kapalarasan**	**5.14**	**288**	*e*P	**Pb**	**02 31 23.2**	**-0.5**
	24nm,0.6s						
KAPS				⇓*e*S	**Sb**	**02 32 30.5**	**+5.5**
	212nm,0.6s						
MNBS	**Baschi**	**5.69**	**275**	P	**Pn**	**02 31 17.0**	**-0.1**
KURS	**Kuram**	**5.90**	**269**	P	**Pn**	**02 31 19.8**	**-0.2**
PRZ	**Przheval'sk**	**5.94**	**259**	*e*Pn	**Pn**	**02 31 22.9**	**+2.3**
PRZ				*e*Sn	**Sn**	**02 32 28.1**	**+0.4**
ARXS	**Arharly**	**6.11**	**276**	P	**Pn**	**02 31 22.3**	**-0.4**
TARG	**Taragay, Kyrgy**	**6.61**	**254**	*e*Pn	**Pn**	**02 31 30.7**	**+0.7**
TARG				*e*Sn	**Sn**	**02 32 45.4**	**+0.9**
KOTS	**Kotyrbulak**	**6.70**	**267**	P	**Pn**	**02 31 31.2**	**+0.2**
CHKK	**Chushkaly**	**6.72**	**273**	P	**Pn**	**02 31 30.9**	**-0.3**
MDOK	**Medeo**	**6.76**	**267**	⇓Pn	**Pn**	**02 31 31.7**	**-0.1**
	15nm,0.6s						
MDOK				⇑Pg	**Pb**	**02 31 52.7**	**+1.4**
	24nm,0.6s						
MDOK				⇑Lg	Lg	02 33 25.0	
	133nm,0.8s						
KDJ	**Kajisay**	**6.91**	**258**	*e*Pn	**Pn**	**02 31 35.4**	**+1.5**
KDJ				*e*Sn	**Sn**	**02 32 50.9**	**-0.7**
KTBS	**Karatobe**	**6.95**	**272**	P	**Pn**	**02 31 34.4**	**0.0**
IZV	**Izvestkoviy**	**7.09**	**266**	P	**Pn**	**02 31 38.6**	**+2.1**
KUU	**Kurty**	**7.19**	**273**	P	**Pn**	**02 31 37.6**	**0.0**
ULHL	**Ulahol**	**7.54**	**261**	P	**Pn**	**02 31 42.1**	**-0.5**
	SNR=15						
TKM2	**Tokmak 2**	**7.85**	**267**	P	**Pn**	**02 31 48.6**	**+1.8**
	SNR=13						
TKM2	**Tokmak 2**	**7.85**	**267**	⇑Pn	**Pn**	**02 31 47.8**	**+1.0**
	4.9nm,0.5s						
TKM2				⇑Lg	Lg	02 33 57.7	
	64nm,0.8s						
NRN	**Naryn**	**7.97**	**256**	*e*Pn	**Pn**	**02 31 48.3**	**-0.3**
NRN				*e*Sn	**Sn**	**02 33 14.0**	**-4.0**
KZA	**Kyzart**	**8.30**	**261**	P	**Pn**	**02 31 53.9**	**+0.8**
	SNR=17						
KBK	**Karagaybulak**	**8.37**	**265**	P	**Pn**	**02 31 54.4**	**+0.5**

	19nm,0.5s								
BRDH	**Bariadhala**	**21.63**	**166**	P		**P**		02 34 42.9	**+0.7**
	17nm,0.3s,baz=259,slow=20,SNR=4.3								
GEYT	**Alibeck**	**22.05**	**264**	P		**P**		02 34 45.8	**-1.0**
	2.4nm,0.7s,baz=53,slow=6.1,SNR=5.2								
GYA0B	**ALIBECK ARRAY**	**22.05**	**264**	*eP*		**P**		02 34 47.5	**+0.8**
	4.5nm,0.8s								
CM31	**Chiang Mai Arr**	**27.51**	**153**	*eP*		**P**		02 35 39.8	**+1.4**
	7.8nm,1.1s								
CMAR	**Chiang Mai Arr**	**27.51**	**153**	P		**P**		02 35 39.8	**+1.4**
	1.1nm,0.4s,baz=332,slow=9.0,SNR=8.2								
CMAR					LR	LR		02 46 56.7	
	comp=Z,29nm,20.9s,baz=105,slow=37								
CM01	**Chiang Mai Arr**	**27.55**	**153**	*eP*		**P**		02 35 39.2	**+0.4**
GNI	**Garni**	**30.86**	**278**	P		**P**		02 36 10.2	**+2.0**
	4.2nm,0.8s,baz=323,slow=1.6,SNR=3.8								
KLR	**Kul'dur**	**31.33**	**64**	P		**P**		02 36 12.2	**+0.2**
	0.5nm,0.6s,baz=188,slow=7.1,SNR=2.9								
KS15	**Wonju Array Si**	**31.94**	**87**	*eP*		**P**		02 36 19.3	**+1.8**
	6.0nm,0.8s								
KSAR	**Wonju Array Be**	**31.94**	**87**	P		**P**		02 36 19.3	**+1.8**
KSRS	**Korea Array**	**31.96**	**87**	P		**P**		02 36 19.3	**+1.6**
	0.7nm,0.5s,baz=286,slow=8.7,SNR=3.4								
TIXI	**Tiksi**	**34.51**	**22**	P		**P**		02 36 38.1	**-1.5**
	2.3nm,0.5s,baz=301,slow=5.0,SNR=7.5								
TIXI	**Tiksi**	**34.51**	**22**	*eP*		**P**		02 36 38.5	**-1.1**
	5.4nm,0.8s								
AKASG	**Malin Array Be**	**38.45**	**301**	P		**P**		02 37 12.8	**-0.5**
	0.6nm,0.4s,baz=62,slow=8.9,SNR=4.7								
AKBB	**Malin Array Si**	**38.45**	**301**	*eP*		**P**		02 37 12.8	**-0.5**
	5.2nm,0.8s								
FIA0	**FINESS Array S**	**38.87**	**318**	*eP*		**P**		02 37 17.1	**+0.3**
FINES	**FINESS Array B**	**38.87**	**318**	P		**P**		02 37 17.1	**+0.3**
	2.2nm,0.4s,baz=76,slow=9.1,SNR=17								
BR101	**Keskin Array S**	**38.91**	**283**	*eP*		**P**		02 37 18.3	**+0.7**
BR131	**Keskin Array S**	**38.91**	**283**	*eP*		**P**		02 37 18.6	**+1.0**
	5.0nm,1.0s								
BRTR	**Keskin Array B**	**38.91**	**283**	P		**P**		02 37 18.3	**+0.7**
	2.9nm,0.7s,baz=92,slow=7.7,SNR=22								
RAYN	**Ar Rayn**	**39.05**	**252**	*eP*		**P**		02 37 18.7	**0.0**
	5.3nm,0.8s								
ARA0	**ARCESS Array S**	**39.56**	**331**	*eP*		**P**		02 37 23.3	**+0.8**
ARCES	**ARCESS Array B**	**39.56**	**331**	P		**P**		02 37 23.3	**+0.8**
	2.1nm,0.7s,baz=82,slow=8.7,SNR=4.6								
NB2	**NORSAR Subarra**	**46.03**	**319**	P		**P**		02 38 14.8	**-0.2**
	comp=Z,2.2nm,0.6s,baz=72,slow=7.9								
NB200	**NORSAR Array S**	**46.03**	**319**	*eP*		**P**		02 38 15.1	**+0.1**
NOA	**NORSAR Array B**	**46.03**	**319**	P		**P**		02 38 15.1	**+0.1**
	comp=Z,3.6nm,0.7s,baz=75,slow=7.8,SNR=13								
DIVS	**Divibare**	**46.48**	**295**	*eP*		**P**		02 38 19.2	**+0.3**
	comp=Z,4.1nm,1.0s								
CLL	**Collm**	**48.06**	**306**	*eP*		**P**		02 38 32.0	**+1.1**
GEC2	**GERESS Array S**	**48.57**	**303**	*eP*		**P**		02 38 35.9	**+0.8**
	comp=Z,2.3nm,1.3s								
GERES	**GERESS Array B**	**48.57**	**303**	P		**P**		02 38 35.9	**+0.8**
	comp=Z,1.1nm,0.7s,baz=68,slow=9.0,SNR=3.5								
WTTA	**Wattenberg**	**50.49**	**302**	*iP*		**P**		02 38 50.8	**+1.1**
	comp=Z,7.6nm,0.5s								
WATA	**Walderalm**	**50.49**	**302**	*iP*		**P**		02 38 51.1	**+1.4**
	comp=Z,8.6nm,1.0s								
SQTA	**Sankt Quirin**	**50.77**	**302**	*iP*		**P**		02 38 52.5	**+0.7**
	comp=Z,7.6nm,0.6s								
MOTA	**Moosalm**	**50.78**	**302**	*iP*		**P**		02 38 52.7	**+0.7**
	comp=Z,2.2nm,0.5s								
FETA	**Feichten**	**51.15**	**302**	*iP*		**P**		02 38 54.6	**-0.1**
	comp=Z,6.9nm,0.9s								
ILAR	**Eielson Array**	**63.98**	**22**	P		**P**		02 40 25.2	**+0.7**
	comp=Z,0.5nm,0.8s,baz=310,slow=4.3,SNR=5.8								
ILB	**Eielson Array**	**63.98**	**22**	*eP*		**P**		02 40 25.2	**+0.7**
	comp=Z,3.9nm,1.1s								
ESDC	**Sonseca Array**	**64.09**	**301**	P		**P**		02 40 26.0	**+0.2**
	comp=Z,0.4nm,0.4s,baz=49,slow=6.6,SNR=9.9								
FITZ	**Fitzroy Crossi**	**71.44**	**140**	P		**P**		02 41 12.3	**+0.3**
	comp=Z,1.1nm,0.5s,baz=344,slow=5.2,SNR=12								
FITZ	**Fitzroy Crossi**	**71.44**	**140**	*eP*		**P**		02 41 12.3	**+0.3**
	comp=Z,5.4nm,1.5s								
YKA	**Yellowknife Ar**	**72.64**	**10**	P		**P**		02 41 19.4	**+0.7**
	comp=Z,0.4nm,0.5s,baz=339,slow=5.9,SNR=8.5								
YKB5	**Yellowknife Ar**	**72.64**	**10**	*eP*		**P**		02 41 19.4	**+0.7**
TOA1	**Torodi Ar. Sit**	**77.14**	**276**	*eP*		**P**		02 41 45.1	**-0.3**
TOA0	**Torodi Ar. Sit**	**77.14**	**276**	*eP*		**P**		02 41 45.3	**-0.2**
TORD	**Torodi Ar. Bea**	**77.14**	**276**	P		**P**		02 41 45.1	**-0.3**
	comp=Z,2.4nm,0.8s,baz=27,slow=6.4,SNR=18								
WRA	**Warramunga Arr**	**77.27**	**134**	P		**P**		02 41 46.5	**+0.5**
	comp=Z,2.0nm,0.8s,baz=335,slow=5.2,SNR=21								
WR1	**Warramunga Arr**	**77.27**	**134**	*eP*		**P**		02 41 46.5	**+0.5**
	comp=Z,5.2nm,0.9s								
WB2	**Warramunga Arr**	**77.28**	**134**	*eP*		**P**		02 41 46.6	**+0.6**
SCHQ	**Schefferville**	**79.01**	**345**	P		**P**		02 41 55.3	**0.0**
	comp=Z,2.2nm,0.7s,baz=20,slow=5.3,SNR=7.7								
SCHQ	**Schefferville**	**79.01**	**345**	*eP*		**P**		02 41 55.3	**0.0**
	comp=Z,19nm,1.4s								
AS31	**Alice Springs**	**80.16**	**137**	*eP*		**P**		02 42 02.5	**+0.6**
	comp=Z,0.8nm,0.9s								
ASAR	**Alice Springs**	**80.16**	**137**	P		**P**		02 42 02.5	**+0.6**
	comp=Z,0.8nm,0.7s,baz=336,slow=6.1,SNR=9.1								
DBIC	**Dimbokro**	**86.25**	**276**	P		**P**		02 42 33.2	**-0.3**
	comp=Z,2.8nm,0.5s,baz=17,slow=5.4,SNR=14								
KIC	**Kosan Boka**	**86.38**	**275**	*eP*		**P**		02 42 33.6	**-0.6**
	comp=Z,11nm,0.6s								
TIC	**Toumodi**	**86.39**	**276**	*eP*		**P**		02 42 35.9	**+1.7**
LIC	**Lamto**	**86.68**	**275**	*eP*		**P**		02 42 35.0	**-0.6**
	comp=Z,31nm,1.5s								
LRM	**Limekiln Ridge**	**89.13**	**13**	*eP*		**P**		02 42 43.4	**-3.8**
TCRU	**Three Creeks R**	**96.14**	**15**	*eP*		**P**		02 43 19.1	**-0.6**
	comp=Z,5.5nm,0.4s								
SMCO	**Snowmass**	**96.44**	**10**	*eP*		**P**		02 43 17.2	**-4.0**
	comp=Z,29nm,0.8s								

*VAO **31** 02:40:14.2±0.5, 15°.99S×75°.50W, h10km, mb4.6*
*ARE **31** 02:40:16.0±0.0, 16°.11S×75°.13W, h12km*
*IDC **31** 02:40:16.9±1.2, 15°.92S×74°.91W, h0km, mb4.1/8, mb1 4.2/12, mb1mx4.0/35, mbtmp4.1/12, ML3.8/4, MS3.7/2, Ms1 3.7/2, ms1mx3.1/28, Error ellipse: s-maj=33.6km s-min=14.4km az=47.0*
*ISCJB **31** 02:40:19.5±0.5, 15°.99S±0°.06×74°.88W±0°.07, h30km, mb4.4/10, MS3.6/2, Error ellipse: s-maj=12.2km s-min=4.9km az=138.6*
*NEIC **31** 02:40:22.7±0.9, 16°.05S×74°.82W, h45km±9km, mb4.3/4, ML4.5(ARE), Error ellipse: s-maj=16.6km s-min=8.2km az=53.0*

ISC 31 02:40:19.9±0.6, **16°.15S**±0°.07×**75°.04W**±0°.08, **h30**km, **n66, σ1°64/69, mb4.2/10, Off coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NNA	**Nana**	**4.49**	**337**	Pn		**Pn**	02 41 23.8	**-2.2**
	1.0nm,0.3s,baz=153,slow=18,SNR=2.7							
NNA				Sn		**Sn**	02 42 16.6	**-0.7**
	38nm,0.3s,baz=204,slow=11,SNR=4.5							
NNA				Lg		Lg	02 42 33.3	
	108nm,0.3s,baz=209,slow=20,SNR=8.0							
NNA	**Nana**	**4.49**	**337**	*e*Pn		**Pn**	02 41 29.5	**+3.4**
NNA				*e*Sn		**Sn**	02 42 17.6	**+0.2**
NNA				Lg		Lg	02 42 33.3	
MNMC	**Minye Minye**	**5.97**	**121**	*e*Pn		**Pn**	02 41 47.7	**+1.1**
MNMC				*e*Sn		**Sn**	02 42 52.9	**-1.3**
PB11	**IPOC Station P**	**6.25**	**126**	*e*Pn		**Pn**	02 41 50.6	**+0.3**
LPAZ	**La Paz**	**6.63**	**92**	Pn		**Pn**	02 41 57.0	**+1.0**
	3.2nm,0.3s,baz=312,slow=6.0,SNR=104							
LPAZ	**La Paz**	**6.63**	**92**	*e*Pn		**Pn**	02 41 59.2	**+3.2**
LPAZ				*e*Sn		**Sn**	02 42 08.2	**-2.8**
LPAZ	**La Paz**	**6.63**	**92**	*e*P		**Pn**	02 41 59.9	**+3.9**
PB01	**IPOC Station P**	**7.17**	**134**	*e*Pn		**Pn**	02 42 03.4	**+0.6**
PB04	**IPOC Station P**	**7.69**	**144**	*e*Pn		**Pn**	02 42 11.2	**+1.1**
PB10	**IPOC Station P**	**8.45**	**151**	*e*Pn		**Pn**	02 42 21.1	**+0.7**
PB10				*e*Sn		Sn	02 43 45.5	-9.3
LVC	**Limon Verde**	**8.64**	**139**	Pn		**Pn**	02 42 25.7	**+2.4**
	2.3nm,0.3s,baz=310,slow=10,SNR=11							
LVC				Sn		**Sn**	02 43 55.0	**-5.0**
	1.4nm,0.3s,baz=312,slow=12,SNR=2.9							
LVC				Lg		Lg	02 44 56.5	
	1.0nm,0.3s,baz=176,slow=13,SNR=3.6							
LVC	**Limon Verde**	**8.64**	**139**	*e*P		**Pn**	02 42 25.3	**+2.0**
SIV	**San Ignacio**	**13.42**	**91**	Pn		**Pn**	02 43 28.1	**-0.4**
	0.3nm,0.3s,baz=253,slow=9.6,SNR=6.2							
SALV	**Santo Antonio**	**18.59**	**92**	*e*P		**Pn**	02 44 36.1	**+0.8**
AQDB	**Aquidauana**	**18.85**	**106**	*e*P		**Pn**	02 44 39.0	**+0.6**
CPUP	**Villa Florida**	**19.34**	**125**	*e*P		**Pn**	02 44 46.3	**+2.1**
ROSC	**El Rosal**	**20.86**	**2**	LR		LR	02 55 08.7	
	comp=Z,220nm,18.4s,baz=216,slow=43							
PTGA	**Pitinga**	**21.34**	**46**	P		**P**	02 45 03.3	**-1.4**
	4.4nm,0.5s,baz=210,slow=10,SNR=11							
PTGA	**Pitinga**	**21.34**	**46**	*e*P		**P**	02 45 03.6	**-1.2**
	6.1nm,0.6s							
PTGA	**Pitinga**	**21.34**	**46**	*e*P		**P**	02 45 04.6	**-0.2**
TRCB	**Terra Rica**	**22.12**	**111**	*e*P		**P**	02 45 13.5	**+0.4**
PTGB	**Pitanga**	**23.13**	**115**	*e*P		**P**	02 45 25.9	**+2.1**
ITRB	**Iturama**	**23.74**	**102**	*e*P		**P**	02 45 30.9	**+1.2**
ITAB	**Concordia**	**23.93**	**121**	*e*P		**P**	02 45 32.4	**+0.9**
CPSB	**Cacapava Do Su**	**24.33**	**129**	*e*P		**P**	02 45 36.8	**+1.7**
PLTB	**Pedras Altas**	**24.93**	**132**	*e*P		**P**	02 45 41.8	**+1.2**
FRTB	**Fartura**	**25.00**	**111**	*e*P		**P**	02 45 43.4	**+2.1**
SDV	**Santo Domingo**	**25.25**	**10**	P		**P**	02 45 44.4	**+0.6**
	2.1nm,0.6s,baz=265,slow=12,SNR=3.0							
SDV	**Santo Domingo**	**25.25**	**10**	*e*P		**P**	02 45 41.8	**-2.0**
	5.5nm,1.1s							
SDV	**Santo Domingo**	**25.25**	**10**	*e*P		**P**	02 45 40.6	**-3.2**
BB19B	**Bebedouro**	**25.58**	**105**	*e*P		**P**	02 45 47.5	**+0.9**
IPMB	**Ipameri, GO**	**25.70**	**98**	*e*P		**P**	02 45 47.8	**+0.1**
CNLB	**Canela**	**25.80**	**125**	*e*P		**P**	02 45 50.6	**+2.1**
TIJ01	**Guaruva-PR**	**25.96**	**115**	*e*P		**P**	02 45 51.5	**+1.4**
BDFB	**Brasilia**	**25.99**	**93**	P		**P**	02 45 50.6	**+0.2**
	4.4nm,0.8s,baz=260,slow=12,SNR=7.9							
RCLB	**Rio Claro- Sao**	**26.68**	**108**	*e*P		**P**	02 45 59.1	**+2.5**
PMNB	**Patos De Minas**	**27.39**	**99**	*e*P		**P**	02 46 03.6	**+0.6**
JANB	**Januaria**	**29.60**	**92**	*e*P		**P**	02 46 23.3	**+0.6**
MCI8	**Montes Claros**	**29.84**	**95**	*e*P		**P**	02 46 24.8	**-0.1**
BSFB	**Barra do Sao F**	**32.69**	**100**	*e*P		**P**	02 46 50.4	**+0.6**
RIB01	**Linhares ES**	**33.11**	**101**	*e*P		**P**	02 46 53.8	**+0.2**
RPN	**Rapa Nui**	**33.60**	**245**	LR		LR	02 57 23.5	
	comp=Z,104nm,18.1s,baz=84,slow=30							
ANWB	**Willy Bob**	**36.05**	**22**	*e*P		**P**	02 47 17.0	**-1.9**
	87nm,0.8s							
060A	**Indiantown**	**43.24**	**353**	*e*P		**P**	02 48 16.7	**-1.8**
	127nm,1.1s							
LTX	**Lajitas**	**53.00**	**328**	*e*P		**P**	02 49 35.4	**+1.2**
TXAR	**Lajitas Array**	**53.00**	**328**	P		**P**	02 49 35.4	**+1.2**
	0.5nm,0.8s,baz=144,slow=7.4,SNR=4.2							
DBIC	**Dimbokro**	**73.03**	**78**	P		**P**	02 51 47.8	**+0.2**
	4.6nm,0.7s,baz=224,slow=5.2,SNR=10							
DBIC	**Dimbokro**	**73.03**	**78**	*e*P		**P**	02 51 47.8	**+0.2**
	5.6nm,0.8s							
DBIC	**Dimbokro**	**73.03**	**78**	*e*P		**P**	02 51 47.9	**+0.3**
TOA0	**Torodi Ar. Sit**	**81.23**	**74**	*e*P		**P**	02 52 34.4	**+0.7**
TOA1	**Torodi Ar. Sit**	**81.23**	**74**	*e*P		**P**	02 52 33.0	**-0.7**
TORD	**Torodi Ar. Bea**	**81.23**	**74**	P		**P**	02 52 33.0	**-0.7**
	11nm,0.6s,baz=258,slow=4.4,SNR=106							
YKA	**Yellowknife Ar**	**84.31**	**343**	P		**P**	02 52 49.3	**+0.8**
	0.3nm,0.6s,baz=139,slow=5.8,SNR=6.4							
YKB5	**Yellowknife Ar**	**84.31**	**343**	*e*P		**P**	02 52 49.4	**+0.8**
ESDC	**Sonseca Array**	**86.28**	**47**	P		**P**	02 52 59.8	**+0.8**
	0.5nm,0.6s,baz=267,slow=5.7,SNR=5.1							
WR1	**Warramunga Arr**	**133.96**	**220**	*e*PKPdf		**PKiKP**	02 59 37.8	**+1.3**
WRA	**Warramunga Arr**	**133.96**	**220**	PKP		**PKiKP**	02 59 37.8	**+1.3**
	0.7nm,0.8s,baz=137,slow=2.0,SNR=5.0							
ZAA1	**Zalesovo Array**	**139.13**	**18**	*e*PKPdf		**PKiKP**	02 59 45.4	**-0.5**
ZALV	**Zalesovo Beam**	**139.14**	**18**	PKP		**PKiKP**	02 59 45.4	**-0.5**
	0.7nm,0.7s,baz=329,slow=2.6,SNR=4.3							
ZALV	**Zalesovo Beam**	**139.14**	**18**	*e*PKPdf		**PKiKP**	02 59 45.9	**0.0**
MK32	**Makanchi Array**	**144.11**	**27**	*e*PKPdf		**PKPdf**	02 59 52.6	**-0.2**
MKAR	**Makanchi Array**	**144.11**	**27**	PKP		**PKPdf**	02 59 52.6	**-0.2**
	0.2nm,0.6s,baz=344,slow=4.1,SNR=3.8							
SONA0	**Songino Array**	**148.38**	**358**	*e*PKPbc		**PKPbc**	03 00 04.5	**+0.9**
SONM	**Songino Array**	**148.38**	**358**	PKPbc		**PKPbc**	03 00 04.5	**+0.9**
	1.4nm,0.6s,baz=5.7,slow=1.4,SNR=3.1							
DAV	**Davao City (W)**	**157.90**	**248**	*e*P		**PKPdf**	03 00 11.3	**-3.5**
CHTO	**Chiang Mai**	**173.67**	**64**	*e*P		**PKPdf**	03 00 26.1	**-1.2**

MEX 31 02:41:45.3±0.5, **16°.13N×98°.26W, h2**km±3km, **MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.29**	**25**	*e*P		Pg	02 41 50.4	-0.5
PNIG				*i* S		Sg	02 41 55.0	+0.4

*SJA **31** 02:45:00.8±0.7, 28°.50S×67°.44W, h148km±9km, ML4.4, MW4.7*
*ISCJB **31** 02:45:00.6±0.3, 28°.43S±0°.03×67°.35W±0°.03, h128km±2km, mb4.4/103, Error ellipse: s-maj=4.3km s-min=3.7km az=18.6*
*GUC **31** 02:45:01.7±0.7, 28°.50S×67°.49W, h117km±12km, ML4.9*
*NEIC **31** 02:45:01.0±0.0, 28°.50S×67°.44W, h148km, mb4.5/94, MD4.7(SJA), After SJA.*
NEIC Felt [III] at Catamarca and in northern La Rioja.
*IDC **31** 02:45:02.9±0.6, 28°.39S×67°.21W, h136km±4km, mb4.2/12, mb1 4.3/16, mb1mx4.1/32, mbtmp4.6/16, Error ellipse: s-maj=16.4km s-min=12.1km az=68.0*
*VAO **31** 02:45:10.8±0.9, 28°.22S×66°.76W, h180km, mb4.5*

ISC 31 02:45:02.0±0.4, **28°.46S**±0°.04×**67°.46W**±0°.04, **h132**km±4km, **h133**km**pP-P, n321, σ1°38/355, mb4.5**/102, **4C-1D, La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ACLC	**CERRO LA CRUZ**	**1.06**	**155**	*i* P		**Pn**	02 45 26.6	**+0.8**
AGUA	**GUANDACOL**	**1.36**	**221**	*i* P		**Pn**	02 45 29.5	**+0.7**
CYA	**Choya**	**1.46**	**90**	*i* P		**Pn**	02 45 30.6	**+0.7**
CYA				*i* S		**Sn**	02 45 51.6	**+0.5**
CYA				IAML			02 45 52.0	
	comp=Z,3μm,0.3s							
CYA	**Choya**	**1.46**	**90**	*i*P		**Pn**	02 45 30.6	**+0.7**
CYA				*e*S		**Sn**	02 45 50.6	**-0.5**
CYA				IAML			02 45 52.4	
	comp=E,7μm,0.8s							
APLL	**PUNTA DE LOS L**	**2.09**	**157**	*i* P		**Pn**	02 45 37.5	**+0.3**
APLL				*i* S		**Sn**	02 46 03.9	**-0.4**
APLL				IAML			02 46 04.1	
	comp=Z,3μm,0.4s							
ACDV	**Cuesta del Vie**	**2.23**	**220**	*i* P		**Pn**	02 45 39.9	**+0.8**
AHML	**Horco Molle**	**2.52**	**49**	*i* P		**Pn**	02 45 42.9	**+0.3**
AHML				IAML			02 45 43.4	
	comp=Z,828nm,0.2s							
AHML	**Horco Molle**	**2.52**	**49**	*e*P		**Pn**	02 45 42.9	**+0.3**
ACCO	**Cerro Coronel**	**2.54**	**213**	*i* P		**Pn**	02 45 43.4	**+0.4**
GO03	**Copiap**	**2.60**	**289**	*e*Pn		**Pn**	02 45 44.0	**+0.4**
GO03				*e*Sn		**Sn**	02 46 14.8	**-0.8**
GO03	**Copiap**	**2.60**	**289**	*e*P		**Pn**	02 45 44.0	**+0.4**
GO03				*e*S		**Sn**	02 46 14.9	**-0.7**
GO03				IAML			02 46 18.2	
	comp=E,3μm,0.5s							
LCO	**Las Campanas**	**2.89**	**258**	*e*Pn		**Pn**	02 45 47.3	**-0.2**
LCO				*e*Sn		**Sn**	02 46 27.1	**-1.0**
LCO	**Las Campanas**	**2.89**	**258**	*i*P		**Pn**	02 45 47.9	**+0.4**
LCO				*e*S		**Sn**	02 46 22.4	**-0.3**
LCO				IAML			02 46 23.4	
	comp=E,6μm,0.2s							
RTLL	**Cerro Villicun**	**2.99**	**197**	*i* P		**Pn**	02 45 48.6	**+0.1**
RTLL	**Cerro Villicun**	**2.99**	**197**	*i*P		**Pn**	02 45 48.8	**+0.2**
GO04	**Tololo Observa**	**3.37**	**239**	*e*Pn		**Pn**	02 45 53.7	**0.0**
GO04				*e*Sn		**Sn**	02 46 32.4	**-1.4**
GO04	**Tololo Observa**	**3.37**	**239**	*i* P		**Pn**	02 45 53.8	**0.0**
GO04	**Tololo Observa**	**3.37**	**239**	*i*P		**Pn**	02 45 53.7	**0.0**
GO04				*e*S		**Sn**	02 46 33.0	**-0.7**
RTLS	**Leoncito**	**3.68**	**205**	*i* P		**Pn**	02 45 57.9	**+0.1**
RTLS				IAML			02 45 59.5	
	comp=Z,383nm,0.2s							
GO02	**Mina Guanaco**	**3.80**	**329**	*e*Pn		**Pn**	02 46 00.3	**+0.9**
GO02				*e*Sn		**Sn**	02 46 44.0	**+0.2**
GO02	**Mina Guanaco**	**3.80**	**329**	*e*P		**Pn**	02 46 00.1	**+0.7**
GO02				IAML			02 46 46.7	
	comp=E,1μm,0.3s							
ACAN	**Cantantal**	**3.81**	**176**	*i* P		**Pn**	02 45 59.0	**-0.2**
CMCH	**Combarbala**	**4.09**	**228**	*e*P		**Pn**	02 46 01.9	**-1.1**
SLA	**San Lorenzo**	**4.12**	**26**	*e*P		**Pn**	02 46 04.3	**+0.7**
PEL	**Peldehue**	**5.42**	**210**	*e*Pn		**Pn**	02 46 19.0	**-1.8**
PEL				*e*Sn		**Sn**	02 47 17.4	**-4.9**
ROC1	**El Roble**	**5.44**	**213**	*e*Pn		**Pn**	02 46 18.7	**-2.4**
ROC1				*e*Sn		**Sn**	02 47 19.6	**-3.2**
PB10	**IPOC Station P**	**5.66**	**330**	*e*Pn		**Pn**	02 46 23.5	**-0.4**
PB10				*e*Sn		Sn	02 47 16.4	-12
LVC	**Limon Verde**	**5.97**	**347**	P		**Pn**	02 46 29.2	**+0.7**
	comp=E,12nm,0.3s,baz=186,slow=9.1,SNR=38							
LVC				S		**Sn**	02 47 33.1	**-2.9**
	comp=E,13nm,0.3s,baz=49,slow=20,SNR=10							
LVC	**Limon Verde**	**5.97**	**347**	*e*Pn		**Pn**	02 46 29.8	**+1.2**
LVC				*e*Sn		**Sn**	02 47 35.9	**-0.1**
PB04	**IPOC Station P**	**6.57**	**338**	*e*Pn		**Pn**	02 46 34.7	**-1.6**
PB04				*e*Sn		**Sn**	02 47 44.3	**-5.8**
GO05	**Huala**	**7.55**	**209**	*e*Pn		**Pn**	02 46 46.5	**-2.8**
PB01	**IPOC Station P**	**7.61**	**346**	*e*Pn		**Pn**	02 46 49.1	**-1.3**
CPUP	**Villa Florida**	**9.26**	**79**	P		**Pn**	02 47 08.4	**-3.8**
	comp=E,0.7nm,0.3s,baz=265,slow=12,SNR=15							
CPUP	**Villa Florida**	**9.26**	**79**	*e*Pn		**Pn**	02 47 09.6	**-2.7**
CPUP	**Villa Florida**	**9.26**	**79**	*e*P		**Pn**	02 47 10.2	**-2.1**
MNMC	**Minye Minye**	**9.49**	**348**	*e*Pn		**Pn**	02 47 13.8	**-1.9**
GO06	**Curarrehue**	**11.58**	**196**	*e*Pn		**Pn**	02 47 39.7	**-3.6**
LPAZ	**La Paz**	**12.13**	**357**	P		**Pn**	02 47 50.3	**-0.9**
LPAZ	comp=E,0.8nm,0.3s,baz=163,slow=6.3,SNR=13			S		**Sn**	02 50 04.5	**-0.8**
	comp=E,0.3nm,0.3s,baz=0.0,slow=3.0,SNR=2.5							
LPAZ	**La Paz**	**12.13**	**357**	*e*Pn		**Pn**	02 47 49.7	**-1.5**
LPAZ				*e*Sn		**Sn**	02 50 04.5	**-0.8**
CPSB	**Cacapava Do Su**	**12.38**	**102**	*e*P		**Pn**	02 47 52.8	**-0.9**
PLTB	**Pedras Altas**	**12.44**	**109**	*e*P		**Pn**	02 47 54.9	**+0.4**
PLCA	**Paso Flores**	**12.50**	**191**	P		**Pn**	02 47 52.5	**-2.7**
	comp=E,0.2nm,0.3s,baz=26,slow=12,SNR=12							
PLCA	**Paso Flores**	**12.50**	**191**	*e*Pn		**Pn**	02 47 52.8	**-2.5**
AQDB	**Aquidauana**	**13.33**	**56**	*e*P		**Pn**	02 48 04.5	**-1.7**
ITAB	**Concordia**	**13.62**	**88**	*e*P		**Pn**	02 48 08.1	**-1.7**
SIV	**San Ignacio**	**13.75**	**27**	P		**Pn**	02 48 09.0	**-2.5**
	comp=E,0.5nm,0.3s,baz=219,slow=13,SNR=12							
PTGB	**Pitanga**	**14.27**	**78**	*e*P		**Pn**	02 48 17.7	**-0.5**
TRCB	**Terra Rica**	**14.51**	**70**	*e*P		**Pn**	02 48 19.8	**-1.4**
CNLB	**Canela**	**14.58**	**97**	*e*P		**Pn**	02 48 20.2	**-1.8**
GO07	**Milladeo Hill,**	**15.45**	**197**	*e*Pn		**P**	02 48 36.8	**+2.6**
	comp=E,207nm,0.8s							
TER01	**Tubaro-SC**	**16.12**	**95**	*e*P		**P**	02 48 42.4	**+0.6**
SALV	**Santo Antonio**	**16.57**	**43**	*e*P		**Pn**	02 48 44.6	**-2.0**
FRTB	**Fartura**	**16.89**	**77**	*e*P		**P**	02 48 49.4	**-1.0**
ITRB	**Iturama**	**17.87**

baz=157,SNR=9.2
HHAR Hobbs 69.06 337 eP P 02 55 54.3 +1.0
comp=E,5.5nm,0.8s
R45A Skylar, Fairfi 69.21 343 P P 02 55 54.2 0.0
baz=160
LIC Lamto 69.27 70 eP P 02 55 54.5 -0.6
comp=E,23nm,1.0s
TUL1 Leonard 69.37 336 eP P 02 55 56.4 +1.2
comp=E,13nm,0.9s
TUL1 Leonard 69.37 336 P P 02 55 55.3 0.0
baz=154
S42A Caledonia 69.42 340 P P 02 55 55.3 -0.2
baz=158,SNR=6.6
WMOK Wichita Mounta 69.48 333 eP P 02 55 55.9 -0.1
comp=E,6.9nm,1.3s
TIC Toumodi 69.51 70 eP P 02 55 56.0 -0.6
S41A Jillco Farms, 69.54 340 P P 02 55 56.3 0.0
baz=157,SNR=12
SYO Syowa Base 69.56 158 eX pP 02 56 28.8 -0.8
KIC Kosan Boka 69.58 70 eP P 02 55 56.6 -0.5
comp=E,18nm,0.8s
DBIC Dimbokro 69.66 70 P P 02 55 57.2 -0.3
comp=E,6.6nm,0.6s,baz=210,slow=4.3,SNR=40
DBIC Dimbokro 69.66 70 eP P 02 55 57.6 +0.2
comp=E,6.6nm,0.6s
DBIC Dimbokro 69.66 70 eP P 02 55 57.5 0.0
CCM Cathedral Cave 69.82 340 eP P 02 55 58.4 +0.5
comp=E,15nm,0.7s
CCM Cathedral Cave 69.82 340 P P 02 55 58.1 +0.2
baz=158
MNTX Cornudas Mount 69.87 326 eP P 02 55 58.7 +0.3
comp=E,4.6nm,0.9s
MNTX Cornudas Mount 69.87 326 P P 02 55 58.2 -0.2
baz=145
R42A Luebbering 69.89 341 P P 02 55 58.8 +0.4
baz=158
R41A Rosebud 70.08 340 P P 02 55 59.6 0.0
baz=158,SNR=5.7
Q43A New Douglas 70.20 342 P P 02 56 00.4 +0.2
baz=159
Q42A Golden Eagle 70.41 341 P P 02 56 01.7 +0.3
baz=159
MSTX Muleshoe 70.52 329 eP P 02 56 03.3 +0.8
comp=E,16nm,0.8s
MSTX Muleshoe 70.52 329 P P 02 56 02.5 +0.1
baz=147
M54A Oil Creek Stat 70.53 350 P P 02 56 02.5 +0.3
baz=169
P43A Skaggs, Pawnee 70.80 342 P P 02 56 04.7 +0.8
baz=160
AMTX Amarillo 70.81 331 eP P 02 56 05.0 +0.8
comp=E,7.3nm,0.9s
AMTX Amarillo 70.81 331 P P 02 56 04.5 +0.3
baz=148
U32A Winter Ranch, 71.00 333 eP P 02 56 06.3 +1.1
comp=E,19nm,0.8s
ERPA Erie 71.17 350 P P 02 56 07.2 +1.1
baz=168
319A Douglas 71.60 323 eP P 02 56 11.3 +2.2
comp=E,14nm,0.8s
121A Cookes Peak, D 71.74 325 P P 02 56 11.2 +1.2
baz=143
ANMO Albuquerque 73.03 327 eP P 02 56 19.4 +1.8
comp=E,4.3nm,0.8s
ANMO Albuquerque 73.03 327 P P 02 56 18.7 +1.2
baz=145
TUC Tucson 73.13 323 P P 02 56 19.1 +1.0
baz=141
CBKS Cedar Bluff 73.41 334 eP P 02 56 20.8 +1.3
comp=E,16nm,0.8s
CBKS Cedar Bluff 73.41 334 P P 02 56 20.1 +0.7
baz=151
L40A Anamosa 73.53 342 P P 02 56 20.7 +0.7
baz=158
T25A Trinidad 73.90 330 eP P 02 56 24.6 +1.9
comp=E,9.9nm,0.7s
T25A Trinidad 73.90 330 P P 02 56 23.8 +1.1
baz=147,SNR=7.0
214A Organ Pipe Nat 73.96 321 P P 02 56 24.6 +1.7
baz=140,SNR=5.7
H48A Harrisville 74.24 348 P P 02 56 25.7 +1.6
baz=166
X18A Snowflake 74.42 325 eP P 02 56 27.4 +1.7
comp=E,4.9nm,0.8s
KSCO Kaye Shedlock' 74.72 332 P P 02 56 28.6 +1.4
baz=148
W18A Petrified Fore 74.78 325 eP P 02 56 29.6 +1.9
comp=E,11nm,1.0s
W18A Petrified Fore 74.78 325 P P 02 56 29.1 +1.4
baz=142
SDCO Great Sand Dun 74.89 330 eP P 02 56 30.1 +1.7
comp=E,3.0nm,0.8s
SDCO Great Sand Dun 74.89 330 P P 02 56 29.8 +1.3
baz=146,SNR=5.6
BGNE Belgrade 75.10 337 eP P 02 56 30.3 +1.1
comp=E,66nm,1.2s
X16A Lo Mia Camp, P 75.11 324 eP P 02 56 31.6 +2.0
comp=E,7.7nm,0.7s
S22A 4UR Ranch, Cre 75.49 329 eP P 02 56 33.6 +1.8
comp=E,3.3nm,0.9s
S22A 4UR Ranch, Cre 75.49 329 P P 02 56 33.0 +1.1
baz=145
E50A Wahnapitae 75.50 351 P P 02 56 32.5 +1.1
baz=168
Y14A Wickenburg 75.57 322 eP P 02 56 34.0 +1.9
comp=E,7.1nm,0.9s
Q24A Divide 75.74 331 P P 02 56 34.2 +0.9
baz=146,SNR=7.7
MVCO Mesa Verde 75.83 327 eP P 02 56 35.4 +1.6
comp=E,9.1nm,0.9s
MVCO Mesa Verde 75.83 327 P P 02 56 34.9 +1.1
baz=144,SNR=6.4
WUAZ Wupatki 75.92 324 eP P 02 56 36.2 +1.9
comp=E,12nm,0.9s
WUAZ Wupatki 75.92 324 P P 02 56 35.4 +1.2
baz=141,SNR=7.0
OGNE Ogallala 76.13 334 eP P 02 56 36.7 +1.5
comp=E,14nm,0.8s
Y12C Blythe 76.26 321 eP P 02 56 38.1 +2.1
comp=E,7.7nm,0.8s
Y12C Blythe 76.26 321 P P 02 56 37.3 +1.3
baz=139
PDMCI Parker Dam,Lak 76.46 322 P P 02 56 37.9 +0.8
baz=139
ISCO Idaho Springs 76.64 331 eP P 02 56 39.5 +1.1
comp=E,6.4nm,0.9s
ISCO Idaho Springs 76.64 331 P P 02 56 39.2 +0.8
baz=146
ECSD EROS Data Cent 76.66 339 eP P 02 56 38.6 +0.6
comp=E,7.2nm,1.0s
ECSD EROS Data Cent 76.66 339 P P 02 56 39.0 +1.0
baz=154
MONP2 Monument Peak 76.69 319 P P 02 56 40.2 +1.4
baz=137
BC3 Big Chuckawall 76.70 320 P P 02 56 39.9 +1.2
baz=138,SNR=7.5
SMCO Snowmass 76.72 329 eP P 02 56 37.0 -2.0
comp=E,14nm,0.8s
SMCO epP pP 02 57 17.8 +4.9
PV02 Paradox Valley 76.75 328 eP P 02 56 40.9 +1.9
comp=E,6.0nm,0.9s
PV13 Radium Mtn., P 76.75 328 eP P 02 56 40.7 +1.7
comp=E,8.3nm,0.9s
PV12 Saucer Basin, 76.86 328 eP P 02 56 40.0 +0.4
comp=E,6.8nm,0.8s
IRM Iron Mountain 76.91 321 P P 02 56 41.6 +2.0
baz=138
PV17 East Wray Mesa 76.91 328 eP P 02 56 39.8 0.0
comp=E,7.2nm,0.8s
W13A Hualapai Mount 76.92 322 eP P 02 56 39.9 -0.1
comp=E,7.8nm,0.6s
PV14 Lion Creek, Pa 77.01 328 eP P 02 56 42.2 +1.8
comp=E,6.5nm,0.9s
F39A Loretta 77.03 343 P P 02 56 42.3 +2.2
baz=159
U15A North Rim 77.10 324 eP P 02 56 41.5 +0.5
comp=E,8.3nm,0.8s
XPFO Pion Flat 77.24 320 eP P 02 56 43.6 +2.0
comp=E,4.4nm,0.9s
PFO Pinyon Flats O 77.24 320 P P 02 56 43.0 +1.4
baz=137
BELC Belle Mtn. Jos 77.27 320 P P 02 56 43.3 +1.5
baz=138
LDFC Landfair 77.57 322 eP P 02 56 45.5 +2.1
comp=E,12nm,0.8s
LSQQ Lebel-sur-Quev 77.64 354 P P 02 56 44.2 +0.9
baz=171
MURC Murrieta 77.65 319 P P 02 56 45.2 +1.4
baz=137
GMRC Granite Mounta 77.65 321 P P 02 56 45.6 +1.7
baz=138,SNR=11
N23A Red Feather La 77.68 331 P P 02 56 45.3 +1.2
baz=146
KNB Kanab 77.82 324 eP P 02 56 46.9 +2.0
comp=E,19nm,0.9s
PKCU Pink Cliffs 77.89 325 eP P 02 56 47.9 +2.5
comp=E,5.8nm,0.8s
LCMT Little Creek M 78.03 324 eP P 02 56 47.8 +1.8
comp=E,4.1nm,0.9s
HEC Hector,Ludlow 78.06 321 P P 02 56 47.8 +1.6
baz=138,SNR=6.5
O20A White River Ci 78.07 329 eP P 02 56 48.0 +1.8
comp=E,12nm,0.8s
O20A White River Ci 78.07 329 P P 02 56 47.5 +1.3
baz=144,SNR=8.8
TUQ Turquoise Moun 78.28 321 P P 02 56 48.4 +1.0
baz=138,SNR=5.1
MTPU Mount Pierson 78.29 325 eP P 02 56 48.8 +1.2
comp=E,6.0nm,0.8s
SRU San Rafael Swe 78.31 327 eP P 02 56 49.1 +1.6
comp=E,10nm,0.8s
BFSC Mount Baldy Ra 78.38 319 P P 02 56 48.8 +0.9
baz=136
SZCU Shurtz Canyon 78.40 325 eP P 02 56 50.1 +2.0
comp=E,14nm,1.4s
Q16A Castle Valley 78.47 327 eP P 02 56 50.4 +2.0
comp=E,8.1nm,1.2s
CCUT Cedar City 78.51 324 eP P 02 56 50.9 +2.2
comp=E,12nm,0.9s
TOA0 Torodi Ar. Sit 78.58 68 eP P 02 56 49.8 +0.5
TORD Torodi Ar. Bea 78.58 68 P P 02 56 48.0 -1.3
comp=E,8.9nm,0.6s,baz=280,slow=4.1,SNR=66
TORD pP pP 02 57 22.3 -0.5
comp=E,1.4nm,0.6s,baz=260,slow=5.3,SNR=2.2
TOA1 Torodi Ar. Sit 78.58 68 eP P 02 56 48.0 -1.3
TOA1 epP pP 02 57 22.3 -0.5
MSU Marysvale 78.65 326 eP P 02 56 51.5 +2.0
SHPR Sheep Range 78.66 323 eP P 02 56 51.5 +2.0
comp=E,6.1nm,0.9s
GSC Goldstone, Bar 78.67 321 eP P 02 56 50.3 +0.9
comp=E,4.4nm,0.7s
GSC Goldstone, Bar 78.67 321 P P 02 56 51.0 +1.5
baz=137
P17A Ritcher Ranch, 78.70 327 eP P 02 56 49.2 -0.4
comp=E,14nm,1.1s
EDW2 Edwards Air Fo 79.03 320 P P 02 56 52.8 +1.4
baz=136
BOSA Boshof 79.10 117 P P 02 56 52.5 +0.3
comp=E,5.5nm,0.8s,baz=260,slow=1.9,SNR=8.2
BOSA Boshof 79.10 117 eP P 02 56 52.8 +0.6
K22A Casper 79.38 332 eP P 02 56 54.5 +1.2
comp=E,7.8nm,0.8s
K22A Casper 79.38 332 P P 02 56 54.5 +1.2
baz=146,SNR=5.4
PSUT Pine Spring 79.51 325 eP P 02 56 56.0 +1.9
comp=E,6.6nm,0.8s
FURC Furnace Creek, 79.55 322 P P 02 56 55.4 +1.3
baz=137
TPNV Topopah Spring 79.57 322 eP P 02 56 56.1 +1.7
comp=E,8.8nm,1.1s
TPNV Topopah Spring 79.57 322 P P 02 56 55.9 +1.5
baz=138,SNR=9.3
MPMC Manual Prospec 79.60 321 P P 02 56 55.6 +1.0
baz=137
RSSD Black Hills 79.61 334 eP P 02 56 55.7 +1.1
comp=E,3.9nm,0.6s
RSSD Black Hills 79.61 334 P P 02 56 55.5 +1.0
baz=148
NLU North Lily Min 79.72 327 eP P 02 56 57.0 +1.8
comp=E,2.7nm,0.7s
DAC Darwin (Calif) 79.82 321 eP P 02 56 57.2 +1.4
comp=E,6.6nm,0.8s
ISA Isabella, Lake 79.87 320 eP P 02 56 57.8 +1.8
comp=E,5.0nm,0.9s
ISA Isabella, Lake 79.87 320 P P 02 56 57.4 +1.5
baz=136,SNR=6.0
JLU Jordanelle 79.92 328 eP P 02 56 56.7 +0.4
comp=E,8.4nm,0.7s
PKM Mcpherson Peak 80.09 319 P P 02 56 58.6 +1.3
baz=135
CTU Camp Tracy 80.14 327 eP P 02 56 59.1 +1.7
comp=E,3.5nm,0.8s
CWC Cottonwood Cre 80.21 321 P P 02 56 59.4 +1.5
baz=136
GRAC Grapevine Rang 80.22 322 P P 02 56 59.4 +1.7
baz=137
R11A Troy Canyon, C 80.26 324 eP P 02 56 59.8 +1.6
comp=E,7.8nm,1.2s
R11A Troy Canyon, C 80.26 324 P P 02 56 59.7 +1.6
baz=138,SNR=7.9
DUG Dugway, Tooele 80.26 326 eP P 02 56 59.7 +1.7
comp=E,4.5nm,0.8s
DUG Dugway, Tooele 80.26 326 P P 02 56 59.4 +1.3
baz=141,SNR=5.7
TCUT Toone Canyon 80.31 328 eP P 02 57 00.3 +1.9
comp=E,7.1nm,0.8s
VES Vestal, Richgr 80.34 320 P P 02 56 59.8 +1.4
baz=136
SMMC Simmler 80.49 319 P P 02 57 00.6 +1.3
baz=135
HWUT Hardware Ranch 80.76 328 eP P 02 57 01.9 +1.2
comp=E,6.8nm,0.7s
BW06 Boulder Array 80.77 330 eP P 02 57 01.7 +0.9
BW06 Boulder Array 80.77 330 P P 02 57 01.3 +0.4
baz=143
PD31 Pinedale Array 80.77 330 eP P 02 57 01.3 +0.5
PD31 epP pP 02 57 35.9 +1.1
PDAR Pinedale Array 80.77 330 P P 02 57 01.4 +0.5
comp=E,4.3nm,0.7s,baz=122,slow=7.2,SNR=43
PDAR pP pP 02 57 35.9 +1.1
comp=E,0.8nm,0.7s,baz=131,slow=6.8,SNR=2.0
PDAR Pinedale Array 80.77 330 eP P 02 57 01.0 +0.2
AHID Auburn Hatcher 81.46 329 eP P 02 57 05.5 +1.1
comp=E,7.1nm,0.7s
HVU Hansel Valley 81.47 327 eP P 02 57 05.5 +1.1
comp=E,7.3nm,0.8s
MLAC Mammoth, Mammo 81.48 321 P P 02 57 05.9 +1.2
baz=136
OMMB Old Mammoth Mi 81.56 321 eP P 02 57 06.7 +1.5
comp=E,6.5nm,0.9s
NV01 Mina Array Sit 81.77 322 eP P 02 57 05.2 -0.9
NVAR Mina Array Bea 81.77 322 P P 02 57 07.5 +1.4
comp=E,2.4nm,0.8s,baz=156,slow=8.0,SNR=4.1
ELK Elko 81.88 325 eP P 02 57 07.6 +0.9
comp=E,3.6nm,0.7s
LOHW Long Hollow 81.91 330 eP P 02 57 08.0 +1.3
comp=E,4.3nm,0.7s
KVN Kaiserville 82.11 323 eP P 02 57 09.1 +1.2
comp=E,4.7nm,0.9s
FXWY Fox Creek 82.12 330 eP P 02 57 09.0 +1.1
comp=E,3.1nm,0.8s
ULM Lac du Bonnet 82.32 342 P P 02 57 08.6 +0.1
comp=E,4.4nm,1.0s,baz=170,slow=11,SNR=3.6
WAKR Walker 82.44 321 eP P 02 57 11.6 +2.0
comp=E,6.7nm,1.0s
RLMT Red Lodge 82.54 332 eP P 02 57 11.3 +1.3
comp=E,9.3nm,1.3s
RLMT Red Lodge 82.54 332 P P 02 57 11.0 +1.0
baz=144
LAO LASA Array 82.60 334 P P 02 57 11.4 +1.3
baz=146
YERR Yerington 82.67 322 eP P 02 57 12.6 +1.8
comp=E,3.9nm,0.9s
YMR Madison River 82.91 330 eP P 02 57 13.9 +2.0
comp=E,9.3nm,0.7s
PNTR Pine Nut 82.94 322 eP P 02 57 14.1 +1.8
comp=E,7.9nm,0.7s
PAHR Pah Rah Range 83.27 322 eP P 02 57 15.5 +1.7
comp=E,8.0nm,1.0s
HLID Hailey 83.61 328 eP P 02 57 17.0 +1.5
comp=E,8.1nm,1.1s
HLID epP pP 02 57 52.2 +2.6
HLID Hailey 83.61 328 P P 02 57 16.9 +1.4
baz=140
DLMT Dillon 84.17 330 eP P 02 57 19.7 +1.4
comp=E,8.9nm,1.5s
ORV Oroville 84.32 321 eP P 02 57 20.3 +1.3
comp=E,8.8nm,1.4s
MOD Modoc Plateau 85.32 323 eP P 02 57 25.3 +1.2
comp=E,5.7nm,0.6s
J08A Circle Bar Ran 85.43 325 eP P 02 57 26.1 +1.6
comp=E,9.9nm,0.8s
J08A epP pP 02 58 01.7 +3.0
M04C Macdoel 86.05 322 P P 02 57 28.2 +0.4
baz=134
J05D Fort Rock, OR 86.78 324 P P 02 57 32.2 +0.9
baz=135
PINE Pine Mountain 86.99 324 eP P 02 57 34.0 +1.7
comp=E,14nm,0.9s
I05D Terrebonne, OR 87.58 325 P P 02 57 36.2 +1.2
baz=135
WALA Waterton Lakes 87.60 332 eP P 02 57 36.0 +0.9
comp=E,7.3nm,0.9s
K02D Willamette Mer 87.67 322 P P 02 57 36.7 +1.3
baz=133
YKA Yellowknife Ar 98.16 340 P Pdif 02 58 23.3 +0.2
comp=E,0.7nm,0.8s,baz=140,slow=4.6,SNR=8.4
YKB5 Yellowknife Ar 98.16 340 eP Pdif 02 58 23.3 +0.2
ARA0 ARCESS Array S 117.38 23 ePKPdf PKPdf 03 03 29.6 -1.3
ARCES ARCESS Array B 117.38 23 PKP PKPdf 03 03 29.6 -1.3
comp=E,1.7nm,0.9s,baz=234,slow=3.0,SNR=3.0
ASAR Alice Springs 124.23 204 PKP PKPdf 03 03 45.2 -0.4
comp=E,3.7nm,0.7s,baz=138,slow=1.9,SNR=31
ASAR pPKP pPKPdf 03 04 21.6 0.0
comp=E,1.3nm,0.7s,baz=138,slow=2.2,SNR=4.8
AS31 Alice Springs 124.23 204 ePKPdf PKPdf 03 03 45.3 -0.3
AS31 epPKPdf pPKPdf 03 04 21.6 0.0
WR1 Warramunga Arr 127.47 206 ePKPdf PKPdf 03 03 51.6 -0.3
WR1 epPKPdf pPKPdf 03 04 28.5 +0.6
WRA Warramunga Arr 127.47 206 PKP PKPdf 03 03 51.6 -0.3
comp=E,5.2nm,0.7s,baz=165,slow=1.6,SNR=91
WRA pPKP pPKPdf 03 04 28.5 +0.6
comp=E,1.5nm,0.6s,baz=167,slow=1.5,SNR=5.8
HYB Hyderabad 146.94 102 i PKPbc PKPbc 03 04 30.0 +0.4
ZAA1 Zalesovo Array 147.47 31 ePKPbc PKPbc 03 04 28.8 -1.2
ZAA1 epPKPdf pPKPbc 03 05 05.5 0.0
ZALV Zalesovo Beam 147.47 31 PKPbc PKPbc 03 04 28.8 -1.2
comp=E,9.0nm,0.8s,baz=294,slow=3.7,SNR=23
ZALV pPKPbc pPKPbc 03 05 05.5 0.0
comp=E,3.7nm,0.6s,baz=299,slow=3.4,SNR=4.5
KSH Kashi 147.94 60 PKPbc PKPbc 03 04 30.3 -1.6
KSH pPKP pPKPdf 03 04 57.8 -6.8
KSH sPKP 03 05 09.0
KSH PP PP 03 08 03.8 +2.9
KSH PKS PKSdf 03 08 07.5 +3.6
KSH SKS SKSdf 03 11 28.0 +3.0
MK32 Makanchi Array 150.12 44 ePKPbc PKiKP 03 04 37.4 -0.4
MK32 epPKPdf pPKPbc 03 05 12.4 -0.2
MKAR Makanchi Array 150.12 44 PKPbc PKiKP 03 04 37.4 -0.4
comp=E,4.9nm,0.8s,baz=305,slow=2.3,SNR=43
MKAR pPKPbc pPKPbc 03 05 12.4 -0.2
comp=E,3.0nm,0.8s,baz=307,slow=2.4,SNR=5.1
GTA Gaotai 164.83 41 eP PKPdf 03 04 52.0 +1.6
GTA pP pPKPdf 03 05 20.5 -5.9
GTA sP sPKPdf 03 05 32.0 -8.1
GTA pmax pmax
comp=Z,2.0nm,1.4s
GTA pmax pmax
comp=Z,2.0nm,1.3s
LZH Lanzhou 169.43 42 ePKP PKPdf 03 04 55.8 +1.9
LZH PKP pPKPdf 03 05 08.5 -22
LZH pPKP sPKPdf 03 05 25.3 -18
LZH sPKP 03 05 35.3

*ISCJB **31** 02:47:22.0±0.6,23°22S±0'08×67°75W±0'07,h125km, mb4.1/12, Error ellipse: s-maj=10.9km s-min=9.4km az=157.6*
*NEIC **31** 02:47:21.8±0.8,23°30S×67°80W,h110km±6km,mb4.2/9, Error ellipse: s-maj=10.6km s-min=9.4km az=221.0*
*IDC **31** 02:47:22.0±1.1,23°19S×67°92W,h110km±9km,mb3.8/8, mb1 4.0/11,mb1mx3.8/30,mbtmp4.2/11, Error ellipse: s-maj=21.0km s-min=17.6km az=51.0*

ISC 31 02:47:23.0±0.6,23°23S±0'09×67°83W±0'08,h125km,n34,
σ1s51/36,mb4.2/12,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	1.17	302	P	Pn	02 47 44.9	-2.6
	71nm,0.3s,baz=116,slow=5.9,SNR=29						
LVC				S	Sn	02 48 01.1	-5.0
	65nm,0.3s,baz=144,slow=12,SNR=6.1						
PB11	IPOC Station P	3.85	333	ePn	Pn	02 48 20.3	-0.5
MNMC	Minye Minye	4.40	338	ePn	Pn	02 48 30.6	+2.4
LPAZ	La Paz	6.91	358	P	Pn	02 49 01.9	-0.6
	1.0nm,0.3s,baz=171,slow=18,SNR=4.7						
SIV	San Ignacio	9.61	43	P	Pn	02 49 36.9	-1.4
	6.2nm,0.3s,baz=240,slow=10.0,SNR=35						
SIV				S	Sn	02 51 22.7	-1.9
	1.6nm,0.3s,baz=182,slow=23,SNR=6.8						
PLCA	Paso Flores	17.60	187	P	P	02 51 18.3	-1.3
	0.2nm,0.3s,baz=345,slow=20,SNR=4.0						
PLCA	Paso Flores	17.60	187	eP	P	02 51 18.3	-1.3
	8.2nm,0.9s						
BDFB	Brasilia	20.14	72	eP	P	02 51 46.7	-0.9
	7.2nm,1.0s						
SNAA	Sanae	60.32	161	P	P	02 57 19.9	+1.7
	1.9nm,1.1s,baz=204,slow=8.6,SNR=3.4						
SNAA	Sanae	60.32	161	eP	P	02 57 19.9	+1.7
	7.2nm,1.4s						
LTX	Lajitas	62.61	325	eP	P	02 57 34.2	0.0
TXAR	Lajitas Array	62.61	325	P	P	02 57 34.2	0.0
	0.3nm,0.6s,baz=140,slow=6.8,SNR=4.7						
DBIC	Dimbokro	68.29	72	P	P	02 58 12.8	+1.8
	2.7nm,0.6s,baz=233,slow=7.4,SNR=7.8						
DBIC	Dimbokro	68.29	72	eP	P	02 58 12.8	+1.8
	12nm,1.4s						
ANMO	Albuquerque	68.49	327	eP	P	02 58 13.2	+1.2
	2.7nm,0.8s						
Q24A	Divide	71.05	330	eP	P	02 58 29.2	+1.5
	5.4nm,0.9s						
PD31	Pinedale Array	76.10	330	eP	P	02 58 57.4	+0.3
	2.3nm,1.3s						
PDAR	Pinedale Array	76.10	330	P	P	02 58 57.4	+0.3
	0.6nm,0.7s,baz=125,slow=6.9,SNR=4.6						
TOA0	Torodi Ar. Sit	77.01	69	eP	P	02 59 03.4	+0.8
TOA1	Torodi Ar. Sit	77.01	69	eP	P	02 59 02.9	+0.4
TORD	Torodi Ar. Bea	77.01	69	P	P	02 59 02.9	+0.4
	3.9nm,0.6s,baz=245,slow=4.7,SNR=15						
ULM	Lac du Bonnet	77.26	342	P	P	02 59 03.0	-0.1
	3.8nm,0.5s,baz=157,slow=6.2,SNR=14						
NV01	Mina Array Sit	77.46	322	eP	P	02 59 06.0	+1.1
NVAR	Mina Array Bea	77.46	322	P	P	02 59 06.0	+1.1
	0.4nm,0.6s,baz=161,slow=9.3,SNR=3.7						
PAHR	Pah Rah Range	78.95	322	eP	P	02 59 14.7	+1.7
	4.4nm,0.8s						
HLID	Hailey	79.03	327	eP	P	02 59 15.3	+1.9
	3.6nm,0.9s						
YKA	Yellowknife Ar	93.14	340	P	P	03 00 23.0	+0.6
	0.9nm,0.7s,baz=132,slow=5.1,SNR=13						
YKB5	Yellowknife Ar	93.14	340	eP	P	03 00 23.0	+0.6
ASAR	Alice Springs	128.82	206	PKP	PKPdf	03 06 16.6	+0.2
	0.5nm,0.5s,baz=91,slow=1.4,SNR=4.6						
AS31	Alice Springs	128.82	206	ePKPdf	PKPdf	03 06 16.6	+0.2
WR1	Warramunga Arr	131.94	209	ePKPdf	PKPdf	03 06 22.9	+0.4
WRA	Warramunga Arr	131.94	209	PKP	PKPdf	03 06 22.9	+0.4
	0.6nm,0.8s,baz=156,slow=1.5,SNR=6.1						
MK32	Makanchi Array	146.41	38	ePKPdf	PKPbc	03 06 49.7	+0.4
MKAR	Makanchi Array	146.41	38	PKPbc	PKPbc	03 06 49.7	+0.4
	1.1nm,0.7s,baz=314,slow=3.2,SNR=4.0						

IDC 31 02:52:45.9±1.9,10°92S×166°76E,h0km,mb3.9/6, mb1 4.1/6,mb1mx3.9/30,mbtmp3.8/6,MS3.5/5,Ms1 3.5/5, ms1mx3.1/27,Error ellipse: s-maj=108.3km s-min=24.6km az=145.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	6.87	282	LR	LR	02 57 10.6	
	comp=Z,161nm,21.8s,baz=126,slow=38						
H11S2	WAKE ISLAND Hy	29.22	360	T	T	03 28 50.5	
	baz=181,slow=76,SNR=65						
H11S3	WAKE ISLAND Hy	29.23	360	T	T	03 28 59.6	
	baz=181,slow=76,SNR=35						
H11S1	WAKE ISLAND Hy	29.24	360	T	T	03 28 45.3	
	baz=181,slow=76,SNR=36						
STKA	Stephens Creek	31.22	224	LR	LR	03 10 09.8	
	comp=Z,116nm,19.9s,baz=222,slow=33						
WRA	Warramunga Arr	32.47	250	P	P	02 59 18.6	+0.2
	0.7nm,0.8s,baz=82,slow=9.1,SNR=7.3						
ASAR	Alice Springs	33.74	244	P	P	02 59 29.2	-0.2
	1.5nm,0.8s,baz=77,slow=9.3,SNR=9.2						
BATI	Baumata	42.35	267	LR	LR	03 20 09.4	
	comp=Z,48nm,18.8s,baz=186,slow=39						
PPT	Papeete	42.76	104	LR	LR	03 15 31.2	
	comp=Z,49nm,21.9s,baz=349,slow=32						
NWAO	Narrogin (SRO)	50.36	236	LR	LR	03 22 59.6	
	comp=Z,106nm,19.2s,baz=48,slow=36						
ILAR	Eielson Array	83.08	18	P		03 05 13.6	+0.5
	0.7nm,0.8s,baz=227,slow=7.0,SNR=6.4						

NVAR	**Mina Array Bea**	**85.18**	**50**	P	P	03 05 24.8	+0.1
	0.2nm,0.4s,baz=215,slow=4.4,SNR=2.4						
MKAR	**Makanchi Array**	**94.11**	**317**	P	P	03 06 06.2	-0.3
	1.2nm,0.8s,baz=100,slow=4.0,SNR=2.3						
YKA	**Yellowknife Ar**	**94.41**	**27**	P	P	03 06 06.6	-0.8
	0.3nm,0.8s,baz=253,slow=4.3,SNR=3.6						
ESDC	**Sonseca Array**	**150.20**	**346**	PKPbc	PKPbc	03 12 39.1	-0.3
	0.6nm,0.8s,baz=329,slow=2.1,SNR=4.7						

*ISCJB **31** 03:01:30.9±0.5, 8°.13N±0°.06×82°.59W±0°.03, h49km±5km, mb3.6/9, Error ellipse: s-maj=10.8km s-min=3.4km az=24.4*
*UCR **31** 03:01:32.4±1.9, 8°.25N×82°.58W, h30km±3km*
*IDC **31** 03:01:33.2±2.5, 8°.28N×82°.55W, h50km±22km, mb3.5/9, mb1 3.9/12, mb1mx3.7/29, mbtmp3.9/12, ML3.4/3, Error ellipse: s-maj=35.7km s-min=18.5km az=36.0*

ISC 31 03:01:32.2±1.0, 8°.19N±0°.08×82°.58W±0°.04, h42km±9km, n59, σ1°.25/66, mb3.8/9, 4C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.28**	**28**	↑*i* P	**Pn**	**03 01 39.4**	**-1.0**
DVD				*e* S	**Sn**	**03 01 44.3**	**-1.8**
BRU2	**Volcan**	**0.61**	**350**	↓*i* P	**Pn**	**03 01 43.6**	**-1.1**
BRU2				*e* S	**Sn**	**03 01 52.8**	**-0.8**
EDSV	**San Vito**	**0.74**	**329**	*e* P	**Pn**	**03 01 45.8**	**-0.6**
PTJ1	**Puerto Jimnez**	**0.79**	**296**	*e* P	**Pn**	**03 01 46.0**	**-0.9**
PTJ1				↑*e* S	**Sn**	**03 01 59.0**	**+1.3**
EDPN	**Palmar Norte**	**1.16**	**312**	*e* P	**Pn**	**03 01 51.3**	**-0.7**
EDBA	**Buenos Aires**	**1.19**	**325**	*e* P	**Pn**	**03 01 52.1**	**-0.3**
EDLM	**Las Mercedes**	**1.47**	**318**	*e* P	**Pn**	**03 01 56.1**	**-0.2**
EDDO	**Dominical**	**1.65**	**310**	*e* P	**Pn**	**03 01 58.5**	**-0.3**
LCR2	**La Lucha 2**	**2.09**	**318**	*e* P	**Pn**	**03 02 04.8**	**-0.2**
LCR2				*e* S	**Sn**	**03 02 30.6**	**+0.8**
PNME	**Penonome**	**2.25**	**82**	*e* P	**Pn**	**03 02 08.2**	**+1.2**
PNME				*e* S	**Sn**	**03 02 34.4**	**+0.8**
SJS	**Escuela Geolog**	**2.27**	**320**	*e* P	**Pn**	**03 02 08.1**	**+0.7**
AZU	**Azuero**	**2.32**	**100**	*e* P	**Pn**	**03 02 09.4**	**+1.5**
AZU				*e* S	**Sn**	**03 02 35.3**	**0.0**
HDC	**Heredia**	**2.35**	**320**	↑*e* P	**Pn**	**03 02 09.1**	**+0.6**
HDC				*e* S	**Sn**	**03 02 37.6**	**+1.3**
SRA1	**San Ramn**	**2.66**	**315**	*e* P	**Pn**	**03 02 12.6**	**-0.1**
ZANG	**Zanguenga, Cho**	**2.79**	**74**	*e* P	**Pn**	**03 02 15.9**	**+1.5**
BCIP	**Isla Barro Col**	**2.88**	**70**	*e* P	**Pn**	**03 02 16.3**	**+0.6**
BCIP				*e* S	**Sn**	**03 02 49.6**	**+0.5**
ARE1	**Arenal 1**	**3.09**	**317**	*e* P	**Pn**	**03 02 19.4**	**+0.9**
CEDE	**Laguna Cedeo**	**3.10**	**318**	*e* P	**Pn**	**03 02 19.4**	**+0.6**
UPA	**Univ. de Panam**	**3.12**	**75**	*e* P	**Pn**	**03 02 20.2**	**+1.4**
JTS	**JuntasAbangare**	**3.14**	**312**	P	**Pn**	**03 02 18.5**	**-0.7**
	121nm,0.3s,baz=6.0,slow=20,SNR=142						
JTS				S	**Sn**	**03 02 59.5**	**+4.1**
	49nm,0.3s,baz=31,slow=18,SNR=6.4						
JTS	**JuntasAbangare**	**3.14**	**312**	↑*i* P	**Pn**	**03 02 18.3**	**-0.9**
PLVR	**Palo Verde**	**3.48**	**308**	*e* P	**Pn**	**03 02 24.3**	**+0.3**
CUI	**Cuipilapa**	**3.54**	**314**	*e* P	**Pn**	**03 02 25.9**	**+1.1**
MESS	**Mesas**	**3.62**	**315**	*e* P	**Pn**	**03 02 26.3**	**+0.5**
BUEV	**Buena Vista**	**3.81**	**313**	*e* P	**Pn**	**03 02 29.2**	**+0.8**
GB1A	**Borinquen Arri**	**3.81**	**313**	*e* P	**Pn**	**03 02 29.6**	**+1.0**
SOLC	**Bahia Solano**	**5.49**	**110**	*e* P	**Pn**	**03 02 50.1**	**-1.4**
SOLC				*e* S	Sn	03 03 44.7	-8.8
SOLC	**Bahia Solano**	**5.49**	**110**	*e* P	**Pn**	**03 02 50.1**	**-1.4**
SOLC				*e* S	Sn	03 03 44.7	-8.8
DBBC	**Dabeiba**	**6.42**	**100**	*e* P	**Pn**	**03 03 05.6**	**+1.2**
DBBC	**Dabeiba**	**6.42**	**100**	*e* P	**Pn**	**03 03 05.6**	**+1.2**
PLMC	**San Jos del P**	**7.06**	**117**	*e* P	**Pn**	**03 03 12.9**	**-0.3**
PLMC	**San Jos del P**	**7.06**	**117**	*e* P	**Pn**	**03 03 12.9**	**-0.3**
HELC	**Santa Helena**	**7.27**	**105**	*e* P	**Pn**	**03 03 14.8**	**-1.6**
HELC	**Santa Helena**	**7.27**	**105**	*e* P	**Pn**	**03 03 14.8**	**-1.6**
YOTC	**Yotoco, Valle**	**7.48**	**124**	*e* P	**Pn**	**03 03 18.1**	**-0.9**
YOTC	**Yotoco, Valle**	**7.48**	**124**	*e* P	**Pn**	**03 03 18.1**	**-0.9**
ZARC	**Zaragoza, Cauc**	**7.68**	**95**	*e* P	**Pn**	**03 03 22.2**	**+0.6**
ZARC	**Zaragoza, Cauc**	**7.68**	**95**	*e* P	**Pn**	**03 03 22.2**	**+0.6**
ANIL	**Santa Ana**	**8.02**	**117**	*e* P	**Pn**	**03 03 29.2**	**+2.6**
ANIL	**Santa Ana**	**8.02**	**117**	*e* P	**Pn**	**03 03 29.2**	**+2.6**
POPC	**Popayan, Colom**	**8.12**	**133**	*e* P	**Pn**	**03 03 27.9**	**-0.1**
POPC	**Popayan, Colom**	**8.12**	**133**	*e* P	**Pn**	**03 03 27.9**	**-0.1**
RUSC	**La Rusia**	**9.70**	**103**	*e* P	**Pn**	**03 03 51.9**	**+2.2**
RUSC	**La Rusia**	**9.70**	**103**	*e* P	**Pn**	**03 03 51.9**	**+2.2**
VILC	**Villavicencio,**	**9.72**	**114**	*e* P	Pn	03 03 54.8	+5.1
VILC	**Villavicencio,**	**9.72**	**114**	*e* P	Pn	03 03 54.8	+5.1
APG	**El Apazote**	**10.27**	**312**	P	**Pn**	**03 03 58.0**	**+0.7**
	0.7nm,0.3s,baz=56,slow=3.7,SNR=12						
SDV	**Santo Domingo**	**11.84**	**86**	P	**Pn**	**03 04 21.0**	**+2.2**
	0.3nm,0.3s,baz=262,slow=7.6,SNR=13						
CMIG	**Matias Romero**	**14.90**	**308**	P	**Pn**	**03 05 01.4**	**+1.2**
	0.4nm,0.3s,baz=104,slow=12,SNR=7.5						
TXAR	**Lajitas Array**	**28.90**	**319**	P	**P**	**03 07 27.1**	**-0.4**
	0.5nm,0.8s,baz=127,slow=8.0,SNR=5.2						
TXAR				PcP	**PcP**	**03 10 37.4**	**+1.3**
	0.2nm,0.6s,baz=154,slow=5.0,SNR=3.3						
PDAR	**Pinedale Array**	**41.81**	**330**	P	**P**	**03 09 17.7**	**-0.5**
	0.2nm,0.6s,baz=115,slow=10,SNR=4.1						
ULM	**Lac du Bonnet**	**43.37**	**348**	P	**P**	**03 09 28.3**	**-2.1**
	3.1nm,0.9s,baz=110,slow=7.1,SNR=4.7						
NVAR	**Mina Array Bea**	**44.05**	**319**	P	**P**	**03 09 37.0**	**+0.7**
	0.9nm,0.8s,baz=135,slow=9.4,SNR=4.6						
PLCA	**Paso Flores**	**49.92**	**168**	P	**P**	**03 10 21.6**	**-0.3**
	1.3nm,0.9s,baz=319,slow=9.3,SNR=2.8						
YKA	**Yellowknife Ar**	**59.00**	**343**	P	**P**	**03 11 26.8**	**-0.6**
	0.8nm,0.8s,baz=138,slow=6.9,SNR=11						
ILAR	**Eielson Array**	**71.83**	**336**	P	**P**	**03 12 49.8**	**-0.6**
	0.7nm,0.6s,baz=112,slow=4.8,SNR=15						
ESDC	**Sonseca Array**	**76.07**	**51**	P	**P**	**03 13 15.2**	**-0.6**
	0.7nm,0.7s,baz=282,slow=5.6,SNR=6.0						
TORD	**Torodi Ar. Bea**	**82.64**	**78**	P	**P**	**03 13 51.3**	**-0.7**
	0.5nm,0.8s,baz=271,slow=4.6,SNR=6.0						
WRA	**Warramunga Arr**	**142.42**	**248**	PKhKP	PKPpre	03 20 56.2	
	0.2nm,0.6s,baz=93,slow=2.8,SNR=3.5						

DJA 31 03:10:06.1±1.4, 9°.5S×11°.1E×, h25km±15km, M3.8/12, mb4.0/1, MLv3.8/12, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.15**	**8**	P	Pn	03 10 25.9	-0.7
PCJI				S	Sn	03 10 40.5	-1.0
WOJI	**Wonogiri, Jawa**	**1.50**	**356**	P	Pn	03 10 31.5	+0.1
WOJI				S	Sn	03 10 50.2	+0.1
UGM	**Wanagama**	**1.50**	**341**	P	Pn	03 10 32.3	+0.8
UGM				S	Sb	03 10 51.7	-0.3
PWJI	**Pagerwojo**	**1.52**	**31**	P	Pn	03 10 31.2	-0.5
PWJI				S	Sn	03 10 49.5	-1.2
NGJI	**Ngawi**	**2.01**	**13**	P	Pb	03 10 41.9	-0.1
SMRI	**Semarang**	**2.35**	**346**	P	Pn	03 10 42.3	-0.8
GMJI	**Gumukmas**	**2.62**	**66**	P	Pn	03 10 43.8	-3.0
KPJI	**Karang Pucung**	**2.87**	**314**	P	Pn	03 10 50.9	+0.6
CMJI	**Cimerak**	**2.98**	**301**	P	Pn	03 10 51.9	+0.1
CMJI				S	Sn	03 11 26.0	-0.7
JAGI	**Jajag, Banyuwa**	**3.21**	**75**	P	Pn	03 10 54.1	-0.9
CISI	**Cisompet, Garu**	**3.63**	**299**	P	Pn	03 11 00.6	-0.2
SRBI	**Singaraja**	**4.33**	**74**	P	Pn	03 11 10.3	-0.1
PLAI	**Plampang**	**6.69**	**86**	P	Pn	03 11 42.1	-0.8

*ISCJB **31** 03:14:03.6±0.5, 41°.99N±0°.03×42°.30E±0°.04, h8km±7km, Error ellipse: s-maj=6.0km s-min=3.3km az=135.4*
*TIF **31** 03:14:04.2, 41°.95N×42°.29E, h21km±3km*
*DDA **31** 03:14:04.8, 41°.97N×41°.95E, h7km±2km, ML2.5*
*ISK **31** 03:14:04.3, 42°.13N×41°.78E, h7km, ML2.3/4*
*NORS **31** 03:14:05.3±0.0, 41°.93N×42°.42E, h2km, MPVA3.1*
*MOS **31** 03:14:05.4±0.0, 42°.00N×42°.33E, h5km, MPVA2.9*

ISC 31 03:14:05.1±1.2, 41°.94N±0°.03×42°.23E±0°.04, h15km±10km, n20, σ0°.51/36, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.52**	**230**	PG	**Pg**	**03 14 15.1**	**-0.3**
BATM				SG	**Sb**	**03 14 22.9**	**-0.3**
BATM	**Batumi**	**0.52**	**230**	P	**Pb**	**03 14 15.8**	**-0.1**
BATM				S	**Sb**	**03 14 24.2**	**+1.0**
BCA	**Borcka**	**0.67**	**223**	PG	**Pg**	**03 14 18.1**	**-0.1**
BCA				SG	**Sb**	**03 14 28.2**	**+0.7**
DBOC	**Borcka**	**0.72**	**215**	IAML_P			
	comp=Z,1μm,0.1s						
DBOC				*i* P	**Pg**	**03 14 19.0**	**-0.2**
ARTV	**Artvin**	**0.79**	**197**	IAML_P			
	comp=Z,2μm,0.2s						
ARTV				*i* P	**Pb**	**03 14 20.9**	**+0.3**
ARTV				*i* S	**Sb**	**03 14 31.9**	**+0.8**
DAGI	**Agillar**	**0.89**	**195**	IAML_P			
	comp=Z,216nm,0.1s						
DAGI				*i* P	**Pg**	**03 14 22.5**	**+0.1**
DAGI				*i* S	**Sn**	**03 14 35.3**	**-0.5**
DBAD	**Bademkaya**	**1.00**	**204**	*i* P	**Pn**	**03 14 24.6**	**-0.1**
DBAD				*i* S	**Sn**	**03 14 38.2**	**-0.4**
DDEM	**Demirkent**	**1.10**	**199**	*i* P	**Pn**	**03 14 26.0**	**-0.1**
DDEM				*i* S	**Sn**	**03 14 41.0**	**-0.1**
BGD	**Bogdanovka**	**1.23**	**123**	P	**Pn**	**03 14 27.3**	**-0.7**
NEY	**Neytrino**	**1.36**	**15**	*e* Pg	**Pn**	**03 14 29.6**	**-0.2**
NEY				*e* Sg	**Sn**	**03 14 47.9**	**+0.3**
CHOM	**Cayeli-Rize**	**1.38**	**233**	PN	**Pn**	**03 14 29.3**	**-0.6**
CHOM				SN	**Sn**	**03 14 47.4**	**-0.5**
DIGR	**Digorskoe uzhe**	**1.39**	**46**	*e* Pg	**Pn**	**03 14 29.4**	**-0.7**
DIGR				*e* Sg	**Sn**	**03 14 47.7**	**-0.6**
DOMR	**Dombai**	**1.42**	**342**	*e* Pg	**Pb**	**03 14 31.8**	**+0.4**
DOMR				*e* Sg	**Sg**	**03 14 51.5**	**+0.4**
ZEI	**Tsey**	**1.50**	**55**	*e* Pg	**Pb**	**03 14 32.8**	**-0.1**
ZEI				*e* Sg	**Sn**	**03 14 51.2**	**0.0**
ARXR	**Arkhyz**	**1.77**	**337**	*i* Pg	**Pb**	**03 14 37.3**	**0.0**
ARXR				*e* Sg	**Sg**	**03 15 01.5**	**-0.5**
LACR	**Lac**	**1.77**	**59**	*e* Pg	**Pb**	**03 14 37.0**	**-0.4**
LACR				*e* Sg	**Sb**	**03 14 59.3**	**-0.2**
KORR	**Kora**	**1.78**	**49**	*e* Pg	**Pb**	**03 14 38.0**	**+0.5**
KORR				*i* Sg	**Sb**	**03 15 00.5**	**+0.9**
LSNR	**Lesken**	**1.79**	**41**	*e* Pg	**Pn**	**03 14 36.4**	**+0.9**
LSNR				*e* Sg	**Sb**	**03 14 60.0**	**+0.2**
KOPR	**Koprukoy-ERZUR**	**1.96**	**188**	PN	**Pb**	**03 14 41.4**	**+0.7**
BAYT	**Aydintepe-Bayb**	**2.20**	**226**	PN	**Pn**	**03 14 40.9**	**-0.4**

*ISK **31** 03:27:11.8, 38°.34N×38°.90E, h5km, ML2.1/6*
*ISCJB **31** 03:27:12.3±0.8, 38°.33N±0°.03×38°.90E±0°.06, h3km±10km, Error ellipse: s-maj=7.6km s-min=5.3km az=12.8*
*DDA **31** 03:27:12.1, 38°.33N×38°.87E, h7km±1km, ML3.0*

ISC 31 03:27:12.5±1.1, 38°.33N±0°.03×38°.90E±0°.04, h11km±11km, n13, σ0°.79/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.18**	**23**	IAML_P			
	comp=Z,15μm,0.1s						
ELZG				*i* P	**Pg**	**03 27 16.8**	**+0.1**
PTK	**Pertek**	**0.69**	**35**	PG	**Pg**	**03 27 25.0**	**-0.9**
PTK				SG	**Sg**	**03 27 35.2**	**+0.3**
AKCD	**Akcadag**	**0.77**	**268**	IAML_P			
	comp=Z,3μm,0.1s						
AKCD				*i* P	**Pg**	**03 27 26.9**	**-0.4**
AKCD				*i* S	**Sb**	**03 27 38.2**	**-0.2**
URFA	**Urfa**	**0.89**	**184**	PG	**Pb**	**03 27 29.7**	**-0.3**
URFA				SG	**Sb**	**03 27 42.0**	**+0.2**
ATAB	**Bozova**	**0.98**	**209**	IAML_P			
	comp=Z,3μm,0.1s						
ATAB				*i* P	**Pg**	**03 27 31.0**	**-0.4**
KEMA	**Kemaliye**	**0.99**	**342**	*i* P	**Pb**	**03 27 31.6**	**-0.1**
KEMA				*i* S	**Sn**	**03 27 45.8**	**-0.8**
DARE	**Darende-Malaty**	**1.14**	**283**	PN	**Pg**	**03 27 33.4**	**-1.0**
SANL	**SANLIURFA_Merk**	**1.16**	**176**	IAML_P			
	comp=Z,1μm,0.1s						
SANL				*i* P	**Pn**	**03 27 36.0**	**+1.3**
HANI	**Diyarbakir_Han**	**1.19**	**85**	IAML_P			
	comp=Z,907nm,0.2s						
HANI				*i* P	**Pg**	**03 27 34.3**	**-1.1**
MAZI	**Mazidag**	**1.50**	**125**	PN	**Pg**	**03 27 40.8**	**-0.6**
GAZ	**Gaziantep**	**1.76**	**230**	PN	**Pb**	**03 27 44.3**	**-0.6**
KMRS	**Kahramanmaras**	**1.78**	**243**	PN	**Pb**	**03 27 44.9**	**-0.2**
SVSK	**Karacayir**	**2.17**	**318**	PN	**Pn**	**03 27 49.8**	**+1.3**

*ISK **31** 03:28:22.3, 38°.84N×43°.59E, h5km, ML2.2/10*
*DDA **31** 03:28:23.1, 38°.79N×43°.68E, h7km±4km, ML2.7*
*ISCJB **31** 03:28:24.6±0.6, 38°.88N±0°.04×43°.55E±0°.08, h18km±6km, Error ellipse: s-maj=11.2km s-min=5.2km az=32.6*

ISC 31 03:28:23.5±1.1, 38°.82N±0°.03×43°.65E±0°.04, h16km±9km, n16, σ0°.83/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.18**	**341**	*i* P	**Pg**	**03 28 28.2**	**+0.1**
VMUR				*i* S	**Sg**	**03 28 31.8**	**+0.6**
VANB	**Van**	**0.30**	**223**	PG	**Pb**	**03 28 30.6**	**0.0**
VANB				SG	**Sb**	**03 28 37.2**	**+1.8**
ERCV	**ERCIS-VAN**	**0.32**	**310**	PG	**Pg**	**03 28 29.5**	**-0.8**
TVAN	**Van**	**0.34**	**214**	IAML_P			
	comp=Z,5μm,0.1s						
TVAN				*i* P	**Pb**	**03 28 31.8**	**+0.3**
CLDR	**Caldiran**	**0.39**	**33**	PG	**Pg**	**03 28 30.9**	**-0.6**
CLDR	**Caldiran**	**0.39**	**33**	IAML_P			
	comp=Z,4μm,0.2s						
CLDR				*i* P	**Pb**	**03 28 31.7**	**-0.5**
CLDR				*i* S	**Sb**	**03 28 38.5**	**+0.5**
GEVA	**Gevas**	**0.69**	**223**	IAML_P			
	comp=Z,540nm,0.1s						
GEVA				*i* P	**Pb**	**03 28 36.8**	**-0.4**
AKDM	**Akdamar-Van**	**0.72**	**227**	PG	**Pg**	**03 28 36.9**	**-0.7**
AKDM				SG	**Sb**	**03 28 47.4**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.72**	**270**	IAML_P			
	comp=Z,343nm,0.1s						
ADCV				*i* P	**Pb**	**03 28 37.9**	**0.0**
TUTA	**Tutak**	**0.87**	**312**	IAML_P			
	comp=Z,1μm,0.2s						
TUTA				*i* P	**Pb**	**03 28 40.5**	**0.0**
AGRB	**Hanur-Agry**	**0.91**	**326**	PG	**Pg**	**03 28 40.0**	**-1.3**
MLAZ	**Malazgirt-MUS**	**0.92**	**291**	PG	**Pg**	**03 28 40.4**	**-0.9**
TASB	**TASBURUN-IGDIR**	**1.25**	**21**	PN	**Pn**	**03 28 47.4**	**+0.9**
GURO	**Guroymak-BITLI**	**1.29**	**259**	PN	**Pn**	**03 28 46.9**	**-0.2**
CUKT	**Cukurca**	**1.57**	**181**	PN	**Pg**	**03 28 52.7**	**-1.0**
GNI	**Garni**	**1.58**	**32**	PN	**Pg**	**03 28 52.9**	**-1.0**

*ISCJB **31** 03:33:41.9±1.1, 10°.66S±0°.02×166°.33E±0°.02, h7km±7km, mb5.9/375, MS6.1/736, Error ellipse: s-maj=3.4km s-min=3.0km az=157.9*
*IDC **31** 03:33:41.6±0.3, 10°.60S×166°.52E, h0km, mb5.2/31, mb1 5.3/33, mb1mx5.2/39, mbtmp5.2/33, ML2.8/1, MS5.7/29, Ms1 5.7/29, ms1mx5.5/39, Error ellipse: s-maj=14.7km s-min=10.6km az=93.0*
*BJI **31** 03:33:42.4, 10°.66S×166°.48E, h18km, mb5.7/79, mB6.3/83, Ms6.1/97, Ms7 5.8/77*
*NEIC **31** 03:33:43.7±0.1, 10°.64S×166°.37E, h9km, mb6.1/292, ME6.1, MS6.1/298, MW6.0, MW6.1, Error ellipse: s-maj=3.1km s-min=2.5km az=134.0, Moment Tensor Solution. s51 Moment tensor: Scale 10¹⁸Nm; Mrr=1.04; Mθθ=0.51; Mφφ=0.53; Mrθ=-0.05; Mθφ=-0.54; Mφr=0.21; Best double couple: M₀1.10000×10¹⁸ NP1:φs310.00000°, δ40.00000°, λ-99.00000°. NP2:φs141.00000°, δ50.00000°, λ-83.00000°. Principal axes: T 1.0700, Plg5.0000°, Azm226.0000°; N -0.0100, Plg6.0000°, Azm317.0000°; P -1.0700, Plg82.0000°, Azm95.0000°; Broadband fault plane solution: P waves. NP1:φs313.00000°, δ50.00000°, λ-94.00000°. NP2:φs140.00000°, δ40.00000°, λ-85.00000°. Principal axes: T Plg5.0000°, Azm46.0000°; N Plg0.0000°, Azm0.0000°; P Plg84.0000°, Azm194.0000°; Apparent Stress 0.55 MPa. Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
*MOS **31** 03:33:46.3±1.0, 10°.52S×166°.27E, h33km, mb6.1/87, MS6.0/69 Error ellipse: s-maj=6.2km s-min=5.4km az=107.4*
*GCMT **31** 03:33:47.7±0.1, 10°.64S×166°.48E, h12km, MW6.1/146, Moment Tensor Solution. s146,c325; s145,c527; Duration: 2ᵉ9 Moment tensor: Scale 10¹⁸Nm; Mrr=2.01±.01; Mθθ=0.69±.01; Mφφ=1.31±.01; Mrθ=-0.12±.03; Mθφ=-1.07±.01; Mφr=0.01±.03; Best double couple: M₀2.06600×10¹⁸ NP1:φs140.00000°, δ46.00000°, λ-94.00000°. NP2:φs326.00000°, δ44.00000°, λ-86.00000°. Principal axes: T 2.1160, Plg1.0000°, Azm233.0000°; N -0.1080, Plg3.0000°, Azm143.0000°; P -2.0160, Plg87.0000°, Azm346.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **31** 03:33:49.0±0.0, 10°.27S×166°.27E, h15km, Moment Tensor Solution. s52 Moment tensor: Scale 10¹⁸Nm; Mrr=1.41; Mθθ=0.37; Mφφ=1.03; Mrθ=0.19; Mθφ=-0.97; Mφr=0.31; Best double couple: M₀1.60000×10¹⁸ NP1:φs159.00000°, δ50.00000°, λ-69.00000°. NP2:φs309.00000°, δ44.00000°, λ-112.00000°. Principal axes: T 1.7400, Plg2.0000°, Azm234.0000°; N -0.2300, Plg15.0000°, Azm325.0000°; P -1.5100, Plg74.0000°, Azm135.0000°:*

ISC 31 03:33:45.3±0.4, 10°.64S±0°.03×166°.54E±0°.03, h22km±2km, h23km: pP-P, n1626, σ1°.48/1297, mb6.0/386, MS6.1/741, 48C-56D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.61**	**280**	Pn	**Pn**	**03 35 22.3**	**+1.2**
	66nm,0.3s,baz=90,slow=0.6,SNR=16						
HNR				Sn	**Sn**	**03 36 41.9**	**+6.1**
	25nm,0.3s,baz=108,slow=20,SNR=1.4						
HNR	**Honiara**	**6.61**	**280**	*e*Pn	**Pn**	**03 35 20.7**	**-0.4**
HNR				*e*Sn	**Sn**	**03 36 35.9**	**+0.1**
HNR	**Honiara**	**6.61**	**280**	*e*P	**Pn**	**03 35 20.7**	**-0.4**
HNR				*e*		03 36 35.9	
MARNC	**Mare, Loyalty**	**10.88**	**173**	*e*Pn	**Pn**	**03 36 21.0**	**+1.3**
MARNC				*e*Sn	**Sn**	**03 38 23.4**	**+2.6**
DZM	**Mont Dzumac**	**11.37**	**180**	Pn	**Pn**	**03 36 27.9**	**+1.4**
	5.1nm,0.3s,baz=19,slow=16,SNR=32						
DZM				Sn	**Sn**	**03 38 33.4**	**+0.4**
	0.9nm,0.3s,baz=300,slow=20,SNR=2.3						
DZM				LR	LR	03 39 16.9	
	comp=Z,8μm,21.8s,baz=12,slow=29						
DZM	**Mont Dzumac**	**11.37**	**180**	*e*Pn	**Pn**	**03 36 26.0**	**-0.5**
	953nm,1.4s						
DZM				*e*LR	LR	03 39 05.2	
	comp=Z,191μm,27.3s						
OUENC	**Ouen Island, N**	**11.72**	**179**	*e*Pn	**Pn**	**03 36 33.7**	**+2.5**
OUENC				*e*Sn	**Sn**	**03 38 45.1**	**+3.7**
PINNC	**Pines Island,**	**11.94**	**176**	*e*Pn	**Pn**	**03 36 37.1**	**+2.8**
FUNA	**Funafuti**	**12.65**	**82**	*e*Pn	**Pn**	**03 36 48.1**	**+4.0**
MSVF	**Nonsavu**	**13.20**	**124**	*e*Pn	**P**	**03 36 58.5**	**-2.8**
MSVF	**Nonsavu**	**13.20**	**124**	↑*e*P	**Pn**	**03 36 55.6**	**+4.1**
TARA	**Tarawa**	**13.50**	**28**	*e*Pn	**Pn**	**03 36 53.2**	**-2.5**
TARA				*e*Sn	**Sn**	**03 39 17.9**	**-7.2**
RABL	**Rabaul**	**15.62**	**293**	*e*Pn	**Pn**	**03 37 23.0**	**-1.3**
	733nm,1.4s						
PMG	**Port Moresby**	**19.13**	**272**	P	**P**	**03 38 07.2**	**+0.2**
	0.8nm,0.3s,baz=70,slow=3.5,SNR=5.5						
PMG				LR	LR	03 45 14.1	
	comp=Z,91μm,19.4s,baz=122,slow=36						
PATS	**Pohnpei**	**19.20**	**334**	*e*P	**P**	**03 38 07.6**	**-0.1**
	764nm,1.2s						
KWAJ	**Kwajalein Atol**	**19.34**	**3**	*e*P	**P**	**03 38 09.7**	**+0.4**
	2μm,1.4s						
KWAJ	**Kwajalein Atol**	**19.34**	**3**	*e*P	**P**	**03 38 09.7**	**+0.4**
KWAJ				pmax	pmax		
	comp=Z,2μm,1.4s						
EIDS	**Eidsvold**	**20.72**	**223**	P	Pn	03 38 26.2	-0.6
	baz=21,SNR=19						
EIDS	**Eidsvold**	**20.72**	**223**	*e*P	Pn	03 38 25.9	-0.9
	comp=Z,602nm,1.1s						
EIDS				LR	LR		
	comp=Z,46μm,20.0s						
MANU	**Manus Island**	**20.87**	**293**	*e*P	**P**	**03 38 26.8**	**+0.8**
	comp=Z,5μm,1.8s						
MANU				LR	LR		
	comp=Z,50μm,18.0s						
CTA	**Charters Tower**	**21.68**	**242**	P	**P**	**03 38 35.4**	**+0.6**
	comp=Z,50nm,0.8s,baz=67,slow=12,SNR=68						
CTA				LR	LR	03 45 56.1	
	comp=Z,66μm,19.2s,baz=66,slow=34						
CTAO	**Charters Tower**	**21.68**	**242**	*e*P	**P**	**03 38 34.8**	**+0.1**
	comp=Z,533nm,1.3s						
CTAO				LR	LR		
	comp=Z,67μm,20.0s						
CTAO	**Charters Tower**	**21.68**	**242**	*e*P	**P**	**03 38 34.8**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,533nm,1.3s						
CTAO				MLR	MLR		
	comp=Z,67μm,20.0s						
LHI	**Lord Howe Isla**	**21.91**	**197**	P	**P**	**03 38 38.7**	**+1.7**
	baz=22						
LHI	**Lord Howe Isla**	**21.91**	**197**	*e*P	**P**	**03 38 37.0**	**0.0**
	comp=Z,628nm,1.1s						
LHI				LR	LR		
	comp=Z,45μm,21.0s						
MTSU	**Mount Surprise**	**22.77**	**248**	P	**P**	**03 38 46.4**	**+0.1**
	baz=23,SNR=93						
KNTN	**Kanton**	**22.94**	**72**	*e*P	**P**	**03 38 49.2**	**+0.9**
	comp=Z,2μm,1.6s						
KNTN				LR	LR		
	comp=Z,48μm,19.0s						
RMQ	**Roma**	**23.03**	**224**	P	**P**	**03

H11N1 **WAKE ISLAND Hy 30.16 1** T T 04 11 10.7
baz=182,slow=76,SNR=722
H11N3 **WAKE ISLAND Hy 30.17 1** T T 04 11 10.6
baz=182,slow=76,SNR=687
H11N2 **WAKE ISLAND Hy 30.18 1** T T 04 11 12.1
baz=182,slow=76,SNR=756
BFZ Birch Farm 31.13 166 *e*P **P 03 39 59.5 -2.8**
BFZ comp=Z,136nm,1.1s LR LR
comp=Z,31µm,19.0s
STKA Stephens Creek 31.27 224 P **P 03 40 04.1 +0.4**
comp=Z,23nm,0.8s,baz=43,slow=9.1,SNR=25
STKA PcP **PcP 03 42 57.6 -0.3**
comp=Z,26nm,0.9s,baz=15,slow=4.4,SNR=4.8
STKA LR LR 03 52 10.9
comp=Z,61µm,19.1s,baz=49,slow=36
STKA Stephens Creek 31.27 224 P **P 03 40 04.6 +0.9**
baz=31,SNR=19
STKA Stephens Creek 31.27 224 *e*P **P 03 40 03.3 -0.4**
comp=Z,27nm,1.3s
STKA *e*PcP **PcP 03 42 57.6 -0.3**
STKA LR LR
comp=Z,12µm,20.0s
STKA Stephens Creek 31.27 224 *e*P **P 03 40 03.3 -0.4**
STKA *e* 03 42 57.6
STKA pmax pmax
comp=Z,27nm,1.3s
STKA MLR MLR
comp=Z,12µm,20.0s
SNZO South Karori 31.39 168 *e*P **P 03 40 03.9 -0.6**
comp=Z,176nm,1.1s
SNZO LR LR
comp=Z,31µm,18.0s
THZ Tophouse 31.50 171 *e*P **P 03 40 05.2 -0.4**
comp=Z,390nm,1.5s
THZ LR LR
comp=Z,14µm,22.0s
WR0 Warramunga Arr 32.18 249 PFAKE 03 40 20.0 +8.2
WR0 LR LR
comp=Z,45µm,18.0s
WR9 Warramunga Arr 32.20 249 PFAKE 03 40 20.0 +8.0
WR9 LR LR
comp=Z,43µm,19.0s
WR8 Warramunga Arr 32.21 249 PFAKE 03 40 20.0 +7.9
WR8 LR LR
comp=Z,46µm,18.0s
WR7 Warramunga Arr 32.23 249 PFAKE 03 40 20.0 +7.7
WR7 LR LR
comp=Z,45µm,18.0s
KHZ Kahutara 32.24 170 *e*P **P 03 40 10.9 -1.1**
comp=Z,182nm,1.3s
KHZ LR LR
comp=Z,14µm,18.0s
WR6 Warramunga Arr 32.25 249 PFAKE 03 40 20.0 +7.5
WR6 LR LR
comp=Z,45µm,18.0s
WB0 Warramunga Arr 32.27 250 PFAKE 03 40 20.0 +7.3
WB0 LR LR
comp=Z,38µm,18.0s
WR5 Warramunga Arr 32.27 249 PFAKE 03 40 20.0 +7.3
WR5 LR LR
comp=Z,45µm,18.0s
GUMO Guam 32.28 318 LR LR 03 51 59.3
comp=Z,8µm,21.4s,baz=148,slow=34
GUMO Guam 32.28 318 PFAKE 03 40 20.0 +7.4
GUMO LR LR
comp=Z,11µm,20.0s
WB9 Warramunga Arr 32.29 250 PFAKE 03 40 20.0 +7.2
WB9 LR LR
comp=Z,98µm,18.0s
WB8 Warramunga Arr 32.29 250 PFAKE 03 40 20.0 +7.2
WB8 LR LR
comp=Z,48µm,18.0s
WR4 Warramunga Arr 32.30 249 PFAKE 03 40 20.0 +7.1
WR4 LR LR
comp=Z,46µm,19.0s
WB6 Warramunga Arr 32.31 250 PFAKE 03 40 20.0 +7.0
WB6 LR LR
comp=Z,47µm,18.0s
WR3 Warramunga Arr 32.31 249 PFAKE 03 40 20.0 +7.0
WR3 LR LR
comp=Z,47µm,18.0s
WB5 Warramunga Arr 32.32 250 PFAKE 03 40 20.0 +6.9
WB5 LR LR
comp=Z,47µm,18.0s
WC2 Warramunga Arr 32.33 250 PFAKE 03 40 20.0 +6.8
WC2 LR LR
comp=Z,53µm,19.0s
WB4 Warramunga Arr 32.33 250 PFAKE 03 40 20.0 +6.8
WB4 LR LR
comp=Z,47µm,19.0s
WC3 Warramunga Arr 32.33 249 PFAKE 03 40 20.0 +6.8
WC3 LR LR
comp=Z,48µm,18.0s
WR2 Warramunga Arr 32.34 249 PFAKE 03 40 20.0 +6.8
WR2 LR LR
comp=Z,46µm,18.0s
WB3 Warramunga Arr 32.34 250 PFAKE 03 40 20.0 +6.8
WB3 LR LR
comp=Z,48µm,18.0s
WB2 Warramunga Arr 32.35 250 *e*P **P 03 40 12.0 -1.3**
comp=Z,276nm,1.3s
WB2 LR LR
comp=Z,54µm,18.0s
WRAB Tennant Creek 32.35 250 *e*P **P 03 40 12.1 -1.2**
comp=Z,314nm,1.3s
WRAB LR LR
comp=Z,52µm,18.0s
WRAB Tennant Creek 32.35 250 *d i*P **P 03 40 12.1 -1.2**
WRAB pmax pmax
comp=Z,273nm,1.4s
WC1 Warramunga Arr 32.35 250 PFAKE 03 40 20.0 +6.6
WC1 LR LR
comp=Z,37µm,18.0s
WR1 Warramunga Arr 32.36 250 *e*P **P 03 40 12.3 -1.1**
comp=Z,248nm,1.1s
WR1 *e*PcP **PcP 03 43 01.1 0.0**
WR1 LR LR
comp=Z,50µm,19.0s
WRA Warramunga Arr 32.36 250 P **P 03 40 12.3 -1.1**
comp=Z,41nm,0.8s,baz=81,slow=8.9,SNR=150
WRA PcP **PcP 03 43 01.1 0.0**
comp=Z,13nm,0.7s,baz=76,slow=3.3,SNR=9.1
WRA PKiKP **PKiKP 03 50 27.0 -1.9**
comp=Z,2.0nm,0.9s,baz=3.2,slow=0.5,SNR=9.8
WRA LR LR 03 53 26.0
comp=Z,49µm,18.1s,baz=80,slow=37
WC4 Warramunga Arr 32.36 249 PFAKE 03 40 20.0 +6.6
WC4 LR LR
comp=Z,49µm,19.0s
LTZ Lake Taylor 32.41 172 *e*P **P 03 40 13.7 +0.1**
comp=Z,210nm,1.2s
LTZ LR LR
comp=Z,12µm,21.0s
TOO Toolangi 32.83 212 P **P 03 40 18.1 +0.8**
baz=33,SNR=13
TOO Toolangi 32.83 212 *e*P **P 03 40 17.2 -0.1**
comp=Z,78nm,1.0s
TOO LR LR
comp=Z,32µm,19.0s
TOO Toolangi 32.83 212 *e*P **P 03 40 17.2 -0.1**
TOO pmax pmax
comp=Z,78nm,1.0s
TOO MLR MLR
comp=Z,32µm,19.0s
FOZ Fox Glacier 32.90 176 *e*P **P 03 40 18.3 +0.6**
comp=Z,197nm,1.0s
FOZ LR LR
comp=Z,18µm,20.0s
OXZ Oxford 32.91 173 *e*P **P 03 40 18.2 +0.2**
comp=Z,612nm,1.5s
RPZ Rata Peaks 33.19 174 P **P 03 40 20.0 -0.3**
comp=Z,277nm,1.2s,baz=346,slow=5.9,SNR=34
RPZ Rata Peaks 33.19 174 *e*P **P 03 40 20.1 -0.3**
RPZ LR LR
comp=Z,25µm,19.0s
CRLZ Canterbury Las 33.24 172 *e*P **P 03 40 19.2 -1.6**
comp=Z,815nm,1.5s
CRLZ LR LR
comp=Z,12µm,22.0s
MQZ McQueen's Vall 33.37 172 *e*P **P 03 40 21.7 -0.2**
comp=Z,276nm,1.2s
MQZ LR LR
comp=Z,9µm,20.0s
KDU Kakadu 33.41 263 P **P 03 40 20.7 -2.0**
baz=33,SNR=9.6
AS01 Alice Springs 33.63 243 *e*P **P 03 40 22.1 -2.5**
AS01 *e*PcP **PcP 03 43 04.0 -0.5**
AS31 Alice Springs 33.67 243 *e*P **P 03 40 23.7 -1.2**
comp=Z,18nm,0.8s
AS31 *e*PcP **PcP 03 43 04.3 -0.4**
AS31 LR LR
comp=Z,500nm,20.0s
ASAR Alice Springs 33.67 243 P **P 03 40 23.4 -1.5**
comp=Z,58nm,0.8s,baz=73,slow=9.3,SNR=324
ASAR PcP **PcP 03 43 04.3 -0.4**
comp=Z,19nm,0.8s,baz=62,slow=2.5,SNR=13
ASAR PKiKP **PKiKP 03 50 28.0 -1.8**
comp=Z,1.0nm,1.0s,baz=48,slow=1.4,SNR=4.3
ASAR LR LR 03 53 12.2
comp=Z,42µm,20.0s,baz=76,slow=35
LBZ Lake Benmore 33.77 175 *e*P **P 03 40 25.0 -0.4**
comp=Z,185nm,1.3s
LBZ LR LR
comp=Z,22µm,22.0s
RAR Rarotonga 33.98 112 PFAKE
RAR LR LR 03 40 40.0 +12
comp=Z,18µm,21.0s
HTT Hallett 34.01 224 P **P 03 40 28.1 +0.4**
baz=34,SNR=10
SARN Sarigan 34.05 323 *e*P P 03 40 33.7 +5.6
comp=Z,314nm,1.4s
WKZ Wanaka 34.13 177 *e*P **P 03 40 28.6 0.0**
comp=Z,425nm,1.3s
WKZ LR LR
comp=Z,15µm,19.0s
ARPS Mount Arapiles 34.27 217 P **P 03 40 30.5 +0.7**
baz=34,SNR=7.3
ODZ Otahua Downs 34.47 175 *e*P **P 03 40 31.0 -0.4**
comp=Z,272nm,1.4s
ODZ LR LR
comp=Z,20µm,18.0s
MLZ Mavora Lakes 34.63 178 *e*P **P 03 40 33.5 +0.6**
comp=Z,159nm,1.3s
MLZ LR LR
comp=Z,14µm,20.0s
DCZ Deep Cove 34.71 179 *e*P **P 03 40 34.4 +1.0**
comp=Z,164nm,1.3s
DCZ LR LR
comp=Z,14µm,18.0s
SAUI Saumlaki 34.87 271 PFAKE
SAUI LR LR 03 40 50.0 +15
comp=Z,13µm,19.0s
FAKI Fak Fak 34.88 280 PFAKE
FAKI LR LR 03 40 50.0 +15
comp=Z,26µm,22.0s
WHZ Wether Hill Ro 35.15 178 *e*P **P 03 40 37.4 0.0**
comp=Z,153nm,1.4s
WHZ LR LR
comp=Z,18µm,19.0s
PYZ Puysegur Point 35.41 180 PFAKE
PYZ LR LR 03 40 50.0 +10
comp=Z,13µm,20.0s
BBOO Buckleboo 35.68 227 P **P 03 40 42.0 0.0**
baz=36,SNR=17
BBOO Buckleboo 35.68 227 *e*P **P 03 40 42.1 0.0**
comp=Z,96nm,0.9s
BBOO LR LR
comp=Z,46µm,18.0s
MOO Moorlands 35.92 205 P **P 03 40 45.0 +1.0**
baz=36,SNR=6.1
JOHN Johnston Islan 36.05 41 PFAKE 03 41 00.0 +15
JOHN LR LR
comp=Z,26µm,20.0s
TAU Tasmania Unive 36.26 204 *e*P **P 03 40 47.6 +0.8**
comp=Z,96nm,1.1s
TAU Tasmania Unive 36.26 204 *e*P **P 03 40 47.6 +0.8**
TAU pmax pmax
comp=Z,96nm,1.1s
BNDI Bandanaira 36.80 277 P **P 03 40 53.0 +1.1**
comp=Z,813nm,1.4s,comp=Z,14µm
KNRA Kununurra 37.09 258 P **P 03 40 53.5 -0.8**
baz=37,SNR=26
XMAS Kiritimati 37.98 73 PFAKE
XMAS LR LR 03 41 20.0 +18
comp=Z,27µm,22.0s
WRKA Warakurna 38.97 243 P **P 03 41 09.1 -1.0**
baz=39,SNR=37
NLAI Namlea 39.80 278 P **P 03 41 18.3 +1.1**
comp=Z,208nm,2.0s,comp=Z,7µm
FITZ Fitzroy Crossi 40.24 255 P **P 03 41 19.4 -1.3**
baz=40,SNR=276
FITZ Fitzroy Crossi 40.24 255 *e*P **P 03 41 19.3 -1.5**
comp=Z,101nm,0.8s
TNTI Ternate 40.58 284 PFAKE
TNTI LR LR 03 41 30.0 +6.4
comp=Z,8µm,21.0s
TNTI Ternate 40.58 284 P **P 03 41 23.2 -0.4**
FORT Forrest 40.92 235 P **P 03 41 26.1 -0.1**
baz=41,SNR=8.9
FORT Forrest 40.92 235 *e*P **P 03 41 26.1 -0.1**
comp=Z,251nm,1.1s
FORT LR LR
comp=Z,31µm,21.0s
SANI Sanana 41.15 279 P **P 03 41 28.0 -0.4**
comp=Z,89nm,1.4s,comp=Z,6µm
SOEI Soe 41.59 267 *e*P **P 03 41 31.7 -0.5**
comp=Z,292nm,1.4s
SOEI LR LR
comp=Z,14µm,19.0s
SOEI Soe 41.59 267 P **P 03 41 31.5 -0.6**
comp=Z,150nm,2.6s,comp=Z,6µm
MIDW Midway 41.64 22 PFAKE 03 41 40.0 +7.9
MIDW LR LR
comp=Z,16µm,20.0s
BATI Baumata 42.15 267 P **P 03 41 36.9 +0.3**
comp=Z,110nm,0.9s,comp=Z,3µm
PPT Papeete 43.04 104 LR LR 03 56 38.6
comp=Z,17µm,18.0s,baz=270,slow=32
PPT2 Papeete2 43.04 104 *e*P **P 03 41 43.8 0.0**
comp=Z,91nm,1.3s
PPT2 *e*S **S 03 48 06.5 -2.1**
comp=Z,9µm,25.8s
PPT2 *e*LQ LQ 03 51 43.1
comp=Z,52µm,30.5s
PPT2 *e*LR LR 03 53 33.5
comp=Z,49µm,27.0s,baz=279
PAE Paea 43.04 104 *e*P **P 03 41 43.5 -0.2**
comp=Z,10nm,1.3s
PPTF Pamatai, Papee 43.05 104 PFAKE 03 42 00.0 +16
PPTF LR LR
comp=Z,20µm,19.0s
TIAR Tiarei 43.25 104 *e*P **P 03 41 45.6 +0.1**
comp=Z,28nm,1.3s
TVO Taravao 43.36 105 *e*P **P 03 41 46.3 0.0**
comp=Z,28nm,1.3s
MMRI Maumere 43.70 269 *e*P **P 03 41 47.9 -1.2**
comp=Z,906nm,1.7s
MMRI LR LR
comp=Z,7µm,19.0s
MMRI Maumere 43.70 269 P **P 03 41 47.5 -1.6**
TBI Tubuai 43.76 113 *e*P **P 03 41 50.2 +0.7**
comp=Z,236nm,1.0s
TBI *e*S **S 03 48 18.6 -0.4**
comp=Z,9µm,26.8s
TBI *e*LQ LQ 03 52 03.5
comp=Z,47µm,31.2s
TBI *e*LR LR 03 53 53.9
comp=Z,45µm,29.8s,baz=286
BBSI Bau Bau 43.80 273 P **P 03 41 49.9 -0.1**
comp=Z,39nm,2.4s,comp=Z,1µm
MCQ Macquarie Isla 44.16 186 PFAKE
MCQ LR LR 03 42 00.0 +7.8
comp=Z,10µm,19.0s
EDFI Ende, Flores 44.22 268 P **P 03 41 51.5 -1.9**
comp=Z,89nm,1.5s,comp=Z,5µm
DAV Davao City (W) 44.41 292 ||*i*P **P 03 41 53.9 -0.9**
LUWI Luwuk 44.52 279 P P 03 42 03.5 +7.9
PMOR Pomariorio Ree 44.58 101 *e*P **P 03 41 56.2 +0.1**
comp=Z,289nm,1.3s
KCP Kidapawan 44.84 291 ⇑*i*P **P 03 41 58.6 +0.4**
VAH Vaihoa 44.84 101 *e*P **P 03 41 58.0 -0.2**
comp=Z,282nm,1.4s
MBWA Marble Bar 46.07 251 *e*P **P 03 42 07.8 -0.1**
comp=Z,345nm,1.4s
MBWA LR LR
comp=Z,25µm,18.0s
MBWA Marble Bar 46.07 251 P **P 03 42 06.7 -1.2**
SNR=17
BKSI Bulukumba 46.24 273 P **P 03 42 08.3 -1.0**
KEKH Kekaha 46.34 45 *e*P P 03 42 16.1 +6.2
comp=Z,203nm,1.1s
KEKH LR LR
comp=Z,19µm,22.0s
BNSI Bone 46.41 274 P **P 03 42 10.5 -0.2**
comp=Z,149nm,1.4s,comp=Z,4µm
SPSI Sidrap Palu 46.82 275 P **P 03 42 12.6 -1.3**
HON Honolulu 47.13 48 PFAKE 03 42 30.0 +14
HON LR LR
comp=Z,21µm,22.0s
KIP Kipapa 47.19 47 *e*P **P 03 42 18.2 +1.6**
comp=Z,340nm,1.4s
KIP LR LR
comp=Z,18µm,22.0s
KIP Kipapa 47.19 47⇑ *e*P **P 03 42 18.2 +1.6**
KIP pmax pmax
comp=Z,305nm,2.5s
OPA Opana 47.36 47 *e*P **P 03 42 19.5 +1.6**
comp=Z,430nm,1.0s
OPA LR LR
comp=Z,17µm,20.0s
OPA Opana 47.36 47 *e*P **P 03 42 19.5 +1.6**
OPA pmax pmax
comp=Z,430nm,1.0s
OPA MLR MLR
comp=Z,17µm,20.0s
PCI Palu 47.40 279 P **P 03 42 19.7 +1.3**
comp=Z,238nm,1.3s,comp=Z,7µm
KHLU Kahalu`u 47.66 51 PFAKE 03 42 30.0 +10
KHLU LR LR
comp=Z,18µm,20.0s
KHU Kahuku 47.67 52 *e*P P 03 42 25.5 +4.8
comp=Z,962nm,1.8s
KHU LR LR
comp=Z,18µm,21.0s
KHU Kahuku 47.67 52 *e*P P 03 42 25.5 +4.8
KHU pmax pmax
comp=Z,962nm,1.8s
KHU MLR MLR
comp=Z,18µm,21.0s
HUH Hualalai 47.76 51 PFAKE 03 42 30.0 +8.6
HUH LR LR
comp=Z,20µm,20.0s
MWH Moku'aweowe 47.83 51 PFAKE 03 42 40.0 +18
MWH LR LR
comp=Z,18µm,20.0s
MEEK Meekatharra 47.83 244 P **P 03 42 21.4 -0.3**
baz=48,SNR=77
AIN Ainahou 47.87 52 PFAKE 03 42 40.0 +18
AIN LR LR
comp=Z,21µm,21.0s
MLOA Mauna Loa Obse 47.87 51 PFAKE 03 42 40.0 +18
MLOA LR LR
comp=Z,19µm,21.0s
HLP Hilina Pali 47.94 52 PFAKE 03 42 40.0 +17
HLP LR LR
comp=Z,23µm,21.0s
HMH Humu'ula Sheep 47.98 51 *e*P **P 03 42 25.4 +2.3**
comp=Z,459nm,1.3s
HMH LR LR
comp=Z,22µm,20.0s
MLH Mauna Loa 47.99 52 PFAKE 03 42 40.0 +17
MLH LR LR
comp=Z,19µm,21.0s
SDHHI Sand Hill 48.00 52 PFAKE 03 42 40.0 +17
SDHHI LR LR
comp=Z,18µm,20.0s
WRMHI West Rim 48.01 52 PFAKE 03 42 40.0 +17
WRMHI LR LR
comp=Z,18µm,20.0s
RIM Rim 48.02 52 PFAKE 03 42 40.0 +17
RIM LR LR
comp=Z,18µm,20.0s
UWE Uwekahuna 48.02 52 PFAKE 03 42 40.0 +17
UWE LR LR
comp=Z,16µm,20.0s
NPH North Pit 48.03 52 PFAKE 03 42 40.0 +17
NPH LR LR
comp=Z,16µm,20.0s
OBL Observatory Le 48.03 52 PFAKE 03 42 40.0 +17
OBL LR LR
comp=Z,17µm,20.0s
KKO Keanakako`i 48.03 52 PFAKE 03 42 40.0 +17
KKO LR LR
comp=Z,18µm,20.0s
KHLH Kahului Airpor 48.03 49 *e*P **P 03 42 26.6 +3.5**
comp=Z,824nm,1.7s
KHLH LR LR
comp=Z,15µm,19.0s
POHA Pohakuloa 48.03 51 *e*P **P 03 42 25.0 +1.5**
comp=Z,235nm,1.1s
POHA LR LR
comp=Z,19µm,20.0s
UWB Uwekahuna B 48.04 52 PFAKE 03 42 40.0 +17
UWB LR LR
comp=Z,20µm,21.0s
BYL Byron's Ledge 48.04 52 PFAKE 03 42 40.0 +17
BYL LR LR
comp=Z,17µm,20.0s
SBLHI Steaming Bluff 48.05 52 PFAKE 03 42 40.0 +17
SBLHI LR LR
comp=Z,17µm,20.0s
HATHI Halema'uma'u T 48.05 52 PFAKE 03 42 40.0 +17
HATHI LR LR
comp=Z,19µm,21.0s
PUH Pauahi 48.05 52 PFAKE 03 42 40.0 +17
PUH LR LR
comp=Z,18µm,21.0s
PLAI Plampang 48.06 268 P **P 03 42 21.7 -1.8**
HPAH Hawaii Prepara 48.06 51 *e*P **P 03 42 25.3 +1.8**
comp=Z,137nm,0.9s
HPAH LR LR
comp=Z,16µm,20.0s
HLK Haleakala 48.08 50 PFAKE 03 42 40.0 +16
HLK LR LR
comp=Z,12µm,20.0s
STCH Steam Cracks 48.13 52 PFAKE 03 42 40.0 +16
STCH LR LR
comp=Z,19µm,22.0s
NPOC North of Pu'u 48.15 52 PFAKE 03 42 40.0 +16
NPOC LR LR
comp=Z,18µm,21.0s
JCUZ Jacuzzi 48.15 52 PFAKE 03 42 40.0 +16
JCUZ LR LR
comp=Z,19µm,21.0s
RCP Roxas 48.79 296⇑ *e*P **P 03 42 30.3 +1.2**
KLBR Kellerberrin 49.59 237 P **P 03 42 34.5 -0.6**
baz=50,SNR=17
GQP Guinayangan 50.08 298 *e*P **P 03 42 38.9 0.0**
BLDU Ballidu 50.24 239 P **P 03 42 39.6 -0.5**
baz=50,SNR=12
NWAO Narrogin (SRO) 50.34 236 P **P 03 42 40.5 -0.2**
baz=50,SNR=16
NWAO Narrogin (SRO) 50.34 236 *e*P **P 03 42 40.5 -0.2**
comp=Z,252nm,1.1s
NWAO LR LR
comp=Z,84µm,18.0s
NWAO Narrogin (SRO) 50.34 236 *e*P **P 03 42 40.5 -0.2**
NWAO pmax pmax
comp=Z,252nm,1.1s
NWAO MLR MLR
comp=Z,84µm,18.0s
NWAO Narrogin (SRO) 50.34 236 P **P 03 42 40.0 -0.7**
SNR=8.7
MORW Morawa 50.50 241 P **P 03 42 42.0 0.0**
baz=50,SNR=12
MORW Morawa 50.50 241 *e*P **P 03 42 42.2 +0.1**
comp=Z,287nm,1.1s
MUN Mundaring 50.96 237 P **P 03 42 45.6 +0.2**
baz=51,SNR=14
RKGY Rocky Gully 50.98 234 P **P 03 42 45.9 +0.3**
baz=51,SNR=6.7
GIRL Giralia 51.28 250 P **P 03 42 49.0 +1.0**
baz=51,SNR=3.8
GIRL Giralia 51.28 250 *e*P **P 03 42 49.3 +1.3**
comp=Z,984nm,1.5s
GIRL LR LR
comp=Z,17µm,19.0s
JAGI Jajag, Banyuwa 51.66 268 *e*P **P 03 42 47.5 -3.4**
comp=Z,84nm,0.9s
JAGI LR LR
comp=Z,6µm,22.0s
TAOE Nuku Hiva Isla 52.52 93 *e*P **P 03 42 57.9 +0.5**
comp=Z,307nm,1.4s
TAOE *e*S **S 03 50 21.0 -2.4**
comp=Z,10µm,25.4s
TAOE *e*LQ LQ 03 55 44.8
comp=Z,13µm,24.2s
TAOE *e*LR LR 03 57 51.2
comp=Z,27µm,29.2s,baz=271
TAOE Nuku Hiva Isla 52.52 93 PFAKE 03 43 10.0 +13

TAOE LR LR
comp=Z,10μm,21.0s
JOW Kunigami 52.60 316 *e*P **P 03 42 58.6 +0.9**
comp=Z,131nm,1.1s
KKM Kota Kinabalu 52.77 286 *e*P **P 03 42 58.2 -1.1**
comp=Z,328nm,1.7s
KKM Kota Kinabalu 52.77 286 P **P 03 42 59.1 -0.3**
INU Inuyama 53.59 330 *e*P **P 03 43 04.8 0.0**
comp=Z,622nm,1.8s
INU LR LR
comp=Z,5μm,18.0s
MJAR Matsushiro Arr 53.98 332 P **P 03 43 06.4 -1.2**
comp=Z,20nm,0.8s,baz=170,slow=9.2,SNR=38
MAJO Matsushiro 53.98 332 *e*P **P 03 43 06.8 -0.8**
comp=Z,319nm,1.6s
MAJO LR LR
comp=Z,4μm,19.0s
MAJO Matsushiro 53.98 332*d i*P **P 03 43 06.9 -0.8**
MAJO pmax pmax
comp=Z,223nm,1.6s
MAT Matsushiro 53.98 332 P **P 03 43 06.5 -1.2**
MAT S **S 03 50 44.4 +2.1**
MJB9 Matsu-Tunnel 53.98 332 *e*P **P 03 43 07.1 -0.6**
comp=Z,313nm,1.6s
MJB9 LR LR
comp=Z,5μm,20.0s
YOJ Yonaguni jima 54.97 310 *e*P **P 03 43 15.0 -0.1**
comp=Z,150nm,1.0s
YOJ LR LR
comp=Z,6μm,20.0s
YOJ Yonaguni jima 54.97 310 *e*P **P 03 43 15.0 -0.1**
YOJ pmax pmax
comp=Z,150nm,1.0s
YOJ MLR MLR
comp=Z,6μm,20.0s
JNU Nakatsue 55.22 323 P **P 03 43 15.5 -1.2**
comp=Z,73nm,0.8s,baz=96,slow=4.3,SNR=46
JNU Nakatsue 55.22 323 *e*P **P 03 43 16.2 -0.6**
comp=Z,1μm,1.9s
JNU LR LR
comp=Z,4μm,20.0s
UGM Wanagama 55.30 268 PFAKE 03 43 30.0 +12
UGM LR LR
comp=Z,4μm,20.0s
SMRI Semarang 55.49 269 PFAKE 03 43 30.0 +11
SMRI LR LR
comp=Z,4μm,21.0s
TWG Pinlang 55.57 307 PFAKE 03 43 30.0 +11
TWG LR LR
comp=Z,21μm,21.0s
SBUM Sibu 55.60 280 *e*P **P 03 43 21.3 +1.5**
comp=Z,84nm,2.0s
SBUM Sibu 55.60 280 P **P 03 43 19.7 -0.1**
YULB Yu-li 55.70 308 *e*P **P 03 43 19.3 -1.1**
comp=Z,128nm,1.3s
YULB LR LR
comp=Z,7μm,20.0s
NACB Ninganchiao 55.89 309 *e*P **P 03 43 21.7 0.0**
comp=Z,132nm,1.0s
NACB LR LR
comp=Z,7μm,22.0s
TPUB Ta-pu 56.17 307 *e*P **P 03 43 23.1 -0.7**
comp=Z,136nm,1.1s
TPUB LR LR
comp=Z,5μm,20.0s
SSLB Suanglung 56.18 308 *e*P **P 03 43 23.0 -0.9**
comp=Z,72nm,1.2s
SSLB LR LR
comp=Z,8μm,21.0s
YHNB Yeheng 56.33 309 *e*P **P 03 43 24.8 -0.1**
comp=Z,121nm,0.9s
YHNB LR LR
comp=Z,9μm,22.0s
TATO Taipei 56.41 310 *e*P **P 03 43 25.5 +0.1**
comp=Z,690nm,2.0s
TATO LR LR
comp=Z,6μm,21.0s
ERM Erimo 56.63 339 PFAKE 03 43 40.0 +13
ERM LR LR
comp=Z,7μm,18.0s
ERM Erimo 56.63 339*de*P **P 03 43 27.0 +0.4**
ERM pmax pmax
comp=Z,148nm,1.6s
RKT Rikitea 57.00 111 *e*P **P 03 43 30.7 +1.0**
comp=Z,100nm,1.2s
RKT *e*S **S 03 51 22.0 -1.2**
comp=Z,8μm,31.5s
RKT *e*SS **SS 03 55 10.2 -1.8**
comp=Z,2μm,31.8s
RKT *e*LQ LQ 03 57 38.1
comp=Z,11μm,30.8s
RKT *e*LR LR 04 00 02.0
comp=Z,14μm,33.0s,baz=284
YUK Yuzh-Kuril'sk 57.57 342*d i*P **P 03 43 33.8 +0.6**
YUK *i* 03 44 23.1
YUK *e* 03 45 44.3
YUK *e*PPP PPP 03 46 59.5
YUK *e*S **S 03 51 28.7 -1.1**
YUK *e* 03 53 21.4
YUK pmax pmax
comp=Z,701nm,2.2s
CISI Cisompet, Garu 58.00 268 *e*P **P 03 43 35.0 -2.0**
comp=Z,456nm,1.6s
CISI LR LR
comp=Z,3μm,19.0s
KUR Kuril'sk 58.11 345*d i*P **P 03 43 38.1 +1.1**
KUR *e* 03 44 28.0
KUR *e*PPP PPP 03 47 11.4
KUR *e*S **S 03 51 44.4 +7.5**
KUR *e*SSS SSS 03 57 50.7
KUR pmax pmax
comp=Z,3μm,5.4s
KUR pmax pmax
comp=Z,477nm,1.6s
KUR MLR MLR
comp=Z,4μm,17.0s
KUR MLR MLR
comp=N,4μm,15.0s
LEM Lembang 58.30 269 LR LR 04 10 36.7
comp=N,3μm,21.2s,baz=102,slow=38
QZH Quanzhou 58.61 308⇓*i*P **P 03 43 40.8 -0.1**
QZH S **S 03 51 44.8 +0.6**
QZH pmax pmax
comp=N,90nm,1.5s
QZH pmax pmax
comp=N,2μm,4.9s
QZH LR LR
comp=N,3μm,17.1s
QZH LR LR
comp=N,3μm,18.9s
QZH LR LR
comp=N,4μm,20.6s
ASAJ Asahikawa 58.68 340 P **P 03 43 41.4 +0.4**
comp=N,39nm,0.9s,baz=222,slow=12,SNR=16
ASAJ LR LR 04 03 60.0
comp=N,6μm,20.7s,baz=166,slow=31
XMIS Christmas Isla 59.77 264 PFAKE 03 44 00.0 +11
XMIS LR LR
comp=Z,4μm,18.0s
KSRS Korea Array 59.99 325 P **P 03 43 50.5 +0.4**
comp=Z,14nm,0.9s,baz=140,slow=6.9,SNR=61
KSRS LR LR 04 08 31.6
comp=Z,2μm,19.1s,baz=128,slow=35
KS15 Wonju Array Si 60.00 325 *e*P **P 03 43 50.7 +0.4**
KSAR Wonju Array Be 60.00 325 P **P 03 43 50.5 +0.3**
KSAR Wonju Array Be 60.00 325 P **P 03 43 50.6 +0.3**
KS01 Wonju Array Si 60.02 325 *e*P **P 03 43 49.5 -0.9**
SSE Sheshan 60.11 315 P **P 03 43 51.0 -0.2**
SSE S **S 03 52 07.3 +3.9**
SSE pmax pmax
comp=Z,62nm,0.9s
SSE pmax pmax
comp=Z,1μm,3.8s
SSE LR LR
comp=Z,2μm,18.9s
SSE LR LR
comp=Z,2μm,17.0s
SSE Sheshan 60.11 315 *e*P **P 03 43 51.2 0.0**
comp=Z,220nm,1.0s
HKC Hong Kong Obse 60.88 303⇓P **P 03 43 58.0 +1.4**
YSS Yuzh-Sakhalins 61.15 342 *e*P **P 03 43 58.4 +0.5**
comp=Z,774nm,1.7s
YSS LR LR
comp=Z,4μm,20.0s
YSS Yuzh-Sakhalins 61.15 342*ke*P **P 03 43 58.8 +0.9**
YSS *e* 03 44 05.7
YSS *e* 03 44 12.7
YSS *e* 03 44 43.0
YSS *e* 03 46 14.0
YSS *e*S **S 03 52 19.0 +3.0**
YSS *e*SS **SS 03 56 17.0 +0.5**
YSS pmax pmax
comp=Z,90nm,2.8s
YSS pmax pmax
comp=Z,4μm,5.1s
YSS pmax pmax
comp=N,2μm,4.7s
PTCN Pitcairn Islan 61.51 113 PFAKE 03 44 10.0 +9.1
PTCN LR LR
comp=Z,9μm,20.0s
TEY Ternei 61.66 336⇓*e*P **P 03 44 01.5 +0.1**
TEY *e* 03 44 08.6
TEY pmax pmax
comp=Z,40nm,2.1s
TEY pmax pmax
comp=N,20nm,2.1s
SKR Severo-Kuril's 61.74 352 *e*P **P 03 44 02.0 +0.2**
SKR *e* 03 44 13.5
SKR *e* 03 46 18.8
SKR *e*S **S 03 52 22.6 -0.7**
SKR pmax pmax
comp=Z,148nm,1.3s
SKR pmax pmax
comp=Z,4μm,4.7s
SKR pmax pmax
comp=Z,2μm,6.4s
SKR pmax pmax
comp=Z,2μm,7.9s
SKR pmax pmax
comp=Z,1μm,7.7s
SKR MLR MLR
comp=Z,4μm,16.0s
SKR MLR MLR
comp=Z,4μm,15.0s
GZH Guangzhou 61.92 303 P **P 03 44 03.5 -0.1**
GZH PcS **PcS 03 48 46.3 -1.2**
GZH S **S 03 52 23.8 -2.8**
GZH ScS **SKSac 03 53 50.8 -3.8**
GZH SS **SS 03 56 26.8 -2.6**
GZH pmax pmax
comp=Z,3μm,5.4s
GZH LR LR
comp=Z,4μm,16.7s
GZH LR LR
comp=Z,5μm,20.8s
MSHR Mys Shultsa 62.08 331*d i*P **P 03 44 04.7 +0.4**
VLA Vladivostok 62.15 332*d i*P **P 03 44 05.3 +0.6**
VLA pmax pmax
comp=Z,606nm,1.9s
NJ2 Nanjing 62.28 315⇓*i*P **P 03 44 06.3 +0.4**
NJ2 pP **pP 03 44 09.8 -2.5**
NJ2 sP **sP 03 44 13.3 -1.5**
NJ2 S **S 03 52 34.8 +3.8**
NJ2 pmax pmax
comp=Z,120nm,0.8s
NJ2 pmax pmax
comp=Z,4μm,3.5s
NJ2 LR LR
comp=Z,5μm,16.3s
NJ2 LR LR
comp=Z,2μm,16.3s
NJ2 LR LR
comp=Z,4μm,20.6s
USA0B Ussuriysk Arra 62.94 333 *e*P **P 03 44 11.0 +0.9**
comp=Z,1μm,1.6s
USRK Ussuriysk Ar. 62.94 333 P **P 03 44 10.9 +0.9**
comp=Z,22nm,0.9s,baz=134,slow=5.5,SNR=70
QIZ Qiongzhong 63.18 298 P **P 03 44 13.0 +0.9**
QIZ sP **sP 03 44 21.0 +0.1**
QIZ S **S 03 52 48.0 +5.2**
QIZ pmax pmax
comp=Z,47nm,2.0s
QIZ pmax pmax
comp=Z,2μm,3.9s
QIZ LR LR
comp=Z,3μm,18.8s
QIZ LR LR
comp=Z,4μm,24.5s
QIZ LR LR
comp=Z,7μm,26.5s
QIZ Qiongzhong 63.18 298 PFAKE 03 44 20.0 +7.9
QIZ LR LR
comp=Z,5μm,22.0s
MNAI Manna 63.26 270 PFAKE 03 44 20.0 +7.2
MNAI LR LR
comp=Z,3μm,21.0s
SMY Shemya 63.45 5 PFAKE 03 44 30.0 +17
SMY LR LR
comp=Z,10μm,21.0s
MYKOM Kota Tinggi 63.57 277 *e*P **P 03 44 14.0 -0.9**
comp=Z,158nm,1.7s
MYKOM LR LR
comp=Z,3μm,21.0s
PET Petropavlovsk 63.77 355 *e*P **P 03 44 15.3 0.0**
comp=Z,276nm,1.7s
PET LR LR
comp=Z,8μm,20.0s
PET Petropavlovsk 63.77 355 *e*P **P 03 44 15.3 0.0**
PET *e*S **S 03 52 47.1 -1.6**
PET *e*PS **PnS 03 53 07.3 0.0**
PET *e*SS **SS 03 56 58.5 +1.2**
PET pmax pmax
comp=Z,3μm,13.8s
PET pmax pmax
comp=Z,88nm,1.7s
PET pmax pmax
comp=Z,2μm,9.7s
KIWB Kanaga Island 63.81 11 *e*P **P 03 44 17.4 +1.7**
ADK Adak 63.93 11 *e*P **P 03 44 17.7 +1.3**
comp=Z,154nm,1.3s
ADK LR LR
comp=Z,14μm,20.0s
ADK Adak 63.93 11 *e*P **P 03 44 17.7 +1.3**
ADK pmax pmax
comp=Z,154nm,1.3s
ADK MLR MLR
comp=Z,14μm,20.0s
PEA0B Petropavlovsk- 63.94 354 *e*P **P 03 44 17.8 +1.3**
comp=Z,359nm,1.5s
PEA0B LR LR
comp=Z,8μm,21.0s
PETK Petropavlovsk- 63.94 354 P **P 03 44 16.1 -0.3**
comp=Z,17nm,0.9s,baz=152,slow=9.3,SNR=11
PETK LR LR 04 06 43.1
comp=Z,7μm,21.9s,baz=161,slow=31
PETK Petropavlovsk- 63.94 354 *e*P **P 03 44 17.2 +0.7**
PETK Petropavlovsk- 63.94 354 *e*P **P 03 44 17.2 +0.7**
PEA1 Petropavlovsk- 63.95 354 *e*P **P 03 44 16.1 -0.4**
KGM Kluang 64.14 277 P **P 03 44 18.6 0.0**
MDJ Mudanjiang 64.36 332 P **P 03 44 20.0 +0.6**
MDJ pP pP 03 44 23.3 -2.2
MDJ PP **PP 03 46 40.5 -0.8**
MDJ S **S 03 53 03.0 +6.5**
MDJ pmax pmax
comp=Z,180nm,1.9s
MDJ pmax pmax
comp=Z,5μm,4.1s
MDJ LR LR
comp=Z,5μm,17.3s
MDJ LR LR
comp=Z,4μm,16.1s
MDJ LR LR
comp=Z,5μm,17.0s
MDJ Mudanjiang 64.36 332 *e*P **P 03 44 20.4 +1.0**
comp=Z,1μm,1.9s
MDJ LR LR
comp=Z,4μm,20.0s
DL2 Dalian 64.63 322⇓*i*P **P 03 44 21.0 -0.3**
DL2 pP **pwP 03 44 32.3 +1.4**
DL2 S **S 03 53 02.3 +2.3**
DL2 pmax pmax
comp=Z,140nm,1.1s
DL2 pmax pmax
comp=Z,3μm,4.0s
DL2 LR LR
comp=Z,4μm,15.6s
DL2 LR LR
comp=Z,3μm,16.4s
DL2 LR LR
comp=Z,5μm,18.8s
TYV Tymovskoe 64.67 344 *e*P **P 03 44 21.9 +0.6**
TYV *e*S **S 03 53 03.4 +3.3**
TYV pmax pmax
comp=Z,3μm,5.7s
TYV pmax pmax
comp=Z,101nm,1.8s
TYV smax smax
comp=N,2μm,7.6s
WHN Wuhan 64.71 311⇑P **P 03 44 21.3 -0.7**
WHN S **S 03 52 52.8 -8.5**
WHN LR LR
comp=N,19μm,14.0s
WHN LR LR
comp=N,20μm,20.2s
WHN LR LR
comp=N,22μm,20.1s
ATKA Atka Island 64.75 13 PFAKE 03 44 30.0 +8.3
ATKA LR LR
comp=Z,18μm,22.0s
KTGM Kuala Trenggan 65.09 281 P **P 03 44 24.7 0.0**
SNY Shenyang 65.43 326⇓P **P 03 44 26.5 +0.1**
SNY S **S 03 53 13.0 +3.3**
SNY pmax pmax
comp=Z,100nm,1.8s
SNY pmax pmax
comp=Z,3μm,3.5s
SNY LR LR
comp=Z,5μm,17.8s
SNY LR LR
comp=Z,6μm,17.6s
SNY LR LR
comp=Z,4μm,22.0s
CN2 Changchun 65.80 329⇓P **P 03 44 28.3 -0.5**
CN2 *e*S **S 03 53 13.8 -0.4**
CN2 pmax pmax
comp=Z,120nm,1.3s
CN2 pmax pmax
comp=Z,300nm,6.0s
CN2 LR LR
comp=Z,4μm,19.0s
CN2 LR LR
comp=Z,2μm,19.0s
CN2 LR LR
comp=Z,3μm,20.0s
TIA Tai'an 65.84 318 P **P 03 44 28.8 -0.4**
TIA S **S 03 53 16.5 +1.5**
TIA pmax pmax
comp=Z,25nm,1.0s
TIA pmax pmax
comp=Z,1μm,5.8s
TIA LR LR
comp=Z,2μm,16.1s
TIA LR LR
comp=Z,1μm,17.7s
BKNI Bangkinang 66.01 275 *e*P **P 03 44 31.1 +0.3**
comp=Z,561nm,1.5s
GRNR Gornyy 66.53 340 *e*P **P 03 44 35.2 +1.9**
GRNR pmax pmax
comp=Z,67nm,1.0s
NIKH Nikolski High 66.77 16 *e*P **P 03 44 35.2 +0.4**
comp=Z,330nm,1.2s
NIKH LR LR
comp=Z,7μm,21.0s
VNDA Vanda 66.91 181 P **P 03 44 35.2 -0.2**
comp=Z,66nm,1.1s,baz=5.1,slow=6.8,SNR=29
VNDA LR LR 04 08 32.8
comp=Z,5μm,21.9s,baz=20,slow=31
VNDA Vanda 66.91 181 *e*P **P 03 44 35.6 +0.2**
comp=Z,117nm,1.2s
VNDA Vanda 66.91 181 *e*P **P 03 44 35.6 +0.2**
VNDA pmax pmax
comp=Z,117nm,1.2s
IPM Ipoh 66.92 280 *e*P **P 03 44 36.1 -0.5**
comp=Z,199nm,1.5s
IPM LR LR
comp=Z,3μm,22.0s
IPM Ipoh 66.92 280 P **P 03 44 36.1 -0.5**
KLR Kul'dur 67.00 336 P **P 03 44 36.8 +0.5**
comp=Z,17nm,0.9s,baz=128,slow=3.4,SNR=64
KLR Kul'dur 67.00 336*d i*P **P 03 44 36.4 0.0**
CASY Casey 67.04 201 *e*P **P 03 44 36.3 -0.1**
comp=Z,131nm,1.5s
CASY LR LR
comp=Z,7μm,21.0s
SBA Scott Base 67.20 180 *e*P **P 03 44 39.0 +1.7**
comp=Z,168nm,1.1s
SBA LR LR
comp=Z,7μm,22.0s
SBA Scott Base 67.20 180 *e*P **P 03 44 39.0 +1.7**
SBA pmax pmax
comp=Z,168nm,1.1s
SBA MLR MLR
comp=Z,7μm,22.0s
NKL Nikolayevsk 67.27 343 *e*P **P 03 44 38.0 +0.1**
NKL *e* 03 53 33.0
NKL pmax pmax
comp=N,110nm,1.8s
NKL pmax pmax
comp=Z,440nm,1.8s
NKL pmax pmax
comp=N,1μm,7.0s
NKL pmax pmax
comp=Z,4μm,7.0s
NKL MLR MLR
comp=Z,3μm,10.0s
KULM Kulim 67.48 280 *e*P **P 03 44 40.8 +0.7**
comp=Z,92nm,1.5s
KULM LR LR
comp=Z,3μm,21.0s
COCO West Island 68.17 261 PFAKE 03 45 00.0 +16
COCO LR LR
comp=Z,8μm,22.0s
UNV Unalaska Valle 68.19 17 PFAKE 03 45 00.0 +16
UNV LR LR
comp=Z,10μm,21.0s
ENH Enshi 68.25 309 *e*P **P 03 44 44.2 -0.5**
comp=Z,143nm,1.3s
SRAK Srakaew 68.49 290 P P 03 44 51.8 +5.4
PSI Prapat 68.59 277 LR LR 04 17 33.8
comp=Z,2μm,20.6s,baz=90,slow=38
PSI Prapat 68.59 277 *e*P **P 03 44 45.1 -2.2**
comp=Z,41nm,1.0s
PSI LR LR
comp=Z,3μm,22.0s
PSI Prapat 68.59 277 *e*P **P 03 44 45.1 -2.2**
PSI pmax pmax
comp=Z,41nm,1.0s
PSI MLR MLR
comp=Z,3μm,22.0s
BJT Baijiatuau 68.65 321 *e*P **P 03 44 47.5 +0.5**
comp=Z,665nm,1.9s
BJT LR LR
comp=Z,6μm,19.0s
BJT Baijiatuau 68.65 321 *e*P **P 03 44 47.5 +0.5**
BJT pmax pmax
comp=Z,665nm,1.9s
BJT MLR MLR
comp=Z,6μm,19.0s
AKUT Akutan 68.66 17 PFAKE 03 45 00.0 +13
AKUT LR LR
comp=Z,12μm,22.0s
BJI Beijing 68.66 321 P **P 03 44 47.5 +0.5**
BJI S **S 03 53 50.5 +1.7**
BJI pmax pmax
comp=Z,85nm,1.0s
BJI LR LR
comp=Z,4μm,19.6s
BJI LR LR
comp=Z,2μm,17.3s
NONG Nongkai 68.76 294 P **P 03 44 47.8 -0.3**
comp=Z,1.0nm,2.1s
GYA Guiyang 68.84 304⇓*i*P **P 03 44 48.5 -0.1**
GYA pP pwP 03 45 01.5 +3.6
GYA PP **PP 03 47 22.5 +1.6**
GYA S **S 03 53 52.8 +1.1**
GYA sS sS 03 54 08.3 +5.8
GYA SS **SS 03 58 12.8 -4.6**
GYA pmax pmax
comp=Z,2μm,9.4s
GYA LR LR
comp=Z,2μm,25.6s
GYA LR LR
comp=Z,4μm,22.6s
GYA LR LR
comp=Z,5μm,21.9s
TRTT Trang 69.02 283 P P 03 44 57.7 +7.9
CHAI Chaiyaphum 69.12 292 P **P 03 44 49.7 -0.6**
comp=Z,6.9nm,0.7s
GSI Gunungsitoli 69.60 275 *e*P **P 03 44 52.7 -0.7**

comp=Z,63nm,0.8s
TIY Taiyuan 69.80 317 *e*P **P 03 44 55.3 +1.1**
TIY S **S 03 54 08.8 +6.3**
TIY pmax pmax
comp=Z,93nm,1.0s
TIY pmax pmax
comp=Z,3μm,4.8s
TIY LR LR
comp=Z,3μm,15.9s
TIY LR LR
comp=Z,990nm,10.0s
TIY LR LR
comp=Z,4μm,21.3s
FALS False Pass 69.98 18 PFAKE 03 45 10.0 +15
FALS LR LR
comp=Z,10μm,21.0s
SPIA Saint Paul Isl 70.23 13 PFAKE 03 45 10.0 +14
SPIA LR LR
comp=Z,16μm,20.0s
PBKT Sadao Pong 70.25 292 *e*P **P 03 44 57.6 +0.3**
PBKT Sadao Pong 70.25 292 P **P 03 44 57.6 +0.3**
comp=Z,42nm,1.7s,comp=Z,3μm
PHET Kaeng Krachan 70.42 288 P P 03 45 07.5 +9.1
XAN Xi'an 70.43 312 P **P 03 44 58.5 +0.4**
XAN pP pP 03 45 03.3 -1.4
XAN PP **PP 03 47 38.5 +4.1**
XAN S **S 03 54 10.3 +0.3**
XAN SKS **SKSac 03 54 51.3 -7.6**
XAN pmax pmax
comp=Z,110nm,1.1s
XAN pmax pmax
comp=Z,3μm,5.0s
XAN LR LR
comp=Z,2μm,18.1s
XAN LR LR
comp=Z,2μm,20.6s
XAN LR LR
comp=Z,3μm,20.6s
XAN Xi'an 70.43 312 *e*P **P 03 44 58.2 0.0**
comp=Z,92nm,0.9s
XAN LR LR
comp=Z,4μm,20.0s
XAN Xi'an 70.43 312 *e*P **P 03 44 58.2 0.0**
XAN pmax pmax
comp=Z,92nm,0.9s
XAN MLR MLR
comp=Z,4μm,20.0s
UTTA Uttaradit 70.99 293 P **P 03 45 02.6 +0.8**
comp=Z,6.8nm,0.9s,comp=Z,91nm
LHMI Lhok Sumawe 71.05 279 PFAKE 03 45 10.0 +7.7
LHMI LR LR
comp=Z,3μm,21.0s
MA2 Magadan 71.12 352 P **P 03 45 01.4 -0.4**
comp=Z,8.8nm,0.7s,baz=175,slow=9.3,SNR=13
MA2 Magadan 71.12 352 *e*P **P 03 45 01.3 -0.4**
comp=Z,272nm,2.0s
MA2 LR LR
comp=Z,7μm,22.0s
MA2 Magadan 71.12 352 *d i*P **P 03 45 00.9 -0.8**
MA2 pmax pmax
comp=Z,66nm,1.7s
NANT Nan 71.19 294 P **P 03 45 03.1 +0.1**
comp=Z,12nm,1.2s,comp=Z,148nm
SRDT SRDT 71.30 289 P P 03 45 11.4 +7.7
SDPT Sand Point 71.31 19 PFAKE 03 45 20.0 +17
SDPT LR LR
comp=Z,8μm,22.0s
UTHA Uthaitani 71.35 290 P **P 03 45 04.7 +0.7**
comp=Z,7.4nm,1.1s
KMI Kunming 71.58 301 P **P 03 45 06.5 +1.0**
KMI pP pwP 03 45 18.0 +3.0
KMI PP **PP 03 47 43.3 -1.4**
KMI S **S 03 54 26.3 +2.2**
KMI pmax pmax
comp=Z,68nm,1.8s
KMI pmax pmax
comp=Z,3μm,5.1s
KMI LR LR
comp=Z,990nm,21.9s
KMI LR LR
comp=Z,5μm,21.3s
KMI LR LR
comp=Z,7μm,22.9s
KMI Kunming 71.58 301 *e*P **P 03 45 06.9 +1.4**
comp=Z,99nm,1.3s
KMI LR LR
comp=Z,8μm,21.0s
KMI Kunming 71.58 301 *e*P **P 03 45 06.9 +1.4**
KMI pmax pmax
comp=Z,99nm,1.3s
KMI MLR MLR
comp=Z,8μm,21.0s
SUKH Sukhothai 71.75 292 P P 03 45 12.2 +5.8
HHC Hu-ho-hao-te 72.03 319 *e*P **P 03 45 08.8 +1.0**
HHC S **S 03 54 32.5 +4.0**
HHC ScS **SKSac 03 55 10.5 -0.4**
HHC pmax pmax
comp=Z,89nm,1.0s
HHC pmax pmax
comp=Z,3μm,5.4s
HHC LR LR
comp=Z,4μm,17.3s
HHC LR LR
comp=Z,4μm,18.1s
HHC LR LR
comp=Z,4μm,18.2s
PAYA Payao 72.12 294 P **P 03 45 08.9 +0.3**
comp=Z,10.0nm,1.0s,comp=Z,158nm
ZEA Zeya 72.28 337 *de*P **P 03 45 09.2 +0.4**
ZEA *e* 03 47 48.0
ZEA *e*PPP PPP 03 49 40.0
ZEA *e*S **S 03 54 36.0 +5.5**
ZEA pmax pmax
comp=Z,4μm,6.0s
ZEA pmax pmax
comp=N,2μm,5.0s
ZEA pmax pmax
comp=E,1μm,5.0s
ZEA pmax pmax
comp=N,640nm,1.8s
ZEA pmax pmax
comp=Z,880nm,1.6s
ZEA pmax pmax
comp=N,900nm,5.0s
ZEA smax smax
comp=N,2μm,10.0s
HIA Hailar 72.41 330 *e*P **P 03 45 10.3 +0.6**
comp=N,660nm,1.9s
HIA LR LR
comp=Z,4μm,22.0s
HIA Hailar 72.41 330 *d i*P **P 03 45 09.9 +0.2**
HIA pmax pmax
comp=Z,316nm,1.8s
CM01 Chiang Mai Arr 72.64 293 *e*P **P 03 45 11.1 -0.6**
CM31 Chiang Mai Arr 72.67 293 *e*P **P 03 45 13.2 +1.3**
CM31 Chiang Mai Arr 72.67 293 P **P 03 45 12.4 +0.5**
SNR=15
CMAR Chiang Mai Arr 72.67 293 P **P 03 45 11.2 -0.7**
comp=Z,10nm,0.8s,baz=113,slow=4.5,SNR=41
CMAR LR LR 04 16 39.8
comp=Z,886nm,19.8s,baz=126,slow=36
CHGN Chignik 72.76 20 PFAKE 03 45 20.0 +8.4
CHGN LR LR
comp=Z,9μm,22.0s
CMMT Chiang Mai 72.77 294 P **P 03 45 12.6 +0.1**
comp=Z,43nm,1.4s,comp=Z,3μm
CHTO Chiang Mai 72.78 294 *e*P **P 03 45 12.6 +0.1**
comp=Z,131nm,1.6s
CHTO LR LR
comp=Z,2μm,20.0s
CHTO Chiang Mai 72.78 294 *e*P **P 03 45 12.6 +0.1**
CHTO pmax pmax
comp=Z,131nm,1.6s
CHTO MLR MLR
comp=Z,2μm,20.0s
CHTO Chiang Mai 72.78 294 P **P 03 45 12.0 -0.6**
SNR=22
CHTO Chiang Mai 72.78 294 P **P 03 45 12.6 +0.1**
comp=Z,194nm,1.5s,comp=Z,11μm
BTO Baotou 72.91 318 *e*P **P 03 45 14.0 +1.0**
BTO S **SKiKP 03 54 45.5 +0.2**
CD2 Chengdu 72.98 307 ⇓P **P 03 45 13.8 +0.2**
CD2 pP pP 03 45 17.0 -3.1
CD2 PP **PP 03 47 56.0 -0.4**
CD2 S **S 03 54 41.0 +1.4**
CD2 SS **SS 03 59 22.8 +2.0**
CD2 pmax pmax
comp=Z,140nm,0.5s
CD2 pmax pmax
comp=Z,4μm,5.1s
CD2 LR LR
comp=Z,5μm,19.4s
CD2 LR LR
comp=Z,6μm,19.9s
CD2 LR LR
comp=Z,7μm,21.4s
SEY Seymchan 74.16 353 P **P 03 45 19.1 -0.6**
comp=Z,11nm,0.8s,baz=150,slow=5.8,SNR=45
SEY Seymchan 74.16 353 ⇓*e*P **P 03 45 20.1 +0.4**
CMBY CAMPBELL BAY 74.38 280 *e*P **P 03 45 19.8 -2.2**
CMBY IAmb IAmb 03 45 25.8
comp=Z,193nm,0.3s
LZH Lanzhou 75.07 312 ⇓*i*P **P 03 45 27.0 +1.2**
LZH pP pP 03 45 32.0 -0.4
LZH sP sP 03 45 34.8 0.0
LZH PP **PP 03 48 17.8 +3.6**
LZH S **S 03 55 07.8 +4.7**
LZH sS sS 03 55 16.0 +2.4
LZH SS **SS 03 59 49.3 -3.3**
LZH pmax pmax
comp=Z,200nm,1.3s
LZH pmax pmax
comp=Z,6μm,4.1s
LZH LR LR
comp=Z,5μm,15.7s
LZH LR LR
comp=Z,5μm,17.0s
LZH LR LR
comp=Z,7μm,17.7s
OHAK Old Harbor 75.24 21 *e*P **P 03 45 26.6 +0.5**
comp=Z,154nm,1.4s
OHAK LR LR
comp=Z,11μm,20.0s
KDAK Kodiak Island 75.92 21 LR LR 04 12 13.7
comp=Z,10μm,21.8s,baz=218,slow=30
KDAK Kodiak Island 75.92 21 *e*pP **pP 03 45 38.8 +2.6**
KDAK LR LR
comp=Z,11μm,21.0s
KDAK Kodiak Island 75.92 21 *e*P P 03 45 38.8 +8.9
KDAK MLR MLR
comp=Z,11μm,21.0s
GAMB Gambell 76.04 10 *e*P **P 03 45 31.4 +1.0**
comp=Z,113nm,1.2s
GAMB LR LR
comp=Z,11μm,22.0s
PBA Port Blair 76.59 285 *e*P P 03 45 32.3 -2.4
CIT Chita 77.20 330 *e*P **P 03 45 36.3 -1.2**
CIT *e* 03 45 45.6
CIT *e* 03 45 55.2
CIT pmax pmax
comp=Z,596nm,1.9s
SVW2 Sparrevohn 77.49 18 PFAKE 03 45 50.0 +11
SVW2 LR LR
comp=Z,4μm,22.0s
HOM Homer 77.65 20 PFAKE 03 45 50.0 +10
HOM LR LR
comp=Z,14μm,22.0s
RSO Redoubt South 77.88 19 *e*P **P 03 45 41.0 -0.2**
ANM Nome 77.93 12 *e*P **P 03 45 42.0 +0.8**
comp=Z,129nm,1.6s
ANM LR LR
comp=Z,9μm,20.0s
ANM Nome 77.93 12 *e*P **P 03 45 42.0 +0.8**
ANM pmax pmax
comp=Z,129nm,1.6s
ANM MLR MLR
comp=Z,9μm,20.0s
YAK Yakutsk 77.93 343 *d i*P **P 03 45 41.1 -0.1**
YAK *e* 03 45 50.3
YAK *e* 03 48 34.4
YAK *e*S **S 03 55 28.8 -4.2**
YAK *e* 03 55 49.8
YAK *e**SS ScS 03 56 13.7 +15
YAK *e*SSS SSS 04 03 51.5
YAK pmax pmax
comp=Z,67nm,1.1s
YAK pmax pmax
comp=N,27nm,1.2s
YAK pmax pmax
comp=E,23nm,1.5s
YAK pmax pmax
comp=N,259nm,2.5s
YAK pmax pmax
comp=Z,466nm,2.7s
YAK pmax pmax
comp=E,173nm,2.5s
YAK smax smax
comp=N,672nm,5.9s
YAK smax smax
comp=E,287nm,4.2s
BRLK Bradley Lake 77.98 20 *e*P **P 03 45 42.5 +0.9**
BRLK *e*pP **PcP 03 45 50.9 -0.4**
BRLK LR LR
comp=Z,19μm,22.0s
ULN Ulaanbaatar 78.44 324 *e*P **P 03 45 44.7 +0.1**
comp=Z,102nm,0.9s
ULN LR LR
comp=Z,3μm,20.0s
ULN Ulaanbaatar 78.44 324 *d i*P **P 03 45 44.8 +0.3**
ULN pmax pmax
comp=Z,229nm,1.7s
ULN Ulaanbaatar 78.44 324 P **P 03 45 44.9 +0.3**
SNR=105
BILL Bilibino 78.47 360 *e*P **P 03 45 44.1 0.0**
comp=Z,180nm,1.2s
BILL LR LR
comp=Z,3μm,21.0s
BILL Bilibino 78.47 360 *d i*P **P 03 45 44.0 -0.1**
BILL pmax pmax
comp=Z,166nm,1.7s
SEW Seward 78.73 21 PFAKE 03 46 00.0 +14
SEW LR LR
comp=Z,7μm,19.0s
SONA0 Songino Array 78.81 323 *e*P **P 03 45 46.5 -0.1**
SONM Songino Array 78.81 323 P **P 03 45 46.5 -0.1**
comp=Z,25nm,0.9s,baz=138,slow=7.0,SNR=54
SONA1 Songino Array 78.81 323 *e*P **P 03 45 46.1 -0.5**
SUA Susitna One 79.28 19 *e*P **P 03 45 48.9 0.0**
comp=Z,268nm,1.7s
SUA LR LR
comp=Z,4μm,20.0s
GTA Gaotai 79.34 314 ⇑P **P 03 45 50.3 +0.6**
GTA S **S 03 55 53.0 +3.6**
GTA SKS **SKSac 03 56 01.5 -3.5**
GTA pmax pmax
comp=Z,85nm,1.9s
GTA pmax pmax
comp=Z,3μm,6.9s
GTA LR LR
comp=Z,2μm,18.2s
GTA LR LR
comp=Z,2μm,19.6s
GTA LR LR
comp=Z,3μm,21.3s
QSPA South Pole Qui 79.36 180 *e*P **P 03 45 48.7 -0.6**
comp=Z,106nm,1.3s
QSPA LR LR
comp=Z,6μm,20.0s
MID Middleton Isla 79.38 22 PFAKE 03 46 00.0 +11
MID LR LR
comp=Z,6μm,20.0s
PPLA Purkeypile 79.90 18 *e*P **P 03 45 52.9 +0.7**
comp=Z,54nm,1.3s
PPLA LR LR
comp=Z,6μm,20.0s
PMR Palmer 79.91 20 *e*P **P 03 45 52.3 +0.2**
comp=Z,268nm,1.9s
PMR LR LR
comp=Z,16μm,22.0s
PMR Palmer 79.91 20 *e*P **P 03 45 52.3 +0.2**
PMR pmax pmax
comp=Z,268nm,1.9s
PMR MLR MLR
comp=Z,16μm,22.0s
KNK Knik Glacier 80.01 20 *e*P **P 03 45 53.7 +1.0**
comp=Z,220nm,1.6s
KNK LR LR
comp=Z,13μm,20.0s
RPN Rapa Nui 80.05 116 PFAKE 03 46 10.0 +16
RPN LR LR
comp=Z,9μm,22.0s
GLI Glacier Island 80.10 21 *e*P **P 03 45 54.0 +0.8**
comp=Z,441nm,1.9s
GLI LR LR
comp=Z,11μm,20.0s
GHO Glory Hole Cre 80.11 20 PFAKE 03 46 10.0 +17
GHO LR LR
comp=Z,16μm,22.0s
CAST Castle Rocks 80.33 18 *e*P **P 03 45 53.7 -0.6**
comp=Z,92nm,1.0s
CAST LR LR
comp=Z,7μm,22.0s
SML Sawmill 80.33 20 *e*P **P 03 45 55.5 +1.1**
comp=Z,110nm,1.1s
SML LR LR
comp=Z,16μm,22.0s
SML Sawmill 80.33 20 *e*P **P 03 45 55.5 +1.1**
SML pmax pmax
comp=Z,111nm,1.1s
SML MLR MLR
comp=Z,16μm,22.0s
EYAK Cordova Ski Ar 80.36 22 PFAKE 03 46 10.0 +15
EYAK LR LR
comp=Z,37μm,22.0s
BOD Bodaibo 80.50 334 ⇑*i*P **P 03 45 55.3 -0.1**
BOD pmax pmax
comp=Z,172nm,1.7s
SCM Sheep Creek Mo 80.69 20 PFAKE 03 46 10.0 +14
SCM LR LR
comp=Z,9μm,21.0s
DIV Divide 80.75 21 *e*P **P 03 45 57.3 +0.6**
comp=Z,118nm,1.2s
DIV LR LR
comp=Z,21μm,21.0s
TRF Thorofare Moun 80.89 18 *e*P **P 03 45 57.3 -0.3**
comp=Z,162nm,1.7s
TRF LR LR
comp=Z,10μm,22.0s
KLU Klutina 80.94 21 *e*P **P 03 45 58.6 +0.9**
comp=Z,88nm,1.2s
KLU LR LR
comp=Z,12μm,21.0s
SHL Shillong 81.01 298 *e*P **P 03 45 59.0 -0.1**
comp=Z,204nm,1.7s
SHL Shillong 81.01 298 *e*P **P 03 45 59.0 -0.1**
SHL pmax pmax
comp=Z,204nm,1.7s
SHL Shillong 81.01 298 *e*P **P 03 45 58.4 -0.7**
SHL *e*S **S 03 56 08.0 +0.4**
BPAW Bear Paw Mtn. 81.16 17 *e*P **P 03 45 58.5 -0.3**
comp=Z,39nm,1.3s
BPAW LR LR
comp=Z,5μm,21.0s
RND Reindeer 81.30 19 *e*P **P 03 45 59.7 0.0**
comp=Z,128nm,1.2s
RND LR LR
comp=Z,5μm,21.0s
RND Reindeer 81.30 19 *e*P **P 03 45 59.7 0.0**
RND pmax pmax
comp=Z,128nm,1.2s
RND MLR MLR
comp=Z,5μm,21.0s
RDOG Red Dog Mine 81.47 11 *e*P **P 03 46 01.6 +1.2**
comp=Z,139nm,1.2s
RDOG LR LR
comp=Z,7μm,20.0s
MCK McKinley 81.51 18 *e*P **P 03 46 00.6 -0.1**
comp=Z,175nm,1.2s
MCK LR LR
comp=Z,7μm,20.0s
MCK McKinley 81.51 18 *e*P **P 03 46 00.6 -0.1**
MCK pmax pmax
comp=Z,175nm,1.2s
MCK MLR MLR
comp=Z,7μm,20.0s
DHY Denali Highway 81.54 19 *e*P **P 03 46 01.5 +0.5**
comp=Z,147nm,1.4s
DHY LR LR
comp=Z,16μm,22.0s
MCCM Marconi Confer 81.67 49 PFAKE 03 46 10.0 +8.0
MCCM LR LR
comp=Z,9μm,20.0s
KCPM Cahto Peak 81.70 47 *e*P **P 03 46 05.7 +3.4**
comp=Z,375nm,1.6s
KCPM LR LR
comp=Z,9μm,21.0s
JCC Jacoby Creek, 81.79 46 PFAKE 03 46 20.0 +17
JCC LR LR
comp=Z,8μm,21.0s
KMRM Mail Ridge 81.80 47 *e*P **P 03 46 05.5 +2.6**
comp=Z,397nm,1.6s
KMRM LR LR
comp=Z,11μm,19.0s
ZAK Zakamensk 81.82 325 *e*P **P 03 46 02.4 -0.3**
ZAK pmax pmax
comp=Z,53nm,1.1s
IM3 Indian Mountai 81.83 15 *e*P **P 03 46 02.6 +0.4**
HARP HAARP 81.83 21 *e*P **P 03 46 03.8 +1.4**
comp=Z,152nm,1.1s
HARP LR LR
comp=Z,6μm,22.0s
MLY Manley 81.92 17 *e*P **P 03 46 03.4 +0.6**
comp=Z,75nm,1.2s
MLY LR LR
comp=Z,5μm,18.0s
DIB Dawson Inlet, 81.93 32 PFAKE 03 46 20.0 +17
DIB LR LR
comp=Z,10μm,22.0s
GDXM Geysers 81.96 48 *e*P **P 03 46 06.1 +2.4**
comp=Z,66nm,1.2s
KHMM Horse Mountain 82.03 46 *e*P **P 03 46 06.8 +2.7**
comp=Z,412nm,1.8s
KHMM LR LR
comp=Z,8μm,21.0s
YKU2 Yakutat 82.05 25 PFAKE 03 46 20.0 +17
YKU2 LR LR
comp=Z,16μm,20.0s
PAX Paxson 82.10 20 PFAKE 03 46 20.0 +16
PAX LR LR
comp=Z,8μm,22.0s
IRK Irkutsk 82.15 327 *e*P **P 03 46 03.6 -0.7**
IRK pmax pmax
comp=Z,426nm,3.2s
PCA Pinnacle 82.17 24 *e*P **P 03 46 05.6 +1.3**
comp=Z,197nm,1.2s
PCA LR LR
comp=Z,20μm,22.0s
TLY Talaya 82.22 326 *e*P **P 03 46 04.0 -0.6**
comp=Z,161nm,0.9s
TLY LR LR
comp=Z,8μm,21.0s
TLY Talaya 82.22 326 *d i*P **P 03 46 04.6 -0.1**
TLY Talaya 82.22 326 P **P 03 46 04.3 -0.3**
SNR=62
SAO San Andreas Ge 82.27 50 *e*P **P 03 46 07.0 +1.7**
comp=Z,279nm,1.9s
SAO LR LR
comp=Z,18μm,19.0s
WRH Wood River Hil 82.30 18 *e*P **P 03 46 04.6 -0.1**
comp=Z,133nm,1.2s
WRH LR LR
comp=Z,9μm,22.0s
KEBM Edson Butte 82.35 44 PFAKE 03 46 20.0 +14
KEBM LR LR
comp=Z,7μm,22.0s
O02D Mt. Diablo Mer 82.45 47 P **P 03 46 08.1 +1.8**
baz=249,SNR=15
SIT Sitka 82.53 28 PFAKE 03 46 20.0 +14
SIT LR LR
comp=Z,6μm,22.0s
L02E Cave Junction 82.58 45 P **P 03 46 08.1 +1.3**
baz=249
MDM Murphy Dome 82.61 18 *e*P **P 03 46 06.1 -0.3**
comp=Z,164nm,1.1s
MDM LR LR
comp=Z,9μm,22.0s
HDA Harding Lake 82.61 19 *e*P **P 03 46 06.4 0.0**
comp=Z,258nm,1.0s
HDA LR LR
comp=Z,7μm,20.0s
HDA Harding Lake 82.61 19 P **P 03 46 05.3 -1.1**
baz=226
TCOL CIGO, UAF Yank 82.66 18 P **P 03 46 06.5 -0.1**
baz=225
COLA College 82.66 18 *e*P **P 03 46 06.9 +0.3**
comp=Z,157nm,1.0s
COLA LR LR
comp=Z,9μm,21.0s
COLA College 82.66 18 *d i*P **P 03 46 05.6 -1.0**

COLA pmax pmax
comp=Z,443nm,5.2s
J01E Myrtle Point 82.73 44 P **P 03 46 08.8 +1.4**
baz=248
K02D Willamette Mer 82.74 44 P **P 03 46 09.1 +1.4**
baz=248,SNR=5.3
CRAG Craig 82.75 30 PFAKE 03 46 20.0 +13
CRAG LR LR
comp=Z,9µm,22.0s
WDC Whiskeytown Da 82.76 47 *eP* **P 03 46 09.4 +1.6**
comp=Z,234nm,1.5s
WDC LR LR
comp=Z,9µm,21.0s
N02D Trinity Center 82.79 46 P **P 03 46 09.1 +1.2**
baz=249,SNR=20
SCZ2 Santa Cruz Isl 82.79 54 P **P 03 46 09.4 +1.3**
baz=252,SNR=6.0
LSA Lhasa 82.80 302 *eP* **P 03 46 10.0 +1.2**
comp=Z,42nm,1.4s
LSA LR LR
comp=Z,4µm,22.0s
RIDG Independ'e Rid 82.83 20 *eP* **P 03 46 08.5 +0.8**
comp=Z,348nm,1.6s
RIDG LR LR
comp=Z,12µm,20.0s
M02C Callahan 82.83 46 P **P 03 46 09.5 +1.3**
baz=249,SNR=11
PAGB Antelope Grade 82.85 52 *eP* **P 03 46 10.6 +2.3**
comp=Z,379nm,1.8s
PAGB LR LR
comp=Z,14µm,22.0s
SBC Santa Barbara 82.87 53 P **P 03 46 09.9 +1.5**
baz=252
ILAR Eielson Array 82.88 18 P **P 03 46 07.5 -0.3**
comp=Z,16nm,0.8s,baz=225,slow=5.8,SNR=109
ILAR PKiKP **PKiKP 03 51 25.9 -1.3**
comp=Z,0.7nm,0.7s,baz=258,slow=2.9,SNR=5.2
ILAR PKKP **PKKPdf 04 04 28.2 +2.9**
comp=Z,1.1nm,0.9s,baz=5.1,slow=2.1,SNR=9.9
ILAR LR LR 04 21 00.4
comp=Z,3µm,18.2s,baz=230,slow=34
ILB Eielson Array 82.88 18 *eP* **P 03 46 08.0 +0.2**
comp=Z,137nm,1.3s
IL1 Eielson Array 82.88 18 *eP* **P 03 46 06.3 -1.5**
SMMC Simmler 82.92 52 P **P 03 46 10.4 +1.6**
baz=252
PKM Mcpherson Peak 82.93 53 P **P 03 46 09.7 +0.7**
baz=252,SNR=9.1
POKR Poker Plat Res 82.96 18 P **P 03 46 07.6 -0.7**
baz=226
DOT Dot Lake 83.03 20 PFAKE 03 46 20.0 +11
DOT LR LR
comp=Z,7µm,21.0s
YBH Yreka Blue Hor 83.05 45 LR LR 04 16 31.4
comp=Z,5µm,20.2s,baz=270,slow=31
YBH Yreka Blue Hor 83.05 45 *eP* **P 03 46 10.9 +1.6**
comp=Z,215nm,1.5s
YBH LR LR
comp=Z,7µm,21.0s
YBH Yreka Blue Hor 83.05 45 *eP* **P 03 46 10.9 +1.6**
YBH pmax pmax
comp=Z,215nm,1.5s
YBH MLR MLR
comp=Z,7µm,21.0s
ORV Oroville 83.16 48 *eP* **P 03 46 11.1 +1.2**
comp=Z,189nm,1.6s
ORV LR LR
comp=Z,4µm,20.0s
ORV Oroville 83.16 48 *eP* **P 03 46 11.1 +1.2**
ORV pmax pmax
comp=Z,189nm,1.6s
ORV MLR MLR
comp=Z,4µm,20.0s
HUMO Hull Mountain 83.19 44 *eP* **P 03 46 11.8 +1.9**
comp=Z,145nm,1.3s
HUMO LR LR
comp=Z,9µm,20.0s
O03E Paynes Creek 83.19 47 P **P 03 46 11.1 +1.0**
baz=250,SNR=19
SCRK Sand Creek 83.27 20 *eP* **P 03 46 10.3 +0.3**
comp=Z,190nm,1.2s
SCRK LR LR
comp=Z,11µm,22.0s
BLG Laguna Peak, P 83.28 54 P **P 03 46 11.6 +1.0**
baz=252
I03D Drain, OR 83.32 43 P **P 03 46 12.2 +1.7**
baz=249
AFDM Forest Hills D 83.35 48 *eP* **P 03 46 11.9 +1.1**
comp=Z,164nm,1.3s
AFDM LR LR
comp=Z,6µm,22.0s
SCI2 San Clemente I 83.35 55 P **P 03 46 12.1 +1.2**
baz=253
CMB Columbia Colle 83.48 49 *eP* **P 03 46 12.9 +1.3**
comp=Z,99nm,1.3s
CMB LR LR
comp=Z,16µm,20.0s
CMB Columbia Colle 83.48 49 *eP* **P 03 46 12.9 +1.3**
CMB pmax pmax
comp=Z,99nm,1.3s
CMB MLR MLR
comp=Z,16µm,20.0s
L04D Klamath Falls 83.50 45 P **P 03 46 12.8 +1.1**
baz=250,SNR=7.8
BESE Bessie Mountai 83.57 27 *eP* **P 03 46 13.1 +1.6**
BESE *epP* **sP 03 46 20.9 +0.6**
BESE LR LR
comp=Z,9µm,22.0s
CIS Catalina Islan 83.58 54 P **P 03 46 13.0 +0.8**
baz=253
WRAK Wrangell Islan 83.60 29 *eP* **P 03 46 13.2 +1.5**
comp=Z,126nm,1.1s
WRAK LR LR
comp=Z,5µm,20.0s
JIS Juneau Island 83.61 27 *eP* **P 03 46 13.2 +1.5**
comp=Z,119nm,1.3s
JIS LR LR
comp=Z,9µm,22.0s
COR Corvallis 83.68 43 PFAKE 03 46 20.0 +7.7
COR LR LR
comp=Z,9µm,21.0s
M04C Macdoel 83.68 46 P **P 03 46 13.8 +1.2**
baz=250,SNR=11
MOY Mondy 83.69 325 *eP* **P 03 46 11.9 -0.5**
MOY pmax pmax
comp=Z,469nm,4.2s
HYT Haines Junctio 83.70 24 *eP* **P 03 46 13.6 +1.4**
comp=Z,159nm,1.3s
HYT LR LR
comp=Z,22µm,22.0s
COLD Coldfoot 83.70 16 *eP* **P 03 46 13.9 +1.9**
comp=Z,58nm,1.5s
COLD LR LR
comp=Z,8µm,22.0s
OSI Osito Audit: C 83.70 53 PFAKE 03 46 30.0 +17
OSI LR LR
comp=Z,12µm,20.0s
OSI Osito Audit: C 83.70 53 P **P 03 46 14.3 +1.6**
baz=253
VOG Valley Oaks Go 83.70 51 P **P 03 46 13.7 +1.0**
baz=252
ARVC Arvin 83.77 53 P **P 03 46 14.4 +1.3**
baz=252
FMP Fort Macarthur 83.77 54 P **P 03 46 14.2 +1.1**
baz=253
VES Vestal, Richgr 83.79 52 P **P 03 46 14.0 +0.9**
baz=252
BBB Bella Bella 83.80 34 PFAKE 03 46 30.0 +17
BBB LR LR
comp=Z,13µm,20.0s
PRP Porcupine Dome 83.82 18 *eP* **P 03 46 14.8 +2.0**
comp=Z,102nm,1.7s
PRP LR LR
comp=Z,6µm,21.0s
SKAG Skagway 83.84 26 *eP* **P 03 46 13.9 +1.1**
comp=Z,260nm,1.4s
SKAG LR LR
comp=Z,11µm,19.0s
DECC Green Verdugo 83.90 54 P **P 03 46 14.6 +0.8**
baz=253
G03D McMinnville, O 83.93 42 P **P 03 46 15.3 +1.7**
baz=248
RUBR Rubicon Trail 83.98 49 *eP* **P 03 46 17.4 +3.0**
comp=Z,272nm,1.4s
RUBR LR LR
comp=Z,8µm,20.0s
I04A Tendick Farm, 83.99 44 P **P 03 46 14.7 +0.7**
baz=249,SNR=8.6

PASC Pasadena Art C 83.99 54 *eP* **P 03 46 15.9 +1.7**
comp=Z,95nm,1.4s
PASC LR LR
comp=Z,12µm,20.0s
J04D Umpqua Nationa 84.00 44 P **P 03 46 15.4 +1.1**
baz=250,SNR=12
K04D Chiloquin, OR 84.03 45 P **P 03 46 15.7 +1.3**
baz=250
H04D Lebanon 84.03 43 P **P 03 46 15.3 +1.1**
baz=249,SNR=6.0
BEKR Beckworth 84.10 48 *eP* **P 03 46 16.3 +1.4**
comp=Z,261nm,1.7s
BEKR LR LR
comp=Z,5µm,20.0s
MWC Mount Wilson 84.11 54 *eP* **P 03 46 13.2 -1.9**
comp=Z,194nm,1.3s
MWC LR LR
comp=Z,12µm,20.0s
MWC Mount Wilson 84.11 54 *eP* **P 03 46 13.2 -1.9**
MWC pmax pmax
comp=Z,194nm,1.3s
MWC MLR MLR
comp=Z,12µm,20.0s
ISA Isabella, Lake 84.21 52 *eP* **P 03 46 16.1 +0.7**
comp=Z,121nm,1.3s
ISA LR LR
comp=Z,10µm,21.0s
ISA Isabella, Lake 84.21 52 *eP* **P 03 46 16.1 +0.7**
ISA pmax pmax
comp=Z,121nm,1.3s
ISA MLR MLR
comp=Z,10µm,21.0s
ISA Isabella, Lake 84.21 52 P **P 03 46 16.6 +1.2**
baz=253,SNR=38
MDPB Devils Postpil 84.34 50 *eP* **P 03 46 17.5 +1.2**
comp=Z,181nm,1.2s
MDPB LR LR
comp=Z,21µm,22.0s
WAKR Walker 84.34 49 *eP* **P 03 46 17.7 +1.5**
comp=Z,284nm,1.4s
WAKR LR LR
comp=Z,19µm,20.0s
EDW2 Edwards Air Fo 84.35 53 P **P 03 46 17.3 +1.2**
baz=253,SNR=28
NLWA Neilton Lookou 84.36 40 *eP* **P 03 46 18.8 +3.0**
comp=Z,160nm,1.4s
NLWA LR LR
comp=Z,7µm,20.0s
OMMB Old Mammoth Mi 84.39 50 *eP* **P 03 46 18.1 +1.5**
comp=Z,191nm,1.4s
OMMB LR LR
comp=Z,22µm,21.0s
PNTR Pine Nut 84.40 49 *eP* **P 03 46 17.7 +1.2**
comp=Z,388nm,1.7s
PNTR LR LR
comp=Z,8µm,20.0s
F04D Rainier, OR 84.42 41 P **P 03 46 17.7 +1.6**
baz=249
BFSC Mount Baldy Ra 84.43 54 P **P 03 46 17.1 +0.5**
baz=253,SNR=16
VCNR Virginia City 84.43 48 *eP* **P 03 46 18.2 +1.6**
comp=Z,274nm,1.7s
VCNR LR LR
comp=Z,7µm,21.0s
H04A Detroit Lake 84.45 43 *eP* **P 03 46 17.3 +0.9**
109C Camp Elliot, M 84.49 55 P **P 03 46 17.8 +1.0**
baz=254
CPE Camp Elliot 84.49 55 *eP* **P 03 46 18.9 +2.1**
comp=Z,220nm,1.5s
CPE LR LR
comp=Z,13µm,21.0s
MLAC Mammoth, Mammo 84.52 50 P **P 03 46 18.5 +1.4**
baz=252,SNR=9.1
J05D Fort Rock, OR 84.61 44 P **P 03 46 18.7 +1.3**
baz=250,SNR=22
FYU Fort Yukon 84.62 17 *eP* **P 03 46 16.8 +0.1**
comp=Z,106nm,1.4s
FYU LR LR
comp=Z,7µm,22.0s
MURC Murrieta 84.62 55 P **P 03 46 18.2 +0.7**
baz=254,SNR=11
YERR Yerington 84.64 49 *eP* **P 03 46 19.0 +1.4**
comp=Z,325nm,1.8s
YERR LR LR
comp=Z,9µm,20.0s
WHY Whitehorse 84.68 25 *eP* **P 03 46 17.9 +0.7**
comp=Z,98nm,1.8s
WHY LR LR
comp=Z,14µm,19.0s
CWC Cottonwood Cre 84.74 52 P **P 03 46 19.2 +1.0**
baz=253
PAHR Pah Rah Range 84.76 48 *eP* **P 03 46 19.4 +1.2**
comp=Z,309nm,1.6s
PAHR LR LR
comp=Z,6µm,22.0s
LRMC Laurel Mtn Rad 84.77 53 P **P 03 46 19.6 +1.3**
baz=253,SNR=18
BAR Barrett 84.78 56 *eP* **P 03 46 19.8 +1.5**
comp=Z,198nm,1.8s
BAR LR LR
comp=Z,12µm,21.0s
MOD Modoc Plateau 84.80 46 *eP* **P 03 46 19.4 +1.1**
comp=Z,204nm,1.5s
MOD LR LR
comp=Z,6µm,20.0s
TIN Tinemaha, Big 84.81 51 P **P 03 46 19.4 +0.9**
baz=253,SNR=9.4
E04D Cinebar 84.87 41 P **P 03 46 19.3 +0.9**
baz=249,SNR=7.5
DAWY Dawson 84.90 21 *eP* **P 03 46 19.2 +1.1**
comp=Z,163nm,1.4s
DAWY LR LR
comp=Z,22µm,22.0s
D03D Eldon 84.90 40 P **P 03 46 19.7 +1.2**
baz=248,SNR=7.1
I05D Terrebonne, OR 84.90 43 P **P 03 46 19.3 +0.6**
baz=250,SNR=14
D04E Lakebay 84.97 40 P **P 03 46 20.1 +1.3**
baz=249
PINE Pine Mountain 84.99 44 *eP* **P 03 46 20.7 +1.4**
BBRC Big Bear Solar 85.02 54 P **P 03 46 20.7 +0.9**
baz=254,SNR=6.1
MONP2 Monument Peak 85.04 55 P **P 03 46 21.3 +1.5**
baz=254,SNR=21
RYN Ryan 85.06 49 *eP* **P 03 46 20.9 +1.2**
comp=Z,268nm,1.6s
RYN LR LR
comp=Z,15µm,20.0s
DAC Darwin (Calif) 85.07 52 *eP* **P 03 46 21.1 +1.2**
comp=Z,240nm,1.5s
DAC LR LR
comp=Z,14µm,21.0s
DAC Darwin (Calif) 85.07 52 *eP* **P 03 46 21.1 +1.2**
DAC pmax pmax
comp=Z,240nm,1.5s
DAC MLR MLR
comp=Z,14µm,21.0s
MPMC Manual Prospec 85.09 52 P **P 03 46 21.2 +1.2**
baz=253,SNR=26
PGC Sidney 85.09 39 *eP* **P 03 46 20.7 +1.3**
comp=Z,264nm,1.4s
RRX Edison Barstow 85.13 53 P **P 03 46 21.5 +1.4**
baz=254
NV01 Mina Array Sit 85.17 50 *eP* **P 03 46 20.7 +0.4**
NVAR Mina Array Bea 85.17 50 P **P 03 46 20.7 +0.3**
comp=Z,12nm,0.7s,baz=234,slow=7.5,SNR=45
NVAR LR LR 04 17 16.8
comp=Z,15µm,20.1s,baz=260,slow=31
PFO Pinyon Flats O 85.21 55 *eP* **P 03 46 21.6 +1.0**
comp=Z,248nm,1.6s
PFO LR LR
comp=Z,10µm,20.0s
PFO Pinyon Flats O 85.21 55 *eP* **P 03 46 21.6 +1.0**
PFO pmax pmax
comp=Z,248nm,1.6s
PFO MLR MLR
comp=Z,10µm,20.0s
PFO Pinyon Flats O 85.21 55 P **P 03 46 21.4 +0.8**
baz=254,SNR=11
XPFO Pion Flat 85.21 55 *eP* **P 03 46 21.6 +1.0**
comp=Z,265nm,1.6s
XPFO LR LR
comp=Z,10µm,20.0s
G05D Wamic, OR 85.23 42 P **P 03 46 21.6 +1.4**
baz=250,SNR=6.1
IKP In-Ko-Pah, Jac 85.23 56 P **P 03 46 22.3 +1.6**
baz=254,SNR=21
KNGR Kungurtug, Tuv 85.25 323 *deP* **P 03 46 20.2 -0.1**

NV11 Mina Array Sit 85.28 50 *eP* **P 03 46 22.0 +1.2**
comp=Z,22nm,1.4s
NV11 LR LR
comp=Z,1µm,20.0s
F05D White Salmon 85.36 42 P **P 03 46 22.0 +1.2**
baz=250,SNR=5.0
MAW Mawson 85.39 202 P **P 03 46 21.5 +0.9**
comp=Z,56nm,1.1s,baz=119,slow=3.6,SNR=4.3
MAW LR LR 04 18 44.8
comp=Z,4µm,21.6s,baz=102,slow=32
MAW Mawson 85.39 202 *eP* **P 03 46 21.5 +0.9**
comp=Z,38nm,1.4s
MAW LR LR
comp=Z,1µm,22.0s
MAW Mawson 85.39 202 *eP* **P 03 46 21.5 +0.9**
MAW pmax pmax
comp=Z,38nm,1.4s
MAW MLR MLR
comp=Z,1µm,22.0s
GSC Goldstone, Bar 85.41 53 *eP* **P 03 46 22.6 +1.2**
comp=Z,217nm,1.5s
GSC LR LR
comp=Z,11µm,20.0s
GSC Goldstone, Bar 85.41 53 P **P 03 46 22.3 +0.9**
baz=254,SNR=13
LON Longmire 85.43 41 *eP* **P 03 46 22.4 +1.1**
comp=Z,64nm,1.4s
LON LR LR
comp=Z,9µm,20.0s
LON Longmire 85.43 41 *eP* **P 03 46 22.4 +1.1**
LON pmax pmax
comp=Z,64nm,1.4s
LON MLR MLR
comp=Z,9µm,20.0s
GRAC Grapevine Rang 85.45 51 P **P 03 46 23.3 +1.7**
baz=253,SNR=12
KVN Kaiserville 85.50 49 *eP* **P 03 46 23.0 +1.0**
comp=Z,351nm,1.7s
KVN LR LR
comp=Z,12µm,20.0s
SWSC Sam W. Stewart 85.56 55 P **P 03 46 23.5 +1.3**
baz=254,SNR=30
A04D Lummi Island 85.57 39 P **P 03 46 23.4 +1.6**
baz=249,SNR=13
HEC Hector,Ludlow 85.64 54 P **P 03 46 23.8 +1.1**
baz=254,SNR=7.3
DLBC Dease Lake 85.68 28 *eP* **P 03 46 24.3 +2.0**
DLBC *epP* **sP 03 46 31.2 +0.2**
DLBC LR LR
comp=Z,6µm,20.0s
BELC Belle Mtn. Jos 85.69 54 P **P 03 46 24.2 +1.2**
baz=254,SNR=23
FURC Furnace Creek, 85.69 52 P **P 03 46 24.2 +1.5**
baz=254,SNR=23
B05A Bryant 85.79 39 P **P 03 46 24.2 +1.4**
baz=249,SNR=14
BOK Bokaro 85.84 295 *eP* **P 03 46 22.3 -1.4**
BOK IAmb IAmb 03 46 25.0
comp=Z,278nm,2.4s
TIXI Tiksi 85.84 349 P **P 03 46 22.2 -0.5**
comp=Z,12nm,0.8s,baz=130,slow=7.3,SNR=66
TIXI Tiksi 85.84 349 *eP* **P 03 46 22.5 -0.2**
comp=Z,430nm,1.7s
TIXI LR LR
comp=Z,3µm,20.0s
TIXI Tiksi 85.84 349 *diP* **P 03 46 22.5 -0.2**
TIXI pmax pmax
comp=Z,203nm,1.7s
RAMN Ramite 85.95 298 *eP* **P 03 46 24.1 -0.5**
comp=Z,109nm,1.3s
SHOC Shoshone, Teco 85.99 53 P **P 03 46 25.2 +1.0**
baz=254,SNR=9.1
BC3 Big Chuckawall 86.03 55 P **P 03 46 26.1 +1.5**
baz=255,SNR=22
I07A Izee 86.06 44 *eP* **P 03 46 25.4 +0.9**
comp=Z,245nm,1.6s
TUQ Turquoise Moun 86.13 53 P **P 03 46 26.5 +1.4**
baz=254,SNR=6.7
WVOR Wild Horse Val 86.14 46 *eP* **P 03 46 26.5 +1.5**
comp=Z,219nm,1.4s
WVOR LR LR
comp=Z,8µm,21.0s
WVOR Wild Horse Val 86.14 46 *eP* **P 03 46 26.5 +1.5**
WVOR pmax pmax
comp=Z,219nm,1.4s
WVOR MLR MLR
comp=Z,8µm,21.0s
GMRC Granite Mounta 86.17 54 P **P 03 46 26.3 +1.0**
baz=254,SNR=20
B06A Marblemount 86.26 39 *epP* pP 03 46 35.1 +3.5
TPNV Topopah Spring 86.30 52 *eP* **P 03 46 27.1 +1.1**
comp=Z,309nm,1.7s
TPNV LR LR
comp=Z,17µm,22.0s
TPNV Topopah Spring 86.30 52 *eP* **P 03 46 27.1 +1.1**
TPNV pmax pmax
comp=Z,309nm,1.7s
TPNV MLR MLR
comp=Z,17µm,22.0s
TPNV Topopah Spring 86.30 52 P **P 03 46 27.1 +1.1**
baz=254,SNR=18
LTY Liberty 86.34 41 *eP* **P 03 46 26.4 +0.6**
comp=Z,221nm,1.6s
LTY LR LR
comp=Z,7µm,20.0s
F07A Phinny Hill Vi 86.37 42 *eP* **P 03 46 27.2 +1.4**
comp=Z,131nm,1.3s
GLA Glamis 86.38 56 *eP* **P 03 46 28.1 +1.9**
comp=Z,301nm,1.4s
GLA LR LR
comp=Z,12µm,21.0s
GLA Glamis 86.38 56 *eP* **P 03 46 28.1 +1.9**
GLA pmax pmax
comp=Z,301nm,1.4s
GLA MLR MLR
comp=Z,12µm,21.0s
GLA Glamis 86.38 56 P **P 03 46 27.7 +1.4**
baz=255,SNR=14
IRM Iron Mountain 86.41 54 P **P 03 46 28.0 +1.6**
baz=255,SNR=45
C06D Leavenworth 86.42 40 P **P 03 46 27.0 +0.9**
baz=250
JIRN Jiri 86.48 299 *eP* **P 03 46 27.0 -0.3**
comp=Z,162nm,1.1s
J08A Circle Bar Ran 86.54 45 *eP* **P 03 46 27.9 +1.0**
LDFC Landfair 86.68 54 *eP* **P 03 46 29.3 +1.5**
comp=Z,579nm,1.4s
LLLB Lillooet 86.76 37 *eP* **P 03 46 28.8 +1.1**
comp=Z,175nm,1.8s
LLLB LR LR
comp=Z,16µm,22.0s
HAWA Hanford 86.79 42 *eP* **P 03 46 28.9 +1.0**
comp=Z,268nm,1.5s
HAWA LR LR
comp=Z,7µm,20.0s
Y12C Blythe 86.80 55 *eP* **P 03 46 30.3 +2.0**
comp=Z,211nm,1.2s
Y12C LR LR
comp=Z,9µm,20.0s
Y12C Blythe 86.80 55 P **P 03 46 29.7 +1.4**
baz=255,SNR=21
GUN Gumba 86.80 299 *eP* **P 03 46 28.5 -0.4**
comp=Z,164nm,1.1s
G08A Pilot Rock 86.81 43 *epP* pP 03 46 38.5 +3.8
NEE2 Needles Airpor 86.99 54 P **P 03 46 30.8 +1.6**
baz=255,SNR=7.9
SHPR Sheep Range 87.02 52 *eP* **P 03 46 31.0 +1.5**
comp=Z,234nm,1.6s
SHPR LR LR
comp=Z,12µm,20.0s
E08A Dider Farm, El 87.13 42 *eP* **P 03 46 31.1 +1.5**
comp=Z,352nm,1.4s
PKI Pulchoki 87.13 299 *eP* **P 03 46 29.8 -0.6**
comp=Z,221nm,1.5s
PKIN Phulchoki 87.14 299 *eP* **P 03 46 29.7 -0.7**
comp=Z,108nm,1.3s
SRIG Santa Rosalia 87.14 62 PFAKE 03 46 40.0 +10
SRIG LR LR
comp=Z,15µm,20.0s
113A Mohawk Valley, 87.17 56 *eP* **P 03 46 31.9 +1.9**
comp=Z,328nm,1.8s
113A LR LR
comp=Z,13µm,22.0s
R11A Troy Canyon, C 87.19 50 *eP* **P 03 46 31.6 +1.3**
comp=Z,228nm,1.7s
R11A LR LR
comp=Z,19µm,21.0s
R11A Troy Canyon, C 87.19 50 P **P 03 46 31.4 +1.1**

baz=254,SNR=30
PDMCI Parker Dam,Lak 87.25 55 P P 03 46 31.9 +1.5
baz=255,SNR=28
PALK Pallekele 87.27 278 LR LR 04 28 35.6
comp=Z,2µm,20.3s,baz=134,slow=38
PALK Pallekele 87.27 278 eP P 03 46 31.4 +0.4
comp=Z,33nm,0.9s
PALK LR LR
comp=Z,2µm,20.0s
PALK Pallekele 87.27 278 i P P 03 46 32.1 +1.1
KKN Kakani 87.29 299 eP P 03 46 30.6 -0.5
comp=Z,135nm,1.2s
D08A Wollman Farm, 87.40 41 epP pP 03 46 41.1 +3.8
DMN Daman 87.40 299 eP P 03 46 31.2 -0.4
comp=Z,458nm,1.5s
B08A Colville Reser 87.55 40 epP pP 03 46 40.8 +2.8
W13A Hualapai Mount 87.66 54 eP P 03 46 34.1 +1.5
comp=Z,322nm,1.6s
W13A LR LR
comp=Z,12µm,19.0s
E09A Wood Farm, Sta 87.74 42 eP P 03 46 33.8 +1.3
214A Organ Pipe Nat 87.75 57 P P 03 46 35.0 +2.0
baz=256,SNR=36
BMO Blue Mountains 87.80 44 eP P 03 46 33.6 +0.6
comp=Z,237nm,1.7s
BMO Blue Mountains 87.80 44 eP P 03 46 33.6 +0.6
BMO pmax pmax
comp=Z,237nm,1.7s
C09A Chrisman Ranch 88.05 41 eP P 03 46 34.9 +0.9
comp=Z,108nm,1.4s
Y14A Wickenburg 88.07 55 eP P 03 46 36.3 +1.8
comp=Z,197nm,1.4s
Y14A LR LR
comp=Z,10µm,21.0s
ELK Elko 88.09 48 eP P 03 46 35.3 +0.6
comp=Z,177nm,1.5s
ELK LR LR
comp=Z,7µm,22.0s
ELK Elko 88.09 48 eP P 03 46 35.3 +0.6
ELK pmax pmax
comp=Z,177nm,1.5s
ELK MLR MLR
comp=Z,7µm,22.0s
F10A Beach Ranch, E 88.18 43 eP P 03 46 35.0 +0.3
comp=Z,199nm,1.4s
F10A LR LR
comp=Z,6µm,20.0s
SLBS Sierra La Lagu 88.36 66 eP P 03 46 38.1 +2.0
comp=Z,85nm,1.1s
SLBS LR LR
comp=Z,8µm,20.0s
PSUT Pine Spring 88.55 51 eP P 03 46 38.4 +1.6
comp=Z,273nm,1.6s
PSUT LR LR
comp=Z,15µm,21.0s
LCMT Little Creek M 88.64 52 eP P 03 46 39.1 +1.9
comp=Z,322nm,1.4s
LCMT LR LR
comp=Z,11µm,22.0s
HSIG 88.64 60 eP P 03 46 39.1 +2.0
comp=Z,283nm,1.4s
HSIG LR LR
comp=Z,16µm,20.0s
CCUT Cedar City 88.68 52 eP P 03 46 39.7 +2.2
comp=Z,434nm,1.5s
CCUT LR LR
comp=Z,17µm,20.0s
DANN Dangsing 88.73 299 eP P 03 46 36.8 -1.2
comp=Z,102nm,1.1s
KOLN Koldanda 88.74 298 eP P 03 46 36.7 -1.2
comp=Z,128nm,1.4s
MDRS Chennai 88.81 283 eP P 03 46 36.9 -1.4
MDRS IAmb IAmb 03 46 39.4
comp=Z,772nm,3.2s
MDRS IAMs_20 IAMs_20 04 37 30.8
comp=Z,4µm,16.3s
SZCU Shurtz Canyon 88.90 52 eP P 03 46 40.6 +2.1
comp=Z,574nm,1.7s
SZCU LR LR
comp=Z,17µm,21.0s
NEW Newport 88.93 40 P P 03 46 38.2 0.0
comp=Z,6.9nm,0.8s,baz=232,slow=5.0,SNR=17
NEW Newport 88.93 40 eP P 03 46 38.6 +0.4
comp=Z,90nm,1.3s
NEW LR LR
comp=Z,6µm,20.0s
NEW Newport 88.93 40 eP P 03 46 38.6 +0.4
NEW pmax pmax
comp=Z,90nm,1.3s
NEW MLR MLR
comp=Z,6µm,20.0s
NEW Newport 88.93 40 P P 03 46 38.8 +0.7
baz=253,SNR=12
KNB Kanab 88.96 52 eP P 03 46 40.9 +2.2
comp=Z,643nm,1.5s
KNB LR LR
comp=Z,9µm,20.0s
U15A North Rim 89.24 53 eP P 03 46 41.8 +1.6
comp=Z,331nm,1.1s
U15A LR LR
comp=Z,8µm,19.0s
INK Inuvik 89.27 19 P P 03 46 38.5 -0.7
comp=Z,11nm,1.2s,baz=242,slow=6.1,SNR=11
INK LR LR 04 20 31.9
comp=Z,3µm,20.5s,baz=220,slow=32
INK Inuvik 89.27 19 eP P 03 46 39.3 +0.1
comp=Z,34nm,1.1s
INK LR LR
comp=Z,15µm,22.0s
INK Inuvik 89.27 19 eP P 03 46 39.3 +0.1
INK pmax pmax
comp=Z,34nm,1.1s
INK MLR MLR
comp=Z,15µm,22.0s
PYUN Piuthan 89.34 299 eP P 03 46 39.3 -1.4
comp=Z,86nm,1.0s
WMQ Urumqi 89.36 315 P P 03 46 40.5 +0.2
WMQ sP pP 03 46 47.8 +0.9
WMQ PP PP 03 50 09.5 -2.1
WMQ SKS SKSac 03 57 10.8 +1.4
WMQ S S 03 57 29.5 +0.2
WMQ SS SS 04 03 24.8 +0.1
WMQ pmax pmax
comp=Z,140nm,1.3s
WMQ LR LR
comp=Z,5µm,26.5s
WMQ LR LR
comp=Z,3µm,26.5s
WMQ LR LR
comp=Z,5µm,28.7s
WMQ Urumqi 89.36 315 eP P 03 46 40.5 +0.2
comp=Z,62nm,1.0s
WMQ LR LR
comp=Z,2µm,20.0s
HLID Hailey 89.44 46 eP P 03 46 41.5 +0.7
comp=Z,192nm,1.4s
HLID LR LR
comp=Z,6µm,20.0s
HLID Hailey 89.44 46 P P 03 46 41.9 +1.0
baz=255
X16A Lo Mia Camp, P 89.45 55 eP P 03 46 42.8 +1.7
comp=Z,158nm,1.0s
X16A LR LR
comp=Z,12µm,21.0s
PKCU Pink Cliffs 89.46 52 eP P 03 46 44.1 +2.8
comp=Z,772nm,1.4s
PKCU LR LR
comp=Z,13µm,22.0s
TUC Tucson 89.51 57 eP P 03 46 43.3 +2.0
comp=Z,173nm,1.1s
TUC LR LR
comp=Z,17µm,19.0s
TUC Tucson 89.51 57 P P 03 46 42.9 +1.6
baz=257
TCRU Three Creeks R 89.64 51 eP P 03 46 44.1 +2.1
comp=Z,203nm,1.0s
TCRU LR LR
comp=Z,17µm,21.0s
MTPU Mount Pierson 89.70 51 eP P 03 46 44.8 +2.3
comp=Z,248nm,1.1s
MTPU LR LR
comp=Z,20µm,21.0s
DUG Dugway, Tooele 89.74 49 eP P 03 46 43.2 +1.0
comp=Z,232nm,1.4s
DUG LR LR
comp=Z,9µm,20.0s
DUG Dugway, Tooele 89.74 49 eP P 03 46 43.3 +1.0
DUG pmax pmax
comp=Z,232nm,1.4s
DUG MLR MLR
comp=Z,9µm,20.0s
DUG Dugway, Tooele 89.74 49 P P 03 46 43.6 +1.3
baz=256
WUAZ Wupatki 89.75 54 eP P 03 46 44.7 +2.2
comp=Z,228nm,1.0s
WUAZ LR LR
comp=Z,8µm,20.0s
WUAZ Wupatki 89.75 54 P P 03 46 43.7 +1.2
baz=257
BGU Big Grassy Mou 89.76 48 eP P 03 46 43.6 +1.2
comp=Z,152nm,1.2s
BGU LR LR
comp=Z,5µm,20.0s
MSU Marysvale 89.82 51 eP P 03 46 45.3 +2.5
MSU Marysvale 89.82 51 eP P 03 46 45.3 +2.5
HVU Hansel Valley 90.16 48 eP P 03 46 45.7 +1.5
comp=Z,257nm,1.1s
HVU LR LR
comp=Z,4µm,19.0s
HVU Hansel Valley 90.16 48 eP P 03 46 45.7 +1.5
HVU pmax pmax
comp=Z,257nm,1.1s
HVU MLR MLR
comp=Z,4µm,19.0s
NLU North Lily Min 90.23 49 eP P 03 46 46.2 +1.5
comp=Z,190nm,1.1s
NLU LR LR
comp=Z,15µm,19.0s
SPUT South Promonto 90.28 48 eP P 03 46 47.0 +2.2
comp=Z,211nm,1.4s
SPUT LR LR
comp=Z,5µm,20.0s
319A Douglas 90.56 58 eP P 03 46 48.8 +2.5
comp=Z,202nm,1.0s
319A LR LR
comp=Z,16µm,21.0s
CTU Camp Tracy 90.65 49 eP P 03 46 48.2 +1.6
comp=Z,154nm,1.0s
CTU LR LR
comp=Z,6µm,20.0s
X18A Snowflake 90.67 55 eP P 03 46 49.0 +2.2
comp=Z,196nm,1.1s
X18A LR LR
comp=Z,8µm,22.0s
Q16A Castle Valley 90.68 51 eP P 03 46 49.1 +2.3
comp=Z,671nm,1.8s
Q16A LR LR
comp=Z,13µm,21.0s
JLU Jordanelle 90.85 49 eP P 03 46 48.9 +1.3
comp=Z,159nm,1.1s
JLU LR LR
comp=Z,8µm,22.0s
W18A Petrified Fore 90.97 55 eP P 03 46 50.3 +2.1
comp=Z,249nm,1.2s
W18A LR LR
comp=Z,8µm,21.0s
W18A Petrified Fore 90.97 55 P P 03 46 49.2 +1.0
baz=258
HWUT Hardware Ranch 91.00 48 eP P 03 46 49.0 +0.8
comp=Z,38nm,0.8s
HWUT LR LR
comp=Z,100nm,20.0s
TCUT Toone Canyon 91.00 48 eP P 03 46 50.0 +1.8
comp=Z,248nm,1.1s
TCUT LR LR
comp=Z,11µm,19.0s
DGZ Jazzator, Alta 91.08 320 di P P 03 46 47.3 -1.0
DGZ pmax pmax
comp=Z,24nm,0.8s
P17A Butcher Ranch, 91.13 50 eP P 03 46 50.6 +1.7
comp=Z,120nm,1.2s
P17A LR LR
comp=Z,10µm,20.0s
TRD Trivandrum 91.14 278 eP P 03 46 47.4 -1.7
DLMT Dillon 91.15 44 eP P 03 46 50.0 +1.3
comp=Z,185nm,1.0s
DLMT LR LR
comp=Z,8µm,20.0s
WALA Waterton Lakes 91.19 40 eP P 03 46 50.7 +1.9
comp=Z,185nm,1.3s
WALA LR LR
comp=Z,4µm,20.0s
SRU San Rafael Swe 91.21 51 eP P 03 46 50.7 +1.5
comp=Z,70nm,1.1s
SRU LR LR
comp=Z,13µm,21.0s
SRU San Rafael Swe 91.21 51 eP P 03 46 50.7 +1.5
SRU pmax pmax
comp=Z,70nm,1.1s
SRU MLR MLR
comp=Z,13µm,21.0s
HYB Hyderabad 91.24 287 i P P 03 46 48.5 -1.1
HYB eSKS SKSac 03 57 22.0 +0.8
HYB eS S 03 57 48.0 +0.5
HYB Hyderabad 91.24 287 eP P 03 46 48.0 -1.6
LRM Limekiln Ridge 91.36 44 eP P 03 46 51.0 +1.2
AHID Auburn Hatcher 91.59 47 eP P 03 46 52.3 +1.4
comp=Z,97nm,1.5s
AHID LR LR
comp=Z,5µm,22.0s
FXWY Fox Creek 91.84 46 eP P 03 46 53.1 +1.0
comp=Z,64nm,1.0s
BOZ Bozeman (W) 91.86 44 eP P 03 46 53.3 +1.3
comp=Z,141nm,1.1s
BOZ LR LR
comp=Z,8µm,22.0s
BOZ Bozeman (W) 91.86 44 eP P 03 46 53.3 +1.3
BOZ pmax pmax
comp=Z,141nm,1.1s
BOZ MLR MLR
comp=Z,8µm,22.0s
BOZ Bozeman (W) 91.86 44 P P 03 46 53.5 +1.4
baz=257,SNR=21
REDW Red Top Meadow 91.90 46 eP P 03 46 54.0 +1.6
comp=Z,365nm,1.9s
REDW LR LR
comp=Z,7µm,19.0s
YHB Horse Butte 91.97 45 eP P 03 46 54.8 +2.2
comp=Z,102nm,1.1s
YHB LR LR
comp=Z,10µm,22.0s
HRY Holter Researc 91.98 43 eP P 03 46 53.6 +1.0
SNOW Snow King Moun 91.99 46 eP P 03 46 54.5 +1.7
comp=Z,79nm,1.0s
SNOW LR LR
comp=Z,7µm,19.0s
121A Cookes Peak, D 92.03 57 P P 03 46 54.7 +1.5
baz=259,SNR=8.6
MOOW Moose Ponds 92.06 46 eP P 03 46 54.5 +1.4
comp=Z,64nm,1.3s
MOOW LR LR
comp=Z,7µm,20.0s
PV05 Paradox Valley 92.08 52 eP P 03 46 56.0 +2.7
YMR Madison River 92.11 45 eP P 03 46 55.5 +2.2
comp=Z,250nm,1.7s
YMR LR LR
comp=Z,8µm,22.0s
LOHW Long Hollow 92.13 46 eP P 03 46 54.8 +1.4
comp=Z,101nm,1.4s
LOHW LR LR
comp=Z,6µm,19.0s
YPP Pitchstone Pla 92.14 45 eP P 03 46 56.3 +2.8
comp=Z,91nm,1.5s
YPP LR LR
comp=Z,9µm,20.0s
PV09 Paradox Valley 92.14 51 eP P 03 46 55.6 +1.9
YFT Old Faithful 92.15 45 eP P 03 46 56.9 +3.4
comp=Z,55nm,1.0s
YFT LR LR
comp=Z,12µm,18.0s
FLWY Flagg Ranch 92.17 46 eP P 03 46 55.6 +2.0
comp=Z,51nm,1.0s
FLWY LR LR
comp=Z,7µm,20.0s
ZSN Zaisan 92.18 318 de P P 03 46 52.1 -1.2
ZSN pmax pmax
comp=Z,127nm,0.6s
ZSN Zaisan 92.18 318 ⇓ eP P 03 46 52.2 -1.2
comp=Z,127nm,0.7s
PV10 Paradox Valley 92.19 52 eP P 03 46 55.8 +1.9
PV10 LR LR
comp=Z,10µm,22.0s
PV14 Lion Creek, Pa 92.20 52 eP P 03 46 55.5 +1.6
comp=Z,153nm,1.4s
PV14 LR LR
comp=Z,16µm,22.0s
PV19 Morning Glory 92.22 52 eP P 03 46 55.7 +1.7
comp=Z,139nm,1.4s
PV19 LR LR
comp=Z,8µm,19.0s
PV23 Carpenter Ridg 92.23 51 eP P 03 46 55.9 +1.8
comp=Z,140nm,1.1s
PV23 LR LR
comp=Z,17µm,22.0s
PV17 East Wray Mesa 92.23 52 eP P 03 46 55.6 +1.6
comp=Z,284nm,1.9s
PV17 LR LR
comp=Z,10µm,22.0s
PV20 West Nyswonger 92.24 52 eP P 03 46 56.0 +2.0
comp=Z,91nm,1.2s
PV20 LR LR
comp=Z,10µm,22.0s
PV16 Nyswonger Mesa 92.27 52 eP P 03 46 56.2 +2.0
comp=Z,194nm,1.8s
PV16 LR LR
comp=Z,7µm,19.0s
PV21 Cone Mtn., Par 92.28 51 eP P 03 46 56.0 +1.7
comp=Z,127nm,1.2s
PV21 LR LR
comp=Z,17µm,22.0s
PV04 Paradox Valley 92.30 52 PFAKE 03 47 10.0 +16
PV04 LR LR
comp=Z,11µm,20.0s
PV11 David Mesa, Pa 92.30 52 eP P 03 46 56.4 +2.0
comp=Z,219nm,1.6s
PV11 LR LR
comp=Z,13µm,22.0s
PV03 Paradox Valley 92.31 52 eP P 03 46 56.0 +1.6
PV03 LR LR
comp=Z,10µm,22.0s
PV13 Radium Mtn., P 92.32 52 eP P 03 46 56.2 +1.8
comp=Z,222nm,1.9s
PV13 LR LR
comp=Z,7µm,22.0s
YNR Norris Junctio 92.32 45 eP P 03 46 57.6 +3.2
comp=Z,159nm,1.8s
YNR LR LR
comp=Z,9µm,22.0s
H17A Grant Village 92.32 45 eP P 03 46 56.8 +2.4
comp=Z,54nm,0.9s
H17A LR LR
comp=Z,8µm,19.0s
H17A Grant Village 92.32 45 P P 03 46 56.1 +1.8
baz=258,SNR=8.6
PV12 Saucer Basin, 92.36 52 eP P 03 46 56.4 +1.7
comp=Z,167nm,1.3s
PV12 LR LR
comp=Z,10µm,22.0s
MVCO Mesa Verde 92.38 53 eP P 03 46 56.3 +1.5
comp=Z,68nm,1.4s
MVCO LR LR
comp=Z,8µm,20.0s
MVCO Mesa Verde 92.38 53 P P 03 46 56.0 +1.3
baz=259,SNR=16
PV02 Paradox Valley 92.39 52 eP P 03 46 56.8 +2.0
comp=Z,152nm,1.6s
PV02 LR LR
comp=Z,8µm,22.0s
LKWY Lake 92.48 45 PFAKE 03 47 10.0 +15
LKWY LR LR
comp=Z,10µm,20.0s
PV01 Paradox Valley 92.50 52 eP P 03 46 56.8 +1.5
PV01 LR LR
comp=Z,6µm,20.0s
PV07 Paradox Valley 92.51 52 PFAKE 03 47 10.0 +15
PV07 LR LR
comp=Z,11µm,22.0s
PV15 Paradox Valley 92.61 52 PFAKE 03 47 10.0 +14
PV15 LR LR
comp=Z,6µm,20.0s
BW06 Boulder Array 92.70 47 eP P 03 46 56.8 +0.7
comp=Z,53nm,1.1s
BW06 LR LR
comp=Z,4µm,21.0s
BW06 Boulder Array 92.70 47 P P 03 46 56.4 +0.3
baz=258,SNR=21
PD31 Pinedale Array 92.70 47 eP P 03 46 56.8 +0.7
PDAR Pinedale Array 92.70 47 P P 03 46 56.8 +0.7
comp=Z,4.6nm,0.9s,baz=222,slow=2.0,SNR=26
PDAR PKKP PKKPdf 04 04 07.0 -0.8
comp=Z,1.5nm,0.7s,baz=88,slow=5.0,SNR=13
PDAR LR LR 04 21 35.7
comp=Z,3µm,21.3s,baz=258,slow=31
PDAR Pinedale Array 92.70 47 eP P 03 46 55.4 -0.7
HPIG 92.80 63 eP P 03 46 58.5 +1.7
comp=Z,98nm,1.8s
HPIG LR LR
comp=Z,12µm,20.0s
LAZ Ladron 92.92 56 eP P 03 46 59.5 +2.3
LENM Lemitar 93.01 56 eP P 03 46 60.0 +2.3
Y22D IRIS PASSCAL I 93.04 56 PFAKE 03 47 10.0 +12
Y22D LR LR
comp=Z,12µm,22.0s
Y22D IRIS PASSCAL I 93.04 56 P P 03 46 58.4 +0.7
baz=259
O20A White River Ci 93.15 50 eP P 03 46 59.7 +1.5
comp=Z,160nm,1.6s
O20A LR LR
comp=Z,10µm,22.0s
O20A White River Ci 93.15 50 P P 03 46 59.5 +1.3
baz=259,SNR=11
GCMT Greycliff 93.25 44 eP P 03 47 00.3 +1.9
BNM Barren Site 93.29 56 eP P 03 47 00.5 +1.4
LPM Los Pinos Moun 93.32 56 eP P 03 47 01.3 +2.2
BHPL Bhopal 93.33 293 eP P 03 46 57.0 -2.2
RLMT Red Lodge 93.39 45 eP P 03 47 00.8 +1.6
comp=Z,126nm,1.7s
RLMT LR LR
comp=Z,9µm,21.0s
RLMT Red Lodge 93.39 45 P P 03 47 01.0 +1.8
baz=258,SNR=5.4
ANMO Albuquerque 93.57 55 eP P 03 47 01.6 +1.3
comp=Z,35nm,1.0s
ANMO LR LR
comp=Z,7µm,21.0s
ANMO Albuquerque 93.57 55 di P P 03 47 01.2 +0.9
ANMO pmax pmax
comp=Z,37nm,1.1s
ANMO Albuquerque 93.57 55 P P 03 47 01.0 +0.7
baz=260
EGMT Eagleton 93.64 42 eP P 03 47 01.0 +0.8
comp=Z,116nm,1.0s
EGMT LR LR
comp=Z,5µm,20.0s
EGMT Eagleton 93.64 42 P P 03 47 01.1 +1.0
baz=258
ZAA0 Zalesovo Array 93.69 324 eP P 03 46 59.0 -1.0
comp=Z,85nm,1.4s
ZAA0 LR LR
comp=Z,2µm,20.0s
ZALV Zalesovo Beam 93.69 324 P P 03 46 59.4 -0.7
comp=Z,28nm,0.9s,baz=114,slow=4.3,SNR=107
ZALV PKKP PKKPdf 04 04 05.5 -0.4
comp=Z,1.0nm,0.6s,baz=294,slow=1.5,SNR=5.6
ZALV Zalesovo Beam 93.69 324 eP P 03 46 58.1 -1.9
ZALV Zalesovo Beam 93.69 324 eP P 03 46 58.1 -1.9
ZAA1 Zalesovo Array 93.69 324 eP P 03 46 59.4 -0.7
MK01 Makanchi Array 93.75 317 eP P 03 46 59.2 -1.4
MK31 Makanchi Array 93.76 317 eP P 03 46 59.8 -0.8
MK31 Makanchi Array 93.76 317 i P P 03 46 59.8 -0.8
MK31 pmax pmax
comp=Z,62nm,0.9s
MK32 Makanchi Array 93.76 317 eP P 03 46 60.0 -0.7
MKAR Makanchi Array 93.76 317 P P 03 46 60.0 -0.6
comp=Z,47nm,0.8s,baz=96,slow=6.3,SNR=386
MKAR PKKP PKKPdf 04 04 04.0 -1.7
comp=Z,5.6nm,0.8s,baz=283,slow=2.5,SNR=37
MKAR LR LR 04 28 36.1
comp=Z,725nm,21.4s,baz=98,slow=35
MKAR Makanchi Array 93.76 317 eP P 03 46 59.8 -0.8
comp=Z,316nm,0.8s
MKAR Makanchi Array 93.76 317 eP P 03 46 59.8 -0.8
MKAR pmax pmax
comp=Z,316nm,0.8s
S22A 4UR Ranch, Cre 93.78 52 eP P 03 47 03.2 +1.9
comp=Z,92nm,1.3s
S22A LR LR
comp=Z,9µm,20.0s
S22A 4UR Ranch, Cre 93.78 52 P P 03 47 02.9 +1.7
baz=260,SNR=11
MNTX Cornudas Mount 93.89 59 eP P 03 47 02.8 +1.2
comp=Z,52nm,1.1s
MNTX LR LR

comp=Z,13µm,20.0s
MNTX Cornudas Mount 93.89 59 P P 03 47 02.7 +1.2
baz=260,SNR=12
SMCO Snowmass 93.93 51 PFAKE 03 47 10.0 +7.9
SMCO LR LR
comp=Z,19µm,22.0s
MAKZ Makanchi 93.98 317 eP P 03 47 01.0 -0.6
comp=Z,82nm,1.1s
MAKZ LR LR
comp=Z,2µm,19.0s
MAKZ Makanchi 93.98 317 P P 03 47 01.0 -0.6
MAKZ pmax pmax
comp=Z,116nm,1.2s
DDI Dehra Dun 94.00 300 eP P 03 46 59.2 -2.9
DDI IAmb IAmb 03 47 01.9
comp=Z,508nm,2.4s
RWWY Rawlins 94.21 49 PFAKE 03 47 20.0 +17
RWWY LR LR
comp=Z,5µm,18.0s
YKA Yellowknife Ar 94.25 27 P P 03 47 00.8 -1.6
comp=Z,2.8nm,0.7s,baz=256,slow=4.7,SNR=30
YKA PKKP PKKPdf 04 04 03.6 -1.6
comp=Z,0.8nm,0.9s,baz=59,slow=2.4,SNR=6.6
YKA LR LR 04 22 20.3
comp=Z,414nm,21.6s,baz=261,slow=31
YKB5 Yellowknife Ar 94.25 27 eP P 03 47 00.5 -2.0
YKW3 Yellowknife Ar 94.27 27 eP P 03 47 00.9 -1.6
comp=Z,40nm,1.6s
YKW3 LR LR
comp=Z,4µm,21.0s
NDI New Delhi 94.44 298 eP P 03 47 02.0 -2.1
HMDM Hanimaadhoo 94.51 276 PFAKE 03 47 20.0 +15
HMDM LR LR
comp=Z,4µm,18.0s
NVS Novosibirsk 94.78 325⇑ iP P 03 47 04.4 -0.6
NVS e 03 50 52.0
NVS pmax pmax
comp=N,26nm,1.8s
NVS pmax pmax
comp=E,56nm,1.8s
NVS pmax pmax
comp=Z,103nm,1.8s
SDCO Great Sand Dun 94.82 53 eP P 03 47 06.7 +0.7
comp=Z,56nm,1.8s
SDCO LR LR
comp=Z,8µm,20.0s
SDCO Great Sand Dun 94.82 53 P P 03 47 06.5 +0.5
baz=260
GDL2 Guadalupe Moun 94.82 58 eP P 03 47 07.9 +2.0
ZAIG Zacatecas 94.86 68 eP P 03 47 08.9 +2.4
comp=Z,77nm,1.6s
ZAIG LR LR
comp=Z,7µm,20.0s
K22A Casper 94.88 48 eP P 03 47 07.6 +1.6
comp=Z,110nm,1.8s
K22A LR LR
comp=Z,6µm,20.0s
K22A Casper 94.88 48 P P 03 47 06.1 +0.1
baz=260,SNR=6.8
SMLA Simla 94.89 301 eP P 03 47 03.8 -2.3
SMLA IAmb IAmb 03 47 06.1
comp=Z,97nm,1.5s
SMLA IAMs_20 IAMs_20 04 24 37.6
comp=Z,4µm,26.1s
MNCI Minicoy 94.89 277 PFAKE 03 47 20.0 +14
MNCI LR LR
comp=Z,4µm,19.0s
MNCY Minicoy 94.92 277 eP P 03 47 06.5 -0.1
LTX Lajitas 94.95 61 eP P 03 47 07.8 +1.2
LTX Lajitas 94.95 61 eP P 03 47 07.8 +1.2
TX31 Lajitas Ar. Si 94.95 61 eP P 03 47 07.8 +1.2
TXAR Lajitas Array 94.95 61 P P 03 47 07.8 +1.2
comp=Z,2.0nm,0.9s,baz=251,slow=3.8,SNR=16
TXAR PKKPbc PKKPbc 04 04 00.8 -2.0
comp=Z,1.7nm,1.0s,baz=105,slow=4.0,SNR=7.6
TXAR LR LR 04 22 08.3
comp=Z,12µm,20.4s,baz=0.0,slow=31
N23A Red Feather La 95.01 49 eP P 03 47 08.9 +2.1
comp=Z,106nm,1.4s
N23A LR LR
comp=Z,6µm,19.0s
N23A Red Feather La 95.01 49 P P 03 47 08.0 +1.2
baz=260,SNR=6.0
ISCO Idaho Springs 95.07 51 eP P 03 47 09.4 +2.2
comp=Z,53nm,1.6s
ISCO LR LR
comp=Z,20µm,22.0s
ISCO Idaho Springs 95.07 51 eP P 03 47 09.4 +2.2
ISCO pmax pmax
comp=Z,53nm,1.6s
ISCO MLR MLR
comp=Z,20µm,22.0s
ISCO Idaho Springs 95.07 51 P P 03 47 08.8 +1.6
baz=260
PDGK Podgornoye 95.08 313 P P 03 47 05.7 -1.2
PDGK pmax pmax
comp=Z,22nm,0.9s
CLNB Carlsbad 95.24 58 eP P 03 47 08.0 +0.1
Q24A Divide 95.29 51 eP P 03 47 10.6 +2.4
comp=Z,36nm,1.1s
Q24A LR LR
comp=Z,10µm,22.0s
Q24A Divide 95.29 51 P P 03 47 09.7 +1.5
baz=261
GOA Goa 95.37 285 eP P 03 47 07.0 -1.6
GOA IAmb IAmb 03 47 08.5
comp=Z,28nm,0.4s
GOA IAMs_20 IAMs_20 04 44 18.8
comp=Z,4µm,15.9s
UZB Uzynbulak 95.39 313 eP P 03 47 05.4 -2.9
UZB e 03 50 55.8
UZB pmax pmax
comp=Z,224nm,3.3s
UZB Uzynbulak 95.39 313 eP P 03 47 05.4 -2.9
comp=Z,224nm,3.3s
UZB ePP PP 03 50 55.9 -3.2
PHWY Pilot Hill 95.44 49 PFAKE 03 47 20.0 +11
PHWY LR LR
comp=Z,9µm,19.0s
T25A Trinidad 95.58 53 eP P 03 47 11.2 +1.8
comp=Z,32nm,1.1s
T25A LR LR
comp=Z,9µm,20.0s
T25A Trinidad 95.58 53 P P 03 47 10.4 +1.0
baz=261,SNR=8.3
MOIG Morelia 95.63 71 PFAKE 03 47 20.0 +10
MOIG LR LR
comp=Z,9µm,20.0s
KPKS Kokpek 95.68 313 deP P 03 47 06.1 -3.5
KPKS e 03 50 57.4
KPKS pmax pmax
comp=Z,284nm,2.4s
KPKS Kokpek 95.68 313⇓ eP P 03 47 06.1 -3.5
comp=Z,284nm,2.4s
KPKS ⇓ePP PP 03 50 57.5 -3.8
PRZ Przheval'sk 95.73 312 PFAKE 03 47 20.0 +10
PRZ LR LR
comp=Z,4µm,22.0s
LAO LASA Array 95.76 44 eP P 03 47 12.1 +2.3
comp=Z,156nm,1.4s
LAO LR LR
comp=Z,7µm,20.0s
LAO LASA Array 95.76 44 P P 03 47 11.5 +1.7
baz=261
DHRM DHARAMSHALA 95.79 302 eP P 03 47 08.3 -2.2
DHRM IAmb IAmb 03 47 10.8
comp=Z,29nm,0.6s
ZHN Zhinishke 95.81 313 eP P 03 47 07.6 -2.6
ZHN e 03 51 05.1
ZHN pmax pmax
comp=Z,107nm,2.8s
ZHN Zhinishke 95.81 313 eP P 03 47 07.7 -2.6
comp=Z,107nm,2.8s
ZHN ePP PP 03 51 05.1 +2.7
SATY Saty 95.82 313 deP P 03 47 08.8 -1.4
SATY e 03 50 59.0
SATY pmax pmax
comp=Z,192nm,0.7s
SATY Saty 95.82 313⇓ eP P 03 47 08.8 -1.4
comp=Z,192nm,0.7s
SATY ePP PP 03 50 59.0 -3.4
POO Poona 95.84 288 eP P 03 47 08.4 -2.3
POO IAmb IAmb 03 47 10.2
comp=Z,36nm,1.2s
TARG Taragay, Kyrgy 96.05 311 eP P 03 47 11.6 -0.1
comp=Z,64nm,1.9s
TARG LR LR
comp=Z,2µm,22.0s
MSTX Muleshoe 96.42 57 eP P 03 47 13.7 +0.5
comp=Z,62nm,1.2s
MSTX LR LR
comp=Z,13µm,22.0s
MSTX Muleshoe 96.42 57 P P 03 47 13.7 +0.5
baz=262
KDJ Kajisay 96.57 312 eP P 03 47 14.7 +0.9
comp=Z,14nm,0.9s
KDJ LR LR
comp=Z,2µm,22.0s
MDOK Medeo 96.81 313 deP P 03 47 13.3 -1.5
MDOK pmax pmax
comp=Z,73nm,1.9s
MDOK MLR MLR
comp=Z,696nm,18.0s
MDOK Medeo 96.81 313⇓ eP P 03 47 13.3 -1.5
comp=Z,73nm,1.9s
MDOK eLRM MLR 04 32 05.8
comp=Z,696nm,18.3s
KURK Kurchatov 96.83 320 eP P 03 47 13.4 -1.0
comp=Z,77nm,1.5s
KURK LR LR
comp=Z,2µm,18.0s
KURK Kurchatov 96.83 320 diP P 03 47 13.0 -1.5
KURK pmax pmax
comp=Z,65nm,1.8s
KURK Kurchatov 96.83 320 P P 03 47 12.8 -1.7
SNR=26
KURBB Kurchatov Arra 96.87 320 P P 03 47 13.4 -1.2
comp=Z,3.3nm,0.8s,baz=97,slow=3.9,SNR=31
KURBB PKKPbc PKKPbc 04 03 55.0 -3.2
comp=Z,4.7nm,0.8s,baz=280,slow=3.1,SNR=24
RSSD Black Hills 96.90 47 eP P 03 47 16.6 +1.4
comp=Z,71nm,1.6s
RSSD LR LR
comp=Z,5µm,22.0s
RSSD Black Hills 96.90 47 eP P 03 47 16.6 +1.4
RSSD pmax pmax
comp=Z,71nm,1.6s
RSSD MLR MLR
comp=Z,5µm,22.0s
RSSD Black Hills 96.90 47 P P 03 47 15.3 0.0
baz=262
KSH Kashi 97.11 309 P Pdif 03 47 17.5 +1.2
KSH pP pP 03 47 22.3 -0.5
KSH sP sP 03 47 25.5 +0.4
KSH PP PP 03 51 17.5 +5.0
KSH SKS SKSac 03 57 54.8 +2.4
KSH S S 03 58 37.0 -1.5
KSH sS pS 03 58 47.8 +0.9
KSH SS SS 04 05 22.0 +6.1
KSH pmax pmax
comp=Z,22nm,1.1s
KSH pmax pmax
comp=Z,2µm,5.7s
KSH LR LR
comp=Z,2µm,11.7s
KSH LR LR
comp=Z,1µm,12.4s
KSH LR LR
comp=Z,4µm,20.5s
KSCO Kaye Shedlock' 97.24 52 PFAKE 03 47 30.0 +13
KSCO LR LR
comp=Z,9µm,22.0s
KSCO Kaye Shedlock' 97.24 52 P Pdif 03 47 17.0 0.0
baz=262
ULHL Ulahol 97.28 312 P P 03 47 16.9 -0.2
SNR=7.7
NRN Naryn 97.35 311 eP P 03 47 17.5 0.0
comp=Z,19nm,1.4s
NRN LR LR
comp=Z,2µm,22.0s
NRN Naryn 97.35 311 eP P 03 47 17.5 0.0
NRN pmax pmax
comp=Z,19nm,1.4s
NRN MLR MLR
comp=Z,2µm,22.0s
DGMT Dagmar 97.38 42 eP Pdif 03 47 18.5 +1.3
comp=Z,80nm,0.9s
DGMT LR LR
comp=Z,6µm,21.0s
DGMT Dagmar 97.38 42 P Pdif 03 47 17.4 +0.3
baz=262
KUU Kurty 97.42 313 deP P 03 47 15.2 -2.2
KUU e 03 51 13.9
KUU pmax pmax
comp=Z,149nm,1.3s
KUU Kurty 97.42 313⇓ eP P 03 47 15.3 -2.2
comp=Z,149nm,1.3s
KUU ePP PP 03 51 14.0 -0.7
AMTX Amarillo 97.44 56 eP Pdif 03 47 18.4 +0.6
comp=Z,48nm,0.9s
AMTX LR LR
comp=Z,10µm,18.0s
AMTX Amarillo 97.44 56 P P 03 47 17.2 -0.6
baz=262
UNM Universidad Na 97.45 72 PFAKE 03 47 30.0 +12
UNM LR LR
comp=Z,4µm,20.0s
SNAA Sanae 97.57 183 P P 03 47 15.1 -2.5
SNAA Sanae 97.57 183 LR LR 04 28 28.7
comp=Z,5µm,20.2s,baz=166,slow=34
SNAA Sanae 97.57 183 PFAKE 03 47 30.0 +12
SNAA LR LR
comp=Z,6µm,21.0s
SNAA Sanae 97.57 183⇓ eP P 03 47 17.0 -0.6
SNAA pmax pmax
comp=Z,206nm,1.1s
TKM2 Tokmak 2 97.84 312 P P 03 47 18.8 -0.7
SNR=6.6
TKM2 Tokmak 2 97.84 312 iP P 03 47 18.3 -1.2
TKM2 pmax pmax
comp=Z,4.0nm,0.8s
OGNE Ogallala 97.95 50 PFAKE 03 47 30.0 +10
OGNE LR LR
comp=Z,13µm,20.0s
OGNE Ogallala 97.95 50 P Pdif 03 47 20.8 +0.8
baz=263
VNA3 Neumayer Olymp 98.27 181 P P 03 47 18.6 -2.1
KBK Karagaybulak 98.28 312 P P 03 47 21.1 -0.4
SNR=5.9
JCT Junction City 98.43 61 eP Pdif 03 47 23.0 +0.7
comp=Z,20nm,1.0s
JCT LR LR
comp=Z,15µm,20.0s
JCT Junction City 98.43 61 eP Pdif 03 47 23.0 +0.7
JCT pmax pmax
comp=Z,20nm,1.0s
JCT MLR MLR
comp=Z,15µm,20.0s
JCT Junction City 98.43 61 Pdiff Pdif 03 47 22.3 0.0
baz=263
833A Chaparral WMA, 98.51 63 eP Pdif 03 47 22.6 0.0
comp=Z,39nm,1.3s
833A LR LR
comp=Z,10µm,20.0s
833A Chaparral WMA, 98.51 63 Pdiff Pdif 03 47 22.7 +0.1
baz=263
VNA2 Neumayer--Watz 98.52 182 P P 03 47 20.5 -1.3
NIL Nilore 98.52 303 PFAKE 03 47 30.0 +7.4
NIL LR LR
comp=Z,2µm,22.0s
FRU Bishkek 98.54 312 eP P 03 47 20.0 -2.5
FRU e 03 51 19.0
FRU pmax pmax
comp=Z,230nm,3.0s
UCH Uchtor 98.55 311 P P 03 47 23.0 0.0
SNR=6.3
AAK Ala-Archa 98.61 312 eP P 03 47 22.3 -0.6
comp=Z,7.7nm,0.8s
AAK Ala-Archa 98.61 312 diP P 03 47 21.8 -1.1
AAK pmax pmax
comp=Z,27nm,2.5s
CRZF Crozet Islands 98.71 219 PFAKE 03 47 30.0 +6.8
CRZF LR LR
comp=Z,5µm,22.0s
ABTX Abilene, Hawle 98.83 58 eP Pdif 03 47 26.7 +2.7
comp=Z,38nm,1.1s
ABTX LR LR
comp=Z,14µm,20.0s
ABTX Abilene, Hawle 98.83 58 Pdiff P 03 47 23.8 -0.2
baz=263
SFK Sufi-Kurgan 99.06 309 iP Pdif 03 47 24.4 -0.7
SFK pmax pmax
comp=Z,6.0nm,0.9s
AML Almayashu 99.14 311 P Pdif 03 47 25.6 -0.1
SNR=7.7
FFC Flin Flon 99.45 36 eP Pdif 03 47 26.1 -0.1
comp=Z,42nm,1.1s
FFC LR LR
comp=Z,13µm,22.0s
FFC Flin Flon 99.45 36 iP Pdif 03 47 26.5 +0.4
CBKS Cedar Bluff 99.46 52 PFAKE 03 47 40.0 +13
CBKS LR LR
comp=Z,7µm,21.0s
CBKS Cedar Bluff 99.46 52 Pdiff Pdif 03 47 26.7 0.0
baz=264
ARSB Arslanbob 99.59 310 eP Pdif 03 47 27.2 -0.1
comp=Z,58nm,1.9s
ARSB LR LR
comp=Z,1µm,21.0s
KVTX Kingsville 99.73 64 PFAKE 03 47 40.0 +12
KVTX LR LR
comp=Z,5µm,19.0s
U32A Winter Ranch, 99.78 55 PFAKE 03 47 40.0 +12
U32A LR LR
comp=Z,8µm,20.0s
WMOK Wichita Mounta 99.79 56 PFAKE 03 47 40.0 +12
WMOK LR LR
comp=Z,12µm,20.0s
WMOK Wichita Mounta 99.79 56 Pdiff Pdif 03 47 28.5 +0.3
baz=264
MNAS Manas 100.06 311 iP Pdif 03 47 28.1 -1.3
MNAS pmax pmax
comp=Z,14nm,1.4s
LVIG Laguna Verde 100.08 72 PFAKE 03 47 40.0 +10
LVIG LR LR
comp=Z,7µm,22.0s
435B Jarrell 100.37 60 PFAKE 03 47 40.0 +9.2
435B LR LR
comp=Z,16µm,22.0s
435B Jarrell 100.37 60 Pdiff Pdif 03 47 31.6 +0.8
baz=264
MDND Maddock 100.37 43 PFAKE 03 47 40.0 +10
MDND LR LR
comp=Z,8µm,21.0s
MDND Maddock 100.37 43 Pdiff Pdif 03 47 30.5 0.0
baz=266
BHJ Bhuj 100.39 292 eP Pdif 03 47 29.1 -2.0
BHJ IAmb IAmb 03 47 37.6
comp=Z,206nm,2.6s
BRZS Berezniki 100.53 319 ceP Pdif 03 47 28.2 -2.9
BRZS e 03 51 38.7
BRZS pmax pmax
comp=Z,189nm,1.7s
BRZS MLR MLR
comp=Z,845nm,17.0s
BRZS Berezniki 100.53 319⇑ eP Pdif 03 47 28.2 -2.9
comp=Z,189nm,1.7s
BRZS ePP PP 03 51 38.7 +0.5
BRZS eLRM MLR 04 33 12.6
comp=Z,845nm,16.9s
SUSD Miller 100.56 47 Pdiff Pdif 03 47 31.4 0.0
baz=266
WHTX Lake Whitney, 100.61 59 PFAKE 03 47 40.0 +8.1
WHTX LR LR
comp=Z,11µm,20.0s
WHTX Lake Whitney, 100.61 59 Pdiff Pdif 03 47 32.0 +0.2
baz=264
OTUK Ortayu 100.64 317 P Pdif 03 47 30.5 -1.2
OTUK pmax pmax
comp=Z,3.0nm,0.9s
BGNE Belgrade 100.91 50 PFAKE 03 47 50.0 +17
BGNE LR LR
comp=Z,13µm,20.0s
BGNE Belgrade 100.91 50 Pdiff Pdif 03 47 33.4 +0.4
baz=266
BTK Batken 101.12 309 PFAKE 03 47 50.0 +16
BTK LR LR
comp=Z,2µm,19.0s
KK31 Karatay Array 101.57 312 ePdif Pdif 03 47 35.0 -0.9
KK31 Karatay Array 101.57 312 iP Pdif 03 47 35.0 -0.9
KK31 pmax pmax
comp=Z,5.0nm,0.9s
KKAR Karatay Array 101.57 312 ePdif Pdif 03 47 35.0 -0.9
KKAR Karatay Array 101.57 312 eP Pdif 03 47 35.0 -0.9
IUG luzhnay 101.86 311 deP Pdif 03 47 35.3 -2.0
IUG e 03 51 47.4
IUG pmax pmax
comp=Z,94nm,0.8s
IUG luzhnay 101.86 311⇓ eP Pdif 03 47 35.4 -2.0
comp=Z,94nm,0.8s
IUG ePP PP 03 51 47.4 -1.1
KSU1 Kansas State U 101.91 52 PFAKE 03 47 50.0 +12
KSU1 LR LR
comp=Z,10µm,21.0s
KSU1 Kansas State U 101.91 52 Pdiff Pdif 03 47 37.7 +0.1
baz=266
KBL Kabul 102.09 303 PFAKE 03 47 50.0 +11
KBL LR LR
comp=Z,2µm,21.0s
BVA0 Borovoye Array 102.11 322 P Pdif 03 47 37.0 -1.1
BVA0 pmax pmax
comp=Z,19nm,1.2s
BVAR Borovoye Array 102.11 322 P Pdif 03 47 37.1 -0.9
comp=Z,6.3nm,0.8s,baz=93,slow=5.0,SNR=31
BRVK Borovoye 102.18 322 ePdif Pdif 03 47 37.9 -0.4
BRVK LR LR
comp=Z,2µm,19.0s
BRVK Borovoye 102.18 322 deP Pdif 03 47 37.1 -1.2
BRVK pmax pmax
comp=Z,21nm,1.3s
BRVK Borovoye 102.18 322 P Pdif 03 47 37.5 -0.8
SNR=10
ECSD EROS Data Cent 102.20 47 PFAKE 03 47 50.0 +11
ECSD LR LR
comp=Z,5µm,20.0s
ECSD EROS Data Cent 102.20 47 Pdiff Pdif 03 47 38.1 -0.6
baz=267
CHGR Chuyangaron 102.30 307 ePdif Pdif 03 47 38.9 -0.5
CHGR LR LR
comp=Z,4µm,22.0s
TUL1 Leonard 102.33 55 PFAKE 03 47 50.0 +11
TUL1 LR LR
comp=Z,13µm,21.0s
TUL1 Leonard 102.33 55 Pdiff Pdif 03 47 39.4 0.0
baz=266
RES Resolute Bay 102.46 16 PFAKE 03 47 50.0 +11
RES LR LR
comp=Z,6µm,20.0s
X37A Clayton 102.58 57 PFAKE 03 47 50.0 +9.4
X37A LR LR
comp=Z,14µm,19.0s
PAYG Puerto Ayora 102.82 93 PFAKE 03 47 50.0 +7.9
PAYG LR LR
comp=Z,4µm,18.0s
ULM Lac du Bonnet 102.94 41 ePdif Pdif 03 47 42.3 +0.5
ULM LR LR
comp=Z,5µm,20.0s
ULM Lac du Bonnet 102.94 41 eP Pdif 03 47 42.3 +0.5
ULM MLR MLR
comp=Z,5µm,20.0s
NATX Nacogdoches 102.95 60 PFAKE 03 47 50.0 +7.7
NATX LR LR
comp=Z,11µm,20.0s
NATX Nacogdoches 102.95 60 Pdiff Pdif 03 47 43.6 +1.3
baz=266
CCIG Comitan 103.68 76 PFAKE 03 48 00.0 +14
CCIG LR LR
comp=Z,3µm,18.0s
HHAR Hobbs 103.85 55 PFAKE 03 48 00.0 +14
HHAR LR LR
comp=Z,10µm,20.0s
FCC Fort Churchill 103.88 32 ePdif Pdif 03 47 46.7 +1.0
FCC LR LR
comp=Z,12µm,22.0s
FCC Fort Churchill 103.88 32 eP Pdif 03 47 46.7 +1.0
FCC MLR MLR
comp=Z,12µm,22.0s
W39A Magazine 103.92 56 PFAKE 03 48 00.0 +13
W39A LR LR
comp=Z,10µm,22.0s
W39A Magazine 103.92 56 Pdiff Pdif 03 47 46.2 -0.3
baz=267
MIAR Mount Ida 104.05 57 PFAKE 03 48 00.0 +13
MIAR LR LR
comp=Z,16µm,21.0s
MIAR Mount Ida 104.05 57 Pdiff Pdif 03 47 48.3 +1.2
baz=267
Z41A Richland Creek 104.62 58 PFAKE 03 48 00.0 +10
Z41A LR LR

comp=Z,15µm,19.0s
SCIA **State Center** **104.63** **49** PFAKE 03 48 00.0 +10
SCIA LR LR
comp=Z,12µm,20.0s
SCIA **State Center** **104.63** **49** Pdiff **Pdif** **03 47 50.1 +0.6**
baz=269
X40A **Basin Creek Fa** **104.66** **57** PFAKE 03 48 00.0 +10
X40A LR LR
comp=Z,12µm,19.0s
X40A **Basin Creek Fa** **104.66** **57** Pdiff **Pdif** **03 47 48.9 -0.9**
baz=267
Y41A **Eaglette Beard** **104.81** **58** Pdiff **Pdif** **03 47 52.1 +1.6**
baz=267
X41A **Kaden, Bauxite** **104.92** **57** Pdiff **Pdif** **03 47 50.5 -0.5**
baz=267
SPMN **Marine on St.** **104.96** **46** PFAKE 03 52 20.0 +14
SPMN LR LR
comp=Z,10µm,20.0s
SPMN **Marine on St.** **104.96** **46** Pdiff **Pdif** **03 47 51.0 +0.1**
baz=270
UALR **University of** **105.08** **57** PFAKE 03 52 20.0 +14
UALR LR LR
comp=Z,16µm,19.0s
WHAR **Wooly Hollow** **105.14** **56** PFAKE 03 52 20.0 +14
WHAR LR LR
comp=Z,20µm,22.0s
W41B **Gary Mavity, V** **105.17** **56** PFAKE 03 52 20.0 +14
W41B LR LR
comp=Z,22µm,22.0s
V41A **Mountainview** **105.27** **56** Pdiff **Pdif** **03 47 52.1 -0.4**
baz=268
U41A **Viola** **105.48** **55** Pdiff **Pdif** **03 47 53.4 -0.1**
baz=268
Y42A **Garnett, Star** **105.50** **58** Pdiff **Pdif** **03 47 53.4 -0.1**
baz=268
CCAR **Cane Creek** **105.51** **58** PFAKE 03 52 20.0 +13
CCAR LR LR
comp=Z,10µm,19.0s
L39A **Vinton** **105.53** **49** Pdiff **Pdif** **03 47 53.1 -0.4**
baz=270
F38A **Pierce - Schro** **105.61** **45** Pdiff **Pdif** **03 47 52.7 -1.1**
baz=271
K39A **Oelwein** **105.62** **49** Pdiff **Pdif** **03 47 52.7 -1.2**
baz=270
G38A **Ridgeland** **105.63** **46** Pdiff **Pdif** **03 47 52.7 -1.2**
baz=271
X42A **Stuttgart** **105.66** **57** Pdiff **Pdif** **03 47 53.8 -0.4**
baz=268
S41A **Jillco Farms,** **105.66** **54** Pdiff **Pdif** **03 47 53.8 -0.4**
baz=269
J39A **Decorah** **105.75** **48** Pdiff **Pdif** **03 47 53.5 -1.0**
baz=270
W42A **Bald Knob** **105.77** **56** Pdiff **Pdif** **03 47 54.6 -0.1**
baz=268
E38A **The Farm, Brul** **105.82** **45** PFAKE 03 52 20.0 +13
E38A LR LR
comp=Z,7µm,20.0s
EYMN **Ely** **105.83** **43** PFAKE 03 52 20.0 +13
EYMN LR LR
comp=Z,10µm,21.0s
EYMN **Ely** **105.83** **43** Pdiff **Pdif** **03 47 55.1 +0.3**
baz=272
I39A **Houston** **105.88** **47** PFAKE 03 52 20.0 +12
I39A LR LR
comp=Z,6µm,22.0s
I39A **Houston** **105.88** **47** Pdiff **Pdif** **03 47 55.3 +0.2**
baz=271
V42A **Cord** **105.90** **56** Pdiff **Pdif** **03 47 54.8 -0.4**
baz=268
Z43A **Armstrong Fami** **105.92** **58** Pdiff **Pdif** **03 47 55.3 -0.1**
baz=268
R41A **Rosebud** **105.97** **53** Pdiff **Pdif** **03 47 54.9 -0.7**
baz=269
H39A **Augusta** **106.05** **47** Pdiff **Pdif** **03 47 56.5 +0.7**
baz=271
CCM **Cathedral Cave** **106.07** **53** PFAKE 03 52 20.0 +12
CCM LR LR
comp=Z,8µm,20.0s
CCM **Cathedral Cave** **106.07** **53** Pdiff **Pdif** **03 47 54.6 -1.4**
baz=269
Q41A **Truxton** **106.09** **52** Pdiff **Pdif** **03 47 55.6 -0.5**
baz=269
L40A **Anamosa** **106.11** **49** PFAKE 03 52 20.0 +12
L40A LR LR
comp=Z,12µm,19.0s
T42A **Van Buren** **106.17** **54** PFAKE 03 52 20.0 +12
T42A LR LR
comp=Z,14µm,22.0s
T42A **Van Buren** **106.17** **54** Pdiff **Pdif** **03 47 56.2 -0.2**
baz=269
X43A **Marvell** **106.27** **57** PFAKE 03 52 20.0 +11
X43A LR LR
comp=Z,8µm,22.0s
O41A **Passleys Farm,** **106.37** **51** Pdiff **Pdif** **03 47 57.1 -0.2**
baz=270
N41A **Harden Midland** **106.39** **51** PFAKE 03 52 20.0 +11
N41A LR LR
comp=Z,12µm,22.0s
MYIG **Mrida** **106.45** **71** PFAKE 03 52 20.0 +11
MYIG LR LR
comp=Z,6µm,20.0s
HBAR **Harrisburg** **106.48** **56** PFAKE 03 52 20.0 +11
HBAR LR LR
comp=Z,16µm,21.0s
VBMS **Vicksburg** **106.49** **59** PFAKE 03 52 20.0 +11
VBMS LR LR
comp=Z,12µm,22.0s
E39A **Mellen** **106.52** **45** Pdiff **Pdif** **03 47 57.3 -0.5**
baz=272
GO06 **Curarrehue** **106.62** **137** PFAKE 03 52 20.0 +11
GO06 LR LR
comp=Z,2µm,20.0s
PBMO **Poplar Bluff** **106.69** **55** PFAKE 03 52 20.0 +11
PBMO LR LR
comp=Z,14µm,20.0s
P42A **Winchester** **106.78** **52** PFAKE 03 52 20.0 +11
P42A LR LR
comp=Z,9µm,21.0s
G40A **Rib Lake** **106.80** **46** PFAKE 03 52 20.0 +11
G40A LR LR
comp=Z,10µm,21.0s
JFWS **Jewell Farm** **106.83** **48** PFAKE 03 52 20.0 +11
JFWS LR LR
comp=Z,4µm,18.0s
SLM **Saint Louis** **106.87** **53** PFAKE 03 52 20.0 +10
SLM LR LR
comp=Z,11µm,22.0s
EFI **East Falkland** **107.00** **153** PFAKE 03 52 20.0 +11
EFI LR LR
comp=Z,2µm,21.0s
GNAR **Gosnell** **107.01** **56** PFAKE 03 52 20.0 +10
GNAR LR LR
comp=Z,12µm,22.0s
MET **Memphis--Engin** **107.07** **56** PFAKE 03 52 20.0 +10
MET LR LR
comp=Z,15µm,19.0s
I41A **Arkdale** **107.07** **47** PFAKE 03 52 20.0 +10
I41A LR LR
comp=Z,5µm,20.0s
H41A **Junction City** **107.21** **47** PFAKE 03 52 20.0 +10
H41A LR LR
comp=Z,8µm,22.0s
Z45A **Winona** **107.23** **58** PFAKE 03 52 20.0 +10
Z45A LR LR
comp=Z,14µm,20.0s
L42A **Oliver, Polo** **107.27** **49** PFAKE 03 52 20.0 +10
L42A LR LR
comp=Z,13µm,22.0s
PVMO **Portageville** **107.28** **55** PFAKE 03 52 20.0 +10
PVMO LR LR
comp=Z,7µm,19.0s
346A **Big Creek Wild** **107.36** **60** PFAKE 03 52 20.0 +9.4
346A LR LR
comp=Z,9µm,21.0s
OXF **Oxford** **107.49** **57** PFAKE 03 52 20.0 +9.2
OXF LR LR
comp=Z,10µm,19.0s
COWI **Conover** **107.51** **45** PFAKE 03 52 20.0 +9.5
COWI LR LR
comp=Z,10µm,22.0s
F41A **Three Lakes** **107.55** **45** PFAKE 03 52 20.0 +9.4
F41A LR LR
comp=Z,12µm,20.0s
GLAT **Glass** **107.61** **55** PFAKE 03 52 20.0 +9.0
GLAT LR LR
comp=Z,9µm,20.0s

SIUC **Southern Illin** **107.67** **54** PFAKE 03 52 20.0 +9.0
SIUC LR LR
comp=Z,15µm,21.0s
TEIG **Tepich** **107.75** **72** PFAKE 03 52 20.0 +8.3
TEIG LR LR
comp=Z,6µm,22.0s
I42A **Draeger Farm,** **107.77** **47** PFAKE 03 52 20.0 +8.9
I42A LR LR
comp=Z,4µm,19.0s
Q44A **Meyer Farm, Va** **107.82** **53** PFAKE 03 52 20.0 +8.7
Q44A LR LR
comp=Z,11µm,20.0s
D41A **Chassel** **107.85** **44** PFAKE 03 52 20.0 +8.9
D41A LR LR
comp=Z,10µm,20.0s
TULEG **Thule** **108.01** **12** PFAKE 03 52 20.0 +9.4
TULEG LR LR
comp=Z,3µm,20.0s
H42A **Shiocton** **108.02** **47** PFAKE 03 52 20.0 +8.5
H42A LR LR
comp=Z,7µm,20.0s
G42A **Mountain** **108.05** **46** PFAKE 03 52 20.0 +8.5
G42A LR LR
comp=Z,9µm,20.0s
T45A **Paducah** **108.13** **55** PFAKE 03 52 20.0 +8.1
T45A LR LR
comp=Z,11µm,20.0s
K43A **Burlington** **108.24** **49** PFAKE 03 52 20.0 +8.0
K43A LR LR
comp=Z,10µm,22.0s
147A **Livingston** **108.41** **59** PFAKE 03 52 30.0 +17
147A LR LR
comp=Z,11µm,22.0s
GO05 **Huala** **108.50** **132** PFAKE 03 52 30.0 +17
GO05 LR LR
comp=Z,2µm,19.0s
M44A **Midewin, Midew** **108.51** **50** PFAKE 03 52 20.0 +7.5
M44A LR LR
comp=Z,12µm,20.0s
OLIL **Olney** **108.54** **53** PFAKE 03 52 30.0 +17
OLIL LR LR
comp=Z,9µm,21.0s
H43A **Windswept, Lux** **108.56** **47** PFAKE 03 52 20.0 +7.5
H43A LR LR
comp=Z,7µm,22.0s
G43A **Wallace** **108.58** **46** PFAKE 03 52 20.0 +7.5
G43A LR LR
comp=Z,9µm,20.0s
PLAL **Pickwick Lake** **108.59** **57** PFAKE 03 52 30.0 +17
PLAL LR LR
comp=Z,11µm,21.0s
WVT **Waverly** **108.79** **55** PFAKE 03 52 30.0 +17
WVT LR LR
comp=Z,10µm,20.0s
P45A **Graceland, Par** **108.80** **52** PFAKE 03 52 30.0 +17
P45A LR LR
comp=Z,10µm,20.0s
AB31 **Akbulak array** **108.82** **318** *i* P **Pdif** **03 48 06.8 -1.1**
AB31 pmax pmax
comp=Z,1.0nm,0.8s
ABKAR **Akbulak array** **108.82** **318** *e*Pdif **Pdif** **03 48 08.5 +0.6**
ESTN **Estel** **108.83** **80** PFAKE 03 52 30.0 +16
ESTN LR LR
comp=Z,6µm,22.0s
USIN **University of** **108.89** **54** PFAKE 03 52 30.0 +17
USIN LR LR
comp=Z,17µm,21.0s
E43A **Lone Tree Farm** **108.98** **45** PFAKE 03 52 30.0 +17
E43A LR LR
comp=Z,5µm,21.0s
SFIN **Lafayette** **109.26** **51** PFAKE 03 52 30.0 +16
SFIN LR LR
comp=Z,13µm,22.0s
BRAL **Brewton** **109.42** **61** PFAKE 03 52 30.0 +15
BRAL LR LR
comp=Z,10µm,20.0s
BOAB **BOACO BROADBAN** **109.43** **80** PFAKE 03 52 30.0 +15
BOAB LR LR
comp=Z,2µm,19.0s
X48A **Hartselle** **109.44** **57** PFAKE 03 52 30.0 +16
X48A LR LR
comp=Z,9µm,21.0s
LRAL **Lakeview Retre** **109.48** **59** PFAKE 03 52 30.0 +15
LRAL LR LR
comp=Z,15µm,20.0s
V48A **Smith Brothers** **109.61** **56** PFAKE 03 52 30.0 +15
V48A LR LR
comp=Z,11µm,22.0s
BLO **Bloomington** **109.75** **52** PFAKE 03 52 30.0 +15
BLO LR LR
comp=Z,12µm,20.0s
M46A **Old House Fiel** **109.78** **50** PFAKE 03 52 30.0 +15
M46A LR LR
comp=Z,10µm,19.0s
JTS **JuntasAbangare** **109.85** **83** PFAKE 03 52 30.0 +14
JTS LR LR
comp=Z,5µm,19.0s
WCI **Wyandotte Cave** **109.97** **53** PFAKE 03 52 30.0 +15
WCI LR LR
comp=Z,19µm,21.0s
Y49A **Blount Mountai** **109.97** **58** PFAKE 03 52 30.0 +14
Y49A LR LR
comp=Z,12µm,20.0s
250A **Grady** **110.09** **60** PFAKE 03 52 30.0 +14
250A LR LR
comp=Z,9µm,22.0s
PEL **Peldehue** **110.28** **131** PFAKE 03 52 30.0 +14
PEL LR LR
comp=Z,4µm,18.0s
SWET **Sewanee** **110.34** **56** PFAKE 03 52 30.0 +14
SWET LR LR
comp=Z,12µm,22.0s
Z50A **Ashland** **110.38** **58** PFAKE 03 52 30.0 +14
Z50A LR LR
comp=Z,12µm,20.0s
451A **Vernon** **110.53** **61** PFAKE 03 52 30.0 +13
451A LR LR
comp=Z,10µm,19.0s
KBS **Kingsbay** **110.59** **355** PFAKE 03 52 30.0 +15
KBS LR LR
comp=Z,2µm,22.0s
T49A **Edmonton** **110.61** **54** PFAKE 03 52 30.0 +13
T49A LR LR
comp=Z,12µm,22.0s
HDC **Heredia** **110.63** **83** PFAKE 03 52 30.0 +13
HDC LR LR
comp=Z,5µm,22.0s
ESPN **Las Esperanzas** **110.73** **81** PFAKE 03 52 30.0 +13
ESPN LR LR
comp=Z,4µm,20.0s
GLMI **Grayling** **110.78** **46** PFAKE 03 52 30.0 +13
GLMI LR LR
comp=Z,8µm,19.0s
W50A **Signal Mountai** **110.85** **56** PFAKE 03 52 30.0 +13
W50A LR LR
comp=Z,10µm,20.0s
GEYT **Alibeck** **110.97** **307** PKiKP **PKiKP** **03 52 16.6 -0.7**
comp=Z,1.2nm,0.3s,baz=324,slow=4.1,SNR=3.8
GYA0B **ALIBECK ARRAY** **110.97** **307** PFAKE 03 52 30.0 +13
GYA0B LR LR
comp=Z,2µm,20.0s
M48A **Edgerton** **111.00** **50** PFAKE 03 52 30.0 +13
M48A LR LR
comp=Z,11µm,21.0s
352A **Blakely** **111.24** **60** PFAKE 03 52 30.0 +12
352A LR LR
comp=Z,6µm,21.0s
X51A **Calhoun** **111.24** **57** PFAKE 03 52 30.0 +12
X51A LR LR
comp=Z,10µm,21.0s
O49A **Covington** **111.38** **51** PFAKE 03 52 30.0 +12
O49A LR LR
comp=Z,7µm,19.0s
152A **Waverly Hall** **111.40** **59** PFAKE 03 52 30.0 +12
152A LR LR
comp=Z,16µm,22.0s
N49A **Columbus Grove** **111.44** **50** PFAKE 03 52 30.0 +12
N49A LR LR
comp=Z,14µm,22.0s
CPCT **Cooper Cave** **111.49** **56** PFAKE 03 52 30.0 +12
CPCT LR LR
comp=Z,10µm,21.0s
GO04 **Tololo Observa** **111.57** **128** PFAKE 03 52 30.0 +11
GO04 LR LR
comp=Z,3µm,18.0s

V51A **Loudon** **111.62** **56** PFAKE 03 52 30.0 +11
V51A LR LR
comp=Z,12µm,22.0s
AAM **Ann Arbor** **111.72** **49** PFAKE 03 52 30.0 +11
AAM LR LR
comp=Z,13µm,20.0s
453A **Whigham** **111.76** **61** PFAKE 03 52 30.0 +11
453A LR LR
comp=Z,9µm,20.0s
253A **Americus** **111.91** **60** PFAKE 03 52 30.0 +11
253A LR LR
comp=Z,7µm,21.0s
Y52A **Lilburn** **111.92** **58** PFAKE 03 52 30.0 +11
Y52A LR LR
comp=Z,12µm,20.0s
W52A **Murphy** **111.99** **56** PFAKE 03 52 30.0 +11
W52A LR LR
comp=Z,9µm,20.0s
TKL **Tuckaleechee C** **112.09** **56** PFAKE 03 52 30.0 +11
TKL LR LR
comp=Z,12µm,22.0s
S51A **Beattyville** **112.13** **54** PFAKE 03 52 30.0 +11
S51A LR LR
comp=Z,11µm,22.0s
LCO **Las Campanas** **112.17** **127** PFAKE 03 52 30.0 +10
LCO LR LR
comp=Z,4µm,20.0s
V52A **Sevierville** **112.23** **56** PFAKE 03 52 30.0 +10
V52A LR LR
comp=Z,9µm,20.0s
Q51A **Peebles** **112.23** **52** PFAKE 03 52 30.0 +10
Q51A LR LR
comp=Z,16µm,21.0s
TZTN **Tazewell** **112.23** **55** PFAKE 03 52 30.0 +10
TZTN LR LR
comp=Z,6µm,19.0s
M50A **Fremont** **112.26** **50** PFAKE 03 52 30.0 +10
M50A LR LR
comp=Z,14µm,22.0s
TIGA **Tifton** **112.38** **60** PFAKE 03 52 30.0 +10
TIGA LR LR
comp=Z,4µm,18.0s
ACSO **Alum Creek Sta** **112.41** **51** PFAKE 03 52 30.0 +10
ACSO LR LR
comp=Z,7µm,18.0s
P51A **Williamsport** **112.42** **52** PFAKE 03 52 30.0 +10
P51A LR LR
comp=Z,9µm,22.0s
GOGA **Godfrey** **112.43** **58** PFAKE 03 52 30.0 +10
GOGA LR LR
comp=Z,12µm,20.0s
154A **Montrose** **112.76** **59** PFAKE 03 52 30.0 +9.2
154A LR LR
comp=Z,13µm,21.0s
UOSS **Minazif** **112.77** **293** PFAKE 03 52 30.0 +8.9
UOSS LR LR
comp=Z,1µm,20.0s
N51A **Ashland** **112.81** **50** PFAKE 03 52 30.0 +9.3
N51A LR LR
comp=Z,13µm,21.0s
BG3 **Lake Jocassee** **112.81** **57** PFAKE 03 52 30.0 +9.1
BG3 LR LR
comp=Z,9µm,21.0s
V53A **Saluda** **112.87** **56** PFAKE 03 52 30.0 +9.0
V53A LR LR
comp=Z,10µm,19.0s
555A **McAlpin** **112.94** **62** PFAKE 03 52 30.0 +8.8
555A LR LR
comp=Z,8µm,20.0s
NNA **Nana** **113.15** **108** PFAKE 03 52 30.0 +7.9
NNA LR LR
comp=Z,2µm,19.0s
GO03 **Copiap** **113.17** **126** PFAKE 03 52 30.0 +8.1
GO03 LR LR
comp=Z,3µm,18.0s
O52A **Adamsville** **113.30** **51** PFAKE 03 52 30.0 +8.4
O52A LR LR
comp=Z,12µm,19.0s
255A **Hazlehurst** **113.32** **60** PFAKE 03 52 30.0 +8.1
255A LR LR
comp=Z,8µm,20.0s
656A **Willston** **113.32** **63** PFAKE 03 52 30.0 +8.0
656A LR LR
comp=Z,8µm,19.0s
HODGE **Hodges** **113.41** **57** PFAKE 03 52 30.0 +8.0
HODGE LR LR
comp=Z,12µm,22.0s
957A **Wimauma** **113.60** **64** PFAKE 03 52 40.0 +17
957A LR LR
comp=Z,6µm,21.0s
TRQA **Tornquist** **113.67** **140** PFAKE 03 52 30.0 +7.5
TRQA LR LR
comp=Z,3µm,21.0s
P53A **Whipple** **113.70** **52** PFAKE 03 52 40.0 +18
P53A LR LR
comp=Z,6µm,18.0s
PAULI **Pauline** **113.74** **57** PFAKE 03 52 40.0 +17
PAULI LR LR
comp=Z,12µm,22.0s
456A **Hilliard** **113.74** **61** PFAKE 03 52 40.0 +17
456A LR LR
comp=Z,6µm,22.0s
DAG **Danmarks Havn** **113.82** **1** *i* P **PKiKP** **03 52 20.3 -1.3**
comp=Z,6.1nm,0.8s
comp=Z,5µm,22.0s
DAG **Danmarks Havn** **113.82** **1** *i* PKiKP **PKiKP** **03 52 20.3 -1.3**
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG MLR MLR
comp=Z,6µm,22.0s
KMSC **Kings Mountain** **114.11** **56** PFAKE 03 52 40.0 +17
KMSC LR LR
comp=Z,9µm,20.0s
JSC **Jenkinsville** **114.23** **57** PFAKE 03 52 40.0 +16
JSC LR LR
comp=Z,12µm,22.0s
DWPF **Disney Wildern** **114.31** **64** PFAKE 03 52 40.0 +16
DWPF LR LR
comp=Z,5µm,18.0s
ALLY **Alegheny Colle** **114.39** **49** PFAKE 03 52 40.0 +16
ALLY LR LR
comp=Z,16µm,22.0s
658A **Bunnell** **114.44** **63** PFAKE 03 52 40.0 +16
658A LR LR
comp=Z,6µm,19.0s
ERPA **Erie** **114.44** **49** PFAKE 03 52 40.0 +16
ERPA LR LR
comp=Z,10µm,19.0s
257A **Skidaway Islan** **114.55** **60** PFAKE 03 52 40.0 +16
257A LR LR
comp=Z,8µm,21.0s
059A **Moore Haven** **114.57** **65** PFAKE 03 52 40.0 +16
059A LR LR
comp=Z,5µm,20.0s
N54A **Moraine State** **114.60** **50** PFAKE 03 52 40.0 +16
N54A LR LR
comp=Z,10µm,20.0s
OTAV **Otavalo** **114.60** **95** PFAKE 03 52 40.0 +15
OTAV LR LR
comp=Z,4µm,20.0s
SADO **Sadowa** **114.65** **46** PFAKE 03 52 40.0 +16
SADO LR LR
comp=Z,9µm,20.0s
PB10 **IPOC Station P** **114.67** **122** PFAKE 03 52 40.0 +15
PB10 LR LR
comp=Z,3µm,19.0s
BLA **Blacksburg** **114.68** **54** PFAKE 03 52 40.0 +16
BLA LR LR
comp=Z,10µm,22.0s
BCIP **Isla Barro Col** **114.70** **85** PFAKE 03 52 40.0 +15
BCIP LR LR
comp=Z,4µm,21.0s
GO02 **Mina Guanaco** **114.76** **124** PFAKE 03 52 40.0 +15
GO02 LR LR
comp=Z,4µm,19.0s
M54A **Oil Creek Stat** **114.77** **49** PFAKE 03 52 40.0 +16
M54A LR LR
comp=Z,15µm,21.0s
061Z **Ochoppi** **114.79** **66** PFAKE 03 52 40.0 +15
061Z LR LR
comp=Z,5µm,20.0s
MCWV **Mont Chateau** **114.87** **51** PFAKE 03 52 40.0 +15
MCWV LR LR
comp=Z,5µm,18.0s
VLDQ **Val d'Or** **115.15** **42** PFAKE 03 52 40.0 +15

VLDQ LR LR
comp=Z,6μm,19.0s
NHSC New Hope 115.20 58 PFAKE 03 52 40.0 +15
NHSC LR LR
comp=Z,11μm,20.0s
060A Indiantown 115.27 65 PFAKE 03 52 40.0 +14
060A LR LR
comp=Z,6μm,20.0s
APA Apatity 115.30 342 ⇑*i*PKIKP **PKiKP 03 52 22.5 -2.1**
APA *i* 03 53 25.1
APA pmax pmax
comp=Z,8.0nm,0.9s
APA MLR MLR
comp=Z,6μm,24.0s
PB04 IPOC Station P 115.50 121 PFAKE 03 52 40.0 +13
PB04 LR LR
comp=Z,2μm,19.0s
KEV Kevo 115.61 345 PFAKE 03 52 40.0 +15
KEV LR LR
comp=Z,3μm,21.0s
O56A Blue Knob Stat 115.77 50 PFAKE 03 52 40.0 +14
O56A LR LR
comp=Z,13μm,20.0s
MMNY Mt. Morris Dam 115.88 48 PFAKE 03 52 40.0 +14
MMNY LR LR
comp=Z,7μm,20.0s
ARA0 ARCESS Array S 116.14 346 *e*PKPdf **PKiKP 03 52 25.3 -1.0**
ARCES ARCESS Array B 116.14 346 PKP **PKiKP 03 52 25.3 -0.9**
comp=Z,14nm,0.7s,baz=72,slow=1.0,SNR=46
ARCES PKKPbc **PKKPbc 04 02 55.5 -3.4**
comp=Z,4.7nm,0.8s,baz=288,slow=3.7,SNR=6.1
ARCES ARCESS Array B 116.14 346 *e*PKPdf **PKiKP 03 52 25.6 -0.6**
ARCES ARCESS Array B 116.14 346 *e*PKIKP **PKiKP 03 52 25.6 -0.6**
ARE0 ARCESS Array S 116.14 346 PFAKE 03 52 40.0 +14
ARE0 LR LR
comp=Z,200nm,21.0s
SSPA Standing Stone 116.22 50 PFAKE 03 52 40.0 +13
SSPA LR LR
comp=Z,12μm,21.0s
SUMG Summit 116.31 8 *e*PKPdf **PKPdf 03 52 27.8 +0.8**
SUMG Summit 116.31 8 *i* P **PKPdf 03 52 27.3 +0.3**
SUMG Summit 116.31 8 *i* PKIKP **PKPdf 03 52 27.3 +0.3**
PB01 IPOC Station P 116.59 120 PFAKE 03 52 40.0 +11
PB01 LR LR
comp=Z,5μm,22.0s
R58B Mineral 116.60 53 PFAKE 03 52 40.0 +12
R58B LR LR
comp=Z,16μm,20.0s
ILULI Ilulissat 116.69 14 PFAKE 03 52 40.0 +13
ILULI LR LR
comp=Z,4μm,21.0s
KLMR Klimovskoe 116.72 334 *e*PKIKP **PKPdf 03 52 25.0 -2.5**
KLMR pmax pmax
comp=Z,11nm,0.8s
KLMR Klimovskoe 116.72 334 *e*PKPdf **PKPdf 03 52 25.1 -2.5**
KLMR AMP 03 52 27.5
comp=Z,11nm,0.8s
CNNC Cliffs of the 116.91 56 PFAKE 03 52 40.0 +11
CNNC LR LR
comp=Z,12μm,22.0s
PB11 IPOC Station P 116.96 119 PFAKE 03 52 40.0 +11
PB11 LR LR
comp=Z,4μm,22.0s
CBN Corbin Frederi 116.97 53 PFAKE 03 52 40.0 +11
CBN LR LR
comp=Z,14μm,20.0s
PAGS Pennsylvania G 117.17 50 PFAKE 03 52 40.0 +11
PAGS LR LR
comp=Z,13μm,19.0s
SDMD Soldier's Deli 117.20 51 PFAKE 03 52 40.0 +15
SDMD LR LR
comp=Z,4μm,20.0s
MNMC Minye Minye 117.27 118 *e*PKPdf **PKiKP 03 52 30.3 +0.1**
MNMC LR LR
comp=Z,4μm,21.0s
YOTC Yotoco, Valle 117.36 91 *e*P **PKPdf 03 52 29.5 -0.8**
YOTC Yotoco, Valle 117.36 91 *e*P **PKPdf 03 52 29.5 -0.8**
BINY Binghamton 117.37 48 PFAKE 03 52 40.0 +11
BINY LR LR
comp=Z,9μm,22.0s
MVL Millersville 117.48 50 PFAKE 03 52 40.0 +10
MVL LR LR
comp=Z,12μm,19.0s
KSPA Keystone Colle 117.65 49 PFAKE 03 52 40.0 +10
KSPA LR LR
comp=Z,15μm,19.0s
N59A State Game Lan 117.76 49 PFAKE 03 52 40.0 +10
N59A LR LR
comp=Z,11μm,21.0s
LONY Lake Ozonia 117.86 45 PFAKE 03 52 40.0 +10
LONY LR LR
comp=Z,7μm,21.0s
NCB Newcomb 118.26 46 PFAKE 03 52 40.0 +8.9
NCB LR LR
comp=Z,5μm,20.0s
MAK Makhachkala 118.35 313 *e*P **Pdif 03 48 47.5 -3.0**
MAK *i* 03 52 29.7
MAK *e* 03 59 18.6
MAK *e*PS **PS 04 03 34.0 -0.2**
MAK *e*SS SS 04 09 59.4 -3.2
MAK pmax pmax
comp=Z,62nm,0.6s
SFJD Kangerlussuaq 118.46 16 PFAKE 03 52 40.0 +9.3
SFJD LR LR
comp=Z,8μm,22.0s
FRNY Flat Rock 118.50 45 PFAKE 03 52 40.0 +8.5
FRNY LR LR
comp=Z,6μm,20.0s
ODNJ Ogdensburg 118.60 49 PFAKE 03 52 40.0 +8.2
ODNJ LR LR
comp=Z,8μm,20.0s
BRNJ Basking Ridge 118.70 49 PFAKE 03 52 40.0 +8.0
BRNJ LR LR
comp=Z,14μm,21.0s
ACCN Adirondack Com 118.79 46 PFAKE 03 52 40.0 +7.9
ACCN LR LR
comp=Z,10μm,20.0s
PAL Palisades 119.13 49 PFAKE 03 52 50.0 +17
PAL LR LR
comp=Z,9μm,19.0s
CPNY Central Park 119.14 49 PFAKE 03 52 50.0 +17
CPNY LR LR
comp=Z,12μm,22.0s
SCHQ Schefferville 119.27 32 PKP **PKPdf 03 52 31.9 -0.7**
comp=Z,8.8nm,0.8s,baz=232,slow=2.1,SNR=6.9
SCHQ PKKPbc **PKKPbc 04 02 45.5 -1.7**
comp=Z,6.0nm,0.9s,baz=84,slow=7.2,SNR=4.9
SCHQ Schefferville 119.27 32 *e*PKPdf **PKPdf 03 52 31.7 -1.0**
SCHQ LR LR
comp=Z,10μm,20.0s
ROSC El Rosal 119.50 90 PFAKE 03 52 50.0 +15
ROSC LR LR
comp=Z,1μm,20.0s
GROC Groznyy 119.51 314 *i* PKIKP **PKPdf 03 52 33.2 -0.3**
GROC *e* 03 53 54.8
GROC *e*PS **PS 04 03 47.5 +2.8**
GROC pmax pmax
comp=Z,39nm,1.8s
LPAZ La Paz 119.66 116 PKP **PKiKP 03 52 35.5 +0.2**
comp=Z,5.5nm,0.9s,baz=346,slow=0.8,SNR=16
LPAZ PKKPbc **PKKPbc 04 02 44.3 -1.4**
comp=Z,1.8nm,0.8s,baz=122,slow=5.1,SNR=7.0
VRH Novokhopyorsk 119.72 324 *e*PKIKP **PKPdf 03 52 31.8 -1.8**
VRH pmax pmax
comp=Z,20nm,0.6s
YLE Yale 119.78 48 PFAKE 03 52 50.0 +16
YLE LR LR
comp=Z,12μm,19.0s
LBNH Lisbon 119.80 45 PFAKE 03 52 50.0 +16
LBNH LR LR
comp=Z,8μm,20.0s
SCO Scoresbysund 119.97 3 *e*PKPdf **PKiKP 03 52 33.7 +0.2**
SCO Scoresbysund 119.97 3 *i* P **PKiKP 03 52 33.8 +0.2**
SCO Scoresbysund 119.97 3 *i* PKIKP **PKiKP 03 52 33.8 +0.2**
MOS Moscow 120.03 329 *e*PKIKP **PKPdf 03 52 31.3 -2.7**
CHIC Chingaza 120.04 91 *e*P **PKPdf 03 52 34.8 -1.0**
CHIC Chingaza 120.04 91 *e*P **PKPdf 03 52 34.8 -1.0**
GTBY Guantanamo Bay 120.08 73 PFAKE 03 52 50.0 +15
GTBY LR LR
comp=Z,2μm,19.0s
HRV Adam Dziewonsk 120.50 47 PFAKE 03 52 50.0 +15
HRV LR LR
comp=Z,12μm,21.0s
TBLG Delisi 120.62 312 *e*PKPdf **PKiKP 03 52 36.5 +0.7**
WES Weston 120.70 47 PFAKE 03 52 50.0 +14
WES LR LR
comp=Z,13μm,20.0s
LPSR Galich'ya Gora 120.75 326 *e*PKIKP **PKPdf 03 52 35.1 -0.4**
LPSR pmax pmax
comp=Z,20nm,1.0s
OBN Obninsk 120.86 329 PKP **PKPdf 03 52 35.4 -0.2**
comp=Z,2.3nm,0.4s,baz=88,slow=12,SNR=3.6
OBN Obninsk 120.86 329 *i* PKIKP **PKPdf 03 52 35.4 -0.2**
OBN pmax pmax
comp=Z,14nm,0.9s
RUSC La Rusia 120.88 89 *e*P **PKPdf 03 52 36.8 -0.7**
RUSC La Rusia 120.88 89 *e*P **PKPdf 03 52 36.8 -0.7**
BARC Barichara 120.88 89 *e*P **PKPdf 03 52 34.2 -3.1**
BARC Barichara 120.88 89 *e*P **PKPdf 03 52 34.2 -3.1**
GOF Gofitskoye 120.93 316 *e*PKIKP **PKiKP 03 52 36.3 +0.1**
ZEI Tsey 120.96 314 *i* PKIKP **PKPdf 03 52 35.2 -1.4**
ZEI pmax pmax
comp=Z,9.0nm,1.1s
OCAC Ocana 120.97 87 *e*P **PKPdf 03 52 36.8 -0.5**
OCAC Ocana 120.97 87 *e*P **PKPdf 03 52 36.8 -0.5**
GNI Garni 120.99 311 PKP **PKPdf 03 52 36.6 0.0**
comp=Z,8.7nm,0.8s,baz=60,slow=1.0,SNR=8.2
GNI Garni 120.99 311 *e*PKPdf **PKPdf 03 52 36.6 0.0**
GNI *e*PKPdf **PKiKP 03 52 37.5 +0.7**
GNI LR LR
comp=Z,1μm,20.0s
GNI Garni 120.99 311 *d* PKIKP **PKiKP 03 52 36.8 +0.1**
GNI pmax pmax
comp=Z,185nm,1.7s
GNI Garni 120.99 311 P **PKiKP 03 52 37.0 +0.3**
SNR=8.5
NCK Nalchik 120.99 315 ⇑*i*PKIKP **PKPdf 03 52 35.0 -1.3**
VSR Storozhevoye 121.19 324 *d* PKIKP **PKPdf 03 52 35.6 -0.8**
PKME Peaks-Kenny Pk 121.31 43 PFAKE 03 52 50.0 +13
PKME LR LR
comp=Z,6μm,20.0s
KBZ Khabaz 121.41 315 PKP **PKiKP 03 52 37.6 +0.4**
comp=Z,3.4nm,0.9s,baz=300,slow=4.3,SNR=5.2
KIV Kislovodsk 121.49 315 PFAKE 03 52 50.0 +12
KIV LR LR
comp=Z,2μm,19.0s
KIV Kislovodsk 121.49 315 *i* PKIKP **PKPdf 03 52 36.9 -0.5**
KIV *e* 03 54 08.2
KIV *e*PS **PS 04 04 01.4 -1.2**
KIV *e*SS SS 04 10 40.0 -3.2
KIV pmax pmax
comp=Z,10.0nm,1.1s
NEY Neytrino 121.67 315 ⇑*i*PKIKP **PKPdf 03 52 36.8 -1.1**
FIA1 FINESS Array S 121.68 339 *e*PKPdf **PKPdf 03 52 36.4 -0.7**
FIA0 FINESS Array S 121.68 339 *e*PKPdf **PKPdf 03 52 36.4 -0.7**
FIA0 FINESS Array S 121.68 339 *e*PKIKP **PKPdf 03 52 36.4 -0.7**
FINES FINESS Array B 121.68 339 PKP **PKPdf 03 52 36.4 -0.7**
comp=Z,15nm,0.9s,baz=79,slow=4.1,SNR=22
FINES PKKPbc **PKKPab 04 02 36.4 -0.1**
comp=Z,4.6nm,0.9s,baz=332,slow=4.7,SNR=4.2
RAYN Ar Rayn 122.55 291 *e*PKPdf **PKPdf 03 52 39.9 -0.1**
RAYN LR LR
comp=Z,3μm,22.0s
RAYN Ar Rayn 122.55 291 *e*PKIKP **PKPdf 03 52 39.9 -0.1**
RAYN MLR MLR
comp=Z,3μm,22.0s
BATG Bathurst New B 122.74 40 PFAKE 03 52 50.0 +10
BATG LR LR
comp=Z,5μm,20.0s
GGN Saint George 123.00 43 PFAKE 03 52 50.0 +10
GGN LR LR
comp=Z,11μm,21.0s
SIRT Sirnak 123.33 308 *e*PKPdf **PKiKP 03 52 41.5 +0.1**
VSU Vasula 123.42 336 ⇑*i*PKIKP **PKiKP 03 52 40.8 +0.1**
VSU pmax pmax
comp=Z,239nm,2.5s
IVI Ivigtut 123.48 19 PFAKE 03 52 50.0 +9.3
IVI LR LR
comp=Z,12μm,22.0s
DAMY Dhamar 123.53 280 PFAKE 03 52 50.0 +7.4
DAMY LR LR
comp=Z,3μm,20.0s
SOC Sochi 123.65 316 *e*P **Pdif 03 49 11.9 -2.2**
SOC *i* 03 52 41.1
SOC *e* 03 54 20.8
SOC *e*PPP PPP 03 57 05.7
SOC *e*PS **PS 04 04 16.9 -4.6**
SOC *e*SSS SSS 04 15 34.2
SDDR Presa de Saban 123.68 74 PFAKE 03 52 50.0 +7.5
SDDR LR LR
comp=Z,6μm,21.0s
SDV Santo Domingo 123.69 86 *e*PKPdf **PKPdf 03 52 42.1 -0.5**
SDV LR LR
comp=Z,3μm,20.0s
CPUP Villa Florida 123.72 132 PKP **PKPdf 03 52 42.0 -0.1**
comp=Z,18nm,1.0s,baz=263,slow=2.5,SNR=24
GRTK Grand Turk 123.80 71 PFAKE 03 52 50.0 +7.4
GRTK LR LR
comp=Z,4μm,22.0s
LMN Caledonia Moun 124.08 41 PFAKE 03 52 50.0 +7.6
LMN LR LR
comp=Z,8μm,22.0s
NRS Narsarsuaq 124.39 18 *e*PKPdf **PKPdf 03 52 41.9 -0.3**
NRS LR LR
comp=Z,15μm,20.0s
NRS Narsarsuaq 124.39 18 *e*PKIKP **PKPdf 03 52 41.9 -0.3**
NRS MLR MLR
comp=Z,15μm,20.0s
BANI BANI 124.56 75 *e*PKPdf **PKiKP 03 52 46.6 +2.3**
ANN Anapa 124.77 318 *i* PKIKP PKPpre 03 52 34.7
ANN *e* 03 54 27.7
ANN *e*SS SS 04 11 23.8 -0.5
ANN pmax pmax
comp=Z,27nm,1.1s
ANN MLR MLR
comp=N,1μm,24.0s
ANN MLR MLR
comp=Z,2μm,24.0s
ATD Arta Tunnel 124.81 277 *e*PKPdf **PKiKP 03 52 45.9 +1.1**
ATD LR LR
comp=Z,6μm,19.0s
SDD Santo Domingo 124.98 75 PFAKE 03 53 00.0 +15
SDD LR LR
comp=Z,5μm,21.0s
HAL Halifax 125.33 42 PFAKE 03 53 00.0 +15
HAL LR LR
comp=Z,9μm,21.0s
MICGM Minsk 125.41 332 *e* **PKiKP 03 52 45.0 +0.2**
MICGM *e*LR LR 04 43 16.0
MNK Minsk 125.41 332 *e*PKIKP **PKiKP 03 52 45.0 +0.2**
NACGM Naroch 125.67 333 *e* **PKPdf 03 52 44.0 -0.9**
BOSA Boshof 125.95 223 PKP **PKPdf 03 52 46.3 -0.2**
comp=Z,21nm,0.8s,baz=119,slow=2.0,SNR=31
BOSA Boshof 125.95 223 *e*PKPdf **PKPdf 03 52 46.3 -0.2**
BOSA *e*PKPdf **PKiKP 03 52 46.7 -0.2**
SUR Sutherland 126.13 216 *e*PKPdf **PKiKP 03 52 47.4 +0.2**
SUR LR LR
comp=Z,5μm,18.0s
NC303 NORSAR Array S 126.31 345 *e*PKPdf **PKiKP 03 52 46.2 -0.2**
NB2 NORSAR Subarra 126.51 345 PKPdf **PKPdf 03 52 46.2 -0.2**
comp=Z,35nm,1.1s,baz=31,slow=1.9
NB2 NORSAR Subarra 126.51 345 PKPdf **PKPdf 03 52 46.2 -0.2**
baz=31,slow=1.9
NB200 NORSAR Array S 126.51 345 *e*PKPdf **PKPdf 03 52 46.1 -0.2**
NOA NORSAR Array B 126.51 345 PKP **PKPdf 03 52 46.1 -0.2**
comp=Z,9.1nm,0.8s,baz=31,slow=2.0,SNR=25
HFS Hagfors 126.62 343 PKP **PKPdf 03 52 46.0 -0.6**
comp=Z,18nm,0.8s,baz=197,slow=1.5,SNR=14
HFS Hagfors 126.62 343 PKIKP **PKPdf 03 52 46.0 -0.6**
NBO00 NORSAR Array S 126.63 346 *e*PKPdf **PKiKP 03 52 47.5 +0.4**
NC602 NORSAR Array S 126.69 345 *e*PKPdf **PKPdf 03 52 46.4 -0.3**
SIM Simferopol' 126.88 319 *i* PKIKP **PKiKP 03 52 49.9 +1.9**
SIM *e* 03 54 46.0
SIM pmax pmax
comp=Z,630nm,14.6s
AKASG Malin Array Be 126.95 327 PKP **PKPdf 03 52 47.1 -0.3**
comp=Z,5.5nm,0.7s,baz=48,slow=2.2,SNR=23
AKASG PP **PP 03 54 44.2 -0.9**
comp=Z,0.4nm,0.4s,baz=56,slow=5.5,SNR=6.2
AKBB Malin Array Si 126.95 327 *e*PKPdf **PKPdf 03 52 47.2 -0.3**
AKBB *e*PP **PP 03 54 44.2 -0.9**
AKBB LR LR
comp=Z,3μm,22.0s
KIEV Kiev 126.96 327 *e*PKPdf **PKPdf 03 52 47.1 -0.4**
KIEV LR LR
comp=Z,3μm,22.0s
KIEV Kiev 126.96 327 ⇓*i*P **PKPdf 03 52 47.1 -0.4**
KIEV Kiev 126.96 327 ⇑*i*PKIKP **PKPdf 03 52 47.4 -0.1**
AGP Aguadilla 127.61 75 PFAKE 03 53 00.0 +10
AGP LR LR
comp=Z,4μm,20.0s
MPR Mayaguez 127.62 75 PFAKE 03 53 00.0 +10
MPR LR LR
comp=Z,6μm,21.0s
SUW Suwalki 127.85 334 *e*PKP **PKiKP 03 52 49.5 -0.1**
SUW Suwalki 127.85 334 *e*PKPdf **PKiKP 03 52 49.6 -0.1**
SUW LR LR
comp=Z,4μm,22.0s
SUW Suwalki 127.85 334 *e*PKIKP **PKiKP 03 52 49.5 -0.1**
LBTB Lobatse 127.99 226 *e*PKPdf **PKPdf 03 52 50.5 +0.1**
LBTB Lobatse 127.99 226 *e*PKIKP **PKPdf 03 52 50.5 +0.1**
OBIP Obispado Ponce 128.13 75 *e*PKPdf **PKPdf 03 52 50.3 -0.3**
EMPR Esperanza - Ma 128.19 75 PFAKE 03 53 00.0 +8.6
EMPR LR LR
comp=Z,5μm,22.0s
ICMP Isla Caja de M 128.20 76 PFAKE 03 53 00.0 +8.6
ICMP LR LR
comp=Z,2μm,18.0s
KMBO Kilima Mbogo 128.23 260 PKP **PKiKP 03 52 51.8 -0.2**
comp=Z,4.2nm,0.8s,baz=37,slow=2.2,SNR=12
KMBO Kilima Mbogo 128.23 260 *e*PKPdf **PKiKP 03 52 51.8 -0.2**
KMBO LR LR
comp=Z,4μm,21.0s
SJG San Juan 128.56 75 *e*PKPdf **PKPdf 03 52 51.7 +0.2**
SJG LR LR
comp=Z,4μm,21.0s
SJG San Juan 128.56 75 *e*PKIKP **PKPdf 03 52 51.7 +0.2**
SJG MLR MLR
comp=Z,4μm,21.0s
FURI Furi 128.64 273 PFAKE 03 53 00.0 +7.2
FURI LR LR
comp=Z,4μm,20.0s
CBYP Canovanas 128.84 75 PFAKE 03 53 00.0 +7.2
CBYP LR LR
comp=Z,4μm,22.0s
HUMP Col San Antoni 128.84 75 *e*PKPdf **PKPdf 03 52 51.4 -0.6**
HUMP LR LR
comp=Z,4μm,22.0s
KIS Kishinev 129.17 324 *e*PKP **PKPdf 03 52 50.5 -1.3**
KIS Kishinev 129.17 324 *e*PP PP 03 55 09.5 +10
KIS Kishinev 129.17 324 *e*PKIKP **PKPdf 03 52 50.5 -1.3**
KIS *e* 03 55 09.5
KIS *e* 03 57 48.0
KIS MLR MLR
comp=N,2μm,24.0s
KIS MLR MLR
BR101 Keskin Array S 129.26 313 *e*PKPdf **PKPdf 03 52 52.2 -0.2**
BR101 *e*PP **PP 03 54 58.6 -2.5**
BR131 Keskin Array S 129.26 313 *e*PKPdf **PKPdf 03 52 52.2 -0.2**
BR131 Keskin Array S 129.26 313 P **PKPdf 03 52 52.4 -0.2**
SNR=8.9
BRTR Keskin Array B 129.26 313 PKP **PKPdf 03 52 52.2 -0.2**
comp=N,4.8nm,0.9s,baz=136,slow=2.2,SNR=28
BRTR PP **PP 03 54 58.6 -2.5**
comp=N,2.3nm,0.9s,baz=96,slow=7.2,SNR=5.2
CUPR Culebra, Puert 129.38 75 PFAKE 03 53 10.0 +16
CUPR LR LR
comp=Z,6μm,22.0s
STVI Saint Thomas 129.69 75 PFAKE 03 53 10.0 +16
STVI LR LR
comp=Z,6μm,22.0s
LEOM Leova 129.78 323 ⇑*i*P **PKiKP 03 52 53.4 -0.4**
ANTO Ankara 129.81 314 *e*PKPdf **PKiKP 03 52 53.9 -0.3**
ANTO LR LR
comp=Z,1μm,20.0s
ANTO Ankara 129.81 314 *e*PKIKP **PKiKP 03 52 53.9 -0.3**
ANTO MLR MLR
comp=Z,1μm,20.0s
ANTO Ankara 129.81 314 P **PKPdf 03 52 53.8 +0.4**
SNR=7.9
CDVI St. Croix 129.88 76 *e*PKPdf **PKPdf 03 52 53.7 -0.3**
TLCR 130.10 322 ⇑*i*P **PKiKP 03 52 54.5 +0.1**
LVV L'vov 130.16 329 *e*PKIKP **PKiKP 03 52 54.2 -0.3**
LVV *e* 03 55 06.7
LVV *e* 03 57 55.1
LVV *e* 04 05 10.2
LVV *e* 04 05 19.9
ABVI Anegada Island 130.27 74 PFAKE 03 53 10.0 +14
ABVI LR LR
comp=Z,4μm,20.0s
BEL Belsk 130.39 333 *e*PKP **PKiKP 03 52 55.0 +0.1**
BEL Belsk 130.39 333 *e*PKIKP **PKiKP 03 52 54.9 +0.1**
CFR Carcaliu 130.51 322 ⇑*i*P **PKPdf 03 52 54.2 -0.2**
TIRR Tirgusor 130.71 321 PFAKE 03 53 10.0 +14
TIRR LR LR
comp=Z,2μm,20.0s
TIRR Tirgusor 130.71 321 ⇓⇓*i*P **PKPdf 03 52 54.4 -0.4**
BIZ Bicaz 130.76 325 ⇑*i*P **PKiKP 03 52 55.8 0.0**
BUR08 Bucovina Ar. S 130.86 326 *e*PKPdf **PKiKP 03 52 56.9 +0.8**
BUR04 Bucovina Ar. S 130.87 326 *e*PKPdf **PKiKP 03 52 55.7 -0.4**
BURAR Bucovina Array 130.87 326 ⇑*i*P **PKPdf 03 52 55.5 +0.3**
GKP Gorka Klasztor 130.87 336 *e*PKP **PKiKP 03 52 56.2 +0.5**
GKP Gorka Klasztor 130.87 336 *e*PKIKP **PKiKP 03 52 56.2 +0.5**
HARR Harsova 130.89 321 ⇑*i*P **PKPdf 03 52 55.6 +0.4**
KWP Kalwaria Pacla 130.95 329 *e*PKP **PKPdf 03 52 54.7 -0.5**
KWP Kalwaria Pacla 130.95 329 *e*PKIKP **PKPdf 03 52 54.7 -0.5**
VRI Vrincioaia 130.99 323 ⇑*i*P **PKPdf 03 52 55.5 +0.1**
PLOR Plostina 131.05 323 ⇑*i*P **PKPdf 03 52 52.0 -3.5**
CSS Mathiatis 131.10 307 PFAKE 03 53 10.0 +13
CSS LR LR
comp=Z,2μm,21.0s
RGN Rugen 131.33 340 PFAKE 03 53 10.0 +13
RGN LR LR
comp=Z,5μm,21.0s
LSZ Lusaka 131.37 239 *e*PKPdf **PKPdf 03 52 57.0 -0.1**
LSZ LR LR
comp=Z,7μm,20.0s
LSZ Lusaka 131.37 239 P **PKPdf 03 52 57.0 -0.1**
SNR=10.0
SMRT St. Maarten 131.49 75 PFAKE 03 53 10.0 +12
SMRT LR LR
comp=Z,4μm,20.0s
SEUS St. Eustatius 131.59 76 PFAKE 03 53 10.0 +12
SEUS LR LR
comp=Z,6μm,22.0s
ARCR ARCALIA 131.65 326 ⇑*i*P **PKPdf 03 52 56.9 +0.3**
MLR Muntele Rosu 131.66 323 PKP **PKPdf 03 52 56.4 -0.4**
comp=Z,7.1nm,0.9s,baz=0.0,slow=4.0,SNR=11
MLR Muntele Rosu 131.66 323 *e*PKPdf **PKPdf 03 52 56.4 -0.4**
MLR *e*PKPdf **PKiKP 03 52 57.0 -0.8**
MLR LR LR
comp=Z,2μm,21.0s
MLR Muntele Rosu 131.66 323 ⇑*i*P **PKPdf 03 52 55.7 -1.1**
MLR Muntele Rosu 131.66 323 *e*PKIKP **PKPdf 03 52 56.4 -0.4**
MLR MLR
comp=Z,2μm,21.0s
DOPR Dopca 131.72 324 ⇑*i*P **PKiKP 03 52 57.4 -0.4**
UZH Uzhgorod 131.80 329 *e*PKHKP PKPpre 03 52 43.4
UZH *i* 03 52 57.5
OJC Ojcow 131.96 332 *e*PKP **PKPdf 03 52 57.4 +0.3**
OJC Ojcow 131.96 332 *e*PKPdf **PKPdf 03 52 57.3 +0.3**
OJC Ojcow 131.96 332 *e*PKIKP **PKPdf 03 52 57.3 +0.3**
TRPA Tarpa 131.99 328 ⇑*i*P **PKPdf 03 52 57.5 +0.4**
TRPA Tarpa 131.99 328 *e*PP PP 03 55 16.0 -1.9
MDB Medias 132.19 325 ⇑*i*P **PKPdf 03 52 54.2 -3.4**
VOIR 132.21 324 ⇑*i*P **PKiKP 03 52 58.5 -0.4**
NIE Niedzica 132.27 331 *e*PKP **PKiKP 03 52 58.7 -0.1**
NIE Niedzica 132.27 331 *e*PKIKP **PKiKP 03 52 58.7 -0.1**
CJR Cluj-Napoca 132.29 326 ⇑*i*P **PKiKP 03 52 58.9 0.0**
PTGA Pitinga 132.39 101 PKP **PKPdf 03 52 58.6 -0.4**
comp=Z,19nm,1.1s,baz=240,slow=3.0,SNR=17
PTGA Pitinga 132.39 101 *e*PKPdf **PKPdf 03 52 58.8 -0.1**
PTGA LR LR
comp=Z,2μm,21.0s
SPB Sao Paulo 132.45 136 *e*PKPdf **PKPdf 03 52 59.2 +0.4**
SPB LR LR
comp=Z,2μm,20.0s
ARR Arges 132.49 324 ⇑*i*P **PKiKP 03 52 59.4 0.0**
ANWB Willy Bob 132.72 76 PFAKE 03 53 10.0 +9.5
ANWB LR LR
comp=Z,4μm,22.0s
DRGR 132.73 326 ⇑*i*P **PKPdf 03 52 58.5 -0.2**
HUMR Humele 132.76 323 ⇑*i*P **PKPdf 03 52 58.5 -0.2**
GRGR Grenville 132.78 83 PFAKE 03 53 10.0 +9.3
GRGR LR LR
comp=Z,2μm,21.0s
LTVH Ltavrtes, Hu 132.79 328 *e*PP PP 03 55 21.0 -2.1
LANS Liptovska Anna 132.85 331 *e*PKIKP **PKiKP 03 53 00.5 +0.5**
LANS *e* 03 55 23.6
LANS Liptovska Anna 132.85 331 *e*PKP **PKiKP 03 53 00.4 +0.5**
LANS *e*PP **PP 03 55 23.6 +0.1**

LOT	Lotru	132.94	324	⇑	*i*P	PKPdf	03 52 59.2	0.0
OKC	Ostrava-Krasne	132.99	332		*e*PKP	PKiKP	03 52 59.8	-0.4
OKC					AMS	AMS	04 47 50.0	
	comp=Z,3µm,19.8s							
OKC	Ostrava-Krasne	132.99	332		*e*PKIKP	PKiKP	03 52 59.8	-0.4
OKC					MLR	MLR		
	comp=Z,3µm,19.8s							
ZIMR		133.00	322	⇑	*i*P	PKPdf	03 52 59.4	+0.2
KSP	Ksiaz	133.07	334		*e*PKP	PKiKP	03 52 59.8	-0.5
KSP	Ksiaz	133.07	334		*e*PKIKP	PKiKP	03 52 59.8	-0.5
MORC	Moravsky Berou	133.31	333		*e*PKPdf	PKPdf	03 53 00.2	+0.5
MORC					LR	LR		
	comp=Z,3µm,18.0s							
MORC	Moravsky Berou	133.31	333	⇑	*i*P	PKiKP	03 53 00.3	-0.6
MORC	Moravsky Berou	133.31	333		*e*PKP	PKiKP	03 53 00.3	-0.6
FDF	Fort de France	133.36	80		PFAKE		03 53 10.0	+8.1
FDF					LR	LR		
	comp=Z,4µm,21.0s							
MANT	Manisa	133.38	314		*e*PKPdf	PKiKP	03 53 02.0	+0.3
DPC	Dobruska-Polom	133.43	334		*e*PKP	PKiKP	03 53 00.8	-0.3
DPC					*ex*	x	03 53 09.4	
DPC					AMS	AMS	04 49 30.0	
	comp=Z,4µm,25.5s							
DPC	Dobruska-Polom	133.43	334		*e*PKIKP	PKiKP	03 53 00.8	-0.3
DPC					*e*		03 53 09.4	
DPC					MLR	MLR		
	comp=Z,4µm,25.5s							
UPC	Upice	133.44	334		*e*PKP	PKiKP	03 53 00.5	-0.6
UPC					AMS	AMS	04 49 40.0	
	comp=Z,4µm,20.9s							
UPC	Upice	133.44	334		*e*PKIKP	PKiKP	03 53 00.5	-0.6
UPC					MLR	MLR		
	comp=Z,4µm,20.9s							
PSZ	Piszkesteto	133.48	329		*e*PKPdf	PKPdf	03 53 00.5	+0.4
PSZ					LR	LR		
	comp=Z,4µm,22.0s							
PSZ	Piszkesteto	133.48	329		*e*PP	PP	03 55 29.0	+1.4
GZR	Gura Zlata	133.54	325	⇑	*i*P	PKPdf	03 53 00.4	+0.1
VYHS	Vyhne	133.61	331		*e*PKIKP	PKPdf	03 52 58.9	-1.3
VYHS					*e*		03 55 28.3	
VYHS	Vyhne	133.61	331		*e*PKP	PKPdf	03 52 58.9	-1.3
VYHS					*e*PP	PP	03 55 28.3	0.0
KOLL	Kolacno	133.76	331		*e*PKIKP	PKiKP	03 53 01.3	-0.5
KOLL	Kolacno	133.76	331		*e*PKP	PKiKP	03 53 01.3	-0.5
ALN	Alexandroupoli	134.00	318		*e*PKPdf	PKPdf	03 53 01.3	+0.1
ALN					LR	LR		
	comp=Z,1µm,21.0s							
ALN	Alexandroupoli	134.00	318		P	PKPdf	03 52 58.3	-2.9
PVCC	Panska Ves	134.03	335		*e*PKP	PKiKP	03 53 01.7	-0.6
PVCC					*ex*	x	03 53 11.1	
PVCC					AMS	AMS	04 51 30.0	
	comp=Z,3µm,21.6s							
PVCC	Panska Ves	134.03	335		*e*PKIKP	PKiKP	03 53 01.7	-0.6
PVCC					*e*		03 53 11.1	
PVCC					MLR	MLR		
	comp=Z,3µm,21.6s							
CLL	Collm	134.04	337		*e*PKPdf	PKPdf	03 53 01.3	+0.4
CLL					LR	LR		
	comp=Z,3µm,22.0s							
CLL	Collm	134.04	337		*e*PKPpre	PKPpre	03 52 56.0	
CLL				⇓	*i*PKPdf	PKPdf	03 53 00.7	-0.2
	comp=Z,39nm,1.1s							
CLL					*e*		03 53 13.0	
CLL					*e*PP	PP	03 55 34.0	+3.2
CLL					*e*SKPbc	SKPbc	03 56 28.0	-1.0
CLL					*e*PKSdf	PKSdf	03 56 35.0	-2.1
CLL					*e*		03 58 46.0	
CLL					*e*SKKSac	SKKSac	04 02 24.0	-1.7
CLL					*e*(Sdif)		04 03 38.0	
CLL					*e*PPS	PPS	04 07 28.0	
CLL					*e*		04 08 30.0	
CLL					*e*SKKSacr		04 09 28.0	
CLL					*e*SS	SS	04 13 24.0	+6.6
CLL					*e*SSS	SSS	04 18 12.0	
CLL					*e*SSSS		04 22 18.0	
CLL					LmV		05 09 00.0	
	comp=Z,2µm,19.4s							
CLL	Collm	134.04	337		*e*PKIKP	PKPdf	03 52 56.0	-4.9
CLL					*i*		03 53 00.7	
CLL					pmax	pmax		
	comp=Z,39nm,1.1s							
CLL					MLR	MLR		
	comp=Z,2µm,19.4s							
HERR	Herculane	134.05	325	⇑	*i*P	PKPdf	03 52 57.5	-3.6
BZS	Buzias	134.05	326	⇑	*i*P	PKPdf	03 53 01.6	+0.5
VRAC	Vranov	134.07	333		*e*PKP	PKiKP	03 53 01.9	-0.5
BUD	Budapest	134.20	329		*e*PP	PP	03 55 26.0	-6.1
RDO	Rodhopi	134.20	318		P	PKPdf	03 53 00.7	-0.8
KRUC	Moravsky	134.34	333		*e*PKP	PKPdf	03 53 02.1	+0.5
GOPC	GO Pecny, Ondr	134.41	335		*e*PKP	PKiKP	03 53 03.7	+0.6
GOPC					AMS	AMS	04 44 20.0	
	comp=Z,3µm,17.6s							
GOPC	GO Pecny, Ondr	134.41	335		*e*PKIKP	PKiKP	03 53 03.7	+0.6
GOPC					MLR	MLR		
	comp=Z,3µm,17.6s							
MODS	Modra-Piesok	134.43	331		*e*PKIKP	PKiKP	03 53 02.9	-0.3
MODS					*e*		03 55 33.7	
MODS	Modra-Piesok	134.43	331		*e*PKP	PKiKP	03 53 02.9	-0.3
MODS					*e*PP	PP	03 55 33.7	+0.2
PRA	Prague	134.44	335		AMS	AMS	04 52 00.0	
	comp=Z,3µm,20.2s							
PRU	Pruhonice	134.45	335		*e*PKP	PKiKP	03 53 03.5	+0.4
PRU					AMS	AMS	04 51 50.0	
	comp=Z,4µm,25.9s							
PRU	Pruhonice	134.45	335		*e*PKIKP	PKiKP	03 53 03.5	+0.4
PRU					MLR	MLR		
	comp=Z,4µm,25.9s							
MDVR	Moldovita	134.51	325	⇑	*i*P	PKPdf	03 53 01.9	-0.2
SMTH	Samothraki Isl	134.55	318		P	PKPdf	03 53 00.4	-1.8
TREC	Trest	134.57	334		AMS	AMS	04 51 10.0	
	comp=Z,4µm,20.4s							
ARG	Arkhangelos	134.63	311		P	PKiKP	03 53 06.5	+2.6
PRK	Paraskevi	134.64	316		P	PKPdf	03 53 01.3	-1.1
MBAR	Mbarara	134.66	259		*e*PKPdf	PKiKP	03 53 05.8	+1.0
MBAR					LR	LR		
	comp=Z,8µm,19.0s							
MBAR	Mbarara	134.66	259	⇑	*i*PKIKP	PKPdf	03 53 03.8	+0.4
BBGH	Gun Hill	134.87	82		PFAKE		03 53 20.0	+15
BBGH					LR	LR		
	comp=Z,6µm,21.0s							
VTS	Vitosha	134.91	321		*e*PKPdf	PKPdf	03 53 03.0	0.0
VTS					LR	LR		
	comp=Z,2µm,20.0s							
VTS	Vitosha	134.91	321	⇑	*i*P	PKPdf	03 53 03.4	+0.4
VTS	Vitosha	134.91	321		P	PKPdf	03 53 03.0	0.0
SIGR	SIGRI	134.94	316		P	PKPdf	03 53 01.0	-2.0
KAVA	Kavala	134.94	319		P	PKPdf	03 53 00.1	-2.8
THAS	Thassos island	135.01	318		P	PKPdf	03 53 00.1	-3.0
LIA	Limnos Island	135.06	317		P	PKPdf	03 53 01.6	-1.6
NKC	Novy Kostel	135.11	337		AMS	AMS	04 48 30.0	
	comp=Z,2µm,19.3s							
NVR	Nevrokopi	135.18	320		P	PKPdf	03 53 02.6	-0.8
NVR	Nevrokopi	135.18	320		P	PKPdf	03 53 02.6	-0.8
MORH	Mrgy, Hungar	135.25	328		*e*PP	PP	03 55 33.1	-5.7
SOP	Sopron	135.26	331		*e*PP	PP	03 55 34.1	-4.7
KKB	Krupnik	135.39	321		*i*P	PKPdf	03 53 01.1	-2.7
CONA	Conrad Observa	135.41	332		*i*PKiKP	PKPdf	03 53 04.4	+0.7
	comp=Z,9.5nm,0.7s							
SRS	Serrai	135.47	320		P	PKPdf	03 53 00.4	-3.6
KHC	Kasperske Hory	135.51	335		*e*PKPdf	PKPdf	03 53 04.0	+0.2
KHC					LR	LR		
	comp=Z,2µm,19.0s							
KHC	Kasperske Hory	135.51	335		*e*PKP	PKPdf	03 53 04.0	+0.2
KHC					*ep*PKP	pPKPdf	03 53 09.3	-1.2
KHC					AMS	AMS	04 49 50.0	
	comp=Z,2µm,21.0s							
KHC	Kasperske Hory	135.51	335		*e*PKIKP	PKPdf	03 53 04.0	+0.2
KHC					*e*		03 53 09.3	
KHC					MLR	MLR		
	comp=Z,2µm,21.0s							
OUR	Ouranopolis	135.63	318		P	PKPdf	03 53 01.6	-2.6
GEC2	GERESS Array S	135.68	334		*e*PKPdf	PKPdf	03 53 04.8	+0.6
GEC2					LR	LR		
	comp=Z,2µm,21.0s							
GERES	GERESS Array B	135.68	334		PKP	PKPdf	03 53 04.6	+0.4
	comp=Z,8.4nm,0.8s,baz=0.0,slow=1.0,SNR=9.8							
GEA0	GERESS Array S	135.69	334		*e*PKPdf	PKPdf	03 53 04.2	0.0
KNT	Kendrikon	135.89	320		P	PKPdf	03 53 02.2	-2.5
DIVS	Divibare	135.90	325		*e*PKPpre	PKPpre	03 52 56.7	
DIVS					LR	LR		
	comp=Z,2µm,21.0s							
PLG	Polygyros	135.96	319		P	PKPdf	03 53 03.0	-1.9
SKY	Skiros Island	135.99	316		P	PKPdf	03 53 03.0	-2.0
VAY	Valandovo	136.01	320		P	PKPdf	03 53 02.5	-2.4
VAY	Valandovo	136.01	320		*i* PKP	PKPdf	03 53 04.9	0.0
GRA1	Grafenberg Arr	136.02	337		PFAKE		03 53 20.0	+14
GRA1					LR	LR		
	comp=Z,3µm,21.0s							
GRF	Grafenberg Arr	136.02	337		*e*PKPdf	PKiKP	03 53 06.4	0.0
	baz=36							
GRF					*e*L	L	05 08 40.1	
	comp=Z,3µm,21.9s							
GRFO	Grafenberg	136.02	337		PFAKE		03 53 20.0	+14
GRFO					LR	LR		
	comp=Z,3µm,21.0s							
STIP	Stip	136.04	321		*i* PKP	PKPdf	03 53 04.6	-0.4
PAIG	Paliouri	136.04	318		P	PKPdf	03 53 03.0	-2.0
ARSA	Arzberg	136.06	332		*i* PKPdf	PKPdf	03 53 05.2	+0.3
	comp=Z,7.7nm,1.1s							
GRB4	Grafenberg Arr	136.07	337		*e*PP	PP	03 55 44.8	+1.2
HORT	Hortiatis	136.07	319		P	PKPdf	03 53 03.0	-2.2
THE	Thessaloniki	136.13	319		P	PKPdf	03 53 02.2	-3.0
MOA	Molln	136.19	333		*i* PKiKP	PKiKP	03 53 06.8	0.0
	comp=Z,9.5nm,0.8s							
GRG	Griva	136.32	320		P	PKPdf	03 52 58.0	-7.6
SKO	Skopje	136.34	322		P	PKPdf	03 53 05.4	-0.1
SKO	Skopje	136.34	322		*i* PKP	PKPdf	03 53 06.0	+0.4
SANT	Santorini	136.52	313		PFAKE		03 53 20.0	+12
SANT					LR	LR		
	comp=Z,1µm,21.0s							
SKIA	Skiathos	136.58	317		P	PKPdf	03 53 03.6	-2.5
XOR	Xorichti	136.66	318		P	PKPdf	03 53 03.3	-2.9
NEO	Neokhori	136.67	318		P	PKPdf	03 53 06.3	0.0
SOKA	Soboth	136.71	331		*i* PKPdf	PKPdf	03 53 06.4	+0.2
	comp=Z,12nm,0.9s							
LIT	Litokhoron	136.73	319		*e*PKPpre	PKPpre	03 52 59.3	
LIT					LR	LR		
	comp=Z,2µm,21.0s							
LIT	Litokhoron	136.73	319		P	PKPdf	03 53 04.5	-1.8
LIT	Litokhoron	136.73	319		*e*PKIKP	PKPdf	03 52 59.3	
LIT					MLR	MLR		
	comp=Z,2µm,21.0s							
KRUS	Krusevo	136.80	321		*i* PKP	PKPdf	03 53 06.2	-0.3
BIA	Bitola	136.96	321		*i* PKP	PKPdf	03 53 06.8	+0.1
BDFB	Brasilia	136.96	127		PKP	PKPdf	03 53 07.2	-0.3
	comp=Z,12nm,1.0s,baz=231,slow=2.8,SNR=11							
BDFB	Brasilia	136.96	127		*e*PKPpre	PKPpre	03 53 00.3	
BDFB					*e*PKPdf	PKPdf	03 53 07.2	-0.3
BDFB					LR	LR		
	comp=Z,2µm,20.0s							
BDFB	Brasilia	136.96	127		*e*PKHKP	PKPpre	03 53 00.3	
BDFB					*e*		03 53 07.3	
BDFB					MLR	MLR		
	comp=Z,2µm,20.0s							
ATHU	Athens Univers	136.96	316		P	PKPdf	03 53 05.4	-1.4
BEBN	Eben Emael	136.98	342	⇑	PKiKP	PKPdf	03 53 07.1	+0.7
BLY	Banja Luka	137.00	328		*e*PKPpre	PKPpre	03 52 57.0	
BLY					LR	LR		
	comp=Z,2µm,21.0s							
ATH	Athens Observa	137.00	316		P	PKPdf	03 53 04.8	-2.1
VLY	Voula,Athens	137.01	315		P	PKPdf	03 53 05.7	-1.2
MEM	Membach	137.05	342	⇑	PKiKP	PKPdf	03 53 07.0	+0.5
OBKA	Obir	137.06	332		*i* PKPdf	PKPdf	03 53 06.8	0.0
	comp=Z,8.5nm,1.0s							
KZN	Kozani	137.08	320		P	PKPdf	03 53 06.6	-0.5
ATAL	Atalanti	137.12	317		P	PKPdf	03 53 05.1	-2.0
LKR	Lokris	137.15	317		P	PKPpre	03 53 03.3	
KBA	Koelnbreinsper	137.19	333		*i* PKPdf	PKPdf	03 53 06.9	-0.3
	comp=Z,18nm,0.9s							
AXAR	Agios Charalam	137.32	317		P	PKPdf	03 53 05.5	-2.0
THL	Klokotos Trika	137.32	319		P	PKPpre	03 53 03.9	
PDG	Podgorica	137.36	324	⇑	*i*P	PKPpre	03 52 57.9	
TTG	Podgorica	137.36	324		*e*PKPdf	PKPdf	03 53 05.8	-1.6
TTG					LR	LR		
	comp=Z,4µm,22.0s							
UCC	Uccle	137.36	343		PFAKE		03 53 20.0	+11
UCC					LR	LR		
	comp=Z,4µm,20.0s							
MYKA	Terra Mystica	137.39	332		*i* PKiKP	PKiKP	03 53 08.8	-0.5
	comp=Z,12nm,0.9s							
TSUM	Tsumeb	137.39	226		PFAKE		03 53 20.0	+10
TSUM					LR	LR		
	comp=Z,11µm,22.0s							
AGG	Agios Georgios	137.41	318		*e*PKPdf	PKPdf	03 53 07.2	-0.4
AGG					LR	LR		
	comp=Z,2µm,22.0s							
AGG	Agios Georgios	137.41	318		P	PKPdf	03 53 06.0	-1.6
IDI	Anoyia	137.41	311		PKP	PKPdf	03 53 07.2	-0.6
	comp=Z,14nm,0.8s,baz=225,slow=2.9,SNR=5.1							
IDI	Anoyia	137.41	311		*e*PKPdf	PKPdf	03 53 07.2	-0.6
IDI					LR	LR		
	comp=Z,1µm,22.0s							
BOJS	Bojanci	137.45	330		*i* PKPdf	PKPdf	03 53 07.7	+0.2
BOJS					*e*PP	PP	03 55 53.0	+0.5
NEST	Nestorio	137.47	320		P	PKPpre	03 53 04.5	
LTK	Loutraki	137.49	316		P	PKPdf	03 53 06.9	-0.9
LOUT	Loutraki	137.51	316		P	PKPpre	03 53 04.2	
KPRO	Kipourio	137.53	319		P	PKPpre	03 53 04.2	
MAKR	Makrakomi, Fth	137.54	318		P	PKPdf	03 53 08.4	+0.5
MAKR	Makrakomi, Fth	137.54	318		P	PKPdf	03 53 08.4	+0.5
TIR	Tirane	137.66	322		*e*PKPdf	PKPdf	03 53 07.0	-1.0
TIR					LR	LR		
	comp=Z,2µm,22.0s							
TIR	Tirane	137.66	322	⇑	*i*P	PKPdf	03 53 06.5	-1.5
TIR	Tirane	137.66	322		P	PKPdf	03 53 08.0	0.0
KRND	KRANIDI	137.69	315		P	PKPdf	03 53 06.0	-2.1
WATA	Walderalm	137.75	335		*i* PKPdf	PKPdf	03 53 08.3	+0.1
	comp=Z,16nm,0.9s							
ABTA	Abfaltersbach	137.81	333		*i* PKPdf	PKPdf	03 53 08.1	-0.1
	comp=Z,21nm,1.0s							
EVR	Evrytania	137.81	318		P	PKPdf	03 53 07.3	-1.2
WLF	Walferdange	137.83	341		*e*PKPdf	PKPdf	03 53 08.9	+0.9
WLF					LR	LR		
	comp=Z,16µm,22.0s							
WLF	Walferdange	137.83	341	⇑	PKiKP	PKPdf	03 53 08.7	+0.6
KALE	Kalithea	137.86	317		P	PKPdf	03 53 07.2	-1.3
ANX	Ano Chora	137.90	317		P	PKPdf	03 53 07.7	-1.0
SERG	Sergoula	137.91	317		P	PKPdf	03 53 08.0	-0.6
TRIZ	Trizonia	137.92	317		P	PKPdf	03 53 06.9	-1.6
DOU	Dourbes	137.92	343	⇑	PKiKP	PKPdf	03 53 08.9	+0.7
MOTA	Moosalm	137.94	335		*i* PKPdf	PKPdf	03 53 08.5	0.0
	comp=Z,19nm,0.8s,SNR=5.1							
GUR	Goura	137.96	316		P	PKPdf	03 53 07.7	-1.1
SQTA	Sank Quirin	138.00	335		*i* PKPdf	PKPdf	03 53 08.1	-0.5
	comp=Z,21nm,0.8s							
EFP	Efpalio	138.00	317		P	PKPdf	03 53 08.2	-0.5
JAN	Janina	138.02	319		P	PKPdf	03 53 07.7	-1.1
KLV	Kalavryta, Ach	138.04	317		P	PKPdf	03 53 09.8	+0.9
LAKA	Lakka	138.05	317		P	PKPdf	03 53 06.0	-2.9
PVO	Paravola	138.15	318		P	PKPdf	03 53 09.5	+0.5
TRIP	Tripoli	138.22	316		P	PKPdf	03 53 07.7	-1.5
BFO	Black Forest	138.22	338		*e*PKPdf	PKPdf	03 53 08.8	-0.1
BFO					LR	LR		
	comp=Z,3µm,22.0s							
FETA	Feichten	138.36	335		*i* PKPdf	PKPdf	03 53 09.0	-0.3
	comp=Z,21nm,1.0s							
DRO	Drossia	138.38	317		P	PKPdf	03 53 09.6	+0.1
PDO	Prodromos	138.39	318		P	PKPdf	03 53 08.3	-1.1
IGT	Igoumenitsa	138.43	320		P	PKPdf	03 53 08.3	-1.2
RLS	Riolos of Patr	138.49	317		P	PKPdf	03 53 09.8	+0.2
ITM	Ithomi	138.63	316		PFAKE		03 53 20.0	+7.9
ITM					LR	LR		
	comp=Z,2µm,22.0s							
ITM	Ithomi	138.63	316		P	PKPdf	03 53 08.6	-1.3
KEK	Kerkira	138.66	320		P	PKPdf	03 53 09.5	-0.4
FUORN	Ofenpass-Fuorn	138.87	335		*e*PKPpre	PKPpre	03 52 59.9	
FUORN					LR	LR		
	comp=Z,3µm,22.0s							
DAVOX	Davos/Dischmat	138.90	336		PKhKP	PKPpre	03 53 02.4	
	comp=Z,6.3nm,0.7s,baz=25,slow=3.0,SNR=11							
SENIN	Lac Senin/Sane	140.25	337		PFAKE		03 53 30.0	+15
SENIN					LR	LR		
	comp=Z,3µm,20.0s							
CLF	Chambon-Foret	140.46	343		*e*PKPdf	PKPdf	03 53 13.4	+0.5
AQU	L'Aquila	140.64	328		*e*PKPpre	PKPpre	03 53 07.0	
AQU					LR	LR		
	comp=Z,4µm,22.0s							
AQU	L'Aquila	140.64	328		*e*PKHKP	PKPpre	03 53 07.0	
AQU					MLR	MLR		
	comp=Z,4µm,22.0s							
VLC	Villacollemand	140.76	333		PFAKE		03 53 30.0	+14
VLC					LR	LR		
	comp=Z,3µm,19.0s							
TIP	Timpagrande	140.86	322		*e*PKPdf	PKPdf	03 53 14.2	+0.2
TIP					LR	LR		
	comp=Z,3µm,22.0s							
TIP	Timpagrande	140.86	322		P	PKPpre	03 53 08.0	
BNI	Bardonecchia	141.59	337		*e*PKPpre	PKPpre	03 53 10.7	
BNI					LR	LR		
	comp=Z,4µm,21.0s							
BNI	Bardonecchia	141.59	337		*e*PKIKP	PKPpre	03 53 10.7	
BNI					MLR	MLR		
	comp=Z,4µm,21.0s							
CEL	Celeste	141.97	321		PFAKE		03 53 30.0	+11
CEL					LR	LR		
	comp=Z,2µm,22.0s							
SSB	Saint Sauveur	142.18	339		*e*PKPpre	PKPpre	03 53 12.2	
SSB	Saint Sauveur	142.18	339		*e*PKIKP	PKPdf	03 53 12.2	-4.0
CLTB	Caltabellotta	144.03	323		*e*PKPpre	PKPpre	03 53 17.2	
CLTB					LR	LR		
	comp=Z,3µm,20.0s							
WDD	Wied Dalam	144.32	319		PFAKE		03 53 30.0	+6.3
WDD					LR	LR		
	comp=Z,2µm,19.0s							
TAMR	Tamra	146.75	326		*e*PKPdf	PKPbc	03 53 26.3	+0.3
TAMR					LR	LR		
	comp=Z,2µm,20.0s							
MAHO	Mahon	146.88	335		PKP	PKPbc	03 53 25.4	-0.8
KEST	Kesra	147.56	324		PKPbc	PKPbc	03 53 28.6	+0.2
	comp=Z,98nm,0.8s,baz=0.8,slow=2.9,SNR=68							
KEST	Kesra	147.56	324		*e*PKPbc	PKPbc	03 53 28.9	+0.5
KEST					LR	LR		
	comp=Z,3µm,20.0s							
CMAH	Djebel Manchou	147.98	327		P	PKPdf	03 53 27.8	+1.4
CAEH	'Ain El Ouahch	148.16	328		P	PKPbc	03 53 29.9	0.0
ABSA	Djebel Ababsia	148.21	327		P	PKPbc	03 53 28.7	-1.4
PBRG	Braganca	148.40	350		*e*PKPdf	PKPdf	03 53 27.4	+0.5
PBRG	Braganca	148.40	350		*e*PP	PP	03 56 58.7	+0.6
PBRG	Braganca	148.40	350		*e*SS	SS	04 16 31.3	+27
PGAV	Gavieira, Arco	148.46	353		*e*PKPdf	PKPbc	03 53 31.0	+0.4
PGAV	Gavieira, Arco	148.46	353		*e*LQ	LQ	04 35 21.3	
PGAV	Gavieira, Arco	148.46	353		*e*LR	LR	04 45 49.7	
	comp=Z,5µm,20.0s							
CASM	Ain Smara	148.74	328		P	PKPbc	03 53 30.1	-1.4
DFRA	Djebel Bou Aff	148.84	329		P	PKPbc	03 53 31.1	-0.7
CTEI	Djebel Teioual	148.94	328		P	PKPbc	03 53 30.3	-1.8
POLO	Lamas de Olo	148.98	352		*e*PKPdf	PKPbc	03 53 32.2	+0.2
POLO	Lamas de Olo	148.98	352		*e*SS	SS	04 16 39.0	+28
PVRL	Vila Real	149.07	352		*e*PKPdf	PKPbc	03 53 31.5	-0.6
MVO	Moncorvo	149.07	351		*e*PKPdf	PKPdf	03 53 29.7	+1.6
MVO	Moncorvo	149.07	351		*e*SS	SS	04 16 17.2	+5.4
MVO	Moncorvo	149.07	351		*e*LQ	LQ	04 35 39.2	
MVO	Moncorvo	149.07	351		*e*LR	LR	04 49 15.2	
	comp=Z,4µm,20.0s							
UCM	Universidad Co	149.09	345		PKP	PKPdf	03 53 28.9	+0.8
PTO	Porto	149.32	353		*e*PKPdf	PKPbc	03 53 33.1	+0.4
SET	Setif	149.35	329		P	PKPdf	03 53 30.0	+1.3
CKHR	Kef el Ahmar	149.44	329		P	PKPbc	03 53 31.8	-1.5
PVIS	Viseu	149.64	352		*e*PKPdf	PKPbc	03 53 34.0	+0.4
ES19	SONSECA Array	149.83	345		*e*PKPdf	PKPdf	03 53 29.7	+0.4
ESDC	Sonseca Array	149.87	345		PKP	PKPdf	03 53 29.9	+0.5
	comp=Z,15nm,0.9s,baz=2.2,slow=2.3,SNR=34							
ESDC					PKPbc	PKPbc	03 53 34.5	+0.3
	comp=Z,24nm,0.8s,baz=11,slow=2.3,SNR=80							
ESLA	Sonseca Array	149.87	345		*e*PKPdf	PKPdf	03 53 30.3	+0.9
ESLA					LR	LR		
	comp=Z,4µm,21.0s							
MTE	Manteigas	149.90	351		*e*PKPdf	PKPdf	03 53 29.8	+0.4
MTE	Manteigas	149.90	351		*e*SS	SS	04 16 36.5	+15
MTE	Manteigas	149.90	351		*e*LQ	LQ	04 35 49.5	
MTE	Manteigas	149.90	351		*e*LR	LR	04 47 07.2	
	comp=Z,4µm,20.0s							
MTE	Manteigas	149.90	351		*e*PKPdf	PKPdf	03 53 30.0	+0.6
MTE					LR	LR		
	comp=Z,5µm,20.0s							
PAB	San Pablo	150.09	346		*e*PKPdf	PKPdf	03 53 30.9	+1.1
PAB					LR	LR		
	comp=Z,4µm,20.0s							
PAB	San Pablo	150.09	346		*e*PKHKP	PKPdf	03 53 30.9	+1.1
PAB					MLR	MLR		
	comp=Z,4µm,20.0s							
PCAS	Casmilo, Conde	150.38	352		*e*PKPdf	PKPdf	03 53 31.9	+1.8
PCAS	Casmilo, Conde	150.38	352		*e*SS	SS	04 16 55.8	+30
PCBR	Castelo Branco	150.

TOA0	**Torodi Ar. Sit**	**164.96**	**281**	P		**PKPdf**	**03 53 47.4**	**-1.3**
	SNR=28							
TORD	**Torodi Ar. Bea**	**164.96**	**281**	PKP		**PKPdf**	**03 53 48.0**	**-0.7**
	comp=Z,6.7nm,0.9s,baz=153,slow=4.3,SNR=43							
TORD				PKPab		**PKPab**	**03 54 44.2**	**-1.1**
	comp=Z,8.5nm,1.0s,baz=22,slow=6.1,SNR=6.4							
TOA1	**Torodi Ar. Sit**	**164.97**	**281**	*e*PKPdf		**PKPdf**	**03 53 48.0**	**-0.7**
TOA1				*e*PKPab		**PKPab**	**03 54 44.2**	**-1.1**
KIC	**Kosan Boka**	**170.39**	**244**	*e*P		**PKPdf**	**03 53 50.0**	**-2.6**
	comp=Z,216nm,1.4s							
LIC	**Lamto**	**170.58**	**243**	*e*P		**PKPdf**	**03 53 51.2**	**-1.5**
	comp=Z,260nm,1.9s							
DBIC	**Dimbokro**	**170.63**	**246**	PKP		**PKPdf**	**03 53 52.1**	**-0.6**
	comp=Z,21nm,1.0s,baz=94,slow=0.7,SNR=22							
DBIC	**Dimbokro**	**170.63**	**246**	*e*PKPdf		**PKPdf**	**03 53 52.2**	**-0.6**
DBIC				*e*PKPab		**PKPab**	**03 55 10.8**	**+0.5**
DBIC	**Dimbokro**	**170.63**	**246**	*e*PKIKP		**PKPdf**	**03 53 52.2**	**-0.5**
TIC	**Toumodi**	**170.76**	**245**	*e*P		**PKPdf**	**03 53 51.7**	**-1.2**

*ISK **31** 03:40:11.7, 38.92N×43.59E, h12km, ML1.9/8*
*ISCJB **31** 03:40:12.8±0.6, 38.95N±0.04×43.55E±0.06, h11km±6km, Error ellipse: s-maj=7.7km s-min=6.7km az=35.2*
*DDA **31** 03:40:12.2, 38.93N×43.53E, h10km±1km, ML2.5*
ISC 31 03:40:12.3±1.0, 38.94N±0.04×43.57E±0.04, h13km±6km, n13, σ0 58/18, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.05**	**3**	*i* P		**Pg**	**03 40 14.6**	**-0.3**
VMUR				*i* S		**Sg**	**03 40 17.1**	**+0.3**
ERCV	**ERCIS-VAN**	**0.20**	**293**	PG		**Pg**	**03 40 16.4**	**-0.4**
ERCV				SG		**Sg**	**03 40 20.7**	**+0.8**
CLDR	**Caldiran**	**0.34**	**53**	PG		**Pg**	**03 40 18.9**	**-0.3**
CLDR	**Caldiran**	**0.34**	**53**	IAML_P				
	comp=Z,2μm,0.1s							
CLDR				*i* P		**Pb**	**03 40 19.8**	**-0.5**
CLDR				*i* S		**Sb**	**03 40 26.9**	**+1.2**
VANB	**Van**	**0.38**	**202**	PG		**Pb**	**03 40 20.6**	**-0.3**
VANB				SG		**Sb**	**03 40 27.8**	**+1.1**
TVAN	**Van**	**0.43**	**197**	IAML_P				
	comp=Z,779nm,0.1s							
TVAN				*i* P		**Pb**	**03 40 21.6**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.67**	**259**	IAML_P				
	comp=Z,358nm,0.1s							
ADCV				*i* P		**Pb**	**03 40 26.0**	**-0.1**
TUTA	**Tutak**	**0.74**	**308**	IAML_P				
	comp=Z,977nm,0.1s							
TUTA				*i* P		**Pg**	**03 40 26.4**	**-0.4**
TUTA				*i* S		**Sb**	**03 40 37.2**	**-0.3**
AKDM	**Akdamar-Van**	**0.77**	**217**	PG		**Pg**	**03 40 26.8**	**-0.4**
AGRB	**Hanur-Agry**	**0.77**	**325**	PG		**Pb**	**03 40 27.6**	**-0.2**
MLAZ	**Malazgirt-MUS**	**0.82**	**284**	PG		**Pb**	**03 40 28.7**	**+0.2**
TASB	**TASBURUN-IGDIR**	**1.16**	**26**	PN		**Pg**	**03 40 34.6**	**-0.1**
GURO	**Guroymak-BITLI**	**1.26**	**252**	PN		**Pn**	**03 40 35.5**	**-0.3**

IDC 31 03:54:49.3±3.8, 10.89S×166.62E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/42, mbtmp3.8/5, Error ellipse: s-maj=154.9km s-min=30.3km az=138.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.34**	**250**	P		P	04 01 21.7	+1.0
	1.6nm,0.9s,baz=81,slow=9.1,SNR=5.9							
ASAR	**Alice Springs**	**33.63**	**243**	P		P	04 01 31.4	-0.5
	0.7nm,0.5s,baz=69,slow=9.7,SNR=6.6							
FITZ	**Fitzroy Crossi**	**40.25**	**255**	P		P	04 02 27.8	-0.5
	1.2nm,0.6s,baz=108,slow=6.9,SNR=8.7							
ILAR	**Eielson Array**	**83.09**	**18**	P		P	04 07 16.8	+0.1
	0.5nm,0.9s,baz=237,slow=6.1,SNR=5.1							
MKAR	**Makanchi Array**	**94.00**	**317**	P		P	04 08 09.1	-0.3
	0.6nm,0.7s,baz=97,slow=5.0,SNR=4.8							

*IDC **31** 03:57:25.3±1.3, 10.43S×166.30E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.0/42, mbtmp4.1/8, ML3.6/1, MS5.1/3, Ms1 5.1/3, ms1mx4.4/28, Error ellipse: s-maj=49.8km s-min=21.9km az=132.0*
*NEIC **31** 03:57:26.1±0.5, 10.58S×166.41E, h10km, mb4.4/7, Error ellipse: s-maj=13.4km s-min=10.3km az=134.0*
*ISCJB **31** 03:57:28.5±0.6, 10.66S±0.09×166.37E±0.10, h36km, mb4.4/13, Error ellipse: s-maj=14.7km s-min=11.3km az=35.0*
ISC 31 03:57:29.9±0.7, 10.6S±0.1×166.4E±0.1, h36km, n26, σ1 9 11/24, mb4.3/13, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.37**	**180**	Pn		**Pn**	**04 00 12.0**	**+2.1**
	0.4nm,0.3s,baz=353,slow=19,SNR=4.0							
DZM				LR		LR	04 03 02.9	
	comp=Z,4μm,21.1s,baz=12,slow=29							
MANU	**Manus Island**	**20.78**	**293**	*e*P		**P**	**04 02 07.8**	**-0.3**
	20nm,1.1s							
CTA	**Charters Tower**	**21.59**	**242**	P		**P**	**04 02 18.6**	**+1.8**
	1.8nm,0.5s,baz=62,slow=13,SNR=4.0							
COEN	**Coen**	**22.97**	**259**	*e*P		**P**	**04 02 28.9**	**-2.6**
	7.3nm,1.0s							
KNTN	**Kanton**	**23.04**	**72**	*e*P		**P**	**04 02 32.3**	**+0.2**
	151nm,1.1s							
ARMA	**Armidale**	**24.02**	**213**	*e*P		**P**	**04 02 41.0**	**-0.7**
	12nm,1.2s							
URZ	**Urewera**	**29.12**	**163**	*e*P		**P**	**04 03 24.9**	**-2.3**
	28nm,1.3s							
WRAB	**Tennant Creek**	**32.25**	**249**	*e*P		**P**	**04 03 55.3**	**+0.1**
	5.6nm,1.1s							
WRA	**Warramunga Arr**	**32.26**	**249**	P		**P**	**04 03 55.1**	**-0.3**
	3.3nm,0.9s,baz=83,slow=9.1,SNR=13							
AS01	**Alice Springs**	**33.54**	**243**	*e*P		**P**	**04 04 06.0**	**-0.6**
ASAR	**Alice Springs**	**33.58**	**243**	P		**P**	**04 04 06.5**	**-0.4**
	3.9nm,0.8s,baz=73,slow=9.2,SNR=22							
ANA2	**Anatahan**	**33.76**	**322**	*e*P		**P**	**04 04 09.9**	**+1.6**
ANA2				LR		LR		
	comp=Z,4μm,19.0s							
FITZ	**Fitzroy Crossi**	**40.15**	**255**	P		**P**	**04 05 02.6**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=76,slow=6.1,SNR=21							
JHJ	**Hachijo jima 2**	**50.40**	**331**	LR		LR	04 24 26.1	
	comp=Z,1μm,19.7s,baz=138,slow=32							
KDAK	**Kodiak Island**	**75.96**	**21**	LR		LR	04 36 25.7	
	comp=Z,3μm,21.4s,baz=213,slow=31							
COLA	**College**	**82.69**	**18**	*e*P		**P**	**04 09 49.1**	**-0.3**
	comp=Z,54nm,1.0s							
ILAR	**Eielson Array**	**82.92**	**18**	P		**P**	**04 09 50.9**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=243,slow=5.0,SNR=13							
ILB	**Eielson Array**	**82.92**	**18**	*e*P		**P**	**04 09 50.9**	**+0.3**
	comp=Z,0.9nm,0.8s							
ZALV	**Zalesovo Beam**	**93.63**	**324**	P		**P**	**04 10 41.6**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=116,slow=3.4,SNR=4.3							
ZAA1	**Zalesovo Array**	**93.63**	**324**	*e*P		**P**	**04 10 41.6**	**-0.8**
MK01	**Makanchi Array**	**93.69**	**317**	*e*P		**P**	**04 10 43.1**	**+0.3**
MK32	**Makanchi Array**	**93.70**	**317**	*e*P		**P**	**04 10 43.4**	**+0.5**
MKAR	**Makanchi Array**	**93.70**	**317**	P		**P**	**04 10 43.4**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=92,slow=4.3,SNR=13							
ARA0	**ARCESS Array S**	**116.12**	**346**	*e*PKPdf		**PKPdf**	**04 16 08.9**	**+0.2**
ARCES	**ARCESS Array B**	**116.12**	**346**	PKP		**PKPdf**	**04 16 08.9**	**+0.2**
	comp=Z,3.0nm,0.9s,baz=103,slow=1.9,SNR=3.9							
ESDC	**Sonseca Array**	**149.85**	**345**	PKPbc		**PKiKP**	**04 17 17.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=29,slow=2.9,SNR=3.5							

*IDC **31** 03:57:54.0±0.4, 10.71S×166.53E, h0km, mb5.0/27, mb1 5.1/27, mb1mx5.0/42, mbtmp5.0/27, MS5.7/13, Ms1 5.7/13, ms1mx5.2/27, Error ellipse: s-maj=15.6km s-min=11.8km az=127.0*
*NEIC **31** 03:57:56.5±0.1, 10.68S×166.38E, h10km, mb5.6/241, MS5.9/116, Error ellipse: s-maj=3.7km s-min=3.0km az=132.0*
*ISCJB **31** 03:57:58.5±0.1, 10.71S±0.02×166.34E±0.02, h33km, mb5.5/279, MS5.8/140, Error ellipse: s-maj=3.7km s-min=2.9km az=149.5*
*GCMT **31** 03:57:59.5±0.1, 10.66S±0.01×166.47E±0.01, h12km, MW5.8/133, Moment Tensor Solution. s78,c120; s133,c340; Duration: 19 Moment tensor: Scale 10^17 Nm; Mrr-5.32±.06; Mθθ2.15±.06; Mϕϕ3.17±.06; Mrθ-0.52±.20; Mrϕ-2.93±.05; Mθϕ0.80±.23; Best double couple: Ms5.56000×10^17 NP1:ϕs141.00000°, δ50.00000°, λ-88.00000°. NP2:ϕs319.00000°, δ40.00000°, λ-92.00000°. Principal axes: T 5.7150, Plg5.0000°, Azm230.0000°; N -0.3120, Plg1.0000°, Azm320.0000°; P -5.4040, Plg85.0000°, Azm65.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*BJI **31** 03:57:59.3, 10.37S×166.37E, h35km, mb5.3/68, mB6.0/45, Ms5.6/39, Ms7 5.3/36*
ISC 31 03:57:59.6±0.9, 10.67S±0.04×166.44E±0.04, h32km±6km, n753, σ1 9 32/696, mb5.5/287, MS5.8/140, 21C-9D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**6.51**	**280**	Pn		**Pn**	**03 59 37.4**	**+4.0**
	36nm,0.3s,baz=205,slow=6.0,SNR=4.0							
HNR				LR		LR	04 02 07.4	
	comp=Z,46μm,21.3s,baz=119,slow=38							
HNR	**Honiara**	**6.51**	**280**	*e*Pn		**Pn**	**03 59 33.2**	**-0.1**
MARNC	**Mare, Loyalty**	**10.86**	**172**	*e*Pn		**Pn**	**04 00 31.4**	**-1.5**
DZM	**Mont Dzumac**	**11.34**	**180**	Pn		**Pn**	**04 00 40.4**	**+0.7**
	2.8nm,0.3s,baz=6.2,slow=21,SNR=10							
DZM				Sn		**Sn**	**04 02 43.2**	**-2.1**
	0.5nm,0.3s,baz=180,slow=20,SNR=1.7							
DZM	**Mont Dzumac**	**11.34**	**180**	*e*Pn		**Pn**	**04 00 40.3**	**+0.7**
	372nm,1.2s							
DZM	**Mont Dzumac**	**11.34**	**180**	*e*Pn		**Pn**	**04 00 37.1**	**-2.5**
ONTNC	**Ouen Toro**	**11.57**	**180**	*e*Pn		**Pn**	**04 00 44.7**	**+2.0**
PINNC	**Pines Island,**	**11.92**	**176**	*e*Pn		**Pn**	**04 00 49.0**	**+1.6**
MSVF	**Nonsavu**	**13.26**	**123**	*e*Pn		**Pn**	**04 01 07.3**	**+1.4**
TARA	**Tarawa**	**13.57**	**29**	*e*Pn		**Pn**	**04 01 06.8**	**-3.3**
RABL	**Rabaul**	**15.55**	**293**	*e*Pn		**Pn**	**04 01 37.0**	**+0.3**
	509nm,1.5s							
PMG	**Port Moresby**	**19.03**	**272**	P		**Pn**	**04 02 25.5**	**+5.4**
	1.8nm,0.3s,baz=156,slow=3.7,SNR=5.8							
PMG				LR		LR	04 09 46.2	
	comp=Z,27μm,18.2s,baz=122,slow=37							
PATS	**Pohnpei**	**19.18**	**335**	*e*P		**P**	**04 02 21.2**	**+0.4**
	589nm,1.4s							
KWAJ	**Kwajalein Atol**	**19.38**	**3**	*e*P		**P**	**04 02 20.8**	**-2.2**
	734nm,1.3s							
EIDS	**Eidsvold**	**20.63**	**223**	P		Pn	04 02 38.8	-0.3
	baz=21,SNR=11							
EIDS	**Eidsvold**	**20.63**	**223**	*e*P		**P**	**04 02 35.9**	**-0.7**
	18nm,1.0s							
EIDS				LR		LR		
	comp=Z,15μm,20.0s							
MANU	**Manus Island**	**20.79**	**293**	*e*P		Pn	04 02 41.2	+0.2
	comp=Z,528nm,1.3s							
MANU				LR		LR		
	comp=Z,13μm,20.0s							
CTA	**Charters Tower**	**21.58**	**242**	P		**P**	**04 02 48.0**	**+1.1**
	comp=Z,53nm,0.9s,baz=71,slow=14,SNR=16							
CTA				LR		LR	04 09 58.2	
	comp=Z,19μm,20.2s,baz=64,slow=34							
CTAO	**Charters Tower**	**21.58**	**242**	*e*P		**P**	**04 02 48.2**	**+1.3**
	comp=Z,150nm,1.1s							
CTAO				LR		LR		
	comp=Z,21μm,20.0s							
LHI	**Lord Howe Isla**	**21.85**	**197**	*e*P		**P**	**04 02 51.1**	**+1.5**
	comp=Z,116nm,0.8s							
LHI				LR		LR		
	comp=Z,17μm,21.0s							
MTSU	**Mount Surprise**	**22.66**	**248**	P		**P**	**04 02 59.7**	**+1.2**
	baz=23,SNR=11							
RMQ	**Roma**	**22.94**	**224**	P		**P**	**04 03 02.9**	**+1.5**
	baz=23,SNR=14							
COEN	**Coen**	**22.96**	**259**	P		**P**	**04 03 04.0**	**+2.3**
	baz=23,SNR=5.0							
COEN	**Coen**	**22.96**	**259**	*e*P		**P**	**04 03 04.1**	**+2.5**
	comp=Z,63nm,1.2s							
KNTN	**Kanton**	**23.05**	**72**	*e*P		**P**	**04 03 00.0**	**-2.5**
	comp=Z,144nm,1.0s							
ARMA	**Armidale**	**24.00**	**213**	P		**P**	**04 03 13.0**	**+1.3**
	baz=24,SNR=14							
ARMA	**Armidale**	**24.00**	**213**	*e*P		**P**	**04 03 13.1**	**+1.3**
	comp=Z,140nm,1.2s							
ARMA				LR		LR		
	comp=Z,19μm,19.0s							
QLP	**Quilpie**	**26.26**	**230**	P		**P**	**04 03 32.9**	**+0.6**
	baz=27,SNR=12							
JAY	**Jayapura**	**26.80**	**286**	P		P	04 03 45.7	+8.5
QIS	**Mount Isa**	**27.61**	**246**	P		**P**	**04 03 44.6**	**+0.1**
	baz=28,SNR=13							
CMSA	**Cobar Meteorol**	**28.29**	**220**	P		**P**	**04 03 50.5**	**+0.2**
	baz=29,SNR=9.3							
YNG	**Young**	**28.73**	**212**	P		**P**	**04 03 54.9**	**+0.6**
	baz=29,SNR=4.9							
HIZ	**Hauiti**	**28.73**	**166**	*e*P		**P**	**04 03 55.6**	**+1.4**
	comp=Z,82nm,1.1s							
H11S2	**WAKE ISLAND Hy**	**28.98**	**1**	T		T	04 33 52.1	
	baz=181							
H11S3	**WAKE ISLAND Hy**	**28.98**	**0**	T		T	04 33 52.7	
	baz=181							
H11S1	**WAKE ISLAND Hy**	**28.99**	**1**	T		T	04 33 53.3	
	baz=181							
CNB	**Canberra Magne**	**29.04**	**210**	P		**P**	**04 03 57.3**	**+0.2**
	baz=29,SNR=5.3							
URZ	**Urewera**	**29.09**	**163**	*e*P		**P**	**04 03 54.1**	**-3.3**
	comp=Z,42nm,1.1s							
URZ				LR		LR		
	comp=Z,5μm,19.0s							
BKZ	**Black Stump Fm**	**29.76**	**164**	*e*P		**P**	**04 04 03.1**	**-0.3**
	comp=Z,96nm,1.3s							
H11N1	**WAKE ISLAND Hy**	**30.19**	**1**	T		T	04 35 23.1	
	baz=179							
H11N3	**WAKE ISLAND Hy**	**30.20**	**1**	T		T	04 35 25.6	
	baz=179							
H11N2	**WAKE ISLAND Hy**	**30.21**	**1**	T		T	04 35 25.4	
	baz=179							
BFZ	**Birch Farm**	**31.12**	**165**	*e*P		**P**	**04 04 14.0**	**-1.3**
	comp=Z,42nm,1.0s							
STKA	**Stephens Creek**	**31.18**	**224**	P		**P**	**04 04 15.2**	**-0.8**
	comp=Z,15nm,0.8s,baz=51,slow=7.6,SNR=8.7							
STKA				PcP		**PcP**	**04 07 10.4**	**-0.1**
	comp=Z,9.7nm,0.8s,baz=5.7,slow=1.9,SNR=3.8							
STKA				LR		LR	04 16 22.7	
	comp=Z,17μm,19.2s,baz=49,slow=36							
STKA	**Stephens Creek**	**31.18**	**224**	P		**P**	**04 04 16.2**	**+0.1**
	baz=32,SNR=8.2							
STKA	**Stephens Creek**	**31.18**	**224**	*e*P		**P**	**04 04 16.4**	**+0.3**
	comp=Z,7.4nm,1.1s							
STKA				LR		LR		
	comp=Z,4μm,21.0s							
SNZO	**South Karori**	**31.38**	**168**	*e*P		**P**	**04 04 16.2**	**-1.3**
	comp=Z,152nm,1.3s							
SNZO				LR		LR		
	comp=Z,10μm,19.0s							
THZ	**Tophouse**	**31.49**	**171**	*e*P		**P**	**04 04 17.7**	**-1.0**
	comp=Z,61nm,0.9s							
KHZ	**Kahutara**	**32.23**	**170**	*e*P		**P**	**04 04 24.8**	**-0.2**
	comp=Z,34nm,1.0s							
GUMO	**Guam**	**32.23**	**318**	LR		LR	04 18 59.1	
	comp=Z,2μm,18.1s,baz=141,slow=39							
GUMO	**Guam**	**32.23**	**318**	*e*P		**P**	**04 04 25.6**	**+0.2**
	comp=Z,494nm,1.3s							
WRAB	**Tennant Creek**	**32.24**	**250**	*e*P		**P**	**04 04 25.1**	**-0.4**
	comp=Z,136nm,1.0s							
WB2	**Warramunga Arr**	**32.24**	**250**	*e*P		**P**	**04 04 24.8**	**-0.7**
WR1	**Warramunga Arr**	**32.26**	**250**	*e*P		**P**	**04 04 25.2**	**-0.4**
	comp=Z,10nm,1.2s							
WR1				*e*PcP		**PcP**	**04 07 13.7**	**0.0**
WRA	**Warramunga Arr**	**32.26**	**250**	P		**P**	**04 04 25.2**	**-0.4**
	comp=Z,37nm,1.0s,baz=82,slow=8.6,SNR=41							
WRA				PcP		**PcP**	**04 07 13.7**	**-0.1**
	comp=Z,5.6nm,0.8s,baz=75,slow=3.1,SNR=6.9							
WRA				LR		LR	04 17 29.6	
	comp=Z,12μm,18.4s,baz=75,slow=36							
LTZ	**Lake Taylor**	**32.39**	**172**	*e*P		**P**	**04 04 25.9**	**-0.6**
	comp=Z,66nm,1.1s							
TOO	**Toolangi**	**32.75**	**212**	P		**P**	**04 04 30.1**	**+0.3**
	baz=33,SNR=4.9							
TOO	**Toolangi**	**32.75**	**212**	*e*P		**P**	**04 04 29.7**	**0.0**
	comp=Z,25nm,0.8s							
TOO				LR		LR		
	comp=Z,12μm,18.0s							
FOZ	**Fox Glacier**	**32.87**	**175**	*e*P		**P**	**04 04 30.6**	**0.0**
	comp=Z,132nm,1.2s							
OXZ	**Oxford**	**32.90**	**172**	*e*P		**P**	**04 04 30.0**	**-0.9**
	comp=Z,197nm,1.4s							
RPZ	**Rata Peaks**	**33.17**	**174**	P		**P**	**04 04 31.5**	**-1.7**
	comp=Z,31nm,0.8s,baz=75,slow=1.0,SNR=13							
RPZ	**Rata Peaks**	**33.17**	**174**	*e*P		**P**	**04 04 32.7**	**-0.6**
CRLZ	**Canterbury Las**	**33.22**	**172**	*e*P		**P**	**04 04 34.8**	**+1.1**
	comp=Z,200nm,1.5s							
KDU	**Kakadu**	**33.31**	**263**	P		**P**	**04 04 34.6**	**-0.3**
	baz=34,SNR=3.6							
MQZ	**McQueen's Vall**	**33.35**	**172**	*e*P		**P**	**04 04 33.8**	**-1.0**
	comp=Z,63nm,1.2s							
AS01	**Alice Springs**	**33.53**	**243**	*e*P		**P**	**04 04 34.9**	**-1.8**
AS31	**Alice Springs**	**33.57**	**243**	*e*P		**P**	**04 04 36.4**	**-0.7**
	comp=Z,1.4nm,0.8s							
AS31				*e*PcP		**PcP**	**04 07 16.9**	**-0.4**
ASAR	**Alice Springs**	**33.57**	**243**	P		**P**	**04 04 36.2**	**-0.9**
	comp=Z,39nm,0.8s,baz=74,slow=9.4,SNR=80							
ASAR				PcP		**PcP**	**04 07 16.9**	**-0.4**
	comp=Z,9.6nm,0.9s,baz=64,slow=3.1,SNR=6.8							
ASAR				LR		LR	04 17 33.6	
	comp=Z,13μm,18.4s,baz=74,slow=35							
LBZ	**Lake Benmore**	**33.75**	**175**	*e*P		**P**	**04 04 37.6**	**-0.8**
	comp=Z,59nm,1.1s							
HTT	**Hallett**	**33.92**	**224**	P		**P**	**04 04 40.6**	**+0.5**
	baz=34,SNR=14							
WKZ	**Wanaka**	**34.11**	**177**	*e*P		**P**	**04 04 41.3**	**-0.2**
	comp=Z,274nm,1.4s							
WKZ				LR		LR		
	comp=Z,8μm,20.0s							
ARPS	**Mount Arapiles**	**34.18**	**217**	P		**P**	**04 04 42.8**	**+0.6**
	baz=34,SNR=6.3							
ODZ	**Otahua Downs**	**34.44**	**175**	*e*P		**P**	**04 04 43.2**	**-1.1**
	comp=Z,100nm,1.3s							
MLZ	**Mavora Lakes**	**34.60**	**178**	*e*P		**P**	**04 04 42.3**	**-3.5**
	comp=Z,77nm,1.4s							
DCZ	**Deep Cove**	**34.68**	**179**	*e*P		**P**	**04 04 46.9**	**+0.6**
	comp=Z,90nm,1.3s							
DCZ				LR		LR		
	comp=Z,4μm,19.0s							
SAUI	**Saumlaki**	**34.77**	**271**	*e*P		**P**	**04 04 46.2**	**-1.4**
	comp=Z,168nm,0.8s							
WHZ	**Wether Hill Ro**	**35.12**	**178**	*e*P		**P**	**04 04 48.8**	**-1.4**
	comp=Z,16nm,1.0s							
BBOO	**Buckleboo**	**35.58**	**227**	P		**P**	**04 04 54.6**	**+0.3**
	baz=36,SNR=8.1							
BBOO	**Buckleboo**	**35.58**	**227**	*e*P		**P**	**04 04 52.9**	**-1.5**
	comp=Z,80nm,1.3s							
MOO	**Moorlands**	**35.85**	**205**	P		**P**	**04 04 57.2**	**+0.7**
	baz=36,SNR=3.6							
BNDI	**Bandanaira**	**36.70**	**277**	P		P	04 05 16.9	+13
KNRA	**Kununurra**	**36.99**	**258**	P		**P**	**04 05 06.3**	**-0.2**
	baz=37,SNR=4.1							
WRKA	**Warakurna**	**38.86**	**243**	P		**P**	**04 05 22.1**	**-0.3**
	baz=39,SNR=15							
NLAI	**Namlea**	**39.71**	**278**	P		P	04 05 37.7	+8.2
FITZ	**Fitzroy Crossi**	**40.14**	**255**	P		**P**	**04 05 32.4**	**-0.6**
	comp=Z,30nm,0.6s,baz=67,slow=7.4,SNR=56							
FITZ	**Fitzroy Crossi**	**40.14**	**255**	P		**P**	**04 05 32.8**	**-0.2**
	baz=40,SNR=22							
FITZ	**Fitzroy Crossi**	**40.14**	**255**	*e*P		**P**	**04 05 32.1**	**-0.9**
TNTI	**Ternate**	**40.49**	**284**	*e*P		**P**	**04 05 38.5**	**+2.5**
	comp=Z,20nm,0.7s							
TNTI				LR		LR		
	comp=Z,2μm,20.0s							
FORT	**Forrest**	**40.82**	**235**	P		**P**	**04 05 38.6**	**+0.1**
	baz=41							
FORT	**Forrest**	**40.82**	**235**	*e*P		**P**	**04 05 36.1**	**-2.3**
	comp=Z,92nm,1.0s							
SOEI	**Soe**	**41.49**	**267**	*e*P		**P**	**04 05 44.4**	**0.0**
	comp=Z,37nm,1.0s							
SOEI	**Soe**	**41.49**	**267**	P		P	04 05 51.3	+6.9
BATI	**Baumata**	**42.05**	**267**	P		**P**	**04 05 48.8**	**-0.1**
	comp=Z,28nm,0.5s,baz=79,slow=5.2,SNR=4.3							
PAE	**Paea**	**43.12**	**104**	*e*P		**P**	**04 05 59.1**	**+1.6**
	comp=Z,7.8nm,1.0s							
PPT2	**Papeete2**	**43.12**	**104**	*e*P		**P**	**04 05 59.7**	**+2.1**
	comp=Z,29nm,1.2s							
PPT2				*e*S		**S**	**04 12 26.4**	**+4.2**
	comp=Z,2μm,24.2s							
PPT2				*e*LQ		LQ	04 16 08.5	
	comp=Z,11μm,27.5s							
PPT2				*e*LR		LR	04 17 56.2	
	comp=Z,10μm,27.0s,baz=275							
MMRI	**Maumere**	**43.60**	**269**	*e*P		**P**	**04 06 01.0**	**-0.3**
	comp=Z,103nm,1.0s							
TBI	**Tubuai**	**43.84**	**113**	*e*S		**S**	**04 12 36.6**	**+4.2**
	comp=Z,2μm,25.0s							
TBI				*e*LQ		LQ	04 16 27.0	
	comp=Z,11μm,31.5s							
TBI				*e*LR		LR	04 18 16.4	
	comp=Z,9μm,29.2s,baz=287							
EDFI	**Ende, Flores**	**44.12**	**268**	P		**P**	**04 06 07.1**	**+1.4**
	comp=Z,48nm,1.6s							
PMOR	**Pomariorio Ree**	**44.67**	**101**	*e*P		**P**	**04 06 11.3**	**+1.4**
	comp=Z,172nm,1.3s							
KCP	**Kidapawan**	**44.76**	**291**	*e*P		P	04 06 19.6	+8.9
VAH	**Vaihoa**	**44.93**	**101**	*e*P		**P**	**04 06 13.1**	**+1.1**
	comp=Z,163nm,1.4s							
MBWA	**Marble Bar**	**45.97**	**251**	*e*P		**P**	**04 06 20.7**	**+0.5**
	comp=Z,87nm,1.2s							
MBWA	**Marble Bar**	**45.97**	**251**	P		**P**	**04 06 20.7**	**+0.5**
	SNR=10							
OPA	**Op

	comp=Z,61nm,1.1s								
MAT	**Matsushiro**	53.96	332	P		P	04 07 19.6	-1.0	
MJB9	**Matsu-Tunnel**	53.96	332	*e*P		P	04 07 20.1	-0.5	
	comp=Z,62nm,1.1s								
PCJI	**Pacitan**	54.52	268	P		P	04 07 31.6	+6.6	
BTM	**Bintulu**	54.86	282	P		P	04 07 26.6	-1.0	
YOJ	**Yonaguni jima**	54.92	310	*e*P		P	04 07 26.8	-0.9	
	comp=Z,173nm,1.1s								
JNU	**Nakatsue**	55.18	324	*e*P		P	04 07 29.5	0.0	
	comp=Z,215nm,1.3s								
YULB	**Yu-li**	55.64	308	*e*P		P	04 07 34.1	+1.1	
	comp=Z,60nm,1.2s								
NACB	**Ninganchiao**	55.83	309	*e*P		P	04 07 34.4	0.0	
	comp=Z,172nm,1.5s								
TPUB	**Ta-pu**	56.11	307	*e*P		P	04 07 35.8	-0.6	
	comp=Z,154nm,1.2s								
SSLB	**Suanglung**	56.12	308	*e*P		P	04 07 39.0	+2.5	
	comp=Z,40nm,1.2s								
YHNB	**Yeheng**	56.27	309	*e*P		P	04 07 37.1	-0.4	
	comp=Z,114nm,1.0s								
YHNB				LR		LR			
	comp=Z,3µm,21.0s								
KPJI	**Karang Pucung**	56.84	268	P		P	04 07 48.3	+6.6	
RKT	**Rikitea**	57.08	111	*e*S		S	04 15 39.9	+3.5	
	comp=Z,1µm,26.8s								
RKT				*e*LQ		LQ	04 22 00.6		
	comp=Z,3µm,32.0s								
RKT				*e*LR		LR	04 24 23.7		
	comp=Z,3µm,28.2s,baz=278								
KSM	**Kuching**	57.12	279	PFAKE			04 08 00.0	+16	
KSM				LR		LR			
	comp=Z,2µm,19.0s								
CISI	**Cisompet, Garu**	57.90	268	*e*P		P	04 07 48.0	-1.4	
	comp=Z,77nm,1.0s								
CISI	**Cisompet, Garu**	57.90	268	P		P	04 07 54.5	+5.2	
	comp=Z,91nm,1.5s								
QZH	**Quanzhou**	58.56	308	P		P	04 07 57.3	+3.7	
QZH				S		S	04 15 47.5	-8.1	
QZH				LR		LR			
	comp=Z,1µm,20.7s								
QZH				LR		LR			
	comp=Z,2µm,18.2s								
QZH				LR		LR			
	comp=Z,1µm,14.2s								
ASAJ	**Asahikawa**	58.67	340	P		P	04 07 54.1	+0.1	
	comp=Z,24nm,0.8s,baz=175,slow=3.6,SNR=15								
KSRS	**Korea Array**	59.96	325	P		P	04 08 03.3	+0.3	
	comp=Z,10nm,0.9s,baz=137,slow=7.3,SNR=33								
KSRS				PcP		PcP	04 08 49.1	+0.1	
	comp=Z,4.7nm,0.8s,baz=131,slow=5.2,SNR=5.1								
KS15	**Wonju Array Si**	59.97	325	*e*P		P	04 08 03.7	+0.6	
KS15				*e*PcP		PcP	04 08 49.1	0.0	
KSAR	**Wonju Array Be**	59.97	325	P		P	04 08 03.3	+0.2	
KSAR				PcP		PcP	04 08 49.1	0.0	
KS01	**Wonju Array Si**	59.99	325	*e*P		P	04 08 03.2	-0.1	
SSE	**Sheshan**	60.06	315	P		P	04 08 03.8	-0.1	
SSE				pmax		pmax			
	comp=Z,16nm,0.6s								
SSE				pmax		pmax			
	comp=Z,720nm,4.7s								
SSE	**Sheshan**	60.06	315	*e*P		P	04 08 04.0	+0.2	
	comp=Z,114nm,0.9s								
YSS	**Yuzh-Sakhalins**	61.14	342	*e*P		P	04 08 13.3	+2.4	
	comp=Z,255nm,1.2s								
MDSI	**Maura Dua**	61.94	271	P		P	04 08 19.6	+2.6	
	comp=Z,23nm,1.9s								
NJ2	**Nanjing**	62.24	315	⇓*i*P		P	04 08 19.0	+0.4	
NJ2				pP		pP	04 08 25.8	-2.1	
NJ2				pmax		pmax			
	comp=Z,32nm,0.7s								
USA0B	**Ussuriysk Arra**	62.92	333	*e*P		P	04 08 23.5	+0.5	
	comp=Z,319nm,1.5s								
USRK	**Ussuriysk Ar.**	62.92	333	P		P	04 08 23.1	+0.2	
	comp=Z,17nm,1.1s,baz=132,slow=3.7,SNR=19								
QIZ	**Qiongzhong**	63.11	298	P		P	04 08 25.3	+0.6	
QIZ				S		S	04 16 53.8	-0.2	
QIZ				LR		LR			
	comp=Z,1µm,20.1s								
QIZ				LR		LR			
	comp=Z,1µm,16.2s								
PETK	**Petropavlovsk-**	63.96	354	P		P	04 08 29.1	-0.5	
	comp=Z,12nm,0.8s,baz=153,slow=10.0,SNR=12								
PETK	**Petropavlovsk-**	63.96	354	*e*P		P	04 08 29.9	+0.2	
PEA1	**Petropavlovsk-**	63.97	354	*e*P		P	04 08 29.1	-0.6	
ADK	**Adak**	63.98	12	PFAKE			04 08 40.0	+10	
ADK				LR		LR			
	comp=Z,6µm,21.0s								
KGM	**Kluang**	64.05	278	P		P	04 08 31.3	+0.3	
MDJ	**Mudanjiang**	64.34	332	P		P	04 08 33.0	+0.7	
MDJ				pmax		pmax			
	comp=Z,45nm,1.0s								
MDJ				pmax		pmax			
	comp=Z,2µm,10.8s								
MDJ				LR		LR			
	comp=Z,2µm,16.3s								
MDJ				LR		LR			
	comp=Z,1µm,15.5s								
MDJ				LR		LR			
	comp=Z,2µm,15.2s								
MDJ	**Mudanjiang**	64.34	332	*e*P		P	04 08 32.9	+0.6	
	comp=Z,170nm,1.5s								
DL2	**Dalian**	64.60	322	P		P	04 08 34.0	-0.1	
DL2				S		S	04 17 15.3	+3.6	
DL2				pmax		pmax			
	comp=Z,110nm,1.0s								
DL2				pmax		pmax			
	comp=Z,2µm,4.4s								
DL2				LR		LR			
	comp=Z,1µm,14.7s								
DL2				LR		LR			
	comp=Z,2µm,16.3s								
DL2				LR		LR			
	comp=Z,2µm,16.2s								
WHN	**Wuhan**	64.66	311	⇓P		P	04 08 36.8	+2.2	
KTGM	**Kuala Trenggan**	65.00	281	P		P	04 08 37.8	+0.6	
CN2	**Changchun**	65.78	329	⇓P		P	04 08 41.5	-0.1	
CN2				pmax		pmax			
	comp=Z,50nm,1.0s								
TIA	**Tai'an**	65.80	318	P		P	04 08 41.5	-0.4	
TIA				pmax		pmax			
	comp=Z,9.0nm,0.8s								
NIKH	**Nikolski High**	66.82	16	*e*P		P	04 08 48.0	-0.1	
	comp=Z,253nm,1.3s								
IPM	**Ipoh**	66.83	280	*e*P		P	04 08 52.4	+3.3	
	comp=Z,51nm,1.1s								
IPM	**Ipoh**	66.83	280	P		P	04 08 48.8	-0.2	
VNDA	**Vanda**	66.88	181	P		P	04 08 47.5	-0.8	
	comp=Z,16nm,0.9s,baz=3.5,slow=4.6,SNR=8.9								
VNDA	**Vanda**	66.88	181	*e*P		P	04 08 47.9	-0.3	
MNSI	**Mandailing Nat**	67.44	275	P		P	04 08 52.0	-0.9	
ENH	**Enshi**	68.20	309	*e*P		P	04 08 57.1	-0.3	
	comp=Z,63nm,1.3s								
PSI	**Prapat**	68.50	277	P		P	04 08 58.3	-1.4	
	comp=Z,10nm,0.9s,baz=180,slow=5.6,SNR=4.3								
PSI	**Prapat**	68.50	277	*e*P		P	04 08 58.9	-0.9	
	comp=Z,25nm,1.0s								
BJT	**Baijiatuan**	68.61	321	*e*P		P	04 09 00.1	+0.3	
	comp=Z,98nm,1.2s								
BJI	**Beijing**	68.62	321	P		P	04 08 59.8	0.0	
BJI				pmax		pmax			
	comp=Z,26nm,1.2s								
GYA	**Guiyang**	68.78	304	⇑*i*P		P	04 09 01.5	+0.3	
GYA				PP		PP	04 11 35.0	+1.5	
GYA				S		S	04 18 02.5	-0.6	
GYA				SS		SS	04 22 29.3	+0.6	
GYA				pmax		pmax			
	comp=Z,20nm,0.9s								
GYA				pmax		pmax			
	comp=Z,140nm,5.4s								
GYA				LR		LR			
	comp=Z,720nm,18.9s								
GYA				LR		LR			
	comp=Z,620nm,18.6s								
GYA				LR		LR			
	comp=Z,720nm,19.0s								
GSI	**Gunungsitoli**	69.50	275	P		P	04 09 15.2	+9.4	
TIY	**Taiyuan**	69.75	317	*e*P		P	04 09 08.5	+1.6	
TIY				S		S	04 18 06.8	-7.3	
TIY				pmax		pmax			
	comp=Z,49nm,1.0s								
TIY				LR		LR			
	comp=Z,1µm,15.4s								
TIY				LR		LR			
	comp=Z,830nm,11.7s								
TIY				LR		LR			
	comp=Z,2µm,16.4s								
FALS	**False Pass**	70.04	18	PFAKE			04 09 20.0	+12	
FALS				LR		LR			
	comp=Z,4µm,19.0s								
PBKT	**Sadao Pong**	70.17	292	*e*P		P	04 09 10.5	+0.7	
	comp=Z,33nm,1.5s								
PBKT	**Sadao Pong**	70.17	292	P		P	04 09 15.1	+5.3	
XAN	**Xi'an**	70.38	312	P		P	04 09 10.8	0.0	
XAN				pP		pP	04 09 20.3	+0.1	
XAN				pmax		pmax			
	comp=Z,54nm,1.4s								
XAN				pmax		pmax			
	comp=Z,2µm,11.3s								
XAN				LR		LR			
	comp=Z,960nm,15.7s								
XAN				LR		LR			
	comp=Z,1µm,19.1s								
XAN				LR		LR			
	comp=Z,1µm,19.5s								
XAN	**Xi'an**	70.38	312	*e*P		P	04 09 11.0	+0.2	
	comp=Z,64nm,1.1s								
UTTA	**Uttaradit**	70.92	293	P		P	04 09 19.7	+5.4	
NANT	**Nan**	71.12	294	P		P	04 09 19.7	+4.1	
MA2	**Magadan**	71.14	352	*e*P		P	04 09 13.8	-1.1	
	comp=Z,64nm,1.5s								
KMI	**Kunming**	71.51	301	P		P	04 09 18.8	+0.7	
KMI				sP		sP	04 09 32.5	+1.6	
KMI				pmax		pmax			
	comp=Z,23nm,2.0s								
KMI				pmax		pmax			
	comp=Z,940nm,5.5s								
KMI				LR		LR			
	comp=Z,380nm,18.7s								
KMI				LR		LR			
	comp=Z,1µm,20.9s								
KMI				LR		LR			
	comp=Z,2µm,20.5s								
HHC	**Hu-ho-hao-te**	71.99	319	*e*P		P	04 09 21.3	+0.8	
HHC				pmax		pmax			
	comp=Z,27nm,1.0s								
HHC				pmax		pmax			
	comp=Z,1µm,6.1s								
PAYA	**Payao**	72.04	294	P		P	04 09 25.6	+4.5	
HIA	**Hailar**	72.39	330	*e*P		P	04 09 23.0	+0.4	
	comp=Z,94nm,1.4s								
CM01	**Chiang Mai Arr**	72.57	293	*e*P		P	04 09 24.6	+0.3	
CM31	**Chiang Mai Arr**	72.59	293	*e*P		P	04 09 24.9	+0.5	
CM31	**Chiang Mai Arr**	72.59	293	P		P	04 09 27.2	+2.7	
	SNR=7.1								
CMAR	**Chiang Mai Arr**	72.59	293	P		P	04 09 24.9	+0.5	
	comp=Z,6.5nm,0.9s,baz=120,slow=4.4,SNR=13								
CMMT	**Chiang Mai**	72.70	294	P		P	04 09 26.2	+1.1	
CHTO	**Chiang Mai**	72.70	294	*e*P		P	04 09 25.6	+0.5	
	comp=Z,12nm,1.0s								
CHTO	**Chiang Mai**	72.70	294	P		P	04 09 28.2	+3.1	
	SNR=8.8								
CHTO	**Chiang Mai**	72.70	294	P		P	04 09 26.3	+1.2	
	comp=Z,68nm,1.2s								
BTO	**Baotou**	72.86	318	*e*P		P	04 09 24.5	-1.2	
CD2	**Chengdu**	72.92	307	*e*P		P	04 09 27.0	+0.8	
LZH	**Lanzhou**	75.02	312	*e*P		P	04 09 39.8	+1.3	
LZH				pmax		pmax			
	comp=Z,23nm,1.0s								
OHAK	**Old Harbor**	75.31	21	PFAKE			04 09 50.0	+11	
OHAK				LR		LR			
	comp=Z,11µm,20.0s								
KDAK	**Kodiak Island**	75.98	21	PFAKE			04 10 00.0	+17	
KDAK				LR		LR			
	comp=Z,11µm,21.0s								
GAMB	**Gambell**	76.08	10	*e*P		P	04 09 43.7	0.0	
	comp=Z,38nm,1.1s								
GAMB				LR		LR			
	comp=Z,11µm,22.0s								
RSO	**Redoubt South**	77.94	19	*e*P		P	04 09 53.8	-0.8	
ANM	**Nome**	77.98	12	*e*P		P	04 09 54.7	+0.3	
	comp=Z,31nm,1.3s								
ANM				LR		LR			
	comp=Z,4µm,21.0s								
BRLK	**Bradley Lake**	78.05	21	*e*P		P	04 09 54.9	0.0	
	comp=Z,68nm,1.1s								
ULN	**Ulaanbaatar**	78.40	324	*e*P		P	04 09 57.4	+0.1	
	comp=Z,103nm,1.2s								
ULN	**Ulaanbaatar**	78.40	324	P		P	04 09 58.1	+0.7	
	SNR=42								
ULN				P		P	04 09 58.1	+0.7	
	SNR=42								
BILL	**Bilibino**	78.50	360	*e*P		P	04 09 57.2	-0.1	
	comp=Z,110nm,1.2s								
SONA0	**Songino Array**	78.77	323	*e*P		P	04 09 59.7	+0.3	
SONM	**Songino Array**	78.77	323	P		P	04 09 59.7	+0.3	
	comp=Z,18nm,0.9s,baz=136,slow=6.5,SNR=26								
SONA1	**Songino Array**	78.77	323	*e*P		P	04 09 59.2	-0.1	
GTA	**Gaotai**	79.29	314	⇓P		P	04 10 03.3	+0.9	
GTA				pP		sP	04 10 12.8	-2.7	
GTA				sP		pP	04 10 17.3	+5.4	
GTA				PP		PP	04 13 05.0	+2.3	
GTA				pmax		pmax			
	comp=Z,22nm,1.2s								
GTA				pmax		pmax			
	comp=Z,590nm,5.6s								
GTA				LR		LR			
	comp=Z,1µm,20.6s								
GTA				LR		LR			
	comp=Z,1µm,18.2s								
GTA				LR		LR			
	comp=Z,1µm,18.9s								
QSPA	**South Pole Qui**	79.33	180	*e*P		P	04 10 01.3	-0.9	
	comp=Z,56nm,1.4s								
SUA	**Susitna One**	79.34	19	*e*P		P	04 10 01.7	-0.5	
	comp=Z,77nm,1.4s								
PMR	**Palmer**	79.97	20	*e*P		P	04 10 05.2	-0.2	
	comp=Z,37nm,1.2s								
PMR				LR		LR			
	comp=Z,8µm,21.0s								
KNK	**Knik Glacier**	80.07	20	*e*P		P	04 10 06.1	+0.1	
	comp=Z,46nm,1.0s								
KNK				LR		LR			
	comp=Z,5µm,20.0s								
GLI	**Glacier Island**	80.17	21	PFAKE			04 10 20.0	+13	
GLI				LR		LR			
	comp=Z,4µm,20.0s								
GHO	**Glory Hole Cre**	80.17	20	PFAKE			04 10 20.0	+13	
GHO				LR		LR			
	comp=Z,8µm,22.0s								
CAST	**Castle Rocks**	80.38	18	*e*P		P	04 10 06.4	-1.3	
	comp=Z,26nm,0.8s								
SML	**Sawmill**	80.39	20	*e*P		P	04 10 10.0	+2.3	
	comp=Z,37nm,1.2s								
SML				LR		LR			
	comp=Z,7µm,22.0s								
EYAK	**Cordova Ski Ar**	80.43	22	PFAKE			04 10 20.0	+12	
EYAK				LR		LR			
	comp=Z,12µm,22.0s								
SCM	**Sheep Creek Mo**	80.75	20	PFAKE			04 10 20.0	+10	
SCM				LR		LR			
	comp=Z,3µm,20.0s								
DIV	**Divide**	80.81	21	*e*P		P	04 10 10.2	+0.1	
	comp=Z,24nm,0.8s								
DIV				LR		LR			
	comp=Z,8µm,21.0s								
SHL	**Shillong**	80.94	298	*e*P		P	04 10 11.9	+0.2	
	comp=Z,74nm,1.5s								
SHL	**Shillong**	80.94	298	*e*P		P	04 10 12.0	+0.3	
TRF	**Thorofare Moun**	80.95	18	*e*P		P	04 10 12.4	+1.6	
	comp=Z,39nm,1.2s								
KLU	**Klutina**	81.00	21	*e*P		P	04 10 11.3	+0.3	
	comp=Z,33nm,1.1s								
KLU				LR		LR			
	comp=Z,4µm,20.0s								
BPAW	**Bear Paw Mtn.**	81.22	17	*e*P		P	04 10 14.2	+2.1	
	comp=Z,26nm,1.4s								
RND	**Reindeer**	81.36	19	*e*P		P	04 10 12.5	-0.4	
	comp=Z,68nm,1.2s								
RDOG	**Red Dog Mine**	81.52	11	*e*P		P	04 10 14.1	+0.5	
	comp=Z,60nm,1.4s								
RDOG				LR		LR			
	comp=Z,3µm,20.0s								
MCK	**McKinley**	81.57	18	*e*P		P	04 10 13.4	-0.6	
	comp=Z,35nm,1.1s								
DHY	**Denali Highway**	81.60	19	*e*P		P	04 10 14.2	-0.1	
	comp=Z,49nm,1.4s								
DHY				LR		LR			
	comp=Z,6µm,20.0s								
MCCM	**Marconi Confer**	81.76	49	PFAKE			04 10 30.0	+15	
MCCM				LR		LR			
	comp=Z,5µm,19.0s								
KCPM	**Cahto Peak**	81.79	47	PFAKE			04 10 30.0	+14	
KCPM				LR		LR			
	comp=Z,4µm,20.0s								
IM3	**Indian Mountai**	81.88	15	*e*P		P	04 10 15.1	-0.4	
HARP	**HAARP**	81.89	21	*e*P		P	04 10 16.5	+0.8	
	comp=Z,73nm,1.1s								
KMRM	**Mail Ridge**	81.90	47	*e*P		P	04 10 18.8	+2.5	
KMRM	comp=Z,122nm,1.3s				LR		LR		
	comp=Z,5µm,18.0s								
HOPS	**Hopland Field**	81.92	48	PFAKE			04 10 30.0	+14	
HOPS				LR		LR			
	comp=Z,4µm,18.0s								
MLY	**Manley**	81.98	17	*e*P		P	04 10 15.8	-0.3	
	comp=Z,29nm,1.2s								
DIB	**Dawson Inlet,**	82.01	32	PFAKE			04 10 30.0	+14	
DIB				LR		LR			
	comp=Z,5µm,20.0s								
H02S1	**DAWSON INLET T**	82.01	32	T		T	05 41 45.9		
	SNR=13								
GDXM	**Geysers**	82.06	48	*e*P		P	04 10 18.9	+1.7	
	comp=Z,48nm,1.2s								
KHMM	**Horse Mountain**	82.12	46	PFAKE			04 10 30.0	+12	
KHMM				LR		LR			
	comp=Z,4µm,20.0s								
PAX	**Paxson**	82.16	20	PFAKE			04 10 30.0	+13	
PAX				LR		LR			
	comp=Z,3µm,21.0s								
TLY	**Talaya**	82.19	326	*e*P		P	04 10 17.6	0.0	
	comp=Z,74nm,0.7s								
TLY	**Talaya**	82.19	326	P		P	04 10 17.4	-0.2	
	SNR=29								
TLY				P		P	04 10 17.4	-0.2	
	SNR=29								
WRH	**Wood River Hil**	82.36	18	*e*P		P	04 10 17.4	-0.7	
	comp=Z,38nm,1.2s								
SAO	**San Andreas Ge**	82.36	50	*e*P		P	04 10 20.0	+1.3	
	comp=Z,46nm,1.3s								
SAO				LR		LR			
	comp=Z,8µm,20.0s								
O02D	**Mt. Diablo Mer**	82.54	47	P		P	04 10 20.6	+1.0	
	baz=249								
MDM	**Murphy Dome**	82.67	18	*e*P		P	04 10 18.9	-0.7	
	comp=Z,68nm,1.4s								
HDA	**Harding Lake**	82.67	19	*e*P		P	04 10 19.2	-0.5	
	comp=Z,86nm,1.0s								
HDA	**Harding Lake**	82.67	19	P		P	04 10 18.2	-1.4	
	baz=226								
L02E	**Cave Junction**	82.67	45	P		P	04 10 20.3	0.0	
	baz=248								
TCOL	**CIGO, UAF Yank**	82.72	18	P		P	04 10 18.1	-1.8	
	baz=225								
COLA	**College**	82.72	18	*e*P		P	04 10 19.3	-0.6	
	comp=Z,54nm,1.0s								
LSA	**Lhasa**	82.73	302	*e*P		P	04 10 25.3	+3.9	
	comp=Z,33nm,1.4s								
J01E	**Myrtle Point**	82.82	44	P		P	04 10 20.3	-0.6	
	baz=248								
K02D	**Willamette Mer**	82.83	44	P		P	04 10 20.3	-0.8	
	baz=248								
WDC	**Whiskeytown Da**	82.86	47	*e*P		P	04 10 21.8	+0.6	
	comp=Z,49nm,1.4s								
WDC				LR		LR			
	comp=Z,3µm,18.0s								
N02D	**Trinity Center**	82.88	46	P		P	04 10 22.3	+0.9	
	baz=249,SNR=6.7								
SCZ2	**Santa Cruz Isl**	82.89	54	P		P	04 10 20.5	-1.0	
	baz=252								
RIDG	**Independ'e Rid**	82.89	20	*e*P		P	04 10 20.8	-0.1	
	comp=Z,69nm,1.1s								
RIDG				LR		LR			
	comp=Z,6µm,22.0s								
M02C	**Callahan**	82.92	46	P		P	04 10 22.2	+0.5	
	baz=249,SNR=8.7								
ILAR	**Eielson Array**	82.94	18	P		P	04 10 20.6	-0.4	
	comp=Z,17nm,0.7s,baz=242,slow=5.2,SNR=97								
ILB	**Eielson Array**	82.94	18	*e*P		P	04 10 20.2	-0.8	
PAGB	**Antelope Grade**	82.95	52	*e*P		P	04 10 23.3	+1.5	
	comp=Z,47nm,1.2s								
SBC	**Santa Barbara**	82.96	53	P		P	04 10 21.7	-0.2	
	baz=252								
SMMC	**Simmler**	83.01	52	P		P	04 10 21.6	-0.6	
	baz=252								
POKR	**Poker Plat Res**	83.02	18	P		P	04 10 20.0	-1.5	
	baz=226								
PKM	**Mcpheon Peak**	83.02	53	P		P	04 10 22.3	-0.1	
	baz=252								
DOT	**Dot Lake**	83.09	20	PFAKE			04 10 30.0	+8.1	
DOT				LR		LR			
	comp=Z,4µm,22.0s								
YBH	**Yreka Blue Hor**	83.14	45	P		P	04 10 22.7	0.0	
	comp=Z,6.9nm,0.7s,baz=93,slow=2.6,SNR=14								
YBH	**Yreka Blue Hor**	83.14	45	*e*P		P	04 10 23.9	+1.1	
	comp=Z,60nm,1.3s								
ORV	**Oroville**	83.25	48	*e*P		P	04 10 23.8	+0.5	
HUMO	**Hull Mountain**	83.28	45	*e*P		P	04 10 24.6	+1.2	
	comp=Z,76nm,1.4s								
HUMO				LR		LR			
	comp=Z,4µm,22.0s								
O03E	**Paynes Creek**	83.29	47	P		P	04 10 23.4	-0.2	
	baz=250								
SCRK	**Sand Creek**	83.33	20	*e*P		P	04 10 23.3	0.0	
	comp=Z,53nm,1.0s								
SCRK				LR		LR			
	comp=Z,4µm,21.0s								
BLG	**Laguna Peak, P**	83.37	54	P		P	04 10 23.8	-0.3	
	baz=252								
I03D	**Drain, OR**	83.41	43	P		P	04 10 24.0	+0.1	
	baz=248								
AFDM	**Forest Hills D**	83.44	48	*e*P		P	04 10 24.6	+0.3	
	comp=Z,80nm,1.4s								
AFDM				LR		LR			
	comp=Z,3µm,20.0s								
CMB	**Columbia Colle**	83.58	50	*e*P		P	04 10 25.2	+0.2	
	comp=Z,51nm,1.4s								
L04D	**Klamath Falls**	83.60	45	P		P	04 10 25.0	-0.2	
	baz=249								
CIS	**Catalina Islan**	83.68	54	P		P	04 10 24.9	-0.8	
	baz=253								
COLD	**Coldfoot**	83.75	16	*e*P		P	04 10 26.9	+1.7	
	comp=Z,15nm,1.1s								
HYT	**Haines Junctio**	83.77	24	*e*P		P	04 10 26.0	+0.4	
	comp=Z,51nm,1.4s								
HYT				LR		LR			
	comp=Z,8µm,22.0s								
M04C	**Macdoel**	83.77	46	P		P	04 10 26.4	+0.3	
	baz=250,SNR=7.6								
OSI	**Osito Audit: C**	83.80	53	P		P	04 10 26.0	-0.3	
	baz=252								
VOG	**Valley Oaks Go**	83.80	51	P		P	04 10 26.2	+0.1	
	baz=252								
ARVC	**Arvin**	83.86	53	P		P	04 10 26.6	0.0	
	baz=252								
FMP	**Fort Macarthur**	83.87	54	P		P	04 10 26.1	-0.5	
	baz=253								
PRP	**Porcupine Dome**	83.88	18	*e*P		P	04 10 25.4	-0.7	
	comp=Z,14nm,1.2s								
VES	**Vestal, Richgr**	83.88	52	P		P	04 10 26.2	-0.4	
	baz=252								
BBB	**Bella Bella**	83.88	34	LR

baz=253,SNR=14
MDPB Devils Postpil 84.43 50 *eP* **P 04 10 30.1 +0.3**
comp=Z,56nm,1.1s
MDPB LR LR
comp=Z,8µm,20.0s
WAKR Walker 84.44 49 *eP* **P 04 10 30.3 +0.7**
comp=Z,100nm,1.3s
EDW2 Edwards Air Fo 84.45 53 P **P 04 10 29.7 +0.2**
baz=253,SNR=17
OMMB Old Mammoth Mi 84.49 50 *eP* **P 04 10 30.7 +0.7**
comp=Z,78nm,1.4s
OMMB LR LR
comp=Z,9µm,20.0s
PNTR Pine Nut 84.50 49 *eP* **P 04 10 30.8 +0.9**
comp=Z,50nm,1.0s
F04D Rainier, OR 84.50 41 P **P 04 10 29.9 +0.4**
baz=249
VCNR Virginia City 84.53 49 *eP* **P 04 10 30.6 +0.5**
comp=Z,37nm,1.3s
BFSC Mount Baldy Ra 84.53 54 P **P 04 10 29.7 -0.4**
baz=253,SNR=13
H04A Detroit Lake 84.54 43 *eP* **P 04 10 29.7 -0.1**
109C Camp Elliot, M 84.59 55 P **P 04 10 30.2 -0.1**
baz=254
CPE Camp Elliot 84.59 55 *eP* **P 04 10 31.1 +0.8**
comp=Z,45nm,1.4s
MLAC Mammoth, Mammo 84.62 50 P **P 04 10 30.4 -0.2**
baz=252
FYU Fort Yukon 84.67 17 *eP* **P 04 10 30.6 +0.7**
comp=Z,30nm,1.2s
J05D Fort Rock, OR 84.70 44 P **P 04 10 31.4 +0.6**
baz=250
MURC Murrieta 84.71 55 P **P 04 10 30.6 -0.3**
baz=254
YERR Yerington 84.73 49 *eP* **P 04 10 31.5 +0.4**
comp=Z,66nm,1.3s
WHY Whitehorse 84.75 25 *eP* **P 04 10 30.0 -0.5**
comp=Z,13nm,1.1s
WHY LR LR
comp=Z,6µm,19.0s
EGAK Eagle 84.79 20 PFAKE 04 10 40.0 +9.5
EGAK LR LR
comp=Z,3µm,20.0s
CWC Cottonwood Cre 84.84 52 P **P 04 10 31.7 +0.1**
baz=253
PAHR Pah Rah Range 84.85 48 *eP* **P 04 10 32.0 +0.4**
comp=Z,93nm,1.3s
LRMC Laurel Mtn Rad 84.87 53 P **P 04 10 32.1 +0.3**
baz=253,SNR=12
BAR Barrett 84.88 56 *eP* **P 04 10 32.3 +0.5**
comp=Z,43nm,1.4s
MOD Modoc Plateau 84.89 46 *eP* **P 04 10 32.0 +0.3**
comp=Z,46nm,1.1s
TIN Tinemaha, Big 84.90 51 P **P 04 10 31.6 -0.3**
baz=253
DAWY Dawson 84.96 21 *eP* **P 04 10 31.9 +0.5**
comp=Z,39nm,1.0s
DAWY LR LR
comp=Z,8µm,22.0s
E04D Cinebar 84.96 41 P **P 04 10 32.2 +0.4**
baz=249
D03D Eldon 84.98 40 P **P 04 10 32.8 +0.9**
baz=248
I05D Terrebonne, OR 84.99 43 P **P 04 10 32.6 +0.5**
baz=250
D04E Lakebay 85.06 40 P **P 04 10 33.4 +1.2**
baz=249
PINE Pine Mountain 85.08 44 *eP* **P 04 10 33.3 +0.6**
comp=Z,52nm,1.1s
BBRC Big Bear Solar 85.12 54 P **P 04 10 33.3 +0.1**
baz=254
MONP2 Monument Peak 85.14 55 P **P 04 10 33.7 +0.4**
baz=254,SNR=12
RYN Ryan 85.16 49 *eP* **P 04 10 33.4 +0.3**
comp=Z,65nm,1.2s
DAC Darwin (Calif) 85.17 52 *eP* **P 04 10 33.5 +0.2**
comp=Z,84nm,1.4s
DAC LR LR
comp=Z,7µm,22.0s
PGC Sidney 85.17 39 *eP* **P 04 10 33.5 +0.7**
comp=Z,54nm,1.1s
MPMC Manual Prospec 85.18 52 P **P 04 10 33.6 +0.2**
baz=253,SNR=9.8
RRX Edison Barstow 85.23 53 P **P 04 10 33.2 -0.3**
baz=254
NV01 Mina Array Sit 85.26 50 *eP* **P 04 10 33.1 -0.7**
NVAR Mina Array Bea 85.26 50 P **P 04 10 34.0 +0.2**
comp=Z,13nm,1.0s,baz=234,slow=6.2,SNR=33
NVAR LR LR 04 41 28.0
comp=Z,5µm,20.0s,baz=260,slow=31
PFO Pinyon Flats O 85.31 55 LR LR 04 40 54.6
comp=Z,18nm,18.6s,baz=290,slow=30
PFO Pinyon Flats O 85.31 55 *eP* **P 04 10 34.1 +0.1**
comp=Z,53nm,1.4s
PFO Pinyon Flats O 85.31 55 P **P 04 10 33.9 -0.1**
baz=254,SNR=11
XPFO Pion Flat 85.31 55 *eP* **P 04 10 34.1 +0.1**
comp=Z,56nm,1.4s
G05D Wamic, OR 85.32 42 P **P 04 10 33.0 -0.7**
baz=250
IKP In-Ko-Pah, Jac 85.33 56 P **P 04 10 34.4 +0.4**
baz=254,SNR=18
NV11 Mina Array Sit 85.37 50 *eP* **P 04 10 34.5 +0.2**
comp=Z,5.0nm,1.1s
NV11 LR LR
comp=Z,500nm,18.0s
F05D White Salmon 85.44 42 P **P 04 10 33.4 -0.9**
baz=250
GSC Goldstone, Bar 85.50 53 *eP* **P 04 10 35.1 +0.2**
comp=Z,38nm,1.3s
GSC Goldstone, Bar 85.50 53 P **P 04 10 35.0 +0.1**
baz=254,SNR=13
LON Longmire 85.52 41 *eP* **P 04 10 34.7 +0.1**
comp=Z,36nm,1.4s
LON LR LR
comp=Z,4µm,20.0s
GRAC Grapevine Rang 85.55 51 P **P 04 10 35.6 +0.5**
baz=253,SNR=14
KVN Kaiserville 85.60 49 *eP* **P 04 10 35.6 +0.2**
comp=Z,46nm,1.1s
A04D Lummi Island 85.66 39 P **P 04 10 35.2 0.0**
baz=249
SWSC Sam W. Stewart 85.66 55 P **P 04 10 36.1 +0.5**
baz=254,SNR=10
HEC Hector,Ludlow 85.74 54 P **P 04 10 36.1 0.0**
baz=254,SNR=11
DLBC Dease Lake 85.76 28 P **P 04 10 35.8 +0.2**
comp=Z,5.9nm,0.9s,baz=194,slow=4.8,SNR=6.7
DLBC Dease Lake 85.76 28 *eP* **P 04 10 36.4 +0.8**
comp=Z,47nm,1.4s
BELC Belle Mtn. Jos 85.78 54 P **P 04 10 36.5 +0.1**
baz=254,SNR=14
FURC Furnace Creek, 85.78 52 P **P 04 10 36.4 +0.3**
baz=254,SNR=15
TIXI Tiksi 85.85 349 *eP* **P 04 10 35.0 -0.7**
comp=Z,127nm,1.5s
B05A Bryant 85.87 39 P **P 04 10 36.7 +0.4**
baz=249
RAMN Ramite 85.88 298 *eP* **P 04 10 36.7 -0.5**
comp=Z,89nm,1.5s
SHOC Shoshone, Teco 86.08 53 P **P 04 10 36.9 -0.8**
baz=254
BC3 Big Chuckawall 86.13 55 P **P 04 10 38.3 +0.2**
baz=254,SNR=11
I07A Izee 86.15 44 *eP* **P 04 10 38.3 +0.4**
comp=Z,40nm,1.1s
TUQ Turquoise Moun 86.23 53 P **P 04 10 38.7 +0.1**
baz=254,SNR=7.8
WVOR Wild Horse Val 86.23 46 *eP* **P 04 10 38.6 +0.2**
comp=Z,84nm,1.3s
GMRC Granite Mounta 86.26 54 P **P 04 10 39.0 +0.2**
baz=254,SNR=16
TPNV Topopah Spring 86.39 52 *eP* **P 04 10 39.6 +0.2**
comp=Z,19nm,1.1s
TPNV Topopah Spring 86.39 52 P **P 04 10 39.6 +0.2**
baz=254,SNR=9.8
JIRN Jiri 86.41 299 *eP* **P 04 10 39.1 -0.8**
comp=Z,109nm,1.1s
LTY Liberty 86.42 41 *eP* **P 04 10 39.0 -0.2**
comp=Z,74nm,1.5s
F07A Phinny Hill Vi 86.45 42 *eP* **P 04 10 42.6 +3.4**
comp=Z,46nm,1.3s
GLA Glamis 86.47 56 *eP* **P 04 10 40.8 +1.1**
comp=Z,46nm,1.0s
GLA Glamis 86.47 56 P **P 04 10 40.3 +0.6**
baz=255,SNR=10
IRM Iron Mountain 86.51 54 P **P 04 10 40.3 +0.4**
baz=255,SNR=14
C06D Leavenworth 86.51 40 P **P 04 10 39.1 -0.4**
baz=250
J08A Circle Bar Ran 86.63 45 *eP* **P 04 10 40.6 +0.2**
comp=Z,61nm,1.1s
GUN Gumba 86.73 299 *eP* **P 04 10 41.1 -0.4**
comp=Z,82nm,1.1s
LDFC Landfair 86.78 54 *eP* **P 04 10 42.3 +1.1**
comp=Z,72nm,1.0s
LLLB Lilloet 86.84 37 *eP* **P 04 10 41.5 +0.4**
comp=Z,32nm,1.2s
LLLB LR LR
comp=Z,5µm,21.0s
Y12C Blythe 86.90 55 *eP* **P 04 10 42.4 +0.7**
comp=Z,41nm,1.0s
Y12C Blythe 86.90 55 P **P 04 10 42.5 +0.8**
baz=255,SNR=12
PKI Pulchoki 87.06 299 *eP* **P 04 10 42.4 -0.6**
comp=Z,123nm,1.4s
PKIN Phulchoki 87.07 299 *eP* **P 04 10 42.4 -0.6**
comp=Z,91nm,1.3s
NEE2 Needles Airpor 87.09 54 P **P 04 10 43.0 +0.4**
baz=255
SHPR Sheep Range 87.11 52 *eP* **P 04 10 43.5 +0.6**
comp=Z,77nm,1.4s
E08A Dider Farm, El 87.22 42 *eP* **P 04 10 43.3 +0.4**
comp=Z,85nm,1.3s
KKN Kakani 87.22 299 *eP* **P 04 10 43.1 -0.6**
113A Mohawk Valley, 87.27 56 *eP* **P 04 10 44.3 +0.8**
comp=Z,73nm,1.4s
R11A Troy Canyon, C 87.28 50 *eP* **P 04 10 43.6 -0.1**
comp=Z,25nm,1.2s
R11A LR LR
comp=Z,6µm,20.0s
R11A Troy Canyon, C 87.28 50 P **P 04 10 44.0 +0.3**
baz=254,SNR=13
DMN Daman 87.33 299 *eP* **P 04 10 43.6 -0.7**
comp=Z,116nm,1.2s
PDMCI Parker Dam,Lak 87.35 55 P **P 04 10 44.3 +0.5**
baz=255,SNR=17
W13A Hualapai Mount 87.75 54 *eP* **P 04 10 46.5 +0.5**
comp=Z,31nm,1.1s
W13A LR LR
comp=Z,5µm,19.0s
214A Organ Pipe Nat 87.85 57 P **P 04 10 47.3 +0.9**
baz=256,SNR=16
BMO Blue Mountains 87.89 44 *eP* **P 04 10 46.1 -0.2**
comp=Z,14nm,1.0s
C09A Chrisman Ranch 88.14 41 *eP* **P 04 10 47.6 +0.2**
comp=Z,27nm,1.3s
Y14A Wickenburg 88.17 55 *eP* **P 04 10 48.5 +0.6**
comp=Z,26nm,1.2s
ELK Elko 88.19 48 *eP* **P 04 10 48.4 +0.3**
comp=Z,28nm,1.4s
ELK LR LR
comp=Z,3µm,20.0s
F10A Beach Ranch, E 88.27 43 *eP* **P 04 10 48.0 -0.2**
comp=Z,31nm,1.0s
F10A LR LR
comp=Z,3µm,19.0s
PSUT Pine Spring 88.64 51 *eP* **P 04 10 51.0 +0.8**
comp=Z,55nm,1.3s
PSUT LR LR
comp=Z,5µm,20.0s
DANN Dangsing 88.66 299 *eP* **P 04 10 49.3 -1.3**
comp=Z,68nm,1.1s
KOLN Koldanda 88.67 298 *eP* **P 04 10 49.5 -1.1**
comp=Z,49nm,1.1s
LCMT Little Creek M 88.73 52 *eP* **P 04 10 51.4 +0.8**
comp=Z,70nm,1.3s
HSIG 88.74 60 *eP* **P 04 10 51.1 +0.5**
comp=Z,47nm,1.3s
CCUT Cedar City 88.77 52 *eP* **P 04 10 51.8 +0.9**
comp=Z,58nm,1.2s
SZCU Shurtz Canyon 89.00 52 *eP* **P 04 10 53.2 +1.3**
comp=Z,76nm,1.2s
NEW Newport 89.01 41 *eP* **P 04 10 51.7 +0.1**
comp=Z,19nm,1.1s
NEW LR LR
comp=Z,4µm,18.0s
NEW Newport 89.01 41 P **P 04 10 51.0 -0.6**
baz=253
KNB Kanab 89.06 52 *eP* **P 04 10 53.1 +0.9**
comp=Z,171nm,1.4s
PYUN Piuthan 89.27 299 *eP* **P 04 10 52.0 -1.4**
comp=Z,101nm,1.3s
WMQ Urumqi 89.32 315 P **P 04 10 52.8 -0.3**
WMQ pP pP 04 10 59.3 -3.4
WMQ sP sP 04 11 09.0 +2.8
WMQ S **S 04 21 44.3 +3.4**
WMQ sS sS 04 21 55.0 -1.8
WMQ pmax pmax
comp=Z,37nm,1.7s
WMQ pmax pmax
comp=Z,550nm,4.5s
WMQ LR LR
comp=Z,2µm,27.7s
WMQ LR LR
comp=Z,1µm,22.7s
WMQ LR LR
comp=Z,2µm,22.7s
WMQ Urumqi 89.32 315 *eP* **P 04 10 53.4 +0.3**
comp=Z,71nm,1.4s
INK Inuvik 89.33 19 P **P 04 10 51.6 -0.8**
comp=Z,2.8nm,0.9s,baz=256,slow=5.2,SNR=6.5
INK Inuvik 89.33 19 *eP* **P 04 10 54.1 +1.7**
comp=Z,25nm,1.4s
INK LR LR
comp=Z,5µm,22.0s
U15A North Rim 89.33 53 *eP* **P 04 10 54.5 +0.9**
comp=Z,150nm,1.4s
HLID Hailey 89.53 46 *eP* **P 04 10 54.8 +0.5**
comp=Z,23nm,1.1s
HLID LR LR
comp=Z,3µm,18.0s
HLID Hailey 89.53 46 P **P 04 10 53.8 -0.4**
baz=255
X16A Lo Mia Camp, P 89.54 55 *eP* **P 04 10 55.6 +1.1**
comp=Z,42nm,1.0s
PKCU Pink Cliffs 89.56 52 *eP* **P 04 10 56.5 +1.8**
comp=Z,279nm,1.4s
TUC Tucson 89.61 57 *eP* **P 04 10 55.8 +1.1**
comp=Z,45nm,1.3s
TUC LR LR
comp=Z,7µm,18.0s
TUC Tucson 89.61 57 P **P 04 10 55.6 +0.8**
baz=257
TCRU Three Creeks R 89.73 51 *eP* **P 04 10 52.5 -2.9**
comp=Z,96nm,1.4s
TCRU LR LR
comp=Z,7µm,21.0s
MTPU Mount Pierson 89.80 51 *eP* **P 04 10 57.3 +1.5**
comp=Z,73nm,1.2s
DUG Dugway, Tooele 89.84 49 *eP* **P 04 10 56.0 +0.3**
comp=Z,56nm,1.4s
DUG Dugway, Tooele 89.84 49 P **P 04 10 55.7 0.0**
baz=256
WUAZ Wupatki 89.85 54 *eP* **P 04 10 57.0 +1.1**
comp=Z,175nm,1.5s
WUAZ LR LR
comp=Z,5µm,18.0s
WUAZ Wupatki 89.85 54 P **P 04 10 56.2 +0.3**
baz=257
BGU Big Grassy Mou 89.85 48 *eP* **P 04 10 56.6 +0.9**
comp=Z,35nm,1.1s
MSU Marysvale 89.91 51 *eP* **P 04 10 57.5 +1.3**
HVU Hansel Valley 90.25 48 *eP* **P 04 10 58.4 +0.8**
comp=Z,104nm,1.2s
NLU North Lily Min 90.33 49 *eP* **P 04 10 58.6 +0.5**
comp=Z,48nm,1.1s
NLU LR LR
comp=Z,6µm,21.0s
SPUT South Promonto 90.37 48 *eP* **P 04 11 00.2 +2.0**
comp=Z,64nm,1.4s
319A Douglas 90.66 58 *eP* **P 04 11 01.0 +1.3**
comp=Z,73nm,1.2s
CTU Camp Tracy 90.74 49 *eP* **P 04 11 00.8 +0.9**
comp=Z,44nm,1.1s
X18A Snowflake 90.77 55 *eP* **P 04 11 01.3 +1.0**
comp=Z,141nm,1.4s
Q16A Castle Valley 90.77 51 *eP* **P 04 11 01.7 +1.6**
comp=Z,46nm,1.1s
JLU Jordanelle 90.94 49 *eP* **P 04 11 01.6 +0.6**
comp=Z,66nm,1.4s
W18A Petrified Fore 91.07 55 *eP* **P 04 11 02.9 +1.3**
comp=Z,150nm,1.5s
W18A Petrified Fore 91.07 55 P **P 04 11 01.9 +0.3**
baz=258
HWUT Hardware Ranch 91.09 48 *eP* **P 04 11 01.7 +0.1**
comp=Z,14nm,1.0s
TCUT Toone Canyon 91.09 48 *eP* **P 04 11 02.6 +1.0**
comp=Z,49nm,0.9s
HYB Hyderabad 91.16 287 *i* P **P 04 11 02.0 -0.2**
P17A Butcher Ranch, 91.22 50 *eP* **P 04 11 03.3 +1.1**
comp=Z,32nm,1.4s
P17A LR LR
comp=Z,4µm,19.0s
DLMT Dillon 91.24 44 *eP* **P 04 11 02.6 +0.5**
comp=Z,70nm,1.0s
DLMT LR LR
comp=Z,4µm,21.0s
WALA Waterton Lakes 91.28 40 *eP* **P 04 11 02.9 +0.7**
comp=Z,71nm,1.4s
SRU San Rafael Swe 91.31 51 *eP* **P 04 11 03.5 +0.9**
comp=Z,56nm,1.5s
LRM Limekiln Ridge 91.44 44 *eP* **P 04 11 03.8 +0.6**
AHID Auburn Hatcher 91.69 47 *eP* **P 04 11 05.1 +0.7**
comp=Z,19nm,1.2s
FXWY Fox Creek 91.93 46 *eP* **P 04 11 05.9 +0.4**
comp=Z,36nm,1.5s
BOZ Bozeman (W) 91.95 44 *eP* **P 04 11 05.8 +0.3**
comp=Z,37nm,1.0s
BOZ Bozeman (W) 91.95 44 P **P 04 11 05.1 -0.3**
baz=257
REDW Red Top Meadow 92.00 46 *eP* **P 04 11 06.3 +0.5**
comp=Z,33nm,1.3s
YHB Horse Butte 92.06 45 *eP* **P 04 11 07.5 +1.5**
comp=Z,30nm,1.1s
HRY Holter Researc 92.07 43 *eP* **P 04 11 06.3 +0.4**
SNOW Snow King Moun 92.09 46 *eP* **P 04 11 07.2 +1.0**
comp=Z,28nm,1.4s
121A Cookes Peak, D 92.13 57 P **P 04 11 07.3 +0.7**
baz=259
MOOW Moose Ponds 92.16 46 *eP* **P 04 11 07.2 +0.7**
comp=Z,22nm,1.4s
PV05 Paradox Valley 92.18 52 *eP* **P 04 11 08.3 +1.6**
YMR Madison River 92.20 45 *eP* **P 04 11 08.3 +1.6**
comp=Z,21nm,1.0s
LOHW Long Hollow 92.23 46 *eP* **P 04 11 07.1 +0.2**
comp=Z,11nm,1.0s
PV09 Paradox Valley 92.24 51 *eP* **P 04 11 08.2 +1.1**
YFT Old Faithful 92.25 45 *eP* **P 04 11 10.2 +3.3**
comp=Z,30nm,1.2s
FLWY Flagg Ranch 92.26 46 *eP* **P 04 11 08.2 +1.2**
comp=Z,19nm,1.1s
PV14 Lion Creek, Pa 92.30 52 *eP* **P 04 11 08.2 +0.9**
comp=Z,53nm,1.5s
PV19 Morning Glory 92.32 52 *eP* **P 04 11 08.4 +1.0**
comp=Z,30nm,1.2s
PV23 Carpenter Ridg 92.33 51 *eP* **P 04 11 08.5 +1.0**
comp=Z,36nm,1.2s
PV17 East Wray Mesa 92.33 52 *eP* **P 04 11 08.4 +1.0**
comp=Z,73nm,1.5s
PV20 West Nyswonger 92.34 52 *eP* **P 04 11 08.4 +1.0**
comp=Z,28nm,1.1s
SYO Syowa Base 92.34 197 *||eX* **P 04 11 03.2 -3.4**
PV16 Nyswonger Mesa 92.37 52 *eP* **P 04 11 08.7 +1.1**
comp=Z,32nm,1.4s
PV21 Cone Mtn., Par 92.38 51 *eP* **P 04 11 08.6 +0.9**
comp=Z,64nm,1.5s
PV11 David Mesa, Pa 92.40 52 *eP* **P 04 11 09.0 +1.2**
comp=Z,22nm,1.3s
PV03 Paradox Valley 92.41 52 *eP* **P 04 11 08.0 +0.2**
YNR Norris Junctio 92.41 45 *eP* **P 04 11 10.4 +2.8**
comp=Z,28nm,1.4s
PV13 Radium Mtn., P 92.41 52 *eP* **P 04 11 08.7 +0.8**
comp=Z,6.1nm,1.0s
H17A Grant Village 92.42 45 *eP* **P 04 11 09.7 +2.0**
comp=Z,12nm,1.0s
H17A Grant Village 92.42 45 P **P 04 11 09.1 +1.4**
baz=258
PV12 Saucer Basin, 92.46 52 *eP* **P 04 11 08.9 +0.9**
comp=Z,22nm,1.1s
MVCO Mesa Verde 92.47 53 *eP* **P 04 11 11.6 +3.4**
comp=Z,20nm,1.4s
MVCO Mesa Verde 92.47 53 P **P 04 11 08.6 +0.5**
baz=258
PV02 Paradox Valley 92.49 52 *eP* **P 04 11 09.8 +1.6**
comp=Z,21nm,1.3s
PV01 Paradox Valley 92.60 52 *eP* **P 04 11 09.4 +0.7**
BW06 Boulder Array 92.80 47 *eP* **P 04 11 09.2 -0.3**
comp=Z,17nm,1.2s
BW06 Boulder Array 92.80 47 P **P 04 11 08.6 -0.8**
baz=258
PD31 Pinedale Array 92.80 47 *eP* **P 04 11 09.5 0.0**
PDAR Pinedale Array 92.80 47 P **P 04 11 08.4 -1.0**
comp=Z,2.1nm,0.7s,baz=243,slow=2.7,SNR=18
HPIG 92.90 63 *eP* **P 04 11 13.1 +2.8**
comp=Z,30nm,1.3s
LAZ Ladron 93.02 56 *eP* **P 04 11 11.8 +1.1**
Y22D IRIS PASSCAL I 93.14 56 PFAKE 04 11 20.0 +8.8
Y22D LR LR
comp=Z,4µm,22.0s
Y22D IRIS PASSCAL I 93.14 56 P **P 04 11 12.1 +1.0**
baz=259
O20A White River Ci 93.24 50 *eP* **P 04 11 12.1 +0.5**
comp=Z,27nm,1.4s
O20A White River Ci 93.24 50 P **P 04 11 12.1 +0.5**
baz=259
GCMT Greycliff 93.34 44 *eP* **P 04 11 13.6 +1.8**
BNM Barren Site 93.39 56 *eP* **P 04 11 13.4 +0.9**
RLMT Red Lodge 93.48 45 *eP* **P 04 11 13.5 +1.0**
comp=Z,5.6nm,1.0s
RLMT LR LR
comp=Z,4µm,20.0s
RLMT Red Lodge 93.48 45 P **P 04 11 13.0 +0.4**
baz=258
ZAA0 Zalesovo Array 93.65 324 *eP* **P 04 11 11.5 -1.3**
comp=Z,48nm,1.1s
ZALV Zalesovo Beam 93.65 324 P **P 04 11 11.8 -1.0**
comp=Z,14nm,0.8s,baz=118,slow=4.0,SNR=47
ZALV Zalesovo Beam 93.65 324 *eP* **P 04 11 11.4 -1.4**
ZAA1 Zalesovo Array 93.65 324 *eP* **P 04 11 11.8 -1.0**
ANMO Albuquerque 93.67 55 *eP* **P 04 11 13.8 +0.1**
comp=Z,9.7nm,1.1s
ANMO LR LR
comp=Z,3µm,20.0s
ANMO Albuquerque 93.67 55 P **P 04 11 13.8 +0.1**
baz=260
MK01 Makanchi Array 93.71 317 *eP* **P 04 11 12.2 -1.1**
MK31 Makanchi Array 93.72 317 *eP* **P 04 11 13.2 -0.2**
comp=Z,2.8nm,1.4s
MK32 Makanchi Array 93.72 317 *eP* **P 04 11 13.1 -0.3**
MKAR Makanchi Array 93.72 317 P **P 04 11 13.1 -0.3**
comp=Z,22nm,0.7s,baz=95,slow=6.3,SNR=128
MKAR PKKPbc **PKKPdf 04 28 16.4 -2.3**
comp=Z,2.3nm,0.7s,baz=287,slow=2.4,SNR=15
MKAR Makanchi Array 93.72 317 *eP* **P 04 11 13.2 -0.2**
comp=Z,24nm,1.4s
MKAR PKKPbc **PKKPdf 04 28 16.4 -2.3**
EGMT Eagleton 93.73 42 *eP* **P 04 11 13.7 +0.2**
comp=Z,25nm,0.9s
EGMT Eagleton 93.73 42 P **P 04 11 13.4 0.0**
baz=258
S22A 4UR Ranch, Cre 93.88 52 *eP* **P 04 11 15.4 +0.7**
comp=Z,45nm,1.4s
S22A 4UR Ranch, Cre 93.88 52 P **P 04 11 15.3 +0.6**
baz=260
MAKZ Makanchi 93.93 317 *eP* **P 04 11 13.8 -0.6**
comp=Z,6.3nm,1.3s
MNTX Cornudas Mount 93.98 59 *eP* **P 04 11 15.0 +0.1**
comp=Z,23nm,1.4s
MNTX Cornudas Mount 93.98 59 P **P 04 11 13.8 -1.2**
baz=260
SMCO Snowmass 94.03 51 *eP* **P 04 11 16.4 +0.9**
comp=Z,34nm,1.4s
SMCO LR LR
comp=Z,7µm,21.0s
YKA Yellowknife Ar 94.33 27 P **P 04 11 14.2 -1.5**
comp=Z,1.9nm,0.6s,baz=257,slow=4.6,SNR=31
YKB5 Yellowknife Ar 94.33 27 *eP* **P 04 11 13.3 -2.4**
SDCO Great Sand Dun 94.92 53 *eP* **P 04 11 22.6 +3.1**
comp=Z,9.9nm,1.5s
SDCO Great Sand Dun 94.92 53 P **P 04 11 19.0 -0.4**
baz=260
ZAIG Zacatecas 94.96 68 *eP* **P 04 11 24.5 +4.5**
comp=Z,25nm,1.2s
K22A Casper 94.97 48 *eP* **P 04 11 19.8 +0.3**
comp=Z,29nm,1.3s
K22A Casper 94.97 48 P **P 04 11 19.0 -0.4**
baz=260
TX31 Lajitas Ar. Si 95.05 61 *eP* **P 04 11 19.9 0.0**
LTX Lajitas 95.05 61 *eP* **P 04 11 19.7 -0.3**
TXAR Lajitas Array 95.05 61 P **P 04 11 19.7 -0.3**
comp=Z,1.9nm,1.0s,baz=234,slow=3.7,SNR=7.4
TXAR LR LR 04 46 19.4

	comp=Z,4µm,20.4s,baz=0.0,slow=31								
N23A	**Red Feather La**	**95.10**	**50**	*e*P		**P**	**04 11 21.2**	**+1.1**
	comp=Z,44nm,1.5s								
N23A	**Red Feather La**	**95.10**	**50**	P		**P**	**04 11 20.1**	**-0.1**
	baz=260								
ISCO	**Idaho Springs**	**95.17**	**51**	PFAKE			04 11 30.0	+9.4
ISCO				LR	LR				
	comp=Z,8µm,21.0s								
ISCO	**Idaho Springs**	**95.17**	**51**	P		**P**	**04 11 20.7**	**+0.1**
	baz=260								
CLNB	**Carlsbad**	**95.34**	**58**	*e*P		**P**	**04 11 21.2**	**0.0**
Q24A	**Divide**	**95.39**	**52**	P		**P**	**04 11 21.7**	**+0.1**
	baz=261								
T25A	**Trinidad**	**95.67**	**53**	PFAKE			04 11 30.0	+7.2
T25A				LR	LR				
	comp=Z,5µm,18.0s								
T25A	**Trinidad**	**95.67**	**53**	P		**P**	**04 11 21.5**	**-1.3**
	baz=261								
POO	**Poona**	**95.76**	**288**	⇓*i*P		**P**	**04 11 22.0**	**-1.3**
	comp=Z,30nm,1.0s								
LAO	**LASA Array**	**95.85**	**44**	*e*P		**P**	**04 11 24.4**	**+1.2**
	comp=Z,27nm,1.1s								
LAO	**LASA Array**	**95.85**	**44**	P		**P**	**04 11 23.5**	**+0.3**
	baz=261								
TARG	**Taragay, Kyrgy**	**96.00**	**311**	*e*P		**P**	**04 11 25.9**	**+1.5**
	comp=Z,6.0nm,0.8s								
MSTX	**Muleshoe**	**96.52**	**57**	*e*P		**P**	**04 11 26.3**	**-0.3**
	comp=Z,26nm,1.3s								
MSTX				LR	LR				
	comp=Z,4µm,19.0s								
MSTX	**Muleshoe**	**96.52**	**57**	P		**P**	**04 11 25.7**	**-0.9**
	baz=262								
KURK	**Kurchatov**	**96.79**	**320**	*e*P		**P**	**04 11 25.9**	**-1.4**
	comp=Z,35nm,1.4s								
KURK	**Kurchatov**	**96.79**	**320**	P		**P**	**04 11 25.5**	**-1.8**
	SNR=12								
KURK				P		**P**	**04 11 25.5**	**-1.8**
	SNR=12								
RSSD	**Black Hills**	**96.99**	**47**	P		**P**	**04 11 27.9**	**-0.7**
	baz=262								
KSH	**Kashi**	**97.05**	**309**	P	Pdif		04 11 30.3	+1.3
KSH				pP	sP		04 11 40.0	-2.0
KSH				PP	**PP**		**04 15 31.0**	**+5.9**
KSH				SKS	**SKSac**		**04 22 03.0**	**-1.1**
KSH				S	**S**		**04 22 46.8**	**-3.2**
KSH				sS	sS		04 23 04.0	-2.0
KSH				SS	**SS**		**04 29 31.0**	**+3.7**
KSH				pmax	pmax				
	comp=Z,8.0nm,0.8s								
KSH				pmax	pmax				
	comp=Z,730nm,7.5s								
KSH				LR	LR				
	comp=Z,430nm,6.8s								
KSH				LR	LR				
	comp=Z,500nm,9.0s								
KSH				LR	LR				
	comp=Z,930nm,16.6s								
KSCO	**Kaye Shedlock'**	**97.34**	**52**	P		**P**	**04 11 30.2**	**-0.1**
	baz=262								
DGMT	**Dagmar**	**97.47**	**42**	P		**P**	**04 11 29.1**	**-1.4**
	baz=262								
AMTX	**Amarillo**	**97.54**	**56**	*e*P	Pdif		04 11 33.6	+2.4
	comp=Z,28nm,1.4s								
AMTX				LR	LR				
	comp=Z,4µm,18.0s								
AMTX	**Amarillo**	**97.54**	**56**	P		**P**	**04 11 30.8**	**-0.4**
	baz=262								
OGNE	**Ogallala**	**98.04**	**50**	PFAKE			04 11 40.0	+6.7
OGNE				LR	LR				
	comp=Z,5µm,20.0s								
OGNE	**Ogallala**	**98.04**	**50**	P		**P**	**04 11 32.6**	**-0.7**
	baz=263								
JCT	**Junction City**	**98.53**	**61**	PFAKE			04 11 50.0	+14
JCT				LR	LR				
	comp=Z,5µm,21.0s								
AAK	**Ala-Archa**	**98.56**	**312**	*e*P		**P**	**04 11 35.1**	**-0.5**
	comp=Z,3.9nm,0.9s								
AAK	**Ala-Archa**	**98.56**	**312**	P		**P**	**04 11 34.8**	**-0.9**
CBKS	**Cedar Bluff**	**99.55**	**52**	PFAKE			04 11 50.0	+10
CBKS				LR	LR				
	comp=Z,3µm,18.0s								
WMOK	**Wichita Mounta**	**99.89**	**56**	PFAKE			04 11 50.0	+8.4
WMOK				LR	LR				
	comp=Z,5µm,18.0s								
WHTX	**Lake Whitney,**	**100.70**	**59**	PFAKE			04 12 00.0	+15
WHTX				LR	LR				
	comp=Z,5µm,19.0s								
BRVK	**Borovoye**	**102.14**	**322**	*e*Pdif		**Pdif**	**04 11 50.3**	**-0.8**
BRVK	**Borovoye**	**102.14**	**322**	P		**Pdif**	**04 11 50.2**	**-1.0**
MIAR	**Mount Ida**	**104.15**	**57**	PFAKE			04 12 10.0	+9.5
MIAR				LR	LR				
	comp=Z,7µm,20.0s								
SCIA	**State Center**	**104.72**	**49**	PFAKE			04 12 10.0	+7.1
SCIA				LR	LR				
	comp=Z,5µm,18.0s								
WHAR	**Wooly Hollow**	**105.24**	**56**	PFAKE			04 16 30.0	+10
WHAR				LR	LR				
	comp=Z,7µm,20.0s								
HBAR	**Harrisburg**	**106.58**	**56**	PFAKE			04 16 30.0	+8.0
HBAR				LR	LR				
	comp=Z,7µm,20.0s								
VBMS	**Vicksburg**	**106.59**	**60**	PFAKE			04 16 30.0	+7.9
VBMS				LR	LR				
	comp=Z,5µm,21.0s								
G40A	**Rib Lake**	**106.89**	**46**	PFAKE			04 16 30.0	+7.7
G40A				LR	LR				
	comp=Z,4µm,19.0s								
HALT	**Halls**	**107.66**	**56**	PFAKE			04 16 40.0	+16
HALT				LR	LR				
	comp=Z,5µm,21.0s								
WVT	**Waverly**	**108.89**	**55**	PFAKE			04 16 40.0	+14
WVT				LR	LR				
	comp=Z,5µm,20.0s								
WCI	**Wyandotte Cave**	**110.06**	**53**	PFAKE			04 16 40.0	+12
WCI				LR	LR				
	comp=Z,6µm,20.0s								
AAM	**Ann Arbor**	**111.81**	**49**	PFAKE			04 16 40.0	+8.4
AAM				LR	LR				
	comp=Z,6µm,18.0s								
W52A	**Murphy**	**112.09**	**56**	PFAKE			04 16 40.0	+7.6
W52A				LR	LR				
	comp=Z,4µm,20.0s								
DAG	**Danmarks Havn**	**113.86**	**1**	*i* P		**PKiKP**	**04 16 33.2**	**-1.4**
	comp=Z,2.4nm,0.7s								
SADO	**Sadowa**	**114.74**	**46**	PFAKE			04 16 50.0	+13
SADO				LR	LR				
	comp=Z,4µm,18.0s								
ARA0	**ARCESS Array S**	**116.14**	**346**	*e*PKPdf		**PKiKP**	**04 16 38.5**	**-0.6**
ARCES	**ARCESS Array B**	**116.14**	**346**	PKP		**PKiKP**	**04 16 38.5**	**-0.6**
	comp=Z,7.9nm,0.6s,baz=48,slow=1.8,SNR=29								
SSPA	**Standing Stone**	**116.32**	**50**	PFAKE			04 16 50.0	+10
SSPA				LR	LR				
	comp=Z,5µm,20.0s								
SUMG	**Summit**	**116.36**	**8**	*i* P		**PKiKP**	**04 16 40.3**	**+0.3**
SDMD	**Soldier's Deli**	**117.30**	**51**	PFAKE			04 16 50.0	+7.8
SDMD				LR	LR				
	comp=Z,1µm,18.0s								
SFJD	**Kangerlussuaq**	**118.52**	**16**	*i* P		**PKPdf**	**04 16 42.4**	**-1.3**
	comp=Z,13nm,1.1s								
SCHQ	**Schefferville**	**119.35**	**32**	PKP		**PKPdf**	**04 16 44.5**	**-1.2**
	comp=Z,3.7nm,0.8s,baz=318,slow=6.2,SNR=3.6								
LPAZ	**La Paz**	**119.73**	**116**	PKP		**PKPdf**	**04 16 47.5**	**-0.8**
	comp=Z,4.1nm,1.1s,baz=23,slow=4.1,SNR=7.0								
LPAZ	**La Paz**	**119.73**	**116**	*e*PKPdf		**PKPdf**	**04 16 47.9**	**-0.4**
SCO	**Scoresbysund**	**120.00**	**3**	*e*PKPdf		**PKPdf**	**04 16 46.0**	**-0.5**
SCO	**Scoresbysund**	**120.00**	**3**	*i* P		**PKPdf**	**04 16 46.0**	**-0.5**
	comp=Z,25nm,1.2s								
FIA1	**FINESS Array S**	**121.67**	**339**	*e*PKPdf		**PKPdf**	**04 16 49.3**	**-0.7**
FIA0	**FINESS Array S**	**121.67**	**339**	*e*PKPdf		**PKPdf**	**04 16 48.8**	**-1.2**
FINES	**FINESS Array B**	**121.67**	**339**	PKP		**PKPdf**	**04 16 48.8**	**-1.2**
	comp=Z,9.9nm,1.0s,baz=72,slow=6.2,SNR=9.4								
RAYN	**Ar Rayn**	**122.47**	**291**	*e*PKPdf		**PKPdf**	**04 16 52.7**	**0.0**
CPUP	**Villa Florida**	**123.77**	**132**	PKP		**PKPdf**	**04 16 53.9**	**-1.2**
	comp=Z,8.7nm,1.1s,baz=264,slow=2.6,SNR=9.8								
CPUP	**Villa Florida**	**123.77**	**132**	*e*PKPdf		**PKPdf**	**04 16 54.3**	**-0.8**
SDV	**Santo Domingo**	**123.79**	**86**	PKP		**PKPdf**	**04 16 54.4**	**-1.2**
	comp=Z,10nm,0.8s,baz=272,slow=3.0,SNR=15								
SDD	**Santo Domingo**	**125.08**	**75**	PFAKE			04 17 10.0	+12
SDD				LR	LR				
	comp=Z,2µm,20.0s								
NACGM	**Naroch**	**125.65**	**333**	*e*		**PKPdf**	**04 16 56.0**	**-1.8**
BOSA	**Boshof**	**125.86**	**223**	PKP		**PKPdf**	**04 16 58.4**	**-0.8**
	comp=Z,7.8nm,0.7s,baz=89,slow=1.1,SNR=13								
BOSA	**Boshof**	**125.86**	**223**	*e*PKPdf		**PKPdf**	**04 16 58.4**	**-0.8**
BOSA				*e*PKPdf		**PKiKP**	**04 16 59.1**	**-0.5**
SIV	**San Ignacio**	**126.03**	**119**	PKP		**PKPdf**	**04 16 58.8**	**-0.9**
	comp=Z,4.0nm,1.0s,baz=266,slow=2.0,SNR=12								
NB2	**NORSAR Subarra**	**126.52**	**345**	PKPdf		**PKPdf**	**04 16 58.6**	**-0.7**
	comp=Z,18nm,1.2s,baz=31,slow=1.9								
NB2	**NORSAR Subarra**	**126.52**	**345**	PKPdf		**PKPdf**	**04 16 58.6**	**-0.7**
	baz=31,slow=1.9								
NB200	**NORSAR Array S**	**126.52**	**345**	*e*PKPdf		**PKPdf**	**04 16 58.7**	**-0.6**
NOA	**NORSAR Array B**	**126.52**	**345**	PKP		**PKPdf**	**04 16 58.7**	**-0.6**
	comp=Z,4.7nm,0.7s,baz=34,slow=2.0,SNR=15								
AKASG	**Malin Array Be**	**126.92**	**327**	PKP		**PKPdf**	**04 16 59.8**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=71,slow=2.1,SNR=6.6								
AKBB	**Malin Array Si**	**126.92**	**327**	*e*PKPdf		**PKPdf**	**04 16 59.9**	**-0.4**
AK11	**Malin Array Si**	**126.96**	**327**	*e*PKPdf		**PKPdf**	**04 16 59.8**	**-0.6**
SUW	**Suwalki**	**127.83**	**333**	*e*PKP		**PKPdf**	**04 17 02.2**	**+0.2**
KMBO	**Kilima Mbogo**	**128.13**	**260**	PKP		**PKPdf**	**04 17 03.9**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=94,slow=2.1,SNR=3.7								
BR101	**Keskin Array S**	**129.21**	**313**	*e*PKPdf		**PKPdf**	**04 17 04.5**	**-0.8**
BR101				*e*PP		**PP**	**04 19 13.8**	**0.0**
BR131	**Keskin Array S**	**129.21**	**313**	*e*PKPdf		**PKiKP**	**04 17 05.8**	**-0.2**
BRTR	**Keskin Array B**	**129.21**	**313**	PKP		**PKPdf**	**04 17 04.5**	**-0.8**
	comp=Z,2.4nm,1.0s,baz=48,slow=1.8,SNR=8.6								
BRTR				PP		**PP**	**04 19 13.8**	**0.0**
	comp=Z,1.3nm,1.0s,baz=104,slow=6.1,SNR=3.7								
ANTO	**Ankara**	**129.76**	**314**	⇑*i*P		**PKPdf**	**04 17 05.5**	**-0.7**
CFR	**Carcaliu**	**130.48**	**322**	⇑*i*P		**PKPdf**	**04 17 04.8**	**-2.5**
BIZ	**Bicaz**	**130.73**	**325**	⇑*i*P		**PKPdf**	**04 17 07.5**	**-0.2**
BUR08	**Bucovina Ar. S**	**130.83**	**326**	*e*PKPdf		**PKiKP**	**04 17 09.9**	**+0.9**
BURAR	**Bucovina Array**	**130.84**	**326**	⇑*i*P		**PKPdf**	**04 17 05.8**	**-2.3**
BUR04	**Bucovina Ar. S**	**130.84**	**326**	*e*PKPdf		**PKiKP**	**04 17 09.1**	**+0.1**
KWP	**Kalwaria Pacla**	**130.93**	**329**	*e*PKP		**PKiKP**	**04 17 14.2**	**+5.2**
VRI	**Vrincioaia**	**130.96**	**323**	⇑*i*P		**PKPdf**	**04 17 07.9**	**-0.3**
LSZ	**Lusaka**	**131.27**	**239**	PKP		**PKPdf**	**04 17 10.0**	**+0.2**
	comp=Z,5.4nm,0.8s,baz=124,slow=3.2,SNR=7.8								
LSZ	**Lusaka**	**131.27**	**239**	*e*PKPdf		**PKiKP**	**04 17 10.9**	**+0.1**
MLR	**Muntele Rosu**	**131.62**	**323**	*e*PKPdf		**PKiKP**	**04 17 10.3**	**-0.3**
MLR	**Muntele Rosu**	**131.62**	**323**	⇑*i*P		**PKPdf**	**04 17 08.2**	**-1.5**
DOPR	**Dopca**	**131.68**	**324**	⇑*i*P		PKPpre	04 16 53.9	
TRPA	**Tarpa**	**131.96**	**328**	⇑*i*P		**PKPdf**	**04 17 09.2**	**-0.8**
VOIR		**132.18**	**324**	⇑*i*P		**PKiKP**	**04 17 12.4**	**+0.7**
ISP	**Isparta**	**132.18**	**312**	PFAKE			04 17 20.0	+8.0
ISP				LR	LR				
	comp=Z,2µm,20.0s								
ARR	**Arges**	**132.46**	**324**	⇑*i*P		PKPpre	04 16 59.9		
PTGA	**Pitinga**	**132.48**	**101**	PKP		**PKPdf**	**04 17 11.0**	**-1.1**
	comp=Z,8.7nm,1.1s,baz=257,slow=2.1,SNR=6.9								
PTGA	**Pitinga**	**132.48**	**101**	*e*PKPdf		**PKPdf**	**04 17 11.6**	**-0.5**
DRGR		**132.70**	**326**	⇑*i*P		PKPpre	04 17 05.7		
HUMR	**Humele**	**132.72**	**323**	⇑*i*P		**PKPdf**	**04 17 09.8**	**-1.8**
LANS	**Liptovska Anna**	**132.83**	**331**	*e*PKP		**PKiKP**	**04 17 12.5**	**-0.4**
OKC	**Ostrava-Krasne**	**132.97**	**332**	AMS		AMS	05 10 50.0	
	comp=Z,2µm,19.6s								
KSP	**Ksiaz**	**133.06**	**334**	*e*PKP		**PKPdf**	**04 17 12.4**	**+0.4**
DPC	**Dobruska-Polom**	**133.41**	**334**	AMS		AMS	05 14 10.0	
	comp=Z,2µm,18.1s								
UPC	**Upice**	**133.43**	**334**	*e*PKP		**PKiKP**	**04 17 13.5**	**-0.5**
UPC				*ex*		x	04 17 19.7		
UPC				AMS		AMS	05 14 00.0		
	comp=Z,2µm,18.2s								
PSZ	**Piszkesteto**	**133.45**	**329**	⇑*i*P		**PKiKP**	**04 17 13.9**	**-0.3**
GZR	**Gura Zlata**	**133.51**	**325**	⇑*i*P		**PKPdf**	**04 17 12.7**	**-0.4**
VYHS	**Vyhne**	**133.59**	**331**	*e*PKP		**PKPdf**	**04 17 12.9**	**-0.2**
VYHS				*e*PP		**PP**	**04 19 43.2**	**+2.0**
PVCC	**Panska Ves**	**134.02**	**335**	*e*PKP		**PKPdf**	**04 17 14.2**	**+0.4**
PVCC				AMS		AMS	05 08 20.0		
	comp=Z,2µm,17.4s								
BZS	**Buzias**	**134.02**	**326**	⇑*i*P		**PKPdf**	**04 17 13.1**	**-0.9**
CLL	**Collm**	**134.03**	**337**	*e*PKPpre		PKPpre	04 17 12.0		
CLL				⇓*i*PKPdf		**PKPdf**	**04 17 14.0**	**+0.2**
CLL				*e*(pPKiKP)			04 17 20.0		
VRAC	**Vranov**	**134.06**	**333**	⇑*i*P		**PKPdf**	**04 17 14.3**	**+0.3**
GOPC	**GO Pecny, Ondr**	**134.39**	**335**	*e*PKP		**PKiKP**	**04 17 16.2**	**+0.2**
GOPC				AMS		AMS	05 17 10.0		
	comp=Z,2µm,18.6s								
MODS	**Modra-Piesok**	**134.41**	**331**	*e*PKP		**PKiKP**	**04 17 15.5**	**-0.6**
PRU	**Pruhonice**	**134.44**	**335**	*e*PKP		**PKiKP**	**04 17 16.2**	**+0.2**
PRU				AMS		AMS	05 08 40.0		
	comp=Z,2µm,18.4s								
MDVR	**Moldovita**	**134.48**	**325**	⇑*i*P		**PKPdf**	**04 17 09.1**	**-5.8**
TREC	**Trest**	**134.56**	**334**	AMS		AMS	05 15 10.0		
	comp=Z,3µm,20.0s								
VTS	**Vitosha**	**134.87**	**321**	*e*PKPdf		**PKPdf**	**04 17 15.6**	**-0.2**
VTS	**Vitosha**	**134.87**	**321**	⇓*i*P		**PKPdf**	**04 17 12.9**	**-3.0**
MOX	**Moxa**	**135.09**	**337**	*e*L		L	05 19 55.8		
	comp=Z,2µm,19.1s								
CONA	**Conrad Observa**	**135.39**	**332**	*i* PKPdf		**PKPdf**	**04 17 15.8**	**-0.8**
	comp=Z,6.0nm,1.0s								
KHC	**Kasperske Hory**	**135.50**	**335**	*e*PKPdf		**PKPdf**	**04 17 16.9**	**+0.2**
KHC	**Kasperske Hory**	**135.50**	**335**	*e*PKP		**PKPdf**	**04 17 16.7**	**0.0**
KHC				AMS		AMS	05 09 00.0		
	comp=Z,3µm,21.2s								
GEC2	**GERESS Array S**	**135.67**	**334**	*e*PKPdf		**PKiKP**	**04 17 18.1**	**-0.5**
GERES	**GERESS Array B**	**135.67**	**334**	PKP		**PKPdf**	**04 17 16.5**	**-0.6**
	comp=Z,7.3nm,1.0s,baz=27,slow=2.4,SNR=7.3								
GEA0	**GERESS Array S**	**135.67**	**334**	*e*PKPdf		**PKPdf**	**04 17 17.1**	**0.0**
DIVS	**Divibare**	**135.87**	**325**	*e*PKPdf		**PKPdf**	**04 17 17.7**	**+0.1**
GRF	**Grafenberg Arr**	**136.01**	**337**	*e*L		L	05 24 05.5	
	comp=Z,2µm,18.9s								
GRB2	**Grafenberg Arr**	**136.17**	**336**	*e*PKPdf		**PKPdf**	**04 17 17.7**	**-0.2**
	baz=36,slow=1.6								
MOA	**Molln**	**136.18**	**333**	*i* PKPdf		**PKPdf**	**04 17 16.6**	**-1.4**
	comp=Z,4.7nm,0.9s								
LIT	**Litokhoron**	**136.69**	**319**	*e*PKPpre		PKPpre	04 17 11.7		
BLY	**Banja Luka**	**136.97**	**328**	*e*PKPpre		PKPpre	04 17 13.6		
BEBN	**Eben Emael**	**136.98**	**342**	⇑PKiKP		**PKiKP**	**04 17 20.6**	**-0.5**
BDFB	**Brasilia**	**137.02**	**127**	PKP		**PKPdf**	**04 17 18.0**	**-2.6**
	comp=Z,5.5nm,0.9s,baz=179,slow=3.7,SNR=6.2								
BDFB	**Brasilia**	**137.02**	**127**	*e*PKPdf		**PKPdf**	**04 17 18.0**	**-2.6**
BDFB				*e*PKPdf		**PKiKP**	**04 17 20.2**	**-2.2**
MEM	**Membach**	**137.04**	**342**	⇑PKiKP		**PKiKP**	**04 17 20.9**	**-0.3**
KBA	**Koelnbreinsper**	**137.17**	**333**	*e*PKiKP		**PKiKP**	**04 17 21.5**	**-0.4**
	comp=Z,20nm,1.1s								
PDG	**Podgorica**	**137.33**	**324**	⇑*i*P		**PKPdf**	**04 17 19.5**	**-0.7**
ABTA	**Abfaltersbach**	**137.79**	**333**	*i* PKPdf		**PKPdf**	**04 17 20.5**	**-0.6**
	comp=Z,6.9nm,0.8s								
MOTA	**Moosalm**	**137.93**	**335**	*i* PKiKP		**PKiKP**	**04 17 22.7**	**-0.8**
	comp=Z,9.0nm,0.8s								
FETA	**Feichten**	**138.34**	**335**	*i* PKPdf		**PKPdf**	**04 17 21.7**	**-0.5**
	comp=Z,9.9nm,1.1s								
FUORN	**Ofenpass-Fuorn**	**138.85**	**335**	*e*PKPpre		PKPpre	04 17 14.0		
AQU	**L'Aquila**	**140.61**	**328**	*e*PKPpre		PKPpre	04 17 19.8		
BNI	**Bardonecchia**	**141.58**	**337**	*e*PKPpre		PKPpre	04 17 23.7		
SSB	**Saint Sauveur**	**142.18**	**339**	*e*PKPpre		PKPpre	04 17 24.1		
CLTB	**Caltabellotta**	**143.99**	**323**	*e*PKPdf		PKPbc	04 17 30.6	+0.2
KEST	**Kesra**	**147.53**	**324**	PKPbc		**PKPbc**	**04 17 41.3**	**+0.1**
	comp=Z,48nm,0.8s,baz=346,slow=1.7,SNR=33								
KEST	**Kesra**	**147.53**	**324**	*e*PKPbc		**PKPbc**	**04 17 41.8**	**+0.6**
CMAH	**Djebel Manchou**	**147.95**	**327**	P		**PKPdf**	**04 17 39.9**	**+0.6**
ABSA	**Djebel Ababsia**	**148.18**	**327**	P		**PKPdf**	**04 17 40.9**	**+1.2**
PBRG	**Braganca**	**148.41**	**350**	*e*PKPdf		**PKPbc**	**04 17 42.8**	**-0.5**
PGAV	**Gavieira, Arco**	**148.48**	**352**	*e*PKPdf		**PKPbc**	**04 17 42.1**	**-1.5**
PCAB	**Cabril**	**148.70**	**352**	*e*PKPdf		**PKPbc**	**04 17 44.1**	**0.0**
CASM	**Ain Smara**	**148.72**	**328**	P		**PKPbc**	**04 17 42.6**	**-1.7**
DFRA	**Djebel Bou Aff**	**148.82**	**329**	P		**PKPbc**	**04 17 43.4**	**-1.3**
CTEI	**Djebel Teioual**	**148.91**	**328**	P		**PKPbc**	**04 17 43.8**	**-1.1**
POLO	**Lamas de Olo**	**149.00**	**352**	*e*PKPdf		**PKPbc**	**04 17 45.3**	**+0.4**
PVRL	**Vila Real**	**149.08**	**351**	*e*PKPdf		**PKPbc**	**04 17 45.3**	**+0.2**
MVO	**Moncorvo**	**149.08**	**350**	*e*PKPdf		**PKPbc**	**04 17 45.2**	**+0.1**
SET	**Setif**	**149.32**	**329**	P		**PKPbc**	**04 17 46.0**	**+0.1**
PTO	**Porto**	**149.34**	**353**	*e*PKPdf		**PKPbc**	**04 17 45.8**	**+0.2**
CKHR	**Kef el Ahmar**	**149.41**	**329**	P		**PKPbc**	**04 17 44.2**	**-2.0**
PVIS	**Viseu**	**149.66**	**351**	*e*PKPdf		**PKPbc**	**04 17 46.7**	**+0.2**
ES19	**SONSECA Array**	**149.84**	**345**	*e*PKPdf		**PKPdf**	**04 17 42.3**	**+0.1**
ESDC	**Sonseca Array**	**149.88**	**345**	PKPbc		**PKPbc**	**04 17 46.8**	**-0.3**
	comp=Z,18nm,0.9s,baz=11,slow=2.1,SNR=30								
ESLA	**Sonseca Array**	**149.88**	**345**	*e*PKPbc		**PKPbc**	**04 17 47.1**	**0.0**
MTE	**Manteigas**	**149.91**	**351**	*e*PKPdf		**PKPdf**	**04 17 43.5**	**+1.2**
MTE	**Manteigas**	**149.91**	**351**	*e*PKPbc		**PKPbc**	**04 17 47.7**	**+0.5**
PAB	**San Pablo**	**150.10**	**346**	*e*PKPdf		**PKPdf**	**04 17 43.1**	**+0.5**
PCAS	**Casmilo, Conde**	**150.39**	**352**	*e*PKPdf		**PKPbc**	**04 17 48.5**	**+0.2**
PCBR	**Castelo Branco**	**150.45**	**350**	*e*PKPdf		**PKPbc**	**04 17 47.9**	**-0.5**
PTOM	**Tomar**	**150.81**	**352**	*e*PKPdf		**PKPbc**	**04 17 49.0**	**-0.3**
PMRV	**Marv??o**	**150.84**	**350**	*e*PKPdf		**PKPbc**	**04 17 49.2**	**-0.2**
CART	**Cartagena**	**150.91**	**339**	*e*PKPbc		**PKPbc**	**04 17 48.7**	**-0.9**
EBNR	**Beni Rached**	**151.06**	**334**	P		**PKPdf**	**04 17 47.0**	**+2.8**
ECHA	**Ech Chlef**	**151.25**	**334**	P		**PKPbc**	**04 17 50.0**	**-0.4**
PMTG	**Montargil**	**151.32**	**351**	*e*PKPdf		**PKPbc**	**04 17 49.7**	**-0.8**
PESTR	**Estremoz**	**151.42**	**350**	*e*PKPdf		**PKPbc**	**04 17 48.5**	**-2.2**
EANR	**'Ain N'Sour**	**151.53**	**334**	P		**PKiKP**	**04 17 51.5**	**-0.1**
PMAFR	**Mafra**	**151.57**	**353**	*e*PKPdf		**PKiKP**	**04 17 51.6**	**+0.1**
PMST	**Lisbon--Monsan**	**151.78**	**353**	*e*PKPdf		**PKiKP**	**04 17 52.1**	**+0.2**
LIS	**Lisbon**	**151.79**	**353**	*e*PKPdf		**PKPdf**	**04 17 44.0**	**-1.2**
ETRT	**Tiaret**	**151.92**	**334**	P		**PKiKP**	**04 17 53.0**	**+0.5**
PBEJ	**Beja**	**152.28**	**350**	*e*PKPdf		**PKPdf**	**04 17 47.6**	**+1.6**
PNCL	**Nicolau / Gran**	**152.30**	**351**	*e*PKPdf		**PKPdf**	**04 17 46.3**	**+0.3**
RCBR	**Riachuelo**	**152.37**	**125**	*e*PKPbc		**PKPbc**	**04 17 53.4**	**-0.3**
MESJ	**Messejana**	**152.52**	**351**	*e*PKPdf		**PKPdf**	**04 17 45.2**	**-1.1**
MESJ	**Messejana**	**152.52**	**351**	*e*PKPdf		**PKPdf**	**04 17 46.5**	**+0.2**
PVAQ	**Vaqueiros**	**152.87**	**350**	*e*PKPdf		**PKPbc**	**04 17 53.9**	**-0.1**
PTEO	**Sao Teotonio**	**152.89**	**352**	*e*PKPdf		**PKPdf**	**04 17 48.1**	**+1.3**
PBDV	**Barranco-do-Ve**	**153.06**	**350**	*e*PKPdf		**PKPdf**	**04 17 48.2**	**+1.0**
MORF	**Marmelete**	**153.11**	**351**	*e*PKPdf		**PKPdf**	**04 17 46.0**	**-1.2**
MORF	**Marmelete**	**153.11**	**351**	*e*PKPdf		**PKPdf**	**04 17 47.8**	**+0.5**
PFVI	**Vila Bisbo**	**153.31**	**352**	*e*PKPdf		**PKPbc**	**04 17 52.3**	**-2.7**
PFVI	**Vila Bisbo**	**153.31**	**352**	*e*PKPbc		**PKiKP**	**04 17 56.0**	**+0.9**
RTC	**Rabat Centre**	**155.99**	**346**	PFAKE			04 18 00.0	+8.7
RTC				LR	LR				
	comp=Z,15µm,20.0s								
PMAR	**Madeira**	**157.83**	**8**	*e*PKPdf		**PKPdf**	**04 17 58.0**	**+4.1**
TAM	**Tamanrasset**	**158.14**	**306**	*e*PKPdf		**PKPdf**	**04 17 55.0**	**+0.4**
TOA0	**Torodi Ar. Sit**	**164.87**	**281**	*e*PKPdf		**PKPdf**	**04 18 00.6**	**-1.0**
TORD	**Torodi Ar. Bea**	**164.87**	**281**	PKP		**PKPdf**	**04 18 00.1**	**-1.4**
	comp=Z,3.7nm,1.0s,baz=71,slow=0.6,SNR=12								
TORD				PKPab		**PKPab**	**04 18 56.6**	**-1.2**
	comp=Z,6.4nm

baz=181,slow=76,SNR=18
WRA Warramunga Arr 32.11 250 P **P** **04 12 17.3 0.0**
2.4nm,1.0s,baz=82,slow=8.8,SNR=6.2
ASAR Alice Springs 33.37 244 P **P** **04 12 28.6 +0.3**
2.1nm,0.7s,baz=72,slow=9.4,SNR=9.1
ILAR Eielson Array 83.41 18 P **P** **04 18 12.6 -1.5**
0.7nm,0.6s,baz=241,slow=5.1,SNR=10
NVAR Mina Array Bea 85.56 50 P **P** **04 18 26.8 +1.0**
0.7nm,0.8s,baz=230,slow=7.0,SNR=3.7
ZALV Zalesovo Beam 94.08 324 P **P** **04 19 04.7 -0.4**
1.4nm,0.8s,baz=142,slow=4.9,SNR=2.9
MKAR Makanchi Array 94.10 317 P **P** **04 19 05.3 -0.1**
1.5nm,0.7s,baz=94,slow=4.7,SNR=12
ESDC Sonseca Array 150.37 345 PKPbc **PKPbc** **04 25 39.3 +1.4**
0.9nm,0.7s,baz=36,slow=2.3,SNR=5.5

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*IDC **31** 04:07:33.8±1.1,5˚.36S×151˚.05E,h0km,mb3.8/7, mb1 4.0/7,mb1mx3.8/39,mbtmp3.7/7,Error ellipse: s-maj=57.0km s-min=21.7km az=131.0*
*ISCJB **31** 04:07:41.2±1.0,5˚.5S±0˚.2×151˚.0E±0˚.3,h65km,mb3.7/8, Error ellipse: s-maj=50.6km s-min=9.8km az=39.2*
ISC 31 04:07:42.5±1.1,5˚.5S±0˚.3×151˚.1E±0˚.3,h65km,n10, σ1§05/12,mb3.6/8,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.47**	**225**	Pn		**Pn**	**04 09 02.4**	**+0.8**
	1.6nm,0.3s,baz=49,slow=19,SNR=2.1							
PMG				Sn		**Sn**	**04 10 02.2**	**-1.0**
	3.2nm,0.3s,baz=58,slow=19,SNR=4.4							
WRA	**Warramunga Arr**	**21.69**	**227**	P		**P**	**04 12 27.4**	**-0.7**
	0.9nm,0.4s,baz=53,slow=10,SNR=9.2							
WRA				PcP		**PcP**	**04 16 29.0**	**+1.7**
	0.2nm,0.5s,baz=42,slow=1.9,SNR=3.2							
ASAR	**Alice Springs**	**24.48**	**221**	P		**P**	**04 12 56.1**	**+0.4**
	0.6nm,0.5s,baz=54,slow=9.1,SNR=4.3							
FITZ	**Fitzroy Crossi**	**27.80**	**241**	P		**P**	**04 13 24.7**	**-1.0**
	1.8nm,0.5s,baz=74,slow=7.7,SNR=12							
MKAR	**Makanchi Array**	**79.72**	**319**	P		**P**	**04 19 43.0**	**-0.4**
	0.7nm,0.9s,baz=116,slow=6.6,SNR=2.5							
ILAR	**Eielson Array**	**83.46**	**22**	P		**P**	**04 20 02.2**	**-0.6**
	0.2nm,0.5s,baz=269,slow=4.4,SNR=4.2							
NVAR	**Mina Array Bea**	**93.88**	**52**	P		**P**	**04 20 53.4**	**-0.1**
	0.4nm,0.8s,baz=251,slow=2.8,SNR=3.4							
GEYT	**Alibeck**	**95.66**	**307**	P		**P**	**04 21 03.0**	**+1.6**
	1.5nm,0.4s,baz=151,slow=3.4,SNR=3.6							
YKA	**Yellowknife Ar**	**96.85**	**28**	P		**P**	**04 21 05.3**	**-0.8**
	0.1nm,0.4s,baz=355,slow=3.9,SNR=5.5							
TORD	**Torodi Ar. Bea**	**148.85**	**286**	PKPbc		**PKPbc**	**04 27 23.5**	**-0.4**
	0.9nm,0.4s,baz=79,slow=1.9,SNR=22							

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*BJI **31** 04:10:44.9,4˚.60S×102˚.50E,h52km,mb4.9/44,mB5.5/17, Ms5.1/13,Ms7 4.9/13*
*KLM **31** 04:10:45.8,4˚.80S×102˚.30E,h39km,mb4.9*
*MOS **31** 04:10:45.7±1.0,4˚.27S×102˚.75E,h49km,mb5.2/48,Error ellipse: s-maj=9.9km s-min=4.8km az=112.0*
*IDC **31** 04:10:47.6±0.6,4˚.37S×102˚.68E,h52km±4km,mb4.5/32, mb1 4.6/34,mb1mx4.5/53,mbtmp4.7/34,Error ellipse: s-maj=13.3km s-min=8.9km az=49.0*
*ISCJB **31** 04:10:48.4±0.4,4˚.46S±0˚.03×102˚.66E±0˚.03,h79km±3km, mb4.9/119,Error ellipse: s-maj=7.0km s-min=3.1km az=43.7*
*NEIC **31** 04:10:48.1±0.5,4˚.45S×102˚.67E,h60km±4km,mb4.9/50, Error ellipse: s-maj=6.6km s-min=3.6km az=50.0*
NEIC Felt at Palmerah.
*DJA **31** 04:10:48.6±0.5,5˚S±4˚×10˚3E±˚,h35km±4km,M5.1/18, mb5.1/4,MLv5.1/18*
ISC 31 04:10:47.1±0.5,4˚.55S±0˚.04×102˚.56E±0˚.04,h56km±3km, h56km:pP-P,n502,σ1§30/537,mb5.0/130,37C-10D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MNAI	**Manna**	**0.43**	**65**	*e*Pn		**Pn**	**04 10 59.0**	**+1.0**
MNAI				*e*Sn		**Sn**	**04 11 05.9**	**-0.1**
MNAI	**Manna**	**0.43**	**65**	P		**Pn**	**04 10 59.2**	**+1.1**
MNAI				S		**Sn**	**04 11 07.6**	**+1.7**
LHSI	**Lahat**	**1.20**	**53**	P		**Pn**	**04 11 09.2**	**+1.6**
LHSI				S		**Sn**	**04 11 24.8**	**+1.9**
MASI	**Maura Aman, Be**	**1.43**	**347**	P		**Pn**	**04 11 12.7**	**+1.8**
LWLI	**Liwa**	**1.56**	**107**	P		**Pn**	**04 11 14.1**	**+1.4**
LWLI				S		**Sn**	**04 11 33.3**	**+1.4**
MDSI	**Maura Dua**	**1.61**	**88**	P		**Pn**	**04 11 14.8**	**+1.6**
MDSI				S		**Sn**	**04 11 35.1**	**+2.2**
KASI	**Kota Agung**	**2.16**	**117**	P		**Pn**	**04 11 22.2**	**+1.5**
KASI				S		**Sn**	**04 11 46.7**	**+0.4**
KLI	**Kotabumi**	**2.31**	**98**	P		**Pn**	**04 11 26.6**	**+3.9**
KRJI	**Kerinci**	**2.68**	**336**	P		**Pn**	**04 11 30.6**	**+2.7**
BLSI	**Bandar Lampung**	**2.79**	**107**	P		**Pn**	**04 11 33.9**	**+4.5**
JMBI	**JAMBI**	**3.09**	**20**	P		**Pn**	**04 11 35.7**	**+2.3**
PPSI	**Pulau Pagai**	**3.10**	**305**	P		**Pn**	**04 11 36.4**	**+2.8**
SDSI	**Sungai Dareh**	**3.77**	**342**	P		Pn	04 11 55.9	+13
RGRI	**Rengat**	**4.18**	**357**	P		**Pn**	**04 11 50.9**	**+2.5**
PDSI	**Padang**	**4.18**	**330**	P		**Pn**	**04 11 50.1**	**+1.7**
PPBI	**Pangkal Pinang**	**4.28**	**57**	P		**Pn**	**04 11 51.6**	**+1.8**
PPI	**Padang Panjang**	**4.60**	**332**	P		**Pn**	**04 11 55.6**	**+1.4**
CBJI	**Citeko**	**4.66**	**114**	P		Pn	04 12 01.9	+7.0
SISI	**Saibi**	**4.72**	**313**	P		**Pn**	**04 11 57.5**	**+1.7**
BKNI	**Bangkinang**	**5.08**	**342**	*e*Pn		Pn	04 12 05.4	+4.7
BKNI	**Bangkinang**	**5.08**	**342**	P		Pn	04 12 05.9	+5.2
TPI	**Tanjungpandan**	**5.38**	**71**	P		**Pn**	**04 12 05.7**	**+0.8**
	32nm,0.7s,0.4nm							
LEM	**Lembang**	**5.51**	**114**	P		**Pn**	**04 12 07.3**	**+0.4**
	baz=312,slow=19,SNR=1.9							
LEM				S		Sn	04 13 20.3	+11
	12nm,0.3s,baz=288,slow=20,SNR=2.4							
LEM	**Lembang**	**5.51**	**114**	P		**Pn**	**04 12 09.8**	**+2.9**
	1µm,0.7s,6.4nm							
CISI	**Cisompet, Garu**	**6.02**	**120**	*e*Pn		**Pn**	**04 12 13.1**	**-0.6**
CISI				*e*Sn		**Sn**	**04 13 16.0**	**-5.3**
CISI	**Cisompet, Garu**	**6.02**	**120**	P		**Pn**	**04 12 14.3**	**+0.6**
	208nm,0.5s,1.7nm							
MNSI	**Mandailing Nat**	**6.09**	**331**	P		**Pn**	**04 12 15.1**	**+0.5**
MYKOM	**Kota Tinggi**	**6.42**	**12**	*e*Pn		**Pn**	**04 12 21.3**	**+2.1**
MYKOM	**Kota Tinggi**	**6.42**	**12**	P		**Pn**	**04 12 21.7**	**+2.5**
KGM	**Kluang**	**6.56**	**7**	P		**Pn**	**04 12 23.8**	**+2.7**
XMIS	**Christmas Isla**	**6.64**	**153**	*e*Pn		**Pn**	**04 12 17.7**	**-4.5**
XMIS				*e*Sn		Sn	04 13 20.7	-16
GSI	**Gunungsitoli**	**7.66**	**319**	*e*Pn		**Pn**	**04 12 36.3**	**+0.2**
GSI				*e*Sn		**Sn**	**04 13 57.6**	**-3.9**
FRIM	**Kepong**	**7.79**	**353**	P		**Pn**	**04 12 40.8**	**+2.9**
PSI	**Prapat**	**8.15**	**333**	P		**Pn**	**04 12 42.1**	**-0.9**
	3.2nm,0.3s,baz=180,slow=7.0,SNR=7.4							
PSI	**Prapat**	**8.15**	**333**	*e*Pn		**Pn**	**04 12 41.7**	**-1.3**
PSI	**Prapat**	**8.15**	**333**	*e*P		**Pn**	**04 12 41.7**	**-1.3**
UGM	**Wanagama**	**8.59**	**113**	*e*Pn		**Pn**	**04 12 50.8**	**+1.9**
UGM				*e*Sn		**Sn**	**04 14 24.4**	**0.0**
IPM	**Ipoh**	**9.10**	**350**	*e*Pn		**Pn**	**04 13 00.4**	**+4.6**
IPM	**Ipoh**	**9.10**	**350**	P		Pn	04 13 01.4	+5.5
COCO	**West Island**	**9.47**	**216**	*e*Pn		**Pn**	**04 13 01.6**	**+0.7**
COCO				*e*Sn		Sn	04 14 37.4	-8.7
COCO	**West Island**	**9.47**	**216**	*i* P		**Pn**	**04 13 02.1**	**+1.2**
KTGM	**Kuala Trenggan**	**9.83**	**3**	P		Pn	04 13 10.4	+4.6
JAGI	**Jajag, Banyuwa**	**12.15**	**109**	*e*Pn		**Pn**	**04 13 38.0**	**+0.4**
JAGI				*e*Sn		**Sn**	**04 15 47.3**	**-4.4**
TSM	**Tawau**	**17.64**	**60**	P		**P**	**04 14 51.5**	**+2.2**
SDKM	**Sandakan**	**17.77**	**55**	P		**P**	**04 14 54.3**	**+3.3**
SRAK	**Srakaew**	**18.45**	**358**	P		**Pn**	**04 15 00.6**	**+1.7**
	69nm,0.6s							
PBKT	**Sadao Pong**	**21.04**	**356**	P		**P**	**04 15 28.9**	**+2.4**
	30nm,1.0s							
BATI	**Baumata**	**21.66**	**106**	P		**P**	**04 15 33.9**	**+0.7**
	43nm,0.3s,baz=255,slow=0.8,SNR=8.7							
BATI				S		**S**	**04 19 25.6**	**-4.7**
	20nm,0.3s,baz=300,slow=20,SNR=3.3							
SUKH	**Sukhothai**	**22.08**	**353**	P		**P**	**04 15 38.6**	**+1.0**
	24nm,0.9s							
SOEI	**Soe**	**22.14**	**105**	*e*P		**P**	**04 15 35.6**	**-2.9**
	22nm,0.6s							
CM01	**Chiang Mai Arr**	**23.10**	**351**	*e*P		**P**	**04 15 48.1**	**-0.2**
CM31	**Chiang Mai Arr**	**23.14**	**351**	*e*P		**P**	**04 15 48.5**	**-0.3**
	39nm,0.9s							
CM31				*e*PcP		**PcP**	**04 19 37.7**	**+1.7**
CMAR	**Chiang Mai Arr**	**23.14**	**351**	P		**P**	**04 15 48.3**	**-0.4**
	22nm,0.9s,baz=184,slow=8.8,SNR=65							
CMAR				PcP		**PcP**	**04 19 37.7**	**+1.7**
	1.3nm,0.3s,baz=212,slow=3.0,SNR=6.3							
MBWA	**Marble Bar**	**23.47**	**136**	*e*P		**P**	**04 15 50.4**	**-1.5**
	14nm,1.0s							
CMMT	**Chiang Mai**	**23.48**	**351**	P		**P**	**04 15 51.5**	**-0.6**
	25nm,0.8s							
CHTO	**Chiang Mai**	**23.49**	**351**	*e*P		**P**	**04 15 51.8**	**-0.3**
	18nm,0.8s							
CHTO	**Chiang Mai**	**23.49**	**351**	*e*P		**P**	**04 15 51.8**	**-0.3**
CHTO				pmax		pmax		
	comp=Z,18nm,0.8s							
CHTO	**Chiang Mai**	**23.49**	**351**	P		**P**	**04 15 51.6**	**-0.5**
	comp=Z,109nm,0.8s							
PAYA	**Payao**	**23.90**	**354**	P		**P**	**04 15 57.0**	**+1.1**
	comp=Z,9.1nm,0.7s							
QIZ	**Qiongzhong**	**24.50**	**17**	P		**P**	**04 16 03.0**	**+1.7**
QIZ				S		**S**	**04 20 24.8**	**+6.7**
QIZ				pmax		pmax		
	comp=Z,19nm,1.5s							
QIZ				LR		LR		
	comp=Z,1µm,21.1s							
QIZ				LR		LR		
	comp=Z,1µm,12.3s							
QIZ				LR		LR		
	comp=Z,2µm,13.2s							
FITZ	**Fitzroy Crossi**	**26.28**	**123**	P		**P**	**04 16 18.1**	**+0.6**
	comp=Z,19nm,0.9s,baz=320,slow=7.0,SNR=50							
FITZ				PcP		**PcP**	**04 19 44.3**	**+1.3**
	comp=Z,2.5nm,0.9s,baz=315,slow=4.3,SNR=3.2							
FITZ	**Fitzroy Crossi**	**26.28**	**123**	P		**P**	**04 16 18.1**	**+0.6**
	baz=26,SNR=31							
FITZ	**Fitzroy Crossi**	**26.28**	**123**	*e*P		**P**	**04 16 18.2**	**+0.6**
	comp=Z,13nm,0.8s							
FITZ				*e*PcP		**PcP**	**04 19 44.3**	**+1.3**
KNRA	**Kununurra**	**28.02**	**115**	P		**P**	**04 16 32.9**	**-0.2**
	baz=28,SNR=6.5							
KMI	**Kunming**	**29.49**	**0**	P		**P**	**04 16 50.8**	**+4.4**
KMI				pmax		pmax		
	comp=Z,9.0nm,0.8s							
H08S2	**Diego Garcia H**	**30.05**	**263**	T		T	04 47 39.0	
	baz=86,SNR=43							
H08S3	**Diego Garcia H**	**30.06**	**263**	T		T	04 47 36.9	
	baz=86,slow=74,SNR=35							
H08S1	**Diego Carcia H**	**30.07**	**263**	T		T	04 47 37.6	
	baz=86,slow=74,SNR=23							
DGAR	**Diego Garcia**	**30.08**	**263**	*e*P		**P**	**04 16 47.6**	**-3.9**
	comp=Z,222nm,0.6s							
DGAR	**Diego Garcia**	**30.08**	**263**	*e*P		**P**	**04 16 47.6**	**-3.9**
DGAR				pmax		pmax		
	comp=Z,222nm,0.6s							
SHL	**Shillong**	**31.68**	**341**	*e*P		**P**	**04 17 05.0**	**-0.7**
	comp=Z,34nm,0.3s							
SHL	**Shillong**	**31.68**	**341**	*e*P		**P**	**04 17 05.0**	**-0.7**
SHL				pmax		pmax		
	comp=Z,34nm,0.3s							
WRKA	**Warakurna**	**32.03**	**132**	P		**P**	**04 17 10.3**	**+1.6**
	baz=32,SNR=11							
H01W3	**Cape Leeuwin H**	**32.03**	**162**	T		T	04 50 57.0	
	baz=339,slow=76,SNR=89							
H01W2	**Cape Leeuwin H**	**32.05**	**162**	T		T	04 50 57.9	
	baz=339,slow=76,SNR=77							
H01W1	**Cape Leeuwin H**	**32.05**	**162**	T		T	04 50 57.8	
	baz=339,slow=76,SNR=91							
ODAN	**Odare**	**34.50**	**336**	*e*P		**P**	**04 17 30.9**	**+0.6**
	comp=Z,51nm,0.5s							
WR1	**Warramunga Arr**	**34.52**	**119**	*e*P		**P**	**04 17 30.6**	**+0.3**
	comp=Z,8.9nm,0.7s							
WR1				*e*PcP		**PcP**	**04 20 05.3**	**+0.8**
WR1				*e*S		**S**	**04 22 51.5**	**-3.9**
WR1				*e*ScP		**ScP**	**04 23 45.9**	**+0.7**
WRA	**Warramunga Arr**	**34.52**	**119**	P		**P**	**04 17 30.6**	**+0.3**
	comp=Z,7.0nm,0.4s,baz=302,slow=9.1,SNR=30							
WRA				PcP		**PcP**	**04 20 05.3**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=316,slow=2.0,SNR=5.4							
WRA				S		**S**	**04 22 51.5**	**-3.9**
	comp=Z,0.8nm,0.9s,baz=290,slow=12,SNR=3.8							
WRA				ScP		**ScP**	**04 23 45.9**	**+0.7**
	comp=Z,0.9nm,1.2s,baz=324,slow=4.1,SNR=3.8							
WRAB	**Tennant Creek**	**34.52**	**119**	*e*pP		pP	04 17 40.9	-3.4
WRAB	**Tennant Creek**	**34.52**	**119**	*e*P		pP	04 17 40.9	-3.4
WB2	**Warramunga Arr**	**34.52**	**119**	*e*P		**P**	**04 17 30.4**	**0.0**
	comp=Z,11nm,0.6s							
RAMN	**Ramite**	**34.91**	**335**	*e*P		**P**	**04 17 35.0**	**+1.1**
	comp=Z,34nm,0.4s							
CD2	**Chengdu**	**35.28**	**2**	*e*P		**P**	**04 17 38.5**	**+1.8**
AS31	**Alice Springs**	**35.70**	**125**	*e*P		**P**	**04 17 40.7**	**+0.2**
	comp=Z,13nm,0.3s							
AS31				*e*PcP		**PcP**	**04 20 08.9**	**+1.0**
AS31				*e*S		**S**	**04 23 11.6**	**-2.0**
AS31				*e*ScP		**ScP**	**04 23 49.3**	**-0.1**
ASAR	**Alice Springs**	**35.70**	**125**	P		**P**	**04 17 41.5**	**+1.0**
	comp=Z,8.1nm,0.6s,baz=295,slow=7.9,SNR=74							
ASAR				PcP		**PcP**	**04 20 08.9**	**+1.0**
	comp=Z,3.0nm,0.4s,baz=302,slow=5.5,SNR=8.7							
ASAR				S		**S**	**04 23 11.6**	**-2.0**
	comp=Z,1.0nm,0.6s,baz=299,slow=15,SNR=6.1							
ASAR				ScP		**ScP**	**04 23 49.3**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=307,slow=3.1,SNR=7.4							
JIRN	**Jiri**	**35.71**	**335**	*e*P		**P**	**04 17 41.5**	**+0.6**
AS01	**Alice Springs**	**35.73**	**125**	*e*P		**P**	**04 17 40.8**	**0.0**
AS01				*e*PcP		**PcP**	**04 20 08.1**	**+0.1**
LSA	**Lhasa**	**35.77**	**343**	*e*P		**P**	**04 17 41.6**	**+0.2**
	comp=Z,22nm,1.3s							
LSA	**Lhasa**	**35.77**	**343**	*e*P		**P**	**04 17 41.7**	**+0.2**
LSA				pmax		pmax		
	comp=Z,22nm,1.3s							
PKI	**Pulchoki**	**35.97**	**334**	*e*P		**P**	**04 17 43.3**	**+0.2**
	comp=Z,25nm,0.3s							
PKIN	**Phulchoki**	**35.98**	**334**	*e*P		**P**	**04 17 43.3**	**+0.2**
	comp=Z,26nm,0.4s							
GUN	**Gumba**	**36.06**	**334**	*e*P		**P**	**04 17 44.5**	**+0.7**
	comp=Z,181nm,0.4s							
DMN	**Daman**	**36.14**	**333**	*e*P		**P**	**04 17 44.8**	**+0.4**
	comp=Z,33nm,0.3s							
KKN	**Kakani**	**36.22**	**334**	*e*P		**P**	**04 17 45.5**	**+0.5**
	comp=Z,88nm,0.4s							
KOLN	**Koldanda**	**36.97**	**331**	*e*P		**P**	**04 17 52.3**	**+0.8**
	comp=Z,122nm,0.7s							
DANN	**Dangsing**	**37.39**	**332**	*e*P		**P**	**04 17 55.8**	**+0.7**
	comp=Z,224nm,0.4s							
PYUN	**Piuthan**	**37.54**	**331**	*e*P		**P**	**04 17 57.1**	**+0.8**
	comp=Z,75nm,0.6s							
XAN	**Xi'an**	**38.84**	**8**	P		**P**	**04 18 06.5**	**-0.5**
XAN				pP		pP	04 18 20.8	-0.5
XAN				pmax		pmax		
	comp=Z,46nm,0.6s							
XAN	**Xi'an**	**38.84**	**8**	*e*P		**P**	**04 18 06.4**	**-0.6**
	comp=Z,38nm,0.5s							
XAN	**Xi'an**	**38.84**	**8**	*e*P		**P**	**04 18 06.4**	**-0.6**
XAN				pmax		pmax		
	comp=Z,38nm,0.5s							
QIS	**Mount Isa**	**39.36**	**117**	P		**P**	**04 18 12.1**	**+0.5**
	baz=40,SNR=6.4							
NJ2	**Nanjing**	**39.56**	**22**	*e*P		**P**	**04 18 11.8**	**-1.1**
NJ2				pmax		pmax		
	comp=Z,19nm,0.5s							
LZH	**Lanzhou**	**40.44**	**2**	*e*P		**P**	**04 18 20.8**	**+0.5**
LZH				pP		pP	04 18 30.5	-4.3
LZH				sP		sP	04 18 35.5	-5.8
LZH				pmax		pmax		
	comp=Z,29nm,1.1s							
NDI	**New Delhi**	**41.06**	**325**	*e*P		**P**	**04 18 26.0**	**+0.6**
COEN	**Coen**	**41.10**	**106**	P		**P**	**04 18 24.6**	**-1.3**
	baz=41,SNR=5.5							
BBOO	**Buckleboo**	**42.05**	**136**	P		**P**	**04 18 34.7**	**+1.2**
	baz=42,SNR=8.5							
BBOO	**Buckleboo**	**42.05**	**136**	*e*P		**P**	**04 18 33.7**	**+0.2**
	comp=Z,15nm,0.9s							
MTSU	**Mount Surprise**	**42.98**	**112**	P		**P**	**04 18 41.8**	**+0.5**
	baz=43,SNR=34							
GTA	**Gaotai**	**43.81**	**357**	P		**P**	**04 18 48.0**	**+0.3**
GTA				pP		pP	04 18 59.5	-2.8
GTA				sP		sP	04 19 04.0	-4.8
GTA				PcP		**PcP**	**04 20 33.8**	**+0.3**
GTA				pmax		pmax		
	comp=Z,10.0nm,0.7s							
HTT	**Hallett**	**44.39**	**135**	P		**P**	**04 18 54.2**	**+1.8**
	baz=45,SNR=9.0							
CTA	**Charters Tower**	**45.22**	**114**	P		**P**	**04 18 60.0**	**+0.8**
	comp=Z,26nm,0.8s,baz=293,slow=11,SNR=28							
CTA	**Charters Tower**	**45.22**	**114**	*e*P		**P**	**04 19 00.0**	**+0.8**
CTAO	**Charters Tower**	**45.22**	**114**	*e*P		**P**	**04 19 00.2**	**+1.0**
	comp=Z,25nm,0.8s							
CTAO	**Charters Tower**	**45.22**	**114**	*e*P		**P**	**04 19 00.2**	**+1.0**
CTAO				pmax		pmax		
	comp=Z,25nm,0.8s							
QLP	**Quilpie**	**45.42**	**123**	P		**P**	**04 19 02.3**	**+1.6**
	baz=46,SNR=4.2							
STKA	**Stephens Creek**	**45.56**	**131**	P		**P**	**04 19 03.2**	**+1.6**
	comp=Z,20nm,0.5s,baz=306,slow=7.8,SNR=58							
STKA				PcP		**PcP**	**04 20 40.5**	**+1.0**
	comp=Z,4.3nm,0.4s,baz=309,slow=4.6,SNR=3.7							
STKA	**Stephens Creek**	**45.56**	**131**	del			04 19 03.2	
	baz=46,SNR=44							
STKA	**Stephens Creek**	**45.56**	**131**	*e*P		**P**	**04 19 03.3**	**+1.6**
	comp=Z,5.0nm,0.6s							
STKA				*e*PcP		**PcP**	**04 20 40.5**	**+1.0**
HHC	**Hu-ho-hao-te**	**45.92**	**10**	*e*P		**P**	**04 19 05.3**	**+0.8**
HHC				pmax		pmax		
	comp=Z,19nm,1.1s							
JNU	**Nakatsue**	**46.08**	**34**	P		**P**	**04 19 05.0**	**-0.7**
	comp=Z,5.8nm,0.5s,baz=159,slow=7.5,SNR=4.4							
JNU	**Nakatsue**	**46.08**	**34**	*e*P		**P**	**04 19 05.0**	**-0.7**
	comp=Z,10nm,1.0s							
BJT	**Baijiatuau**	**46.08**	**15**	*e*P		**P**	**04 19 04.1**	**-1.5**
	comp=Z,10.0nm,0.5s							
BJT	**Baijiatuau**	**46.08**	**15**	*e*P		**P**	**04 19 04.1**	**-1.5**
BJT				pmax		pmax		
	comp=Z,10.0nm,0.5s							
NIL	**Nilore**	**47.03**	**326**	*e*P		**P**	**04 19 13.2**	**0.0**
	comp=Z,48nm,0.6s							
NIL	**Nilore**	**47.03**	**326**	*e*P		**P**	**04 19 13.2**	**0.0**
NIL				pmax		pmax		
	comp=Z,48nm,0.6s							
KS15	**Wonju Array Si**	**47.97**	**27**	*e*P		**P**	**04 19 20.4**	**0.0**
KS15				*e*PcP		**PcP**	**04 20 47.6**	**-0.3**
KSAR	**Wonju Array Be**	**47.97**	**27**	P		**P**	**04 19 20.4**	**0.0**
KSAR				pP		**pP**	**04 19 33.9**	**-1.2**
KSAR	**Wonju Array Be**	**47.97**	**27**	P		**P**	**04 19 20.4**	**0.0**
KSAR				*PP		**pP**	**04 19 33.9**	**-1.2**
KSRS	**Korea Array**	**47.99**	**27**	P		**P**	**04 19 20.4**	**-0.2**
	comp=Z,3.9nm,0.6s,baz=224,slow=7.1,SNR=15							
KSRS				pP		**pP**	**04 19 33.9**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=227,slow=7.0,SNR=2.1							
KSRS				PcP		**PcP**	**04 20 47.6**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=233,slow=3.9,SNR=4.7							
KS01	**Wonju Array Si**	**48.00**	**27**	*e*P		**P**	**04 19 20.1**	**-0.5**
WMQ	**Urumqi**	**49.98**	**346**	P		**P**	**04 19 36.3**	**+0.6**
WMQ				pP		pP	04 19 51.3	+0.8
WMQ				sP		sP	04 19 56.8	-0.1
WMQ				pmax		pmax		
	comp=Z,68nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,2µm,11.7s							
WMQ				LR		LR		
	comp=Z,2µm,25.7s							
WMQ				LR		LR		
	comp=Z,1µm,24.1s							
WMQ				LR		LR		
	comp=Z,2µm,21.1s							
WMQ	**Urumqi**	**49.98**	**346**	*e*P		**P**	**04 19 36.0**	**+0.2**
	comp=Z,29nm,0.6s							
WMQ	**Urumqi**	**49.98**	**346**	*e*P		**P**	**04 19 36.0**	**+0.2**
WMQ				pmax		pmax		
	comp=Z,29nm,0.6s							
KBL	**Kabul**	**50.09**	**324**	*e*P		**P**	**04 19 37.8**	**+0.9**
	comp=Z,5.7nm,0.6s							
KBL	**Kabul**	**50.09**	**324**	*e*P		**P**	**04 19 37.8**	**+0.9**
KBL				pmax		pmax		
	comp=Z,6.0nm,0.6s							
KSH	**Kashi**	**50.23**	**333**	P		**P**	**04 19 37.0**	**-0.8**
KSH				pP		pP	04 19 47.5	-5.1
KSH				sP		sP	04 19 55.0	-4.0
KSH				PcP		**PcP**	**04 20 55.0**	**-1.3**
KSH				PP		**PP**	**04 21 34.5**	**+0.8**
KSH				S		**S**	**04 26 41.8**	**-4.4**
KSH				sS		sS	04 27 04.8	-6.2
KSH				ScS		**ScS**	**04 29 18.8**	**-5.5**
KSH				SS		**SS**	**04 30 16.5**	**-4.0**
KSH				pmax		pmax		
	comp=Z,44nm,0.8s							
KSH				pmax		pmax		
	comp=Z,1µm,6.2s							
KSH				LR		LR		
	comp=Z,480nm,7.6s							
KSH				LR		LR		
	comp=Z,280nm,12.5s							
KSH				LR		LR		
	comp=Z,1µm,12.0s							
WSAR	**Wadi Sarin**	**50.99**	**305**	P		**P**	**04 19 45.7**	**+2.0**
	comp=Z,3.1nm,0.6s,baz=122,slow=4.2,SNR=4.2							
TARG	**Taragay, Kyrgy**	**51.29**	**336**	*e*P		**P**	**04 19 46.0**	**0.0**
	comp=Z,8.0nm,0.6s						

MKAR **Makanchi Array** 54.18 343 *e*P P 04 20 06.5 -0.3
comp=Z,161nm,0.5s
MKAR pmax pmax

MNAS **Manas** 54.18 333 *i* P P 04 20 07.2 +0.1
comp=Z,161nm,0.5s
MNAS pmax pmax

MAKZ **Makanchi** 54.28 343 *e*P P 04 20 07.0 -0.6
comp=Z,27nm,1.0s
MAKZ **Makanchi** 54.28 343 *e*P P 04 20 07.0 -0.6
comp=Z,11nm,1.0s
MAKZ pmax pmax

MDJ **Mudanjiang** 54.61 23 P P 04 20 11.5 +1.5
comp=Z,11nm,1.0s
MDJ pmax pmax

MDJ pmax pmax
comp=Z,10.0nm,0.7s

ZAK **Zakamensk** 54.71 1 *e*P P 04 20 10.2 -0.5
comp=Z,2μm,14.7s
ZAK pmax pmax

KNGR **Kungurtug, Tuv** 55.10 356⇑ *e*P P 04 20 13.1 -0.5
USA0B **Ussuriysk Arra** 55.26 25 *e*P P 04 20 14.2 -0.5
comp=Z,6.0nm,0.9s
comp=Z,19nm,0.6s
USRK **Ussuriysk Ar.** 55.26 25 P P 04 20 14.1 -0.6
comp=Z,21nm,0.6s,baz=216,slow=5.5,SNR=48
KK31 **Karatay Array** 55.58 332 *e*P P 04 20 16.6 -0.5
KK31 **Karatay Array** 55.58 332 *e*P P 04 20 16.5 -0.5
KK31 pmax pmax
comp=Z,2.0nm,0.5s
KKAR **Karatay Array** 55.58 332 *e*P P 04 20 16.6 -0.5
KKAR **Karatay Array** 55.58 332 *e*P P 04 20 16.6 -0.5
DGZ **Jazzator, Alta** 55.60 348 *c i*P P 04 20 17.4 +0.2
DGZ pmax pmax
comp=Z,16nm,0.8s
HIA **Hailar** 55.64 14⇑ *e*P P 04 20 16.2 -1.2
HIA pmax pmax
comp=Z,4.0nm,0.5s
TLY **Talaya** 56.02 1 *e*P P 04 20 20.7 +0.7
comp=Z,29nm,0.7s
TLY **Talaya** 56.02 1 *c i*P P 04 20 20.5 +0.5
KURK **Kurchatov** 58.77 342 *e*P P 04 20 39.0 -0.3
comp=Z,26nm,0.8s
KURK **Kurchatov** 58.77 342 *c i*P P 04 20 38.9 -0.5
KURK pmax pmax
comp=Z,36nm,1.0s
OTUK **Ortayu** 58.85 337 P P 04 20 39.3 -0.8
OTUK pmax pmax
comp=Z,14nm,0.8s
GEYT **Alibeck** 59.03 320 P P 04 20 42.2 +0.7
comp=Z,12nm,0.7s,baz=142,slow=7.5,SNR=14
GYA0B **ALIBECK ARRAY** 59.03 320 *e*P P 04 20 42.3 +0.8
comp=Z,11nm,0.8s
KLR **Kul'dur** 59.27 22 *c i*P P 04 20 41.9 -0.9
ZAA0 **Zalesovo Array** 60.15 348 *e*P P 04 20 48.2 -0.6
comp=Z,58nm,0.4s
ZALV **Zalesovo Beam** 60.15 348 P P 04 20 48.2 -0.6
comp=Z,56nm,0.4s,baz=167,slow=5.6,SNR=162
ZALV pP pP 04 21 04.3 +0.3
comp=Z,4.7nm,0.4s,baz=180,slow=5.8,SNR=1.9
ZAA1 **Zalesovo Array** 60.16 348 *e*P P 04 20 48.2 -0.6
ZAA1 *e*pP pP 04 21 04.3 +0.3
NVS **Novosibirsk** 61.32 347 *e*P P 04 20 55.3 -1.4
NVS pmax pmax
comp=N,6.0nm,0.5s
NVS pmax pmax
comp=E,5.0nm,0.5s
NVS pmax pmax
comp=Z,9.0nm,0.5s
ZEA **Zeya** 61.66 16 *e*P P 04 20 58.6 -0.5
ZEA pmax pmax
comp=Z,35nm,1.0s
YSS **Yuzh-Sakhalins** 62.34 30⇑ *e*P P 04 21 03.0 -0.7
YSS pmax pmax
comp=Z,20nm,0.8s
BOD **Bodaibo** 62.85 7 *e*P P 04 21 04.9 -2.0
BOD pmax pmax
comp=Z,13nm,0.9s
BVA0 **Borovoye Array** 63.45 339 P P 04 21 10.2 -0.9
BVA0 pmax pmax
comp=Z,10.0nm,0.7s
BRVK **Borovoye** 63.52 339 *e*P P 04 21 10.8 -0.7
comp=Z,9.8nm,0.7s
BRVK **Borovoye** 63.52 339 *c i*P P 04 21 10.5 -1.0
BRVK pmax pmax
comp=Z,9.0nm,0.9s
AB31 **Akbulak array** 65.09 331 *i* P P 04 21 21.5 -0.4
AB31 pmax pmax
comp=Z,11nm,0.6s
ABKAR **Akbulak array** 65.09 331 *e*P P 04 21 21.6 -0.3
KMBO **Kilima Mbogo** 65.30 271 P P 04 21 24.4 +0.2
comp=Z,0.7nm,0.4s,baz=57,slow=17,SNR=2.8
KMBO **Kilima Mbogo** 65.30 271 *e*P P 04 21 24.4 +0.2
comp=Z,3.0nm,1.2s
KMBO **Kilima Mbogo** 65.30 271 *e*P P 04 21 24.4 +0.2
KMBO pmax pmax
comp=Z,3.0nm,1.2s
AKTO **Aktyubinsk** 66.81 331 P P 04 21 31.9 -1.0
AKTO pmax pmax
comp=Z,9.0nm,1.0s
YAK **Yakutsk** 69.58 13 *e*P P 04 21 47.4 -2.6
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.1s
TBLG **Delisi** 69.81 318 *e*P P 04 21 53.8 +1.9
comp=N,15nm,0.8s
TBLG **Delisi** 69.81 318 *e*P P 04 21 53.8 +1.9
TBLG pmax pmax
comp=Z,15nm,0.8s
SVE **Sverdlovsk** 70.00 337 *e*P P 04 21 53.1 +0.4
SVE pmax pmax
comp=Z,31nm,1.2s
ARU **Arti** 70.56 336 *e*P P 04 21 55.9 -0.2
comp=Z,17nm,1.0s
ARU **Arti** 70.56 336 *c i*P P 04 21 55.8 -0.3
ARU 04 24 29.6
ARU S S 04 31 07.8 +2.5
ARU SS SS 04 35 34.7 -3.1
ARU pmax pmax
comp=Z,17nm,1.0s
ZEI **Tsey** 70.83 318 *e*P P 04 21 58.5 +0.2
ZEI pmax pmax
comp=Z,8.0nm,0.6s
NEY **Neytrino** 71.81 318⇓ *e*P P 04 22 06.3 +2.1
NEY pmax pmax
comp=Z,3.0nm,0.8s
KBZ **Khabaz** 71.90 319 P P 04 22 05.5 +1.1
comp=Z,12nm,0.9s,baz=118,slow=6.5,SNR=15
KIV **Kislovodsk** 72.13 319 *e*P P 04 22 06.9 +0.9
KIV pmax pmax
comp=Z,9.0nm,1.0s
THZ **Tophouse** 72.35 132 *e*P P 04 22 08.6 +1.2
comp=Z,18nm,0.6s
EIL **Elat** 73.04 303 P P 04 22 11.9 +0.4
comp=Z,10nm,0.8s,baz=10,slow=16,SNR=5.5
MATP **Matopo** 73.50 250 P P 04 22 17.1 +2.5
comp=Z,2.0nm,0.4s,baz=93,slow=5.5,SNR=9.6
PETK **Petropavlovsk-** 73.70 31 P P 04 22 14.3 -0.6
comp=Z,1.5nm,0.4s,baz=257,slow=8.4,SNR=7.2
PETK pP PcP 04 22 29.2 -1.2
comp=Z,4.3nm,0.8s,baz=208,slow=2.9,SNR=2.3
PETK **Petropavlovsk-** 73.70 31 P P 04 22 14.4 -0.6
PETK *PP PcP 04 22 29.2 -1.2
PETK pmax pmax
comp=Z,1.0nm,0.4s
PETK pmax pmax
comp=Z,4.0nm,0.9s
PEA1 **Petropavlovsk-** 73.70 31 *e*P P 04 22 14.3 -0.6
PEA1 *e*pP PcP 04 22 29.2 -1.2
LSZ **Lusaka** 73.75 255 *e*P P 04 22 12.4 -3.8
comp=Z,6.9nm,0.9s
LSZ **Lusaka** 73.75 255 *e*P P 04 22 12.4 -3.8
LSZ pmax pmax
comp=Z,7.0nm,0.9s
PET **Petropavlovsk** 74.14 31 *e*P P 04 22 17.0 -0.5
PET pmax pmax
comp=Z,22nm,0.4s
BKZ **Black Stump Fm** 74.69 129 *e*P P 04 22 21.9 +0.8
comp=Z,45nm,0.5s
URZ **Urewera** 75.07 128 P P 04 22 23.6 +0.3
comp=Z,6.8nm,0.4s,baz=263,slow=4.2,SNR=9.2
VRH **Novokhopyorsk** 75.86 325 *e*P P 04 22 27.1 -0.3
VRH pmax pmax
comp=Z,30nm,0.6s

LBTB **Lobatse** 76.29 245 P P 04 22 32.9 +2.3
comp=Z,1.8nm,0.8s,baz=109,slow=6.5,SNR=3.4
LBTB **Lobatse** 76.29 245 *e*P P 04 22 32.9 +2.3
comp=Z,4.1nm,1.0s
LBTB **Lobatse** 76.29 245 *e*P P 04 22 32.9 +2.3
LBTB pmax pmax
comp=Z,4.0nm,1.0s
SYO **Syowa Base** 76.31 199⇑ *e*P P 04 22 31.2 +1.5
BOSA **Boshof** 76.70 242 P P 04 22 35.8 +2.9
comp=Z,3.4nm,1.0s,baz=61,slow=10,SNR=2.9
BR101 **Keskin Array S** 76.92 312 *e*P P 04 22 34.0 0.0
BR131 **Keskin Array S** 76.92 312 *e*P P 04 22 34.2 +0.3
BRTR **Keskin Array B** 76.92 312 P P 04 22 34.0 0.0
comp=Z,4.6nm,0.6s,baz=144,slow=7.0,SNR=30
BRTR **Keskin Array B** 76.92 312 P P 04 22 34.0 0.0
SEY **Seymchan** 77.04 21⇑ *e*P P 04 22 33.6 -0.3
VSR **Storozhevoye** 77.32 325 *de*P P 04 22 34.9 -0.8
VSR pmax pmax
comp=Z,19nm,0.7s
TIXI **Tiksi** 77.97 8⇑ *e*P P 04 22 37.0 -1.9
TIXI pmax pmax
comp=Z,2.0nm,0.6s
LPSR **Galich'ya Gora** 78.02 326 *e*P P 04 22 39.5 -0.1
LPSR pmax pmax
comp=Z,10.0nm,0.8s
PRGR **Permogore** 79.02 336 *e*P P 04 22 43.8 -1.1
PRGR pmax pmax
comp=Z,16nm,0.6s
VNDA **Vanda** 79.19 169 P P 04 22 47.4 +1.8
comp=Z,2.9nm,1.0s,baz=326,slow=4.3,SNR=4.6
OBN **Obninsk** 80.30 328 *i* P P 04 22 51.6 -0.3
OBN pmax pmax
comp=Z,10.0nm,0.7s
KLMR **Klimovskoe** 81.23 334 *e*P P 04 22 56.0 -0.8
KLMR pmax pmax
comp=Z,11nm,1.0s
KLMR **Klimovskoe** 81.23 334 *e*P P 04 22 56.0 -0.8
KLMR AMP 04 23 00.7
comp=Z,11nm,1.1s
AKASG **Malin Array Be** 83.05 322 P P 04 23 06.5 -0.1
comp=Z,2.0nm,0.4s,baz=89,slow=4.9,SNR=11
AKBB **Malin Array Si** 83.05 322 *e*P P 04 23 06.5 -0.1
comp=Z,3.7nm,0.9s
KIEV **Kiev** 83.06 322 *e*P P 04 23 06.4 -0.1
comp=Z,3.9nm,1.0s
KIEV **Kiev** 83.06 322 ⇓ *i*P P 04 23 06.5 -0.1
KIEV **Kiev** 83.06 322 ⇓P P 04 23 06.5 -0.1
AK11 **Malin Array Si** 83.08 322 *e*P P 04 23 06.7 0.0
VRI **Vrincioaia** 83.45 317 ⇓ *i*P P 04 23 10.3 +1.5
VRI **Vrincioaia** 83.45 317 ⇓P P 04 23 10.3 +1.5
PLOR **Plostina** 83.50 317 ⇑ *i*P P 04 23 10.5 +1.4
PLOR **Plostina** 83.50 317 ⇑P P 04 23 10.5 +1.4
MLR **Muntele Rosu** 83.90 317 *e*P P 04 23 12.3 +1.1
comp=Z,12nm,0.9s
MLR **Muntele Rosu** 83.90 317 ⇑ *i*P P 04 23 12.4 +1.1
MLR **Muntele Rosu** 83.90 317 ⇑P P 04 23 12.4 +1.1
BIZ **Bicaz** 84.11 318 ⇑ *i*P P 04 23 12.1 -0.1
PRAR **RASCA** 84.13 318 ⇑ *i*P P 04 23 12.1 -0.1
DOPR **Dopca** 84.38 317 ⇑ *i*P P 04 23 14.3 +0.7
VOIR 84.50 316 ⇑ *i*P P 04 23 14.3 0.0
VOIR 84.50 316 ⇑P P 04 23 14.3 0.0
BILL **Bilibino** 84.66 20 *i* P P 04 23 11.0 -3.4
BILL pmax pmax
comp=Z,2.0nm,1.0s
ARR **Arges** 84.77 316 ⇑ *i*P P 04 23 16.3 +0.7
BURAR **Bucovina Array** 84.85 318 ⇓ *i*P P 04 23 17.8 +1.8
BURAR **Bucovina Array** 84.85 318 ⇓P P 04 23 17.8 +1.8
BUR04 **Bucovina Ar. S** 84.85 318 *e*P P 04 23 17.6 +1.5
BUR08 **Bucovina Ar. S** 84.87 319 *e*P P 04 23 18.1 +2.0
VTS **Vitosha** 85.25 313 *e*P P 04 23 18.7 +0.6
comp=Z,6.7nm,0.9s
VTS **Vitosha** 85.25 313 ⇑ *i*P P 04 23 18.8 +0.6
VTS **Vitosha** 85.25 313 ⇑P P 04 23 18.8 +0.6
DEV **Deva** 86.06 316 ⇑ *i*P P 04 23 23.7 +1.8
DEV **Deva** 86.06 316 ⇑P P 04 23 23.7 +1.8
DRGR 86.36 317 ⇑ *i*P P 04 23 23.5 0.0
DRGR 86.36 317 ⇑P P 04 23 23.5 0.0
TRPA **Tarpa** 86.72 319 ⇑ *i*P P 04 23 25.3 +0.2
BZS **Buzias** 86.91 316 ⇑ *i*P P 04 23 26.8 +0.7
BZS **Buzias** 86.91 316 ⇑P P 04 23 26.8 +0.7
SUW **Suwalki** 87.43 325 *e*P P 04 23 29.1 +0.7
comp=Z,58nm,1.3s
SUW **Suwalki** 87.43 325 *e*P P 04 23 29.1 +0.7
SUW pmax pmax
comp=Z,59nm,1.3s
FIA0 **FINESS Array S** 87.54 332 *e*P P 04 23 29.1 +0.4
FIA0 **FINESS Array S** 87.54 332 *e*P P 04 23 29.1 +0.4
FINES **FINESS Array B** 87.54 332 P P 04 23 29.1 +0.4
comp=Z,5.6nm,0.5s,baz=108,slow=4.9,SNR=60
PDG **Podgorica** 88.11 313 ⇓ *i*P P 04 23 32.5 +0.6
ARA0 **ARCESS Array S** 89.72 340 *e*P P 04 23 39.8 +0.8
ARA0 *e*pP pP 04 23 52.6 -2.3
ARCES **ARCESS Array B** 89.72 340 P P 04 23 39.8 +0.8
comp=Z,7.2nm,0.9s,baz=102,slow=5.6,SNR=51
ARCES pP pP 04 23 52.7 -2.3
comp=Z,2.3nm,0.7s,baz=77,slow=5.4,SNR=1.7
MATE **Matera** 89.79 311 ⇑ *i*P P 04 23 41.6 +1.8
BLY **Banja Luka** 89.89 315 *e*P P 04 23 41.9 +1.6
comp=Z,12nm,0.9s
BLY **Banja Luka** 89.89 315 ⇑ *i*P P 04 23 41.7 +1.5
MORC **Moravsky Berou** 90.22 320 *e*P P 04 23 43.1 +1.4
comp=Z,2.9nm,1.0s
MORC **Moravsky Berou** 90.22 320 ⇑ *i*P P 04 23 43.4 +1.7
MORC **Moravsky Berou** 90.22 320 ⇑P P 04 23 43.4 +1.7
SNAA **Sanae** 90.52 198 P P 04 23 45.4 +2.7
comp=Z,1.5nm,0.9s,baz=43,slow=18,SNR=2.7
SNAA **Sanae** 90.52 198 *e*P P 04 23 45.4 +2.7
comp=Z,4.1nm,1.2s
SNAA **Sanae** 90.52 198 *e*P P 04 23 45.4 +2.7
SNAA pmax pmax
comp=Z,4.0nm,1.2s
DPC **Dobruska-Polom** 91.07 320 *e*P P 04 23 47.6 +1.9
DPC **Dobruska-Polom** 91.07 320 *e*P P 04 23 47.6 +1.9
GEC2 **GERESS Array S** 92.64 319 *e*P P 04 23 54.1 +1.1
comp=Z,7.1nm,1.5s
GEC2 **GERESS Array S** 92.64 319 *e*P P 04 23 54.2 +1.1
GEC2 pmax pmax
comp=Z,7.0nm,1.5s
GERES **GERESS Array B** 92.64 319 P P 04 23 54.2 +1.1
comp=Z,1.0nm,0.6s,baz=133,slow=4.2,SNR=3.2
NB200 **NORSAR Array S** 94.60 331 *e*P P 04 24 01.6 -0.1
NOA **NORSAR Array B** 94.60 331 P P 04 24 01.6 -0.1
comp=Z,1.2nm,0.7s,baz=93,slow=4.6,SNR=3.1
RAR **Rarotonga** 95.49 112 P P 04 24 07.5 +0.9
comp=Z,6.3nm,0.4s,baz=326,slow=11,SNR=3.0
RAR **Rarotonga** 95.49 112 *e*P P 04 24 07.5 +0.9
comp=Z,98nm,1.5s
RAR **Rarotonga** 95.49 112 *e*P P 04 24 07.5 +0.9
RAR pmax pmax
comp=Z,98nm,1.5s
ILAR **Eielson Array** 102.78 24 PP PP 04 28 42.1 -10
comp=Z,0.3nm,0.8s,baz=358,slow=2.3,SNR=4.3
ILB **Eielson Array** 102.78 24 *e*PP PP 04 28 42.1 -10
NEW **Newport** 124.83 31 P PKiKP 04 29 41.5 +0.2
baz=309
J04D **Umpqua Nationa** 124.88 39 P PKiKP 04 29 41.7 0.0
baz=301
L04D **Klamath Falls** 125.28 40 P PKiKP 04 29 42.4 -0.1
baz=301
J05D **Fort Rock, OR** 125.40 38 P PKiKP 04 29 43.2 +0.4
baz=302
EGMT **Eagleton** 128.60 27 P PKiKP 04 29 49.0 +0.1
baz=317
CMB **Columbia Colle** 128.65 44 *e*PKPpre PKPpre 04 29 38.2
SCHQ **Schefferville** 129.13 352 PKP PKPdf 04 29 48.8 -0.1
comp=Z,4.0nm,0.9s,baz=351,slow=2.2,SNR=6.6
ISA **Isabella, Lake** 131.15 45 *e*PKPpre PKPpre 04 29 47.0
DAC **Darwin (Calif)** 131.46 44 *e*PKPpre PKPpre 04 29 37.1
DAC **Darwin (Calif)** 131.46 44 *e*PKHKP PKPpre 04 29 37.1
ULM **Lac du Bonnet** 131.88 16 PKP PKPdf 04 29 54.4 +0.1
comp=Z,1.1nm,0.4s,baz=350,slow=1.9,SNR=5.2
PD31 **Pinedale Array** 132.46 32 *e*PKPdf PKiKP 04 29 56.9 -0.1
PDAR **Pinedale Array** 132.46 32 PKP PKiKP 04 29 56.9 -0.1
comp=Z,0.2nm,0.5s,baz=174,slow=0.8,SNR=3.1
RSSD **Black Hills** 134.16 27 P PKiKP 04 29 59.9 -0.5
baz=322
IKP **In-Ko-Pah, Jac** 134.34 47 P PKPdf 04 29 59.6 0.0
baz=300
CHGQ **Chibougamau** 134.72 357 P PKPdf 04 30 00.1 +0.4
baz=4.1
EYMN **Ely** 135.11 13 P PKPdf 04 30 01.1 +0.6
baz=340
CPUP **Villa Florida** 143.65 211 PKP PKPdf 04 30 16.2 -0.4
comp=Z,0.7nm,0.4s,baz=195,slow=3.9,SNR=3.1
O49A **Covington** 143.98 9 P PKPab 04 30 14.0 -0.1
baz=348
P46A **Rosedale** 143.99 13 P PKPbc 04 30 14.6 -0.1
baz=343
R41A **Rosebud** 144.08 19 P PKPab 04 30 14.6 +0.1
baz=336,SNR=5.5
O50A **Cable** 144.12 8 P PKPab 04 30 14.5 -0.2
baz=349
ACSO **Alum Creek Sta** 144.12 7 P PKPab 04 30 14.5 -0.1
baz=350
O51A **Pataskala** 144.25 7 P PKPab 04 30 15.1 -0.1
baz=351,SNR=5.2
R42A **Luebbering** 144.28 18 P PKPab 04 30 15.2 -0.1
baz=337,SNR=5.1
O53A **New Philadelph** 144.29 5 P PKPab 04 30 15.2 0.0
baz=353
P47A **Martinsville** 144.31 12 P PKPab 04 30 15.4 0.0
baz=345
CCM **Cathedral Cave** 144.35 19 P PKPab 04 30 15.3 -0.3
baz=336
O52A **Adamsville** 144.37 6 P PKPab 04 30 15.3 -0.3
baz=352
O56A **Blue Knob Stat** 144.42 1 P PKPab 04 30 15.8 0.0
baz=358
O54A **Avella** 144.43 4 P PKPab 04 30 15.8 0.0
baz=355
Q45A **Warren Harvey,** 144.45 14 P PKPab 04 30 15.8 -0.1
baz=341
TUL1 **Leonard** 144.50 26 P PKPab 04 30 16.1 -0.1
baz=327,SNR=6.6
P48A **Milroy** 144.50 11 P PKPab 04 30 15.8 -0.2
baz=346
Q46A **CEJHS Indians,** 144.52 13 P PKPab 04 30 15.7 -0.5
baz=343
R43A **Red Bud** 144.55 17 P PKPab 04 30 16.1 -0.2
baz=338
P49A **Miami Univ. Ec** 144.55 10 P PKPab 04 30 16.0 -0.3
baz=347,SNR=5.4
BLO **Bloomington** 144.56 12 *e*PKPdf PKPab 04 30 16.2 -0.1
BLO **Bloomington** 144.56 12 *e*PKiKP PKPab 04 30 16.2 -0.1
S41A **Jillco Farms,** 144.61 20 P PKPab 04 30 16.0 -0.5
baz=335,SNR=11
P50A **Jamestown** 144.62 9 P PKPab 04 30 16.1 -0.5
baz=349
BDFB **Brasilia** 144.63 235 PKP PKPdf 04 30 19.7 +1.0
comp=Z,7.6nm,0.5s,baz=127,slow=4.4,SNR=24
BDFB pPKP pPKPdf 04 30 34.0 -1.4
comp=Z,1.7nm,0.3s,baz=128,slow=6.0,SNR=3.9
S42A **Caledonia** 144.75 18 P PKPab 04 30 16.5 -0.6
baz=336,SNR=12
Q47A **Bedord North L** 144.81 12 P PKPab 04 30 17.0 -0.2
baz=344,SNR=7.6
P52A **Corning** 144.81 6 P PKPab 04 30 16.6 -0.6
baz=352
R44A **Waltonville** 144.82 16 P PKPab 04 30 16.9 -0.4
baz=340,SNR=5.4
P51A **Williamsport** 144.85 8 P PKPab 04 30 16.4 -1.0
baz=350
Q48A **North Vernon** 144.96 11 P PKPab 04 30 17.5 -0.2
baz=345,SNR=10.0
HHAR **Hobbs** 144.96 24 *e*PKPdf PKPab 04 30 17.0 -0.9
MCWV **Mont Chateau** 144.98 3 P PKPab 04 30 17.6 -0.2
baz=356,SNR=14
R45A **Skylar, Fairfi** 144.99 15 P PKPab 04 30 17.8 -0.1
baz=341,SNR=5.4
P54A **Burton** 145.00 4 P PKPab 04 30 17.7 -0.2
baz=355,SNR=6.7
TX31 **Lajitas Ar. Si** 145.00 42 *e*PKPdf PKPab 04 30 18.5 +0.1
TX31 *e*PKPdf PKPdf 04 30 18.9 -0.2
LTX **Lajitas** 145.01 42 *e*PKPdf PKPdf 04 30 18.8 -0.2
LTX **Lajitas** 145.01 42 *e*PKiKP PKPdf 04 30 18.8 -0.2
TXAR **Lajitas Array** 145.01 42 PKP PKPdf 04 30 18.8 -0.2
comp=Z,6.5nm,0.5s,baz=264,slow=1.0,SNR=146
P53A **Whipple** 145.03 5 *e*PKPbc PKPbc 04 30 17.6 -0.4
P53A **Whipple** 145.03 5 P PKPbc 04 30 17.7 -0.4
baz=353,SNR=6.9
Q49A **Aurora** 145.04 10 P PKPbc 04 30 17.5 -0.6
baz=347,SNR=5.8
HPIG 145.04 47 *e*PKPbc PKPdf 04 30 19.0 -0.3
T41A **Mountain View** 145.09 20 P PKPbc 04 30 17.9 -0.4
baz=334,SNR=25
P55A **Reedsville** 145.13 3 P PKPbc 04 30 17.7 -0.7
baz=356,SNR=5.4
S43A **Fulton Ridge,** 145.16 18 P PKPbc 04 30 17.6 -0.8
baz=338,SNR=6.6
ABTX **Abilene, Hawle** 145.19 34 P PKPab 04 30 18.9 0.0
baz=319
R46A **Gibon Southern** 145.25 14 P PKPbc 04 30 18.4 -0.4
baz=342,SNR=6.1
Q51A **Peebles** 145.26 8 *e*PKPbc PKPbc 04 30 18.2 -0.6
Q51A **Peebles** 145.26 8 P PKPbc 04 30 18.3 -0.6
baz=350,SNR=12
SIUC **Southern Illin** 145.28 17 *e*PKPbc PKPbc 04 30 18.8 0.0
S44A **Carbondale** 145.28 17 P PKPbc 04 30 18.6 -0.3
baz=339,SNR=8.1
SDMD **Soldier's Deli** 145.29 359 *e*PKPbc PKPbc 04 30 18.5 -0.4
U40A **Yellville** 145.31 22 P PKPbc 04 30 18.6 -0.5
baz=332,SNR=22
T42A **Van Buren** 145.33 19 *e*PKPbc PKPbc 04 30 18.6 -0.4
T42A **Van Buren** 145.33 19 P PKPbc 04 30 18.8 -0.3
baz=336,SNR=32
Q50A **Georgetown** 145.35 9 P PKPbc 04 30 18.4 -0.7
baz=348,SNR=8.8
R47A **Wooly Knot Far** 145.40 13 P PKPbc 04 30 18.8 -0.5
baz=344,SNR=9.6
R48A **Northridge Ran** 145.44 12 P PKPbc 04 30 19.3 -0.1
baz=345,SNR=11
Q52A **Bidwell** 145.46 7 P PKPbc 04 30 18.8 -0.6
baz=351,SNR=9.1
S45A **Carrier Mills** 145.49 16 P PKPdf 04 30 19.3 -0.1
baz=340,SNR=5.3
WCI **Wyandotte Cave** 145.51 12 *e*PKPbc PKPdf 04 30 19.3 -0.2
WCI **Wyandotte Cave** 145.51 12 *e*PKiKP PKPdf 04 30 19.3 -0.2
WCI **Wyandotte Cave** 145.51 12 P PKPdf 04 30 19.5 0.0
baz=344
T43A **Greenville** 145.54 18 P PKPdf 04 30 19.1 -0.4
baz=337,SNR=11
Q55A **Buckhannon** 145.62 4 P PKPdf 04 30 19.7 -0.1
baz=355,SNR=7.5
U41A **Viola** 145.66 21 P PKPdf 04 30 19.6 -0.2
baz=334,SNR=12
R49A **Shelbyville** 145.68 11 P PKPdf 04 30 19.6 -0.2
baz=346,SNR=10.0
S46A **Don Dixon Farm** 145.71 15 P PKPdf 04 30 20.0 +0.1
baz=342
T44A **Benton** 145.75 17 P PKPbc 04 30 20.5 +0.1
baz=338
PBMO **Poplar Bluff** 145.78 19 *e*PKPdf PKPdf 04 30 19.8 -0.1
R50A **Paris** 145.84 10 P PKPdf 04 30 19.9 -0.2
baz=348,SNR=5.8
U42A **Revenden** 145.90 20 P PKPdf 04 30 20.5 +0.3
baz=335,SNR=21
R52A **Catlettsburg** 146.03 7 P PKPdf 04 30 20.7 +0.3
baz=351,SNR=6.5
V41A **Mountainview** 146.08 22 P PKPdf 04 30 20.8 +0.3
baz=333,SNR=10
S48A **Wiedeman Farm,** 146.12 12 P PKPbc 04 30 21.1 -0.4
baz=344,SNR=12
R53A **Hurricane** 146.12 6 P PKPbc 04 30 21.2 -0.3
baz=352,SNR=10
S49A **Springfield** 146.15 11 P PKPbc 04 30 21.5 -0.1
baz=346,SNR=5.9
U43A **Rector** 146.16 19 P PKPbc 04 30 21.2 -0.4
baz=336
T46A **Princeton** 146.27 15 P PKPbc 04 30 21.7 -0.2
baz=341,SNR=6.7
R55A **Marlinton** 146.33 4 P PKPbc 04 30 21.7 -0.5
baz=355
V42A **Cord** 146.34 21 P PKPdf 04 30 21.6 +0.6
baz=334,SNR=13
R54A **Victor** 146.37 5 P PKPdf 04 30 21.4 +0.4
baz=354
S50A **Richmond** 146.41 10 P PKPdf 04 30 21.6 +0.5
baz=347
T47A **Sharon Grove** 146.52 14 P PKPbc 04 30 22.0 -0.7
baz=342
T48A **Bowling Green** 146.57 13 P PKPbc 04 30 22.4 -0.4
baz=344
S51A **Beattyville** 146.59 9 P PKPbc 04 30 22.3 -0.6
baz=349,SNR=6.3
W41B **Gary Mavity, V** 146.59 22 P PKPdf 04 30 22.0 +0.7
baz=332
MIAR **Mount Ida** 146.61 25 *e*PKPdf PKPbc 04 30 23.1 +0.1
MIAR **Mount Ida** 146.61 25 P PKPbc 04 30 22.8 -0.2
baz=330,SNR=12
JCT **Junction City** 146.68 37 *e*PKPdf PKPbc 04 30 23.0 -0.4
JCT **Junction City** 146.68 37 *e*PKP2 PKPbc 04 30 23.0 -0.4
JCT **Junction City** 146.68 37 P PKPbc 04 30 23.3 -0.2

	baz=316							
R58B	**Mineral**	146.74	1	P		PKPbc	04 30 23.0	-0.2
	baz=359							
T49A	**Edmonton**	146.76	12	*e*PKPdf		PKPbc	04 30 22.9	-0.4
T49A	**Edmonton**	146.76	12	P		PKPbc	04 30 23.3	-0.1
	baz=345							
V44A	**Blytheville**	146.82	19	P		PKPbc	04 30 23.8	+0.2
	baz=337							
U46A	**Springville**	146.83	16	P		PKPbc	04 30 23.6	0.0
	baz=340							
WHTX	**Lake Whitney,**	146.87	32	P		PKPbc	04 30 23.7	-0.2
	baz=321							
X40A	**Basin Creek Fa**	146.96	24	P		PKPbc	04 30 23.6	-0.5
	baz=331							
T50A	**Nancy**	146.97	11	P		PKPbc	04 30 23.2	-0.8
	baz=346							
U47A	**Clarksville**	146.99	15	P		PKPbc	04 30 23.5	-0.6
	baz=342,SNR=6.2							
X41A	**Kaden, Bauxite**	147.08	23	P		PKPbc	04 30 24.1	-0.2
	baz=332							
U48A	**Cassie Pea, Po**	147.11	14	P		PKPbc	04 30 23.8	-0.6
	baz=343,SNR=6.2							
WVT	**Waverly**	147.14	16	*e*PKPdf		PKPbc	04 30 24.1	-0.4
WVT	**Waverly**	147.14	16	*e*PKP2		PKPbc	04 30 24.1	-0.4
WVT	**Waverly**	147.14	16	P		PKPbc	04 30 24.0	-0.5
	baz=341							
T51A	**Gray**	147.19	10	P		PKPbc	04 30 24.0	-0.6
	baz=348,SNR=8.3							
U49A	**Red Boiling Sp**	147.28	12	P		PKPbc	04 30 24.4	-0.5
	baz=344,SNR=6.9							
V46A	**Holladay**	147.37	16	P		PKPbc	04 30 24.7	-0.5
	baz=340							
T53A	**Wise**	147.38	8	P		PKPbc	04 30 24.7	-0.6
	baz=350							
V47A	**Nunnelly**	147.51	15	P		PKPbc	04 30 25.0	-0.5
	baz=341							
U50A	**Jamestown**	147.56	11	P		PKPbc	04 30 25.2	-0.5
	baz=346,SNR=6.6							
Y41A	**Eaglette Beard**	147.58	24	P		PKPbc	04 30 25.7	0.0
	baz=331							
TZTN	**Tazewell**	147.66	9	P		PKPbc	04 30 25.5	-0.5
	baz=348							
V48A	**Smith Brothers**	147.77	14	*e*PKPdf		PKPbc	04 30 25.8	-0.5
V48A	**Smith Brothers**	147.77	14	P		PKPbc	04 30 25.8	-0.5
	baz=342							
U52A	**Thorn Hill**	147.84	9	P		PKPbc	04 30 25.8	-0.7
	baz=349							
V49A	**McMinnville**	147.97	13	P		PKPbc	04 30 25.9	-0.9
	baz=344							
W47A	**Westpoint**	148.03	16	P		PKPbc	04 30 26.4	-0.6
	baz=341,SNR=10							
PLAL	**Pickwick Lake**	148.15	17	*e*PKPbc		PKiKP	04 30 29.2	+0.1
OXF	**Oxford**	148.18	19	P		PKPbc	04 30 26.8	-0.5
	baz=337							
V50A	**Pikeville**	148.23	12	P		PKPbc	04 30 26.9	-0.6
	baz=345							
V51A	**Loudon**	148.25	11	P		PKPbc	04 30 27.1	-0.4
	baz=347							
W48A	**Pulaski**	148.31	15	P		PKPbc	04 30 27.0	-0.7
	baz=342,SNR=6.2							
V52A	**Sevierville**	148.34	10	*e*PKPbc		PKPbc	04 30 27.6	-0.2
V52A	**Sevierville**	148.34	10	P		PKPbc	04 30 27.6	-0.2
	baz=348							
X46A	**Booneville**	148.40	18	P		PKPbc	04 30 27.3	-0.7
	baz=338							
833A	**Chaparral WMA,**	148.46	39	*e*PKPbc		PKiKP	04 30 29.8	-0.1
833A	**Chaparral WMA,**	148.46	39	P		PKPbc	04 30 27.6	-0.7
	baz=315							
SWET	**Sewanee**	148.49	13	*e*PKPdf		PKPbc	04 30 27.5	-0.7
TKL	**Tuckaleechee C**	148.49	10	PKPbc		PKPbc	04 30 27.9	-0.2
	comp=Z,7.6nm,0.4s,baz=342,slow=3.2,SNR=18							
TKL	**Tuckaleechee C**	148.49	10	*e*PKP2		PKPbc	04 30 28.0	-0.2
W49A	**Belvidere**	148.50	14	P		PKPbc	04 30 27.7	-0.5
	baz=343,SNR=7.9							
CPCT	**Cooper Cave**	148.56	11	*e*PKPbc		PKPbc	04 30 28.4	0.0
V53A	**Saluda**	148.63	8	P		PKPbc	04 30 28.3	-0.3
	baz=350,SNR=6.7							
W50A	**Signal Mountai**	148.64	12	P		PKPbc	04 30 28.2	-0.4
	baz=345							
W51A	**Cleveland**	148.79	12	P		PKPbc	04 30 28.7	-0.3
	baz=346							
X48A	**Hartselle**	148.94	16	*e*PKPbc		PKPbc	04 30 28.6	-0.7
X48A	**Hartselle**	148.94	16	P		PKPbc	04 30 28.8	-0.5
	baz=341							
W52A	**Murphy**	149.02	10	*e*PKPbc		PKPbc	04 30 29.4	-0.2
W52A	**Murphy**	149.02	10	P		PKPbc	04 30 29.4	-0.2
	baz=347							
X49A	**Woodville**	149.06	14	P		PKPbc	04 30 29.1	-0.5
	baz=342							
W53A	**Cullowhee**	149.07	9	P		PKPbc	04 30 29.9	+0.1
	baz=349,SNR=6.8							
KMSC	**Kings Mountain**	149.34	6	P		PKPbc	04 30 29.8	-0.5
	baz=352							
Y48A	**Jasper**	149.41	16	P		PKPbc	04 30 29.8	-0.7
	baz=341							
X52A	**Dahlonega**	149.50	11	P		PKPbc	04 30 30.6	-0.2
	baz=347							
Y49A	**Blount Mountai**	149.66	15	P		PKPbc	04 30 30.7	-0.5
	baz=342							
X53A	**Estanollee**	149.70	10	P		PKPbc	04 30 31.0	-0.2
	baz=348							
Z48A	**Northport**	149.80	17	P		PKPbc	04 30 30.8	-0.7
	baz=340							
Z47A	**Carrollton**	149.82	18	P		PKPbc	04 30 30.9	-0.6
	baz=338							
Y51A	**Rockmart**	149.94	13	P		PKPbc	04 30 31.4	-0.4
	baz=345							
Y52A	**Lilburn**	150.19	11	P		PKPbc	04 30 32.5	+0.1
	baz=346							
147A	**Livingston**	150.24	19	P		PKPbc	04 30 32.4	-0.2
	baz=338							
Z49A	**Columbiana**	150.26	15	P		PKPbc	04 30 32.4	-0.2
	baz=341							
Y53A	**Monroe**	150.28	10	P		PKPbc	04 30 32.6	0.0
	baz=348							
LRAL	**Lakeview Retre**	150.28	16	P		PKPbc	04 30 32.2	-0.5
	baz=340							
Z50A	**Ashland**	150.36	14	P		PKPbc	04 30 32.7	-0.2
	baz=343							
Y54A	**Tignall**	150.43	9	P		PKPbc	04 30 33.2	+0.2
	baz=349							
149A	**Jones**	150.75	16	P		PKPbc	04 30 33.5	-0.3
	baz=341							
Z52A	**Williamson**	150.77	12	P		PKPbc	04 30 33.8	0.0
	baz=346							
Z53A	**Monticello**	150.84	11	P		PKPbc	04 30 33.7	-0.3
	baz=347							
346A	**Big Creek Wild**	151.00	22	P		PKPbc	04 30 34.4	-0.1
	baz=335							
152A	**Waverly Hall**	151.21	13	P		PKPbc	04 30 35.0	+0.1
	baz=345							
251A	**Midway**	151.59	14	P		PKiKP	04 30 36.1	-0.1
	baz=343							
LVC	**Limon Verde**	151.75	197	PKPbc		PKiKP	04 30 38.8	+1.6
	comp=Z,7.0nm,0.7s,baz=135,slow=0.8,SNR=8.1							
LVC				pPKPbc		**pPKPbc**	04 30 53.9	+0.8
	comp=Z,5.5nm,0.6s,baz=212,slow=1.7,SNR=3.9							

*MAN **31** 04:11:07.5, 10˚.57N×127˚.04E, h111km, mb4.8, ML3.7, MS3.7*
*IDC **31** 04:11:07.8±1.2, 10˚.31N×126˚.91E, h0km, mb4.2/15, mb1 4.3/15, mb1mx4.2/48, mbtmp4.2/15, Error ellipse: s-maj=31.2km s-min=25.7km az=133.0*
*NEIC **31** 04:11:14.0±0.5, 10˚.44N×126˚.86E, h35km, mb4.5/10, Error ellipse: s-maj=13.4km s-min=10.1km az=106.0*

ISC 31 04:11:13.7±2.5, 10˚.51N±0˚.05×126˚.74E±0˚.08, h29km±17km, n50, σ1§23/57, mb4.4/23, 4C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.43**	**240**↑	*e*P	**Pn**	**04 11 35.6**	**-2.1**
SCPH				*e*S	**Sn**	**04 11 54.5**	**-0.9**
BESP	**Borongan**	**1.68**	**310**	*e*P	**Pn**	**04 11 39.5**	**-1.6**
BESP				*e*S	**Sb**	**04 12 03.9**	**-0.8**
PLP	**Palo**	**1.85**	**291**↓	*e*P	**Pn**	**04 11 42.2**	**-1.2**
PLP				*e*S	**Sn**	**04 12 06.7**	**+0.8**
BUTP	**Butuan**	**1.89**	**216**	*e*P	**Pn**	**04 11 42.4**	**-1.6**
BUTP				*e*S	**Sb**	**04 12 09.1**	**-1.6**
MSLP	**Maasin**	**1.89**	**259**	*e*P	**Pn**	**04 11 43.5**	**-0.5**
MSLP				*e*S	**Sb**	**04 12 10.8**	**+0.1**
BUKP	**Musuan**	**3.09**	**213**	*e*P	**Pn**	**04 11 59.4**	**-1.3**
KCP	**Kidapawan**	**3.84**	**205**↑	*i*P	**Pn**	**04 12 14.0**	**+3.0**
KCP				*i*S	**Sn**	**04 12 56.3**	**+1.2**
RCP	**Roxas**	**4.06**	**285**↑	*e*P	**Pn**	**04 12 15.1**	**+1.2**
KSM	**Kuching**	**18.63**	**242**	*e*P	**Pn**	**04 15 31.1**	**+1.5**
	27nm,0.8s						
JNU	**Nakatsue**	**22.83**	**9**	P	**P**	**04 16 14.3**	**-0.2**
	7.9nm,0.8s,baz=158,slow=4.2,SNR=5.0						
JNU	**Nakatsue**	**22.83**	**9**	*e*P	**P**	**04 16 17.1**	**+2.6**
	31nm,1.3s						
MTN	**Manton Dam**	**23.61**	**169**	*e*P	**P**	**04 16 20.7**	**-1.6**
	14nm,0.9s						
KS15	**Wonju Array Si**	**26.84**	**2**	*e*P	**P**	**04 16 51.3**	**-0.3**
	9.5nm,1.2s						
KSAR	**Wonju Array Be**	**26.84**	**2**	P	**P**	**04 16 51.3**	**-0.3**
KSRS	**Korea Array**	**26.85**	**2**	P	**P**	**04 16 51.3**	**-0.4**
	2.3nm,0.7s,baz=178,slow=9.9,SNR=10						
MAJO	**Matsushiro**	**27.92**	**20**	*e*P	**P**	**04 17 02.5**	**+1.1**
MJAR	**Matsushiro Arr**	**27.92**	**20**	P	**P**	**04 17 02.5**	**+1.1**
	0.7nm,0.5s,baz=199,slow=8.9,SNR=3.4						
CM31	**Chiang Mai Arr**	**28.02**	**290**	*e*P	**P**	**04 17 04.3**	**+1.8**
	5.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**28.02**	**290**	P	**P**	**04 17 04.3**	**+1.8**
	1.1nm,0.5s,baz=89,slow=7.4,SNR=3.0						
FITZ	**Fitzroy Crossi**	**28.44**	**182**	*e*S	S	04 21 39.1	-13
XAN	**Xi'an**	**28.55**	**328**	*e*P	**P**	**04 17 07.0**	**-0.1**
	9.7nm,0.8s						
WRAB	**Tennant Creek**	**31.16**	**166**	*e*P	**P**	**04 17 31.0**	**+0.7**
	12nm,0.6s						
LZH	**Lanzhou**	**32.85**	**324**	*e*P	**P**	**04 17 45.8**	**+0.6**
LZH				pP	pwP	04 18 04.5	+1.3
LZH				sP	sP	04 18 10.8	+17
LZH				pmax	pmax		
	comp=Z,27nm,1.1s						
USRK	**Ussuriysk Ar.**	**33.88**	**7**	P	**P**	**04 17 54.0**	**+0.2**
	comp=Z,2.7nm,0.7s,baz=186,slow=9.6,SNR=6.4						
GTA	**Gaotai**	**37.45**	**325**	⇑P	**P**	**04 18 25.5**	**+0.8**
GTA				pP	sP	04 18 33.0	-0.6
GTA				sP	pwP	04 18 36.8	-6.1
GTA				pmax	pmax		
	comp=Z,14nm,1.0s						
SONA0	**Songino Array**	**40.96**	**339**	*e*P	**P**	**04 18 54.6**	**+0.7**
SONM	**Songino Array**	**40.96**	**339**	P	**P**	**04 18 54.6**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=157,slow=7.8,SNR=4.3						
PETK	**Petropavlovsk-**	**49.23**	**24**	P	**P**	**04 19 59.4**	**0.0**
	comp=Z,6.8nm,1.0s,baz=236,slow=10,SNR=2.9						
PEA1	**Petropavlovsk-**	**49.24**	**24**	*e*P	**P**	**04 19 59.4**	**0.0**
MK32	**Makanchi Array**	**52.12**	**322**	*e*P	**P**	**04 20 21.8**	**+0.5**
MK32				*e*PcP	**PcP**	**04 21 32.5**	**-0.5**
MKAR	**Makanchi Array**	**52.12**	**322**	P	**P**	**04 20 21.8**	**+0.5**
	comp=Z,14nm,0.7s,baz=128,slow=7.9,SNR=11						
MKAR				PcP	**PcP**	**04 21 32.5**	**-0.5**
	comp=Z,3.9nm,0.9s,baz=131,slow=4.0,SNR=2.3						
ZALV	**Zalesovo Beam**	**54.64**	**331**	P	**P**	**04 20 38.8**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=120,slow=8.5,SNR=4.8						
ZALV	**Zalesovo Beam**	**54.64**	**331**	*e*P	**P**	**04 20 40.2**	**+0.5**
ZAA1	**Zalesovo Array**	**54.65**	**331**	*e*P	**P**	**04 20 38.8**	**-0.9**
GEYT	**Alibeck**	**66.77**	**307**	P	**P**	**04 22 04.6**	**+1.9**
	comp=Z,1.5nm,0.4s,baz=79,slow=7.5,SNR=2.7						
ILAR	**Eielson Array**	**79.03**	**26**	P	**P**	**04 23 13.3**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=245,slow=5.8,SNR=5.4						
ILB	**Eielson Array**	**79.03**	**26**	*e*P	**P**	**04 23 13.3**	**-1.4**
	comp=Z,1.0nm,0.9s						
BR101	**Keskin Array S**	**85.74**	**309**	*e*P	**P**	**04 23 49.2**	**-1.3**
BR131	**Keskin Array S**	**85.74**	**309**	*e*P	**P**	**04 23 49.4**	**-1.2**
	comp=Z,3.4nm,0.8s						
BRTR	**Keskin Array B**	**85.74**	**309**	P	**P**	**04 23 49.2**	**-1.3**
	comp=Z,2.7nm,0.8s,baz=106,slow=4.5,SNR=7.5						
FIA0	**FINESS Array S**	**85.90**	**332**	*e*P	**P**	**04 23 50.9**	**+0.2**
FINES	**FINESS Array B**	**85.90**	**332**	P	**P**	**04 23 50.9**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=72,slow=8.9,SNR=4.9						
AKASG	**Malin Array Be**	**86.67**	**321**	P	**P**	**04 23 54.1**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=70,slow=4.5,SNR=6.1						
AKBB	**Malin Array Si**	**86.67**	**321**	*e*P	**P**	**04 23 54.1**	**-0.6**
	comp=Z,6.7nm,1.1s						
YKA	**Yellowknife Ar**	**93.35**	**24**	P	**P**	**04 24 24.9**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=300,slow=4.9,SNR=7.0						
YKB5	**Yellowknife Ar**	**93.35**	**24**	*e*P	**P**	**04 24 24.9**	**-0.9**
TOA1	**Torodi Ar. Sit**	**120.61**	**292**	*e*PKPdf	**PKPdf**	**04 30 01.7**	**-2.0**
TORD	**Torodi Ar. Bea**	**120.61**	**292**	PKP	**PKPdf**	**04 30 01.7**	**-2.0**
	comp=Z,0.5nm,0.7s,baz=128,slow=2.4,SNR=2.7						
PLCA	**Paso Flores**	**146.24**	**156**	PKPbc	**PKPdf**	**04 30 50.0**	**-0.8**
	comp=Z,3.3nm,0.7s,baz=222,slow=4.8,SNR=13						
PLCA	**Paso Flores**	**146.24**	**156**	*e*PKPdf	**PKPdf**	**04 30 50.6**	**-0.1**

IDC 31 04:14:44.1±2.5, 8˚.93S×67˚.39E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.7/48, mbtmp4.0/6, Error ellipse: s-maj=74.7km s-min=30.8km az=63.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	**Diego Garcia H**	**4.40**	**55**	T	T	04 19 55.7	
	baz=236,slow=75,SNR=3986						
H08N2	**Diego Garcia H**	**4.42**	**54**	T	T	04 19 58.1	
	baz=236,slow=75,SNR=4296						
H08N1	**Diego Garcia H**	**4.42**	**55**	T	T	04 20 01.7	
	baz=236,slow=75,SNR=2911						
CMAR	**Chiang Mai Arr**	**41.35**	**49**	P	P	04 22 32.9	+0.8
	1.4nm,0.6s,baz=255,slow=10,SNR=4.6						
H01W3	**Cape Leeuwin H**	**49.88**	**128**	T	T	05 17 12.4	
	baz=290,slow=75,SNR=16						
H01W2	**Cape Leeuwin H**	**49.89**	**128**	T	T	05 17 04.9	
	baz=290,slow=75,SNR=17						
H01W1	**Cape Leeuwin H**	**49.90**	**128**	T	T	05 17 13.7	
	baz=290,slow=75,SNR=17						
MKAR	**Makanchi Array**	**57.05**	**12**	P	P	04 24 30.9	-1.0
	1.0nm,0.6s,baz=204,slow=8.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**64.35**	**11**	P	P	04 25 20.4	-1.1
	0.9nm,0.7s,baz=222,slow=5.8,SNR=3.2						
ASAR	**Alice Springs**	**65.00**	**112**	P	P	04 25 26.1	-0.4
	0.9nm,0.6s,baz=274,slow=6.0,SNR=6.6						
WRA	**Warramunga Arr**	**65.41**	**108**	P	P	04 25 28.9	-0.2
	1.1nm,0.9s,baz=280,slow=5.7,SNR=5.0						
SONM	**Songino Array**	**66.21**	**28**	P	P	04 25 34.6	+0.7
	1.4nm,0.7s,baz=220,slow=5.6,SNR=3.7						
NVAR	**Mina Array Bea**	**150.18**	**9**	PKPbc	PKiKP	04 34 38.5	-0.1
	0.3nm,0.7s,baz=11,slow=0.9,SNR=3.3						

*VAO **31** 04:15:50.6±0.6, 28˚.30S×71˚.78W, h88km, mb4.4*
*GUC **31** 04:15:55.9±0.7, 28˚.03S×70˚.80W, h44km±7km, ML4.7*
*ISCJB **31** 04:15:55.3±0.5, 27˚.88S±0˚.02×70˚.71W±0˚.05, h46km±4km, mb4.5/32, Error ellipse: s-maj=7.0km s-min=3.3km az=5.3*
*NEIC **31** 04:15:55.0±0.0, 28˚.03S×70˚.80W, h44km, mb4.6/21, ML4.7(GUC), After GUC.*
NEIC Felt [IV] at Vallenar; [III] at Copiapo, Huasco and Tierra Amarilla; [II] at Coquimbo and La Serena.
*IDC **31** 04:15:56.9±0.5, 27˚.93S×70˚.74W, h45km±3km, mb4.1/14, mb1 4.2/18, mb1mx4.1/36, mbtmp4.3/18, Error ellipse: s-maj=17.3km s-min=10.8km az=88.0*
*SJA **31** 04:15:57.8±0.8, 28˚.14S×70˚.55W, h10km±12km, ML4.5, MW4.6*

ISC 31 04:15:56.4±0.5, 27˚.92S±0˚.03×70˚.89W±0˚.06, h44km±4km, h44km:pP-P, n141, σ1§58/177, mb4.5/32, 1C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	**Copiap**	**0.67**	**61**	*e*Pg	**Pn**	**04 16 09.9**	**+0.3**
GO03				*e*Sn	**Sn**	**04 16 19.2**	**+0.2**
GO03	**Copiap**	**0.67**	**61**	*i*P	**Pn**	**04 16 10.3**	**+0.7**
GO03				*i*S	**Sn**	**04 16 19.3**	**+0.2**
GO03	**Copiap**	**0.67**	**61**	⇓*i*P	**Pn**	**04 16 10.3**	**+0.7**
GO03				*e*S	**Sn**	**04 16 20.2**	**+1.2**
GO03				IAML		04 16 21.2	
	comp=N,36μm,0.5s						
LCO	**Las Campanas**	**1.10**	**171**	*e*Pn	**Pn**	**04 16 13.7**	**-1.9**
LCO				*e*Sn	**Sn**	**04 16 26.6**	**-3.1**
LCO	**Las Campanas**	**1.10**	**171**	*i*P	**Pn**	**04 16 15.3**	**-0.4**
LCO				*i*S	**Sn**	**04 16 27.3**	**-2.4**
LCO	**Las Campanas**	**1.10**	**171**	⇓*i*P	**Pn**	**04 16 15.2**	**-0.4**
LCO				*e*S	**Sn**	**04 16 25.8**	**-4.0**
CRCH	**Chaqaral**	**1.59**	**9**	*e*P	**Pn**	**04 16 23.7**	**+1.6**
GO04	**Tololo Observa**	**2.24**	**178**	*e*Pn	**Pn**	**04 16 31.9**	**+0.6**
GO04				*e*Sn	**Sn**	**04 16 59.5**	**+1.7**
GO04	**Tololo Observa**	**2.24**	**178**	*e*P	**Pn**	**04 16 32.0**	**+0.6**
GO04				*e*S	**Sn**	**04 16 59.6**	**+1.7**
AROD	**Rodeo**	**2.56**	**151**	*i*P	**Pn**	**04 16 38.3**	**+2.6**
ACDV	**Cuesta del Vie**	**2.73**	**146**	*i*P	**Pn**	**04 16 39.5**	**+1.7**
GO02	**Mina Guanaco**	**2.99**	**23**	*e*Pn	**Pn**	**04 16 42.4**	**+0.8**
GO02				*e*Sn	**Sn**	**04 17 14.9**	**-1.4**
GO02	**Mina Guanaco**	**2.99**	**23**	*e*P	**Pn**	**04 16 42.4**	**+0.8**
GO02				IAML		04 17 38.0	
	comp=E,3μm,0.4s						
CMCH	**Combarbala**	**3.24**	**182**	*e*P	**Pn**	**04 16 45.0**	**+0.2**
CMCH				*e*S	**Sn**	**04 17 23.2**	**+0.9**
ACLC	**CERRO LA CRUZ**	**3.77**	**114**	*i*P	**Pn**	**04 16 54.2**	**+2.0**
RTLL	**Cerro Villicun**	**3.99**	**149**	*i*P	**Pn**	**04 16 57.4**	**+2.2**
RTLS	**Leoncito**	**4.10**	**161**	*i*P	**Pn**	**04 17 00.1**	**+3.2**
RTLS				IAML		04 18 10.8	
	comp=Z,802nm,0.6s						
PB10	**IPOC Station P**	**4.40**	**4**	*e*Pn	**Pn**	**04 16 59.0**	**-1.8**
PB10				*e*Sn	**Sn**	**04 17 48.6**	**-2.1**
RTCV	**Cerro Valdivia**	**4.42**	**153**	*i*P	**Pn**	**04 17 03.2**	**+2.1**
ROC1	**El Roble**	**5.04**	**181**	*e*Pn	**Pn**	**04 17 09.7**	**0.0**
ROC1				*e*Sn	**Sn**	**04 18 09.8**	**+3.1**
PEL	**Peldehue**	**5.21**	**178**	*e*Pn	**Pn**	**04 17 11.8**	**0.0**
PEL				*e*Sn	**Sn**	**04 18 11.7**	**+1.0**
LVC	**Limon Verde**	**5.59**	**19**	P	**Pn**	**04 17 16.6**	**-0.7**
	comp=Z,4.0nm,0.3s,baz=184,slow=8.8,SNR=37						
LVC				S	**Sn**	**04 18 18.7**	**-1.8**
	comp=Z,20nm,0.3s,baz=152,slow=7.9,SNR=3.5						
LVC	**Limon Verde**	**5.59**	**19**	*e*Pn	**Pn**	**04 17 16.9**	**-0.4**
LVC				*e*Sn	**Sn**	**04 18 18.5**	**-2.0**
PB04	**IPOC Station P**	**5.61**	**7**	*e*Pn	**Pn**	**04 17 14.9**	**-2.5**
PB04				*e*Sn	**Sn**	**04 18 20.7**	**0.0**
PB01	**IPOC Station P**	**6.97**	**11**	*e*Pn	**Pn**	**04 17 32.8**	**-3.2**
GO05	**Huala**	**7.12**	**187**	*e*Pn	**Pn**	**04 17 35.3**	**-2.7**
GO05				*e*Sn	**Sn**	**04 18 56.5**	**-1.1**
PB11	**IPOC Station P**	**8.20**	**8**	*e*Pn	**Pn**	**04 17 49.1**	**-4.0**
PB11				*e*Sn	**Sn**	**04 19 24.2**	**-0.4**
MNMC	**Minye Minye**	**8.83**	**8**	*e*Pn	**Pn**	**04 17 58.8**	**-3.0**
MNMC				*e*Sn	**Sn**	**04 19 37.6**	**-2.6**
GO06	**Curarrehue**	**11.64**	**182**	*e*Pn	**Pn**	**04 18 41.1**	**+1.0**
LPAZ	**La Paz**	**11.86**	**13**	P	**Pn**	**04 18 41.7**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=197,slow=5.8,SNR=13						
LPAZ	**La Paz**	**11.86**	**13**	*e*Pn	**Pn**	**04 18 41.9**	**-1.6**
CPUP	**Villa Florida**	**12.19**	**86**	P	**Pn**	**04 18 45.8**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=248,slow=12,SNR=9.2						
CPUP	**Villa Florida**	**12.19**	**86**	*e*Pn	**Pn**	**04 18 47.5**	**+0.1**
PLCA	**Paso Flores**	**12.78**	**179**	P	**Pn**	**04 18 55.1**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=10,slow=18,SNR=2.9						
PLCA	**Paso Flores**	**12.78**	**179**	*e*Pn	**Pn**	**04 18 55.8**	**+0.3**
PLCA	**Paso Flores**	**12.78**	**179**	*e*P	**Pn**	**04 18 44.5**	**-11**
SIV	**San Ignacio**	**14.95**	**39**	P	Pn	04 19 19.6	-5.4
	comp=Z,0.6nm,0.3s,baz=226,slow=11,SNR=6.9						
CPSB	**Cacapava Do Su**	**15.45**	**103**	*e*P	**Pn**	**04 19 31.2**	**-0.2**
PLTB	**Pedras Altas**	**15.48**	**108**	*e*P	**Pn**	**04 19 32.1**	**+0.4**
AQDB	**Aquidauana**	**15.71**	**65**	*e*P	**P**	**04 19 36.7**	**-1.5**
ITAB	**Concordia**	**16.65**	**92**	*e*P	**P**	**04 19 48.1**	**-0.4**
TRCB	**Terra Rica**	**17.27**	**77**	*e*P	**P**	**04 19 56.4**	**+0.9**
SALV	**Santo Antonio**	**18.47**	**53**	*e*P	**Pn**	**04 20 09.4**	**+0.3**
TER01	**Tubaro-SC**	**19.19**	**97**	*e*P	**P**	**04 20 17.1**	**+0.6**
TIJ01	**Guaruva-PR**	**19.74**	**87**	*e*P	**P**	**04 20 21.6**	**-1.1**
FRTB	**Fartura**	**19.76**	**81**	*e*P	**P**	**04 20 22.4**	**-0.4**
ITRB	**Iturama**	**20.47**	**71**	*e*P	**P**	**04 20 30.7**	**+0.2**
BB19B	**Bebedouro**	**21.45**	**76**	*e*P	**P**	**04 20 40.3**	**-0.8**
RCLB	**Rio Claro- Sao**	**21.83**	**81**	*e*P	**P**	**04 20 44.4**	**-0.8**
IPMB	**Ipameri, GO**	**23.07**	**69**	*e*P	**P**	**04 20 56.4**	**-2.0**
PMNB	**Patos De Minas**	**24.30**	**73**	*e*P	**P**	**04 21 07.7**	**-2.3**
BDFB	**Brasilia**	**24.46**	**65**	P	**P**	**04 21 09.8**	**-1.7**
	comp=Z,2.5nm,0.5s,baz=236,slow=9.3,SNR=4.4						
BDFB	**Brasilia**	**24.46**	**65**	*e*P	**P**	**04 21 09.7**	**-1.7**
	comp=Z,9.3nm,1.1s						
BSCB	**Bom Sucesso**	**24.72**	**80**	*e*P	**P**	**04 21 11.8**	**-2.0**
USHA	**Ushuaia**	**26.95**	**177**	P	**P**	**04 21 32.5**	**-0.9**
	comp=Z,4.6nm,0.8s,baz=29,slow=19,SNR=3.1						
MCI6	**Montes Claros**	**27.25**	**72**	*e*P	**P**	**04 21 34.8**	**-1.9**
MCI8	**Montes Claros**	**27

YKA	**Yellowknife Ar**	**96.64**	**341**	PKIKP	**P**		**04 29 20.9**	**-0.3**
YKA				*PP	**pP**		**04 29 35.3**	**+0.8**
YKB5	**Yellowknife Ar**	**96.64**	**341**	*eP*	**P**		**04 29 20.9**	**-0.3**
ASAR	**Alice Springs**	**123.41**	**207**	PKP	**PKPdf**		**04 34 48.5**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=131,slow=1.6,SNR=6.7							
ASAR				pPKP	**pPKPdf**		**04 35 02.1**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=150,slow=2.7,SNR=5.1							
AS31	**Alice Springs**	**123.41**	**207**	*e*PKPdf	**PKPdf**		**04 34 48.5**	**-0.9**
WB2	**Warramunga Arr**	**126.52**	**210**	*e*PKPdf	**PKPdf**		**04 34 55.2**	**-0.2**
WR1	**Warramunga Arr**	**126.52**	**210**	*e*PKPdf	**PKPdf**		**04 34 55.1**	**-0.3**
WRA	**Warramunga Arr**	**126.52**	**210**	PKP	**PKPdf**		**04 34 55.1**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=153,slow=1.7,SNR=35							
WRA				pPKP	**pPKPdf**		**04 35 08.6**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=152,slow=1.8,SNR=11							
H11S2	**WAKE ISLAND Hy**	**26.64**	**273**	T	T		06 54 06.6	
	baz=112,slow=75,SNR=49							
H11S1	**WAKE ISLAND Hy**	**26.66**	**273**	T	T		06 54 07.4	
	baz=112,slow=75,SNR=61							
H11S3	**WAKE ISLAND Hy**	**26.66**	**273**	T	T		06 54 07.9	
	baz=112,slow=75,SNR=66							
TIXI	**Tiksi**	**134.88**	**351**	*e*PKPpre	PKPpre		04 35 01.0	
CHGR	**Chuyangaron**	**145.18**	**62**	*e*PKPbc	**PKPbc**		**04 35 29.0**	**0.0**
KK31	**Karatay Array**	**145.46**	**54**	*e*PKPbc	**PKPbc**		**04 35 29.8**	**+0.1**
KKAR	**Karatay Array**	**145.46**	**54**	*e*PKPbc	**PKPbc**		**04 35 29.8**	**+0.1**
KURK	**Kurchatov**	**147.60**	**37**	*e*PKPdf	**PKPdf**		**04 35 34.0**	**+1.1**
ARSB	**Arslanbob**	**147.65**	**56**	*e*PKPbc	**PKPbc**		**04 35 37.2**	**+0.9**
AAK	**Ala-Archa**	**148.41**	**53**	*e*PKPbc	**PKiKP**		**04 35 39.3**	**-0.6**
ZAA1	**Zalesovo Array**	**148.48**	**28**	*e*PKPdf	**PKPdf**		**04 35 34.3**	**0.0**
ZAA1				*e*PKPbc	**PKPbc**		**04 35 38.2**	**+0.4**
ZAA1				*e*PKPab	**PKPab**		**04 35 43.1**	**+1.8**
ZAA1				*ep*PKPab	**pPKPbc**		**04 35 51.8**	**+0.3**
ZAA0	**Zalesovo Array**	**148.48**	**28**	*e*PKPdf	**PKPdf**		**04 35 34.9**	**+0.6**
ZALV	**Zalesovo Beam**	**148.48**	**28**	PKP	**PKPdf**		**04 35 34.3**	**0.0**
	comp=Z,13nm,0.6s,baz=293,slow=4.1,SNR=11							
ZALV				PKPbc	**PKPbc**		**04 35 38.2**	**+0.4**
	comp=Z,13nm,0.6s,baz=302,slow=3.8,SNR=40							
ZALV				PKPab	**PKPab**		**04 35 43.1**	**+1.8**
	comp=Z,2.0nm,0.5s,baz=308,slow=7.3,SNR=6.1							
ZALV				pPKPbc	**pPKPbc**		**04 35 51.8**	**+0.3**
	comp=Z,16nm,0.6s,baz=298,slow=3.6,SNR=17							
ZALV	**Zalesovo Beam**	**148.48**	**28**	*e*PKPdf	**PKPdf**		**04 35 34.8**	**+0.5**
ZALV				PKPbc	**PKPbc**		**04 35 38.2**	**+0.4**
ZALV				PKPab	**PKPab**		**04 35 43.1**	**+1.8**
ZALV				pPKPbc	**pPKPbc**		**04 35 51.8**	**+0.3**
KSH	**Kashi**	**150.27**	**59**	PKPbc	**PKPdf**		**04 35 37.5**	**-0.3**
KSH				pPKP	pPKPdf		04 35 53.0	+1.4
KSH				sPKP			04 35 57.0	
KSH				PKS	**PKSdf**		**04 39 10.5**	**-2.2**
KSH				PP	**PP**		**04 39 21.8**	**+3.0**
KSH				SKS	**SKSdf**		**04 42 39.0**	**-3.2**
MAKZ	**Makanchi**	**151.58**	**41**	*e*PKPbc	**PKPbc**		**04 35 45.7**	**0.0**
MK31	**Makanchi Array**	**151.77**	**41**	*e*PKPbc	**PKPbc**		**04 35 46.1**	**0.0**
MK32	**Makanchi Array**	**151.77**	**41**	*e*PKPbc	**PKPbc**		**04 35 46.1**	**0.0**
MK32				*e*PKPab	**PKPab**		**04 35 56.2**	**+1.0**
MK32				*ep*PKPab	**pPKPbc**		**04 35 59.9**	**+0.1**
MKAR	**Makanchi Array**	**151.77**	**41**	PKPbc	**PKPbc**		**04 35 46.1**	**0.0**
	comp=Z,5.6nm,0.7s,baz=315,slow=2.0,SNR=72							
MKAR				PKPab	**PKPab**		**04 35 56.2**	**+1.0**
	comp=Z,6.5nm,0.7s,baz=315,slow=2.8,SNR=6.8							
MKAR				pPKPbc	**pPKPbc**		**04 35 59.9**	**+0.1**
	comp=Z,6.5nm,0.7s,baz=308,slow=2.0,SNR=16							
MK01	**Makanchi Array**	**151.79**	**41**	*e*PKPbc	**PKPbc**		**04 35 45.9**	**-0.2**
LZH	**Lanzhou**	**170.72**	**27**	*e*PKP	**PKPdf**		**04 36 01.5**	**+1.4**
LZH				pPKP	sPKPdf		04 36 16.5	-2.3
LZH				sPKP			04 36 23.0	
LZH				PKP	**PKPab**		**04 37 23.5**	**+5.5**

IDC 31 04:30:06.8±1.8, 10.59S×166.39E, h0km, mb4.1/6, mb1 4.3/6, mb1mx3.9/41, mbtmp4.0/6, Error ellipse: s-maj=88.4km s-min=24.4km az=143.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
H11S2	**WAKE ISLAND Hy**	**28.89**	**1**	T	T		05 06 18.5	
	baz=183							
H11S3	**WAKE ISLAND Hy**	**28.90**	**1**	T	T		05 06 20.9	
	baz=183,slow=74							
H11S1	**WAKE ISLAND Hy**	**28.91**	**1**	T	T		05 06 22.6	
	baz=183,slow=74							
WRA	**Warramunga Arr**	**32.23**	**249**	P	P		04 36 37.4	+0.1
	3.4nm,0.9s,baz=80,slow=9.0,SNR=14							
ASAR	**Alice Springs**	**33.56**	**243**	P	P		04 36 48.8	-0.1
	3.7nm,0.8s,baz=69,slow=9.7,SNR=25							
ILAR	**Eielson Array**	**82.88**	**18**	P	P		04 42 33.8	+0.8
	0.6nm,0.7s,baz=237,slow=5.2,SNR=8.4							
NVAR	**Mina Array Bea**	**85.25**	**50**	P	P		04 42 45.6	-0.4
	0.2nm,0.6s,baz=218,slow=4.2,SNR=2.4							
ZALV	**Zalesovo Beam**	**93.55**	**324**	P	P		04 43 23.2	-1.5
	0.4nm,0.4s,baz=90,slow=5.8,SNR=3.2							
MKAR	**Makanchi Array**	**93.62**	**317**	P	P		04 43 25.8	+0.5
	1.3nm,0.8s,baz=92,slow=6.1,SNR=13							
ESDC	**Sonseca Array**	**149.78**	**345**	PKPbc	PKPbc		04 49 58.9	-0.4
	0.3nm,0.6s,baz=8.2,slow=3.0,SNR=4.2							

*ISCJB **31** 04:31:27.6±1.8, 10.90S±0.03×165.40E±0.02, h6km±11km, mb5.3/265, MS5.4/82, Error ellipse: s-maj=4.8km s-min=3.8km az=163.2*

*IDC **31** 04:31:27.7±0.4, 10.89S×165.53E, h0km, mb5.0/29, mb1 5.1/32, mb1mx5.0/41, mbtmp5.0/32, ML3.1/1, MS4.8/11, Ms1 4.8/11, ms1mx4.4/39, Error ellipse: s-maj=13.5km s-min=11.6km az=103.0*

*NEIC **31** 04:31:29.7±0.1, 10.88S×165.44E, h10km, mb5.5/226, MS5.6/63, Error ellipse: s-maj=3.4km s-min=2.6km az=119.0*

*MOS **31** 04:31:32.6±0.9, 10.83S×165.37E, h39km, mb5.6/49, Error ellipse: s-maj=7.4km s-min=6.8km az=53.1*

*BJI **31** 04:31:32.4, 10.60S×165.44E, h33km, mb5.0/43, mB5.6/31, Ms5.4/29, Ms7 5.1/29*

*GCMT **31** 04:31:32.7±0.2, 10.98S±0.02×165.27E±0.02, h22km, MW5.5/92, Moment Tensor Solution. s63,c81; s92,c152; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr 1.45±.06; Mθθ-0.45±.04; Mφφ-0.99±.04; Mrθ 0.21±.07; Mθφ 0.66±.03; Mφr-1.15±.07; Best double couple: Mo 1.85400×10^17 NP1:φs160.00000°, δ65.00000°, λ102.00000°. NP2:φs314.00000°, δ28.00000°, λ66.00000°. Principal axes: T 1.9070, Plg68.0000°, Azm94.0000°; N -0.1040, Plg11.0000°, Azm335.0000°; P -1.8020, Plg19.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 31 04:31:29.4±1.0, 10.95S±0.04×165.53E±0.04, h10km±5km, n679, σ1s29/654, mb5.4/264, MS5.5/82, 22C-4D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
HNR	**Honiara**	**5.70**	**285**	Pn	**Pn**		**04 32 54.8**	**+0.6**
	117nm,0.3s,baz=190,slow=2.6,SNR=23							
HNR				Sn	**Sn**		**04 33 57.8**	**-2.0**
	baz=65,slow=19,SNR=2.2							
HNR				LR	LR		04 35 14.1	
	comp=Z,22μm,19.4s,baz=111,slow=40							
MARNC	**Mare, Loyalty**	**10.74**	**167**	*e*Pn	**Pn**		**04 34 05.3**	**+2.0**
MARNC				*e*Sn	**Sn**		**04 36 01.0**	**-2.7**
DZM	**Mont Dzumac**	**11.09**	**176**	Pn	**Pn**		**04 34 09.6**	**+1.4**
	16nm,0.3s,baz=306,slow=19,SNR=71							
DZM				Sn	**Sn**		**04 36 09.8**	**-2.7**
	3.3nm,0.3s,baz=343,slow=19,SNR=2.8							
DZM				LR	LR		04 37 47.4	
	comp=Z,5μm,19.5s,baz=343,slow=34							
DZM	**Mont Dzumac**	**11.09**	**176**	*e*Pn	**Pn**		**04 34 09.4**	**+1.2**
	534nm,1.4s							
DZM				*e*LR	LR		04 36 39.9	
	comp=Z,7μm,24.1s							
DZM	**Mont Dzumac**	**11.09**	**176**	*e*Pn	**Pn**		**04 34 09.2**	**+1.0**
DZM				*e*Sn	**Sn**		**04 36 09.1**	**-3.4**
ONTNC	**Ouen Toro**	**11.32**	**176**	*e*Pn	**Pn**		**04 34 13.3**	**+2.0**
ONTNC				*e*Sn	**Sn**		**04 36 16.9**	**-1.2**
PINNC	**Pines Island,**	**11.74**	**171**	*e*Pn	**Pn**		**04 34 21.0**	**+4.0**
MSVF	**Nonsavu**	**13.87**	**120**	*e*Pn	**P**		**04 34 51.9**	**-2.7**
MSVF	**Nonsavu**	**13.87**	**120**	*e*P	**P**		**04 34 51.0**	**-3.7**
TARA	**Tarawa**	**14.27**	**31**	*e*Pn	**Pn**		**04 34 51.1**	**-0.6**
PMG	**Port Moresby**	**18.15**	**273**	P	**P**		**04 35 42.5**	**+0.5**
	1.8nm,0.3s,baz=100,slow=7.1,SNR=3.4							
PMG				LR	LR		04 42 39.6	
	comp=Z,10μm,18.6s,baz=126,slow=37							
EIDS	**Eidsvold**	**19.82**	**222**	P	**Pn**		**04 36 02.2**	**+0.3**
	baz=20,SNR=9.8							
EIDS	**Eidsvold**	**19.82**	**222**	*e*P	**Pn**		**04 36 02.1**	**+0.2**
	93nm,1.0s							
MANU	**Manus Island**	**20.09**	**295**	*e*P	Pn		04 36 04.8	-0.4
	1μm,1.1s							
CTA	**Charters Tower**	**20.66**	**242**	P	**P**		**04 36 10.5**	**+1.0**
	108nm,1.1s,baz=70,slow=12,SNR=50							
CTA				S	**S**		**04 39 58.8**	**-1.7**
	2.3nm,0.2s,baz=164,slow=6.7,SNR=3.8							
CTAO	**Charters Tower**	**20.66**	**242**	*e*P	**P**		**04 36 10.5**	**+1.0**
	559nm,1.3s							
CTAO				LR	LR			
	comp=Z,5μm,19.0s							
CTAO	**Charters Tower**	**20.66**	**242**	*e*P	**P**		**04 36 10.5**	**+1.0**
CTAO				pmax	pmax			
	comp=Z,559nm,1.3s							
CTAO				MLR	MLR			
	comp=Z,5μm,19.0s							
LHI	**Lord Howe Isla**	**21.32**	**195**	PFAKE			04 36 30.0	+13
LHI				LR	LR			
	comp=Z,6μm,18.0s							
MTSU	**Mount Surprise**	**21.72**	**248**	P	**P**		**04 36 21.9**	**+0.8**
	baz=22,SNR=60							
COEN	**Coen**	**22.03**	**260**	P	**P**		**04 36 24.2**	**-0.1**
	baz=22,SNR=10							
COEN	**Coen**	**22.03**	**260**	*e*P	**P**		**04 36 24.0**	**-0.3**
	comp=Z,139nm,1.3s							
COEN				LR	LR			
	comp=Z,4μm,21.0s							
RMQ	**Roma**	**22.11**	**223**	P	**P**		**04 36 26.7**	**+1.5**
	baz=22,SNR=38							
ARMA	**Armidale**	**23.28**	**212**	P	**P**		**04 36 38.7**	**+1.1**
	baz=24,SNR=5.7							
ARMA	**Armidale**	**23.28**	**212**	*e*P	**P**		**04 36 38.4**	**+0.8**
	comp=Z,152nm,1.4s							
OUZ	**Omahuta**	**25.25**	**164**	*e*P	**P**		**04 36 58.5**	**+2.8**
	comp=Z,144nm,1.1s							
QLP	**Quilpie**	**25.39**	**229**	P	**P**		**04 36 57.6**	**+0.4**
	baz=26,SNR=9.6							
MGCD	**Mangrove Creek**	**25.81**	**209**	P	**P**		**04 37 04.1**	**+3.3**
	baz=26,SNR=4.8							
JAY	**Jayapura**	**26.02**	**287**	P	**P**		**04 37 01.9**	**-1.1**
	baz=79,slow=8.1,SNR=3.7							
JAY				LR	LR		04 48 29.3	
	comp=Z,2μm,18.2s,baz=351,slow=39							
QIS	**Mount Isa**	**26.68**	**246**	P	**P**		**04 37 08.7**	**-0.2**
	baz=27,SNR=15							
CMSA	**Cobar Meteorol**	**27.50**	**219**	P	**P**		**04 37 16.2**	**+0.1**
	baz=28,SNR=8.9							
HIZ	**Hauiti**	**28.68**	**165**	*e*P	**P**		**04 37 29.2**	**+2.6**
	comp=Z,326nm,1.5s							
MXZ	**Matakaoa Point**	**28.88**	**159**	*e*P	**P**		**04 37 29.2**	**+0.9**
	comp=Z,152nm,1.4s							
URZ	**Urewera**	**29.10**	**161**	P	**P**		**04 37 31.1**	**+0.8**
	comp=Z,108nm,0.9s,baz=6.6,slow=21,SNR=30							
H11S2	**WAKE ISLAND Hy**	**29.28**	**2**	T	T		05 08 04.4	
	baz=183,slow=76,SNR=109							
H11S3	**WAKE ISLAND Hy**	**29.28**	**2**	T	T		05 08 05.8	
	baz=183,slow=76,SNR=10							
H11S1	**WAKE ISLAND Hy**	**29.30**	**2**	T	T		05 08 05.6	
	baz=183,slow=76,SNR=9.3							
BKZ	**Black Stump Fm**	**29.75**	**163**	*e*P	**P**		**04 37 37.3**	**+1.2**
	comp=Z,164nm,1.0s							
STKA	**Stephens Creek**	**30.36**	**223**	P	**P**		**04 37 42.2**	**+0.6**
	comp=Z,7.0nm,0.8s,baz=24,slow=11,SNR=7.2							
STKA	**Stephens Creek**	**30.36**	**223**	P	**P**		**04 37 42.2**	**+0.6**
	baz=30,SNR=12							
H11N1	**WAKE ISLAND Hy**	**30.50**	**3**	T	T		05 09 36.0	
	baz=182,slow=76,SNR=24							
H11N3	**WAKE ISLAND Hy**	**30.51**	**3**	T	T		05 09 37.9	
	baz=182,slow=76,SNR=21							
H11N2	**WAKE ISLAND Hy**	**30.52**	**3**	T	T		05 09 37.6	
	baz=182,slow=76,SNR=22							
BFZ	**Birch Farm**	**31.09**	**164**	*e*P	**P**		**04 37 48.0**	**+0.1**
	comp=Z,159nm,1.0s							
BFZ				LR	LR			
	comp=Z,6μm,19.0s							
WR0	**Warramunga Arr**	**31.13**	**250**	PFAKE			04 38 00.0	+11
WR0				LR	LR			
	comp=Z,4μm,19.0s							
WR9	**Warramunga Arr**	**31.16**	**250**	PFAKE			04 38 00.0	+11
WR9				LR	LR			
	comp=Z,4μm,19.0s							
WR8	**Warramunga Arr**	**31.17**	**250**	PFAKE			04 38 00.0	+11
WR8				LR	LR			
	comp=Z,4μm,18.0s							
WR7	**Warramunga Arr**	**31.19**	**250**	PFAKE			04 38 00.0	+11
WR7				LR	LR			
	comp=Z,4μm,18.0s							
SNZO	**South Karori**	**31.30**	**167**	*e*P	**P**		**04 37 48.5**	**-1.1**
	comp=Z,74nm,0.8s							
WB2	**Warramunga Arr**	**31.30**	**250**	*e*P	**P**		**04 37 48.9**	**-1.2**
	comp=Z,123nm,1.4s							
WRAB	**Tennant Creek**	**31.30**	**250**	*e*P	**P**		**04 37 48.8**	**-1.3**
	comp=Z,121nm,1.4s							
WRAB	**Tennant Creek**	**31.30**	**250**	*de*P	**P**		**04 37 48.8**	**-1.3**
WRAB				pmax	pmax			
	comp=Z,85nm,1.7s							
WR1	**Warramunga Arr**	**31.32**	**250**	*e*P	**P**		**04 37 48.8**	**-1.4**
	comp=Z,134nm,1.3s							
WR1				*e*PcP	**PcP**		**04 40 44.5**	**+0.1**
WR1				*e*ScP	**ScP**		**04 44 28.9**	**+1.1**
WRA	**Warramunga Arr**	**31.32**	**250**	P	**P**		**04 37 48.8**	**-1.4**
	comp=Z,13nm,0.9s,baz=79,slow=8.4,SNR=34							
WRA				PcP	**PcP**		**04 40 44.5**	**+0.1**
	comp=Z,8.5nm,1.0s,baz=71,slow=3.0,SNR=8.0							
WRA				S	**S**		**04 42 54.7**	**-2.7**
	comp=Z,7.8nm,1.4s,baz=77,slow=16,SNR=4.5							
WRA				ScP	**ScP**		**04 44 28.9**	**+1.1**
	comp=Z,0.9nm,1.1s,baz=90,slow=2.5,SNR=4.6							
WRA				PKiKP	**PKiKP**		**04 48 13.4**	**-0.9**
	comp=Z,0.6nm,0.9s,baz=68,slow=0.4,SNR=5.9							
THZ	**Tophouse**	**31.36**	**169**	*e*P	**P**		**04 37 51.7**	**+1.3**
	comp=Z,75nm,0.8s							
GUMO	**Guam**	**31.86**	**319**	LR	LR		04 49 46.0	
	comp=Z,2μm,19.2s,baz=140,slow=34							
TOO	**Toolangi**	**32.04**	**211**	*e*P	**P**		**04 37 57.5**	**+1.1**
	comp=Z,42nm,1.3s							
TOO	**Toolangi**	**32.04**	**211**	*e*P	**P**		**04 37 57.5**	**+1.1**
TOO				pmax	pmax			
	comp=Z,42nm,1.3s							
KHZ	**Kahutara**	**32.12**	**169**	*e*P	**P**		**04 37 57.0**	**+0.1**
	comp=Z,35nm,0.7s							
LTZ	**Lake Taylor**	**32.25**	**171**	*e*P	**P**		**04 37 58.8**	**+0.7**
	comp=Z,80nm,0.7s							
AS01	**Alice Springs**	**32.60**	**243**	*e*P	**P**		**04 37 59.5**	**-1.9**
AS31	**Alice Springs**	**32.64**	**243**	*e*P	**P**		**04 37 59.9**	**-1.9**
	comp=Z,28nm,1.3s							
AS31				*e*PcP	**PcP**		**04 40 47.8**	**-0.2**
AS31				*e*ScP	**ScP**		**04 44 33.6**	**+1.4**
ASAR	**Alice Springs**	**32.64**	**243**	P	**P**		**04 38 00.6**	**-1.3**
	comp=Z,26nm,0.9s,baz=73,slow=9.4,SNR=74							
ASAR				PcP	**PcP**		**04 40 47.8**	**-0.2**
	comp=Z,8.1nm,0.9s,baz=64,slow=2.4,SNR=10							
ASAR				ScP	**ScP**		**04 44 33.6**	**+1.4**
	comp=Z,2.8nm,1.1s,baz=60,slow=3.9,SNR=6.2							
FOZ	**Fox Glacier**	**32.67**	**174**	*e*P	**P**		**04 38 02.2**	**+0.5**
	comp=Z,62nm,0.9s							
OXZ	**Oxford**	**32.74**	**171**	*e*P	**P**		**04 38 03.4**	**+1.0**
	comp=Z,62nm,0.7s							
RPZ	**Rata Peaks**	**32.99**	**173**	P	**P**		**04 38 05.0**	**+0.5**
	comp=Z,15nm,0.6s,baz=318,slow=1.5,SNR=9.6							
RPZ				LR	LR		04 48 48.2	
	comp=Z,1μm,21.4s,baz=344,slow=32							
RPZ	**Rata Peaks**	**32.99**	**173**	*e*P	**P**		**04 38 05.1**	**+0.5**
	comp=Z,48nm,0.8s							
CRLZ	**Canterbury Las**	**33.08**	**171**	*e*P	**P**		**04 38 06.9**	**+1.6**
	comp=Z,214nm,1.5s							
HTT	**Hallett**	**33.09**	**223**	P	**P**		**04 38 05.9**	**+0.2**
	baz=33,SNR=4.1							
MQZ	**McQueen's Vall**	**33.21**	**171**	*e*P	**P**		**04 38 07.2**	**+0.7**
	comp=Z,74nm,1.0s							
WKZ	**Wanaka**	**33.88**	**176**	*e*P	**P**		**04 38 14.0**	**+1.7**
	comp=Z,115nm,1.4s							
ODZ	**Otahua Downs**	**34.25**	**174**	*e*P	**P**		**04 38 19.5**	**+4.0**
	comp=Z,29nm,1.0s							
MLZ	**Mavora Lakes**	**34.36**	**177**	*e*P	**P**		**04 38 18.1**	**+1.6**
	comp=Z,18nm,0.9s							
DCZ	**Deep Cove**	**34.42**	**178**	*e*P	**P**		**04 38 19.0**	**+2.1**
	comp=Z,66nm,1.4s							
BBOO	**Buckleboo**	**34.74**	**227**	*e*P	**P**		**04 38 19.0**	**-0.9**
	comp=Z,58nm,1.1s							
BBOO				LR	LR			
	comp=Z,4μm,18.0s							
RAR	**Rarotonga**	**34.79**	**111**	LR	LR		04 49 40.1	
	comp=Z,2μm,21.4s,baz=284,slow=31							
SIJI	**Sorong**	**35.48**	**284**	P	**P**		**04 38 25.1**	**-1.4**
	comp=Z,16nm,0.7s,baz=90,slow=12,SNR=3.6							
WRKA	**Warakurna**	**37.94**	**243**	P	**P**		**04 38 46.5**	**-0.9**
	baz=38,SNR=12							
FITZ	**Fitzroy Crossi**	**39.20**	**255**	P	**P**		**04 38 56.7**	**-1.4**
	baz=39,SNR=8.9							
FITZ	**Fitzroy Crossi**	**39.20**	**255**	*e*P	**P**		**04 38 56.6**	**-1.5**
	comp=Z,26nm,1.0s							
SANI	**Sanana**	**40.22**	**280**	P	P		04 39 11.9	+5.3
SOEI	**Soe**	**40.59**	**268**	P	**P**		**04 39 12.6**	**+2.8**
	comp=Z,37nm,1.3s							
EDFI	**Ende, Flores**	**43.22**	**269**	P	**P**		**04 39 34.8**	**+3.5**
	comp=Z,25nm,1.6s							
LUWI	**Luwuk**	**43.59**	**280**	P	**P**		**04 39 38.2**	**+4.0**
	comp=Z,101nm,1.2s,comp=Z,6μm							
DAV	**Davao City (W)**	**43.61**	**292**	LR	LR		04 57 35.6	
	comp=Z,535nm,19.6s,baz=112,slow=36							
PPT2	**Papeete2**	**43.92**	**104**	*e*LQ	LQ		04 50 05.6	
	comp=Z,3μm,26.5s							
PPT2				*e*LR	LR		04 51 59.7	
	comp=Z,3μm,22.2s,baz=280							
TBI	**Tubuai**	**44.56**	**112**	*e*S	**S**		**04 46 23.7**	**+5.8**
	comp=Z,1μm,25.8s							
TBI				*e*LQ	LQ		04 50 23.9	
	comp=Z,3μm,32.5s							
TBI				*e*LR	LR		04 52 14.3	
	comp=Z,3μm,24.8s,baz=282							
BNSI	**Bone**	**45.44**	**275**	P	**P**		**04 39 52.3**	**+3.3**
	comp=Z,42nm,1.3s							
SPSI	**Sidrap Palu**	**45.86**	**275**	P	P		04 39 59.5	+7.2
PCI	**Palu**	**46.46**	**279**	P	**P**		**04 39 58.8**	**+1.7**
MEEK	**Meekatharra**	**46.80**	**244**	P	**P**		**04 39 59.8**	**+0.2**
	baz=47,SNR=11							
PLAI	**Plampang**	**47.05**	**268**	P	**P**		**04 39 59.5**	**-2.2**
KIP	**Kipapa**	**48.14**	**48**	*e*P	**P**		**04 40 11.5**	**+1.6**
KIP				pmax	pmax			
	comp=Z,191nm,2.5s							
OPA	**Opana**	**48.30**	**48**	*e*P	**P**		**04 40 12.8**	**+1.5**
	comp=Z,207nm,0.9s							
OPA	**Opana**	**48.30**	**48**	*e*P	**P**		**04 40 12.8**	**+1.5**
OPA				pmax	pmax			
	comp=Z,207nm,0.9s							
KLBR	**Kellerberrin**	**48.58**	**237**	P	**P**		**04 40 14.0**	**+0.7**
	baz=49,SNR=10.0							
KHU	**Kahuku**	**48.65**	**52**	*e*P	**P**		**04 40 15.5**	**+1.3**
	comp=Z,158nm,1.0s							
KHU	**Kahuku**	**48.65**	**52**	*e*P	**P**		**04 40 15.5**	**+1.3**
KHU				pmax	pmax			
	comp=Z,158nm,1.0s							
MWH	**Moku'aweowe**	**48.80**	**52**	PFAKE			04 40 30.0	+14
MWH				LR	LR			
	comp=Z,5μm,19.0s							
AIN	**Ainahou**	**48.84**	**52**	*e*P	**P**		**04 40 17.1**	**+1.5**
	comp=Z,215nm,1.1s							
MLOA	**Mauna Loa Obse**	**48.85**	**52**	*e*P	**P**		**04 40 17.1**	**+1.1**
	comp=Z,104nm,1.0s							
HMH	**Humu'ula Sheep**	**48.96**	**52**	*e*P	**P**		**04 40 18.4**	**+1.7**
	comp=Z,246nm,1.0s							
WRMHI	**West Rim**	**48.99**	**52**	*e*P	**P**		**04 40 18.1**	**+1.4**
	comp=Z,70nm,0.8s							
KHLH	**Kahului Airpor**	**48.99**	**50**	*e*P	**P**		**04 40 19.0**	**+2.5**
	comp=Z,130nm,1.1s							
POHA	**Pohakuloa**	**49.01**	**52**	*e*P	**P**		**04 40 18.4**	**+1.4**
	comp=Z,95nm,0.8s							
HATHI	**Halema'uma'u T**	**49.02**	**52**	PFAKE			04 40 30.0	+13
HATHI				LR	LR			
	comp=Z,5μm,19.0s							
NWAO	**Narrogin (SRO)**	**49.34**	**236**	P	**P**		**04 40 21.4**	**+2.3**
	baz=49,SNR=5.5							
NWAO	**Narrogin (SRO)**	**49.34**	**236**	PFAKE			04 40 30.0	+11
NWAO				LR	LR			
	comp=Z,5μm,20.0s							
MORW	**Morawa**	**49.48**	**241**	P	**P**		**04 40 20.7**	**+0.4**
	baz=50,SNR=4.7							
MORW	**Morawa**	**49.48**	**241**	*e*P	**P**		**04 40 20.7**	**+0.4**
	comp=Z,106nm,1.1s							
MUN	**Mundaring**	**49.95**	**237**	P	**P**		**04 40 25.2**	**+1.4**
	baz=50,SNR=5.5							
KKM	**Kota Kinabalu**	**51.91**	**287**	P	**P**		**04 40 40.4**	**+1.5**
INU	**

TYV Tymovskoe 64.70 344 *e*P P 04 42 07.8 +0.3
TYV pmax pmax
comp=Z,200nm,6.8s
TYV pmax pmax
comp=Z,12nm,1.3s
CN2 Changchun 65.56 329 *e*P P 04 42 13.0 -0.2
CN2 pmax pmax
comp=Z,20nm,1.3s
IPM Ipoh 66.00 280 P P 04 42 17.7 +0.9
CASY Casey 66.39 201 *e*P P 04 42 18.9 +0.7
comp=Z,72nm,1.4s
GRNR Gornyy 66.49 340 *e*P P 04 42 21.2 +2.1
GRNR pmax pmax
comp=Z,25nm,1.0s
KULM Kulim 66.56 281 P P 04 42 21.1 +0.8
VNDA Vanda 66.58 181 P P 04 42 20.2 +0.9
comp=Z,10nm,1.1s,baz=341,slow=8.0,SNR=8.4
VNDA LR LR 05 09 11.2
comp=Z,487nm,18.8s,baz=2.5,slow=34
VNDA Vanda 66.58 181 *e*P P 04 42 20.4 +1.0
comp=Z,45nm,1.4s
VNDA Vanda 66.58 181 *e*P P 04 42 20.4 +1.0
VNDA pmax pmax
comp=Z,45nm,1.4s
KLR Kul'dur 66.89 337*c i*P P 04 42 21.7 0.0
NKL Nikolayevsk 67.29 344 *e*P P 04 42 24.2 +0.1
NKL pmax pmax
comp=Z,25nm,1.0s
ENH Enshi 67.68 309 *e*P P 04 42 26.7 -0.5
comp=Z,61nm,1.1s
GYA Guiyang 68.19 304⇑*i*P P 04 42 38.5 +7.9
GYA PP PP 04 45 12.0 +11
GYA S **S** **04 51 39.8 +8.4**
GYA SKS **ScS** **04 52 35.0 +4.4**
GYA Guiyang 68.19 304 SS SS 04 56 06.3 +12
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,140nm,5.8s
GYA LR LR
comp=N,710nm,18.9s
GYA LR LR
comp=E,680nm,18.6s
GYA LR LR
comp=Z,740nm,19.0s
BJT Baijiatuau 68.27 321 *e*P P 04 42 31.0 +0.4
comp=Z,42nm,1.3s
BJT Baijiatuau 68.27 321 *e*P P 04 42 31.0 +0.4
BJT pmax pmax
comp=Z,42nm,1.3s
BJI Beijing 68.28 321 P P 04 42 30.3 -0.4
PBKT Sadao Pong 69.45 292 P P 04 42 45.5 +7.1
XAN Xi'an 69.90 312 P P 04 42 40.5 -0.5
XAN pP pwP 04 42 48.8 +2.7
XAN pmax pmax
comp=Z,20nm,1.3s
XAN pmax pmax
comp=Z,650nm,11.0s
XAN LR LR
comp=Z,540nm,18.6s
XAN LR LR
comp=Z,480nm,21.7s
XAN LR LR
comp=Z,770nm,19.5s
XAN Xi'an 69.90 312 *e*P P 04 42 41.1 +0.1
comp=Z,46nm,1.4s
XAN Xi'an 69.90 312 *e*P P 04 42 41.1 +0.1
XAN pmax pmax
comp=Z,46nm,1.4s
NANT Nan 70.42 294 P P 04 42 52.1 +7.7
SRDT SRDT 70.46 290 P P 04 42 52.7 +8.0
UTHA Uthaitani 70.53 291 P P 04 42 53.1 +8.0
KMI Kunming 70.89 301 P P 04 42 49.0 +1.6
KMI pP pwP 04 42 53.3 +0.8
KMI pmax pmax
comp=Z,210nm,4.7s
KMI LR LR
comp=Z,350nm,21.1s
KMI LR LR
comp=Z,490nm,19.8s
KMI LR LR
comp=Z,770nm,20.0s
SUKH Sukhothai 70.95 293 P P 04 42 56.4 +8.8
MA2 Magadan 71.29 352 P P 04 42 48.0 -0.8
comp=Z,1.9nm,0.3s,baz=174,slow=10,SNR=3.4
MA2 Magadan 71.29 352⇑*e*P P 04 42 47.7 -1.1
MA2 pmax pmax
comp=Z,8.0nm,1.3s
HHC Hu-ho-hao-te 71.63 320 *e*P P 04 42 52.5 +1.1
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,710nm,6.4s
CM01 Chiang Mai Arr 71.86 294 *e*P P 04 42 53.5 +0.4
CM31 Chiang Mai Arr 71.88 294 *e*P P 04 42 53.8 +0.5
CMAR Chiang Mai Arr 71.88 294 P P 04 42 53.8 +0.5
comp=Z,3.5nm,0.8s,baz=116,slow=4.3,SNR=13
CMAR LR LR 05 16 10.4
comp=Z,164nm,18.0s,baz=290,slow=37
CMMT Chiang Mai 71.99 294 P P 04 43 01.5 +7.6
CHTO Chiang Mai 71.99 294 P P 04 43 01.6 +7.7
ZEA Zeya 72.18 337 *e*P P 04 42 54.4 +0.1
ZEA pmax pmax
comp=N,37nm,1.4s
ZEA pmax pmax
comp=Z,55nm,1.4s
HIA Hailar 72.19 330*c i*P P 04 42 54.4 -0.1
HIA pmax pmax
comp=Z,24nm,1.5s
CD2 Chengdu 72.38 307 *e*P P 04 42 56.5 +0.4
SEY Seymchan 74.36 354⇑*e*P P 04 43 06.7 -0.3
LZH Lanzhou 74.54 312 *e*P P 04 43 10.3 +1.5
LZH pP PcP 04 43 24.3 +1.0
LZH *e*S **S** 04 52 47.0 +2.4
LZH SS **SS** 04 57 22.5 -9.3
LZH pmax pmax
comp=Z,28nm,1.0s
LZH pmax pmax
comp=Z,150nm,5.7s
LZH LR LR
comp=Z,1μm,14.6s
LZH LR LR
comp=Z,920nm,13.6s
LZH LR LR
comp=Z,1μm,16.8s
GAMB Gambell 76.52 10 *e*P P 04 43 20.2 +0.9
comp=Z,28nm,1.0s
KDAK Kodiak Island 76.57 22 P P 04 43 19.7 0.0
comp=Z,26nm,0.9s,baz=225,slow=7.1,SNR=6.1
KDAK Kodiak Island 76.57 22 *e*P P 04 43 19.7 0.0
comp=Z,118nm,1.4s
KDAK Kodiak Island 76.57 22 *i* P P 04 43 20.0 +0.2
ULN Ulaanbaatar 78.10 324 *e*P P 04 43 28.4 -0.4
comp=Z,16nm,1.0s
ULN Ulaanbaatar 78.10 324*c i*P P 04 43 29.0 +0.2
ULN pmax pmax
comp=Z,16nm,1.0s
ANM Nome 78.45 12 *e*P P 04 43 30.6 +0.5
comp=Z,37nm,1.4s
ANM Nome 78.45 12 *e*P P 04 43 30.6 +0.5
ANM pmax pmax
comp=Z,37nm,1.4s
SONA0 Songino Array 78.47 324 *e*P P 04 43 30.8 0.0
SONM Songino Array 78.47 324 P P 04 43 30.8 0.0
comp=Z,4.6nm,0.9s,baz=144,slow=6.5,SNR=12
SONA1 Songino Array 78.47 324 *e*P P 04 43 30.8 -0.1
RSO Redoubt South 78.51 20 *e*P P 04 43 30.3 -0.6
BRLK Bradley Lake 78.63 21 *e*P P 04 43 31.6 +0.3
comp=Z,51nm,1.1s
BILL Bilibino 78.79 0 *e*P P 04 43 31.6 -0.4
comp=Z,37nm,0.9s
BILL Bilibino 78.79 0*c i*P P 04 43 31.8 -0.2
BILL pmax pmax
comp=Z,78nm,1.7s
GTA Gaotai 78.84 314 ⇑P P 04 43 33.5 +0.4
GTA pP pwP 04 43 39.0 +0.8
GTA PP **PP** **04 46 35.5 +3.7**
GTA pmax pmax
comp=Z,240nm,5.5s
GTA LR LR
comp=Z,810nm,17.5s
GTA LR LR
comp=Z,480nm,18.5s
GTA LR LR
comp=Z,640nm,18.6s
QSPA South Pole Qui 79.05 180 *e*P P 04 43 34.1 +0.3
comp=Z,48nm,1.1s
SUA Susitna One 79.91 20 *e*P P 04 43 38.0 -0.4
comp=Z,48nm,1.3s
BOD Bodaibo 80.36 335 *e*P P 04 43 40.0 -0.7
BOD pmax pmax
comp=Z,18nm,1.9s
PMR Palmer 80.54 20 *e*P P 04 43 41.6 0.0
comp=Z,32nm,1.0s
PMR Palmer 80.54 20 *e*P P 04 43 41.6 0.0
PMR pmax pmax
comp=Z,32nm,1.0s
KNK Knik Glacier 80.65 21 *e*P P 04 43 42.5 +0.3
comp=Z,51nm,1.3s
CAST Castle Rocks 80.93 18 *e*P P 04 43 43.0 -0.7
comp=Z,16nm,0.8s
SML Sawmill 80.97 20 *e*P P 04 43 44.3 +0.3
comp=Z,78nm,1.4s
SML Sawmill 80.97 20 *e*P P 04 43 44.3 +0.3
SML pmax pmax
comp=Z,79nm,1.4s
DIV Divide 81.40 22 *e*P P 04 43 46.7 +0.4
comp=Z,61nm,1.0s
TRF Thorofare Moun 81.50 18 *e*P P 04 43 46.0 -0.9
comp=Z,45nm,1.5s
ZAK Zakamensk 81.51 325 *e*P P 04 43 46.0 -1.2
ZAK pmax pmax
comp=Z,7.0nm,1.3s
KLU Klutina 81.59 21 *e*P P 04 43 47.8 +0.5
comp=Z,44nm,1.1s
BMRM Bremner River 81.72 22 *e*P P 04 43 46.1 -1.9
comp=Z,8.8nm,0.8s
BPAW Bear Paw Mtn. 81.76 18 *e*P P 04 43 47.0 -1.1
comp=Z,22nm,1.5s
RND Reindeer 81.92 19 *e*P P 04 43 48.7 -0.3
comp=Z,47nm,1.1s
RND Reindeer 81.92 19 *e*P P 04 43 48.7 -0.3
RND pmax pmax
comp=Z,47nm,1.1s
TLY Talaya 81.93 326⇑*i*P P 04 43 48.4 -0.9
RDOG Red Dog Mine 81.98 11 *e*P P 04 43 50.2 +1.0
comp=Z,21nm,0.9s
MCK McKinley 82.13 19 *e*P P 04 43 49.6 -0.4
comp=Z,43nm,1.2s
MCK McKinley 82.13 19 *e*P P 04 43 49.6 -0.4
MCK pmax pmax
comp=Z,43nm,1.2s
DHY Denali Highway 82.17 20 *e*P P 04 43 50.5 +0.1
comp=Z,39nm,1.3s
IM3 Indian Mountai 82.39 16 *e*P P 04 43 50.8 -0.5
HARP HAARP 82.47 21 *e*P P 04 43 52.5 +0.7
comp=Z,62nm,1.0s
MLY Manley 82.52 17 *e*P P 04 43 52.0 -0.1
comp=Z,15nm,1.2s
MCCM Marconi Confer 82.62 49 *e*P P 04 43 53.7 +0.6
comp=Z,81nm,0.8s
KCPM Cahto Peak 82.64 47 *e*P P 04 43 54.0 +0.6
comp=Z,68nm,0.8s
PAX Paxson 82.74 20 PFAKE 04 44 00.0 +6.7
PAX LR LR
comp=Z,500nm,18.0s
KMRM Mail Ridge 82.74 47 *e*P P 04 43 55.2 +1.4
comp=Z,82nm,0.9s
HOPS Hopland Field 82.77 48 *e*P P 04 43 54.8 +0.9
comp=Z,67nm,1.1s
PCA Pinnacle 82.86 24 *e*P P 04 43 54.5 +0.5
comp=Z,101nm,1.0s
WRH Wood River Hil 82.91 18 *e*P P 04 43 53.5 -0.5
comp=Z,20nm,1.0s
GDXM Geysers 82.91 48 *e*P P 04 43 56.0 +1.3
comp=Z,37nm,0.9s
KHMM Horse Mountain 82.96 46 *e*P P 04 43 56.5 +1.4
comp=Z,67nm,1.1s
MDM Murphy Dome 83.21 18 *e*P P 04 43 54.7 -1.0
comp=Z,31nm,1.0s
HDA Harding Lake 83.23 19 *e*P P 04 43 55.3 -0.4
comp=Z,79nm,1.1s
HDA Harding Lake 83.23 19 P P 04 43 55.1 -0.6
baz=227
SAO San Andreas Ge 83.24 51 *e*P P 04 43 57.2 +0.8
comp=Z,41nm,0.9s
SAO LR LR
comp=Z,2μm,19.0s
TCOL CIGO, UAF Yank 83.26 18 P P 04 43 55.0 -0.9
baz=226
COLA College 83.27 18 *e*P P 04 43 55.4 -0.5
comp=Z,28nm,0.9s
COLA College 83.27 18*c i*P P 04 43 54.7 -1.1
COLA pmax pmax
comp=Z,27nm,1.0s
SIT Sitka 83.28 28 PFAKE 04 44 10.0 +14
SIT LR LR
comp=Z,2μm,19.0s
O02D Mt. Diablo Mer 83.39 47 P P 04 43 58.1 +0.9
baz=250,SNR=20
RIDG Independ'e Rid 83.46 20 *e*P P 04 43 57.1 0.0
comp=Z,70nm,1.4s
ILAR Eielson Array 83.49 19 P P 04 43 56.0 -1.0
comp=Z,8.5nm,0.8s,baz=236,slow=5.4,SNR=75
ILAR PP **PP** 04 47 10.1 +0.6
comp=Z,3.5nm,1.2s,baz=234,slow=7.7,SNR=5.1
ILB Eielson Array 83.49 19 *e*P P 04 43 56.0 -1.0
ILB *e*PP **PP** 04 47 10.1 +0.6
IL1 Eielson Array 83.50 19 *e*P P 04 43 55.9 -1.1
L02E Cave Junction 83.51 45 P P 04 43 57.8 +0.1
baz=249
POKR Poker Plat Res 83.56 18 P P 04 43 56.5 -0.9
baz=226
J01E Myrtle Point 83.64 44 P P 04 43 58.9 +0.6
baz=249,SNR=5.1
K02D Willamette Mer 83.66 44 P P 04 43 59.0 +0.5
baz=249,SNR=14
WDC Whiskeytown Da 83.70 47 *e*P P 04 43 59.1 +0.4
comp=Z,18nm,0.9s
WDC Whiskeytown Da 83.70 47 *e*P P 04 43 59.1 +0.4
WDC pmax pmax
comp=Z,18nm,0.9s
N02D Trinity Center 83.72 46 P P 04 43 59.7 +0.8
baz=250,SNR=20
M02C Callahan 83.76 46 P P 04 44 00.0 +0.9
baz=250,SNR=15
SCZ2 Santa Cruz Isl 83.78 54 P P 04 43 59.4 +0.1
baz=252
PAGB Antelope Grade 83.83 52 *e*P P 04 44 00.5 +1.0
comp=Z,29nm,1.1s
SBC Santa Barbara 83.85 53 P P 04 43 59.7 +0.2
baz=252
SMMC Simmler 83.90 52 P P 04 44 00.5 +0.6
baz=252,SNR=6.1
SCRK Sand Creek 83.90 20 *e*P P 04 43 59.5 +0.2
comp=Z,73nm,1.2s
PKM Mcpherson Peak 83.91 53 P P 04 44 00.7 +0.6
baz=252,SNR=16
YBH Yreka Blue Hor 83.98 46 P P 04 44 00.8 +0.6
comp=Z,35nm,0.9s,baz=243,slow=4.5,SNR=56
YBH Yreka Blue Hor 83.98 46 *e*P P 04 44 00.8 +0.6
comp=Z,47nm,0.9s
ORV Oroville 84.11 48 *e*P P 04 44 00.7 -0.1
comp=Z,31nm,0.9s
ORV Oroville 84.11 48 *e*P P 04 44 00.7 -0.1
ORV pmax pmax
comp=Z,31nm,0.9s
HUMO Hull Mountain 84.11 45 *e*P P 04 44 01.9 +1.1
comp=Z,48nm,0.9s
O03E Paynes Creek 84.14 47 P P 04 44 01.0 -0.1
baz=250,SNR=32
I03D Drain, OR 84.23 44 P P 04 44 01.7 +0.4
baz=249,SNR=5.5
BLG Laguna Peak, P 84.26 54 P P 04 44 01.3 -0.5
baz=253
COLD Coldfoot 84.27 16 *e*P P 04 44 02.6 +1.6
comp=Z,12nm,1.1s
BESE Bessie Mountai 84.30 27 *e*P P 04 44 02.1 +0.8
comp=Z,71nm,1.2s
AFDM Forest Hills D 84.30 49 *e*P P 04 44 01.9 +0.1
comp=Z,64nm,1.0s
SCI2 San Clemente I 84.35 55 P P 04 44 02.4 +0.2
baz=253
WRAK Wrangell Islan 84.36 30 *e*P P 04 44 01.9 +0.2
comp=Z,48nm,1.1s
HYT Haines Junctio 84.39 24 *e*P P 04 44 02.5 +0.6
comp=Z,35nm,1.0s
PRP Porcupine Dome 84.43 18 *e*P P 04 44 02.8 +0.8
comp=Z,16nm,1.4s
L04D Klamath Falls 84.43 45 P P 04 44 02.8 +0.2
baz=250,SNR=14
CMB Columbia Colle 84.44 50 *e*P P 04 44 02.7 +0.1
comp=Z,35nm,0.9s
CMB Columbia Colle 84.44 50 *e*P P 04 44 02.7 +0.1
CMB pmax pmax
comp=Z,35nm,0.9s
SKAG Skagway 84.55 26 *e*P P 04 44 03.9 +1.3
comp=Z,56nm,1.1s
CIS Catalina Islan 84.58 55 P P 04 44 02.9 -0.4
baz=253
M04C Macdoel 84.61 46 P P 04 44 03.7 +0.2
baz=250,SNR=22
VOG Valley Oaks Go 84.68 52 P P 04 44 03.8 +0.1
baz=252
OSI Osito Audit: C 84.68 53 P P 04 44 04.2 +0.3
baz=253
ARVC Arvin 84.75 53 P P 04 44 04.4 +0.2
baz=253,SNR=7.3
FMP Fort Macarthur 84.76 54 P P 04 44 04.1 -0.1
baz=253
VES Vestal, Richgr 84.76 52 P P 04 44 04.0 -0.2
baz=253,SNR=12
G03D McMinnville, O 84.83 42 P P 04 44 04.3 0.0
baz=249
DECC Green Verdugo 84.89 54 P P 04 44 04.8 -0.1
baz=253
I04A Tendick Farm, 84.90 44 P P 04 44 04.7 -0.1
baz=250,SNR=9.2
KNGR Kungurtug, Tuv 84.91 324⇑*i*P P 04 44 03.8 -0.9
J04D Umpqua Nationa 84.92 44 P P 04 44 05.4 +0.3
baz=250,SNR=16
H04D Lebanon 84.94 43 P P 04 44 05.2 +0.4
baz=250,SNR=7.4
K04D Chiloquin, OR 84.95 45 P P 04 44 05.6 +0.4
baz=250
PASC Pasadena Art C 84.98 54 *e*P P 04 44 05.7 +0.4
comp=Z,20nm,0.8s
BEKR Beckworth 85.04 48 *e*P P 04 44 06.0 +0.2
comp=Z,30nm,0.8s
MWC Mount Wilson 85.10 54 *e*P P 04 44 06.1 -0.1
comp=Z,34nm,0.9s
MWC Mount Wilson 85.10 54 *e*P P 04 44 06.1 -0.1
MWC pmax pmax
comp=Z,34nm,0.9s
ISA Isabella, Lake 85.19 52 *e*P P 04 44 06.6 +0.2
comp=Z,32nm,0.9s
ISA Isabella, Lake 85.19 52 *e*P P 04 44 06.6 +0.2
ISA pmax pmax
comp=Z,32nm,0.9s
ISA Isabella, Lake 85.19 52 P P 04 44 06.6 +0.2
baz=253,SNR=24
FYU Fort Yukon 85.22 18 *e*P P 04 44 07.3 +1.6
comp=Z,22nm,1.2s
NLWA Neilton Lookou 85.23 40 *e*P P 04 44 07.3 +0.9
comp=Z,44nm,1.3s
WAKR Walker 85.30 50 *e*P P 04 44 07.7 +0.6
comp=Z,93nm,1.4s
MDPB Devils Postpil 85.31 50 *e*P P 04 44 07.4 +0.2
comp=Z,50nm,0.9s
F04D Rainier, OR 85.31 41 P P 04 44 07.3 +0.6
baz=249
EDW2 Edwards Air Fo 85.34 53 P P 04 44 07.5 +0.3
baz=253,SNR=48
OMMB Old Mammoth Mi 85.36 50 *e*P P 04 44 07.8 +0.2
comp=Z,43nm,1.2s
PNTR Pine Nut 85.36 49 *e*P P 04 44 07.8 +0.3
comp=Z,36nm,0.9s
H04A Detroit Lake 85.36 43 *e*P P 04 44 06.8 -0.2
comp=Z,50nm,1.3s
WHY Whitehorse 85.38 25 *e*P P 04 44 06.7 -0.2
comp=Z,30nm,1.5s
VCNR Virginia City 85.39 49 *e*P P 04 44 07.8 +0.3
comp=Z,17nm,0.9s
BFSC Mount Baldy Ra 85.42 54 P P 04 44 07.7 0.0
baz=254,SNR=27
109C Camp Elliot, M 85.49 55 P P 04 44 08.1 +0.3
baz=254
CPE Camp Elliot 85.49 55 *e*P P 04 44 08.5 +0.7
comp=Z,60nm,1.4s
MLAC Mammoth, Mammo 85.49 50 P P 04 44 08.4 +0.3
baz=253,SNR=9.7
J05D Fort Rock, OR 85.53 45 P P 04 44 08.6 +0.5
baz=251,SNR=37
DAWY Dawson 85.55 21 *e*P P 04 44 07.8 +0.3
comp=Z,33nm,1.0s
YERR Yerington 85.59 49 *e*P P 04 44 08.7 +0.1
comp=Z,20nm,0.9s
MURC Murrieta 85.61 55 P P 04 44 08.6 0.0
baz=254,SNR=8.8
PAHR Pah Rah Range 85.71 48 *e*P P 04 44 09.3 +0.3
comp=Z,36nm,1.0s
CWC Cottonwood Cre 85.72 52 P P 04 44 09.3 +0.1
baz=253
MOD Modoc Plateau 85.73 46 *e*P P 04 44 09.2 +0.1
comp=Z,30nm,0.9s
LRMC Laurel Mtn Rad 85.75 53 P P 04 44 09.7 +0.3
baz=254,SNR=27
E04D Cinebar 85.77 41 P P 04 44 09.6 +0.6
baz=249
D03D Eldon 85.78 40 P P 04 44 09.4 +0.4
baz=249
BAR Barrett 85.78 56 *e*P P 04 44 09.6 +0.2
comp=Z,15nm,0.9s
TIN Tinemaha, Big 85.78 51 P P 04 44 09.9 +0.5
baz=253,SNR=5.6
I05D Terrebonne, OR 85.81 44 P P 04 44 09.6 +0.2
baz=250,SNR=9.9
D04E Lakebay 85.85 40 P P 04 44 10.0 +0.7
baz=249
PINE Pine Mountain 85.90 44 *e*P P 04 44 10.4 +0.4
comp=Z,50nm,0.9s
PGC Sidney 85.96 39 *e*P P 04 44 10.4 +0.6
comp=Z,54nm,1.1s
TIXI Tiksi 85.96 349 P P 04 44 08.6 -0.8
baz=140,slow=3.8
TIXI Tiksi 85.96 349 *e*P P 04 44 08.0 -1.4
comp=Z,13nm,1.1s
TIXI Tiksi 85.96 349*ce*P P 04 44 08.5 -0.8
TIXI pmax pmax
comp=Z,21nm,1.7s
BBRC Big Bear Solar 86.01 54 P P 04 44 10.7 0.0
baz=254
RYN Ryan 86.02 50 *e*P P 04 44 10.9 +0.2
comp=Z,32nm,1.0s
MONP2 Monument Peak 86.04 56 P P 04 44 11.4 +0.5
baz=254,SNR=26
MPMC Manual Prospec 86.07 52 P P 04 44 11.2 +0.2
baz=254,SNR=27
RRX Edison Barstow 86.12 54 P P 04 44 11.2 +0.1
baz=254
NV01 Mina Array Sit 86.13 50 *e*P P 04 44 10.7 -0.5
NVAR Mina Array Bea 86.13 50 P P 04 44 11.3 +0.1
comp=Z,33nm,0.9s,baz=232,slow=8.2,SNR=125
G05D Wamic, OR 86.13 43 P P 04 44 11.2 +0.3
baz=250,SNR=7.5
PFO Pinyon Flats O 86.20 55 *e*P P 04 44 11.7 +0.1
comp=Z,18nm,0.8s
PFO Pinyon Flats O 86.20 55 P P 04 44 11.7 +0.1
baz=254,SNR=17
XPFO Pion Flat 86.21 55 *e*P P 04 44 11.7 +0.1
comp=Z,19nm,0.8s
IKP In-Ko-Pah, Jac 86.23 56 P P 04 44 12.1 +0.4
baz=255,SNR=13
NV11 Mina Array Sit 86.24 50 *e*P P 04 44 11.8 +0.1
comp=Z,3.7nm,1.0s
NV11 LR LR
comp=Z,200nm,18.0s
F05D White Salmon 86.25 42 P P 04 44 11.5 +0.1
baz=250
LON Longmire 86.32 41 *e*P P 04 44 11.7 -0.1
comp=Z,30nm,1.4s
LON Longmire 86.32 41 *e*P P 04 44 11.7 -0.1
LON pmax pmax
comp=Z,30nm,1.4s
GSC Goldstone, Bar 86.39 53 *e*P P 04 44 12.5 +0.1
comp=Z,44nm,1.4s
GSC Goldstone, Bar 86.39 53 *e*P P 04 44 12.5 +0.1
GSC pmax pmax
comp=Z,44nm,1.4s
GSC Goldstone, Bar 86.39 53 P P 04 44 12.7 +0.3
baz=254,SNR=16
GRAC Grapevine Rang 86.43 51 P P 04 44 12.9 +0.4
baz=254,SNR=11
DLBC Dease Lake 86.43 28 P P 04 44 11.2 -0.8
comp=Z,16nm,1.1s,baz=250,slow=8.0,SNR=7.8
DLBC Dease Lake 86.43 28 *e*P P 04 44 11.6 -0.5
comp=Z,20nm,1.2s
A04D Lummi Island 86.44 39 P P 04 44 12.8 +0.6
baz=249
KVN Kaiserville 86.46 49 *e*P P 04 44 12.9 +0.1
comp=Z,31nm,1.0s

KVN	**Kaiserville**	**86.46**	**49**	*e*P		**P**		**04 44 12.9**	**+0.1**
KVN				pmax		pmax			
	comp=Z,31nm,1.0s								
SWSC	**Sam W. Stewart**	**86.56**	**56**	P		**P**		**04 44 13.6**	**+0.4**
	baz=255,SNR=18								
HEC	**Hector,Ludlow**	**86.63**	**54**	P		**P**		**04 44 13.6**	**0.0**
	baz=254,SNR=11								
B05A	**Bryant**	**86.66**	**40**	P		**P**		**04 44 13.5**	**+0.2**
	baz=250								
FURC	**Furnace Creek,**	**86.67**	**52**	P		**P**		**04 44 14.0**	**+0.4**
	baz=254,SNR=31								
BELC	**Belle Mtn. Jos**	**86.68**	**55**	P		**P**		**04 44 14.4**	**+0.4**
	baz=255,SNR=32								
SHOC	**Shoshone, Teco**	**86.97**	**53**	P		**P**		**04 44 15.2**	**0.0**
	baz=254,SNR=14								
I07A	**Izee**	**86.98**	**44**	*e*P		**P**		**04 44 15.4**	**+0.3**
	comp=Z,29nm,0.9s								
BC3	**Big Chuckawall**	**87.02**	**55**	P		**P**		**04 44 16.2**	**+0.6**
	baz=255,SNR=25								
WVOR	**Wild Horse Val**	**87.08**	**46**	*e*P		**P**		**04 44 15.9**	**+0.2**
	comp=Z,50nm,1.2s								
WVOR	**Wild Horse Val**	**87.08**	**46**	*e*P		**P**		**04 44 15.9**	**+0.2**
WVOR				pmax		pmax			
	comp=Z,50nm,1.2s								
TUQ	**Turquoise Moun**	**87.12**	**53**	P		**P**		**04 44 16.2**	**+0.1**
	baz=255,SNR=13								
B06A	**Marblemount**	**87.13**	**40**	*e*P		**P**		**04 44 15.4**	**-0.2**
	comp=Z,27nm,1.2s								
GMRC	**Granite Mounta**	**87.16**	**54**	P		**P**		**04 44 16.3**	**0.0**
	baz=255,SNR=19								
LTY	**Liberty**	**87.23**	**41**	*e*P		**P**		**04 44 15.8**	**-0.4**
	comp=Z,17nm,0.9s								
F07A	**Phinny Hill Vi**	**87.27**	**42**	*e*P		**P**		**04 44 16.9**	**+0.6**
	comp=Z,33nm,1.0s								
TPNV	**Topopah Spring**	**87.27**	**52**	*e*P		**P**		**04 44 16.9**	**+0.1**
	comp=Z,14nm,0.9s								
TPNV				LR		LR			
	comp=Z,2µm,19.0s								
TPNV	**Topopah Spring**	**87.27**	**52**	*e*P		**P**		**04 44 17.0**	**+0.1**
TPNV				pmax		pmax			
	comp=Z,14nm,0.9s								
TPNV				MLR		MLR			
	comp=Z,2µm,19.0s								
TPNV	**Topopah Spring**	**87.27**	**52**	P		**P**		**04 44 16.9**	**+0.1**
	baz=254,SNR=15								
C06D	**Leavenworth**	**87.30**	**40**	P		**P**		**04 44 16.1**	**-0.4**
	baz=251								
GLA	**Glamis**	**87.38**	**56**	*e*P		**P**		**04 44 17.3**	**0.0**
	comp=Z,51nm,0.9s								
GLA	**Glamis**	**87.38**	**56**	*e*P		**P**		**04 44 17.3**	**0.0**
GLA				pmax		pmax			
	comp=Z,51nm,0.9s								
GLA	**Glamis**	**87.38**	**56**	P		**P**		**04 44 18.2**	**+1.0**
	baz=255,SNR=18								
IRM	**Iron Mountain**	**87.40**	**55**	P		**P**		**04 44 17.9**	**+0.5**
	baz=255,SNR=39								
J08A	**Circle Bar Ran**	**87.47**	**45**	*e*P		**P**		**04 44 14.7**	**-2.9**
	comp=Z,39nm,1.0s								
E07A	**Sunnyside**	**87.53**	**42**	*e*P		**P**		**04 44 17.9**	**+0.2**
	comp=Z,34nm,1.0s								
LLLB	**Lillooet**	**87.61**	**37**	*e*P		**P**		**04 44 18.2**	**+0.2**
	comp=Z,17nm,1.0s								
LLLB				LR		LR			
	comp=Z,1µm,19.0s								
LDFC	**Landfair**	**87.67**	**54**	*e*P		**P**		**04 44 19.2**	**+0.5**
	comp=Z,125nm,1.3s								
HAWA	**Hanford**	**87.69**	**42**	*e*P		**P**		**04 44 18.4**	**+0.1**
	comp=Z,34nm,1.1s								
G08A	**Pilot Rock**	**87.72**	**43**	*e*P		**P**		**04 44 18.7**	**0.0**
	comp=Z,41nm,1.0s								
Y12C	**Blythe**	**87.80**	**55**	*e*P		**P**		**04 44 19.8**	**+0.6**
	comp=Z,53nm,1.0s								
Y12C	**Blythe**	**87.80**	**55**	P		**P**		**04 44 19.7**	**+0.6**
	baz=255,SNR=24								
NEE2	**Needles Airpor**	**87.98**	**54**	P		**P**		**04 44 20.3**	**+0.3**
	baz=255								
SHPR	**Sheep Range**	**88.00**	**52**	*e*P		**P**		**04 44 20.7**	**+0.4**
	comp=Z,26nm,1.2s								
SHPR				LR		LR			
	comp=Z,2µm,19.0s								
E08A	**Dider Farm, El**	**88.03**	**42**	*e*P		**P**		**04 44 20.2**	**+0.2**
	comp=Z,51nm,1.1s								
R11A	**Troy Canyon, C**	**88.16**	**51**	*e*P		**P**		**04 44 21.0**	**0.0**
	comp=Z,24nm,1.2s								
R11A				LR		LR			
	comp=Z,2µm,20.0s								
R11A	**Troy Canyon, C**	**88.16**	**51**	P		**P**		**04 44 21.1**	**0.0**
	baz=255,SNR=25								
113A	**Mohawk Valley,**	**88.17**	**56**	*e*P		**P**		**04 44 21.5**	**+0.5**
	comp=Z,27nm,1.0s								
PDMCI	**Parker Dam,Lak**	**88.24**	**55**	P		**P**		**04 44 21.8**	**+0.5**
	baz=256,SNR=35								
D08A	**Wollman Farm,**	**88.29**	**41**	*e*P		**P**		**04 44 21.5**	**+0.2**
	comp=Z,24nm,1.0s								
B08A	**Colville Reser**	**88.43**	**40**	*e*P		**P**		**04 44 21.4**	**-0.5**
	comp=Z,25nm,1.1s								
E09A	**Wood Farm, Sta**	**88.64**	**42**	*e*P		**P**		**04 44 22.9**	**0.0**
	comp=Z,19nm,0.9s								
W13A	**Hualapai Mount**	**88.64**	**54**	*e*P		**P**		**04 44 24.0**	**+0.5**
	comp=Z,52nm,1.4s								
BMO	**Blue Mountains**	**88.71**	**44**	*e*P		**P**		**04 44 23.2**	**-0.2**
	comp=Z,16nm,1.0s								
BMO	**Blue Mountains**	**88.71**	**44**	*e*P		**P**		**04 44 23.2**	**-0.2**
BMO				pmax		pmax			
	comp=Z,16nm,1.0s								
214A	**Organ Pipe Nat**	**88.76**	**57**	P		**P**		**04 44 24.7**	**+0.8**
	baz=256								
WMQ	**Urumqi**	**88.88**	**315**	P		**P**		**04 44 23.5**	**-0.7**
WMQ				pP		pwP		04 44 30.5	+1.2
WMQ				sP		sP		04 44 40.5	+13
WMQ				pmax		pmax			
	comp=Z,18nm,1.7s								
WMQ				pmax		pmax			
	comp=Z,700nm,11.1s								
WMQ				LR		LR			
	comp=Z,810nm,25.7s								
WMQ				LR		LR			
	comp=Z,1µm,20.5s								
WMQ				LR		LR			
	comp=Z,740nm,21.7s								
C09A	**Chrisman Ranch**	**88.94**	**41**	*e*P		**P**		**04 44 24.1**	**-0.2**
	comp=Z,23nm,1.4s								
ELK	**Elko**	**89.05**	**48**	*e*P		**P**		**04 44 25.5**	**+0.2**
ELK	**Elko**	**89.05**	**48**	*e*P		**P**		**04 44 25.5**	**+0.2**
Y14A	**Wickenburg**	**89.07**	**55**	*e*P		**P**		**04 44 25.7**	**+0.4**
	comp=Z,28nm,1.3s								
F10A	**Beach Ranch, E**	**89.09**	**43**	*e*P		**P**		**04 44 24.9**	**-0.2**
	comp=Z,20nm,0.8s								
SLBS	**Sierra La Lagu**	**89.40**	**66**	*e*P		**P**		**04 44 28.0**	**+0.9**
	comp=Z,27nm,0.9s								
PSUT	**Pine Spring**	**89.52**	**51**	*e*P		**P**		**04 44 27.8**	**+0.4**
	comp=Z,18nm,0.9s								
PSUT				LR		LR			
	comp=Z,2µm,19.0s								
LCMT	**Little Creek M**	**89.61**	**52**	*e*P		**P**		**04 44 28.5**	**+0.6**
	comp=Z,35nm,1.0s								
CCUT	**Cedar City**	**89.65**	**52**	*e*P		**P**		**04 44 28.9**	**+0.7**
	comp=Z,34nm,1.0s								
HSIG		**89.66**	**60**	PFAKE				04 44 40.0	+12
HSIG				LR		LR			
	comp=Z,2µm,19.0s								
NEW	**Newport**	**89.81**	**41**	P		**P**		**04 44 28.0**	**-0.4**
	comp=Z,7.8nm,0.8s,baz=280,slow=1.8,SNR=13								
NEW	**Newport**	**89.81**	**41**	*e*P		**P**		**04 44 28.1**	**-0.4**
	comp=Z,12nm,0.9s								
NEW	**Newport**	**89.81**	**41**	P		**P**		**04 44 28.3**	**-0.2**
	baz=253								
SZCU	**Shurtz Canyon**	**89.88**	**52**	*e*P		**P**		**04 44 30.0**	**+0.8**
	comp=Z,33nm,1.0s								
INK	**Inuvik**	**89.89**	**19**	P		**P**		**04 44 26.9**	**-1.3**
	comp=Z,6.2nm,1.2s,baz=267,slow=17,SNR=5.4								
INK	**Inuvik**	**89.89**	**19**	*e*P		**P**		**04 44 27.3**	**-0.9**
	comp=Z,11nm,1.2s								
INK	**Inuvik**	**89.89**	**19**	*e*P		**P**		**04 44 27.3**	**-0.9**
INK				pmax		pmax			
	comp=Z,11nm,1.2s								
KNB	**Kanab**	**89.94**	**52**	*e*P		**P**		**04 44 30.8**	**+1.3**
	comp=Z,57nm,1.2s								
KNB	**Kanab**	**89.94**	**52**	*e*P		**P**		**04 44 30.8**	**+1.3**
KNB				pmax		pmax			
	comp=Z,57nm,1.2s								
U15A	**North Rim**	**90.22**	**53**	*e*P		**P**		**04 44 31.8**	**+0.8**
	comp=Z,53nm,0.9s								
HLID	**Hailey**	**90.37**	**46**	*e*P		**P**		**04 44 31.8**	**+0.5**
	comp=Z,21nm,0.9s								
HLID	**Hailey**	**90.37**	**46**	P		**P**		**04 44 31.8**	**+0.5**
	baz=255								
PKCU	**Pink Cliffs**	**90.44**	**52**	*e*P		**P**		**04 44 33.5**	**+1.5**
	comp=Z,67nm,1.1s								
X16A	**Lo Mia Camp, P**	**90.44**	**55**	*e*P		**P**		**04 44 32.7**	**+0.8**
	comp=Z,26nm,0.9s								
TUC	**Tucson**	**90.51**	**57**	*e*P		**P**		**04 44 32.9**	**+0.8**
	comp=Z,21nm,1.0s								
TUC	**Tucson**	**90.51**	**57**	*e*P		**P**		**04 44 32.9**	**+0.8**
TUC				pmax		pmax			
	comp=Z,21nm,1.0s								
TUC	**Tucson**	**90.51**	**57**	P		**P**		**04 44 32.7**	**+0.6**
	baz=258								
TCRU	**Three Creeks R**	**90.61**	**51**	*e*P		**P**		**04 44 34.1**	**+1.5**
	comp=Z,45nm,0.9s								
MTPU	**Mount Pierson**	**90.67**	**51**	*e*P		**P**		**04 44 34.4**	**+1.3**
	comp=Z,39nm,0.9s								
DGZ	**Jazzator, Alta**	**90.69**	**321**	*c i*P		**P**		**04 44 31.5**	**-1.1**
DGZ				pmax		pmax			
	comp=Z,3.0nm,1.1s								
DUG	**Dugway, Tooele**	**90.70**	**49**	*e*P		**P**		**04 44 33.0**	**+0.2**
	comp=Z,16nm,0.9s								
DUG	**Dugway, Tooele**	**90.70**	**49**	*e*P		**P**		**04 44 33.1**	**+0.2**
DUG				pmax		pmax			
	comp=Z,16nm,0.9s								
DUG	**Dugway, Tooele**	**90.70**	**49**	P		**P**		**04 44 33.3**	**+0.4**
	baz=256								
BGU	**Big Grassy Mou**	**90.71**	**49**	*e*P		**P**		**04 44 33.2**	**+0.3**
	comp=Z,23nm,1.1s								
WUAZ	**Wupatki**	**90.74**	**54**	*e*P		**P**		**04 44 33.9**	**+0.7**
	comp=Z,41nm,1.0s								
WUAZ	**Wupatki**	**90.74**	**54**	P		**P**		**04 44 33.8**	**+0.6**
	baz=257								
MSU	**Marysvale**	**90.79**	**51**	*e*P		**P**		**04 44 34.5**	**+1.0**
MSU	**Marysvale**	**90.79**	**51**	*e*P		**P**		**04 44 34.5**	**+1.0**
HVU	**Hansel Valley**	**91.10**	**48**	*e*P		**P**		**04 44 35.2**	**+0.5**
	comp=Z,45nm,1.0s								
HVU	**Hansel Valley**	**91.10**	**48**	*e*P		**P**		**04 44 35.2**	**+0.5**
HVU				pmax		pmax			
	comp=Z,45nm,1.0s								
NLU	**North Lily Min**	**91.20**	**50**	*e*P		**P**		**04 44 35.7**	**+0.4**
	comp=Z,30nm,1.0s								
319A	**Douglas**	**91.57**	**58**	*e*P		**P**		**04 44 38.0**	**+0.9**
	comp=Z,30nm,1.0s								
319A				LR		LR			
	comp=Z,2µm,19.0s								
CTU	**Camp Tracy**	**91.61**	**49**	*e*P		**P**		**04 44 37.5**	**+0.3**
	comp=Z,24nm,1.0s								
Q16A	**Castle Valley**	**91.65**	**51**	*e*P		**P**		**04 44 38.7**	**+1.3**
	comp=Z,29nm,1.1s								
X18A	**Snowflake**	**91.67**	**55**	*e*P		**P**		**04 44 38.3**	**+0.7**
	comp=Z,18nm,1.0s								
X18A				LR		LR			
	comp=Z,1µm,18.0s								
JLU	**Jordanelle**	**91.81**	**49**	*e*P		**P**		**04 44 38.6**	**+0.5**
	comp=Z,24nm,1.1s								
SYO	**Syowa Base**	**91.81**	**197**	⇑*e*X		P		04 44 43.7	+6.4
HWUT	**Hardware Ranch**	**91.94**	**48**	*e*P		**P**		**04 44 38.9**	**+0.2**
	comp=Z,7.8nm,0.8s								
TCUT	**Tome Canyon**	**91.95**	**49**	*e*P		**P**		**04 44 39.5**	**+0.7**
	comp=Z,33nm,0.9s								
W18A	**Petrified Fore**	**91.96**	**55**	*e*P		**P**		**04 44 39.6**	**+0.6**
	comp=Z,25nm,0.9s								
W18A	**Petrified Fore**	**91.96**	**55**	P		**P**		**04 44 39.4**	**+0.5**
	baz=258								
DLMT	**Dillon**	**92.06**	**44**	*e*P		**P**		**04 44 39.6**	**+0.5**
	comp=Z,53nm,1.0s								
WALA	**Waterton Lakes**	**92.08**	**40**	*e*P		**P**		**04 44 39.8**	**+0.7**
	comp=Z,42nm,1.1s								
P17A	**Butcher Ranch,**	**92.09**	**50**	*e*P		**P**		**04 44 40.2**	**+0.8**
	comp=Z,16nm,1.4s								
SRU	**San Rafael Swe**	**92.18**	**51**	*e*P		**P**		**04 44 40.3**	**+0.5**
	comp=Z,9.5nm,1.0s								
SRU	**San Rafael Swe**	**92.18**	**51**	*e*P		**P**		**04 44 40.3**	**+0.5**
SRU				pmax		pmax			
	comp=Z,10.0nm,1.0s								
LRM	**Limekiln Ridge**	**92.27**	**44**	*e*P		**P**		**04 44 40.5**	**+0.4**
AHID	**Auburn Hatcher**	**92.53**	**47**	*e*P		**P**		**04 44 41.9**	**+0.5**
	comp=Z,7.0nm,0.8s								
FXWY	**Fox Creek**	**92.78**	**46**	*e*P		**P**		**04 44 42.7**	**+0.1**
	comp=Z,12nm,0.8s								
BOZ	**Bozeman (W)**	**92.78**	**44**	*e*P		**P**		**04 44 42.6**	**+0.2**
	comp=Z,29nm,1.0s								
BOZ	**Bozeman (W)**	**92.78**	**44**	*e*P		**P**		**04 44 42.6**	**+0.2**
BOZ				pmax		pmax			
	comp=Z,29nm,1.0s								
BOZ	**Bozeman (W)**	**92.78**	**44**	P		**P**		**04 44 42.7**	**+0.2**
	baz=257								
REDW	**Red Top Meadow**	**92.84**	**47**	*e*P		**P**		**04 44 43.0**	**+0.2**
	comp=Z,9.6nm,1.0s								
HRY	**Holter Researc**	**92.89**	**43**	*e*P		**P**		**04 44 43.1**	**+0.2**
YHB	**Horse Butte**	**92.90**	**45**	*e*P		**P**		**04 44 44.3**	**+1.2**
	comp=Z,18nm,0.9s								
YHB				LR		LR			
	comp=Z,1µm,20.0s								
SNOW	**Snow King Moun**	**92.93**	**46**	*e*P		**P**		**04 44 44.1**	**+0.8**
	comp=Z,12nm,0.9s								
MOOW	**Moose Ponds**	**93.00**	**46**	*e*P		**P**		**04 44 43.6**	**0.0**
	comp=Z,6.6nm,0.9s								
YMR	**Madison River**	**93.04**	**45**	*e*P		**P**		**04 44 45.0**	**+1.3**
	comp=Z,14nm,0.9s								
121A	**Cookes Peak, D**	**93.04**	**58**	P		**P**		**04 44 44.4**	**+0.4**
	baz=259								
LOHW	**Long Hollow**	**93.07**	**46**	*e*P		**P**		**04 44 44.0**	**+0.1**
	comp=Z,8.8nm,1.0s								
YFT	**Old Faithful**	**93.08**	**45**	*e*P		**P**		**04 44 46.0**	**+2.1**
	comp=Z,12nm,1.0s								
FLWY	**Flagg Ranch**	**93.10**	**46**	*e*P		**P**		**04 44 44.5**	**+0.5**
	comp=Z,12nm,0.8s								
PV09	**Paradox Valley**	**93.12**	**52**	*e*P		**P**		**04 44 45.1**	**+0.8**
PV14	**Lion Creek, Pa**	**93.18**	**52**	*e*P		**P**		**04 44 45.1**	**+0.5**
	comp=Z,11nm,0.8s								
PV19	**Morning Glory**	**93.20**	**52**	*e*P		**P**		**04 44 45.9**	**+1.3**
	comp=Z,14nm,1.1s								
PV23	**Carpenter Ridg**	**93.20**	**52**	*e*P		**P**		**04 44 45.4**	**+0.7**
	comp=Z,22nm,0.7s								
PV17	**East Wray Mesa**	**93.21**	**52**	*e*P		**P**		**04 44 45.7**	**+1.0**
	comp=Z,16nm,1.0s								
PV20	**West Nyswonger**	**93.22**	**52**	*e*P		**P**		**04 44 45.7**	**+1.1**
	comp=Z,15nm,0.9s								
YNR	**Norris Junctio**	**93.25**	**45**	*e*P		**P**		**04 44 47.1**	**+2.4**
	comp=Z,7.4nm,0.9s								
PV16	**Nyswonger Mesa**	**93.25**	**52**	*e*P		**P**		**04 44 46.1**	**+1.3**
	comp=Z,5.7nm,0.8s								
H17A	**Grant Village**	**93.25**	**46**	*e*P		**P**		**04 44 46.6**	**+1.8**
	comp=Z,19nm,0.8s								
H17A	**Grant Village**	**93.25**	**46**	P		**P**		**04 44 46.1**	**+1.4**
	baz=258								
PV21	**Cone Mtn., Par**	**93.25**	**52**	*e*P		**P**		**04 44 46.2**	**+1.3**
	comp=Z,12nm,1.0s								
MK01	**Makanchi Array**	**93.30**	**317**	*e*P		**P**		**04 44 43.8**	**-0.8**
MK31	**Makanchi Array**	**93.31**	**317**	*e*P		**P**		**04 44 44.0**	**-0.7**
MK32	**Makanchi Array**	**93.31**	**317**	*e*P		**P**		**04 44 44.0**	**-0.7**
MK32				*e*PP		**PP**		**04 48 25.1**	**-3.5**
MKAR	**Makanchi Array**	**93.31**	**317**	P		**P**		**04 44 43.9**	**-0.7**
	comp=Z,4.5nm,0.9s,baz=101,slow=6.4,SNR=26								
MKAR				PP		**PP**		**04 48 25.1**	**-3.5**
	comp=Z,1.0nm,0.9s,baz=99,slow=8.9,SNR=3.9								
MKAR				PKKP		**PKKPdf**		**05 01 51.0**	**-1.7**
	comp=Z,2.2nm,0.9s,baz=282,slow=2.4,SNR=10								
MKAR	**Makanchi Array**	**93.31**	**317**	*e*P		**P**		**04 44 44.0**	**-0.7**
	comp=Z,46nm,1.0s								
PV12	**Saucer Basin,**	**93.34**	**52**	*e*P		**P**		**04 44 46.5**	**+1.2**
	comp=Z,12nm,0.8s								
ZAA0	**Zalesovo Array**	**93.36**	**324**	*e*P		**P**		**04 44 43.4**	**-1.3**
	comp=Z,9.7nm,1.1s								
ZALV	**Zalesovo Beam**	**93.36**	**324**	P		**P**		**04 44 42.9**	**-1.8**
	comp=Z,5.1nm,0.9s,baz=108,slow=4.8,SNR=16								
ZALV				PP		**PP**		**04 48 28.2**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=129,slow=3.9,SNR=2.4								
ZALV	**Zalesovo Beam**	**93.36**	**324**	*e*P		**P**		**04 44 42.8**	**-1.9**
MVCO	**Mesa Verde**	**93.36**	**53**	P		**P**		**04 44 45.7**	**+0.3**
	baz=259								
ZAA1	**Zalesovo Array**	**93.36**	**324**	*e*P		**P**		**04 44 42.9**	**-1.8**
ZAA1				*e*PP		**PP**		**04 48 28.2**	**-0.5**
MAKZ	**Makanchi**	**93.52**	**317**	*e*P		**P**		**04 44 45.3**	**-0.4**
	comp=Z,15nm,1.1s								
MAKZ	**Makanchi**	**93.52**	**317**	*e*P		**P**		**04 44 45.3**	**-0.4**
MAKZ				pmax		pmax			
	comp=Z,15nm,1.1s								
BW06	**Boulder Array**	**93.65**	**47**	*e*P		**P**		**04 44 46.0**	**-0.6**
	comp=Z,12nm,1.1s								
BW06	**Boulder Array**	**93.65**	**47**	P		**P**		**04 44 45.8**	**-0.8**
	baz=259								
PD31	**Pinedale Array**	**93.65**	**47**	*e*P		**P**		**04 44 46.4**	**-0.2**
PD31				*e*PP		**PP**		**04 48 29.2**	**-2.5**
PDAR	**Pinedale Array**	**93.65**	**47**	P		**P**		**04 44 45.8**	**-0.8**
	comp=Z,7.8nm,0.9s,baz=247,slow=2.8,SNR=44								
PDAR				PP		**PP**		**04 48 29.2**	**-2.5**
	comp=Z,0.5nm,0.9s,baz=295,slow=6.9,SNR=2.8								
PDAR	**Pinedale Array**	**93.65**	**47**	*e*P		**P**		**04 44 45.4**	**-1.1**
HPIG		**93.83**	**63**	PFAKE				04 44 00.0	+12
HPIG				LR		LR			
	comp=Z,2µm,19.0s								
LENM	**Lemitar**	**94.01**	**56**	*e*P		**P**		**04 44 50.5**	**+2.1**
Y22D	**IRIS PASSCAL I**	**94.04**	**56**	P		**P**		**04 44 48.6**	**+0.1**
	baz=260								
O20A	**White River Ci**	**94.11**	**50**	P		**P**		**04 44 49.2**	**+0.4**
	baz=259								
GCMT	**Greycliff**	**94.17**	**44**	*e*P		**P**		**04 44 49.7**	**+0.9**
BNM	**Barren Site**	**94.29**	**56**	*e*P		**P**		**04 44 50.1**	**+0.4**
RLMT	**Red Lodge**	**94.31**	**45**	*e*P		**P**		**04 44 50.4**	**+0.8**
	comp=Z,9.1nm,1.3s								
RLMT	**Red Lodge**	**94.31**	**45**	P		**P**		**04 44 49.8**	**+0.3**
	baz=259								
NVS	**Novosibirsk**	**94.47**	**325**	*e*P		**P**		**04 44 48.3**	**-1.4**
EGMT	**Eagleton**	**94.54**	**42**	*e*P		**P**		**04 44 50.3**	**-0.1**
	comp=Z,28nm,1.0s								
EGMT	**Eagleton**	**94.54**	**42**	P		**P**		**04 44 50.3**	**-0.1**
	baz=259								
ANMO	**Albuquerque**	**94.57**	**55**	*e*P		**P**		**04 44 51.1**	**+0.2**
	comp=Z,6.5nm,0.9s								
ANMO	**Albuquerque**	**94.57**	**55**	⇑*e*P		**P**		**04 44 50.6**	**-0.3**
ANMO				pmax		pmax			
	comp=Z,6.0nm,0.9s								
ANMO	**Albuquerque**	**94.57**	**55**	P		**P**		**04 44 50.7**	**-0.3**
	baz=260								
S22A	**4UR Ranch, Cre**	**94.76**	**53**	*e*P		**P**		**04 44 52.4**	**+0.5**
	comp=Z,9.5nm,1.4s								
S22A	**4UR Ranch, Cre**	**94.76**	**53**	P		**P**		**04 44 52.0**	**+0.1**
	baz=260								
MNTX	**Cornudas Mount**	**94.90**	**59**	*e*P		**P**		**04 44 52.4**	**+0.1**
	comp=Z,6.1nm,0.9s								
MNTX	**Cornudas Mount**	**94.90**	**59**	P		**P**		**04 44 52.1**	**-0.3**
	baz=260								
YKA	**Yellowknife Ar**	**94.99**	**27**	P		**P**		**04 44 49.9**	**-2.0**
	comp=Z,4.1nm,0.8s,baz=255,slow=4.6,SNR=53								
YKA				PP		**PP**		**04 48 37.2**	**-4.0**
	comp=Z,0.7nm,1.0s,baz=253,slow=6.8,SNR=3.9								
YKA				PKKP		**PKKPbc**		**05 01 46.5**	**-3.4**
	comp=Z,0.1nm,0.4s,baz=76,slow=3.7,SNR=4.4								
YKB5	**Yellowknife Ar**	**94.99**	**27**	*e*P		**P**		**04 44 49.6**	**-2.3**
YKB5				*e*PP		**PP**		**04 48 37.2**	**-4.0**
YKW3	**Yellowknife Ar**	**95.00**	**27**	*e*P		**P**		**04 44 50.3**	**-1.6**
	comp=Z,6.8nm,1.0s								
SDCO	**Great Sand Dun**	**95.80**	**53**	P		**P**		**04 44 56.3**	**-0.4**
	baz=261								
K22A	**Casper**	**95.83**	**48**	P		**P**		**04 44 56.7**	**+0.2**
	baz=261								
N23A	**Red Feather La**	**95.97**	**50**	P		**P**		**04 44 57.2**	**-0.1**
	baz=261								
TX31	**Lajitas Ar. Si**	**95.97**	**61**	*e*P		**P**		**04 44 57.0**	**-0.4**
LTX	**Lajitas**	**95.97**	**61**	*e*P		**P**		**04 44 56.6**	**-0.8**
LTX				*e*PP		**PP**		**04 48 49.2**	**-0.7**
LTX	**Lajitas**	**95.97**	**61**	*e*P		**P**		**04 44 56.6**	**-0.8**
LTX				*e*				04 48 49.2	
TXAR	**Lajitas Array**	**95.97**	**61**	P		**P**		**04 44 56.6**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=218,slow=6.3,SNR=15								
TXAR				PP		**PP**		**04 48 49.2**	**-0.7**
	comp=Z,2.9nm,1.2s,baz=241,slow=5.2,SNR=8.4								
ISCO	**Idaho Springs**	**96.04**	**51**	PFAKE				04 45 10.0	+12
ISCO				LR		LR			
	comp=Z,2µm,20.0s								
CLNB	**Carlsbad**	**96.25**	**58**	*e*P		**P**		**04 45 03.0**	**+4.4**
Q24A	**Divide**	**96.27**	**52**	PFAKE				04 45 10.0	+11
Q24A				LR		LR			
	comp=Z,2µm,20.0s								
KURK	**Kurchatov**	**96.44**	**320**	*e*P		**P**		**04 44 58.2**	**-0.6**
	comp=Z,6.9nm,1.1s								
KURK	**Kurchatov**	**96.44**	**320**	⇓*e*P		**P**		**04 44 57.5**	**-1.3**
KURK				pmax		pmax			
	comp=Z,9.0nm,

V53A LR LR
comp=Z,2µm,20.0s
O52A Adamsville 114.27 51 PFAKE 04 50 20.0 +10
O52A LR LR
comp=Z,2µm,22.0s
658A Bunnell 115.47 63 PFAKE 04 50 20.0 +7.8
658A LR LR
comp=Z,2µm,21.0s
N54A Moraine State 115.56 50 PFAKE 04 50 20.0 +7.9
N54A LR LR
comp=Z,2µm,22.0s
BLA Blacksburg 115.67 54 PFAKE 04 50 20.0 +7.5
BLA LR LR
comp=Z,2µm,20.0s
M54A Oil Creek Stat 115.73 49 PFAKE 04 50 20.0 +7.6
M54A LR LR
comp=Z,2µm,20.0s
ARA0 ARCESS Array S 116.19 345 *e*PKPdf **PKiKP 04 50 11.3 -1.2**
ARCES ARCESS Array B 116.19 345 PKP **PKiKP 04 50 11.3 -1.2**
comp=Z,5.5nm,0.8s,baz=60,slow=5.3,SNR=16
ARCES PKKPbc **PKKPbc 05 00 42.4 -2.4**
comp=Z,4.0nm,1.0s,baz=37,slow=6.2,SNR=5.0
O56A Blue Knob Stat 116.73 50 PFAKE 04 50 30.0 +16
O56A LR LR
comp=Z,2µm,20.0s
SSPA Standing Stone 117.19 50 PFAKE 04 50 30.0 +15
SSPA LR LR
comp=Z,2µm,20.0s
SDMD Soldier's Deli 118.18 51 PFAKE 04 50 30.0 +13
SDMD LR LR
comp=Z,1µm,19.0s
KSPA Keystone Colle 118.60 49 PFAKE 04 50 30.0 +12
KSPA LR LR
comp=Z,2µm,20.0s
MTDJ Mount Denham 118.78 75 PFAKE 04 50 30.0 +11
MTDJ LR LR
comp=Z,1µm,19.0s
NCB Newcomb 119.19 46 PFAKE 04 50 30.0 +11
NCB LR LR
comp=Z,2µm,19.0s
VRH Novokhopyorsk 119.37 323 *e*PKIKP **PKPdf 04 50 17.4 -1.7**
VRH pmax pmax
comp=Z,10.0nm,1.4s
PAL Palisades 120.09 49 PFAKE 04 50 30.0 +9.1
PAL LR LR
comp=Z,2µm,19.0s
LPAZ La Paz 120.41 116 PKP **PKPdf 04 50 22.9 0.0**
comp=Z,3.4nm,0.8s,baz=253,slow=1.3,SNR=12
LPSR Galich'ya Gora 120.45 325 *e*PKIKP **PKPdf 04 50 20.6 -0.5**
LPSR pmax pmax
comp=Z,7.0nm,0.5s
ROSC El Rosal 120.49 91 PKP **PKPdf 04 50 22.1 -0.7**
comp=Z,2.9nm,0.5s,baz=344,slow=15,SNR=3.3
OBN Obninsk 120.62 329 *i* PKIKP **PKPdf 04 50 20.8 -0.5**
OBN pmax pmax
comp=Z,4.0nm,0.7s
YLE Yale 120.73 48 PFAKE 04 50 30.0 +7.9
YLE LR LR
comp=Z,3µm,20.0s
VSR Storozhevoye 120.86 324⇑ *i* PKIKP **PKPdf 04 50 20.6 -1.4**
KIV Kislovodsk 121.01 315 *e*PKIKP **PKiKP 04 50 22.9 +0.1**
KIV pmax pmax
comp=Z,8.0nm,1.0s
RAYN Ar Rayn 121.73 291 *e*PKPdf **PKiKP 04 50 24.9 +0.2**
RAYN Ar Rayn 121.73 291 *e*PKIKP **PKiKP 04 50 24.9 +0.2**
DAMY Dhamar 122.61 280 PFAKE 04 50 40.0 +13
DAMY LR LR
comp=Z,1µm,20.0s
CPUP Villa Florida 124.24 132 PKP **PKPdf 04 50 29.4 +0.2**
comp=Z,4.6nm,0.7s,baz=226,slow=2.0,SNR=8.4
SDV Santo Domingo 124.70 87 *e*PKPdf **PKPdf 04 50 29.9 -0.8**
BOSA Boshof 125.04 223 PKP **PKPdf 04 50 31.1 +0.2**
comp=Z,12nm,0.9s,baz=152,slow=1.7,SNR=14
BOSA Boshof 125.04 223 *e*PKPdf **PKPdf 04 50 31.1 +0.2**
BOSA *e*PKPdf **PKiKP 04 50 31.6 +0.4**
SDD Santo Domingo 126.03 75 PFAKE 04 50 40.0 +6.8
SDD LR LR
comp=Z,1µm,21.0s
NB2 NORSAR Subarra126.56 345 PKPdf **PKPdf 04 50 32.0 -0.7**
comp=Z,0.6nm,0.7s,baz=31,slow=1.9
NB200 NORSAR Array S 126.56 345 *e*PKPdf **PKPdf 04 50 31.0 -1.7**
NOA NORSAR Array B 126.56 345 PKP **PKPdf 04 50 31.0 -1.7**
comp=Z,1.8nm,0.9s,baz=65,slow=5.5,SNR=5.0
AKASG Malin Array Be 126.67 327 PKP **PKPdf 04 50 32.8 -0.3**
comp=Z,0.5nm,0.3s,baz=62,slow=2.2,SNR=8.6
AKBB Malin Array Si 126.67 327 *e*PKPdf **PKPdf 04 50 32.8 -0.3**
AKBB Malin Array Si 126.67 327 *e*PKIKP **PKPdf 04 50 32.8 -0.3**
KIEV Kiev 126.68 327⇑ *i* PKIKP **PKPdf 04 50 33.0 -0.1**
AK11 Malin Array Si 126.71 327 *e*PKPdf **PKPdf 04 50 31.5 -1.7**
LBTB Lobatse 127.05 227 *e*PKPdf **PKiKP 04 50 35.4 +0.1**
LBTB Lobatse 127.05 227 *e*PKIKP **PKiKP 04 50 35.4 +0.1**
KMBO Kilima Mbogo 127.19 260 PKP **PKiKP 04 50 36.2 +0.1**
comp=Z,0.9nm,0.3s,baz=93,slow=2.8,SNR=5.7
BR101 Keskin Array S 128.75 313 *e*PKPdf **PKPdf 04 50 36.9 -0.8**
BR101 *e*PP **PP 04 52 39.9 -3.9**
BR131 Keskin Array S 128.75 313 *e*PKPdf **PKPdf 04 50 37.7 +0.1**
BRTR Keskin Array B 128.75 313 PKP **PKPdf 04 50 36.9 -0.8**
comp=Z,2.3nm,1.0s,baz=131,slow=4.0,SNR=10
BRTR PP **PP 04 52 39.9 -3.9**
comp=Z,1.8nm,1.2s,baz=117,slow=5.0,SNR=4.1
OBIP Obispado Ponce 129.17 76 PFAKE 04 50 50.0 +10
OBIP LR LR
comp=Z,2µm,20.0s
SJG San Juan 129.60 76 *e*PKPdf **PKPdf 04 50 39.4 -0.3**
SJG San Juan 129.60 76 *e*PKIKP **PKPdf 04 50 39.4 -0.3**
HUMP Col San Antoni 129.89 76 *e*PKPdf **PKPdf 04 50 39.9 -0.3**
LSZ Lusaka 130.36 239 *e*PKPdf **PKiKP 04 50 42.1 -0.1**
LSZ Lusaka 130.36 239 *e*PKIKP **PKiKP 04 50 42.1 -0.1**
BUR04 Bucovina Ar. S 130.57 325 *e*PKPdf **PKiKP 04 50 41.6 -0.1**
PTGA Pitinga 133.31 101 *e*PKPdf **PKPdf 04 50 46.9 +0.1**
VYHS Vyhne 133.38 330 *e*PKIKP **PKPdf 04 50 46.2 +0.2**
VYHS Vyhne 133.38 330 *e*PKP **PKPdf 04 50 46.2 +0.2**
CLL Collm 133.94 336 *e*PKPdf **PKPdf 04 50 47.0 +0.1**
CLL *e*(sPKiKP) 04 50 53.0
CLL *e* 04 51 18.0
CLL Collm 133.94 336 *e*PKIKP **PKPdf 04 50 45.0 -1.9**
CLL *e* 04 50 53.0
MODS Modra-Piesok 134.23 331 *e*PKIKP **PKPdf 04 50 47.8 +0.2**
MODS Modra-Piesok 134.23 331 *e*PKP **PKPdf 04 50 47.8 +0.2**
VTS Vitosha 134.53 321 *e*PKPdf **PKiKP 04 50 49.5 -0.4**
VTS Vitosha 134.53 321 *e*PKIKP **PKiKP 04 50 49.5 -0.4**
KHC Kasperske Hory 135.37 334 *e*PKPdf **PKPdf 04 50 49.7 0.0**
KHC Kasperske Hory 135.37 334 *e*PKP **PKiKP 04 50 51.1 -0.2**
KHC Kasperske Hory 135.37 334 *e*PKIKP **PKPdf 04 50 49.7 0.0**
GEC2 GERESS Array S 135.53 334 *e*PKPdf **PKiKP 04 50 51.7 0.0**
GEC2 GERESS Array S 135.53 334 *e*PKIKP **PKiKP 04 50 51.7 0.0**
GERES GERESS Array B 135.53 334 PKP **PKPdf 04 50 50.1 0.0**
comp=Z,3.0nm,0.9s,baz=42,slow=3.1,SNR=6.9
GEA0 GERESS Array S 135.53 334 *e*PKPdf **PKPdf 04 50 50.0 -0.1**
DIVS Divibare 135.58 324 *e*PKPdf **PKPdf 04 50 50.8 +0.5**
BDFB Brasilia 137.56 128 PKP **PKPdf 04 50 53.2 -1.6**
comp=Z,6.1nm,0.9s,baz=206,slow=2.6,SNR=7.9
BDFB Brasilia 137.56 128 *e*PKPdf **PKPdf 04 50 53.2 -1.6**
BDFB *e*PKPdf **PKiKP 04 50 55.3 -1.4**
FUORN Ofenpass-Fuorn 138.73 334 *e*PKPdf **PKPdf 04 50 56.7 +0.4**
KEST Kesra 147.22 323 PKPbc **PKPbc 04 51 13.1 -0.6**
comp=Z,15nm,1.0s,baz=55,slow=4.5,SNR=5.5
KEST Kesra 147.22 323 *e*PKPbc **PKPbc 04 51 14.0 +0.4**
PBRG Braganca 148.53 349 *e*PKPdf **PKPdf 04 51 14.9 +1.6**
PGAV Gavieira, Arco 148.63 351 *e*PKPdf **PKPab 04 51 24.3 +3.6**
POLO Lamas de Olo 149.13 350 *e*PKPdf **PKPbc 04 51 18.7 +0.2**
MVO Moncorvo 149.20 349 *e*PKPdf **PKPbc 04 51 18.6 -0.1**
PVRL Vila Real 149.22 350 *e*PKPdf **PKPbc 04 51 19.1 +0.4**
PVIS Viseu 149.79 350 *e*PKPdf **PKPbc 04 51 20.3 +0.2**
ES19 SONSECA Array 149.87 344 *e*PKPbc **PKPbc 04 51 19.9 -0.4**
ESDC Sonseca Array 149.91 344 PKPbc **PKPbc 04 51 20.6 +0.1**
comp=Z,6.0nm,1.0s,baz=23,slow=2.7,SNR=21
ESDC PKPab **PKPab 04 51 25.8 -0.1**
comp=Z,6.7nm,0.9s,baz=15,slow=3.0,SNR=15
MTE Manteigas 150.04 349 *e*PKPdf **PKPbc 04 51 20.9 +0.1**
MTE Manteigas 150.04 349 *e*PKPbc **PKPbc 04 51 20.4 -0.3**
PAB San Pablo 150.14 344 *e*PKPbc **PKPbc 04 51 21.4 +0.3**
PAB San Pablo 150.14 344 *e*PKP2 **PKPbc 04 51 21.4 +0.3**
PCBR Castelo Branco 150.57 349 *e*PKPdf **PKPbc 04 51 22.0 +0.1**
PTOM Tomar 150.95 350 *e*PKPdf **PKPbc 04 51 22.4 -0.4**
PMRV Marv??o 150.95 349 *e*PKPdf **PKPbc 04 51 22.8 -0.1**
PMTG Montargil 151.45 350 *e*PKPdf **PKPbc 04 51 23.6 -0.4**
PESTR Estremoz 151.53 349 *e*PKPdf **PKPbc 04 51 24.2 -0.1**
PESTR Estremoz 151.53 349 *e*PKPbc **PKPbc 04 51 24.0 -0.3**
PESTR *e*PKPab **PKPab 04 51 32.6 0.0**
PBEJ Beja 152.40 349 *e*PKPdf **PKiKP 04 51 27.9 +1.4**
PNCL Nicolau / Gran 152.44 350 *e*PKPdf **PKPbc 04 51 25.9 -0.4**
MESJ Messejana 152.65 349 *e*PKPdf **PKPdf 04 51 19.0 -0.8**
MESJ Messejana 152.65 349 *e*PKPdf **PKPbc 04 51 26.6 -0.2**
RCBR Riachuelo 152.93 127 PFAKE 04 51 30.0 +1.7
RCBR LR LR
comp=Z,39µm,19.0s
PVAQ Vaqueiros 152.97 348 *e*PKPdf **PKiKP 04 51 28.1 +0.4**
PBDV Barranco-do-Ve 153.17 348 *e*PKPdf **PKPdf 04 51 21.9 +1.3**
MORF Marmelete 153.24 350 *e*PKPdf **PKPdf 04 51 19.7 -1.0**
MORF Marmelete 153.24 350 *e*PKPdf **PKPbc 04 51 27.9 -0.3**
TOA0 Torodi Ar. Sit 164.04 279 *e*PKPdf **PKPdf 04 51 33.1 -1.0**
TOA0 *e*PKPdf **PKPdf 04 51 34.0 -0.1**
TORD Torodi Ar. Bea 164.04 279 PKP **PKPdf 04 51 33.1 -1.0**
comp=Z,5.0nm,1.0s,baz=70,slow=1.1,SNR=22
TORD PKPab **PKPab 04 52 25.1 -2.2**
comp=Z,2.0nm,1.0s,baz=85,slow=2.6,SNR=2.6
TOA1 Torodi Ar. Sit 164.04 280 *e*PKPdf **PKPdf 04 51 33.1 -1.0**
TOA1 *e*PKPab **PKPab 04 52 25.1 -2.2**
KIC Kosan Boka 169.35 245 *e*PKP1 **PKPdf 04 51 37.5 -0.7**
comp=Z,68nm,1.5s
LIC Lamto 169.55 244 *e*PKP1 **PKPdf 04 51 37.5 -0.8**
comp=Z,54nm,1.5s
DBIC Dimbokro 169.59 247 PKP **PKPdf 04 51 37.7 -0.6**
comp=Z,6.5nm,1.0s,baz=122,slow=1.8,SNR=7.3
DBIC Dimbokro 169.59 247 *e*PKPdf **PKPdf 04 51 38.1 -0.2**
DBIC Dimbokro 169.59 247 *e*PKIKP **PKPdf 04 51 38.1 -0.2**
TIC Toumodi 169.73 246 *e*PKP1 **PKPdf 04 51 36.4 -2.1**

*ISCJB **31** 04:36:24.9±0.2, 47.°40N±0.°01×11.°68E±0.°02, h14km±2km, Error ellipse: s-maj=2.4km s-min=2.0km az=161.5*
*VIE **31** 04:36:26.8±0.3, 47.°27N×11.°71E, h11km±2km, mb1.8/8, ml2.8/11, Error ellipse: s-maj=1.8km s-min=1.1km az=20.0 9 km S of Schwaz felt 4 ems98 near Schwaz / Tyrol*
*LDG **31** 04:36:27.1±0.1, 47.°28N×11.°70E, h10km, Ml2.7/21, Error ellipse: s-maj=3.0km s-min=1.4km az=37.0*
*ROM **31** 04:36:27.7±0.1, 47.°213N±0.°004×11.°71E±0.°01, h8km, ML2.5/20*
*BGR **31** 04:36:27.9±0.2, 47.°28N×11.°74E, h10km, ML2.7/6, Error ellipse: s-maj=5.6km s-min=3.3km az=172.0*
BGR Felt IV EMS.
*PRU **31** 04:36:28.4±0.0, 47.°33N×11.°78E, h9km, Schwaz*
*STR **31** 04:36:31.5±0.8, 47.°N×12.°×1.°2E±.°, h10km, M2.3/1, MLv2.3/1*
ISC 31 04:36:25.7**±0.8, **47.°29N**±0.°02×**11.°68E**±0.°01, **h18**km±1km, **n100**, σ1$**74**/163, **Austria

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WTTA	**Wattenberg**	**0.04**	**232**	*e*Pg		**Pg**	**04 36 29.7**	**+0.5**
WTTA	SNR=316			*e*Sg		**Sg**	**04 36 31.4**	**-0.2**
	SNR=710							
WTTA	**Wattenberg**	**0.04**	**232**	*i* Pg		**Pg**	**04 36 29.7**	**+0.5**
WTTA	119nm,0.1s,SNR=812			*i* Sg		**Sg**	**04 36 31.4**	**-0.2**
	1µm,0.2s,SNR=740							
WTTA	**Wattenberg**	**0.04**	**232**	P		**Pg**	**04 36 29.7**	**+0.5**
WTTA				S		**Sg**	**04 36 31.4**	**-0.2**
WTTA				AML	AML			
	comp=E,3770µm,0.2s							
WTTA				AML	AML			
	comp=N,3165µm,0.3s							
WTTA				AML	AML			
	comp=E,3770µm,0.2s							
WTTA				AML	AML			
	comp=N,3165µm,0.3s							
WTTA				AML	AML			
	comp=N,3165µm,0.3s							
WTTA				AML	AML			
	comp=E,3770µm,0.2s							
WATA	**Walderalm**	**0.09**	**304**	*i* Pg		**Pb**	**04 36 30.0**	**+0.5**
WATA	comp=E,128nm,0.1s,SNR=1146			*e*Sg		**Sg**	**04 36 32.2**	**+0.1**
	comp=E,298nm,0.1s							
SQTA	**Sankt Quirin**	**0.33**	**258**	*e*Pg		**Pb**	**04 36 34.0**	**+1.0**
	comp=E,56nm,0.1s,SNR=114							
SQTA				*e*Sg		**Sb**	**04 36 39.2**	**+1.2**
	comp=E,163nm,0.1s							
MOTA	**Moosalm**	**0.40**	**278**	*i* Pg		**Pb**	**04 36 34.6**	**+0.3**
MOTA	comp=E,11nm,0.1s,SNR=82			*e*Sg		**Sb**	**04 36 41.9**	**+1.8**
	comp=E,77nm,0.2s							
ROSI	**Rosskopf**	**0.40**	**207**	P		**Pb**	**04 36 35.2**	**+0.7**
ROSI				S		**Sb**	**04 36 40.7**	**+0.3**
ROSI				AML	AML			
	comp=E,968µm,1.5s							
ROSI				AML	AML			
	comp=N,1060µm,0.4s							
ROSI				AML	AML			
	comp=E,968µm,1.5s							
ROSI				AML	AML			
	comp=N,1060µm,0.4s							
ROSI				AML	AML			
	comp=N,1060µm,0.4s							
ROSI				AML	AML			
	comp=E,968µm,1.5s							
RISI	**Rein**	**0.43**	**141**	P		**Pb**	**04 36 35.3**	**+0.4**
RISI				S		**Sb**	**04 36 41.3**	**+0.1**
RISI				AML	AML			
	comp=E,1640µm,0.3s							
RISI				AML	AML			
	comp=N,1830µm,0.5s							
RISI				AML	AML			
	comp=E,1640µm,0.3s							
RISI				AML	AML			
	comp=N,1830µm,0.5s							
RISI				AML	AML			
	comp=E,1640µm,0.3s							
RISI				AML	AML			
	comp=N,1830µm,0.5s							
BRES	**Bressanone**	**0.59**	**176**	P		**Pb**	**04 36 38.6**	**+1.1**
BRES				S		**Sb**	**04 36 46.4**	**+0.8**
BRES				AML	AML			
	comp=E,211µm,0.7s							
BRES				AML	AML			
	comp=N,299µm,0.4s							
BRES				AML	AML			
	comp=E,211µm,0.7s							
BRES				AML	AML			
	comp=N,299µm,0.4s							
BRES				AML	AML			
	comp=N,299µm,0.4s							
BRES				AML	AML			
	comp=E,211µm,0.7s							
ABSI	**Aberstueckl**	**0.61**	**204**	P		**Pb**	**04 36 38.8**	**+1.0**
ABSI				S		**Sb**	**04 36 46.7**	**+0.6**
ABSI				AML	AML			
	comp=E,526µm,0.6s							
ABSI				AML	AML			
	comp=N,642µm,0.4s							
ABSI				AML	AML			
	comp=E,526µm,0.6s							
ABSI				AML	AML			
	comp=N,642µm,0.4s							
ABSI				AML	AML			
	comp=N,642µm,0.4s							
ABSI				AML	AML			
	comp=E,526µm,0.6s							
RETA	**Reutte**	**0.66**	**288**	Pg		**Pb**	**04 36 39.1**	**+0.5**
RETA	comp=E,1.0nm,0.1s			*e*Sg		**Sb**	**04 36 49.2**	**+1.9**
	comp=E,58nm,0.2s							
FETA	**Feichten**	**0.70**	**248**	*e*Pg		**Pb**	**04 36 40.6**	**+1.2**
FETA	comp=E,2.3nm,0.2s,SNR=15			*e*Sg		**Sb**	**04 36 50.2**	**+1.4**
	comp=E,6.5nm,0.1s							
ABTA	**Abfaltersbach**	**0.79**	**133**	*e*Pg		**Pn**	**04 36 41.5**	**-0.4**
ABTA	comp=E,5.6nm,0.1s,SNR=32			*e*Sg		**Sb**	**04 36 51.4**	**+0.3**
	comp=E,33nm,0.2s							
KOSI	**Kohlern**	**0.85**	**194**	P		**Pn**	**04 36 43.4**	**+0.5**
KOSI				S		**Sb**	**04 36 53.5**	**+0.4**
KOSI				AML	AML			
	comp=E,330µm,1.4s							
KOSI				AML	AML			
	comp=N,325µm,0.5s							
KOSI				AML	AML			
	comp=E,330µm,1.4s							
KOSI				AML	AML			
	comp=N,325µm,0.5s							
KOSI				AML	AML			
	comp=E,330µm,1.4s							
KOSI				AML	AML			
	comp=N,325µm,0.5s							
APPI	**Appiano**	**0.87**	**201**	P		**Pn**	**04 36 43.7**	**+0.7**
APPI				S		**Sb**	**04 36 55.0**	**+1.6**
APPI				AML	AML			
	comp=E,547µm,0.8s							
APPI				AML	AML			
	comp=N,429µm,1.5s							
APPI				AML	AML			
	comp=E,547µm,0.8s							
APPI				AML	AML			
	comp=N,430µm,1.5s							
APPI				AML	AML			
	comp=E,547µm,0.8s							
APPI				AML	AML			
	comp=N,430µm,1.5s							
FUR	**Furstenfeldbru**	**0.92**	**343**	*e*Pg		**Pn**	**04 36 45.8**	**+2.1**
	SNR=22							
FVI	**Forni Avoltri**	**1.02**	**132**	P		**Pn**	**04 36 45.8**	**+0.7**
FVI				S		**Sn**	**04 36 59.0**	**-0.1**
FVI				AML	AML			
	comp=E,190µm,0.3s							
FVI				AML	AML			
	comp=N,201µm,0.6s							
FVI				AML	AML			
	comp=E,190µm,0.3s							
FVI				AML	AML			
	comp=N,201µm,0.6s							
MOSI	**Grossmontoni**	**1.03**	**229**	AML	AML			
	comp=N,399µm,0.4s							
MOSI				AML	AML			
	comp=E,333µm,0.4s							
MOSI				AML	AML			
	comp=E,333µm,0.4s							
MOSI				AML	AML			
	comp=N,399µm,0.4s							
AGOR	**Agordo**	**1.04**	**166**	P		**Pn**	**04 36 46.6**	**+1.3**
AGOR				AML	AML			
	comp=E,254µm,0.3s							
AGOR				AML	AML			
	comp=N,206µm,0.3s							
AGOR				AML	AML			
	comp=E,254µm,0.3s							
AGOR				AML	AML			
	comp=N,206µm,0.3s							
UBR	**Ueberruh**	**1.14**	**291**	*e*Pg		**Pg**	**04 36 49.4**	**+1.7**
UBR	SNR=107			*e*Sg		**Sn**	**04 37 06.6**	**+4.7**
	SNR=9.6							
KBA	**Koelnbreinsper**	**1.15**	**100**	*e*Pg		**Pg**	**04 36 48.0**	**-0.1**
KBA	SNR=9.6			*e*Sg		**Sn**	**04 37 02.5**	**+0.1**
	SNR=4.6							
KBA	**Koelnbreinsper**	**1.15**	**100**	*e*Pg		**Pg**	**04 36 48.0**	**-0.1**
	comp=N,5.5nm,0.1s,SNR=8.8							
KBA				*e*Sg		**Sn**	**04 37 02.6**	**+0.1**
	comp=N,15nm,0.2s							
BRMO	**Bormio**	**1.21**	**228**	P		**Pg**	**04 36 50.0**	**+0.8**
BRMO				AML	AML			
	comp=E,99µm,0.3s							
BRMO				AML	AML			
	comp=N,139µm,0.4s							
BRMO				AML	AML			
	comp=E,99µm,0.3s							
BRMO				AML	AML			
	comp=N,139µm,0.4s							
DAVA	**Damuels**	**1.23**	**271**	*e*Pg		**Pg**	**04 36 51.2**	**+1.7**
	SNR=18							
DAVA	**Damuels**	**1.23**	**271**	*e*Pg		**Pg**	**04 36 51.1**	**+1.7**
	comp=N,19nm,0.2s,SNR=25							
CTI	**Castel Tesino**	**1.24**	**181**	P		**Pg**	**04 36 50.4**	**+0.7**
CTI				AML	AML			
	comp=E,486µm,0.5s							
CTI				AML	AML			
	comp=N,552µm,0.2s							
CTI				AML	AML			
	comp=E,486µm,0.5s							
CTI				AML	AML			
	comp=N,552µm,0.2s							
STAL	**STALIGIAL**	**1.25**	**145**	P		**Pg**	**04 36 50.2**	**+0.4**
STAL				AML	AML			
	comp=E,206µm,1.4s							
STAL				AML	AML			
	comp=N,226µm,1.3s							
STAL				AML	AML			
	comp=E,206µm,1.4s							
STAL				AML	AML			
	comp=N,226µm,1.3s							
DAVOX	**Davos/Dischmat**	**1.33**	**248**	AML	AML			
	comp=N,117µm,1.6s							
DAVOX				AML	AML			
	comp=E,157µm,0.9s							
DAVOX				AML	AML			
	comp=N,117µm,1.6s							
DAVOX				AML	AML			
	comp=E,157µm,0.9s							
CGRP	**Cima Grappa**	**1.41**	**177**	AML	AML			
	comp=N,210µm,1.3s							
CGRP				AML	AML			
	comp=E,240µm,0.6s							
CGRP				AML	AML			
	comp=N,210µm,1.3s							
PTCC	**Patocco-Chiusa**	**1.45**	**127**	AML	AML			
	comp=N,71µm,1.6s							
PTCC				AML	AML			
	comp=E,73µm,0.8s							
PTCC				AML	AML			
	comp=N,71µm,1.6s							
PTCC				AML	AML			
	comp=E,73µm,0.8s							
ACOM	**Acomizza, Ital**	**1.46**	**120**	AML	AML			
	comp=E,176µm,0.5s							
ACOM				AML	AML			
	comp=E,176µm,0.5s							
ACOM				AML	AML			
	comp=N,216µm,0.3s							
ACOM				AML	AML			
	comp=N,216µm,0.3s							
MABI	**Malga Bissina**	**1.47**	**214**	AML	AML			
	comp=N,79µm,1.3s							
MABI				AML	AML			
	comp=E,35µm,1.6s							
MABI				AML	AML			
	comp=E,35µm,1.6s							
MABI				AML	AML			
	comp=N,79µm,1.3s							
MYKA	**Terra Mystica**	**1.50**	**115**	Pg		**Pg**	**04 36 54.6**	**+0.1**
	comp=N,4.1nm,0.1s,SNR=9.5							
MYKA				Sg		**Sg**	**04 37 13.6**	**-0.4**
	comp=N,8.4nm,0.2s							
PLONS	**Plons/SG**	**1.59**	**262**	*e*Pg		**Pg**	**04 36 57.9**	**+1.7**
	SNR=12							
PLONS				*e*Sg		**Sg**	**04 37 19.7**	**+2.7**
	SNR=5.8							
MAGA	**Magasa**	**1.68**	**206**	AML	AML			
	comp=E,312µm,0.4s							
MAGA				AML	AML			
	comp=N,255µm,0.4s							
MAGA				AML	AML			
	comp=N,255µm,0.4s							
MAGA				AML	AML			
	comp=E,312µm,0.4s							
MOA	**Molln**	**1.84**	**71**	*e*Pg		**Pg**	**04 37 01.1**	**+0.1**
	SNR=5.9							
MOA				*e*Sg		**Sg**	**04 37 25.8**	**+0.9**
	SNR=4.5							
MOA	**Molln**	**1.84**	**71**	*e*Pn		**Pg**	**04 37 01.1**	**+0.1**
	comp=E,1.6nm,0.1s,SNR=7.6							
MOA				*e*Sg		**Sg**	**04 37 25.9**	**+0.9**
	comp=E,19nm,0.3s							
SABO	**M.te Sabotino**	**1.86**	**134**	AML	AML			
	comp=N,162µm,0.7s							
SABO				AML	AML			
	comp=E,190µm,0.8s							
SABO				AML	AML			
	comp=N,162µm,0.7s							
SABO				AML	AML			
	comp=E,190µm,0.8s							
WILA	**Wila**	**1.89**	**275**	*e*Pn		**Pg**	**04 37 01.9**	**-0.1**
	SNR=1.9							
WILA				*e*Sg		**Sg**	**04 37 28.3**	**+1.7**
	SNR=15							
WET	**Wettzell**	**2.02**	**23**	*e*Pn		**Pn**	**04 37 00.8**	**+1.9**
	SNR=5.2							
WET				*e*Sn		**Sb**	**04 37 26.2**	**-0.5**
	SNR=4.8							
GEC2	**GERESS Array S**	**2.06**	**40**	*e*Pn		**Pb**	**04 37 01.6**	**-1.1**
	SNR=3.6							
GEC2				*e*Sn		**Sb**	**04 37 27.8**	**-0.2**

	SNR=7.4							
OBKA	**Obir**	**2.12**	**111**	*e*Pn	**Pg**	**04 37 04.9**	**-1.4**
	SNR=4.1							
OBKA	**Obir**	**2.12**	**111**	*e*Pn	**Pg**	**04 37 05.1**	**-1.2**
	comp=E,2.3nm,0.2s,SNR=14							
OBKA				Sg	**Sg**	**04 37 34.1**	**+0.4**
	comp=E,0.3nm,0.0s							
SLE	**Schleitheim**	**2.21**	**284**	*e*Pn	**Pb**	**04 37 05.3**	**+0.2**
	SNR=3.4							
KHC	**Kasperske Hory**	**2.24**	**34**	*e*Pn	**Pb**	**04 37 05.2**	**-0.4**
KHC				*e*PG	**Pg**	**04 37 06.5**	**-2.1**
KHC				*e*SG	**Sg**	**04 37 37.3**	**-0.4**
	comp=E,17nm,0.3s							
SOKA	**Soboth**	**2.37**	**104**	Pn	**Pb**	**04 37 08.1**	**+0.2**
	comp=E,2.5nm,0.2s							
SOKA				Sg	**Sg**	**04 37 39.6**	**-2.5**
	comp=E,1.2nm,0.2s							
BFO	**Black Forest**	**2.49**	**296**	*e*Pn	**Pb**	**04 37 09.4**	**-0.4**
	SNR=2.9							
ARSA	**Arzberg**	**2.62**	**89**	Pn	**Pb**	**04 37 12.7**	**+0.7**
	comp=E,2.2nm,0.3s							
ARSA				Sg	**Sg**	**04 37 50.6**	**+0.8**
	comp=E,1.7nm,0.2s							
KIZ	**Kirchzarten**	**2.63**	**286**	Pn	**Pb**	**04 37 10.7**	**-1.5**
KIZ				Sg	**Sg**	**04 37 51.1**	**+0.9**
OPP	**Oppenau**	**2.64**	**299**	Pn	**Pb**	**04 37 11.0**	**-1.5**
OPP				Pg	**Pg**	**04 37 16.9**	**+0.5**
OPP				Sg	**Sg**	**04 37 51.2**	**+0.5**
BALST	**Balsthal**	**2.71**	**272**	*e*Pn	**Pb**	**04 37 12.3**	**-1.4**
	SNR=2.6							
MANZ	**Manzenberg**	**2.71**	**6**	*e*Pg	**Pg**	**04 37 18.6**	**+0.8**
	SNR=3.2							
CONA	**Conrad Observa**	**2.90**	**76**	Sg	**Sg**	**04 37 57.3**	**-1.6**
	comp=E,3.4nm,0.2s							
NKC	**Novy Kostel**	**2.99**	**9**	*e*SN	**Sn**	**04 37 50.0**	**+2.5**
NKC				*e*SG	**Sg**	**04 38 00.8**	**-1.0**
	comp=E,19nm,0.4s							
GUNZ	**Gunzen**	**3.11**	**8**	*e*Pg	**Pg**	**04 37 25.4**	**+0.1**
	SNR=3.2							
CDF	**Champ du Feu**	**3.17**	**292**	*e*Pn	**Pn**	**04 37 15.4**	**+0.7**
CDF	**Champ du Feu**	**3.17**	**292**	*e*Pg	**Pg**	**04 37 26.2**	**-0.3**
CDF				*e*Sn	**Sn**	**04 37 50.9**	**-1.2**
CDF				*e*Sg	**Sg**	**04 38 07.1**	**-0.5**
	comp=E,4.5nm,0.2s							
ECH	**Echery**	**3.19**	**289**	Pn	**Pn**	**04 37 18.5**	**+3.6**
ECH				Sg	**Sg**	**04 38 08.2**	**+0.1**
PRU	**Pruhonice**	**3.30**	**34**	*e*SN	**Sn**	**04 37 57.5**	**+2.4**
PRU				*e*SG	**Sg**	**04 38 10.9**	**-0.8**
	comp=E,4.2nm,0.3s							
HINF	**Hinteralfeld**	**3.31**	**281**	*e*Pn	**Pn**	**04 37 17.3**	**+0.7**
HINF	**Hinteralfeld**	**3.31**	**281**	*e*Pg	**Pg**	**04 37 28.5**	**-0.6**
HINF				*e*Sn	**Sn**	**04 37 54.4**	**-1.1**
HINF				*e*Sg	**Sg**	**04 38 11.0**	**-1.1**
	comp=E,9.0nm,0.4s							
GOPC	**GO Pecny, Ondr**	**3.34**	**37**	*e*PG	**Pg**	**04 37 27.0**	**-2.7**
GOPC				*e*SN	**Sn**	**04 37 58.7**	**+2.6**
GOPC				*e*SG	**Sg**	**04 38 11.7**	**-1.2**
	comp=E,13nm,0.6s							
MOX	**Moxa**	**3.36**	**359**	*e*Pn	**Pn**	**04 37 18.1**	**+0.9**
	SNR=3.2							
KRUC	**Moravsky**	**3.62**	**59**	*e*SN	**Sn**	**04 38 04.2**	**+1.2**
KRUC				*e*SG	**Sg**	**04 38 20.5**	**-1.4**
TNS	**Taunus Mts**	**3.63**	**325**	*e*Pn	**Pn**	**04 37 24.0**	**+3.0**
	SNR=13							
HAU	**Haudompre**	**3.68**	**283**	*e*Pn	**Pn**	**04 37 22.2**	**+0.6**
HAU	**Haudompre**	**3.68**	**283**	*e*Pg	**Pg**	**04 37 35.7**	**-0.4**
HAU				*e*Sn	**Sn**	**04 38 03.2**	**-1.2**
	comp=E,15nm,0.4s							
HAU				*e*Sg	**Sg**	**04 38 22.4**	**-1.3**
PVCC	**Panska Ves**	**3.76**	**29**	*e*SG	**Sg**	**04 38 26.2**	**-0.2**
	comp=E,15nm,0.3s							
ABH	**Alteburg**	**3.78**	**315**	Pn	**Pn**	**04 37 26.2**	**+3.3**
LPG	**La Plagne**	**3.85**	**244**	*e*P	**Pn**	**04 37 28.0**	**+3.8**
LPG				*e*Sn	**Sn**	**04 38 06.7**	**-2.5**
	comp=E,2.3nm,0.4s							
VRAC	**Vranov**	**3.85**	**57**	*e*SN	**Sn**	**04 38 10.9**	**+2.2**
VRAC				*e*SG	**Sg**	**04 38 27.9**	**-1.4**
LPL	**La Plagne**	**3.85**	**244**	*e*P	**Pn**	**04 37 27.8**	**+3.6**
LPL	**La Plagne**	**3.85**	**244**	*e*Pg	**Pg**	**04 37 38.6**	**-0.9**
LPL				*e*Sn	**Sn**	**04 38 07.2**	**-1.9**
	comp=E,1.0nm,0.3s							
LPL				*e*Sg	**Sg**	**04 38 27.6**	**-1.9**
	comp=E,1.6nm,0.3s							
CABF	**La Chapelle**	**3.89**	**262**	*e*Pn	**Pn**	**04 37 25.5**	**+0.9**
CABF	**La Chapelle**	**3.89**	**262**	*e*Pg	**Pg**	**04 37 39.5**	**-0.7**
CABF				*e*Sn	**Sn**	**04 38 09.2**	**-0.6**
CABF				*e*Sg	**Sg**	**04 38 29.1**	**-1.5**
	comp=E,5.0nm,0.4s							
CLL	**Collm**	**4.12**	**12**	*e*Pn	**Pn**	**04 37 29.0**	**+1.4**
CLL				*e*Sg	**Sg**	**04 38 38.0**	**+0.3**
	comp=Z,6.0nm,0.5s							
PAGF	**Fort de Pagny**	**4.20**	**290**	*e*Pg	**Pg**	**04 37 45.0**	**-1.1**
PAGF				*e*Sn	**Sn**	**04 38 15.6**	**-1.7**
PAGF				*e*Sg	**Sg**	**04 38 38.8**	**-1.7**
	comp=Z,5.6nm,0.2s							
MBDF	**Montbardon**	**4.27**	**235**	*e*P	**Pn**	**04 37 33.9**	**+4.0**
MBDF				*e*Sn	**Sn**	**04 38 17.0**	**-2.3**
	comp=E,1.4nm,0.3s							
UPC	**Upice**	**4.31**	**40**	*e*SG	**Sg**	**04 38 42.7**	**-1.1**
DPC	**Dobruska-Polom**	**4.33**	**43**	*e*SN	**Sn**	**04 38 20.8**	**+0.1**
DPC				*e*SG	**Sg**	**04 38 43.2**	**-1.6**
	comp=Z,6.8nm,0.6s							
SBF	**Sospel**	**4.54**	**223**	*e*P	**Pn**	**04 37 37.6**	**+4.1**
SBF				*e*Sn	**Sn**	**04 38 23.1**	**-2.7**
	comp=Z,3.7nm,0.3s							
SFTF	**Sexfontaines**	**4.58**	**284**	*e*Pn	**Pn**	**04 37 34.4**	**+0.5**
SFTF	**Sexfontaines**	**4.58**	**284**	*e*Pg	**Pg**	**04 37 51.7**	**-1.6**
	baz=106							
SFTF				*e*Sn	**Sn**	**04 38 24.3**	**-2.2**
SFTF				*e*Sg	**Sg**	**04 38 51.0**	**-1.5**
	comp=Z,2.4nm,0.3s							
MEZF	**Maizieres J'vi**	**4.62**	**288**	*e*Pg	**Pg**	**04 37 52.4**	**-1.8**
MEZF				*e*Sg	**Sg**	**04 38 51.9**	**-2.1**
	comp=Z,2.9nm,0.3s							
ORIF	**Oris-en-Rattie**	**4.68**	**242**	*e*P	Pn	04 37 40.2	+4.8
ORIF	**Oris-en-Rattie**	**4.68**	**242**	*e*Pg	**Pg**	**04 37 53.4**	**-1.9**
ORIF				*e*Sn	**Sn**	**04 38 26.7**	**-2.6**
	comp=Z,2.6nm,0.3s							
FRF	**La Foret Royal**	**5.14**	**225**	*e*P	**Pn**	**04 37 46.2**	**+4.5**
LOR	**Lormes**	**5.32**	**273**	*e*Pn	**Pn**	**04 37 44.7**	**+0.5**
LOR	**Lormes**	**5.32**	**273**	*e*Pg	**Pg**	**04 38 05.1**	**-2.5**
	baz=94							
LOR				*e*Sn	**Sn**	**04 38 42.2**	**-2.8**
LOR				*e*Sg	**Sg**	**04 39 13.7**	**-2.8**
	comp=Z,1.1nm,0.2s							
SMF	**Signal de Mont**	**5.41**	**266**	*e*Pn	**Pn**	**04 37 45.7**	**+0.4**
SMF	**Signal de Mont**	**5.41**	**266**	*e*Pg	**Pg**	**04 38 07.0**	**-2.1**
SMF				*e*Sn	**Sn**	**04 38 44.3**	**-2.7**
SMF				*e*Sg	**Sg**	**04 39 17.7**	**-1.4**
	comp=Z,0.7nm,0.2s							
SMRF	**Simiane la Rot**	**5.41**	**234**	*e*P	**Pn**	**04 37 49.7**	**+4.2**
VIVF	**Saint-Julien-l**	**5.45**	**246**	*e*Pn	**Pn**	**04 37 46.3**	**+0.4**
VIVF	**Saint-Julien-l**	**5.45**	**246**	*e*Pg	**Pg**	**04 38 07.4**	**-2.6**
VIVF				*e*Sn	**Sn**	**04 38 44.1**	**-4.0**
	comp=Z,1.3nm,0.3s							
SSF	**Saint Saulge**	**5.58**	**271**	*e*Pn	**Pn**	**04 37 48.2**	**+0.5**
AVF	**Avril sur Loir**	**5.71**	**268**	*e*Pn	**Pn**	**04 37 49.7**	**+0.2**
BGF	**Bois d'Agland**	**6.10**	**266**	*e*Pn	**Pn**	**04 37 55.6**	**+0.8**
BGF				*e*Sn	**Sn**	**04 39 00.6**	**-3.4**
	comp=Z,2.9nm,0.3s							
BGF				*e*Sg	**Sg**	**04 39 39.2**	**-2.0**
	comp=Z,2.7nm,0.4s							
LASF	**Ste Croix**	**6.35**	**242**	*e*Sn	**Sn**	**04 39 08.0**	**-2.4**
	comp=Z,1.3nm,0.4s							
TCF	**Toulx Ste Croi**	**6.58**	**265**	*e*Pn	**Pn**	**04 38 03.1**	**+1.6**
TCF				*e*Sn	**Sn**	**04 39 14.0**	**-2.0**
	comp=Z,1.3nm,0.3s							
CAF	**Calviac**	**7.09**	**254**	*e*P	**Pn**	**04 38 12.6**	**+4.1**
CAF				*e*Sn	**Sn**	**04 39 26.0**	**-2.5**
CAF				*e*Sg	**Sg**	**04 40 09.7**	**-3.3**
	comp=Z,0.3nm,0.2s							

IDC ***31*** *04:41:14.8±2.0,***9°87S***×166°61E,h0km,mb3.9/3, mb1 4.0/4,mb1mx3.7/36,mbtmp3.9/4,ML3.8/1,Error ellipse: s-maj=60.4km s-min=34.6km az=115.0,***Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.14**	**181**	Pn	Pn	04 44 09.1	0.0
	0.5nm,0.3s,baz=307,slow=13,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	**28.18**	**0**	T	T	05 16 29.8	
	baz=181,slow=76,SNR=3.8						
H11S3	**WAKE ISLAND Hy**	**28.18**	**0**	T	T	05 16 29.2	
	baz=181,slow=76,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**28.19**	**0**	T	T	05 16 28.6	
	baz=181,slow=76,SNR=4.4						
WRA	**Warramunga Arr**	**32.70**	**248**	P	P	04 47 49.3	+0.1
	0.5nm,0.6s,baz=80,slow=8.7,SNR=5.3						
ASAR	**Alice Springs**	**34.09**	**242**	P	P	04 48 01.2	-0.2
	1.1nm,0.6s,baz=63,slow=10,SNR=11						
ZALV	**Zalesovo Beam**	**93.10**	**324**	P	P	04 54 30.2	-0.3
	0.5nm,0.4s,baz=70,slow=4.7,SNR=3.3						
ESDC	**Sonseca Array**	**149.15**	**346**	PKPbc	PKPbc	05 01 05.2	-0.4
	0.1nm,0.3s,baz=24,slow=1.8,SNR=3.6						

IDC ***31*** *04:48:38.9±0.7,6°.35S×130°.38E,h0km,mb4.2/8, mb1 4.4/12,mb1mx4.1/36,mbtmp4.3/12,ML4.3/4,Error ellipse: s-maj=26.8km s-min=15.2km az=64.0*
ISCJB ***31*** *04:48:46.2±0.3,6°.44S±0°.03×130°.76E±0°.04,h90km, mb4.3/14,Error ellipse: s-maj=5.5km s-min=3.7km az=174.4*
NEIC ***31*** *04:48:47.6±0.8,6°.41S×130°.69E,h74km±8km,mb4.6/11, Error ellipse: s-maj=9.1km s-min=7.6km az=92.0*
DJA ***31*** *04:48:47.8±1.5,6°S±2°×13°1E±°,h18km±13km,M4.6/10, mb4.6/6,mB5.2/1,MLv4.7/10,Mw(mB)4.6/1*

ISC 31 04:48:48.7±0.5,6°31S±0°.04×130°71E±0°.06,h90km,n67, σ1§63/68,mb4.7/23,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.76**	**161**	*e*Pn	**Pn**	**04 49 15.0**	**-2.9**
SAUI				*e*Sn	**Sn**	**04 49 34.4**	**-5.6**
SAUI	**Saumlaki**	**1.76**	**161**	P	**Pn**	**04 49 20.1**	**+2.3**
SAUI				S	**Sn**	**04 49 41.3**	**+1.4**
BNDI	**Bandanaira**	**1.95**	**336**	P	**Pn**	**04 49 20.0**	**-0.3**
BNDI				S	**Sn**	**04 49 43.8**	**-0.5**
FAKI	**Fak Fak**	**3.70**	**25**	*e*Pn	**Pn**	**04 49 43.0**	**-0.8**
FAKI				*e*Sn	**Sn**	**04 50 25.2**	**-1.2**
FAKI	**Fak Fak**	**3.70**	**25**	P	**Pn**	**04 49 43.4**	**-0.4**
NLAI	**Namlea**	**4.72**	**310**	P	**Pn**	**04 49 57.8**	**+0.3**
SIJI	**Sorong**	**5.43**	**6**	Pn	**Pn**	**04 50 05.7**	**-1.6**
	20nm,0.3s,baz=198,slow=9.9,SNR=29						
SIJI				Sn	**Sn**	**04 51 02.7**	**-5.9**
	19nm,0.3s,baz=269,slow=23,SNR=19						
RKPI	**Ransiki, Papua**	**5.89**	**36**	P	**Pn**	**04 50 13.9**	**+0.4**
SOEI	**Soe**	**7.24**	**241**	*e*Pn	**Pn**	**04 50 32.2**	**+0.2**
SOEI				*e*Sn	**Sn**	**04 51 50.8**	**-1.9**
SOEI	**Soe**	**7.24**	**241**	P	**Pn**	**04 50 31.7**	**-0.3**
	50nm,0.6s,0.4nm						
TNTI	**Ternate**	**7.79**	**335**	P	**Pn**	**04 50 39.5**	**+0.1**
BATI	**Baumata**	**7.97**	**240**	Pn	**Pn**	**04 50 42.4**	**+0.5**
	11nm,0.3s,baz=45,slow=5.7,SNR=3.5						
BATI				Sn	**Sn**	**04 52 09.3**	**-1.2**
	4.7nm,0.3s,baz=49,slow=15,SNR=4.2						
BATI	**Baumata**	**7.97**	**240**	P	**Pn**	**04 50 41.8**	**-0.1**
EDFI	**Ende, Flores**	**9.26**	**254**	P	**Pn**	**04 51 00.1**	**+0.5**
JAY	**Jayapura**	**10.66**	**70**	Pn	**Pn**	**04 51 18.0**	**-0.5**
	1.1nm,0.3s,baz=279,slow=19,SNR=4.2						
FITZ	**Fitzroy Crossi**	**12.71**	**202**	Pn	Pn	04 51 40.2	-6.0
	2.5nm,0.3s,baz=24,slow=9.6,SNR=51						
FITZ				Sn	Sn	04 53 50.5	-15
	2.0nm,0.3s,baz=33,slow=17,SNR=10						
FITZ	**Fitzroy Crossi**	**12.71**	**202**	*e*Pn	Pn	04 51 41.5	-4.7
FITZ				*e*Sn	Sn	04 53 50.5	-15
WRAB	**Tennant Creek**	**13.99**	**166**	*e*Pn	Pn	04 51 57.8	-5.3
WRAB				*e*Sn	Sn	04 54 26.3	-11
WR1	**Warramunga Arr**	**14.00**	**166**	*e*Pn	Pn	04 51 57.7	-5.4
WR1				*e*Sn	Sn	04 54 22.0	-15
WRA	**Warramunga Arr**	**14.00**	**166**	Pn	Pn	04 51 57.7	-5.4
	1.2nm,0.3s,baz=332,slow=14,SNR=38						
WRA				Sn	Sn	04 54 22.0	-15
	2.7nm,0.3s,baz=342,slow=22,SNR=7.1						
WB2	**Warramunga Arr**	**14.01**	**166**	*e*Pn	Pn	04 51 58.3	-4.9
WB2				*e*Sn	Sn	04 54 24.8	-13
COEN	**Coen**	**14.43**	**123**	*e*Pn	**Pn**	**04 52 07.6**	**-1.1**
COEN				*e*Sn	Sn	04 54 37.4	-10
PMG	**Port Moresby**	**16.58**	**102**	Pn	**P**	**04 52 37.0**	**+0.2**
	1.4nm,0.3s,baz=295,slow=19,SNR=2.7						
AS31	**Alice Springs**	**17.53**	**170**	*e*Pn	**P**	**04 52 45.8**	**-1.5**
	5.6nm,0.4s						
AS31				*e*Sn	Sn	04 55 50.9	-12
ASAR	**Alice Springs**	**17.53**	**170**	P	**P**	**04 52 45.4**	**-1.8**
	2.0nm,0.3s,baz=21,slow=14,SNR=78						
ASAR				S	Sn	04 55 50.1	-12
	0.6nm,0.3s,baz=353,slow=24,SNR=6.4						
AS01	**Alice Springs**	**17.53**	**170**	*e*Pn	**P**	**04 52 45.3**	**-2.0**
MBWA	**Marble Bar**	**18.19**	**215**	*e*P	**P**	**04 52 53.3**	**-1.2**
	7.7nm,0.6s						
CTA	**Charters Tower**	**20.38**	**134**	P	**P**	**04 53 19.3**	**+0.9**
	1.7nm,0.6s,baz=315,slow=11,SNR=2.9						
FORT	**Forrest**	**24.47**	**186**	*e*P	**P**	**04 53 58.8**	**-0.6**
	42nm,1.3s						
MORW	**Morawa**	**26.54**	**210**	*e*P	**P**	**04 54 17.8**	**-0.4**
	19nm,1.4s						
BBOO	**Buckleboo**	**26.83**	**170**	*e*P	**P**	**04 54 17.9**	**-2.8**
	42nm,1.4s						
STKA	**Stephens Creek**	**27.40**	**160**	P	**P**	**04 54 26.9**	**+1.1**
	2.0nm,0.6s,baz=329,slow=12,SNR=2.6						
NWAO	**Narrogin (SRO)**	**29.30**	**204**	P	**P**	**04 54 42.1**	**-0.6**
	4.3nm,0.5s,baz=238,slow=13,SNR=4.4						
CM31	**Chiang Mai Arr**	**39.84**	**309**	*e*P	**P**	**04 56 12.4**	**-1.3**
	15nm,1.4s						
CMAR	**Chiang Mai Arr**	**39.84**	**309**	P	**P**	**04 56 12.4**	**-1.3**
	1.2nm,0.3s,baz=143,slow=6.9,SNR=5.1						
ODAN	**Odare**	**53.34**	**310**	*e*P	**P**	**04 57 59.4**	**0.0**
	11nm,0.4s						
RAMN	**Ramite**	**53.99**	**310**	*e*P	**P**	**04 58 04.5**	**+0.4**
	34nm,0.4s						
JIRN	**Jiri**	**54.67**	**310**	*e*P	**P**	**04 58 09.3**	**+0.1**
	9.3nm,0.4s						
GUN	**Gumba**	**55.04**	**310**	*e*P	**P**	**04 58 11.9**	**+0.1**
	20nm,0.4s						
PKI	**Pulchoki**	**55.22**	**310**	*e*P	**P**	**04 58 13.0**	**-0.1**
	8.4nm,0.5s						
KKN	**Kakani**	**55.43**	**310**	*e*P	**P**	**04 58 14.3**	**-0.2**
	8.6nm,0.4s						
DMN	**Daman**	**55.47**	**310**	*e*P	**P**	**04 58 14.8**	**0.0**
	8.2nm,0.4s						
KOLN	**Kolanda**	**56.71**	**309**	*e*P	**P**	**04 58 23.8**	**+0.2**
	6.4nm,0.4s						
PYUN	**Piuthan**	**57.34**	**309**	*e*P	**P**	**04 58 28.3**	**+0.3**
	14nm,0.8s						
SONA0	**Songino Array**	**58.02**	**341**	*e*P	**P**	**04 58 33.8**	**+1.4**
SONM	**Songino Array**	**58.02**	**341**	P	**P**	**04 58 33.7**	**+1.4**
	1.0nm,0.6s,baz=167,slow=7.0,SNR=3.1						
MK01	**Makanchi Array**	**68.02**	**326**	*e*P	**P**	**04 59 39.6**	**+1.2**
MK31	**Makanchi Array**	**68.04**	**326**	*e*P	**P**	**04 59 39.9**	**+1.3**
	2.2nm,0.8s						
MK32	**Makanchi Array**	**68.04**	**326**	*e*P	**P**	**04 59 39.9**	**+1.3**
MKAR	**Makanchi Array**	**68.04**	**326**	P	**P**	**04 59 39.9**	**+1.3**
	2.4nm,0.4s,baz=114,slow=8.1,SNR=57						
MKAR	**Makanchi Array**	**68.04**	**326**	*e*P	**P**	**04 59 39.9**	**+1.3**
	23nm,0.4s						
MAKZ	**Makanchi**	**68.22**	**326**	*e*P	**P**	**04 59 40.8**	**+1.1**
	3.1nm,0.4s						
ZALV	**Zalesovo Beam**	**71.28**	**333**	P	**P**	**04 59 58.6**	**+0.4**
	1.0nm,0.6s,baz=114,slow=3.7,SNR=5.6						
ZAA1	**Zalesovo Array**	**71.29**	**333**	*e*P	**P**	**04 59 58.6**	**+0.3**
ABKAR	**Akbulak array**	**82.41**	**321**	*e*P	**P**	**05 01 01.7**	**+0.8**
	9.4nm,1.4s						
KMBO	**Kilima Mbogo**	**93.31**	**269**	P	**P**	**05 01 54.9**	**+0.2**
	0.6nm,0.3s,baz=45,slow=16,SNR=2.3						
KMBO	**Kilima Mbogo**	**93.31**	**269**	*e*P	**P**	**05 01 54.9**	**+0.2**
	6.6nm,1.5s						
MOD	**Modoc Plateau**	**108.31**	**48**	*e*Pdif	**Pdif**	**05 03 04.1**	**+2.9**
PV21	**Cone Mtn., Par**	**117.46**	**50**	*e*Pdif	**Pdif**	**05 03 44.1**	**+2.0**
PV19	**Morning Glory**	**117.52**	**50**	*e*Pdif	**Pdif**	**05 03 42.4**	**+0.1**
SMCO	**Snowmass**	**118.80**	**49**	*e*Pdif	**Pdif**	**05 03 51.1**	**+2.9**
TORD	**Torodi Ar. Bea**	**129.36**	**282**	PKP	**PKPdf**	**05 07 48.3**	**+0.5**
	0.2nm,0.5s,baz=40,slow=1.7,SNR=6						
TOA1	**Torodi Ar. Sit**	**129.36**	**282**	*e*PKPdf	**PKPdf**	**05 07 48.3**	**+0.5**
DBIC	**Dimbokro**	**135.86**	**273**	PKP	**PKPdf**	**05 08 01.9**	**+1.8**
	0.7nm,0.5s,baz=135,slow=2.9,SNR=3.0						
LVC	**Limon Verde**	**145.43**	**147**	PKPbc	**PKPab**	**05 08 21.0**	**+3.1**
	2.0nm,0.6s,baz=121,slow=5.9,SNR=3.3						
CPUP	**Villa Florida**	**146.63**	**167**	PKPbc	**PKPab**	**05 08 22.2**	**+0.4**
	1.1nm,0.7s,baz=185,slow=6.9,SNR=3.0						
LPAZ	**La Paz**	**150.81**	**141**	PKPbc	**PKPbc**	**05 08 35.0**	**+2.5**
	1.4nm,0.4s,baz=252,slow=3.2,SNR=14						

ISK ***31*** *04:50:58.4,42°.33N×40°.94E,h10km,ML3.5/7*
MOS ***31*** *04:50:58.6±0.0,42°.45N×40°.98E,h3km,MPVA4.1*
NORS ***31*** *04:50:59.0±0.0,42°.53N×41°.31E,h2km,MPVA4.0*
TIF ***31*** *04:50:59.0,42°.35N×40°.93E,h40km±2km*
DDA ***31*** *04:51:00.4,42°.13N×40°.85E,h7km±3km,ML3.7*

ISCJB ***31*** *04:51:00.0±0.8,42°.36N±0°.02×40°.88E±0°.03,h24km±8km, Error ellipse: s-maj=3.5km s-min=3.2km az=147.5*

ISC 31 04:50:57.8±1.2,42°41N±0°02×40°95E±0°.02,h7km±10km, n70,σ1§37/114,1D,Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.98**	**145**	PG	**Pg**	**04 51 17.3**	**+0.7**
BATM	**Batumi**	**0.98**	**145**	P	**Pg**	**04 51 17.3**	**+0.7**
BATM				S	**Sb**	**04 51 31.1**	**+0.8**
DOMR	**Dombai**	**1.01**	**29**	*e*PG	**Pn**	**04 51 18.1**	**-0.6**
DOMR				*e*S	**Sb**	**04 51 30.3**	**-1.2**
DOMR	**Dombai**	**1.01**	**29**	*i* Pg	**Pn**	**04 51 18.1**	**-0.6**
DOMR				*e*Sg	**Sb**	**04 51 30.2**	**-1.2**
BCA	**Borcka**	**1.09**	**152**	PG	**Pb**	**04 51 18.3**	**-0.7**
BCA				SG	**Sg**	**04 51 32.6**	**-0.2**
ARXR	**Arkhyz**	**1.18**	**12**	*e*Pg	**Pb**	**04 51 20.1**	**-0.6**
ARXR				*e*Sg	**Sg**	**04 51 34.7**	**-1.0**
DBOC	**Borcka**	**1.19**	**153**	IAML_P			
	comp=Z,21µm,0.1s						
DBOC				*i* P	**Pn**	**04 51 20.4**	**-0.7**
CHOM	**Cayeli-Rize**	**1.32**	**186**	PN	**Pn**	**04 51 22.3**	**-0.4**
CHAY	**Cayeli-Rize**	**1.33**	**187**	PN	**Pn**	**04 51 22.8**	**-0.1**
CHAY				SN	**Sb**	**04 51 40.4**	**0.0**
RPOR	**Krasnaya Polya**	**1.38**	**339**	*e*PG	**Pb**	**04 51 24.0**	**-0.1**
RPOR				*e*S	**Sg**	**04 51 42.8**	**+0.5**
RPOR	**Krasnaya Polya**	**1.38**	**339**	*e*Pg	**Pn**	**04 51 23.5**	**-0.2**
RPOR				*e*Sg	**Sg**	**04 51 42.7**	**+0.4**
ARTV	**Artvin**	**1.43**	**149**	IAML_P			
	comp=Z,14µm,0.1s						
ARTV				*i* P	**Pn**	**04 51 24.6**	**+0.2**
ARTV				*i* S	**Sn**	**04 51 41.9**	**-1.7**
SOC	**Sochi**	**1.48**	**323**	*e*PG	**Pb**	**04 51 25.8**	**+0.1**
SOC	**Sochi**	**1.48**	**323**	*e*Pg	**Pb**	**04 51 25.7**	**-0.1**
SOC				*e*Sg	**Sg**	**04 51 45.4**	**-0.1**
DBAD	**Bademkaya**	**1.50**	**158**	IAML_P			
	comp=Z,10µm,0.1s						
DBAD				*i* P	**Pn**	**04 51 25.4**	**+0.1**
DBAD				*i* S	**Sn**	**04 51 43.3**	**-1.8**
DAGI	**Agillar**	**1.51**	**151**	IAML_P			
	comp=Z,3µm,0.2s						
DAGI				*i* P	**Pn**	**04 51 25.2**	**-0.3**
DAGI				*i* S	**Sn**	**04 51 44.2**	**-1.4**
NEY	**Neytrino**	**1.55**	**57**	*e*PG	**Pn**	**04 51 26.1**	**0.0**
NEY				*e*S	**Sn**	**04 51 45.5**	**-1.1**
NEY				pmax	pmax		
	comp=Z,361nm,0.7s						
NEY				smax	smax		
	comp=E,238nm,0.4s						
NEY	**Neytrino**	**1.55**	**57**	*i* Pg	**Pn**	**04 51 26.3**	**+0.2**
NEY				*e*Sg	**Sn**	**04 51 45.1**	**-1.5**
DDEM	**Demirkent**	**1.63**	**158**	IAML_P			
	comp=Z,7µm,0.1s						
DDEM				*i* P	**Pn**	**04 51 27.9**	**+0.7**
DDEM				*i* S	**Sn**	**04 51 48.5**	**+0.1**
KTUT	**Trabzon**	**1.67**	**212**	PN	**Pn**	**04 51 27.7**	**+0.1**
SHA1	**Shidzhatmaz**	**1.83**	**43**	*e*PN	**Pn**	**04 51 30.5**	**+0.6**
SHA1				*e*S	**Sb**	**04 51 54.3**	**-0.7**
SHA1	**Shidzhatmaz**	**1.83**	**43**	*e*Pg	**Pb**	**04 51 31.2**	**-0.6**
SHA1				*e*Sg	**Sb**	**04 51 54.3**	**-0.7**
LZRR	**Lazarevskoye**	**1.91**

*NEIC **31** 04:54:31.4±0.4, 10.°59S×166.°42E, h10km, mb4.5/8, Error ellipse: s-maj=11.8km s-min=9.9km az=115.0*
*ISCJB **31** 04:54:33.7±0.4, 10.°72S±0.°08×166.°38E±0.°08, h36km, mb4.4/15, MS4.3/2, Error ellipse: s-maj=12.1km s-min=11.3km az=30.5*

ISC 31 04:54:35.5±0.6, 10.°7S±0.°1×166.°5E±0.°1, h36km, n35, σ1§33/26, mb4.2/15, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.58**	**280**	Pn	**Pn**	**04 56 11.8**	**+2.1**
	21nm,0.3s,baz=155,slow=6.1,SNR=2.8						
DZM	**Mont Dzumac**	**11.34**	**180**	Pn	**Pn**	**04 57 16.0**	**+0.9**
	0.3nm,0.3s,baz=45,slow=13,SNR=2.5						
EIDS	**Eidsvold**	**20.68**	**223**	*e*P	**P**	**04 59 11.9**	**-0.5**
	17nm,1.3s						
RAO	**Raoul Island**	**23.53**	**144**	P	**P**	**04 59 41.1**	**-1.4**
	1µm,0.5s,baz=270,slow=20,SNR=2.7						
NIUE	**Niue**	**24.24**	**113**	*e*P	**P**	**04 59 50.7**	**+1.5**
	272nm,1.5s						
H11S2	**WAKE ISLAND Hy**	**28.97**	**0**	T	T	05 31 27.7	
	baz=184						
H11S3	**WAKE ISLAND Hy**	**28.97**	**0**	T	T	05 31 28.4	
	baz=184						
H11S1	**WAKE ISLAND Hy**	**28.99**	**0**	T	T	05 31 29.2	
	baz=184						
H11N1	**WAKE ISLAND Hy**	**30.19**	**1**	T	T	05 32 58.1	
	baz=184						
H11N3	**WAKE ISLAND Hy**	**30.19**	**1**	T	T	05 32 59.0	
	baz=184						
H11N2	**WAKE ISLAND Hy**	**30.21**	**1**	T	T	05 32 59.4	
	baz=184						
WR1	**Warramunga Arr**	**32.32**	**250**	*e*P	**P**	**05 01 00.3**	**-1.1**
	4.1nm,0.9s						
WRA	**Warramunga Arr**	**32.32**	**250**	P	**P**	**05 01 00.3**	**-1.1**
	3.1nm,1.1s,baz=78,slow=9.6,SNR=4.7						
AS31	**Alice Springs**	**33.63**	**243**	*e*P	**P**	**05 01 11.5**	**-1.4**
	1.6nm,1.2s						
ASAR	**Alice Springs**	**33.63**	**243**	P	**P**	**05 01 11.5**	**-1.4**
	1.9nm,0.8s,baz=74,slow=9.4,SNR=8.6						
RAR	**Rarotonga**	**34.00**	**112**	LR	LR	05 12 30.5	
	comp=Z,273nm,19.9s,baz=300,slow=32						
NWAO	**Narrogin (SRO)**	**50.30**	**236**	LR	LR	05 25 37.2	
	comp=Z,500nm,18.9s,baz=312,slow=37						
USRK	**Ussuriysk Ar.**	**62.95**	**333**	P	**P**	**05 04 57.6**	**-0.7**
	0.7nm,0.5s,baz=134,slow=6.4,SNR=2.8						
SONA0	**Songino Array**	**78.81**	**323**	*e*P	**P**	**05 06 35.5**	**+0.8**
SONM	**Songino Array**	**78.81**	**323**	P	**P**	**05 06 35.6**	**+0.8**
	0.4nm,0.5s,baz=156,slow=4.6,SNR=2.8						
ILAR	**Eielson Array**	**82.92**	**18**	P	**P**	**05 06 55.8**	**-0.4**
	0.8nm,0.9s,baz=230,slow=6.7,SNR=5.6						
ILB	**Eielson Array**	**82.92**	**18**	*e*P	**P**	**05 06 55.8**	**-0.4**
	9.9nm,1.5s						
NV01	**Mina Array Sit**	**85.21**	**50**	*e*P	**P**	**05 07 09.5**	**+0.8**
NVAR	**Mina Array Bea**	**85.21**	**50**	P	**P**	**05 07 09.5**	**+0.8**
	0.5nm,0.8s,baz=224,slow=7.5,SNR=3.3						
KNB	**Kanab**	**89.01**	**52**	*e*P	**P**	**05 07 30.6**	**+3.5**
	4.2nm,1.3s						
LRM	**Limekiln Ridge**	**91.40**	**44**	*e*P	P	05 07 45.0	+6.8
MK01	**Makanchi Array**	**93.75**	**317**	*e*P	**P**	**05 07 48.0**	**-0.7**
MK31	**Makanchi Array**	**93.76**	**317**	*e*P	**P**	**05 07 48.5**	**-0.3**
	1.3nm,0.9s						
MK32	**Makanchi Array**	**93.76**	**317**	*e*P	**P**	**05 07 48.3**	**-0.5**
MKAR	**Makanchi Array**	**93.76**	**317**	P	**P**	**05 07 48.3**	**-0.5**
	1.4nm,0.8s,baz=101,slow=6.3,SNR=11						
MKAR	**Makanchi Array**	**93.76**	**317**	*e*P	**P**	**05 07 48.5**	**-0.3**
	6.9nm,0.8s						
MAKZ	**Makanchi**	**93.97**	**317**	*e*P	**P**	**05 07 47.9**	**-1.8**
	4.9nm,1.2s						
YKA	**Yellowknife Ar**	**94.29**	**27**	P	**P**	**05 07 49.2**	**-1.5**
	0.1nm,0.5s,baz=244,slow=5.3,SNR=3.7						
YKB5	**Yellowknife Ar**	**94.29**	**27**	*e*P	**P**	**05 07 49.2**	**-1.5**
ESDC	**Sonseca Array**	**149.89**	**345**	PKPbc	**PKPbc**	**05 14 21.8**	**-0.5**
	0.1nm,0.3s,baz=354,slow=4.5,SNR=4.4						

*IDC **31** 05:05:57.6±0.7, 44.°60S×81.°88W, h0km, mb4.2/15, mb1 4.3/17, mb1mx4.2/32, mbtmp4.2/17, ML3.8/2, MS4.3/1, Ms1 4.2/1, ms1mx3.7/27, Error ellipse: s-maj=22.5km s-min=15.3km az=95.0*
*ISCJB **31** 05:05:58.4±0.4, 44.°49S±0.°06×81.°74W±0.°08, h10km, mb4.6/31, Error ellipse: s-maj=9.2km s-min=8.0km az=152.6*
*NEIC **31** 05:05:59.0±0.3, 44.°61S×81.°73W, h10km, mb4.8/10, Error ellipse: s-maj=8.0km s-min=7.5km az=102.0*

ISC 31 05:05:59.1±0.6, 44.°60S±0.°08×81.°85W±0.°10, h10km, n58, σ1§18/59, mb4.7/31, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**9.18**	**69**	Pn	**Pn**	**05 08 11.2**	**-0.5**
	0.3nm,0.3s,baz=260,slow=10,SNR=8.8						
PLCA				Sn	**Sn**	**05 09 57.6**	**+2.6**
	0.0nm,0.3s,baz=291,slow=16,SNR=2.1						
PLCA				LR	LR	05 11 19.2	
	comp=Z,2µm,20.6s,baz=234,slow=35						
GO06	**Curarrehue**	**9.20**	**61**	*e*Pn	**Pn**	**05 08 10.2**	**-1.8**
USHA	**Ushuaia**	**13.40**	**145**	Pn	**Pn**	**05 09 07.0**	**-2.1**
	0.2nm,0.3s,baz=222,slow=14,SNR=2.0						
ROC1	**El Roble**	**14.34**	**40**	*e*Pn	**Pn**	**05 09 20.4**	**-2.0**
PEL	**Peldehue**	**14.36**	**41**	*e*Pn	**Pn**	**05 09 21.4**	**-1.0**
CPUP	**Villa Florida**	**26.88**	**55**	P	**P**	**05 11 40.7**	**+0.6**
	1.3nm,0.7s,baz=222,slow=12,SNR=2.2						
LPAZ	**La Paz**	**30.51**	**27**	P	**P**	**05 12 14.7**	**+1.6**
	1.2nm,0.9s,baz=230,slow=10,SNR=4.0						
LPAZ	**La Paz**	**30.51**	**27**	P	**P**	**05 12 14.7**	**+1.6**
	4.7nm,1.0s						
BDFB	**Brasilia**	**40.61**	**56**	P	**P**	**05 13 39.5**	**+0.2**
	1.6nm,0.8s,baz=174,slow=9.2,SNR=2.8						
VNA3	**Neumayer Olymp**	**42.87**	**153**	P	**P**	**05 13 58.9**	**+1.7**
VNA1	**Neumayer--Stat**	**43.36**	**152**	P	**P**	**05 14 03.8**	**+2.8**
VNA2	**Neumayer--Watz**	**43.63**	**153**	P	**P**	**05 14 05.0**	**+1.8**
SNAA	**Sanae**	**45.02**	**154**	P	**P**	**05 14 15.9**	**+1.5**
SNAA	**Sanae**	**45.02**	**154**	P	**P**	**05 14 15.9**	**+1.5**
	7.8nm,0.9s,baz=240,slow=7.0,SNR=13						
QSPA	**South Pole Qui**	**45.64**	**180**	P	**P**	**05 14 20.3**	**+0.8**
	4.8nm,1.0s,baz=137,slow=3.2,SNR=9.6						
PTGA	**Pitinga**	**47.80**	**30**	P	**P**	**05 14 36.6**	**-0.2**
	1.0nm,0.3s,baz=320,slow=20,SNR=4.1						
PTGA	**Pitinga**	**47.80**	**30**	*e*P	**P**	**05 14 36.0**	**-0.8**
VNDA	**Vanda**	**52.11**	**194**	P	**P**	**05 15 10.3**	**+1.5**
	4.4nm,1.1s,baz=149,slow=1.4,SNR=3.6						
VNDA	**Vanda**	**52.11**	**194**	*e*P	**P**	**05 15 09.8**	**+1.0**
SDV	**Santo Domingo**	**54.20**	**14**	P	**P**	**05 15 26.0**	**+0.9**
	1.2nm,0.5s,baz=148,slow=11,SNR=3.3						
JTS	**JuntasAbangare**	**54.71**	**356**	P	**P**	**05 15 30.4**	**+1.9**
	3.5nm,0.8s,baz=349,slow=18,SNR=2.6						
JTS	**JuntasAbangare**	**54.71**	**356**	*e*P	**P**	**05 15 28.0**	**-0.5**
	13nm,1.0s						
LTX	**Lajitas**	**76.23**	**340**	*e*P	**P**	**05 17 47.8**	**+0.2**
TXAR	**Lajitas Array**	**76.23**	**340**	P	**P**	**05 17 47.8**	**+0.2**
	1.0nm,0.9s,baz=182,slow=8.8,SNR=6.8						
BOSA	**Boshof**	**81.45**	**122**	P	**P**	**05 18 17.1**	**+0.4**
	2.8nm,1.0s,baz=201,slow=14,SNR=2.4						
DBIC	**Dimbokro**	**85.47**	**76**	P	**P**	**05 18 36.4**	**-0.9**
	2.7nm,0.9s,baz=212,slow=5.9,SNR=3.5						
DBIC	**Dimbokro**	**85.47**	**76**	*e*P	**P**	**05 18 36.6**	**-0.7**
	12nm,1.3s						
CCUT	**Cedar City**	**86.60**	**335**	*e*P	**P**	**05 18 43.0**	**+0.5**
	8.7nm,1.3s						
TPNV	**Topopah Spring**	**86.94**	**333**	*e*P	**P**	**05 18 45.5**	**+1.3**
	8.3nm,1.1s						
Q16A	**Castle Valley**	**87.25**	**338**	*e*P	**P**	**05 18 45.6**	**0.0**
	7.1nm,1.2s						
PSUT	**Pine Spring**	**87.65**	**335**	*e*P	**P**	**05 18 48.2**	**+0.5**
	10nm,1.3s						
N23A	**Red Feather La**	**87.82**	**342**	*e*P	**P**	**05 18 47.8**	**-0.7**
	13nm,1.1s						
R11A	**Troy Canyon, C**	**88.01**	**334**	*e*P	**P**	**05 18 50.2**	**+0.9**
	5.0nm,1.2s						
NLU	**North Lily Min**	**88.46**	**337**	*e*P	**P**	**05 18 52.0**	**+0.5**
	18nm,1.2s						
DUG	**Dugway, Tooele**	**88.89**	**337**	*e*P	**P**	**05 18 53.9**	**+0.5**
	9.8nm,1.1s						
NV01	**Mina Array Sit**	**88.96**	**332**	*e*P	**P**	**05 18 54.5**	**+0.7**
NVAR	**Mina Array Bea**	**88.96**	**332**	P	**P**	**05 18 52.6**	**-1.3**
	0.6nm,0.7s,baz=149,slow=7.4,SNR=5.1						
RYN	**Ryan**	**89.22**	**332**	*e*P	**P**	**05 18 55.6**	**+0.6**
	4.6nm,1.0s						
TCUT	**Toone Canyon**	**89.37**	**338**	*e*P	**P**	**05 18 55.1**	**-0.6**
	51nm,1.5s						
K22A	**Casper**	**89.63**	**342**	*e*P	**P**	**05 18 57.0**	**+0.2**
	20nm,1.4s						
HWUT	**Hardware Ranch**	**89.87**	**338**	*e*P	**P**	**05 18 58.0**	**0.0**
	7.7nm,1.3s						
AFDM	**Forest Hills D**	**90.34**	**331**	*e*P	**P**	**05 19 00.3**	**+0.3**
	17nm,1.6s						
HVU	**Hansel Valley**	**90.35**	**337**	*e*P	**P**	**05 19 00.5**	**+0.3**
	8.7nm,1.0s						
BW06	**Boulder Array**	**90.44**	**340**	*e*P	**P**	**05 19 00.5**	**-0.2**
	4.8nm,1.1s						
PD31	**Pinedale Array**	**90.44**	**340**	*e*P	**P**	**05 19 00.2**	**-0.4**
PDAR	**Pinedale Array**	**90.44**	**340**	P	**P**	**05 19 00.5**	**-0.2**
	1.4nm,1.0s,baz=162,slow=5.9,SNR=8.5						
PDAR	**Pinedale Array**	**90.44**	**340**	*e*P	**P**	**05 19 00.1**	**-0.6**
ORV	**Oroville**	**91.07**	**330**	*e*P	**P**	**05 19 04.4**	**+1.0**
	22nm,1.5s						
TORD	**Torodi Ar. Bea**	**94.59**	**76**	P	**P**	**05 19 18.9**	**-1.3**
	0.7nm,1.1s,baz=255,slow=2.8,SNR=3.1						
TOA1	**Torodi Ar. Sit**	**94.59**	**76**	*e*P	**P**	**05 19 18.9**	**-1.3**
ILAR	**Eielson Array**	**120.20**	**333**	PKP	**PKPdf**	**05 24 47.3**	**-1.8**
	0.5nm,0.9s,baz=180,slow=1.8,SNR=3.7						
ILB	**Eielson Array**	**120.20**	**333**	*e*PKPdf	**PKPdf**	**05 24 48.0**	**-1.0**
PBKT	**Sadao Pong**	**151.95**	**186**	*e*PKPdf	**PKPdf**	**05 25 47.6**	**-0.5**
ABKAR	**Akbulak array**	**153.69**	**66**	*e*PKPdf	**PKPdf**	**05 25 48.6**	**-1.1**
CM31	**Chiang Mai Arr**	**153.92**	**182**	*e*PKPdf	**PKPdf**	**05 25 49.9**	**-1.1**
CMAR	**Chiang Mai Arr**	**153.92**	**182**	PKPbc	**PKPbc**	**05 25 57.1**	**-1.9**
	0.6nm,0.3s,baz=193,slow=3.5,SNR=5.7						
MK32	**Makanchi Array**	**168.69**	**73**	*e*PKPab	**PKPab**	**05 27 15.2**	**-0.8**
MKAR	**Makanchi Array**	**168.69**	**73**	PKPab	**PKPab**	**05 27 15.2**	**-0.8**
	0.5nm,1.0s,baz=283,slow=7.2,SNR=3.2						

*ISCJB **31** 05:10:52.9±0.5, 27.°96S±0.°02×70.°86W±0.°05, h57km±4km, mb4.3/18, Error ellipse: s-maj=7.9km s-min=3.9km az=0.7*
*NEIC **31** 05:10:52.0±0.0, 28.°08S×70.°81W, h44km, mb4.6/8, ML4.8(GUC), After GUC.*
NEIC Felt [IV] at Copiapo, Huasco and Tierra Amarilla; [III] at Vallenar; [II] at Alto del Carmen, Coquimbo and La Serena.
*GUC **31** 05:10:52.8±0.6, 28.°08S×70.°81W, h44km±7km, ML4.8*
*SJA **31** 05:10:54.2±0.7, 28.°16S×70.°70W, h20km±4km, ML4.5, MW4.7*
*IDC **31** 05:10:54.4±0.5, 28.°04S×70.°70W, h48km±4km, mb4.0/12, mb1 4.1/16, mb1mx4.0/31, mbtmp4.1/16, Error ellipse: s-maj=17.1km s-min=12.6km az=82.0*
*VAO **31** 05:10:54.6±0.6, 28.°38S×71.°04W, h85km, mb4.5*

ISC 31 05:10:53.2±0.4, 28.°02S±0.°03×70.°92W±0.°06, h43km±3km, n112, σ1§33/125, mb4.3/18, 1C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO03	**Copiap**	**0.74**	**55**	*e*Pn	**Pn**	**05 11 08.4**	**+1.0**
GO03				*e*Sn	**Sn**	**05 11 18.0**	**+0.5**
GO03	**Copiap**	**0.74**	**55**	*i* P	**Pn**	**05 11 08.0**	**+0.7**
GO03				*i* S	**Sn**	**05 11 18.6**	**+1.1**
GO03	**Copiap**	**0.74**	**55**	*e*P	**Pn**	**05 11 07.7**	**+0.3**
GO03				*e*S	**Sn**	**05 11 18.4**	**+0.9**
GO03				IAML		05 11 19.1	
	comp=N,45µm,0.6s						
LCO	**Las Campanas**	**1.00**	**169**	*e*Pn	**Pn**	**05 11 11.3**	**+0.2**
LCO				*e*Sn	**Sn**	**05 11 22.0**	**-2.1**
LCO	**Las Campanas**	**1.00**	**169**	*i* P	**Pn**	**05 11 11.2**	**+0.2**
LCO				*i* S	**Sn**	**05 11 23.2**	**-1.0**
LCO	**Las Campanas**	**1.00**	**169**	||*i* P	**Pn**	**05 11 11.3**	**+0.2**
LCO	**Las Campanas**	**1.00**	**169**	*e*P	**Pn**	**05 11 11.2**	**+0.2**
CRCH	**Chaqaral**	**1.69**	**9**	*e*P	**Pn**	**05 11 22.4**	**+2.2**
GO04	**Tololo Observa**	**2.14**	**177**	*e*Pn	**Pn**	**05 11 28.7**	**+2.0**
GO04	**Tololo Observa**	**2.14**	**177**	*e*P	**Pn**	**05 11 27.7**	**+1.0**
GO04				*e*S	**Sn**	**05 11 55.3**	**+3.1**
ARND	**Rodeo**	**2.48**	**150**	*i* P	**Pn**	**05 11 34.7**	**+2.6**
ACDV	**Cuesta del Vie**	**2.66**	**144**	*i* P	**Pn**	**05 11 35.7**	**+2.1**
ACCO	**Cerro Coronel**	**3.02**	**148**	*i* P	**Pn**	**05 11 42.1**	**+3.3**
GO02	**Mina Guanaco**	**3.09**	**23**	*e*Pn	**Pn**	**05 11 41.1**	**+1.4**
GO02	**Mina Guanaco**	**3.09**	**23**	*e*P	**Pn**	**05 11 41.6**	**+1.9**
GO02				IAML		05 12 35.7	
	comp=N,4µm,0.3s						
CMCH	**Combarbala**	**3.14**	**181**	*e*P	**Pn**	**05 11 41.5**	**+1.3**
RTLL	**Cerro Villicun**	**3.92**	**148**	*i* P	**Pn**	**05 11 53.5**	**+2.6**
RTLS	**Leoncito**	**4.02**	**160**	*i* P	**Pn**	**05 11 55.9**	**+3.5**
RTLS				IAML		05 13 08.6	
	comp=Z,739nm,0.7s						
RTCV	**Cerro Valdivia**	**4.35**	**152**	*i* P	**Pn**	**05 11 59.3**	**+2.6**
PB10	**IPOC Station P**	**4.50**	**4**	*e*Pn	**Pn**	**05 11 58.0**	**-0.9**
PB10				*e*Sn	**Sn**	**05 12 08.0**	**-1.0**
ROC1	**El Roble**	**4.94**	**181**	*e*Pn	**Pn**	**05 12 05.0**	**-0.1**
PEL	**Peldehue**	**5.11**	**178**	*e*Pn	**Pn**	**05 12 08.2**	**+1.0**
LVC	**Limon Verde**	**5.69**	**19**	P	**Pn**	**05 12 15.4**	**-0.1**
	comp=Z,4.7nm,0.3s,baz=196,slow=11,SNR=8.8						
LVC				S	**Sn**	**05 13 20.0**	**+0.3**
	comp=Z,23nm,0.3s,baz=210,slow=3.5,SNR=3.5						
LVC				Lg	Lg	05 13 41.2	
	comp=Z,42nm,0.3s,baz=155,slow=23,SNR=8.0						
PB04	**IPOC Station P**	**5.71**	**7**	*e*Pn	**Pn**	**05 12 14.0**	**-1.6**
PB04				*e*Sn	**Sn**	**05 13 18.2**	**-1.8**
GO05	**Huala**	**7.02**	**187**	*e*Pn	**Pn**	**05 12 31.7**	**-1.6**
PB01	**IPOC Station P**	**7.07**	**11**	*e*Pn	**Pn**	**05 12 29.8**	**-1.4**
PB11	**IPOC Station P**	**8.31**	**8**	*e*Pn	**Pn**	**05 12 49.2**	**-2.0**
MNMC	**Minye Minye**	**8.94**	**8**	*e*Pn	**Pn**	**05 12 59.8**	**-0.1**
GO06	**Curarrehue**	**11.54**	**182**	*e*Pn	**Pn**	**05 13 34.6**	**-0.8**
LPAZ	**La Paz**	**11.96**	**13**	P	**Pn**	**05 13 40.5**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=229,slow=7.3,SNR=12						
LPAZ	**La Paz**	**11.96**	**13**	*e*Pn	**Pn**	**05 13 40.4**	**-1.3**
LPAZ	**La Paz**	**11.96**	**13**	*e*P	Pn	05 13 46.8	+5.1
CPUP	**Villa Florida**	**12.22**	**85**	P	**Pn**	**05 13 42.3**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=264,slow=13,SNR=8.8						
CPUP	**Villa Florida**	**12.22**	**85**	*e*Pn	**Pn**	**05 13 43.9**	**-0.7**
PLCA	**Paso Flores**	**12.68**	**179**	P	**Pn**	**05 13 51.0**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=63,slow=18,SNR=3.4						
PLCA	**Paso Flores**	**12.68**	**179**	*e*Pn	**Pn**	**05 13 51.2**	**+0.3**
CPSB	**Pacapava Do Su**	**15.45**	**103**	*e*P	**Pn**	**05 14 29.0**	**+0.9**
PLTB	**Pedras Altas**	**15.47**	**108**	*e*P	**Pn**	**05 14 27.0**	**-1.4**
AQDB	**Aquidauana**	**15.78**	**65**	*e*P	**P**	**05 14 34.6**	**-1.1**
ITAB	**Concordia**	**16.67**	**92**	*e*P	**Pn**	**05 14 44.2**	**+0.5**
TRCB	**Terra Rica**	**17.32**	**77**	*e*P	**P**	**05 14 53.4**	**+0.6**
CNLB	**Canela**	**17.66**	**99**	*e*P	**Pn**	**05 14 54.4**	**-1.7**
TIJ01	**Guaruva-PR**	**19.77**	**87**	*e*P	**P**	**05 15 19.4**	**-0.4**
FRTB	**Fartura**	**19.80**	**81**	*e*P	**P**	**05 15 20.5**	**+0.5**
ITRB	**Iturama**	**20.53**	**71**	*e*P	**P**	**05 15 27.8**	**-0.2**
BB19B	**Bebedouro**	**21.50**	**76**	*e*P	**P**	**05 15 37.7**	**-0.7**
RCLB	**Rio Claro- Sao**	**21.87**	**80**	*e*P	**P**	**05 15 41.7**	**-0.7**
IPMB	**Ipameri, GO**	**23.13**	**69**	*e*P	**P**	**05 15 54.1**	**-1.7**
PMNB	**Patos De Minas**	**24.35**	**72**	*e*P	**P**	**05 16 06.6**	**-0.7**
BDFB	**Brasilia**	**24.52**	**65**	P	**P**	**05 16 07.8**	**-1.1**
	comp=Z,3.9nm,0.8s,baz=235,slow=11,SNR=6.8						
BDFB	**Brasilia**	**24.52**	**65**	*e*P	**P**	**05 16 07.0**	**-1.9**
	comp=Z,8.0nm,0.9s						
BSCB	**Bom Sucesso**	**24.77**	**79**	*e*P	**P**	**05 16 10.2**	**-0.8**
EFI	**East Falkland**	**25.52**	**161**	*e*P	**P**	**05 16 16.7**	**-0.8**
	comp=Z,176nm,1.6s						
MCI6	**Montes Claros**	**27.30**	**72**	*e*P	**P**	**05 16 33.5**	**-0.5**
MCI8	**Montes Claros**	**27.35**	**71**	*e*P	**P**	**05 16 33.7**	**-0.7**
MCI9	**Montes Claros**	**27.35**	**71**	*e*P	**P**	**05 16 33.7**	**-0.7**
MCI7	**Montes Claros**	**27.38**	**72**	*e*P	**P**	**05 16 33.8**	**-0.9**
JANB	**Januaria**	**27.84**	**68**	*e*P	**P**	**05 16 38.2**	**-0.6**
SJMB	**Sao Joao De Ma**	**28.77**	**78**	*e*P	**P**	**05 16 46.7**	**-0.3**
BSFB	**Barra de Sao F**	**29.01**	**78**	*e*P	**P**	**05 16 48.3**	**-0.8**
OTAV	**Otavalo**	**29.01**	**344**	*e*P	**P**	**05 16 49.3**	**-0.3**
	comp=Z,2.5nm,0.9s						
OTAV	**Otavalo**	**29.01**	**344**	*e*P	**P**	**05 16 49.4**	**-0.3**
PTGA	**Pitinga**	**29.10**	**23**	P	**P**	**05 16 49.8**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=221,slow=9.8,SNR=4.4						
PTGA	**Pitinga**	**29.10**	**23**	*e*P	**P**	**05 16 49.1**	**-0.8**
	comp=Z,16nm,1.4s						
PTGA	**Pitinga**	**29.10**	**23**	*e*P	**P**	**05 16 50.3**	**+0.4**
CHIC	**Chingaza**	**32.58**	**355**	*e*P	**P**	**05 17 21.9**	**+0.9**
CHIC	**Chingaza**	**32.58**	**355**	*e*P	**P**	**05 17 21.9**	**+0.9**
RUSC	**La Rusia**	**33.78**	**356**	*e*P	**P**	**05 17 32.6**	**+0.9**
RUSC	**La Rusia**	**33.78**	**356**	*e*P	**P**	**05 17 32.6**	**+0.9**
HELC	**Santa Helena**	**34.30**	**352**	*e*P	**P**	**05 17 37.2**	**+1.2**
HELC	**Santa Helena**	**34.30**	**352**	*e*P	**P**	**05 17 37.2**	**+1.2**
PTBC	**PUERTO BERRIO,**	**34.53**	**354**	*e*P	**P**	**05 17 37.2**	**-0.4**
PTBC	**PUERTO BERRIO,**	**34.53**	**354**	*e*P	**P**	**05 17 37.2**	**-0.4**
ZARC	**Zaragoza, Cauc**	**35.51**	**353**	*e*P	**P**	**05 17 43.2**	**-2.8**
ZARC	**Zaragoza, Cauc**	**35.51**	**353**	*e*P	**P**	**05 17 43.2**	**-2.8**
SDV	**Santo Domingo**	**36.69**	**0**	P	**P**	**05 17 56.2**	**-0.1**
	comp=Z,4.4nm,0.9s,baz=64,slow=4.0,SNR=5.5						
SDV	**Santo Domingo**	**36.69**	**0**	*e*P	**P**	**05 17 56.6**	**+0.3**
RCBR	**Riachuelo**	**39.87**	**63**	P	**P**	**05 18 24.0**	**+1.0**
	comp=Z,60nm,0.7s,baz=74,slow=1.2,SNR=3.1						
VNA2	**Neumayer--Watz**	**55.18**	**159**	P	**P**	**05 20 21.4**	**+0.3**
	baz=288,slow=8.3						
SNAA	**Sanae**	**56.78**	**159**	P	**P**	**05 20 32.7**	**+0.1**
SNAA	**Sanae**	**56.78**	**159**	P	**P**	**05 20 33.0**	**+0.4**
	comp=Z,5.3nm,0.8s,baz=264,slow=9.0,SNR=14						
SNAA				pP	**pP**	**05 20 45.1**	**0.0**
	comp=Z,5.4nm,0.7s,baz=275,slow=8.5,SNR=7.3						
SNAA	**Sanae**	**56.78**	**159**	*e*P	**P**	**05 20 32.5**	**-0.1**
	comp=Z,6.5nm,0.9s						
SNAA				pP	**pP**	**05 20 45.1**	**0.0**
TXAR	**Lajitas Array**	**65.07**	**329**	P	**P**	**05 21 31.0**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=155,slow=7.0,SNR=6.2						
TXAR				pP	**sP**	**05 21 45.4**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=143,slow=7.1,SNR=3.6						
SYO	**Syowa Base**	**71.07**	**159**	*e*pP	pP	05 22 14.6	-4.6
SYO	**Syowa Base**	**71.07**	**159**	*e*sP	sP	05 22 18.6	-5.6
DBIC	**Dimbokro**	**72.40**	**72**	P	**P**	**05 22 15.1**	**-0.1**
	comp=Z,7.3nm,0.7s,baz=201,slow=6.7,SNR=13						
DBIC				pP	**pP**	**05 22 28.2**	**+0.2**
	comp=Z,3.2nm,0.5s,baz=218,slow=6.3,SNR=2.8						
DBIC	**Dimbokro**	**72.40**	**72**	*e*P	**P**	**05 22 15.3**	**0.0**
	comp=Z,9.9nm,0.9s						
DBIC				pP	**pP**	**05 22 28.2**	**+0.2**
DBIC	**Dimbokro**	**72.40**	**72**	*e*P	**P**	**05 22 14.1**	**-1.1**
CCUT	**Cedar City**	**76.42**	**327**	*e*P	**P**	**05 22 42.0**	**+3.7**
	comp=Z,15nm,1.9s						
HWUT	**Hardware Ranch**	**78.82**	**330**	*e*P	**P**	**05 22 53.3**	**+1.6**
	comp=Z,3.6nm,0.6s						
PDAR	**Pinedale Array**	**78.91**	**332**	P	**P**	**05 22 53.7**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=116,slow=6.8,SNR=5.0						
PDAR				pP	**sP**	**05 23 08.0**	**-2.1**
	comp=Z,0.6nm,0.6s,baz=107,slow=4.9,SNR=4.7						
NVAR	**Mina Array Bea**	**79.58**	**324**	P	**P**	**05 22 57.1**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=159,slow=4.6,SNR=4.0						
NVAR				pP	**pP**	**05 23 10.9**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=160,slow=6.4,SNR=3.1						
ELK	**Elko**	**79.82**	**327**	*e*P	**P**	**05 22 56.7**	**-0.5**
	comp=Z,2.2nm,0.8s						
ULM	**Lac du Bonnet**	**81.01**	**344**	P	**P**	**05 23 03.7**	**+0.7**
	comp=Z,1.8nm,0.8s,baz=229,slow=11,SNR=2.5						
TORD	**Torodi Ar. Bea**	**81.28**	**70**	P	**P**	**05 23 03.4**	**-1.9**
	comp=Z,4.7nm,0.6s,baz=268,slow=4.5,SNR=32						
TORD				pP	**pP**	**05 23 19.6**	**+1.4**
	comp=Z,1.7nm,0.5s,baz=284,slow=6.4,SNR=3.9						
BOSA	**Boshof**	**82.01**	**118**	P	**P**	**05 23 08.6**	**-0.6**
	comp=Z,2.6nm,0.7s,baz=292,slow=5.8,SNR=3.1						
**Y

AS31	**Alice Springs**	**33.56**	**243**	*e*P	**P**	**05 23 34.6**	**-2.1**
	5.0nm,0.8s							
ASAR	**Alice Springs**	**33.56**	**243**	P	**P**	**05 23 35.4**	**-1.4**
	7.0nm,0.8s,baz=71,slow=9.5,SNR=46							
ANA2	**Anatahan**	**33.65**	**322**	*e*P	**P**	**05 23 35.2**	**-2.3**
	163nm,1.0s							
ODZ	**Otahua Downs**	**34.56**	**175**	*e*P	**P**	**05 23 44.5**	**-0.5**
	49nm,1.6s							
KNRA	**Kununurra**	**36.94**	**258**	P	**P**	**05 24 05.2**	**-0.7**
	baz=37,SNR=4.5							
WRKA	**Warakurna**	**38.85**	**243**	P	**P**	**05 24 21.1**	**-0.9**
	baz=39,SNR=5.3							
FITZ	**Fitzroy Crossi**	**40.10**	**254**	P	**P**	**05 24 31.9**	**-0.5**
	11nm,0.6s,baz=81,slow=6.9,SNR=50							
FITZ	**Fitzroy Crossi**	**40.10**	**254**	P	**P**	**05 24 31.9**	**-0.5**
	baz=40,SNR=31							
FITZ	**Fitzroy Crossi**	**40.10**	**254**	*e*P	**P**	**05 24 31.0**	**-1.4**
	62nm,1.6s							
MBWA	**Marble Bar**	**45.94**	**251**	*e*P	**P**	**05 25 16.6**	**-3.0**
	48nm,1.5s							
MEEK	**Meekatharra**	**47.71**	**244**	P	**P**	**05 25 33.5**	**0.0**
	baz=48,SNR=10							
NWAO	**Narrogin (SRO)**	**50.24**	**236**	P	**P**	**05 25 54.2**	**+1.4**
	8.6nm,0.8s,baz=294,slow=5.2,SNR=2.9							
JHJ	**Hachijo jima 2**	**50.29**	**331**	LR	LR	05 48 33.9		
	comp=Z,349nm,18.3s,baz=150,slow=38							
MJAR	**Matsushiro Arr**	**53.83**	**332**	P	**P**	**05 26 20.2**	**+0.9**
	1.2nm,0.4s,baz=160,slow=8.2,SNR=6.9							
JNU	**Nakatsue**	**55.05**	**324**	*e*P	**P**	**05 26 27.6**	**-0.7**
	64nm,1.5s							
ASAJ	**Asahikawa**	**58.55**	**340**	LR	LR	05 48 17.9		
	comp=Z,683nm,20.1s,baz=172,slow=32							
KSRS	**Korea Array**	**59.83**	**325**	P	**P**	**05 27 02.5**	**+0.7**
	3.0nm,0.9s,baz=146,slow=6.6,SNR=8.7							
KSAR	**Wonju Array Be**	**59.84**	**325**	P	**P**	**05 27 02.5**	**+0.6**
KS01	**Wonju Array Si**	**59.86**	**325**	*e*P	**P**	**05 27 02.8**	**+0.7**
MDSI	**Maura Dua**	**61.87**	**271**	P	**P**	**05 27 15.5**	**-0.7**
MDSI				pP	**sP**	**05 27 31.1**	**+0.2**
NJ2	**Nanjing**	**62.11**	**315**	*e*P	**P**	**05 27 19.5**	**+2.1**
NJ2				pmax	pmax			
	comp=Z,15nm,0.6s							
USA0B	**Ussuriysk Arra**	**62.80**	**333**	*e*P	**P**	**05 27 21.8**	**0.0**
	64nm,1.4s							
USRK	**Ussuriysk Ar.**	**62.80**	**333**	P	**P**	**05 27 23.1**	**+1.3**
	10nm,1.1s,baz=141,slow=6.4,SNR=15							
PETK	**Petropavlovsk-**	**63.85**	**354**	P	**P**	**05 27 28.9**	**+0.3**
	1.7nm,0.7s,baz=198,slow=3.8,SNR=2.9							
MDJ	**Mudanjiang**	**64.22**	**332**	P	**P**	**05 27 32.3**	**+1.2**
MDJ				S	**S**	**05 36 07.5**	**+1.4**
MDJ				pmax	pmax			
	comp=Z,25nm,1.2s							
MDJ				pmax	pmax			
	comp=Z,290nm,3.4s							
MDJ	**Mudanjiang**	**64.22**	**332**	*e*P	**P**	**05 27 29.2**	**-1.9**
	22nm,1.2s							
CN2	**Changchun**	**65.65**	**329**	*e*P	**P**	**05 27 41.0**	**+0.5**
CN2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
VNDA	**Vanda**	**66.99**	**181**	P	**P**	**05 27 47.9**	**-0.6**
	9.0nm,1.1s,baz=356,slow=5.7,SNR=4.1							
VNDA	**Vanda**	**66.99**	**181**	*e*P	**P**	**05 27 48.2**	**-0.4**
	46nm,1.6s							
BJT	**Baijiatuan**	**68.49**	**321**	*e*P	**P**	**05 27 56.8**	**-1.8**
	23nm,1.1s							
BJI	**Beijing**	**68.50**	**321**	P	**P**	**05 27 59.5**	**+0.9**
XAN	**Xi'an**	**70.25**	**312**	P	**P**	**05 28 10.8**	**+1.0**
XAN				pP	pP	05 28 16.8	-3.6
XAN				pmax	pmax			
	comp=Z,18nm,1.7s							
XAN	**Xi'an**	**70.25**	**312**	*e*P	**P**	**05 28 08.7**	**-1.1**
	28nm,1.3s							
MA2	**Magadan**	**71.02**	**352**	*e*P	**P**	**05 28 12.7**	**-1.1**
KMI	**Kunming**	**71.40**	**301**	P	**P**	**05 28 19.3**	**+2.2**
KMI				pP	pP	05 28 27.3	-0.5
KMI				sP	sP	05 28 31.0	-0.9
KMI				pmax	pmax			
	comp=Z,16nm,1.8s							
KMI				pmax	pmax			
	comp=Z,320nm,6.5s							
KMI				LR	LR			
	comp=N,540nm,16.6s							
KMI				LR	LR			
	comp=E,440nm,20.5s							
KMI				LR	LR			
	comp=Z,1μm,24.0s							
HHC	**Hu-ho-hao-te**	**71.87**	**319**	*e*P	**P**	**05 28 20.3**	**+0.8**
HHC				sP	pP	05 28 29.5	-0.6
HHC				S	**S**	**05 37 38.0**	**+0.1**
HHC				sS	pS	05 37 51.8	+0.3
HHC				pmax	pmax			
	comp=Z,9.0nm,0.8s							
HHC				pmax	pmax			
	comp=Z,360nm,7.0s							
HHC				LR	LR			
	comp=N,720nm,14.7s							
HHC				LR	LR			
	comp=E,440nm,16.4s							
HHC				LR	LR			
	comp=Z,2μm,16.4s							
CM01	**Chiang Mai Arr**	**72.46**	**293**	*e*P	**P**	**05 28 22.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**72.49**	**293**	P	**P**	**05 28 24.4**	**+1.0**
	1.6nm,0.8s,baz=125,slow=3.6,SNR=12							
CHTO	**Chiang Mai**	**72.59**	**294**	*e*P	**P**	**05 28 22.5**	**-1.6**
	6.6nm,1.0s							
CD2	**Chengdu**	**72.80**	**307**	P	**P**	**05 28 24.5**	**-0.7**
CD2				S	**S**	**05 37 49.3**	**+0.4**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,140nm,5.0s							
CD2				LR	LR			
	comp=N,5μm,19.4s							
CD2				LR	LR			
	comp=E,800nm,20.9s							
CD2				LR	LR			
	comp=Z,1μm,18.4s							
LZH	**Lanzhou**	**74.89**	**312**	*e*P	**P**	**05 28 40.0**	**+2.5**
LZH				pP	pP	05 28 47.3	-0.9
LZH				sP	PcP	05 28 51.5	+0.2
LZH				PP	**PP**	**05 31 30.5**	**+5.0**
LZH				*e*S	**S**	**05 38 12.3**	**-0.2**
LZH				sS	sS	05 38 28.0	-1.7
LZH				SS	**SS**	**05 43 03.5**	**+1.9**
LZH				pmax	pmax			
	comp=Z,32nm,1.4s							
LZH				pmax	pmax			
	comp=Z,160nm,4.1s							
LZH				LR	LR			
	comp=N,1μm,16.8s							
LZH				LR	LR			
	comp=E,1μm,17.9s							
LZH				LR	LR			
	comp=Z,2μm,19.5s							
ANM	**Nome**	**77.89**	**12**	*e*P	**P**	**05 28 54.4**	**+0.8**
	5.8nm,1.3s							
ULN	**Ulaanbaatar**	**78.28**	**324**	*e*P	**P**	**05 28 56.6**	**+0.3**
	11nm,0.9s							
BILL	**Bilibino**	**78.40**	**360**	*e*P	**P**	**05 28 56.3**	**-0.1**
	24nm,1.2s							
SONM	**Songino Array**	**78.64**	**323**	P	**P**	**05 28 59.5**	**+1.2**
	3.8nm,1.0s,baz=151,slow=6.3,SNR=9.3							
SONA1	**Songino Array**	**78.64**	**324**	*e*P	**P**	**05 28 57.3**	**-1.0**
GTA	**Gaotai**	**79.17**	**314**	⇑P	**P**	**05 29 03.5**	**+2.1**
GTA				pP	pP	05 29 14.0	+1.7
GTA				sP	sP	05 29 18.5	+2.2
GTA				PP	**PP**	**05 32 03.3**	**+1.9**
GTA				pmax	pmax			
	comp=Z,13nm,1.6s							
GTA				pmax	pmax			
	comp=Z,160nm,4.2s							
GTA				LR	LR			
	comp=N,480nm,19.6s							
GTA				LR	LR			
	comp=E,490nm,19.2s							
GTA				LR	LR			
	comp=Z,590nm,21.3s							
BRDH	**Bariadhala**	**80.25**	**295**	P	**P**	**05 29 09.1**	**+1.7**
	18nm,0.3s,baz=81,slow=13,SNR=3.9							
CAST	**Castle Rocks**	**80.30**	**18**	*e*P	**P**	**05 29 07.0**	**+0.2**
	13nm,1.3s							
IM3	**Indian Mountai**	**81.80**	**15**	*e*P	**P**	**05 29 14.7**	**-0.1**
TLY	**Talaya**	**82.07**	**326**	*e*P	**P**	**05 29 16.6**	**+0.1**
	19nm,0.8s							
MDM	**Murphy Dome**	**82.58**	**18**	*e*P	**P**	**05 29 19.1**	**+0.2**
	14nm,1.2s							
HDA	**Harding Lake**	**82.59**	**19**	*e*P	**P**	**05 29 18.6**	**-0.3**
	15nm,1.0s							
HDA	**Harding Lake**	**82.59**	**19**	P	**P**	**05 29 18.6**	**-0.3**
	baz=226							
IL1	**Eielson Array**	**82.86**	**18**	*e*P	**P**	**05 29 19.6**	**-0.7**
ILAR	**Eielson Array**	**82.86**	**18**	P	**P**	**05 29 20.3**	**0.0**
	5.0nm,1.1s,baz=241,slow=3.7,SNR=18							
ILB	**Eielson Array**	**82.86**	**18**	*e*P	**P**	**05 29 19.1**	**-1.3**
POKR	**Poker Plat Res**	**82.94**	**18**	P	**P**	**05 29 18.9**	**-1.9**
	baz=226							
YBH	**Yreka Blue Hor**	**83.12**	**45**	*e*P	**P**	**05 29 23.8**	**+1.5**
	15nm,1.3s							
ORV	**Oroville**	**83.23**	**48**	*e*P	**P**	**05 29 22.2**	**-0.7**
	13nm,1.4s							
HUMO	**Hull Mountain**	**83.25**	**45**	*e*P	**P**	**05 29 23.6**	**+0.6**
	19nm,1.4s							
SCRK	**Sand Creek**	**83.25**	**20**	*e*P	**P**	**05 29 23.2**	**+0.6**
	9.9nm,1.0s							
AFDM	**Forest Hills D**	**83.42**	**49**	*e*P	**P**	**05 29 23.7**	**-0.2**
	16nm,1.3s							
CMB	**Columbia Colle**	**83.56**	**50**	*e*P	**P**	**05 29 23.9**	**-0.7**
	52nm,1.2s							
MWC	**Mount Wilson**	**84.20**	**54**	*e*P	**P**	**05 29 28.2**	**0.0**
	18nm,1.3s							
ISA	**Isabella, Lake**	**84.29**	**52**	*e*P	**P**	**05 29 28.6**	**+0.2**
	17nm,1.4s							
ISA	**Isabella, Lake**	**84.29**	**52**	P	**P**	**05 29 28.2**	**-0.2**
	baz=253							
WAKR	**Walker**	**84.42**	**49**	*e*P	**P**	**05 29 29.2**	**0.0**
	29nm,1.4s							
MDPB	**Devils Postpil**	**84.42**	**50**	*e*P	**P**	**05 29 28.4**	**-0.9**
	18nm,1.2s							
EDW2	**Edwards Air Fo**	**84.44**	**53**	P	**P**	**05 29 29.3**	**+0.1**
	baz=253							
OMMB	**Old Mammoth Mi**	**84.47**	**50**	*e*P	**P**	**05 29 29.8**	**+0.1**
	16nm,1.4s							
PNTR	**Pine Nut**	**84.48**	**49**	*e*P	**P**	**05 29 30.2**	**+0.7**
	19nm,1.2s							
VCNR	**Virginia City**	**84.51**	**49**	*e*P	**P**	**05 29 29.8**	**+0.2**
	12nm,1.4s							
BFSC	**Mount Baldy Ra**	**84.52**	**54**	P	**P**	**05 29 30.6**	**+0.9**
	baz=254							
YERR	**Yerington**	**84.71**	**49**	*e*P	**P**	**05 29 31.1**	**+0.4**
	20nm,1.4s							
CWC	**Cottonwood Cre**	**84.82**	**52**	P	**P**	**05 29 30.6**	**-0.7**
	baz=253							
PAHR	**Pah Rah Range**	**84.83**	**48**	*e*P	**P**	**05 29 30.4**	**-0.7**
	37nm,1.6s							
LRMC	**Laurel Mtn Rad**	**84.86**	**53**	P	**P**	**05 29 31.4**	**+0.1**
	baz=253							
MOD	**Modoc Plateau**	**84.87**	**46**	*e*P	**P**	**05 29 29.4**	**-1.9**
	7.2nm,0.7s							
DAWY	**Dawson**	**84.89**	**21**	*e*P	**P**	**05 29 30.0**	**-0.8**
	9.6nm,1.1s							
PINE	**Pine Mountain**	**85.05**	**44**	*e*P	**P**	**05 29 32.7**	**+0.4**
	24nm,1.4s							
RYN	**Ryan**	**85.14**	**49**	*e*P	**P**	**05 29 33.8**	**+1.0**
	29nm,1.6s							
DAC	**Darwin (Calif)**	**85.15**	**52**	*e*P	**P**	**05 29 33.0**	**0.0**
	18nm,1.4s							
MPMC	**Manual Prospec**	**85.17**	**52**	P	**P**	**05 29 32.9**	**-0.1**
	baz=253							
NV01	**Mina Array Sit**	**85.24**	**50**	*e*P	**P**	**05 29 33.2**	**-0.1**
NVAR	**Mina Array Bea**	**85.24**	**50**	P	**P**	**05 29 33.3**	**-0.1**
	13nm,0.8s,baz=236,slow=8.6,SNR=9.2							
PFO	**Pinyon Flats O**	**85.30**	**55**	*e*P	**P**	**05 29 34.7**	**+1.1**
	5.1nm,1.0s							
PFO	**Pinyon Flats O**	**85.30**	**55**	P	**P**	**05 29 35.1**	**+1.5**
	baz=254							
XPFO	**Pion Flat**	**85.30**	**55**	*e*P	**P**	**05 29 34.2**	**+0.5**
	6.0nm,1.1s							
NV11	**Mina Array Sit**	**85.35**	**50**	*e*P	**P**	**05 29 34.6**	**+0.8**
	2.6nm,1.6s							
GSC	**Goldstone, Bar**	**85.49**	**53**	*e*P	**P**	**05 29 35.6**	**+1.1**
	11nm,1.3s							
GSC	**Goldstone, Bar**	**85.49**	**53**	P	**P**	**05 29 35.5**	**+0.9**
	baz=254							
KVN	**Kaiserville**	**85.58**	**49**	*e*P	**P**	**05 29 34.6**	**-0.4**
	16nm,1.4s							
TIXI	**Tiksi**	**85.73**	**349**	*e*P	**P**	**05 29 35.3**	**+0.6**
	25nm,1.4s							
FURC	**Furnace Creek,**	**85.77**	**52**	P	**P**	**05 29 34.7**	**-1.0**
	baz=254							
BELC	**Belle Mtn. Jos**	**85.78**	**54**	P	**P**	**05 29 36.2**	**+0.2**
	baz=254							
BC3	**Big Chuckawall**	**86.12**	**55**	P	**P**	**05 29 38.5**	**+0.8**
	baz=255							
I07A	**Izee**	**86.12**	**44**	*e*P	**P**	**05 29 37.5**	**0.0**
	17nm,1.4s							
WVOR	**Wild Horse Val**	**86.21**	**46**	*e*P	**P**	**05 29 39.1**	**+1.2**
	22nm,1.5s							
GMRC	**Granite Mounta**	**86.25**	**54**	P	**P**	**05 29 39.1**	**+0.8**
	baz=255							
TPNV	**Topopah Spring**	**86.38**	**52**	*e*P	**P**	**05 29 40.0**	**+1.0**
	8.6nm,1.3s							
LTY	**Liberty**	**86.39**	**41**	*e*P	**P**	**05 29 38.9**	**+0.2**
	25nm,1.6s							
GLA	**Glamis**	**86.47**	**56**	*e*P	**P**	**05 29 40.6**	**+1.3**
	11nm,0.8s							
GLA	**Glamis**	**86.47**	**56**	P	**P**	**05 29 41.3**	**+2.0**
	baz=255							
IRM	**Iron Mountain**	**86.50**	**54**	P	**P**	**05 29 40.1**	**+0.6**
	baz=255							
J08A	**Circle Bar Ran**	**86.61**	**45**	*e*P	**P**	**05 29 41.2**	**+1.4**
	18nm,1.5s							
LDFC	**Landfair**	**86.77**	**54**	*e*P	**P**	**05 29 41.8**	**+1.0**
	20nm,1.1s							
HAWA	**Hanford**	**86.84**	**42**	*e*P	**P**	**05 29 42.0**	**+1.2**
	13nm,1.3s							
G08A	**Pilot Rock**	**86.87**	**43**	*e*P	**P**	**05 29 41.3**	**+0.1**
	6.6nm,1.1s							
Y12C	**Blythe**	**86.89**	**55**	*e*P	**P**	**05 29 41.9**	**+0.5**
	17nm,1.3s							
Y12C	**Blythe**	**86.89**	**55**	P	**P**	**05 29 42.2**	**+0.8**
	baz=255							
SHPR	**Sheep Range**	**87.10**	**52**	*e*P	**P**	**05 29 42.9**	**+0.3**
	28nm,1.7s							
E08A	**Dider Farm, El**	**87.18**	**42**	*e*P	**P**	**05 29 43.7**	**+1.3**
	16nm,1.4s							
113A	**Mohawk Valley,**	**87.26**	**56**	*e*P	**P**	**05 29 44.0**	**+0.8**
	19nm,1.5s							
R11A	**Troy Canyon, C**	**87.27**	**50**	*e*P	**P**	**05 29 44.3**	**+1.0**
	12nm,1.5s							
PDMCI	**Parker Dam,Lak**	**87.34**	**55**	P	**P**	**05 29 43.9**	**+0.5**
	baz=256							
B08A	**Colville Reser**	**87.60**	**40**	*e*P	**P**	**05 29 45.0**	**+0.5**
	6.9nm,1.2s							
W13A	**Hualapai Mount**	**87.75**	**54**	*e*P	**P**	**05 29 46.8**	**+1.0**
	9.5nm,1.1s							
214A	**Span Pipe Nat**	**87.85**	**57**	P	**P**	**05 29 47.0**	**+0.9**
	baz=256							
BMO	**Blue Mountains**	**87.86**	**44**	*e*P	**P**	**05 29 46.0**	**+0.1**
	15nm,1.6s							
Y14A	**Wickenburg**	**88.17**	**55**	*e*P	**P**	**05 29 48.4**	**+0.8**
	17nm,1.6s							
ELK	**Elko**	**88.17**	**48**	*e*P	**P**	**05 29 47.2**	**-0.5**
	13nm,1.5s							
F10A	**Beach Ranch, E**	**88.24**	**43**	*e*P	**P**	**05 29 48.6**	**+1.0**
	10nm,1.3s							
PSUT	**Pine Spring**	**88.63**	**51**	*e*P	**P**	**05 29 51.3**	**+1.5**
	24nm,1.6s							
LCMT	**Little Creek M**	**88.72**	**52**	*e*P	**P**	**05 29 50.8**	**+0.6**
	31nm,1.5s							
CCUT	**Cedar City**	**88.76**	**52**	*e*P	**P**	**05 29 51.0**	**+0.5**
	30nm,1.5s							
SZCU	**Shurtz Canyon**	**88.98**	**52**	*e*P	**P**	**05 29 52.4**	**+0.9**
	28nm,1.3s							
KNB	**Kanab**	**89.05**	**52**	*e*P	**P**	**05 29 53.4**	**+1.6**
	64nm,1.6s							
WMQ	**Urumqi**	**89.19**	**315**	P	**P**	**05 29 52.8**	**+0.6**
WMQ				pP	pP	05 30 00.0	-3.2
WMQ				sP	sP	05 30 03.5	-4.1
WMQ				SKS	**SKSac**	**05 40 14.3**	**-5.2**
WMQ				pmax	pmax			
	comp=Z,25nm,1.5s							
WMQ				pmax	pmax			
	comp=Z,640nm,6.3s							
WMQ				LR	LR			
	comp=N,990nm,21.3s							
WMQ				LR	LR			
	comp=E,960nm,25.1s							
WMQ				LR	LR			
	comp=Z,1μm,25.1s							
U15A	**North Rim**	**89.32**	**53**	*e*P	**P**	**05 29 52.7**	**-0.5**
	29nm,1.4s							
HLID	**Hailey**	**89.50**	**46**	*e*P	**P**	**05 29 54.3**	**+0.6**
	12nm,1.4s							
HLID	**Hailey**	**89.50**	**46**	P	**P**	**05 29 55.1**	**+1.3**
	baz=255							
X16A	**Lo Mia Camp, P**	**89.54**	**55**	*e*P	**P**	**05 29 54.5**	**+0.4**
	21nm,1.5s							
PKCU	**Pink Cliffs**	**89.55**	**52**	*e*P	**P**	**05 29 55.2**	**+0.9**
	50nm,1.4s							
TUC	**Tucson**	**89.61**	**57**	*e*P	**P**	**05 29 54.8**	**+0.4**
	18nm,1.6s							
TUC	**Tucson**	**89.61**	**57**	P	**P**	**05 29 55.2**	**+0.8**
	baz=257							
MTPU	**Mount Pierson**	**89.78**	**51**	*e*P	**P**	**05 29 55.9**	**+0.5**
	23nm,1.4s							
DUG	**Dugway, Tooele**	**89.82**	**49**	*e*P	**P**	**05 29 54.9**	**-0.3**
	19nm,1.5s							
DUG	**Dugway, Tooele**	**89.82**	**49**	P	**P**	**05 29 55.5**	**+0.2**
	baz=256							
BGU	**Big Grassy Mou**	**89.83**	**48**	*e*P	**P**	**05 29 55.3**	**-0.1**
	24nm,1.5s							
WUAZ	**Wupatki**	**89.84**	**54**	*e*P	**P**	**05 29 55.9**	**+0.4**
	30nm,1.4s							
WUAZ	**Wupatki**	**89.84**	**54**	P	**P**	**05 29 56.4**	**+0.9**
	baz=257							
MSU	**Marysvale**	**89.90**	**51**	*e*P	**P**	**05 29 55.3**	**-0.5**
HVU	**Hansel Valley**	**90.23**	**48**	*e*P	**P**	**05 29 57.2**	**0.0**
	66nm,1.7s							
NLU	**North Lily Min**	**90.31**	**49**	*e*P	**P**	**05 29 57.9**	**+0.2**
	18nm,1.3s							
319A	**Douglas**	**90.66**	**58**	*e*P	**P**	**05 29 58.7**	**-0.6**
	9.7nm,1.0s							
CTU	**Camp Tracy**	**90.72**	**49**	*e*P	**P**	**05 29 59.4**	**-0.1**
	18nm,1.3s							
Q16A	**Castle Valley**	**90.76**	**51**	*e*P	**P**	**05 30 01.1**	**+1.3**
	18nm,1.2s							
X18A	**Snowflake**	**90.76**	**55**	*e*P	**P**	**05 30 00.4**	**+0.5**
	30nm,1.6s							
JLU	**Jordanelle**	**90.92**	**49**	*e*P	**P**	**05 30 00.8**	**+0.2**
	26nm,1.5s							
HWUT	**Hardware Ranch**	**91.07**	**48**	*e*P	**P**	**05 30 00.3**	**-0.8**
	5.3nm,1.3s							
TCUT	**Toone Canyon**	**91.07**	**48**	*e*P	**P**	**05 30 01.6**	**+0.3**
	13nm,0.9s							
DLMT	**Dillon**	**91.21**	**44**	*e*P	**P**	**05 30 02.9**	**+1.3**
	24nm,1.4s							
WALA	**Waterton Lakes**	**91.24**	**40**	*e*P	**P**	**05 30 03.0**	**+1.3**
	9.3nm,1.1s							
FXWY	**Fox Creek**	**91.91**	**46**	*e*P	**P**	**05 30 05.2**	**+0.2**
	3.5nm,1.0s							
BOZ	**Bozeman (W)**	**91.92**	**44**	*e*P	**P**	**05 30 06.2**	**+1.2**
	17nm,1.4s							
BOZ	**Bozeman (W)**	**91.92**	**44**	P	**P**	**05 30 05.7**	**+0.8**
	baz=257							
HRY	**Holter Researc**	**92.04**	**43**	*e*P	**P**	**05 30 05.8**	**+0.4**
PV14	**Lion Creek, Pa**	**92.29**	**52**	*e*P	**P**	**05 30 08.1**	**+1.1**
	19nm,1.5s							
PV17	**East Wray Mesa**	**92.32**	**52**	*e*P	**P**	**05 30 07.0**	**0.0**
	19nm,1.6s							
PV16	**Nyswonger Mesa**	**92.36**	**52**	*e*P	**P**	**05 30 07.7**	**+0.5**
	19nm,1.7s							
SYO	**Syowa Base**	**92.42**	**197**	⇑*e*P	**P**	**05 30 06.9**	**+0.3**
SYO	**Syowa Base**	**92.42**	**197**	⇑*e*pP	**P**	**05 30 11.0**	**+4.4**
BW06	**Boulder Array**	**92.77**	**47**	*e*P	**P**	**05 30 09.4**	**+0.3**
	8.4nm,1.4s							
PD31	**Pinedale Array**	**92.77**	**47**	*e*P	**P**	**05 30 09.3**	**+0.2**
PDAR	**Pinedale Array**	**92.77**	**47**	P	**P**	**05 30 09.6**	**+0.5**
	0.9nm,0.9s,baz=225,slow=1.0,SNR=5.3							
PDAR				LR	LR	06 02 53.2		
	comp=Z,1μm,21.7s,baz=68,slow=30							
PDAR	**Pinedale Array**	**92.77**	**47**	*e*P	**P**	**05 30 09.3**	**+0.2**
ZAA0	**Zalesovo Array**	**93.53**	**324**	*e*P	**P**	**05 30 11.2**	**-0.8**
	5.5nm,0.7s							
ZALV	**Zalesovo Beam**	**93.53**	**324**	P	**P**	**05 30 11.5**	**-0.4**
	2.8nm,0.8s,baz=98,slow=5.2,SNR=14							
ZALV	**Zalesovo Beam**	**93.53**	**324**	*e*P	**P**	**05 30 11.3**	**-0.6**
MK01	**Makanchi Array**	**93.58**	**317**	*e*P	**P**	**05 30 12.0**	**-0.4**
MK31	**Makanchi Array**	**93.59**	**317**	*e*P	**P**	**05 30 11.4**	**-1.1**
MKAR	**Makanchi Array**	**93.59**	**317**	P	**P**	**05 30 12.4**	**0.0**
	4.5nm,0.7s,baz=94,slow=5.5,SNR=27							
MKAR				PKKPbc	**PKKPdf**	**05 47 15.4**	**-3.1**
	0.7nm,1.0s,baz=281,slow=0.7,SNR=3.7							
MKAR	**Makanchi Array**	**93.59**	**317**	*e*P	**P**	**05 30 12.1**	**-0.4**
	42nm,0.9s							
MKAR				PKKPbc	**PKKPdf**	**05 47 15.4**	**-3.1**
EGMT	**Eagleton**	**93.70**	**42**	*e*P	**P**	**05 30 12.5**	**-0.5**
	18nm,1.4s							
EGMT				*e*S	**S**	**05 41 15.7**	**-3.9**
MAKZ	**Makanchi**	**93.81**	**317**	*e*P	**P**	**05 30 12.2**	**-1.2**
	32nm,1.6s							
YKA	**Yellowknife Ar**	**94.26**	**27**	P	**P**	**05 30 15.5**	**+0.4**
	0.4nm,0.6s,baz=254,slow=4.6,SNR=6.3							
POO	**Poona**	**95.66**	**288**	*e*P	**P**	**05 30 27.0**	**+4.4**
KURK	**Kurchatov**	**96.66**	**320**	*e*P	**P**	**05 30 22.2**	**-4.1**
	9.2nm,1.3s							
KSH	**Kashi**	**96.93**	**309**	P	**P**	**05 30 29.8**	**+1.8**
KSH				pP	pP	05 30 36.3	-2.8
KSH				sP	sP	05 30 41.0	-1.9
KSH				PP	**PP**	**05 34 25.8**	**+1.9**
KSH				SKS	**SKSac**	**05 41 03.5**	**+0.9**
KSH				S	**S**	**05 41 45.8**	**-2.4**
KSH				sS	pS	05 42 00.8	-1.9
KSH				pmax	pmax			
	comp=Z,8.0nm,0.5s							
KSH				LR	LR			
	comp=N,88nm,7.6s							
KSH				LR	LR			
	comp=E,150nm,7.5s							
KSH				LR	LR			
	comp=Z,290nm,11.8s							
AAK	**Ala-Archa**	**98.43**	**312**	*e*P	**P**	**05 30 32.2**	**-2.5**
	7.2nm,0.9s							
ARCES	**ARCESS Array B**	**116.02**	**346**	PKP	**PKiKP**	**05 35 37.5**	**-1.1**
	2.6nm,0.8s,baz=62,slow=2.1,SNR=4.4							
KEST	**Kesra**	**147.40**	**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.53**	**279**	P	**Pn**	**05 19 48.7**	**+2.2**
	8.4nm,0.3s,baz=350,slow=12,SNR=1.7						
HNR				LR	LR	05 22 20.3	
	comp=Z,9μm,21.2s,baz=134,slow=37						
HNR	**Honiara**	**6.53**	**279**	Pn	**Pn**	**05 19 45.5**	**-0.9**
HNR	**Honiara**	**6.53**	**279**	P	**Pn**	**05 19 45.5**	**-0.9**
DZM	**Mont Dzumac**	**11.43**	**180**	P	**Pn**	**05 20 52.6**	**-1.1**
	1.4nm,0.3s,baz=54,slow=19,SNR=3.0						
DZM				LR	LR	05 23 42.4	
	comp=Z,5μm,20.0s,baz=10,slow=29						
DZM	**Mont Dzumac**	**11.43**	**180**	*e*Pn	Pn	05 21 00.9	+7.3
	251nm,1.6s						
DZM				*e*LR	LR	05 23 37.0	
	comp=Z,24μm,26.8s						
DZM	**Mont Dzumac**	**11.43**	**180**	*e*Pn	**Pn**	**05 20 56.5**	**+2.9**
FUNA	**Funafuti**	**12.71**	**82**	*e*Pn	Pn	05 21 16.3	+5.3
MSVF	**Nonsavu**	**13.28**	**124**	*e*Pn	**Pn**	**05 21 22.0**	**+3.0**
MSVF	**Nonsavu**	**13.28**	**124**	*e*P	**Pn**	**05 21 22.0**	**+3.0**
TARA	**Tarawa**	**13.47**	**29**	*e*Pn	**Pn**	**05 21 18.8**	**-2.8**
PMG	**Port Moresby**	**19.06**	**272**	P	**Pn**	**05 22 34.3**	**+1.1**
	0.7nm,0.3s,baz=298,slow=17,SNR=2.6						
PMG				LR	LR	05 29 49.4	
	comp=Z,9μm,19.0s,baz=123,slow=36						
KWAJ	**Kwajalein Atol**	**19.28**	**3**	*e*P	**P**	**05 22 32.8**	**-1.8**
	568nm,1.3s						
KWAJ	**Kwajalein Atol**	**19.28**	**3**	*e*P	**P**	**05 22 32.8**	**-1.8**
KWAJ				pmax	pmax		
	comp=Z,569nm,1.3s						
EIDS	**Eidsvold**	**20.73**	**223**	P	**P**	**05 22 51.3**	**+1.1**
	baz=21,SNR=8.7						
EIDS	**Eidsvold**	**20.73**	**223**	*e*P	**P**	**05 22 51.1**	**+0.8**
	comp=Z,140nm,1.1s						
MANU	**Manus Island**	**20.79**	**293**	*e*P	**P**	**05 22 51.7**	**+0.7**
	comp=Z,371nm,1.4s						
CTA	**Charters Tower**	**21.66**	**242**	P	**P**	**05 22 59.8**	**-0.5**
	comp=Z,9.8nm,1.0s,baz=74,slow=14,SNR=1.9						
CTAO	**Charters Tower**	**21.66**	**242**	*e*P	**P**	**05 23 00.1**	**-0.2**
	comp=Z,110nm,1.2s						
CTAO	**Charters Tower**	**21.66**	**242**	*e*P	**P**	**05 23 00.1**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,110nm,1.2s						
LHI	**Lord Howe Isla**	**21.95**	**197**	*e*P	**P**	**05 23 02.9**	**-0.4**
	comp=Z,176nm,1.0s						
MTSU	**Mount Surprise**	**22.73**	**248**	P	**P**	**05 23 12.8**	**+0.9**
	baz=23,SNR=7.4						
KNTN	**Kanton**	**22.98**	**72**	*e*P	**P**	**05 23 11.7**	**-2.8**
	comp=Z,197nm,1.3s						
COEN	**Coen**	**23.02**	**259**	*e*P	**P**	**05 23 14.9**	**+0.1**
	comp=Z,60nm,1.4s						
RMQ	**Roma**	**23.03**	**224**	P	**P**	**05 23 16.2**	**+1.2**
	baz=23,SNR=3.8						
ARMA	**Armidale**	**24.10**	**213**	P	**P**	**05 23 25.7**	**+0.4**
	baz=24,SNR=4.4						
ARMA	**Armidale**	**24.10**	**213**	*e*P	**P**	**05 23 24.7**	**-0.6**
	comp=Z,158nm,1.4s						
NIUE	**Niue**	**24.30**	**113**	*e*P	**P**	**05 23 27.7**	**+0.7**
	comp=Z,360nm,1.4s						
OUZ	**Omahuta**	**25.37**	**166**	*e*P	**P**	**05 23 38.2**	**+1.6**
	comp=Z,49nm,1.2s						
QLP	**Quilpie**	**26.35**	**230**	P	**P**	**05 23 44.1**	**-1.5**
	baz=26						
JAY	**Jayapura**	**26.81**	**286**	LR	LR	05 35 08.6	
	comp=Z,4μm,19.5s,baz=64,slow=38						
QIS	**Mount Isa**	**27.68**	**246**	P	**P**	**05 23 56.1**	**-1.6**
	baz=28,SNR=7.5						
HIZ	**Hauiti**	**28.81**	**166**	*e*P	**P**	**05 24 05.1**	**-2.4**
	comp=Z,46nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**28.88**	**0**	T	T	05 54 22.8	
	baz=178,slow=76						
H11S3	**WAKE ISLAND Hy**	**28.89**	**0**	T	T	05 54 23.1	
	baz=178,slow=76						
H11S1	**WAKE ISLAND Hy**	**28.90**	**0**	T	T	05 54 24.4	
	baz=178,slow=76						
CNB	**Canberra Magne**	**29.14**	**210**	P	**P**	**05 24 10.6**	**+0.1**
	baz=29						
URZ	**Urewera**	**29.17**	**163**	P	**P**	**05 24 08.1**	**-2.5**
	comp=Z,16nm,1.0s,baz=146,slow=16,SNR=2.4						
CAN	**Canberra**	**29.32**	**210**	*e*P	**P**	**05 24 12.1**	**-0.1**
	comp=Z,54nm,1.6s						
CAN	**Canberra**	**29.32**	**210**	*e*P	**P**	**05 24 12.1**	**-0.1**
CAN				pmax	pmax		
	comp=Z,54nm,1.6s						
BKZ	**Black Stump Fm**	**29.84**	**164**	*e*P	**P**	**05 24 14.5**	**-2.2**
	comp=Z,34nm,1.3s						
H11N1	**WAKE ISLAND Hy**	**30.10**	**1**	T	T	05 55 51.5	
	baz=182,slow=76,SNR=9.8						
H11N3	**WAKE ISLAND Hy**	**30.11**	**1**	T	T	05 55 54.0	
	baz=182,slow=76,SNR=9.1						
H11N2	**WAKE ISLAND Hy**	**30.12**	**1**	T	T	05 55 52.5	
	baz=182,slow=76,SNR=9.1						
STKA	**Stephens Creek**	**31.28**	**224**	P	**P**	**05 24 28.3**	**-1.1**
	comp=Z,10nm,0.9s,baz=52,slow=3.7,SNR=5.8						
STKA	**Stephens Creek**	**31.28**	**224**	P	**P**	**05 24 30.0**	**+0.6**
	baz=31,SNR=5.3						
STKA	**Stephens Creek**	**31.28**	**224**	*e*P	**P**	**05 24 29.4**	**-0.1**
	comp=Z,13nm,1.6s						
STKA	**Stephens Creek**	**31.28**	**224**	*e*P	**P**	**05 24 29.3**	**-0.1**
THZ	**Tophouse**	**31.57**	**171**	*e*P	**P**	**05 24 32.9**	**+0.9**
	comp=Z,44nm,1.2s						
WRAB	**Tennant Creek**	**32.31**	**249**	*e*P	**P**	**05 24 37.6**	**-1.1**
	comp=Z,103nm,1.3s						
WRAB	**Tennant Creek**	**32.31**	**249**	*ce*P	**P**	**05 24 37.1**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,36nm,1.2s						
WB2	**Warramunga Arr**	**32.31**	**249**	*e*P	**P**	**05 24 37.7**	**-1.0**
WB2				*e*PcP	**PcP**	**05 27 26.4**	**0.0**
KHZ	**Kahutara**	**32.31**	**170**	*e*P	**P**	**05 24 38.8**	**+0.5**
	comp=Z,24nm,1.0s						
WRA	**Warramunga Arr**	**32.32**	**249**	P	**P**	**05 24 37.9**	**-0.9**
	comp=Z,50nm,1.1s,baz=79,slow=8.9,SNR=14						
WRA				LR	LR	05 37 51.4	
	comp=Z,6μm,18.1s,baz=75,slow=36						
LTZ	**Lake Taylor**	**32.48**	**172**	*e*P	**P**	**05 24 37.3**	**-2.6**
	comp=Z,65nm,1.4s						
TOO	**Toolangi**	**32.85**	**212**	*e*P	**P**	**05 24 42.7**	**-0.5**
	comp=Z,12nm,1.0s						
TOO	**Toolangi**	**32.85**	**212**	*e*P	**P**	**05 24 42.7**	**-0.5**
TOO				pmax	pmax		
	comp=Z,12nm,1.0s						
FOZ	**Fox Glacier**	**32.96**	**176**	*e*P	**P**	**05 24 42.2**	**-1.8**
	comp=Z,84nm,1.3s						
OXZ	**Oxford**	**32.98**	**173**	*e*P	**P**	**05 24 41.4**	**-2.8**
	comp=Z,62nm,1.2s						
RPZ	**Rata Peaks**	**33.25**	**174**	P	**P**	**05 24 44.3**	**-2.3**
	comp=Z,8.8nm,0.6s,baz=354,slow=10,SNR=3.0						
RPZ	**Rata Peaks**	**33.25**	**174**	*e*P	**P**	**05 24 45.7**	**-0.9**
	comp=Z,50nm,1.1s						
CRLZ	**Canterbury Las**	**33.31**	**172**	*e*P	**P**	**05 24 46.3**	**-0.7**
	comp=Z,179nm,1.6s						
MQZ	**McQueen's Vall**	**33.44**	**172**	*e*P	**P**	**05 24 45.3**	**-2.9**
	comp=Z,42nm,1.1s						
AS01	**Alice Springs**	**33.60**	**243**	*e*P	**P**	**05 24 48.6**	**-1.4**
AS31	**Alice Springs**	**33.65**	**243**	*e*P	**P**	**05 24 49.1**	**-1.3**
	comp=Z,10nm,0.9s						
ASAR	**Alice Springs**	**33.65**	**243**	P	**P**	**05 24 49.0**	**-1.4**
	comp=Z,28nm,1.0s,baz=74,slow=9.5,SNR=18						
ASAR				PcP	**PcP**	**05 27 29.4**	**-0.6**
	comp=Z,6.3nm,1.0s,baz=70,slow=3.3,SNR=5.4						
HTT	**Hallett**	**34.01**	**224**	P	**P**	**05 24 53.4**	**0.0**
	baz=34,SNR=9.2						
WKZ	**Wanaka**	**34.20**	**177**	*e*P	**P**	**05 24 52.8**	**-2.0**
	comp=Z,221nm,1.7s						
ODZ	**Otahua Downs**	**34.53**	**175**	*e*P	**P**	**05 24 57.2**	**-0.5**
	comp=Z,73nm,1.4s						
MLZ	**Mavora Lakes**	**34.70**	**178**	*e*P	**P**	**05 24 58.5**	**-0.7**
	comp=Z,58nm,1.4s						
SIJI	**Sorong**	**36.30**	**283**	LR	LR	05 42 04.9	
	comp=Z,2μm,18.5s,baz=135,slow=39						
KNRA	**Kununurra**	**37.04**	**258**	P	**P**	**05 25 19.3**	**-0.3**
	baz=37,SNR=6.5						
WRKA	**Warakurna**	**38.94**	**243**	P	**P**	**05 25 34.6**	**-1.0**
	baz=39,SNR=9.5						
FITZ	**Fitzroy Crossi**	**40.20**	**255**	P	**P**	**05 25 45.4**	**-0.7**
	comp=Z,15nm,0.8s,baz=93,slow=6.5,SNR=8.7						
FITZ	**Fitzroy Crossi**	**40.20**	**255**	P	**P**	**05 25 45.6**	**-0.4**
	baz=40,SNR=7.6						
FITZ	**Fitzroy Crossi**	**40.20**	**255**	*e*P	**P**	**05 25 45.4**	**-0.7**
	comp=Z,22nm,0.9s						
PPT2	**Papeete2**	**43.11**	**104**	*e*LQ	LQ	05 36 21.9	
	comp=Z,5μm,27.5s						
PPT2				*e*LR	LR	05 38 17.5	
	comp=Z,3μm,27.8s,baz=284						
TBI	**Tubuai**	**43.84**	**113**	*e*S	S	05 32 59.3	+15
	comp=Z,402nm,26.2s						
TBI				*e*LQ	LQ	05 36 54.2	
	comp=Z,5μm,31.2s						
TBI				*e*LR	LR	05 38 04.6	
	comp=Z,1μm,31.0s,baz=294						
MBWA	**Marble Bar**	**46.03**	**251**	*e*P	**P**	**05 26 32.8**	**-0.4**
	comp=Z,49nm,1.1s						
MEEK	**Meekatharra**	**47.80**	**244**	P	**P**	**05 26 47.3**	**+0.3**
	baz=48,SNR=19						
NWAO	**Narrogin (SRO)**	**50.32**	**236**	P	**P**	**05 27 05.0**	**-1.2**
	comp=Z,36nm,1.0s,baz=281,slow=11,SNR=6.3						
NWAO	**Narrogin (SRO)**	**50.32**	**236**	P	**P**	**05 27 06.4**	**+0.2**
	baz=50,SNR=5.7						
NWAO	**Narrogin (SRO)**	**50.32**	**236**	*e*P	**P**	**05 27 05.6**	**-0.6**
	comp=Z,59nm,1.1s						
NWAO	**Narrogin (SRO)**	**50.32**	**236**	*e*P	**P**	**05 27 05.6**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,59nm,1.1s						
MORW	**Morawa**	**50.48**	**241**	P	**P**	**05 27 07.4**	**0.0**
	baz=51,SNR=5.4						
MORW	**Morawa**	**50.48**	**241**	*e*P	**P**	**05 27 07.5**	**0.0**
	comp=Z,71nm,1.4s						
MUN	**Mundaring**	**50.94**	**237**	P	**P**	**05 27 11.7**	**+0.8**
	baz=51,SNR=5.5						
TAOE	**Nuku Hiva Isla**	**52.58**	**93**	*e*LR	LR	05 42 16.3	
	comp=Z,2μm,28.2s,baz=282						
MJAR	**Matsushiro Arr**	**53.90**	**332**	P	**P**	**05 27 33.8**	**+1.1**
	comp=Z,2.2nm,0.4s,baz=167,slow=7.9,SNR=6.6						
MAJO	**Matsushiro**	**53.90**	**332**	*e*P	**P**	**05 27 32.6**	**0.0**
	comp=Z,36nm,1.4s						
MAJO	**Matsushiro**	**53.90**	**332**	*i* P	**P**	**05 27 33.5**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,14nm,1.1s						
MJB9	**Matsu-Tunnel**	**53.90**	**332**	*e*P	**P**	**05 27 32.7**	**0.0**
	comp=Z,33nm,1.4s						
YOJ	**Yonaguni jima**	**54.89**	**310**	*e*P	**P**	**05 27 40.3**	**+0.3**
	comp=Z,57nm,1.1s						
YOJ	**Yonaguni jima**	**54.89**	**310**	*e*P	**P**	**05 27 40.3**	**+0.3**
YOJ				pmax	pmax		
	comp=Z,57nm,1.1s						
JNU	**Nakatsue**	**55.13**	**323**	*e*P	**P**	**05 27 42.1**	**+0.4**
	comp=Z,60nm,1.2s						
YULB	**Yu-li**	**55.62**	**308**	*e*P	**P**	**05 27 45.1**	**-0.2**
	comp=Z,27nm,1.1s						
NACB	**Ninganchiao**	**55.81**	**309**	*e*P	**P**	**05 27 46.6**	**0.0**
	comp=Z,66nm,1.2s						
TPUB	**Ta-pu**	**56.09**	**307**	*e*P	**P**	**05 27 48.9**	**+0.2**
	comp=Z,58nm,1.1s						
YHNB	**Yeheng**	**56.24**	**309**	*e*P	**P**	**05 27 50.3**	**+0.4**
	comp=Z,51nm,1.0s						
RKT	**Rikitea**	**57.08**	**111**	*e*S	S	05 36 03.4	+15
	comp=Z,372nm,26.5s						
RKT				*e*LQ	LQ	05 42 23.0	
	comp=Z,1μm,32.5s						
RKT				*e*LR	LR	05 44 44.9	
	comp=Z,972nm,29.5s,baz=285						
CISI	**Cisompet, Garu**	**57.94**	**268**	*e*P	**P**	**05 28 00.9**	**-1.3**
	comp=Z,110nm,1.5s						
LEM	**Lembang**	**58.24**	**268**	P	**P**	**05 28 04.6**	**+0.2**
	comp=Z,15nm,0.6s,baz=156,slow=11,SNR=5.1						
KSRS	**Korea Array**	**59.90**	**325**	P	**P**	**05 28 16.3**	**+1.1**
	comp=Z,14nm,1.2s,baz=144,slow=6.1,SNR=9.0						
KSRS				LR	LR	05 52 48.7	
	comp=Z,458nm,18.8s,baz=115,slow=34						
KSAR	**Wonju Array Be**	**59.92**	**325**	P	**P**	**05 28 16.3**	**+1.0**
KSAR	**Wonju Array Be**	**59.92**	**325**	P	**P**	**05 28 16.3**	**+1.0**
KS01	**Wonju Array Si**	**59.94**	**325**	*e*P	**P**	**05 28 15.8**	**+0.3**
SSE	**Sheshan**	**60.02**	**315**	P	**P**	**05 28 18.5**	**+2.4**
SSE				pmax	pmax		
	comp=Z,17nm,1.1s						
SSE				LR	LR		
	comp=Z,320nm,18.3s						
SSE				LR	LR		
	comp=Z,300nm,20.2s						
YSS	**Yuzh-Sakhalins**	**61.07**	**342**	*e*P	**P**	**05 28 24.5**	**+1.6**
YSS				*e*		05 28 31.7	
YSS				*e*		05 28 37.0	
YSS				*e*		05 30 40.0	
YSS				*e*S	**S**	**05 36 37.0**	**-2.3**
YSS				*e*SS	**SS**	**05 40 44.0**	**+4.2**
YSS				pmax	pmax		
	comp=Z,20nm,1.1s						
YSS				pmax	pmax		
	comp=Z,900nm,5.5s						
YSS				MLR	MLR		
	comp=Z,700nm,17.0s						
YSS				MLR	MLR		
	comp=N,600nm,20.0s						
YSS				MLR	MLR		
	comp=E,400nm,15.0s						
TEY	**Ternei**	**61.58**	**336**	*e*P	**P**	**05 28 27.2**	**+0.8**
TEY				pmax	pmax		
	comp=E,10.0nm,2.1s						
TEY				pmax	pmax		
	comp=Z,20nm,1.8s						
SKR	**Severo-Kuril's**	**61.67**	**353**	*e*P	**P**	**05 28 24.7**	**-2.2**
SKR				*e*S	**S**	**05 36 42.8**	**-3.9**
SKR				pmax	pmax		
	comp=Z,109nm,3.7s						
NJ2	**Nanjing**	**62.20**	**315**	*e*P	**P**	**05 28 32.0**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,26nm,0.7s						
USA0B	**Ussuriysk Arra**	**62.86**	**333**	*e*P	**P**	**05 28 36.1**	**+1.0**
	comp=Z,124nm,1.5s						
USRK	**Ussuriysk Ar.**	**62.86**	**333**	P	**P**	**05 28 36.3**	**+1.3**
	comp=Z,27nm,1.2s,baz=134,slow=5.5,SNR=14						
QIZ	**Qiongzhong**	**63.10**	**298**	P	**P**	**05 28 39.5**	**+2.3**
QIZ				LR	LR		
	comp=Z,350nm,18.6s						
QIZ				LR	LR		
	comp=Z,430nm,15.5s						
QIZ				LR	LR		
	comp=Z,840nm,19.1s						
PETK	**Petropavlovsk-**	**63.88**	**354**	P	**P**	**05 28 42.6**	**+1.1**
	comp=Z,12nm,1.1s,baz=134,slow=8.4,SNR=6.0						
PETK	**Petropavlovsk-**	**63.88**	**354**	*e*P	**P**	**05 28 42.1**	**+0.5**
PETK	**Petropavlovsk-**	**63.88**	**354**	*e*P	**P**	**05 28 42.1**	**+0.5**
MDJ	**Mudanjiang**	**64.28**	**332**	P	**P**	**05 28 46.3**	**+1.9**
MDJ				pmax	pmax		
	comp=Z,36nm,1.1s						
MDJ	**Mudanjiang**	**64.28**	**332**	*e*P	**P**	**05 28 45.4**	**+1.0**
	comp=Z,46nm,1.2s						
DL2	**Dalian**	**64.55**	**322**	P	**P**	**05 28 47.0**	**+0.7**
DL2				pP	**sP**	**05 29 00.8**	**-0.7**
DL2				S	**S**	**05 37 27.3**	**+4.1**
DL2				pmax	pmax		
	comp=Z,48nm,1.1s						
DL2				pmax	pmax		
	comp=Z,380nm,4.7s						
DL2				LR	LR		
	comp=Z,790nm,15.6s						
DL2				LR	LR		
	comp=Z,660nm,16.2s						
DL2				LR	LR		
	comp=Z,780nm,17.2s						
TYV	**Tymovskoe**	**64.60**	**344**	*e*P	**P**	**05 28 47.4**	**+1.0**
TYV				pmax	pmax		
	comp=Z,600nm,4.7s						
TYV				pmax	pmax		
	comp=Z,22nm,1.7s						
WHN	**Wuhan**	**64.63**	**311**	⇑P	**P**	**05 28 45.0**	**-2.0**
CN2	**Changchun**	**65.72**	**329**	*e*P	**P**	**05 28 54.5**	**+0.7**
CN2				pmax	pmax		
	comp=Z,40nm,1.3s						
KLR	**Kul'dur**	**66.92**	**336**	*d* iP	**P**	**05 29 02.4**	**+1.0**
VNDA	**Vanda**	**66.97**	**181**	P	**P**	**05 28 58.7**	**-2.6**
	comp=Z,17nm,1.1s,baz=345,slow=8.0,SNR=8.0						
VNDA	**Vanda**	**66.97**	**181**	*e*P	**P**	**05 29 00.1**	**-1.2**
	comp=Z,31nm,1.1s						
VNDA	**Vanda**	**66.97**	**181**	*e*P	**P**	**05 29 00.1**	**-1.2**
VNDA				pmax	pmax		
	comp=Z,31nm,1.1s						
ENH	**Enshi**	**68.17**	**309**	*e*P	**P**	**05 29 09.8**	**+0.1**
PSI	**Prapat**	**68.53**	**277**	P	**P**	**05 29 10.8**	**-1.6**
	comp=Z,13nm,0.9s,baz=180,slow=1.6,SNR=4.4						
PSI	**Prapat**	**68.53**	**277**	*e*P	**P**	**05 29 10.8**	**-1.6**
	comp=Z,23nm,1.1s						
PSI	**Prapat**	**68.53**	**277**	*e*P	**P**	**05 29 10.9**	**-1.6**
PSI				pmax	pmax		
	comp=Z,23nm,1.1s						
BJT	**Baijiatuau**	**68.57**	**321**	*e*P	**P**	**05 29 12.5**	**+0.5**
	comp=Z,91nm,1.5s						
BJT	**Baijiatuau**	**68.57**	**321**	*e*P	**P**	**05 29 12.5**	**+0.5**
BJT				pmax	pmax		
	comp=Z,91nm,1.5s						
BJI	**Beijing**	**68.58**	**321**	P	**P**	**05 29 12.5**	**+0.5**
BJI				S	**S**	**05 38 11.8**	**-0.2**
BJI				pmax	pmax		
	comp=Z,20nm,1.4s						
BJI				LR	LR		
	comp=Z,500nm,16.2s						
BJI				LR	LR		
	comp=Z,620nm,18.1s						
BJI				LR	LR		
	comp=Z,380nm,30.7s						
GYA	**Guiyang**	**68.76**	**304**	*e*P	**P**	**05 29 14.3**	**+0.7**
GYA				PP	**PP**	**05 31 45.8**	**-0.1**
GYA				S	**S**	**05 38 12.0**	**-3.0**
GYA				SKS	**SKSac**	**05 39 09.3**	**-1.5**
GYA				SS	**SS**	**05 42 34.5**	**-6.1**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,5.8s						
GYA				LR	LR		
	comp=Z,510nm,18.7s						
GYA				LR	LR		
	comp=Z,520nm,18.6s						
GYA				LR	LR		
	comp=Z,540nm,19.0s						
GSI	**Gunungsitoli**	**69.53**	**275**	*e*P	**P**	**05 29 18.3**	**-0.2**
	comp=Z,71nm,1.0s						
XAN	**Xi'an**	**70.34**	**312**	P	**P**	**05 29 24.0**	**+0.9**
XAN				pP	sP	05 29 37.5	-0.5
XAN				pmax	pmax		
	comp=Z,33nm,1.5s						
XAN				pmax	pmax		
	comp=Z,440nm,3.3s						
XAN				LR	LR		
	comp=Z,390nm,19.1s						
XAN				LR	LR		
	comp=Z,580nm,19.1s						
XAN				LR	LR		
	comp=Z,1μm,20.6s						
XAN	**Xi'an**	**70.34**	**312**	*e*P	**P**	**05 29 23.6**	**+0.4**
	comp=Z,50nm,1.3s						
XAN	**Xi'an**	**70.34**	**312**	*e*P	**P**	**05 29 23.6**	**+0.4**
XAN				pmax	pmax		
	comp=Z,50nm,1.3s						
MA2	**Magadan**	**71.05**	**352**	*i* P	**P**	**05 29 26.3**	**-0.5**
MA2				pmax	pmax		
	comp=Z,24nm,2.2s						
KMI	**Kunming**	**71.50**	**301**	P	**P**	**05 29 32.5**	**+1.9**
KMI				pP	sP	05 29 46.3	+1.2
KMI				sP	PcP	05 29 52.3	+2.4
KMI				S	**S**	**05 38 49.3**	**+2.0**
KMI				pmax	pmax		
	comp=Z,28nm,1.3s						
KMI				pmax	pmax		
	comp=Z,210nm,4.8s						
KMI				LR	LR		
	comp=Z,540nm,18.4s						
KMI				LR	LR		
	comp=Z,440nm,23.3s						
KMI				LR	LR		
	comp=Z,1μm,25.4s						
HHC	**Hu-ho-hao-te**	**71.95**	**319**	*e*P	**P**	**05 29 34.0**	**+1.2**
HHC				S	**S**	**05 38 52.5**	**+0.8**
HHC				pmax	pmax		
	comp=Z,28nm,1.2s						
HHC				pmax	pmax		
	comp=Z,310nm,4.4s						
HHC				LR	LR		
	comp=Z,700nm,13.8s						
HHC				LR	LR		
	comp=Z,520nm,15.6s						
HHC				LR	LR		
	comp=Z,1μm,15.6s						
ZEA	**Zeya**	**72.20**	**337**	*e*P	**P**	**05 29 35.0**	**+1.2**
ZEA				pmax	pmax		
	comp=N,98nm,1.6s						
ZEA				pmax	pmax		
	comp=E,49nm,1.6s						
ZEA				pmax	pmax		
	comp=Z,92nm,1.4s						
ZEA				MLR	MLR		
	comp=Z,500nm,15.0s						
ZEA				MLR	MLR		
	comp=E,200nm,13.0s						
HIA	**Hailar**	**72.33**	**330**	*e*P	**P**	**05 29 35.5**	**+0.7**
	comp=E,64nm,1.5s						
HIA	**Hailar**	**72.33**	**330**	*d* iP	**P**	**05 29 35.6**	**+0.8**
HIA				pmax	pmax		
	comp=Z,49nm,1.5s						
CM01	**Chiang Mai Arr**	**72.56**	**293**	*e*P	**P**	**05 29 37.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**72.59**	**293**	P	**P**	**05 29 37.7**	**+0.7**
	comp=Z,5.2nm,0.9s,baz=112,slow=4.9,SNR=11						
CHTO	**Chiang Mai**	**72.70**	**294**	*e*P	**P**	**05 29 37.7**	**+0.1**
	comp=Z,20nm,1.2s						
CHTO	**Chiang Mai**	**72.70**	**294**	*e*P	**P**	**05 29 37.7**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,21nm,1.2s						
CHTO	**Chiang Mai**	**72.70**	**294**	P	**P**	**05 29 40.0**	**+2.4**
	comp=Z,72nm,1.5s						
BTO	**Baotou**	**72.82**	**318**	*e*P	**P**	**05 29 40.0**	**+2.0**
CD2	**Chengdu**	**72.90**	**307**	P	**P**	**05 29 39.0**	**+0.4**
CD2				S	**SKiKP**	**05 39 06.3**	**-3.1**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,160nm,5.2s						
CD2				LR	LR		
	comp=Z,5μm,19.4s						
CD2				LR	LR		
	comp=Z,800nm,20.9s						
CD2				LR	LR		
	comp=Z,1μm,18.4s						
SEY	**Seymchan**	**74.09**	**353**	*ce*P	**P**	**05 29 45.7**	**+0.9**
LZH	**Lanzhou**	**74.98**	**312**	*e*P	**P**	**05 29 52.5**	**+1.7**
LZH				pP	sP	05 30 06.3	+0.4
LZH				sP	PcP	05 30 12.0	+7.5
LZH				*e*S	**S**	**05 39 31.0**	**+4.6**
LZH				SS	**SS**	**05 44 13.8**	**-2.0**
LZH				pmax	pmax		
	comp=Z,55nm,1.2s						
LZH				pmax	pmax		
	comp=Z,200nm,4.9s						
LZH				LR	LR		
	comp=Z,1μm,16.8s						
LZH				LR	LR		
	comp=Z,1μm,17.9s						
LZH				LR	LR		
	comp=Z,2μm,19.5s						
RSO	**Redoubt South**	**77.84**	**19**	*e*P	**P**	**05 30 06.4**	**-0.2**
ANM	**Nome**	**77.88**	**12**	*e*P	**P**	**05 30 07.3**	**+0.9**
	comp=Z,29nm,1.5s						
ANM	**Nome**	**77.88**	**12**	*e*P	**P**	**05 30 07.3**	**+0.9**
ANM				pmax	pmax		
	comp=Z,29nm,1.5s						
ULN	**Ulaanbaatar**	**78.35**	**324**	*e*P	**P**	**05 30 10.3**	**

BOD pmax pmax
comp=Z,37nm,1.6s
KLU **Klutina** 80.91 21 eP P 05 30 23.3 +0.2
comp=Z,28nm,1.2s
BPAW **Bear Paw Mtn.** 81.12 17 eP P 05 30 22.7 -1.4
comp=Z,15nm,1.4s
RND **Reindeer** 81.26 19 eP P 05 30 24.7 -0.2
comp=Z,40nm,1.5s
RND **Reindeer** 81.26 19 eP P 05 30 24.7 -0.2
RND pmax pmax
comp=Z,40nm,1.5s
MCK **McKinley** 81.47 18 eP P 05 30 25.9 -0.1
comp=Z,40nm,1.4s
MCK **McKinley** 81.47 18 eP P 05 30 25.9 -0.1
MCK pmax pmax
comp=Z,40nm,1.4s
DHY **Denali Highway** 81.50 19 eP P 05 30 26.2 -0.1
comp=Z,52nm,1.6s
ZAK **Zakamensk** 81.74 325 eP P 05 30 28.2 +0.4
ZAK pmax pmax
comp=Z,26nm,1.2s
IM3 **Indian Mountai** 81.78 15 eP P 05 30 28.0 +0.5
MLY **Manley** 81.88 17 eP P 05 30 28.5 +0.4
comp=Z,42nm,1.6s
TLY **Talaya** 82.14 326 d iP P 05 30 30.1 +0.4
TLY pmax pmax
comp=Z,45nm,1.1s
WRH **Wood River Hil** 82.26 18 eP P 05 30 30.1 0.0
comp=Z,32nm,1.3s
O02D **Mt. Diablo Mer** 82.45 47 P P 05 30 30.7 -1.0
baz=249
MDM **Murphy Dome** 82.57 18 eP P 05 30 31.5 -0.2
comp=Z,51nm,1.3s
HDA **Harding Lake** 82.57 19 eP P 05 30 32.1 +0.4
HDA **Harding Lake** 82.57 19 P P 05 30 31.9 +0.2
baz=226
TCOL **CIGO, UAF Yank** 82.62 18 P P 05 30 31.9 0.0
baz=225
COLA **College** 82.62 18 eP P 05 30 31.5 -0.3
comp=Z,22nm,1.0s
COLA **College** 82.62 18 i P P 05 30 31.7 -0.2
COLA pmax pmax
comp=Z,21nm,1.2s
LSA **Lhasa** 82.72 302 P P 05 30 35.0 +1.2
LSA **Lhasa** 82.72 302 eP P 05 30 34.9 +1.0
K02D **Willamette Mer** 82.74 44 P P 05 30 33.9 +0.8
baz=248
WDC **Whiskeytown Da** 82.77 47 eP P 05 30 34.1 +0.9
comp=Z,30nm,1.5s
N02D **Trinity Center** 82.79 46 P P 05 30 34.5 +1.1
baz=249
RIDG **Independ'e Rid** 82.79 20 eP P 05 30 33.6 +0.7
comp=Z,35nm,1.1s
M02C **Callahan** 82.83 46 P P 05 30 34.8 +1.1
baz=249
IL1 **Eielson Array** 82.84 18 eP P 05 30 32.5 -0.6
ILAR **Eielson Array** 82.84 18 P P 05 30 33.0 -0.1
comp=Z,12nm,1.1s,baz=226,slow=5.8,SNR=12
ILB **Eielson Array** 82.84 18 eP P 05 30 33.0 -0.1
PAGB **Antelope Grade** 82.86 52 eP P 05 30 35.6 +1.7
comp=Z,27nm,1.3s
SBC **Santa Barbara** 82.88 53 P P 05 30 34.2 +0.3
baz=252
POKR **Poker Plat Res** 82.92 18 P P 05 30 33.5 0.0
baz=226
SMMC **Simmler** 82.93 52 P P 05 30 34.7 +0.5
baz=252
PKM **Mcpherson Peak** 82.94 53 P P 05 30 33.6 -0.9
baz=252
YBH **Yreka Blue Hor** 83.05 45 eP P 05 30 36.4 +1.6
comp=Z,46nm,1.5s
ORV **Oroville** 83.17 48 eP P 05 30 36.2 +0.8
comp=Z,36nm,1.4s
ORV **Oroville** 83.17 48 eP P 05 30 36.2 +0.8
ORV pmax pmax
comp=Z,36nm,1.4s
HUMO **Hull Mountain** 83.19 45 eP P 05 30 37.2 +1.7
comp=Z,35nm,1.4s
SCRK **Sand Creek** 83.23 20 eP P 05 30 36.3 +1.0
comp=Z,30nm,1.1s
BLG **Laguna Peak, P** 83.29 54 P P 05 30 36.2 +0.1
baz=252
I03D **Drain, OR** 83.32 43 P P 05 30 37.2 +1.2
baz=249
AFDM **Forest Hills D** 83.35 48 eP P 05 30 37.5 +1.1
comp=Z,40nm,1.4s
SCI2 **San Clemente I** 83.37 55 P P 05 30 36.8 +0.3
baz=253
CMB **Columbia Colle** 83.49 50 eP P 05 30 38.1 +1.0
comp=Z,25nm,1.4s
CMB **Columbia Colle** 83.49 50 eP P 05 30 38.1 +1.0
CMB pmax pmax
comp=Z,25nm,1.4s
L04D **Klamath Falls** 83.51 45 P P 05 30 37.8 +0.5
baz=250
CIS **Catalina Islan** 83.60 54 P P 05 30 37.9 +0.2
baz=253
MOY **Mondy** 83.60 325 eP P 05 30 38.0 +0.5
MOY pmax pmax
comp=Z,81nm,3.8s
HYT **Haines Junctio** 83.67 24 eP P 05 30 39.2 +1.6
comp=Z,38nm,1.5s
M04C **Macdoel** 83.68 46 P P 05 30 39.2 +1.1
baz=250
ARVC **Arvin** 83.78 53 P P 05 30 39.4 +0.8
baz=252
FMP **Fort Macarthur** 83.79 54 P P 05 30 39.1 +0.5
baz=253
VES **Vestal, Richgr** 83.80 52 P P 05 30 39.2 +0.5
baz=252
I04A **Tendick Farm,** 83.99 44 P P 05 30 40.1 +0.6
baz=249
J04D **Umpqua Nationa** 84.00 44 P P 05 30 40.8 +1.0
baz=250
H04D **Lebanon** 84.03 43 P P 05 30 40.7 +1.0
baz=249
K04D **Chiloquin, OR** 84.03 45 P P 05 30 40.9 +1.0
baz=250
MWC **Mount Wilson** 84.12 54 eP P 05 30 41.4 +0.8
comp=Z,47nm,1.4s
MWC **Mount Wilson** 84.12 54 eP P 05 30 41.4 +0.8
MWC pmax pmax
comp=Z,47nm,1.4s
ISA **Isabella, Lake** 84.22 52 eP P 05 30 42.0 +1.1
comp=Z,43nm,1.4s
ISA **Isabella, Lake** 84.22 52 eP P 05 30 42.0 +1.1
ISA pmax pmax
comp=Z,43nm,1.4s
ISA **Isabella, Lake** 84.22 52 P P 05 30 41.5 +0.6
baz=253,SNR=11
MDPB **Devils Postpil** 84.35 50 eP P 05 30 43.0 +1.2
comp=Z,65nm,1.5s
WAKR **Walker** 84.35 49 eP P 05 30 43.3 +1.6
comp=Z,96nm,1.6s
EDW2 **Edwards Air Fo** 84.36 53 P P 05 30 42.6 +0.9
baz=253,SNR=16
OMMB **Old Mammoth Mi** 84.40 50 eP P 05 30 43.4 +1.3
comp=Z,65nm,1.6s
PNTR **Pine Nut** 84.41 49 eP P 05 30 43.4 +1.4
comp=Z,69nm,1.6s
F04D **Rainier, OR** 84.41 41 P P 05 30 41.8 +0.3
baz=249
VCNR **Virginia City** 84.44 48 eP P 05 30 43.7 +1.5
comp=Z,40nm,1.6s
BFSC **Mount Baldy Ra** 84.44 54 P P 05 30 42.4 +0.2
baz=253,SNR=9.4
109C **Camp Elliot, M** 84.50 55 P P 05 30 43.3 +1.0
baz=254
CPE **Camp Elliot** 84.50 55 eP P 05 30 43.5 +1.2
comp=Z,38nm,1.3s
MLAC **Mammoth, Mammo** 84.53 50 P P 05 30 43.6 +0.9
baz=252
MURC **Murrieta** 84.63 55 P P 05 30 43.1 +0.1
baz=254
YERR **Yerington** 84.64 49 eP P 05 30 44.3 +1.1
comp=Z,56nm,1.5s
CWC **Cottonwood Cre** 84.75 52 P P 05 30 44.4 +0.7
baz=253
PAHR **Pah Rah Range** 84.76 48 eP P 05 30 44.9 +1.2
comp=Z,63nm,1.5s
LRMC **Laurel Mtn Rad** 84.78 53 P P 05 30 44.2 +0.4
baz=253,SNR=11
BAR **Barrett** 84.80 56 eP P 05 30 44.8 +1.0
comp=Z,22nm,1.4s
MOD **Modoc Plateau** 84.80 46 eP P 05 30 45.0 +1.1
comp=Z,23nm,1.1s
TIN **Tinemaha, Big** 84.82 51 P P 05 30 45.0 +1.0
baz=253
DAWY **Dawson** 84.86 21 eP P 05 30 44.6 +1.1
comp=Z,22nm,1.2s
E04D **Cinebar** 84.87 41 P P 05 30 44.9 +1.1
baz=249
D03D **Eldon** 84.89 40 P P 05 30 45.1 +1.2
baz=248
I05D **Terrebonne, OR** 84.90 43 P P 05 30 45.0 +0.9
baz=250
D04E **Lakebay** 84.96 40 P P 05 30 45.4 +1.1
baz=249
BBRC **Big Bear Solar** 85.04 54 P P 05 30 45.8 +0.6
baz=254
MONP2 **Monument Peak** 85.06 55 P P 05 30 46.2 +0.8
baz=254,SNR=9.6
RYN **Ryan** 85.07 49 eP P 05 30 46.5 +1.3
comp=Z,55nm,1.6s
DAC **Darwin (Calif)** 85.08 52 eP P 05 30 46.5 +1.1
comp=Z,39nm,1.4s
DAC **Darwin (Calif)** 85.08 52 eP P 05 30 46.5 +1.1
DAC pmax pmax
comp=Z,39nm,1.4s
MPMC **Manual Prospec** 85.10 52 P P 05 30 46.3 +0.8
baz=253,SNR=11
KNGR **Kungurtug, Tuv** 85.16 323 d iP P 05 30 45.7 +0.3
NV01 **Mina Array Sit** 85.17 50 eP P 05 30 46.5 +0.6
NVAR **Mina Array Bea** 85.17 50 P P 05 30 45.9 0.0
comp=Z,7.1nm,1.0s,baz=236,slow=6.4,SNR=10
G05D **Wamic, OR** 85.22 42 P P 05 30 46.7 +0.9
baz=250
PFO **Pinyon Flats O** 85.22 55 eP P 05 30 47.1 +1.0
comp=Z,34nm,1.5s
PFO **Pinyon Flats O** 85.22 55 eP P 05 30 47.1 +1.0
PFO pmax pmax
comp=Z,35nm,1.5s
PFO **Pinyon Flats O** 85.22 55 P P 05 30 46.4 +0.3
baz=254
XPFO **Pion Flat** 85.23 55 eP P 05 30 47.1 +1.0
comp=Z,37nm,1.5s
IKP **In-Ko-Pah, Jac** 85.25 56 P P 05 30 47.0 +0.8
baz=254,SNR=6.7
NV11 **Mina Array Sit** 85.28 50 eP P 05 30 47.5 +1.2
comp=Z,3.0nm,1.3s
F05D **White Salmon** 85.35 42 P P 05 30 46.9 +0.6
baz=250
GSC **Goldstone, Bar** 85.42 53 eP P 05 30 48.1 +1.1
comp=Z,28nm,1.4s
GSC **Goldstone, Bar** 85.42 53 P P 05 30 47.7 +0.8
baz=254,SNR=7.7
GRAC **Grapevine Rang** 85.46 51 P P 05 30 47.9 +0.7
baz=253
KVN **Kaiserville** 85.51 49 eP P 05 30 48.5 +1.0
comp=Z,59nm,1.6s
A04D **Lummi Island** 85.56 39 P P 05 30 48.4 +1.1
baz=249
SWSC **Sam W. Stewart** 85.58 55 P P 05 30 48.5 +0.8
baz=254,SNR=8.6
HEC **Hector,Ludlow** 85.66 54 P P 05 30 48.7 +0.5
baz=254
FURC **Furnace Creek,** 85.70 52 P P 05 30 49.1 +1.0
baz=254,SNR=9.6
BELC **Belle Mtn. Jos** 85.70 54 P P 05 30 49.2 +0.7
baz=254,SNR=11
TIXI **Tiksi** 85.77 349 eP P 05 30 47.9 +0.1
comp=Z,52nm,1.4s
TIXI **Tiksi** 85.77 349 ceP P 05 30 48.0 +0.2
TIXI pmax pmax
comp=Z,52nm,1.7s
B05A **Bryant** 85.78 39 P P 05 30 49.0 +0.6
baz=249
SHOC **Shoshone, Teco** 86.00 53 P P 05 30 50.2 +0.4
baz=254
BC3 **Big Chuckawall** 86.04 55 P P 05 30 51.0 +0.9
baz=255,SNR=8.4
I07A **Izee** 86.06 44 eP P 05 30 51.3 +1.3
comp=Z,17nm,1.1s
WVOR **Wild Horse Val** 86.14 46 eP P 05 30 51.8 +1.3
comp=Z,61nm,1.5s
WVOR **Wild Horse Val** 86.14 46 eP P 05 30 51.8 +1.3
WVOR pmax pmax
comp=Z,61nm,1.5s
TUQ **Turquoise Moun** 86.15 53 P P 05 30 51.1 +0.4
baz=254
GMRC **Granite Mounta** 86.18 54 P P 05 30 51.4 +0.5
baz=254,SNR=9.2
TPNV **Topopah Spring** 86.31 52 eP P 05 30 52.5 +1.0
TPNV **Topopah Spring** 86.31 52 eP P 05 30 52.5 +1.0
TPNV **Topopah Spring** 86.31 52 P P 05 30 52.3 +0.8
baz=254,SNR=7.3
LTY **Liberty** 86.33 41 eP P 05 30 51.9 +0.7
comp=Z,17nm,1.3s
GLA **Glamis** 86.39 56 eP P 05 30 53.6 +1.8
comp=Z,35nm,1.1s
GLA **Glamis** 86.39 56 eP P 05 30 53.6 +1.8
GLA pmax pmax
comp=Z,35nm,1.1s
GLA **Glamis** 86.39 56 P P 05 30 53.0 +1.2
baz=255,SNR=5.6
C06D **Leavenworth** 86.42 40 P P 05 30 52.2 +0.6
baz=250
IRM **Iron Mountain** 86.42 54 P P 05 30 52.7 +0.8
baz=255,SNR=13
J08A **Circle Bar Ran** 86.54 45 eP P 05 30 53.7 +1.3
comp=Z,16nm,1.0s
LDFC **Landfair** 86.69 54 eP P 05 30 54.9 +1.5
comp=Z,82nm,1.4s
HAWA **Hanford** 86.78 42 eP P 05 30 54.8 +1.4
comp=Z,49nm,1.6s
Y12C **Blythe** 86.82 55 eP P 05 30 55.3 +1.5
comp=Z,57nm,1.5s
Y12C **Blythe** 86.82 55 P P 05 30 54.7 +0.9
baz=255,SNR=8.4
NEE2 **Needles Airpor** 87.00 54 P P 05 30 55.6 +0.9
baz=255
SHPR **Sheep Range** 87.03 52 eP P 05 30 56.5 +1.5
comp=Z,48nm,1.5s
E08A **Dider Farm, El** 87.12 42 eP P 05 30 56.3 +1.3
comp=Z,63nm,1.4s
113A **Mohawk Valley,** 87.18 56 eP P 05 30 57.1 +1.5
comp=Z,51nm,1.6s
R11A **Troy Canyon, C** 87.20 50 eP P 05 30 56.8 +1.0
comp=Z,30nm,1.6s
R11A **Troy Canyon, C** 87.20 50 P P 05 30 56.6 +0.8
baz=254
PDMCI **Parker Dam,Lak** 87.27 55 P P 05 30 56.9 +0.9
baz=255,SNR=12
W13A **Hualapai Mount** 87.67 54 eP P 05 30 59.6 +1.4
comp=Z,32nm,1.3s
214A **Organ Pipe Nat** 87.77 57 P P 05 30 59.9 +1.4
baz=256,SNR=13
BMO **Blue Mountains** 87.80 44 eP P 05 30 59.2 +0.8
comp=Z,34nm,1.6s
BMO **Blue Mountains** 87.80 44 eP P 05 30 59.2 +0.8
BMO pmax pmax
comp=Z,34nm,1.6s
Y14A **Wickenburg** 88.09 55 eP P 05 31 01.4 +1.4
comp=Z,45nm,1.6s
ELK **Elko** 88.10 48 eP P 05 31 01.3 +1.1
comp=Z,30nm,1.6s
ELK **Elko** 88.10 48 eP P 05 31 01.3 +1.1
ELK pmax pmax
comp=Z,30nm,1.6s
F10A **Beech Ranch, E** 88.18 43 eP P 05 31 01.0 +0.8
comp=Z,52nm,1.6s
PSUT **Pine Spring** 88.56 51 eP P 05 31 03.8 +1.4
comp=Z,67nm,1.7s
LCMT **Little Creek M** 88.65 52 eP P 05 31 04.5 +1.8
comp=Z,95nm,1.6s
HSIG 88.66 60 eP P 05 31 04.2 +1.5
comp=Z,63nm,1.5s
CCUT **Cedar City** 88.69 52 eP P 05 31 04.9 +1.9
comp=Z,75nm,1.5s
SZCU **Shurtz Canyon** 88.91 52 eP P 05 31 05.8 +1.8
comp=Z,109nm,1.7s
NEW **Newport** 88.92 41 eP P 05 31 04.4 +0.8
comp=Z,11nm,1.4s
NEW **Newport** 88.92 41 eP P 05 31 04.4 +0.8
NEW pmax pmax
comp=Z,11nm,1.4s
NEW **Newport** 88.92 41 P P 05 31 03.9 +0.3
baz=253
KNB **Kanab** 88.97 52 eP P 05 31 06.2 +1.9
comp=Z,184nm,1.7s
INK **Inuvik** 89.23 19 P P 05 31 03.9 -0.6
comp=Z,1.6nm,0.8s,baz=254,slow=7.2,SNR=3.4
INK **Inuvik** 89.23 19 eP P 05 31 05.5 +1.1
comp=Z,15nm,1.5s
INK **Inuvik** 89.23 19 eP P 05 31 05.5 +1.1
INK pmax pmax
comp=Z,15nm,1.5s
U15A **North Rim** 89.25 53 eP P 05 31 07.7 +1.9
comp=Z,134nm,1.6s
WMQ **Urumqi** 89.28 315 P P 05 31 06.0 +0.6
WMQ pP sP 05 31 20.3 +0.1
WMQ sP pwP 05 31 24.0 +4.5
WMQ pmax pmax
comp=Z,57nm,1.3s
WMQ pmax pmax
comp=Z,340nm,3.7s
WMQ LR LR
comp=Z,770nm,19.9s
WMQ LR LR
comp=Z,980nm,23.9s
WMQ LR LR
comp=Z,1μm,22.3s
WMQ **Urumqi** 89.28 315 eP P 05 31 06.7 +1.3
comp=Z,27nm,1.0s
HLID **Hailey** 89.44 46 eP P 05 31 07.3 +1.0
comp=Z,27nm,1.4s
HLID **Hailey** 89.44 46 P P 05 31 07.4 +1.0
baz=255
X16A **Lo Mia Camp, P** 89.46 55 eP P 05 31 08.2 +1.5
comp=Z,46nm,1.4s
PKCU **Pink Cliffs** 89.47 52 eP P 05 31 09.4 +2.6
comp=Z,156nm,1.5s
TUC **Tucson** 89.53 57 eP P 05 31 08.4 +1.6
comp=Z,50nm,1.4s
TUC **Tucson** 89.53 57 eP P 05 31 08.4 +1.6
TUC pmax pmax
comp=Z,50nm,1.4s
TUC **Tucson** 89.53 57 P P 05 31 08.2 +1.3
baz=257
MTPU **Mount Pierson** 89.71 51 eP P 05 31 10.3 +2.3
comp=Z,83nm,1.5s
DUG **Dugway, Tooele** 89.75 49 eP P 05 31 09.0 +1.2
comp=Z,53nm,1.5s
DUG **Dugway, Tooele** 89.75 49 eP P 05 31 09.0 +1.2
DUG pmax pmax
comp=Z,53nm,1.5s
DUG **Dugway, Tooele** 89.75 49 P P 05 31 08.8 +1.0
baz=256
WUAZ **Wupatki** 89.76 54 eP P 05 31 09.5 +1.5
comp=Z,82nm,1.4s
WUAZ **Wupatki** 89.76 54 P P 05 31 09.3 +1.3
baz=257
BGU **Big Grassy Mou** 89.77 48 eP P 05 31 09.3 +1.4
comp=Z,62nm,1.6s
MSU **Marysvale** 89.83 51 eP P 05 31 10.5 +2.2
MSU **Marysvale** 89.83 51 eP P 05 31 10.5 +2.2
HVU **Hansel Valley** 90.16 48 eP P 05 31 11.2 +1.5
comp=Z,101nm,1.5s
HVU **Hansel Valley** 90.16 48 eP P 05 31 11.2 +1.5
HVU pmax pmax
comp=Z,101nm,1.5s
NLU **North Lily Min** 90.24 49 eP P 05 31 11.7 +1.5
comp=Z,57nm,1.5s
319A **Douglas** 90.58 58 eP P 05 31 13.8 +2.0
comp=Z,63nm,1.3s
CTU **Camp Tracy** 90.65 49 eP P 05 31 13.4 +1.4
comp=Z,44nm,1.4s
Q16A **Castle Valley** 90.69 51 eP P 05 31 14.3 +2.0
comp=Z,125nm,1.7s
X18A **Snowflake** 90.69 55 eP P 05 31 13.8 +1.4
comp=Z,57nm,1.3s
JLU **Jordanelle** 90.86 49 eP P 05 31 14.5 +1.4
comp=Z,67nm,1.5s
W18A **Petrified Fore** 90.98 55 P P 05 31 15.1 +1.3
baz=258
DGZ **Jazzator, Alta** 91.00 320 d iP P 05 31 13.4 0.0
DGZ pmax pmax
comp=Z,13nm,1.2s
HWUT **Hardware Ranch** 91.00 48 eP P 05 31 15.1 +1.5
comp=Z,6.5nm,1.0s
TCUT **Toone Canyon** 91.00 48 eP P 05 31 15.3 +1.5
comp=Z,110nm,1.6s
P17A **Butcher Ranch,** 91.14 50 eP P 05 31 16.6 +2.3
comp=Z,38nm,1.4s
DLMT **Dillon** 91.14 44 eP P 05 31 15.6 +1.4
comp=Z,69nm,1.6s
HYB **Hyderabad** 91.16 287 i P P 05 31 16.0 +1.3
WALA **Waterton Lakes** 91.19 40 eP P 05 31 15.1 +0.8
comp=Z,33nm,1.4s
SRU **San Rafael Swe** 91.22 51 eP P 05 31 16.2 +1.5
comp=Z,33nm,1.6s
SRU **San Rafael Swe** 91.22 51 eP P 05 31 16.2 +1.5
SRU pmax pmax
comp=Z,33nm,1.6s
LRM **Limekiln Ridge** 91.35 44 eP P 05 31 16.6 +1.3
FXWY **Fox Creek** 91.84 46 eP P 05 31 18.9 +1.3
comp=Z,14nm,1.3s
BOZ **Bozeman (W)** 91.86 44 eP P 05 31 18.9 +1.4
comp=Z,66nm,1.6s
BOZ **Bozeman (W)** 91.86 44 eP P 05 31 18.9 +1.4
BOZ pmax pmax
comp=Z,66nm,1.6s
BOZ **Bozeman (W)** 91.86 44 P P 05 31 18.3 +0.8
baz=257
REDW **Red Top Meadow** 91.91 46 eP P 05 31 19.3 +1.5
comp=Z,60nm,1.6s
YHB **Horse Butte** 91.97 45 eP P 05 31 20.1 +1.9
comp=Z,34nm,1.6s
HRY **Holter Researc** 91.98 43 eP P 05 31 19.2 +1.2
SNOW **Snow King Moun** 92.00 46 eP P 05 31 19.9 +1.6
comp=Z,36nm,1.6s
121A **Cookes Peak, D** 92.05 57 P P 05 31 19.5 +0.8
baz=259
MOOW **Moose Ponds** 92.07 46 eP P 05 31 19.4 +0.8
comp=Z,24nm,1.5s
PV05 **Paradox Valley** 92.09 52 eP P 05 31 20.8 +1.9
YMR **Madison River** 92.11 45 eP P 05 31 21.7 +2.9
comp=Z,27nm,1.3s
LOHW **Long Hollow** 92.14 46 eP P 05 31 20.1 +1.1
comp=Z,25nm,1.6s
PV10 **Paradox Valley** 92.20 52 eP P 05 31 21.0 +1.7
PV14 **Lion Creek, Pa** 92.21 52 eP P 05 31 20.9 +1.4
comp=Z,75nm,1.7s
PV19 **Morning Glory** 92.23 52 eP P 05 31 21.5 +2.0
comp=Z,49nm,1.6s
PV23 **Carpenter Ridg** 92.24 51 eP P 05 31 21.0 +1.5
comp=Z,64nm,1.6s
PV17 **East Wray Mesa** 92.24 52 eP P 05 31 21.1 +1.6
comp=Z,20nm,1.3s
PV20 **West Nyswonger** 92.25 52 eP P 05 31 21.7 +2.2
comp=Z,21nm,1.2s
PV16 **Nyswonger Mesa** 92.28 52 eP P 05 31 21.4 +1.7
comp=Z,48nm,1.7s
PV21 **Cone Mtn., Par** 92.29 51 eP P 05 31 21.4 +1.6
comp=Z,59nm,1.5s
PV11 **David Mesa, Pa** 92.31 52 eP P 05 31 21.2 +1.4
comp=Z,42nm,1.6s
YNR **Norris Junctio** 92.32 45 eP P 05 31 23.0 +3.2
comp=Z,25nm,1.4s
H17A **Grant Village** 92.32 45 eP P 05 31 22.4 +2.6
comp=Z,21nm,1.5s
H17A **Grant Village** 92.32 45 P P 05 31 20.8 +1.0
baz=258
PV03 **Paradox Valley** 92.33 52 eP P 05 31 21.2 +1.3
PV13 **Radium Mtn., P** 92.33 52 eP P 05 31 21.7 +1.8
comp=Z,18nm,1.6s
PV12 **Saucer Basin,** 92.37 52 eP P 05 31 21.5 +1.4
comp=Z,41nm,1.5s
MVCO **Mesa Verde** 92.39 53 P P 05 31 21.1 +0.8
baz=259
PV02 **Paradox Valley** 92.40 52 eP P 05 31 21.8 +1.5
comp=Z,20nm,1.4s
SYO **Syowa Base** 92.44 197‖ eP P 05 31 20.0 +0.5
SYO **Syowa Base** 92.44 197‖ epP P 05 31 22.8 +3.3
PV01 **Paradox Valley** 92.52 52 eP P 05 31 22.1 +1.2
BW06 **Boulder Array** 92.71 47 eP P 05 31 22.2 +0.6
comp=Z,31nm,1.6s
BW06 **Boulder Array** 92.71 47 P P 05 31 21.9 +0.3
baz=258
PD31 **Pinedale Array** 92.71 47 eP P 05 31 22.6 +1.0
PDAR **Pinedale Array** 92.71 47 P P 05 31 20.8 -0.8
comp=Z,6.3nm,1.3s,baz=250,slow=3.0,SNR=8.2
PDAR **Pinedale Array** 92.71 47 eP P 05 31 21.5 -0.1
LAZ **Ladron** 92.94 56 eP P 05 31 24.5 +1.7
O20A **White River Ci** 93.16 50 eP P 05 31 24.9 +1.3
comp=Z,26nm,1.5s
O20A **White River Ci** 93.16 50 P P 05 31 24.5 +0.8
baz=259
GCMT **Greycliff** 93.25 44 eP P 05 31 26.7 +2.8
BNM **Barren Site** 93.31 56 eP P 05 31 25.9 +1.3
BNM epP pwP 05 31 37.3 -1.4
RLMT **Red Lodge** 93.39 45 P P 05 31 25.6 +0.9
baz=258

ANMO	**Albuquerque**	**93.59**	**55**	*e*P		**P**	**05 31 26.8**	**+1.0**
	comp=Z,12nm,1.4s								
ANMO	**Albuquerque**	**93.59**	**55**	*c*eP		**P**	**05 31 25.4**	**-0.4**
ANMO				pmax	pmax				
	comp=Z,9.0nm,1.7s								
ANMO	**Albuquerque**	**93.59**	**55**	P		**P**	**05 31 26.2**	**+0.5**
	baz=260								
ZAA0	**Zalesovo Array**	**93.60**	**324**	*e*P		**P**	**05 31 25.3**	**+0.2**
	comp=Z,23nm,1.1s								
ZALV	**Zalesovo Beam**	**93.60**	**324**	P		**P**	**05 31 25.5**	**+0.4**
	comp=Z,17nm,1.1s,baz=108,slow=4.8,SNR=9.7								
ZALV	**Zalesovo Beam**	**93.60**	**324**	*e*P		**P**	**05 31 24.8**	**-0.3**
ZALV	**Zalesovo Beam**	**93.60**	**324**	*e*P		**P**	**05 31 24.8**	**-0.3**
EGMT	**Eagleton**	**93.64**	**42**	*e*P		**P**	**05 31 26.5**	**+1.0**
	comp=Z,57nm,1.5s								
EGMT	**Eagleton**	**93.64**	**42**	P		**P**	**05 31 26.2**	**+0.6**
	baz=258								
MKAR	**Makanchi Array**	**93.68**	**317**	P		**P**	**05 31 26.0**	**+0.3**
	comp=Z,12nm,0.8s,baz=100,slow=6.7,SNR=12								
MKAR				PKKPbc		**PKKPdf**	**05 48 28.7**	**-2.5**
	comp=Z,1.7nm,0.9s,baz=291,slow=3.4,SNR=7.6								
S22A	**4UR Ranch, Cre**	**93.79**	**52**	*e*P		**P**	**05 31 28.4**	**+1.6**
	comp=Z,13nm,1.3s								
S22A	**4UR Ranch, Cre**	**93.79**	**52**	P		**P**	**05 31 27.8**	**+1.0**
	baz=260								
MNTX	**Cornudas Mount**	**93.91**	**59**	*e*P		**P**	**05 31 27.9**	**+0.8**
	comp=Z,9.2nm,1.3s								
MNTX	**Cornudas Mount**	**93.91**	**59**	P		**P**	**05 31 27.6**	**+0.5**
	baz=260								
YKA	**Yellowknife Ar**	**94.23**	**27**	P		**P**	**05 31 26.6**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=254,slow=4.5,SNR=6.2								
SDCO	**Great Sand Dun**	**94.83**	**53**	*e*P		**P**	**05 31 29.3**	**-2.3**
	comp=Z,5.2nm,1.0s								
K22A	**Casper**	**94.88**	**48**	*e*P		**P**	**05 31 33.1**	**+1.6**
	comp=Z,33nm,1.6s								
K22A	**Casper**	**94.88**	**48**	P		**P**	**05 31 32.0**	**+0.5**
	baz=260								
ZAIG	**Zacatecas**	**94.89**	**68**	*e*P		**P**	**05 31 33.7**	**+1.6**
	comp=Z,13nm,1.3s								
TX31	**Lajitas Ar. Si**	**94.97**	**61**	*e*P		**P**	**05 31 32.4**	**+0.3**
TXAR	**Lajitas Array**	**94.97**	**61**	P		**P**	**05 31 32.6**	**+0.4**
	comp=Z,1.4nm,1.1s,baz=235,slow=4.4,SNR=7.6								
TXAR				PP		**PP**	**05 35 25.0**	**+3.1**
	comp=Z,0.4nm,0.9s,baz=267,slow=4.5,SNR=3.0								
N23A	**Red Feather La**	**95.01**	**49**	*e*P		**P**	**05 31 34.5**	**+2.2**
	comp=Z,43nm,1.6s								
N23A	**Red Feather La**	**95.01**	**49**	P		**P**	**05 31 33.0**	**+0.7**
	baz=260								
Q24A	**Divide**	**95.30**	**52**	P		**P**	**05 31 34.2**	**+0.5**
	baz=261								
T25A	**Trinidad**	**95.59**	**53**	P		**P**	**05 31 35.0**	**+0.1**
	baz=261								
MSTX	**Muleshoe**	**96.44**	**57**	P		**P**	**05 31 38.7**	**0.0**
	baz=262								
KURK	**Kurchatov**	**96.74**	**320**	*e*P		**P**	**05 31 39.3**	**-0.2**
	comp=Z,23nm,1.4s								
KURK	**Kurchatov**	**96.74**	**320**	*c*eP		**P**	**05 31 37.9**	**-1.6**
KURK				pmax	pmax				
	comp=Z,24nm,1.7s								
FFC	**Flin Flon**	**99.43**	**36**	*i* P		**Pdif**	**05 31 52.3**	**+0.8**
BRVK	**Borovoye**	**102.09**	**322**	*i* P		**Pdif**	**05 32 02.7**	**-0.7**
BRVK				pmax	pmax				
	comp=Z,4.0nm,1.2s								
ARCES	**ARCESS Array B**	**116.06**	**346**	PKP		**PKiKP**	**05 36 51.5**	**0.0**
	comp=Z,3.3nm,0.7s,baz=33,slow=1.9,SNR=9.6								
CNNC	**Cliffs of the**	**116.93**	**56**	*e*PKPdf		**PKPdf**	**05 36 51.7**	**-2.4**
VRH	**Novokhopyorsk**	**119.63**	**324**	*e*PKIKP		**PKPdf**	**05 36 57.2**	**-1.6**
VRH				pmax	pmax				
	comp=Z,9.0nm,0.6s								
LPAZ	**La Paz**	**119.74**	**116**	PKP		**PKPdf**	**05 36 59.1**	**-1.7**
	comp=Z,2.0nm,1.1s,baz=256,slow=3.7,SNR=3.9								
LPSR	**Galich'ya Gora**	**120.67**	**326**	*e*PKIKP		**PKPdf**	**05 36 58.3**	**-2.5**
LPSR				pmax	pmax				
	comp=Z,8.0nm,0.5s								
VSR	**Storozhevoye**	**121.11**	**324**	*e*PKIKP		**PKPdf**	**05 37 01.6**	**-0.1**
VSR				pmax	pmax				
	comp=Z,9.0nm,1.0s								
KIV	**Kislovodsk**	**121.41**	**315**	*i* PKIKP		**PKPdf**	**05 37 00.2**	**-2.4**
KIV				pmax	pmax				
	comp=Z,10.0nm,1.0s								
KIV				MLR	MLR				
	comp=Z,390nm,22.0s								
FIA1	**FINESS Array S**	**121.60**	**339**	*e*PKPdf		**PKiKP**	**05 37 04.4**	**+2.0**
FINES	**FINESS Array B**	**121.60**	**339**	PKP		**PKPdf**	**05 37 01.9**	**-0.4**
	comp=Z,4.8nm,1.0s,baz=48,slow=2.8,SNR=5.1								
RAYN	**Ar Rayn**	**122.47**	**291**	*e*PKPdf		**PKPdf**	**05 37 05.0**	**-0.2**
RAYN	**Ar Rayn**	**122.47**	**291**	*e*PKIKP		**PKPdf**	**05 37 05.0**	**-0.2**
SDV	**Santo Domingo**	**123.75**	**86**	*e*PKPdf		**PKiKP**	**05 37 09.3**	**+0.9**
CPUP	**Villa Florida**	**123.80**	**132**	PKP		**PKPdf**	**05 37 06.2**	**-1.4**
	comp=Z,4.9nm,1.1s,baz=355,slow=6.4,SNR=4.5								
CPUP	**Villa Florida**	**123.80**	**132**	*e*PKPdf		**PKPdf**	**05 37 07.0**	**-0.6**
CPUP	**Villa Florida**	**123.80**	**132**	*e*PKIKP		**PKPdf**	**05 37 07.0**	**-0.6**
BOSA	**Boshof**	**125.95**	**223**	PKP		**PKPdf**	**05 37 10.8**	**-1.1**
	comp=Z,6.9nm,1.2s,baz=295,slow=14,SNR=3.3								
NOA	**NORSAR Array B**	**126.44**	**345**	PKP		**PKPdf**	**05 37 11.4**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=33,slow=1.9,SNR=3.5								
AKASG	**Malin Array Be**	**126.86**	**327**	PKP		**PKPdf**	**05 37 11.8**	**-0.9**
	comp=Z,1.9nm,0.9s,baz=60,slow=2.3,SNR=6.1								
AK11	**Malin Array Si**	**126.91**	**327**	*e*PKPdf		**PKPdf**	**05 37 13.0**	**+0.2**
KMBO	**Kilima Mbogo**	**128.18**	**260**	PKP		**PKPdf**	**05 37 16.8**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=29,slow=18,SNR=3.0								
BRTR	**Keskin Array B**	**129.18**	**313**	PKP		**PKPdf**	**05 37 17.1**	**-0.6**
	comp=Z,2.3nm,1.1s,baz=198,slow=3.2,SNR=6.5								
BRTR				PP		**PP**	**05 39 26.1**	**0.0**
	comp=Z,1.5nm,1.0s,baz=79,slow=8.4,SNR=4.6								
PTGA	**Pitinga**	**132.46**	**101**	*e*PKPdf		**PKPdf**	**05 37 24.7**	**+0.2**
LANS	**Liptovska Anna**	**132.77**	**331**	*e*PKIKP		**PKiKP**	**05 37 26.1**	**+0.9**
LANS	**Liptovska Anna**	**132.77**	**331**	*e*PKP		**PKiKP**	**05 37 26.1**	**+0.9**
VYHS	**Vyhne**	**133.52**	**331**	*e*PKIKP		**PKPdf**	**05 37 25.9**	**+0.4**
VYHS	**Vyhne**	**133.52**	**331**	*e*PKP		**PKPdf**	**05 37 25.9**	**+0.4**
CLL	**Collm**	**133.96**	**337**	*e*PKPdf		**PKiKP**	**05 37 29.0**	**+1.5**
CLL				*e*			05 37 36.0		
CLL				Lm		MLR	06 42 00.0		
	comp=Z,500nm,18.6s								
CLL	**Collm**	**133.96**	**337**	*e*PKIKP		**PKiKP**	**05 37 29.0**	**+1.5**
CLL				*e*			05 37 36.0		
CLL				MLR		MLR			
	comp=Z,500nm,18.6s								
MODS	**Modra-Piesok**	**134.35**	**331**	*e*PKIKP		**PKiKP**	**05 37 28.7**	**+0.3**
MODS	**Modra-Piesok**	**134.35**	**331**	*e*PKP		**PKiKP**	**05 37 28.7**	**+0.3**
EKA	**Eskdalemuir Ar**	**134.61**	**352**	PKP		**PKiKP**	**05 37 28.1**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=290,slow=10,SNR=4.1								
KHC	**Kasperske Hory**	**135.43**	**335**	*e*PKPdf		**PKiKP**	**05 37 30.8**	**+0.1**
KHC	**Kasperske Hory**	**135.43**	**335**	PKP		**PKPdf**	**05 37 28.5**	**-0.6**
KHC	**Kasperske Hory**	**135.43**	**335**	*e*PKIKP		**PKPdf**	**05 37 28.5**	**-0.6**
GEC2	**GERESS Array S**	**135.60**	**334**	*e*PKPdf		**PKiKP**	**05 37 33.3**	**+2.2**
GEC2	**GERESS Array S**	**135.60**	**334**	*e*PKIKP		**PKiKP**	**05 37 33.3**	**+2.2**
GERES	**GERESS Array B**	**135.60**	**334**	PKP		**PKPdf**	**05 37 30.1**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=48,slow=2.0,SNR=4.1								
GEA0	**GERESS Array S**	**135.61**	**334**	*e*PKPdf		**PKiKP**	**05 37 32.8**	**+1.7**
DIVS	**Divibare**	**135.82**	**325**	*e*PKPdf		**PKPdf**	**05 37 29.2**	**-0.8**
BDFB	**Brasilia**	**137.04**	**127**	PKP		**PKPdf**	**05 37 31.6**	**-1.5**
	comp=Z,4.9nm,0.9s,baz=201,slow=10,SNR=5.2								
BDFB	**Brasilia**	**137.04**	**127**	*e*PKPdf		**PKiKP**	**05 37 34.7**	**-0.2**
BDFB	**Brasilia**	**137.04**	**127**	*e*PKIKP		**PKiKP**	**05 37 34.7**	**-0.2**
BNI	**Bardonecchia**	**141.51**	**337**	*e*PKPdf		**PKiKP**	**05 37 44.0**	**+0.8**
BNI	**Bardonecchia**	**141.51**	**337**	*e*PKIKP		**PKiKP**	**05 37 44.1**	**+0.8**
KEST	**Kesra**	**147.47**	**324**	PKPbc		**PKPbc**	**05 37 54.2**	**+0.6**
	comp=Z,20nm,0.9s,baz=227,slow=2.8,SNR=7.7								
KEST	**Kesra**	**147.47**	**324**	*e*PKPbc		**PKPbc**	**05 37 54.5**	**+0.9**
CMAH	**Djebel Manchou**	**147.89**	**327**	P		**PKPdf**	**05 37 49.7**	**-2.0**
ABSA	**Djebel Ababsia**	**148.12**	**327**	P		**PKPdf**	**05 37 52.4**	**+0.3**
PBRG	**Braganca**	**148.33**	**350**	*e*PKPdf		**PKPbc**	**05 37 56.0**	**+0.4**
PGAV	**Gavieira, Arco**	**148.40**	**353**	*e*PKPdf		**PKPbc**	**05 37 56.1**	**+0.2**
PCAB	**Cabril**	**148.61**	**352**	*e*PKPdf		**PKiKP**	**05 37 58.5**	**+0.6**
CASM	**Ain Smara**	**148.66**	**328**	P		**PKPbc**	**05 37 55.2**	**-1.5**
DFRA	**Djebel Bou Aff**	**148.76**	**329**	P		**PKPbc**	**05 37 56.0**	**-1.0**
POLO	**Lamas de Olo**	**148.91**	**352**	*e*PKPdf		**PKPbc**	**05 37 57.8**	**+0.6**
PVRL	**Vila Real**	**149.00**	**351**	*e*PKPdf		**PKiKP**	**05 37 58.7**	**0.0**
MVO	**Moncorvo**	**149.00**	**350**	*e*PKPdf		**PKPbc**	**05 37 58.0**	**+0.6**
SET	**Setif**	**149.27**	**329**	P		**PKiKP**	**05 38 01.0**	**+1.5**
PVIS	**Viseu**	**149.57**	**352**	*e*PKPdf		**PKiKP**	**05 37 59.6**	**-0.3**
ES19	**SONSECA Array**	**149.76**	**345**	*e*PKPbc		**PKPbc**	**05 37 59.7**	**+0.4**
ESDC	**Sonseca Array**	**149.80**	**345**	PKPbc		**PKPbc**	**05 37 59.5**	**+0.1**
	comp=Z,11nm,1.0s,baz=24,slow=2.1,SNR=18								
ESLA	**Sonseca Array**	**149.80**	**345**	*e*PKPbc		**PKiKP**	**05 38 00.2**	**-0.2**
MTE	**Manteigas**	**149.83**	**351**	*e*PKPdf		**PKPbc**	**05 37 59.5**	**0.0**
MTE	**Manteigas**	**149.83**	**351**	*e*PKPbc		**PKPbc**	**05 37 59.5**	**0.0**
PAB	**San Pablo**	**150.02**	**346**	*e*PKPbc		**PKiKP**	**05 38 00.8**	**-0.1**
PAB	**San Pablo**	**150.02**	**346**	*e*PKP2		**PKiKP**	**05 38 00.8**	**-0.1**
PCAS	**Casmilo, Conde**	**150.31**	**352**	*e*PKPdf		**PKiKP**	**05 38 01.5**	**+0.1**
PCBR	**Castelo Branco**	**150.37**	**351**	*e*PKPdf		**PKiKP**	**05 38 01.8**	**+0.3**
PTOM	**Tomar**	**150.72**	**352**	*e*PKPdf		**PKiKP**	**05 38 02.6**	**+0.4**
PMRV	**Marv??o**	**150.75**	**350**	*e*PKPdf		**PKiKP**	**05 38 02.2**	**-0.1**
PMTG	**Montargil**	**151.24**	**351**	*e*PKPdf		**PKPbc**	**05 38 02.9**	**+0.1**
PESTR	**Estremoz**	**151.33**	**350**	*e*PKPdf		**PKPbc**	**05 38 03.3**	**+0.3**
PESTR	**Estremoz**	**151.33**	**350**	*e*PKPbc		**PKiKP**	**05 38 03.5**	**0.0**
PMAFR	**Mafra**	**151.49**	**353**	*e*PKPdf		**PKiKP**	**05 38 06.2**	**+2.4**
PBEJ	**Beja**	**152.20**	**350**	*e*PKPdf		**PKPbc**	**05 38 02.5**	**-2.5**
PNCL	**Nicolau / Gran**	**152.22**	**352**	*e*PKPdf		**PKiKP**	**05 38 07.9**	**+2.6**
MESJ	**Messejana**	**152.44**	**351**	*e*PKPdf		**PKPdf**	**05 37 58.2**	**-0.5**
MESJ				AMS		AMS	06 48 52.9		
	comp=Z,522nm,18.6s								
MESJ	**Messejana**	**152.44**	**351**	*e*PKPdf		**PKiKP**	**05 38 06.8**	**+1.0**
MESJ	**Messejana**	**152.44**	**351**	*e*PKIKP		**PKPdf**	**05 37 58.1**	**-0.5**
MORF	**Marmelete**	**153.03**	**351**	*e*PKPdf		**PKPdf**	**05 37 59.2**	**-0.5**
MORF				AMS		AMS	06 49 53.1		
	comp=E,447nm,25.9s								
MORF	**Marmelete**	**153.03**	**351**	*e*PKPdf		**PKiKP**	**05 38 09.8**	**+2.7**
MORF	**Marmelete**	**153.03**	**351**	*e*PKIKP		**PKPdf**	**05 37 59.1**	**-0.5**
SFS	**San Fernando**	**153.39**	**347**	*e*PKPbc		**PKiKP**	**05 38 07.8**	**0.0**
SFS	**San Fernando**	**153.39**	**347**	*e*PKIKP		**PKiKP**	**05 38 07.8**	**0.0**
TOA0	**Torodi Ar. Sit**	**164.89**	**281**	*e*PKPab		**PKPab**	**05 39 10.3**	**-0.1**
TORD	**Torodi Ar. Bea**	**164.89**	**281**	PKP		**PKPdf**	**05 38 12.3**	**-1.8**
	comp=E,5.2nm,1.2s,baz=142,slow=7.5,SNR=9.0								
TORD				PKPab		**PKPab**	**05 39 09.4**	**-1.0**
	comp=E,4.4nm,1.1s,baz=57,slow=5.1,SNR=7.2								
KIC	**Kosan Boka**	**170.36**	**245**	*e*PKIKP		**PKPdf**	**05 38 16.3**	**-1.7**
	comp=E,53nm,1.3s								
LIC	**Lamto**	**170.55**	**243**	*e*PKIKP		**PKPdf**	**05 38 16.2**	**-1.9**
	comp=E,38nm,1.4s								
DBIC	**Dimbokro**	**170.60**	**246**	PKP		**PKPdf**	**05 38 16.8**	**-1.3**
	comp=E,8.4nm,1.1s,baz=161,slow=2.4,SNR=6.1								
TIC	**Toumodi**	**170.73**	**246**	*e*PKIKP		**PKPdf**	**05 38 16.6**	**-1.6**

DJA 31 05:20:32.0±0.4, 2°S±3'×12°7E±°, h22km±8km, M3.9/4, MLv3.9/4, Southern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**0.66**	**231**	P		P	Pb	05 20 44.6	-0.3
SANI				S		Sn		05 20 55.0	-0.8
SANI	**Sanana**	**0.66**	**231**	P		P	Pb	05 20 44.7	-0.2
SANI				S		Sn		05 20 55.0	-0.8
NLAI	**Namlea**	**1.71**	**159**	P		P	Pn	05 21 00.4	-0.1
NLAI				S		Sn		05 21 22.2	+0.6
NLAI	**Namlea**	**1.71**	**159**	P		P	Pn	05 21 00.5	0.0
NLAI				S		Sn		05 21 22.6	+1.0
TNTI	**Ternate**	**2.54**	**20**	P		P	Pn	05 21 11.0	-0.9

IDC 31 05:21:36.5±2.3, 10°83S×166°43E, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/45, mbtmp3.9/6, MS4.7/1, Ms1 4.7/1, ms1mx3.7/35, Error ellipse: s-maj=124.7km s-min=25.8km az=145.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.19**	**250**	P		P	P	05 28 06.6	+0.1
	3.2nm,1.0s,baz=80,slow=9.2,SNR=3.1								
ASAR	**Alice Springs**	**33.49**	**243**	P		P	P	05 28 17.0	-0.9
	0.9nm,0.7s,baz=66,slow=9.2,SNR=3.9								
RAR	**Rarotonga**	**34.01**	**112**	LR		LR		05 38 46.1	
	comp=Z,1µm,21.6s,baz=139,slow=30								
FITZ	**Fitzroy Crossi**	**40.09**	**255**	P		P	P	05 29 14.8	+0.7
	2.8nm,0.9s,baz=78,slow=7.2,SNR=4.8								
ILAR	**Eielson Array**	**83.09**	**18**	P		P	P	05 34 03.8	+0.1
	1.1nm,0.9s,baz=237,slow=5.2,SNR=5.3								
NVAR	**Mina Array Bea**	**85.37**	**50**	P		P	P	05 34 16.6	+0.4
	0.2nm,0.4s,baz=245,slow=7.7,SNR=2.7								
MKAR	**Makanchi Array**	**93.82**	**317**	P		P	P	05 34 55.4	-0.4
	0.4nm,0.5s,baz=94,slow=4.9,SNR=3.0								
ESDC	**Sonseca Array**	**150.03**	**345**	PKPbc		PKPbc	PKPbc	05 41 28.7	-0.8
	0.6nm,0.7s,baz=27,slow=5.5,SNR=4.8								

IDC 31 05:22:07.7±4.5, 41°65N×127°17E, h0km, mb1 2.5/1, mb1mx2.5/68, mbtmp2.5/1, ML1.4/1, Error ellipse: s-maj=51.6km s-min=17.9km az=110.0, North Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**4.23**	**172**	Pg		Pg	Pb	05 23 25.1	+2.2
	0.4nm,0.3s,baz=348,slow=17,SNR=4.4								
KSRS				Lg		Lg		05 24 22.1	
	1.4nm,0.3s,baz=350,slow=29,SNR=9.6								
I45RU	**USSURIYSK INFR**	**4.36**	**53**	*i*				05 48 49.6	
	baz=233,slow=320,SNR=1.2								
USRK	**Ussuriysk Ar.**	**4.36**	**53**	Pn		Pn	Pn	05 23 15.7	+0.5
	0.2nm,0.3s,baz=236,slow=15,SNR=2.7								
USRK				Pg		Pg	Pb	05 23 27.1	+1.9
	0.2nm,0.3s,baz=236,slow=16,SNR=5.3								
USRK				Lg		Lg	Lg	05 24 25.2	
	0.6nm,0.3s,baz=237,slow=27,SNR=5.1								

IDC 31 05:27:25.7±3.9, 11°10S×166°73E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/43, mbtmp3.8/5, Error ellipse: s-maj=163.7km s-min=29.1km az=139.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**29.41**	**360**	T		T	T	06 03 43.0	
	baz=181,slow=76,SNR=6.8								
H11S3	**WAKE ISLAND Hy**	**29.41**	**360**	T		T	T	06 03 43.3	
	baz=181,slow=76,SNR=5.6								
H11S1	**WAKE ISLAND Hy**	**29.42**	**360**	T		T	T	06 03 44.4	
	baz=181,slow=76,SNR=6.7								
WRA	**Warramunga Arr**	**32.38**	**250**	P		P	P	05 33 57.8	+0.5
	0.7nm,0.9s,baz=81,slow=8.5,SNR=5.4								
ASAR	**Alice Springs**	**33.63**	**244**	P		P	P	05 34 07.8	-0.5
	0.9nm,0.7s,baz=70,slow=9.6,SNR=6.8								
FITZ	**Fitzroy Crossi**	**40.30**	**255**	P		P	P	05 35 05.0	-0.1
	1.0nm,0.5s,baz=84,slow=7.2,SNR=9.8								
ILAR	**Eielson Array**	**83.26**	**18**	P		P	P	05 39 54.0	+0.1
	0.4nm,0.5s,baz=240,slow=5.1,SNR=15								
MKAR	**Makanchi Array**	**94.23**	**317**	P		P	P	05 40 46.5	-0.3
	0.3nm,0.6s,baz=106,slow=5.1,SNR=3.8								

*SJA **31** 05:30:17.3±0.7, 28°05S×70°86W, h24km±7km, ML3.6, MW3.7*
*GUC **31** 05:30:18.4±0.6, 28°07S×70°81W, h52km±8km, ML4.0*
*NEIC **31** 05:30:18.0±0.0, 28°07S×70°81W, h52km, ML4.0(GUC), After GUC.*

ISC 31 05:30:16.6±2.1, 28°01S±0°04×71°1W±0°1, h11km±13km, n27, σ1°17/36, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO03	**Copiap**	**0.85**	**61**	*e*Pn		**Pg**	**05 30 34.0**	**+1.0**
GO03				*e*Sn		**Sg**	**05 30 43.2**	**-0.9**
GO03	**Copiap**	**0.85**	**61**	*e*P		**Pg**	**05 30 33.6**	**+0.6**
GO03				*e*S		**Sg**	**05 30 44.2**	**0.0**
GO03				IAML			05 30 45.0		
	comp=N,8µm,0.3s								
LCO	**Las Campanas**	**1.05**	**162**	*e*Pn		**Pb**	**05 30 36.9**	**-0.1**
LCO				*e*Sn		**Sg**	**05 30 49.3**	**-1.4**
LCO	**Las Campanas**	**1.05**	**162**	*i* P		**Pb**	**05 30 36.5**	**-0.5**
LCO				*i* S		**Sg**	**05 30 50.1**	**-0.6**
LCO	**Las Campanas**	**1.05**	**162**	*i* P		**Pb**	**05 30 37.0**	**-0.1**
LCO				*e*S		**Sg**	**05 30 49.6**	**-1.1**
CRCH	**Chaqaral**	**1.70**	**14**	*e*P		**Pn**	**05 30 48.8**	**+2.6**
GO04	**Tololo Observa**	**2.17**	**174**	*e*Pn		**Pn**	**05 30 53.6**	**+0.7**
GO04	**Tololo Observa**	**2.17**	**174**	*i* P		**Pn**	**05 30 53.4**	**+0.4**
GO04	**Tololo Observa**	**2.17**	**174**	*e*P		**Pn**	**05 30 53.6**	**+0.7**
GO04				*e*S		**Sn**	**05 31 20.6**	**+0.6**
GO04				IAML			05 31 33.0		
	comp=E,2µm,0.4s								
ACCO	**Cerro Coronel**	**3.11**	**146**	*i* P		**Pn**	**05 31 06.8**	**+0.9**
GO02	**Mina Guanaco**	**3.13**	**25**	*e*Pn		**Pn**	**05 31 07.2**	**+1.1**
GO02	**Mina Guanaco**	**3.13**	**25**	*e*P		**Pn**	**05 31 07.4**	**+1.2**
GO02				*e*S		**Sb**	**05 31 51.6**	**+0.9**
GO02				IAML			05 31 59.7		
	comp=N,504nm,0.4s								
CMCH	**Combarbala**	**3.16**	**179**	*e*P		**Pn**	**05 31 07.2**	**+0.9**
CMCH				*e*S		**Sn**	**05 31 43.9**	**-0.1**
RTLL	**Cerro Villicun**	**4.01**	**146**	*i* P		**Pn**	**05 31 18.7**	**+0.7**
RTLS	**Leoncito**	**4.08**	**158**	*i* P		**Pn**	**05 31 20.9**	**+1.7**
RTLS				IAML			05 32 33.7		
	comp=Z,62nm,0.5s								
RTCV	**Cerro Valdivia**	**4.43**	**151**	*i* P		**Pn**	**05 31 24.9**	**+1.2**
PB10	**IPOC Station P**	**4.50**	**6**	*e*Pn		**Pn**	**05 31 24.4**	**-0.4**
PB10				*e*Sn		**Sn**	**05 32 15.5**	**-1.6**
CYA	**Choya**	**4.67**	**97**	*i* P		**Pn**	**05 31 26.9**	**-0.2**
CYA				IAML			05 31 29.8		
	comp=Z,61nm,0.3s								
ROC1	**El Roble**	**4.95**	**179**	*e*Pn		**Pn**	**05 31 33.7**	**+2.5**
PEL	**Peldehue**	**5.13**	**176**	*e*Pn		**Pn**	**05 31 32.1**	**-1.4**
PB04	**IPOC Station P**	**5.71**	**9**	*e*Pn		**Pn**	**05 31 40.1**	**-1.4**
LVC	**Limon Verde**	**5.72**	**20**	*e*Pn		**Pn**	**05 31 43.9**	**+2.0**
PB01	**IPOC Station P**	**7.08**	**12**	*e*Pn		**Pn**	**05 31 59.6**	**-0.7**
PB11	**IPOC Station P**	**8.31**	**9**	*e*Pn		**Pn**	**05 32 16.4**	**-0.9**
MNMC	**Minye Minye**	**8.94**	**9**	*e*Pn		**Pn**	**05 32 25.8**	**-0.2**
LPAZ	**La Paz**	**11.98**	**14**	*e*Pn		**Pn**	**05 33 07.4**	**-0.5**
CPUP	**Villa Florida**	**12.35**	**85**	*e*Pn		**Pn**	**05 33 11.4**	**-1.0**

IDC 31 05:32:55.5±1.9, 2°52N×127°51E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/48, mbtmp3.6/4, Error ellipse: s-maj=113.9km s-min=22.0km az=70.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.57**	**185**	P		P	P	05 37 34.6	-1.4
	1.2nm,0.9s,baz=12,slow=9.3,SNR=2.8								
WRA	**Warramunga Arr**	**23.30**	**164**	P		P	P	05 38 04.6	-0.6
	0.6nm,0.3s,baz=343,slow=9.3,SNR=17								
ASAR	**Alice Springs**	**26.76**	**167**	P		P	P	05 38 36.0	-1.2
	0.3nm,0.4s,baz=351,slow=14,SNR=3.8								
MKAR	**Makanchi Array**	**58.99**	**325**	P		P	P	05 42 58.7	+1.7
	0.3nm,0.3s,baz=118,slow=8.3,SNR=10								

MAN 31 05:34:06.9, 11°91N×122°46E, h11km, mb4.2, ML3.0, MS2.7, 1C-1D, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RCP	**Roxas**	**0.45**	**141**	*e*P		Pb	Pb	05 34 16.5	-0.4
OTRP	**Odiongan**	**0.62**	**317**	*e*P		Pg	Pb	05 34 19.1	+0.1
JAP	**San Jose, Anti**	**

Error ellipse: s-maj=60.1km s-min=17.3km az=139.4

ISC 31 05:43:53.6±1.6, 10°.8S±0°.4×166°.5E±0°.3, h36km, n15, σ0s48/9, mb4.1/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**21.56**	**242**	P	**P**	**05 48 40.6**	**+0.5**
	1.6nm,0.7s,baz=70,slow=8.9,SNR=2.4						
H11S2	**WAKE ISLAND Hy**	**29.05**	**0**	T	T	06 20 05.7	
	baz=181,slow=76,SNR=9.3						
H11S3	**WAKE ISLAND Hy**	**29.06**	**0**	T	T	06 20 07.2	
	baz=181,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**29.07**	**0**	T	T	06 20 08.2	
	baz=181,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**30.27**	**1**	T	T	06 21 38.8	
	baz=182,slow=76,SNR=3.1						
H11N3	**WAKE ISLAND Hy**	**30.28**	**1**	T	T	06 21 39.0	
	baz=182,slow=76,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**30.29**	**1**	T	T	06 21 40.2	
	baz=182,slow=76,SNR=3.5						
WRA	**Warramunga Arr**	**32.25**	**250**	P	**P**	**05 50 19.0**	**0.0**
	3.1nm,0.9s,baz=79,slow=9.0,SNR=11						
ASAR	**Alice Springs**	**33.56**	**243**	P	**P**	**05 50 30.0**	**-0.4**
	1.9nm,0.8s,baz=73,slow=9.4,SNR=11						
FITZ	**Fitzroy Crossi**	**40.14**	**255**	P	**P**	**05 51 26.4**	**0.0**
	3.2nm,0.7s,baz=78,slow=6.6,SNR=14						
KLR	**Kul'dur**	**67.07**	**336**	P	**P**	**05 54 43.5**	**+0.3**
	1.6nm,0.8s,baz=247,slow=4.7,SNR=5.2						
ILAR	**Eielson Array**	**83.01**	**18**	P	**P**	**05 56 14.1**	**-0.7**
	1.1nm,0.8s,baz=242,slow=5.0,SNR=7.8						
NVAR	**Mina Array Bea**	**85.29**	**50**	P	**P**	**05 56 27.9**	**+0.6**
	0.7nm,0.8s,baz=225,slow=8.9,SNR=5.3						
MKAR	**Makanchi Array**	**93.79**	**317**	P	**P**	**05 57 07.1**	**+0.1**
	1.4nm,0.9s,baz=96,slow=5.8,SNR=9.5						
ESDC	**Sonseca Array**	**149.96**	**345**	PKPbc	**PKPbc**	**06 03 40.3**	**-0.3**
	0.5nm,0.7s,baz=14,slow=2.6,SNR=2.9						

IDC 31 06:06:08.5±10.0, 10°.80S×166°.55E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/32, mbtmp3.7/3, Error ellipse: s-maj=308.3km s-min=55.4km az=124.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.31**	**250**	P	P	06 12 39.0	-0.6
	0.6nm,0.9s,baz=80,slow=8.2,SNR=5.2						
ASAR	**Alice Springs**	**33.61**	**243**	P	P	06 12 51.3	+0.4
	0.5nm,0.8s,baz=83,slow=9.4,SNR=4.3						
MKAR	**Makanchi Array**	**93.89**	**317**	P	P	06 19 28.1	0.0
	0.5nm,0.7s,baz=98,slow=6.4,SNR=5.6						

ISCJB 31 06:08:17.7±0.5, 55°.30N±0°.03×110°.41E±0°.05, h10km, mb3.1/1, Error ellipse: s-maj=4.4km s-min=3.5km az=43.8
BYKL 31 06:08:19.5±0.2, 55°.31N×110°.33E
IDC 31 06:08:24.4±10.0, 55°.17N×109°.71E, h0km, mb3.1/1, mb1 3.2/3, mb1mx3.0/53, mbtmp3.2/3, ML2.8/2, Error ellipse: s-maj=146.2km s-min=31.9km az=83.0

ISC 31 06:08:19.1±0.7, 55°.36N±0°.03×110°.39E±0°.04, h10km, n13, σ1s57/23, 4C-1D, Lake Baikal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.64**	**311**	⇑*i* Pg	**Pb**	**06 08 30.9**	**-1.4**
NIZ				*e*Sg	**Sb**	**06 08 39.8**	**-1.4**
NIZ				Pmax			
	53nm,0.3s						
NIZ				Smax			
	158nm,0.1s						
YLYR	**Ulyunkhan**	**0.66**	**137**	⇑*i* Pg	**Pg**	**06 08 31.0**	**-0.8**
YLYR				*e*Sg	**Sg**	**06 08 39.8**	**-0.6**
YLYR				Pmax			
	97nm,0.7s						
YLYR				Smax			
	164nm,0.4s						
KMO	**Kumora**	**0.70**	**41**	⇑*i* Pg	**Pb**	**06 08 33.0**	**-0.4**
KMO				*e*Sg	**Sb**	**06 08 43.0**	**-0.1**
KMO				Pmax			
	132nm,0.3s						
KMO				Smax			
	218nm,0.9s						
YOA	**Uoyan**	**1.08**	**44**	*e*Pg	**Pn**	**06 08 40.0**	**-0.3**
YOA				*e*Sg	**Sn**	**06 08 55.7**	**+0.4**
YOA				Pmax			
	160nm,0.5s						
YOA				Smax			
	269nm,0.3s						
SYVR	**Suvo**	**1.72**	**188**	⇑*i* Pg	**Pb**	**06 08 49.4**	**-1.4**
SYVR				*e*Sg	**Sb**	**06 09 12.1**	**-0.4**
SYVR				Pmax			
	63nm,0.5s						
SYVR				Smax			
	255nm,0.7s						
UKT	**Uakit**	**1.85**	**85**	⇓*i* Pg	**Pb**	**06 08 53.2**	**+0.2**
UKT				*e*Sg	**Sg**	**06 09 18.7**	**+0.2**
UKT				Pmax			
	57nm,0.4s						
UKT				Smax			
	157nm,0.7s						
SVKR	**Severomuysk**	**1.95**	**66**	*e*Pg	**Pg**	**06 08 55.0**	**-1.4**
SVKR				*e*Sg	**Sg**	**06 09 20.7**	**-0.9**
SVKR				Pmax			
	86nm,0.4s						
SVKR				Smax			
	388nm,0.7s						
OGRR	**Ongureny**	**2.37**	**225**	*e*Pn	**Pb**	**06 08 59.8**	**-2.0**
OGRR				*e*Sn	**Sn**	**06 09 27.0**	**-0.1**
OGRR				*e*Sg	**Sb**	**06 09 31.1**	**0.0**
OGRR				Smax			
	101nm,0.4s						
BOD	**Bodaibo**	**3.17**	**38**	*e*Pn	**Pn**	**06 09 11.0**	**+2.0**
BOD				*e*Sn	**Sb**	**06 09 51.0**	**-3.1**
BOD				*e*Sg	**Sg**	**06 09 59.7**	**-1.2**
BOD				Smax			
	41nm,0.8s						
SONM	**Songino Array**	**7.94**	**200**	Pg	Pb	06 10 41.9	+5.3
	0.3nm,0.3s,baz=359,slow=17,SNR=3.0						
SONM				Lg	Lg	06 12 29.7	
	0.6nm,0.3s,baz=13,slow=29,SNR=12						
ZALV	**Zalesovo Beam**	**14.84**	**275**	Pn	**Pn**	**06 11 50.1**	**+1.4**
	0.1nm,0.3s,baz=81,slow=9.5,SNR=5.4						
MKAR	**Makanchi Array**	**19.51**	**256**	P	**Pn**	**06 12 46.9**	**-0.6**
	0.1nm,0.3s,baz=66,slow=11,SNR=3.5						
BVAR	**Borovoye Array**	**23.30**	**281**	P	**P**	**06 13 31.0**	**+4.2**
	0.4nm,0.5s,baz=70,slow=13,SNR=2.5						

IDC 31 06:09:12.3±9.6, 11°.38S×167°.35E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/36, mbtmp3.7/3, Error ellipse: s-maj=294.4km s-min=56.1km az=125.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.85**	**251**	P	P	06 15 48.1	-0.1
	0.5nm,0.8s,baz=82,slow=9.5,SNR=3.7						
ASAR	**Alice Springs**	**34.06**	**244**	P	P	06 15 58.6	0.0
	1.1nm,1.0s,baz=84,slow=8.9,SNR=5.5						
MKAR	**Makanchi Array**	**94.85**	**317**	P	P	06 22 36.1	-0.1
	0.4nm,0.7s,baz=93,slow=5.8,SNR=4.8						

IDC 31 06:09:58.0±2.2, 10°.47S×165°.45E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/36, mbtmp3.7/5, Error ellipse: s-maj=118.0km s-min=28.4km az=143.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**28.80**	**2**	T	T	06 46 05.3	
	baz=181,slow=76,SNR=3.9						
H11S3	**WAKE ISLAND Hy**	**28.81**	**2**	T	T	06 46 05.1	
	baz=181,slow=76,SNR=5.2						
H11S1	**WAKE ISLAND Hy**	**28.82**	**2**	T	T	06 46 05.9	
	baz=181,slow=76,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**30.03**	**3**	T	T	06 47 35.3	
	baz=182,slow=76,SNR=4.4						
H11N3	**WAKE ISLAND Hy**	**30.03**	**3**	T	T	06 47 35.7	
	baz=182,slow=76,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**30.05**	**3**	T	T	06 47 36.6	
	baz=182,slow=76,SNR=3.9						
WRA	**Warramunga Arr**	**31.42**	**249**	P	P	06 16 20.4	-0.8
	1.2nm,1.0s,baz=79,slow=7.9,SNR=4.7						
ASAR	**Alice Springs**	**32.80**	**242**	P	P	06 16 34.3	+1.0
	0.8nm,0.8s,baz=74,slow=8.9,SNR=4.6						
ILAR	**Eielson Array**	**83.06**	**19**	P	P	06 22 26.9	+1.8
	0.5nm,0.9s,baz=226,slow=7.4,SNR=3.7						
NVAR	**Mina Array Bea**	**85.88**	**50**	P	P	06 22 39.3	-0.9
	0.2nm,0.5s,baz=230,slow=5.6,SNR=2.5						
MKAR	**Makanchi Array**	**92.91**	**317**	P	P	06 23 11.4	-1.7
	0.6nm,0.8s,baz=104,slow=5.7,SNR=4.1						

IDC 31 06:19:55.5±2.5, 35°.77N×141°.42E, h0km, mb3.2/2, mb1 3.4/4, mb1mx3.2/46, mbtmp3.3/4, ML2.7/2, Error ellipse: s-maj=46.9km s-min=24.6km az=64.0
ISCJB 31 06:19:57.3±1.3, 35°.84N±0°.06×141°.4E±0°.1, h26km, mb3.3/2, Error ellipse: s-maj=12.9km s-min=8.4km az=162.5
JMA 31 06:19:58.4±0.2, 35°.84N×141°.26E, h33km±2km, M3.1

ISC 31 06:19:59.3±1.7, 35°.87N±0°.07×141°.2E±0°.1, h26km, n15, σ0s99/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.35**	**242**	P	**Pb**	**06 20 06.6**	**-0.6**
CHOJ				S	**Sb**	**06 20 12.5**	**0.0**
JIHU	**Itakohorinouch**	**0.59**	**280**	P	**Pb**	**06 20 11.2**	**+0.1**
JHYU	**Hitachinakayam**	**0.71**	**312**	P	**Pn**	**06 20 12.6**	**-1.1**
JYT	**Yasato**	**0.92**	**293**	P	**Pn**	**06 20 15.1**	**-1.5**
MJAR	**Matsushiro Arr**	**2.54**	**286**	Pn	**Pn**	**06 20 38.7**	**-0.2**
	0.4nm,0.3s,baz=116,slow=7.4,SNR=20						
MJAR				Sn	**Sb**	**06 21 14.5**	**-0.6**
	0.4nm,0.3s,baz=163,slow=13,SNR=5.4						
MAT	**Matsushiro**	**2.54**	**286**	P	**Pn**	**06 20 39.2**	**+0.3**
MAT				S	**Sn**	**06 21 10.1**	**+1.0**
JHJ	**Hachijo jima 2**	**2.99**	**204**	Pn	**Pn**	**06 20 45.4**	**+0.3**
	9.9nm,0.3s,baz=233,slow=18,SNR=3.6						
JHJ				Sn	**Sn**	**06 21 19.7**	**-0.5**
	28nm,0.3s,baz=59,slow=19,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**27.69**	**119**	T	T	06 54 40.8	
	baz=311,slow=75,SNR=38						
H11N1	**WAKE ISLAND Hy**	**27.70**	**119**	T	T	06 54 39.1	
	baz=311,slow=75,SNR=40						
H11N3	**WAKE ISLAND Hy**	**27.71**	**119**	T	T	06 54 39.9	
	baz=311,slow=75,SNR=44						
H11S1	**WAKE ISLAND Hy**	**28.36**	**121**	T	T	06 55 29.3	
	baz=314,slow=74						
H11S3	**WAKE ISLAND Hy**	**28.36**	**121**	T	T	06 55 33.9	
	baz=314,slow=74						
H11S2	**WAKE ISLAND Hy**	**28.38**	**121**	T	T	06 55 31.9	
	baz=314						
MKAR	**Makanchi Array**	**44.63**	**303**	P	**P**	**06 28 11.4**	**+1.9**
	0.2nm,0.5s,baz=87,slow=7.9,SNR=2.6						
WRA	**Warramunga Arr**	**55.89**	**188**	P	**P**	**06 29 34.0**	**-0.9**
	0.3nm,0.8s,baz=7.9,slow=7.9,SNR=3.5						

IDC 31 06:27:23.0±1.7, 11°.96N×142°.98E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/44, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=112.5km s-min=21.5km az=118.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.46**	**49**	Pn	Pn	06 28 03.4	-1.0
	11nm,0.3s,baz=343,slow=20,SNR=3.4						
GUMO				Sn	Sn	06 28 30.2	-4.9
	18nm,0.3s,baz=345,slow=20,SNR=3.0						
WRA	**Warramunga Arr**	**32.82**	**195**	P	P	06 33 58.0	-0.5
	0.4nm,0.6s,baz=20,slow=9.8,SNR=10						
ASAR	**Alice Springs**	**36.50**	**194**	P	P	06 34 30.3	0.0
	0.3nm,0.6s,baz=18,slow=10,SNR=4.5						
ILAR	**Eielson Array**	**70.82**	**25**	P	P	06 38 40.4	-0.9
	0.2nm,0.5s,baz=250,slow=6.1,SNR=4.8						
NVAR	**Mina Array Bea**	**89.37**	**51**	P	P	06 40 24.0	+1.7
	0.2nm,0.4s,baz=265,slow=5.3,SNR=3.1						

MEX 31 06:30:33.2±0.6, 15°.94N×96°.92W, h7km±4km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.80**	**102**	*i* P	Pg	06 30 46.9	-1.6
HUIG				*e*S	Sg	06 30 56.9	-2.0
VHO	**Vista Hermosa**	**1.14**	**9**	*e*P	Pg	06 30 52.1	-3.0
VHO				*i* S	Sg	06 31 06.5	-3.6
PNIG	**Pinotepa**	**1.25**	**291**	*e*P	Pb	06 30 53.6	-3.5
PNIG				*e*S	Sg	06 31 08.7	-4.6
CMIG	**Matias Romero**	**2.26**	**59**	*e*P	Pn	06 31 07.4	-3.7
CMIG				*e*S	Sn	06 31 34.6	-4.7

IDC 31 06:32:53.9±1.6, 11°.21S×166°.46E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.9/47, mbtmp4.0/7, Error ellipse: s-maj=59.4km s-min=22.9km az=142.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**29.51**	**0**	T	T	07 09 10.6	
	baz=181,slow=76,SNR=62						
H11S3	**WAKE ISLAND Hy**	**29.52**	**0**	T	T	07 09 06.3	
	baz=181,slow=76,SNR=56						
H11S1	**WAKE ISLAND Hy**	**29.53**	**0**	T	T	07 09 07.3	
	baz=181,slow=76,SNR=63						
H11N1	**WAKE ISLAND Hy**	**30.73**	**1**	T	T	07 10 43.0	
	baz=182,slow=76,SNR=26						
H11N3	**WAKE ISLAND Hy**	**30.74**	**1**	T	T	07 10 39.5	
	baz=182,slow=76,SNR=17						
H11N2	**WAKE ISLAND Hy**	**30.75**	**1**	T	T	07 10 44.4	
	baz=182,slow=76,SNR=18						
WRA	**Warramunga Arr**	**32.09**	**250**	P	P	06 39 21.2	-1.8
	2.8nm,1.0s,baz=83,slow=8.8,SNR=4.8						
ASAR	**Alice Springs**	**33.35**	**244**	P	P	06 39 34.5	+0.5
	1.7nm,0.9s,baz=70,slow=10.0,SNR=9.5						
FITZ	**Fitzroy Crossi**	**40.01**	**255**	P	P	06 40 31.3	+0.4
	baz=85,slow=7.0						
USRK	**Ussuriysk Ar.**	**63.41**	**333**	P	P	06 43 26.1	+0.8
	2.3nm,0.9s,baz=167,slow=7.1,SNR=5.0						
SONM	**Songino Array**	**79.21**	**324**	P	P	06 45 01.1	+0.1
	0.7nm,0.6s,baz=108,slow=4.7,SNR=3.2						
ILAR	**Eielson Array**	**83.45**	**18**	P	P	06 45 21.2	-1.7
	1.4nm,1.0s,baz=244,slow=5.0,SNR=6.2						
NVAR	**Mina Array Bea**	**85.60**	**50**	P	P	06 45 35.2	+0.4
	0.4nm,0.7s,baz=230,slow=7.7,SNR=2.9						
MKAR	**Makanchi Array**	**94.12**	**317**	P	P	06 46 13.7	-0.9
	1.9nm,1.1s,baz=99,slow=6.2,SNR=4.6						
ESDC	**Sonseca Array**	**150.40**	**345**	PKPbc	PKiKP	06 52 48.7	+0.1
	0.1nm,0.3s,baz=20,slow=4.1,SNR=2.4						

IDC 31 06:38:26.6±1.2, 24°.57N×121°.82E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.6/53, mbtmp3.8/8, ML3.5/1, Error ellipse: s-maj=65.6km s-min=18.1km az=64.0
ISCJB 31 06:38:39.1±0.5, 25°.10N±0°.09×123°.02E±0°.06, h143km±6km, mb3.5/7, Error ellipse: s-maj=15.7km s-min=8.6km az=172.2
JMA 31 06:38:41.2±0.2, 24°.99N×123°.07E, h139km±3km, M3.7

ISC 31 06:38:40.2±0.8, 25°.1N±0°.1×123°.01E±0°.07, h140km±9km, n20, σ0s59/30, mb3.7/7, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.64**	**180**	P	**Pn**	**06 39 01.4**	**+0.2**
YOJ				*e*S	**Sn**	**06 39 17.0**	**0.0**
JYNG	**Yonagunijimaku**	**0.65**	**185**	P	**Pn**	**06 39 01.8**	**+0.5**
JYNG				*e*S	**Sn**	**06 39 17.7**	**+0.5**
IRIF	**Iriomote-Funau**	**1.00**	**139**	P	**Pn**	**06 39 04.0**	**0.0**
IRIF				*e*S	**Sn**	**06 39 21.8**	**-0.3**
JKRS	**Kuro-shima**	**1.25**	**133**	P	**Pn**	**06 39 06.8**	**+0.5**
JKRS				S	**Sn**	**06 39 25.6**	**-0.6**
JIJ	**Ishigaki jima**	**1.26**	**125**	P	**Pn**	**06 39 06.5**	**0.0**
JIJ				S	**Sn**	**06 39 25.1**	**-1.4**
HATJ	**Hateruma jima**	**1.27**	**145**	P	**Pn**	**06 39 06.9**	**+0.4**
HATJ				S	**Sn**	**06 39 26.6**	**+0.1**
JISG	**Ishigakijimahi**	**1.28**	**113**	P	**Pn**	**06 39 06.8**	**+0.1**
JISG				S	**Sn**	**06 39 26.1**	**-0.8**
JTJ	**Tarama**	**1.60**	**106**	P	**Pn**	**06 39 10.5**	**+0.4**
JTJ				S	**Sn**	**06 39 32.3**	**-0.6**
JIRB	**Irabujima**	**1.98**	**97**	P	**Pn**	**06 39 15.0**	**+0.6**
JIRB				S	**Sn**	**06 39 40.0**	**-0.7**
JIKM	**Ikemajima**	**2.04**	**94**	P	**Pn**	**06 39 16.1**	**+1.0**
JIKM				S	**Sn**	**06 39 41.9**	**0.0**
JMJ	**Miyako jima 2**	**2.09**	**97**	*e*S	**Sn**	**06 39 42.9**	**-0.1**
JOGS	**Gusukube**	**2.20**	**98**	S	**Sn**	**06 39 45.5**	**+0.1**
KSRS	**Korea Array**	**13.01**	**18**	Pn	**P**	**06 41 45.3**	**+0.4**
	0.2nm,0.3s,baz=197,slow=11,SNR=5.6						
MKAR	**Makanchi Array**	**38.86**	**314**	P	**P**	**06 45 52.0**	**+0.1**
	0.8nm,0.5s,baz=100,slow=9.7,SNR=18						
ZALV	**Zalesovo Beam**	**40.41**	**326**	P	**P**	**06 46 03.0**	**-1.4**
	0.7nm,0.5s,baz=120,slow=8.5,SNR=3.4						
KURBB	**Kurchatov Arra**	**42.50**	**319**	P	**P**	**06 46 21.1**	**-0.5**
	0.3nm,0.4s,baz=114,slow=9.0,SNR=7.1						
WRA	**Warramunga Arr**	**46.11**	**165**	P	**P**	**06 46 51.0**	**+0.5**
	1.8nm,0.5s,baz=347,slow=8.8,SNR=47						
BVAR	**Borovoye Array**	**48.04**	**320**	P	**P**	**06 47 04.9**	**-0.3**
	0.5nm,0.3s,baz=103,slow=8.8,SNR=5.1						
ASAR	**Alice Springs**	**49.61**	**167**	P	**P**	**06 47 17.7**	**+0.2**
	0.3nm,0.5s,baz=352,slow=7.2,SNR=6.0						
BRTR	**Keskin Array B**	**73.97**	**307**	P	**P**	**06 50 00.5**	**-0.1**
	0.3nm,0.4s,baz=96,slow=5.8,SNR=3.0						

IDC 31 06:39:25.9±5.8, 32°.94N×69°.39E, h0km, mb3.6/2, mb1 3.5/5, mb1mx3.2/52, mbtmp3.4/5, ML3.1/3, Error ellipse: s-maj=181.6km s-min=27.6km az=92.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**10.48**	**21**	Pn	Pn	06 41 57.8	+0.2
	0.3nm,0.3s,baz=207,slow=6.8,SNR=4.5						
AAK				Sn	Sn	06 43 55.9	0.0
	0.1nm,0.3s,baz=156,slow=20,SNR=2.1						
MKAR	**Makanchi Array**	**16.98**	**32**	Pn	P	06 43 25.9	-0.9
	0.1nm,0.3s,baz=213,slow=12,SNR=5.2						
KURBB	**Kurchatov Arra**	**18.91**	**18**	P	P	06 43 47.9	-0.1
	0.0nm,0.3s,baz=212,slow=11,SNR=3.4						
ZALV	**Zalesovo Beam**	**23.70**	**23**	P	P	06 44 40.0	+0.8
	0.6nm,0.4s,baz=214,slow=10,SNR=3.8						
WRA	**Warramunga Arr**	**81.29**	**120**	P	P	06 51 44.3	-0.1
	0.6nm,0.7s,baz=313,slow=4.8,SNR=3.3						

IDC 31 06:41:28.6±4.0, 10°.82S×166°.35E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/45, mbtmp3.9/5, Error ellipse: s-maj=163.8km s-min=30.7km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.11**	**250**	P	P	06 47 57.7	-0.2
	0.7nm,0.7s,baz=83,slow=9.0,SNR=5.6						
ASAR	**Alice Springs**	**33.42**	**243**	P	P	06 48 09.5	+0.2
	1.7nm,0.9s,baz=71,slow=9.0,SNR=11						
FITZ	**Fitzroy Crossi**	**40.01**	**255**	P	P	06 49 05.8	+0.3
	1.6nm,0.8s,baz=94,slow=9.3,SNR=7.9						
ILAR	**Eielson Array**	**83.12**	**18**	P	P	06 53 56.7	+0.7
	0.7nm,0.9s,baz=213,slow=6.5,SNR=4.2						
MKAR	**Makanchi Array**	**93.76**	**317**	P	P	06 54 46.3	-1.3
	1.0nm,0.9s,baz=93,slow=5.0,SNR=6.3						

IDC 31 06:42:04.7±0.4, 10°.68S×166°.55E, h0km, mb4.8/33, mb1 4.9/35, mb1mx4.8/48, mbtmp4.8/35, ML4.3/2, MS4.8/6, Ms1 4.8/6, ms1mx4.2/18, Error ellipse: s-maj=15.2km s-min=11.9km az=105.0
NEIC 31 06:42:06.8±0.1, 10°.69S×166°.42E, h10km, mb5.3/153, Error ellipse: s-maj=4.5km s-min=3.5km az=148.0
GCMT 31 06:42:08.7±0.2, 10°.72S±0°.01×166°.58E±0°.01, h12km, MW5.2/119, Moment Tensor Solution. s58,c71; s119,c178; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.88±.02; $M_{\theta\theta}$0.40±.02; $M_{\phi\phi}$0.47±.02; $M_{r\theta}$-0.18±.05; $M_{r\phi}$-0.47±.01; $M_{\theta\phi}$-0.22±.06; Best double couple: $M_0$0.93900×10^{17} NP1:$\phi_0$333.00000°, δ49.00000°, λ-68.00000°. NP2:$\phi_0$122.00000°, δ46.00000°, λ-113.00000°. Principal axes: T 0.9130, Plg1.0000°, Azm48.0000°; N 0.0510, Plg16.0000°, Azm138.0000°; P -0.9650, Plg73.0000°, Azm313.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISCJB 31 06:42:08.8±0.1, 10°.70S±0°.03×166°.37E±0°.03, h33km, mb5.2/202, MS4.7/14 Error ellipse: s-maj=4.8km s-min=3.4km az=157.7
MOS 31 06:42:09.9±0.8, 10°.61S×166°.31E, h40km, mb5.3/42, Error ellipse: s-maj=8.2km s-min=7.6km az=112.2
BJI 31 06:42:09.6, 10°.36S×166°.50E, h32km, mb5.1/62, mB5.4/38, Ms4.9/15, Ms7 4.5/19

ISC 31 06:42:11.0±0.6, 10°.69S±0°.05×166°.46E±0°.06, h40km±5km, h40km:pP-P, n442, σ1s22/451, mb5.2/208, MS4.6/14, 9C-9D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.54**	**280**	Pn	**Pn**	**06 43 44.2**	**-0.5**
	17nm,0.3s,baz=217,slow=3.4,SNR=3.1						
HNR	**Honiara**	**6.54**	**280**	*e*Pn	**Pn**	**06 43 44.0**	**-0.7**
HNR	**Honiara**	**6.54**	**280**	*e*P	**Pn**	**06 43 44.0**	**-0.7**
DZM	**Mont Dzumac**	**11.31**	**180**	Pn	**Pn**	**06 44 49.5**	**-0.8**
	0.7nm,0.3s,baz=30,slow=20,SNR=4.3						
DZM				LR	LR	06 47 52.8	
	comp=Z,995nm,21.8s,baz=5.5,slow=31						
DZM	**Mont Dzumac**	**11.31**	**180**	*e*Pn	**Pn**	**06 44 49.9**	**-0.3**
	143nm,1.3s						
DZM				*e*LR	LR	06 47 34.9	
	comp=Z,11μm,26.1s						
DZM	**Mont Dzumac**	**11.31**	**180**	*e*Pn	**Pn**	**06 44 50.0**	**-0.3**
MSVF	**Nonsavu**	**13.23**	**123**	*i* P	**Pn**	**06 45 20.6**	**+4.1**
TARA	**Tarawa**	**13.59**	**29**	*e*Pn	**Pn**	**06 45 21.4**	**+0.1**
EIDS	**Eidsvold**	**20.63**	**223**	P	Pn	06 46 49.4	-0.2
	baz=21						
EIDS	**Eidsvold**	**20.63**	**223**	*e*P	Pn	06 46 49.4	-0.2
	222nm,1.4s						
MANU	**Manus Island**	**20.81**	**293**	*e*P	**P**	**06 46 50.3**	**+1.0**
	318nm,1.5s						
CTA	**Charters Tower**	**21.58**	**242**	P	**P**	**06 46 58.7**	**+1.3**
	16nm,0.8s,baz=69,slow=12,SNR=16						
CTAO	**Charters Tower**	**21.58**	**242**	*e*P	**P**	**06 46 58.1**	**+0.6**
	147nm,1.6s						
CTAO	**Charters Tower**	**21.58**	**242**	*e*P	**P**	**06 46 58.1**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,147nm,1.6s						
LHI	**Lord Howe Isla**	**21.83**	**197**	*e*P	**P**	**06 47 01.5**	**+1.6**
	comp=Z,245nm,1.3s						
MTSU	**Mount Surprise**	**22.67**	**248**	P	**P**	**06 47 10.4**	**+1.2**

comp=Z,5.8nm,1.4s
STKA Stephens Creek 31.18 224 *e*P **P** **06 48 26.6 +0.2**
STKA pmax pmax
comp=Z,6.0nm,1.4s
SNZO South Karori 31.35 168 *e*P **P** **06 48 27.6 -0.1**
comp=Z,97nm,1.4s
THZ Tophouse 31.46 171 *e*P **P** **06 48 27.9 -0.9**
comp=Z,16nm,0.8s
WB2 Warramunga Arr 32.25 250 *e*P **P** **06 48 35.4 -0.6**
WRAB Tennant Creek 32.25 250 *e*P **P** **06 48 35.3 -0.7**
comp=Z,33nm,0.9s
WRAB Tennant Creek 32.25 250 *ce*P **P** **06 48 34.9 -1.1**
WRAB pmax pmax
comp=Z,47nm,1.3s
GUMO Guam 32.26 318 *e*P **P** **06 48 35.9 -0.2**
comp=Z,688nm,1.3s
GUMO Guam 32.26 318 *e*P **P** **06 48 35.9 -0.2**
GUMO pmax pmax
comp=Z,688nm,1.3s
WRA Warramunga Arr 32.26 250 P **P** **06 48 35.5 -0.6**
comp=Z,40nm,0.9s,baz=79,slow=9.1,SNR=84
WRA PcP **PcP** **06 51 24.0 0.0**
comp=Z,2.1nm,0.8s,baz=85,slow=3.0,SNR=5.6
WRA LR LR 07 01 48.9
comp=Z,2µm,18.0s,baz=75,slow=37
LTZ Lake Taylor 32.37 172 *e*P **P** **06 48 35.7 -1.0**
comp=Z,20nm,0.8s
TOO Toolangi 32.74 212 P **P** **06 48 41.0 +0.9**
baz=33
FOZ Fox Glacier 32.85 175 *e*P **P** **06 48 40.8 0.0**
comp=Z,25nm,0.9s
OXZ Oxford 32.87 172 *e*P **P** **06 48 40.0 -1.1**
comp=Z,27nm,1.1s
RPZ Rata Peaks 33.14 174 *e*P **P** **06 48 42.5 -1.0**
comp=Z,22nm,0.9s
CRLZ Canterbury Las 33.20 172 *e*P **P** **06 48 41.5 -2.4**
comp=Z,124nm,1.6s
KDU Kakadu 33.33 263 P **P** **06 48 45.0 -0.4**
baz=34
AS01 Alice Springs 33.53 243 *e*P **P** **06 48 46.2 -1.0**
AS01 *e*PcP **PcP** **06 51 26.7 -0.7**
AS31 Alice Springs 33.58 243 *e*P **P** **06 48 47.0 -0.6**
comp=Z,7.4nm,0.9s
ASAR Alice Springs 33.58 243 P **P** **06 48 47.0 -0.6**
comp=Z,24nm,0.8s,baz=74,slow=9.5,SNR=90
ASAR PcP **PcP** **06 51 27.2 -0.4**
comp=Z,3.0nm,0.9s,baz=68,slow=3.1,SNR=6.8
ASPA Alice Springs 33.58 243 P **P** **06 48 47.3 -0.3**
baz=34
SIJI Sorong 36.30 283 P **P** **06 49 11.4 +0.2**
comp=Z,6.5nm,0.3s,baz=206,slow=22,SNR=4.3
KNRA Kununurra 37.00 258 P **P** **06 49 17.1 0.0**
baz=37
WRKA Warakurna 38.87 243 P **P** **06 49 32.5 -0.3**
baz=39
FITZ Fitzroy Crossi 40.15 255 P **P** **06 49 43.5 -0.1**
comp=Z,36nm,0.7s,baz=88,slow=8.0,SNR=73
FITZ Fitzroy Crossi 40.15 255 P **P** **06 49 43.4 -0.1**
baz=40
FITZ Fitzroy Crossi 40.15 255 *e*P **P** **06 49 43.2 -0.3**
comp=Z,33nm,0.8s
SOEI Soe 41.51 267 P **P** **06 49 55.0 +0.1**
BATI Baumata 42.06 267 P **P** **06 49 59.8 +0.5**
PPT2 Papeete2 43.10 104 *e*LQ LQ 07 00 19.2
comp=Z,2µm,27.5s
PPT2 *e*LR LR 07 02 09.7
comp=Z,1µm,24.0s,baz=274
TBI Tubuai 43.82 113 *e*LQ LQ 07 00 36.4
comp=Z,2µm,32.0s
TBI *e*LR LR 07 02 31.3
comp=Z,1µm,29.2s,baz=288
EDFI Ende, Flores 44.14 268 P **P** **06 50 14.5 -1.7**
comp=Z,20nm,0.9s
MBWA Marble Bar 45.97 251 *e*P **P** **06 50 30.9 +0.3**
comp=Z,33nm,0.9s
BNSI Bone 46.33 274 P **P** **06 50 33.9 +0.4**
NWAO Narrogin (SRO) 50.24 236 LR LR 07 12 25.1
comp=Z,4µm,18.7s,baz=314,slow=36
JAGI Jajag, Banyuwa 51.58 268 *e*P **P** **06 51 12.6 -1.2**
comp=Z,42nm,0.9s
JAGI Jajag, Banyuwa 51.58 268 P **P** **06 51 12.4 -1.3**
TAOE Nuku Hiva Isla 52.60 93 *e*LR LR 07 06 29.2
comp=Z,860nm,27.2s
MJAR Matsushiro Arr 53.99 332 P **P** **06 51 30.4 -0.7**
comp=Z,4.2nm,0.9s,baz=171,slow=9.0,SNR=11
MJAR PcP **PcP** **06 52 36.8 +0.9**
comp=Z,4.4nm,0.9s,baz=167,slow=4.1,SNR=2.9
MAJO Matsushiro 53.99 332 *e*P **P** **06 51 30.3 -0.9**
comp=Z,10nm,0.8s
MAJO Matsushiro 53.99 332 ⇓ *i*P **P** **06 51 30.5 -0.6**
MAJO pmax pmax
comp=Z,9.0nm,0.9s
MJB9 Matsu-Tunnel 53.99 332 *e*P **P** **06 51 30.6 -0.6**
comp=Z,9.9nm,0.8s
JNU Nakatsue 55.21 324 P **P** **06 51 40.4 +0.3**
comp=Z,43nm,0.9s,baz=117,slow=4.3,SNR=23
JNU Nakatsue 55.21 324 *e*P **P** **06 51 39.8 -0.3**
comp=Z,43nm,0.9s
YULB Yu-li 55.67 308 *e*P **P** **06 51 42.7 -0.9**
comp=Z,33nm,1.4s
YHNB Yeheng 56.30 309 *e*P **P** **06 51 48.1 0.0**
comp=Z,27nm,0.9s
RKT Rikitea 57.05 111 *e*LR LR 07 08 38.1
comp=Z,676nm,29.2s
CISI Cisompet, Garu 57.92 268 *e*P **P** **06 51 58.7 -1.1**
comp=Z,31nm,0.8s
ASAJ Asahikawa 58.70 340 P **P** **06 52 04.9 +0.4**
comp=Z,13nm,0.9s,baz=219,slow=10,SNR=8.3
KSRS Korea Array 59.99 325 P **P** **06 52 14.1 +0.6**
comp=Z,8.0nm,0.8s,baz=142,slow=6.8,SNR=26
KSAR Wonju Array Be 60.00 325 P **P** **06 52 14.1 +0.5**
KSAR Wonju Array Be 60.00 325 P **P** **06 52 14.1 +0.5**
KS01 Wonju Array Si 60.02 325 *e*P **P** **06 52 13.6 -0.2**
SSE Sheshan 60.09 315 P **P** **06 52 14.8 +0.4**
SSE pmax pmax
comp=Z,18nm,0.8s
SSE Sheshan 60.09 315 *e*P **P** **06 52 14.8 +0.4**
comp=Z,54nm,0.8s
YSS Yuzh-Sakhalins 61.17 342 ⇓ *e*P **P** **06 52 22.0 +0.6**
YSS *e**SP **pP** **06 52 32.7 +0.1**
YSS *e*S **S** **07 00 41.0 +2.9**
YSS *e*PPS PPS 07 01 04.0
YSS *e*SS **SS** **07 04 31.0 -7.9**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,300nm,13.0s
YSS MLR MLR
comp=N,200nm,14.0s
YSS MLR MLR
comp=E,200nm,12.0s
TEY Ternei 61.68 336 ⇑ *e*P **P** **06 52 26.3 +1.4**
TEY *e* 06 54 46.3
TEY pmax pmax
comp=Z,10.0nm,1.3s
NJ2 Nanjing 62.27 315 *e*P **P** **06 52 29.8 +0.7**
NJ2 pmax pmax
comp=Z,29nm,1.0s
USRK Ussuriysk Ar. 62.95 333 P **P** **06 52 34.4 +1.0**
comp=Z,22nm,1.1s,baz=131,slow=6.8,SNR=19
USA0B Ussuriysk Arra 62.95 333 *e*P **P** **06 52 34.2 +0.8**
comp=Z,68nm,1.4s
QIZ Qiongzhong 63.14 298 P **P** **06 52 33.5 -1.7**
QIZ S **S** **07 01 06.5 +2.6**
QIZ pmax pmax
comp=Z,13nm,1.5s
QIZ LR LR
comp=Z,330nm,26.0s
PETK Petropavlovsk- 63.99 354 P **P** **06 52 40.2 +0.1**
comp=Z,6.9nm,0.8s,baz=151,slow=9.5,SNR=5.9
MDJ Mudanjiang 64.37 332 *e*P **P** **06 52 43.8 +1.0**
comp=Z,40nm,1.0s
DL2 Dalian 64.62 322 P **P** **06 52 45.5 +0.9**
DL2 *e*S **S** **07 01 26.5 +4.8**
DL2 pmax pmax
comp=Z,52nm,1.0s
DL2 LR LR
comp=Z,440nm,19.1s
DL2 LR LR
comp=Z,210nm,14.6s
DL2 LR LR
comp=Z,290nm,16.8s
TYV Tymovskoe 64.70 344 *e*P **P** **06 52 47.0 +2.2**
TYV pmax pmax
comp=Z,200nm,4.3s
TYV pmax pmax
comp=Z,7.0nm,1.7s

CN2 Changchun 65.80 329 *e*P **P** **06 52 52.3 +0.2**
CN2 pmax pmax
comp=Z,40nm,0.9s
GRNR Gornyy 66.55 340 *e*P **P** **06 52 57.8 +1.0**
VNDA Vanda 66.86 181 P **P** **06 52 58.9 +0.5**
comp=Z,6.2nm,1.0s,baz=330,slow=7.4,SNR=5.3
VNDA Vanda 66.86 181 *e*P **P** **06 52 58.5 +0.1**
comp=Z,39nm,1.6s
VNDA Vanda 66.86 181 *e*P **P** **06 52 58.5 +0.1**
VNDA pmax pmax
comp=Z,39nm,1.6s
KLR Kul'dur 67.02 336 P **P** **06 53 00.4 +0.6**
comp=Z,13nm,0.9s,baz=138,slow=3.8,SNR=35
KLR LR LR 07 17 40.5
comp=Z,190nm,21.5s,baz=156,slow=32
KLR Kul'dur 67.02 336 *d i*P **P** **06 53 00.2 +0.4**
NKL Nikolayevsk 67.30 344 *e*P **P** **06 53 02.0 +0.6**
NKL pmax pmax
comp=Z,25nm,1.0s
ENH Enshi 68.22 309 *e*P **P** **06 53 06.8 -1.0**
PSI Prapat 68.52 277 P **P** **06 53 08.8 -1.4**
comp=Z,12nm,0.8s,baz=181,slow=1.6,SNR=5.2
PSI Prapat 68.52 277 *e*P **P** **06 53 08.8 -1.4**
comp=Z,15nm,1.0s
PSI Prapat 68.52 277 *e*P **P** **06 53 08.8 -1.4**
PSI pmax pmax
comp=Z,15nm,1.0s
BJT Baijiatuau 68.64 321 *e*P **P** **06 53 10.6 +0.4**
comp=Z,44nm,1.2s
BJT Baijiatuau 68.64 321 *e*P **P** **06 53 10.6 +0.4**
BJT pmax pmax
comp=Z,44nm,1.2s
BJI Beijing 68.65 321 P **P** **06 53 10.5 +0.2**
BJI pmax pmax
comp=Z,12nm,0.9s
GYA Guiyang 68.80 304 *e*P **P** **06 53 12.0 +0.3**
GYA pmax pmax
comp=Z,10.0nm,0.6s
XAN Xi'an 70.41 312 P **P** **06 53 21.8 +0.5**
XAN pP pP 06 53 31.8 -0.9
XAN pmax pmax
comp=Z,16nm,1.0s
XAN pmax pmax
comp=Z,370nm,5.1s
XAN LR LR
comp=Z,230nm,21.7s
XAN LR LR
comp=Z,220nm,14.2s
XAN LR LR
comp=Z,270nm,21.1s
XAN Xi'an 70.41 312 *e*P **P** **06 53 22.0 +0.7**
comp=Z,45nm,1.5s
XAN Xi'an 70.41 312 *e*P **P** **06 53 22.0 +0.7**
XAN pmax pmax
comp=Z,45nm,1.5s
MA2 Magadan 71.16 352 P **P** **06 53 24.4 -0.9**
comp=Z,2.2nm,0.3s,baz=136,slow=7.8,SNR=7.3
MA2 Magadan 71.16 352 *e*P **P** **06 53 24.3 -1.0**
comp=Z,9.3nm,1.0s
MA2 Magadan 71.16 352 *ce*P **P** **06 53 24.4 -0.9**
MA2 pmax pmax
comp=Z,24nm,2.5s
KMI Kunming 71.54 301 P **P** **06 53 30.0 +1.4**
KMI pP pwP 06 53 40.8 -2.0
KMI sP PcP 06 53 45.5 -2.3
KMI pmax pmax
comp=Z,19nm,0.8s
KMI pmax pmax
comp=Z,140nm,3.8s
KMI LR LR
comp=Z,140nm,21.3s
KMI LR LR
comp=Z,300nm,21.6s
KMI LR LR
comp=Z,310nm,23.4s
HHC Hu-ho-hao-te 72.02 319 *e*P **P** **06 53 32.3 +1.3**
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,390nm,6.7s
ZEA Zeya 72.29 337 *e*P **P** **06 53 32.2 0.0**
ZEA pmax pmax
comp=N,29nm,1.2s
ZEA pmax pmax
comp=Z,50nm,1.2s
HIA Hailar 72.42 330 *e*P **P** **06 53 34.0 +0.9**
comp=Z,34nm,1.3s
HIA Hailar 72.42 330 ⇓ *i*P **P** **06 53 33.9 +0.9**
HIA pmax pmax
comp=Z,27nm,1.3s
CM01 Chiang Mai Arr 72.59 293 *e*P **P** **06 53 35.3 +0.6**
CMAR Chiang Mai Arr 72.62 293 P **P** **06 53 35.6 +0.7**
comp=Z,5.7nm,0.8s,baz=117,slow=4.3,SNR=19
CHTO Chiang Mai 72.73 294 *e*P **P** **06 53 34.5 -1.0**
comp=Z,20nm,1.5s
CHTO Chiang Mai 72.73 294 *e*P **P** **06 53 34.5 -1.0**
CHTO pmax pmax
comp=Z,20nm,1.5s
CHTO Chiang Mai 72.73 294 P **P** **06 53 37.7 +2.2**
comp=Z,39nm,1.2s
BTO Baotou 72.89 318 *e*P P 06 53 27.5 -8.7
CD2 Chengdu 72.95 307 *e*P **P** **06 53 37.0 +0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.0s
SEY Seymchan 74.20 353 P **P** **06 53 43.1 -0.1**
comp=Z,5.1nm,0.8s,baz=164,slow=5.3,SNR=22
SEY Seymchan 74.20 353 ⇑ *i*P **P** **06 53 43.6 +0.3**
LZH Lanzhou 75.04 312 *e*P **P** **06 53 50.8 +1.8**
LZH pP PcP 06 54 02.5 0.0
LZH sP sP 06 54 06.3 +1.5
LZH *e*S **S** **07 03 23.8 -0.7**
LZH sS sS 07 03 40.8 -2.8
LZH SS **SS** **07 08 13.3 -0.9**
LZH pmax pmax
comp=Z,40nm,1.2s
LZH pmax pmax
comp=Z,270nm,5.2s
LZH LR LR
comp=Z,2µm,18.4s
RSO Redoubt South 77.96 19 *e*P **P** **06 54 03.0 -2.0**
YAK Yakutsk 77.96 343 *e*P **P** **06 54 03.6 -1.0**
YAK pmax pmax
comp=Z,147nm,1.0s
YAK pmax pmax
comp=N,54nm,1.1s
YAK pmax pmax
comp=E,37nm,1.4s
ANM Nome 78.00 12 *e*P **P** **06 54 05.5 +0.6**
comp=E,17nm,1.4s
ANM Nome 78.00 12 *e*P **P** **06 54 05.5 +0.6**
ANM pmax pmax
comp=Z,17nm,1.4s
ULN Ulaanbaatar 78.43 324 *e*P **P** **06 54 07.9 +0.1**
comp=Z,29nm,0.9s
ULN Ulaanbaatar 78.43 324 *ce*P **P** **06 54 08.6 +0.8**
ULN pmax pmax
comp=Z,31nm,0.9s
BILL Bilibino 78.53 360 *e*P **P** **06 54 07.8 +0.1**
comp=Z,35nm,1.1s
BILL Bilibino 78.53 360 *d i*P **P** **06 54 07.6 -0.1**
BILL *i* 06 54 15.3
BILL *i* 06 57 04.7
BILL pmax pmax
comp=Z,23nm,1.0s
BILL MLR MLR
comp=Z,115nm,17.0s
SONM Songino Array 78.80 323 P **P** **06 54 10.3 +0.5**
comp=Z,12nm,0.9s,baz=138,slow=5.3,SNR=28
SONA1 Songino Array 78.80 323 *e*P **P** **06 54 10.2 +0.3**
QSPA South Pole Qui 79.31 180 P **P** **06 54 11.7 -0.6**
comp=Z,1.4nm,0.7s,baz=20,slow=1.9,SNR=7.6
GTA Gaotai 79.32 314 ⇓ P **P** **06 54 13.5 +0.6**
GTA pP pP 06 54 22.8 -1.7
GTA sP sP 06 54 27.0 -1.8
GTA pmax pmax
comp=Z,12nm,1.3s
GTA pmax pmax
comp=Z,110nm,5.4s
GTA LR LR
comp=Z,220nm,18.2s
GTA LR LR
comp=Z,210nm,18.6s
GTA LR LR
comp=Z,160nm,18.6s

BRDH Bariadhala 80.38 295 P **P** **06 54 18.9 +0.1**
comp=Z,36nm,0.3s,baz=105,slow=19,SNR=3.1
CAST Castle Rocks 80.40 18 *e*P **P** **06 54 17.1 -0.9**
comp=Z,18nm,1.1s
BOD Bodaibo 80.51 335 *e*P **P** **06 54 18.2 -0.5**
BOD pmax pmax
comp=Z,21nm,1.7s
RND Reindeer 81.38 19 *e*P **P** **06 54 24.6 +1.3**
comp=Z,16nm,1.2s
RND Reindeer 81.38 19 *e*P **P** **06 54 24.6 +1.3**
RND pmax pmax
comp=Z,16nm,1.2s
MCK McKinley 81.59 18 *e*P P 06 54 28.9 +4.5
comp=Z,40nm,1.4s
ZAK Zakamensk 81.82 325 *e*P **P** **06 54 25.9 -0.1**
ZAK pmax pmax
comp=Z,17nm,1.0s
IM3 Indian Mountai 81.90 15 *e*P **P** **06 54 25.5 -0.4**
HARP HAARP 81.91 21 *e*P **P** **06 54 26.4 +0.4**
comp=Z,36nm,1.0s
MLY Manley 82.00 17 *e*P **P** **06 54 26.2 -0.3**
comp=Z,18nm,1.4s
TLY Talaya 82.22 326 P **P** **06 54 28.4 +0.5**
comp=Z,7.9nm,0.8s,baz=168,slow=2.8,SNR=40
TLY Talaya 82.22 326 *d i*P **P** **06 54 28.0 0.0**
TLY pmax pmax
comp=Z,46nm,0.8s
WRH Wood River Hil 82.38 18 *e*P **P** **06 54 28.1 -0.3**
comp=Z,25nm,1.4s
MDM Murphy Dome 82.68 18 *e*P **P** **06 54 29.7 -0.4**
comp=Z,28nm,1.2s
HDA Harding Lake 82.69 19 *e*P **P** **06 54 29.9 -0.2**
comp=Z,34nm,1.0s
HDA Harding Lake 82.69 19 P **P** **06 54 29.2 -0.8**
baz=226
TCOL CIGO, UAF Yank 82.73 18 P **P** **06 54 29.7 -0.6**
baz=225
COLA College 82.74 18 *e*P **P** **06 54 29.8 -0.5**
comp=Z,16nm,1.0s
COLA College 82.74 18 *i*P **P** **06 54 29.2 -1.0**
COLA pmax pmax
comp=Z,9.0nm,1.0s
K02D Willamette Mer 82.83 44 P **P** **06 54 30.6 -0.8**
baz=248
WDC Whiskeytown Da 82.86 47 *e*P **P** **06 54 33.9 +2.4**
comp=Z,18nm,1.5s
RIDG Independ'e Rid 82.91 20 *e*P **P** **06 54 31.6 +0.3**
comp=Z,29nm,1.1s
IL1 Eielson Array 82.96 18 *e*P **P** **06 54 30.2 -1.2**
ILAR Eielson Array 82.96 18 P **P** **06 54 30.6 -0.8**
comp=Z,12nm,0.9s,baz=226,slow=5.7,SNR=50
ILB Eielson Array 82.96 18 *e*P **P** **06 54 31.1 -0.3**
PKM Mcpherson Peak 83.02 53 P **P** **06 54 31.5 -1.2**
baz=252
POKR Poker Plat Res 83.03 18 P **P** **06 54 31.2 -0.6**
baz=226
YBH Yreka Blue Hor 83.15 45 *e*P **P** **06 54 34.5 +1.4**
comp=Z,22nm,1.4s
YBH Yreka Blue Hor 83.15 45 *e*P **P** **06 54 34.5 +1.4**
YBH pmax pmax
comp=Z,22nm,1.4s
ORV Oroville 83.26 48 *e*P **P** **06 54 34.9 +1.3**
comp=Z,18nm,1.4s
ORV Oroville 83.26 48 *e*P **P** **06 54 34.9 +1.3**
ORV pmax pmax
comp=Z,18nm,1.4s
HUMO Hull Mountain 83.29 45 *e*P **P** **06 54 35.2 +1.5**
comp=Z,18nm,1.3s
O03E Paynes Creek 83.29 47 P **P** **06 54 33.2 -0.7**
baz=250,SNR=8.7
SCRK Sand Creek 83.35 20 *e*P **P** **06 54 34.1 +0.4**
comp=Z,17nm,1.0s
AFDM Forest Hills D 83.44 48 *e*P **P** **06 54 35.1 +0.5**
comp=Z,32nm,1.4s
CMB Columbia Colle 83.58 50 *e*P **P** **06 54 35.7 +0.3**
comp=Z,12nm,1.1s
CMB Columbia Colle 83.58 50 *e*P **P** **06 54 35.7 +0.3**
CMB pmax pmax
comp=Z,12nm,1.1s
HYT Haines Junctio 83.78 24 *e*P **P** **06 54 36.7 +0.7**
comp=Z,20nm,1.4s
ARVC Arvin 83.87 53 P **P** **06 54 36.5 -0.3**
baz=252
VES Vestal, Richgr 83.88 52 P **P** **06 54 36.2 -0.7**
baz=252
I04A Tendick Farm, 84.08 44 P **P** **06 54 37.6 -0.2**
baz=249
J04D Umpqua Nationa 84.09 44 P **P** **06 54 38.1 0.0**
baz=250
BEKR Beckworth 84.19 48 *e*P **P** **06 54 39.6 +1.0**
comp=Z,36nm,1.5s
MWC Mount Wilson 84.21 54 *e*P **P** **06 54 39.1 +0.3**
comp=Z,25nm,1.4s
MWC Mount Wilson 84.21 54 *e*P **P** **06 54 39.1 +0.3**
MWC pmax pmax
comp=Z,25nm,1.4s
ISA Isabella, Lake 84.30 52 *e*P **P** **06 54 39.6 +0.5**
comp=Z,30nm,1.4s
ISA Isabella, Lake 84.30 52 *e*P **P** **06 54 39.6 +0.5**
ISA pmax pmax
comp=Z,30nm,1.4s
ISA Isabella, Lake 84.30 52 P **P** **06 54 37.9 -1.2**
baz=253
MDPB Devils Postpil 84.44 50 *e*P **P** **06 54 40.6 +0.6**
comp=Z,31nm,1.2s
WAKR Walker 84.44 49 *e*P **P** **06 54 41.0 +1.1**
comp=Z,40nm,1.3s
EDW2 Edwards Air Fo 84.45 53 P **P** **06 54 39.8 -0.1**
baz=253,SNR=7.8
OMMB Old Mammoth Mi 84.49 50 *e*P **P** **06 54 41.3 +1.0**
comp=Z,34nm,1.4s
PNTR Pine Nut 84.50 49 *e*P **P** **06 54 41.4 +1.2**
comp=Z,40nm,1.3s
BFSC Mount Baldy Ra 84.53 54 P **P** **06 54 39.6 -0.8**
baz=253
VCNR Virginia City 84.53 48 *e*P **P** **06 54 41.2 +0.9**
comp=Z,9.8nm,1.1s
MLAC Mammoth, Mammo 84.62 50 P **P** **06 54 40.1 -0.8**
baz=252
J05D Fort Rock, OR 84.71 44 P **P** **06 54 41.4 +0.3**
baz=250
MURC Murrieta 84.71 55 P **P** **06 54 40.9 -0.3**
baz=254
YERR Yerington 84.73 49 *e*P **P** **06 54 41.4 0.0**
comp=Z,42nm,1.6s
CWC Cottonwood Cre 84.84 52 P **P** **06 54 41.9 -0.1**
baz=253
PAHR Pah Rah Range 84.85 48 *e*P **P** **06 54 42.5 +0.6**
comp=Z,38nm,1.4s
LRMC Laurel Mtn Rad 84.87 53 P **P** **06 54 41.4 -0.6**
baz=253,SNR=9.4
TIN Tinemaha, Big 84.91 51 P **P** **06 54 42.3 +0.1**
baz=253
E04D Cinebar 84.97 41 P **P** **06 54 42.4 +0.3**
baz=249
DAWY Dawson 84.98 21 *e*P **P** **06 54 42.4 +0.6**
comp=Z,19nm,1.2s
D03D Eldon 84.99 40 P **P** **06 54 42.2 0.0**
baz=248
I05D Terrebonne, OR 85.00 43 P **P** **06 54 42.4 0.0**
baz=250
PINE Pine Mountain 85.08 44 *e*P **P** **06 54 44.3 +1.3**
comp=Z,21nm,1.3s
BBRC Big Bear Solar 85.12 54 P **P** **06 54 43.4 -0.1**
baz=254
MONP2 Monument Peak 85.14 55 P **P** **06 54 44.0 +0.5**
baz=254,SNR=7.1
RYN Ryan 85.16 49 *e*P **P** **06 54 43.7 +0.2**
comp=Z,37nm,1.5s
DAC Darwin (Calif) 85.17 52 *e*P **P** **06 54 43.7 +0.1**
comp=Z,35nm,1.5s
DAC Darwin (Calif) 85.17 52 *e*P **P** **06 54 43.7 +0.1**
DAC pmax pmax
comp=Z,35nm,1.5s
MPMC Manual Prospec 85.18 52 P **P** **06 54 43.1 -0.6**
baz=253,SNR=9.3
NV01 Mina Array Sit 85.26 50 *e*P **P** **06 54 44.1 0.0**
NVAR Mina Array Bea 85.26 50 P **P** **06 54 44.2 +0.1**
comp=Z,7.0nm,0.9s,baz=231,slow=8.7,SNR=28
NVAR LR LR 07 27 24.1
comp=Z,790nm,18.8s,baz=256,slow=32
PFO Pinyon Flats O 85.31 55 *e*P **P** **06 54 44.7 +0.4**
comp=Z,18nm,1.4s
PFO Pinyon Flats O 85.31 55 *e*P **P** **06 54 44.7 +0.4**
PFO pmax pmax
comp=Z,18nm,1.4s
PFO Pinyon Flats O 85.31 55 P **P** **06 54 44.4 +0.1**
baz=254

XPFO	**Pion Flat**	85.31	55	*e*P		P		06 54 44.7	+0.4
	comp=Z,19nm,1.4s								
G05D	**Wamic, OR**	85.32	42	P		P		06 54 44.0	+0.1
	baz=250								
IKP	**In-Ko-Pah, Jac**	85.33	56	P		P		06 54 43.8	-0.5
	baz=254								
NV11	**Mina Array Sit**	85.37	50	*e*P		P		06 54 45.0	+0.5
	comp=Z,2.7nm,1.4s								
GSC	**Goldstone, Bar**	85.50	53	*e*P		P		06 54 46.0	+0.8
	comp=Z,24nm,1.4s								
GSC	**Goldstone, Bar**	85.50	53	P		P		06 54 44.4	-0.8
	baz=254								
LON	**Longmire**	85.53	41	*e*P		P		06 54 45.1	+0.1
	comp=Z,17nm,1.5s								
LON	**Longmire**	85.53	41	*e*P		P		06 54 45.1	+0.1
LON					pmax	pmax			
	comp=Z,17nm,1.5s								
KVN	**Kaiserville**	85.60	49	*e*P		P		06 54 45.8	+0.1
	comp=Z,27nm,1.4s								
SWSC	**Sam W. Stewart**	85.66	55	P		P		06 54 45.3	-0.5
	baz=254,SNR=7.7								
A04D	**Lummi Island**	85.67	39	P		P		06 54 45.4	-0.1
	baz=249								
HEC	**Hector,Ludlow**	85.74	54	P		P		06 54 45.9	-0.5
	baz=254								
BELC	**Belle Mtn. Jos**	85.78	54	P		P		06 54 46.2	-0.5
	baz=254,SNR=9.6								
FURC	**Furnace Creek,**	85.79	52	P		P		06 54 46.0	-0.4
	baz=254,SNR=14								
B05A	**Bryant**	85.88	39	P		P		06 54 46.8	+0.2
	baz=249								
TIXI	**Tiksi**	85.88	349	P		P		06 54 45.5	-0.5
	comp=Z,16nm,1.0s,baz=120,slow=6.9,SNR=15								
TIXI	**Tiksi**	85.88	349	*e*P		P		06 54 45.6	-0.5
	comp=Z,24nm,1.1s								
TIXI	**Tiksi**	85.88	349	*ce*P		P		06 54 45.6	-0.5
TIXI					pmax	pmax			
	comp=Z,20nm,1.2s								
SHOC	**Shoshone, Teco**	86.08	53	P		P		06 54 48.0	+0.1
	baz=254,SNR=6.3								
BC3	**Big Chuckawall**	86.13	55	P		P		06 54 47.9	-0.5
	baz=254,SNR=6.4								
I07A	**Izee**	86.16	44	*e*P		P		06 54 48.7	+0.4
	comp=Z,30nm,1.5s								
TUQ	**Turquoise Moun**	86.23	53	P		P		06 54 48.2	-0.7
	baz=254,SNR=6.1								
WVOR	**Wild Horse Val**	86.24	46	*e*P		P		06 54 49.6	+0.9
	comp=Z,40nm,1.5s								
WVOR	**Wild Horse Val**	86.24	46	*e*P		P		06 54 49.6	+0.9
WVOR					pmax	pmax			
	comp=Z,40nm,1.5s								
GMRC	**Granite Mounta**	86.26	54	P		P		06 54 48.0	-1.0
	baz=254,SNR=8.9								
TPNV	**Topopah Spring**	86.39	52	*e*P		P		06 54 49.9	+0.2
	comp=Z,29nm,1.5s								
TPNV	**Topopah Spring**	86.39	52	*e*P		P		06 54 49.9	+0.2
TPNV					pmax	pmax			
	comp=Z,29nm,1.5s								
TPNV	**Topopah Spring**	86.39	52	P		P		06 54 48.9	-0.8
	baz=254								
JIRN	**Jiri**	86.43	299	*e*P		P		06 54 50.0	-0.3
	comp=Z,56nm,1.1s								
GLA	**Glamis**	86.47	56	*e*P		P		06 54 50.7	+0.7
	comp=Z,53nm,1.5s								
GLA	**Glamis**	86.47	56	*e*P		P		06 54 50.7	+0.7
GLA					pmax	pmax			
	comp=Z,53nm,1.5s								
GLA	**Glamis**	86.47	56	P		P		06 54 49.5	-0.5
	baz=255,SNR=12								
IRM	**Iron Mountain**	86.51	54	P		P		06 54 50.5	+0.4
	baz=255,SNR=18								
J08A	**Circle Bar Ran**	86.64	45	*e*P		P		06 54 50.6	0.0
	comp=Z,16nm,1.3s								
GUN	**Gumba**	86.76	299	*e*P		P		06 54 51.7	-0.2
	comp=Z,49nm,1.2s								
LDFC	**Landfair**	86.78	54	*e*P		P		06 54 52.2	+0.7
	comp=Z,56nm,1.3s								
HAWA	**Hanford**	86.88	42	*e*P		P		06 54 51.3	-0.3
	comp=Z,31nm,1.6s								
Y12C	**Blythe**	86.90	55	*e*P		P		06 54 52.3	+0.4
	comp=Z,30nm,1.4s								
Y12C	**Blythe**	86.90	55	P		P		06 54 52.3	+0.4
	baz=255,SNR=6.9								
PKI	**Pulchoki**	87.08	299	*e*P		P		06 54 53.5	+0.1
NEE2	**Needles Airpor**	87.09	54	P		P		06 54 53.0	+0.1
	baz=255								
PKIN	**Phulchoki**	87.10	299	*e*P		P		06 54 53.2	-0.2
SHPR	**Sheep Range**	87.12	52	*e*P		P		06 54 53.8	+0.6
	comp=Z,21nm,1.3s								
E08A	**Dider Farm, El**	87.22	42	*e*P		P		06 54 52.5	-0.7
	comp=Z,18nm,1.3s								
113A	**Mohawk Valley,**	87.27	56	*e*P		P		06 54 53.6	-0.1
	comp=Z,38nm,1.6s								
R11A	**Troy Canyon, C**	87.28	50	*e*P		P		06 54 54.2	+0.2
	comp=Z,12nm,1.4s								
R11A	**Troy Canyon, C**	87.28	50	P		P		06 54 54.0	0.0
	baz=254,SNR=8.0								
PDMCI	**Parker Dam,Lak**	87.35	55	P		P		06 54 54.3	+0.1
	baz=255,SNR=6.3								
DMN	**Daman**	87.36	299	*e*P		P		06 54 54.6	-0.1
	comp=Z,48nm,1.1s								
D08A	**Wollman Farm,**	87.50	41	*e*P		P		06 54 54.2	-0.4
	comp=Z,8.9nm,1.2s								
B08A	**Colville Reser**	87.65	40	*e*P		P		06 54 54.9	-0.4
	comp=Z,16nm,1.6s								
W13A	**Hualapai Mount**	87.75	54	*e*P		P		06 54 56.4	+0.1
	comp=Z,16nm,1.3s								
214A	**Organ Pipe Nat**	87.85	57	P		P		06 54 56.8	+0.2
	baz=256,SNR=7.9								
BMO	**Blue Mountains**	87.89	44	*e*P		P		06 54 56.1	-0.5
	comp=Z,18nm,1.6s								
BMO	**Blue Mountains**	87.89	44	*e*P		P		06 54 56.1	-0.5
BMO					pmax	pmax			
	comp=Z,18nm,1.6s								
Y14A	**Wickenburg**	88.17	55	*e*P		P		06 54 56.7	-1.4
	comp=Z,21nm,1.4s								
ELK	**Elko**	88.19	48	*e*P		P		06 54 57.9	-0.4
	comp=Z,19nm,1.5s								
ELK	**Elko**	88.19	48	*e*P		P		06 54 57.9	-0.4
ELK					pmax	pmax			
	comp=Z,19nm,1.5s								
F10A	**Beach Ranch, E**	88.28	43	*e*P		P		06 54 57.4	-1.1
	comp=Z,23nm,1.5s								
PSUT	**Pine Spring**	88.64	51	*e*P		P		06 55 00.9	+0.4
	comp=Z,30nm,1.4s								
DANN	**Dangsing**	88.68	299	*e*P		P		06 55 00.4	-0.6
	comp=Z,39nm,1.1s								
KOLN	**Koldanda**	88.69	298	*e*P		P		06 55 00.4	-0.6
	comp=Z,18nm,1.0s								
LCMT	**Little Creek M**	88.73	52	*e*P		P		06 55 00.6	-0.2
	comp=Z,58nm,1.5s								
CCUT	**Cedar City**	88.77	52	*e*P		P		06 55 01.9	+0.8
	comp=Z,35nm,1.4s								
SZCU	**Shurtz Canyon**	89.00	52	*e*P		P		06 55 03.0	+0.8
	comp=Z,46nm,1.4s								
NEW	**Newport**	89.02	41	*e*P		P		06 55 00.6	-1.2
	comp=Z,4.4nm,1.0s								
NEW	**Newport**	89.02	41	*e*P		P		06 55 00.6	-1.2
NEW					pmax	pmax			
	comp=Z,4.0nm,1.0s								
KNB	**Kanab**	89.06	52	*e*P		P		06 55 02.7	+0.3
	comp=Z,90nm,1.5s								
PYUN	**Piuthan**	89.29	299	*e*P		P		06 55 02.9	-0.9
	comp=Z,23nm,1.0s								
U15A	**North Rim**	89.33	53	*e*P		P		06 55 04.3	+0.4
	comp=Z,71nm,1.4s								
INK	**Inuvik**	89.34	19	P		P		06 55 01.1	-1.6
	comp=Z,1.4nm,0.9s,baz=17,slow=20,SNR=2.6								
WMQ	**Urumqi**	89.34	315	P		P		06 55 03.5	0.0
WMQ					pP	sP		06 55 17.5	-2.1
WMQ					sP	pP		06 55 20.0	+4.7
WMQ					pmax	pmax			
	comp=Z,40nm,1.5s								
WMQ					pmax	pmax			
	comp=Z,420nm,5.3s								
WMQ					LR	LR			
	comp=Z,230nm,20.7s								
WMQ					LR	LR			
	comp=Z,210nm,22.1s								
WMQ					LR	LR			
	comp=Z,170nm,22.1s								
WMQ	**Urumqi**	89.34	315	*e*P		P		06 55 03.9	+0.4
	comp=Z,13nm,0.9s								
HLID	**Hailey**	89.53	46	*e*P		P		06 55 05.4	+0.9
	comp=Z,24nm,1.5s								
HLID	**Hailey**	89.53	46	P		P		06 55 03.8	-0.7
	baz=255								
X16A	**Lo Mia Camp, P**	89.54	55	*e*P		P		06 55 05.1	+0.3
	comp=Z,35nm,1.4s								
PKCU	**Pink Cliffs**	89.56	52	*e*P		P		06 55 06.0	+1.0
	comp=Z,79nm,1.4s								
TUC	**Tucson**	89.61	57	*e*P		P		06 55 06.0	+1.0
	comp=Z,30nm,1.4s								
TUC	**Tucson**	89.61	57	*e*P		P		06 55 06.0	+1.0
TUC					pmax	pmax			
	comp=Z,30nm,1.4s								
TUC	**Tucson**	89.61	57	P		P		06 55 04.4	-0.6
	baz=257								
MTPU	**Mount Pierson**	89.80	51	*e*P		P		06 55 07.4	+1.3
	comp=Z,47nm,1.4s								
DUG	**Dugway, Tooele**	89.84	49	*e*P		P		06 55 06.3	+0.3
	comp=Z,33nm,1.4s								
DUG	**Dugway, Tooele**	89.84	49	*e*P		P		06 55 06.3	+0.3
DUG					pmax	pmax			
	comp=Z,33nm,1.4s								
DUG	**Dugway, Tooele**	89.84	49	P		P		06 55 05.5	-0.4
	baz=256								
WUAZ	**Wupatki**	89.85	54	*e*P		P		06 55 07.5	+1.3
	comp=Z,59nm,1.4s								
WUAZ	**Wupatki**	89.85	54	P		P		06 55 05.9	-0.3
	baz=257								
BGU	**Big Grassy Mou**	89.86	48	*e*P		P		06 55 07.0	+0.9
	comp=Z,38nm,1.4s								
MSU	**Marysvale**	89.92	51	*e*P		P		06 55 08.1	+1.6
MSU	**Marysvale**	89.92	51	*e*P		P		06 55 08.1	+1.6
HVU	**Hansel Valley**	90.25	48	*e*P		P		06 55 08.8	+0.9
	comp=Z,58nm,1.3s								
HVU	**Hansel Valley**	90.25	48	*e*P		P		06 55 08.8	+0.9
HVU					pmax	pmax			
	comp=Z,58nm,1.3s								
NLU	**North Lily Min**	90.33	49	*e*P		P		06 55 09.3	+0.9
	comp=Z,35nm,1.3s								
319A	**Douglas**	90.65	58	*e*P		P		06 55 11.5	+1.5
	comp=Z,53nm,1.3s								
CTU	**Camp Tracy**	90.75	49	*e*P		P		06 55 11.1	+0.8
	comp=Z,29nm,1.4s								
X18A	**Snowflake**	90.77	55	*e*P		P		06 55 11.8	+1.3
	comp=Z,44nm,1.3s								
Q16A	**Castle Valley**	90.77	51	*e*P		P		06 55 12.8	+2.3
	comp=Z,63nm,1.4s								
JLU	**Jordanelle**	90.95	49	*e*P		P		06 55 12.1	+0.8
	comp=Z,44nm,1.4s								
DGZ	**Jazzator, Alta**	91.07	320	*d i*P		P		06 55 11.1	-0.4
DGZ					pmax	pmax			
	comp=Z,7.0nm,0.8s								
TCUT	**Toone Canyon**	91.09	48	*e*P		P		06 55 13.3	+1.3
	comp=Z,44nm,1.3s								
P17A	**Butcher Ranch,**	91.22	50	*e*P		P		06 55 15.0	+2.5
	comp=Z,27nm,1.4s								
DLMT	**Dillon**	91.24	44	*e*P		P		06 55 12.6	+0.2
	comp=Z,46nm,1.5s								
WALA	**Waterton Lakes**	91.29	40	*e*P		P		06 55 13.6	+1.1
	comp=Z,39nm,1.6s								
SRU	**San Rafael Swe**	91.31	51	*e*P		P		06 55 13.7	+0.8
	comp=Z,18nm,1.4s								
SRU	**San Rafael Swe**	91.31	51	*e*P		P		06 55 13.7	+0.8
SRU					pmax	pmax			
	comp=Z,18nm,1.4s								
AHID	**Auburn Hatcher**	91.69	47	*e*P		P		06 55 17.4	+2.8
	comp=Z,20nm,1.5s								
FXWY	**Fox Creek**	91.94	46	*e*P		P		06 55 16.4	+0.6
	comp=Z,10nm,1.3s								
BOZ	**Bozeman (W)**	91.96	44	*e*P		P		06 55 16.5	+0.8
	comp=Z,41nm,1.5s								
BOZ	**Bozeman (W)**	91.96	44	*e*P		P		06 55 16.5	+0.8
BOZ					pmax	pmax			
	comp=Z,41nm,1.5s								
BOZ	**Bozeman (W)**	91.96	44	P		P		06 55 16.0	+0.3
	baz=257								
REDW	**Red Top Meadow**	92.00	46	*e*P		P		06 55 18.5	+2.4
	comp=Z,41nm,1.6s								
YHB	**Horse Butte**	92.07	45	*e*P		P		06 55 18.2	+1.8
	comp=Z,22nm,1.5s								
HRY	**Holter Researc**	92.08	43	*e*P		P		06 55 16.8	+0.6
121A	**Cookes Peak, D**	92.13	57	P		P		06 55 16.5	-0.3
	baz=259								
MOOW	**Moose Ponds**	92.16	46	*e*P		P		06 55 18.9	+2.2
	comp=Z,11nm,1.3s								
LOHW	**Long Hollow**	92.23	46	*e*P		P		06 55 17.6	+0.5
	comp=Z,19nm,1.5s								
FLWY	**Flagg Ranch**	92.27	46	*e*P		P		06 55 20.1	+2.8
	comp=Z,12nm,1.3s								
PV14	**Lion Creek, Pa**	92.30	52	*e*P		P		06 55 18.4	+0.8
	comp=Z,27nm,1.4s								
PV19	**Morning Glory**	92.32	52	*e*P		P		06 55 19.5	+1.9
	comp=Z,25nm,1.4s								
SYO	**Syowa Base**	92.32	197	‖ *e*PcP		PcP		06 55 18.0	+0.5
PV23	**Carpenter Ridg**	92.33	51	*e*P		P		06 55 19.5	+1.7
	comp=Z,37nm,1.5s								
PV17	**East Wray Mesa**	92.33	52	*e*P		P		06 55 20.8	+3.1
	comp=Z,23nm,1.4s								
PV16	**Nyswonger Mesa**	92.37	52	*e*P		P		06 55 20.9	+3.0
	comp=Z,39nm,1.7s								
PV21	**Cone Mtn., Par**	92.38	51	*e*P		P		06 55 19.3	+1.4
	comp=Z,30nm,1.4s								
PV11	**David Mesa, Pa**	92.40	52	*e*P		P		06 55 20.4	+2.4
	comp=Z,44nm,1.7s								
PV03	**Paradox Valley**	92.41	52	*e*P		P		06 55 20.4	+2.3
YNR	**Norris Junctio**	92.42	45	*e*P		P		06 55 22.3	+4.3
	comp=Z,19nm,1.4s								
H17A	**Grant Village**	92.42	45	*e*P		P		06 55 20.8	+2.8
	comp=Z,13nm,1.4s								
PV12	**Saucer Basin,**	92.46	52	*e*P		P		06 55 20.2	+1.9
	comp=Z,17nm,1.4s								
BW06	**Boulder Array**	92.80	47	*e*P		P		06 55 21.2	+1.5
	comp=Z,34nm,1.6s								
BW06	**Boulder Array**	92.80	47	P		P		06 55 19.7	-0.1
	baz=258								
PD31	**Pinedale Array**	92.80	47	*e*P		P		06 55 22.0	+2.2
PDAR	**Pinedale Array**	92.80	47	P		P		06 55 19.7	-0.1
	comp=Z,1.4nm,0.9s,baz=242,slow=3.2,SNR=11								
PDAR	**Pinedale Array**	92.80	47	*e*P		P		06 55 19.2	-0.6
O20A	**White River Ci**	93.24	50	*e*P		P		06 55 24.0	+2.1
	comp=Z,27nm,1.5s								
O20A	**White River Ci**	93.24	50	P		P		06 55 21.1	-0.7
	baz=259								
ANMO	**Albuquerque**	93.67	55	*e*P		P		06 55 25.2	+1.3
	comp=Z,7.1nm,1.4s								
ANMO	**Albuquerque**	93.67	55	*ce*P		P		06 55 23.6	-0.3
ANMO					pmax	pmax			
	comp=Z,1.0nm,0.8s								
ANMO	**Albuquerque**	93.67	55	P		P		06 55 23.5	-0.4
	baz=260								
ZAA0	**Zalesovo Array**	93.68	324	*e*P		P		06 55 21.7	-1.5
	comp=Z,13nm,1.0s								
ZALV	**Zalesovo Beam**	93.68	324	P		P		06 55 22.4	-0.9
	comp=Z,9.5nm,0.9s,baz=108,slow=4.8,SNR=34								
ZALV	**Zalesovo Beam**	93.68	324	*e*P		P		06 55 21.3	-1.9
ZALV	**Zalesovo Beam**	93.68	324	*e*P		P		06 55 21.3	-1.9
MK01	**Makanchi Array**	93.73	317	*e*P		P		06 55 23.4	-0.3
EGMT	**Eagleton**	93.74	42	*e*P		P		06 55 24.0	+0.2
	comp=Z,16nm,1.2s								
EGMT	**Eagleton**	93.74	42	P		P		06 55 23.9	+0.1
	baz=258								
MK31	**Makanchi Array**	93.75	317	*e*P		P		06 55 23.9	+0.1
MK31	**Makanchi Array**	93.75	317	*e*P		P		06 55 23.9	+0.1
MKAR	**Makanchi Array**	93.75	317	P		P		06 55 23.9	+0.2
	comp=Z,14nm,0.8s,baz=99,slow=6.0,SNR=87								
MKAR					PP	PP		06 59 16.1	+6.6
	comp=Z,1.3nm,1.1s,baz=109,slow=7.8,SNR=3.6								
MKAR					PKKPbc	PKKPdf		07 12 26.8	-2.1
	comp=Z,1.0nm,0.7s,baz=259,slow=2.6,SNR=5.2								
MKAR	**Makanchi Array**	93.75	317	*e*P		P		06 55 23.3	-0.5
	comp=Z,70nm,0.8s								
MKAR					PP	PP		06 59 16.1	+6.6
MKAR					PKKPbc	PKKPdf		07 12 26.8	-2.1
MKAR	**Makanchi Array**	93.75	317	*e*P		P		06 55 23.3	-0.5
MKAR								06 59 16.1	
MKAR					pmax	pmax			
	comp=Z,70nm,0.8s								
S22A	**4UR Ranch, Cre**	93.88	52	*e*P		P		06 55 26.9	+2.0
	comp=Z,12nm,1.3s								
S22A	**4UR Ranch, Cre**	93.88	52	P		P		06 55 24.7	-0.3
	baz=260								
MAKZ	**Makanchi**	93.96	317	*e*P		P		06 55 24.8	0.0
	comp=Z,19nm,1.0s								
MNTX	**Cornudas Mount**	93.98	59	*e*P		P		06 55 25.1	-0.1
	comp=Z,8.0nm,1.4s								
MNTX	**Cornudas Mount**	93.98	59	P		P		06 55 25.6	+0.4
	baz=260								
YKA	**Yellowknife Ar**	94.34	27	P		P		06 55 24.4	-1.7
	comp=Z,0.9nm,0.9s,baz=256,slow=4.3,SNR=10								
YKB5	**Yellowknife Ar**	94.34	27	*e*P		P		06 55 24.1	-1.9
NVS	**Novosibirsk**	94.78	325	*e*P		P		06 55 28.5	+0.3
NVS					pmax	pmax			
	comp=N,3.0nm,1.3s								
NVS					pmax	pmax			
	comp=E,7.0nm,1.3s								
NVS					pmax	pmax			
	comp=Z,10.0nm,1.3s								
TXAR	**Lajitas Array**	95.05	61	P		P		06 55 30.4	+0.2
	comp=Z,1.1nm,1.1s,baz=256,slow=5.0,SNR=5.0								
TXAR					PKKPbc	PKKPdf		07 12 37.2	+11
	comp=Z,0.4nm,0.8s,baz=73,slow=6.7,SNR=3.9								
KURK	**Kurchatov**	96.82	320	*e*P		P		06 55 36.1	-1.6
	comp=Z,17nm,1.4s								
KURK	**Kurchatov**	96.82	320	*ce*P		P		06 55 36.2	-1.4
KURK					pmax	pmax			
	comp=Z,6.0nm,1.2s								
KURBB	**Kurchatov Arra**	96.86	320	P		P		06 55 36.7	-1.1
	comp=Z,0.8nm,0.7s,baz=105,slow=6.4,SNR=6.4								
KSH	**Kashi**	97.08	309	P		Pdif		06 55 41.5	+2.1
KSH					pP	sP		06 55 54.3	-1.1
KSH					sP	pwP		06 55 59.3	+5.9
KSH					PP	PP		06 59 42.0	+6.3
KSH					SKS	SKSac		07 06 17.0	+3.4
KSH					S	ScS		07 07 02.8	+2.8
KSH					sS	sS		07 07 17.3	-2.1
KSH					pmax	pmax			
	comp=Z,7.0nm,0.5s								
KSH					pmax	pmax			
	comp=Z,360nm,6.1s								
KSH					LR	LR			
	comp=Z,66nm,6.2s								
KSH					LR	LR			
	comp=Z,610nm,7.1s								
AAK	**Ala-Archa**	98.58	312	P		P		06 55 44.9	-1.1
	comp=Z,1.7nm,0.9s,baz=331,slow=1.7,SNR=5.3								
AAK	**Ala-Archa**	98.58	312	*e*P		Pdif		06 55 46.6	+0.5
	comp=Z,2.3nm,0.9s								
AAK	**Ala-Archa**	98.58	312	*ce*P		P		06 55 45.3	-0.7
AAK					pmax	pmax			
	comp=Z,2.0nm,0.9s								
FFC	**Flin Flon**	99.54	36	*i* P		Pdif		06 55 50.5	+0.7
KK31	**Karatay Array**	101.54	312	*e*Pdif		Pdif		06 55 58.1	-0.9
KK31	**Karatay Array**	101.54	312	*e*P		Pdif		06 55 58.1	-0.9
KKAR	**Karatay Array**	101.54	312	*e*Pdif		Pdif		06 55 58.0	-1.0
KKAR	**Karatay Array**	101.54	312	*e*P		Pdif		06 55 58.0	-1.0
BVAR	**Borovoye Array**	102.11	322	P		Pdif		06 55 59.8	-1.4
	comp=Z,1.9nm,0.9s,baz=86,slow=6.1,SNR=6.6								
ARCES	**ARCESS Array B**	116.17	346	PKP		PKiKP		07 00 47.9	-1.5
	comp=Z,5.3nm,0.9s,baz=20,slow=2.9,SNR=6.2								
LPSR	**Galich'ya Gora**	120.75	326	*e*PKiKP		PKiKP		07 00 59.0	+0.2
VSR	**Storozhevoye**	121.19	324	*e*PKiKP		PKPdf		07 00 57.8	-1.7
CPUP	**Villa Florida**	123.74	132	PKP		PKPdf		07 01 03.8	-1.5
	comp=Z,2.3nm,0.8s,baz=43,slow=4.2,SNR=5.4								
BORG	**Borgarnes**	125.75	4	*i* PKiKP		PKPdf		07 01 07.6	-0.3
BOSA	**Boshof**	125.85	223	PKP		PKPdf		07 01 09.6	+0.1
	comp=Z,3.8nm,0.7s,baz=176,slow=4.0,SNR=7.0								
NB2	**NORSAR Subarra**	126.54	345	PKPdf		PKPdf		07 01 09.0	-0.6
	comp=Z,1.0nm,0.7s,baz=31,slow=1.9								
NOA	**NORSAR Array B**	126.54	345	PKP		PKPdf		07 01 08.8	-0.8
	comp=Z,1.9nm,0.8s,baz=39,slow=2.3,SNR=4.4								
AKASG	**Malin Array Be**	126.95	327	PKP		PKPdf		07 01 10.1	-0.5
	comp=Z,1.8nm,1.0s,baz=60,slow=2.1,SNR=2.8								
BRTR	**Keskin Array B**	129.24	313	PKP		PKPdf		07 01 15.0	-0.5
	comp=Z,0.6nm,0.8s,baz=169,slow=1.3,SNR=3.9								
BRTR					PP	PP		07 03 21.5	-2.8
	comp=Z,1.3nm,0.9s,baz=90,slow=2.0,SNR=4.9								
CLL	**Collm**	134.06	337	*e*PKPdf		PKiKP		07 01 25.0	-0.4
CLL				*e*				07 01 34.0	
CLL				LmV				08 01 00.0	
	comp=Z,200nm,20.7s								
CLL	**Collm**	134.06	337	*e*PKiKP		PKiKP		07 01 25.0	-0.4
CLL				*e*				07 01 34.0	
GERES	**GERESS Array B**	135.70	334	PKP		PKPdf		07 01 27.8	+0.4
	comp=Z,1.6nm,0.9s,baz=82,slow=1.9,SNR=5.2								
BDFB	**Brasilia**	136.99	127	PKP		PKPdf		07 01 30.0	-0.7
	comp=Z,3.2nm,0.8s,baz=92,slow=2.5,SNR=5.2								
KEST	**Kesra**	147.55	324	PKPbc		PKPbc		07 01 51.7	+0.1
	comp=Z,22nm,0.8s,baz=286,slow=3.5,SNR=14								
KEST	**Kesra**	147.55	324	*e*PKPbc		PKPbc		07 01 51.9	+0.4
PBRG	**Braganca**	148.44	350	*e*PKPdf		PKPbc		07 01 54.0	+0.4
POLO	**Lamas de Olo**	149.02	352	*e*PKPdf		PKPbc		07 01 55.6	+0.4
PVRL	**Vila Real**	149.11

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYUN	**Piuthan**	**14.47**	**81**	*eP*	**Pn**	**06 49 20.7**	**-0.9**
KOLN	**Koldanda**	**15.00**	**82**	*eP*	**Pn**	**06 49 30.5**	**+1.7**
DANN	**Dangsing**	**15.16**	**80**	*eP*	**Pn**	**06 49 30.0**	**-0.9**
GUN	**Gumba**	**17.02**	**82**	*eP*	**Pn**	**06 49 54.5**	**-0.3**
JIRN	**Jiri**	**17.30**	**82**	*eP*	**P**	**06 50 00.1**	**+0.6**
	25nm,0.6s						
MKAR	**Makanchi Array**	**23.50**	**27**	P	**P**	**06 51 05.3**	**-0.4**
	0.7nm,0.8s,baz=209,slow=8.3,SNR=6.2						
AKTO	**Aktyubinsk**	**24.61**	**346**	P	**P**	**06 51 17.1**	**+1.1**
	0.6nm,0.3s,baz=157,slow=7.7,SNR=4.6						
KURBB	**Kurchatov Arra**	**25.51**	**18**	P	**P**	**06 51 25.7**	**+1.7**
	0.4nm,0.6s,baz=207,slow=9.6,SNR=2.9						
BVAR	**Borovoye Array**	**26.41**	**5**	P	**P**	**06 51 32.0**	**-0.2**
	0.5nm,0.5s,baz=181,slow=9.5,SNR=3.6						
ARCES	**ARCESS Array B**	**49.07**	**342**	P	**P**	**06 54 41.5**	**-1.0**
	3.8nm,1.0s,baz=132,slow=6.7,SNR=6.9						
LEM	**Lembang**	**51.75**	**124**	LR	LR	07 18 48.3	
	comp=Z,262nm,20.4s,baz=75,slow=38						
TORD	**Torodi Ar. Bea**	**62.08**	**271**	P	**P**	**06 56 16.7**	**0.0**
	0.2nm,0.6s,baz=57,slow=5.6,SNR=2.3						

*IDC **31** 06:50:10.3±0.7, 10˚.80S×166˚.58E, h0km, mb4.2/17, mb1 4.3/18, mb1mx4.3/36, mbtmp4.2/18, ML4.4/1, MS4.2/5, Ms1 4.2/5, ms1mx3.6/34, Error ellipse: s-maj=22.5km s-min=16.2km az=128.0*

*ISCJB **31** 06:50:15.4±0.2, 10˚.52S±0˚.05×166˚.27E±0˚.04, h36km, mb4.8/68, MS4.4/7, Error ellipse: s-maj=7.7km s-min=5.9km az=157.6*

*NEIC **31** 06:50:15.4±1.9, 10˚.44S×166˚.29E, h26km±13km, mb4.9/39, Error ellipse: s-maj=6.5km s-min=5.0km az=162.0*

*BJI **31** 06:50:15.4, 10˚.46S×166˚.31E, h30km, mb4.7/33, mB5.1/22, Ms4.8/9, Ms7 4.5/10*

*GCMT **31** 06:50:15.4±0.4, 10˚.72S±0˚.03×166˚.52E±0˚.03, h14km±2km, MW5.1/69, Moment Tensor Solution. s20,c22; s69,c106; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~4.01±.51; Mθθ 1.92±.28; Mϕϕ 2.08±.31; Mrθ~2.25±.70; Mϕθ~2.25±.16; Mϕr~2.07±.74; Best double couple: M○4.98600×10^16 NP1: ϕs 342.00000°, δ 51.00000°, λ -51.00000°. Principal axes: T 4.2520, Plg 1.0000°, Azm 226.0000°; N 1.4570, Plg 29.0000°, Azm 135.0000°; P -5.7190, Plg 61.0000°, Azm 317.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 06:50:16.9±0.4, 10˚.59S±0˚.07×166˚.33E±0˚.07, h36km, n113, σ1ϕ45/108, mb4.9/68, MS4.3/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.39**	**280**	Pn	**Pn**	**06 51 50.1**	**+1.4**
	8.0nm,0.3s,baz=297,slow=14,SNR=1.9						
HNR	**Honiara**	**6.39**	**280**	*e*Pn	**Pn**	**06 51 46.3**	**-2.3**
DZM	**Mont Dzumac**	**11.42**	**179**	Pn	**Pn**	**06 52 55.4**	**-2.2**
	0.4nm,0.3s,baz=50,slow=18,SNR=3.0						
DZM				LR	LR	06 56 35.0	
	comp=Z,2μm,20.3s,baz=14,slow=34						
DZM	**Mont Dzumac**	**11.42**	**179**	*e*LR	LR	06 55 08.3	
	comp=Z,3μm,26.6s						
DZM	**Mont Dzumac**	**11.42**	**179**	*e*Pn	**Pn**	**06 52 58.1**	**+0.5**
MSVF	**Nonsavu**	**13.39**	**123**	*e*Pn	**Pn**	**06 53 26.9**	**+2.2**
TARA	**Tarawa**	**13.56**	**29**	*e*Pn	**Pn**	**06 53 25.1**	**-1.7**
EIDS	**Eidsvold**	**20.62**	**223**	*e*P	Pn	06 54 55.3	-0.4
	28nm,1.0s						
MANU	**Manus Island**	**20.66**	**293**	*e*P	**P**	**06 54 52.6**	**-1.2**
	228nm,1.5s						
CTA	**Charters Tower**	**21.52**	**242**	P	**P**	**06 55 04.4**	**+1.4**
	3.3nm,0.8s,baz=77,slow=14,SNR=3.0						
CTAO	**Charters Tower**	**21.52**	**242**	*e*P	**P**	**06 55 01.3**	**-1.7**
	16nm,1.0s						
LHI	**Lord Howe Isla**	**21.89**	**197**	*e*P	**P**	**06 55 08.5**	**+1.7**
	199nm,1.4s						
COEN	**Coen**	**22.87**	**259**	*e*P	**P**	**06 55 15.9**	**-1.7**
	17nm,1.5s						
KNTN	**Kanton**	**23.12**	**72**	*e*P	**P**	**06 55 19.2**	**-0.9**
	95nm,1.1s						
H11S2	**WAKE ISLAND Hy**	**28.90**	**1**	T	T	07 26 25.9	
	baz=181,slow=76,SNR=126						
H11S3	**WAKE ISLAND Hy**	**28.90**	**1**	T	T	07 26 26.4	
	baz=181,slow=76,SNR=130						
H11S1	**WAKE ISLAND Hy**	**28.91**	**1**	T	T	07 26 27.5	
	baz=181,slow=76,SNR=166						
H11N1	**WAKE ISLAND Hy**	**30.12**	**1**	T	T	07 27 40.6	
	baz=183						
H11N3	**WAKE ISLAND Hy**	**30.12**	**1**	T	T	07 27 40.2	
	baz=183						
H11N2	**WAKE ISLAND Hy**	**30.13**	**1**	T	T	07 27 41.0	
	baz=183						
STKA	**Stephens Creek**	**31.17**	**223**	P	**P**	**06 56 29.5**	**-3.1**
	0.8nm,0.3s,baz=146,slow=15,SNR=2.1						
THZ	**Tophouse**	**31.59**	**171**	*e*P	**P**	**06 56 39.5**	**+3.3**
	9.9nm,1.0s						
WRAB	**Tennant Creek**	**32.17**	**249**	*e*P	**P**	**06 56 41.1**	**-0.5**
	12nm,1.0s						
WB2	**Warramunga Arr**	**32.17**	**249**	*e*P	**P**	**06 56 41.7**	**+0.1**
	17nm,1.1s						
WRA	**Warramunga Arr**	**32.18**	**249**	P	**P**	**06 56 41.7**	**0.0**
	2.7nm,0.9s,baz=81,slow=9.2,SNR=13						
WRA				PcP	**PcP**	**06 59 27.7**	**-2.5**
	0.5nm,0.8s,baz=76,slow=3.2,SNR=3.3						
LTZ	**Lake Taylor**	**32.49**	**172**	*e*P	**P**	**06 56 45.5**	**+1.4**
	34nm,1.4s						
OXZ	**Oxford**	**32.99**	**172**	*e*P	**P**	**06 56 49.8**	**+1.3**
	10nm,0.6s						
RPZ	**Rata Peaks**	**33.26**	**174**	P	**P**	**06 56 48.4**	**-2.4**
	5.4nm,0.9s,baz=79,slow=18,SNR=2.4						
AS01	**Alice Springs**	**33.47**	**243**	*e*P	**P**	**06 56 52.0**	**-1.0**
AS31	**Alice Springs**	**33.51**	**243**	*e*P	**P**	**06 56 52.9**	**-0.4**
	1.6nm,0.8s						
ASAR	**Alice Springs**	**33.51**	**243**	P	**P**	**06 56 52.4**	**-1.0**
	4.0nm,0.8s,baz=74,slow=9.4,SNR=27						
ASAR				PcP	**PcP**	**06 59 32.7**	**-1.1**
	0.9nm,0.9s,baz=76,slow=3.9,SNR=4.5						
ANA2	**Anatahan**	**33.65**	**322**	*e*P	**P**	**06 56 52.0**	**-2.5**
	96nm,0.6s						
SIJI	**Sorong**	**36.16**	**283**	P	**P**	**06 57 17.3**	**+1.0**
	6.4nm,0.6s,baz=221,slow=19,SNR=2.9						
SIJI				LR	LR	07 13 56.4	
	comp=Z,303nm,18.6s,baz=114,slow=39						
FITZ	**Fitzroy Crossi**	**40.06**	**255**	*e*P	**P**	**06 57 49.1**	**+0.1**
	7.7nm,1.0s						
PPT	**Papeete**	**43.25**	**104**	LR	LR	07 12 56.4	
	comp=Z,245nm,19.4s,baz=269,slow=32						
PPT2	**Papeete2**	**43.25**	**104**	*e*LQ	LQ	07 08 07.8	
	637nm,26.2s						
PPT2				*e*LR	LR	07 09 59.3	
	comp=Z,595nm,28.0s						
TBI	**Tubuai**	**43.97**	**113**	*e*LQ	LQ	07 08 26.3	
	662nm,29.2s						
TBI				*e*LR	LR	07 10 19.0	
	comp=Z,376nm,27.0s						
DAV	**Davao City (W)**	**44.20**	**292**	LR	LR	07 16 55.6	
	comp=Z,139nm,18.4s,baz=94,slow=36						
TAOE	**Nuku Hiva Isla**	**52.73**	**93**	*e*LR	LR	07 14 05.8	
	comp=Z,374nm,28.5s						
MJAR	**Matsushiro Arr**	**53.84**	**332**	P	**P**	**06 59 36.9**	**+0.6**
	1.0nm,0.5s,baz=163,slow=7.4,SNR=2.7						
RKT	**Rikitea**	**57.21**	**111**	*e*LR	LR	07 16 25.9	
	comp=Z,239nm,22.5s						
KSRS	**Korea Array**	**59.83**	**325**	P	**P**	**07 00 19.3**	**+0.5**
	2.4nm,1.1s,baz=142,slow=5.4,SNR=4.4						
KSAR	**Wonju Array Be**	**59.84**	**325**	P	**P**	**07 00 19.3**	**+0.4**
KS01	**Wonju Array Si**	**59.86**	**325**	*e*P	**P**	**07 00 17.8**	**-1.3**
NJ2	**Nanjing**	**62.10**	**315**	*e*P	**P**	**07 00 34.0**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,26nm,0.7s						
USRK	**Ussuriysk Ar.**	**62.80**	**333**	P	**P**	**07 00 40.0**	**+1.2**
	6.3nm,1.2s,baz=163,slow=7.4,SNR=5.3						
USRK	**Ussuriysk Ar.**	**62.80**	**333**	P	**P**	**07 00 40.0**	**+1.2**
MDJ	**Mudanjiang**	**64.22**	**332**	P	**P**	**07 00 49.3**	**+1.1**
MDJ				pmax	pmax		
	comp=Z,11nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,340nm,6.3s						
KLR	**Kul'dur**	**66.87**	**336**	P	**P**	**07 01 06.4**	**+1.1**
	3.3nm,1.1s,baz=140,slow=7.2,SNR=5.7						
XAN	**Xi'an**	**70.24**	**312**	P	**P**	**07 01 27.8**	**+1.1**
XAN				pP	pP	07 01 36.0	-1.3
XAN				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KMI	**Kunming**	**71.38**	**301**	P	**P**	**07 01 36.0**	**+2.0**
KMI				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC	**Hu-ho-hao-te**	**71.86**	**319**	*e*P	**P**	**07 01 37.5**	**+1.1**
HHC				S	**S**	**07 10 57.0**	**+2.1**
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,320nm,7.4s						
HHC				LR	LR		
	comp=N,200nm,14.7s						
HHC				LR	LR		
	comp=E,200nm,13.8s						
HHC				LR	LR		
	comp=Z,350nm,15.6s						
CMAR	**Chiang Mai Arr**	**72.46**	**293**	P	**P**	**07 01 41.8**	**+1.5**
	1.1nm,0.3s,baz=76,slow=3.8,SNR=3.0						
CD2	**Chengdu**	**72.79**	**307**	*e*P	**P**	**07 01 41.5**	**-0.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,5.2s						
LZH	**Lanzhou**	**74.88**	**312**	*e*P	**P**	**07 01 56.5**	**+2.1**
LZH				pP	PcP	07 02 07.5	-0.7
LZH				sP	sP	07 02 13.5	+4.0
LZH				PP	**PP**	**07 04 43.5**	**+1.1**
LZH				SS	SS	07 16 12.8	-5.6
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
LZH				LR	LR		
	comp=N,410nm,15.2s						
LZH				LR	LR		
	comp=Z,590nm,18.4s						
ULN	**Ulaanbaatar**	**78.27**	**324**	*e*P	**P**	**07 02 12.4**	**-0.9**
	5.2nm,0.8s						
BILL	**Bilibino**	**78.42**	**360**	*e*P	**P**	**07 02 12.9**	**-0.7**
	18nm,1.3s						
SONM	**Songino Array**	**78.64**	**324**	LR	LR	07 33 21.7	
	comp=Z,147nm,21.6s,baz=84,slow=33						
GTA	**Gaotai**	**79.16**	**314**	*e*P	**P**	**07 02 19.3**	**+0.9**
GTA				pP	pP	07 02 28.5	-0.6
GTA				sP	sP	07 02 33.5	0.0
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
HDA	**Harding Lake**	**82.63**	**19**	*e*P	**P**	**07 02 35.5**	**-0.7**
	27nm,1.3s						
ILAR	**Eielson Array**	**82.90**	**18**	P	**P**	**07 02 36.2**	**-1.3**
	2.2nm,0.9s,baz=225,slow=6.1,SNR=8.0						
IL1	**Eielson Array**	**82.90**	**18**	*e*P	**P**	**07 02 36.2**	**-1.3**
COR	**Corvallis**	**83.78**	**43**	*e*P	**P**	**07 02 45.8**	**+3.3**
	154nm,1.5s						
OMMB	**Old Mammoth Mi**	**84.52**	**50**	*e*P	**P**	**07 02 46.7**	**-0.2**
	20nm,1.7s						
NV01	**Mina Array Sit**	**85.29**	**50**	*e*P	**P**	**07 02 50.0**	**-0.6**
NVAR	**Mina Array Bea**	**85.29**	**50**	P	**P**	**07 02 50.0**	**-0.6**
	1.1nm,1.0s,baz=236,slow=9.1,SNR=6.9						
NV11	**Mina Array Sit**	**85.40**	**50**	*e*P	**P**	**07 02 50.2**	**-0.9**
	1.2nm,1.6s						
KVN	**Kaiserville**	**85.63**	**49**	*e*P	**P**	**07 02 51.3**	**-1.0**
	11nm,1.7s						
GLA	**Glamis**	**86.52**	**56**	*e*P	**P**	**07 02 55.0**	**-1.6**
	8.1nm,1.2s						
LDFC	**Landfair**	**86.82**	**54**	*e*P	**P**	**07 02 57.5**	**-0.6**
	12nm,1.2s						
SHPR	**Sheep Range**	**87.15**	**52**	*e*P	**P**	**07 03 00.1**	**+0.3**
	15nm,1.6s						
R11A	**Troy Canyon, C**	**87.31**	**50**	*e*P	**P**	**07 03 00.6**	**0.0**
	5.3nm,1.5s						
W13A	**Hualapai Mount**	**87.79**	**54**	*e*P	**P**	**07 03 02.1**	**-0.9**
	7.6nm,1.3s						
PSUT	**Pine Spring**	**88.67**	**51**	*e*P	**P**	**07 03 07.0**	**0.0**
	18nm,1.6s						
LCMT	**Little Creek M**	**88.77**	**52**	*e*P	**P**	**07 03 07.5**	**+0.1**
	12nm,1.4s						
CCUT	**Cedar City**	**88.81**	**52**	*e*P	**P**	**07 03 07.9**	**+0.2**
	16nm,1.5s						
SZCU	**Shurtz Canyon**	**89.03**	**52**	*e*P	**P**	**07 03 08.2**	**-0.6**
	7.9nm,1.3s						
KNB	**Kanab**	**89.10**	**52**	*e*P	**P**	**07 03 08.6**	**-0.4**
	35nm,1.7s						
WMQ	**Urumqi**	**89.18**	**315**	*e*P	**P**	**07 03 09.5**	**+0.4**
WMQ				sP	sP	07 03 24.8	+0.9
WMQ				LR	LR		
	comp=N,150nm,23.5s						
WMQ				LR	LR		
	comp=E,180nm,20.9s						
WMQ				LR	LR		
	comp=Z,160nm,26.1s						
U15A	**North Rim**	**89.37**	**53**	*e*P	**P**	**07 03 10.1**	**-0.4**
	13nm,1.3s						
X16A	**Lo Mia Camp, P**	**89.59**	**55**	*e*P	**P**	**07 03 06.9**	**-4.5**
	8.3nm,1.3s						
MTPU	**Mount Pierson**	**89.83**	**51**	*e*P	**P**	**07 03 12.9**	**+0.2**
	21nm,1.6s						
BGU	**Big Grassy Mou**	**89.88**	**48**	*e*P	**P**	**07 03 12.7**	**+0.1**
	10nm,1.5s						
WUAZ	**Wupatki**	**89.89**	**54**	*e*P	**P**	**07 03 12.9**	**+0.2**
	6.9nm,1.0s						
MSU	**Marysvale**	**89.95**	**51**	*e*P	**P**	**07 03 13.3**	**+0.2**
HVU	**Hansel Valley**	**90.27**	**48**	*e*P	**P**	**07 03 14.2**	**-0.2**
	20nm,1.6s						
NLU	**North Lily Min**	**90.36**	**50**	*e*P	**P**	**07 03 14.9**	**0.0**
	5.2nm,1.0s						
CTU	**Camp Tracy**	**90.77**	**49**	*e*P	**P**	**07 03 16.8**	**0.0**
	3.8nm,0.9s						
X18A	**Snowflake**	**90.81**	**55**	*e*P	**P**	**07 03 17.1**	**0.0**
	25nm,1.6s						
TCUT	**Toone Canyon**	**91.12**	**48**	*e*P	**P**	**07 03 18.3**	**-0.2**
	13nm,1.1s						
DLMT	**Dillon**	**91.25**	**44**	*e*P	**P**	**07 03 17.5**	**-1.4**
	7.6nm,1.0s						
BOZ	**Bozeman (W)**	**91.97**	**44**	*e*P	**P**	**07 03 21.6**	**-0.5**
	6.8nm,1.4s						
HRY	**Holter Researc**	**92.08**	**43**	*e*P	**P**	**07 03 22.5**	**-0.1**
PDAR	**Pinedale Array**	**92.82**	**47**	P	**P**	**07 03 25.5**	**-0.8**
	0.2nm,0.5s,baz=239,slow=3.0,SNR=2.7						
RLMT	**Red Lodge**	**93.50**	**45**	*e*P	**P**	**07 03 27.7**	**-1.6**
RLMT				*e*pP	**PcP**	**07 03 32.5**	**+2.6**
ZALV	**Zalesovo Beam**	**93.53**	**324**	P	**P**	**07 03 29.1**	**+0.1**
	1.6nm,0.8s,baz=91,slow=6.1,SNR=7.0						
ZALV	**Zalesovo Beam**	**93.53**	**324**	*e*P	**P**	**07 03 28.0**	**-1.0**
MK01	**Makanchi Array**	**93.57**	**317**	*e*P	**P**	**07 03 28.9**	**-0.5**
MK31	**Makanchi Array**	**93.58**	**317**	*e*P	**P**	**07 03 28.7**	**-0.8**
MKAR	**Makanchi Array**	**93.58**	**317**	P	**P**	**07 03 29.6**	**+0.2**
	2.1nm,0.8s,baz=100,slow=6.3,SNR=14						
MKAR	**Makanchi Array**	**93.58**	**317**	*e*P	**P**	**07 03 28.5**	**-0.9**
	15nm,0.8s						
MAKZ	**Makanchi**	**93.80**	**317**	*e*P	**P**	**07 03 29.7**	**-0.8**
	10nm,1.4s						
YKA	**Yellowknife Ar**	**94.31**	**27**	P	**P**	**07 03 30.7**	**-1.6**
	0.2nm,0.4s,baz=256,slow=5.1,SNR=5.2						
PHWY	**Pilot Hill**	**95.56**	**49**	*e*P	**P**	**07 03 38.3**	**-0.7**
	13nm,0.8s						
KSH	**Kashi**	**96.92**	**309**	P	**P**	**07 03 48.5**	**+3.5**
KSH				pP	pP	07 03 55.5	-0.3
KSH				PP	**PP**	**07 07 46.5**	**+5.7**
KSH				SKS	**SKSac**	**07 14 19.5**	**-0.1**
KSH				S	**ScS**	**07 15 06.8**	**+1.4**
KSH				sS	pS	07 15 19.8	+0.9
KSH				SS	**SS**	**07 21 42.8**	**+1.0**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KSH				LR	LR		
	comp=Z,350nm,8.4s						
CLL	**Collm**	**133.92**	**337**	*e*PKPdf	**PKPdf**	**07 09 30.0**	**-0.2**
CLL				*e*(PKiKP)		07 09 33.0	
KEST	**Kesra**	**147.40**	**324**	PKPbc	**PKPbc**	**07 09 58.0**	**+0.4**
	7.6nm,0.8s,baz=103,slow=2.3,SNR=4.7						
POLO	**Lamas de Olo**	**148.90**	**351**	*e*PKPdf	**PKiKP**	**07 10 02.1**	**-0.6**
ES19	**SONSECA Array**	**149.73**	**345**	*e*PKPbc	**PKPbc**	**07 10 02.3**	**-1.1**
ES19				*e*PKPab	**PKPab**	**07 10 09.1**	**+0.5**
ESDC	**Sonseca Array**	**149.77**	**345**	PKPbc	**PKPbc**	**07 10 03.8**	**+0.3**
	1.4nm,0.7s,baz=3.8,slow=2.4,SNR=8.0						
PMRV	**Marv?2o**	**150.74**	**350**	*e*PKPdf	**PKiKP**	**07 10 06.1**	**-0.3**
PMTG	**Montargil**	**151.22**	**351**	*e*PKPdf	**PKPbc**	**07 10 06.9**	**0.0**
PFVI	**Vila Bisbo**	**153.21**	**351**	*e*PKPdf	**PKPdf**	**07 10 03.4**	**-0.6**

*ATH **31** 06:56:03.9, 39˚.67N×25˚.50E, h25km±1km, ML1.8/1, Error ellipse: s-maj=2.2km s-min=0.6km az=246.0*

*ISCJB **31** 06:56:04.6±0.5, 39˚.69N±0˚.03×25˚.55E±0˚.03, h9km±4km, Error ellipse: s-maj=4.8km s-min=4.2km az=11.6*

*ISK **31** 06:56:04.0, 39˚.68N×25˚.55E, h9km, ML2.1/16*

*DDA **31** 06:56:05.2, 39˚.75N×25˚.60E, h7km±3km, ML2.6*

ISC 31 06:56:04.5±1.1, 39˚.68N±0˚.03×25˚.55E±0˚.02, h11km±10km, n28, σ0ϕ42/36, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.36**	**308**	P	**Pg**	**06 56 11.7**	**+0.1**
LIA				S	**Sg**	**06 56 16.9**	**+0.5**
LIA				AML	AML	06 56 16.9	
	comp=E,445μm,0.4s						
LIA				AML	AML	06 56 17.1	
	comp=N,605μm,0.3s						
BOZC	**Bozcaada**	**0.42**	**67**	PG	**Pg**	**06 56 12.8**	**+0.1**
BOZC				SG	**Sg**	**06 56 18.9**	**+0.6**
BOZC	**Bozcaada**	**0.42**	**67**	IAML_P			
	comp=Z,2μm,0.1s						
BOZC				*i* P	**Pb**	**06 56 13.4**	**-0.5**
EFSA	**Agios Efstrati**	**0.46**	**252**	P	**Pb**	**06 56 14.8**	**+0.3**
EFSA				S	**Sb**	**06 56 21.7**	**+0.4**
SIGR	**SIGRI**	**0.52**	**153**	PG	**Pg**	**06 56 14.3**	**-0.4**
SIGR				SG	**Sb**	**06 56 22.8**	**-0.4**
SIGR	**SIGRI**	**0.52**	**153**	P	**Pg**	**06 56 14.4**	**-0.3**
SIGR				S	**Sb**	**06 56 23.3**	**+0.1**
GADA	**Gvkgeada**	**0.58**	**28**	PG	**Pb**	**06 56 15.9**	**-0.6**
EZN	**Ezine**	**0.61**	**76**	PG	**Pg**	**06 56 16.4**	**0.0**
PRK	**Paraskevi**	**0.71**	**128**	P	**Pb**	**06 56 18.7**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.77**	**85**	IAML_P			
	comp=Z,867nm,0.1s						
BAYC				*i* P	**Pb**	**06 56 19.3**	**-0.6**
BAYC				*i* S	**Sb**	**06 56 30.2**	**-0.1**
SMTH	**Samothraki Isl**	**0.79**	**359**	P	**Pg**	**06 56 19.5**	**-0.2**
AYVA	**Ayvalik**	**0.96**	**112**	IAML_P			
	comp=Z,145nm,0.1s						
AYVA				*e*P	**Pn**	**06 56 23.3**	**-0.5**
AYVA				*i* S	**Sn**	**06 56 38.2**	**+0.9**
GELI	**Tayfur-Gelibol**	**1.01**	**44**	PG	**Pb**	**06 56 23.9**	**0.0**
THAS	**Thassos island**	**1.12**	**326**	P	**Pg**	**06 56 25.2**	**-0.9**
ENEZ	**Enez**	**1.15**	**23**	PN	**Pn**	**06 56 26.8**	**+0.3**
LPK	**Lapseki**	**1.16**	**53**	PN	**Pn**	**06 56 26.7**	**+0.1**
ERIK	**Erikli-Kesan**	**1.23**	**36**	PN	**Pg**	**06 56 27.9**	**-0.3**
ALN	**Alexandroupoli**	**1.27**	**17**	PN	**Pb**	**06 56 28.3**	**-0.1**
CHOS	**Chios island**	**1.35**	**163**	PN	**Pn**	**06 56 29.2**	**-0.1**
CHOS	**Chios island**	**1.35**	**163**	P	**Pn**	**06 56 29.1**	**-0.2**
OUR	**Ouranopolis**	**1.37**	**299**	PN	**Pn**	**06 56 28.9**	**-0.6**
AOS	**Alonnisos**	**1.39**	**249**	PN	**Pb**	**06 56 30.2**	**-0.2**
KESN	**Edirne-Kesan**	**1.43**	**37**	IAML_P			
	comp=Z,124nm,0.2s						
KESN				*e*P	**Pg**	**06 56 32.1**	**+0.1**
KESN				*i* S	**Sg**	**06 56 50.7**	**0.0**
RDO	**Rodhopi**	**1.47**	**360**	PN	**Pb**	**06 56 31.4**	**-0.3**
KRBG	**Karabiga-Canak**	**1.52**	**61**	PN	**Pb**	**06 56 31.9**	**-0.7**
URLA	**Izmir**	**1.55**	**148**	PN	**Pn**	**06 56 31.9**	**-0.1**
MRMT	**Marmara Adasi**	**1.82**	**59**	PN	**Pn**	**06 56 36.2**	**+0.5**
KCTX	**Karacabey (Bur**	**2.23**	**74**	PN	**Pn**	**06 56 41.8**	**+0.4**

WEL 31 06:59:06.7±1.4, 49˚S±13˚×16˚5E±1˚1, h5km, ML4.3/12, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**2.52**	**50**	P	Pn	06 59 48.4	0.0
APZ				S	Sn	07 00 20.2	+0.8
PYZ	**Puysegur Point**	**2.55**	**24**	P	Pn	06 59 46.8	-1.9
WHZ	**Wether Hill Ro**	**3.22**	**37**	P	Pn	06 59 57.4	-0.4
WHZ				S	Sn	07 00 36.6	0.0
SYZ	**Scrubby Hill**	**3.32**	**55**	P	Pn	06 59 59.7	+0.5
SYZ				S	Sn	07 00 38.9	-0.2
DCZ	**Deep Cove**	**3.32**	**25**	P	Pn	06 59 58.6	-0.7
MLZ	**Mavora Lakes**	**3.72**	**34**	P	Pn	07 00 05.3	+0.4
MLZ				S	Sn	07 00 50.4	+1.3
TUZ	**Tuapeka**	**3.95**	**51**	P	Pn	07 00 08.2	+0.2
TUZ				S	Sn	07 00 57.4	+2.6
MSZ	**Milford Sound**	**4.27**	**27**	P	Pn	07 00 14.2	+1.9
EAZ	**Earnscleugh**	**4.32**	**42**	P	Pn	07 00 12.7	-0.3
HHSZ	**Highcliff Hill**	**4.52**	**57**	P	Pn	07 00 16.7	+1.0
WKZ	**Wanaka**	**4.52**	**37**	P	Pn	07 00 17.2	+1.3
JCZ	**Jackson Bay**	**5.08**	**31**	P	Pn	07 00 24.6	+1.0
ODZ	**Otahua Downs**	**5.10**	**49**	P	Pn	07 00 22.4	-1.3
LBZ	**Lake Benmore**	**5.37**	**42**	P	Pn	07 00 26.3	-1.2
FOZ	**Fox Glacier**	**5.92**	**35**	P	Pn	07 00 36.2	+1.2
RPZ	**Rata Peaks**	**6.29**	**43**	P	Pn	07 00 37.4	-2.7

*ISCJB **31** 07:06:32.8±1.1, 36˚.11S±0˚.04×73˚.6W±0˚.1, h10km, Error ellipse: s-maj=12.4km s-min=6.0km az=179.2*

*GUC **31** 07:06:36.0±0.7, 36˚.11S×73˚.54W, h41km±12km, ML3.5*

ISC 31 07:06:33.3±2.2, 36˚.11S±0˚.05×73˚.6W±0˚.1, h10km, n16, σ1ϕ94/21, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**1.30**	**113**	*e*P	**Pn**	**07 06 57.3**	**-0.2**
CCHI				*e*S	**Sb**	**07 07 14.4**	**-0.1**
CCHI				IAML		07 07 20.5	
	comp=E,2μm,0.5s						
GO05	**Huala**	**1.72**	**51↑**	*e*P	**Pn**	**07

WR1	**Warramunga Arr**	**32.31**	**250**	*e*P	**P**	**07 20 16.0**	**+0.2**
	18nm,1.0s							
WRA	**Warramunga Arr**	**32.31**	**250**	P	**P**	**07 20 16.0**	**+0.2**
	9.7nm,1.0s,baz=79,slow=8.9,SNR=33							
WRA				LR	LR	07 33 46.4		
	comp=Z,436nm,18.0s,baz=90,slow=37							
AS01	**Alice Springs**	**33.58**	**243**	*e*P	**P**	**07 20 25.9**	**-1.0**
AS31	**Alice Springs**	**33.62**	**243**	*e*P	**P**	**07 20 26.1**	**-1.1**
	2.4nm,0.9s							
ASAR	**Alice Springs**	**33.62**	**243**	P	**P**	**07 20 26.8**	**-0.4**
	6.4nm,0.9s,baz=74,slow=9.3,SNR=46							
ASAR				PcP	**PcP**	**07 23 07.2**	**-0.3**
	0.7nm,0.8s,baz=105,slow=1.4,SNR=4.2							
ASAR				LR	LR	07 33 03.4		
	comp=Z,367nm,20.6s,baz=97,slow=34							
FITZ	**Fitzroy Crossi**	**40.21**	**255**	P	**P**	**07 21 23.3**	**0.0**
	7.1nm,0.9s,baz=92,slow=6.3,SNR=14							
FITZ	**Fitzroy Crossi**	**40.21**	**255**	*e*P	**P**	**07 21 22.8**	**-0.5**
	8.1nm,0.9s							
PPT	**Papeete**	**43.01**	**104**	LR	LR	07 35 32.1		
	comp=Z,126nm,18.6s,baz=270,slow=30							
PPT2	**Papeete2**	**43.01**	**104**	*e*LR	LR	07 33 35.9		
	comp=Z,206nm,22.2s							
TBI	**Tubuai**	**43.72**	**113**	*e*LQ	LQ	07 32 01.8		
	300nm,28.5s							
TBI				*e*LR	LR	07 33 58.2		
	comp=Z,251nm,26.5s							
JNU	**Nakatsue**	**55.30**	**323**	*e*P	**P**	**07 23 20.4**	**+0.1**
	13nm,1.1s							
KSRS	**Korea Array**	**60.08**	**325**	P	**P**	**07 23 54.2**	**+0.6**
	1.6nm,0.8s,baz=140,slow=6.4,SNR=6.8							
KSAR	**Wonju Array Be**	**60.09**	**325**	P	**P**	**07 23 54.2**	**+0.5**
KS01	**Wonju Array Si**	**60.11**	**325**	*e*P	**P**	**07 23 54.6**	**+0.6**
USRK	**Ussuriysk Ar.**	**63.04**	**333**	P	**P**	**07 24 14.9**	**+1.4**
	7.4nm,1.1s,baz=145,slow=7.0,SNR=8.2							
KLR	**Kul'dur**	**67.10**	**336**	P	**P**	**07 24 40.8**	**+0.9**
	1.8nm,0.8s,baz=122,slow=5.3,SNR=6.1							
CM01	**Chiang Mai Arr**	**72.69**	**293**	*e*P	**P**	**07 25 15.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**72.71**	**293**	P	**P**	**07 25 16.0**	**+0.9**
	0.9nm,0.4s,baz=104,slow=4.1,SNR=5.2							
ULN	**Ulaanbaatar**	**78.52**	**324**	*e*P	**P**	**07 25 48.1**	**+0.1**
	5.2nm,0.9s							
BILL	**Bilibino**	**78.58**	**360**	*e*P	**P**	**07 25 46.2**	**-1.5**
	6.2nm,1.0s							
SONA0	**Songino Array**	**78.89**	**323**	*e*P	**P**	**07 25 50.6**	**+0.6**
SONM	**Songino Array**	**78.89**	**323**	P	**P**	**07 25 50.6**	**+0.6**
	3.2nm,1.1s,baz=132,slow=5.5,SNR=8.2							
RPN	**Rapa Nui**	**80.00**	**116**	LR	LR	07 52 28.6		
	comp=Z,63nm,20.7s,baz=305,slow=29							
TLY	**Talaya**	**82.31**	**326**	P	**P**	**07 26 08.6**	**+0.5**
	0.8nm,0.4s,baz=222,slow=5.1,SNR=5.1							
HDA	**Harding Lake**	**82.72**	**19**	*e*P	**P**	**07 26 10.1**	**+0.2**
	11nm,1.0s							
IL1	**Eielson Array**	**82.99**	**18**	*e*P	**P**	**07 26 10.9**	**-0.4**
ILAR	**Eielson Array**	**82.99**	**18**	P	**P**	**07 26 11.2**	**-0.1**
	2.9nm,1.0s,baz=230,slow=5.6,SNR=12							
ILB	**Eielson Array**	**82.99**	**18**	*e*P	**P**	**07 26 11.2**	**-0.1**
	3.7nm,1.1s							
OMMB	**Old Mammoth Mi**	**84.47**	**50**	*e*P	**P**	**07 26 20.1**	**+0.2**
	3.5nm,1.1s							
PAHR	**Pah Rah Range**	**84.83**	**48**	*e*P	**P**	**07 26 21.6**	**+0.1**
EGAK	**Eagle**	**84.83**	**20**	*e*P	**P**	**07 26 21.0**	**+0.3**
	10nm,1.0s							
NV01	**Mina Array Sit**	**85.24**	**50**	*e*P	**P**	**07 26 23.9**	**+0.2**
NVAR	**Mina Array Bea**	**85.24**	**50**	P	**P**	**07 26 23.9**	**+0.3**
	1.6nm,1.0s,baz=239,slow=6.6,SNR=6.2							
TIXI	**Tiksi**	**85.95**	**349**	P	**P**	**07 26 25.7**	**-0.4**
	1.1nm,0.3s,baz=135,slow=5.4,SNR=6.4							
TIXI	**Tiksi**	**85.95**	**349**	*e*P	**P**	**07 26 25.8**	**-0.4**
	4.0nm,1.0s							
LDFC	**Landfair**	**86.75**	**54**	*e*P	**P**	**07 26 30.3**	**-0.8**
	4.4nm,0.9s							
LPIG	**La Paz**	**88.18**	**65**	LR	LR	07 57 56.2		
	comp=Z,64nm,18.5s,baz=33,slow=30							
PSUT	**Pine Spring**	**88.62**	**51**	*e*P	**P**	**07 26 41.4**	**+1.3**
	1.4nm,0.9s							
LCMT	**Little Creek M**	**88.71**	**52**	*e*P	**P**	**07 26 41.4**	**+0.9**
	4.9nm,1.2s							
CCUT	**Cedar City**	**88.75**	**52**	*e*P	**P**	**07 26 42.0**	**+1.3**
	6.3nm,1.1s							
SZCU	**Shurtz Canyon**	**88.97**	**52**	*e*P	**P**	**07 26 43.1**	**+1.3**
	2.6nm,1.1s							
KNB	**Kanab**	**89.04**	**52**	*e*P	**P**	**07 26 43.5**	**+1.5**
	2.0nm,1.1s							
U15A	**North Rim**	**89.31**	**53**	*e*P	**P**	**07 26 44.6**	**+1.2**
	11nm,1.1s							
X16A	**Lo Mia Camp, P**	**89.51**	**55**	*e*P	**P**	**07 26 45.3**	**+0.9**
	5.2nm,1.1s							
PKCU	**Pink Cliffs**	**89.53**	**52**	*e*P	**P**	**07 26 46.5**	**+1.9**
	8.8nm,1.2s							
MTPU	**Mount Pierson**	**89.77**	**51**	*e*P	**P**	**07 26 46.8**	**+1.1**
	6.3nm,1.1s							
DUG	**Dugway, Tooele**	**89.82**	**49**	*e*P	**P**	**07 26 42.8**	**-2.8**
	1.4nm,1.0s							
WUAZ	**Wupatki**	**89.82**	**54**	*e*P	**P**	**07 26 47.7**	**+2.0**
	6.6nm,1.1s							
BGU	**Big Grassy Mou**	**89.84**	**48**	*e*P	**P**	**07 26 45.2**	**-0.5**
	4.2nm,1.2s							
MSU	**Marysvale**	**89.89**	**51**	*e*P	**P**	**07 26 47.5**	**+1.4**
HVU	**Hansel Valley**	**90.23**	**48**	*e*P	**P**	**07 26 48.9**	**+1.4**
	4.1nm,1.0s							
NLU	**North Lily Min**	**90.31**	**49**	*e*P	**P**	**07 26 48.9**	**+0.9**
	3.1nm,1.2s							
CTU	**Camp Tracy**	**90.72**	**49**	*e*P	**P**	**07 26 51.6**	**+1.8**
	4.8nm,1.1s							
X18A	**Snowflake**	**90.74**	**55**	*e*P	**P**	**07 26 51.9**	**+1.8**
	4.6nm,1.0s							
JLU	**Jordanelle**	**90.93**	**49**	*e*P	**P**	**07 26 52.3**	**+1.4**
	4.3nm,1.1s							
TCUT	**Toone Canyon**	**91.08**	**48**	*e*P	**P**	**07 26 52.2**	**+0.6**
	8.9nm,1.2s							
BW06	**Boulder Array**	**92.78**	**47**	*e*P	**P**	**07 26 59.2**	**-0.2**
PD31	**Pinedale Array**	**92.78**	**47**	*e*P	**P**	**07 26 59.5**	**0.0**
PDAR	**Pinedale Array**	**92.78**	**47**	P	**P**	**07 27 00.0**	**+0.6**
	1.9nm,1.2s,baz=3.6,slow=4.8,SNR=4.1							
PDAR	**Pinedale Array**	**92.78**	**47**	*e*P	**P**	**07 26 59.6**	**+0.2**
ZALV	**Zalesovo Beam**	**93.77**	**324**	P	**P**	**07 27 03.2**	**-0.2**
	1.0nm,0.6s,baz=90,slow=4.4,SNR=6.4							
ZALV	**Zalesovo Beam**	**93.77**	**324**	*e*P	**P**	**07 27 02.3**	**-1.1**
ZAA1	**Zalesovo Array**	**93.78**	**324**	*e*P	**P**	**07 27 03.2**	**-0.2**
MK01	**Makanchi Array**	**93.83**	**317**	*e*P	**P**	**07 27 02.8**	**-1.1**
MK31	**Makanchi Array**	**93.84**	**317**	*e*P	**P**	**07 27 02.7**	**-1.2**
	3.9nm,1.1s							
MK32	**Makanchi Array**	**93.84**	**317**	*e*P	**P**	**07 27 04.0**	**+0.1**
MKAR	**Makanchi Array**	**93.84**	**317**	P	**P**	**07 27 04.0**	**+0.1**
	2.5nm,0.9s,baz=101,slow=6.3,SNR=15							
MAKZ	**Makanchi**	**94.06**	**317**	*e*P	**P**	**07 27 04.2**	**-0.7**
	3.3nm,1.0s							
TXAR	**Lajitas Array**	**95.00**	**61**	LR	LR	08 01 57.1		
	comp=Z,84nm,20.8s,baz=0.0,slow=30							
BR101	**Keskin Array S**	**129.34**	**313**	*e*PKPdf	**PKPdf**	**07 32 54.7**	**-0.9**
BRTR	**Keskin Array B**	**129.34**	**313**	PKP	**PKPdf**	**07 32 54.7**	**-0.9**
	0.6nm,0.8s,baz=279,slow=2.4,SNR=3.8							
ESDC	**Sonseca Array**	**149.98**	**345**	PKP	**PKPdf**	**07 33 31.7**	**-0.9**
	0.1nm,0.3s,baz=98,slow=0.9,SNR=3.3							
ESDC				PKPbc	**PKPbc**	**07 33 37.9**	**+0.4**
	0.2nm,0.4s,baz=23,slow=2.5,SNR=5.5							

*ISCJB **31** 07:14:34.0±0.4,39.71N±0.03×25.62E±0.03,h20km±6km, Error ellipse: s-maj=5.2km s-min=4.2km az=19.0*
*ATH **31** 07:14:33.4,39.69N×25.58E,h19km±7km,ML1.6/4, Error ellipse: s-maj=7.4km s-min=1.0km az=207.0*
*DDA **31** 07:14:35.2,39.97N×25.73E,h7km±4km,ML2.7*
ISC 31 07:14:33.2±1.0,39.69N±0.03×25.63E±0.03,h26km±10km, n16,σ0.95/26,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOZC	**Bozcaada**	**0.36**	**65**	*i* P	**Pb**	**07 14 41.4**	**+0.3**
BOZC				*i* S	**Sb**	**07 14 46.1**	**-0.4**
LIA	**Limnos Island**	**0.40**	**301**	P	**Pb**	**07 14 41.5**	**-0.3**
LIA				S	**Sb**	**07 14 47.1**	**-0.6**
LIA				AML	AML	07 14 53.6	
	comp=N,124μm,0.4s						
LIA				AML	AML	07 14 54.3	
	comp=E,126μm,0.3s						
SIGR	**SIGRI**	**0.51**	**160**	P	**Pb**	**07 14 43.5**	**0.0**
SIGR				S	**Sb**	**07 14 50.8**	**+0.3**
SIGR				AML	AML	07 14 51.5	
	comp=E,288μm,0.4s						
SIGR				AML	AML	07 14 51.5	
	comp=N,347μm,0.5s						
EFSA	**Agios Efstrati**	**0.52**	**253**	P	**Pn**	**07 14 44.5**	**-0.4**
EFSA				S	**Sn**	**07 14 51.7**	**-1.1**
PRK	**Paraskevi**	**0.67**	**132**	P	**Pn**	**07 14 47.4**	**+0.5**
PRK				S	**Sn**	**07 14 57.2**	**+0.7**
PRK				AML	AML	07 14 59.6	
	comp=E,207μm,0.4s						
PRK				AML	AML	07 15 00.6	
	comp=N,140μm,0.2s						
BAYC	**CANAKKALE_Bayr**	**0.71**	**86**	IAML_P			
	comp=Z,1μm,0.1s						
BAYC				*i* P	**Pb**	**07 14 47.7**	**+0.8**
BAYC				*i* S	**Sn**	**07 14 58.1**	**+0.5**
SMTH	**Samothraki Isl**	**0.78**	**354**	P	**Pn**	**07 14 48.5**	**-0.1**
SMTH				S	**Sn**	**07 14 59.3**	**-0.2**
SMTH				AML	AML	07 15 00.9	
	comp=N,51μm,0.3s						
SMTH				AML	AML	07 15 01.3	
	comp=E,70μm,0.3s						
AYVA	**Ayvalik**	**0.91**	**115**	*e*P	**Pb**	**07 14 47.0**	**-3.2**
AYVA				*i* S	**Sb**	**07 15 03.0**	**+1.2**
THAS	**Thassos island**	**1.15**	**323**	P	**Pb**	**07 14 55.4**	**+1.0**
SKY	**Skiros Island**	**1.17**	**226**	P	**Pb**	**07 14 54.8**	**+0.2**
ALN	**Alexandroupoli**	**1.25**	**15**	P	**Pb**	**07 14 56.6**	**+0.6**
CHOS	**Chios island**	**1.34**	**166**	P	**Pb**	**07 14 58.5**	**+0.8**
KESN	**Edirne-Kesan**	**1.39**	**35**	*e*P	**Pn**	**07 14 56.5**	**-0.8**
AOS	**Alonnisos**	**1.45**	**250**	P	**Pb**	**07 15 00.2**	**+0.7**
BALY	**Balya**	**1.54**	**88**	*i* P	**Pb**	**07 15 00.7**	**-0.3**
BALY				*i* S	**Sb**	**07 15 20.8**	**+0.8**
SART	**Tekirdag**	**1.55**	**49**	IAML_P			
	comp=Z,565nm,0.1s						
SART				*i* P	**Pb**	**07 15 01.2**	**0.0**
SART				*i* S	**Sb**	**07 15 19.9**	**-0.6**

NNC 31 07:17:30.1±2.0,54.17N×86.42E,h0km,mb3.7,mpv3.3, 4C-8D,Error ellipse: s-maj=18.9km s-min=8.7km az=6.0, Suspected Mining explosion.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**0.97**	**257**	⇓P	Pg	07 17 48.2	-0.5
	6.5nm,0.4s						
ZAA0				⇓S	Sb	07 18 02.4	-0.8
	8.5nm,0.7s						
KURK	**Kurchatov**	**5.89**	**237**	⇑Pn	Pn	07 19 00.9	+2.4
	2.0nm,0.7s						
KURK				⇓Lg	Lg	07 20 36.5	
	3.8nm,0.9s						
KURBB	**Kurchatov Arra**	**5.99**	**237**	⇓Pn	Pn	07 19 02.1	+2.1
	5.3nm,0.5s						
KURBB				⇑Sn	Sn	07 20 10.4	+1.1
	2.9nm,0.6s						
KURBB				⇑Lg	Lg	07 20 39.8	
	6.8nm,0.8s						
MK31	**Makanchi Array**	**7.84**	**201**	Pn	Pn	07 19 27.9	+2.6
	0.5nm,0.4s,baz=27,slow=14,SNR=17						
MK31				⇓Sn	Sn	07 20 53.7	-1.0
	0.4nm,0.5s						
MK31				⇓Lg	Lg	07 21 38.2	
	1.9nm,0.8s,baz=19,slow=34,SNR=3.8						
MAKZ	**Makanchi**	**7.89**	**203**	⇑Pn	Pn	07 19 27.9	+1.8
	2.1nm,1.2s						
MAKZ				⇓Sn	Sn	07 20 55.7	-0.4
	2.2nm,0.9s						
MAKZ				⇓Lg	Lg	07 21 41.3	
	2.5nm,1.1s						

NNC 31 07:23:05.5±5.0,37.35N×71.01E,h0km,mb3.9,mpv3.5, 3C-3D,Error ellipse: s-maj=37.8km s-min=31.8km az=174.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.30**	**35**	⇓Pn	Pn	07 23 58.6	0.0
	4.3nm,0.3s						
SFK				⇑Sn	Sn	07 24 40.1	+1.4
	8.4nm,0.3s						
MNAS	**Manas**	**5.26**	**12**	⇓Pn	Pn	07 24 25.0	-0.5
	7.1nm,0.6s						
MNAS				⇑Sn	Sn	07 25 26.6	-0.3
	3.0nm,1.0s						
KK31	**Karatay Array**	**5.76**	**356**	⇓Pn	Pn	07 24 33.2	+0.9
	1.2nm,0.5s,baz=182,slow=14,SNR=17						
KK31				⇑Sn	Sn	07 25 41.7	+2.6
	1.6nm,0.5s,baz=177,slow=22,SNR=6.6						

IDC 31 07:38:50.0±24.0,17.34S×172.17W,h0km,mb4.3/4, mb1 4.4/4,mb1mx3.8/40,mbtmp4.3/4,Error ellipse: s-maj=462.0km s-min=161.3km az=72.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**39.40**	**259**	P	P	07 46 21.7	-0.1
	1.2nm,0.3s,baz=78,slow=11,SNR=1.9						
STKA	**Stephens Creek**	**44.13**	**242**	P	P	07 47 00.9	+0.4
	1.3nm,0.5s,baz=83,slow=10,SNR=4.5						
WRA	**Warramunga Arr**	**50.58**	**258**	P	P	07 47 50.5	-0.3
	2.0nm,0.4s,baz=98,slow=7.0,SNR=71						
ASAR	**Alice Springs**	**50.66**	**253**	P	P	07 47 51.2	-0.3
	3.4nm,0.5s,baz=89,slow=7.7,SNR=50						

IDC 31 07:39:50.1±3.1,41.69N×126.97E,h0km,mb1 2.9/3, mb1mx2.8/58,mbtmp2.9/3,ML2.3/3,Error ellipse: s-maj=39.9km s-min=15.6km az=107.0,North Korea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**4.29**	**170**	Pn	Pn	07 40 55.8	-0.9
	0.3nm,0.3s,baz=348,slow=15,SNR=3.1						
KSRS				Pg	Pg	07 41 10.1	-2.4
	0.9nm,0.3s,baz=347,slow=18,SNR=6.5						
KSRS				Sn	Sn	07 41 47.5	0.0
	0.6nm,0.3s,baz=346,slow=17,SNR=5.0						
KSRS				Lg	Lg	07 42 07.0	
	2.7nm,0.3s,baz=348,slow=29,SNR=14						
I45RU	**USSURIYSK INFR**	**4.45**	**54**	*i*		08 05 40.6	
	baz=232,slow=320,SNR=4.1						
USRK	**Ussuriysk Ar.**	**4.46**	**54**	Pn	Pn	07 41 00.8	+1.8
	0.3nm,0.3s,baz=242,slow=15,SNR=2.9						
USRK				Pg	Pb	07 41 11.6	+2.3
	0.5nm,0.3s,baz=232,slow=14,SNR=4.9						
USRK				Lg	Lg	07 42 09.8	
	1.1nm,0.3s,baz=236,slow=27,SNR=7.4						
KLR	**Kul'dur**	**8.25**	**22**	Pn	Pn	07 41 50.3	-0.8
	0.1nm,0.3s,baz=215,slow=11,SNR=4.7						

*IDC **31** 07:40:00.5±0.9, 13.20N×122.35E,h0km,mb3.8/7, mb1 4.0/7,mb1mx3.6/50,mbtmp3.8/7,Error ellipse: s-maj=35.0km s-min=15.2km az=52.0*
*ISCJB **31** 07:40:04.7±0.5,13.12N±0.03×122.26E±0.04,h42km±7km, mb4.0/8,Error ellipse: s-maj=7.3km s-min=5.4km az=16.3*
*MAN **31** 07:40:04.1,13.13N×122.19E,h21km,mb4.3,ML3.2, MS2.9*
ISC 31 07:40:04.4±1.2,13.15N±0.04×122.19E±0.04,h22km±11km, n19,σ1.27/27,mb4.0/8,1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AUQP	**San Andres**	**0.50**	**70**	*e*P	**Pb**	**07 40 15.3**	**+0.7**
AUQP				*e*S	**Sn**	**07 40 25.7**	**+1.5**
GQP	**Guinayangan**	**0.79**	**18**	⇑*e*P	**Pb**	**07 40 17.1**	**-2.4**
GQP				*e*S	**Sb**	**07 40 30.3**	**+0.5**
OTRP	**Odiongan**	**0.80**	**192**	*e*P	**Pb**	**07 40 19.3**	**-0.4**
OTRP				*e*S	**Sn**	**07 40 30.9**	**-0.7**
SJMP	**San Jose**	**1.25**	**237**	*e*P	**Pn**	**07 40 26.1**	**-0.5**
SJMP				*e*S	**Sb**	**07 40 43.2**	**+0.2**
TGY	**Tagaytay City**	**1.55**	**308**	Pn	**Pn**	**07 40 30.8**	**+0.2**
	310nm,0.3s,baz=119,slow=2.5,SNR=22						
TGY				Sn	**Sb**	**07 40 52.5**	**+0.9**
	145nm,0.3s,baz=166,slow=22,SNR=9.2						
POLP	**Polilio Island**	**1.59**	**351**	*e*P	**Pn**	**07 40 30.5**	**-0.7**
POLP				*e*S	**Sb**	**07 40 52.5**	**-0.2**
RCP	**Roxas**	**1.67**	**161**	⇓*e*P	**Pn**	**07 40 32.2**	**-0.1**
LUBP	**Lubang**	**1.98**	**287**	*e*P	**Pn**	**07 40 36.0**	**-0.6**
LUBP				*e*S	**Sn**	**07 41 01.8**	**+1.0**
BUSP	**Coron**	**2.25**	**240**	*e*P	**Pn**	**07 40 40.3**	**-0.1**
BUSP				*e*S	**Sn**	**07 41 08.0**	**+0.5**
BALP	**Baler**	**2.65**	**347**	*e*P	**Pn**	**07 40 46.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**22.98**	**286**	P	**P**	**07 45 08.1**	**+0.4**
	3.7nm,0.5s,baz=101,slow=14,SNR=12						
CMMT	**Chiang Mai**	**23.04**	**287**	P	**P**	**07 45 11.4**	**+3.1**
CHTO	**Chiang Mai**	**23.04**	**287**	P	**P**	**07 45 11.7**	**+3.4**
	42nm,0.5s						
WRA	**Warramunga Arr**	**34.99**	**160**	P	**P**	**07 46 54.4**	**-0.9**
	1.6nm,0.6s,baz=342,slow=9.2,SNR=17						
ASAR	**Alice Springs**	**38.34**	**163**	P	**P**	**07 47 23.3**	**-0.5**
	0.7nm,0.9s,baz=341,slow=7.2,SNR=5.0						
MKAR	**Makanchi Array**	**47.34**	**323**	P	**P**	**07 48 36.9**	**+0.3**
	0.9nm,0.7s,baz=133,slow=8.8,SNR=9.6						
STKA	**Stephens Creek**	**48.48**	**158**	P	**P**	**07 48 45.1**	**-0.3**
	1.0nm,0.5s,baz=352,slow=14,SNR=3.6						
ZALV	**Zalesovo Beam**	**50.22**	**332**	P	**P**	**07 48 58.1**	**-0.4**
	0.4nm,0.5s,baz=139,slow=9.0,SNR=2.8						
ILAR	**Eielson Array**	**78.61**	**26**	P	**P**	**07 52 03.1**	**-1.1**
	0.2nm,0.7s,baz=255,slow=6.4,SNR=2.9						

*KRNET **31** 07:40:26.6±0.1,42.56N×79.67E,h10km,mb3.4*
*SOME **31** 07:40:27.1,42.57N×79.62E,h15km*
*NNC **31** 07:40:27.9±1.0,42.63N×79.66E,h0km,mb3.7,mpv3.5, Error ellipse: s-maj=6.7km s-min=4.3km az=126.0*
*ISCJB **31** 07:40:28.1±0.7,42.58N±0.04×79.69E±0.04,h10km,Error ellipse: s-maj=6.4km s-min=3.0km az=140.8*
ISC 31 07:40:27.8±1.1,42.56N±0.04×79.63E±0.03,h10km,n54, σ1.44/96,40C-25D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UZB	**Uzynbulak**	**0.73**	**323**	⇓*e*P	**Pg**	**07 40 41.2**	**-0.8**
	baz=22						
UZB				⇓*e*S	**Sg**	**07 40 51.3**	**-0.4**
	baz=22						
UZB	**Uzynbulak**	**0.73**	**323**	⇓*e*P	**Pg**	**07 40 41.2**	**-0.8**
	29nm,0.2s						
UZB				*e*S	**Sg**	**07 40 51.3**	**-0.4**
	145nm,0.2s						
PDGK	**Podgornoye**	**0.77**	**352**	P	**Pg**	**07 40 41.7**	**-1.1**
	16nm,0.1s						
PDGK				S	**Sg**	**07 40 52.2**	**-0.6**
	84nm,0.2s						
PDGK	**Podgornoye**	**0.77**	**352**	⇑P	**Pg**	**07 40 41.6**	**-1.2**
	4.7nm,0.2s						
PDGK				⇑S	**Sg**	**07 40 51.9**	**-1.0**
	71nm,0.3s						
PDGK	**Podgornoye**	**0.77**	**352**	⇑*i*P	**Pb**	**07 40 41.7**	**-1.1**
	baz=50						
PDGK				⇑*i*S	**Sg**	**07 40 52.3**	**-0.6**
	baz=50						
PRZ	**Przheval'sk**	**0.91**	**265**	⇑*i*P	**Pg**	**07 40 44.3**	**-1.1**
	baz=66						
PRZ				⇑*i*S	**Sg**	**07 40 56.8**	**-0.5**
	baz=66						
SATY	**Saty**	**1.03**	**299**	P	**Pg**	**07 40 46.4**	**-1.2**
	25nm,0.1s						
SATY				S	**Sg**	**07 41 00.2**	**-0.8**
	74nm,0.1s						
SATY	**Saty**	**1.03**	**299**	*e*P	**Pg**	**07 40 46.4**	**-1.2**
	25nm,0.1s						
SATY				*e*S	**Sg**	**07 41 00.2**	**-0.8**
	74nm,0.1s						
KTMS	**Ketmen**	**1.03**	**31**	P	**Pg**	**07 40 46.3**	**-1.4**
	32nm,0.2s						
KTMS				S	**Sg**	**07 41 00.1**	**-1.0**
	146nm,0.3s						
KTMS	**Ketmen**	**1.03**	**31**	⇑*e*P	**Pg**	**07 40 46.2**	**-1.4**
	baz=28						
KTMS				⇑*e*S	**Sg**	**07 40 59.8**	**-1.3**
	baz=28						
KTMS	**Ketmen**	**1.03**	**31**	⇑*e*P	**Pg**	**07 40 46.2**	**-1.5**
	32nm,0.2s						
KTMS				*e*S	**Sg**	**07 40 59.7**	**-1.3**
	146nm,0.3s						
KURS	**Kuram**	**1.41**	**311**	⇑*e*P	**Pb**	**07 40 53.8**	**-0.5**
	baz=11						
KURS				⇑*e*S	**Sg**	**07 41 12.3**	**-1.0**
	baz=11						
KURS	**Kuram**	**1.41**	**311**	⇑*e*P	**Pb**	**07 40 53.8**	**-0.5**
	9.8nm,0.4s						
KURS				*e*S	**Sg**	**07 41 12.4**	**-1.0**
	23nm,0.4s						
MNBS	**Baschi**	**1.76**	**330**	P	**Pb**	**07 40 59.2**	**-1.0**
	30nm,0.1s						
MNBS				S	**Sb**	**07 41 22.1**	**-0.3**
	157nm,0.3s						
MNBS	**Baschi**	**1.76**	**330**	⇓*e*P	**Pb**	**07 40 59.5**	**-0.8**
	baz=29						
MNBS				⇓*e*S	**Sb**	**07 41 22.2**	**-0.3**
	baz=29						
MNBS	**Baschi**	**1.76**	**330**	⇓*e*P	**Pb**	**07 40 59.5**	**-0.8**
	30nm,0.1s						
MNBS				*e*S	**Sb**	**07 41 22.1**	**-0.3**
	157nm,0.3s						
DJR	**Jarkent**	**1.77**	**4**	⇓*e*P	**Pb**	**07 40 59.7**	**-0.8**
	16nm,0.2s						
DJR				*e*S	**Sg**	**07 41 23.5**	**-1.3**
	65nm,0.3s						
KDJ	**Kajisay**	**1.87**	**257**	⇓*e*P	**Pb**	**07 41 01.3**	**-0.8**
	baz=58						
KDJ				⇓*i*S	**Sb**	**07 41 25.7**	**+0.2**
	baz=58						
MDOK	**Medeo**	**1.99**	**288**	⇑Pn	Pb	**07 41 03.1**	**-1.1**
	11nm,0.5s						
MDOK				⇓Lg	Lg	07 41 29.3	
	104nm,0.7s						
MDOK	**Medeo**	**1.99**	**288**	*e*P	**Pb**	**07 41 03.2**	**-1.0**
	baz=88						
MDOK				*e*

	baz=81								
KST	**Kastek**	**2.74**	**281**	⇑	*i*	P	**Pb**	**07 41 15.4**	**-1.6**
	12nm,0.3s								
KST					*e*	S	**Sb**	**07 41 50.5**	**-0.2**
	63nm,0.5s								
KUU	**Kurty**	**2.75**	**300**		*e*	P	**Pb**	**07 41 16.5**	**-0.5**
	baz=0.0								
KUU				⇓	*i*	S	**Sb**	**07 41 51.9**	**+1.1**
	baz=0.0								
KUU	**Kurty**	**2.75**	**300**		*e*	P	**Pb**	**07 41 16.5**	**-0.5**
	2.8nm,0.3s								
KUU				⇓	*i*	S	**Sb**	**07 41 51.9**	**+1.1**
	53nm,0.4s								
NRN	**Naryn**	**2.93**	**249**	⇑	*i*	P	**Pn**	**07 41 16.5**	**+1.8**
	baz=49								
NRN				⇑	*i*	S	**Sn**	**07 41 51.9**	**+1.7**
	baz=49								
TKM2	**Tokmak 2**	**2.99**	**278**	⇑		Pn	**Pb**	**07 41 18.2**	**-3.1**
	4.3nm,0.4s								
TKM2				⇑		Lg	Lg	07 42 02.8	
	26nm,0.6s								
TKM2	**Tokmak 2**	**2.99**	**278**	⇑	*i*	P	**Pn**	**07 41 17.1**	**+1.6**
	baz=78								
TKM2				⇑	*i*	S	**Sn**	**07 41 53.0**	**+1.5**
	baz=78								
KZA	**Kyzart**	**3.28**	**263**	⇓	*i*	P	**Pn**	**07 41 21.7**	**+2.0**
	baz=63								
KZA				⇓	*i*	S	**Sn**	**07 42 00.4**	**+1.4**
	baz=63								
AAK	**Ala-Archa**	**3.79**	**273**	⇓		Pg	**Pb**	**07 41 34.9**	**0.0**
	5.5nm,0.7s								
AAK						Lg	Lg	07 42 28.2	
	14nm,0.5s								
UCH	**Uchtor**	**3.80**	**267**	⇑	*i*	P	**Pn**	**07 41 28.8**	**+1.9**
	baz=67								
UCH				⇑	*i*	S	**Sn**	**07 42 13.0**	**+1.1**
	baz=67								
ARLS	**Aral**	**4.00**	**262**	⇑	*i*	P	**Pn**	**07 41 30.5**	**+1.2**
	baz=62								
ARLS				⇑	*i*	S	**Sn**	**07 42 17.7**	**+1.3**
	baz=62								
MAKZ	**Makanchi**	**4.56**	**21**	⇑		Pn	**Pn**	**07 41 38.4**	**+1.5**
	2.0nm,0.3s								
MAKZ				⇓		Sn	**Sn**	**07 42 31.2**	**+1.2**
	1.7nm,0.3s								
MAKZ				⇑		Lg	Lg	07 42 50.1	
	4.3nm,0.5s								
MK31	**Makanchi Array**	**4.64**	**23**	⇓		Pn	**Pn**	**07 41 39.4**	**+1.5**
	0.6nm,0.2s,baz=204,slow=12,SNR=79								
MK31				⇑		Sn	**Sn**	**07 42 32.2**	**+0.4**
	1.6nm,0.3s								
MK31				⇓		Lg	Lg	07 42 50.7	
	3.7nm,0.5s,baz=195,slow=29,SNR=5.8								
MRKS	**Merke**	**4.73**	**274**		*e*	P	**Pb**	**07 41 51.5**	**+0.7**
	baz=74								
MRKS					*e*	S	**Sb**	**07 42 52.7**	**+4.9**
	baz=74								
MRKS	**Merke**	**4.73**	**274**		*e*	P	**Pb**	**07 41 51.5**	**+0.7**
	4.0nm,0.5s								
MRKS					*e*	S	**Sb**	**07 42 52.6**	**+4.9**
	7.8nm,0.4s								
MNAS	**Manas**	**5.27**	**272**	⇑		Pg	**Pg**	**07 42 03.9**	**-4.7**
	3.0nm,0.6s								
MNAS				⇓		Lg	Lg	07 43 16.2	
	3.8nm,0.9s								
KK31	**Karatay Array**	**6.72**	**278**	⇓		Pg	Pb	07 42 29.5	+4.7
	1.8nm,0.8s,baz=84,slow=17,SNR=7.3								
KK31				⇑		Lg	Lg	07 44 00.7	
	3.0nm,0.6s,baz=96,slow=28,SNR=7.8								
KURBB	**Kurchatov Arra**	**8.10**	**355**	⇓		Lg	Lg	07 44 42.3	
	12nm,0.8s								
KURK	**Kurchatov**	**8.19**	**355**	⇓		Lg	Lg	07 44 43.3	
	6.4nm,1.2s								

NNC 31 07:48:02.4±0.7, 50.00N×78.61E, h0km, mb3.6, mpv3.2, 7C-9D, Error ellipse: s-maj=11.1km s-min=3.4km az=82.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op		ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.63**	**355**	⇑	P	Pg	07 48 14.8	+0.4
	50nm,0.3s							
KURBB				⇑	S	Sg	07 48 23.7	+1.1
	132nm,0.5s							
KURK	**Kurchatov**	**0.72**	**0**	⇓	P	Pg	07 48 16.0	-0.1
	25nm,0.4s							
KURK				⇓	S	Sg	07 48 26.4	+0.9
	86nm,0.7s							
MAKZ	**Makanchi**	**3.90**	**144**	⇑	Pn	Pn	07 49 05.0	+1.4
	0.7nm,0.5s							
MAKZ				⇓	Pg	Pb	07 49 11.3	-0.7
	4.3nm,0.7s							
MAKZ				⇑	Lg	Lg	07 50 03.6	
	19nm,0.6s							
MK31	**Makanchi Array**	**4.04**	**141**	⇓	Pn	Pn	07 49 07.2	+1.8
	0.3nm,0.2s,baz=322,slow=10,SNR=80							
MK31				⇑	Pg	Pb	07 49 14.2	-0.1
	1.7nm,0.3s,baz=328,slow=14,SNR=22							
MK31				⇓	Lg	Lg	07 50 08.3	
	25nm,0.7s,baz=332,slow=28,SNR=17							
KAPS	**Kapalarasan**	**4.74**	**174**		Pg	Pg	07 49 29.9	-3.3
	2.8nm,0.5s							
KAPS					Lg	Lg	07 50 27.7	
	23nm,0.5s							
DJR	**Jarkent**	**5.72**	**171**		Pg	Pg	07 49 50.8	-1.2
	1.8nm,0.4s							
DJR					Lg	Lg	07 51 01.7	
	7.8nm,0.6s							
ARXS	**Arharly**	**5.81**	**186**		Pg	Pg	07 49 52.5	-1.2
	2.1nm,0.4s							
ARXS					Lg	Lg	07 51 04.8	
	24nm,0.6s							
BVA0	**Borovoye Array**	**5.96**	**304**	⇓	Pn	Pn	07 49 32.8	+0.9
	7.6nm,1.4s,baz=100,slow=15,SNR=6.6							
BVA0				⇓	Sn	Sn	07 50 41.0	+0.2
	3.4nm,0.9s,baz=113,slow=23,SNR=4.0							
BVA0				⇑	Lg	Lg	07 51 10.6	
	7.3nm,1.4s							
BRVK	**Borovoye**	**6.03**	**304**	⇑	Pn	Pn	07 49 34.8	+2.0
	6.5nm,1.3s							
BRVK				⇓	Sn	Sn	07 50 41.6	-0.9
	3.2nm,0.6s							
BRVK				⇓	Lg	Lg	07 51 11.9	
	2.8nm,0.6s							

*PRE **31** 07:54:38.2±1.3, 26.93S×26.78E, h2km, ML2.5*
*ISCJB **31** 07:54:39.2±0.6, 26.93S±0.04×26.76E±0.04, h10km, Error ellipse: s-maj=7.6km s-min=3.9km az=141.6*
ISC 31 07:54:38.7±0.8, 26.90S±0.04×26.75E±0.04, h10km, n15, σ1§10/26, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op		ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.95**	**55**	*e*	P	**Pg**	**07 54 56.0**	**-1.0**
KLOF				*e*	S	**Sg**	**07 55 08.9**	**-0.5**
KLOF					AML	AML	07 55 14.4	
	comp=Z,391nm,0.1s							
KSR	**Koster**	**1.05**	**7**	*e*	P	**Pn**	**07 54 59.5**	**-0.3**
KSR				*e*	S	**Sb**	**07 55 13.2**	**+0.1**
KSR					AML	AML	07 55 18.3	
	comp=Z,83nm,0.3s							
SWZ	**Schweizer**	**1.29**	**257**	*e*	P	**Pg**	**07 55 03.8**	**+0.2**
SWZ				*e*	S	**Sg**	**07 55 21.4**	**+1.0**
SWZ					AML	AML	07 55 25.3	
	comp=Z,165nm,0.2s							
ERPM	**east rand prop**	**1.45**	**68**	*e*	P	**Pg**	**07 55 07.1**	**+0.5**
ERPM				*e*	S	**Sg**	**07 55 26.9**	**+1.5**
ERPM					AML	AML	07 55 27.9	
	comp=Z,58nm,0.2s							
SLR	**Silverton**	**1.80**	**50**	*e*	P	**Pb**	**07 55 10.9**	**-1.0**
SLR				*e*	S	**Sb**	**07 55 34.5**	**-0.2**
SLR					AML	AML	07 55 37.8	
	comp=Z,121nm,0.5s							
LBTB	**Lobatse**	**2.15**	**331**	*e*	P	**Pb**	**07 55 17.0**	**-0.8**
LBTB				*e*	S	**Sb**	**07 55 43.5**	**-1.0**
LBTB					AML	AML	07 55 49.6	
	comp=Z,83nm,0.4s							
BOSA	**Boshof**	**2.16**	**217**	*i*	P	**Pb**	**07 55 17.6**	**-0.4**
BOSA				*i*	S	**Sg**	**07 55 48.0**	**-0.1**
BOSA	**Boshof**	**2.16**	**217**	*e*	P	**Pb**	**07 55 17.1**	**-0.9**
BOSA				*e*	S	**Sn**	**07 55 42.3**	**+0.5**
BOSA					AML	AML	07 55 48.8	
	comp=Z,30nm,0.3s							
BOSA	**Boshof**	**2.16**	**217**	*i*	P	**Pb**	**07 55 17.6**	**-0.4**
BOSA				*i*	S	**Sg**	**07 55 48.0**	**-0.1**
PKA				*e*	P	**Pn**	**07 55 47.8**	**+1.1**
PKA				*e*	S	**Sn**	**07 56 38.2**	**-0.6**
PKA					AML	AML	07 57 03.2	
	comp=Z,5.9nm,0.3s							
MATP	**Matopo**	**6.64**	**14**	*i*	P	**Pn**	**07 56 18.9**	**+2.3**
MATP	**Matopo**	**6.64**	**14**	*i*	P	**Pn**	**07 56 18.9**	**+2.3**
GRAN	**Grantham**	**6.70**	**215**	*e*	P	**Pn**	**07 56 18.4**	**+1.2**
GRAN				*e*	S	**Sn**	**07 57 31.3**	**-2.3**
GRAN					AML	AML	07 57 42.2	
	comp=Z,3.3nm,0.5s							
BLWY	**Bulawayo**	**6.95**	**15**	*i*	P	**Pn**	**07 56 20.8**	**0.0**
BLWY	**Bulawayo**	**6.95**	**15**	*i*	P	**Pn**	**07 56 20.8**	**0.0**

*BEO **31** 08:04:06.7±0.6, 39.67N×19.49E, h9km±3km, ML3.9/14*
*IDC **31** 08:04:07.1±0.7, 39.83N×19.82E, h0km, mb4.0/17, mb1 4.1/25, mb1mx4.0/44, mbtmp4.0/25, ML3.8/8, Error ellipse: s-maj=13.3km s-min=12.2km az=170.0*
*ISCJB **31** 08:04:08.5±0.3, 39.87N±0.01×19.67E±0.02, h11km±2km, mb4.3/20, MS3.9/1, Error ellipse: s-maj=2.3km s-min=1.7km az=140.8*
*ATH **31** 08:04:08.7, 39.87N×19.74E, h16km±1km, ML3.9/6, Error ellipse: s-maj=2.3km s-min=1.0km az=152.0*
*NEIC **31** 08:04:08.0±0.0, 39.87N×19.74E, h16km, mb4.5/3, ML3.7(THE), ML3.9(ATH), After ATH.*
NEIC Felt at Kanalion, Kato Korakiana, Kerkyra and Kynopiastai.
*ROM **31** 08:04:09.2±0.2, 39.78N±0.01×19.87E±0.01, h18km±1km, ML4.0/19*
*TIR **31** 08:04:09.2, 39.84N×19.79E, h12km, Md4.1/8*
*PDG **31** 08:04:10.8±0.7, 39.86N×19.76E, h12km±1km, MD4.2/1, ML4.1/8, Error ellipse: s-maj=0.7km s-min=0.7km az=90.0*
*THE **31** 08:04:10.9, 39.83N×19.84E, h0km±1km, ML3.7/20, Error ellipse: s-maj=2.0km s-min=0.7km az=295.0*
*PRU **31** 08:04:12.8±0.0, 40.07N×19.73E, h6km, M4.2*
ISC 31 08:04:09.1±0.7, 39.84N±0.01×19.74E±0.02, h13km±4km, n296, σ1§53/370, mb4.3/20, 29C-13D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op		ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.13**	**161**	*e*	P	**Pg**	**08 04 12.9**	**+0.4**
KEK				*e*	S	**Sb**	**08 04 16.1**	**-0.1**
KEK	**Kerkira**	**0.13**	**161**		P	**Pb**	**08 04 13.1**	**-0.3**
KEK					S	**Sb**	**08 04 15.9**	**-0.3**
KEK					AML	AML	08 04 16.2	
KEK					AML	AML	08 04 16.2	
KEK	**Kerkira**	**0.13**	**161**		P	**Pg**	**08 04 12.9**	**+0.4**
KEK					S	**Sb**	**08 04 16.1**	**-0.1**
KEK	**Kerkira**	**0.13**	**161**		P	**Pb**	**08 04 13.1**	**-0.3**
KEK					S	**Sb**	**08 04 15.9**	**-0.3**
KEK					AML	AML		
	comp=E,41650μm,0.4s							
KEK					AML	AML		
	comp=N,22250μm,1.4s							
KEK					AML	AML		
	comp=E,41650μm,0.4s							
KEK					AML	AML		
	comp=N,22250μm,1.4s							
KEK					AML	AML		
	comp=E,41650μm,0.4s							
KEK					AML	AML		
	comp=N,22250μm,1.4s							
KASA	**Kassiopi**	**0.17**	**121**		P	**Pg**	**08 04 13.2**	**+0.1**
KASA					S	**Sg**	**08 04 15.9**	**+0.1**
KASA					AML	AML	08 04 16.1	
KASA					AML	AML	08 04 16.4	
SRN	**Sarande**	**0.20**	**77**	*e*	P	**Pg**	**08 04 13.5**	**-0.1**
SRN				*e*	S	**Sg**	**08 04 16.4**	**-0.2**
SRN	**Sarande**	**0.20**	**77**		P	**Pg**	**08 04 13.5**	**-0.1**
SRN					S	**Sg**	**08 04 16.4**	**-0.2**
SRN	**Sarande**	**0.20**	**77**		P	**Pg**	**08 04 13.4**	**-0.1**
SRN					S	**Sg**	**08 04 16.3**	**-0.3**
SRN					AML	AML		
	comp=E,49350μm,1.3s							
SRN					AML	AML		
	comp=N,43200μm,0.8s							
SRN					AML	AML		
	comp=E,49350μm,1.3s							
SRN					AML	AML		
	comp=N,43200μm,0.8s							
SRN					AML	AML		
	comp=E,49350μm,1.3s							
SRN	**Sarande**	**0.20**	**77**	*i*	PG	**Pg**	**08 04 13.4**	**-0.2**
SRN				*i*	SG	**Sg**	**08 04 16.2**	**-0.5**
TPE	**Tepelena**	**0.50**	**24**		P	**Pg**	**08 04 19.2**	**+0.2**
TPE					S	**Sb**	**08 04 26.7**	**-0.3**
TPE	**Tepelena**	**0.50**	**24**	*i*	PG	**Pg**	**08 04 18.9**	**-0.1**
TPE				*i*	SG	**Sb**	**08 04 26.5**	**-0.5**
IGT	**Igoumenitsa**	**0.55**	**123**	*e*	P	**Pg**	**08 04 19.6**	**-0.2**
IGT				*e*	S	**Sg**	**08 04 27.2**	**+0.2**
IGT	**Igoumenitsa**	**0.55**	**123**		P	**Pg**	**08 04 19.5**	**-0.2**
IGT					S	**Sg**	**08 04 27.3**	**+0.2**
IGT					AML	AML	08 04 32.4	
	comp=N,10747μm,0.4s							
IGT					AML	AML	08 04 32.6	
	comp=E,15180μm,0.6s							
IGT	**Igoumenitsa**	**0.55**	**123**		P	**Pg**	**08 04 19.6**	**-0.2**
IGT					S	**Sg**	**08 04 27.2**	**+0.2**
IGT	**Igoumenitsa**	**0.55**	**123**	*i*	PG	**Pg**	**08 04 19.4**	**-0.3**
IGT				*i*	SG	**Sb**	**08 04 27.9**	**-0.3**
VLO	**Vlora**	**0.66**	**343**		P	**Pn**	**08 04 23.9**	**-0.2**
VLO					S	**Sn**	**08 04 35.0**	**+0.7**
VLO	**Vlora**	**0.66**	**343**		P	**Pn**	**08 04 24.4**	**+0.3**
VLO					AML	AML		
	comp=E,39500μm,0.5s							
VLO					AML	AML		
	comp=N,32300μm,0.7s							
VLO					AML	AML		
	comp=E,39500μm,0.5s							
VLO					AML	AML		
	comp=N,32300μm,0.7s							
VLO					AML	AML		
	comp=E,39500μm,0.5s							
VLO					AML	AML		
	comp=N,32300μm,0.7s							
VLO	**Vlora**	**0.66**	**343**	*i*	PG	**Pn**	**08 04 23.4**	**-0.7**
VLO				*i*	SG	**Sn**	**08 04 34.6**	**+0.3**
JAN	**Janina**	**0.87**	**101**		P	**Pb**	**08 04 25.2**	**-0.8**
JAN					S	**Sb**	**08 04 37.9**	**+0.3**
JAN					AML	AML	08 04 41.5	
	comp=N,12737μm,0.9s							
JAN					AML	AML	08 04 43.2	
	comp=E,12072μm,0.5s							
JAN	**Janina**	**0.87**	**101**		P	**Pb**	**08 04 25.4**	**-0.7**
JAN					S	**Sb**	**08 04 38.5**	**+0.8**
SCTE	**Santa Cesarea**	**1.01**	**284**		P	**Pn**	**08 04 29.9**	**+1.1**
SCTE					S	**Sn**	**08 04 44.6**	**+1.7**
SCTE					AML	AML		
	comp=E,7475μm,1.2s							
SCTE					AML	AML		
	comp=N,4000μm,1.1s							
SCTE					AML	AML		
	comp=E,7475μm,1.2s							
SCTE					AML	AML		
	comp=N,4000μm,1.1s							
SCTE					AML	AML		
	comp=E,7475μm,1.2s							
SCTE					AML	AML		
	comp=N,4000μm,1.1s							
PENT	**Pentalofos**	**1.13**	**71**		P	**Pb**	**08 04 30.4**	**-0.2**
PENT					AML	AML	08 04 50.6	
	comp=E,5281μm,0.9s							
PENT					AML	AML	08 04 53.2	
	comp=N,6251μm,0.6s							
PENT	**Pentalofos**	**1.13**	**71**		P	**Pb**	**08 04 30.5**	**0.0**
PENT					S	**Sg**	**08 04 45.7**	**+0.1**
NEST	**Nestorio**	**1.16**	**60**		P	**Pb**	**08 04 31.0**	**0.0**
NEST	**Nestorio**	**1.16**	**60**		P	**Pg**	**08 04 31.6**	**+0.3**
NEST					S	**Sn**	**08 04 47.9**	**+1.2**
TSLK	**Tsoukalades, L**	**1.23**	**145**		P	**Pg**	**08 04 33.2**	**+0.4**
TSLK					S	**Sg**	**08 04 50.6**	**+1.8**
KPRO	**Kipourio**	**1.25**	**84**		P	**Pn**	**08 04 32.1**	**-0.2**
KPRO					S	**Sg**	**08 04 50.0**	**+0.5**
KPRO					AML	AML	08 04 54.2	
	comp=N,7858μm,0.8s							
KPRO					AML	AML	08 04 58.4	
	comp=E,9959μm,0.8s							
KPRO	**Kipourio**	**1.25**	**84**		P	**Pn**	**08 04 32.2**	**-0.1**
KPRO					S	**Sg**	**08 04 50.9**	**+1.4**
LKD2	**Lefkada island**	**1.26**	**146**		P	**Pb**	**08 04 32.8**	**+0.1**
LKD2	**Lefkada island**	**1.26**	**146**		P	**Pg**	**08 04 33.6**	**+0.2**
LKD2					S	**Sg**	**08 04 52.2**	**+2.4**
EVGI	**Lefkada island**	**1.41**	**149**		P	**Pg**	**08 04 36.5**	**+0.4**
EVGI	**Lefkada island**	**1.41**	**149**		P	**Pg**	**08 04 36.7**	**+0.6**
EVGI					S	**Sg**	**08 04 55.6**	**+1.3**
TIR	**Tirane**	**1.51**	**3**	*e*	Pg	**Pg**	**08 04 37.8**	**-0.3**
TIR				*e*	Sg	**Sg**	**08 05 00.5**	**+2.7**
TIR	**Tirane**	**1.51**	**3**	*e*	Pn	**Pb**	**08 04 37.5**	**+0.6**
TIR				*e*	Sn	**Sn**	**08 04 54.5**	**-0.9**
TIR	**Tirane**	**1.51**	**3**		P	**Pg**	**08 04 38.5**	**+0.4**
TIR	**Tirane**	**1.51**	**3**	*i*	P	**Pg**	**08 04 38.5**	**+0.4**
TIR	**Tirane**	**1.51**	**3**		P	**Pb**	**08 04 37.4**	**+0.4**
TIR					AML	AML		
	comp=E,6710μm,0.7s							
TIR					AML	AML		
	comp=N,5345μm,0.4s							
TIR					AML	AML		
	comp=E,6710μm,0.7s							
TIR					AML	AML		
	comp=N,5345μm,0.4s							
TIR					AML	AML		
	comp=N,5345μm,0.4s							
TIR					AML	AML		
	comp=E,6710μm,0.7s							
TIR	**Tirane**	**1.51**	**3**	*i*	PG	**Pg**	**08 04 37.8**	**-0.3**
TIR				*i*	SG	**Sg**	**08 04 59.1**	**+1.3**
KZN	**Kozani**	**1.62**	**73**		P	**Pg**	**08 04 39.7**	**-0.5**
KZN	**Kozani**	**1.62**	**73**		P	**Pb**	**08 04 39.6**	**+0.7**
KZN					S	**Sg**	**08 05 02.2**	**+0.8**
MESG	**Mesagne**	**1.63**	**298**		AML	AML		
	comp=E,8260μm,0.5s							
MESG					AML	AML		
	comp=E,8260μm,0.5s							
MESG					AML	AML		
	comp=N,11650μm,1.4s							
MESG					AML	AML		
	comp=N,11650μm,1.4s							
MESG					AML	AML		
	comp=E,8260μm,0.5s							
MESG					AML	AML		
	comp=N,11650μm,1.4s							
BIA	**Bitola**	**1.69**	**45**	*i*	Pn	**Pg**	**08 04 41.4**	**-0.2**
BIA				*i*	Sn	**Sg**	**08 05 07.4**	**+4.0**
THL	**Klokotos Trika**	**1.77**	**98**		P	**Pb**	**08 04 41.8**	**+0.4**
THL	**Klokotos Trika**	**1.77**	**98**		P	**Pb**	**08 04 41.7**	**+0.4**
THL					S	**Sb**	**08 05 04.5**	**+1.0**
THL	**Klokotos Trika**	**1.77**	**98**		AML	AML		
	comp=E,332μm,0.8s							
THL					AML	AML		
	comp=E,332μm,0.8s							
THL					AML	AML		
	comp=N,291μm,0.9s							
THL					AML	AML		
	comp=E,332μm,0.8s							
THL					AML	AML		
	comp=N,291μm,0.9s							
THL					AML	AML		
	comp=N,291μm,0.9s							
VLS	**Valsamata**	**1.78**	**158**		P	**Pn**	**08 04 40.5**	**+0.9**
VLS					S	**Sg**	**08 05 05.7**	**-0.7**
VLS	**Valsamata**	**1.78**	**158**		P	**Pn**	**08 04 39.8**	**+0.3**
VLS					AML	AML		
	comp=E,609μm,0.5s							
VLS					AML	AML		
	comp=N,763μm,0.4s							
VLS					AML	AML		
	comp=E,609μm,0.5s							
VLS					AML	AML		
	comp=N,763μm,0.4s							
VLS					AML	AML		
	comp=E,609μm,0.5s							
VLS					AML	AML		
	comp=N,763μm,0.4s							
PVO	**Paravola**	**1.84**	**131**		P	**Pb**	**08 04 42.2**	**-0.4**
PVO	**Paravola**	**1.84**	**131**		P	**Pb**	**08 04 42.9**	**+0.3**
PVO					S	**Sb**	**08 05 05.5**	**-0.1**
EVR	**Evrytania**	**1.84**	**119**		P	**Pb**	**08 04 43.1**	**+0.4**
EVR	**Evrytania**	**1.84**	**119**		P	**Pb**	**08 04 43.4**	**+0.7**
KRUS	**Krusevo**	**1.91**	**36**	*i*	Pn	**Pb**	**08 04 43.3**	**-0.5**
KRUS				*i*	Sn	**Sg**	**08 05 09.9**	**-0.7**
CGL1	**Ceglie Messapi**	**1.92**	**296**	*e*	Pn	**Pg**	**08 04 46.7**	**+0.8**
CGL1					Sn	**Sg**	**08 05 11.6**	**+0.8**
PHP	**Peshkopia**	**1.92**	**16**	*i*	PN	**Pb**	**08 04 43.6**	**-0.4**
PHP				*i*	SN	**Sg**	**08 05 10.2**	**-0.7**
TAR1	**Taranto**	**2.01**	**291**	*e*	Pn	**Pn**	**08 04 43.3**	**+0.7**
TAR1					Sn	**Sn**	**08 05 07.7**	**+0.2**
MAKR	**Makrakomi, Fth**	**2.02**	**113**		P	**Pb**	**08 04 45.8**	**+0.1**
MAKR	**Makrakomi, Fth**	**2.02**	**113**		P	**Pb**	**08 04 46.1**	**+0.4**
FASA	**Fasano**	**2.07**	**299**	*e*	Pn	**Pg**	**08 04 49.7**	**+0.9**
FASA					Sn	**Sg**	**08 05 17.9**	**+2.2**
AXS	**Araxos**	**2.07**	**142**		P	**Pn**	**08 04 44.8**	**+1.2**
AXS	**Araxos**	**2.07**	**142**		P	**Pb**	**08 04 45.3**	**-1.2**
AXS					S	**Sb**	**08 05 12.5**	**+0.3**
ANX	**Ano Chora**	**2.10**	**126**		P	**Pb**	**08 04 46.7**	**-0.3**
ANX	**Ano Chora**	**2.10**	**126**		P	**Pb**	**08 04 46.9**	**-0.1**
ANX					S	**Sb**	**08 05 12.3**	**-0.7**
LIT	**Litokhoron**	**2.13**	**82**	*e*	Pn	**Pb**	**08 04 46.0**	**-1.4**
LIT				*e*	Sn	**Sn**	**08 05 09.3**	**-1.3**
MASS	**Massafra**	**2.14**	**293**	*e*	Pn	**Pg**	**08 04 50.1**	**-0.1**
MASS					Sn	**Sg**	**08 05 19.4**	**+1.5**
ULC	**Ulcinj**	**2.16**	**350**	⇓	*i* Pn	**Pn**	**08 04 45.6**	**+0.9**
ULC					*i* Sn	**Sb**	**08 05 14.7**	**0.0**
AGG	**Agios Georgios**	**2.16**	**111**	*e*	Pn	**Pb**	**08 04 46.4**	**-1.6**
AGG				*e*	Sn	**Sn**	**08 05 10.0**	**-1.4**
AGG	**Agios Georgios**	**2.16**	**111**		P	**Pb**	**08 04 47.1**	**-0.9**
AGG	**Agios Georgios**	**2.16**	**111**		P	**Pb**	**08 04 47.4**	**-0.7**
AGG					S	**Sb**	**08 05 13.6**	**-1.2**
LADO	**San Nicola del**	**2.21**	**256**		P	**Pn**	**08 04 46.5**	**+1.1**
PUK	**Puka**	**2.21**	**3**		P	**Pn**	**08 04 47.0**	**+1.5**
PUK	**Puka**	**2.21**	**3**	*i*	PN	**Pb**	**08 04 47.4**	**-1.5**
PUK				*i*	SN	**Sb**	**08 05 15.4**	**-0.8**
RLS	**Riolos of Patr**	**2.23**	**142**		P	**Pn**	**08 04 47.2**	**+1.5**
NOCI	**Noci**	**2.26**	**296**		AML	AML		
	comp=N,5470μm,1.3s							
NOCI					AML	AML		
	comp=E,7750μm,0.6s							
NOCI					AML	AML		
	comp=N,5470μm,1.3s							
NOCI					AML	AML		
	comp=E,7750μm,0.6s							
PIPA	**Pietrapaola**	**2.29**	**262**		AML	AML		
	comp=E,2250μm,0.9s							
PIPA					AML	AML		
	comp=E,2325μm,0.9s							
PIPA					AML	AML		
	comp=N,2165μm,0.5s							
PIPA					AML	AML		
	comp=N,2230μm,0.7s							
PIPA					AML	AML		
	comp=N,2165μm,0.5s							
PIPA					AML	AML		
	comp=N,2230μm,0.7s							
PIPA					AML	AML		
	comp=E,2250μm,0.9s							
PIPA					AML	AML		
	comp=E,2325μm,0.9s							
GRG	**Griva**	**2.32**	**60**		P	**Pn**	**08 04 48.5**	**+1.5**
LAKA	**Lakka**	**2.36**	**132**		P	**P

MATE	**Matera**	**2.46**	**290**	⇑*i*	P	**Pn**	**08 04 50.6**	**+1.7**
SKO	**Skopje**	**2.49**	**31**	*e*	Pn	**Pn**	**08 04 50.9**	**+1.6**
SKO				*e*	Sn	**Sb**	**08 05 24.5**	**+0.3**
SKO	**Skopje**	**2.49**	**31**	*i*	Pn	**Pn**	**08 04 51.1**	**+1.8**
SKO				*i*	Sn	**Sb**	**08 05 26.0**	**+1.8**
SERS	**Sersale**	**2.50**	**252**		P	**Pn**	**08 04 49.9**	**+0.5**
SERS	comp=E,754µm,0.7s				AML	AML		
SERS	comp=N,882µm,0.6s				AML	AML		
SERS	comp=E,832µm,0.6s				AML	AML		
SERS	comp=N,784µm,0.7s				AML	AML		
SERS	comp=N,882µm,0.6s				AML	AML		
SERS	comp=E,832µm,0.6s				AML	AML		
SERS	comp=E,754µm,0.7s				AML	AML		
SERS	comp=N,784µm,0.7s				AML	AML		
BAI	**Bari**	**2.53**	**301**	*e*	Pn	**Pg**	**08 04 57.4**	**-0.1**
BAI					Sn	**Sg**	**08 05 30.2**	**-0.1**
CELI	**Celico**	**2.54**	**261**		P	**Pn**	**08 04 51.0**	**+1.0**
CELI	comp=E,902µm,0.6s				AML	AML		
CELI	comp=N,1250µm,1.2s				AML	AML		
CELI	comp=E,2145µm,0.6s				AML	AML		
CELI	comp=N,3005µm,1.2s				AML	AML		
CELI	comp=E,902µm,0.6s				AML	AML		
CELI	comp=E,2145µm,0.6s				AML	AML		
CELI	comp=N,3005µm,1.2s				AML	AML		
CELI	comp=N,1250µm,1.2s				AML	AML		
BCI	**Bajram Curri**	**2.54**	**5**	*i*	PN	**Pn**	**08 04 51.4**	**+1.4**
BCI				*i*	SN	**Sb**	**08 05 24.4**	**-1.3**
BUM	**Brajici-Budva**	**2.54**	**346**	⇓*i*	Pn	**Pn**	**08 04 50.5**	**+0.4**
BUM				*i*	Sn	**Sb**	**08 05 24.1**	**-1.7**
SG1	**Sgolgore (BA)**	**2.55**	**294**	*e*	Pn	**Pn**	**08 04 51.0**	**+0.9**
SG1					Sn	**Sn**	**08 05 20.5**	**-0.5**
DSF	**Desfina**	**2.59**	**122**		P	**Pb**	**08 04 53.4**	**-2.0**
DSF					S	**Sb**	**08 05 25.4**	**-1.7**
THE	**Thessaloniki**	**2.59**	**71**		P	**Pn**	**08 04 52.3**	**+1.7**
KLV	**Kalavryta, Ach**	**2.59**	**133**		P	**Pb**	**08 04 53.2**	**-2.2**
KLV					S	**Sb**	**08 05 25.1**	**-2.1**
KLV	**Kalavryta, Ach**	**2.59**	**133**		AML	AML		
KLV	comp=E,546µm,1.6s comp=N,444µm,1.0s				AML	AML		
KLV	comp=E,546µm,1.6s comp=N,444µm,1.0s				AML	AML		
SALB	**San Lorenzo Be**	**2.62**	**272**		P	**Pn**	**08 04 51.8**	**+0.7**
SALB	comp=E,1370µm,0.4s				AML	AML		
SALB	comp=N,1012µm,0.7s				AML	AML		
SALB	comp=E,1415µm,0.4s				AML	AML		
SALB	comp=N,997µm,0.7s				AML	AML		
SALB	comp=N,1012µm,0.7s				AML	AML		
SALB	comp=E,1415µm,0.4s				AML	AML		
SALB	comp=E,1370µm,0.4s comp=N,997µm,0.7s				AML	AML		
VAY	**Valandovo**	**2.62**	**55**	*e*	Pn	**Pn**	**08 04 52.4**	**+1.5**
VAY				*e*	Sn	**Sb**	**08 05 27.2**	**-0.6**
VAY	**Valandovo**	**2.62**	**55**	*i*	Pn	**Pn**	**08 04 52.5**	**+1.5**
VAY				*i*	Sn	**Sb**	**08 05 27.5**	**-0.3**
PDG	**Podgorica**	**2.62**	**352**	*e*	Pn	**Pn**	**08 04 51.8**	**+0.8**
PDG				*e*	Sn	**Sn**	**08 05 24.5**	**+1.9**
PDG	**Podgorica**	**2.62**	**352**	⇓*i*	P	**Pn**	**08 04 52.3**	**+1.3**
PDG	**Podgorica**	**2.62**	**352**	⇑*i*	Pn	**Pn**	**08 04 51.9**	**+0.9**
PDG	**Podgorica**	**2.62**	**352**		AML	AML		
PDG	comp=E,1745µm,0.6s comp=E,1745µm,0.6s				AML	AML		
PDG	comp=N,977µm,0.5s				AML	AML		
PDG	comp=E,1355µm,0.6s comp=N,760µm,0.5s				AML	AML		
PDG	comp=N,977µm,0.5s				AML	AML		
PDG	comp=N,760µm,0.5s comp=E,1355µm,0.6s				AML	AML		
TTG	**Podgorica**	**2.62**	**352**	⇑*i*	Pn	**Pn**	**08 04 52.7**	**+1.7**
TTG				*i*	Sn	**Sb**	**08 05 25.4**	**-2.4**
TTG	**Podgorica**	**2.62**	**352**	*e*	Pn	**Pn**	**08 04 51.7**	**+0.8**
TTG				*e*	Sn	**Sn**	**08 05 20.0**	**-2.6**
STIP	**Stip**	**2.62**	**44**	*i*	Pn	**Pb**	**08 04 54.7**	**-1.2**
AMUR	**Altamura**	**2.63**	**295**		AML	AML		
AMUR	comp=N,2175µm,0.6s comp=E,2945µm,0.6s				AML	AML		
AMUR	comp=N,2175µm,0.6s comp=E,2945µm,0.6s				AML	AML		
HORT	**Hortiatis**	**2.68**	**72**		P	**Pn**	**08 04 53.4**	**+1.5**
XOR	**Xorichti**	**2.71**	**99**		P	**Pn**	**08 04 54.2**	**+2.0**
KNT	**Kendrikon**	**2.75**	**60**		P	**Pn**	**08 04 53.9**	**+1.1**
GRI	**Girifalco**	**2.77**	**250**		AML	AML		
GRI	comp=E,688µm,0.5s comp=E,688µm,0.5s				AML	AML		
GRI	comp=N,642µm,1.2s comp=N,642µm,1.2s				AML	AML		
HCY	**Herceg Novi**	**2.77**	**341**	⇑*i*	Pn	**Pn**	**08 04 53.4**	**+0.2**
HCY				*i*	Sn	**Sn**	**08 05 29.1**	**+2.6**
HCY	**Herceg Novi**	**2.77**	**341**	*e*	Pn	**Pn**	**08 04 53.3**	**+0.1**
CAR1	**CAROLEI**	**2.79**	**259**		AML	AML		
CAR1	comp=E,1635µm,1.6s comp=N,1310µm,0.8s				AML	AML		
CAR1	comp=E,1475µm,0.5s comp=N,1146µm,1.3s				AML	AML		
CAR1	comp=N,1146µm,1.3s comp=N,1310µm,0.8s				AML	AML		
CAR1	comp=E,1635µm,1.6s comp=E,1475µm,0.5s				AML	AML		
PLAC	**Placanica**	**2.92**	**243**		P	**Pn**	**08 04 55.2**	**0.0**
PLAC	comp=E,968µm,0.5s comp=N,1420µm,0.7s				AML	AML		
PLAC	comp=E,968µm,0.5s comp=N,1420µm,0.7s				AML	AML		
SOH	**Sokhos**	**2.93**	**69**		P	**Pn**	**08 04 57.4**	**+2.0**
NKME	**Niksic**	**2.99**	**349**	⇑*i*	Pn	**Pn**	**08 04 57.8**	**+1.6**
NKME				*i*	Sn	**Sn**	**08 05 34.3**	**+2.4**
SIRI	**Monte Sirino -**	**3.00**	**278**		AML	AML		
SIRI	comp=N,1130µm,0.6s comp=E,1180µm,1.6s				AML	AML		
SIRI	comp=N,1140µm,0.6s comp=E,1185µm,1.6s				AML	AML		
SIRI	comp=E,1180µm,1.6s				AML	AML		
SIRI	comp=E,1185µm,1.6s				AML	AML		
SIRI	comp=N,1130µm,0.6s				AML	AML		
SIRI	comp=N,1140µm,0.6s				AML	AML		
KOME	**Kolasin**	**3.02**	**357**	⇑*i*	Pn	**Pn**	**08 04 58.6**	**+2.0**
KOME				*i*	Sn	**Sn**	**08 05 34.9**	**+2.3**
PAIG	**Paliouri**	**3.03**	**87**		P	**Pn**	**08 04 57.6**	**+0.9**
IVA	**Berane**	**3.04**	**2**	⇑*i*	Pn	**Pn**	**08 04 59.1**	**+2.2**
IVA				*i*	Sn	**Sn**	**08 05 35.5**	**+2.4**
MCEL	**Monticello**	**3.06**	**280**		AML	AML		
MCEL	comp=E,1225µm,0.6s comp=N,1095µm,0.5s				AML	AML		
MCEL	comp=E,1225µm,0.6s comp=N,1116µm,0.5s				AML	AML		
MCEL	comp=N,1116µm,0.5s comp=E,1225µm,0.6s				AML	AML		
MCEL	comp=E,1225µm,0.6s comp=N,1095µm,0.5s				AML	AML		
TREB	**Trebinje**	**3.06**	**340**	*e*	Pn	**Pn**	**08 04 57.4**	**+0.2**
TREB				*e*	Sn	**Sn**	**08 05 34.2**	**+0.5**
TREB	**Trebinje**	**3.06**	**340**	⇑*i*	Pn	**Pn**	**08 04 57.1**	**-0.1**
PALZ	**Palazzo San Ge**	**3.09**	**292**		P	**Pn**	**08 04 59.0**	**+1.5**
PALZ	comp=E,3385µm,1.0s comp=N,2880µm,0.6s				AML	AML		
PALZ	comp=N,2880µm,0.6s comp=E,3385µm,1.0s				AML	AML		
ITM	**Ithomi**	**3.16**	**146**	*e*	Pn	**Pn**	**08 05 00.3**	**+1.8**
BRY	**Bratogost**	**3.19**	**344**	⇓*i*	Pn	**Pn**	**08 05 00.1**	**+1.0**
BRY				*i*	Sn	**Sn**	**08 05 38.1**	**+1.0**
BRY	**Bratogost**	**3.19**	**344**	*e*	Pn	**Pn**	**08 04 59.2**	**+0.1**
SLCN	**Sala Consilina**	**3.20**	**281**		P	**Pn**	**08 05 00.8**	**+1.7**
SLCN	comp=E,2070µm,0.6s comp=N,1430µm,1.0s				AML	AML		
SLCN	comp=E,2225µm,0.6s comp=N,1470µm,0.6s				AML	AML		
SLCN	comp=E,2225µm,0.6s comp=N,1430µm,1.0s				AML	AML		
SLCN	comp=N,1470µm,0.6s comp=E,2070µm,0.6s				AML	AML		
SRS	**Serrai**	**3.20**	**65**		P	**Pn**	**08 05 00.5**	**+1.4**
JOPP	**Joppolo**	**3.24**	**249**		P	**Pn**	**08 05 00.5**	**+0.9**
JOPP	comp=E,768µm,0.5s comp=N,724µm,0.4s				AML	AML		
JOPP	comp=E,768µm,0.5s comp=N,724µm,0.4s				AML	AML		
AOS	**Alonnisos**	**3.27**	**100**		P	**Pn**	**08 05 01.2**	**+1.3**
OUR	**Ouranopolis**	**3.29**	**80**		P	**Pn**	**08 05 00.4**	**+0.2**
BARS	**Barje**	**3.36**	**27**	*e*	Pn	**Pn**	**08 05 02.3**	**+1.0**
BARS	**Barje**	**3.36**	**27**	*e*	Pn	Pg	08 05 19.4	+5.9
BARS					Sn	**Sn**	**08 05 44.5**	**+3.5**
BULG	**Bulgheria - Ca**	**3.36**	**276**		AML	AML		
BULG	comp=N,1320µm,0.9s comp=E,771µm,0.8s				AML	AML		
BULG	comp=N,1320µm,0.9s comp=E,770µm,0.8s				AML	AML		
BULG	comp=N,1350µm,0.9s comp=E,771µm,0.8s				AML	AML		
BULG	comp=E,770µm,0.8s				AML	AML		
SOI	**Samo**	**3.37**	**240**		P	**Pn**	**08 05 02.0**	**+0.6**
SOI	comp=E,853µm,0.9s comp=N,585µm,0.8s				AML	AML		
SOI	comp=N,585µm,0.8s comp=E,853µm,0.9s				AML	AML		
CEL	**Celeste**	**3.38**	**244**	*e*	Pn	**Pn**	**08 05 02.1**	**+0.5**
CEL				*e*	Sn	**Sn**	**08 05 43.2**	**+1.6**
STON	**Ston**	**3.40**	**334**	*e*	Pn	**Pn**	**08 05 02.0**	**+0.3**
STON					Sn	**Sn**	**08 05 39.0**	**-2.9**
UPM	**Unac-Piva**	**3.42**	**350**	*e*	Pn	**Pn**	**08 05 04.2**	**+1.9**
SJES	**Sjenica**	**3.43**	**3**	*e*	Pn	**Pn**	**08 05 03.0**	**+0.7**
SJES				*e*	Sn	**Sn**	**08 05 45.0**	**+2.2**
CMPR	**Campora**	**3.44**	**279**		AML	AML		
CMPR	comp=N,651µm,0.8s comp=E,570µm,0.7s				AML	AML		
CMPR	comp=N,651µm,0.8s comp=E,570µm,0.7s				AML	AML		
MSAG	**Monte S. Angel**	**3.46**	**304**		AML	AML		
MSAG	comp=N,3305µm,0.4s comp=E,1710µm,0.7s				AML	AML		
MSAG	comp=N,3305µm,0.4s comp=E,1835µm,0.7s				AML	AML		
MSAG	comp=N,3320µm,0.4s comp=N,3320µm,0.4s				AML	AML		
MSAG	comp=E,1710µm,0.7s comp=E,1835µm,0.7s				AML	AML		
CDRU	**Civita di Ruta**	**3.46**	**282**		AML	AML		
CDRU	comp=N,584µm,0.7s comp=E,485µm,0.9s				AML	AML		
CDRU	comp=N,584µm,0.7s comp=E,485µm,0.9s				AML	AML		
MPAZ	**Palizzi**	**3.47**	**238**		P	**Pn**	**08 05 02.7**	**-0.1**
MPAZ	comp=E,742µm,0.5s comp=N,818µm,0.7s				AML	AML		
MPAZ	comp=N,818µm,0.7s comp=E,742µm,0.5s				AML	AML		
MSCL	**Scilla**	**3.47**	**244**		AML	AML		
MSCL	comp=E,2140µm,0.5s comp=E,2140µm,0.5s				AML	AML		
MSCL	comp=N,1990µm,0.7s comp=N,1990µm,0.7s				AML	AML		
PLE	**Pljevlja**	**3.50**	**356**	⇑*i*	Pn	**Pn**	**08 05 05.2**	**+1.9**
PLE				*i*	Sn	**Sn**	**08 05 47.2**	**+2.6**
SELS	**Selova**	**3.54**	**17**	*e*	Pn	**Pn**	**08 05 04.1**	**+0.4**
SGRT	**San Giovanni R**	**3.59**	**304**		AML	AML		
SGRT	comp=N,1042µm,1.5s comp=E,1109µm,1.3s				AML	AML		
SGRT	comp=N,1042µm,1.5s comp=E,1109µm,1.3s				AML	AML		
IVAS	**Ivanjica**	**3.75**	**5**	*e*	Pn	**Pn**	**08 05 06.9**	**+0.3**
IVAS				*e*	Sn	**Sn**	**08 05 51.8**	**+1.1**
VTS	**Vitosha**	**3.80**	**42**	*e*	Pn	**Pn**	**08 05 08.9**	**+1.5**
VTS	**Vitosha**	**3.80**	**42**	*e*	Pn	**Pn**	**08 05 09.2**	**+1.8**
VTS	**Vitosha**	**3.80**	**42**	⇓*i*	P	**Pn**	**08 05 09.5**	**+2.1**
MOCO	**Biccari - m.te**	**3.81**	**295**		AML	AML		
MOCO	comp=E,1575µm,0.7s comp=N,594µm,0.6s				AML	AML		
MOCO	comp=N,594µm,0.6s comp=E,1575µm,0.7s				AML	AML		
MCSR	**Castroreale**	**3.92**	**245**		AML	AML		
MCSR	comp=N,985µm,0.3s comp=E,874µm,0.4s				AML	AML		
MCSR	comp=N,985µm,0.3s comp=E,874µm,0.4s				AML	AML		
BBLS	**Lazići**	**4.04**	**357**	*e*	Pn	**Pn**	**08 05 11.0**	**+0.4**
BBLS				*e*	Sn	**Sn**	**08 05 58.8**	**+1.1**
BBLS	**Lazići**	**4.04**	**357**	*e*	Pn	**Pn**	**08 05 11.3**	**+0.7**
ZAPS	**Zavoj**	**4.06**	**31**	*e*	Pn	**Pn**	**08 05 12.4**	**+1.5**
ZAPS				*e*	Sn	**Sn**	**08 06 01.8**	**+3.5**
BOVS	**Bovan**	**4.07**	**21**	*e*	Pn	**Pn**	**08 05 11.5**	**+0.5**
GRUS	**Gruza**	**4.11**	**10**	*e*	Pn	**Pn**	**08 05 12.9**	**+1.3**
GRUS				*e*	Sn	**Sn**	**08 06 02.2**	**+2.7**
MUCR	**Ucria**	**4.20**	**246**		AML	AML		
MUCR	comp=E,339µm,0.5s comp=N,360µm,0.6s				AML	AML		
MUCR	comp=N,360µm,0.6s comp=E,339µm,0.5s				AML	AML		
PTRJ	**Pietraroja**	**4.25**	**293**		AML	AML		
PTRJ	comp=N,1230µm,0.7s comp=E,954µm,0.6s				AML	AML		
PTRJ	comp=E,954µm,0.6s comp=N,1230µm,0.7s				AML	AML		
DIVS	**Divibare**	**4.26**	**2**	*e*	Pn	**Pn**	**08 05 13.8**	**+0.1**
DIVS				*e*	Sn	**Sn**	**08 06 03.8**	**+0.4**
DIVS	**Divibare**	**4.26**	**2**	*e*	Pn	**Pn**	**08 05 14.1**	**+0.4**
DIVS				*e*	Sn	**Sn**	**08 06 02.4**	**-0.9**
DIVS	**Divibare**	**4.26**	**2**	*e*	Pn	**Pn**	**08 05 13.8**	**+0.1**
BSSO	**Busso**	**4.27**	**295**		AML	AML		
BSSO	comp=E,422µm,0.9s comp=N,458µm,1.6s				AML	AML		
BSSO	comp=E,422µm,0.9s comp=N,458µm,1.6s				AML	AML		
HAPS	**Han Pijesak,Bl**	**4.29**	**352**	⇑*i*	Pn	**Pn**	**08 05 14.2**	**+0.1**
ZAGS	**Zajecar**	**4.39**	**24**	*e*	Pn	**Pn**	**08 05 17.1**	**+1.8**
TRUS	**Trudelj**	**4.41**	**6**	*e*	Pn	**Pn**	**08 05 15.8**	**+0.1**
TRUS				*e*	Sn	**Sn**	**08 06 08.7**	**+1.8**
VAGA	**Valle Agricola**	**4.48**	**292**		AML	AML		
VAGA	comp=E,400µm,1.2s comp=E,400µm,1.2s				AML	AML		
VAGA	comp=N,590µm,0.7s comp=E,426µm,1.3s				AML	AML		
VAGA	comp=N,606µm,0.7s comp=E,426µm,1.3s				AML	AML		
VAGA	comp=N,590µm,0.7s comp=N,606µm,0.7s				AML	AML		
SSY	**Sortino**	**4.54**	**235**		AML	AML		
SSY	comp=E,852µm,0.3s comp=E,852µm,0.3s				AML	AML		
SSY	comp=N,1705µm,1.2s comp=N,1705µm,1.2s				AML	AML		
SVIS	**Svilajnac**	**4.56**	**13**	*e*	Pn	**Pn**	**08 05 17.4**	**-0.3**
HAVL	**Avola**	**4.63**	**233**		AML	AML		
HAVL	comp=E,646µm,0.8s comp=E,646µm,0.8s				AML	AML		
HAVL	comp=N,676µm,0.2s comp=N,676µm,0.2s				AML	AML		
TEKS	**Tekeris**	**4.71**	**358**	*e*	Pn	**Pn**	**08 05 19.3**	**-0.5**
TEKS	**Tekeris**	**4.71**	**358**	*e*	Pn	**Pn**	**08 05 17.4**	**-2.4**
VAE	**Valguarnera**	**4.79**	**242**		Pn	**Pb**	**08 05 30.2**	**-2.6**
VAE	comp=N,5.1nm,0.3s,baz=153,slow=4.5,SNR=2.6				Sn	**Sn**	**08 06 21.0**	**+4.7**
KUBS	**Kucevo**	**4.79**	**17**	*e*	Pn	**Pn**	**08 05 21.1**	**+0.2**
ALN	**Alexandroupoli**	**4.93**	**76**	*e*	Pn	**Pn**	**08 05 23.9**	**+1.1**
ALN				*e*	Sn	**Sn**	**08 06 20.2**	**+0.5**
POFI	**Posta Fibreno**	**4.95**	**294**		AML	AML		
POFI	comp=N,210µm,1.3s comp=E,192µm,1.3s				AML	AML		
POFI	comp=N,210µm,1.3s comp=E,192µm,1.3s				AML	AML		
DOB	**Doboj**	**5.04**	**347**	*e*	Pn	**Pn**	**08 05 24.7**	**+0.4**
MDVR	**Moldovita**	**5.15**	**16**	⇓*i*	P	**Pn**	**08 05 27.0**	**+1.1**
BLY	**Banja Luka**	**5.26**	**340**	*e*	Pn	**Pn**	**08 05 28.4**	**+1.0**
BLY				*e*	Sn	**Sn**	**08 06 26.4**	**-1.5**
BLY	**Banja Luka**	**5.26**	**340**	⇑*i*	P	**Pn**	**08 05 29.0**	**+1.6**
BLY	**Banja Luka**	**5.26**	**340**	*e*	Pn	**Pn**	**08 05 28.4**	**+1.0**
APE	**Apeiranthos**	**5.32**	**119**	⇑*i*	P	**Pn**	**08 05 29.5**	**+1.3**
FRGS	**Fruska Gora**	**5.32**	**1**	*e*	Pn	**Pn**	**08 05 27.8**	**-0.4**
FRGS				*e*	Sn	**Sn**	**08 06 29.5**	**+0.2**
FRGS	**Fruska Gora**	**5.32**	**1**	*e*	Pn	**Pn**	**08 05 28.1**	**-0.1**
HERR	**Herculane**	**5.42**	**21**	⇑*i*	P	**Pn**	**08 05 31.0**	**+1.5**
UDBI	**Udbina**	**5.54**	**329**	*e*	Pn	**Pn**	**08 05 33.1**	**+1.9**
UDBI					Sn	**Sn**	**08 06 34.0**	**-0.8**
BZS	**Buzias**	**5.94**	**13**	⇓*i*	P	**Pn**	**08 05 37.7**	**+1.0**
NVLJ	**Novalja**	**5.95**	**324**	*e*	Pn	**Pn**	**08 05 37.4**	**+0.6**
NVLJ					Sn	**Sn**	**08 06 40.7**	**-4.0**
GZR	**Gura Zlata**	**5.99**	**21**	⇑*i*	P	**Pn**	**08 05 39.2**	**+1.8**
IDI	**Anoyia**	**6.11**	**136**		Pn	**Pn**	**08 05 38.2**	**-0.8**
IDI	comp=E,2.2nm,0.3s,baz=223,slow=9.9,SNR=9.5 comp=E,2.2nm,0.3s,baz=121,slow=23,SNR=4.4				Sn	**Sn**	**08 06 43.3**	**-5.5**
IDI	**Anoyia**	**6.11**	**136**	*e*	Pn	**Pn**	**08 05 38.8**	**-0.3**
IDI				*e*	Sn	**Sn**	**08 06 43.6**	**-5.2**
IDI	**Anoyia**	**6.11**	**136**	⇓*i*	P	**Pn**	**08 05 40.3**	**+1.2**
LOT	**Lotru**	**6.34**	**27**	⇑*i*	P	**Pn**	**08 05 44.1**	**+1.8**
MORH	**Mrgy, Hungar**	**6.43**	**353**	*e*	Pn	**Pn**	**08 05 43.2**	**-0.1**
MORH	**Mrgy, Hungar**	**6.43**	**353**	*e*	Pn	**Pn**	**08 05 43.1**	**-0.3**
MORH					Sn	**Sn**	**08 06 54.0**	**-2.5**
ARR	**Arges**	**6.60**	**32**	⇓*i*	P	**Pn**	**08 05 48.2**	**+2.4**
GBRS	**Gornja Briga**	**6.75**	**329**	*i*	Pn	**Pn**	**08 05 49.0**	**+1.2**
CRES	**Cresnjev**	**6.76**	**334**	*i*	Pn	**Pn**	**08 05 48.6**	**+0.6**
CRES	**Cresnjev**	**6.76**	**334**	*e*	Pn	**Pn**	**08 05 48.4**	**+0.4**
VOIR		**6.83**	**33**	⇓*i*	P	**Pn**	**08 05 51.9**	**+3.0**
CEY	**Cerknica**	**7.08**	**328**	⇓*i*	Pn	**Pn**	**08 05 53.2**	**+0.9**
SKDS	**Skadanscina**	**7.10**	**325**	*i*	Pn	**Pn**	**08 05 52.8**	**+0.2**
MLR	**Muntele Rosu**	**7.27**	**37**		Pn	**Pn**	**08 05 55.9**	**+0.9**
MLR	**Muntele Rosu**	**7.27**	**37**	*e*	Pn	**Pn**	**08 05 53.2**	**-1.8**
MLR	comp=E,0.3nm,0.3s,baz=206,slow=13,SNR=3.4			*e*	Sn	**Sn**	**08 07 12.5**	**-4.9**
MLR	**Muntele Rosu**	**7.27**	**37**	⇑*i*	P	**Pn**	**08 05 56.5**	**+1.5**
DRGR		**7.28**	**16**	⇑*i*	P	**Pn**	**08 05 57.5**	**+2.4**
ISR	**Istrita**	**7.29**	**41**	⇑*i*	P	**Pn**	**08 05 56.3**	**+1.1**
LJU	**Ljubljana**	**7.29**	**330**	⇓*i*	Pn	**Pn**	**08 05 55.6**	**+0.4**
DOPR	**Dopca**	**7.40**	**32**	⇑*i*	P	**Pn**	**08 05 58.2**	**+1.5**
SOKA	**Soboth**	**7.65**	**335**	*i*	Pn	**Pn**	**08 06 00.8**	**+0.5**
	comp=E,8.9nm,0.4s,SNR=7.8							
OZUR		**7.67**	**33**	⇑*i*	P	**Pn**	**08 06 02.5**	**+2.1**
OBKA	**Obir**	**7.67**	**332**	*e*	Pn	**Pn**	**08 06 01.3**	**+0.8**
	comp=E,9.6nm,0.4s							
TLB	**Topalu**	**7.77**	**50**	⇑*i*	P	**Pn**	**08 06 04.4**	**+2.6**
PLOR	**Plostina**	**7.87**	**38**	⇑*i*	P	**Pn**	**08 06 06.1**	**+3.0**
VRI	**Vrincioaia**	**7.91**	**38**	⇑*i*	P	**Pn**	**08 06 06.5**	**+2.7**

ARSA	**Arzberg**	**8.02**	**339**	*i* Pn		**Pn**	**08 06 06.1**	**+0.9**
	comp=E,4.0nm,0.5s							
PSZ	**Piszkesteto**	**8.08**	**1**	*e*Pn		**Pn**	**08 06 06.9**	**+0.8**
PSZ				*e*Sn		**Sn**	**08 07 34.0**	**-3.3**
MYKA	**Terra Mystica**	**8.12**	**329**	*i* Pn		**Pn**	**08 06 07.8**	**+1.2**
	comp=E,1.9nm,0.3s							
CFR	**Carcaliu**	**8.18**	**47⇑**	*i*P		**Pn**	**08 06 09.5**	**+2.1**
VLC	**Villacollemand**	**8.20**	**305**	*e*Pn		**Pn**	**08 06 08.8**	**+1.2**
VLC				*e*Sn		**Sn**	**08 07 38.5**	**-1.6**
TRPA	**Tarpa**	**8.53**	**13⇑**	*i*P		**Pn**	**08 06 13.3**	**+1.1**
VYHS	**Vyhne**	**8.68**	**356**	*e*PN		**Pn**	**08 06 15.4**	**+1.1**
ABTA	**Abfaltersbach**	**8.69**	**325**	*e*Pn		**Pn**	**08 06 14.9**	**+0.4**
	comp=E,1.6nm,0.3s							
ABTA				*i* Sn		**Sn**	**08 07 48.3**	**-3.9**
	comp=E,48nm,0.7s							
BURAR	**Bucovina Array**	**8.72**	**25⇑**	*i*P		**Pn**	**08 06 17.8**	**+2.8**
MOA	**Molln**	**8.93**	**336**	*i* Pn		**Pn**	**08 06 19.3**	**+1.6**
	comp=E,5.1nm,0.2s							
WTTA	**Wattenberg**	**9.47**	**324**	*e*Pn		**Pn**	**08 06 27.3**	**+2.0**
	comp=E,2.7nm,0.3s							
WATA	**Walderalm**	**9.55**	**324**	*e*Pn		**Pn**	**08 06 29.2**	**+2.9**
	comp=E,6.7nm,0.4s							
SQTA	**Sankt Quirin**	**9.63**	**323**	*e*Pn		**Pn**	**08 06 30.0**	**+2.6**
	comp=E,3.8nm,0.3s							
FUORN	**Ofenpass-Fuorn**	**9.68**	**318**	*e*Pn		**Pn**	**08 06 28.7**	**+0.5**
FUORN				*e*Sn		**Sn**	**08 08 12.4**	**-4.6**
FETA	**Feichten**	**9.72**	**321**	*i* Pn		Pn	08 06 34.8	+6.1
FETA				*e*Sn		**Sn**	**08 08 16.6**	**-1.1**
	comp=E,4.8nm,0.5s							
VRAC	**Vranov**	**9.73**	**348**	Pn		**Pn**	**08 06 29.5**	**+0.9**
	comp=E,0.3nm,0.3s,baz=129,slow=13,SNR=2.1							
MOTA	**Moosalm**	**9.77**	**323**	*e*Pn		**Pn**	**08 06 31.0**	**+1.7**
	comp=E,8.5nm,0.6s							
GEA0	**GERESS Array S**	**9.98**	**336**	*e*Pn		**Pn**	**08 06 30.5**	**-1.6**
GEA0				*e*Sn		**Sn**	**08 08 19.4**	**-4.6**
DAVOX	**Davos/Dischmat**	**9.99**	**317**	Pn		**Pn**	**08 06 34.0**	**+1.6**
	comp=E,0.5nm,0.3s,baz=133,slow=19,SNR=3.0							
DAVOX				Sn		**Sn**	**08 08 21.6**	**-2.7**
	baz=162,slow=20							
GEC2	**GERESS Array S**	**9.99**	**336**	*e*Pn		**Pn**	**08 06 31.7**	**-0.6**
GEC2				*e*Sn		**Sn**	**08 08 19.3**	**-4.9**
GERES	**GERESS Array B**	**9.99**	**336**	Pn		**Pn**	**08 06 32.8**	**+0.5**
	comp=E,1.0nm,0.3s,baz=159,slow=13,SNR=12							
GERES				Sn		**Sn**	**08 08 18.5**	**-5.7**
	comp=E,1.3nm,0.3s,baz=152,slow=23,SNR=5.8							
RETA	**Reutte**	**10.04**	**323**	*e*Pn		**Pn**	**08 06 34.3**	**+1.4**
	comp=E,2.6nm,0.3s							
KHC	**Kasperske Hory**	**10.28**	**337**	*e*Pn		**Pn**	**08 06 36.0**	**-0.2**
KHC				*e*Sn		**Sn**	**08 08 27.1**	**-4.1**
KHC	**Kasperske Hory**	**10.28**	**337**	*e*PN		**Pn**	**08 06 36.8**	**+0.6**
KHC				*e*SN		**Sn**	**08 08 25.1**	**-6.1**
BR101	**Keskin Array S**	**10.70**	**86**	*e*Pn		**Pn**	**08 06 43.7**	**+1.6**
BRTR	**Keskin Array B**	**10.70**	**86**	Pn		**Pn**	**08 06 43.7**	**+1.6**
	comp=E,0.1nm,0.3s,baz=260,slow=12,SNR=5.3							
SENIN	**Lac Senin/Sane**	**11.19**	**310**	*e*Pn		**Pn**	**08 06 50.1**	**+1.3**
SENIN				*e*Sn		**Sn**	**08 08 50.0**	**-3.8**
CLL	**Collm**	**12.40**	**340**	*e*(PP)			08 07 15.0	
AKASG	**Malin Array Be**	**12.74**	**28**	Pn		**Pn**	**08 07 10.6**	**+0.8**
	comp=E,0.2nm,0.3s,baz=214,slow=12,SNR=3.7							
KBZ	**Khabaz**	**17.69**	**70**	P		**P**	**08 08 16.6**	**+0.8**
	comp=E,0.2nm,0.3s,baz=285,slow=10,SNR=8.2							
ESDC	**Sonseca Array**	**18.22**	**277**	P		**P**	**08 08 22.4**	**+0.6**
	comp=E,0.2nm,0.3s,baz=71,slow=11,SNR=7.4							
HFS	**Hagfors**	**20.67**	**351**	P		**P**	**08 08 48.1**	**-0.3**
	comp=E,5.4nm,0.6s,baz=153,slow=10.0,SNR=21							
MDT	**Midelt**	**20.80**	**258**	P		**P**	**08 08 50.7**	**+0.6**
	comp=E,1.1nm,0.7s,baz=80,slow=13,SNR=4.0							
NC602	**NORSAR Array S**	**21.54**	**349**	*e*P		**P**	**08 08 57.9**	**+0.2**
EKA	**Eskdalemuir Ar**	**21.73**	**323**	P		**P**	**08 09 00.2**	**+0.4**
	comp=E,8.2nm,0.9s,baz=122,slow=8.9,SNR=9.6							
NAO01	**NORSAR Array S**	**21.74**	**348**	*e*P		**P**	**08 09 00.1**	**+0.3**
NB201	**NORSAR Array S**	**21.87**	**349**	*e*P		**P**	**08 09 01.5**	**+0.1**
NC405	**NORSAR Array S**	**21.87**	**350**	*e*P		**P**	**08 09 01.5**	**+0.2**
NB2	**NORSAR Subarra**	**21.88**	**349**	P		**P**	**08 09 01.3**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=165,slow=11							
NB200	**NORSAR Array S**	**21.88**	**349**	*e*P		**P**	**08 09 01.2**	**-0.1**
NOA	**NORSAR Array B**	**21.88**	**349**	P		**P**	**08 09 01.2**	**-0.1**
	comp=Z,5.5nm,0.8s,baz=164,slow=10,SNR=8.3							
NBO00	**NORSAR Array S**	**21.93**	**348**	*e*P		**P**	**08 09 02.5**	**+0.6**
FIA0	**FINESS Array S**	**21.98**	**8**	*e*P		**P**	**08 09 01.3**	**-1.2**
FINES	**FINESS Array B**	**21.98**	**8**	P		**P**	**08 09 01.3**	**-1.2**
	comp=Z,3.3nm,0.5s,baz=180,slow=9.8,SNR=14							
FIA1	**FINESS Array S**	**21.98**	**8**	*e*P		**P**	**08 09 01.9**	**-0.6**
NC303	**NORSAR Array S**	**22.03**	**349**	*e*P		**P**	**08 09 03.5**	**+0.5**
NC204	**NORSAR Array S**	**22.17**	**348**	*e*P		**P**	**08 09 05.5**	**+1.0**
AKTO	**Aktyubinsk**	**28.70**	**56**	P		**P**	**08 10 04.9**	**-0.8**
	comp=Z,2.9nm,0.6s,baz=258,slow=8.3,SNR=11							
ABKAR	**Akbulak array**	**29.85**	**58**	*e*P		**P**	**08 10 15.1**	**-0.7**
ARA0	**ARCESS Array S**	**29.92**	**4**	*e*P		**P**	**08 10 15.4**	**-0.9**
ARCES	**ARCESS Array B**	**29.92**	**4**	P		**P**	**08 10 15.4**	**-0.9**
	comp=Z,3.7nm,0.8s,baz=189,slow=11,SNR=9.3							
TOA1	**Torodi Ar. Sit**	**30.97**	**216**	*e*P		**P**	**08 10 26.4**	**+0.4**
TOA0	**Torodi Ar. Sit**	**30.98**	**216**	*e*P		**P**	**08 10 26.5**	**+0.4**
TORD	**Torodi Ar. Bea**	**30.98**	**216**	P		**P**	**08 10 26.4**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=13,slow=12,SNR=14							
BRVK	**Borovoye**	**36.48**	**52**	*e*P		**P**	**08 11 13.3**	**-0.3**
	comp=Z,3.5nm,0.8s							
MAKZ	**Makanchi**	**44.76**	**60**	*e*P		**P**	**08 12 20.0**	**-2.1**
	comp=Z,9.9nm,2.0s							
MK32	**Makanchi Array**	**44.97**	**60**	*e*P		**P**	**08 12 23.0**	**-0.8**
MKAR	**Makanchi Array**	**44.97**	**60**	P		**P**	**08 12 23.0**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=278,slow=7.3,SNR=21							
MKAR	**Makanchi Array**	**44.97**	**60**	*e*P		**P**	**08 12 22.9**	**-0.9**
	comp=Z,12nm,0.6s							
MK01	**Makanchi Array**	**44.98**	**60**	*e*P		**P**	**08 12 23.0**	**-0.9**
ZAA1	**Zalesovo Array**	**45.05**	**49**	*e*P		**P**	**08 12 23.4**	**-0.9**
ZALV	**Zalesovo Beam**	**45.05**	**49**	P		**P**	**08 12 23.4**	**-0.9**
	comp=Z,4.6nm,0.5s,baz=279,slow=8.4,SNR=12							
WMQ	**Urumqi**	**49.50**	**62**	*e*P		**P**	**08 13 01.8**	**+2.6**
WMQ				sP		sP	08 13 08.8	+3.9
WMQ				LR		LR		
	comp=N,92nm,17.5s							
WMQ				LR		LR		
	comp=E,130nm,17.5s							
WMQ				LR		LR		
	comp=Z,93nm,19.9s							
FRB	**Frobisher Bay**	**54.43**	**327**	P		**P**	**08 13 36.1**	**+0.6**
	baz=68,slow=11							
SONA0	**Songino Array**	**59.88**	**51**	*e*P		**P**	**08 14 14.6**	**+0.1**
SONM	**Songino Array**	**59.88**	**51**	P		**P**	**08 14 14.6**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=285,slow=5.5,SNR=2.5							
LZH	**Lanzhou**	**64.01**	**64**	*e*P		**P**	**08 14 40.8**	**-1.7**
LZH				pP		pP	08 14 45.5	-1.2
LZH				sP		sP	08 14 48.5	+0.2
LZH				pmax		pmax		
	comp=Z,18nm,1.2s							
HHC	**Hu-ho-hao-te**	**66.60**	**56**	*e*P		**P**	**08 14 58.5**	**-0.6**
HHC				pmax		pmax		
	comp=Z,14nm,0.9s							
HHC				pmax		pmax		
	comp=Z,73nm,6.1s							
YKA	**Yellowknife Ar**	**71.63**	**340**	P		**P**	**08 15 30.2**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=36,slow=5.3,SNR=17							
YKB5	**Yellowknife Ar**	**71.63**	**340**	*e*P		**P**	**08 15 30.2**	**+0.4**
ULM	**Lac du Bonnet**	**74.01**	**323**	P		**P**	**08 15 44.8**	**+0.6**
	comp=Z,2.7nm,0.6s,baz=36,slow=6.6,SNR=4.8							
ILAR	**Eielson Array**	**75.20**	**354**	P		**P**	**08 15 51.3**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=5.8,slow=3.7,SNR=5.2							
ILB	**Eielson Array**	**75.20**	**354**	*e*P		**P**	**08 15 51.3**	**+0.5**
NJ2	**Nanjing**	**76.50**	**60**	*e*P		**P**	**08 15 58.0**	**-0.8**
NJ2				pmax		pmax		
	comp=Z,16nm,0.7s							
KS15	**Wonju Array Si**	**78.73**	**50**	*e*P		**P**	**08 16 10.8**	**-0.4**
KSRS	**Korea Array**	**78.74**	**50**	P		**P**	**08 16 10.8**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=310,slow=3.8,SNR=2.9							
BDFB	**Brasilia**	**83.69**	**244**	P		**P**	**08 16 38.2**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=63,slow=9.0,SNR=3.2							
LTX	**Lajitas**	**93.39**	**313**	*e*P		**P**	**08 17 25.3**	**+1.0**
TXAR	**Lajitas Array**	**93.39**	**313**	P		**P**	**08 17 25.3**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=52,slow=5.8,SNR=3.1							

MEX 31 08:11:01.6±0.4, 13°.97N×93°.43W, h16km±111km, MD3.7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
THIG		**1.47**	**50**	*i* P		Pn	08 11 23.7		-3.7
THIG				*i* S		Sn	08 11 40.2		-6.0
PCIG		**1.74**	**7**	*e*P		Pn	08 11 27.7		-3.5
PCIG				*e*S		Sn	08 11 47.4		-5.7
CCIG	**Comitan**	**2.62**	**28**	*i* P		Pn	08 11 40.6		-2.9
CCIG				*i* S		Sn	08 12 11.5		-3.5

*IDC **31** 08:27:23.0±1.4, 7°.30S×144°.24E, h0km, mb4.3/9, mb1 4.4/12, mb1mx4.2/34, mbtmp4.3/12, ML3.7/3, MS3.5/10, Ms1 3.5/10, ms1mx3.2/37, Error ellipse: s-maj=41.2km s-min=18.2km az=114.0*

*ISCJB **31** 08:27:26.7±0.4, 7°.36S±0°.04×144°.05E±0°.09, h33km, mb4.5/19, MS3.5/9, Error ellipse: s-maj=12.3km s-min=4.8km az=11.3*

*NEIC **31** 08:27:28.9±0.4, 7°.27S×143°.99E, h35km, mb4.2/13, Error ellipse: s-maj=10.1km s-min=5.1km az=104.0*

ISC 31 08:27:29.5±0.7, 7°.39S±0°.05×143°.8E±0°.1, h35km, n59, σ2s07/58, mb4.6/19, MS3.5/9, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
JAY	**Jayapura**	**5.76**	**327**	Pn		**Pn**	**08 28 52.4**		**-0.1**
	0.4nm,0.3s,baz=159,slow=17,SNR=3.1								
JAY				Lg		Lg	08 30 24.1		
	1.0nm,0.3s,baz=27,slow=16,SNR=3.0								
JAY				LR		LR	08 31 59.0		
	comp=Z,905nm,19.5s,baz=177,slow=47								
COEN	**Coen**	**6.56**	**186**	*e*Pn		**Pn**	**08 29 05.0**		**+1.5**
COEN				*e*Sn		**Sn**	**08 30 17.6**		**+0.5**
FAKI	**Fak Fak**	**12.36**	**290**	*e*Pn		Pn	08 30 20.9		-2.2
CTA	**Charters Tower**	**12.84**	**170**	Lg		Lg	08 34 09.8		
	0.1nm,0.3s,baz=258,slow=20,SNR=2.3								
MTN	**Manton Dam**	**13.62**	**246**	*e*Pn		**Pn**	**08 30 41.1**		**+0.8**
MTN				*e*Sn		Sn	08 33 06.6		-3.9
WRAB	**Tennant Creek**	**15.49**	**215**	*e*Pn		**Pn**	**08 31 07.5**		**+2.0**
	5.2nm,0.8s								
WB2	**Warramunga Arr**	**15.49**	**215**	*e*Pn		**Pn**	**08 31 07.1**		**+1.6**
WC3	**Warramunga Arr**	**15.50**	**215**	*e*Pn		**Pn**	**08 31 07.7**		**+2.1**
	4.4nm,0.8s								
WR1	**Warramunga Arr**	**15.50**	**215**	*e*Pn		**Pn**	**08 31 06.2**		**+0.6**
	5.4nm,1.0s								
WR1				*e*Sn		**Sn**	**08 33 52.7**		**-3.7**
WRA	**Warramunga Arr**	**15.50**	**215**	Pn		**Pn**	**08 31 06.2**		**+0.6**
	0.3nm,0.3s,baz=36,slow=13,SNR=18								
WRA				Sn		**Sn**	**08 33 52.7**		**-3.7**
	0.3nm,0.3s,baz=30,slow=23,SNR=4.6								
WRA				Lg		Lg	08 35 43.0		
	0.3nm,0.3s,baz=30,slow=29,SNR=5.2								
WRA				LR		LR	08 37 33.0		
	comp=Z,267nm,21.6s,baz=45,slow=39								
AS01	**Alice Springs**	**18.75**	**209**	*e*P		**P**	**08 31 48.2**		**+2.6**
AS31	**Alice Springs**	**18.78**	**209**	*e*P		**P**	**08 31 48.5**		**+2.6**
	3.0nm,0.6s								
ASAR	**Alice Springs**	**18.78**	**209**	P		**P**	**08 31 48.5**		**+2.7**
	0.9nm,0.3s,baz=40,slow=8.9,SNR=44								
ASAR				S		**Sn**	**08 35 10.7**		**-5.0**
	0.1nm,0.3s,baz=24,slow=25,SNR=3.4								
ASAR				Lg		Lg	08 37 26.0		
	0.2nm,0.3s,baz=21,slow=29,SNR=3.8								
EIDS	**Eidsvold**	**19.17**	**160**	*e*P		**P**	**08 31 49.7**		**-0.4**
	9.7nm,1.1s								
FITZ	**Fitzroy Crossi**	**20.66**	**237**	P		**P**	**08 32 09.1**		**+2.6**
	3.4nm,0.5s,baz=60,slow=11,SNR=20								
FITZ				S		**S**	**08 35 51.3**		**-4.3**
	4.6nm,0.9s,baz=155,slow=13,SNR=3.6								
FITZ				Lg		Lg	08 38 25.1		
	20nm,1.3s,baz=207,slow=8.2,SNR=3.4								
FITZ				LR		LR	08 40 50.6		
	comp=Z,250nm,19.9s,baz=62,slow=38								
FITZ	**Fitzroy Crossi**	**20.66**	**237**	*e*P		**P**	**08 32 08.6**		**+2.1**
	8.1nm,1.1s								
FITZ				S		**S**	**08 35 51.3**		**-4.3**
GUMO	**Guam**	**20.87**	**3**	LR		LR	08 39 29.1		
	comp=Z,73nm,21.3s,baz=131,slow=35								
DAV	**Davao City (W)**	**23.19**	**308**	LR		LR	08 42 20.0		
	comp=Z,45nm,18.2s,baz=141,slow=38								
STKA	**Stephens Creek**	**24.45**	**185**	LR		LR	08 43 42.7		
	comp=Z,484nm,19.4s,baz=20,slow=40								
MJAR	**Matsushiro Arr**	**44.02**	**353**	LR		LR	08 53 43.0		
	comp=Z,24nm,19.5s,baz=155,slow=36								
KSRS	**Korea Array**	**47.02**	**343**	P		**P**	**08 35 56.8**		**-0.7**
	3.3nm,0.8s,baz=161,slow=9.2,SNR=12								
KSRS				LR		LR	08 55 00.8		
	comp=Z,46nm,18.6s,baz=128,slow=35								
KSAR	**Wonju Array Be**	**47.03**	**343**	P		**P**	**08 35 56.8**		**-0.8**
KS01	**Wonju Array Si**	**47.05**	**343**	*e*P		**P**	**08 35 57.1**		**-0.7**
CM31	**Chiang Mai Arr**	**51.19**	**301**	*e*P		**P**	**08 36 30.7**		**+0.9**
CMAR	**Chiang Mai Arr**	**51.19**	**301**	P		**P**	**08 36 30.6**		**+0.9**
	5.1nm,0.7s,baz=116,slow=6.3,SNR=8.8								
CMMT	**Chiang Mai**	**51.34**	**301**	P		**P**	**08 36 33.2**		**+2.3**
	10.0nm,1.0s								
CHTO	**Chiang Mai**	**51.34**	**301**	*e*P		**P**	**08 36 31.2**		**+0.3**
	6.9nm,0.8s								
CHTO	**Chiang Mai**	**51.34**	**301**	P		**P**	**08 36 33.3**		**+2.4**
	44nm,1.0s								
USRK	**Ussuriysk Ar.**	**52.45**	**349**	LR		LR	08 54 36.2		
	comp=Z,42nm,21.3s,baz=164,slow=31								
HHC	**Hu-ho-hao-te**	**56.43**	**331**	*e*P		**P**	**08 37 09.3**		**+1.5**
HHC				pmax		pmax			
	comp=Z,15nm,0.7s								
HHC				pmax		pmax			
	comp=Z,200nm,8.5s								
KLR	**Kul'dur**	**57.37**	**351**	LR		LR	09 02 16.7		
	comp=Z,19nm,18.5s,baz=134,slow=36								
PETK	**Petropavlovsk-**	**61.41**	**9**	P		**P**	**08 37 40.0**		**-2.0**
	comp=Z,3.3nm,0.7s,baz=193,slow=12,SNR=3.7								
PETK	**Petropavlovsk-**	**61.41**	**9**	*e*P		**P**	**08 37 40.3**		**-1.8**
PEA1	**Petropavlovsk-**	**61.41**	**9**	*e*P		**P**	**08 37 40.0**		**-2.0**
GTA	**Gaotai**	**61.85**	**322**	*e*P		**P**	**08 37 46.0**		**+0.5**
GTA				pP		pP	08 37 56.0		-0.2
GTA				sP		sP	08 38 00.8		+0.5
GTA				pmax		pmax			
	comp=Z,2.0nm,1.2s								
SONA0	**Songino Array**	**64.14**	**333**	*e*P		**P**	**08 38 00.3**		**-0.2**
SONM	**Songino Array**	**64.14**	**333**	P		**P**	**08 38 00.3**		**-0.2**
	comp=Z,0.7nm,0.7s,baz=150,slow=6.8,SNR=4.4								
SONA1	**Songino Array**	**64.14**	**333**	*e*P		**P**	**08 37 59.9**		**-0.7**
WMQ	**Urumqi**	**71.83**	**321**	*e*P		**P**	**08 38 50.5**		**+1.7**
WMQ				LR		LR			
	comp=N,88nm,17.7s								
WMQ				LR		LR			
	comp=E,98nm,19.1s								
WMQ				LR		LR			
	comp=Z,75nm,15.1s								
MK01	**Makanchi Array**	**76.57**	**322**	*e*P		**P**	**08 39 16.4**		**0.0**
MK31	**Makanchi Array**	**76.59**	**322**	*e*P		**P**	**08 39 16.8**		**+0.3**
	comp=Z,3.6nm,0.9s								
MK32	**Makanchi Array**	**76.59**	**322**	*e*P		**P**	**08 39 16.5**		**0.0**
MKAR	**Makanchi Array**	**76.59**	**322**	P		**P**	**08 39 16.5**		**-0.1**
	comp=Z,3.9nm,0.8s,baz=111,slow=6.6,SNR=34								
MKAR	**Makanchi Array**	**76.59**	**322**	*e*P		**P**	**08 39 16.4**		**-0.1**
	comp=Z,21nm,0.9s								
MAKZ	**Makanchi**	**76.79**	**322**	*e*P		**P**	**08 39 17.9**		**+0.3**
	comp=Z,7.4nm,1.1s								
KSH	**Kashi**	**77.98**	**313**	P		**P**	**08 39 25.5**		**+0.9**
KSH				pP		pP	08 39 39.0		+3.4
KSH				sP		sP	08 39 43.8		+4.2
KSH				PP		**PP**	**08 42 26.5**		**+5.4**
KSH				S		**S**	**08 49 14.0**		**-2.0**
KSH	**Kashi**	**77.98**	**313**	sS		sS	08 49 33.0		-1.2
KSH				pmax		pmax			
	comp=Z,10.0nm,0.6s								
KSH				pmax		pmax			
	comp=Z,260nm,6.0s								
KSH				LR		LR			
	comp=N,76nm,5.6s								
KSH				LR		LR			
	comp=E,28nm,8.3s								
KSH				LR		LR			
	comp=Z,440nm,7.4s								
ZAA0	**Zalesovo Array**	**78.53**	**329**	*e*P		**P**	**08 39 26.8**		**-0.4**
	comp=Z,3.7nm,0.8s								
ZALV	**Zalesovo Beam**	**78.53**	**329**	P		**P**	**08 39 26.0**		**-1.2**
	comp=Z,2.5nm,0.6s,baz=109,slow=4.9,SNR=14								
ZALV	**Zalesovo Beam**	**78.53**	**329**	*e*P		**P**	**08 39 26.8**		**-0.4**
ZAA1	**Zalesovo Array**	**78.54**	**329**	*e*P		**P**	**08 39 26.0**		**-1.2**
ANM	**Nome**	**81.06**	**20**	*e*P		**P**	**08 39 38.7**		**-1.9**
	comp=Z,6.0nm,1.2s								
NRIK	**Noril'sk**	**85.64**	**343**	P		**P**	**08 40 03.6**		**-0.4**
	comp=Z,1.5nm,0.3s,baz=143,slow=20,SNR=5.2								
IM3	**Indian Mountai**	**85.91**	**21**	*e*P		**P**	**08 40 04.3**		**-1.2**
RND	**Reindeer**	**86.68**	**25**	*e*P		**P**	**08 40 07.1**		**-2.3**
	comp=Z,4.9nm,0.8s								
DHY	**Denali Highway**	**87.16**	**25**	*e*P		**P**	**08 40 09.7**		**-2.2**
	comp=Z,3.0nm,1.0s								
ILAR	**Eielson Array**	**88.00**	**24**	P		**P**	**08 40 13.1**		**-2.6**
	comp=Z,2.4nm,1.1s,baz=260,slow=5.0,SNR=12								
ILB	**Eielson Array**	**88.00**	**24**	*e*P		**P**	**08 40 12.8**		**-2.9**
DBIC	**Dimbokro**	**148.91**	**271**	PKPbc		**PKPbc**	**08 47 14.9**		**+0.1**
	comp=Z,3.0nm,0.7s,baz=58,slow=3.4,SNR=5.0								

*NNC **31** 08:49:31.5±2.8, 53°.48N×87°.66E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=22.7km s-min=9.9km az=57.0, Suspected Mining explosion.*

IDC 31 08:49:29.9±2.9, 53°.61N×87°.86E, h0km, mb1 3.2/2, mb1mx3.0/41, mbtmp3.2/2, ML2.6/2, 7C-6D, Error ellipse: s-maj=24.1km s-min=14.9km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
I46RU	**ZALESOVO INFRA**	**1.84**	**282**	*i*			09 04 20.0		
	baz=97,slow=356,SNR=2.1								
ZAA0	**Zalesovo Array**	**1.84**	**282**	⇑P		Pn	08 50 02.5		-0.2
	2.6nm,0.6s								
ZAA0				⇑S		Sn	08 50 26.7		+0.2
	17nm,1.5s								
ZALV	**Zalesovo Beam**	**1.84**	**282**	Pg		Pn	08 50 02.8		+0.2
	1.2nm,0.3s,baz=102,slow=13,SNR=23								
ZALV				Lg		Lg	08 50 28.3		
	2.9nm,0.3s,baz=96,slow=26,SNR=13								
KURK	**Kurchatov**	**6.38**	**247**	⇓Pn		Pn	08 51 04.3		-0.7
	2.4nm,1.2s								
KURK				⇓Lg		Lg	08 52 47.7		
	7.3nm,1.2s								
KURBB	**Kurchatov Arra**	**6.48**	**246**	Pn		Pn	08 51 07.2		+0.8
	0.1nm,0.3s,baz=62,slow=14,SNR=6.5								
KURBB				Sn		Sn	08 52 20.7		-0.3
	0.0nm,0.3s,baz=40,slow=21,SNR=3.7								
KURBB				Lg		Lg	08 52 54.5		
	0.1nm,0.3s,baz=63,slow=29,SNR=7.0								
KURBB	**Kurchatov Arra**	**6.48**	**246**	⇑Pn		Pn	08 51 06.7		+0.4
	2.8nm,1.0s								
KURBB				⇑Sn		Sn	08 52 18.7		-2.3
	3.4nm,0.7s								
KURBB				⇑Lg		Lg	08 52 53.8		
	6.5nm,0.8s								
MK31	**Makanchi Array**	**7.70**	**210**	⇓Pn		Pn	08 51 24.6		+1.4
	0.1nm,0.2s,baz=37,slow=12								
MK31				⇑Sn		Sn	08 52 49.8		-1.4
	2.9nm,1.1s								
MK31				⇑Lg		Lg	08 53 29.1		
	2.3nm,0.8s,baz=37,slow=31,SNR=3.7								
MKAR	**Makanchi Array**	**7.70**	**210**	Pn		Pn	08 51 24.5		+1.3
	0.2nm,0.3s,baz=26,slow=13,SNR=13								
MKAR				Sn		Sn	08 52 50.4		-0.8
	0.1nm,0.3s,baz=28,slow=28,SNR=7.6								
MKAR				Lg		Lg	08 53 32.1		
	0.0nm,0.3s,baz=21,slow=29,SNR=6.0								
MAKZ	**Makanchi**	**7.78**	**211**	⇓Pn		Pn	08 51 24.1		-0.2
	3.3nm,1.3s								
MAKZ				⇓Sn		Sn	08 52 51.6		-1.5
	1.7nm,1.0s								
MAKZ				⇓Lg		Lg	08 53 33.2		
	2.4nm,1.1s								

*KOLA **31** 09:01:45.5, 64°.65N×

*ISCJB **31** 09:02:40.0±0.9,51˚.48N×16˚.10E±0˚.05,h0km, Error ellipse: s-maj=6.0km s-min=3.6km az=27.4*
*PRU **31** 09:02:40.9±0.0,51˚.54N×16˚.15E,h0km*
*VIE **31** 09:02:44.2±1.5,51˚.24N×15˚.96E,h0km,mb2.5/4,ml2.5/5, Error ellipse: s-maj=9.5km s-min=6.6km az=55.0 75 km WNW of Wroclaw Suspected Mining induced.*

ISC 31 09:02:40.6±1.6,51˚.53N±0˚.07×16˚.15E±0˚.04,h0km,n15, σ0.72/34,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**172**	*e*Pg	**Pg**	**09 02 54.5**	**+0.5**
KSP				*e*Sg	**Sg**	**09 03 03.4**	**+0.3**
UPC	**Upice**	**1.03**	**185**	*e*PG	**Pg**	**09 03 00.7**	**+0.3**
UPC				*e*SG	**Sg**	**09 03 13.1**	**-0.6**
DPC	**Dobruska-Polom**	**1.19**	**175**	*e*PG	**Pg**	**09 03 03.4**	**0.0**
DPC				*e*SG	**Sg**	**09 03 18.9**	**+0.1**
	comp=Z,17nm,0.3s						
PVCC	**Panska Ves**	**1.42**	**225**	*e*PG	**Pg**	**09 03 07.8**	**+0.1**
PVCC				*e*SG	**Sn**	**09 03 27.0**	**0.0**
	comp=Z,50nm,0.2s						
BRG	**Berggiesshubel**	**1.54**	**245**	PG	**Pg**	**09 03 10.2**	**+0.2**
BRG				SG	**Sn**	**09 03 29.4**	**-0.5**
	40nm,0.3s						
PRU	**Pruhonice**	**1.85**	**214**	*e*PG	**Pb**	**09 03 14.8**	**-0.5**
PRU				*e*SG	**Sg**	**09 03 40.2**	**+0.1**
	comp=Z,21nm,0.8s						
MORC	**Moravsky Berou**	**1.97**	**153**	*e*PN	**Pn**	**09 03 14.8**	**-0.5**
MORC				*e*SG	**Sg**	**09 03 44.0**	**+0.1**
CLL	**Collm**	**1.98**	**265**	*e*Pn	**Pn**	**09 03 15.0**	**-0.4**
CLL				*i* Pg	**Pb**	**09 03 17.7**	**+0.2**
CLL				*i*		09 03 21.6	
CLL				*i* Sg	**Sb**	**09 03 43.3**	**+0.6**
	comp=Z,14nm,0.5s						
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*PN	**Pn**	**09 03 17.1**	**-0.2**
OKC				*e*PG	**Pb**	**09 03 20.0**	**+0.1**
OKC				*e*SG	**Sg**	**09 03 48.3**	**-0.5**
	comp=Z,15nm,0.5s						
VRAC	**Vranov**	**2.25**	**172**	*e*PN	**Pn**	**09 03 19.5**	**+0.4**
VRAC				*e*SG	**Sg**	**09 03 52.2**	**-0.6**
KRUC	**Moravsky**	**2.48**	**176**	*e*PN	**Pn**	**09 03 23.2**	**+0.9**
KRUC				*e*PG	**Pb**	**09 03 26.5**	**+0.5**
KRUC				*e*SG	**Sg**	**09 03 59.9**	**-0.4**
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	**Pn**	**09 03 27.8**	**-0.5**
KHC				*e*PG	**Pb**	**09 03 34.4**	**+0.9**
KHC				*e*SN	**Sn**	**09 04 02.4**	**-1.6**
KHC				*e*SG	**Sg**	**09 04 14.8**	**+0.6**
	comp=Z,9.3nm,0.6s						
CONA	**Conrad Observa**	**3.61**	**183**	*e*Pn	**Pn**	**09 03 38.9**	**+0.9**
	comp=Z,1.0nm,0.2s						
CONA				Sg	**Sg**	**09 04 36.6**	**-0.1**
	comp=Z,5.2nm,0.4s						
ARSA	**Arzberg**	**4.31**	**186**	*i* Sg	**Sg**	**09 04 56.4**	**-2.5**
	comp=Z,3.6nm,0.5s						
KBA	**Koelnbreinsper**	**4.82**	**203**	*e*Pn	**Pn**	**09 03 55.3**	**+0.7**
	comp=Z,2.0nm,0.5s						
KBA				Sg	**Sg**	**09 05 14.8**	**-0.7**
	comp=Z,2.9nm,0.4s						

MAN 31 09:16:46.7,6˚.78N×124˚.02E,h3km,mb4.3,ML3.1,MS2.8, 3C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.49**	**27**	⇑*i*P	Pg	09 16 56.7	+0.6
CTBH				*i* S	Sg	09 17 02.8	+0.2
SKMP	**Bagumbayan, Su**	**0.58**	**116**	*e*P	Pg	09 16 58.2	+0.3
KCP	**Kidapawan**	**1.09**	**78**	⇑*i*P	Pg	09 17 06.7	-0.9
KCP				*i* S	Sn	09 17 25.4	+0.8
PAGZ	**Pagadian**	**1.23**	**329**	*e*P	Pg	09 17 10.1	-0.3
BUKP	**Musuan**	**1.50**	**43**	*e*P	Pn	09 17 13.9	-0.7
BUKP				*e*S	Sn	09 17 34.8	0.0
IPIL	**Ipil**	**1.75**	**305**	*e*P	Pb	09 17 18.9	-0.6
IPIL				*e*S	Sn	09 17 41.3	+0.5
DDMP	**Don Marcelino,**	**1.81**	**112**	*e*P	Pn	09 17 18.7	-0.1
DDMP				*e*S	Sn	09 17 42.4	+0.1
SCPH	**Surigao**	**3.32**	**26**	⇑*e*P	Pb	09 17 46.8	+0.5

*KRNET **31** 09:27:49.4±0.1,41˚.00N×69˚.44E,mb3.3*
*SOME **31** 09:27:50.0,40˚.85N×69˚.80E,h5km*
*ISCJB **31** 09:27:52.4±1.0,40˚.98N±0˚.04×69˚.54E±0˚.07,h10km, Error ellipse: s-maj=8.1km s-min=4.8km az=162.8*
*NNC **31** 09:27:53.4±1.2,41˚.05N×69˚.78E,h0km,mb4.0,mpv3.7, Error ellipse: s-maj=9.2km s-min=6.0km az=55.0*

ISC 31 09:27:53.5±1.3,41˚.00N±0˚.04×69˚.84E±0˚.06,h10km,n42, σ2.45/61,23C-14D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**luzhnay**	**1.16**	**7**	P	**Pg**	**09 28 13.6**	**-2.2**
	365nm,0.2s						
IUG				S	**Sn**	**09 28 30.6**	**-1.3**
	366nm,0.4s						
IUG	**luzhnay**	**1.16**	**7**	*e*P	**Pg**	**09 28 13.6**	**-2.2**
	365nm,0.2s						
IUG				*e*S	**Sn**	**09 28 30.2**	**-1.7**
	366nm,0.4s						
BTK	**Batken**	**1.20**	**141**	⇑*i*P	**Pn**	**09 28 15.6**	**-0.8**
	baz=31						
BTK				⇑*i*S	**Sn**	**09 28 34.7**	**+1.9**
	baz=31						
CHM	**Chimkent**	**1.33**	**352**	*e*P	**Pg**	**09 28 18.0**	**-1.1**
	168nm,0.2s						
CHM				*e*S	**Sn**	**09 28 38.0**	**+1.9**
	2μm,0.5s						
ARK	**Arkit**	**1.79**	**63**	⇑*i*P	**Pb**	**09 28 26.6**	**+0.2**
	baz=67						
ARK				⇑*i*S	**Sg**	**09 28 54.0**	**+3.0**
	baz=67						
DRK	**Karamyk**	**2.13**	**135**	⇑*i*P	**Pn**	**09 28 31.0**	**+1.6**
	baz=29						
DRK				⇑*i*S	**Sb**	**09 29 01.0**	**+2.0**
	baz=29						
KK31	**Karatay Array**	**2.17**	**13**	Pn	**Pb**	**09 28 31.6**	**-1.3**
	13nm,0.3s,baz=201,slow=13,SNR=283						
KK31				⇓Lg	Lg	09 29 01.8	
	66nm,0.4s,baz=199,slow=27,SNR=21						
DZA	**Taraz**	**2.20**	**30**	*e*P	**Pg**	**09 28 34.2**	**-1.4**
	103nm,0.3s						
DZA				*e*S	**Sg**	**09 29 05.8**	**+1.7**
	200nm,0.4s						
ARSB	**Arslanbob**	**2.40**	**81**	⇑*e*P	**Pb**	**09 28 35.5**	**-1.3**
	baz=82						
ARSB				⇑*i*S	**Sb**	**09 29 08.4**	**+1.9**
	baz=82						
MNAS	**Manas**	**2.49**	**52**	⇓Pn	**Pn**	**09 28 35.3**	**+1.1**
	11nm,0.5s						
MNAS				⇑Lg	Lg	09 29 12.8	
	28nm,0.5s						
MNAS	**Manas**	**2.49**	**52**	Pg	**Pb**	**09 28 38.2**	**-0.2**
	7.4nm,0.3s						
MNAS				Lg	Lg	09 29 12.3	
	14nm,0.4s						
MNAS	**Manas**	**2.49**	**52**	⇑*i*P	**Pn**	**09 28 35.5**	**+1.3**
	baz=56						
MNAS				⇑*i*S	**Sb**	**09 29 10.0**	**+0.8**
	baz=56						
SFK	**Sufi-Kurgan**	**2.96**	**108**	⇓Pn	**Pn**	**09 28 43.0**	**+2.2**
	5.2nm,0.4s						
SFK				⇑Lg	Lg	09 29 30.9	
	19nm,0.6s						
SFK	**Sufi-Kurgan**	**2.96**	**108**	Pg	**Pb**	**09 28 44.0**	**-2.5**
	6.3nm,0.3s						
SFK				Lg	Lg	09 29 21.9	
	6.4nm,0.3s						
SFK	**Sufi-Kurgan**	**2.96**	**108**	⇑*i*P	**Pn**	**09 28 43.0**	**+2.2**
	baz=6.0						
SFK				⇑*i*S	**Sb**	**09 29 21.9**	**-0.9**
	baz=6.0						
MRKS	**Merke**	**3.08**	**54**	Pg	**Pb**	**09 28 48.8**	**+0.4**
	15nm,0.5s						
MRKS				Lg	Lg	09 29 30.2	
	36nm,0.5s						
MRKS	**Merke**	**3.08**	**54**	*e*P	**Pb**	**09 28 48.8**	**+0.4**
	15nm,0.5s						
MRKS				*e*S	**Sg**	**09 29 30.2**	**-2.0**
	36nm,0.5s						
AML	**Almayashu**	**3.11**	**67**	P	**Pn**	**09 28 44.3**	**+1.4**
	SNR=6.6						
AML	**Almayashu**	**3.11**	**67**	⇓*e*P	**Pn**	**09 28 45.1**	**+2.2**
	baz=69						
AML				⇓*i*S	**Sb**	**09 29 25.7**	**-1.5**
	baz=69						
EKS2	**Erkin-Say**	**3.38**	**59**	P	**Pb**	**09 28 55.3**	**+1.7**
	SNR=22						
EKS2	**Erkin-Say**	**3.38**	**59**	⇑*i*P	**Pn**	**09 28 48.6**	**+2.1**
	baz=61						
EKS2				⇑*i*S	**Sb**	**09 29 31.6**	**-3.2**
	baz=61						
ARLS	**Aral**	**3.48**	**74**	⇓*i*P	**Pn**	**09 28 50.5**	**+2.6**
	baz=75						
ARLS				⇓*i*S	**Sb**	**09 29 35.7**	**-2.0**
	baz=75						
UCH	**Uchtor**	**3.71**	**69**	P	**Pb**	**09 29 01.2**	**+1.8**
	SNR=13						
UCH	**Uchtor**	**3.71**	**69**	⇑*e*P	**Pn**	**09 28 53.7**	**+2.4**
	baz=70						
UCH				⇑*i*S	**Sb**	**09 29 40.6**	**-4.1**
	baz=70						
AAK	**Ala-Archa**	**3.85**	**63**	P	**Pb**	**09 29 03.3**	**+1.7**
	SNR=14						
AAK	**Ala-Archa**	**3.85**	**63**	⇑Pg	**Pb**	**09 29 03.4**	**+1.9**
	4.9nm,0.3s						
AAK				⇓Lg	Lg	09 29 55.8	
	14nm,0.6s						
USP	**Ospenovka**	**4.14**	**55**	P	**Pb**	**09 29 08.6**	**+2.1**
	SNR=14						
USP	**Ospenovka**	**4.14**	**55**	⇑*e*P	**Pn**	**09 28 59.0**	**+2.1**
	baz=57						
USP				⇑*i*S	**Sn**	**09 29 49.2**	**+3.8**
	baz=57						
CHMS	**Chumysh**	**4.17**	**60**	P	**Pb**	**09 29 09.5**	**+2.5**
	SNR=5.8						
KZA	**Kyzart**	**4.20**	**73**	⇓*e*P	**Pn**	**09 29 00.3**	**+2.3**
	baz=74						
KZA				⇓*i*S	**Sn**	**09 29 52.6**	**+5.2**
	baz=74						
SGDS	**Sogindy**	**4.32**	**54**	Pg	**Pb**	**09 29 10.7**	**+1.1**
	17nm,0.9s						
SGDS				Lg	Lg	09 30 07.7	
	20nm,0.7s						
TKM2	**Tokmak 2**	**4.70**	**64**	P	**Pb**	**09 29 18.7**	**+2.5**
	SNR=11						
TKM2	**Tokmak 2**	**4.70**	**64**	⇓Pg	**Pb**	**09 29 17.9**	**+1.7**
	5.1nm,0.7s						
TKM2				⇑Lg	Lg	09 30 24.1	
	14nm,0.8s						
KST	**Kastek**	**5.00**	**64**	Pg	**Pb**	**09 29 23.5**	**+2.3**
	12nm,0.6s						
KST				Lg	Lg	09 30 29.6	
	30nm,0.5s						
KST	**Kastek**	**5.00**	**64**	*e*P	**Pb**	**09 29 23.5**	**+2.3**
	12nm,0.6s						
KST				*e*S	**Sg**	**09 30 29.6**	**-4.4**
	30nm,0.5s						
MTBS	**Maitube**	**5.35**	**64**	*e*P	**Pg**	**09 29 32.3**	**-3.6**
	6.4nm,0.5s						
MTBS				*e*S	**Sg**	**09 30 44.8**	**-0.4**
	12nm,0.5s						
KUU	**Kurty**	**5.61**	**57**	Pg	**Pb**	**09 29 35.0**	**+3.4**
	10nm,0.8s						
KUU				Lg	Lg	09 30 49.2	
	15nm,0.5s						
KUU	**Kurty**	**5.61**	**57**	*e*P	**Pb**	**09 29 35.0**	**+3.4**
	10nm,0.8s						
KUU				*e*S	**Sg**	**09 30 49.2**	**-4.4**
	15nm,0.5s						
ARXS	**Arharly**	**6.71**	**59**	Pg	Pb	09 29 55.5	+5.1
	3.6nm,0.8s						
ARXS				Lg	Lg	09 31 24.6	
	6.5nm,0.5s						
ARXS	**Arharly**	**6.71**	**59**	*e*P	Pb	09 29 55.5	+5.1
	3.6nm,0.8s						
ARXS				*e*S	**Sg**	**09 31 24.6**	**-4.3**
	6.5nm,0.5s						
PDGK	**Podgornoye**	**7.54**	**69**	⇓Pg	**Pg**	**09 30 14.2**	**-3.7**
	1.8nm,0.6s						
PDGK				⇑Lg	Lg	09 31 51.7	
	4.3nm,0.8s						
MK31	**Makanchi Array**	**10.69**	**53**	⇓Sn	**Sn**	**09 32 29.8**	**+3.5**
	1.5nm,0.6s,baz=311,slow=26,SNR=3.1						
MK31				⇓Lg	Lg	09 33 34.8	
	1.6nm,0.7s						

*PGC **31** 09:53:39.6±0.2,55˚.39N×134˚.86W,h1km±4km,ML5.9/12, Mw6.0,Mw5.9*
PGC 187km Sse of Sitka, Ak Southeastern Alaska Felt in Massett.
*BJI **31** 09:53:40.0,55˚.60N×134˚.75W,h5km,mb5.4/58,mB6.0/73, Ms6.2/85,Ms7 5.9/80*
*AEIC **31** 09:53:40.4,55˚.44N×135˚.02W,h13km*
*NEIC **31** 09:53:40.4±0.0,55˚.44N×135˚.02W,h13km,mb5.6/299, ME6.0,MS5.7/150,MW5.9,MW5.9,MW5.9,ML5.6(AEIC), MW5.9(OTT),Moment Tensor Solution. s59 Moment tensor: Scale 10^17Nm; Mrr=0.69; Mθθ3.20; Mϕϕ-2.51; Mrθ-1.84; Mθϕ7.05; Mϕr-1.77; Best double couple: M08.00000×10^17 NP1:ϕs190.00000°,δ82.00000°, λ166.00000°. NP2:ϕs282.00000°,δ76.00000°,λ8.00000°. Principal axes: T 8.6300, Plg15.0000°, Azm146.0000°; N -1.3400, Plg74.0000°, Azm341.0000°; P -7.2900, Plg4.0000°, Azm237.0000°; Broadband fault plane solution: P waves. NP1:ϕs183.00000°,δ70.00000°, λ175.00000°. NP2:ϕs275.00000°,δ85.00000°,λ20.00000°. Principal axes: T Plg18.0000°, Azm141.0000°; N Plg0.0000°, Azm0.0000°; P Plg10.0000°, Azm47.0000°; Apparent Stress 0.89 MPa. Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism. After AEIC.*
NEIC Felt [IV] at Ketchikan and Wrangell; [III] at Craig, Klawock, Petersburg, Sitka and Thorne Bay; [II] at Juneau. Felt throughout southeastern Alaska. Felt [II] at Prince Rupert, British Columbia. Also felt at Smithers and Terrace.
*MOS **31** 09:53:41.9±1.0,55˚.57N×134˚.83W,h10km,mb5.7/123, MS5.6/84 Error ellipse: s-maj=8.0km s-min=3.3km az=104.2*
*IDC **31** 09:53:42.1±0.4,55˚.57N×134˚.83W,h0km,mb5.1/32, mb1 5.3/39,mb1mx5.3/44,mbtmp5.1/39,ML4.5/7,MS5.5/46, Ms1 5.5/46,ms1mx5.4/54,Error ellipse: s-maj=9.5km s-min=7.3km az=41.0*
*ISCJB **31** 09:53:42.2±0.1,55˚.57N±0˚.01×134˚.76W±0˚.02,h14km, mb5.5/395,MS5.6/246,Error ellipse: s-maj=2.3km s-min=1.1km az=140.0*
*NEIC **31** 09:53:43.0±0.0,55˚.38N×135˚.10W,h11km,Moment Tensor Solution. s82 Moment tensor: Scale 10^17Nm; Mrr-1.74; Mθθ3.89; Mϕϕ-2.14; Mrθ-0.74; Mθϕ6.62; Mϕr-2.94; Best double couple: M08.00000×10^17 NP1:ϕs14.00000°, δ84.00000°,λ-155.00000°. NP2:ϕs281.00000°, δ65.00000°,λ-7.00000°. Principal axes: T 8.6400, Plg12.0000°, Azm145.0000°; N -1.4000, Plg64.0000°, Azm27.0000°; P -7.2400, Plg21.0000°, Azm240.0000°;*
*GCMT **31** 09:53:46.4±0.1,55˚.41N±0˚.01×135˚.14W±0˚.01,h12km, MW5.9/146,Moment Tensor Solution. s124,c256; s146,c456; Duration: 2s2 Moment tensor: Scale 10^17 Nm; Mrr-0.81±.06; Mθθ3.77±.06; Mϕϕ-2.97±.06; Mrθ-2.43±.14; Mθϕ7.06±.05; Mϕr-4.34±.14; Best double couple: M09.17500×10^17 NP1:ϕs194.00000°,δ89.00000°, λ149.00000°. NP2:ϕs284.00000°,δ59.00000°,λ2.00000°. Principal axes: T 10.0380, Plg23.0000°, Azm145.0000°; N -1.7340, Plg59.0000°, Azm11.0000°; P -8.3110, Plg20.0000°, Azm243.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **31** 09:54:12.5±0.0,56˚.24N×135˚.27W,h26km,Moment Tensor Solution. s28 Moment tensor: Scale 10^17Nm; Mrr-1.22; Mθθ3.75; Mϕϕ-2.53; Mrθ1.71; Mθϕ7.86; Mϕr1.23; Best double couple: M08.70000×10^17 NP1:ϕs101.00000°, δ82.00000°,λ8.00000°. NP2:ϕs10.00000°,δ83.00000°, λ172.00000°. Principal axes: T 9.4900, Plg11.0000°, Azm326.0000°; N -1.6300, Plg79.0000°, Azm149.0000°; P -7.8500, Plg1.0000°, Azm56.0000°;*

ISC 31 09:53:43.2±0.4,55˚.37N±0˚.03×134˚.82W±0˚.03,h10km±2km, h10km:pP-P,n1740,σ1s92/1782,mb5.6/417,MS5.7/251, 50C-27D,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	**Craig**	**0.97**	**83**	P	**Pg**	**09 54 00.4**	**-1.5**
CRAG				S	**Sb**	**09 54 14.8**	**-0.2**
SIT	**Sitka**	**1.71**	**351**	P	Pn	09 54 08.2	-4.9
SIT				S	**Sn**	**09 54 30.2**	**-4.9**
SIT	**Sitka**	**1.71**	**351**	P	Pn	09 54 08.2	-4.9
SIT				S	**Sn**	**09 54 30.2**	**-4.9**
WRAK	**Wrangell Islan**	**1.74**	**52**	P	**Pn**	**09 54 10.7**	**-2.8**
WRAK				S	**Sn**	**09 54 34.0**	**-1.8**
NDB	**Naden**	**1.79**	**142**	P	**Pn**	**09 54 11.8**	**-2.4**
NDB	**Naden**	**1.79**	**142**	P	Pn	**09 54 11.5**	**-2.7**
MASB	**Masset**	**2.11**	**129**	P	**Pn**	**09 54 16.3**	**-2.2**
MASB	**Masset**	**2.11**	**129**	P	Pn	**09 54 16.1**	**-2.4**
DIB	**Dawson Inlet,**	**2.57**	**147**	*e*Pn	**Pn**	**09 54 22.5**	**-2.3**
DIB	**Dawson Inlet,**	**2.57**	**147**	Pn	**Pn**	**09 54 22.2**	**-2.6**
DIB				Sn	**Sn**	**09 54 53.9**	**-2.1**
MOBC	**Moresby Island**	**2.79**	**142**	Pn	**Pn**	**09 54 25.0**	**-2.8**
MOBC				Sn	**Sn**	**09 54 58.8**	**-2.7**
RUBB	**Prince Rupert**	**2.84**	**110**	Pn	**Pn**	**09 54 25.6**	**-3.0**
HG1B	**Mitchell Dam**	**2.91**	**146**	Pn	**Pn**	**09 54 26.9**	**-2.6**
HG1B				Sn	**Sn**	**09 55 02.5**	**-1.8**
JIS	**Juneau Island**	**2.92**	**4**	P	**Pn**	**09 54 26.5**	**-3.2**
JIS				S	**Sn**	**09 55 01.5**	**-3.3**
BNAB	**Bonilla**	**3.08**	**126**	P	**Pn**	**09 54 29.3**	**-2.6**
BNAB	**Bonilla**	**3.08**	**126**	Pn	**Pn**	**09 54 29.1**	**-2.8**
BESE	**Bessie Mountai**	**3.22**	**360**	P	**Pn**	**09 54 30.2**	**-3.7**
BESE	**Bessie Mountai**	**3.22**	**360**	Pn	**Pn**	**09 54 30.1**	**-3.8**
BESE				Sn	**Sn**	**09 55 09.0**	**-3.3**
BNB	**Barry Inlet**	**3.33**	**146**	P	**Pn**	**09 54 33.4**	**-2.0**
BNB	**Barry Inlet**	**3.33**	**146**	Pn	**Pn**	**09 54 32.6**	**-2.8**
HG3B	**Hotspring**	**3.43**	**143**	Pn	**Pn**	**09 54 33.6**	**-3.1**
HG3B				Sn	**Sn**	**09 55 14.0**	**-3.4**
DLBC	**Dease Lake**	**4.04**	**39**	Pn	**Pn**	**09 54 43.1**	**-2.1**
	58nm,0.3s,baz=200,slow=13,SNR=580						
DLBC				Pg	**Pb**	**09 54 53.9**	**-0.6**
	114nm,0.3s,baz=224,slow=15,SNR=30						
DLBC				Lg	Lg	09 55 46.7	
	809nm,0.3s,baz=308,slow=19,SNR=5.8						
DLBC				LR	LR	09 56 10.8	
	comp=Z,54μm,18.1s,baz=218,slow=38						
DLBC	**Dease Lake**	**4.04**	**39**	Pn	**Pn**	**09 54 42.8**	**-2.4**
DLBC				Sn	**Sn**	**09 55 26.9**	**-5.7**
SKAG	**Skagway**	**4.11**	**356**	P	**Pn**	**09 54 42.9**	**-3.1**
SKAG				S	**Sn**	**09 55 30.6**	**-3.6**
PLBC	**Pleasant Camp**	**4.18**	**349**	P	**Pn**	**09 54 43.8**	**-3.2**
PLBC	**Pleasant Camp**	**4.18**	**349**	Pn	**Pn**	**09 54 43.8**	**-3.2**
PLBC				Sn	**Sn**	**09 55 30.9**	**-5.0**
YKU2	**Yakutat**	**4.91**	**330**	P	**Pn**	**09 54 52.3**	**-4.7**
PNL	**Peninsula**	**4.97**	**332**	P	**Pn**	**09 54 54.1**	**-3.7**
PNL	**Peninsula**	**4.97**	**332**	Pn	**Pn**	**09 54 54.1**	**-3.7**
PNL				Sn	**Sn**	**09 55 48.4**	**-6.9**
BBB	**Bella Bella**	**5.10**	**126**	Pn	**Pn**	**09 54 57.2**	**-2.3**
	93nm,0.3s,baz=297,slow=3.6,SNR=197						
BBB				Sn	**Sn**	**09 55 55.4**	**-3.0**
	138nm,0.3s,baz=24,slow=20,SNR=5.3						
BBB				Lg	Lg	09 56 27.6	
	339nm,0.3s,baz=227,slow=23,SNR=7.0						
BBB	**Bella Bella**	**5.10**	**126**	P	**Pn**	**09 54 57.7**	**-1.8**
BBB	**Bella Bella**	**5.10**	**126**	Pn	**Pn**	**09 54 57.2**	**-2.3**
BBB				Sn	**Sn**	**09 55 53.6**	**-4.8**
BCPM	**Bancas Point**	**5.27**	**333**	P	**Pn**	**09 54 58.7**	**-3.3**
WHY	**Whitehorse**	**5.31**	**360**	P	**Pn**	**09 54 59.6**	**-2.9**
WHY	**Whitehorse**	**5.31**	**360**	Pn	**Pn**	**09 54 59.6**	**-2.9**
WHY				Sn	**Sn**	**09 55 57.3**	**-6.4**
YUK7	**Dusty Glacier**	**5.47**	**342**	P	**Pn**	**09 55 02.1**	**-2.7**
YUK7	**Dusty Glacier**	**5.47**	**342**	Pn	**Pn**	**09 55 01.5**	**-3.4**
YUK7				Sn	**Sn**	**09 56 01.2**	**-6.7**
BCBC	**Bella Coola**	**5.63**	**119**	Pn	**Pn**	**09 55 06.2**	**-0.7**
HYT	**Haines Junctio**	**5.65**	**347**	P	**Pn**	**09 55 05.1**	**-2.3**
HYT	**Haines Junctio**	**5.65**	**347**	Pn	**Pn**	**09 55 05.3**	**-2.1**
HYT				Sn	**Sn**	**09 56 06.1**	**-6.2**
SAMH	**Samovar Hills**	**5.74**	**329**	P	**Pn**	**09 55 06.0**	**-2.5**
YUK6	**Outpost Mounta**	**5.90**	**343**	P	**Pn**	**09 55 07.6**	**-3.2**
YUK6	**Outpost Mounta**	**5.90**	**343**	Pn	**Pn**	**09 55 08.2**	**-2.6**
YUK6				Sn	**Sn**	**09 55 15.3**	**-3.1**
YUK5	**Granite Creek**	**6.00**	**346**	P	**Pn**	**09 55 09.8**	**-2.2**
YUK5	**Granite Creek**	**6.00**	**346**	Pn	**Pn**	**09 55 10.0**	**-2.0**
YUK5				Sn	**Sn**	**09 56 15.6**	**-5.2**
RKAV	**Rock Avalanche**	**6.05**	**327**	P	**Pn**	**09 55 09.9**	**-2.8**
MESA	**MESA**	**6.15**	**325**	P	**Pn**	**09 55 10.5**	**-3.7**
YUK4	**Talbot Arm**	**6.32**	**343**	P	**Pn**	**09 55 15.3**	**-1.3**
YUK4	**Talbot Arm**	**6.32**	**343**	Pn	**Pn**	**09 55 15.2**	**-1.3**
PHC	**Port Hardy**	**6.45**	**133**	Pn	**Pn**	**09 55 15.8**	**-2.3**
PHC				Sn	**Sn**	**09 56 27.8**	**-4.0**
KULT	**Kultieth River**	**6.46**	**122**	P	**Pn**	**09 55 14.0**	**-4.3**
PACB	**Port Alice, BC**	**6.63**	**135**	Pn	**Pn**	**09 55 19.2**	**-1.4**
PACB				Sn	**Sn**	**09 56 33.8**	**-2.4**
TLCB	**Telegraph Cove**	**6.82**	**132**	Pn	**Pn**	**09 55 22.2**	**-1.0**
TLCB				Sn	**Sn**	**09 56 36.2**	**-4.6**
YUK3	**Moose Creek**	**7.07**	**338**	Pn	**Pn**	**09 55 25.0**	**-1.8**
YUK3				Sn	**Sn**	**09 56 42.0**	**-5.2**
HMT	**Hamilton**	**7.08**	**319**	*e*Pn	Pn	09 55 21.0	-5.8
YUK2	**White River**	**7.16**	**336**	Pn	**Pn**	**09 55 26.1**	**-1.7**
YUK2				Sn	**Sn**	**09 56 44.7**	**-4.7**
BMBC	**Bull Mountain**	**7.20**	**79**	Pn	**Pn**	**09 55 28.8**	**+0.3**
BMBC				Sn	**Sn**	**09 56 47.4**	**-3.0**
EDB	**Eliza Dome**	**7.22**	**136**	Pn	**Pn**	**09 55 28.0**	**-0.7**
EDB				Sn	**Sn**	**09 56 46.9**	**-3.9**
FNBB	**Fort Nelson**	**7.33**	**56**	Pn	**Pn**	**09 55 29.9**	**-0.4**
MID	**Middleton Isla**	**7.43**	**308**	P	Pn	09 55 25.5	-6.1
MID	**Middleton Isla**	**7.43**	**308**	P	Pn	09 55 25.5	-6.1
SGAM	**Sherman Glacie**	**7.55**	**317**	P	**Pn**	**09 55 29.7**	**-3.5**
BVCY	**Beaver Creek**	**7.72**	**339**	Pn	**Pn**	**09 55 33.8**	**-1.8**
GDR	**Gold River**	**7.74**	**133**	Pn	**Pn**	**09 55 35.1**	**-0.7**
EYAK	**Cordova Ski Ar**	**7.79**	**316**	*e*Pn	**Pn**	**09 55 35.7**	**-0.7**
CBB	**Campbell River**	**7.84**	**129**	Pn	**Pn**	**09 55 37.1**	**-0.1**
CBB				Sn	**Sn**	**09 57 02.5**	**-3.5**
ETB	**Estevan Point**	**7.85**	**136**	Pn	**Pn**	**09 55 38.0**	**+0.7**
MWAB	**Mount Washingt**	**8.08**	**130**	Sn	**Sn**	**09 57 08.3**	**-3.8**
DIV	**Divide**	**8.16**	**319**	P	**Pn**	**09 55 37.7**	**-4.0**
DIV	**Divide**	**8.16**	**319**	Pn	**Pn**	**09 55 37.6**	**-4.0**
DIV				Sn	**Sn**	**09 57 05.7**	**-8.2**
BTB

B010 North Saanich 9.71 129 Pn Pn 09 56 04.2 +1.5
PGC Sidney 9.71 129 ePn Pn 09 56 05.1 +2.3
PGC Sidney 9.71 129 Pn Pn 09 56 04.4 +1.6
B009 North Saanich 9.71 129 Pn Pn 09 56 03.9 +1.2
B011 North Saanich 9.71 129 Pn Pn 09 56 04.5 +1.8
PA12 PA12 Sannich 9.71 129 Pn Pn 09 56 02.6 -0.1
PMR Palmer 9.74 316 ePn Pn 09 55 59.0 -4.1
PMR Palmer 9.74 316 eP Pn 09 55 59.0 -4.1
SNB Saturna Island 9.74 128 Pn Pn 09 56 05.3 +2.0
GHO Glory Hole Cre 9.76 317 ePn Pn 09 56 01.1 -2.4
SCRK Sand Creek 9.79 336 ePn Pn 09 56 01.9 -2.1
RIDG Independ'e Rid 9.80 333 ePn Pn 09 56 02.8 -1.3
VGZ Gonzales 9.94 130 Pn Pn 09 56 07.3 +1.4
MCW Mount Constitu 9.96 127 Pn Pn 09 56 07.0 +0.7
A04D Lummi Island 9.99 127 P Pn 09 56 08.0 +1.3
baz=316,SNR=106
HOM Homer 10.01 302 ePn Pn 09 56 03.1 -3.8
DHY Denali Highway 10.04 325 ePn Pn 09 56 05.9 -1.5
VDB Vedder Mountai 10.05 124 Pn Pn 09 56 09.7 +2.2
KDAK Kodiak Island 10.09 291 Pn Pn 09 56 02.5 -5.5
31nm,0.3s,baz=78,slow=8.8,SNR=177
KDAK Sn Sn 09 57 49.9 -11
baz=229,slow=19,SNR=3.1
KDAK LR LR 09 59 16.1
comp=Z,32µm,20.8s,baz=109,slow=33
KDAK Kodiak Island 10.09 291 ePn Pn 09 56 03.1 -4.9
KDAK Sn Sn 09 57 49.9 -11
KDAK Kodiak Island 10.09 291 eP Pn 09 56 03.1 -4.9
HOPB Hope 10.14 121 Pn Pn 09 56 11.4 +2.7
HILA High Level 10.22 65 Pn Pn 09 56 09.7 -0.1
MBW Mount Baker 10.32 124 Pn Pn 09 56 13.5 +2.2
SUA Susitna One 10.33 313 ePn Pn 09 56 08.6 -2.8
BLN Blyn Mountain 10.40 130 Pn Pn 09 56 14.1 +1.7
OHAK Old Harbor 10.43 288 ePn Pn 09 56 07.7 -4.9
NLWA Neilton Lookou 10.51 135 ePn Pn 09 56 15.8 +2.1
B05A Bryant 10.60 127 P Pn 09 56 17.1 +2.1
baz=317,SNR=268
HDW Hoodsport 10.64 132 Pn Pn 09 56 17.2 +1.6
B06A Marblemount 10.70 124 ePn Pn 09 56 19.1 +2.7
B06A Marblemount 10.70 124 Pn Pn 09 56 18.7 +2.4
D03D Eldon 10.71 132 P Pn 09 56 18.6 +2.0
baz=321,SNR=48
JCW Jim Creek 10.73 127 Pn Pn 09 56 19.0 +2.2
RPW Rockport 10.74 125 Pn Pn 09 56 19.3 +2.4
RND Reindeer 10.75 324 ePn Pn 09 56 16.2 -0.9
RND Reindeer 10.75 324 eP Pn 09 56 16.2 -0.9
WISH Wishkah 10.77 136 Pn Pn 09 56 19.3 +2.1
SMW South Mountain 10.78 134 Pn Pn 09 56 20.4 +2.9
RSO Redoubt South 10.80 305 ePn Pn 09 56 13.6 -4.4
GNW Green Mountain 10.80 131 Pn Pn 09 56 19.9 +2.1
SLEB Sale Mountain 10.84 106 Pn Pn 09 56 19.6 +1.2
HDA Harding Lake 10.90 331 ePn Pn 09 56 17.1 -2.0
HDA Harding Lake 10.90 331 P Pn 09 56 16.5 -2.5
baz=141,SNR=124
RDEA Red Earth Cree 10.99 76 Pn Pn 09 56 19.4 -0.9
MCK McKinley 11.00 325 ePn Pn 09 56 18.7 -1.8
MCK McKinley 11.00 325 eP Pn 09 56 18.7 -1.8
PNT Penticton 11.09 117 Pn Pn 09 56 24.0 +2.3
D04E Lakebay 11.13 132 P Pn 09 56 25.2 +3.0
baz=322,SNR=53
CPW Capitol Peak 11.14 134 Pn Pn 09 56 24.8 +2.3
GPW Glacier Peak 11.15 125 Pn Pn 09 56 25.2 +2.5
IL1 Eielson Array 11.17 332 ePn Pn 09 56 20.8 -1.9
ILAR Eielson Array 11.17 332 Pn Pn 09 56 20.1 -2.6
11nm,0.3s,baz=158,slow=12,SNR=494
ILAR Lg Lg 09 59 29.5
0.6nm,0.3s,baz=124,slow=21,SNR=3.0
ILAR LR LR 10 00 43.6
comp=Z,91µm,19.7s,baz=145,slow=38
ILB Eielson Array 11.17 332 ePn Pn 09 56 20.6 -2.2
C05A Tolt Reservoir 11.21 128 Pn Pn 09 56 25.6 +2.2
WRH Wood River Hil 11.27 329 ePn Pn 09 56 22.2 -1.9
TRF Thorofare Moun 11.27 322 ePn Pn 09 56 23.2 -1.1
C06D Leavenworth 11.40 125 P Pn 09 56 28.5 +2.5
baz=316,SNR=45
PRP Porcupine Dome 11.45 337 ePn Pn 09 56 25.2 -1.5
COLA College 11.51 331 ePn Pn 09 56 25.3 -2.0
COLA College 11.51 331 i P Pn 09 56 24.9 -2.4
COLA College 11.51 331 eP Pn 09 56 25.1 -2.2
TCOL CIGO, UAF Yank 11.51 331 P Pn 09 56 25.5 -1.9
baz=140,SNR=71
POKR Poker Plat Res 11.58 333 P Pn 09 56 26.4 -2.1
baz=142,SNR=76
PPLA Purkeypile 11.65 317 ePn Pn 09 56 26.8 -2.6
MDM Murphy Dome 11.68 331 ePn Pn 09 56 27.5 -2.2
E04D Cinebar 11.71 134 P Pn 09 56 32.8 +2.7
baz=323,SNR=107
FMW Mount Fremont 11.79 130 Pn Pn 09 56 33.5 +2.0
B08A Colville Reser 11.85 120 ePn Pn 09 56 34.4 +2.2
B08A Colville Reser 11.85 120 Pn Pn 09 56 34.5 +2.4
LON Longmire 11.87 131 ePn Pn 09 56 34.7 +2.2
LON Longmire 11.87 131 eP Pn 09 56 34.7 +2.2
CAST Castle Rocks 11.90 320 ePn Pn 09 56 29.7 -3.0
F04D Rainier, OR 11.91 136 P Pn 09 56 34.6 +1.7
baz=326,SNR=32
BPAW Bear Paw Mtn. 11.93 324 ePn Pn 09 56 29.9 -3.1
LTY Liberty 11.99 127 ePn Pn 09 56 36.7 +2.6
FYU Fort Yukon 12.29 340 ePn Pn 09 56 38.2 +0.2
SVW2 Sparrevohn 12.32 306 ePn Pn 09 56 36.5 -2.0
ATHA Athabasca 12.34 84 Pn Pn 09 56 36.8 -2.1
MLY Manley 12.47 327 ePn Pn 09 56 38.2 -2.3
G03D McMinnville, O 12.55 139 P Pn 09 56 43.7 +2.0
baz=328,SNR=28
YKA Yellowknife Ar 12.60 47 Pn Pn 09 56 39.8 -2.5
1.2nm,0.3s,baz=240,slow=11,SNR=109
YKA Lg Lg 10 00 12.6
1.2nm,0.3s,baz=248,slow=30,SNR=5.1
YKA LR LR 10 01 19.6
comp=Z,3µm,20.7s,baz=246,slow=37
YKB5 Yellowknife Ar 12.60 47 ePn Pn 09 56 40.0 -2.2
YKW3 Yellowknife Ar 12.63 47 ePn Pn 09 56 40.2 -2.4
YKW3 Yellowknife Ar 12.63 47 Pn Pn 09 56 39.2 -3.4
YKW1 Yellowknife Ar 12.64 47 Pn Pn 09 56 42.1 -0.8
F05D White Salmon 12.71 133 P Pn 09 56 46.7 +2.9
baz=323,SNR=93
C09A Chrisman Ranch 12.75 120 ePn Pn 09 56 46.8 +2.3
C09A Chrisman Ranch 12.75 120 Pn Pn 09 56 46.6 +2.1
E07A Sunnyside 12.89 127 ePn Pn 09 56 48.7 +2.4
D08A Wollman Farm, 12.96 123 ePn Pn 09 56 49.0 +1.7
INK Inuvik 13.00 2 Pn Pn 09 56 45.5 -2.2
1.8nm,0.3s,baz=175,slow=13,SNR=40
INK Sn Sn 09 59 11.8 -0.3
1.7nm,0.3s,baz=189,slow=9.1,SNR=2.3
INK Lg Lg 10 00 27.6
1.2nm,0.3s,baz=101,slow=30,SNR=4.6
INK LR LR 10 01 40.6
comp=Z,18µm,18.9s,baz=178,slow=37
INK Inuvik 13.00 2 Pn Pn 09 56 45.5 -2.2
NEW Newport 13.03 116 Pn Pn 09 56 50.2 +1.9
1.6nm,0.3s,baz=316,slow=12,SNR=114
NEW Lg Lg 10 00 33.9
1.0nm,0.3s,baz=266,slow=20,SNR=5.0
NEW LR LR 10 02 09.2
comp=Z,19µm,19.7s,baz=304,slow=39
NEW Newport 13.03 116 P Pn 09 56 50.5 +2.3
baz=310,SNR=442
COR Corvallis 13.07 141 ePn Pn 09 56 51.4 +2.6
COR Corvallis 13.07 141 eP Pn 09 56 51.4 +2.6
PRDA Priddis 13.11 102 Pn Pn 09 56 49.7 +0.3
FSMA Fort Smith 13.11 60 Pn Pn 09 56 47.2 -2.1
HAWA Hanford 13.16 127 ePn Pn 09 56 51.8 +1.8
CHGN Chignik 13.28 284 ePn Pn 09 56 50.5 -1.1
G05D Wamic, OR 13.29 134 P Pn 09 56 53.9 +2.2
baz=324,SNR=74
E08A Dider Farm, El 13.30 125 ePn Pn 09 56 53.2 +1.3
H04D Lebanon 13.33 140 P Pn 09 56 54.9 +2.6
baz=329,SNR=38
F07A Phinny Hill Vi 13.36 129 ePn Pn 09 56 55.4 +2.7
E09A Wood Farm, Sta 13.72 123 ePn Pn 09 56 59.2 +1.6
I03D Drain, OR 13.83 143 P Pn 09 57 01.2 +2.1
baz=332,SNR=45
COLD Coldfoot 13.94 335 ePn Pn 09 56 59.9 -0.6
COLD Coldfoot 13.94 335 Pn Pn 09 56 56.4 -4.1
I05D Terrebonne, OR 14.02 136 P Pn 09 57 03.5 +1.7
baz=327,SNR=52
IM3 Indian Mountai 14.04 327 ePn Pn 09 57 00.1 -1.8
I04A Tendick Farm, 14.08 140 P Pn 09 57 04.3 +1.8
baz=330,SNR=126
J01E Myrtle Point 14.11 145 P Pn 09 57 05.0 +2.1
baz=334,SNR=19
KEBM Edson Butte 14.24 147 ePn Pn 09 57 06.4 +1.5
WALA Waterton Lakes 14.26 108 Pn Pn 09 57 06.1 +1.1
G08A Pilot Rock 14.26 128 ePn Pn 09 57 06.7 +1.6
F10A Beach Ranch, E 14.55 123 ePn Pn 09 57 10.1 +1.1
SDPT Sand Point 14.57 281 ePn Pn 09 57 07.2 -2.0
K02D Willamette Mer 14.62 146 P Pn 09 57 12.2 +2.2
baz=334,SNR=39
PINE Pine Mountain 14.64 137 ePn Pn 09 57 11.9 +1.5
J04D Umpqua Nationa 14.67 141 P Pn 09 57 12.7 +1.9
baz=330,SNR=104
HUMO Hull Mountain 14.93 144 ePn P 09 57 17.1 -2.7
133nm,0.8s
J05D Fork, OR 14.95 138 P Pn 09 57 16.6 +2.0
baz=329,SNR=246
I07A Izee 14.98 133 ePn Pn 09 57 16.6 +1.6
668nm,1.4s
L02E Cave Junction 15.12 146 P Pn 09 57 19.2 +2.5
baz=335,SNR=29
K04D Chiloquin, OR 15.33 141 P Pn 09 57 21.4 +1.8
baz=331,SNR=7.3
BMO Blue Mountains 15.35 126 ePn Pn 09 57 19.2 -0.6
309nm,1.3s
BMO Blue Mountains 15.35 126 eP Pn 09 57 19.2 -0.6
BMO pmax pmax
comp=Z,309nm,1.3s
L04D Klamath Falls 15.49 143 P Pn 09 57 23.8 +2.1
baz=332,SNR=43
YBH Yreka Blue Hor 15.79 145 Pn P 09 57 28.9 -0.6
comp=Z,0.7nm,0.3s,baz=349,slow=7.7,SNR=36
YBH LR LR 10 02 46.8
comp=Z,60µm,18.3s,baz=337,slow=34
YBH Yreka Blue Hor 15.79 145 ePn P 09 57 29.1 -0.4
comp=Z,734nm,1.8s
J08A Circle Bar Ran 16.00 132 ePn Pn 09 57 29.7 +1.4
comp=Z,379nm,1.1s
M04C Macdoel 16.04 143 P P 09 57 31.0 -1.3
baz=332,SNR=76
M02C Callahan 16.05 146 P P 09 57 31.6 -0.7
baz=334,SNR=25
JCC Jacoby Creek, 16.21 149 ePn P 09 57 33.9 -0.2
comp=Z,351nm,1.2s
KHMM Horse Mountain 16.25 149 ePn P 09 57 35.0 +0.4
comp=Z,599nm,1.6s
FALS False Pass 16.32 280 ePn Pn 09 57 31.3 -1.0
comp=Z,757nm,1.4s
N02D Trinity Center 16.48 146 P P 09 57 37.2 +0.1
baz=335,SNR=58
MOD Modoc Plateau 16.49 139 ePn P 09 57 36.6 -0.7
comp=Z,504nm,1.5s
WVOR Wild Horse Val 16.70 134 ePn Pn 09 57 38.3 +1.1
comp=Z,298nm,1.3s
WVOR Wild Horse Val 16.70 134 eP Pn 09 57 38.3 +1.1
WVOR pmax pmax
comp=Z,298nm,1.3s
HRY Holter Researc 16.79 112 ePn P 09 57 40.1 -0.4
KMRM Mail Ridge 16.86 149 ePn P 09 57 43.9 +2.6
comp=Z,624nm,1.2s
WDC Whiskeytown Da 16.89 146 ePn P 09 57 42.6 +1.1
comp=Z,622nm,1.5s
WDC Whiskeytown Da 16.89 146 eP P 09 57 42.6 +1.1
WDC pmax pmax
comp=Z,622nm,1.5s
EGMT Eagleton 17.12 105 ePn Pn 09 57 43.1 +0.6
comp=Z,2µm,1.6s
EGMT Eagleton 17.12 105 P Pn 09 57 42.1 -0.3
baz=305,SNR=184
EGMT S Sn 10 00 51.0 -1.7
baz=305
O02D Mt. Diablo Mer 17.18 147 P P 09 57 45.9 +1.1
baz=336,SNR=26
DLMT Dillon 17.28 116 ePn P 09 57 45.4 -0.6
comp=Z,961nm,1.8s
O03E Paynes Creek 17.38 145 P P 09 57 47.3 +0.1
baz=334,SNR=33
KCPM Cahto Peak 17.39 150 ePn P 09 57 48.5 +1.3
comp=Z,485nm,1.7s
MCMT McKenzie Canyo 17.52 118 ePn P 09 57 50.1 +1.3
BOZ Bozeman (W) 17.62 114 ePn P 09 57 49.5 -0.3
comp=Z,512nm,1.6s
BOZ Bozeman (W) 17.62 114 eP P 09 57 49.5 -0.3
BOZ pmax pmax
comp=Z,512nm,1.6s
BOZ Bozeman (W) 17.62 114 P P 09 57 49.6 -0.2
baz=312,SNR=159
ANM Nome 17.67 314 ePn Pn 09 57 48.2 -0.9
comp=Z,561nm,1.3s
ANM Nome 17.67 314 eP Pn 09 57 48.2 -0.9
ANM pmax pmax
comp=Z,561nm,1.3s
HLID Hailey 17.68 123 ePn P 09 57 51.1 +0.6
comp=Z,851nm,1.3s
HLID Hailey 17.68 123 P P 09 57 51.2 +0.7
baz=319,SNR=845
AKUT Akutan 17.84 279 ePn P 09 57 52.3 +0.3
comp=Z,939nm,1.3s
ORV Oroville 18.15 145 ePn P 09 57 56.8 +1.3
comp=Z,191nm,1.3s
ORV Oroville 18.15 145 eP P 09 57 56.8 +1.3
ORV pmax pmax
comp=Z,191nm,1.3s
RDOG Red Dog Mine 18.17 325 ePn Pn 09 57 55.2 0.0
comp=Z,374nm,1.0s
HOPS Hopland Field 18.18 149 ePn P 09 57 59.3 +3.5
comp=Z,278nm,1.3s
BEKR Beckworth 18.26 142 eP P 09 57 59.4 +2.6
comp=Z,498nm,1.4s
UNV Unalaska Valle 18.34 278 ePn Pn 09 57 56.1 -1.2
comp=Z,879nm,1.6s
YHB Horse Butte 18.42 115 eP Pn 09 58 00.8 +2.1
comp=Z,483nm,1.3s
GDXM Geysers 18.43 149 eP Pn 09 58 01.1 +2.4
comp=Z,164nm,1.4s
GCMT Greycliff 18.53 111 eP Pn 09 58 01.6 +1.7
YMR Madison River 18.60 115 eP Pn 09 58 02.8 +1.9
comp=Z,521nm,1.2s
YNR Norris Junctio 18.71 115 eP Pn 09 58 04.7 +2.4
comp=Z,418nm,1.5s
FFC Flin Flon 18.73 78 eP P 09 58 01.6 -0.3
comp=Z,384nm,1.0s
FFC Flin Flon 18.73 78 i P P 09 58 01.4 -0.4
PAHR Pah Rah Range 18.75 140 eP Pn 09 58 04.2 +1.6
comp=Z,1µm,1.6s
YFT Old Faithful 18.81 116 eP Pn 09 58 06.6 +3.0
comp=Z,214nm,1.1s
AFDM Forest Hills D 18.87 145 eP Pn 09 58 05.0 +1.0
comp=Z,688nm,2.0s
BMN Battle Mountai 18.95 135 eP Pn 09 58 06.7 +1.5
comp=Z,242nm,1.5s
BMN Battle Mountai 18.95 135 eP Pn 09 58 06.7 +1.5
BMN pmax pmax
comp=Z,242nm,1.5s
YPP Pitchstone Pla 18.96 116 eP Pn 09 58 07.5 +2.2
comp=Z,388nm,1.6s
LKWY Lake 18.96 115 eP Pn 09 58 07.7 +2.4
comp=Z,576nm,1.8s
LKWY Lake 18.96 115 eP Pn 09 58 07.7 +2.4
LKWY pmax pmax
comp=Z,576nm,1.8s
H17A Grant Village 18.99 115 eP Pn 09 58 08.0 +2.4
comp=Z,254nm,0.9s
H17A Grant Village 18.99 115 P Pn 09 58 07.0 +1.4
baz=314,SNR=219
VCNR Virginia City 19.01 141 eP Pn 09 58 07.6 +1.7
comp=Z,268nm,1.1s
MCCM Marconi Confer 19.02 150 eP Pn 09 58 09.2 +3.5
comp=Z,268nm,1.5s
RUBR Rubicon Trail 19.05 143 eP Pn 09 58 08.3 +1.9
comp=Z,718nm,1.6s
FLWY Flagg Ranch 19.14 116 eP Pn 09 58 09.0 +1.6
comp=Z,1µm,1.5s
RLMT Red Lodge 19.18 112 eP Pn 09 58 09.2 +1.3
comp=Z,887nm,1.3s
RLMT Red Lodge 19.18 112 P Pn 09 58 08.1 +0.3
baz=312,SNR=134
PNTR Pine Nut 19.22 142 eP Pn 09 58 09.8 +1.4
comp=Z,508nm,1.4s
FXWY Fox Creek 19.29 118 eP Pn 09 58 10.3 +1.1
comp=Z,739nm,1.8s
MOOW Moose Ponds 19.36 117 eP Pn 09 58 11.4 +1.4
comp=Z,749nm,1.5s
YERR Yerington 19.44 141 eP Pn 09 58 12.0 +1.0
comp=Z,371nm,1.3s
LOHW Long Hollow 19.52 117 eP Pn 09 58 13.3 +1.2
comp=Z,1µm,1.6s
ELK Elko 19.53 130 P Pn 09 58 12.9 +0.8
comp=Z,0.8nm,0.3s,baz=320,slow=11,SNR=89
ELK Lg Lg 10 04 07.7
comp=Z,0.1nm,0.3s,baz=232,slow=17,SNR=3.0
ELK LR LR 10 05 55.2
comp=Z,46µm,19.1s,baz=328,slow=37
ELK Elko 19.53 130 eP Pn 09 58 12.5 +0.4
comp=Z,270nm,1.3s
ELK Lg Lg 10 04 07.7
ELK Elko 19.53 130 eP Pn 09 58 12.5 +0.4
ELK pmax pmax
comp=Z,270nm,1.3s
SNOW Snow King Moun 19.55 118 eP Pn 09 58 13.9 +1.4
comp=Z,884nm,1.5s
REDW Red Top Meadow 19.58 118 eP Pn 09 58 13.8 +1.1
comp=Z,757nm,1.4s
SPIA Saint Paul Isl 19.62 290 eP Pn 09 58 13.4 +0.6
comp=Z,1µm,1.0s
WAKR Walker 19.79 142 eP Pn 09 58 16.0 +0.8
comp=Z,1µm,1.5s
KVN Kaiserville 19.80 139 eP Pn 09 58 15.5 +0.2
comp=Z,1µm,1.6s
KVN Kaiserville 19.80 139 eP Pn 09 58 15.5 +0.2
KVN pmax pmax
comp=Z,1µm,1.6s
HVU Hansel Valley 19.82 124 eP Pn 09 58 16.1 +0.6
comp=Z,923nm,2.0s
HVU Hansel Valley 19.82 124 eP Pn 09 58 16.1 +0.6
HVU pmax pmax
comp=Z,923nm,2.0s
LAO LASA Array 19.85 104 eP Pn 09 58 16.1 +0.4
comp=Z,975nm,1.3s
LAO LASA Array 19.85 104 P Pn 09 58 15.6 -0.1
baz=307,SNR=110
AHID Auburn Hatcher 19.89 119 eP Pn 09 58 17.8 +1.5
comp=Z,1µm,1.4s
AHID LR LR
comp=Z,37µm,21.0s
CMB Columbia Colle 19.89 145 eP Pn 09 58 16.4 +0.1
comp=Z,215nm,1.4s
CMB LR LR
comp=Z,31µm,21.0s
CMB Columbia Colle 19.89 145 eP Pn 09 58 16.4 +0.1
CMB pmax pmax
comp=Z,215nm,1.4s
CMB MLR MLR
comp=Z,31µm,21.0s
NIKH Nikolski High 19.95 277 eP P 09 58 15.4 +0.3
comp=Z,3µm,2.0s
DGMT Dagmar 19.99 97 eP Pn 09 58 17.2 -0.1
comp=Z,2µm,1.6s
DGMT LR LR
comp=Z,3µm,21.0s
DGMT Dagmar 19.99 97 P Pn 09 58 16.9 -0.4
baz=302,SNR=109
RYN Ryan 20.01 140 eP Pn 09 58 18.2 +0.4
comp=Z,305nm,1.3s
RYN LR LR
comp=Z,43µm,20.0s
GAMB Gambell 20.21 309 eP P 09 58 18.6 +0.8
comp=Z,2µm,1.8s
GAMB LR LR
comp=Z,13µm,21.0s
NV01 Mina Array Sit 20.27 140 eP Pn 09 58 20.3 -0.5
NVAR Mina Array Bea 20.27 140 P Pn 09 58 21.1 +0.3
comp=Z,25nm,0.8s,baz=318,slow=11,SNR=90
NVAR PcP PcP 10 02 33.9 +1.6
comp=Z,4.4nm,0.7s,baz=279,slow=1.4,SNR=5.2
NVAR LR LR 10 05 43.7
comp=Z,38µm,19.3s,baz=328,slow=35
NV11 Mina Array Sit 20.32 140 eP Pn 09 58 21.0 -0.4
comp=Z,43nm,1.6s
NV11 LR LR
comp=Z,3µm,18.0s
SPUT South Promonto 20.34 124 eP Pn 09 58 21.7 0.0
comp=Z,202nm,1.3s
SPUT LR LR
comp=Z,15µm,19.0s
BGU Big Grassy Mou 20.37 126 eP Pn 09 58 22.3 +0.3
comp=Z,466nm,1.9s
BGU LR LR
comp=Z,25µm,18.0s
HWUT Hardware Ranch 20.53 122 eP Pn 09 58 24.3 +0.4
comp=Z,110nm,0.9s
HWUT LR LR
comp=Z,2µm,19.0s
BW06 Boulder Array 20.66 117 eP Pn 09 58 26.0 +0.5
comp=Z,510nm,1.2s
BW06 LR LR
comp=Z,20µm,21.0s
BW06 Boulder Array 20.66 117 P Pn 09 58 24.4 -1.1
baz=316,SNR=430
PD31 Pinedale Array 20.66 117 eP Pn 09 58 25.5 0.0
PDAR Pinedale Array 20.66 117 P Pn 09 58 25.2 -0.2
comp=Z,100nm,0.9s,baz=307,slow=5.2,SNR=144
PDAR Lg Lg 10 04 41.1
comp=Z,4.2nm,1.2s,baz=304,slow=24,SNR=2.9
PDAR LR LR 10 07 20.8
comp=Z,10µm,19.5s,baz=328,slow=39
PDAR Pinedale Array 20.66 117 eP Pn 09 58 25.6 +0.1
PDAR Lg Lg 10 04 41.1
MDPB Devils Postpil 20.70 142 eP Pn 09 58 25.8 -0.1
comp=Z,240nm,1.4s
MDPB LR LR
comp=Z,34µm,21.0s
SAO San Andreas Ge 20.73 148 eP Pn 09 58 27.0 +1.0
comp=Z,170nm,1.3s
SAO LR LR
comp=Z,18µm,18.0s
SAO San Andreas Ge 20.73 148 eP Pn 09 58 27.0 +1.0
SAO pmax pmax
comp=Z,170nm,1.3s
SAO MLR MLR
comp=Z,18µm,18.0s
MLAC Mammoth, Mammo 20.79 142 P Pn 09 58 26.7 -0.3
baz=334,SNR=23
TCUT Toone Canyon 20.98 123 eP Pn 09 58 29.7 +0.4
comp=Z,947nm,1.5s
TCUT LR LR
comp=Z,10µm,20.0s
DUG Dugway, Tooele 21.05 127 eP P 09 58 28.9 +1.6
comp=Z,154nm,1.1s
DUG LR LR
comp=Z,33µm,19.0s
DUG Dugway, Tooele 21.05 127 eP P 09 58 28.9 +1.6
DUG pmax pmax
comp=Z,154nm,1.1s
DUG MLR MLR
comp=Z,33µm,19.0s
DUG Dugway, Tooele 21.05 127 P P 09 58 28.6 +1.3
baz=324,SNR=107
CTU Camp Tracy 21.15 124 eP P 09 58 30.7 +2.3
comp=Z,59nm,1.0s
JLU Jordanelle 21.36 124 eP P 09 58 32.5 +1.7
comp=Z,276nm,1.6s
R11A Troy Canyon, C 21.39 135 eP P 09 58 31.7 +0.7
comp=Z,324nm,1.8s
R11A LR LR
comp=Z,39µm,21.0s
R11A Troy Canyon, C 21.39 135 P P 09 58 31.9 +0.8
baz=329,SNR=116
TIN Tinemaha, Big 21.52 141 P P 09 58 34.2 +1.9
baz=334,SNR=20
NLU North Lily Min 21.59 126 eP P 09 58 34.6 +1.5
comp=Z,142nm,1.3s
NLU LR LR
comp=Z,40µm,18.0s
VOG Valley Oaks Go 21.78 145 P P 09 58 36.2 +1.2
baz=336,SNR=6.7
GRAC Grapevine Rang 21.88 140 P P 09 58 37.5 +1.3
baz=333,SNR=14
PSUT Pine Spring 21.96 131 eP P 09 58 38.4 +1.2
comp=Z,286nm,1.2s
PAGB Antelope Grade 22.05 147 eP P 09 58 40.2 +2.4
comp=Z,290nm,1.2s
PAGB LR LR
comp=Z,10µm,22.0s
CWC Cottonwood Cre 22.12 142 P P 09 58 40.7 +1.9
baz=334
FCC Fort Churchill 22.15 64 eP P 09 58 39.1 +0.3
comp=Z,831nm,1.5s
FCC Fort Churchill 22.15 64 P P 09 58 37.0 -1.8
FCC Fort Churchill 22.15 64 eP P 09 58 39.1 +0.3
FCC pmax pmax
comp=Z,831nm,1.5s
K22A Casper 22.32 113 eP P 09 58 41.7 +0.8
comp=Z,923nm,1.7s
K22A LR LR
comp=Z,23µm,20.0s
K22A Casper 22.32 113 P P 09 58 40.7 -0.2
baz=315,SNR=96
VES Vestal, Richgr 22.32 145 P P 09 58 41.4 +0.7
baz=336,SNR=13
TPNV Topopah Spring 22.34 138 eP P 09 58 42.4 +1.2
comp=Z,328nm,1.1s

TPNV LR LR
comp=Z,51µm,19.0s
TPNV Topopah Spring 22.34 138 *eP* **P 09 58 42.4 +1.2**
TPNV pmax pmax
comp=Z,328nm,1.1s
TPNV MLR MLR
comp=Z,51µm,19.0s
TPNV Topopah Spring 22.34 138 P **P 09 58 41.5 +0.3**
baz=331,SNR=197
DAC Darwin (Calif) 22.44 141 *eP* **P 09 58 43.9 +1.6**
comp=Z,244nm,1.3s
DAC LR LR
comp=Z,34µm,18.0s
DAC Darwin (Calif) 22.44 141 *eP* **P 09 58 43.9 +1.6**
DAC pmax pmax
comp=Z,244nm,1.3s
DAC MLR MLR
comp=Z,34µm,18.0s
TCRU Three Creeks R 22.51 129 PFAKE 09 58 50.0 +6.9
TCRU LR LR
comp=Z,37µm,18.0s
SMMC Simmler 22.51 147 P **P 09 58 43.9 +1.0**
baz=338,SNR=24
FURC Furnace Creek, 22.54 140 P **P 09 58 43.7 +0.7**
baz=333,SNR=179
P17A Butcher Ranch, 22.59 125 *eP* **P 09 58 46.6 +2.8**
comp=Z,241nm,1.6s
P17A LR LR
comp=Z,18µm,19.0s
RWWY Rawlins 22.64 116 *eP* **P 09 58 46.0 +1.5**
comp=Z,412nm,1.3s
RWWY LR LR
comp=Z,42µm,22.0s
RSSD Black Hills 22.66 107 *eP* **P 09 58 45.6 +1.0**
comp=Z,460nm,1.3s
RSSD LR LR
comp=Z,14µm,22.0s
RSSD Black Hills 22.66 107 *eP* **P 09 58 45.6 +1.0**
RSSD pmax pmax
comp=Z,460nm,1.3s
RSSD MLR MLR
comp=Z,14µm,22.0s
RSSD Black Hills 22.66 107 P **P 09 58 44.7 +0.1**
baz=311
MPMC Manual Prospec 22.67 141 P **P 09 58 46.2 +1.4**
baz=334,SNR=150
ISA Isabella, Lake 22.68 144 *eP* **P 09 58 46.2 +1.4**
comp=Z,282nm,1.4s
ISA LR LR
comp=Z,12µm,20.0s
ISA Isabella, Lake 22.68 144 *eP* **P 09 58 46.2 +1.4**
ISA pmax pmax
comp=Z,282nm,1.4s
ISA MLR MLR
comp=Z,12µm,20.0s
ISA Isabella, Lake 22.68 144 P **P 09 58 46.0 +1.2**
baz=335,SNR=57
MSU Marysvale 22.71 129 *eP* **P 09 58 47.2 +2.0**
MSU Marysvale 22.71 129 *eP* **P 09 58 47.2 +2.0**
Q16A Castle Valley 22.83 126 *eP* **P 09 58 47.1 +0.7**
comp=Z,806nm,2.0s
Q16A LR LR
comp=Z,21µm,18.0s
MDND Maddock 22.93 94 *eP* **P 09 58 48.7 +1.5**
comp=Z,783nm,1.4s
MDND Maddock 22.93 94 P **P 09 58 47.8 +0.6**
baz=303,SNR=21
PKM Mcpherson Peak 22.96 147 P **P 09 58 49.5 +1.7**
baz=338,SNR=27
SRU San Rafael Swe 22.98 125 *eP* **P 09 58 49.9 +1.9**
comp=Z,190nm,1.1s
SRU LR LR
comp=Z,24µm,19.0s
SRU San Rafael Swe 22.98 125 *eP* **P 09 58 49.9 +1.9**
SRU pmax pmax
comp=Z,190nm,1.1s
SRU MLR MLR
comp=Z,24µm,19.0s
CCUT Cedar City 22.99 132 *eP* **P 09 58 49.8 +1.6**
comp=Z,147nm,1.3s
CCUT LR LR
comp=Z,42µm,18.0s
ARVC Arvin 23.05 145 P **P 09 58 49.2 +0.7**
baz=336,SNR=9.4
SZCU Shurtz Canyon 23.07 131 *eP* **P 09 58 50.4 +1.4**
comp=Z,618nm,1.7s
SZCU LR LR
comp=Z,40µm,19.0s
MTPU Mount Pierson 23.09 129 *eP* **P 09 58 50.7 +1.4**
comp=Z,418nm,2.0s
MTPU LR LR
comp=Z,34µm,18.0s
LRMC Laurel Mtn Rad 23.12 142 P **P 09 58 50.7 +1.3**
baz=335,SNR=78
SHPR Sheep Range 23.15 136 *eP* **P 09 58 50.2 +0.5**
comp=Z,260nm,1.6s
SHPR LR LR
comp=Z,39µm,19.0s
SHOC Shoshone, Teco 23.26 139 P **P 09 58 51.9 +1.3**
baz=333,SNR=116
ATKA Atka Island 23.26 279 *eP* **P 09 58 50.4 -0.1**
comp=Z,250nm,0.8s
O20A White River Ci 23.28 120 *eP* **P 09 58 51.6 +0.6**
comp=Z,498nm,1.5s
O20A White River Ci 23.28 120 P **P 09 58 51.4 +0.4**
baz=320,SNR=89
SBC Santa Barbara 23.40 147 P **P 09 58 54.1 +2.1**
baz=338,SNR=7.0
LCMT Little Creek M 23.50 132 *eP* **P 09 58 55.0 +1.8**
comp=Z,333nm,1.8s
LCMT LR LR
comp=Z,44µm,18.0s
PKCU Pink Cliffs 23.53 130 *eP* **P 09 58 56.2 +2.4**
comp=Z,358nm,1.5s
PKCU LR LR
comp=Z,34µm,18.0s
EDW2 Edwards Air Fo 23.56 143 P **P 09 58 54.4 +0.7**
baz=336,SNR=20
OSI Osito Audit: C 23.56 145 *eP* **P 09 58 55.9 +2.2**
comp=Z,280nm,1.8s
OSI LR LR
comp=Z,20µm,21.0s
OSI Osito Audit: C 23.56 145 P **P 09 58 54.6 +0.9**
baz=337
GSC Goldstone, Bar 23.59 141 *eP* **P 09 58 55.2 +1.2**
comp=Z,164nm,1.1s
GSC LR LR
comp=Z,32µm,18.0s
GSC Goldstone, Bar 23.59 141 *eP* **P 09 58 55.2 +1.2**
GSC pmax pmax
comp=Z,164nm,1.1s
GSC MLR MLR
comp=Z,32µm,18.0s
GSC Goldstone, Bar 23.59 141 P **P 09 58 55.3 +1.2**
baz=334,SNR=75
KNB Kanab 23.67 132 *eP* **P 09 58 56.9 +1.9**
comp=Z,250nm,1.3s
KNB LR LR
comp=Z,35µm,18.0s
TUQ Turquoise Moun 23.80 139 P **P 09 58 57.5 +1.3**
baz=333,SNR=121
PHWY Pilot Hill 23.83 114 *eP* **P 09 58 57.8 +1.2**
comp=Z,499nm,1.9s
SCZ2 Santa Cruz Isl 23.84 147 P **P 09 58 57.6 +1.2**
baz=338,SNR=14
ULM Lac du Bonnet 23.86 86 P **P 09 58 56.5 +0.1**
comp=Z,35nm,0.8s,baz=296,slow=10,SNR=27
ULM Lg Lg 10 06 14.8
comp=Z,209nm,1.4s,baz=13,slow=17,SNR=12
ULM LR LR 10 09 16.0
comp=Z,12µm,18.5s,baz=299,slow=39
ULM Lac du Bonnet 23.86 86 *eP* **P 09 58 56.5 +0.1**
comp=Z,620nm,1.9s
ULM Lg Lg 10 06 14.8
ULM Lac du Bonnet 23.86 86 P **P 09 58 56.1 -0.3**
N23A Red Feather La 23.88 115 *eP* **P 09 58 58.0 +1.0**
comp=Z,366nm,1.4s
N23A Red Feather La 23.88 115 P **P 09 58 56.9 -0.1**
baz=317,SNR=32
RRX Edison Barstow 23.91 142 P **P 09 58 58.2 +1.2**
baz=334,SNR=10
BLG Laguna Peak, P 23.91 146 P **P 09 58 58.0 +0.9**
baz=338,SNR=12
DECC Green Verdugo 24.02 145 P **P 09 58 58.9 +0.8**
baz=336
PV09 Paradox Valley 24.12 124 *eP* **P 09 59 00.8 +1.4**
MWC Mount Wilson 24.14 144 *eP* **P 09 59 01.1 +1.8**
comp=Z,297nm,1.5s
MWC Mount Wilson 24.14 144 *eP* **P 09 59 01.1 +1.8**
MWC pmax pmax
comp=Z,297nm,1.5s
PASC Pasadena Art C 24.14 145 *eP* **P 09 59 01.1 +1.9**
comp=Z,329nm,1.7s
PV21 Cone Mtn., Par 24.15 123 *eP* **P 09 59 00.4 +0.8**
comp=Z,181nm,1.1s
PV21 LR LR
comp=Z,21µm,19.0s
HEC Hector,Ludlow 24.19 140 P **P 09 59 00.8 +1.1**
baz=334,SNR=24
PV23 Carpenter Ridg 24.22 124 *eP* **P 09 59 01.0 +0.8**
comp=Z,179nm,1.0s
PV23 LR LR
comp=Z,26µm,21.0s
BFSC Mount Baldy Ra 24.25 143 P **P 09 59 01.6 +1.2**
baz=336,SNR=101
PV10 Paradox Valley 24.27 124 *eP* **P 09 59 02.6 +2.0**
PV14 Lion Creek, Pa 24.27 124 *eP* **P 09 59 01.5 +0.8**
comp=Z,302nm,1.3s
PV20 West Nyswonger 24.33 124 *eP* **P 09 59 02.8 +1.7**
comp=Z,316nm,1.5s
PV19 Morning Glory 24.34 124 *eP* **P 09 59 02.4 +1.1**
comp=Z,357nm,1.5s
GSTR Great Sitkin T 24.36 280 *eP* **P 09 59 02.4 +1.3**
PV16 Nyswonger Mesa 24.38 124 *eP* **P 09 59 02.4 +0.8**
comp=Z,115nm,1.0s
PV17 East Wray Mesa 24.38 124 *eP* **P 09 59 02.4 +0.8**
comp=Z,447nm,1.5s
U15A North Rim 24.40 132 *eP* **P 09 59 03.2 +1.4**
comp=Z,522nm,2.0s
PV11 David Mesa, Pa 24.41 124 *eP* **P 09 59 02.7 +0.9**
comp=Z,134nm,0.8s
LDFC Landfair 24.42 138 *eP* **P 09 59 03.3 +1.4**
comp=Z,345nm,1.2s
PV12 Saucer Basin, 24.42 123 *eP* **P 09 59 03.2 +1.2**
comp=Z,200nm,1.2s
PV03 Paradox Valley 24.45 124 *eP* **P 09 59 03.0 +0.7**
PV05 Paradox Valley 24.47 124 *eP* **P 09 59 03.9 +1.3**
BBRC Big Bear Solar 24.49 142 P **P 09 59 03.9 +1.2**
baz=335,SNR=20
FMP Fort Macarthur 24.52 145 P **P 09 59 03.2 +0.5**
baz=337
PV13 Radium Mtn., P 24.54 124 *eP* **P 09 59 04.0 +0.9**
comp=Z,300nm,1.4s
PV02 Paradox Valley 24.54 124 *eP* **P 09 59 04.0 +0.9**
comp=Z,205nm,1.3s
SMCO Snowmass 24.64 119 *eP* **P 09 59 06.1 +1.9**
comp=Z,212nm,1.4s
PV01 Paradox Valley 24.68 123 *eP* **P 09 59 05.0 +0.6**
CIS Catalina Islan 24.77 146 P **P 09 59 06.1 +1.2**
baz=337,SNR=19
RES Resolute Bay 24.79 24 P **P 09 59 04.7 0.0**
comp=Z,58nm,1.0s,baz=243,slow=11,SNR=88
RES Lg Lg 10 06 38.9
comp=Z,33nm,1.1s,baz=333,slow=16,SNR=5.7
RES LR LR 10 08 36.7
comp=Z,15µm,18.2s,baz=240,slow=36
RES Resolute Bay 24.79 24 *eP* **P 09 59 04.3 -0.4**
comp=Z,289nm,1.4s
RES Lg Lg 10 06 38.9
RES Resolute Bay 24.79 24 P **P 09 59 04.3 -0.4**
ADK Adak 24.80 279 *eP* **P 09 59 06.2 +1.2**
comp=Z,214nm,1.4s
ADK LR LR
comp=Z,8µm,20.0s
ISCO Idaho Springs 24.86 117 *eP* **P 09 59 08.6 +2.5**
comp=Z,212nm,1.4s
ISCO LR LR
comp=Z,35µm,20.0s
ISCO Idaho Springs 24.86 117 *eP* **P 09 59 08.6 +2.5**
ISCO pmax pmax
comp=Z,212nm,1.4s
ISCO MLR MLR
comp=Z,35µm,20.0s
ISCO Idaho Springs 24.86 117 P **P 09 59 06.6 +0.5**
baz=319,SNR=39
W13A Hualapai Mount 24.88 136 *eP* **P 09 59 07.4 +1.2**
comp=Z,276nm,1.4s
NEE2 Needles Airpor 24.89 138 P **P 09 59 07.7 +1.7**
baz=332,SNR=10
MURC Murrieta 24.99 143 P **P 09 59 07.5 +0.5**
baz=336,SNR=36
BELC Belle Mtn. Jos 25.05 141 P **P 09 59 08.2 +0.6**
baz=334,SNR=82
KIWB Kanaga Island 25.07 280 *eP* **P 09 59 09.5 +2.0**
SCI2 San Clemente I 25.12 146 P **P 09 59 09.2 +1.2**
baz=338,SNR=21
IRM Iron Mountain 25.23 139 P **P 09 59 10.1 +1.1**
baz=333,SNR=100
PFO Pinyon Flats O 25.24 142 P **P 09 59 10.6 +1.3**
comp=Z,52nm,1.1s,baz=340,slow=7.7,SNR=42
PFO LR LR 10 08 50.1
comp=Z,15µm,18.4s,baz=331,slow=36
PFO Pinyon Flats O 25.24 142 *eP* **P 09 59 10.3 +1.0**
comp=Z,96nm,1.1s
PFO Pinyon Flats O 25.24 142 *eP* **P 09 59 10.3 +1.0**
PFO pmax pmax
comp=Z,96nm,1.1s
PFO Pinyon Flats O 25.24 142 P **P 09 59 09.6 +0.3**
baz=335,SNR=46
XPFO Pion Flat 25.24 142 *eP* **P 09 59 10.3 +1.0**
comp=Z,113nm,1.2s
SUSD Miller 25.27 101 P **P 09 59 09.4 0.0**
baz=309,SNR=12
MVCO Mesa Verde 25.45 125 *eP* **P 09 59 11.8 +0.4**
comp=Z,158nm,1.3s
MVCO LR LR
comp=Z,14µm,21.0s
MVCO Mesa Verde 25.45 125 P **P 09 59 11.6 +0.2**
baz=324,SNR=41
PDMCI Parker Dam,Lak 25.48 137 P **P 09 59 12.7 +1.4**
baz=332,SNR=62
BC3 Big Chuckawall 25.56 140 P **P 09 59 13.3 +1.1**
baz=334,SNR=39
WUAZ Wupatki 25.56 131 *eP* **P 09 59 13.8 +1.5**
comp=Z,150nm,1.1s
WUAZ LR LR
comp=Z,39µm,19.0s
WUAZ Wupatki 25.56 131 P **P 09 59 13.4 +1.2**
baz=328,SNR=63
109C Camp Elliot, M 25.67 144 P **P 09 59 14.5 +1.4**
baz=336,SNR=24
CPE Camp Elliot 25.67 144 *eP* **P 09 59 14.8 +1.7**
comp=Z,272nm,1.6s
Q24A Divide 25.72 117 *eP* **P 09 59 16.2 +2.3**
comp=Z,73nm,1.1s
Q24A Divide 25.72 117 P **P 09 59 14.6 +0.7**
baz=320,SNR=12
Y12C Blythe 25.82 138 *eP* **P 09 59 16.2 +1.7**
comp=Z,308nm,1.4s
Y12C Blythe 25.82 138 P **P 09 59 15.8 +1.3**
baz=333,SNR=58
S22A 4UR Ranch, Cre 25.83 121 *eP* **P 09 59 16.1 +1.3**
comp=Z,139nm,1.5s
S22A 4UR Ranch, Cre 25.83 121 P **P 09 59 15.5 +0.7**
baz=322,SNR=45
OGNE Ogallala 25.90 110 *eP* **P 09 59 17.3 +2.1**
comp=Z,435nm,1.3s
OGNE LR LR
comp=Z,12µm,22.0s
OGNE Ogallala 25.90 110 P **P 09 59 15.4 +0.1**
baz=315,SNR=41
MONP2 Monument Peak 25.90 143 P **P 09 59 16.3 +0.9**
baz=336,SNR=114
BAR Barrett 26.01 143 *eP* **P 09 59 17.7 +1.5**
comp=Z,211nm,1.7s
SWSC Sam W. Stewart 26.07 141 P **P 09 59 17.5 +0.8**
baz=335,SNR=35
SOLO Sioux Lookout 26.12 84 P **P 09 59 17.2 +0.2**
IKP In-o-Pah, Jac 26.23 142 P **P 09 59 19.5 +1.3**
baz=336,SNR=46
Y14A Wickenburg 26.25 136 *eP* **P 09 59 20.1 +1.7**
comp=Z,485nm,1.9s
GLA Glamis 26.33 140 *eP* **P 09 59 20.7 +1.6**
comp=Z,291nm,1.5s
GLA Glamis 26.33 140 *eP* **P 09 59 20.7 +1.6**
GLA pmax pmax
comp=Z,291nm,1.5s
GLA Glamis 26.33 140 P **P 09 59 20.1 +1.0**
baz=334,SNR=33
PKLO Pickle Lake 26.42 80 P **P 09 59 19.4 -0.4**
X16A Lo Mia Camp, P 26.47 133 *eP* **P 09 59 22.4 +1.8**
comp=Z,151nm,1.6s
SDCO Great Sand Dun 26.48 119 *eP* **P 09 59 21.9 +1.2**
comp=Z,74nm,1.4s
SDCO LR LR
comp=Z,18µm,22.0s
SDCO Great Sand Dun 26.48 119 P **P 09 59 21.3 +0.6**
baz=321,SNR=30
W18A Petrified Fore 26.61 129 *eP* **P 09 59 23.4 +1.6**
comp=Z,129nm,1.4s
W18A Petrified Fore 26.61 129 P **P 09 59 22.8 +1.0**
baz=327,SNR=23
113A Mohawk Valley, 26.98 138 *eP* **P 09 59 26.2 +1.3**
comp=Z,129nm,1.5s
KSCO Kaye Shedlock' 26.99 114 *eP* **P 09 59 26.6 +1.6**
comp=Z,201nm,1.2s
KSCO Kaye Shedlock' 26.99 114 P **P 09 59 25.7 +0.6**
baz=318,SNR=28
X18A Snowflake 27.02 130 *eP* **P 09 59 26.7 +1.3**
comp=Z,94nm,1.1s
ECSD EROS Data Cent 27.03 99 *eP* **P 09 59 25.5 +0.2**
comp=Z,115nm,1.2s
ECSD LR LR
comp=Z,32µm,19.0s
ECSD EROS Data Cent 27.03 99 P **P 09 59 25.1 -0.2**
baz=309,SNR=27
T25A Trinidad 27.50 119 *eP* **P 09 59 31.8 +2.0**
comp=Z,63nm,1.2s
T25A Trinidad 27.50 119 P **P 09 59 30.3 +0.5**
baz=321
EYMN Ely 27.50 87 *eP* **P 09 59 30.8 +1.3**
comp=Z,422nm,1.8s
EYMN LR LR
comp=Z,6µm,19.0s
EYMN Ely 27.50 87 P **P 09 59 29.9 +0.4**
baz=302
BGNE Belgrade 27.69 105 *eP* **P 09 59 33.2 +1.9**
comp=Z,270nm,1.3s
BGNE Belgrade 27.69 105 P **P 09 59 31.6 +0.3**
baz=313,SNR=13
214A Organ Pipe Nat 28.07 137 P **P 09 59 35.9 +1.1**
baz=333,SNR=39
F37A Hinrichs Farm, 28.09 92 P **P 09 59 35.2 +0.4**
baz=306
E38A The Farm, Brul 28.20 90 P **P 09 59 36.4 +0.7**
baz=304
ANMO Albuquerque 28.25 124 P **P 09 59 37.2 +0.7**
comp=Z,5.0nm,0.8s,baz=319,slow=9.1,SNR=21
ANMO PcP **PcP 10 02 50.8 +1.2**
comp=Z,3.3nm,0.8s,baz=297,slow=4.5,SNR=4.1
ANMO Lg Lg 10 08 44.9
comp=Z,0.3nm,0.3s,baz=235,slow=19,SNR=1.6
ANMO LR LR 10 11 08.5
comp=Z,16µm,20.6s,baz=323,slow=37
ANMO Albuquerque 28.25 124 *eP* **P 09 59 37.3 +0.7**
comp=Z,37nm,1.4s
ANMO PcP **PcP 10 02 50.9 +1.2**
ANMO Lg Lg 10 08 44.9
ANMO Albuquerque 28.25 124 *eP* **P 09 59 37.3 +0.7**
ANMO 10 02 50.9
ANMO pmax pmax
comp=Z,37nm,1.4s
ANMO Albuquerque 28.25 124 P **P 09 59 37.5 +0.9**
baz=325
SPMN Marine on St. 28.28 93 *eP* **P 09 59 38.5 +2.0**
comp=Z,106nm,1.3s
SPMN Marine on St. 28.28 93 P **P 09 59 37.1 +0.6**
baz=306,SNR=6.8
TBO Thunder Bay 28.32 85 P **P 09 59 35.6 -1.3**
F38A Pierce - Schro 28.38 91 P **P 09 59 38.1 +0.7**
baz=305,SNR=11
LAZ Ladron 28.38 126 *eP* **P 09 59 39.5 +1.7**
TUC Tucson 28.57 134 *eP* **P 09 59 41.2 +2.0**
comp=Z,144nm,1.5s
TUC LR LR
comp=Z,41µm,20.0s
TUC Tucson 28.57 134 *eP* **P 09 59 41.2 +2.0**
TUC pmax pmax
comp=Z,144nm,1.5s
TUC MLR MLR
comp=Z,41µm,20.0s
TUC Tucson 28.57 134 P **P 09 59 40.8 +1.6**
baz=331
LENM Lemitar 28.66 126 *eP* **P 09 59 42.0 +1.8**
CBKS Cedar Bluff 28.66 111 *eP* **P 09 59 41.4 +1.4**
comp=Z,136nm,1.3s
CBKS LR LR
comp=Z,12µm,19.0s
CBKS Cedar Bluff 28.66 111 *eP* **P 09 59 41.4 +1.4**
CBKS pmax pmax
comp=Z,135nm,1.3s
CBKS MLR MLR
comp=Z,12µm,19.0s
CBKS Cedar Bluff 28.66 111 P **P 09 59 40.4 +0.4**
baz=317,SNR=20
LPM Los Pinos Moun 28.69 125 *eP* **P 09 59 43.4 +3.0**
BNM Barren Site 28.83 126 *eP* **P 09 59 43.4 +1.7**
G38A Ridgeland 28.85 93 P **P 09 59 41.3 -0.3**
baz=306
H38A Maiden Rock 28.91 94 P **P 09 59 42.1 0.0**
baz=307,SNR=10
F39A Loretta 28.95 91 P **P 09 59 42.2 -0.2**
baz=305
GTO Geraldton 29.15 81 P **P 09 59 44.7 +0.6**
G39A Holcombe 29.18 92 P **P 09 59 44.4 -0.1**
baz=306
BILL Bilibino 29.35 319 *eP* **P 09 59 45.3 -0.5**
comp=Z,136nm,1.4s
BILL LR LR
comp=Z,15µm,20.0s
BILL Bilibino 29.35 319 *iP* **P 09 59 44.7 -1.1**
BILL pmax pmax
comp=Z,43nm,1.7s
BILL MLR MLR
comp=Z,12µm,14.0s
F40A Park Falls 29.41 90 P **P 09 59 45.7 -0.7**
baz=305
H39A Augusta 29.47 93 P **P 09 59 47.3 +0.2**
baz=307
VIMO Victor Mine 29.51 73 P **P 09 59 46.2 -1.1**
D41A Chassel 29.65 87 P **P 09 59 48.8 +0.2**
baz=304
121A Cookes Peak, D 29.66 129 P **P 09 59 50.6 +1.6**
baz=328,SNR=30
G40A Rib Lake 29.74 91 P **P 09 59 49.1 -0.3**
baz=306
I39A Houston 29.84 94 *eP* **P 09 59 50.7 +0.4**
comp=Z,152nm,1.4s
I39A Houston 29.84 94 P **P 09 59 50.3 0.0**
baz=308,SNR=8.8
COWI Conover 29.86 89 PFAKE 10 00 00.0 +9.5
COWI LR LR
comp=Z,5µm,20.0s
319A Douglas 30.01 133 *eP* **P 09 59 54.6 +2.5**
comp=Z,258nm,1.4s
H40A Chili 30.02 92 P **P 09 59 51.9 +0.1**
baz=307
J39A Decorah 30.06 95 P **P 09 59 51.9 -0.4**
baz=309,SNR=7.0
F41A Three Lakes 30.09 89 P **P 09 59 51.8 -0.8**
baz=306
SCIA State Center 30.12 99 PFAKE 10 00 00.0 +7.2
SCIA LR LR
comp=Z,24µm,19.0s
SCIA State Center 30.12 99 P **P 09 59 52.7 -0.1**
baz=311
KSU1 Kansas State U 30.14 107 *eP* **P 09 59 54.4 +1.3**
comp=Z,71nm,1.0s
KSU1 LR LR
comp=Z,19µm,19.0s
KSU1 Kansas State U 30.14 107 P **P 09 59 53.0 -0.1**
baz=316,SNR=11
I40A Norwalk 30.33 94 P **P 09 59 54.9 +0.2**
baz=308
K39A Oelwein 30.35 97 P **P 09 59 54.4 -0.4**
baz=310,SNR=6.3
E42A Champion 30.37 87 P **P 09 59 54.6 -0.4**
baz=305
H41A Junction City 30.44 92 P **P 09 59 55.1 -0.5**
baz=307
J40A Soldiers Grove 30.57 94 P **P 09 59 56.6 -0.2**
baz=309
F42A Maple Grove Fa 30.63 89 P **P 09 59 56.6 -0.7**
baz=306
AMTX Amarillo 30.63 118 *eP* **P 09 59 59.2 +1.7**
comp=Z,226nm,1.3s
AMTX Amarillo 30.63 118 P **P 09 59 58.3 +0.7**
baz=322
I41A Arkdale 30.65 93 *eP* **P 09 59 59.4 +1.9**
comp=Z,112nm,1.4s
I41A Arkdale 30.65 93 P **P 09 59 57.4 -0.2**
baz=308
L39A Vinton 30.66 98 P **P 09 59 57.1 -0.5**
baz=311

K40A	Colesburg	30.78	96	P		P		09 59 58.6	0.0	
	baz=310									
MSTX	Muleshoe	30.82	121	P		P		09 59 59.6	+0.4	
	baz=324									
U32A	Winter Ranch,	30.86	113	*eP*		P		10 00 01.0	+1.6	
	comp=Z,179nm,1.2s									
M39A	Webster	30.99	99	P		P		10 00 00.9	+0.5	
	baz=312									
J41A	Loganville	31.00	94	P		P		10 00 00.6	0.0	
	baz=309									
L40A	Anamosa	31.14	97	*eP*		P		10 00 02.5	+0.7	
	comp=Z,116nm,1.4s									
L40A	Anamosa	31.14	97	P		P		10 00 01.5	-0.3	
	baz=311,SNR=6.6									
JFWS	Jewell Farm	31.15	95	*eP*		P		10 00 02.7	+0.8	
	comp=Z,45nm,1.0s									
JFWS				LR		LR				
	comp=Z,2µm,19.0s									
JFWS	Jewell Farm	31.15	95	*eP*		P		10 00 02.7	+0.8	
JFWS				pmax		pmax				
	comp=Z,45nm,1.0s									
JFWS				MLR		MLR				
	comp=Z,2µm,19.0s									
JFWS	Jewell Farm	31.15	95	P		P		10 00 01.4	-0.5	
	baz=310									
G43A	Wallace	31.18	89	P		P		10 00 01.1	-1.0	
	baz=306									
K41A	Shullsburg	31.31	95	P		P		10 00 03.2	-0.2	
	baz=310									
HSIG		31.41	137	*eP*		P		10 00 06.0	+1.7	
	comp=Z,74nm,1.2s									
M40A	Post Highland	31.41	98	P		P		10 00 03.5	-0.7	
	baz=312,SNR=6.7									
MNTX	Cornudas Mount	31.45	127	*eP*		P		10 00 06.2	+1.6	
	comp=Z,144nm,1.8s									
MNTX				LR		LR				
	comp=Z,26µm,19.0s									
MNTX	Cornudas Mount	31.45	127	P		P		10 00 05.6	+1.0	
	baz=328,SNR=34									
F44A	Big Bay de Noc	31.48	87	P		P		10 00 04.5	-0.3	
	baz=305									
GDL2	Guadalupe Moun	31.50	125	*eP*		P		10 00 06.8	+1.5	
TULEG	Thule	31.50	24	*eP*		P		10 00 04.8	+0.1	
	comp=Z,142nm,1.4s									
J42A	Columbus	31.54	93	P		P		10 00 04.8	-0.5	
	baz=309									
L41A	Preston	31.55	96	P		P		10 00 04.9	-0.5	
	baz=310									
H43A	Windswept, Lux	31.60	90	P		P		10 00 05.2	-0.6	
	baz=307									
N40A	Mertquake, Sal	31.71	99	P		P		10 00 06.9	0.0	
	baz=312									
CLRN	Clyde River	31.72	36	P		P		10 00 05.5	-1.1	
I43A	Langenfeld Bro	31.74	91	P		P		10 00 06.5	-0.6	
	baz=308									
K42A	Prairie Point,	31.75	94	P		P		10 00 06.8	-0.3	
	baz=310									
KAPO	Kapuskasing	31.80	79	P		P		10 00 07.7	+0.1	
J43A	Natural Harves	31.90	92	P		P		10 00 08.5	0.0	
	baz=309									
E45A	Wooded Hills,	31.97	85	P		P		10 00 08.5	-0.6	
	baz=305									
M41A	Milan	31.98	97	P		P		10 00 08.7	-0.4	
	baz=311,SNR=6.3									
L42A	Oliver, Polo	32.06	96	*eP*		P		10 00 10.5	+0.6	
	comp=Z,131nm,1.5s									
L42A	Oliver, Polo	32.06	96	P		P		10 00 09.6	-0.3	
	baz=310									
WMOK	Wichita Mounta	32.23	115	*eP*		P		10 00 11.5	0.0	
	comp=Z,178nm,1.3s									
WMOK				LR		LR				
	comp=Z,14µm,19.0s									
WMOK	Wichita Mounta	32.23	115	*eP*		P		10 00 11.5	0.0	
WMOK				pmax		pmax				
	comp=Z,178nm,1.3s									
WMOK				MLR		MLR				
	comp=Z,14µm,19.0s									
WMOK	Wichita Mounta	32.23	115	P		P		10 00 12.2	+0.7	
	baz=321,SNR=71									
N41A	Harden Midland	32.24	98	*eP*		P		10 00 12.2	+0.7	
	comp=Z,140nm,1.3s									
N41A	Harden Midland	32.24	98	P		P		10 00 11.3	-0.3	
	baz=312,SNR=10.0									
D46A	Sault St. Mari	32.32	84	P		P		10 00 11.7	-0.5	
	baz=304									
K43A	Burlington	32.37	93	P		P		10 00 12.4	-0.3	
	baz=310									
E46A	Sault Ste Mari	32.46	85	P		P		10 00 13.0	-0.4	
	baz=305									
L43A	Garden Prairie	32.47	94	P		P		10 00 14.2	+0.7	
	baz=310									
F46A	Macinaw City C	32.55	86	P		P		10 00 14.2	+0.1	
	baz=306									
N42A	Yates City	32.62	98	P		P		10 00 15.2	+0.4	
	baz=312									
O41A	Passleys Farm,	32.63	99	P		P		10 00 14.5	-0.3	
	baz=313,SNR=14									
D47A	Chapleau	32.76	83	P		P		10 00 15.3	-0.7	
	baz=304									
P41A	Barry, Barry	32.83	100	P		P		10 00 17.1	+0.5	
	baz=313,SNR=16									
TUL1	Leonard	32.92	110	*eP*		P		10 00 18.2	+0.8	
	comp=Z,92nm,0.9s									
TUL1	Leonard	32.92	110	P		P		10 00 18.0	+0.5	
	baz=319,SNR=22									
L44A	Lake County Fo	32.95	94	P		P		10 00 18.6	+0.9	
	baz=310									
E47A	Iron Bridge	33.00	84	P		P		10 00 17.9	-0.1	
	baz=305									
O42A	Bath	33.02	98	P		P		10 00 18.3	0.0	
	baz=313,SNR=6.4									
H46A	Fife Lake	33.02	88	P		P		10 00 18.2	-0.1	
	baz=307									
MALO	McAlpine Lake	33.03	76	P		P		10 00 19.4	+1.1	
N43A	Stutzman Famil	33.04	97	P		P		10 00 18.1	-0.4	
	baz=312									
FRB	Frobisher Bay	33.12	48	P		P		10 00 19.1	+0.2	
GLMI	Grayling	33.19	87	PFAKE				10 00 30.0	+10	
GLMI				LR		LR				
	comp=Z,3µm,22.0s									
Q41A	Truxton	33.23	101	P		P		10 00 20.0	-0.1	
	baz=314,SNR=21									
P42A	Winchester	33.29	99	*eP*		P		10 00 21.2	+0.5	
	comp=Z,134nm,1.5s									
P42A	Winchester	33.29	99	P		P		10 00 19.8	-0.9	
	baz=313,SNR=7.6									
M44A	Midewin, Midew	33.39	95	P		P		10 00 21.2	-0.3	
	baz=311									
O43A	Sugar Creek Fa	33.40	98	P		P		10 00 21.4	-0.2	
	baz=312									
ABTX	Abilene, Hawle	33.46	118	*eP*		P		10 00 23.0	+0.8	
	comp=Z,99nm,1.2s									
ABTX	Abilene, Hawle	33.46	118	P		P		10 00 22.6	+0.3	
	baz=324,SNR=22									
J46A	Howard City	33.50	90	P		P		10 00 22.6	+0.1	
	baz=309									
R41A	Rosebud	33.60	102	P		P		10 00 23.2	-0.2	
	baz=315,SNR=35									
E48A	Lockeyer	33.61	83	P		P		10 00 23.8	+0.4	
	baz=305									
HHAR	Hobbs	33.64	107	*eP*		P		10 00 24.2	+0.4	
	comp=Z,84nm,1.2s									
Q42A	Golden Eagle	33.65	101	P		P		10 00 23.4	-0.4	
	baz=314,SNR=15									
P43A	Skaggs, Pawnee	33.72	99	P		P		10 00 24.2	-0.2	
	baz=313,SNR=9.1									
N44A	Piper City	33.73	96	P		P		10 00 24.7	+0.3	
	baz=312									
F48A	Evansville	33.73	84	P		P		10 00 23.3	-1.2	
	baz=306									
I47A	Gladwin	33.74	88	P		P		10 00 25.1	+0.6	
	baz=308									
M45A	Boilermakers S	33.84	94	P		P		10 00 24.5	-1.0	
	baz=311									
K46A	Dorr	33.84	91	P		P		10 00 24.6	-0.9	
	baz=310									
CCM	Cathedral Cave	33.85	102	*eP*		P		10 00 25.6	0.0	
	comp=Z,223nm,1.4s									
CCM	Cathedral Cave	33.85	102	*eP*		P		10 00 25.6	0.0	
CCM				pmax		pmax				
	comp=Z,223nm,1.4s									
CCM	Cathedral Cave	33.85	102	P		P		10 00 24.3	-1.2	
	baz=315									
KILO	Kirkland Lake	33.86	78	P		P		10 00 28.3	+2.7	
S41A	Jillco Farms,	33.90	103	P		P		10 00 25.5	-0.5	
	baz=316,SNR=29									
R42A	Luebbering	33.94	102	P		P		10 00 26.1	-0.3	
	baz=315,SNR=11									
O44A	Mansfield	33.97	97	P		P		10 00 25.3	-1.3	
	baz=312									
SLM	Saint Louis	34.01	101	*eP*		P		10 00 28.2	+1.3	
	comp=Z,163nm,1.3s									
SLM	Saint Louis	34.01	101	*eP*		P		10 00 28.2	+1.3	
SLM				pmax		pmax				
	comp=Z,163nm,1.3s									
J47A	Sunmer	34.04	90	P		P		10 00 27.0	-0.2	
	baz=309									
N45A	Kentland	34.04	95	P		P		10 00 28.0	+0.8	
	baz=312									
Q43A	New Douglas	34.10	100	P		P		10 00 27.8	+0.1	
	baz=314,SNR=6.1									
F49A	Sandfield	34.10	84	P		P		10 00 27.1	-0.5	
	baz=306									
U40A	Yellville	34.18	106	P		P		10 00 27.6	-0.9	
	baz=317,SNR=28									
TX31	Lajitas Ar. Si	34.23	127	*eP*		P		10 00 30.4	+1.3	
TX31				*eP*		P		10 00 30.5	+1.5	
TXAR	Lajitas Array	34.23	127	P		P		10 00 30.6	+1.5	
	comp=Z,21nm,0.7s,baz=328,slow=7.0,SNR=105									
TXAR				PcP		PcP		10 03 06.4	+0.9	
	comp=Z,4.3nm,0.7s,baz=48,slow=0.3,SNR=10									
TXAR				LR		LR		10 15 25.3		
	comp=Z,18µm,19.2s,baz=0.0,slow=38									
TXAR	Lajitas Array	34.23	127	P		P		10 00 30.6	+1.5	
TXAR								10 03 06.4		
TXAR				pmax		pmax				
	comp=Z,21nm,0.7s									
TXAR				pmax		pmax				
	comp=Z,4.0nm,0.7s									
TXAR				MLR		MLR				
	comp=Z,18µm,19.2s									
T41A	Mountain View	34.28	104	P		P		10 00 28.6	-0.7	
	baz=316,SNR=22									
S42A	Caledonia	34.30	102	P		P		10 00 28.7	-0.8	
	baz=315,SNR=12									
O45A	Potomac	34.32	96	P		P		10 00 29.3	-0.3	
	baz=312									
M46A	Old House Fiel	34.34	93	P		P		10 00 29.2	-0.6	
	baz=311									
P44A	Sand Creek, Wi	34.34	98	P		P		10 00 29.4	-0.4	
	baz=313,SNR=7.2									
MATQ	Matagami	34.35	75	P		P		10 00 29.6	-0.2	
	baz=302,SNR=19									
R43A	Red Bud	34.43	101	P		P		10 00 30.3	-0.3	
	baz=315,SNR=19									
E50A	Wahnapitae	34.45	82	P		P		10 00 28.8	-2.0	
	baz=305									
N46A	Monticello	34.45	94	P		P		10 00 30.3	-0.5	
	baz=312									
Q44A	Meyer Farm, Va	34.51	99	*eP*		P		10 00 32.3	+1.0	
	comp=Z,343nm,1.6s									
Q44A	Meyer Farm, Va	34.51	99	P		P		10 00 30.5	-0.7	
	baz=314									
KULLO	Kullorsuaq	34.52	27	*i* P		P		10 00 31.5	+0.5	
	comp=Z,67nm,1.1s									
	comp=Z,18µm,18.0s									
KULLO	Kullorsuaq	34.52	27	*i* P		P		10 00 31.5	+0.5	
KULLO				pmax		pmax				
	comp=Z,67nm,1.1s									
KULLO				MLR		MLR				
	comp=Z,18µm,18.0s									
W39A	Magazine	34.53	108	*eP*		P		10 00 32.4	+0.8	
	comp=Z,183nm,1.5s									
W39A	Magazine	34.53	108	P		P		10 00 31.5	0.0	
	baz=319,SNR=18									
SFIN	Lafayette	34.59	95	P		P		10 00 31.5	-0.5	
	baz=312									
J48A	Bridge Port	34.60	89	P		P		10 00 34.6	+2.6	
	baz=309									
L47A	Sherwood	34.62	92	P		P		10 00 31.4	-0.9	
	baz=310									
T42A	Van Buren	34.66	103	*eP*		P		10 00 32.2	-0.5	
	comp=Z,73nm,1.3s									
T42A	Van Buren	34.66	103	P		P		10 00 31.8	-0.9	
	baz=316,SNR=16									
U41A	Viola	34.70	105	P		P		10 00 32.1	-0.9	
	baz=317,SNR=12									
K48A	Perry	34.72	90	P		P		10 00 33.3	+0.3	
	baz=309									
M47A	Cromwell	34.78	93	P		P		10 00 33.1	-0.6	
	baz=311									
P45A	Graceland, Par	34.80	97	*eP*		P		10 00 34.9	+1.1	
	comp=Z,118nm,1.1s									
P45A	Graceland, Par	34.80	97	P		P		10 00 33.4	-0.4	
	baz=313,SNR=10.0									
S43A	Fulton Ridge,	34.84	102	P		P		10 00 33.9	-0.3	
	baz=316,SNR=37									
R44A	Waltonville	34.93	100	P		P		10 00 34.4	-0.5	
	baz=315,SNR=5.8									
V41A	Mountainview	34.98	106	P		P		10 00 34.3	-1.1	
	baz=318,SNR=42									
Q45A	Warren Harvey,	35.00	98	P		P		10 00 34.7	-0.8	
	baz=314,SNR=8.1									
P46A	Rosedale	35.04	96	P		P		10 00 35.6	-0.3	
	baz=313									
N47A	Urbana	35.06	94	P		P		10 00 35.6	-0.5	
	baz=312									
WHTX	Lake Whitney,	35.07	116	*eP*		P		10 00 36.8	+0.6	
	comp=Z,176nm,1.2s									
WHTX	Lake Whitney,	35.07	116	P		P		10 00 37.0	+0.8	
	baz=323,SNR=30									
T43A	Greenville	35.07	103	P		P		10 00 34.9	-1.2	
	baz=316,SNR=30									
U42A	Revenden	35.08	104	P		P		10 00 35.3	-0.9	
	baz=317,SNR=13									
L48A	N Adams	35.08	91	P		P		10 00 35.5	-0.7	
	baz=310									
LSQQ	Lebel-sur-Quev	35.09	76	P		P		10 00 34.9	-1.2	
	baz=303									
E51A	G1948 Merrick	35.09	81	P		P		10 00 35.6	-0.7	
	baz=306,SNR=14									
JCT	Junction City	35.11	121	*eP*		P		10 00 37.7	+1.1	
	comp=Z,75nm,1.3s									
JCT				LR		LR				
	comp=Z,3µm,21.0s									
JCT	Junction City	35.11	121	P		P		10 00 36.8	+0.2	
	baz=325,SNR=22									
MIAR	Mount Ida	35.13	109	*eP*		P		10 00 37.6	+0.9	
	comp=Z,118nm,1.0s									
MIAR				LR		LR				
	comp=Z,3µm,19.0s									
MIAR	Mount Ida	35.13	109	*eP*		P		10 00 37.7	+0.9	
MIAR				pmax		pmax				
	comp=Z,118nm,1.0s									
MIAR				MLR		MLR				
	comp=Z,3µm,19.0s									
MIAR	Mount Ida	35.13	109	P		P		10 00 37.2	+0.4	
	baz=319,SNR=37									
OLIL	Olney	35.14	98	*eP*		P		10 00 37.5	+0.8	
	comp=Z,301nm,1.4s									
S44A	Carbondale	35.22	101	P		P		10 00 36.9	-0.5	
	baz=315,SNR=12									
M48A	Edgerton	35.22	92	P		P		10 00 35.2	-2.2	
	baz=311									
SIUC	Southern Illin	35.22	101	*eP*		P		10 00 37.8	+0.3	
	comp=Z,306nm,1.6s									
EEO	Eldee	35.27	80	P		P		10 00 39.2	+1.4	
WHAR	Wooly Hollow	35.28	107	*eP*		P		10 00 38.5	+0.6	
	comp=Z,138nm,1.5s									
AAM	Ann Arbor	35.30	90	PFAKE				10 00 50.0	+12	
AAM				LR		LR				
	comp=Z,22µm,19.0s									
AAM	Ann Arbor	35.30	90	P		P		10 00 36.9	-1.2	
	baz=310									
VLDQ	Val d'Or	35.34	77	*eP*		P		10 00 37.3	-1.0	
	comp=Z,254nm,1.3s									
VLDQ	Val d'Or	35.34	77	P		P		10 00 35.5	-2.9	
R45A	Skylar, Fairfi	35.34	99	P		P		10 00 38.3	-0.2	
	baz=314,SNR=10									
L49A	Milan	35.36	90	P		P		10 00 38.8	+0.2	
	baz=310,SNR=7.4									
Q46A	CEJHS Indians,	35.36	97	P		P		10 00 38.5	-0.1	
	baz=314									
W41B	Gary Mavity, V	35.39	107	*eP*		P		10 00 39.4	+0.5	
	comp=Z,128nm,1.5s									
W41B	Gary Mavity, V	35.39	107	P		P		10 00 38.0	-0.9	
	baz=318,SNR=13									
V42A	Cord	35.39	105	P		P		10 00 39.1	+0.3	
	baz=318,SNR=10									
HPIG		35.41	131	*eP*		P		10 00 41.1	+1.7	
	comp=Z,130nm,1.4s									
N48A	Decatur	35.45	93	P		P		10 00 38.2	-1.2	
	baz=312									
U43A	Rector	35.52	104	P		P		10 00 39.1	-1.0	
	baz=317,SNR=7.6									
X40A	Basin Creek Fa	35.58	108	*eP*		P		10 00 41.0	+0.4	
	comp=Z,53nm,1.3s									
X40A	Basin Creek Fa	35.58	108	P		P		10 00 40.2	-0.4	
	baz=319,SNR=11									
S45A	Carrier Mills	35.61	100	P		P		10 00 39.8	-0.9	
	baz=315									
UALR	University of	35.63	107	*eP*		P		10 00 41.3	+0.4	
	comp=Z,166nm,1.6s									
M49A	Liberty Center	35.65	91	P		P		10 00 41.0	-0.1	
	baz=311									
P47A	Martinsville	35.66	96	P		P		10 00 40.5	-0.7	
	baz=313,SNR=10.0									
E52A	Mattawa	35.71	81	P		P		10 00 41.6	+0.1	
	baz=306,SNR=12									
W42A	Bald Knob	35.71	106	P		P		10 00 41.6	0.0	
	baz=318									
BLO	Bloomington	35.73	96	*eP*		P		10 00 42.9	+1.1	
	comp=Z,152nm,1.5s									
BLO	Bloomington	35.73	96	*eP*		P		10 00 42.9	+1.1	
BLO				pmax		pmax				
	comp=Z,152nm,1.5s									
X41A	Kaden, Bauxite	35.75	108	P		P		10 00 41.7	-0.3	
	baz=319,SNR=7.3									
O48A	Farmland	35.78	94	P		P		10 00 41.2	-1.0	
	baz=312									
U44A	Portageville	35.83	103	P		P		10 00 42.4	-0.2	
	baz=316									
R46A	Gibson Southern	35.84	99	P		P		10 00 42.1	-0.5	
	baz=314,SNR=7.4									
N49A	Columbus Grove	35.89	92	*eP*		P		10 00 44.4	+1.2	
	comp=Z,98nm,1.4s									
N49A	Columbus Grove	35.89	92	P		P		10 00 42.6	-0.5	
	baz=311									
USIN	University of	35.92	99	*eP*		P		10 00 44.6	+1.1	
	comp=Z,122nm,1.1s									
L50A	Kingsville	35.95	90	P		P		10 00 43.7	0.0	
	baz=310									
Q47A	Bedord North L	35.95	97	P		P		10 00 43.5	-0.2	
	baz=314,SNR=12									
435B	Jarrell	35.97	118	*eP*		P		10 00 45.4	+1.4	
	comp=Z,114nm,0.9s									
435B	Jarrell	35.97	118	P		P		10 00 44.8	+0.9	
	baz=324,SNR=19									
T45A	Paducah	36.04	101	P		P		10 00 43.3	-1.1	
	baz=316									
CHGQ	Chibouamau	36.06	73	P		P		10 00 43.8	-0.7	
	baz=303,SNR=17									
S46A	Don Dixon Farm	36.09	99	P		P		10 00 44.0	-0.8	
	baz=315,SNR=6.7									
U44B	Burton Farm, H	36.13	103	P		P		10 00 45.4	+0.1	
	baz=317									
P48A	Milroy	36.16	95	P		P		10 00 45.1	-0.4	
	baz=313,SNR=8.6									
Y41A	Eaglette Beard	36.16	109	P		P		10 00 45.6	+0.1	
	baz=320,SNR=25									
SEY	Seymchan	36.17	312	*i* P		P		10 00 44.4	-0.9	
X42A	Stuttgart	36.19	107	P		P		10 00 45.3	-0.5	
	baz=319									
V44A	Blytheville	36.20	104	P		P		10 00 45.3	-0.5	
	baz=317									
E53A	Dumoine, Ponti	36.21	80	P		P		10 00 44.9	-1.0	
	baz=306									
GLAT	Glass	36.22	103	*eP*		P		10 00 48.2	+2.2	
	comp=Z,530nm,1.5s									
ALGO	Algonquin Park	36.24	81	P		P		10 00 46.0	-0.1	
	baz=306,SNR=14									
O49A	Covington	36.29	93	P		P		10 00 45.7	-0.9	
	baz=312									
W43A	Forest City	36.30	105	P		P		10 00 46.1	-0.5	
	baz=318									
D54A	Lac Fusel, La	36.33	78	P		P		10 00 46.2	-0.7	
	baz=305,SNR=18									
R47A	Wooly Knot Far	36.33	98	P		P		10 00 46.8	-0.2	
	baz=314,SNR=18									
SADO	Sadowa	36.34	83	*eP*		P		10 00 49.0	+2.1	
	comp=Z,340nm,1.6s									
SADO	Sadowa	36.34	83	P		P		10 00 47.4	+0.5	
Q48A	North Vernon	36.35	96	P		P		10 00 46.7	-0.3	
	baz=314									
G53A	Haliburton	36.42	82	P		P		10 00 48.1	+0.5	
	baz=307,SNR=13									
T46A	Princeton	36.44	100	P		P		10 00 47.8	-0.1	
	baz=316,SNR=9.0									
HALT	Halls	36.45	103	*eP*		P		10 00 49.7	+1.7	
	comp=Z,522nm,1.4s									
U45A	Rockin P Farm,	36.45	102	P		P		10 00 48.1	+0.1	
	baz=316,SNR=8.4									
WCI	Wyandotte Cave	36.51	97	*eP*		P		10 00 49.2	+0.7	
	comp=Z,63nm,1.1s									
WCI	Wyandotte Cave	36.51	97	*eP*		P		10 00 49.2	+0.7	
WCI				pmax		pmax				
	comp=Z,63nm,1.1s									
WCI	Wyandotte Cave	36.51	97	P		P		10 00 48.3	-0.2	
	baz=314									
P49A	Miami Univ. Ec	36.51	94	P		P		10 00 48.0	-0.5	
	baz=313									
Z41A	Richland Creek	36.53	110	*eP*		P		10 00 49.9	+1.2	
	comp=Z,120nm,1.3s									
Z41A	Richland Creek	36.53	110	P		P		10 00 49.6	+0.9	
	baz=320,SNR=8.0									
CRLO	Chalk River	36.57	80	P		P		10 00 50.3	+1.4	
N50A	Nevada	36.58	91	P		P		10 00 49.1	0.0	
	baz=313,SNR=5.3									
CCAR	Cane Creek	36.59	108	*eP*		P		10 00 51.2	+2.0	
	comp=Z,159nm,1.3s									
X43A	Marvell	36.62	106	*eP*		P		10 00 50.6	+1.1	
	comp=Z,192nm,1.4s									
X43A	Marvell	36.62	106	P		P		10 00 50.5	+1.1	
	baz=319									
S47A	Hartford	36.62	99	P		P		10 00 49.0	-0.4	
	baz=315									
R48A	Northridge Ran	36.63	97	P		P		10 00 49.4	-0.1	
	baz=314									
Y42A	Garnett, Star	36.64	108	P		P		10 00 50.6	+1.0	
	baz=319,SNR=11									
NATX	Nacogdoches	36.70	113	*eP*		P		10 00 52.6	+2.4	
	comp=Z,280nm,1.8s									
NATX				LR		LR				
	comp=Z,14µm,20.0s									
NATX	Nacogdoches	36.70	113	P		P		10 00 50.6	+0.4	
	baz=322									
O50A	Cable	36.73	93	P		P		10 00 49.8	-0.5	
	baz=312									
W44A	Shelby Farms P	36.75	104	P		P		10 00 50.0	-0.5	
	baz=318									
M51A	Elyria	36.77	90	P		P		10 00 50.4	-0.2	
	baz=311									
Q49A	Aurora	36.77	95	P		P		10 00 50.4	-0.

WVT **Waverly** 37.13 101 *e*P P 10 00 54.8 +1.0
WVT pmax pmax
comp=Z,94nm,1.4s
WVT **Waverly** 37.13 101 P P 10 00 53.8 0.0
baz=316
V46A **Holladay** 37.21 102 P P 10 00 54.2 -0.3
baz=317,SNR=7.2
U47A **Clarksville** 37.21 100 P P 10 00 54.3 -0.1
baz=316,SNR=8.8
T48A **Bowling Green** 37.24 99 P P 10 00 54.8 +0.1
baz=315,SNR=13
F55A **Otter Lake** 37.27 80 P P 10 00 54.2 -0.6
baz=307
EFO **Effingham** 37.27 85 P P 10 00 57.1 +2.1
WLVO **Wesleyville** 37.28 84 P P 10 00 55.1 +0.2
baz=308
O51A **Pataskala** 37.30 92 P P 10 00 54.8 -0.5
baz=312
PLVO **Plevna** 37.34 81 *e*P P 10 00 57.9 +2.4
comp=Z,210nm,1.4s
PLVO **Plevna** 37.34 81 P P 10 00 56.1 +0.7
baz=308,SNR=11
DELO **Deloro Mine** 37.35 82 P P 10 00 55.3 -0.3
baz=308,SNR=11
N52A **McGinn's Farm,** 37.39 90 P P 10 00 55.9 -0.1
baz=311
S49A **Springfield** 37.39 97 P P 10 00 55.4 -0.5
baz=315
Q50A **Georgetown** 37.40 95 P P 10 00 55.9 -0.2
baz=313
Y44A **Strider, Charl** 37.41 106 P P 10 00 56.2 +0.1
baz=319,SNR=9.0
Z43A **Armstrong Fami** 37.41 108 P P 10 00 55.7 -0.4
baz=320
G55A **Calabogie** 37.41 81 P P 10 00 56.7 +0.7
baz=307,SNR=16
OXF **Oxford** 37.44 105 *e*P P 10 00 57.1 +0.7
comp=Z,151nm,0.9s
OXF **Oxford** 37.44 105 *e*P P 10 00 57.1 +0.7
OXF pmax pmax
comp=Z,151nm,0.9s
OXF **Oxford** 37.44 105 P P 10 00 55.7 -0.7
baz=318,SNR=16
L53A **Girard** 37.46 88 P P 10 00 56.1 -0.4
baz=310
SCHQ **Schefferville** 37.49 62 P P 10 00 56.9 +0.3
comp=Z,98nm,1.0s,baz=304,slow=11,SNR=21
SCHQ LR LR 10 16 32.1
comp=Z,27µm,18.5s,baz=306,slow=37
SCHQ **Schefferville** 37.49 62 *e*P P 10 00 56.9 +0.3
comp=Z,140nm,0.9s
SCHQ **Schefferville** 37.49 62 P P 10 00 56.7 0.0
P51A **Williamsport** 37.49 93 *e*P P 10 00 57.0 +0.2
comp=Z,52nm,1.3s
P51A **Williamsport** 37.49 93 P P 10 00 55.4 -1.4
baz=313
X45A **UM Field Stati** 37.51 105 P P 10 00 57.0 0.0
baz=318,SNR=10
V47A **Nunnelly** 37.52 101 P P 10 00 57.3 +0.1
baz=317,SNR=7.1
W46A **Michie** 37.55 103 P P 10 00 57.0 -0.3
baz=317,SNR=6.8
M53A **WI Miller and** 37.56 89 P P 10 00 57.4 +0.1
baz=311
H55A **Tweed** 37.58 82 P P 10 00 56.8 -0.7
baz=308,SNR=9.0
U48A **Cassie Pea, Po** 37.58 100 P P 10 00 57.7 0.0
baz=316,SNR=12
R50A **Paris** 37.59 96 P P 10 00 56.8 -0.8
baz=314,SNR=7.9
Q51A **Peebles** 37.64 94 *e*P P 10 00 58.7 +0.6
comp=Z,35nm,0.9s
Q51A **Peebles** 37.64 94 P P 10 00 57.9 -0.1
baz=313,SNR=7.2
VABQ **Val Des Bois** 37.65 79 P P 10 00 57.2 -0.8
PET **Petropavlovsk** 37.66 295 *e*P P 10 00 59.3 +1.2
comp=Z,246nm,1.4s
PET LR LR
comp=Z,5µm,20.0s
PET **Petropavlovsk** 37.66 295 *e*P P 10 00 59.7 +1.6
PET *e* 10 02 25.2
PET *e*S S 10 06 47.0 -0.6
PET pmax pmax
comp=Z,2µm,7.6s
PET pmax pmax
comp=Z,139nm,1.5s
PET pmax pmax
comp=Z,3µm,6.3s
PET pmax pmax
comp=Z,2µm,11.7s
PET MLR MLR
comp=Z,7µm,19.0s
PET MLR MLR
comp=Z,6µm,15.0s
MEDO **Medina** 37.72 85 P P 10 00 57.7 -1.0
baz=309
T49A **Edmonton** 37.73 98 *e*P P 10 00 59.8 +0.9
comp=Z,77nm,1.3s
T49A **Edmonton** 37.73 98 P P 10 00 58.9 +0.1
baz=315
O52A **Adamsville** 37.77 91 *e*P P 10 00 58.5 -0.7
comp=Z,146nm,1.3s
O52A **Adamsville** 37.77 91 P P 10 00 59.3 +0.2
baz=312,SNR=8.1
PLAL **Pickwick Lake** 37.83 103 *e*P P 10 01 00.7 +1.0
comp=Z,275nm,1.6s
GAC **Glen Almond** 37.84 79 P P 10 00 59.8 +0.1
Y45A **Yeager Farm, C** 37.84 106 P P 10 00 59.7 -0.1
baz=319
X46A **Booneville** 37.86 104 P P 10 00 59.4 -0.5
baz=318
N53A **Lisbon** 37.88 90 P P 10 01 00.2 +0.1
baz=311,SNR=6.0
OTT **Ottawa** 37.89 80 P P 10 01 00.7 +0.6
W47A **Westpoint** 37.90 102 P P 10 01 01.3 +1.0
baz=317,SNR=9.0
S50A **Richmond** 37.97 96 P P 10 01 00.4 -0.5
baz=315
ORIO **Orleans, Innes** 37.97 80 P P 10 00 59.4 -1.4
baz=307,SNR=15
V48A **Smith Brothers** 37.98 101 *e*P P 10 01 01.6 +0.7
comp=Z,83nm,1.5s
V48A **Smith Brothers** 37.98 101 P P 10 01 02.1 +1.1
baz=317,SNR=5.5
R51A **Hillsboro** 38.00 95 P P 10 01 01.1 -0.1
baz=314,SNR=7.9
U49A **Red Boiling Sp** 38.01 99 P P 10 01 00.8 -0.4
baz=316,SNR=8.3
O53A **New Philadelph** 38.03 91 P P 10 01 02.6 +1.2
baz=312,SNR=11
TRQ **Mont Tremblant** 38.05 78 *e*P P 10 01 02.0 +0.5
TRQ **Mont Tremblant** 38.05 78 P P 10 01 01.6 +0.1
H56A **Elgin** 38.07 81 P P 10 01 02.3 +0.7
baz=308,SNR=12
M54A **Oil Creek Stat** 38.09 88 P P 10 01 02.2 +0.3
baz=311
PEA0B **Petropavlovsk-** 38.11 296 *e*P P 10 01 06.4 +4.5
comp=Z,237nm,1.4s
PETK **Petropavlovsk-** 38.11 296 P P 10 01 02.7 +0.8
comp=Z,35nm,1.0s,baz=82,slow=11,SNR=13
PETK LR LR 10 18 06.0
comp=Z,4µm,18.1s,baz=73,slow=38
PETK **Petropavlovsk-** 38.11 296 *e*P P 10 01 03.9 +2.0
PETK **Petropavlovsk-** 38.11 296 *e*P P 10 01 03.9 +2.0
Z45A **Winona** 38.13 106 *e*P P 10 01 03.5 +1.3
comp=Z,397nm,1.8s
Z45A **Winona** 38.13 106 P P 10 01 02.7 +0.4
baz=319,SNR=6.1
KGNO **Kingston** 38.17 82 P P 10 01 03.2 +0.8
T50A **Nancy** 38.18 97 P P 10 01 02.6 -0.1
baz=315,SNR=14
Y46A **Houston** 38.21 105 P P 10 01 02.7 -0.2
baz=319,SNR=10
K55A **Perry** 38.21 85 P P 10 01 02.4 -0.5
baz=310
ALFO **Alfred** 38.22 79 P P 10 01 02.2 -0.6
baz=307,SNR=21
N54A **Moraine State** 38.26 89 *e*P P 10 01 04.8 +1.4
comp=Z,112nm,1.3s
N54A **Moraine State** 38.26 89 P P 10 01 03.2 -0.1
baz=311,SNR=5.9
X47A **Russelville** 38.29 103 P P 10 01 03.3 -0.3
baz=318
MA2 **Magadan** 38.30 308 *e*P P 10 01 04.0 +0.6
comp=Z,243nm,1.3s
MA2 LR LR
comp=Z,4µm,20.0s
MA2 **Magadan** 38.30 308 ⇓ *i*P P 10 01 04.3 +0.9
MA2 pmax pmax
comp=Z,45nm,1.1s
MA2 MLR MLR
comp=Z,5µm,16.0s
Q52A **Bidwell** 38.30 93 P P 10 01 02.8 -0.9
baz=313
MMNY **Mt. Morris Dam** 38.30 85 *e*P P 10 01 06.3 +2.6
comp=Z,292nm,1.7s
LATQ **La Tuque** 38.35 75 P P 10 01 03.2 -0.7
baz=306
L55A **Hinsdale** 38.35 86 P P 10 01 03.8 -0.3
baz=310
W48A **Pulaski** 38.35 102 P P 10 01 03.4 -0.8
baz=317
WBO **Williamsburg** 38.38 80 P P 10 01 04.6 +0.4
P53A **Whipple** 38.44 92 *e*P P 10 01 05.4 +0.6
comp=Z,111nm,1.4s
P53A **Whipple** 38.44 92 P P 10 01 04.5 -0.4
baz=313,SNR=5.9
KVTX **Kingsville** 38.47 121 *e*P P 10 01 07.2 +2.1
comp=Z,204nm,1.4s
KVTX LR LR
comp=Z,8µm,22.0s
V49A **McMinnville** 38.48 100 P P 10 01 05.3 +0.2
baz=316,SNR=12
O54A **Avella** 38.55 90 P P 10 01 06.0 +0.2
baz=312,SNR=13
VBMS **Vicksburg** 38.56 108 *e*P P 10 01 07.4 +1.5
comp=Z,166nm,1.1s
VBMS **Vicksburg** 38.56 108 P P 10 01 06.3 +0.4
baz=320,SNR=7.2
145A **Houston Renfro** 38.59 107 P P 10 01 07.0 +0.9
baz=320
U50A **Jamestown** 38.61 98 P P 10 01 06.5 +0.2
baz=316,SNR=12
S52A **Salyersville** 38.72 95 P P 10 01 07.1 -0.1
baz=314
T51A **Gray** 38.73 97 P P 10 01 06.5 -0.8
baz=315,SNR=7.8
MNQ **Manicouagan** 38.73 69 P P 10 01 06.0 -1.2
W49A **Belvidere** 38.74 101 P P 10 01 06.8 -0.6
baz=317
Y47A **UCPARC, Winfie** 38.75 104 P P 10 01 07.5 0.0
baz=318,SNR=9.7
DPQ **Saint Jean** 38.76 76 P P 10 01 07.2 -0.3
X48A **Hartselle** 38.79 102 *e*P P 10 01 07.9 0.0
comp=Z,166nm,1.4s
X48A **Hartselle** 38.79 102 P P 10 01 07.8 0.0
baz=318,SNR=15
STUQ **Sainte-Ursule** 38.81 77 P P 10 01 06.7 -1.2
DAQ **Lac Daran** 38.86 74 P P 10 01 07.3 -1.0
SWET **Sewanee** 38.86 101 *e*P P 10 01 09.2 +0.8
comp=Z,110nm,1.7s
P54A **Burton** 38.88 91 P P 10 01 08.2 -0.4
baz=313,SNR=9.2
R53A **Hurricane** 38.91 93 P P 10 01 08.4 -0.4
baz=314
N55A **Marion Center** 38.95 88 P P 10 01 08.7 -0.5
baz=312
SFJD **Kangerlussuaq** 38.95 38 *e*P P 10 01 09.3 +0.5
comp=Z,72nm,1.3s
SFJD LR LR
comp=Z,10µm,20.0s
SFJD **Kangerlussuaq** 38.95 38 *i*P P 10 01 09.1 +0.3
comp=Z,14µm,13.0s
SFJD **Kangerlussuaq** 38.95 38 *i*P P 10 01 09.1 +0.3
SFJD MLR MLR
comp=Z,14µm,13.0s
SFJD **Kangerlussuaq** 38.95 38 *e*P P 10 01 09.1 +0.3
V50A **Pikevile** 39.00 99 P P 10 01 09.9 +0.4
baz=316
LONY **Lake Ozonia** 39.00 80 *e*P P 10 01 10.3 +0.8
comp=Z,142nm,1.2s
LONY LR LR
comp=Z,11µm,19.0s
LONY **Lake Ozonia** 39.00 80 P P 10 01 08.6 -0.9
baz=308,SNR=12
MNTQ **Montreal, Queb** 39.00 78 P P 10 01 09.2 -0.2
U51A **La Follette** 39.10 97 P P 10 01 10.2 -0.2
baz=316
Y48A **Jasper** 39.12 103 P P 10 01 10.8 +0.2
baz=318,SNR=16
O55A **Ligonier** 39.15 89 P P 10 01 10.0 -0.7
baz=312
X49A **Woodville** 39.15 102 P P 10 01 10.6 -0.2
baz=318,SNR=8.1
Z47A **Carrollton** 39.16 105 P P 10 01 10.6 -0.2
baz=319
T52A **Hallie** 39.17 96 P P 10 01 11.2 +0.1
baz=315,SNR=6.9
MCWV **Mont Chateau** 39.21 90 P P 10 01 10.8 -0.4
baz=312,SNR=8.2
W50A **Signal Mountai** 39.22 100 *e*P P 10 01 12.6 +1.1
comp=Z,120nm,1.4s
W50A **Signal Mountai** 39.22 100 P P 10 01 11.5 +0.1
baz=317,SNR=8.2
TZTN **Tazewell** 39.25 97 *e*P P 10 01 12.7 +1.0
comp=Z,127nm,1.4s
TZTN **Tazewell** 39.25 97 P P 10 01 10.6 -1.0
baz=316
Z48A **Northport** 39.31 104 P P 10 01 12.3 +0.2
baz=319,SNR=10
P55A **Reedsville** 39.32 90 P P 10 01 11.2 -1.0
baz=313,SNR=9.1
V51A **Loudon** 39.32 98 P P 10 01 12.3 +0.1
baz=316
KHU **Kahuku** 39.35 212 *e*P P 10 01 16.2 +3.3
comp=Z,285nm,1.5s
KHU **Kahuku** 39.35 212 *e*P P 10 01 16.2 +3.3
KHU pmax pmax
comp=Z,285nm,1.5s
147A **Livingston** 39.44 105 *e*P P 10 01 13.6 +0.4
comp=Z,135nm,1.4s
147A **Livingston** 39.44 105 P P 10 01 14.0 +0.7
baz=320
U52A **Thorn Hill** 39.46 97 P P 10 01 13.6 +0.2
baz=316
BCLQ **Boischatel** 39.51 75 P P 10 01 14.0 +0.3
T53A **Wise** 39.52 95 P P 10 01 13.4 -0.5
baz=315
Q55A **Buckhannon** 39.52 91 P P 10 01 13.7 -0.2
baz=313
O56A **Blue Knob Stat** 39.53 88 *e*P P 10 01 14.8 +0.8
comp=Z,142nm,1.5s
O56A **Blue Knob Stat** 39.53 88 P P 10 01 13.9 -0.1
baz=312
QCQ **Quebec** 39.54 75 P P 10 01 13.6 -0.3
W51A **Cleveland** 39.56 99 P P 10 01 14.7 +0.5
baz=317
R54A **Victor** 39.56 93 P P 10 01 13.7 -0.6
baz=314
X50B **Fort Payne** 39.57 101 P P 10 01 14.4 +0.1
baz=318
Y49A **Blount Mountai** 39.59 102 *e*P P 10 01 15.0 +0.5
comp=Z,352nm,1.9s
Y49A **Blount Mountai** 39.59 102 P P 10 01 14.4 -0.1
baz=318,SNR=12
LMQ **La Malbaie** 39.60 74 P P 10 01 13.1 -1.4
NCB **Newcomb** 39.61 81 *e*P P 10 01 15.8 +1.2
comp=Z,356nm,1.6s
A54 **Misere** 39.61 74 P P 10 01 14.7 +0.1
A61 **Sainte Mathild** 39.65 73 P P 10 01 13.7 -1.1
SSPA **Standing Stone** 39.67 87 *e*P P 10 01 16.5 +1.3
comp=Z,144nm,1.4s
SSPA **Standing Stone** 39.67 87 P P 10 01 15.0 -0.1
baz=312
A64 **Saint Simeon** 39.67 73 P P 10 01 15.0 0.0
V52A **Sevierville** 39.72 98 *e*P P 10 01 16.1 +0.5
comp=Z,65nm,1.1s
V52A **Sevierville** 39.72 98 P P 10 01 15.9 +0.3
baz=316,SNR=8.5
BINY **Binghamton** 39.73 84 *e*P P 10 01 16.6 +0.9
comp=Z,196nm,1.4s
BINY LR LR
comp=Z,9µm,19.0s
BINY **Binghamton** 39.73 84 P P 10 01 16.0 +0.4
baz=310,SNR=7.4
TKL **Tuckaleechee C** 39.75 98 *e*P P 10 01 17.6 +1.7
comp=Z,63nm,1.4s
TKL **Tuckaleechee C** 39.75 98 *e*P P 10 01 17.6 +1.7
TKL pmax pmax
comp=Z,63nm,1.4s
346A **Big Creek Wild** 39.77 108 *e*P P 10 01 17.9 +2.0
comp=Z,88nm,1.0s
346A **Big Creek Wild** 39.77 108 P P 10 01 16.8 +0.8
baz=321
CNQ **Baie Comeau** 39.80 70 P P 10 01 16.3 +0.2
A16 **Riviere Ouelle** 39.82 73 P P 10 01 15.9 -0.3
148A **Greensboro** 39.85 105 P P 10 01 16.5 -0.1
baz=319
A21 **Saint Andre** 39.86 73 P P 10 01 16.6 +0.1
LRAL **Lakeview Retre** 39.87 104 *e*P P 10 01 17.8 +1.0
comp=Z,227nm,1.9s
LRAL **Lakeview Retre** 39.87 104 P P 10 01 17.2 +0.4
baz=319
MOQ **Mont Orford** 39.88 78 *e*P P 10 01 18.1 +1.2
MOQ **Mont Orford** 39.88 78 P P 10 01 15.6 -1.3
U53A **Fall Branch** 39.93 96 P P 10 01 17.3 -0.1
baz=316
X51A **Calhoun** 39.93 100 *e*P P 10 01 17.9 +0.5
comp=Z,158nm,1.0s
X51A **Calhoun** 39.93 100 P P 10 01 17.2 -0.2
baz=317,SNR=14
Y50A **Piedmont** 39.94 102 P P 10 01 17.8 +0.4
baz=318,SNR=7.0
LNIG **Linares** 39.95 125 *e*P P 10 01 18.5 +0.9
comp=Z,100nm,1.1s
R55A **Marlinton** 39.99 92 P P 10 01 18.1 +0.2
baz=314
SMQ **Clarke City** 40.01 68 P P 10 01 16.9 -0.9
Z49A **Columbiana** 40.01 103 P P 10 01 18.1 +0.1
baz=319,SNR=9.7
W52A **Murphy** 40.07 99 *e*P P 10 01 19.8 +1.2
comp=Z,53nm,1.2s
W52A **Murphy** 40.07 99 P P 10 01 18.5 -0.1
baz=317
ICQ **Pointe Anglais** 40.11 69 P P 10 01 18.4 -0.2
SUMG **Summit** 40.20 28 *e*P P 10 01 19.8 +0.3
comp=Z,140nm,1.0s
SUMG **Summit** 40.20 28 *i*P P 10 01 19.3 -0.3
comp=Z,330nm,1.0s
comp=Z,57µm,14.0s
SUMG **Summit** 40.20 28 *i*P P 10 01 19.3 -0.3
SUMG pmax pmax
comp=Z,330nm,1.0s
SUMG MLR MLR
comp=Z,57µm,14.0s
ACCN **Adirondack Com** 40.29 81 *e*P P 10 01 22.2 +2.0
comp=Z,82nm,1.0s
V53A **Saluda** 40.29 97 *e*P P 10 01 21.7 +1.3
comp=Z,66nm,1.2s
V53A **Saluda** 40.29 97 P P 10 01 20.9 +0.5
baz=316,SNR=8.1
Z50A **Ashland** 40.31 103 *e*P P 10 01 21.7 +1.2
comp=Z,238nm,2.0s
Z50A **Ashland** 40.31 103 P P 10 01 21.0 +0.5
baz=318,SNR=6.0
Y51A **Rockmart** 40.31 101 P P 10 01 21.0 +0.5
baz=318
149A **Jones** 40.31 104 P P 10 01 20.7 +0.2
baz=319,SNR=24
ZAIG **Zacatecas** 40.40 131 *e*P P 10 01 23.4 +1.8
comp=Z,114nm,1.6s
X52A **Dahlonega** 40.45 99 P P 10 01 22.2 +0.5
baz=317
W53A **Cullowhee** 40.45 98 P P 10 01 22.2 +0.4
baz=317
GSQ **Grosses Roches** 40.55 70 P P 10 01 21.4 -0.9
BLA **Blacksburg** 40.56 93 *e*P P 10 01 24.1 +1.6
comp=Z,253nm,1.5s
BLA LR LR
comp=Z,12µm,20.0s
BLA **Blacksburg** 40.56 93 *e*P P 10 01 24.2 +1.6
BLA pmax pmax
comp=Z,253nm,1.5s
BLA MLR MLR
comp=Z,12µm,20.0s
BLA **Blacksburg** 40.56 93 P P 10 01 22.9 +0.3
baz=315,SNR=8.6
PAGS **Pennsylvania G** 40.61 87 *e*P P 10 01 24.3 +1.4
comp=Z,81nm,1.2s
TIXI **Tiksi** 40.63 331 *e*P P 10 01 21.3 -1.4
comp=Z,243nm,2.0s
TIXI LR LR
comp=Z,13µm,20.0s
TIXI **Tiksi** 40.63 331 *i*P P 10 01 20.8 -1.9
TIXI pmax pmax
comp=Z,170nm,2.1s
TIXI MLR MLR
comp=Z,12µm,20.0s
Z51A **Franklin** 40.68 102 P P 10 01 24.4 +0.8
baz=318
N59A **State Game Lan** 40.69 85 P P 10 01 23.6 0.0
baz=312
LBNH **Lisbon** 40.73 79 *e*P P 10 01 26.3 +2.5
comp=Z,151nm,1.3s
LBNH **Lisbon** 40.73 79 *e*P P 10 01 26.3 +2.5
LBNH pmax pmax
comp=Z,151nm,1.3s
150A **Eclectic** 40.73 103 P P 10 01 24.6 +0.6
baz=319
MIDW **Midway** 40.78 246 PFAKE 10 01 30.0 +5.7
MIDW LR LR
comp=Z,8µm,21.0s
X53A **Estanollee** 40.86 99 P P 10 01 24.8 -0.2
baz=317
HNH **Hanover** 40.86 80 *e*P P 10 01 26.7 +1.8
comp=Z,117nm,1.3s
Y52A **Lilburn** 40.90 100 *e*P P 10 01 26.5 +1.2
comp=Z,119nm,1.5s
Y52A **Lilburn** 40.90 100 P P 10 01 25.5 +0.2
baz=318,SNR=5.4
349A **Repton** 41.04 106 P P 10 01 27.1 +0.6
baz=320,SNR=6.3
250A **Grady** 41.07 104 *e*P P 10 01 27.5 +0.7
comp=Z,438nm,1.8s
250A **Grady** 41.07 104 P P 10 01 27.3 +0.5
baz=320
Y53A **Monroe** 41.17 100 P P 10 01 28.0 +0.4
baz=318,SNR=7.1
151A **Opelika** 41.18 103 P P 10 01 27.9 +0.2
baz=319
Z52A **Williamson** 41.20 101 P P 10 01 27.8 0.0
baz=318
ODNJ **Ogdensburg** 41.25 84 *e*P P 10 01 29.6 +1.4
comp=Z,170nm,1.4s
BRAL **Brewton** 41.26 106 *e*P P 10 01 30.3 +2.0
comp=Z,488nm,1.4s
BRAL LR LR
comp=Z,8µm,20.0s
BRAL **Brewton** 41.26 106 P P 10 01 29.9 +1.6
baz=320
PQI **Presque Isle** 41.39 73 *e*P P 10 01 30.7 +1.5
comp=Z,163nm,1.3s
152A **Waverly Hall** 41.41 102 *e*P P 10 01 30.2 +0.6
comp=Z,44nm,0.9s
152A **Waverly Hall** 41.41 102 P P 10 01 29.6 +0.1
baz=319,SNR=8.5
350A **Dozier** 41.46 105 P P 10 01 30.6 +0.7
baz=320
251A **Midway** 41.46 103 P P 10 01 30.7 +0.7
baz=319
R58B **Mineral** 41.48 90 *e*P P 10 01 32.5 +2.4
comp=Z,272nm,1.9s
R58B **Mineral** 41.48 90 P P 10 01 30.3 +0.2
baz=314
KMSC **Kings Mountain** 41.51 96 P P 10 01 30.8 +0.4
baz=316
PKME **Peaks-Kenny Pk** 41.55 76 PFAKE 10 01 40.0 +9.4
PKME LR LR
comp=Z,2µm,22.0s
GOGA **Godfrey** 41.56 100 *e*P P 10 01 32.0 +1.2
comp=Z,114nm,1.5s
GOGA LR LR
comp=Z,20µm,20.0s
GOGA **Godfrey** 41.56 100 *e*P P 10 01 32.0 +1.2
GOGA pmax pmax
comp=Z,114nm,1.5s
GOGA MLR MLR
comp=Z,20µm,20.0s
GOGA **Godfrey** 41.56 100 P P 10 01 30.7 -0.1
baz=318,SNR=5.3
Z53A **Monticello** 41.60 100 P P 10 01 31.4 +0.3
baz=318
CBN **Corbin Frederi** 41.61 90 PFAKE 10 01 40.0 +8.9
CBN LR LR
comp=Z,7µm,19.0s
HODGE **Hodges** 41.64 98 *e*P P 10 01 31.9 +0.5
comp=Z,78nm,1.3s
Y54A **Tignall** 41.67 99 P P 10 01 31.6 -0.1
baz=318,SNR=10
PAL **Palisades** 41.69 84 P P 10 01 31.9 +0.1
baz=312
252A **Lumpkin** 41.91 103 P P 10 01 34.0 +0.3
baz=319

153A	**Fort Valley**	**41.92**	**101**	P		**P**		**10 01 34.1**	**+0.4**
	baz=319								
351A	**Pinckard**	**41.97**	**104**	P		**P**		**10 01 34.6**	**+0.4**
	baz=320								
NATG	**Natashquan Que**	**42.01**	**66**	P		**P**		**10 01 34.2**	**-0.1**
Z54A	**Sparta**	**42.05**	**100**	P		**P**		**10 01 35.1**	**+0.4**
	baz=318								
BATG	**Bathurst New B**	**42.09**	**71**	*e*P		**P**		**10 01 35.8**	**+0.8**
	comp=Z,141nm,1.3s								
BATG	**Bathurst New B**	**42.09**	**71**	P		**P**		**10 01 34.7**	**-0.3**
DAG	**Danmarks Havn**	**42.18**	**18**	⇓*i*P		**P**		**10 01 34.5**	**-0.9**
	comp=Z,52nm,0.7s								
DAG	**Danmarks Havn**	**42.18**	**18**	⇓*i*P		**P**		**10 01 34.5**	**-0.9**
DAG				pmax	pmax				
	comp=Z,36nm,0.7s								
352A	**Blakely**	**42.19**	**103**	P		**P**		**10 01 36.1**	**+0.1**
	baz=320								
253A	**Americus**	**42.20**	**102**	P		**P**		**10 01 36.9**	**+0.9**
	baz=319								
WES	**Weston**	**42.25**	**80**	*e*P		**P**		**10 01 39.7**	**+3.4**
	comp=Z,285nm,1.5s								
WES	**Weston**	**42.25**	**80**	*e*P		**P**		**10 01 39.7**	**+3.4**
WES				pmax	pmax				
	comp=Z,285nm,1.5s								
154A	**Montrose**	**42.36**	**101**	P		**P**		**10 01 37.1**	**-0.2**
	baz=318								
451A	**Vernon**	**42.40**	**105**	P		**P**		**10 01 38.9**	**+1.3**
	baz=320								
155A	**Kite**	**42.71**	**100**	P		**P**		**10 01 41.2**	**+1.0**
	baz=318								
254A	**Abbeville**	**42.75**	**101**	P		**P**		**10 01 41.5**	**+1.0**
	baz=319								
JRQG	**Juriquilla Cam**	**43.14**	**129**	*e*P		**P**		**10 01 46.5**	**+2.5**
	comp=Z,422nm,1.6s								
255A	**Hazlehurst**	**43.23**	**101**	P		**P**		**10 01 45.5**	**+1.2**
	baz=319								
156A	**Sylvania**	**43.23**	**99**	P		**P**		**10 01 45.5**	**+1.1**
	baz=318								
CNNC	**Cliffs of the**	**43.40**	**93**	PFAKE				10 01 50.0	+4.3
CNNC				LR	LR				
	comp=Z,21μm,19.0s								
ELNB	**Elgin, New Bru**	**43.46**	**72**	P		**P**		**10 01 45.5**	**-0.6**
NHSC	**New Hope**	**43.64**	**97**	PFAKE				10 02 00.0	+12
NHSC				LR	LR				
	comp=Z,31μm,20.0s								
LMN	**Caledonia Moun**	**43.65**	**72**	P		**P**		**10 01 46.5**	**-1.1**
MOIG	**Morelia**	**43.72**	**131**	*e*P		**P**		**10 01 51.5**	**+2.8**
	comp=Z,49nm,1.0s								
KBS	**Kingsbay**	**44.50**	**9**	*e*P		**P**		**10 01 55.3**	**+1.3**
	comp=Z,164nm,1.4s								
KBS				LR	LR				
	comp=Z,9μm,22.0s								
KBS	**Kingsbay**	**44.50**	**9**	*i* P		**P**		**10 01 52.9**	**-1.1**
KBS				pmax	pmax				
	comp=Z,492nm,1.4s								
KBS				MLR	MLR				
	comp=Z,27μm,17.0s								
KBS	**Kingsbay**	**44.50**	**9**	*e*P		**P**		**10 01 51.2**	**-2.9**
DRLN	**Deer Lake**	**45.38**	**64**	*e*P		**P**		**10 02 04.2**	**+2.8**
	comp=Z,283nm,1.4s								
DRLN	**Deer Lake**	**45.38**	**64**	P		**P**		**10 02 01.0**	**-0.4**
SPA0	**Spitsbergen Ar**	**45.55**	**8**	*e*P		**P**		**10 02 02.5**	**+0.1**
SPA0	**Spitsbergen Ar**	**45.55**	**8**	*e*P		**P**		**10 01 59.6**	**-2.9**
SCO	**Scoresbysund**	**45.67**	**26**	*e*P		**P**		**10 02 07.1**	**+3.7**
	comp=Z,56nm,1.3s								
SCO	**Scoresbysund**	**45.67**	**26**	*i* P		**P**		**10 02 04.7**	**+1.3**
	comp=Z,16μm,13.0s								
SCO	**Scoresbysund**	**45.67**	**26**	*e*P		**P**		**10 02 04.7**	**+1.3**
SCO				MLR	MLR				
	comp=Z,16μm,13.0s								
YAK	**Yakutsk**	**45.71**	**319**	*e*P		**P**		**10 02 03.3**	**-0.5**
YAK				*e**PP		**sP**		**10 02 10.0**	**+2.4**
YAK				*e*				10 03 37.3	
YAK				*e*				10 03 54.1	
YAK				*e*S		**S**		**10 08 42.5**	**-4.0**
YAK				*e**SS		sS		10 09 04.8	+13
YAK				*e*SS		**ScS**		**10 11 56.6**	**-2.7**
YAK				pmax	pmax				
	comp=Z,207nm,0.9s								
YAK				pmax	pmax				
	comp=N,49nm,1.1s								
YAK				pmax	pmax				
	comp=E,74nm,1.0s								
YAK				pmax	pmax				
	comp=Z,684nm,1.9s								
YAK				pmax	pmax				
	comp=E,792nm,1.8s								
YAK				pmax	pmax				
	comp=N,408nm,1.6s								
YAK				smax	smax				
	comp=N,786nm,3.5s								
YAK				smax	smax				
	comp=E,4μm,4.6s								
YAK				MLR	MLR				
	comp=Z,37μm,18.0s								
YAK				MLR	MLR				
	comp=N,55μm,15.0s								
YAK				MLR	MLR				
	comp=E,22μm,17.0s								
NKL	**Nikolayevsk**	**46.50**	**304**	*e*P		**P**		**10 02 09.0**	**-1.1**
NKL				*e*				10 09 04.0	
NKL				pmax	pmax				
	comp=E,1μm,8.0s								
NKL				pmax	pmax				
	comp=Z,2μm,8.0s								
NKL				pmax	pmax				
	comp=N,66nm,1.3s								
NKL				pmax	pmax				
	comp=E,160nm,1.3s								
NKL				pmax	pmax				
	comp=Z,430nm,1.3s								
NKL				MLR	MLR				
	comp=N,4μm,14.0s								
NKL				MLR	MLR				
	comp=E,7μm,14.0s								
NKL				MLR	MLR				
	comp=Z,8μm,14.0s								
HSPB	**Hornsund (broa**	**46.57**	**9**	*e*P		**P**		**10 02 14.7**	**+4.3**
HSPB				*e*S		**S**		**10 09 06.0**	**+7.4**
JOHN	**Johnston Islan**	**46.80**	**228**	PFAKE				10 02 20.0	+7.2
JOHN				LR	LR				
	comp=Z,607nm,21.0s								
TYV	**Tymovskoe**	**46.99**	**301**	*e*P		**P**		**10 02 15.0**	**+1.0**
TYV				*e*S		**S**		**10 09 08.4**	**+3.3**
TYV				pmax	pmax				
	comp=Z,53nm,1.6s								
TYV				pmax	pmax				
	comp=Z,2μm,6.8s								
TYV				smax	smax				
	comp=E,600nm,6.1s								
TYV				MLR	MLR				
	comp=N,5μm,16.0s								
TYV				MLR	MLR				
	comp=Z,8μm,16.0s								
HOPEN	**Hopen**	**47.76**	**6**	*e*P		**P**		**10 02 16.7**	**-2.9**
KUR	**Kuril'sk**	**47.97**	**292**	*c i*P		**P**		**10 02 26.1**	**+4.4**
KUR				*i*				10 04 16.4	
KUR				*e*PPP		PPP		10 05 10.6	
KUR				*e*S		**S**		**10 09 14.4**	**-4.7**
KUR				pmax	pmax				
	comp=Z,2μm,5.3s								
KUR				MLR	MLR				
	comp=Z,4μm,18.0s								
TEIG	**Tepich**	**49.39**	**116**	*e*P		**P**		**10 02 34.3**	**+1.4**
	comp=Z,96nm,1.0s								
YSS	**Yuzh-Sakhalins**	**49.48**	**297**	*e*P		**P**		**10 02 35.8**	**+2.5**
	comp=Z,124nm,1.2s								
YSS				LR	LR				
	comp=Z,2μm,19.0s								
YSS	**Yuzh-Sakhalins**	**49.48**	**297**	*c e*P		**P**		**10 02 36.0**	**+2.7**
YSS				*e**SP		**sP**		**10 02 40.6**	**+3.4**
YSS				*e*S		**S**		**10 09 44.0**	**+3.6**
YSS				pmax	pmax				
	comp=Z,80nm,1.3s								
YSS				pmax	pmax				
	comp=Z,2μm,6.5s								
YSS				pmax	pmax				
	comp=N,900nm,5.3s								
YSS				pmax	pmax				
	comp=E,700nm,6.7s								
YSS				pmax	pmax				
	comp=Z,1μm,9.4s								
YSS				pmax	pmax				
	comp=N,600nm,12.0s								
YSS				pmax	pmax				
	comp=E,500nm,10.4s								
YSS				smax	smax				
	comp=N,2μm,10.7s								
YSS				MLR	MLR				
	comp=Z,5μm,14.0s								
YSS				MLR	MLR				
	comp=N,4μm,15.0s								
YSS				MLR	MLR				
	comp=E,6μm,15.0s								
YUK	**Yuzh-Kuril'sk**	**49.83**	**292**	*i* P		**P**		**10 02 38.3**	**+2.3**
YUK				*i*				10 04 29.2	
YUK				S		**S**		**10 09 51.0**	**+5.6**
YUK				*e*SS		**SS**		**10 13 20.4**	**+3.0**
YUK				MLR	MLR				
	comp=Z,3μm,17.0s								
YUK				MLR	MLR				
	comp=E,1μm,13.0s								
YUK				MLR	MLR				
	comp=N,2μm,15.0s								
BORG	**Borgarnes**	**49.90**	**31**	PFAKE				10 02 40.0	+3.7
BORG				LR	LR				
	comp=Z,3μm,20.0s								
GRNR	**Gornyy**	**50.05**	**304**	*e*P		**P**		**10 02 39.0**	**+1.4**
GRNR				pmax	pmax				
	comp=Z,16nm,1.0s								
CCIG	**Comitan**	**50.81**	**123**	*e*P		**P**		**10 02 46.2**	**+2.3**
	comp=Z,119nm,1.6s								
ASAJ	**Asahikawa**	**51.49**	**294**	P		**P**		**10 02 48.7**	**+0.1**
	comp=Z,31nm,0.7s,baz=35,slow=5.1,SNR=26								
ASAJ				LR	LR			10 26 37.2	
	comp=Z,3μm,18.4s,baz=36,slow=38								
NRIK	**Noril'sk**	**51.84**	**342**	P		**P**		**10 02 49.7**	**-1.1**
	comp=Z,42nm,0.8s,baz=143,slow=20,SNR=35								
NRIK				LR	LR			10 28 40.7	
	comp=Z,7μm,18.5s,baz=61,slow=41								
ZEA	**Zeya**	**52.15**	**312**	*e*P		**P**		**10 02 52.2**	**-1.1**
ZEA				*e*				10 04 56.0	
ZEA				*e*PPP		PPP		10 05 57.0	
ZEA				*e*S		**S**		**10 10 22.0**	**+4.8**
ZEA				pmax	pmax				
	comp=E,56nm,1.4s								
ZEA				pmax	pmax				
	comp=Z,140nm,1.4s								
ZEA				pmax	pmax				
	comp=Z,2μm,5.0s								
ZEA				pmax	pmax				
	comp=Z,1μm,8.0s								
ZEA				smax	smax				
	comp=E,1μm,14.0s								
ZEA				smax	smax				
	comp=N,2μm,15.0s								
ZEA				MLR	MLR				
	comp=Z,17μm,15.0s								
ZEA				MLR	MLR				
	comp=E,5μm,14.0s								
ZEA				MLR	MLR				
	comp=N,10μm,15.0s								
ERM	**Erimo**	**52.66**	**292**	*e*P		**P**		**10 03 00.4**	**+3.2**
	comp=N,240nm,1.4s								
ERM				LR	LR				
	comp=Z,2μm,22.0s								
ERM	**Erimo**	**52.66**	**292**	*i* P		**P**		**10 02 57.3**	**0.0**
ERM				pmax	pmax				
	comp=Z,180nm,1.4s								
KLR	**Kul'dur**	**53.30**	**305**	P		**P**		**10 03 02.2**	**+0.3**
	comp=Z,56nm,1.2s,baz=32,slow=8.0,SNR=28								
KLR				LR	LR			10 26 53.7	
	comp=Z,4μm,19.0s,baz=42,slow=37								
KLR	**Kul'dur**	**53.30**	**305**	⇑*e*P		**P**		**10 03 01.5**	**-0.4**
HAMF	**Hammerfest**	**53.35**	**9**	*e*P		**P**		**10 03 00.7**	**-1.3**
TRO	**Tromso**	**53.85**	**11**	*e*P		**P**		**10 03 04.5**	**-1.2**
TEY	**Ternei**	**53.91**	**299**	⇑*e*P		**P**		**10 03 08.9**	**+2.5**
TEY				pmax	pmax				
	comp=E,10.0nm,1.7s								
TEY				pmax	pmax				
	comp=Z,20nm,1.3s								
TEY				MLR	MLR				
	comp=E,200nm,17.0s								
TEY				MLR	MLR				
	comp=N,200nm,16.0s								
TEY				MLR	MLR				
	comp=Z,300nm,17.0s								
BOD	**Bodaibo**	**54.32**	**322**	⇑*i*P		**P**		**10 03 07.3**	**-2.0**
BOD				*e*				10 10 55.6	
BOD				pmax	pmax				
	comp=Z,153nm,1.7s								
KEV	**Kevo**	**54.49**	**8**	*e*P		**P**		**10 03 08.7**	**-1.5**
	comp=Z,47nm,0.9s								
KEV				LR	LR				
	comp=Z,14μm,20.0s								
KEV	**Kevo**	**54.49**	**8**	*e*P		**P**		**10 03 08.7**	**-1.5**
KEV				pmax	pmax				
	comp=Z,47nm,0.9s								
KEV				MLR	MLR				
	comp=Z,14μm,20.0s								
KEV	**Kevo**	**54.49**	**8**	*e*P		**P**		**10 03 09.3**	**-0.9**
ARCES	**ARCESS Array B**	**54.58**	**8**	P		**P**		**10 03 09.8**	**-1.2**
	comp=Z,14nm,0.9s,baz=356,slow=5.4,SNR=15								
ARCES				LR	LR			10 25 44.0	
	comp=Z,3μm,20.6s,baz=340,slow=35								
ARCES	**ARCESS Array B**	**54.58**	**8**	*e*P		**P**		**10 03 13.4**	**+2.5**
ARCES	**ARCESS Array B**	**54.58**	**8**	*e*P		**P**		**10 03 13.5**	**+2.5**
ARE0	**ARCESS Array S**	**54.58**	**8**	*e*P		**P**		**10 03 09.5**	**-1.5**
KTK1	**Kautokeino**	**54.89**	**9**	*e*P		**P**		**10 03 12.4**	**-0.8**
STEI	**Steigen**	**55.03**	**13**	*e*P		**P**		**10 03 12.6**	**-1.6**
H11N2	**WAKE ISLAND Hy**	**56.07**	**255**	T		T		11 04 08.0	
	baz=35,slow=76								
H11N3	**WAKE ISLAND Hy**	**56.07**	**255**	T		T		11 04 10.6	
	baz=35,slow=76								
KONS	**Konsvik**	**56.07**	**15**	*e*P		**P**		**10 03 19.4**	**-2.3**
H11N1	**WAKE ISLAND Hy**	**56.08**	**255**	T		T		11 04 09.3	
	baz=35,slow=76								
WAKE	**Wake Island**	**56.56**	**255**	PFAKE				10 03 30.0	+4.2
WAKE				LR	LR				
	comp=Z,5μm,19.0s								
MOR8	**Moi Rana**	**56.57**	**14**	*e*P		**P**		**10 03 21.8**	**-3.5**
GTBY	**Guantanamo Bay**	**56.69**	**104**	PFAKE				10 03 40.0	+13
GTBY				LR	LR				
	comp=Z,12μm,19.0s								
MTDJ	**Mount Denham**	**56.73**	**107**	*e*P		**P**		**10 03 29.5**	**+2.3**
	comp=Z,259nm,1.4s								
MTDJ				LR	LR				
	comp=Z,6μm,22.0s								
LVZ	**Lovozero**	**56.80**	**5**	*e*P		**P**		**10 03 25.8**	**-1.2**
	comp=Z,54nm,1.3s								
LVZ				LR	LR				
	comp=Z,3μm,20.0s								
LVZ	**Lovozero**	**56.80**	**5**	*e*P		**P**		**10 03 25.8**	**-1.2**
LVZ				pmax	pmax				
	comp=Z,54nm,1.3s								
LVZ				MLR	MLR				
	comp=Z,3μm,20.0s								
USA0B	**Ussuriysk Arra**	**56.80**	**301**	*e*P		**P**		**10 03 27.8**	**+0.5**
	comp=Z,108nm,1.4s								
USRK	**Ussuriysk Ar.**	**56.80**	**301**	P		**P**		**10 03 27.3**	**0.0**
	comp=Z,19nm,1.1s,baz=42,slow=6.1,SNR=29								
USRK				LR	LR			10 29 50.8	
	comp=Z,3μm,19.2s,baz=45,slow=38								
APA	**Apatity**	**57.06**	**5**	⇑*i*P		**P**		**10 03 28.7**	**-0.1**
APA				pmax	pmax				
	comp=Z,16nm,0.8s								
H11S1	**WAKE ISLAND Hy**	**57.16**	**254**	T		T		11 05 37.6	
	baz=40,slow=74								
H11S3	**WAKE ISLAND Hy**	**57.18**	**254**	T		T		11 05 36.6	
	baz=46,slow=74,SNR=1339								
GRTK	**Grand Turk**	**57.66**	**99**	PFAKE				10 03 40.0	+6.4
GRTK				LR	LR				
	comp=Z,7μm,21.0s								
MDJ	**Mudanjiang**	**57.66**	**303**	PFAKE				10 03 40.0	+6.7
MDJ				LR	LR				
	comp=Z,3μm,20.0s								
NSS	**Namsos**	**57.74**	**16**	*e*P		**P**		**10 03 31.6**	**-1.9**
MSHR	**Mys Shultsa**	**58.41**	**300**	*i* P		**P**		**10 03 38.4**	**-0.2**
HIA	**Hailar**	**58.61**	**312**	*e*P		**P**		**10 03 39.3**	**-0.7**
HIA				LR	LR				
	comp=Z,7μm,19.0s								
HIA	**Hailar**	**58.61**	**312**	*e*P		**P**		**10 03 39.3**	**-0.7**
HIA				MLR	MLR				
	comp=Z,7μm,19.0s								
CIT	**Chita**	**58.97**	**318**	*e*P		**P**		**10 03 46.8**	**+4.3**
CIT				*e*				10 03 55.3	
CIT				*e*				10 04 35.8	
CIT				pmax	pmax				
	comp=Z,287nm,2.1s								
MJB9	**Matsu-Tunnel**	**59.27**	**291**	*e*P		**P**		**10 03 44.9**	**+0.1**
	comp=Z,110nm,1.1s								
MAJO	**Matsushiro**	**59.27**	**291**	*e*P		**P**		**10 03 44.8**	**+0.1**
	comp=Z,108nm,1.1s								
MAJO				LR	LR				
	comp=Z,3μm,19.0s								
MAJO	**Matsushiro**	**59.27**	**291**	⇓*e*P		**P**		**10 03 43.8**	**-0.9**
MAJO				pmax	pmax				
	comp=Z,32nm,0.8s								
MAJO				MLR	MLR				
	comp=Z,2μm,19.0s								
MAJO	**Matsushiro**	**59.27**	**291**	*e*P		**P**		**10 03 44.0**	**-0.7**
MAT	**Matsushiro**	**59.27**	**291**	P		**P**		**10 03 44.5**	**-0.2**
MAT				S		**S**		**10 11 56.6**	**+4.0**
MJAR	**Matsushiro Arr**	**59.27**	**291**	P		**P**		**10 03 44.2**	**-0.5**
	comp=Z,9.3nm,0.6s,baz=37,slow=5.5,SNR=28								
MJAR				PcP		**PcP**		**10 04 34.1**	**+1.2**
	comp=Z,13nm,1.0s,baz=329,slow=2.0,SNR=5.4								
MJAR				LR	LR			10 28 49.7	
	comp=Z,2μm,20.1s,baz=35,slow=36								
JTS	**JuntasAbangare**	**59.48**	**119**	PFAKE				10 04 00.0	+14
JTS				LR	LR				
	comp=Z,8μm,19.0s								
DOMB	**Dombas**	**59.55**	**19**	*e*P		**P**		**10 03 44.9**	**-1.4**
SDDR	**Presa de Saban**	**59.59**	**101**	*e*P		**P**		**10 03 48.5**	**+1.4**
	comp=Z,56nm,1.0s								
SDDR				LR	LR				
	comp=Z,7μm,19.0s								
CN2	**Changchun**	**60.24**	**305**	*e*P		**P**		**10 03 50.0**	**-1.2**
CN2				*e*S		**S**		**10 12 10.5**	**+5.6**
CN2				pmax	pmax				
	comp=Z,20nm,0.8s								
CN2				pmax	pmax				
	comp=Z,1μm,8.0s								
CN2				LR	LR				
	comp=Z,4μm,19.0s								
CN2				LR	LR				
	comp=Z,5μm,19.0s								
CN2				LR	LR				
	comp=Z,3μm,15.0s								
NC204	**NORSAR Array S**	**60.57**	**18**	*e*P		**P**		**10 03 53.2**	**-0.1**
NC303	**NORSAR Array S**	**60.72**	**18**	*e*P		**P**		**10 03 53.9**	**-0.4**
INU	**Inuyama**	**60.80**	**291**	*e*P		**P**		**10 03 56.6**	**+1.4**
	comp=Z,140nm,1.8s								
NB2	**NORSAR Subarra**	**60.87**	**18**	P		**P**		**10 03 54.4**	**-0.9**
	comp=Z,77nm,1.2s,baz=340,slow=6.9								
NB2	**NORSAR Subarra**	**60.87**	**18**	P		**P**		**10 03 54.4**	**-0.9**
	baz=340,slow=6.9								
NOA	**NORSAR Array B**	**60.87**	**18**	P		**P**		**10 03 54.5**	**-0.8**
	comp=Z,16nm,0.9s,baz=340,slow=6.8,SNR=25								
NOA				LR	LR			10 29 19.3	
	comp=Z,5μm,20.3s,baz=345,slow=35								
NOA				PKP2bc				10 33 13.2	
	comp=Z,1.0nm,0.8s,baz=146,slow=2.3,SNR=2.4								
NB201	**NORSAR Array S**	**60.87**	**18**	*e*P		**P**		**10 03 54.6**	**-0.8**
NC405	**NORSAR Array S**	**60.89**	**18**	*e*P		**P**		**10 03 55.8**	**+0.4**
NAO01	**NORSAR Array S**	**60.99**	**18**	*e*P		**P**		**10 03 56.5**	**+0.4**
NC602	**NORSAR Array S**	**61.21**	**18**	*e*P		**P**		**10 03 54.4**	**-3.2**
DRUM	**Mains of Drumt**	**61.60**	**27**	*e*P		**P**		**10 03 57.1**	**-3.1**
DRUM				IAmb	IAmb			10 03 59.8	
	comp=Z,261nm,0.8s								
KONO	**Kongsberg**	**61.87**	**20**	*e*P		**P**		**10 03 59.5**	**-2.5**
IRK	**Irkutsk**	**62.15**	**323**	*e*P		P		10 04 09.0	+4.9
IRK				pmax	pmax				
	comp=Z,361nm,2.6s								
EDI	**Edinburgh**	**62.28**	**28**	*e*P		**P**		**10 04 02.2**	**-2.6**
EDI				IAmb	IAmb			10 04 02.4	
	comp=Z,126nm,0.8s								
ESY	**Stoneypath**	**62.44**	**28**	*e*P		**P**		**10 04 03.8**	**-2.2**
FIA1	**FINESS Array S**	**62.56**	**10**	*e*P		**P**		**10 04 05.2**	**-1.5**
FIA1				*e*P		**P**		**10 04 06.2**	**-0.5**
FINES	**FINESS Array B**	**62.56**	**10**	P		**P**		**10 04 05.5**	**-1.1**
	comp=Z,9.0nm,0.8s,baz=14,slow=8.8,SNR=16								
FINES				LR	LR			10 30 53.1	
	comp=Z,5μm,21.9s,baz=346,slow=36								
FINES				PKP2bc				10 33 08.8	
	comp=Z,0.8nm,0.6s,baz=149,slow=3.2,SNR=3.3								
SNY	**Shenyang**	**62.63**	**304**	⇓P		**P**		**10 04 07.5**	**+0.1**
SNY				S		**S**		**10 12 41.0**	**+5.7**
SNY				pmax	pmax				
	comp=Z,82nm,0.8s								
SNY				pmax	pmax				
	comp=Z,1μm,7.8s								
SNY				LR	LR				
	comp=Z,3μm,14.0s								
SNY				LR	LR				
	comp=Z,11μm,12.4s								
SNY				LR	LR				
	comp=Z,7μm,16.3s								
ESK	**Eskdalemuir**	**62.81**	**29**	PFAKE				10 04 20.0	+12
ESK				LR	LR				
	comp=Z,6μm,22.0s								
TLY	**Talaya**	**62.83**	**323**	LR	LR			10 31 59.2	
	comp=Z,7μm,19.9s,baz=40,slow=37								
TLY	**Talaya**	**62.83**	**323**	*e*P		**P**		**10 04 08.0**	**-0.7**
	comp=Z,643nm,1.7s								
TLY	**Talaya**	**62.83**	**323**	⇑*i*P		**P**		**10 04 08.9**	**+0.2**
TLY	**Talaya**	**62.83**	**323**	P		**P**		**10 04 08.8**	**+0.1**
	SNR=58								
BCIP	**Isla Barro Col**	**63.04**	**115**	PFAKE				10 04 20.0	+10
BCIP				LR	LR				
	comp=Z,6μm,20.0s								
BCIP	**Isla Barro Col**	**63.04**	**115**	*e*P		**P**		**10 04 13.0**	**+2.6**
BCIP	**Isla Barro Col**	**63.04**	**115**	*e*P		**P**		**10 04 13.0**	**+2.6**
SJG	**San Juan**	**63.18**	**97**	PFAKE				10 04 20.0	+8.7
SJG				LR	LR				
	comp=Z,4μm,20.0s								
PRGR	**Permogore**	**63.34**	**360**	*e*P		**P**		**10 04 10.5**	**-1.3**
PRGR				pmax	pmax				
	comp=Z,88nm,1.2s								
MOY	**Mondy**	**63.73**	**325**	*e*P		**P**		**10 04 15.2**	**+0.5**
MOY				pmax	pmax				
	comp=Z,273nm,3.2s								
KS01	**Wonju Array Si**	**63.91**	**299**	*e*P		**P**		**10 04 15.3**	**-0.6**
KSRS	**Korea Array**	**63.91**	**298**	P		**P**		**10 04 16.0**	**+0.1**
	comp=Z,9.1nm,0.7s,baz=35,slow=7.1,SNR=23								
KSRS				LR	LR			10 32 06.0	
	comp=Z,3μm,21.1s,baz=38,slow=36								
KS15	**Wonju Array Si**	**63.94**	**298**	*e*P		**P**		**10 04 16.4**	**+0.2**
KSAR	**Wonju Array Be**	**63.94**	**298**	P		**P**		**10 04 16.0**	**-0.1**
KSAR	**Wonju Array Be**	**63.94**	**298**	P		**P**		**10 04 16.0**	**-0.1**
KLMR	**Klimovskoe**	**64.03**	**3**	*e*P		**P**		**10 04 13.7**	**-2.7**
KLMR				pmax	pmax				
	comp=Z,74nm,1.6s								
KLMR	**Klimovskoe**	**64.03**	**3**	*e*P		**P**		**10 04 13.7**	**-2.7**
KLMR				AMP				10 04 23.2	
	comp=Z,74nm,1.6s								
ZAK	**Zakamensk**	**64.05**	**323**	*e*P		**P**		**10 04 15.3**	**-1.6**
ZAK				pmax	pmax				
	comp=Z,26nm,1.7s								
TAOE	**Nuku Hiva Isla**	**64.14**	**186**	*e*S		**S**		**10 12 52.2**	**-2.5**
	comp=Z,307nm,23.8s								
TAOE				*e*LQ		LQ		10 20 30.2	
	comp=Z,21μm,27.8s								
TAOE	

JNU	**Nakatsue**	**65.76**	**293**		LR	LR	10 36 16.3		
	comp=Z,797nm,18.2s,baz=44,slow=39								
JNU	**Nakatsue**	**65.76**	**293**	*e*P		**P**	**10 04 27.5**	**-0.6**	
	comp=Z,171nm,1.4s								
NVS	**Novosibirsk**	**65.81**	**337**	⇑ *i*P		**P**	**10 04 26.4**	**-1.7**	
NVS				*e*S		**S**	**10 13 10.9**	**-3.4**	
NVS					pmax	pmax			
	comp=N,51nm,1.6s								
NVS					pmax	pmax			
	comp=E,35nm,1.6s								
NVS					pmax	pmax			
	comp=Z,126nm,1.6s								
NVS					smax	smax			
	comp=N,18nm,2.0s								
NVS					smax	smax			
	comp=E,23nm,2.0s								
DL2	**Dalian**	**65.85**	**304**		P	P	10 04 33.5	+4.9	
DL2					PP	**PP**	**10 06 59.0**	**+6.0**	
DL2					S	**S**	**10 13 21.8**	**+6.6**	
DL2					pmax	pmax			
	comp=E,81nm,1.4s								
DL2					pmax	pmax			
	comp=E,880nm,5.2s								
DL2					LR	LR			
	comp=E,4μm,15.9s								
DL2					LR	LR			
	comp=E,4μm,16.9s								
DL2					LR	LR			
	comp=E,5μm,17.5s								
ANWB	**Willy Bob**	**66.01**	**94**		PFAKE		10 04 40.0	+10	
ANWB					LR	LR			
	comp=Z,3μm,20.0s								
ZAA0	**Zalesovo Array**	**66.27**	**336**	*e*P		**P**	**10 04 29.6**	**-1.5**	
ZALV	**Zalesovo Beam**	**66.27**	**336**	P		**P**	**10 04 29.8**	**-1.2**	
	comp=Z,16nm,0.6s,baz=22,slow=6.6,SNR=30								
ZALV					LR	LR	10 37 06.6		
	comp=Z,8μm,20.6s,baz=12,slow=39								
ZALV	**Zalesovo Beam**	**66.27**	**336**	*e*P		**P**	**10 04 29.5**	**-1.6**	
ZALV	**Zalesovo Beam**	**66.27**	**336**	*e*P		**P**	**10 04 29.5**	**-1.6**	
UREC	**San Jos de Ur**	**66.49**	**112**	*e*P		**P**	**10 04 32.5**	**-0.5**	
UREC	**San Jos de Ur**	**66.49**	**112**	*e*P		**P**	**10 04 32.5**	**-0.5**	
PAYG	**Puerto Ayora**	**66.59**	**130**	*e*P		**P**	**10 04 36.5**	**+2.9**	
	comp=Z,271nm,1.8s								
PAYG					LR	LR			
	comp=Z,3μm,21.0s								
SOLC	**Bahia Solano**	**66.78**	**114**	*e*P		**P**	**10 04 35.8**	**+0.9**	
SOLC	**Bahia Solano**	**66.78**	**114**	*e*P		**P**	**10 04 35.8**	**+0.9**	
ZARC	**Zaragoza, Cauc**	**67.06**	**111**	*e*P		**P**	**10 04 36.9**	**+0.3**	
ZARC	**Zaragoza, Cauc**	**67.06**	**111**	*e*P		**P**	**10 04 36.9**	**+0.3**	
OCAC	**Ocana**	**67.26**	**109**	*e*P		**P**	**10 04 38.2**	**+0.2**	
OCAC	**Ocana**	**67.26**	**109**	*e*P		**P**	**10 04 38.2**	**+0.2**	
RGN	**Rugen**	**67.37**	**19**	*e*P		**P**	**10 04 37.1**	**-0.9**	
RGN					IAmb	IAmb	10 04 41.4		
	comp=Z,348nm,1.4s								
BJI	**Beijing**	**67.46**	**308**		P	**P**	**10 04 38.0**	**-0.8**	
BJI					S	**S**	**10 13 33.3**	**-1.3**	
BJI					LR	LR			
	comp=Z,3μm,15.1s								
BJI					LR	LR			
	comp=Z,5μm,15.3s								
BJI					LR	LR			
	comp=Z,3μm,22.0s								
SVE	**Sverdlovsk**	**67.46**	**351**	*d i*P		**P**	**10 04 37.8**	**-0.8**	
SVE				*e*			10 07 02.5		
SVE					PPP	PPP	10 08 44.1		
SVE				*e*S		**S**	**10 13 39.2**	**+5.0**	
SVE					pmax	pmax			
	comp=Z,120nm,1.5s								
BJT	**Baijiatuau**	**67.48**	**308**	*e*P		**P**	**10 04 37.9**	**-1.0**	
	comp=Z,151nm,1.8s								
BJT					LR	LR			
	comp=Z,5μm,20.0s								
BJT	**Baijiatuau**	**67.48**	**308**	*e*P		**P**	**10 04 37.9**	**-1.0**	
BJT					pmax	pmax			
	comp=Z,151nm,1.8s								
BJT					MLR	MLR			
	comp=Z,5μm,20.0s								
HELC	**Santa Helena**	**67.80**	**113**	*e*P		**P**	**10 04 41.5**	**-0.2**	
HELC	**Santa Helena**	**67.80**	**113**	*e*P		**P**	**10 04 41.5**	**-0.2**	
BRRC	**Barranca, Sant**	**68.00**	**110**	*e*P		**P**	**10 04 41.8**	**-0.8**	
BRRC	**Barranca, Sant**	**68.00**	**110**	*e*P		**P**	**10 04 41.8**	**-0.8**	
ARU	**Arti**	**68.03**	**352**	*e*P		**P**	**10 04 39.6**	**-2.6**	
	comp=Z,309nm,1.7s								
ARU					LR	LR			
	comp=Z,3μm,19.0s								
ARU	**Arti**	**68.03**	**352**	*d i*P		**P**	**10 04 40.6**	**-1.6**	
ARU							10 05 07.2		
ARU					S	**S**	**10 13 39.5**	**-1.5**	
ARU					pmax	pmax			
	comp=Z,69nm,1.0s								
ARU					MLR	MLR			
	comp=Z,5μm,23.0s								
PTBC	**PUERTO BERRIO,**	**68.08**	**111**	*e*P		**P**	**10 04 41.9**	**-1.1**	
PTBC	**PUERTO BERRIO,**	**68.08**	**111**	*e*P		**P**	**10 04 41.9**	**-1.1**	
PABE	**Paberze**	**68.13**	**13**	*e*P		**P**	**10 04 41.9**	**-0.9**	
PABE					IAmb	IAmb	10 04 45.8		
	comp=Z,50nm,1.1s								
IZAR	**Zarasai**	**68.17**	**11**	*e*P		**P**	**10 04 42.5**	**-0.6**	
IZAR					IAmb	IAmb	10 04 45.0		
	comp=Z,13nm,1.1s								
SDV	**Santo Domingo**	**68.18**	**107**	*e*P		**P**	**10 04 45.2**	**+1.2**	
	comp=Z,56nm,1.2s								
SDV					LR	LR			
	comp=Z,5μm,22.0s								
SDV	**Santo Domingo**	**68.18**	**107**	*e*P		**P**	**10 04 42.8**	**-1.1**	
SDV	**Santo Domingo**	**68.18**	**107**	*e*P		**P**	**10 04 42.8**	**-1.1**	
SDV	**Santo Domingo**	**68.18**	**107**	*e*P		**P**	**10 04 44.1**	**+0.2**	
ISAL	**Salakas**	**68.33**	**12**	*e*P		**P**	**10 04 43.6**	**-0.4**	
ISAL					IAmb	IAmb	10 04 47.3		
	comp=Z,19nm,1.0s								
PAMC	**Pamplona, Colo**	**68.34**	**109**	*e*P		**P**	**10 04 45.5**	**+0.3**	
PAMC	**Pamplona, Colo**	**68.34**	**109**	*e*P		**P**	**10 04 45.5**	**+0.3**	
PLMC	**San Jos del P**	**68.49**	**114**	*e*P		**P**	**10 04 45.6**	**-0.1**	
PLMC	**San Jos del P**	**68.49**	**114**	*e*P		**P**	**10 04 45.6**	**-0.1**	
IIGN	**Ignalina**	**68.56**	**12**	*e*P		**P**	**10 04 44.9**	**-0.6**	
IIGN					IAmb	IAmb	10 04 48.5		
	comp=Z,9.5nm,0.7s								
IDID	**Didziasalis**	**68.65**	**11**	*e*P		**P**	**10 04 45.5**	**-0.6**	
MALC	**Bahia Malaga**	**68.70**	**115**	*e*P		P	10 04 39.3	-7.6	
MALC	**Bahia Malaga**	**68.70**	**115**	*e*P		P	10 04 39.3	-7.6	
BARC	**Barichara**	**68.71**	**110**	*e*P		**P**	**10 04 47.2**	**-0.1**	
BARC	**Barichara**	**68.71**	**110**	*e*P		**P**	**10 04 47.2**	**-0.1**	
HHC	**Hu-ho-hao-te**	**68.81**	**312**	*e*P		**P**	**10 04 46.0**	**-1.5**	
HHC					PP	**PP**	**10 07 15.3**	**-3.5**	
HHC					S	**S**	**10 13 47.5**	**-3.5**	
HHC					sS	pS	10 13 55.3	+0.3	
HHC					SS	**SS**	**10 18 10.0**	**-5.0**	
HHC					pmax	pmax			
	comp=Z,26nm,1.0s								
HHC					pmax	pmax			
	comp=Z,1μm,5.1s								
HHC					LR	LR			
	comp=Z,9μm,17.3s								
HHC					LR	LR			
	comp=Z,9μm,16.4s								
HHC					LR	LR			
	comp=Z,10μm,15.6s								
RREF	**El Recreo**	**68.98**	**113**	*e*P		**P**	**10 04 51.0**	**+1.5**	
RREF	**El Recreo**	**68.98**	**113**	*e*P		**P**	**10 04 51.0**	**+1.5**	
NACGM	**Naroch**	**69.06**	**11**	*e*P		**P**	**10 04 46.0**	**-2.6**	
NACGM				*e*S		**S**	**10 14 02.0**	**+8.8**	
NACGM				*e*PS		**SKSac**	**10 14 47.0**	**-1.0**	
NACGM				*e*SSS		SSS	10 21 38.0		
NACGM				*e*LQ		LQ	10 23 56.0		
NACGM				*e*LR		LR	10 30 16.0		
NACGM				LRM		MLR	10 35 44.0		
	comp=Z,13nm,18.0s								
MOS	**Moscow**	**69.08**	**5**	*e*P		**P**	**10 04 46.8**	**-1.9**	
MOS				*e*S		**S**	**10 13 55.6**	**+2.1**	
MOS					pmax	pmax			
	comp=Z,74nm,1.0s								
MOS					MLR	MLR			
	comp=Z,4μm,15.0s								
SNF	**Seneffe**	**69.12**	**27**	P		**P**	**10 04 48.6**	**-0.5**	
YOTC	**Yotoco, Valle**	**69.24**	**115**	*e*P		**P**	**10 04 49.7**	**-0.8**	
YOTC	**Yotoco, Valle**	**69.24**	**115**	*e*P		**P**	**10 04 49.7**	**-0.8**	
HGN	**Heimansgroeve**	**69.30**	**25**	*e*P		**P**	**10 04 49.8**	**-0.3**	
ANIL	**Santa Ana**	**69.30**	**113**	*e*P		**P**	**10 04 51.0**	**0.0**	
ANIL	**Santa Ana**	**69.30**	**113**	*e*P		**P**	**10 04 51.0**	**0.0**	
RUSC	**La Rusia**	**69.35**	**111**	*e*P		**P**	**10 04 50.5**	**-1.0**	
RUSC	**La Rusia**	**69.35**	**111**	*e*P		**P**	**10 04 50.5**	**-1.0**	
CTAU	**Tausa, Cundina**	**69.42**	**112**	*e*P		**P**	**10 04 56.0**	**+4.0**	
CTAU	**Tausa, Cundina**	**69.42**	**112**	*e*P		**P**	**10 04 56.0**	**+4.0**	
CMLA	**Cha da Macela**	**69.44**	**53**	PFAKE			10 05 00.0	+8.7	
CMLA					LR	LR			
	comp=Z,2μm,20.0s								
MEM	**Membach**	**69.46**	**25**	P		**P**	**10 04 51.0**	**-0.2**	
	comp=Z,22nm,0.9s								
MEM					x	x	10 04 56.9		
SUW	**Suwalki**	**69.49**	**14**	*e*P		**P**	**10 04 48.8**	**-2.5**	
SUW	**Suwalki**	**69.49**	**14**	*e*P		**P**	**10 04 50.4**	**-0.9**	
SUW	**Suwalki**	**69.49**	**14**	*e*P		**P**	**10 04 48.8**	**-2.5**	
CTAB	**Cerro Tablazo,**	**69.49**	**112**	*e*P		**P**	**10 04 53.1**	**+0.7**	
CTAB	**Cerro Tablazo,**	**69.49**	**112**	*e*P		**P**	**10 04 53.1**	**+0.7**	
DGZ	**Jazzator, Alta**	**69.51**	**332**	*c i*P		**P**	**10 04 51.6**	**-0.1**	
DGZ					pmax	pmax			
	comp=Z,20nm,1.2s								
DGZ					MLR	MLR			
	comp=Z,4μm,15.0s								
MICGM	**Minsk**	**69.57**	**11**	*e*P		**P**	**10 04 51.0**	**-0.8**	
MICGM				*e*LR		LR	10 31 40.0		
MICGM				LRM		MLR	10 32 16.0		
	comp=Z,5.6nm,24.0s								
MNK	**Minsk**	**69.57**	**11**	*e*P		**P**	**10 04 51.0**	**-0.8**	
ROSC	**El Rosal**	**69.58**	**112**	P		**P**	**10 04 53.7**	**+0.9**	
	comp=Z,19nm,0.9s,baz=53,slow=4.9,SNR=13								
ROSC					LR	LR	10 39 59.3		
	comp=Z,2μm,18.8s,baz=4.0,slow=40								
ROSC	**El Rosal**	**69.58**	**112**	*e*P		**P**	**10 04 54.9**	**+2.1**	
	comp=Z,150nm,1.8s								
ROSC	**El Rosal**	**69.58**	**112**	*e*P		**P**	**10 04 52.9**	**+0.1**	
ROSC	**El Rosal**	**69.58**	**112**	*e*P		**P**	**10 04 52.9**	**+0.1**	
DOU	**Dourbes**	**69.58**	**27**	P		**P**	**10 04 51.5**	**-0.4**	
	comp=Z,14nm,1.1s								
TAMC	**Tame, Arauca**	**69.59**	**109**	*e*P		**P**	**10 04 53.7**	**+1.2**	
TAMC	**Tame, Arauca**	**69.59**	**109**	*e*P		**P**	**10 04 53.7**	**+1.2**	
OBN	**Obninsk**	**69.65**	**5**	LR		LR	10 35 23.6		
	comp=Z,809nm,21.9s,baz=354,slow=36								
OBN	**Obninsk**	**69.65**	**5**	*i* P		**P**	**10 04 50.8**	**-1.4**	
OBN				*i*			10 04 56.9		
OBN				*i*			10 05 12.9		
OBN				*i* S		**S**	**10 13 54.7**	**-5.5**	
OBN					pmax	pmax			
	comp=Z,42nm,1.0s								
OBN					MLR	MLR			
	comp=Z,4μm,18.0s								
BTO	**Baotou**	**69.67**	**313**	*e*P		**P**	**10 04 54.3**	**+1.5**	
BRVK	**Borovoye**	**69.97**	**344**	*e*P		**P**	**10 04 53.2**	**-1.1**	
	comp=Z,184nm,1.6s								
BRVK					LR	LR			
	comp=Z,5μm,20.0s								
BRVK	**Borovoye**	**69.97**	**344**	*d i*P		**P**	**10 04 52.9**	**-1.4**	
BRVK					pmax	pmax			
	comp=Z,39nm,0.9s								
BRVK					MLR	MLR			
	comp=Z,9μm,20.0s								
BRVK	**Borovoye**	**69.97**	**344**	P		**P**	**10 04 53.4**	**-0.9**	
	SNR=37								
BRVK					P	**P**	**10 04 53.4**	**-0.9**	
	SNR=37								
BVA0	**Borovoye Array**	**69.98**	**344**	P		**P**	**10 04 52.6**	**-1.8**	
BVA0					pmax	pmax			
	comp=Z,51nm,1.3s								
CHIC	**Chingaza**	**70.06**	**112**	*e*P		**P**	**10 04 56.1**	**+0.3**	
CHIC	**Chingaza**	**70.06**	**112**	*e*P		**P**	**10 04 56.1**	**+0.3**	
TIA	**Tai'an**	**70.14**	**305**	P		P	10 05 00.5	+4.9	
TIA					PP	**PP**	**10 07 30.8**	**+0.5**	
TIA					S	**S**	**10 14 12.8**	**+6.2**	
TIA					pmax	pmax			
	comp=Z,32nm,1.2s								
TIA					LR	LR			
	comp=Z,2μm,19.0s								
TIA					LR	LR			
	comp=Z,2μm,17.7s								
TIA					LR	LR			
	comp=Z,620nm,14.7s								
POPC	**Popayan, Colom**	**70.30**	**116**	*e*P		**P**	**10 04 56.0**	**-1.0**	
POPC	**Popayan, Colom**	**70.30**	**116**	*e*P		**P**	**10 04 56.0**	**-1.0**	
WLF	**Walferdange**	**70.37**	**26**	P		**P**	**10 04 56.2**	**-0.6**	
	comp=Z,11nm,0.8s								
CLL	**Collm**	**70.38**	**21**	*e*P		**P**	**10 04 56.5**	**-0.3**	
	comp=Z,80nm,1.8s								
CLL	**Collm**	**70.38**	**21**	*e*P		**P**	**10 04 56.0**	**-0.8**	
	comp=Z,24nm,1.2s								
CLL				*i* (sP)		**sP**	**10 05 01.7**	**+0.9**	
	comp=Z,85nm,1.9s								
CLL				*i*			10 05 08.0		
CLL				*e*PP		**PP**	**10 07 30.0**	**-1.8**	
CLL				*e*S		**S**	**10 14 09.0**	**+0.2**	
CLL				*e*PPS		PPS	10 15 00.0		
CLL				*e*SS		**SS**	**10 18 36.0**	**-2.2**	
CLL				*e*			10 20 12.0		
CLL				*e*SSS		SSS	10 22 12.0		
CLL				*e*SSSS			10 23 06.0		
CLL				Lm		MLR	10 35 00.0		
	comp=N,4μm,18.2s								
CLL				Lm		MLR	10 35 00.0		
	comp=E,3μm,18.5s								
CLL				Lm		MLR	10 35 00.0		
	comp=Z,4μm,19.1s								
CLL	**Collm**	**70.38**	**21**	*e*P		**P**	**10 04 56.0**	**-0.8**	
CLL				*i*			10 05 01.7		
CLL				*e*S		**S**	**10 14 09.0**	**+0.2**	
CLL					pmax	pmax			
	comp=Z,24nm,1.2s								
CLL					MLR	MLR			
	comp=Z,4μm,19.1s								
MARP	**Paez Belalcaza**	**70.41**	**115**	*e*P		**P**	**10 04 57.6**	**-0.2**	
MARP	**Paez Belalcaza**	**70.41**	**115**	*e*P		**P**	**10 04 57.6**	**-0.2**	
VILC	**Villavicencio,**	**70.52**	**112**	*e*P		**P**	**10 04 54.8**	**-3.5**	
VILC	**Villavicencio,**	**70.52**	**112**	*e*P		**P**	**10 04 54.8**	**-3.5**	
PCON	**Cinco Dias**	**70.62**	**116**	*e*P		**P**	**10 04 59.6**	**+0.2**	
PCON	**Cinco Dias**	**70.62**	**116**	*e*P		**P**	**10 04 59.6**	**+0.2**	
KURK	**Kurchatov**	**70.67**	**338**	*e*P		**P**	**10 04 56.8**	**-1.8**	
	comp=Z,171nm,1.4s								
KURK					LR	LR			
	comp=Z,14μm,21.0s								
KURK	**Kurchatov**	**70.67**	**338**	⇑ *i*P		**P**	**10 04 56.9**	**-1.8**	
KURK					pmax	pmax			
	comp=Z,49nm,1.0s								
KURK					MLR	MLR			
	comp=Z,8μm,20.0s								
KURK	**Kurchatov**	**70.67**	**338**	P		**P**	**10 04 56.8**	**-1.8**	
	SNR=46								
KURK					P	**P**	**10 04 56.8**	**-1.8**	
	SNR=46								
SOTA	**Rioblanco**	**70.67**	**116**	*e*P		**P**	**10 04 59.8**	**+0.1**	
SOTA	**Rioblanco**	**70.67**	**116**	*e*P		**P**	**10 04 59.8**	**+0.1**	
MOX	**Moxa**	**70.71**	**22**	*e*L		L	10 38 44.9		
	comp=Z,3μm,19.4s								
BETC	**Betania**	**70.81**	**114**	*e*P		**P**	**10 05 01.1**	**+1.1**	
BETC	**Betania**	**70.81**	**114**	*e*P		**P**	**10 05 01.1**	**+1.1**	
CLF	**Chambon-Foret**	**70.86**	**29**	*e*P		**P**	**10 04 59.9**	**+0.2**	
	comp=Z,61nm,1.0s								
BBGH	**Gun Hill**	**70.91**	**95**	PFAKE			10 05 10.0	+9.5	
BBGH					LR	LR			
	comp=Z,7μm,20.0s								
PMOR	**Pomariorio Ree**	**70.97**	**193**	*e*P		**P**	**10 05 01.5**	**+0.9**	
	comp=Z,73nm,1.2s								
PMOR	**Pomariorio Ree**	**70.97**	**193**	*e*T		T	11 22 32.2		
	comp=Z,330nm,0.2s								
BRG	**Berggiesshubel**	**70.98**	**20**	*i* P		**P**	**10 05 00.4**	**-0.1**	
	comp=Z,116nm,1.9s								
BRG				S		**S**	**10 14 22.0**	**+6.1**	
BRG				SS		**SS**	**10 18 51.0**	**+3.5**	
BRG				PKPPKP		P'P'df	10 32 56.0	-8.1	
	comp=Z,62nm,1.7s								
	comp=Z,4μm,19.1s								
	comp=N,4μm,22.1s								
	comp=E,3μm,22.1s								
BRG	**Berggiesshubel**	**70.98**	**20**	*i* P		**P**	**10 05 00.4**	**-0.1**	
BRG				S		**S**	**10 14 22.0**	**+6.1**	
BRG				SS		**SS**	**10 18 51.0**	**+3.5**	
BRG					pmax	pmax			
	comp=Z,116nm,1.9s								
BRG					pmax	pmax			
	comp=Z,62nm,1.7s								
BRG					MLR	MLR			
	comp=Z,4μm,19.1s								
BRG					MLR	MLR			
	comp=N,4μm,22.1s								
BRG					MLR	MLR			
	comp=E,3μm,22.1s								
CRUC	**La Cruz**	**70.98**	**116**	*e*P		**P**	**10 05 01.8**	**+0.4**	
CRUC	**La Cruz**	**70.98**	**116**	*e*P		**P**	**10 05 01.8**	**+0.4**	
TIY	**Taiyuan**	**71.03**	**309**	*e*P		P	10 05 06.5	+5.4	
TIY					PP	**PP**	**10 07 32.5**	**-5.5**	
TIY					S	**S**	**10 14 20.3**	**+3.2**	
TIY					SKS	**SKSac**	**10 15 03.0**	**-0.7**	
TIY	**Taiyuan**	**71.03**	**309**		SS	SS	10 18 39.5	-10	
TIY					pmax	pmax			
	comp=Z,40nm,1.2s								
TIY					pmax	pmax			
	comp=Z,840nm,5.7s								
TIY					LR	LR			
	comp=N,5μm,12.4s								
TIY					LR	LR			
	comp=E,3μm,15.9s								
TIY					LR	LR			
	comp=Z,7μm,14.0s								
VAH	**Vaihoa**	**71.16**	**193**	*e*T		T	11 22 39.9		
	comp=Z,81nm,0.3s								
NKC	**Novy Kostel**	**71.28**	**22**	*e*P		**P**	**10 05 04.2**	**+1.9**	
NKC					AMS	AMS	10 35 40.0		
	comp=Z,4μm,18.2s								
NKC	**Novy Kostel**	**71.28**	**22**	*e*P		**P**	**10 05 04.2**	**+1.9**	
NKC					MLR	MLR			
	comp=Z,4μm,18.2s								
OTAV	**Otavalo**	**71.36**	**119**	*e*P		**P**	**10 05 05.2**	**+1.4**	
	comp=Z,188nm,1.6s								
OTAV					LR	LR			
	comp=Z,3μm,20.0s								
OTAV	**Otavalo**	**71.36**	**119**	*e*P		**P**	**10 05 04.5**	**+0.7**	
OTAV	**Otavalo**	**71.36**	**119**	*e*P		**P**	**10 05 04.5**	**+0.7**	
OTAV	**Otavalo**	**71.36**	**119**	*e*P		**P**	**10 05 05.3**	**+1.5**	
PVCC	**Panska Ves**	**71.43**	**20**	*e*P		**P**	**10 05 04.3**	**+1.1**	
PVCC					AMS	AMS	10 36 10.0		
	comp=Z,4μm,18.2s								
PVCC	**Panska Ves**	**71.43**	**20**	*e*P		**P**	**10 05 04.3**	**+1.1**	
PVCC					MLR	MLR			
	comp=Z,4μm,18.2s								
KSP	**Ksiaz**	**71.45**	**19**	*e*P		**P**	**10 05 03.0**	**-0.4**	
KSP	**Ksiaz**	**71.45**	**19**	*e*P		**P**	**10 05 03.0**	**-0.4**	
GRA1	**Grafenberg Arr**	**71.53**	**22**	*e*P		**P**	**10 05 03.8**	**0.0**	
	comp=Z,150nm,1.8s								
GRF	**Grafenberg Arr**	**71.53**	**22**	*e*P		**P**	**10 05 04.0**	**+0.2**	
	comp=Z,291nm,2.3s,baz=346,slow=5.5								
GRF				*e*L		L	10 38 11.7		
	comp=Z,6μm,18.4s								
GRF	**Grafenberg Arr**	**71.53**	**22**	*e*P		**P**	**10 05 03.8**	**0.0**	
GRF					pmax	pmax			
	comp=Z,150nm,1.8s								
GRFO	**Grafenberg**	**71.53**	**22**	*e*P		**P**	**10 05 03.8**	**0.0**	
	comp=Z,26nm,0.8s								
GRFO	**Grafenberg**	**71.53**	**22**	*e*P		**P**	**10 05 03.8**	**0.0**	
GRFO					pmax	pmax			
	comp=Z,26nm,0.8s								
FLOC	**Florencia**	**71.64**	**115**	*e*P		**P**	**10 05 05.0**	**0.0**	
FLOC	**Florencia**	**71.64**	**115**	*e*P		**P**	**10 05 05.0**	**0.0**	
UPC	**Upice**	**71.72**	**19**	*e*P		**P**	**10 05 04.8**	**-0.2**	
UPC				*e*S		**S**	**10 14 31.8**	**+7.2**	
UPC					AMS	AMS	10 34 50.0		
	comp=Z,5μm,19.0s								
UPC	**Upice**	**71.72**	**19**	*e*P		**P**	**10 05 04.8**	**-0.2**	
UPC					MLR	MLR			
	comp=Z,5μm,19.0s								
PRA	**Prague**	**71.84**	**20**	AMS		AMS	10 35 40.0		
	comp=Z,4μm,19.0s								
DPC	**Dobruska-Polom**	**71.93**	**19**	*e*P		**P**	**10 05 06.4**	**+0.1**	
DPC				*e*S		**S**	**10 14 34.1**	**+7.0**	
DPC					AMS	AMS	10 35 10.0		
	comp=Z,5μm,18.9s								
DPC	**Dobruska-Polom**	**71.93**	**19**	*e*P		**P**	**10 05 06.4**	**+0.1**	
DPC					MLR	MLR			
	comp=Z,5μm,18.9s								
PRU	**Pruhonice**	**71.94**	**20**	*e*P		**P**	**10 05 07.1**	**+0.8**	
PRU				*e*S		**S**	**10 14 33.5**	**+6.5**	
PRU					AMS	AMS	10 35 40.0		
	comp=Z,4μm,17.8s								
PRU	**Pruhonice**	**71.94**	**20**	*e*P		**P**	**10 05 07.1**	**+0.8**	
PRU				*e*S		**S**	**10 14 33.5**	**+6.5**	
PRU					MLR	MLR			
	comp=Z,4μm,17.8s								
ECH	**Echery**	**71.96**	**26**	*e*P		**P**	**10 05 05.9**	**-0.6**	
	comp=Z,133nm,1.9s								
ECH	**Echery**	**71.96**	**26**	*e*P		**P**	**10 05 05.9**	**-0.6**	
ECH					pmax	pmax			
	comp=Z,133nm,1.9s								
BFO	**Black Forest**	**72.14**	**25**	*e*P		**P**	**10 05 07.7**	**+0.1**	
	comp=Z,33nm,1.1s								
BFO					LR	LR			
	comp=Z,204nm,19.0s								
BFO	**Black Forest**	**72.14**	**25**	*e*L		L	10 37 26.6		
	comp=Z,4μm,18.4s								
BFO	**Black Forest**	**72.14**	**25**	*i* P		**P**	**10 05 07.9**	**+0.3**	
ZSN	**Zaisan**	**72.25**	**333**	*c i*P		**P**	**10 05 06.6**	**-1.6**	
ZSN					pmax	pmax			
	comp=Z,126nm,1.1s								
ZSN					MLR	MLR			
	comp=Z,617nm,14.0s								
ZSN	**Zaisan**	**72.25**	**333**	⇑ *i*P		**P**	**10 05 06.7**	**-1.6**	
	comp=Z,126nm,1.1s								
ZSN				*e*LRM		MLR	10 40 04.9		
	comp=Z,617nm,14.0s								
LPSR	**Galich'ya Gora**	**72.27**	**4**	*e*P		**P**	**10 05 06.7**	**-1.5**	
LPSR				*e**SP		**sP**	**10 05 12.8**	**+0.5**	
LPSR					pmax	pmax			
	comp=Z,20nm,0.7s								
SSE	**Sheshan**	**72.33**	**299**	P		**P**	**10 05 12.8**	**+3.9**	
SSE				PP		**PP**	**10 07 49.5**	**+0.3**	
SSE				S		**S**	**10 14 33.8**	**+1.7**	
SSE					pmax	pmax			
	comp=Z,29nm,1.3s								
SSE					pmax	pmax			
	comp=Z,800nm,4.3s								
SSE					LR	LR			
	comp=Z,2μm,13.7s								
SSE					LR	LR			
	comp=Z,2μm,14.5s								
SSE	**Sheshan**	**72.33**	**299**	*e*P		**P**	**10 05 07.5**	**-1.4**	
	comp=Z,216nm,1.5s								
SSE					LR	LR			
	comp=Z,2μm,20.0s								
WET	**Wettzell**	**72.40**	**22**	*e*L		L	10 36 02.0		
	com

comp=Z,13nm,0.8s,baz=345,slow=4.7,SNR=19
GERES LR LR 10 37 04.4
comp=Z,5µm,18.6s,baz=342,slow=36
GEA0 GERESS Array S 72.86 21 *e*P **P 10 05 11.3 -0.6**
PGAV Gavieira, Arco 72.94 39 *e*P **P 10 05 12.0 -0.5**
comp=Z,100nm,1.7s
PGAV *e*S **S 10 14 40.8 +1.9**
PGAV *e*LQ LQ 10 24 19.9
PGAV *e*LR LR 10 29 11.0
comp=Z,5µm,18.0s
VRAC Vranov 72.98 19⇑*i*P **P 10 05 12.6 +0.1**
VRAC Vranov 72.98 19 *e*P **P 10 05 12.3 -0.2**
KRUC Moravsky 73.18 19 *e*P **P 10 05 13.4 -0.3**
PCAB Cabril 73.25 39 *e*P **P 10 05 14.5 +0.2**
comp=Z,71nm,2.0s
PTLC Puerto Leguiza 73.28 115 *e*P **P 10 05 16.3 +1.6**
PTLC Puerto Leguiza 73.28 115 *e*P **P 10 05 16.3 +1.6**
GUMO Guam 73.44 270 PFAKE 10 05 20.0 +4.3
GUMO LR LR
comp=Z,2µm,19.0s
AKASG Malin Array Be 73.46 11 P **P 10 05 13.9 -1.4**
comp=Z,11nm,0.6s,baz=355,slow=5.9,SNR=43
AKASG LR LR 10 38 38.1
comp=Z,5µm,19.7s,baz=340,slow=37
AKASG Malin Array Be 73.46 11 P **P 10 05 13.9 -1.4**
AKASG pmax pmax
comp=Z,11nm,0.6s
AKASG MLR MLR
comp=Z,5µm,19.7s
AKBB Malin Array Si 73.46 11 *e*P **P 10 05 13.8 -1.5**
comp=Z,86nm,1.4s
KIEV Kiev 73.47 11 *e*P **P 10 05 13.8 -1.5**
comp=Z,83nm,1.4s
KIEV LR LR
comp=Z,6µm,20.0s
KIEV Kiev 73.47 11⇑*i*P **P 10 05 14.1 -1.2**
KIEV Kiev 73.47 11⇑*i*P **P 10 05 13.7 -1.6**
KIEV pmax pmax
comp=Z,35nm,1.1s
KIEV MLR MLR
comp=Z,5µm,18.0s
AK11 Malin Array Si 73.48 11 *e*P **P 10 05 13.6 -1.8**
DAVA Damuels 73.49 24 *i*P **P 10 05 16.0 +0.3**
comp=Z,18nm,1.1s
RETA Reutte 73.50 24 *i*pP **P 10 05 15.7 0.0**
comp=Z,21nm,1.7s
MK31 Makanchi Array 73.52 334 *e*P **P 10 05 14.1 -1.7**
MK31 Makanchi Array 73.52 334 *i*P **P 10 05 14.5 -1.3**
MK31 pmax pmax
comp=Z,36nm,0.8s
MKAR Makanchi Array 73.52 334 P **P 10 05 14.6 -1.2**
comp=Z,21nm,0.7s,baz=41,slow=5.6,SNR=99
MKAR LR LR 10 40 26.0
comp=Z,8µm,21.6s,baz=14,slow=38
MKAR Makanchi Array 73.52 334 *e*P **P 10 05 14.1 -1.7**
comp=Z,664nm,1.5s
MKAR Makanchi Array 73.52 334 P **P 10 05 14.6 -1.2**
MKAR pmax pmax
comp=Z,21nm,0.7s
MKAR MLR MLR
comp=Z,8µm,21.6s
NIE Niedzica 73.53 17 *e*P **P 10 05 15.6 -0.3**
NIE Niedzica 73.53 17 *e*P **P 10 05 15.5 -0.3**
MK01 Makanchi Array 73.53 334 *e*P **P 10 05 13.8 -2.1**
MAKZ Makanchi 73.58 335 *e*P **P 10 05 14.2 -1.9**
comp=Z,178nm,1.2s
MAKZ Makanchi 73.58 335 *e*P **P 10 05 14.2 -1.9**
MAKZ pmax pmax
comp=Z,178nm,1.2s
PBRG Braganca 73.62 38 *e*P **P 10 05 16.1 -0.4**
comp=Z,59nm,1.7s
PBRG *e*S **S 10 14 55.1 +8.6**
POLO Lamas de Olo 73.62 39 *e*P **P 10 05 15.9 -0.7**
comp=Z,54nm,1.6s
POLO *e*S S 10 14 56.6 +10
LANS Liptovska Anna 73.65 17 *e*P **P 10 05 16.8 +0.3**
LANS Liptovska Anna 73.65 17 *e*P **P 10 05 16.8 +0.3**
VSR Storozhevoye 73.67 4 *e*P **P 10 05 14.1 -2.4**
VSR *e**SP **sP 10 05 20.0 -0.5**
VSR pmax pmax
comp=Z,30nm,1.4s
TIAR Tiarei 73.68 194 *e*P **P 10 05 17.6 +0.7**
comp=Z,13nm,1.0s
TIAR Tiarei 73.68 194 *e*T T 11 25 55.4
comp=Z,101nm,0.2s
LVV L'vov 73.70 14 *e*P **P 10 05 16.4 -0.3**
LVV MLR MLR
comp=N,3µm,17.0s
LVV MLR MLR
comp=E,700nm,17.0s
LVV MLR MLR
comp=Z,3µm,17.0s
MOTA Moosalm 73.71 23 *i*P **P 10 05 17.2 +0.1**
comp=Z,14nm,0.9s
SENIN Lac Senin/Sane 73.72 26 *e*P **P 10 05 17.6 +0.4**
comp=Z,103nm,1.8s
PPT Papeete 73.72 195 P **P 10 05 19.5 +2.4**
comp=Z,40nm,1.0s,baz=236,slow=15,SNR=3.1
PPT LR LR 10 29 24.5
comp=Z,1µm,18.8s,baz=3.5,slow=29
PVRL Vila Real 73.74 39 *e*P **P 10 05 17.0 -0.2**
comp=Z,118nm,1.8s
PPT2 Papeete2 73.74 195 *e*P **P 10 05 18.2 +0.9**
comp=Z,45nm,1.1s
PPT2 *e*S **S 10 14 47.7 -0.5**
comp=Z,1µm,26.0s
PPT2 *e*SS **SS 10 19 25.0 -7.4**
comp=Z,1µm,25.2s
PPT2 *e*LQ LQ 10 24 24.5
comp=Z,9µm,25.8s
PPT2 *e*LR LR 10 27 47.6
comp=Z,2µm,23.0s,baz=9.9
PPT2 Papeete2 73.74 195 *e*T T 11 26 00.3
comp=Z,82nm,0.3s
VRH Novokhopyorsk 73.76 2 *e*P **P 10 05 14.6 -2.4**
VRH *e**SP **sP 10 05 20.6 -0.5**
VRH pmax pmax
comp=Z,30nm,1.0s
PAE Paea 73.81 195 *e*P **P 10 05 18.3 +0.7**
comp=Z,11nm,1.1s
PAE Paea 73.81 195 *e*T T 11 26 05.6
comp=Z,14nm,0.2s
WATA Walderalm 73.83 23 *i*P **P 10 05 18.0 +0.3**
comp=Z,32nm,1.2s,SNR=5.4
SQTA Sankt Quirin 73.86 23 *i*P **P 10 05 18.3 +0.4**
comp=Z,23nm,0.9s,SNR=5.8
TVO Taravao 73.89 194 *e*T T 11 26 11.0
comp=Z,38nm,0.2s
WTTA Wattenberg 73.91 23 *i*P **P 10 05 18.5 +0.3**
comp=Z,16nm,0.9s
MOA Molln 73.92 21 *i*pP **P 10 05 17.9 -0.2**
comp=Z,16nm,1.2s
FETA Feichten 73.93 24 *i*P **P 10 05 19.0 +0.7**
comp=Z,24nm,1.0s,SNR=6.4
MODS Modra-Piesok 74.01 19 *e*P **P 10 05 18.7 +0.1**
MODS pmax pmax
comp=Z,67nm,1.3s
MODS Modra-Piesok 74.01 19 *e*P **P 10 05 18.7 +0.1**
AKTO Aktyubinsk 74.02 352 P **P 10 05 17.0 -1.6**
AKTO pmax pmax
comp=Z,70nm,1.1s
MVO Moncorvo 74.08 38 *e*P **P 10 05 18.7 -0.5**
comp=Z,81nm,2.1s
MVO *e*S **S 10 15 00.7 +8.9**
MVO *e*LQ LQ 10 24 24.4
MVO *e*LR LR 10 29 04.8
comp=Z,5µm,18.0s
CONA Conrad Observa 74.16 20 *i*P **P 10 05 19.9 +0.3**
comp=Z,30nm,1.0s,SNR=10
PVIS Viseu 74.17 39 *e*P **P 10 05 19.0 -0.7**
comp=Z,92nm,1.7s
VYHS Vyhne 74.17 18 *e*P **P 10 05 19.2 -0.4**
VYHS pmax pmax
comp=Z,68nm,2.1s
VYHS Vyhne 74.17 18 *e*P **P 10 05 19.2 -0.4**
FUORN Ofenpass-Fuorn 74.20 24 *e*P **P 10 05 20.8 +0.8**
comp=Z,120nm,1.7s
FUNA Funafuti 74.25 228 PFAKE 10 05 30.0 +10
FUNA LR LR
comp=Z,3µm,20.0s
KBA Koelnbreinsper 74.46 22 *i*P **P 10 05 21.8 +0.4**
comp=Z,63nm,1.1s,SNR=25
PCAS Casmilo, Conde 74.53 40 *e*P **P 10 05 21.4 -0.4**
comp=Z,155nm,1.7s
PCAS *e*S **S 10 15 04.4 +7.6**
SOP Sopron 74.53 20 *e*P P 10 05 28.0 +6.4

MTE Manteigas 74.57 39 *e*P **P 10 05 21.6 -0.5**
comp=Z,91nm,1.5s
MTE *e*S **S 10 15 03.6 +6.3**
MTE *e*LQ LQ 10 23 47.8
MTE *e*LR LR 10 29 30.6
comp=Z,4µm,18.0s
MTE Manteigas 74.57 39 *e*P **P 10 05 20.9 -1.2**
comp=Z,52nm,1.1s
ABTA Abfaltersbach 74.59 23 *i*pP **P 10 05 20.9 -1.3**
comp=Z,16nm,0.8s
UZH Uzhgorod 74.61 16 *e*P **P 10 05 21.7 -0.3**
UZH *i* 10 05 24.7
UZH *i* 10 05 43.7
UZH *e*S **S 10 14 53.6 -3.7**
GTA Gaotai 74.74 319 P **P 10 05 22.0 -1.2**
GTA pP pP 10 05 25.0 -1.1
GTA sP sP 10 05 28.0 +0.9
GTA S **S 10 15 03.3 +3.9**
GTA sS sS 10 15 09.3 +4.6
GTA SKS **SKSac 10 15 27.5 -4.2**
GTA pmax pmax
comp=Z,930nm,7.7s
GTA LR LR
comp=Z,4µm,17.5s
GTA LR LR
comp=Z,6µm,18.2s
GTA LR LR
comp=Z,7µm,22.7s
ARSA Arzberg 74.75 20 *i*P **P 10 05 23.3 +0.4**
comp=Z,19nm,0.9s,SNR=8.4
WMQ Urumqi 74.82 330 P **P 10 05 23.3 -0.2**
WMQ pP sP 10 05 29.0 +1.6
WMQ PP **PP 10 08 14.3 +4.3**
WMQ S **S 10 15 05.5 +5.5**
WMQ pmax pmax
comp=Z,140nm,1.5s
WMQ pmax pmax
comp=Z,600nm,5.5s
WMQ LR LR
comp=Z,13µm,15.3s
WMQ LR LR
comp=Z,10µm,18.5s
WMQ LR LR
comp=Z,8µm,23.1s
WMQ Urumqi 74.82 330 *e*P **P 10 05 22.6 -0.9**
comp=Z,145nm,1.4s
WMQ Urumqi 74.82 330 *e*P **P 10 05 22.6 -0.9**
WMQ pmax pmax
comp=Z,145nm,1.4s
PSZ Piszkesteto 74.91 17 *e*P **P 10 05 23.6 -0.3**
comp=Z,36nm,0.9s
PSZ Piszkesteto 74.91 17⇑*i*P **P 10 05 23.9 0.0**
PSZ Piszkesteto 74.91 17 *e*P **P 10 05 23.6 -0.3**
PSZ pmax pmax
comp=Z,36nm,0.9s
PSZ Piszkesteto 74.91 17 *e*P **P 10 05 23.1 -0.9**
PTOM Tomar 74.94 40 *e*P **P 10 05 23.6 -0.6**
comp=Z,80nm,2.1s
MYKA Terra Mystica 74.95 22 *i*pP **P 10 05 23.9 -0.2**
comp=Z,14nm,1.2s
AB31 Akbulak array 75.02 350 *i*P **P 10 05 22.5 -1.9**
AB31 pmax pmax
comp=Z,65nm,1.0s
ABKAR Akbulak array 75.02 350 *e*P **P 10 05 23.0 -1.4**
PCBR Castelo Branco 75.09 39 *e*P **P 10 05 24.2 -0.8**
comp=Z,46nm,2.1s
SOKA Soboth 75.19 21 *i*pP **P 10 05 25.5 -0.1**
comp=Z,40nm,1.1s,SNR=16
PMAFR Mafra 75.20 41 *e*P **P 10 05 26.9 +1.2**
comp=Z,174nm,1.7s
PMAFR *e*S **S 10 15 03.3 -1.0**
OBKA Obir 75.26 21 *i*pP **P 10 05 25.2 -0.8**
comp=Z,37nm,1.0s,SNR=18
LIS Lisbon 75.46 41 *e*S **S 10 15 06.7 -0.4**
LIS AMS AMS 10 35 54.2
comp=Z,7µm,28.0s
PMRV Marv??o 75.48 39 *e*P **P 10 05 26.4 -0.9**
comp=Z,32nm,1.9s
PMRV *e*S **S 10 15 13.4 +6.0**
PMRV *e*LQ LQ 10 24 50.1
PMRV *e*LR LR 10 29 59.6
comp=Z,3µm,20.0s
PMTG Montargil 75.50 40 *e*P **P 10 05 26.3 -1.0**
comp=Z,63nm,1.4s
PMTG *e*S **S 10 15 08.8 +1.3**
TIH Tihany 75.54 19 *e*P **P 10 05 27.1 -0.4**
XAN Xi'an 75.66 310 P **P 10 05 27.3 -1.2**
XAN pP sP 10 05 32.0 -0.4
XAN PP **PP 10 08 21.5 +4.1**
XAN S **S 10 15 08.0 -1.6**
XAN SKS **SKSac 10 15 31.3 -7.2**
XAN pmax pmax
comp=Z,81nm,1.9s
XAN pmax pmax
comp=Z,1µm,5.1s
XAN LR LR
comp=Z,5µm,20.4s
XAN LR LR
comp=Z,9µm,18.2s
XAN LR LR
comp=Z,6µm,16.7s
XAN Xi'an 75.66 310 *e*P **P 10 05 27.2 -1.2**
comp=Z,1µm,1.5s
XAN Xi'an 75.66 310 *e*P **P 10 05 27.2 -1.2**
XAN pmax pmax
comp=Z,1µm,1.5s
PESTR Estremoz 75.91 40 *e*P **P 10 05 28.9 -0.8**
comp=Z,56nm,2.1s
PESTR *e*S **S 10 15 14.6 +2.5**
PESTR Estremoz 75.91 40 *e*P **P 10 05 28.9 -0.8**
comp=Z,18nm,1.1s
BUR08 Bucovina Ar. S 75.99 14 *e*P **P 10 05 29.9 -0.3**
BUR04 Bucovina Ar. S 76.02 14 *e*P **P 10 05 29.4 -0.9**
BURAR Bucovina Array 76.02 14⇑*i*P **P 10 05 29.9 -0.4**
LZH Lanzhou 76.06 315 *e*P **P 10 05 30.5 -0.3**
LZH pP sP 10 05 34.5 -0.3
LZH sP pP 10 05 36.5 +2.8
LZH *e*S **S 10 15 11.0 -3.2**
LZH sS sS 10 15 22.8 +4.0
LZH SS **SS 10 20 06.8 +0.9**
LZH pmax pmax
comp=Z,350nm,1.1s
LZH pmax pmax
comp=Z,2µm,5.4s
LZH LR LR
comp=Z,8µm,18.4s
LZH LR LR
comp=Z,14µm,18.4s
LZH LR LR
comp=Z,14µm,19.0s
WHN Wuhan 76.11 304 ⇓P **P 10 05 30.5 -0.5**
WHN S **S 10 15 18.3 +3.8**
WHN LR LR
comp=Z,14µm,13.8s
WHN LR LR
comp=Z,21µm,15.9s
WHN LR LR
comp=Z,16µm,15.5s
TDK Taldyqorghan 76.12 336*c i*P **P 10 05 29.6 -1.2**
TDK pmax pmax
comp=Z,869nm,1.2s
TDK MLR MLR
comp=Z,4µm,19.0s
TDK Taldyqorghan 76.12 336⇑*i*P **P 10 05 29.7 -1.2**
comp=Z,869nm,1.2s
TDK *e*LRM MLR 10 40 55.5
comp=Z,4µm,18.8s
PNCL Nicolau / Gran 76.22 41 *e*P **P 10 05 31.2 -0.3**
comp=Z,106nm,2.1s
PNCL *e*S S 10 15 24.7 +9.2
MORH Mrgy, Hungar 76.34 19 *e*P **P 10 05 30.1 -1.9**
PAB San Pablo 76.46 37 *e*P **P 10 05 32.6 -0.3**
comp=Z,56nm,1.4s
PAB LR LR
comp=Z,3µm,19.0s
PAB San Pablo 76.46 37 *e*P **P 10 05 32.6 -0.3**
PAB pmax pmax
comp=Z,56nm,1.4s
PAB MLR MLR
comp=Z,3µm,19.0s
DRGR 76.46 16⇑*i*P **P 10 05 32.5 -0.3**
ES19 SONSECA Array 76.47 37 *e*P **P 10 05 32.6 -0.4**
ESDC Sonseca Array 76.47 37 P **P 10 05 32.7 -0.3**
comp=Z,20nm,0.8s,baz=328,slow=5.6,SNR=66
ESDC LR LR 10 38 17.9

comp=Z,4µm,19.6s,baz=340,slow=35
ESLA Sonseca Array 76.47 37 *e*P **P 10 05 33.0 -0.1**
comp=Z,102nm,1.6s
PBEJ Beja 76.55 40 *e*P **P 10 05 33.7 +0.3**
comp=Z,61nm,1.6s
MESJ Messejana 76.58 41 *e*P **P 10 05 33.6 +0.1**
MESJ AMS AMS 10 36 47.5
comp=Z,8µm,19.1s
MESJ Messejana 76.58 41 *e*P **P 10 05 32.4 -1.1**
comp=Z,67nm,2.0s
MESJ Messejana 76.58 41 *e*P **P 10 05 33.6 +0.1**
CJR Cluj-Napoca 76.67 15⇑*i*P **P 10 05 32.5 -1.5**
BIZ Bicaz 76.80 13⇑*i*P **P 10 05 34.7 0.0**
MORF Marmelete 76.89 41 *e*P **P 10 05 35.3 0.0**
MORF *e*S **S 10 15 22.8 -0.2**
MORF AMS AMS 10 36 45.1
comp=Z,4µm,22.8s
MORF Marmelete 76.89 41 *e*P **P 10 05 33.4 -2.0**
comp=Z,130nm,1.7s
MORF *e*S **S 10 15 26.6 +3.6**
MORF Marmelete 76.89 41 *e*P **P 10 05 35.3 0.0**
MORF *e*S **S 10 15 22.8 -0.2**
PFVI Vila Bisbo 76.97 42 *e*P **P 10 05 35.4 -0.4**
comp=Z,149nm,2.3s
PFVI *e*S **S 10 15 23.8 0.0**
KIS Kishinev 77.08 11 *e*P **P 10 05 34.0 -2.2**
KIS Kishinev 77.08 11 *e*PcP **P 10 05 39.0 +2.8**
KIS Kishinev 77.08 11 *e*PP PP 10 08 36.0 +7.2
KIS *e*S **S 10 15 16.0 -8.6**
KIS Kishinev 77.08 11 *e*P **P 10 05 34.0 -2.2**
KIS *e* 10 05 39.0
KIS *e* 10 08 36.0
KIS *e* 10 10 24.0
KIS *e*S **S 10 15 16.0 -8.6**
KIS *e*PS PnS 10 16 20.0 +18
KIS *e*SS **SS 10 20 28.0 +7.7**
PVAQ Vaqueiros 77.15 41 *e*P **P 10 05 36.3 -0.5**
comp=Z,86nm,1.6s
PVAQ *e*S **S 10 15 28.9 +3.2**
PVAQ Vaqueiros 77.15 41 *e*LQ LQ 10 25 30.4
TATO Taipei 77.17 295 PFAKE 10 05 40.0 +3.0
TATO LR LR
comp=Z,2µm,19.0s
PBDV Barranco-do-Ve 77.21 41 *e*P **P 10 05 35.5 -1.7**
comp=Z,106nm,1.9s
PBDV *e*S **S 10 15 32.5 +6.0**
PMOZ Porto Moniz, M 77.28 50 *e*S S 10 15 38.9 +11
PMOZ Porto Moniz, M 77.28 50 *e*LR LR 10 30 43.4
comp=Z,4µm,18.0s
BZS Buzias 77.43 17⇓*i*P **P 10 05 37.4 -0.8**
PDGK Podgornoye 77.45 335 P **P 10 05 37.3 -1.2**
PDGK pmax pmax
comp=Z,23nm,0.8s
KPKS Kokpek 77.51 336*c i*P **P 10 05 36.7 -2.1**
KPKS pmax pmax
comp=Z,260nm,1.3s
KPKS MLR MLR
comp=Z,2µm,15.0s
KPKS Kokpek 77.51 336⇑*i*P **P 10 05 36.8 -2.1**
comp=Z,260nm,1.3s
KPKS *e*LRM MLR 10 41 51.8
comp=Z,2µm,15.4s
CHKK Chushkaly 77.53 337*d i*P **P 10 05 36.7 -2.1**
CHKK pmax pmax
comp=Z,148nm,1.3s
CHKK Chushkaly 77.53 337⇓*i*P **P 10 05 36.7 -2.1**
comp=Z,148nm,1.3s
OZUR 77.59 14⇓*i*P P 10 05 29.5 -10
SHLS Shalkode 77.62 335*d i*P **P 10 05 36.8 -2.7**
SHLS pmax pmax
comp=Z,831nm,1.3s
SHLS MLR MLR
comp=Z,4µm,19.0s
SHLS Shalkode 77.62 335⇓*i*P **P 10 05 36.8 -2.7**
comp=Z,831nm,1.2s
SHLS *e*LRM MLR 10 43 02.7
comp=Z,4µm,19.3s
KUU Kurty 77.64 337*d i*P **P 10 05 37.4 -2.0**
KUU pmax pmax
comp=Z,70nm,1.0s
KUU MLR MLR
comp=Z,1µm,18.0s
KUU Kurty 77.64 337⇓*i*P **P 10 05 37.5 -2.0**
comp=Z,70nm,1.0s
KUU *e*LRM MLR 10 42 04.4
UZB Uzynbulak 77.73 335*c i*P **P 10 05 38.4 -1.7**
UZB pmax pmax
comp=Z,138nm,1.1s
UZB MLR MLR
comp=Z,2µm,17.0s
UZB Uzynbulak 77.73 335⇑*i*P **P 10 05 38.5 -1.7**
comp=Z,138nm,1.1s
UZB *e*LRM MLR 10 42 24.6
comp=Z,2µm,17.1s
GZR Gura Zlata 77.83 16⇑*i*P **P 10 05 39.4 -1.2**
VRI Vrincioaia 77.94 13⇓*i*P **P 10 05 40.9 -0.2**
PLOR Plostina 77.94 13⇑*i*P **P 10 05 40.9 -0.2**
SATY Saty 77.96 336*d i*P **P 10 05 39.2 -2.2**
SATY pmax pmax
comp=Z,572nm,1.2s
SATY MLR MLR
comp=Z,974nm,13.0s
SATY Saty 77.96 336⇓*i*P **P 10 05 39.2 -2.2**
comp=Z,572nm,1.2s
SATY *e*LRM MLR 10 42 51.9
comp=Z,974nm,12.9s
VOIR 78.13 14⇑*i*P **P 10 05 41.6 -0.6**
ARR Arges 78.14 15⇑*i*P **P 10 05 41.3 -1.0**
RKT Rikitea 78.17 180 *e*S **S 10 15 35.5 -1.1**
comp=Z,1µm,25.5s
RKT *e*SS **SS 10 20 38.1 -1.2**
comp=Z,834nm,26.5s
RKT *e*LQ LQ 10 26 18.0
comp=Z,2µm,31.2s
RKT *e*LR LR 10 29 34.5
comp=Z,3µm,30.2s,baz=1.2
RKT Rikitea 78.17 180 *e*T T 11 31 31.4
comp=Z,92nm,0.3s
MDOK Medeo 78.18 337*d i*P **P 10 05 40.4 -2.2**
MDOK pmax pmax
comp=Z,141nm,1.2s
MDOK MLR MLR
comp=Z,2µm,21.0s
MDOK Medeo 78.18 337⇓*i*P **P 10 05 40.5 -2.2**
comp=Z,140nm,1.2s
MDOK *e*LRM MLR 10 42 05.5
comp=Z,2µm,21.2s
MLR Muntele Rosu 78.20 14 *e*P **P 10 05 44.5 +1.8**
comp=Z,18nm,0.9s
MLR Muntele Rosu 78.20 14 *e*P **P 10 05 44.5 +1.8**
MLR pmax pmax
comp=Z,19nm,0.9s
TNSS Tian-Shan 78.32 337*d i*P **P 10 05 42.1 -1.6**
TNSS pmax pmax
comp=Z,141nm,1.1s
TNSS Tian-Shan 78.32 337⇓*i*P **P 10 05 42.1 -1.6**
comp=Z,141nm,1.1s
SSLB Suanglung 78.42 295 *e*P **P 10 05 45.8 +1.7**
comp=Z,106nm,1.8s
PRZ Przheval'sk 78.51 336 *e*P **P 10 05 44.6 +0.2**
comp=Z,228nm,1.6s
PRZ Przheval'sk 78.51 336 *e*P **P 10 05 44.7 +0.2**
PRZ pmax pmax
comp=Z,228nm,1.6s
ENH Enshi 78.60 307 *e*P **P 10 05 43.8 -1.2**
comp=Z,287nm,1.4s
ENH LR LR
comp=Z,4µm,19.0s
DIVS Divibare 78.63 18 *e*P **P 10 05 44.2 -0.8**
comp=Z,22nm,1.1s
USP Ospenovka 78.63 339 P **P 10 05 44.7 -0.3**
SNR=19
QZH Quanzhou 78.68 297 P **P 10 05 45.5 +0.1**
QZH PP **PP 10 08 47.5 +4.6**
QZH S **S 10 15 41.5 -1.0**
QZH SS **SS 10 20 45.3 -0.4**
QZH pmax pmax
comp=Z,690nm,5.2s
QZH LR LR
comp=Z,2µm,14.3s
QZH LR LR
comp=Z,3µm,16.1s
QZH LR LR
comp=Z,3µm,13.5s
TKM2 Tokmak 2 78.73 338 P **P 10 05 45.2 -0.5**

SNR=35
CFR Carcaliu 78.79 12⇑ *i*P P 10 05 45.0 -0.7
CHMS Chumysh 78.83 338 P P **10 05 45.4 -0.7**
SNR=16
HUMR Humele 79.01 15⇑ *i*P P 10 05 46.5 -0.5
FRU Bishkek 79.02 338 *e*P P 10 05 45.0 -2.1
FRU *e* 10 08 43.0
FRU pmax pmax
comp=Z,330nm,2.0s
KBK Karagaybulak 79.12 338 P P **10 05 47.4 -0.5**
SNR=20
KDJ Kajisay 79.13 336 *e*P P 10 05 48.1 +0.2
ULHL Ulahol 79.23 337 P P **10 05 47.9 -0.7**
SNR=19
AAK Ala-Archa 79.23 338 P P **10 05 47.9 -0.5**
SNR=18
AAK Ala-Archa 79.23 338 *e*P P 10 05 47.3 -1.2
comp=Z,122nm,1.4s
AAK LR LR
comp=Z,6μm,19.0s
AAK Ala-Archa 79.23 338 *i*P P 10 05 47.1 -1.4
AAK pmax pmax
comp=Z,14nm,0.8s
AAK MLR MLR
comp=Z,6μm,20.0s
AAK Ala-Archa 79.23 338 P P **10 05 47.6 -0.9**
SNR=38
AAK P P **10 05 47.6 -0.9**
SNR=38
EKS2 Erkin-Say 79.36 339 P P **10 05 48.9 -0.2**
SNR=11
TLB Topalu 79.36 12⇑ *i*P P 10 05 48.2 -0.7
TARG Taragay, Kyrgy 79.36 336 *e*P P 10 05 48.8 -0.7
comp=Z,110nm,1.6s
TBI Tubuai 79.39 194 *e*P P 10 05 50.0 +0.9
comp=Z,373nm,1.1s
TBI *e*S **S 10 15 48.7 -1.0**
comp=Z,2μm,26.8s
TBI *e*SS **SS 10 20 52.7 -4.9**
comp=Z,1μm,29.0s
TBI *e*LQ LQ 10 26 36.7
comp=Z,2μm,28.2s
TBI *e*LR LR 10 30 25.0
comp=Z,1μm,27.2s,baz=360
TBI Tubuai 79.39 194 *e*T T 11 33 03.7
comp=Z,88nm,0.3s
KK31 Karatay Array 79.57 341 *e*P P 10 05 49.2 -0.9
KK31 Karatay Array 79.57 341 *i*P P 10 05 48.9 -1.2
KK31 pmax pmax
comp=Z,28nm,0.9s
KKAR Karatay Array 79.57 341 *e*P P 10 05 49.2 -0.9
KKAR Karatay Array 79.57 341 *e*P P 10 05 49.2 -0.9
KZA Kyzart 79.61 338 P P **10 05 49.4 -1.4**
SNR=26
SIM Simferopol' 79.61 8 *e*P P 10 05 55.5 +5.2
SIM *e*S S 10 16 03.7 +12
SIM pmax pmax
comp=Z,110nm,7.6s
SIM MLR MLR
comp=Z,5μm,18.3s
UCH Uchtor 79.62 338 P P **10 05 50.4 -0.5**
SNR=8.2
MNAS Manas 79.78 340 *i*P P 10 05 50.6 -0.8
MNAS pmax pmax
comp=Z,42nm,1.0s
AML Almayashu 79.89 339 P P **10 05 52.2 -0.1**
SNR=34
GOF Gofitskoye 79.93 2⇑ *i*P P 10 05 51.1 -0.9
GOF *e*S **S 10 16 03.6 +8.3**
GOF pmax pmax
comp=Z,70nm,0.7s
MPEP Malo Peshtene 79.97 16 *i*P P 10 05 55.4 +3.2
ANN Anapa 79.99 6 *e*P P 10 05 50.9 -1.3
ANN *e**PP **pP 10 05 53.9 -1.3**
ANN *e* 10 05 56.5
ANN *e*S **S 10 15 59.0 +3.2**
ANN pmax pmax
comp=Z,35nm,1.0s
ANN MLR MLR
comp=N,3μm,18.0s
ANN MLR MLR
comp=Z,5μm,18.0s
NRN Naryn 80.06 337 *e*P P 10 05 52.9 -0.3
PDG Podgorica 80.11 19⇑ *i*P P 10 05 52.3 -0.6
TTG Podgorica 80.11 19 *e*P P 10 05 51.9 -1.0
comp=Z,169nm,2.0s
TTG Podgorica 80.11 19 *e*P P 10 05 51.9 -1.0
TTG pmax pmax
comp=Z,169nm,2.0s
PTCN Pitcairn Islan 80.22 176 PFAKE 10 06 00.0 +6.5
PTCN LR LR
comp=Z,4μm,22.0s
JBG Jabagly 80.22 341 *de*P P 10 05 51.1 -2.7
JBG pmax pmax
comp=Z,284nm,1.2s
CD2 Chengdu 80.57 312 P P **10 05 55.0 -0.7**
CD2 pP pP 10 05 58.3 -0.3
CD2 PP **PP 10 08 57.0 -1.5**
CD2 S **S 10 16 00.5 -2.0**
CD2 SKS **SKSac 10 16 11.5 -2.4**
CD2 SS **SS 10 21 12.0 -1.8**
CD2 pmax pmax
comp=Z,70nm,0.6s
CD2 pmax pmax
comp=Z,1μm,6.2s
CD2 LR LR
comp=Z,10μm,17.1s
CD2 LR LR
comp=Z,15μm,17.7s
CD2 LR LR
comp=Z,8μm,15.1s
IUG Iuzhnay 80.58 342 *ce*P P 10 05 52.6 -3.0
IUG pmax pmax
comp=Z,414nm,1.4s
IUG Iuzhnay 80.58 342⇑ *e*P P 10 05 52.7 -3.0
comp=Z,414nm,1.4s
IUG *e*LRM MLR 10 47 06.7
comp=Z,2μm,16.8s
VTS Vitosha 80.64 16 *e*P P 10 05 54.9 -1.1
comp=Z,23nm,0.9s
VTS Vitosha 80.64 16⇑ *i*P P 10 05 55.0 -1.1
VTS Vitosha 80.64 16 P P 10 05 54.5 -1.5
VTS Vitosha 80.64 16 *e*P P 10 05 54.9 -1.1
VTS pmax pmax
comp=Z,23nm,0.9s
VTS Vitosha 80.64 16 *i*P P 10 05 58.8 +2.8
ARSB Arslanbob 80.81 339 *e*P P 10 05 56.3 -0.7
SKO Skopje 80.94 18 *i*P P 10 05 57.1 -0.4
KIV Kislovodsk 81.03 2 *e*P P 10 05 56.9 -1.2
comp=Z,70nm,0.9s
KIV LR LR
comp=Z,3μm,19.0s
KIV Kislovodsk 81.03 2⇑ *i*P P 10 05 56.8 -1.2
KIV Kislovodsk 81.03 2 *e*P P 10 05 57.4 -0.6
KIV *e* 10 09 01.3
KIV *e*S **S 10 16 05.9 -1.1**
KIV *e*SS **SS 10 21 20.2 +0.4**
KIV pmax pmax
comp=Z,92nm,1.1s
KIV pmax pmax
comp=Z,60nm,4.4s
KIV Kislovodsk 81.03 2 P P 10 05 57.1 -0.9
SNR=17
KIV P P **10 05 57.1 -0.9**
SNR=17
KBZ Khabaz 81.25 2 P P **10 05 58.8 -0.3**
comp=Z,31nm,0.9s,baz=320,slow=3.2,SNR=43
KBZ LR LR 10 45 15.0
comp=Z,2μm,20.2s,baz=353,slow=38
SOC Sochi 81.31 4 *e*P P 10 05 58.2 -1.2
SOC *e**SP **sP 10 06 03.8 +0.3**
SOC *e*S **S 10 16 08.5 -1.2**
SOC *e*SS **SS 10 21 24.0 +0.2**
SOC pmax pmax
comp=Z,53nm,1.1s
SOC MLR MLR
comp=Z,2μm,14.0s
MATE Matera 81.32 22⇑ *i*P P 10 05 59.0 -0.4
STIP Stip 81.34 17 *i*P P 10 05 58.6 -1.0
PLD Plovdiv 81.34 15 *i*P P 10 06 03.9 +4.3
KRUS Krusevo 81.50 18 *i*P P 10 05 59.4 -1.2
NCK Nalchik 81.50 1⇑ *i*P P 10 06 00.4 0.0
NCK pmax pmax
comp=Z,36nm,0.6s
NCK MLR MLR
comp=Z,3μm,21.0s
MMB Musomiste 81.70 16 *i*P P 10 06 07.3 +5.8
NEY Neytrino 81.73 2⇓ *i*P P 10 06 02.1 +0.2
NEY pmax pmax
comp=Z,7.0nm,1.0s
NEY MLR MLR
comp=Z,1μm,16.0s
RZN Rozhen 81.75 15 *i*P P 10 06 06.5 +4.5
VAY Valandovo 81.77 17 *i*P P 10 06 01.8 -0.1
GROC Groznyy 81.80 360 *e*P P 10 05 57.2 -4.8
GROC pmax pmax
comp=Z,51nm,1.0s
BIA Bitola 81.85 18 *i*P P 10 06 01.8 -0.6
KSH Kashi 81.89 336 P P **10 06 04.5 +1.8**
KSH pP PcP 10 06 09.0 +0.6
KSH sP sP 10 06 11.0 +4.1
KSH PP **PP 10 09 13.0 +3.8**
KSH S **S 10 16 14.8 -1.4**
KSH sS SKKSac 10 16 26.0 0.0
KSH SS **SS 10 21 36.5 +3.5**
KSH pmax pmax
comp=Z,39nm,0.8s
KSH pmax pmax
comp=Z,2μm,5.6s
KSH LR LR
comp=Z,2μm,11.4s
KSH LR LR
comp=Z,2μm,10.3s
KSH LR LR
comp=Z,10μm,18.7s
SFK Sufi-Kurgan 81.96 338 *i*P P 10 06 01.6 -1.6
SFK pmax pmax
comp=Z,143nm,1.1s
MAK Makhachkala 82.02 358 *e*P P 10 06 03.3 +0.2
MAK *e*S **S 10 16 17.0 -0.1**
MAK *e*SS **SS 10 21 39.5 +5.1**
MAK pmax pmax
comp=Z,51nm,0.4s
PTGA Pitinga 82.02 103 *e*P P 10 06 03.5 0.0
comp=Z,186nm,1.6s
PTGA LR LR
comp=Z,15μm,21.0s
PTGA Pitinga 82.02 103 *e*P P 10 06 03.7 +0.1
GRG Griva 82.10 17 P P **10 06 03.7 +0.1**
ZEI Tsey 82.21 1 *e*P P 10 06 03.0 -1.4
ZEI *e*S **S 10 16 23.3 +3.8**
ZEI pmax pmax
comp=Z,35nm,1.2s
RDO Rodhopi 82.41 15 P P **10 06 04.0 -1.2**
BTK Batken 82.46 340 *e*P P 10 06 06.2 +0.6
BTK Batken 82.46 340 *e*P P 10 06 06.2 +0.6
NNA Nana 82.72 123 *e*P P 10 06 08.6 +1.6
comp=Z,72nm,1.2s
NNA LR LR
comp=Z,3μm,21.0s
NNA Nana 82.72 123 *i*P P 10 06 08.8 +1.7
ALN Alexandroupoli 82.72 15 *e*P P 10 06 06.3 -0.5
comp=Z,48nm,1.4s
ALN Alexandroupoli 82.72 15 *e*P P 10 06 06.3 -0.5
ALN pmax pmax
comp=Z,48nm,1.4s
TIP Timpagrande 82.74 22 *e*P P 10 06 06.4 -0.7
comp=Z,61nm,1.5s
TIP Timpagrande 82.74 22⇑ *i*P P 10 06 05.4 -1.7
LIT Litokhoron 82.95 17 *e*P P 10 06 07.9 -0.2
comp=Z,41nm,1.0s
LIT Litokhoron 82.95 17 *e*P P 10 06 07.9 -0.2
LIT pmax pmax
comp=Z,41nm,1.0s
MSVF Nonsavu 83.02 225 PFAKE 10 06 20.0 +11
MSVF LR LR
comp=Z,1μm,20.0s
GYA Guiyang 83.14 308⇑ *i*P P 10 06 08.5 -0.9
GYA PP **PP 10 09 20.0 +0.1**
GYA S **S 10 16 26.0 -3.3**
GYA SS **SS 10 21 50.3 -2.0**
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,730nm,5.0s
GYA LR LR
comp=Z,3μm,17.6s
GYA LR LR
comp=Z,3μm,15.3s
GYA LR LR
comp=Z,3μm,21.9s
TBLG Delisi 83.27 0 *e*P P 10 06 09.8 +0.1
comp=Z,67nm,1.1s
TBLG Delisi 83.27 0 *e*P P 10 06 09.8 +0.1
TBLG pmax pmax
comp=Z,67nm,1.1s
GAR Garm 83.58 341 *e*P P 10 06 11.0 -0.5
comp=Z,301nm,1.3s
GAR Garm 83.58 341 *e*P P 10 06 11.0 -0.5
GAR pmax pmax
comp=Z,301nm,1.3s
XOR Xorichti 83.78 17 P P **10 06 09.1 -3.3**
AGG Agios Georgios 83.97 18 *e*P P 10 06 12.7 -0.7
AGG Agios Georgios 83.97 18 *e*P P 10 06 12.7 -0.7
CHGR Chuyangaron 84.12 341 *e*P P 10 06 13.4 -0.9
HNR Honiara 84.13 244 LR LR 10 35 59.8
comp=Z,2μm,21.5s,baz=18,slow=30
KEST Kesra 84.21 29 P P **10 06 14.4 -0.3**
comp=Z,21nm,0.9s,baz=273,slow=4.0,SNR=11
KEST LR LR 10 45 29.8
comp=Z,2μm,19.4s,baz=290,slow=37
KEST Kesra 84.21 29 *e*P P 10 06 15.7 +1.0
comp=Z,48nm,1.0s
ATAL Atalanti 84.41 17 P P **10 06 13.7 -1.9**
ANTO Ankara 84.54 10 *e*P P 10 06 16.2 -0.1
comp=Z,41nm,0.9s
ANTO LR LR
comp=Z,2μm,22.0s
ANTO Ankara 84.54 10⇑ *i*P P 10 06 15.5 -0.8
ANTO Ankara 84.54 10 *e*P P 10 06 16.2 -0.1
ANTO pmax pmax
comp=Z,41nm,0.9s
ANTO MLR MLR
comp=Z,2μm,22.0s
ANTO Ankara 84.54 10 P P **10 06 16.5 +0.2**
SNR=17
ANTO P P **10 06 16.5 +0.2**
SNR=17
ANTO Ankara 84.54 10 *e*P P 10 06 15.7 -0.6
BR131 Keskin Array S 84.76 9 *e*P P 10 06 15.9 -1.6
BR131 Keskin Array S 84.76 9 P P **10 06 16.3 -1.2**
SNR=20
BRTR Keskin Array B 84.76 9 P P **10 06 16.6 -0.9**
comp=Z,14nm,0.9s,baz=349,slow=2.0,SNR=49
BRTR PKPPKP **P'P'df 10 32 35.7 -3.5**
comp=Z,1.8nm,1.0s,baz=201,slow=2.4,SNR=4.4
BRTR LR LR 10 48 55.3
comp=Z,1μm,18.6s,baz=352,slow=39
GNI Garni 84.85 0 *e*P P 10 06 18.6 +0.7
comp=Z,141nm,1.5s
GNI LR LR
comp=Z,3μm,19.0s
GNI Garni 84.85 0⇓ *i*P P 10 06 18.5 +0.5
GNI pmax pmax
comp=Z,72nm,1.0s
GNI MLR MLR
comp=Z,7μm,21.0s
VILL Villia 84.97 17 P P **10 06 16.0 -2.5**
RPN Rapa Nui 85.01 157 PFAKE 10 06 30.0 +12
RPN LR LR
comp=Z,2μm,19.0s
GUR Goura 85.03 18 P P **10 06 17.8 -1.0**
LTK Loutraki 85.05 17 P P **10 06 16.7 -2.1**
MANT Manisa 85.43 13 *e*P P 10 06 20.1 -0.9
comp=Z,163nm,1.0s
DID Didima 85.60 17 P P **10 06 19.5 -2.1**
ITM Ithomi 85.69 18 *e*P P 10 06 21.3 -0.7
comp=Z,61nm,0.9s
VLI Velíai 86.32 18 P P **10 06 22.9 -2.2**
GEYT Alibeck 86.41 350 P P **10 06 25.0 -0.6**
comp=Z,10nm,0.8s,baz=316,slow=6.2,SNR=15
GEYT LR LR 10 51 04.0
comp=Z,3μm,18.1s,baz=10.0,slow=40
GYA0B ALIBECK ARRAY 86.41 350 *e*P P 10 06 25.1 -0.5
comp=Z,39nm,1.1s
TGY Tagaytay City 86.42 290 P P **10 06 26.8 +0.8**
comp=Z,159nm,0.3s,baz=256,slow=11,SNR=2.5
LSA Lhasa 86.59 321 P P 10 06 32.3 +5.1
LSA pmax pmax
comp=Z,30nm,1.6s
LSA Lhasa 86.59 321 PFAKE 10 06 30.0 +2.8
LSA LR LR
comp=Z,4μm,20.0s
QIZ Qiongzhong 88.00 301 P P **10 06 38.3 +4.8**
QIZ PP **PP 10 10 00.5 +1.1**
QIZ Qiongzhong 88.00 301 SKS **SKSac 10 17 05.0 +3.0**
QIZ Qiongzhong 88.00 301 S **S 10 17 19.0 +2.0**
QIZ Qiongzhong 88.00 301 SS SS 10 23 11.5 +7.7
QIZ pmax pmax
comp=Z,680nm,5.3s
QIZ LR LR
comp=N,2μm,14.7s
QIZ LR LR
comp=E,3μm,14.3s
QIZ LR LR
comp=Z,2μm,16.7s
QIZ Qiongzhong 88.00 301 PFAKE 10 06 40.0 +6.5
QIZ LR LR
comp=Z,237nm,19.0s
NIL Nilore 88.13 337 *e*P P 10 06 32.2 -1.8
comp=Z,230nm,1.3s
NIL LR LR
comp=Z,2μm,20.0s
NIL Nilore 88.13 337 *e*P P 10 06 32.2 -1.8
NIL pmax pmax
comp=Z,230nm,1.3s
NIL MLR MLR
comp=Z,2μm,20.0s
KBL Kabul 88.14 340 *e*P P 10 06 32.9 -1.4
comp=Z,18nm,0.9s
KBL Kabul 88.14 340 *e*P P 10 06 32.9 -1.4
KBL pmax pmax
comp=Z,18nm,0.9s
DHRM DHARAMSHALA 88.75 334 *e*P P 10 06 33.7 -3.4
DHRM IAmb IAmb 10 06 42.4
comp=Z,36nm,0.9s
SACV Santiago Islan 89.36 64 PFAKE 10 06 50.0 +10
SACV LR LR
comp=Z,3μm,22.0s
SMLA Simla 89.59 333 *e*P P 10 06 36.3 -4.6
SMLA IAMs_20 IAMs_20 10 47 32.4
comp=Z,4μm,20.4s
DAV Davao City (W) 89.67 282 PFAKE 10 06 50.0 +8.6
DAV LR LR
comp=Z,789nm,20.0s
TAPN Taplejung 89.94 323 *e*P P 10 06 42.4 -0.6
GUN Gumba 90.04 325 *e*P P 10 06 42.7 -0.8
comp=Z,449nm,2.1s
SHL Shillong 90.07 319 *e*P P 10 06 39.4 -4.0
SHL Shillong 90.07 319 *e*P P 10 06 49.0 +5.6
SHL *e*S **SKSac 10 17 08.0 -6.6**
DDI Dehra Dun 90.12 332 *e*P P 10 06 39.0 -4.4
DDI IAMs_20 IAMs_20 10 47 44.2
comp=Z,3μm,15.9s
JIRN Jiri 90.17 324 *e*P P 10 06 43.3 -0.8
comp=Z,298nm,1.5s
DANN Dangsing 90.32 327 *e*P P 10 06 44.4 -0.3
comp=Z,374nm,1.8s
KKN Kakani 90.35 325 *e*P P 10 06 44.4 -0.3
ODAN Odare 90.50 323 *e*P P 10 06 43.8 -1.7
comp=Z,152nm,1.6s
PKIN Phulchoki 90.51 325 *e*P P 10 06 45.0 -0.6
PKI Pulchoki 90.51 325 *e*P P 10 06 45.2 -0.4
comp=Z,174nm,1.9s
LPAZ La Paz 90.68 118 P P **10 06 46.2 -0.5**
comp=Z,5.7nm,0.9s,baz=341,slow=6.2,SNR=14
LPAZ LR LR 10 49 56.5
comp=Z,2μm,20.4s,baz=336,slow=37
LPAZ La Paz 90.68 118 *e*P P 10 06 45.0 -1.7
LPAZ La Paz 90.68 118 *e*P P 10 06 45.3 -1.4
RAMN Ramite 90.69 324 *e*P P 10 06 45.3 -1.1
PYUN Piuthan 90.79 327 *e*P P 10 06 45.6 -1.2
comp=Z,107nm,1.2s
KOLN Koldanda 90.91 327 *e*P P 10 06 45.7 -1.6
comp=Z,94nm,1.5s
DZM Mont Dzumac 91.83 232 LR LR 10 41 05.2
comp=Z,3μm,19.8s,baz=23,slow=31
DZM Mont Dzumac 91.83 232 *e*P P 10 06 51.6 +0.3
comp=Z,86nm,1.4s
DZM Mont Dzumac 91.83 232 *e*PS PS 10 19 02.9 -0.1
comp=Z,915nm,24.0s
DZM *e*SS SS 10 24 00.7 -0.1
comp=Z,1μm,25.9s
DZM Mont Dzumac 91.83 232 *e*LR LR 10 36 12.5
comp=Z,7μm,23.1s,baz=32
MNMC Minye Minye 92.36 121 *e*P P 10 06 55.8 +1.8
comp=Z,82nm,1.9s
SKNT Sakolnakorn 92.57 305 P P **10 06 59.5 +4.6**
PB11 IPOC Station P 92.87 121 *e*P P 10 06 59.2 +3.0
CHTO Chiang Mai 93.24 310 *e*P P 10 06 57.5 -0.5
comp=Z,46nm,1.3s
CHTO LR LR
comp=Z,2μm,20.0s
CHTO Chiang Mai 93.24 310 *e*P P 10 06 57.5 -0.5
CHTO pmax pmax
comp=Z,46nm,1.3s
CHTO MLR MLR
comp=Z,2μm,20.0s
CHTO Chiang Mai 93.24 310 P P **10 07 01.9 +4.0**
SNR=8.5
CHTO P P **10 07 01.9 +4.0**
SNR=8.5
CHTO Chiang Mai 93.24 310 *e*P P 10 06 56.5 -1.5
CM31 Chiang Mai Arr 93.55 310 P P **10 07 00.8 +1.4**
SNR=16
CMAR Chiang Mai Arr 93.55 310 P P **10 06 59.0 -0.4**
comp=Z,7.1nm,0.8s,baz=7.2,slow=4.8,SNR=32
CMAR LR LR 10 51 30.2
comp=Z,1μm,18.1s,baz=25,slow=37
CMAR Chiang Mai Arr 93.55 310 P P **10 06 59.0 -0.4**
CMAR pmax pmax
comp=Z,7.0nm,0.8s
CMAR MLR MLR
comp=Z,1μm,18.1s
CM01 Chiang Mai Arr 93.58 310 *e*P P 10 06 58.6 -0.9
BOK Bokaro 93.84 323 *e*P P 10 06 56.1 -4.6
BOK IAMs_20 IAMs_20 10 52 53.1
comp=Z,3μm,20.4s
LVC Limon Verde 95.65 122 PFAKE 10 07 20.0 +11
LVC LR LR
comp=Z,2μm,19.0s
LVC Limon Verde 95.65 122 *e*P P 10 07 10.7 +1.5
UTHA Uthaitani 95.88 308 P P 10 07 16.1 +6.0
SRAK Srakaew 96.05 305 P P **10 07 14.9 +4.1**
SALV Santo Antonio 96.89 108 *e*P P 10 07 16.1 +1.7
BHPL Bhopal 97.01 330 *e*P P 10 07 10.9 -4.2
BHPL IAmb IAmb 10 07 19.4
comp=Z,18nm,0.9s
CTA Charters Tower 100.21 250 P P **Pdif 10 07 29.9 +0.6**
comp=Z,0.8nm,0.3s,baz=14,slow=8.3,SNR=2.4
CTA Charters Tower 100.21 250 P P **Pdif 10 07 30.0 +0.6**
CTA pmax pmax
comp=Z,1.0nm,0.3s
CTAO Charters Tower 100.21 250 PFAKE 10 07 40.0 +11
CTAO LR LR
comp=Z,6μm,20.0s
LCO Las Campanas 100.25 127 PFAKE 10 07 40.0 +10
LCO LR LR
comp=Z,3μm,20.0s
RAYN Ar Rayn 101.43 360 PFAKE 10 07 40.0 +5.1
RAYN LR LR
comp=Z,1μm,19.0s
HYB Hyderabad 102.18 328 *e*P Pdif 10 07 33.5 -4.8
HYB IAmb IAmb 10 07 37.8
PBA Port Blair 102.27 312 *e*P Pdif 10 07 34.4 -4.3
PBA IAMs_20 IAMs_20 10 54 24.6
comp=Z,2μm,18.9s
POO Poona 102.47 332 *e*P Pdif 10 07 34.9 -4.8
TORD Torodi Ar. Bea 102.58 43 P **Pdif 10 07 38.6 -1.5**
comp=Z,0.2nm,0.3s,baz=319,slow=6.3,SNR=2.9
TORD PP **PP 10 11 48.5 -4.0**
comp=Z,1.3nm,1.0s,baz=331,slow=5.8,SNR=3.9
KAPI Kappang 102.86 280 PFAKE 10 07 50.0 +8.7
KAPI LR LR
comp=Z,463nm,19.0s
GOA Goa 105.37 331 *e*P Pdif 10 07 48.1 -4.4
SNZO South Karori 105.44 217 PFAKE 10 12 10.0 +4.6
SNZO LR LR
comp=Z,2μm,21.0s
MDRS Chennai 105.72 324 *e*P Pdif 10 07 49.7 -4.4
CMBY CAMPBELL BAY 105.91 309 *e*P Pdif 10 07 50.3 -4.6
WRAB Tennant Creek 106.62 259 PFAKE 10 12 20.0 +12
WRAB LR LR
comp=Z,2μm,21.0s
WRA Warramunga Arr 106.64 259 Pdiff **Pdif 10 07 58.5 +0.6**
comp=Z,0.5nm,0.9s,baz=40,slow=5.7,SNR=3.0

WRA				PKiKP		**PKiKP**	**10 12 07.1**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=20,slow=1.9,SNR=28							
ASAR	**Alice Springs**	**109.84**	**257**	Pdiff		**Pdif**	**10 08 14.3**	**+2.2**
	comp=Z,0.2nm,0.8s,baz=48,slow=7.5,SNR=2.5							
ASAR				PKiKP		**PKiKP**	**10 12 13.3**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=70,slow=2.7,SNR=13							
TRQA	**Tornquist**	**111.78**	**126**	PFAKE			10 12 30.0	+12
TRQA				LR		LR		
	comp=Z,2μm,21.0s							
STKA	**Stephens Creek**	**112.16**	**246**	PKiKP		**PKiKP**	**10 12 18.0**	**-0.4**
	comp=Z,3.1nm,0.7s,baz=14,slow=4.2,SNR=3.1							
STKA	**Stephens Creek**	**112.16**	**246**	*i* PKiKP		**PKiKP**	**10 12 18.0**	**-0.4**
STKA				pmax		pmax		
	comp=Z,3.0nm,0.7s							
MBWA	**Marble Bar**	**115.89**	**270**	PFAKE			10 12 30.0	+4.1
MBWA				LR		LR		
	comp=Z,1μm,20.0s							
COCO	**West Island**	**121.24**	**296**	PFAKE			10 12 40.0	+3.6
COCO				LR		LR		
	comp=Z,2μm,21.0s							
EFI	**East Falkland**	**124.12**	**133**	PFAKE			10 12 50.0	+9.0
EFI				LR		LR		
	comp=Z,3μm,20.0s							
MBAR	**Mbarara**	**124.15**	**18**	PFAKE			10 12 50.0	+7.4
MBAR				LR		LR		
	comp=Z,487nm,19.0s							
SHEL	**Horse Pasture**	**124.78**	**65**	PFAKE			10 12 50.0	+6.5
SHEL				LR		LR		
	comp=Z,1μm,20.0s							
KMBO	**Kilima Mbogo**	**125.55**	**10**	PKP		**PKPdf**	**10 12 45.0**	**0.0**
	comp=Z,2.2nm,0.3s,baz=26,slow=4.4,SNR=12							
KMBO	**Kilima Mbogo**	**125.55**	**10**	PKP		**PKPdf**	**10 12 45.0**	**0.0**
KMBO				LR		LR		
	comp=Z,1μm,19.0s							
NWAO	**Narrogin (SRO)**	**126.31**	**263**	PFAKE			10 12 50.0	+4.0
NWAO				LR		LR		
	comp=Z,3μm,20.0s							
DGAR	**Diego Garcia**	**127.48**	**325**	PFAKE			10 13 00.0	+11
DGAR				LR		LR		
	comp=Z,765nm,20.0s							
PMSA	**Palmer Station**	**131.40**	**147**	PFAKE			10 13 00.0	+4.9
PMSA				LR		LR		
	comp=Z,2μm,19.0s							
PMSA	**Palmer Station**	**131.40**	**147**	*e*P		**PKiKP**	**10 12 56.8**	**+1.7**
HOPE	**Hope Point**	**135.53**	**124**	PFAKE			10 13 10.0	+6.2
HOPE				LR		LR		
	comp=Z,1μm,20.0s							
SBA	**Scott Base**	**137.66**	**196**	PFAKE			10 13 10.0	+2.5
SBA				LR		LR		
	comp=Z,987nm,21.0s							
LSZ	**Lusaka**	**137.89**	**25**	PFAKE			10 13 20.0	+10
LSZ				LR		LR		
	comp=Z,3μm,19.0s							
VNDA	**Vanda**	**138.21**	**197**	PKhKP		PKPpre	10 12 59.2	
	comp=Z,1.8nm,1.0s,baz=238,slow=2.4,SNR=2.2							
TSUM	**Tsumeb**	**138.29**	**41**	PFAKE			10 13 20.0	+9.2
TSUM				LR		LR		
	comp=Z,3μm,21.0s							
ABPO	**Ambohimpanom**	**143.68**	**357**	PFAKE			10 13 30.0	+8.2
ABPO				LR		LR		
	comp=Z,1μm,22.0s							
QSPA	**South Pole Qui**	**145.18**	**180**	PKPbc		**PKPdf**	**10 13 19.7**	**+0.3**
	comp=Z,129nm,0.7s,baz=131,slow=1.2,SNR=271							
QSPA	**South Pole Qui**	**145.18**	**180**	*e*PKPdf		**PKPab**	**10 13 19.2**	**+0.1**
QSPA				PKPbc		**PKPdf**	**10 13 19.7**	**+0.3**
QSPA				LR		LR		
	comp=Z,1μm,20.0s							
CASY	**Casey**	**147.91**	**224**	*e*PKPbc		**PKPbc**	**10 13 26.7**	**-0.3**
CASY				LR		LR		
	comp=Z,290nm,22.0s							
BOSA	**Boshof**	**149.66**	**36**	PKP		**PKPdf**	**10 13 28.3**	**+0.2**
	comp=Z,11nm,1.0s,baz=324,slow=2.5,SNR=8.6							
BOSA				PKPbc		**PKPbc**	**10 13 31.3**	**-1.5**
	comp=Z,11nm,1.0s,baz=334,slow=2.1,SNR=8.6							
BOSA				PKPab		**PKPab**	**10 13 37.8**	**-0.2**
	comp=Z,28nm,0.9s,baz=335,slow=3.7,SNR=16							
BOSA	**Boshof**	**149.66**	**36**	*e*P		**PKPdf**	**10 13 28.6**	**+0.5**
SUR	**Sutherland**	**151.35**	**47**	*e*PKPdf		**PKPdf**	**10 13 33.6**	**+2.9**
SUR				LR		LR		
	comp=Z,3μm,20.0s							
VNA3	**Neumayer Olymp**	**152.03**	**146**	P		PKPab	10 14 06.5	+20
VNA1	**Neumayer--Stat**	**152.55**	**144**	P		PKPab	10 14 04.9	+16
VNA2	**Neumayer--Watz**	**152.81**	**145**	P		PKPab	10 14 10.0	+20
SNAA	**Sanae**	**154.12**	**147**	PKP		**PKPdf**	**10 13 33.5**	**+0.1**
	comp=Z,4.7nm,1.1s,baz=270,slow=3.0,SNR=1.6							
NVL	**N'lazarevskaya**	**158.86**	**150**	*e*PKP2		**PKPab**	**10 14 12.4**	**-3.3**

*IDC **31** 09:54:07.4±0.8, 12.°83N×124.°02E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.8/47, mbtmp3.9/9, ML4.9/1, Error ellipse: s-maj=33.6km s-min=15.2km az=61.0*
*MAN **31** 09:54:08.9, 12.°58N×123.°48E, h8km, mb4.5, ML3.3, MS3.1*
*ISCJB **31** 09:54:10.1±0.6, 12.°54N±0.°03×123.°48E±0.°03, h22km±6km, mb3.9/8, Error ellipse: s-maj=6.1km s-min=4.6km az=36.7*

ISC 31 09:54:09.5±1.1, 12.°58N±0.°04×123.°52E±0.°04, h12km±7km, n19, σ1°75/30, mb4.0/8, 3C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.24**	**155**	*e*P		**Pg**	**09 54 15.0**	**+0.3**
MMPH				*i* S		**Sg**	**09 54 19.7**	**+1.6**
AUQP	**San Andres**	**1.10**	**312**	*e*P		**Pg**	**09 54 29.8**	**-1.1**
AUQP				*e*S		**Sg**	**09 54 45.3**	**+0.1**
CNP	**Catarman**	**1.12**	**93**	*e*P		**Pn**	**09 54 29.7**	**-1.3**
CNP				*e*S		**Sn**	**09 54 47.0**	**+0.8**
PVCP	**Virac**	**1.18**	**31**	*e*P		**Pn**	**09 54 31.2**	**-0.6**
PVCP				*e*S		**Sn**	**09 54 49.3**	**+1.4**
RCP	**Roxas**	**1.27**	**217**	*e*P		**Pn**	**09 54 31.8**	**-1.2**
OTRP	**Odiongan**	**1.48**	**262**	*e*P		**Pn**	**09 54 34.3**	**-1.6**
OTRP				*e*S		**Sn**	**09 54 54.3**	**-0.9**
GQP	**Guinayangan**	**1.68**	**322**	*e*P		**Pn**	**09 54 38.4**	**-0.3**
GQP				*i* S		**Sn**	**09 55 02.0**	**+1.8**
PLP	**Palo**	**2.01**	**134**	*e*P		**Pb**	**09 54 43.4**	**-2.5**
PLP				*e*S		**Sg**	**09 55 13.8**	**-0.2**
LLP	**Lapu-Lapu**	**2.29**	**169**	*e*P		**Pn**	**09 54 47.8**	**+0.7**
LLP				*e*S		**Sn**	**09 55 17.6**	**+2.3**
SJMP	**San Jose**	**2.35**	**267**	*e*P		**Pn**	**09 54 47.4**	**-0.5**
SJMP				*e*S		**Sn**	**09 55 14.1**	**-2.5**
TGY	**Tagaytay City**	**2.93**	**301**	Pn		**Pn**	**09 54 59.2**	**+3.2**
	117nm,0.3s,baz=172,slow=7.1,SNR=3.5							
TGY				Sn		**Sb**	**09 55 39.8**	**+2.2**
	71nm,0.3s,baz=124,slow=7.3,SNR=2.3							
CMAR	**Chiang Mai Arr**	**24.38**	**287**	P		**P**	**09 59 31.5**	**+3.7**
	1.0nm,0.3s,baz=92,slow=7.6,SNR=4.2							
KSRS	**Korea Array**	**25.08**	**8**	P		**P**	**09 59 30.5**	**-3.4**
	1.1nm,0.7s,baz=189,slow=10.0,SNR=3.5							
WRA	**Warramunga Arr**	**34.03**	**162**	P		**P**	**10 00 53.0**	**-0.6**
	1.7nm,0.8s,baz=344,slow=9.2,SNR=4.1							
WRA				PcP		**PcP**	**10 03 31.1**	**-0.4**
	0.2nm,0.5s,baz=341,slow=2.7,SNR=2.6							
ASAR	**Alice Springs**	**37.43**	**164**	P		**P**	**10 01 23.4**	**+0.6**
	0.5nm,0.6s,baz=347,slow=7.3,SNR=6.1							
SONM	**Songino Array**	**37.95**	**341**	P		**P**	**10 01 26.2**	**-0.9**
	0.3nm,0.4s,baz=170,slow=9.7,SNR=2.4							
STKA	**Stephens Creek**	**47.48**	**159**	P		**P**	**10 02 45.7**	**+1.3**
	3.5nm,0.8s,baz=284,slow=8.3,SNR=4.0							
MKAR	**Makanchi Array**	**48.57**	**323**	P		**P**	**10 02 53.4**	**+0.7**
	2.7nm,1.0s,baz=120,slow=7.2,SNR=18							
ZALV	**Zalesovo Beam**	**51.32**	**332**	P		**P**	**10 03 13.4**	**-0.1**
	3.2nm,0.8s,baz=124,slow=8.9,SNR=3.9							

*ISCJB **31** 10:13:44.9±0.3, 12.°05N±0.°04×143.°31E±0.°06, h10km, mb4.5/52, Error ellipse: s-maj=8.4km s-min=6.2km az=15.7*
*IDC **31** 10:13:44.8±0.5, 12.°09N×143.°42E, h0km, mb4.5/31, mb1 4.6/32, mb1mx4.4/60, mbtmp4.4/32, ML4.5/1, MS5.0/2, Ms1 5.1/2, ms1mx3.7/49, Error ellipse: s-maj=16.2km s-min=11.3km az=94.0*
*NEIC **31** 10:13:46.6±0.2, 12.°08N×143.°34E, h10km, mb4.8/25, Error ellipse: s-maj=8.3km s-min=5.9km az=91.0*

ISC 31 10:13:46.0±0.4, 12.°08N±0.°07×143.°57E±0.°08, h10km, n94, σ1°26/92, mb4.7/50, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.96**	**40**	Pn		**Pb**	**10 14 21.4**	**-0.4**
	158nm,0.3s,baz=184,slow=7.0,SNR=30							
GUMO				Sn		**Sb**	**10 14 46.5**	**+0.1**
	99nm,0.3s,baz=28,slow=21,SNR=5.2							
GUMO	**Guam**	**1.96**	**40**	*e*Pn		**Pb**	**10 14 21.4**	**-0.4**
GUMO				*e*Pn		**Pg**	**10 14 21.8**	**-1.8**
GUMO				*e*Sn		**Sn**	**10 14 45.4**	**+1.3**

GUMO				*e*Sn		**Sb**	**10 14 46.5**	**+0.1**
H11S3	**WAKE ISLAND Hy**	**23.18**	**71**	T		T	10 43 10.7	
	baz=257,slow=22							
H11S1	**WAKE ISLAND Hy**	**23.20**	**71**	T		T	10 43 09.7	
	baz=257,slow=22							
H11S2	**WAKE ISLAND Hy**	**23.20**	**71**	T		T	10 43 10.7	
	baz=257,slow=22							
H11N1	**WAKE ISLAND Hy**	**23.66**	**68**	T		T	10 43 49.9	
	baz=255,slow=75							
H11N2	**WAKE ISLAND Hy**	**23.67**	**68**	T		T	10 43 46.7	
	baz=255,slow=75							
H11N3	**WAKE ISLAND Hy**	**23.68**	**68**	T		T	10 43 51.4	
	baz=255,slow=75							
JNU	**Nakatsue**	**23.95**	**333**	P		**P**	**10 19 00.9**	**+0.4**
	6.1nm,0.8s,baz=146,slow=11,SNR=4.8							
SSLB	**Suanglung**	**24.42**	**302**	*e*P		**P**	**10 19 05.5**	**+0.5**
	25nm,1.1s							
MJAR	**Matsushiro Arr**	**24.83**	**350**	P		**P**	**10 19 07.2**	**-1.3**
	3.3nm,0.9s,baz=183,slow=10,SNR=7.4							
MJAR				PcP		**PcP**	**10 22 45.3**	**+0.5**
	1.2nm,0.6s,baz=188,slow=3.9,SNR=5.2							
MAJO	**Matsushiro**	**24.83**	**350**	*e*P		**P**	**10 19 07.2**	**-1.4**
MAJO				*e*PcP		**PcP**	**10 22 45.3**	**+0.5**
CTA	**Charters Tower**	**32.08**	**175**	P		**P**	**10 20 13.3**	**0.0**
	0.6nm,0.4s,baz=356,slow=12,SNR=4.4							
WRAB	**Tennant Creek**	**33.08**	**196**	*e*P		**P**	**10 20 22.1**	**-0.1**
	17nm,0.8s							
WB2	**Warramunga Arr**	**33.09**	**196**	*e*P		**P**	**10 20 20.6**	**-1.6**
WB2				*e*P		**P**	**10 20 22.2**	**0.0**
WR1	**Warramunga Arr**	**33.09**	**196**	*e*P		**P**	**10 20 21.8**	**-0.5**
	21nm,0.8s							
WRA	**Warramunga Arr**	**33.09**	**196**	P		**P**	**10 20 21.8**	**-0.5**
	14nm,0.8s,baz=20,slow=9.8,SNR=67							
FITZ	**Fitzroy Crossi**	**34.82**	**211**	P		**P**	**10 20 37.5**	**+0.2**
	9.0nm,1.0s,baz=42,slow=9.4,SNR=4.9							
AS01	**Alice Springs**	**36.75**	**195**	*e*P		**P**	**10 20 53.1**	**-0.7**
AS31	**Alice Springs**	**36.76**	**195**	*e*P		**P**	**10 20 54.2**	**+0.3**
	2.3nm,0.5s							
ASAR	**Alice Springs**	**36.76**	**195**	P		**P**	**10 20 54.0**	**+0.1**
	3.1nm,0.6s,baz=20,slow=11,SNR=42							
KLR	**Kul'dur**	**38.31**	**347**	P		**P**	**10 21 06.4**	**-0.4**
	1.1nm,0.8s,baz=122,slow=18,SNR=4.3							
CMAR	**Chiang Mai Arr**	**43.43**	**284**	P		**P**	**10 21 49.7**	**+0.2**
	1.4nm,0.4s,baz=87,slow=6.4,SNR=6.1							
STKA	**Stephens Creek**	**43.75**	**182**	P		**P**	**10 21 51.6**	**-0.1**
	2.8nm,0.5s,baz=350,slow=8.9,SNR=4.1							
GTA	**Gaotai**	**47.25**	**313**	*e*P		**P**	**10 22 19.8**	**+0.2**
GTA				pP		pwP	10 22 24.8	-2.1
GTA				sP		sP	10 22 28.0	+5.8
GTA				PcP		**PcP**	**10 23 52.3**	**+1.4**
GTA				pmax		pmax		
	comp=Z,4.0nm,1.1s							
SONA0	**Songino Array**	**47.25**	**326**	*e*P		**P**	**10 22 18.4**	**-1.0**
SONA0				*e*PcP		**PcP**	**10 23 51.5**	**+0.9**
SONM	**Songino Array**	**47.25**	**326**	P		**P**	**10 22 18.5**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=147,slow=8.4,SNR=6.7							
SONM				PcP		**PcP**	**10 23 51.5**	**+0.9**
	comp=Z,1.5nm,0.9s,baz=151,slow=3.3,SNR=4.4							
SONA1	**Songino Array**	**47.26**	**326**	*e*P		**P**	**10 22 19.2**	**-0.3**
SEY	**Seymchan**	**51.16**	**5**	P		**P**	**10 22 51.2**	**+2.2**
	comp=Z,0.7nm,0.5s,baz=165,slow=4.7,SNR=5.4							
URZ	**Urewera**	**59.10**	**150**	LR		LR	10 45 04.1	
	comp=Z,719nm,21.2s,baz=7.0,slow=32							
RPZ	**Rata Peaks**	**60.92**	**157**	P		**P**	**10 23 59.8**	**+0.7**
	comp=Z,6.3nm,0.8s,baz=287,slow=11,SNR=2.7							
MK01	**Makanchi Array**	**61.69**	**317**	*e*P		**P**	**10 24 04.6**	**+0.2**
MK31	**Makanchi Array**	**61.70**	**317**	*e*P		**P**	**10 24 05.1**	**+0.6**
	comp=Z,6.0nm,1.1s							
MK32	**Makanchi Array**	**61.70**	**317**	*e*P		**P**	**10 24 04.7**	**+0.2**
MKAR	**Makanchi Array**	**61.70**	**317**	P		**P**	**10 24 04.7**	**+0.2**
	comp=Z,4.7nm,1.0s,baz=98,slow=8.5,SNR=23							
MAKZ	**Makanchi**	**61.92**	**317**	*e*P		**P**	**10 24 06.6**	**+0.7**
	comp=Z,7.6nm,0.9s							
ZALV	**Zalesovo Beam**	**62.12**	**325**	P		**P**	**10 24 06.8**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=93,slow=7.3,SNR=7.2							
ZALV	**Zalesovo Beam**	**62.12**	**325**	*e*P		**P**	**10 24 06.6**	**-0.5**
ZAA1	**Zalesovo Array**	**62.12**	**325**	*e*P		**P**	**10 24 06.8**	**-0.3**
KDJ	**Kajisay**	**64.51**	**311**	*e*P		**P**	**10 24 23.1**	**-0.3**
	comp=Z,5.1nm,0.9s							
KURK	**Kurchatov**	**64.92**	**321**	*e*P		**P**	**10 24 25.7**	**0.0**
	comp=Z,17nm,0.9s							
KURK				*e*P		**P**	**10 24 25.9**	**+0.3**
KURBB	**Kurchatov Arra**	**64.96**	**320**	P		**P**	**10 24 25.9**	**0.0**
	comp=Z,10nm,0.8s,baz=104,slow=6.6,SNR=64							
KK31	**Karatay Array**	**69.49**	**312**	*e*P		**P**	**10 24 54.3**	**-0.6**
	comp=Z,4.7nm,1.0s							
KKAR	**Karatay Array**	**69.49**	**312**	*e*P		**P**	**10 24 54.1**	**-0.7**
	comp=Z,4.7nm,1.0s							
BVAR	**Borovoye Array**	**70.33**	**322**	P		**P**	**10 24 59.9**	**+0.1**
	comp=Z,4.5nm,0.7s,baz=106,slow=8.4,SNR=24							
BRVK	**Borovoye**	**70.39**	**322**	*e*P		**P**	**10 25 00.4**	**+0.2**
	comp=Z,6.2nm,0.8s							
IL1	**Eielson Array**	**70.47**	**25**	*e*P		**P**	**10 24 59.7**	**-0.7**
ILAR	**Eielson Array**	**70.47**	**25**	P		**P**	**10 25 00.2**	**-0.2**
	comp=Z,3.6nm,0.7s,baz=255,slow=5.5,SNR=25							
ILB	**Eielson Array**	**70.47**	**25**	*e*P		**P**	**10 25 00.5**	**+0.1**
	comp=Z,4.9nm,0.8s							
INK	**Inuvik**	**76.24**	**22**	P		**P**	**10 25 34.5**	**+0.2**
	comp=Z,7.9nm,0.9s,baz=273,slow=6.0,SNR=11							
INK	**Inuvik**	**76.24**	**22**	*e*P		**P**	**10 25 34.5**	**+0.2**
	comp=Z,11nm,0.9s							
ABKAR	**Akbulak array**	**76.81**	**318**	*e*P		**P**	**10 25 38.0**	**0.0**
	comp=Z,9.8nm,1.1s							
DLBC	**Dease Lake**	**77.93**	**32**	P		**P**	**10 25 44.0**	**-0.2**
	comp=Z,4.2nm,0.9s,baz=291,slow=7.0,SNR=3.1							
DLBC	**Dease Lake**	**77.93**	**32**	*e*P		**P**	**10 25 44.0**	**-0.2**
	comp=Z,9.6nm,1.1s							
AKTO	**Aktyubinsk**	**77.97**	**319**	P		**P**	**10 25 44.0**	**-0.5**
	comp=Z,2.4nm,0.7s,baz=68,slow=6.8,SNR=4.3							
GEYT	**Alibeck**	**79.13**	**307**	P		**P**	**10 25 51.3**	**+0.1**
	comp=Z,3.8nm,0.8s,baz=287,slow=2.5,SNR=7.2							
YKA	**Yellowknife Ar**	**84.77**	**27**	*e*P		**P**	**10 26 21.1**	**+0.8**
	comp=Z,4.2nm,0.8s,baz=289,slow=5.3,SNR=25							
YKB5	**Yellowknife Ar**	**84.77**	**27**	*e*P		**P**	**10 26 21.1**	**+0.8**
YBH	**Yreka Blue Hor**	**84.81**	**49**	P		**P**	**10 26 23.4**	**+2.3**
	comp=Z,4.4nm,0.8s,baz=264,slow=3.1,SNR=9.9							
YBH	**Yreka Blue Hor**	**84.81**	**49**	*e*P		**P**	**10 26 24.2**	**+3.1**
	comp=Z,5.0nm,0.8s							
RES	**Renute Bay**	**86.30**	**13**	P		**P**	**10 26 27.9**	**+0.2**
	comp=Z,5.1nm,0.9s,baz=319,slow=6.2,SNR=6.5							
BEKR	**Beckworth**	**86.95**	**50**	*e*P		**P**	**10 26 33.3**	**+1.4**
	comp=Z,5.9nm,1.0s							
NEW	**Newport**	**87.19**	**41**	P		**P**	**10 26 33.3**	**+0.6**
	comp=Z,4.0nm,0.8s,baz=260,slow=4.3,SNR=7.5							
ARA0	**ARCESS Array S**	**88.12**	**342**	*e*P		**P**	**10 26 36.5**	**-0.1**
ARCES	**ARCESS Array B**	**88.12**	**342**	P		**P**	**10 26 36.5**	**-0.1**
	comp=Z,4.0nm,0.8s,baz=73,slow=6.7,SNR=11							
RYN	**Ryan**	**88.63**	**51**	*e*P		**P**	**10 26 42.6**	**+2.7**
	comp=Z,4.9nm,0.9s							
KVN	**Kaiserville**	**88.85**	**50**	*e*P		**P**	**10 26 43.4**	**+2.5**
	comp=Z,5.1nm,1.0s							
NV01	**Mina Array Sit**	**88.85**	**51**	*e*P		**P**	**10 26 43.0**	**+2.0**
NVAR	**Mina Array Bea**	**88.85**	**51**	P		**P**	**10 26 43.2**	**+2.2**
	comp=Z,5.8nm,0.7s,baz=268,slow=5.5,SNR=44							
NV11	**Mina Array Sit**	**88.96**	**51**	*e*P		**P**	**10 26 44.1**	**+2.7**
	comp=Z,0.4nm,1.0s							
DAC	**Darwin (Calif)**	**89.94**	**53**	*e*P		**P**	**10 26 48.6**	**+2.4**
	comp=Z,3.3nm,0.9s							
VNDA	**Vanda**	**90.05**	**176**	LR		LR	11 04 01.2	
	comp=Z,1μm,20.4s,baz=58,slow=34							
ELK	**Elko**	**90.52**	**48**	P		**P**	**10 26 50.4**	**+1.6**
	comp=Z,2.7nm,0.9s,baz=291,slow=3.9,SNR=11							
ELK	**Elko**	**90.52**	**48**	*e*P		**P**	**10 26 51.2**	**+2.4**
	comp=Z,4.3nm,1.0s							
TPNV	**Topopah Spring**	**90.81**	**52**	*e*P		**P**	**10 26 52.7**	**+2.6**
	comp=Z,4.9nm,0.9s							
GSC	**Goldstone, Bar**	**90.81**	**54**	*e*P		**P**	**10 26 52.8**	**+2.7**
	comp=Z,8.9nm,1.1s							
FIA0	**FINESS Array S**	**91.98**	**335**	*e*P		**P**	**10 26 53.2**	**-1.6**
FINES	**FINESS Array B**	**91.98**	**335**	P		**P**	**10 26 53.2**	**-1.6**
	comp=Z,2.8nm,0.7s,baz=62,slow=4.5,SNR=7.0							
Y14A	**Wickenburg**	**94.20**	**54**	*e*P		**P**	**10 27 08.2**	**+2.5**
	comp=Z,4.6nm,0.8s							
BR101	**Keskin Array S**	**97.17**	**313**	*e*P		Pdif	10 27 18.8	-0.5
BRTR	**Keskin Array B**	**97.17**	**313**	P		Pdif	10 27 18.8	-0.5
	comp=Z,0.4nm,0.7s,baz=93,slow=7.5,SNR=3.4							
NB200	**NORSAR Array S**	**98.00**	**339**	*e*P		Pdif	10 27 21.1	-1.3
NOA	**NORSAR Array B**	**98.00**	**339**	P		Pdif	10 27 21.1	-1.3
	comp=Z,0.7nm,0.5s,baz=51,slow=7.8,SNR=5.4							
CLL	**Collm**	**103.73**	**331**	*e*PP		**PKiKP**	**10 32 08.0**	**+1.8**
TOA1	**Torodi Ar. Sit**	**134.63**	**302**	*e*PKPdf		**PKiKP**	**10 33 06.5**	**-0.7**
TORD	**Torodi Ar. Bea**	**134.63**	**302**	PKP		**PKiKP**	**10 33 06.5**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=342,slow=2.7,SNR=3.7							
KIC	**Kosan Boka**	**143.55**	**299**	*e*PKIKP		**PKPdf**	**10 33 19.7**	**-2.4**
	comp=Z,26nm,1.1s							
TIC	**Toumodi**	**143.65**	**299**	*e*PKIKP		**PKPdf**	**10 33 19.8**	**-2.5**
LIC	**Lamto**	**143.86**	**299**	*e*PKIKP		PKPbc	10 33 19.7	-0.6
	comp=Z,37nm,0.9s							
GO02	**Mina Guanaco**	**146.10**	**117**	*e*PKPdf		**PKiKP**	**10 33 29.8**	**-1.0**
PB11	**IPOC Station P**	**147.20**	**108**	*e*PKPbc		**PKPab**	**10 33 31.0**	**-1.3**
MNMC	**Minye Minye**	**147.34**	**107**	*e*PKPdf		**PKPab**	**10 33 31.6**	**-1.4**
LPAZ	**La Paz**	**149.00**	**102**	PKPbc		**PKiKP**	**10 33 37.2**	**-0.2**
	comp=Z,8.9nm,0.8s,baz=48,slow=1.0,SNR=6.2							
LPAZ	**La Paz**	**149.00**	**102**	*e*PKPdf		**PKPbc**	**10 33 34.6**	**-1.5**

PGC 31 10:14:29.2±0.0, 62.°32N×124.°59W, h1km, ML4.1/4, Mw4.5, 184km west of Fort Simpson, Nt Nw Territories - Nunavut, Canada, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FNBB	**Fort Nelson**	**3.53**	**167**	Pn		Pn	10 15 24.4	-0.7
FNBB				Pg		Pb	10 15 32.4	0.0
FNBB				Sn		Sn	10 16 06.3	-1.1
YKW3	**Yellowknife Ar**	**4.64**	**83**	Pn		Pn	10 15 40.2	-0.2
YKW3				Pg		Pb	10 15 50.6	-0.7
YKW3				Sn		Sn	10 16 31.0	-3.7
YKW1	**Yellowknife Ar**	**4.69**	**83**	Pn		Pn	10 15 41.4	+0.3
YKW1				Sn		Sn	10 16 33.3	-2.8
DLBC	**Dease Lake**	**4.74**	**217**	Sn		Sn	10 16 34.1	-3.2
WHY	**Whitehorse**	**5.21**	**256**	Pn		Pn	10 15 46.5	-1.7
WHY				Sn		Sn	10 16 43.5	-5.4
HILA	**High Level**	**5.32**	**132**	Pn		Pn	10 15 48.9	-0.8
HILA				Sn		Sn	10 16 46.7	-4.8
HYT	**Haines Junctio**	**6.35**	**262**	Pn		Pn	10 16 02.9	-1.1
BMBC	**Bull Mountain**	**6.42**	**168**	Pn		Pn	10 16 03.8	-1.1
BMBC				Sn		Sn	10 17 13.0	-5.8
YUK5	**Granite Creek**	**6.42**	**265**	Pn		Pn	10 16 03.5	-1.4
PLBC	**Pleasant Camp**	**6.42**	**249**	Pn		Pn	10 16 03.4	-1.5
FSMA	**Fort Smith**	**6.61**	**105**	Sn		Sn	10 17 16.3	-6.8
YUK6	**Outpost Mounta**	**6.71**	**264**	Pn		Pn	10 16 07.4	-1.6
YUK6				Sn		Sn	10 17 19.9	-6.1
YUK4	**Talbot Arm**	**6.73**	**268**	Pn		Pn	10 16 07.7	-1.6
YUK7	**Dusty Glacier**	**6.74**	**261**	Pn		Pn	10 16 08.4	-1.1
YUK7				Sn		Sn	10 17 21.4	-5.5
DAWY	**Dawson**	**6.92**	**291**	Pn		Pn	10 16 10.5	-1.2
INK	**Inuvik**	**7.07**	**332**	Pn		Pn	10 16 12.7	-0.9
INK				Sn		Sn	10 17 27.1	-7.4
DIV	**Divide**	**10.11**	**273**	Pn		Pn	10 16 52.7	-2.7
PRDA	**Priddis**	**12.78**	**149**	Pn		Pn	10 17 29.1	-2.9

*NEIC **31** 10:17:34.9±0.0, 55.°43N×134.°95W, h20km, ML3.6(AEIC), After AEIC.*
*PGC **31** 10:17:34.1±1.2, 55.°37N×134.°79W,

mb1 4.4/25,mb1mx4.3/40,mbtmp4.3/25,ML3.6/1,MS4.6/4, Ms1 4.5/4,ms1mx4.1/27,Error ellipse: s-maj=17.2km s-min=12.2km az=142.0

*ISCJB **31** 10:20:03.3±0.2,1°.76S±0°.06×12°.91W±0°.06,h14km, mb4.6/56,Error ellipse: s-maj=10.8km s-min=5.5km az=41.3*

*NEIC **31** 10:20:04.2±0.3,1°.79S×12°.91W,h10km,mb4.8/21,Error ellipse: s-maj=11.3km s-min=6.6km az=131.0*

*GCMT **31** 10:20:07.2±0.3,1°.70S±0°.03×12°.92W±0°.02,h13km±1km, MW5.1/87,Moment Tensor Solution. s27,c32; s87,c113; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr~5.49±.39; Mθθ0.90±.21; Mϕϕ4.59±.26; Mrθ~1.88±.72; Mϕθ~0.60±.15; Mϕr~1.87±.52; Best double couple: Ms5.64900×10¹⁶ NP1:ϕs9.00000°,δ56.00000°,λ-71.00000°. NP2: ϕs158.00000°,δ38.00000°,λ-116.00000°. Principal axes: T 4.9450, Plg9.0000°, Azm86.0000°; N 1.4120, Plg16.0000°, Azm179.0000°; P -6.3540, Plg72.0000°, Azm326.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 10:20:04.8±0.4,1°.78S±0°.07×12°.88W±0°.08,h14km,n141, σ1s67/136,mb4.7/58,1D,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**6.22**	**195**	T	T	10 27 52.0	
	baz=16,slow=74						
H10N1	**ASCENSION HYDR**	**6.23**	**195**	T	T	10 27 55.7	
	baz=16,slow=74						
H10N3	**ASCENSION HYDR**	**6.23**	**195**	T	T	10 27 54.4	
	baz=16,slow=74						
ASCN	**Ascension**	**6.29**	**194**	*e*Pn	**Pn**	**10 21 33.9**	**-3.3**
H10S1	**ASCENSION HYDR**	**7.33**	**194**	T	T	10 29 20.6	
	baz=8.7,slow=76						
H10S3	**ASCENSION HYDR**	**7.34**	**194**	T	T	10 29 19.1	
	baz=8.7,slow=76						
H10S2	**ASCENSION HYDR**	**7.34**	**194**	T	T	10 29 20.0	
	baz=8.7,slow=76						
LIC	**Lamto**	**11.17**	**45**	*e*P	**Pn**	**10 22 44.8**	**+0.6**
	88nm,1.4s						
KIC	**Kosan Boka**	**11.46**	**45**	*e*P	**Pn**	**10 22 46.0**	**-2.3**
	193nm,1.5s						
TIC	**Toumodi**	**11.47**	**43**	*e*P	**Pn**	**10 22 47.6**	**-0.8**
DBIC	**Dimbokro**	**11.60**	**44**	Pn	**Pn**	**10 22 48.3**	**-1.9**
	0.4nm,0.3s,baz=217,slow=16,SNR=12						
DBIC				Sn	**Sn**	**10 24 54.2**	**-5.4**
	1.0nm,0.3s,baz=295,slow=13,SNR=3.9						
DBIC				LR	LR	10 26 34.2	
	comp=Z,2μm,20.3s,baz=206,slow=34						
DBIC	**Dimbokro**	**11.60**	**44**	*e*Pn	**Pn**	**10 22 48.9**	**-1.2**
DBIC				*e*Sn	**Sn**	**10 24 54.2**	**-5.4**
DBIC	**Dimbokro**	**11.60**	**44**	*e*P	**Pn**	**10 22 48.9**	**-1.2**
DBIC				*e*		10 24 54.2	
TOA0	**Torodi Ar. Sit**	**20.72**	**44**	*e*P	**P**	**10 24 42.8**	**-2.2**
TOA0				*e*P	Pn	10 24 44.1	-3.3
TORD	**Torodi Ar. Bea**	**20.72**	**44**	P	**P**	**10 24 43.0**	**-2.0**
	21nm,0.9s,baz=245,slow=10,SNR=47						
TORD				S	S	10 28 22.2	-14
	4.2nm,1.0s,baz=230,slow=22,SNR=4.7						
TORD				LR	LR	10 31 49.4	
	comp=Z,1μm,21.9s,baz=295,slow=34						
TOA1	**Torodi Ar. Sit**	**20.72**	**44**	*e*P	**P**	**10 24 43.0**	**-2.0**
TOA1				*e*S	S	10 28 22.2	-14
MDT	**Midelt**	**35.29**	**12**	P	**P**	**10 26 59.4**	**-0.1**
	4.9nm,0.9s,baz=223,slow=9.6,SNR=9.2						
BDFB	**Brasilia**	**37.27**	**246**	P	**P**	**10 27 15.9**	**-0.8**
	6.5nm,1.0s,baz=61,slow=13,SNR=6.0						
BDFB	**Brasilia**	**37.27**	**246**	*e*P	**P**	**10 27 15.9**	**-0.8**
BDFB				*e*P	**P**	**10 27 16.3**	**-0.5**
BDFB	**Brasilia**	**37.27**	**246**	*e*P	**P**	**10 27 15.9**	**-0.8**
BDFB				*e*		10 27 16.3	
ESDC	**Sonseca Array**	**42.06**	**10**	P	**P**	**10 27 56.4**	**+0.2**
	0.9nm,0.7s,baz=189,slow=8.0,SNR=11						
ES19	**SONSECA Array**	**42.09**	**10**	*e*P	**P**	**10 27 56.7**	**+0.2**
LSZ	**Lusaka**	**42.66**	**111**	P	**P**	**10 28 02.2**	**+0.6**
	13nm,0.8s,baz=279,slow=5.3,SNR=14						
LSZ	**Lusaka**	**42.66**	**111**	*e*P	**P**	**10 28 03.4**	**+1.8**
	21nm,1.0s						
LSZ	**Lusaka**	**42.66**	**111**	*e*P	**P**	**10 28 03.4**	**+1.8**
LSZ				pmax	pmax		
	comp=Z,21nm,1.0s						
KEST	**Kesra**	**42.71**	**27**	P	**P**	**10 28 03.0**	**+1.4**
	comp=Z,6.2nm,0.8s,baz=312,slow=16,SNR=3.4						
KEST	**Kesra**	**42.71**	**27**	*e*P	**P**	**10 28 03.0**	**+1.4**
	comp=Z,21nm,1.1s						
MBAR	**Mbarara**	**43.62**	**89**	*e*P	**P**	**10 28 12.3**	**+2.8**
	comp=Z,20nm,1.1s						
MBAR	**Mbarara**	**43.62**	**89**	*i* P	**P**	**10 28 12.5**	**+3.0**
MBAR				pmax	pmax		
	comp=Z,13nm,0.9s						
LBTB	**Lobatse**	**43.70**	**125**	P	**P**	**10 28 10.3**	**+0.4**
	comp=Z,6.3nm,0.9s,baz=9.3,slow=20,SNR=4.7						
LBTB	**Lobatse**	**43.70**	**125**	*e*P	**P**	**10 28 11.1**	**+1.2**
	comp=Z,9.6nm,1.0s						
LBTB	**Lobatse**	**43.70**	**125**	*e*P	**P**	**10 28 11.1**	**+1.2**
LBTB				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BOSA	**Boshof**	**45.10**	**130**	P	**P**	**10 28 20.7**	**-0.3**
	comp=Z,6.0nm,0.7s,baz=300,slow=9.6,SNR=11						
BOSA				LR	LR	10 44 20.3	
	comp=Z,245nm,21.3s,baz=20,slow=32						
BOSA	**Boshof**	**45.10**	**130**	*e*P	**P**	**10 28 20.7**	**-0.3**
BOSA				*e*P	**P**	**10 28 21.8**	**+0.7**
BOSA	**Boshof**	**45.10**	**130**	*e*P	**P**	**10 28 20.7**	**-0.3**
BOSA				*e*		10 28 21.8	
PTGA	**Pitinga**	**47.08**	**271**	P	**P**	**10 28 36.5**	**-0.2**
	comp=Z,2.8nm,0.9s,baz=90,slow=19,SNR=2.7						
CPUP	**Villa Florida**	**49.16**	**236**	P	**P**	**10 28 52.1**	**-0.5**
	comp=Z,2.2nm,0.4s,baz=92,slow=7.4,SNR=6.3						
CPUP	**Villa Florida**	**49.16**	**236**	*e*P	**P**	**10 28 53.0**	**+0.4**
	comp=Z,13nm,1.0s						
CPUP	**Villa Florida**	**49.16**	**236**	*e*P	**P**	**10 28 53.0**	**+0.4**
CPUP				pmax	pmax		
	comp=Z,13nm,1.0s						
SIV	**San Ignacio**	**49.51**	**250**	P	**P**	**10 28 55.0**	**-0.5**
	comp=Z,2.4nm,1.0s,baz=72,slow=6.6,SNR=7.2						
KMBO	**Kilima Mbogo**	**50.12**	**90**	P	**P**	**10 28 59.9**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=319,slow=19,SNR=1.9						
DAVA	**Damuels**	**52.78**	**19**	*i* P	**P**	**10 29 20.4**	**+0.7**
	comp=Z,20nm,1.2s						
FETA	**Feichten**	**52.84**	**20**	*i* P	**P**	**10 29 20.7**	**+0.6**
	comp=Z,8.1nm,1.3s						
SQTA	**Sankt Quirin**	**53.17**	**20**	*i* P	**P**	**10 29 22.6**	**0.0**
	comp=Z,17nm,1.3s						
ABTA	**Abfaltersbach**	**53.24**	**22**	*i* P	**P**	**10 29 24.6**	**+1.7**
	comp=Z,6.6nm,0.7s						
MYKA	**Terra Mystica**	**53.56**	**22**	*i* P	**P**	**10 29 27.7**	**+2.4**
	comp=Z,7.3nm,1.0s						
OBKA	**Obir**	**53.81**	**23**	*i* pP	**P**	**10 29 30.6**	**+3.4**
	comp=Z,8.5nm,1.1s						
KBA	**Koelnbreinsper**	**53.82**	**22**	*i* pP	**P**	**10 29 31.7**	**+4.3**
	comp=Z,4.8nm,1.1s						
SOKA	**Soboth**	**54.14**	**23**	*i* P	**P**	**10 29 31.5**	**+1.8**
	comp=Z,7.3nm,1.3s						
DIVS	**Divibare**	**54.31**	**29**	*e*P	**P**	**10 29 32.6**	**+1.8**
	comp=Z,4.1nm,1.0s						
MOA	**Molln**	**54.81**	**22**	*i* P	**P**	**10 29 34.8**	**+0.4**
	comp=Z,10nm,1.3s						
GEA0	**GERESS Array S**	**55.43**	**21**	*e*P	**P**	**10 29 39.5**	**+0.5**
GEC2	**GERESS Array S**	**55.44**	**21**	*e*P	**P**	**10 29 40.2**	**+1.2**
	comp=Z,13nm,1.1s						
GEC2	**GERESS Array S**	**55.44**	**21**	*e*P	**P**	**10 29 40.2**	**+1.2**
GEC2				pmax	pmax		
	comp=Z,13nm,1.1s						
GERES	**GERESS Array B**	**55.44**	**21**	P	**P**	**10 29 39.0**	**0.0**
	comp=Z,5.6nm,1.0s,baz=186,slow=7.9,SNR=7.3						
CONA	**Conrad Observa**	**55.49**	**23**	*i* P	**P**	**10 29 39.7**	**+0.3**
	comp=Z,8.5nm,1.9s						
KHC	**Kasperske Hory**	**55.63**	**21**	*e*P	**P**	**10 29 41.5**	**+1.2**
KHC	**Kasperske Hory**	**55.63**	**21**	*e*P	**P**	**10 29 41.5**	**+1.2**
LPAZ	**La Paz**	**56.24**	**252**	P	**P**	**10 29 44.2**	**-1.7**
	comp=Z,1.6nm,0.9s,baz=54,slow=5.8,SNR=5.3						
LPAZ	**La Paz**	**56.24**	**252**	*e*P	**P**	**10 29 45.9**	**-0.1**
	comp=Z,5.8nm,1.0s						
LPAZ	**La Paz**	**56.24**	**252**	*e*P	**P**	**10 29 45.8**	**-0.1**
VYHS	**Vyhne**	**57.14**	**25**	*e*P	**P**	**10 29 52.0**	**+0.9**
VYHS				pmax	pmax		
	comp=Z,23nm,2.0s						
VYHS	**Vyhne**	**57.14**	**25**	*e*P	**P**	**10 29 52.0**	**+0.9**
BR101	**Keskin Array S**	**59.28**	**41**	*e*P	**P**	**10 30 08.0**	**+1.6**
BR131	**Keskin Array S**	**59.28**	**41**	*e*P	**P**	**10 30 07.8**	**+1.4**
BRTR	**Keskin Array B**	**59.28**	**41**	P	**P**	**10 30 08.0**	**+1.6**
	comp=Z,3.9nm,0.8s,baz=220,slow=7.5,SNR=23						
GO02	**Mina Guanaco**	**59.32**	**242**	*e*P	**P**	**10 30 08.0**	**+0.9**
	comp=Z,23nm,1.1s						
ASAL	**Salagasta**	**60.73**	**233**	*i* P	**P**	**10 30 16.5**	**+0.1**
RTLS	**Leoncito**	**60.86**	**234**	*i* P	**P**	**10 30 18.1**	**+0.5**
AAGR	**Agrelo**	**60.88**	**233**	*i* P	**P**	**10 30 17.8**	**+0.4**
AUSP	**Uspallata**	**61.06**	**234**	*i* P	**P**	**10 30 19.4**	**+0.4**
GO04	**Tololo Observa**	**61.63**	**236**	*e*P	**P**	**10 30 22.7**	**-0.1**
	comp=Z,24nm,1.0s						
RAYN	**Ar Rayn**	**62.05**	**62**	*e*P	**P**	**10 30 27.1**	**+1.6**
	comp=Z,6.8nm,1.1s						
RAYN	**Ar Rayn**	**62.05**	**62**	*e*P	**P**	**10 30 27.1**	**+1.6**
RAYN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
EFI	**East Falkland**	**62.43**	**210**	*i* P	**P**	**10 30 27.0**	**-0.4**
KIEV	**Kiev**	**63.39**	**28**	*i* P	**P**	**10 30 32.6**	**-1.2**
KIEV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AKASG	**Malin Array Be**	**63.40**	**28**	P	**P**	**10 30 32.9**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=232,slow=9.4,SNR=7.5						
PLCA	**Paso Flores**	**64.77**	**225**	P	**P**	**10 30 41.9**	**-1.3**
	comp=Z,2.0nm,1.0s,baz=351,slow=6.6,SNR=3.4						
PLCA				LR	LR	10 54 54.5	
	comp=Z,1μm,20.8s,baz=28,slow=32						
PLCA	**Paso Flores**	**64.77**	**225**	*e*P	**P**	**10 30 41.9**	**-1.3**
	comp=Z,5.3nm,1.0s						
PLCA	**Paso Flores**	**64.77**	**225**	*e*P	**P**	**10 30 41.9**	**-1.3**
PLCA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GO06	**Curarrehue**	**65.03**	**227**	*e*P	**P**	**10 30 44.4**	**-0.6**
	comp=Z,8.6nm,1.0s						
NB200	**NORSAR Array S**	**65.35**	**13**	*e*P	**P**	**10 30 46.6**	**+0.1**
NOA	**NORSAR Array B**	**65.35**	**13**	P	**P**	**10 30 46.6**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=216,slow=9.9,SNR=3.1						
GNI	**Garni**	**67.02**	**45**	*i* P	**P**	**10 30 57.0**	**-0.8**
GNI				pmax	pmax		
	comp=Z,13nm,0.9s						
KIV	**Kislovodsk**	**67.24**	**40**	*e*P	**P**	**10 31 01.2**	**+2.1**
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
KBZ	**Khabaz**	**67.28**	**41**	P	**P**	**10 30 58.0**	**-1.1**
	comp=Z,3.3nm,0.9s,baz=271,slow=4.6,SNR=6.3						
KBZ	**Khabaz**	**67.28**	**41**	*e*P	**P**	**10 30 58.0**	**-1.1**
VSU	**Vasula**	**67.76**	**21**	*i* P	**P**	**10 31 01.8**	**-0.1**
GOF	**Gofitskoye**	**67.97**	**39**	*e*P	**P**	**10 31 05.8**	**+2.3**
VSR	**Storozhevoye**	**68.74**	**32**	*i* P	**P**	**10 31 08.1**	**-0.1**
VSR				pmax	pmax		
	comp=Z,15nm,1.0s						
VNA2	**Neumayer--Watz**	**69.13**	**178**	P	**P**	**10 31 10.7**	**+0.4**
	baz=351,slow=7.6						
LPSR	**Galich'ya Gora**	**69.36**	**31**	*e*P	**P**	**10 31 12.6**	**+0.6**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VNA3	**Neumayer Olymp**	**69.39**	**179**	P	**P**	**10 31 11.9**	**0.0**
OBN	**Obninsk**	**69.63**	**28**	*i* P	**P**	**10 31 14.0**	**+0.4**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
FIA0	**FINESS Array S**	**69.73**	**19**	*e*P	**P**	**10 31 13.9**	**-0.1**
FIA0	**FINESS Array S**	**69.73**	**19**	*e*P	**P**	**10 31 14.0**	**-0.1**
FINES	**FINESS Array B**	**69.73**	**19**	P	**P**	**10 31 13.9**	**-0.1**
	comp=Z,5.3nm,0.9s,baz=260,slow=5.8,SNR=5.4						
FINES	**FINESS Array B**	**69.73**	**19**	P	**P**	**10 31 14.0**	**-0.1**
SNAA	**Sanae**	**70.08**	**177**	P	**P**	**10 31 16.6**	**+0.4**
SNAA	**Sanae**	**70.08**	**177**	*e*P	**P**	**10 31 16.5**	**+0.2**
	comp=Z,6.6nm,1.0s						
SNAA	**Sanae**	**70.08**	**177**	*i* P	**P**	**10 31 16.4**	**+0.2**
VRH	**Novokhopyorsk**	**70.11**	**33**	*e*P	**P**	**10 31 12.0**	**-4.6**
VRH				pmax	pmax		
	comp=Z,9.0nm,0.4s						
KLMR	**Klimovskoe**	**74.24**	**24**	*e*P	**P**	**10 31 38.1**	**-3.0**
KLMR				pmax	pmax		
	comp=Z,19nm,1.4s						
KLMR	**Klimovskoe**	**74.24**	**24**	*e*P	**P**	**10 31 38.1**	**-3.0**
KLMR				AMP		10 31 44.6	
	comp=Z,19nm,1.4s						
GEYT	**Alibeck**	**76.20**	**50**	P	**P**	**10 31 54.2**	**+1.2**
	comp=Z,1.4nm,0.5s,baz=282,slow=8.7,SNR=3.9						
AKTO	**Akkubinsk**	**79.31**	**38**	P	**P**	**10 32 09.7**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=219,slow=3.5,SNR=6.8						
ABKAR	**Akbulak array**	**80.21**	**39**	*e*P	**P**	**10 32 15.1**	**+0.2**
ARU	**Arti**	**81.31**	**32**	P	**P**	**10 32 20.9**	**+0.2**
ARU						10 35 27.9	
ARU				S	**S**	**10 42 33.8**	**+2.9**
ARU				SS	**SS**	**10 47 52.9**	**+6.1**
GAR	**Garm**	**85.82**	**51**	*e*P	**P**	**10 32 42.8**	**-1.6**
	comp=Z,14nm,1.2s						
GAR	**Garm**	**85.82**	**51**	*e*P	**P**	**10 32 42.8**	**-1.6**
GAR				pmax	pmax		
	comp=Z,14nm,1.2s						
BRVK	**Borovoye**	**87.30**	**37**	*e*P	**P**	**10 32 52.3**	**+1.2**
	comp=Z,4.8nm,1.0s						
BRVK	**Borovoye**	**87.30**	**37**	*i*P	**P**	**10 32 51.1**	**0.0**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BRVK				pmax	pmax		
	comp=Z,18nm,0.8s						
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARSB	**Arslanbob**	**88.05**	**49**	*e*P	**P**	**10 32 57.0**	**+1.8**
	comp=Z,15nm,1.1s						
QSPA	**South Pole Qui**	**88.30**	**180**	*e*P	**P**	**10 32 56.8**	**+1.0**
	comp=Z,41nm,1.0s						
AAK	**Ala-Archa**	**89.26**	**47**	*e*P	**P**	**10 33 01.7**	**+0.8**
	comp=Z,7.7nm,1.1s						
AAK	**Ala-Archa**	**89.26**	**47**	*i* P	**P**	**10 33 02.4**	**+1.5**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KSH	**Kashi**	**90.23**	**51**	P	**P**	**10 33 05.8**	**+0.3**
KSH				sP	pwP	10 33 14.0	+0.3
KSH				PP	**PP**	**10 36 41.5**	**+2.1**
KSH	**Kashi**	**90.23**	**51**	S	**S**	**10 43 53.5**	**-6.1**
KSH	**Kashi**	**90.23**	**51**	sS	S	10 44 01.3	+1.7
KSH	**Kashi**	**90.23**	**51**	SS	SS	10 49 52.5	-6.5
KSH				pmax	pmax		
	comp=Z,14nm,0.7s						
KSH				pmax	pmax		
	comp=Z,230nm,3.8s						
LTX	**Lajitas**	**91.55**	**299**	*e*P	**P**	**10 33 11.1**	**-0.7**
LTX	**Lajitas**	**91.55**	**299**	*e*P	**P**	**10 33 11.1**	**-0.7**
TXAR	**Lajitas Array**	**91.55**	**299**	P	**P**	**10 33 11.1**	**-0.7**
	comp=Z,1.0nm,1.0s,baz=108,slow=8.9,SNR=5.4						
TARG	**Taragay, Kyrgy**	**91.69**	**48**	*e*P	**P**	**10 33 12.4**	**-0.2**
	comp=Z,6.3nm,0.9s						
KURK	**Kurchatov**	**92.32**	**39**	*i* P	**P**	**10 33 14.6**	**-0.1**
KURK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ANMO	**Albuquerque**	**93.95**	**305**	*i* P	**P**	**10 33 24.0**	**+1.1**
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.4s						
SMCO	**Snowmass**	**94.29**	**309**	*e*P	**P**	**10 33 26.8**	**+2.1**
	comp=Z,29nm,1.1s						
MK32	**Makanchi Array**	**94.84**	**43**	*e*P	**P**	**10 33 26.2**	**-0.3**
MKAR	**Makanchi Array**	**94.84**	**43**	P	**P**	**10 33 26.2**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=255,slow=4.3,SNR=5.0						
YKA	**Yellowknife Ar**	**96.99**	**333**	P	**P**	**10 33 35.7**	**-0.1**
	comp=Z,1.2nm,1.1s,baz=77,slow=5.0,SNR=7.0						
WMQ	**Urumqi**	**98.86**	**46**	*e*P	Pdif	10 33 46.8	+1.9
WMQ				sP	pwP	10 33 54.0	+1.0
WMQ				LR	LR		
	comp=N,900nm,19.5s						
WMQ				LR	LR		
	comp=E,800nm,19.5s						
WMQ				LR	LR		
	comp=Z,700nm,16.9s						
ASAR	**Alice Springs**	**138.97**	**130**	PKhKP	PKPpre	10 39 22.6	
	comp=Z,0.9nm,0.7s,baz=226,slow=2.7,SNR=12						
AS01	**Alice Springs**	**139.01**	**130**	*e*PKPpre	PKPpre	10 39 23.1	
WR1	**Warramunga Arr**	**141.27**	**126**	*e*PKPpre	PKPpre	10 39 29.8	
WR1				*e*PKPdf	**PKPdf**	**10 39 36.3**	**+0.1**
WRA	**Warramunga Arr**	**141.27**	**126**	PKhKP	PKPpre	10 39 29.8	
	comp=Z,1.0nm,0.6s,baz=234,slow=2.8,SNR=18						
WRA				PKP	**PKPdf**	**10 39 36.3**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=236,slow=2.6,SNR=12						
WB2	**Warramunga Arr**	**141.28**	**126**	*e*PKPpre	PKPpre	10 39 31.1	
CTA	**Charters Tower**	**150.15**	**138**	PKPbc	**PKPbc**	**10 39 56.1**	**-0.2**
	comp=Z,5.5nm,0.9s,baz=236,slow=7.9,SNR=4.1						
CTAO	**Charters Tower**	**150.15**	**138**	*e*PKPbc	**PKiKP**	**10 39 57.6**	**+0.4**
COEN	**Coen**	**151.58**	**124**	*e*PKPbc	**PKPbc**	**10 39 58.4**	**-1.4**
JAY	**Jayapura**	**153.25**	**99**	*e*PKPdf	**PKPdf**	**10 39 56.0**	**-0.2**
JAY	**Jayapura**	**153.25**	**99**	*e*PKIKP	**PKPdf**	**10 39 56.0**	**-0.2**

AUST 31 10:22:32.7±0.1,32°.20S×119°.07E,h21km,Error ellipse: s-maj=1.1km s-min=0.2km az=264.0,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLBR	**Kellerberrin**	**1.27**	**298**	P	Pb	10 22 56.5	+0.5
	baz=1.3,SNR=38						
KLBR				S	Sb	10 23 12.6	+0.7
	baz=1.3,SNR=14						
KLBR	**Kellerberrin**	**1.27**	**298**	P	Pb	10 22 56.5	+0.5
	baz=1.1						
KLBR				S	Sb	10 23 12.4	+0.5
	baz=1.1						
NWAO	**Narrogin (SRO)**	**1.71**	**244**	P	Pn	10 23 02.0	+0.7
	baz=1.7,SNR=17						
NWAO				S	Sn	10 23 22.2	-0.4
	baz=1.7,SNR=6.5						
NWAO	**Narrogin (SRO)**	**1.71**	**244**	P	Pn	10 23 01.4	+0.1
	baz=1.5						
NWAO				P	Pn	10 23 01.4	+0.1
	baz=1.5						
NWAO				S	Sn	10 23 21.8	-0.8
	baz=1.5						
MUN	**Mundaring**	**2.44**	**274**	P	Pb	10 23 14.1	-1.8
	baz=2.4,SNR=4.7						
MUN				S	Sb	10 23 44.8	-0.8
	baz=2.4,SNR=7.9						
MUN	**Mundaring**	**2.44**	**274**	P	Pn	10 23 11.6	+0.3
	baz=2.2,SNR=4.7						
MUN				S	Sn	10 23 40.1	-0.4
	baz=2.2,SNR=7.9						
BLDU	**Ballidu**	**2.56**	**307**	P	Pn	10 23 14.1	+1.1
	baz=2.6						
BLDU				S	Sn	10 23 44.7	+1.1
	baz=2.6						
BLDU	**Ballidu**	**2.56**	**307**	P	Pn	10 23 14.1	+1.0
	baz=2.4						
BLDU				S	Sn	10 23 44.8	+1.2
	baz=2.4						
RKGY	**Rocky Gully**	**2.97**	**216**	P	Pn	10 23 20.0	+1.3
	baz=3.0						
RKGY				S	Sn	10 23 55.1	+1.4
	baz=3.0						
RKGY	**Rocky Gully**	**2.97**	**216**	P	Pn	10 23 20.7	+2.0
	baz=2.8						
RKGY				S	Sn	10 23 54.3	+0.6
	baz=2.8						
MORW	**Morawa**	**4.07**	**319**	P	Pn	10 23 35.5	+1.7
	baz=4.1						
MORW				S	Sn	10 24 21.9	+1.1
	baz=4.1						
MORW	**Morawa**	**4.07**	**319**	P	Pn	10 23 35.6	+1.8
	baz=4.0						
MORW				S	Sn	10 24 21.7	+0.9
	baz=4.0						
MEEK	**Meekatharra**	**5.56**	**356**	P	Pn	10 23 57.9	+3.6
	baz=5.6,SNR=4.4						
MEEK				S	Sn	10 25 00.4	+2.9
	baz=5.6						
MEEK	**Meekatharra**	**5.56**	**356**	P	Pn	10 23 57.8	+3.6
	baz=5.6						
MEEK				S	Sn	10 24 57.5	-0.1
	baz=5.6						

IDC 31 10:23:31.2±2.4,6°.65S×129°.97E,h146km±31km,mb3.3/1, mb1 2.9/5,mb1mx2.8/38,mbtmp3.4/5,Error ellipse: s-maj=53.0km s-min=14.9km az=87.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.89**	**13**	P	Pn	10 24 57.7	+1.3
	0.6nm,0.3s,baz=206,slow=22,SNR=9.3						
SIJI				S	Sn	10 26 02.0	-1.0
	0.9nm,0.3s,baz=90,slow=20,SNR=3.9						
FITZ	**Fitzroy Crossi**	**12.14**	**200**	P	Pn	10 26 19.4	-0.1
	0.1nm,0.3s,baz=15,slow=16,SNR=3.5						
FITZ				S	Sn	10 28 26.2	-7.4
	0.1nm,0.3s,baz=180,slow=20,SNR=3.7						
WRA	**Warramunga Arr**	**13.88**	**163**	P	Pn	10 26 42.6	+0.7
	0.1nm,0.3s,baz=349,slow=13,SNR=9.1						
WRA				S	Sn	10 29 08.0	-7.6
	0.1nm,0.3s,baz=207,slow=10,SNR=5.9						
ASAR	**Alice Springs**	**17.34**	**168**	P	Pn	10 27 24.9	+0.4
	0.1nm,0.3s,baz=348,slow=13,SNR=4.0						
ASAR				S	S	10 30 34.7	-2.1
	0.0nm,0.3s,baz=338,slow=38,SNR=2.8						
MKAR	**Makanchi Array**	**67.92**	**327**	P	P	10 34 14.2	+0.1
	0.3nm,0.4s,baz=127,slow=7.2,SNR=5.5						

*ISCJB **31** 10:37:52.8±0.7,27°.62N±0°.05×141°.81E±0°.08,h41km±7km, mb4.3/31,Error ellipse: s-maj=12.3km s-min=6.5km az=156.5*

*IDC **31** 10:37:53.7±3.0,27°.63N×141°.84E,h32km±23km,mb3.9/24, mb1 4.0/27,mb1mx4.0/44,mbtmp4.0/27,ML3.4/3,Error ellipse: s-maj=16.4km s-min=9.4km az=72.0*

*NEIC **31** 10:37:54

NRIK	**Noril'sk**	**52.07**	**339**	P	**P**	**10 46 59.6**	**-0.1**
	3.9nm,0.7s,baz=323,slow=20,SNR=3.4							
KDAK	**Kodiak Island**	**54.12**	**37**	P	**P**	**10 47 15.4**	**+0.6**
	5.3nm,0.8s,baz=280,slow=11,SNR=5.5							
ILAR	**Eielson Array**	**57.39**	**29**	P	**P**	**10 47 38.1**	**-0.2**
	0.7nm,0.7s,baz=265,slow=5.6,SNR=8.0							
ILB	**Eielson Array**	**57.39**	**29**	*eP*	**P**	**10 47 38.1**	**-0.2**
	0.8nm,0.8s							
STKA	**Stephens Creek**	**59.16**	**180**	P	**P**	**10 47 51.0**	**+0.1**
	3.0nm,0.8s,baz=2.1,slow=10,SNR=3.4							
STKA	**Stephens Creek**	**59.16**	**180**	*eP*	**P**	**10 47 51.0**	**+0.1**
	0.7nm,1.1s							
INK	**Inuvik**	**62.68**	**25**	P	**P**	**10 48 15.1**	**+0.6**
	0.6nm,0.5s,baz=289,slow=6.0,SNR=5.5							
INK	**Inuvik**	**62.68**	**25**	*eP*	**P**	**10 48 15.1**	**+0.6**
	0.2nm,0.4s							
ABKAR	**Akbulak array**	**64.54**	**314**	*eP*	**P**	**10 48 26.4**	**-0.7**
	1.4nm,0.7s							
RAO	**Raoul Island**	**68.40**	**143**	P	**P**	**10 48 53.0**	**+1.1**
	416nm,0.3s,baz=319,slow=20,SNR=2.6							
YKA	**Yellowknife Ar**	**71.82**	**28**	P	**P**	**10 49 12.8**	**+0.4**
	0.5nm,0.4s,baz=295,slow=5.9,SNR=11							
YKB5	**Yellowknife Ar**	**71.82**	**28**	*eP*	**P**	**10 49 12.8**	**+0.4**
ARA0	**ARCESS Array S**	**72.97**	**341**	*eP*	**P**	**10 49 19.8**	**+0.6**
ARCES	**ARCESS Array B**	**72.97**	**341**	P	**P**	**10 49 19.8**	**+0.6**
	2.9nm,0.6s,baz=69,slow=7.9,SNR=13							
FIA1	**FINESS Array S**	**77.36**	**334**	*eP*	**P**	**10 49 45.2**	**+0.6**
FIA1				*eP*	**P**	**10 49 45.5**	**+0.9**
FIA0	**FINESS Array S**	**77.37**	**334**	*eP*	**P**	**10 49 45.2**	**+0.6**
FINES	**FINESS Array B**	**77.37**	**334**	P	**P**	**10 49 45.2**	**+0.6**
	8.5nm,0.5s,baz=69,slow=5.3,SNR=53							
KBZ	**Khabaz**	**77.46**	**313**	P	**P**	**10 49 45.9**	**+0.5**
	1.1nm,0.6s,baz=135,slow=4.3,SNR=3.6							
NVAR	**Mina Array Bea**	**80.42**	**52**	P	**P**	**10 50 01.5**	**-0.6**
	0.3nm,0.5s,baz=283,slow=4.5,SNR=3.8							
AKASG	**Malin Array Be**	**82.04**	**324**	P	**P**	**10 50 09.8**	**-0.4**
	0.5nm,0.3s,baz=52,slow=5.6,SNR=7.9							
NB2	**NORSAR Subarra**	**83.03**	**338**	P	**P**	**10 50 15.2**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=43,slow=4.8							
NB200	**NORSAR Array S**	**83.03**	**338**	*eP*	**P**	**10 50 15.2**	**-0.1**
NOA	**NORSAR Array B**	**83.03**	**338**	P	**P**	**10 50 15.2**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=43,slow=5.4,SNR=7.1							
PDAR	**Pinedale Array**	**84.04**	**45**	P	**P**	**10 50 22.1**	**+1.0**
	comp=Z,0.7nm,0.9s,baz=249,slow=3.8,SNR=3.7							
BR101	**Keskin Array S**	**85.45**	**313**	*eP*	**P**	**10 50 27.8**	**-0.3**
BRTR	**Keskin Array B**	**85.45**	**313**	P	**P**	**10 50 27.8**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=76,slow=4.1,SNR=3.4							
GEC2	**GERESS Array S**	**90.93**	**329**	*eP*	**P**	**10 50 53.2**	**-0.8**
	comp=Z,1.6nm,0.8s							
GERES	**GERESS Array B**	**90.93**	**329**	P	**P**	**10 50 53.2**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=358,slow=9.3,SNR=4.0							
TOA1	**Torodi Ar. Sit**	**124.04**	**311**	*e*PKPdf	**PKPdf**	**10 56 48.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**124.04**	**311**	PKP	**PKPdf**	**10 56 48.9**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=31,slow=3.7,SNR=2.7							
LPAZ	**La Paz**	**150.05**	**74**	PKPbc	**PKiKP**	**10 57 42.8**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=260,slow=2.4,SNR=5.8							
PLCA	**Paso Flores**	**150.33**	**125**	PKPbc	**PKiKP**	**10 57 42.4**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=215,slow=4.2,SNR=4.4							

DJA 31 10:46:29.6±0.4, 4°S±3°×12°1E±°, *h*10km, M3.6/5, MLv3.6/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNSI	**Bone**	**0.96**	**219**	P	Pg	10 46 46.3	-1.8
BNSI				S	Sg	10 47 00.5	-0.1
SPSI	**Sidrap Palu**	**0.99**	**252**	P	Pg	10 46 46.7	-2.0
SPSI				S	Sg	10 47 00.3	-1.3
BKSI	**Bulukumba**	**1.76**	**199**	P	Pn	10 47 00.1	-0.1
BKSI				S	Sb	10 47 24.1	-0.1
KDI	**Kendari**	**1.93**	**99**	P	Pn	10 47 02.1	-0.4
KDI				S	Sn	10 47 26.9	+0.1
PCI	**Palu**	**2.86**	**342**	P	Pn	10 47 13.2	-2.2

JMA 31 10:47:57.4±0.1, 30°20N×141°82E, *h*98km, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.11**	**174**	P	Pn	10 48 45.4	+0.8
CBIJ				*e*S	Sn	10 49 21.9	+0.9
JHCJ	**Hachijojimakas**	**3.34**	**329**	P	Pn	10 48 48.3	+0.6
JHJ2	**Mitsune**	**3.37**	**330**	P	Pn	10 48 49.6	+1.6
JMKN	**Mikurajimanish**	**4.14**	**333**	P	Pn	10 48 59.5	+1.1
JMKN				S	Sn	10 49 46.3	+0.6
BSO1	**Boso 1**	**4.50**	**351**	P	Pn	10 49 05.0	+2.3
BSO1				S	Sn	10 49 56.3	+2.7
BSO3	**Boso 3**	**4.72**	**347**	S	Sn	10 50 01.4	+2.0
JOD2	**Odawara 2**	**5.55**	**336**	P	Pn	10 49 11.9	+1.4
JOD2				*e*S	Sn	10 50 21.2	+1.2
JHU	**Hanno**	**6.03**	**340**	P	Pn	10 49 25.5	+1.5
JHU				S	Sn	10 50 33.8	+2.3
JRY	**Ryogami san**	**6.30**	**338**	P	Pn	10 49 29.4	+1.7
JAG	**Ashikaga**	**6.52**	**343**	P	Pn	10 49 31.7	+1.0

KRSC 31 10:55:24.6±1.7, 49°13N×156°97E, *h*15km±27km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.65**	**341**	*e*P	Pn	10 55 52.1	-0.8
SKR				*e*S	Sn	10 56 12.8	-1.0
PAU	**Pauzhetka**	**2.34**	**358**	*e*P	Pn	10 56 03.6	+1.2
PAU				*e*S	Sn	10 56 32.6	+1.7
KDTR	**Khodutka, Kamc**	**2.77**	**14**	*e*P	Pb	10 56 11.2	-2.5
KDTR				*e*S	Sb	10 56 45.9	-1.6
MTVR	**Mutnovka**	**3.44**	**12**	*e*P	Pn	10 56 20.9	+3.2
MTVR				*e*S	Sn	10 57 02.6	+4.3
RUS	**Russkaya**	**3.45**	**16**	*e*P	Pn	10 56 20.4	+2.8
RUS				*e*S	Sn	10 57 01.7	+3.5
KRMR	**Karymshinskiy**	**3.77**	**11**	*e*P	Pn	10 56 26.0	+3.9
KRMR				*e*S	Sn	10 57 10.7	+4.5
PET	**Petropavlovsk**	**4.04**	**15**	*e*P	Pn	10 56 30.4	+4.6
PET				*e*S	Sb	10 57 18.4	-5.5
DALK	**Dalny**	**4.06**	**15**	*e*P	Pn	10 56 29.6	+3.5
DALK				*e*S	Sn	10 57 17.3	+4.0
UGLR	**Uglovaya**	**4.25**	**15**	*e*P	Pn	10 56 32.9	+4.2
AVH	**Avacha**	**4.29**	**14**	*e*P	Pn	10 56 34.3	+5.0
AVH				*e*S	Sn	10 57 25.0	+6.0
SMAR	**Somma**	**4.29**	**15**	*e*P	Pb	10 56 34.8	-5.0
KOK	**Koryaka**	**4.29**	**13**	*e*P	Pn	10 56 34.1	+4.7
KRX	**Arik**	**4.36**	**13**	*e*P	Pn	10 56 35.1	+4.7
SPN	**Mys Shipunski**	**4.41**	**25**	*e*P	Pn	10 56 34.9	+4.0
SPN				*e*S	Sn	10 57 26.8	+4.8
GNL	**Ganaly**	**4.61**	**7**	*e*P	Pn	10 56 37.7	+4.0
KBTR	**Krutoberegovo**	**7.93**	**24**	*e*P	Pn	10 57 23.2	+4.1

IDC 31 10:57:07.8±2.1, 4°89S×126°19E, *h*0km, mb3.1/2, mb1 3.3/3, mb1mx3.2/36, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=331.4km s-min=27.9km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.94**	**153**	Pn	Pn	11 01 07.3	+0.9
	0.1nm,0.3s,baz=329,slow=12,SNR=5.4						
ASAR	**Alice Springs**	**20.10**	**159**	P	P	11 01 42.9	-0.4
	0.3nm,0.6s,baz=345,slow=12,SNR=7.7						
SONM	**Songino Array**	**55.31**	**344**	P	P	11 06 43.3	-0.1
	0.4nm,0.6s,baz=141,slow=7.1,SNR=2.6						

*ISCJB **31** 10:57:29.3±0.7, 36°55N±0.03°×141°18E±0.06, h46km±6km, mb3.8/17, Error ellipse: s-maj=8.8km s-min=5.0km az=19.9*
*JMA **31** 10:57:30.4±0.1, 36°55N×141°11E, h46km±1km, M4.0*
JMA Felt II J1.
*IDC **31** 10:57:30.7±1.7, 36°55N×141°21E, h41km±16km, mb3.6/17, mb1 3.8/23, mb1mx3.7/48, mbtmp3.9/23, ML3.7/5, Error ellipse: s-maj=13.0km s-min=9.3km az=94.0*
ISC 31 10:57:29.3±1.6, 36°56N±0.04°×141°19E±0.06, h29km±11km, n41, σ0°78/48, mb3.8/17, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.50**	**277**	P	**Pn**	**10 57 40.6**	**0.0**
JHO				S	**Sn**	**10 57 47.6**	**-0.7**
JHYU	**Hitachinakayam**	**0.53**	**246**	P	**Pn**	**10 57 41.1**	**+0.2**
JHYU				S	**Sn**	**10 57 48.5**	**-0.4**
ONAJ	**Iwakimizuishiy**	**0.63**	**330**	P	**Pn**	**10 57 42.4**	**0.0**
ONAJ				S	**Sn**	**10 57 50.8**	**-0.7**
JFFD	**Fukushimafurud**	**0.73**	**317**	P	**Pn**	**10 57 43.9**	**+0.1**
JFFD				S	**Sb**	**10 57 53.0**	**-0.3**
JFK	**Kawauchi**	**0.85**	**343**	P	**Pb**	**10 57 45.4**	**-0.1**
JYT	**Yasato**	**0.87**	**248**	P	**Pn**	**10 57 45.4**	**-0.2**
JYT				S	**Sb**	**10 57 55.7**	**-1.3**
JFT	**Otama**	**1.18**	**325**	P	**Pb**	**10 57 51.1**	**0.0**
JFT				S	**Sb**	**10 58 05.5**	**-0.5**
JMM	**Marumori**	**1.35**	**347**	P	**Pn**	**10 57 52.6**	**+0.4**
JMM				*e*S	**Sn**	**10 58 09.3**	**+0.2**
JAG	**Ashikaga**	**1.40**	**265**	P	**Pn**	**10 57 53.1**	**+0.1**
JAG				S	**Sn**	**10 58 09.4**	**-1.1**
JFY	**Yanaizu**	**1.46**	**306**	P	**Pn**	**10 57 54.5**	**+0.7**
JKT	**Katashina**	**1.57**	**278**	P	**Pn**	**10 57 56.1**	**+0.7**
JKT				S	**Sn**	**10 58 14.5**	**-0.4**
MJAR	**Matsushiro Arr**	**2.40**	**271**	P	**Pn**	**10 58 07.6**	**+0.9**
	12nm,0.3s,baz=83,slow=9.7,SNR=624						
MJAR				S	**Sn**	**10 58 36.5**	**+1.4**
	9.5nm,0.3s,baz=72,slow=8.7,SNR=8.3						
MAT	**Matsushiro**	**2.40**	**271**	P	**Pn**	**10 58 08.1**	**+1.4**
MAT				S	**Sn**	**10 58 35.9**	**+0.7**
JHJ	**Hachijo jima 2**	**3.62**	**199**	P	**Pn**	**10 58 24.1**	**+0.6**
	46nm,0.3s,baz=322,slow=22,SNR=11						
JHJ				S	**Sn**	**10 59 05.1**	**-0.1**
	30nm,0.3s,baz=74,slow=20,SNR=4.6						
ASAJ	**Asahikawa**	**7.63**	**8**	P	**Pn**	**10 59 18.1**	**-0.4**
	3.2nm,0.3s,baz=250,slow=8.0,SNR=16						
ASAJ				S	**Sn**	**11 00 43.8**	**-0.1**
	0.9nm,0.3s,baz=273,slow=18,SNR=2.8						
USRK	**Ussuriysk Ar.**	**10.36**	**320**	P	**Pn**	**10 59 58.0**	**+2.1**
	0.1nm,0.3s,baz=134,slow=10,SNR=4.5						
KSRS	**Korea Array**	**10.65**	**279**	P	**Pn**	**11 00 01.4**	**+1.5**
	0.1nm,0.3s,baz=89,slow=14,SNR=2.8						
KLR	**Kul'dur**	**14.42**	**334**	P	**Pn**	**11 00 52.4**	**+1.1**
	0.1nm,0.3s,baz=141,slow=13,SNR=3.1						
MA2	**Magadan**	**23.86**	**12**	P	**P**	**11 02 39.4**	**-0.5**
	1.0nm,0.3s,baz=186,slow=11,SNR=3.5						
SEY	**Seymchan**	**27.29**	**11**	P	**P**	**11 03 11.4**	**+0.3**
	2.2nm,0.8s,baz=188,slow=8.8,SNR=8.7						
SONM	**Songino Array**	**27.91**	**305**	P	**P**	**11 03 16.3**	**-0.6**
	0.9nm,0.6s,baz=102,slow=8.2,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**28.06**	**120**	T	T	11 33 20.6	
	baz=312,slow=75,SNR=9.3						
H11N1	**WAKE ISLAND Hy**	**28.07**	**120**	T	T	11 33 21.9	
	baz=312,slow=75,SNR=8.2						
H11N3	**WAKE ISLAND Hy**	**28.08**	**120**	T	T	11 33 22.1	
	baz=312,slow=75,SNR=7.4						
H11S1	**WAKE ISLAND Hy**	**28.76**	**122**	T	T	11 34 15.4	
	baz=314,slow=75,SNR=20						
H11S3	**WAKE ISLAND Hy**	**28.76**	**122**	T	T	11 34 15.5	
	baz=314,slow=75,SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**28.77**	**122**	T	T	11 34 16.7	
	baz=314,slow=75,SNR=6.2						
TIXI	**Tiksi**	**35.74**	**353**	P	**P**	**11 04 25.0**	**-0.1**
	0.7nm,0.3s,baz=138,slow=6.0,SNR=3.2						
ZALV	**Zalesovo Beam**	**42.10**	**313**	P	**P**	**11 05 17.8**	**-0.8**
	2.4nm,0.4s,baz=93,slow=6.7,SNR=12						
MKAR	**Makanchi Array**	**44.22**	**302**	P	**P**	**11 05 35.3**	**-0.6**
	0.6nm,0.8s,baz=85,slow=11,SNR=6.0						
ILAR	**Eielson Array**	**49.99**	**32**	P	**P**	**11 06 21.1**	**+0.5**
	1.0nm,0.7s,baz=267,slow=5.7,SNR=12						
WRA	**Warramunga Arr**	**56.56**	**188**	P	**P**	**11 07 08.5**	**-0.8**
	0.5nm,0.5s,baz=5.2,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**60.29**	**188**	P	**P**	**11 07 36.3**	**+1.0**
	0.3nm,0.7s,baz=25,slow=12,SNR=3.3						
GEYT	**Alibeck**	**63.91**	**299**	P	**P**	**11 07 59.9**	**+0.3**
	2.1nm,0.3s,baz=296,slow=20,SNR=12						
YKA	**Yellowknife Ar**	**64.31**	**30**	P	**P**	**11 08 00.8**	**-1.0**
	0.3nm,0.6s,baz=284,slow=14,SNR=7.6						
ARCES	**ARCESS Array B**	**64.38**	**339**	P	**P**	**11 08 01.3**	**-0.9**
	2.6nm,0.8s,baz=82,slow=6.7,SNR=2.9						
FINES	**FINESS Array B**	**69.15**	**332**	P	**P**	**11 08 32.0**	**-0.6**
	2.9nm,1.0s,baz=32,slow=5.4,SNR=2.7						
NOA	**NORSAR Array B**	**74.56**	**337**	P	**P**	**11 09 04.0**	**-1.1**
	1.7nm,0.9s,baz=44,slow=11,SNR=2.6						
NVAR	**Mina Array Bea**	**75.42**	**53**	P	**P**	**11 09 11.2**	**+0.4**
	0.1nm,0.5s,baz=290,slow=5.7,SNR=3.9						
PDAR	**Pinedale Array**	**78.13**	**45**	P	**P**	**11 09 26.3**	**+0.3**
	0.3nm,0.6s,baz=264,slow=1.8,SNR=3.3						
TXAR	**Lajitas Array**	**90.56**	**52**	P	**P**	**11 10 29.6**	**+0.5**
	0.2nm,0.8s,baz=265,slow=4.4,SNR=3.3						

*ISCJB **31** 11:02:07.3±1.0, 55°74N±0.05°×13°4E±0.2, h0km, Error ellipse: s-maj=15.3km s-min=5.5km az=156.3*
*UPP **31** 11:02:07.6±0.1, 55°71N×13°37E, h0km, ML2.6, Explosion*
ISC 31 11:02:06.3±1.8, 55°70N±0.09°×13°2E±0.1, h0km, n7, σ0°36/9, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUNU	**Lund**	**0.14**	**119**	P	**Pg**	**11 02 09.4**	**+0.4**
LUNU				S	**Sg**	**11 02 11.0**	**+0.1**
BJUU	**Bjuv**	**0.39**	**343**	P	**Pb**	**11 02 15.6**	**-0.5**
DEL	**Delary**	**0.85**	**25**	P	**Pg**	**11 02 23.0**	**+0.4**
BSD	**Bornholm Skovb**	**1.13**	**121**	*i* P	**Pg**	**11 02 28.0**	**+0.1**
BSD				*e*S	**Sb**	**11 02 43.9**	**0.0**
FABU	**Falkenberg**	**1.33**	**348**	P	**Pn**	**11 02 32.3**	**+0.2**
VXJU	**Vaexsjoe**	**1.55**	**37**	P	**Pn**	**11 02 35.1**	**0.0**
BLEU	**Blekinge**	**1.57**	**66**	P	**Pn**	**11 02 35.1**	**-0.4**

*IDC **31** 11:07:25.7±1.0, 10°61S×166°45E, h0km, mb4.2/15, mb1 4.4/16, mb1mx4.3/36, mbtmp4.2/16, ML3.2/1, MS3.8/3, Ms1 3.7/3, ms1mx3.5/40, Error ellipse: s-maj=30.3km s-min=18.5km az=134.0*
*NEIC **31** 11:07:27.5±0.4, 10°58S×166°43E, h10km, mb4.7/17, Error ellipse: s-maj=11.7km s-min=6.8km az=128.0*
*ISCJB **31** 11:07:29.7±0.4, 10°65S±0.07°×166°35E±0.08, h36km, mb4.4/32, MS3.7/2, Error ellipse: s-maj=13.8km s-min=8.2km az=37.6*
ISC 31 11:07:31.2±0.7, 10°7S±0.1°×166°5E±0.1, h36km, n60, σ0°97/56, mb4.5/32, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.33**	**180**	Pn	**Pn**	**11 10 10.9**	**+0.3**
	0.2nm,0.3s,baz=34,slow=16,SNR=2.9						
DZM				LR	LR	11 13 37.2	
	comp=Z,970nm,21.0s,baz=22,slow=33						
EIDS	**Eidsvold**	**20.63**	**223**	*e*P	Pn	11 12 10.6	+0.5
	22nm,1.0s						
CTA	**Charters Tower**	**21.59**	**242**	P	**P**	**11 12 18.1**	**+0.1**
	2.2nm,0.9s,baz=30,slow=8.1,SNR=1.7						
H11S2	**WAKE ISLAND Hy**	**28.99**	**0**	T	T	11 43 41.3	
	baz=181,slow=76,SNR=94						
H11S3	**WAKE ISLAND Hy**	**28.99**	**0**	T	T	11 43 41.6	
	baz=181,slow=76,SNR=67						
H11S1	**WAKE ISLAND Hy**	**29.00**	**0**	T	T	11 43 41.5	
	baz=181,slow=76,SNR=68						
H11N1	**WAKE ISLAND Hy**	**30.21**	**1**	T	T	11 45 13.0	
	baz=182,slow=76,SNR=46						
H11N3	**WAKE ISLAND Hy**	**30.21**	**1**	T	T	11 45 12.1	
	baz=182,slow=76,SNR=34						
H11N2	**WAKE ISLAND Hy**	**30.22**	**1**	T	T	11 45 14.5	
	baz=182,slow=76,SNR=41						
STKA	**Stephens Creek**	**31.18**	**224**	LR	LR	11 25 12.3	
	comp=Z,424nm,20.3s,baz=319,slow=34						
WRAB	**Tennant Creek**	**32.25**	**250**	*e*P	**P**	**11 13 56.8**	**+0.2**
	8.9nm,1.0s						
WB2	**Warramunga Arr**	**32.25**	**250**	*e*P	**P**	**11 13 56.4**	**-0.2**
WB2				*e*P	**P**	**11 13 56.8**	**+0.2**
WR1	**Warramunga Arr**	**32.26**	**250**	*e*P	**P**	**11 13 56.3**	**-0.4**
	12nm,1.0s						
WRA	**Warramunga Arr**	**32.26**	**250**	P	**P**	**11 13 56.3**	**-0.5**
	8.9nm,1.0s,baz=79,slow=9.1,SNR=32						
AS01	**Alice Springs**	**33.54**	**243**	*e*P	**P**	**11 14 06.8**	**-1.1**
AS31	**Alice Springs**	**33.58**	**243**	*e*P	**P**	**11 14 07.6**	**-0.6**
	1.2nm,0.8s						
ASAR	**Alice Springs**	**33.58**	**243**	P	**P**	**11 14 07.6**	**-0.6**
	3.9nm,0.8s,baz=67,slow=9.9,SNR=41						
FITZ	**Fitzroy Crossi**	**40.15**	**255**	*e*P	**P**	**11 15 04.3**	**+0.2**
	7.7nm,0.8s						
MJAR	**Matsushiro Arr**	**53.98**	**332**	P	**P**	**11 16 50.3**	**-1.4**
	1.0nm,0.7s,baz=167,slow=9.2,SNR=5.2						
MAJO	**Mamiyamachiro**	**53.98**	**332**	*e*P	**P**	**11 16 50.3**	**-1.4**
KSRS	**Korea Array**	**59.98**	**325**	P	**P**	**11 17 33.1**	**-1.0**
	2.5nm,1.0s,baz=136,slow=7.1,SNR=7.5						
KSAR	**Wonju Array Be**	**59.99**	**325**	P	**P**	**11 17 33.1**	**-1.1**
KS01	**Wonju Array Si**	**60.01**	**325**	*e*P	**P**	**11 17 34.7**	**+0.4**
USA0B	**Ussuriysk Arra**	**62.94**	**333**	*e*P	**P**	**11 17 55.6**	**+1.6**
USRK	**Ussuriysk Ar.**	**62.94**	**333**	P	**P**	**11 17 54.7**	**+0.7**
	2.7nm,0.7s,baz=122,slow=7.5,SNR=8.8						
PETK	**Petropavlovsk-**	**63.98**	**354**	P	**P**	**11 18 00.7**	**0.0**
	2.4nm,0.7s,baz=168,slow=8.1,SNR=3.6						
PEA1	**Petropavlovsk-**	**63.98**	**354**	*e*P	**P**	**11 18 00.7**	**-0.1**
MDJ	**Mudanjiang**	**64.36**	**332**	*e*P	**P**	**11 18 02.7**	**-0.7**
	14nm,1.1s						
BJT	**Baijiatuao**	**68.63**	**321**	*e*P	**P**	**11 18 31.3**	**+0.4**
	9.8nm,1.0s						
CM01	**Chiang Mai Arr**	**72.58**	**293**	*e*P	**P**	**11 18 55.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**72.61**	**293**	P	**P**	**11 18 55.6**	**0.0**
	2.4nm,1.0s,baz=126,slow=4.9,SNR=8.6						
LZH	**Lanzhou**	**75.03**	**312**	*e*P	**P**	**11 19 11.5**	**+1.9**
LZH				pP	sP	11 19 31.5	+7.1
LZH				sP	PcP	11 19 40.0	+17
LZH				pmax	pmax		
	comp=Z,28nm,1.1s						
ULN	**Ulaanbaatar**	**78.42**	**324**	*e*P	**P**	**11 19 29.5**	**+1.0**
	comp=Z,8.6nm,0.8s						
BILL	**Bilibino**	**78.52**	**360**	*e*P	**P**	**11 19 28.4**	**+0.1**
	comp=Z,8.7nm,1.0s						
SONA0	**Songino Array**	**78.79**	**323**	*e*P	**P**	**11 19 30.3**	**-0.1**
SONM	**Songino Array**	**78.79**	**323**	P	**P**	**11 19 30.3**	**-0.1**
	comp=Z,2.6nm,0.9s,baz=139,slow=5.8,SNR=17						
SONA1	**Songino Array**	**78.79**	**323**	*e*P	**P**	**11 19 28.0**	**-2.5**
GTA	**Gaotai**	**79.31**	**314**	P	**P**	**11 19 34.8**	**+1.3**
GTA				pP	pwP	11 19 45.8	-0.5
GTA				sP	sP	11 19 50.0	+1.7
GTA				pmax	pmax		
	comp=Z,7.0nm,1.3s						
ILAR	**Eielson Array**	**82.95**	**18**	P	**P**	**11 19 51.6**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=242,slow=5.3,SNR=28						
ILB	**Eielson Array**	**82.95**	**18**	*eP*	**P**	**11 19 52.2**	**+0.1**
	comp=Z,2.3nm,1.1s						
IL1	**Eielson Array**	**82.95**	**18**	*eP*	**P**	**11 19 51.0**	**-1.1**
IL1				*e*pP	**PcP**	**11 19 59.7**	**+2.9**
SCRK	**Sand Creek**	**83.34**	**20**	*eP*	**P**	**11 19 54.9**	**+0.6**
	comp=Z,4.2nm,0.8s						
MDPB	**Devils Postpil**	**84.43**	**50**	*eP*	**P**	**11 20 01.3**	**+0.6**
	comp=Z,3.7nm,1.0s						
NVAR	**Mina Array Bea**	**85.26**	**50**	P	**P**	**11 20 04.6**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=229,slow=6.8,SNR=8.7						
NV01	**Mina Array Sit**	**85.26**	**50**	*eP*	**P**	**11 20 03.3**	**-1.5**
TIXI	**Tiksi**	**85.87**	**349**	*eP*	**P**	**11 20 07.0**	**+0.2**
	comp=Z,4.8nm,1.1s						
SZCU	**Shurtz Canyon**	**88.99**	**52**	*eP*	**P**	**11 20 24.1**	**+1.2**
	comp=Z,2.2nm,1.0s						
HVU	**Hansel Valley**	**90.25**	**48**	*eP*	**P**	**11 20 29.8**	**+1.2**
	comp=Z,4.6nm,1.2s						
PDAR	**Pinedale Array**	**92.80**	**47**	P	**P**	**11 20 40.7**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=214,slow=4.2,SNR=3.1						
ZAA0	**Zalesovo Array**	**93.67**	**324**	*eP*	**P**	**11 20 42.9**	**-1.0**
	comp=Z,3.5nm,0.9s						
ZALV	**Zalesovo Beam**	**93.67**	**324**	P	**P**	**11 20 43.4**	**-0.5**
	comp=Z,2.7nm,0.9s,baz=102,slow=6.1,SNR=11						
ZAA1	**Zalesovo Array**	**93.67**	**324**	*eP*	**P**	**11 20 43.4**	**-0.5**
MK01	**Makanchi Array**	**93.72**	**317**	*eP*	**P**	**11 20 44.2**	**-0.2**
MK31	**Makanchi Array**	**93.73**	**317**	*eP*	**P**	**11 20 43.9**	**-0.5**
	comp=Z,4.6nm,1.0s						
MK32	**Makanchi Array**	**93.73**	**317**	*eP*	**P**	**11 20 44.1**	**-0.3**
MKAR	**Makanchi Array**	**93.73**	**317**	P	**P**	**11 20 44.1**	**-0.3**
	comp=Z,4.1nm,0.8s,baz=99,slow=6.4,SNR=15						
MAKZ	**Makanchi**	**93.95**	**317**	*eP*	**P**	**11 20 45.9**	**+0.5**
YKA	**Yellowknife Ar**	**94.33**	**27**	P	**P**	**11 20 44.9**	**-1.8**
	comp=Z,0.2nm,0.6s,baz=255,slow=5.2,SNR=3.6						
YKA				LR	LR	11 55 21.0	
	comp=

SHLS	**Shalkode**	**0.65**	**343**	⇑	*e*P		**Pg**	**11**	**19**	**00.9**	**+0.6**
	baz=15										
SHLS				⇑	*e*S		**Sg**	**11**	**19**	**09.7**	**+0.9**
	baz=15										
SHLS	**Shalkode**	**0.65**	**343**	⇑	*e*P		**Pg**	**11**	**19**	**00.9**	**+0.6**
	13nm,0.1s										
SHLS					*e*S		**Sg**	**11**	**19**	**09.7**	**+0.9**
	92nm,0.2s										
UZB	**Uzynbulak**	**0.80**	**320**	⇓	*e*P		**Pg**	**11**	**19**	**02.5**	**-0.5**
	baz=21										
UZB				⇓	*e*S		**Sg**	**11**	**19**	**12.8**	**-0.7**
	baz=21										
UZB	**Uzynbulak**	**0.80**	**320**	⇓	*e*P		**Pg**	**11**	**19**	**02.5**	**-0.5**
	5.5nm,0.1s										
UZB					*e*S		**Sg**	**11**	**19**	**12.8**	**-0.7**
	13nm,0.2s										
PDGK	**Podgornoye**	**0.81**	**348**	⇑	P		**Pg**	**11**	**19**	**02.7**	**-0.6**
	0.9nm,0.3s										
PDGK				⇑	S		**Sg**	**11**	**19**	**13.0**	**-1.0**
	1.6nm,0.2s										
PDGK	**Podgornoye**	**0.81**	**348**	⇑	*i*P		**Pg**	**11**	**19**	**02.9**	**-0.4**
	baz=50										
PDGK				⇑	*i*S		**Sg**	**11**	**19**	**13.3**	**-0.7**
	baz=50										
PRZ	**Przheval'sk**	**0.97**	**267**	⇓	*i*P		**Pg**	**11**	**19**	**06.5**	**+0.1**
	baz=66										
PRZ				⇓	*i*S		**Sg**	**11**	**19**	**18.2**	**-1.0**
	baz=66										
KTMS	**Ketmen**	**1.02**	**27**		*e*P		**Pg**	**11**	**19**	**07.5**	**+0.2**
	baz=28										
KTMS					*e*S		**Sg**	**11**	**19**	**20.9**	**+0.2**
	baz=28										
KTMS	**Ketmen**	**1.02**	**27**		*e*P		**Pg**	**11**	**19**	**07.5**	**+0.2**
	1.1nm,0.1s										
KTMS					*e*S		**Sg**	**11**	**19**	**20.9**	**+0.2**
	4.0nm,0.1s										
SATY	**Saty**	**1.10**	**299**		*e*P		**Pg**	**11**	**19**	**08.0**	**-0.7**
	1.0nm,0.1s										
SATY					*e*S		**Sg**	**11**	**19**	**21.8**	**-1.3**
	7.7nm,0.1s										
DJR	**Jarkent**	**1.80**	**2**		*e*P		**Pb**	**11**	**19**	**20.9**	**+0.6**
	0.4nm,0.1s										
DJR					*e*S		**Sb**	**11**	**19**	**44.2**	**+1.5**
	2.0nm,0.2s										
MNBS	**Baschi**	**1.82**	**329**		*e*P		**Pb**	**11**	**19**	**20.9**	**+0.2**
	baz=29										
MNBS					*e*S		**Sb**	**11**	**19**	**44.2**	**+0.9**
	baz=29										
MNBS	**Baschi**	**1.82**	**329**		*e*P		**Pb**	**11**	**19**	**20.9**	**+0.2**
	1.1nm,0.2s										
MNBS					*e*S		**Sb**	**11**	**19**	**44.2**	**+0.9**
	11nm,0.2s										
KDJ	**Kajisay**	**1.92**	**259**	⇑	*i*P		**Pb**	**11**	**19**	**23.8**	**+1.3**
	baz=58										
KDJ				⇑	*i*S		**Sb**	**11**	**19**	**48.0**	**+1.5**
	baz=58										
MDOK	**Medeo**	**2.06**	**289**		*e*P		**Pb**	**11**	**19**	**24.5**	**-0.3**
	baz=88										
MDOK					*e*S		**Sb**	**11**	**19**	**50.4**	**0.0**
	baz=88										
MDOK	**Medeo**	**2.06**	**289**		*e*P		**Pb**	**11**	**19**	**24.5**	**-0.3**
	0.9nm,0.1s										
MDOK					*e*S		**Sb**	**11**	**19**	**50.4**	**0.0**
	2.4nm,0.2s										
IZV	**Izvestkoviy**	**2.34**	**283**		*e*P		**Pb**	**11**	**19**	**30.1**	**+0.5**
	baz=83										
IZV					*e*S		**Sb**	**11**	**19**	**59.7**	**+1.3**
	baz=83										
IZV	**Izvestkoviy**	**2.34**	**283**		*e*P		**Pb**	**11**	**19**	**30.1**	**+0.5**
	0.8nm,0.1s										
IZV					*e*S		**Sb**	**11**	**19**	**59.7**	**+1.3**
	4.1nm,0.2s										
ULHL	**Ulahol**	**2.59**	**265**	⇑	*i*P		**Pb**	**11**	**19**	**33.1**	**-0.8**
	baz=64										
ULHL				⇑	*i*S		**Sb**	**11**	**20**	**05.0**	**-0.7**
	baz=64										
KAPS	**Kapalarasan**	**2.76**	**355**		*e*P		**Pb**	**11**	**19**	**37.6**	**+0.9**
	0.4nm,0.2s										
KAPS					*e*S		**Sb**	**11**	**20**	**12.9**	**+2.5**
	3.7nm,0.3s										
BOOM	**Boomskoye usch**	**2.79**	**270**	⇑	*i*P		**Pb**	**11**	**19**	**35.9**	**-1.4**
	baz=70										
BOOM				⇑	*i*S		**Sn**	**11**	**20**	**09.5**	**+3.9**
	baz=70										
KUU	**Kurty**	**2.82**	**300**		*e*P		**Pb**	**11**	**19**	**37.8**	**+0.2**
	baz=0.0										
KUU					*e*S		**Sb**	**11**	**20**	**13.3**	**+1.3**
	baz=0.0										
KUU	**Kurty**	**2.82**	**300**		*e*P		**Pb**	**11**	**19**	**37.8**	**+0.2**
	0.3nm,0.1s										
KUU					*e*S		**Sb**	**11**	**20**	**13.3**	**+1.3**
	2.7nm,0.5s										
MAKZ	**Makanchi**	**4.56**	**20**	⇓	Pn		Pn	11	19	52.2	-4.0
	0.7nm,0.5s										
MAKZ				⇑	Sn		**Sn**	**11**	**20**	**42.5**	**-6.6**
	1.3nm,0.6s										
MAKZ				⇑	Lg		Lg	11	21	01.6	
	1.7nm,0.6s										
MK31	**Makanchi Array**	**4.64**	**22**	⇑	Pn		Pn	11	19	50.5	-6.7
	0.1nm,0.2s,baz=128,slow=14,SNR=13										
MK31				⇓	Sn		Sn	11	20	43.3	-7.6
	0.9nm,0.4s,baz=35,slow=6.7,SNR=17										
MK31				⇓	Lg		Lg	11	21	03.0	
	2.9nm,0.7s,baz=126,slow=29,SNR=7.8										

IDC 31 11:18:59.3±1.8, 10°.82S×166°.42E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/42, mbtmp3.8/7, MS3.8/1, Ms1 3.8/1, ms1mx3.1/37, Error ellipse: s-maj=75.0km s-min=23.1km az=144.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**29.12**	**1**	T	T	11 55 17.5	
	baz=181,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.13**	**1**	T	T	11 55 17.0	
	baz=181,slow=76						
H11S1	**WAKE ISLAND Hy**	**29.14**	**1**	T	T	11 55 20.2	
	baz=181,slow=76						
WRA	**Warramunga Arr**	**32.18**	**250**	P	P	11 25 29.6	+0.3
	2.1nm,1.0s,baz=80,slow=9.7,SNR=8.1						
GUMO	**Guam**	**32.33**	**318**	LR	LR	11 38 48.7	
	comp=Z,164nm,18.2s,baz=52,slow=37						
ASAR	**Alice Springs**	**33.48**	**243**	P	P	11 25 40.8	+0.1
	1.0nm,0.8s,baz=73,slow=9.8,SNR=8.2						
FITZ	**Fitzroy Crossi**	**40.08**	**255**	P	P	11 26 36.1	-0.8
	1.9nm,0.6s,baz=115,slow=4.3,SNR=8.5						
SONM	**Songino Array**	**78.88**	**324**	P	P	11 31 05.0	+0.4
	0.4nm,0.6s,baz=122,slow=5.4,SNR=2.8						
ILAR	**Eielson Array**	**83.09**	**18**	P	P	11 31 26.1	-0.4
	0.3nm,0.8s,baz=237,slow=5.0,SNR=3.1						
NVAR	**Mina Array Bea**	**85.37**	**50**	P	P	11 31 39.3	+0.2
	0.1nm,0.4s,baz=240,slow=10,SNR=2.5						
MKAR	**Makanchi Array**	**93.81**	**317**	P	P	11 32 18.4	-0.2
	0.6nm,0.8s,baz=94,slow=5.2,SNR=5.0						

MAN 31 11:24:17.0, 6°.24N×124°.23E, h9km, mb4.2, ML3.0, MS2.7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKMP	**Bagumbayan, Su**	**0.41**	**48**	*e*P	Pg	11 24 25.7	+0.6
CTBH	**Cotabato--PC H**	**0.97**	**1**	⇑*i*P	Pg	11 24 35.4	-0.3
CTBH				*i*S	Sg	11 24 48.4	0.0
DDMP	**Don Marcelino,**	**1.48**	**95**	*e*P	Pb	11 24 44.3	-0.4
PAGZ	**Pagadian**	**1.81**	**332**	*e*P	Pn	11 24 49.0	+0.6
PAGZ				*e*S	Sn	11 25 12.0	+0.6
BUKP	**Musuan**	**1.82**	**27**	*e*P	Pn	11 24 47.8	-0.8
BUKP				*e*S	Sn	11 25 12.6	+0.7
IPIL	**Ipil**	**2.25**	**313**	*e*P	Pn	11 24 55.2	+0.7
IPIL				*e*S	Sn	11 25 23.2	+0.7

IDC 31 11:37:05.2±1.3, 5°.42S×128°.94E, h330km±17km, mb2.9/1, mb1 2.7/5, mb1mx2.5/45, mbtmp3.5/5, Error ellipse: s-maj=25.7km s-min=12.3km az=86.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.08**	**27**	P	Pn	11 38 26.9	+2.0
	0.7nm,0.3s,baz=239,slow=19,SNR=2.8						
SIJI				S	S	11 39 27.9	-1.3
	1.6nm,0.3s,baz=94,slow=24,SNR=4.1						
BATI	**Baumata**	**7.07**	**227**	P	Pn	11 38 47.2	-0.8
	25nm,0.3s,baz=63,slow=3.8,SNR=14						
FITZ	**Fitzroy Crossi**	**13.01**	**194**	P	P	11 39 58.5	-0.3
	0.2nm,0.3s,baz=31,slow=11,SNR=8.0						
FITZ				S	S	11 42 25.6	+3.2
	0.0nm,0.3s,baz=294,slow=20,SNR=2.4						
WRA	**Warramunga Arr**	**15.36**	**160**	P	P	11 40 25.3	+0.5
	0.1nm,0.3s,baz=338,slow=12,SNR=6.6						
WRA				S	S	11 43 08.3	-2.1
	0.0nm,0.3s,baz=335,slow=21,SNR=2.7						
ASAR	**Alice Springs**	**18.76**	**166**	P	P	11 41 02.4	+1.0
	0.1nm,0.3s,baz=344,slow=12,SNR=6.1						
ASAR				S	S	11 44 17.1	-0.3
	0.1nm,0.3s,baz=351,slow=22,SNR=3.4						
MKAR	**Makanchi Array**	**66.33**	**327**	P	P	11 47 19.1	0.0
	0.3nm,0.4s,baz=119,slow=8.0,SNR=7.8						

*ISCJB **31** 11:42:05.9±0.5, 36°.15N±0°.04×136°.77E±0°.04, h10km, mb3.3/5, MS3.4/1, Error ellipse: s-maj=6.3km s-min=4.2km az=171.3*
*JMA **31** 11:42:05.9, 36°.16N×136°.78E, h3km, M3.3 Broadband fault plane solution: P waves. NP1:φ₀162.00000°, δ85.00000°, λ39.00000°. NP2:φ₀68.00000°, δ52.00000°, λ174.00000°. Principal axes: T Plg30.0000°, Azm32.0000°; N Plg51.0000°, Azm168.0000°; P Plg22.0000°, Azm288.0000°;*
JMA Felt I J1.
*IDC **31** 11:42:07.3±1.2, 36°.42N×136°.74E, h0km, mb3.4/5, mb1 3.7/8, mb1mx3.5/48, mbtmp3.6/8, ML3.4/3, MS3.6/1, Ms1 3.6/1, ms1mx2.8/33 Error ellipse: s-maj=33.5km s-min=11.2km az=3.0*
ISC 31 11:42:06.9±0.7, 36°.15N±0°.04×136°.80E±0°.03, h10km, n15, σ1°13/18, mb3.4/5, 2C-1D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKG	**Kaga**	**0.40**	**289**	⇓P	**Pg**	**11 42 13.6**	**-1.2**
JKG				S	**Sg**	**11 42 19.1**	**-1.1**
JGN	**Niukaw**	**0.42**	**79**	⇑P	**Pg**	**11 42 14.4**	**-0.9**
JGN				S	**Sg**	**11 42 20.4**	**-0.5**
JYTA	**Yamagatataniai**	**0.55**	**186**	P	**Pg**	**11 42 16.9**	**-0.8**
JYTA				S	**Sg**	**11 42 24.7**	**-0.2**
JTT	**Ttatey**	**0.63**	**43**	⇑P	**Pg**	**11 42 18.3**	**-0.8**
MAT	**Matsushiro**	**1.20**	**70**	P	**Pg**	**11 42 29.1**	**-0.9**
MAT				S	**Sn**	**11 42 45.7**	**-0.5**
MJAR	**Matsushiro Arr**	**1.20**	**70**	Pg	**Pg**	**11 42 29.6**	**-0.5**
	8.6nm,0.3s,baz=34,slow=19,SNR=302						
MJAR				Lg	Lg	11 42 46.7	
	8.9nm,0.3s,baz=250,slow=33,SNR=21						
JHJ	**Hachijo jima 2**	**3.89**	**140**	Pn	**Pb**	**11 43 13.7**	**-2.0**
	11nm,0.3s,baz=93,slow=22,SNR=6.0						
JNU	**Nakatsue**	**5.74**	**240**	Pn	**Pn**	**11 43 33.9**	**+1.7**
	0.8nm,0.3s,baz=47,slow=7.1,SNR=11						
JNU				Lg	Lg	11 45 06.8	
	0.3nm,0.3s,baz=207,slow=14,SNR=5.3						
KSRS	**Korea Array**	**7.24**	**283**	Pn	**Pn**	**11 43 52.8**	**0.0**
	0.6nm,0.3s,baz=99,slow=14,SNR=8.0						
GUMO	**Guam**	**23.60**	**160**	LR	LR	11 55 10.4	
	comp=Z,139nm,20.1s,baz=120,slow=33						
SONM	**Songino Array**	**25.27**	**307**	P	**P**	**11 47 33.1**	**-0.3**
	0.5nm,0.7s,baz=113,slow=7.8,SNR=2.7						
MKAR	**Makanchi Array**	**41.45**	**302**	P	**P**	**11 49 54.3**	**+0.5**
	0.3nm,0.7s,baz=93,slow=8.6,SNR=4.5						
KURBB	**Kurchatov Arra**	**43.63**	**308**	P	**P**	**11 50 11.0**	**-0.3**
	0.8nm,0.8s,baz=85,slow=7.6,SNR=6.8						
ILAR	**Eielson Array**	**52.22**	**32**	P	**P**	**11 51 18.7**	**+1.0**
	0.4nm,0.8s,baz=279,slow=7.1,SNR=4.6						
NVAR	**Mina Array Bea**	**78.46**	**51**	P	**P**	**11 54 10.5**	**+2.1**
	0.3nm,0.7s,baz=286,slow=4.6,SNR=3.0						

*ISCJB **31** 11:46:32.9±1.4, 40°.01N±0°.04×143°.00E±0°.06, h14km±10km, mb3.5/5, MS4.1/2, Error ellipse: s-maj=8.3km s-min=5.3km az=33.1*
*JMA **31** 11:46:33.3±0.1, 40°.02N×142°.97E, h17km±2km, M3.5*
*IDC **31** 11:46:33.5±2.1, 40°.01N×142°.81E, h0km, mb3.4/4, mb1 3.4/6, mb1mx3.2/42, mbtmp3.3/6, ML2.7/2, MS4.1/2, Ms1 4.1/2, ms1mx3.1/28, Error ellipse: s-maj=53.0km s-min=22.2km az=85.0*
ISC 31 11:46:33.5±2.0, 40°.02N±0°.04×142°.87E±0°.07, h4km±12km, n23, σ1°20/32, mb3.6/6, 3C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.78**	**264**	P	**Pb**	**11 46 49.5**	**-0.1**
JTH				*e*S	**Sb**	**11 47 00.9**	**+0.4**
JKEN	**Kujiedanarisaw**	**0.91**	**282**	P	**Pb**	**11 46 51.5**	**-0.3**
JKEN				*e*S	**Sn**	**11 47 05.1**	**-1.5**
MIYJ	**Miyakonagasawa**	**0.92**	**242**	P	**Pg**	**11 46 51.6**	**+0.4**
MIYJ				*e*S	**Sb**	**11 47 04.2**	**-0.5**
JANG	**Nango**	**1.10**	**289**	P	**Pg**	**11 46 54.3**	**-0.2**
JKZ	**Kuzumaki**	**1.18**	**269**	P	**Pb**	**11 46 55.8**	**-0.7**
JKZ				*e*S	**Sg**	**11 47 12.0**	**+0.5**
JOM	**Ohasama**	**1.33**	**246**	P	**Pn**	**11 46 58.4**	**-0.5**
JOM				*e*S	**Sn**	**11 47 16.6**	**-0.5**
JTM	**Tenmabayashi**	**1.57**	**300**	P	**Pn**	**11 47 02.2**	**0.0**
JTM				*e*S	**Sb**	**11 47 23.1**	**-0.3**
JMK	**Ichinoseki**	**1.67**	**231**	P	**Pn**	**11 47 03.3**	**-0.1**
JMK				S	**Sn**	**11 47 25.0**	**-0.2**
JAH	**Hinai**	**1.72**	**276**	P	**Pn**	**11 47 04.6**	**+0.4**
JAH				S	**Sb**	**11 47 27.1**	**-0.5**
JRG	**Rokugo**	**1.83**	**251**	P	**Pb**	**11 47 06.8**	**-0.8**
JRG				S	**Sb**	**11 47 30.3**	**-0.6**
JOT	**Ohata**	**1.94**	**315**	P	**Pn**	**11 47 07.7**	**+0.5**
JOT				*e*S	**Sb**	**11 47 32.9**	**-1.0**
JIO	**Ouri**	**1.96**	**218**	P	**Pn**	**11 47 07.1**	**-0.4**
JIO				S	**Sn**	**11 47 32.4**	**-0.1**
JEM	**Erimo**	**2.00**	**6**	P	**Pn**	**11 47 06.2**	**-1.9**
JEM				S	**Sn**	**11 47 31.0**	**-2.6**
ASAJ	**Asahikawa**	**4.10**	**357**	Pn	**Pn**	**11 47 37.7**	**+0.8**
	0.5nm,0.3s,baz=197,slow=11,SNR=2.9						
ASAJ				Sn	**Sn**	**11 48 29.5**	**+4.3**
	0.7nm,0.3s,baz=331,slow=19,SNR=2.4						
MJAR	**Matsushiro Arr**	**5.05**	**228**	Pn	**Pn**	**11 47 50.6**	**+0.6**
	0.2nm,0.3s,baz=40,slow=12,SNR=8.6						
ZALV	**Zalesovo Beam**	**40.81**	**310**	P	**P**	**11 54 16.5**	**+0.7**
	0.9nm,0.6s,baz=117,slow=12,SNR=5.1						
SIJI	**Sorong**	**42.06**	**197**	LR	LR	12 10 15.0	
	comp=Z,223nm,21.3s,baz=183,slow=34						
MKAR	**Makanchi Array**	**43.57**	**300**	P	**P**	**11 54 39.5**	**+1.1**
	0.1nm,0.4s,baz=87,slow=9.3,SNR=3.0						
KURBB	**Kurchatov Arra**	**45.12**	**306**	P	**P**	**11 54 49.5**	**-1.2**
	0.3nm,0.5s,baz=80,slow=8.6,SNR=3.8						
BATI	**Baumata**	**53.05**	**204**	LR	LR	12 16 07.0	
	comp=Z,263nm,20.7s,baz=242,slow=33						
AB31	**Akbulak array**	**56.92**	**309**	⇑Pn	P	11 56 06.9	-13
	3.2nm,0.7s,baz=306,slow=12,SNR=46						
AB31				⇑Lg	Lg	11 56 33.8	
	2.8nm,0.6s,baz=304,slow=27,SNR=10						
AKTO	**Aktyubinsk**	**57.55**	**311**	⇑P	P	11 55 40.7	-43
	12nm,1.2s						
AKTO				⇓S	S	11 55 46.3	-516
	18nm,0.5s						
WRA	**Warramunga Arr**	**60.18**	**189**	P	**P**	**11 56 43.0**	**+0.5**
	0.1nm,0.3s,baz=6.9,slow=6.8,SNR=8.2						

IDC 31 11:46:48.9±1.2, 10°.88S×165°.24E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.7/33, mbtmp3.8/6, ML4.0/1, Error ellipse: s-maj=49.6km s-min=23.7km az=138.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.19**	**174**	Pn	Pn	11 49 29.7	-0.5
	0.9nm,0.3s,baz=340,slow=7.8,SNR=26						
DZM				Sn	Sn	11 51 29.4	-6.7
	0.1nm,0.3s,baz=131,slow=20,SNR=2.3						
CTA	**Charters Tower**	**20.43**	**241**	P	Pn	11 51 29.3	-0.8
	0.0nm,0.5s,baz=83,slow=17,SNR=2.1						
WRA	**Warramunga Arr**	**31.07**	**249**	P	P	11 53 09.2	+0.2
	0.7nm,0.9s,baz=77,slow=9.0,SNR=4.3						
ASAR	**Alice Springs**	**32.42**	**243**	P	P	11 53 20.1	-0.7
	2.3nm,0.9s,baz=64,slow=10,SNR=20						
ILAR	**Eielson Array**	**83.52**	**19**	P	P	11 59 18.7	+0.3
	0.3nm,0.8s,baz=234,slow=7.6,SNR=3.4						
NVAR	**Mina Array Bea**	**86.30**	**50**	P	P	11 59 33.0	-0.3
	0.8nm,0.9s,baz=230,slow=5.6,SNR=5.4						

*TIF **31** 11:53:09.9, 41°.38N×41°.66E, h5km±2km*
ISK 31 11:53:10.0, 41°.40N×41°.56E, h5km, ML2.0/1, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BCA	**Borcka**	**0.07**	**48**	PG	Pg	11 53 12.0	+0.4
BCA				SG	Sg	11 53 13.5	+0.8
BATM	**Batumi**	**0.23**	**27**	PG	Pg	11 53 15.1	+0.6
BATM				SG	Sg	11 53 18.8	+1.3
BATM	**Batumi**	**0.23**	**27**	P	Pg	11 53 15.1	+0.6
BATM				S	Sg	11 53 18.8	+1.3
CHOM	**Cayeli-Rize**	**0.67**	**243**	PG	Pg	11 53 23.5	+0.6

*IDC **31** 12:10:40.6±0.6, 4°.33S×138°.30E, h0km, mb4.2/12, mb1 4.5/17, mb1mx4.4/30, mbtmp4.4/17, ML4.7/5, MS3.7/5, Ms1 3.7/5, ms1mx3.3/24, Error ellipse: s-maj=23.3km s-min=13.2km az=84.0*
*ISCJB **31** 12:10:43.2±0.2, 4°.53S±0°.02×138°.37E±0°.03, h33km, mb4.5/24, MS3.8/4, Error ellipse: s-maj=4.4km s-min=3.4km az=2.6*
*DJA **31** 12:10:46.6±0.4, 4°.4S±8°×13°.8E±°, h111km±21km, M4.8/7, mb4.7/7, mB5.0/3, MLv4.9/6, Mw(mB)4.3/3*
*NEIC **31** 12:10:46.1±0.8, 4°.41S×138°.38E, h44km±8km, mb4.7/16, Error ellipse: s-maj=7.6km s-min=5.7km az=91.0*
ISC 31 12:10:45.3±0.4, 4°.57S±0°.04×138°.33E±0°.05, h35km, n90, σ2°.05/103, mb4.6/24, MS3.7/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**2.69**	**43**	P	**Pn**	**12 11 26.0**	**-0.1**
JAY	**Jayapura**	**3.13**	**49**	Pn	**Pn**	**12 11 30.9**	**-1.3**
	36nm,0.3s,baz=221,slow=8.8,SNR=118						
JAY				Sn	**Sn**	**12 12 06.3**	**-2.0**
	43nm,0.3s,baz=126,slow=19,SNR=12						
JAY				LR	LR	12 12 23.8	
	comp=Z,610nm,19.2s,slow=34						
JAY	**Jayapura**	**3.13**	**49**	P	**Pn**	**12 11 31.5**	**-0.7**
SRPI	**Serui, Papua**	**3.40**	**322**	P	**Pn**	**12 11 36.5**	**+0.6**
SRPI				S	**Sn**	**12 12 15.7**	**+0.6**
BAKI	**Biak**	**4.03**	**326**	P	**Pn**	**12 11 45.2**	**+0.7**
RKPI	**Ransiki, Papua**	**5.14**	**306**	P	**Pn**	**12 12 02.5**	**+2.6**
RKPI				S	**Sn**	**12 12 59.4**	**+1.3**
FAKI	**Fak Fak**	**6.29**	**285**	*e*Pn	**Pn**	**12 12 17.7**	**+2.1**
FAKI	**Fak Fak**	**6.29**	**285**	P	**Pn**	**12 12 18.0**	**+2.4**
FAKI				S	**Sn**	**12 13 27.6**	**+1.3**
SAUI	**Saumlaki**	**7.77**	**244**	*e*Pn	**Pn**	**12 12 39.6**	**+3.6**
SIJI	**Sorong**	**7.96**	**297**	Pn	**Pn**	**12 12 39.3**	**+0.7**
	8.4nm,0.3s,baz=126,slow=12,SNR=24						
SIJI				Sn	**Sn**	**12 14 04.8**	**-2.7**
	2.5nm,0.3s,baz=198,slow=20,SNR=2.1						
KDU	**Kakadu**	**9.93**	**215**	P	**Pn**	**12 13 07.6**	**+2.0**
	baz=10.0,SNR=141						
COEN	**Coen**	**10.48**	**153**	P	**Pn**	**12 13 13.6**	**+0.5**
	baz=10,SNR=32						
COEN	**Coen**	**10.48**	**153**	*e*Pn	**Pn**	**12 13 14.5**	**+1.3**
MTN	**Manton Dam**	**10.87**	**220**	*e*Pn	**Pn**	**12 13 20.8**	**+2.3**
KNRA	**Kununurra**	**14.50**	**220**	P	**Pn**	**12 14 08.4**	**+0.3**
	baz=15,SNR=40						
MTSU	**Mount Surprise**	**14.70**	**157**	P	**Pn**	**12 14 11.3**	**+0.5**
	baz=15,SNR=46						
SOEI	**Soe**	**14.87**	**249**	*e*Pn	**Pn**	**12 14 13.5**	**+0.2**
SOEI				*e*Sn	**Sn**	**12 16 55.4**	**-1.6**
SOEI	**Soe**	**14.87**	**249**	P	**Pn**	**12 14 12.6**	**-0.7**
BATI	**Baumata**	**15.58**	**248**	Pn	**Pn**	**12 14 22.8**	**+0.3**
	6.1nm,0.3s,baz=106,slow=7.4,SNR=9.0						
BATI				Sn	**Sn**	**12 17 12.9**	**-1.3**
	baz=150,slow=20,SNR=3.5						
BATI	**Baumata**	**15.58**	**248**	P	**Pn**	**12 14 22.8**	**+0.3**
WRAB	**Tennant Creek**	**15.75**	**194**	*e*Pn	**Pn**	**12 14 23.8**	**-0.9**
	44nm,0.8s						
WB2	**Warramunga Arr**	**15.76**	**194**	*e*Pn	**Pn**	**12 14 23.7**	**-1.1**
	56nm,0.8s						
WR1	**Warramunga Arr**	**15.77**	**194**	*e*Pn	**Pn**	**12 14 23.0**	**-1.8**
	56nm,0.9s						
WR1				*e*Sn	**Sn**	**12 17 14.6**	**-3.9**
WRA	**Warramunga Arr**	**15.77**	**194**	Pn	**Pn**	**12 14 23.0**	**-1.8**
	2.4nm,0.3s,baz=4.6,slow=13,SNR=72						
WRA				Sn	**Sn**	**12 17 14.6**	**-4.0**
	1.5nm,0.3s,baz=12,slow=22,SNR=3.9						
WRA				Lg	Lg	12 19 05.0	
	0.9nm,0.3s,baz=1.8,slow=30,SNR=3.1						
WRA				LR	LR	12 21 08.0	
	comp=Z,432nm,18.6s,baz=235,slow=39						
QIS	**Mount Isa**	**15.94**	**176**	P	**Pn**	**12 14 26.1**	**-0.9**
	baz=16,SNR=16						
CTA	**Charters Tower**	**17.24**	**154**	P	**P**	**12 14 47.8**	**+3.0**
	0.9nm,0.3s,baz=327,slow=14,SNR=14						
CTAO	**Charters Tower**	**17.24**	**154**	*e*Pn	**P**	**12 14 46.3**	**+1.5**
	10nm,0.7s						
FITZ	**Fitzroy Crossi**	**18.30**	**222**	P	**P**	**12 14 56.2**	**-0.2**
	2.5nm,0.3s,baz=22,slow=9.3,SNR=47						
FITZ				S	**Sn**	**12 18 12.9**	**-7.1**

LZH					pmax	pmax			
	comp=Z,21nm,1.0s								
GTA	**Gaotai**	**56.35**	**325**	*eP*	**P**		**12**	**20**	**23.3** **+0.1**
GTA				pP	sP		12	20	50.3 +12
GTA				sP	PcP		12	21	00.5 -20
SONA0	**Songino Array**	**59.24**	**335**	*eP*	**P**		**12**	**20**	**43.0** **-0.3**
SONM	**Songino Array**	**59.24**	**335**	P	**P**		**12**	**20**	**43.0** **-0.3**
	comp=Z,1.7nm,0.6s,baz=151,slow=7.5,SNR=13								
SONM				LR	LR		12	46	09.3
	comp=Z,64nm,20.9s,baz=186,slow=36								
SONA1	**Songino Array**	**59.25**	**336**	*eP*	**P**		**12**	**20**	**42.2** **-1.1**
PETK	**Petropavlovsk-**	**59.75**	**13**	P	**P**		**12**	**20**	**46.1** **-0.4**
	comp=Z,5.3nm,0.7s,baz=143,slow=4.8,SNR=9.2								
PEA1	**Petropavlovsk-**	**59.75**	**13**	*eP*	**P**		**12**	**20**	**46.1** **-0.5**
WMQ	**Urumqi**	**66.23**	**322**	*eP*	**P**		**12**	**21**	**30.3** **+0.4**
WMQ				pP	sP		12	21	52.0 +6.9
WMQ				LR	LR				
	comp=N,120nm,18.3s								
WMQ				LR	LR				
	comp=E,92nm,16.9s								
WMQ				LR	LR				
	comp=Z,91nm,16.9s								
MK01	**Makanchi Array**	**71.01**	**323**	*eP*	**P**		**12**	**21**	**59.0** **-0.7**
MK31	**Makanchi Array**	**71.03**	**323**	*eP*	**P**		**12**	**21**	**59.0** **-0.7**
MK32	**Makanchi Array**	**71.03**	**323**	*eP*	**P**		**12**	**21**	**59.2** **-0.5**
MKAR	**Makanchi Array**	**71.03**	**323**	P	**P**		**12**	**21**	**59.2** **-0.6**
	comp=Z,1.7nm,0.8s,baz=114,slow=8.1,SNR=14								
MKAR	**Makanchi Array**	**71.03**	**323**	*eP*	**P**		**12**	**21**	**59.2** **-0.6**
	comp=Z,8.5nm,0.8s								
MAKZ	**Makanchi**	**71.23**	**323**	*eP*	**P**		**12**	**21**	**60.0** **-0.9**
	comp=Z,2.3nm,0.8s								
KSH	**Kashi**	**72.09**	**314**	P	P		12	22	13.0 +6.6
KSH				pP	PcP		12	22	29.5 +4.8
KSH				PP	**PP**		**12**	**24**	**53.0** **+6.0**
KSH				S	**S**		**12**	**31**	**27.3** **+1.0**
KSH				pmax	pmax				
	comp=Z,6.0nm,0.5s								
KSH				pmax	pmax				
	comp=Z,210nm,4.9s								
ZALV	**Zalesovo Beam**	**73.35**	**330**	P	**P**		**12**	**22**	**11.6** **-1.8**
	comp=Z,0.7nm,0.5s,baz=117,slow=8.6,SNR=4.7								
ZALV	**Zalesovo Beam**	**73.35**	**330**	*eP*	**P**		**12**	**22**	**11.8** **-1.6**
ZAA1	**Zalesovo Array**	**73.35**	**330**	*eP*	**P**		**12**	**22**	**11.6** **-1.8**
VNDA	**Vanda**	**73.97**	**175**	P	**P**		**12**	**22**	**17.4** **+0.8**
	comp=Z,1.4nm,0.7s,baz=348,slow=2.9,SNR=3.6								
ABKAR	**Akbulak array**	**85.89**	**320**	*eP*	**P**		**12**	**23**	**20.1** **-1.5**
MLY	**Manley**	**86.18**	**24**	*eP*	**P**		**12**	**23**	**22.3** **-0.5**
	comp=Z,2.7nm,0.6s								
IL1	**Eielson Array**	**87.67**	**24**	*eP*	**P**		**12**	**23**	**27.5** **-2.4**
ILAR	**Eielson Array**	**87.67**	**24**	P	**P**		**12**	**23**	**27.9** **-2.0**
	comp=Z,3.6nm,0.8s,baz=263,slow=4.4,SNR=39								
ILB	**Eielson Array**	**87.67**	**24**	*eP*	**P**		**12**	**23**	**28.2** **-1.8**
	comp=Z,5.7nm,0.9s								
ARA0	**ARCESS Array S**	**102.13**	**341**	*e*Pdif	**Pdif**		**12**	**24**	**35.0** **-1.0**
ARCES	**ARCESS Array B**	**102.13**	**341**	P	**Pdif**		**12**	**24**	**35.0** **-1.0**
	comp=Z,1.9nm,0.8s,baz=81,slow=5.6,SNR=3.1								
JSC	**Jenkinsville**	**132.88**	**46**	*e*PKPpre	PKPpre		12	29	49.3
TORD	**Torodi Ar. Bea**	**136.38**	**284**	PKP	**PKPdf**		**12**	**30**	**04.2** **-0.2**
	comp=Z,0.9nm,0.9s,baz=58,slow=2.8,SNR=4.5								
TOA1	**Torodi Ar. Sit**	**136.38**	**284**	*e*PKPdf	**PKPdf**		**12**	**30**	**04.2** **-0.2**
ESPN	**Las Esperanzas**	**137.20**	**77**	*e*PKPdf	**PKPdf**		**12**	**30**	**02.6** **-3.4**
LPAZ	**La Paz**	**146.61**	**129**	PKPbc	**PKPab**		**12**	**30**	**26.6** **+0.5**
	comp=Z,1.9nm,0.8s,baz=233,slow=5.1,SNR=7.1								
LPAZ	**La Paz**	**146.61**	**129**	*e*PKPdf	**PKPab**		**12**	**30**	**25.6** **-0.5**

*DDA **31** 12:11:37.9,40.°64N×39.°90E,h7km±2km,ML2.6*
*ISK **31** 12:11:37.4,40.°63N×39.°88E,h10km,ML1.9/4*
*ISCJB **31** 12:11:38.6±0.6,40.°66N±0.°03×39.°97E±0.°06,h7km±7km,*
Error ellipse: s-maj=8.6km s-min=4.6km az=152.4
ISC 31 12:11:38.1±1.1,**40.°65N**±0.°04×**39.°91E**±0.°04,**h13**km±11km,
n9,σ0°72/14,Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op	ISC	h	m	s		ISC
BAYT	**Aydıntepe-Bayb**	**0.31**	**145**	PG	**Pg**	**12**	**11**	**44.1**		**-0.4**
BAYT				SG	**Sg**	**12**	**11**	**48.8**		**0.0**
MACK	**Trabzon**	**0.32**	**340**	*i* P	**Pb**	**12**	**11**	**45.4**		**-0.3**
MACK				*i* S	**Sb**	**12**	**11**	**49.9**		**-0.9**
KTUT	**Trabzon**	**0.36**	**342**	PG	**Pg**	**12**	**11**	**45.3**		**0.0**
KTUT				SG	**Sb**	**12**	**11**	**51.0**		**-1.0**
BAYB	**BAYBURT**	**0.47**	**146**	*i* P	**Pg**	**12**	**11**	**47.5**		**0.0**
BAYB				*i* S	**Sb**	**12**	**11**	**54.6**		**-0.8**
KELT	**Kelkit**	**0.71**	**225**	IAML_P						
	comp=Z,835nm,0.1s									
KELT				*i* P	**Pb**	**12**	**11**	**52.3**		**-0.2**
CHOM	**Cayeli-Rize**	**0.79**	**55**	PG	**Pb**	**12**	**11**	**53.7**		**0.0**
SUSE	**Susehri**	**1.38**	**252**	*i* P	**Pg**	**12**	**12**	**04.3**		**-0.3**
SUSE				*i* S	**Sg**	**12**	**12**	**23.6**		**+1.1**
BCA	**Borcka**	**1.52**	**58**	PN	**Pn**	**12**	**12**	**05.7**		**+0.6**
BATM	**Batumi**	**1.65**	**54**	PN	**Pn**	**12**	**12**	**07.8**		**+0.9**

*ISCJB **31** 12:32:27.7±0.5,3.°09N±0.°06×126.°4E±0.°1,h10km,*
mb4.0/11,Error ellipse: s-maj=21.4km s-min=5.2km
az=159.2
*IDC **31** 12:32:27.5±0.7,3.°12N×126.°24E,h0km,mb4.0/11,*
mb1 4.1/12,mb1mx3.9/35,mbtmp4.0/12,ML3.9/1,MS3.6/1,
Ms1 3.6/1,ms1mx2.7/32,Error ellipse: s-maj=38.0km
s-min=13.7km az=74.0
*MAN **31** 12:32:31.9,3.°37N×126.°37E,h1km,mb5.0,ML4.0,MS4.0*
ISC 31 12:32:29.5±0.7,**3.°23N**±0.°08×**126.°4E**±0.°2,**h10**km,**n18,**
σ2°51/23,mb4.1/11,1C,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op	ISC	h	m	s		ISC
DDMP	**Don Marcelino,**	**2.94**	**346**	*eP*	**Pn**	**12**	**33**	**18.4**		**+1.9**
DDMP				*eS*	**Sb**	**12**	**33**	**54.1**		**-4.2**
SKMP	**Bagumbayan, Su**	**3.77**	**330**	*eP*	**Pn**	**12**	**33**	**31.0**		**+3.2**
SKMP				*eS*	**Sn**	**12**	**34**	**14.7**		**+2.3**
KCP	**Kidapawan**	**3.99**	**340**	⇑*iP*	**Pn**	**12**	**33**	**34.8**		**+4.0**
KCP				*i* S	**Sb**	**12**	**34**	**22.4**		**-5.9**
BUKP	**Musuan**	**4.82**	**343**	*eP*	**Pn**	**12**	**33**	**44.5**		**+2.2**
BUKP				*eS*	**Sn**	**12**	**34**	**40.2**		**+2.0**
IPIL	**Ipil**	**5.94**	**320**	*eP*	**Pn**	**12**	**34**	**00.3**		**+2.6**
SIJI	**Sorong**	**6.31**	**130**	Pn	**Pn**	**12**	**34**	**04.2**		**+1.4**
	2.7nm,0.3s,baz=301,slow=19,SNR=7.1									
JAY	**Jayapura**	**15.36**	**112**	LR	LR	12	41	13.6		
	comp=Z,209nm,19.9s,slow=34									
FITZ	**Fitzroy Crossi**	**21.21**	**182**	P	**P**	**12**	**37**	**14.9**		**-0.7**
	0.6nm,0.3s,baz=14,slow=10,SNR=4.2									
WRA	**Warramunga Arr**	**24.30**	**162**	P	**P**	**12**	**37**	**45.2**		**-2.2**
	5.0nm,0.7s,baz=341,slow=10,SNR=19									
ASAR	**Alice Springs**	**27.71**	**165**	P	**P**	**12**	**38**	**16.6**		**-1.6**
	0.8nm,0.5s,baz=345,slow=8.2,SNR=7.5									
KSRS	**Korea Array**	**34.09**	**2**	P	**P**	**12**	**39**	**14.9**		**+0.7**
	1.5nm,0.6s,baz=179,slow=9.8,SNR=6.9									
STKA	**Stephens Creek**	**37.77**	**159**	P	**P**	**12**	**39**	**45.6**		**-0.3**
	3.4nm,0.8s,baz=338,slow=5.8,SNR=4.3									
USRK	**Ussuriysk Ar.**	**41.09**	**6**	P	**P**	**12**	**40**	**14.8**		**+1.3**
	3.1nm,0.8s,baz=192,slow=7.1,SNR=7.3									
SONM	**Songino Array**	**47.68**	**342**	P	**P**	**12**	**41**	**05.2**		**-1.1**
	0.7nm,0.7s,baz=160,slow=7.3,SNR=4.2									
PETK	**Petropavlovsk-**	**56.00**	**22**	P	**P**	**12**	**42**	**08.6**		**+0.4**
	2.5nm,0.8s,baz=180,slow=3.4,SNR=7.5									
MKAR	**Makanchi Array**	**57.80**	**326**	P	**P**	**12**	**42**	**20.4**		**-0.8**
	1.3nm,0.5s,baz=122,slow=8.1,SNR=30									
MKAR				PcP	**PcP**	**12**	**43**	**15.2**		**+1.4**
	0.4nm,0.5s,baz=122,slow=3.8,SNR=3.0									
MKAR				ScP	**ScP**	**12**	**47**	**16.1**		**+1.9**
	0.4nm,0.7s,baz=108,slow=2.4,SNR=4.1									
ZALV	**Zalesovo Beam**	**60.90**	**333**	P	**P**	**12**	**42**	**40.9**		**-1.5**
	0.4nm,0.5s,baz=125,slow=7.4,SNR=3.6									
BRTR	**Keskin Array B**	**90.11**	**310**	P	**P**	**12**	**45**	**29.7**		**-0.7**
	0.4nm,0.7s,baz=116,slow=3.4,SNR=3.7									

IDC 31 12:33:34.4±2.7,**6.°63S×129.°92E,h137**km±37km,**mb3.5**/1,
mb1 3.2/5,**mb1mx3.0**/33,**mbtmp3.6**/5,**Error ellipse:**
s-maj=67.8km s-min=20.5km az=89.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op	ISC	h	m	s		ISC
SIJI	**Sorong**	**5.88**	**13**	P	Pn	12	34	59.8		+0.3
	1.6nm,0.3s,baz=172,slow=22,SNR=12									
SIJI				S	Sn	12	36	01.9		-3.9
	1.7nm,0.3s,baz=217,slow=20,SNR=6.4									
FITZ	**Fitzroy Crossi**	**12.14**	**200**	P	Pn	12	36	22.5		-0.4
	0.3nm,0.3s,baz=31,slow=12,SNR=26									
FITZ				S	Sn	12	38	27.8		-9.1
	0.1nm,0.3s,baz=65,slow=17,SNR=2.4									
WRA	**Warramunga Arr**	**13.91**	**162**	P	Pn	12	36	44.3		-1.5
	0.3nm,0.3s,baz=347,slow=12,SNR=22									
WRA				S	Sn	12	39	13.4		-6.2
	0.2nm,0.3s,baz=342,slow=21,SNR=2.9									
ASAR	**Alice Springs**	**17.36**	**168**	P	Pn	12	37	29.5		+1.0
	0.2nm,0.3s,baz=345,slow=9.4,SNR=12									
ASAR				S	S	12	40	37.4		-4.3
	0.1nm,0.3s,baz=349,slow=25,SNR=3.2									
MKAR	**Makanchi Array**	**67.88**	**327**	P	P	12	44	18.0		-0.1
	0.5nm,0.4s,baz=115,slow=7.4,SNR=6.5									

IDC 31 13:17:40.8±1.3,**39.°23S×93.°19W,h0km,mb3.8**/5,
mb1 4.1/5,mb1mx3.9/25,mbtmp3.8/5,**MS3.2**/5,**Ms1 3.2**/5,
ms1mx3.1/21,**Error ellipse: s-maj=53.5km**
s-min=29.1km az=69.0,Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op	ISC	h	m	s		ISC
PLCA	**Paso Flores**	**17.41**	**102**	LR	LR	13	26	24.8		
	comp=Z,137nm,20.1s,baz=224,slow=30									
LVC	**Limon Verde**	**26.49**	**58**	LR	LR	13	31	16.4		
	comp=Z,43nm,19.7s,baz=222,slow=31									
NNA	**Nana**	**30.77**	**33**	LR	LR	13	31	47.0		
	comp=Z,42nm,19.9s,baz=235,slow=28									
CPUP	**Villa Florida**	**32.56**	**78**	LR	LR	13	36	34.5		
	comp=Z,24nm,19.0s,baz=198,slow=35									
SIV	**San Ignacio**	**36.37**	**60**	P	P	13	24	46.9		0.0
	1.5nm,1.1s,baz=221,slow=12,SNR=3.7									
BDFB	**Brasília**	**45.87**	**72**	LR	LR	13	44	19.8		
	comp=Z,49nm,18.2s,baz=152,slow=35									
SNAA	**Sanae**	**53.41**	**157**	P	P	13	27	01.8		-0.2
	1.8nm,0.8s,baz=258,slow=9.9,SNR=7.7									
TXAR	**Lajitas Array**	**68.91**	**350**	P	P	13	28	46.9		-0.5
	0.6nm,0.8s,baz=163,slow=6.6,SNR=6.0									
NVAR	**Mina Array Bea**	**80.65**	**340**	P	P	13	29	56.4		+0.9
	0.6nm,0.7s,baz=171,slow=6.2,SNR=5.2									
PDAR	**Pinedale Array**	**82.96**	**348**	P	P	13	30	07.3		-0.3
	0.4nm,0.6s,baz=156,slow=6.9,SNR=5.2									

*ISK **31** 13:18:59.9,37.°83N×29.°28E,h3km,ML2.3/11*
*DDA **31** 13:19:00.8,37.°89N×29.°27E,h14km±1km,ML2.8*
*ISCJB **31** 13:19:01.3±0.5,37.°86N±0.°03×29.°27E±0.°04,h8km±5km,*
Error ellipse: s-maj=5.3km s-min=4.2km az=37.0
ISC 31 13:19:00.8±1.2,**37.°88N**±0.°03×**29.°27E**±0.°03,**h7**km±10km,
n21,σ1°01/31,Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op	ISC	h	m	s		ISC
DENT	**Denizli**	**0.22**	**236**	PG	**Pg**	**13**	**19**	**04.9**		**-0.4**
DENT				SG	**Sg**	**13**	**19**	**08.7**		**+0.4**
KHL	**Karahalli**	**0.49**	**25**	PG	**Pg**	**13**	**19**	**10.7**		**+0.4**
TAVA	**DENIZLI_Tavas**	**0.50**	**214**	IAML_P						
	comp=Z,2μm,0.1s									
TAVA				*i* P	**Pb**	**13**	**19**	**11.5**		**-0.5**
TAVA				*i* S	**Sb**	**13**	**19**	**19.5**		**0.0**
KHAL	**Karahalli**	**0.52**	**20**	*i* P	**Pb**	**13**	**19**	**11.6**		**-0.9**
KHAL				*i* S	**Sb**	**13**	**19**	**19.8**		**-0.4**
BRDR	**BURDUR-Merkez**	**0.66**	**106**	*i* P	**Pb**	**13**	**19**	**14.1**		**-0.6**
BRDR				*i* S	**Sn**	**13**	**19**	**25.6**		**-1.7**
KZIL	**AFYON_Kizioren**	**0.79**	**61**	*i* P	**Pb**	**13**	**19**	**16.5**		**-0.5**
KZIL				*i* S	**Sn**	**13**	**19**	**32.1**		**+1.5**
KULA	**Kula-Manisa**	**0.79**	**323**	PG	**Pb**	**13**	**19**	**16.9**		**-0.1**
KULA				SG	**Sn**	**13**	**19**	**29.4**		**-1.3**
MANT	**Manisa**	**0.83**	**318**	*i* P	**Pb**	**13**	**19**	**17.7**		**+0.1**
MANT				*i* S	**Sb**	**13**	**19**	**28.6**		**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.09**	**274**	PN	**Pn**	**13**	**19**	**21.9**		**-0.8**
AYDN	**Tasoluk**	**1.12**	**259**	IAML_P						
	comp=Z,990nm,0.2s									
AYDN				*i* P	**Pn**	**13**	**19**	**23.6**		**+0.6**
AYDN				*i* S	**Sn**	**13**	**19**	**38.2**		**-0.5**
TURN	**Turunc**	**1.14**	**208**	PN	**Pn**	**13**	**19**	**26.1**		**+3.0**
SHAP	**Saphane-Kutahy**	**1.14**	**358**	PN	**Pn**	**13**	**19**	**23.6**		**+0.2**
DALY	**Dalyan (Mula)**	**1.17**	**205**	PN	**Pb**	**13**	**19**	**22.2**		**-1.1**
GEDZ	**Gediz**	**1.17**	**6**	PN	**Pn**	**13**	**19**	**24.1**		**+0.4**
SHUT	**Suhut-Afyon**	**1.22**	**56**	PN	**Pg**	**13**	**19**	**24.3**		**+0.1**
GDZ	**Gediz**	**1.22**	**8**	IAML_P						
	comp=Z,2μm,0.3s									
GDZ				*i* P	**Pg**	**13**	**19**	**24.8**		**+0.6**
GDZ				*i* S	**Sn**	**13**	**19**	**41.3**		**0.0**
DEMI	**Demirci**	**1.24**	**340**	IAML_P						
	comp=Z,1μm,0.2s									
DEMI				*i* P	**Pg**	**13**	**19**	**24.7**		**+0.1**
DEMI				*i* S	**Sn**	**13**	**19**	**42.9**		**+1.2**
FETY	**Fethiye**	**1.25**	**187**	PN	**Pb**	**13**	**19**	**23.6**		**-1.2**
DURS	**Dursunbey**	**1.83**	**340**	*i* P	**Pb**	**13**	**19**	**34.3**		**-0.4**
URLA	**Izmir**	**2.16**	**284**	PN	**Pn**	**13**	**19**	**38.3**		**+1.0**
BORA	**Eskisehir**	**2.20**	**25**	PN	**Pb**	**13**	**19**	**39.4**		**-1.7**

IDC 31 13:21:41.6±2.5,**4.°25N×94.°81E,h0km,mb3.5**/3,**mb1 3.7**/5,
mb1mx3.4/31,**mbtmp3.5**/5,**ML3.6**/2,**MS2.7**/1,**Ms1 2.7**/1,
ms1mx2.3/36,**Error ellipse: s-maj=84.3km**
s-min=24.3km az=57.0,Off west coast of northern
Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op	ISC	h	m	s		ISC
PSI	**Prapat**	**4.35**	**109**	Pn	Pn	13	22	49.1		0.0
	1.2nm,0.3s,baz=360,slow=14,SNR=2.9									
PSI				Sn	Sn	13	23	34.8		-5.9
	1.2nm,0.3s,baz=0.0,slow=14,SNR=5.6									
PSI				LR	LR	13	24	34.9		
	comp=Z,79nm,18.4s,baz=89,slow=40									
CMAR	**Chiang Mai Arr**	**14.68**	**16**	Pn	Pn	13	25	12.2		+1.5
	0.2nm,0.3s,baz=206,slow=12,SNR=5.2									
H08S2	**Diego Garcia H**	**25.21**	**242**	T	T	13	54	30.9		
	baz=61									
H08S3	**Diego Garcia H**	**25.21**	**242**	T	T	13	54	32.4		
	baz=61									
H08S1	**Diego Carcia H**	**25.23**	**242**	T	T	13	54	34.8		
	baz=61									
MKAR	**Makanchi Array**	**43.74**	**348**	P	P	13	29	48.4		-0.4
	0.4nm,0.7s,baz=164,slow=7.1,SNR=3.7									
WRA	**Warramunga Arr**	**45.68**	**123**	P	P	13	30	03.9		-0.8
	0.3nm,0.5s,baz=302,slow=9.1,SNR=6.4									
ASAR	**Alice Springs**	**47.13**	**128**	P	P	13	30	16.6		+0.6
	1.2nm,0.5s,baz=301,slow=7.7,SNR=37									

*SOME **31** 13:39:59.5,42.°55N×79.°67E,h5km*
*KRNET **31** 13:39:59.2±0.1,42.°58N×79.°68E,h15km,mb2.0*
*NNC **31** 13:40:00.1±1.4,42.°61N×79.°67E,h0km,mb2.8,mpv2.4,*
Error ellipse: s-maj=8.4km s-min=5.7km az=134.0
ISC 31 13:39:58.9±1.6,**42.°56N**±0.°05×**79.°69E**±0.°05,**h3**km±14km,
n27,σ0°70/49,12C-3D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op	ISC	h	m	s		ISC
SHLS	**Shalkode**	**0.62**	**345**	P	**Pb**	**13**	**40**	**12.1**		**-0.5**
	4.2nm,0.1s									
SHLS				S	**Sb**	**13**	**40**	**21.0**		**-0.8**
	27nm,0.2s									
SHLS	**Shalkode**	**0.62**	**345**	*eP*	**Pb**	**13**	**40**	**11.8**		**-0.7**
	4.2nm,0.1s									
SHLS				*eS*	**Sb**	**13**	**40**	**20.6**		**-1.2**
	27nm,0.3s									
UZB	**Uzynbulak**	**0.77**	**321**	P	**Pg**	**13**	**40**	**13.8**		**+0.1**
	2.4nm,0.1s									
UZB				S	**Sg**	**13**	**40**	**24.0**		**+0.3**
	6.0nm,0.1s									
UZB	**Uzynbulak**	**0.77**	**321**	*eP*	**Pg**	**13**	**40**	**13.8**		**+0.1**
	2.4nm,0.1s									
UZB				*eS*	**Sg**	**13**	**40**	**23.9**		**+0.3**
	6.0nm,0.1s									
PDGK	**Podgornoye**	**0.79**	**349**	P	**Pg**	**13**	**40**	**14.1**		**0.0**
	0.5nm,0.1s									
PDGK				S	**Sg**	**13**	**40**	**24.6**		**+0.3**
	2.3nm,0.2s									
PDGK	**Podgornoye**	**0.79**	**349**	⇑P	**Pg**	**13**	**40**	**13.4**		**-0.6**
	0.4nm,0.3s									
PDGK				⇓S	**Sg**	**13**	**40**	**24.4**		**+0.1**
	1.6nm,0.3s									
PDGK	**Podgornoye**	**0.79**	**349**	⇓*iP*	**Pg**	**13**	**40**	**14.1**		**0.0**
	baz=49									
PDGK				⇓*iS*	**Sg**	**13**	**40**	**24.5**		**+0.2**
	baz=49									
PRZ	**Przheval'sk**	**0.95**	**266**	⇑*iP*	**Pg**	**13**	**40**	**17.4**		**+0.2**
	baz=65									
PRZ				⇑*iS*	**Sg**	**13**	**40**	**30.2**		**+0.6**
	baz=65									
KTMS	**Ketmen**	**1.01**	**28**	P	**Pb**	**13**	**40**	**19.0**		**-0.2**
KTMS				S	**Sg**	**13**	**40**	**31.9**		**+0.3**
KTMS	**Ketmen**	**1.01**	**28**	*eP*	**Pg**	**13**	**40**	**18.7**		**+0.3**
	1.8nm,0.1s									
KTMS				*eS*	**Sg**	**13**	**40**	**31.9**		**+0.3**
	1.5nm,0.1s									
SATY	**Saty**	**1.07**	**299**	*eP*	**Pn**	**13**	**40**	**20.1**		**-0.8**
	0.6nm,0.1s									
SATY				*eS*	**Sb**	**13**	**40**	**34.3**		**-0.2**
	4.5nm,0.2s									
DJR	**Jarkent**	**1.78**	**2**	P	**Pg**	**13**	**40**	**32.6**		**-0.4**
DJR				S	**Sg**	**13**	**40**	**55.7**		**-0.4**
DJR	**Jarkent**	**1.78**	**2**	*eP*	**Pg**	**13**	**40**	**32.6**		**-0.4**
	0.4nm,0.1s									
DJR				*eS*	**Sg**	**13**	**40**	**55.7**		**-0.4**
	1.6nm,0.3s									
MNBS	**Baschi**	**1.79**	**329**	P	**Pb**	**13**	**40**	**32.0**		**-0.4**
MNBS				S	**Sb**	**13**	**40**	**54.9**		**-0.3**
MNBS	**Baschi**	**1.79**	**329**	*eP*	**Pb**	**13**	**40**	**32.0**		**-0.4**
MNBS				*eS*	**Sb**	**13**	**40**	**55.0**		**-0.3**
KDJ	**Kajisay**	**1.91**	**258**	⇑*iP*	**Pb**	**13**	**40**	**34.7**		**+0.3**
	baz=57									
KDJ				⇑*iS*	**Sg**	**13**	**40**	**59.9**		**-0.3**
	baz=57									
MDOK	**Medeo**	**2.03**	**288**	⇑Pg	**Pb**	**13**	**40**	**36.2**		**-0.3**
	1.5nm,0.5s									
MDOK				Lg	Lg	13	41	03.6		
	3.6nm,1.1s									
IZV	**Izvestkoviy**	**2.31**	**283**	Pg	**Pb**	**13**	**40**	**41.6**		**+0.2**
IZV				Lg	Lg	13	41	10.9		
IZV	**Izvestkoviy**	**2.31**	**283**	*eP*	**Pb**	**13**	**40**	**41.6**		**+0.2**
IZV				*eS*	**Sb**	**13**	**41**	**10.9**		**+0.5**
CHKK	**Chushkaly**	**2.36**	**304**	Pg	**Pb**	**13**	**40**	**42.4**		**+0.3**
CHKK				Lg	Lg	13	41	12.5		
CHKK	**Chushkaly**	**2.36**	**304**	*eP*	**Pb**	**13**	**40**	**42.4**		**+0.3**
	0.4nm,0.1s									
CHKK				*eS*	**Sb**	**13**	**41**	**12.5**		**+0.8**
	2.7nm,0.2s									
ULHL	**Ulahol**	**2.57**	**264**	⇑*iP*	**Pb**	**13**	**40**	**43.8**		**-2.0**
	baz=64									
ULHL				⇑*iS*	**Sb**	**13**	**41**	**17.1**		**-0.7**
	baz=64									
KAPS	**Kapalarasan**	**2.74**	**355**	Pg	**Pb**	**13**	**40**	**48.8**		**+0.3**
KAPS				Lg	Lg	13	41	23.6		
KAPS	**Kapalarasan**	**2.74**	**355**	*eP*	**Pb**	**13**	**40**	**48.8**		**+0.3**
	0.4nm,0.2s									
KAPS				*eS*	**Sb**	**13**	**41**	**23.6**		**+1.0**
	1.7nm,0.4s									
BOOM	**Boomskoye usch**	**2.77**	**270**	⇑*iP*	**Pn**	**13**	**40**	**46.2**		**+1.9**
	baz=70									
BOOM				⇑*iS*	**Sb**	**13**	**41**	**21.4**		**-2.2**
	baz=70									
KUU	**Kurty**	**2.79**	**300**	*eP*	**Pb**	**13**	**40**	**49.5**		**+0.2**
	0.2nm,0.1s									
KUU				*eS*	**Sb**	**13**	**41**	**24.7**		**+0.8**
	0.8nm,0.3s									
TKM2	**Tokmak 2**	**3.04**	**278**	⇑Pg	**Pg**	**13**	**40**	**56.9**		**-0.2**
	2.6nm,1.4s									
TKM2				⇑Lg	Lg	13	41	32.2		
	1.2nm,0.8s									

*

KZA				⇓*i*S		**Sn**	**13 59 37.6**	**+1.0**	
	baz=97								
KTMS	**Ketmen**	**2.94**	**26**	Pg		**Pb**	**13 59 07.5**	**-1.8**	
KTMS				Lg		Lg	13 59 46.9		
KTMS	**Ketmen**	**2.94**	**26**	*e*P		**Pb**	**13 59 07.5**	**-1.8**	
	1.8nm,0.1s								
KTMS				*e*S		**Sb**	**13 59 46.9**	**+1.5**	
	24nm,0.6s								
TKM2	**Tokmak 2**	**3.09**	**314**	P		**Pn**	**13 59 07.9**	**+2.2**	
	SNR=6.7								
TKM2	**Tokmak 2**	**3.09**	**314**	⇑Pn		**Pn**	**13 59 07.4**	**+1.8**	
	4.7nm,0.6s								
TKM2				⇑Pg		**Pb**	**13 59 11.2**	**-0.6**	
	8.1nm,0.4s								
TKM2				⇓Lg		Lg	13 59 54.4		
	33nm,0.6s								
TKM2	**Tokmak 2**	**3.09**	**314**	⇑*i*P		**Pn**	**13 59 07.0**	**+1.4**	
	baz=14								
TKM2				⇑*i*S		**Sn**	**13 59 43.7**	**+1.0**	
	baz=14								
KTBS	**Karatobe**	**3.24**	**334**	Pg		**Pb**	**13 59 15.0**	**+0.7**	
KTBS				Lg		Lg	13 59 58.8		
KTBS	**Karatobe**	**3.24**	**334**	*e*P		**Pb**	**13 59 14.6**	**+0.4**	
	3.3nm,0.3s								
KTBS				*e*S		**Sg**	**13 59 58.8**	**-1.8**	
	33nm,0.7s								
CHKK	**Chushkaly**	**3.27**	**339**	Pg		**Pb**	**13 59 14.9**	**0.0**	
CHKK				Lg		Lg	13 59 59.3		
CHKK	**Chushkaly**	**3.27**	**339**	*e*P		**Pb**	**13 59 14.8**	**0.0**	
	4.2nm,0.3s								
CHKK				*e*S		**Sg**	**13 59 59.3**	**-2.5**	
	70nm,0.4s								
MNBS	**Baschi**	**3.28**	**357**	Pg		**Pb**	**13 59 14.8**	**-0.1**	
MNBS				Lg		Lg	13 59 58.8		
MNBS	**Baschi**	**3.28**	**357**	*e*P		**Pb**	**13 59 14.8**	**-0.1**	
	3.6nm,0.4s								
MNBS				*e*S		**Sg**	**13 59 58.8**	**-3.0**	
	19nm,0.5s								
KBK	**Karagaybulak**	**3.31**	**305**	P		**Pb**	**13 59 15.9**	**+0.4**	
	SNR=8.8								
KBK	**Karagaybulak**	**3.31**	**305**	⇑*i*P		**Pn**	**13 59 10.1**	**+1.5**	
	baz=5.0								
KBK				⇑*i*S		**Sn**	**13 59 49.0**	**+0.9**	
	baz=5.0								
UCH	**Uchtor**	**3.39**	**296**	P		**Pb**	**13 59 16.9**	**-0.2**	
	SNR=14								
UCH	**Uchtor**	**3.39**	**296**	⇓*i*P		**Pn**	**13 59 11.4**	**+1.4**	
	baz=96								
UCH				⇓*i*S		**Sn**	**13 59 51.4**	**+0.9**	
	baz=96								
ARLS	**Aral**	**3.40**	**290**	⇓*i*P		**Pn**	**13 59 11.3**	**+1.5**	
	baz=89								
ARLS				⇓*i*S		**Sn**	**13 59 51.1**	**+0.9**	
	baz=89								
AAK	**Ala-Archa**	**3.58**	**302**	P		**Pb**	**13 59 20.3**	**+0.1**	
	SNR=9.7								
AAK	**Ala-Archa**	**3.58**	**302**	⇑Pg		**Pb**	**13 59 20.1**	**-0.1**	
	4.5nm,0.5s								
AAK				⇓Lg		Lg	14 00 08.7		
	17nm,1.1s								
AAK	**Ala-Archa**	**3.58**	**302**	⇑*i*P		**Pn**	**13 59 13.7**	**+1.3**	
	baz=2.0								
AAK				⇑*i*S		**Sn**	**13 59 55.8**	**+0.9**	
	baz=2.0								
CHMS	**Chumysh**	**3.62**	**309**	⇓*i*P		**Pn**	**13 59 14.0**	**+1.2**	
	baz=8.0								
CHMS				⇓*i*S		**Sn**	**13 59 55.8**	**+0.2**	
	baz=8.0								
DJR	**Jarkent**	**3.63**	**14**	*e*P		**Pb**	**13 59 19.6**	**-1.3**	
	0.5nm,0.2s								
DJR				*e*S		**Sb**	**14 00 07.9**	**+2.8**	
	5.9nm,0.4s								
AML	**Almayashu**	**3.92**	**291**	P		**Pb**	**13 59 27.5**	**+1.4**	
	SNR=6.1								
AML	**Almayashu**	**3.92**	**291**	⇓*i*P		**Pn**	**13 59 18.7**	**+1.4**	
	baz=91								
AML				⇓*i*S		**Sn**	**14 00 04.4**	**+0.8**	
	baz=91								
USP	**Ospenovka**	**3.93**	**310**	P		**Pb**	**13 59 25.5**	**-0.5**	
	SNR=7.8								
USP	**Ospenovka**	**3.93**	**310**	⇓*i*P		**Pn**	**13 59 18.4**	**+1.4**	
	baz=10.0								
USP				⇓*i*S		**Sn**	**14 00 03.5**	**+0.3**	
	baz=10.0								
SFK	**Sufi-Kurgan**	**3.98**	**260**	⇓Pg		**Pb**	**13 59 25.9**	**-1.1**	
	2.0nm,0.5s								
SFK				⇑Lg		Lg	14 00 19.5		
	9.4nm,1.0s								
SFK	**Sufi-Kurgan**	**3.98**	**260**	⇓*i*P		**Pn**	**13 59 19.3**	**+1.4**	
	baz=60								
SFK				⇓*i*S		**Sn**	**14 00 05.6**	**+0.9**	
	baz=60								
EKS2	**Erkin-Say**	**4.06**	**299**	P		**Pb**	**13 59 29.7**	**+1.4**	
	SNR=12								
EKS2	**Erkin-Say**	**4.06**	**299**	⇑*i*P		**Pn**	**13 59 20.4**	**+1.4**	
	baz=98								
EKS2				⇑*i*S		**Sn**	**14 00 06.9**	**+0.2**	
	baz=98								
MNAS	**Manas**	**4.87**	**292**	⇓Pg		**Pb**	**13 59 42.8**	**+0.7**	
	4.0nm,1.5s								
MNAS				⇑Lg		Lg	14 00 49.0		
	5.5nm,1.5s								
MK31	**Makanchi Array**	**6.55**	**23**	⇑Pg		Pg	14 00 16.7	-5.4	
	0.3nm,0.5s,baz=209,slow=16,SNR=3.1								
MK31				⇓Sn		**Sn**	**14 01 11.6**	**+3.8**	
	0.6nm,0.6s								
MK31				⇓Lg		Lg	14 01 46.3		
	0.4nm,0.5s,baz=202,slow=27								

*SKO **31** 14:05:35.8, 40˙.74N×20˙.62E, h15km, M1.5, ML2.3*
*THE **31** 14:05:43.3, 40˙.98N×21˙.07E, h12km±1km, ML2.4/4, Error ellipse: s-maj=2.0km s-min=1.1km az=269.0*
*ATH **31** 14:05:44.0, 40˙.91N×21˙.18E, h18km±3km, ML2.3/4, Error ellipse: s-maj=7.0km s-min=2.3km az=143.0*
ISC 31 14:05:43.4±1.0, **40˙.95N**±0˙.02×**21˙.07E**±0˙.03, **h10**km±7km, **n36**, σ1.**913**/56, **2C-1D**, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
BIA	**Bitola**	**0.20**	**70**	P		**Pg**	**14 05 48.0**	**+0.2**
BIA				S		**Sg**	**14 05 51.4**	**+0.8**
BIA	**Bitola**	**0.20**	**70**	⇑*i*Pg		**Pg**	**14 05 47.9**	**+0.2**
BIA				*i* Sg		**Sg**	**14 05 51.4**	**+0.8**
BIA				*e*Lg		Lg	14 05 51.5	
	comp=N,1μm,0.2s							
BIA				*e*Lg		Lg	14 05 51.5	
	comp=E,1μm,0.4s							
KRUS	**Krusevo**	**0.44**	**18**	*i* Pg		**Pg**	**14 05 50.8**	**-1.3**
KRUS				*i* Sg		**Sg**	**14 05 57.9**	**0.0**
KRUS				*e*Lg		Lg	14 05 58.0	
	comp=E,90nm,0.2s							
KRUS				*e*Lg		Lg	14 05 58.2	
	comp=N,63nm,0.2s							
NEST	**Nestorio**	**0.54**	**182**	P		**Pg**	**14 05 53.7**	**-0.2**
NEST				S		**Sg**	**14 06 01.7**	**+0.8**
NEST				AML		AML	14 06 03.6	
	comp=E,719μm,0.2s							
NEST				AML		AML	14 06 05.8	
	comp=N,886μm,0.2s							
NEST	**Nestorio**	**0.54**	**182**	P		**Pg**	**14 05 53.6**	**-0.2**
NEST				S		**Sb**	**14 06 02.2**	**-0.5**
NEST				AML		AML	14 06 03.6	
	comp=E,719μm,0.2s							
NEST				AML		AML	14 06 05.8	
	comp=N,886μm,0.2s							
NEST	**Nestorio**	**0.54**	**182**	P		**Pg**	**14 05 53.7**	**-0.2**
NEST				S		**Sb**	**14 06 02.5**	**-0.2**
PENT	**Pentalofos**	**0.76**	**176**	P		**Pg**	**14 05 58.1**	**+0.1**
KZN	**Kozani**	**0.83**	**140**	P		**Pg**	**14 05 58.7**	**-0.7**
KZN				S		**Sn**	**14 06 12.2**	**-1.4**
KZN				AML		AML	14 06 14.2	
	comp=N,544μm,0.4s							
KZN				AML		AML	14 06 15.8	
	comp=E,594μm,0.3s							
KZN	**Kozani**	**0.83**	**140**	P		**Pg**	**14 05 58.8**	**-0.7**
KZN				AML		AML	14 06 14.2	
	comp=N,544μm,0.4s							
KZN				AML		AML	14 06 15.8	
	comp=E,594μm,0.3s							
KZN	**Kozani**	**0.83**	**140**	P		**Pg**	**14 05 58.8**	**-0.7**
KZN				S		**Sb**	**14 06 11.5**	**+0.2**
PHP	**Peshkopia**	**0.88**	**327**	P		**Pg**	**14 05 58.5**	**-1.8**
PHP				S		**Sb**	**14 06 12.4**	**-0.1**
GRG	**Griva**	**1.01**	**89**	P		**Pb**	**14 06 01.4**	**-1.5**
GRG				S		**Sb**	**14 06 15.7**	**-0.5**
GRG	**Griva**	**1.01**	**89**	P		**Pb**	**14 06 01.6**	**-1.3**
GRG	**Griva**	**1.01**	**89**	P		**Pb**	**14 06 01.6**	**-1.3**
GRG				S		**Sn**	**14 06 17.3**	**-0.5**
GRG	**Griva**	**1.01**	**89**	*i* Pg		**Pb**	**14 06 01.5**	**-1.5**
GRG				*i* Sg		**Sb**	**14 06 15.4**	**-0.8**
KPRO	**Kipourio**	**1.02**	**167**	P		**Pb**	**14 06 01.9**	**-1.2**
KPRO				AML		AML	14 06 25.1	
	comp=N,336μm,0.6s							
KPRO				AML		AML	14 06 25.3	
	comp=E,435μm,0.4s							
KPRO	**Kipourio**	**1.02**	**167**	P		**Pb**	**14 06 02.0**	**-1.1**
KPRO				AML		AML	14 06 22.6	
	comp=N,317μm,0.4s							
KPRO				AML		AML	14 06 24.7	
	comp=E,315μm,0.5s							
KPRO	**Kipourio**	**1.02**	**167**	P		**Pb**	**14 06 02.4**	**-0.8**
KPRO				S		**Sn**	**14 06 18.9**	**+0.7**
SKO	**Skopje**	**1.06**	**15**	*i* Pg		**Pb**	**14 06 02.5**	**-1.3**
SKO				*i* Sg		**Sg**	**14 06 17.3**	**-0.2**
SKO				*e*Lg		Lg	14 06 18.9	
	comp=E,6.8nm,0.3s							
SKO				*e*Lg		Lg	14 06 19.1	
	comp=N,8.0nm,0.3s							
STIP	**Stip**	**1.12**	**48**	*i* Pg		**Pg**	**14 06 06.8**	**+1.9**
STIP				*i* Sg		**Sn**	**14 06 25.9**	**+5.3**
STIP				*e*Lg		Lg	14 06 27.1	
	comp=E,21nm,0.3s							
STIP				*e*Lg		Lg	14 06 27.5	
	comp=N,16nm,0.4s							
VAY	**Valandovo**	**1.19**	**71**	P		**Pn**	**14 06 04.8**	**-1.3**
VAY				S		**Sb**	**14 06 20.8**	**-0.7**
VAY	**Valandovo**	**1.19**	**71**	*i* Pg		**Pn**	**14 06 04.8**	**-1.3**
VAY				*i* Sg		**Sb**	**14 06 21.2**	**-0.2**
VAY				*e*Lg		Lg	14 06 23.2	
	comp=E,54nm,0.6s							
VAY				*e*Lg		Lg	14 06 23.4	
	comp=N,63nm,0.8s							
LIT	**Litokhoron**	**1.37**	**128**	P		**Pn**	**14 06 08.4**	**-0.2**
LIT				S		**Sg**	**14 06 28.6**	**+1.0**
LIT	**Litokhoron**	**1.37**	**128**	P		**Pb**	**14 06 08.8**	**-0.4**
LIT				AML		AML	14 06 34.4	
	comp=N,217μm,0.5s							
LIT				AML		AML	14 06 34.6	
	comp=E,210μm,0.6s							
LIT	**Litokhoron**	**1.37**	**128**	P		**Pb**	**14 06 08.8**	**-0.4**
LIT	**Litokhoron**	**1.37**	**128**	*i* Pg		**Pb**	**14 06 08.7**	**-0.5**
LIT				*i* Sg		**Sb**	**14 06 26.8**	**0.0**
KNT	**Kendrikon**	**1.40**	**81**	*i* Pg		**Pb**	**14 06 09.1**	**-0.5**
KNT				*i* Sg		**Sg**	**14 06 28.5**	**+0.2**
THE	**Thessaloniki**	**1.47**	**102**	⇓*i*Pg		**Pb**	**14 06 10.1**	**-0.7**
IGT	**Igoumenitsa**	**1.52**	**202**	P		**Pg**	**14 06 13.0**	**+0.3**
KEK	**Kerkira**	**1.57**	**219**	P		**Pg**	**14 06 13.9**	**+0.3**
ULC	**Ulcinj**	**1.71**	**307**	*i* Pg		**Pb**	**14 06 14.2**	**-0.6**
SOH	**Sokhos**	**1.73**	**94**	*i* Pg		**Pn**	**14 06 14.1**	**+0.5**
KKB	**Krupnik**	**1.77**	**58**	*i* Pg		**Pb**	**14 06 15.2**	**-0.7**
BARS	**Barje**	**1.94**	**16**	⇑*i*Pn		**Pn**	**14 06 16.8**	**+0.3**
AGG	**Agios Georgios**	**2.15**	**153**	P		**Pn**	**14 06 19.8**	**+0.4**
STON	**Ston**	**3.17**	**308**	*e*Pn		**Pn**	**14 06 34.7**	**+1.5**

*ISK **31** 14:10:20.8, 38˙.90N×43˙.55E, h13km, ML2.2/7*
*ISCJB **31** 14:10:21.8±0.7, 38˙.90N±0˙.04×43˙.62E±0˙.07, h23km±6km, Error ellipse: s-maj=9.4km s-min=5.1km az=28.9*
*DDA **31** 14:10:21.6, 38˙.90N×43˙.58E, h7km±3km, ML2.7*
ISC 31 14:10:21.6±0.9, **38˙.89N**±0˙.03×**43˙.58E**±0˙.04, **h16**km±7km, **n12**, σ0.**986**/20, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
VMUR	**Van-Muradiye**	**0.10**	**358**	IAML_P				
	comp=Z,11μm,0.1s							
VMUR				*i* P		**Pg**	**14 10 24.5**	**-0.8**
VMUR				*i* S		**Sg**	**14 10 28.9**	**+1.2**
VANB	**Van**	**0.33**	**206**	PG		**Pb**	**14 10 29.3**	**+0.1**
VANB				SG		**Sb**	**14 10 35.6**	**+1.4**
CLDR	**Caldiran**	**0.37**	**47**	PG		**Pg**	**14 10 28.7**	**-0.6**
CLDR				SG		**Sg**	**14 10 34.4**	**-0.1**
CLDR	**Caldiran**	**0.37**	**47**	IAML_P				
	comp=Z,3μm,0.2s							
CLDR				*i* P		**Pg**	**14 10 28.9**	**-0.4**
CLDR				*i* S		**Sb**	**14 10 35.4**	**0.0**
TVAN	**Van**	**0.39**	**200**	IAML_P				
	comp=Z,2μm,0.1s							
TVAN				*i* P		**Pb**	**14 10 29.7**	**-0.5**
TVAN				*i* S		**Sb**	**14 10 36.7**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.67**	**263**	IAML_P				
	comp=Z,660nm,0.2s							
ADCV				*i* P		**Pb**	**14 10 34.9**	**-0.1**
ADCV				*i* S		**Sb**	**14 10 45.9**	**+1.8**
AKDM	**Akdamar-Van**	**0.73**	**220**	PG		**Pg**	**14 10 34.5**	**-1.4**
AKDM				SG		**Sb**	**14 10 45.9**	**+0.1**
TUTA	**Tutak**	**0.78**	**311**	IAML_P				
	comp=Z,3μm,0.1s							
TUTA				*i* P		**Pb**	**14 10 37.0**	**0.0**
AGRB	**Hanur-Agry**	**0.82**	**327**	PG		**Pg**	**14 10 36.7**	**-0.9**
AGRB				SG		**Sb**	**14 10 48.3**	**-0.2**
GURO	**Guroymak-BITLI**	**1.25**	**255**	PN		**Pn**	**14 10 44.3**	**-0.3**
GNI	**Garni**	**1.55**	**35**	PN		**Pn**	**14 10 48.9**	**+0.3**
SIRT	**Sirnak**	**1.65**	**213**	PN		**Pn**	**14 10 50.4**	**+0.4**

*SOME **31** 14:13:38.2, 42˙.53N×79˙.78E, h25km*
*NNC **31** 14:13:38.4±1.0, 42˙.60N×79˙.68E, h0km, mb3.2, mpv3.1, Error ellipse: s-maj=6.0km s-min=3.6km az=137.0*
*KRNET **31** 14:13:39.3±0.1, 42˙.61N×79˙.72E, h21km, mb2.9*
ISC 31 14:13:39.1±1.4, **42˙.63N**±0˙.04×**79˙.70E**±0˙.04, **h2**km±10km, **n53**, σ0.**988**/96, **22C-18D**, **Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
SHLS	**Shalkode**	**0.56**	**342**	P		**Pg**	**14 13 50.4**	**+0.7**
	107nm,0.1s							
SHLS				S		**Sb**	**14 13 59.4**	**-0.8**
	51nm,0.1s							
SHLS	**Shalkode**	**0.56**	**342**	⇓*e*P		**Pg**	**14 13 50.5**	**+0.7**
	baz=12							
SHLS				⇓*e*S		**Sb**	**14 13 59.4**	**-0.8**
	baz=12							
SHLS	**Shalkode**	**0.56**	**342**	⇓*e*P		**Pg**	**14 13 50.5**	**+0.7**
	107nm,0.1s							
SHLS				*e*S		**Sb**	**14 13 59.4**	**-0.8**
	51nm,0.1s							
PDGK	**Podgornoye**	**0.71**	**348**	P		**Pg**	**14 13 52.7**	**-0.1**
	8.9nm,0.1s							
PDGK				S		**Sg**	**14 14 03.3**	**+1.2**
	7.6nm,0.1s							
PDGK	**Podgornoye**	**0.71**	**348**	⇓P		**Pg**	**14 13 52.5**	**-0.3**
	7.3nm,0.4s							
PDGK				⇑S		**Sg**	**14 14 03.0**	**+0.9**
	5.6nm,0.5s							
PDGK	**Podgornoye**	**0.71**	**348**	⇓*i*P		**Pg**	**14 13 52.8**	**-0.1**
	baz=46							
PDGK				⇓*i*S		**Sg**	**14 14 03.1**	**+0.9**
	baz=46							
UZB	**Uzunbulak**	**0.72**	**316**	P		**Pg**	**14 13 52.7**	**-0.2**
	11nm,0.2s							
UZB				S		**Sg**	**14 14 02.6**	**+0.5**
	49nm,0.2s							
UZB	**Uzunbulak**	**0.72**	**316**	⇓*e*P		**Pg**	**14 13 53.2**	**+0.3**
	baz=16							
UZB				⇓*e*S		**Sg**	**14 14 03.6**	**+1.4**
	baz=16							
UZB	**Uzunbulak**	**0.72**	**316**	⇓*e*P		**Pg**	**14 13 52.7**	**-0.2**
	11nm,0.2s							
UZB				*e*S		**Sg**	**14 14 02.6**	**+0.5**
	49nm,0.2s							
KTMS	**Ketmen**	**0.95**	**30**	P		**Pg**	**14 13 56.8**	**-0.5**
	10nm,0.1s							
KTMS				S		**Sg**	**14 14 10.0**	**+0.5**
	8.6nm,0.1s							
KTMS	**Ketmen**	**0.95**	**30**	*e*P		**Pg**	**14 13 56.8**	**-0.5**
	baz=28							
KTMS				*e*S		**Sg**	**14 14 10.0**	**+0.5**
	baz=28							
KTMS	**Ketmen**	**0.95**	**30**	*e*P		**Pg**	**14 13 56.8**	**-0.5**
	10nm,0.1s							
KTMS				*e*S		**Sg**	**14 14 10.1**	**+0.5**
	8.6nm,0.1s							
PRZ	**Przheval'sk**	**0.97**	**262**	⇑*i*P		**Pg**	**14 13 57.6**	**-0.1**
	baz=63							
PRZ				⇑*i*S		**Sg**	**14 14 11.0**	**+0.7**
	baz=63							
SATY	**Saty**	**1.04**	**295**	P		**Pg**	**14 13 58.8**	**-0.3**
SATY				S		**Sg**	**14 14 12.5**	**-0.1**
SATY	**Saty**	**1.04**	**295**	*e*P		**Pg**	**14 13 58.5**	**-0.6**
	2.3nm,0.1s							
SATY				*e*S		**Sg**	**14 14 12.6**	**0.0**
	32nm,0.1s							
KURS	**Kuram**	**1.41**	**308**	⇓*i*P		**Pn**	**14 14 04.8**	**-1.2**
	0.9nm,0.1s							
KURS				*e*S		**Sn**	**14 14 24.0**	**-1.2**
	7.2nm,0.3s							
DJR	**Jarkent**	**1.70**	**2**	P		**Pb**	**14 14 10.5**	**-0.8**
	1.8nm,0.2s							
DJR				S		**Sg**	**14 14 34.2**	**+0.3**
	9.4nm,0.3s							
DJR	**Jarkent**	**1.70**	**2**	*e*P		**Pb**	**14 14 10.5**	**-0.8**
	1.8nm,0.2s							
DJR				*e*S		**Sg**	**14 14 34.2**	**+0.3**
	9.4nm,0.3s							
MNBS	**Baschi**	**1.73**	**327**	P		**Pn**	**14 14 10.8**	**+0.3**
	5.6nm,0.2s							
MNBS				S		**Sb**	**14 14 34.4**	**+0.4**
	38nm,0.3s							
MNBS	**Baschi**	**1.73**	**327**	⇑*e*P		**Pb**	**14 14 11.0**	**-0.8**
	5.6nm,0.2s							
MNBS				*e*S		**Sb**	**14 14 34.4**	**+0.4**
	38nm,0.3s							
KDJ	**Kajisay**	**1.93**	**256**	⇑*i*P		**Pb**	**14 14 14.2**	**-1.0**
	baz=56							
KDJ				⇑*i*S		**Sb**	**14 14 38.7**	**-1.1**
	baz=56							
KOTS	**Kotyrbulak**	**1.99**	**289**	Pg		**Pb**	**14 14 15.4**	**-0.8**
KOTS				Lg		Lg	14 14 43.2	
KOTS	**Kotyrbulak**	**1.99**	**289**	*e*P		**Pb**	**14 14 15.2**	**-1.0**
	baz=89							
KOTS				*e*S		**Sb**	**14 14 41.2**	**-0.4**
	baz=89							
KOTS	**Kotyrbulak**	**1.99**	**289**	*e*P		**Pb**	**14 14 15.2**	**-1.0**
	8.4nm,0.3s							
KOTS				*e*S		**Sb**	**14 14 42.2**	**+0.6**
	43nm,0.7s							
MDOK	**Medeo**	**2.02**	**286**	Pg		**Pb**	**14 14 15.3**	**-1.4**
	2.3nm,0.4s							
MDOK				⇓Lg		Lg	14 14 42.0	
	13nm,0.5s							
MDOK	**Medeo**	**2.02**	**286**	*e*P		**Pn**	**14 14 15.2**	**+0.8**
	baz=87							
MDOK				*e*S		**Sb**	**14 14 41.9**	**-0.4**
	baz=87							
MDOK	**Medeo**	**2.02**	**286**	*e*P		**Pn**	**14 14 15.2**	**+0.8**
	5.3nm,0.2s							
MDOK				*e*S		**Sb**	**14 14 41.9**	**-0.4**
	16nm,0.6s							
TNSS	**Tian-Shan**	**2.06**	**282**	Pg		**Pn**	**14 14 15.7**	**+0.5**
	5.8nm,0.2s							
TNSS				Lg		Lg	14 14 43.9	
	12nm,0.3s							
TNSS	**Tian-Shan**	**2.06**	**282**	*e*P		**Pn**	**14 14 15.7**	**+0.5**
	baz=83							
TNSS				*e*S		**Sb**	**14 14 43.2**	**-0.7**
	baz=83							
TNSS	**Tian-Shan**	**2.06**	**282**	*e*P		**Pn**	**14 14 15.7**	**+0.5**
	5.8nm,0.2s							
TNSS				*e*S		**Sb**	**14 14 43.2**	**-0.7**
	12nm,0.3s							
ARXS	**Arharly**	**2.09**	**320**	Pg		**Pb**	**14 14 16.5**	**-1.3**
ARXS				Lg		Lg	14 14 44.5	
ARXS	**Arharly**	**2.09**	**320**	*e*P		**Pb**	**14 14 16.5**	**-1.3**
	0.9nm,0.2s							
ARXS				*e*S		**Sb**	**14 14 44.5**	**+0.3**
	21nm,0.2s							
IZV	**Izvestkoviy**	**2.31**	**281**	Pg		**Pb**	**14 14 20.2**	**-1.4**
	4.9nm,0.1s							
IZV				Lg		Lg	14 14 50.0	
	18nm,0.3s							
IZV	**Izvestkoviy**	**2.31**	**281**	*e*P		**Pb**	**14 14 20.2**	**-1.4**
	4.9nm,0.1s							
IZV				*e*S		**Sb**	**14 14 50.0**	**-0.6**
	18nm,0.3s							
CHKK	**Chushkaly**	**2.33**	**303**	Pg		**Pb**	**14 14 20.9**	**-0.9**
CHKK				Lg		Lg	14 14 51.4	
CHKK	**Chushkaly**	**2.33**	**303**	*e*P		**Pb**	**14 14 20.9**	**-0.9**
	1.1nm,0.1s							
CHKK				*e*S		**Sb**	**14 14 51.4**	**+0.3**
	2.1nm,0.2s							
MTBS	**Maitube**	**2.45**	**283**	*e*P		**Pb**	**14 14 22.3**	**-1.8**
	6.2nm,0.3s							
MTBS				⇑*i*S		**Sb**	**14 14 54.3**	**-0.5**
	13nm,0.5s							
KTBS	**Karatobe**	**2.46**	**297**	Pg		**Pb**	**14 14 22.9**	**-1.2**
	1.1nm,0.2s							
KTBS				Lg		Lg	14 14 55.1	
	12nm,0.3s							
KTBS	**Karatobe**	**2.46**	**297**	*e*P		**Pb**	**14 14 22.9**	**-1.2**
	baz=96							
KTBS				*e*S		**Sb**	**14 14 55.1**	**+0.3**
	baz=96							
KTBS	**Karatobe**	**2.46**	**297**	*e*P		**Pb**	**14 14 22.9**	**-1.2**
	1.1nm,0.2s							
KTBS				*e*S		**Sb**	**14 14 55.1**	**+0.3**
	12nm,0.3s							
ULHL	**Ulahol**	**2.59**	**263**	⇑*i*P		**Pn**	**14 14 23.3**	**+1.0**
	baz=63							
ULHL				⇑*i*S		**Sn**	**14 14 55.1**	**+0.7**
	baz=63							
KUU	**Kurty**	**2.76**	**298**	*e*P		**Pb**	**14 14 28.3**	**-1.0**
	1.2nm,0.1s							
KUU				⇑*i*S		**Sb**	**14 15 04.1**	**+0.6**
	11nm,0.2s							
BOOM	**Boomskoye usch**	**2.78**	**268**	⇑*i*P		**Pn**	**14 14 26.1**	**+1.2**
	baz=69							
BOOM				⇑*i*S		**Sn**	**14 14 59.8**	**+0.7**
	baz=69							
DGS	**Degeres**	**2.95**	**283**	Pg		**Pb**	**14 14 31.1**	**-1.4**
	3.5nm,0.3s							
DGS				Lg		Lg	14 15 09.6	
	24nm,0.3s							
DGS	**Degeres**	**2.95**	**283**	*e*P		**Pb**	**14 14 31.1**	**-1.4**
	3.5nm,0.3s							
DGS				*e*S		**Sb**	**14 15 09.6**	**+0.

	baz=15								
SHLS				⇓*e*S		**Sb**	**14 27 17.0**	**-1.6**	
	baz=15								
SHLS	**Shalkode**	**0.65**	**344**	⇓*e*P		**Pg**	**14 27 08.2**	**+1.0**	
	100nm,0.1s								
SHLS				*e*S		**Sb**	**14 27 17.0**	**-1.6**	
	77nm,0.2s								
UZB	**Uzynbulak**	**0.79**	**321**	P		**Pg**	**14 27 10.1**	**+0.1**	
	18nm,0.1s								
UZB				S		**Sg**	**14 27 20.4**	**+0.1**	
	51nm,0.2s								
UZB	**Uzynbulak**	**0.79**	**321**	⇓*e*P		**Pg**	**14 27 10.2**	**+0.2**	
	baz=20								
UZB				⇓*e*S		**Sg**	**14 27 20.4**	**+0.1**	
	baz=20								
UZB	**Uzynbulak**	**0.79**	**321**	⇓*e*P		**Pg**	**14 27 10.2**	**+0.2**	
	18nm,0.1s								
UZB				*e*S		**Sg**	**14 27 20.4**	**+0.1**	
	51nm,0.2s								
PDGK	**Podgornoye**	**0.81**	**349**	P		**Pg**	**14 27 10.3**	**0.0**	
	11nm,0.1s								
PDGK				S		**Sg**	**14 27 21.1**	**+0.2**	
	5.8nm,0.1s								
PDGK	**Podgornoye**	**0.81**	**349**	⇑P		**Pg**	**14 27 10.3**	**0.0**	
	7.6nm,0.4s								
PDGK				⇑S		**Sg**	**14 27 19.9**	**-1.0**	
	2.8nm,0.4s								
PDGK	**Podgornoye**	**0.81**	**349**	⇑*i*P		**Pg**	**14 27 10.4**	**0.0**	
	baz=50								
PDGK				⇑*i*S		**Sg**	**14 27 20.6**	**-0.3**	
	baz=50								
PRZ	**Przheval'sk**	**0.96**	**268**	⇑*i*P		**Pg**	**14 27 14.0**	**+0.7**	
	baz=65								
PRZ				⇑*i*S		**Sg**	**14 27 26.2**	**+0.5**	
	baz=65								
KTMS	**Ketmen**	**1.03**	**27**	P		**Pg**	**14 27 14.8**	**+0.3**	
KTMS				S		**Sg**	**14 27 28.1**	**+0.2**	
KTMS	**Ketmen**	**1.03**	**27**	*e*P		**Pg**	**14 27 14.9**	**+0.3**	
	baz=29								
KTMS				*e*S		**Sg**	**14 27 28.2**	**+0.2**	
	baz=29								
KTMS	**Ketmen**	**1.03**	**27**	*e*P		**Pg**	**14 27 14.8**	**+0.3**	
	8.7nm,0.1s								
KTMS				*e*S		**Sg**	**14 27 28.1**	**+0.2**	
	51nm,0.2s								
SATY	**Saty**	**1.09**	**299**	P		**Pg**	**14 27 15.9**	**+0.2**	
SATY				S		**Sg**	**14 27 29.9**	**+0.1**	
SATY	**Saty**	**1.09**	**299**	*e*P		**Pg**	**14 27 15.9**	**+0.2**	
	3.3nm,0.1s								
SATY				*e*S		**Sg**	**14 27 29.9**	**+0.1**	
	57nm,0.2s								
KURS	**Kuram**	**1.48**	**311**	P		**Pb**	**14 27 22.5**	**-0.4**	
	1.4nm,0.2s								
KURS				S		**Sb**	**14 27 41.4**	**-0.8**	
	5.7nm,0.3s								
KURS	**Kuram**	**1.48**	**311**	⇑*e*P		**Pb**	**14 27 22.6**	**-0.4**	
	baz=10.0								
KURS				⇑*e*S		**Sb**	**14 27 41.4**	**-0.8**	
	baz=10.0								
KURS	**Kuram**	**1.48**	**311**	⇑*e*P		**Pb**	**14 27 22.6**	**-0.4**	
	1.4nm,0.2s								
KURS				*e*S		**Sb**	**14 27 41.4**	**-0.8**	
	5.7nm,0.3s								
DJR	**Jarkent**	**1.80**	**2**	P		**Pb**	**14 27 28.1**	**-0.4**	
	3.2nm,0.2s								
DJR				S		**Sg**	**14 27 52.2**	**-0.5**	
	14nm,0.3s								
DJR	**Jarkent**	**1.80**	**2**	⇓*e*P		**Pb**	**14 27 28.2**	**-0.4**	
	3.2nm,0.2s								
DJR				*e*S		**Sg**	**14 27 52.0**	**-0.6**	
	14nm,0.3s								
MNBS	**Baschi**	**1.81**	**329**	P		**Pb**	**14 27 28.2**	**-0.6**	
	12nm,0.2s								
MNBS				S		**Sb**	**14 27 51.8**	**-0.3**	
	23nm,0.2s								
MNBS	**Baschi**	**1.81**	**329**	⇓*e*P		**Pb**	**14 27 28.3**	**-0.6**	
	baz=29								
MNBS				⇓*e*S		**Sb**	**14 27 51.8**	**-0.3**	
	baz=29								
MNBS	**Baschi**	**1.81**	**329**	⇓*e*P		**Pb**	**14 27 28.3**	**-0.6**	
	12nm,0.2s								
MNBS				*e*S		**Sb**	**14 27 51.8**	**-0.3**	
	23nm,0.2s								
KDJ	**Kajisay**	**1.91**	**259**	⇑*i*P		**Pg**	**14 27 31.9**	**+0.5**	
	baz=57								
KDJ				⇑*i*S		**Sg**	**14 27 56.7**	**+0.5**	
	baz=57								
KOTS	**Kotyrbulak**	**2.03**	**291**	Pg		**Pb**	**14 27 32.6**	**+0.1**	
	1.9nm,0.2s								
KOTS				Lg		Lg	14 27 59.6		
	43nm,0.4s								
KOTS	**Kotyrbulak**	**2.03**	**291**	*e*P		**Pb**	**14 27 32.6**	**+0.1**	
	baz=90								
KOTS				*e*S		**Sg**	**14 27 59.3**	**-0.7**	
	baz=90								
KOTS	**Kotyrbulak**	**2.03**	**291**	*e*P		**Pb**	**14 27 32.6**	**+0.1**	
	1.9nm,0.2s								
KOTS				*e*S		**Sg**	**14 27 59.3**	**-0.7**	
	43nm,0.4s								
MDOK	**Medeo**	**2.05**	**289**	⇓Pg		**Pg**	**14 27 34.2**	**+0.1**	
	1.3nm,0.4s								
MDOK				⇓Lg		Lg	14 27 59.4		
	10nm,0.6s								
MDOK	**Medeo**	**2.05**	**289**	Pg		**Pb**	**14 27 32.9**	**0.0**	
	1.6nm,0.2s								
MDOK				Lg		Lg	14 27 59.3		
	12nm,0.6s								
MDOK	**Medeo**	**2.05**	**289**	*e*P		**Pb**	**14 27 32.9**	**0.0**	
	baz=88								
MDOK				*e*S		**Sb**	**14 27 59.3**	**+0.4**	
	baz=88								
MDOK	**Medeo**	**2.05**	**289**	*e*P		**Pb**	**14 27 32.9**	**0.0**	
	1.6nm,0.2s								
MDOK				*e*S		**Sb**	**14 27 59.3**	**+0.4**	
	12nm,0.6s								
TNSS	**Tian-Shan**	**2.09**	**285**	Pg		**Pb**	**14 27 33.6**	**-0.1**	
	2.9nm,0.2s								
TNSS				Lg		Lg	14 28 01.3		
	8.1nm,0.3s								
TNSS	**Tian-Shan**	**2.09**	**285**	*e*P		**Pb**	**14 27 33.6**	**-0.1**	
	baz=84								
TNSS				*e*S		**Sg**	**14 28 01.4**	**-0.6**	
	baz=84								
TNSS	**Tian-Shan**	**2.09**	**285**	*e*P		**Pb**	**14 27 33.6**	**-0.1**	
	2.9nm,0.2s								
TNSS				*e*S		**Sg**	**14 28 01.3**	**-0.6**	
	8.1nm,0.3s								
ARXS	**Arharly**	**2.17**	**322**	Pg		**Pb**	**14 27 34.0**	**-0.8**	
	4.6nm,0.2s								
ARXS				Lg		Lg	14 28 02.0		
	17nm,0.4s								
ARXS	**Arharly**	**2.17**	**322**	*e*P		**Pb**	**14 27 34.0**	**-0.8**	
	4.6nm,0.2s								
ARXS				*e*S		**Sb**	**14 28 02.0**	**-0.2**	
	17nm,0.4s								
IZV	**Izvestkoviy**	**2.33**	**284**	Pg		**Pb**	**14 27 37.6**	**0.0**	
	2.1nm,0.2s								
IZV				Lg		Lg	14 28 07.5		
	21nm,0.3s								
IZV	**Izvestkoviy**	**2.33**	**284**	*e*P		**Pb**	**14 27 37.6**	**0.0**	
	baz=83								
IZV				*e*S		**Sb**	**14 28 07.5**	**+0.6**	
	baz=83								
IZV	**Izvestkoviy**	**2.33**	**284**	*e*P		**Pb**	**14 27 37.6**	**0.0**	
	2.1nm,0.2s								
IZV				*e*S		**Sb**	**14 28 07.5**	**+0.6**	
	21nm,0.3s								
CHKK	**Chushkaly**	**2.38**	**305**	Pg		**Pb**	**14 27 38.2**	**-0.3**	
CHKK				Lg		Lg	14 28 08.4		
CHKK	**Chushkaly**	**2.38**	**305**	*e*P		**Pb**	**14 27 38.2**	**-0.3**	
	baz=4.0								
CHKK				*e*S		**Sb**	**14 28 08.5**	**+0.1**	
	baz=4.0								
CHKK	**Chushkaly**	**2.38**	**305**	*e*P		**Pb**	**14 27 38.2**	**-0.3**	
	0.9nm,0.1s								
CHKK				*e*S		**Sb**	**14 28 08.4**	**+0.1**	
	19nm,0.2s								
MTBS	**Maitube**	**2.48**	**285**	⇑*i*P		**Pb**	**14 27 40.6**	**+0.5**	
	baz=84								
MTBS				⇑*i*S		**Sg**	**14 28 12.9**	**-1.6**	
	baz=84								
MTBS	**Maitube**	**2.48**	**285**	⇑*i*P		**Pb**	**14 27 40.6**	**+0.5**	
	5.8nm,0.3s								
MTBS				⇑*i*S		**Sg**	**14 28 12.9**	**-1.6**	
	14nm,0.2s								
KTBS	**Karatobe**	**2.51**	**299**	Pg		**Pb**	**14 27 39.7**	**-0.9**	
	1.3nm,0.3s								
KTBS				Lg		Lg	14 28 11.5		
	13nm,0.4s								
KTBS	**Karatobe**	**2.51**	**299**	*e*P		**Pb**	**14 27 39.7**	**-0.9**	
	baz=97								
KTBS				*e*S		**Sb**	**14 28 11.5**	**-0.4**	
	baz=97								
KTBS	**Karatobe**	**2.51**	**299**	*e*P		**Pb**	**14 27 39.7**	**-0.9**	
	1.3nm,0.3s								
KTBS				*e*S		**Sb**	**14 28 11.5**	**-0.4**	
	13nm,0.4s								
ULHL	**Ulahol**	**2.58**	**265**	⇑*i*P		**Pb**	**14 27 41.6**	**-0.3**	
	baz=64								
ULHL				⇑*i*S		**Sb**	**14 28 13.5**	**-0.7**	
	baz=64								
KAPS	**Kapalarasan**	**2.76**	**355**	Pg		**Pb**	**14 27 43.7**	**-1.3**	
KAPS				Lg		Lg	14 28 17.7		
KAPS	**Kapalarasan**	**2.76**	**355**	*e*P		**Pb**	**14 27 43.6**	**-1.3**	
	1.1nm,0.2s								
KAPS				*e*S		**Sb**	**14 28 17.7**	**-1.6**	
	9.2nm,0.4s								
BOOM	**Boomskoye usch**	**2.78**	**270**	⇓*i*P		**Pb**	**14 27 43.5**	**-1.8**	
	baz=70								
BOOM				⇓*i*S		**Sb**	**14 28 18.0**	**-1.9**	
	baz=70								
KUU	**Kurty**	**2.81**	**300**	*e*P		**Pb**	**14 27 45.6**	**-0.1**	
	baz=0.0								
KUU				*e*S		**Sb**	**14 28 21.1**	**+0.5**	
	baz=0.0								
KUU	**Kurty**	**2.81**	**300**	*e*P		**Pb**	**14 27 45.5**	**-0.1**	
	0.7nm,0.1s								
KUU				*e*S		**Sb**	**14 28 21.1**	**+0.5**	
	11nm,0.4s								
DGS	**Degeres**	**2.97**	**285**	Pg		**Pb**	**14 27 49.3**	**+0.7**	
	1.2nm,0.2s								
DGS				Lg		Lg	14 28 27.1		
	9.6nm,0.3s								
DGS	**Degeres**	**2.97**	**285**	*e*P		**Pb**	**14 27 49.3**	**+0.7**	
	baz=84								
DGS				*e*S		**Sb**	**14 28 27.1**	**+1.7**	
	baz=84								
DGS	**Degeres**	**2.97**	**285**	*e*P		**Pb**	**14 27 49.3**	**+0.7**	
	1.2nm,0.2s								
DGS				*e*S		**Sb**	**14 28 27.1**	**+1.7**	
	9.6nm,0.3s								
TKM2	**Tokmak 2**	**3.05**	**279**	⇑Pg		**Pb**	**14 27 49.7**	**-0.2**	
	0.9nm,0.6s								
TKM2				⇑Lg		Lg	14 28 29.4		
	5.3nm,0.6s								
TKM2	**Tokmak 2**	**3.05**	**279**	⇓*i*P		**Pb**	**14 27 47.9**	**-2.0**	
	baz=78								
TKM2				⇓*i*S		**Sb**	**14 28 24.2**	**-3.5**	
	baz=78								
KZA	**Kyzart**	**3.33**	**264**	⇑*i*P		**Pb**	**14 27 52.0**	**-2.9**	
	baz=63								
KZA				⇑*i*S		**Sb**	**14 28 31.9**	**-4.1**	
	baz=63								
AAK	**Ala-Archa**	**3.85**	**273**	⇓Pg		**Pb**	**14 28 05.4**	**+1.9**	
	1.7nm,0.8s								
AAK				⇓Lg		Lg	14 28 54.5		
	2.9nm,0.6s								
MK31	**Makanchi Array**	**4.64**	**23**	⇑Pn		**Pn**	**14 28 07.5**	**+1.5**	
	0.1nm,0.2s,baz=201,slow=13,SNR=6.7								
MK31				Sn		**Sn**	**14 29 01.2**	**+0.7**	
	0.4nm,0.5s,baz=206,slow=25,SNR=5.4								
MK31				⇑Lg		Lg	14 29 20.1		
	0.9nm,0.7s,baz=203,slow=28,SNR=4.6								

*ATH **31** 14:31:22.6,37.63N×26.95E,h14km±3km,ML2.6/2,Error ellipse: s-maj=4.0km s-min=1.4km az=321.0*
*ISK **31** 14:31:22.3,37.64N×26.90E,h2km,ML2.8/18*
*ISCJB **31** 14:31:23.4±0.4,37.63N±0.02×26.92E±0.03,h9km±3km, Error ellipse: s-maj=4.2km s-min=3.0km az=146.4*
*DDA **31** 14:31:24.3,37.69N×26.97E,h7km±5km,ML2.9*
*THE **31** 14:31:24.7,37.66N×26.84E,h7km±1km,ML2.2/4,Error ellipse: s-maj=3.8km s-min=0.7km az=92.0*

ISC 31 14:31:23.2±0.8,37.65N±0.02×26.93E±0.02,h14km±5km, n34,σ0°76/53,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SMG	**Samos**	**0.10**	**311**	P		**Pg**	**14 31 26.0**	**-0.2**
SMG				S		**Sg**	**14 31 28.1**	**-0.3**
SMG				AML		AML	14 31 28.3	
	comp=N,29030μm,0.3s							
SMG				AML		AML	14 31 28.7	
	comp=E,19925μm,0.2s							
SMG	**Samos**	**0.10**	**311**	P		**Pg**	**14 31 26.0**	**-0.2**
SMG				S		**Sg**	**14 31 28.0**	**-0.3**
GCAM	**G?zelcaml?**	**0.25**	**77**	PG		**Pb**	**14 31 28.9**	**-0.6**
GCAM				SG		**Sg**	**14 31 33.4**	**+1.3**
GCAM	**G?zelcaml?**	**0.25**	**77**	IAML_P				
	comp=Z,10μm,0.2s							
GCAM				*i* P		**Pb**	**14 31 29.2**	**-0.3**
GCAM				*i* S		**Sg**	**14 31 34.2**	**+2.2**
DIDI	**Didim-Aydin**	**0.37**	**137**	PG		**Pg**	**14 31 30.6**	**0.0**
DIDI				SG		**Sb**	**14 31 36.9**	**-0.2**
DGB	**zmir**	**0.41**	**355**	IAML_P				
	comp=Z,11μm,0.1s							
DGB				*i* P		**Pb**	**14 31 31.9**	**-0.3**
DGB				*i* S		**Sb**	**14 31 38.5**	**+0.3**
GMLD	**Gumuldur**	**0.43**	**359**	PG		**Pb**	**14 31 31.9**	**-0.7**
GMLD				SG		**Sb**	**14 31 39.2**	**+0.3**
YKAV	**Yalikavak-Bodr**	**0.59**	**152**	PG		**Pg**	**14 31 34.7**	**-0.1**
YKAV				SG		**Sb**	**14 31 43.2**	**-0.3**
BODT	**Bodrum**	**0.66**	**152**	PG		**Pb**	**14 31 36.1**	**-0.4**
ZEY	**zmir**	**0.68**	**331**	IAML_P				
	comp=Z,4μm,0.1s							
ZEY				*i* P		**Pn**	**14 31 37.9**	**-0.6**
ZEY				*i* S		**Sn**	**14 31 47.5**	**-1.3**
BLCB	**Balcova**	**0.74**	**7**	PG		**Pb**	**14 31 37.5**	**-0.4**
AYDN	**Tasoluk**	**0.76**	**89**	IAML_P				
	comp=Z,3μm,0.2s							
AYDN				*i* P		**Pn**	**14 31 38.6**	**-0.9**
AYDN				*i* S		**Sb**	**14 31 48.8**	**+0.5**
URLA	**Izmir**	**0.76**	**340**	PG		**Pb**	**14 31 38.0**	**-0.2**
URLA	**Izmir**	**0.76**	**340**	IAML_P				
	comp=Z,3μm,0.2s							
URLA				*i* P		**Pn**	**14 31 39.4**	**-0.2**
URLA				*i* S		**Sn**	**14 31 49.8**	**-1.1**
MLSB	**Milas**	**0.76**	**117**	PG		**Pb**	**14 31 38.3**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.82**	**68**	PG		**Pn**	**14 31 39.5**	**-1.0**
KRBN	**Karaburun**	**0.99**	**343**	PG		**Pn**	**14 31 42.4**	**-0.3**
CHOS	**Chios island**	**1.01**	**317**	PG		**Pg**	**14 31 42.4**	**-0.3**
CHOS	**Chios island**	**1.01**	**317**	P		**Pg**	**14 31 42.3**	**-0.4**
CHOS				S		**Sb**	**14 31 56.4**	**+0.7**
CHOS				AML		AML	14 31 58.2	
	comp=E,250μm,0.4s							
CHOS				AML		AML	14 32 02.6	
	comp=N,140μm,0.5s							
CHOS	**Chios island**	**1.01**	**317**	P		**Pb**	**14 31 42.7**	**+0.2**
CHOS				S		**Sb**	**14 31 56.1**	**+0.3**
DAT	**Datca**	**1.05**	**150**	PG		**Pb**	**14 31 43.3**	**0.0**
FOCM	**Foa**	**1.08**	**352**	PN		**Pn**	**14 31 44.1**	**+0.2**
AMGA	**Amorgos Island**	**1.16**	**226**	P		**Pb**	**14 31 44.2**	**-0.8**
AMGA				S		**Sg**	**14 32 01.0**	**+0.5**
AMGA	**Amorgos Island**	**1.16**	**226**	P		**Pb**	**14 31 44.6**	**-0.4**
AMGA				S		**Sn**	**14 32 01.3**	**+0.6**
APE	**Apeiranthos**	**1.25**	**243**	PN		**Pn**	**14 31 46.4**	**0.0**
APE	**Apeiranthos**	**1.25**	**243**	P		**Pn**	**14 31 46.4**	**0.0**
APE				S		**Sn**	**14 32 03.7**	**+0.7**
APE	**Apeiranthos**	**1.25**	**243**	P		**Pn**	**14 31 46.6**	**+0.2**
APE				S		**Sn**	**14 32 03.8**	**+0.7**
AKHS	**Akhisar**	**1.42**	**29**	IAML_P				
	comp=Z,519nm,0.2s							
AKHS				*i* P		**Pg**	**14 31 50.1**	**-0.3**
AKHS				*i* S		**Sg**	**14 32 11.5**	**+2.7**
MANT	**Manisa**	**1.54**	**56**	IAML_P				
	comp=Z,328nm,0.1s							
MANT				*i* P		**Pg**	**14 31 53.6**	**+0.9**
MANT				*i* S		**Sb**	**14 32 10.2**	**-0.8**
TURN	**Turunc**	**1.54**	**119**	PN		**Pn**	**14 31 49.5**	**-0.8**
DALY	**Dalyan (Mula)**	**1.61**	**120**	PN		**Pg**	**14 31 53.1**	**-0.9**
KULA	**Kula-Manisa**	**1.62**	**57**	PN		**Pg**	**14 31 53.4**	**-0.9**
ARG	**Arkhangelos**	**1.72**	**146**	PN		**Pb**	**14 31 54.7**	**+0.1**
SIGR	**SIGRI**	**1.77**	**332**	P		**Pn**	**14 31 54.1**	**+0.6**

SJA 31 14:36:30.3±0.8,33.48S×69.44W,h26km±19km,ML2.7, MW3.8,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AAGR	**Agrelo**	**0.65**	**53**	*i* P		Pn	14 36 43.9	0.0
ARCO	**CERRO ARCO**	**0.77**	**34**	*i* P		Pb	14 36 45.3	+0.2
ARCO				*i* S		Sn	14 36 57.2	+0.8
ARCO				IAML			14 36 57.6	
	comp=Z,307nm,0.3s							
ASAL	**Salagasta**	**1.02**	**30**	*i* P		Pb	14 36 49.8	+0.4
AUSP	**Uspallata**	**1.25**	**2**	*i* P		Pb	14 36 55.0	+1.6

IDC 31 14:38:27.9±10.0,6.67S×129.90E,h138km±103km, mb3.4/1,mb1 3.4/4,mb1mx3.0/47,mbtmp3.8/4,ML3.7/3, Error ellipse: s-maj=106.9km s-min=31.4km az=49.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**7.10**	**240**	P		Pn	14 40 10.4	+1.1
	1.8nm,0.3s,baz=85,slow=19,SNR=3.6							
FITZ	**Fitzroy Crossi**	**12.10**	**200**	P		Pn	14 41 14.8	-1.0
	baz=26,slow=12							
WRA	**Warramunga Arr**	**13.88**	**162**	P		Pn	14 41 37.0	-1.8
	0.5nm,0.3s,baz=342,slow=13,SNR=24							
WRA				S		Sn	14 44 03.5	-9.0
	0.6nm,0.3s,baz=335,slow=22,SNR=11							
ASAR	**Alice Springs**	**17.33**	**168**	P		Pn	14 42 22.6	+1.1
	0.2nm,0.3s,baz=345,slow=11,SNR=16							
ASAR				S		S	14 45 27.1	-7.4
	0.1nm,0.3s,baz=352,slow=26,SNR=4.1							
MKAR	**Makanchi Array**	**67.90**	**327**	P		P	14 49 11.4	-0.1
	0.6nm,0.5s,baz=129,slow=8.2,SNR=5.4							

*ISCJB **31** 14:39:03.8±1.5,20.7S±0.1×176.0W±0.2,h250km,mb3.6/5, Error ellipse: s-maj=29.3km s-min=15.6km az=2.5*
*IDC **31** 14:39:08.3±8.9,20.71S×176.02W,h281km±87km,mb3.4/5, mb1 3.6/7,mb1mx3.2/40,mbtmp4.1/7,Error ellipse: s-maj=47.6km s-min=33.2km az=9.0*

ISC 31 14:39:04.9±1.6,20.8S±0.1×175.9W±0.2,h250km,n8, σ1°48/9,mb3.5/5,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.53**	**263**	P		**P**	**14 42 43.1**	**+1.4**
	1.9nm,0.3s,baz=90,slow=19,SNR=19							
URZ	**Urewera**	**18.41**	**198**	P		**P**	**14 43 03.4**	**+1.6**
	0.7nm,0.3s,baz=29,slow=10,SNR=6.8							
URZ				S		**S**	**14 46 16.6**	**-2.0**
	0.2nm,0.3s,baz=8.4,slow=15,SNR=2.2							
CTA	**Charters Tower**	**35.46**	**264**	P		**P**	**14 45 37.2**	**-0.9**
	5.0nm,0.5s,baz=88,slow=10,SNR=17							
STKA	**Stephens Creek**	**39.47**	**245**	P		**P**	**14 46 12.5**	**+1.1**
	1.8nm,1.0s,baz=90,slow=7.1,SNR=2.9							
ASAR	**Alice Springs**	**46.40**	**257**	P		**P**	**14 47 06.6**	**-0.4**
	2.8nm,0.6s,baz=91,slow=8.3,SNR=23							
WRA	**Warramunga Arr**	**46.55**	**262**	P		**P**	**14 47 06.5**	**-1.6**
	1.4nm,0.6s,baz=96,slow=7.7,SNR=9.4							
ILAR	**Eielson Array**	**88.20**	**12**	P		**P**	**14 51 27.1**	**-0.1**
	0.3nm,0.8s,baz=214,slow=6.2,SNR=3.6							
AKASG	**Malin Array Be**	**144.25**	**333**	PKP		**PKPab**	**14 58 09.4**	**-0.1**
	0.2nm,0.2s,baz=41,slow=2.7,SNR=5.4							

*ISCJB **31** 14:42:11.3±0.5,20.08N±0.05×93.82E±0.05,h33km, mb3.7/13,Error ellipse: s-maj=8.9km s-min=4.4km az=41.4*
*NDI **31** 14:42:13.6±2.0,20.07N×93.75E,h20km,ML3.6*
*IDC **31** 14:42:16.2±2.7,20.11N×94.02E,h64km±25km,mb3.5/13, mb1 3.6/14,mb1mx3.4/54,mbtmp3.7/14,ML4.2/2,MS2.7/2, Ms1 2.7/2,ms1mx2.4/43,Error ellipse: s-maj=33.6km s-min=14.0km az=49.0*

ISC 31 14:42:13.9±0.8,20.18N±0.08×93.91E±0.07,h35km,n40, σ2°00/49,mb3.7/13,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAIH	**SAIHA**	**2.45**	**340**	*e*P		**Pn**	**14 42 53.9**	**+2.3**
SAIH				*e*S		**Sn**	**14 43 23.6**	**+3.2**
SAIH				IAML			14 43 39.4	
	comp=N,242nm,0.5s							
SAIH				IAML			14 43 42.4	
	comp=E,267nm,0.6s							
BRDH	**Bariadhala**	**3.26**	**320**	P		**Pn**	**14 43 06.5**	**+3.9**
	comp=E,63nm,0.3s,baz=65,slow=19,SNR=5.6							
BRDH				S		**Sn**	**14 43 46.4**	**+6.2**
	comp=E,22nm,0.3s,baz=72,slow=20,SNR=2.8							
BRDH				LR		LR	14 44 42.5	
	comp=E,60nm,18.6s,baz=159,slow=43							
AZL	**Aizawl**	**3.72**	**342**	*e*P		**Pn**	**14 43 12.2**	**+3.2**
AZL				*ex*		x	14 43 46.1	
BELO	**BELONIA**	**3.81**	**324**	*e*P		**Pn**	**14 43 12.6**	**+2.3**
BELO				*e*S		**Sn**	**14 43 54.0**	**+0.1**
IMP	**Imphal**	**4.63**	**0**	*e*P		**Pn**	**14 43 24.4**	**+3.0**
IMP				*e*S		**Sn**	**14 44 16.3**	**+2.3**
CHTO	**Chiang Mai**	**4.94**	**105**	P		**Pn**	**14 43 27.5**	**+1.8**
CMMT	**Chiang Mai**	**4.94**	**105**	P		**Pn**	**14 43 27.4**	**+1.6**
CMAR	**Chiang Mai Arr**	**5.05**	**109**	P		**Pn**	**14 43 27.0**	**-0.3**
	comp=E,1.2nm,0.3s,baz=286,slow=14,SNR=34							
CMAR				S		**Sn**	**14 44 25.4**	**+1.0**
	comp=E,0.2nm,0.3s,baz=287,slow=30,SNR=3.5							
KOHI	**KOHIMA**	**5.51**	**2**	*e*P		**Pn**	**14 43 36.9**	**+3.2**
KOHI				*e*S		**Sn**	**14 44 37.2**	**+1.2**
KOHI				IAML			14 44 42.8	
	comp=E,107nm,0.5s							
KOHI				IAML			14 44 42.8	
	comp=N,132nm,0.4s							
SHL	**Shillong**	**5.68**	**341**	*e*S		**Sn**	**14 44 38.6**	**-1.5**
SHL				IAML			14 44 43.9	
	comp=E,58nm,0.1s							
SHL				IAML			14 44 44.0	
	comp=N,52nm,0.2s							
MOKO	**MOKOCHONG**	**6.14**	**5**	*e*P		**Pn**	**14 43 45.5**	**+3.2**
TURI	**Tura**	**6.28**	**329**	*e*P		**Pn**	**14 43 44.0**	**-0.1**
TURI				*e*S		**Sn**	**14 44 52.9**	**

comp=N,1.9nm,1.0s,baz=110,slow=7.8,SNR=3.6
NOA NORSAR Array B 69.04 329 P P 14 53 14.7 -1.2
comp=N,0.9nm,0.8s,baz=90,slow=6.0,SNR=4.1
ILAR Eielson Array 83.49 22 P P 14 54 36.8 -1.0
comp=N,0.5nm,1.1s,baz=295,slow=4.5,SNR=3.4

*SOME **31** 14:48:27.6, 42.52N×79.60E, h5km*
*NNC **31** 14:48:28.2±1.1, 42.60N×79.62E, h0km, mb2.7, mpv2.6,*
Error ellipse: s-maj=6.9km s-min=4.0km az=131.0
*KRNET **31** 14:48:29.3±0.1, 42.62N×79.61E, h18km, mb2.4*
ISC 31 14:48:28.8±2.1, 42.60N±0.06×79.61E±0.07, h2km±12km, n22, σ0s85/42, 8C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 13nm,0.1s	**0.56**	**349**	Op P		**Pg**	**14 48 40.1**	**+0.5**
SHLS	36nm,0.2s			S		**Sb**	**14 48 49.3**	**-0.7**
SHLS	**Shalkode** baz=21	**0.56**	**349**	*e*P		**Pg**	**14 48 40.1**	**+0.5**
SHLS	baz=21			*e*S		**Sb**	**14 48 49.2**	**-0.8**
SHLS	**Shalkode** 13nm,0.1s	**0.56**	**349**	*e*P		**Pg**	**14 48 40.1**	**+0.5**
SHLS	78nm,0.2s			*e*S		**Sb**	**14 48 49.2**	**-0.8**
UZB	**Uzynbulak** 8.3nm,0.1s	**0.69**	**322**	P		**Pg**	**14 48 41.7**	**-0.4**
UZB	11nm,0.1s			S		**Sg**	**14 48 51.9**	**+0.8**
UZB	**Uzynbulak** baz=21	**0.69**	**322**	*e*P		**Pg**	**14 48 41.7**	**-0.4**
UZB	baz=21			*e*S		**Sg**	**14 48 51.9**	**+0.8**
UZB	**Uzynbulak** 8.3nm,0.1s	**0.69**	**322**	*e*P		**Pg**	**14 48 41.7**	**-0.4**
UZB	11nm,0.1s			*e*S		**Sg**	**14 48 51.9**	**+0.8**
PDGK	**Podgornoye** 0.6nm,0.1s	**0.73**	**353**	P		**Pg**	**14 48 42.2**	**-0.5**
PDGK	5.4nm,0.2s			S		**Sg**	**14 48 52.9**	**+0.6**
PDGK	**Podgornoye** 0.9nm,0.6s	**0.73**	**353**	⇓P		**Pg**	**14 48 42.1**	**-0.7**
PDGK	5.7nm,0.4s			⇓S		**Sg**	**14 48 52.7**	**+0.4**
PDGK	**Podgornoye** baz=53	**0.73**	**353**	⇑*i*P		**Pg**	**14 48 42.4**	**-0.4**
PDGK	baz=53			⇑*i*S		**Sg**	**14 48 52.6**	**+0.4**
PRZ	**Przheval'sk** baz=62	**0.90**	**263**	⇑*i*P		**Pg**	**14 48 46.6**	**+0.5**
PRZ	baz=62			⇑*i*S		**Sg**	**14 48 58.3**	**+0.5**
SATY	**Saty**	**1.00**	**298**	P		**Pg**	**14 48 47.5**	**-0.4**
SATY				S		**Sb**	**14 49 02.4**	**-0.1**
SATY	**Saty** 0.9nm,0.1s	**1.00**	**298**	*e*P		**Pg**	**14 48 47.5**	**-0.4**
SATY	6.7nm,0.1s			*e*S		**Sb**	**14 49 01.6**	**-0.9**
DJR	**Jarkent**	**1.73**	**4**	P		**Pb**	**14 49 00.4**	**-0.9**
DJR				S		**Sg**	**14 49 24.2**	**-0.2**
DJR	**Jarkent** 0.5nm,0.1s	**1.73**	**4**	*e*P		**Pb**	**14 49 00.4**	**-0.9**
DJR	2.8nm,0.3s			*e*S		**Sg**	**14 49 24.2**	**-0.2**
KDJ	**Kajisay** baz=55	**1.86**	**256**	⇓*i*P		**Pb**	**14 49 03.0**	**-0.6**
KDJ	baz=55			⇓*i*S		**Sb**	**14 49 26.6**	**-0.8**
MDOK	**Medeo** 1.5nm,0.6s	**1.96**	**287**	Pg		**Pb**	**14 49 04.1**	**-1.2**
MDOK	2.4nm,0.5s			⇑Lg		Lg	14 49 29.8	
TNSS	**Tian-Shan** baz=83	**2.01**	**283**	*e*P		**Pb**	**14 49 05.1**	**-1.1**
TNSS	baz=83			*e*S		**Sb**	**14 49 32.2**	**+0.4**
TNSS	**Tian-Shan** 1.9nm,0.2s	**2.01**	**283**	*e*P		**Pb**	**14 49 05.1**	**-1.1**
TNSS	2.9nm,0.3s			*e*S		**Sb**	**14 49 32.2**	**+0.4**
ULHL	**Ulahol** baz=63	**2.52**	**263**	⇓*i*P		**Pn**	**14 49 12.0**	**+1.1**
ULHL	baz=63			⇓*i*S		**Sb**	**14 49 43.8**	**-2.6**
KAPS	**Kapalarasan** 0.2nm,0.1s	**2.69**	**356**	*e*P		**Pb**	**14 49 17.0**	**-0.6**
KAPS	2.3nm,0.5s			*e*S		**Sb**	**14 49 52.4**	**+1.4**
BOOM	**Boomskoye usch** baz=69	**2.71**	**269**	⇑*i*P		**Pn**	**14 49 14.7**	**+1.2**
BOOM	baz=69			⇑*i*S		**Sn**	**14 49 47.5**	**+0.5**
TKM2	**Tokmak 2** 2.9nm,1.3s	**2.97**	**277**	⇑Pg		**Pb**	**14 49 21.8**	**-0.8**
TKM2	1.1nm,0.6s			⇓Lg		Lg	14 49 59.9	

*NIED **31** 14:53:00, 36.70N×140.60E, h5km, Mw4.5 Best double couple: M07.01000×10^15 NP1:φs341.00000°, δ33.00000°, λ-73.00000°. NP2:φs142.00000°, δ59.00000°, λ-100.00000°.*
*IDC **31** 14:53:39.9±0.5, 36.73N×140.46E, h0km, mb4.4/34, mb1 4.5/37, mb1mx4.4/59, mbtmp4.4/37, ML4.0/3, MS3.6/22, Ms1 3.6/22, ms1mx3.4/51, Error ellipse: s-maj=13.0km s-min=9.2km az=157.0*
*BJI **31** 14:53:39.4, 36.65N×140.37E, h6km, mb4.5/38, mB5.0/29, Ms4.3/27, Ms7 4.0/21*
*JMA **31** 14:53:41.7, 36.70N×140.60E, h8km±1km, M4.7 Broadband fault plane solution: P waves. NP1: φs327.00000°, δ47.00000°, λ-89.00000°. NP2: φs145.00000°, δ43.00000°, λ-91.00000°. Principal axes: T Plg2.0000°, Azm56.0000°; N Plg1.0000°, Azm146.0000°; P Plg88.0000°, Azm252.0000°;*
*ISCJB **31** 14:53:41.4±0.3, 36.70N±0.02×140.60E±0.03, h21km±2km, mb4.5/83, MS3.7/27 Error ellipse: s-maj=4.1km s-min=3.0km az=29.8*
*NEIC **31** 14:53:45.8±0.5, 36.77N×140.43E, h38km±4km, mb4.7/40, Error ellipse: s-maj=5.4km s-min=3.7km az=137.0*
NEIC Felt [V] at Hitachi, [III] at Tsukuba and Utsunomiya and [II] at Tokyo. Felt widely in east-central Honshu. Recorded [5L JMA] in Ibaraki.
*MOS **31** 14:53:45.4±1.0, 37.06N×140.40E, h38km, mb4.7/48, Error ellipse: s-maj=8.6km s-min=5.4km az=86.1*
ISC 31 14:53:41.4±0.7, 36.68N±0.02×140.60E±0.03, h14km±4km, n210, σ1s89/225, mb4.6/86, MS3.6/28, 18C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.08**	**197**	⇑P		**Pg**	**14 53 44.0**	**-0.3**
JHO				S		**Sg**	**14 53 45.7**	**-0.6**
JHYU	**Hitachinakayam**	**0.34**	**181**	P		**Pg**	**14 53 48.9**	**+0.5**
JHYU				S		**Sg**	**14 53 54.1**	**+1.0**
JFFD	**Fukushimafurud**	**0.41**	**356**	⇑P		**Pg**	**14 53 49.3**	**-0.3**
JFFD				S		**Sg**	**14 53 54.7**	**-0.5**
ONAJ	**Iwakimizuishiy**	**0.45**	**21**	⇑P		**Pg**	**14 53 50.0**	**-0.4**
ONAJ				S		**Sg**	**14 53 56.5**	**+0.1**
JYT	**Yasato**	**0.56**	**216**	⇑P		**Pb**	**14 53 52.7**	**-0.2**
JSB	**Shiboa**	**0.61**	**298**	⇑P		**Pb**	**14 53 54.0**	**+0.1**
JSB				S		**Sn**	**14 54 02.9**	**-2.5**
JFK	**Kawauchi**	**0.72**	**18**	⇑P		**Pg**	**14 53 54.7**	**-0.7**
JFK				S		**Sg**	**14 54 04.4**	**-0.5**
JFT	**Otama**	**0.86**	**346**	⇓P		**Pb**	**14 53 57.7**	**-0.4**
JFT				S		**Sb**	**14 54 08.9**	**-0.6**
JAG	**Ashikaga**	**0.96**	**255**	⇑P		**Pb**	**14 53 59.1**	**-0.6**
JAG				S		**Sn**	**14 54 12.5**	**-1.3**
JFY	**Yanaizu**	**1.02**	**316**	⇓P		**Pb**	**14 54 00.3**	**-0.5**
JFY				S		**Sn**	**14 54 14.2**	**-1.1**
MJAR	**Matsushiro Arr** 32nm,0.3s,baz=78,slow=12,SNR=806	**1.93**	**267**	Pg		**Pb**	**14 54 14.6**	**-1.7**
MJAR	88nm,0.3s,baz=104,slow=20,SNR=27			Lg		Lg	14 54 38.7	
MJAR	comp=Z,735nm,20.2s,baz=90,slow=34			LR		LR	14 54 40.5	
MAJO	**Matsushiro**	**1.93**	**267**	*e*Pn		**Pb**	**14 54 15.4**	**-0.9**
MAJO				*e*Sn		**Sg**	**14 54 41.0**	**-2.4**
MAJO	**Matsushiro**	**1.93**	**267**	*c i*P		**Pb**	**14 54 15.2**	**-1.1**
MAT	**Matsushiro**	**1.93**	**267**	P		**Pb**	**14 54 15.4**	**-0.9**
MAT				S		**Sb**	**14 54 40.4**	**+0.2**
MJB9	**Matsu-Tunnel**	**1.93**	**267**	*e*Pn		**Pb**	**14 54 15.4**	**-1.0**
MJB9				*e*Sn		**Sg**	**14 54 41.2**	**-2.4**
INU	**Inuyama**	**3.19**	**246**	*e*Pn		**Pn**	**14 54 33.9**	**+2.7**
JHJ	**Hachijo jima 2** 79nm,0.3s,baz=78,slow=14,SNR=9.9	**3.62**	**191**	Pn		**Pn**	**14 54 38.8**	**+1.8**
JHJ	58nm,0.3s,baz=37,slow=20,SNR=4.2			Sn		**Sn**	**14 55 18.4**	**-1.0**
JHJ2	**Mitsune**	**3.62**	**190**	*e*Pn		**Pn**	**14 54 38.8**	**+1.8**
ERM	**Erimo**	**5.68**	**20**	*e*Pn		**Pn**	**14 55 05.7**	**+0.4**
ERM	**Erimo**	**5.68**	**20**	*ce*P		**Pn**	**14 55 06.3**	**+1.0**
ERM	comp=Z,65nm,1.3s			pmax	pmax			
ASAJ	**Asahikawa** comp=Z,3.4nm,0.3s,baz=222,slow=11,SNR=42	**7.58**	**11**	Pn		**Pn**	**14 55 31.6**	**+0.2**
ASAJ	comp=Z,2.1nm,0.3s,baz=118,slow=30,SNR=5.6			Sn		**Sn**	**14 56 58.7**	**+1.7**
YUK	**Yuzh-Kuril'sk**	**8.37**	**27**	*e*P		**Pn**	**14 55 41.3**	**-0.9**
YUK				*e*S		**Sn**	**14 57 09.8**	**-6.6**
YUK	comp=Z,84nm,0.4s			pmax	pmax			
YUK	comp=N,30nm,0.2s			pmax	pmax			
YUK	comp=E,25nm,0.2s			MLR	MLR			
YUK	comp=Z,287nm,12.0s			MLR	MLR			
YUK	comp=E,384nm,14.0s			MLR	MLR			
SHO	**Shikotan**	**8.61**	**32**	*e*P		**Pn**	**14 55 43.1**	**-2.4**
SHO				*e*S		Sn	14 57 12.9	-9.5
SHO	comp=Z,20nm,0.5s			pmax	pmax			
SHO	comp=E,13nm,0.4s			pmax	pmax			
SHO	comp=N,8.0nm,0.3s			pmax	pmax			
JNU	**Nakatsue** comp=N,0.3nm,0.3s,baz=36,slow=14,SNR=3.9	**8.74**	**249**	Pn		**Pn**	**14 55 50.5**	**+3.2**
JNU	comp=N,450nm,19.2s,baz=96,slow=38			LR		LR	14 59 11.4	
TEY	**Ternei**	**8.87**	**341**	⇑*e*P		Pn	14 55 55.5	+6.4
TEY	comp=E,10.0nm,1.1s			pmax	pmax			
TEY	comp=N,30nm,0.8s			pmax	pmax			
TEY	comp=Z,10.0nm,2.9s			MLR	MLR			
TEY	comp=N,20nm,1.0s			MLR	MLR			
TEY	comp=Z,10.0nm,1.0s			MLR	MLR			
MSHR	**Mys Shultsa**	**9.36**	**312**	*d i*P		**Pn**	**14 56 00.0**	**+4.2**
CBIJ	**Chichi jima**	**9.65**	**172**	Pn		**Pn**	**14 55 58.1**	**-1.8**
CBIJ				Sn		**Sn**	**14 57 40.4**	**-7.7**
JCJ	**Chichijima** comp=Z,7.3nm,0.3s,baz=306,slow=19,SNR=3.7	**9.65**	**172**	Pn		**Pn**	**14 55 58.1**	**-1.8**
JCJ	comp=Z,4.8nm,0.3s,baz=300,slow=20,SNR=2.7			Sn		**Sn**	**14 57 40.4**	**-7.7**
USRK	**Ussuriysk Ar.** comp=Z,1.3nm,0.3s,baz=131,slow=11,SNR=24	**9.96**	**322**	Pn		Pn	14 56 09.5	+5.4
KUR	**Kuril'sk**	**10.15**	**30**	*e*P		**Pn**	**14 56 07.3**	**+0.7**
KUR				*e*S		**Sn**	**14 57 53.5**	**-6.7**
KUR	comp=Z,49nm,0.6s			pmax	pmax			
KUR	comp=N,39nm,0.6s			smax	smax			
KUR	comp=E,38nm,0.5s			smax	smax			
KSRS	**Korea Array** comp=E,0.2nm,0.3s,baz=100,slow=13,SNR=9.3	**10.16**	**278**	Pn		**Pn**	**14 56 10.9**	**+4.1**
KSRS	comp=E,326nm,19.7s,baz=87,slow=36			LR		LR	14 59 48.0	
KS01	**Wonju Array Si**	**10.18**	**278**	*e*Pn		**Pn**	**14 56 07.5**	**+0.4**
KSAR	**Wonju Array Be**	**10.19**	**278**	Pn		**Pn**	**14 56 10.8**	**+3.7**
YSS	**Yuzh-Sakhalins**	**10.39**	**8**	*e*Pn		**Pn**	**14 56 10.4**	**+0.6**
YSS	**Yuzh-Sakhalins**	**10.39**	**8**	*e*P		**Pn**	**14 56 10.3**	**+0.5**
YSS				*e*S		**Sn**	**14 58 03.6**	**-2.4**
YSS	comp=Z,20nm,0.5s			pmax	pmax			
YSS	comp=Z,600nm,15.0s			MLR	MLR			
YSS	comp=N,400nm,11.0s			MLR	MLR			
YSS	comp=E,800nm,19.0s			MLR	MLR			
MDJ	**Mudanjiang**	**11.51**	**317**	P		Pn	14 56 30.0	+4.8
MDJ				S		**Sn**	**14 58 33.0**	**-0.5**
MDJ	comp=E,26nm,1.5s			pmax	pmax			
MDJ	comp=E,320nm,5.6s			pmax	pmax			
MDJ	comp=E,480nm,11.3s			LR	LR			
MDJ	comp=E,350nm,9.4s			LR	LR			
MDJ	comp=E,560nm,14.3s			LR	LR			
CN2	**Changchun**	**13.57**	**306**	*e*P		P	14 56 57.5	-4.9
KLR	**Kul'dur** comp=E,0.1nm,0.3s,baz=145,slow=11,SNR=5.4	**14.10**	**336**	Pn		**Pn**	**14 57 01.6**	**+1.0**
KLR	**Kul'dur**	**14.10**	**336**	*i* P		**P**	**14 57 06.0**	**-2.3**
TYV	**Tymovskoe**	**14.25**	**5**	*e*P		**Pn**	**14 57 01.9**	**-0.7**
TYV				*e*S		**Sn**	**14 59 36.7**	**-3.7**
TYV	comp=Z,300nm,6.3s			pmax	pmax			
TYV	comp=Z,14nm,1.1s			pmax	pmax			
TYV	comp=E,7.0nm,1.2s			smax	smax			
DL2	**Dalian**	**15.16**	**284**	P		**Pn**	**14 57 12.5**	**-2.5**
DL2				*e*S		**Sn**	**14 59 56.5**	**-6.2**
DL2	comp=E,51nm,1.2s			pmax	pmax			
DL2	comp=E,290nm,15.5s			LR	LR			
DL2	comp=E,380nm,12.8s			LR	LR			
DL2	comp=E,470nm,11.4s			LR	LR			
NKL	**Nikolayevsk**	**16.47**	**0**	*e*P		**Pn**	**14 57 31.3**	**-0.5**
NJ2	**Nanjing**	**18.52**	**262**	*e*P		**Pn**	**14 57 57.5**	**-0.1**
NJ2	comp=E,6.0nm,0.6s			pmax	pmax			
NJ2	comp=E,160nm,7.6s			LR	LR			
NJ2	comp=E,320nm,6.0s			LR	LR			
NJ2	comp=E,360nm,13.0s			LR	LR			
ZEA	**Zeya**	**19.42**	**336**	*e*P		**Pn**	**14 58 08.8**	**+0.6**
ZEA	comp=Z,21nm,1.2s			pmax	pmax			
ZEA	comp=Z,500nm,16.0s			MLR	MLR			
ZEA	comp=E,500nm,13.0s			MLR	MLR			
PETK	**Petropavlovsk-** comp=E,8.5nm,0.9s,baz=218,slow=9.1,SNR=4.6	**20.32**	**31**	P		**P**	**14 58 17.9**	**+1.0**
PETK	comp=E,128nm,21.3s,baz=229,slow=36			LR		LR	15 05 43.4	
HHC	**Hu-ho-hao-te**	**22.97**	**289**	*e*P		**P**	**14 58 44.0**	**-1.5**
HHC				S		**S**	**15 02 47.8**	**-7.6**
HHC	comp=E,10.0nm,0.6s			pmax	pmax			
HHC	comp=E,90nm,7.2s			pmax	pmax			
HHC	comp=E,1μm,11.2s			LR	LR			
HHC	comp=E,1μm,11.2s			LR	LR			
HHC	comp=E,1μm,10.8s			LR	LR			
MA2	**Magadan** comp=E,19nm,0.6s,baz=195,slow=10,SNR=40	**23.84**	**13**	P		**P**	**14 58 53.7**	**-0.1**
MA2	comp=E,102nm,18.1s,baz=200,slow=38			LR		LR	15 08 43.3	
MA2	**Magadan** comp=E,23nm,0.7s	**23.84**	**13**	*e*P		**P**	**14 58 54.3**	**+0.5**
MA2	**Magadan**	**23.84**	**13**	*ce*P		**P**	**14 58 54.1**	**+0.3**
MA2	comp=Z,45nm,1.3s			pmax	pmax			
YAK	**Yakutsk**	**26.27**	**348**	*e*P		**P**	**14 59 14.2**	**-1.8**
YAK				*e*			15 03 48.1	
YAK				pmax	pmax			
YAK	comp=E,8.0nm,1.2s			pmax	pmax			
YAK	comp=N,23nm,1.0s			pmax	pmax			
YAK	comp=Z,36nm,1.0s			pmax	pmax			
ENH	**Enshi** comp=Z,10nm,0.6s	**26.65**	**265**	*e*P		**P**	**14 59 17.8**	**-2.0**
ULN	**Ulaanbaatar** comp=Z,3.7nm,0.8s	**27.01**	**305**	*e*P		**P**	**14 59 21.2**	**-1.8**
ULN	**Ulaanbaatar**	**27.01**	**305**	*ce*P		**P**	**14 59 22.6**	**-0.4**
ULN	comp=Z,7.0nm,1.3s			pmax	pmax			
SEY	**Seymchan** comp=Z,7.4nm,0.8s,baz=209,slow=7.3,SNR=18	**27.26**	**12**	P		**P**	**14 59 25.6**	**+0.8**
SEY	**Seymchan**	**27.26**	**12**	*ce*P		**P**	**14 59 24.8**	**-0.1**
SONA1	**Songino Array**	**27.44**	**305**	*e*P		**P**	**14 59 25.9**	**-0.9**
SONM	**Songino Array** comp=Z,4.1nm,0.6s,baz=105,slow=9.0,SNR=33	**27.44**	**305**	P		**P**	**14 59 25.4**	**-1.5**
SONM	comp=Z,70nm,20.5s,baz=175,slow=37			LR		LR	15 10 25.9	
BOD	**Bodaibo**	**27.48**	**329**	*e*P		**P**	**14 59 26.2**	**-0.7**
BOD	comp=Z,12nm,1.5s			pmax	pmax			
H11N2	**WAKE ISLAND Hy** baz=312,slow=75,SNR=6854	**28.54**	**119**	T		T	15 29 21.7	
H11N1	**WAKE ISLAND Hy** baz=312,slow=75,SNR=1324	**28.55**	**119**	T		T	15 29 21.9	
H11N3	**WAKE ISLAND Hy** baz=312,slow=75,SNR=3737	**28.56**	**119**	T		T	15 29 23.0	
H11S1	**WAKE ISLAND Hy** baz=314,slow=76	**29.23**	**121**	T		T	15 30 13.0	
H11S3	**WAKE ISLAND Hy** baz=314,slow=76	**29.23**	**121**	T		T	15 30 13.0	
H11S2	**WAKE ISLAND Hy** baz=314,slow=76,SNR=9574	**29.24**	**121**	T		T	15 30 15.2	
LZH	**Lanzhou**	**29.48**	**280**	*e*P		**P**	**14 59 48.3**	**+3.1**
LZH				pP		sP	14 59 52.0	+0.5
LZH				sP		pP	14 59 54.0	+4.3
LZH	comp=Z,18nm,1.2s			pmax	pmax			
LZH	comp=Z,790nm,14.1s			LR	LR			
LZH	comp=Z,430nm,11.7s			LR	LR			
LZH	comp=Z,390nm,14.6s			LR	LR			
TLY	**Talaya** comp=Z,75nm,18.0s,baz=126,slow=37	**30.07**	**312**	LR		LR	15 12 18.0	
CD2	**Chengdu**	**31.02**	**270**	*e*P		**P**	**14 59 58.0**	**-0.7**
CD2				S		**S**	**15 05 03.0**	**-0.2**
CD2	comp=Z,10.0nm,0.5s			pmax	pmax			
CD2	comp=Z,120nm,4.8s			pmax	pmax			
CD2	comp=Z,930nm,15.9s			LR	LR			
CD2	comp=Z,330nm,15.9s			LR	LR			
GTA	**Gaotai**	**32.04**	**287**	*e*P		**P**	**15 00 07.5**	**-0.2**
GTA				pP		pP	15 00 11.5	-0.7
GTA				sP		sP	15 00 14.8	+0.8
GTA	comp=Z,2.0nm,0.9s			pmax	pmax			
GTA	comp=Z,88nm,7.0s			pmax	pmax			
GTA	comp=Z,190nm,17.2s			LR	LR			
GTA	comp=Z,230nm,16.8s			LR	LR			
QIZ	**Qiongzhong**	**32.19**	**245**	P		**P**	**15 00 07.0**	**-2.0**
QIZ				S		**S**	**15 05 22.0**	**+0.5**
QIZ	comp=Z,19nm,1.5s			pmax	pmax			
QIZ	comp=Z,190nm,15.7s			LR	LR			
QIZ	comp=Z,330nm,20.1s			LR	LR			
BILL	**Bilibino** comp=Z,8.3nm,1.0s	**34.55**	**17**	*e*P		**P**	**15 00 28.9**	**-0.1**
BILL	**Bilibino**	**34.55**	**17**	⇑*e*P		**P**	**15 00 28.6**	**-0.4**
BILL	comp=Z,16nm,1.7s			pmax	pmax			
TIXI	**Tiksi** comp=Z,4.5nm,0.8s	**35.56**	**354**	*e*P		**P**	**15 00 37.1**	**-0.7**
TIXI	**Tiksi**	**35.56**	**354**	*ce*P		**P**	**15 00 37.0**	**-0.7**
TIXI	comp=Z,10.0nm,1.7s			pmax	pmax			
JAY	**Jayapura** comp=Z,46nm,20.5s,baz=57,slow=33	**39.00**	**180**	LR		LR	15 15 12.2	
DGZ	**Jazzator, Alta**	**40.07**	**306**	*d i*P		**P**	**15 01 17.6**	**+1.3**
DGZ	comp=Z,7.0nm,1.1s			pmax	pmax			
PBKT	**Sadao Pong** comp=Z,5.3nm,1.1s	**40.33**	**251**	P		P	15 01 24.1	+5.6
WMQ	**Urumqi**	**40.41**	**297**	*e*P		**P**	**15 01 21.3**	**+2.2**
WMQ				pP		sP	15 01 25.3	-0.2
WMQ	comp=Z,260nm,16.3s			LR		LR		
WMQ	comp=Z,110nm,22.7s			LR		LR		
WMQ	comp=Z,120nm,22.7s			LR		LR		
CMAR	**Chiang Mai Arr** comp=Z,0.3nm,0.3s,baz=46,slow=7.9,SNR=5.6	**40.77**	**255**	P		**P**	**15 01 21.9**	**-0.3**
CMAR	comp=Z,92nm,18.9s,baz=64,slow=39			LR		LR	15 20 03.9	
CMAR	**Chiang Mai Arr**	**40.77**	**255**	*i* P		**P**	**15 01 23.0**	**+0.7**
ZAA0	**Zalesovo Array** comp=Z,8.8nm,0.6s	**41.67**	**313**	*e*P		**P**	**15 01 28.8**	**-0.4**
ZALV	**Zalesovo Beam** comp=Z,10nm,0.5s,baz=99,slow=6.9,SNR=51	**41.67**	**313**	P		**P**	**15 01 29.0**	**-0.2**
ZALV	comp=Z,1.7nm,0.5s,baz=118,slow=3.2,SNR=4.9			PcP		**PcP**	**15 03 25.6**	**-0.1**
ZALV	comp=Z,39nm,18.4s,baz=68,slow=37			LR		LR	15 19 17.3	
ANM	**Nome** comp=Z,9.3nm,1.4s	**42.24**	**31**	*e*P		**P**	**15 01 35.4**	**+1.7**
ANM	**Nome**	**42.24**	**31**	*e*P		**P**	**15 01 35.4**	**+1.7**
ANM	comp=Z,9.0nm,1.4s			pmax	pmax			
NVS	**Novosibirsk**	**42.61**	**314**	*e*P		**P**	**15 01 37.2**	**+0.4**
NVS	comp=N,2.0nm,0.4s			pmax	pmax			
NVS	comp=E,3.0nm,0.4s			pmax	pmax			
NVS	comp=Z,4.0nm,0.4s			pmax	pmax			
NRIK	**Noril'sk** comp=Z,1.6nm,0.4s,baz=143,slow=20,SNR=3.5	**43.31**	**336**	P		**P**	**15 01 41.1**	**-1.2**
NRIK	comp=Z,124nm,19.6s,baz=238,slow=38			LR		LR	15 21 16.0	
MK01	**Makanchi Array**	**43.75**	**302**	*e*P		**P**	**15 01 45.8**	**-0.5**
MK31	**Makanchi Array**	**43.75**	**302**	*e*P		**P**	**15 01 46.5**	**+0.2**
MK31	**Makanchi Array**	**43.75**	**302**	*e*P		**P**	**15 01 46.5**	**+0.2**
MKAR	**Makanchi Array** comp=Z,0.8nm,0.5s,baz=86,slow=9.7,SNR=17	**43.75**	**302**	P		**P**	**15 01 45.6**	**-0.6**
MKAR	comp=Z,0.9nm,0.8s,baz=79,slow=3.1,SNR=3.1			PcP		**PcP**	**15 03 34.1**	**+1.2**
MKAR	comp=Z,69nm,21.5s,baz=87,slow=36			LR		LR	15 19 46.0	
MKAR	**Makanchi Array**	**43.75**	**302**	*e*P		**P**	**15 01 46.5**	**+0.2**
MKAR				PcP		**PcP**	**15 03 34.1**	**+1.2**
MKAR	**Makanchi Array**	**43.75**	**302**	*i* P		**P**	**15 01 46.4**	**+0.2**
MKAR	comp=Z,1.0nm,0.6s			pmax	pmax			
MAKZ	**Makanchi** comp=Z,10nm,1.5s	**43.96**	**302**	*e*P		**P**	**15 01 48.1**	**+0.2**
MAKZ	**Makanchi**	**43.96**	**302**	*e*P		**P**	**15 01 48.1**	**+0.2**
MAKZ	comp=Z,10.0nm,1.5s			pmax	pmax			
KURK	**Kurchatov** comp=Z,67nm,1.7s	**45.63**	**308**	*e*P		**P**	**15 02 00.8**	**-0.3**
KURK	**Kurchatov**	**45.63**	**308**	*ce*P		**P**	**15 01 59.9**	**-1.2**
KURK	comp=Z,10.0nm,0.6s			pmax	pmax			
RAMN	**Ramite** comp=Z,17nm,0.6s	**46.38**	**274**	*e*P		**P**	**15 02 07.7**	**+0.1**
JIRN	**Jiri**	**46.40**	**275**	*e*P		**P**	**15 02 08.3**	**+0.4**
GUN	**Gumba**	**46.54**	**276**	*e*P		**P**	**15 02 09.3**	**+0.3**
PKI	**Pulchoki**	**47.06**	**275**	*e*P		**P**	**15 02 12.4**	**-0.7**
PKIN	**Phulchoki**	**47.07**	**275**	*e*P		**P**	**15 02 12.6**	**-0.5**
DMN	**Daman**	**47.29**	**276**	*e*P		**P**	**15 02 14.8**	**0.0**
IM3	**Indian Mountai**	**47.29**	**30**	*e*P		**P**	**15 02 15.6**	**+1.6**
RSO	**Redoubt South**	**47.58**	**38**	*e*P		**P**	**15 02 18.8**	**+2.3**
KDAK	**Kodiak Island** comp=Z,9.9nm,0.7s,baz=294,slow=10.0,SNR=8.5	**47.80**	**42**	P		**P**	**15 02 18.7**	**+0.8**

PPLA	Purkeypile	47.83	35	*e*P		P	15 02 20.7	+2.3
	comp=Z,49nm,1.7s							
DANN	Dangsing	48.04	277	*e*P		P	15 02 21.0	+0.3
	comp=Z,25nm,0.7s							
KDJ	Kajisay	48.31	297	*e*P		P	15 02 23.4	+1.0
	comp=Z,7.4nm,1.3s							
KDJ	Kajisay	48.31	297	*e*P		P	15 02 23.4	+1.0
KDJ					pmax	pmax		
	comp=Z,7.0nm,1.3s							
KOLN	Koldanda	48.42	277	*e*P		P	15 02 23.7	+0.2
MLY	Manley	48.49	32	*e*P		P	15 02 25.6	+2.3
	comp=Z,15nm,1.4s							
SOEI	Soe	48.68	202	*e*P		P	15 02 26.5	+1.2
	comp=Z,63nm,1.1s							
PYUN	Piuthan	48.77	277	*e*P		P	15 02 26.3	+0.1
	comp=Z,22nm,0.9s							
BATI	Baumata	49.29	202	LR		LR	15 24 08.8	
	comp=Z,54nm,20.1s,baz=302,slow=37							
RND	Reindeer	49.34	34	*e*P		P	15 02 30.2	+0.3
	comp=Z,9.7nm,1.1s							
RND	Reindeer	49.34	34	*e*P		P	15 02 30.2	+0.3
RND					pmax	pmax		
	comp=Z,10.0nm,1.1s							
MDM	Murphy Dome	49.56	32	*e*P		P	15 02 33.2	+1.8
	comp=Z,18nm,1.2s							
WRH	Wood River Hil	49.63	33	*e*P		P	15 02 33.4	+1.4
	comp=Z,18nm,1.7s							
KSH	Kashi	49.95	294	P		P	15 02 39.0	+4.0
KSH				pP		sP	15 02 43.8	+2.4
KSH				PcP		PcP	15 03 58.8	+3.7
KSH				PP		PP	15 04 36.0	+6.3
KSH				PcS		PcS	15 07 55.3	+3.2
KSH				S		S	15 09 49.5	+4.4
KSH				SS		SS	15 13 21.8	+4.2
KSH				pmax	pmax			
	comp=Z,12nm,0.9s							
KSH				pmax	pmax			
	comp=Z,190nm,6.9s							
KSH				LR	LR			
	comp=Z,190nm,9.5s							
KSH				LR	LR			
	comp=Z,170nm,5.9s							
KSH				LR	LR			
	comp=Z,270nm,9.7s							
AAK	Ala-Archa	50.08	298	*e*P		P	15 02 35.5	-0.5
	comp=Z,16nm,2.0s							
AAK	Ala-Archa	50.08	298	*ce*P		P	15 02 35.0	-1.0
AAK					pmax	pmax		
	comp=Z,6.0nm,1.7s							
ILAR	Eielson Array	50.14	32	P		P	15 02 36.8	+0.9
	comp=Z,2.1nm,0.6s,baz=267,slow=6.0,SNR=43							
ILAR					LR	LR	15 25 07.0	
	comp=Z,43nm,20.3s,baz=269,slow=38							
ILB	Eielson Array	50.14	32	*e*P		P	15 02 35.8	-0.1
IL1	Eielson Array	50.14	32	*e*P		P	15 02 36.4	+0.5
BRVK	Borovoye	50.38	312	*e*P		P	15 02 37.6	-0.3
	comp=Z,4.6nm,0.8s							
BRVK	Borovoye	50.38	312	*e*P		P	15 02 37.6	-0.3
BRVK					pmax	pmax		
	comp=Z,5.0nm,0.8s							
PSI	Prapat	51.05	239	LR		LR	15 27 32.2	
	comp=Z,32nm,19.4s,baz=74,slow=40							
SCRK	Sand Creek	51.46	33	*e*P		P	15 02 47.0	+1.0
	comp=Z,21nm,1.4s							
ARSB	Arslanbob	51.55	297	*e*P		P	15 02 48.2	+1.1
	comp=Z,6.9nm,0.9s							
DAWY	Dawson	53.45	33	*e*P		P	15 03 02.0	+1.3
	comp=Z,18nm,1.8s							
SVE	Sverdlovsk	54.98	319	*e*P		P	15 03 11.7	-0.1
INK	Inuvik	55.00	27	P		P	15 03 13.1	+1.4
	comp=Z,3.0nm,0.5s,baz=318,slow=7.0,SNR=30							
INK	Inuvik	55.00	27	*e*P		P	15 03 13.3	+1.6
	comp=Z,21nm,1.7s							
CHGR	Chuyangaron	55.22	295	*e*P		P	15 03 13.6	-0.4
	comp=Z,13nm,0.7s							
ARU	Arti	56.19	319	*e*P		P	15 03 19.8	-0.7
	comp=Z,9.5nm,0.5s							
ARU	Arti	56.19	319	⇑*i*P		P	15 03 19.9	-0.6
ARU					pmax	pmax		
	comp=Z,22nm,1.7s							
FITZ	Fitzroy Crossi	56.29	197	LR		LR	15 29 14.0	
	comp=Z,31nm,18.3s,baz=156,slow=38							
FITZ	Fitzroy Crossi	56.29	197	*e*P		P	15 03 22.9	+1.3
	comp=Z,5.9nm,0.8s							
WB2	Warramunga Arr	56.63	187	*e*P		P	15 03 24.2	+0.3
WRA	Warramunga Arr	56.63	187	P		P	15 03 23.9	-0.1
	comp=Z,6.9nm,1.0s,baz=5.5,slow=7.4,SNR=43							
WRA					LR	LR	15 24 48.3	
	comp=Z,44nm,21.2s,baz=190,slow=33							
ABKAR	Akbulak array	57.66	310	*e*P		P	15 03 30.8	-0.3
AS01	Alice Springs	60.35	187	*e*P		P	15 03 50.6	+0.7
AS31	Alice Springs	60.35	187	*e*P		P	15 03 51.7	+1.8
	comp=Z,1.6nm,0.7s							
ASAR	Alice Springs	60.36	187	P		P	15 03 50.0	0.0
	comp=Z,2.8nm,0.9s,baz=37,slow=7.5,SNR=18							
RES	Resolute Bay	63.10	14	P		P	15 04 07.9	+0.1
	comp=Z,3.7nm,0.6s,baz=306,slow=9.1,SNR=23							
RES	Resolute Bay	63.10	14	*e*P		P	15 04 07.7	-0.1
	comp=Z,4.5nm,0.7s							
RES	Resolute Bay	63.10	14	*e*P		P	15 04 07.7	-0.1
RES					pmax	pmax		
	comp=Z,4.0nm,0.7s							
GEYT	Alibeck	63.43	299	P		P	15 04 11.1	+0.4
	comp=Z,0.9nm,0.5s,baz=120,slow=5.3,SNR=4.0							
GEYT					LR	LR	15 33 17.7	
	comp=Z,42nm,18.9s,baz=65,slow=38							
ARCES	ARCESS Array B	64.09	339	P		P	15 04 14.6	+0.1
	comp=Z,1.3nm,0.5s,baz=55,slow=8.4,SNR=9.1							
YKA	Yellowknife Ar	64.44	30	P		P	15 04 17.4	+0.6
	comp=Z,1.5nm,0.6s,baz=304,slow=6.8,SNR=24							
YKA	Yellowknife Ar	64.44	30	P		P	15 04 17.4	+0.6
YKA					pmax	pmax		
	comp=Z,1.0nm,0.6s							
YKB5	Yellowknife Ar	64.44	30	*e*P		P	15 04 17.5	+0.7
OBN	Obninsk	67.98	323	*i* P		P	15 04 37.5	-2.2
OBN				*i*			15 05 03.2	
OBN				*i*			15 07 07.3	
OBN					pmax	pmax		
	comp=Z,11nm,1.6s							
OBN					MLR	MLR		
	comp=Z,102nm,16.0s							
STKA	Stephens Creek	68.21	179	P		P	15 04 41.8	+0.6
	comp=Z,1.6nm,0.7s,baz=354,slow=7.3,SNR=3.7							
FINES	FINESS Array B	68.82	332	P		P	15 04 44.7	-0.1
	comp=Z,2.9nm,0.6s,baz=68,slow=6.8,SNR=12							
KBZ	Khabaz	70.63	310	P		P	15 04 56.7	+0.4
	comp=Z,0.6nm,0.4s,baz=79,slow=5.2,SNR=3.7							
KIV	Kislovodsk	70.64	311	*e*P		P	15 04 54.2	-2.3
KIV					pmax	pmax		
	comp=Z,8.0nm,1.1s							
KIV					MLR	MLR		
	comp=Z,51nm,18.0s							
NEW	Newport	70.83	44	P		P	15 04 59.1	+1.5
	comp=Z,4.6nm,0.9s,baz=321,slow=2.1,SNR=5.2							
YBH	Yreka Blue Hor	71.08	52	P		P	15 05 01.3	+2.1
	comp=Z,3.8nm,0.9s,baz=328,slow=9.5,SNR=3.5							
BMO	Blue Mountains	72.65	47	*e*P		P	15 05 08.7	+0.1
	comp=Z,10nm,1.3s							
BMO	Blue Mountains	72.65	47	*e*P		P	15 05 08.7	+0.1
BMO					pmax	pmax		
	comp=Z,11nm,1.3s							
HFS	Hagfors	74.14	335	LR		LR	15 39 59.0	
	comp=Z,86nm,19.9s,baz=40,slow=38							
AKASG	Malin Array Be	74.17	322	P		P	15 05 16.7	-0.6
	comp=Z,1.3nm,0.4s,baz=47,slow=5.9,SNR=6.2							
AKASG	Malin Array Be	74.17	322	*i* P		P	15 05 17.0	-0.3
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.4s							
NB2	NORSAR Subarra	74.25	337	P		P	15 05 17.7	0.0
	comp=Z,1.3nm,0.5s,baz=41,slow=5.9							
NOA	NORSAR Array B	74.25	337	P		P	15 05 17.7	0.0
	comp=Z,1.5nm,0.5s,baz=40,slow=5.8,SNR=7.5							
NOA					LR	LR	15 40 58.9	
	comp=Z,74nm,19.1s,baz=0.0,slow=38							
FFC	Flin Flon	74.35	32	*i* P		P	15 05 15.3	-3.0
FCC	Fort Churchill	74.61	26	*e*P		P	15 05 20.1	+0.5
	comp=Z,16nm,1.4s							
FCC	Fort Churchill	74.61	26	*e*P		P	15 05 20.1	+0.5
FCC					pmax	pmax		
	comp=Z,16nm,1.4s							
HRY	Holter Researc	74.66	43	*e*P		P	15 05 21.6	+1.2
YERR	Yerington	74.80	53	*e*P		P	15 05 23.3	+1.9
	comp=Z,8.8nm,1.0s							
DLMT	Dillon	75.05	44	*e*P		P	15 05 24.1	+1.4
	comp=Z,11nm,0.8s							
BOZ	Bozeman (W)	75.45	44	*e*P		P	15 05 26.6	+1.6
	comp=Z,11nm,1.1s							
BOZ	Bozeman (W)	75.45	44	*e*P		P	15 05 26.6	+1.6
BOZ					pmax	pmax		
	comp=Z,11nm,1.1s							
KVN	Kaiserville	75.49	52	*e*P		P	15 05 27.4	+2.0
	comp=Z,14nm,1.2s							
KVN	Kaiserville	75.49	52	*e*P		P	15 05 27.4	+2.0
KVN					pmax	pmax		
	comp=Z,14nm,1.2s							
NV01	Mina Array Sit	75.72	53	*e*P		P	15 05 28.5	+1.7
NVAR	Mina Array Bea	75.72	53	P		P	15 05 28.9	+2.1
	comp=Z,3.3nm,0.5s,baz=296,slow=5.5,SNR=25							
NV11	Mina Array Sit	75.81	53	*e*P		P	15 05 29.2	+2.0
	comp=Z,0.3nm,0.8s							
ELK	Elko	76.27	49	P		P	15 05 32.1	+2.2
	comp=Z,1.5nm,0.4s,baz=314,slow=6.7,SNR=11							
ELK	Elko	76.27	49	*e*P		P	15 05 32.2	+2.3
	comp=Z,5.2nm,1.1s							
SFJD	Kangerlussuaq	76.29	5	P		P	15 05 29.9	+0.7
	comp=Z,3.6nm,0.6s,baz=350,slow=0.8,SNR=3.4							
SFJD					LR	LR	15 39 55.2	
	comp=Z,37nm,21.9s,baz=351,slow=36							
GCMT	Greycliff	76.41	43	*e*P		P	15 05 32.6	+2.2
RLMT	Red Lodge	77.05	43	*e*P		P	15 05 35.6	+1.4
	comp=Z,5.8nm,0.8s							
FRB	Frobisher Bay	77.26	13	P		P	15 05 35.0	+0.3
	comp=Z,3.6nm,0.6s,baz=338,slow=5.6,SNR=8.1							
R11A	Troy Canyon, C	77.49	51	*e*P		P	15 05 38.8	+2.0
	comp=Z,12nm,1.3s							
TPNV	Topopah Spring	77.91	53	*e*P		P	15 05 40.9	+1.8
	comp=Z,8.4nm,0.9s							
TPNV	Topopah Spring	77.91	53	*e*P		P	15 05 40.9	+1.8
TPNV					pmax	pmax		
	comp=Z,8.0nm,0.9s							
BUR04	Bucovina Ar. S	78.18	321	*e*P		P	15 05 40.4	+0.1
PD31	Pinedale Array	78.38	45	*e*P		P	15 05 41.9	+0.2
PDAR	Pinedale Array	78.38	45	P		P	15 05 43.1	+1.4
	comp=Z,1.9nm,0.6s,baz=264,slow=2.3,SNR=28							
PDAR	Pinedale Array	78.38	45	*e*P		P	15 05 42.7	+1.1
BRTR	Keskin Array B	78.59	311	P		P	15 05 43.3	+0.5
	comp=Z,0.9nm,0.7s,baz=45,slow=5.4,SNR=5.8							
MLR	Muntele Rosu	79.23	319	LR		LR	15 42 43.0	
	comp=Z,76nm,21.0s,baz=101,slow=37							
MTPU	Mount Pierson	79.80	50	*e*P		P	15 05 50.6	+0.9
	comp=Z,6.3nm,0.8s							
SRU	San Rafael Swe	80.13	48	*e*P		P	15 05 53.4	+2.1
	comp=Z,20nm,1.1s							
SRU	San Rafael Swe	80.13	48	*e*P		P	15 05 53.4	+2.1
SRU					pmax	pmax		
	comp=Z,20nm,1.1s							
ULM	Lac du Bonnet	80.15	33	P		P	15 05 51.4	+0.4
	comp=Z,4.8nm,0.8s,baz=313,slow=5.6,SNR=7.8							
CLL	Collm	81.07	330	*e*P		P	15 05 56.0	+0.2
CLL	Collm	81.07	330	*e*P		P	15 05 56.0	+0.2
PRU	Pruhonice	81.44	328	*e*P		P	15 05 58.4	+0.6
PRU	Pruhonice	81.44	328	*e*P		P	15 05 58.4	+0.6
PV10	Paradox Valley	81.50	48	*e*P		P	15 05 58.9	+0.3
KHC	Kasperske Hory	82.50	328	*e*P		P	15 06 04.0	+0.6
KHC	Kasperske Hory	82.50	328	*e*P		P	15 06 04.0	+0.6
MVCO	Mesa Verde	82.58	49	*e*P		P	15 06 05.1	+0.8
	comp=Z,7.7nm,1.0s							
GERES	GERESS Array B	82.66	328	P		P	15 06 04.5	+0.1
	comp=Z,1.3nm,0.5s,baz=38,slow=6.8,SNR=9.4							
ANMO	Albuquerque	85.31	49	P		P	15 06 20.7	+2.4
	comp=Z,2.9nm,0.9s,baz=299,slow=4.3,SNR=6.6							
TX31	Lajitas Ar. Si	90.85	52	*e*P		P	15 06 45.2	+0.4
TXAR	Lajitas Array	90.85	52	P		P	15 06 46.1	+1.4
	comp=Z,1.2nm,0.5s,baz=302,slow=3.0,SNR=15							
TXAR					LR	LR	15 41 20.9	
	comp=Z,25nm,21.7s,baz=0.0,slow=32							
LPAZ	La Paz	147.43	59	PKPbc		PKPab	15 13 27.9	-0.1
	comp=Z,3.1nm,0.7s,baz=320,slow=5.0,SNR=9.1							

*IDC **31** 15:11:03.4±2.1,35°.23N×141°.56E,h0km,mb3.3/2,*
mb1 3.4/5,mb1mx3.2/42,mbtmp3.3/5,ML2.8/3,MS3.1/2,
Ms1 3.1/2,ms1mx2.5/26,Error ellipse: s-maj=49.0km
s-min=25.5km az=83.0
*ISCJB **31** 15:11:04.4±1.3,35°.20N±0°.06×141°.6E±0°.1,h27km,*
mb3.4/2,MS3.9/1,Error ellipse: s-maj=17.1km
s-min=8.4km az=10.4
*JMA **31** 15:11:08.5±0.2,35°.21N×141°.27E,h23km±4km,M2.5*

ISC 31 15:11:07.3±1.5,35°.22N±0°.06×141°.4E±0°.1,h27km,n15,
σ0s83/12,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	Chosi	0.66	317	P	Pb	15 11 20.1	-0.2
BSO1	Boso 1	0.67	212	P	Pb	15 11 20.0	-0.1
BSO1				*e*X		15 11 27.6	
BSO3	Boso 3	0.85	241	P	Pn	15 11 22.9	-0.4
JSMT	Sammumatsuo	0.89	299	P	Pb	15 11 25.1	+0.9
KTR	Katsuura	0.90	266	P	Pn	15 11 23.1	-1.1
BSO4	Boso 4	0.91	256	P	Pn	15 11 23.9	-0.4
JHJ	Hachijo jima 2	2.49	213	Pn	Pn	15 11 45.8	-0.3
	9.6nm,0.3s,baz=36,slow=19,SNR=5.6						
JHJ				Sn	Sn	15 12 14.8	-0.8
	17nm,0.3s,baz=323,slow=20,SNR=4.3						
MJAR	Matsushiro Arr	2.92	298	Pn	Pn	15 11 52.6	+0.6
	0.2nm,0.3s,baz=106,slow=14,SNR=19						
MJAR				LR	LR	15 13 06.7	
	comp=Z,38nm,18.4s,baz=60,slow=41						
ASAJ	Asahikawa	8.93	6	Pn	Pn	15 13 13.1	-1.4
	0.2nm,0.3s,baz=188,slow=14,SNR=4.7						
H11S1	WAKE ISLAND Hy	27.91	120	T	T	15 46 17.4	
	baz=315,slow=74						
H11S3	WAKE ISLAND Hy	27.91	120	T	T	15 46 16.5	
	baz=315						
H11S2	WAKE ISLAND Hy	27.93	120	T	T	15 46 12.6	
	baz=315,slow=74						
MKAR	Makanchi Array	45.10	304	P	P	15 19 21.9	+0.7
	0.5nm,1.0s,baz=88,slow=7.4,SNR=3.9						
CTA	Charters Tower	55.19	174	LR	LR	15 42 58.4	
	comp=Z,122nm,21.9s,baz=42,slow=35						
WRA	Warramunga Arr	55.27	188	P	P	15 20 38.8	+0.4
	0.3nm,0.5s,baz=4.5,slow=7.6,SNR=6.4						

*ISCJB **31** 15:16:07.9±1.2,25°.96S±0°.07×28°.9E±0°.1,h3km,mb3.5/2,*
Error ellipse: s-maj=19.3km s-min=7.7km az=20.0
*IDC **31** 15:16:08.1±1.9,26°.10S×29°.26E,h0km,mb3.5/2,*
mb1 3.5/7,mb1mx3.4/45,mbtmp3.6/7,ML2.8/4,Error
ellipse: s-maj=34.2km s-min=21.0km az=132.0

ISC 31 15:16:08.5±1.3,26°.04S±0°.07×29.0E±0°.1,h3km,n13,
σ2s46/20,South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBTB	Lobatse	3.21	288	Pn	Pb	15 17 05.5	-0.6
	0.5nm,0.3s,baz=106,slow=8.8,SNR=9.4						
LBTB				Pg	Pg	15 17 11.2	+1.3
	2.2nm,0.3s,baz=106,slow=13,SNR=31						
LBTB				Lg	Lg	15 17 54.8	
	23nm,0.3s,baz=14,slow=21,SNR=36						
BOSA	Boshof	4.18	231	*i* P	Pn	15 17 15.7	+2.4
BOSA	Boshof	4.18	231	Pn	Pn	15 17 14.9	+1.7
	0.2nm,0.3s,baz=51,slow=14,SNR=3.4						
BOSA				Pg	Pg	15 17 27.5	-1.0
	1.1nm,0.3s,baz=50,slow=15,SNR=11						
BOSA				Lg	Lg	15 18 22.0	
	13nm,0.3s,baz=137,slow=20,SNR=26						
BOSA	Boshof	4.18	231	*i* P	Pn	15 17 15.7	+2.4
MATP	Matopo	5.61	356	*i* P	Pn	15 17 35.3	+2.4
MATP	Matopo	5.61	356	Pn	Pn	15 17 34.5	+1.6
	1.0nm,0.3s,baz=168,slow=14,SNR=17						
MATP				Sn	Sn	15 18 35.6	-2.3
	3.1nm,0.3s,baz=253,slow=18,SNR=7.4						
MATP				Lg	Lg	15 18 59.7	
	3.5nm,0.3s,baz=89,slow=17,SNR=12						
MATP	Matopo	5.61	356	*i* P	Pn	15 17 35.3	+2.4
BLWY	Bulawayo	5.88	357	*i* P	Pn	15 17 38.8	+2.1
BLWY				*i* S	Sn	15 18 45.0	+0.3
BLWY	Bulawayo	5.88	357	*i* P	Pn	15 17 38.8	+2.1
BLWY				*i* S	Sn	15 18 45.0	+0.3
SUR	Sutherland	9.52	227	Pn	Pn	15 18 28.1	+1.4
	0.1nm,0.3s,baz=90,slow=14,SNR=6.6						
SUR				Sn	Sn	15 20 11.6	-2.6
	0.4nm,0.3s,baz=322,slow=19,SNR=4.3						
SUR				Lg	Lg	15 21 08.3	
	1.0nm,0.3s,baz=328,slow=23,SNR=5.7						
LSZ	Lusaka	10.73	356	Pn	Pn	15 18 43.1	-0.1
	0.8nm,0.3s,baz=168,slow=10,SNR=14						
LSZ				Sn	Sn	15 20 37.3	-6.8
	0.4nm,0.3s,baz=180,slow=20,SNR=4.9						
LSZ				Lg	Lg	15 21 40.5	
	0.3nm,0.3s,baz=202,slow=19,SNR=3.2						
TORD	Torodi Ar. Bea	47.13	322	P	P	15 24 43.4	+1.2
	0.6nm,0.7s,baz=143,slow=8.2,SNR=4.3						
MKAR	Makanchi Array	87.02	33	P	P	15 28 55.1	0.0
	0.1nm,0.5s,baz=220,slow=5.3,SNR=2.7						

*KRNET **31** 15:19:57.8±0.1,42°.57N×79°.63E,h14km,mb2.5*
*SOME **31** 15:19:58.1,42°.55N×79°.63E,h15km*
*NNC **31** 15:19:58.1±1.3,42°.60N×79°.65E,h0km,mb2.9,mpv2.5,*
Error ellipse: s-maj=7.9km s-min=5.0km az=134.0

ISC 31 15:19:58.3±1.2,42°.56N±0°.05×79°.64E±0°.04,h10km,n36,
σ1s10/65,9C-14D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	Shalkode	0.61	348	P	Pb	15 20 10.3	-0.9
	10nm,0.1s						
SHLS				S	Sb	15 20 19.3	-0.5
	136nm,0.2s						
SHLS	Shalkode	0.61	348	⇑*e*P	Pb	15 20 10.3	-0.9
	baz=17						
SHLS				⇑*e*S	Sb	15 20 19.3	-0.5
	baz=17						
SHLS	Shalkode	0.61	348	⇑*e*P	Pb	15 20 10.3	-0.9
	10nm,0.1s						
SHLS				*e*S	Sb	15 20 19.3	-0.5
	136nm,0.2s						
UZB	Uzunbulak	0.74	323	P	Pg	15 20 11.7	-0.9
	1.8nm,0.2s						
UZB				S	Sg	15 20 21.9	-0.4
	8.0nm,0.2s						
UZB	Uzunbulak	0.74	323	⇑*e*P	Pg	15 20 11.7	-0.9
	baz=23						
UZB				⇑*e*S	Sg	15 20 21.9	-0.4
	baz=23						
UZB	Uzunbulak	0.74	323	⇑*e*P	Pg	15 20 11.7	-0.9
	1.8nm,0.2s						
UZB				*e*S	Sg	15 20 21.9	-0.4
	8.0nm,0.2s						
PDGK	Podgornoye	0.77	352	P	Pg	15 20 12.3	-1.0
	0.8nm,0.1s						
PDGK				S	Sg	15 20 23.0	-0.4
	7.9nm,0.3s						
PDGK	Podgornoye	0.77	352	⇓P	Pg	15 20 12.1	-1.2
	0.6nm,0.3s						
PDGK				⇑S	Sg	15 20 22.8	-0.6
	5.8nm,0.3s						
PDGK	Podgornoye	0.77	352	⇓*i*P	Pg	15 20 12.3	-1.0
	baz=52						
PDGK				⇓*i*S	Sg	15 20 23.0	-0.4
	baz=52						
PRZ	Przheval'sk	0.92	265	⇓*i*P	Pg	15 20 15.1	-0.9
	baz=65						
PRZ				⇓*i*S	Sg	15 20 27.3	-0.6
	baz=65						
KTMS	Ketmen	1.03	31	P	Pg	15 20 17.1	-1.0
KTMS				S	Sg	15 20 30.8	-0.7
KTMS	Ketmen	1.03	31	*e*P	Pg	15 20 17.1	-1.0
	baz=30						
KTMS				*e*S	Sg	15 20 30.8	-0.7
	baz=30						
KTMS	Ketmen	1.03	31	*e*P	Pg	15 20 17.1	-1.0
	2.5nm,0.1s						
KTMS				*e*S	Sg	15 20 30.8	-0.7
	11nm,0.3s						
MNBS	Baschi	1.76	330	P	Pb	15 20 30.4	-0.4
MNBS				S	Sg	15 20 53.7	-1.4
MNBS	Baschi	1.76	330	*e*P	Pb	15 20 30.4	-0.4
	2.0nm,0.2s						
MNBS				*e*S	Sg	15 20 53.7	-1.4
	4.4nm,0.1s						
DJR	Jarkent	1.77	4	P	Pb	15 20 30.1	-0.9
	1.3nm,0.3s						
DJR				S	Sb	15 20 53.3	0.0
	3.7nm,0.2s						
DJR	Jarkent	1.77	4	⇓*e*P	Pb	15 20 30.2	-0.8
	1.3nm,0.3s						
DJR				*e*S	Sb	15 20 53.4	0.0
	3.7nm,0.2s						
KDJ	Kajisay	1.87	257	⇓*i*P	Pb	15 20 32.8	+0.1
	baz=57						
KDJ				⇓*i*S	Sg	15 20 57.4	-1.1
	baz=57						
KOTS	Kotyrbulak	1.97	291	Pg	Pg	15 20 35.2	-0.9
KOTS				Lg	Lg	15 21 02.9	
KOTS	Kotyrbulak	1.97	291	*e*P	Pb	15 20 34.4	0.0
	baz=91						
KOTS				*e*S	Sg	15 21 00.3	-1.4
	baz=91						
KOTS	Kotyrbulak	1.97	291	*e*P	Pb	15 20 34.4	0.0
	1.7nm,0.2s						
KOTS				*e*S	Sg	15 21 00.3	-1.4
	6.6nm,0.3s						
TNSS	Tian-Shan	2.03	284	Pg	Pb	15 20 35.0	-0.7
	1.0nm,0.2s						
TNSS				Lg	Lg	15 21 01.4	
	3.1nm,0.3s						
TNSS	Tian-Shan	2.03	284	*e*P	Pb	15 20 35.0	-0.7
	1.0nm,0.2s						
TNSS				*e*S	Sb	15 21 01.4	+0.2
	3.1nm,0.3s						
IZV	Izvestkoviy	2.27	283	Pg	Pb	15 20 39.4	-0.2
IZV				Lg	Lg	15 21 08.9	
IZV	Izvestkoviy	2.27	283	*e*P	Pb	15 20 39.4	-0.2
	1.4nm,0.1s						
IZV				*e*S	Sb	15 21 08.9	+1.1
	9.8nm,0.5s						
CHKK	Chushkaly	2.33	305	Pg	Pb	15 20 40.3	-0.1
CHKK				Lg	Lg	15 21 10.5	
CHKK	Chushkaly	2.33	305	*e*P	Pb	15 20 40.3	-0.1
	0.8nm,0.1s						
C

baz=181,slow=76,SNR=3.4
H11N1 WAKE ISLAND Hy 30.46 3 T T 16 07 12.6
baz=185
H11N3 WAKE ISLAND Hy 30.46 3 T T 16 07 15.6
baz=185
H11N2 WAKE ISLAND Hy 30.47 3 T T 16 07 14.2
baz=185
WRA Warramunga Arr 31.10 249 P P 15 35 23.2 +0.2
0.6nm,0.5s,baz=81,slow=9.0,SNR=8.8
ASAR Alice Springs 32.45 243 P P 15 35 34.8 -0.1
1.7nm,0.8s,baz=66,slow=9.9,SNR=21
ILAR Eielson Array 83.52 19 P P 15 41 32.1 0.0
0.5nm,1.0s,baz=240,slow=4.7,SNR=6.5
NVAR Mina Array Bea 86.28 50 P P 15 41 46.9 0.0
0.2nm,0.5s,baz=236,slow=6.4,SNR=3.1

IDC 31 15:32:32.5±2.1, 2°89N×126°00E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/41, mbtmp3.2/3, Error ellipse: s-maj=184.5km s-min=25.7km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.12**	**161**	P	P	15 37 50.6	+0.3
	0.2nm,0.4s,baz=340,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**27.50**	**164**	P	P	15 38 21.3	+0.5
	0.1nm,0.4s,baz=346,slow=7.7,SNR=4.9						
MKAR	**Makanchi Array**	**57.83**	**326**	P	P	15 42 25.4	-0.6
	0.5nm,0.9s,baz=114,slow=6.5,SNR=3.3						

NIED ***31*** *15:41:00,38°.30N×143°.60E,h8km,Mw3.7 Best double couple: M₀3.71000×10¹⁴ NP1:φ₀92.00000°,δ36.00000°, λ-27.00000°. NP2:φ₀204.00000°,δ75.00000°, λ-123.00000°.*

IDC ***31*** *15:41:32.4±0.8,38°.10N×144°.02E,h0km,mb3.6/10, mb1 3.8/13,mb1mx3.6/35,mbtmp3.6/13,ML3.2/3,MS2.9/4, Ms1mx2.9/4,ms1mx2.5/34,Error ellipse: s-maj=21.0km s-min=17.0km az=111.0*

ISCJB ***31*** *15:41:33.7±0.6,38°.24N±0°.05×143°.75E±0°.05,h15km, mb3.6/10,MS3.8/1,Error ellipse: s-maj=7.9km s-min=5.4km az=164.0*

JMA ***31*** *15:41:35.0±0.2,38°.31N×143°.59E,h8km,M3.7*

ISC 31 15:41:35.5±0.8, 38°32N±0°.06×143°68E±0°.06, h15km, n32, σ1§62/37, mb3.6/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.74**	**270**	P	**Pn**	**15 42 04.7**	**-0.4**
JIKH				S	**Sn**	**15 42 26.0**	**-1.1**
OFUJ	**Ofunato**	**1.75**	**296**	P	**Pn**	**15 42 05.2**	**0.0**
OFUJ				*e*S	**Sb**	**15 42 27.4**	**-1.6**
JKMT	**Kesennumamotoy**	**1.80**	**287**	P	**Pn**	**15 42 05.8**	**-0.1**
JIO	**Ouri**	**1.84**	**275**	P	**Pn**	**15 42 06.3**	**-0.1**
JIO				S	**Sb**	**15 42 28.8**	**-2.7**
JMK	**Ichinoseki**	**2.03**	**289**	P	**Pn**	**15 42 09.3**	**+0.2**
JOM	**Ohasama**	**2.19**	**303**	P	**Pn**	**15 42 11.8**	**+0.5**
JOM				*e*S	**Sb**	**15 42 38.7**	**-3.1**
JOU	**Okura**	**2.37**	**272**	P	**Pn**	**15 42 14.4**	**+0.6**
JOU				S	**Sn**	**15 42 42.4**	**-0.3**
JRG	**Rokugo**	**2.61**	**295**	P	**Pn**	**15 42 18.1**	**+1.0**
JANG	**Nango**	**2.65**	**321**	P	**Pn**	**15 42 17.9**	**+0.2**
JYK	**Kaneyama**	**2.67**	**284**	P	**Pn**	**15 42 18.9**	**+1.0**
JFT	**Otama**	**2.76**	**254**	P	**Pn**	**15 42 19.6**	**+0.4**
JFT				*e*S	**Sn**	**15 42 51.2**	**-1.1**
JAH	**Hinai**	**3.01**	**309**	P	**Pn**	**15 42 24.9**	**+2.3**
JTM	**Tenmabayashi**	**3.19**	**322**	P	**Pn**	**15 42 25.7**	**+0.7**
JTM				S	**Sn**	**15 43 02.8**	**+0.1**
JAW	**Awa shima**	**3.48**	**274**	P	**Pn**	**15 42 30.3**	**+1.2**
JOT	**Ohata**	**3.67**	**327**	P	**Pn**	**15 42 33.5**	**+1.9**
MJAR	**Matsushiro Arr**	**4.70**	**250**	Pn	**Pn**	**15 42 46.8**	**+0.9**
	0.2nm,0.3s,baz=355,slow=29,SNR=12						
MJAR				Sn	**Sn**	**15 43 41.5**	**+1.4**
	0.1nm,0.3s,baz=85,slow=14,SNR=2.9						
ASAJ	**Asahikawa**	**5.85**	**352**	Pn	**Pn**	**15 43 02.1**	**+0.5**
	2.0nm,0.3s,baz=201,slow=18,SNR=58						
ASAJ				Sn	**Sn**	**15 44 05.6**	**-2.8**
	1.7nm,0.3s,baz=217,slow=20,SNR=6.4						
USRK	**Ussuriysk Ar.**	**10.58**	**307**	Pn	**Pn**	**15 44 09.9**	**+3.5**
	0.3nm,0.3s,baz=106,slow=12,SNR=6.8						
JNU	**Nakatsue**	**11.62**	**247**	LR	LR	15 49 18.3	
	comp=Z,32nm,20.5s,baz=60,slow=40						
KSRS	**Korea Array**	**12.48**	**271**	LR	LR	15 49 24.3	
	comp=Z,31nm,19.9s,baz=96,slow=34						
KLR	**Kul'dur**	**13.88**	**326**	LR	LR	15 49 37.4	
	comp=Z,31nm,19.9s,baz=96,slow=34						
SEY	**Seymchan**	**25.21**	**9**	P	**P**	**15 47 02.0**	**+1.7**
	0.6nm,0.2s,baz=249,slow=22,SNR=4.6						
SONM	**Songino Array**	**28.61**	**302**	P	**P**	**15 47 34.0**	**+2.9**
	0.3nm,0.4s,baz=107,slow=9.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**42.40**	**311**	P	**P**	**15 49 30.4**	**+1.3**
	0.3nm,0.4s,baz=78,slow=7.8,SNR=2.5						
MKAR	**Makanchi Array**	**44.97**	**301**	P	**P**	**15 49 52.2**	**+2.3**
	0.4nm,0.5s,baz=83,slow=9.9,SNR=7.0						
ILAR	**Eielson Array**	**47.44**	**33**	P	**P**	**15 50 07.3**	**-1.8**
	0.6nm,1.0s,baz=262,slow=6.3,SNR=3.6						
INK	**Inuvik**	**52.42**	**28**	P	**P**	**15 50 46.5**	**-0.3**
	1.1nm,0.8s,baz=275,slow=9.1,SNR=4.0						
WRA	**Warramunga Arr**	**58.61**	**190**	P	**P**	**15 51 29.6**	**-2.3**
	1.2nm,0.7s,baz=9.1,slow=7.0,SNR=18						
YKA	**Yellowknife Ar**	**61.79**	**31**	P	**P**	**15 51 52.2**	**-1.0**
	0.2nm,0.7s,baz=304,slow=6.4,SNR=4.5						
ASAR	**Alice Springs**	**62.34**	**190**	P	**P**	**15 51 55.4**	**-1.9**
	0.3nm,0.6s,baz=5.1,slow=6.8,SNR=8.6						
NVAR	**Mina Array Bea**	**72.78**	**55**	P	**P**	**15 53 03.7**	**+0.1**
	0.3nm,0.6s,baz=269,slow=6.3,SNR=2.8						
NWAO	**Narrogin (SRO)**	**75.03**	**203**	LR	LR	16 23 33.0	
	comp=Z,47nm,21.0s,baz=346,slow=34						

DDA ***31*** *15:47:30.3,40°.79N×41°.17E,h8km±5km,ML2.6*
ISK ***31*** *15:47:30.2,40°.71N×41°.29E,h23km±1km,ML2.2/4*
TIF ***31*** *15:47:31.1,40°.75N×41°.29E,h17km±1km*

ISC 31 15:47:30.3±1.2, 40°77N±0°.04×41°21E±0°.03, h10km±10km, n15, σ1§00/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDEM	**Demirkent**	**0.43**	**73**	*i* P	**Pg**	**15 47 39.1**	**+0.4**
DDEM				*i* S	**Sb**	**15 47 48.7**	**+2.1**
DBAD	**Bademkaya**	**0.44**	**55**	IAML_P			
	comp=Z,2μm,0.2s						
DBAD				*i* P	**Pb**	**15 47 40.2**	**-0.1**
DBAD				*i* S	**Sb**	**15 47 46.6**	**-0.5**
CHOM	**Cayeli-Rize**	**0.48**	**314**	PG	**Pn**	**15 47 42.1**	**-1.2**
CHOM				SG	**Sb**	**15 47 50.7**	**+2.8**
DAGI	**Agillar**	**0.62**	**59**	*i* P	**Pb**	**15 47 43.4**	**+0.1**
DAGI				*i* S	**Sb**	**15 47 52.0**	**-0.1**
DBOC	**Borcka**	**0.67**	**31**	IAML_P			
	comp=Z,1μm,0.1s						
DBOC				*i* P	**Pb**	**15 47 44.5**	**+0.3**
DBOC				*i* S	**Sb**	**15 47 54.1**	**+0.5**
ARTV	**Artvin**	**0.69**	**52**	IAML_P			
	comp=Z,2μm,0.3s						
ARTV				*i* P	**Pb**	**15 47 44.5**	**0.0**
ARTV				*i* S	**Sg**	**15 47 53.1**	**+0.5**
BCA	**Borcka**	**0.75**	**24**	PG	**Pb**	**15 47 45.9**	**+0.5**
BCA				SG	**Sn**	**15 47 56.9**	**-1.5**
BAYB	**BAYBURT**	**0.89**	**235**	IAML_P			
	comp=Z,2μm,0.2s						
BAYB				*i* P	**Pb**	**15 47 47.9**	**-0.1**
BAYT	**Aydıntepe-Bayb**	**0.90**	**246**	PG	**Pg**	**15 47 47.4**	**-0.2**
BATM	**Batumi**	**0.91**	**23**	PG	**Pn**	**15 47 49.0**	**-0.3**
BATM	**Batumi**	**0.91**	**23**	P	**Pn**	**15 47 49.0**	**-0.3**
BATM				S	**Sn**	**15 48 01.7**	**-0.8**
KOPR	**Koprukoy-ERZUR**	**0.92**	**147**	PG	**Pg**	**15 47 47.2**	**-0.7**
KOPT	**Kop Dagi**	**0.93**	**216**	*i* P	**Pn**	**15 47 49.2**	**-0.5**
KOPT				*i* S	**Sn**	**15 48 03.8**	**+0.7**
ECAT	**Cat-ERZURUM**	**1.17**	**189**	*i* P	**Pn**	**15 48 04.9**	**+12**
ECAT				*i* S	**Sn**	**15 48 10.3**	**+1.1**
KELT	**Kelkit**	**1.61**	**248**	IAML_P			
	comp=Z,226nm,0.1s						
KELT				*i* P	**Pg**	**15 48 00.6**	**-0.7**
KELT				*i* S	**Sg**	**15 48 22.1**	**-0.2**

IDC 31 15:50:27.5±5.5, 10°35S×166°20E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/30, mbtmp3.4/3, Error ellipse: s-maj=290.8km s-min=34.1km az=138.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**28.66**	**1**	T	T	16 26 41.4	
	baz=181						
H11S3	**WAKE ISLAND Hy**	**28.66**	**1**	T	T	16 26 41.2	
	baz=181						
H11S1	**WAKE ISLAND Hy**	**28.68**	**1**	T	T	16 26 42.3	
	baz=181						
H11N1	**WAKE ISLAND Hy**	**29.88**	**1**	T	T	16 28 11.9	
	baz=182						
H11N3	**WAKE ISLAND Hy**	**29.88**	**1**	T	T	16 28 12.8	
	baz=182						
H11N2	**WAKE ISLAND Hy**	**29.89**	**1**	T	T	16 28 13.8	
	baz=182						
WRA	**Warramunga Arr**	**32.14**	**249**	P	P	15 56 57.6	+0.5
	0.3nm,0.9s,baz=79,slow=8.8,SNR=3.1						
ASAR	**Alice Springs**	**33.50**	**243**	P	P	15 57 08.3	-0.6
	0.4nm,0.6s,baz=70,slow=10,SNR=4.5						
ILAR	**Eielson Array**	**82.71**	**18**	P	P	16 02 52.8	0.0
	0.2nm,0.8s,baz=239,slow=5.8,SNR=4.1						

IDC 31 15:58:49.4±2.4, 5°05N×126°50E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.2/35, mbtmp3.4/2, Error ellipse: s-maj=198.4km s-min=26.8km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.01**	**163**	P	P	16 04 24.4	+0.2
	0.7nm,0.9s,baz=343,slow=10.0,SNR=8.0						
ASAR	**Alice Springs**	**29.44**	**166**	P	P	16 04 54.9	-0.1
	0.6nm,1.1s,baz=350,slow=8.5,SNR=3.6						
MKAR	**Makanchi Array**	**56.35**	**325**	P	P	16 08 32.1	-0.1
	7.2nm,0.4s,baz=124,slow=7.2,SNR=5.2						

NIED ***31*** *16:04:00,36°.10N×139°.90E,h50km,Mw4.3 Best double couple: M₀3.17000×10¹⁵ NP1:φ₀283.00000°,δ36.00000°, λ154.00000°. NP2:φ₀35.00000°,δ75.00000°,λ57.00000°.*

BJI ***31*** *16:04:42.9,35°.80N×140°.08E,h44km,mb4.4/38,mB4.9/23, Ms4.8/6,Ms7 4.5/6*

JMA ***31*** *16:04:47.8±0.1,36°.06N×139°.89E,h45km±1km,M4.3 Broadband fault plane solution: P waves. NP1: φ₀42.00000°,δ69.00000°,λ83.00000°. NP2:φ₀241.00000°, δ22.00000°,λ108.00000°. Principal axes: T Plg65.0000°, Azm300.0000°; N Plg6.0000°, Azm44.0000°; P Plg24.0000°, Azm137.0000°;*

JMA Felt III J1.

NEIC ***31*** *16:04:47.7±0.4,35°.96N×139°.73E,h52km±3km,mb4.8/105 Error ellipse: s-maj=3.4km s-min=2.8km az=137.0*

NEIC Felt [III] at Tsukuba and Utsunomiya and [II] at Tokyo. Felt widely in east-central Honshu from Yokohama to Koriyama and Takasaki. Recorded [3 JMA] in Gumma, Ibaraki, Saitama and Tochigi.

ISCJB ***31*** *16:04:47.0±0.2,36°.00N±0°.02×139°.80E±0°.03,h61km±2km, mb4.7/147,Error ellipse: s-maj=3.6km s-min=3.2km az=11.2*

MOS ***31*** *16:04:47.9±1.0,36°.21N×139°.73E,h61km,mb4.8/62,Error ellipse: s-maj=6.9km s-min=5.1km az=107.4*

IDC ***31*** *16:04:48.6±1.6,36°.03N×139°.76E,h59km±14km,mb4.0/29, mb1 4.1/33,mb1mx4.1/42,mbtmp4.3/33,MS3.2/10, Ms1 3.2/10,ms1mx3.0/42,Error ellipse: s-maj=13.7km s-min=9.6km az=99.0*

ISC 31 16:04:47.1±0.5, 36°03N±0°.03×139°88E±0°.04, h50km±4km, n331, σ1§34/362, mb4.8/152, MS3.3/6, 16C-8D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.32**	**51**	⇑P	**Pn**	**16 04 56.4**	**0.0**
JYT				S	**Sn**	**16 05 02.6**	**-0.4**
TOK	**Tokyo**	**0.35**	**197**	P	**Pn**	**16 04 58.1**	**+1.5**
TOK				*e*S	**Sn**	**16 05 05.0**	**+1.6**
JAG	**Ashikaga**	**0.53**	**319**	⇓P	**Pn**	**16 04 59.0**	**+0.3**
JAG				S	**Sn**	**16 05 06.9**	**-0.1**
JRY	**Ryogami san**	**0.80**	**270**	⇓P	**Pn**	**16 05 02.6**	**+0.5**
JRY				S	**Sn**	**16 05 13.0**	**0.0**
JKT	**Katashina**	**0.90**	**326**	⇓P	**Pn**	**16 05 03.8**	**+0.2**
JKT				*e*S	**Sn**	**16 05 15.9**	**+0.3**
JOD2	**Odawara 2**	**1.00**	**221**	⇓P	**Pn**	**16 05 05.6**	**+0.8**
JOD2				S	**Sn**	**16 05 19.0**	**+1.2**
JYN	**Shimob**	**1.21**	**245**	⇑P	**Pn**	**16 05 09.2**	**+1.5**
JFNN	**Fujinakano**	**1.28**	**230**	P	**Pn**	**16 05 09.6**	**+1.0**
JFNN				*e*S	**Sn**	**16 05 25.7**	**+1.1**
BSO3	**Boso 3**	**1.32**	**157**	⇓P	**Pn**	**16 05 09.5**	**+0.5**
BSO3				*e*S	**Sn**	**16 05 26.9**	**+1.6**
JIM2	**Oshima 3**	**1.36**	**196**	⇓P	**Pn**	**16 05 09.8**	**+0.1**
JIM2				*e*S	**Sn**	**16 05 26.9**	**+0.4**
JFY	**Yanaizu**	**1.39**	**354**	⇓P	**Pn**	**16 05 10.9**	**+0.8**
JFY				*e*S	**Sn**	**16 05 27.6**	**+0.3**
MJAR	**Matsushiro Arr**	**1.45**	**291**	P	**Pn**	**16 05 11.3**	**+0.4**
	46nm,0.3s,baz=110,slow=8.0,SNR=1479						
MJAR				S	**Sn**	**16 05 31.0**	**+2.3**
	29nm,0.3s,baz=98,slow=25,SNR=12						
MJAR				LR	LR	16 05 49.0	
	comp=Z,653nm,18.5s,baz=110,slow=46						
MAJO	**Matsushiro**	**1.45**	**291**	*e*Pn	**Pn**	**16 05 11.1**	**+0.2**
MAJO				*e*Sn	**Sn**	**16 05 31.0**	**+2.2**
MAJO				*e*		16 05 49.0	
MAJO	**Matsushiro**	**1.45**	**291**	*e*P	**Pn**	**16 05 11.1**	**+0.2**
MAJO				*e*		16 05 31.0	
MAT	**Matsushiro**	**1.45**	**291**	P	**Pn**	**16 05 12.2**	**+1.3**
MAT				S	**Sn**	**16 05 29.0**	**+0.2**
MJB9	**Matsu-Tunnel**	**1.45**	**291**	*e*Pn	**Pn**	**16 05 11.2**	**+0.3**
INU	**Inuyama**	**2.43**	**255**	*e*Pn	**Pn**	**16 05 25.8**	**+1.5**
JHJ	**Hachijo jima 2**	**2.90**	**182**	P	**Pn**	**16 05 31.4**	**+0.6**
	367nm,0.3s,baz=314,slow=15,SNR=62						
JHJ				S	**Sn**	**16 06 04.2**	**-0.2**
	172nm,0.3s,baz=63,slow=23,SNR=7.9						
JHJ2	**Mitsune**	**2.91**	**181**	*e*Pn	**Pn**	**16 05 31.1**	**+0.2**
ERM	**Erimo**	**6.50**	**22**	*e*Pn	**Pn**	**16 06 20.5**	**+0.4**
ERM				*e*Sn	**Sn**	**16 07 32.2**	**-0.7**
ERM	**Erimo**	**6.50**	**22**	*i* P	**Pn**	**16 06 20.3**	**+0.2**
JNU	**Nakatsue**	**7.97**	**251**	P	**Pn**	**16 06 41.4**	**+1.0**
	0.6nm,0.3s,baz=130,slow=4.1,SNR=15						
JNU				LR	LR	16 10 09.0	
	comp=Z,208nm,19.6s,baz=119,slow=41						
JNU	**Nakatsue**	**7.97**	**251**	*e*Pn	**Pn**	**16 06 39.7**	**-0.7**
ASAJ	**Asahikawa**	**8.34**	**14**	P	**Pn**	**16 06 45.9**	**+0.5**
	1.4nm,0.3s,baz=222,slow=13,SNR=30						
ASAJ				LR	LR	16 10 45.4	
	comp=Z,41nm,21.6s,baz=160,slow=43						
CBIJ	**Chichi jima**	**9.12**	**167**	*e*Pn	**Pn**	**16 06 53.9**	**-2.2**
JCJ	**Chichijima**	**9.12**	**167**	P	**Pn**	**16 06 53.9**	**-2.2**
	32nm,0.3s,baz=326,slow=3.5,SNR=11						
YUK	**Yuzh-Kuril'sk**	**9.22**	**28**	P	**Pn**	**16 06 59.9**	**+2.6**
YUK				*e*S	**Sn**	**16 08 33.3**	**-6.2**
YUK				pmax	pmax		
	comp=E,11nm,0.3s						
YUK				pmax	pmax		
	comp=Z,38nm,0.3s						
YUK				pmax	pmax		
	comp=N,23nm,0.4s						
TEY	**Ternei**	**9.34**	**346⇑**	*e*P	Pn	16 07 04.1	+5.1
TEY				pmax	pmax		
	comp=E,10.0nm,1.1s						
TEY				pmax	pmax		
	comp=N,20nm,0.8s						
TEY				pmax	pmax		
	comp=Z,20nm,0.7s						
SHO	**Shikotan**	**9.47**	**32**	*e*P	**Pn**	**16 07 01.3**	**+0.5**
SHO				pmax	pmax		
	comp=N,10.0nm,0.3s						
SHO				pmax	pmax		
	comp=E,10.0nm,0.3s						
SHO				pmax	pmax		
	comp=Z,15nm,0.3s						
KSRS	**Korea Array**	**9.71**	**282**	P	**Pn**	**16 07 07.4**	**+3.4**
	comp=Z,1.2nm,0.3s,baz=94,slow=15,SNR=13						
KSRS				LR	LR	16 10 46.0	
	comp=Z,145nm,21.5s,baz=86,slow=37						
KS01	**Wonju Array Si**	**9.73**	**282**	*e*Pn	**Pn**	**16 07 04.5**	**+0.1**
KS15	**Wonju Array Si**	**9.73**	**282**	*e*Pn	**Pn**	**16 07 03.3**	**-1.1**
KSAR	**Wonju Array Be**	**9.73**	**282**	P	**Pn**	**16 07 07.4**	**+3.0**
KSAR	**Wonju Array Be**	**9.73**	**282**	P	**Pn**	**16 07 07.4**	**+3.0**
USRK	**Ussuriysk Ar.**	**10.15**	**326**	P	**Pn**	**16 07 14.6**	**+4.4**
	comp=Z,0.7nm,0.3s,baz=138,slow=13,SNR=28						
USRK				LR	LR	16 11 02.6	
	comp=Z,69nm,19.5s,baz=98,slow=37						
KUR	**Kuril'sk**	**11.01**	**31**	P	**Pn**	**16 07 22.6**	**+0.8**
KUR				*e*S	**Sn**	**16 09 15.9**	**-7.6**
KUR				pmax	pmax		
	comp=E,13nm,0.6s						
KUR				pmax	pmax		
	comp=Z,19nm,0.6s						
KUR				pmax	pmax		
	comp=N,11nm,0.5s						
YSS	**Yuzh-Sakhalins**	**11.13**	**10**	*e*Pn	**Pn**	**16 07 23.4**	**0.0**
YSS	**Yuzh-Sakhalins**	**11.13**	**10⇑**	*e*P	**Pn**	**16 07 23.6**	**+0.2**
YSS				*e*S	**Sn**	**16 09 28.0**	**+1.7**
YSS				MLR	MLR		
	comp=Z,400nm,15.0s						
YSS				MLR	MLR		
	comp=N,300nm,12.0s						
YSS				MLR	MLR		
	comp=E,300nm,17.0s						
MDJ	**Mudanjiang**	**11.62**	**321**	P	**Pn**	**16 07 29.8**	**-0.4**
MDJ				pmax	pmax		
	comp=E,4.0nm,0.8s						
MDJ				pmax	pmax		
	comp=E,88nm,5.3s						
MDJ	**Mudanjiang**	**11.62**	**321**	*e*Pn	**Pn**	**16 07 30.2**	**0.0**
KLR	**Kul'dur**	**14.48**	**338**	P	**Pn**	**16 08 09.7**	**+0.8**
	comp=E,0.3nm,0.3s,baz=137,slow=14,SNR=5.5						
KLR	**Kul'dur**	**14.48**	**338**	*i* P	**Pn**	**16 08 09.5**	**+0.5**
NJ2	**Nanjing**	**17.87**	**263**	*e*P	**P**	**16 08 52.5**	**+0.3**
NJ2				pmax	pmax		
	comp=E,9.0nm,0.6s						
BJT	**Baijiatuau**	**19.09**	**289**	*e*P	**P**	**16 09 04.4**	**-1.1**
	comp=E,6.5nm,0.7s						
BJT	**Baijiatuau**	**19.09**	**289**	*e*P	**P**	**16 09 04.4**	**-1.1**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SSLB	**Suanglung**	**20.40**	**238**	*e*P	**P**	**16 09 18.7**	**-1.3**
	comp=Z,66nm,2.0s						
YULB	**Yu-li**	**20.43**	**237**	*e*P	**P**	**16 09 18.0**	**-2.3**
	comp=Z,18nm,1.2s						
TPUB	**Ta-pu**	**20.95**	**238**	*e*P	**P**	**16 09 24.4**	**-1.5**
	comp=Z,97nm,1.8s						
PETK	**Petropavlovsk-**	**21.18**	**31**	P	**P**	**16 09 29.9**	**+1.8**
	comp=Z,1.2nm,0.6s,baz=202,slow=6.7,SNR=4.9						
PETK				LR	LR	16 17 04.9	
	comp=Z,24nm,20.1s,baz=224,slow=35						
PEA1	**Petropavlovsk-**	**21.18**	**31**	*e*P	**P**	**16 09 29.9**	**+1.8**
HHC	**Hu-ho-hao-te**	**22.65**	**291**	*e*P	**P**	**16 09 43.5**	**-0.6**
HHC				pmax	pmax		
	comp=Z,19nm,0.7s						
HHC				pmax	pmax		
	comp=Z,150nm,7.3s						
MA2	**Magadan**	**24.61**	**13**	P	**P**	**16 10 02.8**	**+0.4**
	comp=Z,4.8nm,0.7s,baz=208,slow=9.3,SNR=9.6						
MA2	**Magadan**	**24.61**	**13**	*e*P	**P**	**16 10 02.7**	**+0.3**
	comp=Z,8.3nm,0.9s						
MA2	**Magadan**	**24.61**	**13⇑**	*i*P	**P**	**16 10 03.4**	**+1.0**
MA2				pmax	pmax		
	comp=Z,29nm,2.5s						
XAN	**Xi'an**	**25.38**	**275**	*e*P	**P**	**16 10 06.8**	**-3.0**
	comp=Z,11nm,1.4s						
XAN	**Xi'an**	**25.38**	**275**	*e*P	**P**	**16 10 06.8**	**-3.0**
XAN				pmax	pmax		
	comp=Z,11nm,1.4s						
ENH	**Enshi**	**26.02**	**266**	*e*P	**P**	**16 10 14.0**	**-1.6**
	comp=Z,9.1nm,0.6s						
YAK	**Yakutsk**	**26.81**	**349**	*e*P	**P**	**16 10 19.8**	**-2.5**
YAK				pmax	pmax		
	comp=Z,45nm,0.9s						
YAK				pmax	pmax		
	comp=N,30nm,1.5s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.1s						
ULN	**Ulaanbaatar**	**26.93**	**306**	*e*P	**P**	**16 10 23.9**	**+0.2**
ULN	**Ulaanbaatar**	**26.93**	**306**	*i* P	**P**	**16 10 23.3**	**-0.4**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONA1	**Songino Array**	**27.35**	**306**	*e*P	**P**	**16 10 27.7**	**+0.2**
SONA0	**Songino Array**	**27.35**	**306**	*e*P	**P**	**16 10 27.4**	**-0.2**
SONM	**Songino Array**	**27.35**	**306**	P	**P**	**16 10 27.4**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=106,slow=9.5,SNR=9.6						
SONM				LR	LR	16 21 05.0	
	comp=Z,42nm,18.7s,baz=176,slow=36						
BOD	**Bodaibo**	**27.75**	**330**	*e*P	**P**	**16 10 30.4**	**-0.4**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.2s						
SEY	**Seymchan**	**28.02**	**12**	P	**P**	**16 10 34.1**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=206,slow=6.1,SNR=13						
SEY	**Seymchan**	**28.02**	**12**	*ce*P	**P**	**16 10 36.4**	**+3.2**
H11N2	**WAKE ISLAND Hy**	**28.74**	**117**	T	T	16 40 57.0	
	baz=310,slow=75,SNR=81						
H11N1	**WAKE ISLAND Hy**	**28.75**	**117**	T	T	16 40 53.0	
	baz=310,slow=75,SNR=62						
H11N3	**WAKE ISLAND Hy**	**28.76**	**117**	T	T	16 40 53.1	
	baz=310,slow=75,SNR=59						
WAKE	**Wake Island**	**28.85**	**118**	*e*P	**P**	**16 10 41.3**	**+0.3**
	comp=Z,768nm,1.9s						
LZH	**Lanzhou**	**29.03**	**281**	*e*P	P	16 10 47.5	+4.8
LZH				pP	sP	16 10 59.5	-1.9
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
H11S1	**WAKE ISLAND Hy**	**29.40**	**119**	T	T	16 41 40.1	
	baz=314,slow=76,SNR=124						
H11S3	**WAKE ISLAND Hy**	**29.40**	**119**	T	T	16 41 47.0	
	baz=314,slow=76,SNR=83						
H11S2	**WAKE ISLAND Hy**	**29.41**	**119**	T	T	16 41 39.7	
	baz=314,slow=76,SNR=59						
CD2	**Chengdu**	**30.45**	**271**	*e*P	**P**	**16 10 54.0**	**-1.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
GTA	**Gaotai**	**31.70**	**288**	*e*P	**P**	**16 11 06.0**	**-0.1**
KMI	**Kunming**	**33.59**	**262**	P	**P**	**16 11 22.5**	**-0.4**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.2s						
BILL	**Bilibino**	**35.34**	**17**	*i* P	**P**	**16 11 35.0**	**-2.3**
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s						
TIXI	**Tiksi**	**36.15**	**354**	P	**P**	**16 11 43.7**	**-

NVS pmax pmax
comp=Z,12nm,0.6s
ANM Nome 43.10 31 *e*P **P 16 12 43.9 +1.9**
comp=Z,11nm,1.8s
ANM Nome 43.10 31 *e*P **P 16 12 43.9 +1.9**
ANM pmax pmax
comp=Z,11nm,1.8s
MK01 Makanchi Array 43.61 303 *e*P **P 16 12 45.9 -0.5**
MK32 Makanchi Array 43.62 303 *e*P **P 16 12 46.5 0.0**
MK32 *e*PP **PcP 16 14 33.0 -0.2**
MKAR Makanchi Array 43.62 303 P **P 16 12 46.5 0.0**
comp=Z,3.6nm,0.6s,baz=87,slow=9.7,SNR=19
MKAR PcP **PcP 16 14 33.0 -0.2**
comp=Z,0.5nm,0.7s,baz=78,slow=4.7,SNR=2.5
MKAR LR LR 16 30 07.1
comp=Z,39nm,18.3s,baz=61,slow=35
NRIK Noril'sk 43.67 336 P **P 16 12 46.4 -0.2**
comp=Z,3.5nm,0.6s,baz=151,slow=24,SNR=5.1
MAKZ Makanchi 43.83 303 *e*P **P 16 12 48.1 -0.1**
comp=Z,7.4nm,1.3s
MAKZ Makanchi 43.83 303 P **P 16 12 47.1 -1.1**
MAKZ pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 45.59 309 *e*P **P 16 13 01.7 -0.3**
comp=Z,21nm,0.8s
KURK Kurchatov 45.59 309*ce*P **P 16 13 01.4 -0.7**
KURK pmax pmax
comp=Z,38nm,1.3s
RAMN Ramite 45.85 274 *e*P **P 16 13 04.8 +0.1**
comp=Z,24nm,0.6s
JIRN Jiri 45.88 275 *e*P **P 16 13 05.4 +0.2**
comp=Z,26nm,0.6s
GUN Gumba 46.03 276 *e*P **P 16 13 05.8 -0.5**
PDGK Podgornoye 46.16 298 P **P 16 13 06.1 -0.8**
PDGK pmax pmax
comp=Z,17nm,1.0s
PKI Pulchoki 46.55 276 *e*P **P 16 13 10.1 -0.2**
PKIN Phulchoki 46.56 276 *e*P **P 16 13 09.8 -0.5**
comp=Z,6.5nm,0.6s
PRZ Przheval'sk 47.13 298 *e*P **P 16 13 15.3 +0.7**
comp=Z,13nm,0.8s
PRZ Przheval'sk 47.13 298 *e*P **P 16 13 15.3 +0.7**
PRZ pmax pmax
comp=Z,13nm,0.8s
DANN Dangsing 47.55 277 *e*P **P 16 13 18.5 +0.3**
comp=Z,81nm,0.7s
TARG Taragay, Kyrgy 47.74 297 *e*P **P 16 13 19.6 -0.1**
comp=Z,12nm,0.7s
KOLN Koldanda 47.92 277 *e*P **P 16 13 21.0 +0.1**
KDJ Kajisay 48.09 297 *e*P **P 16 13 23.2 +1.2**
comp=Z,5.5nm,0.7s
KDJ Kajisay 48.09 297 *e*P **P 16 13 23.2 +1.2**
KDJ pmax pmax
comp=Z,6.0nm,0.7s
PYUN Piuthan 48.28 277 *e*P **P 16 13 23.9 +0.3**
comp=Z,95nm,1.0s
OHAK Old Harbor 48.33 42 *e*P **P 16 13 24.1 +0.7**
comp=Z,88nm,1.7s
OHAK *e*PcP **PcP 16 14 50.1 +0.8**
BATI Baumata 48.46 202 P **P 16 13 25.6 +0.8**
comp=Z,3.7nm,0.4s,baz=37,slow=5.1,SNR=3.5
KDAK Kodiak Island 48.67 41 *e*P **P 16 13 27.1 +1.1**
comp=Z,137nm,1.9s
KDAK Kodiak Island 48.67 41 *i*P **P 16 13 27.2 +1.3**
ULHL Ulahol 48.74 298 P **P 16 13 27.6 +0.5**
SNR=5.0
TKM2 Tokmak 2 49.03 299 P **P 16 13 30.3 +1.1**
SNR=20
TKM2 Tokmak 2 49.03 299 *i*P **P 16 13 29.5 +0.3**
TKM2 pmax pmax
comp=Z,7.0nm,0.5s
NRN Naryn 49.13 297 *e*P **P 16 13 30.3 +0.1**
comp=Z,7.2nm,1.1s
NRN Naryn 49.13 297 *e*P **P 16 13 30.3 +0.1**
NRN pmax pmax
comp=Z,7.0nm,1.1s
BPAW Bear Paw Mtn. 49.24 33 *e*P **P 16 13 31.1 +0.8**
comp=Z,35nm,1.9s
MLY Manley 49.35 32 *e*P **P 16 13 33.2 +2.0**
comp=Z,18nm,2.0s
MLY *e*PcP **PcP 16 14 55.1 +2.1**
BRLK Bradley Lake 49.42 39 *e*P **P 16 13 32.2 +0.4**
comp=Z,122nm,2.0s
KZA Kyzart 49.50 298 P **P 16 13 34.6 +1.5**
SNR=18
TRF Thorofare Moun 49.56 34 *e*P **P 16 13 34.0 +1.2**
comp=Z,37nm,1.9s
KBK Karagaybulak 49.56 299 P **P 16 13 34.0 +0.8**
SNR=24
COLD Coldfoot 49.63 29 *e*P **P 16 13 35.2 +2.1**
comp=Z,6.3nm,1.6s
KSH Kashi 49.69 294 P **P 16 13 38.5 +4.3**
KSH PcP **PcP 16 14 58.5 +3.6**
KSH PP PP 16 15 37.5 +8.6
KSH S **S 16 20 44.3 +4.7**
KSH ScS **ScS 16 23 21.0 -0.6**
KSH pmax pmax
comp=Z,12nm,0.9s
KSH pmax pmax
comp=Z,350nm,6.4s
KSH LR LR
comp=Z,270nm,5.9s
KSH LR LR
comp=Z,280nm,8.7s
KSH LR LR
comp=Z,590nm,6.7s
COEN Coen 49.81 176 *e*P **P 16 13 34.9 -0.2**
comp=Z,37nm,1.7s
AAK Ala-Archa 49.89 299 P **P 16 13 36.2 +0.5**
SNR=6.7
AAK Ala-Archa 49.89 299 *e*P **P 16 13 35.9 +0.2**
comp=Z,7.2nm,0.9s
AAK Ala-Archa 49.89 299*ce*P **P 16 13 36.2 +0.5**
AAK pmax pmax
comp=Z,6.0nm,0.8s
UCH Uchtor 49.98 298 P **P 16 13 37.8 +1.0**
SNR=6.4
OTUK Ortayu 50.02 306 P **P 16 13 35.4 -1.1**
OTUK pmax pmax
comp=Z,20nm,0.7s
MCK McKinley 50.15 33 *e*P **P 16 13 39.3 +2.0**
comp=Z,9.2nm,1.3s
RND Reindeer 50.20 34 *e*P **P 16 13 39.1 +1.4**
comp=Z,31nm,2.0s
RND Reindeer 50.20 34 *e*P **P 16 13 39.1 +1.4**
RND pmax pmax
comp=Z,31nm,2.0s
GHO Glory Hole Cre 50.25 36 *e*P **P 16 13 39.2 +1.1**
comp=Z,64nm,2.0s
BVA0 Borovoye Array 50.34 313 P **P 16 13 38.8 0.0**
BVA0 pmax pmax
comp=Z,3.0nm,0.8s
EKS2 Erkin-Say 50.39 299 P **P 16 13 39.9 +0.4**
SNR=5.1
BRVK Borovoye 50.40 313 *e*P **P 16 13 39.5 +0.3**
comp=Z,6.2nm,1.1s
BRVK Borovoye 50.40 313 *e*P **P 16 13 39.5 +0.3**
BRVK pmax pmax
comp=Z,6.0nm,1.1s
MDM Murphy Dome 50.42 32 *e*P **P 16 13 40.9 +1.6**
comp=Z,15nm,1.4s
WRH Wood River Hil 50.50 32 *e*P **P 16 13 41.6 +1.8**
comp=Z,45nm,2.0s
WRH *e*PcP **PcP 16 14 58.1 +1.0**
KNK Knik Glacier 50.50 36 *e*P **P 16 13 42.3 +2.4**
comp=Z,106nm,2.0s
SML Sawmill 50.53 36 *e*P **P 16 13 42.0 +1.9**
comp=Z,26nm,1.3s
SML Sawmill 50.53 36 *e*P **P 16 13 42.0 +1.9**
SML pmax pmax
comp=Z,26nm,1.3s
AML Almayashu 50.59 298 P **P 16 13 42.5 +1.1**
SNR=58
BKNI Bangkinang 50.60 234 *e*P **P 16 13 41.4 +0.2**
comp=Z,38nm,0.4s
BKNI *e*PcP **PcP 16 14 56.7 -1.6**
IL1 Eielson Array 51.00 32 *e*P **P 16 13 44.3 +0.7**
ILAR Eielson Array 51.00 32 P **P 16 13 44.5 +0.9**
comp=Z,1.8nm,0.7s,baz=271,slow=5.8,SNR=19
ILB Eielson Array 51.00 32 *e*P **P 16 13 45.0 +1.4**
comp=Z,6.3nm,1.1s
SCM Sheep Creek Mo 51.01 36 *e*P **P 16 13 45.3 +1.6**
comp=Z,18nm,0.9s
SCM Sheep Creek Mo 51.01 36 *e*P **P 16 13 45.3 +1.6**
SCM pmax pmax
comp=Z,18nm,0.9s
ARSB Arslanbob 51.34 297 *e*P **P 16 13 47.2 +0.6**
comp=Z,13nm,0.6s
MNAS Manas 51.34 299 *i*P **P 16 13 47.2 +0.5**
MNAS pmax pmax
comp=Z,12nm,0.8s
SFK Sufi-Kurgan 51.36 296 *i*P **P 16 13 45.8 -1.1**
SFK pmax pmax
comp=Z,6.0nm,0.6s
KLU Klutina 51.71 36 *e*P **P 16 13 49.9 +0.9**
comp=Z,36nm,1.6s
MID Middleton Isla 51.76 39 *e*P **P 16 13 50.1 +0.9**
comp=Z,2µm,1.9s
MID Middleton Isla 51.76 39 *e*P **P 16 13 50.1 +0.9**
MID pmax pmax
comp=Z,2µm,1.9s
EYAK Cordova Ski Ar 51.90 37 *e*P **P 16 13 52.3 +2.0**
comp=Z,169nm,1.8s
HARP HAARP 51.97 35 *e*P **P 16 13 53.6 +2.7**
comp=Z,108nm,2.0s
RIDG Independ'e Rid 51.97 33 *e*P **P 16 13 50.3 -0.6**
comp=Z,26nm,1.8s
GSI Gunungsitoli 52.22 238 *e*P **P 16 13 53.1 -0.2**
comp=Z,18nm,1.2s
SCRK Sand Creek 52.32 33 *e*P **P 16 13 55.0 +1.4**
comp=Z,6.3nm,1.2s
DOT Dot Lake 52.32 33 *e*P **P 16 13 56.5 +3.0**
comp=Z,28nm,1.6s
KK31 Karatay Array 52.56 300 *e*P **P 16 13 55.0 -0.6**
comp=Z,9.1nm,0.9s
KK31 Karatay Array 52.56 300 *i*P **P 16 13 55.8 +0.2**
KK31 pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 52.56 300 *e*P **P 16 13 55.2 -0.4**
comp=Z,9.1nm,0.9s
KKAR Karatay Array 52.56 300 *e*P **P 16 13 55.2 -0.4**
KKAR pmax pmax
comp=Z,9.0nm,0.9s
BTK Batken 53.30 297 *e*P **P 16 14 01.8 +0.7**
comp=Z,3.3nm,0.6s
BTK Batken 53.30 297 *e*P **P 16 14 01.8 +0.7**
BTK pmax pmax
comp=Z,3.0nm,0.6s
NIL Nilore 53.76 288 *e*P **P 16 14 05.0 +0.5**
comp=Z,10nm,0.8s
NIL Nilore 53.76 288 *e*P **P 16 14 05.0 +0.5**
NIL pmax pmax
comp=Z,10.0nm,0.8s
GAR Garm 54.02 296 *e*P **P 16 14 06.4 0.0**
comp=Z,15nm,0.7s
GAR Garm 54.02 296 *e*P **P 16 14 06.4 0.0**
GAR pmax pmax
comp=Z,15nm,0.7s
CHGR Chuyangaron 54.98 296 *e*P **P 16 14 13.1 -0.4**
comp=Z,40nm,0.6s
SVE Sverdlovsk 55.09 319 *e*P **P 16 14 14.4 +0.6**
FITZ Fitzroy Crossi 55.49 196 P **P 16 14 17.5 +0.5**
comp=Z,3.4nm,0.5s,baz=17,slow=7.2,SNR=17
FITZ Fitzroy Crossi 55.49 196 *e*P **P 16 14 17.8 +0.8**
comp=Z,12nm,1.3s
HYT Haines Junctio 55.84 36 *e*P **P 16 14 22.1 +2.9**
comp=Z,37nm,1.9s
INK Inuvik 55.84 27 *e*P **P 16 14 19.9 +0.9**
comp=Z,3.3nm,0.8s
INK Inuvik 55.84 27 *e*P **P 16 14 19.9 +0.9**
INK pmax pmax
comp=Z,3.0nm,0.8s
WRAB Tennant Creek 55.90 186 *e*P **P 16 14 20.2 +0.3**
comp=Z,13nm,1.3s
WB2 Warramunga Arr 55.91 186 *e*P **P 16 14 19.1 -0.9**
WB2 *e*PcP **PcP 16 15 19.6 +1.4**
WR1 Warramunga Arr 55.91 186 *e*P **P 16 14 19.6 -0.4**
comp=Z,6.3nm,0.5s
WRA Warramunga Arr 55.91 186 P **P 16 14 19.6 -0.4**
comp=Z,3.8nm,0.4s,baz=1.7,slow=7.6,SNR=66
WC3 Warramunga Arr 55.92 186 *e*P **P 16 14 20.3 +0.2**
comp=Z,6.6nm,0.9s
CTAO Charters Tower 56.13 173 *e*P **P 16 14 22.2 +0.6**
comp=Z,49nm,1.8s
ARU Arti 56.30 319 *e*P **P 16 14 22.0 -0.5**
comp=Z,12nm,0.5s
ARU Arti 56.30 319*c i*P **P**
ARU *PP **pP 16 14 37.2 +1.1**
ARU 16 15 16.0
ARU 16 16 24.8
ARU S **S 16 22 07.8 -0.9**
ARU SS **SS 16 25 51.7 -3.8**
ARU pmax pmax
comp=Z,7.0nm,0.5s
KBL Kabul 56.62 291 *e*P **P 16 14 24.2 -1.1**
comp=Z,5.2nm,0.8s
KBL Kabul 56.62 291 *e*P **P 16 14 24.3 -1.1**
KBL pmax pmax
comp=Z,5.0nm,0.8s
WHY Whitehorse 57.13 36 *e*P **P 16 14 30.9 +2.5**
comp=Z,31nm,1.9s
AB31 Akbulak array 57.65 310 *e*P **P 16 14 31.9 -0.2**
AB31 pmax pmax
comp=Z,1.0nm,0.4s
ABKAR Akbulak array 57.65 310 *e*P **P 16 14 32.2 +0.1**
comp=Z,3.8nm,0.6s
STCH Steam Cracks 58.89 88 *e*P **P 16 14 42.8 +1.5**
comp=Z,174nm,0.5s
AS01 Alice Springs 59.63 186 *e*P **P 16 14 46.2 +0.1**
AS31 Alice Springs 59.63 186 *e*P **P 16 14 46.1 -0.1**
comp=Z,4.0nm,1.6s
ASAR Alice Springs 59.64 186 P **P 16 14 46.4 +0.3**
comp=Z,1.0nm,0.5s,baz=14,slow=5.7,SNR=17
MBWA Marble Bar 59.99 202 *e*P **P 16 14 48.5 0.0**
comp=Z,38nm,1.4s
SPA0 Spitsbergen Ar 61.27 349 *e*P **P 16 14 57.6 +0.9**
EIDS Eidsvold 61.97 169 *e*P **P 16 15 00.5 -1.4**
comp=Z,44nm,1.9s
COCO West Island 62.85 229 *e*P **P 16 15 06.2 -1.8**
comp=Z,109nm,1.2s
COCO West Island 62.85 229 *e*P **P 16 15 06.2 -1.8**
COCO pmax pmax
comp=Z,109nm,1.2s
GEYT Alibeck 63.24 299 P **P 16 15 09.9 -0.6**
comp=Z,3.7nm,0.8s,baz=62,slow=3.8,SNR=6.1
RES Resolute Bay 63.88 14 *e*P **P 16 15 15.1 +1.1**
comp=Z,6.3nm,1.2s
RES Resolute Bay 63.88 14 *e*P **P 16 15 15.1 +1.1**
RES pmax pmax
comp=Z,6.0nm,1.2s
KEV Kevo 63.94 339 *e*P **P 16 15 14.8 +0.4**
comp=Z,95nm,1.6s
KEV Kevo 63.94 339 *e*P **P 16 15 14.9 +0.4**
KEV pmax pmax
comp=Z,95nm,1.6s
ARA0 ARCESS Array S 64.50 339 *e*P **P 16 15 18.4 +0.2**
ARCES ARCESS Array B 64.50 339 P **P 16 15 18.4 +0.2**
comp=Z,3.0nm,0.6s,baz=55,slow=7.0,SNR=14
ARE0 ARCESS Array S 64.50 339 *e*P **P 16 15 18.0 -0.2**
comp=Z,4.3nm,1.7s
YKA Yellowknife Ar 65.29 30 P **P 16 15 24.3 +0.8**
comp=Z,1.1nm,0.7s,baz=303,slow=6.7,SNR=17
YKB5 Yellowknife Ar 65.29 30 *e*P **P 16 15 24.4 +1.0**
TULEG Thule 66.25 7 *e*P **P 16 15 30.0 +0.6**
comp=Z,20nm,1.8s
STKA Stephens Creek 67.57 178 P **P 16 15 38.8 +0.5**
comp=Z,1.9nm,0.7s,baz=312,slow=8.6,SNR=3.3
STKA Stephens Creek 67.57 178 *e*P **P 16 15 38.5 +0.2**
comp=Z,9.7nm,2.0s
OBN Obninsk 68.16 323 *i*P **P 16 15 40.3 -1.5**
OBN *i* 16 16 07.0
OBN pmax pmax
comp=Z,7.0nm,0.7s
LPSR Galich'ya Gora 68.28 320 *e*P **P 16 15 40.0 -2.6**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 68.87 319 *e*P **P 16 15 44.9 -1.4**
VSR pmax pmax
comp=Z,7.0nm,0.5s
FIA1 FINESS Array S 69.12 332 *e*P **P 16 15 47.5 -0.2**
FIA0 FINESS Array S 69.13 332 *e*P **P 16 15 47.6 -0.1**
FIA0 FINESS Array S 69.13 332 *e*P **P 16 15 47.6 -0.1**
FINES FINESS Array B 69.13 332 P **P 16 15 47.6 -0.1**
comp=Z,5.6nm,0.8s,baz=67,slow=6.3,SNR=15
FINES FINESS Array B 69.13 332 *i*P **P 16 15 47.5 -0.2**
FINES pmax pmax
comp=Z,6.0nm,0.8s
KBZ Khabaz 70.62 310 P **P 16 15 57.9 +0.7**
comp=Z,4.4nm,0.9s,baz=85,slow=0.5,SNR=8.2
KIV Kislovodsk 70.63 311 *e*P **P 16 15 59.0 +1.6**
KIV pmax pmax
comp=Z,12nm,1.1s
SUMG Summit 71.69 359 *e*P **P 16 16 04.8 +1.1**
comp=Z,10nm,0.9s
SUMG Summit 71.69 359 *e*P **P 16 16 04.8 +1.1**
SUMG pmax pmax
comp=Z,10.0nm,0.9s
SCO Scoresbysund 72.98 354 *e*P **P 16 16 11.9 +1.0**
comp=Z,29nm,1.6s
SCO Scoresbysund 72.98 354 *e*P **P 16 16 11.9 +1.0**
SCO pmax pmax
comp=Z,29nm,1.6s
AKASG Malin Array Be 74.33 322 P **P 16 16 18.5 -0.7**
comp=Z,1.1nm,0.3s,baz=48,slow=6.7,SNR=9.1
AKASG LR LR 16 50 54.4
comp=Z,44nm,18.3s,baz=345,slow=37
AKASG Malin Array Be 74.33 322*ce*P **P 16 16 18.7 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 74.33 322 *e*P **P 16 16 18.8 -0.4**
comp=Z,8.3nm,0.9s
AKBB Malin Array Si 74.33 322 *e*P **P 16 16 18.8 -0.4**
AKBB pmax pmax
comp=Z,8.0nm,0.9s
KIEV Kiev 74.34 322 *e*P **P 16 16 18.9 -0.3**
comp=Z,8.8nm,1.0s
KIEV Kiev 74.34 322 ⇑*i*P **P 16 16 18.8 -0.5**
KIEV Kiev 74.34 322 *e*P **P 16 16 18.9 -0.3**
KIEV pmax pmax
comp=Z,9.0nm,1.0s
AK11 Malin Array Si 74.38 322 *e*P **P 16 16 19.1 -0.4**
NC405 NORSAR Array S 74.42 337 *e*P **P 16 16 19.9 +0.4**
NC303 NORSAR Array S 74.44 337 *e*P **P 16 16 20.6 +0.9**
NC204 NORSAR Array S 74.60 337 *e*P **P 16 16 21.0 +0.4**
NB2 NORSAR Subarra 74.63 337 P **P 16 16 20.9 +0.1**
comp=Z,5.9nm,0.6s,baz=41,slow=5.9
NB200 NORSAR Array S 74.63 337 *e*P **P 16 16 20.8 -0.1**
NOA NORSAR Array B 74.63 337 P **P 16 16 20.8 -0.1**
comp=Z,1.7nm,0.5s,baz=40,slow=5.8,SNR=7.9
NOA LR LR 16 52 09.2
comp=Z,19nm,19.4s,baz=0.0,slow=38
NC602 NORSAR Array S 74.76 336 *e*P **P 16 16 21.4 -0.1**
NBO00 NORSAR Array S 74.78 337 *e*P **P 16 16 21.5 -0.1**
NAO01 NORSAR Array S 74.89 337 *e*P **P 16 16 22.1 -0.1**
FCC Fort Churchill 75.45 26 *e*P **P 16 16 25.9 +0.4**
comp=Z,36nm,2.0s
FCC Fort Churchill 75.45 26 *e*P **P 16 16 25.9 +0.4**
FCC pmax pmax
comp=Z,36nm,2.0s
CMB Columbia Colle 75.46 54 *e*P **P 16 16 26.3 +0.3**
comp=Z,20nm,2.0s
CMB Columbia Colle 75.46 54 *e*P **P 16 16 26.3 +0.3**
CMB pmax pmax
comp=Z,20nm,2.0s
HRY Holter Researc 75.53 42 *e*P **P 16 16 26.9 +0.5**
DLMT Dillon 75.92 44 *e*P **P 16 16 29.6 +0.9**
comp=Z,12nm,1.5s
BMN Battle Mountai 76.10 50 *e*P **P 16 16 31.6 +1.8**
comp=Z,3.3nm,0.9s
BMN Battle Mountai 76.10 50 *e*P **P 16 16 31.6 +1.8**
BMN pmax pmax
comp=Z,3.0nm,0.9s
KONO Kongsberg 76.22 336 *e*P **P 16 16 29.6 -0.2**
comp=Z,111nm,1.7s
KONO Kongsberg 76.22 336 *e*P **P 16 16 29.7 -0.2**
KONO pmax pmax
comp=Z,111nm,1.7s
BOZ Bozeman (W) 76.32 43 *e*P **P 16 16 32.1 +1.1**
comp=Z,2.6nm,0.6s
BOZ Bozeman (W) 76.32 43 *e*P **P 16 16 32.1 +1.1**
BOZ pmax pmax
comp=Z,3.0nm,0.6s
RYN Ryan 76.32 52 *e*P **P 16 16 32.6 +1.5**
comp=Z,12nm,1.7s
KVN Kaiserville 76.35 52 *e*P **P 16 16 32.4 +1.1**
comp=Z,3.6nm,1.1s
KVN Kaiserville 76.35 52 *e*P **P 16 16 32.4 +1.1**
KVN pmax pmax
comp=Z,4.0nm,1.1s
NV01 Mina Array Sit 76.58 52 *e*P **P 16 16 34.6 +2.0**
NVAR Mina Array Bea 76.58 52 P **P 16 16 34.6 +2.0**
comp=Z,1.3nm,0.7s,baz=283,slow=5.2,SNR=11
BIZ Bicaz 78.31 320 ⇑*i*P **P** 16 16 34.7 -7.2
BUR08 Bucovina Ar. S 78.32 321 *e*P **P 16 16 42.1 +0.1**
BUR04 Bucovina Ar. S 78.33 321 *e*P **P 16 16 42.1 +0.1**
BURAR Bucovina Array 78.33 321 ⇑*i*P **P 16 16 42.2 +0.1**
R11A Troy Canyon, C 78.35 51 *e*P **P 16 16 43.6 +1.1**
comp=Z,12nm,1.8s
BR101 Keskin Array S 78.59 311 *e*P **P 16 16 44.0 +0.3**
BR131 Keskin Array S 78.59 311 *e*P **P 16 16 43.9 +0.2**
BRTR Keskin Array B 78.59 311 P **P 16 16 44.0 +0.3**
comp=Z,0.5nm,0.4s,baz=137,slow=4.6,SNR=7.1
BRTR Keskin Array B 78.59 311 P **P 16 16 44.0 +0.3**
BRTR pmax pmax
comp=Z,1.0nm,0.4s
VRI Vrincioaia 78.69 319 ⇑*i*P **P 16 16 45.0 +1.0**
HWUT Hardware Ranch 78.82 46 *e*P **P 16 16 45.9 +0.9**
comp=Z,7.4nm,0.3s
DUG Dugway, Tooele 78.95 48 *e*P **P 16 16 46.3 +0.7**
comp=Z,8.2nm,1.5s
DUG Dugway, Tooele 78.95 48 *e*P **P 16 16 46.3 +0.7**
DUG pmax pmax
comp=Z,8.0nm,1.5s
ANTO Ankara 79.02 311 *e*P **P 16 16 45.5 -0.4**
comp=Z,8.7nm,0.5s
ANTO Ankara 79.02 311 *e*P **P 16 16 45.5 -0.4**
ANTO pmax pmax
comp=Z,9.0nm,0.5s
OJC Ojcow 79.18 326 *e*P **P 16 16 47.0 +0.4**
comp=Z,30nm,1.6s
OJC Ojcow 79.18 326 *e*P **P 16 16 47.0 +0.4**
OJC pmax pmax
comp=Z,31nm,1.6s
PD31 Pinedale Array 79.25 45 *e*P **P 16 16 47.2 -0.2**
PDAR Pinedale Array 79.25 45 P **P 16 16 48.2 +0.8**
comp=Z,0.6nm,0.6s,baz=269,slow=2.9,SNR=7.3
TRPA Tarpa 79.32 323 ⇑*i*P **P 16 16 48.1 +0.8**
PSUT Pine Spring 79.32 50 *e*P **P 16 16 49.4 +1.5**
comp=Z,9.9nm,1.8s
RAYN Ar Rayn 79.89 292 *e*P **P 16 16 50.6 -0.3**
comp=Z,18nm,2.0s
RAYN Ar Rayn 79.89 292 *e*P **P 16 16 50.7 -0.3**
RAYN pmax pmax
comp=Z,18nm,2.0s
MSU Marysvale 80.37 49 *e*P **P 16 16 56.1 +2.6**
MSU Marysvale 80.37 49 *e*P **P 16 16 56.1 +2.6**
DPC Dobruska-Polom 80.65 327 *e*P **P 16 16 55.2 +0.7**
SRU San Rafael Swe 81.00 48 *e*P **P 16 16 58.4 +1.6**
comp=Z,12nm,1.6s
SRU San Rafael Swe 81.00 48 *e*P **P 16 16 58.4 +1.6**
SRU pmax pmax
comp=Z,12nm,1.6s
ULM Lac du Bonnet 81.02 32 P **P 16 16 56.4 -0.1**
comp=Z,1.3nm,0.6s,baz=232,slow=5.0,SNR=3.2
ULM Lac du Bonnet 81.02 32 *e*P **P 16 16 57.8 +1.4**
comp=Z,26nm,1.6s
ULM Lac du Bonnet 81.02 32 P **P 16 16 56.4 -0.1**
ULM pmax pmax
comp=Z,2.0nm,0.7s
CLL Collm 81.35 329 *e*P **P 16 16 59.0 +0.8**
CLL *i* (PcP) **PcP 16 17 01.0 -3.2**
CLL *ep*P **pP 16 17 13.0 +0.5**
CLL *es*P **sP 16 17 18.0 0.0**
CLL Collm 81.35 329 *e*P **P 16 16 57.0 -1.2**
U15A North Rim 81.60 51 *e*P **P 16 17 02.2 +2.0**
comp=Z,9.2nm,1.6s
PV21 Cone Mtn., Par 82.28 48 *e*P **P 16 17 05.9 +2.2**
comp=Z,19nm,1.9s
PV23 Carpenter Ridg 82.33 48 *e*P **P 16 17 06.0 +2.1**
comp=Z,20nm,1.6s
PV14 Lion Creek, Pa 82.38 48 *e*P **P 16 17 06.0 +1.8**
comp=Z,16nm,1.6s
PV20 West Nyswonger 82.43 48 *e*P **P 16 17 06.4 +2.0**
comp=Z,33nm,1.9s
PV04 Paradox Valley 82.43 48 *e*P **P 16 17 06.0 +1.6**
comp=Z,19nm,1.8s
PV17 East Wray Mesa 82.47 48 *e*P **P 16 17 06.7 +2.0**
comp=Z,41nm,2.0s
GEC2 GERESS Array S 82.91 327 *e*P **P 16 17 06.5 -0.1**
comp=Z,19nm,1.9s
GEC2 GERESS Array S 82.91 327 *e*P **P 16 17 06.5 -0.1**
GEC2 pmax pmax
comp=Z,19nm,1.9s
GERES GERESS Array B 82.91 327 P **P 16 17 06.5 -0.1**
comp=Z,0.8nm,0.5s,baz=54,slow=5.0,SNR=3.8
PDG Podgorica 84.96 320 ⇓*i*P **P 16 17 16.8 -0.2**
SCHQ Schefferville 86.64 15 P **P 16 17 25.6 +0.5**
comp=Z,5.6nm,1.0s,baz=282,slow=19,SNR=3.1
SCHQ Schefferville 86.64 15 *e*P **P 16 17 25.0 0.0**

comp=Z,29nm,1.6s
LTX Lajitas 91.71 51 *e*P **P 16 17 50.9 +1.3**
LTX Lajitas 91.71 51 *e*P **P 16 17 50.9 +1.3**
TXAR Lajitas Array 91.71 51 P **P 16 17 50.9 +1.3**
comp=Z,0.8nm,0.6s,baz=298,slow=3.0,SNR=12
TOA1 Torodi Ar. Sit 117.14 313 *e*PKPdf **PKPdf 16 23 26.1 -1.1**
TORD Torodi Ar. Bea 117.14 313 PKP **PKPdf 16 23 26.1 -1.1**
comp=Z,0.2nm,0.5s,baz=76,slow=1.6,SNR=2.9
ROSC El Rosal 128.24 45 PKP **PKPdf 16 23 49.2 +0.2**
comp=Z,6.4nm,0.4s,baz=0.0,slow=12,SNR=1.7
LPAZ La Paz 148.27 59 PKPbc **PKPbc 16 24 28.4 -0.6**
comp=Z,1.0nm,0.6s,baz=294,slow=5.3,SNR=5.1
LPAZ La Paz 148.27 59 *e*PKPbc **PKPbc 16 24 28.6 -0.4**
MNMC Minye Minye 149.09 65 *e*PKPbc **PKiKP 16 24 31.8 -0.1**

KRSC 31 16:42:27.2±1.4, 52°.95N×156°.71E, h270km±9km, ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
APC	**Apacha**	**0.27**	**94**	*e*P		Pn	16 43 02.6	+0.7
APC				*e*S		S	16 43 29.5	+0.3
KRMR	**Karymshinskiy**	**0.87**	**97**	*e*P		Pn	16 43 04.6	+0.9
KRMR				*e*S		S	16 43 33.7	+1.2
MTVR	**Mutnovka**	**1.01**	**117**	*e*P		Pn	16 43 07.2	+2.6
MTVR				*e*S		S	16 43 35.2	+1.1
GNL	**Ganaly**	**1.05**	**44**	*e*P		Pn	16 43 05.8	+1.1
PET	**Petropavlovsk**	**1.18**	**85**	*e*P		Pn	16 43 06.3	+1.0
PET				*e*S		S	16 43 36.5	+1.1
KOK	**Koryaka**	**1.21**	**73**	*e*P		Pn	16 43 07.1	+1.5
RUS	**Russkaya**	**1.21**	**114**	*e*P		Pn	16 43 06.1	+0.6
RUS				*e*S		S	16 43 36.3	+0.5
DALK	**Dalny**	**1.24**	**85**	*e*P		Pn	16 43 07.0	+1.4
DALK				*e*S		S	16 43 37.4	+1.4
AVH	**Avacha**	**1.27**	**75**	*e*P		Pn	16 43 07.3	+1.4
AVH				*e*S		S	16 43 38.3	+1.8
UGLR	**Uglovaya**	**1.30**	**78**	*e*P		Pn	16 43 07.7	+1.5
KDTR	**Khodutka, Kamc**	**1.42**	**143**	*e*P		Pn	16 43 06.8	0.0
KDTR				*e*S		S	16 43 37.4	-0.8
NLC	**Nalytchevo**	**1.61**	**81**	*e*P		Pn	16 43 08.8	+0.7
NLC				*e*S		S	16 43 41.0	+0.5
SPN	**Mys Shipunski**	**2.01**	**84**	*e*P		Pn	16 43 10.9	-0.4
SPN				*e*S		S	16 43 44.2	-2.1
TUMR	**Tumrok**	**3.09**	**39**	*e*P		Pn	16 43 23.4	+1.5
KBTR	**Krutoberegovo**	**4.83**	**45**	*e*P		Pn	16 43 41.9	+0.5
KBTR				*e*S		S	16 44 38.6	-2.2

MEX 31 16:44:11.1±0.4, 17°.22N×94°.70W, h149km±4km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
CMIG	**Matias Romero**	**0.21**	**234**	*i*P		Pn	16 44 29.9	-1.4
CMIG				*e*S		Sn	16 44 44.5	-2.1
VHO	**Vista Hermosa**	**1.95**	**266**	*e*P		Pn	16 44 44.7	-1.1
VHO				*e*S		Sn	16 45 11.0	-1.3
HUIG	**Huatulco**	**1.97**	**223**	*e*P		Pn	16 44 44.3	-1.6
HUIG				*e*S		Sn	16 45 10.9	-1.7
PNIG	**Pinotepa**	**3.38**	**256**	*i*P		Pn	16 45 01.9	-1.4
PNIG				*e*S		Sn	16 45 42.3	-1.5

*ISCJB **31** 16:48:12.5±0.3, 36°.58N±0°.02×6°.02W±0°.02, h62km±3km, Error ellipse: s-maj=4.0km s-min=2.2km az=16.4*
*LDG **31** 16:48:12.8±0.1, 36°.31N×6°.08W, h25km, Ml3.8/10, Error ellipse: s-maj=2.2km s-min=1.4km az=9.0*
*MDD **31** 16:48:13.4±0.5, 36°.41N×6°.10W, h43km±4km, mb4.6/42, Error ellipse: s-maj=5.2km s-min=3.3km az=38.0, PRXIMO*
*IGIL **31** 16:48:13.6, 36°.40N×6°.10W, h43km, ML3.4*
*INMG **31** 16:48:14.0±1.6, 36°.39N×6°.11W, h36km±6km, MD3.2, ML3.2, Error ellipse: s-maj=2.3km s-min=1.9km az=47.0*
*SFS **31** 16:48:18.0, 36°.30N×6°.10W, h43km, ML4.5, CHICLANA DE LA FTRA. (CADIZ)*

ISC 31 16:48:11.5±1.1, 36°.44N±0°.03×6°.08W±0°.02, h53km±6km, n105, σ1°83/197, 6C-15D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
CNIL	**Conil**	**0.08**	**164**	⇑*i*P			**Pn**	**16 48 20.0**	**+0.4**
CNIL				*e*S			**Sn**	**16 48 29.9**	**+4.6**
SFS	**San Fernando**	**0.10**	**283**	P			**Pn**	**16 48 19.1**	**-0.6**
	SNR=7.9								
SFS				S			**Sn**	**16 48 25.3**	**-0.2**
	SNR=7.9								
SFS	**San Fernando**	**0.10**	**283**	⇓*i*P			**Pn**	**16 48 19.1**	**-0.6**
SFS				*i* S			**Sn**	**16 48 25.0**	**-0.6**
MOMI	**Momias**	**0.31**	**111**	*e*P			**Pn**	**16 48 21.6**	**+0.6**
ALJ	**Aljibe**	**0.36**	**76**	⇓*i*P			**Pn**	**16 48 23.4**	**+1.8**
ALJ				*i* S			**Sn**	**16 48 28.1**	**-0.5**
GIBL	**Gibalbin**	**0.40**	**13**	⇓*i*P			**Pn**	**16 48 24.2**	**+2.3**
GIBL				*e*S			**Sn**	**16 48 29.9**	**+0.6**
ESPR	**Espera**	**0.46**	**23**	⇓P			**Pn**	**16 48 23.6**	**+1.1**
	43nm,0.1s,SNR=18								
ESPR				S			**Sn**	**16 48 31.6**	**+1.1**
	1µm,0.3s								
EJIF	**Jimena Fronter**	**0.49**	**89**	⇑P			**Pn**	**16 48 24.1**	**+1.1**
	254nm,0.2s,SNR=18								
EJIF				S			**Sn**	**16 48 31.7**	**+0.6**
	232nm,0.2s,SNR=4.0								
REAL	**Reales**	**0.70**	**86**	⇓*i*P			**Pn**	**16 48 27.6**	**+2.0**
REAL				*e*S			**Sn**	**16 48 35.2**	**-0.7**
LIJA	**Lijar**	**0.71**	**49**	⇓*i*P			**Pn**	**16 48 27.9**	**+2.2**
LIJA				*e*S			**Sn**	**16 48 34.9**	**-1.1**
ECEU	**Ceuta**	**0.79**	**133**	P			**Pn**	**16 48 27.4**	**+0.8**
	19nm,0.1s,SNR=14								
ECEU				S			**Sn**	**16 48 38.4**	**+0.9**
	120nm,0.2s								
CEU	**Ceuta**	**0.79**	**133**	P			**Pn**	**16 48 27.7**	**+1.1**
CEU				S			**Sn**	**16 48 39.4**	**+1.9**
CEU	**Ceuta**	**0.79**	**133**	*e*P			**Pn**	**16 48 27.7**	**+1.1**
CEU				*i* S			**Sn**	**16 48 39.4**	**+1.9**
EMIJ	**Mijas**	**1.06**	**83**	⇑P			**Pn**	**16 48 30.7**	**+0.6**
	36nm,0.2s,SNR=18								
EMIJ				S			**Sn**	**16 48 44.0**	**0.0**
	100nm,0.3s,SNR=7.5								
EMAL	**Malaga-Limoner**	**1.37**	**76**	⇑*i*P			**Pn**	**16 48 35.5**	**+1.3**
EMAL				*e*S			**Sn**	**16 48 52.6**	**+1.3**
EMIN	**Mina Concepcio**	**1.40**	**340**	⇓P			**Pn**	**16 48 36.3**	**+1.5**
	20nm,0.1s,SNR=18								
EMIN				S			**Sn**	**16 48 53.4**	**+1.2**
	8.2nm,0.1s,SNR=10								
EGRO	**El Granado**	**1.56**	**315**	⇓P			**Pn**	**16 48 38.5**	**+1.5**
	52nm,0.1s,SNR=18								
EGRO				S			**Sn**	**16 48 56.5**	**+0.4**
	158nm,0.2s,SNR=8.4								
PVAQ	**Vaqueiros**	**1.62**	**307**	⇓*e*P			**Pn**	**16 48 39.0**	**+1.2**
PVAQ				*e*S			**Sn**	**16 48 58.1**	**+0.5**
PVAQ				A			A	16 48 58.8	
	176nm,0.4s								
PBDV	**Barranco-do-Ve**	**1.69**	**299**	*e*P			**Pn**	**16 48 39.9**	**+1.3**
PBDV				*e*S			**Sn**	**16 48 59.8**	**+0.7**
PBDV				A			A	16 49 00.3	
	163nm,0.2s								
ECAB	**El Cabril**	**1.71**	**18**	P			**Pn**	**16 48 40.3**	**+1.3**
	55nm,0.3s,SNR=42								
ECAB				S			**Sn**	**16 48 59.7**	**-0.1**
	30nm,0.2s								
EGOR	**Sierra Gorda,**	**1.72**	**67**	⇑P			**Pn**	**16 48 41.2**	**+2.0**
	6.8nm,0.2s,SNR=18								
EGOR				S			**Sn**	**16 49 02.9**	**+2.8**
	25nm,0.2s,SNR=7.9								
PBAR	**Barrancos**	**1.89**	**336**	*e*P			**Pn**	**16 48 43.1**	**+1.7**
PBAR				*e*S			**Sn**	**16 49 04.9**	**+0.8**
PBAR				A			A	16 49 07.0	
	70nm,0.1s								
ELGU	**Los Guajares,**	**2.02**	**77**	P			**Pn**	**16 48 43.6**	**+0.4**
	10nm,0.1s,SNR=7.9								
ELGU				S			**Sn**	**16 49 10.1**	**+2.7**
	15nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**2.10**	**34**	P			**Pn**	**16 48 46.0**	**+1.7**
	6.7nm,0.1s,SNR=42								
EADA				S			**Sn**	**16 49 08.8**	**-0.4**
	59nm,0.1s,SNR=11								
PBEJ	**Beja**	**2.13**	**318**	*e*P			**Pn**	**16 48 46.9**	**+2.2**
PBEJ				*e*S			**Sn**	**16 49 11.3**	**+1.4**
PBEJ				A			A	16 49 12.6	
	62nm,0.1s								
MESJ	**Messejana**	**2.21**	**310**	*e*P			**Pn**	**16 48 47.0**	**+1.4**
MESJ				*e*S			**Sn**	**16 49 11.6**	**-0.2**
MESJ					AML		AML	16 49 14.1	
	comp=N,127nm,0.3s								
MESJ	**Messejana**	**2.21**	**310**	⇓*e*P			**Pn**	**16 48 47.1**	**+1.4**
MESJ				*e*S			**Sn**	**16 49 11.8**	**0.0**
MESJ				A			A	16 49 14.3	
	comp=N,63nm,0.3s								
MORF	**Marmelete**	**2.23**	**293**	*e*P			**Pn**	**16 48 47.1**	**+1.0**
MORF				*e*S			**Sn**	**16 49 11.9**	**-0.7**
MORF					AML		AML	16 49 14.0	
	comp=N,321nm,0.3s								
MORF	**Marmelete**	**2.23**	**293**	*e*P			**Pn**	**16 48 47.2**	**+1.0**
MORF				*e*S			**Sn**	**16 49 12.2**	**-0.4**
MORF				A			A	16 49 13.4	
	comp=N,142nm,0.2s								
EQUE	**Quentar**	**2.25**	**69**	P			**Pn**	**16 48 48.5**	**+2.0**
	comp=N,3.6nm,0.2s,SNR=20								
EQUE				S			**Sn**	**16 49 14.5**	**+1.4**
	comp=N,23nm,0.2s,SNR=6.1								
PFVI	**Vila Bisbo**	**2.31**	**288**	⇓*e*P			**Pn**	**16 48 48.0**	**+0.8**
PFVI				*e*S			**Sn**	**16 49 13.5**	**-0.9**
PFVI				A			A	16 49 19.9	
	comp=N,71nm,0.6s								
PFVI	**Vila Bisbo**	**2.31**	**288**	P			**Pn**	**16 48 47.9**	**+0.8**
	comp=N,5.9nm,0.1s,SNR=20								
PFVI				S			**Sn**	**16 49 13.4**	**-0.9**
	comp=N,154nm,0.2s,SNR=11								
PTEO	**Sao Teotonio**	**2.39**	**298**	⇑*e*P			**Pn**	**16 48 49.7**	**+1.5**
PTEO				*e*S			**Sn**	**16 49 16.7**	**+0.5**
PTEO				A			A	16 49 21.6	
	comp=N,96nm,0.3s								
EBAD	**Badajoz**	**2.42**	**342**	⇓P			**Pn**	**16 48 50.4**	**+1.7**
	comp=N,13nm,0.1s,SNR=18								
EBAD				S			**Sn**	**16 49 17.4**	**+0.2**
	comp=N,43nm,0.1s,SNR=15								
PNCL	**Nicolau / Gran**	**2.57**	**311**	⇓*e*P			**Pn**	**16 48 52.0**	**+1.4**
PNCL				*e*S			**Sn**	**16 49 20.4**	**-0.2**
PNCL				A			A	16 49 22.6	
	comp=N,59nm,0.1s								
EBER	**Berja**	**2.60**	**79**	P			**Pn**	**16 48 52.9**	**+1.5**
	comp=N,11nm,0.3s,SNR=27								
EBER				S			**Sn**	**16 49 24.7**	**+2.9**
	comp=N,20nm,0.3s								
PESTR	**Estremoz**	**2.70**	**334**	*e*P			**Pn**	**16 48 54.2**	**+1.7**
PESTR				*e*S			**Sn**	**16 49 24.1**	**+0.1**
PESTR				A			A	16 49 28.1	
	comp=N,22nm,0.2s								
EQES	**Quesada**	**2.76**	**60**	P			**Pn**	**16 48 54.9**	**+1.4**
	comp=N,12nm,0.1s,SNR=54								
EQES				S			**Sn**	**16 49 26.3**	**+0.7**
	comp=N,26nm,0.2s,SNR=4.6								
MELI	**Melilla**	**2.80**	**113**	*e*S			**Sn**	**16 49 24.8**	**-1.6**
IFR	**Ifrane**	**3.02**	**165**	*e*P			**Pn**	**16 48 56.5**	**-0.6**
IFR				*e*S			**Sn**	**16 49 28.0**	**-4.2**
PMTG	**Montargil**	**3.12**	**328**	*e*P			**Pn**	**16 48 59.9**	**+1.6**
PMTG				*e*S			**Sn**	**16 49 35.4**	**+1.0**
PMTG				A			A	16 49 37.0	
	comp=N,49nm,0.2s								
PMRV	**Marv??o**	**3.16**	**341**	*e*P			**Pn**	**16 49 00.6**	**+1.9**
PMRV				*e*S			**Sn**	**16 49 34.9**	**-0.3**
PMRV				A			A	16 49 37.8	
	comp=N,38nm,0.2s								
ENIJ	**Nijar**	**3.16**	**79**	P			**Pn**	**16 49 00.4**	**+1.7**
	comp=N,6.4nm,0.1s,SNR=7.9								
ENIJ				S			**Sn**	**16 49 35.7**	**+0.5**
	comp=N,14nm,0.3s,SNR=7.9								
SESP	**Santiago Espad**	**3.28**	**58**	P			**Pn**	**16 49 01.7**	**+1.2**
	comp=N,9.6nm,0.1s,SNR=7.9								
SESP				S			**Sn**	**16 49 38.7**	**+0.3**
	comp=N,35nm,0.1s,SNR=7.9								
AVE	**Averroes**	**3.32**	**200**	⇓*i*P			**Pn**	**16 49 00.6**	**-0.5**
AVE				*e*S			**Sn**	**16 49 36.6**	**-2.6**
PMST	**Lisbon--Monsan**	**3.36**	**314**	*e*P			**Pn**	**16 49 03.6**	**+2.0**
PMST				*e*S			**Sn**	**16 49 41.4**	**+1.2**
PMST				A			A	16 49 45.2	
	comp=N,40nm,0.4s								
PAB	**San Pablo**	**3.39**	**23**	P			**Pn**	**16 49 04.2**	**+2.2**
	comp=N,1.3nm,0.1s,SNR=7.9								
PAB				S			**Sn**	**16 49 40.2**	**-0.8**
	comp=N,34nm,0.2s,SNR=7.9								
PCBR	**Castelo Branco**	**3.57**	**342**	*e*P			**Pn**	**16 49 06.5**	**+2.2**
PCBR				*e*S			**Sn**	**16 49 44.7**	**-0.5**
PCBR				A			A	16 49 47.1	
	comp=N,49nm,0.2s								
PMAFR	**Mafra**	**3.57**	**316**	*e*P			**Pn**	**16 49 06.1**	**+1.7**
PMAFR				*e*S			**Sn**	**16 49 46.0**	**+0.7**
PMAFR				A			A	16 49 49.7	
	comp=N,73nm,0.2s								
PMAFR	**Mafra**	**3.57**	**316**	P			**Pn**	**16 49 06.1**	**+1.7**
	comp=N,4.7nm,0.1s,SNR=9.9								
PMAFR				S			**Sn**	**16 49 45.3**	**0.0**
	comp=N,135nm,0.3s,SNR=12								
EPLA	**Plasencia**	**3.62**	**0**	⇓P			**Pn**	**16 49 07.9**	**+2.8**
	comp=N,112nm,0.1s,SNR=18								
EPLA				S			**Sn**	**16 49 45.7**	**-0.8**
	comp=N,94nm,0.2s,SNR=20								
ESDC	**Sonseca Array**	**3.63**	**27**	P			**Pn**	**16 49 07.3**	**+2.0**
	comp=N,3.1nm,0.1s,baz=211,slow=12,SNR=14								
ESDC				S			**Sn**	**16 49 45.5**	**-1.5**
	comp=N,12nm,0.1s,baz=208,slow=23,SNR=5.5								
PTOM	**Tomar**	**3.67**	**331**	*e*P			**Pn**	**16 49 07.7**	**+2.0**
PTOM				*e*S			**Sn**	**16 49 47.2**	**-0.4**
PTOM				A			A	16 49 50.2	
	comp=N,59nm,0.1s								
PCAS	**Casmilo, Conde**	**4.08**	**333**	*e*P			**Pn**	**16 49 13.3**	**+2.0**
PCAS				*e*S			**Sn**	**16 49 56.8**	**-1.0**
PCAS				A			A	16 50 00.8	
	comp=N,19nm,0.6s								
EMUR	**La Murta**	**4.11**	**69**	P			**Pn**	**16 49 13.1**	**+1.2**
	comp=N,4.8nm,0.3s,SNR=11								
EMUR				S			**Sn**	**16 49 56.4**	**-2.3**
	comp=N,2.2nm,0.3s,SNR=4.0								
MTE	**Manteigas**	**4.11**	**344**	*e*P			**Pn**	**16 49 13.9**	**+2.0**
MTE				*e*S			**Sn**	**16 49 58.0**	**-0.8**
MTE				A			A	16 50 43.7	
	comp=N,32nm,0.6s								
ETOB	**Tobarra**	**4.22**	**57**	P			**Pn**	**16 49 14.3**	**+1.0**
	comp=N,39nm,0.1s,SNR=150								
ETOB				S			**Sn**	**16 50 00.5**	**-0.9**
	comp=N,24nm,0.2s,SNR=4.6								
UCM	**Universidad Co**	**4.46**	**29**	*i* S			**Sn**	**16 50 08.0**	**+0.9**
GUD	**Guadarrama**	**4.46**	**19**	P			**Pn**	**16 49 19.1**	**+2.4**
	comp=N,1.0nm,0.1s,SNR=31								
GUD				S			**Sn**	**16 50 06.3**	**-1.0**
	comp=N,33nm,0.3s,SNR=22								
PVIS	**Viseu**	**4.50**	**342**	*e*P			**Pn**	**16 49 18.9**	**+1.7**
PVIS				*e*S			**Sn**	**16 50 06.5**	**-1.7**
PVIS				A			A	16 50 09.8	
	comp=N,25nm,0.2s								
MVO	**Moncorvo**	**4.77**	**351**	*e*P			**Pn**	**16 49 22.9**	**+1.9**
MVO				*e*S			**Sn**	**16 50 14.3**	**-0.7**
MVO				A			A	16 50 26.5	
	comp=N,31nm,0.6s								
MVO	**Moncorvo**	**4.77**	**351**	P			**Pn**	**16 49 22.8**	**+1.9**
	comp=N,39nm,0.2s,SNR=81								
MVO				S			**Sn**	**16 50 14.2**	**-0.7**
	comp=N,35nm,0.1s,SNR=8.1								
PVRL	**Vila Real**	**4.99**	**346**	*e*P			**Pn**	**16 49 26.1**	**+2.2**
PVRL				*e*S			**Sn**	**16 50 19.3**	**-1.0**
PVRL				A			A	16 50 22.4	
	comp=N,58nm,0.2s								
POLO	**Lamas de Olo**	**5.10**	**345**	*e*P			**Pn**	**16 49 27.5**	**+2.0**
POLO				*e*S			**Sn**	**16 50 21.6**	**-1.5**
POLO				A			A	16 50 23.6	
	comp=N,13nm,0.4s								
ECHE	**Chera**	**5.12**	**51**	P			**Pn**	**16 49 26.4**	**+0.8**
	comp=N,4.6nm,0.1s,SNR=7.9								
ECHE				S			**Sn**	**16 50 21.5**	**-1.9**
	comp=N,3.4nm,0.1s,SNR=7.9								
EBEN2	**Beniarda presa**	**5.18**	**63**	P			**Pn**	**16 49 27.2**	**+0.6**
	comp=N,11nm,0.1s,SNR=7.9								
EBEN2				S			**Sn**	**16 50 22.6**	**-2.4**
	comp=N,9.7nm,0.1s,SNR=7.9								
PBRG	**Braganca**	**5.38**	**355**	*e*P			**Pn**	**16 49 31.5**	**+2.3**
PBRG				*e*S			**Sn**	**16 50 28.1**	**-1.7**
PBRG				A			A	16 50 31.0	
	comp=N,13nm,0.1s								
OKGL	**Djebel Kef Gue**	**5.45**	**92**	P			**Pn**	**16 49 31.4**	**+1.1**
	comp=N,7.1nm,0.1s,SNR=4.0								
PCAB	**Cabril**	**5.47**	**345**	*e*P			**Pn**	**16 49 32.5**	**+2.0**
PCAB				*e*S			**Sn**	**16 50 31.1**	**-1.0**
PCAB				A			A	16 50 34.3	
	comp=N,12nm,0.1s								
ECAL	**Calabor**	**5.51**	**355**	P			**Pn**	**16 49 33.1**	**+2.0**
	comp=N,3.1nm,0.1s,SNR=18								
ECAL				S			**Sn**	**16 50 31.4**	**-1.8**
	comp=N,30nm,0.3s,SNR=11								
ELOB	**Lobios**	**5.63**	**345**	P			**Pn**	**16 49 34.6**	**+1.9**
	comp=N,7.4nm,0.2s,SNR=21								
ELOB				S			**Sn**	**16 50 33.2**	**-2.9**
	comp=N,8.5nm,0.1s,SNR=7.2								
PGAV	**Gavieira, Arco**	**5.77**	**344**	*e*P			**Pn**	**16 49 36.5**	**+1.8**
PGAV				*e*S			**Sn**	**16 50 37.6**	**-1.9**
PGAV				A			A	16 50 41.4	
	comp=N,9.3nm,0.8s								
EMOS	**Mosqueruela**	**5.89**	**47**	P			**Pn**	**16 49 38.1**	**+1.7**
	comp=N,1.2nm,0.2s,SNR=15								
EMOS				S			**Sn**	**16 50 40.5**	**-2.2**
	comp=N,5.2nm,0.2s,SNR=6.9								
EZAM	**Zamans**	**6.05**	**341**	P			**Pn**	**16 49 40.0**	**+1.7**
	comp=N,2.2nm,0.1s,SNR=7.9								
EZAM				S			**Sn**	**16 50 43.6**	**-2.6**
	comp=N,7.3nm,0.1s,SNR=7.9								
EIBI	**Ibiza**	**6.42**	**64**	P			**Pn**	**16 49 43.8**	**+0.3**
	comp=N,1.9nm,0.1s,SNR=7.1								
EIBI				S			**Sn**	**16 50 52.3**	**-3.2**
	comp=N,1.5nm,0.2s,SNR=4.0								
EAGO	**Agolada(Pontev**	**6.54**	**347**	P			**Pn**	**16 49 47.1**	**+2.0**
	comp=N,2.1nm,0.1s,SNR=7.9								
EAGO				S			**Sn**	**16 50 55.9**	**-2.3**
	comp=N,5.9nm,0.2s,SNR=7.9								
ERTA	**Horta de San J**	**6.74**	**46**	P			**Pn**	**16 49 49.5**	**+1.6**
	comp=N,0.9nm,0.2s,SNR=7.9								
ERTA				S			**Sn**	**16 51 01.6**	**-1.7**
	comp=N,1.2nm,0.1s,SNR=7.9								
ESAC	**San Caprasio**	**6.84**	**38**	P			**Pn**	**16 49 52.0**	**+2.7**
	comp=N,11nm,0.3s,SNR=7.9								
ESAC				S			**Sn**	**16 51 06.0**	**+0.2**
	comp=N,5.5nm,0.1s,SNR=7.9								
EMAZ	**Mazaricos**	**6.87**	**342**	P			**Pn**	**16 49 51.5**	**+1.9**
	comp=N,4.9nm,0.2s,SNR=4.0								
EMAZ				S			**Sn**	**16 51 03.5**	**-2.9**
	comp=N,7.0nm,0.1s,SNR=4.0								
EARI	**Arriondas**	**6.88**	**5**	P			**Pn**	**16 49 52.4**	**+2.5**
	comp=N,1.9nm,0.2s,SNR=16								
EARI				S			**Sn**	**16 51 04.1**	**-2.7**
	comp=N,5.6nm,0.3s,SNR=9.6								
EPON	**Pontenova**	**6.92**	**354**	P			**Pn**	**16 49 52.7**	**+2.3**
	comp=N,2.1nm,0.2s,SNR=7.0								
EPON				S			**Sn**	**16 51 05.2**	**-2.6**
	comp=N,4.1nm,0.2s								
ELAN	**Lanestosa**	**7.08**	**16**	P			**Pn**	**16 49 55.1**	**+2.6**
	comp=N,1.6nm,0.1s,SNR=89								
ELAN				S			**Sn**	**16 51 05.7**	**-5.9**
	comp=N,6.3nm,0.2s,SNR=4.8								
IELO	**Elcoad**	**7.40**	**29**	P			**Pn**	**16 49 59.6**	**+2.6**
	comp=N,4.4nm,0.2s,SNR=7.9								
IELO				S			**Sn**	**16 51 17.7**	**-1.9**
	SNR=7.9								
EORO	**Oroz-Betelu**	**7.42**	**28**	S			**Sn**	**16 51 19.9**	**0.0**
	comp=N,12nm,0.3s,SNR=4.0								
EPOB	**Poblet**	**7.43**	**47**	P			**Pn**	**16 49 58.4**	**+1.1**
	comp=N,0.7nm,0.1s,SNR=7.4								
EPOB				S			**Sn**	**16 51 18.1**	**-2.2**
	comp=N,0.9nm,0.3s,SNR=4.0								
EALK	**Alkurruntz**	**7.63**	**26**	P			**Pn**	**16 50 02.7**	**+2.6**
	comp=N,0.9nm,0.1s,SNR=9.0								
EALK				S			**Sn**	**16 51 22.6**	**-2.5**
	comp=N,53nm,0.3s,SNR=12								
SJPF	**Ste Jean**	**7.64**	**28**	*e*Pn			**Pn**	**16 50 02.0**	**+1.9**
SJPF				*e*Sn			**Sn**	**16 51 24.1**	**-1.2**
	comp=N,5.1nm,0.2s								
ETSF	**Etsaut**	**7.72**	**32**	*e*Pn			**Pn**	**16 50 03.2**	**+1.8**
ETSF				*e*Sn			**Sn**	**16 51 25.5**	**-2.0**
	comp=N,3.7nm,0.2s								
ETOS	**Mallorca**	**7.76**	**62**	P			**Pn**	**16 50 02.9**	**+1.1**
	comp=N,2.1nm,0.3s,SNR=7.4								
ATE	**Arette**	**7.82**	**30**	P			**Pn**	**16 50 05.5**	**+2.9**
	comp=N,1.3nm,0.1s,SNR=7.9								
ATE				S			**Sn**	**16 51 27.2**	**-2.6**
	comp=N,7.6nm,0.2s,SNR=7.9								
ECHI	**Chisagues Biel**	**7.88**	**36**	P			**Pn**	**16 50 05.0**	**+1.5**
	comp=N,2.8nm,0.1s,SNR=7.9								
ECHI				S			**Sn**	**16 51 28.2**	**-3.1**
	comp=N,1.9nm,0.1s,SNR=7.9								
CSOR	**Sort**	**8.14**	**41**	P			**Pn**	**16 50 08.0**	**+0.9**
	comp=N,0.8nm,0.2s,SNR=7.9								
CSOR				S			**Sn**	**16 51 33.9**	**-3.8**

MW5.1/103,Moment Tensor Solution. s48,c63; s103,c152; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.90±.12; Mθθ 3.81±.13; Mϕϕ -2.91±.13; Mrθ 0.45±.23; Mθϕ 3.20±.10; Mϕr -1.04±.27; Best double couple: M₀4.81700×10¹⁶ NP1:ϕs292.00000°,δ78.00000°, λ-13.00000°. NP2:ϕs25.00000°,δ78.00000°, λ-168.00000°. Principal axes: T 5.0900, Plg0.0000°, Azm338.0000°; N -0.5450, Plg73.0000°, Azm69.0000°; P -4.5430, Plg17.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 31 17:09:59.9±0.4,**9.05S**±0.09×**108.62W**±0.09,**h15**km,**n132,** σ1**9**31/117,**mb4.8**/68,**MS4.3**/15,**Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**17.99**	**182**	LR	LR	17 19 17.0	
	comp=Z,2μm,20.6s,baz=7.5,slow=31						
PAYG	**Puerto Ayora**	**20.05**	**66**	*e*P	**P**	**17 14 33.0**	**+0.2**
	320nm,2.0s						
H06S1	**SOCORRO T**	**27.70**	**355**	T	T	17 44 41.1	
	SNR=14						
RKT	**Rikitea**	**28.86**	**238**	*e*LR	LR	17 23 24.5	
	comp=Z,1μm,27.2s						
RKT	**Rikitea**	**28.86**	**238**	*e*T	T	17 46 08.7	
	1.9nm,0.2s						
CMIG	**Matias Romero**	**29.31**	**28**	LR	LR	17 24 08.2	
	comp=Z,436nm,20.6s,baz=204,slow=29						
TAOE	**Nuku Hiva Isla**	**31.14**	**268**	*e*LR	LR	17 24 18.5	
	comp=Z,1μm,26.2s						
ROSC	**El Rosal**	**36.87**	**69**	LR	LR	17 29 20.3	
	comp=Z,326nm,20.9s,baz=244,slow=32						
LTX	**Lajitas**	**38.46**	**7**	*e*P	**P**	**17 17 22.1**	**+0.6**
LTX				*e*PcP	**PcP**	**17 19 35.4**	**+0.7**
TXAR	**Lajitas Array**	**38.46**	**7**	P	**P**	**17 17 22.1**	**+0.6**
	0.7nm,0.9s,baz=184,slow=11,SNR=10.0						
TXAR				PcP	**PcP**	**17 19 35.4**	**+0.7**
	0.3nm,0.8s,baz=185,slow=6.0,SNR=2.5						
TXAR				LR	LR	17 30 11.5	
	comp=Z,446nm,20.7s,baz=0.0,slow=32						
TX31	**Lajitas Ar. Si**	**38.46**	**7**	*e*P	**P**	**17 17 21.9**	**+0.4**
PB01	**IPOC Station P**	**39.51**	**112**	*e*P	**P**	**17 17 31.1**	**+0.6**
	26nm,1.3s						
LPAZ	**La Paz**	**40.09**	**104**	P	**P**	**17 17 36.6**	**+0.7**
	3.1nm,0.9s,baz=281,slow=7.1,SNR=8.9						
LPAZ	**La Paz**	**40.09**	**104**	*e*P	**P**	**17 17 36.1**	**+0.1**
	16nm,1.5s						
LVC	**Limon Verde**	**40.37**	**114**	P	**P**	**17 17 39.1**	**+1.2**
	6.1nm,1.1s,baz=245,slow=3.8,SNR=6.2						
LVC	**Limon Verde**	**40.37**	**114**	*e*P	**P**	**17 17 38.0**	**+0.1**
	18nm,1.4s						
MNTX	**Cornudas Mount**	**40.63**	**4**	*e*P	**P**	**17 17 38.8**	**-0.7**
	21nm,1.6s						
PPT	**Papeete**	**40.68**	**254**	LR	LR	17 30 07.2	
	comp=Z,393nm,21.9s,baz=82,slow=30						
PPT2	**Papeete2**	**40.68**	**254**	*e*S	**S**	**17 23 49.9**	**-0.3**
	142nm,24.5s						
PPT2				*e*LQ	LQ	17 27 05.4	
	998nm,34.5s						
PPT2				*e*LR	LR	17 28 50.6	
	comp=Z,2μm,26.5s,baz=90						
TBI	**Tubuai**	**41.56**	**245**	*e*LR	LR	17 29 15.0	
	comp=Z,1μm,28.0s,baz=73						
TBI	**Tubuai**	**41.56**	**245**	*e*T	T	18 01 59.8	
	4.6nm,0.3s						
SDV	**Santo Domingo**	**41.81**	**66**	P	**P**	**17 17 50.9**	**+1.2**
	1.4nm,0.3s,baz=255,slow=14,SNR=3.3						
ABTX	**Abilene, Hawle**	**42.31**	**11**	*e*P	**P**	**17 17 52.4**	**-0.9**
	31nm,1.3s						
GO05	**Huala**	**42.32**	**133**	*e*P	**P**	**17 17 51.2**	**-2.1**
	36nm,1.3s						
LENM	**Lemitar**	**43.01**	**2**	*e*P	**P**	**17 17 59.9**	**+0.8**
X18A	**Snowflake**	**43.36**	**358**	*e*P	**P**	**17 18 01.0**	**-1.0**
	22nm,1.5s						
W13A	**Hualapai Mount**	**44.19**	**354**	*e*P	**P**	**17 18 08.8**	**+0.2**
	18nm,1.5s						
GO06	**Curarrehue**	**44.96**	**139**	*e*P	**P**	**17 18 14.1**	**-0.6**
	61nm,1.8s						
MIAR	**Mount Ida**	**45.64**	**17**	*e*P	**P**	**17 18 19.6**	**-0.4**
	40nm,1.4s						
SHPR	**Sheep Range**	**45.73**	**353**	*e*P	**P**	**17 18 21.1**	**+0.2**
	36nm,2.0s						
DAC	**Darwin (Calif)**	**45.87**	**350**	*e*P	**P**	**17 18 24.4**	**+2.4**
	5.0nm,1.2s						
KNB	**Kanab**	**45.99**	**355**	*e*P	**P**	**17 18 23.7**	**+0.8**
	19nm,1.6s						
TPNV	**Topopah Spring**	**46.31**	**352**	*e*P	**P**	**17 18 27.1**	**+1.7**
	14nm,1.4s						
CCUT	**Cedar City**	**46.57**	**355**	*e*P	**P**	**17 18 31.1**	**+3.6**
	15nm,1.6s						
S22A	**4UR Ranch, Cre**	**46.58**	**2**	*e*P	**P**	**17 18 24.9**	**-2.8**
	13nm,1.4s						
SZCU	**Shurtz Canyon**	**46.59**	**355**	*e*P	**P**	**17 18 29.3**	**+1.7**
	28nm,1.7s						
W41B	**Gary Mavity, V**	**46.63**	**19**	*e*P	**P**	**17 18 26.9**	**-0.7**
	41nm,1.4s						
SDCO	**Great Sand Dun**	**46.64**	**3**	*e*P	**P**	**17 18 29.8**	**+1.6**
	22nm,1.8s						
SIV	**San Ignacio**	**46.84**	**103**	P	**P**	**17 18 29.2**	**-0.5**
	1.3nm,0.8s,baz=270,slow=12,SNR=5.7						
PV12	**Saucer Basin,**	**47.12**	**360**	*e*P	**P**	**17 18 35.6**	**+3.8**
	28nm,1.7s						
R11A	**Troy Canyon, C**	**47.60**	**353**	*e*P	**P**	**17 18 35.9**	**+0.5**
	18nm,1.8s						
PLAL	**Pickwick Lake**	**47.91**	**23**	*e*P	**P**	**17 18 39.7**	**+2.0**
	101nm,1.9s						
SMCO	**Snowmass**	**48.00**	**2**	*e*P	**P**	**17 18 41.2**	**+2.4**
	18nm,1.6s						
NV11	**Mina Array Sit**	**48.07**	**350**	*e*P	**P**	**17 18 43.1**	**+4.0**
	1.0nm,1.6s						
NV01	**Mina Array Sit**	**48.09**	**350**	*e*P	**P**	**17 18 38.9**	**-0.5**
NVAR	**Mina Array Bea**	**48.09**	**350**	P	**P**	**17 18 40.0**	**+0.7**
	0.8nm,0.8s,baz=179,slow=11,SNR=6.1						
NVAR				LR	LR	17 34 37.7	
	comp=Z,738nm,19.7s,baz=178,slow=31						
P17A	**Butcher Ranch,**	**48.31**	**358**	*e*P	**P**	**17 18 41.4**	**+0.4**
	14nm,1.2s						
RYN	**Ryan**	**48.32**	**350**	*e*P	**P**	**17 18 41.6**	**+0.6**
	10.0nm,1.1s						
WAKR	**Walker**	**48.37**	**349**	*e*P	**P**	**17 18 41.6**	**+0.1**
	12nm,1.5s						
KVN	**Kaiserville**	**48.66**	**350**	*e*P	**P**	**17 18 44.4**	**+0.7**
	12nm,1.5s						
YERR	**Yerington**	**48.80**	**349**	*e*P	**P**	**17 18 45.7**	**+0.9**
	29nm,1.6s						
NLU	**North Lily Min**	**48.86**	**356**	*e*P	**P**	**17 18 46.9**	**+1.6**
	14nm,1.6s						
O20A	**White River Ci**	**48.94**	**0**	*e*P	**P**	**17 18 47.5**	**+1.7**
	45nm,1.6s						
PNTR	**Pine Nut**	**48.97**	**349**	*e*P	**P**	**17 18 48.4**	**+2.3**
	32nm,1.4s						
DUG	**Dugway, Tooele**	**49.15**	**356**	*e*P	**P**	**17 18 47.8**	**+0.4**
	13nm,1.4s						
ORV	**Oroville**	**49.81**	**347**	*e*P	**P**	**17 18 54.4**	**+2.1**
	9.9nm,1.4s						
BEKR	**Beckworth**	**49.87**	**348**	*e*P	**P**	**17 18 55.1**	**+2.2**
	22nm,1.9s						
BGU	**Big Grassy Mou**	**49.89**	**356**	*e*P	**P**	**17 18 53.0**	**-0.1**
	4.4nm,1.1s						
ELK	**Elko**	**49.92**	**353**	*e*P	**P**	**17 18 53.6**	**+0.2**
	17nm,1.8s						
TCUT	**Toone Canyon**	**49.98**	**357**	*e*P	**P**	**17 18 54.4**	**+0.5**
	22nm,0.7s						
SPUT	**South Promonto**	**50.23**	**356**	*e*P	**P**	**17 18 55.8**	**+0.2**
	15nm,1.4s						
HVU	**Hansel Valley**	**50.72**	**356**	*e*P	**P**	**17 18 59.2**	**-0.1**
	24nm,1.6s						
T49A	**Edmonton**	**50.76**	**24**	*e*P	**P**	**17 18 59.1**	**-0.4**
	32nm,1.3s						
CPUP	**Villa Florida**	**51.44**	**116**	P	**P**	**17 19 04.0**	**-0.9**
	3.5nm,0.9s,baz=274,slow=8.4,SNR=5.4						
CPUP				LR	LR	17 36 35.8	
	comp=Z,336nm,21.7s,baz=280,slow=31						
CPUP	**Villa Florida**	**51.44**	**116**	*e*P	**P**	**17 19 05.0**	**+0.1**
	24nm,1.6s						
GO09	**Cerro Castillo**	**51.55**	**152**	*e*P	**P**	**17 19 05.8**	**+0.5**
	145nm,1.2s						
BW06	**Boulder Array**	**51.57**	**359**	*e*P	**P**	**17 19 07.5**	**+1.7**
	19nm,1.8s						
PD31	**Pinedale Array**	**51.57**	**359**	*e*P	**P**	**17 19 04.2**	**-1.5**
PDAR	**Pinedale Array**	**51.57**	**359**	P	**P**	**17 19 04.8**	**-0.9**
	0.5nm,0.5s,baz=172,slow=7.0,SNR=4.8						
PDAR				LR	LR	17 38 01.8	
	comp=Z,508nm,18.6s,baz=198,slow=33						
PDAR	**Pinedale Array**	**51.57**	**359**	*e*P	**P**	**17 19 07.9**	**+2.1**
MOD	**Modoc Plateau**	**51.83**	**349**	*e*P	**P**	**17 19 09.2**	**+1.7**
	16nm,1.4s						
WVOR	**Wild Horse Val**	**52.05**	**351**	*e*P	**P**	**17 19 10.1**	**+0.9**
	23nm,1.8s						
MFID	**Camas Ranch**	**52.62**	**353**	*e*P	**P**	**17 19 13.7**	**+0.3**
	14nm,1.3s						
HLID	**Hailey**	**52.63**	**355**	*e*P	**P**	**17 19 13.7**	**+0.2**
	14nm,1.6s						
RSSD	**Black Hills**	**53.08**	**4**	*e*P	**P**	**17 19 17.3**	**+0.4**
	18nm,1.5s						
I07A	**Izee**	**53.80**	**350**	*e*P	**P**	**17 19 22.3**	**+0.2**
	33nm,2.0s						
DLMT	**Dillon**	**54.28**	**357**	*e*P	**P**	**17 19 24.1**	**-1.5**
	4.3nm,0.8s						
H04A	**Detroit Lake**	**54.87**	**348**	*e*P	**P**	**17 19 28.9**	**-0.9**
	19nm,1.4s						
G08A	**Pilot Rock**	**54.89**	**351**	*e*P	**P**	**17 19 30.9**	**+0.9**
	18nm,1.6s						
BDFB	**Brasilia**	**59.40**	**103**	LR	LR	17 43 09.9	
	comp=Z,212nm,18.8s,baz=249,slow=34						
ULM	**Lac du Bonnet**	**60.09**	**9**	LR	LR	17 43 24.0	
	comp=Z,203nm,20.8s,baz=208,slow=33						
FCC	**Fort Churchill**	**68.60**	**8**	*e*P	**P**	**17 21 00.7**	**-1.2**
	11nm,1.3s						
YKA	**Yellowknife Ar**	**71.48**	**357**	P	**P**	**17 21 19.1**	**-0.5**
	1.3nm,0.9s,baz=168,slow=5.7,SNR=13						
YKA				LR	LR	17 49 16.7	
	comp=Z,19nm,19.6s,baz=186,slow=33						
YKB5	**Yellowknife Ar**	**71.48**	**357**	*e*P	**P**	**17 21 18.2**	**-1.4**
SCHQ	**Schefferville**	**72.62**	**24**	P	**P**	**17 21 26.9**	**+0.2**
	5.1nm,1.0s,baz=234,slow=18,SNR=2.7						
SCHQ				LR	LR	17 51 40.4	
	comp=Z,235nm,21.4s,baz=292,slow=34						
SCHQ	**Schefferville**	**72.62**	**24**	*e*P	**P**	**17 21 26.3**	**-0.4**
	30nm,1.6s						
RIDG	**Independ'e Rid**	**77.62**	**344**	*e*P	**P**	**17 21 55.4**	**0.0**
	22nm,1.2s						
IL1	**Eielson Array**	**78.98**	**344**	*e*P	**P**	**17 22 01.5**	**-1.3**
ILAR	**Eielson Array**	**78.98**	**344**	P	**P**	**17 22 02.4**	**-0.4**
	1.0nm,0.9s,baz=170,slow=4.4,SNR=7.5						
ILAR				LR	LR	17 49 55.0	
	comp=Z,204nm,19.5s,baz=145,slow=30						
ILB	**Eielson Array**	**78.98**	**344**	*e*P	**P**	**17 22 01.5**	**-1.3**
WRH	**Wood River Hil**	**79.07**	**344**	*e*P	**P**	**17 22 03.1**	**-0.2**
	13nm,1.2s						
INK	**Inuvik**	**79.16**	**351**	P	**P**	**17 22 03.9**	**+0.2**
	3.2nm,1.0s,baz=140,slow=6.1,SNR=6.7						
INK	**Inuvik**	**79.16**	**351**	*e*P	**P**	**17 22 03.5**	**-0.2**
	12nm,1.3s						
MLY	**Manley**	**80.24**	**343**	*e*P	**P**	**17 22 09.0**	**-0.7**
	11nm,1.4s						
QSPA	**South Pole Qui**	**81.03**	**180**	P	**P**	**17 22 14.9**	**+0.7**
	9.4nm,0.9s,baz=132,slow=2.5,SNR=16						
VNDA	**Vanda**	**81.12**	**193**	LR	LR	17 51 49.4	
	comp=Z,91nm,18.0s,baz=146,slow=31						
DZM	**Mont Dzumac**	**82.00**	**249**	*e*S	**S**	**17 32 37.0**	**+2.6**
	62nm,27.1s						
DZM				*e*SS	**SS**	**17 37 52.0**	**-1.5**
	89nm,22.7s						
DZM	**Mont Dzumac**	**82.00**	**249**	*e*LR	LR	17 48 03.6	
	comp=Z,148nm,27.1s						
ANM	**Nome**	**84.67**	**339**	*e*P	**P**	**17 22 33.0**	**+0.2**
	15nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**87.84**	**289**	T	T	19 00 07.0	
	baz=100,slow=75,SNR=300						
H11S1	**WAKE ISLAND Hy**	**87.85**	**289**	T	T	19 00 07.5	
	baz=100,slow=75,SNR=181						
H11S3	**WAKE ISLAND Hy**	**87.86**	**289**	T	T	19 00 12.3	
	baz=100,slow=75,SNR=222						
H11N3	**WAKE ISLAND Hy**	**87.87**	**290**	T	T	19 00 07.5	
	baz=100,slow=74,SNR=67						
H11N2	**WAKE ISLAND Hy**	**87.88**	**290**	T	T	19 00 10.9	
	baz=100,slow=74,SNR=70						
H11N1	**WAKE ISLAND Hy**	**87.89**	**290**	T	T	19 00 09.0	
	baz=100,slow=74,SNR=32						
PETK	**Petropavlovsk-**	**99.38**	**322**	LR	LR	17 59 19.5	
	comp=Z,210nm,21.7s,baz=92,slow=30						
AKASG	**Malin Array Be**	**125.89**	**32**	PKP	**PKPdf**	**17 29 01.9**	**+0.6**
	0.5nm,0.3s,baz=316,slow=2.6,SNR=2.5						
NJ2	**Nanjing**	**130.50**	**305**	*e*PKP	**PKPdf**	**17 29 11.5**	**+0.8**
SONA0	**Songino Array**	**131.34**	**329**	*e*PKPdf	**PKPdf**	**17 29 12.3**	**+0.3**
SONM	**Songino Array**	**131.34**	**329**	PKP	**PKPdf**	**17 29 12.3**	**+0.3**
	0.5nm,1.0s,baz=13,slow=2.7,SNR=3.0						
HHC	**Hu-ho-hao-te**	**132.40**	**318**	*e*PKP	**PKPdf**	**17 29 10.5**	**-3.7**
BR101	**Keskin Array S**	**134.57**	**42**	*e*PKPdf	**PKPdf**	**17 29 18.9**	**+0.5**
BRTR	**Keskin Array B**	**134.57**	**42**	PKP	**PKPdf**	**17 29 18.9**	**+0.5**
	0.2nm,0.4s,baz=310,slow=1.1,SNR=2.8						
BVAR	**Borovoye Array**	**136.14**	**1**	PKP	**PKPdf**	**17 29 19.0**	**-1.7**
	0.2nm,0.5s,baz=11,slow=2.9,SNR=2.3						
AKTO	**Aktyubinsk**	**137.28**	**13**	PKP	**PKPdf**	**17 29 23.4**	**+0.5**
	0.4nm,0.4s,baz=327,slow=4.2,SNR=2.3						
KURK	**Kurchatov**	**138.03**	**353**	*e*PKPdf	**PKPdf**	**17 29 24.0**	**-0.2**
KURBB	**Kurchatov Arra**	**138.14**	**353**	PKP	**PKPdf**	**17 29 24.0**	**-0.4**
	0.4nm,0.5s,baz=355,slow=2.0,SNR=2.3						
MBAR	**Mbarara**	**138.40**	**101**	PKP	**PKPdf**	**17 29 26.0**	**-0.3**
	3.3nm,0.2s,baz=335,slow=4.5,SNR=2.2						
GTA	**Gaotai**	**140.51**	**325**	*e*PKP	**PKPdf**	**17 29 29.5**	**+0.2**
GTA				sPKP		17 29 36.8	
MK32	**Makanchi Array**	**141.25**	**348**	*e*PKPdf	**PKPdf**	**17 29 30.0**	**-0.2**
MKAR	**Makanchi Array**	**141.25**	**348**	PKP	**PKPdf**	**17 29 30.0**	**-0.2**
	0.2nm,0.6s,baz=29,slow=3.3,SNR=3.0						
WMQ	**Urumqi**	**142.56**	**340**	*e*PKP	**PKPdf**	**17 29 33.5**	**+0.7**
WMQ				LR	LR		
	comp=N,330nm,30.7s						
WMQ				LR	LR		
	comp=E,200nm,24.3s						
WMQ				LR	LR		
	comp=Z,460nm,24.3s						
KMBO	**Kilima Mbogo**	**144.52**	**105**	PKP	**PKPdf**	**17 29 38.5**	**+1.1**
	0.5nm,0.3s,baz=310,slow=7.7,SNR=1.8						
KK31	**Karatay Array**	**146.07**	**1**	*e*PKPdf	**PKPdf**	**17 29 38.5**	**-0.3**
KKAR	**Karatay Array**	**146.07**	**1**	*e*PKPdf	**PKPdf**	**17 29 38.8**	**0.0**
AAK	**Ala-Archa**	**146.43**	**356**	PKPbc	**PKPbc**	**17 29 40.7**	**-0.3**
	0.9nm,0.7s,baz=19,slow=9.6,SNR=2.6						
KDJ	**Kajisay**	**146.66**	**352**	*e*PKPdf	**PKPdf**	**17 29 40.8**	**+0.7**
NRN	**Naryn**	**147.49**	**354**	*e*PKPdf	**PKPdf**	**17 29 41.8**	**+0.1**
GEYT	**Alibeck**	**148.85**	**21**	PKPbc	**PKPbc**	**17 29 46.7**	**-0.9**
	2.4nm,0.8s,baz=320,slow=4.3,SNR=5.5						
KSH	**Kashi**	**149.39**	**353**	PKPbc	**PKPbc**	**17 29 48.0**	**-0.9**
KSH				PKS	**PP**	**17 33 17.0**	**-2.7**
KSH				PP	PP	17 33 28.0	+8.3
KSH				SKS	**SKSdf**	**17 36 52.0**	**-0.5**
KSH				SKKS	**SKKSac**	**17 40 15.5**	**+3.5**
PBKT	**Sadao Pong**	**150.23**	**288**	*e*PKPbc	**PKPbc**	**17 29 52.0**	**+0.6**
CHGR	**Chuyangaron**	**150.45**	**4**	*e*PKPbc	**PKPbc**	**17 29 52.4**	**+0.9**

*IDC **31** 17:13:51.8±8.3,2˚.21N×126˚.18E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.7/53,mbtmp3.9/4,MS3.5/1,Ms1 3.7/1, ms1mx2.6/44,Error ellipse: s-maj=133.2km s-min=104.4km az=134.0*

*DJA **31** 17:13:59.6±0.5,2˚N±4˚×12˚7E±˚,h10km,M4.0/6,mb4.0/1, MLv4.1/6*

ISC 31 17:13:56.6±4.0,**2.5N**±0.4×**126.5E**±0.1,**h55**km,**n9,** σ0**9**97/8, **mb3.9**/3,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.89**	**152**	P	**Pn**	**17 14 25.1**	**-1.4**
KMSI	**Cibinong**	**3.13**	**233**	P	**Pn**	**17 14 42.6**	**-0.9**
KMSI				S	**Pn**	**17 14 42.7**	**-0.8**
SANI	**Sanana**	**4.50**	**186**	P	**Pn**	**17 15 02.3**	**-0.1**
LUWI	**Luwuk**	**5.09**	**227**	P	Pn	17 15 18.7	+8.3
FITZ	**Fitzroy Crossi**	**20.44**	**182**	P	**P**	**17 18 29.8**	**+0.2**
	1.0nm,0.4s,baz=8.3,slow=11,SNR=10						
WRA	**Warramunga Arr**	**23.55**	**161**	P	**P**	**17 19 02.2**	**-0.1**
	2.2nm,0.5s,baz=337,slow=11,SNR=38						
ASAR	**Alice Springs**	**26.95**	**165**	P	**P**	**17 19 33.4**	**+0.2**
	0.3nm,0.3s,baz=343,slow=8.8,SNR=20						
CMAR	**Chiang Mai Arr**	**31.33**	**302**	LR	LR	17 31 49.0	
	comp=Z,91nm,22.0s,baz=54,slow=34						
STKA	**Stephens Creek**	**37.03**	**158**	P	**P**	**17 21 02.4**	**+1.0**
	2.6nm,0.9s,baz=342,slow=9.6,SNR=3.7						

*BJI **31** 17:14:09.2,13˚.79N×120˚.93E,h214km,mb4.6/58, mB4.9/38*

*ISCJB **31** 17:14:12.3±0.2,13˚.99N±0˚.02×120˚.78E±0˚.03, h226km±1km,mb4.6/152,Error ellipse: s-maj=4.1km s-min=2.6km az=169.3*

*GCMT **31** 17:14:12.6±0.4,14˚.10N±0˚.02×120˚.75E±0˚.03, h213km±2km,MW5.0/65,Moment Tensor Solution. s31,c34; s65,c98; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.73±.13; Mθθ -3.94±.14; Mϕϕ 1.21±.17; Mrθ 0.35±.12; Mθϕ -0.09±.12; Mϕr -1.54±.14; Best double couple: M₀3.83000×10¹⁶ NP1:ϕs117.00000°,δ56.00000°, λ130.00000°. NP2:ϕs241.00000°,δ50.00000°,λ47.00000°. Principal axes: T 3.7030, Plg58.0000°, Azm85.0000°; N 0.2550, Plg32.0000°, Azm272.0000°; P -3.9580, Plg3.0000°, Azm180.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **31** 17:14:12.6±0.1,13.93N×120.73E,mb4.8/93 Error ellipse: s-maj=3.4km s-min=2.5km az=78.0*

*MOS **31** 17:14:12.0±1.0,14.00N×120.77E,h224km,mb4.8/46, Error ellipse: s-maj=9.1km s-min=4.6km az=118.6*

*IDC **31** 17:14:13.2±0.3,13.96N×120.74E,h222km±2km,mb4.2/46, mb1 4.3/46,mb1mx4.3/58,mbtmp4.8/46,Error ellipse: s-maj=8.0km s-min=5.3km az=68.0*

*MAN **31** 17:14:13.3,14.00N×120.54E,h196km,mb5.3,ML4.3, MS4.5*

*DJA **31** 17:14:14.1±0.4,14˚N±3˚×12˚1E±˚,h226km±8km,M4.5/30, mb4.6/30,mB5.2/12,Mw(mB)4.5/12*

*KLM **31** 17:14:18.2,13.69N×120.81E,h254km,mb4.9*

ISC 31 17:14:13.1±0.2,**13.98N**±0.03×**120.71E**±0.04,**h220**km±2km, **h221**km:**pP-P,n458,**σ1**9**17/588,**mb4.7**/166,**52C-25D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.25**	**62**	P	**Pn**	**17 14 41.8**	**-0.2**
	5μm,0.3s,baz=258,slow=2.5,SNR=526						
TGY				S	**S**	**17 15 07.2**	**+2.6**
	1μm,0.3s,baz=184,slow=16,SNR=1.5						
TGY	**Tagaytay City**	**0.25**	**62**	*i*P	**Pn**	**17 14 41.8**	**-0.2**
BOAC	**Boac**	**1.22**	**115**	*e*P	**Pn**	**17 14 46.4**	**0.0**
BOAC				*e*S	**S**	**17 15 12.7**	**+0.3**
POLP	**Polilio Island**	**1.40**	**58**	*e*P	**Pn**	**17 14 48.5**	**+0.6**
POLP				*e*S	**S**	**17 15 17.2**	**+2.4**
SJMP	**San Jose**	**1.57**	**165**	*e*P	**Pn**	**17 14 48.3**	**-0.9**
SJMP				*e*S	**S**	**17 15 15.0**	**-2.3**
PCPH	**Palayan**	**1.61**	**13**	*i*P	**Pn**	**17 14 48.9**	**-0.7**
PCPH				*i* S	**S**	**17 15 15.8**	**-2.2**
GQP	**Guinayangan**	**1.69**	**92**	*i*P	**Pn**	**17 14 50.7**	**+0.5**
GQP				*i* S	**S**	**17 15 19.6**	**+0.6**
BALP	**Baler**	**1.94**	**26**	*e*P	**Pn**	**17 14 52.8**	**+0.3**
BALP				*e*S	**S**	**17 15 21.7**	**-1.6**
SCZP	**Santa Cruz**	**1.94**	**337**	*e*P	**Pn**	**17 14 51.2**	**-1.4**
SCZP				*e*S	**S**	**17 15 19.7**	**-3.6**
AUQP	**San Andres**	**2.02**	**109**	*e*P	**Pn**	**17 14 55.2**	**+1.8**
BUSP	**Coron**	**2.03**	**194**	*e*P	**Pn**	**17 14 53.0**	**-0.5**
BUSP				*e*S	**S**	**17 15 22.6**	**-2.3**
OTRP	**Odiongan**	**2.06**	**141**	*e*P	**Pn**	**17 14 53.5**	**-0.2**
OTRP				*e*S	**S**	**17 15 24.3**	**-1.1**
SMPP	**San Manuel, Pa**	**2.15**	**359**	*e*P	**Pn**	**17 14 54.0**	**-0.6**
SMPP				*e*S	**S**	**17 15 24.7**	**-2.4**
BOLP	**Bolinao**	**2.50**	**342**	*e*P	**Pn**	**17 14 57.0**	**-1.3**
BOLP				*e*S	**S**	**17 15 30.7**	**-2.9**
RCP	**Roxas**	**3.12**	**140**	*e*P	**Pn**	**17 15 06.4**	**+1.1**
CUYO	**Cuyo Island**	**3.13**	**174**	*e*P	**Pn**	**17 15 05.3**	**0.0**
CUYO				*e*S	**S**	**17 15 44.8**	**-1.4**
CAUP	**Cauayan**	**3.13**	**20**	*e*P	**Pn**	**17 15 05.6**	**+0.3**
JAP	**San Jose, Anti**	**3.44**	**159**	*e*P	**Pn**	**17 15 10.2**	**+1.3**
JAP				*e*S	**S**	**17 15 50.6**	**-2.1**
PALP	**Palanan**	**3.48**	**28**	*e*P	**Pn**	**17 15 09.9**	**+0.5**
GUIM	**Jordan**	**3.81**	**151**	*e*P	**Pn**	**17 15 14.7**	**+1.3**
GUIM				*e*S	**S**	**17 16 03.7**	**+3.0**
CVP	**Callao Caves**	**3.85**	**16**	*i* P	**Pn**	**17 15 13.7**	**-0.1**
APYP	**Conner**	**3.89**	**8**	*e*P	**Pn**	**17 15 13.8**	**-0.5**
APYP				*e*S	**S**	**17 16 00.8**	**-1.5**
CNP	**Catarman**	**4.12**	**110**	*e*P	**Pn**	**17 15 19.9**	**+2.8**
SGCP	**Mt. Cagua**	**4.42**	**17**	*e*P	**Pn**	**17 15 20.4**	**-0.4**
SNPH	**Sibulan**	**5.24**	**152**	*e*P	**Pn**	**17 15 32.3**	**+1.2**
MSLP	**Maasin**	**5.58**	**133**	*e*P	**Pn**	**17 15 37.1**	**+1.7**
CGP	**Cagayan de Oro**	**6.74**	**144**	*e*P	**Pn**	**17 15 49.6**	**-0.6**
BUKP	**Musuan**	**7.42**	**144**	*e*P	**Pn**	**17 16 01.0**	**+1.9**
KDM	**Kudat**	**7.99**	**209**	P	**Pn**	**17 16 09.7**	**+3.4**
TWG	**Pinlang**	**8.80**	**2**	*e*Pn	**Pn**	**17 16 14.9**	**-1.7**
KKM	**Kota Kinabalu**	**9.04**	**210**	*e*Pn	**Pn**	**17 16 17.8**	**-2.2**
KKM	**Kota Kinabalu**	**9.04**	**210**	P	**Pn**	**

61nm,1.4s
KMI Kunming 20.21 306 *e*P P **17 18 31.9 +0.2**
KMI pmax pmax
comp=Z,61nm,1.4s
RKPI Ransiki, Papua 20.38 138 P P **17 18 35.7 +2.4**
SUKH Sukhothai 20.58 282 P P **17 18 37.4 +2.0**
comp=Z,13nm,0.9s
MYKOM Kota Tinggi 20.61 235 P P **17 18 37.9 +2.2**
UTHA Uthaitani 20.62 277 P P **17 18 38.0 +2.1**
comp=Z,9.8nm,0.9s,comp=Z,96nm
PAYA Payao 20.66 288 P P **17 18 39.2 +2.9**
comp=Z,26nm,1.0s
SRDT SRDT 20.93 274 P P **17 18 41.1 +1.9**
comp=Z,29nm,0.9s,comp=Z,2µm
JNU Nakatsue 21.18 24 P P **17 18 41.3 -0.3**
comp=Z,4.1nm,0.7s,baz=199,slow=6.3,SNR=3.5
UMPA Umpang Tak 21.21 279 P P **17 18 44.0 +2.0**
comp=Z,26nm,1.1s,comp=Z,192nm
CM01 Chiang Mai Arr 21.34 285 *e*P P **17 18 43.9 +0.6**
CM01 *e*PcP **PcP** **17 22 38.9 +0.6**
CM31 Chiang Mai Arr 21.36 285 *e*P P **17 18 44.7 +1.2**
CM31 Chiang Mai Arr 21.36 285 P P **17 18 44.7 +1.2**
SNR=25
CMAR Chiang Mai Arr 21.36 285 P P **17 18 44.6 +1.1**
comp=Z,38nm,1.0s,baz=96,slow=7.7,SNR=157
CMAR pP **pP** **17 19 19.6 +0.7**
comp=Z,4.6nm,0.8s,baz=92,slow=8.7,SNR=2.4
CMAR PcP **PcP** **17 22 39.2 +0.9**
comp=Z,2.0nm,0.7s,baz=87,slow=0.5,SNR=8.0
CMAR Chiang Mai Arr 21.36 285 *i*P P **17 18 44.5 +1.0**
CMAR pmax pmax
comp=Z,38nm,1.0s
CMMT Chiang Mai 21.41 286 P P **17 18 44.5 +0.4**
comp=Z,24nm,1.2s
CHTO Chiang Mai 21.42 286 *e*P P **17 18 44.2 +0.1**
comp=Z,28nm,1.1s
CHTO Chiang Mai 21.42 286 *e*P P **17 18 44.2 +0.1**
CHTO pmax pmax
comp=Z,28nm,1.1s
CHTO Chiang Mai 21.42 286 P P **17 18 44.6 +0.5**
SNR=9.5
CHTO Chiang Mai 21.42 286 P P **17 18 44.6 +0.5**
comp=Z,107nm,1.2s
TRTT Trang 21.51 256 P P **17 18 46.6 +1.5**
comp=Z,17nm,1.1s
IPM Ipoh 21.58 246 *e*P P **17 18 45.5 -0.2**
comp=Z,22nm0.9s
KMMI Kalianget 21.94 198 P P **17 18 51.0 +1.8**
SRPI Serui, Papua 22.03 134 P P **17 18 51.1 +1.1**
EDFI Ende, Flores 22.61 177 P P **17 18 55.6 +0.2**
XAN Xi'an 22.65 334 P P **17 18 55.3 -0.2**
XAN pP pwP 17 19 35.3 -0.5
XAN S **S** **17 22 45.5 -1.3**
XAN ScP **ScP** **17 25 53.0 -4.5**
XAN pmax pmax
comp=Z,18nm,1.1s
XAN Xi'an 22.65 334 *e*P P **17 18 55.1 -0.4**
comp=Z,14nm,0.8s
XAN Xi'an 22.65 334 *e*P P **17 18 55.1 -0.4**
XAN pmax pmax
comp=Z,14nm,0.8s
PLAI Plampang 22.85 187 P P **17 18 58.2 +0.7**
CD2 Chengdu 22.95 320 *e*P P **17 18 59.0 +0.7**
CD2 S **S** **17 22 54.3 +2.5**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,4.8s
CD2 LR LR
comp=Z,720nm,13.9s
CD2 LR LR
comp=Z,740nm,11.5s
CD2 LR LR
comp=Z,440nm,13.9s
JAGI Jajag, Banyuwa 23.24 197 *e*P P **17 19 02.1 +1.1**
comp=Z,34nm,0.9s
SOEI Soe 23.85 171 *e*P P **17 19 05.5 -1.2**
comp=Z,30nm,0.9s
SOEI Soe 23.85 171 P P **17 19 01.5 -5.2**
CBIJ Chichi jima 23.92 54 *e*P P **17 19 06.3 -0.8**
JCJ Chichijima 23.92 54 P P **17 19 06.3 -0.8**
comp=Z,125nm,0.5s,baz=281,slow=21,SNR=10
BATI Baumata 24.21 173 P P **17 19 09.1 -0.7**
comp=Z,74nm,0.7s,baz=341,slow=1.0,SNR=22
BATI pP **pP** **17 19 54.1 +2.9**
comp=Z,35nm,0.7s,baz=14,slow=1.4,SNR=2.8
BATI PcP **PcP** **17 22 45.0 +0.7**
comp=Z,7.9nm,0.5s,baz=103,slow=1.4,SNR=3.3
BATI Baumata 24.21 173 P P **17 19 09.2 -0.7**
PSI Prapat 24.21 245 P P **17 19 10.5 +0.4**
comp=Z,20nm,0.8s,baz=0.4,slow=2.6,SNR=16
PSI pP **pP** **17 19 49.5 -1.1**
comp=Z,15nm,0.9s,baz=183,slow=6.6,SNR=2.9
PSI PcP **PcP** **17 22 44.7 +0.2**
comp=Z,2.0nm,0.3s,baz=180,slow=8.1,SNR=3.5
PSI Prapat 24.21 245 *e*P P **17 19 10.4 +0.4**
comp=Z,28nm,0.9s
PSI *e*pP **pP** **17 19 49.4 -1.1**
PSI PcP **PcP** **17 22 44.7 +0.2**
KSAR Wonju Array Be 24.22 14 P P **17 19 09.9 +0.3**
KSAR pP **pP** **17 19 53.6 +2.3**
KSAR Wonju Array Be 24.22 14 P P **17 19 10.0 +0.3**
KSAR *PP **pP** **17 19 53.6 +2.3**
KSRS Korea Array 24.24 14 P P **17 19 10.0 +0.1**
comp=Z,5.3nm,1.0s,baz=197,slow=8.7,SNR=9.3
KSRS pP **pP** **17 19 53.6 +2.1**
comp=Z,2.7nm,0.9s,baz=196,slow=8.6,SNR=1.6
LEM Lembang 24.42 213 P P **17 19 12.9 +1.0**
comp=Z,12nm,0.6s,baz=55,slow=15,SNR=4.8
MDSI Maura Dua 24.61 223 P P **17 19 13.6 +0.1**
MNSI Mandailing Nat 24.67 240 P P **17 19 13.7 -0.4**
GENI Genyem 25.37 129 P P **17 19 21.6 +1.3**
INU Inuyama 25.85 32 *e*P P **17 19 24.4 -0.1**
comp=Z,17nm,1.1s
GSI Gunungsitoli 26.12 243 *e*P P **17 19 25.7 -1.4**
comp=Z,30nm,0.9s
GSI *e*pP **pP** **17 20 09.1 -0.8**
GSI Gunungsitoli 26.12 243 P P **17 19 26.4 -0.7**
SISI Saibi 26.27 236 P P **17 19 28.2 -0.3**
LZH Lanzhou 26.71 328 *e*P P **17 19 34.3 +2.0**
LZH pP pP 17 20 19.0 +3.2
LZH PP **PnPn** **17 20 31.0 +3.2**
LZH PcP **PcP** **17 22 50.8 +0.9**
LZH *e*S **S** **17 23 52.3 +0.9**
LZH pmax pmax
comp=Z,51nm,1.0s
LZH pmax pmax
comp=Z,350nm,4.9s
LZH LR LR
comp=Z,2µm,10.3s
LZH LR LR
comp=Z,2µm,11.7s
LZH LR LR
comp=Z,2µm,13.3s
MAJO Matsushiro 27.39 32 *e*P P **17 19 37.1 -1.1**
MAJO *e*pP **pP** **17 20 21.8 +0.4**
MAJO *e*PcP **PcP** **17 22 51.2 -0.1**
MAJO Matsushiro 27.39 32 *e*P P **17 19 37.1 -1.1**
MAJO *e**PP **pP** **17 20 21.8 +0.4**
MAJO *e* 17 22 51.2
MJAR Matsushiro Arr 27.39 32 P P **17 19 37.1 -1.1**
comp=Z,2.0nm,0.7s,baz=210,slow=8.4,SNR=6.3
MJAR pP **pP** **17 20 21.8 +0.4**
comp=Z,0.8nm,0.6s,baz=205,slow=6.7,SNR=1.5
MJAR PcP **PcP** **17 22 51.2 -0.1**
comp=Z,2.7nm,0.7s,baz=205,slow=3.4,SNR=6.6
HHC Hu-ho-hao-te 27.93 345 *e*P P 17 19 54.0 +11
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,130nm,7.5s
BRDH Bariadhala 28.87 292 P P **17 19 51.7 +0.3**
comp=Z,88nm,0.4s,baz=95,slow=3.7,SNR=4.8
SHL Shillong 29.40 297 *e*P P **17 19 55.7 -0.7**
comp=Z,50nm,0.9s
SHL Shillong 29.40 297 *e*P P **17 19 55.7 -0.7**
SHL pmax pmax
comp=Z,50nm,0.9s
GTA Gaotai 31.30 328 ⇑P P **17 20 13.5 +0.7**
GTA pP pP 17 20 55.5 -1.5
GTA sP PP 17 21 26.8 -1.5
GTA PcP **PcP** **17 23 02.0 +0.6**
GTA S **S** **17 25 06.8 +3.5**
GTA sS sS 17 26 20.0 -2.9
GTA ScP **ScP** **17 26 24.5 +1.0**
GTA pmax pmax
comp=Z,11nm,1.1s
GTA pmax pmax
comp=Z,92nm,5.6s
GTA LR LR
comp=Z,210nm,15.8s
GTA LR LR
comp=Z,180nm,17.5s
GTA LR LR
comp=Z,170nm,17.9s
LSA Lhasa 31.45 305 *e*P P **17 20 15.5 +0.8**
comp=Z,10nm,1.0s
LSA Lhasa 31.45 305 *e*P P **17 20 15.5 +0.8**
LSA pmax pmax
comp=Z,10.0nm,1.0s
MDJ Mudanjiang 31.45 12 P P **17 20 14.5 +0.6**
MDJ pmax pmax
comp=Z,9.0nm,0.6s
MDJ pmax pmax
comp=Z,160nm,4.3s
MDJ Mudanjiang 31.45 12 *e*P P **17 20 14.2 +0.3**
comp=Z,11nm,0.8s
USRK Ussuriysk Ar. 31.62 16 P P **17 20 15.9 +0.6**
comp=Z,4.9nm,0.7s,baz=202,slow=7.4,SNR=14
USRK pP **pP** **17 21 00.3 +0.3**
comp=Z,2.4nm,0.8s,baz=208,slow=8.2,SNR=2.4
USRK sP **sP** **17 21 22.1 -3.5**
comp=Z,2.0nm,0.8s,baz=200,slow=7.2,SNR=1.7
USRK PcP **PcP** **17 23 01.3 -0.7**
comp=Z,1.3nm,0.6s,baz=225,slow=5.5,SNR=3.1
FITZ Fitzroy Crossi 32.25 171 P P **17 20 19.9 -1.2**
comp=Z,8.7nm,0.9s,baz=353,slow=8.5,SNR=13
FITZ PcP **PcP** **17 23 04.2 +0.1**
comp=Z,2.5nm,0.7s,baz=355,slow=9.5,SNR=3.8
FITZ Fitzroy Crossi 32.25 171 *e*P P **17 20 18.9 -2.1**
comp=Z,13nm,1.0s
FITZ PcP **PcP** **17 23 04.2 +0.1**
RAMN Ramite 34.34 297⇑ *i*P P **17 20 40.3 +0.8**
comp=Z,50nm,0.9s
JIRN Jiri 34.88 298⇑ *i*P P **17 20 44.9 +0.7**
comp=Z,70nm,0.4s
GUN Gumba 35.21 299⇑ *i*P P **17 20 47.7 +0.6**
comp=Z,50nm,0.4s
ASAJ Asahikawa 35.38 28 P P **17 20 48.6 +0.8**
comp=Z,7.7nm,0.8s,baz=256,slow=13,SNR=5.8
ASAJ pP **pP** **17 21 32.5 -0.7**
comp=Z,3.6nm,0.7s,baz=246,slow=20,SNR=1.5
PKI Pulchoki 35.52 298⇑ *i*P P **17 20 49.7 0.0**
comp=Z,17nm,0.3s
PKIN Phulchoki 35.54 298⇑ *i*P P **17 20 49.7 0.0**
comp=Z,17nm,0.4s
COEN Coen 35.58 140 *e*P P **17 20 48.8 -1.0**
comp=Z,28nm,0.8s
ULN Ulaanbaatar 35.64 344 *e*P P **17 20 50.5 +0.3**
comp=Z,10nm,1.1s
ULN Ulaanbaatar 35.64 344*ce*P P **17 20 50.2 +0.1**
ULN pmax pmax
comp=Z,15nm,1.7s
ULN Ulaanbaatar 35.64 344 P P **17 20 50.9 +0.7**
SNR=5.4
KKN Kakani 35.69 298⇑ *i*P P **17 20 51.1 +0.1**
SONA0 Songino Array 35.79 343 *e*P P **17 20 51.9 +0.5**
SONA0 *e*pP **pP** **17 21 37.3 +0.3**
SONA0 *e*PcP **PcP** **17 23 13.8 -0.3**
SONM Songino Array 35.79 343 P P **17 20 51.9 +0.5**
comp=Z,5.1nm,0.7s,baz=161,slow=9.7,SNR=53
SONM pP **pP** **17 21 37.3 +0.3**
comp=Z,1.1nm,0.6s,baz=164,slow=10.0,SNR=1.4
SONM PcP **PcP** **17 23 13.7 -0.3**
comp=Z,1.7nm,0.6s,baz=169,slow=3.7,SNR=8.9
DMN Daman 35.79 298⇑ *i*P P **17 20 52.0 +0.1**
SONA1 Songino Array 35.80 343 *e*P P **17 20 51.7 +0.2**
RABL Rabaul 36.05 118 *e*P P **17 20 54.2 +0.3**
comp=Z,104nm,0.8s
WRAB Tennant Creek 36.28 158 *e*P P **17 20 54.6 -1.0**
comp=Z,25nm,0.7s
WRAB Tennant Creek 36.28 158*ce*P P **17 20 54.7 -1.0**
WRAB pmax pmax
comp=Z,35nm,1.0s
WR1 Warramunga Arr 36.28 158 *e*P P **17 20 54.4 -1.3**
comp=Z,33nm,0.8s
WR1 *e*pP **pP** **17 21 41.8 +0.5**
WR1 *e*PcP **PcP** **17 23 15.1 -0.7**
WRA Warramunga Arr 36.28 158 P P **17 20 54.4 -1.3**
comp=Z,23nm,0.7s,baz=337,slow=9.5,SNR=66
WRA pP **pP** **17 21 41.8 +0.5**
comp=Z,4.0nm,0.7s,baz=337,slow=9.4,SNR=2.4
WRA PcP **PcP** **17 23 15.1 -0.7**
comp=Z,2.7nm,0.8s,baz=344,slow=3.6,SNR=4.9
WB2 Warramunga Arr 36.29 158 *e*P P **17 20 53.5 -2.3**
KLR Kul'dur 36.30 12 P P **17 20 55.8 +0.2**
comp=Z,15nm,0.7s,baz=246,slow=8.1,SNR=68
KLR pP **pP** **17 21 43.0 +2.1**
comp=Z,4.0nm,0.8s,baz=216,slow=5.8,SNR=2.5
KLR PcP **PcP** **17 23 14.6 -0.7**
comp=Z,4.9nm,0.7s,baz=243,slow=2.4,SNR=5.6
KLR Kul'dur 36.30 12‖ *e*P P **17 20 55.3 -0.2**
KOLN Koldanda 37.13 298⇑ *i*P P **17 21 03.1 0.0**
DANN Dangsing 37.13 299⇑ *i*P P **17 21 03.3 +0.1**
comp=Z,49nm,0.8s
PYUN Piuthan 37.73 298⇑ *i*P P **17 21 08.5 +0.3**
comp=Z,105nm,1.1s
AS31 Alice Springs 39.58 161 *e*P P **17 21 22.6 -0.7**
comp=Z,5.4nm,0.9s
ASAR Alice Springs 39.58 161 P P **17 21 22.7 -0.6**
comp=Z,7.7nm,0.3s,baz=337,slow=7.7,SNR=105
ASAR pP **pP** **17 22 08.3 -1.2**
comp=Z,3.7nm,0.5s,baz=338,slow=6.7,SNR=2.5
ASAR PcP **PcP** **17 23 25.8 -0.2**
comp=Z,3.7nm,0.7s,baz=341,slow=3.1,SNR=7.9
AS01 Alice Springs 39.60 161 *e*P P **17 21 22.1 -1.2**
TLY Talaya 40.03 343 P P **17 21 26.7 +0.1**
comp=Z,1.0nm,0.3s,baz=202,slow=19,SNR=3.3
TLY pP **pP** **17 22 12.5 -0.4**
comp=Z,0.7nm,0.3s,baz=225,slow=11,SNR=1.8
TLY Talaya 40.03 343*ce*P P **17 21 28.0 +1.4**
TLY pmax pmax
comp=Z,23nm,1.7s
MOY Mondy 40.80 341 *e*P P **17 21 33.9 +0.9**
WMQ Urumqi 40.98 323 P P **17 21 35.8 +1.2**
WMQ pP pP 17 22 19.5 -0.9
WMQ PcP **PcP** **17 23 27.5 -2.8**
WMQ pmax pmax
comp=Z,29nm,1.1s
WMQ pmax pmax
comp=Z,350nm,4.5s
WMQ LR LR
comp=Z,630nm,22.3s
WMQ LR LR
comp=Z,310nm,19.1s
WMQ LR LR
comp=Z,240nm,19.1s
WMQ Urumqi 40.98 323 *e*P P **17 21 35.9 +1.2**
comp=Z,12nm,0.9s
WMQ Urumqi 40.98 323 *e*P P **17 21 35.9 +1.3**
WMQ pmax pmax
comp=Z,12nm,0.9s
CTA Charters Tower 42.16 143 P P **17 21 44.9 +0.6**
comp=Z,28nm,0.9s,baz=328,slow=11,SNR=30
CTA PcP **PcP** **17 23 35.2 +0.7**
comp=Z,6.3nm,0.9s,baz=307,slow=5.1,SNR=3.4
CTAO Charters Tower 42.16 143 *e*P P **17 21 44.7 +0.4**
comp=Z,42nm,0.9s
CTAO Charters Tower 42.16 143 *e*P P **17 21 44.7 +0.4**
CTAO pmax pmax
comp=Z,42nm,0.9s
NKL Nikolayevsk 42.17 18 *i*P P **17 21 44.0 +0.1**
NKL pmax pmax
comp=Z,25nm,0.9s
BOD Bodaibo 44.04 355 *e*P P **17 21 58.5 -0.4**
BOD pmax pmax
comp=Z,8.0nm,1.8s
DGZ Jazzator, Alta 44.80 330*ci*P P **17 22 06.3 +1.1**
DGZ pmax pmax
comp=Z,6.0nm,0.7s
MK01 Makanchi Array 45.79 323 *e*P P **17 22 13.2 +0.4**
MK31 Makanchi Array 45.81 323 *e*P P **17 22 13.7 +0.7**
MK31 Makanchi Array 45.81 323 *e*P P **17 22 13.7 +0.7**
MK32 Makanchi Array 45.81 323 *e*P P **17 22 14.0 +1.0**
MK32 *e*PcP **PcP** **17 23 46.5 -0.1**
MK32 *e*ScP **ScP** **17 27 18.5 0.0**
MKAR Makanchi Array 45.81 323 P P **17 22 14.0 +1.0**
comp=Z,21nm,0.9s,baz=128,slow=8.5,SNR=142
MKAR PcP **PcP** **17 23 46.4 -0.1**
comp=Z,4.7nm,0.8s,baz=101,slow=5.1,SNR=5.9
MKAR ScP **ScP** **17 27 18.5 0.0**
comp=Z,0.6nm,0.8s,baz=104,slow=6.1,SNR=3.7
MKAR Makanchi Array 45.81 323 *e*P P **17 22 13.8 +0.8**
comp=Z,112nm,0.8s
MKAR PcP **PcP** **17 23 46.5 -0.1**
MKAR ScP **ScP** **17 27 18.5 0.0**
MKAR Makanchi Array 45.81 323 *e*P P **17 22 13.8 +0.8**
MKAR 17 23 46.5
MKAR pmax pmax
comp=Z,113nm,0.8s
MAKZ Makanchi 46.00 323 *e*P P **17 22 15.0 +0.5**
comp=Z,10.0nm,0.8s
MAKZ Makanchi 46.00 323 *e*P P **17 22 15.0 +0.5**
MAKZ pmax pmax
comp=Z,10.0nm,0.8s
PRZ Przheval'sk 46.16 316 *e*P P **17 22 18.0 +2.0**
comp=Z,30nm,1.0s
PRZ Przheval'sk 46.16 316 *e*P P **17 22 18.0 +2.0**
PRZ pmax pmax
comp=Z,30nm,1.0s
TARG Taragay, Kyrgy 46.25 315 *e*P P **17 22 18.3 +1.3**
comp=Z,7.8nm,1.0s
KSH Kashi 46.72 312 P P **17 22 23.3 +3.0**
KSH pP pwP 17 23 09.3 -1.0
KSH PcP **PcP** **17 23 52.5 +2.4**
KSH S **S** **17 28 56.8 +3.7**
KSH sS sS 17 30 19.5 +2.7
KSH ScS **ScS** **17 31 52.3 +0.7**
KSH SS **SS** **17 32 24.0 +1.5**
KSH pmax pmax
comp=Z,31nm,1.2s
KSH pmax pmax
comp=Z,270nm,6.3s
KSH LR LR
comp=Z,240nm,6.9s
KSH LR LR
comp=Z,270nm,7.4s
KSH LR LR
comp=Z,260nm,10.4s
NWAO Narrogin (SRO) 46.76 184 P P **17 22 19.6 -0.9**
comp=Z,15nm,0.9s,baz=242,slow=10,SNR=3.9
KDJ Kajisay 46.84 315 *e*P P **17 22 23.5 +2.2**
comp=Z,11nm,0.8s
KDJ Kajisay 46.84 315 *e*P P **17 22 23.5 +2.2**
KDJ pmax pmax
comp=Z,11nm,0.8s
NIL Nilore 47.16 303 *e*P P **17 22 23.8 +0.1**
comp=Z,45nm,0.9s
NIL Nilore 47.16 303 *e*P P **17 22 23.8 +0.1**
NIL pmax pmax
comp=Z,45nm,0.9s
NRN Naryn 47.38 314 *e*P P **17 22 26.5 +0.8**
comp=Z,14nm,0.8s
NRN *e*pP **pP** **17 23 12.7 +0.2**
NRN Naryn 47.38 314 *e*P P **17 22 26.5 +0.8**
NRN *e**PP **pP** **17 23 12.7 +0.2**
NRN pmax pmax
comp=Z,14nm,0.8s
ULHL Ulahol 47.53 315 P P **17 22 28.0 +1.4**
SNR=28
KZA Kyzart 48.15 315 P P **17 22 33.3 +1.7**
SNR=24
TKM2 Tokmak 2 48.23 316 P P **17 22 33.0 +1.1**
SNR=12
YAK Yakutsk 48.41 6 *e*P P **17 22 31.7 -1.0**
YAK *e**PP **pP** **17 23 22.0 +1.5**
YAK *e* 17 23 54.5
YAK *e*S **S** **17 29 12.7 -3.2**
YAK pmax pmax
comp=Z,225nm,0.9s
YAK pmax pmax
comp=E,29nm,1.0s
YAK pmax pmax
comp=N,110nm,1.1s
YAK pmax pmax
comp=Z,334nm,2.8s
YAK smax smax
comp=E,340nm,2.5s
YAK smax smax
comp=N,169nm,1.8s
KBK Karagaybulak 48.57 315 P P **17 22 36.0 +1.5**
SNR=15
UCH Uchtor 48.71 314 P P **17 22 37.6 +1.7**
SNR=26
ZAA0 Zalesovo Array 48.81 333 *e*P P **17 22 35.7 -0.2**
comp=N,10nm,0.8s
ZALV Zalesovo Beam 48.81 333 P P **17 22 35.8 -0.1**
comp=N,4.2nm,0.3s,baz=128,slow=6.3,SNR=44
ZALV pP **pP** **17 23 24.2 +0.3**
comp=N,1.6nm,0.6s,baz=142,slow=7.5,SNR=2.5
ZALV PcP **PcP** **17 23 56.3 -0.8**
comp=N,1.8nm,0.6s,baz=135,slow=5.2,SNR=2.6
ZALV Zalesovo Beam 48.81 333 *e*P P **17 22 35.5 -0.4**
ZALV *PP **pP** **17 23 24.2 +0.3**
ZALV 17 23 56.3
ZAA1 Zalesovo Array 48.81 333 *e*P P **17 22 35.8 -0.1**
ZAA1 *e*pP **pP** **17 23 24.1 +0.3**
ZAA1 *e*PcP **PcP** **17 23 56.3 -0.8**
CHMS Chumysh 48.83 316 P P **17 22 37.1 +0.7**
SNR=8.8
AAK Ala-Archa 48.87 315 P P **17 22 37.9 +1.0**
comp=N,3.9nm,0.7s,baz=135,slow=8.1,SNR=19
AAK pP **pwP** **17 23 26.6 -0.6**
comp=N,4.6nm,1.0s,baz=117,slow=14,SNR=4.1
AAK Ala-Archa 48.87 315 *e*P P **17 22 37.8 +1.0**
comp=N,9.2nm,1.1s
AAK *e*P pP 17 22 37.9 -46
AAK Ala-Archa 48.87 315 *e*P P **17 22 37.8 +1.0**
AAK pmax pmax
comp=Z,9.0nm,1.1s
EIDS Eidsvold 49.05 143 *e*P P **17 22 37.8 -0.4**
comp=Z,16nm,0.9s
USP Ospenovka 49.10 316 P P **17 22 39.2 +0.8**
SNR=6.8
AML Almayashu 49.24 314 P P **17 22 41.3 +1.4**
SNR=18
EKS2 Erkin-Say 49.37 315 P P **17 22 41.8 +1.2**
SNR=16
ARSB Arslanbob 49.47 313 *e*P P **17 22 42.1 +0.7**
STKA Stephens Creek 49.80 157 P P **17 22 42.9 -0.8**
comp=Z,4.1nm,0.7s,baz=339,slow=6.2,SNR=7.0
KURBB Kurchatov Arra 49.96 326 P P **17 22 45.4 +0.8**
comp=Z,26nm,0.8s,baz=118,slow=8.8,SNR=151
KURBB pP **pP** **17 23 35.1 +2.4**
comp=Z,10nm,0.9s,baz=123,slow=8.5,SNR=6.0
KURK Kurchatov 49.96 326 *e*P P **17 22 45.4 +0.8**
comp=Z,68nm,0.8s
KURK *e*pP **pP** **17 23 35.1 +2.4**
KURK Kurchatov 49.96 326*d* *i*P P **17 22 44.5 -0.1**
KURK Kurchatov 49.96 326 P P **17 22 45.2 +0.5**
SNR=22
NVS Novosibirsk 50.09 333 *e*P P **17 22 44.9 -0.7**
NVS *e* 17 23 35.2
NVS *e*S **S** **17 29 39.4 -0.2**
NVS pmax pmax
comp=N,8.0nm,1.0s
NVS pmax pmax
comp=E,9.0nm,1.0s
NVS pmax pmax
comp=Z,14nm,1.0s
NVS smax smax
comp=N,12nm,1.5s
NVS smax smax
comp=E,14nm,1.5s
MA2 Magadan 50.63 19 *e*P P **17 22 50.0 +0.5**
comp=E,27nm,0.9s
MA2 Magadan 50.63 19*ce*P P **17 22 49.5 0.0**
MA2 pmax pmax
comp=Z,58nm,1.7s
BTK Batken 50.66 311 *e*P P **17 22 51.3 +1.1**
comp=Z,20nm,1.4s
GAR Garm 50.75 309 *e*P P **17 22 51.3 +0.3**
comp=Z,56nm,1.1s
GAR Garm 50.75 309 *e*P P **17 22 51.3 +0.3**
GAR pmax pmax
comp=Z,56nm,1.1s
KBL Kabul 50.76 303 *e*P P **17 22 51.6 +0.4**
comp=Z,23nm,0.9s
KBL Kabul 50.76 303 *e*P P **17 22 51.6 +0.4**
KBL pmax pmax
comp=Z,23nm,0.9s
CHGR Chuyangaron 51.54 308 *e*P P **17 22 56.7 -0.1**
comp=Z,27nm,0.9s
KK31 Karatay Array 51.78 314 *e*P P **17 22 58.3 -0.1**
KK31 Karatay Array 51.78 314 *e*P P **17 22 58.3 -0.1**
KKAR Karatay Array 51.78 314 *e*P P **17 22 58.3 -0.1**
KKAR Karatay Array 51.78 314 *e*P P **17 22 58.3 -0.1**
SEY Seymchan 53.74 17*ce*P P **17 23 13.3 +1.0**

BVAR **Borovoye Array** 55.54 326 P **P** 17 23 25.9 +0.4
comp=Z,7.0nm,0.8s,baz=120,slow=8.8,SNR=38
BVAR pP **pP** 17 24 15.1 +0.6
comp=Z,3.9nm,0.8s,baz=117,slow=8.3,SNR=4.1
BVAR PcP **PcP** 17 24 22.2 -0.4
comp=Z,6.6nm,0.7s,baz=131,slow=6.1,SNR=10.0
BRVK Borovoye 55.62 326 *e*P **P** 17 23 26.3 +0.3
comp=Z,27nm,0.9s
BRVK Borovoye 55.62 326 *e*P **P** 17 23 26.3 +0.3
BRVK pmax pmax
comp=Z,27nm,0.9s
BRVK Borovoye 55.62 326 P **P** 17 23 26.1 +0.2
SNR=16
DZM Mont Dzumac 57.40 128 P **P** 17 23 39.7 +0.6
comp=Z,19nm,0.6s,baz=262,slow=11,SNR=16
DZM Mont Dzumac 57.40 128 *e*P **P** 17 23 39.5 +0.4
comp=Z,36nm,1.1s
TIXI Tiksi 57.85 3 *e*P **P** 17 23 40.5 -0.8
comp=Z,34nm,0.8s
TIXI Tiksi 57.85 3*c*e P **P** 17 23 39.8 -1.5
TIXI pmax pmax
comp=Z,39nm,0.8s
NRIK Noril'sk 59.14 347 P **P** 17 23 50.5 +0.3
comp=Z,27nm,0.8s,baz=151,slow=24,SNR=25
NRIK PcP **PcP** 17 24 35.5 -0.9
comp=Z,9.4nm,0.7s,baz=331,slow=24,SNR=5.0
WSAR Wadi Sarin 59.18 289 P **P** 17 23 51.0 -0.4
comp=Z,13nm,0.9s,baz=154,slow=7.6,SNR=5.2
GEYT Alibeck 59.98 306 P **P** 17 23 57.2 +0.5
comp=Z,13nm,0.8s,baz=126,slow=3.8,SNR=28
GEYT PcP **PcP** 17 24 41.4 +0.9
comp=Z,4.3nm,0.8s,baz=252,slow=2.9,SNR=5.0
GEYT pP **pwP** 17 24 49.9 +0.8
comp=Z,5.1nm,0.9s,baz=116,slow=6.6,SNR=5.0
GYA0B ALIBECK ARRAY 59.98 306 *e*P **P** 17 23 56.6 -0.1
comp=Z,22nm,1.0s
ABKAR Akbulak array 60.52 319 *e*P **P** 17 23 59.8 -0.3
BILL Bilibino 61.44 18 *e*P **P** 17 24 06.0 +0.1
comp=Z,19nm,0.8s
BILL Bilibino 61.44 18*c i*P **P** 17 24 06.1 +0.3
BILL pmax pmax
comp=Z,15nm,0.8s
AKTO Aktyubinsk 62.00 320 P **P** 17 24 09.8 -0.1
comp=Z,11nm,0.8s,baz=94,slow=7.8,SNR=33
AKTO pP **pP** 17 24 59.8 -0.2
comp=Z,2.8nm,0.7s,baz=104,slow=8.3,SNR=2.3
SVE Sverdlovsk 62.17 327*d i*P **P** 17 24 11.3 +0.4
SVE pmax pmax
comp=Z,37nm,1.0s
ARU Arti 63.15 327 *e*P **P** 17 24 16.4 -1.0
comp=Z,17nm,0.7s
ARU Arti 63.15 327*c*e P **P** 17 24 16.7 -0.7
ARU pmax pmax
comp=Z,17nm,0.7s
MSVF Nonsavu 64.75 117 *e*P **P** 17 24 29.9 +1.3
comp=Z,44nm,1.4s
MSVF Nonsavu 64.75 117 *e*P **P** 17 24 29.9 +1.3
MSVF pmax pmax
comp=Z,44nm,1.4s
GAMB Gambell 67.69 26 *e*P **P** 17 24 47.0 +0.7
comp=Z,21nm,1.0s
KIRV Kirov 68.43 328 P **P** 17 24 50.6 -0.3
comp=Z,27nm,0.7s,baz=87,slow=0.9,SNR=19
KIRV pP **pP** 17 25 42.3 0.0
comp=Z,12nm,0.7s,baz=352,slow=0.3,SNR=3.7
GNI Garni 70.45 308*c*e P **P** 17 25 03.9 -0.1
GNI pmax pmax
comp=Z,71nm,1.3s
ANM Nome 70.57 26 *e*P **P** 17 25 04.9 +0.9
comp=Z,15nm,1.0s
ANM Nome 70.57 26 *e*P **P** 17 25 04.9 +0.9
ANM pmax pmax
comp=Z,15nm,1.0s
PRGR Permogore 70.71 331 *e*P **P** 17 25 03.5 -1.3
PRGR pmax pmax
comp=Z,19nm,0.8s
ZEI Tsey 71.00 311 *e*P **P** 17 25 04.0 -3.3
ZEI *e* 17 26 00.7
ZEI pmax pmax
comp=Z,11nm,0.9s
RAYN Ar Rayn 71.17 290 *e*P **P** 17 25 08.3 -0.1
comp=Z,28nm,0.9s
RAYN Ar Rayn 71.17 290 *e*P **P** 17 25 08.3 -0.1
RAYN pmax pmax
comp=Z,28nm,0.9s
NCK Nalchik 71.20 311 ⇓ *i*P **P** 17 25 08.6 +0.4
NCK pmax pmax
comp=Z,7.0nm,0.8s
KBZ Khabaz 71.70 312 P **P** 17 25 10.6 -0.5
comp=Z,7.6nm,0.9s,baz=170,slow=9.4,SNR=13
KBZ pP **pP** 17 26 03.1 +1.0
comp=Z,5.3nm,0.9s,baz=126,slow=3.3,SNR=5.0
KIV Kislovodsk 71.84 312 *e*P **P** 17 25 12.2 +0.1
comp=Z,22nm,0.9s
KIV Kislovodsk 71.84 312 *e*P **P** 17 25 12.6 +0.4
KIV pmax pmax
comp=Z,24nm,1.0s
KIV MLR MLR
comp=Z,47nm,18.0s
KIV Kislovodsk 71.84 312 P **P** 17 25 11.7 -0.4
SNR=5.9
NEY Neytrino 71.84 311 *i* P **P** 17 25 12.4 +0.1
NEY pmax pmax
comp=Z,1.0nm,0.9s
VRH Novokhopyorsk 72.34 320 *e*P **P** 17 25 13.9 -0.9
VRH pmax pmax
comp=Z,30nm,0.8s
SIRT Sirnak 72.39 305 *e*P **P** 17 25 16.0 +0.5
comp=Z,83nm,1.0s
THZ Tophouse 73.39 142 *e*P **P** 17 25 20.8 -0.4
comp=Z,15nm,0.9s
LBZ Lake Benmore 73.45 145 *e*P **P** 17 25 21.0 -0.4
comp=Z,29nm,0.9s
RPZ Rata Peaks 73.51 144 P **P** 17 25 21.6 -0.1
comp=Z,19nm,0.8s,baz=350,slow=0.5,SNR=11
RPZ Rata Peaks 73.51 144 *e*P **P** 17 25 21.1 -0.7
comp=Z,18nm,0.8s
RPZ *e*P **P** 17 25 21.6 -0.1
KLMR Klimovskoe 73.61 330 *e*P **P** 17 25 19.1 -2.9
KLMR pmax pmax
comp=Z,21nm,0.8s
KLMR Klimovskoe 73.61 330 *e*P **P** 17 25 19.1 -2.9
KLMR AMP 17 25 22.2
comp=Z,21nm,0.8s
LTZ Lake Taylor 73.63 143 *e*P **P** 17 25 22.1 -0.5
comp=Z,16nm,0.9s
VSR Storozhevoye 73.95 320 ⇑ *i*P **P** 17 25 23.0 -1.2
VSR pmax pmax
comp=Z,28nm,0.8s
LPSR Galich'ya Gora 74.04 321 *e*P **P** 17 25 24.1 -0.6
LPSR pmax pmax
comp=Z,30nm,0.8s
URZ Urewera 74.05 137 P **P** 17 25 24.5 -0.4
comp=Z,8.8nm,0.9s,baz=9.3,slow=6.6,SNR=4.1
KHZ Kahutara 74.16 142 *e*P **P** 17 25 24.6 -0.9
comp=Z,18nm,1.0s
MOS Moscow 74.68 324 *e*P **P** 17 25 26.6 -1.7
MOS pmax pmax
comp=Z,39nm,0.7s
OBN Obninsk 75.31 324 *i* P **P** 17 25 30.3 -1.6
OBN *i* *PP **pP** 17 26 26.6 +2.5
OBN pmax pmax
comp=Z,29nm,1.1s
IM3 Indian Mountai 75.52 25 *e*P **P** 17 25 33.3 +0.4
ANN Anapa 75.55 313 ⇑ *i*P **P** 17 25 32.7 -0.8
ANN pmax pmax
comp=Z,33nm,1.2s
RSO Redoubt South 76.25 31 *e*P **P** 17 25 37.7 +0.3
PPLA Purkeypile 76.35 28 *e*P **P** 17 25 38.8 +0.9
comp=Z,55nm,1.8s
CAST Castle Rocks 76.37 28 *e*P **P** 17 25 37.9 +0.1
comp=Z,38nm,0.8s
KDAK Kodiak Island 76.55 33 *i* P **P** 17 25 40.0 +1.2
BPAW Bear Paw Mtn. 76.80 27 *e*P **P** 17 25 40.5 +0.3
comp=Z,37nm,0.9s
MLY Manley 76.83 26 *e*P **P** 17 25 41.2 +0.8
comp=Z,20nm,0.9s
COLD Coldfoot 76.87 24 *e*P **P** 17 25 41.2 +0.6
comp=Z,11nm,1.5s
SUA Susitna One 77.15 29 *e*P **P** 17 25 42.0 -0.3
comp=Z,22nm,0.9s
TRF Thorofare Moun 77.17 27 *e*P **P** 17 25 43.2 +0.8
comp=Z,20nm,1.1s
MCK McKinley 77.74 27 *e*P **P** 17 25 45.2 -0.3
comp=Z,34nm,0.8s
MCK McKinley 77.74 27 *e*P **P** 17 25 45.2 -0.3
MCK pmax pmax
comp=Z,34nm,0.8s
RND Reindeer 77.81 27 *e*P **P** 17 25 45.6 -0.3
comp=Z,59nm,1.6s
RND *e*pP **pP** 17 26 37.9 -0.6
RND Reindeer 77.81 27 *e*P **P** 17 25 45.6 -0.3
RND *e**PP **pP** 17 26 37.9 -0.6
RND pmax pmax
comp=Z,59nm,1.6s
SIM Simferopol' 77.87 314 *e*P **P** 17 25 47.1 +0.6
SIM pmax pmax
comp=Z,21nm,0.8s
MDM Murphy Dome 77.90 26 *e*P **P** 17 25 46.2 -0.1
comp=Z,15nm,0.9s
MDM *e*pP **pP** 17 26 38.9 0.0
PMR Palmer 77.90 29 *e*P **P** 17 25 45.6 -0.6
comp=Z,12nm,0.9s
PMR Palmer 77.90 29 *e*P **P** 17 25 45.7 -0.6
PMR pmax pmax
comp=Z,13nm,0.9s
COLA College 78.07 26 *e*P **P** 17 25 46.8 -0.3
comp=Z,11nm,0.9s
COLA College 78.07 26 *i* P **P** 17 25 47.1 -0.1
COLA pmax pmax
comp=Z,10.0nm,0.9s
KNK Knik Glacier 78.25 29 *e*P **P** 17 25 48.4 +0.1
comp=Z,19nm,0.9s
SML Sawmill 78.25 29 *e*P **P** 17 25 48.3 0.0
comp=Z,29nm,1.0s
SML Sawmill 78.25 29 *e*P **P** 17 25 48.3 0.0
SML pmax pmax
comp=Z,29nm,1.0s
ILAR Eielson Array 78.49 26 P **P** 17 25 48.6 -0.9
comp=Z,2.6nm,0.8s,baz=268,slow=3.1,SNR=20
ILAR pP **pP** 17 26 40.7 -1.5
comp=Z,0.6nm,0.7s,baz=268,slow=4.2,SNR=2.5
ILB Eielson Array 78.49 26 *e*P **P** 17 25 48.6 -0.9
IL1 Eielson Array 78.49 26 *e*P **P** 17 25 48.2 -1.3
HDA Harding Lake 78.52 26 *e*P **P** 17 25 49.0 -0.6
comp=Z,8.7nm,0.8s
DHY Denali Highway 78.52 28 *e*P **P** 17 25 49.9 -0.1
comp=Z,6.4nm,0.7s
ARA0 ARCESS Array S 78.82 339 *e*P **P** 17 25 51.3 0.0
ARA0 *e*pP **pP** 17 26 43.9 -0.1
ARCES ARCESS Array B 78.82 339 P **P** 17 25 51.3 0.0
comp=Z,14nm,0.8s,baz=81,slow=6.5,SNR=33
ARCES pP **pP** 17 26 43.9 -0.1
comp=Z,5.8nm,0.9s,baz=76,slow=6.7,SNR=1.8
FYU Fort Yukon 78.89 24 *e*P **P** 17 25 51.8 +0.1
comp=Z,11nm,0.8s
BR101 Keskin Array S 78.98 308 *e*P **P** 17 25 52.8 -0.1
BR101 *e*pP **pP** 17 26 45.1 +0.4
BR131 Keskin Array S 78.98 308 *e*P **P** 17 25 52.2 -0.7
BR131 Keskin Array S 78.98 308 P **P** 17 25 53.4 +0.6
BRTR Keskin Array B 78.98 308 P **P** 17 25 52.8 -0.1
comp=Z,3.5nm,0.8s,baz=120,slow=5.2,SNR=23
BRTR pP **pP** 17 26 45.2 +0.4
comp=Z,0.9nm,0.8s,baz=66,slow=6.0,SNR=1.9
OPO Ambohidratompo 79.33 248 P **P** 17 25 55.8 +0.7
comp=Z,13nm,1.0s,baz=0.9,slow=9.5,SNR=3.4
RIDG Independ'e Rid 79.54 27 *e*P **P** 17 25 55.1 -0.2
comp=Z,25nm,0.9s
SCRK Sand Creek 79.87 26 *e*P **P** 17 25 57.0 -0.1
comp=Z,26nm,1.7s
CSS Mathiatis 80.01 304 *e*P **P** 17 25 57.8 -0.5
comp=Z,23nm,0.9s
FIA1 FINESS Array S 80.04 331 *e*P **P** 17 25 57.4 -0.5
FIA0 FINESS Array S 80.04 331 *e*P **P** 17 25 57.6 -0.3
FIA0 *e*pP **pP** 17 26 51.0 +0.2
FIA0 FINESS Array S 80.04 331 *e*P **P** 17 25 57.6 -0.3
FIA0 *e**PP **pP** 17 26 51.0 +0.2
FINES FINESS Array B 80.04 331 P **P** 17 25 57.6 -0.3
comp=Z,4.0nm,0.7s,baz=48,slow=4.8,SNR=11
FINES pP **pP** 17 26 51.0 +0.2
comp=Z,4.1nm,0.9s,baz=68,slow=5.1,SNR=2.8
AKASG Malin Array Be 80.25 320 P **P** 17 25 58.6 -0.7
comp=Z,5.3nm,1.0s,baz=64,slow=5.5,SNR=7.5
AKASG pP **pP** 17 26 52.9 +1.0
comp=Z,0.8nm,0.5s,baz=65,slow=5.6,SNR=2.2
AKASG Malin Array Be 80.25 320 *i* P **P** 17 25 58.5 -0.7
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 80.25 320 *e*P **P** 17 25 58.1 -1.2
comp=Z,24nm,1.5s
KIEV Kiev 80.26 320 *e*P **P** 17 25 57.8 -1.5
comp=Z,21nm,1.5s
KIEV Kiev 80.26 320 ⇑ *i*P **P** 17 25 58.3 -1.0
KIEV Kiev 80.26 320 ⇓ *i*P **P** 17 25 57.7 -1.6
KIEV pmax pmax
comp=Z,12nm,1.2s
VSU Vasula 80.27 328*c*e P **P** 17 25 58.2 -1.0
VSU pmax pmax
comp=Z,127nm,1.3s
AK11 Malin Array Si 80.29 320 *e*P **P** 17 25 57.9 -1.6
NACGM Naroch 80.93 324 *e* **P** 17 26 02.0 -0.8
TLCR 81.54 314 ⇓ *i*P **P** 17 26 06.7 +0.5
TLCR 81.54 314 ⇓ P **P** 17 26 06.7 +0.5
DAWY Dawson 81.82 26 *e*P **P** 17 26 07.9 +0.5
comp=Z,11nm,0.9s
TIRR Tirgusor 81.97 314 ⇑ *i*P **P** 17 26 08.4 0.0
TIRR Tirgusor 81.97 314 ⇑ P **P** 17 26 08.4 0.0
CFR Carcaliu 82.01 314 ⇑ *i*P **P** 17 26 08.9 +0.3
CFR Carcaliu 82.01 314 ⇑ P **P** 17 26 08.9 +0.3
TLB Topalu 82.20 314 ⇑ *i*P **P** 17 26 10.1 +0.5
TLB Topalu 82.20 314 ⇑ P **P** 17 26 10.1 +0.5
INK Inuvik 82.83 21 P **P** 17 26 12.2 -0.2
comp=Z,13nm,0.8s,baz=298,slow=5.5,SNR=49
INK Inuvik 82.83 21 *e*P **P** 17 26 12.4 0.0
comp=Z,18nm,0.9s
INK Inuvik 82.83 21 *e*P **P** 17 26 12.4 0.0
INK pmax pmax
comp=Z,18nm,0.9s
VRI Vrincioaia 82.84 315 ⇓ *i*P **P** 17 26 14.1 +1.1
VRI Vrincioaia 82.84 315 ⇓ P **P** 17 26 14.1 +1.1
PLOR Plostina 82.89 315 ⇓ *i*P **P** 17 26 13.2 -0.1
PLOR Plostina 82.89 315 ⇓ P **P** 17 26 13.2 -0.1
BIZ Bicaz 83.02 317 ⇑ *i*P **P** 17 26 13.7 -0.2
OZUR 83.42 316 ⇑ *i*P **P** 17 26 10.8 -5.2
BURAR Bucovina Array 83.45 317 ⇑ *i*P **P** 17 26 16.3 +0.1
BURAR Bucovina Array 83.45 317 ⇑ P **P** 17 26 16.3 +0.1
MLR Muntele Rosu 83.45 315 *e*P **P** 17 26 15.8 -0.5
comp=Z,18nm,0.9s
MLR Muntele Rosu 83.45 315 ⇑ *i*P **P** 17 26 17.0 +0.7
MLR Muntele Rosu 83.45 315 ⇑ P **P** 17 26 17.0 +0.7
BUR04 Bucovina Ar. S 83.46 317 *e*P **P** 17 26 15.9 -0.3
BUR04 *e*pP **pP** 17 27 07.1 -2.3
BUR08 Bucovina Ar. S 83.46 317 *e*P **P** 17 26 16.2 0.0
BUR08 *e*pP **pP** 17 27 08.0 -1.4
DOPR Dopca 83.72 316 ⇓ *i*P **P** 17 26 17.9 +0.4
KMBO Kilima Mbogo 83.92 267 P **P** 17 26 19.5 +0.1
comp=Z,1.3nm,0.5s,baz=43,slow=13,SNR=4.9
KMBO pP **pwP** 17 27 16.7 +2.2
comp=Z,2.9nm,0.9s,baz=54,slow=9.2,SNR=3.5
KMBO Kilima Mbogo 83.92 267 *e*P **P** 17 26 19.5 +0.1
comp=Z,10nm,1.3s
KMBO pP **pwP** 17 27 16.7 +2.2
KMBO Kilima Mbogo 83.92 267 *e*P **P** 17 26 19.5 +0.1
KMBO *PP **pwP** 17 27 16.7 +2.2
KMBO pmax pmax
comp=Z,10.0nm,1.3s
VOIR 84.08 315 ⇓ *i*P **P** 17 26 19.3 -0.1
VOIR 84.08 315 ⇓ P **P** 17 26 19.3 -0.1
ARCR ARCALIA 84.15 317 ⇓ *i*P **P** 17 26 20.4 +0.8
CJR Cluj-Napoca 84.75 317 ⇓ *i*P **P** 17 26 23.7 +1.1
CJR Cluj-Napoca 84.75 317 ⇓ P **P** 17 26 23.7 +1.1
WHY Whitehorse 84.84 29 *e*P **P** 17 26 23.8 +0.9
comp=Z,18nm,0.9s
SKAG Skagway 85.02 30 *e*P **P** 17 26 25.1 +1.5
comp=Z,19nm,1.0s
TRPA Tarpa 85.07 318 ⇑ *i*P **P** 17 26 24.1 0.0
UZH Uzhgorod 85.10 319 *d i*P **P** 17 26 24.4 +0.1
DRGR 85.31 317 ⇑ *i*P **P** 17 26 25.7 +0.2
DRGR 85.31 317 ⇑ P **P** 17 26 25.7 +0.2
GZR Gura Zlata 85.64 316 ⇑ *i*P **P** 17 26 27.7 +0.6
GZR Gura Zlata 85.64 316 ⇑ P **P** 17 26 27.7 +0.6
VTS Vitosha 86.08 313 *e*P **P** 17 26 28.8 -0.7
comp=Z,7.7nm,0.9s
VTS Vitosha 86.08 313 ⇓ *i*P **P** 17 26 29.2 -0.2
VTS Vitosha 86.08 313 ⇓ P **P** 17 26 29.2 -0.2
NIE Niedzica 86.14 320 *e*P **P** 17 26 29.9 +0.4
NIE Niedzica 86.14 320 *e*P **P** 17 26 29.9 +0.4
SIRR Siria 86.16 317 ⇓ *i*P **P** 17 26 29.8 +0.2
OJC Ojcow 86.22 321 *e*P **P** 17 26 29.8 +0.1
OJC Ojcow 86.22 321 *e*P **P** 17 26 29.4 -0.3
comp=Z,21nm,0.9s
OJC Ojcow 86.22 321 *e*P **P** 17 26 29.4 -0.3
OJC pmax pmax
comp=Z,21nm,0.9s
BZS Buzias 86.36 316 ⇑ *i*P **P** 17 26 30.5 -0.1
BZS Buzias 86.36 316 ⇑ P **P** 17 26 30.5 -0.1
IDI Anoyia 86.70 305 P **P** 17 26 32.0 -0.5
comp=Z,5.4nm,0.5s,baz=157,slow=6.2,SNR=6.6
IDI Anoyia 86.70 305 *e*P **P** 17 26 31.7 -0.8
comp=Z,183nm,2.0s
LANS Liptovska Anna 86.74 320 *e*P **P** 17 26 33.2 +0.8
LANS Liptovska Anna 86.74 320 *e*P **P** 17 26 33.2 +0.8
NC405 NORSAR Array S 86.76 333 *e*P **P** 17 26 31.2 -0.9
NC405 *e*pP **pP** 17 27 23.9 -2.1
NB2 NORSAR Subarra 87.01 333 P **P** 17 26 32.2 -1.2
comp=Z,16nm,0.9s,baz=68,slow=4.6
NB2 NORSAR Subarra 87.01 333 P pP 17 27 27.6 +0.5
comp=Z,1.9nm,0.6s,baz=67,slow=5.1
NB2 NORSAR Subarra 87.01 333 P **P** 17 26 32.2 -1.2
baz=68,slow=4.6
NB200 NORSAR Array S 87.01 333 *e*P **P** 17 26 32.1 -1.3
NB200 *e*pP **pP** 17 27 28.1 +0.9
NOA NORSAR Array B 87.01 333 P **P** 17 26 32.1 -1.3
comp=Z,7.8nm,0.8s,baz=68,slow=4.6,SNR=27
NOA pP **pP** 17 27 28.1 +0.9
comp=Z,4.0nm,0.8s,baz=68,slow=4.9,SNR=5.7
NC204 NORSAR Array S 87.12 333 *e*P **P** 17 26 32.8 -1.1
NC204 *e*pP **pP** 17 27 25.8 -1.8
VYHS Vyhne 87.34 319 *e*P **P** 17 26 34.9 -0.3
VYHS Vyhne 87.34 319 *e*P **P** 17 26 34.9 -0.3
DPC Dobruska-Polom 88.29 322 *e*P **P** 17 26 40.7 +1.0
DPC Dobruska-Polom 88.29 322 *e*P **P** 17 26 40.7 +1.0
VRAC Vranov 88.47 321 ⇑ *i*P **P** 17 26 41.1 +0.5
VRAC Vranov 88.47 321 ⇑ P **P** 17 26 41.1 +0.5
RES Resolute Bay 88.75 9 *e*P **P** 17 26 41.5 +0.2
comp=Z,12nm,0.8s
RES *e*pP **pP** 17 27 33.9 -1.3
RES Resolute Bay 88.75 9 *e*P **P** 17 26 41.5 +0.2
RES *e**PP **pP** 17 27 33.9 -1.3
RES pmax pmax
comp=Z,13nm,0.8s
PDG Podgorica 88.93 313 ⇑ *i*P **P** 17 26 42.7 -0.1
BRG Berggiesshubel 89.52 323 *i* P **P** 17 26 45.4 0.0
comp=Z,12nm,1.1s
BRG Berggiesshubel 89.52 323 *i* P **P** 17 26 45.4 0.0
BRG pmax pmax
comp=Z,12nm,1.1s
CLL Collm 89.91 323 *e*pP **pP** 17 27 39.0 -2.1
CLL *e* 17 27 51.0
MBAR Mbarara 90.11 269 P **P** 17 26 49.6 +0.5
comp=Z,1.7nm,0.2s,baz=134,slow=9.1,SNR=3.8
MBAR Mbarara 90.11 269 *e*P **P** 17 26 49.0 -0.1
comp=Z,9.0nm,1.3s
MBAR Mbarara 90.11 269 *e*P **P** 17 26 49.0 -0.1
MBAR pmax pmax
comp=Z,9.0nm,1.3s
GERES GERESS Array B 90.42 321 P **P** 17 26 49.2 -0.6
comp=Z,2.6nm,0.8s,baz=64,slow=6.1,SNR=8.5
GEA0 GERESS Array S 90.42 321 *e*P **P** 17 26 49.2 -0.5
MOA Molln 90.43 320 *i* PcP **P** 17 26 50.1 +0.3
comp=Z,7.0nm,0.8s
KBA Koelnbreinsper 91.30 319 *i* PcP **P** 17 26 53.9 -0.1
comp=Z,6.1nm,1.1s
WTTA Wattenberg 92.30 320 *i* PcP **P** 17 26 58.1 -0.5
comp=Z,9.8nm,0.9s
WATA Walderalm 92.31 320 PcP **P** 17 26 58.3 -0.3
comp=Z,7.4nm,1.1s
YKW3 Yellowknife Ar 92.47 22 *e*P **P** 17 26 58.7 -0.1
comp=Z,10nm,1.0s
YKA Yellowknife Ar 92.51 22 P **P** 17 26 59.2 +0.3
comp=Z,5.9nm,0.8s,baz=308,slow=4.4,SNR=80
YKA pP **pP** 17 27 53.9 +0.9
comp=Z,0.8nm,0.8s,baz=312,slow=4.4,SNR=2.7
YKA PKKP **PKKPdf** 17 44 09.4 -0.3
comp=Z,0.5nm,0.6s,baz=133,slow=3.0,SNR=4.6
YKB5 Yellowknife Ar 92.51 22 *e*P **P** 17 26 57.9 -1.0
YKB5 *e*pP **pP** 17 27 52.3 -0.7
SQTA Sankt Quirin 92.59 320 *i* PcP **P** 17 26 59.2 -0.6
comp=Z,4.9nm,0.6s
MOTA Moosalm 92.60 320 *i* PcP **P** 17 26 59.9 -0.1
comp=Z,12nm,1.0s
FETA Feichten 92.97 320 *i* PcP **P** 17 27 01.3 -0.4
comp=Z,11nm,1.1s
VNDA Vanda 94.32 172 P **P** 17 27 06.5 -0.3
comp=Z,3.8nm,1.0s,baz=303,slow=1.8,SNR=3.9
NVAR Mina Array Bea 104.12 44 Pdiff **Pdif** 17 27 51.8 -0.2
comp=Z,7.0nm,0.9s,baz=305,slow=6.5,SNR=3.0
PDAR Pinedale Array 107.13 36 Pdiff **Pdif** 17 28 05.6 +0.2
comp=Z,0.4nm,0.9s,baz=322,slow=5.7,SNR=1.8
PDAR PKKPab **PKKPdf** 17 43 45.3 +1.9
comp=Z,1.1nm,0.9s,baz=116,slow=6.8,SNR=5.8
TOA1 Torodi Ar. Sit 113.85 291 *e*PKiKP **PKiKP** 17 32 25.7 -0.9
TOA1 *e*PKKPab **PKKPab** 17 43 17.1 -0.3
TORD Torodi Ar. Bea 113.85 291 PKiKP **PKiKP** 17 32 25.7 -0.9
comp=Z,0.4nm,0.3s,baz=104,slow=2.4,SNR=7.1
TORD PKKPab **PKKPab** 17 43 17.1 -0.3
comp=Z,1.8nm,0.8s,baz=270,slow=5.3,SNR=10
LTX Lajitas 119.26 44 *e*PKPdf **PKiKP** 17 32 37.1 +0.3
LTX *ep*PKPdf **pPKPdf** 17 33 33.5 0.0
LTX Lajitas 119.26 44 *e*PKiKP **PKiKP** 17 32 37.2 +0.3
LTX *e* 17 33 33.5
TXAR Lajitas Array 119.26 44 PKP **PKiKP** 17 32 37.1 +0.3
comp=Z,1.1nm,0.4s,baz=159,slow=0.5,SNR=21
TXAR pPKP **pPKPdf** 17 33 33.5 0.0
comp=Z,0.5nm,0.8s,baz=259,slow=0.9,SNR=2.9
DBIC Dimbokro 122.22 287 PKP **PKPdf** 17 32 42.3 -0.4
comp=Z,2.3nm,0.6s,baz=74,slow=3.1,SNR=3.4
WVT Waverly 123.33 28 *e*PKPdf **PKPdf** 17 32 43.5 -0.8
WVT Waverly 123.33 28 *e*PKiKP **PKPdf** 17 32 43.5 -0.8
JSC Jenkinsville 127.65 23 *e*PKPdf **PKPdf** 17 32 52.1 -0.5
JSC Jenkinsville 127.65 23 *e*PKiKP **PKPdf** 17 32 52.1 -0.5
JTS JuntasAbangare 144.93 48 *e*PKPbc PKPbc 17 33 23.2 -1.4
JTS JuntasAbangare 144.93 48 *e*PKiKP PKPbc 17 33 23.3 -1.4
SDDR Presa de Saban 145.18 20 *e*PKPdf **PKPbc** 17 33 25.4 +0.1
PLCA Paso Flores 151.59 162 *e*PKPbc **PKiKP** 17 33 41.9 0.0
PLCA Paso Flores 151.59 162 *e*PKiKP **PKiKP** 17 33 41.9 0.0
SDV Santo Domingo 154.64 27 *e*PKPdf **PKPdf** 17 33 40.1 -0.3
CPUP Villa Florida 167.58 188 PKPab **PKPab** 17 34 59.1 -1.2
comp=Z,3.0nm,0.9s,baz=155,slow=6.0,SNR=3.8
CPUP pPKPab **pPKPab** 17 35 54.2 -0.5
comp=Z,0.6nm,0.4s,baz=152,slow=8.6,SNR=1.8
BDFB Brasilia 168.97 260 PKP **PKPdf** 17 33 52.6 -2.1
comp=Z,0.9nm,0.3s,baz=141,slow=6.5,SNR=3.6
BDFB PKPab **PKPab** 17 35 05.3 -2.0
comp=Z,1.7nm,0.5s,baz=105,slow=20,SNR=2.2
BDFB pPKPab **pPKPab** 17 35 59.1 -2.5
comp=Z,1.1nm,0.4s,baz=79,slow=5.2,SNR=1.5
LPAZ La Paz 171.16 106 PKP **PKPdf** 17 33 56.3 -0.3
comp=Z,1.2nm,0.8s,baz=256,slow=1.5,SNR=3.7
LPAZ PKPab **PKPab** 17 35 18.2 +0.6
comp=Z,6.4nm,0.9s,baz=258,slow=1.9,SNR=20
LPAZ La Paz 171.16 106 PKP **PKPdf** 17 33 56.3 -0.3
LPAZ *e*PKPab **PKPab** 17 35 18.7 +1.1
LPAZ *e* 17 35 19.4
LPAZ La Paz 171.16 106 PKiKP **PKPdf** 17 33 56.3 -0.3
LPAZ *e* 17 35 18.7
IBDR Badra 0.98 301 *e*Pg **Pg** 17 20 25.0 -0.4
IBDR *e*Sg **Sg** 17 20 38.0 -0.2
IKFM Kafar-mosalman 1.20 40 *e*Pg **Pn** 17 20 29.5 0.0
IKFM *e*Sg **Sn** 17 20 45.0 -0.9
IKFM IAMB IAmb 17 20 49.6
comp=Z,0.0nm,0.7s
IKMR Kamar-syah 1.53 53 *e*Pg **Pg** 17 20 35.6 -0.4
IKMR IAMB IAmb 17 20 58.2
comp=Z,0.0nm,0.8s
IKOM Komasi 1.64 17 *e*Pn **Pb** 17 20 36.5 -0.6
IKOM IAMB IAmb 17 21 02.1
comp=Z,0.0nm,0.9s
NSR Nassriya 1.72 203 *e*Pn **Pn** 17 20 38.0 +1.3
NSR *e*Sn **Sn** 17 20 59.0 +0.3
IGHG Ghaleghazi 1.75 350 *e*Pn **Pb** 17 20 38.5 -0.5
IGHG IAMB IAmb 17 21 05.1
comp=Z,3μm,0.4s
HSAM Samen 2.13 41 *e*Pn **Pb** 17 20 45.5 -0.1

*ISCJB **31** 17:20:07.2±0.6, 32°.60N±0°.04×46°.91E±0°.04, h10km, Error ellipse: s-maj=6.1km s-min=5.1km az=164.2*
*TEH **31** 17:20:08.5, 32°.75N×46°.96E, h8km, ML3.0*
*ISN **31** 17:20:08.4±0.9, 32°.45N×46°.54E, h0km, 3km, ML3.0*
ISC 31 17:20:06.7±1.0, **32°.60N**±0°.05×**46°.92E**±0°.04, **h10**km, **n14, s26/26**, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
IBDR	**Badra**	**0.98**	**301**	*e*Pg	**Pg**	**17 20 25.0**	**-0.4**
IBDR				*e*Sg	**Sg**	**17 20 38.0**	**-0.2**
IKFM	**Kafar-mosalman**	**1.20**	**40**	*e*Pg	**Pn**	**17 20 29.5**	**0.0**
IKFM				*e*Sg	**Sn**	**17 20 45.0**	**-0.9**
IKFM				IAMB	IAmb	17 20 49.6	
IKMR	**Kamar-syah**	**1.53**	**53**	*e*Pg	**Pg**	**17 20 35.6**	**-0.4**
IKMR				IAMB	IAmb	17 20 58.2	
IKOM	**Komasi**	**1.64**	**17**	*e*Pn	**Pb**	**17 20 36.5**	**-0.6**
IKOM				IAMB	IAmb	17 21 02.1	
NSR	**Nassriya**	**1.72**	**203**	*e*Pn	**Pn**	**17 20 38.0**	**+1.3**
NSR				*e*Sn	**Sn**	**17 20 59.0**	**+0.3**
IGHG	**Ghaleghazi**	**1.75**	**350**	*e*Pn	**Pb**	**17 20 38.5**	**-0.5**
IGHG				IAMB	IAmb	17 21 05.1	
HSAM	**Samen**	**2.13**	**41**	*e*Pn	**Pb**	**17 20 45.5**	**-0.1**

BHD	**Baghdad**	**2.24**	**288**	*e*Pn	**Pn**	**17 20 45.0**	**+1.2**
BHD				*e*Sn	**Sn**	**17 21 12.0**	**+0.5**
ILIN	**Lien**	**2.31**	**1**	*e*Pn	**Pb**	**17 20 46.6**	**-2.0**
ILIN	comp=Z,551nm,0.4s			IAMB	IAmb	17 21 20.9	
IKRK	**Kirkuk**	**3.52**	**323**	*e*Pn	**Pn**	**17 21 05.0**	**+3.6**
IKRK				*e*Sn	**Sb**	**17 21 48.0**	**-3.8**
IRAZ	**Razeghan**	**3.75**	**41**	IAMB	IAmb	17 21 17.9	
	comp=Z,151nm,0.6s						
IKLH	**Kolahrood**	**3.98**	**78**	*e*Pn	**Pn**	**17 21 11.1**	**+3.1**
IKLH				IAMB	IAmb	17 22 25.7	
	comp=Z,124nm,0.5s						
MSL	**Mosul**	**4.92**	**321**	*e*Pn	**Pn**	**17 21 25.0**	**+4.3**
MSL				*e*Sn	**Sn**	**17 22 21.0**	**+3.3**
RTB	**Rutbah**	**5.58**	**276**	*e*Pn	**Pn**	**17 21 31.0**	**+1.1**
RTB				*e*Sn	**Sn**	**17 22 31.0**	**-3.1**

*ISCJB **31** 17:40:18.0±0.8, 18°.9N±0°.1×145°.4E±0°.2, h214km, mb3.2/10, Error ellipse: s-maj=27.1km s-min=16.6km az=0.4*
*IDC **31** 17:40:27.8±5.4, 18°.90N×145°.34E, h296km±55km, mb3.0/10, mb1 3.2/11, mb1mx3.0/50, mbtmp3.6/11, Error ellipse: s-maj=30.9km s-min=13.1km az=88.0*
ISC 31 17:40:19.4±0.9, 18°.9N±0°.1×145°.4E±0°.2, h214km, n11, σ0°62/12, mb3.1/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**18.66**	**342**	P	**Pn**	**17 44 24.9**	**+0.5**
	0.0nm,0.3s,baz=175,slow=10,SNR=4.9						
WRA	**Warramunga Arr**	**40.13**	**196**	P	**P**	**17 47 35.0**	**+0.4**
	1.1nm,0.6s,baz=18,slow=9.1,SNR=22						
WRA				PcP	**PcP**	**17 49 34.0**	**-0.7**
	0.6nm,1.0s,baz=14,slow=3.2,SNR=3.7						
SONM	**Songino Array**	**42.80**	**321**	P	**P**	**17 47 56.7**	**+0.5**
	0.2nm,0.4s,baz=133,slow=9.2,SNR=3.8						
ASAR	**Alice Springs**	**43.80**	**195**	P	**P**	**17 48 04.5**	**+0.2**
	0.3nm,0.4s,baz=13,slow=6.1,SNR=17						
MKAR	**Makanchi Array**	**58.12**	**314**	P	**P**	**17 49 50.8**	**+0.3**
	0.2nm,0.6s,baz=90,slow=8.1,SNR=3.2						
KURBB	**Kurchatov Arra**	**60.98**	**318**	P	**P**	**17 50 09.7**	**-0.3**
	0.3nm,0.4s,baz=96,slow=7.4,SNR=4.4						
ILAR	**Eielson Array**	**63.56**	**26**	P	**P**	**17 50 26.6**	**-0.3**
	0.2nm,0.6s,baz=240,slow=4.8,SNR=2.9						
BVAR	**Borovoye Array**	**66.13**	**320**	P	**P**	**17 50 43.6**	**0.0**
	0.8nm,0.6s,baz=104,slow=8.6,SNR=5.5						
YKA	**Yellowknife Ar**	**77.91**	**28**	P	**P**	**17 51 53.3**	**0.0**
	0.2nm,0.6s,baz=294,slow=5.4,SNR=3.6						
NVAR	**Mina Array Bea**	**83.21**	**52**	P	**P**	**17 52 22.9**	**+0.7**
	0.1nm,0.4s,baz=255,slow=7.2,SNR=4.0						
FINES	**FINESS Array B**	**86.57**	**335**	P	**P**	**17 52 36.9**	**-1.2**
	3.1nm,1.1s,baz=48,slow=2.8,SNR=5.6						

*JMA **31** 17:47:26.1±0.1, 24°.36N×122°.45E, h58km±2km, M2.4*
*TAP **31** 17:47:26.6, 24°.45N×122°.46E, h48km, ML3.2, B*
ISC 31 17:47:25.7±1.3, 24°.43N±0°.02×122°.48E±0°.02, h21km±4km, n82, σ0°73/153, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.34**	**291**	*e*P	**Pn**	**17 47 36.8**	**+1.5**
	baz=287						
EOS1				*e*S	**Sn**	**17 47 43.8**	**+2.2**
	baz=287						
JYNG	**Yonagunijimaku**	**0.43**	**87**	P	**Pn**	**17 47 37.4**	**+0.7**
JYNG				S	**Sn**	**17 47 45.4**	**+1.5**
YOJ	**Yonaguni jima**	**0.49**	**86**	*e*P	**Pn**	**17 47 38.2**	**+0.7**
	baz=88						
YOJ				*e*S	**Sn**	**17 47 46.8**	**+1.4**
	baz=88						
YOJ	**Yonaguni jima**	**0.49**	**86**	P	**Pn**	**17 47 38.2**	**+0.7**
YOJ				*e*S	**Sn**	**17 47 46.3**	**+0.9**
TWC	**Suao**	**0.60**	**287**	*i* P	**Pn**	**17 47 39.1**	**+0.1**
	baz=285						
TWC				*i* S	**Sn**	**17 47 48.2**	**+0.2**
	baz=285						
EGS		**0.64**	**310**	P	**Pn**	**17 47 39.6**	**0.0**
	baz=309						
EGS				S	**Sn**	**17 47 49.1**	**-0.1**
	baz=309						
ENA	**Nanau**	**0.67**	**270**	*i* P	**Pn**	**17 47 40.2**	**+0.2**
	baz=267						
ENA				*e*S	**Sn**	**17 47 50.6**	**+0.7**
	baz=267						
NTC	**Toucheng**	**0.72**	**306**	*e*P	**Pn**	**17 47 40.8**	**+0.1**
	baz=304						
NTC				*e*S	**Sn**	**17 47 50.9**	**-0.3**
	baz=304						
TWB1	**Santiao Chiao**	**0.73**	**323**	P	**Pn**	**17 47 40.6**	**-0.1**
	baz=322						
TWB1				S	**Sn**	**17 47 50.8**	**-0.5**
	baz=322						
ILA	**Ilan**	**0.74**	**297**	P	**Pn**	**17 47 41.6**	**+0.6**
	baz=295						
ILA				*i* S	**Sn**	**17 47 52.1**	**+0.5**
	baz=295						
TWE	**Neicheng**	**0.79**	**292**	*i* P	**Pn**	**17 47 41.7**	**+0.1**
	baz=290						
TWE				*i* S	**Sn**	**17 47 52.7**	**-0.1**
	baz=290						
TIPB	**Shuangxi**	**0.80**	**313**	P	**Pn**	**17 47 41.6**	**-0.2**
	baz=311						
TIPB				S	**Sn**	**17 47 52.4**	**-0.7**
	baz=311						
NACB	**Ninganchiao**	**0.84**	**253**	*e*P	**Pb**	**17 47 41.8**	**+0.2**
	baz=250						
NACB				*e*S	**Sn**	**17 47 53.5**	**-0.6**
	baz=250						
ENTT	**Nioudou**	**0.85**	**284**	*i* P	**Pn**	**17 47 43.3**	**+0.7**
	baz=282						
ENTT				S	**Sn**	**17 47 55.0**	**+0.6**
	baz=282						
TWD	**Chiawan**	**0.88**	**247**	*i* P	**Pb**	**17 47 42.4**	**+0.2**
	baz=244						
TWD				S	**Sb**	**17 47 54.1**	**+0.6**
	baz=244						
NDT	**Datong Townshi**	**0.89**	**281**	P	**Pn**	**17 47 43.9**	**+0.8**
	baz=279						
NDT				S	**Sn**	**17 47 56.0**	**+0.6**
	baz=279						
NWF	**Wu-fen Shan**	**0.90**	**315**	*i* P	**Pn**	**17 47 43.1**	**-0.1**
	baz=314						
NWF				*i* S	**Sn**	**17 47 55.3**	**-0.4**
	baz=314						
WFSB	**Wu-fen Shan**	**0.90**	**315**	*e*P	**Pn**	**17 47 43.1**	**-0.1**
	baz=314						
WFSB				*e*S	**Sn**	**17 47 55.1**	**-0.3**
	baz=314						
HWA	**Hwalien**	**0.91**	**241**	*e*P	**Pb**	**17 47 43.1**	**+0.3**
	baz=238						
HWA				*e*S	**Sn**	**17 47 56.2**	**+0.4**
	baz=238						
NWLT	**Wulai**	**0.95**	**292**	*e*P	**Pn**	**17 47 44.1**	**+0.2**
	baz=290						
NWLT				*e*S	**Sn**	**17 47 56.8**	**-0.1**
	baz=290						
ENLB	**Shoufeng**	**0.95**	**237**	*e*P	**Pn**	**17 47 43.6**	**-0.2**
	baz=235						
ENLB				*e*S	**Sn**	**17 47 57.1**	**+0.2**
	baz=235						
TWA	**Mucha**	**0.98**	**304**	*i* P	**Pb**	**17 47 44.2**	**+0.2**
	baz=303						
TWA				S	**Sn**	**17 47 56.8**	**-0.7**
	baz=303						
NNSB	**Datong**	**1.00**	**270**	*e*P	**Pb**	**17 47 44.5**	**+0.2**
	baz=268						
NNSB				*e*S	**Sn**	**17 47 58.0**	**-0.1**
	baz=268						
NNS	**Nan Shan**	**1.00**	**271**	P	**Pb**	**17 47 44.6**	**+0.2**
	baz=269						
NNS				S	**Sn**	**17 47 57.9**	**-0.5**
	baz=269						
NHDH	**Xindian Distri**	**1.01**	**302**	*e*P	**Pb**	**17 47 45.0**	**+0.4**
	baz=300						
NHDH				*e*S	**Sn**	**17 47 58.4**	**+0.1**
	baz=300						
YHNB	**Yeheng**	**1.03**	**284**	*e*P	**Pb**	**17 47 45.5**	**+0.7**
	baz=282						
YHNB				*e*S	**Sn**	**17 47 59.3**	**+0.4**
	baz=282						
NSK	**Sanguang**	**1.05**	**284**	P	**Pb**	**17 47 45.6**	**+0.5**
	baz=282						
NSK				S	**Sn**	**17 47 59.5**	**+0.3**
	baz=282						
TATO	**Taipei**	**1.05**	**301**	*e*P	**Pb**	**17 47 45.3**	**+0.1**
	baz=300						
YM01	**YM01**	**1.09**	**311**	*e*P	**Pn**	**17 47 45.5**	**-0.3**
	baz=310						
YM01				*e*S	**Sb**	**17 47 59.3**	**-0.3**
	baz=310						
YM11	**YM11**	**1.10**	**312**	*e*P	**Pn**	**17 47 45.6**	**-0.4**
	baz=311						
YM11				*e*S	**Sb**	**17 47 59.7**	**-0.2**
	baz=311						
YM05	**YM05**	**1.10**	**312**	*e*P	**Pn**	**17 47 45.5**	**-0.5**
	baz=310						
YM05				*e*S	**Sn**	**17 48 00.3**	**-0.4**
	baz=310						
YM08	**YM08**	**1.10**	**313**	*e*P	**Pn**	**17 47 45.7**	**-0.3**
	baz=312						
YM08				*e*S	**Sn**	**17 48 00.1**	**-0.5**
	baz=312						
YM04	**YM04**	**1.12**	**310**	P	**Pn**	**17 47 45.9**	**-0.2**
	baz=309						
YM04				*e*S	**Sb**	**17 47 58.9**	**-1.5**
	baz=309						
ESL	**Shilin**	**1.13**	**237**	P	**Pn**	**17 47 45.4**	**-0.9**
	baz=235						
ESL				S	**Sn**	**17 47 60.0**	**-1.3**
	baz=235						
WHF	**Hehuan Shan**	**1.14**	**256**	P	**Pn**	**17 47 46.4**	**-0.4**
	baz=254						
WHF				S	**Sb**	**17 48 01.1**	**-0.4**
	baz=254						
IRIF	**Iriomote-Funau**	**1.15**	**94**	P	**Pn**	**17 47 46.4**	**-0.2**
IRIF				S	**Sb**	**17 48 01.3**	**0.0**
TWY	**Chenhua**	**1.16**	**317**	P	**Pn**	**17 47 46.4**	**-0.3**
	baz=316						
TWY				*e*S	**Sn**	**17 48 01.3**	**-0.7**
	baz=316						
TWS1	**Kuangyinshan**	**1.17**	**305**	P	**Pb**	**17 47 47.1**	**-0.1**
	baz=304						
TWS1				S	**Sn**	**17 48 01.7**	**-0.5**
	baz=304						
NTST	**Danshui**	**1.19**	**308**	*e*P	**Pn**	**17 47 46.8**	**-0.3**
	baz=307						
NTST				*e*S	**Sn**	**17 48 02.2**	**-0.4**
	baz=307						
WLTB	**Daxi**	**1.19**	**291**	*e*P	**Pb**	**17 47 47.5**	**0.0**
	baz=289						
WLTB				*e*S	**Sb**	**17 48 02.8**	**+0.3**
	baz=289						
TWT	**Tachien**	**1.20**	**262**	*e*P	**Pb**	**17 47 48.0**	**+0.2**
	baz=260						
TWT				*e*S	**Sn**	**17 48 02.4**	**-0.7**
	baz=260						
TDCB	**Techi**	**1.21**	**262**	*e*P	**Pb**	**17 47 48.0**	**0.0**
	baz=260						
TDCB				*e*S	**Sn**	**17 48 02.7**	**-0.8**
	baz=260						
EGFH	**Guangfu**	**1.22**	**232**	*e*P	**Pn**	**17 47 46.8**	**-0.8**
	baz=230						
EGFH				*e*S	**Sn**	**17 48 02.4**	**-1.1**
	baz=230						
CHGB	**Renai**	**1.24**	**253**	*e*P	**Pn**	**17 47 47.8**	**-0.3**
	baz=251						
CHGB				*e*S	**Sn**	**17 48 03.7**	**-0.6**
	baz=251						
PCYT	**Pengchaiyu**	**1.25**	**343**	P	**Pb**	**17 47 48.1**	**-0.4**
	baz=343						
HATJ	**Hateruma jima**	**1.27**	**107**	*e*S	**Sb**	**17 48 05.7**	**+0.9**
NCU	**National Centr**	**1.29**	**295**	P	**Pb**	**17 47 48.9**	**-0.3**
	baz=293						
NCU				*e*S	**Sn**	**17 48 04.9**	**-0.2**
	baz=293						
NCUH	**Zhongli**	**1.29**	**295**	*e*P	**Pb**	**17 47 48.8**	**-0.5**
	baz=293						
NCUH				*e*S	**Sn**	**17 48 04.8**	**-0.4**
	baz=293						
HGSD	**Ruisui**	**1.34**	**226**	*e*P	**Pn**	**17 47 48.3**	**-0.9**
	baz=224						
HGSD				*e*S	**Sn**	**17 48 06.6**	**+0.2**
	baz=224						
LIOB	**Emei**	**1.35**	**279**	P	**Pb**	**17 47 50.1**	**-0.2**
	baz=278						
LIOB				S	**Sb**	**17 48 06.9**	**-0.1**
	baz=278						
NSTT	**Nanjuang**	**1.36**	**279**	*e*P	**Pb**	**17 47 50.0**	**-0.4**
	baz=277						
NSTT				*e*S	**Sb**	**17 48 07.1**	**-0.2**
	baz=277						
VWDT	**VWDT**	**1.39**	**241**	*e*P	**Pn**	**17 47 49.8**	**-0.1**
	baz=240						
VWDT				*e*S	**Sn**	**17 48 06.8**	**-0.9**
	baz=240						
EHY	**Hungye**	**1.40**	**229**	P	**Pn**	**17 47 48.9**	**-1.1**
	baz=227						
EHY				S	**Sn**	**17 48 05.5**	**-2.4**
	baz=227						
WHP	**Taichung City**	**1.40**	**264**	*e*P	**Pb**	**17 47 51.4**	**+0.1**
	baz=262						
WHP				*e*S	**Sb**	**17 48 09.6**	**+0.8**
	baz=262						
JKRS	**Kuro-shima**	**1.41**	**97**	P	**Pb**	**17 47 50.6**	**-0.7**
JKRS				S	**Sn**	**17 48 08.1**	**-0.1**
YULB	**Yu-li**	**1.49**	**226**	*e*P	**Pn**	**17 47 50.1**	**-1.2**
	baz=225						
YULB				*e*S	**Sn**	**17 48 08.3**	**-1.9**
	baz=225						
TWF1	**Yuli**	**1.52**	**225**	*e*P	**Pn**	**17 47 50.8**	**-0.9**
	baz=224						
JIJ	**Ishigaki jima**	**1.52**	**92**	P	**Pn**	**17 47 51.2**	**-0.5**
JIJ				S	**Sn**	**17 48 09.3**	**-1.6**
SSLB	**Suanglung**	**1.53**	**246**	*e*P	**Pn**	**17 47 51.7**	**-0.1**
	baz=244						
SMLT	**Sun Moon Lake**	**1.54**	**250**	*e*P	**Pn**	**17 47 52.2**	**+0.1**
	baz=248						
SMLT				*e*S	**Sn**	**17 48 10.6**	**-0.9**
	baz=248						
TWQ1	**Liyutan**	**1.55**	**267**	*e*P	**Pb**	**17 47 53.3**	**-0.4**
	baz=266						
TWQ1				*e*S	**Sb**	**17 48 12.8**	**-0.2**
	baz=266						
TYC	**Yuchr**	**1.57**	**251**	*e*P	**Pn**	**17 47 52.7**	**+0.4**
	baz=249						
TYC				*e*S	**Sn**	**17 48 12.4**	**+0.3**
	baz=249						
WHYT	**Xinyi Township**	**1.65**	**244**	*e*P	**Pn**	**17 47 54.0**	**+0.4**
	baz=242						
WHYT				*e*S	**Sn**	**17 48 14.7**	**+0.5**
	baz=242						
JISG	**Ishigakijimahi**	**1.68**	**84**	P	**Pn**	**17 47 53.7**	**-0.2**
JISG				*e*S	**Sn**	**17 48 13.4**	**-1.4**
WJS	**Zhushan**	**1.71**	**250**	*e*P	**Pb**	**17 47 55.5**	**-0.9**
	baz=248						
WJS				*e*S	**Sn**	**17 48 15.8**	**+0.3**
	baz=248						
WNT	**Mingjian**	**1.73**	**252**	*e*P	**Pn**	**17 47 55.5**	**+1.0**
	baz=250						
ELDTW	**Lidau**	**1.82**	**228**	*e*P	**Pn**	**17 47 54.8**	**-1.2**
	baz=226						
ELDTW				*e*S	**Sn**	**17 48 16.6**	**-1.8**
	baz=226						
CHN5	**Tsauling**	**1.84**	**244**	P	**Pn**	**17 47 57.2**	**+1.0**
	baz=242						
CHN5				*e*S	**Sn**	**17 48 19.1**	**+0.2**
	baz=242						
WGK	**Gukeng**	**1.90**	**247**	*e*P	**Pn**	**17 47 57.8**	**+0.9**
	baz=246						
WDLH	**Douliu**	**1.92**	**248**	*e*P	**Pn**	**17 47 58.0**	**+0.8**
	baz=246						
STYT	**Tauyuan**	**2.02**	**232**	*e*P	**Pn**	**17 47 58.8**	**+0.2**
	baz=230						
STYT				*e*S	**Sn**	**17 48 23.6**	**+0.4**
	baz=230						
TPUB	**Ta-pu**	**2.03**	**237**	*e*P	**Pn**	**17 47 59.3**	**+0.6**
	baz=235						
CHN4	**Tsaushan**	**2.03**	**238**	*e*P	**Pn**	**17 47 59.9**	**+1.2**
	baz=237						
CHN4				*e*S	**Sn**	**17 48 23.7**	**+0.2**
	baz=237						
JTJ	**Tarama**	**2.04**	**84**	P	**Pn**	**17 47 59.2**	**+0.4**
JTJ				*e*S	**Sn**	**17 48 23.5**	**-0.2**
WTP	**Ta-pu**	**2.07**	**236**	*e*P	**Pn**	**17 48 00.1**	**+0.7**
	baz=234						
WTP				*e*S	**Sn**	**17 48 23.9**	**-0.7**
	baz=234						
TWK	**Hsinying**	**2.16**	**238**	*e*P	**Pn**	**17 48 01.4**	**+0.9**
	baz=236						
CHN1	**Nanshi**	**2.17**	**236**	*e*P	**Pn**	**17 48 02.2**	**+1.5**
	baz=234						
CHN1				*e*S	**Sn**	**17 48 27.6**	**+0.6**
	baz=234						
SNST	**Tainan City**	**2.17**	**237**	*e*P	**Pn**	**17 48 01.6**	**+0.9**
	baz=235						
SNST				*e*S	**Sn**	**17 48 27.3**	**+0.3**
	baz=235						
SGST	**Jiashian**	**2.19**	**233**	*e*P	**Pn**	**17 48 02.2**	**+1.2**
	baz=231						
SGST				*e*S	**Sn**	**17 48 29.1**	**+1.6**
	baz=231						
SLGT	**Liugui**	**2.20**	**230**	*e*P	**Pn**	**17 48 02.4**	**+1.2**
	baz=228						
SLGT				*e*S	**Sn**	**17 48 28.9**	**+1.2**
	baz=228						
SSD	**Sandimen**	**2.38**	**226**	*e*P	**Pn**	**17 48 04.2**	**+0.7**
	baz=224						
SSD				*e*S	**Sn**	**17 48 32.3**	**+0.2**
	baz=224						
MASBT	**Mashibuluo**	**2.48**	**223**	*e*P	**Pn**	**17 48 04.9**	**+0.1**
	baz=222						

SJA 31 17:47:42.8±0.5, 31°.44S×68°.17W, h99km±2km, ML2.7, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFA	**Coronel Fontan**	**0.18**	**200**	*i* P	**Pn**	**17 47 57.3**	**+0.4**
CFA				*i* S	**Sn**	**17 48 08.6**	**+1.2**
RTLL	**Cerro Villicun**	**0.28**	**293**	*i* P	**Pn**	**17 47 57.8**	**+0.5**
RTLL				IAML		17 47 57.9	
RTLL				*i* S	**Sn**	**17 48 08.9**	**+0.8**
RTCV	**Cerro Valdivia**	**0.53**	**217**	*i* P	**Pn**	**17 47 59.2**	**+0.4**
AMOG	**MOGNA**	**0.57**	**331**	*i* P	**Pn**	**17 47 59.7**	**+0.6**
RTLS	**Leoncito**	**1.03**	**249**	*i* P	**Pn**	**17 48 05.1**	**+1.4**
RTLS				IAML		17 48 05.3	
	comp=Z,130nm,0.1s						
ACCO	**Cerro Coronel**	**1.15**	**318**	*i* P	**Pn**	**17 48 06.4**	**+1.3**
ACAN	**Cantantal**	**1.18**	**135**	*i* P	**Pn**	**17 48 06.1**	**+0.9**
AUSP	**Uspallata**	**1.30**	**233**	*i* P	**Pn**	**17 48 08.1**	**+1.2**
AUSP				*i* S	**Sn**	**17 48 27.3**	**+2.2**
AGUA	**GUANDACOL**	**1.96**	**352**	*i* P	**Pn**	**17 48 16.5**	**+1.4**

GUC 31 17:56:45.0±0.5, 36°.07S×73°.60W, h32km±9km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCHI	**Chillan**	**1.34**	**114**	*e*P	**Pn**	**17 57 04.4**	**-3.1**
CCHI				*i* S	**Sn**	**17 57 21.4**	**-2.8**
CCHI				IAML		17 57 23.6	
	comp=E,3μm,0.4s						
GO05	**Huala**	**1.73**	**53**	*e*P	**Pn**	**17 57 13.6**	**+0.8**
GO05				*i* S	**Sn**	**17 57 35.5**	**+1.7**
GO05				IAML		17 57 38.3	
	comp=N,422nm,0.5s						
AGCH	**Angol**	**1.88**	**158**	*e*P	**Pn**	**17 57 15.6**	**+0.7**
AGCH				*i* S	**Sn**	**17 57 38.9**	**+1.4**
TMU	**Temuco**	**2.78**	**164**	*e*P	**Pn**	**17 57 28.2**	**+1.0**
TMU				*i* S	**Sn**	**17 57 57.4**	**-2.2**
TMU				IAML		17 58 12.7	
	comp=E,341nm,0.5s						
LMEL	**Las Melosas**	**3.56**	**53**	*e*P	**Pn**	**17 57 38.9**	**+0.6**

*IDC **31** 18:00:12.8±0.6, 12°.12N×143°.34E, h0km, mb4.0/12, mb1 4.3/13, mb1mx4.0/36, mbtmp4.0/13, ML4.7/1, MS3.3/2, Ms1 3.4/2, ms1mx2.9/36, Error ellipse: s-maj=22.8km s-min=16.6km az=92.0*
*NEIC **31** 18:00:13.3±5.4, 12°.09N×143°.36E, h5km±33km, mb4.5/3, Error ellipse: s-maj=12.7km s-min=8.7km az=95.0*
*ISCJB **31** 18:00:14.7±0.5, 12°.07N±0°.07×143°.37E±0°.08, h25km, mb4.1/14, MS3.3/2, Error ellipse: s-maj=13.1km s-min=8.1km az=33.4*
ISC 31 18:00:16.4±0.6, 12°.1N±0°.1×143°.4E±0°.1, h25km, n32, σ0°90/26, mb4.2/14, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.05**	**43**	Pn	**Pn**	**18 00 49.3**	**-0.1**
	266nm,0.3s,baz=215,slow=4.5,SNR=48						
GUMO				Sn	**Sn**	**18 01 13.6**	**-0.5**
	279nm,0.3s,baz=134,slow=22,SNR=17						
H11S3	**WAKE ISLAND Hy**	**23.31**	**71**	T	T	18 29 38.4	
	baz=304						
H11S1	**WAKE ISLAND Hy**	**23.33**	**71**	T	T	18 29 44.1	
	baz=304						
H11S2	**WAKE ISLAND Hy**	**23.33**	**71**	T	T	18 29 39.2	
	baz=304						
H11N1	**WAKE ISLAND Hy**	**23.79**	**68**	T	T	18 30 10.6	
	baz=271						
H11N2	**WAKE ISLAND Hy**	**23.80**	**68**	T	T	18 30 13.7	
	baz=271						
H11N3	**WAKE ISLAND Hy**	**23.81**	**68**	T	T	18 30 15.4	
	baz=271						
WR1	**Warramunga Arr**	**33.07**	**196**	*e*P	**P**	**18 06 49.7**	**-0.6**
	4.7nm,0.8s						
WRA	**Warramunga Arr**	**33.07**	**196**	P	**P**	**18 06 49.7**	**-0.6**
	3.0nm,0.8s,baz=20,slow=9.5,SNR=20						
AS31	**Alice Springs**	**36.74**	**195**	*e*P	**P**	**18 07 21.6**	**-0.4**
	4.5nm,1.8s						
ASAR	**Alice Springs**	**36.74**	**195**	P	**P**	**18 07 21.5**	**-0.5**
	0.6nm,0.6s,baz=22,slow=11,SNR=13						
DZM	**Mont Dzumac**	**40.78**	**146**	P	**P**	**18 07 56.2**	**+0.2**
	4.3nm,0.6s,baz=279,slow=6.3,SNR=6.2						
DZM	**Mont Dzumac**	**40.78**	**146**	*e*P	**P**	**18 07 56.2**	**+0.2**
	119nm,2.0s						
PETK	**Petropavlovsk-**	**42.48**	**13**	LR	LR	18 29 26.2	
	comp=Z,37nm,18.0s,baz=179,slow=41						
CMAR	**Chiang Mai Arr**	**43.28**	**284**	P	**P**	**18 08 16.4**	**-0.1**
	0.2nm,0.5s,baz=83,slow=7.4,SNR=2.6						
CMAR				LR	LR	18 24 53.8	
	comp=Z,38nm,21.7s,baz=78,slow=34						
SONA0	**Songino Array**	**47.16**	**326**	*e*P	**P**	**18 08 47.7**	**+0.7**
SONM	**Songino Array**	**47.16**	**326**	P	**P**	**18 08 47.7**	**+0.7**
	0.5nm,0.8s,baz=142,slow=7.2,SNR=3.1						
MK32	**Makanchi Array**	**61.59**	**317**	*e*P	**P**	**18 10 32.8**	**+0.9**
MKAR	**Makanchi Array**	**61.59**	**317**	P	**P**	**18 10 32.8**	**+0.9**
	0.4nm,0.8s,baz=95,slow=9.6,SNR=5.4						
ZALV	**Zalesovo Beam**	**62.02**	**325**	P	**P**	**18 10 33.7**	**-0.8**
	0.5nm,0.4s,baz=117,slow=5.2,SNR=3.5						
ZAA1	**Zalesovo Array**	**62.02**	**325**	*e*P	**P**	**18 10 33.8**	**-0.8**
ILAR	**Eielson Array**	**70.51**	**25**	P	**P**	**18 11 27.9**	**-1.0**
	1.1nm,0.5s,baz=251,slow=5.7,SNR=25						
ILB	**Eielson Array**	**70.51**	**25**	*e*P	**P**	**18 11 27.7**	**-1.2**
YKA	**Yellowknife Ar**	**84.83**	**27**	P	**P**	**18 12 49.2**	**+0.6**
	0.7nm,0.4s,baz=287,slow=5.1,SNR=13						
ARA0	**ARCESS Array S**	**88.06**	**342**	*e*P	**P**	**18 13 04.0**	**-0.4**
ARCES	**ARCESS Array B**	**88.06**	**342**	P	**P**	**18 13 04.0**	**-0.4**
	2.2nm,0.9s,baz=82,slow=6.6,SNR=17						
NV01	**Mina Array Sit**	**88.95**	**51**	*e*P	**P**	**18 13 11.0**	**+1.4**
NVAR	**Mina Array Bea**	**88.95**	**51**	P	**P**	**18 13 11.1**	**+1.5**
	2.3nm,0.8s,baz=261,slow=5.3,SNR=11						
FIA0	**FINESS Array S**	**91.91**	**335**	*e*P	**P**	**18 13 21.4**	**-1.2**
FINES	**FINESS Array B**	**91.91**	**335**	P	**P**	**18 13 21.4**	**-1.1**
	2.1nm,0.8s,baz=72,slow=6.2,SNR=9.1						
LVC	**Limon Verde**	**147.49**	**113**	PKPbc	**PKPab**	**18 20 00.7**	**-1.0

		23nm,0.1s						
UZB	**Uzynbulak**	**0.77**	**322**	⇑*e*P	**Pg**	**18 11 26.8**	**-0.9**
	baz=22							
UZB				⇑*e*S	**Sg**	**18 11 37.0**	**-0.7**
	baz=22							
UZB	**Uzynbulak**	**0.77**	**322**	⇑*e*P	**Pg**	**18 11 26.8**	**-0.9**
	17nm,0.1s							
UZB				*e*S	**Sg**	**18 11 37.0**	**-0.7**
	23nm,0.1s							
PDGK	**Podgornoye**	**0.79**	**351**	P	**Pg**	**18 11 27.3**	**-1.0**
	1.2nm,0.1s							
PDGK				S	**Sg**	**18 11 38.0**	**-0.6**
	9.2nm,0.2s							
PDGK	**Podgornoye**	**0.79**	**351**	⇓P	**Pg**	**18 11 27.2**	**-1.1**
	0.5nm,0.3s							
PDGK				⇑S	**Sg**	**18 11 37.9**	**-0.8**
	7.8nm,0.3s							
PDGK	**Podgornoye**	**0.79**	**351**	⇑*i*P	**Pg**	**18 11 27.3**	**-1.0**
	baz=51							
PDGK				⇑*i*S	**Sg**	**18 11 37.9**	**-0.8**
	baz=51							
PRZ	**Przheval'sk**	**0.94**	**267**	⇓*e*P	**Pg**	**18 11 30.6**	**-0.4**
	baz=66							
PRZ				⇓*e*S	**Sg**	**18 11 42.7**	**-0.5**
	baz=66							
KTMS	**Ketmen**	**1.03**	**29**	P	**Pg**	**18 11 31.8**	**-1.0**
	14nm,0.1s							
KTMS				S	**Sg**	**18 11 45.6**	**-0.6**
	6.5nm,0.2s							
KTMS	**Ketmen**	**1.03**	**29**	⇓*e*P	**Pg**	**18 11 31.8**	**-1.0**
	baz=29							
KTMS				⇓*e*S	**Sg**	**18 11 45.6**	**-0.6**
	baz=29							
KTMS	**Ketmen**	**1.03**	**29**	⇓*e*P	**Pg**	**18 11 31.8**	**-1.0**
	14nm,0.1s							
KTMS				*e*S	**Sg**	**18 11 45.6**	**-0.6**
	6.5nm,0.2s							
SATY	**Saty**	**1.06**	**299**	P	**Pg**	**18 11 32.1**	**-1.2**
SATY				S	**Sg**	**18 11 46.0**	**-1.1**
SATY	**Saty**	**1.06**	**299**	*e*P	**Pg**	**18 11 32.1**	**-1.2**
	4.3nm,0.1s							
SATY				*e*S	**Sg**	**18 11 46.0**	**-1.1**
	21nm,0.1s							
KURS	**Kuram**	**1.45**	**311**	*e*P	**Pn**	**18 11 39.1**	**-0.1**
	baz=11							
KURS				*e*S	**Sg**	**18 11 58.5**	**-1.0**
	baz=11							
KURS	**Kuram**	**1.45**	**311**	*e*P	**Pn**	**18 11 39.1**	**-0.1**
	3.1nm,0.6s							
KURS				*e*S	**Sg**	**18 11 58.5**	**-1.0**
	6.9nm,0.4s							
DJR	**Jarkent**	**1.79**	**3**	⇑*e*P	**Pb**	**18 11 45.3**	**-0.6**
	2.7nm,0.2s							
DJR				*e*S	**Sb**	**18 12 08.8**	**+0.4**
	12nm,0.3s							
MNBS	**Baschi**	**1.79**	**329**	P	**Pb**	**18 11 44.9**	**-0.9**
	6.2nm,0.2s							
MNBS				S	**Sb**	**18 12 08.5**	**+0.1**
	29nm,0.3s							
MNBS	**Baschi**	**1.79**	**329**	⇓*e*P	**Pb**	**18 11 45.1**	**-0.8**
	baz=30							
MNBS				⇓*e*S	**Sb**	**18 12 08.5**	**+0.1**
	baz=30							
MNBS	**Baschi**	**1.79**	**329**	⇓*e*P	**Pb**	**18 11 45.0**	**-0.8**
	6.2nm,0.2s							
MNBS				*e*S	**Sb**	**18 12 08.5**	**+0.1**
	29nm,0.3s							
KDJ	**Kajisay**	**1.89**	**258**	⇓*i*P	**Pb**	**18 11 47.8**	**+0.2**
	baz=58							
KDJ				⇓*i*S	**Sb**	**18 12 12.1**	**+0.7**
	baz=58							
KOTS	**Kotyrbulak**	**2.00**	**291**	Pg	**Pb**	**18 11 49.6**	**+0.2**
	6.9nm,0.2s							
KOTS				Lg	Lg	18 12 16.5		
	13nm,0.3s							
KOTS	**Kotyrbulak**	**2.00**	**291**	*e*P	**Pb**	**18 11 48.8**	**-0.7**
	baz=91							
KOTS				*e*S	**Sg**	**18 12 15.4**	**-1.8**
	baz=91							
KOTS	**Kotyrbulak**	**2.00**	**291**	*e*P	**Pb**	**18 11 48.8**	**-0.7**
	6.9nm,0.2s							
KOTS				*e*S	**Sg**	**18 12 15.3**	**-1.8**
	13nm,0.3s							
MDOK	**Medeo**	**2.02**	**289**	Pg	**Pb**	**18 11 48.6**	**-1.3**
	2.6nm,0.4s							
MDOK				Lg	Lg	18 12 15.9		
	5.7nm,0.7s							
TNSS	**Tian-Shan**	**2.06**	**285**	Pg	**Pb**	**18 11 49.8**	**-0.9**
	4.8nm,0.3s							
TNSS				Lg	Lg	18 12 17.0		
	5.4nm,0.4s							
TNSS	**Tian-Shan**	**2.06**	**285**	*e*P	**Pb**	**18 11 49.4**	**-1.3**
	baz=84							
TNSS				*e*S	**Sb**	**18 12 16.0**	**-0.5**
	baz=84							
TNSS	**Tian-Shan**	**2.06**	**285**	*e*P	**Pb**	**18 11 49.4**	**-1.3**
	4.8nm,0.3s							
TNSS				*e*S	**Sb**	**18 12 15.9**	**-0.5**
	5.4nm,0.4s							
ARXS	**Arharly**	**2.14**	**322**	Pg	**Pb**	**18 11 50.6**	**-1.2**
	4.8nm,0.4s							
ARXS				Lg	Lg	18 12 18.4		
	15nm,0.3s							
ARXS	**Arharly**	**2.14**	**322**	*e*P	**Pb**	**18 11 50.6**	**-1.2**
	4.8nm,0.4s							
ARXS				*e*S	**Sb**	**18 12 18.4**	**0.0**
	15nm,0.3s							
IZV	**Izvestkoviy**	**2.30**	**283**	Pg	**Pb**	**18 11 53.9**	**-0.7**
	6.6nm,0.2s							
IZV				Lg	Lg	18 12 23.7		
	10nm,0.3s							
IZV	**Izvestkoviy**	**2.30**	**283**	*e*P	**Pb**	**18 11 53.9**	**-0.7**
	baz=83							
IZV				*e*S	**Sb**	**18 12 23.7**	**+0.5**
	baz=83							
IZV	**Izvestkoviy**	**2.30**	**283**	*e*P	**Pb**	**18 11 53.9**	**-0.7**
	6.6nm,0.2s							
IZV				*e*S	**Sb**	**18 12 23.7**	**+0.5**
	10nm,0.3s							
CHKK	**Chushkaly**	**2.35**	**305**	Pg	**Pb**	**18 11 54.9**	**-0.6**
CHKK				Lg	Lg	18 12 25.1		
CHKK	**Chushkaly**	**2.35**	**305**	*e*P	**Pb**	**18 11 54.9**	**-0.6**
	baz=5.0							
CHKK				*e*S	**Sb**	**18 12 25.1**	**+0.5**
	baz=5.0							
CHKK	**Chushkaly**	**2.35**	**305**	*e*P	**Pb**	**18 11 54.9**	**-0.6**
	1.4nm,0.2s							
CHKK				*e*S	**Sb**	**18 12 25.1**	**+0.5**
	11nm,0.2s							
KTBS	**Karatobe**	**2.48**	**299**	Pg	**Pb**	**18 11 56.9**	**-0.7**
	2.8nm,0.2s							
KTBS				Lg	Lg	18 12 28.8		
	10nm,0.3s							
KTBS	**Karatobe**	**2.48**	**299**	*e*P	**Pb**	**18 11 56.9**	**-0.7**
	baz=98							
KTBS				*e*S	**Sb**	**18 12 28.8**	**+0.7**
	baz=98							
KTBS	**Karatobe**	**2.48**	**299**	*e*P	**Pb**	**18 11 56.9**	**-0.7**
	2.8nm,0.2s							
KTBS				*e*S	**Sb**	**18 12 28.8**	**+0.7**
	10nm,0.3s							
ULHL	**Ulahol**	**2.55**	**264**	⇑*i*P	**Pb**	**18 11 57.1**	**-1.9**
	baz=64							
ULHL				⇑*i*S	**Sb**	**18 12 28.6**	**-1.9**
	baz=64							
KAPS	**Kapalarasan**	**2.75**	**355**	*e*P	**Pb**	**18 12 01.8**	**-0.4**
	0.7nm,0.2s							
KAPS				*e*S	**Sb**	**18 12 37.1**	**+1.2**
	10.0nm,0.4s							
BOOM	**Boomskoye usch**	**2.75**	**270**	⇑*e*P	**Pn**	**18 11 59.1**	**+1.8**
	baz=70							
BOOM				⇑*i*S	**Sn**	**18 12 32.9**	**+2.1**
	baz=70							
DGS	**Degeres**	**2.94**	**285**	Pg	**Pb**	**18 12 04.9**	**-0.7**
	2.6nm,0.2s							
DGS				Lg	Lg	18 12 42.9		
	7.7nm,0.6s							
DGS	**Degeres**	**2.94**	**285**	*e*P	**Pb**	**18 12 04.9**	**-0.7**
	baz=85							
DGS				*e*S	**Sb**	**18 12 42.8**	**+1.2**
	baz=85							
DGS	**Degeres**	**2.94**	**285**	*e*P	**Pb**	**18 12 04.9**	**-0.7**
	2.6nm,0.2s							
DGS				*e*S	**Sb**	**18 12 42.9**	**+1.2**
	7.7nm,0.6s							
NRN	**Naryn**	**2.95**	**249**	⇑*i*P	**Pb**	**18 12 02.9**	**-2.9**
	baz=49							
NRN				⇑*i*S	**Sb**	**18 12 38.7**	**-3.3**
	baz=49							
TKM2	**Tokmak 2**	**3.02**	**278**	⇑Pg	**Pb**	**18 12 06.5**	**-0.5**
	1.4nm,0.7s							
TKM2				⇑Lg	Lg	18 12 46.1		
	2.2nm,0.4s							
TKM2	**Tokmak 2**	**3.02**	**278**	⇑*i*P	**Pn**	**18 12 03.6**	**+2.6**
	baz=78							
TKM2				⇑*i*S	**Sn**	**18 12 39.6**	**+2.2**
	baz=78							
KZA	**Kyzart**	**3.31**	**263**	⇓*e*P	**Pn**	**18 12 07.8**	**+2.6**
	baz=63							
KZA				⇓*i*S	**Sn**	**18 12 46.8**	**+2.1**
	baz=63							
ARLS	**Aral**	**4.03**	**262**	⇓*i*P	**Pn**	**18 12 17.1**	**+2.3**
	baz=62							
ARLS				⇓*i*S	**Sn**	**18 13 03.6**	**+1.5**
	baz=62							
MK31	**Makanchi Array**	**4.64**	**23**	⇑Pn	**Pn**	**18 12 24.2**	**+1.1**
	0.1nm,0.3s,baz=200,slow=12,SNR=18							
MK31				⇑Lg	Lg	18 13 38.9		
	0.1nm,0.2s,baz=203,slow=26,SNR=5.4							

*SOME **31** 18:18:39.9, 42°.55N×79°.75E, h15km*
*KRNET **31** 18:18:40.5±0.1, 42°.58N×79°.69E, h11km, mb2.7*
*NNC **31** 18:18:40.2±0.8, 42°.59N×79°.67E, h0km, mb3.0, mpv2.8,*
Error ellipse: s-maj=5.3km s-min=3.1km az=136.0

ISC 31 18:18:39.2±1.6, 42°.54N±0°.05×79°.72E±0°.04, h10km±11km, n49, σ0s80/90, 15C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.65**	**343**	P	**Pb**	**18 18 52.7**	**0.0**
	21nm,0.1s						
SHLS				S	**Sb**	**18 19 01.9**	**-0.1**
	67nm,0.2s						
SHLS	**Shalkode**	**0.65**	**343**	⇓*e*P	**Pb**	**18 18 52.8**	**0.0**
	baz=14						
SHLS				⇓*e*S	**Sb**	**18 19 01.9**	**-0.1**
	baz=14						
SHLS	**Shalkode**	**0.65**	**343**	⇓*e*P	**Pb**	**18 18 52.8**	**0.0**
	21nm,0.1s						
SHLS				*e*S	**Sb**	**18 19 01.9**	**-0.1**
	67nm,0.2s						
UZB	**Uzynbulak**	**0.80**	**320**	P	**Pg**	**18 18 54.7**	**+0.1**
	12nm,0.1s						
UZB				S	**Sg**	**18 19 05.0**	**0.0**
	19nm,0.2s						
UZB	**Uzynbulak**	**0.80**	**320**	⇑*e*P	**Pg**	**18 18 54.7**	**+0.1**
	baz=20						
UZB				⇑*e*S	**Sg**	**18 19 05.0**	**0.0**
	baz=20						
UZB	**Uzynbulak**	**0.80**	**320**	⇑*e*P	**Pg**	**18 18 54.7**	**+0.1**
	12nm,0.1s						
UZB				*e*S	**Sg**	**18 19 05.0**	**0.0**
	19nm,0.2s						
PDGK	**Podgornoye**	**0.81**	**348**	P	**Pg**	**18 18 55.0**	**+0.2**
	1.9nm,0.1s						
PDGK				S	**Sg**	**18 19 05.5**	**0.0**
	9.0nm,0.1s						
PDGK	**Podgornoye**	**0.81**	**348**	⇓P	**Pg**	**18 18 54.5**	**-0.3**
	1.3nm,0.4s						
PDGK				⇑S	**Sg**	**18 19 05.3**	**-0.2**
	11nm,0.5s						
PDGK	**Podgornoye**	**0.81**	**348**	⇓*i*P	**Pg**	**18 18 55.1**	**+0.2**
	baz=49						
PDGK				⇓*i*S	**Sg**	**18 19 05.4**	**0.0**
	baz=49						
PRZ	**Przheval'sk**	**0.98**	**267**	⇑*i*P	**Pb**	**18 18 58.8**	**+0.4**
	baz=65						
PRZ				⇑*i*S	**Sb**	**18 19 11.9**	**+0.5**
	baz=65						
KTMS	**Ketmen**	**1.02**	**27**	P	**Pg**	**18 18 59.0**	**+0.1**
KTMS				S	**Sb**	**18 19 12.7**	**0.0**
KTMS	**Ketmen**	**1.02**	**27**	*e*P	**Pg**	**18 18 59.0**	**+0.1**
	baz=28						
KTMS				*e*S	**Sb**	**18 19 12.6**	**0.0**
	baz=28						
KTMS	**Ketmen**	**1.02**	**27**	*e*P	**Pg**	**18 18 59.0**	**+0.1**
	1.7nm,0.1s						
KTMS				*e*S	**Sb**	**18 19 12.7**	**0.0**
	3.9nm,0.1s						
SATY	**Saty**	**1.10**	**299**	P	**Pg**	**18 19 00.6**	**+0.2**
SATY				S	**Sn**	**18 19 15.5**	**-0.7**
SATY	**Saty**	**1.10**	**299**	*e*P	**Pg**	**18 19 00.6**	**+0.2**
	2.7nm,0.1s						
SATY				*e*S	**Sn**	**18 19 15.5**	**-0.7**
	11nm,0.2s						
KURS	**Kuram**	**1.48**	**310**	*e*P	**Pb**	**18 19 07.0**	**+0.1**
	baz=10.0						
KURS				*e*S	**Sg**	**18 19 26.4**	**-0.5**
	baz=10.0						
KURS	**Kuram**	**1.48**	**310**	*e*P	**Pb**	**18 19 07.0**	**+0.1**
	1.9nm,0.3s						
KURS				*e*S	**Sg**	**18 19 26.4**	**-0.5**
	5.4nm,0.5s						
DJR	**Jarkent**	**1.79**	**2**	P	**Pb**	**18 19 12.9**	**+0.6**
	1.1nm,0.1s						
DJR				S	**Sg**	**18 19 36.5**	**-0.4**
	4.5nm,0.3s						
DJR	**Jarkent**	**1.79**	**2**	*e*P	**Pb**	**18 19 12.9**	**+0.6**
	1.1nm,0.1s						
DJR				*e*S	**Sg**	**18 19 36.5**	**-0.4**
	4.5nm,0.3s						
MNBS	**Baschi**	**1.82**	**328**	*e*P	**Pb**	**18 19 12.7**	**0.0**
	baz=29						
MNBS				*e*S	**Sg**	**18 19 36.3**	**-1.3**
	baz=29						
MNBS	**Baschi**	**1.82**	**328**	*e*P	**Pb**	**18 19 12.7**	**0.0**
	2.6nm,0.1s						
MNBS				*e*S	**Sg**	**18 19 36.3**	**-1.3**
	24nm,0.2s						
KDJ	**Kajisay**	**1.93**	**259**	⇑*i*P	**Pb**	**18 19 16.0**	**+1.4**
	baz=57						
KDJ				⇑*i*S	**Sg**	**18 19 41.2**	**+0.1**
	baz=57						
KOTS	**Kotyrbulak**	**2.04**	**291**	Pg	**Pb**	**18 19 17.1**	**+0.6**
	1.4nm,0.2s						
KOTS				Lg	Lg	18 19 45.0	
	16nm,0.4s						
KOTS	**Kotyrbulak**	**2.04**	**291**	*e*P	**Pb**	**18 19 17.1**	**+0.6**
	baz=90						
KOTS				*e*S	**Sg**	**18 19 44.2**	**-0.5**
	baz=90						
KOTS	**Kotyrbulak**	**2.04**	**291**	*e*P	**Pb**	**18 19 17.1**	**+0.6**
	1.4nm,0.2s						
KOTS				*e*S	**Sg**	**18 19 44.2**	**-0.5**
	16nm,0.4s						
MDOK	**Medeo**	**2.06**	**289**	Pg	**Pb**	**18 19 16.1**	**-0.8**
	3.1nm,0.6s						
MDOK				⇓Lg	Lg	18 19 43.5	
	6.2nm,0.7s						
MDOK	**Medeo**	**2.06**	**289**	*e*P	**Pb**	**18 19 17.0**	**+0.1**
	baz=88						
MDOK				*e*S	**Sb**	**18 19 43.7**	**+1.0**
	baz=88						
MDOK	**Medeo**	**2.06**	**289**	*e*P	**Pb**	**18 19 16.9**	**+0.1**
	4.4nm,0.5s						
MDOK				*e*S	**Sb**	**18 19 43.6**	**+1.0**
	5.8nm,0.3s						
TNSS	**Tian-Shan**	**2.10**	**285**	Pg	**Pb**	**18 19 18.4**	**+0.7**
TNSS				Lg	Lg	18 19 46.2	
TNSS	**Tian-Shan**	**2.10**	**285**	*e*P	**Pb**	**18 19 18.4**	**+0.7**
	baz=84						
TNSS				*e*S	**Sg**	**18 19 46.2**	**-0.6**
	baz=84						
TNSS	**Tian-Shan**	**2.10**	**285**	*e*P	**Pb**	**18 19 18.4**	**+0.7**
	2.3nm,0.2s						
TNSS				*e*S	**Sg**	**18 19 46.2**	**-0.6**
	6.0nm,0.4s						
ARXS	**Arharly**	**2.17**	**321**	Pg	**Pb**	**18 19 18.3**	**-0.4**
	1.6nm,0.2s						
ARXS				Lg	Lg	18 19 46.6	
	11nm,0.4s						
ARXS	**Arharly**	**2.17**	**321**	*e*P	**Pb**	**18 19 18.3**	**-0.4**
	1.6nm,0.2s						
ARXS				*e*S	**Sb**	**18 19 46.5**	**+0.9**
	11nm,0.4s						
IZV	**Izvestkoviy**	**2.34**	**283**	Pg	**Pb**	**18 19 21.8**	**+0.2**
IZV				Lg	Lg	18 19 52.1	
IZV	**Izvestkoviy**	**2.34**	**283**	*e*P	**Pb**	**18 19 21.8**	**+0.2**
	baz=83						
IZV				*e*S	**Sb**	**18 19 52.2**	**+1.5**
	baz=83						
IZV	**Izvestkoviy**	**2.34**	**283**	*e*P	**Pb**	**18 19 21.8**	**+0.2**
	1.6nm,0.2s						
IZV				*e*S	**Sb**	**18 19 52.1**	**+1.5**
	6.9nm,0.2s						
CHKK	**Chushkaly**	**2.39**	**304**	Pg	**Pb**	**18 19 22.1**	**-0.3**
CHKK				Lg	Lg	18 19 52.6	
CHKK	**Chushkaly**	**2.39**	**304**	*e*P	**Pb**	**18 19 22.1**	**-0.3**
	baz=4.0						
CHKK				*e*S	**Sb**	**18 19 52.6**	**+0.6**
	baz=4.0						
CHKK	**Chushkaly**	**2.39**	**304**	*e*P	**Pb**	**18 19 22.1**	**-0.3**
	0.9nm,0.1s						
CHKK				*e*S	**Sb**	**18 19 52.6**	**+0.6**
	7.9nm,0.2s						
ULHL	**Ulahol**	**2.59**	**265**	⇑*i*P	**Pb**	**18 19 25.8**	**-0.2**
	baz=64						
ULHL				⇑*i*S	**Sb**	**18 19 57.9**	**-0.1**
	baz=64						
KAPS	**Kapalarasan**	**2.76**	**355**	*e*P	**Pb**	**18 19 29.1**	**+0.4**
KAPS				*e*S	**Sb**	**18 20 04.4**	**+1.7**
	7.5nm,0.4s						
BOOM	**Boomskoye usch**	**2.79**	**270**	⇑*i*P	**Pb**	**18 19 27.9**	**-1.5**
	baz=70						
BOOM				⇑*i*S	**Sb**	**18 20 02.1**	**-1.6**
	baz=70						
KUU	**Kurty**	**2.82**	**300**	*e*P	**Pb**	**18 19 30.0**	**+0.3**
	baz=99						
KUU				⇓*i*S	**Sb**	**18 20 05.9**	**+1.6**
	baz=99						
KUU	**Kurty**	**2.82**	**300**	*e*P	**Pb**	**18 19 30.0**	**+0.3**
	0.5nm,0.1s						
KUU				⇓*i*S	**Sb**	**18 20 05.9**	**+1.6**
	2.4nm,0.4s						
DGS	**Degeres**	**2.98**	**285**	Pg	**Pb**	**18 19 32.7**	**+0.1**
DGS				Lg	Lg	18 20 11.1	
DGS	**Degeres**	**2.98**	**285**	*e*P	**Pb**	**18 19 32.7**	**+0.1**
	baz=84						
DGS				*e*S	**Sb**	**18 20 11.1**	**+1.9**
	baz=84						
DGS	**Degeres**	**2.98**	**285**	*e*P	**Pb**	**18 19 32.7**	**+0.1**
	1.4nm,0.3s						
DGS				*e*S	**Sb**	**18 20 11.1**	**+1.9**
	7.1nm,0.4s						
TKM2	**Tokmak 2**	**3.06**	**279**	⇑Pg	**Pb**	**18 19 34.4**	**+0.4**
	2.0nm,0.9s						
TKM2				⇓Lg	Lg	18 20 13.8	
	1.0nm,0.3s						
TKM2	**Tokmak 2**	**3.06**	**279**	⇑*i*P	**Pb**	**18 19 31.8**	**-2.1**
	baz=78						
TKM2				⇑*i*S	**Sb**	**18 20 08.7**	**-2.8**
	baz=78						

*ISCJB **31** 18:22:59.0±0.8, 15°.84S±0°.10×75°.2W±0°.1, h26km, mb3.8/6,*
MS3.2/2, Error ellipse: s-maj=21.8km s-min=6.4km
az=143.7
*IDC **31** 18:22:58.2±1.2, 15°.51S×75°.04W, h0km, mb3.8/5,*
mb1 4.0/9, mb1mx3.8/41, mbtmp3.9/9, ML3.5/4, MS2.9/5,
Ms1 3.0/5, ms1mx2.8/28, Error ellipse: s-maj=39.5km
s-min=14.6km az=49.0
*NEIC **31** 18:23:00.2±3.4, 15°.66S×75°.10W, h18km±21km, mb4.4/1,*
Error ellipse: s-maj=15.6km s-min=8.5km az=57.0

ISC 31 18:22:60.0±0.8, 15°.70S±0°.09×75°.2W±0°.1, h26km, n35,
σ2s58/28, mb3.9/6, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.04**	**336**	Pn	**Pn**	**18 24 00.5**	**+0.3**
	2.2nm,0.3s,baz=169,slow=10,SNR=2.9						
NNA				Pg	**Pb**	**18 24 08.6**	**-1.9**
	6.1nm,0.3s,baz=164,slow=7.8,SNR=6.8						
NNA				Sn	**Sb**	**18 24 52.1**	**-6.8**
	13nm,0.3s,baz=141,slow=17,SNR=2.7						
NNA				LR	LR	18 24 59.0	
	comp=Z,45nm,20.2s,baz=140,slow=31						
NNA				Lg	Lg	18 25 01.5	
	12nm,0.3s,baz=84,slow=12,SNR=5.0						
MNMC	**Minye Minye**	**6.31**	**124**	*e*Pn	**Pn**	**18 24 33.2**	**+1.7**
PB11	**IPOC Station P**	**6.61**	**128**	*e*Pn	**Pn**	**18 24 35.8**	**0.0**
LPAZ	**La Paz**	**6.78**	**96**	Pn	**Pn**	**18 24 40.2**	**+1.9**
	0.2nm,0.3s,baz=268,slow=7.2,SNR=3.8						
LPAZ				Sn	Sn	18 26 04.8	+10
	baz=170,slow=25,SNR=1.3						
LPAZ				LR	LR	18 27 54.5	
	comp=Z,110nm,18.4s,baz=284,slow=44						
LPAZ	**La Paz**	**6.78**	**96**	*e*Pn	**Pn**	**18 24 41.5**	**+3.1**
LPAZ				Sn	Sn	18 26 04.8	+10
PB01	**IPOC Station P**	**7.56**	**136**	*e*Pn	**Pn**	**18 24 49.4**	**+0.7**
LVC	**Limon Verde**	**9.06**	**140**	Pn	**Pn**	**18 25 11.3**	**+1.9**
	3.8nm,0.3s,baz=310,slow=8.8,SNR=20						
LVC				Pg		18 25 43.7	
	1.9nm,0.3s,baz=318,slow=10,SNR=5.2						
LVC				Sn	**Sn**	**18 26 44.9**	**-5.9**
	0.6nm,0.3s,baz=100,slow=16,SNR=1.7						
LVC				Lg	Lg	18 27 48.8	
	0.4nm,0.3s,baz=140,slow=18,SNR=3.8						
LVC				LR	LR	18 28 26.6	
	comp=Z,71nm,21.6s,baz=336,slow=36						
LVC	**Limon Verde**	**9.06**	**140**	*e*Pn	**Pn**	**18 25 10.6**	**+1.1**
LVC				*e*		18 25 43.7	
LVC				*e*Sn	**Sn**	**18 26 44.9**	**-5.9**
LVC				Lg	Lg	18 27 48.9	
ATAH	**Atahualpa**	**9.08**	**339**	Pn	Pn	18 25 19.5	+10
	0.1nm,0.3s,baz=150,slow=8.1,SNR=1.8						
ATAH				Sn	Sn	18 27 06.7	+15
	0.6nm,0.3s,baz=136,slow=18,SNR=1.9						
GO02	**Mina Guanaco**	**10.76**	**152**	*e*Pn	**Pn**	**18 25 32.9**	**+0.1**
SIV	**San Ignacio**	**13.55**	**93**	Pn	**Pn**	**18 26 10.3**	**-0.3**
	0.3nm,0.3s,baz=312,slow=14,SNR=4.3						
ROSC	**El Rosal**	**20.42**	**2**	LR	LR	18 37 21.2	
	comp=Z,62nm,18.5s,baz=245,slow=43						
PTGA	**Pitinga**	**21.11**	**47**	P	**P**	**18 27 42.3**	**-0.6**
	0.8nm,0.3s,baz=132,slow=12,SNR=2.4						
LTX	**Lajitas**	**52.56**	**328**	*e*P	**P**	**18 32 13.6**	**+2.0**
TXAR	**Lajitas Array**	**52.56**	**328**	P	**P**	**18 32 13.6**	**+2.0**
	0.3nm,0.6s,baz=144,slow=11,SNR=4.6						
TXAR				LR	LR	18 52 28.5	
	comp=Z,27nm,19.2s,baz=0.0,slow=34						
SDCO	**Great Sand Dun**	**60.33**	**333**	*e*P	P	18 32 59.8	-7.3
	3.4nm,1.0s						
ULM	**Lac du Bonnet**	**68.15**	**346**	P	**P**	**18 33 58.7**	**+1.0**
	1.4nm,0.7s,baz=154,slow=6.8,SNR=3.6						
TOA1	**Torodi Ar. Sit**	**81.21**	**74**	*e*P	**P**	**18 35 15.3**	**+1.1**
TOA0	**Torodi Ar. Sit**	**81.21**	**74**	*e*P	**P**	**18 35 13.5**	**-0.7**
TORD	**Torodi Ar. Bea**	**81.21**	**74**	P	**P**	**18 35 15.3**	**+1.1**
	2.1nm,0.7s,baz=257,slow=5.0,SNR=14						
YKA	**Yellowknife Ar**	**83.85**	**343**	P	**P**	**18 35 28.5**	**+1.6**
	0.3nm,0.7s,baz=138,slow=5.6,SNR=6.0						
H11N3	**WAKE ISLAND Hyl**	**21.02**	**284**	T	T	20 54 39.7	
	baz=97,slow=74,SNR=5.4						
H11N2	**WAKE ISLAND Hyl**	**21.03**	**284**	T	T	20 54 39.4	
	baz=97,slow=74,SNR=9.9						
H11N1	**WAKE ISLAND Hyl**	**21.04**	**284**	T	T	20 54 37.5	

PKIN	**Phulchoki**	**7.30**	**224**	*e*P		**Pn**	**18 38 59.3**	**+0.8**
	4.3nm,0.5s							
DANN	**Dangsing**	**7.82**	**236**	*e*P		**Pn**	**18 39 06.4**	**+0.7**
PYUN	**Piuthan**	**8.51**	**237**	*e*P		**Pn**	**18 39 13.1**	**-2.0**
MKAR	**Makanchi Array**	**15.33**	**337**	Pn		**Pn**	**18 40 47.4**	**-0.4**
	0.0nm,0.3s,baz=152,slow=15,SNR=2.0							
WRA	**Warramunga Arr**	**66.92**	**136**	P		**P**	**18 48 02.3**	**-0.9**
	0.4nm,0.8s,baz=328,slow=6.1,SNR=2.0							
ASAR	**Alice Springs**	**69.59**	**138**	P		**P**	**18 48 19.9**	**+0.1**
	0.4nm,0.7s,baz=324,slow=6.1,SNR=6.4							
ILAR	**Eielson Array**	**72.63**	**22**	P		**P**	**18 48 37.9**	**+0.2**
	0.7nm,0.9s,baz=292,slow=5.0,SNR=5.3							
YKA	**Yellowknife Ar**	**82.62**	**12**	P		**P**	**18 49 34.0**	**+0.6**
	0.2nm,0.6s,baz=328,slow=5.2,SNR=3.0							

MEX 31 18:44:48.6±0.3, 17°.30N×101°.61W, *h*6km±5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZIIG	**Zihuatanejo**	**0.33**	**24**	*i* P		Pg	18 44 54.8	-0.3
ZIIG				*i* S		Sg	18 44 59.6	+0.1
CAIG	**El Cayaco**	**1.30**	**101**	*e*P		Pn	18 45 09.7	-3.6
CAIG				*e*S		Sb	18 45 25.9	-4.6
ARIG	**Puente Sto Nin**	**1.54**	**51**	*e*P		Pn	18 45 13.1	-3.6
ARIG				*i* S		Sn	18 45 32.2	-4.8
MEIG	**Mezcala**	**1.99**	**72**	*i* P		Pn	18 45 19.0	-3.9
MEIG				*i* S		Sn	18 45 44.0	-4.3
PLIG	**Platanillo**	**2.28**	**61**	*e*P		Pn	18 45 23.4	-3.5
PLIG				*i* S		Sn	18 45 50.3	-5.0

*ISCJB **31** 18:55:10.1±1.1, 31°.25S±0°.03×68°.62W±0°.06, h115km±8km, Error ellipse: s-maj=9.2km s-min=5.3km az=176.3*
*SJA **31** 18:55:10.0±0.7, 31°.26S×68°.65W, h109km±4km, ML3.0, MW4.0*
*GUC **31** 18:55:10.0±0.6, 31°.24S×69°.01W, h169km±18km, ML3.2*
ISC 31 18:55:11.0±2.4, 31°.25S±0°.04×68°.63W±0°.10, h109km±15km, n18, σ0°.61/29, 1C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RTLL	**Cerro Villicun**	**0.16**	**121**	*i* P		**Pn**	**18 55 25.7**	**-0.5**
RTLL	**Cerro Villicun**	**0.16**	**121**	IAML			18 55 38.0	
	comp=E,815nm,0.4s							
AMOG	**MOGNA**	**0.33**	**21**	*i* P		**Pn**	**18 55 26.8**	**0.0**
AMOG				*i* S		**Sn**	**18 55 38.6**	**-0.2**
CFA	**Coronel Fontan**	**0.49**	**137**	*i* P		**Pn**	**18 55 27.3**	**-0.4**
CFA				*i* S		**Sn**	**18 55 40.0**	**-0.2**
RTCV	**Cerro Valdivia**	**0.62**	**173**	*i* P		**Pn**	**18 55 28.1**	**-0.5**
RTCV				*i* S		**Sn**	**18 55 41.9**	**0.0**
ACCO	**Cerro Coronel**	**0.76**	**330**	*i* P		**Pn**	**18 55 30.2**	**+0.1**
ACCO				*i* S		**Sn**	**18 55 45.8**	**+1.3**
RTLS	**Leoncito**	**0.79**	**226**	*i* P		**Pn**	**18 55 30.2**	**-0.2**
RTLS				IAML			18 55 45.1	
	comp=Z,288nm,0.2s							
RTLS				*i* S		**Sn**	**18 55 45.3**	**+0.3**
ACDV	**Cuesta del Vie**	**1.16**	**339**	*i* P		**Pn**	**18 55 34.0**	**+0.1**
AUSP	**Uspallata**	**1.17**	**213**	*i* P		**Pn**	**18 55 34.0**	**-0.1**
AUSP				*i* S		**Sn**	**18 55 52.3**	**+0.5**
AROD	**Rodeo**	**1.30**	**326**	*i* P		**Pn**	**18 55 36.2**	**+0.5**
AROD				*i* S		**Sn**	**18 55 55.0**	**+0.5**
ASAL	**Salagasta**	**1.35**	**187**	*i* P		**Pn**	**18 55 35.8**	**-0.2**
ASAL				*i* S		**Sn**	**18 55 55.6**	**+0.6**
CMCH	**Combarbala**	**2.03**	**272**	*e*P		**Pn**	**18 55 43.6**	**-0.8**
CMCH				*i* S		**Sn**	**18 56 09.5**	**-0.5**
GO04	**Tololo Observa**	**2.15**	**299**	⇑*e*P		**Pn**	**18 55 45.9**	**-0.2**
GO04				*i* S		**Sn**	**18 56 12.8**	**-0.2**
GO04				IAML			18 56 17.4	
	comp=N,535nm,0.3s							
FCH	**Farellones**	**2.50**	**214**	*e*P		**Pn**	**18 55 51.3**	**+0.6**
FCH				*i* S		**Sn**	**18 56 23.0**	**+1.8**
FCH				IAML			18 56 29.0	
	comp=E,44nm,0.2s							
PEL	**Peldehue**	**2.57**	**222**	*i* S		**Sn**	**18 56 22.0**	**-0.3**
PEL				IAML			18 56 23.7	
	comp=E,37nm,0.2s							
ROCH	**El Roble**	**2.65**	**229**	*e*P		**Pn**	**18 55 52.0**	**-0.5**
ROCH				*i* S		**Sn**	**18 56 24.0**	**-0.4**
ROCH				IAML			18 56 27.7	
	comp=N,59nm,0.5s							
LCO	**Las Campanas**	**2.86**	**321**	*e*P		**Pn**	**18 55 55.2**	**-0.2**
LCO				*i* S		**Sn**	**18 56 29.1**	**-0.4**
LCO				IAML			18 56 31.3	
	comp=E,92nm,0.3s							
LMEL	**Las Melosas**	**2.91**	**207**	IAML			18 56 41.8	
	comp=N,31nm,0.3s							

GUC 31 18:55:40.5±0.7, 22°.07S×68°.55W, h129km±4km, ML3.6, 7C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LVC	**Limon Verde**	**0.63**	**212**	*e*P		Pn	18 56 00.1	-0.6
LVC				*i* S		Sn	18 56 14.6	-1.5
PB09	**IPOC Station P**	**0.70**	**293**	⇑*i*P		Pn	18 56 00.9	-0.1
PB09				*i* S		Sn	18 56 16.1	-0.3
PB03	**IPOC Station P**	**1.11**	**271**	⇑*i*P		Pn	18 56 04.3	-0.3
PB03				*i* S		Sn	18 56 22.4	-0.5
PB03				IAML			18 56 23.6	
	comp=E,1μm,0.4s							
PB06	**IPOC Station P**	**1.14**	**236**	⇑*i*P		Pn	18 56 04.8	0.0
PB06				*i* S		Sn	18 56 23.0	-0.2
PB06				IAML			18 56 23.5	
	comp=E,931nm,0.4s							
PB07	**IPOC Station P**	**1.29**	**285**	⇑*i*P		Pn	18 56 06.3	0.0
PB07				*i* S		Sn	18 56 25.4	-0.6
PB07				IAML			18 56 26.4	
	comp=E,2μm,0.4s							
PB01	**IPOC Station P**	**1.34**	**319**	⇑*i*P		Pn	18 56 06.4	-0.5
PB01				*i* S		Sn	18 56 26.1	-0.9
PB01				IAML			18 56 28.5	
	comp=N,852nm,0.2s							
PB04	**IPOC Station P**	**1.50**	**260**	⇑*i*P		Pn	18 56 08.6	-0.2
PB04				*i* S		Sn	18 56 29.7	-0.5
PB04				IAML			18 56 32.8	
	comp=N,889nm,0.2s							
PB05	**IPOC Station P**	**1.71**	**243**	⇓*i*P		Pn	18 56 11.1	0.0
PB05				*i* S		Sn	18 56 33.6	-0.9
PB05				IAML			18 56 36.1	
	comp=E,298nm,0.4s							
PB08	**IPOC Station P**	**2.00**	**344**	⇑*i*P		Pn	18 56 15.5	+0.6
PB08				*i* S		Sn	18 56 41.5	+0.4
PB08				IAML			18 56 42.8	
	comp=E,271nm,0.7s							
PB10	**IPOC Station P**	**2.34**	**232**	*e*P		Pn	18 56 18.8	+0.1
PB11	**IPOC Station P**	**2.52**	**336**	⇓*i*P		Pn	18 56 20.4	-0.8
PB11				*i* S		Sn	18 56 50.9	-1.4
MNMC	**Minye Minye**	**3.09**	**341**	*e*P		Pn	18 56 28.4	-0.1
MNMC				*i* S		Sn	18 57 05.6	+0.1
MNMC				IAML			18 57 11.9	
	comp=E,217nm,0.1s							
GO02	**Mina Guanaco**	**3.22**	**197**	*e*P		Pn	18 56 30.3	0.0

*SOME **31** 19:06:01.6, 42°.50N×79°.63E, h20km*
*NNC **31** 19:06:01.3±0.9, 42°.56N×79°.59E, h0km, mb3.2, mpv3.1, Error ellipse: s-maj=5.9km s-min=3.1km az=139.0*
*KRNET **31** 19:06:02.0±0.1, 42°.57N×79°.61E, h22km, mb3.0*
ISC 31 19:06:01.3±1.5, 42°.54N±0°.04×79°.62E±0°.04, h2km±10km, n52, σ0°.94/91, 15C-15D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHLS	**Shalkode**	**0.63**	**349**	P		**Pg**	**19 06 14.4**	**+1.0**
	76nm,0.1s							
SHLS				S		**Sg**	**19 06 23.6**	**+2.0**
	72nm,0.2s							
SHLS	**Shalkode**	**0.63**	**349**	⇓*e*P		**Pg**	**19 06 14.4**	**+1.0**
	baz=19							
SHLS				⇓*e*S		**Sg**	**19 06 23.6**	**+2.0**
	baz=19							
SHLS	**Shalkode**	**0.63**	**349**	⇓*e*P		**Pg**	**19 06 14.4**	**+1.0**
	76nm,0.1s							
SHLS				*e*S		**Sg**	**19 06 23.6**	**+2.0**
	72nm,0.2s							
UZB	**Uzynbulak**	**0.75**	**324**	P		**Pg**	**19 06 15.5**	**-0.3**
	16nm,0.1s							
UZB				S		**Sg**	**19 06 25.8**	**+0.3**
	34nm,0.2s							
UZB	**Uzynbulak**	**0.75**	**324**	⇓*e*P		**Pg**	**19 06 15.5**	**-0.3**
	baz=23							
UZB				⇓*e*S		**Sg**	**19 06 25.8**	**+0.3**
	baz=23							
UZB	**Uzynbulak**	**0.75**	**324**	⇓*e*P		**Pg**	**19 06 15.5**	**-0.3**
	16nm,0.1s							
UZB				*e*S		**Sg**	**19 06 25.8**	**+0.3**
	34nm,0.2s							
PDGK	**Podgornoye**	**0.80**	**353**	P		**Pg**	**19 06 16.2**	**-0.4**
	10nm,0.2s							
PDGK				S		**Sg**	**19 06 27.0**	**+0.1**
	3.8nm,0.2s							
PDGK	**Podgornoye**	**0.80**	**353**	⇑P		**Pg**	**19 06 16.2**	**-0.4**
	6.9nm,0.3s							
PDGK				⇑S		**Sg**	**19 06 26.9**	**-0.1**
	5.0nm,0.3s							
PDGK	**Podgornoye**	**0.80**	**353**	⇓*i*P		**Pg**	**19 06 16.2**	**-0.4**
	baz=53							
PDGK				⇓*i*S		**Sg**	**19 06 26.9**	**-0.1**
	baz=53							
PRZ	**Przheval'sk**	**0.91**	**267**	⇑*i*P		**Pg**	**19 06 18.6**	**-0.1**
	baz=65							
PRZ				⇑*i*S		**Sg**	**19 06 31.2**	**+0.8**
	baz=65							
SATY	**Saty**	**1.04**	**301**	P		**Pg**	**19 06 20.9**	**-0.2**
	2.4nm,0.1s							
SATY				S		**Sg**	**19 06 34.3**	**-0.3**
	34nm,0.1s							
SATY	**Saty**	**1.04**	**301**	⇑*e*P		**Pg**	**19 06 20.9**	**-0.2**
	2.4nm,0.1s							
SATY				*e*S		**Sg**	**19 06 34.3**	**-0.3**
	34nm,0.1s							
KTMS	**Ketmen**	**1.05**	**30**	P		**Pg**	**19 06 21.1**	**-0.4**
KTMS				S		**Sg**	**19 06 35.2**	**0.0**
KTMS	**Ketmen**	**1.05**	**30**	*e*P		**Pg**	**19 06 21.2**	**-0.4**
	baz=31							
KTMS				*e*S		**Sg**	**19 06 35.2**	**0.0**
	baz=31							
KTMS	**Ketmen**	**1.05**	**30**	*e*P		**Pg**	**19 06 21.1**	**-0.4**
	11nm,0.1s							
KTMS				*e*S		**Sg**	**19 06 35.2**	**0.0**
	17nm,0.2s							
KURS	**Kuram**	**1.43**	**312**	P		**Pn**	**19 06 27.8**	**-0.4**
	1.4nm,0.2s							
KURS				S		**Sn**	**19 06 46.4**	**-1.3**
	5.3nm,0.2s							
KURS	**Kuram**	**1.43**	**312**	⇑*e*P		**Pn**	**19 06 27.9**	**-0.4**
	baz=11							
KURS				⇑*e*S		**Sn**	**19 06 46.4**	**-1.3**
	baz=11							
KURS	**Kuram**	**1.43**	**312**	⇑*e*P		**Pn**	**19 06 27.9**	**-0.4**
	1.4nm,0.2s							
KURS				*e*S		**Sn**	**19 06 46.4**	**-1.3**
	5.3nm,0.2s							
MNBS	**Baschi**	**1.78**	**330**	P		**Pn**	**19 06 33.8**	**+0.6**
	5.1nm,0.1s							
MNBS				S		**Sb**	**19 06 57.3**	**-0.3**
	62nm,0.3s							
MNBS	**Baschi**	**1.78**	**330**	⇓*e*P		**Pn**	**19 06 33.8**	**+0.6**
	5.1nm,0.1s							
MNBS				*e*S		**Sb**	**19 06 57.2**	**-0.3**
	62nm,0.3s							
DJR	**Jarkent**	**1.80**	**4**	⇑*i*P		**Pn**	**19 06 34.0**	**+0.6**
	2.3nm,0.2s							
DJR				*e*S		**Sn**	**19 06 57.4**	**+0.5**
	6.9nm,0.3s							
KDJ	**Kajisay**	**1.86**	**258**	⇓*i*P		**Pb**	**19 06 35.6**	**-0.4**
	baz=57							
KDJ				⇓*e*S		**Sb**	**19 06 59.4**	**-0.3**
	baz=57							
KOTS	**Kotyrbulak**	**1.97**	**292**	Pg		**Pb**	**19 06 37.2**	**-0.8**
	4.3nm,0.2s							
KOTS				Lg		Lg	19 07 03.1	
	36nm,0.4s							
KOTS	**Kotyrbulak**	**1.97**	**292**	*e*P		**Pb**	**19 06 37.2**	**-0.8**
	baz=91							
KOTS				*e*S		**Sb**	**19 07 03.1**	**0.0**
	baz=91							
KOTS	**Kotyrbulak**	**1.97**	**292**	*e*P		**Pb**	**19 06 37.2**	**-0.8**
	4.3nm,0.2s							
KOTS				*e*S		**Sb**	**19 07 03.0**	**0.0**
	36nm,0.4s							
MDOK	**Medeo**	**1.99**	**289**	Pg		**Pn**	**19 06 36.9**	**+0.7**
	1.2nm,0.2s							
MDOK				Lg		Lg	19 07 03.1	
	8.6nm,0.4s							
MDOK	**Medeo**	**1.99**	**289**	Pg		**Pb**	**19 06 37.2**	**-1.2**
	5.5nm,0.2s							
MDOK				Lg		Lg	19 07 03.2	
	15nm,0.4s							
MDOK	**Medeo**	**1.99**	**289**	*e*P		**Pb**	**19 06 37.2**	**-1.2**
	baz=88							
MDOK				*e*S		**Sb**	**19 07 03.2**	**-0.5**
	baz=88							
MDOK	**Medeo**	**1.99**	**289**	*e*P		**Pb**	**19 06 37.2**	**-1.2**
	5.5nm,0.2s							
MDOK				*e*S		**Sb**	**19 07 03.2**	**-0.5**
	15nm,0.4s							
TNSS	**Tian-Shan**	**2.03**	**285**	Pg		**Pn**	**19 06 37.7**	**+0.8**
	8.8nm,0.3s							
TNSS				Lg		Lg	19 07 04.6	
	16nm,0.3s							
TNSS	**Tian-Shan**	**2.03**	**285**	*e*P		**Pn**	**19 06 37.7**	**+0.8**
	8.8nm,0.3s							
TNSS				*e*S		**Sn**	**19 07 03.4**	**+0.4**
	16nm,0.3s							
ARXS	**Arharly**	**2.13**	**323**	Pg		**Pb**	**19 06 39.4**	**-1.2**
	3.7nm,0.5s							
ARXS				Lg		Lg	19 07 07.3	
	19nm,0.5s							
ARXS	**Arharly**	**2.13**	**323**	*e*P		**Pb**	**19 06 39.4**	**-1.2**
	3.7nm,0.5s							
ARXS				*e*S		**Sb**	**19 07 06.7**	**-0.7**
	18nm,0.6s							
IZV	**Izvestkoviy**	**2.27**	**284**	Pg		**Pb**	**19 06 42.5**	**-0.5**
IZV				Lg		Lg	19 07 12.1	
IZV	**Izvestkoviy**	**2.27**	**284**	*e*P		**Pb**	**19 06 42.5**	**-0.5**
	27nm,0.3s							
IZV				*e*S		**Sb**	**19 07 12.1**	**+0.5**
CHKK	**Chushkaly**	**2.33**	**305**	Pg		**Pb**	**19 06 43.2**	**-0.9**
	0.9nm,0.1s							
CHKK				Lg		Lg	19 07 13.0	
	22nm,0.3s							
CHKK	**Chushkaly**	**2.33**	**305**	*e*P		**Pb**	**19 06 43.2**	**-0.9**
	0.9nm,0.1s							
CHKK				*e*S		**Sb**	**19 07 13.0**	**-0.3**
	22nm,0.3s							
MTBS	**Maitube**	**2.42**	**285**	Pg		**Pb**	**19 06 45.1**	**-0.5**
	5.8nm,0.2s							
MTBS				Lg		Lg	19 07 16.3	
	13nm,0.3s							
MTBS	**Maitube**	**2.42**	**285**	*e*P		**Pb**	**19 06 45.1**	**-0.5**
	5.8nm,0.2s							
MTBS				*e*S		**Sb**	**19 07 16.4**	**+0.4**
	13nm,0.3s							
KTBS	**Karatobe**	**2.45**	**300**	Pg		**Pb**	**19 06 44.9**	**-1.2**
	1.7nm,0.2s							
KTBS				Lg		Lg	19 07 16.5	
	33nm,0.6s							
KTBS	**Karatobe**	**2.45**	**300**	*e*P		**Pb**	**19 06 44.9**	**-1.2**
	1.7nm,0.2s							
KTBS				*e*S		**Sb**	**19 07 16.5**	**-0.3**
	33nm,0.6s							
ULHL	**Ulahol**	**2.52**	**265**	⇑*i*P		**Pb**	**19 06 45.2**	**-2.2**
	baz=64							
ULHL				⇑*i*S		**Sb**	**19 07 16.2**	**-2.7**
	baz=64							
BOOM	**Boomskoye usch**	**2.72**	**270**	⇑*i*P		**Pn**	**19 06 47.5**	**+1.3**
	baz=70							
BOOM				⇑*i*S		**Sn**	**19 07 21.3**	**+1.6**
	baz=70							
KAPS	**Kapalarasan**	**2.75**	**356**	Pg		**Pb**	**19 06 50.6**	**-0.6**
KAPS				Lg		Lg	19 07 26.0	
KAPS	**Kapalarasan**	**2.75**	**356**	*e*P		**Pb**	**19 06 50.6**	**-0.6**
	1.3nm,0.2s							
KAPS				*e*S		**Sb**	**19 07 26.0**	**+0.5**
	4.2nm,0.2s							
KUU	**Kurty**	**2.76**	**301**	Pg		**Pb**	**19 06 51.0**	**-0.2**
KUU				Lg		Lg	19 07 26.3	
KUU	**Kurty**	**2.76**	**301**	*e*P		**Pb**	**19 06 50.9**	**-0.4**
	0.7nm,0.2s							
KUU				*e*S		**Sb**	**19 07 25.7**	**+0.2**
	16nm,0.2s							
DGS	**Degeres**	**2.92**	**285**	Pg		**Pb**	**19 06 53.4**	**-0.6**
	1.9nm,0.3s							
DGS				Lg		Lg	19 07 31.1	
	18nm,0.5s							
DGS	**Degeres**	**2.92**	**285**	*e*P		**Pb**	**19 06 53.4**	**-0.6**
	1.9nm,0.3s							
DGS				*e*S		**Sb**	**19 07 31.1**	**+0.9**
	18nm,0.5s							
TKM2	**Tokmak 2**	**2.99**	**279**	⇓Pg		**Pb**	**19 06 52.6**	**-2.8**
	1.3nm,0.5s							
TKM2				⇓Lg		Lg	19 07 33.1	
	4.5nm,0.3s							
TKM2	**Tokmak 2**	**2.99**	**279**	⇑*i*P		**Pn**	**19 06 51.6**	**+1.7**
	baz=78							
TKM2				⇑*i*S		**Sn**	**19 07 27.5**	**+1.1**
	baz=78							
KZA	**Kyzart**	**3.27**	**263**	⇓*i*P		**Pn**	**19 06 55.8**	**+1.8**
	baz=63							
KZA				⇓*i*S		**Sn**	**19 07 34.6**	**+0.9**
	baz=63							

*SOME **31** 19:08:33.4, 42°.48N×79°.72E, h20km*
*NNC **31** 19:08:33.9±0.7, 42°.60N×79°.66E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=4.7km s-min=2.6km az=138.0*
*KRNET **31** 19:08:34.4±0.1, 42°.61N×79°.62E, h17km, mb3.6*
*ISCJB **31** 19:08:35.3±0.7, 42°.62N±0°.03×79°.80E±0°.04, h10km, Error ellipse: s-maj=5.7km s-min=3.0km az=139.7*
ISC 31 19:08:33.8±1.1, 42°.58N±0°.04×79°.65E±0°.03, h10km, n63, σ1s22/109, 31C-15D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHLS	**Shalkode**	**0.60**	**347**	P		**Pb**	**19 08 46.0**	**-0.4**
	694nm,0.1s							
SHLS				S		**Sb**	**19 08 55.0**	**+0.1**
	246nm,0.2s							
SHLS	**Shalkode**	**0.60**	**347**	⇓*e*P		**Pb**	**19 08 46.0**	**-0.4**
	baz=19							
SHLS				⇓*e*S		**Sb**	**19 08 55.1**	**+0.1**
	baz=19							
SHLS	**Shalkode**	**0.60**	**347**	⇓*e*P		**Pb**	**19 08 46.0**	**-0.4**
	694nm,0.1s							
SHLS				*e*S		**Sb**	**19 08 55.0**	**+0.1**
	246nm,0.2s							
UZB	**Uzynbulak**	**0.73**	**321**	P		**Pb**	**19 08 48.1**	**-0.7**
	20nm,0.2s							
UZB				S		**Sb**	**19 08 58.3**	**-0.5**
	339nm,0.2s							
UZB	**Uzynbulak**	**0.73**	**321**	⇑*e*P		**Pb**	**19 08 48.2**	**-0.6**
	baz=21							
UZB				⇑*e*S		**Sb**	**19 08 58.4**	**-0.5**
	baz=21							
UZB	**Uzynbulak**	**0.73**	**321**	⇑*e*P		**Pb**	**19 08 48.2**	**-0.6**
	20nm,0.2s							
UZB				*e*S		**Sb**	**19 08 58.3**	**-0.5**
	339nm,0.2s							
PDGK	**Podgornoye**	**0.76**	**351**	P		**Pb**	**19 08 48.3**	**-1.0**
	48nm,0.2s							
PDGK				S		**Sb**	**19 08 58.8**	**-0.9**
	66nm,0.2s							
PDGK	**Podgornoye**	**0.76**	**351**	⇓P		**Pb**	**19 08 48.2**	**-1.0**
	36nm,0.4s							
PDGK				⇓S		**Sb**	**19 08 58.6**	**-1.1**
	88nm,0.4s							
PDGK	**Podgornoye**	**0.76**	**351**	⇑*i*P		**Pb**	**19 08 48.2**	**-1.0**
	baz=52							
PDGK				⇑*i*S		**Sb**	**19 08 58.6**	**-1.1**
	baz=52							
PRZ	**Przheval'sk**	**0.93**	**265**	⇑*i*P		**Pn**	**19 08 51.9**	**-1.2**
	baz=63							
PRZ				⇑*i*S		**Sn**	**19 09 05.4**	**-1.1**
	baz=63							
KTMS	**Ketmen**	**1.01**	**31**	P		**Pb**	**19 08 52.5**	**-1.0**
	41nm,0.1s							
KTMS				S		**Sg**	**19 09 05.7**	**-0.8**
	51nm,0.1s							
KTMS	**Ketmen**	**1.01**	**31**	*e*P		**Pg**	**19 08 52.3**	**-0.9**
	41nm,0.1s							
KTMS				*e*S		**Sg**	**19 09 05.7**	**-0.8**
	51nm,0.1s							
SATY	**Saty**	**1.03**	**298**	P		**Pb**	**19 08 53.5**	**-0.3**
SATY				S		**Sb**	**19 09 07.7**	**+0.2**
SATY	**Saty**	**1.03**	**298**	⇓*e*P		**Pb**	**19 08 53.5**	**-0.3**
	27nm,0.1s							
SATY				*e*S		**Sb**	**19 09 07.7**	**+0.2**
	235nm,0.2s							
KURS	**Kuram**	**1.42**	**311**	P		**Pg**	**19 09 00.3**	**-0.6**
	12nm,0.5s							
KURS				S		**Sg**	**19 09 19.7**	**+0.3**
	41nm,0.2s							
KURS	**Kuram**	**1.42**	**311**	⇑*e*P		**Pg**	**19 09 00.4**	**-0.6**
	baz=10.0							
KURS				⇑*e*S		**Sg**	**19 09 19.7**	**+0.3**
	baz=10.0							
KURS	**Kuram**	**1.42**	**311**	⇑*e*P		**Pg**	**19 09 00.3**	**-0.6**
	12nm,0.5s							
KURS				*e*S		**Sg**	**19 09 19.7**	**+0.3**
	41nm,0.2s							
MNBS	**Baschi**	**1.76**	**329**	P		**Pb**	**19 09 06.1**	**0.0**
	31nm,0.3s							
MNBS				S		**Sg**	**19 09 29.4**	**-0.8**
	198nm,0.2s							
MNBS	**Baschi**	**1.76**	**329**	⇓*e*P		**Pb**	**19 09 06.2**	**0.0**
	31nm,0.3s							
MNBS				*e*S		**Sg**	**19 09 29.4**	**-0.8**
	198nm,0.2s							
DJR	**Jarkent**	**1.76**	**3**	P		**Pb**	**19 09 05.9**	**-0.3**
	15nm,0.3s							
DJR				S		**Sg**	**19 09 29.5**	**-0.8**
	32nm,0.3s							
DJR	**Jarkent**	**1.76**	**3**	*e*P		**Pb**	**19 09 05.9**	**-0.3**
	15nm,0.3s							
DJR				*e*S		**Sg**	**19 09 29.5**	**-0.8**
	32nm,0.3s							
KDJ	**Kajisay**	**1.88**	**257**	⇑*i*P		**Pb**	**19 09 09.6**	**-0.3**
	baz=56							
KDJ				⇑*i*S		**Sg**	**19 09 35.1**	**+0.8**
	baz=56							
KOTS	**Kotyrbulak**	**1.98**	**290**	Pg		**Pg**	**19 09 10.8**	**-0.9**
	24nm,0.2s							
KOTS				Lg		Lg	19 09 38.1	
	191nm,0.2s							
KOTS	**Kotyrbulak**	**1.98**	**290**	*e*P		**Pg**	**19 09 10.8**	**-0.9**
	24nm,0.2s							
KOTS				*e*S		**Sg**	**19 09 38.1**	**+0.8**
	191nm,0.2s							
MDOK	**Medeo**	**2.00**	**288**	Pg		**Pb**	**19 09 10.2**	**-0.1**
	18nm,0.5s							
MDOK				Lg		Lg	19 09 36.9	
	50nm,0.6s							
MDOK	**Medeo**	**2.00**	**288**	Pg		**Pb**	**19 09 10.3**	**0.0**
	28nm,0.2s

IZV	**Izvestkoviy**	**2.28**	**283**	*e*P		**Pb**	**19 09 15.4**	**+0.3**
	baz=82							
IZV				*e*S		**Sg**	**19 09 45.3**	**-1.7**
	baz=82							
IZV	**Izvestkoviy**	**2.28**	**283**	*e*P		**Pb**	**19 09 15.4**	**+0.3**
	56nm,0.2s							
IZV				*e*S		**Sg**	**19 09 45.3**	**-1.7**
	122nm,0.4s							
CHKK	**Chushkaly**	**2.33**	**304**	Pg		**Pb**	**19 09 16.2**	**+0.4**
	5.2nm,0.2s							
CHKK				Lg		Lg	19 09 46.4	
	145nm,0.2s							
CHKK	**Chushkaly**	**2.33**	**304**	*e*P		**Pb**	**19 09 16.2**	**+0.4**
	5.2nm,0.2s							
CHKK				*e*S		**Sg**	**19 09 46.4**	**-2.1**
	145nm,0.2s							
MTBS	**Maitube**	**2.43**	**284**	Pg		**Pb**	**19 09 17.6**	**-0.1**
	63nm,0.2s							
MTBS				Lg		Lg	19 09 50.5	
	85nm,0.4s							
MTBS	**Maitube**	**2.43**	**284**	*e*P		**Pb**	**19 09 18.1**	**+0.4**
	63nm,0.2s							
MTBS				*e*S		**Sg**	**19 09 50.5**	**-1.3**
	85nm,0.4s							
KTBS	**Karatobe**	**2.45**	**299**	Pg		**Pb**	**19 09 18.0**	**0.0**
	13nm,0.3s							
KTBS				Lg		Lg	19 09 50.2	
	82nm,0.4s							
KTBS	**Karatobe**	**2.45**	**299**	*e*P		**Pb**	**19 09 17.9**	**0.0**
	13nm,0.3s							
KTBS				*e*S		**Sg**	**19 09 50.2**	**-2.2**
	82nm,0.4s							
ULHL	**Ulahol**	**2.54**	**264**⇑	*i*P		**Pb**	**19 09 18.6**	**-1.0**
	baz=63							
ULHL			⇑	*i*S		**Sb**	**19 09 51.4**	**+0.3**
	baz=63							
TDK	**Taldyqorghan**	**2.59**	**340**	*e*P		**Pb**	**19 09 20.1**	**-0.2**
	42nm,0.5s							
TDK				*e*S		**Sg**	**19 09 54.4**	**-2.4**
	131nm,0.4s							
KAPS	**Kapalarasan**	**2.72**	**356**	*e*P		**Pb**	**19 09 22.2**	**-0.3**
	12nm,0.3s							
KAPS				*e*S		**Sg**	**19 09 57.9**	**-3.1**
	24nm,0.4s							
BOOM	**Boomskoye usch**	**2.74**	**269**⇑	*i*P		**Pb**	**19 09 21.4**	**-1.6**
	baz=69							
BOOM			⇑	*i*S		**Sb**	**19 09 55.9**	**-0.8**
	baz=69							
KST	**Kastek**	**2.75**	**281**	Pg		**Pb**	**19 09 23.5**	**+0.3**
	30nm,0.2s							
KST				Lg		Lg	19 09 59.7	
	39nm,0.3s							
KST	**Kastek**	**2.75**	**281**	*e*P		**Pb**	**19 09 23.5**	**+0.3**
	30nm,0.2s							
KST				*e*S		**Sg**	**19 09 59.6**	**-2.5**
	39nm,0.3s							
KUU	**Kurty**	**2.75**	**300**	Pg		**Pb**	**19 09 23.0**	**-0.1**
KUU				Lg		Lg	19 09 59.0	
KUU	**Kurty**	**2.75**	**300**	*e*P		**Pb**	**19 09 23.0**	**-0.1**
	6.5nm,0.4s							
KUU				*e*S		**Sb**	**19 09 59.0**	**+2.1**
	53nm,0.3s							
DGS	**Degeres**	**2.92**	**284**	Pg		**Pb**	**19 09 26.1**	**0.0**
	36nm,0.4s							
DGS				Lg		Lg	19 10 03.9	
	68nm,0.5s							
DGS	**Degeres**	**2.92**	**284**	*e*P		**Pb**	**19 09 26.1**	**0.0**
	36nm,0.4s							
DGS				*e*S		**Sb**	**19 10 03.9**	**+2.0**
	68nm,0.5s							
NRN	**Naryn**	**2.95**	**248**⇑	*e*P		**Pb**	**19 09 25.0**	**-1.6**
	baz=48							
NRN			⇑	*i*S		**Sb**	**19 10 02.0**	**-0.8**
	baz=48							
TKM2	**Tokmak 2**	**3.00**	**278**	⇑Pn		**Pb**	**19 09 24.8**	**-2.7**
	5.3nm,0.4s							
TKM2				⇓Lg		Lg	19 10 07.5	
	35nm,0.6s							
TKM2	**Tokmak 2**	**3.00**	**278**⇑	*i*P		**Pb**	**19 09 25.1**	**-2.4**
	baz=77							
TKM2			⇑	*i*S		**Sb**	**19 10 02.7**	**-1.6**
	baz=77							
AAK	**Ala-Archa**	**3.80**	**273**	⇑Pg		**Pb**	**19 09 43.0**	**+1.9**
	4.0nm,0.4s							
AAK				⇑Lg		Lg	19 10 33.7	
	16nm,0.6s							
ARLS	**Aral**	**4.02**	**262**⇑	*i*P		**Pn**	**19 09 39.4**	**+3.9**
	baz=61							
ARLS			⇑	*i*S		**Sn**	**19 10 26.7**	**+4.0**
	baz=61							
MAKZ	**Makanchi**	**4.54**	**21**	⇓Pn		**Pn**	**19 09 44.5**	**+1.9**
	1.3nm,0.2s							
MAKZ				⇑Sn		**Sn**	**19 10 37.4**	**+1.9**
	0.9nm,0.2s							
MAKZ				⇓Lg		Lg	19 10 56.7	
	2.1nm,0.5s							
MK31	**Makanchi Array**	**4.62**	**23**	⇑Pn		**Pn**	**19 09 45.6**	**+1.9**
	0.6nm,0.3s,baz=205,slow=13,SNR=37							
MK31				⇓Pg		**Pb**	**19 09 55.8**	**+0.9**
	0.5nm,0.3s,baz=202,slow=13,SNR=4.0							
MK31				⇑Sn		**Sn**	**19 10 37.7**	**+0.4**
	0.8nm,0.3s,baz=187,slow=16,SNR=5.1							
MK31				⇑Lg		Lg	19 10 58.3	
	1.9nm,0.4s,baz=198,slow=26,SNR=5.4							
MNAS	**Manas**	**5.28**	**271**	⇓Pg		**Pg**	**19 10 11.4**	**-3.5**
	1.7nm,0.5s							
MNAS				⇓Lg		Lg	19 11 22.4	
	4.2nm,0.6s							
KK31	**Karatay Array**	**6.74**	**278**	⇓Pg		Pg	19 10 36.6	-6.2
	0.7nm,0.6s,baz=86,slow=16,SNR=13							
KK31				⇑Lg		Lg	19 12 08.3	
	2.1nm,0.4s,baz=95,slow=27,SNR=5.5							

*TIF **31** 19:11:19.4, 42°.36N×40°.99E, h42km±2km*
*NORS **31** 19:11:20.6±0.0, 42°.49N×41°.26E, h9km, MPVA3.5*
*MOS **31** 19:11:20.6±0.0, 42°.44N×41°.07E, h5km, MPVA3.8*
*ISK **31** 19:11:20.3, 42°.28N×40°.94E, h12km±1km, ML3.0/5*
*DDA **31** 19:11:28.7, 41°.52N×40°.89E, h7km±7km, ML3.0*

ISC 31 19:11:18.0±1.1, 42°.36N±0°.02×41°.00E±0°.02, h9km±10km, n51, σ0s90/87, 1C-1D, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
BATM	**Batumi**	**0.92**	**145**	PG		**Pn**	**19 11 37.4**		**+0.4**
BATM				SG		**Sn**	**19 11 50.7**		**+0.3**
BATM	**Batumi**	**0.92**	**145**	P		**Pn**	**19 11 37.6**		**+0.5**
BATM				S		**Sn**	**19 11 51.0**		**+0.6**
BCA	**Borcka**	**1.03**	**153**	PG		**Pn**	**19 11 39.1**		**+0.5**
BCA				SG		**Sn**	**19 11 53.1**		**0.0**
DOMR	**Dombai**	**1.04**	**26***c*	*i*PG		**Pn**	**19 11 39.0**		**+0.2**
DOMR	**Dombai**	**1.04**	**26**	*i* Pg		**Pn**	**19 11 39.0**		**+0.2**
DOMR				*e*Sg		**Sb**	**19 11 51.8**		**-0.1**
DBOC	**Borcka**	**1.14**	**154**	IAML_P					
	comp=Z,2μm,0.1s								
DBOC				*i* P		**Pn**	**19 11 40.8**		**+0.8**
DBOC				*i* S		**Sn**	**19 11 56.1**		**+0.4**
ARXR	**Arkhyz**	**1.22**	**10**	*e*Pg		**Pn**	**19 11 41.5**		**+0.3**
ARXR				*e*Sg		**Sb**	**19 11 57.0**		**0.0**
CHOM	**Cayeli-Rize**	**1.28**	**188**	PN		**Pg**	**19 11 43.0**		**+0.5**
CHOM				SN		**Sn**	**19 11 59.9**		**+0.7**
CHAY	**Cayeli-Rize**	**1.29**	**189**	PN		**Pg**	**19 11 43.7**		**+0.9**
ARTV	**Artvin**	**1.37**	**149**	*i* P		**Pg**	**19 11 44.9**		**+0.6**
RPOR	**Krasnaya Polya**	**1.44**	**338**	*e*PG		**Pg**	**19 11 46.1**		**+0.6**
RPOR				*e*S		**Sg**	**19 12 04.0**		**-0.2**
RPOR	**Krasnaya Polya**	**1.44**	**338**	*e*Pg		**Pg**	**19 11 46.1**		**+0.6**
RPOR				*e*Sg		**Sg**	**19 12 04.8**		**+0.6**
DBAD	**Bademkaya**	**1.44**	**159**	*i* P		**Pg**	**19 11 45.3**		**-0.3**
DAGI	**Agillar**	**1.46**	**152**	*i* P		**Pg**	**19 11 45.7**		**-0.2**
DAGI				*i* S		**Sb**	**19 12 04.1**		**+0.2**
SOC	**Sochi**	**1.54**	**323**	*e*PG		**Pg**	**19 11 47.5**		**+0.1**
SOC				*e*			19 12 09.1		
SOC				pmax		pmax			
	comp=Z,36nm,0.3s								
SOC				smax		smax			
	comp=E,318nm,0.2s								
SOC				smax		smax			
	comp=N,240nm,0.2s								
SOC	**Sochi**	**1.54**	**323**	*e*Pg		**Pg**	**19 11 47.6**		**+0.1**
SOC				*e*Sg		**Sg**	**19 12 09.1**		**+1.7**
NEY	**Neytrino**	**1.55**	**55**	*e*PG		**Pb**	**19 11 46.8**		**-0.1**
NEY				pmax		pmax			
	comp=Z,45nm,0.4s								
NEY	**Neytrino**	**1.55**	**55**	*e*Pg		**Pb**	**19 11 46.5**		**-0.4**
NEY				*e*Sg		**Sn**	**19 12 06.3**		**+0.1**
DDEM	**Demirkent**	**1.58**	**159**	IAML_P					
	comp=Z,2μm,0.1s								
DDEM				*i* P		**Pg**	**19 11 47.8**		**-0.3**
KTUT	**Trabzon**	**1.66**	**214**	PN		**Pb**	**19 11 48.8**		**+0.2**
MACK	**Trabzon**	**1.69**	**213**	*i* P		**Pb**	**19 11 49.0**		**-0.2**
SHA1	**Shidzhatmaz**	**1.83**	**41**	*i* PN		**Pb**	**19 11 52.2**		**+0.4**
SHA1				*e*S		**Sb**	**19 12 15.8**		**+0.8**
SHA1	**Shidzhatmaz**	**1.83**	**41**	*i* Pg		**Pb**	**19 11 52.2**		**+0.4**
SHA1				*e*Sg		**Sb**	**19 12 15.8**		**+0.8**
LZRR	**Lazarevskoye**	**1.97**	**324**	*e*Pg		**Pb**	**19 11 54.3**		**+0.4**
LZRR				*e*Sg		**Sg**	**19 12 21.7**		**+0.6**
DIGR	**Digorskoe uzhe**	**1.98**	**73**	*e*PN		**Pb**	**19 11 54.2**		**-0.1**
DIGR				pmax		pmax			
	comp=Z,7.0nm,0.3s								
DIGR	**Digorskoe uzhe**	**1.98**	**73**	*e*Pg		**Pb**	**19 11 54.0**		**-0.3**
DIGR				*e*Sg		**Sb**	**19 12 18.1**		**-1.0**
KIV	**Kislovodsk**	**2.02**	**37**	*e*PN		**Pb**	**19 11 55.2**		**+0.4**
KIV				*e*S		**Sb**	**19 12 20.4**		**+0.4**
KIV0	**Kislovodsk Arr**	**2.02**	**37**	*e*Pg		**Pb**	**19 11 55.1**		**+0.3**
KIV0				*e*Sg		**Sb**	**19 12 20.8**		**+0.7**
BAYT	**Aydıntepe-Bayb**	**2.07**	**198**	PN		**Pb**	**19 11 55.1**		**-0.7**
BEYR	**Belyy Ugol+**	**2.12**	**38**	*e*PN		**Pg**	**19 11 57.4**		**-1.2**
BEYR				*e*S		**Sb**	**19 12 23.7**		**+0.8**
BEYR	**Belyy Ugol+**	**2.12**	**38**	*e*Pg		**Pg**	**19 11 57.4**		**-1.2**
BEYR				*e*Sg		**Sb**	**19 12 23.7**		**+0.8**
BAYB	**BAYBURT**	**2.18**	**195**	*i* P		**Pg**	**19 12 00.8**		**+1.2**
ZEI	**Tsey**	**2.19**	**78**	*e*PN		**Pb**	**19 11 57.3**		**-0.5**
ZEI				pmax		pmax			
	comp=Z,5.0nm,0.2s								
ZEI	**Tsey**	**2.19**	**78**	*e*Pg		**Pb**	**19 11 58.6**		**+0.8**
ZEI				*e*Sg		**Sb**	**19 12 25.4**		**+0.3**
NCK	**Nalchik**	**2.22**	**58**	*e*PN		**Pb**	**19 11 58.0**		**-0.2**
NCK				*e*S		**Sb**	**19 12 25.8**		**0.0**
NCK	**Nalchik**	**2.22**	**58**	*e*Pg		**Pb**	**19 11 58.0**		**-0.2**
NCK				*e*Sg		**Sb**	**19 12 25.8**		**0.0**
LSNR	**Lesken**	**2.27**	**65**	*e*PN		**Pg**	**19 12 01.0**		**-0.5**
LSNR				*e*S		**Sg**	**19 12 29.4**		**-1.6**
LSNR	**Lesken**	**2.27**	**65**	*i* Pg		**Pb**	**19 11 59.6**		**+0.5**
LSNR				*e*Sg		**Sb**	**19 12 27.9**		**+0.5**
KBTC	**Kuba-Taba**	**2.29**	**50**	*e*PN		**Pb**	**19 11 58.6**		**-0.8**
KBTC				*e*S		**Sb**	**19 12 26.9**		**-0.9**
KBTC	**Kuba-Taba**	**2.29**	**50**	*e*Pg		**Pb**	**19 11 58.6**		**-0.8**
KBTC				*e*Sg		**Sb**	**19 12 26.9**		**-0.9**
PYA1	**Pyatigorsk**	**2.29**	**41**	*e*PN		**Pb**	**19 11 58.6**		**-0.8**
PYA1				*e*S		**Sb**	**19 12 26.7**		**-1.1**
PYA1	**Pyatigorsk**	**2.29**	**41**	*e*Pg		**Pb**	**19 11 58.6**		**-0.8**
PYA1				*e*Sg		**Sb**	**19 12 26.7**		**-1.1**
KORR	**Kora**	**2.38**	**71**	*e*Pn		**Pg**	**19 12 04.8**		**+1.4**
KORR				*i* Sn		**Sg**	**19 12 33.9**		**-0.3**
LACR	**Lac**	**2.48**	**78**	*e*PN		**Pb**	**19 12 02.2**		**-0.5**
LACR				*e*S		**Sb**	**19 12 33.6**		**+0.2**
LACR	**Lac**	**2.48**	**78**	*e*Pn		**Pb**	**19 12 03.3**		**+0.5**
LACR				*e*Sn		**Sb**	**19 12 33.3**		**-0.1**
KELT	**Kelkit**	**2.57**	**211**	*i* P		**Pb**	**19 12 02.8**		**-1.6**
KELT				*i* S		**Sb**	**19 12 34.6**		**-1.5**
ALER	**Alexandrovskoy**	**2.77**	**30**	*e*Pn		**Pg**	**19 12 10.7**		**-0.4**
ALER				*e*Sn		**Sg**	**19 12 44.6**		**-2.4**
SUSE	**Susehri**	**3.01**	**225**	*i* P		**Pb**	**19 12 09.4**		**-2.4**
GOF	**Gofitskoye**	**3.08**	**28**	*e*PN		**Pb**	**19 12 11.0**		**-1.8**
GOF				*e*S		**Sg**	**19 12 58.9**		**+2.2**
GOF				pmax		pmax			
	comp=Z,5.0nm,0.6s								
GOF				smax		smax			
	comp=E,30nm,0.7s								
ANN	**Anapa**	**3.55**	**314**	*e*PN		**Pb**	**19 12 20.7**		**-0.2**
ANN				*e*			19 13 01.7		
ANN				pmax		pmax			
	comp=Z,5.0nm,0.6s								
ANN				smax		smax			
	comp=N,11nm,0.5s								
ANN	**Anapa**	**3.55**	**314**	*e*Pn		**Pb**	**19 12 22.0**		**+1.1**
ANN				*e*Sn		**Sb**	**19 13 01.0**		**-3.1**

MEX 31 19:17:37.0±0.4, 16°.06N×98°.28W, h1km±3km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
PNIG	**Pinotepa**	**0.36**	**24**	*e*P		Pg	19 17 43.8		-0.1
PNIG				*e*S		Sg	19 17 48.9		+0.2

*ISCJB **31** 19:45:40.0±0.2, 26°.43N±0°.05×126°.43E±0°.04, h109km±3km, mb4.3/37, Error ellipse: s-maj=8.8km s-min=3.4km az=146.1*
*BJI **31** 19:45:39.2, 26°.27N×126°.54E, h106km, mb4.2/24, mB4.6/15*
*JMA **31** 19:45:41.5±0.2, 26°.42N×126°.45E, h102km±2km, M3.7*
*NEIC **31** 19:45:41.3±0.5, 26°.41N×126°.36E, h108km±5km, mb4.5/17, Error ellipse: s-maj=8.2km s-min=5.2km az=147.0*
NEIC Felt at Yomitan-son.
*IDC **31** 19:45:41.5±1.8, 26°.51N×126°.39E, h105km±16km, mb3.9/20, mb1 4.0/21, mb1mx3.8/46, mbtmp4.3/21, MS2.9/3, Ms1 2.9/3, ms1mx2.4/46, Error ellipse: s-maj=16.0km s-min=14.8km az=9.0*

ISC 31 19:45:41.4±0.6, 26°.40N±0°.06×126°.46E±0°.05, h106km±6km, n107, σ1s21/131, mb4.4/43, 6C, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
JKE	**Kume jima 2**	**0.30**	**103**	P		**Pn**	**19 45 56.6**		**-0.1**
JKE				S		**Sn**	**19 46 07.4**		**-0.7**
JAGN	**Aguni-jima**	**0.72**	**74**	P		**Pn**	**19 45 59.5**		**0.0**
JAGN				S		**Sn**	**19 46 12.7**		**-0.5**
JJT3	**Tamagusuku3**	**1.21**	**102**	P		**Pn**	**19 46 05.4**		**+0.8**
JJT3				S		**Sn**	**19 46 23.3**		**+1.2**
JNTH	**Nagotoyohara**	**1.40**	**85**	P		**Pn**	**19 46 07.1**		**+0.3**
JNTH				*e*S		**Sn**	**19 46 25.3**		**-0.8**
JIH	**Iheya**	**1.49**	**64**	P		**Pn**	**19 46 08.2**		**+0.4**
JIH				S		**Sn**	**19 46 26.9**		**-1.0**
JOW	**Kunigami**	**1.68**	**75**	P		**Pn**	**19 46 10.4**		**+0.3**
	5.0nm,0.3s,baz=146,slow=11,SNR=36								
JOW				S		**Sn**	**19 46 31.3**		**-0.8**
	105nm,0.3s,baz=104,slow=16,SNR=65								
JOW	**Kunigami**	**1.68**	**75**	*e*Pn		**Pn**	**19 46 09.8**		**-0.3**
JOW				S		**Sn**	**19 46 31.3**		**-0.8**
JOW	**Kunigami**	**1.68**	**75**	P		**Pn**	**19 46 10.2**		**0.0**
JOW				S		**Sn**	**19 46 30.8**		**-1.3**
JIKM	**Ikemajima**	**1.83**	**217**	P		**Pn**	**19 46 12.3**		**+0.2**
JIKM				S		**Sn**	**19 46 35.0**		**-0.4**
JYRO	**Yoronjima**	**1.89**	**70**	P		**Pn**	**19 46 12.6**		**-0.1**
JYRO				S		**Sn**	**19 46 35.1**		**-1.5**
JOGS	**Gusukube**	**1.89**	**211**	P		**Pn**	**19 46 13.2**		**+0.4**
JOGS				S		**Sn**	**19 46 36.7**		**0.0**
JMJ	**Miyako jima 2**	**1.90**	**214**	P		**Pn**	**19 46 13.2**		**+0.3**
JMJ				S		**Sn**	**19 46 36.6**		**-0.4**
JIRB	**Irabujima**	**1.95**	**217**	P		**Pn**	**19 46 13.2**		**-0.3**
JIRB				S		**Sn**	**19 46 36.9**		**-1.1**
JOKE	**Okinoerabujima**	**2.12**	**62**	P		**Pn**	**19 46 15.5**		**-0.2**
JOKE				S		**Sn**	**19 46 40.3**		**-1.6**
JTJ	**Tarama**	**2.36**	**223**	P		**Pn**	**19 46 18.7**		**-0.2**
JTJ				S		**Sn**	**19 46 45.6**		**-2.0**
YOJ	**Yonaguni jima**	**3.67**	**239**	*e*Pn		**Pn**	**19 46 35.9**		**-0.3**
TATO	**Taipei**	**4.71**	**254**	*e*Pn		**Pn**	**19 46 51.3**		**+1.1**
YHNB	**Yeheng**	**4.91**	**251**	*e*Pn		**Pn**	**19 46 53.5**		**+0.5**
NACB	**Ninganchiao**	**4.93**	**244**	*e*Pn		**Pn**	**19 46 52.1**		**-1.1**
YULB	**Yu-li**	**5.56**	**239**	*e*Pn		**Pn**	**19 46 58.9**		**-2.9**
SSLB	**Suanglung**	**5.63**	**244**	*e*Pn		**Pn**	**19 47 01.5**		**-1.3**
TWG	**Pinlang**	**6.06**	**235**	*e*Pn		**Pn**	**19 47 05.4**		**-3.2**
TPUB	**Ta-pu**	**6.13**	**241**	*e*Pn		**Pn**	**19 47 08.4**		**-1.1**
JNU	**Nakatsue**	**7.72**	**29**	P		**Pn**	**19 47 32.2**		**+1.1**
	3.2nm,0.3s,baz=284,slow=2.8,SNR=32								
JNU	**Nakatsue**	**7.72**	**29**	*e*Pn		**Pn**	**19 47 31.6**		**+0.5**
NJ2	**Nanjing**	**8.71**	**312**	*e*P		**Pn**	**19 47 46.8**		**+2.3**
NJ2				pmax		pmax			
	comp=Z,24nm,0.6s								
KSAR	**Wonju Array Be**	**11.08**	**6**	P		**Pn**	**19 48 19.1**		**+2.5**
KSRS	**Korea Array**	**11.10**	**6**	P		**Pn**	**19 48 19.1**		**+2.3**
	0.3nm,0.3s,baz=182,slow=13,SNR=10								
MJAR	**Matsushiro Arr**	**14.23**	**42**	LR		LR	19 54 33.6		
	comp=Z,24nm,19.2s,baz=315,slow=38								
MDJ	**Mudanjiang**	**18.36**	**7**	P		**Pn**	**19 49 48.8**		**-0.1**
MDJ				pmax		pmax			
	comp=Z,7.0nm,1.3s								
MDJ				pmax		pmax			
	comp=Z,150nm,4.1s								
HHC	**Hu-ho-hao-te**	**18.98**	**323**	*e*P		**P**	**19 49 54.8**		**+0.2**
HHC				pmax		pmax			
	comp=Z,17nm,0.7s								
HHC				pmax		pmax			
	comp=Z,240nm,8.7s								

CD2	**Chengdu**	**20.42**	**288**	*e*P		**P**	**19 50 09.0**	**-1.2**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,120nm,4.6s							
LZH	**Lanzhou**	**21.57**	**302**	*e*P		**P**	**19 50 21.8**	**-0.9**
LZH				pP		pP	19 50 43.0	+0.2
LZH				sP		sP	19 50 58.5	+2.4
LZH				pmax		pmax		
	comp=Z,23nm,1.2s							
KLR	**Kul'dur**	**23.16**	**9**	LR		LR	19 59 08.8	
	comp=Z,22nm,18.8s,baz=226,slow=35							
GTA	**Gaotai**	**25.76**	**307**	P		**P**	**19 51 01.3**	**-1.0**
GTA				pP		pP	19 51 23.8	-1.5
GTA				sP		sP	19 51 36.5	-1.1
SONA0	**Songino Array**	**26.57**	**329**	*e*P		**P**	**19 51 08.5**	**-1.0**
SONA0				*e*PcP		**PcP**	**19 54 32.6**	**+1.3**
SONM	**Songino Array**	**26.57**	**329**	P		**P**	**19 51 08.5**	**-1.0**
	1.4nm,0.4s,baz=147,slow=10,SNR=18							
SONM				PcP		**PcP**	**19 54 32.6**	**+1.3**
	0.3nm,0.6s,baz=141,slow=4.9,SNR=2.9							
SONA1	**Songino Array**	**26.58**	**329**	*e*P		**P**	**19 51 08.2**	**-1.4**
CMAR	**Chiang Mai Arr**	**26.60**	**258**	P		**P**	**19 51 10.7**	**+0.8**
	1.0nm,0.9s,baz=54,slow=7.9,SNR=7.6							
CMAR				PcP		**PcP**	**19 54 33.0**	**+1.3**
	0.3nm,0.8s,baz=50,slow=1.4,SNR=4.3							
PETK	**Petropavlovsk-**	**35.40**	**33**	P		**P**	**19 52 26.3**	**-0.5**
	5.0nm,0.9s,baz=224,slow=10.0,SNR=4.0							
PETK				LR		LR	20 09 46.1	
	comp=Z,36nm,18.4s,baz=67,slow=41							
PEA1	**Petropavlovsk-**	**35.40**	**33**	*e*P		**P**	**19 52 26.3**	**-0.6**
WMQ	**Urumqi**	**35.78**	**309**	*e*P		**P**	**19 52 32.0**	**+1.7**
WMQ				pP		pP	19 52 56.0	+2.1
WMQ				LR		LR		
	comp=N,68nm,16.1s							
WMQ				LR		LR		
	comp=E,94nm,17.7s							
WMQ				LR		LR		
	comp=Z,79nm,17.7s							
JIRN	**Jiri**	**35.79**	**281**	*e*P		**P**	**19 52 31.2**	**+0.3**
	3.3nm,0.4s							
GUN	**Gumba**	**36.03**	**282**	*e*P		**P**	**19 52 33.0**	**0.0**
	4.9nm,0.4s							
PKI	**Pulchoki**	**36.49**	**281**	*e*P		**P**	**19 52 35.7**	**-1.2**
PKIN	**Phulchoki**	**36.50**	**281**	*e*P		**P**	**19 52 35.6**	**-1.3**
	3.1nm,0.4s							
KKN	**Kakani**	**36.57**	**282**	*e*P		**P**	**19 52 37.1**	**-0.3**
	5.5nm,0.6s							
DMN	**Daman**	**36.75**	**281**	*e*P		**P**	**19 52 38.8**	**-0.2**
DANN	**Dangsing**	**37.83**	**283**	*e*P		**P**	**19 52 48.0**	**-0.2**
	12nm,0.6s							
PYUN	**Piuthan**	**38.54**	**283**	*e*P		**P**	**19 52 53.8**	**-0.2**
	8.7nm,0.8s							
MK01	**Makanchi Array**	**40.23**	**312**	*e*P		**P**	**19 53 05.9**	**-1.7**
MK31	**Makanchi Array**	**40.24**	**312**	*e*P		**P**	**19 53 06.3**	**-1.4**
MK31				*e*PcP		**PcP**	**19 55 10.5**	**+0.9**
MK32	**Makanchi Array**	**40.24**	**312**	*e*P		**P**	**19 53 06.5**	**-1.3**
MKAR	**Makanchi Array**	**40.24**	**312**	P		**P**	**19 53 06.5**	**-1.3**
	2.1nm,0.5s,baz=98,slow=11,SNR=58							
MKAR				PcP		**PcP**	**19 55 09.8**	**+0.2**
	0.9nm,0.5s,baz=90,slow=2.1,SNR=13							
MKAR	**Makanchi Array**	**40.24**	**312**	*e*P		**P**	**19 53 06.3**	**-1.4**
	15nm,0.6s							
MKAR				PcP		**PcP**	**19 55 09.8**	**+0.2**
MAKZ	**Makanchi**	**40.46**	**312**	*e*P		**P**	**19 53 08.2**	**-1.3**
	5.3nm,1.4s							
ZAA0	**Zalesovo Array**	**41.16**	**323**	*e*P		**P**	**19 53 13.5**	**-1.6**
	3.7nm,0.5s							
ZALV	**Zalesovo Beam**	**41.16**	**323**	P		**P**	**19 53 13.9**	**-1.2**
	3.4nm,0.4s,baz=115,slow=8.7,SNR=22							
ZALV				PcP		**PcP**	**19 55 11.9**	**-0.4**
	0.4nm,0.4s,baz=139,slow=2.2,SNR=3.6							
ZALV	**Zalesovo Beam**	**41.16**	**323**	*e*P		**P**	**19 53 13.3**	**-1.8**
ZALV				PcP		**PcP**	**19 55 11.9**	**-0.4**
ZAA1	**Zalesovo Array**	**41.16**	**323**	*e*P		**P**	**19 53 13.9**	**-1.2**
ZAA1				*e*PcP		**PcP**	**19 55 11.9**	**-0.4**
KURK	**Kurchatov**	**43.61**	**317**	*e*P		**P**	**19 53 33.5**	**-1.5

ellipse: s-maj=35.7km s-min=27.1km az=84.0
*ISCJB **31** 19:49:27.0±0.9,3°.56S±0°.06×126°.85E±0°.06,h10km,*
mb3.5/2,Error ellipse: s-maj=9.2km s-min=8.1km az=27.6
*DJA **31** 19:49:30.2±1.1,3°.5S±7°×12°.7E±°,h10km,M3.3/4,mb3.9/1,*
MLv3.0/4

ISC 31 19:49:28.4±1.1,**3°.50S**±0°.08×**126°.80E**±0°.07,**h10**km,**n6,**
σ1§**39**/9,**Buru**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.40**	**48**	P			**Pg**	**19 49 35.5**	**-0.7**
NLAI				S			**Sg**	**19 49 39.7**	**-1.8**
SANI	**Sanana**	**1.66**	**331**	P			**Pn**	**19 49 57.5**	**-0.1**
SANI				S			**Sn**	**19 50 20.6**	**+1.7**
SIJI	**Sorong**	**5.17**	**60**	Pn			**Pn**	**19 50 47.3**	**+1.4**
	4.1nm,0.3s,baz=240,slow=11,SNR=17								
SIJI				Sn			**Sn**	**19 51 47.4**	**+1.7**
	0.9nm,0.3s,baz=56,slow=22,SNR=6.8								
WRA	**Warramunga Arr**	**17.92**	**156**	P			**Pn**	**19 53 37.5**	**-0.4**
	0.1nm,0.3s,baz=338,slow=12,SNR=9.7								
ASAR	**Alice Springs**	**21.19**	**162**	P			**P**	**19 54 14.1**	**-0.2**
	2.7nm,0.9s,baz=342,slow=9.4,SNR=16								
MKAR	**Makanchi Array**	**63.58**	**327**	P			**P**	**19 59 59.2**	**-0.2**
	0.2nm,0.6s,baz=126,slow=4.4,SNR=2.7								

MAN 31 19:54:05.1,9°.68N×122°.19E,h33km,mb4.4,ML3.2,MS3.0,
3C,Negros

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**1.02**	**23**	*e*P			Pn	19 54 22.4	-0.7
GUIM				*e*S			Sn	19 54 36.1	-0.2
JAP	**San Jose, Anti**	**1.08**	**347**	⇑*e*P			Pb	19 54 25.0	-0.4
SNPH	**Sibulan**	**1.09**	**108**	⇑*i*P			Pn	19 54 23.6	-0.5
SNPH				*i* S			Sn	19 54 37.8	-0.3
CUYO	**Cuyo Island**	**1.64**	**315**	*e*P			Pn	19 54 32.2	+0.5
CUYO				*e*S			Sn	19 54 52.4	+0.8
IPIL	**Ipil**	**1.92**	**169**	*e*P			Pn	19 54 36.8	+1.2
IPIL				*e*S			Sn	19 54 58.4	-0.2
RCP	**Roxas**	**1.94**	**16**	⇑*e*P			Pn	19 54 37.7	+1.8
RCP				*e*S			Sb	19 55 02.2	-1.6
MSLP	**Maasin**	**2.67**	**80**	*e*P			Pn	19 54 46.9	+1.1
MSLP				*e*S			Sn	19 55 18.8	+1.7
SJMP	**San Jose**	**2.96**	**339**	*e*P			Pn	19 54 50.1	+0.4
SJMP				*e*S			Sn	19 55 24.7	+0.6
BUSP	**Coron**	**3.02**	**320**	*e*P			Pn	19 54 51.4	+0.7
BUSP				*e*S			Sn	19 55 24.9	-0.9

DDA 31 19:56:13.2,39°.14N×29°.36E,h7km±1km,ML2.4,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.11**	**120**	IAML_P					
	comp=Z,10μm,0.1s								
GDZ				*i* P			Pg	19 56 17.0	+1.3
GDZ				*i* S			Sg	19 56 18.0	+0.6
DEMI	**Demirci**	**0.51**	**259**	IAML_P					
	comp=Z,546nm,0.1s								
DEMI				*i* P			Pg	19 56 23.6	+0.5
DEMI				*i* S			Sb	19 56 31.3	-0.9
KHAL	**Karahalli**	**0.78**	**172**	IAML_P					
	comp=Z,582nm,0.1s								
KHAL				*i* P			Pg	19 56 28.2	0.0
DURS	**Dursunbey**	**0.83**	**304**	IAML_P					
	comp=Z,389nm,0.1s								
DURS				*i* P			Pb	19 56 30.4	+0.4
DURS				*i* S			Sn	19 56 44.7	+0.9
MANT	**Manisa**	**0.91**	**224**	IAML_P					
	comp=Z,404nm,0.1s								
MANT				*i* P			Pb	19 56 31.2	-0.2
BORA	**Eskisehir**	**1.12**	**49**	*i* P			Pg	19 56 34.3	-0.4

*SOME **31** 20:00:14.5,42°.70N×79°.12E,h10km*
*NNC **31** 20:00:15.1±0.7,42°.77N×79°.13E,h0km,mb2.7,mpv2.4,*
Error ellipse: s-maj=5.3km s-min=1.7km az=153.0
*KRNET **31** 20:00:15.6±0.1,42°.79N×79°.11E,h16km,mb2.3*

ISC 31 20:00:15.4±1.0,**42°.74N**±0°.04×**79°.09E**±0°.03,**h10**km,**n44,**
σ1§**23**/83,**16C-11D,Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.41**	**354**	P			**Pg**	**20 00 22.7**	**-0.9**
	2.0nm,0.1s								
UZB				S			**Sg**	**20 00 28.9**	**-0.3**
	12nm,0.1s								
UZB	**Uzynbulak**	**0.41**	**354**	⇓*e*P			**Pg**	**20 00 22.7**	**-0.9**
	baz=50								
UZB				⇓*e*S			**Sg**	**20 00 28.8**	**-0.3**
	baz=50								
UZB	**Uzynbulak**	**0.41**	**354**	⇓*e*P			**Pg**	**20 00 22.7**	**-0.9**
	2.0nm,0.1s								
UZB				*e*S			**Sg**	**20 00 28.8**	**-0.3**
	12nm,0.1s								
SHLS	**Shalkode**	**0.50**	**33**	P			**Pn**	**20 00 28.4**	**-0.4**
	3.9nm,0.2s								
SHLS				S			**Sb**	**20 00 38.5**	**+4.6**
	37nm,0.4s								
SHLS	**Shalkode**	**0.50**	**33**	⇓*e*P			**Pn**	**20 00 28.5**	**-0.3**
	baz=57								
SHLS				⇓*e*S			**Sb**	**20 00 38.5**	**+4.6**
	baz=57								
SHLS	**Shalkode**	**0.50**	**33**	⇓*e*P			**Pn**	**20 00 28.5**	**-0.3**
	3.9nm,0.2s								
SHLS				*e*S			**Sb**	**20 00 38.5**	**+4.6**
	37nm,0.4s								
PRZ	**Przheval'sk**	**0.56**	**244**	⇓*i*P			**Pb**	**20 00 27.4**	**-0.1**
	baz=39								
PRZ				⇓*i*S			**Sb**	**20 00 36.2**	**+0.5**
	baz=39								
SATY	**Saty**	**0.59**	**303**	P			**Pg**	**20 00 26.8**	**-0.1**
	1.3nm,0.1s								
SATY				S			**Sb**	**20 00 35.8**	**-0.7**
	16nm,0.2s								
SATY	**Saty**	**0.59**	**303**	*e*P			**Pg**	**20 00 26.9**	**-0.1**
	1.3nm,0.1s								
SATY				*e*S			**Sb**	**20 00 35.8**	**-0.7**
	16nm,0.2s								
PDGK	**Podgornoye**	**0.66**	**26**	P			**Pg**	**20 00 26.9**	**-1.4**
	0.5nm,0.2s								
PDGK				S			**Sg**	**20 00 36.0**	**-0.9**
	4.4nm,0.3s								
PDGK	**Podgornoye**	**0.66**	**26**	⇑P			**Pg**	**20 00 26.9**	**-1.4**
	1.5nm,0.4s								
PDGK				S			**Sg**	**20 00 36.0**	**-0.9**
	8.2nm,0.6s								
PDGK	**Podgornoye**	**0.66**	**26**	⇑*i*P			**Pg**	**20 00 26.9**	**-1.4**
	baz=27								
PDGK				⇑*i*S			**Sg**	**20 00 36.1**	**-0.9**
	baz=27								
KOTS	**Kotyrbulak**	**1.53**	**290**	P			**Pg**	**20 00 44.9**	**+0.2**
	1.0nm,0.3s								
KOTS				S			**Sg**	**20 01 06.8**	**+2.1**
	2.0nm,0.3s								
KOTS	**Kotyrbulak**	**1.53**	**290**	*e*P			**Pg**	**20 00 44.5**	**-0.3**
	baz=87								
KOTS				*e*S			**Sg**	**20 01 05.9**	**+1.3**
	baz=87								
KOTS	**Kotyrbulak**	**1.53**	**290**	*e*P			**Pg**	**20 00 44.5**	**-0.3**
	1.0nm,0.3s								
KOTS				*e*S			**Sg**	**20 01 05.9**	**+1.3**
	2.0nm,0.3s								
KDJ	**Kajisay**	**1.54**	**247**	⇓*i*P			**Pg**	**20 00 44.9**	**+0.1**
	baz=46								
KDJ				⇓*i*S			**Sg**	**20 01 06.2**	**+1.5**
	baz=46								
MDOK	**Medeo**	**1.56**	**287**	⇑P			**Pb**	**20 00 44.6**	**+0.2**
	1.0nm,0.5s								
MDOK				S			**Sb**	**20 01 04.6**	**+0.4**
	1.2nm,0.4s								
MDOK	**Medeo**	**1.56**	**287**	Pg			**Pb**	**20 00 44.6**	**+0.2**
MDOK				Lg			Lg	20 01 06.4	
MDOK	**Medeo**	**1.56**	**287**	*e*P			**Pn**	**20 00 43.6**	**+0.3**
	baz=85								
MDOK				*e*S			**Sb**	**20 01 04.9**	**+0.7**
	baz=85								
MDOK	**Medeo**	**1.56**	**287**	*e*P			**Pn**	**20 00 43.6**	**+0.3**
	0.3nm,0.1s								
MDOK				*e*S			**Sb**	**20 01 04.9**	**+0.7**
	2.3nm,0.4s								
TNSS	**Tian-Shan**	**1.60**	**282**	P			**Pb**	**20 00 45.1**	**-0.1**
	1.4nm,0.2s								
TNSS				S			**Sg**	**20 01 07.7**	**+0.9**
	1.5nm,0.3s								
TNSS	**Tian-Shan**	**1.60**	**282**	*e*P			**Pb**	**20 00 45.2**	**-0.1**
	baz=80								
TNSS				*e*S			**Sg**	**20 01 07.8**	**+0.9**
	baz=80								
TNSS	**Tian-Shan**	**1.60**	**282**	*e*P			**Pb**	**20 00 45.1**	**-0.1**
	1.4nm,0.2s								
TNSS				*e*S			**Sg**	**20 01 07.7**	**+0.9**
	1.5nm,0.3s								
DJR	**Jarkent**	**1.68**	**18**	P			**Pb**	**20 00 45.9**	**-0.5**
	0.4nm,0.2s								
DJR				S			**Sg**	**20 01 08.4**	**-0.8**
	3.0nm,0.2s								
DJR	**Jarkent**	**1.68**	**18**	*e*P			**Pb**	**20 00 45.9**	**-0.5**
	0.4nm,0.2s								
DJR				*e*S			**Sg**	**20 01 08.4**	**-0.8**
	3.0nm,0.2s								
ARXS	**Arharly**	**1.74**	**329**	P			**Pb**	**20 00 47.2**	**-0.3**
	1.2nm,0.2s								
ARXS				S			**Sg**	**20 01 10.7**	**-0.6**
	8.3nm,0.3s								
ARXS	**Arharly**	**1.74**	**329**	⇑*e*P			**Pb**	**20 00 47.3**	**-0.1**
	1.2nm,0.2s								
ARXS				*e*S			**Sg**	**20 01 10.7**	**-0.6**
	8.3nm,0.3s								
CHKK	**Chushkaly**	**1.90**	**307**	P			**Pb**	**20 00 50.2**	**+0.1**
	0.6nm,0.1s								
CHKK				S			**Sg**	**20 01 15.3**	**-1.0**
	6.5nm,0.2s								
CHKK	**Chushkaly**	**1.90**	**307**	*e*P			**Pb**	**20 00 50.1**	**0.0**
	baz=6.0								
CHKK				*e*S			**Sg**	**20 01 15.3**	**-1.0**
	baz=6.0								
CHKK	**Chushkaly**	**1.90**	**307**	*e*P			**Pb**	**20 00 50.1**	**0.0**
	0.6nm,0.1s								
CHKK				*e*S			**Sg**	**20 01 15.3**	**-1.0**
	6.5nm,0.2s								
ULHL	**Ulahol**	**2.16**	**258**	⇑*i*P			**Pb**	**20 00 55.2**	**+0.5**
	baz=57								
ULHL				⇑*i*S			**Sg**	**20 01 24.0**	**-0.8**
	baz=57								
KUU	**Kurty**	**2.31**	**301**	Pg			**Pb**	**20 00 57.4**	**+0.2**
	1.1nm,0.3s								
KUU				Lg			Lg	20 01 28.3	
	4.4nm,0.4s								
KUU	**Kurty**	**2.31**	**301**	*e*P			**Pb**	**20 00 57.4**	**+0.2**
	baz=0.0								
KUU				*e*S			**Sg**	**20 01 28.3**	**-1.4**
	baz=0.0								
KUU	**Kurty**	**2.31**	**301**	*e*P			**Pb**	**20 00 57.4**	**+0.2**
	1.1nm,0.3s								
KUU				*e*S			**Sg**	**20 01 28.3**	**-1.4**
	4.4nm,0.4s								
BOOM	**Boomskoye usch**	**2.33**	**265**	⇑*i*P			**Pb**	**20 00 56.9**	**-0.7**
	baz=64								
BOOM				⇑*i*S			**Sb**	**20 01 27.6**	**+1.0**
	baz=64								
DGS	**Degeres**	**2.48**	**283**	Pg			**Pb**	**20 01 01.4**	**+1.2**
	0.8nm,0.2s								
DGS				Lg			Lg	20 01 34.6	
	5.3nm,0.5s								
DGS	**Degeres**	**2.48**	**283**	*e*P			**Pb**	**20 01 01.4**	**+1.2**
	baz=82								
DGS				*e*S			**Sg**	**20 01 34.6**	**-0.5**
	baz=82								
DGS	**Degeres**	**2.48**	**283**	*e*P			**Pb**	**20 01 01.4**	**+1.2**
	0.8nm,0.2s								
DGS				*e*S			**Sg**	**20 01 34.6**	**-0.5**
	5.3nm,0.5s								
KAPS	**Kapalarasan**	**2.56**	**4**	Pg			**Pb**	**20 01 01.8**	**+0.4**
	0.8nm,0.3s								
KAPS				Lg			Lg	20 01 35.3	
	1.2nm,0.2s								
KAPS	**Kapalarasan**	**2.56**	**4**	*e*P			**Pb**	**20 01 01.8**	**+0.4**
	0.8nm,0.3s								
KAPS				*e*S			**Sg**	**20 01 35.3**	**-2.2**
	1.2nm,0.2s								
TKM2	**Tokmak 2**	**2.57**	**275**	⇑Pg			**Pb**	**20 01 02.5**	**+0.7**
	0.8nm,0.5s								
TKM2				⇓Lg			Lg	20 01 36.3	
	2.6nm,0.6s								
TKM2	**Tokmak 2**	**2.57**	**275**	⇑*i*P			**Pb**	**20 01 00.8**	**-0.9**
	baz=74								
TKM2				⇑*i*S			**Sb**	**20 01 34.5**	**+1.0**
	baz=74								
NRN	**Naryn**	**2.64**	**242**	⇑*i*P			**Pb**	**20 01 01.5**	**-1.4**
	baz=41								
NRN				⇑*i*S			**Sb**	**20 01 35.2**	**-0.3**
	baz=41								
KZA	**Kyzart**	**2.92**	**258**	⇑*i*P			**Pb**	**20 01 06.0**	**-1.7**
	baz=57								
KZA				⇑*i*S			**Sb**	**20 01 42.8**	**-0.7**
	baz=57								

*SOME **31** 20:03:16.1,42°.45N×79°.57E,h15km*
*NNC **31** 20:03:16.9±0.7,42°.57N×79°.57E,h0km,mb3.3,mpv3.1,*
Error ellipse: s-maj=4.5km s-min=2.4km az=140.0
*KRNET **31** 20:03:16.6±0.1,42°.53N×79°.62E,h15km,mb3.2*

ISC 31 20:03:16.3±1.1,**42°.48N**±0°.04×**79°.61E**±0°.03,**h10**km,**n69,**
σ1§**20**/122,**22C-19D,Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.68**	**351**	P			**Pb**	**20 03 29.8**	**-0.6**
	98nm,0.1s								
SHLS				S			**Sb**	**20 03 39.6**	**-0.4**
	152nm,0.3s								
SHLS	**Shalkode**	**0.68**	**351**	⇓*e*P			**Pb**	**20 03 29.8**	**-0.6**
	baz=17								
SHLS				⇓*e*S			**Sb**	**20 03 39.6**	**-0.4**
	baz=17								
SHLS	**Shalkode**	**0.68**	**351**	⇓*e*P			**Pb**	**20 03 29.8**	**-0.6**
	98nm,0.1s								
SHLS				*e*S			**Sb**	**20 03 39.6**	**-0.4**
	152nm,0.3s								
UZB	**Uzynbulak**	**0.79**	**327**	P			**Pg**	**20 03 30.8**	**-0.8**
	13nm,0.1s								
UZB				S			**Sg**	**20 03 41.2**	**-0.8**
	103nm,0.2s								
UZB	**Uzynbulak**	**0.79**	**327**	⇓*e*P			**Pg**	**20 03 30.8**	**-0.8**
	baz=25								
UZB				⇓*e*S			**Sg**	**20 03 41.2**	**-0.8**
	baz=25								
UZB	**Uzynbulak**	**0.79**	**327**	⇓*e*P			**Pg**	**20 03 30.8**	**-0.8**
	13nm,0.1s								
UZB				*e*S			**Sg**	**20 03 41.2**	**-0.8**
	103nm,0.2s								
PDGK	**Podgornoye**	**0.85**	**354**	P			**Pg**	**20 03 31.7**	**-1.1**
	17nm,0.2s								
PDGK				S			**Sg**	**20 03 42.7**	**-1.1**
	10nm,0.1s								
PDGK	**Podgornoye**	**0.85**	**354**	⇑P			**Pg**	**20 03 31.6**	**-1.1**
	9.5nm,0.3s								
PDGK				⇓S			**Sg**	**20 03 42.3**	**-1.6**
	13nm,0.4s								
PDGK	**Podgornoye**	**0.85**	**354**	⇑*i*P			**Pg**	**20 03 31.7**	**-1.1**
	baz=53								
PDGK				⇑*i*S			**Sg**	**20 03 42.8**	**-1.1**
	baz=53								
PRZ	**Przheval'sk**	**0.89**	**271**	⇓*i*P			**Pb**	**20 03 33.9**	**-0.1**
	baz=68								
PRZ				⇓*i*S			**Sb**	**20 03 45.6**	**-0.4**
	baz=68								
SATY	**Saty**	**1.06**	**304**	P			**Pg**	**20 03 35.8**	**-0.8**
SATY				S			**Sb**	**20 03 49.9**	**-0.8**
SATY	**Saty**	**1.06**	**304**	*e*P			**Pg**	**20 03 35.8**	**-0.8**
	0.9nm,0.1s								
SATY				*e*S			**Sb**	**20 03 49.9**	**-0.8**
	82nm,0.1s								
KTMS	**Ketmen**	**1.11**	**29**	P			**Pg**	**20 03 36.4**	**-1.2**
KTMS				S			**Sg**	**20 03 50.7**	**-1.4**
KTMS	**Ketmen**	**1.11**	**29**	*e*P			**Pg**	**20 03 36.4**	**-1.2**
	baz=29								
KTMS				*e*S			**Sg**	**20 03 50.7**	**-1.4**
	baz=29								
KTMS	**Ketmen**	**1.11**	**29**	*e*P			**Pg**	**20 03 36.4**	**-1.2**
	17nm,0.1s								
KTMS				*e*S			**Sg**	**20 03 50.7**	**-1.4**
	18nm,0.3s								
KURS	**Kuram**	**1.46**	**314**	P			**Pb**	**20 03 43.2**	**-0.4**
	2.2nm,0.3s								
KURS				S			**Sg**	**20 04 02.1**	**-1.1**
	26nm,0.3s								
KURS	**Kuram**	**1.46**	**314**	⇑*e*P			**Pb**	**20 03 43.2**	**-0.4**
	baz=13								
KURS				⇑*e*S			**Sg**	**20 04 02.0**	**-1.1**
	baz=13								
KURS	**Kuram**	**1.46**	**314**	⇑*e*P			**Pb**	**20 03 43.2**	**-0.4**
	2.2nm,0.3s								
KURS				*e*S			**Sg**	**20 04 02.0**	**-1.2**
	26nm,0.3s								
MNBS	**Baschi**	**1.82**	**332**	⇓*e*P			**Pb**	**20 03 49.1**	**-0.7**
	baz=31								
MNBS				⇓*e*S			**Sg**	**20 04 12.9**	**-2.0**
	baz=31								
MNBS	**Baschi**	**1.82**	**332**	⇓*e*P			**Pb**	**20 03 49.1**	**-0.7**
	8.1nm,0.2s								
MNBS				*e*S			**Sg**	**20 04 12.9**	**-2.0**
	152nm,0.3s								
KDJ	**Kajisay**	**1.83**	**260**	⇑*i*P			**Pg**	**20 03 51.2**	**-0.3**
	baz=58								
KDJ				⇑*i*S			**Sg**	**20 04 15.3**	**+0.1**
	baz=58								
DJR	**Jarkent**	**1.85**	**4**	P			**Pb**	**20 03 49.5**	**-0.9**
	2.7nm,0.3s								
DJR				S			**Sb**	**20 04 13.8**	**+0.1**
	9.2nm,0.1s								
DJR	**Jarkent**	**1.85**	**4**	*e*P			**Pb**	**20 03 49.5**	**-0.9**
	2.7nm,0.3s								
DJR				*e*S			**Sb**	**20 04 13.8**	**+0.1**
	9.2nm,0.1s								
KOTS	**Kotyrbulak**	**1.98**	**293**	Pg			**Pb**	**20 03 52.2**	**-0.3**
	12nm,0.3s								
KOTS				Lg			Lg	20 04 18.1	
	77nm,0.5s								
KOTS	**Kotyrbulak**	**1.98**	**293**	*e*P			**Pb**	**20 03 52.2**	**-0.3**
	baz=92								
KOTS				*e*S			**Sg**	**20 04 18.1**	**-1.9**
	baz=92								
KOTS	**Kotyrbulak**	**1.98**	**293**	*e*P			**Pb**	**20 03 52.2**	**-0.3**
	12nm,0.3s								
KOTS				*e*S			**Sg**	**20 04 18.1**	**-1.9**
	77nm,0.5s								
MDOK	**Medeo**	**2.00**	**291**	⇑Pn			**Pb**	**20 03 52.1**	**-0.8**
	4.2nm,0.3s								
MDOK				Lg			Lg	20 04 18.2	
	22nm,0.5s								
MDOK	**Medeo**	**2.00**	**291**	Pg			**Pb**	**20 03 52.2**	**-0.7**
	8.4nm,0.3s								
MDOK				Lg			Lg	20 04 18.4	
	22nm,0.4s								
MDOK	**Medeo**	**2.00**	**291**	*e*P			**Pb**	**20 03 52.2**	**-0.7**
	baz=90								
MDOK				*e*S			**Sg**	**20 04 18.4**	**-2.2**
	baz=90								
MDOK	**Medeo**	**2.00**	**291**	*e*P			**Pb**	**20 03 52.2**	**-0.7**
	8.4nm,0.3s								
MDOK				*e*S			**Sg**	**20 04 18.4**	**-2.2**
	22nm,0.4s								
TNSS	**Tian-Shan**	**2.04**	**287**	Pg			**Pb**	**20 03 52.9**	**-0.7**
	12nm,0.3s								
TNSS				Lg			Lg	20 04 19.4	
	24nm,0.3s								
TNSS	**Tian-Shan**	**2.04**	**287**	*e*P			**Pb**	**20 03 52.9**	**-0.7**
	baz=85								
TNSS				*e*S			**Sb**	**20 04 19.4**	**+0.3**
	baz=85								
TNSS	**Tian-Shan**	**2.04**	**287**	*e*P			**Pb**	**20 03 52.9**	**-0.7**
	12nm,0.3s								
TNSS				*e*S			**Sb**	**20 04 19.4**	**+0.3**
	24nm,0.3s								
KNDC	**Almaty**	**2.08**	**292**	Pn			**Pb**	**20 03 54.0**	**-0.1**
	9.0nm,0.3s								
KNDC				⇑Lg			Lg	20 04 22.9	
	42nm,0.5s								
AAA	**Alma-Ata**	**2.11**	**291**	Pg			**Pg**	**20 03 55.3**	**-1.4**
AAA				Lg			Lg	20 04 24.0	
AAA	**Alma-Ata**	**2.11**	**291**	*e*P			**Pb**	**20 03 55.0**	**+0.3**
	baz=90								
AAA				*e*S			**Sg**	**20 04 23.4**	**-0.7**
	baz=90								
AAA	**Alma-Ata**	**2.11**	**291**	*e*P			**Pb**	**20 03 55.0**	**+0.3**
	30nm,0.3s								
AAA				*e*S			**Sg**	**20 04 23.3**	**-0.7**
	48nm,0.4s								
ARXS	**Arharly**	**2.16**	**324**	Pg			**Pb**	**20 03 54.8**	**-0.8**
	3.4nm,0.3s								
ARXS				Lg			Lg	20 04 22.7	
	26nm,0.2s								
ARXS	**Arharly**	**2.16**	**324**	*e*P			**Pb**	**20 03 54.8**	**-0.8**
	3.4nm,0.3s								
ARXS				*e*S			**Sb**	**20 04 22.7**	**+0.2**
	26nm,0.2s								
IZV	**Izvestkoviy**	**2.27**	**285**	Pg			**Pb**	**20 03 56.9**	**-0.6**
	12nm,0.2s								
IZV				Lg			Lg	20 04 26.4	
	33nm,0.4s								
IZV	**Izvestkoviy**	**2.27**	**285**	*e*P			**Pb**	**20 03 56.9**	**-0.6**
	baz=84								
IZV				*e*S			**Sb**	**20 04 26.4**	**+0.7**
	baz=84								
IZV	**Izvestkoviy**	**2.27**	**285**	*e*P			**Pb**	**20 03 56.9**	**-0.6**
	12nm,0.2s								
IZV				*e*S			**Sb**	**20 04 26.4**	**+0.7**
	33nm,0.4s								
CHKK	**Chushkaly**	**2.36**	**306**	Pg			**Pb**	**20 03 58.2**	**-0.6**
	2.5nm,0.2s								
CHKK				Lg			Lg	20 04 28.4	
	75nm,0.3s								
CHKK	**Chushkaly**	**2.36**	**306**	*e*P			**Pb**	**20 03 58.2**	**-0.6**
	baz=6.0								
CHKK				*e*S			**Sb**	**20 04 28.4**	**+0.4**
	baz=6.0								
CHKK	**Chushkaly**	**2.36**	**306**	*e*P			**Pb**	**20 03 58.2**	**-0.6**
	2.5nm,0.2s								
CHKK				*e*S			**Sb**	**20 04 28.4**	**+0.4**
	75nm,0.3s								
MTBS	**Maitube**	**2.43**	**287**	Pg			**Pb**	**20 03 59.7**	**-0.3**
	6.2nm,0.2s								
MTBS				Lg			Lg	20 04 31.5	
	33nm,0.2s								
MTBS	**Maitube**	**2.43**	**287**	*e*P			**Pb**	**20 03 59.8**	**-0.3**
	baz=86								
MTBS				*e*S			**Sg**	**20 04 31.6**	**-2.7**
	baz=86								
MTBS	**Maitube**	**2.43**	**287**	*e*P			**Pb**	**20 03 59.8**	**-0.3**
	6.2nm,0.2s								
MTBS				*e*S			**Sg**	**20 04 31.5**	**-2.7**
	33nm,0.2s								
KTBS	**Karatobe**	**2.47**	**301**	Pg			**Pb**	**20 03 59.8**	**-1.0**
	2.8nm,0.3s								
KTBS				Lg			Lg	20 04 31.5	
	30nm,0.3s								
KTBS	**Karatobe**	**2.47**	**301**	*e*P			**Pb**	**20 03 59.8**	**-1.0**
	baz=99								
KTB

67nm,0.5s
DGS Degeres 2.92 286 *e*P **Pb 20 04 07.8 -0.7**
baz=86
DGS *e*S **Sb 20 04 45.4 +1.1**
baz=86
DGS Degeres 2.92 286 *e*P **Pb 20 04 07.8 -0.7**
5.2nm,0.6s
DGS *e*S **Sb 20 04 45.4 +1.1**
67nm,0.5s
TKM2 Tokmak 2 2.99 280 Pg **Pb 20 04 09.2 -0.5**
1.3nm,0.4s
TKM2 ⇑Lg Lg 20 04 49.5
8.3nm,0.5s
TKM2 Tokmak 2 2.99 280⇑*i*P **Pb 20 04 07.5 -2.2**
baz=79
TKM2 ⇑*i*S **Sb 20 04 43.9 -2.5**
baz=79
KZA Kyzart 3.26 264⇑*i*P **Pb 20 04 11.7 -2.7**
baz=64
KZA ⇑*i*S **Sb 20 04 50.9 -3.4**
baz=64
AAK Ala-Archa 3.78 274 ⇓Pg **Pb 20 04 22.1 -1.1**
2.3nm,0.7s
AAK ⇓Lg Lg 20 05 14.2
5.0nm,0.7s
ARLS Aral 3.98 263⇑*e*P **Pn 20 04 20.9 +3.4**
baz=62
ARLS ⇑*i*S **Sn 20 05 07.7 +3.5**
baz=62
MAKZ Makanchi 4.64 21 ⇓Pn **Pn 20 04 28.3 +1.8**
3.7nm,1.4s
MAKZ ⇓Lg Lg 20 05 38.0
1.4nm,0.8s
MK31 Makanchi Array 4.72 23 ⇑Pn **Pn 20 04 29.2 +1.7**
0.1nm,0.2s,baz=205,slow=13,SNR=23
MK31 ⇓Sn **Sn 20 05 24.2 +2.0**
0.5nm,0.4s
MK31 Lg Lg 20 05 43.4
1.4nm,0.6s,baz=204,slow=27

IDC 31 20:05:43.6±7.0, 10°69S×164°11E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/27, mbtmp3.7/3, Error ellipse: s-maj=206.8km s-min=49.4km az=122.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.10**	**249**	P		P	20 11 55.4	+0.2
0.6nm,0.8s,baz=80,slow=9.0,SNR=5.6								
ASAR	**Alice Springs**	**31.53**	**242**	P		P	20 12 07.5	-0.2
0.8nm,0.5s,baz=62,slow=10,SNR=15								
MKAR	**Makanchi Array**	**92.16**	**317**	P		P	20 18 55.2	-0.1
0.3nm,0.7s,baz=100,slow=5.3,SNR=3.9								

SOME ***31*** *20:13:12.3, 42°.55N×79°.70E, h15km*
KRNET ***31*** *20:13:13.0±0.1, 42°.60N×79°.64E, h12km, mb3.0*
NNC ***31*** *20:13:12.6±0.7, 42°.62N×79°.65E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=4.2km s-min=2.3km az=134.0*

ISC 31 20:13:12.4±1.3, 42°.57N±0°.04×79°.69E±0°.05, h10km, n63, σ1s26/113, 27C-23D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.61**	**344**	P		**Pb**	**20 13 24.4**	**-0.9**
56nm,0.1s								
SHLS				S		**Sb**	**20 13 33.3**	**-0.7**
97nm,0.3s								
SHLS	**Shalkode**	**0.61**	**344**⇓*e*P			**Pb**	**20 13 24.4**	**-0.9**
baz=18								
SHLS				⇓*e*S		**Sb**	**20 13 33.3**	**-0.7**
baz=18								
SHLS	**Shalkode**	**0.61**	**344**⇓*e*P			**Pb**	**20 13 24.4**	**-0.9**
56nm,0.1s								
SHLS				*e*S		**Sb**	**20 13 33.3**	**-0.7**
97nm,0.3s								
UZB	**Uzynbulak**	**0.76**	**320**	P		**Pg**	**20 13 26.7**	**-0.4**
20nm,0.1s								
UZB				S		**Sb**	**20 13 36.7**	**-1.5**
67nm,0.1s								
UZB	**Uzynbulak**	**0.76**	**320**⇑*e*P			**Pg**	**20 13 26.7**	**-0.4**
baz=20								
UZB				⇑*e*S		**Sb**	**20 13 36.8**	**-1.5**
baz=20								
UZB	**Uzynbulak**	**0.76**	**320**⇑*e*P			**Pg**	**20 13 26.7**	**-0.4**
20nm,0.1s								
UZB				*e*S		**Sb**	**20 13 36.7**	**-1.5**
67nm,0.1s								
PDGK	**Podgornoye**	**0.78**	**349**	P		**Pg**	**20 13 26.7**	**-0.7**
5.7nm,0.1s								
PDGK				S		**Sg**	**20 13 37.2**	**-0.4**
19nm,0.2s								
PDGK	**Podgornoye**	**0.78**	**349**	⇓P		**Pg**	**20 13 26.4**	**-1.0**
4.6nm,0.4s								
PDGK				⇑S		**Sg**	**20 13 36.7**	**-0.8**
14nm,0.3s								
PDGK	**Podgornoye**	**0.78**	**349**	⇓*i*P		**Pg**	**20 13 26.7**	**-0.7**
baz=51								
PDGK				⇓*i*S		**Sg**	**20 13 37.1**	**-0.4**
baz=51								
PRZ	**Przheval'sk**	**0.96**	**265**	⇑*i*P		**Pg**	**20 13 30.6**	**-0.2**
baz=63								
PRZ				⇑*i*S		**Sb**	**20 13 43.8**	**-0.2**
baz=63								
SATY	**Saty**	**1.06**	**298**	P		**Pg**	**20 13 32.0**	**-1.0**
8.4nm,0.1s								
SATY				S		**Sb**	**20 13 46.7**	**-0.3**
30nm,0.2s								
SATY	**Saty**	**1.06**	**298**⇓*e*P			**Pg**	**20 13 31.9**	**-1.0**
8.4nm,0.1s								
SATY				*e*S		**Sb**	**20 13 46.4**	**-0.6**
30nm,0.2s								
KURS	**Kuram**	**1.45**	**310**	P		**Pb**	**20 13 39.0**	**-0.4**
3.7nm,0.3s								
KURS				S		**Sg**	**20 13 57.9**	**-1.0**
19nm,0.4s								
KURS	**Kuram**	**1.45**	**310**⇓*e*P			**Pb**	**20 13 39.1**	**-0.4**
baz=10.0								
KURS				⇓*e*S		**Sg**	**20 13 57.9**	**-1.0**
baz=10.0								
KURS	**Kuram**	**1.45**	**310**⇓*e*P			**Pb**	**20 13 39.1**	**-0.4**
3.7nm,0.3s								
KURS				*e*S		**Sg**	**20 13 57.9**	**-1.0**
19nm,0.4s								
DJR	**Jarkent**	**1.77**	**2**	P		**Pb**	**20 13 44.5**	**-0.5**
5.2nm,0.2s								
DJR				S		**Sg**	**20 14 07.9**	**-1.2**
7.7nm,0.2s								
DJR	**Jarkent**	**1.77**	**2**⇑*e*P			**Pb**	**20 13 44.7**	**-0.3**
5.2nm,0.2s								
DJR				*e*S		**Sg**	**20 14 07.9**	**-1.2**
7.7nm,0.2s								
MNBS	**Baschi**	**1.78**	**329**⇑*e*P			**Pb**	**20 13 44.7**	**-0.5**
baz=29								
MNBS				⇑*e*S		**Sg**	**20 14 08.1**	**-1.5**
baz=29								
MNBS	**Baschi**	**1.78**	**329**⇑*e*P			**Pb**	**20 13 44.7**	**-0.5**
3.7nm,0.1s								
MNBS				*e*S		**Sg**	**20 14 08.2**	**-1.5**
47nm,0.2s								
KDJ	**Kajisay**	**1.91**	**258**	⇓*i*P		**Pb**	**20 13 47.8**	**+0.3**
baz=56								
KDJ				⇓*i*S		**Sg**	**20 14 13.5**	**-0.3**
baz=56								
KOTS	**Kotyrbulak**	**2.01**	**290**	Pg		**Pg**	**20 13 50.0**	**-0.8**
4.9nm,0.3s								
KOTS				Lg		Lg	20 14 17.0	
44nm,0.4s								
KOTS	**Kotyrbulak**	**2.01**	**290**	*e*P		**Pb**	**20 13 49.0**	**-0.1**
baz=90								
KOTS				*e*S		**Sg**	**20 14 15.8**	**-1.2**
baz=90								
KOTS	**Kotyrbulak**	**2.01**	**290**	*e*P		**Pb**	**20 13 49.0**	**-0.1**
4.9nm,0.3s								
KOTS				*e*S		**Sg**	**20 14 15.7**	**-1.2**
44nm,0.4s								
MDOK	**Medeo**	**2.03**	**288**	⇑Pg		**Pb**	**20 13 49.1**	**-0.4**
2.9nm,0.5s								
MDOK				⇓Lg		Lg	20 14 15.6	
11nm,0.4s								
MDOK	**Medeo**	**2.03**	**288**	Pg		**Pb**	**20 13 49.4**	**-0.1**
4.2nm,0.2s								
MDOK				Lg		Lg	20 14 15.4	
20nm,0.4s								
MDOK	**Medeo**	**2.03**	**288**	*e*P		**Pb**	**20 13 49.4**	**-0.1**
baz=87								
MDOK				*e*S		**Sg**	**20 14 15.7**	**-2.0**
baz=87								
MDOK	**Medeo**	**2.03**	**288**	*e*P		**Pb**	**20 13 49.4**	**-0.1**
4.2nm,0.2s								
MDOK				*e*S		**Sg**	**20 14 15.7**	**-2.0**
20nm,0.4s								
TNSS	**Tian-Shan**	**2.07**	**284**	Pg		**Pb**	**20 13 49.5**	**-0.8**
6.4nm,0.2s								
TNSS				Lg		Lg	20 14 17.7	
19nm,0.2s								
TNSS	**Tian-Shan**	**2.07**	**284**	*e*P		**Pb**	**20 13 49.5**	**-0.8**
baz=83								
TNSS				*e*S		**Sb**	**20 14 16.5**	**+0.2**
baz=83								
TNSS	**Tian-Shan**	**2.07**	**284**	*e*P		**Pb**	**20 13 49.5**	**-0.8**
6.4nm,0.2s								
TNSS				*e*S		**Sb**	**20 14 16.5**	**+0.2**
19nm,0.2s								
ARXS	**Arharly**	**2.13**	**321**	Pg		**Pb**	**20 13 50.5**	**-0.7**
2.6nm,0.2s								
ARXS				Lg		Lg	20 14 18.2	
38nm,0.4s								
ARXS	**Arharly**	**2.13**	**321**	*e*P		**Pb**	**20 13 50.5**	**-0.7**
2.6nm,0.2s								
ARXS				*e*S		**Sb**	**20 14 18.2**	**+0.4**
38nm,0.4s								
IZV	**Izvestkoviy**	**2.31**	**283**	Pg		**Pb**	**20 13 54.1**	**-0.2**
4.6nm,0.3s								
IZV				Lg		Lg	20 14 24.1	
22nm,0.3s								
IZV	**Izvestkoviy**	**2.31**	**283**	*e*P		**Pb**	**20 13 54.1**	**-0.2**
baz=82								
IZV				*e*S		**Sg**	**20 14 24.1**	**-2.6**
baz=82								
IZV	**Izvestkoviy**	**2.31**	**283**	*e*P		**Pb**	**20 13 54.1**	**-0.2**
4.6nm,0.3s								
IZV				*e*S		**Sg**	**20 14 24.1**	**-2.6**
22nm,0.3s								
CHKK	**Chushkaly**	**2.36**	**304**	Pg		**Pb**	**20 13 54.8**	**-0.1**
5.0nm,0.2s								
CHKK				Lg		Lg	20 14 25.0	
11nm,0.2s								
CHKK	**Chushkaly**	**2.36**	**304**	*e*P		**Pb**	**20 13 54.5**	**-0.5**
baz=4.0								
CHKK				⇑*i*S		**Sb**	**20 14 25.0**	**+0.9**
baz=4.0								
CHKK	**Chushkaly**	**2.36**	**304**	*e*P		**Pb**	**20 13 54.5**	**-0.5**
1.7nm,0.2s								
CHKK				⇑*i*S		**Sb**	**20 14 25.0**	**+0.9**
23nm,0.3s								
MTBS	**Maitube**	**2.46**	**284**	Pg		**Pb**	**20 13 57.4**	**+0.6**
4.5nm,0.2s								
MTBS				Lg		Lg	20 14 29.0	
24nm,0.3s								
MTBS	**Maitube**	**2.46**	**284**	*e*P		**Pb**	**20 13 57.0**	**+0.2**
baz=84								
MTBS				*e*S		**Sg**	**20 14 28.7**	**-2.8**
baz=84								
MTBS	**Maitube**	**2.46**	**284**	*e*P		**Pb**	**20 13 57.0**	**+0.2**
4.5nm,0.2s								
MTBS				*e*S		**Sg**	**20 14 28.7**	**-2.8**
24nm,0.3s								
KTBS	**Karatobe**	**2.48**	**298**	Pg		**Pb**	**20 13 56.9**	**-0.2**
2.9nm,0.1s								
KTBS				Lg		Lg	20 14 28.9	
21nm,0.4s								
KTBS	**Karatobe**	**2.48**	**298**	*e*P		**Pb**	**20 13 56.9**	**-0.2**
baz=97								
KTBS				*e*S		**Sb**	**20 14 28.8**	**+1.1**
baz=97								
KTBS	**Karatobe**	**2.48**	**298**	*e*P		**Pb**	**20 13 56.9**	**-0.2**
2.9nm,0.1s								
KTBS				*e*S		**Sb**	**20 14 28.9**	**+1.1**
21nm,0.4s								
ULHL	**Ulahol**	**2.57**	**264**⇑*i*P			**Pb**	**20 13 57.3**	**-1.5**
baz=63								
ULHL				⇑*i*S		**Sb**	**20 14 30.2**	**-0.3**
baz=63								
KAPS	**Kapalarasan**	**2.73**	**355**	*e*P		**Pb**	**20 14 00.9**	**-0.4**
3.1nm,0.3s								
KAPS				*e*S		**Sb**	**20 14 36.2**	**+1.4**
14nm,0.3s								
BOOM	**Boomskoye usch**	**2.77**	**270**⇓*i*P			**Pb**	**20 14 00.2**	**-1.9**
baz=69								
BOOM				⇓*i*S		**Sb**	**20 14 34.6**	**-1.6**
baz=69								
KST	**Kastek**	**2.78**	**281**	*e*P		**Pb**	**20 14 02.1**	**-0.2**
baz=80								
KST				⇓*i*S		**Sb**	**20 14 38.3**	**+1.8**
baz=80								
KST	**Kastek**	**2.78**	**281**	*e*P		**Pb**	**20 14 02.1**	**-0.2**
5.4nm,0.3s								
KST				⇓*i*S		**Sb**	**20 14 38.2**	**+1.8**
12nm,0.7s								
KUU	**Kurty**	**2.78**	**300**	Pg		**Pb**	**20 14 01.5**	**-0.8**
KUU				Lg		Lg	20 14 37.0	
KUU	**Kurty**	**2.78**	**300**	*e*P		**Pb**	**20 14 01.5**	**-0.8**
baz=99								
KUU				*e*S		**Sb**	**20 14 37.0**	**+0.6**
baz=99								
KUU	**Kurty**	**2.78**	**300**	*e*P		**Pb**	**20 14 01.5**	**-0.8**
1.2nm,0.1s								
KUU				*e*S		**Sb**	**20 14 37.0**	**+0.6**
10nm,0.3s								
DGS	**Degeres**	**2.96**	**284**	Pg		**Pb**	**20 14 04.7**	**-0.5**
3.4nm,0.4s								
DGS				Lg		Lg	20 14 42.2	
19nm,0.7s								
DGS	**Degeres**	**2.96**	**284**	*e*P		**Pb**	**20 14 04.7**	**-0.5**
baz=84								
DGS				*e*S		**Sb**	**20 14 42.2**	**+0.8**
baz=84								
DGS	**Degeres**	**2.96**	**284**	*e*P		**Pb**	**20 14 04.7**	**-0.5**
3.4nm,0.4s								
DGS				*e*S		**Sb**	**20 14 42.2**	**+0.8**
19nm,0.7s								
NRN	**Naryn**	**2.97**	**249**⇑*i*P			**Pb**	**20 14 03.3**	**-2.4**
baz=48								
NRN				⇑*i*S		**Sb**	**20 14 40.4**	**-1.8**
baz=48								
TKM2	**Tokmak 2**	**3.04**	**278**	⇑Pg		**Pb**	**20 14 07.1**	**+0.4**
1.0nm,0.5s								
TKM2				⇑Lg		Lg	20 14 45.7	
7.2nm,0.6s								
TKM2	**Tokmak 2**	**3.04**	**278**⇓*i*P			**Pb**	**20 14 03.6**	**-3.0**
baz=77								
TKM2				⇓*i*S		**Sb**	**20 14 41.0**	**-2.8**
baz=77								
KZA	**Kyzart**	**3.33**	**263**⇑*i*P			**Pn**	**20 14 08.0**	**+3.1**
baz=62								
KZA				⇑*i*S		**Sb**	**20 14 48.6**	**-3.9**
baz=62								
AAK	**Ala-Archa**	**3.84**	**273**	⇑Pg		**Pb**	**20 14 21.8**	**+1.5**
0.9nm,0.5s								
AAK				⇓Lg		Lg	20 15 13.4	
2.5nm,0.5s								
ARLS	**Aral**	**4.05**	**262**⇑*i*P			**Pn**	**20 14 17.9**	**+3.3**
baz=61								
ARLS				⇑*i*S		**Sn**	**20 15 05.2**	**+3.1**
baz=61								
MAKZ	**Makanchi**	**4.54**	**20**	⇓Pn		**Pn**	**20 14 21.6**	**+0.4**
3.1nm,1.4s								
MAKZ				⇑Sn		**Sn**	**20 15 14.3**	**+0.2**
0.8nm,0.9s								
MAKZ				⇑Lg		Lg	20 15 32.2	
0.7nm,0.7s								
MK31	**Makanchi Array**	**4.61**	**23**	⇓Pn		**Pn**	**20 14 23.4**	**+1.2**
baz=201,slow=14,SNR=22								
MK31				⇓Sn		**Sn**	**20 15 16.9**	**+1.1**
0.3nm,0.3s,baz=203,slow=25,SNR=4.0								
MK31				⇑Lg		Lg	20 15 36.5	
0.8nm,0.6s,baz=197,slow=24,SNR=5.7								

ISCJB ***31*** *20:14:20.3±1.3, 4°.10S±0°.07×140°.9E±0°.2, h33km, mb3.5/2, Error ellipse: s-maj=23.7km s-min=9.3km az=6.9*
IDC ***31*** *20:14:25.7±1.9, 3°.90S×140°.78E, h80km±17km, mb3.2/4, mb1 3.7/7, mb1mx3.4/31, mbtmp3.9/7, MS3.4/1, Ms1 3.4/1, ms1mx2.6/20, Error ellipse: s-maj=39.1km s-min=13.5km az=107.0*

ISC 31 20:14:21.4±1.3, 4°.16S±0°.07×141°.0E±0°.2, h35km, n9, σ2s61/11, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.66**	**350**	P		**Pn**	**20 14 50.7**	**+2.7**
77nm,0.3s,baz=148,slow=9.2,SNR=255								
JAY				S		**Sn**	**20 15 07.3**	**-0.9**
102nm,0.3s,baz=195,slow=20,SNR=28								
SIJI	**Sorong**	**10.24**	**288**	P		**Pn**	**20 16 45.7**	**-0.4**
2.5nm,0.3s,baz=123,slow=12,SNR=11								
WRA	**Warramunga Arr**	**16.98**	**202**	P		**P**	**20 18 20.0**	**+2.1**
1.4nm,0.3s,baz=25,slow=12,SNR=42								
WRA				S		**Sn**	**20 21 19.8**	**-4.3**
0.4nm,0.3s,baz=12,slow=22,SNR=4.4								
GUMO	**Guam**	**18.05**	**12**	LR		LR	20 24 46.6	
comp=Z,144nm,21.7s,baz=112,slow=35								
BATI	**Baumata**	**18.20**	**250**	P		**P**	**20 18 32.6**	**+1.1**
2.0nm,0.3s,baz=61,slow=10,SNR=4.0								
FITZ	**Fitzroy Crossi**	**20.43**	**226**	P		**P**	**20 18 56.3**	**+0.4**
1.5nm,0.9s,baz=32,slow=9.5,SNR=8.2								
FITZ				S		S	20 22 32.5	-10
3.4nm,0.6s,baz=198,slow=18,SNR=4.9								
ASAR	**Alice Springs**	**20.57**	**199**	P		**P**	**20 19 00.3**	**+3.0**
1.6nm,0.5s,baz=30,slow=9.5,SNR=22								
ASAR				S		**S**	**20 22 47.6**	**+2.1**
0.8nm,0.6s,baz=18,slow=27,SNR=5.2								
MKAR	**Makanchi Array**	**72.32**	**322**	P		**P**	**20 25 41.1**	**-2.5**
0.2nm,0.4s,baz=102,slow=7.3,SNR=4.9								
ILAR	**Eielson Array**	**86.21**	**24**	P		**P**	**20 26 57.2**	**-1.7**
0.3nm,0.9s,baz=250,slow=5.4,SNR=3.3								

ISCJB ***31*** *20:21:25.1±0.4, 32°.03N±0°.03×114°.95W±0°.04, h10km, Error ellipse: s-maj=4.7km s-min=3.9km az=7.7*
PAS ***31*** *20:21:26.4±0.0, 32°.04N×114°.98W, h7km*
NEIC ***31*** *20:21:27.6±0.0, 32°.01N×115°.02W, h4km, MD3.1(ECX), ML2.9(PAS), After ECX.*
ECX ***31*** *20:21:27.6±0.6, 32°.01N×115°.03W, h4km, MD2.9, ML3.1, Fault plane solution: NP1:φs344.90000°, δ75.52000°, λ-26.57000°.*

ISC 31 20:21:25.8±1.0, 32°.04N±0°.03×115°.00W±0°.04, h10km, n25, σ1s15/30, 3C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.46**	**326**⇑*e*P			**Pg**	**20 21 35.6**	**+0.9**
CPBX				*e*S		**Sg**	**20 21 42.9**	**+2.1**
CPBX				IAML			20 21 45.8	
comp=N,5μm,0.3s								
CPBX				*e*			20 21 45.8	
ECBX	**El Chinero**	**0.57**	**184**⇓*e*P			**Pg**	**20 21 37.4**	**+0.6**
ECBX				*e*S		**Sg**	**20 21 45.0**	**+0.7**
YMD	**Yuma Desert**	**0.64**	**37**⇓*e*P			**Pg**	**20 21 39.3**	**+1.0**
COA	**Coachella**	**0.83**	**353**	*e*P		**Pg**	**20 21 42.0**	**+0.1**
SGL	**Mount Signal**	**0.86**	**315**	*e*P		**Pg**	**20 21 42.9**	**+0.4**
YUH	**Yuha Desert**	**0.99**	**308**⇑*i*P			**Pg**	**20 21 45.0**	**+0.1**
GLA	**Glamis**	**1.02**	**8**	*e*Pg		**Pg**	**20 21 44.5**	**-1.0**
SPIG	**San Pedro Mart**	**1.07**	**202**	*e*Pg		**Pg**	**20 21 46.3**	**-0.1**
SPIG				*e*Sg		**Sg**	**20 21 59.5**	**-0.8**
RMX	**La Rumorosa**	**1.07**	**302**	*e*P		**Pg**	**20 21 45.5**	**-1.0**
RMX				*e*S		**Sg**	**20 21 58.9**	**-1.5**
RMX				⇑*e*			20 21 59.4	
RMX				IAML			20 21 59.4	
comp=N,339nm,0.2s								
IKP	**In-Ko-Pah, Jac**	**1.12**	**303**	*e*P		**Pb**	**20 21 47.2**	**-0.2**
113A	**Mohawk Valley,**	**1.27**	**55**	*e*Pn		**Pn**	**20 21 48.7**	**-1.0**
CBX	**Cerro Bola**	**1.44**	**281**	*e*P		**Pn**	**20 21 52.1**	**0.0**
CBX				*e*S		**Sn**	**20 22 11.4**	**+0.4**
MONP2	**Monument Peak**	**1.47**	**306**	*e*P		**Pn**	**20 21 53.4**	**+0.7**
BAR	**Barrett**	**1.55**	**295**	*e*Pn		**Pn**	**20 21 53.2**	**-0.3**
BAR	**Barrett**	**1.55**	**295**	*e*P		**Pn**	**20 21 54.3**	**+0.7**
Y12C	**Blythe**	**1.75**	**13**	*e*Pn		**Pn**	**20 21 55.5**	**-0.8**
CPE	**Camp Elliot**	**1.97**	**296**	*e*Pn		**Pn**	**20 22 00.2**	**+1.0**
XPFO	**Pion Flat**	**1.99**	**322**	*e*Pn		**Pn**	**20 21 56.9**	**-2.8**
PFO	**Pinyon Flats O**	**1.99**	**322**	*e*Pn		**Pn**	**20 21 57.7**	**-2.0**
Y14A	**Wickenburg**	**2.53**	**41**	*e*Pn		**Pn**	**20 22 05.2**	**-1.8**
W13A	**Hualapai Mount**	**3.19**	**17**	*e*Pn		**Pn**	**20 22 17.3**	**+1.0**
TUC	**Tucson**	**3.59**	**85**	*e*Pn		**Pn**	**20 22 21.1**	**-0.5**
X16A	**Lo Mia Camp, P**	**3.81**	**51**	*e*Pn		**Pn**	**20 22 24.6**	**-0.2**
U15A	**North Rim**	**4.92**	**26**	*e*Pn		**Pn**	**20 22 41.8**	**+1.7**
KNB	**Kanab**	**5.28**	**19**	*e*Pn		**Pn**	**20 22 45.3**	**+0.3**

SOME ***31*** *20:22:00.9, 42°.53N×79°.63E, h10km*
KRNET ***31*** *20:22:01.6±0.1, 42°.58N×79°.59E, h15km, mb2.8*
NNC ***31*** *20:22:01.1±0.8, 42°.58N×79°.59E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=4.9km s-min=2.4km az=134.0*

ISC 31 20:22:00.1±1.8, 42°.55N±0°.06×79°.62E±0°.06, h10km, n47, σ0s87/85, 13C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.62**	**350**	P		**Pb**	**20 22 13.5**	**+0.3**
18nm,0.1s								
SHLS				S		**Sb**	**20 22 23.1**	**+1.1**
100nm,0.3s								
SHLS	**Shalkode**	**0.62**	**350**⇓*e*P			**Pb**	**20 22 13.5**	**+0.3**
baz=20								
SHLS				⇓*e*S		**Sb**	**20 22 22.9**	**+0.9**
baz=20								
SHLS	**Shalkode**	**0.62**	**350**⇓*e*P			**Pb**	**20 22 13.5**	**+0.3**
18nm,0.1s								
SHLS				*e*S		**Sb**	**20 22 22.9**	**+0.9**
100nm,0.3s								
UZB	**Uzynbulak**	**0.74**	**324**	P		**Pg**	**20 22 14.8**	**+0.3**
2.6nm,0.1s								
UZB				S		**Sb**	**20 22 25.2**	**-0.4**
21nm,0.2s								
UZB	**Uzynbulak**	**0.74**	**324**⇑*e*P			**Pg**	**20 22 15.0**	**+0.5**
baz=24								
UZB				⇑*e*S		**Sb**	**20 22 25.2**	**-0.4**
baz=24								
UZB	**Uzynbulak**	**0.74**	**324**⇑*e*P			**Pg**	**20 22 15.0**	**+0.5**
2.6nm,0.1s								
UZB				*e*S		**Sb**	**20 22 25.2**	**-0.4**
21nm,0.2s								
PDGK	**Podgornoye**	**0.79**	**353**	P		**Pg**	**20 22 15.5**	**+0.1**
3.6nm,0.1s								
PDGK				S		**Sb**	**20 22 26.4**	**-0.5**
11nm,0.3s								
PDGK	**Podgornoye**	**0.79**	**353**	⇓P		**Pg**	**20 22 15.3**	**-0.1**
1.3nm,0.2s								
PDGK				⇓S		**Sb**	**20 22 26.4**	**-0.5**
11nm,0.4s								
PDGK	**Podgornoye**	**0.79**	**353**	⇓*i*P		**Pg**	**20 22 15.5**	**+0.1**
baz=54								
PDGK				⇓*i*S		**Sb**	**20 22 26.3**	**-0.5**
baz=54								
PRZ	**Przheval'sk**	**0.90**	**266**⇑*i*P			**Pb**	**20 22 18.9**	**+0.9**
baz=64								
PRZ				⇑*i*S		**Sb**	**20 22 31.1**	**+1.0**
baz=64								
SATY	**Saty**	**1.03**	**300**	P		**Pg**	**20 22 20.0**	**+0.1**
SATY				S		**Sb**	**20 22 33.6**	**-0.1**
SATY	**Saty**	**1.03**	**300**	*e*P		**Pg**	**20 22 20.0**	**+0.1**
1.5nm,0.1s								
SATY				*e*S		**Sb**	**20 22 33.6**	**-0.1**
18nm,0.1s								
KURS	**Kuram**	**1.42**	**312**	*e*P		**Pb**	**20 22 27.1**	**+0.4**
baz=11								
KURS				*e*S		**Sg**	**20 22 46.3**	**+0.5**
baz=11								
KURS	**Kuram**	**1.42**	**312**	*e*P		**Pb**	**20 22 27.1**	**+0.4**
0.2nm,0.1s								
KURS				*e*S		**Sg**	**20 22 46.3**	**+0.5**
3.5nm,0.3s						

KOTS				*e*S	Sg	20 23 03.3	0.0		
	baz=90								
KOTS	**Kotyrbulak**	**1.96**	**291**	*e*P	Pb	**20 22 37.0**	**+0.9**		
	4.5nm,0.3s								
KOTS				*e*S	Sg	20 23 03.3	0.0		
	8.9nm,0.4s								
MDOK	**Medeo**	**1.99**	**289**	Pg	Pb	**20 22 36.6**	**+0.1**		
	2.5nm,0.5s								
MDOK				Lg	Lg	20 23 02.9			
	4.6nm,0.6s								
MDOK	**Medeo**	**1.99**	**289**	Pg	Pb	**20 22 37.6**	**+1.1**		
	3.0nm,0.2s								
MDOK				Lg	Lg	20 23 03.6			
	5.9nm,0.3s								
MDOK	**Medeo**	**1.99**	**289**	*e*P	Pb	**20 22 37.6**	**+1.1**		
	baz=88								
MDOK				*e*S	Sg	**20 23 03.6**	**-0.4**		
	baz=88								
MDOK	**Medeo**	**1.99**	**289**	*e*P	Pb	**20 22 37.6**	**+1.1**		
	3.0nm,0.2s								
MDOK				*e*S	Sg	**20 23 03.6**	**-0.4**		
	5.9nm,0.3s								
TNSS	**Tian-Shan**	**2.02**	**285**	Pg	Pb	**20 22 37.6**	**+0.3**		
	3.7nm,0.2s								
TNSS				Lg	Lg	20 23 04.4			
	4.2nm,0.3s								
TNSS	**Tian-Shan**	**2.02**	**285**	*e*P	Pb	**20 22 37.6**	**+0.3**		
	baz=84								
TNSS				*e*S	Sg	**20 23 04.5**	**-0.8**		
	baz=84								
TNSS	**Tian-Shan**	**2.02**	**285**	*e*P	Pb	**20 22 37.6**	**+0.3**		
	3.7nm,0.2s								
TNSS				*e*S	Sg	**20 23 04.4**	**-0.8**		
	4.2nm,0.3s								
ARXS	**Arharly**	**2.12**	**323**	Pg	Pb	**20 22 39.7**	**+1.1**		
	1.1nm,0.1s								
ARXS				Lg	Lg	20 23 07.4			
	15nm,0.4s								
ARXS	**Arharly**	**2.12**	**323**	*e*P	Pb	**20 22 39.7**	**+1.1**		
	1.1nm,0.1s								
ARXS				*e*S	Sg	**20 23 07.4**	**-0.8**		
	15nm,0.4s								
IZV	**Izvestkoviy**	**2.26**	**284**	Pg	Pb	**20 22 42.3**	**+1.1**		
IZV				Lg	Lg	20 23 12.3			
IZV	**Izvestkoviy**	**2.26**	**284**	*e*P	Pb	**20 22 42.3**	**+1.1**		
	baz=83								
IZV				*e*S	Sg	**20 23 12.3**	**-0.6**		
	baz=83								
IZV	**Izvestkoviy**	**2.26**	**284**	*e*P	Pb	**20 22 42.3**	**+1.1**		
	9.1nm,0.1s								
IZV				*e*S	Sg	**20 23 12.3**	**-0.6**		
	20nm,0.2s								
CHKK	**Chushkaly**	**2.33**	**305**	Pg	Pb	**20 22 43.5**	**+1.4**		
	0.7nm,0.1s								
CHKK				Lg	Lg	20 23 13.8			
	12nm,0.2s								
CHKK	**Chushkaly**	**2.33**	**305**	*e*P	Pb	**20 22 43.5**	**+1.4**		
	baz=5.0								
CHKK				*e*S	Sg	**20 23 13.8**	**-1.0**		
	baz=5.0								
CHKK	**Chushkaly**	**2.33**	**305**	*e*P	Pb	**20 22 43.5**	**+1.4**		
	0.7nm,0.1s								
CHKK				*e*S	Sg	**20 23 13.8**	**-1.0**		
	12nm,0.2s								
MTBS	**Maitube**	**2.42**	**285**	*e*P	Pb	**20 22 44.8**	**+1.1**		
	baz=84								
MTBS				*e*S	Sg	**20 23 16.1**	**-1.6**		
	baz=84								
MTBS	**Maitube**	**2.42**	**285**	*e*P	Pb	**20 22 44.8**	**+1.1**		
	5.3nm,0.2s								
MTBS				*e*S	Sg	**20 23 16.1**	**-1.6**		
	11nm,0.3s								
KTBS	**Karatobe**	**2.44**	**299**	Pg	Pb	**20 22 44.6**	**+0.4**		
	1.1nm,0.1s								
KTBS				Lg	Lg	20 23 16.3			
	12nm,0.4s								
KTBS	**Karatobe**	**2.44**	**299**	*e*P	Pb	**20 22 45.3**	**+1.1**		
	baz=98								
KTBS				*e*S	Sg	**20 23 16.9**	**-1.7**		
	baz=98								
KTBS	**Karatobe**	**2.44**	**299**	*e*P	Pb	**20 22 45.3**	**+1.1**		
	1.7nm,0.2s								
KTBS				*e*S	Sg	**20 23 16.9**	**-1.7**		
	12nm,0.4s								
ULHL	**Ulahol**	**2.52**	**264**	⇑*i*P	Pb	**20 22 45.1**	**-0.4**		
	baz=63								
ULHL				⇑*i*S	Sb	**20 23 17.6**	**+1.0**		
	baz=63								
BOOM	**Boomskoye usch**	**2.72**	**270**	⇓*e*P	Pb	**20 22 47.9**	**-1.0**		
	baz=69								
BOOM				⇓*i*S	Sb	**20 23 22.0**	**-0.4**		
	baz=69								
KAPS	**Kapalarasan**	**2.75**	**356**	*e*P	Pb	**20 22 50.5**	**+1.1**		
	0.4nm,0.2s								
KAPS				*e*S	Sg	**20 23 26.2**	**-2.1**		
	3.2nm,0.4s								
TKM2	**Tokmak 2**	**2.98**	**279**	⇑Pg	Pb	**20 22 53.4**	**-0.1**		
	3.5nm,1.3s								
TKM2				⇑Lg	Lg	20 23 33.2			
	3.2nm,0.6s								
TKM2	**Tokmak 2**	**2.98**	**279**	⇑*i*P	Pb	**20 22 51.9**	**-1.6**		
	baz=78								
TKM2				⇑*i*S	Sb	**20 23 28.6**	**-1.5**		
	baz=78								

SJA ***31*** *20:26:22.2±0.6,31°.39S×72°.44W,h40km±999km,ML3.6, MW4.1*
GUC ***31*** *20:26:22.5±0.6,31°.41S×72°.08W,h18km±5km,ML3.5*
ISC 31 20:26:23.6±2.2,31°.43S±0°.03×72°.0W±0°.1,h10km±15km, n18,σ1s30/27,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.88**	**74**	*e*P		**Pg**		**20 26 40.8**	**+0.1**
CMCH				IAML				20 26 58.1	
	comp=N,6μm,0.8s								
GO04	**Tololo Observa**	**1.62**	**40**	*i* P		**Pb**		**20 26 53.1**	**-0.6**
GO04				*i* S		**Sg**		**20 27 16.7**	**+1.1**
GO04	**Tololo Observa**	**1.62**	**40**	⇓*e*P		**Pb**		**20 26 52.9**	**-0.7**
GO04				*i* S		**Sg**		**20 27 15.9**	**+0.3**
ROCH	**El Roble**	**1.75**	**152**	*e*P		**Pb**		**20 26 55.1**	**-0.8**
ROCH				*i* S		**Sg**		**20 27 20.4**	**+0.4**
ROCH				IAML				20 27 30.5	
	comp=N,487nm,0.3s								
ROC1	**El Roble**	**1.75**	**152**	*i* P		**Pb**		**20 26 55.1**	**-0.9**
ROC1				*i* S		**Sg**		**20 27 20.0**	**0.0**
PEL	**Peldehue**	**2.04**	**148**	*e*P		**Pb**		**20 26 59.4**	**-1.3**
PEL				*i* S		**Sb**		**20 27 26.7**	**+0.5**
CLCH	**Cerro Calan**	**2.32**	**148**	*e*P		**Pb**		**20 27 03.6**	**-1.9**
CLCH				*i* S		**Sb**		**20 27 34.2**	**0.0**
CLCH				IAML				20 27 41.9	
	comp=E,494nm,0.5s								
RTLS	**Leoncito**	**2.33**	**100**	*i* P		**Pb**		**20 27 06.4**	**+0.6**
RTLS				IAML				20 27 42.5	
	comp=Z,358nm,0.7s								
AUSP	**Uspallata**	**2.35**	**110**	*i* P		**Pb**		**20 27 06.3**	**+0.1**
FCH	**Farellones**	**2.38**	**143**	*e*P		**Pb**		**20 27 04.7**	**-2.0**
FCH				*i* S		**Sb**		**20 27 37.0**	**+0.7**
FCH				IAML				20 27 43.6	
	comp=E,216nm,0.2s								
AROD	**Rodeo**	**2.50**	**61**	*i* P		**Pb**		**20 27 08.1**	**-0.7**
ACCO	**Cerro Coronel**	**2.65**	**72**	*i* P		**Pb**		**20 27 10.6**	**-0.7**
LCO	**Las Campanas**	**2.65**	**25**	*e*P		**Pn**		**20 27 07.4**	**+0.7**
LCO				*i* S		**Sb**		**20 27 42.8**	**-1.3**
LMEL	**Las Melosas**	**2.85**	**149**	*e*P		**Pn**		**20 27 10.8**	**+1.6**
LMEL				IAML				20 27 56.6	
	comp=N,150nm,0.1s								
ARCO	**CERRO ARCO**	**2.95**	**119**	*i* P		**Pb**		**20 27 14.1**	**-2.3**
ARCO				IAML				20 28 06.4	
	comp=Z,100nm,0.5s								
RTCV	**Cerro Valdivia**	**2.97**	**99**	*i* P		**Pb**		**20 27 14.7**	**-2.0**
RTLL	**Cerro Villicun**	**3.01**	**89**	*i* P		**Pb**		**20 27 15.2**	**-2.1**
RTLL				*i* S		**Sb**		**20 27 54.0**	**0.0**
AMOG	**MOGNA**	**3.04**	**82**	*i* P		**Pb**		**20 27 15.5**	**-2.3**

NNC ***31*** *20:27:04.9±0.9,42°.61N×79°.68E,h0km,mb2.8,mpv2.5, Error ellipse: s-maj=5.6km s-min=3.4km az=136.0*
SOME ***31*** *20:27:05.1,42°.57N×79°.73E,h20km*
KRNET ***31*** *20:27:05.6±0.1,42°.60N×79°.61E,h14km,mb2.4*
ISC 31 20:27:04.4±1.4,42°.55N±0°.05×79°.72E±0°.04,h10km,n34, σ0s98/61,14C-6D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.63**	**343**	P		**Pb**		**20 27 16.9**	**-0.7**
	13nm,0.1s								
SHLS				S		**Sb**		**20 27 25.9**	**-0.7**
	12nm,0.2s								
SHLS	**Shalkode**	**0.63**	**343**	⇓*e*P		**Pb**		**20 27 17.0**	**-0.7**
	baz=20								
SHLS				⇓*e*S		**Sb**		**20 27 26.0**	**-0.7**
	baz=20								
SHLS	**Shalkode**	**0.63**	**343**	⇓*e*P		**Pb**		**20 27 17.0**	**-0.7**
	13nm,0.1s								
SHLS				*e*S		**Sb**		**20 27 25.9**	**-0.7**
	12nm,0.2s								
UZB	**Uzunbulak**	**0.78**	**320**	P		**Pg**		**20 27 19.2**	**-0.3**
	4.0nm,0.1s								
UZB				S		**Sg**		**20 27 29.3**	**-0.5**
	9.8nm,0.2s								
UZB	**Uzunbulak**	**0.78**	**320**	*e*P		**Pg**		**20 27 19.3**	**-0.3**
	baz=22								
UZB				*e*S		**Sg**		**20 27 29.3**	**-0.5**
	baz=22								
UZB	**Uzunbulak**	**0.78**	**320**	*e*P		**Pg**		**20 27 19.2**	**-0.3**
	4.0nm,0.1s								
UZB				*e*S		**Sg**		**20 27 29.3**	**-0.5**
	9.8nm,0.2s								
PDGK	**Podgornoye**	**0.80**	**348**	P		**Pg**		**20 27 19.3**	**-0.4**
	0.8nm,0.2s								
PDGK				S		**Sb**		**20 27 29.8**	**-1.5**
	5.2nm,0.2s								
PDGK	**Podgornoye**	**0.80**	**348**	⇓P		**Pg**		**20 27 19.1**	**-0.6**
	0.5nm,0.3s								
PDGK				⇑S		**Sg**		**20 27 29.5**	**-0.6**
	3.1nm,0.2s								
PDGK	**Podgornoye**	**0.80**	**348**	⇑*i*P		**Pg**		**20 27 19.3**	**-0.4**
	baz=53								
PDGK				⇑*i*S		**Sg**		**20 27 29.6**	**-0.6**
	baz=53								
PRZ	**Przheval'sk**	**0.97**	**266**	⇓*i*P		**Pg**		**20 27 22.7**	**-0.5**
	baz=63								
PRZ				⇓*i*S		**Sg**		**20 27 34.9**	**-1.0**
	baz=63								
KTMS	**Ketmen**	**1.01**	**27**	P		**Pg**		**20 27 23.4**	**-0.4**
KTMS				S		**Sg**		**20 27 36.1**	**-0.9**
KTMS	**Ketmen**	**1.01**	**27**	*e*P		**Pg**		**20 27 23.4**	**-0.4**
	2.4nm,0.1s								
KTMS				*e*S		**Sg**		**20 27 36.1**	**-0.9**
	3.7nm,0.1s								
SATY	**Saty**	**1.09**	**298**	P		**Pb**		**20 27 25.5**	**0.0**
SATY				S		**Sb**		**20 27 39.5**	**-0.3**
SATY	**Saty**	**1.09**	**298**	*e*P		**Pb**		**20 27 25.2**	**-0.2**
	0.8nm,0.1s								
SATY				*e*S		**Sb**		**20 27 39.5**	**-0.3**
	6.9nm,0.1s								
DJR	**Jarkent**	**1.78**	**2**	P		**Pb**		**20 27 37.4**	**+0.2**
	0.8nm,0.3s								
DJR				S		**Sg**		**20 28 00.4**	**-1.2**
	1.3nm,0.2s								
DJR	**Jarkent**	**1.78**	**2**	*e*P		**Pb**		**20 27 36.6**	**-0.5**
	0.8nm,0.3s								
DJR				*e*S		**Sb**		**20 27 59.4**	**-0.2**
	1.3nm,0.2s								
KDJ	**Kajisay**	**1.93**	**258**	⇑*i*P		**Pb**		**20 27 40.1**	**+0.4**
	baz=56								
KDJ				⇑*i*S		**Sg**		**20 28 05.8**	**-0.5**
	baz=56								
KOTS	**Kotyrbulak**	**2.03**	**291**	Pg		**Pg**		**20 27 42.7**	**-0.7**
	1.5nm,0.3s								
KOTS				Lg		Lg		20 28 09.3	
	4.0nm,0.3s								
KOTS	**Kotyrbulak**	**2.03**	**291**	*e*P		**Pb**		**20 27 41.7**	**+0.2**
	baz=90								
KOTS				*e*S		**Sb**		**20 28 07.6**	**+0.7**
	baz=90								
KOTS	**Kotyrbulak**	**2.03**	**291**	*e*P		**Pb**		**20 27 41.7**	**+0.2**
	1.5nm,0.3s								
KOTS				*e*S		**Sb**		**20 28 07.6**	**+0.7**
	3.8nm,0.3s								
MDOK	**Medeo**	**2.05**	**288**	⇑Pg		**Pb**		**20 27 41.3**	**-0.6**
	3.6nm,1.2s								
MDOK				Lg		Lg		20 28 08.6	
	1.2nm,0.4s								
TNSS	**Tian-Shan**	**2.10**	**284**	Pg		**Pb**		**20 27 43.0**	**+0.2**
	1.1nm,0.1s								
TNSS				Lg		Lg		20 28 11.0	
	2.9nm,0.3s								
TNSS	**Tian-Shan**	**2.10**	**284**	*e*P		**Pb**		**20 27 42.9**	**+0.2**
	1.1nm,0.1s								
TNSS				*e*S		**Sg**		**20 28 10.5**	**-1.3**
	2.9nm,0.3s								
ARXS	**Arharly**	**2.16**	**321**	Pg		**Pb**		**20 27 43.0**	**-0.5**
ARXS				Lg		Lg		20 28 10.4	
ARXS	**Arharly**	**2.16**	**321**	*e*P		**Pb**		**20 27 43.1**	**-0.5**
	0.7nm,0.2s								
ARXS				*e*S		**Sb**		**20 28 10.4**	**0.0**
	6.0nm,0.3s								
CHKK	**Chushkaly**	**2.38**	**304**	*e*P		**Pb**		**20 27 47.2**	**-0.2**
	0.9nm,0.1s								
CHKK				*e*S		**Sb**		**20 28 17.3**	**+0.5**
	3.0nm,0.2s								
ULHL	**Ulahol**	**2.59**	**264**	⇑*i*P		**Pb**		**20 27 49.6**	**-1.5**
	baz=63								
ULHL				⇑*i*S		**Sb**		**20 28 22.1**	**-0.9**
	baz=63								
KAPS	**Kapalarasan**	**2.75**	**355**	Pg		**Pb**		**20 27 53.4**	**-0.2**
KAPS				Lg		Lg		20 28 28.6	
KAPS	**Kapalarasan**	**2.75**	**355**	*e*P		**Pb**		**20 27 53.9**	**+0.3**
	0.4nm,0.3s								
KAPS				*e*S		**Sb**		**20 28 29.0**	**+1.6**
	2.0nm,0.5s								
BOOM	**Boomskoye usch**	**2.79**	**270**	⇑*i*P		**Pb**		**20 27 52.8**	**-1.7**
	baz=69								
BOOM				⇑*i*S		**Sb**		**20 28 26.9**	**-1.9**
	baz=69								
DGS	**Degeres**	**2.98**	**285**	Pg		**Pb**		**20 27 57.6**	**0.0**
DGS				Lg		Lg		20 28 35.6	
DGS	**Degeres**	**2.98**	**285**	*e*P		**Pb**		**20 27 57.9**	**+0.3**
	1.1nm,0.6s								
DGS				*e*S		**Sb**		**20 28 36.2**	**+2.2**
	2.6nm,0.4s								
TKM2	**Tokmak 2**	**3.06**	**278**	⇑Pg		**Pb**		**20 27 58.4**	**-0.6**
	2.6nm,1.2s								
TKM2				⇑Lg		Lg		20 28 38.6	
	1.4nm,0.8s								
TKM2	**Tokmak 2**	**3.06**	**278**	⇑*i*P		**Pn**		**20 27 56.0**	**+3.0**
	baz=77								
TKM2				⇑*i*S		**Sb**		**20 28 33.1**	**-3.3**
	baz=77								

IDC ***31*** *20:30:54.1±0.7,13°.82N×93°.02E,h0km,mb3.9/12, mb1 4.0/13,mb1mx3.7/65,mbtmp3.9/13,ML3.6/1,MS3.4/5, Ms1 3.4/5,ms1mx3.0/50,Error ellipse: s-maj=25.5km s-min=15.5km az=60.0*
ISCJB ***31*** *20:30:57.9±0.5,14°.08N±0°.06×92°.99E±0°.05,h32km, mb4.1/20,MS3.4/6,Error ellipse: s-maj=8.4km s-min=7.3km az=31.3*
NEIC ***31*** *20:31:00.6±1.1,13°.98N×93°.09E,h46km±11km,mb4.6/6, Error ellipse: s-maj=12.0km s-min=8.8km az=89.0*
ISC 31 20:30:59.6±0.7,14°.10N±0°.09×93°.03E±0°.08,h32km,n52, σ1s70/57,mb4.1/20,MS3.4/6,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.44**	**187**	*e*Pn		Pn		20 31 37.5	+0.3
CM01	**Chiang Mai Arr**	**7.13**	**52**	*e*Pn		**Pn**		**20 32 41.3**	**-0.4**
CM31	**Chiang Mai Arr**	**7.14**	**52**	*e*Pn		**Pn**		**20 32 43.2**	**+1.3**
CMAR	**Chiang Mai Arr**	**7.14**	**52**	Pn		**Pn**		**20 32 42.6**	**+0.7**
	0.2nm,0.3s,baz=242,slow=14,SNR=9.3								
CMAR						Sn		**20 34 00.3**	**-1.7**
	1.8nm,0.3s,baz=239,slow=24,SNR=12								
CMAR						LR	LR	20 36 14.3	
	comp=Z,192nm,19.6s,baz=240,slow=44								
CHTO	**Chiang Mai**	**7.36**	**50**	*e*Pn		**Pn**		**20 32 45.7**	**+0.8**
PBKT	**Sadao Pong**	**8.05**	**71**	*e*Pn		**Pn**		**20 32 56.8**	**+2.5**
SHL	**Shillong**	**11.46**	**355**	*e*Pn		**Pn**		**20 33 37.6**	**-3.6**
SHL	**Shillong**	**11.46**	**355**	*e*P		**Pn**		**20 33 41.0**	**-0.2**
RAMN	**Ramite**	**14.13**	**336**	*e*P		**Pn**		**20 34 17.1**	**-0.6**
	30nm,0.5s								
KMI	**Kunming**	**14.27**	**38**	P		**P**		**20 34 24.5**	**-2.1**
KMI				pmax		pmax			
	comp=Z,9.0nm,0.7s								
KMI				LR		LR			
	comp=N,190nm,17.4s								
KMI				LR		LR			
	comp=E,89nm,12.6s								
KMI				LR		LR			
	comp=Z,150nm,18.0s								

JIRN	**Jiri**	**14.92**	**336**	*e*P		**Pn**		**20 34 27.6**	**-1.0**
	comp=Z,59nm,0.8s								
PKI	**Pulchoki**	**15.17**	**333**	*e*P		**Pn**		**20 34 30.0**	**-1.9**
PKIN	**Phulchoki**	**15.18**	**333**	*e*P		**Pn**		**20 34 30.6**	**-1.4**
	comp=Z,24nm,0.6s								
GUN	**Gumba**	**15.27**	**335**	*e*P		**Pn**		**20 34 33.7**	**+0.5**
DMN	**Daman**	**15.34**	**332**	*e*P		**Pn**		**20 34 32.5**	**-1.5**
	comp=Z,48nm,0.7s								
LSA	**Lhasa**	**15.62**	**354**	*e*Pn		**Pn**		**20 34 37.0**	**-0.9**
	comp=Z,5.3nm,0.8s								
KOLN	**Koldanda**	**16.19**	**329**	*e*P		**Pn**		**20 34 43.7**	**-1.3**
	comp=Z,47nm,0.7s								
DANN	**Dangsing**	**16.59**	**330**	*e*P		**Pn**		**20 34 49.0**	**-1.1**
	comp=Z,19nm,0.5s								
PYUN	**Piuthan**	**16.77**	**328**	*e*P		**Pn**		**20 34 51.8**	**-0.5**
	comp=Z,48nm,0.7s								
LZH	**Lanzhou**	**23.95**	**22**	*e*P		**P**		**20 36 13.0**	**+1.8**
LZH				pP		sP		20 36 28.8	+5.0
LZH				sP		pP		20 36 36.8	+17
LZH				pmax		pmax			
	comp=Z,17nm,1.4s								
GTA	**Gaotai**	**25.91**	**12**	*e*P		**P**		**20 36 31.3**	**+2.4**
GTA				pP		pP		20 36 38.5	+0.7
GTA				sP		sP		20 36 41.5	-0.2
GTA				pmax		pmax			
	comp=Z,2.0nm,1.0s								
GTA				pmax		pmax			
	comp=Z,50nm,4.3s								
GTA				LR		LR			
	comp=N,120nm,19.6s								
GTA				LR		LR			
	comp=E,140nm,18.2s								
GTA				LR		LR			
	comp=Z,100nm,15.8s								
KSH	**Kashi**	**29.43**	**333**	P		**P**		**20 37 01.8**	**+1.3**
KSH				pP		pP		20 37 09.0	-0.4
KSH				sP		sP		20 37 10.0	-3.2
KSH				PP		**PnPn**		**20 37 54.3**	**-0.8**
KSH				PcP		**PcP**		**20 40 09.3**	**+3.4**
KSH				S		**S**		**20 41 49.0**	**-3.6**
KSH				sS		pS		20 42 03.5	+1.5
KSH				SS		**SnSn**		**20 43 18.5**	**-2.5**
KSH				pmax		pmax			
	comp=Z,5.0nm,0.6s								
KSH				pmax		pmax			
	comp=Z,560nm,5.5s								
KSH				LR		LR			
	comp=N,180nm,5.4s								
KSH				LR		LR			
	comp=E,200nm,5.0s								
KSH				LR		LR			
	comp=Z,740nm,6.2s								
WMQ	**Urumqi**	**29.97**	**352**	*e*P		**P**		**20 37 07.0**	**+1.9**
WMQ				pP		pP		20 37 14.8	+0.7
WMQ				LR		LR			
	comp=N,36nm,15.5s								
WMQ				LR		LR			
	comp=E,13nm,15.5s								
WMQ				LR		LR			
	comp=Z,70nm,17.5s								
HHC	**Hu-ho-hao-te**	**31.18**	**28**	*e*P		**P**		**20 37 19.0**	**+3.1**
HHC				pmax		pmax			
	comp=Z,19nm,1.0s								
HHC				pmax		pmax			
	comp=Z,200nm,8.5s								
AAK	**Ala-Archa**	**32.63**	**334**	*e*P		**P**		**20 37 29.7**	**+1.1**
	comp=Z,11nm,1.8s								
MK01	**Makanchi Array**	**33.79**	**347**	*e*P		**P**		**20 37 39.6**	**+1.0**
MK31	**Makanchi Array**	**33.81**	**347**	*e*P		**P**		**20 37 40.1**	**+1.3**
MK32	**Makanchi Array**	**33.81**	**347**	*e*P		**P**		**20 37 40.1**	**+1.4**
MKAR	**Makanchi Array**	**33.81**	**347**	P		**P**		**20 37 40.1**	**+1.3**
	comp=Z,2.6nm,0.8s,baz=163,slow=8.3,SNR=26								
MKAR				LR		LR		20 55 03.7	
	comp=Z,48nm,18.6s,baz=106,slow=42								
MKAR	**Makanchi Array**	**33.81**	**347**	*e*P		**P**		**20 37 40.1**	**+1.3**
	comp=Z,16nm,0.8s								
MAKZ	**Makanchi**	**33.90**	**346**	*e*P		**P**		**20 37 40.7**	**+1.2**
	comp=Z,5.7nm,1.4s								
SONA0	**Songino Array**	**35.42**	**16**	*e*P		**P**		**20 37 54.4**	**+1.6**
SONM	**Songino Array**	**35.42**	**16**	P		**P**		**20 37 54.4**	**+1.6**
	comp=Z,0.9nm,0.8s,baz=204,slow=8.9,SNR=6.5								
SONM				LR		LR		20 53 57.1	
	comp=Z,43nm,19.3s,baz=321,slow=39								
KURBB	**Kurchatov Arra**	**38.28**	**345**	P		**P**		**20 38 18.7**	**+1.8**
	comp=Z,2.2nm,0.8s,baz=163,slow=8.0,SNR=18								
KSRS	**Korea Array**	**38.75**	**47**	LR		LR		20 57 01.6	
	comp=Z,64nm,19.5s,baz=224,slow=40								
GEYT	**Alibeck**	**38.98**	**314**	P		**P**		**20 38 24.7**	**+1.7**
	comp=Z,1.9nm,0.7s,baz=111,slow=7.9,SNR=5.7								
ZALV	**Zalesovo Beam**	**40.28**	**352**	P		**P**		**20 38 35.2**	**+1.7**
	comp=Z,1.7nm,0.7s,baz=171,slow=9.9,SNR=9.6								
ZALV	**Zalesovo Beam**	**40.28**	**352**	*e*P		**P**		**20 38 34.0**	**+0.5**
ZAA1	**Zalesovo Array**	**40.28**	**353**	*e*P		**P**		**20 38 35.2**	**+1.6**
BVAR	**Borovoye Array**	**42.79**	**340**	P		**P**		**20 38 56.0**	**+1.8**
	comp=Z,0.6nm,0.7s,baz=145,slow=5.3,SNR=4.4								
ABKAR	**Akbulak array**	**44.31**	**329**	*e*P		**P**		**20 39 08.3**	**+1.9**
MJAR	**Matsushiro Arr**	**46.03**	**53**	LR		LR		21 00 52.1	
	comp=Z,56nm,18.1s,baz=90,slow=39								
KIV	**Kislovodsk**	**52.07**	**315**	*e*P		**P**		**20 40 06.0**	**-0.6**
	comp=Z,5.9nm,0.8s								
WRA	**Warramunga Arr**	**52.88**	**129**	P		**P**		**20 40 10.5**	**-2.2**
	comp=Z,0.8nm,0.6s,baz=309,slow=8.0,SNR=9.9								
WRA				PcP		**PcP**		**20 41 20.6**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=314,slow=3.4,SNR=9.9								
WR1	**Warramunga Arr**	**52.88**	**129**	*e*P		**P**		**20 40 10.5**	**-2.2**
	comp=Z,28nm,1.9s								
WR1				*e*PcP		**PcP**		**20 41 20.6**	**-1.1**
ASAR	**Alice Springs**	**54.83**	**133**	P		**P**		**20 40 25.1**	**-1.9**
ASAR		

ISC 31 20:39:41.1±1.0, 42.60N±0.04×79.61E±0.03, h10km, n63, σ1§32/116, 24C-19D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode** 45nm,0.1s	**0.57**	**349**	P	**Pb**	**20 39 52.5**	**-0.7**
SHLS	140nm,0.3s			S	**Sb**	**20 40 01.4**	**0.0**
SHLS	**Shalkode** baz=16	**0.57**	**349**	⇓*e*P	**Pb**	**20 39 52.5**	**-0.7**
SHLS	baz=16			⇓*e*S	**Sb**	**20 40 01.4**	**0.0**
SHLS	**Shalkode** 45nm,0.1s	**0.57**	**349**	⇓*e*P	**Pb**	**20 39 52.5**	**-0.7**
SHLS	140nm,0.3s			*e*S	**Sb**	**20 40 01.4**	**0.0**
UZB	**Uzynbulak** 6.1nm,0.1s	**0.70**	**322**	P	**Pg**	**20 39 54.2**	**-0.4**
UZB	71nm,0.2s			S	**Sb**	**20 40 04.4**	**-0.8**
UZB	**Uzynbulak** baz=22	**0.70**	**322**	⇓*e*P	**Pg**	**20 39 54.2**	**-0.4**
UZB	baz=22			⇓*e*S	**Sb**	**20 40 04.4**	**-0.8**
UZB	**Uzynbulak** 6.1nm,0.1s	**0.70**	**322**	⇓*e*P	**Pg**	**20 39 54.2**	**-0.4**
UZB	71nm,0.2s			*e*S	**Sb**	**20 40 04.4**	**-0.8**
PDGK	**Podgornoye** 7.8nm,0.2s	**0.73**	**353**	P	**Pg**	**20 39 54.6**	**-0.7**
PDGK	**Podgornoye** 2.7nm,0.2s	**0.73**	**353**	⇑P	**Pg**	**20 39 54.4**	**-0.9**
PDGK	5.1nm,0.3s			⇓S	**Sg**	**20 40 04.8**	**-0.1**
PDGK	**Podgornoye** baz=51	**0.73**	**353**	⇑*i*P	**Pg**	**20 39 54.6**	**-0.7**
PDGK	baz=51			⇑*i*S	**Sb**	**20 40 05.0**	**-1.2**
PRZ	**Przheval'sk** baz=65	**0.90**	**263**	⇓*i*P	**Pg**	**20 39 57.9**	**-0.6**
PRZ	baz=65			⇓*i*S	**Sg**	**20 40 10.0**	**-0.3**
SATY	**Saty**	**1.00**	**298**	P	**Pg**	**20 39 59.3**	**-1.0**
SATY				S	**Sg**	**20 40 12.8**	**-0.6**
SATY	**Saty** 1.8nm,0.1s	**1.00**	**298**	*e*P	**Pg**	**20 39 59.3**	**-1.0**
SATY	58nm,0.1s			*e*S	**Sg**	**20 40 12.8**	**-0.6**
KTMS	**Ketmen** 9.2nm,0.1s	**1.00**	**32**	P	**Pg**	**20 39 59.2**	**-1.2**
KTMS	10nm,0.1s			S	**Sg**	**20 40 12.7**	**-0.8**
KTMS	**Ketmen** baz=29	**1.00**	**32**	*e*P	**Pg**	**20 39 59.2**	**-1.2**
KTMS	baz=29			*e*S	**Sg**	**20 40 12.7**	**-0.8**
KTMS	**Ketmen** 9.2nm,0.1s	**1.00**	**32**	*e*P	**Pg**	**20 39 59.2**	**-1.2**
KTMS	10nm,0.1s			*e*S	**Sg**	**20 40 12.8**	**-0.8**
KURS	**Kuram**	**1.38**	**310**	P	**Pb**	**20 40 06.7**	**-0.3**
KURS				S	**Sg**	**20 40 25.3**	**-0.2**
KURS	**Kuram** baz=11	**1.38**	**310**	*e*P	**Pn**	**20 40 06.1**	**-0.4**
KURS	baz=11			*e*S	**Sg**	**20 40 24.7**	**-0.8**
KURS	**Kuram** 3.5nm,0.5s	**1.38**	**310**	*e*P	**Pn**	**20 40 06.1**	**-0.4**
KURS	5.6nm,0.5s			*e*S	**Sg**	**20 40 24.7**	**-0.8**
MNBS	**Baschi** 11nm,0.2s	**1.72**	**330**	P	**Pb**	**20 40 12.0**	**-0.9**
MNBS	23nm,0.2s			S	**Sg**	**20 40 35.4**	**-1.1**
MNBS	**Baschi** baz=30	**1.72**	**330**	*e*P	**Pb**	**20 40 12.0**	**-0.9**
MNBS	baz=30			*e*S	**Sg**	**20 40 35.4**	**-1.1**
MNBS	**Baschi** 11nm,0.2s	**1.72**	**330**	*e*P	**Pb**	**20 40 12.0**	**-0.9**
MNBS	23nm,0.2s			*e*S	**Sg**	**20 40 35.4**	**-1.1**
DJR	**Jarkent** 3.8nm,0.2s	**1.74**	**4**	P	**Pb**	**20 40 12.4**	**-0.7**
DJR	7.1nm,0.2s			S	**Sg**	**20 40 36.1**	**-0.8**
DJR	**Jarkent** 3.8nm,0.2s	**1.74**	**4**	⇓*e*P	**Pb**	**20 40 12.4**	**-0.7**
DJR	7.1nm,0.2s			*e*S	**Sg**	**20 40 36.1**	**-0.8**
KDJ	**Kajisay** baz=57	**1.86**	**256**	⇓*i*P	**Pb**	**20 40 15.2**	**-0.1**
KDJ	baz=57			⇓*i*S	**Sg**	**20 40 39.8**	**-1.2**
KOTS	**Kotyrbulak** 3.0nm,0.3s	**1.94**	**290**	Pg	**Pb**	**20 40 16.6**	**0.0**
KOTS	33nm,0.4s			Lg	Lg	20 40 43.4	
KOTS	**Kotyrbulak** baz=90	**1.94**	**290**	*e*P	**Pb**	**20 40 16.2**	**-0.4**
KOTS	baz=90			*e*S	**Sg**	**20 40 42.4**	**-1.1**
KOTS	**Kotyrbulak** 3.0nm,0.3s	**1.94**	**290**	*e*P	**Pb**	**20 40 16.2**	**-0.4**
KOTS	33nm,0.4s			*e*S	**Sg**	**20 40 42.4**	**-1.1**
MDOK	**Medeo** 2.6nm,0.5s	**1.97**	**287**	⇑Pg	**Pb**	**20 40 17.0**	**0.0**
MDOK	7.1nm,0.5s			Lg	Lg	20 40 42.3	
MDOK	**Medeo** 2.1nm,0.3s	**1.97**	**287**	Pg	**Pb**	**20 40 16.6**	**-0.4**
MDOK	7.8nm,0.3s			Lg	Lg	20 40 42.6	
MDOK	**Medeo** baz=88	**1.97**	**287**	*e*P	**Pb**	**20 40 16.7**	**-0.4**
MDOK	baz=88			*e*S	**Sb**	**20 40 42.6**	**+0.9**
MDOK	**Medeo** 2.1nm,0.3s	**1.97**	**287**	*e*P	**Pb**	**20 40 16.6**	**-0.4**
MDOK	7.8nm,0.3s			*e*S	**Sb**	**20 40 42.6**	**+0.9**
TNSS	**Tian-Shan** 2.9nm,0.3s	**2.01**	**283**	Pg	**Pb**	**20 40 17.2**	**-0.7**
TNSS	15nm,0.4s			Lg	Lg	20 40 44.1	
TNSS	**Tian-Shan** baz=84	**2.01**	**283**	*e*P	**Pb**	**20 40 17.2**	**-0.7**
TNSS	baz=84			*e*S	**Sb**	**20 40 44.1**	**+0.9**
TNSS	**Tian-Shan** 2.9nm,0.3s	**2.01**	**283**	*e*P	**Pb**	**20 40 17.2**	**-0.7**
TNSS	15nm,0.4s			*e*S	**Sb**	**20 40 44.1**	**+0.9**
ARXS	**Arharly** 5.6nm,0.3s	**2.07**	**322**	Pg	**Pb**	**20 40 18.2**	**-0.7**
ARXS	44nm,0.4s			Lg	Lg	20 40 46.1	
ARXS	**Arharly** 5.6nm,0.3s	**2.07**	**322**	*e*P	**Pb**	**20 40 18.1**	**-0.7**
ARXS	44nm,0.4s			*e*S	**Sg**	**20 40 46.1**	**-1.6**
IZV	**Izvestkoviy**	**2.25**	**282**	Pg	**Pb**	**20 40 21.6**	**-0.3**
IZV				Lg	Lg	20 40 51.4	
IZV	**Izvestkoviy** baz=83	**2.25**	**282**	*e*P	**Pb**	**20 40 21.6**	**-0.3**
IZV	baz=83			*e*S	**Sg**	**20 40 51.4**	**-1.9**
IZV	**Izvestkoviy** 5.2nm,0.2s	**2.25**	**282**	*e*P	**Pb**	**20 40 21.6**	**-0.3**
IZV	41nm,0.2s			*e*S	**Sg**	**20 40 51.4**	**-1.9**
CHKK	**Chushkaly** baz=5.0	**2.29**	**304**	*e*P	**Pb**	**20 40 22.0**	**-0.5**
CHKK	baz=5.0			*e*S	**Sg**	**20 40 52.5**	**-2.1**
CHKK	**Chushkaly** 1.8nm,0.1s	**2.29**	**304**	*e*P	**Pb**	**20 40 22.0**	**-0.5**
CHKK	27nm,0.3s			*e*S	**Sg**	**20 40 52.6**	**-2.1**
MTBS	**Maitube** baz=84	**2.40**	**284**	*e*P	**Pb**	**20 40 24.3**	**-0.1**
MTBS	baz=84			*e*S	**Sg**	**20 40 55.9**	**-2.2**
MTBS	**Maitube** 3.3nm,0.2s	**2.40**	**284**	*e*P	**Pb**	**20 40 24.3**	**-0.1**
MTBS	17nm,0.5s			*e*S	**Sg**	**20 40 56.0**	**-2.2**
KTBS	**Karatobe** 1.6nm,0.3s	**2.42**	**298**	Pg	**Pb**	**20 40 24.3**	**-0.3**
KTBS	14nm,0.2s			Lg	Lg	20 40 56.3	
KTBS	**Karatobe** baz=98	**2.42**	**298**	*e*P	**Pb**	**20 40 24.3**	**-0.3**
KTBS	baz=98			*e*S	**Sg**	**20 40 56.3**	**-2.4**
KTBS	**Karatobe** 1.6nm,0.3s	**2.42**	**298**	*e*P	**Pb**	**20 40 24.3**	**-0.3**
KTBS	14nm,0.2s			*e*S	**Sg**	**20 40 56.2**	**-2.4**
ULHL	**Ulahol** baz=64	**2.52**	**263**	⇑*i*P	**Pb**	**20 40 25.1**	**-1.4**
ULHL	baz=64			⇑*i*S	**Sb**	**20 40 56.9**	**-0.8**
KAPS	**Kapalarasan** 1.2nm,0.2s	**2.69**	**356**	*e*P	**Pb**	**20 40 29.1**	**-0.3**
KAPS	3.8nm,0.2s			*e*S	**Sg**	**20 41 04.6**	**-2.9**
BOOM	**Boomskoye usch** baz=70	**2.72**	**269**	⇑*i*P	**Pb**	**20 40 27.6**	**-2.2**
BOOM	baz=70			⇑*i*S	**Sb**	**20 41 01.2**	**-2.1**
KUU	**Kurty** baz=0.0	**2.72**	**299**	⇑*i*P	**Pb**	**20 40 29.6**	**-0.2**
KUU	baz=0.0			⇓*i*S	**Sb**	**20 41 05.1**	**+1.9**
KUU	**Kurty** 0.8nm,0.4s	**2.72**	**299**	⇑*i*P	**Pb**	**20 40 29.6**	**-0.2**
KUU	10nm,0.3s			⇓*i*S	**Sb**	**20 41 05.1**	**+1.9**
KST	**Kastek** baz=81	**2.72**	**281**	*e*P	**Pb**	**20 40 29.5**	**-0.4**
KST	baz=81			⇓*i*S	**Sb**	**20 41 05.3**	**+1.9**
KST	**Kastek** 2.9nm,0.2s	**2.72**	**281**	*e*P	**Pb**	**20 40 29.5**	**-0.4**
KST	7.8nm,0.5s			⇓*i*S	**Sb**	**20 41 05.3**	**+1.9**
DGS	**Degeres** baz=85	**2.89**	**284**	*e*P	**Pb**	**20 40 32.6**	**-0.2**
DGS	baz=85			*e*S	**Sb**	**20 41 10.4**	**+2.1**
DGS	**Degeres** 1.5nm,0.3s	**2.89**	**284**	*e*P	**Pb**	**20 40 32.6**	**-0.2**
DGS	27nm,0.5s			*e*S	**Sb**	**20 41 10.3**	**+2.1**
NRN	**Naryn** baz=49	**2.93**	**248**	⇑*i*P	**Pb**	**20 40 31.2**	**-2.4**
NRN	baz=49			⇑*i*S	**Sb**	**20 41 07.7**	**-2.0**
TKM2	**Tokmak 2** 1.2nm,0.6s	**2.97**	**278**	⇑Pg	**Pg**	**20 40 35.9**	**-2.1**
TKM2	1.7nm,0.2s			⇑Lg	Lg	20 41 13.1	
TKM2	**Tokmak 2** baz=78	**2.97**	**278**	⇑*i*P	**Pb**	**20 40 31.2**	**-3.1**
TKM2	baz=78			⇑*i*S	**Sb**	**20 41 07.7**	**-3.0**
KZA	**Kyzart** baz=63	**3.28**	**262**	⇑*i*P	**Pn**	**20 40 35.6**	**+2.8**
KZA	baz=63			⇑*i*S	**Sn**	**20 41 15.2**	**+3.1**
AAK	**Ala-Archa** 2.3nm,0.9s	**3.78**	**272**	⇑Pg	**Pb**	**20 40 49.4**	**+1.5**
AAK	3.0nm,0.7s			⇓Lg	Lg	20 41 40.2	
ARLS	**Aral** baz=62	**4.00**	**261**	⇓*i*P	**Pn**	**20 40 45.0**	**+2.5**
ARLS	baz=62			⇓*i*S	**Sn**	**20 41 31.9**	**+2.4**
MAKZ	**Makanchi** 1.9nm,1.0s	**4.53**	**21**	⇑Pn	**Pn**	**20 40 51.3**	**+1.6**
MAKZ	3.4nm,1.6s			⇑Sn	**Sn**	**20 41 43.7**	**+1.2**
MAKZ	1.4nm,1.1s			⇑Lg	Lg	20 42 02.9	
MK31	**Makanchi Array** 0.1nm,0.2s,baz=197,slow=12,SNR=12	**4.61**	**24**	⇑Pn	**Pn**	**20 40 52.5**	**+1.7**
MK31	0.2nm,0.3s,baz=206,slow=24,SNR=7.3			Sn	**Sn**	**20 41 46.0**	**+1.7**
MK31	0.6nm,0.6s,baz=195,slow=27,SNR=3.6			⇑Lg	Lg	20 42 05.3	

*IDC **31** 21:03:05.9±1.0, 23.56S×111.91W, h0km, mb3.8/6, mb1 4.2/7, mb1mx4.0/27, mbtmp3.8/7, ML3.9/1, MS3.8/4, Ms1 3.8/4, ms1mx3.3/31, Error ellipse: s-maj=42.3km s-min=26.3km az=57.0*

*ISCJB **31** 21:03:06.6±0.9, 23.4S±0.1×111.8W±0.2, h10km, mb4.0/11, MS3.8/4, Error ellipse: s-maj=26.6km s-min=18.5km az=161.8*

*NEIC **31** 21:03:07.5±0.5, 23.56S×111.71W, h10km, mb4.2/4, Error ellipse: s-maj=20.5km s-min=11.9km az=76.0*

ISC 31 21:03:07.4±0.8, 23.6S±0.1×111.7W±0.2, h10km, n37, σ1§12/29, mb3.9/11, MS3.9/4, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui** 7.3nm,0.3s,baz=318,slow=19,SNR=9.9	**4.15**	**149**	Pn	**Pn**	**21 04 09.7**	**-1.1**
RPN	19nm,0.3s,baz=178,slow=23,SNR=6.1			T	T	21 08 40.6	
RPN	**Rapa Nui**	**4.15**	**149**	*e*Pn	**Pn**	**21 04 08.5**	**-2.3**
RPN				TT		21 08 40.6	
OTAV	**Otavalo** 1.3nm,0.4s	**40.06**	**59**	*e*P	**P**	**21 10 44.1**	**+0.5**
LPAZ	**La Paz** 2.0nm,0.9s,baz=250,slow=4.9,SNR=6.7	**41.50**	**88**	P	**P**	**21 10 57.4**	**+1.6**
LPAZ	comp=Z,62nm,18.8s,baz=215,slow=31			LR	LR	21 24 27.4	
LPAZ	**La Paz**	**41.50**	**88**	*e*P	**P**	**21 10 57.6**	**+1.8**
JTS	**JuntasAbangare** 3.0nm,0.3s	**42.65**	**41**	*e*P	**P**	**21 11 03.3**	**-1.0**
RAR	**Rarotonga** comp=Z,157nm,21.6s,baz=130,slow=29	**44.32**	**263**	LR	LR	21 24 06.9	
LTX	**Lajitas**	**53.17**	**9**	*e*P	**P**	**21 12 25.9**	**+0.2**
TXAR	**Lajitas Array** 0.4nm,0.7s,baz=191,slow=9.2,SNR=5.0	**53.17**	**9**	P	**P**	**21 12 25.9**	**+0.2**
JCT	**Junction City**	**54.95**	**13**	*e*P	**P**	**21 12 38.9**	**+0.2**
MNTX	**Cornudas Mount** 0.5nm,0.5s	**55.30**	**7**	*e*P	**P**	**21 12 40.9**	**-0.2**
TUC	**Tucson** 1.7nm,0.4s	**55.58**	**1**	*e*P	**P**	**21 12 42.6**	**-0.6**
BDFB	**Brasilia** comp=Z,79nm,18.5s,baz=221,slow=34	**60.14**	**95**	LR	LR	21 36 44.9	
NV01	**Mina Array Sit**	**61.98**	**354**	*e*P	**P**	**21 13 28.4**	**+0.6**
NVAR	**Mina Array Bea** 1.2nm,0.8s,baz=180,slow=9.8,SNR=4.0	**61.98**	**354**	P	**P**	**21 13 28.2**	**+0.4**
PD31	**Pinedale Array**	**66.04**	**2**	*e*P	**P**	**21 13 53.2**	**-1.3**
PDAR	**Pinedale Array** 0.6nm,0.7s,baz=179,slow=5.6,SNR=6.2	**66.04**	**2**	P	**P**	**21 13 53.2**	**-1.3**
PDAR	comp=Z,57nm,18.5s,baz=110,slow=31			LR	LR	21 37 24.9	
QSPA	**South Pole Qui** 13nm,1.3s	**66.58**	**180**	*e*P	**P**	**21 13 59.7**	**+2.0**
YKA	**Yellowknife Ar** 0.6nm,0.8s,baz=171,slow=4.9,SNR=9.1	**85.80**	**359**	P	**P**	**21 15 46.2**	**-0.3**
YKB5	**Yellowknife Ar**	**85.80**	**359**	*e*P	**P**	**21 15 46.2**	**-0.3**
H11S2	**WAKE ISLAND Hy** baz=115,slow=75,SNR=64	**89.86**	**290**	T	T	22 55 28.5	
H11S1	**WAKE ISLAND Hy** baz=115,slow=75,SNR=45	**89.87**	**290**	T	T	22 55 29.4	
H11S3	**WAKE ISLAND Hy** baz=115,slow=75,SNR=38	**89.88**	**290**	T	T	22 55 29.8	
H11N3	**WAKE ISLAND Hy** baz=116,slow=75,SNR=11	**90.20**	**291**	T	T	22 55 51.2	
H11N1	**WAKE ISLAND Hy** baz=116,slow=75,SNR=7.8	**90.21**	**291**	T	T	22 55 36.6	
H11N2	**WAKE ISLAND Hy** baz=116,slow=75,SNR=15	**90.22**	**291**	T	T	22 55 53.1	
ILAR	**Eielson Array** 0.4nm,0.9s,baz=183,slow=5.4,SNR=3.0	**92.17**	**346**	P	**P**	**21 16 16.9**	**+0.3**
ILB	**Eielson Array**	**92.17**	**346**	*e*P	**P**	**21 16 16.9**	**+0.3**
BR101	**Keskin Array S**	**146.66**	**53**	*e*PKPdf	**PKPab**	**21 22 50.5**	**-0.3**
BRTR	**Keskin Array B** 1.9nm,0.8s,baz=229,slow=1.4,SNR=8.9	**146.66**	**53**	PKPbc	**PKPab**	**21 22 50.5**	**-0.3**
ZAA1	**Zalesovo Array**	**147.20**	**342**	*e*PKPdf	**PKPbc**	**21 22 49.1**	**-1.5**
ZALV	**Zalesovo Beam** 0.6nm,0.6s,baz=48,slow=2.1,SNR=4.5	**147.21**	**342**	PKPbc	**PKPbc**	**21 22 49.1**	**-1.5**
CM31	**Chiang Mai Arr**	**150.95**	**266**	*e*PKPbc	**PKPbc**	**21 23 01.6**	**+0.5**
CMAR	**Chiang Mai Arr** 2.4nm,0.9s,baz=181,slow=0.3,SNR=13	**150.95**	**266**	PKPbc	**PKPbc**	**21 23 01.6**	**+0.5**
KBZ	**Khabaz** 3.4nm,0.9s,baz=205,slow=4.1,SNR=8.5	**151.04**	**40**	PKPbc	**PKPbc**	**21 23 01.9**	**+1.3**
MK32	**Makanchi Array**	**154.23**	**337**	*e*PKPbc	**PKPbc**	**21 23 06.4**	**-1.3**
MKAR	**Makanchi Array** 0.8nm,0.8s,baz=46,slow=3.5,SNR=7.0	**154.23**	**337**	PKPbc	**PKPbc**	**21 23 06.4**	**-1.3**

*NIED **31** 21:12:00, 36.60N×141.10E, h47km, Mw3.5 Best double couple: M0 2.26000×10^14 NP1:φs168.00000°, δ32.00000°, λ44.00000°. NP2:φs39.00000°, δ68.00000°, λ114.00000°.*

*ISCJB **31** 21:12:47.7±0.8, 36.56N±0.04×141.27E±0.08, h48km±7km, mb3.3/5, Error ellipse: s-maj=10.8km s-min=5.3km az=16.1*

*IDC **31** 21:12:49.0±3.0, 36.58N×141.22E, h39km±27km, mb3.2/5, mb1 3.5/8, mb1mx3.2/61, mbtmp3.5/8, ML3.2/3, MS2.4/1, Ms1 2.4/1, ms1mx1.9/22, Error ellipse: s-maj=26.5km s-min=18.3km az=94.0*

*JMA **31** 21:12:50.1±0.1, 36.60N×141.07E, h51km±1km, M3.7*

JMA Felt I J1.

ISC 31 21:12:49.1±1.1, 36.58N±0.06×141.2E±0.1, h39km±8km, n24, σ0§63/29, mb3.4/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.52**	**274**	P	**Pn**	**21 13 00.3**	**+0.2**
JHO				S	**Sn**	**21 13 07.5**	**-0.4**
JHYU	**Hitachinakayam**	**0.56**	**245**	P	**Pn**	**21 13 01.1**	**+0.5**
JHYU				S	**Sn**	**21 13 09.0**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.62**	**328**	P	**Pn**	**21 13 01.7**	**+0.1**
ONAJ				S	**Sn**	**21 13 09.8**	**-0.6**
JFFD	**Fukushimafurud**	**0.73**	**315**	P	**Pn**	**21 13 03.1**	**+0.1**
JFFD				S	**Sn**	**21 13 12.2**	**-0.8**
JFK	**Kawauchi**	**0.83**	**341**	P	**Pn**	**21 13 04.6**	**+0.2**
JFK				S	**Sn**	**21 13 15.2**	**-0.4**
JYT	**Yasato**	**0.89**	**247**	P	**Pn**	**21 13 05.1**	**-0.1**
JYT				S	**Sn**	**21 13 16.0**	**-0.9**
JFT	**Otama**	**1.17**	**324**	P	**Pn**	**21 13 10.0**	**+0.9**
JFT				S	**Sn**	**21 13 24.5**	**+0.7**
JMM	**Marumori**	**1.33**	**345**	P	**Pn**	**21 13 11.8**	**+0.6**
JMM				S	**Sn**	**21 13 28.0**	**+0.3**
MJAR	**Matsushiro Arr** 4.1nm,0.3s,baz=101,slow=9.9,SNR=171	**2.42**	**270**	Pn	**Pn**	**21 13 26.6**	**+0.4**
MJAR	1.4nm,0.3s,baz=96,slow=13,SNR=5.9			Sn	**Sn**	**21 13 55.0**	**+0.4**
MAT	**Matsushiro**	**2.42**	**270**	P	**Pn**	**21 13 27.3**	**+1.1**
MAT				S	**Sn**	**21 13 55.8**	**+1.2**
JHJ	**Hachijo jima 2** 2.6nm,0.3s,baz=72,slow=19,SNR=2.6	**3.64**	**199**	Pn	**Pn**	**21 13 42.5**	**-0.5**
JHJ	13nm,0.3s,baz=81,slow=19,SNR=3.5			Sn	**Sn**	**21 14 24.2**	**-0.5**
ASAJ	**Asahikawa** 0.5nm,0.3s,baz=227,slow=16,SNR=8.0	**7.61**	**8**	Pn	**Pn**	**21 14 36.2**	**-1.1**
ASAJ	0.3nm,0.3s,baz=127,slow=20,SNR=2.7			Sn	**Sn**	**21 16 02.0**	**-0.1**
KSRS	**Korea Array** comp=Z,20nm,18.8s,baz=140,slow=35	**10.67**	**279**	LR	LR	21 19 08.4	
SONM	**Songino Array** 0.2nm,0.3s,baz=111,slow=7.9,SNR=4.4	**27.91**	**305**	P	**P**	**21 18 35.6**	**+0.1**
H11N2	**WAKE ISLAND Hy** baz=312,slow=75,SNR=21	**28.05**	**120**	T	T	21 48 15.1	
H11N1	**WAKE ISLAND Hy** baz=312,slow=75,SNR=28	**28.06**	**120**	T	T	21 48 16.9	
H11N3	**WAKE ISLAND Hy** baz=312,slow=75,SNR=18	**28.07**	**120**	T	T	21 48 17.5	
H11S1	**WAKE ISLAND Hy** baz=314,slow=76,SNR=49	**28.75**	**122**	T	T	21 49 07.0	
H11S3	**WAKE ISLAND Hy** baz=314,slow=76,SNR=26	**28.75**	**122**	T	T	21 49 05.2	
H11S2	**WAKE ISLAND Hy** baz=314,slow=76,SNR=29	**28.77**	**122**	T	T	21 49 07.0	
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=87,slow=7.4,SNR=2.9	**42.11**	**313**	P	**P**	**21 20 36.6**	**-0.5**
MKAR	**Makanchi Array** 0.2nm,0.8s,baz=100,slow=6.3,SNR=3.1	**44.23**	**302**	P	**P**	**21 20 53.8**	**-0.6**
ILAR	**Eielson Array** 0.3nm,0.7s,baz=254,slow=6.5,SNR=4.1	**49.97**	**32**	P	**P**	**21 21 39.3**	**+0.5**
WRA	**Warramunga Arr** 0.4nm,0.9s,baz=5.1,slow=7.4,SNR=4.1	**56.59**	**188**	P	**P**	**21 22 27.7**	**-0.3**

IDC 31 21:17:31.7±5.5, 6.05S×155.27E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/40, mbtmp3.5/4, Error ellipse: s-maj=143.9km s-min=35.1km az=104.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.7nm,0.9s,baz=58,slow=9.5,SNR=4.1	**24.58**	**234**	P	P	21 22 52.0	-1.7
ASAR	**Alice Springs** 0.2nm,0.5s,baz=59,slow=9.8,SNR=3.2	**27.00**	**227**	P	P	21 23 17.0	+1.4
CMAR	**Chiang Mai Arr** 0.4nm,0.4s,baz=134,slow=4.2,SNR=3.5	**60.63**	**295**	P	P	21 27 45.8	+0.8
MKAR	**Makanchi Array** 0.9nm,0.7s,baz=101,slow=5.6,SNR=11	**82.88**	**319**	P	P	21 29 57.8	-0.6

IDC 31 21:18:21.4±16.0, 35.60S×17.71W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.6/33, mbtmp3.9/3, Error ellipse: s-maj=491.3km s-min=34.4km az=150.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H09W1	**TRISTAN DA CUN** SNR=12	**4.59**	**111**	T	T	21 23 58.0	
H09N1	**TRISTAN DA CUN** SNR=18	**4.59**	**110**	T	T	21 23 57.1	
H10S2	**ASCENSION HYDR** baz=185,slow=75,SNR=27	**26.66**	**7**	T	T	21 51 55.9	
H10S3	**ASCENSION HYDR** baz=185,slow=75,SNR=22	**26.67**	**7**	T	T	21 51 50.4	
H10S1	**ASCENSION HYDR** baz=185,slow=75,SNR=16	**26.68**	**7**	T	T	21 52 01.8	
H10N1	**ASCENSION HYDR** baz=191	**27.78**	**7**	T	T	21 53 14.1	
H10N3	**ASCENSION HYDR** baz=191,slow=74,SNR=24	**27.78**	**7**	T	T	21 53 18.2	
H10N2	**ASCENSION HYDR** baz=191,slow=74,SNR=13	**27.80**	**7**	T	T	21 53 15.2	
DBIC	**Dimbokro** 1.6nm,0.7s,baz=191,slow=5.2,SNR=2.5	**43.75**	**19**	P	P	21 26 28.5	-0.1
LPAZ	**La Paz** 1.6nm,0.5s,baz=137,slow=10,SNR=7.9	**48.69**	**280**	P	P	21 27 08.2	-0.1
TORD	**Torodi Ar. Bea** 0.8nm,0.9s,baz=201,slow=6.2,SNR=7.2	**51.84**	**24**	P	P	21 27 31.3	-0.1
H01W2	**Cape Leeuwin H** baz=218,slow=76,SNR=5.2	**96.71**	**142**	T	T	23 20 02.4	
H01W3	**Cape Leeuwin H** baz=218,slow=76,SNR=5.3	**96.72**	**142**	T	T	23 20 03.4	
H01W1	**Cape Leeuwin H** baz=218,slow=76,SNR=5.1	**96.72**	**142**	T	T	23 20 03.5	

IDC 31 21:29:31.3±7.6, 7.12S×155.60E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/26, mbtmp3.4/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/19, Error ellipse: s-maj=198.0km s-min=48.1km az=112.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac** comp=Z,112nm,19.1s,baz=254,slow=35	**18.18**	**146**	LR	LR	21 40 10.5	
WRA	**Warramunga Arr** 0.4nm,0.9s,baz=61,slow=11,SNR=3.0	**24.24**	**236**	P	P	21 34 50.2	+0.1
CMAR	**Chiang Mai Arr** 0.2nm,0.7s,baz=129,slow=4.5,SNR=4.1	**61.38**	**295**	P	P	21 39 49.9	+0.2
MKAR	**Makanchi Array** 0.6nm,0.7s,baz=89,slow=6.3,SNR=7.3	**83.89**	**319**	P	P	21 42 02.9	-0.2

MAN 31 21:48:23.8, 10.07N×122.19E, h14km, mb4.3, ML3.1, MS2.9, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**1.26**	**125**	⇑*i*P	Pn	21 48 46.2	-0.8
SNPH				*i* S	Sb	21 49 02.0	-1.5
OTRP	**Odiongan**	**2.28**	**356**	*e*P	Pn	21 49 01.5	+0.4
OTRP				*e*S	Sn	21 49 29.9	+0.9
PAGZ	**Pagadian**	**2.50**	**152**	*e*P	Pn	21 49 04.7	+0.6
PAGZ				*e*S	Sn	21 49 35.4	+1.0
MSLP	**Maasin**	**2.63**	**88**	*e*P	Pn	21 49 05.9	+0.1
MSLP				*e*S	Sn	21 49 39.0	+1.5

*IDC **31** 21:50:08.4±1.1,0.°10S×126.°38E,h0km,mb4.0/5, mb1 4.1/6,mb1mx3.7/48,mbtmp4.0/6,ML3.6/1,Error ellipse: s-maj=39.8km s-min=18.3km az=59.0*
*ISCJB **31** 21:50:14.7±0.5,0.°02N±0.°07×126.°58E±0.°05,h73km, mb4.0/5,Error ellipse: s-maj=9.9km s-min=6.0km az=160.9*
*DJA **31** 21:50:15.1±1.2,0.°N±3.°×12.°7E±.°,h28km±20km,M4.2/10, mb4.6/5,mB4.9/3,MLv4.0/10,Mw(mB)4.2/3*

ISC 31 21:50:16.6±0.9,0.°03N±0.°07×126.°63E±0.°06,h73km,n14, σ1°54/16,mb4.0/5,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
TNTI	**Ternate**	**1.05**	**45**	P		**Pn**	**21 50 33.6**	**-2.3**
TNTI				S		**Sn**	**21 50 48.8**	**-1.4**
SANI	**Sanana**	**2.16**	**197**	P		**Pn**	**21 50 48.2**	**-2.3**
LUWI	**Luwuk**	**4.00**	**255**	P		**Pn**	**21 51 14.0**	**-1.5**
SIJI	**Sorong**	**4.72**	**101**	Pn		**Pn**	**21 51 25.4**	**0.0**
	2.3nm,0.3s,baz=112,slow=8.8,SNR=14							
SIJI				Sn		**Sn**	**21 52 21.9**	**+3.0**
	1.0nm,0.3s,baz=225,slow=20,SNR=2.6							
APSI	**Ampana**	**5.07**	**259**	P		**Pn**	**21 51 29.1**	**-1.0**
KDI	**Kendari**	**5.63**	**225**	P		**Pn**	**21 51 36.5**	**-1.3**
MPSI	**Mapaga**	**6.74**	**273**	P		**Pn**	**21 51 52.5**	**-0.4**
BNSI	**Bone**	**7.86**	**236**	P		**Pn**	**21 52 08.1**	**-0.2**
	18nm,0.6s,0.1nm							
SPSI	**Sidrap Palu**	**7.92**	**240**	P		**Pn**	**21 52 09.6**	**+0.5**
WRA	**Warramunga Arr**	**21.24**	**160**	P		**P**	**21 54 55.8**	**-1.1**
	1.5nm,0.3s,baz=340,slow=11,SNR=86							
ASAR	**Alice Springs**	**24.59**	**164**	P		**P**	**21 55 30.4**	**+0.2**
	4.4nm,0.6s,baz=345,slow=11,SNR=46							
STKA	**Stephens Creek**	**34.75**	**157**	P		**P**	**21 56 59.8**	**-0.3**
	1.9nm,0.4s,baz=330,slow=11,SNR=5.4							
SONM	**Songino Array**	**50.76**	**342**	P		**P**	**21 59 10.8**	**+1.4**
	0.7nm,0.9s,baz=155,slow=8.9,SNR=4.6							
MKAR	**Makanchi Array**	**60.54**	**327**	P		**P**	**22 00 20.2**	**+0.8**
	0.5nm,0.4s,baz=122,slow=7.6,SNR=16							

MAN 31 21:50:28.1,9.°32N×122.°37E,h16km,mb4.6,ML3.5,MS3.3, 2D,Negros

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
SNPH	**Sibulan**	**0.85**	**89**	⇓*iP*		Pb	21 50 43.9	-0.8
SNPH				*iS*		Sb	21 50 55.0	-1.0
GUIM	**Jordan**	**1.31**	**9**	*eP*		Pn	21 51 51.9	0.0
GUIM				*eS*		Sb	21 51 09.4	+0.3
TBP	**Tagbilaran**	**1.52**	**76**	*eP*		Pn	21 50 53.7	-0.9
TBP				*i* S		Sn	21 51 12.4	-1.7
PAGZ	**Pagadian**	**1.77**	**146**	*eP*		Pn	21 50 57.4	-0.7
PAGZ				*eS*		Sb	21 51 21.7	-0.6
LLP	**Lapu-Lapu**	**1.86**	**58**	⇓*eP*		Pn	21 50 58.9	-0.5
LLP				*eS*		Sn	21 51 20.8	-1.7
CUYO	**Cuyo Island**	**2.02**	**319**	*eP*		Pb	21 51 03.1	-1.4
CUYO				*eS*		Sn	21 51 26.8	+0.2
MSLP	**Maasin**	**2.58**	**72**	*eP*		Pn	21 51 10.0	+0.7
MSLP				*eS*		Sn	21 51 41.2	+0.8
BUKP	**Musuan**	**3.02**	**118**	*eP*		Pn	21 51 16.7	+1.3
OTRP	**Odiongan**	**3.04**	**354**	*eP*		Pn	21 51 16.9	+1.2
OTRP				*eS*		Sn	21 51 53.6	+1.9
BUTP	**Butuan**	**3.23**	**96**	*eP*		Pn	21 51 19.0	+0.8
SJMP	**San Jose**	**3.35**	**339**	*eP*		Pn	21 51 20.7	+0.8
SJMP				*eS*		Sn	21 51 59.6	+0.1
BUSP	**Coron**	**3.41**	**322**	*eP*		Pn	21 51 21.4	+0.7
BUSP				*eS*		Sn	21 52 00.5	-0.4

*IDC **31** 21:53:41.6±2.0,7.°25S×156.°01E,h0km,mb3.9/6, mb1 4.1/6,mb1mx3.7/48,mbtmp3.9/6,Error ellipse: s-maj=61.0km s-min=33.2km az=127.0*
*ISCJB **31** 21:53:47.1±2.2,7.°2S±0.°3×155.°8E±0.°3,h44km,mb3.9/6, Error ellipse: s-maj=61.3km s-min=25.8km az=40.0*

ISC 31 21:53:48.2±2.0,7.°3S±0.°3×155.°9E±0.°4,h44km,n16, σ0°74/14,mb4.4/10,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
WRA	**Warramunga Arr**	**24.43**	**237**	P		**P**	**21 59 02.8**	**-0.1**
	0.4nm,0.6s,baz=68,slow=9.5,SNR=4.3							
WRA				PcP		**PcP**	**22 02 41.7**	**+0.4**
	0.4nm,0.8s,baz=63,slow=2.3,SNR=4.6							
H11S3	**WAKE ISLAND Hy**	**27.71**	**22**	T		T	22 28 00.7	
	baz=202,slow=75,SNR=16							
H11S2	**WAKE ISLAND Hy**	**27.72**	**22**	T		T	22 28 01.0	
	baz=202,slow=75,SNR=14							
H11S1	**WAKE ISLAND Hy**	**27.73**	**22**	T		T	22 28 02.8	
	baz=202,slow=75,SNR=9.6							
CMAR	**Chiang Mai Arr**	**61.73**	**295**	P		**P**	**22 04 03.5**	**+1.0**
	1.1nm,0.6s,baz=116,slow=5.6,SNR=7.4							
SONM	**Songino Array**	**70.06**	**327**	P		**P**	**22 04 56.0**	**+0.2**
	1.6nm,0.9s,baz=142,slow=6.7,SNR=9.0							
JIRN	**Jiri**	**75.71**	**301**	*eP*		**P**	**22 05 29.5**	**-0.5**
	8.2nm,0.6s							
GUN	**Gumba**	**76.04**	**301**	*eP*		**P**	**22 05 31.3**	**-0.5**
	11nm,0.7s							
PKIN	**Phulchoki**	**76.36**	**301**	*eP*		**P**	**22 05 32.8**	**-0.8**
DMN	**Daman**	**76.62**	**301**	*eP*		**P**	**22 05 34.6**	**-0.4**
	10.0nm,0.9s							
KOLN	**Koldanda**	**77.95**	**300**	*eP*		**P**	**22 05 41.4**	**-1.0**
DANN	**Dangsing**	**77.96**	**301**	*eP*		**P**	**22 05 41.5**	**-1.1**
	4.7nm,0.6s							
PYUN	**Piuthan**	**78.56**	**300**	*eP*		**P**	**22 05 44.6**	**-1.2**
ILAR	**Eielson Array**	**83.29**	**21**	P		**P**	**22 06 10.0**	**+0.1**
	0.4nm,0.8s,baz=243,slow=6.0,SNR=4.2							
MKAR	**Makanchi Array**	**84.21**	**319**	P		**P**	**22 06 15.2**	**+0.1**
	2.3nm,0.7s,baz=105,slow=5.6,SNR=30							
ZALV	**Zalesovo Beam**	**84.92**	**326**	P		**P**	**22 06 18.0**	**-0.4**
	1.8nm,0.6s,baz=105,slow=5.2,SNR=9.6							

*ISCJB **31** 22:02:02.8±1.1,31.°57S±0.°04×69.°86W±0.°05,h122km±9km, Error ellipse: s-maj=7.3km s-min=6.2km az=154.3*
*SJA **31** 22:02:02.9±0.6,31.°57S×69.°91W,h111km±4km,ML2.0, MW2.9*
*GUC **31** 22:02:02.9±0.7,31.°53S×70.°50W,h145km±5km,ML2.6*

ISC 31 22:02:03.2±2.1,31.°57S±0.°05×69.°86W±0.°05, h120km±17km,n12,σ0°41/23,2C-1D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
RTLS	**Leoncito**	**0.53**	**115**	*i* P		**Pn**	**22 02 21.6**	**-0.2**
RTLS				IAML			22 02 21.9	
	comp=Z,29nm,0.3s							
RTLS				*i* S		**Sn**	**22 02 35.5**	**-0.2**
AUSP	**Uspallata**	**0.77**	**148**	*i* P		**Pn**	**22 02 23.5**	**0.0**
AUSP				*i* S		**Sn**	**22 02 38.8**	**0.0**
CMCH	**Combarbala**	**1.05**	**292**	*eP*		**Pn**	**22 02 26.0**	**+0.2**
CMCH				*i* S		**Sn**	**22 02 42.9**	**-0.1**
CMCH				IAML			22 02 45.5	
	comp=N,154nm,0.5s							
RTCV	**Cerro Valdivia**	**1.16**	**105**	*i* P		**Pn**	**22 02 27.1**	**+0.1**
RTCV				*i* S		**Sn**	**22 02 45.4**	**+0.4**
RTLL	**Cerro Villicun**	**1.21**	**79**	⇓*i*P		**Pn**	**22 02 27.0**	**-0.4**
RTLL				*eS*		**Sn**	**22 02 45.0**	**-0.9**
AMOG	**MOGNA**	**1.33**	**62**	*i* P		**Pn**	**22 02 28.7**	**-0.2**
AMOG				*i* S		**Sn**	**22 02 48.8**	**+0.5**
ASAL	**Salagasta**	**1.34**	**140**	*i* P		**Pn**	**22 02 29.2**	**+0.3**
ASAL				*i* S		**Sn**	**22 02 48.4**	**-0.1**
AROD	**Rodeo**	**1.44**	**14**	*i* P		**Pn**	**22 02 31.1**	**+0.7**
AROD				*i* S		**Sn**	**22 02 51.5**	**+0.7**
GO04	**Tololo Observa**	**1.61**	**330**	⇑*i*P		**Pn**	**22 02 32.2**	**0.0**
GO04				*i* S		**Sn**	**22 02 54.2**	**-0.1**
GO04				IAML			22 02 55.4	
	comp=N,90nm,0.5s							
ROCH	**El Roble**	**1.70**	**215**	*eP*		**Pn**	**22 02 33.4**	**+0.1**
ROCH				*eS*		**Sn**	**22 02 56.0**	**-0.1**
ROC1	**El Roble**	**1.71**	**215**	*i* P		**Pn**	**22 02 33.4**	**+0.1**
LCO	**Las Campanas**	**2.65**	**344**	⇑*i*P		**Pn**	**22 02 45.2**	**-0.1**
LCO				*i* S		**Sn**	**22 03 16.8**	**-0.8**
LCO				IAML			22 03 19.8	
	comp=E,17nm,0.4s							

IDC 31 22:18:23.3±2.8,22.°23S×179.°28W,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.8/25,mbtmp3.8/4,MS3.7/1,Ms1 3.7/1, ms1mx2.8/31,Error ellipse: s-maj=173.8km s-min=32.7km az=154.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
STKA	**Stephens Creek**	**35.98**	**246**	P		P	22 25 26.1	+0.1
	1.5nm,0.5s,baz=117,slow=14,SNR=3.9							
ASAR	**Alice Springs**	**42.98**	**259**	P		P	22 26 24.4	-0.3
	0.5nm,0.4s,baz=91,slow=7.8,SNR=6.7							
WRA	**Warramunga Arr**	**43.21**	**264**	P		P	22 26 26.4	-0.1
	0.6nm,0.6s,baz=102,slow=8.5,SNR=31							
GUMO	**Guam**	**50.02**	**312**	LR		LR	22 46 24.1	
	comp=Z,76nm,18.5s,baz=126,slow=34							
NVAR	**Mina Array Bea**	**83.09**	**44**	P		P	22 30 51.3	0.0
	0.5nm,0.7s,baz=238,slow=8.4,SNR=3.6							

*SOME **31** 22:25:52.3,42.°53N×79.°68E,h15km*
*KRNET **31** 22:25:52.5±0.1,42.°57N×79.°57E,h14km,mb2.5*
*NNC **31** 22:25:52.5±1.0,42.°61N×79.°61E,h0km,mb2.7,mpv2.5, Error ellipse: s-maj=6.6km s-min=3.5km az=132.0*

ISC 31 22:25:52.7±1.7,42.°59N±0.°06×79.°60E±0.°06,h10km,n32, σ1°00/57,9C-13D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
SHLS	**Shalkode**	**0.57**	**350**	P		**Pb**	**22 26 04.5**	**-0.4**
	8.0nm,0.1s							
SHLS				S		**Sb**	**22 26 13.4**	**+0.2**
	46nm,0.2s							
SHLS	**Shalkode**	**0.57**	**350**	⇓*e*P		**Pb**	**22 26 04.5**	**-0.4**
	baz=21							
SHLS				⇓*e*S		**Sb**	**22 26 13.4**	**+0.2**
	baz=21							
SHLS	**Shalkode**	**0.57**	**350**	⇓*e*P		**Pb**	**22 26 04.5**	**-0.4**
	8.0nm,0.1s							
SHLS				*e*S		**Sb**	**22 26 13.4**	**+0.2**
	46nm,0.2s							
UZB	**Uzynbulak**	**0.70**	**323**	P		**Pg**	**22 26 06.2**	**0.0**
	4.2nm,0.2s							
UZB				S		**Sb**	**22 26 16.4**	**-0.4**
	3.3nm,0.1s							
UZB	**Uzynbulak**	**0.70**	**323**	⇓*e*P		**Pg**	**22 26 06.2**	**0.0**
	baz=25							
UZB				⇓*e*S		**Sb**	**22 26 16.4**	**-0.4**
	baz=25							
UZB	**Uzynbulak**	**0.70**	**323**	⇓*e*P		**Pg**	**22 26 06.2**	**0.0**
	4.2nm,0.2s							
UZB				*e*S		**Sb**	**22 26 16.4**	**-0.4**
	3.3nm,0.1s							
PDGK	**Podgornoye**	**0.74**	**354**	P		**Pg**	**22 26 06.6**	**-0.4**
	0.9nm,0.1s							
PDGK				S		**Sb**	**22 26 17.2**	**-0.8**
	1.1nm,0.1s							
PDGK	**Podgornoye**	**0.74**	**354**	⇑P		**Pg**	**22 26 06.1**	**-0.9**
	0.8nm,0.3s							
PDGK				⇑S		**Sg**	**22 26 16.6**	**-0.1**
	2.6nm,0.7s							
PDGK	**Podgornoye**	**0.74**	**354**	⇓*i*P		**Pg**	**22 26 06.6**	**-0.4**
	baz=55							
PDGK				⇓*i*S		**Sb**	**22 26 16.8**	**-1.2**
	baz=55							
SATY	**Saty**	**0.99**	**298**	P		**Pg**	**22 26 11.7**	**-0.2**
SATY				S		**Sb**	**22 26 25.6**	**+0.2**
SATY	**Saty**	**0.99**	**298**	*eP*		**Pg**	**22 26 11.7**	**-0.2**
	1.0nm,0.1s							
SATY				*e*S		**Sb**	**22 26 25.6**	**+0.2**
	10nm,0.1s							
DJR	**Jarkent**	**1.74**	**4**	P		**Pb**	**22 26 24.7**	**-0.1**
	0.5nm,0.2s							
DJR				S		**Sg**	**22 26 48.4**	**-0.4**
	2.0nm,0.2s							
DJR	**Jarkent**	**1.74**	**4**	*eP*		**Pb**	**22 26 24.8**	**-0.1**
	0.5nm,0.2s							
DJR				*e*S		**Sg**	**22 26 48.4**	**-0.4**
	2.0nm,0.2s							
KDJ	**Kajisay**	**1.85**	**256**	⇑*i*P		**Pb**	**22 26 26.7**	**-0.1**
	baz=57							
KDJ				⇑*i*S		**Sb**	**22 26 50.5**	**+0.4**
	baz=57							
KOTS	**Kotyrbulak**	**1.94**	**290**	Pg		**Pg**	**22 26 29.1**	**-0.8**
	1.2nm,0.1s							
KOTS				Lg		Lg	22 26 55.6	
	7.5nm,0.6s							
KOTS	**Kotyrbulak**	**1.94**	**290**	*eP*		**Pb**	**22 26 28.2**	**0.0**
	baz=91							
KOTS				*e*S		**Sg**	**22 26 54.0**	**-1.0**
	baz=91							
KOTS	**Kotyrbulak**	**1.94**	**290**	*eP*		**Pb**	**22 26 28.2**	**0.0**
	1.2nm,0.1s							
KOTS				*e*S		**Sg**	**22 26 54.0**	**-1.0**
	7.5nm,0.6s							
MDOK	**Medeo**	**1.96**	**288**	⇑Pg		**Pn**	**22 26 26.1**	**-0.1**
	1.7nm,0.7s							
MDOK				⇓Lg		Lg	22 26 55.5	
	3.0nm,0.8s							
MDOK	**Medeo**	**1.96**	**288**	Pg		**Pg**	**22 26 29.7**	**-0.7**
MDOK				Lg		Lg	22 26 56.5	
TNSS	**Tian-Shan**	**2.00**	**284**	Pg		**Pb**	**22 26 29.3**	**-0.2**
TNSS				Lg		Lg	22 26 56.6	
TNSS	**Tian-Shan**	**2.00**	**284**	*eP*		**Pb**	**22 26 29.9**	**+0.4**
	baz=84							
TNSS				*e*S		**Sg**	**22 26 56.7**	**-0.4**
	baz=84							
TNSS	**Tian-Shan**	**2.00**	**284**	*eP*		**Pb**	**22 26 29.9**	**+0.4**
	0.6nm,0.1s							
TNSS				*e*S		**Sg**	**22 26 56.6**	**-0.4**
	1.6nm,0.2s							
ARXS	**Arharly**	**2.07**	**322**	Pg		**Pb**	**22 26 30.5**	**+0.1**
ARXS				Lg		Lg	22 26 58.4	
ARXS	**Arharly**	**2.07**	**322**	*eP*		**Pb**	**22 26 30.5**	**+0.1**
	1.1nm,0.4s							
ARXS				*e*S		**Sg**	**22 26 58.4**	**-1.0**
	1.8nm,0.3s							
CHKK	**Chushkaly**	**2.29**	**304**	*eP*		**Pb**	**22 26 34.4**	**+0.3**
	baz=5.0							
CHKK				*e*S		**Sg**	**22 27 04.6**	**-1.6**
	baz=5.0							
CHKK	**Chushkaly**	**2.29**	**304**	*eP*		**Pb**	**22 26 34.4**	**+0.3**
	0.5nm,0.1s							
CHKK				*e*S		**Sg**	**22 27 04.6**	**-1.6**
	3.1nm,0.3s							
ULHL	**Ulahol**	**2.51**	**263**	⇓*i*P		**Pb**	**22 26 36.2**	**-1.8**
	baz=64							
ULHL				⇓*i*S		**Sb**	**22 27 07.6**	**-1.5**
	baz=64							
KAPS	**Kapalarasan**	**2.70**	**356**	Pg		**Pb**	**22 26 41.0**	**-0.1**
KAPS				Lg		Lg	22 27 16.4	
KAPS	**Kapalarasan**	**2.70**	**356**	*eP*		**Pb**	**22 26 41.6**	**+0.5**
	0.2nm,0.1s							
KAPS				*e*S		**Sg**	**22 27 16.9**	**-2.4**
	2.1nm,0.2s							
BOOM	**Boomskoye usch**	**2.71**	**269**	⇑*i*P		**Pb**	**22 26 39.5**	**-1.8**
	baz=69							
BOOM				⇑*i*S		**Sb**	**22 27 12.1**	**-2.6**
	baz=69							
TKM2	**Tokmak 2**	**2.97**	**278**	⇓Pg		**Pb**	**22 26 47.5**	**+1.7**
	1.3nm,0.9s							
TKM2				⇓Lg		Lg	22 27 24.7	
	0.7nm,0.4s							
TKM2	**Tokmak 2**	**2.97**	**278**	⇑*i*P		**Pn**	**22 26 42.7**	**+2.6**
	baz=78							
TKM2				⇑*i*S		**Sn**	**22 27 18.6**	**+2.8**
	baz=78							

*IDC **31** 22:29:37.7±10.0,20.°39S×177.°63W,h533km±103km, mb3.5/8,mb1 3.6/8,mb1mx3.3/32,mbtmp4.4/8,Error ellipse: s-maj=74.0km s-min=31.7km az=109.0*
*ISCJB **31** 22:29:38.6±2.4,20.°3S±0.°4×177.°8W±0.°4,h550km,mb4.0/8, Error ellipse: s-maj=65.5km s-min=23.8km az=136.2*

ISC 31 22:29:38.9±1.7,20.°4S±0.°3×177.°7W±0.°3,h550km,n12, σ0°57/12,mb4.0/8,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
CTA	**Charters Tower**	**33.82**	**264**	P		**P**	**22 35 36.1**	**0.0**
	6.0nm,0.4s,baz=91,slow=11,SNR=16							
STKA	**Stephens Creek**	**38.13**	**244**	P		**P**	**22 36 11.8**	**+0.2**
	1.3nm,0.5s,baz=85,slow=12,SNR=5.5							
JAY	**Jayapura**	**44.31**	**288**	P		**P**	**22 37 00.5**	**-0.2**
	12nm,0.5s,baz=205,slow=1.4,SNR=7.7							
ASAR	**Alice Springs**	**44.86**	**257**	P		**P**	**22 37 04.8**	**-0.1**
	8.3nm,0.8s,baz=96,slow=7.6,SNR=57							
ASAR				PcP		**PcP**	**22 38 35.4**	**+0.6**
	0.6nm,0.5s,baz=102,slow=4.0,SNR=4.1							
WRA	**Warramunga Arr**	**44.93**	**262**	P		**P**	**22 37 04.8**	**-0.6**
	3.7nm,0.6s,baz=97,slow=7.9,SNR=43							
FITZ	**Fitzroy Crossi**	**53.36**	**262**	P		**P**	**22 38 07.9**	**+0.3**
	1.6nm,0.4s,baz=61,slow=5.3,SNR=15							
MJAR	**Matsushiro Arr**	**70.30**	**323**	P		**P**	**22 39 57.8**	**+0.4**
	2.1nm,0.6s,baz=166,slow=6.0,SNR=8.4							

ILAR	**Eielson Array**	**88.13**	**13**	P		**P**	**22 41 31.1**	**+0.3**
	0.3nm,0.4s,baz=213,slow=5.5,SNR=5.4							
MKAR	**Makanchi Array**	**111.35**	**313**	PKiKP		**PKiKP**	**22 47 10.9**	**+0.2**
	0.2nm,0.6s,baz=99,slow=1.4,SNR=4.2							
ARCES	**ARCESS Array B**	**128.86**	**350**	PKP		**PKiKP**	**22 47 43.9**	**-0.4**
	2.3nm,0.9s,baz=358,slow=2.2,SNR=2.9							
AKASG	**Malin Array Be**	**143.06**	**331**	PKP		PKPbc	22 48 08.1	-0.3
	0.4nm,0.4s,baz=45,slow=4.5,SNR=12							
BRTR	**Keskin Array B**	**147.00**	**313**	PKPbc		**PKiKP**	**22 48 21.1**	**-1.2**
	0.7nm,0.6s,baz=126,slow=4.1,SNR=4.7							

*ISCJB **31** 22:30:55.1±0.9,0.°4N±0.°2×122.°2E±0.°3,h148km,mb3.4/4, Error ellipse: s-maj=53.9km s-min=11.6km az=149.6*
*IDC **31** 22:30:59.8±16.0,0.°32N×122.°19E,h180km±179km, mb3.1/4,mb1 3.1/5,mb1mx3.0/37,mbtmp3.5/5,ML3.7/1, MS3.2/1,Ms1 3.2/1,ms1mx2.4/15,Error ellipse: s-maj=108.8km s-min=29.8km az=61.0*

ISC 31 22:30:56.7±1.2,0.°4N±0.°2×122.°2E±0.°4,h148km,n11, σ0°41/10,mb3.9/8,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
FITZ	**Fitzroy Crossi**	**18.68**	**170**	P		**P**	**22 35 03.8**	**+0.2**
	0.2nm,0.3s,baz=358,slow=9.0,SNR=5.2							
PSI	**Prapat**	**23.42**	**276**	LR		LR	22 46 52.2	
	comp=Z,57nm,18.2s,baz=90,slow=41							
WRA	**Warramunga Arr**	**23.43**	**150**	P		**P**	**22 35 52.5**	**-0.3**
	0.4nm,0.8s,baz=320,slow=12,SNR=4.9							
ASAR	**Alice Springs**	**26.47**	**155**	P		**P**	**22 36 20.1**	**-0.1**
	0.3nm,0.4s,baz=338,slow=14,SNR=4.5							
RAMN	**Ramite**	**43.24**	**311**	*eP*		**P**	**22 38 44.5**	**+0.6**
	4.0nm,0.5s							
JIRN	**Jiri**	**43.92**	**311**	*eP*		**P**	**22 38 49.3**	**-0.2**
	4.6nm,0.4s							
GUN	**Gumba**	**44.29**	**311**	*eP*		**P**	**22 38 52.1**	**-0.2**
	5.7nm,0.5s							
DANN	**Dangsing**	**46.12**	**310**	*eP*		**P**	**22 39 06.1**	**-0.6**
PYUN	**Piuthan**	**46.58**	**310**	*eP*		**P**	**22 39 09.9**	**-0.3**
	10nm,0.8s							
SONM	**Songino Array**	**49.22**	**346**	P		**P**	**22 39 30.3**	**+0.2**
	0.9nm,0.6s,baz=168,slow=9.4,SNR=9.2							
MKAR	**Makanchi Array**	**57.88**	**329**	P		**P**	**22 40 33.1**	**0.0**
	0.4nm,0.3s,baz=125,slow=8.8,SNR=16							

PRU 31 22:40:09.4±0.°,50.°20N×19.°31E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
OJC	**Ojcow**	**0.31**	**86**	*e*Pg		Pg	22 40 15.2	-0.2
OJC				*e*Sg		Sg	22 40 19.6	+0.1
OKC	**Ostrava-Krasne**	**0.83**	**245**	*e*PG		Pg	22 40 25.4	+0.1
OKC				*e*SG		Sb	22 40 37.4	-1.1
LANS	**Liptovska Anna**	**1.06**	**174**	*e*PG		Pg	22 40 29.2	-0.4
LANS				*e*SG		Sb	22 40 44.3	-0.6
MORC	**Moravsky Berou**	**1.22**	**250**	*e*PG		Pg	22 40 31.7	-1.0
MORC				*e*SG		Sb	22 40 49.1	-0.5
KRLC	**Kraliky**	**1.63**	**267**	*e*SG		Sg	22 41 01.7	-0.1
	comp=Z,2.0nm,0.6s							
VYHS	**Vyhne**	**1.74**	**190**	*e*PN		Pn	22 40 39.3	-1.5
VYHS				*e*SN		Sn	22 41 01.3	-2.3
VYHS				*e*LG		Lg	22 41 04.3	
DPC	**Dobruska-Polom**	**1.92**	**276**	*e*PG		Pn	22 40 43.5	+0.1
DPC				*e*SG		Sg	22 41 11.0	-0.1
	comp=Z,7.6nm,0.7s							
UPC	**Upice**	**2.13**	**280**	*e*SG		Sg	22 41 17.7	-0.2
KHC	**Kasperske Hory**	**3.87**	**256**	*e*SG		Sg	22 42 13.2	-0.6

*SOME **31** 22:49:41.2,40.°00N×78.°07E,h5km*
*ISCJB **31** 22:49:42.3±0.3,39.°93N±0.°02×78.°25E±0.°03,h10km, mb3.6/9,Error ellipse: s-maj=3.6km s-min=2.7km az=151.5*
*IDC **31** 22:49:42.2±0.9,39.°91N×78.°12E,h0km,mb3.7/8, mb1 3.8/13,mb1mx3.6/46,mbtmp3.6/13,ML2.8/5,MS2.7/2, Ms1 2.7/2,ms1mx2.4/50,Error ellipse: s-maj=18.2km s-min=15.6km az=58.0*
*KRNET **31** 22:49:43.4±0.1,40.°10N×78.°11E,mb3.9*
*BJI **31** 22:49:44.7,40.°10N×78.°19E,h10km,mb3.8/6,ML3.8/5*
*NNC **31** 22:49:45.6±1.1,40.°22N×78.°12E,h0km,mb4.4,mpv4.0, Error ellipse: s-maj=9.1km s-min=5.3km az=138.0*

ISC 31 22:49:44.4±0.6,40.°00N±0.°03×78.°18E±0.°03,h10km,n118, σ1°97/160,mb3.7/9,58C-28D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
TARG	**Taragay, Kyrgy**	**1.75**	**351**	⇓*eP*		**Pn**	**22 50 14.2**	**-1.0**
	baz=52							
TARG				⇓*i*S		**Sn**	**22 50 37.1**	**-0.7**
	baz=52							
KSH	**Kashi**	**1.77**	**255**	Pn		Pg	22 50 22.0	+3.6
KSH				Sn		Sg	22 50 52.8	+11
KSH				smax		smax		
	comp=N,6μm,0.5s							
KSH				smax		smax		
	comp=E,2μm,0.7s							
NRN	**Naryn**	**2.19**	**312**	⇑*i*P		**Pb**	**22 50 21.9**	**-2.4**
	baz=10.0							
NRN				⇑*i*S		**Sb**	**22 50 49.8**	**-1.8**
	baz=10.0							
KDJ	**Kajisay**	**2.26**	**341**	⇑*

MDOK	**Medeo**	**3.27**	**345**	⇓Pn	**Pn**	**22 50 37.6**	**+1.6**
	266nm,1.4s							
MDOK				⇑Lg	Lg	22 51 24.2		
	186nm,0.7s							
MDOK	**Medeo**	**3.27**	**345**	*eP*	**Pb**	**22 50 40.9**	**-1.8**
	106nm,0.6s							
MDOK				*eS*	**Sb**	**22 51 24.3**	**+1.7**
	186nm,0.7s							
SHLS	**Shalkode**	**3.30**	**17**	*eP*	**Pb**	**22 50 42.5**	**-0.6**
	107nm,0.9s							
SHLS				*eS*	**Sg**	**22 51 26.1**	**-4.2**
	261nm,0.6s							
KOTS	**Kotyrbulak**	**3.33**	**346**	Pg	**Pb**	**22 50 42.1**	**-1.5**
	53nm,0.6s							
KOTS				Lg	Lg	22 51 26.0		
	184nm,0.7s							
KOTS	**Kotyrbulak**	**3.33**	**346**	*eP*	**Pb**	**22 50 42.1**	**-1.5**
	53nm,0.6s							
KOTS				*eS*	**Sb**	**22 51 26.0**	**+1.7**
	184nm,0.7s							
KNDC	**Almaty**	**3.34**	**345**	⇑Pg	**Pb**	**22 50 42.5**	**-1.2**
	120nm,0.7s							
KNDC				⇑Lg	Lg	22 51 26.8		
	352nm,0.6s							
KNDC	**Almaty**	**3.34**	**345**	⇑Pg	**Pb**	**22 50 42.5**	**-1.2**
	120nm,0.7s							
KNDC				⇑Lg	Lg	22 51 26.8		
	352nm,0.6s							
AAA	**Alma-Ata**	**3.34**	**344**	*eP*	**Pb**	**22 50 42.9**	**-1.0**
	75nm,0.5s							
AAA				*eS*	**Sg**	**22 51 27.1**	**-4.7**
	249nm,0.7s							
MTBS	**Maitube**	**3.39**	**338**	*eP*	**Pb**	**22 50 42.5**	**-2.2**
	42nm,0.5s							
MTBS				*eS*	**Sb**	**22 51 27.0**	**+1.0**
	91nm,0.5s							
ARLS	**Aral**	**3.46**	**304**	⇓*iP*	**Pn**	**22 50 39.6**	**+1.1**
	baz=3.0							
ARLS				⇓*iS*	**Sn**	**22 51 20.0**	**+0.3**
	baz=3.0							
KST	**Kastek**	**3.47**	**332**	Pg	**Pb**	**22 50 44.2**	**-1.8**
	136nm,1.5s							
KST				Lg	Lg	22 51 29.4		
	194nm,0.9s							
KST	**Kastek**	**3.47**	**332**	*eP*	**Pb**	**22 50 44.1**	**-1.8**
	136nm,1.5s							
KST				*eS*	**Sb**	**22 51 29.4**	**+1.2**
	194nm,0.9s							
PDGK	**Podgornoye**	**3.47**	**16**	⇑Pn	**Pn**	**22 50 38.2**	**-0.3**
	36nm,0.7s							
PDGK				⇓Lg	Lg	22 51 30.6		
	268nm,0.7s							
PDGK	**Podgornoye**	**3.47**	**16**	⇑Pn	**Pn**	**22 50 38.2**	**-0.3**
	36nm,0.7s							
PDGK				⇓Lg	Lg	22 51 30.6		
	268nm,0.7s							
PDGK	**Podgornoye**	**3.47**	**16**	⇑*iP*	**Pn**	**22 50 39.7**	**+1.1**
	baz=17							
PDGK				⇑*iS*	**Sn**	**22 51 20.6**	**+0.8**
	baz=17							
KURS	**Kuram**	**3.48**	**360**	Pg	**Pb**	**22 50 42.2**	**-4.0**
KURS				Lg	Lg	22 51 26.2		
KURS	**Kuram**	**3.48**	**360**	*eP*	**Pb**	**22 50 43.9**	**-2.3**
	131nm,1.0s							
KURS				*eS*	**Sb**	**22 51 29.3**	**+0.6**
	141nm,1.3s							
TKM2	**Tokmak 2**	**3.50**	**327**	P	**Pn**	**22 50 41.4**	**+2.2**
	SNR=70							
TKM2	**Tokmak 2**	**3.50**	**327**	⇑Pn	**Pn**	**22 50 41.4**	**+2.2**
	39nm,0.7s							
TKM2				⇓Lg	Lg	22 51 32.2		
	114nm,0.7s							
TKM2	**Tokmak 2**	**3.50**	**327**	⇑Pn	**Pn**	**22 50 41.4**	**+2.2**
	39nm,0.7s							
TKM2				⇓Lg	Lg	22 51 32.2		
	114nm,0.7s							
TKM2	**Tokmak 2**	**3.50**	**327**	⇑*iP*	**Pn**	**22 50 39.9**	**+0.7**
	baz=27							
TKM2				⇑*iS*	**Sn**	**22 51 20.9**	**+0.1**
	baz=27							
UCH	**Uchtor**	**3.55**	**310**	P	**Pn**	**22 50 41.7**	**+1.7**
	SNR=13							
UCH	**Uchtor**	**3.55**	**310**	⇑*eP*	**Pn**	**22 50 41.1**	**+1.1**
	baz=9.0							
UCH				⇑*iS*	**Sn**	**22 51 22.6**	**+0.3**
	baz=9.0							
SFK	**Sufi-Kurgan**	**3.59**	**272**	⇑Pn	**Pn**	**22 50 41.8**	**+1.4**
	32nm,0.5s							
SFK				⇑Sn	**Sb**	**22 51 26.6**	**-5.4**
	25nm,0.4s							
SFK				⇑Lg	Lg	22 51 36.5		
	29nm,0.4s							
SFK	**Sufi-Kurgan**	**3.59**	**272**	Pg	**Pn**	**22 50 42.5**	**+2.2**
	7.8nm,0.4s							
SFK				Lg	Lg	22 51 26.6		
	27nm,0.4s							
SFK	**Sufi-Kurgan**	**3.59**	**272**	⇑Pn	**Pn**	**22 50 41.8**	**+1.4**
	32nm,0.5s							
SFK				⇑Sn	**Sb**	**22 51 26.6**	**-5.4**
	25nm,0.4s							
SFK				⇑Lg	Lg	22 51 36.5		
	29nm,0.4s							
SFK	**Sufi-Kurgan**	**3.59**	**272**	⇓*iP*	**Pn**	**22 50 42.1**	**+1.7**
	baz=70							
SFK				⇓*iS*	**Sn**	**22 51 24.8**	**+1.8**
	baz=70							
KBK	**Karagaybulak**	**3.60**	**319**	P	Pb	22 50 43.4	-4.9
	SNR=22							
KBK	**Karagaybulak**	**3.60**	**319**	⇑*iP*	**Pn**	**22 50 41.6**	**+1.1**
	baz=18							
KBK				⇑*iS*	**Sn**	**22 51 23.5**	**+0.4**
	baz=18							
DGS	**Degeres**	**3.71**	**332**	Pg	**Pb**	**22 50 48.6**	**-1.5**
	98nm,0.7s							
DGS				Lg	Lg	22 51 37.6		
	280nm,0.6s							
DGS	**Degeres**	**3.71**	**332**	*eP*	**Pb**	**22 50 48.6**	**-1.5**
	98nm,0.7s							
DGS				*eS*	**Sb**	**22 51 37.6**	**+2.5**
	280nm,0.6s							
AAK	**Ala-Archa**	**3.83**	**315**	Pn	Pb	22 50 46.6	-5.5
	0.7nm,0.3s,baz=115,slow=6.6,SNR=18							
AAK				Pg	**Pb**	**22 50 51.7**	**-0.4**
	5.9nm,0.3s,baz=165,slow=16,SNR=69							
AAK				Lg	Lg	22 51 41.5		
	7.3nm,0.3s,baz=324,slow=16,SNR=16							
AAK				LR	LR	22 52 20.4		
	comp=Z,109nm,19.6s,baz=96,slow=41							
AAK	**Ala-Archa**	**3.83**	**315**	P	**Pn**	**22 50 45.8**	**+2.3**
	SNR=24							
AAK	**Ala-Archa**	**3.83**	**315**	⇓Pg	**Pb**	**22 50 51.7**	**-0.4**
	55nm,0.9s							
AAK				Lg	Lg	22 51 40.9		
	400nm,1.2s							
AAK	**Ala-Archa**	**3.83**	**315**	⇓Pg	**Pb**	**22 50 51.7**	**-0.4**
	55nm,0.9s							
AAK				Lg	Lg	22 51 40.9		
	400nm,1.2s							
AAK	**Ala-Archa**	**3.83**	**315**	⇑*iP*	**Pn**	**22 50 44.8**	**+1.3**
	baz=14							
AAK				⇑*iS*	**Sn**	**22 51 29.5**	**+0.8**
	baz=14							
KTBS	**Karatobe**	**3.87**	**344**	Pg	**Pb**	**22 50 51.3**	**-1.6**
	20nm,0.6s							
KTBS				Lg	Lg	22 51 41.9		
	46nm,0.8s							
KTBS	**Karatobe**	**3.87**	**344**	*eP*	**Pb**	**22 50 51.3**	**-1.6**
	20nm,0.6s							
KTBS				*eS*	**Sb**	**22 51 41.9**	**+2.1**
	46nm,0.8s							
CHMS	**Chumysh**	**3.95**	**320**	P	**Pn**	**22 50 47.2**	**+2.0**
	SNR=19							
CHMS	**Chumysh**	**3.95**	**320**	⇑*eP*	**Pn**	**22 50 46.2**	**+1.1**
	baz=20							
CHMS				⇑*iS*	**Sn**	**22 51 31.7**	**+0.2**
	baz=20							
CHKK	**Chushkaly**	**3.95**	**347**	Pg	**Pb**	**22 50 53.0**	**-1.1**
	17nm,0.6s							
CHKK				Lg	Lg	22 51 44.6		
	50nm,0.6s							
CHKK	**Chushkaly**	**3.95**	**347**	*eP*	**Pb**	**22 50 53.0**	**-1.1**
	17nm,0.6s							
CHKK				*eS*	**Sb**	**22 51 44.6**	**+2.6**
	50nm,0.6s							
AML	**Almayashu**	**4.00**	**304**	P	Pb	22 50 49.9	-5.4
	SNR=24							
AML	**Almayashu**	**4.00**	**304**	⇑*iP*	**Pn**	**22 50 47.5**	**+1.3**
	baz=3.0							
AML				⇑*iS*	**Sn**	**22 51 34.0**	**+0.6**
	baz=3.0							
MNBS	**Baschi**	**4.08**	**2**	Pg	**Pb**	**22 50 54.3**	**-2.1**
MNBS				Lg	Lg	22 51 47.0		
MNBS	**Baschi**	**4.08**	**2**	*eP*	**Pb**	**22 50 54.3**	**-2.1**
	27nm,0.6s							
MNBS				*eS*	**Sb**	**22 51 47.0**	**+1.2**
	78nm,0.7s							
KUU	**Kurty**	**4.12**	**341**	Pg	**Pb**	**22 50 55.8**	**-1.3**
	14nm,0.7s							
KUU				Lg	Lg	22 51 49.0		
	66nm,0.7s							
KUU	**Kurty**	**4.12**	**341**	*eP*	**Pb**	**22 50 55.8**	**-1.3**
	14nm,0.7s							
KUU				*eS*	**Sb**	**22 51 49.0**	**+2.0**
	66nm,0.7s							
ARSB	**Arslanbob**	**4.17**	**290**	⇓*iP*	**Pn**	**22 50 49.5**	**+1.3**
	baz=89							
ARSB				⇓*iS*	**Sn**	**22 51 37.8**	**+0.7**
	baz=89							
EKS2	**Erkin-Say**	**4.25**	**310**	P	**Pn**	**22 50 52.1**	**+2.8**
	SNR=15							
EKS2	**Erkin-Say**	**4.25**	**310**	⇑*eP*	**Pn**	**22 50 50.9**	**+1.6**
	baz=10.0							
EKS2				⇑*iS*	**Sn**	**22 51 39.4**	**+0.4**
	baz=10.0							
USP	**Ospenovka**	**4.27**	**321**	P	**Pn**	**22 50 52.2**	**+2.6**
	SNR=8.3							
USP	**Ospenovka**	**4.27**	**321**	⇑*iP*	**Pn**	**22 50 51.2**	**+1.6**
	baz=21							
USP				⇑*iS*	**Sn**	**22 51 40.2**	**+0.7**
	baz=21							
DJR	**Jarkent**	**4.49**	**15**	*eP*	**Pb**	**22 51 03.1**	**-0.3**
	8.6nm,0.6s							
DJR				*eS*	**Sb**	**22 52 01.5**	**+3.9**
	18nm,1.1s							
MRKS	**Merke**	**4.63**	**308**	Pg	**Pb**	**22 51 04.4**	**-1.3**
	15nm,0.7s							
MRKS				Lg	Lg	22 52 04.5		
	30nm,0.7s							
MRKS	**Merke**	**4.63**	**308**	*eP*	**Pb**	**22 51 04.4**	**-1.3**
	15nm,0.7s							
MRKS				*eS*	**Sb**	**22 52 04.5**	**+3.0**
	30nm,0.7s							
DRK	**Karamyk**	**4.95**	**266**	⇑*iP*	**Pn**	**22 51 00.8**	**+1.7**
	baz=65							
DRK				⇑*iS*	**Sn**	**22 51 56.9**	**+0.4**
	baz=65							
MNAS	**Manas**	**4.95**	**302**	⇑Pg	**Pb**	**22 51 12.6**	**+1.4**
	35nm,1.1s							
MNAS				⇓Lg	Lg	22 52 18.8		
	49nm,1.3s							
MNAS	**Manas**	**4.95**	**302**	Pg	**Pb**	**22 51 10.3**	**-0.9**
	5.2nm,0.9s							
MNAS				Lg	Lg	22 52 14.6		
	12nm,0.8s							
MNAS	**Manas**	**4.95**	**302**	⇑Pg	**Pb**	**22 51 12.6**	**+1.4**
	35nm,1.1s							
MNAS				⇓Lg	Lg	22 52 18.8		
	49nm,1.3s							
MNAS	**Manas**	**4.95**	**302**	⇑*eP*	**Pn**	**22 51 00.6**	**+1.7**
	baz=1.0							
MNAS				⇑*iS*	**Sn**	**22 51 56.1**	**-0.2**
	baz=1.0							
TDK	**Taldyqorghan**	**5.00**	**2**	*eP*	**Pb**	**22 51 14.3**	**+2.3**
	143nm,0.8s							
TDK				*eS*	**Sg**	**22 52 21.5**	**-3.4**
	176nm,1.2s							
ARK	**Arkit**	**5.04**	**293**	⇑*eP*	**Pn**	**22 51 01.7**	**+1.5**
	baz=92							
ARK				⇑*eS*	**Sn**	**22 51 58.3**	**-0.3**
	baz=92							
KAPS	**Kapalarasan**	**5.35**	**9**	Pg	**Pb**	**22 51 19.7**	**+1.6**
	15nm,0.8s							
KAPS				Lg	Lg	22 52 30.3		
	22nm,1.1s							
KAPS	**Kapalarasan**	**5.35**	**9**	*eP*	**Pb**	**22 51 20.5**	**+2.5**
	15nm,0.8s							
KAPS				*eS*	**Sg**	**22 52 32.0**	**-4.2**
	33nm,1.3s							
KK31	**Karatay Array**	**6.54**	**301**	⇓Pg	Pb	22 51 42.2	+4.0
	7.2nm,0.8s,baz=122,slow=12,SNR=21							
KK31				⇑Lg	Lg	22 53 07.4		
	16nm,0.8s							
KK31	**Karatay Array**	**6.54**	**301**	⇓Pg	Pb	22 51 42.2	+4.0
	7.2nm,0.8s,baz=122,slow=12,SNR=21							
KK31				⇑Lg	Lg	22 53 07.4		
	16nm,0.8s							
MAKZ	**Makanchi**	**7.34**	**21**	⇑Pn	**Pn**	**22 51 32.6**	**+1.0**
	4.2nm,1.2s							
MAKZ				⇑Lg	Lg	22 53 35.6		
	17nm,1.3s							
MAKZ	**Makanchi**	**7.34**	**21**	⇑Pn	**Pn**	**22 51 32.6**	**+1.0**
	4.2nm,1.2s							
MAKZ				⇑Lg	Lg	22 53 35.6		
	17nm,1.3s							
MK31	**Makanchi Array**	**7.42**	**22**	⇑Pn	**Pn**	**22 51 33.3**	**+0.6**
	0.9nm,0.5s,baz=207,slow=13,SNR=32							
MK31				⇓Sn	**Sn**	**22 52 58.4**	**+1.5**
	9.1nm,0.8s							
MK31				⇓Lg	Lg	22 53 37.9		
	2.1nm,0.6s,baz=208,slow=27							
MK31	**Makanchi Array**	**7.42**	**22**	⇑Pn	**Pn**	**22 51 33.3**	**+0.6**
	0.9nm,0.5s,baz=207,slow=13,SNR=32							
MK31				⇓Sn	**Sn**	**22 52 58.4**	**+1.5**
	9.1nm,0.8s							
MK31				⇓Lg	Lg	22 53 37.9		
	2.1nm,0.6s,baz=208,slow=27							
MKAR	**Makanchi Array**	**7.42**	**22**	Pn	**Pn**	**22 51 33.8**	**+1.0**
	0.5nm,0.3s,baz=196,slow=12,SNR=25							
MKAR				Sn	**Sn**			
	0.3nm,0.3s,baz=201,slow=24,SNR=3.0							
MKAR				LR	LR	22 54 21.7		
	comp=Z,41nm,18.1s,baz=198,slow=37							
CHCP	**Chirah Chowk**	**7.46**	**213**	P	**Pn**	**22 51 35.6**	**+2.3**
CEP	**Cherat**	**7.95**	**221**	P	**Pn**	**22 51 42.5**	**+2.3**
CEP				S	**Sn**	**22 53 12.0**	**+1.8**
WMQ	**Urumqi**	**8.05**	**59**	Pn	Pb	22 51 55.5	-8.6
WMQ				Sn	Sb	22 53 38.8	-1.2
WMQ				smax	smax			
	comp=N,250nm,1.2s							
WMQ				smax	smax			
	comp=E,200nm,0.9s							
THW	**Thamme Wali**	**8.87**	**218**	P	**Pn**	**22 51 53.3**	**+0.7**
KURBB	**Kurchatov Arra**	**10.62**	**1**	Pn	**Pn**	**22 52 16.5**	**-0.1**
	comp=E,0.1nm,0.3s,baz=189,slow=12,SNR=11							
KURBB				Lg	Lg	22 55 15.2		
	comp=E,0.1nm,0.3s,baz=197,slow=28,SNR=4.6							
DANN	**Dangsing**	**12.50**	**157**	*eP*	**Pn**	**22 52 40.5**	**-2.1**
PYUN	**Piuthan**	**12.52**	**160**	*eP*	**Pn**	**22 52 39.9**	**-2.9**
KOLN	**Koldanda**	**13.00**	**158**	*eP*	**Pn**	**22 52 47.3**	**-2.1**
	comp=E,5.3nm,0.5s							
KKN	**Kakani**	**13.52**	**152**	*eP*	**Pn**	**22 52 54.9**	**-1.6**
GUN	**Gumba**	**13.64**	**150**	*eP*	**Pn**	**22 52 56.3**	**-1.9**
PKIN	**Phulchoki**	**13.76**	**152**	*eP*	**Pn**	**22 52 57.5**	**-2.3**
	comp=E,9.0nm,0.7s							
PKI	**Pulchoki**	**13.77**	**152**	*eP*	**Pn**	**22 52 57.7**	**-2.3**
	comp=E,15nm,0.7s							
JIRN	**Jiri**	**13.98**	**149**	*eP*	**Pn**	**22 53 01.4**	**-1.6**
	comp=E,30nm,0.8s							
BVAR	**Borovoye Array**	**14.08**	**340**	Pn	**Pn**	**22 53 02.0**	**-1.8**
	comp=E,0.1nm,0.3s,baz=156,slow=13,SNR=6.3							
BVAR				Lg	Lg	22 57 03.1		
	comp=E,0.0nm,0.3s,baz=160,slow=29,SNR=3.7							
ZALV	**Zalesovo Beam**	**14.66**	**16**	Pn	**Pn**	**22 53 11.8**	**+0.1**
	comp=E,0.0nm,0.3s,baz=210,slow=8.3,SNR=2.9							
ZALV				Lg	Lg	22 57 25.1		
	comp=E,0.1nm,0.3s,baz=225,slow=24,SNR=2.9							
RAMN	**Ramite**	**14.78**	**149**	*eP*	**Pn**	**22 53 10.8**	**-2.9**
	comp=E,12nm,0.5s							
GTA	**Gaotai**	**16.66**	**85**	*eP*	**P**	**22 53 43.5**	**+3.0**
GTA				pP	sP	22 53 47.8	+2.5
GTA				sP	pP	22 53 50.5	+6.7
GTA				pmax	pmax			
	comp=E,2.0nm,1.0s							
SONM	**Songino Array**	**21.69**	**60**	P	**P**	**22 54 35.6**	**+0.2**
	comp=E,0.8nm,0.7s,baz=257,slow=10.0,SNR=5.8							
CMAR	**Chiang Mai Arr**	**27.96**	**134**	P	**P**	**22 55 40.0**	**+4.8**
	comp=E,0.2nm,0.4s,baz=312,slow=11,SNR=4.3							
BRTR	**Keskin Array B**	**33.92**	**284**	P	**P**	**22 56 28.3**	**+0.5**
	comp=E,0.9nm,0.6s,baz=96,slow=9.2,SNR=7.8							
FINES	**FINESS Array B**	**37.98**	**322**	P	**P**	**22 57 02.0**	**-0.1**
	comp=E,2.3nm,0.8s,baz=104,slow=8.0,SNR=8.0							
NOA	**NORSAR Array B**	**45.12**	**321**	P	**P**	**22 58 00.1**	**-0.6**
	comp=E,0.9nm,0.9s,baz=65,slow=8.2,SNR=3.1							
TORD	**Torodi Ar. Bea**	**71.36**	**272**	P	**P**	**23 01 02.3**	**-2.5**
	comp=E,0.3nm,0.5s,baz=36,slow=6.2,SNR=5.2							
YKA	**Yellowknife Ar**	**77.33**	**6**	P	**P**	**23 01 37.0**	**-1.8**
	comp=E,0.3nm,0.6s,baz=345,slow=5.4,SNR=5.0							
WRA	**Warramunga Arr**	**79.32**	**127**	P	**P**	**23 01 50.5**	**+0.2**
	comp=E,1.1nm,1.0s,baz=326,slow=5.5,SNR=5.3							
ASAR	**Alice Springs**	**81.89**	**130**	P	**P**	**23 02 04.0**	**-0.1**
	comp=E,0.9nm,0.8s,baz=325,slow=4.8,SNR=7.6							

IDC 31 23:13:55.3±1.9, 55.54S×26.71W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/15, mbtmp3.7/2, Error ellipse: s-maj=83.7km s-min=45.5km az=6.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**50.30**	**304**	P	P	P	23 22 54.4	+0.1
	0.8nm,0.4s,baz=144,slow=6.1,SNR=4.6							
TORD	**Torodi Ar. Bea**	**72.48**	**29**	P	P	P	23 25 23.4	-0.1
	0.4nm,0.8s,baz=204,slow=5.5,SNR=5.1							
INK	**Inuvik**	**145.57**	**321**	PKPbc	PKPdf	PKPdf	23 33 33.6	-0.1
	0.9nm,0.5s,baz=81,slow=2.9,SNR=11							
ILAR	**Eielson Array**	**149.97**	**312**	PKPbc	PKPbc	PKPbc	23 33 44.9	-1.1
	1.6nm,0.9s,baz=128,slow=2.3,SNR=17							
SONM	**Songino Array**	**150.42**	**85**	PKPbc	PKPbc	PKPbc	23 33 47.8	-0.1
	0.5nm,0.6s,baz=222,slow=3.2,SNR=6.8							

IDC 31 23:14:37.9±7.2, 18.44N×145.27E, h459km±81km, mb2.7/6, mb1 2.9/6, mb1mx2.7/36, mbtmp3.5/6, Error ellipse: s-maj=38.8km s-min=16.0km az=79.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.63**	**196**	P	P	P	23 21 28.7	-0.1
	0.4nm,0.3s,baz=16,slow=8.6,SNR=8.4							
WRA				PcP	PcP	PcP	23 23 24.7	-0.2
	0.4nm,0.8s,baz=14,slow=3.6,SNR=3.1							
SONM	**Songino Array**	**43.09**	**322**	P	P	P	23 21 56.6	+0.4
	0.1nm,0.5s,baz=139,slow=9.5,SNR=2.0							
ASAR	**Alice Springs**	**43.30**	**195**	P	P	P	23 21 57.7	-0.3
	0.4nm,0.5s,baz=10,slow=6.6,SNR=3.8							
CMAR	**Chiang Mai Arr**	**43.85**	**278**	P	P	P	23 22 02.1	-0.4
	1.1nm,0.3s,baz=67,slow=6.9,SNR=4.9							
MKAR	**Makanchi Array**	**58.35**	**314**	P	P	P	23 23 47.5	-0.4
	0.3nm,0.5s,baz=90,slow=7.7,SNR=7.0							
YKA	**Yellowknife Ar**	**78.40**	**28**	P	P	P	23 25 49.4	-0.3
	0.1nm,0.5s,baz=282,slow=5.0,SNR=3.4							
LPAZ	**La Paz**	**148.07**	**91**	PKPbc	PKPbc	PKPbc	23 33 32.3	-0.3
	0.5nm,0.5s,baz=0.0,slow=4.0,SNR=3.3							

MEX 31 23:21:52.4±0.4, 16.24N×98.05W, h12km±4km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.17**	**333**	*eP*	Pg	Pg	23 21 55.7	-0.6
PNIG				*eS*	Sg	Sg	23 21 58.5	-0.5
VHO	**Vista Hermosa**	**1.51**	**57**	*i* P	Pn	Pn	23 22 15.4	-4.0
VHO				*i* S	Sn	Sn	23 22 34.6	-4.5
HUIG	**Huatulco**	**1.93**	**104**	*eP*	Pn	Pn	23 22 21.7	-3.3
HUIG				*eS*	Sn	Sn	23 22 43.9	-5.2

IDC 31 23:21:57.4±6.8, 6.52S×130.04E, h165km±95km, mb3.2/1, mb1 2.9/4, mb1mx2.8/28, mbtmp3.4/4, Error ellipse: s-maj=204.6km s-min=22.6km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.75**	**12**	P	P	Pn	23 23 21.2	+0.2
	0.8nm,0.3s,baz=233,slow=20,SNR=16							
SIJI				S	S	Sn	23 24 21.3	-5.3
	1.2nm,0.3s,baz=233,slow=20,SNR=3.4							
WRA	**Warramunga Arr**	**13.98**	**163**	P	P	Pn	23 25 06.6	-1.8
	0.2nm,0.3s,baz=344,slow=9.3,SNR=7.1							
WRA				S	S	Sn	23 27 30.9	-13
	0.2nm,0.3s,baz=340,slow=22,SNR=4.2							
ASAR	**Alice Springs**	**17.44**	**168**	P	P	Pn	23 25 51.1	+0.3
	0.1nm,0.3s,baz=344,slow=9.6,SNR=2.3							
MKAR	**Makanchi Array**	**67.85**	**327**	P	P	P	23 32 37.7	-0.1
	0.4nm,0.5s,baz=123,slow=7.2,SNR=7.5							

NIED ***31*** *23:31:00, 35.80N×140.90E, h14km, Mw3.4 Best double couple: M0 1.21000×10^14 NP1: ϕs 171.00000°, δ 41.00000°, λ -120.00000°. NP2: ϕs 28.00000°, δ 55.00000°, λ -67.00000°.*

JMA 31 23:31:06.8±0.2, 35.78N×140.94E, h15km±1km, M3.5, 1C-1D Broadband fault plane solution: P waves. NP1: ϕs 29.00000°, δ 72.00000°, λ -93.00000°. **NP2:** ϕs 218.00000°, δ 18.00000°, λ -81.00000°. **Principal axes:** T Plg 27.0000°, Azm 121.0000°; N Plg 3.0000°, Azm 30.0000°; P Plg 63.0000°, Azm 294.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.10**	**221**	⇓P	Pg	Pg	23 31 09.9	-0.2
CHOJ				S	Sg	Sg	23 31 12.1	-0.1
JIHU	**Itakohorinouch**	**0.38**	**299**	P	P	Pb	23 31 15.2	-0.1
JSMT	**Sammumatsuo**	**0.42**	**251**	P	P	Pg	23 31 15.6	+0.3
JHYU	**Hitachinakayam**	**0.63**	**333**	P	P	Pg	23 31 18.8	-0.3
JHYU				S	S	Sg	23 31 27.7	+0.2
JCN	**Nagara**	**0.70**	**239**	⇑P	P	Pb	23 31 21.2	+0.5
JYT	**Yasato**	**0.75**	**307**	P	P	Pg	23 31 20.4	-1.1
JYT				S	S	Sg	23 31 30.5	-0.9
JHO	**Hitachi**	**0.88**	**340**	P	P	Pb	23 31 22.7	-1.1
BSO4	**Boso 4**	**0.93**	**212**	P	P	Pn	23 31 25.2	0.0
BSO3	**Boso 3**	**1.04**	**200**	P	P	Pb	23 31 25.4	-0.9
MAT	**Matsushiro**	**2.34**	**290**	P	P	Pn	23 31 44.1	-0.6
MAT				*eS*	S	Sn	23 32 09.2	-4.0

IDC ***31*** *23:56:59.7±1.0, 11.03S×165.51E, h0km, mb4.2/9, mb1 4.4/11, mb1mx4.1/42, mbtmp4.3/11, ML4.7/2, MS3.8/6, Ms1 3.8/6,

WRA	**Warramunga Arr**	**31.30**	**250**	P	**P**	**00 03 20.6**	**-0.8**
	8.6nm,1.1s,baz=79,slow=9.3,SNR=18						
WRA				LR	LR	00 14 39.2	
	comp=Z,168nm,21.7s,baz=90,slow=34						
AS01	**Alice Springs**	**32.57**	**243**	*e*P	**P**	**00 03 31.1**	**-1.5**
AS31	**Alice Springs**	**32.61**	**243**	*e*P	**P**	**00 03 32.1**	**-0.8**
	2.4nm,1.1s						
ASAR	**Alice Springs**	**32.61**	**243**	P	**P**	**00 03 32.0**	**-0.9**
	3.3nm,0.8s,baz=72,slow=9.6,SNR=26						
ASAR				LR	LR	00 16 21.7	
	comp=Z,199nm,18.1s,baz=64,slow=36						
PPT2	**Papeete2**	**43.85**	**104**	*e*LR	LR	00 17 18.4	
	comp=Z,98nm,22.0s						
MJAR	**Matsushiro Arr**	**53.95**	**333**	P	**P**	**00 06 23.8**	**-0.9**
	1.6nm,0.7s,baz=179,slow=7.6,SNR=4.7						
SONM	**Songino Array**	**78.61**	**324**	P	**P**	**00 09 03.7**	**+1.0**
	0.7nm,0.8s,baz=138,slow=7.8,SNR=4.6						
HDA	**Harding Lake**	**83.36**	**19**	*e*P	**P**	**00 09 27.3**	**-0.2**
	4.6nm,1.0s						
COLA	**College**	**83.40**	**18**	*e*P	**P**	**00 09 25.6**	**-2.0**
	97nm,0.8s						
IL1	**Eielson Array**	**83.63**	**19**	*e*P	**P**	**00 09 25.3**	**-3.5**
ILB	**Eielson Array**	**83.63**	**19**	*e*P	**P**	**00 09 25.7**	**-3.1**
AFDM	**Forest Hills D**	**84.37**	**49**	*e*P	**P**	**00 09 34.5**	**+1.2**
	4.2nm,0.9s						
MDPB	**Devils Postpil**	**85.37**	**50**	*e*P	**P**	**00 09 40.5**	**+1.9**
	2.3nm,0.8s						
PINE	**Pine Mountain**	**85.99**	**44**	*e*P	**P**	**00 09 43.1**	**+1.6**
	4.4nm,0.9s						
NV01	**Mina Array Sit**	**86.20**	**50**	*e*P	**P**	**00 09 43.4**	**+0.7**
NVAR	**Mina Array Bea**	**86.20**	**50**	P	**P**	**00 09 44.0**	**+1.3**
	2.4nm,0.9s,baz=230,slow=8.5,SNR=13						
NV11	**Mina Array Sit**	**86.31**	**50**	*e*P	**P**	**00 09 44.4**	**+1.3**
	0.1nm,1.0s						
G08A	**Pilot Rock**	**87.81**	**43**	*e*P	**P**	**00 09 49.8**	**-0.4**
	2.6nm,0.9s						
LCMT	**Little Creek M**	**89.68**	**52**	*e*P	**P**	**00 09 59.4**	**+0.2**
	3.5nm,1.0s						
U15A	**North Rim**	**90.28**	**53**	*e*P	**P**	**00 10 03.5**	**+1.2**
	3.6nm,0.9s						
MK01	**Makanchi Array**	**93.44**	**317**	*e*P	**P**	**00 10 15.8**	**-0.5**
MKAR	**Makanchi Array**	**93.45**	**317**	P	**P**	**00 10 16.6**	**+0.2**
	0.4nm,0.8s,baz=67,slow=4.1,SNR=4.9						
YKA	**Yellowknife Ar**	**95.11**	**27**	P	**P**	**00 10 22.3**	**-1.2**
	0.5nm,0.9s,baz=257,slow=4.3,SNR=5.8						
TORD	**Torodi Ar. Bea**	**164.10**	**279**	PKP	**PKPdf**	**00 17 06.3**	**+1.2**
	0.6nm,0.9s,baz=22,slow=0.6,SNR=4.2						
TORD				PKPab	**PKPab**	**00 18 01.1**	**+2.4**
	0.6nm,1.0s,baz=113,slow=3.3,SNR=3.5						

IDC 31 23:57:33.6±4.5, 31.60S×177.71W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.9/33, mbtmp4.0/3, Error ellipse: s-maj=173.9km s-min=54.7km az=161.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.26**	**281**	P	P	00 04 23.4	+1.9
	2.2nm,0.7s,baz=113,slow=7.7,SNR=3.5						
ASAR	**Alice Springs**	**43.31**	**268**	P	P	00 05 36.2	-1.2
	1.0nm,0.5s,baz=106,slow=7.8,SNR=8.7						
WRA	**Warramunga Arr**	**44.41**	**273**	P	P	00 05 45.5	-0.8
	0.8nm,0.3s,baz=112,slow=8.0,SNR=9.0						
FINES	**FINESS Array B**	**146.36**	**340**	PKPbc	PKPdf	00 17 14.8	+0.4
	2.5nm,1.0s,baz=42,slow=5.9,SNR=6.3						

ISC Computed Locations for January 2013

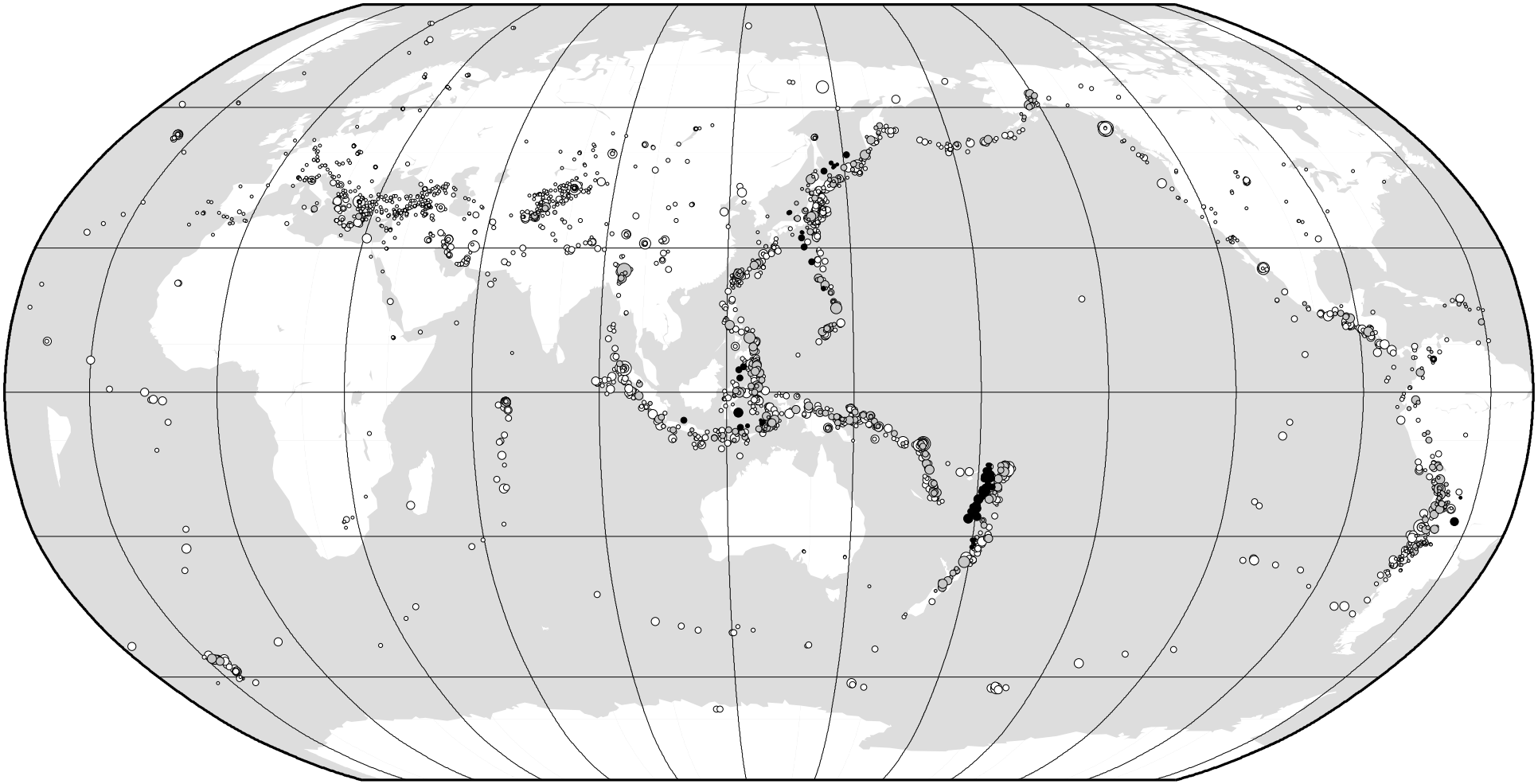

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

3295 Events